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

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

*NEIC **01** 18:45:41.7±1.7,21°.70S×179°.55W,h600km,mb4.6/6,*
Error ellipse: s-maj=75.5km s-min=25.7km az=151.0
*IDC **01** 18:45:46.3±2.6,21°.76S×179°.70W,h627km±37km,mb3.5/4,*
mb1 3.7/4,mb1mx3.2/14,Error ellipse: s-maj=83.2km
s-min=20.6km az=159.0
ISC 01 18:45:43.1±2.7,22°.3S±0°.2×179°.6W±0°.3,h613km±42km,
n22,σ1s15/21,mb4.4/9,1C,South of Fiji Islands

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

IDC 01 00:08:58.6±2.2, 52°23N×131°31W, h0km, mb3.3/1, mb1 3.7/4, mb1mx3.4/47, mbtmp3.3/4, ML3.1/2, Error ellipse: s-maj=33.0km s-min=15.2km az=41.0, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBB	**Bella Bella**	**1.97**	**90**	Pn	Pn	00 09 33.6	+0.4
	3.5nm,0.3s,baz=204,slow=20,SNR=2.7						
BBB				LR	LR	00 09 48.9	
	comp=Z,74nm,18.8s,baz=16,slow=26						
BBB				Sn	Sn	00 09 56.7	-1.9
	7.4nm,0.3s,baz=316,slow=22,SNR=4.0						
DLBC	**Dease Lake**	**6.26**	**6**	Pn	Pn	00 10 32.9	+0.6
	0.3nm,0.3s,baz=196,slow=14,SNR=5.2						
ILAR	**Eielson Array**	**14.91**	**333**	Pn	Pn	00 12 31.3	+0.8
	0.1nm,0.3s,baz=152,slow=11,SNR=4.8						
PDAR	**Pinedale Array**	**17.42**	**114**	P	P	00 13 04.0	-0.6
	baz=293,slow=12,SNR=2.4						
TXAR	**Lajitas Array**	**30.68**	**127**	P	P	00 15 14.2	-0.8
	0.2nm,0.4s,baz=316,slow=7.6,SNR=3.4						

*IDC **01** 00:09:58.4±0.8, 21°.39N×146°.28E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.8/55, mbtmp3.8/10, ML3.9/1, Error ellipse: s-maj=29.5km s-min=18.1km az=87.0*
*ISCJB **01** 00:10:01.1±0.9, 21°.4N±0°.1×146°.4E±0°.2, h33km, mb3.8/9, Error ellipse: s-maj=28.6km s-min=14.7km az=173.7*

ISC 01 00:10:03.4±0.9, 21°.4N±0°.1×146°.2E±0°.2, h35km, n11, σ0s87/11, mb3.7/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**16.65**	**337**	Pn	**Pn**	**00 13 53.9**	**-0.1**
	0.4nm,0.3s,baz=163,slow=11,SNR=3.3						
KSRS	**Korea Array**	**22.54**	**319**	P	**P**	**00 15 00.9**	**+0.6**
	1.5nm,0.7s,baz=135,slow=7.9,SNR=2.8						
USRK	**Ussuriysk Ar.**	**25.64**	**336**	P	**P**	**00 15 30.8**	**+1.1**
	3.1nm,0.9s,baz=148,slow=14						
KLR	**Kul'dur**	**30.09**	**341**	P	**P**	**00 16 09.4**	**0.0**
	1.7nm,0.5s,baz=135,slow=10,SNR=7.1						
WRA	**Warramunga Arr**	**42.69**	**197**	P	**P**	**00 17 57.5**	**+0.5**
	0.9nm,0.6s,baz=14,slow=8.6,SNR=13						
ASAR	**Alice Springs**	**46.36**	**196**	P	**P**	**00 18 25.8**	**-0.6**
	0.5nm,0.6s,baz=13,slow=7.3,SNR=6.6						
MKAR	**Makanchi Array**	**57.00**	**313**	P	**P**	**00 19 45.4**	**-0.3**
	0.2nm,0.5s,baz=82,slow=7.9,SNR=2.9						
ILAR	**Eielson Array**	**61.03**	**27**	P	**P**	**00 20 12.6**	**-0.7**
	0.8nm,0.8s,baz=261,slow=5.9,SNR=7.7						
INK	**Inuvik**	**66.72**	**24**	P	**P**	**00 20 49.5**	**-1.1**
	1.7nm,0.6s,baz=230,slow=6.3,SNR=3.8						
NVAR	**Mina Array Bea**	**81.10**	**52**	P	**P**	**00 22 17.0**	**+1.4**
	0.5nm,0.6s,baz=276,slow=7.0,SNR=4.2						
LPAZ	**La Paz**	**147.12**	**87**	PKPbc	**PKPab**	**00 29 45.5**	**-0.5**
	1.6nm,0.8s,baz=225,slow=2.9,SNR=3.7						

*DJA **01** 00:37:11.2±0.4, 7°S±4°×13°0E±°, h10km, M4.6/7, mb4.6/6, mB5.1/7, MLv4.7/7, Mw(mB)4.5/7*
*ISCJB **01** 00:37:20.9±0.6, 6°.59S±0°.05×130°.11E±0°.07, h146km, mb3.6/3, Error ellipse: s-maj=10.5km s-min=6.2km az=24.7*
*IDC **01** 00:37:23.3±2.0, 6°.47S×129°.95E, h157km±22km, mb3.5/4, mb1 3.7/8, mb1mx3.3/38, mbtmp4.1/8, Error ellipse: s-maj=22.1km s-min=17.1km az=95.0*

ISC 01 00:37:20.7±0.7, 6°.61S±0°.06×130°.08E±0°.09, h146km, n14, σ3s48/18, mb3.4/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.82**	**12**	P	**Pn**	**00 38 45.7**	**+0.7**
	4.1nm,0.3s,baz=245,slow=24,SNR=16						
SIJI				S	**Sn**	**00 39 45.3**	**-5.7**
	4.5nm,0.3s,baz=263,slow=13,SNR=4.1						
SWI	**Sorong**	**5.83**	**12**	P	**Pn**	**00 38 47.7**	**+2.6**
SWI				S	**Sn**	**00 39 45.2**	**-5.9**
RKPI	**Ransiki, Papua**	**6.51**	**39**	P	**Pn**	**00 38 57.5**	**+3.3**
RKPI				S	**Sn**	**00 40 06.6**	**-0.8**
SOEI	**Soe**	**6.55**	**241**	P	Pn	00 38 41.7	-13
BATI	**Baumata**	**7.28**	**240**	P	**Pn**	**00 39 07.9**	**+3.3**
	20nm,0.3s,baz=98,slow=2.0,SNR=10						
BATI				S	**Sn**	**00 40 27.9**	**+1.9**
	6.8nm,0.3s,baz=198,slow=20,SNR=4.3						
BATI	**Baumata**	**7.28**	**240**	P	**Pn**	**00 39 03.1**	**-1.5**
	43nm,0.6s,0.2nm						
MMPI	**Merauke**	**10.38**	**101**	P	Pn	00 39 33.3	-13
FITZ	**Fitzroy Crossi**	**12.21**	**200**	P	**P**	**00 40 12.3**	**-3.9**
	0.6nm,0.3s,baz=24,slow=10,SNR=26						
FITZ				S	**Sn**	**00 42 21.0**	**-3.9**
	2.0nm,0.3s,baz=56,slow=21,SNR=9.0						
WRA	**Warramunga Arr**	**13.89**	**163**	P	**P**	**00 40 32.5**	**-2.4**
	0.6nm,0.3s,baz=335,slow=13,SNR=36						
WRA				S	**Sn**	**00 43 01.5**	**-3.8**
	2.0nm,0.3s,baz=331,slow=23,SNR=11						
ASAR	**Alice Springs**	**17.36**	**168**	P	**Pn**	**00 41 17.6**	**+3.4**
	1.4nm,0.3s,baz=340,slow=10,SNR=48						
ASAR				S	**Sn**	**00 44 26.1**	**-2.4**
	0.5nm,0.3s,baz=352,slow=26,SNR=6.1						
CTA	**Charters Tower**	**20.64**	**132**	P	Pn	00 41 53.8	+0.8
	2.9nm,0.5s,baz=310,slow=15,SNR=4.5						
STKA	**Stephens Creek**	**27.35**	**158**	P	**P**	**00 42 54.5**	**+2.4**
	2.3nm,0.3s,baz=328,slow=8.7,SNR=11						
MKAR	**Makanchi Array**	**67.94**	**327**	P	**P**	**00 48 04.3**	**+0.5**
	0.2nm,0.3s,baz=117,slow=8.2,SNR=4.7						
VNDA	**Vanda**	**72.83**	**173**	P	**P**	**00 48 35.0**	**+2.1**
	0.3nm,0.5s,baz=328,slow=7.7,SNR=5.4						

*NNC **01** 01:01:05.3±9.5, 37°.01N×70°.40E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=73.8km s-min=62.9km az=171.0*

ISC 01 01:00:59.6±2.3, 36°.36N±0°.10×70°.5E±0°.2, h35km, n19, σ1s95/22, 5C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.27**	**22**	P	**Pn**	**01 02 32.5**	**+2.5**
	SNR=118						
UCH	**Uchtor**	**6.63**	**27**	P	**Pn**	**01 02 35.0**	**0.0**
	SNR=23						
KK31	**Karatay Array**	**6.74**	**360**	↑P	**Pn**	**01 02 37.6**	**+1.6**
	1.4nm,0.2s,baz=171,slow=12						
KK31				↑S	**Sn**	**01 03 48.4**	**-3.1**
	3.2nm,0.4s,baz=186,slow=28						
EKS2	**Erkin-Say**	**6.78**	**21**	P	**Pn**	**01 02 39.0**	**+2.3**
	SNR=16						
AAK	**Ala-Archa**	**6.98**	**25**	↑P	**Pn**	**01 02 41.6**	**+2.0**
	2.2nm,0.3s						
AAK				↑S	**Sn**	**01 03 57.0**	**-0.8**
	11nm,0.6s						
AAK	**Ala-Archa**	**6.98**	**25**	P	**Pn**	**01 02 41.5**	**+2.0**
	SNR=9.1						
KBK	**Karagaybulak**	**7.16**	**27**	P	**Pn**	**01 02 44.3**	**+2.3**
	SNR=7.0						
CHMS	**Chumysh**	**7.39**	**25**	P	**Pn**	**01 02 47.0**	**+2.0**
	SNR=6.2						
USP	**Ospenovka**	**7.55**	**23**	P	**Pn**	**01 02 48.4**	**+1.2**
	SNR=5.9						
TKM2	**Tokmak 2**	**7.63**	**29**	⇓P	**Pn**	**01 02 50.1**	**+1.6**
	7.1nm,0.5s						
TKM2				↑S	**Sn**	**01 04 13.1**	**-0.7**
	4.0nm,0.8s						
TKM2	**Tokmak 2**	**7.63**	**29**	P	**Pn**	**01 02 49.9**	**+1.3**
	SNR=23						
PYUN	**Piuthan**	**13.38**	**124**	eP	**Pn**	**01 04 07.2**	**0.0**
DANN	**Dangsing**	**13.74**	**122**	eP	**Pn**	**01 04 12.8**	**+0.6**
	7.1nm,0.4s						
KOLN	**Koldanda**	**14.00**	**124**	eP	**Pn**	**01 04 15.9**	**+0.2**
GKN	**Gorkha**	**14.56**	**121**	eP	**Pn**	**01 04 23.0**	**-0.3**
PKIN	**Phulchoki**	**15.35**	**121**	eP	**Pn**	**01 04 32.0**	**-1.9**
	4.9nm,0.5s						
PKI	**Pulchoki**	**15.37**	**121**	eP	**Pn**	**01 04 31.8**	**-2.4**
	8.0nm,0.7s						
GUN	**Gumba**	**15.49**	**119**	eP	**Pn**	**01 04 33.6**	**-2.2**
JIRN	**Jiri**	**15.86**	**119**	eP	**Pn**	**01 04 37.5**	**-3.1**
	11nm,0.4s						

*DJA **01** 01:08:55.6±2.1, 0°S±17°×13°3E±°, h139km±20km, M4.1/5, MLv4.1/5*
*IDC **01** 01:08:55.7±7.1, 0°.40S×132°.83E, h0km, mb3.8/2, mb1 3.8/4, mb1mx3.5/30, mbtmp3.7/4, ML3.7/2, Error ellipse: s-maj=106.8km s-min=16.3km az=5.0*
*ISCJB **01** 01:09:00.9±1.6, 0°.6S±0°.1×132°.78E±0°.10, h32km, mb3.7/2, Error ellipse: s-maj=20.4km s-min=11.4km az=29.5*

ISC 01 01:09:02.1±1.9, 0°.6S±0°.2×132°.80E±0°.07, h32km, n8, σ2s21/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**1.54**	**262**	Pg	**Pn**	**01 09 25.4**	**-2.1**
	42nm,0.3s,baz=214,slow=23,SNR=44						
SIJI				Lg	Lg	01 09 47.7	
	40nm,0.3s,baz=311,slow=23,SNR=6.3						
SWI	**Sorong**	**1.55**	**262**	P	**Pn**	**01 09 27.8**	**+0.3**
SWI				S	**Sb**	**01 09 51.6**	**+2.1**
RKPI	**Ransiki, Papua**	**1.63**	**122**	P	**Pn**	**01 09 28.9**	**+0.3**
FAKI	**Fak Fak**	**2.33**	**194**	P	**Pn**	**01 09 39.5**	**+1.3**
FITZ	**Fitzroy Crossi**	**18.72**	**202**	P	**P**	**01 13 18.9**	**+0.8**
	0.2nm,0.3s,baz=10,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**19.24**	**176**	P	**P**	**01 13 23.8**	**-0.2**
	0.2nm,0.3s,baz=353,slow=11,SNR=14						
WRA				S	**S**	**01 16 55.5**	**-4.7**
	0.1nm,0.3s,baz=0.4,slow=23,SNR=5.6						
ASAR	**Alice Springs**	**22.91**	**177**	P	**P**	**01 14 04.3**	**+0.8**
	1.2nm,0.5s,baz=356,slow=9.9,SNR=12						
STKA	**Stephens Creek**	**32.16**	**166**	P	**P**	**01 15 27.0**	**0.0**
	0.6nm,0.3s,baz=333,slow=11,SNR=2.5						

*BJI **01** 01:23:11.9, 12°.25S×120°.14E, h20km, mb4.8/18, mB4.9/13, Ms4.6/2*
*ISCJB **01** 01:23:17.7±0.2, 11°.63S±0°.03×119°.75E±0°.03, h21km, mb4.7/38, MS3.7/2, Error ellipse: s-maj=4.5km s-min=3.2km az=29.9*
*IDC **01** 01:23:17.1±0.5, 11°.56S×119°.67E, h0km, mb4.4/17, mb1 4.5/21, mb1mx4.4/38, mbtmp4.5/21, ML4.5/4, MS3.3/2, Ms1 3.3/2, ms1mx2.7/35, Error ellipse: s-maj=17.0km s-min=13.0km az=76.0*
*DJA **01** 01:23:22.9±2.2, 11°S±4°×12°0E±°, h20km±27km, M4.7/18, mb4.8/13, mB5.0/7, MLv4.8/18, Mw(mB)4.4/7*
*NEIC **01** 01:23:22.1±0.3, 11°.61S×119°.69E, h35km, mb4.7/25, Error ellipse: s-maj=7.9km s-min=5.5km az=47.0*

ISC 01 01:23:20.1±0.3, 11°.59S±0°.05×119°.72E±0°.04, h21km, n138, σ1s77/143, mb4.7/38, 1D, South of Sumba

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**1.96**	**351**	P	**Pn**	**01 23 52.4**	**+0.3**
WSI	**Waingapu**	**1.99**	**17**	P	**Pb**	**01 23 55.5**	**-0.1**
PLAI	**Plampang**	**3.34**	**325**	P	**Pn**	**01 24 10.7**	**-0.4**
PLAI				S	**Sn**	**01 24 47.1**	**-3.1**
EDFI	**Ende, Flores**	**3.42**	**35**	P	**Pn**	**01 24 12.3**	**0.0**
MMRI	**Maumere**	**3.84**	**40**	ePn	**Pn**	**01 24 17.8**	**-0.2**
MMRI				eSn	**Sn**	**01 25 02.3**	**-0.2**
MMRI	**Maumere**	**3.84**	**40**	P	**Pn**	**01 24 18.0**	**0.0**
MMRI				S	**Sn**	**01 25 00.6**	**-1.9**
TWSI	**Taliwang, Sumb**	**3.98**	**315**	P	**Pn**	**01 24 19.0**	**-0.8**
BATI	**Baumata**	**4.11**	**71**	Pn	**Pn**	**01 24 23.5**	**+1.7**
	68nm,0.3s,baz=275,slow=2.2,SNR=31						
BATI				Sn	**Sn**	**01 25 10.9**	**+1.7**
	116nm,0.3s,baz=163,slow=11,SNR=6.9						
BATI	**Baumata**	**4.11**	**71**	P	**Pn**	**01 24 23.7**	**+2.0**
SOEI	**Soe**	**4.83**	**68**	ePn	**Pn**	**01 24 34.3**	**+2.6**
SOEI				eSn	**Sn**	**01 25 25.9**	**-1.2**
SOEI	**Soe**	**4.83**	**68**	P	**Pn**	**01 24 34.8**	**+3.1**
DNP	**Denpasar**	**5.30**	**303**	P	**Pn**	**01 24 37.6**	**-0.4**
	433nm,0.4s,26µm8.1nm						
SRBI	**Singaraja**	**5.64**	**308**	P	**Pn**	**01 24 43.8**	**+1.1**
	46nm,0.9s,901nm0.5nm						
BKSI	**Bukukumba**	**6.24**	**4**	P	**Pn**	**01 24 52.4**	**+1.5**
	54nm,0.5s,862nm0.3nm						
JAGI	**Jajag, Banyuwa**	**6.29**	**299**	ePn	**Pn**	**01 24 49.9**	**-1.9**
JAGI				eSn	**Sn**	**01 25 56.9**	**-6.2**
BBSI	**Bau Bau**	**6.68**	**25**	P	**Pn**	**01 24 59.6**	**+2.5**
	12nm,1.0s,0.1nm						
GMJI	**Gumukmas**	**7.00**	**297**	P	**Pn**	**01 24 59.2**	**-2.3**
BNSI	**Bone**	**7.15**	**3**	P	Pn	01 25 10.5	+7.0
KMMI	**Kalianget**	**7.25**	**308**	P	**Pn**	**01 25 08.1**	**+3.3**
	57nm,0.7s,0.2nm						
SPSI	**Sidrap Palu**	**7.57**	**0**	P	Pn	01 25 16.9	+7.6
KDI	**Kendari**	**8.11**	**21**	P	**Pn**	**01 25 19.3**	**+2.7**
	34nm,0.8s,598nm0.1nm						
TTSI	**Tana Toraja**	**8.49**	**1**	P	Pn	01 25 28.3	+6.5
PWJI	**Pagerwojo**	**8.56**	**294**	P	**Pn**	**01 25 23.6**	**+0.7**
	43nm,0.7s,0.3nm						
FITZ	**Fitzroy Crossi**	**8.64**	**139**	Pn	**Pn**	**01 25 23.1**	**-0.9**
	2.8nm,0.3s,baz=323,slow=7.6,SNR=110						
FITZ				Sn	Sn	01 26 54.3	-6.6
	6.0nm,0.3s,baz=197,slow=21,SNR=8.1						
FITZ				LR	LR	01 29 09.7	
	comp=Z,212nm,19.4s,baz=332,slow=40						
PCJI	**Pacitan**	**9.06**	**291**	P	**Pn**	**01 25 30.8**	**+1.0**
	69nm,0.9s,0.3nm						
NGJI	**Ngawi**	**9.16**	**297**	P	Pn	01 25 40.5	+9.4
WOJI	**Wonogiri, Jawa**	**9.43**	**292**	P	**Pn**	**01 25 36.1**	**+1.2**
	33nm,0.8s						
MBWA	**Marble Bar**	**9.52**	**180**	ePn	Pn	01 25 33.4	-2.6
MBWA				eSn	Sn	01 27 09.3	-13
UGM	**Wanagama**	**9.77**	**291**	ePn	**Pn**	**01 25 38.7**	**-0.8**
UGM				eSn	**Sn**	**01 27 21.1**	**-7.5**
MTN	**Manton Dam**	**11.23**	**98**	ePn	**Pn**	**01 25 59.0**	**-0.5**
MTN				eSn	Sn	01 27 57.6	-6.8
TNTI	**Ternate**	**14.44**	**32**	P	**P**	**01 26 50.8**	**+0.8**
FAKI	**Fak Fak**	**15.11**	**56**	ePn	**Pn**	**01 26 50.0**	**-2.5**
	37nm,0.7s						
FAKI				eSn	**Sn**	**01 29 37.9**	**-1.5**
FAKI	**Fak Fak**	**15.11**	**56**	P	**Pn**	**01 26 50.9**	**-1.6**
SIJI	**Sorong**	**15.65**	**48**	Pn	**Pn**	**01 26 58.1**	**-1.4**
	3.6nm,0.3s,baz=277,slow=5.6,SNR=6.1						
KSM	**Kuching**	**15.99**	**324**	ePn	**P**	**01 27 08.0**	**+0.6**
	36nm,1.2s						
KASI	**Kota Agung**	**16.21**	**291**	P	**P**	**01 27 16.5**	**+6.8**
WRA	**Warramunga Arr**	**16.33**	**122**	Pn	**Pn**	**01 27 04.6**	**-3.7**
	0.8nm,0.3s,baz=297,slow=15,SNR=44						
WRA				Sn	Sn	01 29 53.5	-16
	0.6nm,0.3s,baz=295,slow=25,SNR=4.7						
WR1	**Warramunga Arr**	**16.33**	**122**	ePn	**Pn**	**01 27 04.6**	**-3.7**
	9.3nm,0.8s						
WR1				eSn	Sn	01 29 53.5	-16
WRAB	**Tennant Creek**	**16.34**	**122**	ePn	**Pn**	**01 27 05.5**	**-2.9**
	6.5nm,0.7s						
WB2	**Warramunga Arr**	**16.34**	**122**	ePn	**Pn**	**01 27 05.9**	**-2.5**
MDSI	**Maura Dua**	**16.92**	**293**	P	**P**	**01 27 18.5**	**+0.9**
AS31	**Alice Springs**	**18.07**	**134**	ePn	**Pn**	**01 27 30.1**	**+0.1**
	8.9nm,1.3s						
AS31				eSn	**Sn**	**01 30 45.4**	**-5.8**
ASAR	**Alice Springs**	**18.07**	**134**	P	**Pn**	**01 27 29.8**	**-0.2**
	0.5nm,0.3s,baz=311,slow=12,SNR=49						
ASAR				Sn	**Sn**	**01 30 45.4**	**-5.8**
	0.5nm,0.3s,baz=311,slow=24,SNR=6.2						
MNAI	**Manna**	**18.08**	**292**	ePn	**Pn**	**01 27 28.4**	**-1.7**
	164nm,1.1s						
AS01	**Alice Springs**	**18.10**	**133**	ePn	**Pn**	**01 27 29.1**	**-1.3**
FORT	**Forrest**	**20.61**	**159**	eP	**P**	**01 27 59.6**	**+1.6**
	43nm,0.8s						
NWAO	**Narrogin (SRO)**	**21.36**	**186**	P	**P**	**01 28 07.5**	**+1.4**
	16nm,0.5s,baz=249,slow=12,SNR=20						
JAY	**Jayapura**	**22.68**	**68**	P	**P**	**01 28 21.2**	**+0.8**
	24nm,0.8s,baz=256,slow=11,SNR=4.3						
COEN	**Coen**	**23.00**	**98**	eP	**P**	**01 28 23.2**	**-0.5**
	11nm,0.9s						
PSI	**Prapat**	**25.14**	**303**	P	**P**	**01 28 44.1**	**+0.1**
	6.2nm,0.5s,baz=180,slow=4.8,SNR=7.5						
PSI	**Prapat**	**25.14**	**303**	eP	**P**	**01 28 44.4**	**+0.3**
	20nm,1.2s						
TGY	**Tagaytay City**	**25.55**	**3**	P	**P**	**01 28 49.0**	**+1.4**
	234nm,0.5s,baz=185,slow=3.9,SNR=12						
BBOO	**Buckleboo**	**25.91**	**147**	eP	**P**	**01 28 49.7**	**-1.2**
	29nm,1.4s						
STKA	**Stephens Creek**	**28.54**	**138**	P	**P**	**01 29 16.8**	**+2.3**
	2.1nm,0.7s,baz=311,slow=8.0,SNR=3.5						
STKA				LR	LR	01 41 21.1	
	comp=Z,58nm,18.4s,baz=24,slow=38						
STKA	**Stephens Creek**	**28.54**	**138**	eP	**P**	**01 29 16.8**	**+2.3**
	0.5nm,0.8s						
SRAK	**Srakaew**	**30.89**	**325**	P	**P**	**01 29 33.1**	**-2.2**
	34nm,0.7s,606nm						
YULB	**Yu-li**	**34.80**	**3**	eP	**P**	**01 30 08.3**	**-1.1**
	26nm,1.1s						
ARMA	**Armidale**	**35.01**	**127**	eP	**P**	**01 30 09.4**	**-2.0**
	9.6nm,1.3s						
CM31	**Chiang Mai Arr**	**36.21**	**325**	eP	**P**	**01 30 22.3**	**+0.6**
CM31				ePcP	**PcP**	**01 32 48.5**	**+1.5**
CMAR	**Chiang Mai Arr**	**36.21**	**325**	P	**P**	**01 30 22.3**	**+0.6**
	1.0nm,0.4s,baz=157,slow=7.8,SNR=8.2						
CMAR				PcP	**PcP**	**01 32 48.5**	**+1.5**
	1.2nm,0.4s,baz=163,slow=7.5,SNR=4.8						
HNR	**Honiara**	**39.59**	**91**	eP	**P**	**01 30 50.3**	**-0.1**
	90nm,0.8s						
ENH	**Enshi**	**42.77**	**347**	eP	**P**	**01 31 16.3**	**+0.1**
	16nm,0.6s						
CBIJ	**Chichi jima**	**44.21**	**29**	eP	**P**	**01 31 27.1**	**-0.7**
	73nm,0.9s						
XAN	**Xi'an**	**46.52**	**348**	P	**P**	**01 31 44.9**	**-1.2**
XAN				pP	sP	01 31 55.4	+0.1
XAN				sP	pP	01 32 00.6	+7.9
XAN				pmax	pmax		
	comp=Z,16nm,0.8s						
XAN				pmax	pmax		
	comp=Z,50nm,5.0s						
KS15	**Wonju Array Si**	**49.37**	**9**	eP	**P**	**01 32 08.1**	**0.0**
KSAR	**Wonju Array Be**	**49.37**	**9**	P	**P**	**01 32 08.1**	**0.0**
KSRS	**Korea Array**	**49.38**	**9**	P	**P**	**01 32 08.1**	**-0.1**
	4.4nm,0.8s,baz=196,slow=8.3,SNR=7.6						
ODAN	**Odare**	**49.46**	**321**	eP	**P**	**01 32 09.0**	**-0.3**
	35nm,0.8s						
TAPN	**Taplejung**	**49.62**	**322**	eP	**P**	**01 32 10.7**	**+0.1**
	71nm,0.9s						
RAMN	**Ramite**	**50.01**	**320**	eP	**P**	**01 32 13.7**	**+0.2**
	54nm,0.8s						
JIRN	**Jiri**	**50.77**	**321**	eP	**P**	**01 32 19.4**	**0.0**
	80nm,0.7s						
MAJO	**Matsushiro**	**50.94**	**19**	eP	**P**	**01 32 19.0**	**-1.1**
MJAR	**Matsushiro Arr**	**50.94**	**19**	P	**P**	**01 32 19.0**	**-1.1**
	2.8nm,0.6s,baz=200,slow=9.0,SNR=6.6						
GUN	**Gumba**	**51.14**	**321**	eP	**P**	**01 32 22.0**	**-0.2**
	62nm,0.7s						
PKI	**Pulchoki**	**51.20**	**320**	eP	**P**	**01 32 21.9**	**-0.7**
	32nm,0.7s						
PKIN	**Phulchoki**	**51.21**	**320**	eP	**P**	**01 32 21.9**	**-0.7**
	22nm,0.7s						
DMN	**Daman**	**51.41**	**320**	eP	**P**	**01 32 23.7**	**-0.4**
KKN	**Kakani**	**51.43**	**320**	eP	**P**	**01 32 23.7**	**-0.5**
KOLN	**Koldanda**	**52.49**	**319**	eP	**P**	**01 32 31.6**	**-0.4**
	43nm,0.8s						
DANN	**Dangsing**	**52.78**	**319**	eP	**P**	**01 32 33.9**	**-0.4**
	67nm,0.7s						
PYUN	**Piuthan**	**53.11**	**319**	eP	**P**	**01 32 36.2**	**-0.4**
	70nm,1.0s						
GTA	**Gaotai**	**54.01**	**341**	⇓P	**P**	**01 32 43.6**	**+0.7**
GTA				pP	sP	01 32 51.8	-0.4
GTA				sP	pP	01 32 55.8	+6.2
GTA				pmax	pmax		
	comp=Z,12nm,0.9s						
GTA				pmax	pmax		
	comp=Z,61nm,6.2s						
GTA				LR	LR		
	comp=N,150nm,19.0s						
GTA				LR	LR		
	comp=E,150nm,18.4s						
WAKE	**Wake Island**	**55.49**	**57**	eP	**P**	**01 32 53.5**	**-0.4**
	204nm,1.4s						
USA0B	**Ussuriysk Arra**	**56.63**	**11**	eP	**P**	**01 33 00.9**	**-0.7**
	9.5nm,1.1s						
USRK	**Ussuriysk Ar.**	**56.63**	**11**	P	**P**	**01 33 01.0**	**-0.6**
	5.8nm,0.6s,baz=190,slow=6.7,SNR=19						
ULN	**Ulaanbaatar**	**60.25**	**350**	eP	**P**	**01 33 27.6**	**+0.6**
	16nm,1.3s						
SONA0	**Songino Array**	**60.33**	**350**	eP	**P**	**01 33 27.9**	**+0.4**
SONM	**Songino Array**	**60.33**	**350**	P	**P**	**01 33 27.9**	**+0.4**
	13nm,0.7s,baz=168,slow=9.0,SNR=65						
SONA1	**Songino Array**	**60.34**	**350**	eP	**P**	**01 33 27.9**	**+0.3**
TLY	**Talaya**	**64.53**	**349**	eP	**P**	**01 33 56.5**	**+1.2**
	11nm,0.8s						
MK01	**Makanchi Array**	**67.04**	**333**	eP	**P**	**01 34 11.8**	**+0.1**
MAW	**Mawson**	**67.07**	**200**	P	**P**	**01 34 11.7**	**+0.2**
	1.7nm,0.9s,baz=69,slow=4.0,SNR=6.5						
MAW	**Mawson**	**67.07**	**200**	eP	**P**	**01 34 11.7**	**+0.2**
	0.4nm,0.7s						
MK31	**Makanchi Array**	**67.07**	**333**	eP	**P**	**01 34 12.3**	**+0.4**
MK32	**Makanchi Array**	**67.07**	**333**	eP	**P**	**01 34 11.9**	**+0.1**
MKAR	**Makanchi Array**	**67.07**	**333**	P	**P**	**01 34 11.9**	**+0.1**
	9.1nm,0.7s,baz=142,slow=7.8,SNR=57						
MKAR	**Makanchi Array**	**67.07**	**333**	eP	**P**	**01 34 11.1**	**-0.7**
	60nm,0.8s						
AAK	**Ala-Archa**	**68.00**	**326**	eP	**P**	**01 34 18.7**	**+0.8**
	2.6nm,0.8s						
KURK	**Kurchatov**	**71.61**	**334**	eP	**P**	**01 34 39.9**	**+0.1**
	6.3nm,0.9s						
ZAA0	**Zalesovo Array**	**71.69**	**339**	eP	**P**	**01 34 39.7**	**-0.6**
	9.3nm,0.7s						
ZALV	**Zalesovo Beam**	**71.69**	**339**	P	**P**	**01 34 39.7**	**-0.5**
	9.6nm,0.6s,baz=143,slow=4.9,SNR=34						
ZALV	**Zalesovo Beam**	**71.69**	**339**	eP	**P**	**01 34 38.7**	**-1.5**
ZAA1	**Zalesovo Array**	**71.70**	**339**	eP	**P**	**01 34 39.7**	**-0.6**
GEYT	**Alibeck**	**75.74**

WRA	**Warramunga Arr**	**16.22**	**122**	Pn		**P**	**01 27 58.5**	**-1.8**
	0.7nm,0.3s,baz=336,slow=25,SNR=3.2							
WRA				Sn		**Sn**	**01 30 52.1**	**-4.4**
	1.4nm,0.3s,baz=292,slow=22,SNR=5.4							
AS31	**Alice Springs**	**17.94**	**133**	*e*Pn		**P**	**01 28 22.1**	**+2.8**
	4.3nm,0.6s							
AS31				*e*Sn		**Sn**	**01 31 33.5**	**-4.7**
ASAR	**Alice Springs**	**17.94**	**133**	P		**P**	**01 28 22.1**	**+2.8**
	1.3nm,0.3s,baz=314,slow=13,SNR=6.1							
ASAR				Sn		**Sn**	**01 31 33.5**	**-4.7**
	1.0nm,0.3s,baz=304,slow=22,SNR=4.5							
DAV	**Davao City (W)**	**19.53**	**17**	*e*P		**Pn**	**01 28 38.4**	**0.0**
	222nm,0.3s							
MYKOM	**Kota Tinggi**	**20.75**	**309**	*e*P		**P**	**01 28 47.1**	**-3.0**
	8.8nm,0.8s							
NWAO	**Narrogin (SRO)**	**21.24**	**186**	P		**P**	**01 28 59.6**	**+4.4**
	27nm,0.4s,baz=257,slow=11,SNR=8.2							
JAY	**Jayapura**	**22.67**	**68**	P		**P**	**01 29 13.3**	**+2.5**
	33nm,0.8s,baz=244,slow=9.3,SNR=4.2							
TGY	**Tagaytay City**	**25.68**	**3**	P		**P**	**01 29 40.1**	**+1.0**
	150nm,0.4s,baz=202,slow=1.5,SNR=5.3							
PMG	**Port Moresby**	**27.01**	**88**	LR		LR	01 43 38.2	
	comp=Z,114nm,18.8s,baz=332,slow=43							
PBKT	**Sadao Pong**	**33.70**	**326**	*e*P		**P**	**01 30 48.3**	**-1.9**
	6.0nm,0.8s							
YULB	**Yu-li**	**34.92**	**2**	*e*P		**P**	**01 30 58.8**	**-2.0**
	13nm,1.0s							
KS15	**Wonju Array Si**	**49.48**	**8**	*e*P		**P**	**01 32 58.9**	**-0.3**
KSAR	**Wonju Array Be**	**49.48**	**8**	P		**P**	**01 32 58.9**	**-0.3**
KSRS	**Korea Array**	**49.50**	**9**	P		**P**	**01 32 58.9**	**-0.4**
	3.0nm,0.8s,baz=191,slow=9.0,SNR=4.5							
MAJO	**Matsushiro**	**51.05**	**19**	*e*P		**P**	**01 33 09.7**	**-1.3**
MJAR	**Matsushiro Arr**	**51.05**	**19**	P		**P**	**01 33 09.7**	**-1.3**
	4.5nm,0.7s,baz=199,slow=9.4,SNR=5.0							
GTA	**Gaotai**	**54.15**	**341**	⇑P		**P**	**01 33 34.8**	**+0.7**
GTA				pP		pP	01 33 42.8	-1.9
GTA				sP		sP	01 33 47.0	-1.8
GTA				pmax		pmax		
	comp=Z,9.0nm,1.0s							
USA0B	**Ussuriysk Arra**	**56.74**	**10**	*e*P		**P**	**01 33 52.0**	**-0.5**
	comp=Z,14nm,1.3s							
USRK	**Ussuriysk Ar.**	**56.74**	**10**	P		**P**	**01 33 52.1**	**-0.4**
	comp=Z,5.1nm,0.6s,baz=184,slow=6.4,SNR=8.9							
ULN	**Ulaanbaatar**	**60.38**	**350**	*e*P		**P**	**01 34 18.6**	**+0.6**
	comp=Z,8.1nm,1.0s							
SONA0	**Songino Array**	**60.47**	**350**	*e*P		**P**	**01 34 19.0**	**+0.4**
SONM	**Songino Array**	**60.47**	**350**	P		**P**	**01 34 19.0**	**+0.4**
	comp=Z,12nm,0.8s,baz=168,slow=8.8,SNR=14							
SONA1	**Songino Array**	**60.48**	**350**	*e*P		**P**	**01 34 18.9**	**+0.3**
YSS	**Yuzh-Sakhalins**	**61.92**	**18**	*e*P		**P**	**01 34 28.2**	**0.0**
	comp=Z,79nm,1.5s							
KDJ	**Kajisay**	**66.33**	**327**	*e*P		**P**	**01 34 57.4**	**-0.1**
	comp=Z,6.2nm,1.1s							
MK01	**Makanchi Array**	**67.18**	**333**	*e*P		**P**	**01 35 03.0**	**+0.3**
MK31	**Makanchi Array**	**67.20**	**333**	*e*P		**P**	**01 35 03.3**	**+0.4**
MK32	**Makanchi Array**	**67.20**	**333**	*e*P		**P**	**01 35 03.2**	**+0.4**
MKAR	**Makanchi Array**	**67.20**	**333**	P		**P**	**01 35 03.2**	**+0.4**
	comp=Z,7.4nm,0.7s,baz=141,slow=7.8,SNR=10							
MKAR				LR		LR	02 07 20.5	
	comp=Z,12nm,19.5s,baz=161,slow=39							
MKAR	**Makanchi Array**	**67.20**	**333**	*e*P		**P**	**01 35 03.3**	**+0.4**
	comp=Z,47nm,0.8s							
ZAA0	**Zalesovo Array**	**71.83**	**339**	*e*P		**P**	**01 35 31.0**	**-0.2**
	comp=Z,7.6nm,0.8s							
ZALV	**Zalesovo Beam**	**71.83**	**339**	P		**P**	**01 35 30.9**	**-0.3**
	comp=Z,7.7nm,0.6s,baz=142,slow=4.6,SNR=9.2							
ZAA1	**Zalesovo Array**	**71.83**	**339**	*e*P		**P**	**01 35 30.9**	**-0.3**
GEYT	**Alibeck**	**75.86**	**314**	P		**P**	**01 35 54.9**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=106,slow=8.4,SNR=4.2							
TIXI	**Tiksi**	**83.40**	**3**	*e*P		**P**	**01 36 35.5**	**+0.2**
	comp=Z,11nm,0.8s							
BR101	**Keskin Array S**	**94.44**	**309**	*e*P		**P**	**01 37 27.7**	**-1.4**
BRTR	**Keskin Array B**	**94.44**	**309**	P		**P**	**01 37 27.7**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=116,slow=5.7,SNR=4.0							
WCI	**Wyandotte Cave**	**144.81**	**37**	*e*PKPdf		**PKPdf**	**01 43 47.1**	**+1.2**
OXF	**Oxford**	**145.08**	**45**	*e*PKPbc		**PKPdf**	**01 43 48.3**	**+1.9**
WVT	**Waverly**	**145.19**	**41**	*e*PKPbc		**PKPdf**	**01 43 47.8**	**+1.2**
NCB	**Newcomb**	**145.66**	**18**	*e*PKPdf		**PKPab**	**01 43 49.7**	**+1.9**
PLAL	**Pickwick Lake**	**145.71**	**43**	*e*PKPdf		**PKPab**	**01 43 49.6**	**+1.4**
T49A	**Edmonton**	**146.00**	**38**	*e*PKPdf		**PKPab**	**01 43 50.9**	**+1.6**
P53A	**Whipple**	**146.57**	**30**	*e*PKPdf		**PKPab**	**01 43 52.5**	**+1.1**
LRAL	**Lakeview Retre**	**147.56**	**45**	*e*PKPbc		**PKPab**	**01 43 55.0**	**-0.5**

*ARE **01** 01:37:26.0±0.0, 11°.82S×76°.02W, h57km*
*ISCJB **01** 01:37:28.5±0.4, 12°.11S±0°.04×76°.17W±0°.04, h33km, mb4.4/20, MS3.8/19, Error ellipse: s-maj=7.1km s-min=4.1km az=145.2*
*IDC **01** 01:37:28.9±0.8, 12°.01S×75°.93W, h0km, mb4.0/10, mb1 4.3/14, mb1mx4.1/30, mbtmp4.1/14, ML3.4/4, MS3.8/22, Ms1 3.8/22, ms1mx3.6/37, Error ellipse: s-maj=26.0km s-min=15.9km az=63.0*
*NEIC **01** 01:37:30.2±0.7, 12°.28S×76°.43W, h52km±8km, mb4.6/14, ML4.7(ARE), Error ellipse: s-maj=15.4km s-min=7.1km az=63.0*
NEIC Felt [III] at Matucana and [II] at La Oroya and Lima.

ISC 01 01:37:31.2±0.5, 12°.07S±0°.06×76°.23W±0°.06, h35km, n71, σ2^{s}27/59, mb4.5/20, MS3.7/19, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**0.60**	**278**	*e*Pn	**Pn**	**01 37 42.1**	**-1.2**
NNA				*e*Sn	**Sn**	**01 37 52.2**	**+0.4**
ATAH	**Atahualpa**	**5.35**	**336**	Pn	Pn	01 38 53.0	+4.0
	5.5nm,0.3s,baz=168,slow=5.8,SNR=27						
ATAH				LR	LR	01 41 16.7	
	comp=Z,4μm,20.4s,baz=165,slow=42						
LPAZ	**La Paz**	**8.90**	**119**	Pn	**Pn**	**01 39 37.8**	**-0.2**
	0.1nm,0.3s,baz=322,slow=13,SNR=3.5						
LPAZ	**La Paz**	**8.90**	**119**	*e*Pn	**Pn**	**01 39 40.4**	**+2.5**
LPAZ				*e*Sn	**Sn**	**01 41 21.6**	**+4.2**
MNMC	**Minye Minye**	**9.49**	**138**	*e*Pn	**Pn**	**01 39 46.1**	**+0.4**
PB11	**IPOC Station P**	**9.92**	**141**	*e*Pn	**Pn**	**01 39 49.9**	**-1.6**
PB11				*e*Sn	**Sn**	**01 41 42.4**	**+0.6**
PB01	**IPOC Station P**	**11.02**	**145**	*e*Pn	**Pn**	**01 40 05.0**	**-1.4**
PB01				*e*Sn	**Sn**	**01 42 07.5**	**-1.0**
OTAV	**Otavalo**	**12.43**	**350**	*e*Pn	**Pn**	**01 40 26.4**	**+0.3**
OTAV				*e*Sn	**Sn**	**01 42 46.6**	**+3.0**
SAML	**Samuel**	**13.20**	**78**	*e*Pn	**Pn**	**01 40 32.6**	**-3.7**
	26nm,0.7s						
SAML				*e*Sn	**Sn**	**01 43 01.8**	**-0.2**
SOTA	**Rioblanco**	**14.12**	**358**	*e*P	**Pn**	**01 40 46.2**	**-3.0**
PCON	**Cinco Dias**	**14.31**	**359**	*e*P	**Pn**	**01 40 49.8**	**-2.0**
POPC	**Popayan, Colom**	**14.52**	**358**	*e*P	**Pn**	**01 40 53.8**	**-0.7**
PRAC	**Prado**	**15.74**	**5**	*e*P	**P**	**01 41 12.4**	**-1.6**
YOTC	**Yotoco, Valle**	**15.95**	**360**	*e*P	**P**	**01 41 17.0**	**+0.6**
CHIC	**Chingaza**	**16.78**	**9**	*e*P	**Pn**	**01 41 22.2**	**-1.8**
RREF	**El Recreo**	**16.89**	**3**	*e*P	**P**	**01 41 27.4**	**0.0**
ROSC	**El Rosal**	**16.91**	**7**	Pn	**P**	**01 41 27.9**	**+0.5**
	0.9nm,0.3s,baz=160,slow=4.9,SNR=7.5						
ROSC				LR	LR	01 49 30.7	
	comp=Z,1μm,18.1s,baz=224,slow=43						
ROSC	**El Rosal**	**16.91**	**7**	*e*Pn	**P**	**01 41 26.6**	**-0.7**
	30nm,1.4s						
ROSC	**El Rosal**	**16.91**	**7**	*e*P	**P**	**01 41 33.0**	**+5.6**
GUYC	**Guyana, Colomb**	**17.20**	**3**	*e*P	**P**	**01 41 31.6**	**+0.9**
NORC	**Norcasia**	**17.57**	**5**	*e*P	**Pn**	**01 41 32.4**	**-1.2**
LCO	**Las Campanas**	**17.63**	**164**	*e*Pn	**Pn**	**01 41 29.7**	**-4.7**
	34nm,1.4s						
RUSC	**La Rusia**	**18.12**	**10**	*e*P	**Pn**	**01 41 39.8**	**-0.9**
ZARC	**Zaragoza, Cauc**	**19.48**	**4**	*e*P	**P**	**01 41 54.5**	**-0.8**
PAMC	**Pamplona, Colo**	**19.60**	**11**	*e*P	**P**	**01 41 55.0**	**-2.1**
PTGA	**Pitinga**	**19.68**	**56**	P	**P**	**01 41 57.7**	**+0.2**
	0.6nm,0.3s,baz=238,slow=14,SNR=20						
PTGA				LR	LR	01 49 58.6	
	comp=Z,211nm,19.3s,baz=238,slow=39						
PTGA	**Pitinga**	**19.68**	**56**	*e*P	**Pn**	**01 41 58.7**	**-0.4**
	17nm,0.9s						
MOTC	**Monteria, Cord**	**20.72**	**2**	*e*P	**P**	**01 42 08.9**	**+0.2**
SDV	**Santo Domingo**	**21.55**	**15**	P	**P**	**01 42 17.3**	**-0.6**
	13nm,0.6s,baz=199,slow=7.0,SNR=6.1						
SDV	**Santo Domingo**	**21.55**	**15**	*e*P	**P**	**01 42 17.3**	**-0.6**
	20nm,0.9s						
CPUP	**Villa Florida**	**22.76**	**131**	P	**P**	**01 42 30.3**	**-0.2**
	1.1nm,0.7s,baz=333,slow=11,SNR=2.9						
CPUP				LR	LR	01 53 00.6	
	comp=Z,294nm,21.8s,baz=314,slow=41						
CPUP	**Villa Florida**	**22.76**	**131**	*e*P	**P**	**01 42 28.1**	**-2.4**
	4.4nm,0.9s						
JTS	**JuntasAbangare**	**23.85**	**338**	LR	LR	01 51 20.7	
	comp=Z,367nm,21.4s,baz=228,slow=35						
BDFB	**Brasilia**	**27.62**	**101**	LR	LR	01 54 56.5	
	comp=Z,720nm,19.5s,baz=220,slow=38						
PLCA	**Paso Flores**	**28.98**	**171**	P	**P**	**01 43 30.9**	**+3.2**
	5.8nm,1.0s,baz=19,slow=11,SNR=8.0						
PLCA				LR	LR	01 53 33.6	
	comp=Z,93nm,19.4s,baz=26,slow=33						
MDP	**Montagnes des**	**29.01**	**55**	LR	LR	01 55 21.7	
	comp=Z,199nm,19.8s,baz=237,slow=37						
CMIG	**Matias Romero**	**34.34**	**327**	LR	LR	01 55 48.9	
	comp=Z,61nm,21.3s,baz=142,slow=32						
USHA	**Ushuaia**	**43.10**	**173**	LR	LR	02 02 42.4	
	comp=Z,108nm,18.2s,baz=357,slow=35						
TXAR	**Lajitas Array**	**48.95**	**328**	P	**P**	**01 46 16.8**	**+2.5**
	1.3nm,0.7s,baz=148,slow=9.8,SNR=11						
TX31	**Lajitas Ar. Si**	**48.95**	**328**	*e*P	**P**	**01 46 10.9**	**-3.4**
MNTX	**Cornudas Mount**	**51.72**	**328**	*e*P	**P**	**01 46 33.2**	**-1.9**
	8.2nm,1.4s						
MVL	**Millersville**	**51.80**	**360**	*e*P	**P**	**01 46 35.1**	**-0.4**
	11nm,1.0s						
CPRX	**Cap Rock**	**52.03**	**330**	*e*P	**P**	**01 46 33.5**	**-4.1**
M50A	**Fremont**	**53.58**	**354**	*e*P	**P**	**01 46 48.6**	**0.0**
	48nm,1.4s						
319A	**Douglas**	**53.59**	**325**	*e*P	**P**	**01 46 47.2**	**-1.9**
	13nm,1.3s						
LONY	**Lake Ozonia**	**56.44**	**1**	*e*P	**P**	**01 47 06.5**	**-2.8**
	14nm,1.4s						
FRNY	**Flat Rock**	**56.69**	**2**	*e*P	**P**	**01 47 09.5**	**-1.6**
	13nm,1.5s						
BAR	**Barrett**	**58.92**	**320**	*e*P	P	01 47 21.3	-5.8
	2.0nm,0.8s						
CPE	**Camp Elliot**	**59.33**	**320**	*e*P	P	01 47 23.9	-6.0
	17nm,0.3s						
DUG	**Dugway, Tooele**	**62.09**	**329**	*e*P	**P**	**01 47 48.4**	**-0.3**
	7.2nm,1.2s						
PDAR	**Pinedale Array**	**62.53**	**333**	P	P	01 47 56.5	+4.8
	0.7nm,0.8s,baz=188,slow=4.6,SNR=2.5						
PDAR				LR	LR	02 17 11.1	
	comp=Z,42nm,19.2s,baz=126,slow=38						
NVAR	**Mina Array Bea**	**63.79**	**324**	P	P	01 48 04.2	+4.1
	1.2nm,0.7s,baz=139,slow=6.4,SNR=10						
ULM	**Lac du Bonnet**	**64.40**	**346**	P	**P**	**01 48 06.5**	**+2.9**
	5.2nm,0.8s,baz=181,slow=4.0,SNR=3.7						
ULM				LR	LR	02 17 49.1	
	comp=Z,40nm,18.7s,baz=136,slow=38						
SCHQ	**Schefferville**	**67.12**	**6**	LR	LR	02 19 39.4	
	comp=Z,30nm,19.6s,baz=82,slow=38						
MSO	**Missoula**	**67.65**	**333**	*e*P	**P**	**01 48 22.2**	**-2.5**
	4.6nm,1.0s						
YBH	**Yreka Blue Hor**	**68.51**	**324**	LR	LR	02 18 29.6	
	comp=Z,12nm,18.2s,baz=162,slow=36						
NEW	**Newport**	**70.15**	**332**	LR	LR	02 21 51.1	
	comp=Z,20nm,18.5s,baz=134,slow=38						
DBIC	**Dimbokro**	**73.36**	**79**	LR	LR	02 18 47.7	
	comp=Z,62nm,20.8s,baz=238,slow=34						
TOA1	**Torodi Ar. Sit**	**81.24**	**75**	*e*P	**P**	**01 49 45.5**	**+1.3**
TOA0	**Torodi Ar. Sit**	**81.24**	**75**	*e*P	**P**	**01 49 45.1**	**+0.8**
TORD	**Torodi Ar. Bea**	**81.24**	**75**	P	**P**	**01 49 45.5**	**+1.3**
	2.3nm,1.1s,baz=256,slow=4.3,SNR=12						
TORD				LR	LR	02 23 40.4	
	comp=Z,78nm,20.2s,baz=315,slow=34						
ESDC	**Sonseca Array**	**84.39**	**48**	P	**P**	**01 50 02.2**	**+2.0**
	0.3nm,0.6s,baz=251,slow=4.1,SNR=4.6						
VNDA	**Vanda**	**84.82**	**191**	P	**P**	**01 50 05.5**	**+3.9**
	1.0nm,1.0s,baz=133,slow=5.6,SNR=4.5						
VNDA				LR	LR	02 21 27.8	
	comp=Z,23nm,21.8s,baz=128,slow=31						
VNDA	**Vanda**	**84.82**	**191**	*e*P	**P**	**01 49 57.4**	**-4.3**
RES	**Resolute Bay**	**87.37**	**355**	LR	LR	02 32 02.1	
	comp=Z,263nm,20.9s,baz=106,slow=38						
BOSA	**Boshof**	**94.15**	**120**	LR	LR	02 30 28.3	
	comp=Z,115nm,19.9s,baz=246,slow=34						
MAW	**Mawson**	**95.24**	**165**	LR	LR	02 31 31.8	
	comp=Z,44nm,21.5s,baz=242,slow=34						
NOA	**NORSAR Array B**	**99.23**	**30**	LR	LR	02 34 12.0	
	comp=Z,20nm,19.8s,baz=310,slow=34						
ASAR	**Alice Springs**	**133.84**	**220**	PKP	**PKPdf**	**01 56 48.5**	**+3.1**
	0.6nm,0.7s,baz=131,slow=2.3,SNR=4.3						
WRA	**Warramunga Arr**	**136.21**	**224**	PKP	**PKPdf**	**01 56 53.0**	**+3.1**
	1.4nm,0.8s,baz=122,slow=1.6,SNR=6.4						
SONM	**Songino Array**	**144.28**	**357**	PKP	**PKPdf**	**01 57 06.6**	**+2.8**
	0.5nm,0.5s,baz=343,slow=4.5,SNR=3.0						

*ISCJB **01** 01:38:49.8±0.6, 37°.30N±0°.03×37°.11E±0°.06, h7km±8km, Error ellipse: s-maj=8.4km s-min=4.4km az=148.0*
*DDA **01** 01:38:49.9, 37°.29N×37°.19E, h7km, Ml2.6*
*ISK **01** 01:38:49.3, 37°.33N×37°.13E, h8km, ML1.8/6*

ISC 01 01:38:49.7±1.0, 37°.31N±0°.03×37°.14E±0°.04, h10km±9km, n14, σ0^{s}44/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.15**	**158**	PG	**Pg**	**01 38 53.4**	**+0.3**
KMRS	**Kahramanmaras**	**0.27**	**315**	PG	**Pg**	**01 38 55.2**	**0.0**
KMRS				SG	**Sg**	**01 38 58.6**	**-0.3**
KUZU	**Kuzuini**	**0.54**	**186**	*i* P	**Pg**	**01 39 00.7**	**+0.5**
KUZU				*i* S	**Sb**	**01 39 08.3**	**-0.7**
ANDN	**Andirin**	**0.69**	**293**	*i* P	**Pg**	**01 39 02.8**	**-0.2**
ANDN				*i* S	**Sg**	**01 39 11.8**	**-0.2**
ELBS	**KAHRAMANMARAS**	**1.01**	**360**	*i* P	**Pn**	**01 39 10.3**	**+0.3**
ELBS				*i* S	**Sn**	**01 39 24.7**	**+0.3**
KOZT	**Kozan**	**1.06**	**280**	PG	**Pg**	**01 39 10.1**	**0.0**
AKCD	**Akcadag**	**1.16**	**32**	*i* P	**Pb**	**01 39 12.0**	**+0.1**
AKCD				*i* S	**Sn**	**01 39 28.5**	**+0.4**
TAHT	**Tahtakopru-Hat**	**1.21**	**220**	PN	**Pg**	**01 39 13.0**	**+0.1**
SURC	**SANLIURFA_SURC**	**1.25**	**110**	*i* P	**Pn**	**01 39 13.4**	**+0.1**
SURC				*i* S	**Sn**	**01 39 30.1**	**-0.1**
DARE	**Darende-Malaty**	**1.29**	**12**	PN	**Pg**	**01 39 14.2**	**-0.2**
URFA	**Urfa**	**1.34**	**84**	PN	**Pn**	**01 39 14.5**	**-0.1**
SANL	**SANLIURFA_Merk**	**1.48**	**95**	*i* P	**Pn**	**01 39 15.4**	**-1.0**
SANL				*i* S	**Sg**	**01 39 37.3**	**-0.1**
BNN	**Bunyan**	**1.84**	**327**	PN	**Pn**	**01 39 21.9**	**+0.4**
SVRC	**Sivrice-ELAZID**	**2.02**	**58**	PN	**Pn**	**01 39 24.7**	**+0.8**

IDC 01 01:47:07.2±1.5, 11°.67S×119°.64E, h0km, mb4.2/2, mb1 4.3/6, mb1mx3.8/45, mbtmp4.1/6, ML3.7/4, Error ellipse: s-maj=43.7km s-min=22.2km az=39.0, South of Sumba

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.21**	**70**	Pn	Pn	01 48 14.5	+1.8
	14nm,0.3s,baz=252,slow=2.1,SNR=7.9						
BATI				Sn	Sn	01 49 01.0	-1.7
	9.0nm,0.3s,baz=291,slow=18,SNR=7.1						
FITZ	**Fitzroy Crossi**	**8.63**	**139**	Pn	Pn	01 49 14.2	+0.7
	0.6nm,0.3s,baz=324,slow=7.4,SNR=36						
FITZ				Sn	Sn	01 50 46.6	-5.0
	1.9nm,0.3s,baz=172,slow=5.6,SNR=7.3						
WRA	**Warramunga Arr**	**16.35**	**122**	Pn	Pn	01 50 56.4	-2.0
	0.2nm,0.3s,baz=294,slow=14,SNR=19						
WRA				Sn	Sn	01 53 48.7	-12
	0.2nm,0.3s,baz=280,slow=20,SNR=5.9						
ASAR	**Alice Springs**	**18.07**	**133**	P	P	01 51 20.2	-0.2
	0.1nm,0.3s,baz=312,slow=12,SNR=18						
MKAR	**Makanchi Array**	**67.11**	**333**	P	P	01 58 03.3	+0.6
	1.9nm,0.7s,baz=159,slow=8.8,SNR=3.7						
ZALV	**Zalesovo Beam**	**71.74**	**339**	P	P	01 58 30.4	-0.7
	1.4nm,0.6s,baz=149,slow=3.4,SNR=2.9						

*ISCJB **01** 01:48:14.6±0.9, 51°.2N±0°.1×179°.17W±0°.05, h44km, mb3.3/3, Error ellipse: s-maj=15.8km s-min=4.2km az=178.9*
*NEIC **01** 01:48:14.1±0.0, 51°.16N×179°.18W, h25km, ML3.4(AEIC), After AEIC.*
*IDC **01** 01:48:32.9±2.7, 51°.63N×174°.38W, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.5/67, mbtmp3.4/4, ML3.0/2, Error ellipse: s-maj=77.7km s-min=40.0km az=5.0*

ISC 01 01:48:15.9±1.2, 51°.3N±0°.1×179°.19W±0°.04, h44km, n24, σ1^{s}02/28, mb3.5/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.57**	**27**	P	**Pn**	**01 48 27.0**	**-0.8**
GAEA	**Gareloi East**	**0.60**	**28**	P	**Pn**	**01 48 27.2**	**-0.9**
TASE	**Tanaga Southea**	**0.93**	**51**	P	**Pn**	**01 48 31.7**	**-0.8**
AMKA	**Amchitka**	**0.95**	**278**	P	**Pn**	**01 48 31.4**	**-1.4**
AMKA				S	**Sn**	**01 48 43.7**	**-1.6**
CERAA	**Semis' Rag'd T**	**0.96**	**313**	P	**Pn**	**01 48 32.6**	**-0.3**
TAFP	**Tanaga Falls P**	**0.99**	**49**	P	**Pn**	**01 48 32.7**	**-0.7**
TAFP				S	**Sn**	**01 48 45.9**	**-0.4**
CESW	**Semis' Southwe**	**1.01**	**310**	P	**Pn**	**01 48 33.3**	**-0.4**
TAPA	**Tanaga Point A**	**1.03**	**56**	P	**Pn**	**01 48 33.1**	**-0.8**
CEAP	**Semis' Anvil P**	**1.07**	**315**	P	**Pn**	**01 48 34.5**	**0.0**
KIMD	**Kanaga Island**	**1.32**	**67**	P	**Pn**	**01 48 37.1**	**-0.8**
KIKV	**Kanaga Island**	**1.41**	**63**	P	**Pn**	**01 48 38.5**	**-0.6**
KICM	**Kanaga Island**	**1.41**	**61**	P	**Pn**	**01 48 39.1**	**0.0**
LSPA	**Little Sitkin**	**1.56**	**298**	P	**Pn**	**01 48 41.4**	**+0.2**
LSPA				S	**Sn**	**01 49 02.9**	**+2.6**
LSSA	**Little Sitkin**	**1.59**	**297**	P	**Pn**	**01 48 42.1**	**+0.4**
LSNW	**Little Sitkin**	**1.60**	**298**	P	**Pn**	**01 48 41.2**	**-0.5**
ADK	**Adak**	**1.69**	**67**	P	**Pn**	**01 48 42.2**	**-0.7**
ADK				S	**Sn**	**01 49 03.1**	**-0.2**
ADAG	**Mount Adagdak**	**1.77**	**65**	P	**Pn**	**01 48 45.1**	**+1.0**
ETKA	**Kagalaska Isla**	**1.84**	**70**	P	**Pn**	**01 48 44.5**	**-0.5**
GSTD	**Great Sitkin T**	**2.06**	**66**	P	**Pn**	**01 48 48.9**	**+0.8**
GSMY	**Great Sitkin M**	**2.11**	**67**	P	**Pn**	**01 48 49.1**	**+0.4**
ATKA	**Atka Island**	**3.25**	**71**	P	**Pn**	**01 49 05.1**	**+0.8**
ILAR	**Eielson Array**	**21.49**	**39**	P	**P**	**01 52 59.8**	**-0.8**
	0.1nm,0.3s,baz=237,slow=7.6,SNR=4.6						
PDAR	**Pinedale Array**	**46.58**	**72**	P	**P**	**01 56 38.3**	**-1.2**
	0.7nm,0.6s,baz=305,slow=4.6,SNR=8.3						
TXAR	**Lajitas Array**	**58.91**	**81**	P	**P**	**01 58 12.5**	**+2.0**
	0.3nm,0.7s,baz=316,slow=3.8,SNR=4.3						

*IDC **01** 01:52:04.5±1.4, 42°.22N×85°.34E, h0km, mb3.7/2, mb1 3.7/6, mb1mx3.4/61, mbtmp3.5/6, ML2.8/4, MS2.2/1, Ms1 2.2/1, ms1mx1.9/41, Error ellipse: s-maj=30.3km s-min=16.8km az=54.0*
*BJI **01** 01:52:07.2, 42°.23N×85°.15E, h10km, mb3.9/3, ML3.6/7, Ms3.0/1*
*SOME **01** 01:52:07.0, 42°.32N×85°.10E, h10km*
*NNC **01** 01:52:11.1±7.8, 42°.49N×85°.07E, h20km±30km, mb3.7, mpv3.3, Error ellipse: s-maj=54.1km s-min=24.5km az=154.0*

ISC 01 01:52:06.6±0.9, 42°.09N±0°.07×85°.31E±0°.04, h10km, n19, σ2^{s}41/31, 5C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.46**	**45**	Pn	**Pn**	**01 52 48.7**	**+1.8**
WMQ				Sg	**Sb**	**01 53 22.9**	**+1.5**
WMQ				smax	smax		
	comp=N,1μm,0.5s						
KTMS	**Ketmen**	**3.89**	**292**	*e*P	**Pb**	**01 53 13.7**	**-1.7**
	26nm,0.2s						
KTMS				*e*S	**Sb**	**01 54 02.0**	**-0.7**
	111nm,0.3s						
SHLS	**Shalkode**	**4.44**	**286**	*e*P	**Pn**	**01 53 18.7**	**+4.5**
	16nm,0.3s						
SHLS				*e*S	**Sn**	**01 54 10.5**	**+4.5**
	170nm,0.3s						
DJR	**Jarkent**	**4.61**	**301**	*e*P	**Pb**	**01 53 25.2**	**-2.5**
	3.7nm,0.3s						
DJR				*e*S	**Sb**	**01 54 21.7**	**-1.6**
	29nm,0.4s						
UZB	**Uzynbulak**	**4.76**	**285**	*e*P	**Pb**	**01 53 30.7**	**+0.5**
	3.8nm,0.3s						
UZB				*e*S	**Sb**	**01 54 30.7**	**+3.2**
	52nm,0.3s						
KPKS	**Kokpek**	**5.07**	**288**	*e*P	**Pb**	**01 53 35.5**	**+0.1**
	6.7nm,0.1s						
KPKS				*e*S	**Sb**	**01 54 39.5**	**+3.2**
	119nm,0.4s						
MK31	**Makanchi Array**	**5.17**	**336**	⇑Pn	**Pn**	**01 53 23.2**	**-0.9**
	1.1nm,0.4s,baz=151,slow=14						
MK31				⇑Pg

5.7nm,0.6s
AKTO ⇓Lg Lg 01 57 48.5
22nm,0.9s
BVA0 Borovoye Array 11.40 18 ⇑Pn **Pn 01 55 40.6 -2.1**
8.6nm,1.1s,baz=201,slow=11,SNR=15
BVA0 ⇑Sn **Sn 01 57 48.5 -0.2**
7.9nm,0.5s
BRVK Borovoye 11.41 18 ⇑Pn **Pn 01 55 40.5 -2.3**
6.3nm,0.5s
BRVK ⇓Sn **Sn 01 57 48.5 -0.3**
8.9nm,0.8s
KURBB Kurchatov Arra 12.74 45 Lg Lg 01 59 44.8
0.1nm,0.3s,baz=235,slow=30,SNR=5.2
MKAR Makanchi Array 13.47 65 Lg Lg 02 00 10.2
0.1nm,0.3s,baz=250,slow=28,SNR=3.7
KBZ Khabaz 15.82 282 Pn **Pn 01 56 39.9 -2.4**
0.1nm,0.3s,baz=101,slow=19,SNR=3.4
ZALV Zalesovo Beam 17.80 42 P **Pn 01 57 07.3 +0.3**
0.7nm,0.3s,baz=236,slow=11,SNR=3.6
BRTR Keskin Array B 23.33 274 P **P 01 58 09.9 +2.4**
1.1nm,0.8s,baz=92,slow=8.5,SNR=6.0
MMAI Mount Meron Ar 24.71 257 LR LR 02 09 43.1
comp=Z,16nm,19.9s,baz=40,slow=40
AKASG Malin Array Be 25.44 301 P **P 01 58 27.5 +0.9**
0.2nm,0.3s,baz=79,slow=8.9,SNR=5.2
NOA NORSAR Array B 36.66 319 P **P 02 00 05.8 +0.5**
0.6nm,0.5s,baz=98,slow=8.6,SNR=2.6
ILAR Eielson Array 70.43 14 P **P 02 04 14.4 +1.8**
0.3nm,0.7s,baz=346,slow=5.8,SNR=3.4

*ISCJB **01** 01:53:37.4±0.9, 12.0°S±0.1°×76.2°W±0.1°, h33km, mb3.6/4, MS3.2/6, Error ellipse: s-maj=25.0km s-min=12.7km az=141.1*
*IDC **01** 01:53:39.5±4.4, 11.97°S×76.18°W, h35km±35km, mb3.5/4, mb1 3.9/7, mb1mx3.6/37, mbtmp3.8/7, ML3.7/3, MS3.4/9, Ms1 3.4/9, ms1mx3.1/25, Error ellipse: s-maj=36.9km s-min=18.8km az=52.0*
ISC 01 01:53:39.9±0.9, 12.0°S±0.1°×76.2°W±0.2, h35km, n17, σ1§48/8, mb3.6/4, MS3.2/6, Central Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**5.28**	**335**	Pn	**Pn**		**01 54 58.2**	**+1.5**
ATAH	3.7nm,0.3s,baz=116,slow=5.8,SNR=23			Lg	Lg		01 56 28.6	
ATAH	5.7nm,0.3s,baz=281,slow=23,SNR=6.9			LR	LR		01 57 20.4	
LPAZ	comp=Z,1μm,20.0s,baz=165,slow=42 **La Paz**	**8.91**	**120**	Pn	**Pn**		**01 55 48.0**	**+1.2**
ROSC	0.1nm,0.3s,baz=322,slow=14,SNR=3.5 **El Rosal**	**16.80**	**6**	LR	LR		02 05 48.3	
PTGA	comp=Z,145nm,18.2s,baz=108,slow=43 **Pitinga**	**19.59**	**56**	P	**P**		**01 58 03.8**	**-1.4**
PTGA	0.5nm,0.3s,baz=231,slow=15,SNR=6.9			LR	LR		02 05 46.3	
CPUP	comp=Z,73nm,19.1s,baz=238,slow=37 **Villa Florida**	**22.79**	**132**	LR	LR		02 09 23.7	
JTS	comp=Z,75nm,20.3s,baz=320,slow=41 **JuntasAbangare**	**23.77**	**338**	LR	LR		02 07 34.3	
BDFB	comp=Z,93nm,21.2s,baz=198,slow=35 **Brasilia**	**27.53**	**101**	LR	LR		02 11 34.8	
PLCA	comp=Z,61nm,19.6s,baz=40,slow=39 **Paso Flores**	**29.07**	**171**	P	**P**		**01 59 36.3**	**-0.8**
PLCA	3.8nm,1.1s,baz=360,slow=12,SNR=3.0			LR	LR		02 09 50.1	
APG	comp=Z,61nm,18.1s,baz=28,slow=33 **El Apazote**	**30.30**	**332**	LR	LR		02 10 52.5	
TKL	comp=Z,50nm,20.4s,baz=339,slow=34 **Tuckaleechee C**	**47.91**	**352**	LR	LR		02 23 30.8	
TXAR	comp=Z,26nm,18.5s,baz=222,slow=37 **Lajitas Array**	**48.89**	**328**	P	**P**		**02 02 22.2**	**-0.4**
PDAR	1.0nm,1.0s,baz=146,slow=9.1,SNR=7.5 **Pinedale Array**	**62.46**	**333**	P	**P**		**02 03 58.5**	**-1.4**
TORD	0.1nm,0.3s,baz=150,slow=6.1,SNR=2.9 **Torodi Ar. Bea**	**81.17**	**75**	P	**P**		**02 05 52.5**	**-0.1**
H11S2	0.4nm,0.9s,baz=282,slow=3.9 **WAKE ISLAND Hy**	**119.22**	**285**	T	T		04 21 39.2	
H11S1	baz=94,slow=74,SNR=4.7 **WAKE ISLAND Hy**	**119.22**	**285**	T	T		04 21 41.2	
H11S3	baz=94,slow=74,SNR=6.6 **WAKE ISLAND Hy**	**119.24**	**285**	T	T		04 21 37.6	
WRA	baz=94,slow=74,SNR=4.6 **Warramunga Arr**	**136.31**	**224**	PKP	**PKPdf**		**02 13 00.4**	**+1.6**
	0.3nm,0.9s,baz=134,slow=2.3,SNR=3.9							

IDC 01 01:56:49.0±8.0, 4.66°S×153.46°E, h133km±57km, mb3.7/6, mb1 3.9/7, mb1mx3.5/40, mbtmp4.2/7, MS2.5/1, Ms1 2.7/1, ms1mx2.3/32, Error ellipse: s-maj=56.1km s-min=46.6km az=44.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.83**	**233**	P	Pn	Pn	01 58 40.3	0.0
PMG	5.8nm,0.3s,baz=29,slow=7.8,SNR=11			S	Sn	Sn	02 00 08.5	+1.0
WRA	2.6nm,0.3s,baz=120,slow=20,SNR=3.9 **Warramunga Arr**	**24.03**	**229**	P	P	P	02 01 52.7	+0.8
ASAR	7.6nm,0.7s,baz=54,slow=10.0,SNR=90 **Alice Springs**	**36.70**	**223**	P	P	P	02 02 16.2	+0.2
STKA	0.7nm,0.6s,baz=57,slow=8.7,SNR=7.5 **Stephens Creek**	**29.27**	**201**	P	P	P	02 02 37.6	-1.1
FITZ	2.1nm,0.6s,baz=14,slow=12,SNR=3.6 **Fitzroy Crossi**	**30.30**	**242**	P	P	P	02 02 47.4	-0.7
CMAR	3.3nm,0.8s,baz=63,slow=6.2,SNR=9.3 **Chiang Mai Arr**	**58.41**	**295**	LR	LR	LR	02 32 26.3	
VNDA	comp=Z,3.8nm,18.4s,baz=75,slow=37 **Vanda**	**72.95**	**178**	P	P	P	02 08 04.0	+0.6
MAW	0.2nm,0.7s,baz=338,slow=5.4,SNR=4.0 **Mawson**	**85.95**	**203**	P	P	P	02 09 13.6	-0.3
TORD	1.8nm,0.7s,baz=95,slow=5.8,SNR=7.0 **Torodi Ar. Bea**	**150.89**	**289**	PKPbc	PKPbc	PKPbc	02 16 26.9	-0.2
	0.5nm,0.7s,baz=103,slow=3.3,SNR=4.7							

STR 01 02:04:27.6±0.7, 49°N±3°×°±°, h11km±7km, MLv1.0/5, Germany

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KTD	**Kalmit**	**0.14**	**359**		Pg	Pg	02 04 30.5	-0.3
OPP	**Oppenau**	**0.69**	**174**		Pg	Pg	02 04 40.3	-0.5
OPP					Sg	Sg	02 04 50.3	+0.5
WLS	**Welschbruch**	**0.91**	**213**		Pg	Pg	02 04 44.5	-0.5
WLS					Sg	Sb	02 04 57.2	-0.3
ECH	**Echery**	**1.14**	**213**		Pg	Pb	02 04 49.4	0.0
ECH					Sg	Sg	02 05 04.7	+0.4

*JMA **01** 02:10:59.1, 24.20°N×122.45°E, h45km±2km, M2.9*
*TAP **01** 02:10:59.5, 24.24°N×122.47°E, h46km±1km, ML3.6, C*
ISC 01 02:10:57.5±1.1, 24.24°N±0.02°×122.48°E±0.02°, h18km±4km, n83, σ0§85/144, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.44**	**314**	*e*P	**Pn**		**02 11 10.0**	**+1.1**
EOS1	baz=314			*e*S	**Sn**		**02 11 18.2**	**+1.8**
JYNG	baz=314 **Yonagunijimaku**	**0.48**	**64**	P	**Pn**		**02 11 10.2**	**+0.8**
JYNG				S	**Sn**		**02 11 17.8**	**+0.5**
YOJ	**Yonaguni jima**	**0.54**	**66**	*e*P	**Pn**		**02 11 11.0**	**+0.7**
YOJ	baz=64			*e*S	**Sn**		**02 11 19.7**	**+1.0**
YOJ	**Yonaguni jima**	**0.54**	**66**	P	**Pn**		**02 11 10.9**	**+0.7**
YOJ	baz=64			S	**Sn**		**02 11 19.2**	**+0.4**
TWC	**Suao**	**0.68**	**303**	*i* P	**Pn**		**02 11 12.3**	**+0.1**
TWC	baz=303			*e*S	**Sn**		**02 11 22.4**	**0.0**
NANB	**Nanao**	**0.69**	**286**	*e*P	**Pn**		**02 11 12.6**	**+0.2**
NANB	baz=285			*e*S	**Sn**		**02 11 22.0**	**-0.6**
ENA	baz=285 **Nanau**	**0.70**	**286**	*i* P	**Pn**		**02 11 12.6**	**+0.2**
ENA	baz=285			S	**Sn**		**02 11 22.9**	**+0.1**
EGS	baz=321	**0.78**	**321**	*e*P	**Pn**		**02 11 14.0**	**+0.4**
NACB	**Ninganchiao**	**0.81**	**266**	*e*P	**Pn**		**02 11 14.1**	**+0.1**
NACB	baz=265			*e*S	**Sg**		**02 11 25.2**	**+1.1**
	baz=265							

TWD	**Chiawan**	**0.82**	**259**	P	**Pn**		**02 11 14.2**	**+0.1**
TWD	baz=258			S	**Sg**		**02 11 25.3**	**+0.9**
HWA	baz=258 **Hwalien**	**0.84**	**252**	*e*P	**Pn**		**02 11 15.0**	**+0.6**
ILA	baz=251 **Ilan**	**0.84**	**308**	*e*P	**Pn**		**02 11 15.5**	**+1.0**
ILA	baz=308			*e*S	**Sn**		**02 11 26.9**	**+0.5**
TWE	baz=308 **Neicheng**	**0.88**	**303**	P	**Pn**		**02 11 15.8**	**+0.8**
TWE	baz=303			*e*S	**Sn**		**02 11 27.4**	**+0.1**
TWB1	baz=303 **Santiao Chiao**	**0.89**	**330**	P	**Pn**		**02 11 15.0**	**0.0**
TWB1	baz=330			*e*S	**Sg**		**02 11 26.2**	**-0.3**
ENTT	baz=330 **Nioudou**	**0.92**	**296**	P	**Pn**		**02 11 16.4**	**+0.9**
ENTT	baz=295			S	**Sn**		**02 11 28.7**	**+0.3**
SLBB	baz=295 **Yuanshan**	**0.92**	**304**	*e*P	**Pn**		**02 11 16.5**	**+0.9**
SLBB	baz=303			*e*S	**Sn**		**02 11 28.5**	**+0.1**
NNSB	baz=303 **Datong**	**1.01**	**281**	*e*P	**Pg**		**02 11 17.4**	**+0.1**
NNSB	baz=280			*e*S	**Sg**		**02 11 30.7**	**+0.1**
NNS	baz=280 **Nan Shan**	**1.03**	**281**	P	**Pg**		**02 11 17.5**	**+0.1**
NNS	baz=281			S	**Sb**		**02 11 30.9**	**+0.9**
NWLT	baz=281 **Wulai**	**1.04**	**301**	*e*P	**Pg**		**02 11 18.0**	**+0.4**
NWLT	baz=301			*e*S	**Sn**		**02 11 31.7**	**+0.5**
NWF	baz=301 **Wu-fen Shan**	**1.04**	**323**	*e*P	**Pn**		**02 11 17.4**	**+0.1**
NWF	baz=322			*e*S	**Sb**		**02 11 30.8**	**+0.4**
WFSB	baz=322 **Wu-fen Shan**	**1.04**	**323**	*e*P	**Pn**		**02 11 17.4**	**+0.2**
WFSB	baz=322			*e*S	**Sb**		**02 11 30.1**	**-0.2**
ESL	baz=322 **Shilin**	**1.04**	**246**	P	**Pb**		**02 11 17.2**	**+0.2**
ESL	baz=245			*e*S	**Sg**		**02 11 31.9**	**+0.4**
YHNB	baz=245 **Yeheng**	**1.09**	**293**	P	**Pg**		**02 11 18.9**	**+0.2**
YHNB	baz=293			*e*S	**Sg**		**02 11 33.0**	**0.0**
TWA	baz=293 **Mucha**	**1.10**	**312**	P	**Pg**		**02 11 18.5**	**-0.3**
TWA	baz=312			*e*S	**Sg**		**02 11 32.9**	**-0.3**
NSK	baz=312 **Sanguang**	**1.11**	**293**	*e*P	**Pg**		**02 11 18.9**	**-0.1**
NSK	baz=293			*e*S	**Sb**		**02 11 32.9**	**+0.6**
WHF	baz=293 **Hehuan Shan**	**1.11**	**265**	*i* P	**Pb**		**02 11 18.6**	**+0.2**
WHF	baz=264			*e*S	**Sb**		**02 11 33.5**	**+0.8**
EGFH	baz=264 **Guangfu**	**1.12**	**240**	*e*P	**Pn**		**02 11 18.4**	**+0.2**
EGFH	baz=239			S	**Sn**		**02 11 33.6**	**+0.5**
IRIF	baz=239 **Iriomote-Funau**	**1.15**	**85**	P	**Pg**		**02 11 19.3**	**-0.4**
IRIF				*e*S	**Sg**		**02 11 34.3**	**-0.5**
TATO	**Taipei**	**1.16**	**309**	*e*P	**Pg**		**02 11 19.8**	**-0.1**
TATO	baz=309			*e*S	**Sb**		**02 11 34.2**	**+0.4**
TWT	baz=309 **Tachien**	**1.19**	**271**	P	**Pg**		**02 11 20.4**	**-0.2**
TWT	baz=270			*e*S	**Sb**		**02 11 35.5**	**+0.8**
CHGB	baz=270 **Renai**	**1.20**	**262**	P	**Pb**		**02 11 20.4**	**+0.5**
CHGB	baz=261			*e*S	**Sb**		**02 11 35.9**	**+0.7**
TDCB	baz=261 **Techi**	**1.20**	**271**	P	**Pg**		**02 11 20.6**	**-0.2**
TDCB	baz=270			*e*S	**Sb**		**02 11 35.8**	**+0.7**
YM07	baz=270 **YM07**	**1.21**	**320**	*e*P	**Pn**		**02 11 19.6**	**0.0**
YM07	baz=320			*e*S	**Sb**		**02 11 34.2**	**-1.1**
YM01	baz=320 **YM01**	**1.22**	**318**	*e*P	**Pg**		**02 11 21.2**	**+0.1**
YM01	baz=317			*e*S	**Sb**		**02 11 35.6**	**0.0**
HATJ	baz=317 **Hateruma jima**	**1.23**	**98**	P	**Pg**		**02 11 21.3**	**+0.1**
HATJ				*e*S	**Sg**		**02 11 36.8**	**-0.5**
YM11	**YM11**	**1.23**	**319**	*e*P	**Pb**		**02 11 20.3**	**0.0**
YM10	baz=318 **YM10**	**1.23**	**318**	*e*P	**Pn**		**02 11 20.0**	**+0.1**
YM05	baz=317 **YM05**	**1.24**	**318**	*e*P	**Pn**		**02 11 19.9**	**-0.1**
YM08	baz=318 **YM08**	**1.24**	**320**	*e*P	**Pg**		**02 11 21.1**	**-0.5**
YM04	baz=319 **YM04**	**1.25**	**317**	*e*P	**Pn**		**02 11 20.1**	**+0.1**
YM04	baz=316			*e*S	**Sb**		**02 11 35.4**	**-1.0**
YM03	baz=316 **YM03**	**1.27**	**318**	*e*P	**Pg**		**02 11 21.9**	**-0.1**
EHY	baz=317 **Hungye**	**1.28**	**236**	P	**Pn**		**02 11 20.7**	**+0.1**
TWS1	baz=235 **Kuangyinshan**	**1.29**	**312**	*e*P	**Pb**		**02 11 21.8**	**+0.6**
TWY	baz=311 **Chenhua**	**1.30**	**322**	*e*P	**Pg**		**02 11 22.3**	**-0.4**
TWY	baz=322			*e*S	**Sb**		**02 11 37.8**	**0.0**
NTST	baz=322 **Danshui**	**1.31**	**315**	*e*P	**Pb**		**02 11 21.6**	**0.0**
YULB	baz=314 **Yu-li**	**1.37**	**232**	*e*P	**Pn**		**02 11 21.9**	**+0.2**
LIOB	baz=231 **Emei**	**1.39**	**287**	*e*P	**Pb**		**02 11 23.5**	**+0.5**
LIOB	baz=286			*e*S	**Sb**		**02 11 41.2**	**+0.8**
TWF1	baz=286 **Yuli**	**1.40**	**231**	P	**Pn**		**02 11 22.4**	**+0.4**
TWF1	baz=230			*e*S	**Sn**		**02 11 40.2**	**+0.1**
JKRS	baz=230 **Kuro-shima**	**1.40**	**90**	P	**Pb**		**02 11 23.4**	**+0.3**
JKRS				S	**Sb**		**02 11 41.2**	**+0.6**
NSTT	**Nanjuang**	**1.40**	**286**	P	**Pb**		**02 11 23.6**	**+0.5**
NSTT	baz=286			*e*S	**Sn**		**02 11 40.5**	**+0.4**
PCYT	baz=286 **Pengchaiyu**	**1.43**	**345**	*e*P	**Pb**		**02 11 23.7**	**0.0**
SSLB	baz=345 **Suanglung**	**1.46**	**252**	*e*P	**Pn**		**02 11 23.8**	**+0.7**
SSLB	baz=252			*e*S	**Sn**		**02 11 42.2**	**+0.4**
SMLT	baz=252 **Sun Moon Lake**	**1.48**	**256**	P	**Pb**		**02 11 24.5**	**-0.1**
SMLT	baz=255			*e*S	**Sn**		**02 11 42.4**	**0.0**
FULB	baz=255 **Fuli**	**1.50**	**227**	*e*P	**Pn**		**02 11 23.5**	**0.0**
FULB	baz=226			*e*S	**Sn**		**02 11 42.8**	**+0.2**
TYC	baz=226 **Yuchr**	**1.52**	**258**	P	**Pb**		**02 11 24.9**	**-0.2**
CHKT	baz=257 **Chengkung**	**1.52**	**222**	*e*P	**Pn**		**02 11 23.7**	**-0.1**
CHKT	baz=221			*e*S	**Sn**		**02 11 41.2**	**-2.1**
JIJ	baz=221 **Ishigaki jima**	**1.52**	**85**	P	**Pn**		**02 11 24.2**	**+0.4**
JIJ				S	**Sn**		**02 11 42.7**	**-0.5**
TWQ1	**Liyutan**	**1.56**	**274**	*e*P	**Pg**		**02 11 27.0**	**-0.5**
NMLH	baz=273 **Miaoli**	**1.56**	**281**	*e*P	**Pb**		**02 11 25.7**	**-0.3**
NMLH	baz=280			*e*S	**Sn**		**02 11 45.2**	**+1.0**
YUS	**Yu-Shan**	**1.58**	**242**	*i* P	**Pn**		**02 11 26.0**	**+0.9**
	baz=241							

YUS	baz=241			S	**Sn**		**02 11 44.7**	**-0.7**
WJS	**Zhushan**	**1.65**	**256**	*e*P	**Pb**		**02 11 26.9**	**-0.5**
WNT	baz=255 **Mingjian**	**1.68**	**258**	*e*P	**Pb**		**02 11 28.4**	**+0.6**
WNT	baz=257			*e*S	**Sb**		**02 11 49.4**	**+0.8**
ALS	baz=257 **Alishan**	**1.69**	**245**	P	**Pb**		**02 11 27.9**	**-0.4**
ALS	baz=244			*e*S	**Sn**		**02 11 48.0**	**+0.2**
ELDTW	**Lidau**	**1.70**	**232**	P	**Pn**		**02 11 26.6**	**+0.2**
JISG	baz=231 **Ishigakijimahi**	**1.71**	**78**	P	**Pn**		**02 11 26.7**	**+0.4**
JISG				*e*S	**Sn**		**02 11 47.1**	**-0.6**
CHN5	**Tsauling**	**1.77**	**249**	P	**Pb**		**02 11 29.2**	**-0.2**
STYT	baz=248 **Tauyuan**	**1.91**	**236**	P	**Pb**		**02 11 31.1**	**-0.7**
STYT	baz=235			*e*S	**Sb**		**02 11 54.9**	**-0.4**
TPUB	baz=235 **Ta-pu**	**1.93**	**241**	*e*P	**Pb**		**02 11 31.4**	**-0.8**
TPUB	baz=241			*e*S	**Sn**		**02 11 55.3**	**+1.9**
CHN4	**Tsaushan**	**1.94**	**243**	*e*P	**Pb**		**02 11 32.0**	**-0.3**
CHN4	baz=242			*e*S	**Sb**		**02 11 56.2**	**+0.1**
RLNB	baz=242 **Erlin**	**1.97**	**260**	*e*P	**Pn**		**02 11 31.7**	**+1.8**
RLNB	baz=259			*e*S	**Sn**		**02 11 54.8**	**+0.7**
WTP	**Ta-pu**	**1.97**	**240**	*e*P	**Pb**		**02 11 32.3**	**-0.6**
WTP	baz=239			*e*S	**Sn**		**02 11 56.0**	**+1.7**
TWK	**Hsinying**	**2.06**	**242**	*e*P	**Pb**		**02 11 33.9**	**-0.6**
TWK	baz=241			*e*S	**Sb**		**02 11 59.1**	**-0.7**
JTJ	baz=241 **Tarama**	**2.07**	**78**	S	**Sn**		**02 11 56.3**	**-0.3**
CHN1	**Nanshi**	**2.07**	**240**	*e*P	**Pb**		**02 11 33.8**	**-0.7**
CHN1	baz=239			*e*S	**Sn**		**02 11 58.7**	**+2.0**
SGST	baz=239 **Jiashian**	**2.08**	**237**	*e*P	**Pb**		**02 11 34.3**	**-0.5**
SGST	baz=236			*e*S	**Sb**		**02 11 59.9**	**-0.5**
SSD	baz=236 **Sandimen**	**2.25**	**229**	*e*P	**Pb**		**02 11 36.4**	**-1.3**
MASBT	baz=228 **Mashibuluo**	**2.34**	**227**	*e*P	**Pn**		**02 11 36.7**	**+1.6**
EAST	baz=226 **Anshuo**	**2.38**	**219**	*e*P	**Pn**		**02 11 36.0**	**+0.4**
PHUB	baz=218 **P'eng-hu**	**2.75**	**255**	*e*S	**Sn**		**02 12 12.2**	**-1.4**
PNG	baz=254 **Penghu**	**2.76**	**257**	*e*P	**Pn**		**02 11 41.2**	**+0.5**
PNG	baz=255			*e*S	**Sn**		**02 12 13.2**	**-0.4**
VWUC	**VWUC**	**2.85**	**286**	*e*P	**Pn**		**02 11 41.6**	**-0.5**
VWUC	baz=285			*e*S	**Sn**		**02 12 12.5**	**-3.5**
PTMZ	baz=285 **Houxiangcun**	**3.16**	**285**	*e*P	**Pn**		**02 11 46.3**	**0.0**
PTMZ	baz=284			*e*S	**Sn**		**02 12 20.2**	**-3.3**
AXDP	baz=284 **Jialang**	**4.16**	**280**	*e*P	**Pn**		**02 12 00.2**	**+0.2**
AXDP	baz=279			*e*S	**Sn**		**02 12 44.0**	**-4.2**
	baz=279							

*PGC **01** 02:31:48.6, 52.27°N×132.41°W, h21km, 116km Ssw of Sandspit, Bc Haida Gwaii Region*
*IDC **01** 02:31:49.5±1.8, 52.37°N×132.07°W, h0km, mb3.5/2, mb1 3.9/8, mb1mx3.6/52, mbtmp3.5/8, ML3.6/5, MS3.3/5, Ms1 3.3/5, ms1mx2.8/30, Error ellipse: s-maj=31.4km s-min=7.5km az=58.0*
*ISCJB **01** 02:31:50.1±1.0, 52.5°N±0.1°×131.9°W±0.2, h10km, mb3.4/2, MS3.5/3, Error ellipse: s-maj=22.8km s-min=7.5km az=142.9*
ISC 01 02:31:51.0±1.4, 52.4°N±0.1°×131.8°W±0.2, h10km, n20, σ1§91/10, MS3.5/3, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
H02S1	**DAWSON INLET T**	**0.88**	**333**		Pg	**Pg**	**02 32 05.4**	**-2.5**
H02S1					Lg	Lg	02 32 17.5	
H02N1	**VAN INLET T-PH**	**0.94**	**332**		Pg	**Pg**	**02 32 06.8**	**-2.3**
H02N1	SNR=1735				Lg	Lg	02 32 19.2	
BBB	**Bella Bella**	**2.28**	**95**	Pn	**Pn**		**02 32 28.3**	**-0.4**
BBB	5.3nm,0.3s,baz=266,slow=7.4,SNR=32			LR	LR		02 33 31.7	
DLBC	comp=Z,214nm,20.4s,baz=352,slow=42 **Dease Lake**	**6.11**	**9**	Pn	**Pn**		**02 33 24.4**	**+3.0**
YKA	1.7nm,0.3s,baz=195,slow=10,SNR=16 **Yellowknife Ar**	**13.64**	**36**	Pn	**Pn**		**02 35 04.8**	**+0.5**
ILAR	0.1nm,0.3s,baz=227,slow=12,SNR=6.1 **Eielson Array**	**14.60**	**334**	Pn	**Pn**		**02 35 17.9**	**+0.4**
INK	0.0nm,0.3s,baz=151,slow=11,SNR=2.5 **Inuvik**	**15.96**	**358**	LR	LR		02 42 01.4	
NVAR	comp=Z,79nm,20.1s,baz=333,slow=38 **Mina Array Bea**	**16.86**	**141**	Pn	**P**		**02 35 49.1**	**-0.2**
PDAR	0.1nm,0.3s,baz=323,slow=14,SNR=3.4 **Pinedale Array**	**17.78**	**114**	P	**P**		**02 36 00.7**	**+1.2**
ANMO	0.1nm,0.3s,baz=309,slow=9.4,SNR=18 **Albuquerque**	**25.12**	**124**	P	**P**		**02 37 17.2**	**+1.0**
RES	0.3nm,0.3s,baz=314,slow=18,SNR=3.1 **Resolute Bay**	**26.84**	**21**	LR	LR		02 48 32.1	
TXAR	comp=Z,69nm,18.3s,baz=24,slow=37 **Lajitas Array**	**31.04**	**127**	P	**P**		**02 38 10.2**	**+1.2**
SCHQ	0.5nm,0.7s,baz=332,slow=6.8,SNR=5.1 **Schefferville**	**37.37**	**60**	LR	LR		02 55 03.0	
H11N2	comp=Z,112nm,18.2s,baz=73,slow=37 **WAKE ISLAND Hy**	**57.16**	**260**	T	T		03 44 31.2	
H11N3	baz=39,slow=76,SNR=18 **WAKE ISLAND Hy**	**57.16**	**260**	T	T		03 44 32.3	
H11N1	baz=39,slow=76,SNR=62 **WAKE ISLAND Hy**	**57.17**	**260**	T	T		03 44 34.2	
H11S1	baz=39,slow=76,SNR=21 **WAKE ISLAND Hy**	**58.21**	**259**	T	T		03 45 51.4	
H11S2	**WAKE ISLAND Hy**	**58.22**	**259**	T	T		03 45 52.4	
H11S3	baz=40,slow=74,SNR=7.7 **WAKE ISLAND Hy**	**58.23**	**259**	T	T		03 45 51.6	
NOA	baz=168,slow=74,SNR=7.4 **NORSAR Array B**	**63.09**	**19**	LR	LR		03 09 17.9	
	comp=Z,32nm,19.2s,baz=260,slow=36							

*ISCJB **01** 02:48:02.8±1.3, 32.93°S±0.05°×72.13°W±0.06°, h8km±11km, mb3.4/2, MS2.7/1, Error ellipse: s-maj=9.4km s-min=6.2km az=141.1*
*IDC **01** 02:48:02.8±1.3, 32.79°S×71.96°W, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.5/22, mbtmp3.5/4, ML3.8/2, MS2.8/2, Ms1 2.8/2, ms1mx2.6/13, Error ellipse: s-maj=57.0km s-min=32.6km az=75.0*
*GUC **01** 02:48:04.9±0.6, 32.74°S×71.84°W, h22km±4km, ML3.3*
*SJA **01** 02:48:05.0±0.8, 32.88°S×71.91°W, h17km±8km, ML3.4, MW3.6*
ISC 01 02:48:03.6±2.0, 32.79°S±0.04°×71.95°W±0.07°, h7km±11km, n32, σ1§48/47, 6C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.81**	**104**	*i* P	**Pg**		**02 48 19.6**	**+0.4**
ROC1				*i* S	**Sb**		**02 48 31.4**	**-0.1**
ROCH	**El Roble**	**0.81**	**103**	⇑*i*P	**Pg**		**02 48 19.9**	**+0.7**
ROCH				*i* S	**Sb**		**02 48 31.5**	**0.0**
ROCH	comp=N,4μm,0.5s			IAML			02 48 33.3	
PEL	**Peldehue**	**1.12**	**109**	*i* P	**Pb**		**02 48 25.1**	**-0.3**
PEL				*i* S	**Sn**		**02 48 40.7**	**-0.9**
PEL	**Peldehue**	**1.12**	**109**	⇑*i*P	**Pb**		**02 48 25.1**	**-0.3**
PEL				*i* S	**Sb**		**02 48 39.6**	**-0.7**
PEL	comp=N,1μm,0.5s			IAML			02 48 47.0	
CLCH	**Cerro Calan**	**1.33**	**117**	⇑*i*P	**Pn**		**02 48 28.6**	**-0.2**
CLCH				*i* S	**Sg**		**02 48 46.8**	**+0.3**

CLCH				IAML			02 48 53.2		
	comp=N,2μm,0.5s								
ANTU	**Antumapu**	**1.35**	**126**	*eP*	**Pb**		**02 48 29.1**	**-0.3**	
ANTU				IAML			02 48 52.4		
	comp=E,738nm,0.5s								
FCH	**Farellones**	**1.49**	**112**	*iP*	**Pn**		**02 48 31.1**	**-0.2**	
FCH				*iS*	**Sg**		**02 48 51.6**	**-0.1**	
FCH				IAML			02 48 56.8		
	comp=N,499nm,0.4s								
CMCH	**Combarbala**	**1.80**	**27**	*iP*	**Pn**		**02 48 35.4**	**+0.1**	
CMCH				*iS*	**Sb**		**02 48 58.8**	**-1.0**	
LMEL	**Las Melosas**	**1.81**	**126**	*iP*	**Pb**		**02 48 36.3**	**-0.9**	
LMEL				*eS*	**Sb**		**02 48 59.8**	**-0.3**	
LMEL				IAML			02 49 06.7		
	comp=N,622nm,0.4s								
AUSP	**Uspallata**	**2.24**	**76**	*iP*	**Pb**		**02 48 44.5**	**-0.1**	
AUSP				*iS*	**Sb**		**02 49 13.2**	**+0.6**	
RTLS	**Leoncito**	**2.45**	**67**	*iP*	**Pb**		**02 48 47.8**	**-0.5**	
RTLS				IAML			02 48 57.4		
	comp=Z,164nm,0.5s								
RTLS				*iS*	**Sb**		**02 49 18.7**	**-0.2**	
ARCO	**CERRO ARCO**	**2.54**	**92**	*iP*	**Pb**		**02 48 48.7**	**-1.0**	
ARCO				*iS*	**Sb**		**02 49 21.2**	**-0.1**	
ARCO				IAML			02 49 28.2		
	comp=Z,212nm,0.5s								
ASAL	**Salagasta**	**2.63**	**87**	*eP*	**Pb**		**02 48 51.2**	**-0.1**	
ASAL				*eS*	**Sg**		**02 49 26.3**	**-2.0**	
AAGR	**Agrelo**	**2.64**	**97**	*iP*	**Pb**		**02 48 52.0**	**+0.6**	
GO04	**Tololo Observa**	**2.79**	**21**	*eP*	**Pn**		**02 48 48.9**	**0.0**	
GO04				*iS*	**Sb**		**02 49 30.7**	**+2.3**	
AVIZ	**Vizcacheras**	**2.96**	**104**	*iP*	**Pb**		**02 48 54.7**	**-2.1**	
RTCV	**Cerro Valdivia**	**3.03**	**73**	*eP*	**Pb**		**02 48 55.4**	**-2.5**	
RTCV				*eS*	**Sb**		**02 49 37.0**	**+1.7**	
RTLL	**Cerro Villicun**	**3.29**	**65**	*eP*	**Pb**		**02 49 00.2**	**-2.2**	
RTLL				*eS*	**Sb**		**02 49 41.1**	**-1.6**	
RTLL				IAML			02 49 48.2		
	comp=Z,75nm,0.5s								
ACCO	**Cerro Coronel**	**3.29**	**49**	*eP*	**Pb**		**02 49 00.4**	**-2.2**	
ACCO				*eS*	**Sb**		**02 49 40.1**	**-3.0**	
AROD	**Rodeo**	**3.36**	**40**	*iP*	**Pn**		**02 48 60.0**	**+3.0**	
AROD				*iS*	**Sb**		**02 49 47.0**	**+1.9**	
AMOG	**MOGNA**	**3.47**	**59**	*iP*	**Pn**		**02 49 01.3**	**+3.1**	
ACAN	**Cantantal**	**4.05**	**84**	*iP*	**Pn**		**02 49 09.0**	**+2.8**	
AGUA	**GUANDACOL**	**4.43**	**43**	*iP*	**Pn**		**02 49 14.8**	**+3.4**	
PLCA	**Paso Flores**	**8.01**	**172**	Pn	**Pn**		**02 50 00.8**	**+0.2**	
	comp=Z,0.4nm,0.3s,baz=358,slow=11,SNR=18								
CPUP	**Villa Florida**	**14.25**	**67**	LR	LR		02 57 13.2		
	comp=Z,33nm,21.1s,baz=195,slow=39								
LPAZ	**La Paz**	**16.79**	**13**	Pn	**Pn**		**02 52 00.6**	**+0.6**	
	comp=Z,0.1nm,0.3s,baz=188,slow=9.4,SNR=4.7								
NNA	**Nana**	**21.18**	**347**	LR	LR		02 58 18.8		
	comp=Z,32nm,20.1s,baz=158,slow=29								
TXAR	**Lajitas Array**	**68.72**	**330**	P	**P**		**02 59 08.2**	**+0.1**	
	comp=Z,0.1nm,0.6s,baz=160,slow=8.6,SNR=2.1								
TORD	**Torodi Ar. Bea**	**83.73**	**70**	P	**P**		**03 00 33.1**	**-0.6**	
	comp=Z,0.6nm,0.8s,baz=252,slow=4.1,SNR=3.9								
BVAR	**Borovoye Array**	**146.34**	**42**	PKPbc	**PKPab**		**03 07 45.8**	**+0.2**	
	comp=Z,0.5nm,0.6s,baz=343,slow=4.5,SNR=3.3								
ZALV	**Zalesovo Beam**	**153.16**	**31**	PKPbc	**PKPbc**		**03 08 01.1**	**-0.6**	
	comp=Z,0.5nm,0.4s,baz=285,slow=2.8,SNR=3.3								
MKAR	**Makanchi Array**	**155.90**	**47**	PKPab	**PKPab**		**03 08 25.6**	**+0.2**	
	comp=Z,0.4nm,0.6s,baz=270,slow=5.8,SNR=2.4								

*ISCJB **01** 03:01:38.8±1.1, 64°.2S±0°.2×87°.1E±0°.4, h10km, mb4.1/5, MS3.0/1, Error ellipse: s-maj=30.3km s-min=15.9km az=143.2*

*IDC **01** 03:01:39.5±1.4, 64°.35S×87°.40E, h0km, mb4.1/5, mb1 4.3/6, mb1mx4.1/34, mbtmp4.1/6, ML3.8/1, MS2.9/2, Ms1 2.9/2, ms1mx2.6/29, Error ellipse: s-maj=45.6km s-min=22.0km az=124.0*

ISC 01 03:01:41.5±1.2, 64°.3S±0°.2×87°.6E±0°.2, h10km, n8, σ2§66/8, mb4.1/5, 1D, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
MAW	**Mawson**	**10.57**	**241**	Pn		**Pn**	**03**	**04**	**11.0**	**-1.8**
	0.8nm,0.3s,baz=79,slow=14,SNR=20									
MAW				Sn		Sn	03	05	57.2	-14
	4.0nm,0.3s,baz=131,slow=20,SNR=15									
MAW				LR		LR	03	07	56.7	
	comp=Z,38nm,21.6s,baz=62,slow=36									
SYO	**Syowa Base**	**19.15**	**235**	*eP*		**Pn**	**03**	**06**	**10.8**	**+5.5**
VNDA	**Vanda**	**25.28**	**151**	P		**P**	**03**	**07**	**06.7**	**-0.7**
	6.1nm,0.8s,baz=267,slow=9.2,SNR=41									
VNDA				LR		LR	03	18	03.4	
	comp=Z,52nm,20.6s,baz=286,slow=39									
QSPA	**South Pole Qui**	**25.80**	**180**	P		**P**	**03**	**07**	**12.5**	**+0.1**
	1.5nm,0.4s,baz=312,slow=5.7,SNR=4.0									
ASAR	**Alice Springs**	**50.56**	**59**	P		**P**	**03**	**10**	**41.0**	**+1.0**
	1.8nm,0.7s,baz=210,slow=7.6,SNR=13									
ASAR				PcP		**PcP**	**03**	**11**	**57.0**	**-0.7**
	0.5nm,0.6s,baz=193,slow=3.0,SNR=4.8									
WRA	**Warramunga Arr**	**54.12**	**58**	P		**P**	**03**	**11**	**06.2**	**-0.2**
	2.0nm,0.8s,baz=202,slow=6.3,SNR=7.5									
PLCA	**Paso Flores**	**73.48**	**197**	P		**P**	**03**	**13**	**15.5**	**-0.7**
	1.7nm,0.8s,baz=177,slow=3.2,SNR=3.7									
TXAR	**Lajitas Array**	**144.28**	**163**	PKP		PKPbc	03	21	15.4	0.0
	0.7nm,0.8s,baz=175,slow=7.9,SNR=7.8									

*IDC **01** 03:14:33.1±2.6, 52°.58N×132°.40W, h0km, mb3.5/1, mb1 3.7/5, mb1mx3.4/48, mbtmp3.3/5, ML3.3/4, Error ellipse: s-maj=45.7km s-min=7.9km az=68.0*

*ISCJB **01** 03:14:34.0±1.2, 52°.6N±0°.1×132°.2W±0°.2, h10km, mb3.5/1, Error ellipse: s-maj=20.7km s-min=7.3km az=136.2*

ISC 01 03:14:32.7±1.5, 52°.5N±0°.1×132°.5W±0°.1, h10km, n8, σ1§97/9, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
H02S1	**DAWSON INLET T**	**0.67**	**0**	Pg		**Pg**	**03**	**14**	**45.2**	**-0.4**
H02S1				Lg		Lg	03	14	53.5	
H02N1	**VAN INLET T-PH**	**0.72**	**357**	Pg		**Pg**	**03**	**14**	**46.0**	**-0.6**
H02N1				Lg		Lg	03	14	55.5	
BBB	**Bella Bella**	**2.70**	**96**	Pn		**Pn**	**03**	**15**	**16.7**	**+0.6**
	4.9nm,0.3s,baz=252,slow=17,SNR=5.9									
BBB				Sn		**Sn**	**03**	**15**	**47.0**	**-1.9**
	13nm,0.3s,baz=320,slow=23,SNR=4.2									
DLBC	**Dease Lake**	**6.08**	**12**	Pn		**Pn**	**03**	**16**	**05.5**	**+2.9**
	0.2nm,0.3s,baz=210,slow=16,SNR=2.8									
ILAR	**Eielson Array**	**14.32**	**334**	Pn		**P**	**03**	**17**	**59.9**	**-2.6**
	0.0nm,0.3s,baz=153,slow=12,SNR=6.0									
NVAR	**Mina Array Bea**	**17.21**	**139**	P		**P**	**03**	**18**	**36.2**	**+1.3**
	0.0nm,0.3s,baz=316,slow=12,SNR=3.6									
PDAR	**Pinedale Array**	**18.20**	**113**	P		**P**	**03**	**18**	**47.1**	**+1.3**
	0.0nm,0.3s,baz=300,slow=7.2,SNR=3.6									
TXAR	**Lajitas Array**	**31.44**	**126**	P		**P**	**03**	**20**	**54.6**	**+0.5**
	0.5nm,0.6s,baz=340,slow=7.0,SNR=6.1									

*PGC **01** 03:15:56.6±3.6, 52°.29N×132°.27W, h25km, mb5.0, ML5.0/23, Mw5.2, 110km Ssw of Sandspit, Bc Haida Gwaii Region*

*IDC **01** 03:15:57.8±0.4, 52°.40N×132°.14W, h0km, mb4.5/28, mb1 4.6/37, mb1mx4.5/55, mbtmp4.5/37, ML4.0/9, MS4.6/29, Ms1 4.6/29, ms1mx4.6/36, Error ellipse: s-maj=11.8km s-min=5.9km az=58.0*

*BJI **01** 03:15:57.6, 52°.60N×131°.90W, h10km, mb4.9/43, mB5.5/33, Ms5.1/21, Ms7 4.7/21*

*MOS **01** 03:15:59.2±1.1, 52°.49N×132°.00W, h16km, mb5.3/59, MS4.7/10, Error ellipse: s-maj=9.1km s-min=3.8km az=109.1*

*ISCJB **01** 03:16:00.5±0.4, 52°.55N±0°.02×131°.89W±0°.03, h26km±2km, mb5.0/222, MS4.8/47, Error ellipse: s-maj=4.0km s-min=1.6km az=141.8*

*NEIC **01** 03:16:01.5±0.7, 52°.55N×132°.02W, h20km±4km, mb5.0/232, MW5.2(OTT), Error ellipse: s-maj=4.5km s-min=1.8km az=50.0*

NEIC Felt at Queen Charlotte and Skidegate.

*GCMT **01** 03:16:04.5±0.1, 52°.32N±0°.01×132°.18W±0°.02, h12km, MW5.3/131, Moment Tensor Solution. s61,c89; s131,c237; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr-1.21±.01; Mθθ0.68±.02; Mϕϕ0.53±.01; Mrθ0.09±.04; Mθϕ-0.55±.01; Mϕr-0.18±.05; Best double couple: Mo1.20500×10^17 NP1:ϕs315.00000°, δ50.00000°, λ-85.00000°. NP2:ϕs128.00000°, δ41.00000°, λ-95.00000°. Principal axes: T 1.1800, Plg5.0000°, Azm42.0000°; N 0.0540, Plg3.0000°, Azm132.0000°; P*

-1.2300, Plg84.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 01 03:16:00.2±0.5, 52°.44N±0°.03×131°.94W±0°.04, h12km±2km, n1051, σ1§66/1036, mb5.0/231, MS4.9/47, 20C-21D, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
BNB	**Barry Inlet**	**0.18**	**39**	P		**Pb**	**03**	**16**	**05.8**	**+0.3**
BNB				S		**Sb**	**03**	**16**	**11.6**	**+4.4**
BNB	**Barry Inlet**	**0.18**	**39**	P		**Pb**	**03**	**16**	**05.7**	**+0.2**
BNB				S		**Sb**	**03**	**16**	**12.1**	**+4.9**
MOBC	**Moresby Island**	**0.71**	**359**	P		**Pg**	**03**	**16**	**12.9**	**-1.1**
MOBC				S		**Sb**	**03**	**16**	**24.1**	**-0.1**
MOBC	**Moresby Island**	**0.71**	**359**	P		**Pg**	**03**	**16**	**12.9**	**-1.1**
MOBC				S		**Sb**	**03**	**16**	**24.3**	**+0.1**
DIB	**Dawson Inlet,**	**0.83**	**337**	P		**Pg**	**03**	**16**	**13.1**	**-3.3**
DIB	**Dawson Inlet,**	**0.83**	**337**	P		**Pg**	**03**	**16**	**13.2**	**-3.1**
H02S1	**DAWSON INLET T**	**0.83**	**337**	Pg		**Pg**	**03**	**16**	**13.0**	**-3.3**
H02S1				Lg		Lg	03	16	25.0	
H02N1	**VAN INLET T-PH**	**0.90**	**336**	Pg		**Pg**	**03**	**16**	**14.1**	**-3.4**
H02N1				Lg		Lg	03	16	27.1	
VIB	**Van Inlet**	**0.90**	**336**	P		**Pg**	**03**	**16**	**14.2**	**-3.4**
VIB				S		**Sg**	**03**	**16**	**27.6**	**-1.6**
VIB	**Van Inlet**	**0.90**	**336**	P		**Pg**	**03**	**16**	**14.1**	**-3.4**
VIB				S		**Sg**	**03**	**16**	**27.7**	**-1.6**
BNAB	**Bonilla**	**1.32**	**36**	Pn		**Pn**	**03**	**16**	**23.2**	**-1.2**
BNAB	**Bonilla**	**1.32**	**36**	Pn		**Pn**	**03**	**16**	**23.2**	**-1.2**
MASB	**Masset**	**1.58**	**358**	Pn		**Pn**	**03**	**16**	**26.7**	**-1.2**
MASB	**Masset**	**1.58**	**358**	Pn		**Pn**	**03**	**16**	**26.4**	**-1.6**
NDB	**Naden**	**1.64**	**339**	Pn		**Pn**	**03**	**16**	**25.0**	**-3.8**
NDB	**Naden**	**1.64**	**339**	Pn		**Pn**	**03**	**16**	**25.0**	**-3.8**
RUBB	**Prince Rupert**	**2.15**	**27**	Pn		**Pn**	**03**	**16**	**34.7**	**-1.0**
RUBB	**Prince Rupert**	**2.15**	**27**	Pn		**Pn**	**03**	**16**	**34.7**	**-1.0**
BBB	**Bella Bella**	**2.36**	**95**	Pn		**Pn**	**03**	**16**	**37.4**	**-1.3**
	28nm,0.3s,baz=279,slow=7.6,SNR=7.1									
BBB				Sn		**Sn**	**03**	**17**	**05.7**	**-1.9**
	192nm,0.3s,baz=273,slow=19,SNR=6.4									
BBB	**Bella Bella**	**2.36**	**95**	Pn		**Pn**	**03**	**16**	**36.5**	**-2.2**
BBB				Sn		**Sn**	**03**	**17**	**04.7**	**-2.8**
BBB				Sg		**Sb**	**03**	**17**	**13.5**	**+1.9**
HOLB	**Holberg**	**2.98**	**126**	Pn		**Pn**	**03**	**16**	**44.2**	**-3.1**
HOLB	**Holberg**	**2.98**	**126**	Pn		**Pn**	**03**	**16**	**42.9**	**-4.3**
HOLB				Sn		**Sn**	**03**	**17**	**18.0**	**-4.9**
CRAG	**Craig**	**3.12**	**348**	*eP*		**Pn**	**03**	**16**	**46.3**	**-2.7**
CRAG				*eSn*		**Sn**	**03**	**17**	**21.7**	**-4.4**
BCBC	**Bella Coola**	**3.18**	**89**	Pn		**Pn**	**03**	**16**	**48.5**	**-1.4**
PHC	**Port Hardy**	**3.30**	**120**	Pn		**Pn**	**03**	**16**	**47.3**	**-4.3**
PHC	**Port Hardy**	**3.30**	**120**	Pn		**Pn**	**03**	**16**	**47.5**	**-4.1**
PHC				Sn		**Sn**	**03**	**17**	**24.4**	**-6.3**
PACB	**Port Alice, BC**	**3.43**	**124**	Pn		**Pn**	**03**	**16**	**49.8**	**-3.6**
PACB				Sn		**Sn**	**03**	**17**	**26.0**	**-7.8**
BPBC	**Brooks Peninsu**	**3.47**	**129**	Pn		**Pn**	**03**	**16**	**50.6**	**-3.4**
BPBC	**Brooks Peninsu**	**3.47**	**129**	Pn		**Pn**	**03**	**16**	**50.4**	**-3.6**
MAYB	**Maynard**	**3.61**	**122**	Pn		**Pn**	**03**	**16**	**52.9**	**-3.2**
MAYB	**Maynard**	**3.61**	**122**	Pn		**Pn**	**03**	**16**	**52.8**	**-3.2**
TLCB	**Telegraph Cove**	**3.71**	**119**	Pn		**Pn**	**03**	**16**	**52.4**	**-3.8**
TLCB				Sn		**Sn**	**03**	**17**	**35.8**	**-4.9**
EDB	**Eliza Dome**	**3.97**	**128**	Pn		**Pn**	**03**	**16**	**58.7**	**-2.2**
EDB	**Eliza Dome**	**3.97**	**128**	Pn		**Pn**	**03**	**16**	**57.9**	**-3.0**
WRAK	**Wrangell Islan**	**4.00**	**357**	*eP*		**Pn**	**03**	**16**	**59.2**	**-1.9**
WRAK				*eSn*		**Sn**	**03**	**17**	**48.0**	**+0.2**
WOSB	**Woss**	**4.07**	**122**	Pn		**Pn**	**03**	**16**	**60.0**	**-2.2**
WOSB	**Woss**	**4.07**	**122**	Pn		**Pn**	**03**	**16**	**58.6**	**-3.6**
NCRB	**Newcastle Ridg**	**4.21**	**117**	Pn		**Pn**	**03**	**17**	**02.0**	**-2.2**
NCRB	**Newcastle Ridg**	**4.21**	**117**	Pn		**Pn**	**03**	**17**	**01.7**	**-2.5**
GDR	**Gold River**	**4.57**	**123**	Pn		**Pn**	**03**	**17**	**06.8**	**-2.3**
GDR	**Gold River**	**4.57**	**123**	Pn		**Pn**	**03**	**17**	**05.3**	**-3.7**
ETB	**Estevan Point**	**4.59**	**130**	Pn		**Pn**	**03**	**17**	**06.2**	**-3.0**
CBB	**Campbell River**	**4.78**	**118**	Pn		**Pn**	**03**	**17**	**10.5**	**-1.5**
CBB	**Campbell River**	**4.78**	**118**	Pn		**Pn**	**03**	**17**	**09.7**	**-2.2**
CBB				Sn		**Sn**	**03**	**18**	**03.2**	**-4.0**
UBRB	**Upper Baezaeko**	**4.80**	**81**	Pn		**Pn**	**03**	**17**	**12.8**	**+0.4**
UBRB	**Upper Baezaeko**	**4.80**	**81**	Pn		**Pn**	**03**	**17**	**11.7**	**-0.7**
UBRB				Sg		**Sg**	**03**	**18**	**29.1**	**-5.3**
KEMF	**NEPTUNE Canada**	**4.85**	**157**	Pn		Pn	03	17	07.0	-5.6
NC89	**ODP889**	**4.97**	**137**	Pn		**Pn**	**03**	**17**	**11.4**	**-3.0**
MWAB	**Mount Washingt**	**4.98**	**120**	Pn		**Pn**	**03**	**17**	**12.5**	**-2.2**
FSB	**Fort Saint Jam**	**4.99**	**63**	Pn		**Pn**	**03**	**17**	**14.0**	**-0.8**
FSB	**Fort Saint Jam**	**4.99**	**63**	Pn		**Pn**	**03**	**17**	**14.0**	**-0.8**
SIT	**Sitka**	**5.03**	**338**	*eP*		**Pn**	**03**	**17**	**12.8**	**-2.5**
SIT				*eSn*		**Sn**	**03**	**18**	**12.1**	**-1.1**
SIT	**Sitka**	**5.03**	**338**	*eP*		**Pn**	**03**	**17**	**12.8**	**-2.5**
SIT				*e*			03	18	12.1	
BTB	**Buttle Lake**	**5.03**	**124**	Pn		**Pn**	**03**	**17**	**14.1**	**-1.4**
BTB	**Buttle Lake**	**5.03**	**124**	Pn		**Pn**	**03**	**17**	**12.1**	**-3.4**
TOFB	**Tofino**	**5.04**	**128**	Pn		**Pn**	**03**	**17**	**11.8**	**-3.7**
OZB	**Mount Ozzard**	**5.38**	**128**	Pn		**Pn**	**03**	**17**	**18.3**	**-1.8**
OZB	**Mount Ozzard**	**5.38**	**128**	Pn		**Pn**	**03**	**17**	**16.0**	**-4.1**
TXB	**Texada**	**5.47**	**117**	Pn		**Pn**	**03**	**17**	**19.9**	**-1.6**
TXB	**Texada**	**5.47**	**117**	Pn		**Pn**	**03**	**17**	**18.9**	**-2.5**
B928	**Bamfield**	**5.63**	**122**	Pn		**Pn**	**03**	**17**	**21.1**	**-2.5**
MGB	**Mount Grey**	**5.75**	**124**	Pn		**Pn**	**03**	**17**	**24.4**	**-0.9**
MGB	**Mount Grey**	**5.75**	**124**	Pn		**Pn**	**03**	**17**	**22.3**	**-3.0**
GHNB	**Nanoose**	**5.80**	**120**	Pn		**Pn**	**03**	**17**	**23.2**	**-2.6**
SHB	**Sechelt**	**5.83**	**116**	Pn		**Pn**	**03**	**17**	**25.6**	**-0.9**
SHB	**Sechelt**	**5.83**	**116**	Pn		**Pn**	**03**	**17**	**24.0**	**-2.4**
JIS	**Juneau Island**	**6.02**	**348**	*ePn*		**Pn**	**03**	**17**	**28.1**	**-0.7**
DLBC	**Dease Lake**	**6.11**	**9**	Pn		**Pn**	**03**	**17**	**32.0**	**+1.7**
	5.9nm,0.3s,baz=194,slow=12,SNR=25									
DLBC				Lg		Lg	03	19	15.8	
	4.4nm,0.3s,baz=322,slow=18,SNR=5.1									
DLBC				LR		LR	03	19	59.7	
	comp=Z,17μm,19.8s,baz=192,slow=39									
DLBC	**Dease Lake**	**6.11**	**9**	Pn		**Pn**	**03**	**17**	**31.2**	**+1.0**
B926	**Mesachie Lake**	**6.15**	**123**	Pn		**Pn**	**03**	**17**	**27.1**	**-3.6**
PFB	**Port Renfrew**	**6.15**	**126**	Pn		**Pn**	**03**	**17**	**27.5**	**-3.2**
WPB	**Watts Point**	**6.17**	**113**	Pn		**Pn**	**03**	**17**	**27.9**	**-3.1**
GOBB	**Galiano Island**	**6.39**	**120**	Pn		**Pn**	**03**	**17**	**30.8**	**-3.2**
LZB	**Mount Lazard**	**6.44**	**123**	Pn		**Pn**	**03**	**17**	**31.3**	**-3.4**
B010	**North Saanich**	**6.60**	**122**	Pn		**Pn**	**03**	**17**	**34.1**	**-2.8**
PGC	**Sidney**	**6.61**	**122**	*ePn*		**Pn**	**03**	**17**	**38.0**	**+1.1**
	190nm,1.2s									
PGC	**Sidney**	**6.61**	**122**	Pn		**Pn**	**03**	**17**	**34.5**	**-2.5**
B011	**North Saanich**	**6.61**	**122**	Pn		**Pn**	**03**	**17**	**33.5**	**-3.4**
BMBC	**Bull Mountain**	**6.79**	**54**	Pn		**Pn**	**03**	**17**	**39.7**	**+0.1**
A04D	**Lummi Island**	**6.96**	**119**	P		**Pn**	**03**	**17**	**44.5**	**+2.8**
	baz=306									
NLWA	**Neilton Lookou**	**7.25**	**131**	*ePn*		Pn	03	17	55.0	+9.1
SKAG	**Skagway**	**7.29**	**346**	*ePn*		**Pn**	**03**	**17**	**45.7**	**-0.6**
MBW	**Mount Baker**	**7.36**	**116**	Pn		**Pn**	**03**	**17**	**44.1**	**-3.4**
D03D	**Eldon**	**7.52**	**127**	P		**Pn**	**03**	**17**	**53.0**	**+3.5**
	baz=314									
B05A	**Bryant**	**7.55**	**120**	P		**Pn**	**03**	**17**	**50.6**	**+0.6**
	baz=308,SNR=6.5									
JCW	**Jim Creek**	**7.69**	**120**	Pn		**Pn**	**03**	**17**	**48.5**	**-3.4**
B06A	**Marblemount**	**7.74**	**116**	*ePn*		**Pn**	**03**	**17**	**51.1**	**-1.4**
B06A				*ePg*		Pb	03	18	07.3	-6.8
D04E	**Lakebay**	**7.93**	**128**	P		**Pn**	**03**	**17**	**56.9**	**+1.8**
	baz=316									
E03A	**Lebam**	**8.03**	**134**	*ePn*		Pn	03	18	04.8	+8.3
FNBB	**Fort Nelson**	**8.20**	**34**	Pn		**Pn**	**03**	**18**	**00.5**	**+1.7**
D05A	**Enumclaw**	**8.30**	**125**	*ePn*		Pn	03	18	07.2	+6.9
WHY	**Whitehorse**	**8.40**	**350**	*ePn*		**Pn**	**03**	**18**	**02.6**	**+0.9**
WHY				*eSn*		**Sn**	**03**	**19**	**35.6**	**-0.8**
F04D	**Rainier, OR**	**8.63**	**134**	P		**Pn**	**03**	**18**	**08.4**	**+3.6**
	baz=321									
SLEB	**Sale Mountain**	**8.65**	**93**	Pn		**Pn**	**03**	**18**	**06.2**	**+1.0**
LON	**Longmire**	**8.70**	**127**	*ePn*		**Pn**	**03**	**18**	**07.5**	**+1.8**
LON	**Longmire**	**8.70**	**127**	*eP*		**Pn**	**03**	**18**	**07.5**	**+1.8**
LTY	**Liberty**	**8.93**	**121**	*ePn*		**Pn**	**03**	**18**	**10.7**	**+1.7**
LTY				*eSn*		**Sn**	**03**	**19**	**44.1**	**-5.4**
LTY	**Liberty**	**8.93**	**121**	Pn		**Pn**	**03**	**18**	**09.2**	**+0.2**
HYT	**Haines Junctio**	**8.95**	**342**	Pn		**Pn**	**03**	**18**	**09.9**	**+0.7**
PCA	**Pinnacle**	**8.96**	**332**	*ePn*		Pn	03	18	13.8	+4.5
PCA	**Pinnacle**	**8.96**	**332**	Pn		**Pn**	**03**	**18**	**08.8**	**-0.5**
B08A	**Colville Reser**	**9.03**	**112**	*ePn*		**Pn**	**03**	**18**	**11.0**	**+0.8**
B08A				*eSn*		**Sn**	**03**	**19**	**47.2**	**-4.5**
B08A	**Colville Reser**	**9.03**	**112**	Pn		**Pn**	**03**	**18**	**10.1**	**-0.1**
G03D	**McMinnville, O**	**9.21**	**138**	P		**Pn**	**03**	**18**	**14.3**	**+1.6**
	baz=325									
YUK6	**Outpost Mounta**	**9.23**	**340**	Pn		**Pn**	**03**	**18**	**11.9**	**-1.1**
YUK5	**Granite Creek**	**9.30**	**342**	Pn		**Pn**	**03**	**18**	**13.0**	**-1.0**
F05D	**White Salmon**	**9.49**	**130**	P		**Pn**	**03**	**18**	**20.0**	**+3.5**
	baz=318									
COR	**Corvallis**	**9.72**	**141**	*ePn*		Pn	03	18	28.4	+8.8
COR	**Corvallis**	**9.72**	**141**	*eP*		Pn	03	18	28.4	+8.8
E07A	**Sunnyside**	**9.81**	**122**	*ePn*		Pn	03	18	28.2	+7.2
E07A				*eSn*		**Sn**	**03**	**20**	**12.2**	**+1.1**
I02D	**Swisshome**	**9.92**	**144**	P		**Pn**	**03**	**18**	**25.9**	**+3.4**
	baz=330									
C09A	**Chrisman Ranch**	**9.93**	**112**	*ePn*		**Pn**	**03**	**18**	**23.7**	**+1.2**
C09A				*eSn*		**Sn**	**03**	**20**	**08.9**	**-4.8**
CTGM	**Chitina Glacie**	**9.98**	**333**	Pn		**Pn**	**03**	**18**	**21.9**	**-1.4**
D08A	**Wollman Farm,**	**9.99**	**117**	*ePn*		**Pn**	**03**	**18**	**23.9**	**+0.5**
H04D	**Lebanon**	**9.99**	**139**	P		**Pn**	**03**	**18**	**25.7**	**+2.3**
	baz=326									
G05D	**Wamic, OR**	**10.04**	**132**	P		**Pn**	**03**	**18**	**26.1**	**+2.1**
	baz=320									
HAWA	**Hanford**	**10.09**	**122**	*ePn*		**Pn**	**03**	**18**	**27.6**	**+2.9**
H04A	**Detroit Lake**	**10.09**	**136**	*ePn*		Pn	03	18	30.0	+5.2
F07A	**Phinny Hill Vi**	**10.23**	**125**	*ePn*		**Pn**	**03**	**18**	**31.0**	**+4.4**
TGL	**Tana Glacier**	**10.26**	**329**	*ePn*		**Pn**	**03**	**18**	**28.4**	**+1.2**
E08A	**Dider Farm, El**	**10.27**	**120**	*ePn*		**Pn**	**03**	**18**	**27.7**	**+0.5**
BALM	**Baldy**	**10.33**	**331**	Pn		**Pn**	**03**	**18**	**27.2**	**-0.9**
NEW	**Newport**	**10.35**	**108**	Pn		**Pn**	**03**	**18**	**30.2**	**+1.9**
	0.3nm,0.3s,baz=295,slow=10,SNR=11									
NEW				Lg		Lg	03	21	28.9	
	0.4nm,0.3s,baz=109,slow=16,SNR=4.9									
NEW	**Newport**	**10.35**	**108**	*ePn*		**Pn**	**03**	**18**	**30.5**	**+2.2**
NEW				*eSn*		**Sn**	**03**	**20**	**24.4**	**+0.3**
NEW	**Newport**	**10.35**	**108**	*eP*		**Pn**	**03**	**18**	**30.5**	**+2.2**
NEW				*e*			03	20	24.4	
NEW	**Newport**	**10.35**	**108**	P		**Pn**	**03**	**18**	**29.8**	**+1.

BOZ pmax pmax
comp=Z,19nm,1.1s
BOZ Bozeman (W) 14.95 109 P **Pn 03 19 31.5 +0.2**
baz=305
POKR Poker Plat Res 14.97 334 P **Pn 03 19 29.4 -1.9**
baz=141,SNR=15
PPLA Purkeypile 14.99 322 *e*Pn **P 03 19 39.5 +2.2**
MDM Murphy Dome 15.07 333 *e*Pn **P 03 19 35.5 -2.5**
comp=Z,43nm,1.0s
BPAW Bear Paw Mtn. 15.31 327 *e*Pn **Pn 03 19 36.3 +0.5**
comp=Z,77nm,1.0s
PAHR Pah Rah Range 15.40 141 *e*Pn **P 03 19 39.6 -2.2**
comp=Z,159nm,1.5s
AFDM Forest Hills D 15.49 146 *e*Pn **Pn 03 19 39.4 +1.1**
comp=Z,126nm,1.4s
QLMT Earthquake Lak 15.51 111 *e*Pn **Pn 03 19 41.1 +2.3**
VCNR Virginia City 15.65 142 *e*Pn **P 03 19 45.9 +1.1**
comp=Z,51nm,1.4s
BMN Battle Mountai 15.68 134 *e*Pn **P 03 19 46.7 +1.7**
comp=Z,71nm,1.0s
YHB Horse Butte 15.69 111 *e*Pn **P 03 19 43.3 -1.9**
comp=Z,52nm,1.2s
PNTR Pine Nut 15.85 142 *e*Pn **P 03 19 49.3 +2.3**
comp=Z,117nm,1.3s
MLY Manley 15.86 330 *e*Pn **Pn 03 19 44.5 +1.5**
comp=Z,131nm,1.3s
YHH Holmes Hill 15.87 110 *e*Pn **Pn 03 19 45.1 +1.6**
comp=Z,49nm,1.1s
YMR Madison River 15.88 111 *e*Pn **P 03 19 45.5 -1.8**
comp=Z,67nm,1.1s
INK Inuvik 15.94 358 Pn **P 03 19 46.0 -1.5**
comp=Z,0.1nm,0.3s,baz=173,slow=11,SNR=13
INK LR LR 03 26 05.5
comp=Z,2µm,18.4s,baz=176,slow=38
INK Inuvik 15.94 358 *e*Pn **P 03 19 46.0 -1.5**
comp=Z,43nm,1.2s
INK Inuvik 15.94 358 Pn **Pn 03 19 42.4 -1.6**
INK Inuvik 15.94 358 *e*P **P 03 19 46.0 -1.5**
INK pmax pmax
comp=Z,43nm,1.2s
GCMT Greycliff 15.99 106 *e*Pn **P 03 19 46.8 -1.6**
YERR Yerington 16.08 142 *e*Pn **P 03 19 52.9 +3.4**
comp=Z,60nm,1.5s
YFT Old Faithful 16.08 111 *e*Pn **P 03 19 51.8 +2.3**
comp=Z,40nm,1.1s
YPP Pitchstone Pla 16.21 112 *e*Pn **P 03 19 50.1 -0.9**
comp=Z,15nm,1.0s
LKWY Lake 16.26 110 *e*Pn **P 03 19 53.4 +1.9**
comp=Z,87nm,1.4s
LKWY Lake 16.26 110 *e*P **P 03 19 53.4 +1.9**
LKWY pmax pmax
comp=Z,87nm,1.4s
H17A Grant Village 16.26 111 *e*Pn **P 03 19 51.9 +0.3**
comp=Z,87nm,1.4s
H17A Grant Village 16.26 111 P **P 03 19 50.6 -0.9**
baz=308,SNR=27
IMW Indian Meadow 16.36 113 *e*Pn **P 03 19 52.3 -0.4**
comp=Z,79nm,1.4s
FLWY Flagg Ranch 16.38 112 *e*Pn **P 03 19 51.9 -0.9**
comp=Z,95nm,1.4s
WAKR Walker 16.43 143 *e*Pn **P 03 19 55.8 +2.5**
comp=Z,174nm,1.5s
KVN Kaiserville 16.47 139 *e*Pn **P 03 19 53.5 -0.3**
comp=Z,235nm,1.5s
KVN Kaiserville 16.47 139 *e*P **P 03 19 53.5 -0.3**
KVN pmax pmax
comp=Z,235nm,1.5s
FXWY Fox Creek 16.48 114 *e*Pn **P 03 19 54.6 +0.7**
comp=Z,79nm,1.4s
CMB Columbia Colle 16.51 146 *e*Pn **P 03 19 55.0 +0.9**
comp=Z,62nm,1.4s
CMB Columbia Colle 16.51 146 *e*P **P 03 19 55.0 +0.9**
CMB pmax pmax
comp=Z,61nm,1.4s
MOOW Moose Ponds 16.57 113 *e*Pn **P 03 19 55.3 +0.5**
comp=Z,59nm,1.4s
RLMT Red Lodge 16.59 107 *e*Pn **P 03 19 54.0 -1.2**
comp=Z,57nm,1.3s
RLMT Red Lodge 16.59 107 P **P 03 19 54.8 -0.4**
baz=305,SNR=14
TPAW Teton Pass 16.61 114 *e*Pn **P 03 19 56.5 +1.0**
comp=Z,160nm,1.5s
RYN Ryan 16.66 141 *e*Pn **P 03 19 56.4 +0.4**
comp=Z,148nm,1.5s
LOHW Long Hollow 16.73 113 *e*Pn **P 03 19 57.6 +0.9**
comp=Z,36nm,1.2s
SNOW Snow King Moun 16.74 114 *e*Pn **P 03 19 59.9 +3.0**
comp=Z,84nm,1.3s
REDW Red Top Meadow 16.75 114 *e*Pn **P 03 19 59.9 +3.0**
comp=Z,101nm,1.5s
HVU Hansel Valley 16.79 122 *e*Pn **P 03 19 57.0 -0.3**
comp=Z,21nm,1.2s
NV01 Mina Array Sit 16.92 140 *e*Pn **P 03 19 58.8 0.0**
NV01 *e*PcP **PcP 03 24 43.2 0.0**
NVAR Mina Array Bea 16.92 140 Pn **P 03 19 58.3 -0.5**
comp=Z,0.1nm,0.3s,baz=316,slow=11,SNR=37
NVAR PcP **PcP 03 24 43.2 0.0**
comp=Z,0.1nm,0.3s,baz=297,slow=4.0,SNR=3.6
NV11 Mina Array Sit 16.98 140 *e*Pn **P 03 20 00.1 +0.7**
comp=Z,13nm,1.5s
AHID Auburn Hatcher 17.01 116 *e*Pn **P 03 20 03.7 +4.0**
comp=Z,101nm,1.5s
BGU Big Grassy Mou 17.29 124 *e*Pn **P 03 20 03.3 +0.5**
comp=Z,40nm,1.3s
SPUT South Promonto 17.30 122 *e*Pn **P 03 20 04.8 +1.8**
comp=Z,27nm,1.4s
COLD Coldfoot 17.32 336 *e*Pn **Pn 03 19 56.3 -5.2**
comp=Z,9.5nm,1.1s
MDPB Devils Postpil 17.33 144 *e*Pn **P 03 20 05.0 +1.6**
comp=Z,53nm,1.3s
SAO San Andreas Ge 17.33 151 *e*Pn **Pn 03 19 55.2 -6.6**
comp=Z,39nm,1.4s
OMMB Old Mammoth Mi 17.37 143 *e*Pn **P 03 20 05.6 +1.6**
comp=Z,74nm,1.4s
MLAC Mammoth, Mammo 17.42 143 P **P 03 20 05.5 +1.1**
baz=333
IM3 Indian Mountai 17.43 330 *e*Pn **Pn 03 20 01.5 -1.4**
KUKN Kugluktuk,NWT 17.46 22 Pn **Pn 03 20 00.2 -2.9**
HWUT Hardware Ranch 17.55 120 *e*Pn **P 03 20 06.8 +1.1**
comp=Z,64nm,1.4s
LAO LASA Array 17.60 99 *e*Pn **P 03 20 06.4 +0.3**
comp=Z,20nm,0.8s
LAO LASA Array 17.60 99 P **P 03 20 06.2 +0.1**
baz=299
BW06 Boulder Array 17.86 114 *e*Pn **P 03 20 11.0 +1.8**
comp=Z,36nm,1.1s
BW06 Boulder Array 17.86 114 P **P 03 20 10.1 +0.9**
baz=311,SNR=36
PD31 Pinedale Array 17.86 114 *e*Pn **P 03 20 11.1 +1.9**
PDAR Pinedale Array 17.86 114 P **P 03 20 10.8 +1.7**
comp=Z,0.6nm,0.3s,baz=309,slow=9.4,SNR=41
PDAR LR LR 03 27 03.4
comp=Z,660nm,18.4s,baz=327,slow=37
PDAR Pinedale Array 17.86 114 *e*Pn **P 03 20 10.5 +1.3**
FFC Flin Flon 17.87 71 *e*Pn **P 03 20 12.4 +3.4**
comp=Z,43nm,1.3s
FFC Flin Flon 17.87 71 *ce*P **P 03 20 08.9 -0.1**
FFC pmax pmax
comp=Z,133nm,2.5s
DUG Dugway, Tooele 17.94 125 *e*Pn **P 03 20 10.6 +0.5**
comp=Z,32nm,1.2s
DUG Dugway, Tooele 17.94 125 *e*P **P 03 20 10.6 +0.5**
DUG pmax pmax
comp=Z,32nm,1.2s
DUG Dugway, Tooele 17.94 125 P **P 03 20 11.6 +1.6**
baz=320,SNR=21
TCUT Toone Canyon 17.98 121 *e*Pn **Pn 03 20 09.2 -0.8**
comp=Z,50nm,1.4s
PMPB Monarch Peak 18.03 150 *e*Pn **P 03 20 15.2 +4.3**
comp=Z,56nm,1.2s
DGMT Dagmar 18.06 92 *e*Pn **P 03 20 12.2 +1.2**
comp=Z,161nm,1.2s
DGMT Dagmar 18.06 92 P **P 03 20 11.2 +0.1**
baz=294,SNR=6.7
CTU Camp Tracy 18.11 122 *e*Pn **P 03 20 14.4 +2.5**
comp=Z,16nm,1.1s
R11A Troy Canyon, C 18.11 135 *e*Pn **P 03 20 13.0 +1.1**
comp=Z,54nm,1.3s
R11A Troy Canyon, C 18.11 135 P **P 03 20 12.1 +0.1**
baz=327,SNR=46
TOLK Toolik Lake Re 18.29 339 *e*Pn **P 03 20 16.4 +2.8**
comp=Z,94nm,1.5s
TOLK Toolik Lake Re 18.29 339 P **Pn 03 20 12.6 -0.9**
baz=144
JLU Jordanelle 18.33 122 *e*P **P 03 20 16.6 +2.1**
comp=Z,24nm,1.2s
NLU North Lily Min 18.50 125 *e*P **Pn 03 20 17.8 +1.5**
comp=Z,21nm,1.0s

GRAC Grapevine Rang 18.53 141 P **Pn 03 20 18.8 +2.2**
baz=331
PAGB Antelope Grade 18.65 149 *e*P **Pn 03 20 20.2 +2.2**
comp=Z,78nm,1.5s
MPU Maple Canyon 18.67 124 *e*P **Pn 03 20 20.3 +1.8**
comp=Z,10nm,1.2s
PSUT Pine Spring 18.74 131 *e*P **Pn 03 20 20.6 +1.3**
comp=Z,58nm,1.3s
CWC Cottonwood Cre 18.75 143 P **Pn 03 20 21.5 +2.1**
baz=333
VES Vestal, Richgr 18.93 146 P **Pn 03 20 22.3 +0.9**
baz=335
TPNV Topopah Spring 19.02 138 *e*P **Pn 03 20 24.0 +1.4**
comp=Z,128nm,1.2s
TPNV Topopah Spring 19.02 138 *e*P **Pn**
TPNV pmax pmax
comp=Z,128nm,1.2s
TPNV Topopah Spring 19.02 138 P **Pn 03 20 24.1 +1.4**
baz=330,SNR=46
DAC Darwin (Calif) 19.08 142 *e*P **Pn 03 20 24.8 +1.4**
comp=Z,45nm,1.3s
DAC Darwin (Calif) 19.08 142 *e*P **Pn 03 20 24.8 +1.4**
DAC pmax pmax
comp=Z,45nm,1.3s
SMMC Simmler 19.11 149 P **Pn 03 20 24.9 +1.2**
baz=337
FURC Furnace Creek, 19.19 140 P **Pn 03 20 24.6 +0.1**
baz=331,SNR=15
ISA Isabella, Lake 19.31 145 *e*P **Pn 03 20 26.4 +0.4**
comp=Z,25nm,0.9s
ISA Isabella, Lake 19.31 145 *e*P **Pn 03 20 26.4 +0.4**
ISA pmax pmax
comp=Z,25nm,0.9s
ISA Isabella, Lake 19.31 145 P **Pn 03 20 26.2 +0.2**
baz=335,SNR=14
MPMC Manual Prospec 19.31 142 P **Pn 03 20 26.4 +0.3**
baz=333,SNR=13
P17A Butcher Ranch, 19.54 123 *e*P **Pn 03 20 29.4 +0.5**
comp=Z,50nm,1.3s
MSU Marysvale 19.55 128 *e*P **Pn 03 20 29.7 +0.6**
MSU Marysvale 19.55 128 *e*P **Pn 03 20 29.7 +0.6**
PKM Mcpherson Peak 19.56 149 P **Pn 03 20 28.9 -0.3**
baz=338
K22A Casper 19.66 110 *e*P **P 03 20 29.5 +0.6**
comp=Z,136nm,1.4s
K22A Casper 19.66 110 P **P 03 20 29.4 +0.6**
baz=309,SNR=19
ARVC Arvin 19.67 146 P **Pn 03 20 29.9 -0.3**
baz=336
P18A Preston Nutter 19.68 122 *e*P **Pn 03 20 31.7 +1.1**
comp=Z,20nm,1.1s
LRMC Laurel Mtn Rad 19.75 144 P **Pn 03 20 31.3 -0.1**
baz=334,SNR=9.2
CCUT Cedar City 19.77 132 *e*P **Pn 03 20 31.6 0.0**
comp=Z,66nm,1.3s
SHPR Sheep Range 19.85 137 *e*P **P 03 20 31.8 +0.8**
comp=Z,27nm,1.4s
SZCU Shurtz Canyon 19.86 131 *e*P **Pn 03 20 32.5 -0.2**
comp=Z,103nm,1.3s
RWWY Rawlins 19.88 113 *e*P **Pn 03 20 33.2 +0.1**
comp=Z,60nm,1.2s
SHOC Shoshone, Teco 19.92 140 P **Pn 03 20 32.5 -0.7**
baz=331,SNR=17
SRU San Rafael Swe 19.92 123 *e*P **Pn 03 20 34.2 +0.8**
comp=Z,133nm,1.4s
SRU San Rafael Swe 19.92 123 *e*P **Pn 03 20 34.2 +0.8**
SRU pmax pmax
comp=Z,133nm,1.4s
MTPU Mount Pierson 19.92 128 *e*P **Pn 03 20 34.3 +0.6**
comp=Z,76nm,1.4s
SBC Santa Barbara 20.01 149 P Pn 03 20 35.7 +1.4
baz=338
EDW2 Edwards Air Fo 20.18 145 P Pn 03 20 36.0 -0.4
baz=335,SNR=8.4
GSC Goldstone, Bar 20.24 142 *e*P Pn 03 20 36.5 -0.5
comp=Z,87nm,1.2s
GSC Goldstone, Bar 20.24 142 *e*P Pn 03 20 36.5 -0.6
GSC pmax pmax
comp=Z,87nm,1.2s
GSC Goldstone, Bar 20.24 142 P Pn 03 20 36.7 -0.4
baz=333,SNR=23
RSSD Black Hills 20.25 103 *e*P Pn 03 20 37.3 0.0
comp=Z,26nm,0.8s
RSSD Black Hills 20.25 103 P **P 03 20 36.1 +0.7**
baz=304
LCMT Little Creek M 20.26 132 *e*P Pn 03 20 37.4 0.0
comp=Z,123nm,1.2s
PKCU Pink Cliffs 20.34 130 *e*P Pn 03 20 38.8 +0.3
comp=Z,124nm,1.2s
O20A White River Ci 20.37 118 *e*P Pn 03 20 38.6 -0.2
comp=Z,197nm,1.4s
O20A White River Ci 20.37 118 P **P 03 20 36.5 -0.2**
baz=315,SNR=42
SCZ2 Santa Cruz Isl 20.45 150 P Pn 03 20 38.5 -0.9
baz=336
KNB Kanab 20.45 131 *e*P Pn 03 20 39.0 -0.6
comp=Z,111nm,1.3s
KNB Kanab 20.45 131 *e*P Pn 03 20 39.0 -0.6
KNB pmax pmax
comp=Z,111nm,1.3s
TUQ Turquoise Moun 20.46 140 P **P 03 20 38.4 +0.8**
baz=331,SNR=22
BLG Laguna Peak, P 20.52 148 P **P 03 20 39.1 +1.0**
baz=337
MWC Mount Wilson 20.75 146 *e*P Pn 03 20 42.3 -0.9
comp=Z,132nm,1.3s
MWC Mount Wilson 20.75 146 *e*P Pn 03 20 42.3 -0.9
MWC pmax pmax
comp=Z,132nm,1.3s
PASC Pasadena Art C 20.75 146 *e*P Pn 03 20 42.0 -1.0
comp=Z,87nm,1.5s
HEC Hector,Ludlow 20.83 142 P **P 03 20 42.5 +0.9**
baz=333,SNR=35
BFSC Mount Baldy Ra 20.88 145 P **P 03 20 42.4 +0.3**
baz=335,SNR=16
PV09 Paradox Valley 21.09 122 *e*P **P 03 20 46.0 +1.4**
LDFC Landfair 21.10 139 *e*P **P 03 20 45.5 +1.0**
comp=Z,126nm,1.2s
MDND Maddock 21.12 90 *e*P **P 03 20 46.2 +1.7**
comp=Z,167nm,1.4s
MDND Maddock 21.12 90 P **P 03 20 45.0 +0.5**
baz=295,SNR=9.9
N23A Red Feather La 21.12 113 *e*P **P 03 20 45.7 +0.8**
comp=Z,74nm,1.1s
N23A Red Feather La 21.12 113 P **P 03 20 44.2 -0.7**
baz=312,SNR=25
PV21 Cone Mtn., Par 21.13 122 *e*P **P 03 20 46.3 +1.4**
comp=Z,83nm,1.3s
PHWY Pilot Hill 21.13 111 *e*P **P 03 20 45.7 +0.7**
comp=Z,56nm,1.0s
GMRC Granite Mounta 21.13 140 P **P 03 20 45.5 +0.6**
baz=332,SNR=41
SNCC San Nicolas Is 21.17 150 P **P 03 20 46.6 +1.5**
baz=339
U15A North Rim 21.18 131 *e*P **P 03 20 45.9 +0.4**
comp=Z,92nm,1.1s
PV23 Carpenter Ridg 21.19 122 *e*P **P 03 20 47.1 +1.5**
comp=Z,112nm,1.2s
PV10 Paradox Valley 21.23 122 *e*P **P 03 20 48.1 +2.0**
PV14 Lion Creek, Pa 21.25 122 *e*P **P 03 20 47.3 +1.1**
comp=Z,92nm,1.1s
PV22 Blue Mesa, Par 21.25 122 *e*P **P 03 20 47.5 +1.4**
comp=Z,54nm,1.1s
PV20 West Nyswonger 21.30 122 *e*P **P 03 20 48.0 +1.3**
comp=Z,101nm,1.2s
PV19 Morning Glory 21.31 122 *e*P **P 03 20 48.1 +1.2**
comp=Z,104nm,1.2s
PV16 Nyswonger Mesa 21.35 122 *e*P **P 03 20 48.5 +1.2**
comp=Z,136nm,1.5s
PV17 East Wray Mesa 21.35 122 *e*P **P 03 20 48.5 +1.2**
comp=Z,123nm,1.4s
PV11 David Mesa, Pa 21.38 122 *e*P **P 03 20 48.6 +1.0**
comp=Z,74nm,1.1s
CIS Catalina Islan 21.38 148 P **P 03 20 47.9 +0.5**
baz=337
PV18 Skein Mesa, Pa 21.40 122 *e*P **P 03 20 49.2 +1.4**
comp=Z,96nm,1.4s
PV12 Saucer Basin, 21.40 122 *e*P **P 03 20 48.9 +1.1**
comp=Z,64nm,1.1s
PV03 Paradox Valley 21.43 122 *e*P **P 03 20 48.8 +0.7**
PV05 Paradox Valley 21.43 123 *e*P **P 03 20 49.6 +1.5**
PV13 Radium Mtn., P 21.51 122 *e*P **P 03 20 50.0 +1.0**
comp=Z,97nm,1.3s
PV02 Paradox Valley 21.52 122 *e*P **P 03 20 50.4 +1.3**
comp=Z,53nm,1.0s
RDOG Red Dog Mine 21.56 328 *e*P **P 03 20 49.6 +0.5**
comp=Z,83nm,1.5s
NEE2 Needles Airpor 21.57 138 P **P 03 20 51.5 +2.2**
baz=330
W13A Hualapai Mount 21.58 136 *e*P **P 03 20 50.9 +1.0**
comp=Z,74nm,1.1s
MURC Murrieta 21.62 145 P **P 03 20 51.3 +1.4**
baz=335
PV01 Paradox Valley 21.66 122 *e*P **P 03 20 51.5 +0.9**
BELC Belle Mtn. Jos 21.70 142 P **P 03 20 51.1 +0.2**
baz=333,SNR=17
SCI2 San Clemente I 21.73 148 P **P 03 20 52.6 +1.5**
baz=338
SMCO Snowmass 21.74 118 *e*P **P 03 20 52.8 +1.1**
comp=Z,107nm,1.2s
PFO Pinyon Flats O 21.87 143 *e*P **P 03 20 53.5 +0.7**
comp=Z,26nm,1.1s
PFO Pinyon Flats O 21.87 143 *e*P **P 03 20 53.5 +0.7**
PFO pmax pmax
comp=Z,26nm,1.1s
PFO Pinyon Flats O 21.87 143 P **P 03 20 52.5 -0.2**
baz=334
XPFO Piæon Flat 21.87 143 *e*P **P 03 20 53.5 +0.7**
comp=Z,26nm,1.1s
IRM Iron Mountain 21.89 140 P **P 03 20 53.3 +0.5**
baz=332,SNR=42
FRD Ford Ranch, An 21.92 144 P **P 03 20 52.9 -0.4**
baz=334,SNR=10
ISCO Idaho Springs 22.05 114 *e*P **P 03 20 56.8 +1.9**
comp=Z,23nm,1.1s
ISCO Idaho Springs 22.05 114 *e*P **P 03 20 56.8 +1.9**
ISCO pmax pmax
comp=Z,23nm,1.1s
ISCO Idaho Springs 22.05 114 P **P 03 20 55.2 +0.3**
baz=314,SNR=7.8
PDMCI Parker Dam,Lak 22.16 138 P **P 03 20 56.0 +0.2**
baz=330,SNR=16
BC3 Big Chuckawall 22.21 141 P **P 03 20 56.1 -0.3**
baz=333,SNR=13
109C Camp Elliot, M 22.29 145 P **P 03 20 56.8 -0.4**
baz=336
CPE Camp Elliot 22.29 145 *e*P **P 03 20 57.6 +0.4**
comp=Z,68nm,1.4s
WUAZ Wupatki 22.35 131 *e*P **P 03 20 59.1 +1.2**
comp=Z,121nm,1.4s
WUAZ Wupatki 22.35 131 P **P 03 20 58.0 0.0**
baz=326,SNR=46
MVCO Mesa Verde 22.40 124 *e*P **P 03 20 59.5 +0.9**
comp=Z,89nm,1.4s
MVCO Mesa Verde 22.40 124 P **P 03 20 58.2 -0.3**
baz=321,SNR=22
Y12C Blythe 22.49 139 *e*P **P 03 21 00.2 +1.0**
comp=Z,163nm,1.4s
Y12C Blythe 22.49 139 P **P 03 20 59.7 +0.5**
baz=332,SNR=24
ULM Lac du Bonnet 22.49 81 P **P 03 20 59.2 0.0**
comp=Z,35nm,1.0s,baz=290,slow=9.1,SNR=10
ULM LR LR 03 30 21.1
comp=Z,4µm,18.0s,baz=290,slow=38
ULM Lac du Bonnet 22.49 81 *e*P **P 03 20 59.6 +0.4**
comp=Z,57nm,1.1s
ULM Lac du Bonnet 22.49 81 P **P 03 20 56.5 -2.7**
ULM Lac du Bonnet 22.49 81 *e*P **P 03 20 59.6 +0.4**
ULM pmax pmax
comp=Z,57nm,1.1s
MONP2 Monument Peak 22.53 144 P **P 03 20 59.9 -0.1**
baz=335,SNR=18
BAR Barrett 22.63 145 *e*P **P 03 21 01.8 +0.9**
comp=Z,37nm,1.1s
SWSC Sam W. Stewart 22.71 143 P **P 03 21 02.0 +0.3**
baz=334
IKP In-Ko-Pah, Jac 22.86 144 P **P 03 21 03.4 0.0**
baz=335,SNR=39
S22A 4UR Ranch, Cre 22.86 120 *e*P **P 03 21 04.7 +1.2**
comp=Z,116nm,1.5s
S22A 4UR Ranch, Cre 22.86 120 P **P 03 21 02.8 -0.7**
baz=318,SNR=40
Q24A Divide 22.89 115 P **P 03 21 04.3 +0.4**
baz=315
Y14A Wickenburg 22.95 136 *e*P **P 03 21 05.1 +0.9**
comp=Z,59nm,1.1s
GLA Glamis 22.98 141 *e*P **P 03 21 05.8 +1.2**
comp=Z,132nm,1.2s
GLA Glamis 22.98 141 *e*P **P 03 21 05.8 +1.2**
GLA pmax pmax
comp=Z,132nm,1.2s
GLA Glamis 22.98 141 P **P 03 21 04.3 -0.2**
baz=333,SNR=8.4
SUSD Miller 23.14 97 P **P 03 21 06.2 +0.2**
baz=302
AGMN Agassiz Nation 23.22 86 *e*P **P 03 21 08.1 +1.3**
comp=Z,64nm,1.4s
AGMN Agassiz Nation 23.22 86 P **P 03 21 06.5 -0.3**
baz=294,SNR=8.5
X16A Lo Mia Camp, P 23.23 133 *e*P **P 03 21 08.2 +1.1**
comp=Z,39nm,1.1s
OGNE Ogallala 23.34 108 *e*P **P 03 21 09.4 +1.3**
comp=Z,101nm,1.4s
OGNE Ogallala 23.34 108 P **P 03 21 08.5 +0.4**
baz=310
W18A Petrified Fore 23.44 129 P **P 03 21 09.1 -0.2**
baz=325
SDCO Great Sand Dun 23.57 118 *e*P **P 03 21 11.7 +0.9**
comp=Z,55nm,1.3s
SDCO Great Sand Dun 23.57 118 P **P 03 21 10.6 -0.1**
baz=317,SNR=41
113A Mohawk Valley, 23.65 139 *e*P **P 03 21 11.8 +0.7**
comp=Z,68nm,1.4s
X18A Snowflake 23.82 130 *e*P **P 03 21 14.1 +1.0**
comp=Z,71nm,1.0s
KSCO Kaye Shedlock' 24.27 112 *e*P **P 03 21 18.4 +1.2**
comp=Z,84nm,1.1s
KSCO Kaye Shedlock' 24.27 112 P **P 03 21 16.8 -0.4**
baz=314,SNR=19
T25A Trinidad 24.61 117 *e*P **P 03 21 21.2 +0.9**
comp=Z,23nm,1.0s
T25A Trinidad 24.61 117 P **P 03 21 20.0 -0.3**
baz=318,SNR=14
214A Organ Pipe Nat 24.75 138 P **P 03 21 21.3 -0.1**
baz=332,SNR=27
SOLO Sioux Lookout 24.86 80 P **P 03 21 21.2 -1.1**
ECSD EROS Data Cent 24.94 96 *e*P **P 03 21 23.0 0.0**
comp=Z,21nm,0.9s
ECSD EROS Data Cent 24.94 96 P **P 03 21 23.1 0.0**
baz=303,SNR=16
ANMO Albuquerque 25.20 124 P **P 03 21 26.2 +0.6**
comp=Z,9.1nm,0.9s,baz=321,slow=10,SNR=14
ANMO Albuquerque 25.20 124 *e*P **P 03 21 26.4 +0.8**
comp=Z,16nm,1.0s
ANMO Albuquerque 25.20 124 *e*P **P 03 21 25.5 -0.1**
ANMO pmax pmax
comp=Z,15nm,1.3s
ANMO Albuquerque 25.20 124 P **P 03 21 25.3 -0.3**
baz=322
LAZ Ladron 25.28 126 *e*P **P 03 21 27.4 +1.0**
TUC Tucson 25.30 134 *e*P **P 03 21 21.9 -4.6**
comp=Z,38nm,1.3s
TUC Tucson 25.30 134 *e*P **P 03 21 21.9 -4.6**
TUC pmax pmax
comp=Z,38nm,1.3s
TUC Tucson 25.30 134 P **P 03 21 27.6 +1.2**
baz=329
BGNE Belgrade 25.35 102 *e*P **P 03 21 27.9 +1.1**
comp=Z,74nm,1.1s
BGNE Belgrade 25.35 102 P **P 03 21 25.5 -1.3**
baz=308
PKLO Pickle Lake 25.39 75 P **P 03 21 26.4 -0.6**
LENM Lemitar 25.55 126 *e*P **P 03 21 29.6 +0.8**
LPM Los Pinos Moun 25.61 125 *e*P **P 03 21 30.5 +1.2**
Y22D IRIS PASSCAL I 25.65 126 P **P 03 21 30.8 +1.1**
baz=324
BNM Barren Site 25.74 125 *e*P **P 03 21 29.0 -1.6**
EYMN Ely 26.03 84 *e*P **P 03 21 35.1 +2.2**
comp=Z,56nm,1.1s
EYMN Ely 26.03 84 P **P 03 21 33.0 +0.1**
baz=296,SNR=14
F37A Hinrichs Farm, 26.35 89 P **P 03 21 36.3 +0.5**
baz=299,SNR=6.6
121A Cookes Peak, D 26.48 129 P **P 03 21 38.0 +0.6**
baz=326,SNR=14
SPMN Marine on St. 26.49 90 *e*P **P 03 21 38.6 +1.5**
comp=Z,25nm,1.0s
SPMN Marine on St. 26.49 90 P **P 03 21 37.6 +0.6**
baz=300,SNR=8.2
E38A The Farm, Brul 26.59 86 *e*P **P 03 21 40.5 +2.5**
comp=Z,23nm,1.0s
E38A The Farm, Brul 26.59 86 P **P 03 21 38.3 +0.4**
baz=298
F38A Pierce - Schro 26.70 88 P **P 03 21 39.2 +0.2**
baz=299,SNR=10
319A Douglas 26.76 133 *e*P **P 03 21 41.6 +1.8**

comp=Z,99nm,1.2s
RES Resolute Bay 26.86 21 P P 03 21 41.9 +1.8
comp=Z,3,6nm,0.7s,baz=233,slow=14,SNR=4.3
RES LR LR 03 32 15.9
comp=Z,2µm,20.3s,baz=238,slow=36
RES Resolute Bay 26.86 21 eP P 03 21 41.9 +1.8
comp=Z,42nm,1.2s
RES Resolute Bay 26.86 21 eP P 03 21 41.9 +1.8
RES pmax pmax
comp=Z,41nm,1.2s
H38A Maiden Rock 27.09 91 P P 03 21 42.8 +0.3
baz=301
G38A Ridgeland 27.10 89 P P 03 21 42.6 0.0
baz=300
E39A Mellen 27.31 86 P P 03 21 45.2 +0.8
baz=298
H39A Augusta 27.70 90 P P 03 21 48.0 0.0
baz=301
KSU1 Kansas State U 27.71 105 P P 03 21 49.1 +1.0
baz=311
EPT El Paso 27.72 128 eP P 03 21 50.0 +1.6
comp=Z,30nm,1.2s
AMTX Amarillo 27.76 117 eP P 03 21 49.5 +0.8
comp=Z,25nm,0.8s
AMTX Amarillo 27.76 117 P P 03 21 49.3 +0.6
baz=319
MSTX Muleshoe 27.87 120 eP P 03 21 50.5 +0.8
comp=Z,24nm,1.2s
MSTX Muleshoe 27.87 120 P P 03 21 49.8 +0.2
baz=321,SNR=6.6
I39A Houston 27.98 92 eP P 03 21 51.6 +1.1
comp=Z,22nm,0.9s
I39A Houston 27.98 92 P P 03 21 50.8 +0.3
baz=303
SCIA State Center 28.03 96 eP P 03 21 52.8 +1.9
comp=Z,26nm,1.1s
SCIA State Center 28.03 96 P P 03 21 50.2 -0.7
baz=306
G40A Rib Lake 28.06 88 P P 03 21 50.7 -0.5
baz=300
J39A Decorah 28.15 93 P P 03 21 51.6 -0.4
baz=303,SNR=5.3
U32A Winter Ranch, 28.17 112 eP P 03 21 53.9 +1.6
comp=Z,22nm,0.8s
MNTX Cornudas Mount 28.33 127 eP P 03 21 54.4 +0.7
comp=Z,27nm,1.2s
MNTX Cornudas Mount 28.33 127 P P 03 21 54.0 +0.3
baz=325,SNR=16
GDL2 Guadalupe Moun 28.43 124 eP P 03 21 56.4 +1.7
I40A Norwalk 28.52 91 P P 03 21 54.6 -0.7
baz=302
L39A Vinton 28.65 95 P P 03 21 55.2 -1.2
baz=305
J40A Soldiers Grove 28.71 92 P P 03 21 57.0 +0.1
baz=303
K40A Colesburg 28.85 93 P P 03 21 57.6 -0.6
baz=304
I41A Arkdale 28.89 90 P P 03 21 57.8 -0.7
baz=302
M39A Webster 28.92 96 P P 03 21 58.3 -0.5
baz=306
N39A Derby Farms, D 29.07 98 P P 03 21 60.0 -0.2
baz=307
F42A Maple Grove Fa 29.08 86 P P 03 22 00.1 -0.1
baz=300
L40A Anamosa 29.16 94 P P 03 22 00.9 -0.1
baz=305
JFWS Jewell Farm 29.27 92 P P 03 22 02.5 +0.6
baz=304
M40A Post Highland 29.36 96 P P 03 22 02.4 -0.3
baz=306
K41A Shullsburg 29.41 93 P P 03 22 03.3 +0.1
baz=304
H42A Shiocton 29.47 88 P P 03 22 03.4 -0.3
baz=302
WMOK Wichita Mounta 29.47 114 eP P 03 22 04.2 +0.4
comp=Z,21nm,1.0s
WMOK Wichita Mounta 29.47 114 eP P 03 22 04.2 +0.4
WMOK pmax pmax
comp=Z,21nm,1.0s
WMOK Wichita Mounta 29.47 114 P P 03 22 03.6 -0.2
baz=317,SNR=15
E43A Lone Tree Farm 29.48 84 P P 03 22 02.9 -0.9
baz=299
I42A Draeger Farm, 29.56 89 P P 03 22 04.7 +0.3
baz=302
J42A Columbus 29.74 91 P P 03 22 06.6 +0.5
baz=303
M41A Milan 29.97 95 P P 03 22 08.8 +0.7
baz=306
N41A Harden Midland 30.18 96 eP P 03 22 10.9 +1.0
comp=Z,50nm,1.1s
N41A Harden Midland 30.18 96 P P 03 22 09.2 -0.7
baz=307,SNR=5.8
TUL1 Leonard 30.34 109 eP P 03 22 12.2 +0.8
comp=Z,22nm,1.1s
TUL1 Leonard 30.34 109 P P 03 22 12.1 +0.6
baz=315
M42A Sheffield 30.40 94 P P 03 22 12.6 +0.6
baz=306
O41A Passleys Farm, 30.52 97 P P 03 22 13.0 0.0
baz=306,SNR=6.7
ABTX Abilene, Hawle 30.58 118 eP P 03 22 14.2 +0.5
comp=Z,22nm,1.4s
ABTX Abilene, Hawle 30.58 118 P P 03 22 13.8 +0.2
baz=320
N42A Yates City 30.60 95 P P 03 22 13.4 -0.3
baz=307,SNR=9.5
P41A Barry, Barry 30.68 98 P P 03 22 14.9 +0.5
baz=309
O42A Bath 30.95 96 P P 03 22 16.6 -0.3
baz=308
Q41A Truxton 31.03 99 P P 03 22 17.3 -0.2
baz=310,SNR=12
TX31 Lajitas Ar. Si 31.11 127 eP P 03 22 19.2 +0.8
TX31 ePcP PcP **03 25 13.3 -0.2**
LTX Lajitas 31.11 127 eP P 03 22 19.2 +0.9
LTX ePcP PcP **03 25 13.4 -0.1**
LTX Lajitas 31.11 127 eP P 03 22 19.3 +0.9
LTX e 03 25 13.5
TXAR Lajitas Array 31.11 127 P P 03 22 19.2 +0.8
comp=Z,12nm,0.9s,baz=326,slow=7.5,SNR=60
TXAR PcP PcP **03 25 13.4 -0.1**
comp=Z,0.9nm,0.8s,baz=329,slow=1.1,SNR=5.3
HHAR Hobbs 31.17 106 eP P 03 22 19.4 +0.6
comp=Z,20nm,1.3s
P42A Winchester 31.17 98 eP P 03 22 20.0 +1.3
comp=Z,17nm,0.9s
P42A Winchester 31.17 98 P P 03 22 18.3 -0.5
baz=309
HDIL Hopedale 31.22 95 eP P 03 22 20.4 +1.2
comp=Z,36nm,0.9s
HDIL Hopedale 31.22 95 P P 03 22 18.6 -0.6
baz=307
R41A Rosebud 31.36 100 P P 03 22 18.8 -1.6
baz=310,SNR=14
O43A Sugar Creek Fa 31.37 96 P P 03 22 20.7 +0.2
baz=308
Q42A Golden Eagle 31.48 99 P P 03 22 21.0 -0.4
baz=310,SNR=5.0
X37A Clayton 31.52 110 eP P 03 22 23.4 +1.5
comp=Z,24nm,1.0s
CCM Cathedral Cave 31.59 101 eP P 03 22 22.2 -0.3
comp=Z,26nm,1.1s
CCM Cathedral Cave 31.59 101 eP P 03 22 22.2 -0.3
CCM pmax pmax
comp=Z,26nm,1.1s
CCM Cathedral Cave 31.59 101 P P 03 22 21.4 -1.1
baz=311
S41A Jillco Farms, 31.60 102 P P 03 22 22.2 -0.4
baz=311
P43A Skaggs, Pawnee 31.64 97 P P 03 22 23.3 +0.5
baz=308
R42A Luebbering 31.72 100 P P 03 22 23.2 -0.4
baz=310,SNR=6.5
U40A Yellville 31.76 105 P P 03 22 23.7 -0.3
baz=313,SNR=22
N44A Piper City 31.78 94 P P 03 22 24.2 0.0
baz=307
T41A Mountain View 31.95 103 P P 03 22 25.0 -0.6
baz=312
Q43A New Douglas 31.96 98 P P 03 22 25.2 -0.5
baz=309,SNR=7.1
O44A Mansfield 31.96 95 P P 03 22 25.9 +0.1
baz=308
M45A Boilermakers S 31.98 92 P P 03 22 26.3 +0.5
baz=306
W39A Magazine 32.01 107 eP P 03 22 26.9 +0.7
comp=Z,26nm,1.0s
W39A Magazine 32.01 107 P P 03 22 26.7 +0.6
baz=315,SNR=9.0
S42A Caledonia 32.05 101 P P 03 22 25.6 -0.9
baz=311,SNR=7.1
FVM French Village 32.13 100 eP P 03 22 27.5 +0.3
comp=Z,18nm,1.0s
V40A Witts Springs 32.15 105 eP P 03 22 27.6 +0.1
comp=Z,23nm,1.1s
V40A Witts Springs 32.15 105 P P 03 22 27.4 0.0
baz=314,SNR=8.9
JCT Junction City 32.16 120 eP P 03 22 27.4 -0.1
comp=Z,15nm,0.9s
JCT Junction City 32.16 120 eP P 03 22 27.4 -0.1
JCT pmax pmax
comp=Z,15nm,0.9s
JCT Junction City 32.16 120 P P 03 22 27.1 -0.4
baz=323,SNR=7.6
HPIG 32.18 132 eP P 03 22 29.2 +1.2
comp=Z,17nm,1.1s
HPIG ePcP PcP **03 25 16.4 -0.1**
R43A Red Bud 32.24 99 P P 03 22 28.0 -0.2
baz=310
WHTX Lake Whitney, 32.26 116 eP P 03 22 28.9 +0.6
comp=Z,24nm,1.4s
WHTX Lake Whitney, 32.26 116 P P 03 22 28.0 -0.3
baz=320
P44A Sand Creek, Wi 32.29 96 P P 03 22 27.5 -1.1
baz=308
X39A Fountain Ranch 32.30 109 P P 03 22 29.1 +0.4
baz=316
U41A Viola 32.32 104 P P 03 22 28.8 -0.1
baz=313
T42A Van Buren 32.35 102 eP P 03 22 28.5 -0.7
comp=Z,8.3nm,1.0s
T42A Van Buren 32.35 102 P P 03 22 29.0 -0.2
baz=312
O45A Potomac 32.36 94 P P 03 22 28.6 -0.6
baz=307
W40A Ferguson Farm, 32.43 107 eP P 03 22 33.3 +3.5
comp=Z,22nm,0.9s
W40A Ferguson Farm, 32.43 107 P P 03 22 30.1 +0.2
baz=314
V41A Mountainview 32.56 105 P P 03 22 30.2 -0.8
baz=314,SNR=30
MIAR Mount Ida 32.59 108 eP P 03 22 32.1 +0.9
comp=Z,31nm,1.0s
MIAR Mount Ida 32.59 108 eP P 03 22 32.1 +0.9
MIAR pmax pmax
comp=Z,31nm,1.0s
MIAR Mount Ida 32.59 108 P P 03 22 31.8 +0.6
baz=315,SNR=17
S43A Fulton Ridge, 32.61 100 P P 03 22 31.0 -0.4
baz=311,SNR=16
SFIN Lafayette 32.66 94 P P 03 22 31.9 +0.1
baz=307
BILL Bilibino 32.70 322 eP P 03 22 32.3 +0.4
comp=Z,42nm,1.4s
BILL Bilibino 32.70 322 *d iP P 03 22 32.1 +0.2*
BILL *i* *PP **sP** **03 22 39.5 +2.3**
BILL *e*PPP PPP 03 23 47.9
BILL *e*SSS SSS 03 30 02.1
BILL pmax pmax
comp=Z,28nm,1.2s
BILL MLR MLR
comp=Z,572nm,16.0s
U42A Revenden 32.72 103 P P 03 22 30.8 -1.6
baz=313
R44A Waltonville 32.78 98 P P 03 22 32.4 -0.5
baz=310
P45A Graceland, Par 32.79 95 eP P 03 22 33.7 +0.7
comp=Z,85nm,1.0s
P45A Graceland, Par 32.79 95 P P 03 22 32.6 -0.3
baz=308,SNR=14
T43A Greenville 32.80 101 P P 03 22 32.0 -1.1
baz=312,SNR=10
WHAR Wooly Hollow 32.82 106 eP P 03 22 34.0 +0.7
comp=Z,30nm,1.3s
PBMO Poplar Bluff 32.92 102 eP P 03 22 33.4 -0.7
comp=Z,17nm,1.1s
W41B Gary Mavity, V 32.93 106 eP P 03 22 35.0 +0.8
comp=Z,24nm,1.5s
W41B Gary Mavity, V 32.93 106 P P 03 22 34.2 0.0
baz=314
Q45A Warren Harvey, 32.93 97 P P 03 22 32.9 -1.3
baz=309,SNR=5.4
V42A Cord 33.00 104 P P 03 22 34.1 -0.8
baz=313,SNR=6.0
S44A Carbondale 33.03 99 P P 03 22 34.8 -0.2
baz=311
SIUC Southern Illin 33.03 99 eP P 03 22 35.1 0.0
comp=Z,17nm,0.9s
P46A Rosedale 33.06 95 P P 03 22 36.1 +0.8
baz=308
X40A Basin Creek Fa 33.06 107 eP P 03 22 36.1 +0.8
comp=Z,12nm,1.0s
X40A Basin Creek Fa 33.06 107 P P 03 22 36.2 +0.8
baz=315
OLIL Olney 33.06 97 eP P 03 22 35.8 +0.5
comp=Z,54nm,1.1s
Y40A Okolona 33.14 108 P P 03 22 36.4 +0.4
baz=316
UALR University of 33.15 106 eP P 03 22 36.5 +0.4
comp=Z,23nm,1.1s
U43A Rector 33.21 102 P P 03 22 36.3 -0.3
baz=312
T44A Benton 33.22 100 P P 03 22 36.6 -0.2
baz=312
N47A Urbana 33.23 92 P P 03 22 36.3 -0.5
baz=306
R45A Skylar, Fairfi 33.23 98 P P 03 22 36.5 -0.3
baz=310,SNR=5.9
X41A Kaden, Bauxite 33.24 107 P P 03 22 37.0 +0.1
baz=315
SLBS Sierra La Lagu 33.25 141 eP P 03 22 43.6 +6.3
comp=Z,46nm,1.5s
S45A Carrier Mills 33.45 99 P P 03 22 38.2 -0.5
baz=311
Z40A Long Farm, Mag 33.61 109 P P 03 22 40.5 +0.3
baz=317
P47A Martinsville 33.71 94 P P 03 22 40.8 -0.2
baz=308,SNR=6.9
R46A Gibon Southern 33.75 97 P P 03 22 41.2 -0.1
baz=310
BLO Bloomington 33.75 95 eP P 03 22 42.2 +0.8
comp=Z,56nm,1.0s
BLO Bloomington 33.75 95 eP P 03 22 42.2 +0.8
BLO pmax pmax
comp=Z,56nm,1.0s
USIN University of 33.81 97 eP P 03 22 42.6 +0.7
comp=Z,37nm,1.0s
U44B Burton Farm, H 33.86 101 P P 03 22 42.1 -0.2
baz=312
O48A Farmland 33.92 92 P P 03 22 42.6 -0.3
baz=307
Q47A Bedord North L 33.96 95 P P 03 22 42.3 -0.9
baz=309,SNR=17
140A Cam and Jess, 33.96 110 eP P 03 22 45.7 +2.5
comp=Z,58nm,1.0s
140A Cam and Jess, 33.96 110 P P 03 22 44.0 +0.8
baz=317
S46A Don Dixon Farm 33.96 98 P P 03 22 42.9 -0.4
baz=310
NATX Nacogdoches 33.99 113 P P 03 22 44.5 +1.0
baz=319
CCAR Cane Creek 34.09 107 eP P 03 22 46.0 +1.7
comp=Z,69nm,1.1s
833A Chaparral WMA, 34.09 122 eP P 03 22 45.9 +1.5
comp=Z,29nm,1.0s
833A Chaparral WMA, 34.09 122 P P 03 22 44.2 -0.2
baz=324,SNR=5.7
N49A Columbus Grove 34.12 90 P P 03 22 44.3 -0.3
baz=306
Y42A Garnett, Star 34.13 107 P P 03 22 45.0 +0.3
baz=316
X43A Marvell 34.19 105 eP P 03 22 45.9 +0.7
comp=Z,34nm,1.0s
X43A Marvell 34.19 105 P P 03 22 46.4 +1.2
baz=315
U45A Rockin P Farm, 34.21 101 P P 03 22 44.6 -0.7
baz=312
P48A Milroy 34.24 93 P P 03 22 45.6 0.0
baz=308
T46A Princeton 34.27 99 P P 03 22 45.6 -0.3
baz=311,SNR=6.7
R47A Wooly Knot Far 34.30 96 P P 03 22 45.2 -0.8
baz=310,SNR=14
141A Papa Simpson, 34.37 110 P P 03 22 47.3 +0.6
baz=317
Q48A North Vernon 34.38 94 P P 03 22 46.9 +0.1
baz=309
Z42A Norrel Spur, H 34.44 108 P P 03 22 47.7 +0.3
baz=316,SNR=5.5
O49A Covington 34.47 92 P P 03 22 46.8 -0.8
baz=307
WCI Wyandotte Cave 34.48 96 eP P 03 22 48.2 +0.5
comp=Z,36nm,0.9s
WCI Wyandotte Cave 34.48 96 eP P 03 22 48.2 +0.5
WCI pmax pmax
comp=Z,36nm,0.9s
WCI Wyandotte Cave 34.48 96 P P 03 22 48.3 +0.6
baz=310
U46A Springville 34.55 100 P P 03 22 47.6 -0.7
baz=312
R48A Northridge Ran 34.63 95 P P 03 22 49.3 +0.3
baz=309,SNR=6.4
P49A Miami Univ. Ec 34.63 93 P P 03 22 48.5 -0.5
baz=308
HKT Hockley 34.71 116 eP P 03 22 52.1 +2.4
comp=Z,13nm,1.3s
HKT Hockley 34.71 116 *i eP P 03 22 51.3 +1.6*
HKT pmax pmax
comp=Z,54nm,1.3s
T47A Sharon Grove 34.78 98 eP P 03 22 50.6 +0.3
comp=Z,22nm,1.2s
T47A Sharon Grove 34.78 98 P P 03 22 50.8 +0.4
baz=311
N50A Nevada 34.85 90 P P 03 22 50.2 -0.6
baz=307
WVT Waverly 34.91 100 eP P 03 22 51.6 +0.2
comp=Z,11nm,1.0s
WVT Waverly 34.91 100 eP P 03 22 51.6 +0.2
WVT pmax pmax
comp=Z,11nm,1.0s
WVT Waverly 34.91 100 P P 03 22 51.0 -0.5
baz=312
O50A Cable 34.93 91 P P 03 22 51.2 -0.3
baz=307
V46A Holladay 34.96 101 P P 03 22 50.7 -1.2
baz=313,SNR=6.7
142A Monroe 34.97 109 P P 03 22 52.0 +0.1
baz=317
Y44A Strider, Charl 34.97 105 P P 03 22 51.2 -0.7
baz=315,SNR=5.9
S48A Wiedeman Farm, 34.99 96 P P 03 22 51.7 -0.4
baz=310,SNR=19
U47A Clarksville 35.03 99 P P 03 22 52.4 0.0
baz=312
SADO Sadowa 35.05 81 LR LR 03 37 45.3
comp=Z,3µm,21.5s,baz=325,slow=37
OXF Oxford 35.07 104 eP P 03 22 53.0 +0.2
comp=Z,75nm,0.9s
OXF Oxford 35.07 104 eP P 03 22 53.0 +0.2
OXF pmax pmax
comp=Z,75nm,0.9s
OXF Oxford 35.07 104 P P 03 22 52.1 -0.6
baz=314,SNR=7.0
E53A Dumoine, Ponti 35.11 78 P P 03 22 53.3 +0.2
baz=300
R49A Shelbyville 35.12 95 P P 03 22 52.8 -0.4
baz=310
X45A UM Field Stati 35.14 104 P P 03 22 54.0 +0.6
baz=314
T48A Bowling Green 35.14 97 P P 03 22 53.3 -0.1
baz=311,SNR=7.8
P50A Jamestown 35.15 92 P P 03 22 53.3 -0.1
baz=308
341A Kurthwood 35.16 111 eP P 03 22 55.0 +1.4
comp=Z,21nm,1.3s
341A Kurthwood 35.16 111 P P 03 22 54.0 +0.5
baz=318
143A Socs Landing, 35.17 108 eP P 03 22 55.0 +1.3
comp=Z,71nm,1.0s
143A Socs Landing, 35.17 108 P P 03 22 54.0 +0.3
baz=317,SNR=5.5
242A Grayson 35.20 110 P P 03 22 54.0 +0.1
baz=318
W46A Michie 35.26 102 P P 03 22 54.0 -0.4
baz=313
V47A Nunnelly 35.30 100 P P 03 22 54.6 -0.2
baz=312,SNR=5.5
E54A Lac Daplat, Po 35.37 77 P P 03 22 56.2 +0.9
baz=301
S49A Springfield 35.38 96 P P 03 22 55.0 -0.4
baz=310,SNR=8.2
Q50A Georgetown 35.51 93 P P 03 22 56.0 -0.5
baz=309
X46A Booneville 35.53 103 P P 03 22 56.3 -0.4
baz=314
PLAL Pickwick Lake 35.54 102 eP P 03 22 55.8 -1.1
comp=Z,26nm,1.0s
342A Flagon Creek P 35.61 110 eP P 03 22 59.3 +1.9
comp=Z,52nm,0.9s
342A Flagon Creek P 35.61 110 P P 03 22 57.6 +0.2
baz=318,SNR=7.5
W47A Westpoint 35.65 101 P P 03 22 56.8 -0.9
baz=313,SNR=5.7
R50A Paris 35.65 94 P P 03 22 56.5 -1.3
baz=309,SNR=11
T49A Edmonton 35.66 97 eP P 03 22 57.9 0.0
comp=Z,15nm,1.2s
T49A Edmonton 35.66 97 P P 03 22 57.5 -0.4
baz=311
Z45A Winona 35.70 105 eP P 03 22 58.9 +0.7
comp=Z,62nm,1.0s
Z45A Winona 35.70 105 P P 03 22 58.7 +0.4
baz=315
Q51A Peebles 35.78 92 eP P 03 22 59.2 +0.3
comp=Z,14nm,0.9s
Q51A Peebles 35.78 92 P P 03 22 58.4 -0.6
baz=309
V48A Smith Brothers 35.78 100 eP P 03 22 59.2 +0.3
comp=Z,13nm,1.2s
V48A Smith Brothers 35.78 100 P P 03 22 58.4 -0.5
baz=312
144A Alexander Plac 35.80 107 P P 03 22 58.3 -0.8
baz=316
Y46A Houston 35.83 104 P P 03 22 58.5 -0.8
baz=315,SNR=9.0
U49A Red Boiling Sp 35.90 98 P P 03 22 59.6 -0.3
baz=311,SNR=7.2
S50A Richmond 35.98 95 P P 03 22 60.0 -0.7
baz=310,SNR=5.5
VBMS Vicksburg 36.04 108 eP P 03 23 02.2 +1.1
comp=Z,71nm,1.0s
VBMS Vicksburg 36.04 108 P P 03 23 01.1 0.0
baz=317
244A Avery, Jackson 36.07 108 P P 03 23 00.5 -0.9
baz=317,SNR=14
343A Vidalia 36.08 110 P P 03 23 02.1 +0.6
baz=318
R51A Hillsboro 36.09 93 P P 03 23 01.3 -0.3
baz=309,SNR=10
145A Houston Renfro 36.10 107 P P 03 23 01.7 0.0
baz=316
W48A Pulaski 36.12 100 P P 03 23 01.6 -0.2
baz=313
T50A Nancy 36.14 96 P P 03 23 01.8 -0.2
baz=311,SNR=6.9
Z46A Louisville 36.27 105 P P 03 23 03.3 +0.2
baz=315
V49A McMinnville 36.32 99 P P 03 23 03.9 +0.4
baz=312
Y47A UCPARC, Winfie 36.42 103 P P 03 23 03.5 -0.9
baz=314,SNR=7.7
344A Westbrook Farm 36.47 109 eP P 03 23 06.2 +1.3
comp=Z,42nm,1.1s
344A Westbrook Farm 36.47 109 P P 03 23 06.1 +1.3
baz=318,SNR=6.9
S51A Beattyville 36.50 94 eP P 03 23 05.5 +0.4
comp=Z,15nm,1.0s
S51A Beattyville 36.50 94 P P 03 23 05.1 0.0
baz=310
X48A Hartselle 36.52 101 eP P 03 23 04.7 -0.6
comp=Z,14nm,0.9s
X48A Hartselle 36.52 101 P P 03 23 04.3 -0.9
baz=314,SNR=6.4
U50A Jamestown 36.53 97 P P 03 23 04.2 -1.1
baz=311,SNR=19
245A Little AP, Sta 36.53 107 P P 03 23 05.6 +0.2
baz=317
W49A Belvidere 36.53 100 P P 03 23 05.3 0.0
baz=313
146A Union 36.59 106 eP P 03 23 06.6 +0.7
comp=Z,37nm,0.9s
146A Union 36.59 106 P P 03 23 06.6 +0.7

baz=316
R52A Catlettsburg 36.64 93 P **P** **03 23 06.9 +0.7**
baz=309
T51A Gray 36.72 95 P **P** **03 23 07.0 0.0**
baz=311,SNR=18
Z47A Carrollton 36.78 104 P **P** **03 23 06.8 -0.6**
baz=315
Y48A Jasper 36.82 102 P **P** **03 23 06.8 -1.0**
baz=314
LNIG Linares 36.86 126 *e*P **P** **03 23 08.3 0.0**
comp=Z,24nm,1.1s
V50A Pikevile 36.87 98 P **P** **03 23 08.6 +0.4**
baz=312
X49A Woodville 36.91 101 P **P** **03 23 08.1 -0.5**
baz=314
Z48A Northport 36.96 103 P **P** **03 23 08.4 -0.6**
baz=315
345A Thompson Farm, 36.98 108 P **P** **03 23 10.0 +0.8**
baz=318
246A Jackson Lee, B 37.00 106 P **P** **03 23 09.5 +0.2**
baz=317
147A Livingston 37.03 105 *e*P **P** **03 23 09.7 +0.1**
comp=Z,43nm,1.4s
147A Livingston 37.03 105 P **P** **03 23 09.6 +0.1**
baz=316
W50A Signal Mountai 37.06 99 P **P** **03 23 10.0 +0.1**
baz=313
U51A La Follette 37.06 96 P **P** **03 23 08.5 -1.4**
baz=311,SNR=6.1
ZAIG Zacatecas 37.18 131 *e*P **P** **03 23 12.9 +1.6**
comp=Z,40nm,1.2s
T52A Hallie 37.21 94 P **P** **03 23 11.6 +0.5**
baz=310
445A Amite 37.23 109 P **P** **03 23 11.6 +0.4**
baz=318
TZTN Tazewell 37.24 96 *e*P **P** **03 23 12.2 +0.8**
comp=Z,35nm,1.1s
TZTN Tazewell 37.24 96 P **P** **03 23 11.1 -0.2**
baz=311
V51A Loudon 37.24 97 *e*P **P** **03 23 11.9 +0.6**
comp=Z,34nm,1.0s
V51A Loudon 37.24 97 P **P** **03 23 11.0 -0.4**
baz=312,SNR=7.8
346A Big Creek Wild 37.25 107 P **P** **03 23 11.9 +0.4**
baz=317
247A Quitman 37.27 106 P **P** **03 23 12.1 +0.5**
baz=316
X50B Fort Payne 37.35 100 P **P** **03 23 11.6 -0.8**
baz=314,SNR=8.8
CPCT Cooper Cave 37.37 98 *e*P **P** **03 23 12.9 +0.5**
comp=Z,28nm,1.0s
W51A Cleveland 37.42 98 P **P** **03 23 12.1 -0.8**
baz=313
SCHQ Schefferville 37.44 60 LR LR 03 39 10.1
comp=Z,4µm,19.4s,baz=300,slow=37
U52A Thorn Hill 37.45 96 P **P** **03 23 12.9 -0.2**
baz=311,SNR=5.8
148A Greensboro 37.47 104 P **P** **03 23 12.9 -0.4**
baz=316
LRAL Lakeview Retre 37.53 103 *e*P **P** **03 23 13.5 -0.4**
comp=Z,18nm,1.1s
LRAL Lakeview Retre 37.53 103 P **P** **03 23 12.8 -1.1**
baz=315
V52A Sevierville 37.67 97 *e*P **P** **03 23 15.1 +0.1**
comp=Z,76nm,0.9s
V52A Sevierville 37.67 97 P **P** **03 23 14.6 -0.4**
baz=312,SNR=16
TKL Tuckaleechee C 37.68 97 P **P** **03 23 15.4 +0.2**
comp=Z,22nm,0.9s,baz=213,slow=1.7,SNR=13
TKL Tuckaleechee C 37.68 97 *e*P **P** **03 23 15.7 +0.5**
comp=Z,51nm,1.2s
TKL Tuckaleechee C 37.68 97 *e*P **P** **03 23 15.7 +0.5**
TKL pmax pmax
comp=Z,51nm,1.2s
Y50A Piedmont 37.69 101 P **P** **03 23 15.0 -0.2**
baz=314
Z49A Columbiana 37.70 102 P **P** **03 23 15.1 -0.2**
baz=315
446A Poplarville 37.75 108 P **P** **03 23 16.5 +0.8**
baz=318
248A Dixon Mills 37.76 105 P **P** **03 23 16.2 +0.4**
baz=316
X51A Calhoun 37.76 99 *e*P **P** **03 23 16.0 +0.2**
comp=Z,66nm,1.1s
X51A Calhoun 37.76 99 P **P** **03 23 15.4 -0.4**
baz=313,SNR=11
347A Saraland 37.78 106 P **P** **03 23 16.2 +0.2**
baz=317,SNR=6.6
U53A Fall Branch 37.95 95 P **P** **03 23 16.7 -0.7**
baz=311,SNR=5.4
149A Jones 37.96 103 P **P** **03 23 16.6 -0.9**
baz=315,SNR=11
W52A Murphy 37.97 98 *e*P **P** **03 23 17.9 +0.3**
comp=Z,62nm,1.0s
W52A Murphy 37.97 98 P **P** **03 23 16.7 -0.9**
baz=313,SNR=12
Z50A Ashland 38.02 102 *e*P **P** **03 23 17.7 -0.3**
comp=Z,18nm,0.9s
Z50A Ashland 38.02 102 P **P** **03 23 17.6 -0.5**
baz=315,SNR=8.4
Y51A Rockmart 38.09 100 P **P** **03 23 18.1 -0.5**
baz=314
348A Jackson 38.15 106 P **P** **03 23 19.1 0.0**
baz=317
447A Lucedale 38.16 107 P **P** **03 23 19.7 +0.5**
baz=318
249A Camden 38.21 104 P **P** **03 23 18.8 -0.8**
baz=316,SNR=9.6
V53A Saluda 38.26 96 *e*P **P** **03 23 20.3 +0.3**
comp=Z,55nm,1.0s
V53A Saluda 38.26 96 P **P** **03 23 20.0 0.0**
baz=312,SNR=19
X52A Dahlonega 38.32 98 P **P** **03 23 20.6 +0.1**
baz=313,SNR=6.1
FRNY Flat Rock 38.36 77 *e*P **P** **03 23 22.0 +1.3**
comp=Z,15nm,0.9s
W53A Cullowhee 38.38 97 P **P** **03 23 21.0 -0.2**
baz=312,SNR=24
150A Eclectic 38.42 103 P **P** **03 23 20.7 -0.6**
baz=315,SNR=6.1
Z51A Franklin 38.43 101 P **P** **03 23 21.4 0.0**
baz=314
349A Repton 38.62 105 P **P** **03 23 23.2 +0.2**
baz=317
BG3 Lake Jocassee 38.64 97 *e*P **P** **03 23 24.1 +0.9**
comp=Z,55nm,1.0s
250A Grady 38.72 104 *e*P **P** **03 23 24.4 +0.5**
comp=Z,31nm,0.7s
250A Grady 38.72 104 P **P** **03 23 23.7 -0.1**
baz=316,SNR=7.0
BLA Blacksburg 38.72 92 *e*P **P** **03 23 24.8 +0.9**
BLA Blacksburg 38.72 92 *e*P **P** **03 23 24.8 +0.9**
BLA pmax pmax
comp=Z,48nm,1.0s
BLA Blacksburg 38.72 92 P **P** **03 23 23.5 -0.4**
baz=310,SNR=9.2
Y52A Lilburn 38.72 99 *e*P **P** **03 23 24.2 +0.3**
comp=Z,20nm,1.0s
Y52A Lilburn 38.72 99 P **P** **03 23 24.0 +0.2**
baz=314
X53A Estanollee 38.74 98 P **P** **03 23 23.5 -0.6**
baz=313,SNR=9.1
Z52A Williamson 38.97 100 P **P** **03 23 25.5 -0.5**
baz=314
Y53A Monroe 39.02 99 P **P** **03 23 26.3 -0.1**
baz=314,SNR=5.6
251A Midway 39.15 103 P **P** **03 23 26.7 -0.8**
baz=316,SNR=5.5
152A Waverly Hall 39.15 101 *e*P **P** **03 23 27.0 -0.5**
comp=Z,19nm,1.0s
152A Waverly Hall 39.15 101 P **P** **03 23 26.8 -0.7**
baz=315,SNR=5.7
N59A State Game Lan 39.27 84 P **P** **03 23 28.0 -0.4**
baz=307
GOGA Godfrey 39.39 99 *e*P **P** **03 23 29.4 -0.1**
comp=Z,18nm,0.9s
GOGA Godfrey 39.39 99 *e*P **P** **03 23 29.4 -0.1**
GOGA pmax pmax
comp=Z,18nm,0.9s
GOGA Godfrey 39.39 99 P **P** **03 23 29.2 -0.3**
baz=314,SNR=7.7
Z53A Monticello 39.42 100 P **P** **03 23 28.9 -0.8**
baz=314,SNR=5.7
SEY Seymchan 39.43 316 P **P** **03 23 29.2 -0.3**
comp=Z,13nm,0.8s,baz=91,slow=6.4,SNR=22
SEY Seymchan 39.43 316⇑ *i*P **P** **03 23 30.1 +0.6**
PAULI Pauline 39.43 96 *e*P **P** **03 23 30.3 +0.5**
comp=Z,36nm,1.2s
KMSC Kings Mountain 39.51 95 *e*P **P** **03 23 30.9 +0.4**
comp=Z,34nm,1.3s
KMSC Kings Mountain 39.51 95 P **P** **03 23 30.0 -0.5**
baz=312
Y54A Tignall 39.55 98 P **P** **03 23 30.5 -0.3**
baz=314,SNR=12
HODGE Hodges 39.56 97 *e*P **P** **03 23 31.6 +0.7**
comp=Z,34nm,1.0s
351A Pinckard 39.61 104 P **P** **03 23 31.2 -0.2**
baz=316
252A Lumpkin 39.62 102 P **P** **03 23 30.9 -0.5**
baz=316
R58B Mineral 39.79 89 P **P** **03 23 32.7 0.0**
baz=310
352A Blakely 39.87 103 *e*P **P** **03 23 33.5 0.0**
comp=Z,28nm,1.0s
352A Blakely 39.87 103 P **P** **03 23 33.6 0.0**
baz=316
Z54A Sparta 39.89 99 P **P** **03 23 33.1 -0.6**
baz=314,SNR=5.3
253A Americus 39.93 101 *e*P **P** **03 23 34.5 +0.4**
comp=Z,50nm,1.0s
253A Americus 39.93 101 P **P** **03 23 33.3 -0.7**
baz=315,SNR=5.2
JSC Jenkinsville 40.13 96 *e*P **P** **03 23 35.8 +0.1**
comp=Z,45nm,1.1s
JSC Jenkinsville 40.13 96 *e*P **P** **03 23 35.8 +0.1**
JSC pmax pmax
comp=Z,45nm,1.1s
154A Montrose 40.16 100 *e*P **P** **03 23 36.3 +0.4**
comp=Z,89nm,1.4s
154A Montrose 40.16 100 P **P** **03 23 34.9 -1.0**
baz=315
452A Marianna 40.17 104 P **P** **03 23 35.4 -0.6**
baz=317
PET Petropavlovsk 40.52 299 *e*P **P** **03 23 39.2 +0.6**
comp=Z,64nm,1.1s
PET Petropavlovsk 40.52 299 *e*P **P** **03 23 39.1 +0.6**
PET pmax pmax
comp=Z,53nm,1.2s
254A Abbeville 40.52 101 P **P** **03 23 38.4 -0.5**
baz=315
155A Kite 40.54 99 P **P** **03 23 39.0 -0.1**
baz=315
PEA1 Petropavlovsk- 40.98 300 *e*P **P** **03 23 42.5 0.0**
PEA0B Petropavlovsk- 40.98 300 *e*P **P** **03 23 42.8 +0.3**
comp=Z,99nm,1.5s
PETK Petropavlovsk- 40.98 300 P **P** **03 23 42.5 0.0**
comp=Z,9.7nm,0.7s,baz=97,slow=10,SNR=13
156A Sylvania 41.11 98 P **P** **03 23 43.6 -0.1**
baz=314
NHSC New Hope 41.59 97 *e*P **P** **03 23 48.7 +1.0**
comp=Z,123nm,1.0s
NHSC New Hope 41.59 97 P **P** **03 23 47.8 +0.1**
baz=314
SUMG Summit 42.04 27 *e*P **P** **03 23 52.8 +1.5**
comp=Z,57nm,1.2s
SUMG Summit 42.04 27 *i* P **P** **03 23 52.8 +1.5**
comp=Z,118nm,1.1s
SUMG Summit 42.04 27 *i* P **P** **03 23 52.8 +1.5**
SUMG pmax pmax
comp=Z,120nm,1.1s
SKR Severo-Kuril's 43.05 298 *e*P **P** **03 23 59.7 +0.4**
SKR pmax pmax
comp=Z,133nm,1.2s
SKR MLR MLR
comp=Z,300nm,19.0s
TLIG Tlapa 43.54 130 *e*P **P** **03 24 04.6 +0.8**
comp=Z,14nm,1.3s
TIXI Tiksi 44.03 333 P **P** **03 24 07.4 +0.4**
comp=Z,1.5nm,0.9s,baz=92,slow=12,SNR=3.6
TIXI Tiksi 44.03 333⇑ *e*P **P** **03 24 07.1 +0.1**
TIXI pmax pmax
comp=Z,20nm,2.8s
TIXI MLR MLR
comp=Z,526nm,17.0s
DAG Danmarks Havn 44.46 18 *i* P **P** **03 24 11.0 +0.6**
comp=Z,26nm,1.2s
comp=Z,4µm,22.0s
DAG Danmarks Havn 44.46 18 *i* P **P** **03 24 11.0 +0.6**
DAG pmax pmax
comp=Z,40nm,1.2s
DAG MLR MLR
comp=Z,4µm,22.0s
YAK Yakutsk 49.06 322 P **P** **03 24 46.8 +0.2**
comp=Z,14nm,0.4s,baz=299,slow=3.1,SNR=4.0
YAK Yakutsk 49.06 322 *e*P **P** **03 24 46.8 +0.2**
comp=Z,43nm,0.6s
YAK Yakutsk 49.06 322 *e*P **P** **03 24 46.7 +0.2**
YAK *e**PP **sP** **03 24 53.6 +1.7**
YAK *e* 03 26 38.4
YAK *e*S **S** **03 31 45.7 -4.9**
YAK *e**SS sS 03 32 10.7 +14
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=Z,261nm,3.3s
YAK pmax pmax
comp=N,115nm,3.2s
YAK pmax pmax
comp=E,109nm,3.0s
YAK smax smax
comp=E,79nm,23.7s
YAK smax smax
comp=N,212nm,25.8s
YAK MLR MLR
comp=Z,451nm,15.0s
YAK MLR MLR
comp=N,728nm,16.0s
YAK MLR MLR
comp=E,120nm,16.0s
YSS Yuzh-Sakhalins 52.38 300⇑ *e*P **P** **03 25 13.7 +1.9**
YSS *e* 03 25 18.6
YSS pmax pmax
comp=Z,30nm,1.2s
GRNR Gornyy 53.15 308 *e*P **P** **03 25 17.9 +0.5**
GRNR pmax pmax
comp=Z,23nm,1.0s
NRIK Noril'sk 55.14 344 P **P** **03 25 31.6 -0.1**
comp=Z,7.0nm,0.8s,baz=331,slow=24,SNR=9.1
ZEA Zeya 55.40 315 *e*P **P** **03 25 33.4 -0.4**
ZEA pmax pmax
comp=Z,35nm,1.0s
ZEA MLR MLR
comp=N,400nm,15.0s
ZEA MLR MLR
comp=Z,900nm,15.0s
KLR Kul'dur 56.43 309 *d i*P **P** **03 25 40.6 -0.6**
H11N2 WAKE ISLAND Hy 57.08 259 T T 04 27 47.9
baz=39,slow=76,SNR=226
H11N3 WAKE ISLAND Hy 57.08 259 T T 04 27 48.0
baz=39,slow=76,SNR=4250
H11N1 WAKE ISLAND Hy 57.09 259 T T 04 27 49.2
baz=39,slow=76,SNR=261
ARA0 ARCESS Array S 57.23 9 *e*P **P** **03 25 46.7 +0.1**
ARCES ARCESS Array B 57.23 9 P **P** **03 25 46.7 +0.1**
comp=Z,3.3nm,0.8s,baz=22,slow=6.7,SNR=6.7
SDDR Presa de Saban 57.34 102 *e*P **P** **03 25 48.6 +0.4**
comp=Z,22nm,0.9s
BOD Bodaibo 57.70 325 *e*P P 03 25 44.2 -5.8
BOD pmax pmax
comp=Z,21nm,1.6s
H11S1 WAKE ISLAND Hy 58.13 259 T T 04 29 04.8
baz=39,slow=76,SNR=46
H11S2 WAKE ISLAND Hy 58.14 259 T T 04 29 13.5
baz=39,slow=76,SNR=73
H11S3 WAKE ISLAND Hy 58.15 259 T T 04 29 06.8
baz=39,slow=76,SNR=44
USRK Usuriysk Ar. 59.82 304 P **P** **03 26 04.9 -0.1**
comp=Z,7.2nm,0.8s,baz=46,slow=6.3,SNR=14
MSF Maaselka 61.09 9 P **P** **03 26 13.2 -0.1**
MSF pmax pmax
comp=Z,28nm,2.2s
HUMP Col San Antoni 61.27 98 *e*P **P** **03 26 15.5 +0.3**
comp=Z,24nm,1.0s
MTP Monte Pirata 61.49 97 *e*P **P** **03 26 17.2 +0.5**
comp=Z,35nm,1.0s
OUL Oulu 61.57 10 P **P** **03 26 15.9 -0.7**
OUL pmax pmax
comp=Z,44nm,1.5s
MAJO Matsushiro 61.96 294 *e*P **P** **03 26 18.5 -1.2**
MAJO Matsushiro 61.96 294 *e*P **P** **03 26 18.5 -1.2**
comp=Z,1.2nm,0.4s,baz=38,slow=4.3,SNR=4.0
MJAR LR LR 03 53 11.8
comp=Z,70nm,19.9s,baz=70,slow=36
NB2 NORSAR Subarra 63.11 19 P **P** **03 26 27.5 +0.5**
comp=Z,169nm,2.5s,baz=337,slow=6.5
NB2 NORSAR Subarra 63.11 19 P **P** **03 26 27.5 +0.5**
baz=337,slow=6.5
NB200 NORSAR Array S 63.11 19 *e*P **P** **03 26 27.5 +0.5**
NOA NORSAR Array B 63.11 19 P **P** **03 26 27.5 +0.5**
comp=Z,5.4nm,1.1s,baz=339,slow=6.6,SNR=4.3
NOA LR LR 03 55 06.9
comp=Z,1µm,19.7s,baz=335,slow=37
CN2 Changchun 63.35 308 *e*P P 03 26 34.4 +5.6
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 LR LR
comp=Z,230nm,12.0s
CN2 LR LR
comp=Z,320nm,12.0s
CN2 LR LR
comp=Z,350nm,15.0s
JOF Joensuu 64.23 8 P **P** **03 26 35.8 +1.5**
JOF pmax pmax
comp=Z,32nm,1.1s
BARC Barichara 66.07 112 *e*P **P** **03 26 46.4 -0.8**
TLY Talaya 66.22 326 *e*P **P** **03 26 48.0 +0.6**
comp=Z,24nm,1.2s
TLY Talaya 66.22 326 *e*P **P** **03 26 47.9 +0.5**
TLY *e*S **S** **03 35 37.5 +1.7**
TLY *e*SS **SS** **03 39 46.9 -3.8**
TLY pmax pmax
comp=Z,22nm,1.4s
TLY MLR MLR
comp=Z,352nm,14.0s
PRGR Permogore 66.26 1 *e*P **P** **03 26 46.6 -0.9**
PRGR pmax pmax
comp=Z,16nm,0.6s
YOTC Yotoco, Valle 66.44 116 *e*P **P** **03 26 49.2 -0.3**
RUSC La Rusia 66.70 112 *e*P **P** **03 26 49.9 -1.6**
KS01 Wonju Array Si 66.85 302 *e*P **P** **03 26 50.4 -1.3**
KSRS Korea Array 66.86 302 P **P** **03 26 50.7 -1.0**
comp=Z,0.7nm,0.3s,baz=32,slow=12,SNR=4.4
ROSC El Rosal 66.86 114 P **P** **03 26 52.5 0.0**
comp=Z,4.7nm,0.5s,baz=192,slow=20,SNR=5.6
ROSC El Rosal 66.86 114 *e*P **P** **03 26 52.5 0.0**
comp=Z,13nm,1.3s
KS15 Wonju Array Si 66.88 302 *e*P **P** **03 26 50.7 -1.2**
KSAR Wonju Array Be 66.88 302 P **P** **03 26 50.7 -1.2**
KSAR Wonju Array Be 66.88 302 P **P** **03 26 50.7 -1.2**
CHIC Chingaza 67.36 113 *e*P **P** **03 26 53.8 -1.8**
POPC Popayan, Colom 67.46 117 *e*P **P** **03 26 52.3 -3.8**
VSU Vasula 68.11 12⇓ *e*P **P** **03 26 59.5 +0.3**
VSU pmax pmax
comp=Z,67nm,1.2s
ULN Ulaanbaatar 68.15 322⇑ *e*P **P** **03 26 59.7 -0.2**
ULN pmax pmax
comp=Z,3.0nm,0.8s
SONA1 Songino Array 68.41 322 *e*P **P** **03 27 01.2 -0.3**
SONA0 Songino Array 68.42 322 *e*P **P** **03 27 00.9 -0.7**
SONM Songino Array 68.42 322 P **P** **03 27 00.9 -0.7**
comp=Z,2.2nm,0.9s,baz=38,slow=4.6,SNR=14
SONM LR LR 03 58 32.6
comp=Z,557nm,18.6s,baz=24,slow=37
OTAV Otavalo 68.44 120 *e*P **P** **03 27 03.7 +1.3**
comp=Z,36nm,1.4s
OTAV Otavalo 68.44 120 *e*P **P** **03 27 00.7 -1.8**
OTAV Otavalo 68.44 120 *ce*P **P** **03 27 03.8 +1.3**
OTAV pmax pmax
comp=Z,15nm,1.3s
FLOC Florencia 68.82 117 *e*P **P** **03 27 03.3 -1.0**
NVS Novosibirsk 69.17 339⇓ *i*P **P** **03 27 05.8 -0.2**
NVS pmax pmax
comp=Z,42nm,1.5s
NVS pmax pmax
comp=N,23nm,1.2s
NVS pmax pmax
comp=E,28nm,1.2s
ZAA1 Zalesovo Array 69.64 338 *e*P **P** **03 27 07.8 -1.0**
ZAA0 Zalesovo Array 69.64 338 *e*P **P** **03 27 09.0 +0.1**
comp=E,24nm,1.2s
ZALV Zalesovo Beam 69.64 338 P **P** **03 27 07.8 -1.0**
comp=E,3.8nm,0.7s,baz=16,slow=5.3,SNR=15
ZALV LR LR 04 01 26.5
comp=E,390nm,18.5s,baz=68,slow=39
HVS Khovu-Aksy 69.86 331⇓ *e*P **P** **03 27 09.6 -0.8**
HVS pmax pmax
comp=Z,29nm,1.3s
SVE Sverdlovsk 70.61 353 *e*P **P** **03 27 14.3 -0.5**
SVE pmax pmax
comp=Z,28nm,1.3s
BJI Beijing 70.64 311 P **P** **03 27 14.6 -0.6**
BJI pmax pmax
comp=Z,13nm,1.3s
ARU Arti 71.15 354 *d i*P **P** **03 27 17.7 -0.4**
ARU 03 29 55.1
ARU S **S** **03 36 35.8 +1.6**
ARU SS **SS** **03 41 07.7 +1.3**
ARU pmax pmax
comp=Z,32nm,1.7s
PPT Papeete 71.38 198 LR LR 03 50 44.2
comp=Z,476nm,20.3s,baz=344,slow=29
MOS Moscow 71.85 6 *e*P P 03 27 33.4 +11
MOS *e* 03 27 44.6
MOS MLR MLR
comp=Z,600nm,18.0s
SUW Suwalki 71.91 15 *e*P P 03 27 36.7 +14
HHC Hu-ho-hao-te 72.06 314 *e*P **P** **03 27 23.7 -0.3**
HHC pmax pmax
comp=Z,23nm,1.0s
HHC pmax pmax
comp=Z,290nm,7.4s
MICGM Minsk 72.12 12 *e* **PcP** **03 27 48.0 +5.8**
MICGM *e*LR LR 03 53 38.0
OBN Obninsk 72.39 7⇓ *e*P **P** **03 27 25.5 0.0**
OBN *PP **sP** **03 27 32.0 +1.0**
OBN *e* 03 27 42.6
OBN pmax pmax
comp=Z,32nm,1.7s
OBN MLR MLR
comp=Z,518nm,16.0s
CLL Collm 72.49 22 *e*P **P** **03 27 25.0 -1.2**
CLL *e* 03 27 36.0
CLL *e*S **S** **03 36 45.0 -4.7**
CLL *e*PS **PnS** **03 37 18.0 -1.7**
CLL *e*SS **SS** **03 41 36.0 +9.0**
CLL *e*SSS SSS 03 45 18.0
CLL LmV 04 00 00.0
comp=Z,700nm,18.3s
CLL Collm 72.49 22 *e*P **P** **03 27 25.0 -1.2**
CLL *e* 03 27 36.0
CLL *e*S **S** **03 36 45.0 -4.7**
CLL MLR MLR
comp=Z,700nm,18.3s
BRG Berggiesshubel 73.11 22 *e*P P 03 27 39.6 +10
comp=Z,15nm,1.3s
comp=N,713nm,20.1s
comp=E,388nm,17.3s
comp=Z,802nm,21.9s
BRG Berggiesshubel 73.11 22 *e*P P 03 27 39.6 +10
BRG pmax pmax
comp=Z,15nm,1.3s
BRG MLR MLR
comp=N,713nm,20.1s
BRG MLR MLR
comp=E,388nm,17.3s
BRG MLR MLR
comp=Z,802nm,21.9s
BRVK Borovoye 73.24 346 *e*P **P** **03 27 29.9 -0.8**
comp=Z,11nm,0.8s
BRVK Borovoye 73.24 346 *d i*P **P** **03 27 30.2 -0.4**
BRVK pmax pmax
comp=Z,93nm,2.5s
BVAR Borovoye Array 73.26 346 P **P** **03 27 29.3 -1.5**
comp=Z,2.6nm,0.8s,baz=20,slow=4.7,SNR=15
NKC Novy Kostel 73.36 23 AMS AMS 04 04 10.0
comp=Z,700nm,15.4s
PVCC Panska Ves 73.57 22 AMS AMS 03 59 40.0
comp=Z,800nm,15.7s
KSP Ksiaz 73.65 20 *e*P **P** **03 27 34.1 +1.0**
KSP Ksiaz 73.65 20 *e*P **P** **03 27 34.1 +1.0**
KURK Kurchatov 74.03 340 *e*P **P** **03 27 35.2 -0.1**
comp=Z,16nm,1.1s
KURK Kurchatov 74.03 340 *e*P **P** **03 27 35.2 -0.1**
KURK pmax pmax

	comp=Z,16nm,1.1s							
DPC	**Dobruska-Polom**	**74.12**	**21**	AMS	AMS	04 00 40.0		
	comp=Z,1μm,17.0s							
KURBB	**Kurchatov Arra**	**74.13**	**340**	P	**P**	**03 27 34.6**	**-1.3**	
	comp=Z,8.3nm,1.1s,baz=18,slow=5.4,SNR=24							
GOPC	**GO Pecny, Ondr**	**74.20**	**22**	AMS	AMS	04 00 20.0		
	comp=Z,1μm,23.4s							
AFI	**Afiamalu**	**74.48**	**220**	LR	LR	03 51 12.5		
	comp=Z,442nm,21.1s,baz=16,slow=28							
KRLC	**Kraliky**	**74.48**	**20**	*e*P	**P**	**03 27 36.5**	**-1.5**	
KRLC				*e*pP	**pP**	**03 27 41.4**	**-0.7**	
KRLC	**Kraliky**	**74.48**	**20**	*e*P	**P**	**03 27 36.5**	**-1.5**	
KRLC				*e**PP	**pP**	**03 27 41.4**	**-0.7**	
KHC	**Kasperske Hory**	**74.65**	**23**	*e*P	**P**	**03 27 37.0**	**-2.0**	
KHC				AMS	AMS	04 03 10.0		
	comp=Z,1μm,20.8s							
KHC	**Kasperske Hory**	**74.65**	**23**	*e*P	**P**	**03 27 37.0**	**-2.0**	
MORC	**Moravsky Berou**	**74.92**	**20**	*e*P	**P**	**03 27 41.9**	**+1.3**	
TREC	**Trest**	**74.94**	**21**	AMS	AMS	04 00 40.0		
	comp=Z,1μm,16.5s							
GERES	**GERESS Array B**	**74.95**	**23**	P	**P**	**03 27 40.1**	**-0.7**	
	comp=Z,1.2nm,0.8s,baz=64,slow=6.2,SNR=4.8							
GERES				LR	LR	04 02 32.3		
	comp=Z,676nm,18.2s,baz=350,slow=37							
OJC	**Ojcow**	**74.96**	**18**	*e*P	**P**	**03 27 41.2**	**+0.6**	
OJC	**Ojcow**	**74.96**	**18**	*e*P	**P**	**03 27 41.3**	**+0.6**	
OKC	**Ostrava-Krasne**	**74.99**	**20**	*e*P	**P**	**03 27 37.5**	**-3.4**	
OKC				AMS	AMS	04 02 10.0		
	comp=Z,800nm,16.0s							
OKC	**Ostrava-Krasne**	**74.99**	**20**	*e*P	**P**	**03 27 37.5**	**-3.4**	
LPSR	**Galich'ya Gora**	**75.06**	**6**	*e*P	**P**	**03 27 39.7**	**-1.5**	
LPSR				pmax	pmax			
	comp=Z,10.0nm,1.0s							
VRAC	**Vranov**	**75.17**	**21**	⇓*i*P	**P**	**03 27 43.2**	**+1.3**	
VRAC	**Vranov**	**75.17**	**21**	⇓P	**P**	**03 27 43.2**	**+1.3**	
VRAC	**Vranov**	**75.17**	**21**	*e*P	**P**	**03 27 43.2**	**+1.3**	
GUMO	**Guam**	**75.22**	**273**	LR	LR	03 52 29.0		
	comp=Z,250nm,20.9s,baz=72,slow=29							
KRUC	**Moravsky**	**75.36**	**21**	P	**P**	**03 27 43.9**	**+0.9**	
KRUC				pmax	pmax			
	comp=Z,7.0nm,1.7s							
KRUC	**Moravsky**	**75.36**	**21**	*e*P	**P**	**03 27 43.9**	**+0.9**	
MOTA	**Moosalm**	**75.70**	**25**	*e*PcP	P	03 27 55.6	+10	
	comp=Z,12nm,1.2s							
NJ2	**Nanjing**	**75.72**	**304**	*e*P	**P**	**03 27 46.7**	**+1.3**	
NJ2				pmax	pmax			
	comp=Z,11nm,1.0s							
WATA	**Walderalm**	**75.83**	**25**	*es*P	P	03 27 54.3	+8.3	
	comp=Z,5.5nm,0.8s							
SQTA	**Sankt Quirin**	**75.84**	**25**	*e*P	**P**	**03 27 46.9**	**+0.9**	
	comp=Z,13nm,1.2s							
FETA	**Feichten**	**75.90**	**25**	PcP	P	03 27 55.4	+9.0	
	comp=Z,13nm,1.2s							
WTTA	**Wattenberg**	**75.91**	**25**	*i* sP	P	03 27 54.3	+7.8	
	comp=Z,30nm,1.7s							
AKASG	**Malin Array Be**	**76.01**	**12**	P	**P**	**03 27 46.2**	**-0.5**	
	comp=Z,1.5nm,0.6s,baz=353,slow=5.7,SNR=12							
AKASG				LR	LR	04 03 39.1		
	comp=Z,604nm,19.4s,baz=335,slow=38							
AKBB	**Malin Array Si**	**76.01**	**12**	*e*P	**P**	**03 27 46.2**	**-0.5**	
MOA	**Molln**	**76.01**	**23**	*i* sP	P	03 27 55.0	+8.2	
	comp=Z,20nm,2.1s							
KIEV	**Kiev**	**76.02**	**12**	*e*P	**P**	**03 27 45.7**	**-1.0**	
	comp=Z,22nm,1.3s							
KIEV	**Kiev**	**76.02**	**12**	*e*P	**P**	**03 27 45.7**	**-1.0**	
KIEV				pmax	pmax			
	comp=Z,22nm,1.3s							
MODS	**Modra-Piesok**	**76.20**	**21**	*e*P	**P**	**03 27 48.5**	**+0.6**	
MODS				pmax	pmax			
	comp=Z,71nm,2.1s							
MODS	**Modra-Piesok**	**76.20**	**21**	*e*P	**P**	**03 27 48.5**	**+0.6**	
CONA	**Conrad Observa**	**76.31**	**22**	*i* PcP	P	03 27 57.5	+8.9	
	comp=Z,12nm,1.5s							
VYHS	**Vyhne**	**76.41**	**20**	*e*P	**P**	**03 27 49.1**	**0.0**	
VYHS				pmax	pmax			
	comp=Z,110nm,3.3s							
VYHS	**Vyhne**	**76.41**	**20**	*e*P	**P**	**03 27 49.1**	**0.0**	
VSR	**Storozhevoye**	**76.45**	**6**	*e*P	**P**	**03 27 46.4**	**-2.8**	
VSR				pmax	pmax			
	comp=Z,20nm,1.6s							
VRH	**Novokhopyorsk**	**76.60**	**4**	*e*P	**P**	**03 27 47.3**	**-2.7**	
VRH				pmax	pmax			
	comp=Z,9.0nm,0.7s							
VORD	**Divnogorie**	**76.71**	**6**	*e*P	**P**	**03 27 49.4**	**-1.2**	
VORD				pmax	pmax			
	comp=Z,20nm,1.4s							
ARSA	**Arzberg**	**76.87**	**22**	*i* PcP	P	03 28 03.6	+12	
	comp=Z,23nm,1.8s							
MK31	**Makanchi Array**	**76.89**	**337**	*e*P	**P**	**03 27 51.0**	**-0.9**	
MK31	**Makanchi Array**	**76.89**	**337**	*e*P	**P**	**03 27 51.0**	**-0.9**	
MK32	**Makanchi Array**	**76.89**	**337**	*e*P	**P**	**03 27 50.9**	**-0.9**	
MKAR	**Makanchi Array**	**76.89**	**337**	P	**P**	**03 27 50.9**	**-0.9**	
	comp=Z,2.5nm,0.7s,baz=30,slow=5.1,SNR=15							
MKAR				LR	LR	04 04 25.8		
	comp=Z,316nm,19.4s,baz=3.0,slow=38							
MKAR	**Makanchi Array**	**76.89**	**337**	*e*P	**P**	**03 27 51.0**	**-0.9**	
	comp=Z,58nm,1.0s							
MKAR	**Makanchi Array**	**76.89**	**337**	*e*P	**P**	**03 27 51.0**	**-0.9**	
MKAR				pmax	pmax			
	comp=Z,58nm,1.0s							
MK01	**Makanchi Array**	**76.92**	**337**	*e*P	**P**	**03 27 50.6**	**-1.4**	
UZH	**Uzhgorod**	**76.95**	**17**	*e*P	P	03 27 40.0	-12	
UZH				*i*		03 28 07.6		
MAKZ	**Makanchi**	**76.96**	**337**	*e*P	**P**	**03 27 51.9**	**-0.3**	
	comp=Z,24nm,1.1s							
MAKZ	**Makanchi**	**76.96**	**337**	*e*P	**P**	**03 27 51.9**	**-0.3**	
MAKZ				pmax	pmax			
	comp=Z,24nm,1.1s							
MYKA	**Terra Mystica**	**77.00**	**24**	*i* sP	P	03 28 00.3	+7.8	
	comp=Z,16nm,1.5s							
PSZ	**Piszkesteto**	**77.17**	**19**	⇑*i*P	**P**	**03 27 54.1**	**+0.6**	
PSZ	**Piszkesteto**	**77.17**	**19**	⇑P	**P**	**03 27 54.1**	**+0.6**	
RAR	**Rarotonga**	**77.25**	**207**	LR	LR	03 56 27.1		
	comp=Z,662nm,18.1s,baz=344,slow=32							
SOKA	**Soboth**	**77.29**	**23**	PcP	P	03 28 04.9	+11	
	comp=Z,16nm,1.6s							
OBKA	**Obir**	**77.34**	**23**	P	**P**	**03 27 54.1**	**-0.3**	
	comp=Z,35nm,1.6s							
TRPA	**Tarpa**	**77.47**	**17**	⇑*i*P	P	03 27 59.9	+4.9	
ESDC	**Sonseca Array**	**77.76**	**38**	P	**P**	**03 27 57.0**	**+0.2**	
	comp=Z,0.7nm,0.7s,baz=329,slow=6.0,SNR=4.9							
ESDC				LR	LR	04 01 35.6		
	comp=Z,436nm,18.2s,baz=325,slow=35							
ES19	**SONSECA Array**	**77.76**	**38**	*e*P	**P**	**03 27 57.6**	**+0.8**	
GTA	**Gaotai**	**78.09**	**322**	⇓P	P	03 28 04.9	+6.1	
GTA				pP	PcP	03 28 09.0	+0.6	
GTA				sP	sP	03 28 12.0	+7.7	
GTA				S	**S**	**03 37 58.2**	**+5.6**	
GTA				pmax	pmax			
	comp=Z,8.0nm,1.2s							
GTA				pmax	pmax			
	comp=Z,86nm,6.5s							
GTA				LR	LR			
	comp=N,610nm,20.6s							
GTA				LR	LR			
	comp=E,360nm,19.4s							
GTA				LR	LR			
	comp=Z,520nm,19.0s							
ABKAR	**Akbulak array**	**78.18**	**352**	*e*P	**P**	**03 27 58.5**	**-0.5**	
WMQ	**Urumqi**	**78.21**	**332**	P	**P**	**03 28 00.0**	**+0.7**	
WMQ				pP	sP	03 28 06.5	+1.6	
WMQ				S	**S**	**03 37 57.5**	**+3.9**	
WMQ				SS	**SS**	**03 42 59.1**	**+4.8**	
WMQ				pmax	pmax			
	comp=Z,47nm,1.5s							
WMQ				LR	LR			
	comp=Z,900nm,14.9s							
WMQ				LR	LR			
	comp=Z,1μm,21.1s							
WMQ				LR	LR			
	comp=Z,590nm,19.1s							
SORM	**Soroca**	**78.41**	**13**	⇑*i*P	**P**	**03 28 00.7**	**+0.5**	
SORM	**Soroca**	**78.41**	**13**	⇑P	**P**	**03 28 00.7**	**+0.5**	
BURAR	**Bucovina Array**	**78.43**	**16**	⇓*i*P	P	03 28 08.4	+7.9	
DRGR		**78.79**	**17**	⇓*i*P	**P**	**03 28 03.2**	**+0.7**	
DRGR		**78.79**	**17**	⇓P	**P**	**03 28 03.2**	**+0.7**	
XAN	**Xi'an**	**78.87**	**312**	P	**P**	**03 28 00.9**	**-2.2**	
XAN				pP	sP	03 28 08.8	+0.2	
XAN				pmax	pmax			
	comp=Z,18nm,1.5s							
XAN				pmax	pmax			
	comp=Z,200nm,4.2s							
BIZ	**Bicaz**	**79.23**	**15**	⇓*i*P	**P**	**03 28 05.5**	**+0.7**	
LZH	**Lanzhou**	**79.35**	**317**	*e*P	**P**	**03 28 06.1**	**+0.3**	
LZH				pP	sP	03 28 11.0	-0.4	
LZH				sP	PcP	03 28 13.0	-1.0	
LZH				PP	**PP**	**03 31 08.0**	**+2.9**	
LZH				pmax	pmax			
	comp=Z,75nm,1.3s							
LZH				pmax	pmax			
	comp=Z,450nm,7.0s							
LZH				LR	LR			
	comp=Z,540nm,16.8s							
LZH				LR	LR			
	comp=Z,880nm,16.3s							
LZH				LR	LR			
	comp=Z,890nm,18.4s							
KIS	**Kishinev**	**79.58**	**13**	*e*P	**P**	**03 28 04.0**	**-2.7**	
KIS				*e*L	L	03 51 30.0		
KIS				LRM	MLR	04 00 10.0		
	comp=Z,800nm,26.0s							
KIS	**Kishinev**	**79.58**	**13**	*e*P	**P**	**03 28 04.0**	**-2.7**	
KIS				*e*		03 28 20.0		
KIS				*e*		03 38 18.0		
KIS				*e*		03 38 48.0		
PTGA	**Pitinga**	**79.66**	**105**	*e*P	**P**	**03 28 07.3**	**-0.2**	
	comp=Z,13nm,1.0s							
DOPR	**Dopca**	**80.06**	**16**	⇓*i*P	**P**	**03 28 10.2**	**+0.9**	
VRI	**Vrincioaia**	**80.38**	**15**	⇓*i*P	**P**	**03 28 11.9**	**+0.9**	
VRI	**Vrincioaia**	**80.38**	**15**	⇓P	**P**	**03 28 11.9**	**+0.9**	
PLOR	**Plostina**	**80.38**	**15**	⇑*i*P	**P**	**03 28 11.5**	**+0.4**	
PLOR	**Plostina**	**80.38**	**15**	⇑P	**P**	**03 28 11.5**	**+0.4**	
VOIR		**80.52**	**16**	⇓*i*P	**P**	**03 28 13.0**	**+1.1**	
VOIR		**80.52**	**16**	⇓P	**P**	**03 28 13.0**	**+1.1**	
CFR	**Carcaliu**	**81.27**	**14**	⇑*i*P	**P**	**03 28 16.6**	**+0.9**	
CFR	**Carcaliu**	**81.27**	**14**	⇑P	**P**	**03 28 16.6**	**+0.9**	
SIM	**Simferopol'**	**82.25**	**10**	*e*P	**P**	**03 28 22.6**	**+1.6**	
SIM				*e*PS	**PnS**	**03 39 30.0**	**+5.7**	
SIM				pmax	pmax			
	comp=Z,90nm,10.4s							
FRU	**Bishkek**	**82.37**	**341**	*e*P	**P**	**03 28 20.0**	**-1.7**	
AAK	**Ala-Archa**	**82.58**	**341**	*e*P	**P**	**03 28 22.5**	**-0.4**	
	comp=Z,16nm,1.3s							
AAK	**Ala-Archa**	**82.58**	**341**	⇑*e*P	**P**	**03 28 22.9**	**-0.1**	
AAK				pmax	pmax			
	comp=Z,36nm,1.7s							
GOF	**Gofitskoye**	**82.79**	**4**	*e*P	**P**	**03 28 24.2**	**+0.4**	
GOF				pmax	pmax			
	comp=Z,20nm,1.4s							
KK31	**Karatay Array**	**82.88**	**344**	*e*P	**P**	**03 28 23.6**	**-0.7**	
KK31	**Karatay Array**	**82.88**	**344**	*e*P	**P**	**03 28 23.6**	**-0.7**	
KKAR	**Karatay Array**	**82.88**	**344**	*e*P	**P**	**03 28 23.6**	**-0.7**	
KKAR	**Karatay Array**	**82.88**	**344**	*e*P	**P**	**03 28 23.6**	**-0.7**	
CD2	**Chengdu**	**83.82**	**314**	*e*P	**P**	**03 28 20.0**	**-1.4**	
KIV	**Kislovodsk**	**83.88**	**4**	*e*P	**P**	**03 28 28.5**	**-1.0**	
	comp=Z,20nm,1.1s							
KIV	**Kislovodsk**	**83.88**	**4**	*e*P	**P**	**03 28 29.4**	**-0.1**	
KIV				pmax	pmax			
	comp=Z,19nm,1.1s							
KIV				MLR	MLR			
	comp=Z,360nm,20.0s							
KBZ	**Khabaz**	**84.11**	**4**	P	**P**	**03 28 29.7**	**-0.8**	
	comp=Z,4.8nm,1.0s,baz=321,slow=6.0,SNR=7.0							
KBZ				LR	LR	04 11 42.2		
	comp=Z,250nm,18.1s,baz=354,slow=40							
KNT	**Kendrikon**	**84.26**	**19**	P	**P**	**03 28 31.7**	**+0.3**	
KNT				pmax	pmax			
	comp=Z,16nm,2.4s							
NCK	**Nalchik**	**84.37**	**3**	⇓*e*P	**P**	**03 28 32.3**	**+0.3**	
NCK				pmax	pmax			
	comp=Z,48nm,1.4s							
HNR	**Honiara**	**84.46**	**247**	LR	LR	04 01 09.8		
	comp=Z,491nm,18.9s,baz=22,slow=32							
NEY	**Neytrino**	**84.58**	**4**	⇑*e*P	**P**	**03 28 33.2**	**0.0**	
NEY				pmax	pmax			
	comp=Z,5.0nm,1.4s							
GROC	**Groznyy**	**84.72**	**2**	*e*P	**P**	**03 28 30.5**	**-3.2**	
GROC				*e*S	S	03 38 51.5	-9.3	
GROC				pmax	pmax			
	comp=Z,8.0nm,0.4s							
ZEI	**Tsey**	**85.09**	**3**	*e*P	**P**	**03 28 33.3**	**-2.5**	
ZEI				pmax	pmax			
	comp=Z,8.0nm,1.5s							
LIT	**Litokhoron**	**85.20**	**19**	*e*P	**P**	**03 28 37.3**	**+1.1**	
	comp=Z,33nm,1.4s							
LIT	**Litokhoron**	**85.20**	**19**	*e*P	**P**	**03 28 37.3**	**+1.1**	
LIT				pmax	pmax			
	comp=Z,33nm,1.4s							
KSH	**Kashi**	**85.26**	**339**	P	**P**	**03 28 38.5**	**+1.9**	
KSH				sP	sP	03 28 45.4	+3.2	
KSH				PP	**PP**	**03 31 56.9**	**+3.5**	
KSH				S	**S**	**03 39 05.4**	**-1.2**	
KSH				pmax	pmax			
	comp=Z,38nm,1.2s							
KSH				pmax	pmax			
	comp=Z,350nm,5.4s							
KSH				LR	LR			
	comp=Z,420nm,12.8s							
KSH				LR	LR			
	comp=Z,300nm,11.7s							
KSH				LR	LR			
	comp=Z,860nm,21.7s							
KEST	**Kesra**	**85.93**	**31**	LR	LR	04 07 58.7		
	comp=Z,1μm,18.2s,baz=244,slow=36							
TBLG	**Delisi**	**86.17**	**2**	*e*P	**P**	**03 28 42.4**	**+1.4**	
	comp=Z,12nm,0.9s							
TBLG	**Delisi**	**86.17**	**2**	*e*P	**P**	**03 28 42.4**	**+1.4**	
TBLG				pmax	pmax			
	comp=Z,12nm,0.9s							
BR101	**Keskin Array S**	**87.36**	**11**	*e*P	**P**	**03 28 45.6**	**-1.4**	
BR131	**Keskin Array S**	**87.36**	**11**	*e*P	**P**	**03 28 47.7**	**+0.7**	
BRTR	**Keskin Array B**	**87.36**	**11**	P	**P**	**03 28 45.6**	**-1.4**	
	comp=Z,2.2nm,1.0s,baz=158,slow=1.3,SNR=8.3							
GNI	**Garni**	**87.75**	**3**	⇑*e*P	**P**	**03 28 50.1**	**+1.2**	
GNI				pmax	pmax			
	comp=Z,65nm,2.5s							
LPAZ	**La Paz**	**87.76**	**120**	P	**P**	**03 28 47.9**	**-1.7**	
	comp=Z,8.4nm,0.9s,baz=356,slow=6.6,SNR=24							
LPAZ				LR	LR	04 11 28.6		
	comp=Z,78nm,18.1s,baz=341,slow=38							
LPAZ	**La Paz**	**87.76**	**120**	*e*P	**P**	**03 28 47.6**	**-2.0**	
	comp=Z,18nm,0.9s							
LPAZ	**La Paz**	**87.76**	**120**	*e*P	**P**	**03 28 47.6**	**-2.0**	
LPAZ				pmax	pmax			
	comp=Z,18nm,0.9s							
KMI	**Kunming**	**89.25**	**312**	P	**P**	**03 28 54.5**	**-1.8**	
KMI				pmax	pmax			
	comp=Z,12nm,0.6s							
KMI				pmax	pmax			
	comp=Z,140nm,3.9s							
JAY	**Jayapura**	**90.36**	**266**	LR	LR	04 13 05.4		
	comp=Z,7.7nm,18.2s,slow=38							
SHL	**Shillong**	**93.42**	**321**	P	**P**	**03 29 13.8**	**-1.8**	
CM31	**Chiang Mai Arr**	**96.77**	**312**	*e*P	**P**	**03 29 29.9**	**-0.9**	
CMAR	**Chiang Mai Arr**	**96.77**	**312**	P	**P**	**03 29 29.9**	**-0.9**	
	comp=Z,1.2nm,0.3s,baz=3.9,slow=4.9,SNR=5.5							
CMAR				LR	LR	04 16 09.1		
	comp=Z,95nm,18.9s,baz=20,slow=37							
BDFB	**Brasilia**	**98.59**	**104**	LR	LR	04 17 14.5		
	comp=Z,129nm,20.2s,baz=35,slow=37							
KMBO	**Kilima Mbogo**	**128.07**	**14**	PKP	**PKPdf**	**03 35 06.3**	**-0.2**	
	comp=Z,2.9nm,1.0s,baz=58,slow=2.3,SNR=5.0							
KMBO	**Kilima Mbogo**	**128.07**	**14**	*e*PKPdf	**PKPdf**	**03 35 07.3**	**+0.8**	
KMBO	**Kilima Mbogo**	**128.07**	**14**	*e*PKIKP	**PKPdf**	**03 35 07.3**	**+0.8**	
QSPA	**South Pole Qui**	**142.24**	**180**	PKhKP	PKPpre	03 35 25.8		
	comp=Z,4.0nm,0.9s,baz=112,slow=1.8,SNR=7.3							
QSPA	**South Pole Qui**	**142.24**	**180**	*e*PKPpre	PKPpre	03 35 25.8		
QSPA				*e*PKPpre	PKPpre	03 35 25.9		
CASY	**Casey**	**146.88**	**221**	*e*PKPdf	**PKPdf**	**03 35 39.4**	**+0.6**	
SNAA	**Sanae**	**150.72**	**150**	PKP	**PKPdf**	**03 35 43.4**	**-1.7**	
	comp=Z,1.0nm,0.5s,baz=235,slow=7.6,SNR=5.1							
SNAA				PKPbc	**pPKPdf**	**03 35 49.7**	**+0.4**	
	comp=Z,11nm,1.1s,baz=350,slow=3.2,SNR=11							
BOSA	**Boshof**	**150.80**	**44**	PKPbc	**PKPbc**	**03 35 52.0**	**-0.2**	
	comp=Z,8.3nm,1.0s,baz=115,slow=1.7,SNR=5.5							
MIR	**Mirnyy**	**153.89**	**220**	*e*PKIKP	**PKPbc**	**03 35 56.0**	**-1.7**	
MIR				*e*		03 36 11.0		
MIR				pmax	pmax			
	comp=Z,42nm,1.0s							
MAW	**Mawson**	**163.16**	**200**	PKP	**PKPdf**	**03 36 02.0**	**+1.1**	
	comp=Z,2.3nm,1.0s,baz=259,slow=5.2,SNR=5.7							
MAW	**Mawson**	**163.16**	**200**	PKP	**PKPdf**	**03 36 02.0**	**+1.1**	
MAW				*e*PKPdf	**sPKPdf**	**03 36 06.8**	**+0.3**	
MAW	**Mawson**	**163.16**	**200**	PKIKP	**PKPdf**	**03 36 02.0**	**+1.1**	
MAW				*e*		03 36 06.8		

*PGC **01** 03:23:36.2,52°.28N×132°.37W,h17km, 113km Ssw of Sandspit, Bc Haida Gwaii Region*

*IDC **01** 03:23:36.6±2.5,52°.36N×132°.04W,h0km,mb3.4/1, mb1 4.0/4,mb1mx3.6/49,mbtmp3.6/4,ML3.6/4,Error ellipse: s-maj=39.4km s-min=8.4km az=55.0*

*ISCJB **01** 03:23:37.6±1.4,52°.5N±0°.1×131°.8W±0°.2,h10km,mb3.2/1, Error ellipse: s-maj=23.0km s-min=7.7km az=37.5*

ISC 01 03:23:38.3±1.6,52°.5N±0°.2×131°.8W±0°.1,h10km,n8, σ1§66/9,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H02S1	**DAWSON INLET T**	**0.86**	**330**	Pg	**Pg**	**03 23 53.4**	**-1.5**
H02S1				Lg	Lg	03 24 05.6	
	SNR=303						
H02N1	**VAN INLET T-PH**	**0.92**	**330**	Pg	**Pg**	**03 23 54.6**	**-1.5**
H02N1				Lg	Lg	03 24 07.5	
	SNR=457						
BBB	**Bella Bella**	**2.26**	**96**	Pn	**Pn**	**03 24 15.4**	**-0.3**
	4.8nm,0.3s,baz=269,slow=7.0,SNR=6.8						
BBB				Sn	**Sn**	**03 24 43.4**	**-0.2**
	16nm,0.3s,baz=306,slow=8.9,SNR=6.4						
DLBC	**Dease Lake**	**6.07**	**9**	Pn	**Pn**	**03 25 10.9**	**+2.7**
	1.4nm,0.3s,baz=195,slow=10.0,SNR=10.0						
YKA	**Yellowknife Ar**	**13.60**	**36**	Pn	**Pn**	**03 26 51.4**	**+0.4**
	0.2nm,0.3s,baz=225,slow=11,SNR=3.9						
ILAR	**Eielson Array**	**14.58**	**334**	Pn	**P**	**03 27 10.2**	**-0.8**
	0.0nm,0.3s,baz=152,slow=11,SNR=5.2						
PDAR	**Pinedale Array**	**17.77**	**114**	P	**P**	**03 27 48.4**	**+1.7**
	0.1nm,0.3s,baz=325,slow=7.2,SNR=4.6						
TXAR	**Lajitas Array**	**31.04**	**127**	P	**P**	**03 29 57.2**	**+1.0**
	0.2nm,0.5s,baz=334,slow=8.0,SNR=3.6						

STR 01 03:26:30.5±0.6,49°N±2°×°±°,h16km±5km,MLv0.9/5, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LANF	**Langenburg**	**0.25**	**232**	Pg	Pg	03 26 35.8	-0.2
LANF				Sg	Sg	03 26 39.7	0.0
OPP	**Oppenau**	**0.64**	**175**	Pg	Pb	03 26 43.3	+0.1
ABH	**Alteburg**	**0.83**	**334**	Pg	Pb	03 26 46.4	-0.2
ABH				Sg	Sb	03 26 57.5	-0.1
KIZ	**Kirchzarten**	**1.19**	**186**	Pg	Pb	03 26 52.8	+0.2
KIZ				Sg	Sg	03 27 08.6	-0.2

*PGC **01** 03:27:10.6±1.1,52°.24N×132°.25W,h20km,ML4.4/19, Mw4.6, 115km Ssw of Sandspit, Bc Haida Gwaii Region*

*IDC **01** 03:27:11.2±0.6,52°.34N×132°.32W,h0km,mb4.3/18, mb1 4.5/25,mb1mx4.3/53,mbtmp4.3/25,ML4.1/6,MS3.8/8, Ms1 3.7/8,ms1mx3.4/41,Error ellipse: s-maj=13.5km s-min=6.5km az=66.0*

*NEIC **01** 03:27:13.4±0.8,52°.42N×132°.19W,h11km±4km,mb4.4/108, MW4.6(OTT),Error ellipse: s-maj=6.7km s-min=2.3km az=55.0*

*ISCJB **01** 03:27:14.3±0.5,52°.45N±0°.02×131°.97W±0°.05,h29km±3km, mb4.4/70,MS3.6/2,Error ellipse: s-maj=5.8km s-min=2.4km az=150.1*

ISC 01 03:27:14.0±0.9,52°.37N±0°.04×132°.10W±0°.04,h17km±4km, n417,σ1§64/408,mb4.5/70,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNB	**Barry Inlet**	**0.30**	**45**	P	**Pg**	**03 27 20.0**	**-0.4**
BNB				S	**Sg**	**03 27 25.2**	**+0.3**
BNB	**Barry Inlet**	**0.30**	**45**	P	**Pg**	**03 27 20.0**	**-0.4**
BNB				S	**Sg**	**03 27 25.2**	**+0.3**
MOBC	**Moresby Island**	**0.78**	**6**	P	**Pb**	**03 27 27.5**	**-1.8**
MOBC				S	**Sb**	**03 27 38.2**	**-1.4**
MOBC	**Moresby Island**	**0.78**	**6**	P	**Pb**	**03 27 27.5**	**-1.8**
MOBC				S	**Sb**	**03 27 38.2**	**-1.4**
DIB	**Dawson Inlet,**	**0.87**	**345**	P	**Pb**	**03 27 28.1**	**-2.6**
DIB	**Dawson Inlet,**	**0.87**	**345**	P	**Pb**	**03 27 28.1**	**-2.6**
H02S1	**DAWSON INLET T**	**0.87**	**345**	Pg	**Pb**	**03 27 27.8**	**-2.8**
H02S1				Lg	Lg	03 27 39.1	
	SNR=1209						
H02N1	**VAN INLET T-PH**	**0.93**	**343**	Pg	**Pb**	**03 27 28.8**	**-2.9**
H02N1				Lg	Lg	03 27 40.6	
	SNR=1098						
VIB	**Van Inlet**	**0.93**	**343**	P	**Pb**	**03 27 29.0**	**-2.7**
VIB	**Van Inlet**	**0.93**	**343**	P	**Pb**	**03 27 29.0**	**-2.7**
BNAB	**Bonilla**	**1.44**	**38**	Pn	**Pn**	**03 27 37.3**	**-1.9**
BNAB				Sg	**Sn**	**03 27 57.8**	**0.0**
BNAB	**Bonilla**	**1.44**	**38**	Pn	**Pn**	**03 27 37.3**	**-1.9**
BNAB				Sg	**Sn**	**03 27 57.8**	**0.0**
MASB	**Masset**	**1.65**	**2**	Pn	**Pn**	**03 27 40.5**	**-1.7**
MASB	**Masset**	**1.65**	**2**	Pn	**Pn**	**03 27 40.5**	**-1.7**
NDB	**Naden**	**1.67**	**343**	Pn	**Pn**	**03 27 40.1**	**-2.5**
NDB				Sg	**Sn**	**03 28 00.4**	**-3.2**
NDB	**Naden**	**1.67**	**343**	Pn	**Pn**	**03 27 40.1**	**-2.

H04D Lebanon 10.01 138 P Pn 03 29 40.6 +3.6
baz=325
H04A Detroit Lake 10.11 136 ePn Pn 03 29 40.4 +2.0
F07A Phinny Hill Vi 10.27 124 ePn Pn 03 29 42.5 +2.1
NEW Newport 10.42 107 Pn Pn 03 29 43.8 +1.1
0.2nm,0.3s,baz=301,slow=18,SNR=2.9
NEW Lg Lg 03 32 43.2
0.1nm,0.3s,baz=29,slow=18,SNR=4.8
I03D Drain, OR 10.46 143 P Pn 03 29 45.2 +2.1
baz=329
J01E Myrtle Point 10.72 146 P Pn 03 29 49.8 +3.1
baz=332
I04A Tendick Farm, 10.74 139 P Pn 03 29 49.4 +2.4
baz=326,SNR=14
E09A Wood Farm, Sta 10.80 117 ePn Pn 03 29 49.3 +1.5
K02D Willamette Mer 11.22 146 P Pn 03 29 56.2 +2.6
baz=332,SNR=5.4
J04D Umpqua Nationa 11.32 140 P Pn 03 29 59.5 +4.3
baz=327
HUMO Hull Mountain 11.55 144 ePn Pn 03 29 59.4 +1.4
F10A Beach Ranch, E 11.64 117 ePn Pn 03 30 01.9 +2.6
J05D Fort Rock, OR 11.64 137 P Pn 03 30 02.0 +2.5
baz=325,SNR=12
L02E Cave Junction 11.72 147 P Pn 03 30 03.7 +3.2
baz=334
K04D Chiloquin, OR 11.98 140 P Pn 03 30 07.5 +3.4
baz=328
L04D Klamath Falls 12.12 143 P Pn 03 30 09.1 +3.0
baz=330
K05A Summer Lake 12.25 138 ePn Pn 03 30 09.9 +2.2
JTMT Jette 12.34 105 ePn Pn 03 30 11.8 +2.8
YBH Yreka Blue Hor 12.40 145 Pn Pn 03 30 10.8 +1.0
0.1nm,0.3s,baz=359,slow=6.7,SNR=7.8
YBH LR LR 03 33 57.0
comp=Z,522nm,20.0s,baz=328,slow=33
YBH Yreka Blue Hor 12.40 145 ePn Pn 03 30 12.6 +2.8
M02C Callahan 12.66 147 P Pn 03 30 16.0 +2.7
baz=333
M04C Macdoel 12.67 143 P Pn 03 30 16.1 +2.6
baz=330
J08A Circle Bar Ran 12.82 129 ePn Pn 03 30 17.9 +2.3
MSO Missoula 13.00 108 ePn Pn 03 30 19.6 +1.5
MSO Missoula 13.00 108 P Pn 03 30 19.5 +1.5
baz=302
N02D Trinity Center 13.08 147 P Pn 03 30 22.0 +2.9
baz=334
MOD Modoc Plateau 13.17 138 ePn Pn 03 30 20.3 0.0
RIDG Independ'e Rid 13.21 335 ePn P 03 30 33.2 +2.6
DHY Denali Highway 13.44 329 ePn Pn 03 30 25.5 +1.6
KMRM Mail Ridge 13.45 151 ePn Pn 03 30 23.9 -0.1
WVOR Wild Horse Val 13.46 132 ePn Pn 03 30 22.9 -1.4
WDC Whiskeytown Da 13.49 147 ePn Pn 03 30 24.9 +0.4
YKA Yellowknife Ar 13.79 36 Pn Pn 03 30 27.3 -1.2
0.4nm,0.3s,baz=229,slow=12,SNR=12
YKA Lg Lg 03 34 28.4
0.1nm,0.3s,baz=223,slow=25,SNR=2.7
YKA LR LR 03 36 03.8
comp=Z,64nm,19.9s,baz=234,slow=38
YKW3 Yellowknife Ar 13.83 36 ePn Pn 03 30 28.3 -0.8
RND Reindeer 14.15 328 ePn P 03 30 42.2 +1.2
MCK McKinley 14.40 329 ePn Pn 03 30 38.8 +1.9
IL1 Eielson Array 14.58 334 ePn Pn 03 30 42.3 +3.0
ILAR Eielson Array 14.58 334 Pn Pn 03 30 41.4 +2.1
0.2nm,0.3s,baz=150,slow=11,SNR=39
ILB Eielson Array 14.58 334 ePn Pn 03 30 41.4 +2.1
TRF Thorofare Moun 14.65 326 ePn Pn 03 30 41.1 +0.6
WRH Wood River Hil 14.68 332 ePn Pn 03 30 41.7 +1.0
HLID Hailey 14.73 120 ePn Pn 03 30 41.8 +0.1
HLID Hailey 14.73 120 P P 03 30 45.1 -2.6
baz=313
CCB Clear Creek Bu 14.73 333 ePn Pn 03 30 43.1 +1.7
ORV Oroville 14.76 146 ePn Pn 03 30 44.2 +2.3
GMKM Mount Konoctai 14.88 151 esP P 03 31 11.2 +22
BEKR Beckworth 14.89 142 ePn Pn 03 30 44.6 +0.7
EGMT Eagleton 14.94 98 ePn Pn 03 30 45.0 +0.7
MDM Murphy Dome 15.09 333 ePn P 03 30 49.9 -1.5
55nm,1.8s
MDM ePcP PcP 03 35 56.7 +3.9
PAHR Pah Rah Range 15.40 140 ePn Pn 03 30 50.8 +0.2
37nm,1.1s
AFDM Forest Hills D 15.48 146 ePn P 03 30 56.3 +0.4
39nm,1.2s
QLMT Earthquake Lak 15.58 111 ePn Pn 03 30 54.7 +1.7
VCNR Virginia City 15.66 142 ePn Pn 03 30 53.7 -0.3
25nm,1.1s
BMN Battle Mountai 15.70 134 ePn Pn 03 30 55.2 +0.7
25nm,0.9s
YHB Horse Butte 15.76 111 ePn Pn 03 30 56.1 +0.8
12nm,0.9s
MLY Manley 15.87 330 ePn Pn 03 30 57.0 +0.6
51nm,1.6s
YHH Holmes Hill 15.94 110 ePn P 03 31 03.6 +2.3
21nm,1.3s
YMR Madison River 15.94 110 ePn Pn 03 30 58.2 +0.6
34nm,1.2s
INK Inuvik 16.01 358 Pn P 03 31 00.5 -1.0
0.2nm,0.3s,baz=173,slow=13,SNR=9.2
INK LR LR 03 37 19.5
comp=Z,532nm,19.9s,baz=177,slow=38
INK Inuvik 16.01 358 ePn P 03 31 00.5 -1.0
15nm,0.9s
GCMT Greycliff 16.07 105 ePn Pn 03 31 00.3 +1.2
YFT Old Faithful 16.14 111 ePn Pn 03 31 00.8 +0.6
28nm,1.5s
H17A Grant Village 16.33 111 ePn P 03 31 05.8 +0.2
27nm,1.2s
H17A Grant Village 16.33 111 P P 03 31 05.0 -0.6
baz=307
LKWY Lake 16.33 110 ePn P 03 31 18.7 +13
IMW Indian Meadow 16.43 113 ePn P 03 31 09.3 +2.7
18nm,1.2s
WAKR Walker 16.43 143 ePn P 03 31 08.9 +2.3
47nm,1.5s
FLWY Flagg Ranch 16.45 112 ePn P 03 31 15.4 +8.6
KVN Kaiserville 16.48 138 ePn P 03 31 06.2 -0.9
50nm,1.1s
CMB Columbia Colle 16.50 146 ePn P 03 31 08.5 +1.2
15nm,1.0s
FXWY Fox Creek 16.54 113 ePn P 03 31 10.5 +2.7
11nm,1.0s
MOOW Moose Ponds 16.63 113 ePn P 03 31 11.0 +2.2
16nm,1.0s
RLMT Red Lodge 16.67 107 P P 03 31 10.8 +1.6
baz=304
RYN Ryan 16.67 140 ePn Pn 03 31 06.1 -0.8
24nm,1.1s
TPAW Teton Pass 16.67 114 ePn P 03 31 12.1 +2.7
42nm,1.2s
LOHW Long Hollow 16.79 113 ePn P 03 31 13.5 +2.8
22nm,1.4s
SNOW Snow King Moun 16.80 114 ePn P 03 31 14.5 +3.7
21nm,1.2s
REDW Red Top Meadow 16.81 114 ePn P 03 31 13.7 +2.8
44nm,1.4s
NV01 Mina Array Sit 16.93 140 ePn P 03 31 11.7 -0.4
NVAR Mina Array Bea 16.93 140 Pn Pn 03 31 10.9 +0.7
0.1nm,0.3s,baz=317,slow=11,SNR=17
NVAR LR LR 03 37 13.0
comp=Z,292nm,18.4s,baz=320,slow=35
NV11 Mina Array Sit 16.99 140 ePn P 03 31 12.6 -0.1
6.1nm,1.8s
SPUT South Promonto 17.35 122 ePn P 03 31 25.7 +9.0
35nm,1.9s
OMMB Old Mammoth Mi 17.38 143 ePn P 03 31 18.7 +1.5
11nm,1.1s
IM3 Indian Mountai 17.44 330 ePn Pn 03 31 16.6 +0.4
HWUT Hardware Ranch 17.60 120 ePn P 03 31 21.1 +1.6
33nm,1.6s
BW06 Boulder Array 17.92 113 ePn P 03 31 23.6 +0.5
10nm,0.9s
BW06 Boulder Array 17.92 113 P P 03 31 24.1 +1.0
baz=310,SNR=9.4
PD31 Pinedale Array 17.92 113 ePn P 03 31 24.0 +0.9
PDAR Pinedale Array 17.92 113 P P 03 31 23.6 +0.5
0.2nm,0.3s,baz=307,slow=8.3,SNR=24
PDAR Pinedale Array 17.92 113 ePn P 03 31 23.1 0.0
DUG Dugway, Tooele 17.98 125 ePn P 03 31 24.8 +1.1
5.9nm,0.9s
DUG Dugway, Tooele 17.98 125 P P 03 31 24.7 +1.0
baz=319
PMPB Monarch Peak 18.02 149 ePn P 03 31 26.2 +2.1
66nm,1.4s
R11A Troy Canyon, C 18.13 134 eP P 03 31 26.3 +0.9
15nm,1.1s
R11A Troy Canyon, C 18.13 134 P P 03 31 25.8 +0.4
baz=326,SNR=9.7

DGMT Dagmar 18.15 91 P P 03 31 26.1 +0.7
baz=293
TOLK Toolik Lake Re 18.32 340 P Pn 03 31 24.4 -2.7
baz=144
NLU North Lily Min 18.54 124 eP Pn 03 31 31.2 +1.1
4.5nm,1.0s
GRAC Grapevine Rang 18.54 140 P Pn 03 31 30.9 +0.9
baz=331
PAGB Antelope Grade 18.64 148 eP P 03 31 31.0 +0.1
36nm,1.3s
CWC Cottonwood Cre 18.75 143 P Pn 03 31 32.9 +0.2
baz=332
PSUT Pine Spring 18.77 130 eP Pn 03 31 32.9 0.0
11nm,0.9s
VES Vestal, Richgr 18.93 146 P Pn 03 31 34.5 -0.1
baz=335
TPNV Topopah Spring 19.03 138 eP Pn 03 31 36.6 +0.6
21nm,1.0s
TPNV Topopah Spring 19.03 138 P P 03 31 35.6 +0.4
baz=329,SNR=17
DAC Darwin (Calif) 19.08 142 eP Pn 03 31 37.5 +0.8
36nm,1.7s
FURC Furnace Creek, 19.20 140 P P 03 31 37.2 +0.4
baz=331,SNR=8.4
ISA Isabella, Lake 19.30 145 eP Pn 03 31 39.8 +0.5
22nm,1.2s
ISA Isabella, Lake 19.30 145 P P 03 31 38.4 +0.2
baz=334
MPMC Manual Prospec 19.32 142 P Pn 03 31 39.2 -0.2
baz=332,SNR=8.7
PKM Mcpherson Peak 19.55 148 P Pn 03 31 42.9 +0.6
baz=337
P17A Butcher Ranch, 19.58 123 eP Pn 03 31 43.2 +0.6
13nm,1.1s
MSU Marysvale 19.59 127 eP Pn 03 31 43.2 +0.4
ARVC Arvin 19.66 146 P P 03 31 41.6 -0.4
baz=335
P18A Preston Nutter 19.72 122 eP Pn 03 31 44.6 +0.1
15nm,1.3s
K22A Casper 19.73 109 eP Pn 03 31 44.0 -0.4
25nm,1.1s
K22A Casper 19.73 109 P P 03 31 43.1 +0.2
baz=308
LRMC Laurel Mtn Rad 19.75 143 P Pn 03 31 44.1 -0.6
baz=333
CCUT Cedar City 19.79 131 eP Pn 03 31 45.0 -0.2
11nm,1.0s
SHPR Sheep Range 19.86 136 eP Pn 03 31 45.5 -0.5
17nm,1.3s
SZCU Shurtz Canyon 19.88 130 eP Pn 03 31 45.9 -0.4
20nm,0.9s
SHOC Shoshone, Teco 19.93 139 P P 03 31 45.8 +0.9
baz=331
RWWY Rawlins 19.95 112 eP Pn 03 31 53.7 +6.6
22nm,1.1s
MTPU Mount Pierson 19.96 128 eP Pn 03 31 47.3 0.0
13nm,1.3s
SRU San Rafael Swe 19.96 123 eP Pn 03 31 48.0 +0.8
14nm,0.8s
EDW2 Edwards Air Fo 20.18 144 P P 03 31 46.5 -1.2
baz=334
GSC Goldstone, Bar 20.24 141 eP Pn 03 31 50.1 -0.2
24nm,1.2s
GSC Goldstone, Bar 20.24 141 P P 03 31 49.3 +0.9
baz=332,SNR=14
LCMT Little Creek M 20.29 132 eP Pn 03 31 50.4 -0.6
24nm,1.0s
RSSD Black Hills 20.33 103 eP Pn 03 31 55.0 +3.5
11nm,0.8s
PKCU Pink Cliffs 20.37 129 eP Pn 03 31 51.7 -0.4
24nm,1.0s
O20A White River Ci 20.43 117 eP Pn 03 31 52.5 -0.1
43nm,1.3s
O20A White River Ci 20.43 117 P Pn 03 31 52.0 -0.6
baz=315,SNR=10.0
TUQ Turquoise Moun 20.47 139 P P 03 31 52.0 +1.1
baz=331,SNR=10
KNB Kanab 20.48 131 eP Pn 03 31 52.3 -0.9
14nm,1.1s
MWC Mount Wilson 20.75 145 eP P 03 31 55.1 +1.1
28nm,1.1s
HEC Hector Ludlow 20.84 141 P P 03 31 55.8 +0.9
baz=332,SNR=40
BFSC Mount Baldy Ra 20.88 145 P P 03 31 55.9 +0.6
baz=335,SNR=11
LDFC Landfair 21.11 138 eP P 03 31 58.5 +0.7
40nm,1.0s
BBRC Big Bear Solar 21.12 143 P P 03 31 57.4 -0.7
baz=334
PV09 Paradox Valley 21.14 122 eP P 03 31 59.7 +1.3
GMRC Granite Mounta 21.14 140 P P 03 31 58.5 +0.3
baz=331,SNR=14
PV21 Cone Mtn., Par 21.18 122 eP P 03 32 01.4 +2.8
23nm,1.1s
N23A Red Feather La 21.19 112 eP P 03 31 59.0 +0.2
25nm,1.1s
N23A Red Feather La 21.19 112 P P 03 31 58.6 -0.2
baz=312
PHWY Pilot Hill 21.20 111 eP P 03 31 59.0 +0.1
26nm,1.0s
U15A Non Rim 21.20 131 eP P 03 31 60.0 +1.0
28nm,0.9s
PV23 Carpenter Ridg 21.24 122 eP P 03 32 00.5 +1.2
34nm,1.1s
PV10 Paradox Valley 21.28 122 eP P 03 32 01.4 +1.6
PV14 Lion Creek, Pa 21.29 122 eP P 03 32 00.6 +0.7
34nm,1.2s
PV22 Blue Mesa, Par 21.29 121 eP P 03 32 02.5 +2.6
17nm,1.1s
PV20 West Nyswonger 21.34 122 eP P 03 32 01.7 +1.3
26nm,1.2s
PV19 Morning Glory 21.36 122 eP P 03 32 01.6 +1.0
36nm,1.3s
CIS Catalina Islan 21.38 147 P P 03 32 00.3 -0.3
baz=337
PV16 Nyswonger Mesa 21.39 122 eP P 03 32 01.9 +1.0
26nm,1.2s
PV17 East Wray Mesa 21.39 122 eP P 03 32 01.6 +0.7
28nm,1.3s
PV11 David Mesa, Pa 21.42 122 eP P 03 32 02.0 +0.7
26nm,1.1s
PV18 Skein Mesa, Pa 21.44 122 eP P 03 32 03.0 +1.5
12nm,0.9s
PV12 Saucer Basin, 21.45 122 eP P 03 32 01.6 0.0
18nm,1.1s
PV03 Paradox Valley 21.47 122 eP P 03 32 02.2 +0.4
PV05 Paradox Valley 21.47 123 eP P 03 32 03.1 +1.3
PV05 epP sP 03 32 09.2 +0.5
PV13 Radium Mtn., P 21.56 122 eP P 03 32 03.3 +0.6
22nm,1.0s
PV02 Paradox Valley 21.56 122 eP P 03 32 05.6 +2.8
18nm,0.9s
W13A Hualapai Mount 21.60 136 eP P 03 32 03.6 +0.4
7.7nm,0.8s
BELC Belle Mtn. Jos 21.70 141 P P 03 32 05.0 +0.8
baz=333,SNR=8.9
PV01 Paradox Valley 21.70 122 eP P 03 32 04.9 +0.6
SMCO Snowmass 21.80 117 eP P 03 32 06.1 +0.6
24nm,1.0s
PFO Pinyon Flats O 21.87 143 eP P 03 32 06.8 +0.8
12nm,1.3s
PFO Pinyon Flats O 21.87 143 P P 03 32 06.2 +0.1
baz=334
XPFO Piæon Flat 21.88 143 eP P 03 32 06.8 +0.7
11nm,1.2s
TPFO Pinon Flats 21.88 143 P P 03 32 06.0 -0.1
baz=334
IRM Iron Mountain 21.89 140 P P 03 32 06.6 +0.4
baz=331,SNR=11
FRD Ford Ranch, An 21.93 143 P P 03 32 07.2 +0.6
baz=334
ISCO Idaho Springs 22.11 114 eP P 03 32 11.8 +3.0
7.7nm,1.0s
ISCO Idaho Springs 22.11 114 P P 03 32 08.8 0.0
baz=314
PDMCI Parker Dam,Lak 22.18 137 P P 03 32 09.5 +0.3
baz=330
BC3 Big Chuckawall 22.22 141 P P 03 32 10.0 +0.3
baz=332,SNR=5.3
CPE Camp Elliot 22.29 145 eP P 03 32 18.2 +7.8
31nm,1.5s
WUAZ Wupatki 22.37 131 eP P 03 32 12.1 +0.6
20nm,1.0s
WUAZ Wupatki 22.37 131 P P 03 32 12.3 +0.9
baz=325,SNR=18
MVCO Mesa Verde 22.44 123 eP P 03 32 12.5 +0.2
20nm,1.1s
MVCO Mesa Verde 22.44 123 P P 03 32 12.1 -0.2
baz=320,SNR=7.0
Y12C Blythe 22.50 139 eP P 03 32 13.5 +0.9
43nm,1.5s
Y12C Blythe 22.50 139 P P 03 32 13.5 +0.9
baz=331,SNR=8.3
MONP2 Monument Peak 22.53 144 P P 03 32 13.4 +0.2
baz=334,SNR=10
ULM Lac du Bonnet 22.60 81 P P 03 32 14.9 +1.3
7.5nm,1.0s,baz=314,slow=5.8,SNR=3.8
ULM LR LR 03 42 09.4
comp=Z,88nm,19.2s,baz=302,slow=40
BAR Barrett 22.63 144 eP P 03 32 15.2 +1.2
11nm,1.1s
SWSC Sam W. Stewart 22.71 142 P P 03 32 15.1 +0.2
baz=334
IKP In-Ko-Pah, Jac 22.86 143 P P 03 32 16.6 0.0
baz=334,SNR=6.2
S22A 4UR Ranch, Cre 22.91 120 eP P 03 32 18.1 +0.9
20nm,1.4s
S22A 4UR Ranch, Cre 22.91 120 P P 03 32 17.5 +0.2
baz=318,SNR=8.0
Q24A Divide 22.95 115 P P 03 32 18.1 +0.4
baz=315
Y14A Wickenburg 22.97 136 eP P 03 32 18.1 +0.5
15nm,0.9s
GLA Glamis 22.99 140 eP P 03 32 18.7 +0.8
29nm,1.0s
GLA Glamis 22.99 140 P P 03 32 18.2 +0.4
baz=332
X16A Lo Mia Camp, P 23.25 132 eP P 03 32 21.4 +0.7
8.5nm,1.2s
W18A Petrified Fore 23.47 128 eP P 03 32 24.1 +1.2
14nm,0.9s
W18A Petrified Fore 23.47 128 P P 03 32 23.2 +0.4
baz=324
SDCO Great Sand Dun 23.63 118 eP P 03 32 24.9 +0.5
24nm,1.4s
SDCO Great Sand Dun 23.63 118 P P 03 32 24.7 +0.2
baz=317,SNR=9.8
113A Mohawk Valley, 23.66 139 eP P 03 32 25.0 +0.5
4.7nm,0.9s
X18A Snowflake 23.85 130 eP P 03 32 27.2 +0.7
23nm,0.9s
KSCO Kaye Shedlock' 24.34 112 P P 03 32 31.2 +0.2
baz=313
214A Organ Pipe Nat 24.76 138 P P 03 32 34.6 -0.1
baz=331,SNR=20
ECSD EROS Data Cent 25.03 96 P P 03 32 35.6 -1.4
baz=303
ANMO Albuquerque 25.24 124 P P 03 32 39.7 +0.5
2.9nm,0.9s,baz=324,slow=9.2,SNR=9.3
ANMO Albuquerque 25.24 124 eP P 03 32 39.3 +0.1
4.6nm,0.9s
ANMO Albuquerque 25.24 124 P P 03 32 38.1 -1.1
baz=322
LAZ Ladron 25.32 125 eP P 03 32 41.0 +1.0
TUC Tucson 25.32 134 eP P 03 32 40.7 +0.9
6.1nm,1.0s
TUC Tucson 25.32 134 P P 03 32 39.3 -0.5
baz=329
BGNE Belgrade 25.43 102 P P 03 32 38.5 -2.2
baz=307
LENM Lemitar 25.59 125 eP P 03 32 43.0 +0.6
BNM Barren Site 25.78 125 eP P 03 32 44.7 +0.5
EYMN Ely 26.14 83 P P 03 32 44.7 -2.4
baz=295
121A Cookes Peak, D 26.52 129 P P 03 32 50.0 -0.8
baz=326,SNR=5.1
RES Resolute Bay 26.96 21 P P 03 32 55.9 +1.7
5.3nm,0.8s,baz=231,slow=7.5,SNR=4.2
RES LR LR 03 43 53.5
comp=Z,356nm,19.5s,baz=258,slow=37
RES Resolute Bay 26.96 21 eP P 03 32 55.9 +1.7
142nm,1.9s
AMTX Amarillo 27.82 117 eP P 03 33 03.0 +0.6
14nm,0.9s
AMTX Amarillo 27.82 117 P P 03 33 01.2 -1.2
baz=318
MSTX Muleshoe 27.92 120 P P 03 33 01.9 -1.4
baz=320
MNTX Cornudas Mount 28.37 126 eP P 03 33 07.8 +0.7
6.4nm,1.0s
MNTX Cornudas Mount 28.37 126 P P 03 33 06.5 -0.6
baz=325,SNR=6.6
WMOK Wichita Mounta 29.53 113 eP P 03 33 18.1 +0.5
12nm,1.2s
WMOK Wichita Mounta 29.53 113 P P 03 33 17.8 +0.3
baz=317
Q41A Truxton 31.11 99 P P 03 33 30.4 -1.1
baz=309
TX31 Lajitas Ar. Si 31.14 127 eP P 03 33 32.7 +0.8
LTX Lajitas 31.15 127 eP P 03 33 32.6 +0.7
TXAR Lajitas Array 31.15 127 P P 03 33 32.6 +0.7
5.2nm,0.8s,baz=327,slow=7.9,SNR=40
R41A Rosebud 31.44 100 P P 03 33 33.7 -0.6
baz=310
CCM Cathedral Cave 31.68 100 P P 03 33 35.8 -0.6
baz=310
U40A Yellville 31.84 104 P P 03 33 37.1 -0.7
baz=313
T41A Mountain View 32.02 102 P P 03 33 38.2 -1.3
baz=312
W39A Magazine 32.08 107 P P 03 33 39.1 -0.9
baz=314
S42A Caledonia 32.13 100 P P 03 33 39.3 -1.1
baz=311
JCT Junction City 32.21 120 P P 03 33 40.5 -0.7
baz=322
V40A Witts Springs 32.23 105 P P 03 33 40.3 -1.0
baz=314
WHTX Lake Whitney, 32.31 115 P P 03 33 41.6 -0.5
baz=320
T42A Van Buren 32.44 102 P P 03 33 42.3 -0.8
baz=312
V41A Mountainview 32.64 105 P P 03 33 43.2 -1.7
baz=313,SNR=7.7
MIAR Mount Ida 32.66 108 eP P 03 33 45.9 +0.9
16nm,1.2s
MIAR Mount Ida 32.66 108 P P 03 33 44.9 -0.2
baz=315
S43A Fulton Ridge, 32.69 100 P P 03 33 44.9 -0.4
baz=311
P45A Graceland, Par 32.88 95 eP P 03 33 48.1 +1.2
46nm,1.2s
P45A Graceland, Par 32.88 95 P P 03 33 45.9 -1.0
baz=308
Y41A Eaglette Beard 33.69 108 P P 03 33 54.3 +0.3
baz=316
P47A Martinsville 33.80 94 P P 03 33 54.3 -0.7
baz=308
Q47A Bedord North L 34.05 95 P P 03 33 57.2 +0.1
baz=309
NATX Nacogdoches 34.05 112 P P 03 33 58.1 +0.8
baz=318
R47A Wooly Knot Far 34.39 96 P P 03 33 59.9 -0.1
baz=309
Z42A Norrel Spur, H 34.51 108 P P 03 34 01.4 +0.2
baz=316
WCI Wyandotte Cave 34.57 96 P P 03 34 01.5 -0.1
baz=309
R48A Northridge Ran 34.72 95 P P 03 34 02.8 -0.2
baz=309
T47A Sharon Grove 34.87 98 P P 03 34 03.7 -0.6
baz=311
WVT Waverly 35.00 100 P P 03 34 05.1 -0.3
baz=312
V46A Holladay 35.04 101 P P 03 34 04.5 -1.2
baz=312
S48A Wiedeman Farm, 35.08 96 P P 03 34 06.1 +0.1
baz=310
T48A Bowling Green 35.23 97 P P 03 34 06.7 -0.6
baz=311
242A Grayson 35.27 109 P P 03 34 08.0 +0.3
baz=317
V47A Nunnelly 35.38 100 P P 03 34 07.9 -0.8
baz=312
U48A Cassie Pea, Po 35.53 98 P P 03 34 10.0 +0.1
baz=311
W47A Westpoint 35.73 101 P P 03 34 10.9 -0.8
baz=313
R50A Paris 35.74 94 P P 03 34 10.7 -1.0
baz=309
U49A Red Boiling Sp 35.99 97 P P 03 34 13.5 -0.4
baz=311
244A Avery, Jackson 36.14 108 P P 03 34 15.3 +0.2
baz=317
T50A Nancy 36.23 96 P P 03 34 15.7 -0.2
baz=311

Y47A	**UCPARC, Winfie**	**36.50**	**103**	P		**P**	**03 34 18.0**	**-0.2**
	baz=314							
344A	**Westbrook Farm**	**36.54**	**108**	P		**P**	**03 34 18.5**	**-0.1**
	baz=317							
X48A	**Hartselle**	**36.60**	**101**	P		**P**	**03 34 18.4**	**-0.8**
	baz=314							
U50A	**Jamestown**	**36.62**	**97**	P		**P**	**03 34 19.1**	**-0.2**
	baz=311							
T51A	**Gray**	**36.81**	**95**	P		**P**	**03 34 20.6**	**-0.3**
	baz=310							
LNIG	**Linares**	**36.90**	**125**	*eP*		**P**	**03 34 21.2**	**-0.5**
	4.7nm,0.8s							
147A	**Livingston**	**37.11**	**105**	P		**P**	**03 34 24.0**	**+0.5**
	baz=316							
ZAIG	**Zacatecas**	**37.21**	**131**	*eP*		**P**	**03 34 25.7**	**+1.0**
	8.7nm,1.2s							
T52A	**Hallie**	**37.31**	**94**	P		**P**	**03 34 24.3**	**-0.8**
	baz=310							
V51A	**Loudon**	**37.32**	**97**	P		**P**	**03 34 23.8**	**-1.4**
	baz=312							
346A	**Big Creek Wild**	**37.33**	**107**	P		**P**	**03 34 25.6**	**+0.4**
	baz=317							
X50B	**Fort Payne**	**37.44**	**100**	P		**P**	**03 34 25.8**	**-0.4**
	baz=313							
U52A	**Thorn Hill**	**37.54**	**95**	P		**P**	**03 34 26.3**	**-0.8**
	baz=311							
V52A	**Sevierville**	**37.76**	**96**	*eP*		**P**	**03 34 28.8**	**-0.1**
	29nm,0.9s							
V52A	**Sevierville**	**37.76**	**96**	P		**P**	**03 34 28.3**	**-0.6**
	baz=312,SNR=5.3							
TKL	**Tuckaleechee C**	**37.77**	**97**	P		**P**	**03 34 28.6**	**-0.5**
	6.4nm,0.8s,baz=287,slow=2.9,SNR=8.4							
TKL	**Tuckaleechee C**	**37.77**	**97**	*eP*		**P**	**03 34 28.6**	**-0.5**
	60nm,1.8s							
Z49A	**Columbiana**	**37.78**	**102**	P		**P**	**03 34 28.3**	**-0.8**
	baz=315							
X51A	**Calhoun**	**37.84**	**99**	P		**P**	**03 34 28.8**	**-0.9**
	baz=313							
347A	**Saraland**	**37.86**	**106**	P		**P**	**03 34 28.9**	**-0.9**
	baz=317							
149A	**Jones**	**38.04**	**103**	P		**P**	**03 34 30.8**	**-0.5**
	baz=315							
O56A	**Blue Knob Stat**	**38.05**	**87**	P		**P**	**03 34 29.5**	**-1.9**
	baz=307							
Y51A	**Rockmart**	**38.17**	**100**	P		**P**	**03 34 30.9**	**-1.6**
	baz=314							
249A	**Camden**	**38.29**	**104**	P		**P**	**03 34 31.7**	**-1.7**
	baz=316							
V53A	**Saluda**	**38.35**	**96**	*eP*		**P**	**03 34 34.1**	**+0.1**
	25nm,1.0s							
V53A	**Saluda**	**38.35**	**96**	P		**P**	**03 34 34.1**	**+0.1**
	baz=312							
X52A	**Dahlonega**	**38.40**	**98**	P		**P**	**03 34 33.9**	**-0.5**
	baz=313							
W53A	**Cullowhee**	**38.47**	**97**	P		**P**	**03 34 34.0**	**-1.0**
	baz=312,SNR=6.7							
150A	**Eclectic**	**38.50**	**102**	P		**P**	**03 34 33.9**	**-1.3**
	baz=315							
BG3	**Lake Jocassee**	**38.73**	**97**	*eP*		**P**	**03 34 37.5**	**+0.4**
	21nm,1.0s							
BLA	**Blacksburg**	**38.81**	**92**	P		**P**	**03 34 36.8**	**-1.0**
	baz=310							
X53A	**Estanollee**	**38.83**	**98**	P		**P**	**03 34 37.2**	**-0.8**
	baz=313							
Z52A	**Williamson**	**39.05**	**100**	P		**P**	**03 34 38.5**	**-1.4**
	baz=314							
Y53A	**Monroe**	**39.10**	**99**	P		**P**	**03 34 39.8**	**-0.5**
	baz=313							
SEY	**Seymchan**	**39.41**	**316**	P		**P**	**03 34 42.6**	**+0.1**
	7.5nm,0.7s,baz=70,slow=7.1,SNR=14							
GOGA	**Godfrey**	**39.48**	**99**	P		**P**	**03 34 41.9**	**-1.4**
	baz=314							
Z53A	**Monticello**	**39.50**	**99**	P		**P**	**03 34 42.4**	**-1.2**
	baz=314							
KMSC	**Kings Mountain**	**39.60**	**95**	P		**P**	**03 34 43.3**	**-1.1**
	baz=312							
Y54A	**Tignall**	**39.64**	**98**	P		**P**	**03 34 43.7**	**-1.0**
	baz=313							
253A	**Americus**	**40.02**	**101**	P		**P**	**03 34 47.0**	**-0.9**
	baz=315							
PEA1	**Petropavlovsk-**	**40.93**	**300**	*eP*		**P**	**03 34 55.6**	**+0.3**
PETK	**Petropavlovsk-**	**40.94**	**300**	P		**P**	**03 34 55.6**	**+0.3**
	5.6nm,0.7s,baz=82,slow=11,SNR=7.7							
NHSC	**New Hope**	**41.68**	**97**	P		**P**	**03 35 01.4**	**-0.1**
	baz=314							
SUMG	**Summit**	**42.14**	**27**	*eP*		**P**	**03 35 06.6**	**+1.3**
	26nm,1.2s							
NRIK	**Noril'sk**	**55.18**	**344**	P		**P**	**03 36 45.0**	**-0.1**
	2.2nm,0.4s,baz=331,slow=24,SNR=3.7							
H11N2	**WAKE ISLAND Hy**	**56.97**	**259**	T		T	04 39 00.2	
	baz=39,slow=76,SNR=131							
H11N3	**WAKE ISLAND Hy**	**56.97**	**259**	T		T	04 39 00.4	
	baz=39,slow=76,SNR=118							
H11N1	**WAKE ISLAND Hy**	**56.98**	**259**	T		T	04 39 01.4	
	baz=39,slow=76,SNR=138							
H11S1	**WAKE ISLAND Hy**	**58.02**	**259**	T		T	04 40 19.1	
	baz=39,slow=76,SNR=17							
H11S2	**WAKE ISLAND Hy**	**58.03**	**259**	T		T	04 40 20.9	
	baz=39,slow=76,SNR=16							
H11S3	**WAKE ISLAND Hy**	**58.04**	**259**	T		T	04 40 18.7	
	baz=39,slow=76,SNR=13							
USRK	**Ussuriysk Ar.**	**59.77**	**304**	P		**P**	**03 37 17.3**	**-0.6**
	6.4nm,0.8s,baz=35,slow=6.1,SNR=10							
MTP	**Monte Pirata**	**61.58**	**97**	*eP*		**P**	**03 37 30.5**	**+0.1**
	16nm,0.9s							
NB2	**NORSAR Subarra**	**63.21**	**19**	P		**P**	**03 37 41.7**	**+0.9**
	comp=Z,13nm,1.2s,baz=338,slow=7.4							
NB200	**NORSAR Array S**	**63.21**	**19**	*eP*		**P**	**03 37 41.7**	**+0.9**
NOA	**NORSAR Array B**	**63.21**	**19**	P		**P**	**03 37 41.7**	**+0.9**
	comp=Z,24nm,0.9s,baz=338,slow=6.6,SNR=3.2							
SONA1	**Songino Array**	**68.40**	**322**	*eP*		**P**	**03 38 15.0**	**+0.4**
SONA0	**Songino Array**	**68.42**	**322**	*eP*		**P**	**03 38 14.2**	**-0.6**
SONM	**Songino Array**	**68.42**	**322**	P		**P**	**03 38 14.2**	**-0.6**
	comp=Z,1.5nm,1.1s,baz=35,slow=5.4,SNR=6.2							
ZAA1	**Zalesovo Array**	**69.67**	**338**	*eP*		**P**	**03 38 21.7**	**-0.5**
ZALV	**Zalesovo Beam**	**69.67**	**338**	P		**P**	**03 38 21.7**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=23,slow=5.6,SNR=5.1							
ZALV	**Zalesovo Beam**	**69.67**	**338**	*eP*		**P**	**03 38 22.0**	**-0.2**
PPT	**Papeete**	**71.28**	**198**	LR		LR	04 01 56.4	
	comp=Z,83nm,21.7s,baz=334,slow=29							
BRVK	**Borovoye**	**73.29**	**346**	*eP*		**P**	**03 38 44.1**	**0.0**
	comp=Z,7.4nm,1.1s							
KURK	**Kurchatov**	**74.06**	**340**	*eP*		**P**	**03 38 48.4**	**-0.2**
	comp=Z,5.0nm,1.0s							
GERES	**GERESS Array B**	**75.05**	**23**	P		**P**	**03 38 56.2**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=232,slow=9.5,SNR=2.0							
AKASG	**Malin Array Be**	**76.10**	**12**	P		**P**	**03 39 02.1**	**+1.7**
	comp=Z,1.7nm,0.7s,baz=348,slow=5.5,SNR=5.1							
AKBB	**Malin Array Si**	**76.10**	**12**	*eP*		**P**	**03 39 02.1**	**+1.7**
MK32	**Makanchi Array**	**76.92**	**337**	*eP*		**P**	**03 39 04.7**	**-0.4**
MKAR	**Makanchi Array**	**76.92**	**337**	P		**P**	**03 39 04.7**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=35,slow=4.6,SNR=11							
MK01	**Makanchi Array**	**76.94**	**337**	*eP*		**P**	**03 39 04.4**	**-0.8**
ESDC	**Sonseca Array**	**77.88**	**38**	P		**P**	**03 39 10.9**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=342,slow=0.8,SNR=3.6							
ABKAR	**Akbulak array**	**78.24**	**352**	*eP*		**P**	**03 39 12.2**	**-0.2**
PTGA	**Pitinga**	**79.74**	**105**	P		**P**	**03 39 20.5**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=355,slow=5.4,SNR=4.3							
AAK	**Ala-Archa**	**82.62**	**341**	*eP*		**P**	**03 39 36.4**	**+0.1**
	comp=Z,10nm,0.6s							
KBZ	**Khabaz**	**84.19**	**4**	P		**P**	**03 39 44.2**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=342,slow=6.4,SNR=3.5							
LPAZ	**La Paz**	**87.81**	**120**	P		**P**	**03 40 01.4**	**-1.6**
	comp=Z,4.5nm,0.8s,baz=5.0,slow=13,SNR=16							
SNAA	**Sanae**	**150.71**	**150**	PKPbc		**PKPbc**	**03 47 01.9**	**-1.8**
	comp=Z,4.7nm,0.9s,baz=59,slow=0.8,SNR=5.5							
SNAA	**Sanae**	**150.71**	**150**	*e*PKPdf		**PKPdf**	**03 46 56.9**	**-1.2**
SNAA				PKPbc		**PKPbc**	**03 47 01.9**	**-1.8**
BOSA	**Boshof**	**150.92**	**44**	PKPbc		**PKPbc**	**03 47 04.6**	**-1.0**
	comp=Z,4.5nm,0.9s,baz=302,slow=3.7,SNR=4.0							

*ISCJB **01** 03:31:22.7±1.2, 52°.49N±0°.10×132°.2W±0°.2, h10km, mb3.4/1, Error ellipse: s-maj=18.9km s-min=7.3km az=137.2*

*IDC **01** 03:31:22.7±1.9, 52°.47N×132°.17W, h0km, mb3.5/1, mb1 3.8/6, mb1mx3.5/49, mbtmp3.4/6, ML3.7/4, Error ellipse: s-maj=27.9km s-min=7.2km az=56.0*

ISC 01 03:31:23.7±1.5, 52°.5N±0°.1×132°.2W±0°.1, h10km, n11, σ1°.27/9, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H02S1	**DAWSON INLET T**	**0.78**	**347**	Pg	**Pg**	**03 31 37.1**	**-1.6**
H02S1				Lg	Lg	03 31 48.3	
	SNR=177						
H02N1	**VAN INLET T-PH**	**0.83**	**345**	Pg	**Pg**	**03 31 37.9**	**-1.9**
H02N1				Lg	Lg	03 31 50.1	
	SNR=121						
BBB	**Bella Bella**	**2.51**	**94**	P*n*	**Pn**	**03 32 04.0**	**-0.5**
	20nm,0.3s,baz=270,slow=17,SNR=7.1						
BBB				S*n*	**Sn**	**03 32 36.0**	**+0.8**
	30nm,0.3s,baz=159,slow=20,SNR=7.3						
DLBC	**Dease Lake**	**6.13**	**11**	P*n*	**Pn**	**03 32 55.2**	**+0.9**
	0.9nm,0.3s,baz=182,slow=17,SNR=4.1						
ILAR	**Eielson Array**	**14.48**	**334**	P*n*	**Pn**	**03 34 49.8**	**+1.4**
	0.0nm,0.3s,baz=154,slow=10,SNR=3.0						
NVAR	**Mina Array Bea**	**17.03**	**140**	P	**P**	**03 35 23.4**	**-0.4**
	0.0nm,0.3s,baz=310,slow=13,SNR=3.3						
PDAR	**Pinedale Array**	**18.00**	**114**	P	**P**	**03 35 34.9**	**+0.3**
	0.1nm,0.3s,baz=310,slow=7.0,SNR=3.8						
TXAR	**Lajitas Array**	**31.24**	**126**	P	**P**	**03 37 43.6**	**+0.2**
	0.5nm,0.7s,baz=334,slow=6.0,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**56.93**	**259**	T	T	04 43 17.2	
	baz=39,slow=76,SNR=111						
H11N3	**WAKE ISLAND Hy**	**56.93**	**259**	T	T	04 43 22.8	
	baz=39,slow=76,SNR=9.6						
H11N1	**WAKE ISLAND Hy**	**56.95**	**259**	T	T	04 43 21.3	
	baz=39,slow=76,SNR=10						

*BJI **01** 03:31:18.1, 6°.04S×129°.57E, h239km, mb4.8/57, mB4.8/41*
*GCMT **01** 03:31:23.0±0.3, 5°.41S±0°.02×129°.04E±0°.02, h268km±3km, MW5.2/63, Moment Tensor Solution. s33,c40; s63,c82; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.07±.30; Mθθ-6.69±.24; Mφφ5.62±.30; Mrθ2.01±.27; Mrφ-1.65±.35; Best double couple: Mo7.24500×10^16 NP1:φs327.00000°, δ89.00000°, λ-160.00000°. NP2: φs237.00000°, δ70.00000°, λ-1.00000°. Principal axes: T 6.5420, Plg13.0000°, Azm100.0000°; N 1.4060, Plg70.0000°, Azm331.0000°; P -7.9480, Plg15.0000°, Azm194.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*ISCJB **01** 03:31:24.5±0.2, 5°.61S±0°.02×129°.18E±0°.02, h260km±2km, mb4.8/129 Error ellipse: s-maj=3.2km s-min=2.3km az=152.1*
*NEIC **01** 03:31:25.0±0.4, 5°.61S×129°.14E, h251km±4km, mb5.0/73, Error ellipse: s-maj=4.2km s-min=3.1km az=57.0*
*MOS **01** 03:31:24.4±1.0, 5°.58S×129°.12E, h258km, mb4.9/33, Error ellipse: s-maj=10.1km s-min=5.9km az=110.8*
*DJA **01** 03:31:25.2±0.1, 6°S±2°×12°9E±°, h245km±2km, M5.1/78, mB5.5/49, mb5.2/78, MLv6.0/20, Mw(mB)5.0/49, Mwp5.4/1*
*IDC **01** 03:31:26.9±0.6, 5°.63S×129°.16E, h267km±5km, mb4.4/28, mb1 4.5/30, mb1mx4.4/38, mbtmp5.1/30, Error ellipse: s-maj=10.1km s-min=6.2km az=73.0*
*KLM **01** 03:31:28.0, 5°.63S×129°.07E, h310km, mb5.4*
ISC 01 03:31:25.6±0.4, 5°.65S±0°.03×129°.17E±0°.03, h259km±3km, h260km; pP-P, n653, σ1°47/720, mb4.8/129, 15C-10D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.34**	**33**	P	**Pn**	**03 32 02.9**	**-0.8**
BNDI				S	**S**	**03 32 32.8**	**-0.9**
AAI	**Ambon**	**2.18**	**333**	P	**Pn**	**03 32 09.9**	**-0.6**
AAI	**Ambon**	**2.18**	**333**	P	**Pn**	**03 32 09.9**	**-0.6**
AAI				S	**S**	**03 32 44.8**	**-1.3**
SAUI	**Saumlaki**	**3.13**	**138**	*e*Pn	**Pn**	**03 32 19.8**	**-0.4**
SAUI				*e*S	**S**	**03 32 55.9**	**-7.5**
SAUI	**Saumlaki**	**3.13**	**138**	P	**Pn**	**03 32 20.0**	**-0.1**
SAUI				S	**S**	**03 33 01.9**	**-1.5**
FAKI	**Fak Fak**	**4.10**	**49**	*e*Pn	**Pn**	**03 32 28.7**	**-2.3**
FAKI				*e*S	**S**	**03 33 14.9**	**-8.2**
FAKI	**Fak Fak**	**4.10**	**49**	P	**Pn**	**03 32 28.6**	**-2.4**
FAKI				S	**S**	**03 33 15.9**	**-7.2**
SANI	**Sanana**	**4.79**	**318**	P	**Pn**	**03 32 38.0**	**-1.1**
SANI				S	**S**	**03 33 33.3**	**-4.5**
KMPI	**Kaimana, Papua**	**4.93**	**67**	P	**Pn**	**03 32 39.9**	**-1.0**
KMPI				S	**S**	**03 33 35.2**	**-5.8**
SIJI	**Sorong**	**5.19**	**24**	P	**Pn**	**03 32 42.2**	**-1.9**
	847nm,0.3s,baz=195,slow=7.7,SNR=1196						
SIJI				S	**S**	**03 33 39.2**	**-7.6**
	410nm,0.3s,baz=82,slow=22,SNR=13						
SWI	**Sorong**	**5.20**	**24**	P	**Pn**	**03 32 41.5**	**-2.6**
SWI				pmax	pmax		
	comp=Z,5μm,0.5s						
SWI	**Sorong**	**5.20**	**24**	P	**Pn**	**03 32 41.5**	**-2.6**
	comp=Z,5μm,0.5s,comp=Z,93μmcomp=Z,31nm						
LBMI	**Labuha**	**5.25**	**341**	P	**Pn**	**03 32 43.7**	**-1.1**
	comp=Z,8μm,0.8s,comp=Z,63μmcomp=Z,24nm						
LBMI				S	**S**	**03 33 42.9**	**-5.3**
	comp=Z,8μm,0.8s,comp=Z,63μmcomp=Z,24nm						
SOEI	**Soe**	**6.34**	**230**	*e*Pn	**Pn**	**03 32 57.9**	**-0.4**
SOEI				*e*S	**S**	**03 34 10.6**	**-2.1**
SOEI	**Soe**	**6.34**	**230**	P	**Pn**	**03 32 57.9**	**-0.4**
	comp=Z,607nm,0.8s,comp=Z,8μmcomp=Z,3.4nm						
SOEI				S	**S**	**03 34 12.5**	**-0.2**
	comp=Z,607nm,0.8s,comp=Z,8μmcomp=Z,3.4nm						
RKPI	**Ransiki, Papua**	**6.47**	**51**	P	**Pn**	**03 32 58.5**	**-1.4**
	comp=Z,6μm,0.5s,comp=Z,84μmcomp=Z,80nm						
RKPI				S	**S**	**03 34 09.6**	**-5.9**
	comp=Z,6μm,0.5s,comp=Z,84μmcomp=Z,80nm						
BBSI	**Bau Bau**	**6.57**	**271**	P	**Pn**	**03 33 02.9**	**+1.8**
	comp=Z,295nm,1.1s,comp=Z,3μmcomp=Z,1.0nm						
TNTI	**Ternate**	**6.63**	**344**	*e*Pn	**Pn**	**03 33 01.2**	**-0.7**
TNTI				*e*S	**S**	**03 34 11.7**	**-7.5**
TNTI	**Ternate**	**6.63**	**344**	P	**Pn**	**03 33 00.8**	**-1.1**
	comp=Z,2μm,0.9s,comp=Z,17μmcomp=Z,6.2nm						
KDI	**Kendari**	**6.74**	**284**	P	**Pn**	**03 33 04.6**	**+1.4**
	comp=Z,486nm,1.2s,comp=Z,7μmcomp=Z,1.7nm						
BATI	**Baumata**	**7.09**	**230**	P	**Pn**	**03 33 07.3**	**-0.2**
	comp=Z,198nm,0.3s,baz=119,slow=1.2,SNR=114						
BATI				S	**S**	**03 34 26.2**	**-3.3**
	comp=Z,37nm,0.3s,baz=103,slow=20,SNR=7.3						
BATI	**Baumata**	**7.09**	**230**	P	**Pn**	**03 33 07.2**	**-0.3**
	comp=Z,1μm,0.9s,comp=Z,10μmcomp=Z,4.2nm						
MTN	**Manton Dam**	**7.40**	**165**	P	**Pn**	**03 33 09.9**	**-1.6**
	baz=7.5,SNR=1000						
MTN	**Manton Dam**	**7.40**	**165**	*e*Pn	**Pn**	**03 33 10.2**	**-1.3**
MTN				*e*S	**S**	**03 34 30.2**	**-6.5**
MMRI	**Maumere**	**7.49**	**246**	*e*Pn	**Pn**	**03 33 14.4**	**+1.8**
MMRI	**Maumere**	**7.49**	**246**	P	**Pn**	**03 33 14.8**	**+2.2**
	comp=Z,276nm,0.9s,comp=Z,4μmcomp=Z,8μmcomp=Z,1.2nm						
KDU	**Kakadu**	**7.71**	**155**	P	**Pn**	**03 33 14.1**	**-1.2**
	baz=7.8,SNR=1000						
LUWI	**Luwuk**	**7.86**	**305**	*e*Pn	**Pn**	**03 33 17.4**	**+0.2**
LUWI	**Luwuk**	**7.86**	**305**	P	**Pn**	**03 33 17.5**	**+0.2**
	comp=Z,329nm,1.0s,comp=Z,8μmcomp=Z,2.2nm						
SRPI	**Serui, Papua**	**7.99**	**62**	P	**Pn**	**03 33 18.9**	**0.0**
	comp=Z,710nm,0.8s,comp=Z,10μmcomp=Z,8.6nm						
EDFI	**Ende, Flores**	**8.03**	**247**	P	**Pn**	**03 33 20.8**	**+1.3**
	comp=Z,188nm,0.7s,comp=Z,2μmcomp=Z,0.7nm						
KMSI	**Cibinong**	**8.07**	**320**	P	**Pn**	**03 33 20.5**	**+0.6**
	comp=Z,960nm,0.8s,comp=Z,9μmcomp=Z,9.6nm						
APSI	**Ampana**	**8.86**	**302**	P	**Pn**	**03 33 30.9**	**+1.0**
	comp=Z,260nm,1.0s,comp=Z,3μmcomp=Z,0.9nm						
BKSI	**Bukukumba**	**9.01**	**272**	P	**Pn**	**03 33 32.3**	**+0.5**
	comp=Z,118nm,0.9s,comp=Z,2μm						
BNSI	**Bone**	**9.12**	**277**	P	**Pn**	**03 33 33.8**	**+0.7**
	comp=Z,377nm,0.9s,comp=Z,4μm						
MRSI	**Marisa**	**9.45**	**310**	P	**Pn**	**03 33 37.2**	**0.0**
	comp=Z,184nm,1.0s,comp=Z,2μm						
SPSI	**Sidrap Palu**	**9.52**	**280**	P	**Pn**	**03 33 39.0**	**+0.9**
	comp=Z,308nm,1.2s,comp=Z,3μm						
TTSI	**Tana Toraja**	**9.68**	**285**	P	**Pn**	**03 33 41.7**	**+1.6**
	comp=Z,290nm,1.0s,comp=Z,3μm						
KNRA	**Kununurra**	**9.97**	**182**	P	**Pn**	**03 33 42.2**	**-1.5**
	baz=10.0,SNR=379						
PCI	**Palu**	**10.44**	**297**	P	**Pn**	**03 33 51.7**	**+2.0**
PCI				pmax	pmax		
	comp=Z,1μm,1.0s						
PCI	**Palu**	**10.44**	**297**	P	**Pn**	**03 33 51.7**	**+2.0**
	comp=Z,1μm,1.0s,comp=Z,11μm						
WBSI	**Waikabubak, Su**	**10.47**	**247**	P	**Pn**	**03 33 48.5**	**-1.6**
	comp=Z,188nm,1.0s,comp=Z,2μm						
MPSI	**Mapaga**	**11.01**	**302**	P	**Pn**	**03 33 58.3**	**+1.5**
	comp=Z,44nm,1.1s,comp=Z,916nm						
GENI	**Genyem**	**11.38**	**75**	P	**Pn**	**03 34 02.6**	**+1.2**
	comp=Z,540nm,0.9s,comp=Z,5μm						
MMPI	**Merauke**	**11.47**	**105**	P	**Pn**	**03 34 03.4**	**+0.8**
	comp=Z,7μm,0.7s,comp=Z,59μm						
PLAI	**Plampang**	**11.73**	**254**	P	**Pn**	**03 34 04.6**	**-1.2**
	comp=Z,147nm,0.6s,comp=Z,1μm						
JAY	**Jayapura**	**11.92**	**75**	P	**Pn**	**03 34 07.5**	**-0.7**
	conp=Z,8.2nm,0.3s,baz=228,slow=8.0,SNR=30						
JAY	**Jayapura**	**11.92**	**75**	P	**Pn**	**03 34 08.4**	**+0.2**
	comp=Z,1μm,0.8s,comp=Z,12μm						
DDMP	**Don Marcelino,**	**12.18**	**343**	*e*P	**Pn**	**03 34 09.3**	**-2.1**
GSPH	**General Santos**	**12.40**	**340**	*e*P	**Pn**	**03 34 13.2**	**-1.0**
TWSI	**Taliwang, Sumb**	**12.57**	**255**	P	**Pn**	**03 34 16.5**	**+0.4**
	comp=Z,132nm,1.0s,comp=Z,1μm						
SGKI	**Sangatta, Kali**	**12.62**	**293**	P	P	03 34 29.1	+10
FITZ	**Fitzroy Crossi**	**12.84**	**195**	P	**Pn**	**03 34 18.9**	**-0.5**
	comp=Z,36nm,0.3s,baz=26,slow=9.7,SNR=218						
FITZ				S	**S**	**03 36 38.0**	**-4.1**
	comp=Z,17nm,0.3s,baz=80,slow=12,SNR=3.5						
FITZ	**Fitzroy Crossi**	**12.84**	**195**	P	**Pn**	**03 34 18.0**	**-1.4**
	baz=13,SNR=456						
FITZ	**Fitzroy Crossi**	**12.84**	**195**	*e*Pn	**Pn**	**03 34 17.0**	**-2.4**
FITZ				*e*S	**S**	**03 36 38.0**	**-4.1**
SKMP	**Bagumbayan, Su**	**12.94**	**339**	*e*P	**Pn**	**03 34 19.2**	**-1.5**
BKB	**Balikpapan**	**13.00**	**289**	P	**P**	**03 34 25.3**	**+2.3**
	comp=Z,454nm,0.9s,comp=Z,7μm						
SMKI	**Samarinda**	**13.01**	**293**	P	**P**	**03 34 24.7**	**+1.6**
	comp=Z,350nm,1.0s						
DAV	**Davao City (W)**	**13.14**	**344**	P	**Pn**	**03 34 22.7**	**-0.4**
	baz=154,slow=2.8,SNR=9.6						
DAV	**Davao City (W)**	**13.14**	**344**	‖*i*P	**Pn**	**03 34 21.0**	**-2.1**
DAV	**Davao City (W)**	**13.14**	**344**	*e*Pn	**P**	**03 34 26.9**	**+2.5**
DAV	**Davao City (W)**	**13.14**	**344**	P	**Pn**	**03 34 22.3**	**-0.8**
	SNR=16						
KBKI	**Kotabaru**	**13.17**	**280**	P	**P**	**03 34 24.8**	**0.0**
	comp=Z,102nm,1.0s						
CTBH	**Cotabato--PC H**	**13.70**	**339**	‖*e*P	**Pn**	**03 34 28.4**	**-1.5**
PALU	**Palau**	**13.95**	**22**	P	**P**	**03 34 33.5**	**0.0**
	baz=14,SNR=29						
BIPH	**Bislig**	**14.03**	**348**	‖*i*P	**Pn**	**03 34 33.2**	**-0.7**
BUKP	**Musuan**	**14.05**	**343**	*e*P	**Pn**	**03 34 33.6**	**-0.7**
SRBI	**Singaraja**	**14.07**	**259**	P	**P**	**03 34 34.6**	**-0.1**
	comp=Z,84nm,0.8s,comp=Z,1μm						
IGBI	**Denpasar**	**14.26**	**256**	P	**P**	**03 34 37.9**	**+1.0**
	comp=Z,334nm,0.9s						
PAGZ	**Pagadian**	**14.60**	**337**	*e*P	**P**	**03 34 40.0**	**-0.7**
CGP	**Cagayan de Oro**	**14.71**	**342**	‖*e*P	**P**	**03 34 41.7**	**-0.2**
IPIL	**Ipil**	**14.89**	**334**	*e*P	**Pn**	**03 34 44.9**	**+0.6**
BUTP	**Butuan**	**14.95**	**346**	*e*P	**Pn**	**03 34 45.6**	**+0.6**
MTKI	**Muara Teweh, K**	**15.00**	**288**	P	**Pn**	**03 34 46.9**	**+1.3**
	comp=Z,440nm,1.0s						
WRAB	**Tennant Creek**	**15.06**	**161**	*e*P	**P**	**03 34 45.2**	**-0.5**
	comp=Z,1μm,0.8s						
WRAB	**Tennant Creek**	**15.06**	**161**	*e*P	**P**	**03 34 45.2**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,1μm,0.8s						
WR1	**Warramunga Arr**	**15.07**	**161**	*e*P	**P**	**03 34 45.1**	**-0.7**
	comp=Z,1μm,0.8s						
WR1				*e*S	**S**	**03 37 27.3**	**-4.9**
WRA	**Warramunga Arr**	**15.07**	**161**	P	**P**	**03 34 45.1**	**-0.7**
	comp=Z,80nm,0.3s,baz=340,slow=12,SNR=588						
WRA				S	**S**	**03 37 27.3**	**-4.9**
	comp=Z,22nm,0.3s,baz=342,slow=19,SNR=15						
WRA	**Warramunga Ar**	**15.07**	**161**	*i*P	**P**	**03 34 43.2**	**-2.6**
WRA				pmax	pmax		
	comp=Z,802nm,0.8s						
WB2	**Warramunga Arr**	**15.07**	**161**	*e*P	**P**	**03 34 45.2**	**-0.6**
	comp=Z,1μm,0.8s						
JAGI	**Jajag, Banyuwa**	**15.16**	**259**	P	**Pn**	**03 34 47.5**	**-0.1**
	comp=Z,128nm,0.7s,comp=Z,2μm						
KMMI	**Kalianget**	**15.18**	**264**	P	**Pn**	**03 34 50.7**	**+3.0**
	comp=Z,262nm,1.1s,comp=Z,2μm						
DCPH	**Dipolog City**	**15.29**	**338**	‖*e*P	**Pn**	**03 34 52.2**	**+3.2**
BLJI	**Banyuglugur**	**15.61**	**261**	P	**Pn**	**03 34 54.0**	**+1.1**
	comp=Z,436nm,1.3s

FORT	Forrest	25.02	182	eP		P		03	36	26.5 +0.2
	comp=Z,300nm,0.7s									
QLP	Quilpie	25.29	147	P		P		03	36	30.0 +1.2
	baz=25,SNR=6.8									
MNAI	Manna	26.15	272	eP		P		03	36	34.9 -1.7
	comp=Z,94nm,0.9s									
MYKOM	Kota Tinggi	26.35	286	eP		P		03	36	39.6 +1.1
	comp=Z,29nm,0.7s									
MYKOM	Kota Tinggi	26.35	286	P		P		03	36	38.0 -0.4
MORW	Morawa	26.40	207	P		P		03	36	38.2 -0.5
	baz=26,SNR=13									
BLDU	Ballidu	27.46	204	P		P		03	36	47.9 -0.2
	baz=28,SNR=12									
BBOO	Buckleboo	27.77	167	P		P		03	36	51.1 +0.3
	baz=28,SNR=94									
BBOO	Buckleboo	27.77	167	eP		P		03	36	51.0 +0.1
	comp=Z,80nm,0.6s									
RMQ	Roma	27.91	140	P		P		03	36	53.2 +1.1
	baz=28,SNR=6.7									
KLBR	Kellerberrin	27.93	201	P		P		03	36	52.4 +0.1
	baz=28,SNR=82									
STKA	Stephens Creek	28.56	157	P		P		03	36	58.6 +0.8
	comp=Z,47nm,0.8s,baz=332,slow=9.5,SNR=63									
STKA	Stephens Creek	28.56	157	P		P		03	36	58.5 +0.6
	baz=29,SNR=46									
STKA	Stephens Creek	28.56	157	eP		P		03	36	58.5 +0.6
	comp=Z,11nm,0.9s									
STKA	Stephens Creek	28.56	157	eP		P		03	36	58.5 +0.6
STKA					pmax	pmax				
	comp=Z,11nm,0.9s									
EIDS	Eidsvold	28.72	135	P		P		03	36	59.3 -0.1
	baz=29,SNR=3.3									
EIDS	Eidsvold	28.72	135	eP		P		03	36	59.2 -0.1
	comp=Z,11nm,0.7s									
MUN	Mundaring	28.86	203	P		P		03	37	00.5 0.0
	baz=29,SNR=12									
PDSI	Padang	29.04	278	P		P		03	37	01.3 -1.0
	comp=Z,48nm,1.0s									
HTT	Hallett	29.09	163	P		P		03	37	03.3 +0.8
	baz=29,SNR=14									
NWAO	Narrogin (SRO)	29.33	201	P		P		03	37	04.8 +0.2
	comp=Z,58nm,0.5s,baz=266,slow=8.0,SNR=60									
NWAO	Narrogin (SRO)	29.33	201	P		P		03	37	04.9 +0.2
	baz=29,SNR=25									
NWAO	Narrogin (SRO)	29.33	201	eP		P		03	37	04.8 +0.2
	comp=Z,157nm,1.1s									
NWAO	Narrogin (SRO)	29.33	201	eP		P		03	37	04.8 +0.2
NWAO					pmax	pmax				
	comp=Z,157nm,1.1s									
IPM	Ipoh	29.86	289	eP		P		03	37	09.7 +0.2
	comp=Z,17nm,0.7s									
TPUB	Ta-pu	29.96	344	eP		P		03	37	08.5 -1.8
	comp=Z,82nm,1.5s									
CMSA	Cobar Meteorol	30.05	151	P		P		03	37	12.4 +1.4
	baz=30,SNR=8.4									
MNSI	Mandalling Nat	30.23	281	P		P		03	37	12.6 -0.2
	comp=Z,61nm,0.8s,comp=Z,13µm									
KULM	Kulim	30.48	290	eP		P		03	37	14.0 -1.0
	comp=Z,35nm,0.7s									
YOJ	Yonaguni jima	30.53	349	eP		P		03	37	14.3 -0.8
	comp=Z,243nm,1.2s									
YOJ	Yonaguni jima	30.53	349	eP		P		03	37	14.4 -0.8
YOJ					pmax	pmax				
	comp=Z,243nm,1.2s									
NACB	Ninganchiao	30.55	346	eP		P		03	37	12.4 -3.1
	comp=Z,28nm,1.0s									
RKGY	Rocky Gully	30.94	200	P		P		03	37	20.2 +1.4
	baz=31,SNR=50									
YHNB	Yeheng	31.08	346	eP		P		03	37	17.6 -2.5
	comp=Z,29nm,0.8s									
PSI	Prapat	31.36	285	eP		P		03	37	20.7 -2.1
	comp=Z,54nm,1.0s									
PSI	Prapat	31.36	285	eP		P		03	37	20.7 -2.1
PSI					pmax	pmax				
	comp=Z,54nm,1.0s									
UBPT	Khong Chiam	31.37	312	P		P		03	37	22.8 +0.1
	comp=Z,43nm,0.7s									
PATS	Pohnpei	31.62	67	P		P		03	37	25.3 +0.4
	baz=32,SNR=6.3									
PATS	Pohnpei	31.62	67	eP		P		03	37	25.3 +0.4
	comp=Z,68nm,1.0s									
GSI	Gunungsitoli	32.30	281	eP		P		03	37	30.3 -0.6
	comp=Z,78nm,1.2s									
GSI	Gunungsitoli	32.30	281	P		P		03	37	31.0 +0.1
	comp=Z,59nm,0.9s									
JOW	Kunigami	32.30	359	eP		P		03	37	31.3 +0.6
	comp=Z,106nm,0.8s									
ARMA	Armidale	32.46	142	P		P		03	37	33.9 +1.8
	baz=33,SNR=27									
ARMA	Armidale	32.46	142	eP		P		03	37	34.0 +1.8
	comp=Z,27nm,0.8s									
COCO	West Island	32.58	256	eP		P		03	37	30.5 -2.7
	comp=Z,44nm,0.6s									
COCO	West Island	32.58	256	eP		P		03	37	30.5 -2.7
COCO					pmax	pmax				
	comp=Z,44nm,0.6s									
ARPS	Mount Arapiles	33.07	161	P		P		03	37	38.9 +1.7
	baz=33,SNR=22									
SKNT	Sakolnakorn	33.55	313	P		P		03	37	41.7 +0.1
	comp=Z,15nm,1.1s									
YNG	Young	33.61	150	P		P		03	37	44.0 +2.1
	baz=34,SNR=12									
MGCD	Mangrove Creek	34.18	146	P		P		03	37	47.3 +0.5
	baz=34,SNR=5.3									
CHAI	Chaiyaphum	34.39	309	P		P		03	37	48.3 -0.6
	comp=Z,14nm,0.7s,comp=Z,132nm									
PHET	Kaeng Krachan	34.66	302	P		P		03	37	51.8 +0.6
	comp=Z,13nm,0.6s,comp=Z,147nm									
CAN	Canberra	34.72	151	eP		P		03	37	53.2 +1.7
	comp=Z,52nm,0.8s									
CAN	Canberra	34.72	151	eP		P		03	37	53.2 +1.7
CAN					pmax	pmax				
	comp=Z,52nm,0.8s									
NONG	Nongkai	34.85	313	P		P		03	37	52.6 -0.2
	comp=Z,0.7nm,0.7s									
CNB	Canberra Magne	34.90	150	P		P		03	37	55.0 +2.0
	baz=35,SNR=8.3									
CBIJ	Chichi jima	34.91	21	eP		P		03	37	51.7 -1.4
	comp=Z,89nm,0.7s									
TOO	Toolangi	35.08	157	P		P		03	37	57.0 +2.5
	baz=35,SNR=24									
PBKT	Sadao Pong	35.57	309	eP		P		03	37	58.6 -0.2
	comp=Z,14nm,1.3s									
PBKT	Sadao Pong	35.57	309	P		P		03	38	00.0 +1.1
	comp=Z,6.8nm,0.6s,comp=Z,644nm									
SRDT	SRDT	35.83	304	P		P		03	38	01.5 +0.4
	comp=Z,48nm,0.9s									
UTHA	Uthaitani	36.21	306	P		P		03	38	03.9 -0.4
	comp=Z,14nm,0.7s,comp=Z,116nm									
UMPA	Umpang Tak	37.03	306	P		P		03	38	11.5 +0.3
	comp=Z,7.9nm,0.9s									
SUKH	Sukhothai	37.14	309	P		P		03	38	12.3 +0.2
	comp=Z,14nm,0.8s									
LAMP	Lampang	37.75	310	P		P		03	38	17.8 +0.6
	comp=Z,12nm,0.8s,comp=Z,107nm									
PAYA	Payao	38.08	311	P		P		03	38	20.0 0.0
	comp=Z,9.1nm,0.8s,comp=Z,102nm									
CM01	Chiang Mai Arr	38.21	309	eP		P		03	38	20.9 -0.1
CM31	Chiang Mai Arr	38.24	309	eP		P		03	38	22.1 +0.7
CM31					ePcP	PcP		03	40	31.6 +1.6
CM31	Chiang Mai Arr	38.24	309	P		P		03	38	21.4 +0.1
	SNR=8.0									
CMAR	Chiang Mai Arr	38.24	309	P		P		03	38	21.6 +0.2
	comp=Z,15nm,0.6s,baz=141,slow=7.6,SNR=60									
CMAR					PcP	PcP		03	40	31.6 +1.6
	comp=Z,3.7nm,0.7s,baz=174,slow=2.8,SNR=5.4									
CMMT	Chiang Mai	38.45	310	P		P		03	38	22.8 -0.2
	comp=Z,42nm,0.7s									
CHTO	Chiang Mai	38.45	310	eP		P		03	38	22.9 -0.2
	comp=Z,31nm,0.8s									
CHTO	Chiang Mai	38.45	310	P		P		03	38	22.9 -0.2
	SNR=11									
CHTO	Chiang Mai	38.45	310	eP		P		03	38	22.9 -0.2
CHTO					pmax	pmax				
	comp=Z,31nm,0.8s									
CHTO	Chiang Mai	38.45	310	P		P		03	38	22.9 -0.2
	comp=Z,188nm,0.8s,comp=Z,2µm									
JNU	Nakatsue	38.60	2	eP		P		03	38	22.3 -1.7
	comp=Z,39nm,0.9s									
GYA	Guiyang	38.66	327	⇑P		P		03	38	25.4 +0.6
GYA					pP	pP		03	39	13.3 -4.3
GYA					PP	PnPn		03	40	04.0 -0.8
GYA					PcP	PcP		03	40	33.1 +1.8
GYA					S	S		03	44	05.8 +3.8
GYA					pmax	pmax				
	comp=Z,20nm,1.0s									
GYA					pmax	pmax				
	comp=Z,120nm,4.9s									

NJ2	Nanjing	38.76	346	eP		P		03	38	25.5 +0.1
NJ2					pmax	pmax				
	comp=Z,30nm,0.7s									
DZM	Mont Dzumac	39.54	118	P		P		03	38	32.8 +0.6
	comp=Z,22nm,0.7s,baz=261,slow=8.4,SNR=29									
DZM	Mont Dzumac	39.54	118	eP		P		03	38	32.6 +0.4
	comp=Z,28nm,0.8s									
KMI	Kunming	39.96	321	P		P		03	38	36.4 +0.8
KMI					pmax	pmax				
	comp=Z,24nm,0.7s									
KMI					LR	LR				
	comp=Z,290nm,13.7s									
KMI					LR	LR				
	comp=Z,210nm,15.3s									
KMI					LR	LR				
	comp=Z,280nm,14.7s									
TJN	Taejon	41.84	358⇑	eP		P		03	38	51.1 +0.6
MJAR	Matsushiro Arr	42.82	11	P		P		03	38	57.1 -1.3
	comp=Z,14nm,0.8s,baz=195,slow=10,SNR=28									
MAJO	Matsushiro	42.82	11	eP		P		03	38	57.4 -1.1
	comp=Z,33nm,1.0s									
MAJO	Matsushiro	42.82	11⇑	eP		P		03	38	57.3 -1.1
MAJO					pmax	pmax				
	comp=Z,20nm,0.9s									
MJB9	Matsu-Tunnel	42.82	11	eP		P		03	38	57.4 -1.0
	comp=Z,34nm,1.0s									
KS15	Wonju Array Si	42.89	358	eP		P		03	38	59.5 +0.6
KSAR	Wonju Array Be	42.89	358	P		P		03	38	59.5 +0.6
KSAR	Wonju Array Be	42.89	358	eP		P		03	38	59.5 +0.6
KSRS	Korea Array	42.90	359	P		P		03	38	59.5 +0.5
	comp=Z,9.9nm,0.6s,baz=176,slow=9.4,SNR=26									
KS01	Wonju Array Si	42.92	359	eP		P		03	38	59.3 +0.2
CD2	Chengdu	43.73	328	eP		P		03	39	06.8 +1.0
CD2					S	S		03	45	19.8 +3.6
CD2					pmax	pmax				
	comp=Z,10.0nm,0.5s									
CD2					pmax	pmax				
	comp=Z,120nm,5.0s									
CD2					LR	LR				
	comp=Z,940nm,18.1s									
CD2					LR	LR				
	comp=Z,800nm,14.2s									
XAN	Xi'an	43.88	336	P		P		03	39	05.6 -1.3
XAN					pmax	pmax				
	comp=Z,18nm,0.7s									
XAN					pmax	pmax				
	comp=Z,140nm,4.0s									
BJT	Baijiatuan	47.00	346	eP		P		03	39	31.2 +0.1
	comp=Z,35nm,0.6s									
BJT	Baijiatuan	47.00	346	eP		P		03	39	31.2 +0.1
BJT					pmax	pmax				
	comp=Z,35nm,0.6s									
SHL	Shillong	47.69	312	eP		P		03	39	35.7 -1.2
	comp=Z,19nm,0.8s									
SHL	Shillong	47.69	312	eP		P		03	39	35.7 -1.2
SHL					pmax	pmax				
	comp=Z,19nm,0.8s									
SHL	Shillong	47.69	312	eP		P		03	39	36.0 -0.9
LZH	Lanzhou	47.84	332	⇓P		P		03	39	38.5 +0.7
LZH					pP	pP		03	40	30.2 -2.7
LZH					sP	sP		03	40	57.0 -4.8
LZH					PP	PP		03	41	33.6 +1.2
LZH					S	S		03	46	12.2 -2.6
LZH					sS	sS		03	47	48.0 -4.2
LZH					SS	SS		03	49	44.2 -3.1
LZH					pmax	pmax				
	comp=Z,55nm,1.0s									
LZH					pmax	pmax				
	comp=Z,270nm,5.2s									
HHC	Hu-ho-hao-te	49.02	342	eP		P		03	39	48.4 +1.8
HHC					S	S		03	46	32.7 +1.7
HHC					pmax	pmax				
	comp=Z,19nm,0.9s									
HHC					pmax	pmax				
	comp=Z,280nm,7.7s									
HHC					LR	LR				
	comp=Z,490nm,13.8s									
HHC					LR	LR				
	comp=Z,410nm,13.0s									
HHC					LR	LR				
	comp=Z,560nm,14.7s									
CN2	Changchun	49.34	356	eP		P		03	39	48.8 -0.1
CN2					pmax	pmax				
	comp=Z,10.0nm,0.6s									
USA0B	Ussuriysk Arra	49.69	3	eP		P		03	39	51.9 +0.4
	comp=Z,12nm,0.8s									
USRK	Ussuriysk Ar.	49.69	3	P		P		03	39	51.5 +0.1
	comp=Z,12nm,0.8s,baz=183,slow=7.0,SNR=22									
MDJ	Mudanjiang	50.04	0	P		P		03	39	50.6 -3.5
MDJ					pmax	pmax				
	comp=Z,17nm,1.3s									
MDJ					pmax	pmax				
	comp=Z,240nm,4.3s									
LSA	Lhasa	50.66	316	eP		P		03	39	59.6 0.0
	comp=Z,18nm,0.7s									
LSA	Lhasa	50.66	316	P		P		03	40	00.1 +0.5
LSA	Lhasa	50.66	316	eP		P		03	39	59.6 0.0
LSA					pmax	pmax				
	comp=Z,18nm,0.7s									
ODAN	Odare	51.76	311	eP		P		03	40	06.9 -0.6
	comp=Z,91nm,0.5s									
TAPN	Taplejung	51.78	311	eP		P		03	40	07.1 -0.7
	comp=Z,95nm,0.4s									
GRZ	Great Barrier	52.16	132	P		P		03	40	11.8 +1.8
MKAZ	Moumakai	52.30	133	P		P		03	40	13.0 +1.9
GTA	Gaotai	52.40	331	⇑P		P		03	40	12.3 +0.4
GTA					pP	pP		03	41	04.3 -3.7
GTA					PcP	PcP		03	41	16.9 -2.1
GTA					PP	PP		03	42	15.1 +1.4
GTA					ScP	ScP		03	44	50.2 -1.0
GTA					S	S		03	47	20.3 +2.8
GTA					SS	SS		03	51	01.3 +1.8
GTA					pmax	pmax				
	comp=Z,16nm,0.7s									
GTA					pmax	pmax				
	comp=Z,82nm,6.5s									
GTA					LR	LR				
	comp=Z,310nm,17.8s									
GTA					LR	LR				
	comp=Z,240nm,18.7s									
GTA					LR	LR				
	comp=Z,520nm,17.1s									
RAMN	Ramite	52.40	310	eP		P		03	40	12.1 -0.2
	comp=Z,205nm,0.5s									
KUZ	Kuaotunu	52.55	133	P		P		03	40	14.3 +1.4
HIZ	Hauiti	52.69	135	P		P		03	40	15.9 +2.0
RPZ	Rata Peaks	52.80	143	P		P		03	40	15.6 +1.0
	comp=Z,23nm,0.7s,baz=294,slow=3.6,SNR=14									
TOZ	Tahuroa Road	52.81	134	P		P		03	40	16.6 +1.9
THZ	Tophouse	52.92	140	eP		P		03	40	17.2 +1.6
	comp=Z,18nm,0.8s									
JIRN	Jiri	53.09	311	eP		P		03	40	16.9 -0.5
	comp=Z,73nm,0.5s									
TLZ	Tolley Road	53.09	135	P		P		03	40	19.0 +2.1
WAZ	Wanganui	53.34	136	P		P		03	40	20.8 +2.2
PKVZ	Pokaka	53.38	136	P		P		03	40	20.6 +1.6
GUN	Gumba	53.45	311	eP		P		03	40	19.6 -0.4
	comp=Z,148nm,0.6s									
WTVZ	West Tongariro	53.47	135	P		P		03	40	21.4 +1.7
COVZ	Chateau Observ	53.48	136	P		P		03	40	21.1 +1.4
KRVZ	Karewarewa	53.50	135	P		P		03	40	21.6 +1.6
NGZ	Ngauruhoe	53.51	136	P		P		03	40	21.4 +1.4
OTVZ	Oturere	53.55	135	P		P		03	40	22.0 +1.7
WNVZ	Wahianoa	53.57	136	P		P		03	40	21.9 +1.4
OMRZ	Omania	53.59	134	P		P		03	40	21.5 +1.0
PKI	Pulchoki	53.63	310	eP		P		03	40	20.5 -0.8
	comp=Z,41nm,0.5s									
PKIN	Phulchoki	53.64	310	eP		P		03	40	20.4 -0.9
	comp=Z,36nm,0.5s									
KHZ	Kahutara	53.66	140	eP		P		03	40	21.9 +1.1
	comp=Z,63nm,1.4s									
KHZ	Kahutara	53.66	140	P		P		03	40	21.6 +0.8
MOVZ	Moawhango	53.71	136	P		P		03	40	21.8 +0.3
YSS	Yuzh-Sakhalins	53.74	12	P		P		03	40	11.9 -9.4
KKN	Kakani	53.84	310	eP		P		03	40	22.2 -0.5
	comp=Z,74nm,0.6s									
DMN	Daman	53.88	310	eP		P		03	40	22.4 -0.6
	comp=Z,57nm,0.5s									
MRHZ	Matea Rd	53.93	135	P		P		03	40	24.8 +1.8
BHHZ	Black Hill Sta	53.97	136	P		P		03	40	23.7 +0.5
BKZ	Black Stump Fm	54.13	135	eP		P		03	40	24.6 +0.2
	comp=Z,45nm,1.0s									
BKZ	Black Stump Fm	54.13	135	P		P		03	40	24.6 +0.2
TSZ	Takapari Road	54.15	136	P		P		03	40	25.3 +0.8
MRZ	Mangatainoka R	54.16	137	P		P		03	40	24.7 +0.2

URZ	Urewera	54.18	134	P		P		03	40	25.2 +0.5
	comp=Z,21nm,0.5s,baz=264,slow=4.5,SNR=20									
URZ	Urewera	54.18	134	eP		P		03	40	25.2 +0.5
	comp=Z,23nm,0.6s									
KWHZ	Kaweka Forest	54.19	135	P		P		03	40	25.8 +1.0
MTHZ	Maungataniwha	54.24	135	P		P		03	40	26.0 +0.8
RAHZ	Arahi	54.44	135	P		P		03	40	27.4 +0.8
HAZ	Te Kaha	54.47	133	P		P		03	40	27.1 +0.4
RUGZ	Raukumara Rang	54.47	133	P		P		03	40	26.9 0.0
RAGZ	Rawiri	54.50	134	P		P		03	40	28.0 +0.9
MWZ	Matawai	54.51	134	P		P		03	40	27.9 +0.8
BFZ	Birch Farm	54.62	137	P		P		03	40	25.9 -2.0
KLR	Kul'dur	54.70	2⇑	eP		P		03	40	28.3 +0.1
MXZ	Matakaoa Point	54.77	133	eP		P		03	40	30.1 +1.2
	comp=Z,56nm,0.5s									
MXZ	Matakaoa Point	54.77	133	P		P		03	40	29.9 +0.9
KNZ	Kokohu	54.90	135	P		P		03	40	30.2 +0.4
PUZ	Puketiti	54.94	133	P		P		03	40	31.0 +0.8
KOLN	Koldanda	55.11	310	eP		P		03	40	31.3 -0.5
	comp=Z,94nm,0.6s									
DANN	Dangsing	55.28	310	eP		P		03	40	32.6 -0.5
	comp=Z,70nm,0.6s									
PYUN	Piuthan	55.74	310	eP		P		03	40	36.0 -0.3
	comp=Z,106nm,0.6s									
ULN	Ulaanbaatar	56.74	342	eP		P		03	40	43.7 +0.8
	comp=Z,13nm,0.5s									
ULN	Ulaanbaatar	56.74	342	*d iP		P		03	40	43.4 +0.6
ULN				*i	*PP	PcP		03	41	35.8 +0.2
ULN					pmax	pmax				
	comp=Z,10.0nm,0.6s									
SONA0	Songino Array	56.91	342	eP		P		03	40	44.9 +0.9
SONA0					epP	pP		03	41	43.7 +2.6
SONM	Songino Array	56.91	342	P		P		03	40	44.9 +0.9
	comp=Z,6.3nm,0.6s,baz=162,slow=8.4,SNR=24									
SONM					pP	pP		03	41	43.7 +2.6
	comp=Z,6.7nm,0.9s,baz=165,slow=8.1,SNR=3.6									
SONA1	Songino Array	56.92	342	eP		P		03	40	44.6 +0.5
AFI	Afiamalu	58.64	103	P		P		03	40	57.2 +0.7
	comp=Z,24nm,0.7s,baz=168,slow=5.0,SNR=4.5									
AFI	Afiamalu	58.64	103	eP		P		03	40	57.2 +0.7
	comp=Z,39nm,1.0s									
AFI	Afiamalu	58.64	103	eP		P		03	40	57.2 +0.7
AFI					pmax	pmax				
	comp=Z,39nm,1.0s									
KNTN	Kanton	59.00	90	eP		P		03	41	00.2 +1.3
	comp=Z,34nm,0.6s									
ZEA	Zeya	59.19	359	eP		P		03	41	00.5 +1.0
WMQ	Urumqi	61.82	327	P		P		03	41	18.2 +0.7
WMQ					sP	sP		03	42	34.7 -9.1
WMQ					pmax	pmax				
	comp=Z,100nm,0.9s									
WMQ					pmax	pmax				
	comp=Z,430nm,4.5s									
WMQ					LR	LR				
	comp=Z,980nm,25.1s									
WMQ					LR	LR				
	comp=Z,770nm,22.9s									
WMQ					LR	LR				
	comp=Z,580nm,19.9s									
CASY	Casey	61.90	188	eP		P		03	41	17.7 +0.2
	comp=Z,16nm,1.0s									
MOY	Mondy	61.98	341	eP		P		03	41	20.0 +1.6
PETK	Petropavlovsk-	63.32	19	P		P		03	41	27.6 +0.6
	comp=Z,7.7nm,0.8s,baz=187,slow=7.9,SNR=7.5									
PETK					PcP	PcP		03	42	01.5 -0.2
	comp=Z,6.4nm,0.5s,baz=194,slow=4.3,SNR=7.6									
PETK					pP	pP		03	42	28.4 +3.0
	comp=Z,9.1nm,0.7s,baz=196,slow=6.9,SNR=6.3									
PETK	Petropavlovsk-	63.32	19	eP		P		03	41	27.7 +0.6
PETK					epP	pP		03	42	29.0 +3.6
PETK	Petropavlovsk-	63.32	19	eP		P		03	41	27.7 +0.6
PETK					e*PP	pP		03	42	29.0 +3.6
PEA1	Petropavlovsk-	63.32	19	eP		P		03	41	27.6 +0.6
PEA1					ePcP	PcP		03	42	01.5 -0.2
PEA1					epP	pP		03	42	28.4 +3.0
HVS	Khovu-Aksy	64.24	336⇑	eP		P		03	41	34.3 +1.1
HVS					pmax	pmax				
	comp=Z,27nm,0.6s									
BOD	Bodaibo	64.44	351	eP		P		03	41	31.6 -2.7
BOD					e			03	42	25.9
BOD					pmax	pmax				
	comp=Z,8.0nm,1.5s									
KSH	Kashi	66.47	318	P		P		03	41	48.4 +0.6
KSH					pP	pP		03	42	40.7 -6.1
KSH					PP	PP		03	44	20.9 +2.9
KSH					S	S		03	50	11.9 -5.4

ZALV pP **pP** 03 43 12.4 +3.6
comp=Z,8.2nm,1.0s,baz=134,slow=4.3,SNR=2.4
ZALV Zalesovo Beam 70.02 334 *eP* **P** 03 42 08.6 -0.7
ZALV Zalesovo Beam 70.02 334 *eP* **P** 03 42 08.6 -0.7
ZAA1 Zalesovo Array 70.02 334 *eP* **P** 03 42 08.9 -0.3
ZAA1 *e*pP **pP** 03 43 12.4 +3.6
SEY Seymchan 70.65 11 P **P** 03 42 13.8 +1.0
comp=Z,15nm,0.6s,baz=213,slow=4.2,SNR=32
SEY Seymchan 70.65 11⇓ *eP* **P** 03 42 13.6 +0.7
KURK Kurchatov 70.95 329 *eP* **P** 03 42 15.1 +0.2
comp=Z,57nm,0.9s
KURK Kurchatov 70.95 329 P **P** 03 42 15.2 +0.2
SNR=24
KURK Kurchatov 70.95 329 *c iP* **P** 03 42 14.8 -0.1
KURK pmax pmax
comp=Z,66nm,1.0s
NVS Novosibirsk 71.31 334⇓ *iP* **P** 03 42 17.0 0.0
NVS *i* 03 43 13.8
NVS *i* S **S** 03 51 09.9 -3.0
NVS pmax pmax
comp=N,17nm,1.2s
NVS pmax pmax
comp=Z,27nm,1.2s
NVS pmax pmax
comp=E,19nm,1.4s
NVS smax smax
comp=N,15nm,1.5s
NVS smax smax
comp=E,26nm,1.5s
KK31 Karatay Array 71.79 319 *eP* **P** 03 42 20.5 +0.3
KK31 Karatay Array 71.79 319 *eP* **P** 03 42 20.5 +0.3
KKAR Karatay Array 71.79 319 *eP* **P** 03 42 20.5 +0.3
KKAR Karatay Array 71.79 319 *eP* **P** 03 42 20.5 +0.3
VNDA Vanda 73.88 173 P **P** 03 42 32.0 +0.3
comp=E,3.1nm,0.8s,baz=318,slow=6.0,SNR=26
VNDA Vanda 73.88 173 *eP* **P** 03 42 31.7 -0.1
comp=E,6.3nm,1.0s
VNDA Vanda 73.88 173 *eP* **P** 03 42 31.7 -0.1
VNDA pmax pmax
comp=Z,6.0nm,1.0s
WSAR Wadi Sarin 74.54 296 P **P** 03 42 36.7 0.0
SBA Scott Base 74.77 172 *eP* **P** 03 42 38.0 +1.1
comp=Z,9.8nm,1.4s
SBA Scott Base 74.77 172 *eP* **P** 03 42 38.0 +1.1
SBA pmax pmax
comp=Z,10.0nm,1.4s
BIDO Bidbid 75.05 296 P **P** 03 42 39.7 +0.2
SNR=6.8
MAW Mawson 75.90 201 P **P** 03 42 44.0 +0.6
comp=Z,8.7nm,0.8s,baz=55,slow=6.7,SNR=18
MAW Mawson 75.90 201 P **P** 03 42 44.0 +0.6
baz=76,SNR=11
MAW Mawson 75.90 201 *eP* **P** 03 42 44.0 +0.6
comp=Z,3.4nm,1.1s
MAW Mawson 75.90 201 *eP* **P** 03 42 44.0 +0.6
MAW pmax pmax
comp=Z,3.0nm,1.1s
BVA0 Borovoye Array 76.49 328 *i* P **P** 03 42 46.8 -0.2
BVA0 pmax pmax
comp=Z,18nm,1.1s
BRVK Borovoye 76.56 328 *eP* **P** 03 42 47.6 +0.2
comp=Z,14nm,0.8s
BRVK Borovoye 76.56 328 P **P** 03 42 47.5 0.0
SNR=6.3
BRVK Borovoye 76.56 328 *c iP* **P** 03 42 47.3 -0.1
BRVK pmax pmax
comp=Z,16nm,0.8s
SOHO SOHO 76.61 296 *i* P **P** 03 42 48.2 -0.1
SNR=6.5
UOSS Minazif 77.08 297 P **P** 03 42 49.3 -1.6
HATD Hatta, Dubai 77.12 297 P **P** 03 42 50.3 -0.9
TIXI Tiksi 77.15 360 *eP* **P** 03 42 49.4 -0.9
comp=Z,11nm,0.5s
TIXI Tiksi 77.15 360⇓ *eP* **P** 03 42 49.6 -0.7
TIXI pmax pmax
comp=Z,8.0nm,0.6s
BANOM Banah 77.21 298 *i* P **P** 03 42 52.0 +0.3
SNR=12
MSFE Esma-Masafi 77.21 297 *i* P **P** 03 42 52.2 +0.6
SNR=6.1
SHME Shamm 77.38 298 *i* P **P** 03 42 52.7 +0.1
SNR=6.6
NAZ Nazwa, Dubai 77.57 297 P **P** 03 42 53.1 -0.5
FAQ Al Faqa, Dubai 77.58 297 *i* P **P** 03 42 53.6 -0.1
SNR=6.9
ASUD Al Ashush, Dub 77.79 297 P **P** 03 42 55.3 +0.5
GEYT Alibeck 78.72 310 P **P** 03 42 59.5 -0.3
comp=Z,1.2nm,0.3s,baz=150,slow=6.3,SNR=4.1
NRIK Noril'sk 80.06 346 P **P** 03 43 06.7 +0.5
comp=Z,9.9nm,0.8s,baz=151,slow=24,SNR=11
AB31 Akbulak array 80.95 322 P **P** 03 43 10.8 -0.5
AB31 pmax pmax
comp=Z,9.0nm,0.6s
ABKAR Akbulak array 80.95 322 *eP* **P** 03 43 11.0 -0.3
AKTO Aktyubinsk 82.51 322 P **P** 03 43 19.0 -0.4
AKTO pmax pmax
comp=Z,9.0nm,0.7s
SVE Sverdlovsk 83.20 329⇑ *iP* **P** 03 43 23.1 +0.3
SVE pmax pmax
comp=Z,40nm,1.2s
ARU Arti 84.14 328 *d iP* **P** 03 43 27.3 -0.2
ARU 03 46 41.0
ARU S **S** 03 53 26.6 -3.3
ARU SS **SS** 03 59 02.8 -2.6
ARU pmax pmax
comp=Z,28nm,1.0s
QSPA South Pole Qui 84.31 180 P **P** 03 43 28.2 -0.3
comp=Z,3.5nm,0.6s,baz=134,slow=1.0,SNR=7.8
QSPA South Pole Qui 84.31 180 *eP* **P** 03 43 28.0 -0.5
QSPA *e*PcP **PcP** 03 43 31.0 -0.7
RAYN Ar Rayn 86.45 294 *eP* **P** 03 43 39.6 -0.2
comp=Z,12nm,0.7s
RAYN Ar Rayn 86.45 294 *i* P **P** 03 43 39.8 0.0
SNR=9.9
RAYN Ar Rayn 86.45 294 *eP* **P** 03 43 39.6 -0.2
RAYN pmax pmax
comp=Z,12nm,0.7s
KDAK Kodiak Island 88.51 32 P **P** 03 43 48.4 -0.2
comp=Z,6.6nm,0.6s,baz=201,slow=2.4,SNR=8.3
GNI Garni 89.36 310⇑ *eP* **P** 03 43 52.0 -1.3
GNI pmax pmax
comp=Z,6.0nm,0.8s
IM3 Indian Mountai 89.90 24 *eP* **P** 03 43 54.5 -0.5
ZEI Tsey 90.33 313 *eP* **P** 03 43 57.3 -0.5
ZEI pmax pmax
comp=Z,6.0nm,1.0s
MLY Manley 90.91 25 *eP* **P** 03 43 59.8 0.0
comp=Z,10nm,0.9s
KBZ Khabaz 91.17 314 P **P** 03 44 01.1 -0.3
comp=Z,2.7nm,0.9s,baz=186,slow=4.4,SNR=5.0
RND Reindeer 91.42 26 *eP* **P** 03 44 01.4 -0.8
comp=Z,22nm,0.7s
RND Reindeer 91.42 26 *eP* **P** 03 44 01.4 -0.8
RND pmax pmax
comp=Z,22nm,0.7s
MCK McKinley 91.44 26 *eP* **P** 03 44 01.5 -0.8
comp=Z,12nm,1.1s
MCK McKinley 91.44 26 *eP* **P** 03 44 01.5 -0.8
MCK pmax pmax
comp=Z,13nm,1.1s
WRH Wood River Hil 91.93 25 *eP* **P** 03 44 03.5 -0.9
comp=Z,12nm,0.9s
DHY Denali Highway 92.03 27 *eP* **P** 03 44 05.1 0.0
comp=Z,14nm,0.8s
TOLK Toolik Lake Re 92.04 21 P **P** 03 44 05.0 0.0
baz=260
CCB Clear Creek Bu 92.08 25 *eP* **P** 03 44 03.9 -1.2
comp=Z,14nm,0.9s
TCOL CIGO, UAF Yank 92.09 25 P **P** 03 44 07.2 +2.0
baz=261
HDA Harding Lake 92.41 26 P **P** 03 44 05.2 -1.5
baz=262
ILAR Eielson Array 92.49 25 P **P** 03 44 05.5 -1.5
comp=Z,3.9nm,0.8s,baz=265,slow=4.4,SNR=29
ILB Eielson Array 92.49 25 *eP* **P** 03 44 05.2 -1.8
RIDG Independ'e Rid 93.25 26 *eP* **P** 03 44 10.3 -0.3
comp=Z,14nm,0.7s
NVL N'lazarevskaya 93.39 197 *eP* **P** 03 44 10.8 -0.3
NVL pmax pmax
comp=Z,3.0nm,0.5s
DOT Dot Lake 93.58 27 *eP* **P** 03 44 12.0 -0.2
comp=Z,9.9nm,0.7s
SCRK Sand Creek 93.65 26 *eP* **P** 03 44 12.2 -0.3
comp=Z,4.1nm,0.8s
EGAK Eagle 94.93 25 *eP* **P** 03 44 18.1 -0.1
comp=Z,6.8nm,0.9s

DAWY Dawson 95.67 26 *eP* **P** 03 44 21.2 -0.5
comp=Z,14nm,1.0s
OBN Obninsk 96.09 325⇓ *eP* **P** 03 44 22.0 -1.6
OBN *PP **pP** 03 45 21.0 -5.4
OBN pmax pmax
comp=Z,46nm,2.5s
EPYK Eagle Plains 96.80 24 P **P** 03 44 27.4 +0.7
baz=272
BR101 Keskin Array S 97.83 309 *eP* **P** 03 44 30.6 -1.6
BRTR Keskin Array B 97.83 309 P **P** 03 44 30.6 -1.6
comp=Z,0.7nm,0.8s,baz=120,slow=5.0,SNR=4.3
INK Inuvik 97.93 22 P **P** 03 44 30.4 -1.2
comp=Z,4.4nm,0.9s,baz=301,slow=5.3,SNR=8.4
INK Inuvik 97.93 22 *eP* **P** 03 44 30.4 -1.2
comp=Z,5.7nm,1.0s
INK Inuvik 97.93 22 *eP* **P** 03 44 30.4 -1.2
INK pmax pmax
comp=Z,6.0nm,1.0s
ARA0 ARCESS Array S 100.04 340 *e*PKiKP **PKiKP** 03 49 06.6 -0.8
ARCES ARCESS Array B 100.04 340 P **Pdif** 03 44 40.0 -1.1
comp=Z,4.1nm,0.9s,baz=84,slow=4.7,SNR=9.7
ARCES PKiKP **PKiKP** 03 49 06.6 -0.8
comp=Z,2.1nm,0.9s,baz=107,slow=1.0,SNR=13
BUR04 Bucovina Ar. S 103.56 318 *e*Pdif **Pdif** 03 44 57.5 +0.1
ARSA Arzberg 110.09 318 PKiKP **PKiKP** 03 49 27.1 +0.5
comp=Z,4.6nm,1.3s
MOA Molln 110.77 319 PKiKP **PKiKP** 03 49 26.5 -1.4
comp=Z,12nm,1.7s
GERES GERESS Array B 110.87 320 PKiKP **PKiKP** 03 49 27.8 -0.3
comp=Z,1.3nm,0.5s,baz=85,slow=2.4,SNR=8.0
NV01 Mina Array Sit 111.10 51 *e*PKiKP **PKiKP** 03 49 29.9 +0.8
NV01 *e*PP **PP** 03 50 18.1 +6.0
NVAR Mina Array Bea 111.10 51 PKiKP **PKiKP** 03 49 29.9 +0.8
comp=Z,0.5nm,0.6s,baz=255,slow=3.2,SNR=3.7
NVAR PP **PP** 03 50 18.1 +6.0
comp=Z,0.8nm,0.8s,baz=277,slow=8.1,SNR=4.4
MPMC Manual Prospec 112.14 53 P **PKiKP** 03 49 32.0 +0.9
baz=280
MSO Missoula 112.34 41 P **PKiKP** 03 49 30.5 -0.5
baz=286
WTTA Wattenberg 112.64 319 *e*PKiKP **PKiKP** 03 49 31.4 -0.2
comp=Z,5.3nm,0.4s
WATA Walderalm 112.66 319 *e*PKiKP **PKiKP** 03 49 31.1 -0.6
comp=Z,2.6nm,0.4s
HLID Hailey 112.89 45 P **PKiKP** 03 49 33.2 +1.0
baz=285
SQTA Sankt Quirin 112.94 319 *e*PKiKP **PKiKP** 03 49 31.9 -0.3
comp=Z,1.7nm,0.4s
MOTA Moosalm 112.97 319 *e*PKiKP **PKiKP** 03 49 31.8 -0.4
comp=Z,2.6nm,0.3s
RETA Reutte 113.14 320 *e*PKiKP **PKiKP** 03 49 31.8 -0.7
comp=Z,0.5nm,0.3s
R11A Troy Canyon, C 113.22 51 P **PKiKP** 03 49 33.7 +0.6
baz=282
FRD Ford Ranch, An 113.27 56 P **PKiKP** 03 49 34.3 +1.1
baz=279
FETA Feichten 113.31 319 *e*PKiKP **PKiKP** 03 49 32.4 -0.5
comp=Z,2.4nm,0.5s
PFO Pinyon Flats O 113.37 56 P **PKiKP** 03 49 33.9 +0.5
baz=279
TPFO Pinon Flats 113.37 56 P **PKiKP** 03 49 34.3 +0.9
baz=279
MONP2 Monument Peak 113.51 57 P **PKiKP** 03 49 34.6 +0.9
baz=279
BELC Belle Mtn. Jos 113.68 55 P **PKiKP** 03 49 35.0 +1.0
baz=280
DAVA Damuels 113.78 320 *e*PKPdf **PKiKP** 03 49 33.3 -0.4
comp=Z,4.0nm,0.3s
GMRC Granite Mounta 113.83 55 P **PKiKP** 03 49 35.6 +1.4
baz=280
IRM Iron Mountain 114.35 55 P PKPdf 03 49 36.3 +1.1
baz=280
DUG Dugway, Tooele 114.90 48 P PKPdf 03 49 37.2 +1.0
baz=284
FXWY Fox Creek 115.24 44 *e*PKPdf **PKPdf** 03 49 37.7 +0.8
REDW Red Top Meadow 115.44 44 *e*PKPdf **PKPdf** 03 49 38.2 +1.0
SNOW Snow King Moun 115.48 44 *e*PKPdf **PKPdf** 03 49 38.4 +1.1
LOHW Long Hollow 115.54 44 *e*PKPdf **PKPdf** 03 49 38.3 +0.9
U15A North Rim 116.19 52 *e*PKPdf **PKPdf** 03 49 40.2 +1.2
TMUT Trail Mountain 116.32 49 *e*PKPdf **PKPdf** 03 49 40.3 +1.2
BW06 Boulder Array 116.53 45 P **PKPdf** 03 49 39.5 +0.2
baz=288
PD31 Pinedale Array 116.53 45 *e*PKPdf **PKPdf** 03 49 38.8 -0.5
PDAR Pinedale Array 116.53 45 PKP **PKPdf** 03 49 38.8 -0.5
comp=Z,1.1nm,0.7s,baz=34,slow=0.3,SNR=8.9
PDAR PKKPbc **PKKPbc** 04 00 07.8 -1.6
comp=Z,0.3nm,0.5s,baz=98,slow=4.4,SNR=5.4
PDAR Pinedale Array 116.53 45 *e*PKPdf **PKPdf** 03 49 39.1 -0.2
214A Organ Pipe Nat 116.67 57 P **PKPdf** 03 49 40.6 +0.9
baz=281
WUAZ Wupatki 117.12 53 *e*PKPdf **PKPdf** 03 49 41.7 +1.1
WUAZ Wupatki 117.12 53 P **PKPdf** 03 49 41.2 +0.6
baz=283
LAO LASA Array 117.39 40 P **PKPdf** 03 49 41.5 +0.8
baz=293
DGMT Dagmar 117.92 37 P **PKPdf** 03 49 43.0 +1.4
baz=296
PV23 Carpenter Ridg 118.20 49 *e*PKPdf **PKPdf** 03 49 44.0 +1.3
PV10 Paradox Valley 118.20 49 *e*PKPdf **PKPdf** 03 49 43.8 +1.1
O20A White River Ci 118.28 47 *e*PKPdf **PKPdf** 03 49 43.6 +0.9
O20A White River Ci 118.28 47 P **PKPdf** 03 49 43.5 +0.8
baz=288
PV17 East Wray Mesa 118.29 49 *e*PKPdf **PKPdf** 03 49 43.7 +0.8
TUC Tucson 118.29 56 P **PKPdf** 03 49 43.3 +0.5
baz=282
PV11 David Mesa, Pa 118.35 49 *e*PKPdf **PKPdf** 03 49 43.9 +1.0
PV13 Radium Mtn., P 118.43 49 *e*PKPdf **PKPdf** 03 49 44.0 +0.8
PV02 Paradox Valley 118.48 49 *e*PKPdf **PKPdf** 03 49 44.1 +0.9
K22A Casper 118.68 44 P **PKPdf** 03 49 42.3 -1.1
baz=291
MVCO Mesa Verde 118.94 50 *e*PKPdf **PKPdf** 03 49 45.0 +0.9
MVCO Mesa Verde 118.94 50 P **PKPdf** 03 49 45.0 +0.9
baz=286
319A Douglas 119.74 57 *e*PKPdf **PKPdf** 03 49 46.9 +1.2
RSSD Black Hills 119.81 42 *e*PKPdf **PKPdf** 03 49 45.2 -0.4
RSSD Black Hills 119.81 42 *e*PKIKP **PKPdf** 03 49 45.2 -0.4
RSSD Black Hills 119.81 42 P **PKPdf** 03 49 45.3 -0.3
baz=293
S22A 4UR Ranch, Cre 120.05 49 P **PKPdf** 03 49 47.6 +1.2
baz=288
ISCO Idaho Springs 120.30 47 P **PKPdf** 03 49 47.7 +0.9
baz=290
121A Cookes Peak, D 120.72 55 P **PKPdf** 03 49 47.9 +0.3
baz=284
SDCO Great Sand Dun 121.05 49 *e*PKPdf **PKPdf** 03 49 49.3 +1.0
SDCO Great Sand Dun 121.05 49 P **PKPdf** 03 49 49.1 +0.8
baz=289
ANMO Albuquerque 121.16 52 PKP **PKPdf** 03 49 49.1 +0.6
comp=Z,3.2nm,0.8s,baz=187,slow=4.3,SNR=14
ANMO Albuquerque 121.16 52 *e*PKPdf **PKPdf** 03 49 49.4 +1.0
ANMO Albuquerque 121.16 52 *i*PKIKP **PKPdf** 03 49 49.0 +0.6
ANMO pmax pmax
comp=Z,7.0nm,2.5s
ANMO Albuquerque 121.16 52 P **PKPdf** 03 49 48.9 +0.5
baz=286
ULM Lac du Bonnet 121.77 32 PKP **PKPdf** 03 49 48.3 -0.5
comp=Z,6.1nm,0.7s,baz=25,slow=1.7,SNR=7.3
T25A Trinidad 122.07 49 *e*PKPdf **PKPdf** 03 49 51.1 +1.0
T25A Trinidad 122.07 49 P **PKPdf** 03 49 51.0 +0.8
baz=289
KSCO Kaye Shedlock' 122.74 47 P **PKPdf** 03 49 51.5 +0.2
baz=292
MNTX Cornudas Mount 122.90 56 *e*PKPdf **PKPdf** 03 49 52.5 +0.9
MNTX Cornudas Mount 122.90 56 P **PKPdf** 03 49 52.3 +0.7
baz=285
MSTX Muleshoe 124.35 52 *e*PKPdf **PKPdf** 03 49 55.2 +0.8
MSTX Muleshoe 124.35 52 P **PKPdf** 03 49 54.7 +0.3
baz=288
ECSD EROS Data Cent 124.78 39 *e*PKPdf **PKPdf** 03 49 55.0 +0.1
ECSD EROS Data Cent 124.78 39 P **PKPdf** 03 49 54.9 +0.1
baz=300
BGNE Belgrade 124.89 42 P **PKPdf** 03 49 55.3 +0.2
baz=297
AMTX Amarillo 124.91 51 P **PKPdf** 03 49 55.9 +0.4
baz=290
TX31 Lajitas Ar. Si 124.93 58 *e*PKPdf **PKPdf** 03 49 56.0 +0.2
TX31 *e*PKPdf **PKiKP** 03 49 56.4 +0.4
LTX Lajitas 124.93 58 *e*PKPdf **PKPdf** 03 49 56.2 +0.5
LTX Lajitas 124.93 58 *e*PKIKP **PKPdf** 03 49 56.2 +0.5
TXAR Lajitas Array 124.93 58 PKP **PKPdf** 03 49 56.2 +0.5
comp=Z,1.3nm,0.4s,baz=182,slow=2.5,SNR=20
EYMN Ely 125.45 33 P **PKPdf** 03 49 55.8 -0.3
baz=307
F37A Hinrichs Farm, 126.13 35 P **PKPdf** 03 49 57.4 0.0
baz=305
E38A The Farm, Brul 126.22 34 P **PKPdf** 03 49 57.5 0.0
baz=307
SPMN Marine on St. 126.31 36 P **PKPdf** 03 49 58.4 +0.6
baz=304
F38A Pierce - Schro 126.42 35 P **PKPdf** 03 49 57.9 0.0
baz=306
G38A Ridgeland 126.89 35 P **PKPdf** 03 49 58.5 -0.3
baz=305
E39A Mellen 126.91 34 P **PKPdf** 03 49 58.7 -0.1
baz=307
KSU1 Kansas State U 126.98 44 P **PKPdf** 03 49 59.7 +0.5
baz=297
F39A Loretta 126.98 34 P **PKPdf** 03 49 59.2 +0.1
baz=307
WMOK Wichita Mounta 127.19 50 P **PKPdf** 03 50 00.2 +0.4
baz=292
G39A Holcombe 127.22 35 P **PKPdf** 03 49 59.3 -0.1
baz=306
E40A Wakefield 127.23 33 P **PKPdf** 03 49 59.7 +0.2
baz=308
ABTX Abilene, Hawle 127.27 53 P **PKPdf** 03 50 00.9 +0.9
baz=290
F40A Park Falls 127.43 34 P **PKPdf** 03 49 59.6 -0.3
baz=308
H39A Augusta 127.50 36 P **PKPdf** 03 50 00.1 0.0
baz=306
TOA0 Torodi Ar. Sit 127.73 282 *e*PKPdf **PKPdf** 03 50 00.5 -0.8
TOA0 *e*PKPdf **PKiKP** 03 50 01.4 -0.4
TORD Torodi Ar. Bea 127.73 282 PKP **PKPdf** 03 50 00.7 -0.6
comp=Z,1.9nm,0.5s,baz=91,slow=2.2,SNR=30
TORD pP **pPKPdf** 03 51 09.2 +2.1
comp=Z,0.8nm,0.9s,baz=17,slow=1.5,SNR=3.6
TORD SKPbc SKPbc 03 52 54.6
comp=Z,3.8nm,0.8s,baz=100,slow=4.5,SNR=13
TOA1 Torodi Ar. Sit 127.73 282 *e*PKPdf **PKPdf** 03 50 00.7 -0.6
JCT Junction City 127.83 56 *e*PKPdf **PKPdf** 03 50 01.4 +0.3
JCT Junction City 127.83 56 *e*PKIKP **PKPdf** 03 50 01.4 +0.3
JCT Junction City 127.83 56 P **PKPdf** 03 50 01.4 +0.3
baz=288
I39A Houston 127.84 37 P **PKPdf** 03 50 00.2 -0.5
baz=305
J39A Decorah 128.02 37 P **PKPdf** 03 50 00.4 -0.7
baz=304
H40A Chili 128.05 35 P **PKPdf** 03 50 00.8 -0.3
baz=307
F41A Three Lakes 128.10 33 P **PKPdf** 03 50 01.0 -0.2
baz=309
J40A Soldiers Grove 128.57 37 P **PKPdf** 03 50 01.5 -0.6
baz=305
K40A Colesburg 128.72 38 P **PKPdf** 03 50 02.2 -0.2
baz=305
M39A Webster 128.75 40 P **PKPdf** 03 50 02.7 +0.2
baz=303
J41A Loganville 129.01 36 P **PKPdf** 03 50 02.6 -0.3
baz=306
L40A Anamosa 129.03 38 P **PKPdf** 03 50 02.9 -0.2
baz=304
JFWS Jewell Farm 129.14 37 P **PKPdf** 03 50 02.9 -0.3
baz=306
O41A Passleys Farm, 130.31 40 P **PKPdf** 03 50 05.8 +0.2
baz=303
PLCA Paso Flores 130.41 160 PKP **PKPdf** 03 50 06.7 +0.9
comp=Z,1.7nm,0.6s,baz=249,slow=3.1,SNR=10
PLCA SKPbc **SKPbc** 03 53 04.5 -0.3
comp=Z,11nm,0.8s,baz=236,slow=4.9,SNR=17
PLCA Paso Flores 130.41 160 *e*PKPdf **PKPdf** 03 50 06.7 +0.9
PLCA *e*SKPbc **SKPab** 03 53 04.9 +0.1
P41A Barry, Barry 130.44 41 P **PKPdf** 03 50 06.7 +1.0
baz=303
SHEL Horse Pasture 130.48 244 *i* PKIKP **PKPdf** 03 50 10.1 +3.6
Q41A Truxton 130.71 42 P **PKPdf** 03 50 07.0 +0.7
baz=302
W39A Magazine 130.75 47 P **PKPdf** 03 50 07.1 +0.6
baz=297
X39A Fountain Ranch 130.80 48 P **PKPdf** 03 50 07.4 +0.8
baz=296
U40A Yellville 130.88 46 P **PKPdf** 03 50 07.0 +0.2
baz=298
R41A Rosebud 130.95 43 P **PKPdf** 03 50 07.1 +0.4
baz=301
P42A Winchester 130.95 41 *e*PKPdf **PKPdf** 03 50 07.3 +0.6
P42A Winchester 130.95 41 P **PKPdf** 03 50 07.0 +0.3
baz=303
S41A Jillco Farms, 131.06 44 P **PKPdf** 03 50 07.0 0.0
baz=300
HDIL Hopedale 131.08 39 P **PKPdf** 03 50 07.6 +0.7
baz=305
CCM Cathedral Cave 131.16 43 *e*PKPdf **PKPdf** 03 50 07.9 +0.7
CCM Cathedral Cave 131.16 43 *e*PKIKP **PKPdf** 03 50 07.9 +0.7
CCM Cathedral Cave 131.16 43 P **PKPdf** 03 50 07.6 +0.5
baz=301
V40A Witts Springs 131.17 46 P **PKPdf** 03 50 07.5 +0.2
baz=298
MIAR Mount Ida 131.19 48 P **PKPdf** 03 50 08.1 +0.8
baz=296
T41A Mountain View 131.32 44 P **PKPdf** 03 50 07.1 -0.4
baz=300
R42A Luebbering 131.35 42 P **PKPdf** 03 50 08.0 +0.5
baz=302
LSQQ Lebel-sur-Quev 131.40 23 P **PKPdf** 03 50 07.3 0.0
baz=324
U41A Viola 131.55 45 P **PKPdf** 03 50 07.9 -0.1
baz=299
S42A Caledonia 131.62 43 P **PKPdf** 03 50 07.7 -0.3
baz=301
CHGQ Chibougamau 131.64 20 P **PKPdf** 03 50 07.8 +0.1
baz=328
Q43A New Douglas 131.72 41 P **PKPdf** 03 50 09.0 +0.7
baz=303
T42A Van Buren 131.79 44 *e*PKPdf **PKPdf** 03 50 08.7 +0.3
T42A Van Buren 131.79 44 P **PKPdf** 03 50 08.8 +0.4
baz=301
W41B Gary Mavity, V 131.88 47 P **PKPdf** 03 50 08.9 +0.3
baz=298
X41A Kaden, Bauxite 131.99 48 P **PKPdf** 03 50 08.5 -0.4
baz=297
U42A Revenden 132.03 45 P **PKPdf** 03 50 09.2 +0.3
baz=300
J47A Sunmer 132.05 33 P **PKPdf** 03 50 09.8 +1.1
baz=312
P44A Sand Creek, Wi 132.12 40 P **PKPdf** 03 50 10.1 +1.1
baz=305
Q44A Meyer Farm, Va 132.19 41 P **PKPdf** 03 50 09.9 +0.8
baz=304
V42A Cord 132.19 46 P **PKPdf** 03 50 09.7 +0.5
baz=299
S43A Fulton Ridge, 132.21 43 P **PKPdf** 03 50 09.6 +0.4
baz=302
T43A Greenville 132.32 43 P **PKPdf** 03 50 09.4 0.0
baz=301
K47A Vermontville 132.33 34 P **PKPdf** 03 50 09.9 +0.6
baz=311
U43A Rector 132.60 44 P **PKPdf** 03 50 10.6 +0.7
baz=301
Q45A Warren Harvey, 132.75 40 P **PKPdf** 03 50 11.6 +1.5
baz=305
R45A Skylar, Fairfi 133.00 41 P **PKPdf** 03 50 11.7 +1.1
baz=304
L48A N Adams 133.12 34 P **PKPdf** 03 50 11.6 +0.8
baz=311
O47A Sheridan 133.19 37 P **PKPdf** 03 50 11.5 +0.5
baz=308
L49A Milan 133.38 34 P **PKPdf** 03 50 12.4 +1.1
baz=312
N48A Decatur 133.48 36 P **PKPdf** 03 50 12.0 +0.5
baz=310
T46A Princeton 133.96 42 P **PKPdf** 03 50 13.7 +1.2
baz=304
P48A Milroy 134.12 38 P **PKPdf** 03 50 13.1 +0.4
baz=308
R47A Wooly Knot Far 134.13 40 P **PKPdf** 03 50 14.0 +1.2
baz=306
U46A Springville 134.14 43 P **PKPdf** 03 50 14.2 +1.4
baz=303
KIC Kosan Boka 134.17 273 *e*PKP1 **SKPbc** 03 53 17.6 -0.9
comp=Z,29nm,1.0s
Q48A North Vernon 134.25 39 P **PKPdf** 03 50 13.6 +0.6
baz=308
DBIC Dimbokro 134.29 274 PKP **PKPdf** 03 50 14.7 +0.9
comp=Z,2.5nm,0.4s,baz=98,slow=2.5,SNR=7.6
DBIC SKPbc **SKPbc** 03 53 18.3 -0.5
comp=Z,9.1nm,0.8s,baz=85,slow=5.0,SNR=11
O49A Covington 134.31 36 P **PKPdf** 03 50 13.9 +0.9
baz=310
WCI Wyandotte Cave 134.32 40 P **PKPdf** 03 50 14.2 +1.0
baz=306
LIC Lamto 134.45 273 *e*PKP1 **SKPbc** 03 53 18.4 -1.0
comp=Z,48nm,1.0s
TIC Toumodi 134.46 274 *e*PKP1 **SKPbc** 03 53 18.4 -1.0

V46A	**Holladay** baz=302	**134.48**	**44**	P	**PKPdf**	**03 50 14.0**	**+0.5**
R48A	**Northridge Ran** baz=307	**134.49**	**39**	P	**PKPdf**	**03 50 14.0**	**+0.6**
WVT	**Waverly** baz=303	**134.50**	**43**	P	**PKPdf**	**03 50 14.1**	**+0.6**
P49A	**Miami Univ. Ec** baz=309	**134.50**	**37**	P	**PKPdf**	**03 50 14.1**	**+0.7**
T47A	**Sharon Grove** baz=304	**134.51**	**42**	P	**PKPdf**	**03 50 14.2**	**+0.6**
N50A	**Nevada** baz=312	**134.62**	**35**	P	**PKPdf**	**03 50 14.7**	**+1.1**
Q49A	**Aurora** baz=308	**134.72**	**38**	P	**PKPdf**	**03 50 14.8**	**+0.9**
O50A	**Cable** baz=311	**134.76**	**36**	P	**PKPdf**	**03 50 12.6**	**-1.3**
S48A	**Wiedeman Farm,** baz=306	**134.81**	**40**	P	**PKPdf**	**03 50 14.8**	**+0.7**
V47A	**Nunnelly** baz=303	**134.87**	**43**	P	**PKPdf**	**03 50 14.9**	**+0.7**
P50A	**Jamestown** baz=310	**135.00**	**36**	P	**PKPdf**	**03 50 15.1**	**+0.7**
W47A	**Westpoint** baz=303	**135.13**	**44**	P	**PKPdf**	**03 50 15.5**	**+0.8**
U48A	**Cassie Pea, Po** baz=305	**135.15**	**42**	P	**PKPdf**	**03 50 15.8**	**+1.1**
S49A	**Springfield** baz=307	**135.22**	**40**	P	**PKPdf**	**03 50 15.6**	**+0.8**
O51A	**Pataskala** baz=312	**135.34**	**35**	P	**PKPdf**	**03 50 15.9**	**+0.9**
CMIG	**Matias Romero** comp=Z,3.3nm,0.7s,baz=304,slow=2.5,SNR=7.7	**135.45**	**71**	PKP	**PKPdf**	**03 50 17.3**	**+1.5**
T49A	**Edmonton** baz=306	**135.47**	**40**	P	**PKPdf**	**03 50 16.0**	**+0.7**
P51A	**Williamsport**	**135.52**	**36**	*e*PKPdf	**PKPdf**	**03 50 16.3**	**+1.0**
W48A	**Pulaski** baz=303	**135.65**	**44**	P	**PKPdf**	**03 50 16.4**	**+0.7**
S50A	**Richmond** baz=308	**135.85**	**39**	P	**PKPdf**	**03 50 17.1**	**+1.1**
P52A	**Corning** baz=312	**135.96**	**35**	P	**PKPdf**	**03 50 17.3**	**+1.2**
T50A	**Nancy** baz=307	**135.97**	**40**	P	**PKPdf**	**03 50 17.4**	**+1.1**
W49A	**Belvidere** baz=304	**136.12**	**43**	P	**PKPdf**	**03 50 17.3**	**+0.7**
Y48A	**Jasper** baz=302	**136.14**	**45**	P	**PKPdf**	**03 50 17.6**	**+0.9**
U50A	**Jamestown** baz=306	**136.32**	**41**	P	**PKPdf**	**03 50 18.2**	**+1.3**
S51A	**Beattyville** baz=309	**136.37**	**39**	P	**PKPdf**	**03 50 18.2**	**+1.2**
347A	**Saraland** baz=298	**136.38**	**49**	P	**PKPdf**	**03 50 18.1**	**+1.0**
X49A	**Woodville** baz=303	**136.41**	**44**	P	**PKPdf**	**03 50 17.9**	**+0.7**
P53A	**Whipple** baz=313	**136.48**	**35**	P	**PKPdf**	**03 50 18.5**	**+1.4**
LRAL	**Lakeview Retre** baz=301	**136.72**	**46**	P	**PKPdf**	**03 50 18.2**	**+0.5**
W50A	**Signal Mountai** baz=305	**136.72**	**43**	P	**PKPdf**	**03 50 19.1**	**+1.3**
Z49A	**Columbiana** baz=302	**136.97**	**46**	P	**PKPdf**	**03 50 18.2**	**0.0**
W53A	**Cullowhee** baz=307	**138.16**	**41**	P	**PKPdf**	**03 50 21.2**	**+0.7**
151A	**Opelika** baz=302	**138.18**	**46**	P	**PKPdf**	**03 50 22.1**	**+1.7**
Y52A	**Lilburn** baz=305	**138.32**	**43**	P	**PKPdf**	**03 50 21.8**	**+1.1**
N59A	**State Game Lan** baz=321	**138.39**	**29**	P	**PKPdf**	**03 50 21.8**	**+1.2**
ESTN	**Estel**	**144.20**	**75**	*e*PKPdf	PKPbc	03 50 30.6	0.0
JTS	**JuntasAbangare**	**145.91**	**80**	*e*PKPdf	**PKPab**	**03 50 36.5**	**-0.3**
JTS	**JuntasAbangare**	**145.91**	**80**	*e*PKP2	**PKPab**	**03 50 36.5**	**-0.3**
LVC	**Limon Verde**	**146.80**	**148**	*e*PKPbc	**PKPab**	**03 50 39.9**	**-0.5**
LVC	**Limon Verde**	**146.80**	**148**	*e*PKP2	**PKPab**	**03 50 39.9**	**-0.5**
CPUP	**Villa Florida** comp=Z,7.9nm,0.5s,baz=201,slow=2.0,SNR=29	**147.59**	**169**	PKPbc	**PKPbc**	**03 50 40.6**	**+0.4**
CPUP	comp=Z,8.2nm,1.0s,baz=358,slow=0.8,SNR=4.7			SKPbc	**SKiKP**	**03 53 53.6**	**+0.1**
CPUP	**Villa Florida**	**147.59**	**169**	*e*PKP2	**PKPbc**	**03 50 40.7**	**+0.5**
PB11	**IPOC Station P**	**148.68**	**144**	*e*PKPbc	**PKPbc**	**03 50 42.8**	**-0.5**
MNMC	**Minye Minye**	**149.21**	**144**	*e*PKPdf	**PKPdf**	**03 50 41.7**	**+1.4**
LPAZ	**La Paz** comp=Z,0.9nm,0.8s,baz=217,slow=5.9,SNR=4.6	**152.28**	**142**	PKP	**PKPdf**	**03 50 46.5**	**+1.0**
LPAZ	comp=Z,2.5nm,0.4s,baz=53,slow=1.5,SNR=28			PKPbc	**PKiKP**	**03 50 53.0**	**+0.3**
LPAZ	**La Paz**	**152.28**	**142**	*e*PKIKP	**PKPdf**	**03 50 46.7**	**+1.1**
SDDR	**Presa de Saban**	**156.06**	**55**	*e*PKPab	**PKPab**	**03 51 19.3**	**+0.5**
RCBR	**Riachuelo** comp=Z,167nm,0.7s,baz=186,slow=0.2,SNR=5.6	**161.23**	**233**	PKPab	**PKPab**	**03 51 42.7**	**+1.4**

*ISCJB **01** 03:44:28.9±1.8,52.˚5N±0.˚1×132.˚3W±0.˚4,h18km,mb3.5/1, Error ellipse: s-maj=36.0km s-min=9.0km az=151.2*
*IDC **01** 03:44:28.4±2.5,52.˚48N×132.˚22W,h0km,mb3.5/1, mb1 3.7/5,mb1mx3.5/41,mbtmp3.4/5,ML3.7/4,MS3.1/2, Ms1 3.1/2,ms1mx2.7/30,Error ellipse: s-maj=44.6km s-min=7.8km az=62.0*

ISC 01 03:44:30.7±1.7,52.˚5N±0.˚2×132.˚2W±0.˚2,h18km,n9, σ1ᵒ73/8,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H02S1	**DAWSON INLET T**	**0.69**	**346**		Pg	**Pb**		**03 44 42.4**	**-1.9**
H02S1	SNR=21				Lg	Lg		03 44 53.4	
H02N1	**VAN INLET T-PH**	**0.75**	**344**		Pg	**Pb**		**03 44 43.5**	**-1.9**
H02N1	SNR=21				Lg	Lg		03 44 54.7	
BBB	**Bella Bella** 18nm,0.3s,baz=270,slow=15,SNR=5.8	**2.52**	**96**	Pn		**Pn**		**03 45 10.3**	**-0.5**
DLBC	**Dease Lake** 0.6nm,0.3s,baz=196,slow=15,SNR=4.4	**6.05**	**11**	Pn		**Pn**		**03 46 00.9**	**+1.7**
DLBC	comp=Z,139nm,20.6s,baz=139,slow=34			LR		LR		03 47 57.7	
KDAK	**Kodiak Island** comp=Z,119nm,18.7s,baz=54,slow=31	**12.77**	**302**	LR		LR		03 51 09.6	
ILAR	**Eielson Array** 0.0nm,0.3s,baz=145,slow=9.5,SNR=3.2	**14.40**	**334**	Pn		**P**		**03 48 00.7**	**+0.4**
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=319,slow=9.5,SNR=2.8	**17.09**	**140**	Pn		**Pn**		**03 48 27.6**	**-1.2**
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=327,slow=7.1,SNR=3.8	**18.04**	**114**	P		**Pn**		**03 48 40.4**	**-0.2**
TXAR	**Lajitas Array** 0.6nm,0.8s,baz=338,slow=5.7,SNR=4.2	**31.29**	**127**	P		**P**		**03 50 51.5**	**+1.8**

*JMA **01** 04:06:31.8±0.2,23.˚05N×122.˚67E,h48km,M2.7*
*TAP **01** 04:06:32.7,23.˚09N×122.˚61E,h75km±1km,ML3.1,D*

ISC 01 04:06:28.6±1.2,23.˚07N±0.˚03×122.˚63E±0.˚02,h12km±9km, n67,σ0ᵒ83/121,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHKT	**Chengkung** baz=274	**1.17**	**272**	*i* P			**Pg**	**04 06 51.8**	**+0.7**
CHKT	baz=274			*e*S			**Sg**	**04 07 05.7**	**-0.7**
FULB	**Fuli** baz=275	**1.24**	**276**	*i* P			**Pg**	**04 06 53.2**	**+0.7**
FULB	baz=275			*e*S			**Sg**	**04 07 07.8**	**-0.8**
EGFH	**Guangfu** baz=304	**1.26**	**299**	*e*S			**Sg**	**04 07 09.5**	**+0.2**
ENLB	**Shoufeng** baz=317	**1.26**	**311**	*e*P			**Pg**	**04 06 52.6**	**-0.3**
ENLB	baz=317			S			**Sg**	**04 07 09.5**	**+0.2**
TWF1	**Yuli** baz=278	**1.26**	**283**	*i* P			**Pg**	**04 06 53.8**	**+0.8**
TWF1	baz=278			S			**Sg**	**04 07 09.6**	**+0.2**
YULB	**Yu-li** baz=282	**1.27**	**285**	*i* P			**Pg**	**04 06 53.8**	**+0.7**
YULB	baz=282			*e*S			**Sg**	**04 07 10.4**	**+0.7**
EHY	**Hungye** baz=287	**1.28**	**290**	P			**Pg**	**04 06 54.2**	**+0.9**
EHY	baz=287			*e*S			**Sg**	**04 07 09.9**	**-0.1**
HWA	**Hwalien** baz=314	**1.31**	**314**	*e*P			**Pg**	**04 06 55.1**	**+1.3**
HWA	baz=314			*e*S			**Sg**	**04 07 10.4**	**-0.5**
ESL	**Shilin** baz=304	**1.33**	**304**	P			**Pg**	**04 06 54.1**	**-0.1**
ESL	baz=304			*e*S			**Sg**	**04 07 10.7**	**-0.8**
TWD	**Chiawan** baz=317	**1.39**	**317**	P			**Pg**	**04 06 55.3**	**0.0**
TWD	baz=317			*e*S			**Sb**	**04 07 11.9**	**-0.3**
JYNG	**Yonagunijimaku**	**1.41**	**12**	P			**Pg**	**04 06 56.0**	**+0.3**
JYNG				S			**Sb**	**04 07 13.3**	**+0.5**
TTN	**Taitung** baz=252	**1.41**	**257**	*e*S			**Sb**	**04 07 12.4**	**-0.4**
YOJ	**Yonaguni jima** baz=8.0	**1.43**	**14**	P			**Pg**	**04 06 56.4**	**+0.2**
YOJ	baz=8.0			*e*S			**Sg**	**04 07 14.7**	**-0.1**
YOJ	**Yonaguni jima**	**1.43**	**14**	P			**Pg**	**04 06 56.6**	**+0.5**
YOJ				*e*S			**Sb**	**04 07 14.4**	**+0.9**
LAY	**Lan-yu** baz=227	**1.43**	**225**	*e*P			**Pg**	**04 06 57.2**	**+1.1**
LAY	baz=227			*e*S			**Sg**	**04 07 13.5**	**-1.3**
TWGBT	**Beinan** baz=256	**1.45**	**260**	P			**Pg**	**04 06 56.9**	**+0.4**
TWGBT	baz=256			*e*S			**Sg**	**04 07 14.7**	**-0.7**
NACB	**Ninganchiao** baz=315	**1.46**	**319**	P			**Pg**	**04 06 56.3**	**-0.4**
NACB	baz=315			*e*S			**Sn**	**04 07 13.1**	**-0.8**
HATJ	**Hateruma jima**	**1.46**	**47**	P			**Pb**	**04 06 56.0**	**+0.3**
HATJ				S			**Sn**	**04 07 13.1**	**-0.8**
TWG	**Pinlang** baz=256	**1.46**	**261**	P			**Pg**	**04 06 56.8**	**+0.1**
TWG	baz=256			*e*S			**Sg**	**04 07 15.0**	**-0.7**
ELDTW	**Lidau** baz=278	**1.49**	**275**	*e*S			**Sb**	**04 07 15.1**	**-0.3**
EOS1	**EOS1** baz=336	**1.55**	**343**	P			**Pb**	**04 06 57.6**	**+0.4**
EOS1	baz=336			*e*S			**Sb**	**04 07 16.4**	**-0.4**
NANB	**Nanao** baz=324	**1.58**	**329**	P			**Pg**	**04 06 58.6**	**-0.4**
NANB	baz=324			*e*S			**Sb**	**04 07 17.2**	**-0.6**
ENA	**Nanau** baz=324	**1.58**	**329**	*i* P			**Pg**	**04 06 58.8**	**-0.3**
ENA	baz=324			S			**Sb**	**04 07 17.8**	**-0.1**
YUS	**Yu-Shan** baz=279	**1.60**	**286**	P			**Pg**	**04 06 59.7**	**+0.3**
YUS	baz=279			*e*S			**Sb**	**04 07 18.5**	**-0.4**
IRIF	**Iriomote-Funau**	**1.61**	**38**	P			**Pb**	**04 06 58.5**	**+0.1**
ECL	**Taimali** baz=252	**1.62**	**254**	P			**Pg**	**04 06 59.0**	**-0.7**
ECL	baz=252			*e*S			**Sb**	**04 07 18.8**	**-0.1**
WHF	**Hehuan Shan** baz=310	**1.65**	**311**	P			**Pg**	**04 06 59.8**	**-0.6**
WHF	baz=310			S			**Sn**	**04 07 18.8**	**-0.5**
CHGB	**Renai** baz=312	**1.67**	**307**	P			**Pg**	**04 06 59.9**	**-0.7**
CHGB	baz=312			*e*S			**Sb**	**04 07 19.4**	**-1.1**
TWC	**Suao** baz=342	**1.69**	**335**	P			**Pb**	**04 07 00.1**	**+0.3**
TWC	baz=342			*e*S			**Sn**	**04 07 19.8**	**+0.1**
SSLB	**Suanglung** baz=300	**1.70**	**295**	P			**Pg**	**04 07 00.7**	**-0.6**
SSLB	baz=300			*e*S			**Sb**	**04 07 20.4**	**-1.0**
JKRS	**Kuro-shima**	**1.72**	**47**	P			**Pb**	**04 06 59.9**	**-0.3**
JKRS				*e*S			**Sn**	**04 07 19.5**	**-0.8**
STYT	**Tauyuan** baz=273	**1.73**	**274**	P			**Pg**	**04 07 01.0**	**-0.9**
STYT	baz=273			*e*S			**Sb**	**04 07 21.5**	**-0.7**
ALS	**Alishan** baz=279	**1.74**	**285**	P			**Pb**	**04 07 00.4**	**-0.3**
ALS	baz=279			*e*S			**Sb**	**04 07 22.2**	**-0.5**
NNSB	**Datong** baz=314	**1.77**	**320**	P			**Pb**	**04 07 01.4**	**+0.1**
NNSB	baz=314			*e*S			**Sn**	**04 07 21.9**	**0.0**
TWT	**Tachien** baz=311	**1.78**	**312**	P			**Pb**	**04 07 01.6**	**+0.2**
TWT	baz=311			*e*S			**Sn**	**04 07 22.3**	**+0.1**
EAST	**Anshuo** baz=253	**1.78**	**248**	P			**Pg**	**04 07 01.6**	**-1.3**
EAST	baz=253			S			**Sb**	**04 07 23.4**	**-0.3**
SMLT	**Sun Moon Lake** baz=300	**1.79**	**297**	P			**Pb**	**04 07 01.2**	**-0.2**
SMLT	baz=300			*e*S			**Sb**	**04 07 24.2**	**+0.3**
NNS	**Nan Shan** baz=315	**1.79**	**320**	*e*S			**Sn**	**04 07 22.2**	**-0.1**
TDCB	**Techi** baz=311	**1.79**	**311**	*e*P			**Pg**	**04 07 02.2**	**-1.0**
TDCB	baz=311			S			**Sn**	**04 07 22.7**	**+0.2**
TYC	**Yuchr** baz=301	**1.83**	**297**	P			**Pg**	**04 07 02.6**	**-1.2**
TYC	baz=301			*e*S			**Sb**	**04 07 25.1**	**+0.1**
ENTT	**Nioudou** baz=323	**1.84**	**328**	P			**Pb**	**04 07 02.6**	**+0.2**
ENTT	baz=323			*e*S			**Sn**	**04 07 23.7**	**+0.2**
TPUB	**Ta-pu** baz=276	**1.86**	**278**	*e*P			**Pg**	**04 07 04.2**	**-0.1**
TPUB	baz=276			*e*S			**Sb**	**04 07 25.7**	**-0.2**
WTP	**Ta-pu** baz=272	**1.87**	**276**	*e*P			**Pg**	**04 07 03.3**	**-1.2**
CHN5	**Tsauling** baz=290	**1.87**	**287**	*e*P			**Pg**	**04 07 03.7**	**-0.9**
ILA	**Ilan** baz=341	**1.88**	**335**	*e*S			**Sn**	**04 07 24.8**	**+0.6**
JIJ	**Ishigaki jima**	**1.89**	**47**	P			**Pn**	**04 07 01.7**	**+0.9**
JIJ				S			**Sn**	**04 07 23.0**	**-1.6**
CHN4	**Tsaushan** baz=275	**1.90**	**279**	*e*P			**Pg**	**04 07 04.6**	**-0.5**
CHN4	baz=275			*e*S			**Sb**	**04 07 27.2**	**+0.2**
MASBT	**Mashibuluo** baz=253	**1.90**	**257**	P			**Pb**	**04 07 03.4**	**+0.1**
MASBT	baz=253			*e*S			**Sb**	**04 07 26.0**	**-1.1**
CHN1	**Nanshi** baz=273	**1.94**	**274**	*e*P			**Pb**	**04 07 04.3**	**+0.3**
CHN1	baz=273			*e*S			**Sb**	**04 07 28.4**	**+0.1**
WNT	**Mingjian** baz=301	**1.96**	**295**	*e*S			**Sb**	**04 07 27.7**	**-1.2**
YHNB	**Yeheng** baz=317	**1.97**	**324**	P			**Pb**	**04 07 04.6**	**+0.1**
YHNB	baz=317			S			**Sn**	**04 07 26.7**	**+0.1**
NWLT	**Wulai** baz=321	**1.99**	**329**	P			**Pb**	**04 07 04.6**	**-0.3**
NWLT	baz=321			*e*S			**Sn**	**04 07 27.2**	**0.0**
TWB1	**Santiao Chiao** baz=354	**2.02**	**343**	*e*P			**Pb**	**04 07 04.6**	**-0.8**
TWB1	baz=354			*e*S			**Sn**	**04 07 27.8**	**0.0**
TWKBT	**Hengchun** baz=229	**2.02**	**237**	*e*S			**Sb**	**04 07 29.4**	**-1.2**
HEN	**Hengchun** baz=230	**2.05**	**239**	S			**Sb**	**04 07 29.8**	**-1.4**
TWQ1	**Liyutan** baz=312	**2.13**	**307**	*e*S			**Sb**	**04 07 32.4**	**-1.3**
JISG	**Ishigakijimahi**	**2.15**	**45**	P			**Pn**	**04 07 05.8**	**+1.4**
JISG				S			**Sn**	**04 07 30.0**	**-1.1**
NSTT	**Nanjuang** baz=316	**2.16**	**316**	*e*P			**Pb**	**04 07 08.1**	**+0.4**
NSTT	baz=316			*e*S			**Sb**	**04 07 32.5**	**-1.9**
LIOB	**Emei** baz=316	**2.16**	**317**	*e*P			**Pb**	**04 07 07.0**	**-0.7**
LIOB	baz=316			*e*S			**Sb**	**04 07 33.1**	**-1.4**
YM01	**YM01** baz=335	**2.29**	**335**	*e*P			**Pb**	**04 07 09.8**	**-0.1**
YM01	baz=335			*e*S			**Sb**	**04 07 36.1**	**-2.1**
YM07	**YM07** baz=336	**2.29**	**336**	*e*P			**Pb**	**04 07 08.8**	**-1.2**
YM07	baz=336			*e*S			**Sn**	**04 07 34.3**	**-0.3**
YM10	**YM10** baz=335	**2.30**	**335**	*e*P			**Pb**	**04 07 08.9**	**-1.2**
YM10	baz=335			*e*S			**Sn**	**04 07 34.9**	**+0.1**
YM05	**YM05** baz=335	**2.30**	**335**	*e*P			**Pb**	**04 07 08.5**	**-1.7**
YM05	baz=335			*e*S			**Sn**	**04 07 35.2**	**+0.2**
YM04	**YM04** baz=322	**2.31**	**334**	*e*P			**Pb**	**04 07 08.6**	**-1.6**
YM04	baz=322			*e*S			**Sn**	**04 07 35.2**	**+0.3**
JTJ	**Tarama**	**2.46**	**50**	P			**Pn**	**04 07 10.1**	**+1.5**
JTJ				S			**Sn**	**04 07 37.8**	**-0.8**
PCYT	**Pengchaiyu** baz=349	**2.60**	**349**	*e*P			**Pb**	**04 07 12.9**	**-2.4**
VWUC	**VWUC** baz=303	**3.48**	**304**	*e*P			**Pn**	**04 07 25.5**	**+2.8**
VWUC	baz=303			*e*S			**Sn**	**04 08 04.3**	**+0.3**

IDC 01 04:16:54.8±2.0,2.˚69N×128.˚51E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.5/29,mbtmp3.6/4,Error ellipse: s-maj=100.8km s-min=23.5km az=71.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 1.3nm,0.9s,baz=25,slow=14,SNR=2.4	**20.85**	**188**	P	P		P	04 21 39.4	+1.1
WRA	**Warramunga Arr** 0.9nm,0.4s,baz=345,slow=11,SNR=41	**23.20**	**166**	P	P		P	04 22 03.4	-0.1
ASAR	**Alice Springs** 0.5nm,0.5s,baz=355,slow=7.9,SNR=8.8	**26.71**	**169**	P	P		P	04 22 35.4	-0.7
MKAR	**Makanchi Array** 0.4nm,0.4s,baz=119,slow=7.1,SNR=7.4	**59.42**	**325**	P	P		P	04 26 59.5	+0.1

*ISCJB **01** 04:19:57.8±0.3,24.˚79N±0.˚02×122.˚49E±0.˚02, h122km±2km,Error ellipse: s-maj=3.0km s-min=2.3km az=168.2*
*TAP **01** 04:19:58.1,24.˚81N×122.˚51E,h122km,ML4.0,B*
*JMA **01** 04:19:58.0±0.2,24.˚75N×122.˚45E,h122km±2km,M2.9*

ISC 01 04:19:57.7±1.3,24.˚81N±0.˚03×122.˚49E±0.˚02,h126km±6km, n111,σ0ᵒ80/208,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EOS1	**EOS1** baz=232	**0.42**	**232**	*i* P			**Pn**	**04 20 16.1**	**+0.3**
EOS1	baz=232			S			**Sn**	**04 20 29.7**	**+0.2**
TWB1	**Santiao Chiao** baz=292	**0.50**	**293**	*e*P			**Pn**	**04 20 16.6**	**+0.4**
TWB1	baz=292			S			**Sn**	**04 20 29.9**	**-0.4**
JYNG	**Yonagunijimaku**	**0.55**	**131**	P			**Pn**	**04 20 16.6**	**0.0**
JYNG				S			**Sn**	**04 20 30.3**	**-0.5**
YOJ	**Yonaguni jima** baz=126	**0.59**	**126**	*i* P			**Pn**	**04 20 16.8**	**0.0**
YOJ	baz=126			S			**Sn**	**04 20 30.5**	**-0.8**
YOJ	**Yonaguni jima**	**0.59**	**126**	P			**Pn**	**04 20 16.9**	**0.0**
YOJ				*e*S			**Sn**	**04 20 30.7**	**-0.6**
TWC	**Suao** baz=250	**0.62**	**251**	*i* P			**Pn**	**04 20 16.9**	**-0.1**
TWC	baz=250			S			**Sn**	**04 20 30.9**	**-0.8**
ILA	**Ilan** baz=266	**0.68**	**266**	P			**Pn**	**04 20 17.6**	**+0.2**
ILA	baz=266			S			**Sn**	**04 20 32.1**	**-0.3**
NWF	**Wu-fen Shan** baz=291	**0.69**	**292**	P			**Pn**	**04 20 18.0**	**+0.3**
NWF	baz=291			S			**Sn**	**04 20 32.4**	**-0.4**
WFSB	**Wu-fen Shan** baz=291	**0.69**	**292**	*e*P			**Pn**	**04 20 18.3**	**+0.7**
WFSB	baz=291			S			**Sn**	**04 20 32.3**	**-0.4**
TWE	**Neicheng** baz=262	**0.76**	**263**	*e*P			**Pn**	**04 20 18.3**	**+0.3**
TWE	baz=262			*e*S			**Sn**	**04 20 33.0**	**-0.5**
NANB	**Nanao** baz=240	**0.78**	**241**	*e*P			**Pn**	**04 20 18.6**	**+0.3**
NANB	baz=240			*e*S			**Sn**	**04 20 33.4**	**-0.4**
ENA	**Nanau** baz=240	**0.78**	**241**	P			**Pn**	**04 20 18.6**	**+0.3**
ENA	baz=240			S			**Sn**	**04 20 33.6**	**-0.3**
TWA	**Mucha** baz=281	**0.84**	**282**	P			**Pn**	**04 20 19.0**	**+0.2**
TWA	baz=281			*e*S			**Sn**	**04 20 33.9**	**-0.9**
ENTT	**Nioudou** baz=258	**0.86**	**259**	*e*P			**Pn**	**04 20 19.6**	**+0.7**
ENTT	baz=258			*e*S			**Sn**	**04 20 34.6**	**-0.4**
YM07	**YM07** baz=294	**0.87**	**295**	P			**Pn**	**04 20 19.6**	**+0.5**
YM07	baz=294			S			**Sn**	**04 20 34.9**	**-0.3**
PCYT	**Pengchaiyu** baz=334	**0.90**	**335**	P			**Pn**	**04 20 20.0**	**+0.7**
PCYT	baz=334			*e*S			**Sn**	**04 20 36.8**	**+1.1**
NWLT	**Wulai** baz=267	**0.90**	**268**	P			**Pn**	**04 20 19.1**	**-0.2**
NWLT	baz=267			S			**Sn**	**04 20 35.5**	**-0.2**
YM01	**YM01** baz=291	**0.90**	**292**	P			**Pn**	**04 20 20.6**	**+1.3**
YM01	baz=291			*e*S			**Sn**	**04 20 36.5**	**+0.7**
YM08	**YM08** baz=294	**0.90**	**295**	P			**Pn**	**04 20 19.6**	**+0.3**
YM08	baz=294			S			**Sn**	**04 20 34.6**	**-1.1**
YM11	**YM11** baz=292	**0.90**	**293**	P			**Pn**	**04 20 19.8**	**+0.4**
YM11	baz=292			S			**Sn**	**04 20 35.6**	**-0.3**
TAP1	**Taipei** baz=284	**0.91**	**285**	P			**Pn**	**04 20 19.6**	**+0.3**
TAP1	baz=284			*e*S			**Sn**	**04 20 34.9**	**-0.9**
YM05	**YM05** baz=292	**0.91**	**293**	*e*P			**Pn**	**04 20 19.8**	**+0.3**
YM05	baz=292			*e*S			**Sn**	**04 20 35.6**	**-0.3**
YM10	**YM10** baz=291	**0.91**	**292**	*e*P			**Pn**	**04 20 19.8**	**+0.4**
YM10	baz=291			*e*S			**Sn**	**04 20 35.7**	**-0.3**
YM12	**YM12** baz=293	**0.91**	**294**	P			**Pn**	**04 20 19.8**	**+0.4**
YM12	baz=293			*e*S			**Sn**	**04 20 35.8**	**-0.2**
TATO	**Taipei** baz=280	**0.93**	**280**	P			**Pn**	**04 20 19.4**	**-0.1**
TATO	baz=280			*e*S			**Sn**	**04 20 35.8**	**-0.3**
YM04	**YM04** baz=291	**0.93**	**292**	P			**Pn**	**04 20 19.8**	**+0.2**
YM04	baz=291			*e*S			**Sn**	**04 20 35.3**	**-0.9**
TWY	**Chenhua** baz=299	**0.93**	**300**	P			**Pn**	**04 20 20.1**	**+0.5**
TWY	baz=299			*e*S			**Sn**	**04 20 36.6**	**+0.5**
YM03	**YM03** baz=292	**0.94**	**293**	P			**Pn**	**04 20 20.2**	**+0.5**
YM03	baz=292			*e*S			**Sn**	**04 20 36.3**	**-0.1**
NTST	**Danshui** baz=290	**1.01**	**291**	P			**Pn**	**04 20 20.8**	**+0.5**
NTST	baz=290			*e*S			**Sn**	**04 20 37.4**	**0.0**

TWS1	**Kuangyinshan**	**1.02 287**	P		**Pn**	**04 20 20.9**	**+0.6**
	baz=286							
TWS1			*e*S		**Sn**	**04 20 37.4**	**-0.1**
	baz=286							
YHNB	**Yeheng**	**1.02 262**	P		**Pn**	**04 20 21.0**	**+0.5**
	baz=262							
YHNB			*e*S		**Sn**	**04 20 38.2**	**+0.3**
	baz=262							
NACB	**Ninganchiao**	**1.04 232**	P		**Pn**	**04 20 20.1**	**-0.5**
	baz=232							
NACB			*e*S		**Sn**	**04 20 36.9**	**-1.1**
	baz=232							
NSK	**Sanguang**	**1.04 263**	P		**Pn**	**04 20 21.1**	**+0.4**
	baz=262							
NSK			*e*S		**Sn**	**04 20 38.0**	**-0.1**
	baz=262							
NNSB	**Datong**	**1.08 249**	*e*P		**Pn**	**04 20 21.6**	**+0.5**
	baz=249							
NNSB			*e*S		**Sn**	**04 20 38.6**	**-0.3**
	baz=249							
NNS	**Nan Shan**	**1.08 250**	*e*P		**Pn**	**04 20 21.7**	**+0.6**
	baz=249							
NNS			*e*S		**Sn**	**04 20 38.7**	**-0.3**
	baz=249							
TWD	**Chiawan**	**1.09 228**	P		**Pn**	**04 20 20.7**	**-0.4**
	baz=228							
TWD			*e*S		**Sn**	**04 20 38.5**	**-0.4**
	baz=228							
WLTB	**Daxi**	**1.13 272**	P		**Pn**	**04 20 21.1**	**-0.4**
	baz=272							
WLTB			*e*S		**Sn**	**04 20 40.0**	**+0.5**
	baz=272							
HWA	**Hwalien**	**1.16 224**	*e*P		**Pn**	**04 20 21.9**	**+0.1**
	baz=224							
HWA			*e*S		**Sn**	**04 20 40.2**	**+0.1**
	baz=224							
NCU	**National Centr**	**1.20 278**	P		**Pn**	**04 20 23.1**	**+0.9**
	baz=277							
NCU			*e*S		**Sn**	**04 20 41.8**	**+1.1**
	baz=277							
NCUH	**Zhongli**	**1.20 278**	P		**Pn**	**04 20 23.2**	**+1.1**
	baz=277							
NCUH			*e*S		**Sn**	**04 20 40.5**	**-0.3**
	baz=277							
IRIF	**Iriomote-Funau**	**1.22 113**	P		**Pn**	**04 20 22.8**	**+0.4**
IRIF			S		**Sn**	**04 20 40.7**	**-0.5**
WHF	**Hehuan Shan**	**1.30 240**	P		**Pn**	**04 20 24.0**	**+0.3**
	baz=239							
WHF			*e*S		**Sn**	**04 20 42.8**	**-0.7**
	baz=239							
TDCB	**Techi**	**1.34 246**	P		**Pn**	**04 20 24.7**	**+0.9**
	baz=245							
TDCB			*e*S		**Sn**	**04 20 43.8**	**+0.1**
	baz=245							
LIOB	**Emei**	**1.35 263**	*e*P		**Pn**	**04 20 24.2**	**+0.4**
	baz=263							
LIOB			S		**Sn**	**04 20 44.2**	**+0.4**
	baz=263							
NSTT	**Nanjuang**	**1.37 263**	*e*P		**Pn**	**04 20 24.3**	**+0.3**
	baz=262							
NSTT			S		**Sn**	**04 20 43.8**	**-0.2**
	baz=262							
SBCB	**Hsinchu**	**1.37 269**	*e*P		**Pn**	**04 20 24.7**	**+0.7**
	baz=269							
SBCB			S		**Sn**	**04 20 44.4**	**+0.3**
	baz=269							
HSN	**Hsinchu**	**1.38 270**	*e*P		**Pn**	**04 20 24.6**	**+0.5**
	baz=270							
HSN			*e*S		**Sn**	**04 20 42.8**	**-1.5**
	baz=270							
ESL	**Shilin**	**1.39 224**	*e*P		**Pn**	**04 20 23.4**	**-0.8**
	baz=224							
ESL			*e*S		**Sn**	**04 20 44.0**	**-0.4**
	baz=224							
HATJ	**Hateruma jima**	**1.41 122**	P		**Pn**	**04 20 25.0**	**+0.5**
HATJ			S		**Sn**	**04 20 45.5**	**+0.6**
CHGB	**Renai**	**1.42 238**	P		**Pn**	**04 20 25.3**	**+0.5**
	baz=238							
CHGB			*e*S		**Sn**	**04 20 45.3**	**-0.1**
	baz=238							
JKRS	**Kuro-shima**	**1.50 112**	P		**Pn**	**04 20 26.0**	**+0.6**
JKRS			S		**Sn**	**04 20 46.7**	**+0.2**
EGFH	**Guangfu**	**1.50 221**	*e*P		**Pn**	**04 20 24.9**	**-0.6**
	baz=220							
EGFH			*e*S		**Sn**	**04 20 46.0**	**-0.6**
	baz=220							
JIJ	**Ishigaki jima**	**1.57 106**	P		**Pn**	**04 20 26.6**	**+0.4**
JIJ			S		**Sn**	**04 20 46.9**	**-1.1**
NMLH	**Miaoli**	**1.57 260**	*e*P		**Pn**	**04 20 27.1**	**+0.8**
	baz=260							
NMLH			S		**Sn**	**04 20 48.1**	**0.0**
	baz=260							
NSY	**Sanyi**	**1.62 256**	*e*P		**Pn**	**04 20 27.8**	**+0.8**
	baz=255							
NSY			*e*S		**Sn**	**04 20 49.1**	**-0.2**
	baz=255							
TWQ1	**Liyutan**	**1.63 254**	P		**Pn**	**04 20 27.6**	**+0.6**
	baz=253							
TWQ1			S		**Sn**	**04 20 49.5**	**+0.1**
	baz=253							
PTSB	**Yuanli**	**1.67 258**	*e*P		**Pn**	**04 20 27.2**	**-0.2**
	baz=257							
PTSB			S		**Sn**	**04 20 50.1**	**-0.1**
	baz=257							
JISG	**Ishigakijimahi**	**1.67 97**	P		**Pn**	**04 20 27.9**	**+0.5**
JISG			S		**Sn**	**04 20 49.3**	**-0.8**
EHY	**Hungye**	**1.68 220**	*e*P		**Pn**	**04 20 28.4**	**+0.8**
	baz=219							
EHY			*e*S		**Sn**	**04 20 50.8**	**+0.3**
	baz=219							
SMLT	**Sun Moon Lake**	**1.72 238**	P		**Pn**	**04 20 29.6**	**+1.4**
	baz=237							
SMLT			*e*S		**Sn**	**04 20 51.3**	**-0.1**
	baz=237							
SSLB	**Suanglung**	**1.73 234**	P		**Pn**	**04 20 28.7**	**+0.4**
	baz=234							
SSLB			S		**Sn**	**04 20 52.0**	**+0.3**
	baz=234							
TYC	**Yuchr**	**1.74 239**	P		**Pn**	**04 20 29.9**	**+1.6**
	baz=238							
TYC			*e*S		**Sn**	**04 20 52.6**	**+0.9**
	baz=238							
TCU	**Taichung**	**1.78 249**	*e*P		**Pn**	**04 20 29.4**	**+0.6**
	baz=248							
TCU			*e*S		**Sn**	**04 20 52.4**	**-0.2**
	baz=248							
YULB	**Yu-li**	**1.79 218**	*e*P		**Pn**	**04 20 27.9**	**-0.9**
	baz=218							
YULB			*e*S		**Sn**	**04 20 52.6**	**-0.1**
	baz=218							
TWF1	**Yuli**	**1.82 217**	*e*P		**Pn**	**04 20 28.9**	**-0.4**
	baz=217							
TWF1			*e*S		**Sn**	**04 20 51.5**	**-1.9**
	baz=217							
WJS	**Zhushan**	**1.89 239**	*e*P		**Pn**	**04 20 31.4**	**+1.4**
	baz=238							
WJS			*e*S		**Sn**	**04 20 55.8**	**+1.0**
	baz=238							
WNT	**Mingjian**	**1.89 241**	*e*P		**Pn**	**04 20 31.2**	**+1.1**
	baz=240							
WNT			*e*S		**Sn**	**04 20 55.0**	**0.0**
	baz=240							
WCHH	**Zhanghua**	**1.91 248**	*e*P		**Pn**	**04 20 29.5**	**-0.7**
	baz=247							
WCHH			*e*S		**Sn**	**04 20 55.2**	**0.0**
	baz=247							
YUS	**Yu-Shan**	**1.93 227**	*e*S		**Sn**	**04 20 55.9**	**-0.6**
	baz=227							
FULB	**Fuli**	**1.94 215**	P		**Pn**	**04 20 30.8**	**0.0**
	baz=214							
FULB			*e*S		**Sn**	**04 20 55.0**	**-1.2**
	baz=214							
ALS	**Alishan**	**2.01 230**	*e*P		**Pn**	**04 20 32.8**	**+0.9**
	baz=229							
ALS			*e*S		**Sn**	**04 20 59.0**	**+0.9**
	baz=229							
JTJ	**Tarama**	**2.02 94**	S		**Sn**	**04 20 57.2**	**-0.4**
CHN5	**Tsauling**	**2.05 234**	P		**Pn**	**04 20 33.5**	**+1.3**
	baz=234							
CHN5			*e*S		**Sn**	**04 20 59.1**	**+0.5**
	baz=234							
ELDTW	**Lidau**	**2.11 220**	*e*P		**Pn**	**04 20 32.7**	**-0.1**
	baz=219							
ELDTW			*e*S		**Sn**	**04 20 58.9**	**-0.9**
	baz=219							
WDLH	**Douliu**	**2.11 238**	*e*P		**Pn**	**04 20 33.8**	**+1.1**
	baz=238							
WDLH			*e*S		**Sn**	**04 20 59.9**	**+0.3**
	baz=238							
RLNB	**Erlin**	**2.15 245**	*e*P		**Pn**	**04 20 33.3**	**0.0**
	baz=244							
RLNB			*e*S		**Sn**	**04 21 00.8**	**+0.2**
	baz=244							
WTCT	**Ta-ch'eng**	**2.23 245**	*e*P		**Pn**	**04 20 35.4**	**+1.1**
	baz=244							
WTCT			*e*S		**Sn**	**04 21 01.0**	**-1.2**
	baz=244							
CHN4	**Tsaushan**	**2.27 230**	*e*P		**Pn**	**04 20 35.8**	**+1.1**
	baz=230							
CHN4			*e*S		**Sn**	**04 21 03.9**	**+0.7**
	baz=230							
TPUB	**Ta-pu**	**2.27 229**	*e*P		**Pn**	**04 20 36.2**	**+1.3**
	baz=228							
TPUB			*e*S		**Sn**	**04 21 03.5**	**+0.2**
	baz=228							
CHY	**Chiayi**	**2.30 236**	*e*P		**Pn**	**04 20 36.4**	**+1.2**
	baz=235							
CHY			*e*S		**Sn**	**04 21 03.4**	**-0.5**
	baz=235							
WTP	**Ta-pu**	**2.32 228**	*e*P		**Pn**	**04 20 36.4**	**+0.9**
	baz=227							
WTP			*e*S		**Sn**	**04 21 04.3**	**-0.1**
	baz=227							
TWGBT	**Beinan**	**2.37 213**	*e*P		**Pn**	**04 20 36.4**	**+0.3**
	baz=213							
TWGBT			*e*S		**Sn**	**04 21 04.1**	**-1.5**
	baz=213							
TWG	**Pinlang**	**2.37 214**	*e*P		**Pn**	**04 20 37.0**	**+0.9**
	baz=213							
TWG			*e*S		**Sn**	**04 21 03.5**	**-2.0**
	baz=213							
WSF	**Szhu**	**2.38 241**	*e*S		**Sn**	**04 21 04.9**	**-0.8**
	baz=240							
TWK	**Hsinying**	**2.39 230**	*e*P		**Pn**	**04 20 37.5**	**+1.1**
	baz=229							
TWK			*e*S		**Sn**	**04 21 05.4**	**-0.7**
	baz=229							
WLGB	**Puzi**	**2.40 237**	*e*S		**Sn**	**04 21 06.5**	**+0.2**
	baz=236							
CHN1	**Nanshi**	**2.42 228**	*e*P		**Pn**	**04 20 37.5**	**+0.8**
	baz=228							
CHN1			*e*S		**Sn**	**04 21 07.1**	**+0.4**
	baz=228							
JIRB	**Irabujima**	**2.44 89**	*e*S		**Sn**	**04 21 08.2**	**+1.2**
SGST	**Jiashian**	**2.45 226**	*e*P		**Pn**	**04 20 38.2**	**+1.1**
	baz=225							
SGST			*e*S		**Sn**	**04 21 07.0**	**-0.5**
	baz=225							
SLGT	**Liugui**	**2.48 223**	*e*S		**Sn**	**04 21 08.4**	**+0.4**
	baz=223							
JIKM	**Ikemajima**	**2.50 87**	*e*S		**Sn**	**04 21 09.3**	**+0.8**
JMJ	**Miyako jima 2**	**2.55 89**	*e*P		**Pn**	**04 20 39.0**	**+0.7**
	baz=89							
JMJ			*e*S		**Sn**	**04 21 08.5**	**-1.0**
	baz=89							
PTTC	**Pingtan**	**2.56 286**	*e*P		**Pn**	**04 20 38.6**	**+0.2**
	baz=285							
PTTC			*e*S		**Sn**	**04 21 09.8**	**0.0**
	baz=285							
ECL	**Taimali**	**2.62 213**	*e*P		**Pn**	**04 20 40.0**	**+0.8**
	baz=212							
ECL			*e*S		**Sn**	**04 21 10.4**	**-0.7**
	baz=212							
MATB	**Ma-tsu**	**2.66 301**	*e*P		**Pn**	**04 20 39.5**	**-0.2**
	baz=299							
SSD	**Sandimen**	**2.67 220**	*e*S		**Sn**	**04 21 11.9**	**-0.6**
	baz=219							
MASBT	**Mashibuluo**	**2.78 218**	*e*P		**Pn**	**04 20 42.6**	**+1.3**
	baz=218							
MASBT			*e*S		**Sn**	**04 21 14.7**	**-0.1**
	baz=218							
EAST	**Anshuo**	**2.85 212**	*e*P		**Pn**	**04 20 43.0**	**+0.7**
	baz=212							
LAY	**Lan-yu**	**2.89 198**	*e*P		**Pn**	**04 20 43.7**	**+0.9**
	baz=197							
LAY			*e*S		**Sn**	**04 21 15.5**	**-2.1**
	baz=197							
PNG	**Penghu**	**2.96 246**	*e*S		**Sn**	**04 21 16.7**	**-2.3**
	baz=245							
XPSS	**Dashiqiu**	**2.96 316**	*e*P		**Pn**	**04 20 43.1**	**-0.5**
	baz=315							
XPSS			*e*S		**Sn**	**04 21 18.3**	**-0.7**
	baz=315							
LYJJ	**Jianjiangzhen**	**3.01 306**	*e*P		**Pn**	**04 20 43.7**	**-0.5**
	baz=304							
LYJJ			*e*S		**Sn**	**04 21 18.8**	**-1.4**
	baz=304							
PTMZ	**Houxiangcun**	**3.07 275**	*e*P		**Pn**	**04 20 44.2**	**-0.8**
	baz=274							
PTMZ			*e*S		**Sn**	**04 21 19.5**	**-2.1**
	baz=274							
VCHM	**Qimei**	**3.22 241**	*e*P		**Pn**	**04 20 48.4**	**+1.3**
	baz=240							
VCHM			*e*S		**Sn**	**04 21 23.2**	**-2.0**
	baz=240							
TSEB	**Hengchuen, Pin**	**3.25 207**	*e*P		**Pn**	**04 20 48.5**	**+1.1**
	baz=207							
TSEB			*e*S		**Sn**	**04 21 25.3**	**-0.5**
	baz=207							
TWKBT	**Hengchun**	**3.25 209**	*e*P		**Pn**	**04 20 48.6**	**+1.2**
	baz=208							
TWKBT			*e*S		**Sn**	**04 21 25.1**	**-0.7**
	baz=208							
KNM	**Kinmen**	**3.71 265**	*e*P		**Pn**	**04 20 56.6**	**+3.1**
	baz=264							
KNM			*e*S		**Sn**	**04 21 39.0**	**+2.2**
	baz=264							
KNMB	**Chin-men Tao**	**3.75 266**	*e*P		**Pn**	**04 20 53.3**	**-0.7**
	baz=264							
KNMB			*e*S		**Sn**	**04 21 36.5**	**-1.1**
	baz=264							
AXDP	**Jialang**	**4.11 272**	*e*P		**Pn**	**04 20 58.8**	**+0.1**
	baz=271							
ZPLA	**Ao Xicun**	**4.41 259**	*e*P		**Pn**	**04 21 03.7**	**+0.9**
	baz=258							
JOW	**Kunigami**	**5.58 68**	*e*P		**Pn**	**04 21 17.4**	**-1.2**
	baz=68							

IDC 01 05:01:08.7±2.0, 20°19S×177°49W, h483km±34km, mb3.5/5, mb1 3.5/8, mb1mx3.2/33, mbtmp4.3/8, Error ellipse: s-maj=27.1km s-min=22.0km az=172.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**8.30**	**42**	P		P	05 03 09.9	+2.0
	2.5nm,0.3s,baz=230,slow=7.9,SNR=4.3							
AFI				S		S	05 04 43.9	-2.0
	3.0nm,0.3s,baz=205,slow=14,SNR=5.5							
DZM	**Mont Dzumac**	**15.11**	**260**	P		P	05 04 20.6	+0.2
	0.2nm,0.3s,baz=90,slow=20,SNR=2.7							
URZ	**Urewera**	**18.61**	**193**	P		P	05 04 54.1	-1.2
	0.6nm,0.3s,baz=34,slow=7.3,SNR=5.2							
CTA	**Charters Tower**	**34.00**	**264**	P		P	05 07 11.7	+0.3
	4.5nm,0.5s,baz=89,slow=10,SNR=10.0							
STKA	**Stephens Creek**	**38.35**	**244**	P		P	05 07 47.4	-0.1
	2.4nm,0.5s,baz=93,slow=11,SNR=3.5							
ASAR	**Alice Springs**	**45.05**	**256**	P		P	05 08 40.7	-0.1
	9.2nm,0.6s,baz=95,slow=7.6,SNR=115							
ASAR				PcP		pP	05 10 11.2	-0.3
	0.4nm,0.5s,baz=106,slow=4.9,SNR=3.9							
WRA	**Warramunga Arr**	**45.12**	**262**	P		P	05 08 40.8	-0.5
	4.9nm,0.6s,baz=98,slow=8.0,SNR=148							
VNDA	**Vanda**	**58.26**	**185**	P		P	05 10 16.1	+0.5
	0.6nm,0.9s,baz=41,slow=4.0,SNR=5.1							

*IDC **01** 05:04:41.7±5.8, 36°16N×71°29E, h174km±52km, mb3.2/4, mb1 3.3/8, mb1mx3.0/51, mbtmp3.8/8, Error ellipse: s-maj=64.2km s-min=40.6km az=139.0*
*ISCJB **01** 05:04:44.6±0.7, 36°56N±0°05×71°02E±0°09, h188km, mb3.5/3, Error ellipse: s-maj=10.4km s-min=5.8km az=162.3*
*NNC **01** 05:04:49.9±5.1, 36°95N×70°72E, h162km±83km, mb3.2, mpv3.9, Error ellipse: s-maj=46.2km s-min=27.7km az=10.0*
ISC 01 05:04:45.7±0.9, 36°60N±0°08×71°10E±0°10, h188km, n28, σ1§40/32, mb3.3/3, 5C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AML	**Almayashu**	**5.88**	**19**	P		**Pn**	**05 06 12.4**	**+1.0**
	SNR=147							
UCH	**Uchtor**	**6.21**	**24**	P		**Pn**	**05 06 16.6**	**+0.8**
	SNR=21							
KZA	**Kyzart**	**6.34**	**29**	P		**Pn**	**05 06 18.0**	**+0.5**
	SNR=6.0							
EKS2	**Erkin-Say**	**6.39**	**18**	P		**Pn**	**05 06 19.6**	**+1.6**
	SNR=29							
KK31	**Karatay Array**	**6.51**	**356**	⇑P		**Pn**	**05 06 20.0**	**+0.7**
	0.8nm,0.3s,baz=181,slow=12,SNR=29							
KK31				⇑S		**Sn**	**05 07 29.0**	**-4.4**
	16nm,0.5s,baz=182,slow=22,SNR=28							
AAK	**Ala-Archa**	**6.57**	**22**	P		**Pn**	**05 06 21.5**	**+1.2**
	2.2nm,0.3s,baz=196,slow=6.1,SNR=28							
AAK				S		**Sn**	**05 07 32.8**	**-2.3**
	1.3nm,0.3s,baz=123,slow=22,SNR=12							
AAK	**Ala-Archa**	**6.57**	**22**	⇓P		**Pn**	**05 06 21.5**	**+1.2**
	7.3nm,0.6s							
AAK				⇑S		**Sn**	**05 07 34.8**	**-0.3**
	12nm,0.6s							
AAK	**Ala-Archa**	**6.57**	**22**	P		**Pn**	**05 06 21.6**	**+1.3**
	SNR=11							
KBK	**Karagaybulak**	**6.74**	**25**	P		**Pn**	**05 06 24.8**	**+2.4**
	SNR=8.2							
ULHL	**Ulahol**	**6.90**	**34**	P		**Pn**	**05 06 26.0**	**+1.4**
	SNR=5.3							
TKM2	**Tokmak 2**	**7.20**	**27**	⇓P		**Pn**	**05 06 29.8**	**+1.3**
	15nm,0.6s							
TKM2				⇑S		**Sn**	**05 07 49.1**	**-0.9**
	4.9nm,0.7s							
TKM2	**Tokmak 2**	**7.20**	**27**	P		**Pn**	**05 06 29.8**	**+1.3**
	SNR=33							
PYUN	**Piuthan**	**13.14**	**127**	*e*P		**Pn**	**05 07 44.7**	**-0.8**
	7.9nm,0.3s							
MKAR	**Makanchi Array**	**13.16**	**36**	P		**Pn**	**05 07 45.1**	**-0.4**
	0.1nm,0.3s,baz=220,slow=13,SNR=5.3							
DANN	**Dangsing**	**13.48**	**124**	*e*P		**Pn**	**05 07 49.4**	**-0.5**
	4.0nm,0.2s							
KOLN	**Koldanda**	**13.76**	**126**	*e*P		**Pn**	**05 07 52.3**	**-1.0**
	3.5nm,0.3s							
KURBB	**Kurchatov Arra**	**15.00**	**19**	P		**Pn**	**05 08 08.1**	**-0.1**
	0.1nm,0.3s,baz=207,slow=11,SNR=4.7							
AB31	**Akbulak array**	**15.03**	**331**	⇑P		**Pn**	**05 08 07.9**	**-0.7**
	2.8nm,0.8s,baz=143,slow=12,SNR=15							
PKIN	**Phulchoki**	**15.08**	**123**	*e*P		**P**	**05 08 10.5**	**0.0**
	5.8nm,0.4s							
PKI	**Pulchoki**	**15.09**	**123**	*e*P		**P**	**05 08 10.5**	**-0.2**
	6.8nm,0.4s							
JIRN	**Jiri**	**15.57**	**121**	*e*P		**P**	**05 08 17.2**	**+1.2**
	12nm,0.3s							
RAMN	**Ramite**	**16.30**	**122**	*e*P		**P**	**05 08 23.3**	**-0.7**
	5.5nm,0.3s							
AKTO	**Aktyubinsk**	**16.73**	**330**	P		**Pn**	**05 08 30.0**	**+0.8**
	0.6nm,0.3s,baz=148,slow=11,SNR=9.8							
AKTO	**Aktyubinsk**	**16.73**	**330**	⇓P		**Pn**	**05 08 29.6**	**+0.5**
	3.7nm,0.7s							
ZALV	**Zalesovo Beam**	**19.79**	**24**	P		**P**	**05 09 02.2**	**+0.9**
	1.2nm,0.3s,baz=224,slow=11,SNR=7.1							
ARCES	**ARCESS Array B**	**41.08**	**338**	P		**P**	**05 12 11.9**	**+1.5**
	5.6nm,1.1s,baz=109,slow=7.9,SNR=5.9							
NOA	**NORSAR Array B**	**44.35**	**323**	P		**P**	**05 12 37.6**	**+0.7**
	0.6nm,0.5s,baz=96,slow=7.7,SNR=3.4							
TORD	**Torodi Ar. Bea**	**65.80**	**269**	P		**P**	**05 15 09.5**	**-1.5**
	0.1nm,0.3s,baz=54,slow=5.3,SNR=4.2							

IDC 01 05:15:18.3±3.8, 5°02S×148°16E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/32, mbtmp3.9/3, Error ellipse: s-maj=111.7km s-min=45.9km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.03**	**221**	P		P	05 19 53.8	+0.8
	2.1nm,0.3s,baz=47,slow=12,SNR=52							
ASAR	**Alice Springs**	**23.08**	**215**	P		P	05 20 26.2	+0.4
	1.4nm,0.6s,baz=48,slow=8.5,SNR=12							
FITZ	**Fitzroy Crossi**	**25.57**	**238**	P		P	05 20 48.1	-1.1
	2.1nm,0.5s,baz=49,slow=11,SNR=15							
TORD	**Torodi Ar. Bea**	**145.95**	**286**	PKPbc		PKPdf	05 35 00.7	+0.3
	baz=65,slow=3.1							

*ISCJB **01** 05:22:14.5±0.5, 24°89N±0°02×122°43E±0°02, h9km±3km, Error ellipse: s-maj=4.3km s-min=2.5km az=30.7*
*TAP **01** 05:22:14.7, 24°88N×122°38E, h14km, ML3.7, C*
*JMA **01** 05:22:15.2±0.1, 24°89N×122°42E, h47km±3km, M2.8*
ISC 01 05:22:12.7±1.1, 24°91N±0°03×122°48E±0°03, h11km±10km, n64, σ0§55/100, 3C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.46**	**283**	⇑*i*P		**Pb**	**05 22 23.0**	**0.0**
	baz=289							
TWB1				S		**Sg**	**05 22 27.9**	**-0.1**
	baz=289							
EOS1	**EOS1**	**0.48**	**222**	⇑*e*P		**Pb**	**05 22 24.1**	**+0.9**
	baz=214							
EOS1				S		**Sb**	**05 22 30.5**	**+0.3**
	baz=214							
EGS		**0.51**	**263**	P		**Pb**	**05 22 24.0**	**+0.3**
	baz=264							
NTC	**Toucheng**	**0.60**	**265**	*e*P		**Pb**	**05 22 25.0**	**-0.2**
	baz=266							
JYNG	**Yonagunijimaku**	**0.62**	**137**	P		**Pn**	**05 22 28.2**	**+0.7**
JYNG				*e*S		**Sn**	**05 22 37.7**	**+0.3**
TWC	**Suao**	**0.65**	**243**	⇑*i*P		**Pb**	**05 22 25.8**	**-0.3**
	baz=240							
TWC				*e*S		**Sg**	**05 22 34.5**	**+0.6**
	baz=240							
YOJ	**Yonaguni jima**	**0.65**	**133**	P		**Pn**	**05 22 28.5**	**+0.6**
	baz=126							
YOJ				S		**Sn**	**05 22 38.7**	**+0.5**
	baz=126							
YOJ	**Yonaguni jima**	**0.65**	**133**	P		**Pn**	**05 22 28.6**	**+0.6**
YOJ				*e*S		**Sn**	**05 22 38.1**	**-0.1**
NWF	**Wu-fen Shan**	**0.66**	**285**	*i*P		**Pn**	**05 22 27.2**	**-0.9**
	baz=288							
NWF				S		**Sb**	**05 22 35.3**	**-0.3**
	baz=288							
WFSB	**Wu-fen Shan**	**0.66**	**285**	*e*P		**Pb**	**05 22 27.1**	**+0.8**
	baz=288							
WFSB				*e*S		**Sg**	**05 22 34.5**	**+0.3**
	baz=288							
ILA	**Ilan**	**0.68**	**258**	*e*P		**Pg**	**05 22 26.3**	**+0.3**
	baz=258							
ILA				*e*S		**Sb**	**05 22 36.3**	**+0.2**
	baz=258							
PCYT	**Pengchaiyu**	**0.81**	**333**	P		**Pn**	**05 22 30.1**	**-0.1**
	baz=339							
NANB	**Nanao**	**0.82**	**235**	P		**Pb**	**05 22 29.0**	**0.0**
	baz=231							
NANB				*e*S		**Sg**	**05 22 39.3**	**0.0**
	baz=231							
TWA	**Mucha**	**0.82**	**275**	P		**Pn**	**05 22 29.8**	**-0.5**
	baz=277							
TWA				S		**Sb**	**05 22 39.9**	**-0.3**
	baz=277							
ENA	**Nanau**	**0.83**	**235**	P		**Pb**	**05 22 29.3**	**+0.1**
	baz=231							
ENA				S		**Sb**	**05 22 39.9**	**-0.4**
	baz=231							
YM07	**YM07**	**0.83**	**289**	*e*P		**Pn**	**05 22 30.1**	**-0.3**
	baz=292							
YM07				S		**Sb**	**05 22 40.3**	**-0.1**
	baz=292							
YM08	**YM08**	**0.86**	**289**	*e*P		**Pn**	**05 22 30.3**	**-0.5**
	baz=292							
YM08				*e*S		**Sg**	**05 22 40.5**	**0.0**
	baz=292							
YM01	**YM01**	**0

ENTT	**Nioudou** baz=251	**0.88**	**253**	*eP*	**Pn**	**05 22 30.6 -0.4**
TAP1	**Taipei** baz=280	**0.88**	**279**	*eP*	**Pn**	**05 22 30.7 -0.4**
TAP1	baz=280			*eS*	**Sb**	**05 22 42.3 +0.4**
TWY	**Chenhua** baz=298	**0.88**	**295**	*eP*	**Pn**	**05 22 31.5 +0.3**
TWY	baz=298			*eS*	**Sb**	**05 22 42.1 +0.2**
YM04	**YM04** baz=289	**0.90**	**286**	*eP*	**Pn**	**05 22 31.2 -0.2**
YM04	baz=289			*eS*	**Sb**	**05 22 42.3 0.0**
TAP	**Taipei** baz=280	**0.90**	**279**	*eP*	**Pn**	**05 22 31.0 -0.3**
TAP	baz=280			*eS*	**Sg**	**05 22 42.0 +0.3**
YM03	**YM03** baz=291	**0.90**	**288**	*eP*	**Pn**	**05 22 31.5 +0.1**
YM03	baz=291			*eS*	**Sb**	**05 22 43.2 +0.7**
NWLT	**Wulai** baz=262	**0.90**	**262**	*eP*	**Pn**	**05 22 31.1 -0.4**
NWLT	baz=262			S	**Sg**	**05 22 42.0 +0.1**
TATO	**Taipei** baz=276	**0.91**	**275**	*eP*	**Pn**	**05 22 31.1 -0.3**
TATO	baz=276			*eS*	**Sg**	**05 22 41.7 -0.4**
NTST	**Danshui** baz=288	**0.97**	**286**	*eP*	**Pb**	**05 22 31.8 +0.1**
NTST	baz=288			*eS*	**Sb**	**05 22 44.8 +0.3**
TWS1	**Kuangyinshan** baz=283	**0.99**	**282**	*eP*	**Pn**	**05 22 33.0 +0.5**
TWS1	baz=283			*eS*	**Sb**	**05 22 45.0 0.0**
YHNB	**Yeheng** baz=256	**1.03**	**257**	*eP*	**Pn**	**05 22 33.2 -0.2**
YHNB	baz=256			*eS*	**Sg**	**05 22 46.1 -0.1**
NSK	**Sanguang** baz=257	**1.05**	**258**	*eP*	**Pb**	**05 22 32.3 -0.6**
NSK	baz=257			*eS*	**Sg**	**05 22 46.3 -0.4**
NACB	**Ninganchiao** baz=225	**1.09**	**228**	*eP*	**Pb**	**05 22 33.5 -0.1**
NACB	baz=225			*eS*	**Sb**	**05 22 47.3 -0.6**
NNSB	**Datong** baz=243	**1.11**	**245**	*eP*	**Pn**	**05 22 34.1 -0.2**
NNSB	baz=243			S	**Sb**	**05 22 48.0 -0.5**
NNS	**Nan Shan** baz=244	**1.11**	**246**	P	**Pn**	**05 22 34.7 +0.3**
NNS	baz=244			*eS*	**Sb**	**05 22 48.3 -0.4**
WLTB	**Daxi** baz=268	**1.12**	**268**	*eP*	**Pb**	**05 22 34.1 -0.1**
WLTB	baz=268			*eS*	**Sb**	**05 22 48.6 -0.1**
TWD	**Chiawan** baz=221	**1.15**	**225**	P	**Pg**	**05 22 35.3 +0.4**
NCU	**National Centr** baz=274	**1.18**	**273**	S	**Sb**	**05 22 49.7 -0.7**
NCUH	**Zhongli** baz=274	**1.18**	**273**	*eS*	**Sb**	**05 22 50.4 -0.1**
IRIF	**Iriomote-Funau**	**1.27**	**116**	P	**Pg**	**05 22 37.5 +0.4**
WHF	**Hehuan Shan** baz=233	**1.34**	**236**	P	**Pg**	**05 22 38.9 +0.3**
WHF	baz=233			*eS*	**Sb**	**05 22 55.0 -0.6**
TWT	**Tachien** baz=240	**1.36**	**242**	*eP*	**Pg**	**05 22 39.0 +0.2**
LIOB	**Emei** baz=259	**1.36**	**259**	*eP*	**Pb**	**05 22 38.2 -0.1**
TDCB	**Techi** baz=240	**1.37**	**242**	*eP*	**Pg**	**05 22 39.0 -0.1**
TDCB	baz=240			*eS*	**Sb**	**05 22 55.9 -0.2**
ESL	**Shilin** baz=218	**1.45**	**222**	P	**Pb**	**05 22 39.8 0.0**
HATJ	**Hateruma jima**	**1.47**	**125**	P	**Pg**	**05 22 40.9 -0.1**
JKRS	**Kuro-shima**	**1.54**	**115**	P	**Pg**	**05 22 41.7 -0.6**
EGFH	**Guangfu** baz=215	**1.56**	**218**	*eP*	**Pb**	**05 22 41.8 +0.1**
JIJ	**Ishigaki jima**	**1.60**	**109**	P	**Pb**	**05 22 41.6 -0.8**
EHY	**Hungye** baz=215	**1.75**	**218**	*eP*	**Pn**	**05 22 43.8 +0.7**
SSLB	**Suanglung** baz=230	**1.79**	**232**	*eP*	**Pb**	**05 22 45.6 +0.1**
YULB	**Yu-li** baz=213	**1.86**	**216**	*eP*	**Pn**	**05 22 44.8 +0.2**
FULB	**Fuli** baz=210	**2.02**	**213**	*eP*	**Pn**	**05 22 47.5 +0.7**
WDLH	**Douliu** baz=234	**2.15**	**236**	*eP*	**Pb**	**05 22 51.1 -0.6**
TPUB	**Ta-pu** baz=225	**2.33**	**227**	*eP*	**Pb**	**05 22 54.0 -0.8**
STYT	**Tauyuan** baz=220	**2.35**	**223**	*eP*	**Pb**	**05 22 53.7 -1.4**
WTP	**Ta-pu** baz=224	**2.38**	**226**	*eP*	**Pb**	**05 22 54.5 -1.1**
TWGBT	**Beinan** baz=210	**2.44**	**212**	*eP*	**Pn**	**05 22 53.5 +0.9**
TWG	**Pinlang** baz=210	**2.45**	**212**	*eP*	**Pb**	**05 22 54.5 -2.2**
CHN1	**Nanshi** baz=225	**2.48**	**227**	*eP*	**Pb**	**05 22 56.4 -0.9**
SLGT	**Liugui** baz=220	**2.54**	**222**	*eP*	**Pb**	**05 22 57.1 -1.3**
MASBT	**Mashibuluo** baz=215	**2.84**	**217**	*eP*	**Pn**	**05 22 59.8 +1.6**

*ISCJB **01** 05:37:30.6±0.7, 37.31N±0.04×37.11E±0.06, h6km±9km, Error ellipse: s-maj=9.2km s-min=5.5km az=139.0*
*DDA **01** 05:37:30.3, 37.32N×37.12E, h7km, Ml2.9*
*ISK **01** 05:37:30.4, 37.33N×37.10E, h5km, ML2.0/8*
ISC 01 05:37:30.6±1.1, 37.31N±0.04×37.11E±0.03, h9km±9km, n13, σ0.48/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.16**	**149**	PG	**Pg**	**05 37 34.3**	**+0.3**
KMRS	**Kahramanmaras**	**0.26**	**320**	PG	**Pg**	**05 37 35.9**	**0.0**
KMRS				SG	**Sg**	**05 37 39.2**	**-0.2**
KUZU	**Kuzuini**	**0.53**	**183**	*i* P	**Pb**	**05 37 42.0**	**-0.1**
KUZU				*i* S	**Sn**	**05 37 53.5**	**0.0**
ANDN	**Andirin**	**0.67**	**294**	*i* P	**Pg**	**05 37 43.5**	**0.0**
ANDN				*i* S	**Sb**	**05 37 53.1**	**-0.8**
KOZT	**Kozan**	**1.04**	**280**	PG	**Pb**	**05 37 50.5**	**-0.2**
AKCD	**Akcadag**	**1.18**	**33**	*i* P	**Pg**	**05 37 52.6**	**-0.6**
AKCD				*i* S	**Sb**	**05 38 08.8**	**+0.1**
TAHT	**Tahtakopru-Hat**	**1.19**	**219**	PN	**Pn**	**05 37 53.9**	**+0.5**
SURC	**SANLIURFA_SURC**	**1.27**	**109**	*i* P	**Pn**	**05 37 54.4**	**-0.2**
SURC				*i* S	**Sg**	**05 38 11.2**	**-0.4**
DARE	**Darende-Malaty**	**1.30**	**13**	PN	**Pg**	**05 37 55.4**	**-0.1**
URFA	**Urfa**	**1.37**	**84**	PN	**Pb**	**05 37 56.5**	**+0.1**
SANL	**SANLIURFA_Merk**	**1.50**	**95**	*i* P	**Pn**	**05 37 57.7**	**0.0**
SANL				*i* S	**Sn**	**05 38 17.7**	**+0.2**
BNN	**Bunyan**	**1.84**	**327**	PN	**Pn**	**05 38 03.3**	**+0.8**
SVRC	**Sivrice-ELAZID**	**2.04**	**58**	PN	**Pn**	**05 38 06.3**	**+1.0**

MEX 01 05:38:14.4±0.4, 16.34N×98.26W, h16km±1km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.14**	**70**	*i* P	Pg	05 38 17.6	-0.7
PNIG				*i* S	Sg	05 38 20.2	-0.6
TLIG	**Tlapa**	**1.25**	**347**	*eP*	Pn	05 38 32.9	-4.5
TLIG				*eS*	Sb	05 38 48.6	-5.0
VHO	**Vista Hermosa**	**1.63**	**63**	*eP*	Pn	05 38 40.0	-2.7
VHO				*i* S	Sn	05 38 58.5	-5.1
HUIG	**Huatulco**	**2.15**	**105**	*i* P	Pn	05 38 46.1	-3.5
HUIG				*i* S	Sn	05 39 11.8	-4.2
PLIG	**Platanillo**	**2.36**	**330**	*i* P	Pn	05 38 49.6	-3.0
PLIG				*i* S	Sn	05 39 17.5	-3.8

*ISCJB **01** 05:54:06.7±0.5, 40.33N±0.03×38.73E±0.04, h0km, Error ellipse: s-maj=5.0km s-min=3.5km az=153.5*
*ISK **01** 05:54:06.7, 40.36N×38.66E, h8km±1km, ML2.2/6*
*DDA **01** 05:54:07.0, 40.29N×38.71E, h7km, Ml2.8, Suspected Mining explosion.*
ISC 01 05:54:06.7±0.9, 40.31N±0.03×38.68E±0.03, h0km, n14, σ0.79/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUSE	**Susehri**	**0.38**	**254**	*i* P	**Pg**	**05 54 14.5**	**+0.5**
SUSE				*i* S	**Sb**	**05 54 21.9**	**-1.1**
KELT	**Kelkit**	**0.47**	**110**	*i* P	**Pg**	**05 54 16.2**	**+0.5**
KELT				*i* S	**Sg**	**05 54 22.7**	**+1.0**
ESPY	**Espiye-Giresun**	**0.60**	**3**	PG	**Pg**	**05 54 18.5**	**+0.2**
ESPY				SG	**Sg**	**05 54 25.7**	**-0.4**
REFA	**Refahiye_ERZ**	**0.92**	**176**	*i* P	Pg	05 54 14.8	-10
REFA				*i* S	Sg	05 54 21.4	-15
MACK	**Trabzon**	**1.04**	**52**	*i* P	**Pb**	**05 54 27.2**	**-0.4**
KEMA	**Kemaliye**	**1.05**	**188**	*i* P	**Pg**	**05 54 26.4**	**-0.5**
KEMA				*i* S	**Sb**	**05 54 41.4**	**-0.8**
KTUT	**Trabzon**	**1.06**	**50**	PG	**Pb**	**05 54 27.7**	**-0.3**
BAYT	**Ayd¨–ntepe-Bay**	**1.12**	**85**	PN	**Pg**	**05 54 28.2**	**+0.1**
BAYB	**BAYBURT**	**1.21**	**92**	*i* P	**Pg**	**05 54 29.2**	**-0.6**
BAYB				*i* S	**Sg**	**05 54 44.8**	**-0.7**
SCER	**sogukcermik**	**1.27**	**250**	*i* P	**Pb**	**05 54 31.3**	**-0.4**
SCER				*i* S	**Sn**	**05 54 51.9**	**+2.1**
SVSK	**Karacayir**	**1.35**	**254**	PN	**Pg**	**05 54 32.3**	**-0.3**
CUKAN	**kangal_SIVAS**	**1.37**	**224**	*i* P	**Pg**	**05 54 32.5**	**-0.4**
CUKAN				*i* S	**Sn**	**05 54 53.0**	**+0.9**
PTK	**Pertek**	**1.52**	**159**	PN	**Pb**	**05 54 35.9**	**0.0**
CHOM	**Cayeli-Rize**	**1.76**	**63**	PN	**Pn**	**05 54 38.7**	**+0.2**

*JMA **01** 05:59:45.7±0.1, 24.59N×122.37E, h87km±2km, M2.4*
*ISCJB **01** 05:59:46.2±0.5, 24.60N±0.03×122.40E±0.02, h83km±5km, Error ellipse: s-maj=4.4km s-min=2.8km az=176.5*
*TAP **01** 05:59:46.1, 24.62N×122.39E, h83km±1km, ML3.0, D*
ISC 01 05:59:46.5±1.4, 24.60N±0.04×122.40E±0.02, h83km±9km, n51, σ0.69/98, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1** baz=253	**0.26**	**258**	*eP*	**Pn**	**05 59 59.3**	**+0.5**
EOS1	baz=253			*eS*	**Sn**	**06 00 09.4**	**+1.4**
TWC	**Suao** baz=268	**0.50**	**271**	*i* P	**Pn**	**06 00 00.2**	**-0.4**
TWC	baz=268			*i* S	**Sn**	**06 00 10.5**	**-0.5**
JYNG	**Yonagunijimaku**	**0.52**	**107**	P	**Pn**	**06 00 00.7**	**0.0**
JYNG				*eS*	**Sn**	**06 00 11.3**	**+0.1**
TWB1	**Santiao Chiao** baz=316	**0.55**	**317**	P	**Pn**	**06 00 00.8**	**-0.2**
YOJ	**Yonaguni jima**	**0.57**	**104**	P	**Pn**	**06 00 01.2**	**0.0**
YOJ				*eS*	**Sn**	**06 00 12.0**	**0.0**
NANB	**Nanao** baz=251	**0.62**	**254**	*eP*	**Pn**	**06 00 01.8**	**+0.1**
NANB	baz=251			*eS*	**Sn**	**06 00 13.2**	**+0.4**
ENA	**Nanau** baz=251	**0.63**	**254**	*i* P	**Pn**	**06 00 01.8**	**+0.1**
ENA	baz=251			S	**Sn**	**06 00 13.5**	**+0.5**
NWF	**Wu-fen Shan** baz=308	**0.73**	**310**	*eP*	**Pn**	**06 00 01.8**	**-1.0**
NWF	baz=308			*eS*	**Sn**	**06 00 15.3**	**+0.3**
WFSB	**Wu-fen Shan** baz=308	**0.73**	**310**	*eP*	**Pn**	**06 00 01.7**	**-1.0**
WFSB	baz=308			*eS*	**Sn**	**06 00 15.4**	**+0.6**
ENTT	**Nioudou** baz=271	**0.76**	**273**	*eP*	**Pn**	**06 00 03.6**	**+0.6**
TWA	**Mucha** baz=295	**0.83**	**297**	P	**Pn**	**06 00 03.6**	**-0.3**
TWA	baz=295			S	**Sn**	**06 00 16.2**	**-0.6**
NWLT	**Wulai** baz=280	**0.84**	**282**	*eP*	**Pn**	**06 00 04.0**	**0.0**
NWLT	baz=280			*eS*	**Sn**	**06 00 17.2**	**+0.3**
NACB	**Ninganchiao** baz=238	**0.85**	**240**	*eP*	**Pn**	**06 00 03.6**	**-0.5**
NACB	baz=238			*eS*	**Sn**	**06 00 17.1**	**0.0**
TWD	**Chiawan** baz=233	**0.90**	**235**	P	**Pn**	**06 00 04.0**	**-0.6**
TWD	baz=233			*i* S	**Sn**	**06 00 17.7**	**-0.4**
YM07	**YM07** baz=308	**0.91**	**309**	*eP*	**Pn**	**06 00 04.4**	**-0.3**
YM07	baz=308			*eS*	**Sn**	**06 00 18.1**	**-0.3**
YM01	**YM01** baz=304	**0.93**	**306**	*eP*	**Pn**	**06 00 05.1**	**+0.1**
YM01	baz=304			*eS*	**Sn**	**06 00 18.8**	**0.0**
YHNB	**Yeheng** baz=272	**0.94**	**274**	*eP*	**Pn**	**06 00 05.2**	**+0.1**
YHNB	baz=272			*eS*	**Sn**	**06 00 19.1**	**+0.1**
YM08	**YM08** baz=307	**0.94**	**309**	*eP*	**Pn**	**06 00 04.6**	**-0.5**
YM08	baz=307			*eS*	**Sn**	**06 00 18.4**	**-0.6**
YM10	**YM10** baz=305	**0.94**	**306**	P	**Pn**	**06 00 04.9**	**-0.2**
YM10	baz=305			*eS*	**Sn**	**06 00 18.9**	**-0.1**
NNSB	**Datong** baz=258	**0.94**	**260**	*eP*	**Pn**	**06 00 05.2**	**-0.1**
NNSB	baz=258			*eS*	**Sn**	**06 00 19.2**	**0.0**
YM05	**YM05** baz=305	**0.94**	**307**	*eP*	**Pn**	**06 00 04.8**	**-0.4**
YM05	baz=305			*eS*	**Sn**	**06 00 18.8**	**-0.3**
NNS	**Nan Shan** baz=258	**0.95**	**260**	*i* P	**Pn**	**06 00 05.4**	**+0.1**
NNS	baz=258			S	**Sn**	**06 00 18.8**	**-0.5**
NSK	**Sanguang** baz=273	**0.95**	**275**	*i* P	**Pn**	**06 00 05.5**	**+0.2**
NSK	baz=273			S	**Sn**	**06 00 19.2**	**0.0**
YM04	**YM04** baz=304	**0.96**	**305**	P	**Pn**	**06 00 05.0**	**-0.3**
YM04	baz=304			S	**Sn**	**06 00 18.7**	**-0.7**
TWS1	**Kuangyinshan** baz=298	**1.02**	**299**	*eP*	**Pn**	**06 00 05.9**	**-0.1**
WHF	**Hehuan Shan** baz=245	**1.13**	**247**	*i* P	**Pn**	**06 00 07.5**	**-0.2**
WHF	baz=245			*i* S	**Sn**	**06 00 23.2**	**-0.5**
NCUH	**Zhongli** baz=287	**1.17**	**289**	*eP*	**Pn**	**06 00 07.7**	**-0.1**
NCUH	baz=287			*eS*	**Sn**	**06 00 23.9**	**+0.2**
TDCB	**Techi** baz=251	**1.19**	**253**	*eP*	**Pn**	**06 00 08.6**	**+0.5**
TDCB	baz=251			*eS*	**Sn**	**06 00 24.2**	**-0.2**
IRIF	**Iriomote-Funau**	**1.24**	**102**	P	**Pn**	**06 00 08.4**	**-0.2**
IRIF				*eS*	**Sn**	**06 00 25.3**	**0.0**
CHGB	**Renai** baz=243	**1.24**	**245**	*eP*	**Pn**	**06 00 09.0**	**+0.1**
CHGB	baz=243			*eS*	**Sn**	**06 00 25.6**	**-0.1**
LIOB	**Emei** baz=271	**1.26**	**272**	P	**Pn**	**06 00 08.9**	**-0.1**
LIOB	baz=271			S	**Sn**	**06 00 26.2**	**+0.4**
NSTT	**Nanjuang** baz=270	**1.28**	**272**	*eP*	**Pn**	**06 00 09.2**	**+0.1**
NSTT	baz=270			*eS*	**Sn**	**06 00 26.1**	**0.0**
EGFH	**Guangfu** baz=222	**1.29**	**224**	*eP*	**Pn**	**06 00 09.4**	**+0.2**
EGFH	baz=222			*eS*	**Sn**	**06 00 25.3**	**-1.1**
HATJ	**Hateruma jima**	**1.39**	**113**	P	**Pn**	**06 00 10.9**	**+0.4**
HATJ				*eS*	**Sn**	**06 00 29.4**	**+0.8**
EHY	**Hungye** baz=221	**1.47**	**222**	*eP*	**Pn**	**06 00 10.4**	**-1.2**
EHY	baz=221			*eS*	**Sn**	**06 00 29.2**	**-1.3**
TWQ1	**Liyutan** baz=259	**1.51**	**261**	*eP*	**Pn**	**06 00 12.4**	**+0.3**
TWQ1	baz=259			*eS*	**Sn**	**06 00 31.6**	**+0.3**
JKRS	**Kuro-shima**	**1.51**	**104**	P	**Pn**	**06 00 12.3**	**+0.2**
JKRS				S	**Sn**	**06 00 32.0**	**+0.6**
SMLT	**Sun Moon Lake** baz=241	**1.55**	**243**	*eP*	**Pn**	**06 00 13.9**	**+1.2**
SMLT	baz=241			*eS*	**Sn**	**06 00 35.0**	**+2.6**
SSLB	**Suanglung** baz=237	**1.55**	**239**	*eP*	**Pn**	**06 00 13.4**	**+0.7**
SSLB	baz=237			*eS*	**Sn**	**06 00 32.8**	**+0.4**
YULB	**Yu-li** baz=219	**1.57**	**220**	*eP*	**Pn**	**06 00 11.7**	**-1.3**
YULB	baz=219			*eS*	**Sn**	**06 00 30.4**	**-2.5**
TYC	**Yuchr** baz=242	**1.57**	**244**	*eP*	**Pn**	**06 00 13.6**	**+0.7**
TYC	baz=242			*eS*	**Sn**	**06 00 33.3**	**+0.5**
TWF1	**Yuli** baz=218	**1.60**	**219**	*eP*	**Pn**	**06 00 13.8**	**+0.5**
TWF1	baz=218			*eS*	**Sn**	**06 00 31.9**	**-1.7**
JIJ	**Ishigaki jima**	**1.60**	**98**	P	**Pn**	**06 00 13.0**	**-0.3**
JIJ				S	**Sn**	**06 00 32.7**	**-0.9**
FULB	**Fuli** baz=215	**1.73**	**216**	*eP*	**Pn**	**06 00 15.5**	**+0.6**
FULB	baz=215			*eS*	**Sn**	**06 00 35.9**	**-0.6**
JISG	**Ishigakijimahi**	**1.74**	**90**	P	**Pn**	**06 00 15.1**	**+0.1**
JISG				*eS*	**Sn**	**06 00 36.1**	**-0.6**
CHKT	**Chengkung** baz=211	**1.77**	**213**	*eP*	**Pn**	**06 00 15.7**	**+0.2**
CHKT	baz=211			*eS*	**Sn**	**06 00 36.7**	**-0.7**
CHN5	**Tsauling** baz=236	**1.87**	**238**	*eP*	**Pn**	**06 00 17.4**	**+0.6**
CHN5	baz=236			*eS*	**Sn**	**06 00 41.4**	**+1.6**
ELDTW	**Lidau** baz=221	**1.89**	**222**	*eP*	**Pn**	**06 00 17.3**	**+0.1**
ELDTW	baz=221			*eS*	**Sn**	**06 00 39.5**	**-1.1**
CHN4	**Tsaushan** baz=232	**2.07**	**233**	*eP*	**Pn**	**06 00 20.4**	**+0.9**
CHN4	baz=232			*eS*	**Sn**	**06 00 44.5**	**0.0**
TPUB	**Ta-pu** baz=230	**2.08**	**232**	*eP*	**Pn**	**06 00 19.7**	**+0.2**
TPUB	baz=230			*eS*	**Sn**	**06 00 45.2**	**+0.5**
JTJ	**Tarama**	**2.09**	**88**	S	**Sn**	**06 00 45.6**	**+0.5**

JMA 01 06:02:52.5±0.1, 38.73N×142.42E, h40km±2km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.68**	**301**	P	Pn	06 03 05.9	+0.2
OFUJ				S	Sn	06 03 15.3	+0.1
JKMT	**Kesennumamotoy**	**0.74**	**277**	P	Pn	06 03 06.6	+0.1
JKMT				S	Sn	06 03 16.4	-0.2
JIKH	**Ishinomakikobu**	**0.86**	**241**	P	Pn	06 03 08.2	+0.1
JIKH				S	Sn	06 03 19.3	-0.1
JIO	**Ouri**	**0.88**	**252**	P	Pn	06 03 08.4	0.0
JIO				S	Sn	06 03 19.7	-0.3
JMK	**Ichinoseki**	**0.96**	**284**	P	Pn	06 03 09.9	+0.4
JMK				S	Sn	06 03 22.4	+0.4
JOM	**Ohasama**	**1.15**	**311**	P	Pn	06 03 12.7	+0.6
JOM				S	Sn	06 03 27.2	+0.6
JTH	**Tanohata**	**1.28**	**341**	P	Pn	06 03 14.5	+0.6
JTH				*eS*	Sn	06 03 30.8	+0.9
JOU	**Okura**	**1.42**	**256**	P	Pn	06 03 16.7	+0.8
JOU				S	Sn	06 03 34.8	+1.4
JRG	**Rokugo**	**1.54**	**296**	P	Pn	06 03 18.3	+0.8
JRG				S	Sn	06 03 38.4	+2.1
JMM	**Marumori**	**1.54**	**237**	P	Pn	06 03 17.9	+0.4
JMM				S	Sn	06 03 38.5	-0.5
JYK	**Kaneyama**	**1.62**	**277**	P	Pn	06 03 19.5	+0.9
JYK				S	Sn	06 03 39.1	+0.9

*ISCJB **01** 06:07:45.3±1.3, 24.00S±0.08×67.08W±0.08, h178km, mb3.0/1, Error ellipse: s-maj=11.8km s-min=9.6km az=149.6*
*GUC **01** 06:07:46.0±0.5, 24.02S×67.69W, h240km±10km, ML4.0*
*IDC **01** 06:07:50.9±3.4, 23.56S×66.91W, h243km±27km, mb2.8/1, mb1 2.9/4, mb1mx2.8/26, mbtmp3.4/4, Error ellipse: s-maj=39.4km s-min=22.6km az=39.0*
ISC 01 06:07:43.5±1.1, 24.07S±0.08×66.96W±0.08, h178km, n15, σ1.63/23, 6C, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB15	**IPOC Station P**	**2.46**	**290**	*i*P	**Pn**	**06 08 27.9**	**+2.0**
PB15				*i* S	**Sn**	**06 08 59.7**	**+1.0**
PB06	**IPOC Station P**	**2.76**	**299**	*i*P	**Pn**	**06 08 31.2**	**+1.9**
PB06				*i* S	**Sn**	**06 09 05.1**	**+0.2**
PB06	comp=E,475nm,0.2s			IAML		06 09 08.9	
PB14	**IPOC Station P**	**3.19**	**259**	*i*P	**Pn**	**06 08 35.4**	**+0.7**
PB14				*i* S	**Sn**	**06 09 12.9**	**-1.6**
PB14	comp=N,228nm,0.4s			IAML		06 09 19.1	
PB05	**IPOC Station P**	**3.22**	**292**	*eP*	**Pn**	**06 08 35.8**	**+1.0**
PB05				*i* S	**Sn**	**06 09 13.3**	**-1.6**
PB05	comp=E,205nm,0.2s			IAML		06 09 17.2	
PB03	**IPOC Station P**	**3.27**	**307**	*eP*	**Pn**	**06 08 37.0**	**+1.4**
PB03				*eS*	**Sn**	**06 09 15.7**	**-0.3**
PB03	comp=E,313nm,0.2s			IAML		06 09 17.6	
PB10	**IPOC Station P**	**3.34**	**279**	*i*P	**Pn**	**06 08 37.4**	**+1.1**
PB10				*i* S	**Sn**	**06 09 15.7**	**-1.6**
PB10	comp=N,194nm,0.4s			IAML		06 09 18.6	
PB04	**IPOC Station P**	**3.41**	**300**	*i*P	**Pn**	**06 08 38.5**	**+1.2**
PB04				*i* S	**Sn**	**06 09 17.7**	**-1.5**
PB07	**IPOC Station P**	**3.57**	**310**	*i*P	**Pn**	**06 08 40.4**	**+1.1**
PB07				*i* S	**Sn**	**06 09 21.6**	**-1.2**
LPAZ	**La Paz**	**7.82**	**352**	P	**Pn**	**06 09 37.8**	**+2.7**
LPAZ	comp=N,0.2nm,0.3s,baz=153,slow=5.0,SNR=6.8			S	**Sn**	**06 10 59.2**	**-4.0**
CPUP	**Villa Florida** comp=N,0.2nm,0.3s,baz=277,slow=12,SNR=3.4	**9.01**	**106**	P	Pn	06 09 58.4	+8.3
BDFB	**Brasilia** comp=N,0.2nm,0.3s,baz=249,slow=12,SNR=4.8	**19.68**	**68**	P	**P**	**06 11 59.5**	**+0.2**
TORD	**Torodi Ar. Bea** comp=N,0.2nm,0.6s,baz=263,slow=6.1	**76.56**	**69**	P	**P**	**06 19 13.8**	**-0.9**
ASAR	**Alice Springs** comp=N,0.5nm,0.8s,baz=179,slow=4.4,SNR=3.0	**128.41**	**205**	PKP	**PKPdf**	**06 26 29.1**	**-0.6**
WRA	**Warramunga Arr** comp=N,0.3nm,0.9s,baz=150,slow=2.0,SNR=7.9	**131.58**	**207**	PKP	**PKPdf**	**06 26 36.3**	**+0.5**
MKAR	**Makanchi Array** comp=N,0.5nm,0.6s,baz=278,slow=4.8,SNR=2.8	**146.56**	**40**	PKPbc	**PKPdf**	**06 27 02.1**	**0.0**

*SOME **01** 06:16:50.1, 43.40N×74.83E, h5km*
*KRNET **01** 06:16:50.8±0.1, 43.39N×74.84E, h14km, mb3.2*
*NNC **01** 06:16:50.9±0.5, 43.38N×74.87E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=3.0km s-min=1.5km az=160.0*
ISC 01 06:16:50.8±1.1, 43.39N±0.02×74.85E±0.02, h2km±10km, n56, σ0.60/97, 44C-14D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
USP	**Ospenovka** 129nm,0.2s,SNR=43	**0.28**	**245**	⇑P	**Pg**	**06 16 56.1**	**-0.1**
USP	**Ospenovka** baz=44	**0.28**	**245**	⇑*i*P	**Pg**	**06 16 56.0**	**-0.1**
USP	baz=44			⇑*i*S	**Sg**	**06 17 00.2**	**+0.4**
CHMS	**Chumysh** 88nm,0.2s,SNR=53	**0.39**	**190**	⇑P	**Pg**	**06 16 58.6**	**+0.3**
CHMS	**Chumysh** baz=89	**0.39**	**190**	⇑*i*P	**Pg**	**06 16 58.5**	**+0.2**
CHMS	baz=89			⇑*i*S	**Sg**	**06 17 04.1**	**+0.7**

FRU1	**Bishkek**	**0.60**	**196**	⇓*i*P	**Pg**	**06 17 02.2**	**0.0**
	baz=95						
FRU1				⇓*i*S	**Sg**	**06 17 10.5**	**+0.6**
	baz=95						
DGS	**Degeres**	**0.69**	**102**	*e*P	**Pg**	**06 17 04.3**	**+0.3**
	baz=1.0						
DGS				*e*S	**Sg**	**06 17 14.1**	**+1.1**
	baz=1.0						
DGS	**Degeres**	**0.69**	**102**	*e*P	**Pg**	**06 17 04.3**	**+0.3**
	38nm,0.2s						
DGS				*e*S	**Sg**	**06 17 14.1**	**+1.1**
	75nm,0.3s						
TKM2	**Tokmak 2**	**0.72**	**130**	⇑P	**Pg**	**06 17 04.4**	**-0.2**
	10nm,0.3s						
TKM2				⇑S	**Sg**	**06 17 14.4**	**+0.5**
	22nm,0.3s						
TKM2	**Tokmak 2**	**0.72**	**130**	⇑P	**Pg**	**06 17 04.4**	**-0.2**
	32nm,0.2s,SNR=108						
TKM2	**Tokmak 2**	**0.72**	**130**	⇑*i*P	**Pg**	**06 17 04.4**	**-0.2**
	baz=30						
TKM2				⇑*i*S	**Sg**	**06 17 14.2**	**+0.3**
	baz=30						
KBK	**Karagaybulak**	**0.73**	**174**	⇑P	**Pg**	**06 17 05.3**	**+0.5**
	40nm,0.2s,SNR=35						
KBK	**Karagaybulak**	**0.73**	**174**	⇑*i*P	**Pg**	**06 17 05.0**	**+0.2**
	baz=74						
KBK				⇑*i*S	**Sg**	**06 17 15.0**	**+0.7**
	baz=74						
AAK	**Ala-Archa**	**0.79**	**199**	⇓P	**Pg**	**06 17 06.0**	**+0.1**
	4.1nm,0.3s						
AAK				⇑S	**Sb**	**06 17 17.5**	**-1.0**
	16nm,0.4s						
AAK	**Ala-Archa**	**0.79**	**199**	⇓P	**Pg**	**06 17 06.3**	**+0.4**
	12nm,0.2s,SNR=8.5						
AAK	**Ala-Archa**	**0.79**	**199**	⇑*i*P	**Pg**	**06 17 05.8**	**-0.1**
	baz=99						
AAK				⇑*i*S	**Sg**	**06 17 17.0**	**+0.8**
	baz=99						
KST	**Kastek**	**0.89**	**112**	⇑*i*P	**Pg**	**06 17 07.8**	**+0.1**
	baz=12						
KST				⇑*e*S	**Sb**	**06 17 20.6**	**-0.6**
	baz=12						
KST	**Kastek**	**0.89**	**112**	⇑*i*P	**Pg**	**06 17 07.8**	**+0.1**
	60nm,0.2s						
KST				*e*S	**Sb**	**06 17 20.6**	**-0.6**
	28nm,0.4s						
EKS2	**Erkin-Say**	**1.07**	**228**	⇑P	**Pg**	**06 17 11.0**	**-0.3**
	14nm,0.3s,SNR=42						
EKS2	**Erkin-Say**	**1.07**	**228**	⇑*i*P	**Pg**	**06 17 10.9**	**-0.3**
	baz=27						
EKS2				⇑*i*S	**Sb**	**06 17 25.9**	**-0.5**
	baz=27						
UCH	**Uchtor**	**1.18**	**192**	⇑P	**Pg**	**06 17 13.2**	**-0.3**
	2.9nm,0.1s,SNR=14						
UCH	**Uchtor**	**1.18**	**192**	⇑*i*P	**Pg**	**06 17 13.0**	**-0.4**
	baz=92						
UCH				⇑*i*S	**Sg**	**06 17 29.0**	**+0.2**
	baz=92						
MTBS	**Maitube**	**1.18**	**102**	*e*P	**Pg**	**06 17 13.2**	**-0.3**
	baz=2.0						
MTBS				*e*S	**Sg**	**06 17 29.3**	**+0.5**
	baz=2.0						
MTBS	**Maitube**	**1.18**	**102**	*e*P	**Pg**	**06 17 13.2**	**-0.3**
	16nm,0.3s						
MTBS				*e*S	**Sg**	**06 17 29.2**	**+0.5**
	35nm,0.2s						
KUU	**Kurty**	**1.20**	**64**	*e*P	**Pg**	**06 17 13.2**	**-0.5**
	baz=65						
KUU				*e*S	**Sg**	**06 17 29.6**	**+0.4**
	baz=65						
KUU	**Kurty**	**1.20**	**64**	*e*P	**Pg**	**06 17 13.2**	**-0.5**
	14nm,0.3s						
KUU				*e*S	**Sg**	**06 17 29.6**	**+0.4**
	38nm,0.2s						
BOOM	**Boomskoye usch**	**1.20**	**138**	⇓*i*P	**Pg**	**06 17 13.2**	**-0.6**
	baz=37						
BOOM				⇓*i*S	**Sb**	**06 17 30.0**	**-0.4**
	baz=37						
IZV	**Izvestkoviy**	**1.34**	**105**	*e*P	**Pn**	**06 17 16.2**	**-0.4**
	baz=4.0						
IZV				*e*S	**Sn**	**06 17 34.7**	**-0.3**
	baz=4.0						
IZV	**Izvestkoviy**	**1.34**	**105**	*e*P	**Pn**	**06 17 16.2**	**-0.4**
	26nm,0.2s						
IZV				*e*S	**Sn**	**06 17 34.7**	**-0.3**
	66nm,0.3s						
KZA	**Kyzart**	**1.34**	**167**	⇑P	**Pg**	**06 17 16.4**	**-0.1**
	5.2nm,0.2s,SNR=20						
KZA	**Kyzart**	**1.34**	**167**	⇑*i*P	**Pg**	**06 17 16.1**	**-0.4**
	baz=67						
KZA				⇑*i*S	**Sb**	**06 17 34.3**	**-0.3**
	baz=67						
MRKS	**Merke**	**1.35**	**242**	⇓*i*P	**Pn**	**06 17 15.6**	**-1.1**
	baz=42						
MRKS				⇓*e*S	**Sb**	**06 17 34.0**	**-0.5**
	baz=42						
MRKS	**Merke**	**1.35**	**242**	⇓*i*P	**Pn**	**06 17 15.6**	**-1.1**
	22nm,0.2s						
MRKS				*e*S	**Sb**	**06 17 34.0**	**-0.5**
	65nm,0.2s						
AML	**Almayashu**	**1.51**	**215**	⇓P	**Pb**	**06 17 19.3**	**-0.5**
	10.0nm,0.3s,SNR=26						
AML	**Almayashu**	**1.51**	**215**	⇑*i*P	**Pn**	**06 17 19.1**	**-0.1**
	baz=14						
AML				⇑*i*S	**Sg**	**06 17 39.6**	**+0.2**
	baz=14						
ULHL	**Ulahol**	**1.53**	**137**	⇑P	**Pn**	**06 17 19.2**	**-0.1**
	3.3nm,0.2s,SNR=23						
ULHL	**Ulahol**	**1.53**	**137**	⇑*i*P	**Pn**	**06 17 19.1**	**-0.2**
	baz=37						
ULHL				⇑*i*S	**Sn**	**06 17 39.6**	**-0.3**
	baz=37						
ARLS	**Aral**	**1.57**	**194**	⇑*i*P	**Pn**	**06 17 19.5**	**-0.3**
	baz=94						
ARLS				⇑*i*S	**Sn**	**06 17 40.3**	**-0.5**
	baz=94						
TNSS	**Tian-Shan**	**1.57**	**102**	*e*P	**Pb**	**06 17 20.4**	**-0.4**
	baz=2.0						
TNSS				*e*S	**Sg**	**06 17 42.0**	**+0.6**
	baz=2.0						
TNSS	**Tian-Shan**	**1.57**	**102**	*e*P	**Pb**	**06 17 20.4**	**-0.4**
	46nm,0.3s						
TNSS				*e*S	**Sg**	**06 17 42.0**	**+0.6**
	55nm,0.4s						
MDOK	**Medeo**	**1.62**	**97**	⇑Pn	**Pb**	**06 17 21.0**	**-0.4**
	16nm,0.4s						
MDOK				⇑Sn	**Sg**	**06 17 43.2**	**+0.3**
	29nm,0.5s						
MDOK	**Medeo**	**1.62**	**97**	*e*P	**Pb**	**06 17 21.1**	**-0.4**
	baz=97						
MDOK				*e*S	**Sg**	**06 17 43.2**	**+0.3**
	baz=97						
MDOK	**Medeo**	**1.62**	**97**	*e*P	**Pb**	**06 17 21.1**	**-0.4**
	29nm,0.3s						
MDOK				*e*S	**Sg**	**06 17 43.2**	**+0.3**
	43nm,0.3s						
CHKK	**Chushkaly**	**1.62**	**72**	*e*P	**Pb**	**06 17 20.9**	**-0.5**
	baz=73						
CHKK				*e*S	**Sg**	**06 17 43.2**	**+0.2**
	baz=73						
CHKK	**Chushkaly**	**1.62**	**72**	*e*P	**Pb**	**06 17 20.9**	**-0.5**
	16nm,0.3s						
CHKK				*e*S	**Sg**	**06 17 43.2**	**+0.2**
	69nm,0.2s						
KOTS	**Kotyrbulak**	**1.66**	**94**	*e*P	**Pb**	**06 17 21.9**	**-0.2**
	24nm,0.4s						
KOTS				*e*S	**Sg**	**06 17 44.5**	**+0.4**
	57nm,0.5s						
BTLS	**Baital**	**1.75**	**341**	*e*P	**Pb**	**06 17 23.3**	**-0.3**
	baz=41						
BTLS				*e*S	**Sg**	**06 17 47.0**	**-0.1**
	baz=41						
BTLS	**Baital**	**1.75**	**341**	*e*P	**Pb**	**06 17 23.3**	**-0.3**
	24nm,0.3s						
BTLS				*e*S	**Sg**	**06 17 47.0**	**-0.1**
	9.0nm,0.3s						
KDJ	**Kajisay**	**2.13**	**125**	⇓*i*P	**Pb**	**06 17 29.0**	**-1.1**
	baz=25						
KDJ				⇓*i*S	**Sb**	**06 17 56.3**	**-0.7**
	baz=25						
ARXS	**Arharly**	**2.31**	**68**	*e*P	**Pb**	**06 17 33.0**	**-0.2**
	9.1nm,0.3s						
ARXS				*e*S	**Sg**	**06 18 03.7**	**-1.3**
	30nm,0.4s						
ARSB	**Arslanbob**	**2.48**	**214**	⇑*e*P	**Pn**	**06 17 33.0**	**+0.7**
	baz=14						
ARSB				⇑*i*S	**Sn**	**06 18 04.5**	**+1.3**
	baz=14						
ARK	**Arkit**	**2.66**	**234**	⇑*e*P	**Pn**	**06 17 36.0**	**+1.3**
	baz=34						
ARK				⇑*i*S	**Sn**	**06 18 09.1**	**+1.7**
	baz=34						
MNBS	**Baschi**	**2.67**	**74**	*e*P	**Pb**	**06 17 38.8**	**-0.5**
MNBS				*e*S	**Sb**	**06 18 13.9**	**+1.4**
KK31	**Karatay Array**	**3.18**	**266**	⇓Pg	**Pb**	**06 17 47.7**	**-0.3**
	1.0nm,0.2s,baz=86,slow=14,SNR=48						
KK31				⇑Lg	Lg	06 18 33.9	
	3.0nm,0.4s,baz=80,slow=29,SNR=4.9						
MK31	**Makanchi Array**	**6.28**	**55**	Pn	**Pn**	**06 18 25.6**	**+1.3**
	0.3nm,0.3s,baz=233,slow=12,SNR=24						
MK31				Sn	**Sn**	**06 19 38.0**	**+1.4**
	0.3nm,0.3s,baz=229,slow=27,SNR=4.2						
KURBB	**Kurchatov Arra**	**7.67**	**18**	⇓Lg	Lg	06 20 52.9	
	6.0nm,0.9s						
KURK	**Kurchatov**	**7.77**	**18**	⇑Lg	Lg	06 20 58.1	
	3.0nm,0.9s						

*PGC **01** 06:24:28.8±68.0, 51°.63N×132°.45W, h24km±94km, 185km Ssw of Sandspit, Bc Haida Gwaii Region*
*IDC **01** 06:24:38.3±0.9, 52°.36N×132°.31W, h0km, mb3.9/8, mb1 4.1/14, mb1mx3.9/54, mbtmp3.9/14, ML3.7/6, MS3.2/9, Ms1 3.2/9, ms1mx2.9/58, Error ellipse: s-maj=13.5km s-min=7.0km az=60.0*
*ISCJB **01** 06:24:40.0±0.7, 52°.45N±0°.08×132°.1W±0°.1, h18km, mb3.8/9, MS3.2/5, Error ellipse: s-maj=14.1km s-min=6.6km az=135.6*
ISC 01 06:24:40.5±0.9, 52°.5N±0°.1×132°.04W±0°.09, h18km, n23, σ1§33/18, mb4.0/9, MS3.1/5, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H02S1	**DAWSON INLET T**	**0.73**	**339**	Pg		**Pn**	**Pn**	**06 24 54.9**	**-0.9**
H02S1				Lg		Lg	Lg	06 25 06.2	
	SNR=8276								
H02N1	**VAN INLET T-PH**	**0.79**	**338**	Pg		**Pn**	**Pn**	**06 24 55.8**	**-1.0**
H02N1				Lg		Lg	Lg	06 25 08.1	
BBB	**Bella Bella**	**2.44**	**96**	Pn		**Pb**	**Pb**	**06 25 22.6**	**-1.1**
	22nm,0.3s,baz=348,slow=20,SNR=8.5								
BBB				Sn		**Sn**	**Sn**	**06 25 48.5**	**-0.1**
	52nm,0.3s,baz=275,slow=17,SNR=3.4								
BBB				Lg		Lg	Lg	06 25 58.5	
	66nm,0.3s,baz=359,slow=23,SNR=6.8								
BBB				LR		LR	LR	06 26 31.2	
	comp=Z,486nm,21.1s,baz=340,slow=44								
DLBC	**Dease Lake**	**6.04**	**10**	Pn		Pn	Pn	06 26 13.7	+4.8
	2.8nm,0.3s,baz=185,slow=14,SNR=20								
DLBC				Lg		Lg	Lg	06 27 55.7	
	1.8nm,0.3s,baz=166,slow=19,SNR=4.8								
NEW	**Newport**	**10.44**	**108**	LR		LR	LR	06 31 12.3	
	comp=Z,95nm,21.6s,baz=300,slow=37								
YBH	**Yreka Blue Hor**	**12.52**	**146**	LR		LR	LR	06 31 12.5	
	comp=Z,64nm,21.0s,baz=333,slow=32								
YKA	**Yellowknife Ar**	**13.64**	**36**	Pn		**Pn**	**Pn**	**06 27 52.9**	**+0.1**
	0.3nm,0.3s,baz=153,slow=8.7,SNR=6.8								
ILAR	**Eielson Array**	**14.45**	**334**	Pn		**P**	**P**	**06 28 08.7**	**-1.9**
	0.0nm,0.3s,baz=145,slow=11,SNR=2.7								
INK	**Inuvik**	**15.85**	**358**	Pn		**P**	**P**	**06 28 25.0**	**-1.0**
	0.0nm,0.3s,baz=194,slow=19,SNR=2.0								
INK				LR		LR	LR	06 34 35.6	
	comp=Z,97nm,19.9s,baz=184,slow=37								
NVAR	**Mina Array Bea**	**17.03**	**140**	P		**P**	**P**	**06 28 38.4**	**-1.1**
	0.0nm,0.3s,baz=321,slow=12,SNR=7.9								
PDAR	**Pinedale Array**	**17.95**	**114**	P		**P**	**P**	**06 28 52.1**	**+2.3**
	0.1nm,0.3s,baz=304,slow=11,SNR=9.5								
ULM	**Lac du Bonnet**	**22.54**	**81**	LR		LR	LR	06 38 54.4	
	comp=Z,153nm,18.7s,baz=274,slow=38								
ANMO	**Albuquerque**	**25.30**	**124**	P		**P**	**P**	**06 30 07.5**	**+1.6**
	0.3nm,0.3s,baz=311,slow=20,SNR=2.8								
ANMO				LR		LR	LR	06 41 38.2	
	comp=Z,26nm,19.8s,baz=310,slow=40								
RES	**Resolute Bay**	**26.80**	**21**	P		**P**	**P**	**06 30 20.9**	**+1.9**
	1.6nm,0.7s,baz=210,slow=14,SNR=2.6								
TXAR	**Lajitas Array**	**31.21**	**127**	P		**P**	**P**	**06 30 59.0**	**+0.2**
	1.1nm,0.8s,baz=331,slow=8.1,SNR=11								
TXAR				LR		LR	LR	06 42 46.1	
	comp=Z,31nm,19.4s,baz=0.0,slow=35								
LPIG	**La Paz**	**32.85**	**141**	LR		LR	LR	06 44 13.5	
	comp=Z,34nm,18.2s,baz=284,slow=36								
TKL	**Tuckaleechee C**	**37.76**	**97**	P		**P**	**P**	**06 31 53.5**	**-1.7**
	2.2nm,0.8s,baz=27,slow=3.3,SNR=2.5								
PETK	**Petropavlovsk-**	**40.88**	**300**	P		**P**	**P**	**06 32 21.3**	**+0.2**
	2.5nm,0.7s,baz=90,slow=10								
NOA	**NORSAR Array B**	**63.05**	**19**	P		**P**	**P**	**06 35 07.3**	**+1.3**
	0.9nm,0.8s,baz=304,slow=6.2,SNR=2.5								
HFS	**Hagfors**	**64.37**	**18**	LR		LR	LR	07 02 44.3	
	comp=Z,58nm,18.2s,baz=297,slow=35								
MKAR	**Makanchi Array**	**76.79**	**337**	P		**P**	**P**	**06 36 31.8**	**+1.2**
	0.3nm,0.7s,baz=37,slow=7.4,SNR=2.3								
AKTO	**Aktyubinsk**	**77.06**	**353**	P		**P**	**P**	**06 36 32.6**	**+0.6**
	0.7nm,0.3s,baz=319,slow=8.5,SNR=3.1								
LPAZ	**La Paz**	**87.86**	**120**	P		**P**	**P**	**06 37 29.1**	**-0.3**
	1.7nm,0.7s,baz=306,slow=4.7,SNR=8.2								

*IDC **01** 06:26:48.1±1.6, 52°.31N×132°.32W, h0km, mb3.9/3, mb1 4.0/8, mb1mx3.6/55, mbtmp3.6/8, ML3.8/3, Error ellipse: s-maj=26.8km s-min=8.5km az=61.0*
*ISCJB **01** 06:26:49.1±1.4, 52°.3N±0°.1×132°.4W±0°.3, h18km, mb3.8/3, Error ellipse: s-maj=30.9km s-min=8.5km az=154.0*
*PGC **01** 06:26:49.9, 52°.39N×132°.38W, h13km, 103km Ssw of Sandspit, Bc Haida Gwaii Region*
ISC 01 06:26:50.6±1.3, 52°.3N±0°.1×132°.3W±0°.1, h18km, n13, σ1§47/11, mb4.1/3, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H02S1	**DAWSON INLET T**	**0.89**	**352**	Pg		**Pb**	**Pb**	**06 27 05.6**	**-1.8**
	SNR=1499								
H02N1	**VAN INLET T-PH**	**0.94**	**350**	Pg		**Pb**	**Pb**	**06 27 06.6**	**-1.9**
	SNR=2325								
H02N1				Lg		Lg	Lg	06 27 18.1	
BBB	**Bella Bella**	**2.56**	**92**	Pn		**Pn**	**Pn**	**06 27 29.1**	**-2.1**
	baz=278,slow=14,SNR=1.8								
BBB				Pg		**Pb**	**Pb**	**06 27 35.8**	**-0.3**
	26nm,0.3s,baz=275,slow=15,SNR=5.1								
BBB				Lg		Lg	Lg	06 28 06.5	
	29nm,0.3s,baz=180,slow=20,SNR=6.1								
DLBC	**Dease Lake**	**6.26**	**11**	Pn		**Pn**	**Pn**	**06 28 24.1**	**+2.1**
	1.2nm,0.3s,baz=180,slow=8.1,SNR=4.5								
DLBC				Lg		Lg	Lg	06 30 00.6	
	0.5nm,0.3s,baz=158,slow=16,SNR=1.7								
ILAR	**Eielson Array**	**14.56**	**335**	Pn		**Pn**	**Pn**	**06 30 15.6**	**+0.1**
	baz=146,slow=15,SNR=2.2								
NVAR	**Mina Array Bea**	**16.97**	**139**	Pn		**Pn**	**Pn**	**06 30 47.3**	**+0.1**
	0.1nm,0.3s,baz=323,slow=7.2,SNR=2.3								
PDAR	**Pinedale Array**	**18.01**	**113**	P		**P**	**P**	**06 31 01.1**	**+0.7**
	0.1nm,0.3s,baz=293,slow=7.7,SNR=2.3								
TXAR	**Lajitas Array**	**31.21**	**126**	P		**P**	**P**	**06 33 08.9**	**0.0**
	0.6nm,1.0s,baz=334,slow=8.3,SNR=4.6								
TKL	**Tuckaleechee C**	**37.88**	**97**	P		**P**	**P**	**06 34 07.5**	**+1.1**
	2.2nm,0.7s,baz=307,slow=20,SNR=3.6								
H11N2	**WAKE ISLAND Hy**	**56.85**	**259**	T		T	T	07 38 38.5	
	baz=39,slow=76,SNR=18								
H11N3	**WAKE ISLAND Hy**	**56.85**	**259**	T		T	T	07 38 38.7	
	baz=39,slow=76,SNR=13								
H11N1	**WAKE ISLAND Hy**	**56.87**	**259**	T		T	T	07 38 39.8	
	baz=39,slow=76,SNR=14								
LPAZ	**La Paz**	**87.88**	**120**	P		**P**	**P**	**06 39 39.6**	**0.0**
	0.8nm,0.7s,baz=307,slow=5.1,SNR=4.3								

*IDC **01** 06:33:34.9±0.4, 71°.96N×0°.24W, h0km, mb4.2/28, mb1 4.3/33, mb1mx4.2/53, mbtmp4.2/33, ML4.0/5, MS3.9/42, Ms1 3.9/42, ms1mx3.8/68, Error ellipse: s-maj=12.2km s-min=9.8km az=40.0*
*NAO **01** 06:33:36.3±3.4, 71°.97N×0°.39E, ML4.3*
*MOS **01** 06:33:36.1±1.4, 72°.06N×0°.28E, h10km, mb4.6/28, MS4.1/7, Error ellipse: s-maj=17.4km s-min=4.9km az=101.7*
*GCMT **01** 06:33:37.1±0.3, 71°.95N±0°.03×0°.52W±0°.08, h12km, MW4.8/71, Moment Tensor Solution. s15,c17; s71,c109; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr~1.65±.07; Mθθ 0.78±.08; Mϕϕ 0.87±.06; Mrθ -0.42±.36; Mϕθ 1.28±.06; Mϕr 0.06±.24; Best double couple: M0 1.94100×10^16 NP1: ϕs 209.00000°, δ 53.00000°, λ -112.00000°. Principal axes: T 2.1220, Plg 4.0000°, Azm 134.0000°; N -0.3640, Plg 15.0000°, Azm 225.0000°; P -1.7600, Plg 75.0000°, Azm 0.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **01** 06:33:37.1±0.2, 71°.96N×0°.09W, h10km, mb4.5/49 Error ellipse: s-maj=5.3km s-min=3.3km az=47.0*
*BER **01** 06:33:40.6±3.6, 72°.09N×0°.45E, h10km, ML3.0, ML4.3(NAO)*
ISC 01 06:33:37.8±0.5, 71°.92N±0°.05×0°.23W±0°.04, h14km±2km, h14km:pP-P, n301, σ1§74/303, mb4.5/101, MS4.0/48, 22C-8D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**2.81**	**254**	LR		LR	LR	06 35 10.7	
	comp=Z,1μm,19.6s,baz=62,slow=34								
LOF	**Lofoten**	**6.05**	**122**	*e*P			**Pn**	**06 35 05.2**	**-1.4**
BJO1	**Bjornoya**	**6.12**	**56**	Pn			**Pn**	**06 35 05.2**	**-2.4**
BJO	**Bjornoya**	**6.17**	**56**	Pn			**Pn**	**06 35 05.2**	**-3.1**
HSPB	**Hornsund (broa**	**6.60**	**32**	*e*P			**Pn**	**06 35 12.1**	**-2.0**
HSPB				*e*				06 36 36.2	
HSP	**Hornsund**	**6.61**	**32**	Pn			**Pn**	**06 35 11.6**	**-2.7**
STEI	**Steigen**	**6.65**	**119**	*e*P			**Pn**	**06 35 13.5**	**-1.3**
TRO	**Tromso**	**6.71**	**101**	P			**Pn**	**06 35 14.0**	**-1.7**
TRO	**Tromso**	**6.71**	**101**	*e*P			**Pn**	**06 35 13.7**	**-2.0**
DAG	**Danmarks Havn**	**6.93**	**323**	*i* P			Pn	06 35 12.6	-6.1
DAG				*i* S			Sn	06 36 19.3	-18
SCO	**Scoresbysund**	**7.15**	**269**	*e*Pn			**Pn**	**06 35 18.3**	**-3.4**
SCO	**Scoresbysund**	**7.15**	**269**	*i* P			**Pn**	**06 35 18.3**	**-3.4**
SCO	**Scoresbysund**	**7.15**	**269**	*e*P			**Pn**	**06 35 18.3**	**-3.4**
KONS	**Konsvik**	**7.21**	**132**	*e*P			**Pn**	**06 35 21.8**	**-0.7**
KONS				*e*S			**Sn**	**06 36 37.8**	**-6.2**
KONS				IAML				06 36 42.4	
	comp=Z,16nm,0.4s								
SPA0	**Spitsbergen Ar**	**7.57**	**27**	*e*Pn			**Pn**	**06 35 26.0**	**-1.4**
SPA0	**Spitsbergen Ar**	**7.57**	**27**	Pn			**Pn**	**06 35 26.1**	**-1.4**
	baz=201,slow=14								
SPA0	**Spitsbergen Ar**	**7.57**	**27**	Pn			**Pn**	**06 35 26.1**	**-1.4**
	baz=201,slow=14								
SPITS	**Spitsbergen Ar**	**7.57**	**27**	Pn			**Pn**	**06 35 25.7**	**-1.7**
	baz=205,slow=13,SNR=18								
SPITS				LR			LR	06 37 24.5	
	comp=Z,123nm,20.1s,baz=15,slow=30								
KIF	**Kilpisjarvi**	**7.61**	**102**	*e*P			**Pn**	**06 35 26.1**	**-1.8**
KBS	**Kingsbay**	**7.65**	**18**	*e*Pn			**Pn**	**06 35 26.1**	**-2.5**
KBS	**Kingsbay**	**7.65**	**18**	Pn			**Pn**	**06 35 25.5**	**-3.0**
KBS	**Kingsbay**	**7.65**	**18**	*i* P			**Pn**	**06 35 33.2**	**+4.6**
KBS	**Kingsbay**	**7.65**	**18**	*e*P			**Pn**	**06 35 25.6**	**-3.0**
HAMF	**Hammerfest**	**7.77**	**88**	*e*P			**Pn**	**06 35 26.8**	**-3.4**
MOR8	**Moi Rana**	**7.78**	**131**	*e*P			**Pn**	**06 35 30.6**	**+0.2**
MOR8				*e*S			**Sn**	**06 36 52.8**	**-5.5**
MOR8				IAML				06 36 56.1	
	comp=Z,22nm,0.4s								
KTK1	**Kautokeino**	**8.35**	**99**	*e*P			**Pn**	**06 35 37.4**	**-0.8**
NSS	**Namsos**	**8.67**	**143**	*e*P			**Pn**	**06 35 42.3**	**-0.3**
ARA0	**ARCESS Array S**	**8.80**	**93**	Pn			**Pn**	**06 35 41.5**	**-2.8**
	baz=303,slow=12								
ARA0	**ARCESS Array S**	**8.80**	**93**	Pn			**Pn**	**06 35 41.5**	**-2.8**
	baz=303,slow=12								
ARCES	**ARCESS Array B**	**8.80**	**93**	Pn			**Pn**	**06 35 41.8**	**-2.6**
	comp=Z,2.5nm,0.3s,baz=302,slow=11,SNR=72								
ARCES				LR			LR	06 38 51.5	
	comp=Z,34nm,20.3s,baz=314,slow=36								
ARE0	**ARCESS Array S**	**8.80**	**93**	*e*Pn			**Pn**	**06 35 41.9**	**-2.4**
ARE0	**ARCESS Array S**	**8.80**	**93**	*e*P			**Pn**	**06 35 41.6**	**-2.7**
HEF	**Hetta**	**8.81**	**102**	*e*P			**Pn**	**06 35 42.5**	**-1.9**
KEV	**Kevo**	**9.16**	**90**	*e*Pn			**Pn**	**06 35 46.2**	**-3.1**
KEV	**Kevo**	**9.16**	**90**	*e*P			**Pn**	**06 35 46.2**	**-3.1**
AKN	**Aaknes**	**10.17**	**160**	Pn			**Pn**	**06 36 04.2**	**+1.1**
AKN	**Aaknes**	**10.17**	**160**	Pn			**Pn**	**06 36 04.2**	**+1.1**
NOD	**Norderasen**	**10.22**	**139**	*e*P			**Pn**	**06 36 04.5**	**+0.7**
SOFL	**Sornfelli, Far**	**10.23**	**198**	*e*P			**Pn**	**06 36 06.4**	**+2.4**
SGF	**Sodankyl**	**10.26**	**103**	P			**Pn**	**06 36 03.8**	**-0.4**
SGF				pmax			pmax		
	comp=Z,27nm,0.9s								
BORG	**Borgarnes**	**10.54**	**238**	LR			LR	06 39 10.5	
	comp=Z,252nm,21.4s,baz=324,slow=32								
FOO	**Floro**	**10.57**	**166**	*e*P			**Pn**	**06 36 08.3**	**-0.2**
FOO				*e*				06 37 58.1	
SUE	**Sulen**	**11.09**	**167**	*e*P			**Pn**	**06 36 16.0**	**+0.4**
HYA	**Hoyanger**	**11.09**	**164**	*e*P			**Pn**	**06 36 15.9**	**+0.2**
NC204	**NORSAR Array S**	**11.52**	**153**	*e*Pn			**Pn**	**06 36 21.4**	**-0.1**
SUMG	**Summit**	**11.55**	**291**	*e*Pn			**Pn**	**06 36 19.3**	**-2.9**
SUMG	**Summit**	**11.55**	**291**	*i* P			**Pn**	**06 36 19.5**	**-2.7**
SUMG	**Summit**	**11.55**	**291**	*i* P			**Pn**	**06 36 19.5**	**-2.7**
NC303	**NORSAR Array S**	**11.65**	**151**	*e*Pn			**Pn**	**06 36 24.3**	**+0.9**
OUL	**Oulu**	**11.68**	**113**	P			**Pn**	**06 36 22.0**	**-1.6**
OUL				pmax			pmax		
	comp=Z,51nm,1

CLL Lm MLR 06 46 00.0
comp=N,400nm,21.4s
CLL Lm MLR 06 46 00.0
comp=E,200nm,20.1s
CLL Collm 21.52 157 *i* P **P 06 38 25.8 -0.1**
CLL *i* 06 38 31.6
CLL *e*S **S 06 42 24.0 +0.3**
CLL pmax pmax
comp=Z,18nm,1.2s
BRG Berggiesshubel 22.06 156 *e*P **P 06 38 33.9 +2.1**
comp=Z,7.9nm,1.1s
BRG *e* 06 38 38.6
comp=Z,54nm,1.8s
BRG Berggiesshubel 22.06 156 *e*P **P 06 38 33.9 +2.1**
BRG *e* 06 38 38.6
BRG pmax pmax
comp=Z,8.0nm,1.1s
KSP Ksiaz 22.41 152 *e*P **P 06 38 35.5 0.0**
KSP Ksiaz 22.41 152 *e*P **P 06 38 35.5 0.0**
PVCC Panska Ves 22.48 155 AMS AMS 06 48 20.0
comp=Z,500nm,14.5s
NKC Novy Kostel 22.51 158 *e*P P 06 38 49.3 +13
NKC AMS AMS 06 46 50.0
comp=Z,500nm,14.8s
NKC Novy Kostel 22.51 158 P **P 06 38 40.5 +3.9**
NKC pmax pmax
comp=Z,18nm,1.1s
MOS Moscow 22.64 116 *e*P **P 06 38 36.3 -1.6**
MOS *e* 06 38 59.5
MOS pmax pmax
comp=Z,77nm,1.0s
MOS MLR MLR
comp=Z,1µm,14.0s
OBN Obninsk 22.90 118 LR LR 06 47 19.8
comp=Z,272nm,18.1s,baz=342,slow=36
OBN Obninsk 22.90 118*ce*P **P 06 38 39.6 -1.0**
OBN *i* *PP **pP 06 38 43.7 -0.9**
OBN *i* *SP **sP 06 38 45.9 -0.6**
OBN *i* 06 39 03.3
OBN *i* 06 42 36.2
OBN *i* S **S 06 42 53.4 +3.9**
OBN pmax pmax
comp=Z,54nm,1.3s
OBN MLR MLR
comp=Z,1µm,17.0s
GOPC GO Pecny, Ondr 23.11 155 *e*P **P 06 38 44.3 +1.4**
GOPC *ep*P **sP 06 38 48.2 -0.6**
GOPC AMS AMS 06 48 20.0
comp=Z,500nm,15.9s
GOPC GO Pecny, Ondr 23.11 155 *e*P **P 06 38 44.3 +1.4**
GOPC *e* 06 38 48.2
GOPC MLR MLR
comp=Z,500nm,15.9s
OJC Ojcow 23.58 147 *e*P **P 06 38 48.2 +0.7**
OJC Ojcow 23.58 147 *e*P **P 06 38 47.5 0.0**
comp=Z,11nm,0.8s
OJC Ojcow 23.58 147 *e*P **P 06 38 48.2 +0.7**
MORC Moravsky Berou 23.64 150 *e*P **P 06 38 48.7 +0.5**
comp=Z,9.2nm,1.1s
MORC Moravsky Berou 23.64 150⇑*i*P **P 06 38 49.1 +0.9**
MORC Moravsky Berou 23.64 150⇑⇑P **P 06 38 49.1 +0.9**
MORC Moravsky Berou 23.64 150 *e*P **P 06 38 53.2 +5.0**
OKC Ostrava-Krasne 23.68 149 *e*P **P 06 38 48.8 +0.3**
OKC *ep*P **sP 06 38 55.1 +0.6**
OKC AMS AMS 06 48 20.0
comp=Z,600nm,14.8s
OKC Ostrava-Krasne 23.68 149 *e*P **P 06 38 48.8 +0.3**
OKC *e* 06 38 55.1
OKC MLR MLR
comp=Z,600nm,14.8s
KHC Kasperske Hory 23.73 157 *e*P **P 06 38 51.5 +2.5**
comp=Z,5.6nm,1.1s
KHC Kasperske Hory 23.73 157 *e*P **P 06 38 50.7 +1.7**
KHC *ep*P **sP 06 38 54.5 -0.6**
KHC AMS AMS 06 47 20.0
comp=Z,600nm,15.7s
KHC Kasperske Hory 23.73 157 *e*P **P 06 38 50.7 +1.7**
KHC *e* 06 38 54.5
KHC MLR MLR
comp=Z,600nm,15.7s
VRAC Vranov 23.95 152 P **P 06 38 51.9 +0.7**
comp=Z,7.1nm,0.6s,baz=352,slow=8.2,SNR=6.6
VRAC LR LR 06 48 43.0
comp=Z,412nm,19.2s,baz=352,slow=38
VRAC Vranov 23.95 152⇑*i*P **P 06 38 52.3 +1.1**
VRAC Vranov 23.95 152⇑⇑P **P 06 38 52.3 +1.1**
VRAC Vranov 23.95 152 *e*P **P 06 38 51.9 +0.7**
GEC2 GERESS Array S 24.02 157 *e*P **P 06 38 53.5 +1.6**
comp=Z,13nm,0.9s
GEC2 GERESS Array S 24.02 157 *e*P **P 06 38 53.5 +1.6**
GEC2 pmax pmax
comp=Z,13nm,0.9s
GERES GERESS Array B 24.02 157 P **P 06 38 53.3 +1.4**
comp=Z,7.9nm,0.9s,baz=353,slow=9.4,SNR=22
GERES LR LR 06 48 02.1
comp=Z,478nm,21.2s,baz=325,slow=36
GEA0 GERESS Array S 24.03 157 *e*P **P 06 38 53.4 +1.4**
KRUC Moravsky 24.17 153 *e*P **P 06 38 54.3 +1.2**
NIE Niedzica 24.44 146 *e*P **P 06 38 57.1 +1.4**
NIE Niedzica 24.44 146 *e*P **P 06 38 57.1 +1.4**
LANS Liptovska Anna 24.56 148 *e*P **P 06 38 57.7 +1.0**
LANS *e* 06 39 04.0
LANS Liptovska Anna 24.56 148 *e*P **P 06 38 57.7 +1.0**
LANS *es*P **sP 06 39 04.0 +1.2**
RES Resolute Bay 24.62 321 LR LR 06 48 16.8
comp=Z,846nm,19.3s,baz=60,slow=36
KWP Kalwaria Pacla 24.67 143 *e*P **P 06 38 59.9 +2.2**
comp=Z,134nm,0.9s
KWP Kalwaria Pacla 24.67 143 *e*P **P 06 38 59.9 +2.2**
KWP pmax pmax
comp=Z,135nm,0.9s
LVV L'vov 24.75 141 *e*P **P 06 39 05.1 +6.7**
MODS Modra-Piesok 24.97 152 *e*P **P 06 39 01.4 +1.0**
MODS *e* 06 39 06.9
MODS pmax pmax
comp=Z,18nm,1.3s
MODS Modra-Piesok 24.97 152 *e*P **P 06 39 01.4 +1.0**
MODS *es*P **sP 06 39 06.9 +0.4**
AKASG Malin Array Be 25.03 132 P **P 06 39 00.7 -0.3**
comp=Z,9.6nm,0.8s,baz=337,slow=10,SNR=16
AKASG PcP **PcP 06 42 34.3 -0.8**
comp=Z,0.9nm,0.6s,baz=331,slow=1.7,SNR=3.4
AKASG LR LR 06 48 29.0
comp=Z,667nm,19.9s,baz=335,slow=36
AKASG Malin Array Be 25.03 132 *i* P **P 06 39 01.0 +0.1**
AKASG pmax pmax
comp=Z,10.0nm,0.8s
KIEV Kiev 25.04 132 *e*P **P 06 39 00.3 -0.6**
comp=Z,19nm,0.9s
KIEV Kiev 25.04 132⇓*e*P **P 06 38 59.5 -1.4**
KIEV pmax pmax
comp=Z,22nm,0.9s
MOA Molln 25.07 157 pP **P 06 39 03.8 +2.4**
comp=Z,25nm,1.4s
DAVA Damuels 25.16 164 *i* pP **P 06 39 06.7 +4.4**
CONA Conrad Observa 25.20 154 *ep*P **P 06 39 05.7 +3.1**
comp=Z,30nm,1.3s
MOTA Moosalm 25.22 162 *es*P **P 06 39 06.8 +3.9**
comp=Z,11nm,1.3s
SQTA Sankt Quirin 25.35 162 P **P 06 39 03.3 -0.7**
comp=Z,13nm,1.5s
WTTA Wattenberg 25.35 161 *i* pP **P 06 39 08.8 +4.7**
FRB Frobisher Bay 25.55 287 LR LR 06 47 49.4
comp=Z,388nm,19.6s,baz=28,slow=34
UZH Uzhgorod 25.55 144 *e*P **P 06 39 06.0 +0.3**
UZH *i* 06 39 11.5
UZH *e* 06 39 50.6
KBA Koelnbreinsper 25.72 158 P **P 06 39 07.1 -0.3**
comp=Z,16nm,1.1s
LPSR Galich'ya Gora 25.77 118 *e*P **P 06 39 08.8 +1.2**
LPSR pmax pmax
comp=Z,60nm,1.0s
ARSA Arzberg 25.82 155 P **P 06 39 10.2 +2.1**
comp=Z,17nm,1.4s
PSZ Piszkesteto 25.82 148 *e*P **P 06 39 09.1 +0.8**
comp=Z,12nm,1.1s
PSZ Piszkesteto 25.82 148⇑*i*P **P 06 39 10.7 +2.5**
PSZ Piszkesteto 25.82 148⇑*e*P **P 06 39 13.8 +5.6**
PSZ Piszkesteto 25.82 148 P **P 06 39 10.7 +2.5**
TRPA Tarpa 26.08 144⇑*i*P **P 06 39 11.9 +1.5**
MYKA Terra Mystica 26.20 158 pP **P 06 39 13.3 +1.6**
comp=Z,24nm,1.6s
SOKA Soboth 26.32 156 *e*P **P 06 39 12.8 0.0**
comp=Z,13nm,1.4s
NRIK Noril'sk 26.82 52 P **P 06 39 15.5 -1.4**
comp=Z,1.2nm,0.3s,baz=331,slow=24,SNR=3.6
NRIK LR LR 06 52 12.7
comp=Z,74nm,18.1s,baz=247,slow=42
BUR08 Bucovina Ar. S 27.06 140 *e*P **P 06 39 20.6 +1.2**
VSR Storozhevoye 27.08 119 *e*P **P 06 39 20.9 +1.4**
VSR pmax pmax
comp=Z,10.0nm,0.8s
BUR04 Bucovina Ar. S 27.08 140 *e*P **P 06 39 22.0 +2.4**
BURAR Bucovina Array 27.09 140⇑*i*P **P 06 39 21.9 +2.2**
BURAR Bucovina Array 27.09 140⇑⇑P **P 06 39 21.9 +2.2**
TRI Trieste 27.12 158 *e*P **P 06 39 20.6 +0.8**
TRI Trieste 27.12 158 *e*P **P 06 39 20.7 +0.8**
SORM Soroca 27.25 136⇓*i*P **P 06 39 21.9 +0.9**
SORM Soroca 27.25 136⇓⇓P **P 06 39 21.9 +0.9**
VORD Divnogorie 27.34 119 *e*P **P 06 39 22.5 +0.7**
VORD pmax pmax
comp=Z,6.0nm,0.6s
DRGR 27.40 144⇑*i*P **P 06 39 24.3 +1.8**
DRGR 27.40 144⇑⇑P **P 06 39 24.3 +1.8**
VRH Novokhopyorsk 27.80 116 *e*P **P 06 39 23.9 -2.0**
VRH pmax pmax
comp=Z,8.0nm,0.5s
BIZ Bicaz 27.91 140⇑*i*P **P 06 39 28.7 +1.7**
BZS Buzias 28.34 147⇓*i*P **P 06 39 33.3 +2.5**
BZS Buzias 28.34 147⇓⇓P **P 06 39 33.3 +2.5**
ARU Arti 28.38 92 P **P 06 39 30.7 -0.3**
comp=Z,1.0nm,0.3s,baz=270,slow=20,SNR=2.0
ARU Arti 28.38 92*d i*P P 06 39 36.8 +5.8
ARU 06 40 27.1
ARU SS SS 06 45 52.8 -24
ARU pmax pmax
comp=Z,30nm,2.5s
ARU MLR MLR
comp=Z,250nm,19.0s
GZR Gura Zlata 28.76 145⇑*i*P **P 06 39 32.8 -1.8**
GZR Gura Zlata 28.76 145⇑⇑P **P 06 39 32.8 -1.8**
PLOR Plostina 29.06 139⇑*i*P **P 06 39 38.6 +1.4**
PLOR Plostina 29.06 139⇑⇑P **P 06 39 38.6 +1.4**
MLR Muntele Rosu 29.27 141 LR LR 06 51 43.2
comp=Z,981nm,18.5s,baz=11,slow=37
SCHQ Schefferville 32.16 274 P **P 06 40 03.3 -1.2**
comp=Z,5.1nm,0.7s,baz=24,slow=6.5,SNR=5.1
SCHQ LR LR 06 51 54.3
comp=Z,304nm,19.5s,baz=60,slow=34
ESDC Sonseca Array 32.38 185 P **P 06 40 06.1 -0.5**
comp=Z,0.5nm,0.5s,baz=356,slow=9.0,SNR=6.7
ESDC LR LR 06 52 53.3
comp=Z,106nm,18.2s,baz=295,slow=36
TIXI Tiksi 32.99 27 P **P 06 40 11.6 +0.1**
comp=Z,0.6nm,0.3s,baz=352,slow=4.3,SNR=3.0
TIXI Tiksi 32.99 27⇑*e*P **P 06 40 13.6 +2.1**
TIXI pmax pmax
comp=Z,10.0nm,2.5s
AKTO Aktyubinsk 33.34 98 P **P 06 40 14.7 -0.1**
comp=Z,1.4nm,0.3s,baz=346,slow=10,SNR=3.9
AKTO LR LR 06 53 46.0
comp=Z,313nm,19.3s,baz=340,slow=36
KIV Kislovodsk 34.69 120 *e*P **P 06 40 27.3 +0.6**
KIV *e*S **S 06 45 57.6 +1.8**
KIV pmax pmax
comp=Z,13nm,1.1s
KIV MLR MLR
comp=Z,338nm,15.0s
KVAR Kislovodsk Arr 34.69 120 LR LR 06 54 45.8
comp=Z,262nm,18.5s,baz=292,slow=37
BRVK Borovoye 34.88 84 *e*P **P 06 40 29.2 +1.1**
BRVK pmax pmax
comp=Z,8.0nm,1.6s
BVAR Borovoye Array 34.94 84 P **P 06 40 28.8 +0.1**
comp=Z,2.6nm,0.8s,baz=324,slow=7.3,SNR=8.1
BVAR LR LR 06 55 57.7
comp=Z,36nm,18.1s,baz=311,slow=38
KBZ Khabaz 34.96 120 P **P 06 40 29.5 +0.7**
comp=Z,2.5nm,0.7s,baz=328,slow=4.7,SNR=4.9
KBZ LR LR 06 54 50.7
comp=Z,536nm,18.0s,baz=340,slow=36
ABKAR Akbulak array 34.97 97 *e*P **P 06 40 29.2 +0.3**
NCK Nalchik 35.36 119*ce*P **P 06 40 33.5 +1.1**
NCK pmax pmax
comp=Z,49nm,0.4s
ZEI Tsey 36.10 120 *e*P **P 06 40 39.6 +0.6**
ZEI pmax pmax
comp=Z,9.0nm,1.1s
BRTR Keskin Array B 36.42 134 P **P 06 40 41.0 -0.6**
comp=Z,1.5nm,0.8s,baz=338,slow=6.0,SNR=5.4
BRTR LR LR 06 56 27.3
comp=Z,90nm,20.2s,baz=350,slow=38
BRTR Keskin Array B 36.42 134*ce*P **P 06 40 43.2 +1.6**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
KEST Kesra 36.60 167 LR LR 06 56 30.3
comp=Z,207nm,19.1s,baz=325,slow=38
INK Inuvik 36.65 333 P **P 06 40 41.3 -1.8**
comp=Z,12nm,1.0s,baz=19,slow=10,SNR=11
ZALV Zalesovo Beam 38.54 71 P **P 06 40 58.3 -0.9**
comp=Z,0.7nm,0.5s,baz=339,slow=7.7,SNR=2.5
ZALV LR LR 07 00 03.4
comp=Z,81nm,20.5s,baz=248,slow=41
YKA Yellowknife Ar 38.59 317 P **P 06 40 59.2 -0.4**
comp=Z,4.2nm,1.0s,baz=25,slow=8.7,SNR=3.3
YKA LR LR 06 56 13.5
comp=Z,28nm,21.6s,baz=74,slow=35
GNI Garni 38.79 120 LR LR 06 57 11.9
comp=Z,284nm,18.2s,baz=338,slow=36
GNI Garni 38.79 120*de*P **P 06 41 04.1 +2.4**
GNI pmax pmax
comp=Z,47nm,1.1s
KURK Kurchatov 39.49 79 *e*P **P 06 41 07.2 0.0**
comp=Z,3.6nm,0.9s
KURK Kurchatov 39.49 79 *e*P **P 06 41 07.6 +0.4**
KURK pmax pmax
comp=Z,3.0nm,0.9s
COLD Coldfoot 39.66 342 *e*P **P 06 41 08.8 +0.3**
comp=Z,5.7nm,1.0s
RDOG Red Dog Mine 39.80 350 *e*P **P 06 41 10.0 +0.4**
comp=Z,9.5nm,0.9s
BILL Bilibino 40.00 8*ce*P **P 06 41 12.7 +1.4**
BILL *i* *PP **sP 06 41 16.8 -0.6**
BILL *e*SP **pP 06 41 19.7 +4.0**
BILL pmax pmax
comp=Z,13nm,1.6s
BILL MLR MLR
comp=Z,51nm,17.0s
EGAK Eagle 41.02 336 *e*P **P 06 41 20.0 +0.3**
comp=Z,6.9nm,1.0s
IM3 Indian Mountai 41.20 344 *e*P **P 06 41 21.8 +0.6**
MDM Murphy Dome 41.67 340 *e*P **P 06 41 26.6 +1.5**
comp=Z,5.7nm,1.0s
IL1 Eielson Array 41.71 339 *e*P **P 06 41 24.4 -1.0**
ILAR Eielson Array 41.71 339 P **P 06 41 25.4 +0.1**
comp=Z,4.7nm,1.0s,baz=6.7,slow=6.9,SNR=31
ILAR PcP **PcP 06 43 19.3 -2.2**
comp=Z,0.9nm,0.8s,baz=338,slow=3.1,SNR=4.5
ILAR LR LR 07 00 34.8
comp=Z,78nm,19.4s,baz=52,slow=39
ILB Eielson Array 41.71 339 *e*P **P 06 41 25.9 +0.5**
COLA College 41.71 340 *e*P **P 06 41 25.7 +0.3**
comp=Z,37nm,1.6s
COLA College 41.71 340 *e*P **P 06 41 25.7 +0.3**
COLA pmax pmax
comp=Z,37nm,1.6s
CCB Clear Creek Bu 41.93 340 *e*P **P 06 41 27.6 +0.4**
comp=Z,10nm,1.0s
HDA Harding Lake 42.06 339 *e*P **P 06 41 29.8 +1.4**
comp=Z,8.7nm,1.0s
WRH Wood River Hil 42.13 340 *e*P **P 06 41 30.3 +1.4**
comp=Z,9.2nm,1.1s
DOT Dot Lake 42.47 337 *e*P **P 06 41 32.8 +1.1**
comp=Z,8.1nm,1.0s
FFC Flin Flon 42.53 303 *e*P **P 06 41 33.5 +1.3**
comp=Z,12nm,0.9s
FFC Flin Flon 42.53 303 *i* P **P 06 41 33.6 +1.4**
MMAI Mount Meron Ar 43.25 134 LR LR 07 02 42.2
comp=Z,90nm,18.4s,baz=355,slow=40
DHY Denali Highway 43.41 339 *e*P **P 06 41 40.0 +0.6**
comp=Z,6.9nm,1.0s
KK31 Karatay Array 43.76 91 *e*P **P 06 41 43.5 +1.2**
KK31 Karatay Array 43.76 91 *e*P **P 06 41 43.5 +1.2**
KKAR Karatay Array 43.76 91 *e*P **P 06 41 43.5 +1.2**
KKAR Karatay Array 43.76 91 *e*P **P 06 41 43.5 +1.2**
MKAR Makanchi Array 44.09 78 P **P 06 41 44.0 -1.0**
comp=Z,0.9nm,0.6s,baz=334,slow=5.2,SNR=5.9
MKAR PcP **PcP 06 43 28.6 -1.2**
comp=Z,2.8nm,1.1s,baz=305,slow=4.3,SNR=4.4
MKAR LR LR 07 04 10.8
comp=Z,71nm,18.3s,baz=322,slow=42
MKAR Makanchi Array 44.09 78*ce*P **P 06 41 45.0 0.0**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
GEYT Alibeck 44.68 107 P **P 06 41 49.9 +0.2**
comp=Z,1.2nm,0.4s,baz=322,slow=9.4,SNR=3.7
GEYT PcP **PcP 06 43 31.1 -0.9**
comp=Z,1.0nm,0.6s,baz=330,slow=5.0,SNR=3.1
GEYT LR LR 07 02 17.3
comp=Z,170nm,19.0s,baz=285,slow=38
ULM Lac du Bonnet 44.87 295 PcP **PcP 06 43 28.9 -3.5**
comp=Z,3.0nm,0.7s,baz=106,slow=7.4,SNR=3.2
ULM LR LR 07 00 13.6
comp=Z,333nm,18.9s,baz=30,slow=36
AAK Ala-Archa 45.42 88 P **P 06 41 53.9 -1.9**
comp=Z,0.5nm,0.3s,baz=326,slow=14,SNR=2.4
AAK PcP **PcP 06 43 33.0 -1.7**
comp=Z,1.6nm,0.8s,baz=44,slow=16,SNR=4.0
AAK LR LR 07 01 12.0
comp=Z,110nm,18.2s,baz=322,slow=36
AAK Ala-Archa 45.42 88 *i* P **P 06 41 57.8 +2.0**
AAK pmax pmax
comp=Z,7.0nm,1.6s
KDJ Kajisay 46.72 86 *e*P **P 06 42 08.0 +2.0**
comp=Z,3.7nm,0.9s
KDJ Kajisay 46.72 86 *e*P **P 06 42 08.0 +2.0**
KDJ pmax pmax
comp=Z,4.0nm,0.9s
WMQ Urumqi 48.42 75 *e*P **P 06 42 23.0 +4.0**
WMQ LR LR
comp=N,140nm,20.9s
WMQ LR LR
comp=E,320nm,22.9s
WMQ LR LR
comp=Z,150nm,24.9s
KSH Kashi 48.72 88 P **P 06 42 24.1 +2.6**
KDAK Kodiak Island 49.15 341 LR LR 07 07 18.9
comp=Z,165nm,18.2s,baz=25,slow=41
TAM Tamanrasset 49.26 173 P **P 06 42 27.4 +1.6**
TAM pmax pmax
comp=Z,4.0nm,1.1s
SONM Songino Array 50.07 57 P **P 06 42 30.1 -1.6**
comp=Z,1.0nm,0.7s,baz=324,slow=7.9,SNR=5.4
SONM PcP **PcP 06 43 49.5 -1.6**
comp=Z,0.9nm,0.8s,baz=333,slow=5.9,SNR=3.7
EGMT Eagleton 50.65 305 *e*P **P 06 42 38.2 +2.2**
comp=Z,14nm,1.0s
H17A Grant Village 54.23 304 *e*P **P 06 43 05.3 +2.5**
comp=Z,6.1nm,1.0s
TKL Tuckaleechee C 54.55 277 LR LR 07 05 32.4
comp=Z,100nm,18.9s,baz=2.0,slow=35
RAYN Ar Rayn 54.76 126 *e*P **P 06 43 08.0 +1.4**
comp=Z,6.7nm,0.9s
RAYN Ar Rayn 54.76 126 *e*P **P 06 43 08.0 +1.4**
RAYN pmax pmax
comp=Z,7.0nm,0.9s
FXWY Fox Creek 55.05 304 *e*P **P 06 43 10.3 +1.5**
comp=Z,3.0nm,1.1s
REDW Red Top Meadow 55.27 304 *e*P **P 06 43 11.3 +1.0**
comp=Z,1.6nm,1.1s
G08A Pilot Rock 55.46 311 *e*P **P 06 43 12.1 +0.6**
comp=Z,3.3nm,0.9s
PDAR Pinedale Array 55.48 303 P **P 06 43 10.9 -1.0**
comp=Z,0.8nm,0.9s,baz=40,slow=4.8,SNR=5.8
PDAR LR LR 07 05 55.5
comp=Z,150nm,21.0s,baz=16,slow=35
T42A Van Buren 55.53 284 *e*P **P 06 43 11.0 -1.0**
comp=Z,4.3nm,0.8s
HLID Hailey 55.99 307 *e*P **P 06 43 14.8 -0.6**
comp=Z,3.6nm,1.1s
GTA Gaotai 56.04 67 *e*P **P 06 43 13.9 -1.9**
GTA pP pP 06 43 18.2 -2.1
GTA sP sP 06 43 20.8 -1.3
GTA pmax pmax
comp=Z,4.0nm,0.9s
V40A Witts Springs 57.19 285 *e*P **P 06 43 24.6 +0.7**
comp=Z,5.9nm,0.9s
O20A White River Ci 57.59 300 *e*P **P 06 43 26.9 0.0**
comp=Z,6.3nm,0.9s
HHC Hu-ho-hao-te 57.92 56 *e*P **P 06 43 28.8 -0.2**
HHC pmax pmax
comp=Z,37nm,0.8s
HHC pmax pmax
comp=Z,72nm,5.3s
P18A Preston Nutter 58.60 302 *e*P **P 06 43 33.9 -0.2**
comp=Z,4.9nm,1.2s
DUG Dugway, Tooele 58.74 304 *e*P **P 06 43 35.1 +0.3**
comp=Z,4.9nm,1.1s
DUG Dugway, Tooele 58.74 304 *e*P **P 06 43 35.1 +0.3**
DUG pmax pmax
comp=Z,5.0nm,1.1s
TOA0 Torodi Ar. Sit 58.76 178 *e*P **P 06 43 35.2 +0.2**
TORD Torodi Ar. Bea 58.76 178 P **P 06 43 33.5 -1.5**
comp=Z,4.2nm,0.8s,baz=356,slow=4.5,SNR=30
TORD PcP **PcP 06 44 24.3 -0.3**
baz=340,slow=7.7
TORD LR LR 07 09 18.0
comp=Z,101nm,19.1s,baz=340,slow=36
S22A 4UR Ranch, Cre 59.44 298 *e*P **P 06 43 41.2 +1.3**
comp=Z,1.8nm,0.9s
PV14 Lion Creek, Pa 59.45 300 *e*P **P 06 43 40.0 +0.1**
comp=Z,4.4nm,0.8s
PV16 Nyswonger Mesa 59.48 300 *e*P **P 06 43 41.6 +1.5**
comp=Z,3.4nm,0.8s
PV01 Paradox Valley 59.55 300 *e*P **P 06 43 40.4 -0.2**
PV13 Radium Mtn., P 59.60 300 *e*P **P 06 43 41.3 +0.4**
comp=Z,4.9nm,1.0s
YBH Yreka Blue Hor 59.70 313 LR LR 07 09 36.8
comp=Z,277nm,18.1s,baz=18,slow=36
LZH Lanzhou 60.29 65 *e*P **P 06 43 45.9 +0.3**
LZH pP pP 06 43 49.1 -1.0
LZH sP sP 06 43 50.7 -1.2
LZH *e*PP **PP 06 46 00.2 +2.1**
LZH pmax pmax
comp=Z,19nm,1.3s
LZH pmax pmax
comp=Z,67nm,5.5s
LZH LR LR
comp=N,170nm,15.2s
LZH LR LR
comp=E,180nm,15.5s
LZH LR LR
comp=Z,280nm,18.3s
MVCO Mesa Verde 60.40 299 *e*P **P 06 43 46.7 +0.3**
comp=Z,8.3nm,1.0s
R11A Troy Canyon, C 61.19 306 *e*P **P 06 43 51.5 -0.2**
comp=Z,3.3nm,1.1s
CCUT Cedar City 61.38 304 *e*P **P 06 43 54.3 +1.3**
comp=Z,1.0nm,0.9s
PYUN Piuthan 61.46 87 *e*P **P 06 43 53.9 +0.2**
comp=Z,67nm,0.8s
DANN Dangsing 61.47 86 *e*P **P 06 43 54.1 +0.2**
comp=Z,21nm,0.7s
NVAR Mina Array Bea 61.79 308 P **P 06 43 55.2 -0.6**
comp=Z,0.6nm,0.8s,baz=89,slow=6.4,SNR=3.6
KOLN Koldanda 61.96 86 *e*P **P 06 43 56.9 -0.2**
comp=Z,9.9nm,0.9s
ANMO Albuquerque 61.96 297 LR LR 07 10 47.8
comp=Z,316nm,19.5s,baz=40,slow=36
ANMO Albuquerque 61.96 297 *e*P **P 06 43 56.8 -0.2**
comp=Z,2.2nm,0.9s
ANMO Albuquerque 61.96 297 *e*P **P 06 43 56.8 -0.2**
ANMO pmax pmax
comp=Z,2.0nm,0.9s
ABTX Abilene, Hawle 62.19 290 *e*P **P 06 43 58.2 -0.1**
comp=Z,5.1nm,0.7s
KKN Kakani 62.47 85 *e*P **P 06 44 01.2 +0.7**
PKIN Phulchoki 62.70 85 *e*P **P 06 44 03.4 +1.3**
PKI Pulchoki 62.71 85 *e*P **P 06 44 03.5 +1.3**
SHPR Sheep Range 62.83 305 *e*P P 06 44 07.5 +4.8
comp=Z,1.8nm,1.1s
JIRN Jiri 62.87 84 *e*P **P 06 44 04.3 +1.0**
comp=Z,31nm,0.8s
DBIC Dimbokro 65.25 185 P **P 06 44 17.4 -1.1**
comp=Z,2.6nm,0.6s,baz=341,slow=6.3,SNR=5.7
DBIC LR LR 07 13 06.4
comp=Z,67nm,18.6s,baz=2.5,slow=36
CBYP Canovanas 65.26 252 *e*P **P 06 44 18.1 -0.6**
comp=Z,27nm,1.0s
MTP Monte Pirata 65.34 252 *e*P **P 06 44 19.8 +0.7**
comp=Z,34nm,1.0s
TX31 Lajitas Ar. Si 66.44 292 *e*P **P 06 44 25.4 -0.9**
TXAR Lajitas Array 66.44 292 P **P 06 44 25.4 -0.9**
comp=Z,0.7nm,0.5s,baz=47,slow=6.0,SNR=10
TXAR PcP **PcP 06 44 55.9 0.0**
comp=Z,1.4nm,0.9s,baz=75,slow=3.5,SNR=5.2
TXAR LR LR 07 13 13.1
comp=Z,111nm,20.0s,baz=0.0,slow=36

MJAR	**Matsushiro Arr**	**67.97**	**35**	P	**P**	**06 44 36.0**	**+0.2**
	comp=Z,4.3nm,0.9s,baz=350,slow=8.1,SNR=4.7						
MJAR	**Matsushiro Arr**	**67.97**	**35**	P	**P**	**06 44 36.0**	**+0.2**
NJ2	**Nanjing**	**68.11**	**53**	*e*P	**P**	**06 44 39.2**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
CMAR	**Chiang Mai Arr**	**75.42**	**76**	P	**P**	**06 45 19.8**	**-1.0**
	comp=Z,2.1nm,0.4s,baz=322,slow=5.0,SNR=5.8						
CMAR	**Chiang Mai Arr**	**75.42**	**76**	*i* P	**P**	**06 45 21.7**	**+0.9**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
APG	**El Apazote**	**75.93**	**275**	LR	LR	07 18 51.7	
	comp=Z,168nm,19.5s,baz=44,slow=36						
KMBO	**Kilima Mbogo**	**76.75**	**141**	*i* P	P	06 45 33.7	+5.1
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JTS	**JuntasAbangare**	**78.65**	**268**	LR	LR	07 20 48.0	
	comp=Z,36nm,18.2s,baz=38,slow=36						
ROSC	**El Rosal**	**80.51**	**256**	P	**P**	**06 45 49.5**	**-0.1**
	comp=Z,10.0nm,1.1s,baz=42,slow=9.4,SNR=6.0						
ROSC				LR	LR	07 17 30.1	
	comp=Z,23nm,20.9s,baz=34,slow=33						
ROSC	**El Rosal**	**80.51**	**256**	*e*P	**P**	**06 45 50.5**	**+0.9**
	comp=Z,6.9nm,0.9s						
PTGA	**Pitinga**	**81.65**	**241**	*e*P	**P**	**06 45 55.1**	**0.0**
	comp=Z,3.0nm,1.0s						
OTAV	**Otavalo**	**86.12**	**259**	*e*P	**P**	**06 46 19.5**	**+0.9**
	comp=Z,10nm,1.1s						
OTAV	**Otavalo**	**86.12**	**259**	*e*P	**P**	**06 46 19.5**	**+0.9**
OTAV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
SHEL	**Horse Pasture**	**87.75**	**185**	*i* P	**P**	**06 46 27.9**	**+2.2**
WRA	**Warramunga Arr**	**121.89**	**52**	PKP	**PKPdf**	**06 52 29.0**	**-1.9**
	comp=Z,1.6nm,1.0s,baz=335,slow=2.3,SNR=8.3						
ASAR	**Alice Springs**	**125.35**	**54**	PKP	**PKPdf**	**06 52 35.8**	**-1.7**
	comp=Z,1.8nm,0.9s,baz=343,slow=2.3,SNR=10						
MAW	**Mawson**	**145.42**	**143**	PKPbc	**PKPab**	**06 53 13.4**	**+0.1**
	comp=Z,8.1nm,0.9s,baz=314,slow=4.2,SNR=14						

BJI ***01*** *06:57:17.2, 49˚.36N× 156˚.09E, h45km, mb5.2/63, mB5.0/43, Ms4.7/55, Ms7 4.5/55*

KRSC ***01*** *06:57:19.8±2.3, 49˚.30N× 155˚.78E, h76km±30km, ML5.5, FELT [II] at cape Vasilyeva, Severo-Kurilsk; [felt] at RNS Podgornay, lighthouse Chibuiny, lighthouse Kurbatova, cape Lopatka no.*

ISCJB ***01*** *06:57:21.4±0.4, 49˚.36N±0˚.02× 155˚.61E±0˚.02, h56km±2km, mb5.2/459, MS4.4/52, Error ellipse: s-maj=3.9km s-min=1.8km az=157.8*

GCMT ***01*** *06:57:22.5±0.2, 49˚.23N±0˚.02× 155˚.89E±0˚.02, h40km, MW5.1/94, Moment Tensor Solution. s79,c108; s94,c143; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=4.18±.14; Mθθ=1.22±.11; Mϕϕ=-2.97±.10; Mrθ=0.65±.10; Mθϕ=-2.41±.07; Mϕr=2.38±.09; Best double couple: M=5.07000×10^16 NP1=ϕs=25.00000°, δ=60.00000°, λ=79.00000°. NP2=ϕs=226.00000°, δ=32.00000°, λ=108.00000°. Principal axes: T 4.9010, Plg=73.0000°, Azm=267.0000°; N 0.3280, Plg=10.0000°, Azm=31.0000°; P -5.2390, Plg=14.0000°, Azm=123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MOS ***01*** *06:57:22.4±1.1, 49˚.39N× 155˚.61E, h71km, mb5.4/103, MS4.4/20 Error ellipse: s-maj=7.3km s-min=3.6km az=73.4*

MOS Felt (II) at Severo-Kuril'sk.

IDC ***01*** *06:57:22.1±0.5, 49˚.41N× 155˚.52E, h49km±4km, mb4.7/54, mb1 4.8/60, mb1mx4.8/76, mbtmp5.0/60, MS4.2/35, Ms1 4.2/35, ms1mx4.1/47, Error ellipse: s-maj=9.8km s-min=7.2km az=151.0*

NEIC ***01*** *06:57:23.5±0.5, 49˚.40N× 155˚.49E, h60km±4km, mb5.2/295, Error ellipse: s-maj=3.5km s-min=1.7km az=157.0*

ISC 01 06:57:22.7±0.5, 49˚32N±0˚.04× 155˚70E±0˚.03, h59km±3km, h57km:pP-P,n1348,σ1927/1404,mb5.2/469,MS4.5/53, 40C-45D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.39**	**11**	*e*P		**Pn**	**06 57 44.8**	**-1.1**
SKR				*e*S		**Sn**	**06 58 02.0**	**-1.2**
SKR	**Severo-Kuril's**	**1.39**	**11**	*i*PN		**Pn**	**06 57 44.9**	**-1.0**
SKR				*e*S		**Sn**	**06 58 02.1**	**-1.2**
SKR				pmax	pmax			
	comp=Z,7μm,0.6s							
SKR				smax	smax			
	comp=N,28μm,0.6s							
SKR				smax	smax			
	comp=E,30μm,0.7s							
KDTR	**Khodutka, Kamc**	**2.92**	**30**	*e*P		**Pn**	**06 58 04.6**	**-2.0**
KDTR				*e*S		**Sn**	**06 58 37.9**	**-2.5**
MTVR	**Mutnovka**	**3.54**	**25**	*e*P		**Pn**	**06 58 15.2**	**0.0**
MTVR				*e*S		**Sn**	**06 58 55.2**	**-0.6**
MTVR	**Mutnovka**	**3.54**	**25**	PN		**Pn**	**06 58 15.2**	**0.0**
MTVR				S		**Sn**	**06 58 55.2**	**-0.6**
GRL	**Gorelyy**	**3.57**	**24**	*e*P		**Pn**	**06 58 16.3**	**+0.7**
GRL	**Gorelyy**	**3.57**	**24**	PN		**Pn**	**06 58 16.3**	**+0.7**
RUS	**Russkaya**	**3.59**	**29**	*e*P		**Pn**	**06 58 15.2**	**-0.6**
RUS				*e*S		**Sn**	**06 58 54.5**	**-2.4**
RUS	**Russkaya**	**3.59**	**29**	PN		**Pn**	**06 58 15.2**	**-0.6**
RUS				S		**Sn**	**06 58 54.5**	**-2.4**
APC	**Apacha**	**3.73**	**14**	*e*P		**Pn**	**06 58 18.7**	**+1.1**
APC	**Apacha**	**3.73**	**14**	PN		**Pn**	**06 58 18.7**	**+1.1**
KRMR	**Karymshinskiy**	**3.84**	**23**	*e*P		**Pn**	**06 58 19.7**	**+0.6**
KRMR	**Karymshinskiy**	**3.84**	**23**	PN		**Pn**	**06 58 19.7**	**+0.6**
PEA0B	**Petropavlovsk-**	**4.00**	**18**	*e*Pn		**Pn**	**06 58 22.1**	**+0.7**
PETK	**Petropavlovsk-**	**4.00**	**18**	P		**Pn**	**06 58 22.1**	**+0.7**
	comp=E,47nm,0.3s,baz=171,slow=11,SNR=341							
PETK				LR		LR	07 00 13.5	
	comp=E,5μm,20.1s,baz=201,slow=43							
PET	**Petropavlovsk**	**4.15**	**25**	*e*Pn		**Pn**	**06 58 23.5**	**+0.1**
PET	**Petropavlovsk**	**4.15**	**25**	*e*P		**Pn**	**06 58 23.6**	**+0.2**
PET				*e*S		**Sn**	**06 59 09.8**	**-0.8**
PET	**Petropavlovsk**	**4.15**	**25**	*e*PN		**Pn**	**06 58 23.5**	**+0.1**
PET				*e*S		**Sn**	**06 59 11.5**	**+0.9**
PET				pmax	pmax			
	comp=Z,447nm,0.5s							
PET				smax	smax			
	comp=E,800nm,2.4s							
PET				smax	smax			
	comp=E,5μm,2.6s							
PET				smax	smax			
	comp=N,3μm,0.5s							
PET				smax	smax			
	comp=E,4μm,0.6s							
PET				MLR	MLR			
	comp=Z,3μm,11.0s							
PET				MLR	MLR			
	comp=Z,3μm,18.0s							
UGLR	**Uglovaya**	**4.36**	**25**	*e*P		**Pn**	**06 58 27.7**	**+1.2**
UGLR	**Uglovaya**	**4.36**	**25**	PN		**Pn**	**06 58 27.7**	**+1.2**
KOK	**Koryaka**	**4.39**	**24**	*e*P		**Pn**	**06 58 28.1**	**+1.3**
KOK	**Koryaka**	**4.39**	**24**	PN		**Pn**	**06 58 28.1**	**+1.3**
AVH	**Avacha**	**4.39**	**25**	*e*P		**Pn**	**06 58 28.1**	**+1.3**
AVH	**Avacha**	**4.39**	**25**	PN		**Pn**	**06 58 28.1**	**+1.3**
SMAR	**Somma**	**4.40**	**25**	*e*P		**Pn**	**06 58 28.2**	**+1.1**
SMAR				*e*S		**Sn**	**06 59 17.7**	**+0.5**
SMAR	**Somma**	**4.40**	**25**	PN		**Pn**	**06 58 28.2**	**+1.1**
SMAR				S		**Sn**	**06 59 17.7**	**+0.5**
SDLR	**Sedlovina**	**4.44**	**25**	*e*P		**Pn**	**06 58 28.0**	**+0.5**
SDLR	**Sedlovina**	**4.44**	**25**	PN		**Pn**	**06 58 28.0**	**+0.5**
KRX	**Arik**	**4.45**	**23**	*e*P		**Pn**	**06 58 28.9**	**+1.2**
KRX				*e*S		**Sn**	**06 59 18.5**	**+0.3**
KRX	**Arik**	**4.45**	**23**	PN		**Pn**	**06 58 28.9**	**+1.2**
KRX				S		**Sn**	**06 59 18.5**	**+0.3**
NLC	**Nalytchevo**	**4.49**	**29**	*e*P		**Pn**	**06 58 26.6**	**-1.4**
NLC				*e*S		**Sn**	**06 59 14.9**	**-3.9**
NLC	**Nalytchevo**	**4.49**	**29**	PN		**Pn**	**06 58 26.6**	**-1.4**
NLC				S		**Sn**	**06 59 14.9**	**-3.9**
GNL	**Ganaly**	**4.60**	**17**	*e*P		**Pn**	**06 58 31.2**	**+1.5**
GNL	**Ganaly**	**4.60**	**17**	PN		**Pn**	**06 58 31.2**	**+1.5**
SPN	**Mys Shipunski**	**4.66**	**34**	*e*P		**Pn**	**06 58 29.7**	**-0.7**
SPN	**Mys Shipunski**	**4.66**	**34**	PN		**Pn**	**06 58 29.7**	**-0.7**
KII	**Karymskiy**	**5.27**	**25**	*e*P		**Pn**	**06 58 41.5**	**+2.7**
KII	**Karymskiy**	**5.27**	**25**	PN		**Pn**	**06 58 41.5**	**+2.7**
KUR	**Kuril'sk**	**6.71**	**235**	*d*iPN		**Pn**	**06 59 00.8**	**+2.2**
KUR				*i* S		**Sn**	**07 00 14.6**	**+1.0**
KUR				pmax	pmax			
	comp=Z,590nm,0.7s							
KUR				pmax	pmax			
	comp=N,321nm,0.4s							
KUR				pmax	pmax			
	comp=E,126nm,0.4s							
KUR				pmax	pmax			
	comp=Z,3μm,5.2s							
KUR				smax	smax			
	comp=E,560nm,0.6s							
KUR				smax	smax			
	comp=N,151nm,0.2s							
KUR				smax	smax			
	comp=N,5μm,1.6s							
KUR				smax	smax			
	comp=E,1μm,1.1s							
KUR				MLR	MLR			
	comp=Z,4μm,13.0s							
KUR				MLR	MLR			
	comp=N,3μm,11.0s							
ESO	**Esso**	**6.87**	**14**	*e*P		**Pn**	**06 59 02.8**	**+2.2**
ESO	**Esso**	**6.87**	**14**	PN		**Pn**	**06 59 02.8**	**+2.2**
KRSR	**Krestovskiy**	**7.51**	**21**	*e*P		**Pn**	**06 59 11.2**	**+1.7**
KRSR	**Krestovskiy**	**7.51**	**21**	PN		**Pn**	**06 59 11.2**	**+1.7**
KLY	**Klyuchi**	**7.62**	**21**	*e*P		**Pn**	**06 59 12.6**	**+1.7**
KLY	**Klyuchi**	**7.62**	**21**	PN		**Pn**	**06 59 12.6**	**+1.7**
BDR	**Baidarnaya**	**7.99**	**22**	*e*P		**Pn**	**06 59 16.7**	**+0.7**
BDR	**Baidarnaya**	**7.99**	**22**	PN		**Pn**	**06 59 16.7**	**+0.7**
SRKR	**Sorokina**	**8.05**	**22**	*e*P		**Pn**	**06 59 17.2**	**+0.3**
SRKR	**Sorokina**	**8.05**	**22**	PN		**Pn**	**06 59 17.2**	**+0.3**
KBTR	**Krutoberegovo**	**8.14**	**29**	*e*P		**Pn**	**06 59 16.7**	**-1.3**
KBTR	**Krutoberegovo**	**8.14**	**29**	PN		**Pn**	**06 59 16.7**	**-1.3**
SHO	**Shikotan**	**8.18**	**232**	*e*PN		**Pn**	**06 59 16.7**	**-2.0**
SHO				pmax	pmax			
	comp=N,59nm,0.4s							
SHO				pmax	pmax			
	comp=Z,246nm,0.4s							
SHO				pmax	pmax			
	comp=E,31nm,0.5s							
TYV	**Tymovskoe**	**8.53**	**285**	*e*PN		**Pn**	**06 59 26.9**	**+3.5**
TYV				*e*S		**Sn**	**07 01 00.9**	**+2.8**
TYV				pmax	pmax			
	comp=Z,85nm,1.0s							
TYV				pmax	pmax			
	comp=Z,1μm,2.2s							
TYV				smax	smax			
	comp=N,48nm,1.1s							
TYV				smax	smax			
	comp=E,1μm,4.1s							
TYV				MLR	MLR			
	comp=Z,3μm,16.0s							
YUK	**Yuzh-Kuril'sk**	**8.58**	**236**	*e*PN		**Pn**	**06 59 24.2**	**+0.1**
YUK				pmax	pmax			
	comp=Z,2μm,0.5s							
YUK				pmax	pmax			
	comp=E,19nm,0.3s							
YUK				pmax	pmax			
	comp=N,158nm,0.4s							
YUK				MLR	MLR			
	comp=N,1μm,16.0s							
YUK				MLR	MLR			
	comp=Z,2μm,16.0s							
GRPR	**Tuman**	**8.66**	**236**	*e*PN		**Pn**	**06 59 24.8**	**-0.4**
GRPR				pmax	pmax			
	comp=E,229nm,0.5s							
GRPR				pmax	pmax			
	comp=Z,1μm,0.5s							
GRPR				pmax	pmax			
	comp=N,558nm,0.6s							
UGL	**Uglegorsk**	**8.94**	**274**	*e*PN		**Pn**	**06 59 31.8**	**+2.9**
UGL				pmax	pmax			
	comp=Z,524nm,1.0s							
UGL				MLR	MLR			
	comp=Z,4μm,10.0s							
UGL				MLR	MLR			
	comp=E,4μm,16.0s							
UGL				MLR	MLR			
	comp=N,3μm,13.0s							
GLVR	**Golovnino**	**8.96**	**235**	*e*PN		**Pn**	**06 59 29.0**	**-0.3**
YSS	**Yuzh-Sakhalins**	**8.98**	**260**	*e*Pn		**Pn**	**06 59 32.3**	**+2.8**
YSS	**Yuzh-Sakhalins**	**8.98**	**260**	*i*PN		**Pn**	**06 59 32.4**	**+2.9**
YSS				*e*S		**Sn**	**07 01 10.8**	**+1.8**
YSS				pmax	pmax			
	comp=N,180nm,0.8s							
YSS				pmax	pmax			
	comp=Z,180nm,0.8s							
YSS				smax	smax			
	comp=N,120nm,0.5s							
YSS				smax	smax			
	comp=E,130nm,1.0s							
YSS				MLR	MLR			
	comp=Z,1μm,16.0s							
OKH	**Okha**	**9.03**	**303**	*e*PN		**Pn**	**06 59 33.5**	**+3.3**
OKH				pmax	pmax			
	comp=Z,400nm,12.1s							
NKL	**Nikolayevsk**	**10.17**	**298**	*e*PN		**Pn**	**06 59 49.0**	**+3.2**
NKL				pmax	pmax			
	comp=E,170nm,0.9s							
NKL				pmax	pmax			
	comp=Z,110nm,0.9s							
NKL				MLR	MLR			
	comp=E,1μm,15.0s							
NKL				MLR	MLR			
	comp=Z,2μm,15.0s							
ASAJ	**Asahikawa**	**10.39**	**245**	P		**Pn**	**06 59 49.0**	**+0.2**
	comp=Z,32nm,0.3s,baz=74,slow=13,SNR=58							
ASAJ				LR		LR	07 03 21.1	
	comp=Z,2μm,21.6s,baz=40,slow=35							
ASAJ	**Asahikawa**	**10.39**	**245**	*e*Pn		**Pn**	**06 59 50.4**	**+1.6**
MA2	**Magadan**	**10.67**	**346**	P		**Pn**	**06 59 52.2**	**-0.4**
	comp=Z,13nm,0.3s,baz=156,slow=9.5,SNR=50							
MA2				S		**Sn**	**07 01 45.5**	**-4.8**
	comp=Z,0.5nm,0.3s,baz=252,slow=20,SNR=1.6							
MA2	**Magadan**	**10.67**	**346**	*e*Pn		**Pn**	**06 59 52.9**	**+0.3**
MA2				S		**Sn**	**07 01 45.5**	**-4.8**
MA2	**Magadan**	**10.67**	**346**	*c i*PN		**Pn**	**06 59 53.1**	**+0.5**
MA2				pmax	pmax			
	comp=Z,108nm,0.8s							
OSSR	**Ossora**	**10.83**	**20**	*e*P		**Pn**	**06 59 56.3**	**+1.5**
OSSR	**Ossora**	**10.83**	**20**	PN		**Pn**	**06 59 56.3**	**+1.5**
ERM	**Erimo**	**11.41**	**235**	*e*Pn		**Pn**	**07 00 01.0**	**-1.8**
ERM	**Erimo**	**11.41**	**235**	*ce*PN		**Pn**	**07 00 01.1**	**-1.6**
ERM				pmax	pmax			
	comp=Z,113nm,0.6s							
SMY	**Shemya**	**12.07**	**67**	*e*Pn		**Pn**	**07 00 09.6**	**-2.1**
SMY				*e*Sn		**Sn**	**07 02 17.4**	**-7.1**
SMY	**Shemya**	**12.07**	**67**	*e*PN		**Pn**	**07 00 09.6**	**-2.1**
GRNR	**Gornyy**	**12.48**	**284**	*i*PN		**Pn**	**07 00 21.5**	**+4.2**
GRNR				pmax	pmax			
	comp=Z,38nm,0.5s							
TEY	**Ternei**	**13.67**	**259**	*e*P		**Pn**	**07 00 36.0**	**+2.5**
TEY				*e*S		**Sn**	**07 03 10.5**	**+6.9**
TEY				pmax	pmax			
	comp=Z,30nm,1.2s							
TEY				smax	smax			
	comp=N,20nm,0.9s							
SEY	**Seymchan**	**13.77**	**354**	P		**Pn**	**07 00 35.4**	**+0.6**
	comp=N,2.4nm,0.3s,baz=159,slow=13,SNR=34							
SEY	**Seymchan**	**13.77**	**354**	*c i*P		**Pn**	**07 00 35.2**	**+0.4**
KLR	**Kul'dur**	**15.62**	**279**	P		**P**	**07 01 01.8**	**-0.3**
	comp=N,0.7nm,0.3s,baz=78,slow=9.9,SNR=31							
KLR	**Kul'dur**	**15.62**	**279**	*e*P		**P**	**07 01 01.4**	**-0.7**
USA0B	**Ussuriysk Arra**	**17.01**	**261**	*e*Pn		**Pn**	**07 01 16.3**	**-0.1**
	comp=N,58nm,0.9s							
USRK	**Ussuriysk Ar.**	**17.01**	**261**	P		**Pn**	**07 01 16.6**	**+0.2**
	comp=N,2.2nm,0.3s,baz=63,slow=11,SNR=40							
USRK				LR		LR	07 07 32.3	
	comp=N,694nm,20.4s,baz=54,slow=36							
MJB9	**Matsu-Tunnel**	**18.03**	**231**	*e*P		**P**	**07 01 27.2**	**-1.6**
	comp=N,69nm,0.6s							
MAJO	**Matsushiro**	**18.03**	**231**	*e*P		**P**	**07 01 27.1**	**-1.7**
	comp=N,69nm,0.6s							
MAJO	**Matsushiro**	**18.03**	**231**	*e*P		**P**	**07 01 26.5**	**-2.3**
MAJO				pmax	pmax			
	comp=Z,58nm,0.6s							
MAT	**Matsushiro**	**18.03**	**231**	P		**P**	**07 01 26.4**	**-2.4**
MAT				S		**Sn**	**07 04 48.0**	**-1.3**
MJAR	**Matsushiro Arr**	**18.03**	**231**	P		**P**	**07 01 26.9**	**-1.9**
	comp=Z,2.1nm,0.3s,baz=12,slow=7.7,SNR=24							
MJAR				LR		LR	07 09 08.4	
	comp=Z,802nm,19.9s,baz=50,slow=39							
ZEA	**Zeya**	**18.18**	**295**	*e*P		Pn	07 01 45.4	+15
ZEA				*e*S		**S**	**07 04 55.0**	**0.0**
ZEA				pmax	pmax			
	comp=E,47nm,1.0s							
ZEA				pmax	pmax			
	comp=Z,58nm,1.0s							
ZEA				smax	smax			
	comp=E,300nm,10.0s							
ZEA				MLR	MLR			
	comp=E,800nm,16.0s							
ZEA				MLR	MLR			
	comp=Z,1μm,16.0s							
MDJ	**Mudanjiang**	**18.39**	**265**	P		**P**	**07 01 31.9**	**-0.8**
MDJ				pP		pP	07 01 42.3	-3.0
MDJ				PP		**PnPn**	**07 01 44.8**	**-1.4**
MDJ				sP		sP	07 01 49.2	-3.5
MDJ				S		**Sn**	**07 04 57.1**	**-0.7**
MDJ				PcP		**PcP**	**07 06 02.0**	**+0.8**
MDJ				ScP		**ScP**	**07 09 30.9**	**-0.5**
MDJ				pmax	pmax			
	comp=Z,60nm,0.9s							
MDJ				pmax	pmax			
	comp=Z,360nm,2.9s							
MDJ				LR	LR			
	comp=Z,740nm,13.3s							
MDJ				LR	LR			
	comp=Z,1μm,17.1s							
MDJ				LR	LR			
	comp=Z,2μm,20.4s							
MDJ	**Mudanjiang**	**18.39**	**265**	*e*P		**P**	**07 01 31.8**	**-0.9**
	comp=Z,148nm,1.3s							
YAK	**Yakutsk**	**19.25**	**321**	P		**P**	**07 01 40.2**	**-1.7**
	comp=Z,0.0nm,0.3s,baz=155,slow=3.2,SNR=13							
YAK				LR		LR	07 09 03.1	
	comp=Z,1μm,20.7s,baz=218,slow=37							
YAK	**Yakutsk**	**19.25**	**321**	*e*P		**P**	**07 01 41.6**	**-0.3**
	comp=Z,158nm,0.8s							
YAK	**Yakutsk**	**19.25**	**321**	*e*P		**Pn**	**07 01 43.1**	**-0.3**
YAK				*e*S		**S**	**07 05 15.6**	**-1.0**
YAK				pmax	pmax			
	comp=Z,168nm,0.9s							
YAK				pmax	pmax			
	comp=N,24nm,0.9s							
YAK				pmax	pmax			
	comp=E,51nm,1.1s							
YAK				pmax	pmax			
	comp=Z,152nm,0.9s							
YAK				pmax	pmax			
	comp=N,80nm,1.0s							
YAK				pmax	pmax			
	comp=E,71nm,1.2s							
YAK				smax	smax			
	comp=N,201nm,2.0s							
YAK				smax	smax			
	comp=E,131nm,1.9s							
YAK				MLR	MLR			
	comp=Z,1μm,18.0s							
YAK				MLR	MLR			
	comp=N,2μm,19.0s							
YAK				MLR	MLR			
	comp=E,471nm,18.0s							
BILL	**Bilibino**	**19.51**	**12**	*e*P		**P**	**07 01 44.1**	**-0.6**
	comp=E,44nm,0.7s							
BILL	**Bilibino**	**19.51**	**12**	*de*P		**P**	**07 01 44.0**	**-0.7**
BILL				pmax	pmax			
	comp=Z,52nm,0.8s							
BILL				MLR	MLR			
	comp=Z,1μm,17.0s							
INU	**Inuyama**	**19.56**	**231**	*e*P		**P**	**07 01 45.8**	**+0.2**
	comp=Z,100nm,0.7s							
CN2	**Changchun**	**21.44**	**267**	*e*P		**P**	**07 02 03.3**	**-2.4**
CN2				*e*S		**S**	**07 05 51.5**	**-8.7**
CN2				PcP		**PcP**	**07 06 01.4**	**-5.4**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CN2				pmax	pmax			
	comp=Z,200nm,4.0s							
CN2				LR	LR			
	comp=Z,770nm,18.0s							
CN2				LR	LR			
	comp=Z,670nm,18.0s							
CN2				LR	LR			
	comp=Z,860nm,19.0s							
KSRS	**Korea Array**	**23.27**	**250**	P		**P**	**07 02 24.9**	**-0.1**
	comp=Z,50nm,0.9s,baz=54,slow=8.0,SNR=52							
KSRS				PcP		**PcP**	**07 06 11.6**	**+1.0**
	comp=Z,7.4nm,0.9s,baz=15,slow=1.8,SNR=6.9							
KSRS				LR		LR	07 10 52.9	
	comp=Z,775nm,20.0s,baz=51,slow=35							
KS01	**Wonju Array Si**	**23.28**	**250**	*e*P		**P**	**07 02 24.2**	**-0.9**
KS01				*e*PcP		**PcP**	**07 06 11.7**	**+1.1**
KS15	**Wonju Array Si**	**23.30**	**250**	*e*P		**P**	**07 02 25.1**	**-0.2**
KSAR	**Wonju Array Be**	**23.30**	**250**	P		**P**	**07 02 24.9**	**-0.4**
KSAR				PcP		**PcP**	**07 06 11.6**	**+0.9**
KSAR	**Wonju Array Be**	**23.30**	**250**	P		**P**	**07 02 24.9**	**-0.4**
KSAR							07 06 11.6	
HIA	**Hailar**	**23.32**	**284**	*e*P		**P**	**07 02 24.0**	**-1.4**
	comp=Z,40nm,0.8s							
HIA	**Hailar**	**23.32**	**284**	*e*P		**P**	**07 02 24.0**	**-1.4**
HIA				pmax	pmax			
	comp=Z,40nm,0.8s							
TJN	**Taejon**	**24.31**	**249**	*d i*P		**P**	**07 02 35.9**	**+1.4**
JNU	**Nakatsue**	**24.54**	**238**	P		**P**	**07 02 37.2**	**+0.4**
	comp=Z,112nm,1.0s,baz=37,slow=9.2,SNR=22							
JNU				LR		LR	07 13 16.2	
	comp=Z,205nm,19.6s,baz=50,slow=39							
JNU	**Nakatsue**	**24.54**	**238**	*e*P		**P**	**07 02 36.7**	**0.0**
	comp=Z,95nm,0.9s							
TIXI	**Tiksi**	**25.56**	**341**	P		**P**	**07 02 44.0**	**-1.6**
	comp=Z,17nm,0.6s,baz=130,slow=9.4,SNR=30							
TIXI				PcP		**PcP**	**07 06 15.9**	**+1.0**
	comp=Z,8.9nm,0.8s,baz=102,slow=5.4,SNR=4.6							
TIXI	**Tiksi**	**25.56**	**341**	*e*P		**P**	**07 02 43.9**	**-1.6**
	comp=Z,18nm,0.6s							
TIXI				*e*PcP		**PcP**	**07 06 15.6**	**+0.6**
TIXI	**Tiksi**	**25.56**	**341**	*ce*P		**P**	**07 02 43.5**	**-2.0**
TIXI				pmax	pmax			
	comp=Z,15nm,0.6s							
BOD	**Bodaibo**	**25.81**	**305**	*e*P		**P**	**07 02 47.7**	**-0.3**
BOD				*e*			07 03 01.5	
BOD				*e*			07 03 13.3	
BOD				pmax	pmax			
	comp=Z,13nm,1.1s							
RDOG	**Red Dog Mine**	**27.72**	**32**	*e*P		**P**	**07 02 58.9**	**-6.1**
	comp=Z,48nm,1.0s							
BJI	**Beijing**	**29.30**	**267**	P		**P**	**07 03 17.4**	**-2.0**
BJI				pmax	pmax			
	comp=Z,6.0nm,0.6s							
IM3	**Indian Mountai**	**30.67**	**38**	*e*P		**P**	**07 03 31.7**	**+0.5**
H11N2	**WAKE ISLAND Hy**	**30.85**	**159**	T		T	07 36 02.1	
	baz=346,slow=76,SNR=405							
JOW	**Kunigami**	**30.85**	**233**	P		**P**	**07 03 32.9**	**-0.3**
	comp=Z,24nm,0.7s,baz=63,slow=11,SNR=3.7							
JOW				LR		LR	07

H11S1 WAKE ISLAND Hy 31.99 160 T T 07 37 27.4
baz=347,slow=76,SNR=1919
H11S3 WAKE ISLAND Hy 32.00 160 T T 07 37 27.2
baz=347,slow=76,SNR=3228
H11S2 WAKE ISLAND Hy 32.01 160 T T 07 37 26.1
baz=347,slow=76,SNR=1709
SONA1 Songino Array 32.19 287 *e*P **P** **07 03 45.2 +0.3**
SONM Songino Array 32.20 287 P **P** **07 03 43.9 -1.1**
comp=Z,2.9nm,0.9s,baz=77,slow=7.4,SNR=9.9
SONM PcP **PcP** **07 06 32.5 +0.1**
comp=Z,4.2nm,0.9s,baz=72,slow=1.3,SNR=6.4
SONM LR LR 07 18 15.2
comp=Z,908nm,18.6s,baz=85,slow=39
COLD Coldfoot 32.23 36 *e*P **P** **07 03 46.0 +1.1**
comp=Z,12nm,0.8s
BWN Browne 32.34 42 *e*P **P** **07 03 48.2 +2.2**
comp=Z,146nm,0.8s
NJ2 Nanjing 32.43 252 *e*P **P** **07 03 47.6 +0.6**
NJ2 pmax pmax
comp=Z,38nm,0.9s
NJ2 LR LR
comp=Z,550nm,24.0s
NJ2 LR LR
comp=Z,640nm,20.6s
NJ2 LR LR
comp=Z,850nm,22.8s
PMR Palmer 32.56 47 *e*P **P** **07 03 49.2 +1.4**
comp=Z,11nm,0.7s
MCK McKinley 32.58 43 *e*P **P** **07 03 48.8 +0.8**
comp=Z,52nm,0.8s
MCK McKinley 32.58 43 *e*P **P** **07 03 48.8 +0.8**
MCK pmax pmax
comp=Z,52nm,0.8s
RND Reindeer 32.62 43 *e*P **P** **07 03 48.9 +0.5**
comp=Z,63nm,0.8s
RND Reindeer 32.62 43 *e*P **P** **07 03 48.9 +0.5**
RND pmax pmax
comp=Z,63nm,0.8s
TLY Talaya 32.62 294 P **P** **07 03 47.7 -0.8**
comp=Z,16nm,0.8s,baz=44,slow=5.5,SNR=13
TLY PcP **PcP** **07 06 34.0 +0.7**
comp=Z,4.3nm,0.7s,baz=127,slow=5.1,SNR=3.9
TLY LR LR 07 18 26.5
comp=Z,634nm,18.2s,baz=82,slow=39
TLY Talaya 32.62 294 *e*P **P** **07 03 49.4 +0.8**
TLY *e* 07 04 53.0
TLY pmax pmax
comp=Z,30nm,1.0s
TLY MLR MLR
comp=Z,542nm,14.0s
TOLK Toolik Lake Re 32.65 34 *e*P **P** **07 03 49.4 +0.8**
comp=Z,54nm,0.6s
TOLK Toolik Lake Re 32.65 34 P **P** **07 03 49.3 +0.8**
baz=262
MDM Murphy Dome 32.89 41 *e*P **P** **07 03 51.7 +1.0**
comp=Z,46nm,0.8s
SML Sawmill 32.92 46 *e*P **P** **07 03 52.0 +0.9**
comp=Z,120nm,0.7s
SML Sawmill 32.92 46 *e*P **P** **07 03 52.0 +0.9**
SML pmax pmax
comp=Z,120nm,0.7s
WRH Wood River Hil 32.95 41 *e*P **P** **07 03 51.9 +0.8**
comp=Z,56nm,1.0s
TCOL CIGO, UAF Yank 33.05 41 P **P** **07 03 53.2 +1.2**
baz=270
COLA College 33.05 41 *e*P **P** **07 03 53.1 +1.1**
comp=Z,134nm,0.7s
COLA College 33.05 41 *e*P **P** **07 03 53.1 +1.1**
COLA pmax pmax
comp=Z,134nm,0.7s
CCB Clear Creek Bu 33.07 41 *e*P **P** **07 03 52.9 +0.6**
comp=Z,51nm,1.0s
POKR Poker Plat Res 33.23 40 P **P** **07 03 54.8 +1.2**
baz=270
ZAK Zakamensk 33.24 292 *e*P **P** **07 03 52.6 -1.4**
ZAK *e* 07 06 34.2
ZAK pmax pmax
comp=Z,16nm,1.0s
DHY Denali Highway 33.30 44 *e*P **P** **07 03 54.6 +0.2**
comp=Z,39nm,1.0s
SCM Sheep Creek Mo 33.40 46 *e*P **P** **07 03 56.2 +1.0**
comp=Z,44nm,0.8s
SCM Sheep Creek Mo 33.40 46 *e*P **P** **07 03 56.2 +1.0**
SCM pmax pmax
comp=Z,44nm,0.8s
HDA Harding Lake 33.44 42 *e*P **P** **07 03 55.8 +0.3**
comp=Z,55nm,0.6s
HDA Harding Lake 33.44 42 P **P** **07 03 55.6 +0.1**
baz=271
ILAR Eielson Array 33.46 41 P **P** **07 03 56.3 +0.6**
comp=Z,23nm,0.8s,baz=255,slow=7.3,SNR=238
ILAR PcP **PcP** **07 06 34.1 -1.2**
comp=Z,1.7nm,0.8s,baz=278,slow=3.9,SNR=4.0
ILAR LR LR 07 18 49.7
comp=Z,233nm,19.8s,baz=258,slow=38
ILAR P3KPbc 07 35 05.1
comp=Z,0.6nm,0.9s,baz=86,slow=3.8,SNR=4.6
ILB Eielson Array 33.46 41 *e*P **P** **07 03 56.1 +0.4**
IL1 Eielson Array 33.46 41 *e*P **P** **07 03 54.8 -0.8**
FYU Fort Yukon 34.15 38 *e*P **P** **07 04 03.2 +1.7**
comp=Z,126nm,0.8s
PAX Paxson 34.17 44 *e*P **P** **07 04 03.3 +1.3**
comp=Z,15nm,0.9s
PAX Paxson 34.17 44 *e*P **P** **07 04 03.3 +1.3**
PAX pmax pmax
comp=Z,15nm,0.9s
DIV Divide 34.21 47 *e*P **P** **07 04 03.0 +0.7**
comp=Z,39nm,0.6s
HARP HAARP 34.36 45 *e*P **P** **07 04 04.5 +0.9**
comp=Z,22nm,0.6s
RIDG Independ'e Rid 34.40 43 *e*P **P** **07 04 04.0 +0.2**
comp=Z,85nm,1.0s
DOT Dot Lake 34.75 43 *e*P **P** **07 04 06.6 -0.2**
comp=Z,30nm,0.7s
SCRK Sand Creek 34.76 42 *e*P **P** **07 04 06.9 -0.1**
comp=Z,47nm,0.9s
BMRM Bremner River 34.80 48 *e*P **P** **07 04 08.1 +0.8**
comp=Z,52nm,1.1s
EGAK Eagle 35.91 41 *e*P **P** **07 04 16.5 -0.3**
comp=Z,77nm,0.8s
WHN Wuhan 36.28 254 ⇓ *i*P **P** **07 04 20.5 +0.2**
WHN S **S** **07 09 49.9 -6.7**
WHN pmax pmax
comp=Z,200nm,0.6s
WHN LR LR
comp=Z,800nm,22.4s
GUMO Guam 36.73 198 LR LR 07 17 59.9
comp=Z,171nm,20.1s,baz=26,slow=34
DAWY Dawson 36.76 42 *e*P **P** **07 04 24.8 +0.8**
comp=Z,22nm,1.0s
DAWY *e*PcP **PcP** **07 06 45.4 +0.3**
PCA Pinnacle 37.07 48 *e*P **P** **07 04 27.9 +1.1**
comp=Z,49nm,0.7s
XAN Xi'an 37.49 264 P **P** **07 04 29.5 -1.1**
XAN pP pP 07 04 40.1 -5.3
XAN pmax pmax
comp=Z,13nm,1.0s
XAN pmax pmax
comp=Z,87nm,4.0s
NRIK Noril'sk 37.50 327 P **P** **07 04 28.9 -1.3**
comp=Z,6.2nm,0.9s,baz=143,slow=20,SNR=6.8
NRIK PcP **PcP** **07 06 47.1 0.0**
comp=Z,10nm,0.6s,baz=143,slow=20,SNR=5.8
NRIK LR LR 07 21 20.4
comp=Z,419nm,18.6s,baz=237,slow=38
EPYK Eagle Plains 37.57 38 P **P** **07 04 32.2 +1.3**
baz=278
TPUB Ta-pu 37.83 239 *e*P **P** **07 04 34.1 +0.6**
comp=Z,36nm,0.9s
INK Inuvik 38.55 34 P **P** **07 04 40.2 +1.2**
comp=Z,44nm,0.9s,baz=288,slow=6.9,SNR=94
INK PcP **PcP** **07 06 50.9 +0.5**
comp=Z,5.8nm,0.6s,baz=294,slow=5.7,SNR=3.8
ENH Enshi 39.56 259 *e*P **P** **07 04 47.6 -0.4**
comp=Z,21nm,0.6s
LZH Lanzhou 39.58 270 *e*P **P** **07 04 47.2 -1.0**
LZH pP pP 07 05 00.4 -2.7
LZH sP sP 07 05 08.5 -1.4
LZH PP **PnPn** **07 06 22.8 -0.5**
LZH *e*S **S** **07 10 44.8 -2.0**
LZH pmax pmax
comp=Z,42nm,1.3s
LZH pmax pmax
comp=Z,270nm,5.1s
LZH LR LR
comp=Z,1μm,14.5s
LZH LR LR
comp=Z,970nm,14.2s
LZH LR LR
comp=Z,1μm,16.7s
SKAG Skagway 39.64 48 *e*P **P** **07 04 50.6 +2.3**
comp=Z,22nm,0.9s
GTA Gaotai 40.32 278 ⇑ P **P** **07 04 53.8 -0.5**
GTA pP pP 07 05 06.1 -3.1
GTA sP sP 07 05 11.0 -5.1
GTA PcP **PcP** **07 06 57.9 +1.2**
GTA S **S** **07 10 55.2 -2.6**
GTA sS sS 07 11 17.7 -5.3
GTA pmax pmax
comp=Z,18nm,1.2s
GTA pmax pmax
comp=Z,110nm,6.3s
GTA LR LR
comp=Z,370nm,19.4s
GTA LR LR
comp=Z,830nm,17.1s
GTA LR LR
comp=Z,1μm,16.2s
JIS Juneau Island 40.47 50 *e*P **P** **07 04 56.7 +1.6**
comp=Z,24nm,0.9s
WRAK Wrangell Islan 42.16 52 *e*P **P** **07 05 11.3 +2.4**
comp=Z,27nm,0.9s
ZAA0 Zalesovo Array 42.56 304 *e*P **P** **07 05 11.3 -1.0**
comp=Z,3.3nm,0.8s
ZAA0 *e*PcP **PcP** **07 07 04.8 +1.1**
ZALV Zalesovo Beam 42.56 304 P **P** **07 05 10.5 -1.7**
comp=Z,3.5nm,0.6s,baz=67,slow=6.5,SNR=13
ZALV PcP **PcP** **07 07 04.5 +0.8**
comp=Z,24nm,0.8s,baz=60,slow=2.9,SNR=24
ZALV LR LR 07 23 44.4
comp=Z,424nm,19.5s,baz=72,slow=37
DLBC Dease Lake 42.57 48 P **P** **07 05 12.7 +0.3**
comp=Z,19nm,0.9s,baz=279,slow=11,SNR=16
CD2 Chengdu 42.84 264 P **P** **07 05 15.0 +0.1**
CD2 pP pP 07 05 28.1 -1.9
CD2 sP sP 07 05 34.1 -2.7
CD2 S **S** **07 11 35.3 +0.2**
CD2 SS **SS** **07 14 48.4 +0.6**
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 pmax pmax
comp=Z,250nm,4.9s
CD2 LR LR
comp=Z,1μm,21.6s
CD2 LR LR
comp=Z,1μm,26.5s
CD2 LR LR
comp=Z,1μm,24.5s
NVS Novosibirsk 43.04 306 ⇓ *i*P **P** **07 05 16.7 +0.5**
NVS *i* 07 07 06.2
NVS *e*S **S** **07 11 40.7 +3.4**
NVS pmax pmax
comp=E,11nm,1.1s
NVS pmax pmax
comp=Z,15nm,1.1s
NVS smax smax
comp=E,12nm,1.5s
GYA Guiyang 43.97 257 ⇑ *i*P **P** **07 05 23.9 -0.3**
GYA pP pP 07 05 39.4 +0.1
GYA sP sP 07 05 44.0 -2.0
GYA PP **PcP** **07 07 10.8 +1.8**
GYA S **S** **07 11 52.5 +0.7**
GYA sS sS 07 12 15.5 -1.8
GYA SS **SS** **07 15 01.9 -8.2**
GYA pmax pmax
comp=E,50nm,0.7s
GYA pmax pmax
comp=E,130nm,5.2s
GYA LR LR
comp=E,510nm,17.8s
GYA LR LR
comp=E,540nm,18.0s
GYA LR LR
comp=E,500nm,18.2s
WMQ Urumqi 45.65 290 P **P** **07 05 38.7 +1.5**
WMQ sP pP 07 05 56.9 +4.5
WMQ pmax pmax
comp=E,29nm,0.7s
WMQ pmax pmax
comp=E,240nm,4.7s
WMQ LR LR
comp=E,860nm,17.7s
WMQ LR LR
comp=E,880nm,15.7s
WMQ LR LR
comp=E,540nm,18.1s
MK31 Makanchi Array 47.33 296 *e*P **P** **07 05 49.5 -0.8**
MK31 Makanchi Array 47.33 296 *e*P **P** **07 05 49.5 -0.8**
MKAR Makanchi Array 47.33 296 P **P** **07 05 49.3 -1.0**
comp=E,7.3nm,0.8s,baz=65,slow=8.1,SNR=28
MKAR PcP **PcP** **07 07 19.9 -0.4**
comp=E,7.3nm,0.8s,baz=49,slow=3.9,SNR=6.1
MKAR ScP **ScP** **07 11 11.0 +2.0**
comp=E,1.5nm,0.9s,baz=127,slow=1.8,SNR=3.2
MKAR LR LR 07 27 13.7
comp=E,1μm,18.6s,baz=42,slow=38
MKAR Makanchi Array 47.33 296 *e*P **P** **07 05 49.5 -0.8**
comp=E,54nm,0.8s
MKAR PcP **PcP** **07 07 19.9 -0.4**
MKAR ScP **ScP** **07 11 11.0 +2.0**
MKAR Makanchi Array 47.33 296 *e*P **P** **07 05 49.5 -0.8**
MKAR 07 07 19.9
MKAR pmax pmax
comp=Z,54nm,0.8s
MK01 Makanchi Array 47.34 296 *e*P **P** **07 05 48.8 -1.6**
KURK Kurchatov 47.41 303 *e*P **P** **07 05 49.6 -1.2**
comp=Z,29nm,0.8s
KURK PcP **PcP** **07 07 21.4 +0.9**
KURK Kurchatov 47.41 303 P **P** **07 05 50.5 -0.3**
SNR=11
KURK Kurchatov 47.41 303 P **P** **07 05 50.6 -0.3**
KURK 07 07 21.4
KURK pmax pmax
comp=Z,22nm,0.7s
KMI Kunming 47.42 259 P **P** **07 05 52.2 +0.7**
KMI pP pP 07 06 01.4 -5.4
KMI pmax pmax
comp=Z,57nm,0.9s
KMI LR LR
comp=Z,300nm,14.0s
KMI LR LR
comp=Z,250nm,13.0s
KMI LR LR
comp=Z,250nm,20.9s
KURBB Kurchatov Arra 47.51 303 P **P** **07 05 50.6 -1.0**
comp=Z,22nm,0.7s,baz=65,slow=8.0,SNR=39
KURBB PcP **PcP** **07 07 21.4 +0.5**
comp=Z,20nm,0.7s,baz=61,slow=3.4,SNR=20
YKW3 Yellowknife Ar 47.79 39 *e*P **P** **07 05 54.6 +1.0**
comp=Z,9.9nm,0.8s
YKA Yellowknife Ar 47.83 39 P **P** **07 05 54.9 +1.0**
comp=Z,9.2nm,0.7s,baz=294,slow=7.2,SNR=7.9
YKB5 Yellowknife Ar 47.83 39 *e*P **P** **07 05 54.6 +0.8**
RES Resolute Bay 47.84 20 P **P** **07 05 54.4 +0.6**
comp=Z,11nm,0.6s,baz=314,slow=7.0,SNR=27
RES PcP **PcP** **07 07 21.9 +0.4**
comp=Z,8.6nm,0.8s,baz=271,slow=5.3,SNR=4.3
LKP Lekhapani 50.38 267 *e*P **P** **07 06 15.0 +1.1**
BVAR Borovoye Array 50.59 309 P **P** **07 06 14.4 -0.7**
comp=Z,11nm,0.5s,baz=58,slow=8.6,SNR=49
BVAR PcP **PcP** **07 07 32.0 0.0**
comp=Z,10nm,0.7s,baz=62,slow=3.5,SNR=8.7
BRVK Borovoye 50.62 309 *e*P **P** **07 06 15.0 -0.4**
comp=Z,14nm,0.6s
BRVK Borovoye 50.62 309 *e*P **P** **07 06 15.0 -0.4**
BRVK pmax pmax
comp=Z,14nm,0.6s
DIBR DIBRUGARH 50.90 268 *e*P **P** **07 06 18.2 +0.4**
D03D Eldon 51.40 59 P **P** **07 06 22.5 +1.2**
baz=304
B05A Bryant 51.54 58 P **P** **07 06 23.1 +0.8**
baz=304,SNR=5.2
ZIRO ZIRO 51.55 269 *e*P **P** **07 06 22.9 0.0**
E03A Lebam 51.69 60 *e*P **P** **07 06 25.2 +1.8**
comp=Z,14nm,0.9s
B06A Marblemount 51.74 57 *e*P **P** **07 06 25.5 +1.8**
comp=Z,21nm,1.0s
D04E Lakebay 51.78 59 P **P** **07 06 25.5 +1.4**
baz=305
LSA Lhasa 51.88 273 *e*P **P** **07 06 26.4 +0.8**
comp=Z,16nm,0.6s
LSA Lhasa 51.88 273 P **P** **07 06 27.0 +1.4**
LSA Lhasa 51.88 273 *e*P **P** **07 06 26.4 +0.8**
LSA pmax pmax
comp=Z,16nm,0.6s
ITAN ITANAGAR 51.90 269 *e*P **P** **07 06 26.4 +1.2**
ITAN IAmb IAmb 07 06 28.6
comp=Z,26nm,0.7s
MOKO MOKOCHONG 51.94 267 *e*P **P** **07 06 26.3 +0.6**
MOKO IAmb IAmb 07 06 29.1
comp=Z,157nm,0.2s
E04D Cinebar 52.25 60 P **P** **07 06 29.2 +1.7**
baz=305
F04D Rainier, OR 52.27 60 P **P** **07 06 28.9 +1.1**
baz=305
NONG Nongkai 52.30 253 P **P** **07 06 29.6 +1.3**
comp=Z,3.4nm,0.9s,comp=Z,29nm
SKNT Sakolnakorn 52.60 251 P **P** **07 06 31.7 +1.2**
comp=Z,86nm,0.9s,comp=Z,881nm
KOHI KOHIMA 52.62 267 *e*P **P** **07 06 29.3 -1.5**
TAWA Tawang 52.81 270 *e*P **P** **07 06 31.9 -0.5**
TEZP TEZPUR 52.86 269 *e*P **P** **07 06 29.9 -2.4**
LTY Liberty 52.91 58 *e*P **P** **07 06 33.6 +1.1**
comp=Z,4.7nm,0.8s
UBPT Khong Chiam 52.99 248 P **P** **07 06 35.3 +1.9**
comp=Z,78nm,1.3s
B08A Colville Reser 53.01 56 *e*P **P** **07 06 34.2 +0.9**
comp=Z,23nm,1.0s
SVE Sverdlovsk 53.14 317 *c i*P **P** **07 06 34.1 +0.1**
SVE pmax pmax
comp=Z,42nm,0.6s
IMP Imphal 53.33 266 *e*P **P** **07 06 35.7 -0.3**
IMP IAmb IAmb 07 06 37.6
H04D Lebanon 53.34 62 P **P** **07 06 36.9 +1.3**
baz=306
PAYA Payao 53.41 257 P **P** **07 06 37.9 +1.4**
comp=Z,106nm,0.8s,comp=Z,787nm
H04A Detroit Lake 53.56 61 *e*P **P** **07 06 38.9 +1.5**
comp=Z,10nm,0.9s
GUWA GUWAHATI 53.87 269 *e*P **P** **07 06 39.9 +0.1**
C09A Chrisman Ranch 53.91 56 *e*P **P** **07 06 40.6 +0.8**
comp=Z,18nm,0.9s
I04A Tendick Farm, 53.96 62 P **P** **07 06 41.4 +1.2**
baz=307
D08A Wollman Farm, 53.99 57 *e*P **P** **07 06 41.1 +0.7**
comp=Z,7.8nm,0.8s
HAWA Hanford 54.05 58 *e*P **P** **07 06 41.9 +1.1**
comp=Z,14nm,1.0s
MYLDM Lahad Datu 54.06 228 *e*P **P** **07 06 42.8 +1.6**
comp=Z,23nm,1.1s
FRU Bishkek 54.07 296 *e*P **P** **07 06 39.0 -2.1**
FRU *e* 07 07 42.0
F07A Phinny Hill Vi 54.12 59 *e*P **P** **07 06 42.5 +1.2**
LAMP Lampang 54.17 256 P **P** **07 06 43.5 +1.4**
comp=Z,78nm,0.9s,comp=Z,574nm
SHL Shillong 54.17 269 *e*P **P** **07 06 42.5 +0.3**
comp=Z,74nm,0.7s
SHL Shillong 54.17 269 *e*P **P** **07 06 41.2 -1.0**
SHL Shillong 54.17 269 *e*P **P** **07 06 43.0 +0.8**
L02E Cave Junction 54.24 65 P **P** **07 06 44.0 +1.7**
baz=308
E08A Dider Farm, El 54.25 58 *e*P **P** **07 06 43.6 +1.3**
comp=Z,8.7nm,0.8s
NEW Newport 54.26 55 P **P** **07 06 42.8 +0.4**
comp=Z,9.8nm,1.0s,baz=303,slow=6.6,SNR=13
NEW Newport 54.26 55 *e*P **P** **07 06 43.2 +0.8**
comp=Z,17nm,1.1s
NEW Newport 54.26 55 P **P** **07 06 43.0 +0.6**
baz=307,SNR=13
AAK Ala-Archa 54.26 296 P **P** **07 06 41.3 -1.3**
comp=Z,5.6nm,0.8s,baz=101,slow=2.9,SNR=10
AAK Ala-Archa 54.26 296 *e*P **P** **07 06 42.4 -0.3**
comp=Z,4.9nm,0.7s
AAK Ala-Archa 54.26 296 *i*P **P** **07 06 42.2 -0.4**
SNR=7.4
ARU Arti 54.30 317 P **P** **07 06 41.5 -1.0**
ARU PcP **PcP** **07 07 46.2 +0.4**
ARU Arti 54.30 317 *c i*P **P** **07 06 41.8 -0.7**
ARU *PP **pP** **07 07 01.0 +3.0**
ARU 07 07 45.7
ARU 07 08 41.2
ARU S **S** **07 14 16.5 +1.0**
ARU SS **SS** **07 17 54.3 -3.2**
ARU pmax pmax
comp=Z,69nm,0.8s
ARU MLR MLR
comp=Z,425nm,22.0s
CMMT Chiang Mai 54.40 257 P **P** **07 06 44.7 +1.0**
comp=Z,299nm,0.9s,comp=Z,2μm
CHTO Chiang Mai 54.40 257 *e*P **P** **07 06 45.0 +1.3**
comp=Z,230nm,0.9s
CHTO Chiang Mai 54.40 257 P **P** **07 06 44.8 +1.1**
comp=Z,1μm,0.9s,comp=Z,10μm
CHAI Chaiyaphum 54.65 252 P **P** **07 06 46.4 +0.9**
comp=Z,71nm,0.8s,comp=Z,563nm
CM31 Chiang Mai Arr 54.66 257 *e*P **P** **07 06 47.3 +1.7**
CM31 Chiang Mai Arr 54.66 257 P **P** **07 06 47.2 +1.6**
SNR=67
CMAR Chiang Mai Arr 54.66 257 P **P** **07 06 46.2 +0.7**
comp=Z,117nm,0.8s,baz=30,slow=7.3,SNR=334
CMAR LR LR 07 31 19.6
comp=Z,185nm,19.3s,baz=50,slow=37
CMAR Chiang Mai Arr 54.66 257 *i*P **P** **07 06 47.2 +1.6**
CMAR pmax pmax
comp=Z,117nm,0.8s
CM01 Chiang Mai Arr 54.68 257 *e*P **P** **07 06 45.5 -0.2**
E09A Wood Farm, Sta 54.75 58 *e*P **P** **07 06 46.9 +1.0**
comp=Z,19nm,0.8s
PBKT Sadao Pong 54.78 253 P **P** **07 06 47.6 +1.1**
comp=Z,56nm,0.8s,comp=Z,1μm
SUKH Sukhothai 54.95 255 P **P** **07 06 49.1 +1.5**
comp=Z,29nm,0.8s,comp=Z,325nm
J05D Fort Rock, OR 54.95 62 P **P** **07 06 49.8 +2.2**
baz=308,SNR=10
L04D Klamath Falls 54.97 64 P **P** **07 06 49.5 +1.7**
baz=308,SNR=5.9
G08A Pilot Rock 55.03 59 *e*P **P** **07 06 49.5 +1.3**
comp=Z,4.6nm,0.9s
YBH Yreka Blue Hor 55.03 65 P **P** **07 06 50.3 +2.1**
comp=Z,6.3nm,0.6s,baz=360,slow=6.4,SNR=16
YBH Yreka Blue Hor 55.03 65 *e*P **P** **07 06 50.6 +2.5**
comp=Z,11nm,0.8s
GTK Tadong 55.13 273 *e*P **P** **07 06 49.5 +0.4**
GTK IAmb IAmb 07 06 50.9
comp=Z,150nm,0.1s
M02C Callahan 55.16 65 P **P** **07 06 50.9 +1.8**
baz=308
TURI Tura 55.20 270 *e*P **P** **07 06 48.8 -0.6**
KSH Kashi 55.29 292 P **P** **07 06 53.7 +3.6**
KSH pP pP 07 07 06.5 +0.9
KSH PcP **PcP** **07 07 54.0 +3.9**
KSH S **S** **07 14 30.9 +1.4**
KSH ScS **ScS** **07 16 34.2 +0.3**
KSH pmax pmax
comp=Z,45nm,1.6s
KSH pmax pmax
comp=Z,140nm,5.9s
KSH LR LR
comp=Z,1μm,16.1s
KSH LR LR
comp=Z,660nm,14.5s
KSH LR LR
comp=Z,1μm,18.7s
WALA Waterton Lakes 55.48 53 *e*P **P** **07 06 52.3 +1.0**
comp=Z,32nm,1.0s
WALA *e*PcP **PcP** **07 07 52.7 +1.9**
K05A Summer Lake 55.49 63 *e*P **P** **07 06 53.7 +2.2**
comp=Z,21nm,0.9s
N02D Trinity Center 55.50 65 P **P** **07 06 52.8 +1.3**
baz=308
M04C Macdoel 55.52 64 P **P** **07 06 53.4 +1.7**
baz=308
F10A Beach Ranch, E 55.58 58 *e*P **P** **07 06 53.0 +0.9**
comp=Z,5.5nm,0.9s
SAIH SAIHA 55.60 265 *e*P **P** **07 06 52.9 +0.4**
APA Apatity 55.66 337 ⇓ *i*P **P** **07 06 48.6 -3.5**
APA pmax pmax
comp=Z,10.0nm,1.0s
APA MLR MLR
comp=Z,900nm,16.0s
O02D Mt. Diablo Mer 55.95 66 P **P** **07 06 56.2 +1.5**
baz=309
ARCES ARCESS Array B 55.99 341 P **P** **07 06 52.2 -2.3**
comp=Z,4.3nm,0.6s,baz=27,slow=8.2,SNR=8.9
ARCES PcP **PcP** **07 07 52.1 -0.1**
comp=Z,7.1nm,0.6s,baz=46,slow=5.2,SNR=8.1
ARCES LR LR 07 34 25.2
comp=Z,17nm,21.0s,baz=26,slow=40
SRAK Srakaew 56.06 250 P **P** **07 06 54.4 -1.3**

comp=Z,289nm,1.0s,comp=Z,3µm
JTMT Jette 56.09 54 *e*P **P 07 06 57.2 +1.5**
comp=Z,12nm,0.8s
PRGR Permogore 56.15 327 *e*P **P 07 06 53.4 -2.3**
PRGR pmax pmax
comp=Z,17nm,0.6s
BMO Blue Mountains 56.23 59 *e*P **P 07 06 58.1 +1.4**
comp=Z,9.5nm,0.8s
BMO Blue Mountains 56.23 59 *e*P **P 07 06 58.1 +1.4**
BMO pmax pmax
comp=Z,10.0nm,0.8s
KK31 Karatay Array 56.29 299 *e*P **P 07 06 56.6 -0.4**
KK31 Karatay Array 56.29 299 *e*P **P 07 06 56.6 -0.4**
KKAR Karatay Array 56.29 299 *e*P **P 07 06 56.6 -0.4**
KKAR Karatay Array 56.29 299 *e*P **P 07 06 56.6 -0.4**
MOD Modoc Plateau 56.34 63 *e*P **P 07 06 59.3 +1.7**
comp=Z,11nm,0.8s
UMPA Umpang Tak 56.39 255 P **P 07 07 00.8 +2.8**
comp=Z,26nm,1.2s,comp=Z,1µm
O03E Paynes Creek 56.46 65 P **P 07 06 59.4 +1.0**
baz=309
JIRN Jiri 56.47 275 *e*P **P 07 06 59.6 +0.6**
comp=Z,76nm,0.6s
J08A Circle Bar Ran 56.49 61 *e*P **P 07 07 00.5 +1.9**
comp=Z,9.2nm,0.8s
UTHA Uthaitani 56.50 254 P **P 07 07 00.4 +1.6**
comp=Z,26nm,0.7s
GUN Gumba 56.51 275 *e*P **P 07 06 59.6 +0.4**
comp=Z,49nm,0.6s
RAMN Ramite 56.69 274 *e*P **P 07 07 00.7 +0.4**
comp=Z,155nm,0.7s
MSO Missoula 56.84 55 *e*P **P 07 07 02.1 +1.1**
comp=Z,25nm,1.0s
MSO Missoula 56.84 55 P **P 07 07 02.1 +1.1**
baz=309,SNR=24
WVOR Wild Horse Val 56.98 62 *e*P **P 07 07 03.6 +1.6**
comp=Z,12nm,1.0s
WVOR Wild Horse Val 56.98 62 *e*P **P 07 07 03.7 +1.6**
WVOR pmax pmax
comp=Z,12nm,1.0s
KKN Kakani 56.98 275 *e*P **P 07 07 03.3 +0.9**
comp=Z,71nm,0.7s
PKI Pulchoki 57.04 275 *e*P **P 07 07 03.3 +0.3**
comp=Z,43nm,0.7s
PKIN Phulchoki 57.05 275 *e*P **P 07 07 03.3 +0.4**
comp=Z,28nm,0.6s
ORV Oroville 57.11 66 *e*P **P 07 07 04.0 +1.1**
comp=Z,6.5nm,0.9s
ORV Oroville 57.11 66 *e*P **P 07 07 04.0 +1.1**
ORV pmax pmax
comp=Z,7.0nm,0.9s
DMN Daman 57.22 275 *e*P **P 07 07 04.9 +0.8**
comp=Z,80nm,0.6s
DANN Dangsing 57.59 277 *e*P **P 07 07 07.6 +0.8**
comp=Z,61nm,0.5s
SRDT SRDT 57.62 253 P **P 07 07 08.2 +1.5**
comp=Z,50nm,0.7s
PATY Pattaya 57.62 251 P **P 07 07 09.3 +2.6**
comp=Z,13nm,0.9s
AFDM Forest Hills D 57.81 66 *e*P **P 07 07 09.3 +1.5**
comp=Z,5.1nm,1.1s
SUMG Summit 58.01 5 *e*P **P 07 07 09.3 +0.2**
comp=Z,52nm,0.8s
SUMG Summit 58.01 5 *i* P **P 07 07 09.2 +0.1**
comp=Z,123nm,0.7s
SUMG Summit 58.01 5 *i* P **P 07 07 09.2 +0.1**
SUMG pmax pmax
comp=Z,120nm,0.7s
HRY Holter Researc 58.04 54 *e*P **P 07 07 10.9 +1.4**
KOLN Koldanda 58.09 277 *e*P **P 07 07 10.7 +0.6**
comp=Z,61nm,1.0s
ABKAR Akbulak array 58.12 310 *e*P **P 07 07 09.0 -0.8**
PYUN Piuthan 58.26 277 *e*P **P 07 07 11.8 +0.5**
comp=Z,108nm,0.9s
PAHR Pah Rah Range 58.27 65 *e*P **P 07 07 12.8 +1.6**
comp=Z,6.9nm,0.8s
EGMT Eagleton 58.29 52 *e*P **P 07 07 12.5 +1.4**
comp=Z,37nm,1.1s
EGMT Eagleton 58.29 52 P **P 07 07 12.1 +0.9**
baz=310,SNR=8.5
AKTO Aktyubinsk 58.31 312 P **P 07 07 09.2 -1.9**
comp=Z,7.8nm,0.5s,baz=73,slow=8.6,SNR=17
AKTO PcP **PcP 07 08 02.1 +0.5**
comp=Z,8.2nm,0.7s,baz=351,slow=6.3,SNR=4.6
VCNR Virginia City 58.38 65 *e*P **P 07 07 13.9 +1.9**
comp=Z,10nm,0.8s
PHET Kaeng Krachan 58.40 252 P **P 07 07 14.3 +2.1**
comp=Z,31nm,0.8s,comp=Z,278nm
DLMT Dillon 58.49 56 *e*P **P 07 07 14.2 +1.5**
comp=Z,7.2nm,0.8s
PNTR Pine Nut 58.54 65 *e*P **P 07 07 15.2 +2.0**
comp=Z,17nm,0.7s
HLID Hailey 58.65 58 *e*P **P 07 07 15.8 +2.0**
comp=Z,12nm,0.9s
HLID Hailey 58.65 58 P **P 07 07 15.4 +1.6**
baz=310,SNR=16
MCMT McKenzie Canyo 58.70 56 *e*P **P 07 07 15.3 +1.0**
CMB Columbia Colle 58.75 67 *e*P **P 07 07 16.0 +1.6**
comp=Z,6.0nm,1.0s
CMB Columbia Colle 58.75 67 *e*P **P 07 07 16.0 +1.6**
CMB pmax pmax
comp=Z,6.0nm,1.0s
YERR Yerington 58.82 65 *e*P **P 07 07 16.9 +1.8**
comp=Z,11nm,0.8s
BOZ Bozeman (W) 58.86 55 *e*P **P 07 07 16.9 +1.6**
comp=Z,24nm,0.9s
BOZ Bozeman (W) 58.86 55 *e*P **P 07 07 16.9 +1.6**
BOZ pmax pmax
comp=Z,24nm,0.9s
BOZ Bozeman (W) 58.86 55 P **P 07 07 16.8 +1.6**
baz=310,SNR=31
WAKR Walker 59.01 66 *e*P **P 07 07 18.5 +2.1**
comp=Z,8.7nm,0.7s
BMN Battle Mountai 59.07 63 *e*P **P 07 07 18.4 +1.6**
comp=Z,9.8nm,0.8s
BMN Battle Mountai 59.07 63 *e*P **P 07 07 18.4 +1.6**
BMN pmax pmax
comp=Z,10.0nm,0.8s
BOK Bokaro 59.33 272 *e*P **P 07 07 19.0 +0.4**
BOK IAmb IAmb 07 07 20.8
comp=Z,18nm,0.9s
KVN Kaiserville 59.45 64 *e*P **P 07 07 21.1 +1.6**
comp=Z,11nm,0.8s
KVN Kaiserville 59.45 64 *e*P **P 07 07 21.1 +1.6**
KVN pmax pmax
comp=Z,11nm,0.8s
QLMT Earthquake Lak 59.47 56 *e*P **P 07 07 21.3 +1.8**
RYN Ryan 59.48 65 *e*P **P 07 07 21.4 +1.8**
comp=Z,9.8nm,0.8s
SBUM Sibu 59.57 233 *e*P **P 07 07 21.0 +0.8**
comp=Z,7.1nm,0.7s
SBUM Sibu 59.57 233 P **P 07 07 22.0 +1.8**
YHB Horse Butte 59.65 56 *e*P **P 07 07 22.7 +1.9**
comp=Z,52nm,1.1s
NV01 Mina Array Sit 59.74 65 *e*P **P 07 07 22.8 +1.3**
NVAR Mina Array Bea 59.74 65 P **P 07 07 23.0 +1.6**
comp=Z,6.9nm,0.7s,baz=292,slow=7.4,SNR=54
NVAR LR LR 07 28 56.3
comp=Z,111nm,21.6s,baz=293,slow=32
NVAR P4KPbc 07 44 08.9
comp=Z,0.1nm,0.4s,baz=256,slow=4.4,SNR=4.0
DHRM DHARAMSHALA 59.77 285 *e*P **P 07 07 20.5 -1.3**
DHRM IAmb IAmb 07 07 23.9
comp=Z,14nm,0.6s
GCMT Greycliff 59.78 54 *e*P **P 07 07 23.5 +2.0**
YHH Holmes Hill 59.81 55 *e*P **P 07 07 23.7 +1.7**
comp=Z,24nm,1.0s
NV11 Mina Array Sit 59.82 65 *e*P **P 07 07 23.5 +1.5**
comp=Z,0.3nm,0.8s
YMR Madison River 59.83 55 *e*P **P 07 07 24.3 +2.3**
comp=Z,33nm,1.2s
DDI Dehra Dun 59.94 283 *e*P **P 07 07 22.6 -0.2**
SMLA Simla 59.97 284 *e*P **P 07 07 22.3 -0.6**
SMLA IAmb IAmb 07 07 23.1
comp=Z,23nm,0.9s
ILULI Ilulissat 60.15 11 *i* P **P 07 07 23.1 -0.4**
comp=Z,35nm,0.7s
ILULI Ilulissat 60.15 11 *i* P **P 07 07 23.1 -0.4**
ILULI pmax pmax
comp=Z,35nm,0.7s
YPP Pitchstone Pla 60.17 56 *e*P **P 07 07 27.2 +2.8**
comp=Z,6.8nm,0.9s
LKWY Lake 60.20 55 *e*P **P 07 07 28.0 +3.5**
comp=Z,28nm,1.0s
H17A Grant Village 60.22 56 *e*P **P 07 07 28.0 +3.3**
comp=Z,38nm,1.0s
H17A Grant Village 60.22 56 P **P 07 07 27.9 +3.2**
baz=312,SNR=29
IMW Indian Meadow 60.35 56 *e*P **P 07 07 27.8 +2.1**
comp=Z,27nm,1.1s
FLWY Flagg Ranch 60.35 56 *e*P **P 07 07 28.4 +2.8**
comp=Z,13nm,0.9s
RLMT Red Lodge 60.44 54 *e*P **P 07 07 27.3 +1.1**
comp=Z,44nm,1.0s
RLMT Red Lodge 60.44 54 P **P 07 07 27.9 +1.8**
baz=312,SNR=23
FXWY Fox Creek 60.47 56 *e*P **P 07 07 28.5 +2.1**
comp=Z,8.4nm,0.9s
MOOW Moose Ponds 60.55 56 *e*P **P 07 07 29.1 +2.2**
comp=Z,13nm,1.0s
TPAW Teton Pass 60.61 56 *e*P **P 07 07 29.8 +2.4**
comp=Z,28nm,1.0s
LOHW Long Hollow 60.72 56 *e*P **P 07 07 30.2 +2.1**
comp=Z,29nm,1.1s
HVU Hansel Valley 60.73 59 *e*P **P 07 07 30.2 +2.1**
comp=Z,7.1nm,0.8s
HVU Hansel Valley 60.73 59 *e*P **P 07 07 30.2 +2.1**
HVU pmax pmax
comp=Z,7.0nm,0.8s
SNOW Snow King Moun 60.73 56 *e*P **P 07 07 31.0 +2.8**
comp=Z,22nm,0.9s
REDW Red Top Meadow 60.75 57 *e*P **P 07 07 30.4 +2.1**
comp=Z,37nm,1.0s
SMMC Simmler 60.77 69 P **P 07 07 29.9 +1.6**
baz=312
DGMT Dagmar 60.79 49 *e*P **P 07 07 29.5 +1.2**
comp=Z,68nm,0.9s
DGMT Dagmar 60.79 49 P **P 07 07 29.5 +1.2**
baz=313,SNR=18
LAO LASA Array 60.98 51 P **P 07 07 31.5 +1.9**
baz=312,SNR=12
VES Vestal, Richgr 60.98 68 P **P 07 07 31.2 +1.6**
baz=312
AHID Auburn Hatcher 61.01 57 *e*P **P 07 07 32.0 +2.0**
comp=Z,13nm,0.9s
BGU Big Grassy Mou 61.15 60 *e*P **P 07 07 32.8 +1.8**
comp=Z,3.3nm,0.8s
PKM Mcpherson Peak 61.17 69 P **P 07 07 32.5 +1.3**
baz=312
CWC Cottonwood Cre 61.18 67 P **P 07 07 32.3 +1.0**
baz=312
SPUT South Promonto 61.23 59 *e*P **P 07 07 33.6 +2.1**
comp=Z,10nm,0.9s
GRAC Grapevine Rang 61.24 66 P **P 07 07 33.1 +1.6**
baz=312,SNR=7.2
R11A Troy Canyon, C 61.39 64 *e*P **P 07 07 33.8 +1.1**
comp=Z,8.0nm,0.9s
R11A Troy Canyon, C 61.39 64 P **P 07 07 33.9 +1.1**
baz=312,SNR=16
KSM Kuching 61.40 234 *e*P **P 07 07 34.4 +1.7**
comp=Z,42nm,1.0s
KSM Kuning 61.40 234 P **P 07 07 35.0 +2.3**
ISA Isabella, Lake 61.46 68 *e*P **P 07 07 33.5 +0.4**
comp=Z,3.6nm,0.9s
ISA Isabella, Lake 61.46 68 *e*P **P 07 07 33.5 +0.4**
ISA pmax pmax
comp=Z,4.0nm,0.9s
HWUT Hardware Ranch 61.52 58 *e*P **P 07 07 35.2 +1.7**
comp=Z,8.1nm,0.8s
DUG Dugway, Tooele 61.76 60 *e*P **P 07 07 36.7 +1.6**
comp=Z,13nm,0.9s
DUG Dugway, Tooele 61.76 60 *e*P **P 07 07 36.7 +1.6**
DUG pmax pmax
comp=Z,13nm,0.9s
DUG Dugway, Tooele 61.76 60 P **P 07 07 36.8 +1.6**
baz=312,SNR=22
MPMC Manual Prospec 61.79 67 P **P 07 07 36.5 +1.0**
baz=312,SNR=7.4
BW06 Boulder Array 61.85 56 *e*P **P 07 07 37.1 +1.3**
comp=Z,33nm,1.0s
BW06 Boulder Array 61.85 56 P **P 07 07 37.1 +1.3**
baz=313,SNR=33
PD31 Pinedale Array 61.85 56 *e*P **P 07 07 37.5 +1.7**
PDAR Pinedale Array 61.85 56 P **P 07 07 37.0 +1.2**
comp=Z,29nm,1.1s,baz=298,slow=3.2,SNR=82
PDAR LR LR 07 34 47.1
comp=Z,54nm,21.5s,baz=344,slow=36
FURC Furnace Creek, 61.89 66 P **P 07 07 37.1 +1.3**
baz=312,SNR=15
TPNV Topopah Spring 61.94 65 *e*P **P 07 07 37.7 +1.3**
comp=Z,11nm,0.9s
TPNV Topopah Spring 61.94 65 *e*P **P 07 07 37.7 +1.3**
TPNV pmax pmax
comp=Z,11nm,0.9s
TPNV Topopah Spring 61.94 65 P **P 07 07 37.6 +1.3**
baz=312,SNR=8.7
CTU Camp Tracy 62.03 59 *e*P **P 07 07 38.7 +1.8**
comp=Z,6.0nm,0.8s
JLU Jordanelle 62.26 59 *e*P **P 07 07 40.4 +1.9**
comp=Z,8.9nm,1.2s
SKLT Songkla 62.26 247 P **P 07 07 40.6 +2.1**
comp=Z,48nm,0.8s,comp=Z,729nm
EDW2 Edwards Air Fo 62.28 68 P **P 07 07 39.4 +0.9**
baz=313,SNR=8.3
PSUT Pine Spring 62.28 62 *e*P **P 07 07 40.3 +1.6**
comp=Z,4.3nm,0.8s
TRTT Trang 62.30 248 P **P 07 07 40.5 +1.7**
comp=Z,10nm,0.8s
SFJD Kangerlussuaq 62.30 11 *e*P **P 07 07 37.9 -0.2**
comp=Z,23nm,0.7s
SFJD Kangerlussuaq 62.30 11 *i* P **P 07 07 37.5 -0.6**
comp=Z,22nm,0.7s
SFJD Kangerlussuaq 62.30 11 *i* P **P 07 07 37.5 -0.6**
SFJD pmax pmax
comp=Z,22nm,0.7s
NLU North Lily Min 62.34 60 *e*P **P 07 07 40.7 +1.6**
comp=Z,9.9nm,0.8s
MPU Maple Canyon 62.55 60 *e*P **P 07 07 42.1 +1.6**
comp=Z,10nm,0.8s
MWC Mount Wilson 62.68 69 *e*P **P 07 07 42.7 +1.3**
comp=Z,9.5nm,1.1s
MWC Mount Wilson 62.68 69 *e*P **P 07 07 42.7 +1.3**
MWC pmax pmax
comp=Z,10.0nm,1.1s
GSC Goldstone, Bar 62.71 67 *e*P **P 07 07 42.7 +1.2**
comp=Z,7.7nm,1.0s
GSC Goldstone, Bar 62.71 67 *e*P **P 07 07 42.7 +1.2**
GSC pmax pmax
comp=Z,8.0nm,1.0s
GSC Goldstone, Bar 62.71 67 P **P 07 07 42.4 +0.9**
baz=313
BFSC Mount Baldy Ra 62.92 68 P **P 07 07 43.7 +0.8**
baz=313
CIS Catalina Islan 63.02 69 P **P 07 07 43.8 +0.4**
baz=313
TUQ Turquoise Moun 63.15 66 P **P 07 07 45.4 +1.0**
baz=313
CCUT Cedar City 63.23 63 *e*P **P 07 07 44.6 -0.4**
comp=Z,9.9nm,0.9s
MSU Marysvale 63.26 61 *e*P **P 07 07 47.4 +2.2**
TMUT Trail Mountain 63.28 60 *e*P **P 07 07 47.3 +1.8**
comp=Z,10nm,0.9s
HEC Hector,Ludlow 63.32 67 P **P 07 07 46.6 +1.1**
baz=313
SZCU Shurtz Canyon 63.36 63 *e*P **P 07 07 43.4 -2.5**
comp=Z,12nm,1.0s
P17A Butcher Ranch, 63.43 60 *e*P **P 07 07 48.1 +1.9**
comp=Z,13nm,0.9s
P17A *e*pP **pP 07 08 01.9 -0.2**
MDND Maddock 63.44 47 *e*P **P 07 07 47.5 +1.5**
comp=Z,79nm,1.0s
MDND Maddock 63.44 47 P **P 07 07 47.3 +1.3**
baz=315,SNR=9.1
ULM Lac du Bonnet 63.45 43 P **P 07 07 46.4 +0.4**
comp=Z,12nm,0.8s,baz=306,slow=8.6,SNR=7.9
ULM LR LR 07 36 01.1
comp=Z,166nm,21.9s,baz=312,slow=36
ULM Lac du Bonnet 63.45 43 *e*P **P 07 07 46.8 +0.8**
comp=Z,14nm,0.8s
K22A Casper 63.57 55 *e*P **P 07 07 48.5 +1.4**
comp=Z,17nm,1.1s
K22A Casper 63.57 55 P **P 07 07 48.1 +1.0**
baz=314,SNR=7.2
MTPU Mount Pierson 63.58 62 *e*P **P 07 07 49.7 +2.2**
comp=Z,8.7nm,0.9s
P18A Preston Nutter 63.60 59 *e*P **P 07 07 49.5 +1.9**
comp=Z,5.5nm,0.8s
MURC Murrieta 63.63 68 P **P 07 07 48.4 +0.9**
baz=313
PBA Port Blair 63.69 257 *e*P P 07 07 51.5 +3.4
comp=Z,148nm,1.1s
KULM Kulim 63.73 246 *e*P **P 07 07 49.0 +0.7**
comp=Z,48nm,0.9s
KULM Kulim 63.73 246 P **P 07 07 50.0 +1.7**
GMRC Granite Mounta 63.75 67 P **P 07 07 49.5 +1.1**
baz=313
SRU San Rafael Swe 63.80 60 *e*P **P 07 07 50.2 +1.5**
comp=Z,22nm,0.8s
RSSD Black Hills 63.85 52 *e*P **P 07 07 50.2 +1.1**
comp=Z,66nm,1.0s
RSSD Black Hills 63.85 52 *e*P **P 07 07 50.2 +1.1**
RSSD pmax pmax
comp=Z,66nm,1.0s
RSSD Black Hills 63.85 52 P **P 07 07 50.2 +1.1**
baz=314
RWWY Rawlins 63.86 56 *e*P **P 07 07 50.6 +1.4**
comp=Z,21nm,1.1s
PKCU Pink Cliffs 63.91 62 *e*P **P 07 07 46.8 -2.9**
comp=Z,17nm,1.1s
IPM Ipoh 64.16 245 *e*P **P 07 07 51.9 +0.8**
comp=Z,30nm,0.8s
OBN Obninsk 64.16 326 P **P 07 07 49.7 -0.8**
comp=Z,5.0nm,0.5s,baz=4.7,slow=23,SNR=3.8
OBN Obninsk 64.16 326 *ce*P **P 07 07 49.7 -0.8**
OBN *e* 07 08 03.3
OBN *e* 07 08 24.2
OBN *e*S **S 07 16 25.8 +3.0**
OBN pmax pmax
comp=Z,37nm,0.7s
OBN MLR MLR
comp=Z,289nm,19.0s
O20A White River Ci 64.37 58 *e*P **P 07 07 53.6 +1.2**
comp=Z,20nm,1.0s
O20A White River Ci 64.37 58 P **P 07 07 53.5 +1.0**
baz=314,SNR=8.0
IRM Iron Mountain 64.49 67 P **P 07 07 54.1 +0.9**
baz=314
MYKOM Kota Tinggi 64.69 240 *e*P **P 07 07 56.4 +1.8**
comp=Z,33nm,0.9s
MYKOM Kota Tinggi 64.69 240 P **P 07 07 57.0 +2.4**
AGMN Agassiz Nation 64.87 44 *e*P **P 07 07 55.7 +0.4**
comp=Z,23nm,1.0s
AGMN Agassiz Nation 64.87 44 P **P 07 07 55.8 +0.4**
baz=317,SNR=9.9
IKP In-Ko-Pah, Jac 64.95 69 P **P 07 07 56.7 +0.6**
baz=314
PV09 Paradox Valley 65.00 60 *e*P **P 07 07 58.3 +1.6**
PV21 Cone Mtn., Par 65.05 59 *e*P **P 07 07 58.7 +1.8**
comp=Z,15nm,0.8s
PHWY Pilot Hill 65.08 55 *e*P **P 07 07 57.9 +0.7**
comp=Z,3.7nm,1.0s
N23A Red Feather La 65.10 56 *e*P **P 07 07 58.9 +1.6**
comp=Z,17nm,0.8s
N23A Red Feather La 65.10 56 P **P 07 07 58.8 +1.6**
baz=315,SNR=17
PV23 Carpenter Ridg 65.11 60 *e*P **P 07 07 59.0 +1.6**
comp=Z,15nm,0.7s
VRH Novokhopyorsk 65.14 321 *e*P **P 07 07 52.8 -4.2**
VRH pmax pmax
comp=Z,10.0nm,0.4s
PV10 Paradox Valley 65.14 60 *e*P **P 07 07 59.0 +1.5**
Y12C Blythe 65.15 67 P **P 07 07 58.5 +1.1**
baz=314
PV14 Lion Creek, Pa 65.15 60 *e*P **P 07 07 59.3 +1.7**
comp=Z,20nm,0.9s
PV22 Blue Mesa, Par 65.17 59 *e*P **P 07 07 59.4 +1.6**
comp=Z,22nm,1.1s
LPSR Galich'ya Gora 65.20 323 *e*P **P 07 07 56.1 -1.3**
LPSR pmax pmax
comp=Z,30nm,0.7s
PV20 West Nyswonger 65.21 60 *e*P **P 07 07 59.7 +1.8**
comp=Z,25nm,0.9s
PV19 Morning Glory 65.22 60 *e*P **P 07 07 59.6 +1.5**
comp=Z,26nm,1.0s
BHPL Bhopal 65.23 277 *e*P **P 07 07 58.7 +0.6**
BHPL IAML 07 07 59.9
comp=Z,46nm,0.3s
PV17 East Wray Mesa 65.25 60 *e*P **P 07 07 60.0 +1.7**
comp=Z,31nm,0.8s
PV16 Nyswonger Mesa 65.26 60 *e*P **P 07 07 59.6 +1.3**
comp=Z,20nm,0.9s
PV11 David Mesa, Pa 65.29 60 *e*P **P 07 08 00.1 +1.6**
comp=Z,50nm,1.1s
PV18 Skein Mesa, Pa 65.31 60 *e*P **P 07 08 00.2 +1.7**
comp=Z,27nm,1.1s
PV05 Paradox Valley 65.32 60 *e*P **P 07 08 00.2 +1.5**
PV12 Saucer Basin, 65.32 60 *e*P **P 07 08 00.3 +1.7**
comp=Z,27nm,1.0s
PV03 Paradox Valley 65.33 60 *e*P **P 07 08 00.1 +1.3**
PV13 Radium Mtn., P 65.42 60 *e*P **P 07 08 01.1 +1.7**
comp=Z,25nm,0.9s
PV02 Paradox Valley 65.43 60 *e*P **P 07 08 01.0 +1.5**
comp=Z,12nm,0.9s
PV01 Paradox Valley 65.58 60 *e*P **P 07 08 01.9 +1.5**
MTN Manton Dam 65.58 206 *e*P **P 07 08 00.7 +0.6**
comp=Z,18nm,1.0s
NGP Nagpur 65.65 275 *e*P **P 07 08 01.4 +0.6**
SMCO Snowmass 65.74 58 *e*P **P 07 08 02.9 +1.3**
comp=Z,16nm,0.9s
ISCO Idaho Springs 66.05 56 *e*P **P 07 08 05.1 +1.6**
comp=Z,31nm,1.0s
ISCO Idaho Springs 66.05 56 P **P 07 08 05.0 +1.6**
baz=315,SNR=34
VSR Storozhevoye 66.17 322 *e*P **P 07 08 01.5 -2.2**
VSR pmax pmax
comp=Z,30nm,1.0s
NC405 NORSAR Array S 66.17 342 *e*P **P 07 08 03.2 -0.3**
SUSD Miller 66.19 49 P **P 07 08 04.3 +0.3**
baz=317
NC204 NORSAR Array S 66.22 342 *e*P **P 07 08 03.4 -0.5**
NB201 NORSAR Array S 66.32 342 *e*P **P 07 08 04.3 -0.2**
NB2 NORSAR Subarra 66.34 342 P **P 07 08 03.1 -1.5**
comp=Z,3.8nm,0.6s,baz=25,slow=6.5
NOA NORSAR Array B 66.34 342 P **P 07 08 03.4 -1.2**
comp=Z,4.7nm,0.6s,baz=24,slow=6.4,SNR=20
NOA LR LR 07 41 27.7
comp=Z,400nm,19.9s,baz=35,slow=40
HFS Hagfors 66.64 340 P **P 07 08 05.7 -0.8**
comp=Z,6.9nm,0.5s,baz=45,slow=2.3,SNR=32
PSI Prapat 66.75 245 P **P 07 08 08.5 +0.6**
comp=Z,24nm,0.8s,baz=360,slow=4.1,SNR=30
PSI Prapat 66.75 245 *e*P **P 07 08 08.8 +0.8**
comp=Z,34nm,1.0s
GEYT Alibeck 66.76 301 P **P 07 08 07.7 -0.1**
comp=Z,5.2nm,0.6s,baz=65,slow=7.0,SNR=13
GEYT LR LR 07 39 05.2
comp=Z,300nm,21.4s,baz=345,slow=38
GYA0B ALIBECK ARRAY 66.76 301 *e*P **P 07 08 08.3 +0.6**
comp=Z,9.1nm,0.6s
S22A 4UR Ranch, Cre 66.83 59 *e*P **P 07 08 10.3 +1.8**
comp=Z,24nm,1.0s
S22A 4UR Ranch, Cre 66.83 59 P **P 07 08 10.1 +1.6**
baz=315,SNR=18
Q24A Divide 66.89 57 *e*P **P 07 08 10.5 +1.6**
comp=Z,12nm,1.0s
Q24A Divide 66.89 57 P **P 07 08 10.1 +1.3**
baz=316,SNR=8.0
EYMN Ely 67.09 42 *e*P **P 07 08 10.2 +0.6**
comp=Z,37nm,1.0s
EYMN Ely 67.09 42 P **P 07 08 09.9 +0.3**
baz=319,SNR=9.6
OGNE Ogallala 67.15 53 *e*P **P 07 08 11.5 +1.2**
comp=Z,117nm,1.0s
OGNE Ogallala 67.15 53 P **P 07 08 11.4 +1.2**
baz=316,SNR=23
SDCO Great Sand Dun 67.57 58 *e*P **P 07 08 14.9 +1.8**
comp=Z,12nm,1.1s
SDCO Great Sand Dun 67.57 58 P **P 07 08 14.5 +1.3**
baz=316,SNR=19
NACGM Naroch 67.68 331 *e* **P 07 08 12.0 -1.1**
ECSD EROS Data Cent 67.86 48 *e*P **P 07 08 15.0 +0.5**
comp=Z,38nm,1.0s
ECSD EROS Data Cent 67.86 48 P **P 07 08 15.0 +0.5**
baz=318,SNR=23
E38A The Farm, Brul 68.08 43 *e*P **P 07 08 15.8 0.0**
comp=Z,30nm,1.0s
E38A The Farm, Brul 68.08 43 P **P 07 08 15.9 0.0**
baz=320,SNR=7.2
IVI Ivigtut 68.17 12 *e*P **P 07 08 16.6 +0.5**
comp=Z,29nm,0.6s
KSCO Kaye Shedlock' 68.23 55 *e*P **P 07 08 18.4 +1.3**
comp=Z,15nm,0.8s
KSCO Kaye Shedlock' 68.23 55 P **P 07 08 17.8 +0.7**
baz=317
F37A Hinrichs Farm, 68.26 44 P **P 07 08 17.4 +0.4**
baz=319
TUC Tucson 68.39 65 P **P 07 08 19.0 +0.9**
baz=316
F38A Pierce - Schro 68.43 44 P **P 07 08 18.6 +0.6**
baz=320,SNR=17
SPMN Marine on St. 68.56 45 *e*P **P 07 08 19.7 +0.8**
comp=Z,25nm,0.8s

SPMN Marine on St. 68.56 45 P P 07 08 19.2 +0.4
baz=319,SNR=8.4
T25A Trinidad 68.61 58 eP P 07 08 21.1 +1.5
comp=Z,12nm,0.9s
T25A Trinidad 68.61 58 P P 07 08 20.8 +1.2
baz=316,SNR=10.0
HYB Hyderabad 68.66 272 i P P 07 08 21.0 +1.1
HYB Hyderabad 68.66 272 eP P 07 08 19.1 -0.8
HYB lAmb lAmb 07 08 20.7
E39A Mellen 68.70 43 P P 07 08 19.8 +0.1
baz=320,SNR=5.2
GSI Gunungsitoli 68.74 246 eP P 07 08 21.7 +1.3
comp=Z,38nm,0.8s
BGNE Belgrade 68.82 51 eP P 07 08 21.2 +0.7
comp=Z,53nm,0.9s
BGNE Belgrade 68.82 51 P P 07 08 20.9 +0.3
baz=318,SNR=6.3
F39A Loretta 68.89 43 P P 07 08 21.2 +0.2
baz=320,SNR=7.8
E40A Wakefield 68.94 42 P P 07 08 22.1 +0.8
baz=321,SNR=7.2
ANMO Albuquerque 69.03 61 P P 07 08 23.5 +1.3
comp=Z,4.9nm,0.8s,baz=283,slow=9.6,SNR=3.8
ANMO pP pP 07 08 37.5 -0.7
comp=Z,4.9nm,0.7s,baz=342,slow=9.0,SNR=4.1
ANMO Albuquerque 69.03 61 i P P 07 08 20.8 -1.4
ANMO pmax pmax
comp=Z,13nm,1.6s
ANMO Albuquerque 69.03 61 P P 07 08 23.7 +1.5
baz=316
LAZ Ladron 69.03 61 eP P 07 08 24.4 +2.2
G38A Ridgeland 69.04 44 P P 07 08 21.7 -0.1
baz=320,SNR=8.2
H38A Maiden Rock 69.22 45 P P 07 08 23.4 +0.5
baz=320
GOF Gofitskoye 69.22 316 eP P 07 08 23.5 +0.5
F40A Park Falls 69.25 43 P P 07 08 23.3 +0.1
baz=321
G39A Holcombe 69.26 44 P P 07 08 23.1 -0.1
baz=320
E41A Kenton 69.34 42 P P 07 08 23.9 +0.2
baz=321
LPM Los Pinos Moun 69.39 61 eP P 07 08 26.5 +2.1
H39A Augusta 69.67 44 P P 07 08 26.0 +0.2
baz=320
AKT Akhty 69.68 310 eP P 07 08 26.3 +0.3
AKT e 07 08 48.6
AKT pmax pmax
comp=Z,19nm,0.6s
G40A Rib Lake 69.71 43 eP P 07 08 26.6 +0.5
comp=Z,14nm,0.9s
G40A Rib Lake 69.71 43 P P 07 08 26.3 +0.2
baz=321
E42A Champion 69.82 41 P P 07 08 26.9 +0.3
baz=322
LEM Lembang 69.83 232 P P 07 08 27.7 +0.5
comp=Z,15nm,0.3s,baz=65,slow=9.6,SNR=4.8
F41A Three Lakes 69.84 42 eP P 07 08 27.6 +0.8
comp=Z,28nm,0.9s
F41A Three Lakes 69.84 42 P P 07 08 27.1 +0.3
baz=321,SNR=5.3
CBKS Cedar Bluff 69.91 54 eP P 07 08 27.8 +0.4
comp=Z,30nm,0.9s
CBKS Cedar Bluff 69.91 54 eP P 07 08 27.8 +0.4
CBKS pmax pmax
comp=Z,30nm,0.9s
CBKS Cedar Bluff 69.91 54 P P 07 08 27.4 0.0
baz=318,SNR=5.4
H40A Chili 70.13 44 P P 07 08 28.7 +0.2
baz=321
NCK Nalchik 70.16 314 i P P 07 08 28.5 -0.3
NCK pmax pmax
comp=Z,25nm,0.7s
I39A Houston 70.20 45 eP P 07 08 29.3 +0.3
comp=Z,34nm,0.9s
I39A Houston 70.20 45 P P 07 08 28.9 -0.1
baz=320,SNR=5.7
G41A Antigo 70.21 43 P P 07 08 29.1 0.0
baz=321
KIV Kislovodsk 70.23 315 eP P 07 08 29.9 +0.6
comp=Z,20nm,0.7s
KIV Kislovodsk 70.23 315 P P 07 08 29.9 +0.6
KIV Kislovodsk 70.23 315 eP P 07 08 30.4 +1.1
KIV pmax pmax
comp=Z,28nm,1.0s
KIV MLR MLR
comp=Z,150nm,18.0s
SCHQ Schefferville 70.26 25 P P 07 08 29.1 -0.2
comp=Z,27nm,0.9s,baz=317,slow=6.2,SNR=22
SCHQ LR LR 07 41 55.9
comp=Z,144nm,21.2s,baz=4.0,slow=38
SCHQ Schefferville 70.26 25 eP P 07 08 30.1 +0.9
comp=Z,25nm,0.8s
KBZ Khabaz 70.31 315 P P 07 08 30.3 +0.7
comp=Z,18nm,0.7s,baz=70,slow=4.0,SNR=35
KBZ LR LR 07 44 30.7
comp=Z,326nm,18.6s,baz=26,slow=40
AKASG Malin Array Be 70.36 327 P P 07 08 28.6 -1.2
comp=Z,8.3nm,0.5s,baz=32,slow=6.3,SNR=30
AKASG LR LR 07 41 36.4
comp=Z,310nm,21.3s,baz=25,slow=38
AKASG Malin Array Be 70.36 327 i P P 07 08 28.3 -1.5
AKASG pmax pmax
comp=Z,8.0nm,0.5s
KIEV Kiev 70.37 327 eP P 07 08 28.4 -1.5
comp=Z,12nm,0.7s
KIEV Kiev 70.37 327 i P P 07 08 28.4 -1.5
SNR=11
KIEV Kiev 70.37 327 ⇓i P P 07 08 28.0 -1.9
KIEV pmax pmax
comp=Z,11nm,0.7s
H41A Junction City 70.46 44 eP P 07 08 31.2 +0.6
comp=Z,16nm,0.8s
H41A Junction City 70.46 44 P P 07 08 30.6 0.0
baz=321
J39A Decorah 70.51 46 P P 07 08 30.7 -0.3
baz=320,SNR=6.4
E44A Grand Marais A 70.52 40 P P 07 08 31.3 +0.4
baz=323
G42A Mountain 70.52 42 P P 07 08 31.3 +0.3
baz=322
ZEI Tsey 70.56 314 eP P 07 08 31.0 -0.5
ZEI pmax pmax
comp=Z,9.0nm,0.6s
I40A Norwalk 70.59 45 P P 07 08 31.3 0.0
baz=321
F43A Flat Rock, Esc 70.61 41 P P 07 08 31.7 +0.2
baz=322
NEY Neytrino 70.76 315 ⇓i P P 07 08 32.4 -0.3
NEY pmax pmax
comp=Z,2.0nm,0.6s
I41A Arkdale 70.80 44 eP P 07 08 33.1 +0.5
comp=Z,19nm,0.9s
I41A Arkdale 70.80 44 P P 07 08 32.7 +0.1
baz=321
G43A Wallace 70.84 42 eP P 07 08 33.2 +0.3
comp=Z,34nm,0.9s
G43A Wallace 70.84 42 P P 07 08 32.4 -0.5
baz=322
SCIA State Center 70.89 47 eP P 07 08 34.4 +1.1
comp=Z,69nm,0.8s
SCIA State Center 70.89 47 P P 07 08 33.0 -0.2
baz=320,SNR=7.8
K39A Oelwein 70.91 46 P P 07 08 32.9 -0.5
baz=320
J40A Soldiers Grove 70.91 45 P P 07 08 33.2 -0.2
baz=321
POO Poona 70.92 276 eP P 07 08 35.0 +1.2
TBLG Delisi 70.96 312 eP P 07 08 35.5 +1.8
comp=Z,21nm,0.7s
TBLG Delisi 70.96 312 eP P 07 08 35.6 +1.8
TBLG pmax pmax
comp=Z,21nm,0.7s
E45A Wooded Hills, 71.04 40 P P 07 08 34.0 0.0
baz=323
K40A Colesburg 71.26 46 P P 07 08 35.3 -0.1
baz=321
J41A Loganville 71.27 45 P P 07 08 35.6 +0.1
baz=321
L39A Vinton 71.30 47 P P 07 08 35.9 +0.2
baz=320,SNR=5.4
KSU1 Kansas State U 71.32 51 eP P 07 08 35.6 -0.3
comp=Z,20nm,0.8s
KSU1 Kansas State U 71.32 51 P P 07 08 35.2 -0.7
baz=319,SNR=5.1
I42A Draeger Farm, 71.36 44 P P 07 08 36.0 0.0
baz=322

H43A Windswept, Lux 71.42 43 P P 07 08 35.9 -0.5
baz=322
WRAB Tennant Creek 71.51 201 eP P 07 08 37.0 -0.1
comp=Z,22nm,1.0s
WRAB Tennant Creek 71.51 201 eP P 07 08 37.0 -0.1
WRAB pmax pmax
comp=Z,22nm,1.0s
JFWS Jewell Farm 71.51 45 P P 07 08 36.6 -0.4
baz=321
WB2 Warramunga Arr 71.52 201 eP P 07 08 37.1 0.0
WRA Warramunga Arr 71.52 201 P P 07 08 37.0 -0.1
comp=Z,14nm,0.8s,baz=16,slow=6.3,SNR=91
WRA LR LR 07 39 59.4
comp=Z,49nm,20.1s,baz=10.0,slow=36
F46A Macinaw City C 71.68 40 P P 07 08 38.0 +0.1
baz=323
DZM Mont Dzumac 71.71 170 eP P 07 08 32.8 -5.5
comp=Z,51nm,1.3s
DZM Mont Dzumac 71.71 170 eLR LR 07 30 26.0
comp=Z,354nm,26.3s
I43A Langenfeld Bro 71.71 43 P P 07 08 38.2 0.0
baz=322
J42A Columbus 71.72 44 P P 07 08 38.2 0.0
baz=322
M39A Webster 71.72 47 P P 07 08 38.4 +0.2
baz=321,SNR=13
L40A Anamosa 71.72 46 eP P 07 08 38.5 +0.3
comp=Z,24nm,0.9s
L40A Anamosa 71.72 46 P P 07 08 38.1 -0.2
baz=321
K41A Shullsburg 71.72 45 P P 07 08 38.3 0.0
baz=321
AMTX Amarillo 71.76 58 eP P 07 08 40.1 +1.4
comp=Z,24nm,1.1s
AMTX Amarillo 71.76 58 P P 07 08 39.4 +0.7
baz=318
MSTX Muleshoe 71.83 59 eP P 07 08 40.4 +1.2
comp=Z,31nm,1.1s
MSTX Muleshoe 71.83 59 P P 07 08 40.0 +0.8
baz=318,SNR=5.3
ANN Anapa 71.92 319 eP P 07 08 30.8 -8.6
ANN pmax pmax
comp=Z,124nm,2.0s
J43A Natural Harves 71.98 44 P P 07 08 39.5 -0.3
baz=322
MNTX Cornudas Mount 72.00 62 eP P 07 08 41.3 +1.2
comp=Z,11nm,1.0s
MNTX Coudas Mount 72.00 62 P P 07 08 41.4 +1.2
baz=318,SNR=6.7
N39A Derby Farms, D 72.02 48 eP P 07 08 40.6 +0.6
comp=Z,22nm,0.9s
N39A Derby Farms, D 72.02 48 P P 07 08 40.3 +0.3
baz=321,SNR=5.2
K42A Prairie Point, 72.03 45 P P 07 08 39.9 -0.3
baz=322
L41A Preston 72.05 46 P P 07 08 40.1 -0.1
baz=321,SNR=5.2
M40A Post Highland 72.09 47 P P 07 08 40.6 +0.1
baz=321,SNR=8.2
U32A Winter Ranch, 72.11 55 eP P 07 08 41.6 +0.9
comp=Z,22nm,1.0s
GNI Garni 72.17 311 P P 07 08 41.8 +0.6
comp=Z,14nm,0.6s,baz=17,slow=20,SNR=6.1
GNI LR LR 07 46 07.1
comp=Z,223nm,18.4s,baz=46,slow=41
GNI Garni 72.17 311 eP P 07 08 43.3 +2.2
comp=Z,24nm,0.6s
GNI Garni 72.17 311 P P 07 08 43.4 +2.2
GNI Garni 72.17 311 P P 07 08 42.8 +1.6
GNI Garni 72.17 311 c iP P 07 08 42.4 +1.2
GNI pmax pmax
comp=Z,126nm,1.6s
FITZ Fitzroy Crossi 72.23 210 P P 07 08 42.2 +0.9
comp=Z,12nm,0.7s,baz=30,slow=6.0,SNR=28
FITZ Fitzroy Crossi 72.23 210 eP P 07 08 42.3 +0.9
comp=Z,16nm,0.8s
MDO Dochfour 72.34 349 eP P 07 08 41.4 -0.3
KAC Achnashellach 72.40 349 eP P 07 08 41.5 -0.6
N40A Mertquake, Sal 72.46 47 P P 07 08 43.0 +0.4
baz=321,SNR=7.5
L42A Oliver, Polo 72.49 45 eP P 07 08 42.9 0.0
comp=Z,36nm,1.0s
L42A Oliver, Polo 72.49 45 P P 07 08 42.6 -0.3
baz=322
GLMI Grayling 72.50 40 P P 07 08 43.0 +0.1
baz=324
K43A Burlington 72.56 44 P P 07 08 43.0 -0.2
baz=322
M41A Milan 72.57 46 P P 07 08 43.2 -0.1
baz=321,SNR=5.6
SORM Soroca 72.81 326 ⇑i P P 07 08 44.0 -0.7
SORM Soroca 72.81 326 P P 07 08 43.9 -0.7
M42A Sheffield 72.88 46 P P 07 08 44.9 -0.3
baz=322
N41A Haren Midland 72.94 47 eP P 07 08 46.0 +0.4
comp=Z,65nm,0.9s
N41A Harden Midland 72.94 47 P P 07 08 45.8 +0.3
baz=321,SNR=13
N42A Yates City 73.24 46 P P 07 08 47.3 +0.1
baz=322,SNR=5.1
O41A Passleys Farm, 73.39 47 P P 07 08 48.5 +0.3
baz=322,SNR=7.8
WMOK Wichita Mounta 73.46 56 eP P 07 08 49.5 +0.8
WMOK Wichita Mounta 73.46 56 eP P 07 08 49.5 +0.8
WMOK Wichita Mounta 73.46 56 P P 07 08 49.4 +0.8
baz=319,SNR=25
KWP Kalwaria Pacla 73.48 330 eP P 07 08 48.6 0.0
KWP Kalwaria Pacla 73.48 330 eP P 07 08 48.9 +0.3
comp=Z,372nm,0.6s
KWP Kalwaria Pacla 73.48 330 eP P 07 08 48.9 +0.3
N43A Stutzman Famil 73.56 46 P P 07 08 49.3 +0.1
baz=322
EAB Aberfoyle 73.56 349 eP P 07 08 48.7 -0.2
KIS Kishinev 73.60 325 eP P 07 09 12.0 +23
KIS LRM MLR 07 42 40.0
comp=Z,400nm,20.0s
LAWE Loch Awe, Argy 73.62 349 eP P 07 08 49.1 -0.1
P41A Barry, Barry 73.64 48 P P 07 08 50.1 +0.4
baz=322,SNR=13
J47A Sunmer 73.69 42 P P 07 08 50.5 +0.5
baz=324
O42A Bath 73.71 47 P P 07 08 50.1 +0.1
baz=322
K46A Dorr 73.71 42 P P 07 08 50.0 0.0
baz=324
D54A Lac Fusel, La 73.75 34 P P 07 08 50.0 -0.2
baz=328
HDIL Hopedale 73.80 46 eP P 07 08 51.0 +0.4
comp=Z,53nm,0.9s
HDIL Hopedale 73.80 46 P P 07 08 50.8 +0.2
baz=322,SNR=7.6
OJC Ojcow 73.88 332 eP P 07 08 50.6 -0.3
OJC Ojcow 73.88 332 eP P 07 08 50.7 -0.2
comp=Z,29nm,0.5s
OJC Ojcow 73.88 332 eP P 07 08 50.6 -0.3
E53A Dumoine, Ponti 74.02 35 P P 07 08 52.1 +0.3
baz=327
P42A Winchester 74.06 47 eP P 07 08 52.8 +0.6
comp=Z,34nm,1.1s
P42A Winchester 74.06 47 P P 07 08 52.5 +0.4
baz=322,SNR=6.0
K47A Vermontville 74.07 42 P P 07 08 52.3 +0.1
baz=324
Q41A Truxton 74.12 48 P P 07 08 53.0 +0.5
baz=322,SNR=16
E54A Lac Daplat, Po 74.15 35 P P 07 08 52.2 -0.4
baz=327
N44A Piper City 74.15 45 P P 07 08 52.8 +0.1
baz=323
TUL1 Leonard 74.16 53 eP P 07 08 53.5 +0.7
comp=Z,21nm,0.7s
TUL1 Leonard 74.16 53 P P 07 08 53.4 +0.6
baz=320,SNR=9.5
LEOM Leova 74.25 325 ⇓i P P 07 08 53.7 +0.6
LEOM Leova 74.25 325 P P 07 08 53.6 +0.5
KSP Ksiaz 74.35 335 eP P 07 08 53.6 -0.1
KSP Ksiaz 74.35 335 eP P 07 08 53.6 -0.1
BUR08 Bucovina Ar. S 74.36 328 eP P 07 08 53.7 -0.1
BUR04 Bucovina Ar. S 74.37 328 eP P 07 08 53.2 -0.7
BURAR Bucovina Array 74.38 328 ⇓i P P 07 08 53.7 -0.3
BURAR Bucovina Array 74.38 328 P P 07 08 53.7 -0.3
P43A Skaggs, Pawnee 74.41 47 P P 07 08 54.4 +0.2
baz=322
NIE Niedzica 74.44 332 eP P 07 08 54.5 +0.3
NIE Niedzica 74.44 332 eP P 07 08 54.5 +0.3
UZH Uzhgorod 74.49 330 eP P 07 08 44.2 -10
Q42A Golden Eagle 74.50 48 P P 07 08 55.2 +0.5
baz=322,SNR=16
L47A Sherwood 74.54 43 P P 07 08 54.9 +0.1
baz=324
R41A Rosebud 74.56 49 P P 07 08 55.2 +0.1
baz=322,SNR=10.0
ABTX Abilene, Hawle 74.57 58 eP P 07 08 55.5 +0.3
comp=Z,21nm,0.9s
ABTX Abilene, Hawle 74.57 58 P P 07 08 56.2 +0.9
baz=319,SNR=7.0
BIZ Bicaz 74.64 327 ⇑i P P 07 08 55.2 -0.2
K49A Clarkson 74.65 41 P P 07 08 56.3 +0.8
baz=325,SNR=7.5
OKC Ostrava-Krasne 74.72 333 eP P 07 08 56.5 +0.7
OKC ex x 07 09 03.7
OKC AMS AMS 07 44 20.0
comp=Z,500nm,23.3s
OKC Ostrava-Krasne 74.72 333 eP P 07 08 56.5 +0.7
OKC e 07 09 03.7
OKC MLR MLR
comp=Z,500nm,23.3s
TX31 Lajitas Ar. Si 74.74 63 eP P 07 08 57.4 +1.0
TXAR Lajitas Array 74.74 63 P P 07 08 57.3 +0.9
comp=Z,10nm,0.7s,baz=299,slow=4.1,SNR=20
TXAR pP PcP 07 09 11.2 +0.9
comp=Z,14nm,0.7s,baz=291,slow=4.2,SNR=13
PALK Pallekele 74.75 263 P P 07 08 57.4 +0.9
PALK Pallekele 74.75 263 i P P 07 08 58.4 +1.9
O45A Potomac 74.78 45 P P 07 08 56.7 +0.5
baz=323
DPC Dobruska-Polom 74.79 334 eP P 07 08 56.8 +0.6
DPC ex x 07 09 03.0
DPC AMS AMS 07 45 00.0
comp=Z,600nm,21.9s
DPC Dobruska-Polom 74.79 334 eP P 07 08 56.8 +0.6
DPC e 07 09 03.0
DPC MLR MLR
comp=Z,600nm,21.9s
SADO Sadowa 74.79 37 P P 07 08 55.5 -0.8
comp=Z,11nm,1.1s,baz=288,slow=3.2,SNR=2.5
CCM Cathedral Cave 74.82 49 eP P 07 08 57.0 +0.5
comp=Z,27nm,1.0s
CCM Cathedral Cave 74.82 49 eP P 07 08 57.0 +0.5
CCM pmax pmax
comp=Z,27nm,1.0s
CCM Cathedral Cave 74.82 49 P P 07 08 56.7 +0.2
baz=322
CLL Collm 74.82 337 eP P 07 08 56.0 -0.3
comp=Z,26nm,1.1s
CLL Collm 74.82 337 ⇓i P P 07 08 56.5 +0.2
comp=Z,23nm,0.9s
CLL e(SS) 07 23 48.0
CLL Lm MLR 07 46 00.0
comp=Z,300nm,18.4s
CLL Collm 74.82 337 eP P 07 08 56.0 -0.3
CLL pmax pmax
comp=Z,26nm,1.1s
HHAR Hobbs 74.84 52 eP P 07 08 57.1 +0.4
comp=Z,16nm,0.8s
TRPA Tarpa 74.84 330 ⇑i P P 07 08 56.7 +0.2
M47A Cromwell 74.85 43 P P 07 08 56.7 0.0
baz=324
CLGH Cloghs, Cushen 74.86 349 eP P 07 08 56.5 0.0
CLGH lAmb lAmb 07 08 58.5
comp=Z,19nm,0.8s
R42A Luebbering 74.86 48 P P 07 08 57.1 +0.3
baz=322,SNR=10
Q43A New Douglas 74.88 47 P P 07 08 57.2 +0.3
baz=322
KRLC Kraliky 74.90 334 eP P 07 09 03.1 +6.2
KRLC Kraliky 74.90 334 eP P 07 09 03.1 +6.2
L48A N Adams 74.90 42 P P 07 08 57.4 +0.4
baz=324
LANS Liptovska Anna 74.93 332 eP P 07 08 58.4 +1.3
LANS Liptovska Anna 74.93 332 eP P 07 08 58.4 +1.3
S41A Jillco Farms, 74.93 49 P P 07 08 57.2 -0.1
baz=322,SNR=8.8
MORC Moravsky Berou 74.95 333 eP P 07 08 56.8 -0.4
comp=Z,25nm,0.7s
MORC Moravsky Berou 74.95 333 ⇑i P P 07 08 57.6 +0.4
MORC Moravsky Berou 74.95 333 eP P 07 08 56.8 -0.4
MORC pmax pmax
comp=Z,25nm,0.7s
MORC Moravsky Berou 74.95 333 eP P 07 08 57.3 +0.1
AAM Ann Arbor 74.95 41 eP P 07 08 57.8 +0.6
comp=Z,33nm,1.0s
AAM Ann Arbor 74.95 41 eP P 07 08 57.8 +0.6
AAM pmax pmax
comp=Z,33nm,1.0s
AAM Ann Arbor 74.95 41 P P 07 08 57.5 +0.3
baz=325
SFIN Lafayette 74.96 45 eP P 07 08 57.7 +0.4
comp=Z,17nm,0.9s
SFIN Lafayette 74.96 45 P P 07 08 57.4 0.0
baz=320
BRG Berggiesshubel 74.97 336 eP P 07 08 57.2 0.0
comp=Z,8.0nm,0.9s
BRG Berggiesshubel 74.97 336 eP P 07 08 57.2 0.0
BRG pmax pmax
comp=Z,8.0nm,0.9s
CUKT Cukurca 74.97 310 eP P 07 08 56.9 -0.7
P44A Sand Creek, Wi 74.97 46 P P 07 08 57.8 +0.3
baz=323
BNGB Bing ¶‖ 75.04 313 eP P 07 08 59.4 +1.4
L49A Milan 75.06 42 P P 07 08 58.2 +0.3
baz=325
PVCC Panska Ves 75.11 336 eP P 07 08 59.7 +1.7
PVCC AMS AMS 07 45 00.0
comp=Z,600nm,16.1s
PVCC Panska Ves 75.11 336 eP P 07 08 59.7 +1.7
PVCC MLR MLR
comp=Z,600nm,16.1s
TLCR 75.12 324 ⇑i P P 07 08 57.8 -0.3
ARCR ARCALIA 75.13 328 ⇑i P P 07 08 59.3 +1.1
AS01 Alice Springs 75.20 201 eP P 07 08 58.7 0.0
N47A Urbana 75.20 44 P P 07 08 58.9 +0.2
baz=324
AS31 Alice Springs 75.21 201 eP P 07 08 59.7 +0.9
comp=Z,3.3nm,0.6s
ASAR Alice Springs 75.21 201 P P 07 08 59.7 +0.9
comp=Z,9.3nm,0.7s,baz=12,slow=5.7,SNR=62
ASAR pP PcP 07 09 14.2 +2.2
comp=Z,5.9nm,0.6s,baz=14,slow=5.3,SNR=7.9
ASAR LR LR 07 41 54.2
comp=Z,46nm,19.9s,baz=15,slow=36
Q44A Meyer Farm, Va 75.23 47 P P 07 08 59.2 +0.3
baz=322,SNR=5.0
S42A Caledonia 75.26 49 P P 07 08 59.4 +0.2
baz=322,SNR=14
FVM French Village 75.28 48 eP P 07 08 59.9 +0.7
comp=Z,20nm,0.8s
FVM French Village 75.28 48 eP P 07 08 59.9 +0.7
FVM pmax pmax
comp=Z,20nm,0.8s
R43A Red Bud 75.29 48 P P 07 08 59.4 +0.2
baz=322,SNR=7.3
VRI Vrincioaia 75.33 326 ⇓i P P 07 09 00.4 +1.0
VRI Vrincioaia 75.33 326 P P 07 09 00.4 +1.0
U40A Yellville 75.33 51 P P 07 08 59.5 0.0
baz=321,SNR=20
HPK Haverah Park 75.34 346 eP P 07 08 59.4 +0.2
P45A Graceland, Par 75.34 46 P P 07 08 59.7 +0.1
baz=323
T41A Mountain View 75.35 50 P P 07 08 59.4 -0.2
baz=322,SNR=8.7
PLOR Plostina 75.37 326 ⇑i P P 07 09 00.5 +0.9
PLOR Plostina 75.37 326 P P 07 09 00.5 +0.9
CFR Carcaliu 75.38 325 ⇓i P P 07 08 59.9 +0.3
CFR Carcaliu 75.38 325 P P 07 08 59.7 +0.1
CFR pmax pmax
comp=Z,22nm,0.7s
SVAN Silvan-Diyarba 75.45 312 eP P 07 09 01.7 +1.4
O47A Sheridan 75.50 44 P P 07 09 00.2 -0.3
baz=324
N48A Decatur 75.52 43 P P 07 09 00.5 0.0
baz=324,SNR=6.1
P46A Rosedale 75.52 45 P P 07 09 00.8 +0.3
baz=323,SNR=6.0
PRA Prague 75.57 335 eP P 07 09 01.5 +0.9
PRA Prague 75.57 335 eP P 07 09 01.5 +0.9
WIM Isle of Man 75.59 348 eP P 07 09 00.4 -0.3
GOPC GO Pecny, Ondr 75.61 335 eP P 07 09 01.5 +0.6
GOPC AMS AMS 07 45 10.0
comp=Z,800nm,18.4s
GOPC GO Pecny, Ondr 75.61 335 eP P 07 09 01.5 +0.6
GOPC MLR MLR
comp=Z,800nm,18.4s

VRAC Vranov 75.65 334 P P 07 09 01.4 +0.3
comp=Z,24nm,0.6s,baz=32,slow=5.7,SNR=24
VRAC Vranov 75.65 334⇑ *i*P P 07 09 02.2 +1.1
VRAC Vranov 75.65 334 *e*P P 07 09 01.6 +0.5
Q45A Warren Harvey, 75.65 46 P P 07 09 01.8 +0.5
baz=323,SNR=7.1
WTSB Winterswijk 75.68 341 *e*P P 07 09 01.7 +0.5
comp=Z,53nm,1.2s
T42A Van Buren 75.69 49 *e*P P 07 09 01.9 +0.3
comp=Z,13nm,1.0s
T42A Van Buren 75.69 49 P P 07 09 01.5 0.0
baz=322,SNR=6.3
VYHS Vyhne 75.70 332 *e*P P
VYHS pmax pmax 07 09 01.5 0.0
comp=Z,12nm,0.7s
VYHS Vyhne 75.70 332 *e*P P 07 09 01.5 0.0
CJR Cluj-Napoca 75.71 328⇑ *i*P P 07 09 02.2 +0.6
CJR Cluj-Napoca 75.71 328 P P 07 09 02.1 +0.5
R44A Waltonville 75.72 47 P P 07 09 02.0 +0.3
baz=323,SNR=5.1
JAVC Velka Javorina 75.73 333 *e*P P 07 09 02.9 +1.2
PTK Pertek 75.73 314 *e*P P 07 09 03.3 +1.2
W39A Magazine 75.75 52 *e*P P 07 09 02.7 +0.7
comp=Z,28nm,1.1s
W39A Magazine 75.75 52 P P 07 09 02.3 +0.3
baz=321,SNR=8.0
KOLL Kolacno 75.76 332 *e*P P 07 09 02.5 +0.7
KOLL Kolacno 75.76 332 *e*P P 07 09 02.5 +0.7
S43A Fulton Ridge, 75.77 48 P P 07 09 02.2 +0.1
baz=322,SNR=9.8
V40A Witts Springs 75.78 51 *e*P P 07 09 02.1 -0.1
comp=Z,33nm,1.1s
V40A Witts Springs 75.78 51 P P 07 09 02.0 -0.2
baz=321,SNR=14
MOX Moxa 75.78 337 P P
MOX pmax pmax 07 09 02.7 +0.8
comp=Z,18nm,1.3s
OLIL Olney 75.80 46 *e*P P 07 09 02.5 +0.3
comp=Z,23nm,0.8s
U41A Viola 75.82 50 P P 07 09 02.3 -0.1
baz=322,SNR=6.8
N49A Columbus Grove 75.84 43 P P 07 09 02.5 +0.2
baz=325
HARR Harsova 75.87 324⇑ *i*P P 07 09 02.8 +0.3
HARR Harsova 75.87 324 P P 07 09 02.7 +0.3
PSZ Piszkesteto 75.88 331 *e*P P 07 09 03.3 +0.7
comp=Z,13nm,0.8s
PSZ Piszkesteto 75.88 331⇓ *i*P P 07 09 03.8 +1.2
PSZ Piszkesteto 75.88 331⇓ *e*SKKPdf P 07 09 03.6 +1.0
PSZ Piszkesteto 75.88 331 *e*P P
PSZ pmax pmax 07 09 03.3 +0.7
comp=Z,13nm,0.8s
LBWR Ladybower, Pea 75.89 346 *e*P P
LBWR IAmb IAmb 07 09 02.0 -0.5
07 09 03.5
comp=Z,103nm,1.3s
TLB Topalu 75.92 324⇑ *i*P P 07 09 02.5 -0.2
TLB Topalu 75.92 324 P P 07 09 02.5 -0.2
KRUC Moravsky 75.92 334 P P
KRUC pmax pmax 07 09 03.5 +0.8
comp=Z,27nm,1.3s
KRUC Moravsky 75.92 334 *e*P P 07 09 03.0 +0.3
MLR Muntele Rosu 75.93 326 P P 07 09 03.1 +0.7
comp=Z,16nm,0.5s,baz=341,slow=2.2,SNR=16
MLR Muntele Rosu 75.93 326 *e*P P 07 09 03.7 +0.7
comp=Z,16nm,0.6s
MLR Muntele Rosu 75.93 326⇑ *i*P P 07 09 02.5 -0.5
NKC Novy Kostel 75.94 337 *e*P P 07 09 03.2 +0.4
NKC *ex* x 07 09 08.3
NKC Novy Kostel 75.94 337 *e*P P 07 09 03.2 +0.4
NKC *e* 07 09 08.3
O48A Farmland 75.94 44 P P 07 09 02.8 -0.1
baz=324,SNR=6.6
DRGR 75.95 329⇓ *i*P P 07 09 03.1 +0.1
DRGR 75.95 329 P P 07 09 03.1 +0.1
TREC Trest 75.97 334 AMS AMS 07 44 20.0
comp=Z,500nm,17.2s
SVSK Karacayir 76.02 316 *e*P P 07 09 04.6 +1.2
ISR Istrita 76.03 326⇑ *i*P P 07 09 04.6 +1.1
ISR Istrita 76.03 326 P P 07 09 05.2 +1.7
ISR pmax pmax
comp=Z,62nm,1.0s
T43A Greenville 76.05 49 P P 07 09 03.8 +0.2
baz=322,SNR=6.0
P47A Martinsville 76.06 45 P P 07 09 03.6 0.0
baz=324,SNR=5.9
R45A Skylar, Fairfi 76.07 47 P P 07 09 04.0 +0.3
baz=323
S44A Carbondale 76.07 48 P P 07 09 04.1 +0.4
baz=323,SNR=5.8
SIUC Southern Illin 76.08 48 *e*P P 07 09 04.6 +0.8
comp=Z,22nm,0.8s
JCT Junction City 76.10 59 *e*P P 07 09 04.8 +0.7
comp=Z,28nm,1.1s
JCT Junction City 76.10 59 *e*P P
JCT pmax pmax 07 09 04.8 +0.7
comp=Z,28nm,1.1s
JCT Junction City 76.10 59 P P 07 09 04.8 +0.7
baz=320
SMOL Smolenice 76.11 333 *e*P P 07 09 05.0 +1.2
SMOL Smolenice 76.11 333 *e*P P 07 09 05.0 +1.2
X39A Fountain Ranch 76.11 53 P P 07 09 04.7 +0.7
baz=321,SNR=10
W40A Ferguson Farm, 76.13 52 *e*P P 07 09 04.6 +0.5
comp=Z,45nm,0.8s
W40A Ferguson Farm, 76.13 52 P P 07 09 04.5 +0.5
baz=321,SNR=11
V41A Mountainview 76.13 51 P P 07 09 04.0 -0.1
baz=322,SNR=12
U42A Revenden 76.15 50 P P 07 09 04.2 0.0
baz=322
PBMO Poplar Bluff 76.22 49 *e*P P 07 09 05.4 +0.8
comp=Z,19nm,0.9s
WHTX Lake Whitney, 76.26 57 *e*P P 07 09 06.0 +1.2
comp=Z,24nm,0.9s
WHTX *ep*P **PcP** 07 09 18.1 +1.4
WHTX Lake Whitney, 76.26 57 P P 07 09 05.5 +0.6
baz=320,SNR=9.6
MODS Modra-Piesok 76.28 333 *e*P P 07 09 05.0 +0.2
MODS pmax pmax
comp=Z,20nm,0.8s
MODS Modra-Piesok 76.28 333 *e*P P 07 09 05.0 +0.2
VOIR 76.30 327⇑ *i*P P 07 09 05.9 +0.9
VOIR 76.30 327 P P 07 09 05.7 +0.7
MAZI Mazidag 76.36 312 *e*P P 07 09 05.5 -0.1
MIAR Mount Ida 76.37 53 *e*P P 07 09 06.2 +0.7
comp=Z,27nm,0.8s
MIAR Mount Ida 76.37 53 *e*P P
MIAR pmax pmax 07 09 06.2 +0.7
comp=Z,27nm,0.8s
MIAR Mount Ida 76.37 53 P P 07 09 05.9 +0.5
baz=321,SNR=18
O49A Covington 76.37 43 P P 07 09 05.6 +0.2
baz=325
T44A Benton 76.39 48 P P 07 09 06.1 +0.6
baz=323
S45A Carrier Mills 76.41 47 P P 07 09 06.0 +0.3
baz=323
N50A Nevada 76.42 42 P P 07 09 05.9 +0.2
baz=325
Q47A Bedord North L 76.43 45 P P 07 09 06.0 +0.2
baz=324
WHAR Wooly Hollow 76.45 51 *e*P P 07 09 06.5 +0.6
comp=Z,28nm,1.1s
P48A Milroy 76.47 44 P P 07 09 05.9 -0.1
baz=324,SNR=6.8
CWF Charnwood Fore 76.47 346 *e*P P 07 09 05.8 +0.2
R46A Gibon Southern 76.50 46 P P 07 09 06.6 +0.4
baz=323
V42A Cord 76.50 50 P P 07 09 06.0 -0.2
baz=322,SNR=9.7
ARR Arges 76.51 327⇓ *i*P P 07 09 07.2 +1.0
BUD Budapest 76.54 331 P P
BUD pmax pmax 07 09 07.6 +1.4
comp=Z,34nm,1.0s
ILGA Ilgaz 76.55 319 *e*P P 07 09 08.8 +2.1
comp=Z,29nm,0.8s
U43A Rector 76.55 49 P P 07 09 06.8 +0.3
baz=322,SNR=5.7
SHME Shamm 76.56 294 P P 07 09 07.6 +0.8
W41B Gary Mavity, V 76.56 51 *e*P P 07 09 06.7 +0.2
comp=Z,33nm,0.9s
W41B Gary Mavity, V 76.56 51 P P 07 09 06.8 +0.2
baz=322,SNR=14
FOEL Foel Wylfa 76.61 347 *e*P P 07 09 06.8 +0.3
USIN University of 76.62 47 *e*P P 07 09 07.9 +1.1
comp=Z,65nm,1.0s

N51A Ashland 76.64 41 P P 07 09 07.0 +0.1
baz=325
PARMO Parma 76.64 49 *e*P P 07 09 08.3 +1.3
comp=Z,90nm,0.9s
KHC Kasperske Hory 76.65 336 *e*P P 07 09 07.6 +0.7
comp=Z,10nm,0.8s
KHC Kasperske Hory 76.65 336 *e*P P 07 09 07.7 +0.8
KHC *ex* x 07 09 12.9
KHC AMS AMS 07 46 00.0
comp=Z,700nm,17.9s
KHC Kasperske Hory 76.65 336 *e*P P 07 09 07.6 +0.7
KHC pmax pmax
comp=Z,10.0nm,0.8s
LONY Lake Ozonia 76.66 34 P P 07 09 06.8 -0.2
baz=329
LLW Llanuwychllyn 76.72 347 *e*P P 07 09 07.7 +0.6
O50A Cable 76.72 43 P P 07 09 07.6 +0.2
baz=325
P49A Miami Univ. Ec 76.73 44 P P 07 09 07.5 +0.1
baz=324
Q48A North Vernon 76.75 45 P P 07 09 07.8 +0.2
baz=324
GRF Grafenberg Arr 76.76 337 P P
GRF pmax pmax 07 09 08.5 +1.1
comp=Z,50nm,1.1s
GRFO Grafenberg 76.76 337 *e*P P 07 09 08.2 +0.8
comp=Z,30nm,0.8s
GRFO Grafenberg 76.76 337 *e*P P
GRFO pmax pmax 07 09 08.2 +0.8
comp=Z,30nm,0.8s
SIRR Siria 76.76 329⇓ *i*P P 07 09 14.8 +7.3
X40A Basin Creek Fa 76.80 52 *e*P P 07 09 08.8 +0.9
comp=Z,11nm,1.0s
X40A Basin Creek Fa 76.80 52 P P 07 09 08.3 +0.4
baz=322,SNR=6.4
S46A Don Dixon Farm 76.82 47 P P 07 09 08.4 +0.4
baz=323
WET Wettzell 76.83 336 P P
WET pmax pmax 07 09 08.7 +0.8
comp=Z,30nm,0.8s
CORM Corum 76.87 318 *e*P P 07 09 07.7 -0.7
GEC2 GERESS Array S 76.88 335 *e*P P 07 09 08.4 +0.2
comp=Z,13nm,0.7s
GEC2 GERESS Array S 76.88 335 *e*P P
GEC2 pmax pmax 07 09 08.5 +0.2
comp=Z,13nm,0.7s
GERES GERESS Array B 76.88 335 P P 07 09 08.6 +0.3
comp=Z,9.5nm,0.6s,baz=36,slow=5.5,SNR=75
GERES LR LR 07 46 53.3
comp=Z,742nm,20.4s,baz=32,slow=39
DARE Darende-Malaty 76.88 315 *e*P P 07 09 08.6 +0.1
GEA0 GERESS Array S 76.89 335 *e*P P 07 09 08.1 -0.2
R47A Wooly Knot Far 76.89 46 P P 07 09 08.8 +0.4
baz=324,SNR=6.7
GRB1 Grafenberg Arr 76.92 337 P P 07 09 09.8 +1.4
HLM1 Long Mynd 76.92 347 *e*P P 07 09 08.0 -0.3
Y40A Okolona 76.93 53 P P 07 09 08.9 +0.3
baz=321
X41A Kaden, Bauxite 76.96 52 P P 07 09 09.2 +0.4
baz=322
MMNY Mt. Morris Dam 76.99 38 *e*P P 07 09 09.1 +0.3
comp=Z,30nm,1.2s
HGN Heimansgroeve 77.00 341 *e*P P 07 09 09.2 +0.5
comp=Z,66nm,1.0s
BEBN Eben Emael 77.02 341 ⇓P P 07 09 09.6 +0.7
WCI Wyandotte Cave 77.06 46 *e*P P 07 09 10.3 +0.9
comp=Z,40nm,0.8s
WCI Wyandotte Cave 77.06 46 P P
WCI pmax pmax 07 09 10.2 +0.9
comp=Z,53nm,0.9s
WCI Wyandotte Cave 77.06 46 P P 07 09 09.8 +0.5
baz=324
MSFE Esma-Masafi 77.06 294 P P 07 09 10.3 +0.8
GNAR Gosnell 77.06 49 *e*P P 07 09 10.8 +1.5
comp=Z,51nm,0.9s
Q49A Aurora 77.08 44 P P 07 09 09.6 +0.2
baz=324
P50A Jamestown 77.08 43 P P 07 09 09.4 -0.1
baz=325,SNR=5.1
CONA Conrad Observa 77.10 334 *i*P P 07 09 10.8 +1.3
comp=Z,27nm,0.7s,SNR=8.8
R48A Northridge Ran 77.11 45 P P 07 09 10.0 +0.4
baz=324
MBWA Marble Bar 77.12 214 *e*P P 07 09 10.3 +0.7
comp=Z,18nm,0.9s
SOP Sopron 77.12 333⇓ *e*SKKPdf P 07 09 10.8 +1.3
SOP Sopron 77.12 333 P P 07 09 10.7 +1.2
SOP pmax pmax
comp=Z,38nm,1.0s
MEM Membach 77.13 341 P P 07 09 10.5 +1.0
MEM pmax pmax
comp=Z,55nm,0.9s
MEM Membach 77.13 341 ⇓P P 07 09 10.1 +0.6
comp=Z,40nm,1.0s
GZR Gura Zlata 77.14 328⇓ *i*P P 07 09 10.1 +0.3
O51A Pataskala 77.17 42 P P 07 09 10.1 +0.2
baz=325
T46A Princeton 77.25 47 P P 07 09 11.3 +0.9
baz=323,SNR=18
S47A Hartford 77.29 46 P P 07 09 10.9 +0.3
baz=324
M54A Oil Creek Stat 77.30 39 P P 07 09 10.9 +0.3
baz=327
GRC1 Grafenberg Arr 77.32 337 P P 07 09 11.4 +0.8
UOSS Minazif 77.34 293 *e*P P 07 09 11.5 +0.4
comp=Z,15nm,0.8s
UOSS Minazif 77.34 293 P P 07 09 11.7 +0.6
UOSS Minazif 77.34 293 P P 07 09 11.0 -0.1
BZS Buzias 77.35 329⇑ *i*P P 07 09 11.0 +0.2
BZS Buzias 77.35 329 P P 07 09 10.7 -0.1
BZS pmax pmax
comp=Z,45nm,0.9s
X42A Stuttgart 77.36 51 P P 07 09 11.4 +0.3
baz=322
U45A Rockin P Farm, 77.38 48 P P 07 09 11.6 +0.5
baz=323
Y41A Eaglette Beard 77.38 52 P P 07 09 11.8 +0.6
baz=322
BCLA Clavier 77.45 341 ⇓P P 07 09 11.8 +0.5
comp=Z,21nm,1.0s
Z40A Long Farm, Mag 77.46 53 P P 07 09 12.6 +1.0
baz=322
HATD Hatta, Dubai 77.48 293 P P 07 09 11.1 -0.8
SNR=6.0
HATD Hatta, Dubai 77.48 293 P P 07 09 12.2 +0.4
P51A Williamsport 77.51 43 *e*P P 07 09 12.3 +0.4
comp=Z,11nm,0.8s
P51A Williamsport 77.51 43 P P 07 09 12.0 +0.2
baz=325
R49A Shelbyville 77.53 45 P P 07 09 12.6 +0.6
baz=324
O52A Adamsville 77.53 42 *e*P P 07 09 12.5 +0.6
comp=Z,25nm,1.1s
O52A Adamsville 77.53 42 P P 07 09 12.1 +0.2
baz=326
MONM Monmouth 77.57 347 *e*P P 07 09 12.2 +0.3
MONM IAmb IAmb 07 09 13.0
comp=Z,84nm,1.0s
N54A Moraine State 77.62 40 P P 07 09 12.8 +0.4
baz=327
Q50A Georgetown 77.62 44 P P 07 09 13.1 +0.7
baz=325
ASHO Ashiyiah 77.63 293 P P 07 09 12.9 +0.2
SNR=6.3
ASHO Ashiyiah 77.63 293 *i*P P 07 09 12.7 0.0
SNR=5.9
S48A Wiedeman Farm, 77.63 46 P P 07 09 12.9 +0.4
baz=324,SNR=9.8
MOA Molln 77.63 335 *i*P P 07 09 13.3 +0.9
comp=Z,15nm,0.7s
U46A Springville 77.66 48 P P 07 09 13.4 +0.7
baz=323
T47A Sharon Grove 77.67 47 *e*P P 07 09 13.9 +1.2
comp=Z,31nm,1.0s
T47A Sharon Grove 77.67 47 P P 07 09 13.3 +0.6
baz=324,SNR=8.4
BR131 Keskin Array S 77.68 318 *e*P P 07 09 13.6 +0.6
BRTR Keskin Array B 77.68 318 P P 07 09 13.3 +0.4
comp=Z,7.2nm,0.8s,baz=70,slow=4.1,SNR=29
BRTR LR LR 07 49 44.7
comp=Z,86nm,18.3s,baz=31,slow=40
BRTR Keskin Array B 77.68 318 *i*P P 07 09 13.5 +0.6
BRTR pmax pmax
comp=Z,7.0nm,0.8s
HERR Herculane 77.72 328⇓ *i*P P 07 09 12.9 0.0
Q51A Peebles 77.76 43 *e*P P 07 09 14.2 +0.9
comp=Z,17nm,0.8s

Q51A Peebles 77.76 43 P P 07 09 13.7 +0.5
baz=325
V45A Humboldt 77.77 49 P P 07 09 13.6 +0.3
baz=323
Z41A Richland Creek 77.77 53 P P 07 09 14.0 +0.7
baz=322
X43A Marvell 77.77 51 *e*P P 07 09 14.5 +1.1
comp=Z,34nm,1.0s
X43A Marvell 77.77 51 P P 07 09 13.9 +0.6
baz=322
CCAR Cane Creek 77.79 52 *e*P P 07 09 15.1 +1.6
comp=Z,34nm,0.9s
MORH M¯‡r¡gy, Hung 77.79 331⇑ *e*SKKPdf P 07 09 12.9 -0.3
MORH M¯‡r¡gy, Hung 77.79 331 *e*P P 07 09 12.8 -0.4
P52A Corning 77.80 42 P P 07 09 13.3 -0.1
baz=326
ARSA Arzberg 77.81 333 *i*P P 07 09 14.5 +1.1
comp=Z,16nm,0.7s
Y42A Garnett, Star 77.84 52 P P 07 09 14.8 +1.0
baz=322
140A Cam and Jess, 77.85 54 *e*P P 07 09 15.5 +1.7
comp=Z,36nm,0.9s
140A Cam and Jess, 77.85 54 P P 07 09 14.8 +1.0
baz=322
GIVF Givet 77.86 341 *e*P P
GIVF pmax pmax 07 09 12.8 -0.7
comp=Z,22nm,1.0s
FAQ Al Faqa, Dubai 77.86 294 P P 07 09 13.9 -0.1
S49A Springfield 77.88 45 P P 07 09 14.4 +0.5
baz=324,SNR=8.5
DOU Dourbes 77.91 341 ⇓P P 07 09 14.2 +0.3
comp=Z,17nm,1.2s
T48A Bowling Green 77.91 46 P P 07 09 14.6 +0.5
baz=324
R50A Paris 77.92 44 P P 07 09 14.7 +0.5
baz=325
NATX Nacogdoches 77.95 55 *e*P P 07 09 16.1 +1.8
comp=Z,68nm,1.4s
NATX Nacogdoches 77.95 55 P P 07 09 15.7 +1.3
baz=321
833A Chaparral WMA, 77.96 61 *e*P P 07 09 17.3 +2.8
comp=Z,17nm,1.0s
833A Chaparral WMA, 77.96 61 P P 07 09 15.5 +1.0
baz=320
PKME Peaks-Kenny Pk 77.96 31 P P 07 09 14.7 +0.5
baz=332
WLF Walferdange 77.98 340 ⇑P P 07 09 14.4 +0.1
WVT Waverly 78.01 48 *e*P P 07 09 15.2 +0.6
comp=Z,12nm,0.8s
WVT Waverly 78.01 48 *e*P P
WVT pmax pmax 07 09 15.2 +0.6
comp=Z,12nm,0.8s
WVT Waverly 78.01 48 P P 07 09 15.2 +0.6
baz=324
U47A Clarksville 78.02 47 P P 07 09 15.3 +0.6
baz=324,SNR=5.7
BAIF Baives 78.03 342 *e*P P
BAIF pmax pmax 07 09 14.0 -0.5
comp=Z,21nm,0.8s
MDVR Moldovita 78.05 328⇑ *i*P P 07 09 33.6 +19
ASUD Al Ashush, Dub 78.11 294 P P 07 09 15.7 +0.4
STU Stuttgart 78.11 338 *e*P P 07 09 15.5 +0.5
comp=Z,26nm,0.9s
STU Stuttgart 78.11 338 P P
STU pmax pmax 07 09 15.7 +0.7
comp=Z,36nm,0.9s
W45A Hickory Valley 78.12 49 P P 07 09 15.9 +0.7
baz=323
V46A Holladay 78.13 48 P P 07 09 15.7 +0.4
baz=323,SNR=5.9
BEHE Becsehely 78.14 332 *e*P P 07 09 15.6 +0.4
FUR Furstenfeldbru 78.15 337 P P 07 09 16.5 +1.2
FUR pmax pmax
comp=Z,34nm,1.0s
X44A Crenshaw 78.16 50 P P 07 09 16.2 +0.7
baz=323
Z42A Norrel Spur, H 78.20 52 P P 07 09 16.6 +0.8
baz=322,SNR=5.5
Y43A Makayla and Ka 78.22 51 P P 07 09 16.6 +0.8
baz=322
141A Papa Simpson, 78.23 53 P P 07 09 16.9 +1.1
baz=322
R51A Hillsboro 78.24 44 P P 07 09 16.5 +0.6
baz=325,SNR=5.7
LANF Langenberg 78.25 339 P P 07 09 16.7 +0.9
ALNE Al Ain 78.28 293 P P 07 09 16.6 +0.2
Q52A Bidwell 78.29 42 P P 07 09 16.2 +0.1
baz=326
T49A Edmonton 78.32 46 *e*P P 07 09 16.9 +0.5
comp=Z,12nm,0.8s
T49A Edmonton 78.32 46 P P 07 09 16.7 +0.3
baz=324,SNR=5.8
U48A Cassie Pea, Po 78.32 47 P P 07 09 16.9 +0.5
baz=324,SNR=6.1
FRGS Fruska Gora 78.35 330⇑ *i*P P 07 09 16.1 -0.3
S50A Richmond 78.38 45 P P 07 09 17.0 +0.3
baz=325
V47A Nunnelly 78.40 48 P P 07 09 17.1 +0.3
baz=324
SOKA Soboth 78.47 334 *i*P P 07 09 17.9 +0.7
comp=Z,35nm,0.6s,SNR=7.7
KULU Kulu 78.52 318 *e*P P 07 09 18.1 +0.5
OXF Oxford 78.52 50 *e*P P 07 09 18.3 +0.8
comp=Z,34nm,0.9s
OXF *ep*P **pP** 07 09 34.2 +0.5
OXF Oxford 78.52 50 *e*P P 07 09 18.3 +0.8
OXF *e**PP **pP** 07 09 34.3 +0.5
OXF pmax pmax
comp=Z,34nm,0.9s
OXF Oxford 78.52 50 P P 07 09 17.8 +0.3
baz=323,SNR=5.9
KOZT Kozan 78.53 315 *e*P P 07 09 17.5 0.0
GROS Grobnik 78.53 333 *i*P P 07 09 17.5 +0.1
GROS Grobnik 78.53 333 *i*P P 07 09 17.5 +0.1
W46A Michie 78.54 49 P P 07 09 17.9 +0.3
baz=323
Y44A Strider, Charl 78.55 51 P P 07 09 18.4 +0.7
baz=323,SNR=7.2
KBA Koelnbreinsper 78.59 335 *i*P P 07 09 19.2 +1.3
comp=Z,120nm,0.6s,SNR=27
KBA Koelnbreinsper 78.59 335 P P 07 09 18.9 +1.0
KBA pmax pmax
comp=Z,185nm,0.8s
X45A UM Field Stati 78.60 50 P P 07 09 18.2 +0.3
baz=323,SNR=5.0
R52A Catlettsburg 78.64 43 P P 07 09 18.5 +0.4
baz=326
HTL Hartland 78.64 347 *e*P P 07 09 17.9 0.0
HTL IAmb IAmb 07 09 19.4
comp=Z,195nm,1.4s
241A Mo Tay, Goldon 78.67 54 P P 07 09 19.5 +1.2
baz=322,SNR=8.3
U49A Red Boiling Sp 78.68 46 P P 07 09 18.8 +0.4
baz=324,SNR=8.1
T50A Nancy 78.71 45 P P 07 09 19.0 +0.5
baz=325,SNR=9.0
HKT Hockley 78.71 57 *e*P P 07 09 19.9 +1.4
comp=Z,8.9nm,1.1s
HKT Hockley 78.71 57 *e*P P
HKT pmax pmax 07 09 19.9 +1.4
comp=Z,9.0nm,1.1s
BFO Black Forest 78.73 338 *e*P P 07 09 18.3 -0.2
comp=Z,21nm,0.8s
BFO Black Forest 78.73 338 *i*P P 07 09 18.9 +0.4
SSPA Standing Stone 78.76 39 P P 07 09 19.0 +0.3
baz=328
OBKA Obir 78.77 334 *i*P P 07 09 19.4 +0.6
comp=Z,32nm,0.6s
142A Monroe 78.77 53 P P 07 09 19.9 +1.0
baz=322
S51A Beattyville 78.78 44 *e*P P 07 09 19.4 +0.4
comp=Z,12nm,0.8s
S51A Beattyville 78.78 44 P P 07 09 19.3 +0.4
baz=325
PLAL Pickwick Lake 78.81 49 *e*P P 07 09 19.3 +0.3
comp=Z,12nm,0.9s
V48A Smith Brothers 78.81 47 *e*P P 07 09 19.9 +0.8
comp=Z,13nm,0.8s
V48A *ep*P **pP** 07 09 34.4 -1.0
V48A Smith Brothers 78.81 47 P P 07 09 19.5 +0.4
baz=324,SNR=6.5
W47A Westpoint 78.83 48 P P 07 09 19.5 +0.3
baz=324
WATA Walderalm 78.83 336 *i*P P 07 09 20.3 +1.1
comp=Z,30nm,0.7s,SNR=14
WTTA Wattenberg 78.89 336 *i*P P 07 09 20.7 +1.2
comp=Z,69nm,1.3s,SNR=6.9

X46A	**Booneville**	78.89	49	P		P	07 09 19.8	+0.3	
	baz=323								
CDF	**Champ du Feu**	78.91	339	*e*P		P	07 09 18.7	-0.8	
RETA	**Reutte**	78.91	337	*i* P		P	07 09 20.3	+0.8	
	comp=Z,18nm,0.8s								
MYKA	**Terra Mystica**	78.92	334	*i* P		P	07 09 19.7	+0.2	
	comp=Z,18nm,0.5s								
143A	**Socs Landing,**	78.93	52	P		P	07 09 20.8	+1.0	
	baz=322								
MOTA	**Moosalm**	78.95	336	*i* P		P	07 09 20.8	+1.0	
	comp=Z,108nm,1.3s,SNR=21								
Y45A	**Yeager Farm, C**	78.96	50	P		P	07 09 20.6	+0.7	
	baz=323,SNR=6.2								
Z44A	**Pea Ridge, Bel**	78.98	51	P		P	07 09 20.8	+0.8	
	baz=323								
TEKS	**Tekeris**	78.98	330	*e*P		P	07 09 18.9	-1.0	
SQTA	**Sankt Quirin**	79.04	336	*i* P		P	07 09 21.5	+1.2	
	comp=Z,82nm,1.4s,SNR=14								
242A	**Grayson**	79.05	53	P		P	07 09 21.5	+1.1	
	baz=322,SNR=7.4								
LEGS	**Legarje**	79.05	333	*i* P		P	07 09 20.1	-0.1	
LEGS	**Legarje**	79.05	333	*i* P		P	07 09 20.1	-0.1	
341A	**Kurthwood**	79.08	54	*e*P		P	07 09 22.2	+1.6	
	comp=Z,15nm,0.8s								
341A	**Kurthwood**	79.08	54	P		P	07 09 21.8	+1.2	
	baz=322,SNR=6.8								
ECH	**Echery**	79.12	339	*e*P		P	07 09 21.1	+0.5	
	comp=Z,27nm,0.8s								
ECH	**Echery**	79.12	339	*e*P		P	07 09 21.1	+0.5	
ECH					pmax	pmax			
	comp=Z,27nm,0.8s								
ABTA	**Abfaltersbach**	79.12	335	*i* P		P	07 09 21.6	+0.9	
	comp=Z,33nm,0.7s,SNR=8.3								
T51A	**Gray**	79.17	45	P		P	07 09 21.4	+0.3	
	baz=325								
LJU	**Ljubljana**	79.20	334	*e*P		P	07 09 20.6	-0.4	
U50A	**Jamestown**	79.20	46	P		P	07 09 21.8	+0.5	
	baz=325,SNR=5.6								
SLE	**Schleitheim**	79.22	338	P		P	07 09 21.4	+0.2	
SLE					pmax	pmax			
	comp=Z,36nm,0.8s								
V49A	**McMinnville**	79.23	47	P		P	07 09 21.6	+0.3	
	baz=324,SNR=5.2								
DIVS	**Divibare**	79.23	329	*e*P		P	07 09 20.9	-0.4	
	comp=Z,49nm,0.7s								
DIVS	**Divibare**	79.23	329⇑	*i* P		P	07 09 20.8	-0.5	
W48A	**Pulaski**	79.24	48	P		P	07 09 21.8	+0.3	
	baz=324,SNR=8.2								
Z45A	**Winona**	79.28	51	P		P	07 09 22.6	+0.9	
	baz=323								
X47A	**Russelville**	79.28	49	P		P	07 09 21.7	0.0	
	baz=324,SNR=5.0								
DOB	**Doboj**	79.28	331	*e*P		P	07 09 22.4	+0.9	
Y46A	**Houston**	79.30	50	P		P	07 09 22.4	+0.7	
	baz=323,SNR=8.6								
OZLJ	**Ozalj**	79.31	333	P		P	07 09 21.5	-0.1	
DAVA	**Damuels**	79.32	337	*i* P		P	07 09 22.6	+0.7	
	comp=Z,40nm,1.1s,SNR=9.2								
VISS	**Visnje**	79.32	333	*i* P		P	07 09 21.2	-0.5	
VISS	**Visnje**	79.32	333	*i* P		P	07 09 21.2	-0.5	
FETA	**Feichten**	79.35	336	*i* P		P	07 09 23.2	+1.1	
	comp=Z,53nm,1.5s,SNR=6.3								
N59A	**State Game Lan**	79.37	37	P		P	07 09 22.5	+0.4	
	baz=329								
VTS	**Vitosha**	79.43	326	*e*P		P	07 09 22.4	-0.1	
	comp=Z,56nm,0.7s								
VTS	**Vitosha**	79.43	326⇑	*i* P		P	07 09 22.9	+0.4	
VTS	**Vitosha**	79.43	326	*e*P		P	07 09 22.4	-0.1	
VTS					pmax	pmax			
	comp=Z,56nm,0.7s								
ARMA	**Armidale**	79.46	184	*e*P		P	07 09 24.4	+1.9	
	comp=Z,22nm,0.9s								
MOF	**Molkenrain**	79.47	339	P		P	07 09 23.1	+0.5	
342A	**Flagon Creek P**	79.49	54	*e*P		P	07 09 24.8	+2.0	
	comp=Z,18nm,1.0s								
342A	**Flagon Creek P**	79.49	54	P		P	07 09 24.3	+1.5	
	baz=322								
LADK	**Ladik-KONYA**	79.50	318	*e*P		P	07 09 22.2	-0.7	
CEY	**Cerknica**	79.50	334⇑	*i* P		P	07 09 22.2	-0.5	
441A	**DeRidder**	79.52	55	P		P	07 09 24.4	+1.3	
	baz=322								
BLY	**Banja Luka**	79.56	331	⇓*i* P		P	07 09 23.0	0.0	
BLY	**Banja Luka**	79.56	331	*e*P		P	07 09 22.6	-0.4	
HINF	**Hinteralfeld**	79.56	339	*e*P		P	07 09 22.1	-0.9	
HINF					pmax	pmax			
	comp=Z,11nm,0.7s								
W49A	**Belvidere**	79.58	47	P		P	07 09 23.6	+0.3	
	baz=324								
HAPS	**Han Pijesak,Bl**	79.59	330	*e*P		P	07 09 22.7	-0.6	
U51A	**La Follette**	79.62	45	P		P	07 09 23.8	+0.3	
	baz=325								
MERS	**Mersin**	79.63	316	*e*P		P	07 09 22.8	-0.8	
BBLS	**Lazići**	79.63	329⇑	*i* P		P	07 09 23.8	+0.3	
SWET	**Sewanee**	79.66	47	*e*P		P	07 09 24.2	+0.5	
	comp=Z,23nm,0.8s								
V50A	**Pikevile**	79.69	46	P		P	07 09 24.1	+0.2	
	baz=325,SNR=5.2								
TZTN	**Tazewell**	79.70	45	P		P	07 09 24.1	+0.2	
	baz=325								
X48A	**Hartselle**	79.74	48	*e*P		P	07 09 24.1	0.0	
	comp=Z,8.3nm,0.9s								
X48A	**Hartselle**	79.74	48	P		P	07 09 24.1	0.0	
	baz=324								
145A	**Houston Renfro**	79.77	51	P		P	07 09 25.2	+0.9	
	baz=323								
VBMS	**Vicksburg**	79.77	52	*e*P		P	07 09 26.1	+1.8	
	comp=Z,20nm,0.7s								
VBMS	**Vicksburg**	79.77	52	P		P	07 09 25.2	+0.9	
	baz=323								
Y47A	**UCPARC, Winfie**	79.78	49	P		P	07 09 24.5	+0.1	
	baz=324								
244A	**Avery, Jackson**	79.83	52	P		P	07 09 25.6	+1.0	
	baz=323,SNR=8.6								
FUORN	**Ofenpass-Fuorn**	79.84	337	*e*P		P	07 09 25.9	+1.0	
	comp=Z,42nm,0.9s								
U52A	**Thorn Hill**	79.90	45	P		P	07 09 25.4	+0.4	
	baz=326								
V51A	**Loudon**	79.93	46	P		P	07 09 25.6	+0.4	
	baz=325								
W50A	**Signal Mountai**	79.97	47	*e*P		P	07 09 26.1	+0.7	
	comp=Z,17nm,0.8s								
W50A	**Signal Mountai**	79.97	47	P		P	07 09 25.7	+0.3	
	baz=325,SNR=5.2								
PAL	**Palisades**	80.02	36	P		P	07 09 25.6	0.0	
	baz=330								
X49A	**Woodville**	80.04	48	P		P	07 09 26.1	+0.3	
	baz=324,SNR=7.7								
COCO	**West Island**	80.09	238	*i* P		P	07 09 29.3	+3.2	
Y48A	**Jasper**	80.11	49	P		P	07 09 26.0	-0.2	
	baz=324								
PLE	**Pljevlja**	80.11	329	⇓*i* P		P	07 09 26.0	-0.2	
PLE	**Pljevlja**	80.11	329	P		P	07 09 27.4	+1.2	
KIZK	**Mersin**	80.12	316	*e*P		P	07 09 24.1	-2.1	
CPCT	**Cooper Cave**	80.14	46	*e*P		P	07 09 27.0	+0.7	
	comp=Z,11nm,0.8s								
FLN	**La Foliniere**	80.17	344	*e*P		P	07 09 25.6	-0.6	
FLN					pmax	pmax			
	comp=Z,84nm,0.9s								
146A	**Union**	80.19	51	*e*P		P	07 09 28.4	+1.9	
	comp=Z,65nm,0.9s								
146A	**Union**	80.19	51	P		P	07 09 27.8	+1.2	
	baz=323,SNR=7.5								
TUE	**Stuetta**	80.21	337	*e*P		P	07 09 27.7	+0.9	
	comp=Z,62nm,0.8s								
Z47A	**Carrollton**	80.23	50	P		P	07 09 27.5	+0.6	
	baz=324								
V52A	**Sevierville**	80.25	45	*e*P		P	07 09 27.5	+0.6	
	comp=Z,17nm,1.0s								
V52A	**Sevierville**	80.25	45	P		P	07 09 27.4	+0.5	
	baz=326								
W51A	**Cleveland**	80.26	46	P		P	07 09 27.4	+0.4	
	baz=325								
LDF	**La Druitiere**	80.26	344	*e*P		P	07 09 26.5	-0.2	
LDF					pmax	pmax			
	comp=Z,31nm,0.6s								
344A	**Westbrook Farm**	80.27	53	*e*P		P	07 09 29.2	+2.1	
	comp=Z,27nm,0.8s								
344A					*e*pP	pP	07 09 41.3	-2.2	
344A	**Westbrook Farm**	80.27	53	P		P	07 09 28.7	+1.6	
	baz=323,SNR=6.3								
U53A	**Fall Branch**	80.29	44	P		P	07 09 27.6	+0.5	
	baz=326,SNR=5.2								
TKL	**Tuckaleechee C**	80.32	45	P		P	07 09 26.4	-0.9	
	comp=Z,7.7nm,0.9s,baz=23,slow=7.7,SNR=5.4								
ZAIG	**Zacatecas**	80.32	66	*e*P		P	07 09 29.2	+1.4	
	comp=Z,6.0nm,0.9s								
ZAIG					*e*pP	pP	07 09 43.1	-1.1	

KEBE	**Keben-Mersin**	80.34	316	*e*P		P	07 09 25.9	-1.6	
Z48A	**Northport**	80.35	49	P		P	07 09 27.7	+0.2	
	baz=324								
IVA	**Berane**	80.35	329	⇓*i* P		P	07 09 27.0	-0.4	
UPM	**Unac-Piva**	80.39	329	⇓*i* P		P	07 09 26.0	-1.7	
UPM	**Unac-Piva**	80.39	329	*e*P		P	07 09 27.6	-0.1	
X50B	**Fort Payne**	80.41	47	P		P	07 09 27.9	+0.1	
	baz=325								
TAOE	**Nuku Hiva Isla**	80.42	116	*e*LR		LR	07 34 27.4		
	comp=Z,624nm,22.5s,baz=327								
MZR	**Muzera**	80.44	294	*i* P		P	07 09 28.2	+0.1	
	SNR=5.3								
Y49A	**Blount Mountai**	80.52	48	*e*P		P	07 09 28.9	+0.5	
	comp=Z,10nm,0.9s								
Y49A	**Blount Mountai**	80.52	48	P		P	07 09 28.6	+0.2	
	baz=324								
IKL	**Isikli**	80.53	316	*e*P		P	07 09 27.5	-0.9	
BLA	**Blacksburg**	80.55	42	P		P	07 09 29.0	+0.4	
	baz=327								
147A	**Livingston**	80.56	50	*e*P		P	07 09 29.8	+1.3	
	comp=Z,53nm,1.0s								
147A	**Livingston**	80.56	50	P		P	07 09 29.2	+0.7	
	baz=324,SNR=7.1								
PVY	**Plav**	80.57	329	⇓*i* P		P	07 09 28.1	-0.6	
GRR	**Gorron**	80.59	344	*e*P		P	07 09 28.2	-0.3	
GRR					pmax	pmax			
	comp=Z,124nm,0.8s								
SKO	**Skopje**	80.61	327	*i* P		P	07 09 28.9	+0.2	
ISP	**Isparta**	80.61	319	*e*P		P	07 09 28.7	-0.2	
	comp=Z,30nm,0.6s								
ISP	**Isparta**	80.61	319⇑	*i* P		P	07 09 28.6	-0.3	
ISP	**Isparta**	80.61	319	*e*P		P	07 09 28.7	-0.2	
ISP					pmax	pmax			
	comp=Z,30nm,0.6s								
BERE	**Bereket-Mersin**	80.65	316	*e*P		P	07 09 27.1	-2.1	
X51A	**Calhoun**	80.70	47	P		P	07 09 29.7	+0.4	
	baz=325								
NKY	**Niksic**	80.70	329	⇓*i* P		P	07 09 28.0	-1.4	
W52A	**Murphy**	80.71	46	P		P	07 09 29.6	+0.2	
	baz=325								
LOR	**Lormes**	80.75	341	*e*P		P	07 09 28.8	-0.6	
V53A	**Saluda**	80.75	45	*e*P		P	07 09 30.4	+0.8	
	comp=Z,12nm,1.0s								
V53A	**Saluda**	80.75	45	P		P	07 09 30.0	+0.4	
	baz=326								
VAY	**Valandovo**	80.77	326	*i* P		P	07 09 29.8	+0.3	
VAY	**Valandovo**	80.77	326	P		P	07 09 29.9	+0.3	
BRY	**Bratogost**	80.78	330	⇓*i* P		P	07 09 28.3	-1.5	
BRY	**Bratogost**	80.78	330	*e*P		P	07 09 29.0	-0.8	
KNT	**Kendrikon**	80.79	326	P		P	07 09 30.1	+0.4	
KNT					pmax	pmax			
	comp=Z,58nm,0.9s								
SENIN	**Lac Senin/Sane**	80.82	338	*e*P		P	07 09 30.9	+0.8	
	comp=Z,16nm,0.6s								
Y50A	**Piedmont**	80.83	48	P		P	07 09 30.2	+0.1	
	baz=325								
TEKE	**Tekeli-Mersin**	80.87	316	*e*P		P	07 09 28.5	-1.7	
CABF	**La Chapelle**	80.88	339	*e*P		P	07 09 29.9	-0.3	
CABF					pmax	pmax			
	comp=Z,25nm,0.9s								
247A	**Quitman**	80.88	51	P		P	07 09 31.9	+1.6	
	baz=324								
EREN	**Erenkoy**	80.89	315	*e*P		P	07 09 28.3	-2.0	
LRAL	**Lakeview Retre**	80.90	49	P		P	07 09 30.7	+0.3	
	baz=324								
148A	**Greensboro**	80.93	50	P		P	07 09 31.0	+0.5	
	baz=324								
TTG	**Podgorica**	80.96	329	⇓*i* P		P	07 09 30.4	-0.1	
346A	**Big Creek Wild**	80.97	52	*e*P		P	07 09 32.4	+1.6	
	comp=Z,30nm,0.9s								
346A	**Big Creek Wild**	80.97	52	P		P	07 09 31.1	+0.3	
	baz=323								
Z49A	**Columbiana**	81.00	49	P		P	07 09 31.0	+0.1	
	baz=324,SNR=5.5								
W53A	**Cullowhee**	81.00	45	P		P	07 09 31.4	+0.4	
	baz=326								
TREB	**Trebinje**	81.00	330	*e*P		P	07 09 23.4	-7.4	
SGMF	**Saint Gilles**	81.01	345	*e*P		P	07 09 30.5	-0.2	
SGMF					pmax	pmax			
	comp=Z,109nm,0.8s								
R58B	**Mineral**	81.02	40	P		P	07 09 31.3	+0.4	
	baz=328								
SSF	**Saint Saulge**	81.02	341	*e*P		P	07 09 31.2	+0.4	
SSF					pmax	pmax			
	comp=Z,34nm,1.0s								
PMOR	**Pomariorio Ree**	81.06	125	*e*T		T	08 38 44.3		
	comp=Z,4.5nm,0.2s								
STON	**Ston**	81.08	330	P		P	07 09 29.9	-1.3	
X52A	**Dahlonega**	81.12	46	P		P	07 09 31.9	+0.3	
	baz=325								
Y51A	**Rockmart**	81.14	47	P		P	07 09 31.8	+0.1	
	baz=325,SNR=7.3								
GRG	**Griva**	81.15	326	*e*P		P	07 09 31.9	+0.2	
BUM	**Brajic-Budva**	81.19	329	⇓*i* P		P	07 09 31.4	-0.5	
DRME	**Dracevica, Mon**	81.20	329	*e*P		P	07 09 31.2	-0.6	
HCY	**Herceg Novi**	81.20	329	⇓*i* P		P	07 09 31.1	-0.7	
KRUS	**Krusevo**	81.20	327	*i* P		P	07 09 31.9	-0.1	
Z50A	**Ashland**	81.25	48	*e*P		P	07 09 32.7	+0.4	
	comp=Z,37nm,0.8s								
Z50A	**Ashland**	81.25	48	P		P	07 09 32.5	+0.2	
	baz=325,SNR=14								
248A	**Dixon Mills**	81.29	50	P		P	07 09 33.4	+1.0	
	baz=324								
AVF	**Avril sur Loir**	81.31	341	*e*P		P	07 09 32.0	-0.3	
AVF					pmax	pmax			
	comp=Z,43nm,0.8s								
SMF	**Signal de Mont**	81.34	341	*e*P		P	07 09 30.8	-1.8	
149A	**Jones**	81.35	49	P		P	07 09 33.3	+0.5	
	baz=324,SNR=6.1								
ULC	**Ulcinj**	81.38	329	⇓*i* P		P	07 09 32.2	-0.6	
LFK	**Lefkose**	81.39	316	*e*P		P	07 09 33.0	-0.1	
347A	**Saraland**	81.44	51	P		P	07 09 33.9	+0.7	
	baz=324								
QUIF	**Quistinic**	81.44	346	*e*P		P	07 09 32.6	-0.4	
QUIF					pmax	pmax			
	comp=Z,65nm,1.0s								
X53A	**Estanollee**	81.49	46	P		P	07 09 34.2	+0.7	
	baz=326,SNR=6.6								
446A	**Poplarville**	81.50	52	P		P	07 09 34.0	+0.3	
	baz=323								
Z51A	**Franklin**	81.56	48	P		P	07 09 34.1	+0.1	
	baz=325,SNR=5.4								
OHR	**Ohrid**	81.59	327	*i* P		P	07 09 33.3	-0.8	
OHR	**Ohrid**	81.59	327	P		P	07 09 35.1	+1.1	
Y52A	**Lilburn**	81.65	47	P		P	07 09 34.7	+0.4	
	baz=325								
FNA	**Florina**	81.67	327	*e*P		P	07 09 34.3	-0.2	
	comp=Z,26nm,0.8s								
FNA	**Florina**	81.67	327	*e*P		P	07 09 34.3	-0.2	
FNA					pmax	pmax			
	comp=Z,26nm,0.8s								
249A	**Camden**	81.69	50	P		P	07 09 35.8	+1.2	
	baz=324,SNR=8.5								
TIR	**Tirane**	81.71	328	*e*P		P	07 09 34.6	+0.1	
	comp=Z,93nm,0.8s								
TIR	**Tirane**	81.71	328⇑	*i* P		P	07 09 34.8	+0.2	
150A	**Eclectic**	81.73	49	P		P	07 09 35.0	+0.2	
	baz=325,SNR=7.4								
CSS	**Mathiatis**	81.75	315	*e*P		P	07 09 35.0	+0.1	
	comp=Z,70nm,0.6s								
CSS	**Mathiatis**	81.75	315	P		P	07 09 34.7	-0.2	
348A	**Jackson**	81.75	51	*e*P		P	07 09 36.6	+1.7	
348A	**Jackson**	81.75	51	P		P	07 09 36.1	+1.2	
	baz=324								
LPL	**La Plagne**	81.75	339	*e*P		P	07 09 35.2	+0.2	
LPL					pmax	pmax			
	comp=Z,69nm,0.7s								
LPG	**La Plagne**	81.77	338	*e*P		P	07 09 35.4	+0.2	
LPG					pmax	pmax			
	comp=Z,74nm,0.7s								
STKA	**Stephens Creek**	81.80	192	P		P	07 09 34.5	-0.3	
	comp=Z,5.3nm,0.9s,baz=340,slow=3.7,SNR=4.8								
STKA					LR	LR	07 44 38.4		
	comp=Z,110nm,21.3s,baz=23,slow=35								
447A	**Lucedale**	81.86	52	P		P	07 09 36.7	+1.2	
	baz=324								
Y53A	**Monroe**	81.89	46	P		P	07 09 36.1	+0.5	
	baz=326								
ALFC	**Alefka**	81.92	316	P		P	07 09 35.2	-0.6	
TCF	**Toulx Ste Croi**	82.03	342	*e*P		P	07 09 36.0	-0.2	
Z52A	**Williamson**	82.03	47	P		P	07 09 36.8	+0.4	
	baz=325								
VLC	**Villacollemand**	82.09	336	*e*P		P	07 09 37.3	+0.7	
	comp=Z,42nm,0.7s								
250A	**Grady**	82.11	49	*e*P		P	07 09 37.9	+1.0	
	comp=Z,24nm,0.8s								

250A	**Grady**	82.11	49	P		P	07 09 37.4	+0.5	
	baz=325								
SZAC	**Souni**	82.12	316	P		P	07 09 36.5	-0.4	
151A	**Opelika**	82.13	48	P		P	07 09 37.1	+0.2	
	baz=325								
AKMC	**Akamas**	82.15	316	P		P	07 09 36.4	-0.6	
349A	**Repton**	82.16	50	P		P	07 09 37.9	+0.8	
	baz=324								
BNI	**Bardonecchia**	82.20	338	*e*P		P	07 09 38.4	+1.1	
	comp=Z,31nm,0.7s								
PPCY	**Paphos**	82.26	316	P		P	07 09 37.0	-0.5	
Y54A	**Tignall**	82.30	46	P		P	07 09 38.6	+0.9	
	baz=326,SNR=16								
GOGA	**Godfrey**	82.31	46	P		P	07 09 38.3	+0.5	
	baz=326								
152A	**Waverly Hall**	82.31	48	*e*P		P	07 09 38.5	+0.6	
	comp=Z,11nm,0.8s								
152A	**Waverly Hall**	82.31	48	P		P	07 09 38.3	+0.4	
	baz=326								
PPT	**Papeete**	82.32	128	LR		LR	07 41 55.4		
	comp=Z,79nm,19.1s,baz=328,slow=32								
PPT2	**Papeete2**	82.33	128	*e*S		S	07 19 41.3	-8.0	
	comp=Z,53nm,25.2s								
PPT2	**Papeete2**	82.33	128	*e*LR		LR	07 35 23.7		
	comp=Z,157nm,23.5s								
PPT2	**Papeete2**	82.33	128	*e*T		T	08 40 18.6		
	comp=Z,2.4nm,0.3s								
ASF	**Jabal al Asfar**	82.34	311	P		P	07 09 38.3	+0.1	
	comp=Z,21nm,0.8s,baz=354,slow=4.1,SNR=34								
Z53A	**Monticello**	82.36	47	P		P	07 09 38.4	+0.3	
	baz=326								
MMAI	**Mount Meron Ar**	82.38	313	P		P	07 09 39.2	+0.9	
	comp=Z,66nm,0.6s,baz=40,slow=6.6,SNR=112								
MMAI					LR	LR	07 52 10.8		
	comp=Z,77nm,18.4s,baz=40,slow=40								
BRAL	**Brewton**	82.38	50	P		P	07 09 39.5	+1.3	
	baz=324								
PAE	**Paea**	82.39	128	*e*T		T	08 40 22.6		
	comp=Z,1.1nm,0.3s								
TIAR	**Tiarei**	82.43	128	*e*T		T	08 40 24.8		
	comp=Z,1.4nm,0.3s								
251A	**Midway**	82.44	49	P		P	07 09 39.1	+0.6	
	baz=325								
MBDF	**Montbardon**	82.49	338	*e*P		P	07 09 38.4	-0.4	
MBDF					pmax	pmax			
	comp=Z,17nm,0.5s								
SSB	**Saint Sauveur**	82.49	340	*e*P		P	07 09 39.5	+0.9	
	comp=Z,44nm,0.8s								
SSB	**Saint Sauveur**	82.49	340	*e*P		P	07 09 39.5	+0.9	
SSB					pmax	pmax			
	comp=Z,44nm,0.8s								
350A	**Dozier**	82.53	50	P		P	07 09 40.1	+1.1	
	baz=325								
449A	**Pace**	82.63	51	P		P	07 09 39.9	+0.4	
	baz=324								
Z54A	**Sparta**	82.74	46	P		P	07 09 40.8	+0.7	
	baz=326,SNR=5.4								
153A	**Fort Valley**	82.76	47	P		P	07 09 40.6	+0.4	
	baz=326								
MMLI	**Mount Malkishu**	82.84	313	*e*P		P	07 09 39.0	-1.7	
252A	**Lumpkin**	82.85	48	P		P	07 09 40.9	+0.2	
	baz=325								
VIVF	**Saint-Julien-l**	82.86	340	*e*P		P	07 09 40.7	+0.2	
VIVF					pmax	pmax			
	comp=Z,31nm,0.9s								
AQU	**L'Aquila**	82.89	333	*e*P		P	07 09 41.7	+0.9	
	comp=Z,47nm,0.8s								
AQU	**L'Aquila**	82.89	333	*e*P		P	07 09 41.7	+0.9	
AQU					pmax	pmax			
	comp=Z,47nm,0.8s								
AQU	**L'Aquila**	82.89	333	*e*P		P	07 09 41.3	+0.5	
351A	**Pinckard**	83.02	49	P		P	07 09 42.5	+1.0	
	baz=325								
Z55A	**Blythe**	83.09	46	P		P	07 09 42.6	+0.7	
	baz=326								
154A	**Montrose**	83.13	47	*e*P		P	07 09 43.9	+1.8	
	comp=Z,46nm,0.9s								
154A	**Montrose**	83.13	47	P		P	07 09 42.8	+0.7	
	baz=326								
IGT	**Igoumenitsa**	83.15	327	P		P	07 09 44.9	+2.8	
352A	**Blakely**	83.18	49	P		P	07 09 43.3	+1.0	
	baz=325								
CAF	**Calviac**	83.36	341	*e*P		P	07 09 43.4	+0.3	
CAF					pmax	pmax			
	comp=Z,59nm,1.0s								
155A	**Kite**	83.43	46	P		P	07 09 44.6	+1.0	
	baz=326								
FORT	**Forrest**	83.46	204	*e*P		P	07 09 44.7	+1.2	
	comp=Z,126nm,0.6s								
254A	**Abbeville**	83.59	47	P		P	07 09 45.5	+1.0	
	baz=326								
FRF	**La Foret Royal**	83.61	338	*e*P		P	07 09 43.8	-0.6	
FRF					pmax	pmax			
	comp=Z,27nm,0.9s								
353A	**Camilla**	83.64	48	P		P	07 09 45.9	+1.1	
	baz=326								

059A	**Moore Haven**	**88.76**	**48**	P	**P**	07 10 11.2	+1.3
	baz=327							
059Z	**Ave Maria**	**89.14**	**49**	P	**P**	07 10 13.0	+1.3
	baz=327							
PVIS	**Viseu**	**89.19**	**348**	*eP*	**P**	07 10 10.0	-1.8
	comp=Z,35nm,1.5s							
MTE	**Manteigas**	**89.45**	**347**	*eP*	**P**	07 10 13.0	-0.1
	comp=Z,50nm,1.8s							
ES19	**SONSECA Array**	**89.55**	**344**	*eP*	**P**	07 10 12.5	-1.1
ESDC	**Sonseca Array**	**89.59**	**344**	P	**P**	07 10 13.4	-0.3
	comp=Z,9.9nm,0.8s,baz=7.9,slow=3.9,SNR=43							
ESDC				LR	LR	07 55 43.9		
	comp=Z,191nm,20.4s,baz=10.0,slow=39							
ESLA	**Sonseca Array**	**89.59**	**344**	*eP*	**P**	07 10 13.2	-0.5
	comp=Z,19nm,1.1s							
PAB	**San Pablo**	**89.78**	**345**	*eP*	**P**	07 10 14.4	-0.3
	comp=Z,13nm,0.8s							
PAB	**San Pablo**	**89.78**	**345**	*eP*	**P**	07 10 14.4	-0.3
PAB				pmax	pmax			
	comp=Z,13nm,0.8s							
PCAS	**Casmilo, Conde**	**89.92**	**348**	*eP*	**P**	07 10 14.9	-0.3
	comp=Z,33nm,1.7s							
PCBR	**Castelo Branco**	**89.99**	**347**	*eP*	**P**	07 10 15.0	-0.5
	comp=Z,26nm,1.6s							
BKZ	**Black Stump Fm**	**90.00**	**164**	*eP*	**P**	07 10 15.0	-0.3
	comp=Z,14nm,1.2s							
KEST	**Kesra**	**90.21**	**333**	P	**P**	07 10 16.8	+0.1
PAB	comp=Z,14nm,0.5s,baz=300,slow=1.1,SNR=24							
KEST				LR	LR	07 54 27.7		
	comp=Z,434nm,22.0s,baz=340,slow=38							
KEST	**Kesra**	**90.21**	**333**	*eP*	**P**	07 10 17.2	+0.5
	comp=Z,15nm,0.5s							
PTOM	**Tomar**	**90.34**	**348**	*eP*	**P**	07 10 16.2	-0.9
	comp=Z,34nm,1.2s							
ALMR	**Almeirim**	**90.82**	**348**	*eP*	**P**	07 10 20.0	+0.6
	comp=Z,71nm,1.8s							
PESTR	**Estremoz**	**90.96**	**347**	*eP*	**P**	07 10 19.3	-0.8
	comp=Z,17nm,1.0s							
PMAFR	**Mafra**	**91.11**	**348**	*eP*	**P**	07 10 17.2	-3.5
	comp=Z,132nm,1.6s							
PBEJ	**Beja**	**91.82**	**347**	*eP*	**P**	07 10 24.6	+0.5
	comp=Z,30nm,1.7s							
TORD	**Torodi Ar. Bea**	**113.71**	**332**	Pdiff	**Pdif**	07 12 01.2	-1.3
	baz=5.5,slow=5.9							
TORD				PKiKP	**PKiKP**	07 15 53.5	-1.2
	comp=Z,0.8nm,0.6s,baz=348,slow=1.7,SNR=6.3							
TORD				PP	PP	07 16 31.5	-15	
	baz=11,slow=8.4							
TORD				PKKPbc	**PKKPbc**	07 26 34.5	-1.1	
	baz=180,slow=2.9							
DBIC	**Dimbokro**	**121.72**	**337**	PKP	**PKPdf**	07 16 09.6	-0.5
	comp=Z,6.4nm,0.8s,baz=336,slow=9.0,SNR=6.9							
VNDA	**Vanda**	**126.62**	**178**	PKP	**PKPdf**	07 16 17.2	-0.3
	comp=Z,3.1nm,1.0s,baz=319,slow=3.6,SNR=15							
LPAZ	**La Paz**	**131.61**	**63**	PKP	**PKPdf**	07 16 30.2	+0.6
	comp=Z,1.4nm,0.8s,baz=335,slow=5.0,SNR=6.8							
MAW	**Mawson**	**135.30**	**213**	PKP	**PKPdf**	07 16 34.6	+0.4
	comp=Z,2.2nm,0.6s,baz=87,slow=4.5,SNR=12							
BOSA	**Boshof**	**137.18**	**280**	PKP	**PKPdf**	07 16 38.4	-0.7
	comp=Z,3.1nm,0.8s,baz=346,slow=7.0,SNR=4.0							
BDFB	**Brasilia**	**141.24**	**38**	PKhKP	PKPpre	07 16 41.7		
	comp=Z,3.1nm,0.9s,baz=29,slow=19,SNR=3.9							
SYO	**Syowa Base**	**144.01**	**213**	*ip*PKiKP	PKPdf	07 17 12.0	+22	
CPUP	**Villa Florida**	**145.68**	**60**	PKPbc	**PKPbc**	07 16 55.1	+0.4	
	comp=Z,16nm,0.9s,baz=320,slow=3.0,SNR=26							
PLCA	**Paso Flores**	**146.65**	**93**	PKPbc	**PKPbc**	07 16 57.2	0.0	
	comp=Z,19nm,0.9s,baz=333,slow=3.7,SNR=24							
PLCA				pPKPbc	**pPKPdf**	07 17 11.4	-1.4	
	comp=Z,13nm,0.8s,baz=301,slow=5.2,SNR=8.2							
NVL	**N'lazarevskaya**	**152.69**	**205**	*e*PKP2	**PKPab**	07 17 23.4	+1.2	
NVL				pmax	pmax			
	comp=Z,24nm,1.0s							
SNAA	**Sanae**	**155.50**	**196**	PKP	**PKPab**	07 17 34.9	+0.6	
VNA2	**Neumayer--Watz**	**156.92**	**194**	PKP	**PKPab**	07 17 40.7	+0.5	
	baz=150,slow=2.8							
VNA3	**Neumayer Olymp**	**156.97**	**192**	PKP	**PKPab**	07 17 40.6	+0.1	
VNA1	**Neumayer--Stat**	**157.30**	**194**	PKP	**PKPab**	07 17 42.4	+0.6	

*IDC **01** 07:00:14.5±3.6, 42°08N×48°25E, h29km±33km, mb3.4/3, mb1 3.6/10, mb1mx3.5/57, mbtmp3.7/10, ML3.5/6, Error ellipse: s-maj=15.7km s-min=9.4km az=168.0*
*NORS **01** 07:00:15.8±0.0, 42°12N×47°99E, h12km, MPVA4.7*
*DRS **01** 07:00:15.8±0.0, 42°22N×48°44E, h20km*
*MOS **01** 07:00:15.5±0.0, 42°14N×48°11E, h32km, MPVA4.8*
*AZER **01** 07:00:16.7±2.5, 42°09N×48°19E, h33km, ml3.4/17, Error ellipse: s-maj=3.5km s-min=2.0km az=19.0*
*ISCJB **01** 07:00:16.1±0.4, 42°23N±0°02×48°30E±0°03, h45km±5km, mb3.6/4, Error ellipse: s-maj=4.8km s-min=2.5km az=142.6*

ISC 01 07:00:15.6±1.0, **42°26N**±0°02×**48°37E**±0°04, **h36**km±1km, **n100**, σ2s**06**/164, **mb3.6**/4, **22C-20D, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DRN	**Derbent**	**0.23**	**187**	*i*	*i*PG	**Pn**	**07 00 22.5**	**-1.1**
DRN				*i*			07 00 28.0	
DRN				pmax	pmax			
	comp=Z,3μm,0.4s							
DRN	**Derbent**	**0.23**	**187**	*i*	Pg	**Pn**	**07 00 22.6**	**-1.0**
DRN				*e*	Sg	**Sn**	**07 00 28.0**	**-2.6**
URKR	**Urkarakh**	**0.55**	**261**	⇑	*i*PG	**Pn**	**07 00 25.5**	**-1.6**
URKR	**Urkarakh**	**0.55**	**261**	*i*	Pg	**Pn**	**07 00 25.6**	**-1.5**
URKR				*e*	Sg	**Sn**	**07 00 32.8**	**-2.4**
SGKR	**Sergokala**	**0.56**	**291**	*e*	PG	**Pn**	**07 00 26.5**	**-0.7**
SGKR				*i*	S	**Sn**	**07 00 35.0**	**-0.3**
SGKR				pmax	pmax			
	comp=Z,1μm,0.1s							
SGKR	**Sergokala**	**0.56**	**291**	*e*	Pg	**Pn**	**07 00 26.5**	**-0.7**
SGKR				*i*	Sg	**Sn**	**07 00 35.0**	**-0.3**
KSMR	**Kasumkent**	**0.68**	**195**	⇓	*i*PG	**Pn**	**07 00 27.0**	**-1.8**
KSMR				*i*	S	**Sn**	**07 00 35.0**	**-3.1**
KSMR				pmax	pmax			
	comp=Z,1μm,0.1s							
KSMR	**Kasumkent**	**0.68**	**195**	*i*	Pg	**Pn**	**07 00 27.0**	**-1.8**
KSMR				*i*	Sg	**Sn**	**07 00 35.0**	**-3.1**
QSAR	**Qusar**	**0.75**	**186**	⇓	P	**Pn**	**07 00 29.1**	**-0.5**
	SNR=68							
QSAR				⇑	S	**Sn**	**07 00 39.3**	**-0.4**
QUBA	**Quba, Azerbaij**	**0.91**	**174**	⇓	P	**Pn**	**07 00 31.9**	**0.0**
	SNR=8.8							
QUBA				⇑	S	**Sn**	**07 00 44.6**	**+0.9**
AKT	**Akhty**	**0.91**	**212**	⇑	*i*PG	**Pn**	**07 00 30.7**	**-1.2**
AKT				*e*			07 00 41.7	
AKT				pmax	pmax			
	comp=Z,701nm,0.2s							
AKT				smax	smax			
	comp=N,4μm,0.2s							
AKT				smax	smax			
	comp=E,5μm,0.2s							
AKT				smax	smax			
	comp=E,5μm,0.2s							
AKT	**Akhty**	**0.91**	**212**	*i*	Pg	**Pn**	**07 00 30.8**	**-1.2**
AKT				*i*	Sg	**Sn**	**07 00 41.9**	**-2.1**
MAK	**Makhachkala**	**0.95**	**318**	*e*	PG	**Pn**	**07 00 34.6**	**+2.3**
MAK				*e*			07 00 48.0	
MAK				pmax	pmax			
	comp=Z,201nm,0.3s							
MAK				smax	smax			
	comp=N,2μm,0.3s							
MAK				smax	smax			
	comp=N,2μm,0.3s							
MAK	**Makhachkala**	**0.95**	**318**	*e*	Pg	**Pn**	**07 00 34.6**	**+2.3**
MAK				*e*	Sg	**Sn**	**07 00 48.1**	**+3.5**
KMKR	**Kumukh**	**0.95**	**263**	⇓	*i*PG	**Pn**	**07 00 32.0**	**-0.6**
KMKR				pmax	pmax			
	comp=Z,617nm,0.1s							
KMKR	**Kumukh**	**0.95**	**263**	*i*	Pg	**Pn**	**07 00 32.0**	**-0.6**
KMKR				*i*	Sg	**Sn**	**07 00 43.5**	**-1.6**
GNBR	**Gunib**	**1.05**	**278**	⇑	*i*PG	**Pn**	**07 00 33.4**	**-0.4**
GNBR				pmax	pmax			
	comp=Z,704nm,0.5s							
GNBR	**Gunib**	**1.05**	**278**	*i*	Pg	**Pn**	**07 00 33.4**	**-0.4**
GNBR				*e*	Sg	**Sn**	**07 00 47.1**	**-0.1**
ARKR	**Arakani**	**1.07**	**289**	⇓	*i*PG	**Pn**	**07 00 34.5**	**+0.4**
ARKR				*i*	S	**Sn**	**07 00 49.0**	**+1.2**
ARKR				pmax	pmax			
	comp=Z,233nm,0.1s							
ARKR	**Arakani**	**1.07**	**289**	*i*	Pg	**Pn**	**07 00 34.5**	**+0.4**
ARKR				*i*	Sg	**Sn**	**07 00 49.0**	**+1.2**
BUJR	**Buynaksk**	**1.09**	**302**	*e*	PG	**Pn**	**07 00 35.0**	**+0.7**
BUJR				*e*	Sg	**Sn**	**07 00 50.5**	**+2.3**
BUJR	**Buynaksk**	**1.09**	**302**	*e*	PG	**Pn**	**07 00 35.0**	**+0.7**
BUJR				*e*	S	**Sn**	**07 00 50.5**	**+2.3**
BUJR				pmax	pmax			
	comp=Z,143nm,0.1s							
XNQ	**Khinaliq**	**1.10**	**189**	P		**Pn**	**07 00 34.4**	**-0.2**
	SNR=115							
XNQ				⇓	S	**Sn**	**07 00 48.8**	**+0.2**
KRNR	**Karanay**	**1.22**	**298**	*e*	PG	**Pn**	**07 00 37.0**	**+0.8**
KRNR				pmax	pmax			
	comp=Z,114nm,0.2s							
KRNR	**Karanay**	**1.22**	**298**	*e*	Pg	**Pn**	**07 00 37.0**	**+0.8**
KRNR				*i*	Sg	**Sn**	**07 00 52.5**	**+1.0**
SIZA	**Siyzn**	**1.25**	**161**	⇓	P	**Pn**	**07 00 37.9**	**+1.4**
SIZA				⇓	S	**Sn**	**07 00 55.1**	**+3.0**
UNCR	**Uncukul**	**1.25**	**292**	⇓	*i*PG	**Pn**	**07 00 37.5**	**+1.0**
UNCR				*i*	S	**Sn**	**07 00 54.0**	**+1.8**
UNCR				pmax	pmax			
	comp=Z,178nm,0.2s							
UNCR	**Uncukul**	**1.25**	**292**	*i*	Pg	**Pn**	**07 00 37.5**	**+1.0**
UNCR				*i*	Sg	**Sn**	**07 00 54.0**	**+1.8**
XNZR	**Khunzakh**	**1.27**	**284**	⇑	*e*PG	**Pn**	**07 00 37.5**	**+0.7**
XNZR	**Khunzakh**	**1.27**	**284**	*e*	Pg	**Pn**	**07 00 37.6**	**+0.7**
XNZR				*e*	Sg	**Sn**	**07 00 52.9**	**+0.2**
SEKA	**Sheki**	**1.37**	**220**	PG		**Pn**	**07 00 37.9**	**-0.2**
SEKA	**Sheki**	**1.37**	**220**	P		**Pn**	**07 00 38.0**	**-0.2**
	SNR=100							
SEKA				⇑	S	**Sn**	**07 00 55.3**	**+0.3**
DBC	**Dubki**	**1.37**	**304**	⇑	*i*PG	**Pn**	**07 00 39.0**	**+0.8**
DBC				pmax	pmax			
	comp=Z,100nm,0.2s							
DBC	**Dubki**	**1.37**	**304**	*i*	Pg	**Pn**	**07 00 39.0**	**+0.8**
DBC				*i*	Sg	**Sn**	**07 00 56.6**	**+1.5**
QBL	**Gabala**	**1.37**	**197**	⇑	P	**Pn**	**07 00 39.2**	**+1.0**
	SNR=18							
QBL				⇓	S	**Sn**	**07 00 57.4**	**+2.3**
ZKTA	**Zakatala**	**1.44**	**245**		PG	**Pn**	**07 00 39.5**	**+0.4**
ZKTA	**Zakatala**	**1.44**	**245**	⇑	P	**Pn**	**07 00 39.6**	**+0.4**
ZKTA				⇓	S	**Sn**	**07 00 57.4**	**+0.5**
ATGJ	**Altiaghaj**	**1.46**	**163**	⇓	P	**Pn**	**07 00 41.4**	**+1.9**
ATGJ				⇑	S	**Sn**	**07 01 01.5**	**+4.1**
IML	**Ismayilli**	**1.47**	**186**	⇓	P	**Pn**	**07 00 41.5**	**+1.9**
	SNR=7.3							
IML				⇓	S	**Sn**	**07 00 58.9**	**+1.3**
PQL	**Pirkuli**	**1.48**	**173**	P		**Pn**	**07 00 41.6**	**+1.8**
	SNR=55							
PQL				⇓	S	**Sn**	**07 01 00.4**	**+2.5**
DLMR	**Dylym**	**1.52**	**303**	*e*	PN	**Pn**	**07 00 42.0**	**+1.8**
DLMR				pmax	pmax			
	comp=Z,172nm,0.1s							
DLMR	**Dylym**	**1.52**	**303**	*e*	Pg	**Pn**	**07 00 42.0**	**+1.8**
DLMR				*e*	Sg	**Sn**	**07 01 01.0**	**+2.3**
LGD	**Lagodekhi**	**1.64**	**256**	P		**Pn**	**07 00 42.5**	**+0.7**
LGD				S		**Sn**	**07 01 01.9**	**+0.2**
LGD	**Lagodekhi**	**1.64**	**256**	*e*	PN	**Pn**	**07 00 42.5**	**+0.7**
LGD	**Lagodekhi**	**1.64**	**256**	*e*	Pg	**Pn**	**07 00 42.5**	**+0.7**
LGD				*e*	Sg	**Sn**	**07 01 01.9**	**+0.2**
BTLR	**Botlikh**	**1.64**	**285**	⇑	*e*PN	**Pn**	**07 00 43.1**	**+1.2**
BTLR				pmax	pmax			
	comp=Z,238nm,0.4s							
BTLR	**Botlikh**	**1.64**	**285**	*e*	Pg	**Pn**	**07 00 43.2**	**+1.3**
BTLR				*e*	Sg	**Sn**	**07 01 03.6**	**+1.8**
GBS	**Qobustan**	**1.77**	**166**	⇑	P	**Pn**	**07 00 46.8**	**+3.1**
GBS				⇑	S	**Sn**	**07 01 09.4**	**+4.3**
DVE	**Vedeno**	**1.80**	**294**	*e*	PN	**Pn**	**07 00 46.4**	**+2.3**
DVE	**Vedeno**	**1.80**	**294**	*e*	Pg	**Pn**	**07 00 46.4**	**+2.3**
DVE				*e*	Sg	**Sn**	**07 01 09.1**	**+3.4**
DDFL	**Dedoflistskaro**	**1.87**	**245**	P		Pn	07 00 49.3	+4.2
DDFL				S		**Sn**	**07 01 15.2**	**+7.8**
GROC	**Groznyy**	**2.12**	**297**	*e*	PN	**Pn**	**07 00 50.7**	**+2.3**
GROC				*e*	S	**Sn**	**07 01 19.1**	**+5.6**
GROC				pmax	pmax			
	comp=Z,90nm,1.3s							
GROC				smax	smax			
	comp=E,335nm,0.8s							
GROC				smax	smax			
	comp=N,459nm,0.9s							
GROC				smax	smax			
	comp=N,251nm,0.9s							
GROC	**Groznyy**	**2.12**	**297**	*e*	Pg	**Pn**	**07 00 51.5**	**+3.0**
GROC				*e*	Sg	**Sn**	**07 01 16.7**	**+3.2**
GANJ	**Ganja**	**2.23**	**224**	PN		**Pn**	**07 00 50.4**	**+0.4**
GANJ	**Ganja**	**2.23**	**224**	⇑	P	**Pn**	**07 00 50.4**	**+0.4**
GANJ				⇓	S	**Sn**	**07 01 17.4**	**+1.2**
DGRG	**David-gareji**	**2.38**	**251**	P		**Pn**	**07 00 54.0**	**+2.0**
DGRG				S		**Sn**	**07 01 24.1**	**+4.1**
DGRG	**David-gareji**	**2.38**	**251**	*e*	PN	**Pn**	**07 00 54.0**	**+2.0**
DGRG				*e*	S	**Sn**	**07 01 24.1**	**+4.1**
DGRG	**David-gareji**	**2.38**	**251**	*e*	Pg	**Pn**	**07 00 54.0**	**+2.0**
DGRG				*e*	Sg	**Sn**	**07 01 24.1**	**+4.1**
GDB	**GEDABAY**	**2.49**	**233**	⇓	P	**Pn**	**07 00 53.8**	**0.0**
GDB				⇑	S	**Sn**	**07 01 22.9**	**-0.1**
QZX	**Qazax, Azerbai**	**2.55**	**243**	⇑	P	**Pn**	**07 00 54.8**	**+0.4**
QZX				⇑	S	**Sn**	**07 01 24.5**	**+0.4**
SEAG	**Tbilisi Sea**	**2.70**	**261**	P		**Pn**	**07 00 57.0**	**+0.5**
SEAG				S		**Sn**	**07 01 29.9**	**+1.9**
TBLG	**Delisi**	**2.76**	**260**	P		**Pn**	**07 00 58.2**	**+0.9**
TBLG				S		**Sn**	**07 01 30.9**	**+1.6**
TBLG	**Delisi**	**2.76**	**260**	*e*	PN	**Pn**	**07 00 58.1**	**+0.9**
TBLG	**Delisi**	**2.76**	**260**	*e*	Pn	**Pn**	**07 00 58.2**	**+0.9**
TBLG				*e*	Sn	**Sn**	**07 01 30.9**	**+1.6**
GUDG	**Gudauri**	**2.89**	**275**	P		**Pn**	**07 01 01.6**	**+2.4**
LACR	**Lac**	**3.06**	**282**	*e*	PN	**Pn**	**07 01 03.6**	**+2.1**
LACR				*e*	S	**Sn**	**07 01 39.4**	**+2.4**
LACR	**Lac**	**3.06**	**282**	*e*	Pn	**Pn**	**07 01 03.4**	**+1.9**
ARNR	**Ardon**	**3.15**	**288**	*i*	PN	**Pn**	**07 01 03.9**	**+1.3**
ARNR	**Ardon**	**3.15**	**288**	*e*	Pn	**Pn**	**07 01 03.9**	**+1.3**
ARNR				*e*	Sn	**Sn**	**07 01 38.6**	**-0.3**
ZEI	**Tsey**	**3.34**	**281**	*i*	PN	**Pn**	**07 01 06.9**	**+1.4**
ZEI	**Tsey**	**3.34**	**281**	*e*	Pn	**Pn**	**07 01 07.3**	**+1.8**
ZEI				*e*	Sn	**Sn**	**07 01 43.3**	**-0.8**
GNI	**Garni**	**3.45**	**234**	Pn		**Pn**	**07 01 07.6**	**+0.7**
	comp=N,2.9nm,0.3s,baz=53,slow=14,SNR=3.3							
GNI				Sn		**Sn**	**07 01 44.8**	**-1.9**
	comp=N,4.6nm,0.3s,baz=37,slow=15,SNR=3.1							
DIGR	**Digorskoe uzhe**	**3.59**	**282**	*e*	Pn	**Pn**	**07 01 10.7**	**+1.8**
DIGR				*e*	Sn	**Sn**	**07 01 50.3**	**+0.1**
LRK	**Lerik**	**3.61**	**180**	⇑	P	**Pn**	**07 01 09.4**	**+0.2**
LRK				⇓	S	**Sn**	**07 01 51.1**	**+0.6**
ASTR	**Astara**	**3.71**	**175**	⇓	S	**Sn**	**07 01 52.4**	**-0.3**
NCK	**Nalchik**	**3.72**	**291**	*i*	PN	**Pn**	**07 01 12.0**	**+1.5**
NCK	**Nalchik**	**3.72**	**291**	*e*	Pn	**Pn**	**07 01 12.0**	**+1.5**
NAX	**Nakhchivan**	**3.78**	**216**	⇓	P	**Pn**	**07 01 12.4**	**+1.1**
KBTC	**Kuba-Taba**	**3.96**	**295**	*e*	Pn	**Pn**	**07 01 13.8**	**+0.1**
KBTC				*e*	Sn	**Sn**	**07 01 58.9**	**0.0**
PYA1	**Pyatigorsk**	**4.26**	**297**	*e*	Pn	**Pn**	**07 01 19.3**	**+1.5**
PYA1				*e*	Sn	**Sn**	**07 02 06.6**	**+0.3**
KBZ	**Khabaz**	**4.27**	**292**	Pn		**Pn**	**07 01 19.1**	**+1.1**
	comp=N,0.7nm,0.3s,baz=112,slow=6.3,SNR=12							
KBZ				Sn		**Sn**	**07 02 07.3**	**+0.7**
	comp=N,2.4nm,0.3s,baz=74,slow=14,SNR=5.7							
NEY	**Neytrino**	**4.28**	**285**	*i*	PN	**Pn**	**07 01 20.0**	**+1.8**
NEY	**Neytrino**	**4.28**	**285**	*e*	Pn	**Pn**	**07 01 19.8**	**+1.6**
NEY				*e*	Sn	**Sn**	**07 02 05.9**	**-1.0**
SHA1	**Shidzhatmaz**	**4.44**	**291**	*e*	Pn	**Pn**	**07 01 21.5**	**+0.9**
SHA1				*e*	Sn	**Sn**	**07 02 12.7**	**+1.6**
KIV0	**Kislovodsk Arr**	**4.49**	**294**	*e*	Pn	**Pn**	**07 01 22.1**	**+1.0**
KIV0				*e*	Sn	**Sn**	**07 02 11.0**	**-1.1**
KVAR	**Kislovodsk Arr**	**4.49**	**294**	Pn		**Pn**	**07 01 22.6**	**+1.5**
	baz=108,slow=20,SNR=3.2							
KVAR				Sn		**Sn**	**07 02 13.4**	**+1.4**
	baz=183,slow=18,SNR=4.4							
KIV	**Kislovodsk**	**4.49**	**294**	*e*	PN	**Pn**	**07 01 21.7**	**+0.6**
KIV				*e*	S	**Sn**	**07 02 16.9**	**+4.7**
KIV				pmax	pmax			
	comp=Z,10.0nm,1.0s							
KIV	**Kislovodsk**	**4.49**	**294**	*e*	Pn	**Pn**	**07 01 21.7**	**+0.6**
GOF	**Gofitskoye**	**4.77**	**308**	*e*	PN	Pn	07 01 34.9	+10
GOF				*e*	S	**Sn**	**07 02 20.4**	**+1.5**
GOF				pmax	pmax			
	comp=Z,30nm,0.6s							
GOF				smax	smax			
	comp=E,70nm,0.8s							
GOF				smax	smax			
	comp=N,40nm,0.6s							
GEYT	**Alibeck**	**8.63**	**117**	Pn		**Pn**	**07 02 17.1**	**-0.8**
	comp=N,0.6nm,0.3s,baz=307,slow=14,SNR=4.1							
GEYT				Sn		**Sn**	**07 03 51.0**	**-2.9**
	comp=N,0.3nm,0.3s,baz=68,slow=40,SNR=2.6							
AKTO	**Aktyubinsk**	**10.54**	**36**	Pn		**Pn**	**07 02 43.6**	**-0.4**
	comp=N,0.6nm,0.3s,baz=221,slow=11,SNR=7.7							
AKTO				Sn		**Sn**	**07 04 35.2**	**-5.5**
	comp=N,0.5nm,0.3s,baz=178,slow=23,SNR=4.7							
OBN	**Obninsk**	**15.01**	**333**	⇑	*e*P	**Pn**	**07 03 44.8**	**0.0**
OBN				pmax	pmax			
	comp=Z,4.0nm,0.7s							
OBN				MLR	MLR			
	comp=Z,53nm,16.0s							
ARU	**Arti**	**15.63**	**21**	*c*	*i*P	**Pn**	**07 03 48.3**	**-4.7**
ARU					S	**Sn**	**07 06 39.3**	**-5.6**
ARU				pmax	pmax			
	comp=Z,1.0nm,0.3s							
BRVK	**Borovoye**	**18.21**	**46**	*i*	P	**P**	**07 04 19.0**	**-6.3**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.7s							
BVAR	**Borovoye Array**	**18.26**	**46**	Pn		**P**	**07 04 24.8**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=246,slow=14,SNR=3.2							
IDI	**Anoyia**	**19.55**	**257**	P		**P**	**07 04 37.2**	**-2.9**
	comp=Z,0.6nm,0.3s,baz=27,slow=15,SNR=3.3							
KURBB	**Kurchatov Arra**	**22.28**	**58**	P		**P**	**07 05 11.6**	**+2.2**
	comp=Z,0.7nm,0.3s,baz=265,slow=10,SNR=4.3							
KURK	**Kurchatov**	**22.35**	**57**	P		**P**	**07 05 11.6**	**+1.4**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.2s							
MKAR	**Makanchi Array**	**24.49**	**68**	P		**P**	**07 05 33.4**	**+2.2**
	comp=Z,0.7nm,0.4s,baz=266,slow=9.7,SNR=9.4							
TORD	**Torodi Ar. Bea**	**49.64**	**248**	P		**P**	**07 09 00.8**	**-2.9**
	comp=Z,0.3nm,0.5s,baz=32,slow=8.1,SNR=4.9							

MEX 01 07:02:41.2±0.4, **28°06N**×**112°13W**, **h5**km±8km, **MD4.0, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SRIG	**Santa Rosalia**	**0.74**	**188**	*e*	P	Pg	07 02 54.3	-1.2
SRIG				*i*	S	Sg	07 03 04.6	-0.5
GUYB	**Guaymas**	**1.12**	**98**	*e*	P	Pg	07 02 59.5	-3.3
GUYB				*e*	S	Sg	07 03 14.1	-3.2
HSIG		**1.41**	**47**	*e*	P	Pn	07 03 04.3	-3.3
HSIG				*e*	S	Sb	07 03 21.9	-4.5

NNC 01 07:28:57.1±1.2, **48°96N**×**68°60E**, **h0**km, **mb3.6, mpv3.2, 3C-3D, Error ellipse: s-maj=16.1km s-min=11.7km az=168.0, Suspected Mining explosion., Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AB31	**Akbulak array**	**5.70**	**276**	Pn		Pn	07 30 22.9	0.0
	0.5nm,0.1s,baz=94,slow=7.9,SNR=13							
AB31				⇓	Lg	Lg	07 31 56.5	
	1.9nm,0.5s							
KK31	**Karatay Array**	**6.00**	**167**	Pn		Pn	07 30 28.5	+1.3
	0.3nm,0.2s,baz=359,slow=12,SNR=9.2							
KK31				⇑	Sn	Sn	07 31 37.1	+0.4
	1.2nm,0.3s,baz=351,slow=23,SNR=9.9							
KURBB	**Kurchatov Arra**	**6.64**	**72**	⇑	Pn	Pn	07 30 36.0	+0.1
	1.0nm,0.3s							
KURBB				⇓	Lg	Lg	07 32 29.4	
	9.2nm,0.7s							
KURK	**Kurchatov**	**6.71**	**71**	⇓	Pn	Pn	07 30 37.0	+0.1
	1.3nm,0.8s							
KURK				⇑	Lg	Lg	07 32 27.2	
	4.6nm,0.8s							
MK31	**Makanchi Array**	**9.45**	**98**	Pn		Pn	07 31 14.5	0.0
	0.5nm,0.2s,baz=277,slow=13,SNR=7.4							

*DDA **01** 07:30:14.5, 37°44N×37°19E, h7km, Ml2.6*
*ISCJB **01** 07:30:15.7±0.7, 37°30N±0°05×37°09E±0°05, h11km, Error ellipse: s-maj=7.8km s-min=5.6km az=29.3*

ISC 01 07:30:15.7±1.0, **37°36N**±0°05×**37°15E**±0°04, **h11**km, **n6**, σ1s**09**/10, **Turkey**

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

	1.8nm,0.5s,baz=142,slow=12,SNR=49							
AB31				S	S	07 41 23.1	+3.4	
	1.1nm,0.5s,baz=152,slow=24,SNR=5.2							
ABKAR	**Akbulak array**	14.93	332	*e*Pn	P	07 38 35.1	+0.2	
WMQ	**Urumqi**	15.03	55	*e*P	P	07 38 40.6	+4.5	
KKN	**Kakani**	15.19	121	*e*P	Pn	07 38 38.4	+0.6	
	27nm,0.6s							
KURBB	**Kurchatov Arra**	15.28	20	P	Pn	07 38 36.7	-1.8	
	0.2nm,0.3s,baz=211,slow=11,SNR=9.3							
KURK	**Kurchatov**	15.39	20	*e*Pn	Pn	07 38 39.5	-0.2	
PKIN	**Phulchoki**	15.40	121	*e*P	Pn	07 38 40.8	+0.4	
	15nm,0.4s							
PKI	**Pulchoki**	15.41	121	*e*P	Pn	07 38 41.0	+0.4	
	14nm,0.4s							
JIRN	**Jiri**	15.90	119	*e*P	P	07 38 47.0	+0.8	
	26nm,0.4s							
BVAR	**Borovoye Array**	16.56	360	P	Pn	07 38 53.5	-0.3	
	1.7nm,0.3s,baz=161,slow=9.4,SNR=22							
BRVK	**Borovoye**	16.59	359	⇓P	Pn	07 38 53.8	-0.4	
	8.6nm,1.0s							
BRVK	**Borovoye**	16.59	359	*e*P	Pn	07 38 54.6	+0.4	
	8.5nm,1.0s							
AKTO	**Aktyubinsk**	16.62	331	P	Pn	07 38 55.8	+1.2	
	1.9nm,0.3s,baz=143,slow=11,SNR=22							
AKTO	**Aktyubinsk**	16.62	331	⇓P	Pn	07 38 55.2	+0.6	
	11nm,0.8s							
RAMN	**Ramite**	16.62	120	*e*P	P	07 38 52.4	-1.6	
ZAA0	**Zalesovo Array**	20.11	25	*e*P	P	07 39 32.3	+1.1	
	2.6nm,0.6s							
ZALV	**Zalesovo Beam**	20.11	25	P	P	07 39 29.9	-1.3	
	2.4nm,0.4s,baz=216,slow=12,SNR=9.3							
ZALV	**Zalesovo Beam**	20.11	25	*e*P	P	07 39 31.9	+0.8	
ARU	**Arti**	21.54	342	P	P	07 39 47.3	+1.0	
	3.4nm,0.6s,baz=135,slow=5.7,SNR=5.4							
GTA	**Gaotai**	23.24	74	*e*P	P	07 40 08.2	+5.8	
GTA				pP	pP	07 40 48.2	+8.6	
GTA				pmax	pmax			
	comp=Z,3.0nm,0.9s							
LZH	**Lanzhou**	26.79	81	⇓P	P	07 40 41.5	+7.0	
LZH				pP	pP	07 41 25.2	+10	
LZH				PP	PP	07 41 34.7	-4.5	
LZH				pmax	pmax			
	comp=Z,19nm,1.1s							
LZH				pmax	pmax			
	comp=Z,68nm,4.7s							
HHC	**Hu-ho-hao-te**	32.13	69	*e*P	P	07 41 29.2	+7.7	
HHC				pmax	pmax			
	comp=Z,130nm,6.6s							
CLL	**Collm**	42.92	309	*e*P	P	07 42 51.0	-0.6	
TORD	**Torodi Ar. Bea**	65.34	268	P	P	07 45 31.8	-2.1	
	0.2nm,0.4s,baz=40,slow=5.3							
WRA	**Warramunga Arr**	82.30	122	P	P	07 47 08.7	-3.5	
	0.7nm,0.6s,baz=324,slow=5.1,SNR=12							
ASAR	**Alice Springs**	84.55	125	P	P	07 47 20.3	-3.2	
	0.7nm,0.7s,baz=310,slow=5.0,SNR=8.9							

IDC 01 07:45:08.7±2.4, 54°19N×86°07E, h0km, mb1 3.0/2, mb1mx2.9/59, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=18.9km s-min=11.3km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	0.78	252	*i*		07 50 00.0	
	baz=75,slow=329,SNR=0.9						
ZALV	**Zalesovo Beam**	0.78	252	Pg	Pg	07 45 23.2	-0.4
	1.5nm,0.3s,baz=70,slow=19,SNR=10						
ZALV				Lg	Lg	07 45 35.1	
	3.9nm,0.3s,baz=68,slow=29,SNR=14						
KURBB	**Kurchatov Arra**	5.84	235	Pn	Pn	07 46 36.1	-0.3
	0.0nm,0.3s,baz=52,slow=14,SNR=3.2						
MKAR	**Makanchi Array**	7.79	200	Pn	Pn	07 47 04.9	+1.6
	0.4nm,0.3s,baz=22,slow=13,SNR=11						

*ISCJB **01** 07:46:13.2±0.4, 24°.34N±0°.01×122°.11E±0°.01, h10km±2km, Error ellipse: s-maj=2.3km s-min=2.0km az=32.6*
*JMA **01** 07:46:13.4±0.1, 24°.29N×122°.01E, h46km±2km, M2.4*
*TAP **01** 07:46:13.8, 24°.37N×122°.03E, h11km, ML3.2, B*
ISC 01 07:46:13.4±0.9, 24°32N±0°.02×122°08E±0°.02, h15km±8km, n71, σ0°54/138, 2C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	0.23	11	*e*P	Pb	07 46 19.9	+0.6
	baz=26						
EOS1				*e*S	Sb	07 46 24.1	+0.9
	baz=26						
NANB	**Nanao**	0.32	289	*e*P	Pg	07 46 19.9	0.0
	baz=281						
NANB				*e*S	Sg	07 46 24.6	+0.1
	baz=281						
ENA	**Nanau**	0.33	289	P	Pg	07 46 20.1	0.0
	baz=281						
ENA				*i* S	Sg	07 46 24.9	+0.2
	baz=281						
TWC	**Suao**	0.35	324	⇑*i* P	Pg	07 46 20.4	-0.2
	baz=326						
TWC				*i* S	Sg	07 46 25.0	-0.5
	baz=326						
NACB	**Ninganchiao**	0.47	251	*e*P	Pg	07 46 22.9	+0.2
	baz=243						
NACB				*e*S	Sb	07 46 30.4	+0.4
	baz=243						
TWD	**Chiawan**	0.50	241	P	Pg	07 46 23.5	+0.2
	baz=233						
TWD				*i* S	Sb	07 46 31.9	+0.8
	baz=233						
ILA	**Ilan**	0.53	326	*e*P	Pg	07 46 24.1	+0.2
	baz=327						
ILA				S	Sg	07 46 31.4	+0.3
	baz=327						
EGS		0.54	346	P	Pg	07 46 24.1	+0.2
	baz=350						
EGS				S	Sg	07 46 30.8	-0.4
	baz=350						
HWA	**Hwalien**	0.55	232	*e*P	Pb	07 46 25.1	+0.3
	baz=223						
HWA				*e*S	Sn	07 46 34.6	-1.1
	baz=223						
ENTT	**Nioudou**	0.56	304	⇓*i* P	Pg	07 46 25.0	+0.5
	baz=302						
ENTT				*i* S	Sg	07 46 31.8	-0.2
	baz=302						
NTC	**Toucheng**	0.57	337	*e*P	Pg	07 46 24.4	-0.3
	baz=339						
NTC				*e*S	Sg	07 46 32.0	-0.4
	baz=339						
NNSB	**Datong**	0.64	280	*e*P	Pg	07 46 25.6	-0.4
	baz=275						
NNSB				S	Sg	07 46 34.7	+0.2
	baz=275						
NNS	**Nan Shan**	0.65	280	P	Pg	07 46 26.0	-0.2
	baz=276						
NNS				*i* S	Sg	07 46 34.9	0.0
	baz=276						
TIPB	**Shuangxi**	0.69	340	P	Pg	07 46 26.5	-0.3
	baz=342						
TIPB				S	Sg	07 46 35.3	-0.6
	baz=342						
TWB1	**Santiao Chiao**	0.69	353	*e*P	Pg	07 46 26.5	-0.3
	baz=357						
TWB1				S	Sg	07 46 35.7	-0.2
	baz=357						
NWLT	**Wulai**	0.69	311	*e*P	Pg	07 46 26.6	-0.3
	baz=309						
NWLT				*e*S	Sg	07 46 35.5	-0.6
	baz=309						
YHNB	**Yeheng**	0.73	298	*e*P	Pg	07 46 27.1	-0.5
	baz=296						
YHNB				*e*S	Sg	07 46 36.2	-0.9
	baz=296						
NSK	**Sanguang**	0.74	298	*i* P	Pg	07 46 27.4	-0.4
	baz=296						
NSK				S	Sg	07 46 36.6	-1.1
	baz=296						
WHF	**Hehuan Shan**	0.76	257	P	Pg	07 46 28.0	-0.3
	baz=251						
WHF				*i* S	Sb	07 46 39.2	+0.2
	baz=251						
ESL	**Shilin**	0.78	229	⇑*i* P	Pg	07 46 27.8	-0.7
	baz=223						
ESL				*i* S	Sb	07 46 39.6	+0.6
	baz=223						
NWF	**Wu-fen Shan**	0.79	340	*i* P	Pg	07 46 29.1	+0.3
	baz=341						
NWF				*i* S	Sg	07 46 39.0	-0.3
	baz=341						
WFSB	**Wu-fen Shan**	0.79	340	*e*P	Pg	07 46 29.0	+0.2
	baz=341						
WFSB				*e*S	Sg	07 46 39.1	-0.1
	baz=341						
TWA	**Mucha**	0.79	326	*e*P	Pg	07 46 29.3	+0.5
	baz=326						
TWA				S	Sg	07 46 39.2	-0.1
	baz=326						
JYNG	**Yonagunijimaku**	0.80	81	P	Pb	07 46 29.3	+0.3
JYNG				S	Sb	07 46 40.9	+1.2
TATO	**Taipei**	0.84	321	*e*P	Pb	07 46 29.1	-0.7
	baz=320						
TATO				*e*S	Sg	07 46 39.9	-0.9
	baz=320						
TDCB	**Techi**	0.84	265	*e*P	Pg	07 46 29.4	-0.4
	baz=261						
TDCB				*e*S	Sg	07 46 40.8	-0.1
	baz=261						
YOJ	**Yonaguni jima**	0.86	81	*e*P	Pb	07 46 30.2	+0.2
	baz=83						
YOJ				*e*S	Sn	07 46 42.7	-0.6
	baz=83						
YOJ	**Yonaguni jima**	0.86	81	P	Pb	07 46 30.3	+0.2
YOJ				S	Sb	07 46 42.5	+1.1
CHGB	**Renai**	0.87	253	*e*P	Pg	07 46 29.6	-0.6
	baz=248						
CHGB				*e*S	Sg	07 46 41.8	+0.2
	baz=248						
EGFH	**Guangfu**	0.88	223	*e*P	Pg	07 46 30.5	0.0
	baz=218						
EGFH				*e*S	Sb	07 46 42.5	+0.5
	baz=218						
TAP	**Taipei**	0.88	324	*e*P	Pb	07 46 30.8	+0.4
	baz=324						
TAP				*e*S	Sb	07 46 42.2	+0.1
	baz=324						
WLTB	**Daxi**	0.92	305	*e*P	Pb	07 46 30.8	-0.2
	baz=303						
WLTB				*e*S	Sb	07 46 42.8	-0.2
	baz=303						
YM01	**YM01**	0.94	331	*e*P	Pb	07 46 32.5	+0.9
	baz=331						
YM01				*e*S	Sb	07 46 43.8	0.0
	baz=331						
YM07	**YM07**	0.94	334	*e*P	Pb	07 46 30.9	-0.6
	baz=334						
YM07				*e*S	Sb	07 46 44.7	+0.8
	baz=334						
YM10	**YM10**	0.95	331	P	Pb	07 46 31.8	+0.1
	baz=331						
YM10				*e*S	Sb	07 46 44.2	0.0
	baz=331						
YM11	**YM11**	0.96	331	*e*P	Pb	07 46 31.5	-0.2
	baz=332						
YM11				*e*S	Sb	07 46 44.5	+0.3
	baz=332						
YM05	**YM05**	0.96	331	*e*P	Pb	07 46 31.7	-0.1
	baz=331						
YM05				*e*S	Sb	07 46 44.0	-0.3
	baz=331						
YM04	**YM04**	0.96	329	*e*P	Pb	07 46 31.8	-0.1
	baz=329						
YM08	**YM08**	0.97	333	*e*P	Pb	07 46 31.7	-0.2
	baz=333						
YM08				*e*S	Sb	07 46 44.3	-0.3
	baz=333						
TWS1	**Kuangyinshan**	0.98	322	P	Pb	07 46 32.3	+0.2
	baz=322						
TWS1				*e*S	Sb	07 46 45.1	+0.2
	baz=322						
YM03	**YM03**	0.98	330	*e*P	Pb	07 46 31.4	-0.8
	baz=330						
YM03				*e*S	Sb	07 46 44.3	-0.7
	baz=330						
NTST	**Danshui**	1.01	326	*e*P	Pb	07 46 32.2	-0.5
	baz=326						
NTST				*e*S	Sb	07 46 46.4	+0.6
	baz=326						
LIOB	**Emei**	1.02	289	P	Pb	07 46 32.7	-0.1
	baz=286						
LIOB				*e*S	Sb	07 46 46.8	+0.7
	baz=286						
NSTT	**Nanjuang**	1.03	288	P	Pb	07 46 32.8	-0.1
	baz=285						
NSTT				*e*S	Sb	07 46 46.2	0.0
	baz=285						
NCU	**National Centr**	1.04	309	*e*P	Pb	07 46 33.4	+0.3
	baz=307						
NCU				*e*S	Sg	07 46 48.0	+1.1
	baz=307						
NCUH	**Zhongli**	1.04	308	*e*P	Pb	07 46 33.0	-0.1
	baz=307						
NCUH				*e*S	Sn	07 46 48.4	+0.7
	baz=307						
TWY	**Chenhua**	1.04	335	*e*P	Pb	07 46 32.8	-0.4
	baz=336						
TWY				*e*S	Sb	07 46 46.2	-0.5
	baz=336						
SBCB	**Hsinchu**	1.10	295	*e*P	Pb	07 46 34.2	0.0
	baz=293						
SSLB	**Suanglung**	1.16	243	*e*P	Pb	07 46 34.0	-1.2
	baz=239						
SSLB				*e*S	Sb	07 46 50.2	+0.2
	baz=239						
SMLT	**Sun Moon Lake**	1.16	248	*e*P	Pb	07 46 34.8	-0.5
	baz=244						
SMLT				*e*S	Sb	07 46 50.4	+0.2
	baz=244						
TWQ1	**Liyutan**	1.19	271	P	Pn	07 46 35.9	+0.3
	baz=268						
TWQ1				S	Sg	07 46 52.3	+0.4
	baz=268						
TYC	**Yuchr**	1.19	250	P	Pg	07 46 37.1	+0.8
	baz=246						
TYC				*e*S	Sg	07 46 52.3	+0.4
	baz=246						
NMLH	**Miaoli**	1.19	281	*e*P	Pb	07 46 36.1	+0.4
	baz=278						
NMLH				*e*S	Sg	07 46 53.1	+1.1
	baz=278						
NSY	**Sanyi**	1.21	275	P	Pb	07 46 36.4	+0.4
	baz=272						
NSY				*e*S	Sg	07 46 53.2	+0.9
	baz=272						
PTSB	**Yuanli**	1.26	276	*e*P	Pb	07 46 37.2	+0.4
	baz=273						
PTSB				*e*S	Sg	07 46 54.6	+0.6
	baz=273						
TCU	**Taichung**	1.29	263	*e*P	Pn	07 46 37.4	+0.5
	baz=259						
TCU				*e*S	Sg	07 46 55.7	+0.6
	baz=259						
FULB	**Fuli**	1.33	213	P	Pn	07 46 36.5	-1.0
	baz=209						
FULB				*e*S	Sg	07 46 56.0	-0.3
	baz=209						
WJS	**Zhushan**	1.33	248	*e*P	Pb	07 46 38.2	+0.1
	baz=245						
WJS				*e*S	Sg	07 46 57.5	+1.2
	baz=245						
WNT	**Mingjian**	1.35	251	*e*P	Pg	07 46 39.0	-0.3
	baz=247						
WNT				S	Sg	07 46 57.2	+0.3
	baz=247						
IRIF	**Iriomote-Funau**	1.51	89	P	Pn	07 46 39.5	-0.4
IRIF				S	Sn	07 46 59.0	-0.3
CHN4	**Tsaushan**	1.67	235	*e*P	Pb	07 46 43.7	-0.2
	baz=232						
CHN4				*e*S	Sg	07 47 06.0	-1.1
	baz=232						
STYT	**Tauyuan**	1.67	227	*e*P	Pn	07 46 42.5	+0.2
	baz=223						
TPUB	**Ta-pu**	1.67	233	*e*P	Pn	07 46 42.8	+0.6
	baz=230						
TPUB				*e*S	Sb	07 47 05.4	+0.6
	baz=230						
WTP	**Ta-pu**	1.72	232	*e*P	Pn	07 46 43.1	+0.2
	baz=228						
WTP				*e*S	Sb	07 47 06.6	+0.5
	baz=228						
JKRS	**Kuro-shima**	1.76	92	P	Pn	07 46 43.9	+0.5
JKRS				S	Sn	07 47 06.1	+0.5
TWK	**Hsinying**	1.80	234	*e*P	Pb	07 46 45.3	-0.8
	baz=231						
TWK				*e*S	Sb	07 47 08.3	-0.2
	baz=231						
CHN1	**Nanshi**	1.82	232	*e*P	Pn	07 46 45.2	+1.0
	baz=229						
CHN1				*e*S	Sb	07 47 09.2	+0.2
	baz=229						
SGST	**Jiashian**	1.84	228	*e*P	Pn	07 46 45.8	+1.2
	baz=225						
SGST				*e*S	Sb	07 47 09.6	-0.2
	baz=225						
SLGT	**Liugui**	1.86	225	*e*S	Sb	07 47 10.3	0.0
	baz=222						
JIJ	**Ishigaki jima**	1.88	88	P	Pn	07 46 44.7	-0.4
JIJ				S	Sn	07 47 07.4	-1.2
JISG	**Ishigakijimahi**	2.05	82	P	Pn	07 46 46.8	-0.6
JISG				S	Sn	07 47 11.8	-0.9

*ISK **01** 07:48:42.9, 38°.68N×43°.05E, h5km, ML2.4/4*
*ISCJB **01** 07:48:43.9±0.6, 38°.72N±0°.04×43°.04E±0°.04, h12km±7km, Error ellipse: s-maj=7.6km s-min=5.1km az=15.6*
*DDA **01** 07:48:44.4, 38°.73N×43°.12E, h7km, Ml2.8*
ISC 01 07:48:43.4±1.2, 38°69N±0°.03×43°08E±0°.03, h10km±14km, n10, σ0°67/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	0.26	111	PG	Pb	07 48 49.9	-0.5
VANB				SG	Sb	07 48 54.7	-0.3
ADCV	**BITLIS_Adilcev**	0.30	293	*i* P	Pg	07 48 50.4	+0.9
ADCV				*i* S	Sb	07 48 56.4	+0.3
TVAN	**Van**	0.31	122	*i* P	Pg	07 48 50.0	+0.3
TVAN				*i* S	Sb	07 48 55.6	-0.7
GEVA	**Gevas**	0.38	182	*i* P	Pg	07 48 51.1	+0.2
GEVA				*i* S	Sb	07 48 59.5	+1.2
VMUR	**Van-Muradiye**	0.49	52	*i* P	Pg	07 48 53.2	+0.2
VMUR				*i* S	Sb	07 49 01.9	+0.4
TUTA	**Tutak**	0.74	344	*i* P	Pg	07 48 57.6	-0.2
TUTA				*i* S	Sg	07 49 06.4	-1.0
CLDR	**Caldiran**	0.80	55	PG	Pg	07 48 59.0	+0.2
CLDR				SG	Sb	07 49 11.2	+0.7
CLDR	**Caldiran**	0.80	55	*i* P	Pb	07 48 59.8	+0.3
CLDR				*i* S	Sb	07 49 11.4	+0.9
GURO	**Guroymak-BITLI**	0.83	261	PG	Pg	07 48 59.0	-0.4
AGRB	**Hanur-Agry**	0.89	356	PG	Pg	07 49 00.4	-0.1

*NIED **01** 07:53:00, 35°.70N×140°.90E, h14km, Mw3.9 Best double couple: M0=9.08000×10^14 NP1:φ0=10.00000°, δ36.00000°, λ=-69.00000°. NP2:φ0=165.00000°, δ57.00000°, λ=-104.00000°.*
*IDC **01** 07:53:08.5±0.7, 35°.69N×141°.07E, h0km, mb3.6/9, mb1 3.8/12, mb1mx3.7/64, mbtmp3.6/12, ML3.4/3, MS2.9/3, Ms1 2.9/3, ms1mx2.4/40, Error ellipse: s-maj=18.5km s-min=17.3km az=73.0*
*ISCJB **01** 07:53:10.4±0.8, 35°.69N±0°.04×141°.05E±0°.08, h23km±5km, mb3.7/10, Error ellipse: s-maj=10.4km s-min=6.9km az=172.4*
*JMA **01** 07:53:12.2±0.2, 35°.70N×140°.95E, h14km±1km, M4.0*
JMA Felt II J1.
ISC 01 07:53:10.8±1.2, 35°67N±0°.05×141°02E±0°.07, h15km±6km, n31, σ0°90/27, mb3.6/10, 3C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	0.13	283	⇓P	Pg	07 53 14.9	+0.4
CHOJ				S	Sg	07 53 17.0	+0.1
JSMT	**Sammumatsuo**	0.47	266	P	Pb	07 53 20.8	+0.1
JIHU	**Itakohorinouch**	0.49	306	P	Pb	07 53 21.4	+0.2
JCN	**Nagara**	0.71	249	⇑P	Pn	07 53 25.8	-0.6
JYT	**Yasato**	0.87	310	⇑P	Pg	07 53 26.9	-0.8
JYT				S	Sg	07 53 37.4	-1.7
BSO4	**Boso 4**	0.88	219	P	Pn	07 53 28.9	+0.3
BSO3	**Boso 3**	0.96	206	P	Pn	07 53 29.9	+0.3
JHO	**Hitachi**	1.00	339	⇑P	Pb	07 53 29.3	-0.6
MJAR	**Matsushiro Arr**	2.43	292	Pn	Pn	07 53 49.6	-0.5
	9.6nm,0.3s,baz=137,slow=3.4,SNR=9.2						
MJAR				Sn	Sn	07 54 20.1	+0.5
	7.5nm,0.3s,baz=38,slow=32,SNR=4.8						
MAT	**Matsushiro**	2.44	292	P	Pn	07 53 50.3	+0.2
MAT				S	Sb	07 54 24.5	+0.3
JHJ	**Hachijo jima 2**	2.75	202	Pn	Pn	07 53 54.0	-0.3
	9.5nm,0.3s,baz=88,slow=19,SNR=2.2						
JHJ				Sn	Sn	07 54 25.2	-2.0
	20nm,0.3s,baz=57,slow=12,SNR=2.8						
ASAJ	**Asahikawa**	8.52	8	Pn	Pn	07 55 13.8	+0.2
	0.7nm,0.3s,baz=170,slow=17,SNR=2.7						
JCJ	**Chichijima**	8.61	173	LR	LR	07 58 18.9	
	comp=Z,85nm,20.7s,baz=348,slow=36						
KSRS	**Korea Array**	10.68	283	LR	LR	07 59 57.0	
	comp=Z,57nm,19.8s,baz=88,slow=38						
JOW	**Kunigami**	14.01	235	LR	LR	08 01 07.3	
	comp=Z,55nm,21.1s,baz=102,slow=34						
H11N2	**WAKE ISLAND Hy 27.76 118**			T	T	08 27 52.0	
	baz=311,slow=75,SNR=58						
H11N1	**WAKE ISLAND Hy 27.77 118**			T	T	08 27 53.5	
	baz=311,slow=75,SNR=62						
H11N3	**WAKE ISLAND Hy 27.78 118**			T	T	08 27 54.3	
	baz=311,slow=75,SNR=70						
SONM	**Songino Array**	28.30	306	P	P	07 59 05.3	+1.5
	0.5nm,0.5s,baz=98,slow=10.0,SNR=4.7						
H11S1	**WAKE ISLAND Hy 28.42 120**			T	T	08 28 42.6	
	baz=312,slow=74,SNR=77						
H11S3	**WAKE ISLAND Hy 28.42 120**			T	T	08 28 42.9	
	baz=312						
H11S2	**WAKE ISLAND Hy 28.44 120**			T	T	08 28 46.0	
	baz=312,slow=74,SNR=78						
MKAR	**Makanchi Array**	44.58	303	P	P	08 01 21.3	-0.9
	0.9nm,0.8s,baz=92,slow=8.7,SNR=1.8						
KURBB	**Kurchatov Arra**	46.60	309	P	P	08 01 37.7	-0.3
	3.3nm,0.2s,baz=84,slow=7.9,SNR=2.4						
ILAR	**Eielson Array**	50.81	32	P	P	08 02 11.8	+1.6
	0.4nm,0.7s,baz=273,slow=6.0,SNR=5.7						
BVAR	**Borovoye Array**	51.26	313	P	P	08 02 13.9	+0.1
	0.9nm,0.7s,baz=60,slow=8.9,SNR=2.3						
WRA	**Warramunga Arr**	55.67	188	P	P	08 02 46.6	+0.2
	1.2nm,0.6s,baz=4.6,slow=7.6,SNR=13						
ASAR	**Alice Springs**	59.40	188	P	P	08 03 13.7	+1.0
	0.8nm,1.0s,baz=181,slow=22,SNR=3.5						
NVAR	**Mina Array Bea**	76.06	53	P	P	08 04 56.5	-1.6
	0.1nm,0.3s,baz=264,slow=6.8,SNR=2.6						
PDAR	**Pinedale Array**	78.85	45	P	P	08 05 13.6	0.0
	0.2nm,0.4s,baz=359,slow=3.9,SNR=2.7						
TXAR	**Lajitas Array**	91.20	52	P	P	08 06 15.5	-0.3
	0.1nm,0.4s,baz=260,slow=5.2,SNR=2.0						

*NNC **01** 07:54:59.7±1.4, 53°.31N×90°.71E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=11.5km s-min=9.7km az=97.0, Suspected Mining explosion.*
KRAR 01 07:54:54.0±0.5, 53°71N×91°01E, M3.4, 4C-6D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	3.68	276	⇑Pn	Pb	07 55 56.3	-3.5
	23nm,0.9s						
ZAA0				⇑Lg	Lg	07 56 51.7	
	57nm,0.8s						
KURK	**Kurchatov**	8.18	253	⇓Pn	Pn	07 56 56.2	+2.4
	5.0nm,0.6s						
KURK				⇑Sn	Sn	07 58 27.9	+1.0
	15nm,1.0s						
KURK				⇑Lg	Lg	07 59 10.2	
	51nm,0.9s						
KURBB	**Kurchatov Arra**	8.27	253	⇓Pn	Pn	07 56 56.1	+1.0
	7.0nm,0.8s						
KURBB				⇓Sn	Sn	07 58 29.5	+0.3
	50nm,0.8s						
KURBB				⇓Lg	Lg	07 59 13.5	
	56nm,0.8s						
MK31	**Makanchi Array**	8.89	222	⇓Pn	Pn	07 57 03.8	+0.1
	5.5nm,1.1s,baz=208,slow=37,SNR=13						
MK31				⇓Sn	Sn	07 58 40.6	-3.9
	5.3nm,1.0s,baz=144,slow=16,SNR=3.6						
MK31				Lg	Lg	07 59 29.7	
	8.4nm,1.0s,baz=31,slow=26,SNR=3.6						

MAN 01 08:32:52.3, 5°45N×125°37E, h36km, mb5.0, ML3.9, MS3.9, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.73**	**28**	*eP*	Pn	08 33 07.4	+1.3
DDMP				*eS*	Sn	08 33 19.6	+3.5
GSPH	**General Santos**	**0.76**	**327**	⇓*eP*	Pn	08 33 06.5	-0.1
GSPH				*eS*	Sn	08 33 17.1	+0.2
SKMP	**Bagumbayan, Su**	**1.34**	**322**	*eP*	Pn	08 33 15.2	+0.7
SKMP				*eS*	Sn	08 33 31.9	+0.8
CTBH	**Cotabato--PC H**	**2.08**	**328**	⇓*iP*	Pn	08 33 29.8	+5.1
BUKP	**Musuan**	**2.43**	**353**	*eP*	Pn	08 33 30.4	+0.9
BUKP				*eS*	Sn	08 34 05.6	+7.5

IDC 01 08:37:03.0±11.0, 23.49S×179.50E, h478km±84km, mb3.0/5, mb1 3.2/6, mb1mx2.9/42, mbtmp4.0/6, Error ellipse: s-maj=140.8km s-min=27.3km az=49.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.87**	**187**	P	P	08 40 12.0	0.0
	0.7nm,0.3s,baz=22,slow=2.0,SNR=7.3						
URZ				S	S	08 42 46.9	-1.0
	0.2nm,0.3s,baz=63,slow=6.8,SNR=5.6						
CTA	**Charters Tower**	**31.02**	**270**	P	P	08 42 41.7	+1.1
	1.4nm,0.4s,baz=82,slow=12,SNR=3.5						
ASAR	**Alice Springs**	**41.65**	**260**	P	P	08 44 07.8	-0.9
	0.6nm,0.7s,baz=78,slow=8.2,SNR=6.6						
WRA	**Warramunga Arr**	**41.98**	**266**	P	P	08 44 10.7	-0.7
	1.0nm,0.7s,baz=96,slow=8.5,SNR=37						
FITZ	**Fitzroy Crossi**	**50.41**	**265**	P	P	08 45 15.9	+0.3
	2.0nm,0.9s,baz=113,slow=7.7,SNR=2.8						
MAW	**Mawson**	**77.98**	**201**	P	P	08 48 10.7	+0.1
	1.1nm,0.6s,baz=138,slow=6.3,SNR=6.2						

IDC 01 08:39:59.5±1.6, 11.66N×144.23E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.6/56, mbtmp4.0/4, ML3.9/1, MS2.3/1, Ms1 2.3/1, ms1mx2.0/43, Error ellipse: s-maj=148.8km s-min=24.3km az=106.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.02**	**18**	Pn	Pn	08 40 34.8	0.0
	42nm,0.3s,baz=163,slow=11,SNR=32						
GUMO				Sn	Sn	08 40 56.4	-4.4
	72nm,0.3s,baz=102,slow=22,SNR=8.6						
GUMO				LR	LR	08 41 20.6	
	comp=Z,72nm,20.7s,baz=134,slow=40						
WRA	**Warramunga Arr**	**32.88**	**197**	P	P	08 46 35.2	-0.2
	2.6nm,0.4s,baz=20,slow=9.7,SNR=62						
ASAR	**Alice Springs**	**36.53**	**196**	P	P	08 47 07.0	0.0
	1.5nm,0.5s,baz=20,slow=12,SNR=28						
STKA	**Stephens Creek**	**43.36**	**183**	P	P	08 48 03.6	0.0
	0.7nm,0.4s,baz=350,slow=12,SNR=2.7						

NNC 01 08:40:34.2±8.6, 36.81N×70.49E, h0km, mb3.5, mpv3.2, 1C-2D, Error ellipse: s-maj=79.4km s-min=68.6km az=53.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.29**	**0**	⇓P	Pn	08 42 08.8	+0.6
	0.8nm,0.5s,baz=176,slow=13,SNR=18						
KK31				S	Sn	08 43 21.9	+1.1
	0.6nm,0.2s,baz=179,slow=20,SNR=6.3						
AAK	**Ala-Archa**	**6.59**	**27**	⇓P	Pn	08 42 13.1	+0.7
	0.9nm,0.4s						
AB31	**Akbulak array**	**14.62**	**332**	⇑P	Pn	08 43 59.4	-2.7
	0.4nm,0.6s,baz=93,slow=9.7,SNR=5.6						

IDC 01 08:53:31.2±3.2, 54.41N×86.37E, h0km, mb1 3.0/2, mb1mx2.9/42, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=24.1km s-min=15.7km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.02**	**244**	*i*		08 59 55.7	
	baz=60,slow=339,SNR=1.6						
ZALV	**Zalesovo Beam**	**1.02**	**244**	Pg	Pg	08 53 49.6	-1.2
	baz=59,slow=17,SNR=2.4						
ZALV				Lg	Lg	08 54 06.0	
	2.6nm,0.3s,baz=61,slow=27,SNR=5.9						
KURBB	**Kurchatov Arra**	**6.11**	**235**	Pn	Pn	08 55 03.5	+0.8
	0.1nm,0.3s,baz=51,slow=15,SNR=5.9						
KURBB				Lg	Lg	08 56 47.0	
	baz=45,slow=26,SNR=2.8						
MKAR	**Makanchi Array**	**8.06**	**200**	Pn	Pn	08 55 31.3	+1.8
	0.2nm,0.3s,baz=22,slow=14,SNR=4.3						
MKAR				Sn	Sn	08 56 58.5	-2.7
	0.8nm,0.3s,baz=24,slow=27,SNR=16						

MEX 01 08:55:17.5±0.3, 14.25N×92.75W, h54km±15km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.81**	**36**	*eP*	Pn	08 55 31.4	-1.4
THIG				*eS*	Sn	08 55 42.0	-1.9
PCIG		**1.52**	**343**	*eP*	Pn	08 55 40.7	-1.6
PCIG				*i* S	Sn	08 55 58.8	-2.2
CCIG	**Comitan**	**2.11**	**16**	*eP*	Pn	08 55 49.4	-1.1
CCIG				*eS*	Sn	08 56 13.6	-2.1
TGIG		**2.54**	**352**	*i* P	Pn	08 55 55.1	-1.2
TGIG				*i* S	Sn	08 56 24.8	-1.3

IDC 01 09:09:12.1±2.0, 17.43S×178.55W, h547km±28km, mb3.3/4, mb1 3.4/5, mb1mx3.0/37, mbtmp4.2/5, Error ellipse: s-maj=91.3km s-min=17.9km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.40**	**63**	P	P	09 11 03.8	-0.2
	1.0nm,0.3s,baz=234,slow=15,SNR=3.3						
AFI				S	S	09 12 33.1	-2.5
	0.6nm,0.3s,baz=68,slow=14,SNR=1.9						
STKA	**Stephens Creek**	**38.74**	**241**	P	P	09 15 50.1	+0.3
	2.7nm,0.5s,baz=93,slow=9.7,SNR=10						
WRA	**Warramunga Arr**	**44.59**	**259**	P	P	09 16 35.7	-0.5
	1.1nm,0.5s,baz=95,slow=7.3,SNR=50						
WRA				PcP	PcP	09 18 06.5	-0.9
	0.2nm,0.8s,baz=90,slow=3.9,SNR=4.8						
ASAR	**Alice Springs**	**44.79**	**254**	P	P	09 16 37.6	-0.1
	8.0nm,0.5s,baz=88,slow=8.4,SNR=170						
ASAR				PcP	PcP	09 18 07.0	-1.1
	0.6nm,0.6s,baz=102,slow=3.7,SNR=5.1						
ILAR	**Eielson Array**	**85.45**	**13**	P	P	09 20 51.4	-0.3
	0.3nm,0.4s,baz=221,slow=5.5,SNR=5.9						
BRTR	**Keskin Array B**	**144.35**	**315**	PKP	PKPbc	09 27 45.8	-0.6
	0.9nm,0.6s,baz=126,slow=2.0,SNR=4.4						
GERES	**GERESS Array B**	**147.11**	**345**	PKPbc	PKPbc	09 27 54.0	0.0
	0.9nm,0.5s,baz=34,slow=3.2,SNR=9.2						

IDC 01 09:43:49.6±2.9, 53.61N×87.84E, h0km, mb1 3.1/2, mb1mx3.0/42, mbtmp3.1/2, ML3.0/2, Error ellipse: s-maj=25.9km s-min=16.9km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.82**	**282**	*i*		09 57 05.0	
	baz=101,slow=346,SNR=0.9						
ZALV	**Zalesovo Beam**	**1.82**	**282**	Pg	Pn	09 44 21.9	-0.2
	4.9nm,0.3s,baz=102,slow=13,SNR=22						
ZALV				Lg	Lg	09 44 47.4	
	4.9nm,0.3s,baz=96,slow=25,SNR=12						
KURBB	**Kurchatov Arra**	**6.47**	**246**	Pn	Pn	09 45 26.7	+0.8
	0.2nm,0.3s,baz=62,slow=14,SNR=9.5						
KURBB				Sn	Sn	09 46 40.7	+0.3
	0.0nm,0.3s,baz=60,slow=5.7,SNR=1.7						
KURBB				Lg	Lg	09 47 11.8	
	0.0nm,0.3s,baz=58,slow=32,SNR=4.0						
MKAR	**Makanchi Array**	**7.70**	**210**	Pn	Pn	09 45 43.9	+1.0
	0.3nm,0.3s,baz=30,slow=14,SNR=6.6						

*BJI **01** 09:47:59.0, 19.97S×177.09W, h460km, mb4.9/28, mB5.0/13*
*MOS **01** 09:48:01.4±2.3, 20.28S×177.86W, h453km, mb5.0/18, Error ellipse: s-maj=12.6km s-min=10.6km az=45.5*
*ISCJB **01** 09:48:01.4±0.6, 20.16S±0.03×177.64W±0.05, h475km±6km, mb4.8/72, Error ellipse: s-maj=6.8km s-min=4.5km az=2.6*
*IDC **01** 09:48:01.5±1.4, 20.19S×177.59W, h469km±14km, mb4.1/13, mb1 4.3/16, mb1mx4.0/34, mbtmp4.9/16, Error ellipse: s-maj=14.8km s-min=11.5km az=95.0*
*WEL **01** 09:48:03.0±1.1, 21.1S×17.6W±5.4, h529km±9km*
*NEIC **01** 09:48:04.2±0.5, 20.28S×177.64W, h502km±5km, mb5.0/52, Error ellipse: s-maj=8.0km s-min=5.9km az=113.0*
*GCMT **01** 09:48:07.2±0.6, 20.23S±0.04×177.63W±0.05, h516km±3km, MW5.2/53, Moment Tensor Solution. s53,c75; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr=0.74±.04; Mθθ=0.77±.06; Mϕϕ=-0.02±.06; Mrθ=0.36±.07; Mθϕ=0.07±.06; Mϕr=0.17±.07; Best double couple: M=0.85200×10^17 NP1=ϕs=278.00000°, δ=59.00000°, λ=-76.00000°. NP2=ϕs=72.00000°, δ=34.00000°, λ=-112.00000°. Principal axes: T 0.8480, Plg13.0000°, Azm358.0000°; N 0.0080, Plg12.0000°, Azm91.0000°; P -0.8560, Plg72.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 01 09:48:03.6±0.7, 20.29S±0.05×177.61W±0.06, h493km±7km, n311, σ1°39/337, mb4.9/71, 23C-5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.34**	**82**	P	P	**09 49 52.2**	**-0.9**
	baz=7.2						
AFI	**Afiamalu**	**8.45**	**42**	P	P	09 50 00.8	-4.0
	62nm,0.3s,baz=167,slow=1.5,SNR=129						
AFI				S	S	09 51 32.4	-12
	70nm,0.3s,baz=33,slow=20,SNR=15						
AFI	**Afiamalu**	**8.45**	**42**	*eP*	P	09 50 00.5	-4.3
RIZ	**Raoul Island**	**8.92**	**182**	P	P	09 50 08.2	-1.2
RIZ				S	S	09 51 55.2	+2.4
RAO	**Raoul Island**	**8.93**	**182**	P	P	09 50 08.0	-1.5
	223nm,0.3s,baz=95,slow=4.4,SNR=14						
RAO				S	S	09 51 51.9	-1.0
	75nm,0.3s,baz=260,slow=23,SNR=2.3						
GLKZ	**Green Lake**	**8.94**	**182**	P	P	09 50 08.2	-1.3
GLKZ				S	S	09 51 53.5	+0.4
FUNA	**Funafuti**	**12.10**	**345**	*eP*	P	09 50 42.9	-0.5
DZM	**Mont Dzumac**	**14.98**	**260**	P	P	09 51 14.1	+0.3
	1.7nm,0.3s,baz=80,slow=19,SNR=16						
DZM				S	S	09 53 49.1	-1.7
	baz=327,slow=22,SNR=1.5						
DZM	**Mont Dzumac**	**14.98**	**260**	*eP*	P	09 51 14.4	+0.6
	45nm,0.9s						
DZM				S	S	09 53 49.1	-1.7
GRZ	**Great Barrier**	**17.02**	**199**	P	P	09 51 37.5	+2.6
WCZ	**Waipu Caves**	**17.11**	**203**	P	P	09 51 38.4	+2.5
KUZ	**Kuaotunu**	**17.40**	**198**	P	P	09 51 39.5	+0.9
ABAZ	**Army Bay**	**17.54**	**201**	P	P	09 51 42.7	+2.8
MXZ	**Matakaoa Point**	**17.57**	**191**	P	P	09 51 40.2	0.0
MXZ				S	S	09 54 35.0	-2.2
MYRZ	**Mayor Island**	**17.75**	**196**	P	P	09 51 43.8	+1.8
WMGZ	**Waiomatatini S**	**17.80**	**190**	P	P	09 51 41.5	-0.8
WMGZ				S	S	09 54 41.2	+0.2
HAZ	**Te Kaha**	**17.86**	**192**	P	P	09 51 41.6	-1.3
HAZ				S	S	09 54 40.8	-1.1
PUZ	**Puketiti**	**18.08**	**191**	P	P	09 51 44.5	-0.4
PUZ				S	S	09 54 46.4	+0.8
RUGZ	**Raukumara Rang**	**18.08**	**192**	P	P	09 51 44.7	-0.3
RUGZ				S	S	09 54 46.0	+0.3
TGRZ	**Tauranga**	**18.17**	**196**	P	P	09 51 47.7	+1.9
OPRZ	**Ohinepanea**	**18.21**	**195**	P	P	09 51 46.9	+0.8
TWGZ	**Tauwhareparae**	**18.23**	**191**	P	P	09 51 47.3	+0.9
MARZ	**Manawahe**	**18.32**	**194**	P	P	09 51 47.7	+0.6
KNTN	**Kanton**	**18.34**	**19**	*eP*	P	09 51 45.1	-2.5
	138nm,0.8s						
TOZ	**Tahuroa Road**	**18.38**	**198**	P	P	09 51 49.7	+2.0
EDRZ	**Edgecumbe**	**18.42**	**194**	P	P	09 51 48.4	+0.3
MWZ	**Matawai**	**18.47**	**192**	P	P	09 51 47.7	-0.8
URZ	**Urewera**	**18.48**	**193**	P	P	09 51 47.3	-1.2
	8.8nm,0.3s,baz=307,slow=3.6,SNR=63						
URZ				S	S	09 54 46.1	-5.9
	1.1nm,0.3s,baz=35,slow=22,SNR=2.5						
URZ	**Urewera**	**18.48**	**193**	*eP*	P	09 51 47.3	-1.2
	72nm,0.5s						
URZ				*eS*	S	09 54 46.1	-5.9
URZ	**Urewera**	**18.48**	**193**	P	P	09 51 46.0	-2.6
CNGZ	**Carnagh Statio**	**18.49**	**190**	P	P	09 51 49.7	+1.1
OMRZ	**Omanía**	**18.50**	**195**	P	P	09 51 50.4	+1.5
TKGZ	**Te Karaka**	**18.51**	**191**	P	P	09 51 48.9	+0.1
MKRZ	**Makatiti**	**18.51**	**195**	P	P	09 51 51.9	+2.9
NGRZ	**Ngongotaha**	**18.55**	**196**	P	P	09 51 51.5	+2.3
TARZ	**Mount Tarawera**	**18.59**	**195**	P	P	09 51 50.2	+0.5
UTU	**Utuhina**	**18.61**	**195**	P	P	09 51 50.8	+0.9
HLRZ	**Highlands Stat**	**18.65**	**195**	P	P	09 51 50.2	0.0
RRRZ	**Republican Roa**	**18.69**	**195**	P	P	09 51 50.8	+0.2
HSRZ	**Hossack Road**	**18.73**	**195**	P	P	09 51 52.3	+1.4
MUGZ	**Murupara**	**18.76**	**194**	P	P	09 51 50.2	-1.0
RIGZ	**Rimuhau**	**18.78**	**191**	P	P	09 51 51.9	+0.5
GRRZ	**Galatos Road**	**18.80**	**195**	P	P	09 51 52.8	+1.2
RTZ	**Ruatahuna**	**18.85**	**193**	P	P	09 51 51.1	-0.9
PRRZ	**Plateau Road**	**18.87**	**195**	P	P	09 51 52.3	+0.1
TLZ	**Tolley Road**	**18.93**	**197**	P	P	09 51 55.2	+2.4
SNGZ	**Shannon Statio**	**18.93**	**192**	P	P	09 51 52.7	-0.1
PRGZ	**Paritu Road**	**18.97**	**191**	P	P	09 51 54.5	+1.4
MRHZ	**Matea Rd**	**19.18**	**194**	P	P	09 51 54.1	-1.0
HIZ	**Hauiti**	**19.29**	**198**	*eP*	P	09 51 58.2	+2.1
	146nm,1.5s						
HIZ	**Hauiti**	**19.29**	**198**	P	P	09 51 57.9	+1.9
BKZ	**Black Stump Fm**	**19.48**	**194**	*eP*	P	09 51 56.0	-1.9
	27nm,0.5s						
BKZ	**Black Stump Fm**	**19.48**	**194**	P	P	09 51 55.9	-1.9
NGZ	**Ngauruhoe**	**19.71**	**196**	P	P	09 51 60.0	0.0
VRZ	**Vera Road**	**19.89**	**198**	P	P	09 52 02.0	+0.6
NEZ	**North Egmont**	**20.22**	**199**	P	P	09 52 07.6	+3.1
PXZ	**Pawanui**	**20.24**	**192**	P	P	09 52 03.6	-1.0
WAZ	**Wanganui**	**20.41**	**197**	P	P	09 52 05.6	-0.7
TSZ	**Takapari Road**	**20.46**	**194**	P	P	09 52 06.1	-0.6
BFZ	**Birch Farm**	**20.99**	**193**	*eP*	P	09 52 10.7	-0.7
	213nm,1.8s						
BFZ	**Birch Farm**	**20.99**	**193**	P	P	09 52 10.3	-1.2
MRZ	**Mangatainoka R**	**21.12**	**194**	P	P	09 52 10.5	-2.1
KIW	**Kapiti Island**	**21.47**	**196**	P	P	09 52 14.5	-1.3
THZ	**Tophouse**	**22.86**	**198**	*eP*	P	09 52 28.0	-0.4
	27nm,1.1s						
THZ				*eS*	S	09 56 00.2	-2.0
KHZ	**Kahutara**	**23.29**	**197**	*eP*	P	09 52 32.3	+0.3
	39nm,1.0s						
TARA	**Tarawa**	**23.43**	**336**	*eP*	P	09 52 31.6	-2.0
	127nm,0.9s						
LHI	**Lord Howe Isla**	**23.72**	**237**	P	P	09 52 38.5	+2.3
	baz=24,SNR=3.1						
LHI	**Lord Howe Isla**	**23.72**	**237**	*eP*	P	09 52 36.6	+0.5
	134nm,0.9s						
LTZ	**Lake Taylor**	**23.98**	**199**	*eP*	P	09 52 37.0	-1.4
	41nm,0.6s						
OXZ	**Oxford**	**24.55**	**198**	*eP*	P	09 52 42.1	-1.3
	41nm,0.6s						
RPZ	**Rata Peaks**	**25.20**	**200**	P	P	09 52 47.8	-1.3
	9.6nm,0.5s,baz=22,slow=5.5,SNR=12						
RPZ	**Rata Peaks**	**25.20**	**200**	*eP*	P	09 52 47.8	-1.3
RPZ				*eP*	P	09 52 49.8	+0.6
FOZ	**Fox Glacier**	**25.45**	**202**	*eP*	P	09 52 53.2	+1.9
	34nm,0.9s						
WHZ	**Wether Hill Ro**	**28.16**	**202**	*eP*	P	09 53 16.2	+1.0
	54nm,0.8s						
EIDS	**Eidsvold**	**29.25**	**254**	P	P	09 53 25.0	+0.1
	baz=29,SNR=7.3						
EIDS	**Eidsvold**	**29.25**	**254**	*eP*	P	09 53 25.1	+0.1
	44nm,1.4s						
ARMA	**Armidale**	**29.48**	**244**	P	P	09 53 27.5	+0.4
	baz=30,SNR=17						
ARMA	**Armidale**	**29.48**	**244**	*eP*	P	09 53 26.8	-0.3
	66nm,1.4s						
MGCD	**Mangrove Creek**	**30.62**	**239**	P	P	09 53 38.0	+1.2
	baz=31,SNR=5.7						
RIV	**Riverview**	**30.77**	**238**	P	P	09 53 39.9	+1.9
	baz=31						
RMQ	**Roma**	**31.41**	**252**	P	P	09 53 44.8	+1.1
	baz=32,SNR=7.7						
CNB	**Canberra Magne**	**32.64**	**236**	P	P	09 53 55.2	+1.0
	baz=33,SNR=30						
CAN	**Canberra**	**32.93**	**236**	P	P	09 53 57.8	+1.3
CAN				pmax	pmax		
	comp=Z,111nm,1.2s						
YNG	**Young**	**33.10**	**238**	P	P	09 53 58.9	+0.9
	baz=33						
MILA	**Mila**	**33.38**	**233**	P	P	**09 54 01.2**	**+0.8**
	baz=34						
CTA	**Charters Tower**	**33.87**	**264**	PcP	PcP	09 56 29.3	-0.3
	comp=Z,4.2nm,0.7s,baz=90,slow=4.0,SNR=3.5						
CTA	**Charters Tower**	**33.87**	**264**	P	P	09 54 05.0	+0.3
	baz=34						
CTA	**Charters Tower**	**33.87**	**264**	P	P	09 54 04.6	0.0
CTA				pmax	pmax		
	comp=Z,69nm,1.4s						
CTAO	**Charters Tower**	**33.87**	**264**	*eP*	P	09 54 04.7	0.0
	comp=Z,71nm,1.1s						
CTAO	**Charters Tower**	**33.87**	**264**	*eP*	P	09 54 04.7	0.0
CTAO				pmax	pmax		
	comp=Z,71nm,1.1s						
CMSA	**Cobar Meteorol**	**34.70**	**244**	P	P	09 54 11.9	+0.4
	baz=35,SNR=33						
QLP	**Quilpie**	**35.47**	**252**	P	P	09 54 18.1	+0.1
	baz=36,SNR=12						
PMG	**Port Moresby**	**35.65**	**282**	*eP*	P	09 54 19.6	0.0
	comp=Z,59nm,0.9s						
PMG	**Port Moresby**	**35.65**	**282**	*eP*	P	09 54 19.6	0.0
PMG				pmax	pmax		
	comp=Z,59nm,0.9s						
TOO	**Toolangi**	**36.31**	**234**	P	P	09 54 25.7	+0.8
	baz=36,SNR=30						
TOO	**Toolangi**	**36.31**	**234**	P	P	09 54 25.8	+0.9
TOO				pmax	pmax		
	comp=Z,121nm,0.9s						
COEN	**Coen**	**37.93**	**273**	P	P	09 54 38.9	+0.4
	baz=38,SNR=10						
COEN	**Coen**	**37.93**	**273**	*eP*	P	09 54 38.6	+0.2
	comp=Z,25nm,0.8s						
STKA	**Stephens Creek**	**38.20**	**244**	P	P	09 54 41.2	+0.7
	comp=Z,59nm,1.0s,baz=82,slow=9.0,SNR=45						
STKA				PcP	PcP	09 56 43.0	+0.5
	comp=Z,3.8nm,0.7s,baz=96,slow=10,SNR=2.8						
STKA				ScP	ScP	09 59 45.2	+2.0
	comp=Z,2.5nm,0.7s,baz=108,slow=6.4,SNR=3.4						
STKA	**Stephens Creek**	**38.20**	**244**	P	P	09 54 41.2	+0.7
	baz=38,SNR=12						
STKA	**Stephens Creek**	**38.20**	**244**	*eP*	P	09 54 41.2	+0.7
	comp=Z,18nm,1.0s						
STKA				PcP	PcP	09 56 43.0	+0.5
MANU	**Manus Island**	**38.70**	**293**	*eP*	P	09 54 45.0	+0.3
	comp=Z,191nm,0.1s						
ARPS	**Mount Arapiles**	**38.90**	**236**	P	P	09 54 46.6	+0.5
	baz=39,SNR=14						
QIS	**Mount Isa**	**40.01**	**262**	P	P	09 54 54.4	-0.9
	baz=40,SNR=6.1						
HTT	**Hallett**	**40.64**	**242**	P	P	09 55 00.4	+0.2
	baz=41,SNR=16						
BBOO	**Buckleboo**	**42.96**	**243**	P	P	09 55 18.5	-0.1
	baz=43,SNR=54						
BBOO	**Buckleboo**	**42.96**	**243**	*eP*	P	09 55 18.6	0.0
	comp=Z,118nm,0.9s						
AS01	**Alice Springs**	**44.88**	**256**	*eP*	P	09 55 33.2	-0.4
AS31	**Alice Springs**	**44.92**	**256**	*eP*	P	09 55 33.9	-0.1
	comp=Z,29nm,1.1s						
ASAR	**Alice Springs**	**44.92**	**256**	P	P	09 55 33.8	-0.2
	comp=Z,62nm,0.9s,baz=98,slow=8.2,SNR=361						
ASAR				PcP	PcP	09 57 05.3	+0.2
	comp=Z,9.0nm,0.8s,baz=90,slow=8.0,SNR=9.4						
ASAR				ScP	ScP	10 00 12.3	+2.0
	comp=Z,1.6nm,0.8s,baz=98,slow=4.7,SNR=4.0						
ASAR				S	S	10 01 32.0	-3.6
	comp=Z,6.1nm,0.9s,baz=95,slow=16,SNR=19						
WB2	**Warramunga Arr**	**44.98**	**262**	*eP*	P	09 55 33.4	-1.0
WB2				*eP*	P	09 55 33.7	-0.7
WRAB	**Tennant Creek**	**44.98**	**262**	*eP*	P	09 55 33.4	-1.0
	comp=Z,69nm,1.1s						
WRAB	**Tennant Creek**	**44.98**	**262**	*i* P	P	09 55 33.3	-1.1
WRAB				pmax	pmax		
	comp=Z,59nm,1.2s						
WR1	**Warramunga Arr**	**44.99**	**262**	*eP*	P	09 55 33.6	-0.9
	comp=Z,38nm,0.8s						
WR1				*eP*	PcP	09 57 05.2	-0.2
WR1				*eS*	S	10 01 30.0	-6.7
WRA	**Warramunga Arr**	**44.99**	**262**	P	P	09 55 33.6	-0.9
	comp=Z,25nm,0.9s,baz=95,slow=8.1,SNR=419						
WRA				PcP	PcP	09 57 05.2	-0.3
	comp=Z,6.6nm,1.0s,baz=90,slow=4.3,SNR=7.4						
WRA				ScP	ScP	10 00 12.9	+2.3
	comp=Z,1.1nm,1.0s,baz=97,slow=2.7,SNR=2.6						
WRA				S	S	10 01 30.0	-6.7
	comp=Z,0.5nm,0.9s,baz=91,slow=14,SNR=3.0						
KDU	**Kakadu**	**48.31**	**271**	P	P	09 55 59.1	-0.6
	baz=48,SNR=9.6						
MTN	**Manton Dam**	**49.52**	**270**	P	P	09 56 08.0	-0.7
	baz=50,SNR=15						
FORT	**Forrest**	**49.71**	**246**	P	P	09 56 09.8	-0.1
	baz=50,SNR=18						
FORT	**Forrest**	**49.71**	**246**	*eP*	P	09 56 09.6	-0.4
	comp=Z,206nm,0.8s						
WRKA	**Warakurna**	**49.87**	**254**	P	P	09 56 11.0	-0.3
	baz=50,SNR=97						
KNRA	**Kununurra**	**51.03**	**266**	P	P	09 56 19.6	-0.3
	baz=51,SNR=6.9						
FITZ	**Fitzroy Crossi**	**53.41**	**262**	P	P	09 56 37.0	0.0
	baz=54,SNR=18						
FITZ	**Fitzroy Crossi**	**53.41**	**262**	*eP*	P	09 56 37.0	0.0
	comp=Z,58nm,1.3s						
SOEI	**Soe**	**56.86**	**271**	*eP*	P	09 57 02.4	+1.1
	comp=Z,146nm,1.0s						
SOEI	**Soe**	**56.86**	**271**	P	P	09 57 02.8	+1.5
TNTI	**Ternate**	**57.76**	**284**	*eP*	P	09 57 07.6	+0.2
	comp=Z,46nm,1.0s						
SBA	**Scott Base**	**58.10**	**184**	*eP*	P	09 57 11.0	+2.4
	comp=Z,36nm,1.0s						
VNDA	**Vanda**	**58.15**	**185**	P	P	09 57 11.1	+2.1
	comp=Z,7.0nm,0.7s,baz=359,slow=7.7,SNR=63						
VNDA	**Vanda**	**58.15**	**185**	*eP*	P	09 57 10.6	+1.7
	comp=Z,33nm,1.4s						
VNDA	**Vanda**	**58.15**	**185**	*eP*	P	09 57 10.6	+1.7
VNDA				pmax	pmax		
	comp=Z,33nm,

PETK **Petropavlovsk-** **76.16 345** P **P** **09 58 59.5 -0.7**
comp=Z,6.0nm,0.7s,baz=120,slow=8.7,SNR=6.0
PEA1 **Petropavlovsk-** **76.17 345** *e*P **P** **09 58 59.5 -0.7**
KSRS **Korea Array** **76.97 318** P **P** **09 59 04.2 -0.7**
comp=Z,3.2nm,1.0s,baz=141,slow=7.9,SNR=4.5
KSAR **Wonju Array Be** **76.99 318** P **P** **09 59 04.2 -0.8**
KSAR **Wonju Array Be** **76.99 318** P **P** **09 59 04.2 -0.8**
USRK **Ussuriysk Ar.** **79.00 326** P **P** **09 59 16.2 +0.5**
comp=Z,11nm,0.8s,baz=119,slow=3.4,SNR=9.5
MYKOM **Kota Tinggi** **79.88 276** *e*P **P** **09 59 20.9 -0.2**
comp=Z,26nm,0.8s
NJ2 **Nanjing** **80.03 309** *e*P **P** **09 59 22.3 +0.9**
NJ2 pmax pmax
comp=Z,14nm,0.5s
MAW **Mawson** **81.88 200** P **P** **09 59 30.9 +0.5**
comp=Z,7.5nm,0.6s,baz=132,slow=6.6,SNR=25
MAW **Mawson** **81.88 200** P **P** **09 59 31.0 +0.5**
baz=82,SNR=17
MAW **Mawson** **81.88 200** *e*P **P** **09 59 31.0 +0.5**
comp=Z,6.1nm,1.4s
MAW **Mawson** **81.88 200** *e*P **P** **09 59 31.0 +0.6**
MAW pmax pmax
comp=Z,6.0nm,1.4s
CN2 **Changchun** **82.36 322** *e*P **P** **09 59 33.8 +0.6**
CN2 pmax pmax
comp=Z,20nm,1.0s
KLR **Kul'dur** **82.53 329** *i* P **P** **09 59 33.1 -0.9**
WHN **Wuhan** **82.61 306** P **P** **09 59 35.3 +0.5**
X16A **Lo Mia Camp, P** **83.14 50** *e*P **P** **09 59 37.9 +0.3**
comp=Z,9.6nm,1.0s
IPM **Ipoh** **83.46 277** *e*P **P** **09 59 39.4 -0.1**
comp=Z,43nm,0.7s
U15A **North Rim** **83.56 48** *e*P **P** **09 59 40.4 +0.6**
comp=Z,20nm,1.1s
PKCU **Pink Cliffs** **84.06 47** *e*P **P** **09 59 42.7 +0.3**
comp=Z,11nm,0.8s
KULM **Kulim** **84.10 278** *e*P **P** **09 59 43.3 +0.7**
comp=Z,27nm,0.8s
KULM **Kulim** **84.10 278** P **P** **09 59 44.0 +1.4**
SKLT **Songkhla** **84.80 280** P **P** **09 59 47.8 +1.7**
comp=Z,51nm,1.0s
PSI **Prapat** **84.83 275** *e*P **P** **09 59 45.5 -0.9**
comp=Z,38nm,1.0s
PSI **Prapat** **84.83 275** *e*P **P** **09 59 45.5 -0.9**
PSI pmax pmax
comp=Z,38nm,1.0s
GSI **Gunungsitoli** **85.58 273** *e*P **P** **09 59 48.0 -1.9**
comp=Z,98nm,1.0s
SRAK **Srakaew** **85.99 286** P **P** **09 59 51.9 +0.1**
comp=Z,36nm,1.4s,comp=Z,2um
BJI **Beijing** **86.00 315** ⇑P **P** **09 59 51.8 +0.6**
BJI pmax pmax
comp=Z,10.0nm,1.0s
ENH **Enshi** **86.22 304** *e*P **P** **09 59 52.8 +0.1**
comp=Z,32nm,0.9s
NONG **Nongkai** **86.53 291** P **P** **09 59 55.8 +1.5**
comp=Z,0.6nm,1.0s
TX31 **Lajitas Ar. Si** **86.64 57** *e*P **P** **09 59 55.2 +0.5**
LTX **Lajitas** **86.64 57** *e*P **P** **09 59 55.5 +0.9**
LTX **Lajitas** **86.64 57** *e*P **P** **09 59 55.6 +0.9**
TXAR **Lajitas Array** **86.64 57** P **P** **09 59 55.5 +0.8**
comp=Z,2.1nm,0.8s,baz=218,slow=6.5,SNR=28
CHAI **Chaiyaphum** **86.75 288** P **P** **09 59 56.9 +1.6**
GYA **Guiyang** **86.86 300** *e*P **P** **09 59 56.8 +1.0**
GYA pP pP 10 01 40.4 -5.0
GYA sP sP 10 02 27.2 -8.5
GYA PP **PP** **10 03 29.0 +1.2**
GYA SKS **SKSac** **10 09 38.6 +2.8**
GYA S **ScS** **10 09 55.1 -2.9**
GYA pmax pmax
comp=Z,10.0nm,1.0s
ANMO **Albuquerque** **86.99 51** *i* P **P** **09 59 54.2 -2.2**
ANMO pmax pmax
comp=Z,10.0nm,3.7s
SYO **Syowa Base** **87.01 193**⇑*e*P **P** **09 59 54.8 -0.8**
WRH **Wood River Hil** **87.52 12** *e*pP pP 10 01 50.0 +2.3
CCB **Clear Creek Bu** **87.73 12** *e*pP pP 10 01 50.4 +1.7
S22A **4UR Ranch, Cre** **88.01 49** *e*P **P** **10 00 01.3 +0.1**
comp=Z,8.2nm,0.9s
ILB **Eielson Array** **88.03 13** *e*pP pP 10 01 52.4 +2.2
SNAA **Sanae** **88.21 178** P **P** **10 00 01.1 -0.2**
SNAA **Sanae** **88.21 178** *e*P **P** **10 00 00.7 -0.6**
comp=Z,19nm,1.4s
SNAA **Sanae** **88.21 178** *i* P **P** **10 00 00.5 -0.8**
XAN **Xi'an** **88.30 307** P **P** **10 00 03.4 +1.1**
XAN pmax pmax
comp=Z,35nm,0.9s
XAN pmax pmax
comp=Z,98nm,4.9s
VNA3 **Neumayer Olymp** **88.32 176** P **P** **10 00 01.9 +0.2**
VNA2 **Neumayer--Watz** **88.77 177** P **P** **10 00 04.3 +0.5**
baz=196,slow=3.3
NVL **N'lazarevskaya** **88.94 183**⇑*i*P **P** **10 00 04.8 +0.2**
NVL pmax pmax
comp=Z,23nm,0.8s
VNA1 **Neumayer--Stat** **89.00 176** P **P** **10 00 05.3 +0.4**
PLCA **Paso Flores** **89.15 133** P **P** **10 00 07.1 +0.8**
comp=Z,4.4nm,1.1s,baz=313,slow=5.5,SNR=3.9
HHC **Hu-ho-hao-te** **89.47 314** *e*P **P** **10 00 08.9 +1.2**
HHC pmax pmax
comp=Z,29nm,0.8s
HHC pmax pmax
comp=Z,190nm,7.2s
KMI **Kunming** **89.58 297** P **P** **10 00 09.6 +0.9**
KMI pmax pmax
comp=Z,28nm,0.6s
KMI pmax pmax
comp=Z,99nm,4.2s
CM01 **Chiang Mai Arr** **90.36 289** *e*P **P** **10 00 12.8 +0.6**
CM31 **Chiang Mai Arr** **90.39 289** *e*P **P** **10 00 13.3 +1.0**
CMAR **Chiang Mai Arr** **90.39 289** P **P** **10 00 13.7 +1.4**
comp=Z,16nm,0.9s,baz=120,slow=2.9,SNR=74
CMAR **Chiang Mai Arr** **90.39 289** *i* P **P** **10 00 13.6 +1.3**
CMAR pmax pmax
comp=Z,16nm,0.9s
CHTO **Chiang Mai** **90.51 290** *e*P **P** **10 00 13.2 +0.3**
comp=Z,22nm,0.8s
CHTO **Chiang Mai** **90.51 290** *e*P **P** **10 00 13.2 +0.3**
CHTO pmax pmax
comp=Z,22nm,0.8s
CD2 **Chengdu** **90.98 303** *e*P **P** **10 00 15.8 +0.9**
LZH **Lanzhou** **92.93 307** ⇑P **P** **10 00 26.8 +2.9**
LZH pP pP 10 02 11.2 -3.2
LZH PP **PP** **10 04 18.0 +2.8**
LZH S **S** **10 10 49.9 +2.8**
LZH sS sS 10 13 56.3 -9.2
LZH SS **SS** **10 17 22.2 +5.9**
LZH pmax pmax
comp=Z,65nm,1.4s
LZH pmax pmax
comp=Z,210nm,5.7s
WMQ **Urumqi** **107.06 311** *e*P **Pdif** **10 01 27.7 +0.9**
WMQ LR LR
comp=N,720nm,24.1s
WMQ LR LR
comp=E,640nm,24.1s
WMQ LR LR
comp=Z,750nm,21.1s
ZALV **Zalesovo Beam** **110.56 321** PKiKP **PKiKP** **10 05 37.9 -1.4**
comp=Z,1.2nm,0.4s,baz=90,slow=1.4,SNR=5.1
ZAA1 **Zalesovo Array** **110.56 321** *e*PKiKP **PKiKP** **10 05 37.9 -1.4**
MK32 **Makanchi Array** **111.32 313** *e*PKiKP **PKiKP** **10 05 39.6 -1.4**
MKAR **Makanchi Array** **111.32 313** PKiKP **PKiKP** **10 05 39.6 -1.4**
comp=Z,1.9nm,0.8s,baz=116,slow=1.0,SNR=6.0
MKAR **Makanchi Array** **111.32 313***c* *i*PKIKP **PKiKP** **10 05 39.7 -1.3**
KURK **Kurchatov** **114.09 317***c* *i*PKIKP PKPdf 10 05 46.1 0.0
KURK pmax pmax
comp=Z,50nm,2.5s
BRVK **Borovoye** **119.21 320***c* *i*PKIKP **PKPdf** **10 05 55.4 -0.5**
BRVK pmax pmax
comp=Z,10.0nm,1.0s
ARU **Arti** **125.24 326** *i* PKIKP **PKPdf** **10 06 07.1 -0.3**
ARU 10 08 04.2
ARU 10 12 30.3
ARU SS SS 10 24 22.1 -1.6
ABKAR **Akbulak array** **126.18 317** *e*PKPdf **PKPdf** **10 06 09.1 -0.4**
BOSA **Boshof** **126.60 205** PKP **PKPdf** **10 06 10.3 -0.8**
comp=Z,2.4nm,0.8s,baz=203,slow=6.0,SNR=3.7
ARA0 **ARCESS Array S** **128.78 350** *e*PKPdf **PKPdf** **10 06 13.2 -0.6**
ARCES **ARCESS Array B** **128.78 350** PKP **PKPdf** **10 06 13.2 -0.6**
comp=Z,3.3nm,0.7s,baz=62,slow=0.8,SNR=12
NEY **Neytrino** **139.31 314***c* *i*PKIKP **PKPdf** **10 06 35.1 +0.6**
KMBO **Kilima Mbogo** **139.76 242** PKhKP PKPpre 10 06 29.6
comp=Z,0.9nm,0.2s,baz=30,slow=4.0,SNR=2.3
KMBO **Kilima Mbogo** **139.76 242** *e*PKPdf **PKPdf** **10 06 33.4 -2.9**
KMBO **Kilima Mbogo** **139.76 242** *e*PKIKP **PKPdf** **10 06 33.4 -2.9**
AKASG **Malin Array Be** **143.01 332** PKhKP PKPpre 10 06 37.1
comp=Z,10nm,0.6s,baz=43,slow=4.4,SNR=33
AKBB **Malin Array Si** **143.01 332** *e*PKPpre PKPpre 10 06 37.1
KIEV **Kiev** **143.02 332** *e*PKPpre PKPpre 10 06 37.0
KIEV **Kiev** **143.02 332** *e*PKHKP PKPpre 10 06 37.0
SIM **Simferopol'** **144.06 320***d* *i*PKHKP PKPpre 10 06 42.0
SIM pmax pmax
comp=Z,75nm,1.1s
SORM **Soroca** **145.22 329** ⇓PKIKP **PKPbc** **10 06 45.3 -0.1**
LVV **L'vov** **145.87 335** *e*PKIKP **PKPbc** **10 06 47.5 +0.3**
KWP **Kalwaria Pacla** **146.54 336** *e*PKP **PKPbc** **10 06 48.9 -0.2**
KWP **Kalwaria Pacla** **146.54 336** *e*PKIKP **PKPbc** **10 06 48.9 -0.2**
BR101 **Keskin Array S** **146.97 313** *e*PKPbc **PKPbc** **10 06 50.1 -0.7**
BR131 **Keskin Array S** **146.97 313** *e*PKPdf **PKPbc** **10 06 49.6 -1.2**
BRTR **Keskin Array B** **146.97 313** PKPbc **PKPbc** **10 06 50.1 -0.7**
comp=Z,8.4nm,0.8s,baz=132,slow=3.5,SNR=24
BUR08 **Bucovina Ar. S** **147.04 331** *e*PKPdf **PKPbc** **10 06 49.2 -1.5**
BUR04 **Bucovina Ar. S** **147.06 331** *e*PKPdf **PKPbc** **10 06 49.3 -1.5**
BURAR **Bucovina Array** **147.06 331** ⇑PKIKP **PKPbc** **10 06 51.1 +0.4**
OJC **Ojcow** **147.10 339** *e*PKP **PKPbc** **10 06 49.3 -1.3**
OJC **Ojcow** **147.10 339** *e*PKPdf **PKPbc** **10 06 49.3 -1.3**
OJC **Ojcow** **147.10 339** *e*PKIKP **PKPbc** **10 06 49.3 -1.3**
CFR **Carcaliu** **147.32 325** ⇑PKIKP **PKPbc** **10 06 50.2 -1.1**
ANTO **Ankara** **147.48 314** *e*PKPdf **PKPdf** **10 06 48.6 -0.1**
UZH **Uzhgorod** **147.51 335** *e*PKIKP **PKPbc** **10 06 50.4 -1.3**
UZH *i* 10 06 51.6
UZH *e* 10 06 55.6
VRI **Vrincioaia** **147.59 327** ⇑PKIKP **PKPbc** **10 06 52.0 0.0**
KSP **Ksiaz** **147.60 343** *e*PKP **PKPbc** **10 06 51.9 0.0**
KSP **Ksiaz** **147.60 343** *e*PKIKP **PKPbc** **10 06 51.9 0.0**
NIE **Niedzica** **147.61 338** *e*PKP **PKPbc** **10 06 52.1 +0.1**
NIE **Niedzica** **147.61 338** *e*PKIKP **PKPbc** **10 06 52.1 +0.1**
PLOR **Plostina** **147.64 328** ⇑PKIKP **PKPbc** **10 06 51.9 -0.3**
CLL **Collm** **147.94 347** *e*PKPdf **PKPdf** **10 06 49.4 +0.5**
CLL **Collm** **147.94 347** ⇓*i*PKPbc **PKPbc** **10 06 52.6 -0.1**
comp=Z,31nm,0.8s
CLL *e*PKPab **PKPab** **10 06 57.0 -0.1**
CLL *e*pPKPab **pPKPbc** **10 08 50.0 +1.3**
DPC **Dobruska-Polom** **148.03 343**⇑*e*PKP **PKPbc** **10 06 53.6 +0.5**
DPC *e*PKPab **PKPab** **10 06 58.3 +0.7**
DPC **Dobruska-Polom** **148.03 343** *e*PKIKP **PKPbc** **10 06 53.6 +0.5**
DPC *e* 10 06 58.3
LANS **Liptovska Anna** **148.12 339** *e*PKP **PKPbc** **10 06 53.7 +0.4**
BRG **Berggiesshubel** **148.15 346** *i* PKP **PKPbc** **10 06 53.2 -0.1**
comp=Z,26nm,1.1s
MORC **Moravsky Berou** **148.20 341** *e*PKP **PKPbc** **10 06 53.3 -0.2**
MLR **Muntele Rosu** **148.24 328** *e*PKPdf **PKPbc** **10 06 52.5 -1.3**
PVCC **Panska Ves** **148.32 345**⇑*e*PKP **PKPbc** **10 06 54.1 +0.4**
VOIR **148.73 328** ⇑PKHKP **PKPbc** **10 06 54.2 -0.8**
DRGR **148.79 333** ⇑PKHKP **PKPbc** **10 06 55.0 -0.1**
GOPC **GO Pecny, Ondr** **148.84 344**⇑*e*PKP **PKPbc** **10 06 55.2 +0.1**
MOX **Moxa** **148.84 349** PKHKP **PKPbc** **10 06 55.2 +0.2**
VRAC **Vranov** **148.90 342** ⇑PKHKP **PKPbc** **10 06 55.6 +0.4**
VYHS **Vyhne** **148.90 339** *e*PKP **PKPbc** **10 06 55.4 +0.2**
JAVC **Velka Javorina** **148.97 340** *e*PKP **PKPbc** **10 06 56.4 +0.9**
KOLL **Kolacno** **148.97 339** *e*PKP **PKPbc** **10 06 55.8 +0.4**
PSZ **Piszkesteto** **149.01 337** *e*PKPbc **PKPbc** **10 06 54.2 -1.4**
NKC **Novy Kostel** **149.07 347**⇑*e*PKP **PKPbc** **10 06 55.8 +0.2**
CSS **Mathiatis** **149.08 305** *e*PKPbc **PKPbc** **10 06 54.7 -1.4**
KRUC **Moravsky** **149.18 342** *e*PKP **PKPbc** **10 06 55.7 -0.2**
MODS **Modra-Piesok** **149.52 340** *e*PKP **PKPbc** **10 06 56.5 -0.3**
MEM **Membach** **149.61 355** ⇑PKP **PKPbc** **10 06 56.7 -0.2**
KHC **Kasperske Hory** **149.86 345** *e*PKPbc **PKPbc** **10 06 56.5 -1.1**
KHC **Kasperske Hory** **149.86 345**⇑*e*PKP **PKPbc** **10 06 57.8 +0.2**
KHC *e*PKPAB **PKPab** **10 07 06.0 +0.9**
WET **Wettzell** **150.01 346** PKHKP **PKPbc** **10 06 58.1 +0.2**
GEC2 **GERESS Array S** **150.10 345** *e*PKPbc **PKPbc** **10 06 57.2 -1.0**
GERES **GERESS Array B** **150.10 345** PKPbc **PKPbc** **10 06 57.8 -0.4**
comp=Z,10nm,0.9s,baz=42,slow=2.2,SNR=36
GEA0 **GERESS Array S** **150.10 345** *e*PKPbc **PKPbc** **10 06 57.6 -0.6**
DOU **Dourbes** **150.21 357** ⇓PKP **PKPbc** **10 06 57.9 -0.4**
CONA **Conrad Observa** **150.35 342** *i* PKiKP **PKPbc** **10 06 58.4 -0.4**
comp=Z,29nm,1.4s
WLF **Walferdange** **150.54 355** *e*PKPdf **PKPbc** **10 06 56.6 -2.4**
WLF **Walferdange** **150.54 355** *e*PKIKP **PKPbc** **10 06 56.7 -2.4**
WLF **Walferdange** **150.54 355** ⇓PKP **PKPbc** **10 06 59.5 +0.5**
VTS **Vitosha** **151.69 326** ⇑PKIKP **PKPbc** **10 07 01.0 -1.1**
SOKA **Soboth** **151.72 341** *i* PKPbc **PKPbc** **10 07 01.0 -0.9**
comp=Z,8.5nm,0.9s
KBA **Koelnbreinsper** **151.83 344** *i* PKPbc **PKPbc** **10 06 59.8 -2.5**
comp=Z,13nm,1.2s
WATA **Walderalm** **152.00 347** *i* PKPbc **PKPbc** **10 07 00.9 -1.8**
comp=Z,2.2nm,0.5s
WTTA **Wattenberg** **152.06 346** *i* PKiKP **PKiKP** **10 07 02.9 -0.1**
comp=Z,6.6nm,1.0s
MOTA **Moosalm** **152.10 347** *i* PKPbc **PKPbc** **10 07 02.1 -0.8**
comp=Z,5.8nm,0.9s
SQTA **Sankt Quirin** **152.19 347** *i* PKPbc **PKPbc** **10 07 02.3 -0.8**
comp=Z,11nm,1.4s
ABTA **Abfaltersbach** **152.34 345** *i* PKPbc **PKPbc** **10 07 02.1 -1.2**
comp=Z,13nm,0.8s
DAVA **Damuels** **152.39 349** *i* PKiKP **PKiKP** **10 07 03.9 +0.2**
comp=Z,11nm,1.2s
FETA **Feichten** **152.48 348** *i* PKPbc **PKPbc** **10 07 01.9 -1.8**
comp=Z,12nm,1.2s
FUORN **Ofenpass-Fuorn** **152.96 348** *e*PKPbc **PKPbc** **10 07 02.8 -2.2**
DBIC **Dimbokro** **164.75 152** PKPab **PKPab** **10 08 10.1 -0.2**
comp=Z,5.3nm,0.9s,baz=204,slow=6.4,SNR=4.4
TOA0 **Torodi Ar. Sit** **172.87 175** *e*PKPdf **PKPdf** **10 07 13.6 -2.9**
TOA0 *e* 10 07 14.2
TOA0 *e*PKPdf PKPdf 10 07 14.7 -1.8
TORD **Torodi Ar. Bea** **172.87 175** PKP **PKPdf** **10 07 14.9 -1.6**
comp=Z,4.0nm,1.0s,baz=332,slow=2.8,SNR=21
TORD PKPab **PKPab** **10 08 46.4 +0.4**
comp=Z,1.2nm,0.7s,baz=259,slow=1.5,SNR=8.5
TORD PP **PP** **10 12 37.7 +0.9**
comp=Z,1.9nm,1.1s,baz=167,slow=1.4,SNR=5.5
TOA1 **Torodi Ar. Sit** **172.87 175** *e*PKPdf **PKPdf** **10 07 14.9 -1.6**
TOA1 *e*PKPab **PKPab** **10 08 46.4 +0.4**
TOA1 *e*PP **PP** **10 12 37.7 +0.9**

IDC ***01*** *09:50:58.0±2.5,51°.29N×179°.66W,h12km±14km,mb4.7/35, mb1 4.8/37,mb1mx4.7/51,mbtmp4.8/37,ML4.8/2,MS4.0/28, Ms1 4.0/28,ms1mx3.9/38,Error ellipse: s-maj=13.6km s-min=9.4km az=158.0*
NEIC ***01*** *09:50:59.1±0.0,51°.01N×179°.70W,h9km,mb5.1/296, ML4.8(AEIC),After AEIC.*
AEIC ***01*** *09:50:59.1,51°.01N×179°.70W,h9km,ML4.8,MB5.1(NEIC)*
MOS ***01*** *09:51:01.3±0.9,51°.24N×179°.70W,h46km,mb5.2/110, MS4.1/9,Error ellipse: s-maj=6.2km s-min=4.6km az=96.7*
BJI ***01*** *09:51:02.0,51°.30N×179°.60W,h66km,mb5.1/55, mB5.2/33,Ms4.7/25,Ms7 4.3/26*
ISCJB ***01*** *09:51:02.6±0.4,51°.28N±0°.03×179°.62W±0°.02,h59km±3km, mb5.0/379,MS4.1/37,Error ellipse: s-maj=5.3km s-min=2.0km az=1.9*
GCMT ***01*** *09:51:02.1±0.3,51°.06N±0°.02×179°.71W±0°.03,h32km±1km, MW4.9/71,Moment Tensor Solution. s35,c44; s71,c92; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.62±.17; Mθθ-2.20±.11; Mφφ-0.41±.10; Mrθ1.01±.13; Mφθ-0.86±.06; Mφr1.30±.11; Best double couple: M☉3.05600×10^16 NP1:φ53.00000°,δ61.00000°,λ76.00000°. NP2: φ261.00000°,δ32.00000°,λ114.00000°. Principal axes: T 3.1840, Plg70.0000°, Azm292.0000°; N -0.2530, Plg12.0000°, Azm60.0000°; P -2.9290, Plg15.0000°, Azm154.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 09:51:02.5±0.5,51°.25N±0°.05×179°.71W±0°.03,h42km±4km, n1129,σ0.93/1161,mb5.1/379,MS4.1/38,39C-17D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.64**	**282**	*e*Pn	**Pn**	**09 51 13.3**	**-1.7**
AMKA				*e*Sn	**Sn**	**09 51 23.6**	**-0.5**
CERAA	**Semis' Rag'd T**	**0.76**	**330**	P	**Pn**	**09 51 17.6**	**+0.8**
CESW	**Semis' Southwe**	**0.80**	**326**	P	**Pn**	**09 51 18.0**	**+0.7**
CEAP	**Semis' Anvil P**	**0.88**	**330**	P	**Pn**	**09 51 19.5**	**+1.1**
LSPA	**Little Sitkin**	**1.29**	**304**	*e*Pn	**Pn**	**09 51 24.9**	**+0.9**
LSSA	**Little Sitkin**	**1.31**	**303**	P	**Pn**	**09 51 24.9**	**+0.5**
LSNW	**Little Sitkin**	**1.32**	**304**	P	**Pn**	**09 51 25.0**	**+0.5**
ADK	**Adak**	**1.99**	**70**	*e*Pn	**Pn**	**09 51 33.4**	**-0.2**
ADK				*e*Sn	**Sn**	**09 51 59.0**	**+1.6**
ADK				*e*		09 52 01.2	
ADK	**Adak**	**1.99**	**70**	*e*P	**Pn**	**09 51 33.4**	**-0.2**
ADK				*e*		09 51 59.0	
ATKA	**Atka Island**	**3.56**	**72**	*e*Pn	**Pn**	**09 51 56.0**	**+0.8**
ATKA				*e*Sn	**Sn**	**09 52 37.3**	**+1.4**
KOWE	**Korovin West**	**3.57**	**70**	*e*Pn	**Pn**	**09 51 56.9**	**+1.6**
KOKL	**Mount Kliuchef**	**3.59**	**70**	*e*Pn	**Pn**	**09 51 57.3**	**+1.7**
KOFP	**Korovin Flat P**	**3.64**	**71**	*e*Pn	**Pn**	**09 51 57.3**	**+1.1**
SMY	**Shemya**	**4.11**	**294**	*e*Pn	**Pn**	**09 52 04.7**	**+2.1**
SMY				*e*Sn	**Sn**	**09 52 53.7**	**+4.4**
SMY	**Shemya**	**4.11**	**294**	*e*P	**Pn**	**09 52 04.7**	**+2.1**
SMY				*e*		09 52 53.7	
NIKH	**Nikolski High**	**6.91**	**71**	*e*Pn	**Pn**	**09 52 42.4**	**+1.3**
OKWR	**Okmok West Rim**	**7.38**	**68**	*e*Pn	**Pn**	**09 52 50.6**	**+2.9**
OKCE	**Okmok Cone E**	**7.40**	**68**	*e*Pn	**Pn**	**09 52 50.3**	**+2.4**
MREP	**Makushin Rep't**	**8.31**	**67**	P	**Pn**	**09 53 02.5**	**+2.1**
MSW	**Makushin Switc**	**8.31**	**66**	*e*Pn	**Pn**	**09 53 02.2**	**+1.8**
UNV	**Unalaska Valle**	**8.46**	**67**	*e*Pn	**Pn**	**09 53 03.0**	**+0.6**
ZRO	**Akutan Zero**	**8.82**	**66**	*e*Pn	**Pn**	**09 53 09.4**	**+2.1**
SDPT	**Sand Point**	**12.21**	**63**	*e*Pn	**Pn**	**09 53 53.7**	**+0.2**
PET	**Petropavlovsk**	**13.40**	**286**	*e*Pn	**P**	**09 54 15.4**	**-3.0**
PET	**Petropavlovsk**	**13.40**	**286**	*e*P	**P**	**09 54 17.4**	**-1.0**
PET				*e*S	Sn	09 56 48.2	+11
PET				pmax	pmax		
	comp=Z,44nm,1.1s						
PET				MLR	MLR		
	comp=Z,1μm,16.0s						
CHGN	**Chignik**	**13.55**	**60**	*e*Pn	**Pn**	**09 54 11.5**	**-0.3**
PEA0B	**Petropavlovsk-**	**13.98**	**286**	*e*Pn	**Pn**	**09 54 20.3**	**+2.5**
PETK	**Petropavlovsk-**	**13.98**	**286**	Pn	**Pn**	**09 54 19.8**	**+2.1**
	comp=Z,0.9nm,0.3s,baz=98,slow=11,SNR=15						
PETK				Sn	**Sn**	**09 56 49.2**	**-2.1**
	baz=100,slow=16						
PETK				LR	LR	09 59 32.1	
	comp=Z,1μm,21.7s,baz=96,slow=37						
PETK	**Petropavlovsk-**	**13.98**	**286**	*e*Pn	**Pn**	**09 54 18.8**	**+1.1**
PETK				Sn	**Sn**	**09 56 49.2**	**-2.1**
PETK	**Petropavlovsk-**	**13.98**	**286**	*e*P	**Pn**	**09 54 18.8**	**+1.1**
PETK						09 56 49.2	
PEA1	**Petropavlovsk-**	**13.98**	**287**	*e*Pn	**Pn**	**09 54 19.8**	**+2.1**
PEA1				*e*Sn	**Sn**	**09 56 49.2**	**-2.1**
SII	**Sitkinak Islan**	**15.90**	**61**	*e*Pn	**Pn**	**09 54 43.4**	**+0.3**
	comp=Z,160nm,1.2s						
OHAK	**Old Harbor**	**16.50**	**58**	*e*Pn	**Pn**	**09 54 47.6**	**-3.0**
	comp=Z,38nm,0.8s						
SVW2	**Sparrevohn**	**16.56**	**44**	*e*Pn	**P**	**09 54 53.7**	**+0.3**
KDAK	**Kodiak Island**	**16.97**	**57**	Pn	**Pn**	**09 54 53.3**	**-3.2**
	comp=Z,3.2nm,0.3s,baz=279,slow=4.1,SNR=41						
KDAK				Sn	**Sn**	**09 58 01.1**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=281,slow=14,SNR=2.2						
CNPM	**China Poot**	**18.05**	**52**	*e*P	**Pn**	**09 55 09.6**	**-0.2**
	comp=Z,237nm,1.8s						
BILL	**Bilibino**	**18.19**	**343**	*e*P	**Pn**	**09 55 12.5**	**+1.1**
	comp=Z,90nm,1.3s						
BILL	**Bilibino**	**18.19**	**343***c*	*i*P	**Pn**	**09 55 13.4**	**+2.0**
BILL				S	**Sn**	**09 58 34.0**	**+0.8**
BILL				pmax	pmax		
	comp=Z,82nm,1.3s						
BILL				MLR	MLR		
	comp=Z,493nm,16.0s						
BRLK	**Bradley Lake**	**18.29**	**51**	*e*P	**P**	**09 55 12.6**	**+0.1**
	comp=Z,152nm,1.7s						
MA2	**Magadan**	**18.58**	**308**	P	**P**	**09 55 14.8**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=109,slow=11,SNR=2.3						
SKT	**Skwentna**	**18.70**	**44**	*e*P	**Pn**	**09 55 18.7**	**+1.1**
	comp=Z,254nm,1.6s						
RDOG	**Red Dog Mine**	**18.75**	**20**	*e*P	**Pn**	**09 55 19.0**	**+0.8**
	comp=Z,53nm,0.9s						
PPLA	**Purkeypile**	**18.79**	**41**	*e*P	**Pn**	**09 55 19.6**	**+0.7**
	comp=Z,145nm,1.2s						
SUA	**Susitna One**	**18.86**	**46**	*e*P	**P**	**09 55 19.0**	**+0.1**
	comp=Z,48nm,0.9s						
SEY	**Seymchan**	**18.97**	**319**⇓*e*P		**Pn**	**09 55 20.8**	**0.0**
CAST	**Castle Rocks**	**19.07**	**40**	*e*P	**Pn**	**09 55 22.6**	**+0.6**
	comp=Z,42nm,0.7s						
SEW	**Seward**	**19.07**	**51**	*e*P	**P**	**09 55 21.3**	**+0.3**
	comp=Z,98nm,1.4s						
RC01	**Rabbit Creek A**	**19.20**	**48**	*e*P	**P**	**09 55 22.3**	**-0.2**
	comp=Z,122nm,1.9s						
PMR	**Palmer**	**19.63**	**46**	*e*P	**P**	**09 55 27.2**	**+0.1**
	comp=Z,13nm,0.7s						
PMR	**Palmer**	**19.63**	**46**	*e*P	**P**	**09 55 27.2**	**+0.1**
PMR				pmax	pmax		
	comp=Z,13nm,0.7s						
GHO	**Glory Hole Cre**	**19.78**	**46**	*e*P	**P**	**09 55 29.5**	**+0.6**
	comp=Z,35nm,0.9s						
IM3	**Indian Mountai**	**19.79**	**32**	*e*P	**P**	**09 55 29.4**	**+0.6**
TRF	**Thorofare Moun**	**19.81**	**41**	*e*P	**P**	**09 55 29.8**	**+0.6**
	comp=Z,128nm,1.4s						
BPAW	**Bear Paw Mtn.**	**19.81**	**39**	*e*P	**Pn**	**09 55 30.4**	**-0.5**
	comp=Z,35nm,0.7s						
SML	**Sawmill**	**20.06**	**46**	*e*P	**P**	**09 55 32.5**	**+0.6**
	comp=Z,34nm,0.8s						
SML	**Sawmill**	**20.06**	**46**	*e*P	**P**	**09 55 32.5**	**+0.6**
SML				pmax	pmax		
	comp=Z,34nm,0.8s						
MLY	**Manley**	**20.34**	**36**	*e*P	**P**	**09 55 35.9**	**+1.0**
	comp=Z,27nm,1.0s						
GLI	**Glacier Island**	**20.39**	**49**	*e*P	**P**	**09 55 36.3**	**+0.9**
	comp=Z,53nm,1.0s						
MCK	**McKinley**	**20.47**	**41**	*e*P	**P**	**09 55 36.6**	**+0.3**
	comp=Z,43nm,1.0s						
SCM	**Sheep Creek Mo**	**20.53**	**46**	*e*P	**P**	**09 55 35.9**	**-1.0**
	comp=Z,46nm,0.9s						
SCM	**Sheep Creek Mo**	**20.53**	**46**	*e*P	**P**	**09 55 35.9**	**-1.0**
SCM				pmax	pmax		
	comp=Z,46nm,0.9s						
FID	**Port Fidalgo**	**20.65**	**50**	*e*P	**P**	**09 55 37.9**	**-0.3**
	comp=Z,76nm,1.2s						
DHY	**Denali Highway**	**20.89**	**43**	*e*P	**P**	**09 55 40.7**	**-0.3**
	comp=Z,77nm,0.8s						
DIV	**Divide**	**21.07**	**49**	*e*P	**P**	**09 55 43.9**	**+1.1**
	comp=Z,27nm,0.6s						
KLU	**Klutina**	**21.09**	**48**	*e*P	**P**	**09 55 43.8**	**+0.8**
	comp=Z,137nm,1.8s						
WRH	**Wood River Hil**	**21.11**	**39**	*e*P	**P**	**09 55 42.3**	**-0.8**
	comp=Z,17nm,0.8s						
MDM	**Murphy Dome**	**21.26**	**38**	*e*P	**P**	**09 55 44.5**	**-0.3**
	comp=Z,62nm,1.0s						
CCB	**Clear Creek Bu**	**21.29**	**39**	*e*P	**P**	**09 55 45.5**	**+0.4**
	comp=Z,63nm,1.4s						
CCB				*e*Sn	Sn	09 59 57.4	+10
TCOL	**CIGO, UAF Yank**	**21.36**	**38**	P	**P**	**09 55 45.9**	**+0.1**
	baz=245						
COLA	**College**	**21.37**	**38**	*e*P	**P**	**09 55 46.2**	**+0.4**
	comp=Z,31nm,0.9s		

TYV pmax pmax
comp=Z,2µm,3.8s
TYV smax smax
comp=E,1µm,3.8s
EGAK Eagle 24.02 41 *e*P **P 09 56 12.4 -0.6**
comp=E,64nm,0.9s
DAWY Dawson 24.59 43 *e*P **P 09 56 17.3 -1.0**
comp=E,21nm,0.9s
YSS Yuzh-Sakhalins 24.76 275 *e*P **P 09 56 20.6 +0.7**
comp=E,78nm,0.9s
YSS Yuzh-Sakhalins 24.76 275‖ *e*P **P 09 56 21.1 +1.2**
YSS *e* 09 57 01.0
YSS pmax pmax
comp=N,30nm,0.8s
YSS pmax pmax
comp=Z,60nm,0.8s
YSS pmax pmax
comp=E,50nm,1.0s
YSS MLR MLR
comp=Z,5µm,16.0s
ASAJ Asahikawa 26.13 269 *e*P **P 09 56 33.1 +0.8**
comp=Z,75nm,1.1s
EPYK Eagle Plains 26.22 38 P **P 09 56 32.3 -0.7**
baz=256
ERM Erimo 26.87 265 *ce*P **P 09 56 37.3 -1.7**
ERM pmax pmax
comp=Z,31nm,1.0s
GRNR Gornyy 27.30 286 *e*P **P 09 56 43.2 +0.3**
GRNR pmax pmax
comp=Z,42nm,1.0s
INK Inuvik 27.90 35 *e*P **P 09 56 48.2 +0.4**
comp=Z,9.7nm,1.0s
INK *e*PcP **PcP 10 00 01.6 -0.7**
INK Inuvik 27.90 35 *e*P **P 09 56 48.3 +0.4**
INK *e* 10 00 01.6
INK pmax pmax
comp=Z,10.0nm,1.0s
DLBC Dease Lake 28.91 56 P **P 09 56 54.9 -2.3**
comp=Z,1.1nm,0.6s,baz=315,slow=8.6,SNR=3.0
DLBC Dease Lake 28.91 56 *e*P **P 09 56 54.9 -2.3**
comp=Z,40nm,1.8s
YAK Yakutsk 29.08 311 P **P 09 56 57.4 -1.1**
comp=Z,20nm,0.6s,baz=116,slow=2.0,SNR=5.9
YAK Yakutsk 29.08 311 *e*P **P 09 56 57.4 -1.1**
comp=Z,34nm,0.9s
YAK Yakutsk 29.08 311 *e*P **P 09 56 57.9 -0.6**
YAK *e**PP **pP 09 57 11.8 +1.9**
YAK *e*PPP PPP 09 58 06.5
YAK *e*S **S 10 01 47.9 +1.0**
YAK *e**SS **sS 10 02 03.8 -2.1**
YAK *e*SSS SSS 10 03 32.5
YAK pmax pmax
comp=Z,26nm,0.8s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,10.0nm,0.9s
YAK smax smax
comp=N,162nm,2.8s
YAK smax smax
comp=E,75nm,2.8s
YAK MLR MLR
comp=Z,411nm,18.0s
YAK MLR MLR
comp=E,259nm,18.0s
YAK MLR MLR
comp=N,119nm,19.0s
TIXI Tiksi 30.47 331 P **P 09 57 09.5 -1.3**
comp=N,0.8nm,0.2s,baz=98,slow=5.1,SNR=2.4
TIXI PcP **PcP 10 00 08.3 -0.5**
comp=N,8.9nm,0.9s,baz=97,slow=2.4,SNR=11
TIXI Tiksi 30.47 331 *e*P **P 09 57 12.5 +1.8**
TIXI pmax pmax
comp=Z,9.0nm,3.0s
KLR Kul'dur 30.67 286 P **P 09 57 13.0 +0.3**
comp=Z,39nm,0.7s,baz=66,slow=8.0,SNR=84
KLR Kul'dur 30.67 286‖ *i*P **P 09 57 12.6 -0.1**
ZEA Zeya 31.77 296 *e*P **P 09 57 21.8 -0.6**
ZEA *e* 10 07 47.0
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=Z,78nm,1.2s
ZEA MLR MLR
comp=Z,400nm,16.0s
USRK Ussuriysk Ar. 32.74 277 P **P 09 57 30.7 -0.3**
comp=Z,9.6nm,0.8s,baz=59,slow=8.7,SNR=14
USRK PcP **PcP 10 00 15.7 +0.2**
comp=Z,5.3nm,0.9s,baz=103,slow=3.1,SNR=4.3
USRK LR LR 10 10 12.6
comp=Z,183nm,21.6s,baz=56,slow=35
H11N2 WAKE ISLAND Hy 33.17 204 T T 10 32 54.4
baz=17,slow=76,SNR=346
H11N3 WAKE ISLAND Hy 33.18 203 T T 10 32 57.8
baz=17,slow=76,SNR=384
H11N1 WAKE ISLAND Hy 33.19 204 T T 10 32 57.7
baz=17,slow=76,SNR=481
MAJO Matsushiro 33.20 260 *e*P **P 09 57 35.9 +0.8**
MAJO *e*PcP **PcP 10 00 17.0 +0.1**
MAJO Matsushiro 33.20 260 *e*P **P 09 57 35.9 +0.8**
MAJO *e* 10 00 17.0
MJAR Matsushiro Arr 33.20 260 P **P 09 57 35.9 +0.8**
comp=Z,2.7nm,0.8s,baz=236,slow=18,SNR=5.8
MJAR PcP **PcP 10 00 17.0 +0.1**
comp=Z,3.2nm,0.8s,baz=65,slow=1.1,SNR=4.3
MJAR LR LR 10 09 03.0
comp=Z,276nm,21.9s,baz=70,slow=33
H11S1 WAKE ISLAND Hy 34.40 203 T T 10 34 31.4
baz=16,slow=77,SNR=546
H11S2 WAKE ISLAND Hy 34.41 203 T T 10 34 36.4
baz=16,slow=77,SNR=257
H11S3 WAKE ISLAND Hy 34.41 203 T T 10 34 29.8
baz=16,slow=77,SNR=243
YKA Yellowknife Ar 35.74 46 P **P 09 57 56.0 -0.6**
comp=Z,8.1nm,0.7s,baz=281,slow=9.3,SNR=14
YKA PcP **PcP 10 00 22.4 -1.4**
comp=Z,3.1nm,0.8s,baz=295,slow=3.5,SNR=3.2
YKB5 Yellowknife Ar 35.74 46 *e*P **P 09 57 55.4 -1.3**
A04D Lummi Island 35.96 71 P **P 09 57 58.4 -0.3**
baz=296
D03D Eldon 36.26 73 P **P 09 58 02.9 +1.6**
baz=297,SNR=8.5
B05A Bryant 36.52 71 P **P 09 58 04.9 +1.3**
baz=297,SNR=11
D04E Lakebay 36.62 73 P **P 09 58 05.8 +1.4**
baz=298
F04D Rainier, OR 37.00 75 P **P 09 58 08.7 +1.0**
baz=299
CN2 Changchun 37.01 280 *e*P **P 09 58 07.5 -0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,320nm,18.0s
CN2 LR LR
comp=Z,260nm,18.0s
CN2 LR LR
comp=Z,320nm,17.0s
E04D Cinebar 37.04 74 P **P 09 58 09.6 +1.6**
baz=298,SNR=5.3
D05A Enumclaw 37.09 73 *e*P **P 09 58 09.2 +0.8**
comp=Z,62nm,1.3s
G03D McMinnville, O 37.27 77 P **P 09 58 11.2 +1.2**
baz=300
LON Longmire 37.40 74 *e*P **P 09 58 12.3 +1.2**
comp=Z,8.3nm,0.8s
LON Longmire 37.40 74 *e*P **P 09 58 12.3 +1.2**
LON pmax pmax
comp=Z,8.0nm,0.8s
I02D Swisshome 37.48 78 P **P 09 58 13.3 +1.6**
baz=301
BOD Bodaibo 37.60 307‖ *i*P **P 09 58 11.5 -1.1**
BOD pmax pmax
comp=Z,48nm,1.1s
HIA Hailar 37.80 291 *e*P **P 09 58 14.0 -0.5**
comp=Z,25nm,0.8s
HIA Hailar 37.80 291 *e*P **P 09 58 14.0 -0.5**
HIA pmax pmax
comp=Z,25nm,0.8s
LTY Liberty 37.84 72 *e*P **P 09 58 15.3 +0.4**
comp=Z,16nm,1.1s
J01E Myrtle Point 37.93 80 P **P 09 58 16.8 +1.3**
baz=302
H04D Lebanon 37.95 77 P **P 09 58 16.9 +1.2**
baz=301
I03D Drain, OR 38.00 79 P **P 09 58 16.5 +0.4**
baz=302
F05D White Salmon 38.04 75 P **P 09 58 17.0 +0.5**
baz=300
B08A Colville Reser 38.12 70 *e*P **P 09 58 17.8 +0.6**
comp=Z,25nm,1.2s
H04A Detroit Lake 38.20 77 *e*P **P 09 58 17.9 0.0**
comp=Z,31nm,0.8s
K02D Willamette Mer 38.34 80 P **P 09 58 19.2 +0.1**
baz=302
G05D Wamic, OR 38.45 75 P **P 09 58 20.5 +0.6**
baz=300
I04A Tendick Farm, 38.53 78 P **P 09 58 21.6 +0.9**
baz=302,SNR=5.7
HAWA Hanford 38.95 73 *e*P **P 09 58 25.0 +0.9**
comp=Z,46nm,1.4s
F07A Phinny Hill Vi 38.96 74 *e*P **P 09 58 25.1 +0.9**
comp=Z,26nm,0.7s
D08A Wollman Farm, 38.98 72 *e*P **P 09 58 24.9 +0.5**
comp=Z,31nm,1.3s
C09A Chrisman Ranch 39.01 70 *e*P **P 09 58 25.1 +0.5**
comp=Z,36nm,1.4s
J04D Umpqua Nationa 39.01 79 P **P 09 58 24.9 0.0**
baz=302
KSRS Korea Array 39.07 270 P **P 09 58 25.7 +0.5**
comp=Z,14nm,1.0s,baz=62,slow=7.8,SNR=19
KSRS PcP **PcP 10 00 34.3 0.0**
comp=Z,2.0nm,0.8s,baz=37,slow=3.0,SNR=3.2
KSRS LR LR 10 15 17.4
comp=Z,54nm,19.5s,baz=48,slow=37
KS01 Wonju Array Si 39.07 270 *e*P **P 09 58 25.7 +0.5**
KS15 Wonju Array Si 39.10 270 *e*P **P 09 58 26.2 +0.8**
KSAR Wonju Array Be 39.10 270 P **P 09 58 25.7 +0.3**
KSAR PcP **PcP 10 00 34.3 -0.1**
KSAR Wonju Array Be 39.10 270 P **P 09 58 25.7 +0.3**
KSAR 10 00 34.3
E08A Dider Farm, El 39.18 72 *e*P **P 09 58 27.0 +1.0**
comp=Z,22nm,1.2s
PINE Pine Mountain 39.43 77 *e*P **P 09 58 29.4 +1.0**
comp=Z,25nm,1.1s
NEW Newport 39.46 69 *e*P **P 09 58 28.6 +0.2**
comp=Z,36nm,1.3s
NEW Newport 39.46 69 *e*P **P 09 58 28.6 +0.2**
NEW pmax pmax
comp=Z,36nm,1.3s
NEW Newport 39.46 69 P **P 09 58 28.6 +0.2**
baz=298,SNR=18
YBH Yreka Blue Hor 39.46 81 P **P 09 58 27.4 -1.1**
comp=Z,8.5nm,1.1s,baz=313,slow=11,SNR=2.9
YBH Yreka Blue Hor 39.46 81 *e*P **P 09 58 30.3 +1.8**
comp=Z,15nm,1.1s
J05D Fort Rock, OR 39.52 78 P **P 09 58 30.1 +1.0**
baz=302,SNR=5.8
E09A Wood Farm, Sta 39.72 72 *e*P **P 09 58 30.9 +0.4**
comp=Z,28nm,1.2s
G08A Pilot Rock 39.85 74 *e*P **P 09 58 32.5 +0.7**
comp=Z,10nm,1.1s
N02D Trinity Center 39.90 82 P **P 09 58 32.3 +0.2**
baz=304
M04C Macdoel 39.98 80 P **P 09 58 33.1 +0.2**
baz=304
K05A Summer Lake 40.04 79 *e*P **P 09 58 33.8 +0.4**
comp=Z,109nm,1.8s
TJN Taejon 40.09 269 *ce*P **P 09 58 34.0 +0.4**
I07A Izee 40.16 76 *e*P **P 09 58 35.4 +1.0**
comp=Z,14nm,1.0s
WDC Whiskeytown Da 40.22 82 *e*P **P 09 58 35.9 +1.1**
comp=Z,35nm,1.4s
WDC *e*P P 09 58 40.0 +5.3
WDC Whiskeytown Da 40.22 82 *e*P **P 09 58 35.9 +1.1**
WDC pmax pmax
comp=Z,35nm,1.4s
O02D Mt. Diablo Mer 40.30 83 P **P 09 58 35.8 +0.2**
baz=305
F10A Beach Ranch, E 40.54 72 *e*P **P 09 58 37.7 +0.3**
comp=Z,12nm,1.0s
O03E Paynes Creek 40.85 82 P **P 09 58 40.1 +0.1**
baz=305,SNR=5.1
MOD Modoc Plateau 40.86 79 *e*P **P 09 58 41.7 +1.5**
comp=Z,18nm,1.1s
WALA Waterton Lakes 40.95 66 *e*P **P 09 58 40.4 -0.4**
comp=Z,21nm,1.2s
BMO Blue Mountains 41.08 74 *e*P **P 09 58 42.0 +0.1**
comp=Z,7.3nm,0.8s
BMO Blue Mountains 41.08 74 *e*P **P 09 58 42.0 +0.1**
BMO pmax pmax
comp=Z,7.0nm,0.8s
J08A Circle Bar Ran 41.17 76 *e*P **P 09 58 43.4 +0.7**
comp=Z,12nm,0.8s
MGL Magalia 41.28 83 *e*P **P 09 58 43.3 -0.3**
JTMT Jette 41.38 68 *e*P **P 09 58 44.6 +0.2**
comp=Z,35nm,1.4s
ORV Oroville 41.47 83 *e*P **P 09 58 45.2 +0.2**
comp=Z,4.9nm,0.8s
ORV *e*P **P 09 58 49.0 +4.0**
ORV Oroville 41.47 83 *e*P **P 09 58 45.2 +0.2**
ORV pmax pmax
comp=Z,5.0nm,0.8s
WVOR Wild Horse Val 41.59 77 *e*P **P 09 58 47.3 +1.2**
comp=Z,14nm,0.8s
WVOR Wild Horse Val 41.59 77 *e*P **P 09 58 47.3 +1.2**
WVOR pmax pmax
comp=Z,14nm,0.8s
MSO Missoula 42.05 69 *e*P **P 09 58 49.8 0.0**
comp=Z,30nm,1.1s
MSO Missoula 42.05 69 P **P 09 58 49.6 -0.2**
baz=301,SNR=22
AFDM Forest Hills 42.16 83 *e*P **P 09 58 50.4 -0.3**
comp=Z,15nm,1.5s
AFDM *e*P P 09 58 55.7 +5.0
PAHR Pah Rah Range 42.70 81 *e*P **P 09 58 56.1 +0.9**
comp=Z,16nm,1.0s
VCNR Virginia City 42.77 82 *e*P **P 09 58 56.5 +0.5**
comp=Z,24nm,1.2s
PNTR Pine Nut 42.93 82 *e*P **P 09 58 57.9 +0.7**
comp=Z,24nm,0.7s
CMB Columbia Colle 43.08 84 *e*P **P 09 58 59.0 +0.8**
comp=Z,14nm,1.1s
CMB Columbia Colle 43.08 84 *e*P **P 09 58 59.0 +0.8**
CMB pmax pmax
comp=Z,14nm,1.5s
YERR Yerington 43.22 82 *e*P **P 09 58 59.5 +0.1**
comp=Z,13nm,1.1s
HRY Holter Researc 43.34 68 *e*P **P 09 59 00.3 0.0**
WAKR Walker 43.38 83 *e*P **P 09 59 01.7 +0.8**
comp=Z,7.1nm,0.7s
LRM Limekiln Ridge 43.46 70 *e*P **P 09 58 58.0 -3.4**
LRM *e*P **P 09 59 01.2 -0.2**
HLID Hailey 43.52 74 *e*P **P 09 59 02.5 +0.6**
comp=Z,11nm,0.9s
HLID Hailey 43.52 74 P **P 09 59 02.3 +0.4**
baz=304,SNR=17
BMN Battle Mountai 43.61 79 *e*P **P 09 59 03.7 +1.1**
comp=Z,9.5nm,0.8s
BMN Battle Mountai 43.61 79 *e*P **P 09 59 03.7 +1.1**
BMN pmax pmax
comp=Z,10.0nm,0.8s
DLMT Dillon 43.62 70 *e*P **P 09 59 02.7 +0.1**
comp=Z,14nm,1.2s
MCMT McKenzie Canyo 43.76 71 *e*P **P 09 59 03.8 0.0**
EGMT Eagleton 43.85 66 *e*P **P 09 59 04.2 -0.2**
comp=Z,14nm,0.8s
EGMT Eagleton 43.85 66 P **P 09 59 04.0 -0.4**
baz=301,SNR=6.4
RYN Ryan 43.88 82 *e*P **P 09 59 05.8 +1.1**
comp=Z,12nm,1.0s
KVN Kaiserville 43.88 81 *e*P **P 09 59 06.0 +1.1**
comp=Z,8.9nm,1.1s
KVN Kaiserville 43.88 81 *e*P **P 09 59 06.0 +1.1**
KVN pmax pmax
comp=Z,9.0nm,1.1s
BOZ Bozeman (W) 44.06 69 *e*P **P 09 59 06.2 0.0**
comp=Z,35nm,0.8s
BOZ Bozeman (W) 44.06 69 *e*P **P 09 59 06.2 0.0**
BOZ pmax pmax
comp=Z,35nm,0.8s
BOZ Bozeman (W) 44.06 69 P **P 09 59 06.0 -0.1**
baz=303,SNR=56
NV01 Mina Array Sit 44.13 82 *e*P **P 09 59 07.8 +0.9**
NV01 *e*PP **PcP 10 00 51.2 -0.1**
NVAR Mina Array Bea 44.13 82 P **P 09 59 07.5 +0.6**
comp=Z,12nm,1.0s,baz=296,slow=8.0,SNR=16
NVAR PcP **PcP 10 00 51.2 -0.1**
comp=Z,1.2nm,0.8s,baz=286,slow=6.5,SNR=1.9
NVAR ScP **ScP 10 04 43.3 +3.8**
comp=Z,0.7nm,0.9s,baz=295,slow=6.7,SNR=2.8
NVAR LR LR 10 14 14.7
comp=Z,162nm,20.8s,baz=291,slow=32
NV11 Mina Array Sit 44.23 82 *e*P **P 09 59 08.7 +1.2**
comp=Z,0.8nm,1.0s
NRIK Noril'sk 44.23 329 LR LR 10 20 42.4
comp=Z,213nm,18.2s,baz=112,slow=40
PAGB Antelope Grade 44.60 86 *e*P **P 09 59 11.5 +1.1**
comp=Z,17nm,1.3s
PAGB Antelope Grade 44.60 86 *e*P **P 09 59 11.5 +1.1**
comp=Z,17nm,1.3s
QLMT Earthquake Lak 44.60 70 *e*P **P 09 59 11.0 +0.5**
YHB Horse Butte 44.78 70 *e*P **P 09 59 12.7 +0.6**
comp=Z,52nm,1.0s
BJI Beijing 44.84 282‖ *e*P **P 09 59 12.5 +0.3**
BJI pmax pmax
comp=Z,18nm,0.8s
BJT Baijiatuau 44.86 282 *e*P **P 09 59 12.6 +0.2**
comp=Z,20nm,0.8s
BJT Baijiatuau 44.86 282 *e*P **P 09 59 12.6 +0.2**
BJT pmax pmax
comp=Z,20nm,0.8s
YHH Holmes Hill 44.97 70 *e*P **P 09 59 13.7 +0.1**
comp=Z,49nm,1.0s
YMR Madison River 44.97 70 *e*P **P 09 59 14.2 +0.7**
comp=Z,52nm,1.1s
GCMT Greycliff 45.11 68 *e*P **P 09 59 14.9 +0.4**
YFT Old Faithful 45.16 70 *e*P **P 09 59 16.8 +1.7**
comp=Z,28nm,0.9s
VES Vestal, Richgr 45.26 85 P **P 09 59 15.1 -0.5**
baz=309
YPP Pitchstone Pla 45.28 71 *e*P **P 09 59 17.4 +1.3**
comp=Z,16nm,1.1s
H17A Grant Village 45.35 70 *e*P **P 09 59 18.2 +1.6**
comp=Z,60nm,1.1s
H17A Grant Village 45.35 70 P **P 09 59 18.0 +1.4**
baz=304,SNR=39
LKWY Lake 45.36 70 *e*P **P 09 59 18.0 +1.4**
comp=Z,26nm,0.8s
LKWY *e*P **P 09 59 18.5 +1.9**
LKWY Lake 45.36 70 *e*P **P 09 59 18.0 +1.4**
LKWY pmax pmax
comp=Z,26nm,0.8s
IMW Indian Meadow 45.42 71 *e*P **P 09 59 18.1 +0.9**
comp=Z,18nm,1.0s
FLWY Flagg Ranch 45.45 71 *e*P **P 09 59 18.5 +1.1**
comp=Z,32nm,0.9s
CWC Cottonwood Cre 45.51 84 P **P 09 59 16.5 -1.3**
baz=309
FXWY Fox Creek 45.51 71 *e*P **P 09 59 18.1 +0.3**
comp=Z,6.5nm,1.1s
HVU Hansel Valley 45.54 75 *e*P **P 09 59 18.9 +1.0**
comp=Z,18nm,0.8s
HVU Hansel Valley 45.54 75 *e*P **P 09 59 19.0 +1.0**
HVU pmax pmax
comp=Z,18nm,0.8s
GRAC Grapevine Rang 45.60 83 P **P 09 59 18.8 +0.4**
baz=309
MOOW Moose Ponds 45.62 71 *e*P **P 09 59 19.3 +0.7**
comp=Z,8.9nm,1.1s
TPAW Teton Pass 45.64 72 *e*P **P 09 59 19.9 +1.0**
comp=Z,29nm,1.6s
TLY Talaya 45.65 302 *e*P **P 09 59 19.4 +0.8**
comp=Z,48nm,1.5s
TLY Talaya 45.65 302 *e*P **P 09 59 19.5 +0.9**
TLY *e*S S 10 06 08.0 +10
TLY pmax pmax
comp=Z,27nm,1.2s
TLY MLR MLR
comp=Z,158nm,16.0s
RLMT Red Lodge 45.71 69 *e*P **P 09 59 19.9 +0.5**
comp=Z,61nm,0.9s
RLMT Red Lodge 45.71 69 P **P 09 59 19.9 +0.5**
baz=304,SNR=50
ISA Isabella, Lake 45.75 85 *e*P **P 09 59 19.6 0.0**
comp=Z,9.6nm,1.1s
ISA Isabella, Lake 45.75 85 *e*P **P 09 59 19.6 0.0**
comp=Z,9.6nm,1.1s
ISA Isabella, Lake 45.75 85 *e*P **P 09 59 19.6 0.0**
ISA pmax pmax
comp=Z,10.0nm,1.1s
ISA Isabella, Lake 45.75 85 P **P 09 59 18.4 -1.3**
baz=310
REDW Red Top Meadow 45.77 72 *e*P **P 09 59 20.9 +1.0**
comp=Z,16nm,1.1s
SNOW Snow King Moun 45.77 71 *e*P **P 09 59 20.9 +1.0**
comp=Z,18nm,1.3s
LOHW Long Hollow 45.78 71 *e*P **P 09 59 20.7 +0.8**
comp=Z,25nm,1.5s
ULN Ulaanbaatar 45.81 296 *e*P **P 09 59 20.7 +0.7**
comp=Z,17nm,0.9s
ULN Ulaanbaatar 45.81 296 *c i*P **P 09 59 19.5 -0.5**
ULN pmax pmax
comp=Z,33nm,1.4s
R11A Troy Canyon, C 45.87 80 *e*P **P 09 59 21.1 +0.4**
comp=Z,21nm,1.4s
R11A Troy Canyon, C 45.87 80 P **P 09 59 21.0 +0.3**
baz=308,SNR=22
BGU Big Grassy Mou 45.88 76 *e*P **P 09 59 21.6 +0.9**
comp=Z,12nm,0.8s
DAC Darwin (Calif) 45.91 84 *e*P **P 09 59 21.7 +0.7**
comp=Z,3.4nm,0.9s
DAC Darwin (Calif) 45.91 84 *e*P **P 09 59 21.7 +0.7**
DAC pmax pmax
comp=Z,3.0nm,0.9s
MPMC Manual Prospec 46.12 84 P **P 09 59 22.4 -0.2**
baz=309
SONA1 Songino Array 46.18 296 *e*P **P 09 59 23.1 +0.2**
SONA0 Songino Array 46.20 296 *e*P **P 09 59 23.6 +0.6**
SONA0 *e*PcP **PcP 10 00 58.2 0.0**
SONM Songino Array 46.20 296 P **P 09 59 23.6 +0.6**
comp=Z,9.8nm,0.8s,baz=59,slow=8.4,SNR=42
SONM PcP **PcP 10 00 58.2 0.0**
comp=Z,4.8nm,0.8s,baz=68,slow=2.5,SNR=5.2
SONM LR LR 10 20 03.8
comp=Z,587nm,18.9s,baz=56,slow=38
FURC Furnace Creek, 46.25 83 P **P 09 59 23.8 +0.4**
baz=309
TPNV Topopah Spring 46.33 82 *e*P **P 09 59 25.0 +0.7**
comp=Z,19nm,0.8s
TPNV Topopah Spring 46.33 82 *e*P **P 09 59 25.0 +0.7**
TPNV pmax pmax
comp=Z,19nm,0.8s
TPNV Topopah Spring 46.33 82 P **P 09 59 24.5 +0.3**
baz=309,SNR=25
HWUT Hardware Ranch 46.37 74 *e*P **P 09 59 25.3 +0.8**
comp=Z,9.5nm,0.8s
DUG Dugway, Tooele 46.45 76 *e*P **P 09 59 25.8 +0.6**
comp=Z,40nm,1.1s
DUG Dugway, Tooele 46.45 76 *e*P **P 09 59 25.8 +0.6**
DUG pmax pmax
comp=Z,40nm,1.1s
DUG Dugway, Tooele 46.45 76 P **P 09 59 25.8 +0.6**
baz=307,SNR=45
ZAK Zakamensk 46.53 301 *e*P **P 09 59 26.2 +0.6**
ZAK pmax pmax
comp=Z,27nm,1.3s
LAO LASA Array 46.60 65 *e*P **P 09 59 26.7 +0.6**
comp=Z,18nm,0.6s
LAO LASA Array 46.60 65 P **P 09 59 26.0 -0.1**
baz=304,SNR=5.5
DGMT Dagmar 46.75 62 *e*P **P 09 59 26.4 -0.9**
comp=Z,30nm,1.4s
DGMT Dagmar 46.75 62 P **P 09 59 26.4 -0.9**
baz=303
TCUT Toone Canyon 46.76 75 *e*P **P 09 59 27.2 -0.4**
comp=Z,26nm,0.8s
CTU Camp Tracy 46.80 75 *e*P **P 09 59 28.7 +0.7**
comp=Z,16nm,1.0s
PSUT Pine Spring 46.83 79 *e*P **P 09 59 28.9 +0.7**
comp=Z,14nm,0.7s
BW06 Boulder Array 46.89 72 *e*P **P 09 59 28.9 +0.2**
comp=Z,34nm,1.0s
BW06 Boulder Array 46.89 72 P **P 09 59 28.9 +0.2**
baz=306,SNR=31
PD31 Pinedale Array 46.89 72 *e*P **P 09 59 28.9 +0.2**
PDAR Pinedale Array 46.89 72 P **P 09 59 28.6 -0.1**
comp=Z,11nm,0.6s,baz=306,slow=3.4,SNR=130
PDAR ScP **ScP 10 04 53.0 +2.1**
comp=Z,0.9nm,0.9s,baz=331,slow=1.1,SNR=3.8
PDAR LR LR 10 16 36.4
comp=Z,133nm,21.8s,baz=314,slow=33
PDAR Pinedale Array 46.89 72 *e*P **P 09 59 28.2 -0.4**
PDAR ScP **ScP 10 04 53.0 +2.1**
MWC Mount Wilson 46.94 86 *e*P **P 09 59 29.5 +0.4**
comp=Z,15nm,1.1s
MWC Mount Wilson 46.94 86 *e*P **P 09 59 29.5 +0.4**
MWC pmax pmax
comp=Z,15nm,1.1s
SHOC Shoshone, Teco 46.98 83 P **P 09 59 29.1 0.0**

baz=310
GSC **Goldstone, Bar** 47.03 84 *e*P P 09 59 30.2 +0.5
comp=Z,10nm,0.9s
GSC **Goldstone, Bar** 47.03 84 *e*P P 09 59 30.2 +0.5
GSC pmax pmax
comp=Z,10.0nm,0.9s
GSC **Goldstone, Bar** 47.03 84 P P 09 59 29.7 0.0
baz=310,SNR=10
JLU **Jordanelle** 47.04 75 *e*P P 09 59 30.7 +0.8
comp=Z,12nm,1.0s
NLU **North Lily Min** 47.05 76 *e*P P 09 59 31.1 +1.2
comp=Z,13nm,0.8s
MOY **Mondy** 47.06 303 *e*P P 09 59 30.8 +1.1
MOY pmax pmax
comp=Z,33nm,1.4s
HHC **Hu-ho-hao-te** 47.17 285 *e*P P 09 59 32.2 +1.4
HHC S S 10 06 19.7 -0.7
HHC pmax pmax
comp=Z,43nm,0.8s
HHC pmax pmax
comp=Z,120nm,6.1s
HHC LR LR
comp=Z,280nm,14.7s
HHC LR LR
comp=Z,320nm,14.7s
HHC LR LR
comp=Z,790nm,16.4s
BFSC **Mount Baldy Ra** 47.18 86 P P 09 59 31.0 0.0
baz=311
GUMO **Guam** 47.19 230 P P 09 59 30.1 -0.8
comp=Z,40nm,0.8s,baz=128,slow=8.8,SNR=1.3
CIS **Catalina Islan** 47.26 88 P P 09 59 30.7 -0.7
baz=311
MPU **Maple Canyon** 47.28 76 *e*P P 09 59 32.5 +0.8
comp=Z,8.1nm,0.7s
SHPR **Sheep Range** 47.29 82 *e*P P 09 59 32.2 +0.4
comp=Z,6.0nm,1.1s
SHPR *e*P P 09 59 32.8 +1.0
TUQ **Turquoise Moun** 47.49 84 P P 09 59 32.8 -0.5
baz=310
BBRC **Big Bear Solar** 47.63 86 P P 09 59 33.7 -0.8
baz=311
CCUT **Cedar City** 47.74 80 *e*P P 09 59 36.3 +1.0
comp=Z,4.3nm,0.7s
MSU **Marysvale** 47.87 78 *e*P P 09 59 37.2 +0.8
MSU **Marysvale** 47.87 78 *e*P P 09 59 37.2 +0.8
SZCU **Shurtz Canyon** 47.88 79 *e*P P 09 59 36.7 +0.3
comp=Z,17nm,1.0s
MURC **Murrieta** 47.89 86 P P 09 59 36.2 -0.1
baz=311
TMUT **Trail Mountain** 47.98 76 *e*P P 09 59 38.2 +0.9
comp=Z,21nm,0.7s
GMRC **Granite Mounta** 48.08 84 P P 09 59 37.4 -0.5
baz=310
LCMT **Little Creek M** 48.16 80 *e*P P 09 59 38.9 +0.4
comp=Z,10nm,0.9s
P17A **Butcher Ranch,** 48.16 76 *e*P P 09 59 39.3 +0.9
comp=Z,13nm,1.0s
MTPU **Mount Pierson** 48.16 78 *e*P P 09 59 40.0 +1.2
comp=Z,7.7nm,0.8s
NJ2 **Nanjing** 48.24 271 *e*P P 09 59 39.8 +0.8
NJ2 pmax pmax
comp=Z,16nm,0.5s
FRD **Ford Ranch, An** 48.33 86 P P 09 59 39.7 0.0
baz=311,SNR=6.0
PFO **Pinyon Flats O** 48.34 86 *e*P P 09 59 39.8 -0.1
comp=Z,7.7nm,1.3s
PFO **Pinyon Flats O** 48.34 86 *e*P P 09 59 39.8 -0.1
PFO pmax pmax
comp=Z,8.0nm,1.3s
PFO **Pinyon Flats O** 48.34 86 P P 09 59 39.7 -0.3
baz=311
XPFO **Piæon Flat** 48.35 86 *e*P P 09 59 39.8 -0.2
comp=Z,8.5nm,1.3s
P18A **Preston Nutter** 48.37 75 *e*P P 09 59 41.1 +0.9
comp=Z,24nm,1.0s
BELC **Belle Mtn. Jos** 48.38 85 P P 09 59 39.8 -0.4
baz=311
KNB **Kanab** 48.41 80 *e*P P 09 59 41.6 +1.2
comp=Z,11nm,0.9s
KNB **Kanab** 48.41 80 *e*P P 09 59 41.7 +1.2
KNB pmax pmax
comp=Z,11nm,0.9s
SRU **San Rafael Swe** 48.52 76 *e*P P 09 59 41.9 +0.7
comp=Z,19nm,0.8s
SRU **San Rafael Swe** 48.52 76 *e*P P 09 59 41.9 +0.7
SRU pmax pmax
comp=Z,19nm,0.8s
K22A **Casper** 48.76 70 *e*P P 09 59 43.0 0.0
comp=Z,25nm,0.9s
K22A **Casper** 48.76 70 P P 09 59 42.6 -0.4
baz=307,SNR=14
IRM **Iron Mountain** 48.81 84 P P 09 59 43.1 -0.2
baz=311,SNR=7.6
BAR **Barrett** 48.83 87 *e*P P 09 59 43.6 0.0
comp=Z,11nm,1.1s
MONP2 **Monument Peak** 48.84 87 P P 09 59 43.5 -0.3
baz=312
RWWY **Rawlins** 48.93 71 *e*P P 09 59 44.5 0.0
comp=Z,31nm,1.3s
BC3 **Big Chuckawall** 48.95 85 P P 09 59 44.1 -0.4
baz=311
W13A **Hualapai Mount** 48.98 82 *e*P P 09 59 44.8 -0.1
comp=Z,4.9nm,0.8s
SWSC **Sam W. Stewart** 49.20 86 P P 09 59 46.5 +0.2
baz=312
IKP **In-Ko-Pah, Jac** 49.20 87 P P 09 59 46.3 -0.2
baz=312
O20A **White River Ci** 49.27 74 *e*P P 09 59 47.0 0.0
comp=Z,27nm,0.7s
O20A **White River Ci** 49.27 74 P P 09 59 46.6 -0.4
baz=308,SNR=15
RSSD **Black Hills** 49.34 67 *e*P P 09 59 46.9 -0.6
comp=Z,21nm,1.3s
RSSD **Black Hills** 49.34 67 *e*P P 09 59 46.9 -0.6
RSSD pmax pmax
comp=Z,21nm,1.3s
RSSD **Black Hills** 49.34 67 P P 09 59 47.0 -0.6
baz=306
PDMCI **Parker Dam,Lak** 49.34 83 P P 09 59 46.8 -0.6
baz=311
Y12C **Blythe** 49.47 84 *e*P P 09 59 48.6 +0.3
comp=Z,6.9nm,0.9s
Y12C **Blythe** 49.47 84 P P 09 59 48.1 -0.2
baz=311
MDND **Maddock** 49.64 61 *e*P P 09 59 49.3 -0.2
comp=Z,34nm,0.9s
MDND **Maddock** 49.64 61 P P 09 59 48.6 -0.9
baz=306
GLA **Glamis** 49.74 85 P P 09 59 50.5 +0.1
baz=312
PV09 **Paradox Valley** 49.74 76 *e*P P 09 59 51.1 +0.3
PV21 **Cone Mtn., Par** 49.80 76 *e*P P 09 59 51.3 +0.2
comp=Z,18nm,0.7s
PV23 **Carpenter Ridg** 49.85 76 *e*P P 09 59 51.6 +0.1
comp=Z,21nm,0.6s
PV10 **Paradox Valley** 49.88 76 *e*P P 09 59 52.7 +0.9
PV14 **Lion Creek, Pa** 49.89 76 *e*P P 09 59 52.1 +0.2
comp=Z,17nm,0.7s
PV22 **Blue Mesa, Par** 49.93 76 *e*P P 09 59 52.4 +0.3
comp=Z,29nm,0.9s
PV20 **West Nyswonger** 49.95 76 *e*P P 09 59 53.0 +0.8
comp=Z,16nm,0.7s
PV19 **Morning Glory** 49.96 76 *e*P P 09 59 52.0 -0.2
comp=Z,20nm,0.7s
PV17 **East Wray Mesa** 49.99 76 *e*P P 09 59 52.8 +0.3
comp=Z,37nm,0.6s
PV16 **Nyswonger Mesa** 50.00 76 *e*P P 09 59 52.9 +0.3
comp=Z,22nm,0.7s
PV11 **David Mesa, Pa** 50.03 76 *e*P P 09 59 53.1 +0.3
comp=Z,50nm,0.6s
PV05 **Paradox Valley** 50.03 76 *e*P P 09 59 53.4 +0.5
PV18 **Skein Mesa, Pa** 50.04 76 *e*P P 09 59 53.3 +0.4
comp=Z,41nm,0.9s
PV12 **Saucer Basin,** 50.06 76 *e*P P 09 59 53.4 +0.3
comp=Z,29nm,0.8s
PV03 **Paradox Valley** 50.07 76 *e*P P 09 59 53.0 -0.1
PV13 **Radium Mtn., P** 50.15 76 *e*P P 09 59 53.9 +0.1
comp=Z,57nm,0.8s
PV02 **Paradox Valley** 50.17 76 *e*P P 09 59 54.1 +0.1
comp=Z,34nm,0.9s
N23A **Red Feather La** 50.17 71 *e*P P 09 59 54.4 +0.4
comp=Z,21nm,1.2s
N23A **Red Feather La** 50.17 71 P P 09 59 54.4 +0.4
baz=308,SNR=9.8
PHWY **Pilot Hill** 50.21 71 *e*P P 09 59 54.3 0.0
ULM **Lac du Bonnet** 50.23 56 P P 09 59 52.9 -1.0
comp=Z,3.0nm,0.8s,baz=313,slow=8.5,SNR=4.0
ULM PcP PcP 10 01 11.5 -1.0
comp=Z,4.4nm,0.8s,baz=301,slow=5.9,SNR=2.4
ULM LR LR 10 20 57.1
comp=Z,154nm,21.9s,baz=318,slow=36
WUAZ **Wupatki** 50.27 80 *e*P P 09 59 55.2 +0.6
comp=Z,16nm,1.0s
WUAZ **Wupatki** 50.27 80 P P 09 59 54.8 +0.1
baz=310,SNR=12
Y14A **Wickenburg** 50.29 83 *e*P P 09 59 54.6 -0.1
comp=Z,6.0nm,1.1s
PV01 **Paradox Valley** 50.32 76 *e*P P 09 59 55.3 +0.2
113A **Mohawk Valley,** 50.59 85 *e*P P 09 59 56.8 -0.1
comp=Z,6.1nm,1.3s
SMCO **Snowmass** 50.63 74 *e*P P 09 59 57.3 -0.3
comp=Z,7.1nm,1.0s
X16A **Lo Mia Camp, P** 50.95 81 *e*P P 10 00 00.7 +0.8
comp=Z,9.6nm,1.0s
MVCO **Mesa Verde** 50.95 77 *e*P P 09 59 59.7 -0.2
comp=Z,13nm,0.8s
MVCO **Mesa Verde** 50.95 77 P P 09 59 59.6 -0.2
baz=310,SNR=11
ISCO **Idaho Springs** 51.05 72 *e*P P 10 00 00.5 -0.2
comp=Z,9.4nm,1.0s
ISCO **Idaho Springs** 51.05 72 *e*P P 10 00 00.5 -0.2
ISCO pmax pmax
comp=Z,9.0nm,1.0s
ISCO **Idaho Springs** 51.05 72 P P 10 00 01.4 +0.7
ISCO pmax pmax
comp=Z,9.0nm,1.0s
ISCO **Idaho Springs** 51.05 72 P P 10 00 01.1 +0.4
baz=309,SNR=6.7
HVS **Khovu-Aksy** 51.13 306 ⇓ *i*P P 10 00 01.7 +0.9
HVS pmax pmax
comp=Z,94nm,1.1s
AGMN **Agassiz Nation** 51.39 58 *e*P P 10 00 01.7 -1.0
comp=Z,32nm,1.8s
AGMN **Agassiz Nation** 51.39 58 P P 10 00 01.3 -1.4
baz=307
W18A **Petrified Fore** 51.55 80 P P 10 00 04.1 -0.2
baz=311
S22A **4UR Ranch, Cre** 51.62 75 P P 10 00 05.2 +0.2
baz=310,SNR=10
DAG **Danmarks Havn** 51.69 5 *i*P P 10 00 03.9 -0.6
DAG **Danmarks Havn** 51.69 5 *e*P P 10 00 03.9 -0.6
214A **Organ Pipe Nat** 51.73 85 P P 10 00 05.1 -0.5
baz=312
X18A **Snowflake** 51.80 80 *e*P P 10 00 06.5 +0.3
comp=Z,38nm,1.6s
Q24A **Divide** 51.86 73 *e*P P 10 00 07.7 +1.0
comp=Z,25nm,1.5s
Q24A **Divide** 51.86 73 *e*P P 10 00 07.7 +1.0
comp=Z,25nm,1.5s
Q24A **Divide** 51.86 73 P P 10 00 06.1 -0.7
baz=309
SUSD **Miller** 52.04 64 P P 10 00 06.6 -1.0
baz=308,SNR=6.4
SDCO **Great Sand Dun** 52.43 74 *e*P P 10 00 11.7 +0.8
comp=Z,7.8nm,0.9s
SDCO **Great Sand Dun** 52.43 74 P P 10 00 11.3 +0.3
baz=310,SNR=11
OGNE **Ogallala** 52.45 69 *e*P P 10 00 11.0 +0.1
comp=Z,39nm,1.0s
OGNE **Ogallala** 52.45 69 P P 10 00 10.9 +0.1
baz=309,SNR=9.5
SSLB **Suanglung** 52.73 262 *e*P P 10 00 13.2 +0.2
TUC **Tucson** 52.76 83 *e*P P 10 00 13.2 0.0
comp=Z,7.6nm,1.0s
TUC **Tucson** 52.76 83 *e*P P 10 00 13.2 0.0
TUC pmax pmax
comp=Z,8.0nm,1.0s
TUC **Tucson** 52.76 83 P P 10 00 12.9 -0.3
baz=312
KSCO **Kaye Shedlock'** 53.34 71 *e*P P 10 00 18.4 +1.0
comp=Z,28nm,0.9s
KSCO **Kaye Shedlock'** 53.34 71 P P 10 00 17.8 +0.4
baz=310,SNR=7.2
T25A **Trinidad** 53.48 74 *e*P P 10 00 19.3 +0.7
comp=Z,24nm,0.9s
T25A **Trinidad** 53.48 74 P P 10 00 18.8 +0.2
baz=311,SNR=11
SUMG **Summit** 53.56 14 *e*P P 10 00 19.1 +0.2
comp=Z,19nm,1.0s
SUMG **Summit** 53.56 14 *i*P P 10 00 18.7 -0.2
comp=Z,46nm,1.0s
SUMG **Summit** 53.56 14 *e*P P 10 00 19.1 +0.2
SUMG pmax pmax
comp=Z,19nm,1.0s
LAZ **Ladron** 53.62 78 *e*P P 10 00 20.8 +1.1
ANMO **Albuquerque** 53.68 78 *e*P P 10 00 20.7 +0.6
comp=Z,5.6nm,1.1s
ANMO **Albuquerque** 53.68 78 *ce*P P 10 00 19.3 -0.8
ANMO pmax pmax
comp=Z,3.0nm,1.0s
ANMO **Albuquerque** 53.68 78 P P 10 00 19.8 -0.3
baz=312
ZAA1 **Zalesovo Array** 53.70 313 *e*P P 10 00 19.3 -0.4
ZAA1 *e*PcP PcP 10 01 26.0 +0.6
ZAA0 **Zalesovo Array** 53.71 313 *e*P P 10 00 19.6 -0.1
ZAA0 *e*PcP PcP 10 01 26.4 +1.0
ZALV **Zalesovo Beam** 53.71 313 P P 10 00 19.3 -0.4
comp=Z,3.1nm,0.9s,baz=46,slow=4.3,SNR=8.3
ZALV PcP PcP 10 01 26.0 +0.6
comp=Z,8.3nm,0.9s,baz=35,slow=5.3,SNR=9.6
ZALV LR LR 10 24 38.2
comp=Z,132nm,19.8s,baz=70,slow=38
ZALV **Zalesovo Beam** 53.71 313 *e*P P 10 00 19.6 -0.1
ZALV *e*PcP PcP 10 01 25.8 +0.4
ZALV **Zalesovo Beam** 53.71 313 *e*P P 10 00 19.6 -0.1
ZALV *e* 10 01 25.8
ECSD **EROS Data Cent** 53.80 63 *e*P P 10 00 19.6 -1.1
comp=Z,8.2nm,1.0s
ECSD **EROS Data Cent** 53.80 63 P P 10 00 19.0 -1.6
baz=309
LENM **Lemitar** 53.88 79 *e*P P 10 00 21.9 +0.4
EYMN **Ely** 53.92 56 *e*P P 10 00 20.6 -0.7
EYMN **Ely** 53.92 56 P P 10 00 20.5 -0.9
baz=309
BNM **Barren Site** 54.10 78 *e*P P 10 00 24.1 +0.9
319A **Douglas** 54.33 83 *e*P P 10 00 24.5 -0.3
comp=Z,11nm,1.0s
BGNE **Belgrade** 54.42 66 *e*P P 10 00 25.2 +0.1
comp=Z,45nm,0.9s
BGNE **Belgrade** 54.42 66 P P 10 00 23.7 -1.4
baz=310
121A **Cookes Peak, D** 54.48 81 P P 10 00 25.0 -0.9
baz=313
F37A **Hinrichs Farm,** 54.73 59 P P 10 00 26.2 -1.1
baz=310
E38A **The Farm, Brul** 54.74 58 *e*P P 10 00 25.8 -1.6
comp=Z,22nm,0.9s
E38A **The Farm, Brul** 54.74 58 P P 10 00 25.9 -1.5
baz=310,SNR=5.6
LZH **Lanzhou** 54.87 286 *e*P P 10 00 29.1 +0.4
LZH pP sP 10 00 45.2 -0.4
LZH sP pP 10 00 52.3 +12
LZH PP PP 10 02 34.5 +3.0
LZH pmax pmax
comp=Z,63nm,1.3s
SPMN **Marine on St.** 54.95 60 *e*P P 10 00 27.7 -1.2
comp=Z,21nm,1.3s
SPMN **Marine on St.** 54.95 60 P P 10 00 27.3 -1.6
baz=310
F38A **Pierce - Schro** 54.98 58 P P 10 00 28.6 -0.5
baz=310,SNR=12
GTA **Gaotai** 55.08 291 ⇑P P 10 00 30.6 +0.5
GTA pP sP 10 00 47.3 +0.2
GTA sP pP 10 00 54.6 +12
GTA PcP PcP 10 01 32.2 +1.1
GTA S S 10 08 08.4 -1.3
GTA sS sS 10 08 35.1 +5.4
GTA pmax pmax
comp=Z,26nm,1.1s
GTA pmax pmax
comp=Z,120nm,6.5s
GTA LR LR
comp=Z,280nm,18.1s
GTA LR LR
comp=Z,230nm,17.8s
GTA LR LR
comp=Z,350nm,18.1s
CBKS **Cedar Bluff** 55.18 70 *e*P P 10 00 31.1 +0.4
comp=Z,59nm,0.9s
CBKS **Cedar Bluff** 55.18 70 *e*P P 10 00 31.1 +0.4
CBKS pmax pmax
comp=Z,59nm,0.9s
CBKS **Cedar Bluff** 55.18 70 P P 10 00 30.8 +0.1
baz=311,SNR=11
E39A **Mellen** 55.41 57 P P 10 00 31.1 -1.2
baz=310
G38A **Ridgeland** 55.50 59 P P 10 00 31.1 -1.7
baz=310
F39A **Loretta** 55.52 58 P P 10 00 31.3 -1.7
baz=310,SNR=5.2
H38A **Maiden Rock** 55.59 60 P P 10 00 32.6 -0.9
baz=310
E40A **Wakefield** 55.72 57 P P 10 00 33.1 -1.3
baz=310
EPT **El Paso** 55.79 80 *e*P P 10 00 34.7 -0.6
comp=Z,19nm,0.9s
G39A **Holcombe** 55.79 59 P P 10 00 33.5 -1.4
baz=310
F40A **Park Falls** 55.94 57 P P 10 00 34.8 -1.2
baz=310
H39A **Augusta** 56.13 59 P P 10 00 36.1 -1.3
baz=311
E41A **Kenton** 56.19 56 P P 10 00 36.4 -1.4
baz=311
G40A **Rib Lake** 56.32 58 P P 10 00 36.6 -2.2
baz=311
MNTX **Cornudas Mount** 56.53 80 *e*P P 10 00 41.0 +0.5
comp=Z,8.7nm,0.8s
MNTX **Cornudas Mount** 56.53 80 P P 10 00 40.6 +0.1
baz=313,SNR=13
I39A **Houston** 56.54 60 *e*P P 10 00 39.6 -0.7
comp=Z,15nm,0.7s
I39A **Houston** 56.54 60 P P 10 00 38.8 -1.5
baz=311
MSTX **Muleshoe** 56.59 76 *e*P P 10 00 41.0 0.0
comp=Z,58nm,1.8s
MSTX **Muleshoe** 56.59 76 P P 10 00 40.4 -0.5
baz=313
F41A **Three Lakes** 56.59 57 *e*P P 10 00 40.0 -0.7
comp=Z,23nm,0.6s
F41A **Three Lakes** 56.59 57 P P 10 00 39.0 -1.7
baz=311,SNR=6.8
AMTX **Amarillo** 56.63 74 *e*P P 10 00 41.2 0.0
comp=Z,15nm,0.9s
AMTX **Amarillo** 56.63 74 P P 10 00 40.9 -0.3
baz=312
H40A **Chili** 56.65 59 P P 10 00 40.5 -0.5
baz=311
E42A **Champion** 56.76 56 P P 10 00 41.1 -0.8
baz=311
J39A **Decorah** 56.78 61 P P 10 00 40.8 -1.2
baz=311,SNR=7.6
KSU1 **Kansas State U** 56.82 67 *e*P P 10 00 42.1 -0.2
comp=Z,41nm,0.9s
KSU1 **Kansas State U** 56.82 67 P P 10 00 41.4 -1.0
baz=312
SCIA **State Center** 56.89 63 P P 10 00 42.0 -0.9
baz=311
G41A **Antigo** 56.90 58 P P 10 00 41.9 -1.0
baz=311
I40A **Norwalk** 57.01 60 P P 10 00 42.3 -1.4
baz=311
H41A **Junction City** 57.05 58 P P 10 00 42.7 -1.2
baz=311
F42A **Maple Grove Fa** 57.09 56 P P 10 00 43.6 -0.6
baz=311
K39A **Oelwein** 57.10 61 P P 10 00 42.8 -1.5
baz=311
U32A **Winter Ranch,** 57.23 71 *e*P P 10 00 49.1 +3.7
comp=Z,16nm,0.9s
J40A **Soldiers Grove** 57.27 60 P P 10 00 44.2 -1.3
baz=312
E43A **Lone Tree Farm** 57.27 55 P P 10 00 44.3 -1.2
baz=312
G42A **Mountain** 57.28 57 P P 10 00 44.7 -0.8
baz=312
I41A **Arkdale** 57.30 59 P P 10 00 44.6 -1.0
baz=312
L39A **Vinton** 57.42 62 P P 10 00 45.3 -1.2
baz=312
K40A **Colesburg** 57.51 61 P P 10 00 45.9 -1.3
baz=312
F43A **Flat Rock, Esc** 57.55 56 P P 10 00 46.3 -1.1
baz=312
E44A **Grand Marais A** 57.66 54 P P 10 00 48.0 -0.2
baz=312
J41A **Loganville** 57.68 60 P P 10 00 47.3 -1.1
baz=312
H42A **Shiocton** 57.72 58 P P 10 00 47.3 -1.3
baz=312
M39A **Webster** 57.76 63 P P 10 00 48.2 -0.7
baz=312,SNR=8.9
JFWS **Jewell Farm** 57.86 60 *e*P P 10 00 48.6 -1.0
comp=Z,40nm,1.4s
JFWS **Jewell Farm** 57.86 60 *e*P P 10 00 48.6 -1.0
JFWS pmax pmax
comp=Z,40nm,1.4s
JFWS **Jewell Farm** 57.86 60 P P 10 00 48.2 -1.4
baz=312
I42A **Draeger Farm,** 57.92 59 P P 10 00 48.7 -1.4
baz=312
N39A **Derby Farms, D** 57.98 63 *e*P P 10 00 50.0 -0.4
comp=Z,41nm,1.3s
N39A **Derby Farms, D** 57.98 63 P P 10 00 49.6 -0.9
baz=312,SNR=7.4
K41A **Shullsburg** 58.03 60 P P 10 00 49.8 -1.0
baz=312,SNR=7.7
ARA0 **ARCESS Array S** 58.12 350 *e*P P 10 00 50.2 -0.9
ARCES **ARCESS Array B** 58.12 350 P P 10 00 50.2 -0.9
comp=Z,7.0nm,0.9s,baz=33,slow=8.9,SNR=13
ARCES LR LR 10 28 17.8
comp=Z,5.0nm,19.8s,baz=312,slow=39
M40A **Post Highland** 58.17 62 P P 10 00 50.6 -1.2
baz=312
J42A **Columbus** 58.20 59 P P 10 00 50.9 -1.1
baz=312
L41A **Preston** 58.28 61 P P 10 00 51.2 -1.4
baz=312,SNR=5.6
I43A **Langenfeld Bro** 58.34 58 P P 10 00 52.1 -0.9
baz=312
K42A **Prairie Point,** 58.44 60 P P 10 00 52.5 -1.2
baz=312
CD2 **Chengdu** 58.44 281 *e*P P 10 00 54.0 +0.1
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
WMOK **Wichita Mounta** 58.48 73 *e*P P 10 00 54.1 0.0
comp=Z,49nm,1.9s
WMOK **Wichita Mounta** 58.48 73 *e*P P 10 00 54.1 0.0
WMOK pmax pmax
comp=Z,49nm,1.9s
WMOK **Wichita Mounta** 58.48 73 P P 10 00 54.1 0.0
baz=313,SNR=10
F45A **CMU Biological** 58.50 55 P P 10 00 53.0 -1.1
baz=312
J43A **Natural Harves** 58.53 59 P P 10 00 53.7 -0.7
baz=312
KURK **Kurchatov** 58.70 313 ⇑ *i*P P 10 00 55.7 +0.4
KURK pmax pmax
comp=Z,41nm,1.5s
M41A **Milan** 58.73 62 P P 10 00 54.7 -1.0
baz=312
L42A **Oliver, Polo** 58.79 61 *e*P P 10 00 55.1 -1.0
comp=Z,24nm,0.8s
L42A **Oliver, Polo** 58.79 61 P P 10 00 54.9 -1.2
baz=313
F46A **Macinaw City C** 58.83 55 P P 10 00 55.7 -0.7
baz=313
WMQ **Urumqi** 58.93 302 P P 10 00 58.1 +0.9
WMQ pP sP 10 01 17.9 +3.7
WMQ pmax pmax
comp=Z,62nm,1.3s
WMQ pmax pmax
comp=Z,370nm,4.5s
WMQ LR LR
comp=Z,730nm,24.3s
WMQ LR LR
comp=Z,660nm,25.1s
WMQ LR LR
comp=Z,750nm,21.9s
N41A **Harden Midland** 59.01 62 *e*P P 10 00 57.2 -0.5
comp=Z,51nm,1.2s
N41A **Harden Midland** 59.01 62 P P 10 00 56.7 -1.0
baz=313
K43A **Burlington** 59.04 59 P P 10 00 56.7 -1.2
baz=313
TX31 **Lajitas Ar. Si** 59.24 80 *e*P P 10 00 59.0 -0.5
TX31 *e*P P 10 00 59.5 0.0
LTX **Lajitas** 59.24 80 *e*P P 10 00 58.9 -0.7
LTX **Lajitas** 59.24 80 *e*P P 10 00 58.9 -0.7
TXAR **Lajitas Array** 59.24 80 P P 10 00 58.9 -0.7

comp=Z,5.4nm,1.0s,baz=304,slow=5.3,SNR=14
TXAR ScP **ScP** 10 05 48.0 +3.5
comp=Z,0.2nm,0.6s,baz=336,slow=2.0,SNR=2.3
TXAR LR LR 10 25 01.8
comp=Z,84nm,20.3s,baz=0.0,slow=34
N42A Yates City 59.38 62 P **P** 10 00 59.0 -1.3
baz=313
O41A Passless Farm, 59.40 63 P **P** 10 00 59.7 -0.7
baz=313,SNR=8.9
ABTX Abilene, Hawle 59.41 75 *e*P **P** 10 01 00.6 -0.1
comp=Z,22nm,1.1s
ABTX Abilene, Hawle 59.41 75 P **P** 10 01 00.4 -0.2
baz=314,SNR=5.4
TUL1 Leonard 59.45 70 *e*P **P** 10 01 00.7 -0.1
comp=Z,27nm,1.1s
TUL1 Leonard 59.45 70 P **P** 10 01 00.5 -0.3
baz=313
M43A Waltham Townsh 59.56 61 P **P** 10 01 00.4 -1.1
baz=313
P41A Barry, Barry 59.60 63 P **P** 10 01 01.0 -0.8
baz=313,SNR=7.7
MK31 Makanchi Array 59.67 308 *e*P **P** 10 01 01.9 -0.3
MK31 Makanchi Array 59.67 308 *e*P **P** 10 01 01.9 -0.3
MK32 Makanchi Array 59.67 308 *e*P **P** 10 01 01.5 -0.7
MKAR Makanchi Array 59.67 308 P **P** 10 01 01.5 -0.7
comp=Z,22nm,0.9s,baz=56,slow=7.1,SNR=61
MKAR LR LR 10 27 59.0
comp=Z,154nm,20.1s,baz=34,slow=37
MKAR Makanchi Array 59.67 308 *e*P **P** 10 01 01.9 -0.3
comp=Z,104nm,0.8s
MKAR Makanchi Array 59.67 308 *e*P **P** 10 01 01.9 -0.3
MKAR pmax pmax
comp=Z,104nm,0.8s
MK01 Makanchi Array 59.68 308 *e*P **P** 10 01 01.6 -0.7
HPIG 59.69 84 *e*P **P** 10 01 01.7 -1.1
comp=Z,5.1nm,0.9s
GYA Guiyang 59.77 275 *e*P **P** 10 01 02.7 -0.6
GYA pmax pmax
comp=Z,10.0nm,1.0s
N43A Stutzman Famil 59.78 61 P **P** 10 01 02.2 -0.8
baz=313
O42A Bath 59.79 62 P **P** 10 01 02.2 -0.8
baz=313
MAKZ Makanchi 59.81 308 *e*P **P** 10 01 03.1 -0.1
comp=Z,24nm,0.8s
MAKZ Makanchi 59.81 308 *e*P **P** 10 01 03.1 -0.1
MAKZ pmax pmax
comp=Z,24nm,0.8s
HDIL Hopedale 59.98 62 *e*P **P** 10 01 03.8 -0.6
comp=Z,39nm,0.6s
HDIL Hopedale 59.98 62 P **P** 10 01 03.6 -0.7
baz=313,SNR=7.1
Q41A Truxton 60.00 64 P **P** 10 01 03.6 -0.9
baz=313,SNR=10.0
MANU Manus Island 60.02 219 *e*P **P** 10 01 04.7 -0.1
comp=Z,29nm,1.0s
J46A Howard City 60.03 57 P **P** 10 01 03.7 -1.0
baz=314
P42A Winchester 60.06 63 *e*P **P** 10 01 04.2 -0.7
comp=Z,35nm,1.1s
P42A Winchester 60.06 63 P **P** 10 01 04.0 -1.0
baz=313,SNR=5.9
M44A Midewin, Midew 60.10 60 P **P** 10 01 04.1 -1.1
baz=313
O43A Sugar Creek Fa 60.16 62 P **P** 10 01 04.4 -1.1
baz=313
HHAR Hobbs 60.28 68 *e*P **P** 10 01 05.5 -1.1
comp=Z,16nm,1.0s
R41A Rosebud 60.37 65 P **P** 10 01 05.9 -1.2
baz=314,SNR=12
K46A Dorr 60.42 58 P **P** 10 01 06.4 -1.0
baz=314
Q42A Golden Eagle 60.42 64 P **P** 10 01 07.0 -0.4
baz=314,SNR=18
N44A Piper City 60.46 61 P **P** 10 01 06.7 -0.9
baz=314
SCHQ Schefferville 60.46 38 P **P** 10 01 06.5 -1.0
comp=Z,17nm,0.9s,baz=293,slow=6.5,SNR=6.1
SCHQ LR LR 10 28 43.7
comp=Z,272nm,20.4s,baz=5.0,slow=38
SCHQ Schefferville 60.46 38 *e*P **P** 10 01 07.0 -0.5
comp=Z,32nm,1.1s
P43A Skaggs, Pawnee 60.49 63 P **P** 10 01 07.0 -0.9
baz=314,SNR=7.6
J47A Sumner 60.54 57 P **P** 10 01 07.1 -1.1
baz=314
CCM Cathedral Cave 60.61 65 *e*P **P** 10 01 07.7 -1.0
comp=Z,10nm,0.8s
CCM Cathedral Cave 60.61 65 *e*P **P** 10 01 07.7 -1.0
CCM pmax pmax
comp=Z,10.0nm,0.8s
CCM Cathedral Cave 60.61 65 P **P** 10 01 07.5 -1.2
baz=314
L46A Eue Claire 60.61 59 P **P** 10 01 07.7 -1.0
baz=314
X37A Clayton 60.61 70 *e*P **P** 10 01 08.6 -0.2
comp=Z,16nm,0.9s
BVAR Borovoye Array 60.62 319 LR LR 10 28 58.3
comp=Z,317nm,21.7s,baz=45,slow=38
BRVK Borovoye 60.64 319 *e*P **P** 10 01 09.4 +0.7
comp=Z,29nm,1.2s
BRVK Borovoye 60.64 319 *e*P **P** 10 01 09.4 +0.7
BRVK pmax pmax
comp=Z,29nm,1.2s
S41A Jillco Farms, 60.65 66 P **P** 10 01 07.6 -1.4
baz=314,SNR=22
R42A Luebbering 60.71 64 P **P** 10 01 08.3 -1.1
baz=314
O44A Mansfield 60.72 61 P **P** 10 01 08.3 -1.1
baz=314
N45A Kentland 60.76 60 P **P** 10 01 08.5 -1.2
baz=314
JCT Junction City 60.81 77 *e*P **P** 10 01 09.5 -0.8
comp=Z,8.3nm,0.8s
JCT Junction City 60.81 77 *e*P **P** 10 01 09.5 -0.8
JCT pmax pmax
comp=Z,8.0nm,0.8s
JCT Junction City 60.81 77 P **P** 10 01 09.1 -1.2
baz=315
K47A Vermontville 60.84 57 P **P** 10 01 08.3 -2.0
baz=314
U40A Yellville 60.86 67 P **P** 10 01 09.3 -1.2
baz=314,SNR=15
Q43A New Douglas 60.87 63 P **P** 10 01 09.9 -0.6
baz=314,SNR=7.2
T41A Mountain View 61.02 66 P **P** 10 01 09.9 -1.6
baz=314,SNR=6.3
O45A Potomac 61.06 61 P **P** 10 01 11.3 -0.4
baz=314,SNR=9.8
S42A Caledonia 61.06 65 P **P** 10 01 10.7 -1.1
baz=314,SNR=16
P44A Sand Creek, Wi 61.11 62 P **P** 10 01 11.3 -0.8
baz=314,SNR=6.4
FVM French Village 61.12 64 *e*P **P** 10 01 11.5 -0.7
comp=Z,15nm,0.7s
FVM French Village 61.12 64 *e*P **P** 10 01 11.5 -0.7
FVM pmax pmax
comp=Z,15nm,0.7s
W39A Magazine 61.13 69 *e*P **P** 10 01 11.8 -0.4
comp=Z,28nm,1.2s
W39A Magazine 61.13 69 P **P** 10 01 11.7 -0.6
baz=314,SNR=8.4
N46A Monticello 61.15 60 P **P** 10 01 11.7 -0.6
baz=314
WHTX Lake Whitney, 61.18 74 *e*P **P** 10 01 12.0 -0.7
comp=Z,13nm,0.8s
WHTX Lake Whitney, 61.18 74 P **P** 10 01 11.6 -1.1
baz=315
R43A Red Bud 61.20 64 P **P** 10 01 11.7 -1.0
baz=314,SNR=7.6
K48A Perry 61.22 57 P **P** 10 01 12.1 -0.7
baz=314
L47A Sherwood 61.22 58 P **P** 10 01 11.5 -1.3
baz=314
V40A Witts Springs 61.27 68 *e*P **P** 10 01 12.4 -0.8
V40A Witts Springs 61.27 68 P **P** 10 01 12.2 -1.0
baz=314,SNR=15
Q44A Meyer Farm, Va 61.28 63 P **P** 10 01 12.5 -0.7
baz=314,SNR=6.7
SFIN Lafayette 61.31 60 *e*P **P** 10 01 12.8 -0.6
comp=Z,45nm,0.8s
SFIN Lafayette 61.31 60 P **P** 10 01 13.1 -0.4
baz=314,SNR=8.2
J49A Marlette 61.34 56 P **P** 10 01 11.7 -1.9
baz=314
T42A Van Buren 61.41 66 *e*P **P** 10 01 12.5 -1.6
comp=Z,31nm,1.4s
T42A Van Buren 61.41 66 P **P** 10 01 12.2 -1.9
baz=314,SNR=6.5
U41A Viola 61.41 67 P **P** 10 01 12.8 -1.4
baz=314,SNR=18
X39A Fountain Ranch 61.41 70 P **P** 10 01 13.8 -0.4
baz=314,SNR=11
M47A Cromwell 61.43 59 P **P** 10 01 13.0 -1.2
baz=314
W40A Ferguson Farm, 61.55 68 *e*P **P** 10 01 15.1 0.0
W40A Ferguson Farm, 61.55 68 P **P** 10 01 14.7 -0.4
baz=314,SNR=12
P45A Graceland, Par 61.55 62 P **P** 10 01 14.4 -0.7
baz=314
K49A Clarkson 61.58 56 P **P** 10 01 14.7 -0.5
baz=315
S43A Fulton Ridge, 61.61 65 P **P** 10 01 14.5 -1.0
baz=314,SNR=9.5
L48A N Adams 61.65 58 P **P** 10 01 15.0 -0.8
baz=315
V41A Mountainview 61.67 67 P **P** 10 01 14.8 -1.1
baz=314,SNR=20
R44A Waltonville 61.70 63 P **P** 10 01 15.1 -1.0
baz=314
MIAR Mount Ida 61.70 69 *e*P **P** 10 01 16.4 +0.3
comp=Z,39nm,1.3s
MIAR Mount Ida 61.70 69 *e*P **P** 10 01 16.4 +0.3
MIAR pmax pmax
comp=Z,39nm,1.3s
MIAR Mount Ida 61.70 69 P **P** 10 01 15.8 -0.3
baz=314,SNR=13
N47A Urbana 61.72 59 P **P** 10 01 14.8 -1.4
baz=314
Q45A Warren Harvey, 61.77 62 P **P** 10 01 15.8 -0.7
baz=314,SNR=10
P46A Rosedale 61.78 61 P **P** 10 01 15.8 -0.8
baz=314
U42A Revenden 61.80 66 P **P** 10 01 15.2 -1.6
baz=314,SNR=7.8
PRGR Permogore 61.81 337 *e*P **P** 10 01 14.7 -1.7
PRGR pmax pmax
comp=Z,13nm,0.9s
M48A Edgerton 61.82 58 *e*P **P** 10 01 16.5 -0.4
comp=Z,32nm,0.9s
M48A Edgerton 61.82 58 P **P** 10 01 16.0 -0.9
baz=315
T43A Greenville 61.83 65 P **P** 10 01 16.0 -1.0
baz=314,SNR=36
D54A Lac Fusel, La 61.86 49 P **P** 10 01 15.3 -1.7
baz=316
L49A Milan 61.89 57 P **P** 10 01 16.6 -0.7
baz=315
OLIL Olney 61.91 62 *e*P **P** 10 01 17.4 -0.1
comp=Z,68nm,1.2s
O47A Sheridan 61.92 60 P **P** 10 01 15.9 -1.6
baz=315,SNR=6.6
WHAR Wooly Hollow 61.94 68 *e*P **P** 10 01 17.3 -0.4
comp=Z,26nm,1.0s
E53A Dumoine, Ponti 61.94 50 P **P** 10 01 16.0 -1.6
baz=316
435B Jarrell 61.95 75 P **P** 10 01 17.4 -0.5
baz=315
PBMO Poplar Bluff 61.96 65 *e*P **P** 10 01 16.9 -1.0
comp=Z,42nm,0.9s
S44A Carbondale 61.99 64 P **P** 10 01 17.0 -1.0
baz=314
SIUC Southern Illin 62.00 64 *e*P **P** 10 01 17.7 -0.4
comp=Z,19nm,0.8s
W41B Gary Mavity, V 62.04 68 *e*P **P** 10 01 17.9 -0.6
comp=Z,33nm,1.1s
W41B Gary Mavity, V 62.04 68 P **P** 10 01 17.6 -0.8
baz=315,SNR=11
V42A Cord 62.09 67 P **P** 10 01 17.3 -1.5
baz=315,SNR=8.5
N48A Decatur 62.10 59 P **P** 10 01 17.6 -1.1
baz=315
R45A Skylar, Fairfi 62.12 63 P **P** 10 01 18.2 -0.7
baz=315,SNR=6.2
Q46A CEJHS Indians, 62.12 62 P **P** 10 01 17.9 -1.0
baz=315
E54A Lac Daplat, Po 62.13 50 P **P** 10 01 17.1 -1.7
baz=316
X40A Basin Creek Fa 62.18 69 *e*P **P** 10 01 19.2 -0.2
comp=Z,20nm,1.3s
X40A Basin Creek Fa 62.18 69 P **P** 10 01 18.6 -0.7
baz=315,SNR=5.4
M49A Liberty Center 62.23 58 P **P** 10 01 18.5 -1.0
baz=315
T44A Benton 62.23 65 P **P** 10 01 18.6 -1.0
baz=315
Y40A Okolona 62.25 70 P **P** 10 01 18.9 -1.0
baz=315
U43A Rector 62.27 66 P **P** 10 01 18.9 -1.0
baz=315,SNR=6.1
UALR University of 62.27 68 *e*P **P** 10 01 20.0 0.0
comp=Z,28nm,1.4s
X41A Kaden, Bauxite 62.36 69 P **P** 10 01 20.0 -0.5
baz=315,SNR=6.1
S45A Carrier Mills 62.38 64 P **P** 10 01 19.9 -0.8
baz=315
P47A Martinsville 62.39 61 P **P** 10 01 19.9 -0.8
baz=315,SNR=9.3
ARU Arti 62.41 328 *d iP* **P** 10 01 20.5 -0.1
ARU 10 01 59.3
ARU 10 03 35.8
ARU S **S** 10 09 43.4 -0.6
ARU SS **SS** 10 13 44.4 -2.8
ARU pmax pmax
comp=Z,13nm,1.7s
PARMO Parma 62.43 65 *e*P **P** 10 01 20.5 -0.5
comp=Z,76nm,0.8s
O48A Farmland 62.45 59 P **P** 10 01 19.7 -1.4
baz=315,SNR=5.8
N49A Columbus Grove 62.51 58 P **P** 10 01 20.6 -0.9
baz=315
U44A Portageville 62.58 65 P **P** 10 01 20.9 -1.1
baz=315
R46A Gibon Southern 62.60 62 P **P** 10 01 21.5 -0.7
baz=315
USIN University of 62.69 63 *e*P **P** 10 01 22.7 0.0
comp=Z,39nm,0.8s
Q47A Bedord North L 62.69 61 P **P** 10 01 21.8 -0.9
baz=315,SNR=5.8
Y41A Eaglete Beard 62.74 69 P **P** 10 01 22.8 -0.2
baz=315
S46A Don Dixon Farm 62.86 63 P **P** 10 01 22.8 -1.1
baz=315
P48A Milroy 62.87 60 P **P** 10 01 22.8 -1.1
baz=315,SNR=7.2
U44B Burton Farm, H 62.89 65 P **P** 10 01 23.2 -0.9
baz=315
O49A Covington 62.95 59 P **P** 10 01 23.1 -1.2
baz=315
Z41A Richland Creek 63.07 70 P **P** 10 01 24.5 -0.8
baz=315
Q48A North Vernon 63.08 61 P **P** 10 01 23.9 -1.4
baz=315
R47A Wooly Knot Far 63.09 62 P **P** 10 01 24.2 -1.2
baz=315
N50A Nevada 63.16 58 P **P** 10 01 24.4 -1.4
baz=316
KMI Kunming 63.18 277 P **P** 10 01 28.1 +1.7
KMI pmax pmax
comp=Z,21nm,0.7s
KMI pmax pmax
comp=Z,81nm,5.2s
HALT Halls 63.20 65 *e*P **P** 10 01 26.6 +0.5
P49A Miami Univ. Ec 63.20 60 P **P** 10 01 24.8 -1.3
baz=315
T46A Princeton 63.22 64 P **P** 10 01 24.8 -1.4
baz=315,SNR=11
U45A Rockin P Farm, 63.22 65 P **P** 10 01 24.8 -1.4
baz=315
Y42A Garnett, Star 63.25 69 P **P** 10 01 26.0 -0.5
baz=315
JAY Jayapura 63.25 225 LR LR 10 24 51.7
comp=Z,94nm,19.6s,baz=7.5,slow=32
WCI Wyandotte Cave 63.27 62 *e*P **P** 10 01 25.9 -0.7
comp=Z,15nm,0.8s
WCI Wyandotte Cave 63.27 62 *e*P **P** 10 01 25.9 -0.7
WCI pmax pmax
comp=Z,15nm,0.8s
WCI Wyandotte Cave 63.27 62 P **P** 10 01 26.1 -0.4
baz=315
X43A Marvell 63.30 68 *e*P **P** 10 01 27.1 +0.3
comp=Z,53nm,1.0s
X43A Marvell 63.30 68 P **P** 10 01 26.2 -0.6
baz=315
O50A Cable 63.36 59 P **P** 10 01 26.0 -1.1
baz=316
R48A Northridge Ran 63.38 61 P **P** 10 01 26.4 -0.9
baz=315
S47A Hartford 63.40 63 P **P** 10 01 26.5 -0.9
baz=315,SNR=5.2
N51A Ashland 63.47 57 P **P** 10 01 26.7 -1.1
baz=316
Q49A Aurora 63.48 60 P **P** 10 01 27.2 -0.8
baz=316
V45A Humboldt 63.54 65 P **P** 10 01 26.7 -1.7
baz=315,SNR=5.1
U46A Springville 63.54 64 P **P** 10 01 27.2 -1.1
baz=315
Z42A Norrel Spur, H 63.56 69 P **P** 10 01 27.9 -0.6
baz=315
JOF Joensuu 63.58 345 P **P** 10 01 28.1 -0.1
JOF pmax pmax
comp=Z,24nm,1.2s
HKT Hockley 63.61 74 *e*P **P** 10 01 29.1 +0.3
comp=Z,10.0nm,1.1s
HKT Hockley 63.61 74 *e*P **P** 10 01 29.1 +0.3
HKT pmax pmax
comp=Z,10.0nm,1.1s
P50A Jamestown 63.65 59 P **P** 10 01 28.6 -0.4
baz=316
T47A Sharon Grove 63.70 63 *e*P **P** 10 01 29.0 -0.4
comp=Z,51nm,0.9s
T47A Sharon Grove 63.70 63 P **P** 10 01 29.0 -0.4
baz=315,SNR=20
Y43A Makayla and Ka 63.70 68 P **P** 10 01 29.2 -0.2
baz=315
S48A Wiedeman Farm, 63.81 62 P **P** 10 01 29.4 -0.7
baz=316
W45A Hickory Valley 63.82 66 P **P** 10 01 30.0 -0.3
baz=315
R49A Shelbyville 63.84 61 P **P** 10 01 29.6 -0.8
baz=316
ERPA Erie 63.85 55 P **P** 10 01 29.0 -1.4
baz=316
241A Mo Tay, Goldon 63.88 71 P **P** 10 01 30.5 -0.1
baz=316
O51A Pataskala 63.90 58 P **P** 10 01 29.9 -0.8
baz=316,SNR=5.3
WVT Waverly 63.90 64 *e*P **P** 10 01 30.6 -0.1
comp=Z,18nm,0.9s
WVT Waverly 63.90 64 *e*P **P** 10 01 30.6 -0.1
WVT pmax pmax
comp=Z,18nm,0.9s
WVT Waverly 63.90 64 P **P** 10 01 30.3 -0.5
baz=316
V46A Holladay 63.97 65 P **P** 10 01 30.9 -0.3
baz=316,SNR=9.3
U47A Clarksville 63.99 64 P **P** 10 01 31.2 -0.1
baz=316,SNR=5.3
T48A Bowling Green 64.01 63 P **P** 10 01 30.8 -0.7
baz=316
Z43A Armstrong Fami 64.02 69 P **P** 10 01 31.0 -0.5
baz=316
142A Monroe 64.08 70 P **P** 10 01 31.7 -0.2
baz=316
Y44A Strider, Charl 64.08 68 P **P** 10 01 31.9 0.0
baz=316
Q50A Georgetown 64.10 60 P **P** 10 01 31.5 -0.5
baz=316
S49A Springfield 64.14 61 P **P** 10 01 31.8 -0.5
baz=316
OXF Oxford 64.15 67 *e*P **P** 10 01 32.3 -0.1
comp=Z,155nm,1.0s
OXF Oxford 64.15 67 *e*P **P** 10 01 32.3 -0.1
OXF pmax pmax
comp=Z,155nm,1.0s
OXF Oxford 64.15 67 P **P** 10 01 32.2 -0.2
baz=316,SNR=20
341A Kurthwood 64.22 72 P **P** 10 01 32.4 -0.5
baz=316
X45A UM Field Stati 64.23 67 P **P** 10 01 32.5 -0.5
baz=316,SNR=10
V47A Nunnelly 64.29 64 P **P** 10 01 32.5 -0.9
baz=316,SNR=8.4
W46A Michie 64.30 65 P **P** 10 01 32.8 -0.6
baz=316,SNR=11
Q51A Peebles 64.31 59 *e*P **P** 10 01 33.2 -0.2
comp=Z,16nm,0.8s
Q51A Peebles 64.31 59 P **P** 10 01 32.9 -0.6
baz=316
R50A Paris 64.31 60 P **P** 10 01 33.1 -0.3
baz=316
O52A Adamsville 64.33 57 *e*P **P** 10 01 33.2 -0.3
comp=Z,62nm,1.0s
O52A Adamsville 64.33 57 P **P** 10 01 32.8 -0.8
baz=316,SNR=8.8
U48A Cassie Pea, Po 64.36 63 P **P** 10 01 33.6 -0.2
baz=316,SNR=12
Z44A Pea Ridge, Bel 64.44 68 P **P** 10 01 33.9 -0.4
baz=316
M54A Oil Creek Stat 64.46 55 P **P** 10 01 33.5 -0.9
baz=317
T49A Edmonton 64.49 62 *e*P **P** 10 01 34.4 -0.3
comp=Z,59nm,1.5s
T49A Edmonton 64.49 62 P **P** 10 01 34.2 -0.4
baz=316,SNR=7.7
P52A Corning 64.52 58 P **P** 10 01 33.9 -0.9
baz=316
Y45A Yeager Farm, C 64.54 67 P **P** 10 01 34.8 -0.2
baz=316,SNR=12
PLAL Pickwick Lake 64.58 65 *e*P **P** 10 01 34.8 -0.5
comp=Z,36nm,0.7s
X46A Booneville 64.60 66 P **P** 10 01 34.8 -0.5
baz=316,SNR=8.9
W47A Westpoint 64.67 65 P **P** 10 01 35.3 -0.5
baz=316,SNR=16
N54A Moraine State 64.69 56 P **P** 10 01 35.2 -0.6
baz=317
PRZ Przheval'sk 64.69 307 *e*P **P** 10 01 36.8 +0.7
comp=Z,31nm,0.8s
PRZ Przheval'sk 64.69 307 *e*P **P** 10 01 36.8 +0.7
PRZ pmax pmax
comp=Z,31nm,0.8s
R51A Hillsboro 64.70 60 P **P** 10 01 35.9 -0.1
baz=316,SNR=10
S50A Richmond 64.71 61 P **P** 10 01 35.6 -0.4
baz=316
V48A Smith Brothers 64.75 64 *e*P **P** 10 01 35.9 -0.5
comp=Z,36nm,1.1s
V48A Smith Brothers 64.75 64 P **P** 10 01 35.9 -0.5
baz=316,SNR=9.9
U49A Red Boiling Sp 64.78 63 P **P** 10 01 35.9 -0.6
baz=316,SNR=9.1
Z45A Winona 64.81 68 *e*P **P** 10 01 37.2 +0.5
comp=Z,57nm,1.2s
Z45A Winona 64.81 68 P **P** 10 01 36.3 -0.5
baz=316
144A Alexander Plac 64.91 69 P **P** 10 01 37.1 -0.3
baz=316
Y46A Houston 64.92 67 P **P** 10 01 37.1 -0.3
baz=316,SNR=14
Q52A Bidwell 64.94 59 P **P** 10 01 36.6 -0.9
baz=316
T50A Nancy 64.94 62 P **P** 10 01 37.2 -0.4
baz=316,SNR=7.5
P53A Whipple 65.02 58 P **P** 10 01 37.3 -0.8
baz=317
X47A Russelville 65.04 66 P **P** 10 01 37.4 -0.8
baz=316,SNR=9.4
W48A Pulaski 65.12 64 P **P** 10 01 38.4 -0.4
baz=316,SNR=20
VBMS Vicksburg 65.15 69 *e*P **P** 10 01 38.9 -0.1
comp=Z,49nm,1.3s
VBMS Vicksburg 65.15 69 P **P** 10 01 38.8 -0.1
baz=316
S51A Beattyville 65.18 60 P **P** 10 01 38.5 -0.5
baz=316
244A Avery, Jackson 65.18 69 P **P** 10 01 39.0 -0.2
baz=316,SNR=5.9
R52A Catlettsburg 65.19 59 P **P** 10 01 38.8 -0.3
baz=316
V49A McMinnville 65.25 63 P **P** 10 01 39.1 -0.5
baz=316,SNR=16
Z46A Louisville 65.37 67 P **P** 10 01 40.2 -0.2
baz=316,SNR=6.8
U50A Jamestown 65.37 62 P **P** 10 01 39.6 -0.8
baz=316
T51A Gray 65.47 61 P **P** 10 01 40.3 -0.8
baz=316
Y47A UCPARC, Winfie 65.49 66 P **P** 10 01 40.4 -0.7
baz=316,SNR=17
W49A Belvidere 65.51 64 P **P** 10 01 40.5 -0.8
baz=316,SNR=9.4
X48A Hartselle 65.55 65 *e*P **P** 10 01 40.8 -0.7

comp=Z,70nm,1.5s
X48A Hartselle 65.55 65 P P 10 01 40.5 -1.0
baz=316,SNR=11
KDJ Kajisay 65.56 307 *e*P P 10 01 43.4 +1.7
comp=Z,40nm,0.9s
KDJ Kajisay 65.56 307 *e*P P 10 01 43.4 +1.7
KDJ pmax pmax
comp=Z,40nm,0.9s
344A Westbrook Farm 65.58 70 P P 10 01 41.8 0.0
baz=316
SWET Sewanee 65.63 64 *e*P P 10 01 41.7 -0.4
comp=Z,35nm,1.1s
245A Little AP, Sta 65.65 69 P P 10 01 41.8 -0.4
baz=316
146A Union 65.70 68 *e*P P 10 01 43.1 +0.6
comp=Z,64nm,0.8s
146A Union 65.70 68 P P 10 01 42.9 +0.3
baz=316,SNR=8.6
TKM2 Tokmak 2 65.76 309 P P 10 01 43.6 +0.6
SNR=22
TKM2 Tokmak 2 65.76 309 P P 10 01 43.3 +0.3
TKM2 pmax pmax
comp=Z,29nm,1.1s
V50A Pikevile 65.77 63 P P 10 01 42.2 -0.7
baz=316,SNR=6.4
BINY Binghamton 65.81 52 P P 10 01 42.3 -0.9
baz=318
U51A La Follette 65.86 62 P P 10 01 43.0 -0.5
baz=317
Y48A Jasper 65.87 66 P P 10 01 42.8 -0.8
baz=316,SNR=13
Z47A Carrollton 65.87 67 P P 10 01 43.1 -0.5
baz=316,SNR=21
X49A Woodville 65.92 65 P P 10 01 43.3 -0.6
baz=316,SNR=13
ULHL Ulahol 65.94 308 P P 10 01 45.5 +1.3
SNR=22
W50A Signal Mountai 65.99 63 *e*P P 10 01 44.5 0.0
comp=Z,32nm,1.0s
W50A Signal Mountai 65.99 63 P P 10 01 43.6 -0.8
baz=317,SNR=11
SSPA Standing Stone 66.01 55 *e*P P 10 01 44.0 -0.4
comp=Z,14nm,0.9s
SSPA Standing Stone 66.01 55 P P 10 01 44.0 -0.4
baz=318
USP Ospenovka 66.03 310 P P 10 01 46.1 +1.5
SNR=9.5
Z48A Northport 66.04 66 P P 10 01 43.9 -0.8
baz=316,SNR=13
V51A Loudon 66.09 62 *e*P P 10 01 44.9 -0.1
comp=Z,44nm,1.4s
V51A Loudon 66.09 62 P P 10 01 44.5 -0.5
baz=317
147A Livingston 66.14 67 *e*P P 10 01 45.2 -0.1
comp=Z,76nm,1.0s
147A Livingston 66.14 67 P P 10 01 45.2 -0.1
baz=316,SNR=12
U52A Thorn Hill 66.21 61 P P 10 01 45.8 0.0
baz=317
LBNH Lisbon 66.25 48 P P 10 01 45.0 -0.9
baz=319
CPCT Cooper Cave 66.25 63 *e*P P 10 01 45.8 -0.3
comp=Z,17nm,1.1s
KBK Karagaybulak 66.27 309 P P 10 01 47.7 +1.4
SNR=13
FRU Bishkek 66.30 309 *e*P P 10 01 46.0 -0.3
FRU *e* 10 02 03.5
FRU pmax pmax
comp=Z,80nm,1.8s
W51A Cleveland 66.33 63 P P 10 01 46.1 -0.4
baz=317,SNR=5.7
X50B Fort Payne 66.34 64 P P 10 01 45.9 -0.7
baz=317,SNR=12
Y49A Blount Mountai 66.34 65 *e*P P 10 01 45.9 -0.7
comp=Z,56nm,1.5s
Y49A Blount Mountai 66.34 65 P P 10 01 45.6 -1.0
baz=317,SNR=5.1
247A Quitman 66.39 68 P P 10 01 47.1 +0.2
baz=317
SIJI Sorong 66.40 235 P P 10 01 46.9 -0.2
comp=Z,40nm,1.0s,baz=30,slow=4.7,SNR=8.2
V52A Sevierville 66.48 62 *e*P P 10 01 47.7 +0.2
comp=Z,32nm,1.4s
V52A Sevierville 66.48 62 P P 10 01 46.9 -0.6
baz=317
AAK Ala-Archa 66.51 309 P P 10 01 49.1 +1.3
SNR=16
AAK Ala-Archa 66.51 309 *e*P P 10 01 49.1 +1.3
comp=Z,21nm,0.8s
AAK Ala-Archa 66.51 309 *e*P P 10 01 49.1 +1.3
AAK pmax pmax
comp=Z,21nm,0.8s
TKL Tuckaleechee C 66.52 62 *e*P P 10 01 47.5 -0.2
comp=Z,31nm,1.2s
TKL Tuckaleechee C 66.52 62 *e*P P 10 01 47.6 -0.2
TKL pmax pmax
comp=Z,31nm,1.2s
KZA Kyzart 66.56 308 P P 10 01 49.9 +1.5
SNR=10
148A Greensboro 66.56 67 P P 10 01 47.2 -0.8
baz=317,SNR=5.5
LRAL Lakeview Retre 66.61 66 *e*P P 10 01 47.8 -0.5
comp=Z,17nm,0.9s
LRAL Lakeview Retre 66.61 66 P P 10 01 47.3 -1.0
baz=317,SNR=7.1
Y50A Piedmont 66.70 65 P P 10 01 48.2 -0.8
baz=317,SNR=6.0
X51A Calhoun 66.71 64 P P 10 01 48.4 -0.6
baz=317
Z49A Columbiana 66.76 66 P P 10 01 48.6 -0.7
baz=317,SNR=13
UCH Uchtor 66.81 309 P P 10 01 50.9 +0.9
SNR=15
EKS2 Erkin-Say 66.84 310 P P 10 01 50.5 +0.6
SNR=10
W52A Murphy 66.84 63 *e*P P 10 01 49.1 -0.7
comp=Z,29nm,1.3s
W52A Murphy 66.84 63 P P 10 01 49.4 -0.5
baz=317
446A Poplarville 66.86 69 P P 10 01 50.2 +0.2
baz=317
248A Dixon Mills 66.86 67 P P 10 01 50.2 +0.2
baz=317,SNR=6.7
N59A State Game Lan 66.88 53 *e*P P 10 01 49.5 -0.5
comp=Z,49nm,1.3s
N59A State Game Lan 66.88 53 P P 10 01 49.2 -0.8
baz=318
347A Saraland 66.90 68 P P 10 01 50.6 +0.4
baz=317,SNR=5.3
LSA Lhasa 66.95 289 *e*P P 10 01 50.2 -0.9
comp=Z,14nm,0.8s
LSA Lhasa 66.95 289 *e*P P 10 01 50.2 -0.9
LSA pmax pmax
comp=Z,14nm,0.8s
V53A Saluda 67.04 61 *e*P P 10 01 51.4 +0.2
comp=Z,32nm,1.5s
V53A Saluda 67.04 61 P P 10 01 50.9 -0.3
baz=317
149A Jones 67.04 66 P P 10 01 50.8 -0.3
baz=317,SNR=8.2
Z50A Ashland 67.06 65 *e*P P 10 01 50.6 -0.6
comp=Z,68nm,1.3s
Z50A Ashland 67.06 65 P P 10 01 50.5 -0.8
baz=317,SNR=17
Y51A Rockmart 67.08 64 P P 10 01 50.3 -1.1
baz=317,SNR=6.4
BLA Blacksburg 67.21 59 P P 10 01 51.7 -0.4
baz=318
W53A Cullowhee 67.21 62 P P 10 01 51.8 -0.5
baz=317
X52A Dahlonega 67.22 63 P P 10 01 51.9 -0.4
baz=317,SNR=8.6
348A Jackson 67.27 68 *e*P P 10 01 52.4 -0.1
comp=Z,64nm,1.0s
348A Jackson 67.27 68 P P 10 01 52.4 -0.1
baz=317
447A Lucedale 67.28 69 P P 10 01 52.7 +0.1
baz=317
AML Almayashu 67.28 309 P P 10 01 54.7 +1.8
SNR=27
249A Camden 67.31 67 P P 10 01 52.5 -0.2
baz=317,SNR=7.3
Z51A Franklin 67.44 65 P P 10 01 52.8 -0.8
baz=317
AKTO Aktyubinsk 67.46 324 LR LR 10 34 31.6
comp=Z,354nm,18.3s,baz=31,slow=39
AKTO Aktyubinsk 67.46 324 P P 10 01 54.7 +1.2
AKTO pmax pmax

comp=Z,10.0nm,1.2s
150A Eclectic 67.48 66 P P 10 01 53.1 -0.8
baz=317,SNR=6.6
NC204 NORSAR Array S 67.52 355 *e*P P 10 01 53.7 0.0
NC303 NORSAR Array S 67.53 354 *e*P P 10 01 54.5 +0.8
NC405 NORSAR Array S 67.62 354 *e*P P 10 01 54.4 +0.1
X53A Estanollee 67.63 63 P P 10 01 54.4 -0.4
baz=317,SNR=6.3
Y52A Lilburn 67.67 64 *e*P P 10 01 55.0 0.0
comp=Z,29nm,1.1s
Y52A Lilburn 67.67 64 P P 10 01 54.3 -0.8
baz=317
AB31 Akbulak array 67.70 322 *i*P P 10 01 54.3 -0.7
AB31 pmax pmax
comp=Z,9.0nm,1.3s
ABKAR Akbulak array 67.70 322 *e*P P 10 01 54.9 -0.1
NB201 NORSAR Array S 67.71 354 *e*P P 10 01 55.0 +0.1
NB2 NORSAR Subarra 67.72 354 P P 10 01 54.3 -0.7
comp=Z,3.6nm,0.7s,baz=6.5,slow=6.5
NB2 NORSAR Subarra 67.72 354 P P 10 01 53.7 -1.3
NB2 pmax pmax
comp=Z,4.0nm,0.7s
NB200 NORSAR Array S 67.72 354 *e*P P 10 01 54.6 -0.4
NOA NORSAR Array B 67.72 354 P P 10 01 54.6 -0.4
comp=Z,19nm,1.1s,baz=6.5,slow=6.3,SNR=15
NOA LR LR 10 32 32.8
comp=Z,43nm,19.9s,baz=285,slow=37
349A Repton 67.72 67 P P 10 01 55.1 -0.3
baz=317
PAL Palisades 67.74 52 P P 10 01 54.3 -1.0
baz=319
250A Grady 67.80 66 *e*P P 10 01 55.5 -0.4
comp=Z,50nm,0.8s
250A Grady 67.80 66 P P 10 01 55.5 -0.4
baz=317,SNR=5.8
151A Opelika 67.94 65 P P 10 01 55.2 -1.5
baz=317
Y53A Monroe 67.95 63 P P 10 01 56.2 -0.6
baz=318,SNR=5.1
Z52A Williamson 67.97 64 P P 10 01 56.2 -0.7
baz=317,SNR=6.5
R58B Mineral 68.00 57 P P 10 01 56.2 -0.8
baz=318
KK31 Karatay Array 68.05 312 *e*P P 10 01 57.5 +0.1
KK31 Karatay Array 68.05 312 *e*P P 10 01 57.5 +0.1
KKAR Karatay Array 68.05 312 *e*P P 10 01 58.1 +0.7
KKAR Karatay Array 68.05 312 *e*P P 10 01 58.1 +0.7
KSH Kashi 68.12 306 P P 10 02 02.0 +4.0
KSH pP sP 10 02 19.0 +3.8
KSH PP PP 10 04 36.1 +8.0
KSH S S 10 10 55.4 +0.7
KSH ScS SKiKP 10 11 50.2 +1.0
KSH pmax pmax
comp=Z,150nm,1.1s
KSH pmax pmax
comp=Z,360nm,6.0s
KSH LR LR
comp=Z,380nm,7.1s
KSH LR LR
comp=Z,560nm,14.8s
KSH LR LR
comp=Z,590nm,21.5s
449A Pace 68.14 68 P P 10 01 58.0 -0.1
baz=317
350A Dozier 68.17 67 P P 10 01 57.9 -0.4
baz=317
152A Waverly Hall 68.18 65 *e*P P 10 01 57.7 -0.6
comp=Z,32nm,1.4s
251A Midway 68.21 66 P P 10 01 57.6 -0.9
baz=317,SNR=5.8
KMSC Kings Mountain 68.24 61 *e*P P 10 01 58.8 +0.1
comp=Z,44nm,1.4s
KMSC Kings Mountain 68.24 61 P P 10 01 58.6 0.0
baz=318,SNR=5.4
GOGA Godfrey 68.34 63 *e*P P 10 01 59.4 +0.2
comp=Z,39nm,1.3s
GOGA Godfrey 68.34 63 *e*P P 10 01 59.4 +0.2
GOGA pmax pmax
comp=Z,39nm,1.3s
GOGA Godfrey 68.34 63 P P 10 01 58.6 -0.7
baz=318,SNR=5.3
Z53A Monticello 68.38 64 P P 10 01 58.7 -0.8
baz=318,SNR=8.0
Y54A Tignall 68.44 63 P P 10 01 59.0 -0.9
baz=318,SNR=5.6
351A Pinckard 68.70 66 P P 10 02 01.2 -0.4
baz=318
UBPT Khong Chiam 68.75 268 P P 10 02 04.2 +2.2
Z54A Sparta 68.82 63 P P 10 02 01.6 -0.6
baz=318,SNR=5.5
TAOE Nuku Hiva Isla 68.90 138 *e*LR LR 10 22 53.4
comp=Z,342nm,23.3s
TAOE Nuku Hiva Isla 68.90 138 *e*T T 11 16 58.5
comp=Z,18nm,0.2s
JSC Jenkinsville 68.92 61 *e*P P 10 02 02.4 -0.5
comp=Z,44nm,1.5s
JSC Jenkinsville 68.92 61 *e*P P 10 02 02.4 -0.5
JSC pmax pmax
comp=Z,44nm,1.5s
154A Monrose 69.13 64 *e*P P 10 02 03.6 -0.6
comp=Z,69nm,1.2s
154A Montrose 69.13 64 P P 10 02 03.6 -0.6
baz=318
KONO Kongsberg 69.20 355 *ce*P P 10 02 06.1 +1.9
KONO pmax pmax
comp=Z,87nm,2.5s
PAYA Payao 69.20 275 P P 10 02 06.0 +1.1
Z55A Blythe 69.23 63 P P 10 02 04.4 -0.4
baz=318
353A Camilla 69.44 65 P P 10 02 05.2 -0.9
baz=318
155A Kite 69.49 63 P P 10 02 06.0 -0.4
baz=318
SHL Shillong 69.54 285 *e*P P 10 02 06.8 -0.2
comp=Z,42nm,1.0s
SHL Shillong 69.54 285 *e*P P 10 02 06.8 -0.2
SHL pmax pmax
comp=Z,42nm,1.0s
SHL Shillong 69.54 285 *e*P P 10 02 08.0 +1.0
453A Whigham 69.75 66 P P 10 02 08.1 +0.1
baz=318
OBN Obninsk 69.79 339 P P 10 02 07.1 -0.7
comp=Z,5.5nm,0.4s,baz=20,slow=22,SNR=3.9
OBN LR LR 10 37 01.3
comp=Z,58nm,18.3s,baz=12,slow=40
OBN Obninsk 69.79 339⇓ *e*P P 10 02 07.5 -0.4
OBN *PP sP 10 02 26.0 +0.9
OBN 10 02 30.0
OBN pmax pmax
comp=Z,16nm,0.5s
OBN MLR MLR
comp=Z,249nm,18.0s
UTTA Uttaradit 69.98 274 P P 10 02 10.2 +0.6
CMMT Chiang Mai 70.19 276 P P 10 02 11.4 +0.5
CHTO Chiang Mai 70.19 276 *e*P P 10 02 09.9 -1.0
comp=Z,11nm,1.1s
CHTO Chiang Mai 70.19 276 *e*P P 10 02 09.9 -1.0
CHTO pmax pmax
comp=Z,11nm,1.1s
CHTO Chiang Mai 70.19 276 P P 10 02 11.4 +0.5
comp=Z,47nm,1.2s
355A Pearson 70.22 65 P P 10 02 10.8 -0.2
baz=318
256A Glennville 70.29 63 P P 10 02 11.2 -0.1
baz=318
CMAR Chiang Mai Arr 70.46 275 P P 10 02 12.4 -0.2
comp=Z,3.6nm,0.7s,baz=26,slow=6.9,SNR=18
CMAR LR LR 10 37 39.6
comp=Z,45nm,18.4s,baz=44,slow=40
455A Stateville 70.57 65 P P 10 02 12.6 -0.4
baz=318
555A McAlpin 71.07 65 P P 10 02 16.1 0.0
baz=319
GUN Gumba 71.38 291 *e*P P 10 02 19.3 +0.9
comp=Z,173nm,1.0s
JIRN Jiri 71.38 291 *e*P P 10 02 19.5 +1.0
comp=Z,212nm,1.0s
LPSR Galich'ya Gora 71.53 336 *e*P P 10 02 17.4 -1.1
LPSR pmax pmax
comp=Z,10.0nm,0.6s
PMOR Pomariorio Ree 71.58 148 *e*T T 11 20 21.2
comp=Z,8.2nm,0.2s
RAMN Ramite 71.67 290 *e*P P 10 02 20.8 +0.7
comp=Z,155nm,1.0s
KKN Kakani 71.81 292 *e*P P 10 02 21.8 +0.9
BRDH Bariadhala 71.83 284 LR LR 10 39 01.4
comp=Z,59nm,18.0s,baz=47,slow=40

SRAK Srakaew 71.86 270 P P 10 02 19.7 -1.3
PKI Pulchoki 71.90 291 *e*P P 10 02 22.2 +0.6
PKIN Phulchoki 71.91 291 *e*P P 10 02 22.0 +0.4
comp=Z,62nm,1.1s
DMN Daman 72.05 292 *e*P P 10 02 23.2 +0.8
comp=Z,63nm,1.0s
VRH Novokhopyorsk 72.06 334 *e*P P 10 02 20.5 -1.2
VRH pmax pmax
comp=Z,20nm,1.4s
657A Interlachen 72.10 65 P P 10 02 22.7 +0.4
baz=319
UMPA Umpang Tak 72.20 274 P P 10 02 25.2 +2.1
DANN Dangsing 72.28 293 *e*P P 10 02 24.5 +0.7
comp=Z,96nm,0.9s
VSR Storozhevoye 72.73 336 *e*P P 10 02 22.9 -2.8
VSR pmax pmax
comp=Z,9.0nm,0.8s
KOLN Koldanda 72.81 293 *e*P P 10 02 27.4 +0.6
comp=Z,54nm,0.9s
857A Zephyrhills 72.89 66 P P 10 02 26.8 -0.2
baz=319
PYUN Piuthan 72.91 294 *e*P P 10 02 28.0 +0.5
comp=Z,88nm,1.0s
957A Wimauma 73.33 67 P P 10 02 29.6 -0.1
baz=319
858A St. Cloud 73.43 66 P P 10 02 30.4 +0.2
baz=320
PPT2 Papeete2 73.45 150 *e*LR LR 10 25 01.3
comp=Z,269nm,28.8s
PPT2 Papeete2 73.45 150 *e*T T 11 22 36.3
comp=Z,3.0nm,0.2s
DWPF Disney Wildern 73.46 66 P P 10 02 30.6 +0.2
baz=320
PAE Paea 73.51 150 *e*T T 11 22 42.9
comp=Z,0.9nm,0.3s
859A Kempfer Cattle 73.81 65 P P 10 02 32.7 +0.3
baz=320
DZM Mont Dzumac 74.01 193 P P 10 02 34.2 +0.6
comp=Z,14nm,1.0s,baz=25,slow=3.7,SNR=3.9
DZM Mont Dzumac 74.01 193 *e*LR LR 10 25 17.9
comp=Z,224nm,23.9s
DZM Mont Dzumac 74.01 193 P P 10 02 34.2 +0.6
DZM *eP* P 10 02 34.8 +1.2
058A Arcadia 74.05 67 P P 10 02 34.1 +0.2
baz=320
959A Okeechobee 74.23 66 P P 10 02 35.2 +0.3
baz=320
SBUM Sibu 74.48 254 *e*P P 10 02 36.6 +0.1
comp=Z,4.2nm,0.6s
059A Moore Haven 74.50 66 P P 10 02 36.7 +0.2
baz=320
059Z Ave Maria 74.80 67 P P 10 02 38.7 +0.4
baz=320
KBL Kabul 75.47 307 *e*P P 10 02 42.3 0.0
comp=Z,87nm,1.3s
AKASG Malin Array Be 75.50 341 P P 10 02 41.2 -0.6
comp=Z,10nm,0.8s,baz=21,slow=6.1,SNR=29
AKASG LR LR 10 40 44.4
comp=Z,105nm,18.0s,baz=25,slow=40
AKASG Malin Array Be 75.50 341 P P 10 02 41.2 -0.6
AKASG pmax pmax
comp=Z,11nm,0.8s
AKASG MLR MLR
comp=Z,105nm,18.0s
AKBB Malin Array Si 75.50 341 *e*P P 10 02 41.2 -0.6
KIEV Kiev 75.50 341 *e*P P 10 02 41.1 -0.8
comp=Z,32nm,1.3s
KIEV Kiev 75.50 341 *i*P P 10 02 41.0 -0.9
KIEV pmax pmax
comp=Z,18nm,1.1s
KSM Kuching 76.41 255 *e*P P 10 02 47.5 -0.1
comp=Z,26nm,1.1s
MTN Manton Dam 76.76 229 *e*P P 10 02 49.2 -0.2
CTA Charters Tower 77.06 213 P P 10 02 50.7 -0.3
comp=Z,11nm,1.1s,baz=14,slow=7.9,SNR=8.6
CTAO Charters Tower 77.06 213 *e*P P 10 02 51.0 0.0
comp=Z,19nm,1.1s
CTAO *epP* pP 10 03 03.2 -0.3
CTAO Charters Tower 77.06 213 *e*P P 10 02 51.0 0.0
CTAO *e*PP pP 10 03 03.2 -0.3
CTAO pmax pmax
comp=Z,19nm,1.1s
GOF Gofitskoye 77.20 330 *e*P P 10 02 52.5 +0.9
GOF pmax pmax
comp=Z,90nm,0.4s
CLL Collm 77.25 352⇓ *i*P P 10 02 51.6 -0.2
CLL LmV 10 41 00.0
comp=Z,100nm,21.8s
CLL Collm 77.25 352⇓ *i*P P 10 02 51.6 -0.2
LVV Lvov 77.30 344 *e*P P 10 02 51.6 -0.5
HORU Horodok 77.46 343 P P 10 02 51.9 -1.1
OJC Ojcow 77.56 347 *e*P P 10 02 53.4 -0.1
OJC Ojcow 77.56 347 *e*P P 10 02 53.4 -0.1
comp=Z,16nm,0.9s
OJC Ojcow 77.56 347 *e*P P 10 02 53.4 -0.1
OJC pmax pmax
comp=Z,16nm,0.9s
BRG Berggiesshubel 77.60 351 *e*P P 10 02 53.1 -0.6
comp=Z,18nm,1.3s
BRG Berggiesshubel 77.60 351 *e*P P 10 02 53.1 -0.6
BRG pmax pmax
comp=Z,18nm,1.3s
KWP Kalwaria Pacla 77.70 345 *e*P P 10 02 54.6 +0.3
KWP Kalwaria Pacla 77.70 345 *e*P P 10 02 54.8 +0.5
KWP Kalwaria Pacla 77.70 345 *e*P P 10 02 54.8 +0.5
GEYT Alibeck 77.79 317 P P 10 02 54.0 -1.1
comp=Z,3.8nm,0.9s,baz=328,slow=5.1,SNR=7.9
GEYT LR LR 10 40 05.9
comp=Z,139nm,19.5s,baz=345,slow=38
GYA0B ALIBECK ARRAY 77.79 317 *e*P P 10 02 55.4 +0.3
comp=Z,12nm,1.0s
DPC Dobruska-Polom 77.86 350 *e*P P 10 02 55.8 +0.5
DPC *e*PCP PcP 10 03 03.8 -1.3
DPC Dobruska-Polom 77.86 350 *e*P P 10 02 55.8 +0.5
DPC *e* 10 03 03.8
SORM Soroca 78.11 341 ⇑ *i*P P 10 02 56.3 -0.3
SORM Soroca 78.11 341 ⇑P P 10 02 56.4 -0.2
HGN Heimansgroeve 78.25 356 *e*P P 10 02 57.3 -0.1
comp=Z,34nm,0.8s
NIE Niedzica 78.27 347 *e*P P 10 02 58.7 +1.1
NIE Niedzica 78.27 347 *e*P P 10 02 58.7 +1.1
MORC Moravsky Berou 78.28 349 *e*P P 10 02 57.4 -0.3
comp=Z,18nm,1.5s
MORC Moravsky Berou 78.28 349 *e*P P 10 02 57.4 -0.3
MORC pmax pmax
comp=Z,18nm,1.5s
KIV Kislovodsk 78.30 330 *e*P P 10 02 57.4 -0.5
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,120nm,18.0s
NKC Novy Kostel 78.37 352 *e*P P 10 02 58.3 +0.2
NKC *e*PCP PcP 10 03 06.8 -0.5
NKC Novy Kostel 78.37 352 *e*P P 10 02 58.3 +0.2
NKC *e* 10 03 06.8
MEM Membach 78.41 356 ⇑P P 10 02 58.1 -0.1
comp=Z,25nm,1.2s
KBZ Khabaz 78.44 330 P P 10 02 58.7 +0.2
comp=Z,1.7nm,0.6s,baz=4.0,slow=8.9,SNR=4.6
KBZ LR LR 10 41 35.0
comp=Z,207nm,21.0s,baz=12,slow=39
BCLA Clavier 78.62 357 ⇓P P 10 02 59.5 +0.1
LANS Liptovska Anna 78.65 347 *e*P P 10 03 00.5 +0.8
LANS Liptovska Anna 78.65 347 *e*P P 10 03 00.5 +0.8
VRAC Vranov 78.86 349 ⇓ *i*P P 10 03 01.2 +0.4
VRAC Vranov 78.86 349 ⇓P P 10 03 01.2 +0.4
TBI Tubuai 78.90 152 *e*LR LR 10 27 29.9
comp=Z,236nm,22.0s,baz=343
TBI Tubuai 78.90 152 *e*T T 11 29 31.5
comp=Z,3.5nm,0.3s
GIVF Givet 78.96 357 *e*P P 10 03 01.4 +0.1
GIVF pmax pmax
comp=Z,22nm,1.0s
ZEI Tsey 78.97 329 *e*P P 10 03 00.8 -0.9
ZEI pmax pmax
comp=Z,15nm,1.1s
DOU Dourbes 78.97 357 ⇑P P 10 03 01.1 -0.3
GRF Grafenberg Arr 79.01 353 P P 10 03 02.0 +0.4
GRF pmax pmax
comp=Z,83nm,1.6s
GRFO Grafenberg 79.01 353 *e*P P 10 03 02.0 +0.5
comp=Z,75nm,1.6s
GRFO Grafenberg 79.01 353 *e*P P 10 03 02.1 +0.5
GRFO pmax pmax
comp=Z,75nm,1.6s
BAIF Baives 79.02 357 *e*P P 10 03 02.0 +0.4

BAIF					pmax	pmax				
	comp=Z,35nm,1.0s									
KRUC	**Moravsky**	**79.13**	**349**	*eP*	**P**	**10 03 02.2**	**0.0**			
JAVC	**Velka Javorina**	**79.17**	**348**	*eP*	**P**	**10 03 03.7**	**+1.1**			
IAS	**Iasi**	**79.17**	**341**	⇑*iP*	**P**	**10 03 00.8**	**-1.7**			
IAS	**Iasi**	**79.17**	**341**	⇑P	**P**	**10 03 00.8**	**-1.7**			
BUR08	**Bucovina Ar. S**	**79.19**	**343**	*eP*	**P**	**10 03 03.1**	**+0.3**			
BUR04	**Bucovina Ar. S**	**79.22**	**343**	*eP*	**P**	**10 03 02.9**	**0.0**			
BURAR	**Bucovina Array**	**79.22**	**343**	⇑*iP*	**P**	**10 03 03.1**	**+0.2**			
BURAR	**Bucovina Array**	**79.22**	**343**	⇑P	**P**	**10 03 03.1**	**+0.2**			
WLF	**Walferdange**	**79.34**	**356**	⇑P	**P**	**10 03 04.0**	**+0.6**			
	comp=Z,22nm,1.4s									
KHC	**Kasperske Hory**	**79.36**	**351**	*eP*	**P**	**10 03 03.6**	**+0.1**			
	comp=Z,5.9nm,1.0s									
KHC	**Kasperske Hory**	**79.36**	**351**	*eP*	**P**	**10 03 04.0**	**+0.4**			
KHC				*e*PCP	**PcP**	**10 03 10.0**	**-1.6**			
KHC	**Kasperske Hory**	**79.36**	**351**	*eP*	**P**	**10 03 04.0**	**+0.4**			
KHC				*e*		10 03 10.0				
VYHS	**Vyhne**	**79.38**	**348**	*eP*	**P**	**10 03 03.8**	**+0.2**			
VYHS				pmax	pmax					
	comp=Z,9.0nm,1.1s									
VYHS	**Vyhne**	**79.38**	**348**	*eP*	**P**	**10 03 03.8**	**+0.2**			
SMOL	**Smolenice**	**79.54**	**349**	P	**P**	**10 03 05.8**	**+1.3**			
GEC2	**GERESS Array S**	**79.63**	**351**	*eP*	**P**	**10 03 05.2**	**+0.1**			
	comp=Z,6.6nm,0.9s									
GEC2	**GERESS Array S**	**79.63**	**351**	*eP*	**P**	**10 03 05.2**	**+0.1**			
GEC2				pmax	pmax					
	comp=Z,7.0nm,0.9s									
GERES	**GERESS Array B**	**79.63**	**351**	P	**P**	**10 03 04.5**	**-0.6**			
	comp=Z,4.1nm,0.7s,baz=27,slow=5.4,SNR=21									
TBLG	**Delisi**	**79.64**	**328**	*eP*	**P**	**10 03 04.6**	**-0.5**			
	comp=Z,17nm,0.9s									
TBLG	**Delisi**	**79.64**	**328**	P	**P**	**10 03 06.9**	**+1.7**			
TBLG				pmax	pmax					
	comp=Z,17nm,0.9s									
GEA0	**GERESS Array S**	**79.64**	**351**	*eP*	**P**	**10 03 04.8**	**-0.4**			
MODS	**Modra-Piesok**	**79.70**	**349**	*eP*	**P**	**10 03 05.1**	**-0.3**			
MODS				pmax	pmax					
	comp=Z,24nm,1.3s									
MODS	**Modra-Piesok**	**79.70**	**349**	*eP*	**P**	**10 03 05.1**	**-0.3**			
BIZ	**Bicaz**	**79.70**	**342**	⇑*iP*	**P**	**10 03 06.0**	**+0.6**			
PSZ	**Piszkesteto**	**79.79**	**347**	*eP*	**P**	**10 03 05.6**	**-0.4**			
	comp=Z,24nm,1.1s									
PSZ	**Piszkesteto**	**79.79**	**347**	⇑*iP*	**P**	**10 03 06.1**	**+0.1**			
PSZ	**Piszkesteto**	**79.79**	**347**	⇑*eP*	**P**	**10 03 07.5**	**+1.5**			
PSZ	**Piszkesteto**	**79.79**	**347**	⇑P	**P**	**10 03 06.1**	**+0.1**			
ARCR	**ARCALIA**	**79.88**	**344**	⇑*iP*	**P**	**10 03 07.7**	**+1.3**			
CONA	**Conrad Observa**	**80.31**	**349**	*iP*	**P**	**10 03 09.0**	**+0.3**			
	comp=Z,20nm,1.2s,SNR=5.9									
BUD	**Budapest**	**80.34**	**347**	P	**P**	**10 03 10.9**	**+2.1**			
FLN	**La Foliniere**	**80.37**	**1**	*eP*	**P**	**10 03 08.8**	**-0.1**			
FLN				pmax	pmax					
	comp=Z,141nm,1.8s									
DRGR		**80.45**	**345**	⇓*iP*	**P**	**10 03 09.9**	**+0.4**			
DRGR		**80.45**	**345**	⇓P	**P**	**10 03 09.9**	**+0.4**			
SOP	**Sopron**	**80.46**	**349**	P	**P**	**10 03 11.5**	**+2.0**			
CDF	**Champ du Feu**	**80.54**	**355**	*eP*	**P**	**10 03 09.4**	**-0.6**			
CDF				pmax	pmax					
	comp=Z,11nm,1.0s									
MOA	**Molln**	**80.56**	**351**	*iP*	**P**	**10 03 09.9**	**-0.1**			
	comp=Z,10.0nm,1.1s									
BFO	**Black Forest**	**80.56**	**355**	*eP*	**P**	**10 03 10.1**	**0.0**			
	comp=Z,12nm,1.1s									
BFO	**Black Forest**	**80.56**	**355**	*ceP*	**P**	**10 03 10.5**	**+0.4**			
PLOR	**Plostina**	**80.64**	**342**	⇑*iP*	P	10 03 17.5	+7.0			
PLOR	**Plostina**	**80.64**	**342**	⇑P	P	10 03 17.5	+7.0			
TGUH	**Tegucigalpa,Un**	**80.69**	**79**	*eP*	**P**	**10 03 12.2**	**+1.1**			
	comp=Z,39nm,1.2s									
GRR	**Gorron**	**80.74**	**1**	*eP*	**P**	**10 03 11.0**	**+0.1**			
GRR				pmax	pmax					
	comp=Z,24nm,0.9s									
DOPR	**Dopca**	**80.77**	**343**	⇓*iP*	**P**	**10 03 12.8**	**+1.6**			
SGMF	**Saint Gilles**	**80.85**	**2**	*eP*	**P**	**10 03 11.8**	**+0.3**			
SGMF				pmax	pmax					
	comp=Z,263nm,2.0s									
CFR	**Carcaliu**	**80.98**	**340**	⇑*iP*	**P**	**10 03 12.9**	**+0.6**			
CFR	**Carcaliu**	**80.98**	**340**	*eP*	**P**	**10 03 12.8**	**+0.5**			
ARSA	**Arzberg**	**81.01**	**350**	*iP*	**P**	**10 03 13.1**	**+0.6**			
	comp=Z,19nm,1.2s									
GNI	**Garni**	**81.05**	**327**	LR	LR	10 44 29.0				
	comp=Z,260nm,19.2s,baz=37,slow=40									
GNI	**Garni**	**81.05**	**327**	*ceP*	**P**	**10 03 14.8**	**+1.8**			
GNI				pmax	pmax					
	comp=Z,24nm,1.3s									
MLR	**Muntele Rosu**	**81.12**	**342**	⇑*iP*	**P**	**10 03 14.2**	**+1.0**			
MLR	**Muntele Rosu**	**81.12**	**342**	⇑P	**P**	**10 03 14.2**	**+1.0**			
HINF	**Hinteralfeld**	**81.16**	**356**	*eP*	**P**	**10 03 12.6**	**-0.7**			
HINF				pmax	pmax					
	comp=Z,35nm,1.6s									
RETA	**Reutte**	**81.24**	**353**	*iP*	**P**	**10 03 14.0**	**+0.2**			
	comp=Z,18nm,1.3s									
WATA	**Walderalm**	**81.32**	**352**	*iP*	**P**	**10 03 14.2**	**0.0**			
	comp=Z,20nm,1.0s,SNR=8.1									
VOIR		**81.35**	**343**	⇓*iP*	**P**	**10 03 15.4**	**+1.0**			
VOIR		**81.35**	**343**	⇓P	**P**	**10 03 15.4**	**+1.0**			
MOTA	**Moosalm**	**81.35**	**353**	*iP*	**P**	**10 03 14.0**	**-0.4**			
	comp=Z,16nm,0.9s,SNR=9.9									
WTTA	**Wattenberg**	**81.39**	**352**	*iP*	**P**	**10 03 13.4**	**-1.2**			
	comp=Z,25nm,1.0s									
KBA	**Koelnbreinsper**	**81.41**	**351**	*iP*	**P**	**10 03 15.6**	**+0.8**			
	comp=Z,59nm,1.0s,SNR=12									
KBA	**Koelnbreinsper**	**81.41**	**351**	P	**P**	**10 03 15.6**	**+0.8**			
SQTA	**Sankt Quirin**	**81.47**	**352**	*iP*	**P**	**10 03 14.9**	**-0.1**			
	comp=Z,20nm,1.1s									
DAVA	**Damuels**	**81.50**	**353**	*iP*	**P**	**10 03 14.7**	**-0.5**			
	comp=Z,16nm,1.2s									
WRAB	**Tennant Creek**	**81.51**	**223**	*ceP*	**P**	**10 03 12.6**	**-2.7**			
WRAB				pmax	pmax					
	comp=Z,10.0nm,1.0s									
WB2	**Warramunga Arr**	**81.52**	**223**	*eP*	**P**	**10 03 13.7**	**-1.7**			
WB2				*eP*	**P**	**10 03 14.7**	**-0.6**			
WR1	**Warramunga Arr**	**81.52**	**223**	*eP*	**P**	**10 03 14.3**	**-1.0**			
	comp=Z,16nm,1.0s									
WRA	**Warramunga Arr**	**81.52**	**223**	P	**P**	**10 03 14.3**	**-1.0**			
	comp=Z,10nm,1.0s,baz=37,slow=5.9,SNR=31									
WRA				LR	LR	10 38 46.9				
	comp=Z,58nm,19.3s,baz=60,slow=35									
SOKA	**Soboth**	**81.63**	**350**	*iP*	**P**	**10 03 16.4**	**+0.6**			
	comp=Z,45nm,1.3s									
FETA	**Feichten**	**81.70**	**353**	*iP*	**P**	**10 03 16.6**	**+0.3**			
	comp=Z,30nm,1.1s,SNR=5.5									
GZR	**Gura Zlata**	**81.80**	**344**	⇑*iP*	**P**	**10 03 17.1**	**+0.4**			
GZR	**Gura Zlata**	**81.80**	**344**	P	**P**	**10 03 17.1**	**+0.4**			
LOR	**Lormes**	**81.82**	**358**	*eP*	**P**	**10 03 16.8**	**+0.1**			
LOR				pmax	pmax					
	comp=Z,26nm,1.2s									
ABTA	**Abfaltersbach**	**81.82**	**352**	*iP*	**P**	**10 03 16.8**	**0.0**			
	comp=Z,22nm,1.1s									
MYKA	**Terra Mystica**	**81.83**	**351**	*iP*	**P**	**10 03 18.0**	**+1.2**			
	comp=Z,8.7nm,1.0s									
OBKA	**Obir**	**81.85**	**350**	*iP*	**P**	**10 03 17.8**	**+0.8**			
	comp=Z,26nm,0.9s									
SSF	**Saint Saulge**	**82.03**	**358**	*eP*	**P**	**10 03 18.1**	**+0.3**			
SSF				pmax	pmax					
	comp=Z,20nm,1.2s									
BANR	**Banloc**	**82.08**	**345**	⇑*iP*	P	10 03 27.8	+10			
FUORN	**Ofenpass-Fuorn**	**82.14**	**353**	*eP*	**P**	**10 03 18.1**	**-0.7**			
	comp=Z,12nm,0.8s									
AVF	**Avril sur Loir**	**82.31**	**358**	*eP*	**P**	**10 03 19.4**	**+0.1**			
AVF				pmax	pmax					
	comp=Z,21nm,1.1s									
TUE	**Stuetta**	**82.35**	**354**	*eP*	**P**	**10 03 20.3**	**+0.6**			
	comp=Z,47nm,1.5s									
HERR	**Herculane**	**82.36**	**344**	⇑*iP*	**P**	**10 03 19.3**	**-0.2**			
CABF	**La Chapelle**	**82.39**	**356**	*eP*	**P**	**10 03 20.2**	**+0.3**			
CABF				pmax	pmax					
	comp=Z,47nm,1.5s									
PSI	**Prapat**	**82.42**	**265**	*eP*	**P**	**10 03 20.2**	**-0.2**			
	comp=Z,25nm,1.1s									
PSI	**Prapat**	**82.42**	**265**	*eP*	**P**	**10 03 20.2**	**-0.2**			
PSI				pmax	pmax					
	comp=Z,25nm,1.1s									
SMF	**Signal de Mont**	**82.44**	**358**	*eP*	**P**	**10 03 20.1**	**+0.1**			
SMF				pmax	pmax					
	comp=Z,29nm,1.0s									
BGF	**Bois d'Agland**	**82.55**	**358**	*eP*	**P**	**10 03 20.7**	**+0.1**			
BGF				pmax	pmax					
	comp=Z,9.0nm,0.3s									
MDVR	**Moldovita**	**82.57**	**345**	⇑*iP*	**P**	**10 03 25.3**	**+4.6**			
LPG	**La Plagne**	**83.47**	**355**	*eP*	**P**	**10 03 27.9**	**+2.2**			
LPG				pmax	pmax					
	comp=Z,36nm,1.5s									
HYB	**Hyderabad**	**83.72**	**290**	*iP*	**P**	**10 03 27.0**	**-0.1**			
SSB	**Saint Sauveur**	**83.78**	**357**	*eP*	**P**	**10 03 26.1**	**-0.9**			
	comp=Z,14nm,1.1s									
SSB	**Saint Sauveur**	**83.78**	**357**	*eP*	**P**	**10 03 26.1**	**-0.9**			
SSB				pmax	pmax					
	comp=Z,14nm,1.1s									
RKT	**Rikitea**	**83.83**	**139**	*eT*	T	11 35 40.2				
	comp=Z,1.2nm,0.2s									
BNI	**Bardonecchia**	**83.92**	**355**	*eP*	**P**	**10 03 28.4**	**+0.5**			
	comp=Z,34nm,1.3s									
BNI	**Bardonecchia**	**83.92**	**355**	*eP*	**P**	**10 03 28.4**	**+0.5**			
BNI				pmax	pmax					
	comp=Z,34nm,1.3s									
FITZ	**Fitzroy Crossi**	**83.93**	**231**	P	**P**	**10 03 27.8**	**-0.1**			
	comp=Z,17nm,0.6s,baz=30,slow=4.4,SNR=39									
FITZ	**Fitzroy Crossi**	**83.93**	**231**	*eP*	**P**	**10 03 28.0**	**+0.2**			
	comp=Z,21nm,0.8s									
LFF	**La Frestale**	**84.19**	**360**	*eP*	**P**	**10 03 29.2**	**+0.2**			
LFF				pmax	pmax					
	comp=Z,98nm,1.8s									
CAF	**Calviac**	**84.20**	**359**	*eP*	**P**	**10 03 29.5**	**+0.4**			
CAF				pmax	pmax					
	comp=Z,25nm,1.3s									
MBDF	**Montbardon**	**84.24**	**355**	*eP*	**P**	**10 03 30.1**	**+0.6**			
MBDF				pmax	pmax					
	comp=Z,19nm,1.3s									
VTS	**Vitosha**	**84.44**	**343**	⇑*iP*	**P**	**10 03 30.8**	**+0.3**			
VTS	**Vitosha**	**84.44**	**343**	⇑P	**P**	**10 03 30.8**	**+0.3**			
BR101	**Keskin Array S**	**84.83**	**335**	*eP*	**P**	**10 03 32.5**	**-0.1**			
BR131	**Keskin Array S**	**84.83**	**335**	*eP*	**P**	**10 03 32.6**	**+0.1**			
BRTR	**Keskin Array B**	**84.83**	**335**	P	**P**	**10 03 32.5**	**-0.1**			
	comp=Z,6.0nm,0.9s,baz=64,slow=2.9,SNR=21									
BRTR				LR	LR	10 48 17.7				
	comp=Z,37nm,18.2s,baz=348,slow=41									
AS01	**Alice Springs**	**84.98**	**222**	*eP*	**P**	**10 03 32.7**	**-0.5**			
AS31	**Alice Springs**	**85.00**	**222**	*eP*	**P**	**10 03 33.2**	**-0.1**			
	comp=Z,2.4nm,0.8s									
ASAR	**Alice Springs**	**85.00**	**222**	P	**P**	**10 03 32.9**	**-0.4**			
	comp=Z,7.8nm,0.8s,baz=27,slow=5.5,SNR=39									
ASAR				LR	LR	10 37 12.1				
	comp=Z,53nm,19.9s,baz=54,slow=33									
FRF	**La Foret Royal**	**85.41**	**355**	*eP*	**P**	**10 03 35.2**	**0.0**			
FRF				pmax	pmax					
	comp=Z,31nm,1.3s									
POO	**Poona**	**85.59**	**294**	⇓*iP*	**P**	**10 03 36.0**	**-0.5**			
	comp=Z,4.0nm,1.0s									
MTLF	**Montolieu**	**85.78**	**359**	*eP*	**P**	**10 03 37.4**	**+0.4**			
ETSF	**Etsaut**	**86.23**	**1**	*eP*	**P**	**10 03 40.0**	**+0.6**			
ETSF				pmax	pmax					
	comp=Z,60nm,1.8s									
SDDR	**Presa de Saban**	**86.36**	**64**	*eP*	**P**	**10 03 40.3**	**0.0**			
	comp=Z,19nm,1.0s									
ES19	**SONSECA Array**	**89.36**	**3**	*eP*	**P**	**10 03 53.8**	**-0.6**			
ESDC	**Sonseca Array**	**89.38**	**3**	P	**P**	**10 03 53.8**	**-0.6**			
	comp=Z,12nm,0.6s,baz=358,slow=4.1,SNR=7.8									
STKA	**Stephens Creek**	**89.51**	**212**	P	**P**	**10 03 54.3**	**-0.5**			
	comp=Z,18nm,1.0s,baz=25,slow=7.4,SNR=15									
STKA	**Stephens Creek**	**89.51**	**212**	*eP*	**P**	**10 03 55.5**	**+0.8**			
	comp=Z,4.4nm,0.9s									
OBIP	**Obispado Ponce**	**89.72**	**61**	*eP*	**P**	**10 03 56.4**	**+0.1**			
	comp=Z,21nm,1.0s									
SJG	**San Juan**	**89.92**	**61**	*eP*	**P**	**10 03 57.1**	**0.0**			
	comp=Z,41nm,1.4s									
SJG	**San Juan**	**89.92**	**61**	*eP*	**P**	**10 03 57.2**	**0.0**			
SJG				pmax	pmax					
	comp=Z,41nm,1.4s									
MTP	**Monte Pirata**	**90.26**	**60**	*eP*	**P**	**10 03 59.1**	**+0.3**			
	comp=Z,42nm,0.8s									
ROSC	**El Rosal**	**95.80**	**75**	LR	LR	10 50 56.0				
	comp=Z,15nm,18.0s,baz=279,slow=38									
TOA1	**Torodi Ar. Sit**	**115.86**	**358**	*e*PKPdf	**PKPdf**	**10 09 39.7**	**-0.9**			
TOA1				*e*PP	**PP**	**10 10 41.5**	**-1.8**			
TORD	**Torodi Ar. Bea**	**115.87**	**358**	PKP	**PKPdf**	**10 09 39.7**	**-0.9**			
	comp=Z,0.6nm,0.8s,baz=7.5,slow=1.0									
TORD				PP	**PP**	**10 10 41.5**	**-1.9**			
	comp=Z,0.4nm,0.7s,baz=2.3,slow=7.2,SNR=3.5									
TORD				PKKPbc	**PKKPbc**	**10 20 10.5**	**+0.5**			
	comp=Z,0.9nm,0.8s,baz=185,slow=2.3,SNR=5.8									
DBIC	**Dimbokro**	**122.15**	**6**	PKP	**PKPdf**	**10 09 52.3**	**-0.4**			
	comp=Z,1.9nm,0.4s,baz=164,slow=1.1,SNR=4.6									
TIC	**Toumodi**	**122.16**	**6**	*e*PKIKP	**PKPdf**	**10 09 52.0**	**-0.8**			
KIC	**Kosan Boka**	**122.46**	**6**	*e*PKIKP	**PKPdf**	**10 09 52.3**	**-1.1**			
	comp=Z,13nm,0.9s									
LIC	**Lamto**	**122.58**	**6**	*e*PKIKP	**PKPdf**	**10 09 52.6**	**-1.0**			
	comp=Z,33nm,1.0s									
PLCA	**Paso Flores**	**131.48**	**107**	PKP	**PKPdf**	**10 10 10.2**	**+0.5**			
	comp=Z,11nm,1.1s,baz=282,slow=2.5,SNR=12									
PLCA	**Paso Flores**	**131.48**	**107**	*e*PKPdf	**PKPdf**	**10 10 10.4**	**+0.6**			
PLCA	**Paso Flores**	**131.48**	**107**	*e*PKIKP	**PKPdf**	**10 10 10.4**	**+0.6**			
QSPA	**South Pole Qui**	**141.00**	**180**	PKhKP	PKPpre	10 10 19.3				
	comp=Z,3.4nm,0.8s,baz=106,slow=2.5,SNR=11									
QSPA	**South Pole Qui**	**141.00**	**180**	*e*PKPpre	PKPpre	10 10 19.3				
QSPA				*e*PKPpre	PKPpre	10 10 20.8				
TSUM	**Tsumeb**	**145.23**	**330**	*e*PKPbc	**PKPdf**	**10 10 35.9**	**+0.3**			
MAW	**Mawson**	**146.03**	**217**	PKPbc	**PKPdf**	**10 10 35.7**	**+0.5**			
	comp=Z,15nm,1.0s,baz=99,slow=4.4,SNR=28									
LBTB	**Lobatse**	**147.42**	**314**	*e*PKPbc	**PKPbc**	**10 10 42.1**	**+0.5**			
LBTB	**Lobatse**	**147.42**	**314**	*e*PKP2	**PKPbc**	**10 10 42.1**	**+0.5**			
BOSA	**Boshof**	**150.64**	**311**	PKPbc	**PKPbc**	**10 10 49.8**	**+0.1**			
	comp=Z,5.4nm,0.7s,baz=12,slow=1.6,SNR=9.5									

MAN 01 10:31:14.2, 7.83N×126.85E, h2km, mb4.4, ML3.2, MS3.0, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.66**	**313**	*eP*	Pn	10 31 43.9	-0.5
BUTP				*eS*	Sb	10 32 07.3	+0.3
BUKP	**Musuan**	**1.77**	**272**	*eP*	Pn	10 31 46.0	+0.1
BUKP				*eS*	Sb	10 32 10.0	-0.1
DDMP	**Don Marcelino,**	**2.05**	**213**	*eP*	Pn	10 31 48.6	-1.1
DDMP				*eS*	Sn	10 32 15.0	-0.9
CGP	**Cagayan de Oro**	**2.22**	**286**	⇑*eP*	Pn	10 31 52.2	+0.1
CGP				*eS*	Sn	10 32 19.7	-0.4
CTBH	**Cotabato--PC H**	**2.65**	**257**	⇑*iP*	Pn	10 31 49.5	-8.5
MSLP	**Maasin**	**3.02**	**320**	*eP*	Pg	10 32 11.2	-0.9

*ISK **01** 10:33:51.5, 39.00N×37.91E, h3km±1km, ML1.9/4*
*ISCJB **01** 10:33:52.1±0.6, 38.97N±0.03×37.89E±0.06, h9km, Error ellipse: s-maj=6.2km s-min=5.0km az=175.7*
*DDA **01** 10:33:52.3, 38.93N×37.81E, h7km, Ml2.6*
ISC 01 10:33:51.8±0.9, 38.95N±0.03×37.85E±0.04, h9km, n10, σ0.974/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DARE	**Darende-Malaty**	**0.47**	**217**	PG	**Pb**	**10 34 02.4**	**+0.1**
CUKAN	**kangal_SIVAS**	**0.47**	**321**	*iP*	**Pg**	**10 34 01.1**	**+0.1**
CUKAN				*iS*	**Sb**	**10 34 08.9**	**-0.6**
KEMA	**Kemaliye**	**0.60**	**57**	*iP*	**Pb**	**10 34 04.6**	**+0.1**
AKCD	**Akcadag**	**0.65**	**175**	*iP*	**Pg**	**10 34 04.2**	**-0.2**
AKCD				*iS*	**Sb**	**10 34 15.1**	**+0.4**
ILIC	**ilic-Erzincan**	**0.75**	**48**	PG	**Pg**	**10 34 05.3**	**-1.1**
ILIC				SG	**Sg**	**10 34 15.7**	**-0.5**
ELZG	**Elazig**	**1.00**	**116**	*iP*	**Pg**	**10 34 11.2**	**+0.2**
SVSK	**Karacayir**	**1.17**	**326**	PN	**Pn**	**10 34 14.7**	**+0.4**
SVRC	**Sivrice-ELAZID**	**1.28**	**116**	PN	**Pg**	**10 34 16.5**	**+0.2**
KELT	**Kelkit**	**1.62**	**42**	*iP*	**Pg**	**10 34 24.5**	**+1.6**
HANI	**Diyarbakir_Han**	**2.07**	**104**	*iP*	**Sn**	**10 34 52.0**	**-0.8**

*NIED **01** 10:48:00, 38.30N×144.20E, h5km, Mw3.6 Best double couple: M₀2.72000×10¹⁴ NP1:φs6.00000°, δ21.00000°, λ-53.00000°. NP2:φs147.00000°, δ73.00000°, λ-103.00000°.*
*IDC **01** 10:48:08.0±1.7, 37.87N×144.64E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.4/53, mbtmp3.5/3, ML3.3/1, MS2.6/1, Ms1 2.6/1, ms1mx2.3/31, Error ellipse: s-maj=59.7km s-min=33.1km az=141.0*
*ISCJB **01** 10:48:10.4±0.9, 38.38N±0.05×144.30E±0.06, h35km, mb3.6/2, Error ellipse: s-maj=7.2km s-min=5.8km az=138.7*
*JMA **01** 10:48:11.4±0.2, 38.29N×144.18E, h41km, M3.8*
ISC 01 10:48:11.4±1.2, 38.31N±0.06×144.31E±0.08, h35km, n22, σ1.957/30, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.21**	**291**	S	**Sn**	**10 49 11.1**	**-0.5**
JIKH	**Ishinomakikobu**	**2.24**	**271**	P	**Pn**	**10 48 45.6**	**-0.4**
JIKH				S	**Sn**	**10 49 11.2**	**-1.2**
JKMT	**Kesennumamotoy**	**2.28**	**284**	P	**Pn**	**10 48 46.4**	**-0.2**
JKMT				S	**Sn**	**10 49 12.4**	**-1.0**
MIYJ	**Miyakonagasawa**	**2.32**	**304**	P	**Pn**	**10 48 47.0**	**-0.1**
MIYJ				S	**Sn**	**10 49 13.2**	**-1.2**
JIO	**Ouri**	**2.33**	**275**	P	**Pn**	**10 48 47.2**	**-0.1**
JIO				S	**Sn**	**10 49 13.5**	**-1.2**
JMK	**Ichinoseki**	**2.50**	**286**	P	**Pn**	**10 48 49.9**	**+0.2**
JMK				S	**Sn**	**10 49 18.9**	**-0.1**
JOM	**Ohasama**	**2.63**	**297**	P	**Pn**	**10 48 52.2**	**+0.8**
JOM				S	**Sn**	**10 49 21.8**	**-0.2**
JANG	**Nango**	**2.99**	**314**	P	**Pn**	**10 48 56.7**	**+0.3**
JANG				S	**Sn**	**10 49 30.7**	**-0.4**
JYK	**Kaneyama**	**3.15**	**282**	P	**Pn**	**10 48 59.6**	**+1.0**
JYK				S	**Sn**	**10 49 35.5**	**+0.5**
JFT	**Otama**	**3.24**	**257**	P	**Pn**	**10 49 00.5**	**+0.7**
JFT				S	**Sn**	**10 49 36.6**	**-0.5**
JOT	**Ohata**	**3.97**	**322**	S	**Sn**	**10 49 53.7**	**-1.3**
JCH	**Churui**	**4.37**	**351**	P	**Pn**	**10 49 14.9**	**-0.3**
JCH				*eS*	**Sn**	**10 50 03.0**	**-1.8**
JRY	**Ryogami san**	**4.89**	**244**	P	**Pn**	**10 49 22.5**	**+0.1**
JRY				S	**Sn**	**10 50 13.7**	**-4.1**
MJAR	**Matsushiro Arr**	**5.17**	**252**	Pn	**Pn**	**10 49 28.3**	**+2.0**
	0.9nm,0.3s,baz=73,slow=34,SNR=9.4						
MJAR				Sn	**Sn**	**10 50 26.8**	**+2.1**
	0.6nm,0.3s,baz=93,slow=3.9,SNR=1.4						
NEM2	**Nemuro 2**	**5.17**	**12**	P	**Pn**	**10 49 24.6**	**-1.7**
JOD2	**Odawara 2**	**5.17**	**236**	S	**Sn**	**10 50 20.6**	**-4.3**
KSRS	**Korea Array**	**12.98**	**271**	LR	LR	10 57 04.1	
	comp=Z,26nm,18.5s,baz=5.0,slow=40						
H11S1	**WAKE ISLAND Hy**	**27.74**	**129**	T	T	11 22 12.7	
	baz=312						
H11S3	**WAKE ISLAND Hy**	**27.75**	**129**	T	T	11 22 11.1	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**27.76**	**129**	T	T	11 22 11.5	
	baz=312						
WRA	**Warramunga Arr**	**58.69**	**191**	P	**P**	**10 58 04.7**	**-0.8**
	0.5nm,0.5s,baz=12,slow=7.5,SNR=8.9						
NVAR	**Mina Array Bea**	**72.38**	**55**	P	**P**	**10 59 36.4**	**+2.2**
	0.4nm,0.7s,baz=290,slow=5.6,SNR=3.6						

*ISCJB **01** 10:49:48.9±1.1, 13.68S±0.09×167.0E±0.2, h250km, mb3.6/7, Error ellipse: s-maj=27.8km s-min=11.6km az=175.2*
*IDC **01** 10:49:49.9±4.5, 13.82S×167.08E, h246km±41km, mb3.4/7, mb1 3.5/8, mb1mx3.3/38, mbtmp3.9/8, Error ellipse: s-maj=30.4km s-min=26.5km az=7.0*
ISC 01 10:49:50.0±1.0, 13.77S±0.10×167.1E±0.2, h250km, n10, σ0.964/13, mb3.9/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.28**	**184**	P	**Pn**	**10 51 46.6**	**-0.3**
	0.4nm,0.3s,baz=328,slow=21,SNR=7.9						
DZM				S	**S

KST				*e*S		**Sb**	**11 10 08.0**	**+1.8**
	12nm,0.6s							
AKTO	**Aktyubinsk**	**12.28**	**324**	⇑P		**Pn**	**11 10 22.7**	**+0.5**
	294nm,0.3s							
AKTO				⇓S		**Pn**	**11 10 23.7**	**+1.4**
	1μm,0.3s							

*IDC **01** 11:18:14.3±0.5, 10°.39N×126°.57E, h0km, mb4.3/22, mb1 4.4/22, mb1mx4.3/34, mbtmp4.3/22, MS3.0/7, Ms1 3.0/7, ms1mx2.6/52, Error ellipse: s-maj=24.2km s-min=10.9km az=82.0*

*NEIC **01** 11:18:15.7±0.2, 10°.40N×126°.64E, h10km, mb4.4/13, Error ellipse: s-maj=6.9km s-min=3.9km az=88.0*

*MAN **01** 11:18:17.4, 10°.50N×126°.67E, h21km, mb4.8, ML3.7, MS3.6*

ISC 01 11:18:15.4±2.5, 10°.40N±0°.04×126°.63E±0°.06, h7km±15km, n89, σ1§24/97, mb4.3/33, MS2.9/5, 5C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BESP	**Borongan**	**1.68**	**316**	*e*P		**Pn**	**11 18 44.8**	**-0.3**
BESP				*e*S		**Sn**	**11 19 06.4**	**-0.4**
BUTP	**Butuan**	**1.73**	**215**	*e*P		**Pb**	**11 18 47.3**	**-0.2**
BUTP				*e*S		**Sg**	**11 19 10.9**	**-0.3**
MSLP	**Maasin**	**1.77**	**262**	*e*P		**Pb**	**11 18 48.6**	**+0.6**
MSLP				*e*S		**Sn**	**11 19 08.6**	**-0.4**
PLP	**Palo**	**1.80**	**295⇓**	*e*P		**Pn**	**11 18 47.2**	**+0.5**
PLP				*e*S		**Sn**	**11 19 07.7**	**-2.2**
OCLP	**Ormoc**	**2.09**	**288**	*e*P		**Pb**	**11 18 53.6**	**-0.1**
BIPH	**Bislig**	**2.21**	**187⇑**	*i*P		**Pn**	**11 18 54.1**	**+1.6**
BIPH				*i*S		**Sn**	**11 19 19.2**	**-0.9**
LLP	**Lapu-Lapu**	**2.63**	**269**	*e*P		**Pn**	**11 18 59.8**	**+1.6**
LLP				*e*S		**Sn**	**11 19 32.0**	**+1.7**
CGP	**Cagayan de Oro**	**2.72**	**225⇑**	*e*P		**Pb**	**11 19 02.5**	**-1.8**
CGP				*e*S		**Sn**	**11 19 34.5**	**+1.9**
CNP	**Catarman**	**2.85**	**318**	*e*P		**Pn**	**11 19 01.6**	**+0.3**
CNP				*e*S		**Sn**	**11 19 31.0**	**-4.9**
BUKP	**Musuan**	**2.94**	**212**	*e*P		**Pb**	**11 19 06.6**	**-1.6**
BUKP				*e*S		**Sb**	**11 19 42.9**	**-1.6**
DAV	**Davao City (W)**	**3.47**	**198**	*e*Pn		**Pn**	**11 19 09.4**	**-0.3**
DCPH	**Dipolog City**	**3.71**	**241⇑**	*e*P		**Pb**	**11 19 18.5**	**-2.7**
CTBH	**Cotabato--PC H**	**3.94**	**217⇑**	*i*P		**Pb**	**11 19 23.0**	**-2.2**
GUIM	**Jordan**	**3.98**	**274**	*e*P		**Pn**	**11 19 18.9**	**+2.0**
RCP	**Roxas**	**3.99**	**287⇑**	*e*P		**Pn**	**11 19 19.7**	**+2.8**
PVCP	**Virac**	**4.00**	**323**	*e*P		**Pn**	**11 19 18.5**	**+1.4**
DDMP	**Don Marcelino,**	**4.36**	**192**	*e*P		**Pn**	**11 19 23.1**	**+1.0**
MYLDM	**Lahad Datu**	**9.58**	**238**	*e*Pn		**Pn**	**11 20 34.2**	**+0.4**
TNTI	**Ternate**	**9.59**	**176**	*e*Pn		**Pn**	**11 20 35.1**	**+1.2**
SBUM	**Sibu**	**16.34**	**242**	*e*Pn		**Pn**	**11 22 05.9**	**+0.4**
	5.5nm,0.9s							
GUMO	**Guam**	**18.12**	**78**	LR		LR	11 28 06.3	
	comp=Z,41nm,20.4s,baz=23,slow=33							
KSM	**Kuching**	**18.49**	**242**	*e*P		**Pn**	**11 22 32.5**	**+0.3**
JAY	**Jayapura**	**18.99**	**132**	LR		LR	11 30 36.4	
	comp=Z,36nm,18.4s,baz=40,slow=39							
SOEI	**Soe**	**20.16**	**187**	*e*P		**P**	**11 22 50.5**	**-0.1**
	30nm,0.9s							
BATI	**Baumata**	**20.68**	**188**	P		**P**	**11 22 57.1**	**+1.0**
	66nm,0.6s,baz=318,slow=0.2,SNR=6.5							
JNU	**Nakatsue**	**22.95**	**9**	P		**P**	**11 23 21.6**	**+1.2**
	12nm,0.9s,baz=356,slow=14,SNR=4.2							
JNU	**Nakatsue**	**22.95**	**9**	*e*P		**P**	**11 23 21.2**	**+0.9**
	13nm,0.9s							
LEM	**Lembang**	**25.52**	**229**	P		**P**	**11 23 45.7**	**+0.8**
	13nm,0.5s,baz=31,slow=19,SNR=2.2							
IPM	**Ipoh**	**26.05**	**259**	*e*P		**P**	**11 23 50.4**	**+0.8**
	11nm,0.8s							
PHET	**Kaeng Krachan**	**26.56**	**278**	P		**P**	**11 24 00.0**	**+5.8**
	5.0nm,1.0s							
KSRS	**Korea Array**	**26.96**	**2**	LR		LR	11 36 45.3	
	comp=Z,32nm,18.7s,baz=165,slow=41							
CMAR	**Chiang Mai Arr**	**27.96**	**290**	P		**P**	**11 24 06.4**	**-0.3**
	1.0nm,0.3s,baz=94,slow=7.3,SNR=6.4							
CMAR				PcP		**PcP**	**11 27 22.7**	**+0.5**
	1.3nm,0.8s,baz=66,slow=1.2,SNR=7.6							
CMAR				LR		LR	11 36 47.4	
	comp=Z,20nm,18.3s,baz=162,slow=40							
MJAR	**Matsushiro Arr**	**28.06**	**20**	LR		LR	11 35 38.6	
	comp=Z,26nm,19.1s,baz=200,slow=37							
FITZ	**Fitzroy Crossi**	**28.33**	**182**	P		**P**	**11 24 09.4**	**-0.5**
	4.2nm,0.8s,baz=16,slow=6.8,SNR=10.0							
FITZ	**Fitzroy Crossi**	**28.33**	**182**	*e*P		**P**	**11 24 10.7**	**+0.7**
	4.1nm,0.8s							
XAN	**Xi'an**	**28.59**	**328**	P		**P**	**11 24 12.2**	**0.0**
XAN				pmax		pmax		
	comp=Z,10.0nm,0.8s							
XAN				pmax		pmax		
	comp=Z,53nm,4.7s							
WR1	**Warramunga Arr**	**31.09**	**166**	*e*P		**P**	**11 24 33.4**	**-1.1**
	4.0nm,0.9s							
WR1				*e*PcP		**PcP**	**11 27 30.2**	**+0.1**
WRA	**Warramunga Arr**	**31.09**	**166**	P		**P**	**11 24 33.4**	**-1.1**
	1.4nm,0.7s,baz=345,slow=9.6,SNR=17							
WRA				PcP		**PcP**	**11 27 30.2**	**+0.1**
	0.6nm,0.6s,baz=343,slow=3.0,SNR=5.7							
USRK	**Ussuriysk Ar.**	**34.00**	**7**	P		**P**	**11 25 00.6**	**+0.9**
	3.8nm,0.7s,baz=178,slow=9.9,SNR=7.7							
AS31	**Alice Springs**	**34.59**	**168**	*e*P		**P**	**11 25 04.6**	**-0.5**
	1.0nm,0.7s							
ASAR	**Alice Springs**	**34.59**	**168**	P		**P**	**11 25 04.6**	**-0.5**
	1.0nm,0.7s,baz=346,slow=9.6,SNR=18							
ASAR				PcP		**PcP**	**11 27 40.0**	**+0.2**
	0.8nm,0.5s,baz=347,slow=2.7,SNR=10.0							
CTAO	**Charters Tower**	**35.93**	**147**	*e*P		**P**	**11 25 16.5**	**-0.1**
	5.8nm,0.9s							
ASAJ	**Asahikawa**	**36.33**	**20**	LR		LR	11 40 42.1	
	comp=Z,29nm,19.3s,baz=238,slow=37							
GTA	**Gaotai**	**37.48**	**325**	⇓P		**P**	**11 25 30.7**	**+0.8**
GTA				pmax		pmax		
	comp=Z,10.0nm,0.9s							
KLR	**Kul'dur**	**38.95**	**5**	P		**P**	**11 25 42.4**	**+0.5**
	0.9nm,0.4s,baz=188,slow=7.1,SNR=3.4							
H11S3	**WAKE ISLAND Hy**	**39.54**	**74**	T		T	12 09 38.3	
	baz=262,slow=75							
H11S1	**WAKE ISLAND Hy**	**39.55**	**74**	T		T	12 09 39.8	
	baz=262,slow=75							
H11S2	**WAKE ISLAND Hy**	**39.56**	**74**	T		T	12 09 40.0	
	baz=262,slow=75							
SONA0	**Songino Array**	**41.03**	**339**	*e*P		**P**	**11 26 00.1**	**+0.7**
SONM	**Songino Array**	**41.03**	**339**	P		**P**	**11 26 00.1**	**+0.7**
	0.6nm,0.6s,baz=156,slow=8.7,SNR=4.5							
STKA	**Stephens Creek**	**44.41**	**162**	P		**P**	**11 26 27.2**	**+0.4**
	5.1nm,0.5s,baz=337,slow=8.3,SNR=15							
STKA	**Stephens Creek**	**44.41**	**162**	*e*P		**P**	**11 26 27.1**	**+0.3**
	1.5nm,0.8s							
PETK	**Petropavlovsk-**	**49.38**	**24**	P		**P**	**11 27 06.7**	**+1.2**
	2.8nm,0.8s,baz=188,slow=9.6							
PETK				LR		LR	11 48 32.2	
	comp=Z,15nm,19.6s,baz=251,slow=37							
PEA1	**Petropavlovsk-**	**49.38**	**24**	*e*P		**P**	**11 27 06.7**	**+1.2**
MK01	**Makanchi Array**	**52.13**	**323**	*e*P		**P**	**11 27 27.0**	**+0.6**
MK31	**Makanchi Array**	**52.14**	**323**	*e*P		**P**	**11 27 27.1**	**+0.7**
MK32	**Makanchi Array**	**52.14**	**323**	*e*P		**P**	**11 27 26.6**	**+0.1**
MK32				*e*PcP		**PcP**	**11 28 38.5**	**+0.2**
MKAR	**Makanchi Array**	**52.14**	**323**	P		**P**	**11 27 26.6**	**+0.1**
	4.2nm,0.8s,baz=118,slow=8.3,SNR=22							
MKAR				PcP		**PcP**	**11 28 38.5**	**+0.2**
	1.7nm,0.6s,baz=108,slow=4.7,SNR=5.7							
MKAR	**Makanchi Array**	**52.14**	**323**	*e*P		**P**	**11 27 26.4**	**-0.1**
	29nm,0.8s							
MKAR				PcP		**PcP**	**11 28 38.5**	**+0.2**
KDJ	**Kajisay**	**53.45**	**315**	*e*P		**P**	**11 27 36.5**	**+0.1**
	2.1nm,0.8s							
ZAA0	**Zalesovo Array**	**54.69**	**331**	*e*P		**P**	**11 27 44.8**	**-0.2**
	4.5nm,0.8s							
ZALV	**Zalesovo Beam**	**54.69**	**331**	P		**P**	**11 27 44.7**	**-0.3**
	4.9nm,0.7s,baz=120,slow=6.4,SNR=13							
ZALV	**Zalesovo Beam**	**54.69**	**331**	*e*P		**P**	**11 27 44.2**	**-0.8**
ZAA1	**Zalesovo Array**	**54.69**	**331**	*e*P		**P**	**11 27 44.7**	**-0.4**
KURK	**Kurchatov**	**56.17**	**325**	*e*P		**P**	**11 27 55.4**	**-0.3**
	16nm,0.8s							
BRVK	**Borovoye**	**61.84**	**325**	*e*P		**P**	**11 28 35.0**	**-0.1**
	7.2nm,0.9s							
NRIK	**Noril'sk**	**63.98**	**346**	P		**P**	**11 28 48.2**	**-0.8**
	1.2nm,0.4s,baz=135,slow=7.1,SNR=2.0							
ABKAR	**Akbulak array**	**67.01**	**319**	*e*P		**P**	**11 29 08.5**	**-0.6**
RAYN	**Ar Rayn**	**77.86**	**292**	*e*P		**P**	**11 30 13.5**	**-0.8**
	2.2nm,0.8s							
ILAR	**Eielson Array**	**79.17**	**26**	P		**P**	**11 30 19.6**	**-1.1**
	0.5nm,0.6s,baz=227,slow=5.7,SNR=6.8							
ILB	**Eielson Array**	**79.17**	**26**	*e*P		**P**	**11 30 19.4**	**-1.3**
ARA0	**ARCESS Array S**	**84.20**	**340**	*e*P		**P**	**11 30 47.4**	**+0.2**
ARCES	**ARCESS Array B**	**84.20**	**340**	P		**P**	**11 30 47.4**	**+0.2**
	4.9nm,0.8s,baz=82,slow=7.0,SNR=15							
BR101	**Keskin Array S**	**85.73**	**309**	*e*P		**P**	**11 30 55.4**	**-0.3**
BRTR	**Keskin Array B**	**85.73**	**309**	P		**P**	**11 30 55.4**	**-0.3**
	0.7nm,0.8s,baz=74,slow=5.1,SNR=2.7							
AKASG	**Malin Array Be**	**86.69**	**321**	P		**P**	**11 30 59.4**	**-0.6**
	0.3nm,0.3s,baz=62,slow=4.3,SNR=4.0							
AKBB	**Malin Array Si**	**86.69**	**321**	*e*P		**P**	**11 30 59.4**	**-0.6**
BUR04	**Bucovina Ar. S**	**89.99**	**318**	*e*P		**P**	**11 31 15.3**	**-0.5**
VNDA	**Vanda**	**90.01**	**173**	P		**P**	**11 31 15.7**	**+0.7**
	4.4nm,0.7s,baz=320,slow=6.1,SNR=51							
VNDA	**Vanda**	**90.01**	**173**	*e*P		**P**	**11 31 15.4**	**+0.3**
	4.2nm,0.8s							
NB200	**NORSAR Array S**	**92.80**	**334**	*e*P		**P**	**11 31 27.2**	**-1.3**
NOA	**NORSAR Array B**	**92.80**	**334**	P		**P**	**11 31 27.2**	**-1.3**
	0.5nm,0.6s,baz=66,slow=4.6,SNR=3.6							
GERES	**GERESS Array B**	**96.81**	**322**	P		**P**	**11 31 46.5**	**-0.8**
	0.5nm,0.7s,baz=58,slow=2.4,SNR=2.5							
LTX	**Lajitas**	**117.47**	**49**	*e*PKPdf		**PKPdf**	**11 37 03.1**	**+0.4**
TXAR	**Lajitas Array**	**117.47**	**49**	PKP		**PKPdf**	**11 37 03.1**	**+0.4**
	0.2nm,0.5s,baz=226,slow=3.5,SNR=3.8							
TORD	**Torodi Ar. Bea**	**120.55**	**292**	PKP		**PKPdf**	**11 37 07.7**	**-1.1**
	0.8nm,0.7s,baz=86,slow=2.0,SNR=8.0							
TOA1	**Torodi Ar. Sit**	**120.55**	**292**	*e*PKPdf		**PKPdf**	**11 37 07.7**	**-1.1**
PLCA	**Paso Flores**	**146.18**	**156**	PKPbc		**PKPab**	**11 37 57.9**	**+0.4**
	5.3nm,0.8s,baz=248,slow=4.5,SNR=13							
PLCA	**Paso Flores**	**146.18**	**156**	*e*PKPdf		**PKPbc**	**11 37 56.3**	**-0.6**

*ISCJB **01** 11:25:47.4±0.6, 40°.44N±0°.04×122°.48E±0°.08, h10km, mb3.6/4, Error ellipse: s-maj=9.2km s-min=4.5km az=24.7*

*IDC **01** 11:25:47.1±1.3, 40°.32N×122°.41E, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.5/46, mbtmp3.6/6, ML2.8/2, Error ellipse: s-maj=23.7km s-min=20.0km az=24.0*

*BJI **01** 11:25:50.1, 40°.48N×122°.38E, h5km, ML3.7/10*

ISC 01 11:25:49.5±0.8, 40°.43N±0°.05×122°.39E±0°.09, h10km, n11, σ2§01/16, mb3.7/4, 1C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
DL2	**Dalian**	**1.63**	**201**	Pg		**Pb**	**11 26 20.6**	**+1.0**
DL2				Sg		**Sg**	**11 26 43.2**	**+1.3**
DL2				smax		smax		
	comp=N,1μm,0.7s							
DL2				smax		smax		
	comp=E,1μm,0.7s							
SNY	**Shenyang**	**1.66**	**32**	⇑Pn		**Pn**	**11 26 17.1**	**-1.5**
SNY				Pg		**Pb**	**11 26 19.3**	**-0.8**
SNY				Sn		**Sn**	**11 26 37.7**	**-2.3**
SNY				Sg		**Sb**	**11 26 40.5**	**-0.6**
SNY				smax		smax		
	comp=N,1μm,0.4s							
SNY				smax		smax		
	comp=E,690nm,0.4s							
CN2	**Changchun**	**4.07**	**33**	Pg		**Pb**	**11 27 04.1**	**+3.0**
CN2				Sg		**Sb**	**11 27 54.5**	**+4.2**
CN2				smax		smax		
	comp=N,150nm,0.5s							
CN2				smax		smax		
	comp=E,110nm,0.5s							
KSRS	**Korea Array**	**5.23**	**123**	Pn		**Pn**	**11 27 07.0**	**-0.7**
	0.6nm,0.3s,baz=305,slow=14,SNR=5.8							
KSRS				Sn		**Sn**	**11 28 08.5**	**+0.4**
	1.9nm,0.3s,baz=311,slow=16,SNR=4.3							
KSRS				Lg		Lg	11 28 31.5	
	7.9nm,0.3s,baz=306,slow=29,SNR=11							
USRK	**Ussuriysk Ar.**	**8.05**	**59**	Pn		**Pn**	**11 27 46.8**	**+0.4**
	0.7nm,0.3s,baz=242,slow=12,SNR=7.7							
USRK				Lg		Lg	11 30 00.2	
	1.6nm,0.3s,baz=247,slow=29,SNR=10							
KLR	**Kul'dur**	**11.02**	**34**	Lg		Lg	11 31 38.3	
	0.4nm,0.3s,baz=150,slow=8.1,SNR=7.1							
WMQ	**Urumqi**	**25.84**	**289**	*e*P		**P**	**11 31 22.8**	**+1.7**
MKAR	**Makanchi Array**	**29.48**	**296**	P		**P**	**11 31 54.1**	**+0.5**
	0.2nm,0.4s,baz=88,slow=9.5,SNR=1.6							
ILAR	**Eielson Array**	**54.58**	**32**	P		**P**	**11 35 17.6**	**0.0**
	0.5nm,1.0s,baz=280,slow=7.2,SNR=2.9							
FITZ	**Fitzroy Crossi**	**58.30**	**176**	P		**P**	**11 35 42.2**	**-2.2**
	0.9nm,0.7s,baz=14,slow=4.2,SNR=1.4							
WRA	**Warramunga Arr**	**61.08**	**167**	P		**P**	**11 36 01.3**	**-2.4**
	0.9nm,1.1s,baz=347,slow=6.9,SNR=3.1							

IDC 01 11:38:31.1±17.0, 22°.68S×174°.95W, h0km, mb4.3/5, mb1 4.4/5, mb1mx3.9/35, mbtmp4.3/5, Error ellipse: s-maj=315.8km s-min=141.0km az=81.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**36.15**	**267**	P		P	11 45 36.6	+1.1
	6.0nm,0.3s,baz=90,slow=11,SNR=19							
STKA	**Stephens Creek**	**39.48**	**247**	P		P	11 46 02.5	-1.0
	2.0nm,0.7s,baz=65,slow=7.8,SNR=5.3							
ASAR	**Alice Springs**	**46.82**	**258**	P		P	11 47 02.2	-0.9
	1.0nm,0.6s,baz=95,slow=7.2,SNR=30							
WRA	**Warramunga Arr**	**47.14**	**263**	P		P	11 47 04.9	-0.6
	2.1nm,0.4s,baz=97,slow=8.4,SNR=1.35							
FITZ	**Fitzroy Crossi**	**55.57**	**263**	P		P	11 48 09.4	+0.6
	1.6nm,0.5s,baz=105,slow=7.0,SNR=8.2							

IDC 01 12:01:33.9±5.9, 21°.77N×142°.85E, h284km±51km, mb3.2/6, mb1 3.3/7, mb1mx3.0/49, mbtmp3.9/7, Error ellipse: s-maj=74.1km s-min=21.2km az=80.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**15.27**	**346**	P		P	12 04 53.9	-0.8
	0.2nm,0.3s,baz=155,slow=13,SNR=2.3							
KSRS	**Korea Array**	**20.27**	**324**	P		P	12 05 49.0	+0.5
	2.4nm,0.6s,baz=145,slow=9.0,SNR=9.3							
WRA	**Warramunga Arr**	**42.28**	**192**	P		P	12 08 60.0	-0.3
	0.2nm,0.5s,baz=16,slow=9.0,SNR=4.8							
WRA				pP		pP	12 09 51.1	-7.3
	0.3nm,0.5s,baz=19,slow=8.8,SNR=2.1							
ZALV	**Zalesovo Beam**	**53.96**	**322**	P		P	12 10 28.4	-0.2
	0.7nm,0.4s,baz=110,slow=6.7,SNR=1.7							
MKAR	**Makanchi Array**	**54.42**	**313**	P		P	12 10 33.2	+1.0
	0.8nm,0.6s,baz=98,slow=8.0,SNR=4.6							
GEYT	**Alibeck**	**72.95**	**305**	P		P	12 12 31.5	-1.3
	2.1nm,0.4s,baz=50,slow=12,SNR=5.5							
ARCES	**ARCESS Array B**	**78.76**	**341**	P		P	12 13 04.4	-0.4
	2.4nm,0.8s,baz=60,slow=7.4,SNR=6.2							
TORD	**Torodi Ar. Bea**	**128.45**	**309**	PKP		PKPdf	12 20 08.7	+0.9
	0.7nm,1.1s,baz=90,slow=1.4							

*ISCJB **01** 12:01:58.9±0.3, 23°.94S±0°.03×64°.84W±0°.05, h10km, mb3.9/10, MS3.8/6, Error ellipse: s-maj=6.2km s-min=3.8km az=0.9*

*IDC **01** 12:01:58.9±0.7, 23°.83S×65°.05W, h0km, mb3.8/7, mb1 4.1/10, mb1mx4.0/22, mbtmp3.9/10, ML4.4/3, MS3.7/10, Ms1 3.7/10, ms1mx3.5/21, Error ellipse: s-maj=23.2km s-min=21.2km az=80.0*

*SJA **01** 12:01:59.5±0.7, 23°.94S×65°.01W, h10km±44km, ML4.4, MW4.3*

*NEIC **01** 12:02:03.3±1.5, 23°.95S×64°.96W, h31km±11km, mb4.2/6, MD4.4(SJA), Error ellipse: s-maj=7.2km s-min=5.6km az=80.0*

NEIC Felt [IV] in the epicentral area.

ISC 01 12:02:00.2±0.5, 23°.91S±0°.03×65°.06W±0°.06, h10km, n78, σ1§81/78, mb4.1/10, MS3.7/6, 1C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HJA	**Humahuaca**	**0.77**	**335**	*e*P		**Pn**	**12 02 18.2**	**+0.7**
HJA				*e*S		**Sb**	**12 02 28.5**	**+2.0**
HJA				IAML			12 02 30.0	
	comp=Z,32μm,0.3s							
SLA	**San Lorenzo**	**0.90**	**206**	*e*P		**Pn**	**12 02 19.4**	**+0.2**
SLA				*e*S		**Sb**	**12 02 30.1**	**-0.2**
SLA				IAML			12 02 34.4	
	comp=Z,10μm,0.4s							
FSA	**Cafayete**	**2.35**	**201**	*e*P		**Pb**	**12 02 41.0**	**-1.7**
FSA				*e*S		**Sg**	**12 03 14.6**	**-1.1**
FSA				IAML			12 03 24.1	
	comp=Z,1μm,0.8s							
AHML	**Horco Molle**	**2.88**	**185**	*e*P		**Pn**	**12 02 47.3**	**+1.1**
AHML				*e*S		**Sg**	**12 03 30.9**	**-1.7**
AHML				IAML			12 03 44.0	
	comp=Z,1μm,0.4s							
LVC	**Limon Verde**	**3.77**	**289**	*e*Pn		**Pb**	**12 03 03.3**	**-3.8**
CYA	**Choya**	**4.56**	**188**	*e*P		**Pn**	**12 03 10.3**	**+0.9**
CYA				*e*S		**Sg**	**12 04 26.6**	**-0.2**
PB14	**IPOC Station P**	**4.93**	**261**	*e*P		**Pg**	**12 03 34.8**	**+0.1**
PB04	**IPOC Station P**	**4.94**	**287**	*e*Pn		**Pn**	**12 03 17.2**	**+2.6**
PB01	**IPOC Station P**	**4.99**	**304**	*e*Pn		**Pn**	**12 03 18.3**	**+3.0**
PB10	**IPOC Station P**	**5.05**	**273**	*e*Pn		**Pn**	**12 03 18.8**	**+2.8**
PB10	**IPOC Station P**	**5.05**	**273**	*e*P		Pn	12 03 20.9	+4.9
VCA	**Vinchina**	**5.57**	**210**	*e*P		**Pn**	**12 03 26.6**	**+3.2**
VCA				IAML			12 05 04.2	
	comp=Z,199nm,0.5s							
ACLC	**CERRO LA CRUZ**	**5.75**	**197**	*e*P		**Pn**	**12 03 26.7**	**+0.9**
ACLC				*e*S		**Sg**	**12 05 02.5**	**-2.4**
PB11	**IPOC Station P**	**5.94**	**313**	*e*Pn		**Pn**	**12 03 31.3**	**+3.0**
AGUA	**GUANDACOL**	**6.35**	**208**	*e*P		**Pn**	**12 03 37.1**	**+3.1**
AGUA				*e*S		**Sb**	**12 05 13.4**	**+6.5**
MNMC	**Minye Minye**	**6.36**	**318**	*e*Pn		**Pn**	**12 03 37.1**	**+2.9**
APLL	**PUNTA DE LOS L**	**6.59**	**191**	*e*P		**Pn**	**12 03 37.2**	**-0.1**
APLL				*e*S		**Sg**	**12 05 26.7**	**-5.2**
LCO	**Las Campanas**	**7.17**	**224**	*e*Pn		**Pn**	**12 03 46.4**	**+1.0**
LCO	**Las Campanas**	**7.17**	**224**	*e*P		**Pn**	**12 03 46.9**	**+1.6**
AROD	**Rodeo**	**7.37**	**211**	*e*P		**Pn**	**12 03 51.6**	**+3.4**
CPUP	**Villa Florida**	**7.41**	**111**	Pn		**Pn**	**12 03 49.1**	**+0.6**
	comp=Z,5.0nm,0.3s,baz=289,slow=11,SNR=53							
CPUP				Lg		Lg	12 05 57.1	
	comp=Z,38nm,0.3s,baz=198,slow=19,SNR=4.0							
CPUP				LR		LR	12 07 11.5	
	comp=Z,498nm,19.6s,baz=296,slow=42							
CPUP	**Villa Florida**	**7.41**	**111**	*e*Pn		**Pn**	**12 03 48.9**	**+0.4**
CPUP	**Villa Florida**	**7.41**	**111**	*e*P		**Pn**	**12 03 48.9**	**+0.4**
TCA	**Tanti**	**7.41**	**177**	*e*P		**Pn**	**12 03 48.7**	**+0.1**
ACCO	**Cerro Coronel**	**7.55**	**207**	*e*P		**Pn**	**12 03 53.3**	**+2.7**
AMOG	**MOGNA**	**7.64**	**203**	*e*P		**Pn**	**12 03 53.9**	**+2.3**
GO04	**Tololo Observa**	**8.07**	**218**	*e*Pn		**Pn**	**12 03 59.2**	**+1.5**
LPAZ	**La Paz**	**8.11**	**339**	Pn		Pn	12 04 04.2	+5.6
	comp=Z,2.4nm,0.3s,baz=143,slow=9.5,SNR=10							
LPAZ				Lg		Lg	12 06 34.8	
	comp=Z,1.1nm,0.3s,baz=342,slow=19,SNR=2.3							
LPAZ				LR		LR	12 07 48.9	
	comp=Z,249nm,21.5s,baz=140,slow=44							
LPAZ	**La Paz**	**8.11**	**339**	*e*Pn		**Pn**	**12 03 58.0**	**-0.6**
LPAZ	**La Paz**	**8.11**	**339**	*e*P		Pn	12 04 04.2	+5.6
RTCV	**Cerro Valdivia**	**8.50**	**200**	*e*P		**Pn**	**12 04 04.8**	**+1.3**
ACAN	**Cantantal**	**8.54**	**192**	*e*P		**Pn**	**12 04 05.0**	**+0.9**
RTLS	**Leoncito**	**8.71**	**205**	*e*P		**Pn**	**12 04 08.6**	**+2.0**
AUSP	**Uspallata**	**9.12**	**204**	*e*P		**Pn**	**12 04 13.7**	**+1.4**
ASAL	**Salagasta**	**9.27**	**200**	*e*P		**Pn**	**12 04 15.3**	**+1.3**
AAGR	**Agrelo**	**9.72**	**199**	*e*P		**Pn**	**12 04 21.4**	**+1.0**
ROC1	**El Roble**	**10.44**	**209**	*e*Pn		**Pn**	**12 04 28.9**	**-1.4**
TRQA	**Tornquist**	**14.35**	**170**	*e*Pn		**Pn**	**12 05 23.7**	**+0.2**
SAML	**Samuel**	**14.98**	**7**	*e*Pn		**Pn**	**12 05 31.3**	**-0.9**
GO06	**Curarrehue**	**16.54**	**198**	*e*Pn		**P**	**12 05 53.6**	**-1.5**
	comp=Z,32nm,0.8s							
PLCA	**Paso Flores**	**17.40**	**194**	P		**P**	**12 06 03.2**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=39,slow=10,SNR=5.8							
PLCA				Lg		Lg	12 11 04.5	
	comp=Z,0.1nm,0.3s,baz=355,slow=10.0,SNR=3.1							
PLCA				LR		LR	12 13 00.3	
	comp=Z,155nm,21.1s,baz=30,slow=38							
PLCA	**Paso Flores**	**17.40**	**194**	*e*Pn		**P**	**12 06 03

n41,σ1ˢ34/68,14C-15D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**1.64**	**339**	⇓*i*P	**Pg**	**12 21 59.7**	**+1.9**
KDJ	baz=34			⇓*i*S	**Sg**	**12 22 21.9**	**+2.7**
PRZ	**Przheval'sk**	**1.91**	**9**	⇑*i*P	**Pg**	**12 22 02.9**	**+0.1**
PRZ	baz=6.0			⇑*i*S	**Sg**	**12 22 27.2**	**-0.4**
ULHL	**Ulahol**	**2.10**	**322**	P	**Pg**	**12 22 07.0**	**+0.4**
ULHL	SNR=47			⇓*i*P	**Pg**	**12 22 07.2**	**+0.6**
	baz=19			⇓*i*S	**Sg**	**12 22 34.6**	**+0.7**
BOOM	**Boomskoye usch**	**2.44**	**321**	⇑*i*P	**Pb**	**12 22 12.0**	**+1.9**
BOOM	baz=19			⇑*i*S	**Sg**	**12 22 42.5**	**-2.0**
SATY	**Saty**	**2.48**	**7**	*e*P	**Pg**	**12 22 13.2**	**-0.5**
SATY	15nm,0.5s			*e*S	**Sg**	**12 22 45.0**	**-0.8**
KZA	**Kyzart**	**2.54**	**306**	P	**Pg**	**12 22 15.0**	**+0.1**
KZA	SNR=39 **Kyzart**	**2.54**	**306**	⇑*i*P	**Pb**	**12 22 13.8**	**+1.9**
KZA	baz=4.0			⇑*i*S	**Sb**	**12 22 45.6**	**+2.4**
TNSS	**Tian-Shan**	**2.56**	**343**	*e*P	**Pg**	**12 22 15.5**	**+0.2**
TNSS	65nm,0.4s			*e*S	**Sg**	**12 22 49.3**	**+0.9**
IZV	**Izvestkoviy**	**2.64**	**338**	*e*P	**Pg**	**12 22 16.9**	**0.0**
IZV	44nm,0.5s			*e*S	**Sg**	**12 22 51.9**	**+0.8**
MDOK	**Medeo**	**2.66**	**345**	Pn	**Pg**	**12 22 16.3**	**-0.9**
MDOK	16nm,0.5s			Lg	Lg	12 22 52.2	
MDOK	**Medeo**	**2.66**	**345**	⇓*i*P	**Pg**	**12 22 17.1**	**-0.1**
MDOK	20nm,0.3s			*e*S	**Sg**	**12 22 52.0**	**+0.4**
UZB	**Uzymbulak**	**2.66**	**17**	*e*P	**Pg**	**12 22 16.2**	**-1.0**
UZB	5.1nm,0.3s			*e*S	**Sg**	**12 22 50.5**	**-1.2**
KOTS	**Kotyrbulak**	**2.71**	**346**	*e*P	**Pg**	**12 22 18.2**	**0.0**
KOTS	18nm,0.4s			*e*S	**Sg**	**12 22 53.8**	**+0.4**
KNDC	**Almaty**	**2.72**	**344**	⇑Pn	**Pb**	**12 22 14.7**	**-0.2**
KNDC	11nm,0.4s			⇑Lg	Lg	12 22 55.0	
SHLS	**Shalkode**	**2.78**	**23**	*e*P	**Pg**	**12 22 20.4**	**+0.9**
SHLS	16nm,0.5s			*e*S	**Sg**	**12 22 57.9**	**+2.3**
MTBS	**Maitube**	**2.78**	**336**	*e*P	**Pg**	**12 22 19.1**	**-0.4**
MTBS	23nm,0.3s			*e*S	**Sg**	**12 22 55.1**	**-0.5**
KST	**Kastek**	**2.87**	**329**	*e*P	**Pg**	**12 22 20.6**	**-0.7**
KST	14nm,0.2s			*e*S	**Sg**	**12 22 57.7**	**-0.8**
KPKS	**Kokpek**	**2.91**	**10**	*e*P	**Pg**	**12 22 21.0**	**-1.0**
KPKS	17nm,0.1s			*e*S	**Sg**	**12 22 58.6**	**-1.1**
TKM2	**Tokmak 2**	**2.93**	**323**	⇑Pg	**Pg**	**12 22 21.8**	**-0.6**
TKM2	9.5nm,0.7s			⇓Lg	Lg	12 23 01.1	
TKM2	**Tokmak 2**	**2.93**	**323**	P	**Pg**	**12 22 22.1**	**-0.3**
TKM2	SNR=7.2 **Tokmak 2**	**2.93**	**323**	⇓*i*P	**Pb**	**12 22 18.7**	**+0.2**
TKM2	baz=21			⇓*i*S	**Sb**	**12 22 54.8**	**+0.5**
ARLS	**Aral**	**3.04**	**296**	⇑*i*P	**Pb**	**12 22 20.3**	**0.0**
ARLS	baz=94			⇑*i*S	**Sb**	**12 22 57.3**	**-0.1**
KBK	**Karagaybulak**	**3.07**	**313**	P	**Pg**	**12 22 25.1**	**+0.1**
KBK	SNR=7.2 **Karagaybulak**	**3.07**	**313**	⇓*i*P	**Pb**	**12 22 20.9**	**0.0**
KBK	baz=11			⇓*i*S	**Sb**	**12 22 58.1**	**-0.2**
UCH	**Uchtor**	**3.08**	**303**	P	**Pg**	**12 22 25.2**	**-0.1**
UCH	SNR=8.5 **Uchtor**	**3.08**	**303**	⇓*i*P	**Pb**	**12 22 21.2**	**0.0**
UCH	baz=1.0			⇓*i*S	**Sb**	**12 22 59.1**	**+0.2**
DGS	**Degeres**	**3.12**	**329**	*e*P	**Pg**	**12 22 25.3**	**-0.6**
DGS	13nm,0.4s			*e*S	**Sg**	**12 23 05.8**	**-0.5**
AAK	**Ala-Archa**	**3.32**	**309**	Pg	**Pg**	**12 22 29.0**	**-0.8**
AAK	9.4nm,0.7s			Lg	Lg	12 23 13.1	
AAK	**Ala-Archa**	**3.32**	**309**	P	**Pg**	**12 22 29.3**	**-0.5**
AAK	SNR=10 **Ala-Archa**	**3.32**	**309**	⇑*i*P	**Pb**	**12 22 24.3**	**-0.8**
AAK	baz=7.0			⇑*i*S	**Sb**	**12 23 04.5**	**-1.0**
KTMS	**Ketmen**	**3.34**	**31**	*e*P	**Pb**	**12 22 28.0**	**+2.5**
KTMS				*e*S	**Sg**	**12 23 10.4**	**-3.2**
CHMS	**Chumysh**	**3.41**	**316**	P	**Sg**	**12 23 16.0**	**+0.4**
MNBS	SNR=6.2 **Baschi**	**3.49**	**5**	*e*P	**Pg**	**12 22 31.7**	**-1.4**
MNBS				*e*S	**Sg**	**12 23 16.9**	**-1.3**
KUU	**Kurty**	**3.51**	**340**	*e*P	**Pg**	**12 22 31.8**	**-1.7**
KUU	4.0nm,0.3s			*e*S	**Sg**	**12 23 17.1**	**-1.9**
AML	14nm,0.4s **Almayashu**	**3.58**	**297**	P	**Pg**	**12 22 35.8**	**+1.0**
AML	SNR=14 **Almayashu**	**3.58**	**297**	⇓*i*P	**Pb**	**12 22 28.3**	**-1.3**
AML	baz=95			⇓*i*S	**Sb**	**12 23 11.3**	**-1.8**
EKS2	**Erkin-Say**	**3.77**	**304**	P	**Pg**	**12 22 38.3**	**-0.1**
DJR	SNR=8.2 **Jarkent**	**3.96**	**19**	*e*P	**Pb**	**12 22 38.3**	**+2.3**
DJR	1.6nm,0.5s			*e*S	**Sg**	**12 23 28.5**	**-4.9**
MRKS	13nm,0.5s **Merke**	**4.16**	**303**	*e*P	**Pg**	**12 22 44.5**	**-1.4**
MRKS	5.3nm,0.3s			⇓*i*S	**Sg**	**12 23 38.7**	**-1.2**
KK31	5.5nm,0.5s **Karatay Array**	**6.12**	**297**	Pg	**Pg**	**12 23 24.2**	**+0.9**
KK31	1.1nm,0.7s,baz=108,slow=16,SNR=4.6			⇑Lg	Lg	12 24 39.5	
	0.4nm,0.3s,baz=107,slow=28,SNR=4.4						

MEX 01 12:58:54.1±0.9,19.48N×102.51W,h15km,MD3.7, Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**1.42**	**214**	*e*P	Pn	12 59 14.9	-4.5
MMIG				*e*S	Sn	12 59 32.6	-5.3
ZIIG	**Zihuatanejo**	**2.11**	**152**	*e*P	Pn	12 59 25.3	-3.6
ZIIG				*e*S	Sn	12 59 51.2	-3.6
CJM	**Chamela**	**2.39**	**271**	*e*P	Pn	12 59 30.4	-2.3
CJM				*i* S	Sn	12 59 57.8	-4.0

MEX 01 13:03:26.9±0.8,16.90N×96.42W,h76km±7km,MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**0.35**	**300**	*i* P	Pn	13 03 38.1	-1.2
VHO				*i* S	Sn	13 03 46.4	-2.1
HUIG	**Huatulco**	**1.16**	**165**	*e*P	Pn	13 03 46.8	-0.9
HUIG				*i* S	Sn	13 04 01.9	-1.4
CMIG	**Matias Romero**	**1.48**	**82**	*i* P	Pn	13 03 50.4	-1.4
CMIG				*e*S	Sn	13 04 08.6	-1.9
PNIG	**Pinotepa**	**1.72**	**253**	*i* P	Pn	13 03 52.8	-2.2
PNIG				*i* S	Sn	13 04 13.9	-2.3
TLIG	**Tlapa**	**2.16**	**288**	*i* P	Pn	13 03 59.4	-1.6
TLIG				*i* S	Sn	13 04 25.6	-1.3

IDC 01 13:18:16.2±8.2,8.16S×154.56E,h0km,mb3.4/3, mb1 3.8/3,mb1mx3.5/42,mbtmpb3.5/3,MS3.2/2,Ms1 3.2/2, ms1mx2.7/27,Error ellipse: s-maj=175.2km s-min=47.0km az=100.0,D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.47**	**104**	LR	LR	13 21 41.8	
	comp=Z,56nm,18.3s,baz=248,slow=38						
WRA	**Warramunga Arr**	**22.81**	**237**	P	P	13 23 20.9	-0.1
	1.4nm,0.9s,baz=60,slow=9.5,SNR=8.0						
ASAR	**Alice Springs**	**25.09**	**230**	P	P	13 23 42.2	-0.6
	0.5nm,0.8s,baz=59,slow=8.9,SNR=5.7						
RAO	**Raoul Island**	**33.30**	**133**	LR	LR	13 35 44.7	
	comp=Z,148nm,21.4s,baz=176,slow=32						
CMAR	**Chiang Mai Arr**	**60.90**	**296**	P	P	13 28 31.8	+0.5
	0.5nm,0.6s,baz=130,slow=5.6,SNR=5.3						

*ISCJB **01** 13:22:45.6±0.8,55.4S±0.1×27.4W±0.4,h10km,mb3.9/5, MS3.0/1,Error ellipse: s-maj=36.1km s-min=12.1km az=152.4*

*IDC **01** 13:22:45.3±0.9,55.41S×27.29W,h0km,mb3.9/5, mb1 4.0/5,mb1mx3.8/29,mbtmpb3.9/5,MS3.0/1,Ms1 3.1/1, ms1mx2.6/18,Error ellipse: s-maj=39.5km s-min=23.4km az=65.0*

ISC 01 13:22:47.3±0.8,55.5S±0.2×27.5W±0.3,h10km,n17, σ0ˢ93/11,mb3.9/5,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**17.40**	**158**	P	**P**	**13 26 53.3**	**+2.3**
VNA3	**Neumayer Olymp**	**17.59**	**161**	P	**P**	**13 26 53.1**	**-0.2**
VNA2	**Neumayer--Watz**	**17.79**	**158**	P	**P**	**13 26 55.5**	**0.0**
	baz=316,slow=13						
SNAA	**Sanae**	**19.34**	**157**	P	**Pn**	**13 27 12.5**	**-1.1**
CPUP	**Villa Florida**	**36.30**	**311**	P	**P**	**13 29 50.8**	**-0.1**
	0.9nm,0.4s,baz=96,slow=8.3,SNR=3.2						
MAW	**Mawson**	**40.72**	**144**	P	**P**	**13 30 27.5**	**0.0**
	0.8nm,0.6s,baz=210,slow=9.8,SNR=4.0						
VNDA	**Vanda**	**47.14**	**183**	P	**P**	**13 31 18.9**	**-0.1**
	1.3nm,0.6s,baz=188,slow=6.6,SNR=18						
H10S2	**ASCENSION HYDR**	**47.49**	**17**	T	T	14 22 53.8	
	baz=190,slow=75,SNR=18						
H10S3	**ASCENSION HYDR**	**47.50**	**17**	T	T	14 23 23.5	
	baz=190,slow=75,SNR=12						
H10S1	**ASCENSION HYDR**	**47.51**	**17**	T	T	14 23 13.8	
	baz=190,slow=75,SNR=13						
H10N1	**ASCENSION HYDR**	**48.61**	**17**	T	T	14 24 21.8	
	baz=189,slow=75,SNR=3.6						
H10N3	**ASCENSION HYDR**	**48.61**	**17**	T	T	14 24 22.9	
	baz=189,slow=75,SNR=16						
H10N2	**ASCENSION HYDR**	**48.63**	**17**	T	T	14 24 11.0	
	baz=189,slow=75,SNR=7.0						
LPAZ	**La Paz**	**49.91**	**305**	P	**P**	**13 31 41.9**	**+0.2**
	1.1nm,0.7s,baz=100,slow=6.8,SNR=4.9						
LPAZ				LR	LR	13 53 35.4	
	comp=Z,14nm,19.6s,baz=52,slow=37						
TORD	**Torodi Ar. Bea**	**72.64**	**30**	P	**P**	**13 34 14.7**	**-0.1**
	0.7nm,0.6s,baz=195,slow=6.1,SNR=6.3						
NRIK	**Noril'sk**	**148.66**	**38**	PKPbc	**PKPdf**	**13 42 29.5**	**+0.3**
	4.8nm,0.6s,baz=165,slow=3.3,SNR=5.7						
ILAR	**Eielson Array**	**149.60**	**312**	PKPbc	**PKPbc**	**13 42 35.2**	**-0.3**
	1.5nm,0.7s,baz=110,slow=1.9,SNR=6.8						

*DDA **01** 13:24:45.1,37.59N×35.72E,h8km,Ml2.6*

*ISK **01** 13:24:45.8,37.43N×35.65E,h6km,ML2.3/4*

*ISCJB **01** 13:24:46.4±0.8,37.49N±0.06×35.69E±0.04,h2km±7km, Error ellipse: s-maj=10.0km s-min=4.2km az=160.4*

ISC 01 13:24:46.0±1.2,37.52N±0.05×35.69E±0.03,h10km±10km, n14,σ0ˢ81/21,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.12**	**108**	PG	**Pg**	**13 24 49.3**	**+0.5**
ANDN	**Andirin**	**0.53**	**83**	*i* P	**Pb**	**13 24 56.7**	**-0.7**
ANDN				*i* S	**Sb**	**13 25 04.4**	**-0.7**
YURE	**YUREGIR**	**0.69**	**184**	PG	**Pg**	**13 24 58.6**	**-0.7**
YURE				SG	**Sg**	**13 25 08.4**	**+0.1**
YURE	**YUREGIR**	**0.69**	**184**	*i* P	**Pb**	**13 25 00.3**	**+0.1**
YURE				*i* S	**Sb**	**13 25 10.8**	**+1.1**
GULE	**Gulek**	**0.76**	**253**	*i* P	**Pb**	**13 25 00.8**	**-0.7**
GULE				*i* S	**Sb**	**13 25 12.9**	**+1.0**
KMRS	**Kahramanmaras**	**0.96**	**90**	PG	**Pn**	**13 25 06.2**	**+0.6**
MERS	**Mersin**	**1.13**	**236**	PG	**Pg**	**13 25 07.2**	**-0.5**
TAHT	**Tahtakopru-Hat**	**1.21**	**161**	PN	**Pg**	**13 25 08.2**	**-0.9**
KERG	**Konya-Eregli**	**1.25**	**266**	*i* P	**Pb**	**13 25 09.4**	**-0.3**
KERG				*i* S	**Sn**	**13 25 27.5**	**+0.9**
KIZK	**Mersin**	**1.61**	**231**	PN	**Pb**	**13 25 15.5**	**-0.3**
KIZK	**Mersin**	**1.61**	**231**	*i* P	**Pb**	**13 25 15.8**	**0.0**
KIZK				*i* S	**Sg**	**13 25 37.3**	**-0.4**
KEBE	**Keben-Mersin**	**1.91**	**237**	PN	**Pb**	**13 25 20.5**	**-0.4**
AKCD	**Akcadag**	**1.93**	**66**	*i* P	**Pb**	**13 25 20.6**	**-0.8**
AKCD				*i* S	**Sb**	**13 25 46.5**	**+0.9**
IKL	**Isikli**	**2.05**	**232**	PN	**Pb**	**13 25 21.7**	**-1.6**

*BJI **01** 13:26:07.0,5.51S×146.11E,h94km,mb4.9/51,mB5.1/31*

*MOS **01** 13:26:09.6±1.2,5.25S×145.52E,h81km,mb4.8/22,Error ellipse: s-maj=10.6km s-min=5.8km az=98.8*

*IDC **01** 13:26:09.3±2.6,5.27S×145.61E,h65km±24km,mb4.5/21, mb1 4.7/24,mb1mx4.6/35,mbtmp4.9/24,MS3.7/15, Ms1 3.7/15,ms1mx3.5/28,Error ellipse: s-maj=16.6km s-min=10.2km az=79.0*

*ISCJB **01** 13:26:10.0±0.2,5.29S±0.02×145.61E±0.03,h86km, mb4.8/92,Error ellipse: s-maj=4.0km s-min=3.1km az=170.5*

*NEIC **01** 13:26:12.3±0.6,5.28S×145.56E,h93km±5km,mb5.0/31, Error ellipse: s-maj=5.6km s-min=4.1km az=91.0*

*GCMT **01** 13:26:15.3±0.2,5.36S±0.01×145.48E±0.02,h98km±3km, MW5.0/87,Moment Tensor Solution. s37,c51; s87,c128; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.44±.14; $M_{\theta\theta}$-0.71±.13; $M_{\phi\phi}$0.27±.13; $M_{r\theta}$-2.99±.07; $M_{\theta\phi}$-0.23±.12; $M_{\phi r}$1.62±.08; Best double couple: $M_0$3.46300×10^{16} NP1:ϕs297.00000°,δ87.00000°,λ99.00000°. NP2: ϕs47.00000°,δ9.00000°,λ20.00000°. Principal axes: T 3.5260, Plg47.0000°, Azm217.0000°; N -0.1270, Plg9.0000°, Azm117.0000°; P -3.3990, Plg41.0000°, Azm19.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **01** 13:26:15.7±0.8,5.5S×145.5E±°,h101km±5km,M4.9/38, mB5.3/26,mb5.2/38,MLv5.6/4,Mw(mB)4.8/26*

ISC 01 13:26:11.7±0.3,5.36S±0.04×145.58E±0.05,h86km,n236, σ1ˢ31/232,mb4.9/92,9C-7D,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**3.75**	**28**	*e*Pn	**Pn**	**13 27 07.3**	**+0.1**
PMG	**Port Moresby**	**4.32**	**159**	P	**Pn**	**13 27 15.2**	**+0.2**
	106nm,0.3s,baz=343,slow=6.7,SNR=234						
PMG				S	**Sn**	**13 28 02.8**	**-1.3**
	60nm,0.3s,baz=146,slow=21,SNR=8.2						
PMG				LR	LR	13 29 28.5	
	comp=Z,3μm,21.2s,baz=355,slow=45						
JAY	**Jayapura**	**5.62**	**300**	P	**Pn**	**13 27 35.2**	**+2.4**
	4.7nm,0.3s,baz=63,slow=6.4,SNR=8.1						
JAY				S	**Sn**	**13 28 34.6**	**-1.6**
	0.5nm,0.3s,baz=324,slow=14,SNR=2.6						
JAY				LR	LR	13 30 08.5	
	comp=Z,663nm,20.5s,baz=102,slow=43						
JAY	**Jayapura**	**5.62**	**300**	P	**Pn**	**13 27 34.5**	**+1.6**
	1μm,0.8s,10μm7.0nm						
MMPI	**Merauke**	**6.01**	**239**	P	**Pn**	**13 27 38.8**	**+0.7**
GENI	**Genyem**	**6.06**	**297**	P	**Pn**	**13 27 40.4**	**+1.7**
RABL	**Rabaul**	**6.66**	**80**	*e*Pn	**Pn**	**13 27 47.3**	**+0.3**
COEN	**Coen**	**8.87**	**195**	P	**Pn**	**13 28 19.0**	**+1.9**
	baz=9.0,SNR=137						
COEN	**Coen**	**8.87**	**195**	*e*Pn	**Pn**	**13 28 19.0**	**+1.9**
SRPI	**Serui, Papua**	**9.94**	**290**	P	**Pn**	**13 28 32.0**	**+0.2**
RKPI	**Ransiki, Papua**	**12.01**	**288**	P	**Pn**	**13 29 00.9**	**+1.1**
	88nm,0.8s						
FAKI	**Fak Fak**	**13.51**	**280**	P	**Pn**	**13 29 17.3**	**-2.6**
	68nm,1.1s,593nm						
SAUI	**Saumlaki**	**14.42**	**259**	P	**Pn**	**13 29 30.9**	**-0.8**
CTA	**Charters Tower**	**14.65**	**177**	P	**Pn**	**13 29 36.6**	**+1.9**
	0.8nm,0.3s,baz=359,slow=15,SNR=22						
CTA	**Charters Tower**	**14.65**	**177**	P	**P**	**13 29 37.4**	**-1.3**
	baz=15						
CTAO	**Charters Tower**	**14.65**	**177**	*e*Pn	**P**	**13 29 37.1**	**-1.6**
CTAO	**Charters Tower**	**14.65**	**177**	*e*P	**P**	**13 29 37.1**	**-1.6**
HNR	**Honiara**	**14.81**	**107**	P	**P**	**13 29 38.8**	**-1.6**
	2.4nm,0.3s,baz=210,slow=7.4,SNR=5.4						
KDU	**Kakadu**	**14.84**	**240**	P	**Pn**	**13 29 37.7**	**+0.6**
	baz=15,SNR=92						
SIJI	**Sorong**	**14.97**	**287**	P	**Pn**	**13 29 38.1**	**-0.7**
	2.5nm,0.3s,baz=100,slow=9.0,SNR=22						
SWI	**Sorong**	**14.98**	**287**	P	**Pn**	**13 29 37.7**	**-1.2**
	255nm,0.8s,2μm						
BNDI	**Bandanaira**	**15.64**	**272**	P	**P**	**13 29 49.0**	**-0.6**
	252nm,0.9s,4μm						
MTN	**Manton Dam**	**16.08**	**241**	P	**Pn**	**13 29 52.4**	**-0.4**
	baz=16,SNR=44						
MTN	**Manton Dam**	**16.08**	**241**	*e*Pn	**Pn**	**13 29 51.8**	**-0.9**
	154nm,0.8s						
QIS	**Mount Isa**	**16.18**	**200**	P	**Pn**	**13 29 54.0**	**-0.1**
	baz=16,SNR=11						
MSAI	**Masohi**	**16.72**	**276**	P	**Pn**	**13 29 59.6**	**-1.2**
AAI	**Ambon**	**17.41**	**275**	P	**P**	**13 30 09.8**	**+0.5**
AAI				pmax	pmax		
	comp=Z,210nm,0.7s						
AAI	**Ambon**	**17.41**	**275**	P	**P**	**13 30 09.3**	**0.0**
WRAB	**Tennant Creek**	**18.14**	**216**	*e*P	**P**	**13 30 17.3**	**0.0**
	comp=Z,53nm,0.8s						
WRAB	**Tennant Creek**	**18.14**	**216**	⇓*e*P	**P**	**13 30 16.5**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,40nm,0.8s						
WB2	**Warramunga Arr**	**18.15**	**216**	*e*P	**P**	**13 30 17.2**	**-0.2**
WRA	**Warramunga Arr**	**18.16**	**216**	P	**P**	**13 30 16.7**	**-0.7**
	comp=Z,1.7nm,0.3s,baz=41,slow=12,SNR=82						
WRA				S	**S**	**13 33 34.4**	**-6.0**
	comp=Z,0.2nm,0.3s,baz=31,slow=22,SNR=3.2						
LBMI	**Labuha**	**18.65**	**284**	P	**Pn**	**13 30 23.1**	**-1.1**
	comp=Z,192nm,0.8s,comp=Z,5μm						
GUMO	**Guam**	**18.84**	**358**	P	**P**	**13 30 23.6**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=219,slow=7.1,SNR=4.3						
TNTI	**Ternate**	**19.18**	**288**	P	**Pn**	**13 30 30.3**	**-0.2**
	comp=Z,42nm,0.9s,comp=Z,755nm						
KNRA	**Kununurra**	**19.43**	**237**	P	**P**	**13 30 31.4**	**-0.1**
	baz=20,SNR=29						
SANI	**Sanana**	**19.82**	**279**	P	**P**	**13 30 35.3**	**-0.4**
	comp=Z,142nm,0.9s,comp=Z,1μm						
EIDS	**Eidsvold**	**20.58**	**166**	P	**P**	**13 30 44.9**	**+1.2**
	baz=21,SNR=15						
EIDS	**Eidsvold**	**20.58**	**166**	*e*P	**P**	**13 30 45.0**	**+1.2**
	comp=Z,40nm,0.9s						
QLP	**Quilpie**	**21.14**	**183**	P	**P**	**13 30 50.7**	**+0.9**
	baz=21,SNR=22						
RMQ	**Roma**	**21.23**	**172**	P	**P**	**13 30 52.1**	**+1.4**
	baz=21,SNR=76						
AS01	**Alice Springs**	**21.37**	**210**	*e*P	**P**	**13 30 53.1**	**+0.8**
AS31	**Alice Springs**	**21.39**	**211**	*e*P	**P**	**13 30 53.1**	**+0.5**
	comp=Z,19nm,1.2s						
ASAR	**Alice Springs**	**21.40**	**211**	P	**P**	**13 30 52.3**	**-0.3**
	comp=Z,20nm,1.1s,baz=39,slow=10.0,SNR=64						
ASAR				S	**S**	**13 34 43.3**	**-2.2**
	comp=Z,3.3nm,1.0s,baz=33,slow=22,SNR=2.7						
ASAR				LR	LR	13 39 39.4	
	comp=Z,334nm,20.4s,baz=32,slow=38						
SOEI	**Soe**	**21.57**	**257**	*e*P	**P**	**13 30 54.8**	**+0.2**
	comp=Z,120nm,0.8s						
SOEI	**Soe**	**21.57**	**257**	P	**P**	**13 30 54.9**	**+0.3**
BATI	**Baumata**	**22.23**	**256**	P	**P**	**13 31 02.5**	**+0.9**
	comp=Z,217nm,0.7s,baz=290,slow=0.4,SNR=35						
BATI				LR	LR	13 41 52.6	
	comp=Z,290nm,21.8s,baz=96,slow=42						
BATI	**Baumata**	**22.23**	**256**	P	**P**	**13 31 01.5**	**-0.1**
KMSI	**Cibinong**	**22.36**	**285**	P	**P**	**13 31 01.7**	**-1.2**
BBSI	**Bau Bau**	**22.91**	**269**	P	**P**	**13 31 09.1**	**+0.5**
LUWI	**Luwuk**	**23.17**	**280**	P	**P**	**13 31 11.8**	**+0.7**
	comp=Z,268nm,1.4s,comp=Z,3μm						
FITZ	**Fitzroy Crossi**	**23.23**	**235**	P	**P**	**13 31 10.3**	**-1.4**
	comp=Z,158nm,0.9s,baz=63,slow=7.6,SNR=163						
FITZ				LR	LR	13 40 51.5	
	comp=Z,343nm,21.0s,baz=42,slow=38						
FITZ	**Fitzroy Crossi**	**23.23**	**235**	P	**P**	**13 31 10.3**	**-1.4**
	baz=23,SNR=180						
FITZ	**Fitzroy Crossi**	**23.23**	**235**	*e*P	**P**	**13 31 10.5**	**-1.1**
	comp=Z,158nm,0.9s						
MMRI	**Maumere**	**23.39**	**261**	*e*P	**P**	**13 31 12.7**	**-0.5**
	comp=Z,79nm,0.7s						
MMRI	**Maumere**	**23.39**	**261**	P	**P**	**13 31 11.5**	**-1.7**
EDFI	**Ende, Flores**	**23.94**	**261**	P	**P**	**13 31 16.7**	**-1.6**
	comp=Z,55nm,1.0s,comp=Z,725nm						
APSI	**Ampana**	**24.29**	**280**	P	**P**	**13 31 22.4**	**+1.1**
	comp=Z,262nm,1.2s,comp=Z,2μm						
MRSI	**Marisa**	**24.31**	**283**	P	**P**	**13 31 21.3**	**-0.1**
	comp=Z,49nm,0.6s,comp=Z,674nm						
BKSI	**Bulukumba**	**25.35**	**269**	P	**P**	**13 31 31.5**	**+0.6**
BNSI	**Bone**	**25.40**	**271**	P	**P**	**13 31 32.0**	**+0.6**
ARMA	**Armidale**	**25.57**	**168**	P	**P**	**13 31 34.3**	**+1.5**
	baz=26,SNR=21						
ARMA	**Armidale**	**25.57**	**168**	*e*P	**P**	**13 31 34.4**	**+1.5**
	comp=Z,84nm,0.9s						
WRKA	**Warakurna**	**25.65**	**219**	P	**P**	**13 31 33.4**	**-0.1**
	baz=26,SNR=30						
SPSI	**Sidrap Palu**	**25.76**	**272**	P	**P**	**13 31 34.2**	**-0.5**
	comp=Z,22nm,1.1s,comp=Z,415nm						
TTSI	**Tana Toraja**	**25.79**	**274**	P	**P**	**13 31 35.8**	**+0.9**
CMSA	**Cobar Meteorol**	**26.04**	**180**	P	**P**	**13 31 37.9**	**+1.0**
	baz=26,SNR=20						
DZM	**Mont Dzumac**	**26.14**	**131**	P	**P**	**13 31 38.2**	**+0.1**
	comp=Z,12nm,0.9s,baz=295,slow=19,SNR=5.6						
DZM	**Mont Dzumac**	**26.14**	**131**	*e*P	**P**	**13 31 37.8**	**-0.3**
	comp=Z,42nm,1.1s						
DZM				*e*LR	LR	13 38 18.6	
	comp=Z,350nm,30.4s						
MPSI	**Mapaga**	**26.26**	**282**	P	**P**	**13 31 38.9**	**-0.3**
	comp=Z,15nm,0.9s						
WBSI	**Waikabubak, Su**	**26.30**	**259**	P	**P**	**13 31 40.1**	**+0.5**
STKA	**Stephens Creek**	**26.64**	**188**	P	**P**	**13 31 42.6**	**+0.2**
	comp=Z,28nm,0.8s,baz=12,slow=11,SNR=40						
STKA				LR	LR	13 43 05.0	
	comp=Z,154nm,19.4s,baz=9.7,slow=38						
STKA	**Stephens Creek**	**26.64**	**188**	P	**P**	**13 31 42.9**	**+0.4**
	comp=Z,27.5nm,0.9s						
STKA	**Stephens Creek**	**26.64**	**188**	*e*P	**P**	**13 31 42.2**	**-0.2**
	comp=Z,8.2nm,0.9s						
HTT	**Hallett**	**28.61**	**192**	P	**P**	**13 32 00.9**	**+0.9**
	baz=29,SNR=8.8						
BBOO	**Buckleboo**	**28.72**	**197**	P

	comp=Z,70nm,1.1s							
H11N1	**WAKE ISLAND Hy**	**32.56**	**40**	T		T		14 07 10.9
	baz=224							
H11N3	**WAKE ISLAND Hy**	**32.58**	**40**	T		T		14 07 13.2
	baz=224							
H11N2	**WAKE ISLAND Hy**	**32.58**	**39**	T		T		14 07 08.9
	baz=224							
MEEK	**Meekatharra**	**33.31**	**228**	P		**P**		**13 32 42.1 +0.6**
	baz=33,SNR=11							
SBUM	**Sibu**	**34.21**	**282**	P		**P**		**13 32 50.0 +0.6**
GIRL	**Giralia**	**34.80**	**237**	P		**P**		**13 32 56.0 +1.6**
	baz=35,SNR=6.2							
KSM	**Kuching**	**35.88**	**280**	P		**P**		**13 33 04.0 +0.3**
JOW	**Kunigami**	**36.12**	**333**	LR		LR		13 46 19.2
	comp=Z,100nm,19.0s,baz=98,slow=34							
MORW	**Morawa**	**36.56**	**226**	P		**P**		**13 33 10.2 +0.8**
	baz=37,SNR=3.1							
KLBR	**Kellerberrin**	**36.89**	**222**	P		**P**		**13 33 12.8 +0.7**
	baz=37,SNR=4.5							
BLDU	**Ballidu**	**36.99**	**224**	P		**P**		**13 33 13.4 +0.3**
	baz=37,SNR=9.6							
TAU	**Tasmania Unive**	**37.43**	**178**	*e*P		**P**		**13 33 16.8 +0.3**
	comp=Z,53nm,1.4s							
TAU	**Tasmania Unive**	**37.43**	**178**	*e*P		**P**		**13 33 16.8 +0.3**
TAU				pmax		pmax		
	comp=Z,53nm,1.4s							
TPUB	**Ta-pu**	**37.48**	**320**	*e*P		**P**		**13 33 15.9 -1.4**
	comp=Z,54nm,1.4s							
LEM	**Lembang**	**37.77**	**266**	LR		LR		13 51 29.5
	comp=Z,92nm,21.5s,baz=64,slow=40							
NWAO	**Narrogin (SRO)**	**38.08**	**220**	P		**P**		**13 33 22.4 +0.3**
	comp=Z,21nm,1.1s,baz=331,slow=4.7,SNR=3.1							
RKGY	**Rocky Gully**	**39.33**	**219**	P		**P**		**13 33 34.0 +1.4**
	baz=40,SNR=5.4							
JNU	**Nakatsue**	**40.73**	**341**	LR		LR		13 47 34.3
	comp=Z,181nm,20.0s,baz=165,slow=32							
JNU	**Nakatsue**	**40.73**	**341**	*e*P		**P**		**13 33 43.7 -0.5**
	comp=Z,52nm,1.4s							
MJAR	**Matsushiro Arr**	**42.25**	**351**	P		**P**		**13 33 54.8 -1.7**
	comp=Z,6.8nm,0.7s,baz=176,slow=8.0,SNR=10							
MJAR				LR		LR		13 51 32.4
	comp=Z,50nm,18.9s,baz=130,slow=36							
MAJO	**Matsushiro**	**42.25**	**351**	*e*P		**P**		**13 33 55.6 -0.9**
	comp=Z,36nm,1.2s							
MAJO	**Matsushiro**	**42.25**	**351**	*e*P		**P**		**13 33 55.7 -0.9**
MAJO				pmax		pmax		
	comp=Z,36nm,1.2s							
MAT	**Matsushiro**	**42.25**	**351**	P		**P**		**13 33 54.8 -1.8**
MJB9	**Matsu-Tunnel**	**42.25**	**351**	*e*P		**P**		**13 33 55.3 -1.3**
	comp=Z,36nm,1.2s							
URZ	**Urewera**	**43.50**	**143**	P		**P**		**13 34 07.1 +0.4**
	comp=Z,12nm,1.0s,baz=305,slow=3.6,SNR=7.3							
URZ	**Urewera**	**43.50**	**143**	*e*P		**P**		**13 34 06.3 -0.4**
	comp=Z,18nm,1.0s							
BKZ	**Black Stump Fm**	**43.74**	**145**	*e*P		**P**		**13 34 09.5 +0.9**
	comp=Z,24nm,0.9s							
RPZ	**Rata Peaks**	**44.30**	**153**	P		**P**		**13 34 12.1 -0.9**
	comp=Z,27nm,0.9s,baz=257,slow=1.7,SNR=8.9							
LBZ	**Lake Benmore**	**44.46**	**155**	*e*P		**P**		**13 34 15.6 +1.3**
	comp=Z,38nm,1.0s							
NJ2	**Nanjing**	**45.08**	**327**	*e*P		**P**		**13 34 16.6 -2.7**
NJ2				pmax		pmax		
	comp=Z,16nm,0.8s							
KSRS	**Korea Array**	**45.66**	**340**	P		**P**		**13 34 23.4 -0.4**
	comp=Z,5.7nm,0.8s,baz=161,slow=9.1,SNR=14							
KSRS				LR		LR		13 52 01.1
	comp=Z,128nm,18.2s,baz=162,slow=34							
KSAR	**Wonju Array Be**	**45.67**	**340**	P		**P**		**13 34 23.4 -0.4**
KSAR	**Wonju Array Be**	**45.67**	**340**	P		**P**		**13 34 23.4 -0.4**
KULM	**Kulim**	**46.09**	**283**	P		**P**		**13 34 28.0 +0.3**
WHN	**Wuhan**	**46.56**	**322**⇑	*i*P		**P**		**13 34 32.1 +1.1**
WHN				pmax		pmax		
	comp=Z,36nm,0.6s							
TRTT	**Trang**	**47.62**	**286**	P		**P**		**13 34 39.6 +0.1**
	comp=Z,10nm,0.7s							
CHAI	**Chaiyaphum**	**48.04**	**297**	P		**P**		**13 34 43.4 +0.7**
	comp=Z,3.5nm,0.8s							
GSI	**Gunungsitoli**	**48.40**	**276**	*e*P		**P**		**13 34 44.8 -0.8**
	comp=Z,43nm,0.6s							
PKDT	**Phuket**	**48.93**	**285**	P		**P**		**13 34 49.6 0.0**
	comp=Z,23nm,0.7s							
PHET	**Kaeng Krachan**	**49.12**	**292**	P		**P**		**13 34 52.4 +1.3**
	comp=Z,8.8nm,0.9s,comp=Z,120nm							
GYA	**Guiyang**	**49.20**	**312**	*e*P		**P**		**13 34 54.2 +2.5**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
VLA	**Vladivostok**	**49.82**	**347**⇑	*e*P		**P**		**13 34 57.5 +1.6**
VLA				pmax		pmax		
	comp=Z,60nm,0.9s							
UTHA	**Uthaitani**	**50.19**	**295**	P		**P**		**13 35 00.8 +1.7**
	comp=Z,3.4nm,1.1s							
NANT	**Nan**	**50.31**	**300**	P		**P**		**13 35 02.5 +2.5**
	comp=Z,2.2nm,0.8s							
USA0B	**Ussuriysk Arra**	**50.83**	**347**	*e*P		**P**		**13 35 03.4 -0.1**
	comp=Z,54nm,1.2s							
USRK	**Ussuriysk Ar.**	**50.83**	**347**	P		**P**		**13 35 03.3 -0.2**
	comp=Z,23nm,0.6s,baz=175,slow=6.2,SNR=64							
USRK				LR		LR		13 56 02.6
	comp=Z,41nm,18.3s,baz=169,slow=35							
UMPA	**Umpang Tak**	**50.94**	**296**	P		**P**		**13 35 07.0 +2.2**
	comp=Z,2.8nm,1.0s,comp=Z,212nm							
LAMP	**Lampang**	**51.13**	**299**	P		P		13 35 10.5 +4.3
	comp=Z,3.3nm,0.7s							
PAYA	**Payao**	**51.25**	**300**	P		**P**		**13 35 09.3 +2.2**
	comp=Z,4.5nm,0.7s							
KMI	**Kunming**	**51.49**	**308**	P		**P**		**13 35 09.6 +0.5**
KMI				pmax		pmax		
	comp=Z,12nm,0.6s							
KMI				pmax		pmax		
	comp=Z,60nm,3.2s							
CMAR	**Chiang Mai Arr**	**51.70**	**298**	P		**P**		**13 35 10.8 +0.4**
	comp=Z,4.9nm,0.8s,baz=120,slow=6.1,SNR=29							
CMAR				LR		LR		13 58 45.0
	comp=Z,11nm,19.1s,baz=85,slow=38							
MDJ	**Mudanjiang**	**51.78**	**346**	P		**P**		**13 35 10.1 -0.5**
MDJ				pmax		pmax		
	comp=Z,18nm,0.6s							
MDJ				pmax		pmax		
	comp=Z,460nm,4.6s							
CMMT	**Chiang Mai**	**51.84**	**299**	P		**P**		**13 35 14.3 +2.8**
	comp=Z,5.1nm,0.8s							
CHTO	**Chiang Mai**	**51.84**	**299**	P		**P**		**13 35 10.8 -0.7**
	comp=Z,4.7nm,1.0s							
CHTO	**Chiang Mai**	**51.84**	**299**	P		**P**		**13 35 10.8 -0.7**
CHTO				pmax		pmax		
	comp=Z,5.0nm,1.0s							
CHTO	**Chiang Mai**	**51.84**	**299**	P		**P**		**13 35 14.4 +2.9**
	comp=Z,24nm,0.9s							
YSS	**Yuzh-Sakhalins**	**52.15**	**358**⇑	*e*P		**P**		**13 35 12.3 -0.9**
YSS				pmax		pmax		
	comp=Z,52nm,1.5s							
CN2	**Changchun**	**52.20**	**342**	*e*P		**P**		**13 35 12.8 -0.9**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
XAN	**Xi'an**	**52.30**	**321**	P		**P**		**13 35 14.0 -0.7**
XAN				pmax		pmax		
	comp=Z,20nm,1.0s							
XAN				pmax		pmax		
	comp=Z,97nm,4.6s							
BJI	**Beijing**	**52.66**	**332**‖	*e*P		**P**		**13 35 16.3 -0.9**
BJI				pmax		pmax		
	comp=Z,11nm,0.8s							
CD2	**Chengdu**	**53.82**	**315**	*e*P		**P**		**13 35 25.0 -0.9**
HHC	**Hu-ho-hao-te**	**55.55**	**329**	*e*P		**P**		**13 35 38.9 +0.5**
HHC				pmax		pmax		
	comp=Z,36nm,0.8s							
HHC				pmax		pmax		
	comp=Z,110nm,6.6s							
KLR	**Kul'dur**	**55.69**	**349**‖	*e*P		**P**		**13 35 38.4 -0.6**
LZH	**Lanzhou**	**56.81**	**320**	*e*P		**P**		**13 35 48.3 +0.8**
LZH				pP		pP		13 36 12.0 +3.0
LZH				sP		sP		13 36 22.5 +3.9
LZH				*e*PP		**PP**		**13 37 57.2 +2.4**
LZH				pmax		pmax		
	comp=Z,25nm,1.3s							
LZH				pmax		pmax		
	comp=Z,86nm,7.8s							
LZH				LR		LR		
	comp=Z,380nm,15.3s							
LZH				LR		LR		
	comp=Z,390nm,15.6s							
LZH				LR		LR		
	comp=Z,530nm,18.2s							
HIA	**Hailar**	**58.87**	**341**⇑	*e*P		**P**		**13 36 02.7 +1.2**
HIA				pmax		pmax		
	comp=Z,6.0nm,0.5s							
PETK	**Petropavlovsk-**	**59.15**	**8**	P		**P**		**13 36 03.4 +0.1**
	comp=Z,5.2nm,0.5s,baz=173,slow=8.4,SNR=18							
SHL	**Shillong**	**60.49**	**303**	P		**P**		**13 36 14.8 +1.6**
SHL				pmax		pmax		
	comp=Z,12nm,0.4s							
ZEA	**Zeya**	**60.87**	**348**	*e*P		**P**		**13 36 14.8 -0.2**
ZEA				pmax		pmax		
	comp=N,35nm,1.0s							
ZEA				pmax		pmax		
	comp=Z,41nm,1.0s							
KIP	**Kipapa**	**61.34**	**62**	*i*P		**P**		**13 36 17.2 -1.6**
GTA	**Gaotai**	**61.35**	**321**	‖P		**P**		**13 36 19.1 +0.3**
GTA				pP		pP		13 36 42.5 +2.0
GTA				sP		sP		13 36 53.4 +3.3
GTA				S		**S**		**13 44 32.9 -0.1**
GTA				pmax		pmax		
	comp=Z,9.0nm,1.0s							
GTA				pmax		pmax		
	comp=Z,79nm,6.4s							
GTA				LR		LR		
	comp=Z,140nm,20.3s							
GTA				LR		LR		
	comp=Z,110nm,20.6s							
GTA				LR		LR		
	comp=Z,96nm,18.4s							
LSA	**Lhasa**	**62.73**	**307**	P		**P**		**13 36 31.0 +2.4**
LSA				pmax		pmax		
	comp=Z,8.0nm,1.1s							
ULN	**Ulaanbaatar**	**62.88**	**332**	*e*P		**P**		**13 36 27.9 -0.9**
	comp=Z,6.2nm,0.9s							
ULN	**Ulaanbaatar**	**62.88**	**332**‖	*e*P		**P**		**13 36 28.7 -0.1**
ULN				pmax		pmax		
	comp=Z,9.0nm,1.1s							
SONM	**Songino Array**	**63.17**	**332**	P		**P**		**13 36 29.8 -0.9**
	comp=Z,2.2nm,0.6s,baz=161,slow=6.9,SNR=6.5							
PPT2	**Papeete2**	**64.43**	**107**	*e*LR		LR		13 56 10.1
	comp=Z,79nm,25.2s							
MA2	**Magadan**	**64.86**	**3**	*i*P		**P**		**13 36 41.1 -0.3**
MA2				pmax		pmax		
	comp=Z,37nm,1.4s							
TBI	**Tubuai**	**64.92**	**113**	*e*LR		LR		13 56 23.9
	comp=Z,76nm,27.5s							
RAMN	**Ramite**	**65.41**	**303**	*e*P		**P**		**13 36 46.4 +0.5**
CASY	**Casey**	**65.50**	**195**	*e*P		**P**		**13 36 46.1 +0.6**
	comp=Z,21nm,0.9s							
JIRN	**Jiri**	**65.99**	**303**	*e*P		**P**		**13 36 50.2 +0.4**
GUN	**Gumba**	**66.34**	**303**	*e*P		**P**		**13 36 52.4 +0.4**
ZAK	**Zakamensk**	**66.41**	**332**	*e*P		**P**		**13 36 48.5 -3.2**
ZAK				pmax		pmax		
	comp=Z,10.0nm,1.1s							
PKI	**Pulchoki**	**66.61**	**303**	*e*P		**P**		**13 36 53.4 -0.4**
	comp=Z,8.2nm,0.7s							
KKN	**Kakani**	**66.79**	**303**	*e*P		**P**		**13 36 54.8 0.0**
	comp=Z,17nm,0.9s							
DMN	**Daman**	**66.88**	**303**	*e*P		**P**		**13 36 55.9 +0.5**
	comp=Z,30nm,1.0s							
TLY	**Talaya**	**67.14**	**333**	*e*P		**P**		**13 36 56.7 +0.5**
TLY				pmax		pmax		
	comp=Z,11nm,1.6s							
TLY				MLR		MLR		
	comp=Z,64nm,13.0s							
BOD	**Bodaibo**	**67.94**	**342**	*e*P		**P**		**13 36 58.3 -2.8**
BOD				pmax		pmax		
	comp=Z,6.0nm,0.9s							
KOLN	**Koldanda**	**68.19**	**303**	*e*P		**P**		**13 37 04.0 +0.4**
	comp=Z,23nm,1.1s							
DANN	**Dangsing**	**68.25**	**303**	*e*P		**P**		**13 37 04.0 0.0**
SEY	**Seymchan**	**68.30**	**3**‖	*e*P		**P**		**13 37 02.6 -0.6**
YAK	**Yakutsk**	**68.31**	**352**	*e*P		**P**		**13 37 03.8 +0.5**
YAK				*e*				13 37 24.8
YAK				*e**PP		**sP**		**13 37 32.1 -2.7**
YAK				*e*S		**S**		**13 45 58.7 +1.5**
YAK				*e**SS		**sS**		**13 46 37.7 +2.7**
YAK				*e*SS		**SS**		**13 50 27.3 +5.1**
YAK				pmax		pmax		
	comp=Z,14nm,0.8s							
YAK				pmax		pmax		
	comp=N,5.0nm,1.1s							
YAK				pmax		pmax		
	comp=E,2.0nm,0.9s							
YAK				pmax		pmax		
	comp=Z,154nm,3.2s							
YAK				pmax		pmax		
	comp=N,284nm,3.1s							
YAK				pmax		pmax		
	comp=E,81nm,2.9s							
YAK				smax		smax		
	comp=N,121nm,2.8s							
YAK				smax		smax		
	comp=E,87nm,2.6s							
PYUN	**Piuthan**	**68.81**	**303**	*e*P		**P**		**13 37 07.4 0.0**
	comp=E,19nm,0.9s							
MIR	**Mirnyy**	**70.90**	**200**⇑	*i*P		**P**		**13 37 20.0 +0.8**
MIR				*i*				13 37 43.0
MIR				pmax		pmax		
	comp=Z,42nm,1.0s							
WMQ	**Urumqi**	**71.39**	**320**	P		**P**		**13 37 23.1 +0.4**
WMQ				pP		pP		13 37 46.7 +1.7
WMQ				pmax		pmax		
	comp=Z,24nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,250nm,4.7s							
WMQ				LR		LR		
	comp=Z,86nm,23.3s							
HVS	**Khovu-Aksy**	**71.63**	**329**⇑	*e*P		**P**		**13 37 24.6 +0.6**
HVS				pmax		pmax		
	comp=Z,30nm,1.3s							
DGAR	**Diego Garcia**	**72.63**	**264**‖	*e*P		**P**		**13 37 30.8 +0.2**
VNDA	**Vanda**	**72.63**	**176**	P		**P**		**13 37 30.4 +1.0**
	comp=Z,10nm,1.0s,baz=327,slow=6.9,SNR=53							
VNDA	**Vanda**	**72.63**	**176**	*e*P		**P**		**13 37 30.4 +1.0**
	comp=Z,18nm,1.1s							
VNDA	**Vanda**	**72.63**	**176**	*e*P		**P**		**13 37 30.5 +1.0**
VNDA				pmax		pmax		
	comp=Z,18nm,1.1s							
SBA	**Scott Base**	**73.30**	**175**	*e*P		**P**		**13 37 34.7 +1.3**
	comp=Z,11nm,1.2s							
SBA	**Scott Base**	**73.30**	**175**	*e*P		**P**		**13 37 34.7 +1.3**
SBA				pmax		pmax		
	comp=Z,11nm,1.2s							
TAOE	**Nuku Hiva Isla**	**73.69**	**98**	*e*LR		LR		14 00 26.0
	comp=Z,93nm,22.9s							
BILL	**Bilibino**	**74.67**	**8**⇑	*e*P		**P**		**13 37 41.8 +0.3**
BILL								13 37 52.0
BILL				*PP		**pP**		**13 38 05.0 +1.1**
BILL				*SP		**sP**		**13 38 12.0 -1.3**
BILL				pmax		pmax		
	comp=Z,11nm,1.5s							
MK01	**Makanchi Array**	**76.09**	**321**	*e*P		**P**		**13 37 49.4 -0.7**
MKAR	**Makanchi Array**	**76.11**	**321**	P		**P**		**13 37 49.7 -0.5**
	comp=Z,2.4nm,0.6s,baz=108,slow=7.0,SNR=12							
MKAR	**Makanchi Array**	**76.11**	**321**	*i*P		**P**		**13 37 48.5 -1.7**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
TIXI	**Tiksi**	**77.64**	**355**	*i*P		**P**		**13 37 57.1 -1.1**
TIXI				pmax		pmax		
	comp=Z,3.0nm,0.8s							
ZALV	**Zalesovo Beam**	**77.72**	**328**	P		**P**		**13 37 57.1 -2.0**
	comp=Z,3.6nm,0.7s,baz=104,slow=5.0,SNR=12							
KSH	**Kashi**	**77.90**	**312**	*e*P		**P**		**13 38 01.0 +0.4**
KSH				S		**S**		**13 47 42.7 -4.4**
KSH				pmax		pmax		
	comp=Z,150nm,4.4s							
NVS	**Novosibirsk**	**78.95**	**329**	*e*P		**P**		**13 38 04.1 -1.7**
NVS				pmax		pmax		
	comp=E,17nm,1.6s							
NVS				pmax		pmax		
	comp=Z,22nm,1.6s							
NVS				pmax		pmax		
	comp=N,13nm,1.5s							
KURK	**Kurchatov**	**79.86**	**324**	P		**P**		**13 38 09.5 -1.2**
KURK	**Kurchatov**	**79.86**	**324**	*i*P		**P**		**13 38 09.6 -1.2**
KURK				pmax		pmax		
	comp=Z,12nm,1.4s							
AAK	**Ala-Archa**	**79.89**	**315**	P		**P**		**13 38 10.6 -0.8**
	comp=Z,9.8nm,1.3s							
AAK	**Ala-Archa**	**79.89**	**315**	*i*P		**P**		**13 38 11.1 -0.3**
AAK				pmax		pmax		
	comp=Z,6.0nm,1.8s							
MAW	**Mawson**	**82.29**	**203**	P		**P**		**13 38 23.9 +0.5**
	comp=Z,12nm,1.0s,baz=88,slow=6.5,SNR=28							
MAW	**Mawson**	**82.29**	**203**	P		**P**		**13 38 24.0 +0.5**
	baz=82,SNR=18							
NRIK	**Noril'sk**	**84.24**	**342**	P		**P**		**13 38 32.4 -0.9**
	comp=Z,10nm,0.9s,baz=106,slow=5.8,SNR=9.8							
WRH	**Wood River Hil**	**84.86**	**23**	*e*P		**P**		**13 38 35.2 -1.4**
	comp=Z,11nm,0.9s							
CCB	**Clear Creek Bu**	**85.04**	**23**	*e*P		**P**		**13 38 36.0 -1.4**
	comp=Z,11nm,0.8s							
TCOL	**CIGO, UAF Yank**	**85.11**	**23**	P		**P**		**13 38 36.5 -1.3**
	baz=246							
COLA	**College**	**85.12**	**23**	P		**P**		**13 38 36.8 -1.0**
HDA	**Harding Lake**	**85.29**	**24**	P		**P**		**13 38 37.2 -1.5**
	baz=247							
POKR	**Poker Plat Res**	**85.38**	**23**	P		**P**		**13 38 38.0 -1.1**
	baz=247							
ILAR	**Eielson Array**	**85.46**	**23**	P		**P**		**13 38 37.6 -1.9**
	comp=Z,10nm,0.8s,baz=252,slow=4.7,SNR=84							
ILAR				PKKPbc		**PKKPbc**		**13 56 44.5 -1.9**
	comp=Z,0.6nm,1.2s,baz=48,slow=1.3,SNR=4.4							
BRVK	**Borovoye**	**85.49**	**324**	*i*P		**P**		**13 38 40.4 +0.4**
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.8s							
TOLK	**Toolik Lake Re**	**86.06**	**19**	P		**P**		**13 38 42.9 +0.3**
	baz=245							
EPYK	**Eagle Plains**	**89.97**	**23**	P		**P**		**13 39 00.9 -0.3**
	baz=257							
SYO	**Syowa Base**	**90.70**	**200**‖	*e*P		**P**		**13 39 04.6 +0.1**
SYO	**Syowa Base**	**90.70**	**200**‖	*e*P		P		13 39 11.2 +6.7
INK	**Inuvik**	**91.58**	**22**	P		**P**		**13 39 07.2 -1.4**
	comp=Z,3.2nm,1.0s,baz=198,slow=3.9,SNR=3.1							
ARU	**Arti**	**92.77**	**326**	*i*P		**P**		**13 39 16.2 +1.9**
ARU				pmax		pmax		
	comp=Z,3.0nm,1.2s							
NVAR	**Mina Array Bea**	**98.09**	**52**	LR		LR		14 15 46.5
	comp=Z,39nm,21.9s,baz=276,slow=30							
ARCES	**ARCESS Array B**	**105.21**	**342**	PKKPbc		PKKPbc		13 55 49.7 -3.5
	comp=Z,7.2nm,1.1s,baz=305,slow=3.2,SNR=7.1							
TXAR	**Lajitas Array**	**110.69**	**61**	PKKPbc		PKKPbc		13 55 36.9 +2.2
	comp=Z,0.1nm,0.3s,baz=57,slow=3.3,SNR=4.2							
TXAR				PKKP		**PKKPab**		**13 55 45.6 +0.9**
	comp=Z,0.2nm,0.3s,baz=123,slow=6.6,SNR=7.1							
MBAR	**Mbarara**	**114.66**	**267**	PKP		PKPdf		13 44 45.3 +1.9
	comp=Z,26nm,0.4s,baz=74,slow=1.3,SNR=20							
TSUM	**Tsumeb**	**123.29**	**243**	PKP		**PKPdf**		**13 45 00.7 +0.9**
	comp=Z,2.6nm,0.8s,baz=101,slow=2.3,SNR=6.2							
PLCA	**Paso Flores**	**123.42**	**148**	PKP		**PKPdf**		**13 45 00.1 +0.6**
	comp=Z,1.1nm,0.6s,baz=296,slow=4.0,SNR=3.6							
LPAZ	**La Paz**	**140.32**	**123**	PKP		**PKPdf**		**13 45 32.9 +0.4**
	comp=Z,1.6nm,0.8s,baz=165,slow=5.4,SNR=5.3							
CPUP	**Villa Florida**	**141.46**	**146**	PKhKP		PKPpre		13 45 27.3
	comp=Z,0.7nm,0.4s,baz=61,slow=9.6,SNR=2.9							
CPUP				PKP		**PKPdf**		**13 45 33.7 +0.1**
	comp=Z,0.9nm,0.5s,baz=261,slow=5.6,SNR=3.0							
TORD	**Torodi Ar. Bea**	**143.56**	**285**	PKhKP		PKPpre		13 45 33.5
	comp=Z,1.6nm,0.8s,baz=91,slow=3.4,SNR=8.6							
KIC	**Kosan Boka**	**150.46**	**273**	*e*PKIKP		**PKPbc**		**13 45 54.7 +0.2**
	comp=Z,27nm,0.8s							
DBIC	**Dimbokro**	**150.57**	**274**	PKPbc		**PKPbc**		**13 45 54.9 +0.1**
	comp=Z,15nm,1.0s,baz=95,slow=2.8,SNR=17							
DBIC				PKPab		**PKPab**		**13 46 02.1 +0.4**
	comp=Z,7.8nm,0.7s,baz=80,slow=4.2,SNR=8.3							
TIC	**Toumodi**	**150.73**	**274**	*e*PKIKP		**PKPbc**		**13 45 55.1 -0.1**
LIC	**Lamto**	**150.75**	**273**	*e*PKIKP		**PKPbc**		**13 45 55.2 0.0**
	comp=Z,52nm,0.9s							

*IDC **01** 13:40:38.5±5.2, 19.06N×121.38E, h21km±35km, mb3.7/8, mb1 3.9/10, mb1mx3.7/40, mbtmp3.9/10, ML3.4/2, MS3.5/3, Ms1 3.5/3, ms1mx2.9/46, Error ellipse: s-maj=24.7km s-min=17.6km az=80.0*
*MAN **01** 13:40:40.8, 19.21N×121.22E, h16km, mb4.9, ML3.8, MS3.8*

ISC 01 13:40:40.3±1.3, 19°22N±0.04×121°19E±0.06, h29km±10km, n32, σ1°87/33, mb3.7/8, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.27**	**140**	*e*P		**Pn**	**13 41 02.9**	**+0.8**
SGCP				*e*S		**Sb**	**13 41 20.4**	**+0.9**
APYP	**Conner**	**1.35**	**178**	*e*P		**Pn**	**13 41 03.5**	**+0.2**
APYP				*e*S		**Sn**	**13 41 21.1**	**+0.8**
BBP	**Basco**	**1.41**	**31**	*e*P		**Pb**	**13 41 05.8**	**-0.3**
BBP				*e*S		**Sb**	**13 41 24.2**	**+0.5**
CVP	**Callao Caves**	**1.63**	**158**‖	*i*P		**Pn**	**13 41 07.5**	**+0.5**
CVP				*i*	S	**Sn**	**13 41 27.7**	**+0.7**
ABRA	**Dolores**	**1.63**	**196**	*e*P		**Pn**	**13 41 07.3**	**+0.2**
ABRA				*e*S		**Sb**	**13 41 29.5**	**-0.4**
CAUP	**Cauayan**	**2.34**	**165**	*e*P		**Pb**	**13 41 20.2**	**-1.8**
CAUP				*e*S		**Sb**	**13 41 54.9**	**+4.4**
PALP	**Palanan**	**2.45**	**151**	*e*P		**Pn**	**13 41 20.4**	**+2.1**
PALP				*e*S		**Sb**	**13 41 53.2**	**-0.3**
BOLP	**Bolinao**	**3.08**	**204**	*e*P		**Pn**	**13 41 28.3**	**+1.3**
BOLP				*e*S		**Sb**	**13 42 07.4**	**-4.1**
SMPP	**San Manuel, Pa**	**3.10**	**189**	*e*P		**Pn**	**13 41 29.9**	**+2.6**
SMPP				*e*S		**Sn**	**13 42 04.8**	**+1.5**
BALP	**Baler**	**3.48**	**174**	*e*P		**Pn**	**13 41 34.5**	**+1.9**
SCZP	**Santa Cruz**	**3.64**	**200**	*e*P		**Pn**	**13 41 38.4**	**+3.7**
SCZP				*e*S		**Sb**	**13 42 28.3**	**+0.6**
TGY	**Tagaytay City**	**5.10**	**183**	Pg		**Pb**	**13 42 08.7**	**-0.2**
	31nm,0.3s,baz=145,slow=2.2,SNR=3.5							
JOW	**Kunigami**	**9.99**	**39**	Pn		**Pn**	**13 43 00.8**	**-1.2**
	0.7nm,0.3s,baz=195,slow=12,SNR=2.2							
DAV	**Davao City (W)**	**12.81**	**160**	LR		LR	13 49 31.7	
	comp=Z,201nm,18.4s,baz=357,slow=42							
KSRS	**Korea Array**	**19.09**	**17**	P		**P**	**13 45 00.7**	**0.0**
	0.2nm,0.3s,baz=195,slow=11,SNR=3.3							
CMAR	**Chiang Mai Arr**	**21.07**	**272**	P		**P**	**13 45 23.1**	**+0.7**
	1.4nm,0.9s,baz=79,slow=9.4,SNR=14							
GUMO	**Guam**	**23.38**	**100**	LR		LR	13 53 13.2	
	comp=Z,64nm,19.3s,baz=185,slow=33							
SONM	**Songino Array**	**30.98**	**340**	LR		LR	14 00 23.0	

JSJ	**Shimokoshiki**	**2.67**	**312**	P	Pn	13 57 26.4	-0.6
JSJ				S	Sn	13 57 56.6	-1.5
JAMN	**Amaminishikomi**	**3.00**	**237**	P	Pn	13 57 31.9	+0.4
JTK	**Tokunoshima**	**3.43**	**233**	P	Pn	13 57 38.0	+0.6
JOKE	**Okinoerabujima**	**3.96**	**231**	P	Pn	13 57 45.0	+0.3
JYRO	**Yoronjima**	**4.26**	**229**	P	Pn	13 57 48.8	0.0
JYRO				S	Sn	13 58 35.2	-2.1
JOW	**Kunigami**	**4.50**	**228**	P	Pn	13 57 52.2	0.0
JIH	**Iheya**	**4.58**	**232**	S	Sn	13 58 42.3	-2.8

MOS ***01*** *14:12:00.9± 1.1, 6.°54S × 107.°63E, h146km, mb5.4/57, MS4.6/19, Error ellipse: s-maj=7.5km s-min=4.3km az=123.1*

BJI ***01*** *14:12:00.0, 6.°80S × 107.°50E, h140km, mb5.4/76, mB5.4/62*

DJA ***01*** *14:12:01.6± 0.1, 7.°S ± 2.° × 107.°7E ± °, h142km ± 1km, M5.9/45, mb5.9/45, mB6.2/38, MLv6.8/1, Mw(mB)5.8/38, Mwp5.8/4*

GCMT ***01*** *14:12:01.8± 0.1, 7.°06S ± 0.°01 × 107.°59E ± 0.°01, h147km, MW5.7/131, Moment Tensor Solution. s130,c259; s131,c320; Duration: 1†7 Moment tensor: Scale 10^17 Nm; Mrr 1.56±.04; Mθθ -0.65±.05; Mϕϕ -0.91±.05; Mrθ -4.12±.03; Mrϕ -0.02±.05; Mθϕ -1.22±.04; Best double couple: M=4.44200×10^17 NP1:ϕs 253.00000°, δ 83.00000°, λ 91.00000°. NP2:ϕs 64.00000°, δ 7.00000°, λ 81.00000°. Principal axes: T 4.8800, Plg52.0000°, Azm164.0000°; N -0.8810, Plg1.0000°, Azm73.0000°; P -4.0030, Plg38.0000°, Azm342.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

IDC ***01*** *14:12:01.8± 0.2, 6.°68S × 107.°60E, h143km ± 1km, mb5.2/59, mb1 5.2/61, mb1mx5.2/63, mbtmp5.6/61, MS4.3/19, Ms1 4.3/19, ms1mx4.1/40 Error ellipse: s-maj=6.6km s-min=5.3km az=56.0*

NEIC ***01*** *14:12:01.8± 0.4, 6.°76S × 107.°53E, h142km ± 3km, mb5.8/85, ME5.9, MW5.7, MW5.7, Error ellipse: s-maj=5.7km s-min=3.3km az=48.0, Moment Tensor Solution. s28 Moment tensor: Scale 10^17 Nm; Mrr 1.80; Mθθ -0.71; Mϕϕ -1.08; Mrθ -4.09; Mθϕ -0.09; Mϕr -0.88; Best double couple: M=4.50000×10^17 NP1:ϕs 257.00000°, δ 81.00000°, λ 92.00000°. NP2:ϕs 61.00000°, δ 9.00000°, λ 75.00000°. Principal axes: T 4.8900, Plg54.0000°, Azm169.0000°; N -1.0200, Plg2.0000°, Azm76.0000°; P -3.8700, Plg36.0000°, Azm345.0000°; Broadband fault plane solution: P waves. NP1:ϕs 75.00000°, δ 1.00000°, λ 90.00000°. NP2:ϕs 255.00000°, δ 89.00000°, λ 90.00000°. Principal axes: T Plg46.0000°, Azm165.0000°; N Plg0.0000°, Azm0.0000°; P Plg44.0000°, Azm345.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC *Felt [IV] at Cianjur, [III] at Bandung and [II] at Jakarta and Palmerah. Felt throughout western Java.*

NEIC ***01*** *14:12:01.0± 0.0, 7.°02S × 107.°50E, h140km, Moment Tensor Solution. s34 Moment tensor: Scale 10^17Nm; Mrr 1.58; Mθθ -0.99; Mϕϕ -0.59; Mrθ -3.92; Mθϕ -0.45; Mϕr -1.20; Best double couple: M=4.40000×10^17 NP1: ϕs 252.00000°, δ 81.00000°, λ 93.00000°. NP2:ϕs 52.00000°, δ 10.00000°, λ 70.00000°. Principal axes: T 4.5200, Plg54.0000°, Azm166.0000°; N -0.3600, Plg3.0000°, Azm71.0000°; P -4.1600, Plg35.0000°, Azm338.0000°;*

ISCJB ***01*** *14:12:01.0± 0.2, 6.°76S ± 0.°02 × 107.°52E ± 0.°02, h153km ± 1km, mb5.4/219 Error ellipse: s-maj=3.5km s-min=2.2km az=36.1*

KLM ***01*** *14:12:02.0, 7.°09S × 107.°26E, h149km, mb5.9*

ISC 01 14:12:01.9±0.2, 6.°75S±0.°03 × 107.°48E±0.°03, h149km±1km, h150km:pP-P, n1467, σ1†67/1675, mb5.5/224, 47C-53D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
				Op	ISC		
LEM	**Lembang**	**0.15**	**118**	P	**Pn**	**14 12 22.1**	**-0.2**
	13μm,0.3s,baz=44,slow=0.3,SNR=7428						
LEM				S	**Sn**	**14 12 36.9**	**-0.7**
	3μm,0.3s,baz=142,slow=21,SNR=12						
LEM				ScS	**ScS**	**14 27 05.3**	**+1.0**
	0.8nm,0.3s,baz=109,slow=22,SNR=30						
LEM	**Lembang**	**0.15**	**118**	P	**Pn**	**14 12 22.1**	**-0.2**
JCJI	**Jatiwangi**	**0.83**	**72**	P	**Pn**	**14 12 24.6**	**-0.6**
JCJI				S	**Sn**	**14 12 42.4**	**-0.6**
CISI	**Cisompet, Garu**	**0.86**	**157**	*e*Pn	**Pn**	**14 12 23.3**	**-2.3**
CISI	**Cisompet, Garu**	**0.86**	**157**	P	**Pn**	**14 12 23.1**	**-2.5**
CMJI	**Cimerak**	**1.40**	**137**	P	**Pn**	**14 12 27.8**	**-2.6**
SBJI	**Serang**	**1.48**	**295**	P	**Pn**	**14 12 32.6**	**+1.3**
CGJI	**Cibinong**	**1.78**	**274**	P	**Pn**	**14 12 34.7**	**+0.2**
BLSI	**Bandar Lampung**	**2.62**	**302**	P	**Pn**	**14 12 46.1**	**+1.6**
SMRI	**Semarang**	**2.95**	**96**	*e*Pn	**Pn**	**14 12 49.3**	**+0.6**
SMRI	**Semarang**	**2.95**	**96**	P	**Pn**	**14 12 49.2**	**+0.5**
KASI	**Kota Agung**	**3.21**	**292**	P	**Pn**	**14 12 53.4**	**+1.4**
KLI	**Kotabumi**	**3.22**	**306**	P	**Pn**	**14 12 54.8**	**+2.7**
KLI	**Kotabumi**	**3.22**	**306**	P	**Pn**	**14 12 54.3**	**+2.2**
UGM	**Wanagama**	**3.23**	**111**	*e*Pn	**Pn**	**14 12 51.0**	**-1.3**
UGM	**Wanagama**	**3.23**	**111**	P	**Pn**	**14 12 50.9**	**-1.3**
WOJI	**Wonogiri, Jawa**	**3.58**	**108**	P	**Pn**	**14 12 55.4**	**-1.3**
LWLI	**Liwa**	**3.82**	**297**	P	**Pn**	**14 13 02.0**	**+2.1**
PCJI	**Pacitan**	**3.93**	**112**	P	**Pn**	**14 12 59.3**	**-2.0**
MDSI	**Maura Dua**	**3.98**	**304**	P	**Pn**	**14 13 04.7**	**+2.7**
NGJI	**Ngawi**	**4.00**	**99**	P	**Pn**	**14 13 02.2**	**+0.1**
TBJI	**Tambak Boyo**	**4.34**	**91**	P	**Pn**	**14 13 07.3**	**+0.7**
PWJI	**Pagerwojo**	**4.47**	**107**	P	**Pn**	**14 13 07.0**	**-1.3**
PMBI	**Palembang**	**4.66**	**324**	P	**Pn**	**14 13 15.6**	**+4.7**
PPBI	**Pangkal Pinang**	**4.75**	**344**	P	**Pn**	**14 13 15.7**	**+3.5**
GRJI	**Gresik**	**4.96**	**92**	P	**Pn**	**14 13 15.3**	**+0.4**
MNAI	**Manna**	**5.09**	**298**	*e*Pn	**Pn**	**14 13 18.3**	**+1.7**
MNAI	**Manna**	**5.09**	**298**	P	**Pn**	**14 13 17.7**	**+1.1**
PBKI	**Pangkalan Bun**	**5.80**	**46**	P	**Pn**	**14 13 28.5**	**+2.5**
GMJI	**Gumukmas**	**6.10**	**105**	P	**Pn**	**14 13 28.6**	**-1.4**
BLJI	**Banyuglugur**	**6.14**	**100**	P	**Pn**	**14 13 30.4**	**-0.2**
MASI	**Maura Aman, Be**	**6.34**	**304**	P	**Pn**	**14 13 34.6**	**+1.4**
KMMI	**Kalianget**	**6.45**	**93**	P	**Pn**	**14 13 34.8**	**+0.2**
JAGI	**Jajag, Banyuwa**	**6.83**	**105**	*e*Pn	**Pn**	**14 13 39.9**	**+0.1**
JAGI	**Jajag, Banyuwa**	**6.83**	**105**	P	**Pn**	**14 13 38.8**	**-1.0**
DSRI	**Dabo**	**6.87**	**335**	P	**Pn**	**14 13 44.0**	**+3.6**
KRJI	**Kerinci**	**7.58**	**307**	P	**Pn**	**14 13 51.6**	**+1.7**
SRBI	**Singaraja**	**7.78**	**100**	P	**Pn**	**14 13 52.2**	**-0.3**
STKI	**Sintang**	**7.86**	**31**	P	**Pn**	**14 13 57.5**	**+3.9**
IGBI	**Denpasar**	**7.87**	**106**	P	**Pn**	**14 13 51.1**	**-2.5**
DNP	**Denpasar**	**7.89**	**105**	P	**Pn**	**14 13 52.0**	**-2.0**
DNP				pmax	pmax		
	comp=Z,2μm,0.5s						
DNP	**Denpasar**	**7.89**	**105**	P	**Pn**	**14 13 52.7**	**-1.3**
	comp=Z,2μm,0.5s,comp=Z,36μmcomp=Z,20nm						
TPRI	**Tanjung Pinang**	**8.17**	**339**	P	**Pn**	**14 14 00.8**	**+3.1**
RGRI	**Rengat**	**8.18**	**321**	P	**Pn**	**14 14 00.6**	**+2.8**
SDSI	**Sungai Dareh**	**8.36**	**314**	P	**Pn**	**14 14 01.1**	**+0.9**
PPSI	**Pulau Pagai**	**8.44**	**298**	P	**Pn**	**14 14 00.5**	**-0.7**
KSM	**Kuching**	**8.65**	**19**	*e*Pn	**Pn**	**14 14 07.5**	**+3.4**
KSM	**Kuching**	**8.65**	**19**	P	**Pn**	**14 14 08.0**	**+4.0**
PDSI	**Padang**	**9.09**	**309**	P	**Pn**	**14 14 08.7**	**-1.3**
MYKOM	**Kota Tinggi**	**9.23**	**337**	*e*Pn	**Pn**	**14 14 15.0**	**+3.2**
MYKOM	**Kota Tinggi**	**9.23**	**337**	P	**Pn**	**14 14 15.0**	**+3.2**
KBKI	**Kotabaru**	**9.31**	**69**	P	**Pn**	**14 14 15.4**	**+2.6**
MTKI	**Muara Teweh, K**	**9.38**	**52**	P	**Pn**	**14 14 15.8**	**+2.0**
	comp=Z,200nm,1.9s						
PPI	**Padang Panjang**	**9.44**	**311**	P	**Pn**	**14 14 13.7**	**-0.9**
TWSI	**Taliwang, Sumb**	**9.52**	**103**	P	**Pn**	**14 14 12.5**	**-3.2**
BKNI	**Bangkinang**	**9.53**	**317**	*e*Pn	**Pn**	**14 14 17.0**	**+1.2**
BKNI	**Bangkinang**	**9.53**	**317**	P	**Pn**	**14 14 17.2**	**+1.4**
SBUM	**Sibu**	**10.29**	**28**	*e*Pn	Pn	14 14 30.7	+4.8
SBUM	**Sibu**	**10.29**	**28**	P	Pn	14 14 31.0	+5.1
PLAI	**Plampang**	**10.41**	**102**	P	**Pn**	**14 14 24.7**	**-2.7**
BKB	**Balikpapan**	**10.86**	**60**	P	**Pn**	**14 14 38.0**	**+4.6**
MNSI	**Mandailing Nat**	**10.88**	**313**	P	**Pn**	**14 14 32.1**	**-1.6**
	comp=Z,2μm,0.8s,comp=Z,14μm						
PBSI	**Pulau Batu**	**11.34**	**306**	P	**Pn**	**14 14 36.6**	**-3.1**
SMKI	**Samarinda**	**11.55**	**58**	P	**Pn**	**14 14 43.5**	**+1.0**
COCO	**West Island**	**11.81**	**242**	*e*Pn	Pn	14 14 42.5	-3.3
COCO	**West Island**	**11.81**	**242**	P	**Pn**	**14 14 43.4**	**-2.4**
	SNR=8.3						
COCO	**West Island**	**11.81**	**242**	P	**Pn**	**14 14 43.2**	**-2.6**
COCO				pmax	pmax		
	comp=Z,822nm,1.3s						
SGKI	**Sangatta, Kali**	**11.84**	**59**	P	**P**	**14 14 57.8**	**+4.6**
WBSI	**Waikabubak, Su**	**12.13**	**104**	P	Pn	14 14 43.5	-6.6
SPSI	**Sidrap Palu**	**12.54**	**78**	P	**Pn**	**14 14 54.5**	**-0.9**
BKSI	**Bulukumba**	**12.65**	**84**	P	**Pn**	**14 14 59.1**	**+2.3**
GSI	**Gunungsitoli**	**12.72**	**309**	*e*Pn	**Pn**	**14 14 54.2**	**-3.5**
GSI	**Gunungsitoli**	**12.72**	**309**	P	**Pn**	**14 14 54.5**	**-3.2**
PSI	**Prapat**	**12.77**	**318**	P	**Pn**	**14 14 55.9**	**-2.6**
	comp=Z,9.7nm,0.3s,baz=180,slow=10,SNR=94						
PSI				ScP	**ScP**	**14 23 41.9**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=180,slow=5.5,SNR=6.2						
PSI				ScS	**ScS**	**14 27 17.1**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=180,slow=23,SNR=38						
PSI	**Prapat**	**12.77**	**318**	*e*P	**Pn**	**14 14 56.0**	**-2.4**
SNSI	**Bone**	**12.78**	**80**	P	**Pn**	**14 15 00.5**	**+2.1**
TTSI	**Tana Toraja**	**12.83**	**74**	P	**Pn**	**14 15 02.1**	**-2.1**
IPM	**Ipoh**	**12.89**	**330**	*e*Pn	**P**	**14 15 02.5**	**-2.4**
TSI	**Tuntungan**	**13.53**	**319**	P	**Pn**	**14 15 06.4**	**-1.6**
KULM	**Kulim**	**13.77**	**330**	*e*Pn	**Pn**	**14 15 12.2**	**+1.1**
KULM	**Kulim**	**13.77**	**330**	P	**P**	**14 15 13.0**	**-1.7**
KCSI	**Kotacane, Aceh**	**14.08**	**316**	P	**Pn**	**14 15 10.4**	**-4.6**
EDFI	**Ende, Flores**	**14.22**	**99**	P	Pn	14 15 11.2	-5.7
MPSI	**Mapaga**	**14.25**	**61**	P	**P**	**14 15 20.4**	**+0.4**
TPTI		**14.31**	**314**	P	**Pn**	**14 15 14.6**	**-3.3**
SNSI	**Sinabang, Aceh**	**14.38**	**309**	P	**Pn**	**14 15 15.6**	**-3.2**
MMRI	**Maumere**	**14.74**	**98**	P	**Pn**	**14 15 19.8**	**-3.5**
	comp=Z,3μm,1.0s,comp=Z,19μm						
BBSI	**Bau Bau**	**15.05**	**86**	P	**Pn**	**14 15 30.8**	**+1.8**
APSI	**Ampana**	**15.28**	**68**	P	**P**	**14 15 32.2**	**+0.8**
KKM	**Kota Kinabalu**	**15.41**	**35**	*e*Pn	**P**	**14 15 34.3**	**+1.3**
	comp=Z,598nm,1.1s						
KKM	**Kota Kinabalu**	**15.41**	**35**	P	**P**	**14 15 35.0**	**+2.0**
SKLT	**Songkhla**	**15.43**	**334**	P	**P**	**14 15 32.9**	**-0.2**
	comp=Z,125nm,0.7s,comp=Z,4μm						
MLSI	**Meulaboh, Aceh**	**15.56**	**314**	P	**Pn**	**14 15 30.5**	**-3.0**
LHMI	**Lhok Sumawe**	**15.88**	**318**	P	**Pn**	**14 15 34.1**	**-3.3**
MRSI	**Marisa**	**16.12**	**64**	P	**P**	**14 15 42.0**	**+1.3**
MYLDM	**Lahad Datu**	**16.17**	**43**	*e*Pn	**P**	**14 15 46.3**	**+5.0**
	comp=Z,258nm,1.0s						
LUWI	**Luwuk**	**16.27**	**70**	P	**P**	**14 15 43.4**	**+1.0**
BATI	**Baumata**	**16.37**	**103**	P	**Pn**	**14 15 41.4**	**-2.0**
	comp=Z,59nm,0.3s,baz=237,slow=2.9,SNR=35						
BATI				S	**S**	**14 18 45.5**	**+0.1**
	comp=Z,38nm,0.3s,baz=70,slow=23,SNR=9.6						
BATI				ScP	**ScP**	**14 23 50.1**	**+2.1**
	comp=Z,3.0nm,0.3s,baz=197,slow=3.1,SNR=7.6						
BATI				ScS	**ScS**	**14 27 29.4**	**+2.0**
	comp=Z,3.0nm,0.3s,baz=63,slow=23,SNR=10						
BATI	**Baumata**	**16.37**	**103**	P	**Pn**	**14 15 41.5**	**-1.9**
TRTT	**Trang**	**16.44**	**332**	P	**P**	**14 15 44.8**	**+0.5**
	comp=Z,156nm,1.4s,comp=Z,3μm						
SOEI	**Soe**	**16.88**	**101**	P	**P**	**14 15 46.1**	**-3.1**
GIRL	**Giralia**	**17.09**	**158**	P	**P**	**14 15 50.6**	**-0.7**
	baz=17,SNR=30						
PKDT	**Phuket**	**17.17**	**328**	P	**P**	**14 15 52.1**	**-0.2**
	comp=Z,186nm,0.9s,comp=Z,3μm						
KMSI	**Cibinong**	**18.00**	**67**	P	**P**	**14 16 01.6**	**+0.2**
BATP	**Bataraza**	**18.56**	**34**	*e*P	**Pn**	**14 16 09.6**	**+0.1**
BATP	**Bataraza**	**18.56**	**34**	*e*P	**ScP**	**14 23 53.9**	**+1.4**
MBWA	**Marble Bar**	**18.59**	**142**	*e*P	**P**	**14 16 07.1**	**-0.7**
	comp=Z,346nm,0.9s						
MBWA	**Marble Bar**	**18.59**	**142**	P	**P**	**14 16 07.3**	**-0.5**
	SNR=47						
SANI	**Sanana**	**19.03**	**77**	P	**P**	**14 16 12.5**	**-0.1**
PATY	**Pattaya**	**20.62**	**341**	P	Pn	14 16 32.7	-1.1
	comp=Z,59nm,0.7s,comp=Z,3μm						
AAI	**Ambon**	**20.85**	**83**	P	**P**	**14 16 31.1**	**-1.1**
AAI				pmax	pmax		
	comp=Z,631nm,0.8s						
AAI	**Ambon**	**20.85**	**83**	P	**P**	**14 16 30.4**	**-1.8**
IPIL	**Ipil**	**20.86**	**46**	*e*P	Pn	14 16 36.0	-0.7
LBMI	**Labuha**	**20.87**	**74**	P	**P**	**14 16 33.8**	**+1.3**
FITZ	**Fitzroy Crossi**	**20.99**	**124**	P	**P**	**14 16 32.8**	**-0.8**
	comp=Z,630nm,0.9s,baz=304,slow=7.6,SNR=565						
FITZ				S	**S**	**14 20 17.0**	**-2.2**
	comp=Z,86nm,0.7s,baz=108,slow=17,SNR=4.9						
FITZ				ScP	**ScP**	**14 23 59.8**	**+1.7**
	comp=Z,26nm,0.7s,baz=306,slow=7.7,SNR=4.2						
FITZ				ScS	**ScS**	**14 27 40.6**	**-1.4**
	comp=Z,7.1nm,1.0s,baz=150,slow=20,SNR=5.6						
FITZ	**Fitzroy Crossi**	**20.99**	**124**	P	**P**	**14 16 32.9**	**-0.8**
	baz=21,SNR=582						
PHET	**Kaeng Krachan**	**21.04**	**338**	P	**P**	**14 16 35.1**	**+0.9**
	comp=Z,93nm,0.7s,comp=Z,2μm						
TNTI	**Ternate**	**21.20**	**70**	*e*P	**P**	**14 16 36.0**	**0.0**
	comp=Z,161nm,0.9s						
TNTI	**Ternate**	**21.20**	**70**	P	**P**	**14 16 36.8**	**+0.7**
	comp=Z,151nm,0.6s,comp=Z,4μm						
SRAK	**Srakaew**	**21.32**	**345**	P	**P**	**14 16 36.8**	**-0.5**
	comp=Z,357nm,1.1s,comp=Z,4μm						
ENPP	**El Nido**	**21.44**	**34**	*e*P	**P**	**14 16 40.4**	**+1.9**
PAGZ	**Pagadian**	**21.49**	**48**	*e*P	**P**	**14 16 41.3**	**+2.2**
SKMP	**Bagumbayan, Su**	**21.53**	**53**	*e*P	**P**	**14 16 42.4**	**+2.8**
CTBH	**Cotabato--PC H**	**21.73**	**51**	*i*P	**P**	**14 16 44.8**	**+3.1**
CTBH	**Cotabato--PC H**	**21.73**	**51**	*i*P	**ScP**	**14 23 59.8**	**-0.2**
UBPT	**Khong Chiam**	**21.98**	**355**	P	**P**	**14 16 45.3**	**+1.1**
	comp=Z,358nm,1.1s,comp=Z,6μm						
UBPT	**Khong Chiam**	**21.98**	**355**	P	**ScP**	**14 24 02.0**	**+1.4**
	comp=Z,1.0nmcomp=Z,6μmcomp=Z,330nm,1.4s						
DDMP	**Don Marcelino,**	**22.23**	**55**	*e*P	**P**	**14 16 47.9**	**+1.3**
BNDI	**Bandanaira**	**22.42**	**86**	P	**P**	**14 16 47.5**	**-1.1**
	comp=Z,356nm,0.9s,comp=Z,10μm						
MEEK	**Meekatharra**	**22.44**	**153**	P	**P**	**14 16 47.9**	**-0.7**
	baz=22,SNR=464						
BUSP	**Coron**	**22.52**	**34**	*e*P	**P**	**14 16 51.4**	**+2.0**
BUSP	**Coron**	**22.52**	**34**	*e*P	**ScP**	**14 24 00.6**	**-1.3**
SRDT	**SRDT**	**22.55**	**338**	P	**P**	**14 16 50.7**	**+1.0**
	comp=Z,121nm,1.1s,comp=Z,8μm						
KNRA	**Kununurra**	**22.66**	**115**	P	**P**	**14 16 49.8**	**-1.0**
	baz=23,SNR=228						
DAV	**Davao City (W)**	**22.68**	**53**	P	**P**	**14 16 55.1**	**+4.0**
	comp=Z,113nm,0.5s,baz=132,slow=1.1,SNR=16						
DAV	**Davao City (W)**	**22.68**	**53**	*i*P	**P**	**14 16 53.2**	**+2.1**
BUKP	**Musuan**	**22.77**	**51**	*e*P	**P**	**14 16 54.8**	**+2.9**
BUKP	**Musuan**	**22.77**	**51**	*e*P	**ScP**	**14 24 02.1**	**-0.7**
CGP	**Cagayan de Oro**	**22.86**	**49**	*e*P	**P**	**14 16 56.5**	**+3.8**
GUIM	**Jordan**	**22.90**	**41**	*e*P	**P**	**14 16 53.7**	**+0.7**
CHAI	**Chaiyaphum**	**23.16**	**346**	P	**P**	**14 16 56.3**	**+0.9**
	comp=Z,216nm,0.6s,comp=Z,2μm						
SJMP	**San Jose**	**23.41**	**35**	*e*P	**P**	**14 17 00.1**	**+2.4**
SJMP	**San Jose**	**23.41**	**35**	*e*P	**ScP**	**14 24 05.0**	**+0.6**
UTHA	**Uthaitani**	**23.55**	**340**	P	**P**	**14 16 59.3**	**+0.3**
	comp=Z,81nm,0.9s,comp=Z,915nm						
LLP	**Lapu-Lapu**	**23.60**	**44**	*e*P	**P**	**14 17 02.5**	**+3.1**
MORW	**Morawa**	**23.62**	**161**	P	**P**	**14 16 58.9**	**-0.6**
	baz=24,SNR=84						
SAUI	**Saumlaki**	**23.65**	**94**	P	**P**	**14 16 58.0**	**-2.0**
	comp=Z,1μm,1.0s,comp=Z,11μm						
SKNT	**Sainakorn**	**23.83**	**352**	P	**P**	**14 17 02.6**	**+1.1**
	comp=Z,34nm,1.3s,comp=Z,3μm						
OTRP	**Odiongan**	**23.87**	**37**	*e*P	**P**	**14 17 04.4**	**+2.6**
PBKT	**Sadao Pong**	**24.05**	**345**	*e*P	**P**	**14 17 04.0**	**+0.5**
PBKT	**Sadao Pong**	**24.05**	**345**	P	**P**	**14 17 03.9**	**+0.5**
	comp=Z,203nm,1.1s,comp=Z,8μm						
MTN	**Manton Dam**	**24.07**	**106**	P	**P**	**14 17 02.8**	**-0.9**
	baz=24,SNR=237						
MTN	**Manton Dam**	**24.07**	**106**	*e*P	**P**	**14 17 02.4**	**-1.3**
	comp=Z,374nm,1.1s						
MSLP	**Maasin**	**24.10**	**46**	*e*P	**P**	**14 17 05.5**	**+1.5**
MSLP	**Maasin**	**24.10**	**46**	*e*P	**ScP**	**14 23 56.3**	**-10**
UMPA	**Umpang Tak**	**24.36**	**340**	P	**P**	**14 17 05.0**	**-1.3**
	comp=Z,70nm,0.8s,comp=Z,686nm						
SWI	**Sorong**	**24.43**	**77**	P	**P**	**14 17 06.8**	**-0.2**
	comp=Z,172nm,0.9s,comp=Z,3μm						
SIJI	**Sorong**	**24.43**	**77**	P	**P**	**14 17 06.7**	**-0.3**
	comp=Z,177nm,0.7s,baz=276,slow=7.5,SNR=112						
SIJI				S	**S**	**14 21 11.0**	**-5.4**
	comp=Z,14nm,0.9s,baz=138,slow=18,SNR=5.0						
SIJI				ScP	**ScP**	**14 24 08.0**	**+0.7**
	comp=Z,47nm,0.6s,baz=327,slow=4.2,SNR=36						
SIJI				ScS	**ScS**	**14 27 53.5**	**-1.9**
	comp=Z,5.5nm,0.9s,baz=52,slow=4.0,SNR=3.9						
OCLP	**Ormoc**	**24.57**	**44**	*e*P	**ScP**	**14 24 07.3**	**-0.2**
BOAC	**Boac**	**24.63**	**35**	*e*P	**P**	**14 17 10.9**	**+2.1**
TGY	**Tagaytay City**	**24.65**	**33**	P	**P**	**14 17 08.6**	**-0.5**
	comp=Z,44nm,0.3s,baz=38,slow=12,SNR=2.1						
TGY				ScP	**ScP**	**14 24 08.2**	**+0.4**
	comp=Z,514nm,0.9s,baz=301,slow=3.7,SNR=13						
PLP	**Palo**	**24.90**	**44**	*i*P	**P**	**14 17 10.4**	**-0.9**
FAKI	**Fak Fak**	**24.97**	**82**	*e*P	**P**	**14 17 11.3**	**-0.6**
	comp=Z,134nm,0.7s						
FAKI	**Fak Fak**	**24.97**	**82**	P	**P**	**14 17 12.2**	**+0.3**
	comp=Z,205nm,0.8s,comp=Z,2μmcomp=Z,4μm						
NONG	**Nongkai**	**25.03**	**350**	P	**P**	**14 17 13.1**	**+0.8**
	comp=Z,2.5nm,0.9s						
BLDU	**Ballidu**	**25.27**	**161**	P	**P**	**14 17 13.6**	**-0.8**
	baz=25,SNR=228						
UTTA	**Uttaradit**	**25.29**	**344**	P	**P**	**14 17 15.4**	**+0.7**
	comp=Z,35nm,0.8s,comp=Z,706nm						
SUKH	**Sukhothai**	**25.30**	**342**	P	**P**	**14 17 15.4**	**+0.6**
	comp=Z,49nm,0.9s,comp=Z,2μm						
KDU	**Kakadu**	**25.32**	**105**	P	**P**	**14 17 13.6**	**-1.4**
	baz=25,SNR=281						
SCZP	**Santa Cruz**	**25.55**	**29**	*e*P	**P**	**14 17 19.5**	**+2.5**
SCZP	**Santa Cruz**	**25.55**	**29**	*e*P	**ScP**	**14 24 10.8**	**+0.6**
QIZ	**Qiongzhong**	**25.73**	**5**	P	**P**	**14 17 21.8**	**+3.1**
QIZ				pP	**pP**	**14 17 48.9**	**-1.0**
QIZ				S	**S**	**14 21 41.3**	**+4.7**
QIZ				pmax	pmax		
	comp=Z,32nm,1.0s						
QIZ				pmax	pmax		
	comp=Z,830nm,11.3s						
QIZ				LR	LR		
	comp=Z,2μm,11.0s						
QIZ				LR	LR		
	comp=Z,850nm,10.0s						
QIZ				LR	LR		
	comp=Z,2μm,13.7s						
QIZ	**Qiongzhong**	**25.73**	**5**	*e*P	**P**	**14 17 21.8**	**+3.1**
	comp=Z,103nm,1.0s						
QIZ				LR	LR		
	comp=Z,983nm,20.0s						
BOLP	**Bolinao**	**26.07**	**28**	*e*P	**ScP**	**14 24 12.8**	**+1.1**
SMPP	**San Manuel, Pa**	**26.24**	**30**	*e*P	**P**	**14 17 24.7**	**+1.4**
SMPP	**San Manuel, Pa**	**26.24**	**30**	*e*P	**ScP**	**14 24 11.6**	**-0.7**
LAMP	**Lampang**	**26.28**	**343**	P	**P**	**14 17 24.5**	**+0.8**
	comp=Z,61nm,0.9s,comp=Z,772nm						
KMPI	**Kaimana, Papua**	**26.29**	**85**	P	**P**	**14 17 26.1**	**+2.3**
	comp=Z,441nm,0.7s,comp=Z,5μm						
BALP	**Baler**	**26.35**	**32**	*e*P	**P**	**14 17 25.1**	**+0.8**
MUN	**Mundaring**	**26.39**	**163**	P	**P**	**14 17 23.9**	**-0.6**
	baz=26,SNR=72						
CM01	**Chiang Mai Arr**	**26.39**	**342**	*e*P	**P**	**14 17 24.9**	**+0.3**
CM31	**Chiang Mai Arr**	**26.43**	**342**	*e*P	**P**	**14 17 25.7**	**+0.7**
CMAR	**Chiang Mai Arr**	**26.43**	**342**	P	**P**	**14 17 25.6**	**+0.6**
	comp=Z,41nm,0.7s,baz=178,slow=8.8,SNR=253						
CMAR				pP	**pP**	**14 17 58.7**	**+2.5**
	comp=Z,226nm,0.9s,baz=177,slow=8.7,SNR=24						
CMAR				PcP	**PcP**	**14 20 48.4**	**+1.7**
	comp=Z,20nm,0.8s,baz=198,slow=3.4,SNR=12						
CMAR				ScP	**ScP**	**14 24 14.3**	**+1.6**
	comp=Z,50nm,1.1s,baz=195,slow=2.5,SNR=31						
CMAR				ScS	**ScS**	**14 28 03.0**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=172,slow=2.7,SNR=3.1						
CMAR				P3KPbc		14 50 08.8	
	comp=Z,2.3nm,0.9s,baz=330,slow=5.2,SNR=14						
KLBR	**Kellerberrin**	**26.51**	**160**	P	**P**	**14 17 24.7**	**-0.9**
	baz=27,SNR=262						
CMMT	**Chiang Mai**	**26.76**	**342**	P	**P**	**14 17 28.1**	**+0.1**
	comp=Z,81nm,1.1s,comp=Z

KMI LR LR
comp=E,2μm,13.5s
KMI LR LR
comp=E,4μm,13.4s
SAIH SAIHA 32.34 334 *e*P **P** **14 18 16.7 -0.7**
SAIH IAmb IAmb 14 18 18.3
TPUB Ta-pu 32.52 23 *e*P **P** **14 18 21.0 +2.2**
comp=E,47nm,0.8s
MMPI Merauke 32.65 95 P **P** **14 18 19.6 -0.5**
comp=E,837nm,0.7s,comp=E,8μm
GENI Genyem 32.83 84 P **P** **14 18 21.0 -0.7**
comp=E,102nm,1.0s,comp=E,1μm
YULB Yu-li 32.86 24 *e*P **P** **14 18 23.2 +1.4**
comp=E,28nm,0.7s
GYA Guiyang 33.02 359⇓*i*P **P** **14 18 25.3 +2.0**
GYA pP pP 14 18 58.8 +3.6
GYA sP sP 14 19 16.3 +4.0
GYA S **S** **14 23 34.4 +3.4**
GYA sS sS 14 24 29.0 +2.0
GYA ScP **ScP** **14 24 34.4 +0.3**
GYA ScS **ScS** **14 28 31.4 -3.5**
GYA pmax pmax
comp=E,100nm,0.8s
GYA pmax pmax
comp=E,450nm,9.9s
GYA LR LR
comp=E,2μm,14.3s
GYA LR LR
comp=E,730nm,15.2s
GYA LR LR
comp=E,2μm,12.1s
SSLB Suanglung 33.08 23 *e*P **P** **14 18 25.6 +1.9**
comp=E,65nm,0.7s
BRDH Bariadhala 33.10 333 P **P** **14 18 23.9 +0.1**
comp=E,144nm,0.3s,baz=141,slow=4.9,SNR=4.2
BRDH ScP **ScP** **14 24 36.5 +2.3**
comp=E,147nm,0.3s,baz=97,slow=5.2,SNR=25
BRDH ScS **ScS** **14 28 35.8 +0.7**
comp=E,135nm,0.4s,baz=338,slow=23,SNR=17
QZH Quanzhou 33.31 19 P **P** **14 18 26.3 +0.7**
QZH pP **pP** **14 19 01.2 +3.7**
QZH S **S** **14 23 39.1 +3.9**
QZH LR LR
comp=E,880nm,17.1s
QZH LR LR
comp=E,1μm,14.7s
QZH LR LR
comp=E,1μm,19.4s
JAY Jayapura 33.37 84 P **P** **14 18 24.5 -1.9**
comp=E,88nm,0.8s,baz=245,slow=22,SNR=26
JAY ScP **ScP** **14 24 36.7 +1.2**
comp=E,95nm,1.0s,baz=268,slow=5.9,SNR=12
JAY Jayapura 33.37 84 P **P** **14 18 26.0 -0.4**
comp=E,788nm,0.8s,comp=E,5μm
BELO BELONIA 33.69 333 *e*P **P** **14 18 27.5 -1.4**
QIS Mount Isa 34.01 117 P **P** **14 18 31.6 -0.2**
baz=34,SNR=155
YHNB Yeheng 34.04 23 *e*P **P** **14 18 33.3 +1.3**
comp=E,46nm,1.0s
IMP Imphal 34.05 338 *e*P **P** **14 18 31.1 -1.1**
IMP IAmb IAmb 14 18 32.2
comp=Z,55nm,0.3s
BWNR Bhubaneshwar 34.31 322 *e*P **P** **14 18 32.8 -1.5**
AGT Agartala 34.33 333 *e*P **P** **14 18 33.5 -0.9**
TATO Taipei 34.36 23 PFAKE 14 18 50.0 +15
TATO LR LR
comp=Z,1μm,19.0s
SILR SILCHAR 34.45 336 *e*P **P** **14 18 35.4 -0.1**
H08S2 Diego Garcia H 34.72 266 P **P** **14 18 41.0 +3.3**
H08S3 Diego Garcia H 34.73 266 P **P** **14 18 41.1 +3.3**
H08S1 Diego Garcia H 34.74 266 P **P** **14 18 41.2 +3.3**
DGAR Diego Garcia 34.76 267 PFAKE 14 18 50.0 +12
DGAR LR LR
comp=Z,407nm,19.0s
KOHI KOHIMA 34.80 339 *e*P **P** **14 18 37.5 -1.1**
MOKO MOKOCHONG 35.20 340 *e*P **P** **14 18 41.5 -0.7**
MOKO IAmb IAmb 14 18 42.6
comp=Z,100nm,0.7s
SHL Shillong 35.53 335 *e*P **P** **14 18 44.3 -0.7**
comp=Z,66nm,0.7s
SHL Shillong 35.53 335 *e*P **P** **14 18 44.3 -0.7**
SHL pmax pmax
comp=Z,66nm,0.7s
SHL Shillong 35.53 335 *e*P **P** **14 18 44.2 -0.7**
JORH JORHAT 35.68 339 *e*P **P** **14 18 45.2 -0.8**
JORH IAmb IAmb 14 18 45.9
comp=Z,172nm,0.9s
LKP Lekhapani 35.71 342 *e*P **P** **14 18 45.4 -0.8**
COEN Coen 35.80 104 P **P** **14 18 46.5 -0.7**
baz=36,SNR=592
COEN Coen 35.80 104 *e*P **P** **14 18 46.6 -0.7**
comp=Z,737nm,0.8s
TEZP TEZPUR 36.10 337 *e*P **P** **14 18 49.0 -0.6**
GUWA GUWAHATI 36.16 336 *e*P **P** **14 18 49.7 -0.4**
TURI Tura 36.18 333 *e*P **P** **14 18 48.6 -1.7**
H08N1 Diego Garcia H 36.23 268 P **P** **14 18 51.5 +1.0**
baz=126,slow=6.1,SNR=4.1
ITAN ITANAGAR 36.24 339 *e*P **P** **14 18 50.5 -0.2**
ITAN IAmb IAmb 14 18 51.4
comp=Z,155nm,0.6s
H08N2 Diego Garcia H 36.24 269 P **P** **14 18 51.7 +1.1**
baz=126,slow=6.1,SNR=5.6
H08N3 Diego Garcia H 36.25 268 P **P** **14 18 52.0 +1.3**
baz=126,slow=6.1,SNR=4.2
ZIRO ZIRO 36.54 339 *e*P **P** **14 18 52.8 -0.7**
DHUB DHUBRI 36.74 333 *e*P **P** **14 18 53.7 -1.3**
ENH Enshi 36.86 3 *e*P **P** **14 18 57.3 +1.3**
comp=Z,51nm,0.8s
ENH LR LR
comp=Z,2μm,21.0s
BOK Bokaro 36.97 326 *e*P **P** **14 18 56.1 -0.9**
BOK IAmb IAmb 14 18 57.3
comp=Z,97nm,0.6s
BBOO Buckleboo 37.11 138 P **P** **14 18 57.6 -0.6**
baz=37,SNR=239
BBOO Buckleboo 37.11 138 *e*P **P** **14 18 57.5 -0.7**
comp=Z,634nm,0.8s
HYB Hyderabad 37.33 310 *i* P **P** **14 18 59.5 -0.7**
HYB *e* 14 24 50.5
HYB Hyderabad 37.33 310 *e*P **P** **14 18 58.4 -1.8**
HYB IAmb IAmb 14 19 02.0
comp=Z,84nm,0.3s
TAWA Tawang 37.34 337 *e*P **P** **14 19 00.3 -0.2**
CD2 Chengdu 37.62 355⇓P **P** **14 19 03.4 +1.0**
CD2 pP pP 14 19 34.1 -0.8
CD2 sP sP 14 19 50.3 -1.6
CD2 PP **PP** **14 20 32.9 +1.4**
CD2 S **S** **14 24 42.7 +1.6**
CD2 sS sS 14 25 39.3 +1.5
CD2 pmax pmax
comp=Z,170nm,0.6s
CD2 pmax pmax
comp=Z,1μm,8.4s
CD2 LR LR
comp=Z,4μm,12.8s
CD2 LR LR
comp=Z,2μm,12.7s
CD2 LR LR
comp=Z,4μm,14.1s
WHN Wuhan 37.66 10 P **P** **14 19 04.8 +2.1**
WHN pP **pP** **14 19 36.7 +1.5**
WHN S **S** **14 24 43.4 +1.8**
WHN ScP **ScP** **14 24 50.9 +0.2**
WHN pmax pmax
comp=Z,38nm,0.7s
WHN pmax pmax
comp=Z,820nm,4.6s
WHN LR LR
comp=Z,730nm,12.8s
WHN LR LR
comp=Z,2μm,11.6s
WHN LR LR
comp=Z,2μm,10.1s
GTK Tadong 38.49 332 *e*P **P** **14 19 09.3 -0.6**
JOW Kunigami 39.00 30 P **P** **14 19 14.3 +0.4**
comp=Z,12nm,0.3s,baz=172,slow=7.8,SNR=15
JOW S **S** **14 24 56.8 -5.0**
comp=Z,59nm,0.9s,baz=244,slow=2.7,SNR=7.1
RAMN Ramite 39.14 330 *e*P **P** **14 19 14.7 -0.7**
comp=Z,91nm,0.6s
NGP Nagpur 39.35 315 *e*P **P** **14 19 15.8 -1.2**
PMG Port Moresby 39.36 97 P **P** **14 19 17.0 -0.1**
comp=Z,766nm,0.9s,baz=284,slow=3.7,SNR=102
PMG ScP **ScP** **14 24 58.7 +1.1**
comp=Z,101nm,1.1s,baz=14,slow=2.0,SNR=8.5

HTT Hallett 39.41 137 P **P** **14 19 17.3 -0.1**
baz=40,SNR=128
LSA Lhasa 39.50 337 *e*P **P** **14 19 19.1 +0.5**
comp=Z,60nm,0.8s
LSA LR LR
comp=Z,348nm,19.0s
LSA Lhasa 39.50 337 *e*P **P** **14 19 19.1 +0.5**
LSA pmax pmax
comp=Z,60nm,0.8s
LSA MLR MLR
comp=Z,348nm,19.0s
SSE Sheshan 39.85 18 P **P** **14 19 23.6 +2.6**
SSE S **S** **14 25 18.5 +4.0**
SSE pmax pmax
comp=Z,21nm,0.9s
SSE pmax pmax
comp=Z,280nm,3.5s
SSE LR LR
comp=Z,380nm,15.8s
SSE LR LR
comp=Z,560nm,18.6s
CTA Charters Tower 39.86 113 P **P** **14 19 21.6 +0.3**
comp=Z,386nm,0.8s,baz=282,slow=11,SNR=428
CTA PcP **PcP** **14 21 25.4 +1.0**
comp=Z,61nm,0.8s,baz=260,slow=5.9,SNR=5.7
CTA ScP **ScP** **14 25 00.5 +1.0**
comp=Z,20nm,0.9s,baz=267,slow=8.6,SNR=4.9
CTA S **S** **14 25 14.8 -0.3**
comp=Z,18nm,1.0s,baz=32,slow=22,SNR=7.8
CTA Charters Tower 39.86 113 P **P** **14 19 21.3 +0.1**
baz=40
CTAO Charters Tower 39.86 113 *e*P **P** **14 19 21.4 +0.1**
comp=Z,478nm,0.9s
CTAO LR LR
comp=Z,2μm,21.0s
CTAO Charters Tower 39.86 113 *e*P **P** **14 19 21.4 +0.1**
CTAO pmax pmax
comp=Z,478nm,0.9s
CTAO MLR MLR
comp=Z,2μm,21.0s
JIRN Jiri 39.93 330 *e*P **P** **14 19 21.4 -0.7**
comp=Z,251nm,0.7s
GOA Goa 40.00 304 *e*P **P** **14 19 20.9 -1.5**
NJ2 Nanjing 40.08 15 *e*P **P** **14 19 24.6 +1.7**
NJ2 pP **pP** **14 19 58.0 +2.4**
NJ2 S **S** **14 25 22.8 +4.9**
NJ2 pmax pmax
comp=Z,66nm,1.0s
NJ2 pmax pmax
comp=Z,480nm,4.3s
NJ2 LR LR
comp=Z,510nm,22.8s
NJ2 LR LR
comp=Z,2μm,18.4s
NJ2 LR LR
comp=Z,2μm,19.0s
QLP Quilpie 40.13 124 P **P** **14 19 24.1 +0.7**
baz=40,SNR=178
PKI Pulchoki 40.25 329 *e*P **P** **14 19 23.4 -1.3**
comp=Z,46nm,0.7s
PKIN Phulchoki 40.26 329 *e*P **P** **14 19 23.4 -1.3**
comp=Z,30nm,0.6s
GUN Gumba 40.29 330 *e*P **P** **14 19 24.4 -0.7**
comp=Z,188nm,0.7s
DMN Daman 40.44 329 *e*P **P** **14 19 25.1 -1.1**
comp=Z,146nm,0.9s
STKA Stephens Creek 40.45 133 P **P** **14 19 26.3 +0.3**
comp=Z,1μm,0.7s,baz=304,slow=8.8,SNR=1244
STKA PcP **PcP** **14 21 26.7 +0.7**
comp=Z,168nm,1.0s,baz=323,slow=8.1,SNR=3.1
STKA ScP **ScP** **14 25 00.9 -0.6**
comp=Z,16nm,1.0s,baz=282,slow=8.1,SNR=4.8
STKA S **S** **14 25 23.4 -0.1**
comp=Z,25nm,0.9s,baz=181,slow=18,SNR=4.4
STKA Stephens Creek 40.45 133 P **P** **14 19 26.3 +0.3**
baz=40,SNR=461
STKA Stephens Creek 40.45 133 *e*P **P** **14 19 26.1 +0.1**
comp=Z,287nm,0.8s
STKA PcP **PcP** **14 21 26.7 +0.7**
STKA ScP **ScP** **14 25 00.9 -0.6**
STKA S **S** **14 25 23.4 -0.1**
KKN Kakani 40.49 329 *e*P **P** **14 19 25.5 -1.1**
comp=Z,109nm,0.9s
XAN Xi'an 40.59 2 P **P** **14 19 27.7 +0.6**
XAN pP pP 14 20 02.5 +2.6
XAN sP sP 14 20 16.8 0.0
XAN PP **PnPn** **14 21 12.2 +2.9**
XAN S **S** **14 25 24.6 -0.9**
XAN sS sS 14 26 19.0 -3.8
XAN SS **SS** **14 28 28.6 -3.3**
XAN ScS **ScS** **14 29 16.8 -0.1**
XAN pmax pmax
comp=Z,85nm,1.1s
XAN pmax pmax
comp=Z,600nm,5.8s
XAN LR LR
comp=Z,1μm,15.1s
XAN LR LR
comp=Z,1μm,12.9s
XAN LR LR
comp=Z,2μm,13.7s
GKN Gorkha 41.00 328 *e*P **P** **14 19 29.5 -1.2**
KOLN Koldanda 41.36 327 *e*P **P** **14 19 32.7 -1.0**
comp=Z,257nm,0.7s
POO Poona 41.61 308 *e*P **P** **14 19 33.3 -2.4**
POO IAmb IAmb 14 19 36.0
comp=Z,163nm,0.2s
DANN Dangsing 41.74 328 *e*P **P** **14 19 35.7 -1.1**
comp=Z,223nm,0.7s
BHPL Bhopal 41.86 316 *e*P **P** **14 19 35.4 -2.2**
PYUN Piuthan 41.95 327 *e*P **P** **14 19 37.3 -1.2**
comp=Z,135nm,0.8s
GUMO Guam 42.27 61 ScP **ScP** **14 25 07.9 -1.1**
comp=Z,118nm,0.8s,baz=256,slow=4.2,SNR=5.7
LZH Lanzhou 42.75 356⇓P **P** **14 19 46.5 +1.8**
LZH pP pP 14 20 18.6 +0.7
LZH sP sP 14 20 34.8 +0.1
LZH PP **PP** **14 21 30.1 +3.0**
LZH ScP **ScP** **14 25 11.1 +0.4**
LZH S **S** **14 26 00.2 +2.7**
LZH sS sS 14 26 54.9 -0.2
LZH SS **SS** **14 29 11.5 -2.8**
LZH pmax pmax
comp=Z,170nm,1.2s
LZH pmax pmax
comp=Z,1μm,5.3s
LZH LR LR
comp=Z,1μm,13.8s
LZH LR LR
comp=Z,2μm,14.0s
LZH LR LR
comp=Z,2μm,16.8s
ARPS Mount Arapiles 43.28 139 P **P** **14 19 49.3 +0.4**
baz=43,SNR=102
CMSA Cobar Meteorol 43.35 130 P **P** **14 19 50.0 +0.4**
baz=43,SNR=693
TIA Tai'an 43.69 11 P **P** **14 19 52.9 +0.8**
TIA pP **pP** **14 20 23.7 -1.6**
TIA S **S** **14 26 10.9 +0.1**
TIA pmax pmax
comp=Z,53nm,0.8s
TIA pmax pmax
comp=Z,440nm,7.3s
TIA LR LR
comp=Z,500nm,12.8s
TIA LR LR
comp=Z,1μm,20.6s
RMQ Roma 43.88 121 P **P** **14 19 54.9 +1.0**
baz=44,SNR=141
TIY Taiyuan 44.48 6 *e*P **P** **14 19 59.4 +1.0**
TIY pP **pP** **14 20 35.0 +3.2**
TIY sP **sP** **14 20 50.1 +1.6**
TIY PP **PP** **14 21 50.5 +5.1**
TIY S **S** **14 26 24.7 +2.3**
TIY sS **sS** **14 27 24.5 +4.1**
TIY pmax pmax
comp=Z,97nm,0.9s
TIY pmax pmax
comp=Z,390nm,5.9s
TIY LR LR
comp=Z,1μm,11.5s
TIY LR LR
comp=Z,510nm,12.2s
TIY LR LR
comp=Z,780nm,13.6s
JNU Nakatsue 45.46 28 P **P** **14 20 05.7 -0.5**
comp=Z,5.4nm,0.4s,baz=225,slow=7.3,SNR=12
JNU ScP **ScP** **14 25 21.9 +0.1**
comp=Z,35nm,0.8s,baz=15,slow=5.3,SNR=8.8
EIDS Eidsvold 45.54 119 P **P** **14 20 07.8 +0.8**
baz=46,SNR=38
EIDS Eidsvold 45.54 119 *e*P **P** **14 20 07.4 +0.4**
comp=Z,103nm,0.8s
TOO Toolangi 46.16 137 P **P** **14 20 13.6 +1.9**
baz=46,SNR=48
TOO Toolangi 46.16 137 P **P** **14 20 13.4 +1.7**
TOO pmax pmax
comp=Z,337nm,1.3s
DDI Dehra Dun 46.43 324 *e*P **P** **14 20 12.4 -1.5**
GTA Gaotai 46.48 352⇓P **P** **14 20 15.3 +1.1**
GTA pP pP 14 20 47.1 -0.7
GTA sP sP 14 21 02.5 -2.0
GTA PcP **PcP** **14 21 46.5 +0.2**
GTA PP **PP** **14 22 05.5 -0.3**
GTA ScP **ScP** **14 25 24.8 -1.1**
GTA PcS **PcS** **14 25 42.6 +1.3**
GTA S **S** **14 26 52.6 +1.5**
GTA sS sS 14 27 48.1 -1.4
GTA ScS **ScS** **14 29 49.6 -4.3**
GTA SS **SS** **14 30 15.9 -3.3**
GTA pmax pmax
comp=Z,76nm,1.3s
GTA pmax pmax
comp=Z,530nm,9.5s
GTA LR LR
comp=Z,1μm,16.5s
GTA LR LR
comp=Z,700nm,17.8s
GTA LR LR
comp=Z,1μm,17.5s
YNG Young 46.62 132 P **P** **14 20 16.0 +0.6**
baz=47,SNR=215
TJN Taejon 46.78 22*d i*P **P** **14 20 17.1 +0.6**
BTO Baotou 47.18 3 *e*P **P** **14 20 21.6 +2.0**
BJT Baijiatuau 47.22 9 *e*P **P** **14 20 21.3 +1.5**
comp=Z,83nm,0.6s
BJT LR LR
comp=Z,593nm,20.0s
BJT Baijiatuau 47.22 9 *e*P **P** **14 20 21.3 +1.5**
BJT pmax pmax
comp=Z,83nm,0.6s
BJT MLR MLR
comp=Z,593nm,20.0s
DL2 Dalian 47.29 15 P **P** **14 20 20.0 -0.3**
DL2 pP **pP** **14 20 53.3 -0.7**
DL2 S **S** **14 27 02.0 -0.4**
DL2 pmax pmax
comp=Z,55nm,1.0s
DL2 pmax pmax
comp=Z,310nm,5.9s
BHJ Bhuj 47.50 310 *e*P **P** **14 20 21.7 -0.6**
HHC Hu-ho-hao-te 47.52 4 *e*P **P** **14 20 23.9 +1.7**
HHC pP pP 14 20 58.3 +2.3
HHC sP sP 14 21 12.7 +0.1
HHC PP **PP** **14 22 18.5 +3.4**
HHC S **S** **14 27 09.3 +3.5**
HHC sS sS 14 28 03.9 -0.5
HHC pmax pmax
comp=Z,53nm,0.9s
HHC pmax pmax
comp=Z,320nm,5.5s
HHC LR LR
comp=Z,1μm,11.2s
HHC LR LR
comp=Z,730nm,13.8s
HHC LR LR
comp=Z,2μm,13.8s
CAN Canberra 47.52 133 P **P** **14 20 23.3 +1.0**
baz=48
CAN Canberra 47.52 133 *e*P **P** **14 20 23.2 +0.9**
comp=Z,516nm,1.2s
CAN Canberra 47.52 133 *e*P **P** **14 20 23.2 +0.9**
CAN pmax pmax
comp=Z,516nm,1.2s
SMLA Simla 47.54 324 *e*P **P** **14 20 20.2 -2.2**
SMLA IAmb IAmb 14 20 21.2
comp=Z,139nm,0.6s
CBIJ Chichi jima 47.55 43 P **P** **14 20 20.2 -2.3**
JCJ Chichijima 47.55 43 P **P** **14 20 20.2 -2.4**
comp=Z,27nm,0.3s,baz=282,slow=18,SNR=3.3
ARMA Armidale 47.59 125 P **P** **14 20 25.0 +1.9**
baz=48,SNR=35
CNB Canberra Magne 47.78 133 P **P** **14 20 25.3 +0.9**
baz=48,SNR=22
KS15 Wonju Array Si 47.92 22 *e*P **P** **14 20 27.0 +1.7**
KSAR Wonju Array Be 47.92 22 P **P** **14 20 26.6 +1.3**
KSAR pP **pP** **14 21 00.9 +1.9**
KSAR ScP **ScP** **14 25 31.6 -0.3**
KSAR Wonju Array Be 47.92 22 P **P** **14 20 26.6 +1.3**
KSAR *PP **pP** **14 21 01.0 +1.9**
KSRS Korea Array 47.95 22 P **P** **14 20 26.6 +1.1**
comp=Z,23nm,0.8s,baz=210,slow=8.8,SNR=51
KSRS pP **pP** **14 21 00.9 +1.7**
comp=Z,46nm,1.0s,baz=208,slow=9.0,SNR=11
KSRS ScP **ScP** **14 25 31.6 -0.4**
comp=Z,19nm,0.9s,baz=204,slow=3.6,SNR=22
KS01 Wonju Array Si 47.95 22 *e*P **P** **14 20 26.4 +0.9**
MGCD Mangrove Creek 48.21 129 P **P** **14 20 29.2 +1.5**
baz=48,SNR=65
MILA Mila 48.43 135 P **P** **14 20 30.9 +1.5**
baz=48
RIV Riverview 48.50 130 P **P** **14 20 31.4 +1.7**
baz=48,SNR=11
RIV Riverview 48.50 130 P **P** **14 20 31.3 +1.5**
RIV pmax pmax
comp=Z,941nm,1.0s
DHRM DHARAMSHALA 48.86 324 *e*P **P** **14 20 30.9 -1.9**
DHRM IAmb IAmb 14 20 32.5
comp=Z,66nm,0.5s
MOO Moorlands 49.90 142 P **P** **14 20 41.9 +1.6**
baz=50,SNR=10
MAJO Matsushiro 51.81 32 PFAKE 14 21 10.0 +15
MAJO LR LR
comp=Z,608nm,22.0s
MAJO Matsushiro 51.81 32⇑*i*P **P** **14 20 53.1 -1.6**
MAJO pmax pmax
comp=Z,9.0nm,0.5s
MAT Matsushiro 51.81 32 P **P** **14 20 53.2 -1.5**
MAT S **S** **14 27 59.8 -5.7**
MJAR Matsushiro Arr 51.81 32 P **P** **14 20 53.4 -1.3**
comp=Z,8.7nm,0.6s,baz=215,slow=8.8,SNR=36
MJAR pP **pP** **14 21 28.6 -0.3**
comp=Z,48nm,1.1s,baz=211,slow=8.6,SNR=13
MJAR PcP **PcP** **14 22 06.6 +0.9**
comp=Z,5.2nm,0.9s,baz=221,slow=6.0,SNR=2.0
MJAR ScP **ScP** **14 25 49.0 +0.4**
comp=Z,39nm,0.9s,baz=207,slow=5.5,SNR=32
HNR Honiara 51.97 97 P **P** **14 20 56.0 -0.2**
comp=Z,636nm,0.8s,baz=215,slow=2.2,SNR=64
HNR ScP **ScP** **14 25 50.7 +0.9**
comp=Z,77nm,0.8s,baz=288,slow=1.4,SNR=6.2
HNR S **S** **14 28 06.1 -2.3**
comp=Z,125nm,1.1s,baz=67,slow=23,SNR=10
HNR ScS **ScS** **14 30 35.1 +3.2**
comp=Z,44nm,0.8s,baz=29,slow=19,SNR=6.9
HNR LR LR 14 47 02.0
comp=Z,132nm,18.1s,baz=282,slow=40
HNR Honiara 51.97 97 *e*P **P** **14 20 58.0 +1.7**
HNR Honiara 51.97 97 *e*P **P** **14 20 56.1 -0.2**
comp=Z,764nm,0.8s
HNR ScP **ScP** **14 25 50.7 +0.9**
HNR *e*S **S** **14 28 07.2 -1.2**
HNR ScS **ScS** **14 30 35.1 +3.2**
HNR Honiara 51.97 97 *e*P **P** **14 20 56.1 -0.2**
HNR *e*S **S** **14 28 07.2 -1.2**
HNR 14 30 35.1
HNR pmax pmax
comp=Z,764nm,0.8s
CN2 Changchun 52.88 16 *e*P **P** **14 21 02.4 0.0**
CN2 *e*pP pP 14 21 38.3 +1.5
CN2 PcP **PcP** **14 22 09.9 +0.4**
CN2 ScP **ScP** **14 25 52.1 -1.0**
CN2 *e*S **S** **14 28 19.8 0.0**
CN2 ScS **ScS** **14 30 35.0 -2.0**
CN2 pmax pmax
comp=Z,30nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
WMQ Urumqi 53.43 342 P **P** **14 21 07.1 +0.6**
WMQ pP pP 14 21 43.5 +2.5
WMQ ScP **ScP** **14 25 56.8 +1.2**

WMQ S **S** **14 28 27.2 -0.2**
WMQ ScS **ScS** **14 30 40.9 -0.1**
WMQ pmax pmax
comp=Z,170nm,1.1s
WMQ pmax pmax
comp=Z,1μm,4.7s
WMQ LR LR
comp=Z,1μm,15.9s
WMQ LR LR
comp=Z,1μm,18.1s
WMQ LR LR
comp=Z,2μm,22.9s
LHI Lord Howe Isla **54.00 124** P **P** **14 21 12.2 +1.4**
baz=54,SNR=4.5
SONM Songino Array **54.36 359** P **P** **14 21 14.4 +1.2**
comp=Z,28nm,0.6s,baz=175,slow=8.6,SNR=53
SONM pP **pP** **14 21 49.8 +2.0**
comp=Z,147nm,1.2s,baz=178,slow=6.7,SNR=11
SONM PcP **PcP** **14 22 14.3 -1.0**
comp=Z,14nm,0.5s,baz=169,slow=3.8,SNR=5.8
SONM ScP **ScP** **14 25 58.9 -0.7**
comp=Z,18nm,0.7s,baz=170,slow=4.0,SNR=14
SONM LR LR 14 46 12.7
comp=Z,545nm,18.9s,baz=204,slow=38
SONA1 Songino Array **54.37 359** *eP* **P** **14 21 13.7 +0.3**
ULN Ulaanbaatar **54.38 360** *eP* **P** **14 21 14.1 +0.6**
comp=Z,47nm,0.7s
ULN LR LR
comp=Z,515nm,19.0s
ULN Ulaanbaatar **54.38 360***d iP* **P** **14 21 14.4 +0.9**
ULN *i* *PP **pP** **14 21 50.2 +2.1**
ULN pmax pmax
comp=Z,49nm,0.7s
KSH Kashi **54.48 330** P **P** **14 21 11.8 -2.5**
KSH sP sP 14 22 01.2 -4.2
KSH PP **PP** **14 23 18.0 -0.3**
KSH S S 14 28 32.6 -9.2
KSH pmax pmax
comp=Z,56nm,0.6s
KSH pmax pmax
comp=Z,280nm,6.1s
KSH LR LR
comp=Z,710nm,11.8s
KSH LR LR
comp=Z,500nm,10.6s
KSH LR LR
comp=Z,890nm,15.3s
MDJ Mudanjiang **54.88 19** P **P** **14 21 19.5 +2.6**
MDJ pP pP 14 21 52.7 +1.2
MDJ sP sP 14 22 07.0 -0.9
MDJ PP **PP** **14 23 24.8 +3.3**
MDJ S **S** **14 28 54.1 +7.5**
MDJ ScS **ScS** **14 30 53.0 +1.9**
MDJ pmax pmax
comp=Z,35nm,2.1s
MDJ pmax pmax
comp=Z,750nm,4.5s
MDJ LR LR
comp=Z,710nm,6.1s
MDJ LR LR
comp=Z,560nm,4.1s
MDJ LR LR
comp=Z,790nm,6.0s
MDJ Mudanjiang **54.88 19** *eP* **P** **14 21 17.4 +0.5**
comp=Z,18nm,0.7s
MDJ *ep*P **pP** **14 21 53.1 +1.6**
MDJ LR LR
comp=Z,661nm,19.0s
USA0B Ussuriysk Arra **55.33 21** *eP* **P** **14 21 20.4 +0.3**
comp=Z,33nm,0.6s
USRK Ussuriysk Ar. **55.33 21** P **P** **14 21 20.2 +0.1**
comp=Z,28nm,0.5s,baz=196,slow=7.1,SNR=104
USRK pP **pP** **14 21 56.4 +1.6**
comp=Z,124nm,1.1s,baz=216,slow=6.1,SNR=36
USRK ScP **ScP** **14 26 03.7 -0.1**
comp=Z,14nm,1.1s,baz=196,slow=3.4,SNR=5.2
PRZ Przheval'sk **55.71 334** *eP* **P** **14 21 23.5 +0.4**
comp=Z,41nm,0.7s
PRZ Przheval'sk **55.71 334** *eP* **P** **14 21 23.5 +0.4**
PRZ pmax pmax
comp=Z,41nm,0.7s
WBK Wadi Bani Khal **55.72 303** P **P** **14 21 24.3 +0.9**
SNR=14
SHLS Shalkode **55.81 335**⇓ *iP* **P** **14 21 22.4 -1.4**
comp=Z,40nm,0.6s
SHLS *i* pP **pP** **14 22 00.3 +1.8**
SHLS *eS* **S** **14 28 56.3 -3.0**
KDJ Kajisay **55.96 333** *eP* **P** **14 21 25.5 +0.6**
comp=Z,51nm,0.8s
KDJ Kajisay **55.96 333** *eP* **P** **14 21 25.5 +0.6**
KDJ pmax pmax
comp=Z,51nm,0.8s
UZB Uzynbulak **55.98 335**⇓ *iP* **P** **14 21 24.5 -0.5**
comp=Z,53nm,1.5s
UZB *i* pP **pP** **14 22 02.1 +2.3**
UZB *i* S **S** **14 29 00.5 -1.2**
ZHN Zhinishke **56.25 335**⇓ *iP* **P** **14 21 26.1 -0.8**
comp=Z,57nm,2.0s
ZHN *eS* **S** **14 29 03.5 -1.6**
JMDO Jabal Madar **56.34 302** P **P** **14 21 28.7 +0.9**
SNR=28
KPKS Kokpek **56.39 335**⇓ *iP* **P** **14 21 27.1 -0.7**
comp=Z,80nm,1.6s
KPKS *eS* **S** **14 29 05.3 -1.6**
ULHL Ulahol **56.48 332** P **ScP** **14 26 10.7 +1.5**
SNR=22
ULHL Ulahol **56.48 332** P **P** **14 21 27.2 -1.4**
SNR=13
SMDO Samad **56.67 303** P **P** **14 21 31.7 +1.5**
SNR=26
HIA Hailar **56.81 10** *eP* **P** **14 21 30.4 -0.2**
comp=Z,26nm,1.0s
HIA *ep*P **pP** **14 22 06.8 +1.4**
HIA LR LR
comp=Z,497nm,22.0s
HIA Hailar **56.81 10** *eP* **P** **14 21 30.4 -0.2**
HIA *e**PP **pP** **14 22 06.8 +1.4**
HIA pmax pmax
comp=Z,26nm,1.0s
HIA MLR MLR
comp=Z,497nm,22.0s
BIDO Bidbid **56.81 304** P **P** **14 21 31.8 +0.7**
SNR=38
KZA Kyzart **56.81 332** P **ScP** **14 26 12.0 +1.1**
SNR=20
KZA Kyzart **56.81 332** P **P** **14 21 30.3 -0.9**
SNR=28
MDOK Medeo **56.84 334** *i* P **P** **14 21 30.2 -0.9**
comp=Z,576nm,1.8s
MDOK *i* pP **pP** **14 22 07.3 +1.4**
MDOK *i* S **S** **14 29 11.4 -1.6**
ZAK Zakamensk **57.02 357** *eP* **P** **14 21 32.4 +0.3**
ZAK *e* 14 22 07.4
ZAK pmax pmax
comp=Z,21nm,2.0s
BSY Bisya **57.25 302** P **P** **14 21 35.5 +1.3**
SNR=43
UCH Uchtor **57.27 331** P **ScP** **14 26 14.1 +1.1**
SNR=22
UCH Uchtor **57.27 331** P **P** **14 21 33.5 -1.0**
SNR=14
TKM2 Tokmak 2 **57.30 333** P **ScP** **14 26 13.3 +0.5**
SNR=8.6
TKM2 Tokmak 2 **57.30 333** P **P** **14 21 33.1 -1.4**
SNR=104
TKM2 Tokmak 2 **57.30 333** P **P** **14 21 32.7 -1.7**
TKM2 pmax pmax
comp=Z,52nm,0.6s
KBK Karagaybulak **57.40 332** P **ScP** **14 26 14.9 +1.7**
SNR=18
KBK Karagaybulak **57.40 332** P **P** **14 21 34.6 -0.5**
SNR=31
HOQ Hoqain **57.51 303** P **P** **14 21 36.5 +0.5**
SNR=16
ZSN Zaisan **57.56 342**⇓ *iP* **P** **14 21 36.0 +0.1**
comp=Z,15nm,0.9s
ZSN *i* pP **pP** **14 22 13.7 +2.9**
ZSN *eS* **S** **14 29 21.6 -0.4**
AML Almayashu **57.59 331** P **ScP** **14 26 15.8 +1.4**
SNR=5.6
AML Almayashu **57.59 331** P **P** **14 21 35.7 -1.1**
SNR=51
AAK Ala-Archa **57.60 332** P **ScP** **14 26 14.7 +0.6**
SNR=29
AAK Ala-Archa **57.60 332** P **P** **14 21 35.6 -0.9**
SNR=11
AAK Ala-Archa **57.60 332** *eP* **P** **14 21 35.6 -0.9**
comp=Z,16nm,1.0s
AAK LR LR
comp=Z,564nm,22.0s
AAK Ala-Archa **57.60 332** P **P** **14 21 35.4 -1.0**
SNR=11
AAK Ala-Archa **57.60 332** *eP* **P** **14 21 35.6 -0.9**
AAK pmax pmax
comp=Z,16nm,1.0s
AAK MLR MLR
comp=Z,564nm,22.0s
FRU1 Bishkek **57.67 332** *eP* **P** **14 21 36.1 -0.7**
comp=Z,34nm,0.7s
FRU1 Bishkek **57.67 332** *eP* **P** **14 21 36.1 -0.7**
FRU1 pmax pmax
comp=Z,34nm,0.7s
FRU Bishkek **57.69 332** *eP* **P** **14 21 34.0 -2.9**
FRU pmax pmax
comp=Z,50nm,1.6s
KUU Kurty **57.74 334**⇓ *iP* **P** **14 21 35.9 -1.3**
comp=Z,181nm,2.0s
KUU *i* pP **pP** **14 22 12.9 +0.7**
KUU *eS* **S** **14 29 22.5 -2.0**
CHMS Chumysh **57.75 332** P **ScP** **14 26 14.6 +0.1**
SNR=17
CHMS Chumysh **57.75 332** P **P** **14 21 35.8 -1.6**
SNR=8.2
MK01 Makanchi Array **57.80 340** *eP* **P** **14 21 35.7 -1.9**
MK31 Makanchi Array **57.82 340** *eP* **P** **14 21 37.2 -0.5**
MK31 Makanchi Array **57.82 340** *eP* **P** **14 21 37.3 -0.5**
MKAR Makanchi Array **57.82 340** P **P** **14 21 37.2 -0.5**
comp=Z,60nm,0.5s,baz=146,slow=7.8,SNR=431
MKAR ScP **ScP** **14 26 14.5 -0.2**
comp=Z,9.1nm,1.1s,baz=141,slow=5.9,SNR=4.6
MKAR ScS **ScS** **14 31 09.8 -2.7**
comp=Z,0.7nm,0.8s,baz=134,slow=8.2,SNR=2.0
MKAR PKPPKP **P'P'df** **14 51 21.3 +2.2**
comp=Z,1.3nm,0.9s,baz=291,slow=4.4,SNR=4.4
MKAR PKP2bc 14 51 27.9
comp=Z,1.9nm,0.8s,baz=262,slow=3.2,SNR=6.1
MKAR Makanchi Array **57.82 340** *eP* **P** **14 21 37.3 -0.4**
comp=Z,409nm,0.6s
MKAR ScP **ScP** **14 26 14.5 -0.2**
MKAR ScS **ScS** **14 31 09.8 -2.7**
MKAR P'P' 14 51 21.3
MKAR Makanchi Array **57.82 340** *eP* **P** **14 21 37.3 -0.4**
MKAR 14 31 09.8
MKAR pmax pmax
comp=Z,409nm,0.6s
EKS2 Erkin-Say **57.96 331** P **ScP** **14 26 16.3 +0.7**
SNR=20
EKS2 Erkin-Say **57.96 331** P **P** **14 21 37.9 -1.0**
SNR=47
ARQ Araqi **58.06 303** P **P** **14 21 40.6 +0.7**
SNR=20
USP Ospenovka **58.08 332** P **ScP** **14 26 16.1 0.0**
SNR=24
USP Ospenovka **58.08 332** P **P** **14 21 38.4 -1.2**
SNR=9.5
TLY Talaya **58.30 357** ScP **ScP** **14 26 15.3 -1.5**
baz=236,slow=4.1
TLY Talaya **58.30 357** *eP* **P** **14 21 41.6 +0.7**
TLY *eS* **S** **14 29 34.7 +3.3**
TLY pmax pmax
comp=Z,36nm,1.6s
WHFO Wadi Hawf **58.41 296** P **P** **14 21 43.2 +0.9**
SNR=19
MOY Mondy **58.45 355** *eP* **P** **14 21 43.1 +0.9**
MOY *e* 14 22 16.6
MOY pmax pmax
comp=Z,19nm,1.8s
ABTO Aybut **58.64 295** P **P** **14 21 45.2 +1.2**
SNR=48
DZM Mont Dzumac **58.76 112** P **P** **14 21 45.3 +0.5**
comp=Z,111nm,0.8s,baz=262,slow=8.8,SNR=69
DZM Mont Dzumac **58.76 112** *eP* **P** **14 21 44.2 -0.7**
comp=Z,493nm,1.3s
DZM *eS* **S** **14 29 34.6 -4.1**
comp=Z,1μm,26.8s
DZM *e*LR LR 14 39 17.0
comp=Z,1μm,35.0s
DZM Mont Dzumac **58.76 112** *eP* **P** **14 21 44.0 -0.8**
comp=Z,191nm,1.0s
HVS Khovu-Aksy **58.87 350**⇓ *iP* **P** **14 21 45.0 0.0**
HVS pmax pmax
comp=Z,95nm,1.0s
UOSS Minazif **59.00 304** *eP* **P** **14 21 46.6 +0.3**
comp=Z,195nm,1.1s
UOSS Minazif **59.00 304** P **P** **14 21 46.2 -0.2**
SNR=24
ASHO Ashiyiah **59.01 304** P **P** **14 21 47.0 +0.5**
SNR=40
HATD Hatta, Dubai **59.01 304** P **P** **14 21 46.9 +0.4**
SNR=40
TAS Tashkent **59.27 327** P **P** **14 21 46.7 -1.2**
TAS pmax pmax
comp=Z,90nm,0.4s
BANOM Banah **59.35 305** P **P** **14 21 50.7 +1.9**
SNR=5.5
FAQ Al Faqa, Dubai **59.42 304** P **P** **14 21 49.8 +0.5**
SNR=62
CASY Casey **59.47 179** *eP* **P** **14 21 49.1 +0.3**
comp=Z,226nm,0.8s
CASY LR LR
comp=Z,87nm,19.0s
NAZ Nazwa, Dubai **59.47 304** P **P** **14 21 49.9 +0.3**
SNR=24
ASUD Al Ashush, Dub **59.59 304** P **P** **14 21 51.5 +1.1**
SNR=23
KLR Kul'dur **59.65 18** P **P** **14 21 50.0 -0.3**
comp=Z,34nm,0.6s,baz=209,slow=5.0,SNR=134
KLR pP **pP** **14 22 25.4 -0.1**
comp=Z,124nm,1.1s,baz=226,slow=5.8,SNR=13
KLR ScP **ScP** **14 26 22.1 -0.6**
comp=Z,2.3nm,0.8s,baz=206,slow=6.6,SNR=4.1
KLR PKPPKP **P'P'df** **14 51 16.3 +0.2**
comp=Z,1.8nm,0.7s,baz=315,slow=7.1,SNR=3.2
KLR Kul'dur **59.65 18***d iP* **P** **14 21 49.2 -1.1**
BTLS Baital **59.66 335**⇓ *iP* **P** **14 21 48.8 -1.7**
comp=Z,20nm,1.7s
BTLS *eS* **S** **14 29 46.9 -2.3**
ASAJ Asahikawa **59.73 29** *eP* **P** **14 21 50.4 -0.5**
comp=Z,19nm,0.7s
OPO Ambohidratompo **59.75 253** P **P** **14 21 53.7 +1.9**
comp=Z,22nm,0.5s,baz=94,slow=5.6,SNR=39
OPO ScP **ScP** **14 26 23.0 -1.1**
comp=Z,9.8nm,0.9s,baz=77,slow=6.8,SNR=4.5
KK31 Karatay Array **59.89 329** *eP* **P** **14 21 50.3 -1.8**
KK31 Karatay Array **59.89 329** *eP* **P** **14 21 50.3 -1.8**
KKAR Karatay Array **59.89 329** *eP* **P** **14 21 50.3 -1.8**
KKAR Karatay Array **59.89 329** *eP* **P** **14 21 50.3 -1.8**
MIR Mirnyy **60.53 187**⇓ *iP* **P** **14 21 57.0 +1.0**
MIR *e* 14 24 11.0
MIR pmax pmax
comp=Z,2μm,3.0s
MIR pmax pmax
comp=Z,630nm,1.0s
NFK Norfolk Island **60.97 119** P **P** **14 22 01.0 +1.3**
baz=61,SNR=6.5
YUK Yuzh-Kuril'sk **61.27 31** P **P** **14 21 59.8 -1.6**
YUK *e**PP **pP** **14 22 32.7 -4.0**
YUK *eS* **S** **14 30 08.4 -1.3**
YUK pmax pmax
comp=Z,347nm,1.1s
YUK pmax pmax
comp=N,218nm,0.9s
YSS Yuzh-Sakhalins **61.94 27** *eP* **P** **14 22 06.0 +0.1**
comp=N,61nm,0.9s
YSS Yuzh-Sakhalins **61.94 27**⇓ *eP* **P** **14 22 05.8 0.0**
YSS *eS* **S** **14 30 13.9 -4.2**
YSS smax smax
comp=N,200nm,14.0s
KURBB Kurchatov Arra **62.39 340** P **P** **14 22 08.4 -0.3**
comp=N,58nm,0.7s,baz=156,slow=5.9,SNR=23
KURBB ScP **ScP** **14 26 34.6 -0.2**
comp=N,8.4nm,1.1s,baz=156,slow=3.7,SNR=8.0
KURBB S **S** **14 30 19.7 -3.8**
comp=N,0.8nm,0.8s,baz=143,slow=13,SNR=3.2
KURK Kurchatov **62.43 340** *eP* **P** **14 22 08.2 -0.8**
comp=N,105nm,0.9s
KURK ScP **ScP** **14 26 34.6 -0.4**
KURK S **S** **14 30 19.7 -4.4**
KURK LR LR
comp=Z,761nm,21.0s
KURK Kurchatov **62.43 340** P **P** **14 22 08.5 -0.5**
SNR=32
KURK Kurchatov **62.43 340***d iP* **P** **14 22 08.5 -0.5**
KURK pmax pmax
comp=Z,116nm,0.9s
ZEA Zeya **62.53 13** *eP* **P** **14 22 09.8 +0.2**
ZEA *e* 14 22 46.0
ZEA *e* 14 22 46.8
ZEA *e* 14 30 24.0
ZEA pmax pmax
comp=N,24nm,1.0s
ZEA pmax pmax
comp=E,21nm,0.8s
ZEA pmax pmax
comp=Z,31nm,0.8s
ZEA smax smax
comp=N,500nm,14.0s
ZEA smax smax
comp=E,500nm,14.0s
ZAA0 Zalesovo Array **63.42 345** *eP* **P** **14 22 14.1 -1.4**
comp=E,76nm,1.0s
ZALV Zalesovo Beam **63.42 345** P **P** **14 22 14.3 -1.1**
comp=E,17nm,0.5s,baz=131,slow=4.3,SNR=117
ZALV pP **PcP** **14 22 50.3 -0.7**
comp=E,24nm,0.8s,baz=182,slow=8.4,SNR=2.8
ZALV ScP 14 26 38.0
comp=E,5.2nm,0.6s,baz=171,slow=3.3,SNR=3.6
ZALV S **S** **14 30 33.8 -2.4**
comp=E,2.6nm,0.8s,baz=177,slow=9.5,SNR=4.0
ZALV ScS **SKSac** **14 31 48.3 -5.7**
comp=E,1.9nm,0.7s,baz=142,slow=7.2,SNR=4.5
ZALV PKP2bc 14 51 13.4
comp=E,6.3nm,0.9s,baz=288,slow=2.2,SNR=14
ZALV LR LR 14 53 49.0
comp=E,343nm,18.8s,baz=84,slow=40
GEYT Alibeck **63.90 318** P **P** **14 22 18.4 -0.6**
comp=E,7.8nm,0.4s,baz=142,slow=7.5,SNR=35
GEYT ScP 14 26 43.0
comp=E,4.3nm,0.8s,baz=158,slow=1.6,SNR=4.8
GEYT ScS **SKSac** **14 31 56.9 -1.6**
comp=E,0.4nm,0.4s,baz=134,slow=6.2,SNR=2.4
GEYT PKP2bc 14 51 15.0
comp=E,2.2nm,0.7s,baz=290,slow=14,SNR=6.5
GEYT PKP2ab 14 51 23.6
comp=E,2.3nm,1.1s,baz=341,slow=3.1,SNR=4.8
GEYT LR LR 14 53 17.1
comp=E,97nm,18.5s,baz=15,slow=39
GYA0B ALIBECK ARRAY **63.90 318** *eP* **P** **14 22 18.6 -0.4**
comp=E,34nm,0.6s
BRZS Berezniki **64.07 336**⇓ *iP* **P** **14 22 19.3 -0.6**
comp=E,90nm,1.7s
BRZS *i* pP **pP** **14 22 57.3 +1.7**
BOD Bodaibo **64.57 4** *eP* **P** **14 22 21.8 -1.1**
BOD *e* 14 22 58.6
BOD pmax pmax
comp=Z,30nm,1.2s
BOD pmax pmax
comp=Z,147nm,1.3s
NVS Novosibirsk **64.63 345**⇓ *iP* **P** **14 22 22.7 -0.6**
NVS *e**PP **pP** **14 22 59.2 +0.2**
NVS *eS* **S** **14 30 45.7 -5.4**
NVS *i* *SS **sS** **14 31 57.5 +4.7**
NVS pmax pmax
comp=N,26nm,1.6s
NVS pmax pmax
comp=Z,41nm,1.6s
NVS pmax pmax
comp=E,22nm,1.4s
NVS pmax pmax
comp=Z,61nm,1.9s
NVS pmax pmax
comp=N,51nm,2.0s
NVS pmax pmax
comp=E,40nm,2.0s
NVS smax smax
comp=N,21nm,2.4s
NVS smax smax
comp=E,25nm,2.2s
MLZ Mavora Lakes **64.78 137** *eP* **P** **14 22 25.4 +0.8**
comp=E,221nm,0.9s
BDHA Al Bayda' **64.80 289**⇓ *eP* **P** **14 22 27.8 +2.3**
WHZ Wether Hill Ro **64.81 138** *eP* **P** **14 22 25.5 +0.7**
comp=E,147nm,0.9s
WKZ Wanaka **65.23 136** *eP* **P** **14 22 28.1 +0.5**
comp=E,101nm,0.8s
FOZ Fox Glacier **65.44 135** *eP* **P** **14 22 28.7 -0.2**
comp=E,66nm,0.9s
LBZ Lake Benmore **65.92 136** *eP* **P** **14 22 31.9 -0.1**
comp=E,176nm,1.0s
DAMY Dhamar **66.05 289** *eP* **P** **14 22 36.1 +2.4**
comp=E,334nm,0.9s
RPZ Rata Peaks **66.36 135** P **P** **14 22 35.0 +0.2**
comp=E,726nm,1.2s,baz=229,slow=2.4,SNR=83
RPZ PP **PP** **14 25 02.1 -0.7**
comp=E,54nm,0.9s,baz=26,slow=12,SNR=5.7
RPZ LR LR 14 51 21.1
comp=E,640nm,20.3s,baz=268,slow=36
RPZ Rata Peaks **66.36 135** *eP* **P** **14 22 35.2 +0.4**
comp=E,467nm,1.0s
RPZ PP **PP** **14 25 02.1 -0.7**
ODZ Otahua Downs **66.41 136** *eP* **P** **14 22 35.7 +0.6**
comp=E,88nm,1.3s
ATD Arta Tunnel **66.81 286** P **P** **14 22 40.1 +1.9**
comp=E,27nm,0.7s,baz=88,slow=2.2,SNR=17
ATD Arta Tunnel **66.81 286** *eP* **P** **14 22 40.4 +2.2**
comp=E,56nm,1.0s
OXZ Oxford **66.97 134** *eP* **P** **14 22 38.4 -0.3**
comp=E,274nm,1.2s
LTZ Lake Taylor **67.01 134** *eP* **P** **14 22 37.8 -1.3**
comp=E,101nm,0.8s
THZ Tophouse **67.26 132** *eP* **P** **14 22 40.5 -0.1**
comp=E,269nm,0.8s
BVAR Borovoye Array **67.33 337** P **P** **14 22 40.2 -0.5**
comp=E,48nm,0.7s,baz=142,slow=9.0,SNR=14
BVAR S **S** **14 31 22.9 -1.1**
comp=E,1.5nm,0.8s,baz=142,slow=12,SNR=4.0
BRVK Borovoye **67.40 337** *eP* **P** **14 22 40.6 -0.5**
comp=E,52nm,0.8s
BRVK LR LR
comp=Z,201nm,19.0s
BRVK Borovoye **67.40 337** P **P** **14 22 40.4 -0.7**
SNR=24
BRVK Borovoye **67.40 337***d iP* **P** **14 22 40.3 -0.7**
BRVK pmax pmax
comp=Z,90nm,1.3s
CRLZ Canterbury Las **67.44 134** *eP* **P** **14 22 42.8 +1.2**
comp=Z,465nm,1.2s
MQZ McQueen's Vall **67.49 135** *eP* **P** **14 22 42.4 +0.5**
comp=Z,211nm,0.8s
RAYN Ar Rayn **67.55 299** *eP* **P** **14 22 42.8 +0.1**
comp=Z,253nm,1.2s
RAYN LR LR
comp=Z,251nm,19.0s
RAYN Ar Rayn **67.55 299** *eP* **P** **14 22 42.8 +0.1**
RAYN pmax pmax
comp=Z,253nm,1.2s
RAYN MLR MLR
comp=Z,251nm,19.0s
MAW Mawson **67.74 197** P **P** **14 22 44.2 +1.2**
comp=Z,149nm,0.5s,baz=47,slow=6.3,SNR=696
MAW LR LR 14 50 50.3
comp=Z,135nm,18.0s,baz=56,slow=34
MAW PKP2bc 14 51 03.9
comp=Z,2.6nm,0.8s,baz=188,slow=2.6,SNR=7.0
MAW Mawson **67.74 197** P **P** **14 22 44.2 +1.2**
baz=68,SNR=567
MAW Mawson **67.74 197** *eP* **P** **14 22 44.3 +1.2**
comp=Z,45nm,0.7s
MAW Mawson **67.74 197** *eP* **P** **14 22 44.3 +1.3**
MAW pmax pmax
comp=Z,45nm,0.7s
KHZ Kahutara **67.85 133** *eP* **P** **14 22 44.0 -0.2**
comp=Z,214nm,0.9s
HIZ Hauiti **68.15 129** *eP* **P** **14 22 47.5 +1.4**
comp=Z,318nm,1.0s
SNZO South Karori **68.50 132** *eP* **P** **14 22 47.7 -0.6**
comp=Z,205nm,0.8s
SNZO LR LR
comp=Z,625nm,20.0s
AB31 Akbulak array **69.45 329** *i* P **P** **14 22 52.8 -1.1**
AB31 pmax pmax
comp=Z,105nm,0.9s
ABKAR Akbulak array **69.45 329** *eP* **P** **14 22 53.3 -0.7**
BKZ Black Stump Fm **69.51 129** *eP* **P** **14 22 54.5 -0.2**
comp=Z,307nm,1.0s
BFZ Birch Farm **69.55 131** *eP* **P** **14 22 55.5 +0.7**
comp=Z,324nm,1.0s
URZ Urewera **69.87 128** P **P** **14 22 56.2 -0.6**
comp=Z,71nm,0.7s,baz=274,slow=3.3

URZ LR LR 14 54 13.9
comp=Z,455nm,19.6s,baz=212,slow=36
URZ Urewera 69.87 128 *e*P **P 14 22 56.1 -0.6**
comp=Z,62nm,0.6s
KMBO Kilima Mbogo 70.24 271 P **P 14 23 02.1 +2.3**
comp=Z,52nm,0.9s,baz=70,slow=8.2,SNR=104
KMBO LR LR 14 49 15.7
comp=Z,351nm,20.6s,baz=94,slow=32
KMBO PKP2ab 14 50 59.4
comp=Z,2.7nm,0.9s,baz=319,slow=4.2,SNR=8.2
KMBO Kilima Mbogo 70.24 271 P **P 14 23 01.9 +2.2**
SNR=33
KMBO Kilima Mbogo 70.24 271 *i* P **P 14 23 02.0 +2.2**
KMBO pmax pmax
comp=Z,52nm,0.9s
YAK Yakutsk 70.70 11 P **P 14 23 00.5 -0.7**
comp=Z,71nm,0.5s,baz=223,slow=0.2,SNR=52
YAK pP **pP 14 23 37.2 -0.4**
comp=Z,258nm,0.9s,baz=204,slow=0.6,SNR=8.5
YAK S **S 14 31 58.8 -4.4**
comp=Z,4.1nm,0.5s,baz=275,slow=18,SNR=7.1
YAK Yakutsk 70.70 11 *e*P **P 14 23 00.2 -1.0**
comp=Z,105nm,0.6s
YAK pP **pP 14 23 37.2 -0.4**
YAK S **S 14 31 58.8 -4.4**
YAK LR LR
comp=Z,298nm,20.0s
YAK Yakutsk 70.70 11*d* P **P 14 23 00.4 -0.8**
YAK *e* 14 23 22.1
YAK *e**PP **pP 14 23 37.5 0.0**
YAK *e* 14 25 36.6
YAK *e*S **S 14 32 03.5 +0.3**
YAK *e* 14 32 50.2
YAK *e*SS **SS 14 36 41.5 +3.0**
YAK pmax pmax
comp=Z,71nm,0.8s
YAK pmax pmax
comp=N,19nm,1.0s
YAK pmax pmax
comp=E,12nm,0.9s
YAK pmax pmax
comp=Z,54nm,2.3s
YAK pmax pmax
comp=N,147nm,2.7s
YAK pmax pmax
comp=E,69nm,2.3s
YAK smax smax
comp=E,93nm,1.9s
YAK smax smax
comp=N,26nm,1.2s
MXZ Matakaoa Point 70.72 127 *e*P **P 14 23 02.3 +0.3**
comp=N,151nm,0.6s
SKR Severo-Kuril's 70.89 30 *e*P P 14 23 20.0 +17
SKR *e* 14 24 09.1
SKR *e*PPP PPP 14 27 30.8
SKR pmax pmax
comp=Z,2µm,5.8s
SKR pmax pmax
comp=Z,290nm,1.4s
SKR MLR MLR
comp=Z,400nm,15.0s
FUNA Funafuti 71.01 97 PFAKE 14 23 20.0 +16
FUNA LR LR
comp=Z,5µm,20.0s
AKTO Aktyubinsk 71.16 329 P **P 14 23 03.8 -0.6**
comp=Z,27nm,0.9s,baz=117,slow=7.8
AKTO S **S 14 32 04.1 -4.9**
comp=Z,1.4nm,0.6s,baz=309,slow=19,SNR=6.4
AKT Akhty 72.61 317 *e*P **P 14 23 13.2 -0.1**
AKT *e* 14 23 31.5
AKT *e**PP **pP 14 23 47.7 -2.1**
AKT *e**SP **sP 14 24 01.4 -4.4**
AKT *e* 14 25 56.0
AKT *e*S **S 14 32 23.7 -2.6**
AKT *e* 14 33 03.6
AKT *e**SS **sS 14 33 24.4 -4.9**
AKT pmax pmax
comp=Z,81nm,1.3s
PETK Petropavlovsk- 73.15 29 P **P 14 23 15.8 -0.3**
comp=Z,4.1nm,0.5s,baz=198,slow=3.7,SNR=27
PETK pP **pP 14 23 53.2 +0.7**
comp=Z,35nm,1.1s,baz=236,slow=1.6,SNR=9.7
MAK Makhachkala 73.41 318 *e*P **P 14 23 18.3 +0.5**
MAK *e**PP **pP 14 23 54.9 +0.6**
MAK *e**SP **sP 14 24 11.2 +0.9**
MAK *e* 14 26 00.9
MAK *e*S **S 14 32 35.8 +0.9**
MAK pmax pmax
comp=Z,413nm,1.5s
PET Petropavlovsk 73.56 29 *e*P **P 14 23 18.6 +0.2**
PET *e**PP **pP 14 23 53.5 -1.5**
PET *e* 14 26 00.6
PET *e*S **S 14 32 35.0 -1.1**
PET *e**SS **sS 14 33 34.8 -4.5**
PET pmax pmax
comp=Z,500nm,4.0s
PET pmax pmax
comp=Z,157nm,1.5s
PET MLR MLR
comp=Z,300nm,13.0s
SVE Sverdlovsk 73.99 335*c* *i*P **P 14 23 20.8 -0.1**
SVE *e*S **SKiKP 14 32 33.8 -0.4**
SVE pmax pmax
comp=Z,185nm,1.2s
GNI Garni 74.12 315 P **P 14 23 21.9 -0.3**
comp=Z,34nm,1.0s,baz=59,slow=0.3,SNR=27
GNI S **S 14 32 41.8 -1.5**
comp=Z,4.2nm,0.6s,baz=126,slow=19,SNR=5.5
GNI Garni 74.12 315 P **P 14 23 21.9 -0.3**
GNI S **S 14 32 41.9 -1.5**
GNI LR LR
comp=Z,271nm,20.0s
GNI Garni 74.12 315 P **P 14 23 22.0 -0.3**
SNR=15
GNI Garni 74.12 315*d* *i*P **P 14 23 22.0 -0.2**
GNI pmax pmax
comp=Z,254nm,1.3s
MA2 Magadan 74.49 21 P **P 14 23 23.1 -0.6**
comp=Z,13nm,0.7s,baz=201,slow=16,SNR=7.1
MA2 pP **pP 14 24 00.6 +0.2**
comp=Z,27nm,0.7s,baz=195,slow=4.8,SNR=6.7
MA2 Magadan 74.49 21 P **P 14 23 23.1 -0.6**
MA2 pP **pP 14 24 00.6 +0.2**
MA2 LR LR
comp=Z,320nm,21.0s
MA2 Magadan 74.49 21⇑ *e*P **P 14 23 23.1 -0.6**
MA2 pmax pmax
comp=Z,11nm,0.6s
ARU Arti 74.61 334*c* *i*P **P 14 23 23.4 -1.1**
ARU *PP **pP 14 24 00.3 -0.8**
ARU S **S 14 32 45.6 -2.2**
ARU SS **SS 14 37 34.9 -3.4**
ARU pmax pmax
comp=Z,142nm,1.2s
GROC Groznyy 74.65 318 *e*P **P 14 23 25.2 +0.2**
GROC *e* 14 23 39.5
GROC *e**PP **pP 14 24 01.0 -0.6**
GROC *e**SP **sP 14 24 17.3 -0.3**
GROC *e*S **S 14 32 45.7 -3.1**
GROC *e* 14 33 28.3
GROC *e**SS **sS 14 33 48.3 -3.8**
GROC pmax pmax
comp=Z,122nm,1.2s
TBLG Delisi 74.75 316 *e*P **P 14 23 26.5 +0.8**
comp=Z,95nm,0.9s
TBLG Delisi 74.75 316 *e*P **P 14 23 26.5 +0.8**
TBLG pmax pmax
comp=Z,95nm,0.9s
AKH Akhalkalaki 75.48 316 *e*P **P 14 23 31.2 +1.1**
comp=Z,91nm,1.4s
AKH Akhalkalaki 75.48 316⇑ *i*P **P 14 23 31.3 +1.2**
AKH Akhalkalaki 75.48 316 *e*P **P 14 23 31.2 +1.1**
AKH pmax pmax
comp=Z,91nm,1.4s
ZEI Tsey 75.75 317 *e*P **P 14 23 28.5 -3.1**
ZEI pmax pmax
comp=Z,81nm,1.4s
SYO Syowa Base 75.90 200⇑ *e*P **P 14 23 29.7 -1.9**
SYO Syowa Base 75.90 200⇓ *i*P **P 14 23 32.5 +0.8**
SYO Syowa Base 75.90 200⇓ *i*X **PcP 14 23 40.0 -3.4**
VNDA Vanda 76.12 170 P **P 14 23 33.4 +0.6**
comp=Z,114nm,0.6s,baz=313,slow=5.5,SNR=1122
VNDA S **S 14 33 05.1 +1.2**
comp=Z,2.0nm,1.2s,baz=116,slow=14,SNR=3.6
VNDA LR LR 14 54 26.8
comp=Z,162nm,19.4s,baz=318,slow=33
VNDA Vanda 76.12 170 *e*P **P 14 23 33.8 +1.0**
comp=Z,360nm,1.2s
VNDA S **S 14 33 05.1 +1.2**
VNDA Vanda 76.12 170 *e*P **P 14 23 33.8 +1.0**
VNDA S **S 14 33 05.1 +1.2**
VNDA pmax pmax
comp=Z,360nm,1.2s
NCK Nalchik 76.23 318⇑ *i*P **P 14 23 34.7 +0.6**
NCK pmax pmax
comp=Z,164nm,2.1s
NEY Neytrino 76.72 317*d* *i*P **P 14 23 37.7 +0.7**
NEY pmax pmax
comp=Z,14nm,0.9s
MBAR Mbarara 76.77 271 P **P 14 23 40.6 +2.7**
comp=Z,74nm,0.9s,baz=106,slow=7.5,SNR=23
MBAR pP **pP 14 24 15.8 +1.1**
comp=Z,42nm,1.2s,baz=113,slow=6.7,SNR=2.1
MBAR S **S 14 33 14.4 +0.8**
comp=Z,2.8nm,0.3s,baz=108,slow=20,SNR=1.3
MBAR Mbarara 76.77 271 P **P 14 23 40.6 +2.7**
MBAR pP **pP 14 24 15.8 +1.1**
MBAR S **S 14 33 14.4 +0.8**
MBAR LR LR
comp=Z,594nm,21.0s
MBAR Mbarara 76.77 271 *i* P **P 14 23 40.3 +2.4**
KBZ Khabaz 76.79 318 P **P 14 23 37.3 +0.2**
comp=Z,26nm,0.8s,baz=158,slow=3.8,SNR=48
KBZ S **S 14 33 09.3 -2.9**
comp=Z,2.8nm,0.9s,baz=297,slow=23,SNR=8.9
KBZ PKKPbc **PKKPbc 14 42 47.2 -0.6**
comp=Z,2.3nm,0.9s,baz=297,slow=6.0,SNR=4.8
KBZ LR LR 15 00 12.2
comp=Z,68nm,20.7s,baz=105,slow=38
KVAR Kislovodsk Arr 77.01 318 P **P 14 23 39.8 +1.2**
comp=Z,7.0nm,0.7s,baz=90,slow=20,SNR=16
KVAR S **S 14 33 14.2 -0.8**
comp=Z,2.8nm,0.4s,baz=6.7,slow=18,SNR=4.9
KIV Kislovodsk 77.02 318 *e*P **P 14 23 38.5 -0.1**
comp=Z,29nm,0.7s
KIV LR LR
comp=Z,181nm,20.0s
KIV Kislovodsk 77.02 318 P **P 14 23 38.5 -0.1**
SNR=15
KIV Kislovodsk 77.02 318 *e*P **P 14 23 38.4 -0.1**
KIV *e*S **S 14 33 14.9 -0.1**
KIV pmax pmax
comp=Z,37nm,0.9s
KIV MLR MLR
comp=Z,112nm,18.0s
NRIK Noril'sk 77.16 353 P **P 14 23 38.0 -0.7**
comp=Z,6.9nm,0.5s,baz=156,slow=5.3,SNR=15
NRIK PKKP **PKKPdf 14 42 38.5 +3.2**
comp=Z,2.6nm,0.5s,baz=131,slow=5.7,SNR=4.6
NRIK LR LR 15 01 31.3
comp=Z,337nm,19.0s,baz=150,slow=38
NRIK Noril'sk 77.16 353 P **P 14 23 38.0 -0.7**
NRIK pmax pmax
comp=Z,7.0nm,0.5s
NRIK MLR MLR
comp=Z,337nm,19.0s
SBA Scott Base 77.19 169 *e*P **P 14 23 40.9 +2.1**
comp=Z,192nm,0.8s
SBA LR LR
comp=Z,222nm,21.0s
SBA Scott Base 77.19 169 *e*P **P 14 23 40.9 +2.1**
SBA pmax pmax
comp=Z,192nm,0.8s
SBA MLR MLR
comp=Z,222nm,21.0s
GOF Gofitskoye 77.21 319⇓ *i*P **P 14 23 39.7 +0.2**
GOF *e*S **S 14 33 16.1 -0.7**
GOF pmax pmax
comp=Z,190nm,2.2s
MATP Matopo 77.38 251 P **P 14 23 42.8 +1.7**
comp=Z,46nm,0.5s,baz=107,slow=4.6,SNR=13
MATP pP **pP 14 24 16.8 -1.2**
comp=Z,16nm,0.7s,baz=87,slow=4.3,SNR=1.9
MATP S **S 14 33 20.4 +0.5**
comp=Z,4.8nm,0.9s,baz=214,slow=22,SNR=11
ASF Jabal al Asfar 77.40 305 P **P 14 23 42.4 +1.4**
comp=Z,200nm,0.8s,baz=56,slow=3.2,SNR=261
ASF S **S 14 33 19.6 0.0**
comp=Z,0.9nm,0.3s,baz=229,slow=20,SNR=5.0
SEY Seymchan 77.41 19*c* *e*P **P 14 23 39.0 -1.2**
LSZ Lusaka 77.96 256 *e*P **P 14 23 45.3 +0.9**
comp=Z,24nm,0.6s
LSZ LR LR
comp=Z,694nm,21.0s
LSZ Lusaka 77.96 256 *e*P **P 14 23 45.3 +0.9**
LSZ pmax pmax
comp=Z,24nm,0.6s
LSZ MLR MLR
comp=Z,694nm,21.0s
EIL Elat 78.35 302 P **P 14 23 46.9 +0.7**
comp=Z,175nm,1.0s,baz=69,slow=0.8,SNR=124
EIL pP **pP 14 24 21.9 -1.2**
comp=Z,40nm,0.9s,baz=83,slow=4.9,SNR=2.8
GAZ Gaziantep 78.61 310 *e*P **P 14 23 48.4 +0.9**
SHBL Chebaa 78.66 306 *e*P **P 14 23 49.4 +1.4**
HWQ Hawqa 78.76 307 *e*P **P 14 23 49.6 +1.1**
MMAI Mount Meron Ar 78.85 305 P **P 14 23 50.9 +1.9**
comp=Z,124nm,0.6s,baz=95,slow=7.8,SNR=131
MMAI S **S 14 33 35.3 +0.3**
comp=Z,0.3nm,0.3s,baz=133,slow=38,SNR=2.2
BHL Bhannes 78.89 306 *e*P **P 14 23 50.1 +0.9**
DQRL Deir Qamar 78.90 306 *e*P **P 14 23 51.0 +1.8**
KMRS Kahramanmaras 78.94 310 *e*P **P 14 23 49.2 -0.1**
TAHT Tahtakopru-Hat 79.16 309 *e*P **P 14 23 50.4 -0.1**
AFI Afiamalu 79.45 103 P **P 14 23 54.0 +1.5**
comp=Z,243nm,1.0s,baz=219,slow=2.1,SNR=36
AFI Afiamalu 79.45 103 *e*P **P 14 23 54.2 +1.7**
comp=Z,370nm,1.1s
TIXI Tiksi 79.51 7 P **P 14 23 50.2 -1.4**
comp=Z,21nm,0.7s,baz=173,slow=3.0,SNR=98
TIXI pP **pP 14 24 27.2 -1.4**
comp=Z,36nm,1.0s,baz=277,slow=1.4,SNR=4.6
TIXI Tiksi 79.51 7 P **P 14 23 50.2 -1.4**
TIXI pP **pP 14 24 27.2 -1.4**
TIXI LR LR
comp=Z,456nm,22.0s
TIXI Tiksi 79.51 7*d* *i*P **P 14 23 50.1 -1.4**
TIXI *i* *PP **pP 14 24 27.4 -1.2**
TIXI pmax pmax
comp=Z,22nm,0.7s
YURE YUREGIR 79.72 309 *e*P **P 14 23 54.3 +0.8**
KOZT Kozan 79.75 310 *e*P **P 14 23 53.5 -0.2**
KRTS Karatas 79.84 309 *e*P **P 14 23 55.9 +1.8**
BOSA Boshof 79.99 242 P **P 14 23 55.8 +0.5**
comp=Z,17nm,0.6s,baz=86,slow=8.8,SNR=4.1
BOSA S **S 14 33 48.0 +0.6**
comp=Z,5.2nm,1.0s,baz=195,slow=19,SNR=3.1
BOSA PKKPbc **PKKPbc 14 42 41.1 +1.3**
comp=Z,5.4nm,0.9s,baz=246,slow=2.8,SNR=5.3
BOSA LR LR 14 52 38.7
comp=Z,140nm,19.4s,baz=93,slow=30
BOSA Boshof 79.99 242 *e*P **P 14 23 56.7 +1.4**
comp=Z,77nm,1.4s
BOSA S **S 14 33 48.0 +0.6**
BOSA PKKPbc **PKKPbc 14 42 41.1 +1.3**
BOSA Boshof 79.99 242 *e*P **P 14 23 56.7 +1.4**
BOSA S **S 14 33 48.0 +0.6**
BOSA pmax pmax
comp=Z,77nm,1.4s
BNN Bunyan 80.14 311 *e*P **P 14 23 56.3 +0.5**
VRH Novokhopyorsk 80.46 324 *e*P **P 14 23 56.5 -0.6**
VRH *e*S **S 14 33 47.9 -3.1**
VRH pmax pmax
comp=Z,90nm,0.9s
VRH smax smax
comp=N,90nm,1.8s
EREN Erenkoy 80.50 308 *e*P **P 14 23 58.1 +0.4**
MERS Mersin 80.58 309 *e*P **P 14 23 58.4 +0.2**
KIZK Mersin 80.77 309 *e*P **P 14 23 59.5 +0.4**
ANN Anapa 80.84 317 *e*P **P 14 24 01.7 +2.5**
ANN *e**PP **pP 14 24 40.9 +4.5**
ANN *e*S **S 14 33 58.0 +2.8**
ANN pmax pmax
comp=Z,55nm,1.0s
NIUE Niue 80.85 108 P **P 14 24 01.7 +1.8**
baz=81,SNR=3.3
LFK Lefkose 80.94 307 *e*P **P 14 24 01.5 +1.4**
CSS Mathiatis 81.02 307 *e*P **P 14 24 00.2 -0.3**
CSS Mathiatis 81.02 307 *e*P **P 14 24 01.1 +0.7**
comp=Z,498nm,0.9s
CSS Mathiatis 81.02 307 P **P 14 24 01.8 +1.3**
CSS Mathiatis 81.02 307 P **P 14 24 01.5 +1.0**
IKL Isikli 81.07 308 *e*P **P 14 24 00.3 -0.3**
KEBE Keben-Mersin 81.10 308 *e*P **P 14 24 01.6 +0.7**
AKKU Akkuyu-Mersin 81.15 308 *e*P **P 14 24 01.6 +0.5**
MAMC Mammari 81.16 307 P **P 14 24 02.7 +1.5**
TEVE Tevekalti-Mers 81.31 308 *e*P **P 14 24 02.4 +0.4**
SZAC Souni 81.32 307 P **P 14 24 03.2 +1.1**
LEF Lefka 81.41 307 *e*P **P 14 24 02.9 +0.4**
BERE Bereket-Mersin 81.45 308 *e*P **P 14 24 03.5 +0.6**
TEKE Tekeli-Mersin 81.49 308 *e*P **P 14 24 02.2 -0.7**
ALFC Alefka 81.65 307 P **P 14 24 04.4 +0.6**
SULT Sultanhani-AKS 81.71 310 *e*P **P 14 24 04.4 +0.3**
PPCY Paphos 81.78 307 P **P 14 24 05.2 +0.8**
VORD Divnogorie 81.79 324 *e*P **P 14 24 03.2 -0.9**
VORD *e*S **S 14 34 01.5 -3.2**
VORD pmax pmax
comp=Z,20nm,0.6s
VORD smax smax
comp=N,30nm,0.9s
SERE Sereflikochisa 81.87 311 *e*P **P 14 24 03.7 -1.3**
KAMT Kaman 81.87 311 *e*P **P 14 24 04.3 -0.7**
VSR Storozhevoye 81.95 324 *e*P **P 14 24 03.2 -1.8**
VSR pmax pmax
comp=Z,40nm,0.6s
BR131 Keskin Array S 82.02 312 *e*P **P 14 24 06.1 +0.3**
BR131 Keskin Array S 82.02 312 P **P 14 24 05.5 -0.3**
SNR=61
BRTR Keskin Array B 82.02 312 P **P 14 24 06.0 +0.1**
comp=Z,110nm,0.8s,baz=129,slow=7.2,SNR=388
BRTR S **S 14 34 03.0 -4.9**
comp=Z,0.5nm,0.4s,baz=125,slow=16,SNR=2.5
BRTR PKKPbc **PKKPbc 14 42 36.4 +0.2**
comp=Z,1.6nm,0.8s,baz=199,slow=2.2,SNR=5.0
VORR Voronezh 82.09 324 *e*P **P 14 24 05.0 -0.7**
VORR pmax pmax
comp=Z,350nm,2.0s
GAZI Gazipasa 82.14 308 *e*P **P 14 24 07.8 +1.5**
CHBY Cihanbeyli 82.28 310 *e*P **P 14 24 05.9 -1.2**
KULU Kulu 82.32 311 *e*P **P 14 24 07.3 0.0**
AFSR Af˙ar-Bala (A 82.37 311 *e*P **P 14 24 07.8 +0.2**
KONT Konya--Tatoy 82.53 310 *e*P **P 14 24 09.2 +0.9**
LADK Ladik-KONYA 82.59 310 *e*P **P 14 24 08.1 -0.6**
LPSR Galich'ya Gora 82.59 325 *e*P **P 14 24 07.7 -0.5**
LPSR *e*S **S 14 34 11.0 -1.9**
LPSR pmax pmax
comp=Z,20nm,0.7s
LPSR smax smax
comp=N,190nm,1.6s
ANTO Ankara 82.69 312 PFAKE 14 24 20.0 +11
ANTO LR LR
comp=Z,145nm,19.0s
ANTO Ankara 82.69 312⇑ *i*P **P 14 24 10.1 +0.9**
ANTO Ankara 82.69 312 P **P 14 24 09.4 +0.2**
SNR=32
ANTO Ankara 82.69 312⇑ P **P 14 24 10.1 +0.9**
PRGR Permogore 83.05 335 *e*P **P 14 24 08.9 -1.5**
PRGR *e**PP **pP 14 24 45.3 -2.4**
PRGR *e*S **S 14 34 15.0 -2.1**
PRGR pmax pmax
comp=Z,24nm,0.6s
KIZT Kizilcal 83.12 310 *e*P **P 14 24 10.9 -0.6**
SIM Simferopol' 83.13 317*d* *i*P **P 14 24 11.7 +0.5**
SIM *e*S **S 14 34 21.6 +2.9**
SIM pmax pmax
comp=Z,132nm,0.9s
QSPA South Pole Qui 83.23 180 P **P 14 24 11.9 +0.4**
comp=Z,237nm,1.0s,baz=308,slow=1.7,SNR=434
QSPA S **S 14 34 13.4 -5.9**
comp=Z,7.1nm,1.0s,baz=132,slow=23,SNR=15
QSPA PKPPKP **P'P'df 14 50 37.0 +0.8**
comp=Z,0.7nm,0.5s,baz=126,slow=4.3,SNR=3.6
QSPA LR LR 14 57 54.3
comp=Z,335nm,19.4s,baz=260,slow=33
SUTC Sutluce-Ispart 83.46 309 *e*P **P 14 24 13.0 -0.3**
SUR Sutherland 83.62 238 P **P 14 24 15.1 +0.8**
comp=Z,61nm,1.0s,baz=33,slow=4.8,SNR=5.5
KORT Korkueli 83.85 308 *e*P **P 14 24 14.5 -0.8**
ISP Isparta 83.91 309 *e*P **P 14 24 15.5 0.0**
comp=Z,51nm,0.8s
ISP Isparta 83.91 309 *e*P **P 14 24 15.5 0.0**
ISP pmax pmax
comp=Z,51nm,0.8s
ELL Elmali 84.14 308 *e*P **P 14 24 17.5 +0.8**
AKAS Kas 84.27 307 *e*P **P 14 24 16.0 -1.4**
KSL Kastellorizon 84.27 307 P **P 14 24 17.1 -0.1**
MOS Moscow 84.43 328 *e*P **P 14 24 15.8 -1.7**
MOS *e**PP **pP 14 24 51.2 -3.8**
MOS *e* 14 25 13.3
MOS *e* 14 27 31.7
MOS *e*S **S 14 34 23.7 -7.5**
MOS *e**SS **sS 14 35 29.7 -6.3**
MOS pmax pmax
comp=Z,53nm,0.8s
FETY Fethiye 84.77 308 P **P 14 24 20.0 +0.3**
OBN Obninsk 84.78 327*d* *i*P **P 14 24 19.1 -0.2**
OBN *e**PP **pP 14 24 55.1 -1.7**
OBN *SP **sP 14 25 11.0 -1.5**
OBN *i* S **S 14 34 26.3 -8.3**
OBN *e**SS **sS 14 35 33.1 -6.4**
OBN *e*SS **SS 14 40 13.5 +3.2**
OBN pmax pmax
comp=Z,86nm,1.2s
BILL Bilibino 85.11 19*d* *i*P **P 14 24 19.4 -1.3**
BILL *i* *PP **pP 14 24 57.4 -0.8**
BILL *e**SP **sP 14 25 08.6 -5.3**
BILL 14 27 44.0
BILL *i* S SKSac **SKSac 14 34 26.9 -4.1**
BILL SS **SS 14 40 06.0 -8.6**
BILL pmax pmax
comp=Z,15nm,2.4s
ARG Arkhangelos 85.43 307 P **P 14 24 24.3 +1.3**
NVL N'lazarevskaya 85.54 199 *e*P **P 14 24 24.7 +1.8**
NVL *e*S **SKSac 14 34 30.7 -3.1**
NVL pmax pmax
comp=Z,123nm,1.1s
KARP Karpathos 86.07 306 P **P 14 24 27.4 +1.1**
BODT Bodrum 86.24 308 P **P 14 24 27.7 +0.6**
ADK Adak 86.62 37 PFAKE 14 24 40.0 +12
ADK LR LR
comp=Z,310nm,22.0s
SMG Samos 86.74 308 P **P 14 24 30.7 +1.3**
TLCR 86.82 316⇑ *i*P **P 14 24 30.6 +1.0**
TLCR 86.82 316⇑ P **P 14 24 30.6 +1.0**
TIRR Tirgusor 86.94 315 *e*P **P 14 24 31.2 +1.0**
comp=Z,158nm,1.0s
TIRR Tirgusor 86.94 315⇑ *i*P **P 14 24 31.4 +1.2**
TIRR Tirgusor 86.94 315⇑ P **P 14 24 31.4 +1.2**
KIS Kishinev 87.22 318 *e*P **P 14 24 33.0 +1.5**
KIS *e*pP **pP 14 25 14.0 +4.8**
KIS Kishinev 87.22 318 *e*P **P 14 24 33.0 +1.5**
KIS *e**PP **pP 14 25 14.0 +4.8**
KIS *e* 14 28 00.0
KIS *e* 14 34 40.0
TLB Topalu 87.23 315⇓ *i*P **P 14 24 32.7 +1.1**
TLB Topalu 87.23 315 ⇓P **P 14 24 32.7 +1.1**
NPS Neapolis 87.26 306 P **P 14 24 33.7 +1.7**
CFR Carcaliu 87.29 316⇑ *i*P **P 14 24 32.9 +1.0**
CFR Carcaliu 87.29 316 P **P 14 24 32.5 +0.6**
AMGA Amorgos Island 87.32 307 P **P 14 24 32.8 +0.6**
ANAF Anafi Island 87.33 307 P **P 14 24 33.3 +1.0**
HARR Harsova 87.33 315⇑ *i*P **P 14 24 33.3 +1.2**
HARR Harsova 87.33 315⇑ P **P 14 24 33.2 +1.2**
LAST Lasithi 87.35 306 P **P 14 24 34.0 +1.5**
PRD Provadia 87.40 314 P **P 14 24 33.0 +0.6**
PRK Paraskevi 87.47 310 P **P 14 24 33.9 +1.0**
CHOS Chios island 87.47 309 P **P 14 24 34.5 +1.5**
LEOM Leova 87.49 317⇓ *i*P **P 14 24 33.9 +1.1**
LEOM Leova 87.49 317 ⇓P **P 14 24 33.9 +1.1**
THT1 Athinios (Pele 87.60 307 P **P 14 24 34.6 +1.0**
THR6 Thira Island, 87.62 307 P **P 14 24 34.6 +0.9**
APE Apeiranthos 87.64 308⇑ *i*P **P 14 24 34.4 +0.6**
APE Apeiranthos 87.64 308 P **P 14 24 34.4 +0.6**
APE Apeiranthos 87.64 308⇑ P **P 14 24 34.4 +0.6**
TSUM Tsumeb 87.72 251 PFAKE 14 24 50.0 +15
TSUM LR LR
comp=Z,743nm,20.0s
SIGR SIGRI 87.78 310 P **P 14 24 34.7 +0.4**
SORM Soroca 87.78 319⇑ *i*P **P 14 24 34.0 -0.1**
SORM Soroca 87.78 319⇑ P **P 14 24 34.0 -0.1**
AKASG Malin Array Be 87.80 321 P **P 14 24 33.6 -0.6**
comp=Z,9.7nm,0.7s,baz=86,slow=4.8,SNR=43
AKASG PP **PP 14 27 58.3 -3.9**

comp=Z,3.3nm,0.8s,baz=90,slow=5.9,SNR=5.0
AKASG S **SKSac** **14 34 45.7 -2.6**
comp=Z,0.2nm,0.3s,baz=124,slow=6.4,SNR=7.1
AKASG PKKPbc **PKKPbc** **14 42 22.6 -0.1**
comp=Z,0.7nm,0.4s,baz=281,slow=3.1,SNR=4.7
AKASG LR LR 15 11 27.2
comp=Z,48nm,18.4s,baz=75,slow=41
AKASG Malin Array Be 87.80 321 *i* P **P** **14 24 33.7 -0.5**
AKASG pmax pmax
comp=Z,10.0nm,0.6s
KIEV Kiev 87.81 321 PFAKE 14 24 50.0 +16
KIEV LR LR
comp=Z,322nm,21.0s
KIEV Kiev 87.81 321 ⇓ *i* P **P** **14 24 33.1 -1.1**
KIEV pmax pmax
comp=Z,37nm,1.2s
IDI Anoyia 87.85 306 P **P** **14 24 35.5 +0.6**
comp=Z,78nm,0.9s,baz=101,slow=7.1,SNR=22
IDI Anoyia 87.85 306 *e*P **P** **14 24 35.7 +0.8**
comp=Z,222nm,1.2s
IDI Anoyia 87.85 306 ⇑ *i*P **P** **14 24 37.1 +2.2**
SIVA Sivas 87.87 305 P **P** **14 24 36.7 +1.8**
GADA Gvkgeada 87.92 311 P **P** **14 24 36.0 +1.0**
PETR Petresti 88.03 316 ⇓ *i*P **P** **14 24 37.7 +2.3**
PGOR Pogoanele 88.03 315 ⇑ *i*P **P** **14 24 37.9 +2.5**
GRER 88.13 316 ⇑ *i*P **P** **14 24 38.3 +2.4**
ODBI Odobesti 88.16 316 ⇑ *i*P **P** **14 24 38.5 +2.5**
PRNS Prines Rethymn 88.17 306 P **P** **14 24 39.3 +3.0**
SMTH Samothraki Isl 88.25 311 P **P** **14 24 37.1 +0.5**
RDO Rodhopi 88.36 312 P **P** **14 24 37.6 +0.5**
VRI Vrincioaia 88.40 316 ⇑ *i*P **P** **14 24 38.6 +1.4**
VRI Vrincioaia 88.40 316 ⇑⇑P **P** **14 24 38.6 +1.4**
LIA Limnos Island 88.41 310 P **P** **14 24 37.6 +0.3**
VAM Vamos 88.42 306 P **P** **14 24 39.4 +1.9**
PLOR Plostina 88.45 316 ⇓ *i*P **P** **14 24 38.5 +1.1**
PLOR Plostina 88.45 316 ⇓⇓P **P** **14 24 38.5 +1.1**
SZH Strazhica 88.46 314 P **P** **14 24 37.0 -0.5**
MHLO Agia Marina, M 88.47 307 P **P** **14 24 38.5 +0.8**
SERI Serifos 88.48 308 P **P** **14 24 37.9 +0.1**
SULR 88.50 315 ⇑ *i*P **P** **14 24 39.5 +1.9**
IMMV Iera Moni Meta 88.61 306 P **P** **14 24 39.9 +1.5**
SGRR Singureni 88.61 315 ⇓ *i*P **P** **14 24 39.1 +1.0**
SECR 88.70 315 ⇓ *i*P **P** **14 24 40.0 +1.4**
MLR Muntele Rosu 88.87 316 P **P** **14 24 40.3 +0.7**
comp=Z,45nm,0.8s,baz=57,slow=2.1,SNR=39
MLR S **SKSac** **14 34 53.2 -2.1**
comp=Z,5.9nm,0.8s,baz=292,slow=20,SNR=4.9
MLR Muntele Rosu 88.87 316 *e*P **P** **14 24 40.2 +0.7**
comp=Z,286nm,1.5s
MLR Muntele Rosu 88.87 316 ⇓ *i*P **P** **14 24 40.5 +1.0**
MLR Muntele Rosu 88.87 316 ⇓⇓P **P** **14 24 40.5 +1.0**
THAS Thassos island 88.88 311 P **P** **14 24 40.3 +0.8**
PRAR RASCA 89.03 318 ⇑ *i*P **P** **14 24 40.6 +0.5**
BIZ Bicaz 89.03 317 ⇑ *i*P **P** **14 24 41.1 +1.0**
PTL Penteli 89.11 308 P **P** **14 24 41.1 +0.4**
VLY Voula,Athens 89.14 308 P **P** **14 24 40.8 0.0**
PLD Plovdiv 89.15 312 P **P** **14 24 40.0 -0.7**
ATHU Athens Univers 89.16 308 P **P** **14 24 41.2 +0.3**
ATH Athens Observa 89.22 308 P **P** **14 24 41.5 +0.4**
ANKY Antikythira Is 89.22 306 P **P** **14 24 43.1 +1.9**
DOPR Dopca 89.34 316 ⇓ *i*P **P** **14 24 42.7 +1.1**
HUMR Humele 89.37 315 ⇑ *i*P **P** **14 24 42.0 +0.3**
VOIR 89.48 316 ⇑ *i*P **P** **14 24 42.6 +0.3**
VOIR 89.48 316 ⇑⇑P **P** **14 24 42.6 +0.3**
KTHR Kythira 89.52 306 P **P** **14 24 43.9 +1.3**
DID Didima 89.52 308 P **P** **14 24 42.4 -0.2**
PGB Panagyurishte 89.61 313 P **P** **14 24 43.0 0.0**
VLI Veliai 89.64 307 P **P** **14 24 43.2 0.0**
BURAR Bucovina Array 89.75 318 ⇑ *i*P **P** **14 24 44.6 +1.0**
BURAR Bucovina Array 89.75 318 ⇑⇑P **P** **14 24 44.6 +1.0**
BUR04 Bucovina Ar. S 89.75 318 *e*P **P** **14 24 44.1 +0.5**
ARR Arges 89.75 316 ⇑ *i*P **P** **14 24 44.0 +0.4**
MMB Musomiste 89.78 312 P **P** **14 24 42.0 -1.8**
LOUT Loutraki 89.80 308 P **P** **14 24 43.8 -0.1**
LKR Lokris 89.88 309 P **P** **14 24 44.0 -0.2**
PROD Prodromos 89.90 308 P **P** **14 24 43.9 -0.5**
SNAA Sanae 89.90 197 P **P** **14 24 45.8 +2.0**
SNAA Sanae 89.90 197 P **P** **14 24 45.7 +1.9**
comp=Z,99nm,0.8s,baz=130,slow=4.4,SNR=203
SNAA pP **pP** **14 25 20.2 -1.4**
comp=Z,49nm,1.1s,baz=112,slow=6.8,SNR=3.7
SNAA PP PP 14 28 08.6 -10
comp=Z,8.6nm,0.9s,baz=99,slow=8.0,SNR=3.7
SNAA S **SKSac** **14 34 58.5 -1.9**
comp=Z,1.5nm,0.8s,baz=246,slow=20,SNR=7.9
SNAA PKKPbc **PKKPdf** **14 42 14.1 +1.5**
comp=Z,2.7nm,0.8s,baz=218,slow=5.9,SNR=7.4
SNAA Sanae 89.90 197 *e*P **P** **14 24 45.1 +1.3**
comp=Z,147nm,0.9s
SNAA pP **pP** **14 25 20.2 -1.4**
SNAA PP PP 14 28 08.6 -10
SNAA PKKPbc **PKKPdf** **14 42 14.1 +1.5**
SNAA Sanae 89.90 197 *e*P **P** **14 24 45.1 +1.3**
SNAA *PP **pP** **14 25 20.2 -1.4**
SNAA pmax pmax
comp=Z,147nm,0.9s
SOH Sokhos 89.94 311 P **P** **14 24 44.7 +0.1**
VLX Vlachokerasia 90.17 307 P **P** **14 24 46.4 +0.6**
APA Apatity 90.19 338 ⇓ *i*P **P** **14 24 43.7 -1.3**
APA pmax pmax
comp=Z,10.0nm,1.1s
VTS Vitosha 90.32 313 ⇓ *i*P **P** **14 24 47.0 +0.6**
VTS Vitosha 90.32 313 P **P** **14 24 46.0 -0.4**
VTS Vitosha 90.32 313 P **P** **14 24 46.9 +0.6**
VTS Vitosha 90.32 313 ⇓⇓P **P** **14 24 47.0 +0.6**
AGG Agios Georgios 90.45 309 *e*P **P** **14 24 47.2 +0.2**
comp=Z,98nm,1.1s
AGG Agios Georgios 90.45 309 P **P** **14 24 46.8 -0.1**
AGG Agios Georgios 90.45 309 *e*P **P** **14 24 47.2 +0.2**
AGG pmax pmax
comp=Z,98nm,1.1s
KLV Kalavryta, Ach 90.45 308 P **P** **14 24 47.6 +0.6**
LIT Litokhoron 90.48 310 P **P** **14 24 47.2 +0.1**
SERG Sergoula 90.58 308 P **P** **14 24 48.0 +0.5**
VAY Valandovo 90.60 311 *i* P **P** **14 24 47.5 -0.1**
VAY Valandovo 90.60 311 P **P** **14 24 47.6 +0.1**
PYL PYLOS 90.61 307 P **P** **14 24 48.2 +0.5**
GRG Griva 90.67 311 P **P** **14 24 48.0 +0.1**
AMT Artemida-Makis 90.73 308 P **P** **14 24 49.8 +1.5**
DRO Drossia 90.78 308 P **P** **14 24 50.5 +2.0**
EVR Evrytania 90.84 309 P **P** **14 24 49.6 +0.8**
LVV L'vov 90.90 320 *e*P **P** **14 24 47.8 -0.9**
DEV Deva 91.03 316 ⇑ *i*P **P** **14 24 51.1 +1.7**
DEV Deva 91.03 316 ⇑⇑P **P** **14 24 51.1 +1.7**
HERR Herculane 91.23 315 ⇑ *i*P **P** **14 24 51.3 +0.9**
DRGR 91.30 317 ⇑ *i*P **P** **14 24 51.5 +0.7**
DRGR 91.30 317 ⇑⇑P **P** **14 24 51.5 +0.7**
FNA Florina 91.42 311 P **P** **14 24 51.7 +0.3**
VNA2 Neumayer--Watz 91.55 197 P **P** **14 24 53.2 +1.9**
baz=98,slow=4.2
KRUS Krusevo 91.59 311 *i* P **P** **14 24 51.6 -0.7**
JAN Janina 91.67 310 P **P** **14 24 53.8 +1.2**
KWP Kalwaria Pacla 91.72 320 *e*P **P** **14 24 53.0 +0.5**
KWP Kalwaria Pacla 91.72 320 *e*P **P** **14 24 53.0 +0.5**
BZS Buzias 91.89 316 ⇑ *i*P **P** **14 24 54.0 +0.6**
BZS Buzias 91.89 316 ⇑⇑P **P** **14 24 54.0 +0.6**
OHR Ohrid 91.90 311 *i* P **P** **14 24 53.0 -0.6**
OHR Ohrid 91.90 311 P **P** **14 24 54.0 +0.4**
VNA1 Neumayer--Stat 91.93 197 P **P** **14 24 55.1 +2.0**
IGT Igoumenitsa 92.06 309 P **P** **14 24 54.9 +0.6**
VNA3 Neumayer Olymp 92.07 197 P **P** **14 24 55.4 +1.6**
SUW Suwalki 92.07 324 *e*P **P** **14 24 53.8 -0.2**
SUW Suwalki 92.07 324 *e*P **P** **14 24 53.8 -0.2**
KEK Kerkira 92.49 310 P **P** **14 24 56.9 +0.6**
DIVS Divibare 92.85 314 *e*P **P** **14 24 58.7 +0.7**
KEV Kevo 93.00 340 PFAKE 14 25 10.0 +12
KEV LR LR
comp=Z,819nm,19.0s
FRGS Fruska Gora 93.10 315 *e*P **P** **14 24 59.1 +0.1**
PDG Podgorica 93.20 312 ⇑ *i*P **P** **14 25 00.1 +0.6**
PDG Podgorica 93.20 312 *e*P **P** **14 24 59.6 +0.1**
DRME Dracevica, Mon 93.22 312 *e*P **P** **14 24 59.7 0.0**
BBLS Lazići 93.24 314 *e*P **P** **14 25 00.2 +0.4**
NIE Niedzica 93.24 319 *e*P **P** **14 24 59.5 -0.1**
NIE Niedzica 93.24 319 *e*P **P** **14 24 59.5 -0.1**
ARCES ARCESS Array B 93.47 340 P **P** **14 24 59.2 -1.0**
comp=Z,15nm,1.1s,baz=95,slow=5.1,SNR=9.2
ARCES PKiKP **PKiKP** **14 29 48.3 +3.0**
comp=Z,3.4nm,0.8s,baz=103,slow=3.9,SNR=4.7
ARCES PKKPbc **PKKPdf** **14 42 05.6 -1.6**
comp=Z,5.5nm,0.9s,baz=307,slow=3.3,SNR=4.5
ARCES LR LR 15 10 56.7
comp=Z,8.9nm,20.2s,baz=122,slow=38
HAPS Han Pijesak,Bl 93.59 314 *e*P **P** **14 25 01.8 +0.3**
OJC Ojcow 93.66 320 *e*P **P** **14 25 01.8 +0.3**
OJC Ojcow 93.66 320 *e*P **P** **14 25 01.8 +0.3**
BRY Bratogost 93.77 313 *e*P **P** **14 25 01.9 -0.4**
TREB Trebinje 93.89 312 *e*P **P** **14 25 01.2 -1.5**
VYHS Vyhne 94.11 318 *e*P **P** **14 25 03.2 -0.4**
VYHS pmax pmax
comp=Z,8.0nm,1.4s
VYHS Vyhne 94.11 318 *e*P **P** **14 25 03.2 -0.4**
OKC Ostrava-Krasne 94.68 319 *e*SKS **SKSac** **14 35 27.1 -0.4**
JAVC Velka Javorina 94.91 318 *e*P **P** **14 25 08.0 +0.7**
BLY Banja Luka 94.91 314 ⇑ *i*P **P** **14 25 08.3 +1.0**
BLY Banja Luka 94.91 314 *e*P **P** **14 25 08.1 +0.8**
MORC Moravsky Berou 95.06 319 ⇓ *i*P **P** **14 25 08.4 +0.4**
MORC Moravsky Berou 95.06 319 ⇓⇓P **P** **14 25 08.4 +0.4**
MORC Moravsky Berou 95.06 319 *e*P **P** **14 25 08.0 0.0**
MODS Modra-Piesok 95.13 318 *e*P **P** **14 25 11.3 +3.0**
MODS pmax pmax
comp=Z,21nm,1.4s
MODS Modra-Piesok 95.13 318 *e*P **P** **14 25 11.3 +3.0**
BEHE Becsehely 95.33 316 *e*P **P** **14 25 10.0 +0.8**
DPC Dobruska-Polom 95.89 320 *e*P **P** **14 25 12.1 +0.4**
DPC Dobruska-Polom 95.89 320 *e*P **P** **14 25 12.1 +0.4**
KSP Ksiaz 95.94 320 *e*P **P** **14 25 12.1 +0.2**
KSP Ksiaz 95.94 320 *e*P **P** **14 25 12.1 +0.2**
ARSA Arzberg 96.24 317 *i* P **P** **14 25 13.5 +0.2**
comp=Z,13nm,1.5s
SOKA Soboth 96.54 316 *i* P **P** **14 25 14.9 0.0**
comp=Z,14nm,1.4s
GOPC GO Pecny, Ondr 96.85 319 *e*SKS **SKSac** **14 35 38.5 -0.5**
LJU Ljubljana 96.86 316 *e*P **P** **14 25 16.6 +0.4**
CEY Cerknica 96.92 315 *e*P **P** **14 25 16.3 -0.2**
AQU L'Aquila 97.52 312 P Pdif 14 25 19.9 +0.6
GERES GERESS Array B 97.53 318 P **P** **14 25 18.8 -0.4**
comp=Z,2.6nm,0.8s,baz=106,slow=2.8,SNR=14
GERES PKKPbc **PKKPbc** **14 41 56.6 -0.9**
comp=Z,1.4nm,0.9s,baz=270,slow=1.3,SNR=6.8
GERES LR LR 15 16 59.5
comp=Z,53nm,18.2s,baz=106,slow=40
KHC Kasperske Hory 97.61 319 *e*P **P** **14 25 18.9 -0.6**
KHC *ex* x 14 25 35.5
KHC *e*SKS **SKSac** **14 35 43.0 0.0**
KHC Kasperske Hory 97.61 319 *e*P **P** **14 25 18.9 -0.6**
KHC *e* 14 35 43.0
KBS Kingsbay 97.65 349 PFAKE 14 25 30.0 +11
KBS LR LR
comp=Z,391nm,19.0s
KBA Koelnbreinsper 97.72 317 *i* PgPg **SKSac** **14 35 41.1 -2.8**
comp=Z,44nm,1.8s
CLL Collm 98.03 321 *e*Pdif Pdif 14 25 26.0 +4.7
CLL *e* 14 25 41.0
CLL *i* PKiKP **PKiKP** **14 29 51.2 -2.5**
CLL *e*SKSac **SKSac** **14 35 42.0 -2.8**
CLL *e* 14 37 32.0
CLL *e*SP **SP** **14 37 59.0 -0.4**
CLL LmV 15 19 00.0
comp=Z,200nm,19.6s
CLL Collm 98.03 321 *e*P Pdif 14 25 26.0 +4.7
CLL *e* 14 35 42.0
WTTA Wattenberg 98.88 317 *i* PbPb **SKSac** **14 35 47.3 -2.4**
comp=Z,25nm,1.1s
NOA NORSAR Array B 98.91 331 P Pdif 14 25 25.5 +0.5
comp=Z,2.8nm,0.9s,baz=79,slow=4.6,SNR=3.8
NOA PKKPbc **PKKPbc** **14 41 52.5 -1.7**
comp=Z,2.4nm,0.8s,baz=267,slow=2.3,SNR=4.0
WATA Walderalm 98.92 317 *i* Pdiff **P** **14 25 25.5 -0.1**
comp=Z,2.1nm,0.5s
WATA Walderalm 98.92 317 *i* PbPb **SKSac** **14 35 45.3 -4.6**
comp=Z,6.8nm,1.1s
SQTA Sankt Quirin 99.17 317 *i* Pdiff **Pdif** **14 25 26.2 -0.5**
comp=Z,4.6nm,0.7s
SQTA Sankt Quirin 99.17 317 *i* PbPb **SKSac** **14 35 45.1 -6.0**
comp=Z,19nm,1.7s
TBI Tubuai 99.22 115 *e*PP PP 14 29 28.2 -3.6
comp=Z,117nm,30.2s
TBI Tubuai 99.22 115 *e*SS SS 14 43 36.7 -1.8
comp=Z,254nm,29.2s
TBI Tubuai 99.22 115 *e*LR LR 14 58 04.4
comp=Z,390nm,36.8s
MOTA Moosalm 99.25 317 *i* Pdiff **Pdif** **14 25 25.9 -1.1**
comp=Z,4.9nm,0.8s
MOTA Moosalm 99.25 317 *i* PbPb **SKSac** **14 35 45.2 -6.3**
comp=Z,6.4nm,1.0s
RETA Reutte 99.48 317 *i* Pdiff **Pdif** **14 25 27.7 -0.2**
comp=Z,14nm,1.5s
RETA Reutte 99.48 317 *i* PbPb **SKSac** **14 35 51.0 -1.5**
comp=Z,45nm,1.6s
FETA Feichten 99.50 316 *i* PbPb **SKSac** **14 35 49.8 -3.0**
comp=Z,22nm,1.5s
DAVA Damuels 100.08 317 *i* Pdiff **Pdif** **14 25 31.0 +0.3**
comp=Z,14nm,1.2s
DAVA Damuels 100.08 317 *i* PbPb **SKSac** **14 35 55.9 +0.3**
comp=Z,14nm,1.6s
PPT2 Papeete2 100.20 109 *e*Pdif **Pdif** **14 25 31.0 -0.8**
comp=Z,77nm,26.2s
PPT2 Papeete2 100.20 109 *e*PP PP 14 29 40.6 +1.1
comp=Z,134nm,28.5s
PPT2 *e*Sdif Sdif 14 36 52.9 -2.0
comp=Z,615nm,26.5s
PPT2 *e*SS **SS** **14 43 51.1 -1.6**
comp=Z,404nm,25.2s
PPT2 Papeete2 100.20 109 *e*LR LR 14 58 22.8
comp=Z,260nm,22.8s
KEST Kesra 100.50 305 P **Pdif** **14 25 34.1 +1.3**
comp=Z,11nm,1.0s,baz=321,slow=5.6,SNR=5.2
KEST PP **PP** **14 29 37.8 -3.7**
comp=Z,7.5nm,0.8s,baz=253,slow=3.3,SNR=3.7
TOLK Toolik Lake Re 100.97 21 P **Pdif** **14 25 33.9 -0.2**
baz=280
KDAK Kodiak Island 100.98 33 PKiKP **PKiKP** **14 29 59.4 +0.7**
comp=Z,4.7nm,0.7s,baz=250,slow=3.0,SNR=5.9
KDAK Kodiak Island 100.98 33 PKiKP **PKiKP** **14 29 59.4 +0.7**
KDAK LR LR
comp=Z,131nm,20.0s
COLA College 102.30 25 PFAKE 14 25 50.0 +10
COLA LR LR
comp=Z,182nm,20.0s
ILAR Eielson Array 102.72 25 PKiKP **PKiKP** **14 30 01.4 -0.5**
comp=Z,0.8nm,0.5s,baz=290,slow=2.8,SNR=12
ILAR SKP 14 33 23.6
comp=Z,0.5nm,0.6s,baz=171,slow=2.5,SNR=4.3
ILAR PKKPbc **PKKPbc** **14 41 41.0 -2.2**
comp=Z,2.6nm,0.8s,baz=104,slow=1.5,SNR=17
ILAR PKKPab PKKPdf 14 42 02.6 +12
comp=Z,1.8nm,0.9s,baz=123,slow=3.9,SNR=7.5
ILAR PKPPKP **P'P'df** **14 50 02.7 +3.6**
comp=Z,1.2nm,1.1s,baz=12,slow=4.6,SNR=5.7
EGAK Eagle 105.10 24 PFAKE 14 30 20.0
EGAK LR LR
comp=Z,250nm,21.0s
EPYK Eagle Plains 106.33 22 P **PKiKP** **14 30 09.2 +0.8**
baz=291
INK Inuvik 106.70 20 PKKPbc PKKPbc 14 41 27.8 -3.4
comp=Z,2.8nm,0.7s,baz=94,slow=3.3,SNR=6.9
INK PKKPab **PKKPab** **14 41 45.5 +1.1**
comp=Z,4.0nm,0.9s,baz=168,slow=5.6,SNR=4.8
TORD Torodi Ar. Bea 106.83 282 Pdiff **Pdif** **14 26 02.4 +1.1**
baz=97,slow=2.9
TORD PKiKP **PKiKP** **14 30 10.8 0.0**
comp=Z,1.6nm,0.6s,baz=4.3,slow=5.9,SNR=9.8
TORD PP **PP** **14 30 26.7 -2.4**
comp=Z,2.6nm,1.0s,baz=106,slow=7.9,SNR=4.6
TORD SKP 14 33 31.6
comp=Z,2.2nm,0.6s,baz=86,slow=1.4,SNR=10
TORD PKKPbc **PKKPbc** **14 41 28.1 -1.0**
comp=Z,1.6nm,0.9s,baz=305,slow=3.5,SNR=6.8
TORD PKKPab **PKKPab** **14 41 44.4 -0.4**
comp=Z,1.0nm,0.8s,baz=316,slow=6.2,SNR=3.8
ESDC Sonseca Array 110.76 310 PKiKP **PKiKP** **14 30 18.6 +1.0**
comp=Z,0.6nm,0.5s,baz=25,slow=2.3,SNR=6.7
ESDC PP **PP** **14 30 55.3 -1.6**
comp=Z,3.3nm,0.8s,baz=81,slow=7.8,SNR=7.9
ESDC PKKPbc **PKKPbc** **14 41 17.8 +0.4**
comp=Z,1.8nm,0.6s,baz=283,slow=3.9,SNR=10
ESDC PKKPab **PKKPab** **14 41 27.4 +0.5**
comp=Z,4.1nm,0.9s,baz=272,slow=4.8,SNR=10
TAOE Nuku Hiva Isla 110.83 102 *e*LR LR 15 03 25.4
comp=Z,253nm,36.6s
RES Resolute Bay 110.90 6 PKiKP **PKiKP** **14 30 17.1 +0.4**
comp=Z,6.7nm,0.6s,baz=276,slow=2.4,SNR=14
WRAK Wrangell Islan 111.99 31 PFAKE 14 30 30.0
WRAK LR LR
comp=Z,323nm,22.0s
RKT Rikitea 112.16 118 *e*SS SS 14 46 36.5 +1.9
comp=Z,361nm,29.0s
RKT Rikitea 112.16 118 *e*LR LR 15 04 02.7
comp=Z,606nm,37.2s
KIC Kosan Boka 112.72 274 *e*P **PKKPab** **14 41 20.0 +1.1**
comp=Z,38nm,0.9s
DBIC Dimbokro 112.86 274 PKiKP **PKiKP** **14 30 22.4 +0.3**
comp=Z,2.3nm,0.7s,baz=72,slow=3.0,SNR=3.9
DBIC SKP 14 33 43.4
comp=Z,7.0nm,0.7s,baz=5.8,slow=1.2,SNR=7.2
DBIC PKKPbc **PKKPbc** **14 41 08.5 -1.1**
comp=Z,0.9nm,0.3s,baz=242,slow=5.7,SNR=3.3
DBIC PKKPab **PKKPab** **14 41 19.4 +1.1**
comp=Z,8.2nm,0.8s,baz=276,slow=4.6,SNR=11
LIC Lamto 112.99 274 *e*P **PKKPab** **14 41 18.8 +1.2**
comp=Z,60nm,0.9s
TIC Toumodi 113.02 274 *e*P **PKKPab** **14 41 18.5 +1.0**
PCBR Castelo Branco 113.41 310 *e*PKPdf **PKiKP** **14 30 24.2 +1.7**
PCAS Casmilo, Conde 114.13 311 *e*PKPdf PKPdf 14 30 24.8 +0.9
PBDV Barranco-do-Ve 114.24 308 *e*PKPdf PKPdf 14 30 26.1 +1.9
MESJ Messejana 114.35 308 *e*PKPdf PKPdf 14 30 25.8 +1.4
PFVI Vila Bisbo 114.96 308 *e*PKPdf PKPdf 14 30 27.1 +1.5
YKA Yellowknife Ar 116.47 20 PKP **PKPdf** **14 30 27.7 0.0**
comp=Z,13nm,0.6s,baz=323,slow=1.5,SNR=31
YKA SKP 14 33 48.9
comp=Z,8.9nm,0.7s,baz=334,slow=1.6,SNR=8.2
YKA PKKPbc **PKKPbc** **14 40 56.8 -2.1**
comp=Z,6.4nm,0.8s,baz=128,slow=3.7,SNR=5.2
USHA Ushuaia 118.55 183 PKP **PKPdf** **14 30 33.1 +1.2**
comp=Z,16nm,0.9s,baz=340,slow=1.2,SNR=7.0
PGC Sidney 120.17 37 *e*PKPdf **PKPdf** **14 30 36.5 +1.3**
ASCN Ascension 120.20 257 PFAKE 14 30 50.0 +14
ASCN LR LR
comp=Z,256nm,22.0s
A04D Lummi Island 120.57 36 P **PKPdf** **14 30 36.9 +0.9**
baz=298
A05A Maple Falls 120.81 36 *e*PKPdf **PKPdf** **14 30 37.4 +1.0**
D03D Eldon 120.89 38 P **PKPdf** **14 30 38.4 +1.7**
baz=297
B05A Bryant 121.14 36 P **PKPdf** **14 30 38.3 +1.1**
baz=298
D04E Lakebay 121.24 38 P **PKPdf** **14 30 39.3 +1.9**
baz=297
B06A Marblemount 121.38 36 *e*PKPdf **PKPdf** **14 30 38.6 +1.0**
F04D Rainier, OR 121.58 39 P **PKPdf** **14 30 39.5 +1.5**
baz=296
E04D Cinebar 121.64 38 P **PKPdf** **14 30 39.5 +1.4**
baz=297
G03D McMinnville, O 121.79 40 P **PKPdf** **14 30 39.7 +1.2**
baz=295
LON Longmire 122.02 38 *e*PKPdf **PKPdf** **14 30 40.1 +1.1**
LON Longmire 122.02 38 *e*PKIKP **PKPdf** **14 30 40.1 +1.1**
B202 Windy Ridge, M 122.05 39 *e*PKPdf **PKPdf** **14 30 40.5 +1.5**
J01E Myrtle Point 122.20 43 P **PKPdf** **14 30 40.2 +0.9**
baz=294
I03D Drain, OR 122.37 42 P **PKPdf** **14 30 41.0 +1.4**
baz=294,SNR=8.1
H04D Lebanon 122.42 41 P **PKPdf** **14 30 41.2 +1.5**
baz=295,SNR=11
LTY Liberty 122.47 37 *e*PKPdf **PKPdf** **14 30 40.3 +0.5**
K02D Willamette Mer 122.56 43 P **PKPdf** **14 30 41.4 +1.2**
baz=293
F05D White Salmon 122.63 39 P **PKPdf** **14 30 41.1 +1.0**
baz=297
IVI Ivigtut 122.70 346 *e*PKPdf **PKPdf** **14 30 40.1 +0.4**
B08A Colville Reser 122.71 35 *e*PKPdf **PKPdf** **14 30 40.6 +0.4**
H04A Detroit Lake 122.71 40 *e*PKPdf **PKPdf** **14 30 41.3 +1.0**
L02E Cave Junction 122.82 44 P **PKPdf** **14 30 42.2 +1.6**
baz=293,SNR=8.1
I04A Tendick Farm, 122.95 41 P **PKPdf** **14 30 41.7 +0.9**
baz=295,SNR=10
KHMM Horse Mountain 123.22 45 *e*PKPdf **PKPdf** **14 30 43.7 +2.1**
J04D Umpqua Nationa 123.38 42 P **PKPdf** **14 30 43.2 +1.3**
baz=295,SNR=13
I05D Terrebonne, OR 123.41 40 P **PKPdf** **14 30 43.1 +1.4**
baz=296
HAWA Hanford 123.57 37 *e*PKPdf **PKPdf** **14 30 43.7 +1.8**
F07A Phinny Hill Vi 123.57 38 *e*PKPdf **PKPdf** **14 30 43.9 +2.0**
YBH Yreka Blue Hor 123.60 44 PKP **PKPdf** **14 30 42.7 +0.5**
comp=Z,7.2nm,0.6s,baz=292,slow=4.5,SNR=13
C09A Chrisman Ranch 123.60 35 *e*PKPdf **PKPdf** **14 30 42.9 +0.9**
M02C Callahan 123.64 44 P **PKPdf** **14 30 43.9 +1.6**
baz=293,SNR=12
L04D Klamath Falls 123.68 43 P **PKPdf** **14 30 43.5 +1.1**
baz=294,SNR=45
K04D Chiloquin, OR 123.88 42 P **PKPdf** **14 30 43.6 +0.8**
baz=295
N02D Trinity Center 123.90 44 P **PKPdf** **14 30 43.8 +1.0**
baz=293,SNR=6.4
PINE Pine Mountain 123.91 41 *e*PKPdf **PKPdf** **14 30 44.9 +2.0**
J05D Fort Rock, OR 123.94 41 P **PKPdf** **14 30 44.2 +1.3**
baz=296,SNR=9.7
NEW Newport 124.01 34 PKP **PKPdf** **14 30 43.7 +0.9**
comp=Z,16nm,0.7s,baz=322,slow=2.8,SNR=24
NEW Newport 124.01 34 P **PKPdf** **14 30 43.8 +1.0**
baz=303
M04C Macdoel 124.17 43 P **PKPdf** **14 30 44.5 +1.2**
baz=294,SNR=11
K05A Summer Lake 124.41 42 *e*PKPdf **PKPdf** **14 30 45.5 +1.7**
G08A Pilot Rock 124.46 38 *e*PKPdf **PKPdf** **14 30 45.3 +1.5**
O03E Paynes Creek 124.80 45 P **PKPdf** **14 30 45.4 +0.8**
baz=294
MOD Modoc Plateau 125.16 43 *e*PKPdf **PKPdf** **14 30 47.0 +1.8**
BMO Blue Mountains 125.69 38 *e*PKPdf **PKPdf** **14 30 47.1 +0.9**
BMO LR LR
comp=Z,173nm,20.0s
BMO Blue Mountains 125.69 38 *e*PKIKP **PKPdf** **14 30 47.1 +0.9**
BMO MLR MLR
comp=Z,173nm,20.0s
J08A Circle Bar Ran 125.70 40 *e*PKPdf **PKPdf** **14 30 48.2 +2.0**
WVOR Wild Horse Val 126.03 41 PFAKE 14 31 00.0 +13
WVOR LR LR
comp=Z,181nm,21.0s
MSO Missoula 126.60 34 *e*PKPdf **PKPdf** **14 30 48.7 +0.9**
MSO Missoula 126.60 34 P **PKPdf** **14 30 48.7 +0.9**
baz=305
FFC Flin Flon 126.64 21 *e*PKPdf **PKPdf** **14 30 48.2 +0.7**
FFC LR LR
comp=Z,317nm,20.0s
FFC Flin Flon 126.64 21 *i* PKIKP **PKPdf** **14 30 48.5 +1.0**
PAHR Pah Rah Range 126.74 45 *e*PKPdf **PKPdf** **14 30 50.1 +1.8**
PMPB Monarch Peak 127.10 49 *e*PKPdf **PKPdf** **14 30 52.2 +3.2**
KVN Kaiserville 127.92 45 *e*PKPdf **PKPdf** **14 30 52.2 +1.5**
KVN Kaiserville 127.92 45 *e*PKIKP **PKPdf** **14 30 52.2 +1.5**
NV01 Mina Array Sit 128.04 46 *e*PKPdf **PKPdf** **14 30 52.7 +1.7**
NVAR Mina Array Bea 128.04 46 PKP **PKPdf** **14 30 53.0 +2.1**
comp=Z,9.7nm,0.7s,baz=294,slow=2.2,SNR=64
NVAR SKPbc SKPbc 14 33 57.7
comp=Z,12nm,0.8s,baz=270,slow=3.5,SNR=17
NVAR SKP 14 34 13.2
comp=Z,12nm,1.0s,baz=240,slow=3.6,SNR=6.0
NVAR PKKPab PKKPab 14 40 16.4
comp=Z,0.8nm,0.7s,baz=148,slow=4.2,SNR=4.4
EGMT Eagleton 128.12 31 *e*PKPdf **PKPdf** **14 30 51.6 +0.9**
EGMT LR LR
comp=Z,278nm,22.0s
EGMT Eagleton 128.12 31 P **PKPdf** **14 30 51.7 +1.1**
baz=310
HLID Hailey 128.14 38 PFAKE 14 31 00.0 +9.0
HLID LR LR
comp=Z,192nm,20.0s
HLID Hailey 128.14 38 P **PKPdf** **14 30 53.0 +2.0**
baz=303
NV11 Mina Array Sit 128.15 46 *e*PKPdf **PKPdf** **14 30 52.8 +1.7**
DLMT Dillon 128.21 35 *e*PKPdf **PKPdf** **14 30 52.6 +1.6**
PKM Mcpherson Peak 128.33 50 P **PKPdf** **14 30 53.1 +1.5**
baz=292
MCMT McKenzie Canyo 128.38 36 *e*PKPdf **PKPdf** **14 30 52.8 +1.3**
VES Vestal, Richgr 128.53 49 P **PKPdf** **14 30 53.1 +1.4**
baz=293
BOZ Bozeman (W) 128.62 35 PFAKE 14 31 00.0 +8.2
BOZ LR LR
comp=Z,189nm,22.0s
BOZ Bozeman (W) 128.62 35 P **PKPdf** **14 30 53.2 +1.4**
baz=307
SCZ2 Santa Cruz Isl 128.79 51 P **PKPdf** **14 30 54.1 +1.9**
baz=291
ARVC Arvin 128.99 50 P **PKPdf** **14 30 54.3 +1.7**
baz=292
CWC Cottonwood Cre 129.03 48 P **PKPdf** **14 30 54.5 +1.6**
baz=294
ISA Isabella, Lake 129.05 49 P **PKPdf** **14 30 54.5 +1.8**
baz=293
GRAC Grapevine Rang 129.33 47 P **PKPdf** **14 30 55.1 +1.9**
baz=295
MPMC Manual Prospec 129.63 48 P **PKPdf** **14 30 56.1 +2.1**
baz=294
LRMC Laurel Mtn Rad 129.72 49 P **PKPdf** **14 30 56.1 +2.0**

baz=294
EDW2 **Edwards Air Fo** 129.72 50 P PKPdf 14 30 56.5 +2.5
baz=293
YPP **Pitchstone Pla** 129.89 35 *e*PKPdf PKPdf 14 30 57.6 +3.2
FURC **Furnace Creek,** 129.92 47 P PKPdf 14 30 56.4 +2.2
baz=295
LKWY **Lake** 129.94 35 PFAKE 14 31 10.0 +16
LKWY LR LR
comp=Z,344nm,20.0s
H17A **Grant Village** 129.94 35 P PKPdf 14 30 56.5 +2.0
baz=307
CIS **Catalina Islan** 129.96 52 P PKPdf 14 30 56.6 +2.0
baz=292
R11A **Troy Canyon, C** 129.99 44 P PKPdf 14 30 56.4 +1.7
baz=298
HVU **Hansel Valley** 130.12 39 *e*PKPdf PKPdf 14 30 56.4 +1.6
FXWY **Fox Creek** 130.13 36 *e*PKPdf PKPdf 14 30 56.6 +1.8
TPNV **Topopah Spring** 130.15 46 P PKPdf 14 30 56.5 +1.6
baz=296
BFSC **Mount Baldy Ra** 130.22 50 P PKPdf 14 30 56.7 +1.6
baz=293
RLMT **Red Lodge** 130.23 34 *e*PKPdf PKPdf 14 30 56.9 +1.9
RLMT **Red Lodge** 130.23 34 P PKPdf 14 30 56.7 +1.8
baz=309
TPAW **Teton Pass** 130.26 36 *e*PKPdf PKPdf 14 30 57.1 +2.0
LOHW **Long Hollow** 130.40 36 *e*PKPdf PKPdf 14 30 56.6 +1.3
REDW **Red Top Meadow** 130.40 36 *e*PKPdf PKPdf 14 30 57.3 +2.0
BGU **Big Grassy Mou** 130.42 40 *e*PKPdf PKPdf 14 30 57.1 +1.8
GSC **Goldstone, Bar** 130.44 49 P PKPdf 14 30 57.5 +2.1
baz=294
DGMT **Dagmar** 130.52 27 PFAKE 14 31 10.0 +15
DGMT LR LR
comp=Z,394nm,19.0s
DGMT **Dagmar** 130.52 27 P PKPdf 14 30 56.3 +1.1
baz=317
SHOC **Shoshone, Teco** 130.59 48 P PKPdf 14 30 57.5 +1.9
baz=295
AHID **Auburn Hatcher** 130.60 37 PFAKE 14 31 10.0 +14
AHID LR LR
comp=Z,193nm,22.0s
LAO **LASA Array** 130.81 30 P PKPdf 14 30 57.7 +1.9
baz=313
MURC **Murrieta** 130.83 51 P PKPdf 14 30 58.1 +2.0
baz=293
DUG **Dugway, Tooele** 130.94 41 *e*PKPdf PKPdf 14 30 57.5 +1.1
DUG LR LR
comp=Z,154nm,19.0s
DUG **Dugway, Tooele** 130.94 41 P PKPdf 14 30 58.2 +1.9
baz=302
RPN **Rapa Nui** 130.97 135 SKPbc SKPab 14 34 09.0 +1.4
comp=Z,49nm,0.9s,baz=251,slow=5.4,SNR=5.7
RPN **Rapa Nui** 130.97 135 *i* PKIKP PKPdf 14 31 00.9 +4.3
HWUT **Hardware Ranch** 130.97 39 *e*PKPdf PKPdf 14 30 57.7 +1.3
HWUT LR LR
comp=Z,249nm,21.0s
HEC **Hector,Ludlow** 130.99 49 P PKPdf 14 30 59.0 +2.5
baz=294
TUQ **Turquoise Moun** 131.04 48 P PKPdf 14 30 59.1 +2.5
baz=295
FRD **Ford Ranch, An** 131.32 51 P PKPdf 14 30 59.7 +2.5
baz=293
PFO **Pinyon Flats O** 131.39 51 *i* PKIKP PKPdf 14 31 00.8 +3.4
PFO **Pinyon Flats O** 131.39 51 P PKPdf 14 30 59.8 +2.5
baz=293
BW06 **Boulder Array** 131.51 36 *e*PKPdf PKPdf 14 30 58.5 +1.1
BW06 LR LR
comp=Z,240nm,22.0s
BW06 **Boulder Array** 131.51 36 P PKPdf 14 30 59.0 +1.5
baz=307
GMRC **Granite Mounta** 131.51 49 P PKPdf 14 31 00.3 +2.7
baz=295
PD31 **Pinedale Array** 131.51 36 *e*PKPdf PKPdf 14 30 58.5 +1.0
PDAR **Pinedale Array** 131.51 36 PKP PKPdf 14 30 58.5 +1.0
comp=Z,12nm,0.6s,baz=167,slow=0.7,SNR=122
PDAR SKPab **SKPbc** 14 34 08.8 -0.4
comp=Z,111nm,0.9s,baz=278,slow=1.0,SNR=98
PDAR PKKP **PKKPdf** 14 40 53.3 -2.1
comp=Z,0.9nm,0.8s,baz=91,slow=5.9,SNR=3.7
PDAR SKKPbc **SKKPbc** 14 43 42.6 +1.4
comp=Z,0.6nm,0.4s,baz=116,slow=4.2,SNR=3.8
BELC **Belle Mtn. Jos** 131.58 50 P PKPdf 14 31 00.4 +2.7
baz=294
MONP2 **Monument Peak** 131.70 51 P PKPdf 14 31 00.8 +2.7
baz=293
LDFC **Landfair** 131.80 48 *e*PKPdf PKPdf 14 31 01.4 +3.3
SCHQ **Schefferville** 131.84 356 PKP PKPdf 14 30 57.7 +0.3
comp=Z,13nm,0.6s,baz=280,slow=17,SNR=11
SCHQ SKPbc **SKPbc** 14 34 09.1 -0.5
comp=Z,70nm,0.6s,baz=22,slow=5.0,SNR=37
IKP **In-Ko-Pah, Jac** 132.03 52 P PKPdf 14 31 01.3 +2.8
baz=293
BC3 **Big Chuckawall** 132.14 50 P PKPdf 14 31 01.5 +2.8
baz=294
SWSC **Sam W. Stewart** 132.16 51 P PKPdf 14 31 01.2 +2.6
baz=293
IRM **Iron Mountain** 132.16 49 P PKPdf 14 31 01.3 +2.6
baz=295
NEE2 **Needles Airpor** 132.30 48 P PKPdf 14 31 01.1 +2.2
baz=296
ULM **Lac du Bonnet** 132.45 20 PKP PKPdf 14 30 59.6 +0.9
comp=Z,17nm,0.7s,baz=340,slow=0.1,SNR=17
ULM SKPbc **SKPbc** 14 34 10.9 -0.9
comp=Z,176nm,0.9s,baz=332,slow=4.2,SNR=55
ULM SKKPbc **SKKPbc** 14 43 29.3 -8.6
comp=Z,10.0nm,1.0s,baz=167,slow=0.1,SNR=4.2
TMUT **Trail Mountain** 132.47 41 *e*PKPdf PKPdf 14 31 01.6 +2.1
MTPU **Mount Pierson** 132.48 43 *e*PKPdf PKPdf 14 31 02.3 +2.7
KNB **Kanab** 132.55 45 *e*PKPdf PKPdf 14 31 02.0 +2.5
PLCA **Paso Flores** 132.71 182 PKhKP PKPpre 14 30 54.0
comp=Z,1.9nm,0.9s,baz=63,slow=3.4,SNR=4.3
PLCA PKP **PKiKP** 14 31 01.1 +0.3
comp=Z,3.1nm,0.6s,baz=302,slow=1.0,SNR=11
PLCA PP **PP** 14 33 23.9 -0.4
comp=Z,14nm,1.0s,baz=215,slow=7.0,SNR=8.1
PLCA SKPbc **SKPab** 14 34 14.3 -0.5
comp=Z,66nm,1.1s,baz=204,slow=4.2,SNR=18
PLCA SKKPbc **SKKPbc** 14 43 34.5 -1.3
comp=Z,2.6nm,1.1s,baz=14,slow=4.2,SNR=2.9
Y12C **Blythe** 132.80 49 P PKPdf 14 31 02.0 +2.2
baz=295
PDMCI **Parker Dam,Lak** 132.85 49 P PKPdf 14 31 02.0 +2.1
baz=296
P18A **Preston Nutter** 132.91 40 *e*PKPdf PKPdf 14 31 02.2 +2.0
MDND **Maddock** 133.00 25 P PKPdf 14 31 01.4 +1.6
baz=322
K22A **Casper** 133.34 35 *e*PKPdf PKPdf 14 31 01.6 +0.8
K22A **Casper** 133.34 35 P PKPdf 14 31 02.1 +1.3
baz=310
RSSD **Black Hills** 133.69 31 P PKPdf 14 31 02.5 +1.0
baz=314
O20A **White River Ci** 133.88 38 *e*PKPdf PKPdf 14 31 03.5 +1.6
O20A **White River Ci** 133.88 38 P PKPdf 14 31 03.5 +1.6
baz=306
AGMN **Agassiz Nation** 134.09 22 PFAKE 14 31 10.0 +8.2
AGMN LR LR
comp=Z,299nm,20.0s
WUAZ **Wupatki** 134.31 46 PFAKE 14 31 20.0 +17
WUAZ LR LR
comp=Z,106nm,21.0s
WUAZ **Wupatki** 134.31 46 P PKPdf 14 31 04.8 +2.0
baz=300
TRQA **Tornquist** 134.35 192 PKIKP PKPdf 14 31 03.7 +1.0
N23A **Red Feather La** 134.79 36 P PKPdf 14 31 05.9 +2.2
baz=310
214A **Organ Pipe Nat** 134.87 51 P PKPdf 14 31 06.3 +2.4
baz=295
MVCO **Mesa Verde** 135.40 42 *e*PKPdf PKPdf 14 31 07.0 +2.0
MVCO LR LR
comp=Z,228nm,22.0s
MVCO **Mesa Verde** 135.40 42 P PKPdf 14 31 06.9 +2.0
baz=304
W18A **Petrified Fore** 135.66 45 P PKPdf 14 31 07.5 +2.1
baz=301
ISCO **Idaho Springs** 135.68 37 PFAKE 14 31 20.0 +15
ISCO LR LR
comp=Z,187nm,20.0s
ISCO **Idaho Springs** 135.68 37 P PKPdf 14 31 07.7 +2.2
baz=309
EYMN **Ely** 135.88 18 PFAKE 14 31 20.0 +15
EYMN LR LR
comp=Z,332nm,19.0s
EYMN **Ely** 135.88 18 P PKPdf 14 31 07.2 +2.0
baz=332
S22A **4UR Ranch, Cre** 136.18 40 P PKPdf 14 31 08.3 +1.9
baz=306
TUC **Tucson** 136.26 49 PFAKE 14 31 20.0 +14
TUC LR LR
comp=Z,335nm,20.0s
TUC **Tucson** 136.26 49 PKIKP PKPdf 14 31 06.8 +0.3
TUC **Tucson** 136.26 49 P PKPdf 14 31 09.1 +2.6
baz=297
Q24A **Divide** 136.49 38 *e*PKPdf PKPdf 14 31 09.9 +2.9
Q24A **Divide** 136.49 38 P PKPdf 14 31 08.9 +1.9
baz=309
C40A **Isle Royale Na** 136.60 16 P PKPdf 14 31 07.9 +1.4
baz=336
OGNE **Ogallala** 136.97 33 PFAKE 14 31 20.0 +12
OGNE LR LR
comp=Z,288nm,20.0s
SDCO **Great Sand Dun** 137.02 39 PFAKE 14 31 20.0 +12
SDCO LR LR
comp=Z,238nm,20.0s
SDCO **Great Sand Dun** 137.02 39 P PKPdf 14 31 09.1 +1.1
baz=308
F37A **Hinrichs Farm,** 137.45 21 P PKPdf 14 31 09.6 +1.4
baz=330
F38A **Pierce - Schro** 137.50 20 P PKPdf 14 31 10.0 +1.7
baz=331
ECSD **EROS Data Cent** 137.53 26 PFAKE 14 31 20.0 +12
ECSD LR LR
comp=Z,195nm,22.0s
ECSD **EROS Data Cent** 137.53 26 P PKPdf 14 31 09.2 +0.8
baz=323
D41A **Chassel** 137.54 16 P PKPdf 14 31 09.5 +1.2
baz=336
E39A **Mellen** 137.57 19 P PKPdf 14 31 09.7 +1.3
baz=333
E40A **Wakefield** 137.71 18 P PKPdf 14 31 10.2 +1.6
baz=334
F39A **Loretta** 137.86 19 P PKPdf 14 31 10.6 +1.7
baz=332
E41A **Kenton** 137.97 17 P PKPdf 14 31 11.0 +1.9
baz=335
ANMO **Albuquerque** 138.03 43 PFAKE 14 31 20.0 +10
ANMO LR LR
comp=Z,227nm,20.0s
ANMO **Albuquerque** 138.03 43 P PKPdf 14 31 11.9 +2.0
baz=304
T25A **Trinidad** 138.08 39 P PKPdf 14 31 11.5 +1.6
baz=308
F40A **Park Falls** 138.12 18 P PKPdf 14 31 11.7 +2.3
baz=333
G38A **Ridgeland** 138.20 21 P PKPdf 14 31 09.6 0.0
baz=330
COWI **Conover** 138.25 17 PFAKE 14 31 20.0 +10
COWI LR LR
comp=Z,364nm,20.0s
E42A **Champion** 138.30 16 P PKPdf 14 31 09.4 -0.3
baz=337
G39A **Holcombe** 138.33 20 P PKPdf 14 31 10.3 +0.5
baz=332
121A **Cookes Peak, D** 138.37 47 P PKPdf 14 31 12.2 +1.7
baz=300
H38A **Maiden Rock** 138.48 21 P PKPdf 14 31 10.5 +0.4
baz=330
E43A **Lone Tree Farm** 138.60 15 P PKPdf 14 31 10.4 +0.2
baz=338
BGNE **Belgrade** 138.64 29 *e*PKPdf PKPdf 14 31 11.1 +0.6
BGNE **Belgrade** 138.64 29 P PKPdf 14 31 10.6 +0.1
baz=320
G40A **Rib Lake** 138.67 19 P PKPdf 14 31 11.3 +0.8
baz=333
H39A **Augusta** 138.83 20 P PKPdf 14 31 11.5 +0.8
baz=331
F42A **Maple Grove Fa** 138.85 17 P PKPdf 14 31 11.6 +0.9
baz=336
F44A **Big Bay de Noc** 139.12 15 P PKPdf 14 31 11.5 +0.3
baz=339
H40A **Chili** 139.18 20 P PKPdf 14 31 11.7 +0.3
baz=332
G42A **Mountain** 139.24 17 P PKPdf 14 31 12.0 +0.5
baz=335
H41A **Junction City** 139.43 19 P PKPdf 14 31 12.1 +0.3
baz=333
G43A **Wallace** 139.44 17 P PKPdf 14 31 12.4 +0.6
baz=336
I39A **Houston** 139.46 21 P PKPdf 14 31 12.2 +0.3
baz=330
D54A **Lac Fusel, La** 139.59 4 P PKPdf 14 31 12.4 +0.3
baz=354
F45A **CMU Biological** 139.61 14 P PKPdf 14 31 12.3 +0.3
baz=340
F46A **Mayaw City C** 139.71 13 P PKPdf 14 31 12.6 +0.4
baz=341
CBKS **Cedar Bluff** 139.72 34 P PKPdf 14 31 12.5 -0.1
baz=315
I40A **Norwalk** 139.75 20 P PKPdf 14 31 12.7 +0.2
baz=332
J39A **Decorah** 139.84 22 P PKPdf 14 31 12.3 -0.3
baz=330
H42A **Shiocton** 139.87 18 *e*PKPdf PKPdf 14 31 15.4 +2.8
H42A **Shiocton** 139.87 18 P PKPdf 14 31 12.8 +0.2
baz=335
H43A **Windswept, Lux** 140.14 17 P PKPdf 14 31 14.7 +1.6
baz=336
J40A **Soldiers Grove** 140.14 21 P PKPdf 14 31 14.9 +1.8
baz=331
J41A **Loganville** 140.42 20 P PKPdf 14 31 15.7 +2.0
baz=332
SCIA **State Center** 140.47 24 PFAKE 14 31 30.0 +16
SCIA LR LR
comp=Z,374nm,20.0s
SCIA **State Center** 140.47 24 P PKPdf 14 31 16.0 +2.2
baz=327
MNTX **Cornudas Mount** 140.55 47 PFAKE 14 31 30.0 +16
MNTX LR LR
comp=Z,262nm,22.0s
MNTX **Cornudas Mount** 140.55 47 P PKPdf 14 31 15.8 +1.5
baz=302
K40A **Colesburg** 140.60 22 P PKPdf 14 31 16.2 +2.2
baz=330
GLMI **Grayling** 140.64 14 PFAKE 14 31 30.0 +16
GLMI LR LR
comp=Z,584nm,21.0s
JFWS **Jewell Farm** 140.74 21 PFAKE 14 31 30.0 +16
JFWS LR LR
comp=Z,298nm,19.0s
JFWS **Jewell Farm** 140.74 21 P PKPdf 14 31 16.5 +2.2
baz=332
J42A **Columbus** 140.76 19 P PKPdf 14 31 16.5 +2.3
baz=333
J43A **Natural Harves** 140.93 18 P PKPdf 14 31 16.7 +2.1
baz=334
K41A **Shullsburg** 140.98 21 P PKPdf 14 31 17.2 +2.5
baz=331
MSTX **Muleshoe** 141.07 42 P PKPdf 14 31 17.5 +2.2
baz=307
L40A **Anamosa** 141.12 22 P PKPdf 14 31 17.4 +2.5
baz=330
KSU1 **Kansas State U** 141.16 30 P PKPdf 14 31 17.3 +2.2
K42A **Prairie Point,** 141.16 20 P PKPdf 14 31 17.3 +2.2
baz=333
AMTX **Amarillo** 141.21 40 P PKPdf 14 31 18.1 +2.6
baz=310
M39A **Webster** 141.25 24 P PKPdf 14 31 17.9 +2.7
baz=328
L41A **Preston** 141.38 22 P PKPdf 14 31 17.9 +2.5
baz=331
RCBR **Riachuelo** 141.38 252 PFAKE 14 31 30.0 +14
RCBR LR LR
comp=Z,47µm,21.0s
PKME **Peaks-Kenny Pk** 141.53 356 P PKPdf 14 31 18.3 +2.7
baz=5.1
K43A **Burlington** 141.56 19 P PKPdf 14 31 18.4 +2.7
baz=334
M40A **Post Highland** 141.57 23 P PKPdf 14 31 18.7 +2.9
baz=329
N39A **Derby Farms, D** 141.62 25 *e*PKPpre PKPpre 14 31 11.7
N39A **Derby Farms, D** 141.62 25 P PKPdf 14 31 18.4 +2.5
baz=327
L42A **Oliver, Polo** 141.74 21 P PKPdf 14 31 18.4 +2.3
baz=332
L43A **Garden Prairie** 141.90 20 P PKPdf 14 31 18.7 +2.3
baz=333
M41A **Milan** 141.97 22 P PKPdf 14 31 18.9 +2.4
baz=330
N40A **Mertquake, Sal** 141.99 24 P PKPdf 14 31 19.1 +2.5
baz=328
J47A **Sunmer** 142.08 15 P PKPdf 14 31 19.2 +2.5
baz=340
LONY **Lake Ozonia** 142.24 2 P PKPdf 14 31 20.0 +3.1
baz=357
J48A **Bridge Port** 142.27 13 P PKPdf 14 31 20.3 +3.3
baz=342
K46A **Dorr** 142.34 16 P PKPdf 14 31 19.9 +2.7
baz=338
N41A **Harden Midland** 142.43 23 *e*PKPpre PKPpre 14 31 13.1
N41A **Harden Midland** 142.43 23 P PKPdf 14 31 20.0 +2.7
baz=329
M43A **Waltham Townsh** 142.49 20 P PKPdf 14 31 20.2 +2.8
baz=332
K47A **Vermontville** 142.57 15 P PKPdf 14 31 20.3 +2.7
baz=339
N42A **Yates City** 142.63 22 P PKPdf 14 31 20.4 +2.7
baz=330
LBNH **Lisbon** 142.66 359 P PKPdf 14 31 20.4 +2.7
baz=0.9
K48A **Perry** 142.66 14 P PKPdf 14 31 20.2 +2.5
baz=341
K49A **Clarkson** 142.84 13 P PKPdf 14 31 20.8 +2.8
baz=342
M44A **Midewin, Midew** 142.84 19 P PKPdf 14 31 21.0 +2.9
baz=334
N43A **Stutzman Famil** 142.85 21 P PKPdf 14 31 20.9 +2.9
baz=332
O41A **Passleys Farm,** 142.92 24 P PKPdf 14 31 21.1 +2.9
baz=329
TX31 **Lajitas Ar. Si** 143.04 49 *e*PKPpre PKPbc 14 31 16.3 +0.2
TX31 *e*PKPpre PKPbc 14 31 16.6 +0.5
TXAR **Lajitas Array** 143.04 49 PKP PKPbc 14 31 16.7 +0.6
comp=Z,9.2nm,0.6s,baz=280,slow=1.6,SNR=56
TXAR SKPbc **SKiKP** 14 34 44.4 -0.2
comp=Z,22nm,0.7s,baz=256,slow=1.2,SNR=38
WMOK **Wichita Mounta** 143.11 37 PFAKE 14 31 30.0 +11
WMOK LR LR
comp=Z,197nm,20.0s
WMOK **Wichita Mounta** 143.11 37 P PKPdf 14 31 22.0 +3.3
baz=313
HDIL **Hopedale** 143.15 22 PFAKE 14 31 30.0 +11
HDIL LR LR
comp=Z,385nm,20.0s
HDIL **Hopedale** 143.15 22 P PKPdf 14 31 21.8 +3.2
baz=332
L47A **Sherwood** 143.16 16 P PKPdf 14 31 22.0 +3.4
baz=339
AAM **Ann Arbor** 143.25 14 PFAKE 14 31 30.0 +11
AAM LR LR
comp=Z,398nm,21.0s
L48A **N Adams** 143.39 15 P PKPbc 14 31 16.7 +0.1
baz=340
L49A **Milan** 143.40 14 P PKPbc 14 31 16.9 +0.3
baz=341
N45A **Kentland** 143.50 19 P PKPbc 14 31 16.8 -0.1
baz=334
P42A **Winchester** 143.59 23 P PKPbc 14 31 16.9 -0.2
baz=329
N46A **Monticello** 143.71 18 P PKPbc 14 31 17.7 +0.2
baz=336
M48A **Edgerton** 143.75 16 P PKPbc 14 31 17.2 -0.3
baz=339
Q41A **Truxton** 143.76 25 P PKPbc 14 31 17.3 -0.3
baz=327
O44A **Mansfield** 143.80 21 P PKPbc 14 31 17.5 -0.3
baz=332
P43A **Skaggs, Pawnee** 143.86 23 P PKPbc 14 31 17.7 -0.3
baz=330
M49A **Liberty Center** 143.95 15 P PKPbc 14 31 18.3 +0.1
baz=340
ABTX **Abilene, Hawle** 143.96 41 *e*PKPdf PKPdf 14 31 20.5 +0.2
ABTX **Abilene, Hawle** 143.96 41 P PKPbc 14 31 18.5 0.0
baz=310
CPUP **Villa Florida** 143.96 204 PKP PKPdf 14 31 19.9 -0.6
comp=Z,97nm,0.8s,baz=151,slow=2.3,SNR=184
CPUP PP **PP** 14 34 35.6 +1.5
comp=Z,5.3nm,0.9s,baz=168,slow=5.7,SNR=3.0
CPUP SKPbc **SKPbc** 14 34 46.0 +0.4
comp=Z,14nm,0.8s,baz=161,slow=2.4,SNR=6.7
CPUP SKKPbc **SKKPbc** 14 42 50.7 -1.2
comp=Z,2.1nm,0.8s,baz=335,slow=1.1,SNR=4.1
O45A **Potomac** 143.97 20 P PKPbc 14 31 18.4 +0.1
baz=334
TUL1 **Leonard** 143.98 33 P PKPbc 14 31 18.5 +0.1
baz=318
N47A **Urbana** 144.04 17 P PKPab 14 31 18.1 +0.2
baz=337
SFIN **Lafayette** 144.06 19 *e*PKPdf PKPbc 14 31 18.6 +0.1
SFIN **Lafayette** 144.06 19 P PKPbc 14 31 18.5 0.0
baz=335
Q42A **Golden Eagle** 144.09 24 P PKPbc 14 31 18.6 -0.1
baz=328
ERPA **Erie** 144.16 10 P PKPab 14 31 18.6 +0.2
baz=347
M50A **Fremont** 144.25 14 P PKPab 14 31 18.6 -0.1
baz=342
N48A **Decatur** 144.25 16 P PKPab 14 31 18.6 -0.1
baz=338
R41A **Rosebud** 144.25 26 P PKPbc 14 31 19.4 +0.2
baz=327
P44A **Sand Creek, Wi** 144.35 22 P PKPab 14 31 18.9 -0.2
baz=332
HRV **Adam Dziewonsk** 144.38 359 P PKPab 14 31 19.1 0.0
baz=1.6
Q43A **New Douglas** 144.40 23 P PKPab 14 31 19.1 -0.2
baz=330
LCO **Las Campanas** 144.40 183 *e*PKPdf PKPbc 14 31 20.3 0.0
LCO **Las Campanas** 144.40 183 *e*PKIKP PKPbc 14 31 20.3 0.0
N49A **Columbus Grove** 144.42 15 P PKPab 14 31 18.8 -0.5
baz=340
O47A **Sheridan** 144.48 18 P PKPab 14 31 19.2 -0.4
baz=336
CCM **Cathedral Cave** 144.51 26 P PKPab 14 31 19.4 -0.3
baz=327
R42A **Luebbering** 144.51 25 P PKPab 14 31 19.6 -0.1
baz=328
BINY **Binghamton** 144.57 4 P PKPab 14 31 19.8 -0.1
baz=354
P45A **Graceland, Par** 144.61 21 P PKPab 14 31 19.9 -0.2
baz=333
S41A **Jillco Farms,** 144.68 27 P PKPab 14 31 20.2 -0.2
baz=326
Q44A **Meyer Farm, Va** 144.69 23 P PKPab 14 31 20.2 -0.3
baz=331
P46A **Rosedale** 144.71 20 P PKPab 14 31 20.1 -0.4
baz=334
M54A **Oil Creek Stat** 144.81 9 P PKPab 14 31 20.3 -0.5
baz=348
N50A **Nevada** 144.82 14 P PKPab 14 31 20.6 -0.3
baz=341
N51A **Ashland** 144.86 13 P PKPab 14 31 20.3 -0.7
baz=343
R43A **Red Bud** 144.88 24 P PKPab 14 31 20.7 -0.5
baz=329
FVM **French Village** 144.92 25 *e*PKPbc PKPbc 14 31 20.8 -0.5
FVM **French Village** 144.92 25 *e*PKIKP PKPbc 14 31 20.8 -0.5
S42A **Caledonia** 144.94 26 P PKPbc 14 31 21.2 -0.2
baz=327
Q45A **Warren Harvey,** 145.02 22 P PKPbc 14 31 21.4 -0.1
baz=332
O49A **Covington** 145.06 16 P PKPbc 14 31 21.2 -0.5
baz=339
T41A **Mountain View** 145.12 27 P PKPbc 14 31 21.3 -0.6
baz=325
P47A **Martinsville** 145.14 19 P PKPbc 14 31 21.4 -0.5
baz=336
U40A **Yellville** 145.16 29 P PKPbc 14 31 21.7 -0.4
baz=323
JCT **Junction City** 145.18 44 *e*PKPbc PKPab 14 31 23.0 +0.4
JCT LR LR
comp=Z,218nm,20.0s
JCT **Junction City** 145.18 44 *e*PKIKP PKPab 14 31 23.0 +0.4
JCT MLR MLR
comp=Z,218nm,20.0s
JCT **Junction City** 145.18 44 P PKPab 14 31 23.0 +0.4
baz=307
X37A **Clayton** 145.19 34 *e*PKPbc PKPbc 14 31 22.2 0.0
Q46A **CEJHS Indians,** 145.19 20 P PKPbc 14 31 21.8 -0.3
baz=334
R44A **Waltonville** 145.24 23 P PKPbc 14 31 22.0 -0.3
baz=330
N54A **Moraine State** 145.29 10 P PKPdf 14 31 21.9 -0.4
baz=347
O50A **Cable** 145.29 15 P PKPdf 14 31 22.2 -0.1
baz=340
S43A **Fulton Ridge,** 145.42 25 P PKPdf 14 31 22.1 -0.6
baz=328
P48A **Milroy** 145.42 18 P PKPdf 14 31 22.3 -0.4
baz=337
T42A **Van Buren** 145.43 27 *e*PKPdf PKPdf 14 31 22.4 -0.2
T42A **Van Buren** 145.43 27 P PKPbc 14 31 23.0 +0.1
baz=326
R45A **Skylar, Fairfi** 145.51 22 P PKPbc 14 31 23.1 0.0
baz=332

O51A Pataskala 145.54 14 P PKPdf 14 31 22.8 0.0
baz=342
P49A Miami Univ. Ec 145.56 17 P PKPdf 14 31 22.7 -0.1
baz=338
Q47A Bedord North L 145.59 19 P PKPdf 14 31 23.0 +0.2
baz=335
W39A Magazine 145.59 32 ePKPdf PKPbc 14 31 23.6 +0.2
W39A Magazine 145.59 32 P PKPdf 14 31 23.1 +0.1
baz=320
V40A Witts Springs 145.61 30 ePKPdf PKPdf 14 31 23.3 +0.2
V40A Witts Springs 145.61 30 P PKPdf 14 31 23.0 0.0
baz=322
U41A Viola 145.61 28 P PKPdf 14 31 23.2 +0.2
baz=324
SIUC Southern Illin 145.65 24 ePKPdf PKPab 14 31 23.9 -0.1
S44A Carbondale 145.65 24 P PKPbc 14 31 23.3 -0.2
baz=330
T43A Greenville 145.74 26 P PKPdf 14 31 23.4 +0.2
baz=328
O52A Adamsville 145.75 13 P PKPdf 14 31 23.3 +0.2
baz=343
P50A Jamestown 145.75 16 P PKPdf 14 31 23.3 +0.1
baz=340
WHTX Lake Whitney, 145.77 40 ePKPdf PKPab 14 31 25.2 +0.5
WHTX Lake Whitney, 145.77 40 P PKPab 14 31 24.7 0.0
baz=312
GO03 Copiap 145.78 184 ePKPdf PKPab 14 31 25.5 +0.6
Q48A North Vernon 145.82 18 P PKPbc 14 31 23.9 -0.2
baz=336
N59A State Game Lan 145.86 4 ePKPdf PKPbc 14 31 24.1 0.0
N59A State Game Lan 145.86 4 P PKPbc 14 31 24.0 -0.2
baz=354
R46A Gibon Southern 145.86 21 P PKPbc 14 31 23.8 -0.4
baz=333
PAL Palisades 145.87 2 ePKPdf PKPbc 14 31 24.2 +0.1
PAL Palisades 145.87 2 ePKP2 PKPbc 14 31 24.2 +0.1
PAL Palisades 145.87 2 P PKPbc 14 31 23.8 -0.3
baz=358
SSPA Standing Stone 145.92 7 ePKPdf PKPbc 14 31 24.2 -0.1
SSPA Standing Stone 145.92 7 P PKPbc 14 31 24.0 -0.3
baz=350
U42A Revenden 145.92 28 P PKPbc 14 31 24.3 -0.1
baz=325
S45A Carrier Mills 145.93 23 P PKPbc 14 31 24.3 -0.1
baz=331
PBMO Poplar Bluff 145.93 26 ePKPdf PKPdf 14 31 23.9 +0.4
X39A Fountain Ranch 145.94 33 P PKPab 14 31 25.0 -0.2
baz=319
V41A Mountainview 145.95 29 P PKPdf 14 31 23.9 +0.3
baz=323
W40A Ferguson Farm, 145.96 31 ePKPdf PKPbc 14 31 24.6 0.0
W40A Ferguson Farm, 145.96 31 P PKPbc 14 31 24.3 -0.3
baz=322
Q49A Aurora 146.00 17 P PKPbc 14 31 24.2 -0.4
baz=338
T44A Benton 146.03 25 P PKPbc 14 31 24.4 -0.3
baz=329
P51A Williamsport 146.06 15 ePKPdf PKPdf 14 31 24.2 +0.4
P51A Williamsport 146.06 15 P PKPdf 14 31 24.1 +0.4
baz=341
R47A Wooly Knot Far 146.13 20 P PKPbc 14 31 24.6 -0.4
baz=334
P52A Corning 146.14 13 P PKPdf 14 31 24.3 +0.5
baz=343
O56A Blue Knob Stat 146.19 8 ePKPdf PKPbc 14 31 25.0 -0.3
O56A Blue Knob Stat 146.19 8 P PKPbc 14 31 24.9 -0.3
baz=349
MIAR Mount Ida 146.20 32 PFAKE 14 31 40.0 +14
MIAR LR LR
comp=Z,238nm,20.0s
MIAR Mount Ida 146.20 32 P PKPbc 14 31 25.3 0.0
baz=320
S46A Don Dixon Farm 146.25 22 P PKPbc 14 31 24.9 -0.5
baz=332
R48A Northridge Ran 146.25 19 P PKPbc 14 31 25.1 -0.3
baz=336
WCI Wyandotte Cave 146.27 20 P PKPbc 14 31 25.0 -0.4
baz=335
WHAR Wooly Hollow 146.28 30 ePKPdf PKPbc 14 31 25.1 -0.4
V42A Cord 146.30 28 P PKPbc 14 31 25.4 -0.2
baz=325
W41B Gary Mavity, V 146.39 30 P PKPbc 14 31 25.4 -0.5
baz=323
Q50A Georgetown 146.42 16 P PKPbc 14 31 25.2 -0.6
baz=339
Q51A Peebles 146.42 15 ePKPdf PKPbc 14 31 25.2 -0.6
Q51A Peebles 146.42 15 P PKPbc 14 31 25.3 -0.5
baz=340
P53A Whipple 146.44 12 ePKPdf PKPbc 14 31 25.4 -0.5
P53A Whipple 146.44 12 P PKPbc 14 31 25.6 -0.3
baz=344
435B Jarrell 146.48 41 P PKPbc 14 31 26.7 +0.4
baz=310
U44A Portageville 146.49 26 P PKPbc 14 31 26.1 0.0
baz=328
R49A Shelbyville 146.57 18 P PKPbc 14 31 26.0 -0.3
baz=337
X40A Basin Creek Fa 146.63 31 P PKPbc 14 31 26.3 -0.3
baz=321
S47A Hartford 146.64 21 P PKPbc 14 31 26.0 -0.5
baz=333
UALR University of 146.66 31 ePKPdf PKPbc 14 31 26.2 -0.5
833A Chaparral WMA, 146.73 47 P PKPab 14 31 28.1 -0.4
baz=305
Q52A Bidwell 146.75 14 P PKPbc 14 31 26.3 -0.5
baz=342
T46A Princeton 146.75 23 P PKPbc 14 31 26.8 0.0
baz=331
Y40A Okolona 146.77 32 P PKPbc 14 31 27.2 +0.2
baz=320
U44B Burton Farm, H 146.77 25 P PKPbc 14 31 27.2 +0.3
baz=328
GNAR Gosnell 146.79 26 ePKPdf PKPab 14 31 28.1 -0.4
R50A Paris 146.84 17 P PKPdf 14 31 25.9 +0.9
baz=338
PSUB Penn St. - Bra 146.87 4 ePKPdf PKPbc 14 31 26.1 -1.0
S48A Wiedeman Farm, 146.87 20 P PKPbc 14 31 26.3 -0.9
baz=335
ZAIG Zacatecas 146.97 58 ePKPbc PKPab 14 31 30.1 +0.1
S49A Springfield 147.00 19 P PKPbc 14 31 26.6 -1.0
baz=336
U45A Rockin P Farm, 147.00 25 P PKPbc 14 31 27.1 -0.5
baz=329
R51A Hillsboro 147.03 16 P PKPbc 14 31 27.0 -0.6
baz=340
BDFB Brasilia 147.07 227 PKPbc PKPbc 14 31 27.6 -0.9
comp=Z,56nm,0.6s,baz=148,slow=3.7,SNR=55
BDFB PP PP 14 34 53.8 +0.1
comp=Z,16nm,0.8s,baz=138,slow=5.6,SNR=4.5
T47A Sharon Grove 147.09 22 P PKPbc 14 31 27.4 -0.4
baz=333
Y41A Eaglette Beard 147.22 32 P PKPbc 14 31 28.2 0.0
baz=321
U46A Springville 147.23 24 P PKPbc 14 31 28.2 0.0
baz=330
T48A Bowling Green 147.24 21 P PKPbc 14 31 28.7 +0.4
baz=334
R52A Catlettsburg 147.25 15 P PKPbc 14 31 27.6 -0.6
baz=341
Z40A Long Farm, Mag 147.27 34 P PKPbc 14 31 28.9 +0.5
baz=319
S50A Richmond 147.38 18 P PKPbc 14 31 27.8 -0.8
baz=338
U47A Clarksville 147.51 23 P PKPbc 14 31 28.9 -0.1
baz=332
T49A Edmonton 147.54 20 P PKPbc 14 31 28.6 -0.4
baz=335
WVT Waverly 147.57 23 P PKPbc 14 31 29.1 0.0
baz=331
Z41A Richland Creek 147.60 33 P PKPbc 14 31 29.6 +0.3
baz=320
140A Cam and Jess, 147.64 34 P PKPbc 14 31 30.1 +0.7
baz=318
S51A Beattyville 147.65 17 P PKPbc 14 31 28.9 -0.4
baz=339
NATX Nacogdoches 147.65 37 PFAKE 14 31 40.0 +8.0
NATX LR LR
comp=Z,380nm,21.0s
NATX Nacogdoches 147.65 37 P PKPbc 14 31 30.6 +1.1
baz=316
U48A Cassie Pea, Po 147.72 21 P PKPbc 14 31 29.3 -0.3
baz=333
V46A Holladay 147.74 24 P PKPbc 14 31 29.2 -0.4
baz=330
S52A Salyersville 147.75 16 P PKPbc 14 31 29.1 -0.5
baz=340
T50A Nancy 147.84 19 P PKPbc 14 31 28.9 -1.0
baz=336
X44A Crenshaw 147.95 28 P PKPbc 14 31 30.2 0.0
baz=326
V47A Nunnelly 147.96 23 P PKPbc 14 31 29.9 -0.2
baz=331
240A Hunter Patters 147.98 35 P PKPbc 14 31 31.5 +1.2
baz=317
U49A Red Boiling Sp 147.99 20 P PKPbc 14 31 29.9 -0.3
baz=335
141A Papa Simpson, 148.04 34 P PKPbc 14 31 31.3 +0.8
baz=319
Z42A Norrel Spur, H 148.04 32 P PKPbc 14 31 31.4 +0.9
baz=321
Y43A Makayla and Ka 148.05 30 P PKPbc 14 31 31.0 +0.5
baz=324
T51A Gray 148.17 18 P PKPbc 14 31 30.2 -0.5
baz=338
W46A Michie 148.21 25 P PKPbc 14 31 30.2 -0.6
baz=329
KVTX Kingsville 148.27 46 PFAKE 14 31 40.0 +5.4
KVTX LR LR
comp=Z,481nm,20.0s
OXF Oxford 148.28 27 P PKPbc 14 31 30.7 -0.3
baz=327
V48A Smith Brothers 148.30 22 P PKPbc 14 31 30.6 -0.5
baz=332
T52A Hallie 148.31 16 P PKPbc 14 31 31.0 -0.1
baz=340
X45A UM Field Stati 148.36 27 P PKPbc 14 31 31.2 -0.1
baz=327
Y44A Strider, Charl 148.36 29 P PKPbc 14 31 31.3 +0.1
baz=325
CBN Corbin Frederi 148.38 7 PFAKE 14 31 40.0 +5.3
CBN LR LR
comp=Z,372nm,20.0s
U50A Jamestown 148.40 19 P PKPbc 14 31 31.6 +0.3
baz=336
W47A Westpoint 148.43 24 P PKPbc 14 31 31.3 -0.2
baz=330
241A Mo Tay, Goldon 148.47 34 P PKPbc 14 31 32.9 +1.3
baz=319
R58B Mineral 148.55 8 P PKPbc 14 31 31.4 -0.2
baz=350
142A Monroe 148.60 33 P PKPbc 14 31 32.4 +0.5
baz=321
X46A Booneville 148.61 26 P PKPbc 14 31 31.6 -0.3
baz=328
V49A McMinnville 148.62 21 P PKPbc 14 31 31.7 -0.2
baz=334
TZTN Tazewell 148.68 17 P PKPbc 14 31 31.9 -0.1
baz=339
U51A La Follette 148.69 18 P PKPbc 14 31 32.3 +0.2
baz=338
Y45A Yeager Farm, C 148.75 28 P PKPbc 14 31 32.7 +0.4
baz=326
W48A Pulaski 148.79 23 P PKPbc 14 31 32.0 -0.4
baz=332
Z44A Pea Ridge, Bel 148.81 30 P PKPbc 14 31 33.0 +0.6
baz=324
341A Kurthwood 148.84 36 P PKPbc 14 31 33.8 +1.3
baz=318
BLA Blacksburg 148.84 12 PFAKE 14 31 40.0 +3.3
BLA LR LR
comp=Z,404nm,19.0s
BLA Blacksburg 148.84 12 P PKPbc 14 31 31.8 -0.6
baz=345
U52A Thorn Hill 148.87 17 P PKPbc 14 31 32.7 +0.1
baz=339
X47A Russelville 148.95 25 P PKPbc 14 31 32.2 -0.6
baz=329
V50A Pikevile 148.99 20 P PKPbc 14 31 32.6 -0.2
baz=335
Y46A Houston 149.06 27 P PKPbc 14 31 33.1 0.0
baz=327
W49A Belvidere 149.06 22 P PKPbc 14 31 32.8 -0.2
baz=333
Z45A Winona 149.09 29 P PKPbc 14 31 33.7 +0.5
baz=325
V51A Loudon 149.12 19 P PKPbc 14 31 33.4 +0.2
baz=337
U53A Fall Branch 149.12 16 P PKPbc 14 31 32.9 -0.3
baz=340
342A Flagon Creek P 149.29 35 P PKPbc 14 31 35.0 +1.3
baz=319
V52A Sevierville 149.32 18 P PKPbc 14 31 33.9 +0.3
baz=338
144A Alexander Plac 149.33 31 P PKPbc 14 31 34.6 +0.9
baz=323
W50A Signal Mountai 149.34 21 P PKPbc 14 31 33.6 -0.2
baz=334
MOIG Morelia 149.34 62 ePKPbc PKPbc 14 31 36.1 +1.6
X48A Hartselle 149.35 24 ePKPbc PKPbc 14 31 33.3 -0.4
X48A Hartselle 149.35 24 P PKPbc 14 31 33.3 -0.4
baz=331
CPCT Cooper Cave 149.38 19 ePKPbc PKPbc 14 31 34.1 +0.2
TKL Tuckaleechee C 149.43 18 ePKPbc PKPbc 14 31 34.3 +0.3
TKL Tuckaleechee C 149.43 18 ePKP2 PKPbc 14 31 34.3 +0.3
Y47A UCPARC, Winfie 149.48 26 P PKPbc 14 31 33.6 -0.5
baz=329
W51A Cleveland 149.57 20 P PKPbc 14 31 34.3 0.0
baz=335
X49A Woodville 149.58 23 P PKPbc 14 31 34.3 0.0
baz=332
Z46A Louisville 149.59 28 P PKPbc 14 31 35.1 +0.7
baz=326
145A Houston Renfro 149.60 30 P PKPbc 14 31 35.0 +0.6
baz=324
JRQG Juriquilla Cam 149.60 60 ePKPbc PKPbc 14 31 37.2 +2.1
VBMS Vicksburg 149.61 31 ePKPbc PKPbc 14 31 35.2 +0.8
VBMS Vicksburg 149.61 31 P PKPbc 14 31 34.7 +0.2
baz=323
244A Avery, Jackson 149.66 32 P PKPbc 14 31 35.1 +0.5
baz=322
V53A Saluda 149.71 17 ePKPbc PKPbc 14 31 35.2 +0.5
V53A Saluda 149.71 17 P PKPbc 14 31 34.9 +0.2
baz=339
442A Mamou 149.72 36 P PKPbc 14 31 36.3 +1.5
baz=318
541A Lake Charles 149.75 37 P PKPbc 14 31 36.9 +2.1
baz=316
Y48A Jasper 149.76 25 P PKPbc 14 31 34.5 -0.3
baz=330
X50B Fort Payne 149.88 22 P PKPbc 14 31 34.9 -0.2
baz=333
W52A Murphy 149.90 19 ePKPdf PKPbc 14 31 32.9 -2.3
W52A Murphy 149.90 19 P PKPbc 14 31 35.7 +0.5
baz=337
Z47A Carrollton 149.99 27 P PKPbc 14 31 35.6 +0.3
baz=328
146A Union 150.00 29 ePKPbc PKPbc 14 31 36.2 +0.8
146A Union 150.00 29 P PKPbc 14 31 36.4 +1.0
baz=326
443A Delano Plantat 150.05 35 P PKPbc 14 31 36.8 +1.2
baz=319
Z48A Northport 150.06 26 P PKPbc 14 31 35.2 -0.3
baz=329
W53A Cullowhee 150.07 18 P PKPbc 14 31 36.2 +0.5
baz=338
X51A Calhoun 150.07 21 P PKPbc 14 31 35.6 +0.1
baz=335
245A Little AP, Sta 150.08 31 P PKPbc 14 31 36.1 +0.5
baz=324
344A Westbrook Farm 150.10 32 ePKPbc PKPbc 14 31 36.7 +1.0
344A Westbrook Farm 150.10 32 P PKPbc 14 31 36.6 +0.9
baz=322
Y49A Blount Mountai 150.12 24 ePKPbc PKPbc 14 31 35.7 +0.1
Y49A Blount Mountai 150.12 24 P PKPbc 14 31 35.8 +0.1
baz=331
BG3 Lake Jocassee 150.30 17 ePKPdf PKPdf 14 31 32.7 +1.9
147A Livingston 150.34 28 ePKPbc PKPbc 14 31 36.5 +0.4
147A Livingston 150.34 28 P PKPbc 14 31 36.6 +0.4
baz=327
Y50A Piedmont 150.35 23 P PKPbc 14 31 35.7 -0.5
baz=333
X52A Dahlonega 150.36 19 P PKPbc 14 31 36.5 +0.2
baz=337
246A Jackson Lee, B 150.47 30 P PKPbc 14 31 37.4 +0.9
baz=325
345A Thompson Farm, 150.58 32 P PKPbc 14 31 37.8 +0.9
baz=323
LRAL Lakeview Retre 150.59 25 ePKPbc PKPbc 14 31 36.9 0.0
LRAL Lakeview Retre 150.59 25 P PKPbc 14 31 36.8 0.0
baz=330
Y51A Rockmart 150.60 22 P PKPbc 14 31 36.8 -0.1
baz=334
LVC Limon Verde 150.60 187 PFAKE 14 31 40.0 +2.4
LVC LR LR
comp=Z,288nm,22.0s
LVC Limon Verde 150.60 187 PKIKP PKPdf 14 31 34.1 +2.0
KMSC Kings Mountain 150.60 15 P PKPbc 14 31 36.8 0.0
baz=342
X53A Estanollee 150.65 18 P PKPbc 14 31 37.5 +0.6
baz=338
Z49A Columbiana 150.65 24 P PKPbc 14 31 36.9 0.0
baz=331
444A Pine Grove 150.66 33 P PKPbc 14 31 38.1 +1.1
baz=321
148A Greensboro 150.67 27 P PKPbc 14 31 37.3 +0.3
baz=328
247A Quitman 150.69 29 P PKPbc 14 31 38.1 +1.0
baz=326
346A Big Creek Wild 150.81 31 P PKPbc 14 31 38.2 +0.9
baz=324
Z50A Ashland 150.84 23 P PKPbc 14 31 37.4 -0.1
baz=332
Y52A Lilburn 150.98 20 ePKPbc PKPbc 14 31 38.3 +0.6
Y52A Lilburn 150.98 20 P PKPbc 14 31 38.4 +0.6
baz=336
PB04 IPOC Station P 151.00 185 ePKPbc PKPbc 14 31 39.6 +1.3
149A Jones 151.06 25 P PKPbc 14 31 38.5 +0.6
baz=330
248A Dixon Mills 151.06 27 P PKPbc 14 31 38.8 +0.9
baz=327
Z51A Franklin 151.08 22 P PKPbc 14 31 37.8 -0.2
baz=333
Y53A Monroe 151.15 19 P PKPbc 14 31 38.4 +0.3
baz=337
CNNC Cliffs of the 151.22 9 PFAKE 14 31 40.0 +1.8
CNNC LR LR
comp=Z,749nm,20.0s
CNNC Cliffs of the 151.22 9 P PKPbc 14 31 38.7 +0.5
baz=349
347A Saraland 151.26 29 P PKPbc 14 31 39.4 +1.0
baz=325
446A Poplarville 151.34 31 P PKPbc 14 31 39.5 +0.9
baz=323
150A Eclectic 151.37 24 P PKPbc 14 31 38.9 +0.3
baz=331
Y54A Tignall 151.43 18 P PKPbc 14 31 39.3 +0.5
baz=338
249A Camden 151.44 27 P PKPbc 14 31 39.9 +1.1
baz=328
Z52A Williamson 151.47 21 P PKPbc 14 31 39.8 +1.0
baz=335
348A Jackson 151.56 28 ePKPbc PKPbc 14 31 40.5 +1.4
348A Jackson 151.56 28 P PKPbc 14 31 40.0 +0.9
baz=326
GOGA Godfrey 151.60 20 ePKPbc PKPbc 14 31 39.5 +0.4
GOGA LR LR
comp=Z,263nm,20.0s
GOGA Godfrey 151.60 20 ePKIKP PKPbc 14 31 39.5 +0.4
GOGA MLR MLR
comp=Z,263nm,20.0s
GOGA Godfrey 151.60 20 P PKPbc 14 31 39.5 +0.4
baz=337
Z53A Monticello 151.68 20 P PKPbc 14 31 40.0 +0.6
baz=336
447A Lucedale 151.70 30 P PKPbc 14 31 40.2 +0.8
baz=324
151A Opelika 151.72 23 P PKPbc 14 31 39.8 +0.3
baz=332
250A Grady 151.81 25 P PKPbc 14 31 40.2 +0.6
baz=330
152A Waverly Hall 151.82 22 P PKPbc 14 31 40.3 +0.6
baz=334
349A Repton 151.94 27 P PKPbc 14 31 40.8 +0.8
baz=328
Z54A Sparta 151.96 19 P PKPbc 14 31 40.5 +0.6
baz=338
448A Bay Minette 151.98 29 P PKPbc 14 31 40.8 +0.8
baz=326
251A Midway 152.07 24 P PKPbc 14 31 41.1 +0.9
baz=332
BRAL Brewton 152.16 27 PFAKE 14 31 50.0 -0.5
BRAL LR LR
comp=Z,266nm,21.0s
BRAL Brewton 152.16 27 P PKPbc 14 31 41.7 +1.3
baz=328
153A Fort Valley 152.16 21 P PKPbc 14 31 41.0 +0.6
baz=335
Z55A Blythe 152.19 17 P PKPbc 14 31 41.4 +1.0
baz=339
350A Dozier 152.26 26 P PKPbc 14 31 41.7 +1.0
baz=329
TLIG Tlapa 152.40 65 ePKPbc PKPbc 14 31 43.8 +2.3
252A Lumpkin 152.42 23 P PKPbc 14 31 41.7 +0.6
baz=333
449A Pace 152.43 28 P PKPbc 14 31 41.6 +0.5
baz=327
154A Montrose 152.45 20 ePKPbc PKPbc 14 31 41.8 +0.7
154A Montrose 152.45 20 P PKPbc 14 31 41.8 +0.7
baz=337
253A Americus 152.59 22 ePKPbc PKPbc 14 31 42.2 +0.9
253A Americus 152.59 22 P PKPbc 14 31 42.1 +0.7
baz=334
155A Kite 152.65 18 P PKPbc 14 31 42.2 +0.7
baz=338
450A Crestview 152.68 27 P PKPbc 14 31 42.3 +0.7
baz=328
351A Pinckard 152.70 25 P PKPbc 14 31 42.3 +0.7
baz=331
352A Blakely 152.80 24 P PKPbc 14 31 42.7 +0.8
baz=332
NHSC New Hope 152.83 14 PFAKE 14 31 50.0 -3.2
NHSC LR LR
comp=Z,445nm,20.0s
NHSC New Hope 152.83 14 P PKPbc 14 31 42.4 +0.6
baz=343
156A Sylvania 152.91 17 P PKPbc 14 31 42.7 +0.7
baz=340
254A Abbeville 152.99 20 P PKPbc 14 31 42.8 +0.6
baz=336
353A Camilla 153.19 23 P PKPbc 14 31 43.3 +0.6
baz=334
451A Vernon 153.21 26 P PKPbc 14 31 43.8 +1.0
baz=330
452A Marianna 153.25 25 P PKPbc 14 31 43.6 +0.7
baz=331
255A Hazlehurst 153.28 19 P PKPbc 14 31 43.4 +0.5
baz=338
TIGA Tifton 153.35 21 P PKPbc 14 31 43.6 +0.5
baz=335
256A Glennville 153.42 18 P PKPbc 14 31 43.8 +0.6
baz=339
453A Whigham 153.59 23 P PKPbc 14 31 44.3 +0.7
baz=333
356A Blackshear 153.95 19 P PKPbc 14 31 44.8 +0.4
baz=338
553A Crawfordville 154.14 24 P PKPbc 14 31 44.7 -0.1
baz=332
455A Stateville 154.18 21 P PKPbc 14 31 45.7 +0.8
baz=335
554A Perry 154.53 23 P PKPbc 14 31 46.3 +0.7
baz=333
456A Hilliard 154.54 19 P PKPbc 14 31 46.4 +0.8
baz=338
555A McAlpin 154.76 22 P PKPbc 14 31 46.6 +0.5
baz=335
LPAZ La Paz 156.70 191 PKP PKPdf 14 31 42.5 +1.3
comp=Z,7.8nm,1.0s,baz=37,slow=1.3,SNR=18
LPAZ PKPab PKPab 14 32 12.1 +1.2
comp=Z,35nm,0.8s,baz=151,slow=3.7,SNR=18
LPAZ PP PP 14 35 49.1 +1.3
comp=Z,22nm,1.1s,baz=156,slow=3.6,SNR=13
MDP Montagnes des 160.16 266 PKPab PKPab 14 32 26.8 +1.2
comp=Z,9.9nm,0.6s,baz=92,slow=5.3,SNR=6.4
PAYG Puerto Ayora 160.80 112 PFAKE 14 32 00.0 +15
PAYG LR LR
comp=Z,273nm,19.0s
NNA Nana 160.89 167 PKP PKPdf 14 31 46.0 +0.6
comp=Z,18nm,0.9s,baz=27,slow=3.2,SNR=4.6
NNA PKPab PKPab 14 32 29.5 +1.2
comp=Z,31nm,0.9s,baz=240,slow=6.0,SNR=7.8
NNA PP PP 14 36 09.9 0.0
comp=Z,3.7nm,0.3s,baz=270,slow=15,SNR=2.6
NNA Nana 160.89 167 PKP PKPdf 14 31 46.0 +0.6
NNA PKPab PKPab 14 32 29.5 +1.2
NNA PP PP 14 36 09.9 0.0
NNA LR LR
comp=Z,200nm,20.0s
NNA Nana 160.89 167 PKIKP PKPdf 14 31 46.0 +0.6
NNA 14 32 29.5
NNA 14 36 09.9
NNA MLR MLR

comp=Z,200nm,20.0s
ATAH Atahualpa 165.01 157 PKP PKP 14 31 52.1
comp=Z,13nm,1.0s,baz=255,slow=2.6,SNR=8.9
ATAH PKPab **PKPab 14 32 45.8 -1.1**
comp=Z,16nm,0.8s,baz=319,slow=0.7,SNR=6.6
ATAH PP **PP 14 36 33.7 +1.4**
comp=Z,4.0nm,0.8s,baz=311,slow=9.3,SNR=3.1
PTGA Pitinga 165.43 240 PKP **PKPdf 14 31 50.5 +0.8**
comp=Z,1.4nm,0.3s,baz=354,slow=0.6,SNR=8.2
PTGA pPKP **pPKPdf 14 32 29.2 -0.5**
comp=Z,1.2nm,0.3s,baz=286,slow=4.2,SNR=2.3
PTGA PKPab **PKPab 14 32 49.8 +1.2**
comp=Z,16nm,0.7s,baz=130,slow=3.6,SNR=24
PTGA pPKPab **pPKPab 14 33 26.6 -0.1**
comp=Z,6.3nm,0.8s,baz=117,slow=5.4,SNR=2.3
PTGA PP **PP 14 36 35.9 +0.3**
comp=Z,1.0nm,0.3s,baz=139,slow=3.5,SNR=5.2
PTGA Pitinga 165.43 240 PKP **PKPdf 14 31 50.5 +0.8**
PTGA pPKP **pPKPdf 14 32 29.2 -0.5**
PTGA PKPab **PKPab 14 32 49.9 +1.2**
PTGA pPKPab **pPKPab 14 33 26.6 -0.1**
PTGA PP **PP 14 36 35.9 +0.3**
PTGA LR LR
comp=Z,12µm,20.0s
GTBY Guantanamo Bay 166.66 11 PFAKE 14 32 00.0 +9.5
GTBY LR LR
comp=Z,526nm,20.0s
SJG San Juan 167.12 332 PFAKE 14 32 00.0 +9.1
SJG LR LR
comp=Z,578nm,22.0s
JTS JuntasAbangare 167.21 73 PFAKE 14 32 00.0 +8.9
JTS LR LR
comp=Z,401nm,20.0s
MTDJ Mount Denham 167.59 23 PFAKE 14 32 00.0 +8.6
MTDJ LR LR
comp=Z,738nm,21.0s
SDDR Presa de Saban 167.79 354 PFAKE 14 32 00.0 +8.6
SDDR LR LR
comp=Z,526nm,22.0s
OTAV Otavalo 171.23 137 PFAKE 14 32 10.0 +16
OTAV LR LR
comp=Z,203nm,22.0s
OTAV Otavalo 171.23 137 PKIKP **PKPdf 14 31 54.9 +0.7**
PCRV Puerto La Cruz 171.50 294 PP PP 14 37 05.2 -1.4
comp=Z,4.3nm,0.5s,baz=349,slow=8.8,SNR=3.1
BCIP Isla Barro Col 172.37 71 PFAKE 14 32 10.0 +16
BCIP LR LR
comp=Z,654nm,19.0s
GRGC Isla de Gorgon 173.25 123 *eP* **PKPab 14 33 27.1 +3.9**
POPC Popayan, Colom 174.11 135 *eP* **PKPab 14 33 27.9 +0.7**
PCON Cinco Dias 174.11 138 *eP* **PKPab 14 33 27.9 +0.2**
HORQ Saladito 174.78 128 *eP* **PKPab 14 33 29.3 -1.0**
YOTC Yotoco, Valle 175.30 126 *eP* **PKPab 14 33 32.6 +0.1**
HELC Santa Helena 176.96 100 *eP* **SKKSac 14 44 07.2 +0.8**
SDV Santo Domingo 177.18 319 PKP **PKPdf 14 31 55.6 -0.3**
comp=Z,5.7nm,0.2s,baz=342,slow=6.4,SNR=3.4
SDV PKPab PKPab 14 33 39.6 -1.1
comp=Z,8.0nm,0.5s,baz=32,slow=3.6,SNR=6.1
SDV PP **PP 14 37 33.5 +0.4**
comp=Z,4.2nm,0.3s,baz=74,slow=4.6,SNR=3.0
SDV Santo Domingo 177.18 319 PKP **PKPdf 14 31 55.6 -0.3**
SDV PKPab PKPab 14 33 39.6 -1.1
SDV PP **PP 14 37 33.5 +0.4**
SDV LR LR
comp=Z,303nm,21.0s
ROSC El Rosal 177.39 137 PKP **PKPdf 14 31 56.3 +0.1**
comp=Z,5.1nm,0.4s,baz=308,slow=17,SNR=6.2
ROSC PKPab PKPab 14 33 43.8 +1.8
comp=Z,5.5nm,0.5s,baz=75,slow=2.6,SNR=10.0
ROSC PP **PP 14 37 34.6 +0.2**
comp=Z,3.6nm,0.4s,baz=156,slow=2.2,SNR=5.1
ROSC El Rosal 177.39 137 *eP* **SKKSac 14 44 13.2 +5.2**
ZARC Zaragoza, Cauc 177.56 72 *eP* **SKKSac 14 44 04.5 -3.9**
CHIC Chingaza 177.57 153 *eP* **SKKSac 14 44 09.9 +1.3**
OCAC Ocana 178.32 28 *eP* **SKKSac 14 44 11.2 -0.3**
BRRC Barranca, Sant 178.76 73 *eP* **SKKSac 14 44 15.8 +1.9**
RUSC La Rusia 178.98 147 *eP* **SKKSac 14 44 13.9 -1.4**
GIRC Giron, Santand 179.26 64 *eP* **SKKSac 14 44 13.9 -2.6**
BARC Barichara 179.32 104 *eP* **SKKSac 14 44 14.5 -2.5**
PAMC Pamplona, Colo 179.39 17|| *eP* **SKKSac 14 44 13.2 -3.7**

*ISCJB **01** 14:13:33.7±0.2,60.78N±0.02×151.90W±0.04, h101km±3km, mb3.5/4, Error ellipse: s-maj=3.5km s-min=2.6km az=39.8*
*IDC **01** 14:13:33.6±1.8,60.80N×152.29W,h75km±22km, mb3.4/4, mb1 3.9/9,mb1mx3.7/65,mbtmp4.0/9,Error ellipse: s-maj=22.4km s-min=13.0km az=112.0*
*NEIC **01** 14:13:36.0±0.0,60.77N×151.97W,h85km,ML4.1(AEIC), After AEIC.*
NEIC Felt [II] at Soldotna. Also felt at Anchorage and Kenai.
ISC 01 14:13:35.3±0.8,60.78N±0.03×151.97W±0.04,h98km±6km, n143,σ1§30/161,mb3.6/7,Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RDT	**Redoubt**	**0.30**	**226**	P	**Pn**	**14 13 48.5**	**-1.3**
NKA	**Nikishka**	**0.36**	**96**	P	**Pn**	**14 13 50.6**	**+0.7**
NKA				S	**Sn**	**14 13 49.4**	**+2.5**
SPCR	**Spurr Chakacha**	**0.43**	**345**	P	**Pn**	**14 13 49.0**	**-1.5**
SPCR				S	**Sn**	**14 14 00.1**	**-1.9**
RDJH	**Redoubt Jeurge**	**0.45**	**245**	P	**Pn**	**14 13 49.4**	**-1.3**
RDJH				S	**Sn**	**14 14 00.1**	**-2.2**
RDN	**Redoubt North**	**0.47**	**236**	P	**Pn**	**14 13 49.6**	**-1.3**
RDSO	**Redoubt South**	**0.50**	**229**	P	**Pn**	**14 13 49.9**	**-1.2**
RDSO				S	**Sn**	**14 14 01.4**	**-1.5**
SPCG	**Spurr Capps Gl**	**0.51**	**357**	P	**Pn**	**14 13 50.1**	**-1.1**
SPCG				S	**Sn**	**14 14 01.5**	**-1.5**
RDWB	**Redoubt West**	**0.52**	**236**	P	**Pn**	**14 13 49.6**	**-1.6**
RDWB				S	**Sn**	**14 14 01.5**	**-1.7**
RED	**Redoubt Volcan**	**0.54**	**228**	P	**Pn**	**14 13 50.1**	**-1.2**
SPNN	**North Nagishla**	**0.69**	**329**	P	**Pn**	**14 13 51.8**	**-0.8**
SPNN				S	**Sn**	**14 14 04.4**	**-1.1**
ILIM	**Iliamna**	**0.86**	**215**	P	**Pn**	**14 13 53.0**	**-1.1**
SUA	**Susitna One**	**0.91**	**41**	*e*Pn	**Pn**	**14 13 54.4**	**-0.3**
SUA				*e*Sn	**Sn**	**14 14 08.9**	**-0.3**
IVE	**Iliamna Volcan**	**0.93**	**215**	P	**Pn**	**14 13 53.8**	**-1.1**
FIB	**Fire Island**	**0.96**	**66**	P	**Pn**	**14 13 55.6**	**+0.5**
ILS	**Iliamna Low So**	**0.99**	**214**	P	**Pn**	**14 13 54.9**	**-0.7**
RC01	**Rabbit Creek A**	**1.13**	**73**	*e*Pn	**Pn**	**14 13 56.7**	**-0.4**
RC01				*e*Sn	**Sn**	**14 14 13.0**	**-0.5**
HOM	**Homer**	**1.14**	**172**	*e*Pn	**Pn**	**14 13 56.9**	**-0.2**
HOM				*e*Sn	**Sn**	**14 14 14.1**	**+0.5**
BRLK	**Bradley Lake**	**1.16**	**152**	*e*Pn	**Pn**	**14 13 56.4**	**-0.9**
SKT	**Skwentna**	**1.22**	**10**	*e*Pn	**Pn**	**14 13 57.5**	**-0.6**
SKT				*e*Sn	**Sn**	**14 14 14.9**	**-0.4**
CNPM	**China Poot**	**1.31**	**163**	*e*Pn	**Pn**	**14 13 58.5**	**-0.7**
CNPM				*e*Sn	**Sn**	**14 14 16.4**	**-0.9**
SEW	**Seward**	**1.42**	**118**	*e*Pn	**Pn**	**14 13 59.6**	**-0.9**
SEW				*e*Sn	**Sn**	**14 14 17.9**	**-1.6**
AUL	**Augustine Lava**	**1.59**	**208**	P	**Pn**	**14 14 02.4**	**-0.1**
AUE	**Augustine Isla**	**1.59**	**207**	P	**Pn**	**14 14 02.3**	**-0.3**
PMR	**Palmer**	**1.60**	**58**	P	**Pn**	**14 14 01.8**	**-0.8**
AUW	**Augustine West**	**1.60**	**209**	P	**Pn**	**14 14 02.7**	**0.0**
TRAP	**Trapper Creek**	**1.76**	**27**	P	**Pn**	**14 14 04.5**	**-0.1**
GHO	**Glory Hole Cre**	**1.77**	**55**	*e*Pn	**Pn**	**14 14 04.3**	**-0.7**
GHO				*e*Sn	**Sn**	**14 14 26.3**	**-1.2**
PWL	**Port Wells**	**1.78**	**86**	P	**Pn**	**14 14 03.6**	**-1.4**
SVW2	**Sparrevohn**	**1.79**	**282**	*e*Pn	**Pn**	**14 14 04.3**	**-0.8**
SVW2				*e*Sn	**Sn**	**14 14 25.8**	**-2.0**
KNK	**Knik Glacier**	**1.82**	**68**	P	**Pn**	**14 14 04.5**	**-0.9**
MCNL	**McNeil River**	**2.00**	**218**	P	**Pn**	**14 14 07.4**	**-0.3**
SML	**Sawmill**	**2.03**	**58**	*e*Pn	**Pn**	**14 14 07.3**	**-0.9**
PPLA	**Purkeypile**	**2.12**	**357**	*e*Pn	**Pn**	**14 14 09.7**	**+0.1**
FONW	**Fourpeaked Sta**	**2.19**	**208**	P	**Pn**	**14 14 10.3**	**0.0**
GLI	**Glacier Island**	**2.39**	**86**	*e*Pn	**Pn**	**14 14 10.6**	**-2.3**
HUR	**Hurricane**	**2.46**	**26**	P	**Pn**	**14 14 13.7**	**-0.2**
SCM	**Sheep Creek Mo**	**2.48**	**63**	*e*Pn	**Pn**	**14 14 13.2**	**-0.9**
JPK	**Jack Peak**	**2.64**	**82**	P	**Pn**	**14 14 14.4**	**-1.8**
KAHG	**Katmai Hook Gl**	**2.64**	**211**	P	**Pn**	**14 14 16.3**	**0.0**
CAST	**Castle Rocks**	**2.65**	**359**	P	**Pn**	**14 14 16.1**	**-0.2**
FID	**Port Fidalgo**	**2.69**	**88**	*e*Pn	**Pn**	**14 14 14.5**	**-2.4**
HIN	**Hinchinbrook I**	**2.73**	**96**	P	**Pn**	**14 14 15.1**	**-2.2**
VMT	**TAPS TI Valdez**	**2.75**	**81**	P	**Pn**	**14 14 16.1**	**-1.4**
TRF	**Thorofare Moun**	**2.79**	**16**	*e*Pn	**Pn**	**14 14 18.0**	**-0.3**
KAWH	**Katmai**	**2.80**	**212**	P	**Pn**	**14 14 18.4**	**0.0**
TT01	**Tatalina**	**2.87**	**320**	P	**Pn**	**14 14 19.1**	**-0.1**
RND	**Reindeer**	**3.01**	**28**	*e*Pn	**Pn**	**14 14 21.0**	**-0.2**
KLU	**Klutina**	**3.02**	**74**	*e*Pn	**Pn**	**14 14 19.9**	**-1.4**
KDAK	**Kodiak Island**	**3.03**	**186**	P	**Pn**	**14 14 19.5**	**-1.8**
	20nm,0.3s,baz=45,slow=7.4,SNR=163						
KDAK				S	**Sn**	**14 14 54.6**	**-2.1**
	55nm,0.3s,baz=134,slow=23,SNR=12						
KABU	**Katmai Buttres**	**3.03**	**215**	P	**Pn**	**14 14 21.7**	**+0.2**
DIV	**Divide**	**3.04**	**81**	*e*Pn	**Pn**	**14 14 20.0**	**-1.6**
EYAK	**Cordova Ski Ar**	**3.07**	**92**	*e*Pn	**Pn**	**14 14 19.9**	**-2.0**
CHUM	**Lake Minchumin**	**3.12**	**357**	P	**Pn**	**14 14 22.4**	**0.0**
MID	**Middleton Isla**	**3.13**	**113**	P	**Pn**	**14 14 21.4**	**-1.2**
ANCK	**Angle Creek**	**3.15**	**216**	P	**Pn**	**14 14 23.4**	**+0.3**
DHY	**Denali Highway**	**3.17**	**41**	*e*Pn	**Pn**	**14 14 23.5**	**+0.2**
CNTC	**Contact Creek**	**3.22**	**220**	P	**Pn**	**14 14 24.2**	**+0.2**
CAHL	**Cahill**	**3.23**	**213**	P	**Pn**	**14 14 24.6**	**+0.6**
MCK	**McKinley**	**3.28**	**24**	*e*Pn	**Pn**	**14 14 24.6**	**-0.1**
KJL	**Kejulik**	**3.30**	**215**	P	**Pn**	**14 14 25.9**	**+0.8**
BPAW	**Bear Paw Mtn.**	**3.36**	**7**	*e*Pn	**Pn**	**14 14 25.1**	**-0.7**
PS11	**TAPS Pump St11**	**3.38**	**65**	P	**Pn**	**14 14 25.8**	**-0.2**
BMRM	**Bremner River**	**3.61**	**84**	*e*Pn	**Pn**	**14 14 26.8**	**-2.4**
RAGM	**Ragged Mountai**	**3.62**	**93**	*e*Pn	**Pn**	**14 14 26.8**	**-2.5**
OHAK	**Old Harbor**	**3.64**	**191**	*e*Pn	**Pn**	**14 14 27.6**	**-1.9**
HARP	**HAARP**	**3.64**	**60**	*e*Pn	**Pn**	**14 14 29.5**	**0.0**
PLK2	**Peulik 2**	**3.76**	**218**	P	**Pn**	**14 14 32.0**	**+0.8**
PAX	**Paxson**	**3.78**	**52**	*e*Pn	**Pn**	**14 14 31.5**	**0.0**
PLK3	**Peulik 3**	**3.81**	**217**	P	**Pn**	**14 14 32.6**	**+0.8**
PLK1	**Peulik 1**	**3.82**	**221**	P	**Pn**	**14 14 32.8**	**+0.8**
HMT	**Hamilton**	**3.83**	**93**	P	**Pn**	**14 14 32.0**	**-0.1**
PLK4	**Peulik 4**	**3.88**	**217**	P	**Pn**	**14 14 33.6**	**+0.7**
PS10	**TAPS Pump St10**	**3.94**	**45**	P	**Pn**	**14 14 34.7**	**+1.1**
NICHA	**Nichawak Mount**	**4.00**	**94**	P	**Pn**	**14 14 34.2**	**-0.1**
GLB	**Gilahina Butte**	**4.01**	**77**	P	**Pn**	**14 14 33.2**	**-1.4**
NEA	**Nenana**	**4.04**	**18**	P	**Pn**	**14 14 34.7**	**-0.1**
BERG	**Berg Lake**	**4.10**	**92**	P	**Pn**	**14 14 35.4**	**-0.3**
WRH	**Wood River Hil**	**4.11**	**24**	*e*Pn	**Pn**	**14 14 35.1**	**-0.8**
VRDI	**Verde Repeater**	**4.17**	**80**	P	**Pn**	**14 14 35.1**	**-1.8**
MLY	**Manley**	**4.30**	**7**	*e*Pn	**Pn**	**14 14 37.6**	**-0.9**
GRIN	**Grindle Hills**	**4.30**	**93**	P	**Pn**	**14 14 38.3**	**-0.2**
KHIT	**Khitrov Hills**	**4.31**	**91**	P	**Pn**	**14 14 38.1**	**-0.6**
HDA	**Harding Lake**	**4.32**	**30**	*e*Pn	**Pn**	**14 14 38.5**	**-0.2**
CCB	**Clear Creek Bu**	**4.33**	**24**	*e*Pn	**Pn**	**14 14 37.8**	**-0.9**
MCARA	**McCarthy VSAT**	**4.39**	**78**	P	**Pn**	**14 14 38.5**	**-1.1**
SII	**Sitkinak Islan**	**4.39**	**196**	*e*Pn	**Pn**	**14 14 38.5**	**-1.2**
PS08	**TAPS Pump Stn8**	**4.46**	**30**	P	**Pn**	**14 14 40.5**	**0.0**
RIDG	**Independ'e Rid**	**4.46**	**45**	*e*Pn	**Pn**	**14 14 41.1**	**+0.5**
TGL	**Tana Glacier**	**4.48**	**86**	*e*Pn	**Pn**	**14 14 39.0**	**-2.0**
COLA	**College**	**4.52**	**23**	*e*Pn	**Pn**	**14 14 40.7**	**-0.6**
MDM	**Murphy Dome**	**4.53**	**21**	*e*Pn	**Pn**	**14 14 40.8**	**-0.7**
GCSA	**Galena City Sc**	**4.57**	**333**	P	**Pn**	**14 14 42.3**	**+0.3**
KULT	**Kultieth River**	**4.60**	**93**	P	**Pn**	**14 14 42.2**	**-0.4**
IL1	**Eielson Array**	**4.63**	**28**	*e*Pn	**Pn**	**14 14 42.2**	**-0.7**
ILAR	**Eielson Array**	**4.63**	**28**	P	**Pn**	**14 14 42.4**	**-0.5**
	17nm,0.3s,baz=215,slow=13,SNR=627						
ILAR				S	**Sn**	**14 15 31.4**	**-4.1**
	22nm,0.3s,baz=191,slow=18,SNR=3.2						
ILB	**Eielson Array**	**4.63**	**28**	*e*Pn	**Pn**	**14 14 42.4**	**-0.5**
ILB				*e*Sn	**Sn**	**14 15 31.4**	**-4.1**
PTPK	**Patty Peak**	**4.65**	**81**	P	**Pn**	**14 14 42.1**	**-1.2**
DOT	**Dot Lake**	**4.69**	**49**	*e*Pn	**Pn**	**14 14 43.5**	**-0.1**
KIAG	**Kiagna River**	**4.70**	**84**	P	**Pn**	**14 14 42.3**	**-1.7**
BALM	**Baldy**	**4.71**	**83**	*e*Pn	**Pn**	**14 14 42.4**	**-1.7**
ISLE	**Juniper Island**	**4.74**	**88**	P	**Pn**	**14 14 42.3**	**-2.2**
SCRK	**Sand Creek**	**4.91**	**46**	*e*Pn	**Pn**	**14 14 46.3**	**-0.4**
MESA	**MESA**	**5.00**	**93**	P	**Pn**	**14 14 47.9**	**-0.1**
BARN	**Barnard Glacie**	**5.04**	**82**	P	**Pn**	**14 14 47.5**	**-1.1**
YAH	**Yahtse**	**5.06**	**90**	P	**Pn**	**14 14 46.4**	**-2.5**
PS06	**TAPS Pump Stn6**	**5.19**	**10**	P	**Pn**	**14 14 50.6**	**+0.1**
CTGM	**Chitina Glacie**	**5.20**	**83**	P	**Pn**	**14 14 49.5**	**-1.2**
IM3	**Indian Mountai**	**5.28**	**352**	*e*Pn	**Pn**	**14 14 51.2**	**-0.5**
BCA3	**Beaver Creek A**	**5.33**	**60**	P	**Pn**	**14 14 51.9**	**-0.5**
YUK2	**White River**	**5.46**	**75**	P	**Pn**	**14 14 53.3**	**-1.0**
BVCY	**Beaver Creek**	**5.55**	**68**	P	**Pn**	**14 14 55.1**	**-0.3**
PRP	**Porcupine Dome**	**5.58**	**29**	P	**Pn**	**14 14 56.2**	**+0.3**
CHGN	**Chignik**	**5.62**	**220**	*e*Pn	**Pn**	**14 14 55.8**	**-0.4**
YUK3	**Moose Creek**	**5.64**	**75**	P	**Pn**	**14 14 55.8**	**-1.0**
YUK1	**Sand Pete Hill**	**5.65**	**71**	P	**Pn**	**14 14 56.5**	**-0.4**
PCA	**Pinnacle**	**5.84**	**92**	*e*Pn	**Pn**	**14 14 58.5**	**-0.9**
PNL	**Peninsula**	**6.36**	**95**	P	**Pn**	**14 15 05.9**	**-0.5**
EGAK	**Eagle**	**6.37**	**46**	*e*Pn	**Pn**	**14 15 06.0**	**-0.5**
YUK4	**Talbot Arm**	**6.49**	**79**	P	**Pn**	**14 15 08.0**	**-0.3**
FYU	**Fort Yukon**	**6.53**	**24**	*e*Pn	**Pn**	**14 15 08.2**	**-0.4**
YUK6	**Outpost Mounta**	**6.65**	**83**	P	**Pn**	**14 15 09.8**	**-0.7**
DAWY	**Dawson**	**6.70**	**55**	*e*Pn	**Pn**	**14 15 11.1**	**+0.1**
YUK7	**Dusty Glacier**	**6.80**	**86**	P	**Pn**	**14 15 12.0**	**-0.6**
YUK5	**Grizzle Creek**	**6.88**	**81**	P	**Pn**	**14 15 12.7**	**-0.9**
HYT	**Haines Junctio**	**7.08**	**83**	P	**Pn**	**14 15 15.6**	**-0.6**
DHAK	**Deception Hill**	**7.12**	**98**	*e*Pn	**Pn**	**14 15 15.7**	**-1.0**
BM3	**Burnt Mountain**	**7.39**	**23**	P	**Pn**	**14 15 19.4**	**-1.0**
TOLK	**Toolik Lake Re**	**7.96**	**6**	*e*Pn	**Pn**	**14 15 29.9**	**+1.8**
WHY	**Whitehorse**	**8.38**	**83**	*e*Pn	**Pn**	**14 15 32.7**	**-1.2**
BESE	**Bessie Mountai**	**8.93**	**97**	*e*Pn	**Pn**	**14 15 41.5**	**+0.1**
JIS	**Juneau Island**	**9.28**	**98**	*e*Pn	**Pn**	**14 15 45.5**	**-0.5**
INK	**Inuvik**	**10.90**	**38**	P	**Pn**	**14 16 07.0**	**-1.0**
	0.7nm,0.3s,baz=231,slow=15,SNR=32						
INK				S	**Sn**	**14 18 01.8**	**-5.9**
	baz=248,slow=14,SNR=2.6						
INK	**Inuvik**	**10.90**	**38**	*e*Pn	**Pn**	**14 16 07.7**	**-0.3**
DLBC	**Dease Lake**	**11.35**	**92**	P	**Pn**	**14 16 14.0**	**-0.1**
	0.5nm,0.3s,baz=276,slow=13,SNR=4.9						
YKA	**Yellowknife Ar**	**17.67**	**68**	P	**Pn**	**14 17 35.3**	**+0.6**
	0.2nm,0.3s,baz=275,slow=9.9,SNR=2.9						
RES	**Resolute Bay**	**24.37**	**33**	P	**P**	**14 18 43.7**	**+0.2**
	2.4nm,0.6s,baz=270,slow=2.8,SNR=5.6						
PEA1	**Petropavlovsk-**	**27.87**	**277**	*e*P	**P**	**14 19 14.7**	**-0.6**
PETK	**Petropavlovsk-**	**27.87**	**277**	P	**P**	**14 19 14.7**	**-0.7**
	2.9nm,1.0s,baz=78,slow=12,SNR=6.1						
NVAR	**Mina Array Bea**	**30.68**	**121**	P	**P**	**14 19 43.6**	**+3.0**
	0.1nm,0.2s,baz=324,slow=9.0,SNR=2.0						
NVAR				pP	**pP**	**14 20 04.8**	**+2.2**
	0.5nm,0.6s,baz=322,slow=8.2,SNR=3.6						
PDAR	**Pinedale Array**	**31.10**	**106**	P	**P**	**14 19 46.3**	**+2.1**
	0.2nm,0.3s,baz=282,slow=6.3,SNR=2.2						
PDAR				pP	**pP**	**14 20 08.8**	**+2.4**
	0.3nm,0.4s,baz=318,slow=4.9,SNR=2.7						
TXAR	**Lajitas Array**	**44.79**	**112**	pP	pP	14 22 03.8	+1.6
	0.9nm,0.9s,baz=324,slow=10,SNR=5.3						
NOA	**NORSAR Array B**	**57.82**	**10**	pP	pP	14 23 41.2	+1.3
	0.5nm,0.7s,baz=2.3,slow=11,SNR=1.2						
ESDC	**Sonseca Array**	**76.53**	**25**	pP	pP	14 25 43.5	+4.0
	0.2nm,0.5s,baz=344,slow=5.4,SNR=4.2						

*ISCJB **01** 14:18:01.9±0.7,26.97S±0.03×26.64E±0.03,h13km±4km, Error ellipse: s-maj=5.3km s-min=3.9km az=42.3*
*PRE **01** 14:18:01.5±1.6,26.91S×26.63E,h2km,ML3.3*
*EAF **01** 14:18:03.5±1.9,27.51S×27.87E,h66km,MD3.5*
*BUL **01** 14:18:05.1±0.9,26.29S×24.92E,h0km,352km,MD3.5*
ISC 01 14:18:01.8±1.0,26.87S±0.04×26.63E±0.03,h10km±8km, n22,σ1§66/43,South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOAB	**Moab Khotsong**	**0.19**	**129**	*e*P	**Pg**	**14 18 05.7**	**-0.3**
MOAB				*e*S	**Sg**	**14 18 07.1**	**-1.8**
MOAB				AML	AML	14 18 07.4	
	comp=Z,15µm,0.3s						
PRYS	**Parys**	**0.65**	**95**	*e*P	**Pg**	**14 18 13.6**	**-0.9**
PRYS				*e*S	**Sg**	**14 18 22.9**	**-0.2**
PRYS				AML	AML	14 18 34.4	
	comp=Z,285nm,0.4s						
KSR	**Koster**	**1.04**	**13**	*e*P	**Pn**	**14 18 23.0**	**+0.4**
KSR				*e*S	**Sn**	**14 18 36.7**	**-0.5**
KSR				AML	AML	14 18 44.1	
	comp=Z,359nm,0.7s						
SWZ	**Schweizer**	**1.20**	**255**	*e*P	**Pn**	**14 18 24.7**	**-0.2**
SWZ				*e*S	**Sn**	**14 18 40.8**	**-0.5**
SWZ				AML	AML	14 18 45.1	
	comp=Z,2µm,0.3s						
ERPM	**east rand prop**	**1.53**	**70**	*e*P	**Pb**	**14 18 31.2**	**+0.8**
ERPM				*e*S	**Sg**	**14 18 52.3**	**+1.2**
ERPM				AML	AML	14 18 52.6	
	comp=Z,407nm,0.6s						
SLR	**Silverton**	**1.86**	**53**	*e*P	**Pb**	**14 18 36.5**	**+0.5**
SLR				*e*S	**Sb**	**14 19 00.3**	**+1.0**
SLR				AML	AML	14 19 01.5	
	comp=Z,1µm,0.3s						
LBTB	**Lobatse**	**2.07**	**333**	*e*P	**Pb**	**14 18 38.4**	**-1.1**
LBTB				*e*S	**Sb**	**14 19 04.5**	**-0.8**
LBTB				AML	AML	14 19 09.8	
	comp=Z,796nm,0.4s						
BOSA	**Boshof**	**2.13**	**215**	*i* P	**Pg**	**14 18 43.1**	**+0.5**
BOSA				*i* S	**Sg**	**14 19 10.6**	**+0.4**
BOSA	**Boshof**	**2.13**	**215**	*e*P	**Pn**	**14 18 38.4**	**+0.8**
BOSA				*e*S	**Sn**	**14 19 04.4**	**+0.3**
BOSA				AML	AML	14 19 09.8	
	comp=Z,157nm,0.5s						
BOSA	**Boshof**	**2.13**	**215**	*i* P	**Pg**	**14 18 43.1**	**+0.5**
BOSA				*i* S	**Sg**	**14 19 10.6**	**+0.4**
HVD	**Gariep Dam**	**3.86**	**195**	*e*P	**Pn**	**14 19 02.8**	**+1.4**
HVD				*e*S	**Sn**	**14 19 45.5**	**-1.4**
HVD				AML	AML	14 20 11.9	
	comp=Z,76nm,0.5s						
KSD	**Kokstad**	**4.40**	**147**	*e*P	**Pn**	**14 19 09.7**	**+0.8**
KSD				*e*S	**Sn**	**14 19 57.5**	**-2.8**
KSD				AML	AML	14 20 19.8	
	comp=Z,47nm,0.4s						
PKA	**Prieska**	**4.42**	**230**	*e*P	**Pn**	**14 19 09.1**	**+0.1**
PKA				*e*S	**Sn**	**14 19 58.7**	**-1.8**
PKA				AML	AML	14 20 30.3	
	comp=Z,34nm,0.5s						
SOE	**Somerset East**	**5.90**	**189**	*e*P	**Pn**	**14 19 29.7**	**+0.3**
SOE				*e*S	**Sn**	**14 20 35.5**	**-1.6**
SOE				AML	AML	14 21 20.1	
	comp=Z,33nm,0.6s						
ARMS	**Ukamas**	**6.24**	**258**	*e*P	**Pn**	**14 19 35.2**	**+1.2**
ARMS				*e*S	**Sn**	**14 20 44.2**	**-1.2**
ARMS				AML	AML	14 21 21.5	
	comp=Z,82nm,0.4s						
MATP	**Matopo**	**6.63**	**15**	*i* P	**Pn**	**14 19 41.6**	**+2.0**
MATP				*i* S	**Sn**	**14 20 53.9**	**-1.4**
MATP	**Matopo**	**6.63**	**15**	*i* P	**Pn**	**14 19 41.6**	**+2.0**
MATP				*i* S	**Sn**	**14 20 58.1**	**+2.7**
BLWY	**Bulawayo**	**6.94**	**16**	*i* P	**Pn**	**14 19 46.4**	**+2.7**
BLWY				*i* S	**Sn**	**14 21 01.1**	**-1.6**
BLWY	**Bulawayo**	**6.94**	**16**	*i* P	**Pn**	**14 19 46.4**	**+2.7**
BLWY				*i* S	**Sn**	**14 21 01.1**	**-1.6**
SUR	**Sutherland**	**7.47**	**221**	*e*P	**Pn**	**14 19 53.3**	**+2.2**
CVNA	**Calvinia**	**7.56**	**231**	*e*P	**Pn**	**14 19 54.3**	**+2.0**
CVNA				*e*S	**Sn**	**14 21 14.8**	**-3.4**
CVNA				AML	AML	14 22 14.4	
	comp=Z,44nm,0.5s						
KOMG	**Komaggas**	**8.57**	**248**	*e*P	**Pn**	**14 20 07.7**	**+1.7**
KOMG				*e*S	**Sn**	**14 21 39.1**	**-3.7**
KOMG				AML	AML	14 22 36.0	
	comp=Z,37nm,0.5s						

*ISCJB **01** 14:31:22.8±0.8,37.56N±0.04×27.27E±0.04,h3km±7km, Error ellipse: s-maj=7.8km s-min=4.8km az=32.5*
*DDA **01** 14:31:22.7,37.56N×27.27E,h7km,Ml3.3*
*ISK **01** 14:31:22.3,37.59N×27.27E,h4km,ML2.6/2*
ISC 01 14:31:23.1±1.1,37.58N±0.04×27.26E±0.04,h9km±7km, n11,σ0§42/20,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GCAM	**G?zelcaml?**	**0.12**	**352**	P	**Pg**	**14 31 25.8**	**-0.2**
GCAM				SG	**Sg**	**14 31 27.7**	**-0.3**
GCAM	**G?zelcaml?**	**0.12**	**352**	*i* P	**Pg**	**14 31 25.9**	**-0.1**
GCAM				*i* S	**Sg**	**14 31 28.4**	**+0.4**
AYDN	**Tasoluk**	**0.50**	**81**	*i* P	**Pg**	**14 31 32.7**	**-0.2**
AYDN				*i* S	**Sg**	**14 31 39.7**	**+0.2**
MLSB	**Milas**	**0.50**	**124**	PG	**Pg**	**14 31 32.7**	**-0.2**
BODT	**Bodrum**	**0.52**	**175**	PG	**Pg**	**14 31 32.9**	**-0.3**
DGB	**˙zmir**	**0.56**	**328**	*i* P	**Pg**	**14 31 33.9**	**-0.1**
DGB				*i* S	**Sb**	**14 31 42.3

7.6nm,0.7s,baz=127,slow=20,SNR=2.2
LEM Lembang 22.45 240 P **P 14 49 47.0 +0.3**
7.4nm,0.5s,baz=29,slow=19,SNR=3.4
FITZ Fitzroy Crossi 22.62 183 P **P 14 49 48.2 -0.1**
5.1nm,0.9s,baz=4.4,slow=9.0,SNR=5.5
WRAB Tennant Creek 25.46 164 *e*P **P 14 50 14.2 -0.3**
3.3nm,0.4s
WRA Warramunga Arr 25.46 164 P **P 14 50 15.5 +0.9**
6.3nm,0.5s,baz=344,slow=10,SNR=65
ASAR Alice Springs 28.92 167 P **P 14 50 46.5 +1.0**
1.7nm,0.5s,baz=347,slow=7.1,SNR=29
ASAR PcP **PcP 14 53 53.8 +0.8**
0.6nm,0.4s,baz=342,slow=2.5,SNR=4.5
CMAR Chiang Mai Arr 30.66 299 P **P 14 50 59.9 -1.2**
0.8nm,0.6s,baz=116,slow=7.0,SNR=8.7
CMAR PcP **PcP 14 53 58.2 +0.6**
0.1nm,0.3s,baz=99,slow=2.3,SNR=4.5
KSAR Wonju Array Be 32.67 1 P **P 14 51 18.4 +0.1**
KSRS Korea Array 32.68 1 P **P 14 51 18.4 0.0**
1.6nm,1.0s,baz=187,slow=8.5,SNR=4.3
STKA Stephens Creek 38.88 160 P **P 14 52 12.9 +1.4**
4.8nm,0.5s,baz=342,slow=8.2,SNR=23
USRK Ussuriysk Ar. 39.65 6 P **P 14 52 17.4 -0.5**
0.6nm,0.4s,baz=192,slow=7.8,SNR=5.1
ASAJ Asahikawa 41.66 17 P **P 14 52 33.7 -0.7**
19nm,1.2s,baz=210,slow=20,SNR=3.1
RAMN Ramite 44.46 304 *e*P **P 14 52 57.3 -0.3**
22nm,0.6s
KLR Kul'dur 44.62 4 P **P 14 52 57.5 -0.7**
1.0nm,0.5s,baz=204,slow=10.0,SNR=3.3
JIRN Jiri 45.07 305 *e*P **P 14 53 02.1 -0.5**
25nm,0.5s
GUN Gumba 45.42 305 *e*P **P 14 53 05.0 -0.4**
23nm,0.4s
PKI Pulchoki 45.68 305 *e*P **P 14 53 06.4 -1.0**
4.4nm,0.4s
PKIN Phulchoki 45.69 305 *e*P **P 14 53 06.4 -1.0**
5.5nm,0.4s
KKN Kakani 45.87 305 *e*P **P 14 53 08.2 -0.5**
8.5nm,0.4s
PALK Pallekele 46.11 276 LR LR 15 12 06.8
comp=Z,32nm,18.9s,baz=115,slow=35
ULN Ulaanbaatar 46.35 341 *e*P **P 14 53 10.1 -2.1**
1.9nm,0.5s
SONM Songino Array 46.54 341 P **P 14 53 14.3 +0.8**
4.5nm,0.7s,baz=163,slow=9.7,SNR=7.2
KOLN Koldanda 47.24 304 *e*P **P 14 53 18.9 -0.6**
32nm,0.3s
DANN Dangsing 47.32 305 *e*P **P 14 53 19.3 -0.9**
37nm,0.4s
PYUN Piuthan 47.86 304 *e*P **P 14 53 23.7 -0.6**
20nm,0.4s
PETK Petropavlovsk- 54.50 22 P **P 14 54 13.9 +0.7**
3.7nm,0.9s,baz=194,slow=6.1,SNR=4.6
MKAR Makanchi Array 56.98 325 P **P 14 54 30.7 -0.5**
1.1nm,0.3s,baz=116,slow=7.3,SNR=24
MKAR PcP **PcP 14 55 25.4 -0.2**
1.2nm,0.6s,baz=117,slow=3.9,SNR=3.7
ZALV Zalesovo Beam 59.91 333 P **P 14 54 51.0 -0.4**
1.7nm,0.3s,baz=126,slow=6.4,SNR=10
KURK Kurchatov 61.13 327 P **P 14 54 57.7 -2.0**
BRVK Borovoye 66.79 327 *e*P **P 14 55 33.5 -3.3**
3.1nm,0.4s
NRIK Noril'sk 69.62 346 P **P 14 55 54.4 +0.2**
6.2nm,0.6s,baz=130,slow=6.7,SNR=13
GEYT Alibeck 70.55 309 P **P 14 56 00.8 +0.2**
0.7nm,0.5s,baz=260,slow=7.4,SNR=3.9
KBZ Khabaz 82.56 313 P **P 14 57 07.7 -0.4**
1.6nm,0.8s,baz=167,slow=9.8,SNR=3.9
ILAR Eielson Array 84.18 25 P **P 14 57 15.4 -0.7**
0.2nm,0.6s,baz=249,slow=6.2,SNR=6.7
VNDA Vanda 84.28 173 P **P 14 57 17.5 +1.2**
0.5nm,0.4s,baz=325,slow=6.7,SNR=6.4
BRTR Keskin Array B 89.66 310 P **P 14 57 42.8 -0.7**
2.5nm,0.9s,baz=128,slow=5.5,SNR=9.1
ARCES ARCESS Array B 89.70 340 P **P 14 57 41.9 -0.9**
2.1nm,0.4s,baz=84,slow=6.1,SNR=27
AKASG Malin Array Be 91.37 321 P **P 14 57 49.7 -1.2**
0.7nm,0.4s,baz=67,slow=5.6,SNR=3.0
PDAR Pinedale Array 110.50 41 Pdiff **Pdif 14 59 16.9 -0.4**
0.2nm,0.6s,baz=282,slow=4.4,SNR=3.3
TORD Torodi Ar. Bea 122.89 289 PKP **PKPdf 15 03 41.0 -0.8**
0.4nm,0.7s,baz=48,slow=2.1
TORD Torodi Ar. Bea 122.89 289 PKP **PKPdf 15 03 41.0 -0.8**

MEX 01 14:56:21.6±0.7, 16.29N×98.03W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.14**	**316**	*i* P	Pg	14 56 23.8	-0.7
PNIG				*i* S	Sg	14 56 26.5	+0.2
TLIG	**Tlapa**	**1.36**	**338**	*e*P	Pn	14 56 43.6	-3.9
TLIG				*e*S	Sg	14 57 01.7	-3.8
VHO	**Vista Hermosa**	**1.46**	**58**	*e*P	Pn	14 56 44.9	-4.0
VHO				*i* S	Sb	14 57 02.7	-5.8
HUIG	**Huatulco**	**1.92**	**106**	*i* P	Pn	14 56 50.8	-4.2
HUIG				*e*S	Sn	14 57 15.1	-4.4
PLIG	**Platanillo**	**2.52**	**326**	*e*P	Pn	14 57 00.7	-2.5
PLIG				*e*S	Sn	14 57 30.9	-3.5

*ISCJB **01** 15:30:46.8±0.2, 16.98N±0.02×85.49W±0.02, h10km, mb4.7/80, MS3.9/14, Error ellipse: s-maj=3.3km s-min=2.5km az=13.6*
*IDC **01** 15:30:46.4±1.2, 16.76N×85.43W, h0km, mb3.9/8, mb1 4.4/12, mb1mx4.1/39, mbtmp4.1/12, ML4.1/4, MS3.8/17, Ms1 3.8/17, ms1mx3.6/37, Error ellipse: s-maj=34.0km s-min=19.0km az=12.0*
*NEIC **01** 15:30:48.6±0.2, 16.96N×85.50W, h10km, mb4.7/137, Error ellipse: s-maj=3.5km s-min=3.1km az=74.0*
NEIC Felt at Guanaja and Jonesville.
*UCR **01** 15:30:50.2±1.6, 17.00N×85.58W, h33km, mb4.7(NEIC)*

ISC 01 15:30:47.9±0.4, 16.99N±0.03×85.56W±0.04, h10km, n454, σ1.9 66/452, mb4.8/80, MS3.9/14, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESTN	**Estel**	**3.94**	**192**	*e*Pn	**Pn**	**15 31 49.3**	**+0.8**
ESTN	**Estel**	**3.94**	**192**	*e*P	**Pn**	**15 31 48.5**	**0.0**
MATN	**Matagalpa**	**4.05**	**185**	*e*P	**Pn**	**15 31 50.0**	**0.0**
TEIG	**Tepich**	**4.13**	**322**	*e*Pn	**Pn**	**15 31 52.1**	**+1.1**
TEIG				*e*Sn	**Sn**	**15 32 36.9**	**-2.5**
TEIG	**Tepich**	**4.13**	**322**	*e*P	**Pn**	**15 31 52.6**	**+1.6**
TEIG				*e*S	**Sn**	**15 32 37.2**	**-2.1**
CRIN	**San Cristobal**	**4.50**	**199**	*e*P	**Pn**	**15 31 57.2**	**+1.0**
BOAB	**BOACO BROADBAN**	**4.51**	**181**	*e*Pn	**Pn**	**15 31 56.9**	**+0.6**
BOAB				*e*Sn	**Sn**	**15 32 43.9**	**-5.0**
BOAB				*e*Sg	**Sg**	**15 33 10.2**	**-2.7**
BOAB	**BOACO BROADBAN**	**4.51**	**181**	*e*P	**Pn**	**15 31 55.9**	**-0.4**
CNGN	**Cerro Negro**	**4.59**	**194**	*e*P	**Pn**	**15 31 58.0**	**+0.5**
MOMN	**Momotombo**	**4.65**	**192**	*e*P	**Pn**	**15 31 59.7**	**+1.5**
SNET	**Serv Nac Est T**	**4.83**	**228**	*e*Pn	**Pn**	**15 32 01.4**	**+0.7**
SNET				*e*Sg	**Sb**	**15 33 13.8**	**+2.9**
COPN	**Copaltepe**	**4.88**	**192**	*e*P	**Pn**	**15 32 02.1**	**+0.7**
ESPN	**Las Esperanzas**	**4.92**	**165**	*e*Pn	**Pn**	**15 32 03.1**	**+1.3**
ESPN				*e*Sg	**Sb**	**15 33 15.6**	**+2.3**
ESPN	**Las Esperanzas**	**4.92**	**165**	*e*P	**Pn**	**15 32 02.9**	**+1.1**
ACON	**Acoyapa**	**5.00**	**176**	*e*P	**Pn**	**15 32 02.3**	**-0.7**
APG	**El Apazote**	**5.11**	**248**	Pn	**Pn**	**15 32 05.6**	**+0.8**
	4.2nm,0.3s,baz=111,slow=13,SNR=29						
APG				Sn	**Sn**	**15 32 57.4**	**-6.6**
	8.2nm,0.3s,baz=17,slow=1.0,SNR=4.5						
APG				Lg	Lg	15 33 20.6	
	14nm,0.3s,baz=334,slow=21,SNR=6.0						
APG				LR	LR	15 34 08.4	
	comp=Z,348nm,21.7s,baz=180,slow=39						
MYIG	**MØrida**	**5.59**	**316**	*e*Pn	**Pn**	**15 32 11.5**	**+0.4**
MYIG				*e*Sn	**Sn**	**15 33 12.3**	**-3.1**
CCIG	**Comitan**	**6.34**	**265**	*e*Pn	**Pn**	**15 32 22.1**	**+0.4**
JTS	**JuntasAbangare**	**6.68**	**175**	Pn	**Pn**	**15 32 27.4**	**+1.2**
	17nm,0.3s,baz=9.3,slow=17,SNR=4.6						
JTS				Sn	**Sn**	**15 33 36.5**	**-5.9**
	7.4nm,0.3s,baz=343,slow=18,SNR=2.7						
JTS				Lg	Lg	15 34 04.9	
	6.0nm,0.3s,baz=262,slow=11,SNR=6.4						
JTS	**JuntasAbangare**	**6.68**	**175**	*e*Pn	**Pn**	**15 32 26.8**	**+0.6**
JTS				Sn	**Sn**	**15 33 36.5**	**-5.9**
JTS				eLg	Lg	15 34 05.5	
HDC	**Heredia**	**7.08**	**168**	*e*Pn	**Pn**	**15 32 30.9**	**-0.9**
MBJ	**Montego Bay**	**7.47**	**78**	*i* P	Pb	15 32 51.9	-5.8
MTDJ	**Mount Denham**	**7.75**	**80**	*e*Pn	**Pn**	**15 32 40.0**	**-0.9**
STH	**Stony Hill**	**8.42**	**81**	*i* P	**Pn**	**15 32 49.7**	**-0.3**
GWJ	**Greenwich**	**8.49**	**81**	*i* P	**Pn**	**15 32 51.5**	**+0.3**
062Z	**Marathon**	**8.78**	**28**	P	**Pn**	**15 32 55.5**	**+0.6**
	baz=209						
CMIG	**Matias Romero**	**8.92**	**272**	Pn	**Pn**	**15 32 57.9**	**+1.0**
	3.5nm,0.3s,baz=95,slow=7.9,SNR=17						
CMIG				Sn	**Sn**	**15 34 35.7**	**-1.8**
	2.6nm,0.3s,baz=42,slow=22,SNR=3.8						
CMIG				LR	LR	15 36 39.8	
	comp=Z,1μm,19.6s,baz=88,slow=39						
BCIP	**Isla Barro Col**	**9.56**	**144**	*e*Pn	**Pn**	**15 33 02.9**	**-2.8**
061Z	**Ochoppi**	**9.84**	**25**	*e*Pn	**Pn**	**15 33 09.6**	**+0.1**
061Z	**Ochoppi**	**9.84**	**25**	P	**Pn**	**15 33 09.8**	**+0.3**
	baz=206						
059Z	**Ave Maria**	**10.06**	**22**	P	**Pn**	**15 33 13.2**	**+0.7**
	baz=203						
GTBY	**Guantanamo Bay**	**10.34**	**72**	*e*Pn	**Pn**	**15 33 16.8**	**+0.4**
060Z	**West Palm Beac**	**10.46**	**26**	P	**Pn**	**15 33 18.5**	**+0.5**
	baz=207						
058A	**Arcadia**	**10.61**	**18**	P	**Pn**	**15 33 20.3**	**+0.3**
	baz=199,SNR=15						
LVIG	**Laguna Verde**	**10.66**	**286**	*e*Pn	**Pn**	**15 33 19.2**	**-1.6**
059A	**Moore Haven**	**10.74**	**22**	*e*Pn	**Pn**	**15 33 23.5**	**+1.6**
059A	**Moore Haven**	**10.74**	**22**	P	**Pn**	**15 33 22.1**	**+0.3**
	baz=203,SNR=10						
957A	**Wimauma**	**11.07**	**16**	*e*Pn	**Pn**	**15 33 27.2**	**+0.9**
957A	**Wimauma**	**11.07**	**16**	P	**Pn**	**15 33 27.2**	**+0.9**
	baz=196						
060A	**Indiantown**	**11.10**	**25**	*e*Pn	**Pn**	**15 33 28.6**	**+1.8**
060A	**Indiantown**	**11.10**	**25**	P	**Pn**	**15 33 27.8**	**+1.1**
	baz=206						
857A	**Zephyrhills**	**11.64**	**15**	P	**Pn**	**15 33 34.6**	**+0.5**
	baz=196						
DWPF	**Disney Wildern**	**11.71**	**18**	*e*Pn	Pn	15 33 42.9	+7.9
DWPF				*e*Sn	Sn	15 35 36.3	-10
DWPF	**Disney Wildern**	**11.71**	**18**	P	**Pn**	**15 33 35.7**	**+0.6**
	baz=199						
859A	**Kempfer Cattle**	**11.83**	**21**	P	**Pn**	**15 33 36.3**	**-0.5**
	baz=202						
757A	**Oxford**	**12.32**	**14**	P	**Pn**	**15 33 43.5**	**0.0**
	baz=195						
TLIG	**Tlapa**	**12.44**	**275**	*e*Pn	**Pn**	**15 33 46.4**	**+1.1**
758A	**Lake Helen**	**12.58**	**18**	P	**Pn**	**15 33 47.1**	**+0.2**
	baz=199						
656A	**Willston**	**12.63**	**12**	*e*Pn	**Pn**	**15 33 47.1**	**-0.6**
656A	**Willston**	**12.63**	**12**	P	**Pn**	**15 33 47.4**	**-0.3**
	baz=193						
655A	**Horseshoe Beac**	**12.64**	**9**	P	**Pn**	**15 33 48.5**	**+0.7**
	baz=190						
657A	**Interlachen**	**12.99**	**14**	P	**Pn**	**15 33 52.0**	**-0.6**
	baz=196						
658A	**Bunnell**	**12.99**	**17**	*e*Pn	**Pn**	**15 33 53.1**	**+0.5**
554A	**Perry**	**13.15**	**7**	P	**Pn**	**15 33 55.2**	**+0.5**
	baz=188						
553A	**Crawfordville**	**13.18**	**4**	P	**Pn**	**15 33 55.7**	**+0.5**
	baz=184						
556A	**Lake Butler**	**13.27**	**12**	P	**Pn**	**15 33 57.3**	**+0.9**
	baz=193						
555A	**McAlpin**	**13.29**	**10**	*e*Pn	**Pn**	**15 33 56.7**	**+0.1**
555A				*e*Sn	Sn	15 36 13.1	-11
555A	**McAlpin**	**13.29**	**10**	P	**Pn**	**15 33 57.2**	**+0.6**
	baz=190,SNR=6.4						
557A	**Orange Park**	**13.44**	**14**	P	**Pn**	**15 33 59.9**	**+1.2**
	baz=196						
451A	**Vernon**	**13.57**	**359**	*e*Pn	**Pn**	**15 34 00.6**	**+0.2**
SDDR	**Presa de Saban**	**13.72**	**80**	*e*Pn	**Pn**	**15 34 04.9**	**+2.2**
453A	**Whigham**	**13.85**	**4**	P	**Pn**	**15 34 05.3**	**+1.0**
	baz=185						
455A	**Stateville**	**13.89**	**9**	P	**Pn**	**15 34 05.4**	**+0.5**
	baz=190,SNR=5.9						
447A	**Lucedale**	**14.03**	**349**	*e*Pn	**Pn**	**15 34 08.1**	**+1.3**
447A	**Lucedale**	**14.03**	**349**	P	**Pn**	**15 34 08.2**	**+1.3**
	baz=188						
446A	**Poplarville**	**14.18**	**347**	P	**Pn**	**15 34 09.9**	**+1.2**
	baz=165						
351A	**Pinckard**	**14.23**	**360**	P	**Pn**	**15 34 10.5**	**+1.0**
	baz=180						
349A	**Repton**	**14.38**	**354**	P	**Pn**	**15 34 12.7**	**+1.1**
	baz=174						
350A	**Dozier**	**14.39**	**357**	P	**Pn**	**15 34 13.1**	**+1.4**
	baz=177						
352A	**Blakely**	**14.44**	**2**	*e*Pn	**Pn**	**15 34 11.8**	**-0.6**
TIGA	**Tifton**	**14.50**	**7**	*e*Pn	**Pn**	**15 34 11.9**	**-1.3**
TIGA	**Tifton**	**14.50**	**7**	P	**Pn**	**15 34 12.9**	**-0.3**
	baz=187						
355A	**Pearson**	**14.51**	**9**	P	**Pn**	**15 34 14.0**	**+0.7**
	baz=190						
348A	**Jackson**	**14.52**	**352**	*e*Pn	**Pn**	**15 34 10.2**	**-3.3**
BANI	**BANI**	**14.55**	**82**	*e*Pn	**Pn**	**15 34 12.1**	**-2.0**
JRQG	**Juriquilla Cam**	**14.57**	**287**	*e*Pn	**Pn**	**15 34 16.6**	**+2.1**
356A	**Blackshear**	**14.61**	**12**	P	**Pn**	**15 34 16.1**	**+1.4**
	baz=193						
250A	**Grady**	**14.94**	**358**	*e*Pn	**Pn**	**15 34 16.1**	**-3.2**
250A				*e*Sn	Sn	15 36 50.2	-15
252A	**Lumpkin**	**14.96**	**3**	P	**Pn**	**15 34 21.3**	**+1.8**
	baz=183						
SDD	**Santo Domingo**	**14.98**	**82**	*e*Pn	**Pn**	**15 34 18.2**	**-1.6**
249A	**Camden**	**14.99**	**355**	P	**Pn**	**15 34 20.8**	**+0.9**
	baz=174						
254A	**Abbeville**	**15.04**	**7**	P	**Pn**	**15 34 20.8**	**+0.3**
	baz=188						
251A	**Midway**	**15.04**	**0**	P	**Pn**	**15 34 20.5**	**0.0**
	baz=180						
253A	**Americus**	**15.07**	**5**	*e*Pn	**Pn**	**15 34 18.5**	**-2.3**
	204nm,1.6s						
253A	**Americus**	**15.07**	**5**	P	**Pn**	**15 34 20.2**	**-0.7**
	baz=185						
255A	**Hazlehurst**	**15.14**	**10**	*e*Pn	**Pn**	**15 34 22.6**	**+0.8**
	152nm,1.1s						
248A	**Dixon Mills**	**15.17**	**353**	P	**Pn**	**15 34 23.2**	**+0.9**
	baz=172						
LNIG	**Linares**	**15.18**	**304**	*e*Pn	**Pn**	**15 34 20.6**	**-1.8**
	44nm,0.9s						
256A	**Glennville**	**15.30**	**12**	P	**Pn**	**15 34 24.3**	**+0.3**
	baz=193						
151A	**Opelika**	**15.48**	**1**	P	**Pn**	**15 34 26.2**	**-0.1**
	baz=181						
KVTX	**Kingsville**	**15.50**	**315**	*e*Pn	**Pn**	**15 34 26.9**	**+0.3**
	387nm,1.8s						
150A	**Eclectic**	**15.56**	**359**	P	**Pn**	**15 34 26.9**	**-0.4**
	baz=178,SNR=6.3						
342A	**Flagon Creek P**	**15.59**	**338**	*e*Pn	**Pn**	**15 34 25.7**	**-2.1**
	33nm,0.9s						
152A	**Waverly Hall**	**15.63**	**3**	*e*Pn	**Pn**	**15 34 27.7**	**-0.6**
	60nm,1.6s						
152A				*e*Sn	Sn	15 37 08.3	-13
154A	**Montrose**	**15.72**	**8**	*e*Pn	**Pn**	**15 34 28.3**	**-1.2**
	136nm,1.5s						
147A	**Livingston**	**15.81**	**352**	*e*Pn	**Pn**	**15 34 31.1**	**+0.4**
	57nm,1.3s						
146A	**Union**	**15.90**	**349**	*e*Pn	**Pn**	**15 34 33.3**	**+1.5**
	64nm,0.9s						
146A	**Union**	**15.90**	**349**	P	**Pn**	**15 34 33.2**	**+1.3**
	baz=168						
HKT	**Hockley**	**15.97**	**326**	*e*Pn	**Pn**	**15 34 33.0**	**+0.4**
	45nm,1.0s						
HKT				*e*Sn	Sn	15 37 19.9	-10
156A	**Sylvania**	**16.03**	**13**	P	**Pn**	**15 34 34.7**	**+1.2**
	baz=194						
LRAL	**Lakeview Retre**	**16.03**	**356**	*e*Pn	**Pn**	**15 34 33.8**	**+0.3**
	22nm,0.3s						
LRAL				*e*Sn	Sn	15 37 17.6	-14
LRAL	**Lakeview Retre**	**16.03**	**356**	P	**Pn**	**15 34 33.8**	**+0.3**
	baz=175,SNR=10						
Z49A	**Columbiana**	**16.16**	**357**	P	**Pn**	**15 34 35.2**	**0.0**
	baz=176,SNR=13						
Z52A	**Williamson**	**16.17**	**3**	P	**Pn**	**15 34 35.1**	**-0.1**
	baz=184,SNR=6.5						
Z50A	**Ashland**	**16.20**	**359**	*e*Pn	**Pn**	**15 34 35.5**	**-0.2**
	25nm,1.1s						
Z50A				*e*Sn	Sn	15 37 21.5	-14
Z50A	**Ashland**	**16.20**	**359**	P	**Pn**	**15 34 35.6**	**-0.2**
	baz=178						
Z51A	**Franklin**	**16.27**	**1**	P	**Pn**	**15 34 36.2**	**-0.3**
	baz=181,SNR=42						
Z53A	**Monticello**	**16.32**	**6**	P	**Pn**	**15 34 37.0**	**-0.2**
	baz=186						
ROSC	**El Rosal**	**16.34**	**136**	Pn	**P**	**15 34 40.0**	**-1.0**
	1.0nm,0.3s,baz=359,slow=12,SNR=8.5						
ROSC				LR	LR	15 41 51.8	
	comp=Z,274nm,20.0s,baz=12,slow=41						
ROSC	**El Rosal**	**16.34**	**136**	*e*Pn	**Pn**	**15 34 39.1**	**+1.2**
	20nm,1.0s						
Z54A	**Sparta**	**16.37**	**8**	P	**Pn**	**15 34 37.9**	**+0.2**
	baz=189						
241A	**Mo Tay, Goldon**	**16.39**	**337**	*e*Pn	**Pn**	**15 34 38.6**	**+0.5**
	39nm,0.6s						
Z48A	**Northport**	**16.42**	**354**	P	**Pn**	**15 34 39.2**	**+0.7**
	baz=173						
GOGA	**Godfrey**	**16.46**	**6**	*e*Pn	**Pn**	**15 34 39.6**	**+0.6**
	26nm,1.1s						
GOGA				*e*Sn	Sn	15 37 28.8	-13
GOGA	**Godfrey**	**16.46**	**6**	P	**Pn**	**15 34 38.4**	**-0.6**
	baz=187,SNR=5.1						
SDV	**Santo Domingo**	**16.62**	**117**	Pn	**Pn**	**15 34 39.3**	**-2.0**
	1.8nm,0.3s,baz=303,slow=11,SNR=7.0						
SDV	**Santo Domingo**	**16.62**	**117**	*e*Pn	**Pn**	**15 34 39.6**	**-1.7**
	24nm,0.8s						
240A	**Hunter Patters**	**16.73**	**335**	*e*Pn	**Pn**	**15 34 43.0**	**+0.6**
	115nm,1.2s						
NHSC	**New Hope**	**16.77**	**16**	*e*Pn	**Pn**	**15 34 43.8**	**+0.9**
	328nm,1.4s						
Y49A	**Blount Mountai**	**16.82**	**358**	*e*Pn	**Pn**	**15 34 43.1**	**-0.4**
	27nm,1.2s						
Y49A				*e*Sn	Sn	15 37 37.0	-13
Y49A	**Blount Mountai**	**16.82**	**358**	P	**Pn**	**15 34 44.4**	**+0.9**
	baz=177						
Y50A	**Piedmont**	**16.84**	**359**	P	**Pn**	**15 34 45.4**	**+1.7**
	baz=179						
Y51A	**Rockmart**	**16.85**	**1**	P	**Pn**	**15 34 45.5**	**+1.6**
	baz=181						
Y52A	**Lilburn**	**16.86**	**4**	*e*Pn	**Pn**	**15 34 46.0**	**+1.9**
	37nm,1.3s						
Y52A	**Lilburn**	**16.86**	**4**	P	**Pn**	**15 34 45.5**	**+1.4**
	baz=185						
NATX	**Nacogdoches**	**16.87**	**332**	*e*Pn	**Pn**	**15 34 44.6**	**+0.4**
	42nm,0.6s						
NATX				*e*Sn	Sn	15 37 38.8	-13
NATX	**Nacogdoches**	**16.87**	**332**	P	**Pn**	**15 34 45.0**	**+0.8**
	baz=149						
Y53A	**Monroe**	**16.89**	**6**	P	**Pn**	**15 34 45.3**	**+0.9**
	baz=186						
Y47A	**UCPARC, Winfie**	**16.97**	**353**	P	**Pn**	**15 34 46.4**	**+0.9**
	baz=172,SNR=6.3						
ZAIG	**Zacatecas**	**16.99**	**293**	*e*Pn	**Pn**	**15 34 46.7**	**+0.6**
	11nm,1.2s						
Y54A	**Tignall**	**17.00**	**8**	P	**Pn**	**15 34 46.5**	**+0.7**
	baz=189						
833A	**Chaparral WMA,**	**17.02**	**314**	*e*Pn	**Pn**	**15 34 46.0**	**-0.1**
	247nm,1.4s						
833A				*e*Sn	Sn	15 37 44.6	-11
833A	**Chaparral WMA,**	**17.02**	**314**	P	**Pn**	**15 34 45.8**	**-0.3**
	baz=129,SNR=25						
Y46A	**Houston**	**17.09**	**351**	P	**Pn**	**15 34 48.3**	**+1.5**
	baz=169						
140A	**Cam and Jess,**	**17.19**	**337**	*e*Pn	**Pn**	**15 34 48.9**	**+0.7**
	93nm,0.5s						
140A	**Cam and Jess,**	**17.19**	**337**	P	**Pn**	**15 34 49.8**	**+1.6**
	baz=153,SNR=6.6						
X50B	**Fort Payne**	**17.40**	**360**	P	**Pn**	**15 34 52.2**	**+1.3**
	baz=180						
X48A	**Hartselle**	**17.45**	**356**	*e*Pn	**Pn**	**15 34 52.0**	**+0.6**
	13nm,0.8s						
X48A				*e*Sn	Sn	15 37 51.1	-15
X48A	**Hartselle**	**17.45**	**356**	P	**Pn**	**15 34 52.3**	**+0.9**
	baz=175						
X51A	**Calhoun**	**17.52**	**2**	*e*Pn	**Pn**	**15 34 50.6**	**-1.7**
	20nm,0.8s						
X51A				*e*Sn	Sn	15 37 57.8	-10
X51A	**Calhoun**	**17.52**	**2**	P	**Pn**	**15 34 53.0**	**+0.7**
	baz=182						
435B	**Jarrell**	**17.57**	**324**	*e*Pn	**Pn**	**15 34 53.7**	**+0.7**
	73nm,0.4s						
435B				*e*Sn	Sn	15 37 53.2	-16
435B	**Jarrell**	**17.57**	**324**	P	**Pn**	**15 34 53.8**	**+0.7**
	baz=139,SNR=7.9						
X47A	**Russelville**	**17.58**	**354**	P	**Pn**	**15 34 54.0**	**+1.0**
	baz=173,SNR=8.4						
X52A	**Dahlonega**	**17.61**	**5**	P	**Pn**	**15 34 54.7**	**+1.2**
	baz=185,SNR=6.7						
JSC	**Jenkinsville**	**17.65**	**12**	*e*Pn	**P**	**15 34 55.6**	**+0.7**
	54nm,1.4s						
OXF	**Oxford**	**17.79**	**350**	*e*Pn	**P**	**15 34 57.6**	**+1.2**
	39nm,0.7s						
OXF	**Oxford**	**17.79**	**350**	P	**Pn**	**15 34 56.4**	**+0.8**
	baz=168						
Y41A	**Eaglette Beard**	**17.98**	**341**	P	**Pn**	**15 34 59.1**	**+1.2**
	baz=158						
OTAV	**Otavalo**	**18.06**	**156**	*e*Pn	**P**	**15 35 00.6**	**+0.7**
	12nm,1.4s						
PLAL	**Pickwick Lake**	**18.06**	**353**	*e*Pn	**P**	**15 35 01.8**	**+2.3**
	17nm,0.9s						
PLAL				*e*Sn	Sn	15 38 08.9	-12
BG3	**Lake Jocassee**	**18.09**	**7**	*e*Pn	**Pn**	**15 35 00.1**	**+0.7**
BG3				*e*Sn	Sn	15 38 09.3	-12
W52A	**Murphy**	**18.09**	**4**	*e*Pn	**P**	**15 35 00.8**	**+1.1**
	31nm,0.8s						
W52A				*e*Sn	Sn	15 38 09.6	-12
W52A	**Murphy**	**18.09**	**4**	P	**Pn**	**15 35 00.1**	**+0.7**
	baz=185,SNR=6.1						
W51A	**Cleveland**	**18.11**	**2**	P	**Pn**	**15 35 00.4**	**+0.8**
	baz=182,SNR=5.1						
W48A	**Pulaski**	**18.12**	**356**	P	**Pn**	**15 35 00.5**	**+0.8**
	baz=176						
W50A	**Signal Mountai**	**18.14**	**1**	*e*Pn	**P**	**15 35 01.7**	**+1.4**
	30nm,1.1s						
W50A				*e*Sn	Sn	15 38 09.4	-13
W50A	**Signal Mountai**	**18.14**	**1**	P	**Pn**	**15 35 01.0**	**+1.0**
	baz=181						
PAYG	**Puerto Ayora**	**18.16**	**195**	*e*Pn	**Pn**	**15 35 00.9**	**+0.6**
	58nm,1.2s						
SWET	**Sewanee**	**18.16**	**359**	*e*Pn	**P**	**15 35 02.1**	**+1.5**
SWET				*e*Sn	**Sn**	**15 38 14.8**	**-8.2**
W53A	**Cullowhee**	**18.24**	**6**	P	**Pn**	**15 35 02.0**	**+0.7**
	baz=187,SNR=7.

V46A **Holladay** 18.88 354 P Pn 15 35 10.2 +1.2
baz=172
MIAR **Mount Ida** 18.90 339 eP Pn 15 35 10.6 +1.3
44nm,1.4s
X39A **Fountain Ranch** 19.06 338 P Pn 15 35 13.5 +2.3
baz=154,SNR=5.7
W41B **Gary Mavity, V** 19.07 343 eP Pn 15 35 13.3 +2.0
21nm,1.2s
W41B eSn Sn 15 38 38.4 -6.6
WVT **Waverly** 19.17 354 eP Pn 15 35 13.3 +0.8
25nm,1.1s
WVT eSn Sn 15 38 32.7 -15
WVT **Waverly** 19.17 354 P P 15 35 13.0 +1.4
baz=173
WHAR **Wooly Hollow** 19.19 343 eP Pn 15 35 15.7 +3.0
27nm,1.2s
U50A **Jamestown** 19.36 2 P Pn 15 35 15.9 +1.1
baz=182,SNR=18
U51A **La Follette** 19.36 4 P P 15 35 14.3 +0.6
baz=184
U47A **Clarksville** 19.44 356 P P 15 35 14.9 +0.4
baz=175
V42A **Cord** 19.45 346 P P 15 35 15.7 +1.0
baz=163
U48A **Cassie Pea, Po** 19.47 358 P Pn 15 35 18.7 +2.7
baz=177
U53A **Fall Branch** 19.48 7 P P 15 35 15.6 +0.5
baz=188
TZTN **Tazewell** 19.56 5 eP P 15 35 16.9 +1.0
19nm,1.0s
TZTN **Tazewell** 19.56 5 P Pn 15 35 18.4 +1.2
baz=186
W39A **Magazine** 19.57 340 eP Pn 15 35 18.4 +1.2
46nm,1.6s
X37A **Clayton** 19.61 335 eP P 15 35 17.7 +1.3
53nm,1.4s
V41A **Mountainview** 19.62 344 P Pn 15 35 19.8 +1.9
baz=161,SNR=6.8
V40A **Witts Springs** 19.83 342 eP P 15 35 19.4 +0.5
16nm,0.6s
V40A **Witts Springs** 19.83 342 P Pn 15 35 21.6 +1.2
baz=159,SNR=7.4
T50A **Nancy** 19.97 2 P Pn 15 35 23.3 +1.3
baz=182,SNR=14
T47A **Sharon Grove** 19.97 356 eP P 15 35 21.2 +0.9
29nm,0.9s
T47A **Sharon Grove** 19.97 356 P P 15 35 21.6 +1.2
baz=176
T49A **Edmonton** 20.04 0 eP Pn 15 35 23.1 +0.2
23nm,1.1s
T49A **Edmonton** 20.04 0 P P 15 35 23.1 +1.9
baz=180
T48A **Bowling Green** 20.06 358 P P 15 35 22.6 +1.3
baz=178
T46A **Princeton** 20.09 355 P P 15 35 23.2 +1.7
baz=173
ABTX **Abilene, Hawle** 20.11 323 eP P 15 35 22.9 +1.0
56nm,1.3s
ABTX **Abilene, Hawle** 20.11 323 P P 15 35 24.0 +2.0
baz=137
PBMO **Poplar Bluff** 20.18 349 eP Pn 15 35 24.8 +0.3
15nm,0.9s
T44A **Benton** 20.34 351 P P 15 35 25.7 +1.4
baz=169
T43A **Greenville** 20.45 349 P P 15 35 26.9 +1.4
baz=167
T42A **Van Buren** 20.56 347 eP P 15 35 28.7 +2.0
25nm,1.4s
T42A **Van Buren** 20.56 347 P P 15 35 27.4 +0.7
baz=165
S47A **Hartford** 20.56 357 P P 15 35 26.8 +0.1
baz=176
S48A **Wiedeman Farm,** 20.60 359 P P 15 35 27.8 +0.7
baz=178
HHAR **Hobbs** 20.61 340 eP Pn 15 35 30.3 +0.7
S50A **Richmond** 20.64 3 P P 15 35 29.2 +1.6
baz=183
S51A **Beattyville** 20.65 4 eP P 15 35 29.1 +1.4
42nm,1.4s
BLA **Blacksburg** 20.65 12 eP Pn 15 35 30.4 +0.3
52nm,1.3s
BLA **Blacksburg** 20.65 12 P P 15 35 28.6 +0.8
baz=194
LTX **Lajitas** 20.66 310 eP Pn 15 35 31.0 +0.7
LTX eS S 15 39 10.6 -8.4
TXAR **Lajitas Array** 20.66 310 P Pn 15 35 31.0 +0.7
11nm,0.9s,baz=125,slow=11,SNR=65
TXAR S S 15 39 10.6 -8.4
1.0nm,0.4s,baz=263,slow=11,SNR=4.7
TX31 **Lajitas Ar. Si** 20.66 310 eP P 15 35 30.1 +2.1
S46A **Don Dixon Farm** 20.71 355 P P 15 35 28.5 +0.2
baz=174
T41A **Mountain View** 20.72 346 P P 15 35 28.2 -0.3
baz=163
S52A **Salyersville** 20.73 6 P P 15 35 29.5 +0.9
baz=186
S45A **Carrier Mills** 20.78 353 P P 15 35 30.5 +1.4
baz=172
S44A **Carbondale** 20.88 352 P P 15 35 31.3 +1.0
baz=170
S43A **Fulton Ridge,** 20.89 350 P P 15 35 30.4 +0.1
baz=168
SIUC **Southern Illin** 20.90 352 eP P 15 35 30.9 +0.5
43nm,1.0s
TUL1 **Leonard** 20.93 336 eP P 15 35 32.4 +1.6
22nm,1.0s
TUL1 **Leonard** 20.93 336 P P 15 35 32.0 +1.3
baz=152
USIN **University of** 20.98 355 eP P 15 35 30.8 -0.5
46nm,1.0s
HPIG 21.09 301 eP P 15 35 34.2 +1.5
WCI **Wyandotte Cave** 21.17 358 eP P 15 35 35.8 +2.5
52nm,1.3s
WCI **Wyandotte Cave** 21.17 358 P P 15 35 33.3 -0.1
baz=178
R46A **Gibon Southern** 21.22 356 P P 15 35 35.2 +1.4
baz=175
S41A **Jillco Farms,** 21.23 346 P P 15 35 34.8 +0.7
baz=163
R50A **Paris** 21.24 3 P P 15 35 36.1 +2.0
baz=183,SNR=10
R47A **Wooly Knot Far** 21.25 358 P P 15 35 35.5 +1.4
baz=177
WMOK **Wichita Mounta** 21.27 329 eP P 15 35 36.5 +2.0
WMOK **Wichita Mounta** 21.27 329 P P 15 35 36.3 +1.8
baz=143
R51A **Hillsboro** 21.30 4 P P 15 35 36.3 +1.6
baz=185,SNR=11
R48A **Northridge Ran** 21.34 359 P P 15 35 36.5 +1.3
baz=179
FVM **French Village** 21.35 349 eP P 15 35 36.3 +1.0
36nm,1.6s
R45A **Skylar, Fairfi** 21.36 354 P P 15 35 35.1 -0.3
baz=173
R44A **Waltonville** 21.41 352 P P 15 35 37.2 +1.4
baz=171,SNR=5.5
PCRV **Puerto La Cruz** 21.42 106 LR LR 15 44 28.3
comp=Z,360nm,21.4s,baz=294,slow=39
SMRT **St. Maarten** 21.47 84 eP P 15 35 35.7 -1.0
102nm,1.4s
R43A **Red Bud** 21.55 351 P P 15 35 40.4 +3.0
baz=168
CCM **Cathedral Cave** 21.58 348 eP P 15 35 39.5 +1.8
16nm,0.9s
CCM **Cathedral Cave** 21.58 348 P P 15 35 39.4 +1.7
baz=165
OLIL **Olney** 21.78 355 eP P 15 35 40.8 +1.0
77nm,1.4s
SKI **Saint Kitts** 21.81 86 eP P 15 35 42.3 +1.9
180nm,0.9s
Q50A **Georgetown** 21.82 3 P P 15 35 41.6 +1.3
baz=184
R41A **Rosebud** 21.84 348 P P 15 35 41.6 +1.0
baz=165
Q48A **North Vernon** 21.86 360 P P 15 35 41.8 +1.0
baz=179
Q47A **Bedord North L** 21.88 358 P P 15 35 43.0 +2.0
baz=178
Q45A **Warren Harvey,** 21.95 355 P P 15 35 43.3 +1.6
baz=173,SNR=7.2
Q49A **Aurora** 21.95 1 P P 15 35 43.6 +2.0
baz=182
SLM **Saint Louis** 21.96 350 eP P 15 35 44.4 +2.6
57nm,1.3s
R58B **Mineral** 21.96 16 P P 15 35 41.3 -0.5
baz=200
Q44A **Meyer Farm, Va** 22.05 353 P P 15 35 42.2 -0.5
baz=171
Q51A **Peebles** 22.05 5 eP P 15 35 44.5 +1.8
74nm,1.1s
Q51A **Peebles** 22.05 5 P P 15 35 44.3 +1.5
baz=186,SNR=9.6
Q52A **Bidwell** 22.08 7 P P 15 35 44.5 +1.4
baz=188,SNR=9.4
BLO **Bloomington** 22.12 358 eP P 15 35 45.8 +2.2
75nm,1.4s
Q43A **New Douglas** 22.17 351 P P 15 35 44.2 +0.1
baz=169
Q42A **Golden Eagle** 22.27 350 P P 15 35 45.3 +0.1
baz=167
CBN **Corbin Frederi** 22.33 17 eP P 15 35 47.3 +1.6
44nm,0.4s
CBN **Corbin Frederi** 22.33 17 P P 15 35 46.8 +1.1
baz=201
P48A **Milroy** 22.39 0 P P 15 35 48.1 +1.6
baz=180
P47A **Martinsville** 22.43 359 P P 15 35 47.8 +1.0
baz=178
Q41A **Truxton** 22.44 348 P P 15 35 46.1 -0.9
baz=166
P49A **Miami Univ. Ec** 22.48 2 P P 15 35 47.7 +0.3
baz=182
P51A **Williamsport** 22.52 5 eP P 15 35 50.5 +2.7
53nm,1.1s
P51A **Williamsport** 22.52 5 P P 15 35 48.7 +0.9
baz=186
P45A **Graceland, Par** 22.54 356 eP P 15 35 48.9 +0.8
61nm,1.5s
P45A **Graceland, Par** 22.54 356 P P 15 35 48.1 +0.1
baz=174
P44A **Sand Creek, Wi** 22.56 354 P P 15 35 48.0 -0.3
baz=172
P50A **Jamestown** 22.59 4 P P 15 35 49.5 +0.9
baz=184
P46A **Rosedale** 22.60 357 P P 15 35 48.7 0.0
baz=176
U32A **Winter Ranch,** 22.70 331 eP P 15 35 51.0 +1.2
28nm,0.4s
P53A **Whipple** 22.71 8 eP P 15 35 52.0 +2.1
99nm,1.3s
P53A **Whipple** 22.71 8 P P 15 35 50.8 +0.9
baz=190,SNR=11
P52A **Corning** 22.76 7 P P 15 35 51.0 +0.7
baz=188,SNR=7.0
GDL2 **Guadalupe Moun** 22.79 315 eP P 15 35 52.1 +1.2
P42A **Winchester** 22.90 350 eP P 15 35 53.1 +1.2
30nm,1.3s
MSTX **Muleshoe** 22.91 321 eP P 15 35 52.7 +0.6
65nm,1.3s
MSTX **Muleshoe** 22.91 321 P P 15 35 49.8 -2.3
baz=133
AMTX **Amarillo** 22.92 324 eP P 15 35 53.4 +1.2
42nm,1.1s
AMTX **Amarillo** 22.92 324 P P 15 35 51.9 -0.3
baz=137
O49A **Covington** 23.14 2 eP P 15 35 54.3 0.0
25nm,0.9s
O49A **Covington** 23.14 2 P P 15 35 53.8 -0.6
baz=183
O48A **Farmland** 23.19 1 P P 15 35 55.3 +0.4
baz=181
MNTX **Comudas Mount** 23.20 313 eP P 15 35 55.9 +0.9
18nm,1.0s
MNTX **Cornudas Mount** 23.20 313 P P 15 35 56.2 +1.3
baz=125,SNR=25
O51A **Pataskala** 23.22 6 P P 15 35 54.6 -0.6
baz=187
O52A **Adamsville** 23.27 7 eP P 15 35 57.8 +2.1
42nm,1.3s
O52A **Adamsville** 23.27 7 P P 15 35 56.0 +0.4
baz=195
SFIN **Lafayette** 23.35 357 eP P 15 35 58.6 +2.2
18nm,0.9s
SDMD **Soldier's Deli** 23.60 17 eP P 15 35 59.7 +0.8
21nm,1.1s
N50A **Nevada** 23.79 5 P P 15 36 02.3 +1.5
baz=186,SNR=6.0
N48A **Decatur** 23.80 1 P P 15 36 01.5 +0.7
baz=181
SLBS **Sierra La Lagu** 23.80 290 eP P 15 36 04.1 +3.0
41nm,1.3s
N49A **Columbus Grove** 23.88 3 eP P 15 36 02.9 +1.3
30nm,0.9s
N49A **Columbus Grove** 23.88 3 P P 15 36 01.9 +0.3
baz=183
O56A **Blue Knob Stat** 23.98 13 eP P 15 36 03.7 +1.1
32nm,1.3s
O56A **Blue Knob Stat** 23.98 13 P P 15 36 03.3 +0.7
baz=196
N51A **Ashland** 24.01 6 eP P 15 36 04.8 +1.9
61nm,1.0s
N51A **Ashland** 24.01 6 P P 15 36 03.4 +0.5
baz=187
EPT **El Paso** 24.03 312 eP P 15 36 04.0 +0.6
62nm,1.7s
KSU1 **Kansas State U** 24.05 339 eP P 15 36 05.7 +2.4
12nm,0.6s
N42A **Yates City** 24.07 352 P P 15 36 03.7 +0.3
baz=181
N41A **Harden Midland** 24.08 350 eP P 15 36 03.2 -0.3
46nm,1.4s
LPIG **La Paz** 24.21 291 LR LR 15 46 32.0
comp=Z,275nm,19.4s,baz=96,slow=39
MVL **Millersville** 24.29 17 eP P 15 36 04.7 -0.7
76nm,1.8s
BBSR **BB Station** 24.30 47 eP P 15 36 06.9 +1.3
151nm,1.5s
PAGS **Pennsylvania G** 24.40 17 eP P 15 36 07.8 +1.4
28nm,1.1s
M48A **Edgerton** 24.43 2 eP P 15 36 08.3 +1.6
66nm,1.6s
M48A **Edgerton** 24.43 2 P P 15 36 06.6 -0.1
baz=182
M50A **Fremont** 24.43 5 eP P 15 36 07.5 +0.8
40nm,0.8s
M51A **Elyria** 24.44 6 P P 15 36 05.3 -1.4
baz=188
M49A **Liberty Center** 24.44 3 P P 15 36 07.7 +0.9
baz=184
SSPA **Standing Stone** 24.48 14 eP P 15 36 09.8 +2.6
16nm,1.1s
SSPA **Standing Stone** 24.48 14 P P 15 36 07.0 -0.3
baz=198
N39A **Derby Farms, D** 24.55 347 eP P 15 36 08.6 +0.8
19nm,1.1s
N39A **Derby Farms, D** 24.55 347 P P 15 36 08.4 +0.6
baz=164
L48A **N Adams** 24.89 2 P P 15 36 12.1 +1.2
baz=182
L47A **Sherwood** 24.91 1 P P 15 36 11.6 +0.6
baz=181
L46A **Eue Claire** 24.95 359 P P 15 36 11.8 +0.4
baz=178
M54A **Oil Creek Stat** 24.96 11 eP P 15 36 13.8 +2.3
21nm,1.3s
M54A **Oil Creek Stat** 24.96 11 P P 15 36 12.9 +1.4
baz=193
L49A **Milan** 25.09 3 P P 15 36 13.2 +0.6
baz=184
L42A **Oliver, Polo** 25.18 353 eP P 15 36 15.2 +1.7
35nm,1.2s
AAM **Ann Arbor** 25.28 3 eP P 15 36 15.3 +0.9
86nm,1.4s
AAM **Ann Arbor** 25.28 3 P P 15 36 15.3 +0.9
baz=184
N59A **State Game Lan** 25.30 18 eP P 15 36 16.7 +2.1
104nm,1.9s
N59A **State Game Lan** 25.30 18 P P 15 36 14.7 0.0
baz=202
121A **Cookes Peak, D** 25.36 312 P P 15 36 17.2 +1.8
baz=122,SNR=9.9
L40A **Anamosa** 25.46 350 eP P 15 36 16.7 +0.7
25nm,1.1s
L40A **Anamosa** 25.46 350 P P 15 36 16.4 +0.3
baz=167
BNM **Barren Site** 25.47 316 eP P 15 36 17.0 +0.4
ERPA **Erie** 25.50 10 eP P 15 36 16.9 +0.5
84nm,1.0s
ERPA **Erie** 25.50 10 P P 15 36 16.9 +0.5
baz=192
LPM **Los Pinos Moun** 25.57 316 eP P 15 36 17.3 -0.1
K47A **Vermontville** 25.61 1 P P 15 36 19.9 +2.5
baz=181
SCIA **State Center** 25.69 347 eP P 15 36 19.8 +1.7
21nm,0.4s
SCIA **State Center** 25.69 347 P P 15 36 20.4 +2.2
baz=163
LENM **Lemitar** 25.71 316 eP P 15 36 19.3 +0.6
K49A **Clarkson** 25.78 4 P P 15 36 19.8 +0.9
baz=184
ANMO **Albuquerque** 25.85 318 P P 15 36 22.1 +2.2
3.3nm,0.9s,baz=131,slow=9.3,SNR=6.4
ANMO **Albuquerque** 25.85 318 eP P 15 36 21.6 +1.7
7.7nm,1.3s
ANMO **Albuquerque** 25.85 318 P P 15 36 20.5 +0.7
baz=128
319A **Douglas** 25.88 308 eP P 15 36 22.5 +2.4
28nm,1.2s
KSPA **Keystone Colle** 25.90 17 eP P 15 36 23.4 +3.4
24nm,1.2s
J41A **Loganville** 26.57 353 P P 15 36 27.3 +1.3
baz=170
J40A **Soldiers Grove** 26.69 352 P P 15 36 29.7 +2.6
baz=169
SRIG **Santa Rosalia** 26.71 297 eP P 15 36 30.5 +2.9
22nm,0.9s
TUC **Tucson** 27.44 308 eP P 15 36 36.1 +1.9
11nm,1.0s
TUC **Tucson** 27.44 308 P P 15 36 36.7 +2.5
baz=118
S22A **4UR Ranch, Cre** 27.89 322 eP P 15 36 40.8 +2.5
8.3nm,1.2s
MVCO **Mesa Verde** 28.55 319 P P 15 36 44.2 0.0
baz=129
ISCO **Idaho Springs** 28.64 327 eP P 15 36 46.9 +1.8
9.0nm,1.4s
ISCO **Idaho Springs** 28.64 327 P P 15 36 46.1 +1.0
baz=137
214A **Organ Pipe Nat** 28.83 306 P P 15 36 46.5 0.0
baz=115
X16A **Lo Mia Camp, P** 28.94 312 eP P 15 36 48.8 +1.1
4.7nm,1.0s
WUAZ **Wupatki** 29.46 314 eP P 15 36 52.3 +0.1
12nm,1.5s
GLA **Glamis** 30.83 307 P P 15 37 06.4 +2.2
baz=114
Y12C **Blythe** 30.89 308 P P 15 37 06.3 +1.6
baz=116
KNB **Kanab** 31.25 315 eP P 15 37 08.2 +0.1
7.4nm,1.4s
IRM **Iron Mountain** 31.53 308 P P 15 37 11.0 +0.6
baz=116
SWSC **Sam W. Stewart** 31.54 306 P P 15 37 10.1 -0.4
baz=113
BC3 **Big Chuckawall** 31.56 307 P P 15 37 10.2 -0.5
baz=114
BELC **Belle Mtn. Jos** 32.11 308 P P 15 37 14.4 -1.2
baz=114,SNR=7.5
GMRC **Granite Mounta** 32.19 309 P P 15 37 15.8 -0.5
baz=116
XPFO **Pigeon Flat** 32.30 307 eP P 15 37 19.7 +2.4
18nm,1.6s
PFO **Pinyon Flats O** 32.31 307 eP P 15 37 18.5 +1.2
17nm,1.5s
PFO **Pinyon Flats O** 32.31 307 P P 15 37 19.4 +2.0
baz=113
FRD **Ford Ranch, An** 32.37 306 P P 15 37 19.6 +1.7
baz=113
TUQ **Turquoise Moun** 32.67 310 P P 15 37 20.0 -0.5
baz=116
HEC **Hector,Ludlow** 32.71 309 P P 15 37 19.6 -1.2
baz=115,SNR=5.8
PD31 **Pinedale Array** 32.84 326 eP P 15 37 23.0 +1.0
PDAR **Pinedale Array** 32.84 326 P P 15 37 24.8 +2.8
0.1nm,0.3s,baz=156,slow=9.4,SNR=4.2
PDAR LR LR 15 52 56.8
comp=Z,125nm,21.9s,baz=140,slow=40
MURC **Murrieta** 32.87 306 P P 15 37 21.0 -1.2
baz=112
CIS **Catalina Islan** 33.74 305 P P 15 37 31.5 +1.7
baz=111
FURC **Furnace Creek,** 33.81 311 P P 15 37 31.8 +1.6
baz=117
REDW **Red Top Meadow** 33.94 326 eP P 15 37 32.5 +0.9
25nm,1.4s
EDW2 **Edwards Air Fo** 33.97 308 P P 15 37 33.6 +1.7
baz=113
LOHW **Long Hollow** 33.98 327 eP P 15 37 33.5 +1.6
11nm,1.6s
LRMC **Laurel Mtn Rad** 33.98 309 P P 15 37 33.6 +1.7
baz=114
TPAW **Teton Pass** 34.08 326 eP P 15 37 34.9 +2.0
16nm,1.5s
MPMC **Manual Prospec** 34.08 310 P P 15 37 32.0 -0.9
baz=116,SNR=7.5
MOOW **Moose Ponds** 34.15 327 eP P 15 37 35.2 +1.8
12nm,1.5s
RLMT **Red Lodge** 34.38 330 eP P 15 37 36.7 +1.4
13nm,1.4s
RLMT **Red Lodge** 34.38 330 P P 15 37 36.7 +1.4
baz=137
GRAC **Grapevine Rang** 34.41 312 P P 15 37 38.0 +2.5
baz=117
BLG **Laguna Peak, P** 34.50 306 P P 15 37 38.4 +2.1
baz=111
ISA **Isabella, Lake** 34.65 309 eP P 15 37 39.5 +1.8
ISA **Isabella, Lake** 34.65 309 P P 15 37 38.4 +0.8
baz=114
CWC **Cottonwood Cre** 34.68 310 P P 15 37 38.4 +0.4
baz=115
ARVC **Arvin** 34.70 308 P P 15 37 39.8 +1.8
baz=113
SCZ2 **Santa Cruz Isl** 34.90 306 P P 15 37 41.2 +1.4
baz=110
VES **Vestal, Richgr** 35.17 309 P P 15 37 44.5 +2.5
baz=114
PKM **Mcpherson Peak** 35.36 307 P P 15 37 46.1 +2.2
baz=112
NV01 **Mina Array Sit** 35.72 313 eP P 15 37 48.0 +0.9
NVAR **Mina Array Bea** 35.72 313 P P 15 37 49.3 +2.2
1.2nm,0.9s,baz=117,slow=8.9,SNR=6.3
NVAR LR LR 15 56 28.6
comp=Z,201nm,18.4s,baz=126,slow=43
MCMT **McKenzie Canyo** 35.99 326 eP P 15 37 50.0 +0.7
PAGB **Antelope Grade** 36.00 308 eP P 15 37 51.4 +2.1
45nm,1.6s
DLMT **Dillon** 36.21 327 eP P 15 37 53.7 +2.6
44nm,2.0s
EGMT **Eagleton** 36.76 333 eP P 15 37 57.3 +1.7
65nm,1.9s
EGMT **Eagleton** 36.76 333 P P 15 37 57.1 +1.5
baz=139
WVOR **Wild Horse Val** 37.93 319 eP P 15 38 07.9 +2.3
6.8nm,1.0s
F10A **Beach Ranch, E** 39.10 325 eP P 15 38 16.2 +0.8
20nm,1.8s
SCHQ **Schefferville** 40.44 17 LR LR 15 54 29.8
comp=Z,160nm,21.1s,baz=308,slow=35
I03D **Drain, OR** 41.55 318 P P 15 38 32.7 -2.9
baz=118
BDFB **Brasilia** 49.22 129 LR LR 16 01 27.3
comp=Z,137nm,18.7s,baz=247,slow=38
CPUP **Villa Florida** 51.06 147 LR LR 16 04 45.5
comp=Z,59nm,19.4s,baz=325,slow=40
DLBC **Dease Lake** 52.69 332 eP P 15 40 01.5 -1.0
12nm,0.9s
DAWY **Dawson** 59.40 336 eP P 15 40 51.0 +0.6
17nm,1.5s
DOT **Dot Lake** 61.12 334 eP P 15 41 03.8 +1.6
9.9nm,1.1s
RIDG **Independ'e Rid** 61.48 334 eP P 15 41 06.4 +1.8
14nm,1.1s
SUMG **Summit** 61.77 15 eP P 15 41 06.8 0.0
18nm,1.1s
SUMG **Summit** 61.77 15 *i* P P 15 41 06.8 0.0
42nm,1.1s
HDA **Harding Lake** 62.58 335 eP P 15 41 13.1 +1.2
35nm,1.9s
HDA **Harding Lake** 62.58 335 P P 15 41 12.0 +0.1
baz=109
IL1 **Eielson Array** 62.67 335 eP P 15 41 13.3 +0.8
ILAR **Eielson Array** 62.67 335 P P 15 41 14.0 +1.4
3.9nm,0.8s,baz=116,slow=5.2,SNR=44
ILB **Eielson Array** 62.67 335 eP P 15 41 12.9 +0.4
TRF **Thorofare Moun** 63.71 333 eP P 15 41 20.8 +1.1
16nm,1.0s
MLY **Manley** 64.32 335 eP P 15 41 24.4 +0.9
16nm,1.4s
ESDC **Sonseca Array** 72.99 53 P P 15 42 19.0 +0.9
2.7nm,0.8s,baz=289,slow=6.1,SNR=9.8
ES19 **SONSECA Array** 73.03 53 eP P 15 42 18.8 +0.5
NOA **NORSAR Array B** 78.54 30 LR LR 16 15 57.6
comp=Z,36nm,19.0s,baz=285,slow=34
DBIC **Dimbokro** 79.22 86 LR LR 16 12 54.5

	comp=Z,31nm,21.4s,baz=263,slow=32						
RAR	**Rarotonga**	**82.04**	**245**	LR	LR	16 11 12.1	
	comp=Z,140nm,18.1s,baz=232,slow=30						
GERES	**GERESS Array B**	**83.33**	**41**	P	**P**	**15 43 15.5**	**+0.2**
	1.0nm,0.9s,baz=261,slow=3.4,SNR=5.3						
GERES				LR	LR	16 17 30.2	
	comp=Z,61nm,19.4s,baz=290,slow=34						
TOA1	**Torodi Ar. Sit**	**83.67**	**78**	*e*P	**P**	**15 43 17.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**83.67**	**78**	P	**P**	**15 43 17.2**	**-0.3**
	0.4nm,0.6s,baz=273,slow=4.2,SNR=4.2						
TORD				LR	LR	16 16 01.5	
	comp=Z,56nm,22.0s,baz=280,slow=32						
TAM	**Tamanrasset**	**84.54**	**68**	*e*P	**P**	**15 43 22.5**	**+0.4**
	3.1nm,1.0s						
NRIK	**Noril'sk**	**93.77**	**2**	LR	LR	16 28 29.5	
	comp=Z,64nm,18.4s,baz=353,slow=37						
GTA	**Gaotai**	**123.67**	**355**	*e*PKP	**PKPdf**	**15 49 47.8**	**+1.4**
LZH	**Lanzhou**	**126.47**	**351**	*e*PKP	**PKPdf**	**15 49 49.2**	**-2.7**
LZH				pPKP	PKiKP	15 49 52.1	-0.3
LZH				LR	LR		
	comp=N,100nm,17.8s						
LZH				LR	LR		
	comp=E,96nm,18.0s						
LZH				LR	LR		
	comp=Z,140nm,20.1s						
WR1	**Warramunga Arr**	**142.10**	**259**	*e*PKPpre	PKPpre	15 50 16.8	
WR1				*e*PKPdf	**PKPdf**	**15 50 22.3**	**+1.0**
WRA	**Warramunga Arr**	**142.10**	**259**	PKhKP	PKPpre	15 50 16.8	
	comp=Z,0.5nm,0.8s,baz=74,slow=1.2,SNR=4.0						
WRA				PKP	**PKPdf**	**15 50 22.3**	**+1.0**
	comp=Z,0.5nm,0.9s,baz=87,slow=2.7,SNR=5.7						
ASAR	**Alice Springs**	**142.49**	**253**	PKhKP	PKPpre	15 50 17.2	
	comp=Z,0.3nm,0.7s,baz=106,slow=3.3,SNR=3.8						
ASAR				PKP	**PKPdf**	**15 50 21.9**	**0.0**
	comp=Z,0.3nm,0.6s,baz=99,slow=3.1,SNR=8.0						
CMAR	**Chiang Mai Arr**	**144.50**	**353**	PKP	**PKPab**	**15 50 24.3**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=330,slow=3.7,SNR=5.6						

*ISCJB **01** 15:39:47.2±0.5,21.1′12S±0.1′03×68.1′82W±0.1′0,h131km±7km, mb3.8/2,Error ellipse: s-maj=14.8km s-min=4.8km az=3.2*
*GUC **01** 15:39:47.8±0.7,21.1′12S×68.1′85W,h120km±3km,ML3.8*
*IDC **01** 15:39:50.1±2.7,21.1′04S×68.1′49W,h133km±29km,mb3.7/3, mb1 3.6/5,mb1mx3.3/38,mbtmp4.0/5,Error ellipse: s-maj=47.9km s-min=21.8km az=103.0*

ISC 01 15:39:48.0±0.8,21.1′12S±0.1′04×68.1′84W±0.1′09,h125km±8km, n21,σ0°85/34,9C-6D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.61**	**277**	↑*i*P	**Pn**	**15 40 07.0**	**-0.3**
PB01				*i* S	**Sn**	**15 40 21.1**	**-0.7**
PB01				IAML		15 40 22.4	
	comp=N,3μm,0.4s						
PB09	**IPOC Station P**	**0.77**	**209**	↑*i*P	**Pn**	**15 40 08.7**	**+0.2**
PB09				*i* S	**Sn**	**15 40 24.3**	**+0.2**
PB09				IAML		15 40 25.3	
	comp=N,2μm,0.4s						
PB02	**IPOC Station P**	**1.00**	**259**	↑*i*P	**Pn**	**15 40 11.0**	**+0.5**
PB02				*i* S	**Sn**	**15 40 28.3**	**+0.7**
PB08	**IPOC Station P**	**1.02**	**343**	↓*i*P	**Pn**	**15 40 11.2**	**+0.1**
PB08				*i* S	**Sn**	**15 40 28.5**	**0.0**
PB08				IAML		15 40 31.1	
	comp=N,2μm,0.7s						
PB07	**IPOC Station P**	**1.14**	**238**	↑*i*P	**Pn**	**15 40 12.4**	**+0.4**
PB07				*i* S	**Sn**	**15 40 30.4**	**+0.1**
PB07				IAML		15 40 33.3	
	comp=N,1μm,0.2s						
PB03	**IPOC Station P**	**1.25**	**222**	↑*i*P	**Pn**	**15 40 13.4**	**+0.3**
PB03				*i* S	**Sn**	**15 40 32.3**	**0.0**
PB03				IAML		15 40 34.0	
	comp=E,2μm,0.6s						
LVC	**Limon Verde**	**1.48**	**182**	↓*i*P	**Pn**	**15 40 16.2**	**+0.4**
LVC				*e*S	**Sn**	**15 40 37.4**	**+0.3**
PB11	**IPOC Station P**	**1.56**	**330**	↓*i*P	**Pn**	**15 40 16.5**	**0.0**
PB11				*i* S	**Sn**	**15 40 38.5**	**+0.2**
PB04	**IPOC Station P**	**1.71**	**225**	↑*i*P	**Pn**	**15 40 18.6**	**+0.3**
PB04				*i* S	**Sn**	**15 40 42.1**	**+0.6**
PB04				IAML		15 40 45.5	
	comp=E,857nm,0.1s						
PB06	**IPOC Station P**	**1.71**	**203**	↑*i*P	**Pn**	**15 40 18.8**	**+0.4**
PB06				*i* S	**Sn**	**15 40 42.0**	**+0.4**
PB06				IAML		15 40 42.6	
	comp=E,2μm,0.3s						
PSGC	**Pisagua**	**1.94**	**321**	↓*i*P	**Pn**	**15 40 20.7**	**-0.3**
PSGC				*i* S	**Sn**	**15 40 46.0**	**-0.2**
MNMC	**Minye Minye**	**2.10**	**340**	↓*i*P	**Pn**	**15 40 23.6**	**+0.3**
MNMC				*i* S	**Sn**	**15 40 51.1**	**+0.8**
MNMC				IAML		15 40 53.8	
	comp=N,2μm,0.5s						
PB05	**IPOC Station P**	**2.13**	**216**	↑*i*P	**Pn**	**15 40 23.4**	**0.0**
PB05				IAML		15 40 56.2	
	comp=E,366nm,0.3s						
PB10	**IPOC Station P**	**2.86**	**213**	↓*i*P	**Pn**	**15 40 32.6**	**+0.1**
LPAZ	**La Paz**	**4.86**	**8**	P	**Pn**	**15 41 01.7**	**+2.0**
	comp=E,1.3nm,0.3s,baz=181,slow=3.3,SNR=52						
LPAZ				S	**Sn**	**15 41 54.7**	**-0.6**
	comp=E,0.7nm,0.3s,baz=184,slow=15,SNR=4.8						
LPAZ	**La Paz**	**4.86**	**8**	↑*i*P	**Pn**	**15 41 01.7**	**+2.0**
PLCA	**Paso Flores**	**19.60**	**184**	P	**P**	**15 44 08.9**	**+2.4**
	comp=E,0.2nm,0.3s,baz=18,slow=18,SNR=3.5						
BDFB	**Brasilia**	**20.50**	**78**	P	**P**	**15 44 14.7**	**-1.7**
	comp=E,2.8nm,0.5s,baz=253,slow=9.0,SNR=4.2						
DBIC	**Dimbokro**	**68.57**	**74**	P	**P**	**15 50 36.9**	**-0.9**
	comp=E,3.2nm,0.8s,baz=231,slow=5.5,SNR=4.7						
TORD	**Torodi Ar. Bea**	**77.17**	**70**	P	**P**	**15 51 27.6**	**-0.9**
	comp=E,0.7nm,0.5s,baz=253,slow=5.7,SNR=12						
MKAR	**Makanchi Array**	**145.29**	**36**	PKPbc	**PKPbc**	**15 59 11.2**	**+0.2**
	comp=E,0.3nm,0.4s,baz=322,slow=2.8,SNR=5.5						

*ISCJB **01** 15:59:34.2±1.0,4.1′9S±0.1′1×145.1′0E±0.1′1,h100km,mb3.5/5, Error ellipse: s-maj=20.9km s-min=7.4km az=139.0*
*IDC **01** 15:59:35.7±2.0,4.1′89S×144.1′95E,h98km±17km,mb3.3/5, mb1 3.6/8,mb1mx3.4/30,mbtmp3.7/8,MS3.3/1,Ms1 3.3/1, ms1mx2.4/22,Error ellipse: s-maj=27.1km s-min=11.2km az=50.0*

ISC 01 15:59:35.6±1.1,4.1′9S±0.1′1×145.1′0E±0.1′1,h100km,n10, σ0°93/11,mb3.4/5,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**4.85**	**299**	P	**Pn**	**16 00 45.2**	**-1.2**
	0.8nm,0.3s,baz=160,slow=5.7,SNR=5.1						
JAY				S	**Sn**	**16 01 43.1**	**+1.7**
	0.3nm,0.3s,baz=315,slow=16,SNR=2.5						
PMG	**Port Moresby**	**5.01**	**154**	P	**Pn**	**16 00 48.7**	**+0.1**
	4.2nm,0.3s,baz=41,slow=11,SNR=14						
PMG				S	**Sn**	**16 01 45.4**	**+0.1**
	3.5nm,0.3s,baz=86,slow=22,SNR=7.6						
WRA	**Warramunga Arr**	**18.21**	**214**	P	**P**	**16 03 40.6**	**-0.4**
	0.4nm,0.3s,baz=31,slow=12,SNR=53						
ASAR	**Alice Springs**	**21.52**	**209**	P	**P**	**16 04 16.5**	**-0.3**
	1.1nm,0.5s,baz=35,slow=12,SNR=24						
FITZ	**Fitzroy Crossi**	**23.02**	**234**	P	**P**	**16 04 31.4**	**-1.0**
	3.6nm,0.6s,baz=43,slow=10.0,SNR=12						
URZ	**Urewera**	**44.27**	**143**	LR	LR	16 27 22.7	
	comp=Z,31nm,18.4s,baz=288,slow=38						
CMAR	**Chiang Mai Arr**	**50.93**	**298**	P	**P**	**16 08 27.3**	**+0.1**
	0.2nm,0.5s,baz=116,slow=5.6,SNR=3.5						
VNDA	**Vanda**	**73.17**	**176**	P	**P**	**16 10 55.9**	**+0.9**
	0.3nm,0.5s,baz=320,slow=5.6,SNR=6.4						
ILAR	**Eielson Array**	**85.25**	**24**	P	**P**	**16 12 00.5**	**-0.4**
	0.5nm,0.8s,baz=253,slow=5.4,SNR=5.0						
DBIC	**Dimbokro**	**149.92**	**275**	PKPbc	**PKPbc**	**16 19 16.1**	**+0.6**
	0.7nm,0.4s,baz=105,slow=2.9,SNR=3.2						

MEX 01 16:06:21.2±0.5,16.1′63N×94.1′92W,h91km±6km,MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.46**	**5**	*i* P	Pn	16 06 34.3	-1.5
CMIG				*i* S	Sn	16 06 45.1	-1.6
HUIG	**Huatulco**	**1.42**	**233**	*e*P	Pn	16 06 42.4	-3.7
HUIG				*e*S	Sn	16 07 01.4	-3.5
TUIG	**Tuzandepetl**	**1.48**	**19**	*i* P	Pn	16 06 45.1	-1.7
TUIG				*i* S	Sn	16 07 04.9	-1.2
TGIG		**1.73**	**85**	*i* P	Pn	16 06 48.8	-1.2
TGIG				*e*S	Sn	16 07 10.0	-2.0
VHO	**Vista Hermosa**	**1.79**	**285**	*e*P	Pn	16 06 50.0	-1.0
VHO				*e*S	Sn	16 07 11.9	-1.6
PCIG		**1.88**	**119**	*e*P	Pn	16 06 51.1	-0.8
PCIG				*e*S	Sn	16 07 13.2	-2.0

BJI 01 16:09:45.8,35.1′95N×111.1′72E,h5km,mb3.9/1,ML3.8/21, Ms3.6/2,Ms7 3.5/2,Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIY	**Taiyuan**	**1.85**	**18**	*e*Pg	Pn	16 10 18.3	0.0
TIY				Sg	Sn	16 10 41.8	-0.3
TIY				smax	smax		
	comp=N,1μm,0.2s						
XAN	**Xi'an**	**2.98**	**231**	Pn	Pn	16 10 30.9	-2.9
XAN				Pg	Pb	16 10 38.8	-0.7
XAN				Sn	Sn	16 11 06.7	-3.4
XAN				Sg	Sb	16 11 16.5	+0.2
XAN				smax	smax		
	comp=N,200nm,0.8s						
XAN				smax	smax		
	comp=E,87nm,0.5s						
TIA	**Tai'an**	**4.38**	**85**	Pn	Pn	16 10 55.8	+2.7
TIA				Pg	Pb	16 11 04.2	+0.9
TIA				Sg	Sb	16 11 57.7	+1.2
TIA				smax	smax		
	comp=N,52nm,0.8s						
TIA				smax	smax		
	comp=E,43nm,0.8s						
BTO	**Baotou**	**4.84**	**344**	*e*Pn	Pn	16 10 59.3	0.0
BTO				*e*Pg	Pb	16 11 09.4	-1.7
BTO				Sn	Sn	16 11 55.4	-0.4
BTO				Sg	Sb	16 12 13.0	+3.4
LZH	**Lanzhou**	**6.38**	**274**	*e*Pg	Pb	16 11 41.0	+3.5
LZH				Sg	Sg	16 13 04.0	-6.8
LZH				smax	smax		
	comp=N,150nm,1.2s						
LZH				smax	smax		
	comp=E,160nm,1.2s						
LZH				LR	LR		
	comp=N,330nm,5.5s						
LZH				LR	LR		
	comp=E,310nm,5.4s						
LZH				LR	LR		
	comp=Z,330nm,7.5s						
GTA	**Gaotai**	**10.05**	**294**	*e*P	Pn	16 12 07.8	-3.1
GTA				pP		16 12 11.3	
GTA				sP		16 12 14.2	
WMQ	**Urumqi**	**20.00**	**300**	*e*P	Pn	16 14 21.2	+0.3

*IDC **01** 16:25:17.6±1.7,7.1′96S×124.1′13E,h0km,mb3.7/3, mb1 4.0/7,mb1mx3.7/32,mbtmp3.9/7,ML3.8/4,Error ellipse: s-maj=58.3km s-min=20.3km az=72.0*
*ISCJB **01** 16:25:19.9±0.4,8.1′11S±0.1′04×123.1′68E±0.1′03,h33km,Error ellipse: s-maj=6.0km s-min=4.0km az=30.8*
*NEIC **01** 16:25:19.8±0.7,8.1′18S×123.1′62E,h10km,mb4.7/6,Error ellipse: s-maj=17.7km s-min=8.8km az=54.0*
*DJA **01** 16:25:21.8±1.4,8.1′S±3.1′×12.1′3E±1.1′,h11km±12km,M4.1/11, mb4.4/4,MLv3.9/11*

ISC 01 16:25:21.6±0.7,8.1′18S±0.1′05×123.1′62E±0.1′06,h35km,n34, σ2°84/41,Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**1.44**	**251**	*e*Pn	**Pn**	**16 25 45.1**	**-0.1**
MMRI				*e*Sn	**Sn**	**16 26 03.9**	**+0.9**
MMRI	**Maumere**	**1.44**	**251**	P	**Pn**	**16 25 45.3**	**0.0**
MMRI				S	**Sn**	**16 26 03.6**	**+0.6**
SOEI	**Soe**	**1.69**	**158**	*e*Pn	**Pn**	**16 25 50.3**	**+1.4**
SOEI				*e*Sn	**Sn**	**16 26 11.0**	**+1.6**
SOEI	**Soe**	**1.69**	**158**	P	**Pn**	**16 25 52.3**	**+3.4**
EDFI	**Ende, Flores**	**1.99**	**253**	P	**Pn**	**16 25 53.1**	**+0.1**
EDFI				S	**Sn**	**16 26 17.3**	**+0.5**
BATI	**Baumata**	**2.02**	**179**	Pn	Pn	16 25 58.3	+5.1
	78nm,0.3s,baz=360,slow=8.2,SNR=144						
BATI				Sn	Sn	16 26 29.0	+12
	10.0nm,0.3s,baz=155,slow=24,SNR=8.4						
BATI	**Baumata**	**2.02**	**179**	P	Pn	16 25 58.6	+5.4
BBSI	**Bau Bau**	**2.87**	**339**	P	**Pn**	**16 26 05.6**	**+0.7**
WBSI	**Waikabubak, Su**	**4.42**	**250**	P	**Pn**	**16 26 27.3**	**+0.9**
BKSI	**Bulukumba**	**4.49**	**309**	P	**Pn**	**16 26 26.1**	**-1.1**
BNSI	**Bone**	**5.13**	**317**	P	**Pn**	**16 26 37.7**	**+1.7**
SPSI	**Sidrap Palu**	**5.67**	**317**	P	**Pn**	**16 26 43.2**	**-0.3**
PLAI	**Plampang**	**5.82**	**263**	P	**Pn**	**16 26 45.9**	**+0.4**
TTSI	**Tana Toraja**	**6.35**	**323**	P	**Pn**	**16 26 52.6**	**-0.2**
LUWI	**Luwuk**	**7.14**	**353**	*e*Pn	**Pn**	**16 27 03.9**	**+0.3**
MTN	**Manton Dam**	**8.72**	**123**	*e*Pn	**Pn**	**16 27 27.9**	**+2.6**
MTN				*e*Sn	**Sn**	**16 29 03.1**	**+0.5**
FITZ	**Fitzroy Crossi**	**10.05**	**169**	Pn	**Pn**	**16 27 44.1**	**+0.4**
	0.5nm,0.3s,baz=359,slow=10,SNR=17						
FITZ				Sn	**Sn**	**16 29 35.1**	**-0.2**
	0.5nm,0.3s,baz=167,slow=6.7,SNR=8.0						
FITZ	**Fitzroy Crossi**	**10.05**	**169**	*e*Pn	**Pn**	**16 27 44.5**	**+0.8**
FITZ				*e*Sn	**Sn**	**16 29 34.3**	**-1.0**
WRA	**Warramunga Arr**	**15.64**	**140**	Pn	**Pn**	**16 28 58.5**	**-1.0**
	0.3nm,0.3s,baz=320,slow=13,SNR=15						
WRA				Sn	**Sn**	**16 31 42.7**	**-9.1**
	0.1nm,0.3s,baz=310,slow=24,SNR=2.8						
WR1	**Warramunga Arr**	**15.64**	**140**	*e*Pn	**Pn**	**16 28 58.5**	**-1.0**
	8.0nm,0.7s						
WR1				*e*Sn	**Sn**	**16 31 42.7**	**-9.1**
WRAB	**Tennant Creek**	**15.64**	**139**	*e*Pn	**Pn**	**16 28 57.8**	**-1.7**
	8.9nm,0.6s						
WB2	**Warramunga Arr**	**15.64**	**139**	*e*Pn	**Pn**	**16 28 56.9**	**-2.7**
AS31	**Alice Springs**	**18.29**	**149**	*e*P	**Pn**	**16 29 35.0**	**+2.2**
	1.2nm,0.6s						
ASAR	**Alice Springs**	**18.29**	**149**	P	**Pn**	**16 29 33.9**	**+1.1**
	0.3nm,0.3s,baz=328,slow=12,SNR=25						
ASAR				S	**Sn**	**16 32 49.5**	**-6.5**
	0.1nm,0.3s,baz=312,slow=21,SNR=3.0						
AS01	**Alice Springs**	**18.31**	**148**	*e*P	**Pn**	**16 29 35.8**	**+2.8**
COEN	**Coen**	**20.02**	**108**	*e*P	Pn	16 29 52.9	-0.7
	44nm,1.9s						
NWAO	**Narrogin (SRO)**	**25.33**	**193**	P	**P**	**16 30 47.2**	**+1.9**
	3.6nm,0.5s,baz=243,slow=9.0,SNR=7.2						
BBOO	**Buckleboo**	**27.09**	**157**	*e*P	**P**	**16 31 03.7**	**+2.5**
	50nm,1.4s						
CMAR	**Chiang Mai Arr**	**35.96**	**318**	P	**P**	**16 32 22.6**	**+3.3**
	0.2nm,0.5s,baz=147,slow=5.4,SNR=3.2						
MDJ	**Mudanjiang**	**52.82**	**5**	*e*P	**P**	**16 34 31.1**	**-2.5**
	51nm,1.5s						
LBZ	**Lake Benmore**	**54.09**	**140**	*e*P	**P**	**16 34 41.4**	**-1.7**
	93nm,1.6s						
MK01	**Makanchi Array**	**65.89**	**330**	*e*P	**P**	**16 36 01.9**	**-2.0**
MK32	**Makanchi Array**	**65.92**	**330**	*e*P	**P**	**16 36 05.7**	**+1.6**
MKAR	**Makanchi Array**	**65.92**	**330**	P	**P**	**16 36 05.7**	**+1.6**
	0.3nm,0.5s,baz=145,slow=6.2,SNR=3.1						

*ISCJB **01** 16:48:16.6±0.9,7.1′57S±0.1′07×129.1′16E±0.1′08,h131km, mb3.1/1,Error ellipse: s-maj=10.9km s-min=9.6km az=171.8*
*IDC **01** 16:48:18.0±2.1,7.1′52S×129.1′09E,h138km±25km,mb3.0/1, mb1 3.5/6,mb1mx3.2/39,mbtmp3.8/6,Error ellipse: s-maj=24.8km s-min=19.7km az=120.0*

ISC 01 16:48:16.7±0.9,7.1′63S±0.1′06×129.1′26E±0.1′10,h131km,n6, σ3°10/11,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.10**	**245**	P	**Pn**	**16 49 46.0**	**+1.3**
	8.6nm,0.3s,baz=101,slow=8.6,SNR=15						
BATI				S	**Sn**	**16 50 52.2**	**-1.1**
	23nm,0.3s,baz=263,slow=19,SNR=20						
SIJI	**Sorong**	**7.00**	**17**	P	**Pn**	**16 49 57.9**	**+1.1**
	0.5nm,0.3s,baz=233,slow=20,SNR=6.9						
SIJI				S	**Sn**	**16 51 11.4**	**-3.8**
	1.0nm,0.3s,baz=37,slow=20,SNR=5.0						
FITZ	**Fitzroy Crossi**	**10.99**	**198**	P	**Pn**	**16 50 51.2**	**+0.9**
	0.5nm,0.3s,baz=29,slow=11,SNR=14						
FITZ				S	**Sn**	**16 52 47.3**	**-4.3**
	1.2nm,0.3s,baz=130,slow=16,SNR=9.6						
WRA	**Warramunga Arr**	**13.20**	**159**	P	**Pn**	**16 51 21.6**	**+2.4**
	0.8nm,0.3s,baz=335,slow=14,SNR=43						
WRA				S	**Sn**	**16 53 42.0**	**-2.9**
	0.7nm,0.3s,baz=332,slow=23,SNR=9.5						
ASAR	**Alice Springs**	**16.56**	**165**	P	**P**	**16 52 05.2**	**+3.6**
	0.3nm,0.3s,baz=341,slow=9.4,SNR=22						
ASAR				S	**Sn**	**16 55 02.5**	**-3.4**
	0.2nm,0.3s,baz=352,slow=25,SNR=4.7						
MKAR	**Makanchi Array**	**68.35**	**327**	P	**P**	**16 59 03.1**	**-0.9**
	0.2nm,0.5s,baz=116,slow=8.0,SNR=2.8						

*SJA **01** 16:50:06.5±0.4,24.1′2S×67.1′07W,h205km±6km,ML2.3, MW3.0*
*ISCJB **01** 16:50:08.4±0.5,24.1′3S±0.1′05×67.1′21W±0.1′05,h181km, Error ellipse: s-maj=8.5km s-min=4.4km az=33.3*
*GUC **01** 16:50:10.4±0.4,23.1′87S×67.1′60W,h224km±5km,ML3.5*

ISC 01 16:50:08.3±1.3,24.1′4S±0.1′07×67.1′7W±0.1′05,h181km,n17, σ1°10/30,7C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.62**	**111**	*e*P	**Pn**	**16 50 41.6**	**-0.1**
SLA				*e*S	**Sn**	**16 51 08.0**	**+0.4**
SLA				IAML		16 51 10.3	
	comp=Z,9.4nm,0.7s						
HJA	**Humahuaca**	**1.86**	**60**	*e*P	**Pn**	**16 50 44.7**	**+0.2**
HJA				IAML		16 50 46.3	
	comp=Z,20nm,0.5s						
HJA				*e*S	**Sn**	**16 51 12.7**	**+0.3**
LVC	**Limon Verde**	**2.21**	**313**	*e*P	**Pn**	**16 50 49.8**	**+1.7**
LVC				*i* S	**Sn**	**16 51 20.1**	**+1.1**
FSA	**Cafayete**	**2.24**	**151**	*e*P	**Pn**	**16 50 48.7**	**+0.4**
PB06	**IPOC Station P**	**2.63**	**302**	↑*i*P	**Pn**	**16 50 54.0**	**+1.2**
PB06				*i* S	**Sn**	**16 51 27.1**	**-0.2**
PB06				IAML		16 51 29.7	
	comp=E,143nm,0.3s						
PB14	**IPOC Station P**	**2.99**	**260**	*e*P	**Pn**	**16 50 58.2**	**+1.0**
PB09	**IPOC Station P**	**3.02**	**320**	↑*i*P	**Pn**	**16 50 58.8**	**+1.4**
PB09				*i* S	**Sn**	**16 51 35.0**	**-0.6**
PB09				IAML		16 51 39.5	
	comp=N,39nm,0.7s						
PB05	**IPOC Station P**	**3.06**	**294**	↑*i*P	**Pn**	**16 50 58.8**	**+0.9**
PB05				*i* S	**Sn**	**16 51 35.3**	**-1.3**
PB03	**IPOC Station P**	**3.16**	**311**	↑*i*P	**Pn**	**16 50 60.0**	**+0.8**
PB03				*i* S	**Sn**	**16 51 37.8**	**-1.0**
PB03				IAML		16 51 39.7	
	comp=E,71nm,0.5s						
PB10	**IPOC Station P**	**3.16**	**281**	*e*P	**Pn**	**16 50 59.9**	**+0.9**
PB10	**IPOC Station P**	**3.16**	**281**	↑*i*P	**Pn**	**16 50 60.0**	**+0.9**
PB10				*i* S	**Sn**	**16 51 37.9**	**-0.7**
PB04	**IPOC Station P**	**3.28**	**303**	↑*i*P	**Pn**	**16 51 01.4**	**+0.8**
PB04				*i* S	**Sn**	**16 51 40.0**	**-1.4**
PB04				IAML		16 51 44.1	
	comp=N,87nm,0.7s						
PB07	**IPOC Station P**	**3.47**	**313**	↑*i*P	**Pn**	**16 51 03.6**	**+0.5**
PB07				*i* S	**Sn**	**16 51 43.9**	**-1.8**
PB07				IAML		16 51 47.8	
	comp=E,98nm,0.2s						
PB01	**IPOC Station P**	**3.75**	**325**	*e*P	**Pn**	**16 51 06.9**	**+0.4**
PB01				*i* S	**Sn**	**16 51 50.2**	**-1.7**
PB01				IAML		16 51 53.3	
	comp=E,41nm,0.2s						
PB02	**IPOC Station P**	**3.77**	**318**	*e*P	**Pn**	**16 51 07.6**	**+0.9**
PB02				*i* S	**Sn**	**16 51 50.1**	**-2.2**
PB08	**IPOC Station P**	**4.38**	**335**	*e*P	**Pn**	**16 51 15.5**	**+0.7**
PB08				*i* S	**Sn**	**16 52 06.1**	**-0.7**
PB08				IAML		16 52 07.7	
	comp=E,23nm,0.4s						
APLL	**PUNTA DE LOS L**	**6.26**	**175**	*e*P	**Pn**	**16 51 37.9**	**-0.8**

*NIC **01** 17:01:04.4±0.2,34.1′54N×31.1′92E,h33km,ML3.3*
*ISK **01** 17:01:05.8,34.1′57N×32.1′21E,h16km,ML2.5/2*

ISC 01 17:01:04.2±3.4,34.1′4N±0.1′1×32.1′0E±0.1′1,h23km±15km,n15, σ1°00/25,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PPCY	**Paphos**	**0.54**	**29**	P	**Pb**	**17 01 14.4**	**-0.5**
	baz=225						
AKMC	**Akamas**	**0.66**	**22**	P	**Pb**	**17 01 16.5**	**-0.5**
	baz=214						
SZAC	**Souni**	**0.78**	**64**	P	**Pn**	**17 01 19.3**	**-0.4**
	baz=254						
SZAC				S	**Sb**	**17 01 31.1**	**+1.8**
ALFC	**Alefka**	**0.87**	**32**	P	**Pn**	**17 01 19.8**	**-1.3**
	baz=222						
ALFC				S	**Sb**	**17 01 31.3**	**-0.7**
CSS	**Mathiatis**	**1.20**	**63**	PG	**Pn**	**17 01 25.3**	**-0.2**
CSS				SG	**Sn**	**17 01 40.3**	**-0.8**
CSS	**Mathiatis**	**1.20**	**63**	P	**Pn**	**17 01 25.7**	**+0.2**
	baz=250						
CSS				S	**Sn**	**17 01 41.3**	**+0.2**
MAMC	**Mammari**	**1.23**	**52**	P	**Pn**	**17 01 26.2**	**+0.2**
	baz=239						
GAZI	**Gazipasa**	**1.83**	**7**	PN	**Pn**	**17 01 35.5**	**+1.3**
GAZI				SN	**Sn**	**17 01 56.5**	**-0.2**
GAZI	**Gazipasa**	**1.83**	**7**	*i* P	**Pn**	**17 01 35.4**	**+1.2**
GAZI				*i* S	**Sn**	**17 01 56.8**	**+0.2**
TEKE	**Tekeli-Mersin**	**1.94**	**27**	PN	**Pn**	**17 01 35.9**	**+0.3**
TEKE				SN	**Sn**	**17 01 57.8**	**-1.5**
GULN	**MERSIN_Gulnar**	**2.15**	**35**	*i* P	**Pn**	**17 01 39.0**	**+0.3**
GULN				*i* S	**Sn**	**17 02 04.4**	**-0.2**
BERE	**Bereket-Mersin**	**2.16**	**26**	PN	**Pn**	**17 01 39.3**	**+0.5**
BERE				SN	**Sn**	**17 02 03.9**	**-1.1**
TEVE	**Tevekalti-Mers**	**2.32**	**29**	PN	**Pn**	**17 01 41.7**	**+0.7**
KEPZ	**Antalya-Kepez**	**2.51**	**352

136nm,1.9s
MJB9 Matsu-Tunnel 19.07 341 *e*P **P** **17 26 07.6 +0.6**
139nm,1.9s
JNU Nakatsue 19.68 320 P **P** **17 26 14.9 +1.3**
0.2nm,0.3s,baz=131,slow=9.3,SNR=2.1
H11S3 WAKE ISLAND Hy 19.83 87 T T 17 47 23.4
baz=275,slow=75,SNR=9.7
H11S1 WAKE ISLAND Hy 19.84 87 T T 17 47 27.2
baz=275,slow=75,SNR=14
H11S2 WAKE ISLAND Hy 19.84 87 T T 17 47 27.2
baz=275,slow=75,SNR=11
H11N1 WAKE ISLAND Hy 19.98 83 T T 17 47 38.1
baz=271,slow=74
H11N2 WAKE ISLAND Hy 19.98 83 T T 17 47 38.6
baz=271,slow=74
H11N3 WAKE ISLAND Hy 20.00 83 T T 17 47 48.0
baz=271,slow=74
MANU Manus Island 20.58 175 *e*P **P** **17 26 23.0 -0.4**
73nm,0.6s
JAY Jayapura 21.57 194 P **P** **17 26 34.9 +0.8**
16nm,0.8s,baz=43,slow=2.4,SNR=5.6
SIJI Sorong 24.04 218 P **P** **17 26 57.4 -0.2**
20nm,0.8s,baz=34,slow=18,SNR=4.0
KSRS Korea Array 24.43 324 P **P** **17 27 01.6 +0.7**
2.0nm,0.7s,baz=146,slow=8.1,SNR=8.2
KSAR Wonju Array Be 24.45 324 P **P** **17 27 01.6 +0.5**
ASAJ Asahikawa 25.57 355 LR LR 17 37 21.1
comp=Z,44nm,21.4s,baz=208,slow=36
NJ2 Nanjing 27.68 304 *e*P **P** **17 27 30.5 +0.3**
NJ2 pmax pmax
comp=Z,11nm,0.5s
PMG Port Moresby 27.87 177 P **P** **17 27 30.9 -1.1**
12nm,0.6s,baz=349,slow=5.2,SNR=5.0
CN2 Changchun 30.38 330 *e*P **P** **17 27 57.2 +3.2**
CN2 *e*S **S** **17 32 44.9 +1.1**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,490nm,14.0s
CN2 LR LR
comp=E,320nm,14.0s
CN2 LR LR
comp=Z,440nm,14.0s
KLR Kul'dur 32.58 343 P **P** **17 28 13.6 +0.5**
2.8nm,0.7s,baz=144,slow=7.9,SNR=6.4
MTN Manton Dam 34.43 206 *e*P **P** **17 28 29.6 +0.1**
31nm,1.2s
SOEI Soe 35.28 219 *e*P **P** **17 28 33.7 -3.3**
17nm,0.5s
PETK Petropavlovsk- 35.66 12 P **P** **17 28 40.3 +0.6**
1.7nm,0.5s,baz=187,slow=7.3
CD2 Chengdu 39.85 296 *e*P **P** **17 29 14.0 -1.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
WRAB Tennant Creek 39.91 197 *e*P **P** **17 29 15.6 -0.1**
24nm,1.1s
WB2 Warramunga Arr 39.92 197 *e*P **P** **17 29 14.8 -0.9**
WRA Warramunga Arr 39.92 197 P **P** **17 29 15.4 -0.4**
10.0nm,0.8s,baz=23,slow=8.5,SNR=52
WRA ScP **ScP** **17 34 51.1 -3.0**
0.8nm,0.6s,baz=13,slow=4.4,SNR=7.2
KMI Kunming 40.33 287 P **P** **17 29 19.9 +0.4**
KMI pmax pmax
comp=Z,6.0nm,0.5s
KMI pmax pmax
comp=Z,95nm,9.1s
KMI LR LR
comp=N,160nm,10.2s
KMI LR LR
comp=E,170nm,9.6s
KMI LR LR
comp=Z,210nm,10.5s
LZH Lanzhou 40.76 304 ⇑P **P** **17 29 23.5 +0.7**
LZH pP pP 17 30 00.6 +5.8
LZH sP sP 17 30 18.7 +7.5
LZH PP **PnPn** **17 31 03.6 -1.6**
LZH pmax pmax
comp=Z,23nm,1.2s
LZH pmax pmax
comp=Z,79nm,5.3s
LZH LR LR
comp=N,590nm,14.6s
LZH LR LR
comp=E,510nm,13.0s
LZH LR LR
comp=Z,680nm,15.7s
FITZ Fitzroy Crossi 41.50 210 *e*P **P** **17 29 29.5 +0.8**
19nm,0.7s
AS01 Alice Springs 43.57 196 *e*P **P** **17 29 44.6 -0.9**
AS31 Alice Springs 43.58 196 *e*P **P** **17 29 46.1 +0.5**
2.7nm,0.5s
ASAR Alice Springs 43.58 196 P **P** **17 29 45.1 -0.5**
3.3nm,0.5s,baz=18,slow=11,SNR=63
ASAR ScP **ScP** **17 35 05.3 -3.4**
0.4nm,0.8s,baz=19,slow=3.7,SNR=3.1
ASAR S **S** **17 36 02.1 -2.0**
0.9nm,0.8s,baz=15,slow=17,SNR=4.8
CM01 Chiang Mai Arr 44.29 278 *e*P **P** **17 29 49.2 -2.2**
CMAR Chiang Mai Arr 44.30 278 P **P** **17 29 53.5 +2.0**
0.4nm,0.7s,baz=91,slow=4.5,SNR=3.7
SEY Seymchan 44.52 4 P **P** **17 29 53.0 +0.5**
1.9nm,1.0s,baz=197,slow=19,SNR=3.5
GTA Gaotai 44.66 308 *e*P P 17 29 59.6 +5.4
GTA pP sP 17 30 36.2 -6.8
GTA sP pP 17 30 51.9 +25
GTA PcP **PP** **17 31 39.0 -2.3**
YAK Yakutsk 44.82 349 P **P** **17 29 54.4 -0.5**
5.1nm,0.4s,baz=181,slow=2.4,SNR=4.5
DZM Mont Dzumac 45.20 153 P **P** **17 29 57.8 -0.7**
6.0nm,0.8s,baz=352,slow=7.1,SNR=7.7
MBWA Marble Bar 47.04 214 *e*P **P** **17 30 13.6 +0.8**
17nm,0.8s
STKA Stephens Creek 50.35 185 P **P** **17 30 36.7 -1.2**
2.1nm,0.5s,baz=358,slow=7.7,SNR=10
BILL Bilibino 51.10 10 *e*P **P** **17 30 43.6 +0.5**
2.8nm,0.8s
WMQ Urumqi 54.42 311 *e*P **P** **17 31 10.0 +2.0**
ZALV Zalesovo Beam 58.13 323 P **P** **17 31 34.4 +0.4**
0.5nm,0.4s,baz=94,slow=5.8,SNR=3.2
MKAR Makanchi Array 58.58 314 P **P** **17 31 36.8 -0.4**
0.3nm,0.5s,baz=122,slow=5.2,SNR=2.3
KDAK Kodiak Island 59.40 33 P **P** **17 31 42.4 -0.2**
8.0nm,0.7s,baz=268,slow=4.3,SNR=7.4
IM3 Indian Mountai 61.27 24 *e*P **P** **17 31 55.4 +0.1**
KURK Kurchatov 61.39 318 P **P** **17 31 55.9 -0.4**
KURBB Kurchatov Arra 61.44 318 P **P** **17 31 55.9 -0.8**
1.3nm,0.7s,baz=95,slow=7.2,SNR=13
TRF Thorofare Moun 61.93 27 *e*P **P** **17 31 59.6 -0.3**
11nm,0.9s
MLY Manley 62.17 25 *e*P **P** **17 32 02.0 +0.6**
6.5nm,0.7s
SML Sawmill 62.41 29 *e*P **P** **17 32 03.2 +0.1**
29nm,0.9s
SCM Sheep Creek Mo 62.89 29 *e*P **P** **17 32 06.6 +0.4**
25nm,0.8s
MDM Murphy Dome 63.18 26 *e*P **P** **17 32 08.7 +0.7**
6.3nm,0.6s
IL1 Eielson Array 63.70 26 *e*P **P** **17 32 09.8 -1.6**
ILAR Eielson Array 63.70 26 P **P** **17 32 09.9 -1.5**
3.8nm,0.7s,baz=250,slow=5.8,SNR=32
ILAR PcP **PcP** **17 32 46.7 +0.4**
1.1nm,0.7s,baz=254,slow=4.6,SNR=4.9
ILB Eielson Array 63.70 26 *e*P **P** **17 32 09.9 -1.5**
PAX Paxson 63.95 28 *e*P **P** **17 32 13.4 +0.2**
7.1nm,0.7s
DOT Dot Lake 64.69 28 *e*P **P** **17 32 17.8 -0.2**
7.5nm,0.7s
SCRK Sand Creek 64.78 27 *e*P **P** **17 32 18.5 -0.1**
8.0nm,1.0s
HYT Haines Junctio 67.47 31 *e*P **P** **17 32 37.1 +1.2**
10.0nm,0.7s
INK Inuvik 69.43 23 P **P** **17 32 47.0 -0.6**
4.7nm,0.7s,baz=246,slow=3.9,SNR=11
DLBC Dease Lake 71.33 34 P **P** **17 32 59.9 +0.4**
5.2nm,0.7s,baz=310,slow=5.1,SNR=12
DLBC Dease Lake 71.33 34 *e*P **P** **17 33 00.3 +0.8**
15nm,1.1s
YKA Yellowknife Ar 78.03 28 P **P** **17 33 37.2 -0.7**
2.2nm,0.6s,baz=284,slow=5.2,SNR=3.7
YBH Yreka Blue Hor 78.96 50 P **P** **17 33 42.9 -0.7**
2.6nm,0.8s,baz=288,slow=3.8,SNR=6.8
B08A Colville Reser 79.49 43 *e*P **P** **17 33 46.3 0.0**
6.6nm,0.8s
PINE Pine Mountain 79.67 47 *e*P **P** **17 33 48.5 +0.9**
20nm,0.8s
ORV Oroville 80.43 52 *e*P **P** **17 33 51.3 -0.1**
13nm,1.4s
NEW Newport 80.93 42 P **P** **17 33 53.6 -0.4**
4.0nm,0.8s,baz=229,slow=3.7,SNR=7.6
NEW Newport 80.93 42 *e*P **P** **17 33 54.2 +0.2**
8.7nm,1.0s
BEKR Beckworth 81.18 51 *e*P **P** **17 33 55.8 +0.1**
8.3nm,0.8s
J08A Circle Bar Ran 81.51 47 *e*P **P** **17 33 57.7 +0.4**
6.6nm,1.0s
WVOR Wild Horse Val 81.67 48 *e*P **P** **17 33 58.4 +0.2**
3.8nm,0.8s
BMO Blue Mountains 81.86 46 *e*P **P** **17 33 59.3 +0.2**
4.3nm,0.5s
PNTR Pine Nut 81.97 52 *e*P **P** **17 34 00.7 +0.8**
9.9nm,0.8s
ARCES ARCESS Array B 82.60 342 P **P** **17 34 01.7 -0.6**
3.6nm,0.9s,baz=57,slow=8.8,SNR=3.7
RYN Ryan 82.91 52 *e*P **P** **17 34 05.1 +0.4**
6.3nm,1.0s
KVN Kaiserville 83.10 51 *e*P **P** **17 34 06.0 +0.3**
4.9nm,0.8s
NV01 Mina Array Sit 83.14 52 *e*P **P** **17 34 05.8 -0.1**
NVAR Mina Array Bea 83.14 52 P **P** **17 34 06.1 +0.1**
5.6nm,0.8s,baz=266,slow=5.8,SNR=28
NV11 Mina Array Sit 83.25 52 *e*P **P** **17 34 06.8 +0.4**
0.3nm,0.8s
LRM Limekiln Ridge 84.76 43 *e*P **P** **17 34 14.0 0.0**
HRY Holter Researc 84.83 42 *e*P **P** **17 34 14.5 +0.2**
R11A Troy Canyon, C 85.18 51 *e*P **P** **17 34 14.5 -1.8**
HVU Hansel Valley 86.00 47 *e*P **P** **17 34 20.7 +0.4**
20nm,1.0s
PSUT Pine Spring 86.39 51 *e*P **P** **17 34 22.1 -0.1**
8.2nm,0.7s
DUG Dugway, Tooele 86.55 49 *e*P **P** **17 34 22.8 -0.1**
46nm,0.9s
MOOW Moose Ponds 86.66 45 *e*P **P** **17 34 22.6 -0.9**
3.3nm,0.6s
HWUT Hardware Ranch 86.91 47 *e*P **P** **17 34 24.5 -0.2**
23nm,0.6s
KNB Kanab 87.70 52 *e*P **P** **17 34 29.0 +0.4**
7.1nm,1.0s
PDAR Pinedale Array 87.84 45 P **P** **17 34 28.2 -0.9**
0.6nm,0.6s,baz=243,slow=2.3,SNR=6.9
WUAZ Wupatki 89.35 53 *e*P **P** **17 34 37.0 +0.6**
PV21 Cone Mtn., Par 89.92 49 *e*P **P** **17 34 39.1 +0.1**
PV23 Carpenter Ridg 89.94 49 *e*P **P** **17 34 39.3 +0.1**
PV10 Paradox Valley 89.95 49 *e*P **P** **17 34 39.3 +0.1**
PV14 Lion Creek, Pa 89.97 49 *e*P **P** **17 34 39.3 +0.1**
PV20 West Nyswonger 90.02 49 *e*P **P** **17 34 39.8 +0.4**
PV19 Morning Glory 90.02 49 *e*P **P** **17 34 39.8 +0.3**
PV17 East Wray Mesa 90.05 49 *e*P **P** **17 34 39.9 +0.3**
PV16 Nyswonger Mesa 90.07 49 *e*P **P** **17 34 39.7 0.0**
PV11 David Mesa, Pa 90.10 49 *e*P **P** **17 34 39.9 +0.1**
PV03 Paradox Valley 90.14 49 *e*P **P** **17 34 39.8 -0.2**
PV12 Saucer Basin, 90.15 49 *e*P **P** **17 34 39.8 -0.3**
PV13 Radium Mtn., P 90.20 49 *e*P **P** **17 34 40.1 -0.2**
PV02 Paradox Valley 90.24 49 *e*P **P** **17 34 40.7 +0.2**
PV01 Paradox Valley 90.39 49 *e*P **P** **17 34 41.0 -0.2**
S22A 4UR Ranch, Cre 91.80 49 *e*P **P** **17 34 48.2 +0.4**
LPAZ La Paz 147.60 91 PKPbc **PKPbc** **17 41 23.7 -0.9**
2.6nm,0.9s,baz=6.6,slow=2.4,SNR=8.4

JMA 01 17:25:18.5±0.2, 29°21N×129°13E, h10km±1km, M3.3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTAJ	**Takarajima**	**0.09**	**132**	P	Pg	17 25 20.9	0.0
JTAJ				S	Sg	17 25 22.6	0.0
JAM	**Amami Oshima**	**0.90**	**152**	P	Pg	17 25 34.9	-0.9
JAM				*e*S	Sg	17 25 47.3	-0.2
JNN	**Nakanoshima**	**0.90**	**46**	P	Pg	17 25 35.6	-0.3
JNN				*e*S	Sg	17 25 47.9	+0.2
JAMN	**Amaminishikomi**	**0.96**	**178**	P	Pg	17 25 36.8	-0.3
JAMN				*e*S	Sg	17 25 49.8	+0.2
JZK	**Kikaishima**	**1.16**	**140**	P	Pn	17 25 40.8	0.0
JTK	**Tokunoshima**	**1.43**	**186**	P	Pn	17 25 44.4	-0.1
JTK				*e*S	Sn	17 26 03.0	-0.3
JKC	**Kuchinoerabu**	**1.55**	**36**	P	Pn	17 25 46.5	+0.3
JYAK	**Yakushimahirau**	**1.58**	**49**	P	Pn	17 25 45.5	-1.0
JOKE	**Okinoerabujima**	**1.91**	**195**	P	Pn	17 25 51.7	+0.6
JOKE				*e*S	Sb	17 26 16.7	-0.6
JMTN	**Minamitane**	**1.94**	**52**	P	Pn	17 25 51.8	+0.2
JYRO	**Yoronjima**	**2.26**	**196**	P	Pn	17 25 56.4	+0.5
JIH	**Iheya**	**2.40**	**206**	P	Pn	17 25 59.3	+1.5
JOW	**Kunigami**	**2.49**	**198**	*e*P	Pn	17 26 00.0	+1.0
	56nm,0.8s						
JOW	**Kunigami**	**2.49**	**198**	P	Pn	17 25 59.9	+0.8
JOW				*e*S	Sn	17 26 29.9	+0.4

*ISCJB **01** 17:34:43.6±0.9, 52°.77N±0°.03×132°.69W±0°.08, h8km±5km, mb3.9/9, MS3.3/3, Error ellipse: s-maj=8.5km s-min=4.7km az=151.7*
*IDC **01** 17:34:44.0±0.8, 52°.74N×132°.66W, h0km, mb3.9/8, mb1 4.1/10, mb1mx3.8/36, mbtmpg3.9/10, ML3.5/3, MS2.9/7, Ms1 2.9/7, ms1mx2.7/50, Error ellipse: s-maj=11.7km s-min=6.7km az=85.0*
*PGC **01** 17:34:45.2±0.8, 52°.86N×132°.83W, h26km, ML4.3/17, Mw4.4, 80km Wsw of Sandspit, Bc Haida Gwaii Region*
*NEIC **01** 17:34:45.9±0.8, 52°.80N×132°.57W, h10km, mb3.8/3, MW4.4(OTT), Error ellipse: s-maj=17.6km s-min=8.4km az=45.0*
ISC 01 17:34:44.9±1.7, 52°.81N±0°.05×132°.69W±0°.06, h5km±10km, n53, σ1s46/55, mb4.0/9, MS3.4/3, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DIB	**Dawson Inlet,**	**0.41**	**18**	P	**Pg**	**17 34 53.6**	**+0.7**
DIB				S	**Sg**	**17 34 58.9**	**+0.6**
H02S1	**DAWSON INLET T**	**0.41**	**18**	Pg	**Pg**	**17 34 53.4**	**+0.5**
H02S1				Lg	Lg	17 34 59.8	
H02N1	**VAN INLET T-PH**	**0.45**	**11**	Pg	**Pg**	**17 34 54.3**	**+0.6**
H02N1				Lg	Lg	17 35 00.7	
VIB	**Van Inlet**	**0.45**	**12**	P	**Pg**	**17 34 54.2**	**+0.5**
VIB				S	**Sg**	**17 35 00.1**	**+0.5**
MOBC	**Moresby Island**	**0.55**	**52**	P	**Pb**	**17 34 56.9**	**-0.2**
MOBC				S	**Sb**	**17 35 05.0**	**-0.3**
BNB	**Barry Inlet**	**0.62**	**112**	P	**Pb**	**17 34 58.5**	**+0.2**
BNB				S	**Sn**	**17 35 08.9**	**-1.8**
NDB	**Naden**	**1.16**	**353**	P	**Pb**	**17 35 04.8**	**-2.6**
NDB				S	**Sb**	**17 35 19.1**	**-3.6**
MASB	**Masset**	**1.27**	**18**	P	**Pn**	**17 35 08.5**	**-0.8**
MASB				S	**Sg**	**17 35 26.9**	**+1.2**
BNAB	**Bonilla**	**1.41**	**60**	Pn	**Pn**	**17 35 09.8**	**-1.4**
BNAB				Sg	**Sb**	**17 35 29.4**	**-0.6**
RUBB	**Prince Rupert**	**2.10**	**43**	Pn	**Pn**	**17 35 19.3**	**-1.5**
RUBB				Pg	**Pb**	**17 35 23.1**	**-0.4**
RUBB				Sg	**Sb**	**17 35 50.2**	**+0.4**
BBB	**Bella Bella**	**2.87**	**101**	Pn	**Pn**	**17 35 30.2**	**-1.0**
	4.2nm,0.3s,baz=288,slow=13,SNR=22						
BBB				Lg	Lg	17 36 12.7	
	35nm,0.3s,baz=325,slow=11,SNR=4.8						
BBB				LR	LR	17 36 15.0	
	comp=Z,30nm,19.5s,baz=84,slow=32						
BBB	**Bella Bella**	**2.87**	**101**	Pn	**Pn**	**17 35 30.0**	**-1.3**
BBB				Pg	**Pb**	**17 35 36.3**	**-0.2**
BBB				Sn	**Sg**	**17 36 13.9**	**-3.1**
HOLB	**Holberg**	**3.57**	**126**	Pn	**Pn**	**17 35 39.5**	**-1.5**
HOLB				Sn	**Sn**	**17 36 23.3**	**-0.2**
WRAK	**Wrangell Islan**	**3.62**	**3**	*e*Pn	**Pn**	**17 35 40.3**	**-1.3**
BCBC	**Bella Coola**	**3.65**	**95**	Sn	**Sg**	**17 36 41.3**	**-0.6**
PHC	**Port Hardy**	**3.89**	**121**	Pn	**Pn**	**17 35 43.2**	**-2.1**
PACB	**Port Alice, BC**	**4.02**	**124**	Pn	**Pn**	**17 35 46.7**	**-0.3**
BPBC	**Brooks Peninsu**	**4.06**	**129**	Pn	**Pn**	**17 35 47.4**	**-0.4**
MAYB	**Maynard**	**4.20**	**123**	Pn	**Pn**	**17 35 48.1**	**-1.6**
TLCB	**Telegraph Cove**	**4.29**	**120**	Pn	**Pn**	**17 35 50.0**	**-0.8**
WOSB	**Woss**	**4.66**	**122**	Pn	**Pn**	**17 35 55.6**	**-0.3**
NCRB	**Newcastle Ridg**	**4.79**	**118**	Pn	**Pn**	**17 35 57.2**	**-0.6**
GDR	**Gold River**	**5.16**	**123**	Pn	**Pn**	**17 36 03.1**	**+0.4**
FSB	**Fort Saint Jam**	**5.25**	**68**	Pn	**Pn**	**17 36 04.0**	**0.0**
DLBC	**Dease Lake**	**5.84**	**14**	Pn	**Pn**	**17 36 13.5**	**+1.4**
	1.5nm,0.3s,baz=218,slow=12,SNR=14						
DLBC				LR	LR	17 37 44.8	
	comp=Z,49nm,19.9s,baz=282,slow=31						
DLBC				Lg	Lg	17 37 52.2	
	7.7nm,0.3s,baz=306,slow=22,SNR=6.8						
DLBC	**Dease Lake**	**5.84**	**14**	*e*Pn	**Pn**	**17 36 13.2**	**+1.1**
	30nm,0.6s						
DLBC				Lg	Lg	17 37 52.2	
DLBC	**Dease Lake**	**5.84**	**14**	Pn	**Pn**	**17 36 13.5**	**+1.4**
NEW	**Newport**	**10.90**	**108**	LR	LR	17 41 39.6	
	comp=Z,46nm,20.6s,baz=284,slow=38						
ILAR	**Eielson Array**	**14.02**	**334**	Pn	**Pn**	**17 38 04.8**	**+0.8**
	0.1nm,0.3s,baz=160,slow=13,SNR=4.9						
ILAR				LR	LR	17 43 30.1	
	comp=Z,34nm,19.7s,baz=192,slow=37						
EGMT	**Eagleton**	**15.36**	**99**	*e*P	**Pn**	**17 38 19.9**	**-2.4**
	4.7nm,0.9s						
INK	**Inuvik**	**15.55**	**359**	Pn	**P**	**17 38 26.7**	**-2.3**
	0.1nm,0.3s,baz=173,slow=9.9,SNR=5.4						
NVAR	**Mina Array Bea**	**17.50**	**140**	P	**P**	**17 38 53.3**	**+2.2**
	0.2nm,0.3s,baz=316,slow=10,SNR=5.9						
FFC	**Flin Flon**	**18.19**	**72**	*e*P	**Pn**	**17 38 56.7**	**-1.2**
	2.9nm,0.9s						
PDAR	**Pinedale Array**	**18.43**	**114**	P	**P**	**17 39 06.0**	**+4.7**
	baz=305,slow=5.2,SNR=4.2						
ULM	**Lac du Bonnet**	**22.89**	**82**	LR	LR	17 49 39.2	
	comp=Z,73nm,18.0s,baz=56,slow=39						
WMOK	**Wichita Mounta**	**30.04**	**113**	*e*P	**P**	**17 40 56.9**	**+2.2**
	1.7nm,0.7s						
TXAR	**Lajitas Array**	**31.70**	**126**	P	**P**	**17 41 09.4**	**0.0**
	0.2nm,0.5s,baz=324,slow=5.9,SNR=2.3						
SEY	**Seymchan**	**38.84**	**315**	P	**P**	**17 42 10.4**	**0.0**
	1.3nm,0.7s,baz=4.8,slow=12,SNR=2.9						
TIXI	**Tiksi**	**43.49**	**333**	P	**P**	**17 42 49.0**	**+0.5**
	2.1nm,0.6s,baz=54,slow=8.7,SNR=3.0						
YAK	**Yakutsk**	**48.48**	**321**	LR	LR	18 03 50.8	
	comp=Z,33nm,18.0s,baz=140,slow=36						
H11N2	**WAKE ISLAND Hy**	**56.70**	**259**	T	T	18 45 50.5	
	baz=38,slow=76,SNR=552						
H11N3	**WAKE ISLAND Hy**	**56.70**	**259**	T	T	18 46 13.1	
	baz=38,slow=76,SNR=648						
H11N1	**WAKE ISLAND Hy**	**56.72**	**259**	T	T	18 46 14.8	
	baz=38,slow=76,SNR=405						
H11S1	**WAKE ISLAND Hy**	**57.76**	**258**	T	T	18 47 27.1	
	baz=38						
H11S2	**WAKE ISLAND Hy**	**57.77**	**258**	T	T	18 47 27.8	
	baz=38						
H11S3	**WAKE ISLAND Hy**	**57.78**	**258**	T	T	18 47 30.2	
	baz=38						
NOA	**NORSAR Array B**	**62.90**	**19**	LR	LR	18 11 12.0	
	comp=Z,30nm,18.2s,baz=335,slow=35						
ZALV	**Zalesovo Beam**	**69.12**	**337**	P	**P**	**17 45 51.4**	**-0.2**
	1.4nm,0.8s,baz=15,slow=5.8,SNR=5.5						
GERES	**GERESS Array B**	**74.77**	**22**	P	**P**	**17 46 26.2**	**+0.5**
	0.8nm,0.6s,baz=335,slow=5.9,SNR=7.2						
MKAR	**Makanchi Array**	**76.37**	**336**	P	**P**	**17 46 34.7**	**-0.1**
	1.7nm,0.6s,baz=27,slow=5.2,SNR=12						
ESDC	**Sonseca Array**	**77.75**	**38**	P	**P**	**17 46 43.6**	**+0.8**
	0.7nm,0.6s,baz=320,slow=5.4,SNR=4.9						
LPAZ	**La Paz**	**88.34**	**120**	P	**P**	**17 47 38.0**	**-0.3**
	0.4nm,0.5s,baz=271,slow=4.9,SNR=4.2						
BOSA	**Boshof**	**150.84**	**43**	PKPbc	**PKPbc**	**17 54 38.0**	**-0.3**
	2.5nm,1.0s,baz=287,slow=2.2,SNR=4.1						

*NIED **01** 17:56:00,39°.10N×142°.40E, h32km, Mw3.7 Best double couple: M0 4.14000×10^14 NP1:φs323.00000°, δ43.00000°, λ-119.00000°. NP2:φs179.00000°, δ54.00000°, λ-66.00000°.*
*ISCJB **01** 17:56:14.4±1.3, 39°.07N±0°.04×142°.49E±0°.09, h22km±8km, mb3.6/6, Error ellipse: s-maj=11.4km s-min=5.8km az=14.1*
*JMA **01** 17:56:15.7±0.1, 39°.10N×142°.43E, h30km±1km, M3.7*
*IDC **01** 17:56:19.8±3.1, 39°.02N×142°.49E, h61km±30km, mb3.4/6, mb1 3.5/8, mb1mx3.3/50, mbtmpg3.6/8, ML3.0/2, MS2.7/4, Ms1 2.7/4, ms1mx2.4/24, Error ellipse: s-maj=32.3km s-min=17.0km az=103.0*
ISC 01 17:56:15.4±2.0, 39°.09N±0°.04×142°.39E±0°.07, h17km±11km, n28, σ1s44/28, mb3.6/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.56**	**270**	P	**Pn**	**17 56 27.5**	**-1.1**
OFUJ				*e*S	**Sb**	**17 56 35.6**	**+1.2**
MIYJ	**Miyakonagasawa**	**0.66**	**318**	P	**Pb**	**17 56 28.4**	**0.0**
MIYJ				*e*S	**Sg**	**17 56 37.3**	**+0.1**
JKMT	**Kesennumamotoy**	**0.76**	**249**	P	**Pn**	**17 56 30.4**	**-1.0**
JKMT				*e*S	**Sb**	**17 56 40.8**	**+0.5**
JMK	**Ichinoseki**	**0.92**	**262**	P	**Pg**	**17 56 33.0**	**-0.3**
JMK				S	**Sb**	**17 56 45.3**	**+0.5**
JOM	**Ohasama**	**0.93**	**295**	P	**Pb**	**17 56 33.3**	**+0.2**
JOM				S	**Sb**	**17 56 45.8**	**+0.6**
JTH	**Tanohata**	**0.94**	**335**	P	**Pb**	**17 56 32.6**	**-0.7**
JIO	**Ouri**	**1.03**	**232**	P	**Pb**	**17 56 34.0**	**-0.7**
JIO				S	**Sb**	**17 56 46.8**	**-1.1**
JKZ	**Kuzumaki**	**1.21**	**318**	P	**Pn**	**17 56 37.5**	**-0.1**
JKZ				*e*S	**Sb**	**17 56 53.3**	**0.0**
JRG	**Rokugo**	**1.40**	**283**	P	**Pb**	**17 56 40.7**	**-0.3**
JANG	**Nango**	**1.45**	**333**	P	**Pn**	**17 56 40.8**	**-0.1**
JANG				*e*S	**Sn**	**17 56 59.1**	**-0.4**
MAT	**Matsushiro**	**4.17**	**234**	P	**Pn**	**17 57 21.4**	**+3.1**
MAT				*e*S	**Sn**	**17 58 09.1**	**+2.5**
MJAR	**Matsushiro Arr**	**4.17**	**234**	P	**Pn**	**17 57 21.1**	**+2.8**
	2.2nm,0.3s,baz=40,slow=10,SNR=24						
MJAR				LR	LR	17 59 10.2	
	comp=Z,111nm,18.2s,baz=70,slow=41						
ASAJ	**Asahikawa**	**5.03**	**2**	P	**Pn**	**17 57 33.5**	**+3.5**
	0.3nm,0.3s,baz=195,slow=20,SNR=3.3						
JNU	**Nakatsue**	**11.04**	**241**	LR	LR	18 03 29.1	
	comp=Z,62nm,18.8s,baz=56,slow=39						
KSRS	**Korea Array**	**11.49**	**266**	LR	LR	18 02 54.2	
	comp=Z,30nm,19.3s,baz=35,slow=34						
KLR	**Kul'dur**	**12.68**	**327**	LR	LR	18 04 56.8	
	comp=Z,17nm,19.7s,baz=99,slow=40						
SEY	**Seymchan**	**24.63**	**11**	P	**P**	**18 01 35.6**	**+0.9**
	1.1nm,0.7s,baz=217,slow=20,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**28.62**	**125**	T	T	18 32 32.1	
	baz=317,slow=76,SNR=100						
H11N1	**WAKE ISLAND Hy**	**28.63**	**125**	T	T	18 32 34.3	
	baz=317,slow=76,SNR=107						
H11N3	**WAKE ISLAND Hy**	**28.64**	**125**	T	T	18 32 35.0	
	baz=317,slow=76,SNR=68						
H11S1	**WAKE ISLAND Hy**	**29.41**	**127**	T	T	18 33 29.7	
	baz=318,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**29.41**	**127**	T	T	18 33 31.0	
	baz=318,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**29.43**	**127**	T	T	18 33 35.6	
	baz=318,slow=76,SNR=7.5						
ZALV	**Zalesovo Beam**	**41.13**	**311**	P	**P**	**18 03 58.3**	**0.0**
	0.5nm,0.4s,baz=91,slow=9.8,SNR=3.6						
MKAR	**Makanchi Array**	**43.71**	**300**	P	**P**	**18 04 19.3**	**-0.2**
	0.7nm,0.6s,baz=80,slow=10,SNR=3.2						
ILAR	**Eielson Array**	**47.36**	**33**	P	**P**	**18 04 46.4**	**-1.6**
	0.3nm,0.6s,baz=269,slow=5.6,SNR=5.6						
WRA	**Warramunga Arr**	**59.20**	**189**	P	**P**	**18 06 14.0**	**-1.5**
	0.9nm,0.6s,baz=6.4,slow=6.9,SNR=18						
ASAR	**Alice Springs**	**62.93**	**189**	P	**P**	**18 06 39.8**	**-1.0**
	0.4nm,0.8s,baz=11,slow=16,SNR=6.4						

*ISCJB **01** 18:00:07.2±1.6, 22°.72N±0°.09×12°.0W±0°.2, h10km, mb3.6/3, Error ellipse: s-maj=27.8km s-min=10.7km az=161.7*
*IDC **01** 18:00:07.5±2.3, 22°.75N×11°.98W, h0km, mb3.7/3, mb1 3.7/5, mb1mx3.5/39, mbtmpg3.7/5, ML3.7/1, Error ellipse: s-maj=64.0km s-min=31.7km az=82.0*
ISC 01 18:00:09.1±1.6, 22°.83N±0°.06×11°.8W±0°.2, h10km, n8, σ1s81/11, mb3.7/3, Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTIG	**Tnine Tigouga,**	**8.26**	**21**	P	**Sn**	**18 03 40.4**	**-2.2**
TTIG				S	**Sg**	**18 04 33.1**	**-1.1**
**TOR

DJA 01 18:04:42.7±1.6, 7°S±16°×12°5E±1°6, h510km±21km, M3.8/6, mb4.0/2, MLv3.7/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.17**	**202**	P	P	18 05 55.7	-0.1
SOEI				S	S	18 06 55.5	+0.3
MMRI	**Maumere**	**3.68**	**240**	P	P	18 05 59.5	+0.2
BATI	**Baumata**	**3.82**	**208**	P	P	18 06 01.4	+0.9
BATI				S	S	18 07 04.2	+0.4
AAI	**Ambon**	**4.12**	**42**	P	P	18 06 02.3	-0.5
EDFI	**Ende, Flores**	**4.21**	**242**	P	P	18 06 03.9	+0.3
MSAI	**Masohi**	**4.87**	**45**	P	S	18 07 14.9	-4.7
WBSI	**Waikabubak, Su**	**6.64**	**244**	P	P	18 06 24.8	-0.9

*KRNET **01** 18:10:57.2±0.1, 42°.08N×70°.58E, h21km, mb3.1*
*SOME **01** 18:10:57.1, 42°.05N×70°.70E, h10km*
*NNC **01** 18:10:59.1±1.3, 42°.19N×70°.67E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=8.2km s-min=5.4km az=29.0*

ISC 01 18:10:57.7±1.2, 42°.07N±0°.03×70°.51E±0°.03, h22km±6km, n34, σ2s73/63, 21C-14D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZA	**Taraz** baz=34	**1.02**	**36**	*e*P	**Pn**	**18 11 16.0**	**-0.7**
DZA	baz=34			*e*S	**Sn**	**18 11 29.0**	**-1.4**
DZA	**Taraz** 54nm,0.2s	**1.02**	**36**	*e*P	**Pn**	**18 11 16.0**	**-0.7**
DZA	381nm,0.3s			*e*S	**Sn**	**18 11 29.0**	**-1.4**
KK31	**Karatay Array** 7.3nm,0.2s,baz=170,slow=16,SNR=489	**1.03**	**0**	⇓P	**Pn**	**18 11 16.5**	**-0.3**
KK31	10nm,0.2s,baz=173,slow=30,SNR=29			S	**Sn**	**18 11 29.8**	**-0.8**
BRLS	**Borolday** baz=17	**1.08**	**333**	*e*P	**Pn**	**18 11 16.1**	**-1.4**
BRLS	baz=17			*e*S	**Sb**	**18 11 29.1**	**-2.2**
BRLS	**Borolday** 0.6nm,0.1s	**1.08**	**333**	*e*P	**Pn**	**18 11 16.1**	**-1.4**
BRLS	28nm,0.2s			*e*S	**Sb**	**18 11 29.1**	**-2.2**
ARK	**Arkit** baz=6.0	**1.12**	**104**	⇑*e*P	**Pn**	**18 11 17.4**	**-0.8**
ARK	baz=6.0			⇑*e*S	**Sn**	**18 11 33.1**	**+0.1**
TAS	**Tashkent** baz=33	**1.18**	**231**	⇓*i*P	**Pb**	**18 11 20.0**	**+0.6**
TAS	baz=33			⇓*i*S	**Sn**	**18 11 36.7**	**+2.4**
ARSB	**Arslanbob** baz=12	**2.00**	**111**	⇑*i*P	**Pb**	**18 11 32.1**	**-1.3**
ARSB	baz=12			⇑*i*S	**Sb**	**18 11 58.4**	**+0.5**
BTK	**Batken** baz=75	**2.03**	**173**	⇑*i*P	**Pb**	**18 11 33.6**	**-0.3**
BTK	baz=75			⇑*i*S	**Sb**	**18 12 00.7**	**+2.0**
MRKS	**Merke** baz=70	**2.12**	**71**	*e*P	**Pb**	**18 11 35.2**	**-0.3**
MRKS	baz=70			*e*S	**Sb**	**18 12 02.0**	**+0.5**
MRKS	**Merke** 27nm,0.3s	**2.12**	**71**	*e*P	**Pb**	**18 11 35.1**	**-0.3**
MRKS	42nm,0.3s			*e*S	**Sb**	**18 12 01.9**	**+0.5**
AML	**Almayashu** baz=88	**2.37**	**88**	⇑*i*P	**Pb**	**18 11 38.7**	**-1.2**
AML	baz=88			⇑*i*S	**Sb**	**18 12 09.9**	**+1.0**
EKS2	**Erkin-Say** baz=75	**2.49**	**75**	⇓*i*P	**Pb**	**18 11 40.2**	**-1.6**
EKS2	baz=75			⇓*i*S	**Sb**	**18 12 12.0**	**-0.1**
DRK	**Karamyk** baz=60	**2.77**	**159**	⇑*i*P	**Pb**	**18 11 44.8**	**-1.9**
DRK	baz=60			⇑*i*S	**Sb**	**18 12 20.4**	**+0.1**
ARLS	**Aral** baz=93	**2.85**	**93**	⇑*i*P	**Pb**	**18 11 44.8**	**-3.2**
ARLS	baz=93			⇑*i*S	**Sb**	**18 12 20.5**	**-2.0**
UCH	**Uchtor** baz=86	**2.98**	**86**	⇑*i*P	**Pb**	**18 11 47.3**	**-3.1**
UCH	baz=86			⇑*i*S	**Sb**	**18 12 24.6**	**-1.9**
AAK	**Ala-Archa** 4.5nm,0.5s	**3.01**	**78**	⇑Pn	**Pb**	**18 11 47.6**	**-3.0**
AAK	16nm,0.6s			⇓Lg	Lg	18 12 30.3	
AAK	**Ala-Archa** baz=78	**3.01**	**78**	⇑*i*P	**Pb**	**18 11 47.4**	**-3.2**
AAK	baz=78			⇑*i*S	**Sb**	**18 12 25.1**	**-1.9**
USP	**Ospenovka** baz=66	**3.18**	**67**	⇓*i*P	**Pb**	**18 11 49.3**	**-4.1**
USP	baz=66			⇓*i*S	**Sb**	**18 12 28.3**	**-3.4**
CHMS	**Chumysh** baz=72	**3.27**	**72**	⇑*i*P	**Pb**	**18 11 50.6**	**-4.4**
CHMS	baz=72			⇑*i*S	**Sb**	**18 12 30.8**	**-3.6**
KBK	**Karagaybulak** baz=78	**3.34**	**78**	⇓*i*P	**Pb**	**18 11 52.2**	**-4.1**
KBK	baz=78			⇓*i*S	**Sb**	**18 12 32.9**	**-3.7**
KZA	**Kyzart** baz=88	**3.53**	**88**	⇓*i*P	Pb	18 11 54.6	-5.1
KZA	baz=88			⇓*i*S	**Sb**	**18 12 37.9**	**-4.3**
TKM2	**Tokmak 2** 1.8nm,0.5s	**3.86**	**76**	⇑Pn	**Pn**	**18 11 57.2**	**+1.3**
TKM2	7.4nm,0.3s			⇓Lg	Lg	18 12 55.9	
BTLS	**Baital** baz=39	**3.92**	**40**	*e*P	**Pb**	**18 12 07.3**	**+1.1**
BTLS	baz=39			*e*S	**Sb**	**18 12 57.5**	**+4.3**
BTLS	**Baital** 4.5nm,0.3s	**3.92**	**40**	*e*P	**Pb**	**18 12 07.3**	**+1.1**
BTLS	4.5nm,0.5s			*e*S	**Sb**	**18 12 57.5**	**+4.3**
DGS	**Degeres** baz=71	**4.05**	**71**	*e*P	**Pb**	**18 12 09.2**	**+0.8**
DGS	baz=71			*e*S	**Sb**	**18 13 00.8**	**+3.8**
DGS	**Degeres** 3.5nm,0.6s	**4.05**	**71**	*e*P	**Pb**	**18 12 09.2**	**+0.8**
DGS	33nm,0.6s			*e*S	**Sb**	**18 13 00.8**	**+3.8**
KST	**Kastek** baz=75	**4.14**	**75**	*e*P	**Pb**	**18 12 11.1**	**+1.1**
KST	baz=75			*e*S	**Sb**	**18 13 03.8**	**+4.2**
KST	**Kastek** 2.2nm,0.3s	**4.14**	**75**	*e*P	**Pb**	**18 12 11.1**	**+1.1**
KST	13nm,0.4s			*e*S	**Sb**	**18 13 03.8**	**+4.2**
KTBS	**Karatobe** baz=67	**4.82**	**68**	*e*P	**Pb**	**18 12 22.4**	**+0.9**
KTBS	baz=67			*e*S	**Sb**	**18 13 23.7**	**+4.6**
KTBS	**Karatobe** 2.7nm,0.3s	**4.82**	**68**	*e*P	**Pb**	**18 12 22.4**	**+0.9**
KTBS	9.4nm,0.6s			*e*S	**Sb**	**18 13 23.6**	**+4.6**
TNSS	**Tian-Shan** baz=76	**4.85**	**76**	*e*P	**Pb**	**18 12 23.9**	**+1.7**
TNSS	baz=76			*e*S	**Sb**	**18 13 26.5**	**+6.2**
TNSS	**Tian-Shan** 4.2nm,0.5s	**4.85**	**76**	*e*P	**Pb**	**18 12 23.9**	**+1.7**
TNSS	13nm,0.5s			*e*S	**Sb**	**18 13 26.5**	**+6.2**
MDOK	**Medeo** 7.7nm,1.3s	**4.95**	**75**	⇑Pg	Pb	18 12 28.6	+4.9
MDOK	11nm,0.8s			⇓Lg	Lg	18 13 30.1	

MAN 01 18:46:29.5, 11°.63N×125°.52E, h11km, mb4.3, ML3.1, MS2.8, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.08**	**253**	*e*P	Pg	18 46 33.3	+1.3
BESP				*e*S	Sg	18 46 41.3	+7.5
PLP	**Palo**	**0.70**	**229**	⇓*e*P	Pg	18 46 42.6	-0.4
PLP				*e*S	Sn	18 46 56.8	+0.7
CNP	**Catarman**	**1.21**	**317**	*e*P	Pn	18 46 51.3	-1.1
CNP				*e*S	Pg	18 46 54.8	+1.9

*IDC **01** 18:50:27.0±1.1, 52°.78N×131°.99W, h0km, mb3.9/5, mb1 4.0/7, mb1mx3.7/48, mbtmp3.9/7, ML3.5/3, MS3.1/4, Ms1 3.1/4, ms1mx2.7/36, Error ellipse: s-maj=17.0km s-min=5.3km az=40.0*
*ISCJB **01** 18:50:27.2±0.8, 52°.84N±0°.07×132°.0W±0°.1, h10km, mb3.8/5, MS3.0/2, Error ellipse: s-maj=12.8km s-min=6.5km az=40.9*
*PGC **01** 18:50:27.5±0.1, 52°.70N×132°.27W, h24km, 68km southwest of Sandspit, Bc Haida Gwaii Region*

ISC 01 18:50:28.2±1.1, 52°.8N±0°.1×132°.0W±0°.1, h10km, n19, σ0s85/14, mb3.9/5, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H02S1	**DAWSON INLET T**	**0.51**	**327**	Pg	**Pg**	**18 50 37.9**	**-0.2**
H02S1				Lg	Lg	18 50 44.4	
H02N1	**VAN INLET T-PH**	**0.57**	**326**	Pg	**Pg**	**18 50 38.9**	**-0.4**
H02N1				Lg	Lg	18 50 46.0	
BBB	**Bella Bella** 2.8nm,0.3s,baz=286,slow=16,SNR=23	**2.46**	**103**	Pn	**Pn**	**18 51 08.1**	**-0.3**
BBB	27nm,0.3s,baz=276,slow=15,SNR=6.5			Sn	**Sn**	**18 51 37.2**	**-1.2**
BBB	54nm,0.3s,baz=12,slow=22,SNR=20			Lg	Lg	18 51 45.3	
DLBC	**Dease Lake** 1.8nm,0.3s,baz=197,slow=12,SNR=29	**5.78**	**10**	Pn	**Pn**	**18 51 54.0**	**-0.1**
DLBC	1.9nm,0.3s,baz=2.1,slow=26,SNR=2.9			Sn	**Sn**	**18 53 01.6**	**+1.2**
DLBC	6.9nm,0.3s,baz=52,slow=11,SNR=7.6			Lg	Lg	18 53 27.9	
YKA	**Yellowknife Ar** 0.2nm,0.3s,baz=226,slow=12,SNR=3.1	**13.43**	**37**	Pn	**Pn**	**18 53 38.4**	**-0.1**
ILAR	**Eielson Array** comp=Z,84nm,18.1s,baz=167,slow=37	**14.23**	**333**	LR	LR	18 59 14.1	
INK	**Inuvik** 0.1nm,0.3s,baz=150,slow=15,SNR=3.1	**15.60**	**358**	Pn	**Pn**	**18 54 07.3**	**-0.5**
NVAR	**Mina Array Bea** comp=Z,63nm,19.3s,baz=66,slow=36	**17.22**	**141**	LR	LR	19 00 43.1	
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=302,slow=8.6,SNR=4.1	**18.04**	**115**	P	**P**	**18 54 41.3**	**+1.7**
ANMO	**Albuquerque** comp=Z,27nm,18.4s,baz=31,slow=38	**25.43**	**124**	LR	LR	19 06 36.2	
TXAR	**Lajitas Array** 0.3nm,0.7s,baz=330,slow=5.2,SNR=4.6	**31.35**	**127**	P	**P**	**18 56 49.9**	**+0.9**
SEY	**Seymchan** 2.8nm,1.1s,baz=25,slow=15,SNR=2.8	**39.15**	**315**	P	**P**	**18 57 55.8**	**+0.2**
H11N2	**WAKE ISLAND Hy** baz=40	**57.10**	**259**	T	T	20 02 06.3	
H11N3	**WAKE ISLAND Hy** baz=40	**57.10**	**259**	T	T	20 02 06.5	
H11N1	**WAKE ISLAND Hy** baz=40	**57.11**	**259**	T	T	20 02 07.5	
MJAR	**Matsushiro Arr** comp=Z,16nm,21.3s,baz=185,slow=34	**61.78**	**294**	LR	LR	19 25 55.5	
ZALV	**Zalesovo Beam** 1.2nm,0.7s,baz=33,slow=5.7,SNR=5.5	**69.31**	**338**	P	**P**	**19 01 34.7**	**-0.6**
MKAR	**Makanchi Array** 0.7nm,0.7s,baz=30,slow=4.7,SNR=5.8	**76.56**	**337**	P	**P**	**19 02 17.8**	**-0.6**
BRTR	**Keskin Array B** 1.1nm,1.0s,baz=356,slow=5.8,SNR=3.3	**87.03**	**11**	P	**P**	**19 03 13.6**	**-0.3**

*TIR **01** 18:53:07.7, 40°.68N×19°.74E, h7km, Md3.1/10*
*ISCJB **01** 18:53:08.9±0.5, 40°.70N±0°.02×19°.68E±0°.04, h17km±6km, Error ellipse: s-maj=5.4km s-min=3.8km az=172.6*
*ATH **01** 18:53:09.2, 40°.70N×19°.82E, h29km±2km, ML2.3/3, Error ellipse: s-maj=2.9km s-min=1.3km az=309.0*
*BEO **01** 18:53:11.5±0.7, 40°.77N×19°.73E, h27km±2km, ML2.5/10*

ISC 01 18:53:08.9±0.9, 40°.67N±0°.02×19°.69E±0°.03, h15km±8km, n33, σ1s52/59, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.25**	**217**	*i* Pg	**Pg**	**18 53 13.7**	**-0.6**
VLO				*i* Sg	**Sg**	**18 53 18.6**	**+0.6**
TPE	**Tepelena**	**0.45**	**146**	*i* Pg	**Pg**	**18 53 15.9**	**-1.9**
TPE				*i* Sg	**Sg**	**18 53 23.6**	**-0.3**
TIR	**Tirane**	**0.69**	**11**	*e*Pg	**Pg**	**18 53 22.2**	**-0.4**
TIR				*e*Sg	**Sb**	**18 53 34.1**	**+2.0**
TIR	**Tirane**	**0.69**	**11**	P	**Pg**	**18 53 22.1**	**-0.4**
TIR				S	**Sb**	**18 53 32.5**	**+0.3**
TIR	**Tirane**	**0.69**	**11**	*i* Pg	**Pg**	**18 53 21.2**	**-1.3**
TIR				*i* Sg	**Sg**	**18 53 31.0**	**-0.7**
SRN	**Sarande**	**0.82**	**163**	*i* Pg	**Pg**	**18 53 24.4**	**-0.5**
SRN				*i* Sg	**Sb**	**18 53 36.6**	**+0.9**
KBN	**Korca**	**0.84**	**93**	*i* Pg	**Pg**	**18 53 23.1**	**-2.1**
KBN				*i* Sg	**Sg**	**18 53 35.7**	**-0.6**
OHR	**Ohrid**	**0.95**	**62**	*i* Pg	**Pg**	**18 53 26.9**	**-0.5**
OHR				*i* Sg	**Sn**	**18 53 41.9**	**+0.7**
KEK	**Kerkira**	**0.96**	**175**	P	**Pg**	**18 53 27.5**	**+0.1**
KEK				S	**Sn**	**18 53 42.8**	**+1.7**
KEK	comp=E,418μm,0.7s			AML	AML	18 53 46.8	
KEK	comp=N,238μm,1.2s			AML	AML	18 53 48.1	
NEST	**Nestorio**	**1.07**	**103**	P	**Pb**	**18 53 28.0**	**-1.1**
NEST				S	**Sb**	**18 53 42.1**	**-0.9**
NEST	comp=N,203μm,1.2s			AML	AML	18 53 54.9	
NEST	comp=E,233μm,0.5s			AML	AML	18 53 57.3	
PHP	**Peshkopia**	**1.17**	**29**	*i* PG	**Pb**	**18 53 29.5**	**-1.3**
PHP				*i* SG	**Sb**	**18 53 46.2**	**+0.5**
PENT	**Pentalofos**	**1.20**	**113**	P	**Pn**	**18 53 30.9**	**-0.4**
IGT	**Igoumenitsa**	**1.23**	**156**	P	**Pn**	**18 53 32.2**	**+0.5**
IGT				S	**Sg**	**18 53 49.5**	**+0.7**
IGT	comp=N,279μm,0.7s			AML	AML	18 54 02.9	
IGT	comp=E,267μm,1.5s			AML	AML	18 54 06.3	
IGT	**Igoumenitsa**	**1.23**	**156**	*i* PN	**Pn**	**18 53 32.0**	**+0.4**
IGT				*i* SN	**Sg**	**18 53 50.5**	**+1.7**
FNA	**Florina**	**1.29**	**84**	P	**Pn**	**18 53 31.4**	**-1.1**
FNA	**Florina**	**1.29**	**84**	*i* PN	**Pg**	**18 53 34.8**	**+1.0**
FNA				*i* SN	**Sg**	**18 53 56.1**	**+5.5**
BIA	**Bitola**	**1.29**	**74**	*i* Pg	**Pn**	**18 53 32.5**	**+0.1**
BIA				*i* Sg	**Sg**	**18 53 55.1**	**+4.5**
KRUS	**Krusevo**	**1.37**	**59**	*i* Pg	**Pn**	**18 53 33.7**	**0.0**
KRUS				*i* Sg	**Sg**	**18 53 55.0**	**+1.7**
PUK	**Puka**	**1.38**	**6**	*i* PN	**Pb**	**18 53 34.9**	**+0.3**
PUK				*i* SN	**Sg**	**18 53 57.0**	**+3.4**
BCI	**Bajram Curri**	**1.72**	**9**	*i* PN	**Pn**	**18 53 39.1**	**+0.7**
BCI				*i* SN	**Sg**	**18 54 03.7**	**-0.7**
PDG	**Podgorica**	**1.79**	**350**	*e*Pn	**Pn**	**18 53 38.9**	**-0.4**
PDG				*e*Sg	**Sb**	**18 54 04.7**	**+1.0**
VAY	**Valandovo**	**2.28**	**72**	*e*Pn	**Pn**	**18 53 46.5**	**+0.5**
VAY				*e*Sn	**Sn**	**18 54 13.8**	**+0.1**
TREB	**Trebinje**	**2.28**	**334**	*e*Pn	**Pn**	**18 53 46.5**	**+0.5**
TREB				*e*Sn	**Sn**	**18 54 13.7**	**-0.1**
SJES	**Sjenica**	**2.60**	**5**	*e*Pn	**Pn**	**18 53 51.4**	**+0.9**
SJES				*e*Sn	**Sn**	**18 54 21.0**	**-0.9**
BARS	**Barje**	**2.67**	**36**	*e*Pn	**Pn**	**18 53 51.4**	**0.0**
SELS	**Selova**	**2.77**	**22**	*e*Pn	**Pn**	**18 53 53.9**	**+1.2**
IVAS	**Ivanjica**	**2.93**	**7**	*e*Pn	**Pn**	**18 53 54.6**	**-0.4**
BBLS	**Lazići**	**3.21**	**356**	*e*Pn	**Pn**	**18 53 59.2**	**+0.4**
BBLS				*e*Sn	**Sn**	**18 54 35.1**	**-1.6**
VTS	**Vitosha**	**3.27**	**53**	*e*Pn	**Pn**	**18 54 00.2**	**+0.5**
VTS				*e*Sn	**Sn**	**18 54 35.7**	**-2.6**
GRUS	**Gruza**	**3.31**	**13**	*e*Pn	**Pn**	**18 54 00.6**	**+0.4**
BOVS	**Bovan**	**3.33**	**26**	*e*Pn	**Pn**	**18 53 59.7**	**-0.7**
BOVS				*e*Sn	**Sn**	**18 54 36.8**	**-2.8**
ZAPS	**Zavoj**	**3.41**	**39**	*e*Pn	**Pn**	**18 54 02.3**	**+0.8**
ZAPS				*e*Sn	**Sn**	**18 54 39.2**	**-2.5**
DIVS	**Divibare**	**3.44**	**4**	*e*Pn	**Pn**	**18 54 01.7**	**-0.3**

*IDC **01** 18:55:55.8±17.0, 13°.10S×167°.19E, h130km±147km, mb3.5/8, mb1 3.7/8, mb1mx3.5/34, mbtmp3.9/8, Error ellipse: s-maj=55.9km s-min=30.6km az=76.0*
*ISCJB **01** 18:56:00.2±1.1, 13°.2S±0°.2×167°.1E±0°.2, h180km, mb3.7/8, Error ellipse: s-maj=32.8km s-min=23.6km az=40.0*

ISC 01 18:56:01.6±1.1, 13°.2S±0°.2×167°.1E±0°.2, h180km, n10, σ0s66/10, mb3.7/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 2.8nm,0.5s,baz=47,slow=11,SNR=13	**29.92**	**227**	P	**P**	**19 01 53.1**	**+0.4**
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=84,slow=8.7,SNR=7.4	**32.09**	**253**	P	**P**	**19 02 10.9**	**-1.0**
ASAR	**Alice Springs** 1.0nm,0.5s,baz=76,slow=9.0,SNR=29	**33.12**	**247**	P	**P**	**19 02 19.9**	**-1.0**
FITZ	**Fitzroy Crossi** 1.1nm,0.5s,baz=72,slow=3.2,SNR=3.3	**40.17**	**258**	P	**P**	**19 03 21.1**	**+0.6**
VNDA	**Vanda** 0.3nm,0.6s,baz=346,slow=6.9,SNR=6.2	**64.42**	**181**	P	**P**	**19 06 18.1**	**0.0**
MAW	**Mawson** 0.9nm,0.6s,baz=153,slow=2.3,SNR=4.1	**83.28**	**202**	P	**P**	**19 08 07.6**	**-0.1**
ILAR	**Eielson Array** 0.5nm,0.6s,baz=242,slow=5.1,SNR=6.4	**85.08**	**18**	P	**P**	**19 08 16.4**	**-0.3**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=80,slow=7.2,SNR=3.3	**95.96**	**317**	P	**P**	**19 09 08.5**	**+0.4**
ARCES	**ARCESS Array B** 1.0nm,0.3s,baz=86,slow=2.1,SNR=34	**118.70**	**346**	PKP	**PKPdf**	**19 14 27.4**	**-0.3**
ESDC	**Sonseca Array** 0.4nm,0.6s,baz=12,slow=4.1,SNR=3.0	**152.43**	**345**	PKPbc	**PKPbc**	**19 15 37.2**	**+0.4**

MEX 01 19:08:29.0±0.8, 15°.23N×94°.43W, h39km±59km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.26**	**68**	*e*P	Pn	19 08 48.3	-1.8
PCIG				*i* S	Sn	19 09 02.9	-2.8
HUIG	**Huatulco**	**1.71**	**288**	*e*P	Pn	19 08 55.2	-1.0
HUIG				*i* S	Sn	19 09 13.9	-3.0
CMIG	**Matias Romero**	**1.90**	**347**	*e*P	Pn	19 08 57.8	-1.2
CMIG				*e*S	Sn	19 09 19.3	-2.4
TGIG		**1.99**	**39**	*e*P	Pn	19 08 59.3	-0.9
TGIG				*e*S	Sn	19 09 21.4	-2.5
CCIG	**Comitan**	**2.44**	**64**	*i* P	Pn	19 09 05.6	-0.9
CCIG				*i* S	Sn	19 09 33.8	-1.4
VHO	**Vista Hermosa**	**2.88**	**310**	*i* P	Pn	19 09 11.7	-0.8
VHO				*i* S	Sn	19 09 44.2	-1.7

*ISCJB **01** 19:27:39.1±0.4, 50°.19N±0°.03×18°.90E±0°.03, h0km, Error ellipse: s-maj=4.0km s-min=2.6km az=7.2*
*PRU **01** 19:27:39.8±0.0, 50°.25N×18°.98E, h0km*
*WAR **01** 19:27:40.4, 50°.21N×19°.07E, h1km, Mw2.5*

ISC 01 19:27:39.8±0.8, 50°.15N±0°.03×18°.99E±0°.02, h0km, n22, σ0s64/41, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.14**	**0**	*e*Pg	**Pg**	**19 27 42.5**	**0.0**
CHZP				*e*Sg	**Sg**	**19 27 44.3**	**0.0**
CHZP	**Chorzow**	**0.14**	**0**	*e*Pg	**Pg**	**19 27 42.5**	**0.0**
CHZP				*e*Sg	**Sg**	**19 27 44.3**	**0.0**
OJC	**Ojcow**	**0.52**	**82**	*e*Pg	**Pg**	**19 27 49.2**	**-0.6**
OJC				*e*Sg	**Sg**	**19 27 56.7**	**+0.1**
OJC	**Ojcow**	**0.52**	**82**	*e*Pg	**Pg**	**19 27 49.2**	**-0.6**
OJC				*e*Sg	**Sg**	**19 27 56.7**	**+0.1**
OKC	**Ostrava-Krasne**	**0.63**	**240**	*e*PG	**Pb**	**19 27 53.5**	**-0.2**
OKC				*ex*	x	19 27 59.1	
OKC	comp=Z,12nm,0.4s			*e*SG	**Sb**	**19 28 03.1**	**+0.1**
MORC	**Moravsky Berou**	**1.01**	**249**	*e*PG	**Pg**	**19 27 59.6**	**+0.5**
MORC				*e*SG	**Sb**	**19 28 14.4**	**+0.4**
LANS	**Liptovska Anna**	**1.05**	**163**	*e*PG	**Pb**	**19 28 00.9**	**0.0**
LANS				*e*SG	**Sb**	**19 28 16.2**	**+1.0**
NIE	**Niedzica**	**1.12**	**130**	*e*Pg	**Pb**	**19 28 02.1**	**0.0**
NIE				*e*Sg	**Sn**	**19 28 18.9**	**-0.1**
NIE	**Niedzica**	**1.12**	**130**	*e*Pg	**Pb**	**19 28 02.1**	**0.0**
NIE				*e*Sg	**Sn**	**19 28 18.9**	**-0.1**
KRLC	**Kraliky**	**1.42**	**268**	*e*PG	**Pn**	**19 28 06.4**	**-0.6**
KRLC	comp=Z,4.6nm,0.4s			*e*SG	**Sb**	**19 28 26.2**	**+0.2**
JAVC	**Velka Javorina**	**1.55**	**214**	*e*PN	**Pb**	**19 28 09.6**	**+0.1**
VYHS	**Vyhne**	**1.66**	**184**	*e*PG	**Pn**	**19 28 10.2**	**0.0**
VYHS				*e*SN	**Sg**	**19 28 33.5**	**+0.3**
VYHS				*e*LG	Lg	19 28 35.9	
DPC	**Dobruska-Polom**	**1.72**	**278**	*e*PG	**Pn**	**19 28 10.9**	**-0.2**
DPC	comp=Z,20nm,0.6s			*e*SG	**Sg**	**19 28 35.4**	**+0.2**
VRAC	**Vranov**	**1.77**	**242**	*e*PN	**Pn**	**19 28 12.3**	**+0.6**
VRAC				*e*SG	**Sg**	**19 28 36.8**	**+0.2**
KSP	**Ksiaz**	**1.86**	**293**	*e*Pg	**Pb**	**19 28 14.8**	**+0.3**
KSP				*e*Sg	**Sb**	**19 28 38.9**	**+0.6**
KSP	**Ksiaz**	**1.86**	**293**	*e*Pg	**Pb**	**19 28 14.8**	**+0.3**
KSP				*e*Sg	**Sb**	**19 28 38.9**	**+0.6**
KRUC	**Moravsky**	**2.01**	**238**	*e*PN	**Pn**	**19 28 15.4**	**+0.4**
KRUC				*e*SG	**Sb**	**19 28 43.8**	**+1.0**
TREC	**Trest**	**2.43**	**251**	*e*SG	**Sg**	**19 28 56.9**	**-0.9**
GOPC	**GO Pecny, Ondr**	**2.72**	**267**	*e*PN	**Pn**	**19 28 24.6**	**-0.2**
GOPC				*e*PG	**Pb**	**19 28 29.5**	**+0.2**
GOPC				*e*SG	**Sg**	**19 29 06.1**	**-1.1**
PVCC	**Panska Ves**	**2.86**	**279**	*e*SG	**Sg**	**19 29 11.4**	**-0.2**
BRG	**Berggiesshubel** 2.9nm,0.4s	**3.06**	**285**	SG	**Sg**	**19 29 25.8**	**-0.1**
KHC	**Kasperske Hory**	**3.66**	**256**	*e*PN	**Pn**	**19 28 37.2**	**-0.5**
KHC				*ex*	x	19 28 44.8	
KHC				*ex*	x	19 28 52.7	
KHC	comp=Z,4.8nm,0.6s			*e*SG	**Sg**	**19 29 34.6**	**-2.8**

*ISCJB **01** 19:27:57.1±1.5, 52°.5N±0°.1×132°.3W±0°.2, h10km, mb3.4/1, MS3.3/1, Error ellipse: s-maj=23.1km s-min=7.8km az=43.0*
*IDC **01** 19:27:57.3±1.7, 52°.48N×132°.25W, h0km, mb3.5/1, mb1 3.4/5, mb1mx3.3/63, mbtmp3.1/5, ML3.3/4, MS3.0/3, Ms1 3.0/3, ms1mx2.6/38, Error ellipse: s-maj=20.7km s-min=7.3km az=48.0*

ISC 01 19:27:58.5±1.8, 52°.5N±0°.1×132°.2W±0°.2, h10km, n9, σ1s33/8, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H02S1	**DAWSON INLET T**	**0.75**	**348**	Pg	**Pg**	**19 28 11.7**	**-1.2**
H02S1				Lg	Lg	19 28 21.1	
H02N1	**VAN INLET T-PH**	**0.81**	**346**	Pg	**Pg**	**19 28 12.4**	**-1.7**
BBB	**Bella Bella** 2.8nm,0.3s,baz=281,slow=18,SNR=28	**2.53**	**95**	Pn	**Pn**	**19 28 40.0**	**+0.4**
BBB	14nm,0.3s,baz=270,slow=12,SNR=5.7			Sn	**Sn**	**19 29 10.2**	**-0.2**
BBB	12nm,0.3s,baz=347,slow=22,SNR=6.6			Lg	Lg	19 29 18.0	
BBB	comp=Z,181nm,18.2s,baz=210,slow=42			LR	LR	19 29 44.8	
DLBC	**Dease Lake** 0.2nm,0.3s,baz=180,slow=20,SNR=2.6	**6.11**	**11**	Pn	**Pn**	**19 29 30.0**	**+1.2**
DLBC	0.4nm,0.3s,baz=323,slow=25,SNR=3.4			Lg	Lg	19 31 11.5	
KDAK	**Kodiak Island** comp=Z,42nm,21.0s,baz=107,slow=30	**12.79**	**303**	LR	LR	19 34 22.1	
ILAR	**Eielson Array** 0.0nm,0.3s,baz=149,slow=11,SNR=3.3	**14.45**	**334**	Pn	**Pn**	**19 31 24.0**	**+1.1**
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=312,slow=7.2,SNR=2.5	**18.03**	**114**	P	**P**	**19 32 10.6**	**+0.9**
TXAR	**Lajitas Array** 0.3nm,0.4s,baz=340,slow=7.7,SNR=2.5

s-min=24.7km az=46.0
*UCR **01** 19:33:54.5±1.7, 12°.17N×88°.45W, h17km±6km, ML3.6, mb4.7(NEIC)*
*NEIC **01** 19:33:58.6±0.9, 12°.84N×87°.94W, h35km, mb4.3/3, Error ellipse: s-maj=31.0km s-min=13.1km az=46.0*

ISC 01 19:33:57.7±1.4, 12°.27N±0°.07×88°.39W±0°.05, h43km±14km, n39, σ1¶94/50, mb3.8/7, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCND	**La Caˆ–ada**	**1.14**	**25**	*eP*	**Pn**	**19 34 16.8**	**-0.4**
LCND				*eS*	**Sn**	**19 34 32.4**	**+0.7**
LCND				IAML		19 34 38.4	
	comp=Z,669nm,0.3s						
LCY	**Lacayo**	**1.15**	**4**	*eP*	**Pn**	**19 34 17.5**	**0.0**
LCY				*eS*	**Sn**	**19 34 34.1**	**+2.0**
VSM	**San Miguel**	**1.16**	**5**	*eP*	**Pn**	**19 34 17.4**	**-0.3**
TECA	**Tecapa**	**1.22**	**355**	*eP*	**Pn**	**19 34 17.8**	**-0.8**
TECA				*eS*	**Sn**	**19 34 35.5**	**+1.5**
CRIN	**San Cristobal**	**1.37**	**72**	*eP*	**Pn**	**19 34 20.0**	**-0.5**
CRIN				*eS*	**Sn**	**19 34 42.0**	**+4.5**
CRIN				IAML		19 34 44.5	
	comp=N,1μm,0.8s						
LFRS	**El Faro**	**1.50**	**334**	*eP*	**Pn**	**19 34 21.1**	**-1.2**
LFRS				*eS*	**Sn**	**19 34 42.4**	**+1.7**
PAVA	**Las Pavas**	**1.53**	**340**	*eP*	**Pn**	**19 34 22.3**	**-0.4**
PAVA				*eS*	**Sn**	**19 34 42.7**	**+1.2**
PAVA				IAML		19 34 52.3	
	comp=Z,743nm,0.6s						
LBRS	**Las Brisas**	**1.59**	**336**	*eP*	**Pn**	**19 34 22.4**	**-1.1**
LFU	**La Fuente**	**1.63**	**334**	*eP*	**Pn**	**19 34 22.4**	**-1.6**
CNGN	**Cerro Negro**	**1.67**	**82**	*eP*	**Pn**	**19 34 23.1**	**-1.4**
CNGN				*eS*	**Sn**	**19 34 46.9**	**+2.2**
BOQS	**Boqueron**	**1.70**	**329**	*eP*	**Pn**	**19 34 24.4**	**-0.6**
BOQS				*eS*	**Sn**	**19 34 47.4**	**+1.7**
COPN	**Copaltepe**	**1.76**	**93**	*eP*	**Pn**	**19 34 23.9**	**-1.8**
MOMN	**Momotombo**	**1.81**	**85**	*eP*	**Pn**	**19 34 24.5**	**-1.9**
CEVE	**Cerro Verde**	**1.96**	**322**	*eP*	**Pn**	**19 34 28.1**	**-0.7**
CEVE				*eS*	**Sn**	**19 34 54.2**	**+1.9**
CEVE				IAML		19 35 04.9	
	comp=Z,1μm,0.4s						
SBLS	**San Blas**	**1.97**	**322**	*eP*	**Pn**	**19 34 27.9**	**-1.0**
SNJE	**San Jose**	**1.98**	**323**	*eP*	**Pn**	**19 34 28.1**	**-0.9**
RTR	**El Retiro**	**2.03**	**323**	*eP*	**Pn**	**19 34 29.0**	**-0.6**
ESTN	**Estel**	**2.14**	**67**	*eP*	**Pn**	**19 34 30.8**	**-0.2**
MTO3	**Montecristo**	**2.32**	**336**	*eP*	**Pn**	**19 34 33.4**	**-0.3**
MATN	**Matagalpa**	**2.49**	**74**	*eP*	**Pn**	**19 34 34.6**	**-1.2**
BOAB	**BOACO BROADBAN**	**2.66**	**86**	*eP*	**Pn**	**19 34 36.6**	**-1.5**
IXG	**Ixpaco**	**2.77**	**313**	*eP*	**Pn**	**19 34 38.9**	**-0.8**
IXG				*eS*	**Sn**	**19 35 12.5**	**+0.6**
APG	**El Apazote**	**3.39**	**324**	Pn	**Pn**	**19 34 45.8**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=89,slow=20,SNR=5.4						
JTS	**JuntasAbangare**	**3.90**	**120**	Pn	**Pn**	**19 34 56.0**	**+0.8**
	comp=Z,2.0nm,0.3s,baz=184,slow=23,SNR=7.5						
JTS				Sn	**Sn**	**19 35 38.4**	**-1.3**
	comp=Z,2.4nm,0.3s,baz=134,slow=22,SNR=5.2						
JTS				Lg	Lg	19 36 05.5	
	comp=Z,0.7nm,0.3s,baz=17,slow=11,SNR=3.6						
JTS	**JuntasAbangare**	**3.90**	**120**	*e*Pn	**Pn**	**19 34 55.5**	**+0.3**
JTS				Sn	**Sn**	**19 35 38.4**	**-1.3**
JTS				Lg	Lg	19 36 05.5	
CMIG	**Matias Romero**	**7.91**	**308**	Pn	**Pn**	**19 35 50.6**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=138,slow=10,SNR=5.5						
JCT	**Junction City**	**20.98**	**331**	*eP*	**P**	**19 38 36.9**	**-0.6**
	comp=Z,7.4nm,0.6s						
TXAR	**Lajitas Array**	**22.15**	**322**	P	**P**	**19 38 50.9**	**+0.9**
	comp=Z,3.2nm,0.8s,baz=147,slow=10,SNR=28						
MIAR	**Mount Ida**	**22.67**	**349**	*eP*	**P**	**19 38 55.8**	**+0.3**
	comp=Z,9.3nm,0.9s						
TKL	**Tuckaleechee C**	**23.66**	**9**	P	**P**	**19 38 59.7**	**-5.6**
	comp=Z,1.8nm,0.5s,baz=225,slow=20,SNR=3.1						
WMOK	**Wichita Mounta**	**24.28**	**339**	*eP*	**P**	**19 39 09.6**	**-1.4**
AMTX	**Amarillo**	**25.55**	**334**	*eP*	**P**	**19 39 22.6**	**0.0**
	comp=Z,20nm,1.0s						
PTGA	**Pitinga**	**31.03**	**113**	LR	LR	19 54 21.7	
	comp=Z,34nm,18.5s,baz=229,slow=40						
PDAR	**Pinedale Array**	**35.51**	**333**	P	**P**	**19 40 51.1**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=130,slow=9.7,SNR=2.9						
ULM	**Lac du Bonnet**	**38.37**	**352**	P	**P**	**19 41 11.2**	**-3.4**
	comp=Z,5.8nm,0.6s,baz=168,slow=7.5,SNR=7.0						
ILAR	**Eielson Array**	**65.82**	**336**	P	**P**	**19 44 37.6**	**-0.7**
	comp=Z,1.0nm,1.1s,baz=108,slow=5.8,SNR=4.6						
WRA	**Warramunga Arr**	**138.34**	**254**	PKhKP	PKPpre	19 53 19.8	
	comp=Z,0.3nm,0.8s,baz=88,slow=3.2,SNR=3.2						
WRA				PKP	**PKiKP**	**19 53 25.7**	**+4.3**
	comp=Z,0.4nm,0.9s,baz=92,slow=2.5,SNR=4.0						
ASAR	**Alice Springs**	**138.35**	**248**	PKP	**PKPdf**	**19 53 24.9**	**+5.6**
	comp=Z,0.2nm,0.7s,baz=134,slow=1.9,SNR=4.5						
CMAR	**Chiang Mai Arr**	**148.62**	**347**	PKPbc	**PKPbc**	**19 53 41.5**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=344,slow=3.7,SNR=13						

*ISK **01** 19:41:26.8, 39°.84N×42°.23E, h10km, ML1.5/3*
*ISCJB **01** 19:41:29.6±0.7, 39°.93N±0°.05×42°.48E±0°.08, h11km±6km, Error ellipse: s-maj=11.5km s-min=5.4km az=143.6*
*DDA **01** 19:41:30.1, 39°.90N×42°.45E, h6km, Ml2.5*

ISC 01 19:41:28.5±1.1, 39°.91N±0°.05×42°.45E±0°.06, h13km±7km, n6, σ1¶48/11, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EATA	**Eleskirt**	**0.06**	**146**	*i* P	**Pg**	**19 41 31.4**	**0.0**
EATA				*i* S	**Sg**	**19 41 33.4**	**0.0**
HOMI	**Horasan**	**0.44**	**288**	*i* P	**Pg**	**19 41 38.0**	**+0.8**
HOMI				*i* S	**Sb**	**19 41 46.6**	**+1.8**
AGRB	**Hanur-Agry**	**0.54**	**128**	PG	**Pg**	**19 41 39.7**	**+0.7**
AGRB				SG	**Sb**	**19 41 49.1**	**+1.6**
TUTA	**Tutak**	**0.58**	**151**	*i* P	**Pg**	**19 41 40.5**	**+0.6**
TUTA				*i* S	**Sb**	**19 41 50.3**	**+1.4**
SENK	**Senkaya-Erzuru**	**0.66**	**353**	PG	**Pg**	**19 41 41.3**	**0.0**
SENK				SG	**Sb**	**19 41 52.0**	**+1.0**
GURO	**Guroymak-BITLI**	**1.40**	**194**	PN	**Pn**	**19 41 51.5**	**-2.3**

IDC 01 19:55:54.7±56.0, 19°.55S×177°.84W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/31, mbtmp4.0/3, Error ellipse: s-maj=1022.0km s-min=158.8km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.34**	**243**	P	P	20 03 17.6	+0.1
	0.9nm,0.8s,baz=83,slow=9.2,SNR=4.0						
WRA	**Warramunga Arr**	**44.88**	**261**	P	P	20 04 11.2	-0.1
	0.5nm,0.3s,baz=97,slow=7.6,SNR=60						
ASAR	**Alice Springs**	**44.89**	**256**	P	P	20 04 11.1	-0.3
	2.1nm,0.5s,baz=98,slow=7.4,SNR=42						

*IDC **01** 20:25:04.1±1.8, 6°.77N×80°.00W, h0km, mb3.4/3, mb1 3.9/5, mb1mx3.6/37, mbtmp3.7/5, ML3.2/2, MS3.2/5, Ms1 3.2/5, ms1mx2.9/21, Error ellipse: s-maj=69.8km s-min=23.6km az=26.0*
*ISCJB **01** 20:25:05.1±0.8, 7°.10N±0°.06×79°.84W±0°.05, h10km, mb3.5/3, Error ellipse: s-maj=10.5km s-min=4.9km az=34.4*
*RSNC **01** 20:25:07.3±0.5, 7°.12N×79°.87W, h12km±9km, ML3.7, Mw4.0*

ISC 01 20:25:06.5±1.1, 7°.15N±0°.09×79°.82W±0°.07, h10km, n20, σ1¶17/21, mb3.6/3, 1C, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AZU	**Azuero**	**0.78**	**324**	⇑*iP*	**Pg**	**20 25 21.1**	**-0.5**
AZU				*eS*	**Sg**	**20 25 31.6**	**-0.2**
AZU				*i*		20 25 35.0	
	comp=Z,4μm,0.3s						
UPA	**Univ. de Panam**	**1.84**	**9**	*eP*	**Pn**	**20 25 37.6**	**-0.5**
BCIP	**Isla Barro Col**	**2.00**	**359**	*eP*	**Pn**	**20 25 40.6**	**+0.2**
BCIP				*i*		20 25 47.3	
	comp=Z,562nm,0.6s						
BCIP				*eS*	**Sn**	**20 26 05.8**	**+0.2**
UPD2	**Meteti**	**2.26**	**52**	*eP*	**Pn**	**20 25 44.4**	**+0.4**
CAPC	**Capurgana**	**2.85**	**59**	*eP*	**Pn**	**20 25 51.9**	**-0.2**
CAPC				*eS*	**Sn**	**20 26 27.4**	**+0.9**
DBBC	**Dabeiba**	**3.58**	**92**	*eP*	**Pn**	**20 26 01.8**	**-0.4**
HELC	**Santa Helena**	**4.36**	**102**	*eP*	**Pn**	**20 26 13.2**	**0.0**
HELC				*eS*	**Sn**	**20 27 05.3**	**+1.0**
MOTC	**Monteria, Cord**	**4.42**	**68**	*eP*	**Pn**	**20 26 14.7**	**+1.1**
GUYC	**Guyana, Colomb**	**4.80**	**113**	*eP*	**Pn**	**20 26 18.8**	**-0.5**
ZARC	**Zaragoza, Cauc**	**4.93**	**86**	*eP*	**Pn**	**20 26 21.5**	**+0.8**
ZARC				*i*		20 26 23.8	
	comp=Z,37nm,0.8s						
JTS	**JuntasAbangare**	**5.96**	**302**	Pn	**Pn**	**20 26 36.1**	**+1.2**
	comp=Z,1.8nm,0.3s,baz=129,slow=13,SNR=8.1						
JTS				Lg	Lg	20 28 06.6	
	baz=4.1,slow=20,SNR=3.6						
JTS				LR	LR	20 28 57.9	
	comp=Z,371nm,21.4s,baz=183,slow=39						
SDV	**Santo Domingo**	**9.26**	**79**	Pn	**Pn**	**20 27 22.5**	**+2.2**
	comp=Z,0.6nm,0.3s,baz=265,slow=12,SNR=7.3						
SDV				Sn	**Sn**	**20 29 01.0**	**-3.6**
	comp=Z,0.6nm,0.3s,baz=356,slow=14,SNR=2.8						
SJG	**San Juan**	**17.20**	**49**	LR	LR	20 35 02.4	
	comp=Z,52nm,19.4s,baz=270,slow=34						
PTGA	**Pitinga**	**21.29**	**111**	P	**P**	**20 29 53.6**	**0.0**
	comp=Z,1.0nm,0.3s,baz=266,slow=13,SNR=4.9						
PTGA				LR	LR	20 38 29.1	
	comp=Z,69nm,18.1s,baz=273,slow=38						
LPAZ	**La Paz**	**26.00**	**154**	LR	LR	20 41 45.0	
	comp=Z,24nm,21.2s,baz=18,slow=39						
BDFB	**Brasilia**	**38.80**	**126**	LR	LR	20 48 53.0	
	comp=Z,63nm,19.3s,baz=44,slow=37						
PDAR	**Pinedale Array**	**44.10**	**328**	P	**P**	**20 33 15.6**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=120,slow=6.5,SNR=2.7						
NVAR	**Mina Array Bea**	**46.64**	**318**	P	**P**	**20 33 36.0**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=134,slow=7.6,SNR=3.0						
ASAR	**Alice Springs**	**143.72**	**239**	PKP	PKPab	20 44 39.3	-0.2
	comp=Z,0.4nm,0.8s,baz=117,slow=3.5,SNR=3.7						
WRA	**Warramunga Arr**	**144.53**	**246**	PKP	**PKPab**	**20 44 42.6**	**0.0**
	comp=Z,0.6nm,0.8s,baz=103,slow=3.5,SNR=10						

*ISCJB **01** 20:34:14.5±0.5, 86°.77N±0°.07×5°.3E±°, h10km, mb3.8/9, MS3.4/14, Error ellipse: s-maj=15.0km s-min=9.4km az=171.8*
*IDC **01** 20:34:15.2±0.8, 86°.80N×53°.52E, h0km, mb3.8/8, mb1 4.1/12, mb1mx3.8/55, mbtmp3.8/12, ML3.5/4, MS3.4/17, Ms1 3.4/17, ms1mx3.2/37, Error ellipse: s-maj=25.8km s-min=15.2km az=78.0*
*NEIC **01** 20:34:16.6±0.5, 86°.80N×52°.24E, h10km, mb4.4/1, Error ellipse: s-maj=14.2km s-min=8.4km az=91.0*

ISC 01 20:34:16.4±0.7, 86.73N±0°.08×51.3E±0°.1, h10km, n22, σ1¶43/15, mb3.9/9, MS3.3/14, North of Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPITS	**Spitsbergen Ar**	**9.39**	**226**	Pn	**Pn**	**20 36 32.9**	**+1.4**
	baz=35,slow=15,SNR=25						
SPITS				Sn	**Sn**	**20 38 13.8**	**-3.0**
	baz=36,slow=20,SNR=2.6						
SPITS				LR	LR	20 39 07.8	
	comp=Z,64nm,18.1s,baz=300,slow=31						
ARCES	**ARCESS Array B**	**17.68**	**210**	P	**P**	**20 38 23.0**	**-0.2**
	0.1nm,0.3s,baz=6.0,slow=11,SNR=2.7						
NRIK	**Noril'sk**	**18.23**	**138**	P	**Pn**	**20 38 27.1**	**-1.9**
	0.7nm,0.3s,baz=351,slow=13,SNR=2.9						
NRIK				LR	LR	20 46 18.9	
	comp=Z,164nm,19.0s,baz=52,slow=40						
RES	**Resolute Bay**	**18.24**	**332**	P	**Pn**	**20 38 27.3**	**-1.7**
	0.1nm,0.3s,baz=45,slow=9.1,SNR=2.8						
RES				LR	LR	20 45 33.5	
	comp=Z,58nm,19.6s,baz=346,slow=37						
SFJD	**Kangerlussuaq**	**24.03**	**289**	LR	LR	20 48 15.9	
	comp=Z,107nm,19.0s,baz=54,slow=35						
INK	**Inuvik**	**25.11**	**4**	LR	LR	20 50 49.1	
	comp=Z,56nm,18.4s,baz=46,slow=40						
NOA	**NORSAR Array B**	**26.68**	**224**	LR	LR	20 50 52.0	
	comp=Z,26nm,18.2s,baz=300,slow=37						
YAK	**Yakutsk**	**27.64**	**95**	LR	LR	20 50 31.2	
	comp=Z,82nm,21.3s,baz=280,slow=36						
FRB	**Frobisher Bay**	**28.18**	**305**	LR	LR	20 50 34.3	
	comp=Z,79nm,18.3s,baz=25,slow=35						
ILAR	**Eielson Array**	**28.52**	**16**	P	**P**	**20 40 11.2**	**-0.2**
	1.5nm,0.9s,baz=357,slow=7.1,SNR=9.7						
ILAR				LR	LR	20 52 40.2	
	comp=Z,34nm,18.9s,baz=21,slow=39						
ZALV	**Zalesovo Beam**	**33.53**	**144**	P	**P**	**20 40 55.0**	**-0.6**
	0.2nm,0.3s,baz=9.9,slow=9.2,SNR=3.8						
ZALV				LR	LR	20 55 04.8	
	comp=Z,24nm,18.6s,baz=72,slow=37						
GERES	**GERESS Array B**	**38.78**	**220**	P	**P**	**20 41 42.8**	**+2.2**
	0.6nm,0.8s,baz=27,slow=8.8,SNR=4.3						
MKAR	**Makanchi Array**	**40.60**	**147**	P	**P**	**20 41 56.5**	**+0.8**
	1.7nm,0.9s,baz=19,slow=7.9,SNR=9.0						
MKAR				LR	LR	21 00 46.9	
	comp=Z,70nm,18.3s,baz=349,slow=39						
ULM	**Lac du Bonnet**	**42.74**	**329**	LR	LR	20 59 10.8	
	comp=Z,51nm,19.6s,baz=51,slow=35						
KBZ	**Khabaz**	**43.21**	**189**	LR	LR	21 02 34.6	
	comp=Z,45nm,21.1s,baz=27,slow=39						
GEYT	**Alibeck**	**48.99**	**173**	LR	LR	21 08 26.1	
	comp=Z,40nm,18.1s,baz=345,slow=42						
PDAR	**Pinedale Array**	**50.55**	**342**	P	**P**	**20 43 14.2**	**-0.4**
	1.3nm,0.9s,baz=13,slow=5.9,SNR=5.4						
PDAR				LR	LR	21 04 48.3	
	comp=Z,49nm,19.2s,baz=22,slow=36						
HWUT	**Hardware Ranch**	**51.74**	**344**	*eP*	**P**	**20 43 23.9**	**+0.3**
	6.8nm,1.3s						
NVAR	**Mina Array Bea**	**55.00**	**350**	P	**P**	**20 43 48.5**	**+0.9**
	1.5nm,0.9s,baz=358,slow=4.6,SNR=6.6						
WMOK	**Wichita Mounta**	**58.31**	**331**	*eP*	**P**	**20 44 11.1**	**+0.2**
TXAR	**Lajitas Array**	**63.82**	**336**	P	**P**	**20 44 48.3**	**-0.2**
	1.5nm,0.9s,baz=0.0,slow=3.1,SNR=7.9						
TXAR				LR	LR	21 13 37.0	
	comp=Z,117nm,18.0s,baz=0.0,slow=37						
CMAR	**Chiang Mai Arr**	**69.46**	**132**	P	**P**	**20 45 24.6**	**+0.2**
	1.1nm,0.7s,baz=346,slow=8.3,SNR=9.8						
CMAR				LR	LR	21 17 25.1	
	comp=Z,37nm,18.9s,baz=18,slow=37						

MAN 01 20:44:25.3, 10°.04N×126°.17E, h22km, mb4.5, ML3.4, MS3.2, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.19**	**207**	*eP*	Pn	20 44 45.1	-1.6
BUTP				*eS*	Sn	20 45 02.0	-0.1
MSLP	**Maasin**	**1.30**	**274**	*eP*	Pn	20 44 48.2	+0.1
MSLP				*eS*	Sb	20 45 05.5	+0.3
PLP	**Palo**	**1.62**	**314**⇓	*eP*	Pn	20 44 51.9	-0.8
PLP				*eS*	Sn	20 45 11.6	-1.3
BESP	**Borongan**	**1.72**	**335**	*eP*	Pn	20 44 55.9	-0.2
CGP	**Cagayan de Oro**	**2.15**	**223**⇓	*eP*	Pn	20 45 00.4	+0.6
CGP				*eS*	Sn	20 45 25.7	0.0
LLP	**Lapu-Lapu**	**2.19**	**278**	*eP*	Pn	20 45 01.2	+0.8
LLP				*eS*	Sn	20 45 27.6	+0.7
BUKP	**Musuan**	**2.41**	**207**	*eP*	Pn	20 45 05.4	+2.0
BUKP				*eS*	Sn	20 45 34.1	+1.9
CNP	**Catarman**	**2.87**	**329**	*eP*	Pn	20 45 10.0	+0.2
RCP	**Roxas**	**3.69**	**295**⇑	*eP*	Pn	20 45 22.9	+1.8

MAN 01 21:26:56.8, 10°.14N×123°.23E, h1km, mb3.9, ML2.6, MS2.2, 2C, Cebu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LLP	**Lapu-Lapu**	**0.75**	**76**⇑	*eP*	Pg	21 27 11.2	0.0
LLP				*i* S	Sb	21 27 22.1	-1.2
TBP	**Tagbilaran**	**0.77**	**125**	*eP*	Pg	21 27 11.8	+0.3
GUIM	**Jordan**	**0.80**	**308**	*eP*	Pg	21 27 11.7	-0.3
GUIM				*eS*	Sb	21 27 24.1	-0.6
RCP	**Roxas**	**1.49**	**342**⇑	*eP*	Pg	21 27 25.5	+0.1
MSLP	**Maasin**	**1.61**	**90**	*eP*	Pn	21 27 26.0	-0.3
MSLP				*eS*	Sg	21 27 48.3	-0.1

MAN 01 21:36:49.4, 12°.01N×125°.88E, h26km, mb4.2, ML3.0, MS2.7, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.59**	**227**	*eP*	Pn	21 37 01.8	-0.3
BESP				*eS*	Sn	21 37 11.4	+0.5
PLP	**Palo**	**1.21**	**227**⇑	*eP*	Pn	21 37 10.7	0.0
PLP				*eS*	Sb	21 37 26.8	-0.2
CNP	**Catarman**	**1.29**	**293**	*eP*	Pn	21 37 11.3	-0.4
CNP				*eS*	Sb	21 37 29.1	-0.1
OCLP	**Ormoc**	**1.56**	**233**	*eP*	Pb	21 37 17.0	-0.7
PVCP	**Virac**	**2.31**	**313**	*eP*	Pn	21 37 25.9	+0.2

*CNRM **01** 21:50:55.1, 36°.76N×12°.95W, h60km*
*MDD **01** 21:50:58.9±1.5, 37°.26N×12°.77W, h0km, mb4.2/25, Error ellipse: s-maj=13.4km s-min=10.9km az=57.0, PRXIMO*

*IGIL **01** 21:50:58.5, 37°.15N×12°.96W, h16km, ML3.0*
*LDG **01** 21:50:59.1±0.5, 37°.13N×13°.04W, h20km, Ml3.3/3, Error ellipse: s-maj=9.4km s-min=8.0km az=37.0*
*INMG **01** 21:51:00.5±1.9, 37°.09N×13°.13W, h10km, ML2.9, Error ellipse: s-maj=6.7km s-min=4.6km az=88.0*

ISC 01 21:50:56.7±3.2, 37°.32N±0°.08×12°.9W±0°.1, h10km, n87, σ2¶09/149, 2C-2D, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**3.22**	**92**	*e*Pn	**Pn**	**21 51 47.6**	**+0.4**
PFVI				*e*Sn	**Sn**	**21 52 23.6**	**-2.0**
PFVI				A	A	21 52 31.9	
	11nm,0.3s						
PFVI	**Vila Bisbo**	**3.22**	**92**	⇑P	**Pn**	**21 51 47.7**	**+0.4**
	7.8nm,0.1s,SNR=18						
PFVI				S	**Sn**	**21 52 24.6**	**-1.0**
	10nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.22**	**92**	P	**Pn**	**21 51 44.9**	**-2.4**
PFVI	**Vila Bisbo**	**3.22**	**92**	S	**Sn**	**21 52 22.4**	**-3.2**
PMST	**Lisbon--Monsan**	**3.23**	**63**	*e*Pn	**Pn**	**21 51 49.0**	**+1.6**
PMST				*e*Sn	**Sn**	**21 52 26.7**	**+0.9**
PMST				A	A	21 52 34.3	
	34nm,0.3s						
PMAFR	**Mafra**	**3.25**	**59**	*e*Pn	**Pn**	**21 51 49.8**	**+2.0**
PMAFR				*e*Sn	**Sn**	**21 52 27.3**	**+0.7**
PMAFR				A	A	21 52 29.8	
	57nm,0.2s						
PMAFR	**Mafra**	**3.25**	**59**	⇑P	**Pn**	**21 51 49.8**	**+2.0**
	20nm,0.2s,SNR=18						
PMAFR				S	**Sn**	**21 52 27.6**	**+1.0**
	41nm,0.2s,SNR=9.1						
PTEO	**Sao Teotonio**	**3.29**	**85**	*e*Pn	**Pn**	**21 51 49.4**	**+1.1**
PTEO				*e*Sn	**Sn**	**21 52 26.9**	**-0.6**
PTEO				A	A	21 52 34.8	
	13nm,0.3s						
PTEO	**Sao Teotonio**	**3.29**	**85**	P	**Pn**	**21 51 49.4**	**+1.1**
PTEO				S	**Sn**	**21 52 26.9**	**-0.6**
	6.3nm,0.3s						
MORF	**Marmelete**	**3.35**	**89**	*e*P	**Pn**	**21 51 49.7**	**+0.6**
MORF	**Marmelete**	**3.35**	**89**	*e*Pn	**Pn**	**21 51 49.7**	**+0.6**
MORF				*e*Sn	**Sn**	**21 52 30.0**	**+1.0**
MORF				A	A	21 52 33.5	
	9.6nm,0.2s						
MORF	**Marmelete**	**3.35**	**89**	P	**Pn**	**21 51 49.7**	**+0.6**
MORF				S	**Sn**	**21 52 30.0**	**+1.0**
	9.6nm,0.2s						
MESJ	**Messejana**	**3.72**	**81**	*e*P	**Pn**	**21 51 55.1**	**+1.0**
MESJ				*e*S	**Sn**	**21 52 36.4**	**-1.6**
MESJ				AML	AML	21 52 42.5	
	comp=N,28nm,0.5s						
MESJ	**Messejana**	**3.72**	**81**	*e*Pn	**Pn**	**21 51 55.1**	**+1.0**
MESJ				*e*Sn	**Sn**	**21 52 36.6**	**-1.3**
MESJ				A	A	21 52 42.2	
	comp=N,13nm,0.4s						
MESJ	**Messejana**	**3.72**	**81**	P	**Pn**	**21 51 55.1**	**+1.0**
MESJ				S	**Sn**	**21 52 36.4**	**-1.6**
	comp=N,28nm,0.5s						
ALMR	**Almeirim**	**3.83**	**60**	*e*P	**Pn**	**21 51 58.1**	**+2.4**
ALMR				*e*S	**Sn**	**21 52 40.9**	**+0.1**
ALMR				AML	AML	21 52 45.3	
	comp=N,50nm,0.3s						
ALMR	**Almeirim**	**3.83**	**60**	*e*Pn	**Pn**	**21 51 58.5**	**+2.8**
ALMR				*e*Sn	**Sn**	**21 52 41.6**	**+0.8**
ALMR				A	A	21 52 48.1	
	comp=N,44nm,0.6s						
ALMR	**Almeirim**	**3.83**	**60**	P	**Pn**	**21 51 58.1**	**+2.4**
ALMR				S	**Sn**	**21 52 40.9**	**+0.1**
	comp=N,25nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.92**	**90**	*e*Pn	**Pn**	**21 51 58.1**	**+1.1**
PBDV				*e*Sn	**Sn**	**21 52 43.1**	**0.0**
PBDV				A	A	21 52 50.6	
	comp=N,14nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.92**	**90**	P	**Pn**	**21 51 58.1**	**+1.1**
PBDV				S	**Sn**	**21 52 43.1**	**0.0**
	comp=N,14nm,0.3s						
EVO	**Evora**	**4.01**	**71**	*e*Pn	**Pn**	**21 52 01.7**	**+3.5**
EVO				*e*Sn	**Sn**	**21 52 45.9**	**+0.6**
EVO				A	A	21 52 54.3	
	comp=N,8.1nm,0.1s						
EVO	**Evora**	**4.01**	**71**	P	**Pn**	**21 52 01.7**	**+3.5**
EVO				S	**Sn**	**21 52 45.9**	**+0.6**
	comp=N,8.1nm,0.1s						
EVO	**Evora**	**4.01**	**71**	*e*P	**Pn**	**21 52 01.3**	**+3.1**
EVO				*e*S	**Sn**	**21 52 45.5**	**+0.2**
PBEJ	**Beja**	**4.02**	**78**	*e*Pn	**Pn**	**21 52 01.3**	**+3.0**
PBEJ				*e*Sn	**Sn**	**21 52 44.5**	**-0.9**
PBEJ				A	A	21 52 50.3	
	comp=N,25nm,0.2s						
PBEJ	**Beja**	**4.02**	**78**	P	**Pn**	**21 52 01.3**	**+3.0**

PGAV	**Gavieira, Arco**	**5.83**	**36**	*e*Pn		**Pn**	**21 52 26.3**	**+3.0**
PGAV				*e*Sn		**Sn**	**21 53 28.7**	**-1.6**
PGAV				A		A	21 53 38.0	
	comp=N,9.9nm,0.9s							
ELOB	**Lobios**	**5.86**	**38**	P		**Pn**	**21 52 26.7**	**+3.0**
	comp=N,0.9nm,0.2s,SNR=5.7							
ELOB				S		**Sn**	**21 53 28.3**	**-2.6**
	comp=N,2.0nm,0.2s,SNR=4.6							
MVO	**Moncorvo**	**5.93**	**48**	*e*Pn		**Pn**	**21 52 26.8**	**+2.2**
MVO				*e*Sn		**Sn**	**21 53 30.1**	**-2.6**
MVO				A		A	21 53 32.4	
	comp=N,11nm,0.5s							
MVO	**Moncorvo**	**5.93**	**48**	P		**Pn**	**21 52 26.8**	**+2.2**
	comp=N,5.8nm,0.2s,SNR=13							
MVO				S		**Sn**	**21 53 30.0**	**-2.6**
	comp=N,5.8nm,0.2s,SNR=5.7							
ECAB	**El Cabril**	**5.94**	**80**	⇓P		**Pn**	**21 52 25.9**	**+1.2**
	comp=N,5.2nm,0.2s,SNR=18							
ECAB				S		**Sn**	**21 53 30.5**	**-2.4**
	comp=N,1.2nm,0.2s,SNR=7.9							
EPLA	**Plasencia**	**5.96**	**61**	P		**Pn**	**21 52 27.5**	**+2.4**
	comp=N,4.3nm,0.2s,SNR=33							
EPLA				S		**Sn**	**21 53 31.7**	**-1.7**
	comp=N,3.2nm,0.2s,SNR=5.9							
HORN	**Hornachuelos**	**6.05**	**83**	P		**Pn**	**21 52 24.0**	**-2.3**
HORN	**Hornachuelos**	**6.05**	**83**	S		**Sn**	**21 53 35.2**	**-0.4**
EMAZ	**Mazaricos**	**6.36**	**27**	P		**Pn**	**21 52 32.1**	**+1.7**
	comp=N,0.8nm,0.2s,SNR=7.9							
EMAZ				S		**Sn**	**21 53 37.7**	**-5.4**
	comp=N,3.1nm,0.2s,SNR=7.9							
PBRG	**Braganca**	**6.51**	**45**	*e*Pn		**Pn**	**21 52 34.2**	**+1.7**
PBRG				*e*Sn		**Sn**	**21 53 44.5**	**-2.3**
PBRG				A		A	21 53 50.1	
	comp=N,4.3nm,0.6s							
PBRG	**Braganca**	**6.51**	**45**	Pn		**Pn**	**21 52 34.2**	**+1.7**
PBRG				Sn		**Sn**	**21 53 44.5**	**-2.3**
	comp=N,2.2nm,0.6s							
EAGO	**Agolada(Pontev**	**6.58**	**32**	P		**Pn**	**21 52 35.6**	**+2.0**
	comp=N,1.0nm,0.2s,SNR=7.9							
EAGO				S		**Sn**	**21 53 43.2**	**-5.4**
	comp=N,1.4nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**6.60**	**44**	P		**Pn**	**21 52 36.3**	**+2.5**
	comp=N,5.7nm,0.3s,SNR=5.6							
ECAL				S		**Sn**	**21 53 48.2**	**-1.0**
	comp=N,0.8nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**6.61**	**80**	P		**Pn**	**21 52 35.4**	**+1.5**
	comp=N,3.7nm,0.2s,SNR=49							
EADA				S		**Sn**	**21 53 46.2**	**-3.2**
	comp=N,1.1nm,0.2s,SNR=7.9							
EGOR	**Sierra Gorda,**	**6.98**	**89**	P		**Pn**	**21 52 39.8**	**+0.7**
	comp=N,1.4nm,0.4s,SNR=7.9							
EGOR				S		**Sn**	**21 53 56.1**	**-2.5**
	comp=N,0.8nm,0.4s,SNR=7.9							
PAB	**San Pablo**	**7.04**	**69**	P		**Pn**	**21 52 41.1**	**+1.3**
	comp=N,0.3nm,0.1s,SNR=7.9							
PAB				S		**Sn**	**21 53 57.0**	**-2.9**
	comp=N,0.0nm,0.1s,SNR=7.9							
ESDC	**Sonseca Array**	**7.36**	**69**	P		**Pn**	**21 52 45.3**	**+1.1**
	comp=N,17nm,0.1s,baz=254,slow=13,SNR=79							
ESDC				S		**Sn**	**21 54 04.0**	**-3.8**
	comp=N,1.1nm,0.3s,baz=254,slow=23,SNR=4.2							
ELGU	**Los Guajares,**	**7.39**	**91**	P		**Pn**	**21 52 46.0**	**+1.3**
	comp=N,0.9nm,0.2s,SNR=7.9							
ELGU				S		**Sn**	**21 54 08.3**	**-0.2**
	comp=N,3.9nm,0.3s,SNR=7.9							
EPON	**Pontenova**	**7.42**	**34**	P		**Pn**	**21 52 46.8**	**+1.9**
	comp=N,1.1nm,0.3s,SNR=7.9							
EPON				S		**Sn**	**21 54 05.9**	**-3.2**
	comp=N,2.2nm,0.3s,SNR=7.9							
EQUE	**Quentar**	**7.51**	**88**	P		**Pn**	**21 52 47.6**	**+1.3**
	comp=N,0.6nm,0.3s,SNR=4.8							
EQUE				S		**Sn**	**21 54 10.2**	**-1.3**
	comp=N,0.9nm,0.3s,SNR=7.9							
GUD	**Guadarrama**	**7.54**	**61**	S		**Sn**	**21 54 09.4**	**-3.1**
	comp=N,0.6nm,0.1s,SNR=7.9							
TTIG	**Tnine Tigouga,**	**7.68**	**150**	P		Pn	21 52 37.2	-11
EQES	**Quesada**	**7.78**	**83**	P		**Pn**	**21 52 51.5**	**+1.4**
	comp=N,0.3nm,0.1s,SNR=13							
EQES				S		**Sn**	**21 54 15.8**	**-2.5**
	comp=N,0.5nm,0.3s,SNR=7.9							
UCM	**Universidad Co**	**8.07**	**65**	*e*S		**Sn**	**21 54 26.9**	**+1.5**
MDT	**Midelt**	**8.11**	**121**	P		Pn	21 52 47.3	-7.3
ETOB	**Tobarra**	**9.02**	**78**	P		**Pn**	**21 53 07.1**	**0.0**
	comp=N,0.1nm,0.1s,SNR=7.4							
IELO	**Elcoad**	**10.47**	**55**	P		**Pn**	**21 53 29.6**	**+2.8**
	comp=N,5.2nm,0.3s,SNR=7.9							
SJPF	**Ste Jean**	**10.61**	**53**	*e*Pn		**Pn**	**21 53 30.9**	**+2.2**
SJPF				*e*Sn		**Sn**	**21 55 23.9**	**-3.6**
	comp=N,1.2nm,0.6s							
SJPF	**Ste Jean**	**10.61**	**53**	P		**Pn**	**21 53 30.9**	**+2.2**
SJPF				S		**Sn**	**21 55 23.9**	**-3.6**
	comp=N,0.6nm,0.6s							
ATE	**Arette**	**10.93**	**54**	P		**Pn**	**21 53 35.9**	**+2.8**
	comp=N,0.1nm,0.1s,SNR=7.9							
ETSF	**Etsaut**	**10.94**	**56**	*e*Pn		**Pn**	**21 53 35.7**	**+2.4**
ETSF				*e*Sn		**Sn**	**21 55 32.8**	**-2.9**
	comp=N,1.3nm,0.4s							
ETSF	**Etsaut**	**10.94**	**56**	P		**Pn**	**21 53 35.7**	**+2.4**
ETSF				S		**Sn**	**21 55 32.8**	**-2.9**
	comp=N,0.6nm,0.4s							
EPF	**Esparros**	**11.59**	**56**	*e*Pn		**Pn**	**21 53 45.3**	**+3.2**
EPF				*e*Sn		**Sn**	**21 55 47.8**	**-3.8**
	comp=N,0.5nm,0.3s							
EPF	**Esparros**	**11.59**	**56**	P		**Pn**	**21 53 45.3**	**+3.2**
EPF				S		**Sn**	**21 55 47.8**	**-3.8**
	comp=N,0.2nm,0.3s							
CSOR	**Sort**	**11.87**	**60**	P		**Pn**	**21 53 48.4**	**+2.3**
	comp=N,0.9nm,0.4s,SNR=7.9							
CFON	**Fontmartina**	**12.61**	**65**	P		**Pn**	**21 53 56.9**	**+0.8**
	comp=N,1.2nm,0.2s,SNR=7.9							

*IDC **01** 21:55:25.6±1.3,57.˝60S×25.˝73W,h0km,mb3.6/3, mb1 3.6/3,mb1mx3.5/27,mbtmp3.6/3,Error ellipse: s-maj=60.9km s-min=28.5km az=86.0*
*ISCJB **01** 21:55:30.4±1.9,57.˝6S±0.˝1×25.˝6W±0.˝8,h43km,mb3.5/3, Error ellipse: s-maj=64.6km s-min=19.3km az=172.3*
ISC 01 21:55:32.0±1.5,57.˝6S±0.˝2×25.˝6W±0.˝4,h43km,n8,σ0§43/8, mb3.5/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.98**	**157**	P	**Pn**	**21 59 00.8**	**+0.4**
VNA3	**Neumayer Olymp**	**15.19**	**160**	P	**Pn**	**21 59 03.2**	**0.0**
VNA2	**Neumayer--Watz**	**15.38**	**157**	P	**Pn**	**21 59 05.7**	**+0.1**
	baz=320,slow=14						
SNAA	**Sanae**	**16.92**	**155**	P	**P**	**21 59 26.5**	**-0.3**
MAW	**Mawson**	**38.34**	**142**	P	**P**	**22 02 47.8**	**-0.3**
	0.4nm,0.6s,baz=243,slow=6.8,SNR=3.8						
VNDA	**Vanda**	**45.02**	**182**	P	**P**	**22 03 42.9**	**+0.4**
	0.4nm,0.5s,baz=183,slow=5.0,SNR=6.8						
TORD	**Torodi Ar. Bea**	**74.04**	**28**	P	**P**	**22 07 03.4**	**+0.3**
	0.4nm,0.5s,baz=200,slow=5.6,SNR=10						
ILAR	**Eielson Array**	**151.82**	**309**	PKPbc	**PKPbc**	**22 15 19.8**	**-0.6**
	0.6nm,0.7s,baz=125,slow=1.9,SNR=6.7						

*MDD **01** 22:10:10.9±1.6,37.˝22N×12.˝73W,h0km,mb4.0/17,Error ellipse: s-maj=14.2km s-min=12.4km az=64.0,PRXIMO*
*IGIL **01** 22:10:11.5,37.˝15N×13.˝00W,h40km,ML2.5*
*LDG **01** 22:10:12.0±0.7,37.˝21N×12.˝99W,h20km,Ml3.6/3,Error ellipse: s-maj=12.2km s-min=11.6km az=59.0*
*INMG **01** 22:10:12.5±1.1,37.˝09N×13.˝14W,h10km,ML2.5,Error ellipse: s-maj=5.8km s-min=4.0km az=90.0*
ISC 01 22:10:07.1±3.2,37.˝27N±0.˝08×12.˝8W±0.˝1,h10km,n67, σ2§86/115,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.19**	**91**	*e*Pn	**Pb**	**22 10 59.7**	**-4.2**
PFVI				*e*Sn	**Sn**	**22 11 34.8**	**-0.6**
PFVI				A	A	22 11 49.2	
	6.8nm,1.1s						
PFVI	**Vila Bisbo**	**3.19**	**91**	P	**Pb**	**22 10 59.6**	**-4.2**
	1.8nm,0.1s,SNR=13						
PFVI				S	**Sn**	**22 11 34.8**	**-0.6**
	1.2nm,0.1s,SNR=7.9						
PMST	**Lisbon--Monsan**	**3.23**	**62**	*e*Sn	**Sn**	**22 11 38.4**	**+2.2**
PMST				A	A	22 11 42.8	
	18nm,0.7s						
PMAFR	**Mafra**	**3.26**	**58**	*e*Pn	**Pb**	**22 11 01.8**	**-3.2**
PMAFR				*e*Sn	**Sn**	**22 11 40.1**	**+3.0**
PMAFR				A	A	22 11 43.2	
	23nm,0.3s						
PMAFR	**Mafra**	**3.26**	**58**	P	**Pb**	**22 11 01.8**	**-3.2**
	6.6nm,0.1s,SNR=16						
PMAFR				S	**Sn**	**22 11 39.3**	**+2.2**
	4.0nm,0.2s,SNR=8.6						
PTEO	**Sao Teotonio**	**3.27**	**84**	*e*Pn	**Pb**	**22 11 01.4**	**-3.8**
PTEO				*e*Sn	**Sn**	**22 11 38.2**	**+0.8**
PTEO				A	A	22 11 47.2	
	7.9nm,0.8s						
PTEO	**Sao Teotonio**	**3.27**	**84**	P	**Pb**	**22 11 01.4**	**-3.8**
PTEO				S	**Sn**	**22 11 38.2**	**+0.8**
	4.0nm,0.8s						
MORF	**Marmelete**	**3.32**	**88**	*e*P	**Pb**	**22 11 01.7**	**-4.4**
MORF				*e*S	**Sn**	**22 11 38.8**	**+0.1**
MORF				AML	AML	22 11 44.5	
	comp=N,12nm,0.2s						
MORF	**Marmelete**	**3.32**	**88**	*e*Pn	**Pb**	**22 11 02.0**	**-4.2**
MORF				*e*Sn	**Sn**	**22 11 40.9**	**+2.1**
MORF				A	A	22 11 46.6	
	comp=N,6.0nm,0.2s						
MORF	**Marmelete**	**3.32**	**88**	P	**Pb**	**22 11 01.7**	**-4.4**
MORF				S	**Sn**	**22 11 38.8**	**+0.1**
	comp=N,12nm,0.2s						
MESJ	**Messejana**	**3.70**	**80**	*e*P	**Pn**	**22 11 07.1**	**+2.8**
MESJ				*e*S	**Sn**	**22 11 47.7**	**-0.2**
MESJ				AML	AML	22 11 54.4	
	comp=N,10nm,0.3s						
MESJ	**Messejana**	**3.70**	**80**	*e*Pn	**Pb**	**22 11 08.1**	**-4.4**
MESJ				*e*Sn	**Sn**	**22 11 47.9**	**0.0**
MESJ				A	A	22 11 54.3	
	comp=N,5.3nm,0.2s						
MESJ	**Messejana**	**3.70**	**80**	P	**Pn**	**22 11 07.1**	**+2.8**
MESJ				S	**Sn**	**22 11 47.7**	**-0.2**
	comp=N,10nm,0.3s						
ALMR	**Almeirim**	**3.84**	**59**	*e*P	**Pn**	**22 11 09.7**	**+3.5**
ALMR	**Almeirim**	**3.84**	**59**	*e*Pn	**Pb**	**22 11 11.3**	**-3.6**
ALMR				*e*Sn	**Sn**	**22 11 54.0**	**+2.7**
ALMR				A	A	22 11 58.5	
	comp=N,19nm,0.8s						
ALMR	**Almeirim**	**3.84**	**59**	P	**Pn**	**22 11 09.7**	**+3.5**
ALMR				S	**Sn**	**22 11 54.0**	**+2.7**
	comp=N,9.3nm,0.8s						
PBDV	**Barranco-do-Ve**	**3.90**	**89**	*e*Pn	Pb	22 11 10.3	-5.7
PBDV				*e*Sn	**Sn**	**22 11 54.1**	**+1.2**
PBDV				A	A	22 12 02.2	
	comp=N,4.1nm,0.5s						
PBDV	**Barranco-do-Ve**	**3.90**	**89**	P	Pb	22 11 10.3	-5.7
PBDV				S	**Sn**	**22 11 54.1**	**+1.2**
	comp=N,4.1nm,0.5s						
PBEJ	**Beja**	**4.00**	**78**	*e*Pn	**Pb**	**22 11 13.3**	**-4.4**
PBEJ				*e*Sn	**Sn**	**22 11 56.3**	**+0.8**
PBEJ				A	A	22 12 02.2	
	comp=N,7.8nm,0.3s						
PBEJ	**Beja**	**4.00**	**78**	P	**Pb**	**22 11 13.3**	**-4.4**
PBEJ				S	**Sn**	**22 11 56.3**	**+0.8**
	comp=N,3.9nm,0.3s						
EVO	**Evora**	**4.00**	**70**	*e*Pn	**Pb**	**22 11 13.8**	**-3.9**
EVO				*e*Sn	**Sn**	**22 11 58.1**	**+2.6**
EVO				A	A	22 12 04.6	
	comp=N,7.8nm,0.2s						
EVO	**Evora**	**4.00**	**70**	P	**Pb**	**22 11 13.8**	**-3.9**
EVO				S	**Sn**	**22 11 58.1**	**+2.6**
	comp=N,7.8nm,0.2s						
EVO	**Evora**	**4.00**	**70**	*e*P	**Pb**	**22 11 14.2**	**-3.5**
EVO				EeS		22 11 57.6	
PVAQ	**Vaqueiros**	**4.07**	**87**	*e*Pn	**Pn**	**22 11 12.4**	**+3.0**
PVAQ				*e*Sn	**Sn**	**22 11 57.4**	**+0.3**
PVAQ				A	A	22 12 03.1	
	comp=N,6.8nm,0.3s						
PVAQ	**Vaqueiros**	**4.07**	**87**	P	**Pn**	**22 11 12.4**	**+3.0**
PVAQ				S	**Sn**	**22 11 57.4**	**+0.3**
	comp=N,6.8nm,0.3s						
PTOM	**Tomar**	**4.18**	**55**	*e*Pn	Pn	22 11 15.3	+4.4
PTOM				*e*Sn	**Sn**	**22 12 01.4**	**+1.6**
PTOM				A	A	22 12 07.2	
	comp=N,10nm,0.3s						
PTOM	**Tomar**	**4.18**	**55**	P	Pn	22 11 15.3	+4.4
PTOM				S	**Sn**	**22 12 01.4**	**+1.6**
	comp=N,5.2nm,0.3s						
EGRO	**El Granado**	**4.26**	**85**	P	**Pn**	**22 11 15.2**	**+3.3**
	comp=N,1.4nm,0.1s,SNR=14						
EGRO				S	**Sn**	**22 12 02.1**	**+0.4**
	comp=N,2.3nm,0.3s						
PCAS	**Casmilo, Conde**	**4.38**	**49**	*e*Pn	**Pn**	**22 11 17.8**	**+4.2**
PCAS				*e*Sn	**Sn**	**22 12 05.6**	**+0.9**
PCAS				A	A	22 12 13.6	
	comp=N,5.3nm,0.6s						
PESTR	**Estremoz**	**4.42**	**67**	*e*Pn	**Pn**	**22 11 18.0**	**+3.7**
PESTR				*e*Sn	**Sn**	**22 12 06.5**	**+0.6**
PESTR				A	A	22 12 11.6	
	comp=N,4.6nm,0.4s						
PMRV	**Marv??o**	**4.78**	**62**	*e*Pn	**Pn**	**22 11 22.6**	**+3.4**
PMRV				*e*Sn	**Sn**	**22 12 15.1**	**+0.4**
PMRV				A	A	22 12 21.5	
	comp=N,4.5nm,0.3s						
PMRV	**Marv??o**	**4.78**	**62**	P	**Pn**	**22 11 22.6**	**+3.4**
PMRV				S	**Sn**	**22 12 15.1**	**+0.4**
	comp=N,4.5nm,0.3s						
EBAD	**Badajoz**	**4.82**	**70**	P	**Pn**	**22 11 22.6**	**+2.9**
	comp=N,2.9nm,0.1s,SNR=26						
EBAD				S	**Sn**	**22 12 14.8**	**-0.8**
	comp=N,1.8nm,0.2s,SNR=5.5						
EMIN	**Mina Concepcio**	**4.91**	**82**	P	**Pn**	**22 11 24.2**	**+3.2**
	comp=N,1.5nm,0.2s,SNR=21						
EMIN				S	**Sn**	**22 12 16.8**	**-1.0**
	comp=N,0.4nm,0.1s						
PCBR	**Castelo Branco**	**4.91**	**57**	*e*Pn	**Pn**	**22 11 24.8**	**+3.8**
PCBR				*e*Sn	**Sn**	**22 12 18.1**	**+0.3**
PCBR				A	A	22 12 23.1	
	comp=N,3.3nm,0.4s						
PCBR	**Castelo Branco**	**4.91**	**57**	P	**Pn**	**22 11 24.8**	**+3.8**
PCBR				S	**Sn**	**22 12 18.1**	**+0.3**
	comp=N,1.7nm,0.4s						
PVIS	**Viseu**	**5.15**	**47**	*e*Pn	**Pn**	**22 11 27.5**	**+3.1**
PVIS				*e*Sn	**Sn**	**22 12 23.6**	**-0.3**
PVIS				A	A	22 12 26.7	
	comp=N,4.0nm,0.1s						
PVIS	**Viseu**	**5.15**	**47**	P	**Pn**	**22 11 27.5**	**+3.1**
PVIS				S	**Sn**	**22 12 23.6**	**-0.3**
	comp=N,2.0nm,0.1s						
MTE	**Manteigas**	**5.17**	**51**	*e*Pn	**Pn**	**22 11 28.2**	**+3.6**
MTE				*e*Sn	**Sn**	**22 12 24.7**	**+0.4**
MTE				A	A	22 12 31.6	
	comp=N,7.2nm,0.5s						
MTE	**Manteigas**	**5.17**	**51**	P	**Pn**	**22 11 28.2**	**+3.6**
MTE				S	**Sn**	**22 12 24.7**	**+0.4**
	comp=N,3.6nm,0.5s						
PVRL	**Vila Real**	**5.63**	**43**	*e*Sn	**Sn**	**22 12 37.7**	**+2.1**
PVRL	**Vila Real**	**5.63**	**43**	S	**Sn**	**22 12 37.7**	**+2.1**
POLO	**Lamas de Olo**	**5.66**	**42**	*e*Sn	**Sn**	**22 12 35.9**	**-0.4**
PCAB	**Cabril**	**5.78**	**38**	*e*Sn	**Sn**	**22 12 39.5**	**+0.2**
PCAB	**Cabril**	**5.78**	**38**	S	**Sn**	**22 12 39.5**	**+0.2**
PGAV	**Gavieira, Arco**	**5.86**	**35**	*e*Sn	**Sn**	**22 12 40.0**	**-1.4**
PGAV				A	A	22 12 42.6	
	comp=N,3.8nm,0.3s						
ELOB	**Lobios**	**5.88**	**37**	P	**Pn**	**22 11 38.0**	**+3.6**
	comp=N,0.3nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**22 12 41.2**	**-0.7**
	comp=N,0.5nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**5.93**	**80**	P	**Pn**	**22 11 38.0**	**+3.1**
	comp=N,1.4nm,0.1s,SNR=28						
ECAB				S	**Sn**	**22 12 42.4**	**-0.6**
	comp=N,0.4nm,0.2s						
MVO	**Moncorvo**	**5.95**	**47**	*e*Pn	**Pn**	**22 11 38.7**	**+3.5**
MVO				*e*Sn	**Sn**	**22 12 42.1**	**-1.3**
MVO				A	A	22 12 45.6	
	comp=N,3.7nm,0.3s						
MVO	**Moncorvo**	**5.95**	**47**	P	**Pn**	**22 11 38.6**	**+3.3**
	comp=N,1.3nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**22 12 42.0**	**-1.5**
	comp=N,0.9nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**5.97**	**60**	P	**Pn**	**22 11 39.0**	**+3.5**
	comp=N,0.4nm,0.1s,SNR=12						
EPLA				S	**Sn**	**22 12 43.5**	**-0.4**
	comp=N,0.2nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**6.53**	**44**	*e*Pn	**Pn**	**22 11 46.6**	**+3.4**
PBRG				*e*Sn	**Sn**	**22 12 57.4**	**-0.3**
PBRG				A	A	22 13 00.5	
	comp=N,1.7nm,0.4s						
PBRG	**Braganca**	**6.53**	**44**	P	**Pn**	**22 11 46.6**	**+3.4**
PBRG				S	**Sn**	**22 12 57.4**	**-0.3**
	comp=N,0.9nm,0.4s						
EADA	**Adamuz**	**6.59**	**80**	P	**Pn**	**22 11 47.4**	**+3.2**
	comp=N,1.4nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**22 12 58.7**	**-0.7**
	comp=N,0.0nm,0.0s,SNR=7.9						
EAGO	**Agolada(Pontev**	**6.61**	**32**	P	**Pn**	**22 11 47.0**	**+2.6**
	comp=N,0.2nm,0.1s,SNR=7.9						
EAGO				S	**Sn**	**22 12 56.0**	**-3.8**
	comp=N,0.1nm,0.0s,SNR=7.9						
ECAL	**Calabor**	**6.62**	**43**	P	**Pn**	**22 11 46.5**	**+2.0**
	comp=N,0.6nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**22 12 57.8**	**-2.2**
	comp=N,1.1nm,0.3s,SNR=7.9						
EGOR	**Sierra Gorda,**	**6.96**	**89**	P	**Pn**	**22 11 50.2**	**+1.0**
	comp=N,0.1nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**7.03**	**69**	P	**Pn**	**22 11 53.3**	**+3.1**
	comp=N,0.3nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**22 13 08.9**	**-1.3**
	comp=N,0.0nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**7.35**	**68**	P	**Pn**	**22 11 57.2**	**+2.7**
	comp=N,4.1nm,0.2s,baz=254,slow=13,SNR=23						
GUD	**Guadarrama**	**7.54**	**61**	P	**Pn**	**22 12 00.5**	**+3.2**
	comp=N,0.3nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**22 13 20.9**	**-2.0**
	comp=N,0.1nm,0.4s,SNR=7.9						
EQES	**Quesada**	**7.76**	**83**	P	**Pn**	**22 12 02.9**	**+2.7**
	comp=N,0.2nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**22 13 29.8**	**+1.5**
	comp=N,0.2nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**10.61**	**53**	*e*Pn	**Pn**	**22 12 42.9**	**+3.7**
SJPF				*e*Sn	**Sn**	**22 14 34.6**	**-3.5**
	comp=N,1.0nm,0.2s						
SJPF	**Ste Jean**	**10.61**	**53**	P	**Pn**	**22 12 42.9**	**+3.7**
SJPF				S	**Sn**	**22 14 34.6**	**-3.5**
	comp=N,0.0nm,0.2s						
ETSF	**Etsaut**	**10.94**	**55**	*e*Pn	**Pn**	**22 12 47.8**	**+4.0**
ETSF				*e*Sn	**Sn**	**22 14 38.9**	**-7.4**
	comp=N,1.4nm,0.3s						
ETSF	**Etsaut**	**10.94**	**55**	P	**Pn**	**22 12 47.8**	**+4.0**
ETSF				S	**Sn**	**22 14 38.9**	**-7.4**
	comp=N,0.7nm,0.3s						
EPF	**Esparros**	**11.59**	**56**	*e*Pn	Pn	22 12 57.3	+4.7
EPF				*e*Sn	Sn	22 14 48.6	-14
	comp=N,1.4nm,0.2s						
EPF	**Esparros**	**11.59**	**56**	P	Pn	22 12 57.3	+4.7
EPF				S	Sn	22 14 48.6	-14
	comp=N,0.7nm,0.2s						

*LDG **01** 22:11:56.2±0.7,37.˝20N×13.˝19W,h20km,Ml2.9/3,Error ellipse: s-maj=11.8km s-min=11.5km az=76.0*
*MDD **01** 22:11:56.8±1.8,37.˝20N×12.˝78W,h0km,mb4.0/12,Error ellipse: s-maj=15.3km s-min=14.3km az=61.0,PRXIMO*
*IGIL **01** 22:11:56.7,37.˝13N×13.˝08W,h40km,ML2.3*
*INMG **01** 22:11:58.6±1.3,37.˝08N×13.˝16W,h10km,ML2.5,Error ellipse: s-maj=7.7km s-min=4.8km az=89.0*
ISC 01 22:11:58.7±2.7,37.˝42N±0.˝07×12.˝4W±0.˝1,h10km,n59, σ3§07/107,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMST	**Lisbon--Monsan**	**2.86**	**62**	*e*Sn	**Sb**	**22 13 24.9**	**+0.1**
PMST				A	A	22 13 40.9	
	17nm,1.0s						
PFVI	**Vila Bisbo**	**2.86**	**95**	*e*Pn	**Pn**	**22 12 45.9**	**+1.5**
PFVI				*e*Sn	**Sn**	**22 13 22.6**	**+3.7**
PFVI				A	A	22 13 29.1	
	7.4nm,0.6s						
PFVI	**Vila Bisbo**	**2.86**	**95**	P	**Pn**	**22 12 45.8**	**+1.5**
	1.6nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**22 13 21.7**	**+2.8**
	1.7nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**2.90**	**57**	*e*Pn	**Pb**	**22 12 48.0**	**-2.4**
PMAFR				*e*Sn	**Sb**	**22 13 26.4**	**+0.5**
PMAFR				A	A	22 13 37.1	
	17nm,0.6s						
PMAFR	**Mafra**	**2.90**	**57**	P	**Pb**	**22 12 48.0**	**-2.4**
	4.8nm,0.1s,SNR=7.9						
PMAFR				S	**Sb**	**22 13 25.8**	**-0.1**
	3.2nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**2.92**	**86**	*e*Pn	**Pb**	**22 12 48.0**	**-2.9**
PTEO				*e*Sn	**Sb**	**22 13 25.6**	**-1.1**
PTEO				A	A	22 13 39.4	
	7.9nm,0.5s						
PTEO	**Sao Teotonio**	**2.92**	**86**	P	**Pb**	**22 12 48.0**	**-2.9**
PTEO				S	**Sb**	**22 13 25.6**	**-1.1**
	4.0nm,0.5s						
MORF	**Marmelete**	**2.99**	**91**	*e*P	**Pn**	**22 12 47.8**	**+1.6**
MORF				*e*S	**Sn**	**22 13 25.5**	**+3.4**
MORF				AML	AML	22 13 35.5	
	comp=E,11nm,0.3s						
MORF	**Marmelete**	**2.99**	**91**	*e*Pn	**Pn**	**22 12 48.4**	**+2.2**
MORF				*e*Sn	**Sb**	**22 13 27.5**	**-1.1**
MORF				A	A	22 13 38.3	
	comp=E,6.3nm,0.1s						
MORF	**Marmelete**	**2.99**	**91**	P	**Pn**	**22 12 47.8**	**+1.6**

PMRV					S		Sn	22 14 01.4	+4.2
	comp=N,3.4nm,0.4s								
EBAD	**Badajoz**	**4.45**	**71**	P		Pn		22 13 09.5	+3.3
	comp=N,1.7nm,0.1s,SNR=7.9								
EBAD					S		Sn	22 14 01.6	+3.4
	comp=N,2.1nm,0.1s,SNR=7.9								
PCBR	**Castelo Branco**	**4.55**	**56**	*e*Pn		Pn		22 13 11.4	+3.8
PCBR				*e*Sn		Sn		22 14 05.1	+4.6
PCBR				A		A		22 14 15.5	
	comp=N,3.0nm,0.4s								
PCBR	**Castelo Branco**	**4.55**	**56**	P		Pn		22 13 11.4	+3.8
PCBR				S		Sn		22 14 05.1	+4.6
	comp=N,1.5nm,0.4s								
EMIN	**Mina Concepcio**	**4.56**	**84**	P		Pn		22 13 10.3	+2.6
	comp=N,1.3nm,0.2s,SNR=7.9								
EMIN					S		Sn	22 14 04.3	+3.5
	comp=N,0.0nm,0.1s,SNR=7.9								
PVIS	**Viseu**	**4.81**	**45**	*e*Pn		Pn		22 13 14.2	+3.0
PVIS				*e*Sn		Sn		22 14 09.8	+2.8
PVIS				A		A		22 14 19.9	
	comp=N,4.2nm,0.3s								
PVIS	**Viseu**	**4.81**	**45**	P		Pn		22 13 14.2	+3.0
PVIS				S		Sn		22 14 09.8	+2.8
	comp=N,2.1nm,0.3s								
MTE	**Manteigas**	**4.82**	**50**	*e*Sn		Sn		22 14 11.6	+4.4
MTE				A		A		22 14 19.6	
	comp=N,6.4nm,0.5s								
MTE	**Manteigas**	**4.82**	**50**	S		Sn		22 14 11.6	+4.4
	comp=N,3.2nm,0.5s								
POLO	**Lamas de Olo**	**5.32**	**41**	*e*Sn		Sn		22 14 22.4	+2.7
PCAB	**Cabril**	**5.46**	**37**	*e*Sn		Sn		22 14 24.9	+1.9
PCAB	**Cabril**	**5.46**	**37**	S		Sn		22 14 24.9	+1.9
PGAV	**Gavieira, Arco**	**5.55**	**34**	*e*Sn		Sn		22 14 28.4	+3.1
PGAV				A		A		22 14 38.4	
	comp=N,4.8nm,0.6s								
ELOB	**Lobios**	**5.56**	**36**	S		Sn		22 14 28.2	+2.5
	comp=N,0.3nm,0.1s,SNR=7.9								
ECAB	**El Cabril**	**5.57**	**81**	P		Pn		22 13 24.4	+2.7
	comp=N,1.5nm,0.2s,SNR=7.9								
ECAB					S		Sn	22 14 29.3	+3.5
	comp=N,0.1nm,0.2s,SNR=7.9								
MVO	**Moncorvo**	**5.60**	**46**	*e*Pn		Pn		22 13 25.1	+3.0
MVO				*e*Sn		Sn		22 14 29.4	+2.9
MVO				A		A		22 14 43.9	
	comp=N,2.9nm,0.7s								
MVO	**Moncorvo**	**5.60**	**46**	P		Pn		22 13 24.8	+2.7
	comp=N,0.7nm,0.1s,SNR=7.9								
MVO					S		Sn	22 14 28.9	+2.4
	comp=N,0.2nm,0.1s,SNR=7.9								
EPLA	**Plasencia**	**5.60**	**60**	P		Pn		22 13 25.2	+3.2
	comp=N,0.4nm,0.1s,SNR=7.9								
EPLA					S		Sn	22 14 30.5	+3.9
	comp=N,0.4nm,0.1s,SNR=7.9								
EADA	**Adamuz**	**6.24**	**81**	P		Pn		22 13 33.6	+2.7
	comp=N,0.9nm,0.2s,SNR=7.9								
EADA					S		Sn	22 14 45.6	+3.4
	comp=N,0.1nm,0.1s,SNR=7.9								
EAGO	**Agolada(Pontev**	**6.31**	**30**	P		Pn		22 13 33.7	+1.9
	comp=N,0.3nm,0.1s,SNR=7.9								
EAGO					S		Sn	22 14 43.3	-0.7
	comp=N,0.1nm,0.1s,SNR=7.9								
PAB	**San Pablo**	**6.66**	**69**	P		Pn		22 13 39.4	+2.7
	comp=N,0.2nm,0.1s,SNR=7.9								
ESDC	**Sonseca Array**	**6.99**	**69**	P		Pn		22 13 44.2	+3.1
	comp=N,2.0nm,0.1s,baz=255,slow=13,SNR=6.1								
SJPF	**Ste Jean**	**10.26**	**53**	*e*Pn		Pn		22 14 28.9	+3.0
SJPF				*e*Sn		Sn		22 16 22.5	+1.6
	comp=N,0.3nm,0.3s								
SJPF	**Ste Jean**	**10.26**	**53**	P		Pn		22 14 28.9	+3.0
SJPF				S		Sn		22 16 22.5	+1.6
	comp=N,0.2nm,0.3s								
ETSF	**Etsaut**	**10.58**	**55**	*e*Pn		Pn		22 14 34.1	+3.7
ETSF				*e*Sn		Sn		22 16 30.3	+1.3
	comp=N,0.1nm,0.2s								
ETSF	**Etsaut**	**10.58**	**55**	P		Pn		22 14 34.1	+3.7
ETSF				S		Sn		22 16 30.3	+1.3
	comp=N,0.1nm,0.2s								
EPF	**Esparros**	**11.23**	**56**	*e*Pn		Pn		22 14 43.0	+3.7
EPF				*e*Sn		Sn		22 16 45.3	+0.4
	comp=N,0.8nm,0.3s								
EPF	**Esparros**	**11.23**	**56**	P		Pn		22 14 43.0	+3.7
EPF				S		Sn		22 16 45.3	+0.4
	comp=N,0.4nm,0.3s								

INMG ***01*** *22:14:05.4±1.5, 37°.04N×13°.03W, h10km, ML2.0, Error ellipse: s-maj=13.4km s-min=11.5km az=161.0*

MDD 01 22:14:03.4±2.2, 37°.17N×12°.66W, h0km, mb3.5/8, Error ellipse: s-maj=21.3km s-min=18.3km az=152.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**3.06**	**90**	*e*Pn	Pn	22 14 51.0	-2.1
PFVI				*e*Sn	Sn	22 15 26.5	-3.9
PFVI	**Vila Bisbo**	**3.06**	**90**	P	Pn	22 14 50.9	-2.1
	0.5nm,0.1s,SNR=7.9						
PFVI				S	Sn	22 15 27.3	-3.2
	0.4nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**3.16**	**82**	*e*Pn	Pn	22 14 52.8	-1.6
PTEO				*e*Sn	Sn	22 15 29.2	-3.6
PTEO	**Sao Teotonio**	**3.16**	**82**	P	Pn	22 14 52.8	-1.6
PTEO				S	Sn	22 15 29.2	-3.6
PMAFR	**Mafra**	**3.21**	**55**	*e*Pn	Pn	22 14 54.0	-1.0
PMAFR				*e*Sn	Sn	22 15 30.0	-4.0
PMAFR				A	A	22 15 36.4	
	12nm,0.7s						
PMAFR	**Mafra**	**3.21**	**55**	P	Pn	22 14 53.7	-1.3
	1.9nm,0.1s,SNR=7.9						
PMAFR				S	Sn	22 15 30.0	-3.9
	0.4nm,0.1s,SNR=7.9						
MESJ	**Messejana**	**3.59**	**78**	*e*Pn	Pn	22 14 59.8	-0.6
MESJ				*e*Sn	Sn	22 15 39.4	-4.1
MESJ				A	A	22 15 45.6	
	1.2nm,0.2s						
MESJ	**Messejana**	**3.59**	**78**	P	Pn	22 14 59.8	-0.6
MESJ				S	Sn	22 15 39.4	-4.1
	1.2nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.78**	**88**	*e*Pn	Pn	22 15 02.1	-0.8
PBDV				*e*Sn	Sn	22 15 46.0	-2.1
PBDV				A	A	22 15 52.7	
	2.2nm,0.9s						
PBDV	**Barranco-do-Ve**	**3.78**	**88**	P	Pn	22 15 02.1	-0.8
PBDV				S	Sn	22 15 46.0	-2.1
	2.2nm,0.9s						
ALMR	**Almeirim**	**3.78**	**57**	*e*Pn	Pn	22 15 02.5	-0.4
ALMR				*e*Sn	Sn	22 15 45.5	-2.6
ALMR				A	A	22 15 53.5	
	6.2nm,0.6s						
ALMR	**Almeirim**	**3.78**	**57**	P	Pn	22 15 02.5	-0.4
ALMR				S	Sn	22 15 45.5	-2.6
	3.1nm,0.6s						
PBEJ	**Beja**	**3.90**	**76**	*e*Pn	Pn	22 15 04.2	-0.4
PBEJ				*e*Sn	Sn	22 15 51.2	+0.1
PBEJ	**Beja**	**3.90**	**76**	P	Pn	22 15 04.2	-0.4
PBEJ				S	Sn	22 15 51.2	+0.1
EVO	**Evora**	**3.92**	**68**	*e*Pn	Pn	22 15 06.0	+1.1
EVO				*e*Sn	Sn	22 15 49.4	-2.2
EVO				A	A	22 15 54.6	
	2.4nm,0.2s						
EVO	**Evora**	**3.92**	**68**	P	Pn	22 15 06.0	+1.1
EVO				S	Sn	22 15 49.4	-2.2
	2.4nm,0.2s						
PVAQ	**Vaqueiros**	**3.95**	**85**	*e*Pn	Pn	22 15 04.6	-0.7
PVAQ				*e*Sn	Sn	22 15 49.0	-3.3
PVAQ				A	A	22 15 55.2	
	1.7nm,0.3s						
PVAQ	**Vaqueiros**	**3.95**	**85**	P	Pn	22 15 04.6	-0.7
PVAQ				S	Sn	22 15 49.0	-3.3
	1.7nm,0.3s						
PTOM	**Tomar**	**4.14**	**53**	*e*Sn	Sn	22 15 53.0	-3.9
PTOM				A	A	22 15 58.5	
	3.5nm,1.2s						
PTOM	**Tomar**	**4.14**	**53**	S	Sn	22 15 53.0	-3.9
	1.8nm,1.2s						
EGRO	**El Granado**	**4.14**	**83**	P	Pn	22 15 06.8	-1.1
	0.2nm,0.1s,SNR=7.9						
EGRO				S	Sn	22 15 53.1	-3.9
	0.2nm,0.0s,SNR=7.9						
PESTR	**Estremoz**	**4.35**	**66**	*e*Pn	Pn	22 15 10.2	-0.5
PESTR				*e*Sn	Sn	22 15 58.5	-3.6
PESTR				A	A	22 16 04.3	
	1.1nm,0.6s						
PMRV	**Marv??o**	**4.72**	**60**	*e*Pn	Pn	22 15 14.5	-1.3
PMRV				*e*Sn	Sn	22 16 07.0	-4.3
PMRV				A	A	22 16 12.9	
	1.1nm,0.3s						
PMRV	**Marv??o**	**4.72**	**60**	P	Pn	22 15 14.5	-1.3
PMRV				S	Sn	22 16 07.0	-4.3
	1.1nm,0.3s						
EBAD	**Badajoz**	**4.74**	**69**	P	Pn	22 15 14.3	-1.8
	0.2nm,0.1s,SNR=7.9						
EBAD				S	Sn	22 16 05.8	-5.9
	0.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.80**	**81**	P	Pn	22 15 15.4	-1.5
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	22 16 08.5	-4.8
	0.0nm,0.0s,SNR=7.9						
ECAB	**El Cabril**	**5.82**	**79**	P	Pn	22 15 29.8	-1.2
	0.2nm,0.1s,SNR=7.9						
ECAB				S	Sn	22 16 33.7	-4.7
	0.0nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**5.91**	**59**	P	Pn	22 15 30.2	-2.0
	0.2nm,0.1s,SNR=7.9						
EPLA				S	Sn	22 16 36.8	-3.8
	0.1nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.92**	**46**	S	Sn	22 16 35.2	-5.7
	0.2nm,0.0s,SNR=7.9						
EADA	**Adamuz**	**6.49**	**79**	P	Pn	22 15 38.8	-1.4
	0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	22 16 50.9	-4.1
	0.0nm,0.1s,SNR=7.9						

IDC 01 22:46:23.6±1.7, 6°.28S×148°.64E, h0km, mb3.9/3, mb1 3.9/5, mb1mx3.6/34, mbtmp3.7/5, ML3.3/1, Error ellipse: s-maj=76.1km s-min=22.3km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.44**	**205**	Pn	Pn	22 47 19.6	+1.1
	1.6nm,0.3s,baz=151,slow=19,SNR=3.1						
PMG				Sn	Sn	22 48 01.2	+1.3
	2.2nm,0.3s,baz=308,slow=17,SNR=2.4						
WRA	**Warramunga Arr**	**19.43**	**224**	P	P	22 50 51.3	-0.5
	0.1nm,0.3s,baz=51,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**22.35**	**218**	P	P	22 51 23.4	0.0
	0.4nm,0.5s,baz=49,slow=10.0,SNR=7.1						
FITZ	**Fitzroy Crossi**	**25.32**	**240**	P	P	22 51 52.2	-0.1
	2.1nm,0.4s,baz=55,slow=8.7,SNR=26						
ILAR	**Eielson Array**	**85.10**	**23**	P	P	22 59 01.2	0.0
	1.8nm,0.7s,baz=246,slow=4.9,SNR=17						

IDC 01 22:47:32.8±3.1, 4°.74S×151°.54E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/36, mbtmp3.8/3, Error ellipse: s-maj=111.7km s-min=43.8km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.56**	**226**	P	P	22 52 34.3	-0.5
	1.1nm,0.6s,baz=52,slow=10,SNR=8.7						
ASAR	**Alice Springs**	**25.37**	**220**	P	P	22 53 01.8	-0.1
	1.7nm,0.7s,baz=54,slow=9.5,SNR=18						
FITZ	**Fitzroy Crossi**	**28.59**	**240**	P	P	22 53 31.4	+0.4
	1.2nm,0.7s,baz=60,slow=9.1,SNR=6.2						
TORD	**Torodi Ar. Bea**	**149.09**	**288**	PKPbc	PKPbc	23 07 23.7	-0.5
	0.2nm,0.3s,baz=51,slow=2.1,SNR=11						

CNRM ***01*** *22:55:41.6, 35°.39N×6°.31W, h10km, ML2.3*
IGIL ***01*** *22:55:47.2, 35°.40N×6°.08W, h26km, ML2.5*
MDD ***01*** *22:55:48.7±1.1, 35°.46N×6°.13W, h57km±18km, mb3.3/27, Error ellipse: s-maj=11.0km s-min=5.1km az=8.0, PRXIMO*
SFS ***01*** *22:55:48.0, 35°.69N×6°.09W, ML2.4, GOLFO DE CADIZ*
INMG ***01*** *22:55:48.3±1.7, 35°.39N×6°.10W, h31km±11km, ML2.4, Error ellipse: s-maj=5.2km s-min=2.6km az=75.0*

ISC 01 22:55:42.3±2.9, 35°.47N±0°.03×6°.13W±0°.03, h7km±21km, n80, σ2s25/133, 1C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSA	**Sarsar**	**0.64**	**157**	P	Pn	22 55 58.1	+0.4
RSA	**Sarsar**	**0.64**	**157**	S	Sn	22 56 09.0	+0.9
ECEU	**Ceuta**	**0.75**	**55**	P	Pn	22 56 02.4	+3.1
	1.2nm,0.1s,SNR=5.2						
ECEU				S	Sn	22 56 13.8	+2.9
	3.1nm,0.1s						
EJIF	**Jimena Fronter**	**1.12**	**28**	P	Pn	22 56 08.3	+4.0
	1.4nm,0.2s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**2.29**	**321**	*e*Pn	Pb	22 56 23.2	-0.8
PBDV				*e*Sn	Sn	22 56 49.7	+0.7
PBDV				A	A	22 56 55.6	
	9.0nm,0.3s						
PBDV	**Barranco-do-Ve**	**2.29**	**321**	P	Pb	22 56 23.2	-0.8
PBDV				S	Sn	22 56 49.7	+0.7
	9.0nm,0.3s						
EGOR	**Sierra Gorda,**	**2.32**	**44**	P	Pb	22 56 24.8	+0.3
	0.2nm,0.1s,SNR=7.9						
EGOR				S	Sn	22 56 50.6	+0.9
	0.4nm,0.1s,SNR=7.9						
PVAQ	**Vaqueiros**	**2.32**	**327**	*e*Pn	Pb	22 56 23.8	-0.6
PVAQ				*e*Sn	Sn	22 56 50.1	+0.5
PVAQ				A	A	22 56 51.3	
	30nm,0.2s						
PVAQ	**Vaqueiros**	**2.32**	**327**	P	Pb	22 56 23.8	-0.6
PVAQ				S	Sn	22 56 50.1	+0.5
	30nm,0.2s						
PVAQ	**Vaqueiros**	**2.32**	**327**	P	Pn	22 56 21.8	+1.0
PVAQ	**Vaqueiros**	**2.32**	**327**	S	Sn	22 56 48.9	-0.6
EGRO	**El Granado**	**2.33**	**333**	⇑P	Pb	22 56 24.0	-0.7
	3.9nm,0.0s,SNR=18						
EGRO				S	Sn	22 56 50.1	+0.2
	10nm,0.1s,SNR=13						
EMIN	**Mina Concepcio**	**2.34**	**349**	P	Pb	22 56 23.8	-0.9
	0.7nm,0.1s,SNR=12						
EMIN				S	Sn	22 56 50.1	0.0
	2.0nm,0.1s,SNR=16						
AVE	**Averroes**	**2.41**	**206**	P	Pn	22 56 20.1	-2.0
AVE	**Averroes**	**2.41**	**206**	S	Sn	22 56 52.6	+0.8
ELGU	**Los Guajares,**	**2.46**	**55**	P	Pb	22 56 26.2	-0.7
	0.4nm,0.1s,SNR=7.9						
ELGU				S	Sn	22 56 51.5	-1.7
	0.5nm,0.1s,SNR=7.9						
HORN	**Hornachuelos**	**2.48**	**16**	P	Pb	22 56 25.7	-1.4
HORN	**Hornachuelos**	**2.48**	**16**	S	Sn	22 56 54.2	+0.7
ECAB	**El Cabril**	**2.67**	**12**	P	Pn	22 56 28.1	+2.5
	0.4nm,0.1s,SNR=13						
ECAB				S	Sn	22 56 56.9	-1.3
	0.5nm,0.1s,SNR=6.5						
MORF	**Marmelete**	**2.74**	**313**	*e*P	Pn	22 56 28.9	+2.2
MORF				*e*S	Sn	22 56 59.8	-0.2
MORF				AML	AML	22 57 03.7	
	comp=N,19nm,0.2s						
MORF	**Marmelete**	**2.74**	**313**	*e*Pn	Pn	22 56 28.9	+2.2
MORF				*e*Sn	Sn	22 57 00.1	+0.1
MORF				A	A	22 57 03.9	
	comp=N,14nm,0.1s						
MORF	**Marmelete**	**2.74**	**313**	P	Pn	22 56 28.9	+2.2
MORF				S	Sn	22 56 59.8	-0.2
	comp=N,19nm,0.2s						
PFVI	**Vila Bisbo**	**2.74**	**308**	*e*Pn	Pb	22 56 28.9	-2.7
PFVI				*e*Sn	Sn	22 57 00.2	+0.3
PFVI				A	A	22 57 05.2	
	comp=N,4.5nm,0.5s						
PFVI	**Vila Bisbo**	**2.74**	**308**	P	Pb	22 56 28.9	-2.7
	comp=N,1.3nm,0.0s,SNR=21						
PFVI				S	Sn	22 56 59.8	-0.2
	comp=N,3.7nm,0.1s,SNR=5.7						
PFVI	**Vila Bisbo**	**2.74**	**308**	P	Pb	22 56 28.9	-2.7
EQUE	**Quentar**	**2.78**	**51**	P	Pb	22 56 31.2	-1.2
	comp=N,0.1nm,0.1s,SNR=7.9						
EQUE				S	Sn	22 57 02.2	+1.1
	comp=N,0.1nm,0.1s,SNR=4.8						
MESJ	**Messejana**	**2.90**	**325**	*e*P	Pb	22 56 31.7	-2.6
MESJ				*e*S	Sn	22 57 03.9	-0.1
MESJ				AML	AML	22 57 06.3	
	comp=N,17nm,0.2s						
MESJ	**Messejana**	**2.90**	**325**	*e*Pn	Pb	22 56 31.9	-2.5
MESJ				*e*Sn	Sn	22 57 04.8	+0.8
MESJ				A	A	22 57 08.9	
	comp=N,8.6nm,0.2s						
MESJ	**Messejana**	**2.90**	**325**	P	Pb	22 56 31.7	-2.6
MESJ				S	Sn	22 57 03.9	-0.1
	comp=N,17nm,0.2s						
PBEJ	**Beja**	**2.91**	**332**	*e*Pn	Pb	22 56 32.9	-1.6
PBEJ				*e*Sn	Sn	22 57 04.9	+0.7
PBEJ				A	A	22 57 06.5	
	comp=N,6.4nm,0.1s						
PBEJ	**Beja**	**2.91**	**332**	P	Pb	22 56 32.9	-1.6
PBEJ				S	Sn	22 57 04.9	+0.7
	comp=N,3.2nm,0.1s						
MDT	**Midelt**	**2.93**	**154**	P	Pn	22 56 30.1	+0.8
MDT	**Midelt**	**2.93**	**154**	S	Sn	22 57 00.5	-4.2
PTEO	**Sao Teotonio**	**2.94**	**316**	*e*Pn	Pb	22 56 32.2	-2.8
PTEO				*e*Sn	Sn	22 57 05.3	+0.3
PTEO				A	A	22 57 09.7	
	comp=N,9.1nm,0.3s						
PTEO	**Sao Teotonio**	**2.94**	**316**	P	Pb	22 56 32.2	-2.8
PTEO				S	Sn	22 57 05.3	+0.3
	comp=N,4.6nm,0.3s						
EADA	**Adamuz**	**2.97**	**24**	P	Pn	22 56 32.6	+2.8
	comp=N,0.6nm,0.1s,SNR=23						
EADA				S	Sn	22 57 04.2	-1.6
	comp=N,0.9nm,0.1s						
EBER	**Berja**	**2.99**	**60**	P	Pb	22 56 33.9	-2.0
	comp=N,0.2nm,0.1s,SNR=7.9						
EBER				S	Sn	22 57 05.5	-0.8
	comp=N,2.1nm,0.4s,SNR=7.9						
GORA	**Gorafe**	**3.20**	**50**	S	Sn	22 57 12.7	+1.3
	comp=N,6.8nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.36**	**348**	P	Pn	22 56 38.0	+2.9
	comp=N,0.4nm,0.1s,SNR=11						
EBAD				S	Sn	22 57 14.3	-1.0
	comp=N,4.2nm,0.1s,SNR=11						
EQES	**Quesada**	**3.39**	**46**	P	Pn	22 56 38.2	+2.5
	comp=N,0.3nm,0.1s,SNR=7.9						
EQES				S	Sn	22 57 15.8	-0.4
	comp=N,1.3nm,0.1s,SNR=15						
EVO	**Evora**	**3.41**	**334**	*e*Pn	Pb	22 56 40.9	-2.1
EVO				*e*Sn	Sn	22 57 18.9	+2.4
EVO				A	A	22 57 19.6	
	comp=N,23nm,0.1s						
EVO	**Evora**	**3.41**	**334**	P	Pb	22 56 40.7	-2.3
EVO				S	Sn	22 57 17.6	+1.1
EVO	**Evora**	**3.41**	**334**	*e*P	Pb	22 56 40.7	-2.3
EVO				*e*S	Sn	22 57 17.6	+1.1
PESTR	**Estremoz**	**3.59**	**342**	*e*Pn	Pn	22 56 41.5	+3.2
PESTR				*e*Sn	Sn	22 57 20.7	-0.2
PESTR				A	A	22 57 23.1	
	comp=N,3.8nm,0.1s						
PESTR	**Estremoz**	**3.59**	**342**	P	Pn	22 56 37.4	-0.9
PESTR	**Estremoz**	**3.59**	**342**	S	Sn	22 57 20.0	-1.0
PMRV	**Marv??o**	**4.08**	**346**	*e*Pn	Pn	22 56 48.1	+3.0
PMRV				*e*Sn	Sn	22 57 32.3	-0.8
PMRV				A	A	22 57 34.6	
	comp=N,5.0nm,0.5s						
PMRV	**Marv??o**	**4.08**	**346**	P	Pn	22 56 48.1	+3.0
PMRV				S	Sn	22 57 32.3	-0.8
	comp=N,5.0nm,0.5s						
ALMR	**Almeirim**	**4.17**	**333**	*e*Pn	Pn	22 56 50.1	+3.9
ALMR				*e*Sn	Sn	22 57 36.4	+1.3
ALMR				A	A	22 57 37.9	
	comp=N,5.9nm,0.3s						
ALMR	**Almeirim**	**4.17**	**333**	P	Pn	22 56 50.1	+3.9
ALMR				S	Sn	22 57 36.4	+1.3
	comp=N,3.0nm,0.3s						
PMAFR	**Mafra**	**4.30**	**325**	*e*Pn	Pn	22 56 51.4	+3.4
PMAFR				*e*Sn	Sn	22 57 38.5	+0.1
PMAFR	**Mafra**	**4.30**	**325**	P	Pn	22 56 51.4	+3.4
	comp=N,0.4nm,0.1s,SNR=6.0						
PMAFR				S	Sn	22 57 37.8	-0.5
	comp=N,1.2nm,0.1s						
PAB	**San Pablo**	**4.31**	**19**	P	Pn	22 56 50.6	+2.3
	comp=N,0.1nm,0.1s,SNR=7.9						
PAB				S	Sn	22 57 35.9	-3.0
	comp=N,0.5nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**4.50**	**347**	*e*Pn	Pn	22 56 54.4	+3.7
PCBR				*e*Sn	Sn	22 57 41.1	-2.1
PCBR				A	A	22 57 43.6	
	comp=N,5.7nm,0.3s						
PCBR	**Castelo Branco**	**4.50**	**347**	P	Pn	22 56 54.4	+3.7
PCBR				S	Sn	22 57 41.1	-2.1
	comp=N,2.8nm,0.3s						
PTOM	**Tomar**	**4.52**	**337**	*e*Pn	Pn	22 56 54.6	+3.5
PTOM				*e*Sn	Sn	22 57 43.2	-0.7
PTOM				A	A	22 57 45.0	
	comp=N,7.5nm,0.3s						
PTOM	**Tomar**	**4.52**	**337**	P	Pn	22 56 54.6	+3.5
PTOM				S	Sn	22 57 43.2	-0.7
	comp=N,3.8nm,0.3s						
ESDC	**Sonseca Array**	**4.54**	**22**	P	Pn	22 56 53.8	+2.4
	comp=N,0.8nm,0.1s,baz=197,slow=12,SNR=11						
ESDC				S	Sn	22 57 41.1	-3.4
	comp=N,0.4nm,0.2s,baz=202,slow=23,SNR=12						
EPLA	**Plasencia**	**4.59**	**0**	P	Pn	22 56 55.4	+3.3
	comp=N,1.5nm,0.1s,SNR=25						
EPLA				S	Sn	22 57 43.8	-1.8
	comp=N,0.6nm,0.1s,SNR=13						
ETOB	**Tobarra**	**4.85**	**48**	P	Pn	22 56 57.7	+2.0
	comp=N,0.6nm,0.1s,SNR=9.3						
ETOB				S	Sn	22 57 48.7	-3.3
	comp=N,0.6nm,0.1s,SNR=7.9						
PCAS	**Casmilo, Conde**	**4.95**	**338**	*e*Sn	Sn	22 57 53.6	-0.8
MTE	**Manteigas**	**5.05**	**348**	*e*Pn	Pn	22 57 02.2	+3.8
MTE				*e*Sn	Sn	22 57 54.7	-2.3
MTE				A	A	22 57 56.7	
	comp=N,3.5nm,0.7s						
MTE	**Manteigas**	**5.05**	**348**	P	Pn	22 57 02.2	+3.8
MTE				S	Sn	22 57 54.7	-2.3
	comp=N,1.8nm,0.7s						
TTIG	**Tnine Tigouga,**	**5.27**	**202**	P	Pn	22 56 59.5	-2.1
GUD	**Guadarrama**	**5.40**	**16**	P	Pn	22 57 05.9	+2.6
	comp=N,0.6nm,0.1s,SNR=7.9						
GUD				S	Sn	22 58 02.1	-3.6
	com

baz=241,slow=9.3

TRBA				*i* S	**Sn**	22 57 11.5	**+1.8**
TRBA				AML	AML	22 57 21.9	
	comp=N,86nm,0.5s						
ATA	**Atar**	**2.75**	**142**	*e*P	**Pb**	**22 56 43.8**	**-0.8**

MOS ***01*** *22:59:03.4±0.0, 42°.93N×42°.34E, h7km, MPVA3.3*
ISC 01 22:59:03.3±1.1, 42°.93N±0°.02×42°.35E±0°.03, h6km±10km, n22, σ0s67/43, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEY	**Neytrino**	**0.42**	**40**	*i* Pg			**Pg**	**22 59 11.7**	**+0.3**
NEY				*e*Sg			**Sg**	**22 59 17.5**	**+0.6**
DOMR	**Dombai**	**0.65**	**304**	*e*Pg			**Pg**	**22 59 15.7**	**0.0**
DOMR				*e*Sg			**Sg**	**22 59 24.1**	**0.0**
SHA1	**Shidzhatmaz**	**0.84**	**15**	*e*Pg			**Pg**	**22 59 19.8**	**+0.4**
SHA1				*e*Sg			**Sb**	**22 59 31.4**	**-0.7**
DIGR	**Digorskoe uzhe**	**0.90**	**91**	*e*Pg			**Pg**	**22 59 20.2**	**-0.4**
DIGR				*e*Sg			**Sg**	**22 59 30.3**	**-2.0**
ARXR	**Arkhyz**	**1.01**	**309**	*e*Pg			**Pg**	**22 59 22.6**	**-0.1**
ARXR				*e*Sg			**Sg**	**22 59 35.9**	**+0.1**
KIV	**Kislovodsk**	**1.05**	**13**	*e*Pg			**Pg**	**22 59 23.6**	**+0.1**
KIV0	**Kislovodsk Arr**	**1.06**	**14**	*e*Pg			**Pb**	**22 59 23.9**	**-0.1**
KIV0				*e*Sg			**Sn**	**22 59 39.6**	**-0.3**
NCK	**Nalchik**	**1.07**	**58**	*e*Pg			**Pn**	**22 59 25.6**	**+0.7**
NCK				*e*Sg			**Sn**	**22 59 40.1**	**0.0**
LSNR	**Lesken**	**1.13**	**72**	*e*Pg			**Pn**	**22 59 26.0**	**+0.2**
LSNR				*e*Sg			**Sb**	**22 59 40.8**	**+0.4**
ZEI	**Tsey**	**1.15**	**97**	*e*Pg			**Pn**	**22 59 26.4**	**+0.3**
ZEI				*e*Sg			**Sb**	**22 59 41.3**	**+0.3**
KBTC	**Kuba-Taba**	**1.17**	**41**	*e*Pg			**Pn**	**22 59 26.9**	**+0.6**
KBTC				*e*Sg			**Sn**	**22 59 42.3**	**-0.4**
PYA1	**Pyatigorsk**	**1.25**	**25**	*e*Pg			**Pg**	**22 59 27.5**	**+0.2**
PYA1				*i* Sg			**Sg**	**22 59 44.1**	**+0.5**
KORR	**Kora**	**1.27**	**82**	*e*Pg			**Pn**	**22 59 27.6**	**-0.1**
KORR				*e*Sg			**Sn**	**22 59 45.2**	**+0.2**
BATM	**Batumi**	**1.41**	**200**	P			**Pn**	**22 59 29.6**	**0.0**
BATM				S			**Sg**	**22 59 49.7**	**+1.1**
LACR	**Lac**	**1.43**	**93**	*e*Pg			**Pn**	**22 59 30.1**	**+0.1**
LACR				*e*Sg			**Sg**	**22 59 50.0**	**+0.6**
AKH	**Akhalkalaki**	**1.74**	**150**	P			**Pb**	**22 59 35.2**	**-0.5**
AKH				S			**Sb**	**22 59 58.5**	**+0.6**
AKH	**Akhalkalaki**	**1.74**	**150**	*e*Pg			**Pb**	**22 59 35.2**	**-0.5**
AKH				*e*Sg			**Sb**	**22 59 58.5**	**+0.6**
TRLG	**Trialeti**	**1.90**	**136**	P			**Pg**	**22 59 39.6**	**-0.1**
TRLG				S			**Sg**	**23 00 04.4**	**0.0**
BGD	**Bogdanovka**	**1.91**	**150**	P			**Pb**	**22 59 38.0**	**-0.6**
BGD				S			**Sb**	**23 00 03.5**	**+0.7**
GUZR	**Guzeripl'**	**1.94**	**304**	*e*Pg			**Pb**	**22 59 39.0**	**-0.2**
GUZR				*e*Sg			**Sb**	**23 00 02.7**	**-1.1**
TBLG	**Delisi**	**2.14**	**123**	P			**Pb**	**22 59 41.3**	**-1.1**
TBLG				S			**Sb**	**23 00 10.4**	**+1.2**
TBLG	**Delisi**	**2.14**	**123**	*e*Pg			**Pb**	**22 59 41.3**	**-1.1**
TBLG				*e*Sg			**Sb**	**23 00 10.4**	**+1.2**

ISCJB ***01*** *22:59:10.7±0.6, 27°.6N±0°.1×139°.8E±0°.1, h479km, mb3.5/7, Error ellipse: s-maj=19.8km s-min=12.8km az=33.4*
IDC ***01*** *22:59:12.7±1.3, 27°.60N×139°.92E, h501km±22km, mb3.2/7, mb1 3.3/8, mb1mx3.0/50, mbtmp4.1/8, Error ellipse: s-maj=52.4km s-min=13.0km az=78.0*
ISC 01 22:59:11.8±0.8, 27°.6N±0°.2×139°.8E±0°.2, h479km, n15, σ1s07/16, mb3.7/7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.23**	**103**	P			**P**	**23 00 18.4**	**+2.1**
	56nm,0.3s,baz=4.6,slow=14,SNR=46								
JCJ				S			**S**	**23 01 07.4**	**-1.1**
	32nm,0.3s,baz=302,slow=22,SNR=8.7								
JIRN	**Jiri**	**47.12**	**283**	*e*P			**P**	**23 07 01.5**	**+1.2**
GUN	**Gumba**	**47.33**	**284**	*e*P			**P**	**23 07 03.0**	**+1.1**
	7.3nm,0.4s								
WRA	**Warramunga Arr**	**47.58**	**187**	P			**P**	**23 07 02.2**	**-1.0**
	1.0nm,0.4s,baz=4.3,slow=7.6,SNR=38								
ZALV	**Zalesovo Beam**	**47.67**	**319**	P			**P**	**23 07 03.3**	**-0.2**
	1.5nm,0.3s,baz=111,slow=6.6,SNR=9.8								
PKI	**Pulchoki**	**47.82**	**283**	*e*P			**P**	**23 07 05.8**	**+0.3**
KKN	**Kakani**	**47.88**	**284**	*e*P			**P**	**23 07 06.4**	**+0.6**
	5.1nm,0.5s								
MKAR	**Makanchi Array**	**48.47**	**309**	P			**P**	**23 07 10.1**	**+0.3**
	0.8nm,0.4s,baz=87,slow=10,SNR=19								
DANN	**Dangsing**	**49.06**	**285**	*e*P			**P**	**23 07 15.9**	**+1.2**
	6.4nm,0.3s								
KOLN	**Koldanda**	**49.33**	**284**	*e*P			**P**	**23 07 17.3**	**+0.7**
	2.5nm,0.3s								
PYUN	**Piuthan**	**49.78**	**285**	*e*P			**P**	**23 07 20.8**	**+0.8**
	14nm,0.3s								
ASAR	**Alice Springs**	**51.30**	**187**	P			**P**	**23 07 30.1**	**-0.8**
	0.6nm,0.4s,baz=3.1,slow=6.0,SNR=14								
NRIK	**Noril'sk**	**51.38**	**339**	P			**P**	**23 07 30.2**	**-0.5**
	1.8nm,0.4s,baz=110,slow=4.8,SNR=4.4								
ARCES	**ARCESS Array B**	**72.33**	**340**	P			**P**	**23 09 47.5**	**-0.2**
	1.3nm,0.5s,baz=67,slow=9.3,SNR=12								
NOA	**NORSAR Array B**	**82.31**	**337**	P			**P**	**23 10 41.0**	**-1.2**
	0.6nm,0.6s,baz=39,slow=5.0,SNR=4.1								

NEIC ***01*** *23:26:50.6±0.0, 15°.89N×93°.64W, h120km, MD4.0(MEX), After MEX.*
MEX 01 23:26:50.6±0.5, 15°.89N×93°.64W, h120km±5km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**0.45**	**114**	*e*P			Pn	23 27 07.0	-1.3
PCIG				*e*S			Sn	23 27 19.6	-1.9
PCIG		**0.45**	**114**	*e*P			Pn	23 27 07.0	-1.3
PCIG				*e*S			Sn	23 27 19.6	-1.9
CCIG	**Comitan**	**1.50**	**75**	*i* P			Pn	23 27 16.9	-1.3
CCIG				*i* S			Sn	23 27 37.6	-1.5
CCIG	**Comitan**	**1.50**	**75**	*i* P			Pn	23 27 16.9	-1.3
CCIG				*i* S			Sn	23 27 37.6	-1.5
THIG		**1.65**	**126**	*i* P			Pn	23 27 18.9	-0.8
THIG				*i* S			Sn	23 27 41.0	-1.0
THIG		**1.65**	**126**	*i* P			Pn	23 27 18.9	-0.8
THIG				*i* S			Sn	23 27 41.0	-1.0
CMIG	**Matias Romero**	**1.69**	**315**	*e*P			Pn	23 27 19.3	-1.0
CMIG				*e*S			Sn	23 27 40.7	-2.1
CMIG	**Matias Romero**	**1.69**	**315**	*e*P			Pn	23 27 19.3	-1.0
CMIG				*e*S			Sn	23 27 40.7	-2.1
TUIG	**Tuzandepetl**	**2.26**	**341**	*e*P			Pn	23 27 26.2	-1.1
TUIG				*i* S			Sn	23 27 53.8	-1.7
TUIG	**Tuzandepetl**	**2.26**	**341**	*e*P			Pn	23 27 26.2	-1.1
TUIG				*i* S			Sn	23 27 53.8	-1.7
HUIG	**Huatulco**	**2.38**	**267**	*i* P			Pn	23 27 27.8	-1.0
HUIG				*i* S			Sn	23 27 56.2	-2.0
HUIG	**Huatulco**	**2.38**	**267**	*i* P			Pn	23 27 27.8	-1.0
HUIG				*i* S			Sn	23 27 56.2	-2.0
VHO	**Vista Hermosa**	**3.19**	**292**	*i* P			Pn	23 27 39.0	-0.6
VHO				*e*S			Sn	23 28 16.0	-1.4
VHO	**Vista Hermosa**	**3.19**	**292**	*i* P			Pn	23 27 39.0	-0.6
VHO				*e*S			Sn	23 28 16.0	-1.4

BJI ***01*** *23:37:11.9, 0°.71N×122°.39E, h33km, mb5.1/70, mB5.4/57, Ms5.1/74, Ms7 4.9/68*
MOS ***01*** *23:37:15.9±1.2, 1°.24N×122°.16E, h33km, mb5.4/47, MS4.8/9, Error ellipse: s-maj=8.7km s-min=5.2km az=113.3*
ISCJB ***01*** *23:37:16.8±0.3, 1°.26N±0°.02×122°.18E±0°.02, h39km±3km, mb5.1/155, MS4.8/58, Error ellipse: s-maj=3.2km s-min=2.8km az=163.7*
IDC ***01*** *23:37:17.5±1.8, 1°.20N×122°.10E, h35km±14km, mb4.5/37, mb1 4.6/43, mb1mx4.6/54, mbtmp4.8/43, ML5.1/6, MS4.7/40, Ms1 4.7/40, ms1mx4.6/46, Error ellipse: s-maj=12.3km s-min=7.8km az=72.0*
DJA ***01*** *23:37:17.6±0.4, 1°.N±2°×12°.2E±°, h23km±3km, M5.3/66, mb5.3/66, mB5.7/54, MLv5.6/24, Mw(mB)5.3/54, Mwp5.7/11*
GCMT ***01*** *23:37:17.7±0.1, 1°.51N±0°.01×122°.01E±0°.01, h32km, MW5.5/126, Moment Tensor Solution. s123,c222; s126,c219; Duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr1.54±.03; Mθθ-1.62±.02; Mϕϕ0.07±.02; Mrθ-1.66±.04; Mrϕ0.29±.02; Mθϕ0.09±.04; Best double couple: M₀2.31100×10^17 NP1:ϕs275.00000°, δ68.00000°, λ86.00000°. NP2:ϕs105.00000°, δ22.00000°, λ99.00000°. Principal axes: T 2.2520, Plg67.0000°, Azm178.0000°; N 0.1120, Plg4.0000°, Azm276.0000°; P -2.3690, Plg23.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***01*** *23:37:18.2±0.1, 1°.23N×122°.11E, h35km, mb5.3/68, MW5.4 Error ellipse: s-maj=3.8km s-min=2.8km az=65.0, Moment Tensor Solution. s21 Moment tensor: Scale 10^17Nm; Mrr0.79; Mθθ-1.13; Mϕϕ0.34; Mrθ-0.88; Mθϕ-0.27; Mrr0.03; Best double couple: M₀1.40000×10^17 NP1: ϕs62.00000°, δ26.00000°, λ64.00000°. NP2:ϕs271.00000°, δ67.00000°, λ102.00000°. Principal axes: T 1.1600, Plg66.0000°, Azm203.0000°; N 0.3500, Plg11.0000°, Azm86.0000°; P -1.5100, Plg21.0000°, Azm352.0000°;*
NEIC Felt [III] at Buol and Gorontalo.
KLM ***01*** *23:37:20.0, 1°.34N×122°.17E, h48km, mb5.4*
ISC 01 23:37:17.6±0.3, 1°.20N±0°.03×122°.15E±0°.03, h32km±1km, h33km:pP-P, n497, σ1s67/552, mb5.2/161, MS4.8/60, 18C-5D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.75**	**197**	P			**Pn**	**23 37 31.9**	**0.0**
KMSI	**Cibinong**	**1.93**	**109**	P			**Pb**	**23 37 51.4**	**-0.8**
APSI	**Ampana**	**2.15**	**194**	P			**Pb**	**23 37 53.8**	**-2.2**
LUWI	**Luwuk**	**2.31**	**164**	*e*Pn			**Pn**	**23 37 55.7**	**+2.3**
LUWI	**Luwuk**	**2.31**	**164**	P			**Pb**	**23 37 57.0**	**-1.6**
MPSI	**Mapaga**	**2.41**	**249**	P			**Pn**	**23 37 54.7**	**-0.2**
SGSI	**Sangihe**	**4.18**	**54**	P			**Pn**	**23 38 18.1**	**-1.1**
TTSI	**Tana Toraja**	**4.82**	**209**	P			**Pn**	**23 38 30.9**	**+2.9**
SGKI	**Sangatta, Kali**	**4.86**	**249**	P			**Pn**	**23 38 28.3**	**-0.3**
SANI	**Sanana**	**5.01**	**130**	P			**Pn**	**23 38 32.1**	**+1.5**
SMKI	**Samarinda**	**5.21**	**252**	P			**Pn**	**23 38 35.4**	**+2.1**
TNTI	**Ternate**	**5.23**	**95**	*e*Pn			**Pn**	**23 38 36.5**	**+2.9**
TNTI	**Ternate**	**5.23**	**95**	P			**Pb**	**23 38 44.8**	**-3.6**
MYLDM	**Lahad Datu**	**5.38**	**317**	*e*Pn			**Pn**	**23 38 35.5**	**-0.3**
LBMI	**Labuha**	**5.65**	**109**	P			**Pn**	**23 38 41.6**	**+2.2**
SPSI	**Sidrap Palu**	**5.65**	**205**	P			**Pn**	**23 38 42.5**	**+3.0**
BKB	**Balikpapan**	**5.80**	**245**	P			**Pn**	**23 38 42.7**	**+1.3**
SKMP	**Bagumbayan, Su**	**5.80**	**24**	*e*P			**Pn**	**23 38 38.6**	**-2.9**
BNSI	**Bone**	**5.92**	**200**	P			**Pn**	**23 38 47.3**	**+4.1**
	2µm,1.1s,17µm30µm6.7nm								
DDMP	**Don Marcelino,**	**6.03**	**36**	*e*P			**Pn**	**23 38 43.7**	**-1.0**
CTBH	**Cotabato--PC H**	**6.34**	**19**	*e*P			**Pn**	**23 38 46.7**	**-2.2**
BBSI	**Bau Bau**	**6.65**	**176**	P			**Pn**	**23 38 56.7**	**+3.5**
PAGZ	**Pagadian**	**6.72**	**10**	*e*P			**Pn**	**23 38 52.4**	**-1.7**
DAV	**Davao City (W)**	**6.76**	**30**	Pn			**Pn**	**23 38 55.3**	**+0.6**
	148nm,0.3s,baz=185,slow=1.4,SNR=36								
DAV				Sn			**Sn**	**23 40 08.9**	**-1.7**
	33nm,0.3s,baz=292,slow=19,SNR=1.5								
DAV				LR			LR	23 41 44.5	
	comp=Z,14µm,19.6s,baz=167,slow=39								
DAV	**Davao City (W)**	**6.76**	**30**	*e*Pn			**Pn**	**23 38 56.2**	**+1.6**
DAV				Sn			**Sn**	**23 40 08.9**	**-1.7**
DAV	**Davao City (W)**	**6.76**	**30**	P			**Pn**	**23 38 55.5**	**+0.8**
	SNR=45								
BKSI	**Bulukumba**	**6.79**	**197**	P			**Pn**	**23 38 58.8**	**+3.8**
	218nm,1.1s,3µm1.2nm								
BUKP	**Musuan**	**7.24**	**23**	*e*P			**Pn**	**23 38 59.6**	**-1.8**
KBKI	**Kotabaru**	**7.47**	**233**	P			**Pn**	**23 39 05.3**	**+0.9**
	66nm,0.7s,1µm0.7nm								
MTKI	**Muara Teweh, K**	**7.56**	**254**	P			**Pn**	**23 39 07.3**	**+1.6**
	272nm,0.7s,8µm1.9nm								
KKM	**Kota Kinabalu**	**7.64**	**309**	*e*Pn			**Pn**	**23 39 06.8**	**0.0**
KKM	**Kota Kinabalu**	**7.64**	**309**	P			**Pn**	**23 39 07.0**	**+0.2**
AAI	**Ambon**	**7.75**	**129**	P			**Pn**	**23 39 11.3**	**+3.1**
KDM	**Kudat**	**7.77**	**317**	P			**Pn**	**23 39 12.0**	**+3.4**
BUTP	**Butuan**	**8.46**	**24**	*e*P			**Pn**	**23 39 20.8**	**+2.8**
MSLP	**Maasin**	**9.28**	**17**	*e*P			**Pn**	**23 39 30.0**	**+0.8**
SIJI	**Sorong**	**9.34**	**103**	Pn			**Pn**	**23 39 31.0**	**+0.9**
	0.4nm,0.3s,baz=294,slow=20,SNR=3.0								
BNDI	**Bandanaira**	**9.60**	**126**	P			Pn	23 39 42.8	+9.1
MMRI	**Maumere**	**9.77**	**180**	*e*Pn			**Pn**	**23 39 38.8**	**+2.8**
MMRI	**Maumere**	**9.77**	**180**	P			**Pn**	**23 39 39.9**	**+3.9**
	276nm,1.3s,7µm18µm								
EDFI	**Ende, Flores**	**9.89**	**183**	P			**Pn**	**23 39 38.5**	**+0.7**
	57nm,0.6s								
SBUM	**Sibu**	**10.01**	**277**	*e*Pn			**Pn**	**23 39 39.6**	**+0.4**
SBUM	**Sibu**	**10.01**	**277**	P			**Pn**	**23 39 41.0**	**+1.8**
STKI	**Sintang**	**10.73**	**264**	P			**Pn**	**23 39 51.0**	**+1.8**
	74nm,1.8s								
PLAI	**Plampang**	**10.87**	**204**	P			**Pn**	**23 39 53.6**	**+2.5**
FAKI	**Fak Fak**	**10.89**	**112**	*e*Pn			**Pn**	**23 39 53.1**	**+1.8**
SOEI	**Soe**	**11.08**	**169**	*e*Pn			**Pn**	**23 39 57.4**	**+3.3**
SOEI	**Soe**	**11.08**	**169**	P			Pn	23 40 04.2	+10
WBSI	**Waikabubak, Su**	**11.11**	**194**	P			Pn	23 39 59.6	+5.2
	182nm,1.6s,3µm								
TWSI	**Taliwang, Sumb**	**11.18**	**208**	P			**Pn**	**23 39 59.5**	**+4.2**
	136nm,1.2s,1µm								
BATI	**Baumata**	**11.43**	**172**	Pn			**Pn**	**23 39 58.4**	**-0.3**
	1.7nm,0.3s,baz=295,slow=9.0,SNR=1.7								
BATI				LR			LR	23 44 42.2	
	comp=Z,10µm,20.6s,baz=327,slow=39								
BATI	**Baumata**	**11.43**	**172**	P			Pn	23 40 07.8	+9.1
SRBI	**Singaraja**	**11.53**	**217**	P			**Pn**	**23 40 03.0**	**+2.9**
	56nm,1.1s,1µm								
KMMI	**Kalianget**	**11.57**	**225**	P			**Pn**	**23 40 03.8**	**+3.2**
	60nm,0.8s								
KSM	**Kuching**	**11.85**	**271**	*e*Pn			**Pn**	**23 40 05.2**	**+0.7**
KSM	**Kuching**	**11.85**	**271**	P			**Pn**	**23 40 06.0**	**+1.6**
DNP	**Denpasar**	**12.00**	**215**	P			**Pn**	**23 40 10.2**	**+3.6**
	546nm,1.9s								
IGBI	**Denpasar**	**12.16**	**215**	P			**Pn**	**23 40 12.0**	**+3.3**
	429nm,1.6s,7µm								
JAGI	**Jajag, Banyuwa**	**12.48**	**220**	*e*Pn			**Pn**	**23 40 15.2**	**+2.1**
JAGI	**Jajag, Banyuwa**	**12.48**	**220**	P			**Pn**	**23 40 15.9**	**+2.7**
	318nm,1.1s,3µm								
GRJI	**Gresik**	**12.57**	**230**	P			**Pn**	**23 40 17.5**	**+3.1**
	121nm,1.0s,1µm								
GMJI	**Gumukmas**	**12.80**	**223**	P			P	23 40 32.9	+4.8
TGY	**Tagaytay City**	**12.88**	**355**	Pn			**Pn**	**23 40 17.7**	**-0.9**
	52nm,0.3s,baz=159,slow=14,SNR=2.3								
TGY				LR			LR	23 45 33.6	
	comp=Z,5µm,18.1s,baz=145,slow=38								
SAUI	**Saumlaki**	**12.90**	**135**	*e*Pn			**Pn**	**23 40 21.7**	**+2.9**
NGJI	**Ngawi**	**13.64**	**231**	P			**P**	**23 40 37.9**	**+0.5**
PWJI	**Pagerwojo**	**13.80**	**228**	P			**P**	**23 40 36.9**	**-2.2**
	101nm,1.7s,2µm97µm								
SMRI	**Semarang**	**14.27**	**235**	*e*Pn			**Pn**	**23 40 39.6**	**+2.0**
SMRI	**Semarang**	**14.27**	**235**	P			**Pn**	**23 40 41.1**	**+3.5**
	229nm,1.5s,7µm								
WOJI	**Wonogiri, Jawa**	**14.35**	**231**	P			**Pn**	**23 40 40.1**	**+1.4**
PCJI	**Pacitan**	**14.38**	**229**	P			P	23 40 52.5	+6.9
UGM	**Wanagama**	**14.71**	**232**	*e*Pn			**Pn**	**23 40 44.9**	**+1.3**
JCJI	**Jatiwangi**	**15.82**	**241**	P			**P**	**23 41 01.6**	**-0.1**
CMJI	**Cimerak**	**16.32**	**237**	P			P	23 41 22.1	+15
PPBI	**Pangkal Pinang**	**16.36**	**258**	P			**Pn**	**23 41 03.8**	**-1.2**
	24nm,0.7s,13µm								
MTN	**Manton Dam**	**16.55**	**148**	P			**P**	**23 41 09.9**	**+0.2**
	baz=17,SNR=19								
MTN	**Manton Dam**	**16.55**	**148**	*e*Pn			**P**	**23 41 09.9**	**+0.2**
	159nm,1.4s								
LEM	**Lembang**	**16.55**	**241**	Pn			**Pn**	**23 41 06.6**	**-1.1**
	3.9nm,0.3s,baz=75,slow=14,SNR=2.8								
LEM				LR			LR	23 49 06.9	
	comp=Z,4µm,18.1s,baz=58,slow=43								
CISI	**Cisompet, Garu**	**16.74**	**238**	*e*Pn			**P**	**23 41 11.5**	**-0.4**
	278nm,1.0s								
CISI	**Cisompet, Garu**	**16.74**	**238**	P			**P**	**23 41 12.1**	**+0.2**
	311nm,1.1s								
KDU	**Kakadu**	**17.18**	**144**	P			**P**	**23 41 16.6**	**-0.1**
	baz=17,SNR=34								
SBJI	**Serang**	**17.57**	**245**	P			**P**	**23 41 22.1**	**+1.0**
TPRI	**Tanjung Pinang**	**17.63**	**269**	P			**P**	**23 41 22.7**	**+1.0**
PMBI	**Palembang**	**17.85**	**257**	P			**P**	**23 41 26.0**	**+1.8**
KNRA	**Kununurra**	**17.99**	**159**	P			**P**	**23 41 27.4**	**+1.7**
	baz=18,SNR=14								
BLSI	**Bandar Lampung**	**18.10**	**249**	P			P	23 41 41.1	+14
CGJI	**Cibinong**	**18.17**	**245**	P			**P**	**23 41 28.9**	**+1.2**
	228nm,1.5s,5µm								
KLI	**Kotabumi**	**18.30**	**251**	P			Pn	23 41 42.8	+14
MYKOM	**Kota Tinggi**	**18.31**	**272**	*e*P			**P**	**23 41 28.6**	**-0.6**
	79nm,1.4s								
MYKOM	**Kota Tinggi**	**18.31**	**272**	P			**P**	**23 41 29.0**	**-0.2**
MDSI	**Maura Dua**	**18.83**	**252**	P			**Pn**	**23 41 36.1**	**+0.5**
	126nm,1.6s,3µm								
KASI	**Kota Agung**	**18.86**	**249**	P			**Pn**	**23 41 36.8**	**+0.8**
	251nm,1.2s,4µm								
JAY	**Jayapura**	**18.91**	**101**	P			P	**23 41 35.5**	**-0.4**
	0.9nm,0.3s,baz=275,slow=18,SNR=3.5								
JAY				S			**Sn**	**23 45 06.1**	**-1.5**
	0.0nm,0.3s,baz=148,slow=19,SNR=1.8								
JAY				LR			LR	23 50 39.9	
	comp=Z,2µm,20.0s,baz=288,slow=42								

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**19.10**	**251**	P			**Pn**	**23 41 40.6**	**+1.6**
	210nm,1.4s,9µm								
FITZ	**Fitzroy Crossi**	**19.48**	**170**	P			**P**	**23 41 42.2**	**+0.3**
	7.4nm,0.3s,baz=3.8,slow=11,SNR=270								
FITZ				S			**S**	**23 45 17.6**	**-2.8**
	0.1nm,0.3s,baz=82,slow=15,SNR=1.9								
FITZ				LR			LR	23 49 11.6	
	comp=Z,2µm,20.7s,baz=352,slow=37								
FITZ	**Fitzroy Crossi**	**19.48**	**170**	P			**P**	**23 41 42.3**	**+0.3**
	baz=20,SNR=147								
FITZ	**Fitzroy Crossi**	**19.48**	**170**	*e*P			**P**	**23 41 42.4**	**+0.4**
	139nm,1.1s								
FITZ				S			**S**	**23 45 17.6**	**-2.8**
MNAI	**Manna**	**19.96**	**254**	*e*P			**P**	**23 41 46.9**	**-0.4**
	1µm,1.3s								
MNAI	**Manna**	**19.96**	**254**	P			**Pn**	**23 41 49.6**	**+0.4**
	745nm,1.6s,10µm								
MASI	**Maura Aman, Be**	**20.37**	**258**	P			Pn	23 41 53.6	-0.4
	710nm,1.2s,8µm								
SDSI	**Sungai Dareh**	**20.83**	**264**	P			**P**	**23 41 57.3**	**+0.5**
	274nm,1.2s,3µm								
KRJI	**Kerinci**	**20.95**	**261**	P			Pn	23 42 00.2	-0.6
	832nm,1.4s,14µm								
BKNI	**Bangkinang**	**21.13**	**268**	*e*P			**P**	**23 42 00.4**	**+0.4**
	381nm,1.2s								
BKNI	**Bangkinang**	**21.13**	**268**	P			**P**	**23 42 00.9**	**+0.9**
	297nm,1.2s,4µm4µm								
IPM	**Ipoh**	**21.35**	**279**	*e*P			**P**	**23 42 01.9**	**-0.5**
	133nm,1.1s								
QIZ	**Qiongzhong**	**21.44**	**327**	P			**P**	**23 42 04.9**	**+1.6**
QIZ				sP			**sP**	**23 42 16.1**	**0.0**
QIZ				S			**S**	**23 46 01.6**	**+2.0**
QIZ				sS			**sS**	**23 46 15.3**	**+1.9**
QIZ				pmax			pmax		
	comp=Z,75nm,1.1s								
QIZ				LR			LR		
	comp=N,1µm,13.9s								
QIZ				LR			LR		
	comp=E,2µm,17.9s								
QIZ				LR			LR		
	comp=Z,2µm,17.5s								
QIZ	**Qiongzhong**	**21.44**	**327**	*e*P			**P**	**23 42 02.5**	**-0.7**
	98nm,1.1s								
TWG	**Pinlang**	**21.52**	**357**	*e*P			**P**	**23 42 04.5**	**+0.4**
	133nm,0.7s								
PDSI	**Padang**	**21.79**	**265**	P			**P**	**23 42 07.1**	**0.0**
	199nm,1.4s,2µm								
KULM	**Kulim**	**21.85**	**281**	*e*P			**P**	**23 42 07.2**	**-0.5**
	109nm,1.2s								
KULM	**Kulim**	**21.85**	**281**	P			**P**	**23 42 08.0**	**+0.3**
TPUB	**Ta-pu**	**22.02**	**356**	*e*P			**P**	**23 42 09.5**	**0.0**
	90nm,0.8s								
YULB	**Yu-li**	**22.08**	**358**	*e*P			**P**	**23 42 10.7**	**+0.6**
	37nm,0.8s								
SKLT	**Songkhla**	**22.27**	**286**	P			**P**	**23 42 14.3**	**+2.0**
	81nm,1.4s,1µm								
MBWA	**Marble Bar**	**22.34**	**186**	*e*P			**P**	**23 42 12.0**	**-0.9**
	281nm,1.4s								
MBWA	**Marble Bar**	**22.34**	**186**	P			**P**	**23 42 13.2**	**+0.3**
	SNR=12								
PPSI	**Pulau Pag

AS31 **Alice Springs** 27.23 156 *e*P P 23 43 00.1 +1.2
comp=Z,6.5nm,0.8s
ASAR **Alice Springs** 27.23 156 P P 23 42 58.7 -0.1
comp=Z,5.1nm,0.6s,baz=346,slow=13,SNR=42
ASAR PcP PcP 23 46 17.5 -1.1
comp=Z,1.0nm,0.3s,baz=335,slow=1.1,SNR=4.2
ASAR S S 23 47 37.6 +1.6
comp=Z,1.3nm,0.9s,baz=351,slow=2.7,SNR=2.6
ASAR ScP ScP 23 49 55.4 -1.4
comp=Z,3.7nm,1.2s,baz=359,slow=5.0,SNR=7.1
ASAR LR LR 23 54 18.2
comp=Z,4μm,21.6s,baz=334,slow=38
AS01 **Alice Springs** 27.25 156 *e*P P 23 42 58.4 -0.7
UMPA **Umpang Tak** 27.38 304 P P 23 43 08.3 +8.0
SUKH **Sukhothai** 27.43 307 P P 23 43 02.3 +1.6
comp=Z,9.0nm,1.1s
QIS **Mount Isa** 27.56 143 P P 23 43 02.8 +1.0
baz=28,SNR=13
MEEK **Meekatharra** 27.88 187 P P 23 43 03.1 -1.6
baz=28,SNR=21
COCO **West Island** 28.45 241 *e*P P 23 43 09.5 -0.3
comp=Z,422nm,1.9s
COCO **West Island** 28.45 241 *e*P P 23 43 09.5 -0.3
COCO pmax pmax
comp=Z,423nm,1.9s
CM01 **Chiang Mai Arr** 28.48 308 *e*P P 23 43 10.5 +0.4
CM01 *e*PcP PcP 23 46 21.8 +0.1
CMAR **Chiang Mai Arr** 28.51 308 P P 23 43 10.4 0.0
comp=Z,1.3nm,0.8s,baz=140,slow=6.8,SNR=10
CMAR PcP PcP 23 46 20.7 -1.1
comp=Z,2.2nm,0.9s,baz=180,slow=2.2,SNR=5.9
CMAR ScP ScP 23 49 59.6 -1.2
comp=Z,0.7nm,0.4s,baz=158,slow=2.0,SNR=5.4
CMAR LR LR 23 55 13.4
comp=Z,3μm,20.8s,baz=114,slow=38
CMMT **Chiang Mai** 28.71 309 P P 23 43 13.8 +1.6
comp=Z,12nm,1.5s,comp=Z,570nm
CHTO **Chiang Mai** 28.71 309 *e*P P 23 43 12.8 +0.6
comp=Z,21nm,1.1s
CHTO **Chiang Mai** 28.71 309 P P 23 43 12.4 +0.2
SNR=5.2
CHTO **Chiang Mai** 28.71 309 *e*P P 23 43 12.8 +0.6
CHTO pmax pmax
comp=Z,21nm,1.1s
CHTO **Chiang Mai** 28.71 309 P P 23 43 13.9 +1.7
comp=Z,67nm,1.4s,comp=Z,2μm
GYA **Guiyang** 29.20 331 ⇑*i*P P 23 43 17.3 +0.7
GYA pP sP 23 43 30.2 +0.3
GYA PP **PnPn** **23 44 15.5 +5.3**
GYA S S **23 48 06.6 -0.7**
GYA sS sS 23 48 28.0 +5.2
GYA SS **SnSn** **23 49 40.7 +6.8**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,180nm,7.8s
GYA LR LR
comp=Z,1μm,18.6s
GYA LR LR
comp=Z,980nm,18.9s
GYA LR LR
comp=Z,2μm,19.6s
SSE **Sheshan** 29.75 358 P P 23 43 22.0 +0.8
SSE S S 23 48 16.8 +1.4
SSE pmax pmax
comp=Z,16nm,0.7s
SSE pmax pmax
comp=Z,270nm,3.6s
SSE LR LR
comp=Z,760nm,16.5s
SSE LR LR
comp=Z,650nm,17.2s
WHN **Wuhan** 30.11 346 ⇑P P 23 43 25.9 +1.5
WHN pP **sP** **23 43 37.1 -0.7**
WHN S S **23 48 25.9 +4.8**
WHN LR LR
comp=Z,5μm,16.9s
WHN LR LR
comp=Z,2μm,12.1s
WHN LR LR
comp=Z,8μm,18.0s
KMI **Kunming** 30.29 323 P P 23 43 28.3 +2.0
KMI pP sP 23 43 39.9 +0.2
KMI S S **23 48 25.0 +0.5**
KMI sS sS 23 48 48.0 +8.0
KMI SS **ScP** **23 50 07.0 +0.3**
KMI pmax pmax
comp=Z,18nm,0.5s
KMI pmax pmax
comp=Z,370nm,5.2s
KMI LR LR
comp=Z,630nm,17.1s
KMI LR LR
comp=Z,610nm,16.4s
KMI LR LR
comp=Z,930nm,17.8s
MORW **Morawa** 30.66 191 P P 23 43 28.4 -0.8
baz=31,SNR=12
NJ2 **Nanjing** 30.85 355 *e*P P 23 43 31.3 +0.4
NJ2 S S 23 48 31.3 -1.3
NJ2 pmax pmax
comp=Z,18nm,0.5s
NJ2 pmax pmax
comp=Z,170nm,4.6s
NJ2 LR LR
comp=Z,2μm,17.3s
NJ2 LR LR
comp=Z,1μm,24.9s
NJ2 LR LR
comp=Z,1μm,16.7s
ENH **Enshi** 31.32 339 *e*P P 23 43 35.0 -0.2
ENH *e*pP **pP** **23 43 44.1 -0.5**
CTA **Charters Tower** 31.71 133 P P 23 43 39.0 +0.3
comp=Z,14nm,1.0s,baz=314,slow=12,SNR=11
CTAO **Charters Tower** 31.71 133 *e*P P 23 43 40.0 +1.3
comp=Z,68nm,1.6s
CTAO **Charters Tower** 31.71 133 *e*P P 23 43 40.0 +1.3
CTAO pmax pmax
comp=Z,68nm,1.6s
BLDU **Ballidu** 32.06 189 P P 23 43 40.1 -1.5
baz=32,SNR=34
CBIJ **Chichi jima** 32.14 35 *e*P P 23 43 42.7 +0.3
comp=Z,179nm,0.9s
FORT **Forrest** 32.29 170 P P 23 43 43.2 -0.4
baz=32,SNR=16
FORT **Forrest** 32.29 170 *e*P P 23 43 43.4 -0.2
comp=Z,63nm,0.8s
KLBR **Kellerberrin** 32.88 187 P P 23 43 47.5 -1.2
baz=33,SNR=15
NWAO **Narrogin (SRO)** 34.26 187 P P 23 43 58.3 -2.5
comp=Z,18nm,1.0s,baz=255,slow=7.3,SNR=6.0
NWAO LR LR 23 59 13.5
comp=Z,2μm,19.9s,baz=265,slow=38
NWAO **Narrogin (SRO)** 34.26 187 *e*P P 23 44 00.1 -0.6
comp=Z,102nm,1.6s
NWAO **Narrogin (SRO)** 34.26 187 *e*P P 23 44 00.1 -0.6
NWAO pmax pmax
comp=Z,102nm,1.6s
CD2 **Chengdu** 34.31 331 P P 23 44 01.6 +0.3
CD2 pP sP 23 44 14.0 -0.7
CD2 sP pP 23 44 19.9 +9.1
CD2 PP **PP** **23 45 20.2 +0.7**
CD2 S S **23 49 26.3 -0.4**
CD2 sS sS 23 49 48.5 +6.1
CD2 pmax pmax
comp=Z,140nm,0.7s
CD2 pmax pmax
comp=Z,370nm,5.5s
CD2 LR LR
comp=Z,3μm,19.6s
CD2 LR LR
comp=Z,3μm,18.6s
CD2 LR LR
comp=Z,3μm,16.7s
QLP **Quilpie** 34.88 144 P P 23 44 07.8 +1.6
baz=35,SNR=11
XAN **Xi'an** 34.94 341 P P 23 44 06.6 -0.1
XAN pP pP 23 44 17.4 +1.2
XAN sP sP 23 44 21.6 +1.4
XAN PP **PP** **23 45 28.0 +1.6**
XAN S S **23 49 34.0 -2.4**
XAN sS sS 23 49 51.6 -0.4
XAN PcS **PcS** **23 50 24.8 -0.9**
XAN ScS **ScS** **23 54 21.0 -4.9**
XAN pmax pmax
comp=Z,8.0nm,0.8s
XAN pmax pmax
comp=Z,180nm,7.0s
XAN LR LR
comp=Z,2μm,16.5s
XAN LR LR
comp=Z,1μm,15.8s
XAN LR LR
comp=Z,2μm,18.0s
TIA **Tai'an** 35.15 353 P P 23 44 08.0 -0.4
TIA pmax pmax
comp=Z,9.0nm,1.6s
TIA pmax pmax
comp=Z,360nm,6.9s
TIA LR LR
comp=Z,1μm,18.6s
TIA LR LR
comp=Z,680nm,18.6s
TIA LR LR
comp=Z,2μm,21.1s
SAIH **SAIHA** 35.38 309 *e*P P 23 44 10.5 -0.3
LKP **Lekhapani** 36.22 318 *e*P P 23 44 16.6 -1.1
BBOO **Buckleboo** 36.28 160 P P 23 44 17.9 -0.3
baz=36,SNR=18
BBOO **Buckleboo** 36.28 160 *e*P P 23 44 18.9 +0.7
comp=Z,37nm,1.1s
KOHI **KOHIMA** 36.40 314 *e*P P 23 44 17.8 -1.7
KSAR **Wonju Array Be** 36.45 8 P P 23 44 17.5 -2.0
KSAR **Wonju Array Be** 36.45 8 P P 23 44 17.5 -2.0
KSRS **Korea Array** 36.47 8 P P 23 44 17.5 -2.2
comp=Z,5.8nm,1.0s,baz=178,slow=11,SNR=14
KSRS LR LR 23 59 06.9
comp=Z,1μm,21.4s,baz=204,slow=36
KSRS **Korea Array** 36.47 8 P P 23 44 17.5 -2.2
KSRS pmax pmax
comp=Z,5.0nm,0.9s
KSRS MLR MLR
comp=Z,1μm,21.4s
MOKO **MOKOCHONG** 36.48 316 *e*P P 23 44 21.1 +1.0
MOKO IAmb IAmb 23 44 25.1
comp=Z,16nm,0.7s
KS01 **Wonju Array Si** 36.49 8 *e*P P 23 44 19.4 -0.4
BRDH **Bariadhala** 36.53 308 P P 23 44 19.4 -1.1
comp=Z,77nm,0.4s,baz=197,slow=11,SNR=3.6
JORH **JORHAT** 36.93 316 *e*P P 23 44 23.4 -0.4
BELO **BELONIA** 36.99 309 *e*P P 23 44 24.4 0.0
TIY **Taiyuan** 37.42 347 *e*P P 23 44 27.9 0.0
TIY pP **sP** **23 44 43.4 +2.0**
TIY PP **PnPn** **23 45 57.0 +2.4**
TIY S S **23 50 15.4 +1.1**
TIY sS **ScP** **23 50 40.0 +8.7**
TIY pmax pmax
comp=Z,30nm,0.5s
TIY pmax pmax
comp=Z,260nm,5.4s
TIY LR LR
comp=Z,2μm,17.3s
TIY LR LR
comp=Z,410nm,12.6s
TIY LR LR
comp=Z,2μm,17.3s
DL2 **Dalian** 37.53 359 P P 23 44 26.1 -2.6
DL2 S S 23 50 12.4 -3.3
DL2 pmax pmax
comp=Z,40nm,1.0s
DL2 pmax pmax
comp=Z,340nm,8.0s
DL2 LR LR
comp=Z,940nm,16.9s
DL2 LR LR
comp=Z,1μm,17.7s
DL2 LR LR
comp=Z,2μm,16.0s
ZIRO **ZIRO** 37.70 316 *e*P P 23 44 30.0 -0.5
STKA **Stephens Creek** 37.70 152 P P 23 44 29.8 -0.6
comp=Z,30nm,1.0s,baz=316,slow=10,SNR=21
STKA LR LR 00 02 51.9
comp=Z,2μm,18.0s,baz=308,slow=41
STKA **Stephens Creek** 37.70 152 P P 23 44 30.5 +0.2
baz=38,SNR=21
STKA **Stephens Creek** 37.70 152 *e*P P 23 44 30.4 +0.2
comp=Z,21nm,1.5s
STKA **Stephens Creek** 37.70 152 *e*P P 23 44 30.5 +0.2
STKA pmax pmax
comp=Z,21nm,1.5s
TEZP **TEZPUR** 37.88 314 *e*P P 23 44 30.0 -1.8
HTT **Hallett** 37.89 157 P P 23 44 32.9 +1.0
baz=38,SNR=32
SHL **Shillong** 37.93 312 *e*P P 23 44 32.6 +0.2
SHL **Shillong** 37.93 312 *e*P P 23 44 32.7 +0.2
SHL **Shillong** 37.93 312 *e*P P 23 44 31.6 -1.0
SHL *i*S S 23 50 22.0 -0.5
MAJO **Matsushiro** 38.18 21 P P 23 44 34.3 0.0
comp=Z,120nm,1.5s
MAJO **Matsushiro** 38.18 21 P P 23 44 34.3 0.0
MAJO pmax pmax
comp=Z,120nm,1.5s
MJAR **Matsushiro Arr** 38.18 21 P P 23 44 32.8 -1.5
comp=Z,13nm,1.0s,baz=200,slow=9.3,SNR=13
MJAR LR LR 00 01 44.8
comp=Z,1μm,18.4s,baz=205,slow=38
LZH **Lanzhou** 38.65 336 ⇑P P 23 44 39.8 +1.4
LZH pP sP 23 44 52.5 +0.6
LZH sP pP 23 44 57.1 +9.1
LZH PP **PnPn** **23 46 12.7 +3.2**
LZH S S **23 50 34.1 +1.0**
LZH sS sS 23 50 54.2 +5.4
LZH SS **SnSn** **23 53 19.3 -3.5**
LZH pmax pmax
comp=Z,39nm,1.0s
LZH pmax pmax
comp=Z,480nm,6.0s
LZH LR LR
comp=Z,2μm,14.0s
LZH LR LR
comp=Z,2μm,14.2s
LZH LR LR
comp=Z,2μm,16.9s
BJT **Baijiatuau** 39.02 353 *e*P P 23 44 41.9 +0.6
comp=Z,90nm,1.7s
BJT **Baijiatuau** 39.02 353 *e*P P 23 44 41.9 +0.6
BJT pmax pmax
comp=Z,90nm,1.7s
HNR **Honiara** 39.09 106 LR LR 00 01 52.7
comp=Z,673nm,21.3s,baz=281,slow=38
TAWA **Tawang** 39.12 315 *e*P P 23 44 43.4 +0.6
CMSA **Cobar Meteorol** 39.48 148 P P 23 44 46.2 +1.0
baz=40,SNR=24
SNY **Shenyang** 40.47 2 ⇑P P 23 44 53.4 +0.2
SNY pmax pmax
comp=Z,32nm,1.3s
SNY LR LR
comp=Z,720nm,17.8s
SNY LR LR
comp=Z,1μm,17.1s
SNY LR LR
comp=Z,2μm,20.6s
BTO **Baotou** 40.74 346 *e*P P 23 44 56.2 +0.5
LSA **Lhasa** 40.90 317 *e*P P 23 44 59.3 +1.7
comp=Z,99nm,1.8s
LSA **Lhasa** 40.90 317 *i*P P 23 44 59.0 +1.4
SNR=8.5
LSA **Lhasa** 40.90 317 *e*P P 23 44 59.3 +1.7
LSA pmax pmax
comp=Z,99nm,1.8s
GTK **Tadong** 41.34 312 *e*P P 23 44 57.5 -3.4
BOK **Bokaro** 41.70 305 *e*P P 23 45 03.0 -0.7
PALK **Pallekele** 41.75 280 *e*P P 23 45 03.7 -0.7
comp=Z,100nm,1.5s
PALK **Pallekele** 41.75 280 *i*P P 23 45 05.8 +1.4
ARPS **Mount Arapiles** 41.97 156 P P 23 45 07.2 +1.5
baz=42,SNR=7.1
ODAN **Odare** 42.01 310 *e*P P 23 45 06.6 +0.1
ARMA **Armidale** 42.15 141 *e*P P 23 45 08.8 +1.4
comp=Z,83nm,1.5s
CN2 **Changchun** 42.52 4 *e*P P 23 45 21.1 +11
CN2 *e*PP **PcP** **23 47 06.0 +3.7**
CN2 *e*S S **23 51 37.8 +7.5**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1μm,17.0s
CN2 LR LR
comp=E,900nm,17.0s
CN2 LR LR
comp=Z,1μm,17.0s
RAMN **Ramite** 42.66 310 *e*P P 23 45 12.5 +0.7
comp=Z,213nm,1.3s
GTA **Gaotai** 43.15 334 ⇓P P 23 45 16.9 +1.4
GTA pP sP 23 45 27.4 -1.6
GTA sP pP 23 45 31.3 +6.2
GTA PP **PP** **23 47 00.2 +4.1**
GTA PcP **PcP** **23 47 06.3 +1.5**
GTA S S **23 51 41.8 +1.8**
GTA sS sS 23 51 56.9 +1.0
GTA SS **SS** **23 54 47.2 -6.4**
GTA pmax pmax
comp=Z,37nm,1.1s
GTA pmax pmax
comp=Z,180nm,6.7s
GTA LR LR
comp=Z,820nm,18.1s
GTA LR LR
comp=Z,900nm,19.4s
GTA LR LR
comp=Z,1μm,18.7s
JIRN **Jiri** 43.34 311 *e*P P 23 45 17.5 +0.1
comp=Z,138nm,1.1s
GUN **Gumba** 43.70 311 *e*P P 23 45 20.0 -0.3
comp=Z,86nm,0.8s
USA0B **Ussuriysk Arra** 43.70 10 *e*P P 23 45 20.7 +1.1
comp=Z,60nm,1.4s
USRK **Ussuriysk Ar.** 43.70 10 P P 23 45 18.3 -1.3
comp=Z,8.4nm,0.8s,baz=191,slow=8.9,SNR=8.1
USRK LR LR 00 02 10.5
comp=Z,930nm,21.6s,baz=161,slow=34
MDJ **Mudanjiang** 43.74 8 P P 23 45 20.7 +0.8
MDJ pP sP 23 45 32.1 -1.3
MDJ sP pP 23 45 37.3 +7.8
MDJ PP **PP** **23 47 01.1 -1.0**
MDJ S S **23 51 50.4 +2.4**
MDJ pmax pmax
comp=Z,42nm,1.2s
MDJ pmax pmax
comp=Z,680nm,4.0s
MDJ LR LR
comp=Z,920nm,13.1s
MDJ LR LR
comp=Z,780nm,9.1s
MDJ LR LR
comp=Z,2μm,18.6s
MDJ **Mudanjiang** 43.74 8 *e*P P 23 45 21.2 +1.3
comp=Z,57nm,0.9s
PKI **Pulchoki** 43.89 310 *e*P P 23 45 21.1 -0.7
comp=Z,22nm,0.6s
PKIN **Phulchoki** 43.90 310 *e*P P 23 45 21.1 -0.7
KKN **Kakani** 44.09 310 *e*P P 23 45 23.5 +0.2
comp=Z,22nm,0.8s
DMN **Daman** 44.14 310 *e*P P 23 45 24.2 +0.5
comp=Z,29nm,0.8s
CAN **Canberra** 44.15 148 *e*P P 23 45 25.3 +1.8
comp=Z,38nm,0.9s
CAN **Canberra** 44.15 148 *e*P P 23 45 25.3 +1.8
CAN pmax pmax
comp=Z,38nm,0.9s
KOLN **Koldanda** 45.38 309 *e*P P 23 45 33.9 +0.3
comp=Z,87nm,0.9s
DANN **Dangsing** 45.54 310 *e*P P 23 45 34.9 0.0
comp=Z,51nm,0.6s
HYB **Hyderabad** 45.78 293 *i*P P 23 45 37.0 +0.3
HYB *e* 23 45 44.5
HYB **Hyderabad** 45.78 293 *e*P P 23 45 36.2 -0.5
HYB IAmb IAmb 23 45 38.0
comp=Z,26nm,1.0s
PYUN **Piuthan** 46.01 309 *e*P P 23 45 39.0 +0.4
comp=Z,163nm,1.0s
ASAJ **Asahikawa** 46.44 20 P P 23 45 41.0 -0.4
comp=Z,19nm,1.0s,baz=284,slow=12,SNR=3.5
ASAJ **Asahikawa** 46.44 20 P P 23 45 41.0 -0.4
ASAJ pmax pmax
comp=Z,19nm,1.0s
NGP **Nagpur** 46.46 298 *e*P P 23 45 41.3 -0.7
YUK **Yuzh-Kuril'sk** 47.58 23 P P 23 45 45.0 -5.2
YUK S S **23 52 44.3 +0.9**
LHI **Lord Howe Isla** 47.78 136 *e*P P 23 45 51.5 -0.6
comp=Z,208nm,1.3s
HIA **Hailar** 47.93 358 *e*P P 23 45 53.4 +0.4
comp=Z,51nm,1.1s
HIA **Hailar** 47.93 358 *e*P P 23 45 53.4 +0.4
HIA pmax pmax
comp=Z,51nm,1.1s
ULN **Ulaanbaatar** 48.30 346 *e*P P 23 45 57.2 +1.2
comp=Z,328nm,1.8s
ULN **Ulaanbaatar** 48.30 346 P P 23 45 56.5 +0.5
SNR=45
ULN **Ulaanbaatar** 48.30 346 *c*e*c*P P 23 45 56.5 +0.5
ULN pmax pmax
comp=Z,74nm,1.7s
SONM **Songino Array** 48.42 346 P P 23 45 57.5 +0.5
comp=Z,30nm,1.1s,baz=168,slow=8.2,SNR=21
SONM S S 23 52 45.6 -10
comp=Z,2.2nm,0.8s,baz=20,slow=17,SNR=2.8
SONM LR LR 00 07 23.3
comp=Z,2μm,19.8s,baz=174,slow=37
SONA1 **Songino Array** 48.43 346 *e*P P 23 45 57.6 +0.6
KLR **Kul'dur** 48.56 8 P P 23 45 57.5 -0.2
comp=Z,3.3nm,0.7s,baz=268,slow=5.8,SNR=6.3
KLR **Kul'dur** 48.56 8 ⇑*i*P P 23 45 57.0 -0.7
BHPL **Bhopal** 48.59 300 *e*P P 23 45 58.3 -0.2
BHPL IAmb IAmb 23 45 58.6
comp=Z,19nm,0.8s
DZM **Mont Dzumac** 49.00 121 P P 23 46 02.3 +0.5
comp=Z,4.2nm,0.4s,baz=259,slow=13,SNR=12
DZM LR LR 00 07 57.0
comp=Z,345nm,20.4s,baz=260,slow=38
DZM **Mont Dzumac** 49.00 121 *e*P P 23 46 03.1 +1.4
comp=Z,72nm,1.5s
DZM **Mont Dzumac** 49.00 121 *e*LR LR 00 00 10.4
comp=Z,939nm,26.9s
DZM **Mont Dzumac** 49.00 121 *e*P P 23 46 02.8 +1.0
comp=Z,94nm,1.7s
POO **Poona** 50.39 293 *e*P P 23 46 11.7 -0.7
POO IAmb IAmb 23 46 12.6
comp=Z,38nm,1.2s
NDI **New Delhi** 50.82 307 *e*P P 23 46 14.0 -1.4
DDI **Dehra Dun** 50.86 309 *e*P P 23 46 14.9 -0.8
ZAK **Zakamensk** 51.57 345 *e*P P 23 46 21.1 +0.4
ZAK pmax pmax
comp=Z,56nm,1.6s
SMLA **Simla** 51.90 310 *e*P P 23 46 23.1 -0.3
SMLA IAmb IAmb 23 46 25.0
comp=Z,442nm,1.7s
WMQ **Urumqi** 52.34 329 P P 23 46 27.4 +0.9
WMQ pP pP 23 46 36.0 -0.4
WMQ PcP **PcP** **23 47 33.4 -4.0**
WMQ PP **PP** **23 48 28.3 +2.9**
WMQ S S **23 53 50.0 -0.1**
WMQ pmax pmax
comp=Z,57nm,1.9s
WMQ LR LR
comp=Z,2μm,15.3s
WMQ LR LR
comp=Z,1μm,18.1s
WMQ LR LR
comp=Z,1μm,21.5s
ZEA **Zeya** 52.53 4 *e*P P 23 46 33.6 +5.9
ZEA pmax pmax
comp=Z,36nm,0.8s
ZEA MLR MLR
comp=Z,900nm,16.0s
TLY **Talaya** 52.66 346 P P 23 46 29.0 +0.3
baz=191,slow=10,SNR=8.3
TLY **Talaya** 52.66 346 *e*P P 23 46 30.1 +1.3
comp=Z,72nm,0.9s
TLY **Talaya** 52.66 346 *e*P P 23 46 30.1 +1.3
TLY pmax pmax
comp=Z,72nm,0.9s
IRK **Irkutsk** 53.03 346 *e*P P 23 46 44.1 +13
IRK pmax pmax
comp=Z,244nm,3.2s
DHRM **DHARAMSHALA** 53.05 310 *e*P P 23 46 31.7 -0.5
DHRM IAmb IAmb 23 46 33.1
comp=Z,41nm,0.7s
MOY **Mondy** 53.35 344 *e*P P 23 46 39.9 +6.0
MOY pmax pmax
comp=Z,234nm,2.1s
HVS **Khovu-Aksy** 55.26 339 ⇓*i*P P 23 46 48.0 +0.2
HVS pmax pmax
comp=Z,45nm,1.1s
KSH **Kashi** 56.73 318 P P 23 46 59.7 +1.1
KSH pP sP 23 47 11.3 -1.0

KSH PP **PP** **23 49 07.2 +2.2**
KSH PcS **PcS** **23 51 51.4 -3.9**
KSH S **S** **23 54 46.3 -3.1**
KSH pmax pmax
comp=Z,26nm,1.1s
KSH pmax pmax
comp=Z,650nm,5.3s
KSH LR LR
comp=Z,550nm,12.0s
KSH LR LR
comp=Z,2µm,19.0s
KSH LR LR
comp=Z,1µm,19.1s
PRZ **Przheval'sk** **56.76 322** *e*P **P** **23 46 59.9 +1.1**
comp=Z,46nm,1.1s
PRZ **Przheval'sk** **56.76 322** *e*P **P** **23 46 59.9 +1.1**
PRZ pmax pmax
comp=Z,46nm,1.1s
BOD **Bodaibo** **56.83 355** *e*P **P** **23 46 58.8 0.0**
BOD pmax pmax
comp=Z,97nm,2.1s
MK01 **Makanchi Array** **57.14 328** *e*P **P** **23 47 01.5 +0.3**
MK31 **Makanchi Array** **57.16 328** *e*P **P** **23 47 01.8 +0.4**
MK31 **Makanchi Array** **57.16 328** *e*P **P** **23 47 01.8 +0.4**
MKAR **Makanchi Array** **57.16 328** P **P** **23 47 01.7 +0.4**
comp=Z,8.4nm,0.8s,baz=126,slow=8.3,SNR=63
MKAR LR LR 00 13 04.8
comp=Z,796nm,19.9s,baz=109,slow=38
MKAR **Makanchi Array** **57.16 328** *e*P **P** **23 47 01.8 +0.4**
comp=Z,68nm,0.6s
MKAR **Makanchi Array** **57.16 328** *e*P **P** **23 47 01.8 +0.4**
MKAR pmax pmax
comp=Z,68nm,0.6s
KDJ **Kajisay** **57.32 321** *e*P **P** **23 47 04.3 +1.5**
comp=Z,21nm,1.0s
KDJ **Kajisay** **57.32 321** *e*P **P** **23 47 04.3 +1.5**
KDJ pmax pmax
comp=Z,21nm,1.0s
KZA **Kyzart** **58.51 320** P **P** **23 47 12.6 +1.2**
SNR=8.3
KBK **Karagaybulak** **59.00 321** P **P** **23 47 16.0 +1.5**
SNR=13
UCH **Uchtor** **59.05 320** P **P** **23 47 16.7 +1.4**
SNR=10.0
AAK **Ala-Archa** **59.28 321** P **P** **23 47 17.4 +1.0**
SNR=5.5
AAK **Ala-Archa** **59.28 321** *e*P **P** **23 47 17.3 +1.0**
comp=Z,82nm,2.0s
AAK **Ala-Archa** **59.28 321** P **P** **23 47 16.8 +0.4**
SNR=16
AAK **Ala-Archa** **59.28 321** *i* P **P** **23 47 17.5 +1.0**
SNR=10
AAK **Ala-Archa** **59.28 321** *i* P **P** **23 47 17.0 +0.6**
AAK pmax pmax
comp=Z,20nm,1.2s
FRU **Bishkek** **59.30 321** *e*P **P** **23 47 14.0 -2.4**
FRU *e* 23 48 10.5
FRU pmax pmax
comp=Z,90nm,2.0s
AML **Almayashu** **59.53 320** P **P** **23 47 19.4 +0.8**
SNR=9.3
PEA0B **Petropavlovsk-** **59.54 24** *e*P **P** **23 47 18.5 +0.7**
comp=Z,76nm,1.2s
PETK **Petropavlovsk-** **59.54 24** P **P** **23 47 17.7 -0.1**
comp=Z,2.1nm,0.7s,baz=200,slow=4.1,SNR=5.2
PETK LR LR 00 11 30.0
comp=Z,431nm,22.0s,baz=229,slow=34
PETK **Petropavlovsk-** **59.54 24** *e*P **P** **23 47 19.0 +1.2**
PETK **Petropavlovsk-** **59.54 24** *e*P **P** **23 47 19.0 +1.2**
USP **Ospennovka** **59.60 321** P **P** **23 47 18.9 +0.4**
SNR=9.6
EKS2 **Erkin-Say** **59.74 320** P **P** **23 47 20.6 +0.9**
SNR=9.9
PET **Petropavlovsk** **59.87 25** *e*P **P** **23 47 22.9 +2.9**
PET *e*S **S** **23 55 30.2 +0.6**
PET *e*SS **SS** **23 59 29.2 +2.9**
PET pmax pmax
comp=Z,38nm,1.5s
PET pmax pmax
comp=Z,100nm,11.6s
PET MLR MLR
comp=Z,400nm,20.0s
ZAA0 **Zalesovo Array** **60.88 336** *e*P **P** **23 47 26.4 -0.6**
comp=Z,59nm,1.3s
ZALV **Zalesovo Beam** **60.88 336** P **P** **23 47 26.3 -0.7**
comp=Z,20nm,1.0s,baz=123,slow=5.5,SNR=41
ZALV S **S** **23 55 40.4 -2.2**
comp=Z,0.2nm,0.3s,baz=144,slow=5.2,SNR=2.5
ZALV LR LR 00 15 40.8
comp=Z,808nm,19.6s,baz=86,slow=38
YAK **Yakutsk** **60.95 4** P **P** **23 47 26.7 -0.6**
comp=Z,30nm,0.4s,baz=289,slow=0.5,SNR=4.0
YAK **Yakutsk** **60.95 4** *e*P **P** **23 47 29.0 +1.7**
YAK *e* 23 48 09.4
YAK *e* 23 49 41.9
YAK *e*S **S** **23 55 41.8 -1.3**
YAK *e* 23 57 10.6
YAK pmax pmax
comp=Z,44nm,1.1s
YAK pmax pmax
comp=N,40nm,1.9s
YAK pmax pmax
comp=E,11nm,1.9s
YAK pmax pmax
comp=Z,11nm,0.8s
YAK pmax pmax
comp=N,13nm,1.0s
YAK pmax pmax
comp=E,42nm,1.6s
YAK smax smax
comp=N,250nm,5.6s
YAK smax smax
comp=E,142nm,3.5s
YAK MLR MLR
comp=Z,725nm,18.0s
YAK MLR MLR
comp=N,755nm,18.0s
YAK MLR MLR
comp=E,224nm,18.0s
KURBB **Kurchatov Arra** **61.51 330** P **P** **23 47 31.2 -0.1**
comp=E,18nm,1.1s,baz=130,slow=6.5,SNR=65
KURK **Kurchatov** **61.52 330** *e*P **P** **23 47 31.2 -0.2**
comp=E,72nm,0.9s
KURK **Kurchatov** **61.52 330** P **P** **23 47 31.2 -0.2**
SNR=24
KURK **Kurchatov** **61.52 330** *ce*P **P** **23 47 31.3 -0.2**
KURK pmax pmax
comp=Z,47nm,1.3s
KK31 **Karatay Array** **62.06 319** *e*P **P** **23 47 35.8 +0.5**
KK31 **Karatay Array** **62.06 319** *e*P **P** **23 47 35.8 +0.5**
KKAR **Karatay Array** **62.06 319** *e*P **P** **23 47 34.7 -0.5**
KKAR **Karatay Array** **62.06 319** *e*P **P** **23 47 34.7 -0.5**
NVS **Novosibirsk** **62.17 336**⇑ *i*P **P** **23 47 35.4 -0.3**
NVS *i* S **S** **23 55 58.0 -0.8**
NVS pmax pmax
comp=N,30nm,1.5s
NVS pmax pmax
comp=E,35nm,1.5s
NVS pmax pmax
comp=E,61nm,1.5s
NVS smax smax
comp=N,23nm,1.9s
NVS smax smax
comp=E,16nm,1.7s
LBZ **Lake Benmore** **62.30 143** *e*P **P** **23 47 37.9 +1.1**
comp=E,127nm,1.7s
MA2 **Magadan** **62.32 16** P **P** **23 47 36.2 -0.4**
comp=E,4.0nm,0.5s,baz=206,slow=8.2,SNR=2.7
MA2 **Magadan** **62.32 16** *e*P **P** **23 47 37.6 +1.0**
comp=E,71nm,0.9s
MA2 **Magadan** **62.32 16** *i* P **P** **23 47 35.4 -1.2**
MA2 pmax pmax
comp=Z,3.0nm,0.3s
RPZ **Rata Peaks** **62.47 142** *e*P **P** **23 47 39.8 +1.9**
comp=Z,122nm,1.2s
THZ **Tophouse** **62.65 139** *e*P **P** **23 47 40.4 +1.2**
comp=Z,41nm,1.2s
KHZ **Kahutara** **63.38 140** *e*P **P** **23 47 44.7 +0.8**
comp=Z,231nm,1.8s
SNZO **South Karori** **63.62 138** *e*P **P** **23 47 45.8 +0.2**
comp=Z,88nm,1.0s
BKZ **Black Stump Fm** **63.89 135** *e*P **P** **23 47 48.4 +0.9**
comp=Z,134nm,1.6s
URZ **Urewera** **63.95 134** LR LR 00 18 14.0
comp=Z,528nm,18.2s,baz=304,slow=38
URZ **Urewera** **63.95 134** *e*P **P** **23 47 48.3 +0.4**
comp=Z,89nm,1.6s

BFZ **Birch Farm** **64.38 137** *e*P **P** **23 47 51.6 +1.0**
comp=Z,120nm,1.6s
RAO **Raoul Island** **64.68 123** LR LR 00 15 07.5
comp=Z,282nm,21.3s,baz=272,slow=35
SEY **Seymchan** **65.57 15** P **P** **23 47 58.0 +0.2**
comp=Z,1.0nm,0.4s,baz=234,slow=6.4,SNR=1.9
SEY **Seymchan** **65.57 15** *i* P **P** **23 47 57.1 -0.8**
BIDO **Bidbid** **65.79 295** P **P** **23 47 58.9 -1.2**
SNR=7.5
BVAR **Borovoye Array** **67.03 329** P **P** **23 48 07.0 -0.4**
comp=Z,13nm,1.1s,baz=134,slow=8.4,SNR=32
BRVK **Borovoye** **67.10 329** *e*P **P** **23 48 07.9 0.0**
comp=Z,38nm,1.1s
BRVK **Borovoye** **67.10 329** P **P** **23 48 07.7 -0.2**
SNR=21
BRVK **Borovoye** **67.10 329** *ce*P **P** **23 48 07.6 -0.3**
BRVK pmax pmax
comp=Z,19nm,1.1s
SOHO **SOHO** **67.33 296** P **P** **23 48 08.7 -1.3**
UOSS **Minazif** **67.75 296** P **P** **23 48 10.5 -2.1**
UOSS **Minazif** **67.75 296** P **P** **23 48 11.0 -1.7**
CASY **Casey** **67.84 185** *e*P **P** **23 48 11.7 -0.6**
comp=Z,46nm,1.7s
ASHO **Ashiyiah** **67.84 296** P **P** **23 48 11.6 -1.6**
ASHO **Ashiyiah** **67.84 296** P **P** **23 48 12.7 -0.5**
ALNE **Al Ain** **68.02 295** *i* P **P** **23 48 14.1 -0.2**
SNR=8.9
FAQ **Al Faqa, Dubai** **68.27 296** P **P** **23 48 15.3 -0.6**
ASUD **Al Ashush, Dub** **68.49 296** P **P** **23 48 16.6 -0.7**
ASUD **Al Ashush, Dub** **68.49 296** P **P** **23 48 17.7 +0.5**
GEYT **Alibeck** **68.97 310** P **P** **23 48 19.8 -0.3**
comp=Z,6.1nm,1.0s,baz=119,slow=5.2,SNR=20
GEYT LR LR 00 23 33.9
comp=Z,245nm,21.1s,baz=25,slow=40
GYA0B **ALIBECK ARRAY** **68.97 310** *e*P **P** **23 48 20.6 +0.5**
comp=Z,47nm,1.3s
ABTO **Aybut** **69.48 288** P **P** **23 48 20.9 -2.6**
TIXI **Tiksi** **70.48 2** P **P** **23 48 27.1 -1.4**
comp=Z,2.8nm,0.5s,baz=196,slow=2.4,SNR=7.0
TIXI **Tiksi** **70.48 2** *e*P **P** **23 48 27.9 -0.6**
comp=Z,20nm,0.8s
TIXI *ep*P **pP** **23 48 39.8 +1.1**
TIXI **Tiksi** **70.48 2** *ce*P **P** **23 48 27.8 -0.8**
TIXI pmax pmax
comp=Z,15nm,2.5s
MIR **Mirnyy** **70.70 192** *e*P **P** **23 48 28.0 -2.0**
MIR *i* 23 48 45.0
MIR pmax pmax
comp=Z,42nm,1.0s
ABKAR **Akbulak array** **71.27 322** *e*P **P** **23 48 33.6 -0.3**
NRIK **Noril'sk** **71.85 348** P **P** **23 48 36.0 -1.0**
comp=Z,6.5nm,0.7s,baz=128,slow=5.7,SNR=16
NRIK LR LR 00 21 30.6
comp=Z,794nm,18.8s,baz=156,slow=37
NRIK **Noril'sk** **71.85 348** P **P** **23 48 36.0 -1.0**
NRIK pmax pmax
comp=Z,7.0nm,0.7s
NRIK MLR MLR
comp=Z,794nm,18.8s
AKTO **Aktyubinsk** **72.85 323** *i* P **P** **23 48 42.3 -1.0**
AKTO pmax pmax
comp=Z,18nm,1.2s
BILL **Bilibino** **73.19 16**⇑ *e*P **P** **23 48 43.7 -1.2**
BILL *e**PP **pP** **23 48 51.4 -3.7**
BILL *e**SP **sP** **23 48 57.5 -1.4**
BILL *e* 23 48 59.9
BILL PPP PPP 23 53 17.0
BILL S **S** **23 58 06.0 -4.5**
BILL *e* 23 58 46.7
BILL SS **SS** **00 02 49.0 -3.3**
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL MLR MLR
comp=Z,402nm,18.0s
SVE **Sverdlovsk** **73.77 330**⇑ *e*P **P** **23 48 48.0 -0.6**
SVE pmax pmax
comp=Z,44nm,1.3s
ARU **Arti** **74.68 329** *e*P **P** **23 48 52.7 -1.2**
comp=Z,27nm,1.2s
ARU **Arti** **74.68 329** P **P** **23 48 52.1 -1.8**
ARU 23 49 05.7
ARU S **S** **23 58 26.6 -1.0**
OPO **Ambohidratompo** **76.15 251** P **P** **23 49 02.2 -1.0**
comp=Z,29nm,1.2s,baz=121,slow=5.7,SNR=10
ABPO **Ambohimpanom** **76.16 250** *e*P **P** **23 49 02.9 -0.5**
comp=Z,80nm,1.5s
ABPO **Ambohimpanom** **76.16 250** *e*P **P** **23 49 02.9 -0.5**
ABPO pmax pmax
comp=Z,80nm,1.5s
RAYN **Ar Rayn** **77.28 294** *e*P **P** **23 49 08.1 -1.4**
comp=Z,15nm,1.0s
RAYN **Ar Rayn** **77.28 294** *i* P **P** **23 49 08.2 -1.3**
SNR=12
RAYN **Ar Rayn** **77.28 294** *e*P **P** **23 49 08.1 -1.4**
RAYN pmax pmax
comp=Z,15nm,1.0s
DAMY **Dhamar** **77.86 285** *e*P **P** **23 49 11.9 -1.2**
comp=Z,29nm,1.3s
TBLG **Delisi** **79.82 312** *e*P **P** **23 49 23.4 +0.4**
comp=Z,59nm,1.6s
MAW **Mawson** **79.83 200** P **P** **23 49 21.7 -0.8**
comp=Z,8.3nm,1.1s,baz=50,slow=7.9,SNR=15
MAW LR LR 00 24 02.9
comp=Z,690nm,18.3s,baz=56,slow=35
MAW **Mawson** **79.83 200** P **P** **23 49 22.1 -0.5**
baz=80,SNR=9.3
MAW **Mawson** **79.83 200** *e*P **P** **23 49 22.0 -0.5**
comp=Z,4.6nm,1.4s
MAW **Mawson** **79.83 200** *e*P **P** **23 49 22.0 -0.5**
MAW pmax pmax
comp=Z,5.0nm,1.4s
ZEI **Tsey** **80.57 313** *e*P **P** **23 49 24.9 -2.4**
ZEI pmax pmax
comp=Z,17nm,1.2s
AKH **Akhalkalaki** **80.70 312** *e*P **P** **23 49 28.2 +0.1**
comp=Z,34nm,1.2s
AKH **Akhalkalaki** **80.70 312** *e*P **P** **23 49 28.2 +0.1**
AKH pmax pmax
comp=Z,34nm,1.2s
NCK **Nalchik** **80.88 314** *i* P **P** **23 49 29.0 +0.3**
NCK pmax pmax
comp=Z,2.0nm,0.7s
KBZ **Khabaz** **81.41 314** P **P** **23 49 31.1 -0.3**
comp=Z,2.6nm,1.0s,baz=107,slow=3.2,SNR=4.0
KBZ LR LR 00 31 18.3
comp=Z,202nm,18.5s,baz=94,slow=40
NEY **Neytrino** **81.48 313** *i* P **P** **23 49 34.0 +1.8**
NEY pmax pmax
comp=Z,1.0nm,1.0s
VNDA **Vanda** **81.54 172** P **P** **23 49 31.0 -0.5**
comp=Z,2.7nm,0.6s,baz=320,slow=6.8,SNR=23
VNDA LR LR 00 23 59.4
comp=Z,717nm,21.3s,baz=342,slow=34
VNDA **Vanda** **81.54 172** *e*P **P** **23 49 31.3 -0.2**
comp=Z,36nm,1.5s
VNDA **Vanda** **81.54 172** *e*P **P** **23 49 31.3 -0.2**
VNDA pmax pmax
comp=Z,36nm,1.5s
KIV **Kislovodsk** **81.59 314** *e*P **P** **23 49 30.2 -2.4**
KIV *e*S **S** **23 59 40.7 -2.0**
KIV pmax pmax
comp=Z,5.0nm,1.1s
SBA **Scott Base** **82.50 171** *e*P **P** **23 49 37.5 +1.0**
comp=Z,26nm,1.4s
SBA **Scott Base** **82.50 171** *e*P **P** **23 49 37.5 +1.0**
SBA pmax pmax
comp=Z,26nm,1.4s
PRGR **Permogore** **82.56 332** P P 23 49 32.3 -4.8
PRGR pmax pmax
comp=Z,13nm,0.9s
VRH **Novokhopyorsk** **83.07 321** *e*P **P** **23 49 40.5 +0.5**
VRH pmax pmax
comp=Z,10.0nm,0.7s
RDOG **Red Dog Mine** **83.29 21** *e*P **P** **23 49 42.6 +1.8**
comp=Z,49nm,1.4s
VORD **Divnogorie** **84.57 321** *e*P **P** **23 49 45.6 -2.1**
VORD pmax pmax
comp=Z,10.0nm,1.5s
VSR **Storozhevoye** **84.67 321** *e*P **P** **23 49 47.4 -0.8**
VSR pmax pmax
comp=Z,10.0nm,1.4s
KMBO **Kilima Mbogo** **84.93 269** P **P** **23 49 50.5 -0.2**
comp=Z,25nm,1.3s,baz=73,slow=5.9,SNR=22
KMBO LR LR 00 25 45.0
comp=Z,600nm,20.6s,baz=94,slow=34
KMBO **Kilima Mbogo** **84.93 269** *e*P **P** **23 49 50.7 +0.1**
comp=Z,36nm,1.4s
KMBO **Kilima Mbogo** **84.93 269** P **P** **23 49 50.3 -0.3**
SNR=12
KMBO **Kilima Mbogo** **84.93 269** *i* P **P** **23 49 50.4 -0.2**
SNR=27
KMBO **Kilima Mbogo** **84.93 269** *ce*P **P** **23 49 51.2 +0.6**
KMBO pmax pmax
comp=Z,25nm,1.3s
LPSR **Galich'ya Gora** **84.93 323** *e*P **P** **23 49 48.5 -1.0**
LPSR pmax pmax
comp=Z,10.0nm,1.1s
NAI **Nairobi** **85.38 269** *e*P **P** **23 49 53.5 +0.7**
comp=Z,80nm,1.4s
NAI **Nairobi** **85.38 269** *e*P **P** **23 49 53.6 +0.7**
NAI pmax pmax
comp=Z,80nm,1.4s
MOS **Moscow** **85.93 326** *e*P **P** **23 49 58.5 +4.1**
MOS *e* 23 53 21.8
MOS *e* 00 00 18.5
MOS pmax pmax
comp=Z,27nm,0.8s
OBN **Obninsk** **86.49 325** LR LR 00 32 46.8
comp=Z,50nm,19.3s,baz=90,slow=38
OBN **Obninsk** **86.49 325**⇓ *e*P **P** **23 49 55.8 -1.3**
OBN *e**PP **pP** **23 50 07.1 -0.4**
OBN *SP **sP** **23 50 12.0 +0.8**
OBN *e*S S 00 00 19.6 -12
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN MLR MLR
comp=Z,393nm,19.0s
IM3 **Indian Mountai** **86.50 24** *e*P **P** **23 49 57.8 +0.8**
IM3 *ep*P **sP** **23 50 09.5 -1.6**
MLY **Manley** **87.70 25** *e*P **P** **23 50 02.8 -0.1**
MLY *ep*P **sP** **23 50 15.4 -1.7**
BRTR **Keskin Array B** **88.10 310** P **P** **23 50 03.3 -2.2**
comp=Z,1.2nm,0.8s,baz=114,slow=3.0,SNR=7.2
BRTR LR LR 00 35 56.9
comp=Z,131nm,20.9s,baz=108,slow=40
BRTR **Keskin Array B** **88.10 310** *ce*P **P** **23 50 03.9 -1.6**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
CSS **Mathiatis** **88.36 305** *e*P **P** **23 50 05.5 -1.2**
CSS *ep*P **pP** **23 50 17.8 +0.8**
SYO **Syowa Base** **88.44 201**⇑ *e*PcP **PcP** **23 50 08.4 +0.5**
SYO **Syowa Base** **88.44 201**⇑ *ep*P pP 23 50 19.4 +2.8
RND **Reindeer** **88.48 27** *e*P **P** **23 50 07.0 +0.3**
RND *ep*P **pP** **23 50 18.5 +1.4**
RND **Reindeer** **88.48 27** *e*P **P** **23 50 07.0 +0.3**
RND *e**PP **pP** **23 50 18.5 +1.4**
PPT **Papeete** **88.71 107** LR LR 00 28 33.3
comp=Z,96nm,20.6s,baz=300,slow=35
PPT2 **Papeete2** **88.71 108** *e*S **S** **00 00 52.8 -1.2**
comp=Z,296nm,24.5s
PPT2 **Papeete2** **88.71 108** *e*LR LR 00 18 27.1
comp=Z,470nm,31.2s
WRH **Wood River Hil** **88.82 26** *e*P **P** **23 50 09.1 +1.0**
WRH *ep*P **sP** **23 50 20.5 -1.8**
TBI **Tubuai** **88.98 113** *e*S **S** **00 00 55.4 -0.9**
comp=Z,547nm,30.0s
TBI *e*SS **SS** **00 06 54.5 +4.7**
comp=Z,242nm,30.2s
TBI **Tubuai** **88.98 113** *e*LR LR 00 18 38.5
comp=Z,222nm,31.5s
ILAR **Eielson Array** **89.34 25** P **P** **23 50 09.0 -1.6**
comp=Z,0.6nm,0.6s,baz=249,slow=4.3,SNR=9.0
ILAR LR LR 00 28 36.3
comp=Z,181nm,21.9s,baz=297,slow=34
ILAR **Eielson Array** **89.34 25** P **P** **23 50 09.0 -1.6**
RIDG **Independ'e Rid** **90.27 26** *e*P **P** **23 50 15.9 +0.8**
RIDG *ep*P **sP** **23 50 27.0 -2.2**
AKASG **Malin Array Be** **90.94 321** P **P** **23 50 15.9 -2.5**
comp=Z,0.5nm,0.3s,baz=80,slow=4.3,SNR=2.7
AKASG LR LR 00 36 27.7
comp=Z,278nm,21.6s,baz=70,slow=39
QSPA **South Pole Qui** **91.12 180** P **P** **23 50 17.3 -1.7**
comp=Z,9.3nm,1.1s,baz=351,slow=2.8,SNR=10
QSPA **South Pole Qui** **91.12 180** *e*P **P** **23 50 18.3 -0.7**
comp=Z,34nm,1.4s
ARCES **ARCESS Array B** **91.22 340** LR LR 00 35 26.2
comp=Z,34nm,18.8s,baz=110,slow=38
SPA0 **Spitsbergen Ar** **92.05 349** *e*P **P** **23 50 23.1 +0.1**
SPA0 *ep*P **pP** **23 50 34.2 +0.7**
SPITS **Spitsbergen Ar** **92.05 349** LR LR 00 36 07.7
comp=Z,486nm,20.5s,baz=355,slow=38
BUR04 **Bucovina Ar. S** **93.81 318** *e*P **P** **23 50 30.9 -0.9**
MATP **Matopo** **93.84 250** P **P** **23 50 30.9 -1.7**
comp=Z,21nm,1.1s,baz=105,slow=3.2,SNR=17
LSZ **Lusaka** **94.14 255** *e*P **P** **23 50 32.9 -1.1**
comp=Z,66nm,1.3s
LSZ **Lusaka** **94.14 255** P **P** **23 50 34.4 +0.4**
SNR=8.7
INK **Inuvik** **94.17 21** P **P** **23 50 32.1 -0.8**
comp=Z,2.4nm,1.0s,baz=308,slow=3.9,SNR=4.5
WHY **Whitehorse** **95.30 29** *e*P **P** **23 50 39.6 +1.2**
WHY *ep*P **sP** **23 50 51.8 -0.8**
UZH **Uzhgorod** **95.63 319** *e*P P **23 50 31.3 -8.7**
UZH *e* 23 50 43.7
BOSA **Boshof** **96.63 241** LR LR 00 28 46.8
comp=Z,365nm,21.9s,baz=90,slow=32
NVL **N'lazarevskaya** **97.74 198**⇑ *i*P P 23 50 37.5 -12
NVL pmax pmax
comp=Z,14nm,1.1s
NVL MLR MLR
comp=Z,549nm,17.0s
NOA **NORSAR Array B** **98.96 333** LR LR 00 40 51.2
comp=Z,670nm,18.0s,baz=65,slow=38
KHC **Kasperske Hory** **101.16 321** AMS AMS 00 38 20.0
comp=Z,500nm,22.8s
TSUM **Tsumeb** **104.15 251** *e*Pdif **Pdif** **23 51 17.8 -1.1**
NVAR **Mina Array Bea** **111.98 47** PKKPab PKKPab 00 06 50.1 -1.8
comp=Z,1.0nm,0.9s,baz=136,slow=3.4,SNR=7.3
PDAR **Pinedale Array** **116.24 40** PKP **PKPdf** **23 55 58.0 -0.4**
comp=Z,0.3nm,0.7s,baz=325,slow=1.1,SNR=3.5
PDAR PKKPab **PKKPbc** **00 06 31.1 +1.9**
comp=Z,2.0nm,1.0s,baz=93,slow=5.0,SNR=11
WUAZ **Wupatki** **118.22 48** *e*PKPdif **PKPdf** **23 56 03.5 +1.2**
TORD **Torodi Ar. Bea** **119.28 286** PKP **PKPdf** **23 56 03.7 -0.9**
comp=Z,0.8nm,0.4s,baz=78,slow=2.3,SNR=7.4
MNTX **Cornudas Mount** **124.37 50** *e*PKPdif **PKPdf** **23 56 16.0 +1.9**
HPIG **126.16 55** *e*Pdif **Pdif** **23 52 56.5 -0.3**
TXAR **Lajitas Array** **126.75 51** PKP **PKPdf** **23 56 17.3 -1.5**
comp=Z,0.3nm,0.4s,baz=222,slow=1.7,SNR=3.5
PEL **Peldehue** **146.01 161** *e*PKPdf **PKPbc** **23 56 54.5 -0.3**
PEL **Peldehue** **146.01 161** *e*PKP2 **PKPbc** **23 56 54.5 -0.3**
AAGR **Agrelo** **146.64 163** *e*P **PKPab** **23 56 57.4 -0.4**
ARCO **CERRO ARCO** **146.84 163** *e*P **PKPab** **23 56 58.8 +0.1**
ASAL **Salagasta** **147.10 163** *e*P **PKPbc** **23 56 57.4 -0.7**
AUSP **Uspallata** **147.28 162** *e*P **PKPbc** **23 56 59.5 +0.7**
RTLS **Leoncito** **147.70 162** *e*P **PKPbc** **23 56 59.9 -0.2**
ACAN **Cantantal** **147.86 165** *e*P **PKPbc** **23 57 00.9 +0.8**
RTCV **Cerro Valdivia** **147.87 163** *e*P **PKPbc** **23 57 00.9 +0.7**
ZON **Zonda** **148.12 162** *e*P **PKPbc** **23 57 00.6 -0.3**
RTLL **Cerro Villicun** **148.39 162** *e*P **PKPbc** **23 57 01.3 -0.3**
GO04 **Tololo Observa** **148.66 158** *e*PKPbc **PKPbc** **23 57 03.1 +0.6**
AMOG **MOGNA** **148.75 162** *e*P **PKPbc** **23 57 02.6 +0.1**
ACCO **Cerro Coronel** **148.89 161** *e*P **PKPbc** **23 57 03.7 +0.5**
AROD **Rodeo** **149.14 160** *e*P **PKPbc** **23 57 05.1 +1.2**
TCA **Tanti** **149.35 169** *e*P **PKPbc** **23 57 04.4 +0.3**
LCO **Las Campanas** **149.74 157** *e*PKPbc **PKPbc** **23 57 04.5 -0.8**
LCO **Las Campanas** **149.74 157** *e*PKP2 **PKPbc** **23 57 04.5 -0.8**
APLL **PUNTA DE LOS L** **149.81 165** *e*P **PKPbc** **23 57 04.4 -0.8**
AGUA **GUANDACOL** **150.09 161** *e*P **PKPbc** **23 57 05.4 -0.5**
ACLC **CERRO LA CRUZ** **150.62 164** *e*P **PKPbc** **23 57 05.8 -1.5**
VCA **Vinchina** **150.88 161** *e*P **PKPbc** **23 57 08.2 +0.3**
GO03 **Copiap** **151.19 157** *e*PKPbc **PKPbc** **23 57 09.2 +0.6**
CPUP **Villa Florida** **155.01 181** PKP **PKPdf** **23 57 08.2 +0.1**
comp=Z,4.1nm,1.1s,baz=357,slow=5.2,SNR=4.7
CPUP **Villa Florida** **155.01 181** *e*PKPdf **PKPdf** **23 57 09.3 +1.2**
CPUP *e*PKPbc **pPKPdf** **23 57 17.7 -1.2**
ATAH **Atahualpa** **158.68 107** PKP **PKPdf** **23 57 14.0 +0.3**
comp=Z,3.4nm,0.6s,baz=253,slow=4.7,SNR=5.8
MNMC **Minye Minye** **158.78 148** *e*PKPdf **PKPdf** **23 57 14.3 +0.8**
OTAV **Otavalo** **159.35 86** *e*PKPdf **PKPdf** **23 57 15.3 +0.7**
OTAV **Otavalo** **159.35 86** *e*PKIKP **PKPdf** **23 57 15.3 +0.7**
LPAZ **La Paz** **161.90 147** PKP **PKPdf** **23 57 17.9 +0.5**
comp=Z,22nm,1.3s,baz=257,slow=1.2,SNR=22
LPAZ PKPab **PKPab** **23 58 03.8 +0.7**
comp=Z,2.5nm,0.6s,baz=170,slow=5.5,SNR=3.4
LPAZ **La Paz** **161.90 147** PKIKP **PKPdf** **23 57 18.0 +0.5**
LPAZ pmax pmax
comp=Z,22nm,1.3s
ROSC **El Rosal** **162.48 70** PKP **PKPdf** **23 57 18.3 +0.4**
comp=Z,3.5nm,0.3s,baz=323,slow=20,SNR=4.3

BDFB	**Brasilia**	**162.68**	**214**	PKPab	**PKPab**	**23 58 05.8**	**-0.1**
	comp=Z,8.3nm,1.0s,baz=58,slow=6.0,SNR=5.3						
SAML	**Samuel**	**170.64**	**146**	*e*PKPdf	**PKPdf**	**23 57 23.6**	**0.0**
SAML				*ep*PKPdf	**sPKPdf**	**23 57 36.6**	**-1.4**
SAML				*e*PKPab	**PKPab**	**23 58 42.1**	**+1.2**
SAML	**Samuel**	**170.64**	**146**	*e*PKIKP	**PKPdf**	**23 57 23.6**	**0.0**
SAML				*e*		23 57 36.6	
PTGA	**Pitinga**	**177.83**	**78**	*e*PKPdf	**PKPdf**	**23 57 26.0**	**-0.1**
PTGA				*ep*PKPdf	**sPKPdf**	**23 57 38.5**	**-2.0**

ISCJB ***01*** *23:43:38.9±0.3,31.82S±0.03×67.23W±0.04,h135km±3km, mb4.3/14, Error ellipse: s-maj=5.8km s-min=4.2km az=27.3*

NEIC ***01*** *23:43:38.3±0.6,31.79S×67.12W,h109km±8km, mb4.3/5, ML4.4(GUC), Error ellipse: s-maj=10.8km s-min=5.7km az=95.0*

SJA ***01*** *23:43:39.3±0.8,31.83S×67.30W,h133km±4km, ML4.4, MW4.1*

GUC ***01*** *23:43:39.7±0.6,31.78S×67.18W,h85km±157km,ML4.4*

IDC ***01*** *23:43:40.3±0.9,31.79S×67.02W,h128km±6km, mb3.9/9, mb1 3.9/11,mb1mx3.7/33,mbtmp4.3/11, Error ellipse: s-maj=6.3km s-min=4.8km az=114.0*

ISC 01 23:43:39.7±0.5, 31.79S±0.05×67.25W±0.04, h128km±4km, n80, σ1°21/100, mb4.3/15, 4C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACAN	**Cantantal**	**0.49**	**174**	*e*P	**Pn**	**23 43 59.5**	**+0.9**
ACAN				*e*S	**Sn**	**23 44 13.7**	**+0.8**
RTCV	**Cerro Valdivia**	**1.10**	**266**	*e*P	**Pn**	**23 44 03.8**	**+0.3**
RTCV				*e*S	**Sn**	**23 44 22.4**	**+0.9**
RTLL	**Cerro Villicun**	**1.14**	**293**	*e*P	**Pn**	**23 44 04.5**	**+0.6**
RTLL				IAML		23 44 05.0	
	comp=Z,14μm,0.2s						
RTLL				*e*S	**Sn**	**23 44 22.4**	**+0.2**
SJA	**San Juan**	**1.15**	**283**	*e*P	**Pn**	**23 44 04.7**	**+0.8**
SJA				IAML		23 44 05.1	
	comp=Z,7μm,0.2s						
SJA				*e*S	**Sn**	**23 44 22.6**	**+0.3**
ZON	**Zonda**	**1.24**	**281**	*e*P	**Pn**	**23 44 05.2**	**+0.3**
ZON				IAML		23 44 05.7	
	comp=Z,3μm,0.2s						
AMOG	**MOGNA**	**1.36**	**308**	*e*P	**Pn**	**23 44 07.2**	**+1.0**
APLL	**PUNTA DE LOS L**	**1.52**	**24**	*e*P	**Pn**	**23 44 09.3**	**+1.3**
APLL				IAML		23 44 09.9	
	comp=Z,4μm,0.2s						
ASAL	**Salagasta**	**1.56**	**239**	*e*P	**Pn**	**23 44 08.8**	**+0.3**
RTLS	**Leoncito**	**1.74**	**269**	*e*P	**Pn**	**23 44 11.4**	**+0.6**
RTLS				IAML		23 44 13.6	
	comp=Z,2μm,0.2s						
ARCO	**CERRO ARCO**	**1.77**	**233**	*e*P	**Pn**	**23 44 11.3**	**+0.3**
ARCO				IAML		23 44 35.8	
	comp=Z,3μm,0.4s						
AAGR	**Agrelo**	**1.86**	**225**	*e*P	**Pn**	**23 44 12.3**	**+0.3**
AAGR				*e*P	**Pn**	**23 44 12.3**	**+0.3**
AUSP	**Uspallata**	**1.87**	**256**	*e*P	**Pn**	**23 44 12.7**	**+0.5**
ACCO	**Cerro Coronel**	**1.96**	**307**	*e*P	**Pn**	**23 44 14.7**	**+1.2**
ACDV	**Cuesta del Vie**	**2.27**	**315**	*e*P	**Pn**	**23 44 18.4**	**+1.3**
ACDV				IAML		23 44 19.0	
	comp=Z,1μm,0.4s						
TCA	**Tanti**	**2.31**	**80**	*e*P	**Pn**	**23 44 18.4**	**+0.9**
TCA				IAML		23 44 48.3	
	comp=Z,661nm,0.2s						
ACLC	**CERRO LA CRUZ**	**2.37**	**6**	*e*P	**Pn**	**23 44 19.7**	**+1.4**
AROD	**Rodeo**	**2.50**	**310**	*e*P	**Pn**	**23 44 21.5**	**+1.4**
AGUA	**GUANDACOL**	**2.53**	**335**	*e*P	**Pn**	**23 44 22.3**	**+1.9**
FCH	**Farellones**	**2.99**	**238**	↑*i*P	**Pn**	**23 44 27.0**	**+0.5**
FCH				*i* S	**Sn**	**23 45 03.1**	**+0.6**
FCH				IAML		23 45 08.7	
	comp=N,858nm,0.7s						
VCA	**Vinchina**	**3.15**	**345**	*e*P	**Pn**	**23 44 30.3**	**+1.9**
VCA				IAML		23 45 14.0	
	comp=Z,2μm,0.6s						
PEL	**Peldehue**	**3.20**	**244**	*e*Pn	**Pn**	**23 44 27.7**	**-1.3**
PEL	**Peldehue**	**3.20**	**244**	↓*i*P	**Pn**	**23 44 29.0**	**+0.1**
PEL				*i* S	**Sn**	**23 45 07.0**	**0.0**
PEL				IAML		23 45 09.5	
	comp=N,1μm,0.4s						
CLCH	**Cerro Calan**	**3.21**	**239**	*e*P	**Pn**	**23 44 29.2**	**+0.2**
CLCH				*e*S	**Sn**	**23 45 07.6**	**+0.6**
LMEL	**Las Melosas**	**3.23**	**230**	↓*i*P	**Pn**	**23 44 30.1**	**+0.7**
LMEL				*i* S	**Sn**	**23 45 07.4**	**-0.3**
LMEL				IAML		23 45 17.6	
	comp=N,480nm,0.3s						
CMCH	**Combarbala**	**3.26**	**280**	*e*P	**Pn**	**23 44 30.4**	**+0.6**
CMCH				*e*S	**Sn**	**23 45 08.4**	**0.0**
ROC1	**El Roble**	**3.40**	**249**	*e*Pn	**Pn**	**23 44 31.0**	**-0.7**
ROC1	**El Roble**	**3.40**	**249**	*e*P	**Pn**	**23 44 31.3**	**-0.4**
GO04	**Tololo Observa**	**3.44**	**297**	*e*Pn	**Pn**	**23 44 33.1**	**+0.8**
GO04	**Tololo Observa**	**3.44**	**297**	↑*i*P	**Pn**	**23 44 33.0**	**+0.7**
GO04				*i* S	**Sn**	**23 45 13.3**	**+0.4**
CYA	**Choya**	**3.56**	**21**	*e*P	**Pn**	**23 44 33.9**	**+0.2**
LSCH	**La Serena**	**3.91**	**298**	*e*P	**Pn**	**23 44 38.4**	**+0.2**
LSCH				*i* S	**Sn**	**23 45 20.9**	**-2.7**
LCO	**Las Campanas**	**4.07**	**312**	*e*Pn	**Pn**	**23 44 40.9**	**+0.3**
LCO	**Las Campanas**	**4.07**	**312**	*e*P	**Pn**	**23 44 41.5**	**+0.9**
LCO	**Las Campanas**	**4.07**	**312**	↑*i*P	**Pn**	**23 44 41.3**	**+0.8**
GO03	**Copiap**	**4.92**	**327**	*e*Pn	**Pn**	**23 44 52.7**	**+0.9**
GO03	**Copiap**	**4.92**	**327**	↓*i*P	**Pn**	**23 44 52.4**	**+0.6**
GO05	**HualaæØ**	**5.07**	**229**	*e*Pn	**Pn**	**23 44 50.9**	**-2.8**
AHML	**Horco Molle**	**5.26**	**19**	*e*P	**Pn**	**23 44 55.4**	**-0.9**
FSA	**Cafayete**	**5.76**	**11**	*e*P	**Pn**	**23 45 04.0**	**+0.8**
TRQA	**Tornquist**	**7.61**	**147**	*e*Pn	**Pn**	**23 45 26.6**	**-1.2**
GO06	**Curarrehue**	**8.50**	**203**	*e*Pn	**Pn**	**23 45 38.0**	**-2.0**
PB10	**IPOC Station P**	**8.74**	**340**	*e*Pn	**Pn**	**23 45 42.3**	**-1.0**
LVC	**Limon Verde**	**9.26**	**350**	*e*Pn	**Pn**	**23 45 49.5**	**-1.0**
PLCA	**Paso Flores**	**9.32**	**196**	P	**Pn**	**23 45 48.9**	**-2.1**
	comp=N,1.2nm,0.3s,baz=180,slow=10,SNR=16						
PLCA	**Paso Flores**	**9.32**	**196**	*e*Pn	**Pn**	**23 45 49.1**	**-1.8**
PB04	**IPOC Station P**	**9.76**	**344**	*e*Pn	**Pn**	**23 45 54.8**	**-2.3**
CPUP	**Villa Florida**	**10.24**	**60**	P	**Pn**	**23 46 00.9**	**-2.4**
	comp=N,1.0nm,0.3s,baz=237,slow=12,SNR=17						
CPUP				S	**Sn**	**23 47 55.3**	**-1.0**
	comp=N,0.6nm,0.3s,baz=128,slow=19,SNR=1.2						
PB01	**IPOC Station P**	**10.88**	**349**	*e*Pn	**Pn**	**23 46 10.1**	**-2.0**
BBOJ	**La Paz, Jacaqu**	**14.77**	**356**	P	**Pn**	**23 47 03.0**	**+0.1**
BBOE	**La Paz, Chanca**	**14.92**	**357**	P	**Pn**	**23 47 04.6**	**-0.2**
LPAZ	**La Paz**	**15.45**	**357**	P	**Pn**	**23 47 11.7**	**+0.3**
	comp=N,1.0nm,0.3s,baz=131,slow=5.5,SNR=18						
LPAZ	**La Paz**	**15.45**	**357**	*e*Pn	**Pn**	**23 47 11.5**	**+0.1**
	comp=N,13nm,0.6s						
LPAZ	**La Paz**	**15.45**	**357**	P	**Pn**	**23 47 11.6**	**+0.2**
LPAZ				AML	AML	23 47 56.6	
	comp=N,86nm,0.6s						
LPAZ	**La Paz**	**15.45**	**357**	S	sP	23 47 54.3	+2.5
BBOB	**La Paz, Bander**	**15.60**	**357**	P	**Pn**	**23 47 12.8**	**-0.3**
CHRN	**Cochrane**	**15.98**	**193**	*e*Pn	**P**	**23 47 18.0**	**-0.1**
	comp=N,4.9nm,0.7s						
GO10	**Punta Arenas**	**21.53**	**186**	*e*P	**P**	**23 48 20.6**	**+2.1**
	comp=N,114nm,1.4s						
SAML	**Samuel**	**23.04**	**10**	*e*P	**P**	**23 48 33.8**	**-0.1**
	comp=N,1.5nm,0.5s						
USHA	**Ushuaia**	**23.05**	**182**	P	**P**	**23 48 33.9**	**+0.2**
	comp=N,16nm,0.9s,baz=217,slow=16,SNR=6.1						
BDFB	**Brasilia**	**23.78**	**52**	P	**P**	**23 48 40.3**	**-0.5**
	comp=N,4.6nm,0.5s,baz=216,slow=9.7,SNR=8.2						
BDFB				pP	**pP**	**23 49 04.5**	**-2.2**
	comp=N,12nm,0.8s,baz=229,slow=7.6,SNR=7.8						
BDFB	**Brasilia**	**23.78**	**52**	*e*P	**P**	**23 48 40.3**	**-0.5**
	comp=N,15nm,0.8s						
BDFB				pP	**pP**	**23 49 04.5**	**-2.2**
FDF	**Fort de France**	**46.62**	**8**	*e*P	**P**	**23 51 57.5**	**+2.3**
	comp=N,56nm,1.0s						
SNAA	**Sanae**	**52.15**	**159**	P	**P**	**23 52 36.8**	**+0.2**
	comp=N,0.7nm,0.5s,baz=270,slow=8.1,SNR=9.7						
QSPA	**South Pole Qui**	**58.45**	**180**	P	**P**	**23 53 22.8**	**+0.8**
	comp=N,2.0nm,0.6s,baz=155,slow=2.8,SNR=6.7						
SYO	**Syowa Base**	**66.42**	**158**	*e*P	**P**	**23 54 14.3**	**-0.3**
TXAR	**Lajitas Array**	**69.94**	**327**	pP	pP	23 55 11.1	+2.3
	comp=N,0.4nm,0.8s,baz=151,slow=6.4,SNR=3.3						
LIC	**Lamto**	**70.24**	**69**	*e*P	**P**	**23 54 39.5**	**+0.2**
	comp=N,24nm,0.8s						
TIC	**Toumodi**	**70.50**	**69**	*e*P	**P**	**23 54 39.3**	**-1.6**
KIC	**Kosan Boka**	**70.55**	**69**	*e*P	**P**	**23 54 41.5**	**+0.3**
	comp=N,17nm,0.8s						
DBIC	**Dimbokro**	**70.64**	**69**	P	**P**	**23 54 42.2**	**+0.5**
	comp=N,4.6nm,0.5s,baz=212,slow=7.6,SNR=14						
MAW	**Mawson**	**74.11**	**162**	P	**P**	**23 55 01.6**	**+0.1**
	comp=N,1.1nm,0.7s,baz=274,slow=5.9,SNR=3.6						
BOSA	**Boshof**	**77.47**	**116**	P	**P**	**23 55 20.6**	**-0.9**
	comp=N,2.8nm,0.7s,baz=241,slow=3.6,SNR=4.7						

TOA0	**Torodi Ar. Sit**	**79.66**	**68**	*e*P	**P**	**23 55 32.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**79.66**	**68**	P	**P**	**23 55 31.9**	**-1.5**
	comp=N,0.3nm,0.4s,baz=233,slow=5.3,SNR=19						
MATP	**Matopo**	**84.16**	**110**	P	**P**	**23 55 57.2**	**+0.1**
	comp=N,2.0nm,0.6s,baz=230,slow=4.9,SNR=4.8						
WRA	**Warramunga Arr**	**124.56**	**205**	PKP	**PKPdf**	**00 02 24.0**	**-0.6**
	comp=N,0.3nm,0.3s,baz=155,slow=2.0,SNR=16						
WRA				pPKP	**pPKPdf**	**00 02 57.8**	**-1.1**
	comp=N,0.7nm,0.9s,baz=154,slow=1.7,SNR=3.6						
KSH	**Kashi**	**149.30**	**65**	*e*PKPbc	**PKPbc**	**00 03 13.9**	**+0.3**
KSH				PP	**PP**	**00 06 52.1**	**+5.0**
KSH				AMB	AMB		
	comp=Z,240nm,5.3s						
ZALV	**Zalesovo Beam**	**150.18**	**34**	PKPbc	**PKPbc**	**00 03 15.7**	**+0.7**
	comp=Z,1.9nm,0.6s,baz=304,slow=3.4,SNR=11						
ZALV				pPKPbc	**pPKPbc**	**00 03 49.8**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=301,slow=1.7,SNR=4.2						
MKAR	**Makanchi Array**	**152.28**	**48**	PKPbc	**PKPbc**	**00 03 20.6**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=287,slow=2.3,SNR=13						
MKAR				PKPab	**PKPab**	**00 03 29.3**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=282,slow=5.7,SNR=5.8						
MKAR				pPKPbc	**pPKPbc**	**00 03 54.7**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=258,slow=2.6,SNR=5.1						
MKAR				pPKPab	**pPKPab**	**00 04 05.8**	**+2.0**
	comp=Z,0.4nm,0.4s,baz=272,slow=2.5,SNR=2.0						
LZH	**Lanzhou**	**171.45**	**57**	*e*PKP	**PKPdf**	**00 03 33.2**	**0.0**
LZH				pPKP	pPKPdf	00 03 57.5	-10
LZH				sPKP		00 04 06.9	
LZH				PKP	**PKPab**	**00 04 56.5**	**+1.7**

IDC ***01*** *23:56:28.4±0.6, 17.00S×173.54W, h0km, mb4.3/11, mb1 4.6/14,mb1mx4.4/28,mbtmp4.4/14, ML4.0/3, MS3.6/4, Ms1 3.6/4, ms1mx3.3/26, Error ellipse: s-maj=26.0km s-min=15.1km az=139.0*

NEIC ***01*** *23:56:31.9±2.7, 17.03S×173.52W, h24km±19km, mb4.6/6, Error ellipse: s-maj=10.9km s-min=8.9km az=150.0*

ISCJB ***01*** *23:56:33.8±0.5, 16.90S±0.08×173.68W±0.09, h52km, mb4.4/17, Error ellipse: s-maj=14.3km s-min=10.1km az=41.2*

ISC 01 23:56:34.9±0.5, 16.91S±0.08×173.46W±0.08, h52km, n33, σ1°52/34, mb4.3/17, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.40**	**29**	Pn	**Pn**	**23 57 25.2**	**-0.3**
	47nm,0.3s,baz=178,slow=2.5,SNR=38						
AFI				Sn	**Sn**	**23 58 00.0**	**-4.6**
	301nm,0.3s,baz=36,slow=23,SNR=30						
FUNA	**Funafuti**	**10.98**	**318**	Pn	**Pn**	**23 59 08.7**	**-0.7**
RAR	**Rarotonga**	**13.63**	**110**	Pn	**Pn**	**23 59 43.1**	**-2.4**
	3.1nm,0.3s,baz=256,slow=8.0,SNR=11						
RAR				LR	LR	00 04 01.6	
	comp=Z,64nm,18.3s,baz=296,slow=33						
DZM	**Mont Dzumac**	**19.62**	**252**	P	**P**	**00 00 59.5**	**+0.3**
	0.3nm,0.3s,baz=75,slow=18,SNR=6.2						
URZ	**Urewera**	**22.82**	**199**	P	**P**	**00 01 32.9**	**-0.5**
	16nm,0.6s,baz=71,slow=1.6,SNR=12						
PPT	**Papeete**	**22.82**	**95**	LR	LR	00 08 10.8	
	comp=Z,23nm,22.0s,baz=256,slow=31						
HNR	**Honiara**	**26.91**	**283**	LR	LR	00 10 57.5	
	comp=Z,247nm,21.0s,baz=287,slow=32						
HNR	**Honiara**	**26.91**	**283**	P	**P**	**00 02 11.3**	**-0.1**
	2.6nm,0.3s						
CTAO	**Charters Tower**	**38.27**	**259**	P	**P**	**00 03 48.7**	**-1.8**
TAU	**Tasmania Unive**	**42.18**	**224**	*e*P	**P**	**00 04 20.8**	**-1.7**
	3.4nm,0.8s						
STKA	**Stephens Creek**	**43.25**	**241**	P	**P**	**00 04 29.2**	**-2.1**
	9.0nm,0.9s,baz=62,slow=7.9,SNR=11						
WRAB	**Tennant Creek**	**49.45**	**258**	*e*P	**P**	**00 05 19.2**	**-1.0**
	1.7nm,0.6s						
WRA	**Warramunga Arr**	**49.46**	**258**	P	**P**	**00 05 19.0**	**-1.2**
	2.3nm,0.5s,baz=96,slow=7.2,SNR=63						
WRA				PcP	**PcP**	**00 06 42.6**	**+0.7**
	1.1nm,1.0s,baz=84,slow=3.3,SNR=2.7						
ASAR	**Alice Springs**	**49.60**	**253**	P	**P**	**00 05 20.9**	**-0.5**
	25nm,0.6s,baz=87,slow=8.6,SNR=223						
VNDA	**Vanda**	**61.88**	**186**	P	**P**	**00 06 49.6**	**+1.3**
	0.7nm,0.8s,baz=28,slow=7.5,SNR=3.9						
NWAO	**Narrogin (SRO)**	**63.84**	**241**	P	**P**	**00 07 01.6**	**-0.6**
	13nm,0.9s						
NVAR	**Mina Array Bea**	**75.49**	**42**	P	**P**	**00 08 15.3**	**+1.4**
	1.5nm,0.8s,baz=229,slow=11,SNR=9.3						
NVAR				LR	LR	00 35 49.2	
	comp=Z,120nm,18.4s,baz=274,slow=31						
TXAR	**Lajitas Array**	**81.50**	**56**	P	**P**	**00 08 48.7**	**+1.5**
	0.6nm,0.9s,baz=207,slow=4.9,SNR=6.7						
MA2	**Magadan**	**81.58**	**342**	P	**P**	**00 08 47.6**	**+0.8**
	27nm,1.0s						
PMSA	**Palmer Station**	**82.83**	**156**	P	**P**	**00 08 53.6**	**+0.3**
	3.4nm,0.5s						
PDAR	**Pinedale Array**	**83.43**	**42**	P	**P**	**00 08 58.0**	**+0.9**
	1.2nm,0.7s,baz=211,slow=4.0,SNR=7.8						
ILAR	**Eielson Array**	**83.93**	**11**	P	**P**	**00 09 02.2**	**+3.3**
	0.4nm,0.6s,baz=204,slow=6.5,SNR=4.5						
MAW	**Mawson**	**86.35**	**199**	P	**P**	**00 09 12.1**	**+1.1**
	2.9nm,0.7s,baz=120,slow=6.0,SNR=9.9						
CMAR	**Chiang Mai Arr**	**93.03**	**288**	P	**P**	**00 09 45.0**	**+1.5**
	0.4nm,0.3s,baz=90,slow=4.5,SNR=5.2						
KMBO	**Kilima Mbogo**	**144.81**	**242**	PKP	**PKPdf**	**00 16 08.3**	**+0.9**
	4.4nm,0.8s,baz=64,slow=5.5,SNR=15						
BRTR	**Keskin Array B**	**147.27**	**319**	PKPbc	**PKPab**	**00 16 14.2**	**-0.6**
	3.2nm,0.7s,baz=135,slow=2.9,SNR=16						
GERES	**GERESS Array B**	**147.62**	**351**	PKPbc	**PKPbc**	**00 16 14.5**	**+0.8**
	0.5nm,0.7s,baz=4.8,slow=1.6,SNR=5.6						
CONA	**Conrad Observa**	**148.13**	**348**	PKiKP	**PKiKP**	**00 16 17.0**	**+0.2**
	1.6nm,0.7s						
RETA	**Reutte**	**149.31**	**354**	*e*P	**PKPab**	**00 16 24.5**	**+1.9**
	9.2nm,1.2s						
MOTA	**Moosalm**	**149.42**	**354**	PKPbc	**PKPbc**	**00 16 18.8**	**+0.4**
	6.0nm,1.1s						
FETA	**Feichten**	**149.78**	**354**	PKPbc	**PKPbc**	**00 16 20.0**	**+0.7**
	5.1nm,1.0s						
ABTA	**Abfaltersbach**	**149.84**	**352**	*i* PKiKP	**PKiKP**	**00 16 20.7**	**+0.4**
	2.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**174.01**	**128**	PKP	**PKPdf**	**00 16 38.6**	**-1.0**
	1.0nm,1.0s,baz=200,slow=1.1,SNR=5.4						
TORD				PKPab	**PKPab**	**00 18 10.6**	**-0.1**
	baz=213,slow=5.0						

MEX 02 00:26:25.7±0.5, 14.23N×93.88W, h15km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.60**	**23**	*i* P	Pn	00 26 49.8	-3.7
PCIG				*i* S	Sn	00 27 08.7	-5.1
TGIG		**2.64**	**16**	*e*P	Pn	00 27 05.9	-1.9
TGIG				*e*S	Sn	00 27 36.0	-3.6
CCIG	**Comitan**	**2.64**	**39**	*i* P	Pn	00 27 05.6	-2.4
CCIG				*e*S	Sn	00 27 35.7	-4.2

KRSC 02 00:29:51.1±1.9, 49.45N×157.14E, h14km±37km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.40**	**332**	*e*P	Pn	00 30 15.1	-1.1
SKR				*e*S	Sn	00 30 32.8	-1.6
PAU	**Pauzhetka**	**2.03**	**354**	*e*P	Pb	00 30 27.0	-0.7
PAU				*e*S	Sb	00 30 53.6	+0.8
KDTR	**Khodutka, Kamc**	**2.43**	**14**	*e*P	Pn	00 30 33.4	-1.3
MTVR	**Mutnovka**	**3.10**	**12**	*e*P	Pn	00 30 42.6	+2.8
RUS	**Russkaya**	**3.11**	**16**	*e*P	Pn	00 30 42.8	+3.1
KRMR	**Karymshinskiy**	**3.44**	**10**	*e*P	Pn	00 30 47.4	+3.1
APC	**Apacha**	**3.48**	**0**	*e*P	Pn	00 30 48.5	+3.7
DALK	**Dalny**	**3.72**	**15**	*e*P	Pn	00 30 51.3	+3.1
DALK				*e*S	Sn	00 31 35.0	+3.2
AVH	**Avacha**	**3.95**	**14**	*e*P	Pn	00 30 55.5	+4.2
SMAR	**Somma**	**3.96**	**15**	*e*P	Pn	00 30 55.0	+3.4
KOK	**Koryaka**	**3.96**	**13**	*e*P	Pn	00 30 55.3	+3.8
KRER	**Koryakskii**	**3.99**	**14**	*e*P	Pn	00 30 55.4	+3.4
SPN	**Mys Shipunski**	**4.07**	**25**	*e*P	Pn	00 30 56.5	+3.5

MDD ***02*** *00:46:01.0±1.7,37.22N×12.71W, h0km, mb3.9/15, Error ellipse: s-maj=15.0km s-min=13.3km az=56.0, PRXIMO*

IGIL ***02*** *00:46:01.1,37.17N×12.96W, h30km, ML2.3*

INMG ***02*** *00:46:02.0±1.2,37.08N×13.16W, h10km, ML2.4, Error ellipse: s-maj=6.3km s-min=4.6km az=84.0*

ISC 02 00:45:56.3±3.4, 37.24N±0.09×12.8W±0.2, h10km, n56, σ2°63/103, 1C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**3.21**	**91**	*e*Pn	**Pn**	**00 46 49.3**	**+2.5**
PFVI				*e*Sn	**Sn**	**00 47 25.0**	**0.0**
PFVI				A	A	00 47 31.1	
	3.3nm,0.3s						
PFVI	**Vila Bisbo**	**3.21**	**91**	↑P	**Pn**	**00 46 49.3**	**+2.5**
	3.2nm,0.2s,SNR=18						
PFVI				S	**Sn**	**00 47 24.9**	**-0.2**
	0.3nm,0.1s,SNR=7.9						
PMST	**Lisbon--Monsan**	**3.25**	**62**	*e*Sn	**Sn**	**00 47 27.5**	**+1.3**
PMAFR	**Mafra**	**3.29**	**57**	*e*Pn	**Pb**	**00 46 51.6**	**-3.2**
PMAFR				*e*Sn	**Sn**	**00 47 28.7**	**+1.6**
PMAFR				A	A	00 47 38.1	
	13nm,0.2s						
PMAFR	**Mafra**	**3.29**	**57**	P	**Pb**	**00 46 51.6**	**-3.2**
	5.8nm,0.2s,SNR=10						
PMAFR				S	**Sn**	**00 47 28.4**	**+1.3**
	1.5nm,0.1s,SNR=9.8						
PTEO	**Sao Teotonio**	**3.29**	**83**	*e*Pn	**Pb**	**00 46 51.3**	**-3.5**
PTEO				*e*Sn	**Sn**	**00 47 28.7**	**+1.6**
PTEO	**Sao Teotonio**	**3.29**	**83**	P	**Pb**	**00 46 51.3**	**-3.5**
PTEO				S	**Sn**	**00 47 28.7**	**+1.6**
MORF	**Marmelete**	**3.34**	**88**	*e*P	**Pn**	**00 46 51.3**	**+2.6**
MORF	**Marmelete**	**3.34**	**88**	*e*Pn	**Pn**	**00 46 51.3**	**+2.6**
MORF				*e*Sn	**Sn**	**00 47 30.0**	**+1.5**
MORF				A	A	00 47 35.2	
	5.6nm,0.6s						
MORF	**Marmelete**	**3.34**	**88**	P	**Pn**	**00 46 51.3**	**+2.6**
MORF				S	**Sn**	**00 47 30.0**	**+1.5**
	5.6nm,0.6s						
MESJ	**Messejana**	**3.72**	**79**	*e*P	**Pn**	**00 46 56.7**	**+2.9**
MESJ				*e*S	**Sn**	**00 47 37.3**	**-0.4**
MESJ				AML	AML	00 47 44.0	
	comp=N,6.7nm,0.2s						
MESJ	**Messejana**	**3.72**	**79**	*e*Pn	**Pb**	**00 46 58.1**	**-4.0**
MESJ				*e*Sn	**Sn**	**00 47 38.3**	**+0.6**
MESJ				A	A	00 47 43.7	
	comp=N,4.8nm,0.4s						
MESJ	**Messejana**	**3.72**	**79**	P	**Pn**	**00 46 56.7**	**+2.9**
MESJ				S	**Sn**	**00 47 37.3**	**-0.4**
	comp=N,6.7nm,0.2s						
ALMR	**Almeirim**	**3.87**	**59**	*e*Pn	**Pb**	**00 47 00.8**	**-3.8**
ALMR				*e*Sn	**Sn**	**00 47 44.2**	**+2.9**
ALMR				A	A	00 47 50.1	
	comp=N,11nm,0.3s						
ALMR	**Almeirim**	**3.87**	**59**	P	**Pb**	**00 47 00.8**	**-3.8**
ALMR				S	**Sn**	**00 47 44.2**	**+2.9**
	comp=N,5.6nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.92**	**88**	*e*Pn	**Pn**	**00 46 59.9**	**+3.3**
PBDV				*e*Sn	**Sn**	**00 47 43.2**	**+0.6**
PBDV				A	A	00 47 52.6	
	comp=N,3.1nm,0.4s						
PBDV	**Barranco-do-Ve**	**3.92**	**88**	P	**Pn**	**00 46 59.9**	**+3.3**
PBDV				S	**Sn**	**00 47 43.2**	**+0.6**
	comp=N,3.1nm,0.4s						
PBEJ	**Beja**	**4.03**	**77**	*e*Pn	**Pb**	**00 47 02.9**	**-4.4**
PBEJ				*e*Sn	**Sn**	**00 47 46.1**	**+0.9**
PBEJ				A	A	00 47 51.8	
	comp=N,5.4nm,0.2s						
PBEJ	**Beja**	**4.03**	**77**	P	**Pb**	**00 47 02.9**	**-4.4**
PBEJ				S	**Sn**	**00 47 46.1**	**+0.9**
	comp=N,2.7nm,0.2s						
EVO	**Evora**	**4.03**	**70**	*e*Pn	**Pb**	**00 47 03.9**	**-3.5**
EVO				*e*Sn	**Sn**	**00 47 47.5**	**+2.1**
EVO				A	A	00 47 53.3	
	comp=N,4.2nm,0.1s						
EVO	**Evora**	**4.03**	**70**	P	**Pb**	**00 47 03

comp=N,2.5nm,0.3s,SNR=7.9
EADA S **Sn** **00 48 47.4 -1.7**
comp=N,0.1nm,0.1s,SNR=7.9
EAGO Agolada(Pontev 6.65 32 P **Pn** **00 47 36.7 +2.6**
comp=N,0.3nm,0.2s,SNR=7.9
EAGO S **Sn** **00 48 46.6 -3.2**
comp=N,0.3nm,0.1s,SNR=7.9
PAB San Pablo 7.06 68 P **Pn** **00 47 42.9 +3.2**
comp=N,0.5nm,0.2s,SNR=7.9
PAB S **Sn** **00 48 56.9 -3.1**
comp=N,0.1nm,0.2s,SNR=7.9
ESDC Sonseca Array 7.38 68 P **Pn** **00 47 47.1 +2.9**
comp=N,6.8nm,0.2s,baz=254,slow=13,SNR=24
GUD Guadarrama 7.57 61 P **Pn** **00 47 50.5 +3.6**
comp=N,0.4nm,0.2s,SNR=7.9
GUD S **Sn** **00 49 14.1 +1.2**
comp=N,0.6nm,0.2s,SNR=7.9
EQES Quesada 7.78 83 P **Pn** **00 47 52.2 +2.5**
comp=N,0.3nm,0.2s,SNR=7.9
EQES S **Sn** **00 49 19.1 +1.1**
comp=N,0.6nm,0.4s,SNR=7.9

*IDC **02** 00:59:16.7±3.1,36°.21N×70°.25E,h207km±29km,mb3.0/4, mb1 3.1/10,mb1mx3.0/41,mbtmp3.7/10, Error ellipse: s-maj=27.3km s-min=19.1km az=158.0*
*ISCJB **02** 00:59:17.2±0.5,36°.43N±0°.04×70°.10E±0°.05,h213km, mb3.1/3, Error ellipse: s-maj=6.5km s-min=5.1km az=149.5*
*NNC **02** 00:59:21.9±6.8,36°.80N×69°.98E,h190km±105km,mb3.0, mpv3.8, Error ellipse: s-maj=65.5km s-min=39.6km az=9.0*

ISC 02 00:59:18.0±0.7,36°.45N±0°.07×70°.13E±0°.06,h213km,n35, σ1♀41/41,mb3.2/3,8C-1D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.31**	**25**	P	**Pn**	**01 00 50.3**	**+0.5**
	SNR=75						
KK31	**Karatay Array**	**6.65**	**2**	⇑P	**Pn**	**01 00 54.1**	**+0.3**
	1.0nm,0.3s,baz=181,slow=13,SNR=42						
KK31				⇑S	**S**	**01 02 06.4**	**-3.5**
	4.3nm,0.4s,baz=189,slow=21,SNR=4.9						
UCH	**Uchtor**	**6.70**	**29**	P	**Pn**	**01 00 55.5**	**+0.7**
	SNR=26						
EKS2	**Erkin-Say**	**6.82**	**23**	P	**Pn**	**01 00 57.0**	**+0.9**
	SNR=12						
KZA	**Kyzart**	**6.88**	**34**	P	**Pn**	**01 00 57.5**	**+0.3**
	SNR=28						
AAK	**Ala-Archa**	**7.04**	**27**	P	**Pn**	**01 00 59.9**	**+0.9**
	3.0nm,0.3s,baz=172,slow=4.0,SNR=26						
AAK				S	**S**	**01 02 16.9**	**-2.3**
	1.8nm,0.3s,baz=301,slow=24,SNR=10.0						
AAK	**Ala-Archa**	**7.04**	**27**	⇓P	**Pn**	**01 00 59.6**	**+0.7**
	2.5nm,0.4s						
AAK				⇑S	**S**	**01 02 17.0**	**-2.3**
	14nm,0.7s						
AAK	**Ala-Archa**	**7.04**	**27**	P	**Pn**	**01 00 59.9**	**+0.9**
	SNR=12						
KBK	**Karagaybulak**	**7.23**	**30**	P	**Pn**	**01 01 02.3**	**+0.8**
	SNR=12						
CHMS	**Chumysh**	**7.45**	**27**	P	**Pn**	**01 01 05.1**	**+1.0**
	SNR=9.1						
ULHL	**Ulahol**	**7.48**	**37**	P	**Pn**	**01 01 05.4**	**+0.7**
	SNR=7.8						
TKM2	**Tokmak 2**	**7.72**	**31**	⇑P	**Pn**	**01 01 07.9**	**+0.2**
	14nm,0.9s						
TKM2				⇑S	**S**	**01 02 32.9**	**-2.3**
	6.9nm,0.8s						
TKM2	**Tokmak 2**	**7.72**	**31**	P	**Pn**	**01 01 08.2**	**+0.5**
	SNR=10						
MDOK	**Medeo**	**8.56**	**36**	⇑P	**Pn**	**01 01 19.0**	**+0.4**
	5.2nm,0.7s						
GEYT	**Alibeck**	**9.70**	**282**	P	**Pn**	**01 01 33.2**	**0.0**
	0.4nm,0.3s,baz=270,slow=17,SNR=8.4						
GEYT				S	**S**	**01 03 18.8**	**-3.1**
	0.1nm,0.3s,baz=358,slow=9.0,SNR=2.5						
PYUN	**Piuthan**	**13.69**	**124**	*e*P	**Pn**	**01 02 23.1**	**-0.8**
	14nm,0.3s						
MKAR	**Makanchi Array**	**13.75**	**38**	P	**Pn**	**01 02 26.0**	**+1.6**
	0.1nm,0.3s,baz=216,slow=12,SNR=5.5						
DANN	**Dangsing**	**14.05**	**121**	*e*P	**Pn**	**01 02 28.7**	**+0.2**
	24nm,0.5s						
KOLN	**Koldanda**	**14.31**	**123**	*e*P	**Pn**	**01 02 31.2**	**-0.4**
	6.2nm,0.4s						
AB31	**Akbulak array**	**14.80**	**333**	⇑P	**Pn**	**01 02 37.2**	**+0.1**
	1.5nm,0.5s,baz=147,slow=12,SNR=44						
KURBB	**Kurchatov Arra**	**15.41**	**21**	P	**P**	**01 02 44.3**	**-0.1**
	0.1nm,0.3s,baz=213,slow=9.7,SNR=6.3						
DMN	**Daman**	**15.45**	**121**	*e*P	**P**	**01 02 45.0**	**-0.3**
	12nm,0.4s						
KKN	**Kakani**	**15.46**	**120**	*e*P	**P**	**01 02 45.1**	**-0.3**
	18nm,0.4s						
PKIN	**Phulchoki**	**15.67**	**120**	*e*P	**P**	**01 02 48.4**	**+0.6**
	14nm,0.4s						
PKI	**Pulchoki**	**15.68**	**120**	*e*P	**P**	**01 02 48.7**	**+0.7**
	17nm,0.6s						
GUN	**Gumba**	**15.81**	**118**	*e*P	**P**	**01 02 50.6**	**+1.2**
	11nm,0.4s						
JIRN	**Jiri**	**16.18**	**118**	*e*P	**P**	**01 02 54.6**	**+1.1**
	42nm,0.6s						
AKTO	**Aktyubinsk**	**16.48**	**332**	P	**P**	**01 02 58.5**	**+1.2**
	1.3nm,0.3s,baz=154,slow=9.2,SNR=14						
AKTO				S	**S**	**01 06 00.2**	**+2.4**
	0.2nm,0.3s,baz=131,slow=21,SNR=2.4						
AKTO	**Aktyubinsk**	**16.48**	**332**	⇑P	**P**	**01 02 58.2**	**+1.9**
	4.7nm,0.6s						
BVAR	**Borovoye Array**	**16.58**	**1**	P	**P**	**01 02 59.0**	**+1.8**
	1.1nm,0.3s,baz=159,slow=13,SNR=15						
RAMN	**Ramite**	**16.90**	**119**	*e*P	**P**	**01 03 02.1**	**+0.8**
	14nm,0.6s						
ZALV	**Zalesovo Beam**	**20.26**	**26**	P	**P**	**01 03 37.6**	**+0.6**
	1.4nm,0.4s,baz=220,slow=11,SNR=8.9						
ARCES	**ARCESS Array B**	**40.93**	**338**	P	**P**	**01 06 41.0**	**+1.8**
	0.7nm,0.7s,baz=118,slow=9.6,SNR=3.9						
TORD	**Torodi Ar. Bea**	**65.01**	**268**	P	**P**	**01 09 35.7**	**0.0**
	0.3nm,0.7s,baz=53,slow=6.1						
WRA	**Warramunga Arr**	**82.56**	**121**	P	**P**	**01 11 15.2**	**-2.1**
	0.2nm,0.7s,baz=326,slow=4.6,SNR=3.6						

*IGIL **02** 01:10:53.8,37°.18N×12°.72W,h2km,ML1.7*
*MDD **02** 01:10:54.7±2.0,37°.15N×12°.73W,h0km,mb3.5/10, Error ellipse: s-maj=18.6km s-min=17.4km az=12.0,PRXIMO*
*INMG **02** 01:10:56.7±1.0,37°.01N×13°.08W,h10km,ML1.9, Error ellipse: s-maj=7.5km s-min=6.3km az=83.0*

ISC 02 01:10:56.2±4.0,37°.2N±0°.1×12°.6W±0°.2,h10km,n38, σ1♀32/67,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.99**	**90**	*e*Pn	**Pn**	**01 11 43.5**	**-0.2**
PFVI				*e*Sn	**Sn**	**01 12 19.8**	**+0.2**
PFVI	**Vila Bisbo**	**2.99**	**90**	P	**Pn**	**01 11 43.4**	**-0.3**
	0.5nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**01 12 19.6**	**0.0**
	0.6nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**3.08**	**83**	*e*Pn	**Pn**	**01 11 45.4**	**+0.5**
PTEO				*e*Sn	**Sn**	**01 12 21.5**	**-0.3**
PTEO	**Sao Teotonio**	**3.08**	**83**	P	**Pn**	**01 11 45.4**	**+0.5**
PTEO				S	**Sn**	**01 12 21.5**	**-0.3**
PMAFR	**Mafra**	**3.12**	**55**	*e*Pn	**Pn**	**01 11 46.5**	**+1.0**
PMAFR				*e*Sn	**Sn**	**01 12 23.2**	**+0.3**
PMAFR				A	A	01 12 24.4	
	11nm,0.7s						
PMAFR	**Mafra**	**3.12**	**55**	P	**Pn**	**01 11 45.5**	**0.0**
	1.3nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**01 12 23.2**	**+0.3**
	2.6nm,0.2s,SNR=7.9						
MORF	**Marmelete**	**3.13**	**87**	*e*P	**Pn**	**01 11 44.1**	**-1.5**
MORF	**Marmelete**	**3.13**	**87**	*e*Pn	**Pn**	**01 11 45.8**	**+0.2**
MORF				*e*Sn	**Sn**	**01 12 25.2**	**+2.1**
MORF				A	A	01 12 29.6	
	1.8nm,1.1s						
MORF	**Marmelete**	**3.13**	**87**	P	**Pn**	**01 11 44.1**	**-1.5**
MORF				S	**Sn**	**01 12 25.2**	**+2.1**
	1.8nm,1.1s						
MESJ	**Messejana**	**3.51**	**78**	*e*S	**Sn**	**01 12 29.7**	**-2.8**
MESJ				AML	AML	01 12 40.2	
	comp=N,2.0nm,0.4s						
MESJ	**Messejana**	**3.51**	**78**	*e*Pn	**Pn**	**01 11 52.2**	**+1.3**
MESJ				*e*Sn	**Sn**	**01 12 32.3**	**-0.2**
MESJ				A	A	01 12 37.5	
	comp=N,1.1nm,0.2s						
MESJ	**Messejana**	**3.51**	**78**	P	**Pn**	**01 11 52.2**	**+1.3**
MESJ				S	**Sn**	**01 12 29.7**	**-2.8**
	comp=N,2.0nm,0.4s						
ALMR	**Almeirim**	**3.70**	**57**	*e*Pn	**Pn**	**01 11 55.0**	**+1.6**
ALMR				*e*Sn	**Sn**	**01 12 39.2**	**+2.2**
ALMR				A	A	01 12 42.1	
	comp=N,5.4nm,0.6s						
ALMR	**Almeirim**	**3.70**	**57**	P	**Pn**	**01 11 55.0**	**+1.6**
ALMR				S	**Sn**	**01 12 39.2**	**+2.2**
	comp=N,2.7nm,0.6s						
PBDV	**Barranco-do-Ve**	**3.70**	**88**	*e*Pn	**Pn**	**01 11 54.7**	**+1.2**
PBDV				*e*Sn	**Sn**	**01 12 38.0**	**+0.8**
PBDV				A	A	01 12 44.0	
	comp=N,0.9nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.70**	**88**	P	**Pn**	**01 11 54.7**	**+1.2**
PBDV				S	**Sn**	**01 12 38.0**	**+0.8**
	comp=N,0.9nm,0.2s						
EVO	**Evora**	**3.84**	**69**	*e*Pn	**Pn**	**01 11 57.7**	**+2.3**
EVO				*e*Sn	**Sn**	**01 12 41.9**	**+1.4**
EVO				A	A	01 12 46.8	
	comp=N,1.7nm,0.8s						
EVO	**Evora**	**3.84**	**69**	P	**Pn**	**01 11 57.7**	**+2.3**
EVO				S	**Sn**	**01 12 41.9**	**+1.4**
	comp=N,1.7nm,0.8s						
PVAQ	**Vaqueiros**	**3.87**	**86**	*e*Pn	**Pn**	**01 11 56.6**	**+0.8**
PVAQ				*e*Sn	**Sn**	**01 12 40.7**	**-0.7**
PVAQ				A	A	01 12 46.2	
	comp=N,1.3nm,0.2s						
PVAQ	**Vaqueiros**	**3.87**	**86**	P	**Pn**	**01 11 56.6**	**+0.8**
PVAQ				S	**Sn**	**01 12 40.7**	**-0.7**
	comp=N,1.3nm,0.2s						
EGRO	**El Granado**	**4.07**	**84**	P	**Pn**	**01 11 58.8**	**+0.3**
	comp=N,0.4nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**01 12 45.9**	**-0.2**
	comp=N,0.5nm,0.2s,SNR=7.9						
PESTR	**Estremoz**	**4.26**	**66**	*e*Pn	**Pn**	**01 12 02.1**	**+0.9**
PESTR				*e*Sn	**Sn**	**01 12 50.9**	**-0.1**
PESTR				A	A	01 12 53.8	
	comp=N,0.9nm,0.3s						
PCAS	**Casmilo, Conde**	**4.27**	**47**	*e*Sn	**Sn**	**01 12 53.6**	**+2.5**
PCAS				*i* LQ	LQ	01 12 54.7	
PMRV	**Marv??o**	**4.63**	**60**	*e*Pn	**Pn**	**01 12 06.6**	**+0.3**
PMRV				*e*Sn	**Sn**	**01 12 58.7**	**-1.5**
PMRV				A	A	01 13 03.1	
	comp=N,1.1nm,0.3s						
PMRV	**Marv??o**	**4.63**	**60**	P	**Pn**	**01 12 06.6**	**+0.3**
PMRV				S	**Sn**	**01 12 58.7**	**-1.5**
	comp=N,1.1nm,0.3s						
EBAD	**Badajoz**	**4.65**	**69**	P	**Pn**	**01 12 06.8**	**+0.2**
	comp=N,0.4nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**01 12 59.2**	**-1.4**
	comp=N,0.8nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.72**	**81**	P	**Pn**	**01 12 07.7**	**+0.2**
	comp=N,0.2nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**01 13 01.5**	**-0.9**
	comp=N,0.1nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**4.78**	**55**	*e*Pn	**Pn**	**01 12 09.1**	**+0.9**
PCBR	**Castelo Branco**	**4.78**	**55**	P	**Pn**	**01 12 09.1**	**+0.9**
PVIS	**Viseu**	**5.05**	**45**	*e*Pn	**Pn**	**01 12 12.5**	**+0.4**
PVIS				*e*Sn	**Sn**	**01 13 09.2**	**-1.3**
PVIS	**Viseu**	**5.05**	**45**	P	**Pn**	**01 12 12.5**	**+0.4**
PVIS				S	**Sn**	**01 13 09.2**	**-1.3**
ECAB	**El Cabril**	**5.74**	**79**	P	**Pn**	**01 12 21.7**	**+0.2**
	comp=N,0.1nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**01 13 26.6**	**-0.9**
	comp=N,0.0nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.81**	**35**	S	**Sn**	**01 13 25.7**	**-3.5**
	comp=N,0.2nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**5.82**	**59**	P	**Pn**	**01 12 22.6**	**-0.1**
	comp=N,0.1nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**01 13 27.5**	**-2.1**
	comp=N,0.4nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.41**	**79**	P	**Pn**	**01 12 30.6**	**-0.1**
	comp=N,0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**01 13 42.5**	**-1.5**
	comp=N,0.4nm,0.5s,SNR=7.9						
EAGO	**Agolada(Pontev**	**6.56**	**30**	S	Sn	01 13 38.2	-9.3
	comp=N,0.3nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**6.87**	**68**	P	**Pn**	**01 12 37.1**	**+0.1**
	comp=N,0.1nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**01 13 54.3**	**-0.9**
	comp=N,0.2nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**7.19**	**67**	P	**Pn**	**01 12 41.0**	**-0.4**
	comp=N,0.6nm,0.1s,baz=254,slow=13,SNR=3.5						

*MOS **02** 01:22:12.7±1.1,7°.70S×121°.65E,h272km,mb5.0/48, Error ellipse: s-maj=7.6km s-min=5.2km az=111.3*
*ISCJB **02** 01:22:13.7±0.2,7°.82S±0°.02×121°.65E±0°.02,h285km±2km, mb5.0/200, Error ellipse: s-maj=3.0km s-min=2.3km az=139.2*
*BJI **02** 01:22:13.0,7°.80S×121°.60E,h273km,mb4.8/70,mB4.8/58*
*DJA **02** 01:22:14.5±0.1,8°.S±2°×12°.2E±°,h269km±1km, M5.7/82, mb5.7/82,mB6.0/72,MLv6.2/29,Mw(mB)5.6/72, Mwp5.5/6*
*NEIC **02** 01:22:14.0±0.1,7°.79S×121°.64E,mb5.3/108, Error ellipse: s-maj=3.9km s-min=2.6km az=53.0*
*IDC **02** 01:22:14.4±0.3,7°.79S×121°.73E,h278km±3km,mb4.8/32, mb1 4.8/37,mb1mx4.8/39,mbtmp5.4/37, Error ellipse: s-maj=7.2km s-min=4.5km az=60.0*
*GCMT **02** 01:22:15.0±0.1,7°.86S±0°.01×121°.68E±0°.01,h283km±1km, MW5.6/118,Moment Tensor Solution. s113,c187; s118,c205; Duration: 1♀6 Moment tensor: Scale 10^17 Nm; Mrr=0.82±.04; Mθθ2.69±.04; Mφφ=1.87±.04; Mrθ=1.05±.04; Mθφ 1.42±.04; Mφr1.65±.04; Best double couple: Mo3.38100×10^17 NP1:♎114.00000°,δ73.00000°, λ-33.00000°. NP2:♎215.00000°,δ59.00000°, λ-160.00000°. Principal axes: T 3.1880, Plg9.0000°, Azm167.0000°; N 0.3860, Plg54.0000°, Azm270.0000°; P -3.5740, Plg35.0000°, Azm71.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 01:22:14.0±0.2,7°.82S±0°.03×121°.67E±0°.03,h278km±1km, h279km:pP-P,n811,σ1♀47/924,mb5.0/197,14C-9D,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**0.92**	**179**	P	**Pn**	**01 22 51.1**	**-0.7**
EDFI				S	**S**	**01 23 19.6**	**-2.2**
MMRI	**Maumere**	**0.98**	**145**	*e*Pn	**Pn**	**01 22 51.7**	**-0.3**
MMRI				*e*S	**S**	**01 23 20.8**	**-1.3**
MMRI	**Maumere**	**0.98**	**145**	P	**Pn**	**01 22 52.5**	**+0.5**
MMRI				S	**S**	**01 23 21.0**	**-1.0**
BBSI	**Bau Bau**	**2.48**	**21**	P	**Pn**	**01 23 05.5**	**+2.3**
WBSI	**Waikabubak, Su**	**2.89**	**231**	P	**Pn**	**01 23 05.2**	**-2.0**
WBSI				S	**S**	**01 23 44.3**	**-5.3**
BKSI	**Bulukumba**	**2.92**	**328**	P	**Pn**	**01 23 08.3**	**+0.8**
BATI	**Baumata**	**3.08**	**140**	P	**Pn**	**01 23 10.2**	**+1.1**
	10μm,0.3s,baz=317,slow=1.1,SNR=4315						
BATI				S	**S**	**01 23 51.9**	**-1.1**
	33μm,0.3s,baz=322,slow=20,SNR=22						
BATI	**Baumata**	**3.08**	**140**	P	**Pn**	**01 23 10.2**	**+1.1**
SOEI	**Soe**	**3.21**	**127**	*e*Pn	**Pn**	**01 23 10.4**	**-0.2**
SOEI				*e*S	**S**	**01 23 50.9**	**-4.7**
SOEI	**Soe**	**3.21**	**127**	P	**Pn**	**01 23 11.5**	**+0.9**
BNSI	**Bone**	**3.74**	**335**	P	**Pn**	**01 23 19.0**	**+2.8**
PLAI	**Plampang**	**3.98**	**255**	P	**Pn**	**01 23 18.2**	**-0.7**
SPSI	**Sidrap Palu**	**4.27**	**334**	P	**Pn**	**01 23 24.4**	**+2.1**
TWSI	**Taliwang, Sumb**	**4.83**	**259**	P	**Pn**	**01 23 27.4**	**-1.3**
TTSI	**Tana Toraja**	**5.09**	**339**	P	**Pn**	**01 23 34.3**	**+2.4**
	4μm,1.0s,38μm21μm12nm						
SRBI	**Singaraja**	**6.40**	**267**	P	**Pn**	**01 23 47.3**	**-0.4**
	3μm,0.9s,23μm11μm9.2nm						
DNP	**Denpasar**	**6.45**	**262**	P	**Pn**	**01 23 45.7**	**-2.6**
DNP				pmax	pmax		
	comp=Z,4μm,1.1s						
DNP	**Denpasar**	**6.45**	**262**	P	**Pn**	**01 23 45.8**	**-2.6**
	comp=Z,3μm,1.0s,comp=Z,57μmcomp=Z,63nm						
IGBI	**Denpasar**	**6.53**	**261**	P	**Pn**	**01 23 47.1**	**-2.2**
	comp=Z,4μm,0.8s,comp=Z,97μmcomp=Z,38nm						
LUWI	**Luwuk**	**6.82**	**9**	*e*Pn	**Pn**	**01 23 55.1**	**+2.1**
LUWI				*e*S	**S**	**01 25 09.8**	**-2.9**
LUWI	**Luwuk**	**6.82**	**9**	P	**Pn**	**01 23 55.0**	**+2.1**
	comp=Z,4μm,1.3s,comp=Z,38μmcomp=Z,14nm						
APSI	**Ampana**	**6.87**	**360**	P	**Pn**	**01 23 55.9**	**+2.4**
	comp=Z,3μm,1.0s,comp=Z,32μmcomp=Z,12nm						
KBKI	**Kotabaru**	**7.08**	**309**	P	**Pn**	**01 23 57.8**	**+1.6**
	comp=Z,69nm,1.3s,comp=Z,2μmcomp=Z,0.3nm						
SANI	**Sanana**	**7.17**	**37**	P	**Pn**	**01 23 59.5**	**+2.3**
	comp=Z,818nm,0.9s,comp=Z,8μmcomp=Z,3.5nm						
JAGI	**Jajag, Banyuwa**	**7.47**	**265**	*e*Pn	**Pn**	**01 23 57.9**	**-3.1**
JAGI				*e*S	**S**	**01 25 19.8**	**-7.5**
JAGI	**Jajag, Banyuwa**	**7.47**	**265**	P	**Pn**	**01 23 58.4**	**-2.6**
	comp=Z,2μm,1.1s,comp=Z,26μmcomp=Z,7.7nm						
AAI	**Ambon**	**7.68**	**58**	P	**Pn**	**01 24 06.7**	**+3.2**
AAI				pmax	pmax		
	comp=Z,7μm,1.4s						
AAI	**Ambon**	**7.68**	**58**	P	**Pn**	**01 24 06.7**	**+3.2**
	comp=Z,7μm,1.4s,comp=Z,76μmcomp=Z,28nm						
KMMI	**Kalianget**	**7.68**	**275**	P	**Pn**	**01 24 05.8**	**+2.3**
	comp=Z,1μm,1.2s,comp=Z,8μmcomp=Z,3.4nm						
BLJI	**Banyuglugur**	**8.00**	**270**	P	**Pn**	**01 24 07.7**	**+0.2**
	comp=Z,1μm,0.8s,comp=Z,23μmcomp=Z,6.5nm						
BKB	**Balikpapan**	**8.07**	**324**	P	Pn	01 24 13.4	+5.0
	comp=Z,2μm,1.7s,comp=Z,22μmcomp=Z,18μmcomp=Z,7.5nm						
GMJI	**Gumukmas**	**8.16**	**266**	P	**Pn**	**01 24 07.0**	**-2.5**
	comp=Z,993nm,1.0s,comp=Z,13μmcomp=Z,3.6nm						
MRSI	**Marisa**	**8.25**	**2**	P	**Pn**	**01 24 12.7**	**+2.1**
	comp=Z,2μm,1.3s,comp=Z,21μmcomp=Z,7.4nm						
MPSI	**Mapaga**	**8.30**	**348**	P	**Pn**	**01 24 12.9**	**+1.7**
	comp=Z,954nm,1.8s,comp=Z,14μmcomp=Z,3.3nm						
SGKI	**Sangatta, Kali**	**8.30**	**331**	P	Pn	01 24 26.1	+15
SMKI	**Samarinda**	**8.57**	**329**	P	**P**	**01 24 18.3**	**-2.6**
	comp=Z,2μm,1.3s,comp=Z,31μmcomp=Z,8.6nm						
KMSI	**Cibinong**	**8.65**	**16**	P	**P**	**01 24 18.9**	**-2.9**
	comp=Z,3μm,1.3s,comp=Z,28μmcomp=Z,9.2nm						
BNDI	**Bandanaira**	**8.82**	**69**	P	**Pn**	**01 24 18.9**	**+1.2**
	comp=Z,7μm,1.0s,comp=Z,90μmcomp=Z,23μmcomp=Z,24nm						
GRJI	**Gresik**	**9.16**	**275**	P	**Pn**	**01 24 23.5**	**+1.5**
	comp=Z,2μm,0.9s,comp=Z,18μm						
LBMI	**Labuha**	**9.20**	**39**	P	**P**	**01 24 25.9**	**-2.2**
	comp=Z,5μm,1.0s,comp=Z,47μm						
SAUI	**Saumlaki**	**9.54**	**92**	*e*Pn	**Pn**	**01 24 25.9**	**-0.8**
SAUI				*e*S	**S**	**01 26 06.6**	**-8.0**
SAUI				*e*S	S	01 26 13.1	-1.4
SAUI	**Saumlaki**	**9.54**	**92**	P	**Pn**	**01 24 26.6**	**-0.1**
	comp=Z,5μm,0.8s,comp=Z,37μm						
MTKI	**Muara Teweh, K**	**9.61**	**315**	P	**Pn**	**01 24 29.3**	**+1.8**
	comp=Z,737nm,1.3s,comp=Z,11μm						
PWJI	**Pagerwojo**	**9.78**	**268**	P	**Pn**	**01 24 28.5**	**-1.1**
	comp=Z,2μm,0.7s,comp=Z,20μm						
TBJI	**Tambak Boyo**	**9.79**	**275**	P	**Pn**	**01 24 31.9**	**+2.1**
	comp=Z,846nm,1.5s,comp=Z,11μmcomp=Z,6μm						
NGJI	**Ngawi**	**10.13**	**272**	P	**P**	**01 24 36.3**	**-2.1**
	comp=Z,2μm,0.9s,comp=Z,17μm						
TNTI	**Ternate**	**10.25**	**34**	*e*Pn	**Pn**	**01 24 36.9**	**+1.3**
TNTI	**Ternate**	**10.25**	**34**	P	**Pn**	**01 24 37.3**	**+1.8**
	comp=Z,1μm,1.2s,comp=Z,10μm						
PCJI	**Pacitan**	**10.40**	**267**	P	**Pn**	**01 24 36.4**	**-0.9**
	comp=Z,8μm,1.1s,comp=Z,71μm						
KNRA	**Kununurra**	**10.44**	**139**	P	**Pn**	**01 24 37.7**	**-0.1**
	baz=10,SNR=980						
MTN	**Manton Dam**	**10.56**	**119**	P	**Pn**	**01 24 39.4**	**+0.1**
	baz=11,SNR=1000						
MTN	**Manton Dam**	**10.56**	**119**	*e*Pn	**Pn**	**01 24 39.4**	**+0.1**
WOJI	**Wonogiri, Jawa**	**10.65**	**269**	P	**Pn**	**01 24 40.2**	**-0.2**
	comp=Z,2μm,0.9s,comp=Z,20μm						
FITZ	**Fitzroy Crossi**	**10.92**	**160**	P	**Pn**	**01 24 43.8**	**+0.1**
	comp=Z,59nm,0.3s,baz=354,slow=7.6,SNR=1083						
FITZ				S	**S**	**01 26 45.2**	**-0.9**
	comp=Z,96nm,0.3s,baz=132,slow=12,SNR=5.8						
FITZ	**Fitzroy Crossi**	**10.92**	**160**	P	**Pn**	**01 24 43.5**	**-0.3**
	baz=11,SNR=655						
UGM	**Wanagama**	**11.04**	**269**	*e*Pn	**Pn**	**01 24 44.6**	**-0.8**
UGM	**Wanagama**	**11.04**	**269**	P	**Pn**	**01 24 44.9**	**-0.5**
	comp=Z,1μm,0.9s,comp=Z,18μm						
SMRI	**Semarang**	**11.16**	**273**	*e*Pn	**Pn**	**01 24 46.8**	**-0.1**
SMRI	**Semarang**	**11.16**	**273**	P	**Pn**	**01 24 47.7**	**+0.9**
	comp=Z,1μm,0.8s,comp=Z,14μm						
PBKI	**Pangkalan Bun**	**11.18**	**297**	P	**P**	**01 24 53.0**	**+2.9**
FAKI	**Fak Fak**	**11.60**	**66**	*e*Pn	**Pn**	**01 24 51.5**	**-0.7**
FAKI	**Fak Fak**	**11.60**	**66**	P	**Pn**	**01 24 51.5**	**-0.7**
	comp=Z,4μm,1.3s,comp=Z,45μm						
KDU	**Kakadu**	**11.68**	**115**	P	**Pn**	**01 24 52.6**	**-0.4**
	baz=12,SNR=578						
SWI	**Sorong**	**11.79**	**55**	P	**Pn**	**01 24 54.8**	**+0.2**
	comp=Z,10μm,1.0s,comp=Z,92μm						
SIJI	**Sorong**	**11.79**	**55**	P	**Pn**	**01 24 54.5**	**-0.1**
	comp=Z,127nm,0.3s,baz=226,slow=7.3,SNR=623						
SIJI				S	**S**	**01 27 03.1**	**-3.2**
	comp=Z,3.9nm,0.3s,baz=97,slow=23,SNR=9.5						
SGSI	**Sangihe**	**12.06**	**19**	P	**P**	**01 25 02.3**	**+2.4**
	comp=Z,1μm,0.6s,comp=Z,17μm						
KMPI	**Kaimana, Papua**	**12.66**	**72**	P	**Pn**	**01 25 04.0**	**-1.2**
	comp=Z,5μm,1.4s,comp=Z,59μm						
STKI	**Sintang**	**12.83

PALU **Palau** 19.75 41 P P 01 26 24.2 +0.5
baz=20,SNR=124
MASI **Maura Aman, Be** 19.89 282 P Pn 01 26 28.8 -1.7
comp=Z,166nm,1.4s,comp=Z,9µm
SJMP **San Jose** 20.16 358 *eP* P 01 26 29.9 +1.8
MYKOM **Kota Tinggi** 20.18 298 *eP* P 01 26 28.7 +0.3
comp=Z,194nm,1.1s
SDSI **Sungai Dareh** 21.30 288 P P 01 26 41.5 +1.9
comp=Z,36nm,0.9s,comp=Z,2µm
PVCP **Virac** 21.42 7 *eP* P 01 26 39.4 -1.2
LUBP **Lubang** 21.46 356 *eP* P 01 26 40.3 -0.7
QIS **Mount Isa** 21.48 128 P P 01 26 42.0 +0.9
baz=22,SNR=462
MORW **Morawa** 21.79 193 P P 01 26 44.6 +0.7
baz=22,SNR=121
TGY **Tagaytay City** 21.79 358 P P 01 26 44.6 +0.5
comp=Z,855nm,0.6s,baz=172,slow=2.4,SNR=26
TGY S S 01 30 30.3 +5.2
comp=Z,198nm,0.3s,baz=344,slow=20,SNR=2.6
COEN **Coen** 21.97 108 P P 01 26 46.0 +0.3
baz=22,SNR=1000
COEN **Coen** 21.97 108 *eP* P 01 26 45.8 +0.2
comp=Z,2µm,0.8s
BKNI **Bangkinang** 22.11 291 *eP* P 01 26 47.1 +0.2
comp=Z,174nm,1.0s
BKNI **Bangkinang** 22.11 291 P P 01 26 48.6 +1.7
comp=Z,170nm,1.0s
PDSI **Padang** 22.22 287 P P 01 26 46.0 -2.0
comp=Z,51nm,1.1s,comp=Z,4µm
BLDU **Ballidu** 23.15 191 P P 01 26 56.3 +0.1
baz=23,SNR=216
FORT **Forrest** 23.61 166 P P 01 27 01.2 +0.8
baz=24,SNR=131
FORT **Forrest** 23.61 166 *eP* P 01 27 01.1 +0.7
comp=Z,234nm,0.6s
MNSI **Mandailing Nat** 23.64 290 P P 01 27 00.5 -0.3
comp=Z,90nm,0.9s,comp=Z,5µm
SMPP **San Manuel, Pa** 23.84 358 *eP* P 01 27 00.4 -2.2
KLBR **Kellerberrin** 23.93 188 P P 01 27 03.6 +0.3
baz=24,SNR=95
IPM **Ipoh** 23.95 300 *eP* P 01 27 03.9 +0.1
comp=Z,52nm,0.9s
MUN **Mundaring** 24.57 191 P P 01 27 08.8 -0.2
baz=25,SNR=26
KULM **Kulim** 24.69 301 *eP* P 01 27 10.2 -0.1
comp=Z,60nm,1.1s
PSI **Prapat** 25.03 294 P P 01 27 13.7 +0.1
comp=Z,28nm,0.8s,baz=179,slow=5.1,SNR=33
PSI pP pP 01 28 06.0 +1.2
comp=Z,110nm,1.1s,baz=180,slow=7.0,SNR=9.0
PSI ScP ScP 01 33 52.2 -0.8
comp=Z,12nm,1.0s,baz=180,slow=2.3,SNR=5.0
PSI **Prapat** 25.03 294 *eP* P 01 27 12.6 -0.9
comp=Z,40nm,0.9s
PSI pP pP 01 28 06.0 +1.2
PSI ScP ScP 01 33 52.1 -0.8
PMG **Port Moresby** 25.25 95 P P 01 27 15.3 -0.1
comp=Z,30nm,0.7s,baz=136,slow=1.0,SNR=6.0
NWAO **Narrogin (SRO)** 25.32 189 P P 01 27 16.5 +0.7
comp=Z,28nm,0.5s,baz=257,slow=7.5,SNR=28
NWAO **Narrogin (SRO)** 25.32 189 P P 01 27 16.5 +0.7
baz=25,SNR=16
NWAO **Narrogin (SRO)** 25.32 189 *eP* P 01 27 15.6 -0.2
GSI **Gunungsitoli** 25.68 290 *eP* P 01 27 18.2 -1.2
comp=Z,64nm,1.1s
GSI **Gunungsitoli** 25.68 290 P P 01 27 18.9 -0.4
comp=Z,40nm,0.9s
SKLT **Songkhla** 25.74 305 P P 01 27 20.9 +1.1
comp=Z,71nm,1.1s,comp=Z,1µm
MANU **Manus Island** 26.22 79 *eP* P 01 27 24.7 +0.5
comp=Z,126nm,1.1s
KCSI **Kotacane, Aceh** 26.37 294 P P 01 27 24.1 -1.4
comp=Z,76nm,0.7s,comp=Z,1µm
CTA **Charters Tower** 26.74 120 P P 01 27 30.2 +1.5
comp=Z,136nm,1.0s,baz=296,slow=11,SNR=94
CTAO **Charters Tower** 26.74 120 *eP* P 01 27 29.8 +1.1
comp=Z,286nm,1.1s
CTAO **Charters Tower** 26.74 120 *eP* P 01 27 29.8 +1.1
CTAO pmax pmax
comp=Z,286nm,1.1s
TPTI 26.80 293 P P 01 27 29.2 0.0
comp=Z,37nm,1.4s,comp=Z,982nm
TRTT **Trang** 26.87 305 P P 01 27 30.3 +0.4
comp=Z,17nm,1.2s
RKGY **Rocky Gully** 27.01 189 P P 01 27 32.7 +1.9
baz=27,SNR=28
SNSI **Sinabang, Aceh** 27.25 291 P P 01 27 34.5 +1.3
comp=Z,167nm,1.4s
KRAB **Krabi** 27.49 305 P P 01 27 36.1 +0.7
comp=Z,44nm,0.7s,comp=Z,7µm
MLSI **Meulaboh, Aceh** 27.92 295 P P 01 27 38.2 -1.0
comp=Z,189nm,1.1s
PKDT **Phuket** 28.02 303 P P 01 27 40.6 +0.6
comp=Z,13nm,1.0s
BBOO **Buckleboo** 28.22 154 P P 01 27 42.6 +0.9
baz=28,SNR=191
BBOO **Buckleboo** 28.22 154 *eP* P 01 27 42.7 +1.1
comp=Z,105nm,0.7s
QLP **Quilpie** 28.41 134 P P 01 27 45.4 +2.0
baz=28,SNR=45
QIZ **Qiongzhong** 29.12 337 P P 01 27 50.8 +1.1
QIZ sP sP 01 29 14.9 -1.1
QIZ S S 01 32 23.9 +3.1
QIZ sS sS 01 33 59.1 +0.3
QIZ pmax pmax
comp=Z,200nm,3.3s
SRAK **Srakaew** 29.16 318 P P 01 27 48.0 -2.0
comp=Z,96nm,1.1s,comp=Z,2µm
PATY **Pattaya** 29.19 315 P P 01 27 52.8 +2.4
comp=Z,17nm,0.9s,comp=Z,3µm
PHET **Kaeng Krachan** 30.06 313 P P 01 28 00.0 +2.0
comp=Z,14nm,0.9s,comp=Z,120nm
HTT **Hallett** 30.07 150 P P 01 27 59.6 +1.7
baz=30,SNR=52
SKNT **Sakolnakorn** 30.22 325 P P 01 28 00.8 +1.4
comp=Z,10nm,0.8s,comp=Z,629nm
STKA **Stephens Creek** 30.28 145 P P 01 28 01.3 +1.6
comp=Z,64nm,0.3s,baz=324,slow=9.0,SNR=434
STKA S S 01 32 37.8 -1.0
comp=Z,27nm,0.7s,baz=72,slow=19,SNR=3.4
STKA **Stephens Creek** 30.28 145 P P 01 28 01.3 +1.6
baz=30,SNR=391
STKA **Stephens Creek** 30.28 145 *eP* P 01 28 01.4 +1.6
comp=Z,23nm,0.9s
STKA S S 01 32 37.8 -1.0
STKA **Stephens Creek** 30.28 145 *eP* P 01 28 01.4 +1.6
STKA S S 01 32 37.8 -1.0
STKA pmax pmax
comp=Z,23nm,0.9s
TWG **Pinlang** 30.46 359 *eP* P 01 28 01.0 -0.4
comp=Z,478nm,1.5s
CHAI **Chaiyaphum** 30.59 320 P P 01 28 04.4 +1.8
comp=Z,17nm,1.0s,comp=Z,218nm
TPUB **Ta-pu** 30.95 358 *eP* P 01 28 05.8 +0.1
comp=Z,52nm,0.7s
YULB **Yu-li** 31.02 359 *eP* P 01 28 05.1 -1.3
comp=Z,48nm,1.0s
GUMO **Guam** 31.35 47 P P 01 28 09.2 -0.1
comp=Z,363nm,1.0s,baz=187,slow=5.1,SNR=9.6
GUMO **Guam** 31.35 47 *eP* P 01 28 08.8 -0.5
comp=Z,1µm,1.3s
SRDT **SRDT** 31.40 314 P P 01 28 11.7 +2.0
comp=Z,49nm,1.3s
SSLB **Suanglung** 31.42 359 *eP* P 01 28 09.6 -0.3
comp=Z,54nm,1.0s
NONG **Nongkai** 31.56 325 P P 01 28 13.7 +2.6
comp=Z,0.4nm,0.8s
RMQ **Roma** 31.73 129 P P 01 28 14.8 +2.3
baz=32,SNR=16
PBKT **Sadao Pong** 31.73 320 *eP* P 01 28 13.0 +0.4
comp=Z,42nm,1.2s
PBKT **Sadao Pong** 31.73 320 P P 01 28 14.1 +1.5
comp=Z,32nm,1.2s
GZH **Guangzhou** 31.78 345 P P 01 28 18.5 +5.6
GZH S S 01 33 07.2 +5.0
GZH LR LR
comp=Z,730nm,12.7s
GZH LR LR
comp=Z,820nm,12.2s
UTHA **Uthaitani** 32.01 317 P P 01 28 16.7 +1.7
comp=Z,10.0nm,0.7s,comp=Z,374nm
YOJ **Yonaguni jima** 32.11 2 *eP* P 01 28 15.9 +0.1
comp=Z,264nm,1.2s
YOJ **Yonaguni jima** 32.11 2 *eP* P 01 28 15.9 +0.1
YOJ pmax pmax
comp=Z,265nm,1.2s
YHNB **Yeheng** 32.30 359 *eP* P 01 28 16.9 -0.6
comp=Z,43nm,0.9s
CMSA **Cobar Meteorol** 32.53 140 P P 01 28 21.2 +1.9
baz=33,SNR=161
QZH **Quanzhou** 32.70 355 *eP* P 01 28 22.9 +2.0
QZH PP sP 01 29 47.3 -0.4
QZH S S 01 33 13.1 -3.3
UMPA **Umpang Tak** 32.86 317 P P 01 28 23.1 +0.6
comp=Z,10nm,0.7s,comp=Z,2µm
EIDS **Eidsvold** 33.02 125 P P 01 28 24.3 +0.5
baz=33,SNR=14
EIDS **Eidsvold** 33.02 125 *eP* P 01 28 24.3 +0.5
comp=Z,61nm,0.8s
SUKH **Sukhothai** 33.27 319 P P 01 28 27.8 +1.9
comp=Z,9.7nm,1.0s
LAMP **Lampang** 34.03 320 P P 01 28 34.8 +2.3
comp=Z,7.4nm,0.9s,comp=Z,132nm
SARN **Sarigan** 34.09 44 *eP* P 01 28 32.8 -0.3
comp=Z,441nm,1.5s
ARPS **Mount Arapiles** 34.17 150 P P 01 28 35.3 +1.9
baz=34,SNR=35
CM01 **Chiang Mai Arr** 34.38 320 *eP* P 01 28 35.8 +0.3
CM31 **Chiang Mai Arr** 34.42 320 P P 01 28 37.8 +2.0
SNR=8.3
CMAR **Chiang Mai Arr** 34.42 320 P P 01 28 36.8 +1.0
CMAR PcP PcP 01 31 06.0 +1.4
comp=Z,12nm,0.8s,baz=145,slow=6.7,SNR=44
CMAR ScP ScP 01 34 23.6 +0.6
comp=Z,4.9nm,0.7s,baz=150,slow=3.8,SNR=4.5
PAYA **Payao** 34.51 322 P P 01 28 37.8 +1.2
comp=Z,16nm,1.0s,baz=169,slow=2.6,SNR=12
CMMT **Chiang Mai** 34.68 320 P P 01 28 39.6 +1.6
comp=Z,6.9nm,0.9s,comp=Z,137nm
CHTO **Chiang Mai** 34.68 320 *eP* P 01 28 38.4 +0.3
comp=Z,23nm,1.0s,comp=Z,481nm
CHTO **Chiang Mai** 34.68 320 *eP* P 01 28 38.4 +0.3
comp=Z,19nm,0.9s
CHTO *e*ScP ScP 01 34 24.0 0.0
CHTO **Chiang Mai** 34.68 320 P P 01 28 39.0 +1.0
SNR=8.0
CHTO **Chiang Mai** 34.68 320 *eP* P 01 28 38.4 +0.3
CHTO pmax pmax
comp=Z,19nm,0.9s
CHTO **Chiang Mai** 34.68 320 P P 01 28 39.7 +1.7
comp=Z,92nm,1.1s
ARMA **Armidale** 35.94 133 *eP* P 01 28 50.6 +1.9
comp=Z,101nm,0.9s
YNG **Young** 36.05 141 P P 01 28 51.9 +2.3
baz=36,SNR=87
TOO **Toolangi** 36.65 147 P P 01 28 55.9 +1.4
baz=37,SNR=16
GYA **Guiyang** 37.06 337 ⇓ *i*P P 01 29 02.3 +4.1
GYA pP pP 01 29 56.1 +2.2
GYA sP sP 01 30 27.0 +1.2
GYA PP PnPn 01 30 35.5 +1.8
GYA S S 01 34 26.8 +3.7
GYA sS sS 01 36 03.2 +0.1
GYA ScS ScS 01 38 42.9 +1.6
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.9s
CAN **Canberra** 37.09 142 *eP* P 01 28 58.9 +0.6
comp=Z,127nm,1.4s
CAN **Canberra** 37.09 142 *eP* P 01 28 58.9 +0.6
CAN pmax pmax
comp=Z,127nm,1.4s
MGCD **Mangrove Creek** 37.15 137 P P 01 28 59.6 +0.9
baz=37,SNR=26
CNB **Canberra Magne** 37.32 141 P P 01 29 02.3 +2.1
baz=37,SNR=8.9
KMI **Kunming** 37.58 331 P P 01 29 06.0 +3.3
KMI pP pP 01 30 01.5 +3.0
KMI sP sP 01 30 32.3 +1.9
KMI S S 01 34 32.8 +1.6
KMI ScP ScP 01 34 37.9 +3.0
KMI sS sS 01 36 12.6 +1.2
KMI pmax pmax
comp=Z,32nm,0.9s
KMI pmax pmax
comp=Z,190nm,5.6s
KMI LR LR
comp=Z,460nm,17.4s
KMI LR LR
comp=Z,550nm,17.4s
KMI LR LR
comp=Z,540nm,23.9s
HNR **Honiara** 37.86 95 P P 01 29 04.5 -0.4
comp=Z,202nm,0.7s,baz=189,slow=3.7,SNR=33
HNR **Honiara** 37.86 95 *eP* P 01 29 06.0 +1.0
WHN **Wuhan** 38.79 350 P P 01 29 13.7 +1.4
WHN sP sP 01 30 41.4 +1.2
WHN S S 01 34 47.4 -1.2
WHN pmax pmax
comp=Z,88nm,0.7s
WHN LR LR
comp=Z,2µm,9.1s
WHN LR LR
comp=Z,2µm,11.8s
WHN LR LR
comp=Z,2µm,17.5s
ENH **Enshi** 39.64 343 *eP* P 01 29 19.2 -0.2
comp=Z,20nm,0.6s
NJ2 **Nanjing** 39.74 356 *eP* P 01 29 21.4 +1.3
NJ2 S S 01 35 02.3 -0.5
NJ2 pmax pmax
comp=Z,76nm,0.7s
NJ2 LR LR
comp=Z,620nm,13.0s
NJ2 LR LR
comp=Z,710nm,15.2s
NJ2 LR LR
comp=Z,320nm,15.2s
JCJ **Chichijima** 40.00 29 P P 01 29 21.5 -0.8
comp=Z,420nm,0.8s,baz=212,slow=2.8,SNR=21
CBIJ **Chichi jima** 40.00 29 *eP* P 01 29 21.6 -0.7
comp=Z,443nm,0.7s
MOO **Moorlands** 41.17 151 P P 01 29 34.5 +2.8
baz=41,SNR=4.3
JNU **Nakatsue** 41.65 12 P P 01 29 34.6 -1.1
comp=Z,28nm,0.9s,baz=166,slow=1.6,SNR=10
JNU **Nakatsue** 41.65 12 *eP* P 01 29 35.1 -0.6
comp=Z,35nm,0.9s
CD2 **Chengdu** 42.17 337 P P 01 29 40.2 +0.3
CD2 pP pP 01 30 36.2 -0.8
CD2 PP PP 01 31 24.5 +0.4
CD2 S S 01 35 35.6 -3.0
CD2 sS sS 01 37 21.2 +0.7
CD2 pmax pmax
comp=Z,50nm,0.6s
CD2 pmax pmax
comp=Z,220nm,4.3s
CD2 LR LR
comp=Z,2µm,19.1s
CD2 LR LR
comp=Z,1µm,18.1s
CD2 LR LR
comp=Z,1µm,14.7s
BRDH **Bariadhala** 42.23 317 P P 01 29 41.5 +1.1
comp=Z,46nm,0.4s,baz=89,slow=9.2,SNR=8.4
XAN **Xi'an** 43.35 345 P P 01 29 49.2 -0.2
XAN pP pP 01 30 49.1 +2.3
XAN sP sP 01 31 20.2 +2.0
XAN S S 01 35 50.2 -5.6
XAN sS sS 01 37 34.7 -3.4
XAN ScS ScS 01 39 15.7 -2.9
XAN pmax pmax
comp=Z,45nm,0.9s
XAN pmax pmax
comp=Z,95nm,4.2s
XAN LR LR
comp=Z,420nm,13.7s
XAN LR LR
comp=Z,460nm,12.9s
XAN LR LR
comp=Z,470nm,13.7s
PALK **Pallekele** 43.52 289 *eP* P 01 29 50.4 -0.6
comp=Z,8.5nm,0.8s
PALK **Pallekele** 43.52 289 P P 01 29 50.8 -0.3
PALK **Pallekele** 43.52 289 *eP* P 01 29 50.4 -0.6
PALK pmax pmax
comp=Z,8.0nm,0.8s
TIA **Tai'an** 44.01 355 P P 01 29 53.8 -0.7
TIA S S 01 36 02.4 -2.7
TIA SS ScS 01 39 22.6 +0.1
TIA pmax pmax
comp=Z,15nm,0.7s
TIA LR LR
comp=Z,370nm,18.6s
TIA LR LR
comp=Z,250nm,12.9s
TIA LR LR
comp=Z,570nm,17.1s
SHL **Shillong** 44.06 320 *eP* P 01 29 55.1 -0.1
comp=Z,29nm,0.9s
SHL **Shillong** 44.06 320 *eP* P 01 29 55.2 -0.1
SHL pmax pmax
comp=Z,29nm,0.9s
TJN **Taejon** 44.29 7 *ceP* P 01 29 57.0 +0.4
INU **Inuyama** 45.31 18 *eP* P 01 30 04.9 +0.1
comp=Z,46nm,1.1s
DZM **Mont Dzumac** 45.33 113 P P 01 30 06.4 +1.2
comp=Z,96nm,0.9s,baz=273,slow=7.5,SNR=57
DZM ScP ScP 01 35 03.3 -2.4
comp=Z,6.0nm,0.9s,baz=301,slow=5.9,SNR=2.9
DZM **Mont Dzumac** 45.33 113 *eP* P 01 30 06.5 +1.2
comp=Z,344nm,1.2s
DZM **Mont Dzumac** 45.33 113 *eP* P 01 30 06.5 +1.2
comp=Z,254nm,1.3s
DZM ScP ScP 01 35 03.3 -2.4
KSAR **Wonju Array Be** 45.40 7 P P 01 30 05.7 +0.3
KSAR pP pP 01 31 04.9 +1.6
KSAR PcP PcP 01 31 40.8 +1.2
KSAR ScP ScP 01 35 05.3 -0.1
KSAR **Wonju Array Be** 45.40 7 P P 01 30 05.7 +0.3
KSAR *PP pP 01 31 04.9 +1.6
KSAR 01 31 40.8
KSRS **Korea Array** 45.42 7 P P 01 30 05.7 +0.2
comp=Z,6.9nm,0.9s,baz=189,slow=8.1,SNR=18
KSRS pP pP 01 31 04.9 +1.5
comp=Z,16nm,1.2s,baz=179,slow=9.5,SNR=2.7
KSRS PcP PcP 01 31 40.8 +1.2
comp=Z,6.0nm,0.9s,baz=187,slow=4.4,SNR=5.7
KSRS ScP ScP 01 35 05.3 -0.2
comp=Z,2.4nm,0.8s,baz=220,slow=1.7,SNR=4.2
KS01 **Wonju Array Si** 45.44 7 *eP* P 01 30 05.1 -0.5
TIY **Taiyuan** 46.11 350 *eP* P 01 30 13.7 +2.7
TIY pP pP 01 31 11.5 +2.4
TIY sP sP 01 31 38.9 -1.5
TIY S S 01 36 34.2 -1.1
TIY ScS ScS 01 39 36.8 +0.6
TIY pmax pmax
comp=Z,110nm,3.6s
TIY LR LR
comp=Z,420nm,11.3s
TIY LR LR
comp=Z,200nm,12.2s
TIY LR LR
comp=Z,460nm,18.7s
DL2 **Dalian** 46.49 360 P P 01 30 13.2 -0.6
DL2 pP pP 01 31 08.6 -3.4
DL2 sP sP 01 31 38.7 -4.5
DL2 PcP PcP 01 31 45.6 +2.3
DL2 S S 01 36 38.4 -2.0
DL2 ScS ScS 01 39 37.4 -1.0
DL2 pmax pmax
comp=Z,63nm,0.7s
DL2 pmax pmax
comp=Z,140nm,4.5s
MAJO **Matsushiro** 46.78 18 *eP* P 01 30 15.5 -0.7
comp=Z,74nm,0.9s
MAJO **Matsushiro** 46.78 18 *eP* P 01 30 15.5 -0.7
MAJO pmax pmax
comp=Z,74nm,0.9s
MAT **Matsushiro** 46.78 18 P P 01 30 15.3 -0.8
MJAR **Matsushiro Arr** 46.78 18 P P 01 30 15.5 -0.7
comp=Z,42nm,0.7s,baz=197,slow=9.2,SNR=74
MJAR PcP sP 01 31 45.4 -0.2
comp=Z,15nm,1.0s,baz=207,slow=5.4,SNR=5.6
MJAR ScP ScP 01 35 11.9 +0.6
comp=Z,5.6nm,1.0s,baz=179,slow=4.9,SNR=4.4
MJB9 **Matsu-Tunnel** 46.78 18 *eP* P 01 30 15.8 -0.3
comp=Z,75nm,0.9s
LZH **Lanzhou** 46.78 340 ⇑ P P 01 30 17.9 +1.6
LZH pP pP 01 31 18.7 +4.0
LZH sP sP 01 31 48.8 +3.0
LZH PP PP 01 32 10.4 +0.7
LZH S S 01 36 42.7 -2.3
LZH SS SS 01 40 13.9 -1.9
LZH pmax pmax
comp=Z,77nm,1.4s
LZH pmax pmax
comp=Z,430nm,5.4s
LZH LR LR
comp=Z,1µm,14.6s
LZH LR LR
comp=Z,670nm,15.7s
LZH LR LR
comp=Z,1µm,14.1s
LSA **Lhasa** 47.47 323 *eP* P 01 30 23.0 +0.9
comp=Z,23nm,0.5s
LSA **Lhasa** 47.47 323 *i* P P 01 30 23.2 +1.1
SNR=7.1
LSA **Lhasa** 47.47 323 *eP* P 01 30 23.0 +0.9
LSA pmax pmax
comp=Z,23nm,0.5s
BJT **Baijiatuau** 47.87 354 *eP* P 01 30 24.4 0.0
comp=Z,59nm,0.7s
BJT **Baijiatuau** 47.87 354 *eP* P 01 30 24.4 0.0
BJT pmax pmax
comp=Z,59nm,0.7s
ODAN **Odare** 47.89 317 *eP* P 01 30 25.0 -0.1
comp=Z,32nm,0.4s
RAMN **Ramite** 48.48 317 *eP* P 01 30 29.8 +0.2
comp=Z,158nm,0.7s
JIRN **Jiri** 49.22 317 *eP* P 01 30 35.3 0.0
HHC **Hu-ho-hao-te** 49.32 350 *eP* P 01 30 35.8 +0.3
HHC pP pP 01 31 37.5 +3.1
HHC S S 01 37 18.5 -1.7
HHC ScS ScS 01 39 53.1 -4.5
HHC SS SS 01 40 56.2 +0.2
HHC pmax pmax
comp=Z,36nm,1.2s
HHC pmax pmax
comp=Z,110nm,4.1s
BTO **Baotou** 49.37 348 *eP* P 01 30 35.7 -0.2
BTO **Baotou** 49.37 348 *eP* P 01 30 36.3 +0.4
HYB **Hyderabad** 49.44 301 *i* P P 01 30 36.0 -0.7
HYB *e* 01 31 32.0
SNY **Shenyang** 49.44 2 ⇓ P P 01 30 35.2 -1.0
SNY S S 01 37 16.8 -4.7
SNY pmax pmax
comp=Z,29nm,0.8s
SNY pmax pmax
comp=Z,330nm,4.7s
SNY LR LR
comp=Z,430nm,10.8s
SNY LR LR
comp=Z,750nm,14.6s
SNY LR LR
comp=Z,800nm,16.7s
GUN **Gumba** 49.59 317 *eP* P 01 30 38.1 0.0
comp=Z,97nm,0.6s
PKI **Pulchoki** 49.69 316 *eP* P 01 30 38.4 -0.4
comp=Z,36nm,0.3s
PKIN **Phulchoki** 49.70 316 *eP* P 01 30 38.3 -0.5
comp=Z,45nm,0.4s
KKN **Kakani** 49.92 317 *eP* P 01 30 40.1 -0.3
comp=Z,24nm,0.4s
DMN **Daman** 49.92 316 *eP* P 01 30 40.2 -0.2
comp=Z,104nm,1.0s
KOLN **Koldanda** 51.06 315 *eP* P 01 30 48.5 -0.4
comp=Z,91nm,0.9s
GTA **Gaotai** 51.18 338 ⇓ P P 01 30 50.5 +1.1
GTA pP pP 01 31 51.2 +2.4
GTA PcP PcP 01 32 01.3 +0.7
GTA sP sP 01 32 16.1 -3.6
GTA ScP ScP 01 35 31.9 +1.8
GTA S S 01 37 46.9 +1.0
GTA sS sS 01 39 24.4 -6.8
GTA ScS ScS 01 40 10.5 0.0
GTA SS SS 01 41 24.5 -1.0
GTA pmax pmax
comp=Z,15nm,1.1s
GTA pmax pmax
comp=Z,70nm,6.0s
GTA LR LR
comp=Z,390nm,17.1s
GTA LR LR
comp=Z,430nm,16.5s
GTA LR LR
comp=Z,520nm,17.1s
DANN **Dangsing** 51.31 316 *eP* P 01 30 50.5 -0.3

comp=Z,213nm,0.7s
CN2 Changchun 51.49 3 ⇓P **P 01 30 52.6 +1.1**
CN2 *e*pP pP 01 31 51.0 0.0
CN2 *e*S **S 01 37 50.0 +0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,3.0s
PYUN Piuthan 51.69 315 *e*P **P 01 30 53.0 -0.5**
comp=Z,70nm,0.5s
USA0B Ussuriysk Arra 52.61 9 *e*P **P 01 30 59.6 -0.1**
comp=Z,27nm,0.7s
USRK Ussuriysk Ar. 52.61 9 P **P 01 30 59.4 -0.3**
comp=Z,23nm,0.7s,baz=191,slow=6.4,SNR=67
MDJ Mudanjiang 52.68 7 P **P 01 31 00.6 +0.4**
MDJ pmax pmax
comp=Z,49nm,0.5s
MDJ pmax pmax
comp=Z,370nm,3.2s
MDJ Mudanjiang 52.68 7 *e*P **P 01 31 00.1 -0.1**
comp=Z,21nm,0.6s
POO Poona 53.95 300 *e*P **P 01 31 08.0 -1.9**
PYZ Puysegur Point 54.26 143 *e*P **P 01 31 12.8 +1.1**
comp=Z,214nm,1.5s
MLZ Mavora Lakes 54.75 141 *e*P **P 01 31 16.1 +0.9**
comp=Z,89nm,0.9s
WHZ Wether Hill Ro 54.90 142 *e*P **P 01 31 16.8 +0.6**
comp=Z,97nm,0.9s
ASAJ Asahikawa 55.05 18 *e*P **P 01 31 17.2 -0.1**
comp=Z,96nm,1.0s
LBZ Lake Benmore 55.61 139 *e*P **P 01 31 22.4 +1.1**
comp=Z,73nm,0.9s
RPZ Rata Peaks 55.89 138 P **P 01 31 24.7 +1.3**
comp=Z,308nm,0.8s,baz=266,slow=2.9,SNR=73
RPZ Rata Peaks 55.89 138 *e*P **P 01 31 24.2 +0.8**
comp=Z,321nm,0.9s
YUK Yuzh-Kuril'sk 56.07 21 *e*P **P 01 31 24.3 -0.1**
YUK *e* 01 33 32.5
YUK *e*PPP PPP 01 34 55.3
YUK S **S 01 38 51.9 +1.0**
YUK *e*SS **SS 01 42 35.4 -6.7**
YUK *e*SSS SSS 01 45 13.1
LTZ Lake Taylor 56.32 137 *e*P **P 01 31 26.9 +0.4**
comp=Z,88nm,1.3s
THZ Tophouse 56.37 136 *e*P **P 01 31 28.1 +1.3**
comp=Z,171nm,0.9s
OXZ Oxford 56.38 138 *e*P **P 01 31 27.7 +0.9**
comp=Z,92nm,0.8s
HIZ Hauiti 56.66 131 *e*P **P 01 31 29.6 +0.7**
comp=Z,119nm,1.1s
CRLZ Canterbury Las 56.87 138 *e*P **P 01 31 32.1 +1.9**
comp=Z,307nm,1.4s
HIA Hailar 56.87 358 *e*P P 01 31 20.8 -9.3
comp=Z,12nm,0.6s
HIA Hailar 56.87 358 *e*P P 01 31 20.8 -9.3
HIA pmax pmax
comp=Z,12nm,0.6s
FUNA Funafuti 56.90 95 *e*P **P 01 31 30.3 -0.6**
comp=Z,104nm,0.9s
ULN Ulaanbaatar 56.93 348 *e*P **P 01 31 30.9 +0.3**
comp=Z,41nm,0.8s
ULN Ulaanbaatar 56.93 348 P **P 01 31 31.2 +0.5**
SNR=15
ULN Ulaanbaatar 56.93 348 *ce*P **P 01 31 31.0 +0.3**
ULN pmax pmax
comp=Z,46nm,0.8s
MQZ McQueen's Vall 56.94 138 *e*P **P 01 31 31.1 +0.3**
comp=Z,90nm,1.1s
SONM Songino Array 57.04 348 P **P 01 31 31.8 +0.4**
comp=Z,38nm,0.8s,baz=164,slow=8.5,SNR=62
SONM pP **pP 01 32 34.2 +1.9**
comp=Z,6.6nm,0.8s,baz=157,slow=8.5,SNR=1.8
KHZ Kahutara 57.05 136 *e*P **P 01 31 32.6 +1.2**
comp=Z,130nm,0.9s
SONA1 Songino Array 57.05 348 *e*P **P 01 31 31.4 -0.1**
SNZO South Karori 57.47 134 *e*P **P 01 31 34.3 -0.1**
comp=Z,237nm,0.9s
KLR Kul'dur 57.49 8 *d*iP **P 01 31 33.8 -0.6**
YSS Yuzh-Sakhalins 57.67 17 *e*P **P 01 31 36.0 +0.5**
comp=Z,178nm,1.4s
YSS Yuzh-Sakhalins 57.67 17⇑*e*P **P 01 31 35.9 +0.3**
YSS pmax pmax
comp=Z,174nm,1.4s
BKZ Black Stump Fm 58.07 132 *e*P **P 01 31 39.7 +0.9**
comp=Z,229nm,1.1s
URZ Urewera 58.27 130 P **P 01 31 40.4 +0.4**
comp=Z,178nm,0.8s,baz=320,slow=3.7,SNR=45
URZ Urewera 58.27 130 *e*P **P 01 31 40.6 +0.5**
comp=Z,205nm,0.9s
BFZ Birch Farm 58.36 133 *e*P **P 01 31 40.9 +0.2**
comp=Z,96nm,1.1s
CASY Casey 58.87 185 *e*P **P 01 31 44.6 +1.0**
comp=Z,15nm,1.1s
MXZ Matakaoa Point 58.99 129 *e*P **P 01 31 46.2 +1.2**
comp=Z,214nm,1.0s
GRNR Gornyy 59.74 11 *e*P **P 01 31 50.9 +1.2**
GRNR pmax pmax
comp=Z,42nm,1.0s
WMQ Urumqi 59.90 332 P **P 01 31 52.4 +1.3**
WMQ ScP **ScP 01 36 09.8 +1.5**
WMQ S **S 01 39 41.6 +0.9**
WMQ ScS **ScS 01 41 07.1 -6.2**
WMQ pmax pmax
comp=Z,100nm,0.9s
WMQ pmax pmax
comp=Z,390nm,4.9s
WMQ LR LR
comp=Z,1μm,22.7s
WMQ LR LR
comp=Z,510nm,29.7s
WMQ LR LR
comp=Z,530nm,21.3s
ZAK Zakamensk 60.13 347 *e*P **P 01 31 51.8 -0.7**
ZAK *e* 01 32 57.1
ZAK pmax pmax
comp=Z,27nm,1.0s
TLY Talaya 61.26 347 *i*P **P 01 32 00.2 +0.2**
TLY *e*S **S 01 39 56.3 -1.2**
TLY pmax pmax
comp=Z,41nm,1.0s
ZEA Zeya 61.51 4 *e*P **P 01 32 00.5 -1.1**
ZEA pmax pmax
comp=N,42nm,0.8s
ZEA pmax pmax
comp=Z,49nm,0.9s
MIR Mirnyy 61.85 193 *e*P **P 01 32 04.0 +0.4**
MIR pmax pmax
comp=Z,42nm,1.0s
MOY Mondy 61.87 346 *e*P **P 01 32 04.4 +0.3**
MOY pmax pmax
comp=Z,51nm,1.6s
KSH Kashi 63.28 322 P **P 01 32 14.0 +0.2**
KSH sP sP 01 33 49.0 +2.9
KSH PP **PP 01 34 39.6 +2.7**
KSH S **S 01 40 16.9 -6.4**
KSH sS sS 01 42 09.1 -3.8
KSH SS **SS 01 44 31.9 -3.7**
KSH pmax pmax
comp=Z,32nm,0.7s
KSH pmax pmax
comp=Z,240nm,4.5s
KSH LR LR
comp=Z,1μm,9.7s
KSH LR LR
comp=Z,700nm,8.7s
KSH LR LR
comp=Z,1μm,14.5s
HVS Khovu-Aksy 63.49 341 *i*P **P 01 32 15.1 +0.3**
HVS pmax pmax
comp=Z,56nm,0.9s
KDJ Kajisay 64.19 325 *e*P **P 01 32 20.2 +0.6**
comp=Z,10nm,0.7s
KDJ Kajisay 64.19 325 *e*P **P 01 32 20.3 +0.6**
KDJ pmax pmax
comp=Z,10.0nm,0.7s
MK01 Makanchi Array 64.64 331 *e*P **P 01 32 22.1 -0.2**
MK31 Makanchi Array 64.66 331 *e*P **P 01 32 22.2 -0.2**
MK31 Makanchi Array 64.66 331 *e*P **P 01 32 22.4 0.0**
MK31 pmax pmax
comp=Z,47nm,1.1s
MKAR Makanchi Array 64.66 331 P **P 01 32 22.9 +0.4**
comp=Z,26nm,0.8s,baz=138,slow=7.6,SNR=149
MKAR pP **pP 01 33 25.6 +0.7**
comp=Z,12nm,0.7s,baz=131,slow=8.3,SNR=3.1
MKAR S **S 01 40 40.4 +0.6**
comp=Z,0.7nm,0.8s,baz=132,slow=11,SNR=5.3
MKAR Makanchi Array 64.66 331 *i*P **P 01 32 22.8 +0.4**
MKAR pmax pmax
comp=Z,27nm,0.8s
KZA Kyzart 65.28 324 P **P 01 32 27.7 +0.7**
SNR=11
AFI Afiamalu 65.47 102 *e*P **P 01 32 28.1 -0.2**
comp=Z,88nm,1.0s
AFI Afiamalu 65.47 102 *e*P **P 01 32 28.1 -0.2**
AFI pmax pmax
comp=Z,87nm,1.0s
TKM2 Tokmak 2 65.60 324 P **P 01 32 28.9 +0.2**
SNR=9.4
TKM2 Tokmak 2 65.60 324 P **P 01 32 28.6 -0.1**
TKM2 pmax pmax
comp=Z,11nm,0.9s
BOD Bodaibo 65.71 356 *e*P **P 01 32 27.6 -1.3**
BOD pmax pmax
comp=Z,44nm,0.9s
UCH Uchtor 65.80 323 P **P 01 32 30.9 +0.5**
SNR=10
KBK Karagaybulak 65.81 324 P **P 01 32 31.0 +0.9**
SNR=11
AAK Ala-Archa 66.06 324 P **P 01 32 32.3 +0.7**
SNR=17
AAK Ala-Archa 66.06 324 *e*P **P 01 32 32.3 +0.7**
comp=Z,20nm,1.0s
AAK Ala-Archa 66.06 324 P **P 01 32 32.4 +0.8**
SNR=8.1
AAK Ala-Archa 66.06 324 *i*P **P 01 32 32.3 +0.7**
SNR=24
AAK Ala-Archa 66.06 324 *e*P **P 01 32 32.3 +0.7**
AAK pmax pmax
comp=Z,20nm,1.0s
FRU Bishkek 66.11 324 *e*P **P 01 32 31.0 -0.8**
AML Almayashu 66.23 323 P **P 01 32 33.5 +0.5**
SNR=30
USP Ospenovka 66.44 324 P **P 01 32 34.2 +0.3**
SNR=13
KNTN Kanton 66.46 90 *e*P **P 01 32 35.8 +1.3**
comp=Z,216nm,1.4s
EKS2 Erkin-Say 66.50 323 P **P 01 32 35.0 +0.7**
SNR=15
BTK Batken 66.83 320 P **P 01 32 36.8 +0.3**
BTK S **S 01 41 06.9 +0.6**
PEA0B Petropavlovsk- 67.96 22 *e*P **P 01 32 44.3 +1.2**
comp=Z,102nm,0.9s
PETK Petropavlovsk- 67.96 22 P **P 01 32 44.2 +1.1**
comp=Z,66nm,0.8s,baz=196,slow=6.8,SNR=63
PETK Petropavlovsk- 67.96 22 *e*P **P 01 32 44.1 +1.0**
PETK Petropavlovsk- 67.96 22 P **P 01 32 44.2 +1.1**
PETK pmax pmax
comp=Z,65nm,0.8s
PET Petropavlovsk 68.26 23 *e*P **P 01 32 45.1 +0.2**
comp=Z,155nm,1.1s
PET Petropavlovsk 68.26 23⇓*i*P **P 01 32 45.9 +1.0**
PET *e**SP **sP 01 34 18.0 0.0**
PET *e*S **S 01 41 24.2 +1.8**
PET *e*SS **SS 01 45 55.7 +3.8**
PET pmax pmax
comp=Z,148nm,1.2s
PET pmax pmax
comp=Z,200nm,15.0s
PET MLR MLR
comp=Z,4μm,12.3s
KK31 Karatay Array 68.71 322 *e*P **P 01 32 47.5 -0.4**
KK31 Karatay Array 68.71 322 *e*P **P 01 32 47.6 -0.4**
KKAR Karatay Array 68.71 322 *e*P **P 01 32 47.5 -0.4**
KKAR Karatay Array 68.71 322 *e*P **P 01 32 47.6 -0.4**
ZAA0 Zalesovo Array 68.92 338 *e*P **P 01 32 48.1 -0.8**
comp=Z,40nm,0.9s
ZALV Zalesovo Beam 68.92 338 P **P 01 32 48.4 -0.6**
comp=Z,35nm,0.8s,baz=137,slow=4.2,SNR=94
ZALV pP **pP 01 33 50.7 -1.6**
comp=Z,11nm,0.7s,baz=136,slow=5.1,SNR=2.2
ZALV S **S 01 41 26.7 -3.5**
comp=Z,0.9nm,0.6s,baz=134,slow=12,SNR=5.0
ZALV Zalesovo Beam 68.92 338 *e*P **P 01 32 48.0 -1.0**
ZALV pP **pP 01 33 50.7 -1.6**
ZALV S **S 01 41 26.7 -3.5**
KURK Kurchatov 69.15 332 *e*P **P 01 32 50.0 -0.4**
KURK *e*pP **pP 01 33 53.0 -0.7**
KURK Kurchatov 69.15 332 P **P 01 32 50.4 0.0**
SNR=15
KURK Kurchatov 69.15 332 *ce*P **P 01 32 50.1 -0.4**
KURK pmax pmax
comp=Z,41nm,1.0s
YAK Yakutsk 69.92 4 *e*P **P 01 32 54.7 -0.2**
comp=Z,85nm,0.8s
YAK Yakutsk 69.92 4 *e*P **P 01 32 54.2 -0.7**
YAK *e* 01 33 10.1
YAK *e**PP **pP 01 34 01.4 +3.1**
YAK *e*PPP PPP 01 37 20.2
YAK *e*S **S 01 41 41.0 -0.5**
YAK *e* 01 42 25.8
YAK *e*SS **SS 01 46 21.4 +4.4**
YAK pmax pmax
comp=Z,69nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK pmax pmax
comp=N,12nm,1.3s
YAK pmax pmax
comp=Z,53nm,1.3s
YAK pmax pmax
comp=N,148nm,2.5s
YAK pmax pmax
comp=E,47nm,2.3s
YAK smax smax
comp=N,110nm,3.8s
YAK smax smax
comp=E,188nm,3.9s
NVS Novosibirsk 70.21 338⇑*i*P **P 01 32 55.9 -0.9**
NVS *i**PP **pP 01 33 59.4 -0.9**
NVS *i*S **S 01 41 41.7 -3.4**
NVS pmax pmax
comp=Z,31nm,1.0s
NVS pmax pmax
comp=N,7.0nm,0.7s
NVS pmax pmax
comp=E,2.0nm,0.3s
NVS smax smax
comp=N,25nm,1.4s
NVS smax smax
comp=E,50nm,1.7s
SOHO SOHO 71.00 299 P **P 01 33 02.0 -0.2**
MA2 Magadan 71.08 15 *e*P **P 01 33 02.4 +0.5**
MA2 Magadan 71.08 15 *ce*P **P 01 33 03.0 +1.1**
MA2 pmax pmax
comp=Z,164nm,1.1s
MAW Mawson 71.24 200 P **P 01 33 04.0 +1.3**
comp=Z,5.9nm,0.7s,baz=65,slow=6.4,SNR=22
MAW pP **pP 01 34 06.9 +0.4**
comp=Z,15nm,0.8s,baz=65,slow=8.8,SNR=6.9
MAW Mawson 71.24 200 P **P 01 33 03.6 +0.8**
baz=71,SNR=16
MAW Mawson 71.24 200 *e*P **P 01 33 04.1 +1.3**
comp=Z,3.0nm,1.1s
MAW pP **pP 01 34 06.9 +0.4**
MAW Mawson 71.24 200 *e*P **P 01 33 04.1 +1.3**
MAW *e*PP **pP 01 34 06.9 +0.4**
MAW pmax pmax
comp=Z,3.0nm,1.1s
UOSS Minazif 71.53 299 P **P 01 33 04.7 -0.7**
HATD Hatta, Dubai 71.56 299 P **P 01 33 05.2 -0.4**
HATD Hatta, Dubai 71.56 299 P **P 01 33 06.4 +0.8**
ASHO Ashiyiah 71.58 299 P **P 01 33 05.8 +0.1**
ALNE Al Ain 71.66 298 P **P 01 33 06.0 -0.2**
FAQ Al Faqa, Dubai 72.00 299 *i*P **P 01 33 08.1 0.0**
SNR=6.3
NAZ Nazwa, Dubai 72.02 299 P **P 01 33 07.7 -0.6**
ASUD Al Ashush, Dub 72.19 299 P **P 01 33 09.8 +0.5**
VNDA Vanda 72.74 172 P **P 01 33 12.8 +1.3**
comp=Z,9.8nm,0.5s,baz=316,slow=6.3,SNR=128
VNDA pP **pP 01 34 16.0 +0.4**
comp=Z,5.2nm,0.6s,baz=311,slow=6.8,SNR=4.8
VNDA Vanda 72.74 172 *e*P **P 01 33 12.9 +1.3**
comp=Z,16nm,0.7s
VNDA pP **pP 01 34 16.0 +0.4**
VNDA Vanda 72.74 172 *e*P **P 01 33 12.9 +1.3**
VNDA *e*PP **pP 01 34 16.0 +0.4**
VNDA pmax pmax
comp=Z,16nm,0.7s
SBA Scott Base 73.72 171 *e*P **P 01 33 19.3 +2.1**
comp=Z,19nm,0.8s
SBA Scott Base 73.72 171 *e*P **P 01 33 19.3 +2.1**
SBA pmax pmax
comp=Z,19nm,0.8s
SEY Seymchan 74.37 14 *ce*P **P 01 33 22.2 +1.1**
GEYT Alibeck 74.56 313 P **P 01 33 23.1 +0.3**
comp=Z,1.4nm,0.5s,baz=115,slow=10.0,SNR=5.7
GEYT pP **pP 01 34 25.9 -1.3**
comp=Z,5.1nm,0.9s,baz=60,slow=3.6,SNR=3.5
GYA0B ALIBECK ARRAY 74.56 313 *e*P **P 01 33 23.4 +0.5**
comp=Z,11nm,1.0s
BRVK Borovoye 74.61 331 *e*P **P 01 33 22.3 -0.4**
BRVK *e*pP **pP 01 34 25.5 -1.6**
BRVK Borovoye 74.61 331 P **P 01 33 22.4 -0.3**
SNR=5.4
BRVK Borovoye 74.61 331 *ce*P **P 01 33 21.5 -1.2**
BRVK pmax pmax
comp=Z,6.0nm,0.4s
SMY Shemya 74.92 30 *e*P **P 01 33 24.7 +0.2**
comp=Z,300nm,0.9s
SMY Shemya 74.92 30 *e*P **P 01 33 24.7 +0.2**
SMY pmax pmax
comp=Z,300nm,0.9s
AB31 Akbulak array 78.15 324 *i*P **P 01 33 41.5 -1.1**
AB31 pmax pmax
comp=Z,4.0nm,0.8s
ABKAR Akbulak array 78.15 324 *e*P **P 01 33 41.8 -0.8**
ADK Adak 79.31 34 *e*P **P 01 33 49.8 +1.0**
comp=Z,134nm,1.1s
TIXI Tiksi 79.45 2 *e*P **P 01 33 48.6 -0.6**
TIXI Tiksi 79.45 2 *ce*P **P 01 33 48.5 -0.6**
TIXI pmax pmax
comp=Z,55nm,0.9s
DAMY Dhamar 79.78 286 *e*P **P 01 33 53.4 +0.9**
comp=Z,27nm,1.4s
SYO Syowa Base 79.90 201⇑*i*P **P 01 33 52.0 +0.3**
NRIK Noril'sk 80.52 348 P **P 01 33 54.8 -0.1**
comp=Z,9.8nm,0.8s,baz=142,slow=5.9,SNR=10.0
RAYN Ar Rayn 80.58 295 *e*P **P 01 33 56.0 -0.3**
comp=Z,10nm,0.9s
RAYN Ar Rayn 80.58 295 *i*P **P 01 33 56.1 -0.3**
SNR=14
RAYN Ar Rayn 80.58 295 *e*P **P 01 33 56.0 -0.3**
RAYN pmax pmax
comp=Z,10.0nm,0.9s
ATD Arta Tunnel 80.72 283 *e*P **P 01 33 57.8 +0.6**
comp=Z,14nm,1.2s
ATKA Atka Island 80.82 34 *e*P **P 01 33 57.5 +0.6**
comp=Z,126nm,0.8s
SVE Sverdlovsk 81.32 331⇓*e*P **P 01 33 59.0 -0.4**
SVE pmax pmax
comp=Z,21nm,1.2s
BILL Bilibino 81.95 15 *e*P **P 01 34 02.2 -0.2**
comp=Z,9.1nm,0.6s
BILL Bilibino 81.95 15 *e*P **P 01 34 02.3 -0.2**
BILL pmax pmax
comp=Z,9.0nm,0.6s
ARU Arti 82.15 330 *e*P **P 01 34 02.4 -1.3**
comp=Z,9.0nm,1.3s
ARU Arti 82.15 330 *d*iP **P 01 34 02.3 -1.4**
ARU *PP **pP 01 35 01.6 -7.7**
ARU 01 37 10.9
ARU S **S 01 43 55.3 +0.6**
ARU SS **SS 01 49 28.7 +7.2**
ARU pmax pmax
comp=Z,16nm,1.7s
QSPA South Pole Qui 82.16 180 P **P 01 34 04.6 +0.7**
comp=Z,24nm,0.5s,baz=311,slow=1.2,SNR=91
QSPA pP **pP 01 35 10.0 +0.6**
comp=Z,27nm,0.9s,baz=343,slow=4.8,SNR=4.8
QSPA South Pole Qui 82.16 180 *e*P **P 01 34 04.0 +0.2**
QSPA *e*pP **pP 01 35 08.2 -1.3**
KMBO Kilima Mbogo 84.32 270 P **P 01 34 16.5 +0.4**
comp=Z,2.4nm,0.8s,baz=60,slow=7.5,SNR=8.5
KMBO pP **pP 01 35 22.0 0.0**
comp=Z,4.5nm,0.8s,baz=63,slow=8.5,SNR=4.9
KMBO Kilima Mbogo 84.32 270 *e*P **P 01 34 15.9 -0.2**
comp=Z,2.0nm,0.8s
KMBO *e*pP **pP 01 35 21.0 -0.9**
KMBO Kilima Mbogo 84.32 270 P **P 01 34 16.3 +0.3**
TBLG Delisi 85.53 313 *e*P **P 01 34 20.6 -0.5**
comp=Z,23nm,1.4s
TBLG Delisi 85.53 313 *e*P **P 01 34 20.6 -0.5**
TBLG pmax pmax
comp=Z,23nm,1.4s
TBI Tubuai 85.91 113 *e*P **P 01 34 24.3 +0.9**
comp=Z,157nm,0.9s
ZEI Tsey 86.39 314 *e*P **P 01 34 27.7 +2.1**
ZEI pmax pmax
comp=Z,5.0nm,0.9s
PAE Paea 86.48 107 *e*P **P 01 34 27.0 +0.7**
comp=Z,10nm,1.0s
PPT2 Papeete2 86.49 107 *e*P **P 01 34 27.3 +0.9**
comp=Z,86nm,1.0s
PPT Papeete 86.49 107 P **P 01 34 27.5 +1.1**
comp=Z,73nm,0.8s,baz=110,slow=1.1,SNR=7.0
PPTF Pamatai, Papee 86.50 107 *e*P **P 01 34 28.1 +1.6**
comp=Z,93nm,1.0s
TIAR Tiarei 86.71 107 *e*P **P 01 34 28.4 +1.0**
comp=Z,19nm,0.9s
TVO Taravao 86.78 107 *e*P **P 01 34 28.7 +0.9**
comp=Z,38nm,1.2s
NCK Nalchik 86.78 315 *i*P **P 01 34 27.7 +0.5**
NCK pmax pmax
comp=Z,4.0nm,1.0s
KBZ Khabaz 87.32 315 P **P 01 34 30.0 +0.3**
comp=Z,2.7nm,0.9s,baz=93,slow=2.3,SNR=5.7
KBZ pP **pP 01 35 37.8 +1.7**
comp=Z,7.2nm,1.0s,baz=128,slow=9.3,SNR=3.7
KIV Kislovodsk 87.52 315 *e*P **P 01 34 28.1 -2.7**
KIV pmax pmax
comp=Z,6.0nm,1.1s
PMOR Pomariorio Ree 88.42 105 *e*P **P 01 34 36.2 +0.7**
comp=Z,244nm,1.4s
VAH Vaihoa 88.65 105 *e*P **P 01 34 37.2 +0.6**
comp=Z,236nm,1.5s
NVL N'lazarevskaya 89.08 198 *e*P **P 01 34 38.8 +1.4**
NVL *e**PP **pP 01 35 47.0 +2.9**
NVL *e*S **SKSac 01 44 42.6 +2.7**
NVL pmax pmax
comp=Z,11nm,1.1s
LSZ Lusaka 91.30 254 *e*P **P 01 34 48.5 -0.6**
comp=Z,12nm,1.0s
LSZ *e*pP **pP 01 35 55.3 -0.6**
LSZ Lusaka 91.30 254 *e*P **P 01 34 48.5 -0.6**
LSZ *e**PP **pP 01 35 55.3 -0.6**
LSZ pmax pmax
comp=Z,11nm,1.0s
RDOG Red Dog Mine 91.81 21 *e*P **P 01 34 50.5 +0.4**
comp=Z,22nm,1.1s
BOSA Boshof 91.89 241 P **P 01 34 51.7 +0.1**
comp=Z,3.8nm,0.5s,baz=122,slow=3.8,SNR=15
BOSA pP **pP 01 35 58.5 +0.1**
comp=Z,11nm,0.8s,baz=91,slow=5.5,SNR=7.2
BOSA Boshof 91.89 241 *e*P **P 01 34 51.5 -0.1**
comp=Z,12nm,1.1s
BOSA pP **pP 01 35 58.5 +0.1**
SNAA Sanae 92.83 195 P **P 01 34 55.6 +0.6**
SNAA Sanae 92.83 195 *e*P **P 01 34 55.5 +0.6**
comp=Z,12nm,0.8s
SNAA Sanae 92.83 195 *e*P **P 01 34 55.5 +0.6**
SNAA pmax pmax
comp=Z,12nm,0.8s
BR131 Keskin Array S 93.43 309 *e*P **P 01 34 56.5 -1.9**
BRTR Keskin Array B 93.43 309 P **P 01 34 57.3 -1.2**
comp=Z,2.1nm,0.9s,baz=91,slow=3.6,SNR=9.9
BRTR pP **pP 01 36 05.1 -0.2**
comp=Z,5.8nm,1.1s,baz=134,slow=5.3,SNR=6.9
BRTR Keskin Array B 93.43 309 *i*P **P 01 34 57.0 -1.4**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
OBN Obninsk 93.56 325 *e*P **P 01 35 00.8 +2.4**
OBN pmax pmax
comp=Z,6.0nm,0.9s
KDAK Kodiak Island 94.29 32 P **P 01 35 01.5 -0.1**
comp=Z,34nm,1.2s,baz=164,slow=18,SNR=2.2
VNA2 Neumayer--Watz 94.45 195 P **P 01 35 03.2 +0.9**
baz=105,slow=3.7
VNA3 Neumayer Olymp 94.81 194 P **P 01 35 03.9 -0.1**
VNA1 Neumayer--Stat 94.85 195 P **P 01 35 04.9 +0.8**
IM3 Indian Mountai 94.88 24 *e*P **P 01 35 04.4 +0.2**
PPLA Purkeypile 95.14 27 *e*P **P 01 35 05.5 -0.2**
comp=Z,57nm,1.4s
SKT Skwentna 95.34 28 *e*P **P 01 35 05.2 -1.3**
comp=Z,28nm,1.2s
BPAW Bear Paw Mtn. 95.81 26 *e*P **P 01 35 08.7 +0.1**
comp=Z,16nm,1.0s
MLY Manley 96.01 25 *e*P **P 01 35 09.5 0.0**

	comp=Z,18nm,1.0s							
TRF	Thorofare Moun	96.06	27	*e*P	P		01 35 09.4	-0.5
	comp=Z,30nm,1.2s							
PMR	Palmer	96.44	29	*e*P	P		01 35 11.1	-0.3
	comp=Z,43nm,1.4s							
PMR	Palmer	96.44	29	*e*P	P		01 35 11.1	-0.3
PMR				pmax	pmax			
	comp=Z,43nm,1.4s							
RND	Reindeer	96.70	27	*e*P	P		01 35 11.8	-0.9
	comp=Z,47nm,1.0s							
RND	Reindeer	96.70	27	*e*P	P		01 35 11.8	-0.9
RND				pmax	pmax			
	comp=Z,47nm,1.0s							
TOLK	Toolik Lake Re	96.77	22	*e*P	P		01 35 13.9	+1.0
	comp=Z,31nm,1.1s							
TOLK	Toolik Lake Re	96.77	22	P	P		01 35 13.5	+0.7
	baz=266							
SML	Sawmill	96.83	29	*e*P	P		01 35 13.4	+0.1
	comp=Z,41nm,1.0s							
SML	Sawmill	96.83	29	*e*P	P		01 35 13.4	+0.1
SML				pmax	pmax			
	comp=Z,41nm,1.0s							
MDM	Murphy Dome	97.07	25	*e*P	P		01 35 13.6	-0.7
	comp=Z,12nm,1.2s							
WRH	Wood River Hil	97.10	26	*e*P	P		01 35 13.9	-0.5
	comp=Z,42nm,1.2s							
COLA	College	97.23	25	*e*P	P		01 35 13.6	-1.3
	comp=Z,5.8nm,0.9s							
COLA	College	97.23	25	*e*P	P		01 35 13.6	-1.3
COLA				pmax	pmax			
	comp=Z,6.0nm,0.9s							
CCB	Clear Creek Bu	97.23	26	*e*P	P		01 35 13.7	-1.3
	comp=Z,43nm,1.2s							
SCM	Sheep Creek Mo	97.31	29	*e*P	Pdif		01 35 16.4	+0.9
	comp=Z,71nm,1.4s							
DHY	Denali Highway	97.35	27	*e*P	Pdif		01 35 15.9	+0.2
	comp=Z,18nm,1.0s							
POKR	Poker Flat Res	97.42	25	P	P		01 35 14.7	-1.0
	baz=268							
HDA	Harding Lake	97.59	26	*e*P	P		01 35 15.4	-1.1
	comp=Z,20nm,1.0s							
HDA	Harding Lake	97.59	26	P	P		01 35 15.8	-0.8
	baz=268							
ILAR	Eielson Array	97.63	26	P	P		01 35 15.2	-1.5
	comp=Z,5.5nm,1.1s,baz=251,slow=4.2,SNR=22							
ILAR				PKKPbc	PKKPbc		01 51 51.5	-3.4
	comp=Z,0.9nm,0.7s,baz=83,slow=2.4,SNR=8.6							
ILB	Eielson Array	97.63	26	*e*P	P		01 35 15.3	-1.5
IL1	Eielson Array	97.63	26	*e*P	P		01 35 14.8	-1.9
DIV	Divide	98.03	29	*e*P	P		01 35 18.4	-0.2
	comp=Z,67nm,1.5s							
PAX	Paxson	98.21	27	*e*P	Pdif		01 35 20.0	+0.5
	comp=Z,63nm,1.4s							
PAX	Paxson	98.21	27	*e*P	Pdif		01 35 20.0	+0.5
PAX				pmax	pmax			
	comp=Z,63nm,1.4s							
HARP	HAARP	98.35	28	*e*P	P		01 35 21.3	+1.3
	comp=Z,54nm,1.2s							
FYU	Fort Yukon	98.36	24	*e*P	P		01 35 20.5	+0.7
	comp=Z,37nm,1.2s							
RIDG	Independ'e Rid	98.50	27	*e*P	P		01 35 21.0	+0.2
	comp=Z,23nm,1.0s							
SCRK	Sand Creek	98.88	26	*e*Pdif	P		01 35 22.9	+0.4
	comp=Z,7.2nm,1.0s							
ARCES	ARCESS Array B	99.44	339	P	Pdif		01 35 24.5	-0.2
	comp=Z,2.0nm,0.8s,baz=39,slow=7.8,SNR=3.8							
ARCES				PKKPbc	PKKPbc		01 51 42.8	-7.3
	comp=Z,8.0nm,1.2s,baz=252,slow=3.5,SNR=8.1							
DAWY	Dawson	100.90	26	*e*Pdif	Pdif		01 35 32.1	+0.7
EPYK	Eagle Plains	101.78	24	P	Pdif		01 35 34.8	-0.4
	baz=278							
INK	Inuvik	102.69	22	P	Pdif		01 35 39.0	-0.1
	comp=Z,2.9nm,1.0s,baz=278,slow=6.7,SNR=3.7							
CONA	Conrad Observa	106.36	318	*i* PKKPbc	PKKPbc		01 51 27.2	-1.7
	comp=Z,2.3nm,0.9s							
MOA	Molln	107.43	318	*i* PKKPab	PKKPab		01 51 40.1	+1.1
	comp=Z,0.7nm,0.4s							
PMSA	Palmer Station	107.48	177	*e*PKP	PKiKP		01 40 08.5	+1.2
GERES	GERESS Array B	107.66	319	PKiKP	PKiKP		01 40 07.8	-0.4
	comp=Z,0.9nm,0.8s,baz=273,slow=7.7,SNR=3.3							
GERES				PKKPab	PKKPab		01 51 38.7	+0.6
	comp=Z,1.5nm,0.8s,baz=350,slow=4.1,SNR=5.3							
ABTA	Abfaltersbach	108.77	317	*i* PKKPbc	PKKPbc		01 51 20.8	-0.6
	comp=Z,2.5nm,0.9s							
SQTA	Sankt Quirin	109.58	317	*i* PKKPbc	PKKPbc		01 51 17.7	-1.2
	comp=Z,7.3nm,1.1s							
MOTA	Moosalm	109.62	317	PKKPbc	PKKPbc		01 51 17.5	-1.3
	comp=Z,3.2nm,1.0s							
FETA	Feichten	109.93	317	PKKPbc	PKKPbc		01 51 17.3	-0.4
	comp=Z,0.7nm,0.4s							
YKA	Yellowknife Ar	112.03	25	PKiKP	PKiKP		01 40 16.5	+0.6
	comp=Z,1.4nm,0.7s,baz=290,slow=2.1,SNR=11							
B05A	Bryant	113.16	41	P	PKiKP		01 40 18.7	+0.2
	baz=285							
J04D	Umpqua Nationa	114.34	46	P	PKPdf		01 40 21.5	+0.3
	baz=283							
L04D	Klamath Falls	114.42	47	P	PKPdf		01 40 21.5	+0.2
	baz=282							
M04C	Macdoel	114.85	48	P	PKPdf		01 40 22.6	+0.5
	baz=282							
J05D	Fort Rock, OR	114.95	46	P	PKPdf		01 40 22.3	0.0
	baz=284							
MOD	Modoc Plateau	115.94	47	*e*PKPdf	PKPdf		01 40 25.0	+0.7
G08A	Pilot Rock	116.03	43	*e*PKPdf	PKPdf		01 40 24.9	+0.6
AFDM	Forest Hills D	116.08	50	*e*PKPdf	PKPdf		01 40 24.8	+0.4
NEW	Newport	116.33	40	P	PKPdf		01 40 25.1	+0.4
	baz=289							
CMB	Columbia Colle	116.72	51	*e*PKPdf	PKPdf		01 40 25.6	-0.2
CMB	Columbia Colle	116.72	51	*e*PKIKP	PKPdf		01 40 25.6	-0.2
WVOR	Wild Horse Val	117.01	46	*e*PKPdf	PKPdf		01 40 25.8	-0.5
WVOR	Wild Horse Val	117.01	46	*e*PKIKP	PKPdf		01 40 25.8	-0.5
PAHR	Pah Rah Range	117.12	49	*e*PKPdf	PKPdf		01 40 27.2	+0.6
PKM	Mcpherson Peak	117.76	55	P	PKPdf		01 40 29.0	+1.0
	baz=280							
NV01	Mina Array Sit	118.23	51	*e*PKPdf	PKPdf		01 40 28.9	+0.1
NVAR	Mina Array Bea	118.23	51	PKP	PKPdf		01 40 29.7	+0.8
	comp=Z,3.1nm,0.8s,baz=254,slow=2.1,SNR=19							
NVAR				PP	pPKPdf		01 41 43.1	+4.0
	comp=Z,2.1nm,0.9s,baz=278,slow=6.0,SNR=3.4							
NVAR				PKKPbc	PKKPbc		01 50 49.3	-0.1
	comp=Z,1.1nm,0.7s,baz=133,slow=4.0,SNR=7.6							
KVN	Kaiserville	118.25	50	*e*PKPdf	PKPdf		01 40 29.5	+0.6
KVN	Kaiserville	118.25	50	*e*PKIKP	PKPdf		01 40 29.5	+0.6
NV11	Mina Array Sit	118.35	50	*e*PKPdf	PKPdf		01 40 29.9	+0.9
ARVC	Arvin	118.51	54	P	PKPdf		01 40 30.1	+0.9
	baz=281							
CWC	Cottonwood Cre	118.84	53	P	PKPdf		01 40 30.3	+0.2
	baz=282							
MSO	Missoula	118.85	40	*e*PKPdf	PKPdf		01 40 29.5	-0.1
MSO	Missoula	118.85	40	P	PKPdf		01 40 29.1	-0.6
	baz=291							
EDW2	Edwards Air Fo	119.23	54	P	PKPdf		01 40 31.0	+0.3
	baz=282							
DAC	Darwin (Calif)	119.26	53	*e*PKPdf	PKPdf		01 40 31.9	+1.0
DAC	Darwin (Calif)	119.26	53	PKIKP	PKPdf		01 40 31.9	+1.0
GRAC	Grapevine Rang	119.28	52	P	PKPdf		01 40 30.5	-0.3
	baz=283							
MWC	Mount Wilson	119.31	55	*e*PKPdf	PKPdf		01 40 31.6	+0.6
MWC	Mount Wilson	119.31	55	*e*PKIKP	PKPdf		01 40 31.6	+0.6
LRMC	Laurel Mtn Rad	119.36	54	P	PKPdf		01 40 31.7	+0.7
	baz=282							
MPMC	Manual Prospec	119.39	53	P	PKPdf		01 40 31.5	+0.3
	baz=283							
BFSC	Mount Baldy Ra	119.63	55	P	PKPdf		01 40 31.5	-0.1
	baz=281							
HLID	Hailey	119.65	44	*e*PKPdf	PKPdf		01 40 31.7	+0.3
HLID	Hailey	119.65	44	P	PKPdf		01 40 31.8	+0.3
	baz=289							
FURC	Furnace Creek,	119.80	52	P	PKPdf		01 40 32.4	+0.8
	baz=283							
GSC	Goldstone, Bar	120.10	54	*e*PKPdf	PKPdf		01 40 33.5	+1.1
GSC	Goldstone, Bar	120.10	54	*e*PKIKP	PKPdf		01 40 33.5	+1.1
GSC	Goldstone, Bar	120.10	54	P	PKPdf		01 40 32.8	+0.4
	baz=283							
TPNV	Topopah Spring	120.16	52	P	PKPdf		01 40 32.8	+0.2
	baz=284							
R11A	Troy Canyon, C	120.33	50	*e*PKPdf	PKPdf		01 40 33.8	+0.9
R11A	Troy Canyon, C	120.33	50	P	PKPdf		01 40 33.4	+0.5
	baz=285							
HEC	Hector,Ludlow	120.58	54	P	PKPdf		01 40 34.1	+0.7
	baz=283							
FRD	Ford Ranch, An	120.64	56	P	PKPdf		01 40 33.9	+0.4
	baz=282							
PFO	Pinyon Flats O	120.73	56	*e*PKPdf	PKPdf		01 40 35.0	+1.3
PFO	Pinyon Flats O	120.73	56	*e*PKIKP	PKPdf		01 40 35.0	+1.3
PFO	Pinyon Flats O	120.73	56	P	PKPdf		01 40 34.4	+0.6
	baz=282							
XPFO	Piæon Flat	120.74	56	*e*PKPdf	PKPdf		01 40 35.0	+1.2
TUQ	Turquoise Moun	120.77	53	P	PKPdf		01 40 34.4	+0.7
	baz=283							
BOZ	Bozeman (W)	120.80	41	P	PKPdf		01 40 34.0	+0.5
	baz=292							
TOA0	Torodi Ar. Sit	120.85	281	*e*PKPdf	PKPdf		01 40 31.9	-2.3
TORD	Torodi Ar. Bea	120.85	281	PKP	PKPdf		01 40 32.5	-1.7
	comp=Z,4.2nm,0.9s,baz=74,slow=1.9,SNR=24							
TORD				PKKPbc	PKKPbc		01 50 39.1	+0.2
	comp=Z,1.1nm,1.0s,baz=301,slow=4.9,SNR=5.1							
MONP2	Monument Peak	120.91	56	P	PKPdf		01 40 33.1	-1.1
	baz=282							
EGMT	Eagleton	120.99	38	*e*PKPdf	PKPdf		01 40 33.1	-0.7
EGMT	Eagleton	120.99	38	P	PKPdf		01 40 33.0	-0.7
	baz=296							
BELC	Belle Mtn. Jos	121.03	55	P	PKPdf		01 40 34.8	+0.5
	baz=282							
SHPR	Sheep Range	121.12	52	*e*PKPdf	PKPdf		01 40 35.8	+1.3
GMRC	Granite Mounta	121.13	54	P	PKPdf		01 40 35.4	+1.0
	baz=283							
IKP	In-Ko-Pah, Jac	121.21	57	P	PKPdf		01 40 34.2	-0.4
	baz=282							
HVU	Hansel Valley	121.38	45	*e*PKPdf	PKPdf		01 40 35.1	+0.4
HVU	Hansel Valley	121.38	45	*e*PKIKP	PKPdf		01 40 35.1	+0.4
SWSC	Sam W. Stewart	121.41	56	P	PKPdf		01 40 35.5	+0.7
	baz=282							
BGU	Big Grassy Mou	121.47	46	*e*PKPdf	PKPdf		01 40 35.6	+0.6
LDFC	Landfair	121.50	54	*e*PKPdf	PKPdf		01 40 35.8	+0.6
BC3	Big Chuckawall	121.55	55	P	PKPdf		01 40 36.2	+1.0
	baz=283							
PSUT	Pine Spring	121.58	49	*e*PKPdf	PKPdf		01 40 36.0	+0.7
YHH	Holmes Hill	121.61	42	*e*PKPdf	PKPdf		01 40 35.8	+0.5
IRM	Iron Mountain	121.69	55	P	PKPdf		01 40 35.8	+0.4
	baz=283							
DUG	Dugway, Tooele	121.86	47	*e*PKPdf	PKPdf		01 40 36.1	+0.4
DUG	Dugway, Tooele	121.86	47	*e*PKIKP	PKPdf		01 40 36.1	+0.4
DUG	Dugway, Tooele	121.86	47	P	PKPdf		01 40 36.0	+0.3
	baz=288							
IMW	Indian Meadow	121.89	43	*e*PKPdf	PKPdf		01 40 37.2	+1.4
FXWY	Fox Creek	121.93	43	*e*PKPdf	PKPdf		01 40 36.6	+0.8
TPAW	Teton Pass	122.04	43	*e*PKPdf	PKPdf		01 40 37.1	+1.0
ES19	SONSECA Array	122.05	312	*e*PKPdf	PKPdf		01 40 35.9	0.0
ESDC	Sonseca Array	122.11	312	PKP	PKPdf		01 40 34.5	-1.6
	comp=Z,0.6nm,0.7s,baz=62,slow=3.5,SNR=4.8							
REDW	Red Top Meadow	122.15	43	*e*PKPdf	PKPdf		01 40 37.0	+0.7
SNOW	Snow King Moun	122.18	43	*e*PKPdf	PKPdf		01 40 36.7	+0.3
LOHW	Long Hollow	122.23	43	*e*PKPdf	PKPdf		01 40 36.3	-0.1
CCUT	Cedar City	122.23	50	*e*PKPdf	PKPdf		01 40 37.1	+0.5
Y12C	Blythe	122.28	55	*e*PKPdf	PKPdf		01 40 37.6	+1.1
Y12C	Blythe	122.28	55	P	PKPdf		01 40 37.3	+0.8
	baz=283							
HWUT	Hardware Ranch	122.29	45	*e*PKPdf	PKPdf		01 40 36.5	0.0
PDMCI	Parker Dam,Lak	122.46	54	P	PKPdf		01 40 37.8	+1.0
	baz=284							
NLU	North Lily Min	122.47	47	*e*PKPdf	PKPdf		01 40 37.9	+0.9
W13A	Hualapai Mount	122.47	53	*e*PKPdf	PKPdf		01 40 38.2	+1.1
LCMT	Little Creek M	122.47	51	*e*PKPdf	PKPdf		01 40 38.3	+1.3
RLMT	Red Lodge	122.51	41	P	PKPdf		01 40 37.2	+0.3
	baz=294							
TCUT	Toone Canyon	122.56	46	*e*PKPdf	PKPdf		01 40 38.1	+0.9
JLU	Jordanelle	122.71	46	*e*PKPdf	PKPdf		01 40 38.1	+0.6
MPU	Maple Canyon	122.77	47	*e*PKPdf	PKPdf		01 40 38.8	+1.2
KNB	Kanab	122.80	51	*e*PKPdf	PKPdf		01 40 39.0	+1.4
KNB	Kanab	122.80	51	*e*PKIKP	PKPdf		01 40 39.0	+1.4
MSU	Marysvale	122.85	49	*e*PKPdf	PKPdf		01 40 39.1	+1.3
MSU	Marysvale	122.85	49	*e*PKIKP	PKPdf		01 40 39.1	+1.3
MTPU	Mount Pierson	122.98	49	*e*PKPdf	PKPdf		01 40 39.9	+1.6
PKCU	Pink Cliffs	123.06	50	*e*PKPdf	PKPdf		01 40 40.0	+1.7
BW06	Boulder Array	123.25	43	*e*PKPdf	PKPdf		01 40 38.4	0.0
BW06	Boulder Array	123.25	43	P	PKPdf		01 40 38.0	-0.5
	baz=283							
PD31	Pinedale Array	123.25	43	*e*PKPdf	PKPdf		01 40 38.5	0.0
PDAR	Pinedale Array	123.25	43	PKP	PKPdf		01 40 38.4	0.0
	comp=Z,0.4nm,0.3s,baz=222,slow=2.0,SNR=9.8							
PDAR				PKKPbc	PKKPab		01 50 29.6	0.0
	comp=Z,0.6nm,0.5s,baz=106,slow=5.3,SNR=5.8							
PDAR	Pinedale Array	123.25	43	*e*PKPdf	PKPdf		01 40 37.7	-0.7
PDAR				PKKPbc	PKKPab		01 50 29.6	0.0
U15A	North Rim	123.37	51	*e*PKPdf	PKPdf		01 40 40.4	+1.5
Y14A	Wickenburg	123.46	54	*e*PKPdf	PKPdf		01 40 39.7	+0.8
P17A	Butcher Ranch,	123.60	47	*e*PKPdf	PKPdf		01 40 39.9	+0.7
LAO	LASA Array	123.74	38	*e*PKPdf	PKPdf		01 40 39.2	+0.3
LAO				*e*SKPdf	SKPdf		01 43 47.2	-0.5
LAO	LASA Array	123.74	38	P	PKPdf		01 40 39.3	+0.3
	baz=298							
P18A	Preston Nutter	123.91	47	*e*PKPdf	PKPdf		01 40 40.6	+0.7
214A	Organ Pipe Nat	124.09	57	P	PKPdf		01 40 40.4	+0.4
	baz=283							
WUAZ	Wupatki	124.34	52	*e*PKPdf	PKPdf		01 40 41.8	+1.2
WUAZ	Wupatki	124.34	52	P	PKPdf		01 40 41.4	+0.7
	baz=287							
X16A	Lo Mia Camp, P	124.59	53	*e*PKPdf	PKPdf		01 40 42.5	+1.3
PV09	Paradox Valley	125.11	48	*e*PKPdf	PKPdf		01 40 43.3	+1.1
O20A	White River Ci	125.17	46	*e*PKPdf	PKPdf		01 40 42.1	0.0
O20A	White River Ci	125.17	46	P	PKPdf		01 40 42.9	+0.8
	baz=292							
PV21	Cone Mtn., Par	125.20	48	*e*PKPdf	PKPdf		01 40 43.7	+1.4
PV23	Carpenter Ridg	125.22	48	*e*PKPdf	PKPdf		01 40 43.5	+1.1
PV10	Paradox Valley	125.22	48	*e*PKPdf	PKPdf		01 40 43.6	+1.3
PV14	Lion Creek, Pa	125.23	48	*e*PKPdf	PKPdf		01 40 43.8	+1.4
PV05	Paradox Valley	125.28	48	*e*PKPdf	PKPdf		01 40 43.9	+1.4
RWWY	Rawlins	125.28	44	*e*PKPdf	PKPdf		01 40 43.3	+0.9
PV19	Morning Glory	125.28	48	*e*PKPdf	PKPdf		01 40 43.4	+0.9
PV20	West Nyswonger	125.28	48	*e*PKPdf	PKPdf		01 40 43.5	+1.1
PV17	East Wray Mesa	125.31	48	*e*PKPdf	PKPdf		01 40 43.3	+0.9
PV16	Nyswonger Mesa	125.33	48	*e*PKPdf	PKPdf		01 40 43.4	+0.9
K22A	Casper	125.35	42	*e*PKPdf	PKPdf		01 40 42.8	+0.5
K22A	Casper	125.35	42	P	PKPdf		01 40 42.9	+0.5
	baz=295							
PV22	Blue Mesa, Par	125.35	48	*e*PKPdf	PKPdf		01 40 43.8	+1.3
PV18	Skein Mesa, Pa	125.36	48	*e*PKPdf	PKPdf		01 40 43.5	+0.9
PV11	David Mesa, Pa	125.37	48	*e*PKPdf	PKPdf		01 40 43.7	+1.1
PV03	Paradox Valley	125.40	48	*e*PKPdf	PKPdf		01 40 43.5	+0.8
PV12	Saucer Basin,	125.42	48	*e*PKPdf	PKPdf		01 40 43.9	+1.2
PV13	Radium Mtn., P	125.46	48	*e*PKPdf	PKPdf		01 40 43.7	+0.9
PV02	Paradox Valley	125.50	48	*e*PKPdf	PKPdf		01 40 43.9	+1.0
PV01	Paradox Valley	125.65	48	*e*PKPdf	PKPdf		01 40 44.1	+1.0
TUC	Tucson	125.67	56	*e*PKPdf	PKPdf		01 40 43.6	+0.4
TUC	Tucson	125.67	56	PKIKP	PKPdf		01 40 43.6	+0.4
TUC	Tucson	125.67	56	P	PKPdf		01 40 43.1	-0.1
	baz=285							
W18A	Petrified Fore	125.74	52	*e*PKPdf	PKPdf		01 40 44.6	+1.2
W18A	Petrified Fore	125.74	52	P	PKPdf		01 40 43.2	-0.1
	baz=295							
X18A	Snowflake	125.74	53	*e*PKPdf	PKPdf		01 40 44.4	+1.0
MVCO	Mesa Verde	126.02	49	*e*PKPdf	PKPdf		01 40 45.0	+1.1
MVCO	Mesa Verde	126.02	49	P	PKPdf		01 40 44.1	+0.2
	baz=290							
RSSD	Black Hills	126.31	40	*e*PKPdf	PKPdf		01 40 43.2	-1.0
RSSD	Black Hills	126.31	40	*e*PKIKP	PKPdf		01 40 43.2	-1.0
RSSD	Black Hills	126.31	40	P	PKPdf		01 40 43.7	-0.5
	baz=298							
N23A	Red Feather La	126.48	44	P	PKPdf		01 40 45.1	+0.3
	baz=295							
DBIC	Dimbokro	126.97	272	PKP	PKPdf		01 40 45.8	-0.2
	comp=Z,2.7nm,0.6s,baz=38,slow=0.3,SNR=7.2							
DBIC				pPKP	pPKPdf		01 41 57.5	+1.2
	comp=Z,3.3nm,0.8s,baz=61,slow=11,SNR=2.7							
S22A	4UR Ranch, Cre	127.07	48	*e*PKPdf	PKPdf		01 40 47.0	+1.1
S22A	4UR Ranch, Cre	127.07	48	P	PKPdf		01 40 46.8	+0.9
	baz=292							
319A	Douglas	127.15	56	*e*PKPdf	PKPdf		01 40 47.8	+1.8
ISCO	Idaho Springs	127.16	45	*e*PKPdf	PKPdf		01 40 47.4	+1.3
ISCO	Idaho Springs	127.16	45	PKIKP	PKPdf		01 40 47.4	+1.3
ISCO	Idaho Springs	127.16	45	P	PKPdf		01 40 46.8	+0.7
	baz=294							
ULM	Lu Bonnet	127.44	30	PKP	PKPdf		01 40 46.4	+0.6
	comp=Z,2.2nm,0.5s,baz=356,slow=3.8,SNR=4.7							
LAZ	Ladron	127.99	52	*e*PKPdf	PKPdf		01 40 49.2	+1.5
SDCO	Great Sand Dun	128.05	48	*e*PKPdf	PKPdf		01 40 48.8	+1.0
SDCO	Great Sand Dun	128.05	48	P	PKPdf		01 40 49.0	+1.2
	baz=293							
121A	Cookes Peak, D	128.05	55	P	PKPdf		01 40 48.6	+0.7
	baz=287							
LENM	Lemitar	128.20	52	*e*PKPdf	PKPdf		01 40 49.8	+1.7
ANMO	Albuquerque	128.34	51	*e*PKPdf	PKPdf		01 40 49.0	+0.6
ANMO	Albuquerque	128.34	51	*e*PKIKP	PKPdf		01 40 49.0	+0.6
ANMO	Albuquerque	128.34	51	P	PKPdf		01 40 48.5	+0.1
	baz=290							
LPM	Los Pinos Moun	128.42	52	*e*PKPdf	PKPdf		01 40 50.2	+1.7
BNM	Barren Site	128.47	52	*e*PKPdf	PKPdf		01 40 49.9	+1.2
T25A	Trinidad	129.09	48	*e*PKPdf	PKPdf		01 40 51.6	+1.9
T25A	Trinidad	129.09	48	P	PKPdf		01 40 50.0	+0.3
	baz=293							
MNTX	Cornudas Mount	130.25	55	*e*PKPdf	PKPdf		01 40 53.1	+1.2
MNTX				*e*SKPbc	SKPbc		01 43 47.5	-1.1
MNTX	Cornudas Mount	130.25	55	P	PKPdf		01 40 52.2	+0.4
	baz=288							
PLCA	Paso Flores	130.39	168	PKP	PKPdf		01 40 52.5	+0.6
	comp=Z,6.2nm,1.0s,baz=219,slow=2.6,SNR=8.4							
PLCA				SKPbc	SKPbc		01 43 48.3	-0.6
	comp=Z,11nm,1.1s,baz=226,slow=4.8,SNR=8.5							
ECSD	EROS Data Cent	131.06	37	*e*PKPdf	PKPdf		01 40 53.0	0.0
ECSD				*e*SKPbc	SKPbc		01 43 49.4	-1.8
ECSD	EROS Data Cent	131.06	37	P	PKPdf		01 40 52.7	-0.3
	baz=306							
MSTX	Muleshoe	131.53	51	*e*PKPdf	PKPdf		01 40 54.1	-0.2
MSTX	Muleshoe	131.53	51	P	PKPdf		01 40 54.0	-0.3
	baz=292							
AMTX	Amarillo	132.01	49	*e*PKPdf	PKPdf		01 40 56.5	+1.3
AMTX				*e*SKPbc	SKPbc		01 43 54.1	-0.8
AMTX	Amarillo	132.01	49	P	PKPdf		01 40 56.3	+1.1
	baz=294							
TX31	Lajitas Ar. Si	132.38	57	*e*PKPpre	PKPpre		01 40 41.5	
TX31				*e*PKPdf	PKiKP		01 40 56.6	-0.5
TX31				*e*PKPdf	PKPdf		01 40 57.6	+1.6
TXAR	Lajitas Array	132.38	57	PKP	PKPdf		01 40 57.1	+1.1
	comp=Z,1.6nm,0.7s,baz=330,slow=1.7,SNR=8.0							
TXAR				SKPbc	SKPbc		01 43 55.7	-0.8
	comp=Z,2.9nm,0.7s,baz=282,slow=2.4,SNR=12							
SCHQ	Schefferville	132.63	7	PKP	PKPdf		01 40 55.9	+0.3
	comp=Z,4.1nm,0.8s,baz=74,slow=3.9,SNR=2.6							
SCHQ				SKPbc	SKPbc		01 43 56.0	-0.3
	comp=Z,25nm,1.0s,baz=51,slow=3.2,SNR=7.0							
E39A	Mellen	132.68	30	P	PKPdf		01 40 56.5	+0.5
	baz=314							
H38A	Maiden Rock	132.93	33	P	PKPdf		01 40 56.5	0.0
	baz=311							
E40A	Wakefield	132.95	30	P	PKPdf		01 40 56.0	-0.5
	baz=315							
KSU1	Kansas State U	133.64	42	*e*PKPdf	PKPdf		01 40 58.4	+0.4
KSU1				*e*SKPbc	SKPbc		01 43 58.1	-2.1
KSU1	Kansas State U	133.64	42	P	PKPdf		01 40 59.3	+1.3
	baz=302							
J39A	Decorah	134.12	34	P	PKPdf		01 40 59.2	+0.4
	baz=311							
W

NNA				PKPbc	**PKiKP**	**01 41 40.0**	**+0.1**
	comp=Z,31nm,0.9s,baz=256,slow=6.9,SNR=12							
NNA	**Nana**	**153.05**	**137**	*e*PKPdf	**PKPdf**	**01 41 32.2**	**0.0**
NNA				*e*PKPbc	**PKiKP**	**01 41 39.9**	**+0.1**
NNA	**Nana**	**153.05**	**137**	*e*PKiKP	**PKPdf**	**01 41 32.2**	**0.0**
JTS	**JuntasAbangare**	**153.60**	**83**	*e*PKPbc	**PKPbc**	**01 41 40.8**	**-0.1**
LPAZ	**La Paz**	**154.16**	**158**	PKP	**PKPdf**	**01 41 35.3**	**+0.9**
	comp=Z,5.3nm,1.0s,baz=137,slow=1.1,SNR=13							
LPAZ				PKPbc	**PKiKP**	**01 41 43.4**	**+0.7**
	comp=Z,2.7nm,0.4s,baz=254,slow=1.7,SNR=13							
LPAZ				PKPab	**PKPab**	**01 41 58.5**	**+1.1**
	comp=Z,8.5nm,0.3s,baz=262,slow=0.3,SNR=21							
LPAZ	**La Paz**	**154.16**	**158**	*e*PKPdf	**PKPdf**	**01 41 35.3**	**+0.9**
LPAZ				PKPbc	**PKiKP**	**01 41 43.4**	**+0.7**
LPAZ				*e*PKPab	**PKPab**	**01 41 57.0**	**-0.5**
BDFB	**Brasilia**	**154.55**	**204**	PKP	**PKPdf**	**01 41 34.3**	**0.0**
	comp=Z,8.6nm,0.9s,baz=180,slow=2.0,SNR=9.1							
BDFB				PKPbc	**PKiKP**	**01 41 43.2**	**+0.2**
	comp=Z,9.1nm,1.0s,baz=107,slow=5.2,SNR=6.3							
BDFB				PKPab	**PKPab**	**01 41 59.1**	**+0.6**
	comp=Z,2.3nm,0.6s,baz=162,slow=3.2,SNR=3.6							
BDFB				pPKPab	**pPKPab**	**01 43 06.4**	**+0.4**
	comp=Z,5.0nm,0.8s,baz=144,slow=4.8,SNR=2.9							
ATAH	**Atahualpa**	**155.08**	**126**	PKP	**PKPdf**	**01 41 36.4**	**+0.9**
	comp=Z,9.5nm,1.0s,baz=145,slow=2.4,SNR=5.7							
ATAH				PKPab	**PKPab**	**01 42 02.7**	**+1.3**
	comp=Z,13nm,0.8s,baz=195,slow=15,SNR=4.4							
OTAV	**Otavalo**	**158.57**	**110**	*e*PKPdf	**PKPdf**	**01 41 39.8**	**-0.3**
OTAV				*e*PKPab	**PKPab**	**01 42 18.0**	**+1.3**
OTAV	**Otavalo**	**158.57**	**110**	*e*PKiKP	**PKPdf**	**01 41 39.8**	**-0.3**
OTAV				*e*		01 42 18.0	
GTBY	**Guantanamo Bay**	**159.77**	**52**	*e*PKPab	**PKPab**	**01 42 21.2**	**+0.2**
CRUC	**La Cruz**	**160.44**	**108**	*e*P	**PKPab**	**01 42 26.2**	**+1.5**
SOTA	**Rioblanco**	**160.94**	**106**	*e*P	**PKPab**	**01 42 28.2**	**+1.1**
POPC	**Popayan, Colom**	**161.00**	**105**	*e*P	**PKPab**	**01 42 27.5**	**+0.6**
PCON	**Cinco Dias**	**161.20**	**106**	*e*P	**PKPab**	**01 42 28.9**	**+0.6**
HORQ	**Saladito**	**161.29**	**102**	*e*P	**PKPab**	**01 42 28.2**	**-0.2**
FLOC	**Florencia**	**161.66**	**109**	*e*P	**PKPab**	**01 42 28.9**	**-0.8**
BETC	**Betania**	**162.22**	**106**	*e*P	**PKPab**	**01 42 32.2**	**+0.1**
SAML	**Samuel**	**162.65**	**164**	*e*PKPdf	**PKPdf**	**01 41 43.5**	**-0.3**
SAML				*e*PKPab	**PKPab**	**01 42 34.2**	**+0.7**
SAML	**Samuel**	**162.65**	**164**	*e*PKiKP	**PKPdf**	**01 41 43.5**	**-0.3**
SAML				*e*		01 42 34.2	
PRAC	**Prado**	**163.03**	**103**	*e*P	**PKPab**	**01 42 35.5**	**-0.2**
SDDR	**Presa de Saban**	**163.22**	**47**	*e*PKPab	**PKPab**	**01 42 37.0**	**+0.8**
ZARC	**Zaragoza, Cauc**	**163.61**	**90**	*e*P	**PKPab**	**01 42 36.8**	**-1.4**
ROSC	**El Rosal**	**163.83**	**100**	PKP	**PKPdf**	**01 41 44.3**	**-1.2**
	comp=Z,3.2nm,0.4s,baz=113,slow=14,SNR=5.4							
ROSC				PKPab	**PKPab**	**01 42 40.4**	**+0.8**
	comp=Z,21nm,1.0s,baz=93,slow=3.3,SNR=11							
ROSC	**El Rosal**	**163.83**	**100**	PKP	**PKPdf**	**01 41 44.3**	**-1.2**
ROSC				*e*PKPab	**PKPab**	**01 42 42.0**	**+2.4**
SMLC	**San Mart`›n de**	**164.39**	**85**	*e*P	**PKPab**	**01 42 37.5**	**-4.1**
BARC	**Barichara**	**165.21**	**94**	*e*P	**PKPab**	**01 42 46.1**	**+0.6**
RUSC	**La Rusia**	**165.22**	**97**	*e*P	**PKPab**	**01 42 44.8**	**-1.1**
OBIP	**Obispado Ponce**	**167.03**	**38**	*e*PKPab	**PKPab**	**01 42 52.6**	**-0.3**
MTP	**Monte Pirata**	**167.60**	**34**	*e*PKPab	**PKPab**	**01 42 55.6**	**+0.3**
SDV	**Santo Domingo**	**167.78**	**84**	PKP	**PKPdf**	**01 41 47.1**	**-1.2**
	comp=Z,6.2nm,0.9s,baz=258,slow=20,SNR=5.6							
SDV				PKPab	**PKPab**	**01 42 57.2**	**+0.4**
	comp=Z,9.6nm,0.8s,baz=268,slow=3.2,SNR=13							
SDV	**Santo Domingo**	**167.78**	**84**	*e*PKPdf	**PKPdf**	**01 41 46.6**	**-1.7**
SDV				*e*PKPab	**PKPab**	**01 42 57.2**	**+0.4**
PTGA	**Pitinga**	**171.35**	**169**	PKP	**PKPdf**	**01 41 49.3**	**-1.0**
	comp=Z,2.1nm,0.8s,baz=338,slow=5.8,SNR=4.4							
PTGA				PKPab	**PKPab**	**01 43 12.9**	**+1.0**
	comp=Z,1.7nm,0.3s,baz=210,slow=5.7,SNR=10							
PTGA				pPKPab	**pPKPab**	**01 44 19.5**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=219,slow=6.1,SNR=1.9							
PCRV	**Puerto La Cruz**	**173.34**	**69**	PKPab	**PKPab**	**01 43 20.8**	**-0.4**
	comp=Z,6.7nm,0.8s,baz=270,slow=3.0,SNR=2.6							
MDP	**Montagnes des**	**173.74**	**245**	PKP	**PKPdf**	**01 41 50.8**	**-0.5**
	comp=Z,7.3nm,0.9s,baz=48,slow=1.8,SNR=4.4							

MDD ***02*** *01:33:54.3±2.1,37.°19N×12.°64W,h0km,mb3.5/11, Error ellipse: s-maj=18.1km s-min=16.3km az=95.0, PRXIMO*
IGIL ***02*** *01:33:54.2,37.°22N×12.°69W,h0km,ML1.6*
INMG ***02*** *01:33:55.5±1.1,37.°01N×13.°07W,h10km,ML2.0, Error ellipse: s-maj=8.2km s-min=5.6km az=95.0*
ISC 02 01:33:54.0±4.0,37.°20N±0.°10×12.°6W±0.°2,h10km,n39,
σ1§37/67,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
PFVI	**Vila Bisbo**	**3.01**	**90**	*e*Pn		**Pn**	**01 34 42.1**	**+0.3**
PFVI				*e*Sn		**Sn**	**01 35 17.6**	**-0.3**
PFVI	**Vila Bisbo**	**3.01**	**90**	P		**Pn**	**01 34 42.0**	**+0.3**
	2.0nm,0.1s,SNR=7.9							
PFVI				S		**Sn**	**01 35 17.7**	**-0.2**
	0.4nm,0.1s,SNR=7.9							
PTEO	**Sao Teotonio**	**3.10**	**83**	*e*Pn		**Pn**	**01 34 43.6**	**+0.6**
PTEO				*e*Sn		**Sn**	**01 35 19.9**	**-0.2**
PTEO	**Sao Teotonio**	**3.10**	**83**	P		**Pn**	**01 34 43.6**	**+0.6**
PTEO				S		**Sn**	**01 35 19.9**	**-0.2**
PMAFR	**Mafra**	**3.15**	**55**	*e*Pn		**Pn**	**01 34 45.3**	**+1.7**
PMAFR				*e*Sn		**Sn**	**01 35 21.9**	**+0.7**
PMAFR				A		A	01 35 26.0	
	9.4nm,0.6s							
PMAFR	**Mafra**	**3.15**	**55**	P		**Pn**	**01 34 44.8**	**+1.2**
	1.0nm,0.1s,SNR=7.9							
PMAFR				S		**Sn**	**01 35 21.5**	**+0.2**
	2.3nm,0.2s,SNR=7.9							
MORF	**Marmelete**	**3.15**	**87**	*e*P		**Pn**	**01 34 44.1**	**+0.4**
MORF	**Marmelete**	**3.15**	**87**	*e*Pn		**Pn**	**01 34 44.2**	**+0.5**
MORF				*e*Sn		**Sn**	**01 35 21.7**	**+0.3**
MORF				A		A	01 35 25.3	
	2.8nm,0.8s							
MORF	**Marmelete**	**3.15**	**87**	P		**Pn**	**01 34 44.2**	**+0.5**
MORF				S		**Sn**	**01 35 21.7**	**+0.3**
	2.8nm,0.8s							
MESJ	**Messejana**	**3.54**	**78**	*e*P		**Pn**	**01 34 49.2**	**+0.3**
MESJ				*e*S		**Sn**	**01 35 30.0**	**-0.8**
MESJ				AML		AML	01 35 36.5	
	comp=N,1.6nm,0.3s							
MESJ	**Messejana**	**3.54**	**78**	*e*Pn		**Pn**	**01 34 50.9**	**+1.9**
MESJ				*e*Sn		**Sn**	**01 35 30.5**	**-0.3**
MESJ	**Messejana**	**3.54**	**78**	P		**Pn**	**01 34 50.9**	**+1.9**
MESJ				S		**Sn**	**01 35 30.5**	**-0.3**
ALMR	**Almeirim**	**3.72**	**57**	*e*Sn		**Sn**	**01 35 36.2**	**+0.9**
ALMR	**Almeirim**	**3.72**	**57**	S		**Sn**	**01 35 36.2**	**+0.9**
EVO	**Evora**	**3.86**	**69**	*e*Pn		**Pn**	**01 34 56.8**	**+3.4**
EVO				*e*Sn		**Sn**	**01 35 39.6**	**+0.7**
EVO				A		A	01 35 47.1	
	comp=N,1.4nm,0.7s							
EVO	**Evora**	**3.86**	**69**	P		**Pn**	**01 34 56.8**	**+3.4**
EVO				S		**Sn**	**01 35 39.6**	**+0.7**
	comp=N,1.4nm,0.7s							
PVAQ	**Vaqueiros**	**3.90**	**86**	*e*Pn		**Pn**	**01 34 55.3**	**+1.4**
PVAQ				*e*Sn		**Sn**	**01 35 39.6**	**-0.1**
PVAQ				A		A	01 35 45.9	
	comp=N,1.6nm,1.1s							
PVAQ	**Vaqueiros**	**3.90**	**86**	P		**Pn**	**01 34 55.3**	**+1.4**
PVAQ				S		**Sn**	**01 35 39.6**	**-0.1**
	comp=N,1.6nm,1.1s							
PTOM	**Tomar**	**4.08**	**52**	*e*Pn		**Pn**	**01 34 57.8**	**+1.4**
PTOM				*e*Sn		**Sn**	**01 35 44.4**	**+0.3**
PTOM				A		A	01 35 49.8	
	comp=N,2.4nm,0.2s							
PTOM	**Tomar**	**4.08**	**52**	P		**Pn**	**01 34 57.8**	**+1.4**
PTOM				S		**Sn**	**01 35 44.4**	**+0.3**
	comp=N,1.2nm,0.2s							
EGRO	**El Granado**	**4.09**	**84**	P		**Pn**	**01 34 57.2**	**+0.7**
	comp=N,0.4nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**01 35 46.0**	**+1.6**
	comp=N,0.4nm,0.1s,SNR=7.9							
PESTR	**Estremoz**	**4.29**	**66**	*e*Pn		**Pn**	**01 35 00.4**	**+1.1**
PESTR				*e*Sn		**Sn**	**01 35 49.3**	**-0.1**
PESTR				A		A	01 35 54.0	
	comp=N,1.0nm,0.6s							
PMRV	**Marv??o**	**4.66**	**60**	*e*Pn		**Pn**	**01 35 05.5**	**+1.1**
PMRV				*e*Sn		**Sn**	**01 35 57.4**	**-1.1**
PMRV				A		A	01 36 01.7	
	comp=N,1.1nm,0.2s							
PMRV	**Marv??o**	**4.66**	**60**	P		**Pn**	**01 35 05.5**	**+1.1**
PMRV				S		**Sn**	**01 35 57.4**	**-1.1**
	comp=N,1.1nm,0.2s							
EBAD	**Badajoz**	**4.67**	**69**	P		**Pn**	**01 35 05.3**	**+0.7**
	comp=N,0.2nm,0.2s,SNR=7.9							
EBAD				S		**Sn**	**01 35 57.5**	**-1.4**
	comp=N,0.9nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**4.75**	**81**	P		**Pn**	**01 35 05.9**	**+0.3**
	comp=N,0.2nm,0.2s,SNR=7.9							
EMIN				S		**Sn**	**01 35 58.4**	**-2.2**
	comp=N,0.1nm,0.2s,SNR=7.9							
PVIS	**Viseu**	**5.07**	**45**	*e*Pn		**Pn**	**01 35 11.2**	**+1.1**
PVIS				*e*Sn		**Sn**	**01 36 07.5**	**-1.3**
PVIS				A		A	01 36 09.9	
	comp=N,1.4nm,0.1s							
PVIS	**Viseu**	**5.07**	**45**	P		**Pn**	**01 35 11.2**	**+1.1**
PVIS				S		**Sn**	**01 36 07.5**	**-1.3**
	comp=N,0.7nm,0.1s							
MTE	**Manteigas**	**5.08**	**49**	*e*Sn		**Sn**	**01 36 07.8**	**-1.1**
MTE	**Manteigas**	**5.08**	**49**	S		**Sn**	**01 36 07.8**	**-1.1**
ECAB	**El Cabril**	**5.76**	**79**	P		**Pn**	**01 35 20.6**	**+1.0**
	comp=N,0.3nm,0.1s,SNR=6.4							
ECAB				S		**Sn**	**01 36 23.4**	**-2.4**
	comp=N,0.1nm,0.2s,SNR=7.9							
ELOB	**Lobios**	**5.83**	**36**	S		**Sn**	**01 36 24.3**	**-3.2**
	comp=N,0.3nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**5.85**	**59**	P		**Pn**	**01 35 21.2**	**+0.5**
	comp=N,0.3nm,0.3s,SNR=7.9							
EPLA				S		**Sn**	**01 36 24.7**	**-3.2**
	comp=N,0.3nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**5.86**	**46**	*e*Sn		**Sn**	**01 36 26.3**	**-1.9**
MVO	**Moncorvo**	**5.86**	**46**	S		**Sn**	**01 36 25.3**	**-2.9**
	comp=N,0.4nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**6.43**	**79**	P		**Pn**	**01 35 29.4**	**+0.7**
	comp=N,0.2nm,0.2s,SNR=7.9							
EADA				S		**Sn**	**01 36 41.4**	**-0.9**
	comp=N,0.1nm,0.1s,SNR=7.9							
EGOR	**Sierra Gorda,**	**6.78**	**88**	P		**Pn**	**01 35 31.4**	**-2.2**
	comp=N,0.9nm,0.2s,SNR=4.0							
PAB	**San Pablo**	**6.89**	**68**	P		**Pn**	**01 35 35.5**	**+0.4**
	comp=N,0.1nm,0.2s,SNR=7.9							
ESDC	**Sonseca Array**	**7.21**	**67**	P		**Pn**	**01 35 40.1**	**+0.6**
	comp=N,0.9nm,0.1s,baz=254,slow=13,SNR=4.3							

IGIL ***02*** *01:48:56.0,37.°16N×13.°19W,h10km*
MDD ***02*** *01:48:57.0±2.7,37.°25N×12.°95W,h0km,mb3.0/7, Error ellipse: s-maj=25.6km s-min=23.3km az=129.0, PRXIMO*
INMG ***02*** *01:49:02.2±0.7,37.°17N×13.°19W,h10km,ML1.6, Error ellipse: s-maj=6.4km s-min=6.1km az=127.0*
ISC 02 01:48:59.6±4.2,37.°3N±0.°1×12.°7W±0.°2,h10km,n29,
σ1§62/48,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
PFVI	**Vila Bisbo**	**3.11**	**91**	P		**Pn**	**01 49 48.1**	**-0.6**
	0.8nm,0.1s,SNR=7.9							
PFVI				S		**Sn**	**01 50 23.5**	**-2.4**
	0.0nm,0.1s,SNR=7.9							
PMAFR	**Mafra**	**3.19**	**57**	*e*Pn		**Pn**	**01 49 51.5**	**+1.7**
PMAFR				*e*Sn		**Sn**	**01 50 28.6**	**+0.7**
PMAFR	**Mafra**	**3.19**	**57**	P		**Pn**	**01 49 49.4**	**-0.4**
	0.6nm,0.2s,SNR=7.9							
PMAFR				S		**Sn**	**01 50 27.5**	**-0.4**
	3.8nm,0.3s,SNR=7.9							
PTEO	**Sao Teotonio**	**3.19**	**84**	*e*Pn		**Pn**	**01 49 52.2**	**+2.4**
PTEO				*e*Sn		**Sn**	**01 50 28.8**	**+0.9**
PTEO	**Sao Teotonio**	**3.19**	**84**	P		**Pn**	**01 49 52.2**	**+2.4**
PTEO				S		**Sn**	**01 50 28.8**	**+0.9**
MORF	**Marmelete**	**3.24**	**88**	*e*P		**Pn**	**01 49 50.5**	**-0.1**
MORF	**Marmelete**	**3.24**	**88**	*e*Pn		**Pn**	**01 49 52.5**	**+1.9**
MORF	**Marmelete**	**3.24**	**88**	P		**Pn**	**01 49 50.5**	**-0.1**
MESJ	**Messejana**	**3.62**	**80**	*e*P		**Pn**	**01 49 55.8**	**+0.1**
MESJ	**Messejana**	**3.62**	**80**	*e*Pn		**Pn**	**01 49 57.2**	**+1.5**
MESJ				*e*Sn		**Sn**	**01 50 39.5**	**+1.0**
MESJ	**Messejana**	**3.62**	**80**	P		**Pn**	**01 49 55.8**	**+0.1**
MESJ				S		**Sn**	**01 50 39.5**	**+1.0**
ALMR	**Almeirim**	**3.77**	**59**	*e*Pn		**Pn**	**01 49 59.7**	**+2.0**
ALMR	**Almeirim**	**3.77**	**59**	P		**Pn**	**01 49 59.7**	**+2.0**
PBDV	**Barranco-do-Ve**	**3.82**	**89**	*e*Pn		**Pn**	**01 49 59.8**	**+1.3**
PBDV				*e*Sn		**Sn**	**01 50 43.7**	**+0.2**
PBDV	**Barranco-do-Ve**	**3.82**	**89**	P		**Pn**	**01 49 59.8**	**+1.3**
PBDV				S		**Sn**	**01 50 43.7**	**+0.2**
EVO	**Evora**	**3.93**	**70**	*e*Pn		**Pn**	**01 50 03.2**	**+3.2**
EVO				*e*Sn		**Sn**	**01 50 46.9**	**+0.8**
EVO	**Evora**	**3.93**	**70**	P		**Pn**	**01 50 03.2**	**+3.2**
EVO				S		**Sn**	**01 50 46.9**	**+0.8**
PVAQ	**Vaqueiros**	**3.99**	**87**	*e*Pn		**Pn**	**01 50 01.5**	**+0.7**
PVAQ				*e*Sn		**Sn**	**01 50 48.1**	**+0.5**
PVAQ				A		A	01 50 51.4	
	0.8nm,0.1s							
PVAQ	**Vaqueiros**	**3.99**	**87**	P		**Pn**	**01 50 01.5**	**+0.7**
PVAQ				S		**Sn**	**01 50 48.1**	**+0.5**
	0.8nm,0.1s							
PTOM	**Tomar**	**4.11**	**54**	*e*Pn		**Pn**	**01 50 04.6**	**+2.1**
PTOM				*e*Sn		**Sn**	**01 50 50.1**	**-0.6**
PTOM	**Tomar**	**4.11**	**54**	P		**Pn**	**01 50 04.6**	**+2.1**
PTOM				S		**Sn**	**01 50 50.1**	**-0.6**
EGRO	**El Granado**	**4.18**	**85**	P		**Pn**	**01 50 03.0**	**-0.4**
	0.2nm,0.2s,SNR=7.9							
EGRO				S		**Sn**	**01 50 49.5**	**-2.7**
	0.2nm,0.2s,SNR=7.9							
PESTR	**Estremoz**	**4.35**	**67**	*e*Pn		**Pn**	**01 50 06.5**	**+0.7**
PESTR				*e*Sn		**Sn**	**01 50 55.1**	**-1.4**
EBAD	**Badajoz**	**4.74**	**70**	P		**Pn**	**01 50 10.7**	**-0.5**
	0.1nm,0.2s,SNR=7.9							
EBAD				S		**Sn**	**01 51 02.7**	**-3.5**
	0.3nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**4.83**	**82**	P		**Pn**	**01 50 11.0**	**-1.4**
	0.2nm,0.2s,SNR=7.9							
EMIN				S		**Sn**	**01 51 07.6**	**-0.8**
	0.2nm,0.3s,SNR=7.9							
ELOB	**Lobios**	**5.83**	**37**	S		**Sn**	**01 51 29.1**	**-4.0**
	0.4nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**5.84**	**80**	P		**Pn**	**01 50 25.9**	**-0.4**
	0.2nm,0.4s,SNR=7.9							
EPLA	**Plasencia**	**5.89**	**60**	P		**Pn**	**01 50 26.7**	**-0.3**
	0.1nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**6.51**	**80**	P		**Pn**	**01 50 34.3**	**-1.2**
	SNR=7.9							

MDD ***02*** *01:49:14.3±2.2,37.°29N×12.°81W,h0km,mb3.5/9, Error ellipse: s-maj=19.2km s-min=17.5km az=97.0, PRXIMO*
IGIL ***02*** *01:49:15.7,37.°30N×12.°66W,h0km*
INMG ***02*** *01:49:16.2±1.3,37.°17N×13.°21W,h10km,ML2.0, Error ellipse: s-maj=11.2km s-min=9.0km az=123.0*
ISC 02 01:49:14.5±4.0,37.°30N±0.°10×12.°7W±0.°2,h10km,n36,
σ1§75/65,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
PFVI	**Vila Bisbo**	**3.11**	**92**	*e*Pn		**Pn**	**01 50 02.6**	**-1.0**
PFVI				*e*Sn		**Sn**	**01 50 38.8**	**-2.0**
PFVI	**Vila Bisbo**	**3.11**	**92**	P		**Pn**	**01 50 03.9**	**+0.3**
	0.9nm,0.1s,SNR=7.9							
PFVI				S		**Sn**	**01 50 38.4**	**-2.4**
	0.8nm,0.1s,SNR=7.9							
PMAFR	**Mafra**	**3.17**	**57**	*e*Pn		**Pn**	**01 50 06.0**	**+1.5**
PMAFR				*e*Sn		**Sn**	**01 50 43.0**	**+0.6**
PMAFR				A		A	01 50 43.2	
	7.8nm,0.6s							
PMAFR	**Mafra**	**3.17**	**57**	P		**Pn**	**01 50 05.2**	**+0.7**
	1.1nm,0.1s,SNR=7.9							
PMAFR				S		**Sn**	**01 50 42.3**	**-0.1**
	1.6nm,0.1s,SNR=7.9							
PTEO	**Sao Teotonio**	**3.19**	**84**	*e*Pn		**Pn**	**01 50 06.8**	**+2.1**
PTEO				*e*Sn		**Sn**	**01 50 44.8**	**+2.1**
PTEO	**Sao Teotonio**	**3.19**	**84**	P		**Pn**	**01 50 06.8**	**+2.1**
PTEO				S		**Sn**	**01 50 44.8**	**+2.1**
MORF	**Marmelete**	**3.24**	**89**	*e*P		**Pn**	**01 50 05.3**	**-0.2**
MORF	**Marmelete**	**3.24**	**89**	*e*Pn		**Pn**	**01 50 07.2**	**+1.7**
MORF				*e*Sn		**Sn**	**01 50 45.1**	**+1.0**
MORF	**Marmelete**	**3.24**	**89**	P		**Pn**	**01 50 05.3**	**-0.2**
MORF				S		**Sn**	**01 50 45.1**	**+1.0**
MESJ	**Messejana**	**3.61**	**80**	*e*P		**Pn**	**01 50 10.6**	**+0.1**
MESJ	**Messejana**	**3.61**	**80**	*e*Pn		**Pn**	**01 50 11.8**	**+1.3**
MESJ				*e*Sn		**Sn**	**01 50 52.5**	**-0.7**
MESJ				A		A	01 50 58.0	
	1.2nm,0.3s							
MESJ	**Messejana**	**3.61**	**80**	P		**Pn**	**01 50 10.6**	**+0.1**
MESJ				S		**Sn**	**01 50 52.5**	**-0.7**
	1.2nm,0.3s							
ALMR	**Almeirim**	**3.75**	**59**	*e*Pn		**Pn**	**01 50 14.8**	**+2.4**
ALMR				*e*Sn		**Sn**	**01 50 57.4**	**+0.8**
ALMR				A		A	01 51 02.8	
	3.9nm,0.8s							
ALMR	**Almeirim**	**3.75**	**59**	P		**Pn**	**01 50 14.8**	**+2.4**
ALMR				S		**Sn**	**01 50 57.4**	**+0.8**
	1.9nm,0.8s							
PBDV	**Barranco-do-Ve**	**3.82**	**89**	*e*Pn		**Pn**	**01 50 14.3**	**+0.9**
PBDV				*e*Sn		**Sn**	**01 50 57.9**	**-0.4**
PBDV				A		A	01 51 01.2	
	1.0nm,0.3s							
PBDV	**Barranco-do-Ve**	**3.82**	**89**	P		**Pn**	**01 50 14.3**	**+0.9**
PBDV				S		**Sn**	**01 50 57.9**	**-0.4**
	1.0nm,0.3s							
PBEJ	**Beja**	**3.92**	**78**	*e*Sn		**Sn**	**01 51 04.1**	**+3.4**
PBEJ	**Beja**	**3.92**	**78**	S		**Sn**	**01 51 04.1**	**+3.4**
EVO	**Evora**	**3.92**	**70**	*e*Pn		**Pn**	**01 50 17.9**	**+3.2**
EVO				*e*Sn		**Sn**	**01 51 01.6**	**+0.8**
EVO	**Evora**	**3.92**	**70**	P		**Pn**	**01 50 17.9**	**+3.2**
EVO				S		**Sn**	**01 51 01.6**	**+0.8**
PVAQ	**Vaqueiros**	**3.98**	**87**	*e*Pn		**Pn**	**01 50 16.5**	**+0.9**
PVAQ				*e*Sn		**Sn**	**01 51 02.2**	**-0.2**
PVAQ				A		A	01 51 07.3	
	1.7nm,0.3s							
PVAQ	**Vaqueiros**	**3.98**	**87**	P		**Pn**	**01 50 16.5**	**+0.9**
PVAQ				S		**Sn**	**01 51 02.2**	**-0.2**
	1.7nm,0.3s							
PTOM	**Tomar**	**4.10**	**54**	*e*Pn		**Pn**	**01 50 18.7**	**+1.5**
PTOM				*e*Sn		**Sn**	**01 51 04.9**	**-0.3**
PTOM				A		A	01 51 11.4	
	3.0nm,0.9s							
PTOM	**Tomar**	**4.10**	**54**	P		**Pn**	**01 50 18.7**	**+1.5**
PTOM				S		**Sn**	**01 51 04.9**	**-0.3**
	1.5nm,0.9s							
EGRO	**El Granado**	**4.17**	**85**	P		**Pn**	**01 50 18.8**	**+0.6**
	0.6nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**01 51 04.3**	**-2.7**
	0.4nm,0.1s,SNR=7.9							
PESTR	**Estremoz**	**4.34**	**67**	*e*Pn		**Pn**	**01 50 21.3**	**+0.8**
PESTR				*e*Sn		**Sn**	**01 51 10.5**	**-0.6**
PMRV	**Marv??o**	**4.69**	**61**	*e*Pn		**Pn**	**01 50 26.4**	**+1.0**
PMRV				*e*Sn		**Sn**	**01 51 18.9**	**-1.0**
PMRV				A		A	01 51 22.8	
	1.3nm,0.5s							
PMRV	**Marv??o**	**4.69**	**61**	P		**Pn**	**01 50 26.4**	**+1.0**
PMRV				S		**Sn**	**01 51 18.9**	**-1.0**
	1.3nm,0.5s							
EBAD	**Badajoz**	**4.73**	**70**	P		**Pn**	**01 50 26.5**	**+0.6**
	0.8nm,0.1s,SNR=7.9							
EBAD				S		**Sn**	**01 51 17.5**	**-3.3**
	0.7nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**4.83**	**83**	P		**Pn**	**01 50 26.8**	**-0.4**
	0.2nm,0.1s,SNR=7.9							
EMIN				S		**Sn**	**01 51 22.4**	**-0.8**
	0.2nm,0.2s,SNR=7.9							
ELOB	**Lobios**	**5.81**	**37**	S		**Sn**	**01 51 43.9**	**-3.6**
	0.0nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**5.84**	**80**	P		**Pn**	**01 50 41.7**	**+0.6**
	0.2nm,0.1s,SNR=5.6							
ECAB				S		**Sn**	**01 51 45.5**	**-2.7**
	0.1nm,0.2s,SNR=7.9							
MVO	**Moncorvo**	**5.86**	**47**	S		**Sn**	**01 51 44.9**	**-3.9**
	1.3nm,0.3s,SNR=7.9							
EPLA	**Plasencia**	**5.88**	**60**	P		**Pn**	**01 50 42.5**	**+0.8**
	0.1nm,0.1s,S

AVH S **Sn** **01 53 44.7 +4.2**
UGLR Uglovaya 3.57 225 *e*P **Pn** **01 53 00.9 +1.4**
UGLR Uglovaya 3.57 225 PN **Pn** **01 53 00.9 +1.4**
KOK Koryaka 3.59 228 *e*P **Pn** **01 53 01.1 +1.4**
KOK Koryaka 3.59 228 PN **Pn** **01 53 01.1 +1.4**
GNL Ganaly 3.63 237 *e*P **Pn** **01 53 01.0 +0.7**
GNL Ganaly 3.63 237 PN **Pn** **01 53 01.0 +0.7**
PALN Palana 3.71 335 *i* P **Pn** **01 53 02.7 +1.4**
PALN Palana 3.71 335 PN **Pn** **01 53 02.7 +1.4**
DALK Dalny 3.73 224 *i* P **Pn** **01 53 02.4 +0.8**
DALK *e*S **Sn** **01 53 48.6 +4.1**
PET Petropavlovsk 3.78 225 *e*Pn **Pn** **01 53 02.8 +0.6**
PET Petropavlovsk 3.78 225 *e*P **Pn** **01 53 03.3 +1.0**
PET *e*S **Sn** **01 53 47.4 +1.8**
PET Petropavlovsk 3.78 225α *i*PN **Pn** **01 53 03.2 +1.0**
PET *e*S **Sn** **01 53 47.1 +1.5**
PET pmax pmax
comp=Z,667nm,0.6s
PET pmax pmax
comp=Z,4µm,2.8s
PET smax smax
comp=N,4µm,0.8s
PET smax smax
comp=E,16µm,6.0s
PET smax smax
comp=E,38µm,3.7s
PET smax smax
comp=E,2µm,0.7s
PET MLR MLR
comp=Z,53µm,11.0s
PET MLR MLR
comp=Z,40µm,11.0s
PEA0B Petropavlovsk- 4.12 232 *e*Pn **Pn** **01 53 07.8 +0.9**
PETK Petropavlovsk- 4.12 232 Pn **Pn** **01 53 08.4 +1.5**
comp=Z,18nm,0.3s,baz=58,slow=14,SNR=108
PETK Lg Lg 01 54 05.6
comp=Z,25nm,0.3s,baz=51,slow=32,SNR=4.4
PETK LR LR 01 54 57.3
comp=Z,45µm,19.8s,baz=68,slow=43
PETK Petropavlovsk- 4.12 232 *e*Pn **Pn** **01 53 07.2 +0.2**
PETK Lg Lg 01 54 05.6
KRMR Karymshinskiy 4.13 226 *e*P **Pn** **01 53 08.6 +1.5**
KRMR Karymshinskiy 4.13 226 PN **Pn** **01 53 08.6 +1.5**
RUS Russkaya 4.29 220 *e*P **Pn** **01 53 10.5 +1.2**
RUS *e*S **Sn** **01 54 01.2 +3.0**
RUS Russkaya 4.29 220 PN **Pn** **01 53 10.5 +1.2**
RUS S **Sn** **01 54 01.2 +3.0**
GRL Gorelyy 4.36 224 *e*P **Pn** **01 53 13.3 +2.8**
GRL Gorelyy 4.36 224 PN **Pn** **01 53 13.3 +2.8**
MTVR Mutnovka 4.38 223 *e*P **Pn** **01 53 12.8 +2.2**
MTVR Mutnovka 4.38 223 PN **Pn** **01 53 12.8 +2.2**
APC Apacha 4.48 233 *e*P **Pn** **01 53 14.0 +2.1**
APC Apacha 4.48 233 PN **Pn** **01 53 14.0 +2.1**
KDTR Khodutka, Kamc 4.96 219 *i* P **Pn** **01 53 18.8 +0.4**
TILK Tilichiki 4.96 18 *i* P **Pn** **01 53 18.6 +0.2**
TILK *i* S **Sn** **01 54 15.3 +0.7**
TILK Tilichiki 4.96 18 PN **Pn** **01 53 18.6 +0.2**
TILK S **Sn** **01 54 15.3 +0.7**
PAU Pauzhetka 5.70 223 *e*P **Pn** **01 53 31.0 +2.3**
PAU Pauzhetka 5.70 223 PN **Pn** **01 53 31.0 +2.3**
SKR Severo-Kuril's 6.59 222 *e*PN **Pn** **01 53 41.2 +0.3**
SKR pmax pmax
comp=Z,2µm,10.3s
SKR pmax pmax
comp=Z,4µm,2.4s
SKR pmax pmax
comp=Z,684nm,1.0s
SKR MLR MLR
comp=Z,30µm,13.0s
SKR MLR MLR
comp=Z,36µm,12.0s
KMSK Kamenskaya 6.90 12 *e*P **Pn** **01 53 46.2 +1.2**
KMSK Kamenskaya 6.90 12 PN **Pn** **01 53 46.2 +1.2**
SMY Shemya 7.16 111 *e*Pn **Pn** **01 53 49.1 +0.5**
SMY Shemya 7.16 111 *e*PN **Pn** **01 53 49.1 +0.5**
MA2 Magadan 7.60 305 Pn **Pn** **01 53 57.4 +2.7**
comp=Z,3.0nm,0.3s,baz=106,slow=11,SNR=15
MA2 Sn **Sn** **01 55 25.3 +5.6**
comp=Z,1.8nm,0.3s,baz=76,slow=6.0,SNR=4.0
MA2 Lg Lg 01 56 04.1
comp=Z,0.8nm,0.3s,baz=182,slow=11,SNR=3.7
MA2 LR LR 01 57 09.3
comp=Z,24µm,21.5s,baz=130,slow=41
MA2 Magadan 7.60 305 *e*Pn **Pn** **01 53 50.3 -4.5**
MA2 Sn **Sn** **01 55 25.3 +5.6**
MA2 Lg Lg 01 56 04.1
MA2 Magadan 7.60 305 *i* PN **Pn** **01 53 55.6 +0.9**
SEY Seymchan 8.99 327 Pn **Pn** **01 54 17.0 +3.2**
comp=Z,0.3nm,0.3s,baz=137,slow=11,SNR=7.3
SEY Sn **Sn** **01 55 53.5 -0.4**
comp=Z,0.4nm,0.3s,baz=32,slow=15,SNR=1.9
SEY Lg Lg 01 56 52.8
comp=Z,0.4nm,0.3s,baz=18,slow=19,SNR=1.8
SEY LR LR 01 58 12.2
comp=Z,47µm,18.1s,baz=137,slow=42
SEY Seymchan 8.99 327 *i* PN **Pn** **01 54 15.8 +2.0**
OKH Okha 11.86 267⇑ *i*PN Pn 01 54 59.5 +6.5
OKH *e*S **Sn** **01 57 08.4 +4.4**
OKH pmax pmax
comp=Z,2µm,11.3s
BILL Bilibino 12.39 6 *e*Pn **Pn** **01 55 01.4 +1.2**
comp=Z,127nm,1.4s
BILL Bilibino 12.39 6⇓ *i*PN **Pn** **01 55 02.3 +2.1**
BILL pmax pmax
comp=Z,82nm,2.0s
BILL MLR MLR
comp=Z,11µm,15.0s
ADK Adak 12.57 100 *e*Pn **Pn** **01 55 01.3 -1.5**
ADK Adak 12.57 100 *e*PN **Pn** **01 55 01.3 -1.5**
TYV Tymovskoe 13.13 256 *e*PN **Pn** **01 55 15.0 +4.6**
TYV *e*S **Sn** **01 57 43.1 +7.9**
TYV pmax pmax
comp=Z,4µm,4.5s
TYV pmax pmax
comp=Z,107nm,2.0s
TYV smax smax
comp=E,41nm,1.6s
TYV smax smax
comp=E,1µm,3.7s
TYV MLR MLR
comp=Z,22µm,16.0s
TYV MLR MLR
comp=E,18µm,16.0s
NKL Nikolayevsk 13.27 268 *e*PN Pn 01 55 17.0 +4.8
NKL pmax pmax
comp=E,650nm,2.0s
NKL pmax pmax
comp=Z,730nm,2.0s
NKL pmax pmax
comp=N,2µm,10.0s
NKL pmax pmax
comp=E,5µm,10.0s
NKL pmax pmax
comp=Z,4µm,12.0s
NKL MLR MLR
comp=N,6µm,14.0s
NKL MLR MLR
comp=E,26µm,14.0s
NKL MLR MLR
comp=Z,45µm,14.0s
ATKA Atka Island 13.83 96 *e*Pn **Pn** **01 55 19.2 -0.7**
KUR Kuril'sk 14.28 229 *e*P **Pn** **01 55 25.3 -0.7**
KUR *e*S **Sn** **01 58 03.7 +0.5**
KUR pmax pmax
comp=Z,38nm,0.8s
KUR pmax pmax
comp=E,17nm,0.6s
KUR pmax pmax
comp=N,21nm,0.5s
KUR pmax pmax
comp=Z,265nm,1.9s
KUR smax smax
comp=E,215nm,3.0s
KUR smax smax
comp=N,624nm,2.8s
UGL Uglegorsk 14.42 251 P **P** **01 55 32.3 -2.2**
UGL pmax pmax
comp=Z,5µm,5.6s
UGL pmax pmax
comp=N,2µm,6.0s
UGL pmax pmax
comp=E,5µm,5.2s
UGL pmax pmax
comp=Z,313nm,1.9s
UGL MLR MLR
comp=Z,38µm,15.0s
UGL MLR MLR
comp=N,5µm,13.0s
UGL MLR MLR
comp=E,53µm,13.0s
YSS Yuzh-Sakhalins 15.40 243 *e*Pn **Pn** **01 55 40.2 -0.9**
comp=E,108nm,1.0s
YSS Yuzh-Sakhalins 15.40 243α *i*P **Pn** **01 55 41.6 +0.5**
YSS *e*S **Sn** **01 58 33.0 +2.4**
YSS pmax pmax
comp=Z,3µm,13.5s
YSS pmax pmax
comp=N,3µm,13.6s
YSS pmax pmax
comp=E,2µm,10.8s
YSS pmax pmax
comp=Z,60nm,1.0s
YSS MLR MLR
comp=E,31µm,14.0s
YSS MLR MLR
comp=Z,40µm,14.0s
YSS MLR MLR
comp=N,17µm,16.0s
SHO Shikotan 15.82 228 *e*P **Pn** **01 55 42.7 -3.7**
SHO *e*S **Sn** **01 58 37.3 -3.3**
SHO pmax pmax
comp=Z,58nm,0.9s
SHO pmax pmax
comp=E,29nm,0.5s
SHO pmax pmax
comp=N,27nm,0.4s
SHO pmax pmax
comp=Z,582nm,2.7s
SHO smax smax
comp=E,272nm,3.0s
SHO smax smax
comp=N,682nm,2.2s
SHO MLR MLR
comp=N,946nm,11.0s
SHO MLR MLR
comp=Z,1µm,11.0s
SHO MLR MLR
comp=E,1µm,16.0s
YUK Yuzh-Kuril'sk 16.10 230 *e*P **Pn** **01 55 50.1 +0.1**
YUK *e*S **Sn** **01 58 49.6 +2.2**
YUK pmax pmax
comp=Z,772nm,1.8s
YUK pmax pmax
comp=Z,280nm,0.5s
YUK pmax pmax
comp=N,175nm,0.4s
YUK pmax pmax
comp=E,15nm,0.4s
YUK smax smax
comp=N,2µm,1.6s
YUK smax smax
comp=E,28nm,1.4s
YUK MLR MLR
comp=N,7µm,15.0s
YUK MLR MLR
comp=Z,10µm,15.0s
NIKH Nikolski High 16.55 88 *e*Pn **Pn** **01 55 55.6 -0.2**
comp=Z,1µm,1.9s
GRNR Gornyy 16.65 264 *e*P **P** **01 56 01.1 +1.9**
GRNR pmax pmax
comp=Z,46nm,1.0s
ASAJ Asahikawa 17.52 237 P **P** **01 56 09.4 +0.6**
comp=Z,5.8nm,0.3s,baz=68,slow=8.3,SNR=18
ASAJ Asahikawa 17.52 237 *e*Pn **Pn** **01 56 06.4 -1.5**
comp=Z,962nm,2.0s
UNV Unalaska Valle 17.58 84 *e*Pn **Pn** **01 56 08.9 +0.2**
comp=Z,524nm,1.5s
YAK Yakutsk 18.18 304 P **Pn** **01 56 15.4 -0.4**
comp=Z,0.1nm,0.3s,baz=62,slow=2.4,SNR=43
YAK LR LR 02 03 42.7
comp=Z,11µm,18.7s,baz=91,slow=39
YAK Yakutsk 18.18 304 *e*Pn **Pn** **01 56 14.9 -1.0**
comp=Z,470nm,0.8s
YAK Yakutsk 18.18 304 *e*P **Pn** **01 56 14.8 -1.0**
YAK pmax pmax
comp=Z,439nm,1.2s
YAK pmax pmax
comp=E,113nm,1.1s
YAK pmax pmax
comp=N,48nm,1.5s
YAK pmax pmax
comp=Z,490nm,1.6s
YAK pmax pmax
comp=N,261nm,2.0s
YAK pmax pmax
comp=E,781nm,2.0s
YAK MLR MLR
comp=Z,20µm,15.0s
YAK MLR MLR
comp=E,12µm,14.0s
YAK MLR MLR
comp=N,11µm,15.0s
ERM Erimo 18.90 232 *e*P **P** **01 56 23.4 -0.7**
comp=N,137nm,1.1s
ERM Erimo 18.90 232 *i* P **P** **01 56 24.4 +0.4**
FALS False Pass 19.00 79 *e*P **Pn** **01 56 27.3 +1.4**
comp=N,592nm,1.3s
RDOG Red Dog Mine 19.85 38 *e*P **Pn** **01 56 35.3 -0.6**
comp=N,96nm,1.1s
TEY Ternei 19.87 248⇑ *e*P **Pn** **01 56 39.0 +2.7**
TEY *e*S **Sn** **02 00 18.2 -0.3**
TEY smax smax
comp=N,50nm,2.0s
TEY MLR MLR
comp=E,11µm,14.2s
TEY MLR MLR
comp=N,20µm,15.4s
TEY MLR MLR
comp=Z,25µm,15.0s
KLR Kul'dur 20.03 264 P **P** **01 56 35.2 -1.1**
comp=Z,0.8nm,0.3s,baz=60,slow=9.6,SNR=12
KLR LR LR 02 05 27.7
comp=Z,25µm,18.8s,baz=63,slow=40
KLR Kul'dur 20.03 264⇓ *e*P **P** **01 56 36.9 +0.6**
SDPT Sand Point 20.48 76 *e*P Pn 01 56 42.8 -0.7
comp=Z,449nm,1.1s
ZEA Zeya 20.62 279 *e*P **P** **01 56 40.1 -2.6**
ZEA *e* 01 57 18.0
ZEA *e*S **S** **02 00 30.0 -1.3**
ZEA *e*SS SnSn 02 01 15.0 +24
ZEA pmax pmax
comp=E,170nm,2.0s
ZEA pmax pmax
comp=Z,200nm,2.0s
ZEA pmax pmax
comp=Z,2µm,8.0s
ZEA pmax pmax
comp=E,1µm,7.0s
ZEA pmax pmax
comp=N,900nm,9.0s
ZEA smax smax
comp=E,800nm,5.0s
ZEA smax smax
comp=N,600nm,7.0s
ZEA MLR MLR
comp=E,17µm,13.0s
ZEA MLR MLR
comp=Z,25µm,13.0s
ZEA MLR MLR
comp=N,3µm,11.0s
CHGN Chignik 21.34 73 *e*P **P** **01 56 50.2 -0.3**
comp=N,463nm,1.1s
TIXI Tiksi 21.46 331 P **P** **01 56 51.5 0.0**
comp=N,139nm,0.7s,baz=114,slow=12,SNR=85
TIXI LR LR 02 06 10.0
comp=N,20µm,18.1s,baz=119,slow=40
TIXI Tiksi 21.46 331 *e*P **P** **01 56 51.6 0.0**
comp=N,183nm,0.9s
TIXI Tiksi 21.46 331*c i*P **P** **01 56 52.0 +0.5**
TIXI pmax pmax
comp=Z,243nm,1.0s
IM3 Indian Mountai 22.86 46 *e*P **P** **01 57 05.7 -0.9**
USA0B Ussuriysk Arra 22.88 253 *e*P **P** **01 57 05.8 -1.1**
comp=Z,180nm,1.7s
USRK Ussuriysk Ar. 22.88 253 P **P** **01 57 05.0 -1.9**
comp=Z,4.5nm,0.6s,baz=50,slow=12,SNR=14
USRK LR LR 02 06 14.3
comp=Z,10µm,21.6s,baz=44,slow=37
PPLA Purkeypile 23.47 54 *e*P **P** **01 57 13.9 +1.0**
comp=Z,1µm,1.8s
CAST Castle Rocks 23.50 53 *e*P **P** **01 57 13.2 +0.2**
comp=Z,199nm,1.3s
SII Sitkinak Islan 23.54 70 *e*P **P** **01 57 12.9 -0.6**
comp=Z,421nm,1.3s
OHAK Old Harbor 23.84 68 *e*P **P** **01 57 15.5 -0.7**
comp=Z,437nm,1.6s
SKT Skwentna 23.85 56 *e*P **P** **01 57 17.2 +0.8**
comp=Z,209nm,1.4s
MDJ Mudanjiang 23.91 256 P P 01 57 24.7 +7.6
MDJ pP sP 01 57 36.6 +7.0
MDJ sP pP 01 57 41.0 +15
MDJ S **S** **02 01 20.6 -11**
MDJ SS SnSn 02 02 28.3 +16
MDJ ScP ScP 02 04 51.7 +17
MDJ PcS PcS 02 05 04.1 +26
MDJ pmax pmax
comp=Z,25nm,1.7s
MDJ pmax pmax
comp=Z,390nm,3.6s
MDJ LR LR
comp=N,7µm,12.5s
MDJ LR LR
comp=E,24µm,14.7s
MDJ LR LR
comp=Z,34µm,13.7s
MDJ Mudanjiang 23.91 256 *e*P **P** **01 57 16.0 -1.1**
comp=Z,71nm,1.4s
MDJ LR LR
comp=Z,13µm,20.0s
BPAW Bear Paw Mtn. 23.97 51 *e*P **P** **01 57 18.1 +0.6**
comp=Z,234nm,1.4s
KDAK Kodiak Island 24.06 67 P **P** **01 57 18.2 -0.1**
comp=Z,41nm,0.8s,baz=284,slow=6.7,SNR=17
KDAK LR LR 02 06 25.1
comp=Z,4µm,18.2s,baz=278,slow=36
MLY Manley 24.07 49 *e*P **P** **01 57 18.6 +0.2**
comp=Z,154nm,1.4s
SUA Susitna One 24.28 57 *e*P **P** **01 57 21.2 +0.7**
comp=Z,113nm,1.0s
TRF Thorofare Moun 24.30 53 *e*P **P** **01 57 21.0 +0.3**
comp=Z,266nm,1.0s
CNPM China Poot 24.36 62 *e*P **P** **01 57 21.2 +0.1**
comp=Z,188nm,1.2s
COLD Coldfoot 24.39 43 *e*P **P** **01 57 22.2 +0.9**
comp=Z,50nm,1.0s
BRLK Bradley Lake 24.48 62 *e*P **P** **01 57 23.0 +0.7**
comp=Z,102nm,1.1s
TOLK Toolik Lake Re 24.78 40 *e*P **P** **01 57 25.1 +0.2**
comp=Z,204nm,1.1s
TOLK Toolik Lake Re 24.78 40 P **P** **01 57 24.2 -0.6**
baz=263
RC01 Rabbit Creek A 24.82 58 *e*P **P** **01 57 25.5 +0.3**
comp=Z,74nm,1.2s
MCK McKinley 24.89 52 *e*P **P** **01 57 26.0 +0.2**
comp=Z,203nm,1.4s
RND Reindeer 24.95 53 *e*P **P** **01 57 26.0 -0.5**
comp=Z,154nm,1.3s
RND Reindeer 24.95 53 *e*P **P** **01 57 26.0 -0.5**
RND pmax pmax
comp=Z,154nm,1.3s
GHO Glory Hole Cre 25.10 56 *e*P **P** **01 57 29.1 +1.2**
comp=Z,116nm,1.4s
SEW Seward 25.13 60 *e*P **P** **01 57 27.8 -0.2**
comp=Z,87nm,1.0s
MDM Murphy Dome 25.13 49 *e*P **P** **01 57 29.1 +1.0**
comp=Z,133nm,1.4s
WRH Wood River Hil 25.21 50 *e*P **P** **01 57 28.9 +0.1**
comp=Z,307nm,1.3s
TCOL CIGO_UAF Yank 25.29 49 P **P** **01 57 28.7 -0.7**
baz=273
COLA College 25.30 49 *e*P **P** **01 57 29.1 -0.4**
comp=Z,67nm,1.0s
COLA LR LR
comp=Z,7µm,19.0s
COLA College 25.30 49 *e*P **P** **01 57 29.1 -0.4**
COLA pmax pmax
comp=Z,67nm,1.0s
COLA MLR MLR
comp=Z,7µm,19.0s
CCB Clear Creek Bu 25.33 50 *e*P **P** **01 57 29.7 -0.1**
comp=Z,252nm,1.4s
SML Sawmill 25.37 56 *e*P **P** **01 57 31.3 +1.0**
comp=Z,110nm,1.0s
SML Sawmill 25.37 56 *e*P **P** **01 57 31.3 +1.0**
SML pmax pmax
comp=Z,110nm,1.0s
POKR Poker Plat Res 25.46 48 P **P** **01 57 30.3 -0.8**
baz=273
MJB9 Matsu-Tunnel 25.58 232 *e*P **P** **01 57 32.3 -0.1**
comp=Z,151nm,0.9s
MAJO Matsushiro 25.58 232 *e*P **P** **01 57 32.3 -0.1**
comp=Z,149nm,0.9s
MAJO LR LR
comp=Z,6µm,20.0s
MAJO Matsushiro 25.58 232*d i*P **P** **01 57 31.9 -0.4**
MAJO pmax pmax
comp=Z,157nm,1.2s
MAT Matsushiro 25.58 232 P **P** **01 57 31.8 -0.5**
MAT S **S** **02 01 56.6 -1.5**
MJAR Matsushiro Arr 25.58 232 P **P** **01 57 32.2 -0.1**
comp=Z,35nm,0.8s,baz=20,slow=7.3,SNR=25
MJAR LR LR 02 08 24.4
comp=Z,6µm,20.8s,baz=55,slow=38
DHY Denali Highway 25.65 53 *e*P **P** **01 57 32.4 -0.5**
comp=Z,255nm,1.7s
HDA Harding Lake 25.71 50 *e*P **P** **01 57 33.2 -0.1**
comp=Z,38nm,0.9s
HDA Harding Lake 25.71 50 P **P** **01 57 32.1 -1.2**
baz=274
IL1 Eielson Array 25.71 49 *e*P **P** **01 57 31.6 -1.7**
ILAR Eielson Array 25.71 49 P **P** **01 57 32.5 -0.8**
comp=Z,14nm,0.9s,baz=265,slow=8.7,SNR=38
ILAR PcP **PcP** **02 01 01.6 -1.0**
comp=Z,0.9nm,0.8s,baz=293,slow=3.1,SNR=4.4
ILAR LR LR 02 08 09.4
comp=Z,6µm,18.5s,baz=281,slow=38
ILB Eielson Array 25.71 49 *e*P **P** **01 57 32.8 -0.5**
SCM Sheep Creek Mo 25.84 56 *e*P **P** **01 57 34.6 0.0**
comp=Z,353nm,1.2s
SCM Sheep Creek Mo 25.84 56 *e*P **P** **01 57 34.6 0.0**
SCM pmax pmax
comp=Z,353nm,1.2s
GLI Glacier Island 26.12 58 *e*P **P** **01 57 38.4 +1.3**
comp=Z,88nm,0.9s
FYU Fort Yukon 26.33 45 *e*P **P** **01 57 39.8 +1.0**
comp=Z,176nm,1.4s
FID Port Fidalgo 26.44 58 *e*P **P** **01 57 39.1 -0.9**
comp=Z,137nm,1.5s
BOD Bodaibo 26.47 295 *e*P **P** **01 57 37.3 -2.9**
BOD pmax pmax
comp=Z,128nm,1.6s
PAX Paxson 26.52 53 *e*P **P** **01 57 40.6 -0.1**
comp=Z,50nm,1.1s
PAX Paxson 26.52 53 P **P** **01 57 41.6 +0.8**
PAX pmax pmax
comp=Z,50nm,1.1s
KLU Klutina 26.56 57 *e*P **P** **01 57 41.5 +0.4**
comp=Z,144nm,1.3s
RIDG Independ'e Rid 26.70 51 *e*P **P** **01 57 42.3 0.0**
comp=Z,89nm,1.1s
DIV Divide 26.70 57 *e*P **P** **01 57 42.9 +0.5**
comp=Z,187nm,1.6s
CN2 Changchun 26.73 259 *e*P **P** **01 57 42.8 +0.2**
CN2 *e*sP pP 01 57 49.0 -2.5
CN2 *e*S **S** **02 02 16.0 -0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,13µm,14.0s
CN2 LR LR
comp=Z,13µm,14.0s
CN2 LR LR
comp=Z,20µm,15.0s
HARP HAARP 26.75 54 *e*P **P** **01 57 43.2 +0.4**
comp=Z,388nm,1.9s
HIA Hailar 26.78 274 *e*P **P** **01 57 40.5 -2.7**
HIA LR LR
comp=Z,14µm,19.0s
HIA Hailar 26.78 274 *e*P **P** **01 57 40.5 -2.7**
HIA MLR MLR
comp=Z,14µm,19.0s
SCRK Sand Creek 27.05 51 *e*P **P** **01 57 44.3 -1.2**
comp=Z,67nm,1.0s
DOT Dot Lake 27.06 51 *e*P **P** **01 57 44.9 -0.6**
comp=Z,34nm,1.0s
INU Inuyama 27.10 232 *e*P **P** **01 57 45.2 -0.9**
comp=Z,55nm,0.9s

BMRM **Bremner River** 27.29 57 *e*P P 01 57 49.0 +1.4
comp=Z,92nm,1.2s
JHJ **Hachijo jima 2** 27.84 225 LR LR 02 09 23.2
comp=Z,2µm,21.7s,baz=76,slow=38
EGAK **Eagle** 28.16 49 *e*P P 01 57 54.2 -1.1
comp=Z,40nm,0.9s
EGAK LR LR
comp=Z,6µm,19.0s
TGL **Tana Glacier** 28.19 57 *e*P P 01 57 57.6 +1.9
comp=Z,80nm,1.3s
BALM **Baldy** 28.35 57 *e*P P 01 57 58.0 +0.9
comp=Z,57nm,1.2s
BALM **Baldy** 28.35 57 *e*P P 01 57 58.0 +0.9
BALM pmax pmax
comp=Z,57nm,1.2s
DAWY **Dawson** 29.03 50 *e*P P 01 58 03.3 +0.2
comp=Z,32nm,1.3s
PCA **Pinnacle** 29.59 58 *e*P P 01 58 09.6 +1.5
comp=Z,134nm,1.4s
EPYK **Eagle Plains** 29.75 45 P P 01 58 08.4 -1.1
baz=279
KS01 **Wonju Array Si** 29.85 247 *e*P P 01 58 09.6 -0.9
KS01 *e*PcP PcP 02 01 13.3 +0.3
KSRS **Korea Array** 29.85 247 P P 01 58 10.1 -0.4
comp=Z,4.7nm,0.6s,baz=40,slow=9.3,SNR=15
KSRS PcP PcP 02 01 14.1 +1.1
comp=Z,2.4nm,0.7s,baz=27,slow=2.7,SNR=5.1
KSRS LR LR 02 10 08.3
comp=Z,7µm,19.9s,baz=56,slow=36
KSAR **Wonju Array Be** 29.88 247 P P 01 58 10.1 -0.7
KSAR PcP PcP 02 01 14.1 +1.0
KSAR **Wonju Array Be** 29.88 247 P P 01 58 10.1 -0.7
KSAR 02 01 14.1
HYT **Haines Junctio** 30.68 56 *e*P P 01 58 18.0 +0.2
comp=Z,30nm,1.0s
INK **Inuvik** 30.69 41 *e*P P 01 58 18.0 +0.4
comp=Z,224nm,1.8s
INK **Inuvik** 30.69 41 *e*P P 01 58 18.0 +0.4
INK pmax pmax
comp=Z,224nm,1.8s
MIDW **Midway** 30.93 145 PFAKE 01 58 30.0 +10
MIDW LR LR
comp=Z,3µm,20.0s
WHY **Whitehorse** 31.95 55 *e*P P 01 58 30.1 +1.1
comp=Z,110nm,1.7s
DL2 **Dalian** 32.16 256 P P 01 58 34.1 +3.3
DL2 S S 02 03 48.4 +7.1
DL2 pmax pmax
comp=Z,530nm,5.9s
DL2 LR LR
comp=Z,12µm,15.1s
DL2 LR LR
comp=Z,10µm,17.5s
DL2 LR LR
comp=Z,19µm,16.6s
SKAG **Skagway** 32.16 58 *e*P P 01 58 32.1 +1.4
comp=Z,38nm,1.2s
BESE **Bessie Mountai** 32.71 59 *e*P P 01 58 35.7 +0.1
comp=Z,146nm,1.7s
JIS **Juneau Island** 33.06 59 *e*P P 01 58 39.3 +0.8
comp=Z,86nm,1.3s
BJT **Baijiatuau** 34.41 263 PFAKE 01 59 00.0 +10
BJT LR LR
comp=Z,16µm,20.0s
TLY **Talaya** 34.44 289 *e*P P 01 58 50.0 -0.7
comp=Z,10nm,0.6s
TLY LR LR
comp=Z,16µm,19.0s
TLY **Talaya** 34.44 289 *e*P P 01 58 50.4 -0.3
TLY *e* 02 00 09.9
TLY *e*PPP PPP 02 00 28.0
TLY *e*S S 02 04 17.0 +0.3
TLY pmax pmax
comp=Z,37nm,1.5s
TLY MLR MLR
comp=Z,16µm,18.0s
ULN **Ulaanbaatar** 34.64 281 *e*P P 01 58 50.2 -2.3
comp=Z,29nm,1.2s
ULN LR LR
comp=Z,10µm,19.0s
ULN **Ulaanbaatar** 34.64 281 P P 01 58 50.9 -1.7
SNR=12
ULN **Ulaanbaatar** 34.64 281 *ce*P P 01 58 52.1 -0.5
ULN pmax pmax
comp=Z,29nm,1.2s
NRIK **Noril'sk** 34.75 323 P P 01 58 52.9 -0.2
comp=Z,10nm,1.0s,baz=89,slow=10.0,SNR=16
NRIK PcP PcP 02 01 27.4 +1.5
comp=Z,12nm,0.6s,baz=56,slow=0.5,SNR=3.3
NRIK LR LR 02 14 09.7
comp=Z,12µm,19.9s,baz=73,slow=38
WRAK **Wrangell Islan** 34.85 61 PFAKE 01 59 10.0 +16
WRAK LR LR
comp=Z,5µm,20.0s
SONA1 **Songino Array** 35.01 281 *e*P P 01 58 54.9 -0.9
SONM **Songino Array** 35.02 281 P P 01 58 55.9 0.0
comp=Z,16nm,0.9s,baz=60,slow=7.9,SNR=13
SONM PcP PcP 02 01 27.8 +0.5
comp=Z,4.0nm,0.7s,baz=13,slow=1.6,SNR=3.4
SONM LR LR 02 14 40.7
comp=Z,11µm,18.6s,baz=54,slow=39
DLBC **Dease Lake** 35.09 57 *e*P P 01 58 57.4 +1.2
comp=Z,133nm,1.9s
ZAK **Zakamensk** 35.32 287 *e*P P 01 58 56.4 -1.9
ZAK *e* 02 01 25.0
ZAK pmax pmax
comp=Z,16nm,1.4s
MOY **Mondy** 35.86 290 *e*P P 01 59 04.1 +1.1
MOY pmax pmax
comp=Z,95nm,2.0s
H11N2 **WAKE ISLAND Hy** 36.11 174 T T 02 37 35.5
baz=357,slow=76,SNR=6327
H11N3 **WAKE ISLAND Hy** 36.12 174 T T 02 37 39.8
baz=357,slow=76,SNR=3469
H11N1 **WAKE ISLAND Hy** 36.13 174 T T 02 37 40.3
baz=357,slow=76,SNR=5306
HHC **Hu-ho-hao-te** 36.44 268 *e*P P 01 59 07.1 -1.0
HHC PP PnPn 02 00 30.3 -0.5
HHC S S 02 04 47.8 +0.1
HHC SS SnSn 02 07 14.6 -2.3
HHC pmax pmax
comp=Z,33nm,1.0s
HHC pmax pmax
comp=Z,280nm,4.8s
HHC LR LR
comp=Z,6µm,11.8s
HHC LR LR
comp=Z,16µm,13.3s
HHC LR LR
comp=Z,18µm,12.9s
WAKE **Wake Island** 36.54 174 PFAKE 01 59 20.0 +11
WAKE LR LR
comp=Z,2µm,20.0s
BTO **Baotou** 37.48 269 *e*P P 01 59 15.6 -1.2
BTO S S 02 05 06.1 +2.7
TIY **Taiyuan** 38.11 263 *e*P P 01 59 24.9 +2.7
TIY ScS ScS 02 09 30.4 -0.9
TIY pmax pmax
comp=Z,350nm,5.3s
TIY LR LR
comp=Z,9µm,13.5s
TIY LR LR
comp=Z,5µm,12.0s
TIY LR LR
comp=Z,11µm,17.4s
JOW **Kunigami** 38.27 235 *e*P P 01 59 23.2 -0.4
comp=Z,187nm,1.4s
SSE **Sheshan** 38.28 248 P P 01 59 23.0 -0.6
SSE S S 02 05 18.1 +2.5
SSE pmax pmax
comp=Z,28nm,0.5s
SSE pmax pmax
comp=Z,220nm,9.3s
SSE LR LR
comp=Z,2µm,14.0s
SSE LR LR
comp=Z,3µm,14.5s
NJ2 **Nanjing** 38.77 251 *e*P P 01 59 26.1 -1.5
NJ2 pmax pmax
comp=Z,16nm,0.5s
NJ2 pmax pmax
comp=Z,220nm,3.6s
NJ2 LR LR
comp=Z,9µm,14.1s
NJ2 LR LR
comp=Z,9µm,13.0s
NJ2 LR LR
comp=Z,11µm,14.6s
HVS **Khovu-Aksy** 39.98 293 *i*P P 01 59 36.7 -1.0
HVS pmax pmax
comp=Z,67nm,0.9s
YKA **Yellowknife Ar** 40.02 46 P P 01 59 38.2 +0.5
comp=Z,4.1nm,0.6s,baz=298,slow=8.1,SNR=11
YKA LR LR 02 17 42.6
comp=Z,339nm,18.9s,baz=293,slow=38
YKB5 **Yellowknife Ar** 40.02 46 *e*P P 01 59 38.5 +0.8
RES **Resolute Bay** 40.17 24 P P 01 59 39.0 +0.2
comp=Z,13nm,0.8s,baz=314,slow=8.2,SNR=16
RES **Resolute Bay** 40.17 24 *e*P P 01 59 38.5 -0.3
comp=Z,21nm,0.9s
RES **Resolute Bay** 40.17 24 *e*P P 01 59 38.5 -0.3
RES pmax pmax
comp=Z,21nm,0.9s
WHN **Wuhan** 42.36 254 ⇑P P 02 00 08.2 +11
WHN S S 02 06 08.5 -8.0
WHN LR LR
comp=N,23µm,15.5s
WHN LR LR
comp=E,21µm,15.2s
WHN LR LR
comp=Z,33µm,16.0s
XAN **Xi'an** 42.73 263 P P 01 59 58.2 -2.2
XAN PP PP 02 01 41.1 +1.5
XAN ScS ScS 02 09 54.6 -4.3
XAN pmax pmax
comp=Z,250nm,5.8s
XAN LR LR
comp=Z,13µm,14.7s
XAN LR LR
comp=Z,9µm,15.8s
XAN LR LR
comp=Z,14µm,15.5s
ZAA0 **Zalesovo Array** 42.81 302 *e*P P 01 59 58.9 -1.8
comp=Z,19nm,1.4s
ZALV **Zalesovo Beam** 42.81 302 P P 01 59 58.8 -2.0
comp=Z,2.8nm,0.5s,baz=58,slow=5.8,SNR=11
ZALV PP PP 02 01 40.6 +0.6
comp=Z,7.7nm,0.8s,baz=52,slow=9.6,SNR=6.0
ZALV PcP PcP 02 01 50.7 -0.7
comp=Z,18nm,1.0s,baz=51,slow=2.8,SNR=6.8
ZALV LR LR 02 19 47.4
comp=Z,5µm,18.4s,baz=54,slow=39
ZALV **Zalesovo Beam** 42.81 302 *e*P P 01 59 58.1 -2.5
ZALV PP PP 02 01 40.6 +0.6
ZALV PcP PcP 02 01 50.7 -0.7
ZALV **Zalesovo Beam** 42.81 302 *i*P P 01 59 58.2 -2.5
ZALV pmax pmax
comp=Z,3.0nm,0.5s
NVS **Novosibirsk** 43.04 303 ⇑*i*P P 02 00 01.5 -1.1
NVS *i* 02 01 42.4
NVS pmax pmax
comp=Z,88nm,1.3s
NVS pmax pmax
comp=N,21nm,0.7s
NVS pmax pmax
comp=E,39nm,0.8s
TATO **Taipei** 43.11 242 PFAKE 02 00 10.0 +6.6
TATO LR LR
comp=Z,4µm,19.0s
PGC **Sidney** 43.61 67 *e*P P 02 00 08.9 +1.6
comp=Z,110nm,1.8s
A04D **Lummi Island** 43.95 67 P P 02 00 08.2 -1.8
baz=309
GTA **Gaotai** 44.04 276 ⇑P P 02 00 10.3 -0.7
GTA pP pP 02 00 14.7 -5.5
GTA sP sP 02 00 17.4 -6.4
GTA PcP PP 02 01 53.5 -0.2
GTA PP PcP 02 01 56.6 +0.6
GTA S S 02 06 41.7 +0.5
GTA sS pS 02 06 48.2 -3.6
GTA SS SS 02 09 51.3 -7.2
GTA pmax pmax
comp=Z,24nm,1.0s
GTA pmax pmax
comp=Z,450nm,7.1s
GTA LR LR
comp=Z,14µm,14.6s
GTA LR LR
comp=Z,12µm,13.6s
LZH **Lanzhou** 44.10 269 ⇓P P 02 00 09.8 -1.8
LZH pP pP 02 00 15.0 -5.7
LZH sP sP 02 00 18.3 -6.1
LZH PP PP 02 01 51.1 -3.3
LZH S S 02 06 40.2 -2.0
LZH sS pS 02 06 47.8 -5.0
LZH SS SS 02 09 48.2 -12
LZH pmax pmax
comp=Z,73nm,1.1s
LZH pmax pmax
comp=Z,830nm,4.9s
LZH LR LR
comp=Z,45µm,14.1s
LZH LR LR
comp=Z,38µm,13.0s
NLWA **Neilton Lookou** 44.18 69 *e*P P 02 00 12.8 +0.9
comp=Z,47nm,1.1s
NLWA LR LR
comp=Z,2µm,19.0s
GUMO **Guam** 44.40 206 PFAKE 02 00 30.0 +16
GUMO LR LR
comp=Z,2µm,19.0s
KBS **Kingsbay** 44.44 352 *e*P P 02 00 13.3 -0.3
comp=Z,73nm,1.2s
KBS LR LR
comp=Z,3µm,19.0s
KBS **Kingsbay** 44.44 352 *ce*P P 02 00 14.0 +0.4
KBS pmax pmax
comp=Z,193nm,1.3s
KBS **Kingsbay** 44.44 352 *e*P P 02 00 13.9 +0.3
D03D **Eldon** 44.50 68 P P 02 00 12.9 -1.5
baz=310
B05A **Bryant** 44.56 67 P P 02 00 15.9 +1.1
baz=309,SNR=6.9
QZH **Quanzhou** 44.60 245 P P 02 00 12.8 -2.6
QZH S S 02 06 44.7 -4.5
QZH LR LR
comp=Z,3µm,15.2s
QZH LR LR
comp=Z,3µm,13.7s
QZH LR LR
comp=Z,4µm,11.8s
B06A **Marblemount** 44.71 66 *e*P P 02 00 16.9 +0.8
comp=Z,140nm,1.9s
SPA0 **Spitsbergen Ar** 44.76 351 *e*P P 02 00 15.7 -0.4
SPA0 **Spitsbergen Ar** 44.76 351 *e*P P 02 00 16.5 +0.3
SPA0 *e*S S 02 06 52.5 +2.0
SPA0 *e*SS SS 02 10 14.4 +3.3
SPITS **Spitsbergen Ar** 44.76 351 P P 02 00 16.8 +0.6
comp=Z,45nm,0.6s,baz=68,slow=9.1,SNR=30
KIP **Kipapa** 44.84 124 *e*P P 02 00 18.1 +0.8
comp=Z,137nm,1.1s
KIP **Kipapa** 44.84 124 *ce*P P 02 00 18.3 +1.0
KIP pmax pmax
comp=Z,753nm,1.7s
E03A **Lebam** 44.88 70 *e*P P 02 00 19.9 +2.5
comp=Z,58nm,0.4s
D04E **Lakebay** 44.89 68 P P 02 00 16.9 -0.6
baz=310
ENH **Enshi** 45.24 259 *e*P P 02 00 19.5 -1.1
ENH LR LR
comp=Z,8µm,19.0s
D05A **Enumclaw** 45.30 68 *e*P P 02 00 22.6 +1.8
comp=Z,61nm,1.0s
C06D **Leavenworth** 45.40 66 P P 02 00 21.1 -0.5
baz=310
E04D **Cinebar** 45.40 69 P P 02 00 21.3 -0.2
baz=310
LON **Longmire** 45.67 68 *e*P P 02 00 25.7 +1.9
comp=Z,38nm,1.5s
LON **Longmire** 45.67 68 *e*P P 02 00 25.7 +1.9
LON pmax pmax
comp=Z,38nm,1.5s
G03D **McMinnville, O** 45.90 71 P P 02 00 24.5 -1.0
baz=311
HSPB **Hornsund (broa** 45.90 350 *e*P P 02 00 24.8 -0.4
HSPB *e*S S 02 07 09.6 +2.6
B08A **Colville Reser** 45.92 65 *e*P P 02 00 26.3 +0.5
comp=Z,52nm,1.4s
LTY **Liberty** 45.94 67 *e*P P 02 00 27.4 +1.4
comp=Z,44nm,1.3s
I02D **Swisshome** 46.32 72 P P 02 00 27.0 -1.8
baz=312
F05D **White Salmon** 46.42 69 P P 02 00 28.5 -1.1
baz=311
H04D **Lebanon** 46.64 71 P P 02 00 31.7 +0.4
baz=312
ZSN **Zaisan** 46.81 294 *i*P P 02 00 31.2 -1.4
comp=Z,15nm,1.4s
ZSN *e*S S 02 07 17.5 -3.2
ZSN LR LR 02 20 54.3
comp=Z,329nm,12.2s
C09A **Chrisman Ranch** 46.82 65 *e*P P 02 00 33.4 +0.6
comp=Z,52nm,1.4s
H04A **Detroit Lake** 46.83 71 *e*P P 02 00 34.5 +1.6
comp=Z,93nm,1.5s
I03D **Drain, OR** 46.86 72 P P 02 00 32.8 -0.3
baz=312
KEBM **Edson Butte** 46.88 74 *e*P P 02 00 34.7 +1.3
comp=Z,237nm,1.7s
J01E **Myrtle Point** 46.91 73 P P 02 00 34.6 +1.2
baz=313
G05D **Wamic, OR** 46.92 70 P P 02 00 33.3 -0.3
baz=312
D08A **Wollman Farm,** 46.98 66 *e*P P 02 00 34.8 +0.8
comp=Z,92nm,1.9s
HAWA **Hanford** 47.09 67 *e*P P 02 00 35.1 +0.2
comp=Z,129nm,2.0s
HAWA LR LR
comp=Z,2µm,21.0s
NEW **Newport** 47.11 64 *e*P P 02 00 35.4 +0.4
comp=Z,38nm,1.4s
NEW LR LR
comp=Z,3µm,19.0s
NEW **Newport** 47.11 64 *e*P P 02 00 35.4 +0.4
NEW pmax pmax
comp=Z,38nm,1.4s
NEW MLR MLR
comp=Z,3µm,19.0s
NEW **Newport** 47.11 64 P P 02 00 35.7 +0.6
baz=311,SNR=8.1
HPAH **Hawaii Prepara** 47.13 122 *e*P P 02 00 41.8 +6.2
comp=Z,310nm,1.6s
KULLO **Kullorsuaq** 47.17 14 *i*P P 02 00 35.1 0.0
KULLO **Kullorsuaq** 47.17 14 *i*P P 02 00 35.1 0.0
F07A **Phinny Hill Vi** 47.22 68 *e*P P 02 00 37.5 +1.7
comp=Z,111nm,1.5s
E08A **Dider Farm, El** 47.28 67 *e*P P 02 00 37.6 +1.4
comp=Z,24nm,1.2s
G06A **Carlson Farm,** 47.28 69 *e*P P 02 00 37.9 +1.4
comp=Z,83nm,1.9s
K02D **Willamette Mer** 47.37 74 P P 02 00 37.9 +0.8
baz=313
I05D **Terrebonne, OR** 47.51 70 P P 02 00 37.5 -0.7
baz=312
DAG **Danmarks Havn** 47.71 1⇑*i*P P 02 00 39.3 +0.1
comp=Z,455nm,2.6s
DAG **Danmarks Havn** 47.71 1⇑*i*P P 02 00 39.3 +0.1
WMQ **Urumqi** 47.73 289 P P 02 00 39.6 -0.3
WMQ pP pP 02 00 45.6 -3.5
WMQ sP sP 02 00 48.5 -4.3
WMQ PP PP 02 02 33.5 +2.0
WMQ S S 02 07 34.3 +0.4
WMQ sS pS 02 07 44.4 -0.2
WMQ pmax pmax
comp=Z,170nm,1.3s
WMQ pmax pmax
comp=Z,2µm,3.8s
WMQ LR LR
comp=Z,31µm,14.7s
WMQ LR LR
comp=Z,49µm,14.7s
E09A **Wood Farm, Sta** 47.73 66 *e*P P 02 00 40.4 +0.5
comp=Z,78nm,1.4s
L02E **Cave Junction** 47.76 74 P P 02 00 40.1 -0.1
baz=313
KURK **Kurchatov** 47.80 301 *e*P P 02 00 38.3 -2.0
KURK PcP PcP 02 02 08.0 -0.8
KURK LR LR
comp=Z,4µm,20.0s
KURK **Kurchatov** 47.80 301 P P 02 00 38.1 -2.1
SNR=43
KURK **Kurchatov** 47.80 301 *c*P P 02 00 38.2 -2.1
KURK pmax pmax
comp=Z,94nm,0.8s
HUMO **Hull Mountain** 47.81 73 *e*P P 02 00 42.0 +1.5
comp=Z,68nm,1.8s
J04D **Umppqua Nationa** 47.84 72 P P 02 00 40.0 -1.0
baz=313
KURBB **Kurchatov Arra** 47.90 301 P P 02 00 39.5 -1.6
comp=Z,52nm,0.6s,baz=55,slow=8.1,SNR=236
KURBB PcP PcP 02 02 08.0 -1.1
comp=Z,5.3nm,0.8s,baz=46,slow=3.2,SNR=2.3
CD2 **Chengdu** 47.96 264 P P 02 00 40.0 -1.8
CD2 pP pP 02 00 43.2 -7.8
CD2 PP PP 02 02 31.6 -2.2
CD2 PcS PcS 02 06 04.7 -0.8
CD2 S S 02 07 39.8 +2.4
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,1µm,11.3s
CD2 LR LR
comp=Z,24µm,18.1s
CD2 LR LR
comp=Z,24µm,16.2s
PINE **Pine Mountain** 48.09 71 *e*P P 02 00 44.1 +1.2
comp=Z,30nm,1.0s
G08A **Pilot Rock** 48.13 68 *e*P P 02 00 43.7 +0.6
comp=Z,32nm,1.5s
WALA **Waterton Lakes** 48.20 61 *e*P P 02 00 44.6 +1.0
comp=Z,65nm,1.1s
J05D **Fort Rock, OR** 48.27 71 P P 02 00 45.5 +1.2
baz=313,SNR=8.5
L04D **Klamath Falls** 48.43 73 P P 02 00 45.6 +0.1
baz=314
K04D **Chiloquin, OR** 48.45 72 P P 02 00 44.7 -0.9
baz=313
YBH **Yreka Blue Hor** 48.54 74 *e*P P 02 00 48.2 +1.9
comp=Z,33nm,1.2s
YBH **Yreka Blue Hor** 48.54 74 *e*P P 02 00 48.2 +1.9
YBH pmax pmax
comp=Z,33nm,1.2s
MK31 **Makanchi Array** 48.56 295 *e*P P 02 00 44.2 -2.0
MK31 **Makanchi Array** 48.56 295 *e*P P 02 00 44.3 -2.0
MKAR **Makanchi Array** 48.56 295 P P 02 00 44.4 -1.9
comp=Z,26nm,0.7s,baz=60,slow=7.4,SNR=140
MKAR LR LR 02 22 09.7
comp=Z,6µm,18.5s,baz=38,slow=37
MKAR **Makanchi Array** 48.56 295 *e*P P 02 00 44.2 -2.0
comp=Z,224nm,0.8s
MKAR **Makanchi Array** 48.56 295 *i*P P 02 00 44.0 -2.3
MKAR pmax pmax
comp=Z,25nm,0.7s
F10A **Beach Ranch, E** 48.57 66 *e*P P 02 00 47.2 +0.8
comp=Z,72nm,1.8s
MK01 **Makanchi Array** 48.57 295 *e*P P 02 00 43.8 -2.5
KHMM **Horse Mountain** 48.58 76 *e*P P 02 00 46.9 +0.3
comp=Z,170nm,1.8s
I07A **Izee** 48.66 70 *e*P P 02 00 44.8 -2.4
I07A *e*pP P 02 00 49.2 +2.1
M02C **Callahan** 48.70 74 P P 02 00 48.1 +0.6
baz=314
K05A **Summer Lake** 48.84 72 *e*P P 02 00 45.6 -3.1
comp=Z,144nm,1.8s
GZH **Guangzhou** 48.84 249 P P 02 00 43.6 -5.0
GZH S S 02 07 47.8 -2.1
GZH LR LR
comp=Z,3µm,17.0s
GZH LR LR
comp=Z,9µm,16.9s
JTMT **Jette** 48.88 63 *e*P P 02 00 49.8 +0.9
comp=Z,158nm,1.7s
M04C **Macdoel** 48.98 73 P P 02 00 50.2 +0.5
baz=314
N02D **Trinity Center** 49.07 75 P P 02 00 50.4 +0.1
baz=314
BMO **Blue Mountains** 49.29 67 *e*P P 02 00 52.7 +0.7
comp=Z,24nm,1.2s
BMO LR LR
comp=Z,2µm,21.0s
BMO **Blue Mountains** 49.29 67 *e*P P 02 00 52.7 +0.7
BMO pmax pmax
comp=Z,24nm,1.2s
BMO MLR MLR
comp=Z,2µm,21.0s
WDC **Whiskeytown Da** 49.43 75 *e*P P 02 00 54.2 +1.3
comp=Z,34nm,1.2s
WDC **Whiskeytown Da** 49.43 75 *e*P P 02 00 54.3 +1.3
WDC pmax pmax

	comp=Z,34nm,1.2s								
O02D	**Mt. Diablo Mer**	**49.58**	**76**	P		**P**		**02 00 54.1**	**-0.2**
	baz=315								
MSO	**Missoula**	**49.67**	**63**	*e*P		**P**		**02 00 55.7**	**+0.8**
	comp=Z,58nm,1.5s								
MSO	**Missoula**	**49.67**	**63**	P		**P**		**02 00 54.3**	**-0.6**
	baz=313,SNR=11								
J08A	**Circle Bar Ran**	**49.70**	**70**	*e*P		**P**		**02 00 56.4**	**+1.3**
	comp=Z,24nm,1.1s								
MOD	**Modoc Plateau**	**49.72**	**72**	*e*P		**P**		**02 00 56.5**	**+1.1**
	comp=Z,40nm,1.1s								
GYA	**Guiyang**	**49.76**	**258**	⇑*i*P		**P**		**02 00 55.9**	**+0.1**
GYA				PcP		**PcP**		**02 02 18.5**	**+2.1**
GYA				PP		**PP**		**02 02 51.0**	**+0.6**
GYA				ScP		**ScP**		**02 06 13.2**	**+3.8**
GYA				S		**S**		**02 08 07.8**	**+4.8**
GYA				SS		**SS**		**02 11 31.5**	**-3.9**
GYA				pmax		pmax			
	comp=Z,50nm,0.8s								
GYA				pmax		pmax			
	comp=Z,350nm,12.4s								
GYA				LR		LR			
	comp=Z,6μm,17.4s								
GYA				LR		LR			
	comp=Z,9μm,18.3s								
GYA				LR		LR			
	comp=Z,15μm,15.8s								
FFC	**Flin Flon**	**49.93**	**49**	*e*P		**P**		**02 00 56.7**	**+0.1**
	comp=Z,54nm,1.4s								
FFC				LR		LR			
	comp=Z,5μm,19.0s								
FFC	**Flin Flon**	**49.93**	**49**	*e*P		**P**		**02 00 56.7**	**+0.1**
FFC				pmax		pmax			
	comp=Z,54nm,1.4s								
FFC				MLR		MLR			
	comp=Z,5μm,19.0s								
O03E	**Paynes Creek**	**50.03**	**75**	P		**P**		**02 00 58.3**	**+0.7**
	baz=315,SNR=5.8								
BVAR	**Borovoye Array**	**50.08**	**308**	P		**P**		**02 00 56.1**	**-1.7**
	comp=Z,46nm,0.8s,baz=52,slow=7.7,SNR=131								
BVAR				PcP		**PcP**		**02 02 16.2**	**-0.8**
	comp=Z,3.5nm,0.5s,baz=94,slow=2.1,SNR=4.9								
BRVK	**Borovoye**	**50.10**	**308**	*e*P		**P**		**02 00 56.3**	**-1.6**
	comp=Z,62nm,1.0s								
BRVK				LR		LR			
	comp=Z,3μm,20.0s								
BRVK	**Borovoye**	**50.10**	**308**	P		**P**		**02 00 56.1**	**-1.9**
	SNR=22								
BRVK	**Borovoye**	**50.10**	**308**	*c i*P		**P**		**02 00 55.4**	**-2.5**
BRVK				pmax		pmax			
	comp=Z,63nm,1.0s								
WVOR	**Wild Horse Val**	**50.25**	**71**	*e*P		**P**		**02 01 00.5**	**+1.1**
	comp=Z,24nm,1.0s								
WVOR				LR		LR			
	comp=Z,2μm,20.0s								
WVOR	**Wild Horse Val**	**50.25**	**71**	*e*P		**P**		**02 01 00.5**	**+1.1**
WVOR				pmax		pmax			
	comp=Z,24nm,1.0s								
WVOR				MLR		MLR			
	comp=Z,2μm,20.0s								
HAMF	**Hammerfest**	**50.58**	**344**	*e*P		**P**		**02 01 00.5**	**-0.8**
HAMF				*e*S		**S**		**02 08 14.9**	**+1.8**
ORV	**Oroville**	**50.72**	**75**	*e*P		**P**		**02 01 03.6**	**+0.8**
	comp=Z,16nm,1.0s								
ORV	**Oroville**	**50.72**	**75**	*e*P		**P**		**02 01 03.6**	**+0.8**
ORV				pmax		pmax			
	comp=Z,16nm,1.0s								
KEV	**Kevo**	**50.80**	**342**	*e*P		**P**		**02 01 02.6**	**-0.4**
	comp=Z,144nm,1.7s								
KEV				LR		LR			
	comp=Z,3μm,20.0s								
KEV	**Kevo**	**50.80**	**342**	*e*P		**P**		**02 01 02.6**	**-0.4**
KEV				pmax		pmax			
	comp=Z,144nm,1.7s								
KEV				MLR		MLR			
	comp=Z,3μm,20.0s								
HRY	**Holter Researc**	**50.81**	**62**	*e*P		**P**		**02 01 04.7**	**+1.2**
EGMT	**Eagleton**	**50.94**	**60**	*e*P		**P**		**02 01 05.3**	**+0.9**
	comp=Z,68nm,1.6s								
EGMT				LR		LR			
	comp=Z,3μm,19.0s								
EGMT	**Eagleton**	**50.94**	**60**	P		**P**		**02 01 03.5**	**-0.9**
	baz=314								
SUMG	**Summit**	**51.06**	**8**	*e*P		**P**		**02 01 05.7**	**+0.3**
	comp=Z,86nm,1.0s								
SUMG	**Summit**	**51.06**	**8**	⇑*i*P		**P**		**02 01 05.9**	**+0.5**
	comp=Z,214nm,1.0s								
SUMG	**Summit**	**51.06**	**8**	⇑*i*P		**P**		**02 01 05.9**	**+0.5**
SUMG				pmax		pmax			
	comp=Z,210nm,1.0s								
BRZS	**Berezniki**	**51.11**	**304**	⇑*i*P		**P**		**02 01 03.4**	**-2.3**
	comp=Z,56nm,1.4s								
BRZS				LR		LR		02 23 47.1	
	comp=Z,3μm,13.5s								
BEKR	**Beckworth**	**51.12**	**74**	*e*P		**P**		**02 01 07.3**	**+1.3**
	comp=Z,36nm,1.4s								
ARCES	**ARCESS Array B**	**51.26**	**342**	P		**P**		**02 01 05.9**	**-0.5**
	comp=Z,22nm,0.8s,baz=27,slow=8.2,SNR=19								
ARCES				PcP		**PcP**		**02 02 21.3**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=39,slow=4.6,SNR=3.7								
ARCES				LR		LR		02 26 42.4	
	comp=Z,200nm,19.0s,baz=52,slow=41								
ARE0	**ARCESS Array S**	**51.26**	**342**	*e*P		**P**		**02 01 06.2**	**-0.2**
	comp=Z,4.1nm,1.2s								
ARE0	**ARCESS Array S**	**51.26**	**342**	*e*P		**P**		**02 01 05.0**	**-1.4**
DLMT	**Dillon**	**51.36**	**64**	*e*P		**P**		**02 01 08.6**	**+0.9**
	comp=Z,35nm,1.3s								
APA	**Apatity**	**51.42**	**338**	⇓*i*P		P		02 01 02.3	-5.3
APA				pmax		pmax			
	comp=Z,12nm,0.9s								
APA				MLR		MLR			
	comp=Z,3μm,16.0s								
AFDM	**Forest Hills D**	**51.44**	**75**	*e*P		**P**		**02 01 09.6**	**+1.4**
	comp=Z,43nm,1.6s								
SVE	**Sverdlovsk**	**51.50**	**317**	*e*P		**P**		**02 01 07.8**	**-0.6**
SVE				*e*				02 03 11.3	
SVE				*e*S		**S**		**02 08 19.6**	**-6.6**
SVE				*e*				02 10 53.4	
SVE				*e*SS		**SS**		**02 11 51.7**	**-10**
SVE				pmax		pmax			
	comp=Z,45nm,1.9s								
SVE				MLR		MLR			
	comp=E,7μm,17.0s								
SVE				MLR		MLR			
	comp=N,8μm,16.0s								
SVE				MLR		MLR			
	comp=Z,15μm,15.0s								
MCMT	**McKenzie Canyo**	**51.60**	**65**	*e*P		**P**		**02 01 10.3**	**+0.7**
HLID	**Hailey**	**51.68**	**67**	*e*P		**P**		**02 01 11.3**	**+1.2**
	comp=Z,9.8nm,1.0s								
HLID				LR		LR			
	comp=Z,3μm,19.0s								
HLID	**Hailey**	**51.68**	**67**	P		**P**		**02 01 10.3**	**+0.1**
	baz=315								
BOZ	**Bozeman (W)**	**51.69**	**63**	*e*P		**P**		**02 01 10.0**	**-0.1**
	comp=Z,52nm,1.8s								
BOZ				LR		LR			
	comp=Z,2μm,19.0s								
BOZ	**Bozeman (W)**	**51.69**	**63**	*e*P		**P**		**02 01 10.0**	**-0.1**
BOZ				pmax		pmax			
	comp=Z,52nm,1.8s								
BOZ				MLR		MLR			
	comp=Z,2μm,19.0s								
BOZ	**Bozeman (W)**	**51.69**	**63**	P		**P**		**02 01 10.8**	**+0.7**
	baz=314,SNR=6.2								
PAHR	**Pah Rah Range**	**51.76**	**74**	*e*P		**P**		**02 01 11.3**	**+0.5**
	comp=Z,44nm,1.4s								
TDK	**Taldyqorghan**	**51.77**	**296**	*i* P		**P**		**02 01 08.8**	**-1.7**
	comp=Z,114nm,1.0s								
TDK				LR		LR		02 23 46.5	
	comp=Z,4μm,13.7s								
RUBR	**Rubicon Trail**	**51.81**	**75**	*e*P		**P**		**02 01 12.6**	**+1.3**
	comp=Z,31nm,0.9s								
VCNR	**Virginia City**	**51.91**	**74**	*e*P		**P**		**02 01 13.4**	**+1.4**
	comp=Z,29nm,1.2s								
PNTR	**Pine Nut**	**52.09**	**74**	*e*P		**P**		**02 01 15.1**	**+1.8**
	comp=Z,211nm,1.9s								
KTK1	**Kautokeino**	**52.10**	**343**	*e*P		**P**		**02 01 12.3**	**-0.4**
TRO	**Tromso**	**52.22**	**345**	*e*P		**P**		**02 01 13.4**	**-0.1**
QLMT	**Earthquake Lak**	**52.32**	**64**	*e*P		**P**		**02 01 16.6**	**+1.7**
YERR	**Yerington**	**52.35**	**74**	*e*P		**P**		**02 01 17.0**	**+1.7**
	comp=Z,64nm,1.5s								
BMN	**Battle Mountai**	**52.41**	**71**	*e*P		**P**		**02 01 16.1**	**+0.5**
	comp=Z,35nm,1.4s								
BMN	**Battle Mountai**	**52.41**	**71**	*e*P		**P**		**02 01 16.1**	**+0.5**
BMN				pmax		pmax			
	comp=Z,35nm,1.4s								
CMB	**Columbia Colle**	**52.41**	**76**	*e*P		**P**		**02 01 17.0**	**+1.5**
	comp=Z,47nm,1.5s								
CMB	**Columbia Colle**	**52.41**	**76**	*e*P		**P**		**02 01 17.0**	**+1.5**
CMB				pmax		pmax			
	comp=Z,47nm,1.5s								
YHB	**Horse Butte**	**52.50**	**64**	*e*P		**P**		**02 01 18.2**	**+1.9**
	comp=Z,18nm,0.7s								
SHLS	**Shalkode**	**52.52**	**294**	*e*P		**P**		**02 01 13.3**	**-3.0**
	comp=Z,73nm,0.7s								
SHLS				LR		LR		02 24 23.7	
	comp=Z,633nm,12.1s								
GCMT	**Greycliff**	**52.53**	**62**	*e*P		**P**		**02 01 18.1**	**+1.7**
ARU	**Arti**	**52.59**	**317**	P		**P**		**02 01 15.5**	**-1.0**
ARU	**Arti**	**52.59**	**317**	*c i*P		**P**		**02 01 15.2**	**-1.3**
ARU				*PP		**sP**		**02 01 28.8**	**-0.6**
ARU				PPP		PPP		02 04 18.2	
ARU				S		**S**		**02 08 38.4**	**-2.7**
ARU				SS		**SS**		**02 12 17.6**	**-1.2**
ARU				pmax		pmax			
	comp=Z,48nm,1.7s								
ARU				MLR		MLR			
	comp=Z,11μm,17.0s								
WAKR	**Walker**	**52.59**	**75**	*e*P		**P**		**02 01 19.0**	**+2.0**
	comp=Z,77nm,1.5s								
YHH	**Holmes Hill**	**52.65**	**63**	*e*P		**P**		**02 01 18.7**	**+1.3**
	comp=Z,37nm,1.5s								
YMR	**Madison River**	**52.67**	**64**	*e*P		**P**		**02 01 18.6**	**+1.0**
	comp=Z,20nm,1.0s								
TGY	**Tagaytay City**	**52.67**	**235**	LR		LR		02 25 30.8	
	comp=Z,1μm,19.7s,baz=350,slow=38								
KPKS	**Kokpek**	**52.70**	**294**	*i* P		**P**		**02 01 16.1**	**-1.6**
	comp=Z,78nm,1.3s								
KPKS				LR		LR		02 24 10.1	
	comp=Z,3μm,13.7s								
SAO	**San Andreas Ge**	**52.75**	**78**	*e*P		**P**		**02 01 19.1**	**+1.2**
	comp=Z,77nm,1.8s								
SAO	**San Andreas Ge**	**52.75**	**78**	*e*P		**P**		**02 01 19.1**	**+1.2**
SAO				pmax		pmax			
	comp=Z,77nm,1.8s								
UZB	**Uzynbulak**	**52.75**	**294**	⇑*i*P		**P**		**02 01 16.3**	**-1.8**
	comp=Z,42nm,1.6s								
UZB				LR		LR		02 24 08.3	
	comp=Z,972nm,13.6s								
YNR	**Norris Junctio**	**52.78**	**63**	*e*P		**P**		**02 01 20.0**	**+1.6**
	comp=Z,53nm,1.5s								
YFT	**Old Faithful**	**52.89**	**64**	*e*P		**P**		**02 01 20.3**	**+1.1**
	comp=Z,21nm,1.0s								
KVN	**Kaiserville**	**52.92**	**73**	*e*P		**P**		**02 01 20.1**	**+0.7**
	comp=Z,86nm,1.8s								
KVN	**Kaiserville**	**52.92**	**73**	*e*P		**P**		**02 01 20.1**	**+0.7**
KVN				pmax		pmax			
	comp=Z,86nm,1.8s								
KMI	**Kunming**	**52.99**	**260**	P		**P**		**02 01 18.3**	**-1.8**
KMI				PP		**PP**		**02 03 23.8**	**+4.0**
KMI				PcS		**PcS**		**02 06 25.8**	**-1.9**
KMI				S		**S**		**02 08 45.8**	**-1.9**
KMI				LR		LR			
	comp=Z,8μm,18.2s								
KMI				LR		LR			
	comp=Z,6μm,14.9s								
KMI				LR		LR			
	comp=Z,9μm,16.0s								
RYN	**Ryan**	**53.00**	**74**	*e*P		**P**		**02 01 21.3**	**+1.4**
	comp=Z,85nm,1.8s								
LKWY	**Lake**	**53.03**	**63**	PFAKE				02 01 30.0	+10
LKWY				LR		LR			
	comp=Z,5μm,19.0s								
YPP	**Pitchstone Pla**	**53.03**	**64**	*e*P		**P**		**02 01 22.2**	**+1.9**
	comp=Z,45nm,1.4s								
ZHN	**Zhinishke**	**53.04**	**294**	⇑*i*P		**P**		**02 01 18.5**	**-1.7**
	comp=Z,50nm,1.3s								
H17A	**Grant Village**	**53.06**	**64**	*e*P		**P**		**02 01 22.2**	**+1.8**
	comp=Z,34nm,1.1s								
H17A	**Grant Village**	**53.06**	**64**	P		**P**		**02 01 22.8**	**+2.3**
	baz=315,SNR=9.3								
PRGR	**Permogore**	**53.08**	**328**	*e*P		**P**		**02 01 18.0**	**-2.0**
PRGR				pmax		pmax			
	comp=Z,63nm,0.8s								
SATY	**Saty**	**53.13**	**294**	*i* P		**P**		**02 01 19.3**	**-1.6**
	comp=Z,128nm,1.8s								
SATY				LR		LR		02 24 27.2	
	comp=Z,2μm,14.0s								
RLMT	**Red Lodge**	**53.20**	**62**	*e*P		**P**		**02 01 22.7**	**+1.2**
	comp=Z,32nm,1.0s								
RLMT				LR		LR			
	comp=Z,4μm,19.0s								
RLMT	**Red Lodge**	**53.20**	**62**	P		**P**		**02 01 22.7**	**+1.2**
	baz=316,SNR=18								
FLWY	**Flagg Ranch**	**53.22**	**64**	*e*P		**P**		**02 01 23.3**	**+1.7**
	comp=Z,190nm,1.9s								
IMW	**Indian Meadow**	**53.23**	**64**	*e*P		**P**		**02 01 23.6**	**+1.8**
	comp=Z,69nm,1.6s								
NV01	**Mina Array Sit**	**53.26**	**74**	*e*P		**P**		**02 01 23.0**	**+1.0**
NVAR	**Mina Array Bea**	**53.26**	**74**	P		**P**		**02 01 23.4**	**+1.4**
	comp=Z,7.8nm,0.9s,baz=295,slow=7.5,SNR=44								
NVAR				LR		LR		02 23 45.5	
	comp=Z,2μm,18.0s,baz=317,slow=36								
DGMT	**Dagmar**	**53.28**	**56**	*e*P		**P**		**02 01 23.3**	**+1.5**
	comp=Z,20nm,0.9s								
DGMT				LR		LR			
	comp=Z,3μm,20.0s								
DGMT	**Dagmar**	**53.28**	**56**	P		**P**		**02 01 21.3**	**-0.4**
	baz=316								
NV11	**Mina Array Sit**	**53.34**	**74**	*e*P		**P**		**02 01 23.9**	**+1.5**
	comp=Z,7.1nm,1.8s								
FXWY	**Fox Creek**	**53.37**	**64**	*e*P		**P**		**02 01 23.9**	**+1.1**
	comp=Z,12nm,0.9s								
MDPB	**Devils Postpil**	**53.42**	**75**	*e*P		**P**		**02 01 24.5**	**+1.3**
	comp=Z,98nm,1.7s								
MOOW	**Moose Ponds**	**53.44**	**64**	*e*P		**P**		**02 01 24.0**	**+0.8**
	comp=Z,60nm,1.9s								
OMMB	**Old Mammoth Mi**	**53.47**	**75**	*e*P		**P**		**02 01 25.0**	**+1.3**
	comp=Z,32nm,1.3s								
PLP	**Palo**	**53.48**	**229**	⇓*e*P		**P**		**02 01 22.5**	**-1.0**
PMPB	**Monarch Peak**	**53.50**	**78**	*e*P		**P**		**02 01 25.2**	**+1.6**
	comp=Z,90nm,1.4s								
TPAW	**Teton Pass**	**53.52**	**65**	*e*P		**P**		**02 01 25.2**	**+1.4**
	comp=Z,17nm,0.8s								
PRZ	**Przheval'sk**	**53.55**	**294**	*e*P		**P**		**02 01 23.4**	**-0.6**
	comp=Z,65nm,1.0s								
PRZ	**Przheval'sk**	**53.55**	**294**	*e*P		**P**		**02 01 23.4**	**-0.6**
PRZ				pmax		pmax			
	comp=Z,65nm,1.0s								
MLAC	**Mammoth, Mammo**	**53.55**	**75**	P		**P**		**02 01 24.9**	**+0.8**
	baz=317								
LAO	**LASA Array**	**53.59**	**59**	*e*P		**P**		**02 01 25.3**	**+1.2**
	comp=Z,87nm,1.5s								
LAO				LR		LR			
	comp=Z,5μm,19.0s								
LAO	**LASA Array**	**53.59**	**59**	P		**P**		**02 01 25.1**	**+1.0**
	baz=316,SNR=7.9								
KUU	**Kurty**	**53.60**	**296**	*i* P		**P**		**02 01 22.2**	**-1.9**
	comp=Z,125nm,1.5s								
KUU				*e*S		**S**		**02 08 51.9**	**-3.4**
KUU				LR		LR		02 24 37.2	
	comp=Z,3μm,13.3s								
LOHW	**Long Hollow**	**53.60**	**64**	*e*P		**P**		**02 01 25.8**	**+1.4**
	comp=Z,35nm,1.4s								
SNOW	**Snow King Moun**	**53.63**	**64**	*e*P		**P**		**02 01 26.3**	**+1.6**
	comp=Z,23nm,1.3s								
REDW	**Red Top Meadow**	**53.66**	**65**	*e*P		**P**		**02 01 25.8**	**+1.0**
	comp=Z,44nm,1.5s								
MSF	**Maaselka**	**53.75**	**339**	P		**P**		**02 01 25.0**	**+0.1**
MSF				pmax		pmax			
	comp=Z,80nm,1.7s								
MDOK	**Medeo**	**53.76**	**295**	*i* P		**P**		**02 01 23.7**	**-1.8**
	comp=Z,968nm,1.1s								
MDOK				*e*S		**S**		**02 08 54.2**	**-3.5**
MDOK				LR		LR		02 25 02.0	
	comp=Z,3μm,15.4s								
AAA	**Alma-Ata**	**53.79**	**295**	*e*P		**P**		**02 01 24.1**	**-1.6**
	comp=Z,67nm,1.1s								
AAA				LR		LR		02 25 02.0	
	comp=Z,2μm,12.8s								
HVU	**Hansel Valley**	**53.80**	**67**	*e*P		**P**		**02 01 27.5**	**+1.7**
	comp=Z,29nm,1.4s								
HVU	**Hansel Valley**	**53.80**	**67**	*e*P		**P**		**02 01 27.5**	**+1.7**
HVU				pmax		pmax			
	comp=Z,29nm,1.4s								
BTLS	**Baital**	**53.92**	**299**	*i* P		**P**		**02 01 24.6**	**-1.9**
	comp=Z,42nm,1.5s								
BTLS				LR		LR		02 24 47.3	
	comp=Z,906nm,13.1s								
AHID	**Auburn Hatcher**	**53.96**	**65**	PFAKE				02 01 40.0	+13
AHID				LR		LR			
	comp=Z,3μm,19.0s								
QIZ	**Qiongzhong**	**54.02**	**249**	P		**P**		**02 01 28.2**	**+0.7**
QIZ				S		**S**		**02 09 05.8**	**+4.4**
QIZ				pmax		pmax			
	comp=Z,430nm,5.3s								
QIZ				LR		LR			
	comp=Z,5μm,12.5s								
QIZ				LR		LR			
	comp=Z,6μm,14.7s								
QIZ				LR		LR			
	comp=Z,8μm,12.8s								
QIZ	**Qiongzhong**	**54.02**	**249**	PFAKE				02 01 40.0	+13
QIZ				LR		LR			
	comp=Z,2μm,20.0s								
PAGB	**Antelope Grade**	**54.16**	**78**	*e*P		**P**		**02 01 29.9**	**+1.5**
	comp=Z,118nm,1.8s								
BGU	**Big Grassy Mou**	**54.28**	**68**	*e*P		**P**		**02 01 30.4**	**+1.1**
	comp=Z,41nm,1.8s								
TIN	**Tinemaha, Big**	**54.30**	**75**	P		**P**		**02 01 30.5**	**+1.1**
	baz=317								
SPUT	**South Promonto**	**54.31**	**67**	*e*P		**P**		**02 01 31.4**	**+1.9**
	comp=Z,48nm,1.6s								
KDJ	**Kajisay**	**54.43**	**294**	*e*P		**P**		**02 01 29.9**	**-0.5**
	comp=Z,254nm,1.8s								
KDJ	**Kajisay**	**54.43**	**294**	*e*P		**P**		**02 01 29.9**	**-0.5**
KDJ				pmax		pmax			
	comp=Z,254nm,1.8s								
HWUT	**Hardware Ranch**	**54.55**	**67**	*e*P		**P**		**02 01 33.1**	**+1.8**
	comp=Z,92nm,1.9s								
HWUT				LR		LR			
	comp=Z,3μm,19.0s								
SMMC	**Simmler**	**54.61**	**78**	P		**P**		**02 01 33.3**	**+1.6**
	baz=318,SNR=6.5								
TKM2	**Tokmak 2**	**54.67**	**296**	P		**P**		**02 01 31.1**	**-1.1**
	SNR=23								
TKM2	**Tokmak 2**	**54.67**	**296**	P		**P**		**02 01 30.8**	**-1.4**
TKM2				pmax		pmax			
	comp=Z,46nm,1.0s								
VES	**Vestal, Richgr**	**54.72**	**77**	P		**P**		**02 01 33.1**	**+0.8**
	baz=318,SNR=10								
BW06	**Boulder Array**	**54.74**	**64**	*e*P		**P**		**02 01 33.6**	**+0.8**
	comp=Z,76nm,1.8s								
BW06				LR		LR			
	comp=Z,2μm,19.0s								
BW06	**Boulder Array**	**54.74**	**64**	P		**P**		**02 01 33.5**	**+0.8**
	baz=317,SNR=21								
PD31	**Pinedale Array**	**54.74**	**64**	*e*P		**P**		**02 01 33.6**	**+0.8**
PDAR	**Pinedale Array**	**54.74**	**64**	P		**P**		**02 01 33.6**	**+0.8**
	comp=Z,4.9nm,0.8s,baz=316,slow=4.1,SNR=31								
PDAR				LR		LR		02 25 55.9	
	comp=Z,2μm,18.6s,baz=338,slow=37								
PDAR	**Pinedale Array**	**54.74**	**64**	*e*P		**P**		**02 01 33.2**	**+0.4**
R11A	**Troy Canyon, C**	**54.79**	**72**	*e*P		**P**		**02 01 34.2**	**+1.1**
	comp=Z,60nm,1.7s								
R11A	**Troy Canyon, C**	**54.79**	**72**	P		**P**		**02 01 34.1**	**+1.0**
	baz=317,SNR=24								
GRAC	**Grapevine Rang**	**54.81**	**74**	P		**P**		**02 01 35.0**	**+1.9**
	baz=318,SNR=17								
ULHL	**Ulahol**	**54.83**	**295**	P		**P**		**02 01 33.1**	**-0.3**
	SNR=5.2								
CWC	**Cottonwood Cre**	**54.83**	**75**	P		**P**		**02 01 34.1**	**+0.7**
	baz=318								
DUG	**Dugway, Tooele**	**54.92**	**69**	*e*P		**P**		**02 01 35.3**	**+1.4**
	comp=Z,110nm,1.9s								
DUG				LR		LR			
	comp=Z,2μm,19.0s								
DUG	**Dugway, Tooele**	**54.92**	**69**	*e*P		**P**		**02 01 35.3**	**+1.4**
DUG				pmax		pmax			
	comp=Z,110nm,1.9s								
DUG				MLR		MLR			
	comp=Z,2μm,19.0s								
DUG	**Dugway, Tooele**	**54.92**	**69**	P		**P**		**02 01 35.2**	**+1.3**
	baz=317,SNR=21								
SFJD	**Kangerlussuaq**	**54.97**	**15**	*e*P		**P**		**02 01 34.1**	**+0.4**
	comp=Z,52nm,1.3s								
SFJD				LR		LR			
	comp=Z,2μm,20.0s								
SFJD	**Kangerlussuaq**	**54.97**	**15**	*e*P		**P**		**02 01 34.1**	**+0.4**
SFJD				pmax		pmax			
	comp=Z,52nm,1.3s								
SFJD				MLR		MLR			
	comp=Z,2μm,20.0s								
USP	**Ospenovka**	**54.98**	**297**	P		**P**		**02 01 32.8**	**-1.4**
	SNR=98								
TCUT	**Toone Canyon**	**54.99**	**67**	*e*P		**P**		**02 01 36.9**	**+2.4**
	comp=Z,82nm,1.5s								
PKM	**Mcpherson Peak**	**55.02**	**78**	P		**P**		**02 01 36.5**	**+1.6**
	baz=318,SNR=12								
CHMS	**Chumysh**	**55.04**	**297**	P		**P**		**02 01 33.9**	**-0.7**
	SNR=17								
OUL	**Oulu**	**55.11**	**339**	P		**P**		**02 01 35.0**	**+0.3**
OUL				pmax		pmax			
	comp=Z,56nm,1.2s								
CTU	**Camp Tracy**	**55.12**	**67**	*e*P		**P**		**02 01 37.0**	**+1.6**
	comp=Z,76nm,2.0s								
ISA	**Isabella, Lake**	**55.19**	**76**	*e*P		**P**		**02 01 36.8**	**+0.9**
	comp=Z,51nm,1.5s								
ISA	**Isabella, Lake**	**55.19**	**76**	*e*P		**P**		**02 01 36.8**	**+0.9**
ISA				pmax		pmax			
	comp=Z,51nm,1.5s								
ISA	**Isabella, Lake**	**55.19**	**76**	P		**P**		**02 01 36.4**	**+0.5**
	baz=318,SNR=14								
KBK	**Karagaybulak**	**55.19**	**296**	P		**P**		**02 01 34.7**	**-1.2**
	SNR=51								
DAC	**Darwin (Calif)**	**55.22**	**75**	*e*P		**P**		**02 01 37.9**	**+1.7**
	comp=Z,57nm,1.5s								
DAC	**Darwin (Calif)**	**55.22**	**75**	*e*P		**P**		**02 01 37.9**	**+1.7**
DAC				pmax		pmax			
	comp=Z,57nm,1.5s								
FRU	**Bishkek**	**55.23**	**296**	*e*P		**P**		**02 01 32.0**	**-4.0**
FRU				*e*				02 02 31.0	
FRU				pmax	

EKS2	Erkin-Say	55.78	297	P		P		02 01 38.9	-1.2
	SNR=111								
SCZ2	Santa Cruz Isl	55.78	79	P		P		02 01 40.7	+0.6
	baz=318								
OSI	Osito Audit: C	55.83	77	P		P		02 01 40.7	+0.3
	baz=318								
JOF	Joensuu	55.84	336	P		P		02 01 40.2	+0.2
JOF				pmax		pmax			
	comp=Z,79nm,1.7s								
MDND	Maddock	55.86	54	*e*P		P		02 01 42.0	+1.6
	comp=Z,168nm,1.4s								
MDND	Maddock	55.86	54	P		P		02 01 40.2	-0.2
	baz=318								
LSA	Lhasa	55.98	274	*e*P		P		02 01 41.5	-0.6
LSA				LR		LR			
	comp=Z,2µm,20.0s								
LSA	Lhasa	55.98	274	*e*P		P		02 01 41.5	-0.6
LSA				pmax		pmax			
	comp=Z,20nm,0.8s								
LSA				MLR		MLR			
	comp=Z,2µm,20.0s								
BLG	Laguna Peak, P	56.01	78	P		P		02 01 42.1	+0.3
	baz=318								
EDW2	Edwards Air Fo	56.03	77	P		P		02 01 43.2	+1.3
	baz=318,SNR=28								
MOR8	Moi Rana	56.08	345	*e*P		P		02 01 39.6	-2.1
AML	Almayashu	56.21	296	P		P		02 01 42.4	-1.1
	SNR=66								
SHOC	Shoshone, Teco	56.22	75	P		P		02 01 44.7	+1.6
	baz=318,SNR=5.8								
DECC	Green Verdugo	56.31	77	P		P		02 01 44.2	+0.3
	baz=319								
K22A	Casper	56.36	62	*e*P		P		02 01 45.5	+1.2
	comp=Z,67nm,1.5s								
K22A	Casper	56.36	62	P		P		02 01 45.1	+0.9
	baz=318,SNR=9.8								
GSC	Goldstone, Bar	56.37	75	*e*P		P		02 01 45.6	+1.3
	comp=Z,118nm,1.6s								
GSC	Goldstone, Bar	56.37	75	*e*P		P		02 01 45.6	+1.3
GSC				pmax		pmax			
	comp=Z,118nm,1.6s								
GSC	Goldstone, Bar	56.37	75	P		P		02 01 45.6	+1.3
	baz=318,SNR=27								
SHPR	Sheep Range	56.37	73	*e*P		P		02 01 46.0	+1.6
	comp=Z,43nm,1.5s								
SNCC	San Nicolas Is	56.40	79	P		P		02 01 44.9	+0.4
	baz=319								
TMUT	Trail Mountain	56.42	68	*e*P		P		02 01 46.9	+2.0
	comp=Z,108nm,1.7s								
PASC	Pasadena Art C	56.45	77	*e*P		P		02 01 46.4	+1.6
	comp=Z,94nm,1.5s								
PAS	Pasadena	56.48	77	P		P		02 01 46.4	+1.4
MWC	Mount Wilson	56.48	77	*e*P		P		02 01 46.5	+1.2
	comp=Z,98nm,1.4s								
MWC	Mount Wilson	56.48	77	*e*P		P		02 01 46.5	+1.2
MWC				pmax		pmax			
	comp=Z,98nm,1.4s								
MSU	Marysvale	56.49	70	*e*P		P		02 01 47.0	+1.7
RSSD	Black Hills	56.51	60	*e*P		P		02 01 46.1	+0.7
	comp=Z,31nm,1.1s								
RSSD	Black Hills	56.51	60	*e*P		P		02 01 46.1	+0.7
RSSD				pmax		pmax			
	comp=Z,31nm,1.1s								
RSSD	Black Hills	56.51	60	P		P		02 01 45.3	-0.1
	baz=318								
P17A	Butcher Ranch,	56.54	68	*e*P		P		02 01 47.6	+2.0
	comp=Z,37nm,1.2s								
CCUT	Cedar City	56.57	71	*e*P		P		02 01 47.6	+1.7
	comp=Z,43nm,1.4s								
RRX	Edison Barstow	56.58	76	P		P		02 01 46.2	+0.4
	baz=318								
P18A	Preston Nutter	56.68	67	*e*P		P		02 01 48.0	+1.2
	comp=Z,60nm,1.4s								
SZCU	Shurtz Canyon	56.68	71	*e*P		P		02 01 48.1	+1.4
	comp=Z,66nm,1.6s								
BFSC	Mount Baldy Ra	56.69	77	P		P		02 01 48.0	+1.3
	baz=319,SNR=9.6								
RWWY	Rawlins	56.72	64	*e*P		P		02 01 48.2	+1.2
	comp=Z,64nm,1.6s								
FMP	Fort Macarthur	56.73	78	P		P		02 01 46.4	-0.4
	baz=319								
TUQ	Turquoise Moun	56.75	75	P		P		02 01 48.6	+1.4
	baz=318,SNR=16								
MTPU	Mount Pierson	56.83	70	*e*P		P		02 01 49.3	+1.3
	comp=Z,48nm,1.5s								
CIS	Catalina Islan	56.90	78	P		P		02 01 48.3	+0.2
	baz=319								
SRU	San Rafael Swe	56.92	68	*e*P		P		02 01 49.9	+1.6
	comp=Z,174nm,1.7s								
SRU	San Rafael Swe	56.92	68	P		P		02 01 49.9	+1.6
DAV	Davao City (W)	56.92	226	LR		LR		02 27 30.8	
	comp=Z,997nm,18.5s,baz=354,slow=37								
KSH	Kashi	56.96	293	P		P		02 01 51.4	+2.8
KSH				PcP		PcP		02 02 46.6	+3.1
KSH				S		S		02 09 43.7	+3.1
KSH				SS		SS		02 13 33.7	+5.1
KSH				pmax		pmax			
	comp=Z,82nm,0.9s								
KSH				LR		LR			
	comp=Z,7µm,17.6s								
KSH				LR		LR			
	comp=Z,8µm,19.5s								
KSH				LR		LR			
	comp=Z,5µm,20.5s								
HEC	Hector Ludlow	56.98	75	P		P		02 01 50.0	+1.3
	baz=319,SNR=17								
LCMT	Little Creek M	57.03	72	*e*P		P		02 01 51.0	+1.9
	comp=Z,59nm,1.4s								
BBRC	Big Bear Solar	57.08	76	P		P		02 01 50.5	+0.9
	baz=319								
KK31	Karatay Array	57.08	299	*e*P		P		02 01 47.4	-1.8
KK31	Karatay Array	57.08	299	*e*P		P		02 01 47.4	-1.8
KKAR	Karatay Array	57.08	299	*e*P		P		02 01 47.4	-1.8
KKAR	Karatay Array	57.08	299	*e*P		P		02 01 47.4	-1.8
SUF	Sumiainen	57.16	338	P		P		02 01 50.1	+0.7
SUF				pmax		pmax			
	comp=Z,78nm,1.0s								
AGMN	Agassiz Nation	57.20	51	*e*P		P		02 01 51.0	+1.1
	comp=Z,36nm,1.0s								
AGMN				LR		LR			
	comp=Z,6µm,19.0s								
AGMN	Agassiz Nation	57.20	51	P		P		02 01 50.3	+0.3
	baz=319								
PKCU	Pink Cliffs	57.21	71	*e*P		P		02 01 52.4	+1.9
	comp=Z,50nm,1.3s								
KNB	Kanab	57.25	71	*e*P		P		02 01 52.7	+2.0
	comp=Z,84nm,1.5s								
KNB	Kanab	57.25	71	*e*P		P		02 01 52.7	+2.0
KNB				pmax		pmax			
	comp=Z,84nm,1.5s								
AKTO	Aktyubinsk	57.27	313	P		P		02 01 49.3	-1.1
	comp=Z,13nm,0.8s,baz=28,slow=5.3,SNR=31								
AKTO	Aktyubinsk	57.27	313	P		P		02 01 48.8	-1.6
AKTO				pmax		pmax			
	comp=Z,38nm,1.2s								
O20A	White River Ci	57.34	66	*e*P		P		02 01 52.5	+1.2
	comp=Z,117nm,1.5s								
O20A	White River Ci	57.34	66	P		P		02 01 52.6	+1.2
	baz=318,SNR=26								
AB31	Akbulak array	57.36	311	*i* P		P		02 01 49.3	-1.7
AB31				pmax		pmax			
	comp=Z,10.0nm,0.6s								
ABKAR	Akbulak array	57.36	311	*e*P		P		02 01 49.8	-1.3
GMRC	Granite Mounta	57.38	75	P		P		02 01 52.7	+1.1
	baz=319,SNR=36								
MURC	Murrieta	57.42	77	P		P		02 01 52.9	+1.1
	baz=319,SNR=8.8								
LDFC	Landfair	57.46	74	*e*P		P		02 01 53.3	+1.1
	comp=Z,164nm,1.6s								
VAF	Ylistaro	57.58	340	P		P		02 01 53.1	+0.8
VAF				pmax		pmax			
	comp=Z,76nm,1.2s								
BELC	Belle Mtn. Jos	57.78	76	P		P		02 01 55.2	+0.8
	baz=319,SNR=16								
PFO	Pinyon Flats O	57.82	77	*e*P		P		02 01 55.6	+0.9
	comp=Z,50nm,1.6s								
PFO				LR		LR			
	comp=Z,1µm,20.0s								
PFO	Pinyon Flats O	57.82	77	*e*P		P		02 01 55.6	+0.9
PFO				pmax		pmax			
	comp=Z,50nm,1.6s								
PFO				MLR		MLR			
	comp=Z,1µm,20.0s								
PFO	Pinyon Flats O	57.82	77	P		P		02 01 55.6	+0.9
	baz=319,SNR=8.9								
XPFO	Piæon Flat	57.82	77	*e*P		P		02 01 55.6	+0.9
	comp=Z,55nm,1.6s								
FRD	Ford Ranch, An	57.83	77	P		P		02 01 55.9	+1.2
	baz=319,SNR=14								
N23A	Red Feather La	57.95	63	*e*P		P		02 01 56.7	+1.0
	comp=Z,27nm,0.9s								
N23A	Red Feather La	57.95	63	P		P		02 01 57.0	+1.3
	baz=318,SNR=26								
NEE2	Needles Airpor	57.96	74	P		P		02 01 56.0	+0.5
	baz=319								
U15A	North Rim	57.97	71	*e*P		P		02 01 57.5	+1.6
	comp=Z,46nm,1.4s								
NSS	Namsos	57.98	346	*e*P		P		02 01 56.8	+1.6
109C	Camp Elliot, M	58.01	78	P		P		02 01 56.6	+0.8
	baz=319								
CPE	Camp Elliot	58.01	78	*e*P		P		02 01 57.7	+1.9
	comp=Z,77nm,1.5s								
PV09	Paradox Valley	58.10	67	*e*P		P		02 01 57.5	+0.7
W13A	Hualapai Mount	58.11	73	*e*P		P		02 01 58.1	+1.3
	comp=Z,26nm,1.2s								
IRM	Iron Mountain	58.13	75	P		P		02 01 58.2	+1.4
	baz=319,SNR=44								
PV21	Cone Mtn., Par	58.13	67	*e*P		P		02 01 58.7	+1.8
	comp=Z,40nm,1.2s								
PV23	Carpenter Ridg	58.20	67	*e*P		P		02 01 58.7	+1.2
	comp=Z,124nm,1.4s								
PV10	Paradox Valley	58.24	67	*e*P		P		02 01 59.3	+1.6
PV22	Blue Mesa, Par	58.25	67	*e*P		P		02 01 58.7	+1.0
	comp=Z,69nm,1.2s								
PV20	West Nyswonger	58.30	67	*e*P		P		02 01 60.0	+1.9
	comp=Z,102nm,1.4s								
BC3	Big Chuckawall	58.34	76	P		P		02 01 59.3	+1.0
	baz=319,SNR=15								
PV16	Nyswonger Mesa	58.35	67	*e*P		P		02 01 59.8	+1.3
	comp=Z,102nm,1.4s								
PV17	East Wray Mesa	58.35	68	*e*P		P		02 02 00.2	+1.7
	comp=Z,117nm,1.3s								
MONP2	Monument Peak	58.38	77	P		P		02 01 59.9	+1.2
	baz=319,SNR=11								
PV11	David Mesa, Pa	58.38	67	*e*P		P		02 02 00.5	+1.8
	comp=Z,150nm,1.4s								
PV18	Skein Mesa, Pa	58.40	67	*e*P		P		02 02 00.6	+1.7
	comp=Z,112nm,1.4s								
BAR	Barrett	58.40	77	*e*P		P		02 02 00.1	+1.5
	comp=Z,37nm,1.4s								
PV12	Saucer Basin,	58.41	67	*e*P		P		02 02 00.7	+1.9
	comp=Z,110nm,1.4s								
NONG	Nongkai	58.42	255	P		P		02 01 59.4	+0.6
	comp=Z,0.5nm,0.7s								
PV03	Paradox Valley	58.43	67	*e*P		P		02 02 00.6	+1.6
PV05	Paradox Valley	58.43	68	*e*P		P		02 02 00.8	+1.8
PV13	Radium Mtn., P	58.52	68	*e*P		P		02 02 01.4	+1.7
	comp=Z,114nm,1.3s								
PV02	Paradox Valley	58.52	67	*e*P		P		02 02 01.4	+1.8
	comp=Z,88nm,1.4s								
PDMCI	Parker Dam,Lak	58.57	74	P		P		02 02 01.1	+1.4
	baz=319,SNR=9.9								
PV01	Paradox Valley	58.66	67	*e*P		P		02 02 01.8	+1.1
SWSC	Sam W. Stewart	58.68	77	P		P		02 02 01.5	+1.0
	baz=320,SNR=7.2								
SUSD	Miller	58.70	56	P		P		02 02 00.6	0.0
	baz=319								
SMCO	Snowmass	58.71	65	*e*P		P		02 02 02.4	+1.2
	comp=Z,50nm,1.4s								
IKP	In-Ko-Pah, Jac	58.74	77	P		P		02 02 01.9	+0.9
	baz=320,SNR=9.9								
SHL	Shillong	58.75	270	*e*P		P		02 01 58.3	-3.0
	comp=Z,17nm,0.8s								
SHL	Shillong	58.75	270	P		P		02 02 00.1	-1.2
Y12C	Blythe	58.78	75	*e*P		P		02 02 02.6	+1.4
	comp=Z,46nm,1.1s								
Y12C	Blythe	58.78	75	P		P		02 02 02.6	+1.4
	baz=319,SNR=21								
SKNT	Sakolnakorn	58.85	254	P		P		02 02 02.7	+0.8
	comp=Z,16nm,1.2s								
ISCO	Idaho Springs	58.94	64	*e*P		P		02 02 04.4	+1.8
	comp=Z,73nm,1.3s								
ISCO				LR		LR			
	comp=Z,4µm,19.0s								
ISCO	Idaho Springs	58.94	64	*e*P		P		02 02 04.4	+1.8
ISCO				pmax		pmax			
	comp=Z,73nm,1.3s								
ISCO				MLR		MLR			
	comp=Z,4µm,19.0s								
ISCO	Idaho Springs	58.94	64	P		P		02 02 04.5	+1.8
	baz=319,SNR=46								
TAS	Tashkent	59.01	299	P		P		02 02 02.9	+0.2
GLA	Glamis	59.14	76	*e*P		P		02 02 05.2	+1.4
	comp=Z,46nm,1.0s								
GLA	Glamis	59.14	76	*e*P		P		02 02 05.2	+1.4
GLA				pmax		pmax			
	comp=Z,46nm,1.0s								
GLA	Glamis	59.14	76	P		P		02 02 05.1	+1.3
	baz=320,SNR=10								
WUAZ	Wupatki	59.15	71	*e*P		P		02 02 05.8	+1.8
	comp=Z,66nm,1.3s								
WUAZ				LR		LR			
	comp=Z,1µm,20.0s								
WUAZ	Wupatki	59.15	71	P		P		02 02 05.8	+1.8
	baz=319,SNR=35								
PAYA	Payao	59.17	259	P		P		02 02 04.2	+0.1
	comp=Z,17nm,0.7s,comp=Z,152nm								
EYMN	Ely	59.36	49	*e*P		P		02 02 05.1	+0.1
	comp=Z,43nm,1.0s								
EYMN				LR		LR			
	comp=Z,3µm,20.0s								
EYMN	Ely	59.36	49	P		P		02 02 05.5	+0.4
	baz=321,SNR=7.1								
MVCO	Mesa Verde	59.40	68	*e*P		P		02 02 07.3	+1.5
	comp=Z,38nm,1.3s								
MVCO				LR		LR			
	comp=Z,2µm,20.0s								
MVCO	Mesa Verde	59.40	68	P		P		02 02 06.9	+1.2
	baz=319,SNR=8.0								
UBPT	Khong Chiam	59.45	251	P		P		02 02 07.5	+1.5
	comp=Z,68nm,1.7s								
Y14A	Wickenburg	59.46	74	*e*P		P		02 02 07.4	+1.4
	comp=Z,48nm,1.4s								
Q24A	Divide	59.80	64	*e*P		P		02 02 10.5	+1.9
	comp=Z,24nm,1.1s								
Q24A	Divide	59.80	64	P		P		02 02 10.1	+1.5
	baz=320,SNR=11								
S22A	4UR Ranch, Cre	59.86	66	*e*P		P		02 02 10.8	+1.8
	comp=Z,39nm,1.0s								
S22A	4UR Ranch, Cre	59.86	66	P		P		02 02 10.9	+1.8
	baz=320,SNR=38								
OGNE	Ogallala	59.87	61	*e*P		P		02 02 10.3	+1.5
	comp=Z,119nm,1.5s								
OGNE				LR		LR			
	comp=Z,4µm,19.0s								
OGNE	Ogallala	59.87	61	P		P		02 02 09.4	+0.7
	baz=320								
113A	Mohawk Valley,	59.93	75	*e*P		P		02 02 10.4	+1.2
	comp=Z,37nm,1.3s								
X16A	Lo Mia Camp, P	59.94	72	*e*P		P		02 02 11.0	+1.5
	comp=Z,36nm,1.4s								
LAMP	Lampang	59.98	259	P		P		02 02 09.5	-0.1
	comp=Z,26nm,0.7s,comp=Z,224nm								
CMMT	Chiang Mai	60.12	259	P		P		02 02 10.0	-0.7
	comp=Z,33nm,0.7s,comp=Z,723nm								
CHTO	Chiang Mai	60.12	259	*e*P		P		02 02 10.1	-0.6
	comp=Z,20nm,0.6s								
CHTO				LR		LR			
	comp=Z,4µm,20.0s								
CHTO	Chiang Mai	60.12	259	P		P		02 02 10.3	-0.4
	SNR=9.8								
CHTO	Chiang Mai	60.12	259	*e*P		P		02 02 10.1	-0.6
CHTO				pmax		pmax			
	comp=Z,20nm,0.6s								
CHTO				MLR		MLR			
	comp=Z,4µm,20.0s								
CHTO	Chiang Mai	60.12	259	P		P		02 02 10.1	-0.6
	comp=Z,145nm,0.7s,comp=Z,3µm								
ODAN	Odare	60.28	275	*e*P		P		02 02 11.2	-0.7
	comp=Z,40nm,0.6s								
MOS	Moscow	60.31	328	*e*P		P		02 02 10.0	-1.4
MOS				*e**PP		sP		02 02 23.6	-0.8
MOS				*e**SP		pP		02 02 29.2	+8.4
MOS				*e*S		S		02 10 21.9	-1.4
MOS				pmax		pmax			
	comp=Z,109nm,1.4s								
MOS				MLR		MLR			
	comp=N,4µm,15.0s								
MOS				MLR		MLR			
	comp=E,4µm,15.0s								
MOS				MLR		MLR			
	comp=Z,4µm,15.0s								
GUN	Gumba	60.32	277	*e*P		P		02 02 11.2	-1.1
	comp=Z,77nm,0.5s								
W18A	Petrified Fore	60.32	70	*e*P		P		02 02 13.1	+1.0
	comp=Z,61nm,1.4s								
W18A	Petrified Fore	60.32	70	P		P		02 02 13.8	+1.7
	baz=320,SNR=14								
ECSD	EROS Data Cent	60.33	55	*e*P		P		02 02 11.8	0.0
	comp=Z,37nm,1.3s								
ECSD				LR		LR			
	comp=Z,3µm,22.0s								
ECSD	EROS Data Cent	60.33	55	P		P		02 02 12.0	+0.2
	baz=320,SNR=11								
JIRN	Jiri	60.34	276	*e*P		P		02 02 11.9	-0.6
	comp=Z,58nm,0.7s								
C40A	Isle Royale Na	60.37	47	P		P		02 02 11.2	-0.7
	baz=322								
E38A	The Farm, Brul	60.38	50	*e*P		P		02 02 12.4	+0.4
	comp=Z,51nm,1.0s								
E38A	The Farm, Brul	60.38	50	P		P		02 02 12.1	+0.1
	baz=322,SNR=6.5								
CM31	Chiang Mai Arr	60.41	259	*e*P		P		02 02 12.8	+0.2
CM31	Chiang Mai Arr	60.41	259	P		P		02 02 12.4	-0.2
	SNR=8.8								
CMAR	Chiang Mai Arr	60.41	259	P		P		02 02 12.6	0.0
	comp=Z,20nm,0.7s,baz=20,slow=6.9,SNR=50								
CMAR				LR		LR		02 31 38.5	
	comp=Z,6µm,18.2s,baz=51,slow=39								
CMAR	Chiang Mai Arr	60.41	259	*i* P		P		02 02 12.3	-0.3
CMAR				pmax		pmax			
	comp=Z,20nm,0.7s								
CM01	Chiang Mai Arr	60.43	259	*e*P		P		02 02 11.9	-0.8
SDCO	Great Sand Dun	60.55	66	*e*P		P		02 02 15.2	+1.5
	comp=Z,43nm,1.3s								
SDCO				LR		LR			
	comp=Z,3µm,19.0s								
SDCO	Great Sand Dun	60.55	66	P		P		02 02 15.2	+1.5
	baz=320,SNR=31								
F37A	Hinrichs Farm,	60.59	51	P		P		02 02 13.9	+0.4
	baz=322								
RAMN	Ramite	60.66	275	*e*P		P		02 02 12.9	-1.6
	comp=Z,99nm,0.6s								
X18A	Snowflake	60.66	71	*e*P		P		02 02 16.2	+1.8
	comp=Z,84nm,1.3s								
F38A	Pierce - Schro	60.74	51	P		P		02 02 15.3	+0.7
	baz=322,SNR=16								
KKN	Kakani	60.75	277	*e*P		P		02 02 14.4	-0.7
	comp=Z,57nm,0.6s								
IVI	Ivigtut	60.78	17	*e*P		P		02 02 14.3	-0.2
	comp=Z,48nm,1.1s								
CHAI	Chaiyaphum	60.81	255	P		P		02 02 14.9	-0.5
	comp=Z,18nm,0.9s,comp=Z,167nm								
SUKH	Sukhothai	60.82	258	P		P		02 02 15.9	+0.5
	comp=Z,4.6nm,0.7s								
PBKT	Sadao Pong	60.82	256	*e*P		P		02 02 15.1	-0.3
PBKT	Sadao Pong	60.82	256	P		P		02 02 14.9	-0.5
	comp=Z,32nm,0.8s								
VSU	Vasula	60.84	335	⇓ *i* P		P		02 02 14.9	-0.1
PKI	Pulchoki	60.84	277	*e*P		P		02 02 14.2	-1.7
	comp=Z,60nm,0.6s								
PKIN	Phulchoki	60.85	277	*e*P		P		02 02 14.2	-1.6
	comp=Z,41nm,0.5s								
AKN	Aaknes	60.89	347	*e*P		P		02 02 15.4	0.0
SPMN	Marine on St.	60.91	52	*e*P		P		02 02 16.2	+0.6
	comp=Z,45nm,1.1s								
SPMN	Marine on St.	60.91	52	P		P		02 02 16.0	+0.3
	baz=322,SNR=8.0								
JAY	Jayapura	60.92	206	LR		LR		02 25 48.5	
	comp=Z,808nm,21.9s,baz=344,slow=33								
E39A	Mellen	60.98	49	P		P		02 02 15.9	-0.3
	baz=322								
DMN	Daman	60.98	277	*e*P		P		02 02 15.3	-1.5
KSCO	Kaye Shedlock'	61.04	63	*e*P		P		02 02 18.1	+1.3
	comp=Z,84nm,1.1s								
KSCO	Kaye Shedlock'	61.04	63	P		P		02 02 18.0	+1.1
	baz=320,SNR=19								
214A	Organ Pipe Nat	61.07	75	P		P		02 02 18.3	+1.2
	baz=320,SNR=40								
OBN	Obninsk	61.16	328	P		P		02 02 16.7	-0.5
	comp=Z,2.5nm,0.4s,baz=76,slow=0.1,SNR=12								
OBN	Obninsk	61.16	328	*e*P		P		02 02 16.4	-0.8
OBN				LR		LR			
	comp=Z,3µm,19.0s								
OBN	Obninsk	61.16	328	⇑ *i* P		P		02 02 16.5	-0.7
OBN				*e**PP		pP		02 02 26.5	-0.1
OBN				*e**SP		sP		02 02 33.4	+3.2
OBN				*e*				02 02 53.8	
OBN				*e*				02 04 31.3	
OBN				*e*PPP		PPP		02 06 03.2	
OBN				*e*S		S		02 10 32.2	-1.9
OBN				*e*SS		SS		02 14 33.7	+0.4
OBN				pmax		pmax			
	comp=Z,154nm,1.8s								
OBN				MLR		MLR			
	comp=Z,4µm,18.0s								
DANN	Dangsing	61.17	279	*e*P		P		02 02 16.8	-1.2
	comp=Z,136nm,0.6s								
F39A	Loretta	61.19	50	P		P		02 02 17.8	+0.3
	baz=322,SNR=6.5								
E40A	Wakefield	61.21	49	P		P		02 02 18.2	+0.5
	baz=322,SNR=11								
NC303	NORSAR Array S	61.22	345	*e*P		P		02 02 17.2	-0.3
NC204	NORSAR Array S	61.26	345	*e*P		P		02 02 17.6	-0.2
NC405	NORSAR Array S	61.27	345	*e*P		P		02 02 17.9	0.0
G38A	Ridgeland	61.37	51	P		P		02 02 18.7	-0.1
	baz=322,SNR=12								
NB201	NORSAR Array S	61.40	345	*e*P		P		02 02 18.8	0.0
BGNE	Belgrade	61.40	58	*e*P		P		02 02 20.0	+0.9
	comp=Z,186nm,1.1s								
BGNE	Belgrade	61.40	58	P		P		02 02 18.4	-0.7
	baz=321,SNR=17								
NB2	NORSAR Subarra	61.42	345	P		P		02 02 18.5	-0.4
	comp=Z,57nm,1.1s,baz=19,slow=6.9								
NB2	NORSAR Subarra	61.42	345	P		P		02 02 18.5	-0.4
	baz=19,slow=6.9								
NOA	NORSAR Array B	61.42	345	P		P		02 02 18.4	-0.6
	comp=Z,18nm,0.9s,baz=18,slow=6.8,SNR=29								
NBO00	NORSAR Array S	61.49	345	*e*P		P		02 02 19.7	+0.3
F40A	Park Falls	61.53	49	P		P		02 02 19.4	-0.6
	baz=322								
H38A

ANMO Albuquerque 62.19 68 P P 02 02 24.0 -0.7
baz=321
LAZ Ladron 62.25 69 eP P 02 02 27.0 +1.9
UMPA Umpang Tak 62.28 258 P P 02 02 26.2 +0.9
comp=Z,36nm,0.7s,comp=Z,2µm
SRAK Srakaew 62.34 253 P P 02 02 23.4 -2.2
comp=Z,470nm,0.7s,comp=Z,4µm
H40A Chili 62.44 51 P P 02 02 25.9 -0.1
baz=323
SCHQ Schefferville 62.45 30 P P 02 02 24.3 -1.7
comp=Z,9.0nm,1.0s,baz=323,slow=5.1,SNR=3.2
SCHQ LR LR 02 31 46.3
comp=Z,2µm,20.5s,baz=326,slow=38
E43A Lone Tree Farm 62.49 47 P P 02 02 25.0 -1.3
baz=324
UTHA Uthaitani 62.49 257 P P 02 02 26.5 -0.1
comp=Z,21nm,0.6s,comp=Z,212nm
G41A Antigo 62.49 49 P P 02 02 26.4 0.0
baz=323
F42A Maple Grove Fa 62.50 48 P P 02 02 25.9 -0.6
baz=323
LENM Lemitar 62.52 69 eP P 02 02 28.6 +1.8
I39A Houston 62.55 52 eP P 02 02 27.4 +0.7
comp=Z,59nm,1.2s
I39A Houston 62.55 52 P P 02 02 26.4 -0.4
baz=322,SNR=6.4
LPSR Galich'ya Gora 62.58 325 eP P 02 02 25.6 -1.1
LPSR pmax pmax
comp=Z,80nm,1.7s
LPSR MLR MLR
comp=Z,5µm,14.5s
LPM Los Pinos Moun 62.58 69 eP P 02 02 28.6 +1.3
Y22D IRIS PASSCAL I 62.61 69 P P 02 02 28.7 +1.2
baz=321
CBKS Cedar Bluff 62.63 61 eP P 02 02 28.5 +1.1
comp=Z,92nm,1.3s
CBKS LR LR
comp=Z,3µm,19.0s
CBKS Cedar Bluff 62.63 61 eP P 02 02 28.5 +1.1
CBKS pmax pmax
comp=Z,92nm,1.3s
CBKS MLR MLR
comp=Z,3µm,19.0s
CBKS Cedar Bluff 62.63 61 P P 02 02 27.6 +0.1
baz=321,SNR=6.1
BNM Barren Site 62.71 69 eP P 02 02 29.9 +1.6
E44A Grand Marais A 62.73 46 P P 02 02 27.7 -0.2
baz=324
H41A Junction City 62.76 50 P P 02 02 27.7 -0.5
baz=323
G42A Mountain 62.79 49 eP P 02 02 28.6 +0.3
comp=Z,60nm,1.1s
G42A Mountain 62.79 49 P P 02 02 26.7 -1.6
baz=323
VRH Novokhopyorsk 62.83 323 eP P 02 02 26.6 -1.9
VRH pmax pmax
comp=Z,50nm,1.4s
VRH MLR MLR
comp=Z,12µm,16.6s
F43A Flat Rock, Esc 62.85 48 P P 02 02 28.3 -0.4
baz=324
J39A Decorah 62.88 52 P P 02 02 28.5 -0.4
baz=322,SNR=5.8
I40A Norwalk 62.92 51 P P 02 02 29.3 +0.1
baz=323,SNR=6.0
F44A Big Bay de Noc 63.05 47 P P 02 02 28.5 -1.5
baz=324
G43A Wallace 63.09 48 eP P 02 02 31.9 +1.5
comp=Z,72nm,1.1s
G43A Wallace 63.09 48 P P 02 02 29.9 -0.4
baz=324
I41A Arkdale 63.11 51 eP P 02 02 32.4 +1.9
comp=Z,28nm,1.1s
I41A Arkdale 63.11 51 P P 02 02 30.6 +0.1
baz=323
E45A Wooded Hills, 63.25 46 P P 02 02 30.2 -1.2
baz=324
J40A Soldiers Grove 63.26 52 P P 02 02 31.3 -0.2
baz=323
VORR Voronezh 63.28 325 eP P 02 02 29.0 -2.4
VORR pmax pmax
comp=Z,250nm,1.8s
K39A Oelwein 63.29 53 P P 02 02 31.0 -0.7
baz=323,SNR=7.4
SCIA State Center 63.32 54 eP P 02 02 32.8 +0.8
comp=Z,127nm,1.2s
SCIA LR LR
comp=Z,2µm,19.0s
SCIA State Center 63.32 54 P P 02 02 32.1 +0.2
baz=322
H42A Shiocton 63.33 49 P P 02 02 32.1 +0.2
baz=323
121A Cookes Peak, D 63.34 71 P P 02 02 34.4 +2.0
baz=321,SNR=31
319A Douglas 63.44 73 eP P 02 02 34.7 +1.8
comp=Z,117nm,1.3s
D47A Chapleau 63.51 44 P P 02 02 32.7 -0.4
baz=325
J41A Loganville 63.60 51 P P 02 02 33.3 -0.4
baz=323,SNR=5.5
K40A Colesburg 63.63 52 P P 02 02 33.6 -0.4
baz=323,SNR=5.6
SRDT SRDT 63.65 256 P P 02 02 34.0 -0.4
comp=Z,56nm,1.3s,comp=Z,2µm
F45A CMU Biological 63.66 47 P P 02 02 32.6 -1.4
baz=324
I42A Draeger Farm, 63.66 50 P P 02 02 32.7 -1.5
baz=324
VSR Storozhevoye 63.68 324 eP P 02 02 32.0 -2.1
VSR pmax pmax
comp=Z,70nm,1.3s
VSR MLR MLR
comp=Z,7µm,14.8s
H43A Windswept, Lux 63.69 49 eP P 02 02 34.6 +0.3
comp=Z,60nm,0.8s
H43A Windswept, Lux 63.69 49 P P 02 02 32.7 -1.6
baz=324
L39A Vinton 63.70 53 P P 02 02 34.3 -0.1
baz=323,SNR=12
VORD Divnogorie 63.85 324 eP P 02 02 33.8 -1.4
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD MLR MLR
comp=Z,7µm,16.0s
JFWS Jewell Farm 63.86 52 eP P 02 02 35.5 0.0
comp=Z,17nm,0.8s
JFWS LR LR
comp=Z,6µm,20.0s
JFWS Jewell Farm 63.86 52 eP P 02 02 35.5 0.0
JFWS pmax pmax
comp=Z,17nm,0.8s
JFWS MLR MLR
comp=Z,6µm,20.0s
JFWS Jewell Farm 63.86 52 P P 02 02 35.3 -0.2
baz=323
PATY Pattaya 63.88 254 P P 02 02 37.6 +1.8
comp=Z,19nm,0.7s
F46A Macinaw City C 63.89 46 P P 02 02 34.6 -1.0
baz=325
KSU1 Kansas State U 63.93 58 eP P 02 02 35.9 -0.1
KSU1 LR LR
comp=Z,2µm,19.0s
KSU1 Kansas State U 63.93 58 P P 02 02 35.6 -0.3
baz=322,SNR=8.0
I43A Langenfeld Bro 64.00 50 P P 02 02 36.0 -0.3
baz=324
J42A Columbus 64.03 51 P P 02 02 35.8 -0.7
baz=324
NACGM Naroch 64.03 334 e P 02 02 35.0 -1.4
NACGM eLQ LQ 02 27 36.0
K41A Shullsburg 64.08 52 P P 02 02 36.5 -0.4
baz=323
L40A Anamosa 64.10 53 eP P 02 02 36.6 -0.4
comp=Z,28nm,0.9s
L40A Anamosa 64.10 53 P P 02 02 37.1 +0.1
baz=323,SNR=5.3
M39A Webster 64.14 54 P P 02 02 37.3 0.0
baz=323,SNR=6.0
J43A Natural Harves 64.29 50 P P 02 02 37.5 -0.7
baz=324
HSIG 64.36 76 eP P 02 02 40.4 +1.5
comp=Z,94nm,1.4s
K42A Prairie Point, 64.36 51 P P 02 02 38.3 -0.5
baz=324,SNR=6.4
L41A Preston 64.42 52 P P 02 02 39.0 -0.1
baz=323,SNR=7.9
N39A Derby Farms, D 64.46 54 eP P 02 02 40.0 +0.6
comp=Z,54nm,1.1s
N39A Derby Farms, D 64.46 54 P P 02 02 39.5 +0.1
baz=323,SNR=9.0
M40A Post Highland 64.49 53 P P 02 02 39.4 -0.2
baz=323
PHET Kaeng Krachan 64.56 255 P P 02 02 40.4 +0.1
comp=Z,56nm,0.8s,comp=Z,430nm
EPT El Paso 64.62 71 eP P 02 02 42.7 +1.9
comp=Z,116nm,1.5s
AMTX Amarillo 64.71 65 eP P 02 02 41.1 -0.2
comp=Z,55nm,1.3s
AMTX Amarillo 64.71 65 P P 02 02 41.6 +0.3
baz=322
GLMI Grayling 64.72 47 eP P 02 02 40.9 -0.2
comp=Z,76nm,0.8s
GLMI LR LR
comp=Z,3µm,20.0s
GLMI Grayling 64.72 47 P P 02 02 40.5 -0.6
baz=325
VLDQ Val d'Or 64.78 40 eP P 02 02 39.9 -1.5
comp=Z,67nm,1.1s
L42A Oliver, Polo 64.84 52 eP P 02 02 41.7 -0.2
comp=Z,34nm,0.9s
L42A Oliver, Polo 64.84 52 P P 02 02 41.6 -0.2
baz=324
MSTX Muleshoe 64.86 66 eP P 02 02 43.2 +1.0
comp=Z,84nm,1.1s
MSTX Muleshoe 64.86 66 P P 02 02 43.0 +0.7
baz=322,SNR=24
K43A Burlington 64.87 50 P P 02 02 42.2 +0.1
baz=324
N40A Mertquake, Sal 64.88 54 P P 02 02 42.0 -0.1
baz=323,SNR=14
U32A Winter Ranch, 64.89 62 eP P 02 02 43.6 +1.2
comp=Z,33nm,1.0s
M41A Milan 64.96 53 P P 02 02 42.1 -0.5
baz=324,SNR=8.4
SRIG Santa Rosalia 64.97 78 eP P 02 02 44.3 +1.4
comp=Z,76nm,1.3s
HNR Honiara 65.03 183 PFAKE 02 03 00.0 +17
HNR LR LR
comp=Z,2µm,19.0s
L43A Garden Prairie 65.11 51 P P 02 02 43.3 -0.3
baz=324
J45A Montague 65.11 49 P P 02 02 43.5 -0.1
baz=325
M42A Sheffield 65.25 52 P P 02 02 43.0 -1.5
baz=324
MNTX Cornudas Mount 65.27 70 eP P 02 02 46.4 +1.6
comp=Z,99nm,1.1s
MNTX LR LR
comp=Z,1µm,19.0s
MNTX Cornudas Mount 65.27 70 P P 02 02 46.4 +1.6
baz=322,SNR=97
N41A Harden Midland 65.35 53 eP P 02 02 45.0 -0.2
comp=Z,138nm,1.3s
N41A Harden Midland 65.35 53 P P 02 02 44.8 -0.4
baz=324,SNR=12
GDL2 Guadalupe Moun 65.42 69 eP P 02 02 47.1 +1.2
FUNA Funafuti 65.47 162 PFAKE 02 03 00.0 +14
FUNA LR LR
comp=Z,4µm,19.0s
L44A Lake County Fo 65.48 51 P P 02 02 46.0 0.0
baz=324
J46A Howard City 65.50 48 P P 02 02 45.6 -0.5
baz=325
M43A Waltham Townsh 65.62 52 P P 02 02 46.4 -0.5
baz=324
N42A Yates City 65.62 53 P P 02 02 46.5 -0.5
baz=324,SNR=5.5
SUW Suwalki 65.72 335 eP P 02 02 47.3 -0.1
SUW Suwalki 65.72 335 eP P 02 02 47.2 -0.1
comp=Z,83nm,1.1s
SUW Suwalki 65.72 335 eP P 02 02 47.3 -0.1
O41A Passleys Farm, 65.81 54 P P 02 02 48.0 -0.2
baz=324,SNR=9.1
D54A Lac Fusel, La 65.88 40 P P 02 02 48.2 -0.4
baz=328,SNR=5.8
N43A Stutzman Famil 65.92 52 P P 02 02 48.5 -0.4
baz=324,SNR=5.3
J47A Sunmer 65.94 48 P P 02 02 48.7 -0.2
baz=325
K46A Dorr 65.98 49 P P 02 02 48.8 -0.5
baz=325
M44A Midewin, Midew 66.06 51 eP P 02 02 49.9 +0.1
comp=Z,53nm,1.0s
M44A Midewin, Midew 66.06 51 P P 02 02 49.2 -0.5
baz=324
P41A Barry, Barry 66.08 54 P P 02 02 49.9 0.0
baz=324,SNR=20
O42A Bath 66.11 53 P P 02 02 49.2 -0.9
baz=324
E53A Dumoine, Ponti 66.16 41 P P 02 02 49.4 -1.0
baz=328
HDIL Hopedale 66.18 53 eP P 02 02 50.6 +0.1
comp=Z,65nm,0.8s
HDIL LR LR
comp=Z,3µm,20.0s
HDIL Hopedale 66.18 53 P P 02 02 50.3 -0.2
baz=324,SNR=10
I49A Point Hope 66.18 46 P P 02 02 49.4 -1.1
baz=326
E54A Lac Daplat, Po 66.29 41 P P 02 02 49.6 -1.5
baz=328
WMOK Wichita Mounta 66.30 63 eP P 02 02 52.3 +0.9
comp=Z,77nm,1.0s
WMOK LR LR
comp=Z,3µm,19.0s
WMOK Wichita Mounta 66.30 63 eP P 02 02 52.3 +0.9
WMOK pmax pmax
comp=Z,77nm,1.0s
WMOK MLR MLR
comp=Z,3µm,19.0s
WMOK Wichita Mounta 66.30 63 P P 02 02 51.9 +0.5
baz=323,SNR=80
L46A Eue Claire 66.31 50 P P 02 02 50.6 -0.7
baz=325
J48A Bridge Port 66.32 47 P P 02 02 52.8 +1.4
baz=326
K47A Vermontville 66.33 48 P P 02 02 51.3 -0.2
baz=325,SNR=6.2
O43A Sugar Creek Fa 66.39 53 P P 02 02 51.5 -0.3
baz=324
P42A Winchester 66.48 54 eP P 02 02 52.6 +0.1
comp=Z,92nm,1.3s
P42A Winchester 66.48 54 P P 02 02 52.3 -0.2
baz=324,SNR=14
N44A Piper City 66.50 52 P P 02 02 51.9 -0.7
baz=325
K48A Perry 66.59 48 P P 02 02 53.0 -0.1
baz=326
Q41A Truxton 66.59 55 P P 02 02 53.2 +0.1
baz=324,SNR=23
N45A Kentland 66.73 51 P P 02 02 54.1 0.0
baz=325
M46A Old House Fiel 66.78 50 eP P 02 02 54.7 +0.3
comp=Z,82nm,1.3s
M46A Old House Fiel 66.78 50 P P 02 02 54.1 -0.3
baz=325
L47A Sherwood 66.81 49 P P 02 02 54.2 -0.3
baz=326,SNR=6.4
P43A Skaggs, Pawnee 66.81 53 P P 02 02 53.6 -1.0
baz=324
TUL1 Leonard 66.85 60 eP P 02 02 55.8 +0.9
comp=Z,69nm,1.3s
TUL1 Leonard 66.85 60 P P 02 02 55.2 +0.3
baz=323,SNR=12
O44A Mansfield 66.87 52 P P 02 02 54.2 -0.8
baz=325
K49A Clarkson 66.88 47 P P 02 02 55.1 +0.1
baz=326,SNR=8.4
Q42A Golden Eagle 66.94 54 P P 02 02 55.5 +0.1
baz=324,SNR=22
SBUM Sibu 66.95 237 eP P 02 02 56.7 +0.9
comp=Z,58nm,1.1s
N46A Monticello 67.03 51 P P 02 02 56.3 +0.3
baz=325
R41A Rosebud 67.05 55 P P 02 02 55.8 -0.3
baz=324,SNR=28
GEYT Alibeck 67.05 304 P P 02 02 55.0 -1.2
comp=Z,16nm,1.0s,baz=308,slow=7.3,SNR=36
GEYT LR LR 02 35 52.2
comp=Z,6µm,19.2s,baz=270,slow=39
O45A Potomac 67.12 52 P P 02 02 56.1 -0.5
baz=325,SNR=11
M47A Cromwell 67.14 50 P P 02 02 55.4 -1.3
baz=326
L48A N Adams 67.16 48 P P 02 02 56.8 0.0
baz=326,SNR=7.5
AKASG Malin Array Be 67.17 330 P P 02 02 55.8 -0.9
comp=Z,8.1nm,0.5s,baz=28,slow=6.2,SNR=33
AKASG LR LR 02 35 52.8
comp=Z,4µm,19.3s,baz=20,slow=39
AKASG Malin Array Be 67.17 330 i P P 02 02 54.5 -2.2
AKASG pmax pmax
comp=Z,8.0nm,0.5s
KIEV Kiev 67.18 330 eP P 02 02 55.9 -0.8
comp=Z,41nm,1.1s
KIEV LR LR
comp=Z,6µm,22.0s
KIEV Kiev 67.18 330 i P P 02 02 55.8 -0.9
SNR=8.9
KIEV Kiev 67.18 330 ⇑ iP P 02 02 55.8 -0.9
KIEV pmax pmax
comp=Z,77nm,1.9s
AAM Ann Arbor 67.19 48 eP P 02 02 57.5 +0.5
comp=Z,54nm,1.0s
AAM LR LR
comp=Z,3µm,19.0s
AAM Ann Arbor 67.19 48 eP P 02 02 57.5 +0.5
AAM pmax pmax
comp=Z,54nm,1.0s
AAM MLR MLR
comp=Z,3µm,19.0s
AAM Ann Arbor 67.19 48 P P 02 02 56.8 -0.2
baz=326
K50A Casco 67.23 47 P P 02 02 57.0 -0.2
baz=326
SFIN Lafayette 67.30 51 eP P 02 02 58.6 +0.9
comp=Z,42nm,1.3s
SFIN Lafayette 67.30 51 P P 02 02 57.6 -0.1
baz=325
Q43A New Douglas 67.30 54 P P 02 02 58.0 +0.3
baz=324
SLM Saint Louis 67.30 54 eP P 02 02 59.1 +1.5
comp=Z,76nm,1.2s
SLM Saint Louis 67.30 54 eP P 02 02 59.2 +1.5
SLM pmax pmax
comp=Z,76nm,1.2s
CCM Cathedral Cave 67.30 55 eP P 02 02 57.8 +0.1
comp=Z,75nm,1.2s
CCM Cathedral Cave 67.30 55 eP P 02 02 57.8 +0.1
CCM pmax pmax
comp=Z,75nm,1.2s
CCM Cathedral Cave 67.30 55 P P 02 02 57.5 -0.2
baz=324
L49A Milan 67.31 48 P P 02 02 57.9 +0.2
baz=326,SNR=6.8
R42A Luebbering 67.33 55 P P 02 02 57.8 -0.1
baz=324,SNR=25
P44A Sand Creek, Wi 67.36 53 P P 02 02 57.9 -0.2
baz=325,SNR=12
M48A Edgerton 67.42 49 eP P 02 02 59.7 +1.2
comp=Z,167nm,1.7s
M48A Edgerton 67.42 49 P P 02 02 56.9 -1.6
baz=326
S41A Jillco Farms, 67.45 56 P P 02 02 58.5 -0.1
baz=324,SNR=36
HHAR Hobbs 67.45 58 eP P 02 02 59.0 +0.2
comp=Z,57nm,1.0s
N47A Urbana 67.50 50 P P 02 02 58.4 -0.6
baz=326
ABTX Abilene, Hawle 67.53 65 eP P 02 03 00.1 +0.8
comp=Z,95nm,1.1s
ABTX Abilene, Hawle 67.53 65 P P 02 02 59.8 +0.5
baz=323,SNR=27
MAK Makhachkala 67.58 314 eP P 02 02 58.5 -0.9
MAK eS S 02 11 51.0 -2.8
MAK pmax pmax
comp=Z,133nm,1.0s
Q44A Meyer Farm, Va 67.64 53 P P 02 02 59.7 -0.2
baz=325
P45A Graceland, Par 67.70 52 eP P 02 03 00.1 -0.1
comp=Z,27nm,0.8s
P45A Graceland, Par 67.70 52 P P 02 03 00.4 +0.2
baz=325,SNR=5.4
GKP Gorka Klasztor 67.73 339 eP P 02 03 00.3 +0.2
GKP Gorka Klasztor 67.73 339 eP P 02 03 00.3 +0.2
R43A Red Bud 67.73 54 P P 02 03 00.1 -0.3
baz=325,SNR=14
FVM French Village 67.74 55 eP P 02 03 00.8 +0.3
comp=Z,57nm,0.8s
FVM French Village 67.74 55 eP P 02 03 00.8 +0.3
FVM pmax pmax
comp=Z,57nm,0.8s
M49A Liberty Center 67.74 48 P P 02 02 59.7 -0.7
baz=326
S42A Caledonia 67.74 55 P P 02 03 00.3 -0.3
baz=324,SNR=25
N48A Decatur 67.80 49 P P 02 03 00.2 -0.7
baz=326,SNR=5.7
O47A Sheridan 67.82 51 P P 02 03 00.6 -0.4
baz=325
P46A Rosedale 67.87 52 P P 02 03 00.9 -0.4
baz=325,SNR=11
T41A Mountain View 67.88 56 P P 02 03 00.8 -0.6
baz=324,SNR=24
U40A Yellville 67.91 58 P P 02 03 01.0 -0.7
baz=324,SNR=30
Q45A Warren Harvey, 68.04 53 P P 02 03 01.8 -0.5
baz=325,SNR=9.8
TX31 Lajitas Ar. Si 68.04 70 eP P 02 03 03.6 +1.0
TXAR Lajitas Array 68.04 70 P P 02 03 04.3 +1.7
comp=Z,19nm,0.6s,baz=299,slow=4.5,SNR=192
TXAR PKP2bc 02 31 21.4
comp=Z,0.5nm,0.8s,baz=190,slow=3.7,SNR=4.7
TXAR LR LR 02 32 58.5
comp=Z,1µm,18.7s,baz=0.0,slow=36
GROC Groznyy 68.06 316 eP P 02 03 01.6 -0.8
GROC e 02 03 28.1
GROC eS S 02 11 53.3 -6.2
GROC pmax pmax
comp=Z,57nm,1.4s
N49A Columbus Grove 68.11 49 eP P 02 03 02.7 -0.1
comp=Z,60nm,1.1s
N49A Columbus Grove 68.11 49 P P 02 03 02.3 -0.5
baz=326,SNR=6.3
X37A Clayton 68.11 61 eP P 02 03 04.5 +1.7
comp=Z,37nm,1.1s
R44A Waltonville 68.14 54 P P 02 03 02.6 -0.4
baz=325,SNR=14
M50A Fremont 68.19 48 P P 02 03 02.7 -0.6
baz=326
OLIL Olney 68.19 53 eP P 02 03 03.9 +0.6
comp=Z,44nm,1.0s
T42A Van Buren 68.20 56 eP P 02 03 03.0 -0.4
comp=Z,72nm,1.4s
T42A Van Buren 68.20 56 P P 02 03 03.0 -0.4
baz=324,SNR=19
S43A Fulton Ridge, 68.24 55 P P 02 03 03.1 -0.5
baz=325,SNR=18
O48A Farmland 68.24 50 P P 02 03 02.7 -0.9
baz=326,SNR=5.9
Q46A CEJHS Indians, 68.29 52 P P 02 03 03.3 -0.6
baz=325
U41A Viola 68.37 57 P P 02 03 04.1 -0.4
baz=324,SNR=19
V40A Witts Springs 68.37 58 eP P 02 03 04.5 0.0
comp=Z,92nm,1.1s
V40A Witts Springs 68.37 58 P P 02 03 04.1 -0.4
baz=324,SNR=40
P47A Martinsville 68.39 51 P P 02 03 03.8 -0.8
baz=326,SNR=14
W39A Magazine 68.40 59 eP P 02 03 05.7 +1.0
comp=Z,126nm,1.4s
W39A Magazine 68.40 59 P P 02 03 04.4 -0.3
baz=324,SNR=16
R45A Skylar, Fairfi 68.47 53 P P 02 03 04.6 -0.4
baz=325
S44A Carbondale 68.52 54 P P 02 03 05.2 -0.1
baz=325,SNR=9.1
SIUC Southern Illin 68.52 54 eP P 02 03 05.5 +0.2
comp=Z,36nm,0.8s
T43A Greenville 68.53 55 P P 02 03 05.4 -0.1
baz=325,SNR=15
BLO Bloomington 68.54 52 eP P 02 03 05.3 -0.2
comp=Z,54nm,1.2s
BLO Bloomington 68.54 52 eP P 02 03 05.3 -0.2
BLO pmax pmax
comp=Z,54nm,1.2s
M51A Elyria 68.61 47 P P 02 03 05.3 -0.6
baz=327
KIV Kislovodsk 68.62 318 eP P 02 03 05.4 -0.7
comp=Z,34nm,1.1s
KIV LR LR
comp=Z,2µm,19.0s

KIV	Kislovodsk	68.62	318	P		P		02 03 07.7	+1.6
	SNR=8.1									
KIV	Kislovodsk	68.62	318	*i* P		P		02 03 06.4	+0.3
KIV	Kislovodsk	68.62	318	*e*P		P		02 03 05.8	-0.3
KIV				*e*S		S		02 12 04.3	-2.2
KIV				pmax		pmax				
	comp=Z,21nm,1.1s									
KIV				MLR		MLR				
	comp=Z,2µm,17.0s									
O49A	Covington	68.65	49	*e*P		P		02 03 07.2	+1.1
	comp=Z,150nm,1.7s									
O49A	Covington	68.65	49	P		P		02 03 05.4	-0.8
	baz=326									
NCK	Nalchik	68.67	317⇑	*i* P		P		02 03 05.9	-0.4
NCK				pmax		pmax				
	comp=Z,48nm,1.3s									
N50A	Nevada	68.67	48	P		P		02 03 05.9	-0.5
	baz=327									
KRAB	Krabi	68.68	253	P		P		02 03 07.1	+0.5
	comp=Z,48nm,0.8s,comp=Z,8µm									
U42A	Revenden	68.68	57	P		P		02 03 06.4	-0.1
	baz=325,SNR=8.4									
ESK	Eskdalemuir	68.69	352	*e*P		P		02 03 05.6	-0.6
	comp=Z,31nm,0.7s									
ESK	Eskdalemuir	68.69	352	*i* P		P		02 03 10.0	+3.8
V41A	Mountainview	68.71	58	P		P		02 03 06.0	-0.7
	baz=324,SNR=28									
PBMO	Poplar Bluff	68.72	56	*e*P		P		02 03 07.0	+0.3
	comp=Z,54nm,1.0s									
KSM	Kuching	68.72	239	*e*P		P		02 03 07.6	+0.7
	comp=Z,81nm,1.2s									
AKT	Akhty	68.72	313	*e*P		P		02 03 06.4	-0.3
AKT				*e*				02 03 31.5		
AKT				pmax		pmax				
	comp=Z,94nm,1.4s									
TRTT	Trang	68.73	252	P		P		02 03 06.8	-0.2
	comp=Z,15nm,1.1s,comp=Z,383nm									
KBZ	Khabaz	68.74	318	P		P		02 03 06.5	-0.1
	comp=Z,19nm,0.9s,baz=108,slow=0.4,SNR=31									
KBZ				LR		LR		02 38 11.1		
	comp=Z,6µm,18.8s,baz=16,slow=40									
W40A	Ferguson Farm,	68.75	59	*e*P		P		02 03 07.4	+0.5
	comp=Z,115nm,0.9s									
W40A	Ferguson Farm,	68.75	59	P		P		02 03 07.0	+0.1
	baz=324,SNR=28									
Q47A	Bedord North L	68.78	52	P		P		02 03 06.4	-0.6
	baz=326,SNR=13									
P48A	Milroy	68.78	51	P		P		02 03 06.2	-0.9
	baz=326,SNR=12									
X39A	Fountain Ranch	68.79	60	P		P		02 03 07.5	+0.4
	baz=324,SNR=33									
SKLT	Songkhla	68.80	251	P		P		02 03 08.1	+0.8
	comp=Z,102nm,1.5s,comp=Z,2µm									
LONY	Lake Ozonia	68.80	40	*e*P		P		02 03 07.2	+0.1
	comp=Z,5.6nm,0.6s									
LONY				LR		LR				
	comp=Z,2µm,22.0s									
LONY	Lake Ozonia	68.80	40	P		P		02 03 05.8	-1.3
	baz=330									
S45A	Carrier Mills	68.84	54	P		P		02 03 06.8	-0.5
	baz=325									
ERPA	Erie	68.85	45	*e*P		P		02 03 08.3	+0.9
	comp=Z,82nm,0.9s									
ERPA	Erie	68.85	45	P		P		02 03 07.4	0.0
	baz=328									
T44A	Benton	68.86	55	P		P		02 03 07.5	+0.1
	baz=325									
HPIG		68.87	73	*e*P		P		02 03 10.0	+2.0
	comp=Z,63nm,1.5s									
N51A	Ashland	68.88	48	*e*P		P		02 03 07.0	-0.6
	comp=Z,94nm,1.2s									
N51A	Ashland	68.88	48	P		P		02 03 06.5	-1.0
	baz=327									
R46A	Gibson Southern	68.88	53	P		P		02 03 06.2	-1.4
	baz=326									
O50A	Cable	68.99	49	P		P		02 03 07.6	-0.8
	baz=326,SNR=7.8									
USIN	University of	69.02	53	*e*P		P		02 03 08.7	+0.2
	comp=Z,62nm,1.0s									
MIAR	Mount Ida	69.03	59	*e*P		P		02 03 08.7	+0.1
	comp=Z,79nm,1.2s									
MIAR				LR		LR				
	comp=Z,2µm,19.0s									
MIAR	Mount Ida	69.03	59	*e*P		P		02 03 08.7	+0.1
MIAR				pmax		pmax				
	comp=Z,79nm,1.2s									
MIAR				MLR		MLR				
	comp=Z,2µm,19.0s									
MIAR	Mount Ida	69.03	59	P		P		02 03 08.9	+0.3
	baz=324,SNR=28									
P49A	Miami Univ. Ec	69.03	50	P		P		02 03 07.7	-0.9
	baz=326,SNR=10									
MOQ	Mont Orford	69.03	38	*e*P		P		02 03 08.7	+0.2
WHAR	Wooly Hollow	69.04	58	*e*P		P		02 03 08.9	+0.2
	comp=Z,89nm,1.1s									
V42A	Cord	69.05	57	P		P		02 03 08.4	-0.3
	baz=325,SNR=8.0									
U43A	Rector	69.06	56	P		P		02 03 08.9	+0.1
	baz=325,SNR=7.4									
Q48A	North Vernon	69.09	51	P		P		02 03 08.0	-0.9
	baz=326									
SLBS	Sierra La Lagu	69.10	79	*e*P		P		02 03 11.9	+2.6
	comp=Z,46nm,1.3s									
PARMO	Parma	69.13	55	*e*P		P		02 03 11.1	+1.9
	comp=Z,218nm,0.9s									
WHTX	Lake Whitney,	69.15	64	*e*P		P		02 03 10.1	+0.7
	comp=Z,48nm,1.3s									
WHTX	Lake Whitney,	69.15	64	P		P		02 03 09.4	0.0
	baz=324,SNR=7.4									
ZEI	Tsey	69.15	317	*e*P		P		02 03 05.5	-4.0
ZEI				pmax		pmax				
	comp=Z,26nm,1.0s									
MMNY	Mt. Morris Dam	69.15	44	*e*P		P		02 03 09.5	+0.2
	comp=Z,65nm,1.1s									
JCT	Junction City	69.16	66	*e*P		P		02 03 10.9	+1.4
	comp=Z,68nm,0.9s									
JCT				LR		LR				
	comp=Z,3µm,20.0s									
JCT	Junction City	69.16	66	*e*P		P		02 03 10.9	+1.4
JCT				pmax		pmax				
	comp=Z,68nm,0.9s									
JCT				MLR		MLR				
	comp=Z,3µm,20.0s									
JCT	Junction City	69.16	66	P		P		02 03 10.0	+0.4
	baz=323,SNR=26									
W41B	Gary Mavity, V	69.16	58	*e*P		P		02 03 09.2	-0.1
	comp=Z,118nm,1.3s									
W41B	Gary Mavity, V	69.16	58	P		P		02 03 09.3	-0.1
	baz=324,SNR=37									
ALLY	Alegheny Colle	69.18	46	*e*P		P		02 03 11.1	+1.6
	comp=Z,87nm,1.1s									
ACSO	Alum Creek Sta	69.19	48	*e*P		P		02 03 09.7	+0.1
	comp=Z,62nm,1.1s									
ACSO				LR		LR				
	comp=Z,3µm,19.0s									
ACSO	Alum Creek Sta	69.19	48	P		P		02 03 09.1	-0.4
	baz=327									
NEY	Neytrino	69.21	318	*i* P		P		02 03 10.2	+0.3
NEY				pmax		pmax				
	comp=Z,9.0nm,1.5s									
S46A	Don Dixon Farm	69.22	53	P		P		02 03 09.4	-0.4
	baz=326									
R47A	Wooly Knot Far	69.26	52	P		P		02 03 09.6	-0.4
	baz=326,SNR=6.1									
T45A	Paducah	69.35	54	P		P		02 03 10.7	+0.2
	baz=325									
P50A	Jamestown	69.36	49	P		P		02 03 10.1	-0.5
	baz=327,SNR=9.3									
LVV	L'vov	69.37	333	*e*P		P		02 03 10.0	-0.5
LVV				*e*S		S		02 12 12.0	-2.9
LVV				MLR		MLR				
	comp=N,4µm,18.0s									
LVV				MLR		MLR				
	comp=E,3µm,18.0s									
LVV				MLR		MLR				
	comp=Z,5µm,18.0s									
PBA	Port Blair	69.39	260	*e*P		P		02 03 10.8	-0.2
	comp=Z,226nm,1.5s									
Q49A	Aurora	69.39	50	P		P		02 03 10.7	-0.1
	baz=326									
WCI	Wyandotte Cave	69.42	52	*e*P		P		02 03 11.1	+0.1
	comp=Z,39nm,0.9s									
WCI	Wyandotte Cave	69.42	52	*e*P		P		02 03 11.1	+0.1
WCI				pmax		pmax				
	comp=Z,39nm,0.9s									
WCI	Wyandotte Cave	69.42	52	P		P		02 03 10.9	0.0
	baz=326									
PKDT	Phuket	69.42	253	P		P		02 03 11.4	+0.2
	comp=Z,29nm,1.4s,comp=Z,551nm									
O51A	Pataskala	69.42	48	P		P		02 03 10.4	-0.6
	baz=327,SNR=9.0									
W42A	Bald Knob	69.42	57	P		P		02 03 11.7	+0.7
	baz=325									
X40A	Basin Creek Fa	69.43	59	*e*P		P		02 03 12.1	+1.0
	comp=Z,55nm,1.1s									
X40A	Basin Creek Fa	69.43	59	P		P		02 03 11.3	+0.2
	baz=324,SNR=18									
UALR	University of	69.44	58	*e*P		P		02 03 11.7	+0.6
	comp=Z,53nm,1.5s									
R48A	Northridge Ran	69.46	52	P		P		02 03 11.3	+0.1
	baz=326									
V43A	Jonesboro	69.47	56	P		P		02 03 11.6	+0.3
	baz=325									
M54A	Oil Creek Stat	69.49	45	*e*P		P		02 03 11.0	-0.4
	comp=Z,106nm,1.3s									
M54A	Oil Creek Stat	69.49	45	P		P		02 03 10.6	-0.8
	baz=328,SNR=6.3									
GNAR	Gosnell	69.57	56	*e*P		P		02 03 14.5	+2.6
	comp=Z,281nm,1.3s									
U44B	Burton Farm, H	69.58	55	P		P		02 03 12.4	+0.4
	baz=325,SNR=7.0									
X41A	Kaden, Bauxite	69.58	59	P		P		02 03 12.3	+0.2
	baz=325,SNR=6.2									
Y40A	Okolona	69.60	59	P		P		02 03 12.4	+0.2
	baz=324,SNR=5.6									
GLAT	Glass	69.66	55	*e*P		P		02 03 14.0	+1.5
	comp=Z,323nm,1.5s									
T46A	Princeton	69.67	54	P		P		02 03 12.7	+0.2
	baz=326,SNR=12									
S47A	Hartford	69.68	53	P		P		02 03 12.3	-0.2
	baz=326,SNR=7.5									
TBLG	Delisi	69.72	315	*e*P		P		02 03 13.0	+0.2
	comp=Z,57nm,1.0s									
TBLG	Delisi	69.72	315	*e*P		P		02 03 13.0	+0.2
TBLG				pmax		pmax				
	comp=Z,57nm,1.0s									
SORM	Soroca	69.73	330⇓	*i*P		P		02 03 12.2	-0.5
SORM	Soroca	69.73	330	P		P		02 03 11.9	-0.8
V44A	Blytheville	69.74	56	P		P		02 03 12.9	0.0
	baz=325									
O52A	Adamsville	69.77	48	*e*P		P		02 03 13.3	+0.2
	comp=Z,104nm,1.1s									
O52A	Adamsville	69.77	48	P		P		02 03 12.9	-0.3
	baz=327,SNR=7.9									
P51A	Williamsport	69.78	49	*e*P		P		02 03 12.8	-0.4
	comp=Z,51nm,1.4s									
P51A	Williamsport	69.78	49	P		P		02 03 12.5	-0.7
	baz=327									
ANN	Anapa	69.81	322	*e*P		P		02 03 08.2	-5.0
ANN				*e**PP		pP		02 03 23.7	+0.9
ANN				*e*PPP		PPP		02 07 26.8		
ANN				*i* S		S		02 12 11.4	-8.7
ANN				pmax		pmax				
	comp=Z,27nm,1.3s									
ANN				MLR		MLR				
	comp=E,921nm,20.0s									
ANN				MLR		MLR				
	comp=Z,4µm,20.0s									
ANN				MLR		MLR				
	comp=N,5µm,20.0s									
N54A	Moraine State	69.82	46	*e*P		P		02 03 13.1	-0.4
	comp=N,64nm,1.1s									
N54A	Moraine State	69.82	46	P		P		02 03 12.2	-1.2
	baz=328									
U45A	Rockin P Farm,	69.84	55	P		P		02 03 12.8	-0.8
	baz=325									
R49A	Shelbyville	69.86	51	P		P		02 03 13.5	-0.2
	baz=326,SNR=6.2									
KWP	Kalwaria Pacla	69.87	334	*e*P		P		02 03 14.3	+0.7
KWP	Kalwaria Pacla	69.87	334	*e*P		P		02 03 14.6	+1.0
	comp=N,1µm,1.2s									
KWP	Kalwaria Pacla	69.87	334	*e*P		P		02 03 14.6	+1.0
Q50A	Georgetown	69.92	50	P		P		02 03 13.7	-0.4
	baz=327,SNR=11									
X42A	Stuttgart	69.96	58	P		P		02 03 15.1	+0.7
	baz=325									
W43A	Forest City	69.96	57	P		P		02 03 13.7	-0.7
	baz=325									
S48A	Wiedeman Farm,	69.99	52	P		P		02 03 14.2	-0.3
	baz=326,SNR=9.4									
OJC	Ojcow	70.03	336	*e*P		P		02 03 14.9	+0.3
OJC	Ojcow	70.03	336	*e*P		P		02 03 15.0	+0.5
	comp=N,59nm,1.0s									
OJC	Ojcow	70.03	336	*e*P		P		02 03 15.0	+0.5
OJC				pmax		pmax				
	comp=Z,59nm,1.0s									
Y41A	Eaglette Beard	70.03	59	P		P		02 03 15.1	+0.3
	baz=325,SNR=8.7									
Q51A	Peebles	70.04	49	*e*P		P		02 03 15.2	+0.4
	comp=Z,51nm,1.3s									
Q51A	Peebles	70.04	49	P		P		02 03 14.8	0.0
	baz=327									
P52A	Corning	70.05	48	P		P		02 03 14.5	-0.3
	baz=327									
435B	Jarrell	70.05	65	*e*P		P		02 03 16.8	+1.8
	comp=Z,61nm,1.1s									
435B	Jarrell	70.05	65	P		P		02 03 15.2	+0.3
	baz=324									
T47A	Sharon Grove	70.07	53	*e*P		P		02 03 15.5	+0.5
	comp=Z,65nm,1.1s									
T47A	Sharon Grove	70.07	53	P		P		02 03 15.0	-0.1
	baz=326,SNR=13									
LBNH	Lisbon	70.08	39	P		P		02 03 15.1	+0.1
	baz=331									
PKME	Peaks-Kenny Pk	70.09	36	PFAKE				02 03 30.0	+15
PKME				LR		LR				
	comp=Z,4µm,19.0s									
PKME	Peaks-Kenny Pk	70.09	36	P		P		02 03 15.3	+0.4
	baz=332									
U46A	Springville	70.10	54	P		P		02 03 14.4	-0.8
	baz=326,SNR=11									
Z40A	Long Farm, Mag	70.15	60	P		P		02 03 15.8	+0.3
	baz=325									
KSP	Ksiaz	70.21	338	*e*P		P		02 03 15.9	+0.2
KSP	Ksiaz	70.21	338	*e*P		P		02 03 15.9	+0.2
S49A	Springfield	70.23	51	P		P		02 03 15.8	-0.2
	baz=326,SNR=13									
R50A	Paris	70.24	51	P		P		02 03 15.6	-0.4
	baz=327,SNR=9.1									
V45A	Humboldt	70.25	55	P		P		02 03 16.2	+0.1
	baz=326,SNR=7.2									
T48A	Bowling Green	70.29	53	P		P		02 03 15.1	-1.3
	baz=326									
W44A	Shelby Farms P	70.34	56	P		P		02 03 16.2	-0.4
	baz=325									
X43A	Marvell	70.34	57	*e*P		P		02 03 18.0	+1.4
	comp=Z,107nm,1.0s									
X43A	Marvell	70.34	57	P		P		02 03 16.3	-0.4
	baz=325									
BINY	Binghamton	70.35	43	PFAKE				02 03 30.0	+13
BINY				LR		LR				
	comp=Z,3µm,20.0s									
BINY	Binghamton	70.35	43	P		P		02 03 16.0	-0.6
	baz=329									
KULM	Kulim	70.36	250	*e*P		P		02 03 16.9	-0.1
	comp=Z,186nm,1.8s									
CCAR	Cane Creek	70.41	58	*e*P		P		02 03 18.7	+1.6
	comp=Z,483nm,1.9s									
CLL	Collm	70.42	341	*e*P		P		02 03 16.6	-0.3
	comp=Z,49nm,1.2s									
CLL	Collm	70.42	341	*i* P		P		02 03 16.7	-0.2
	comp=Z,64nm,1.3s									
CLL				*i*				02 03 24.8		
CLL				*e*S		S		02 12 28.0	+0.8
CLL				*e*SKSac		ScS		02 13 22.0	+4.8
CLL				*e*SS		SS		02 17 00.0	+3.0
CLL				*e*SSS		SSS		02 20 18.0		
CLL				LmV				02 38 00.0		
	comp=Z,2µm,19.3s									
CLL	Collm	70.42	341	*i* P		P		02 03 16.7	-0.2
CLL				*e*S		S		02 12 28.0	+0.8
CLL				pmax		pmax				
	comp=Z,64nm,1.3s									
CLL				MLR		MLR				
	comp=Z,2µm,19.3s									
U47A	Clarksville	70.44	54	P		P		02 03 17.8	+0.5
	baz=326,SNR=8.4									
Z41A	Richland Creek	70.44	60	*e*P		P		02 03 18.2	+0.9
	comp=Z,34nm,0.9s									
Z41A	Richland Creek	70.44	60	P		P		02 03 17.7	+0.4
	baz=325,SNR=5.5									
WVT	Waverly	70.45	54	*e*P		P		02 03 18.0	+0.7
	comp=Z,75nm,1.1s									
WVT	Waverly	70.45	54	*e*P		P		02 03 18.0	+0.7
WVT				pmax		pmax				
	comp=Z,75nm,1.1s									
WVT	Waverly	70.45	54	P		P		02 03 17.5	+0.2
	baz=326									
Y42A	Garnett, Star	70.47	58	P		P		02 03 18.0	+0.6
	baz=325,SNR=5.4									
AKH	Akhalkalaki	70.48	316	*e*P		P		02 03 18.2	+0.5
	comp=Z,114nm,2.0s									
AKH	Akhalkalaki	70.48	316⇑	*i*P		P		02 03 17.1	-0.6
P53A	Whipple	70.49	48	*e*P		P		02 03 17.7	+0.2
	comp=Z,36nm,1.1s									
P53A	Whipple	70.49	48	P		P		02 03 17.2	-0.3
	baz=328									
R51A	Hillsboro	70.55	50	P		P		02 03 17.9	0.0
	baz=327,SNR=11									
Q52A	Bidwell	70.56	49	P		P		02 03 16.8	-1.1
	baz=327									
140A	Cam and Jess,	70.57	61	*e*P		P		02 03 19.8	+1.7
	comp=Z,175nm,1.6s									
140A	Cam and Jess,	70.57	61	P		P		02 03 17.8	-0.3
	baz=325									
V46A	Holladay	70.59	55	P		P		02 03 18.2	+0.1
	baz=326,SNR=13									
KIS	Kishinev	70.62	329	*e*P		P		02 03 18.0	-0.2
	comp=Z,200nm,1.8s									
KIS				LRM		MLR		02 39 50.0		
	comp=Z,3µm,16.0s									
KIS	Kishinev	70.62	329	*e*P		P		02 03 18.0	-0.2
KIS				*e*				02 12 23.0		
KIS				pmax		pmax				
	comp=Z,200nm,1.8s									
W45A	Hickory Valley	70.62	56	P		P		02 03 18.7	+0.3
	baz=326,SNR=15									
BRG	Berggiesshubel	70.66	340	*i* P		P		02 03 17.7	-0.6
	comp=Z,49nm,1.6s									
BRG				S		S		02 12 37.0	+7.1
BRG				SS		SS		02 17 11.0	+10
	comp=N,2µm,23.4s									
	comp=E,2µm,14.9s									
	comp=Z,2µm,15.3s									
BRG	Berggiesshubel	70.66	340	*i* P		P		02 03 17.7	-0.6
BRG				pmax		pmax				
	comp=Z,49nm,1.6s									
BRG				MLR		MLR				
	comp=N,2µm,23.4s									
BRG				MLR		MLR				
	comp=E,2µm,14.9s									
BRG				MLR		MLR				
	comp=Z,2µm,15.3s									
NIE	Niedzica	70.66	335	*e*P		P		02 03 19.1	+0.7
NIE	Niedzica	70.66	335	*e*P		P		02 03 19.1	+0.7
DPC	Dobruska-Polom	70.67	338	*e*P		P		02 03 19.2	+0.7
DPC				*ex*		x		02 03 26.9		
DPC				*e*S		S		02 12 35.6	+5.4
DPC				AMS		AMS		02 38 10.0		
	comp=Z,5µm,19.4s									
DPC	Dobruska-Polom	70.67	338	*e*P		P		02 03 19.2	+0.7
DPC				MLR		MLR				
	comp=Z,5µm,19.4s									
T49A	Edmonton	70.68	52	*e*P		P		02 03 18.8	0.0
	comp=Z,70nm,1.4s									
T49A	Edmonton	70.68	52	P		P		02 03 18.8	0.0
	baz=326,SNR=9.1									
S50A	Richmond	70.71	51	P		P		02 03 18.8	-0.1
	baz=327,SNR=8.1									
X44A	Crenshaw	70.71	57	P		P		02 03 19.5	+0.6
	baz=325,SNR=14									
U48A	Cassie Pea, Po	70.72	53	P		P		02 03 18.3	-0.7
	baz=326,SNR=6.0									
NATX	Nacogdoches	70.74	62	*e*P		P		02 03 20.4	+1.3
	comp=Z,59nm,0.9s									
NATX				LR		LR				
	comp=Z,3µm,20.0s									
NATX	Nacogdoches	70.74	62	P		P		02 03 19.1	0.0
	baz=324,SNR=6.2									
OKC	Ostrava-Krasne	70.76	337	*e*P		P		02 03 20.3	+1.3
OKC				*ex*		x		02 03 29.0		
OKC				*e*S		S		02 12 35.4	+4.2
OKC				AMS		AMS		02 37 50.0		
	comp=Z,4µm,17.5s									
OKC	Ostrava-Krasne	70.76	337	*e*P		P		02 03 20.3	+1.3
OKC				*e*S		S		02 12 35.4	+4.2
OKC				MLR		MLR				
	comp=Z,4µm,17.5s									
SIM	Simferopol'	70.80	324	*e*P		P		02 03 24.1	+4.8
SIM				*e*S		S		02 12 36.5	+4.7
SIM				pmax		pmax				
	comp=Z,20nm,1.0s									
SIM				pmax		pmax				
	comp=Z,500nm,16.0s									
SIM				MLR		MLR				
	comp=Z,15µm,8.1s									
Y43A	Makayla and Ka	70.81	58	P		P		02 03 20.0	+0.5
	baz=325									
KRLC	Kraliky	70.83	338	*e*P		P		02 03 20.6	+1.1
KRLC	Kraliky	70.83	338	*e*P		P		02 03 20.6	+1.1
V47A	Nunnelly	70.84	54	P		P		02 03 19.7	-0.1
	baz=326,SNR=12									
IPM	Ipoh	70.84	249	*e*P		P		02 03 18.9	-1.1
	comp=Z,82nm,1.5s									
Z42A	Norrel Spur, H	70.84	59	P		P		02 03 20.3	+0.5
	baz=325,SNR=11									
PVCC	Panska Ves	70.86	339	*e*P		P		02 03 20.0	+0.4
PVCC				AMS		AMS		02 39 00.0		
	comp=Z,3µm,17.2s									
PVCC	Panska Ves	70.86	339	*e*P		P		02 03 20.0	+0.4
PVCC				MLR		MLR				
	comp=Z,3µm,17.2s									
UZH	Uzhgorod	70.90	334	*c i*P		P		02 03 19.0	-0.9
UZH				*e*				02 03 29.8		
UZH				*e*				02 03 43.1		
UZH				*e*S		S		02 12 31.2	-1.6
UZH				*i* SP		SPn		02 12 52.6	-6.0
UZH				*e*PS		PnS		02 13 05.6	+2.8
UZH				MLR		MLR				
	comp=N,900nm,16.0s									
UZH				MLR		MLR				
	comp=E,2µm,16.0s									
UZH				MLR		MLR				
	comp=Z,600nm,16.0s									
R52A	Catlettsburg	70.92	49	P		P		02 03 19.5	-0.7
	baz=327									
141A	Papa Simpson,	70.92	60	P		P		02 03 20.2	0.0
	baz=325									
SSPA	Standing Stone	70.94	45	*e*P		P		02 03 20.4	+0.1
	comp=Z,84nm,1.6s									
SSPA	Standing Stone	70.94	45	P		P		02 03 19.6	-0.7
	baz=329									
MORC	Moravsky Berou	70.95	337⇑	*i*P		P		02 03 20.6	+0.4
240A	Hunter Patters	70.96	61	P		P		02 03 20.9	+0.4
	baz=325									
O56A	Blue Knob Stat	70.98	45	*e*P		P		02 03 21.2	+0.6
	comp=Z,105nm,1.8s									
O56A	Blue Kn

S51A Beattyville 71.09 50 P P 02 03 19.6 -1.6
baz=327
833A Chaparral WMA, 71.09 67 eP P 02 03 22.8 +1.4
comp=Z,46nm,1.1s
833A Chaparral WMA, 71.09 67 P P 02 03 22.1 +0.7
baz=324,SNR=6.7
LANS Liptovska Anna 71.10 336 eP P 02 03 22.2 +1.0
LANS Liptovska Anna 71.10 336 eP P 02 03 22.2 +1.0
Y44A Strider, Charl 71.12 57 P P 02 03 21.7 +0.4
baz=325,SNR=14
X45A UM Field Stati 71.12 56 P P 02 03 21.4 -0.1
baz=326,SNR=10.0
V48A Smith Brothers 71.23 54 eP P 02 03 22.5 +0.4
comp=Z,43nm,1.0s
V48A Smith Brothers 71.23 54 P P 02 03 22.0 -0.1
baz=326,SNR=12
Z43A Armstrong Fami 71.24 58 P P 02 03 22.2 +0.1
baz=325
PLAL Pickwick Lake 71.28 55 eP P 02 03 22.4 0.0
comp=Z,72nm,0.9s
W47A Westpoint 71.28 55 P P 02 03 22.6 +0.2
baz=326,SNR=14
S52A Salyersville 71.28 50 P P 02 03 21.0 -1.4
baz=327
TRPA Tarpa 71.31 333⇓ iP P 02 03 23.0 +0.7
TRPA Tarpa 71.31 333⇑ eP P 02 03 22.7 +0.4
PRA Prague 71.32 339 eP P 02 03 23.2 +0.8
PRA eS S 02 12 45.7 +8.0
PRA AMS AMS 02 38 40.0
comp=Z,4µm,15.1s
PRA Prague 71.32 339 eP P 02 03 23.2 +0.8
PRA MLR MLR
comp=Z,4µm,15.1s
241A Mo Tay, Goldon 71.39 60 eP P 02 03 24.8 +1.7
comp=Z,228nm,1.7s
241A Mo Tay, Goldon 71.39 60 P P 02 03 23.8 +0.7
baz=325,SNR=5.5
X46A Booneville 71.39 56 P P 02 03 22.6 -0.5
baz=326,SNR=12
GOPC GO Pecny, Ondr 71.40 339 eP P 02 03 23.7 +0.8
GOPC ex x 02 03 31.3
GOPC eS S 02 12 44.0 +5.3
GOPC AMS AMS 02 39 10.0
comp=Z,3µm,16.8s
GOPC GO Pecny, Ondr 71.40 339 eP P 02 03 23.7 +0.8
GOPC MLR MLR
comp=Z,3µm,16.8s
142A Monroe 71.44 59 P P 02 03 21.9 -1.4
baz=325
BIZ Bicaz 71.45 330⇓ iP P 02 03 23.0 -0.3
T51A Gray 71.50 51 P P 02 03 22.4 -1.3
baz=327
Y45A Yeager Farm, C 71.51 57 P P 02 03 24.3 +0.5
baz=326,SNR=21
N59A State Game Lan 71.53 43 eP P 02 03 24.1 +0.3
comp=Z,31nm,1.1s
N59A State Game Lan 71.53 43 P P 02 03 22.3 -1.6
baz=330
NKC Novy Kostel 71.55 341 eP P 02 03 24.1 +0.3
NKC AMS AMS 02 37 40.0
comp=Z,2µm,19.7s
NKC Novy Kostel 71.55 341 eP P 02 03 24.1 +0.3
NKC MLR MLR
comp=Z,2µm,19.7s
U50A Jamestown 71.56 52 P P 02 03 23.9 -0.2
baz=327,SNR=8.7
Z44A Pea Ridge, Bel 71.57 58 P P 02 03 23.0 -1.2
baz=326
143A Socs Landing, 71.57 59 eP P 02 03 24.9 +0.7
comp=Z,86nm,1.1s
143A Socs Landing, 71.57 59 P P 02 03 23.4 -0.7
baz=325
VRAC Vranov 71.60 338⇑ iP P 02 03 25.0 +0.8
VRAC Vranov 71.60 338 P P 02 03 24.9 +0.8
VRAC Vranov 71.60 338⇑ iP P 02 03 24.7 +0.6
HKT Hockley 71.61 64 eP P 02 03 25.1 +0.7
comp=Z,80nm,1.6s
HKT Hockley 71.61 64 eP P 02 03 25.1 +0.7
HKT pmax pmax
comp=Z,80nm,1.6s
V49A McMinnville 71.63 53 P P 02 03 23.9 -0.5
baz=327
W48A Pulaski 71.68 54 P P 02 03 24.8 0.0
baz=326,SNR=21
242A Grayson 71.73 60 P P 02 03 24.3 -0.8
baz=325
PAGS Pennsylvania G 71.75 44 eP P 02 03 26.3 +1.2
comp=Z,26nm,1.0s
X47A Russelville 71.77 55 P P 02 03 25.0 -0.4
baz=326,SNR=18
JAVC Velka Javorina 71.79 337⇑ iP P 02 03 26.8 +1.5
ARCR ARCALIA 71.80 332⇓ iP P 02 03 25.2 -0.1
T52A Hallie 71.80 50 P P 02 03 24.1 -1.5
baz=327
Y46A Houston 71.82 56 P P 02 03 26.0 +0.4
baz=326,SNR=32
341A Kurthwood 71.83 61 eP P 02 03 27.2 +1.5
comp=Z,39nm,1.1s
341A Kurthwood 71.83 61 P P 02 03 26.2 +0.5
baz=325,SNR=7.2
TREC Trest 71.85 338 eP P 02 03 26.1 +0.5
TREC eS S 02 12 48.0 +4.2
TREC AMS AMS 02 38 50.0
comp=Z,4µm,18.8s
TREC Trest 71.85 338 eP P 02 03 26.1 +0.5
TREC eS S 02 12 48.0 +4.2
TREC MLR MLR
comp=Z,4µm,18.8s
Z45A Winona 71.85 57 eP P 02 03 26.5 +0.7
comp=Z,133nm,1.0s
Z45A Winona 71.85 57 P P 02 03 26.2 +0.4
baz=326,SNR=11
VYHS Vyhne 71.86 336 eP P 02 03 26.1 +0.4
VYHS pmax pmax
comp=Z,146nm,2.7s
VYHS Vyhne 71.86 336 eP P 02 03 26.1 +0.4
KRUC Moravsky 71.87 338⇑ iP P 02 03 26.2 +0.5
U51A La Follette 71.96 51 P P 02 03 25.8 -0.8
baz=327
W49A Belvidere 72.00 54 P P 02 03 26.6 -0.1
baz=326,SNR=8.2
TZTN Tazewell 72.03 51 eP P 02 03 27.3 +0.4
comp=Z,36nm,1.0s
TZTN Tazewell 72.03 51 P P 02 03 26.9 0.0
baz=327,SNR=6.5
V50A Pikevile 72.07 53 P P 02 03 26.9 -0.3
baz=327,SNR=7.5
SWET Sewanee 72.07 53 eP P 02 03 27.2 0.0
comp=Z,46nm,0.9s
144A Alexander Plac 72.11 58 P P 02 03 27.2 -0.2
baz=326
BEBN Eben Emael 72.14 345 ⇑P P 02 03 28.7 +1.5
PSZ Piszkesteto 72.16 335 eP P 02 03 27.7 +0.2
comp=Z,38nm,1.2s
PSZ Piszkesteto 72.16 335⇓ iP P 02 03 28.8 +1.2
PSZ Piszkesteto 72.16 335⇑ eP P 02 03 28.1 +0.5
PSZ Piszkesteto 72.16 335 eP P 02 03 27.7 +0.2
PSZ pmax pmax
comp=Z,38nm,1.2s
LTVH L"tav"rtes, 72.16 333⇓ eP P 02 03 28.9 +1.5
PAL Palisades 72.17 42 P P 02 03 26.2 -1.4
baz=330
SMOL Smolenice 72.17 337 eP P 02 03 28.4 +0.9
SMOL Smolenice 72.17 337 eP P 02 03 28.4 +0.9
X48A Hartselle 72.19 55 eP P 02 03 27.9 0.0
comp=Z,54nm,1.1s
X48A Hartselle 72.19 55 P P 02 03 27.6 -0.3
baz=326,SNR=11
243A Waterproof 72.21 59 P P 02 03 28.3 +0.3
baz=325
342A Flagon Creek P 72.21 60 eP P 02 03 29.5 +1.5
comp=Z,99nm,1.4s
342A Flagon Creek P 72.21 60 P P 02 03 28.2 +0.2
baz=325
U52A Thorn Hill 72.23 51 P P 02 03 28.1 -0.1
baz=327,SNR=5.7
VRI Vrincioaia 72.25 330⇑ iP P 02 03 29.2 +1.1
MEM Membach 72.27 345 ⇑P P 02 03 28.0 0.0
comp=Z,38nm,1.3s
Y47A UCPARC, Winfie 72.28 56 P P 02 03 28.0 -0.4
baz=326,SNR=12
441A DeRidder 72.29 61 P P 02 03 28.3 -0.2
baz=325
V51A Loudon 72.29 52 eP P 02 03 28.7 +0.2
comp=Z,28nm,0.8s
V51A Loudon 72.29 52 P P 02 03 28.3 -0.2
baz=327,SNR=8.7
GRF Grafenberg Arr 72.30 341 P P 02 03 29.3 +1.0
GRF pmax pmax
comp=Z,47nm,1.1s
GRFO Grafenberg 72.30 341 eP P 02 03 27.8 -0.5
comp=Z,73nm,1.3s
GRFO Grafenberg 72.30 341 eP P 02 03 27.8 -0.5
GRFO pmax pmax
comp=Z,73nm,1.3s
UCC Uccle 72.32 346 ⇑P P 02 03 28.8 +0.4
MODS Modra-Piesok 72.33 337 eP P 02 03 28.8 +0.3
MODS pmax pmax
comp=Z,42nm,1.3s
MODS Modra-Piesok 72.33 337 eP P 02 03 28.8 +0.3
MODS eL L 02 39 01.8
CJR Cluj-Napoca 72.34 332⇑ iP P 02 03 29.3 +0.7
Z46A Louisville 72.35 57 P P 02 03 28.3 -0.5
baz=326
145A Houston Renfro 72.36 58 P P 02 03 27.9 -1.0
baz=326
W50A Signal Mountai 72.36 53 eP P 02 03 29.1 +0.1
comp=Z,45nm,1.0s
W50A Signal Mountai 72.36 53 P P 02 03 28.6 -0.4
baz=327,SNR=6.4
LHMI Lhok Sumawe 72.39 253 eP P 02 03 29.5 +0.2
comp=Z,519nm,1.8s
KHC Kasperske Hory 72.39 340 eP P 02 03 29.5 +0.6
comp=Z,13nm,1.1s
KHC Kasperske Hory 72.39 340 eP P 02 03 29.3 +0.4
KHC ex x 02 03 39.9
KHC eS S 02 12 55.0 +4.9
KHC AMS AMS 02 39 20.0
comp=Z,4µm,16.7s
KHC Kasperske Hory 72.39 340 eP P 02 03 29.5 +0.6
KHC pmax pmax
comp=Z,13nm,1.1s
VBMS Vicksburg 72.40 59 eP P 02 03 30.5 +1.3
comp=Z,83nm,1.1s
VBMS Vicksburg 72.40 59 P P 02 03 28.3 -0.9
baz=326
SDMD Soldier's Deli 72.41 45 eP P 02 03 29.6 +0.5
comp=Z,20nm,1.3s
244A Avery, Jackson 72.46 59 P P 02 03 29.8 +0.3
baz=326
CFR Carcaliu 72.47 328⇑ iP P 02 03 28.7 -0.6
X49A Woodville 72.47 54 P P 02 03 29.4 -0.2
baz=327,SNR=15
DRGR 72.50 333⇓ iP P 02 03 29.5 -0.1
KVTX Kingsville 72.50 67 PFAKE 02 03 40.0 +10
KVTX LR LR
comp=Z,2µm,19.0s
CPCT Cooper Cave 72.51 52 eP P 02 03 29.9 +0.1
comp=Z,50nm,1.2s
BCLA Clavier 72.56 345 ⇓P P 02 03 28.4 -1.3
comp=Z,24nm,1.9s
AFI Afiamalu 72.58 154 PFAKE 02 03 40.0 +10
AFI LR LR
comp=Z,2µm,19.0s
Y48A Jasper 72.58 55 P P 02 03 29.1 -1.1
baz=326,SNR=9.8
V52A Sevierville 72.59 51 eP P 02 03 30.6 +0.3
comp=Z,42nm,1.0s
V52A Sevierville 72.59 51 P P 02 03 29.8 -0.4
baz=327
U53A Fall Branch 72.60 50 P P 02 03 30.3 -0.1
baz=328,SNR=5.3
GEC2 GERESS Array S 72.64 339 eP P 02 03 30.0 -0.4
comp=Z,18nm,1.0s
GEC2 GERESS Array S 72.64 339 eP P 02 03 30.0 -0.4
GEC2 pmax pmax
comp=Z,18nm,1.0s
GERES GERESS Array B 72.64 339 P P 02 03 30.6 +0.1
comp=Z,6.7nm,0.8s,baz=35,slow=4.9,SNR=31
GERES LR LR 02 40 09.4
comp=Z,3µm,18.4s,baz=24,slow=40
GEA0 GERESS Array S 72.65 339 eP P 02 03 30.2 -0.3
W51A Cleveland 72.65 53 P P 02 03 29.9 -0.7
baz=327
TKL Tuckaleechee C 72.67 52 eP P 02 03 31.2 +0.5
comp=Z,40nm,1.2s
TKL Tuckaleechee C 72.67 52 eP P 02 03 31.2 +0.5
TKL pmax pmax
comp=Z,40nm,1.2s
442A Mamou 72.70 61 P P 02 03 30.3 -0.6
baz=325
HYB Hyderabad 72.71 276 i P P 02 03 29.0 -2.2
146A Union 72.75 57 eP P 02 03 33.0 +1.7
comp=Z,183nm,1.0s
146A Union 72.75 57 P P 02 03 32.1 +0.8
baz=326,SNR=13
Z47A Carrollton 72.75 56 P P 02 03 31.2 0.0
baz=326,SNR=22
BUD Budapest 72.77 335⇓ eP P 02 03 32.4 +1.3
BUD Budapest 72.77 335 P P 02 03 32.9 +1.8
BLA Blacksburg 72.81 48 eP P 02 03 31.9 +0.3
comp=Z,39nm,1.1s
BLA LR LR
comp=Z,2µm,19.0s
BLA Blacksburg 72.81 48 eP P 02 03 31.9 +0.3
BLA pmax pmax
comp=Z,39nm,1.1s
BLA MLR MLR
comp=Z,2µm,19.0s
BLA Blacksburg 72.81 48 P P 02 03 31.4 -0.2
baz=328
MLR Muntele Rosu 72.82 330 eP P 02 03 31.5 -0.1
comp=Z,47nm,1.3s
MLR Muntele Rosu 72.82 330⇑ iP P 02 03 32.6 +1.0
X50B Fort Payne 72.83 54 P P 02 03 31.4 -0.3
baz=327,SNR=11
SOEI Soe 72.83 220 eP P 02 03 33.4 +1.4
comp=Z,60nm,1.1s
Z48A Northport 72.85 56 P P 02 03 31.3 -0.5
baz=326,SNR=8.4
245A Little AP, Sta 72.85 58 P P 02 03 32.4 +0.6
baz=326,SNR=5.8
344A Westbrook Farm 72.92 59 eP P 02 03 33.3 +1.0
comp=Z,119nm,1.4s
344A Westbrook Farm 72.92 59 P P 02 03 32.5 +0.3
baz=326
DOU Dourbes 72.97 346 ⇑P P 02 03 31.9 -0.4
Y49A Blount Mountai 72.98 55 eP P 02 03 32.6 0.0
comp=Z,36nm,0.8s
Y49A Blount Mountai 72.98 55 P P 02 03 32.3 -0.3
baz=327,SNR=11
CONA Conrad Observa 73.06 338 i pP P 02 03 34.1 +1.1
comp=Z,40nm,1.3s,SNR=13
BAIF Baives 73.06 346 eP P 02 03 32.2 -0.6
BAIF pmax pmax
comp=Z,63nm,1.7s
W52A Murphy 73.07 52 eP P 02 03 33.9 +0.7
comp=Z,32nm,0.9s
W52A Murphy 73.07 52 P P 02 03 32.9 -0.3
baz=327,SNR=7.7
V53A Saluda 73.08 51 eP P 02 03 33.3 0.0
comp=Z,62nm,1.4s
V53A Saluda 73.08 51 P P 02 03 31.8 -1.5
baz=328
147A Livingston 73.09 57 eP P 02 03 33.8 +0.6
comp=Z,191nm,1.3s
147A Livingston 73.09 57 P P 02 03 32.5 -0.8
baz=326
X51A Calhoun 73.10 53 eP P 02 03 34.2 +0.9
comp=Z,47nm,1.1s
X51A Calhoun 73.10 53 P P 02 03 33.4 +0.1
baz=327,SNR=5.0
542A Morse 73.12 61 P P 02 03 33.4 -0.1
baz=325
VOIR 73.12 331⇓ iP P 02 03 34.4 +1.1
SOP Sopron 73.14 337⇑ eP P 02 03 34.4 +1.1
SOP Sopron 73.14 337 P P 02 03 34.7 +1.4
CBN Corbin Frederi 73.23 46 PFAKE 02 03 50.0 +16
CBN LR LR
comp=Z,3µm,20.0s
CBN Corbin Frederi 73.23 46 P P 02 03 33.0 -1.0
baz=329
R58B Mineral 73.23 46 P P 02 03 34.1 +0.1
baz=329
246A Jackson Lee, B 73.23 58 P P 02 03 34.2 +0.1
baz=326
Y50A Piedmont 73.26 54 P P 02 03 33.9 -0.4
baz=327,SNR=13
ARR Arges 73.30 331⇓ iP P 02 03 35.4 +1.0
W53A Cullowhee 73.35 51 P P 02 03 34.8 -0.1
baz=328,SNR=8.6
PSI Prapat 73.37 250 eP P 02 03 34.1 -1.1
comp=Z,144nm,1.7s
PSI Prapat 73.37 250 eP P 02 03 34.1 -1.1
PSI pmax pmax
comp=Z,144nm,1.7s
345A Thompson Farm, 73.38 59 P P 02 03 35.4 +0.4
baz=326
LRAL Lakeview Retre 73.39 55 eP P 02 03 34.8 -0.3
comp=Z,23nm,0.8s
LRAL Lakeview Retre 73.39 55 P P 02 03 34.7 -0.3
baz=327,SNR=7.9
MTN Manton Dam 73.42 213 eP P 02 03 34.9 -0.3
comp=Z,35nm,0.8s
148A Greensboro 73.45 56 P P 02 03 34.3 -1.1
baz=326,SNR=5.9
247A Quitman 73.45 57 P P 02 03 34.9 -0.5
baz=326
MOA Molln 73.47 339 i pP P 02 03 35.9 +0.6
comp=Z,25nm,1.2s,SNR=8.8
Z49A Columbiana 73.48 55 P P 02 03 35.3 -0.2
baz=327,SNR=16
543A St. Martinvill 73.49 61 P P 02 03 35.3 -0.3
baz=326
X52A Dahlonega 73.50 52 P P 02 03 35.6 -0.1
baz=328,SNR=7.7
444A Pine Grove 73.52 60 P P 02 03 36.8 +1.0
baz=326
STU Stuttgart 73.55 342 eP P 02 03 35.7 0.0
comp=Z,26nm,1.2s
STU Stuttgart 73.55 342 eP P 02 03 35.7 0.0
STU pmax pmax
comp=Z,26nm,1.2s
Y51A Rockmart 73.56 54 P P 02 03 35.8 -0.2
baz=327,SNR=9.1
346A Big Creek Wild 73.59 58 eP P 02 03 37.5 +1.3
comp=Z,71nm,0.9s
346A Big Creek Wild 73.59 58 P P 02 03 37.1 +0.9
baz=326,SNR=5.7
BG3 Lake Jasassee 73.60 51 eP P 02 03 37.0 +0.8
comp=Z,81nm,1.3s
Z50A Ashland 73.71 55 eP P 02 03 37.0 +0.1
comp=Z,106nm,1.1s
Z50A Ashland 73.71 55 P P 02 03 36.5 -0.4
baz=327,SNR=34
445A Amite 73.71 59 P P 02 03 37.2 +0.3
baz=326
ARSA Arzberg 73.78 338 i pP P 02 03 38.0 +0.9
comp=Z,24nm,1.2s,SNR=11
GZR Gura Zlata 73.78 332⇓ iP P 02 03 37.1 -0.1
LNIG Linares 73.82 70 eP P 02 03 38.0 +0.4
comp=Z,97nm,1.9s
248A Dixon Mills 73.83 57 P P 02 03 37.8 +0.2
baz=327
X53A Estanollee 73.85 52 P P 02 03 37.7 0.0
baz=328,SNR=8.5
149A Jones 73.85 56 P P 02 03 37.5 -0.2
baz=327,SNR=12
BZS Buzias 73.88 333⇑ iP P 02 03 37.5 -0.2
ZAIG Zacatecas 73.88 73 eP P 02 03 40.0 +1.7
comp=Z,36nm,1.3s
Z51A Franklin 74.00 54 P P 02 03 38.2 -0.4
baz=327,SNR=5.6
347A Saraland 74.02 58 P P 02 03 39.7 +1.0
baz=326,SNR=9.2
Y52A Lilburn 74.04 53 eP P 02 03 39.8 +0.9
comp=Z,51nm,1.3s
Y52A Lilburn 74.04 53 P P 02 03 39.2 +0.3
baz=328
MORH M¨r¡igy, Hung 74.05 335⇑ eP P 02 03 38.4 -0.2
MORH M¨r¡igy, Hung 74.05 335 eP P 02 03 37.8 -0.8
BFO Black Forest 74.12 343 eP P 02 03 38.9 -0.2
comp=Z,41nm,1.4s
BFO LR LR
comp=Z,71nm,19.0s
BFO Black Forest 74.12 343 eP P 02 03 38.9 -0.2
BFO pmax pmax
comp=Z,41nm,1.4s
446A Poplarville 74.13 59 P P 02 03 38.8 -0.6
baz=326
KMSC Kings Mountain 74.17 50 eP P 02 03 39.6 +0.1
comp=Z,64nm,1.3s
KMSC Kings Mountain 74.17 50 P P 02 03 39.3 -0.3
baz=328,SNR=8.5
150A Eclectic 74.20 55 P P 02 03 39.3 -0.4
baz=327,SNR=7.0
CDF Champ du Feu 74.21 343 eP P 02 03 39.1 -0.6
CDF pmax pmax
comp=Z,21nm,0.9s
249A Camden 74.21 56 P P 02 03 40.1 +0.3
baz=327,SNR=13
BEHE Becsehely 74.24 337⇓ eP P 02 03 42.9 +3.1
Y53A Monroe 74.27 53 P P 02 03 39.2 -0.9
baz=328
348A Jackson 74.31 57 eP P 02 03 42.3 +1.9
comp=Z,158nm,1.4s
348A Jackson 74.31 57 P P 02 03 39.5 -0.9
baz=327
HERR Herculane 74.35 332⇓ iP P 02 03 40.3 -0.1
ILGA Ilgaz 74.39 323 eP P 02 03 40.7 -0.4
comp=Z,36nm,1.0s
KBA Koelnbreinsper 74.40 339 i pP P 02 03 42.1 +1.2
comp=Z,51nm,1.1s,SNR=16
KBA Koelnbreinsper 74.40 339 P P 02 03 42.1 +1.2
ECH Echery 74.42 344 eP P 02 03 40.3 -0.5
comp=Z,37nm,1.3s
ECH Echery 74.42 344 eP P 02 03 40.3 -0.5
ECH pmax pmax
comp=Z,37nm,1.3s
SOKA Soboth 74.43 338 i pP P 02 03 41.4 +0.4
comp=Z,33nm,1.8s,SNR=6.7
Z52A Williamson 74.45 54 P P 02 03 41.0 -0.2
baz=328,SNR=8.2
447A Lucedale 74.47 58 eP P 02 03 42.8 +1.5
comp=Z,126nm,1.5s
447A Lucedale 74.47 58 P P 02 03 41.5 +0.1
baz=326
WATA Walderalm 74.50 340 i pP P 02 03 42.0 +0.5
comp=Z,31nm,1.2s,SNR=8.2
RETA Reutte 74.50 341 i pP P 02 03 41.7 +0.3
comp=Z,10nm,0.9s
HODGE Hodges 74.54 51 eP P 02 03 43.0 +1.3
comp=Z,40nm,1.1s
WTTA Wattenberg 74.56 340 i pP P 02 03 42.7 +0.8
comp=Z,51nm,1.6s,SNR=11
MOTA Moosalm 74.58 341 i pP P 02 03 42.3 +0.3
comp=Z,20nm,1.0s,SNR=13
151A Opelika 74.59 55 P P 02 03 41.2 -0.8
baz=327
250A Grady 74.61 56 eP P 02 03 42.9 +0.7
comp=Z,170nm,1.6s
250A Grady 74.61 56 P P 02 03 40.7 -1.5
baz=327
MDVR Moldovita 74.63 333⇓ iP P 02 03 42.0 -0.1
Y54A Tignall 74.66 52 P P 02 03 42.4 -0.1
baz=328,SNR=12
SQTA Sankt Quirin 74.68 341 i pP P 02 03 43.3 +0.8
comp=Z,43nm,0.9s,SNR=9.0
OBKA Obir 74.69 338 i pP P 02 03 43.3 +0.8
comp=Z,61nm,1.0s,SNR=13
GOGA Godfrey 74.69 53 eP P 02 03 42.9 +0.3
comp=Z,35nm,1.3s
GOGA LR LR
comp=Z,4µm,19.0s
GOGA Godfrey 74.69 53 eP P 02 03 42.9 +0.3
GOGA pmax pmax
comp=Z,35nm,1.3s
GOGA MLR MLR
comp=Z,4µm,19.0s
GOGA Godfrey 74.69 53 P P 02 03 42.8 +0.3
baz=328
349A Repton 74.70 57 P P 02 03 41.4 -1.3
baz=327
152A Waverly Hall 74.75 54 eP P 02 03 42.9 -0.1
comp=Z,78nm,1.4s
152A Waverly Hall 74.75 54 P P 02 03 42.8 -0.1
baz=328,SNR=7.3
Z53A Monticello 74.76 53 P P 02 03 42.5 -0.5
baz=328
FRGS Fruska Gora 74.76 334 eP P 02 03 42.5 -0.3
MYKA Terra Mystica 74.77 339 i pP P 02 03 44.3 +1.3
comp=Z,36nm,1.5s,SNR=5.4
HINF Hinteralfeld 74.86 344 eP P 02 03 43.9 +0.5
HINF pmax pmax
comp=Z,51nm,1.5s
DAVA Damuels 74.86 341 i pP P 02 03 44.9 +1.3
comp=Z,30nm,1.6s
ABTA Abfaltersbach 74.88 339 i pP P 02 03 43.9 +0.3
comp=Z,52nm,1.2s,SNR=7.7
251A Midway 74.91 55 P P 02 03 43.5 -0.4
baz=327,SNR=9.4

FLN	**La Foliniere**	**74.92**	**349**	*e*P		**P**		**02 03 42.6**	**-1.1**
FLN				pmax		pmax				
	comp=Z,32nm,1.0s									
BRAL	**Brewton**	**74.92**	**57**	PFAKE				02 04 00.0	+16	
BRAL				LR		LR				
	comp=Z,2µm,20.0s									
BRAL	**Brewton**	**74.92**	**57**	P		**P**		**02 03 42.8**	**-1.2**	
	baz=327									
JSC	**Jenkinsville**	**74.94**	**51**	*e*P		**P**		**02 03 44.9**	**+0.9**	
	comp=Z,59nm,1.3s									
JSC	**Jenkinsville**	**74.94**	**51**	*e*P		**P**		**02 03 44.9**	**+0.9**	
JSC				pmax		pmax				
	comp=Z,59nm,1.3s									
FETA	**Feichten**	**74.96**	**341**	*i* pP		**P**		**02 03 45.0**	**+0.8**	
	comp=Z,46nm,1.0s,SNR=12									
350A	**Dozier**	**75.04**	**56**	P		**P**		**02 03 44.4**	**-0.2**	
	baz=327									
LDF	**La Druitiere**	**75.04**	**349**	*e*P		**P**		**02 03 44.9**	**+0.5**	
LDF				pmax		pmax				
	comp=Z,76nm,1.5s									
Z54A	**Sparta**	**75.12**	**52**	P		**P**		**02 03 44.2**	**-0.9**	
	baz=328,SNR=7.5									
LJU	**Ljubljana**	**75.14**	**338**	*e*P		**P**		**02 03 45.1**	**+0.1**	
CRES	**Cresnjev**	**75.14**	**337**	*e*P		**P**		**02 03 45.0**	**-0.1**	
153A	**Fort Valley**	**75.17**	**53**	P		**P**		**02 03 45.0**	**-0.4**	
	baz=328									
449A	**Pace**	**75.18**	**57**	P		**P**		**02 03 43.6**	**-1.8**	
	baz=327									
252A	**Lumpkin**	**75.31**	**54**	P		**P**		**02 03 44.5**	**-1.7**	
	baz=328									
GRR	**Gorron**	**75.33**	**349**	*e*P		**P**		**02 03 45.3**	**-0.7**	
GRR				pmax		pmax				
	comp=Z,50nm,1.2s									
GSI	**Gunungsitoli**	**75.34**	**250**	*e*P		**P**		**02 03 46.6**	**+0.1**	
	comp=Z,195nm,1.5s									
FUORN	**Ofenpass-Fuorn**	**75.43**	**341**	*e*P		**P**		**02 03 46.8**	**-0.2**	
	comp=Z,65nm,1.5s									
450A	**Crestview**	**75.44**	**56**	P		**P**		**02 03 45.9**	**-1.0**	
	baz=327									
Z55A	**Blythe**	**75.45**	**52**	P		**P**		**02 03 46.8**	**-0.2**	
	baz=328									
351A	**Pinckard**	**75.51**	**55**	P		**P**		**02 03 47.7**	**+0.3**	
	baz=327									
154A	**Montrose**	**75.53**	**53**	*e*P		**P**		**02 03 48.3**	**+0.9**	
	comp=Z,126nm,1.1s									
154A	**Montrose**	**75.53**	**53**	P		**P**		**02 03 47.7**	**+0.2**	
	baz=328									
253A	**Americus**	**75.53**	**54**	*e*P		**P**		**02 03 48.3**	**+0.9**	
	comp=Z,163nm,1.4s									
253A	**Americus**	**75.53**	**54**	P		**P**		**02 03 47.4**	**0.0**	
	baz=328									
CNNC	**Cliffs of the**	**75.56**	**48**	*e*P		**P**		**02 03 47.8**	**+0.3**	
	comp=Z,100nm,1.1s									
CNNC				LR		LR				
	comp=Z,2µm,19.0s									
CNNC	**Cliffs of the**	**75.56**	**48**	P		**P**		**02 03 46.2**	**-1.3**	
	baz=330									
BR131	**Keskin Array S**	**75.60**	**322**	*e*P		**P**		**02 03 47.6**	**-0.4**	
BR131	**Keskin Array S**	**75.60**	**322**	P		**P**		**02 03 47.7**	**-0.3**	
	SNR=13									
BRTR	**Keskin Array B**	**75.60**	**322**	P		**P**		**02 03 47.5**	**-0.5**	
	comp=Z,6.8nm,0.7s,baz=38,slow=2.2,SNR=21									
BRTR				LR		LR		02 43 17.4		
	comp=Z,2µm,18.2s,baz=358,slow=41									
SGMF	**Saint Gilles**	**75.63**	**350**	*e*P		**P**		**02 03 49.9**	**+2.1**	
SGMF				pmax		pmax				
	comp=Z,93nm,1.4s									
352A	**Blakely**	**75.65**	**55**	*e*P		**P**		**02 03 49.6**	**+1.5**	
	comp=Z,127nm,1.5s									
352A	**Blakely**	**75.65**	**55**	P		**P**		**02 03 48.5**	**+0.3**	
	baz=328									
DIVS	**Divibare**	**75.71**	**333**	*e*P		**P**		**02 03 47.8**	**-0.6**	
	comp=Z,14nm,0.9s									
DIVS	**Divibare**	**75.71**	**333**	*e*P		**P**		**02 03 47.4**	**-1.0**	
TUE	**Stuetta**	**75.74**	**342**	*e*P		**P**		**02 03 48.6**	**-0.1**	
	comp=Z,51nm,1.3s									
ANTO	**Ankara**	**75.77**	**323**	*e*P		**P**		**02 03 49.0**	**+0.2**	
	comp=Z,60nm,1.4s									
ANTO				LR		LR				
	comp=Z,2µm,21.0s									
ANTO	**Ankara**	**75.77**	**323**	*i*P		**P**		**02 03 48.7**	**-0.1**	
ANTO	**Ankara**	**75.77**	**323**	P		**P**		**02 03 49.0**	**+0.2**	
	SNR=9.1									
ANTO	**Ankara**	**75.77**	**323**	*e*P		**P**		**02 03 49.0**	**+0.2**	
ANTO				pmax		pmax				
	comp=Z,60nm,1.4s									
ANTO				MLR		MLR				
	comp=Z,2µm,21.0s									
BLY	**Banja Luka**	**75.78**	**336**	*i*P		**P**		**02 03 47.3**	**-1.4**	
BLY	**Banja Luka**	**75.78**	**336**	*e*P		**P**		**02 03 48.1**	**-0.6**	
BR231	**Keskin MP Arra**	**75.80**	**323**	*e*P		**P**		**02 03 49.1**	**+0.1**	
155A	**Kite**	**75.81**	**52**	P		**P**		**02 03 49.4**	**+0.4**	
	baz=328									
LOR	**Lormes**	**75.84**	**346**	*e*P		**P**		**02 03 48.1**	**-0.9**	
LOR				pmax		pmax				
	comp=Z,46nm,1.5s									
451A	**Vernon**	**75.99**	**56**	*e*P		**P**		**02 03 50.9**	**+0.8**	
	comp=Z,558nm,1.8s									
451A	**Vernon**	**75.99**	**56**	P		**P**		**02 03 50.7**	**+0.7**	
	baz=327									
254A	**Abbeville**	**76.01**	**53**	P		**P**		**02 03 50.4**	**+0.3**	
	baz=328									
452A	**Marianna**	**76.06**	**55**	P		**P**		**02 03 51.0**	**+0.5**	
	baz=328									
BBLS	**Lazići**	**76.07**	**334**	*e*P		**P**		**02 03 47.8**	**-2.7**	
353A	**Camilla**	**76.09**	**54**	P		**P**		**02 03 51.0**	**+0.3**	
	baz=328									
SSF	**Saint Saulge**	**76.09**	**346**	*e*P		**P**		**02 03 49.6**	**-0.8**	
SSF				pmax		pmax				
	comp=Z,25nm,1.2s									
CABF	**La Chapelle**	**76.15**	**344**	*e*P		**P**		**02 03 51.2**	**+0.3**	
SENIN	**Lac Senin/Sane**	**76.20**	**343**	*e*P		**P**		**02 03 50.9**	**-0.4**	
	comp=Z,20nm,1.2s									
156A	**Sylvania**	**76.21**	**52**	P		**P**		**02 03 50.7**	**-0.6**	
	baz=329									
VTS	**Vitosha**	**76.26**	**331**	*e*P		**P**		**02 03 51.4**	**-0.3**	
	comp=Z,14nm,0.9s									
VTS	**Vitosha**	**76.26**	**331**	*i*P		**P**		**02 03 51.5**	**-0.1**	
VTS	**Vitosha**	**76.26**	**331**	*e*P		**P**		**02 03 51.4**	**-0.3**	
VTS				pmax		pmax				
	comp=Z,14nm,0.9s									
TIGA	**Tifton**	**76.30**	**54**	*e*P		**P**		**02 03 53.4**	**+1.5**	
	comp=Z,184nm,1.4s									
TIGA	**Tifton**	**76.30**	**54**	P		**P**		**02 03 51.0**	**-0.8**	
	baz=328									
AVF	**Avril sur Loir**	**76.38**	**346**	*e*P		**P**		**02 03 51.3**	**-0.8**	
AVF				pmax		pmax				
	comp=Z,41nm,1.4s									
255A	**Hazlehurst**	**76.39**	**53**	*e*P		**P**		**02 03 53.4**	**+1.1**	
	comp=Z,571nm,2.0s									
255A	**Hazlehurst**	**76.39**	**53**	P		**P**		**02 03 51.9**	**-0.4**	
	baz=328									
NHSC	**New Hope**	**76.41**	**50**	PFAKE				02 04 00.0	+7.6	
NHSC				LR		LR				
	comp=Z,3µm,19.0s									
NHSC	**New Hope**	**76.41**	**50**	P		**P**		**02 03 52.7**	**+0.3**	
	baz=329									
SMF	**Signal de Mont**	**76.45**	**345**	*e*P		**P**		**02 03 53.6**	**+1.1**	
SMF				pmax		pmax				
	comp=Z,26nm,1.2s									
453A	**Whigham**	**76.46**	**55**	P		**P**		**02 03 51.0**	**-1.8**	
	baz=328									
355A	**Pearson**	**76.71**	**53**	P		**P**		**02 03 52.7**	**-1.5**	
	baz=328									
CTAO	**Charters Tower**	**76.91**	**196**	*e*P		**P**		**02 03 55.4**	**+0.2**	
	comp=Z,32nm,1.4s									
CTAO				LR		LR				
	comp=Z,906nm,19.0s									
CTAO	**Charters Tower**	**76.91**	**196**	*e*P		**P**		**02 03 55.4**	**+0.2**	
CTAO				pmax		pmax				
	comp=Z,32nm,1.4s									
CTAO				MLR		MLR				
	comp=Z,906nm,19.0s									
MFF	**Saint Martin d**	**77.01**	**348**	*e*P		**P**		**02 03 55.2**	**-0.4**	
MFF				pmax		pmax				
	comp=Z,44nm,1.4s									
TCF	**Toulx Ste Croi**	**77.03**	**346**	*e*P		**P**		**02 03 56.5**	**+0.7**	
LPL	**La Plagne**	**77.11**	**343**	*e*P		**P**		**02 03 56.8**	**+0.3**	
LPL				pmax		pmax				
	comp=Z,36nm,1.0s									
LPG	**La Plagne**	**77.13**	**343**	*e*P		**P**		**02 03 57.1**	**+0.4**	
LPG				pmax		pmax				
	comp=Z,98nm,1.4s									
455A	**Stateville**	**77.14**	**54**	P		**P**		**02 03 55.4**	**-1.2**	
	baz=328									
PDG	**Podgorica**	**77.46**	**333**	*e*P		**P**		**02 03 57.2**	**-1.0**	
BNI	**Bardonecchia**	**77.58**	**343**	*e*P		**P**		**02 03 59.1**	**+0.2**	
	comp=Z,50nm,1.3s									
BNI	**Bardonecchia**	**77.58**	**343**	*e*P		**P**		**02 03 59.2**	**+0.2**	
BNI				pmax		pmax				
	comp=Z,50nm,1.3s									
DZM	**Mont Dzumac**	**77.59**	**177**	P		**P**		**02 03 59.4**	**+0.3**	
	comp=Z,8.6nm,1.2s,baz=352,slow=3.8,SNR=5.1									
DZM	**Mont Dzumac**	**77.59**	**177**	*e*P		**P**		**02 04 01.0**	**+1.9**	
	comp=Z,32nm,1.2s									
VAY	**Valandovo**	**77.61**	**331**	*i* P		**P**		**02 03 59.3**	**+0.2**	
SSB	**Saint Sauveur**	**77.69**	**345**	*e*P		**P**		**02 03 59.5**	**0.0**	
	comp=Z,20nm,1.1s									
SSB	**Saint Sauveur**	**77.69**	**345**	*e*P		**P**		**02 03 59.5**	**0.0**	
SSB				pmax		pmax				
	comp=Z,20nm,1.1s									
DRME	**Dracevica, Mon**	**77.70**	**333**	*e*P		**P**		**02 03 58.6**	**-1.0**	
SHME	**Shamm**	**77.73**	**298**	*i* P		**P**		**02 03 58.1**	**-1.9**	
	SNR=18									
BANOM	**Banah**	**77.75**	**298**	P		**P**		**02 03 59.7**	**-0.5**	
	SNR=12									
BANOM	**Banah**	**77.75**	**298**	*i* P		**P**		**02 03 59.0**	**-1.2**	
	SNR=21									
MBDF	**Montbardon**	**77.88**	**343**	*e*P		**P**		**02 04 01.5**	**+0.8**	
MBDF				pmax		pmax				
	comp=Z,15nm,0.8s									
KRUS	**Krusevo**	**77.93**	**332**	*i* P		**P**		**02 04 01.0**	**0.0**	
556A	**Lake Butler**	**78.05**	**54**	P		**P**		**02 04 02.0**	**+0.3**	
	baz=329									
VIVF	**Saint-Julien-l**	**78.08**	**344**	*e*P		**P**		**02 04 01.6**	**-0.1**	
VIVF				pmax		pmax				
	comp=Z,16nm,1.2s									
MSFE	**Esma-Masafi**	**78.29**	**298**	*i* P		**P**		**02 04 01.2**	**-2.0**	
	SNR=14									
557A	**Orange Park**	**78.35**	**53**	P		**P**		**02 04 04.1**	**+0.8**	
	baz=329,SNR=5.4									
CAF	**Calviac**	**78.39**	**346**	*e*P		**P**		**02 04 04.9**	**+1.5**	
CAF				pmax		pmax				
	comp=Z,64nm,1.6s									
UMQ	**Umm Al-Quwin**	**78.40**	**298**	P		**P**		**02 04 03.0**	**-0.7**	
FNA	**Florina**	**78.44**	**331**	*e*P		**P**		**02 04 02.9**	**-0.9**	
	comp=Z,27nm,1.2s									
FNA	**Florina**	**78.44**	**331**	*e*P		**P**		**02 04 02.9**	**-0.9**	
FNA				pmax		pmax				
	comp=Z,27nm,1.2s									
656A	**Willston**	**78.53**	**54**	P		**P**		**02 04 04.4**	**+0.1**	
	baz=329									
UOSS	**Minazif**	**78.61**	**298**	*e*P		**P**		**02 04 02.6**	**-2.3**	
	comp=Z,223nm,1.8s									
UOSS	**Minazif**	**78.61**	**298**	P		**P**		**02 04 02.6**	**-2.3**	
	SNR=16									
UOSS	**Minazif**	**78.61**	**298**	*i* P		**P**		**02 04 02.6**	**-2.3**	
	SNR=29									
HATD	**Hatta, Dubai**	**78.75**	**298**	P		**P**		**02 04 03.8**	**-1.8**	
	SNR=18									
HATD	**Hatta, Dubai**	**78.75**	**298**	*i* P		**P**		**02 04 03.5**	**-2.2**	
	SNR=26									
BIDO	**Bidbid**	**78.82**	**295**	P		**P**		**02 04 04.9**	**-1.1**	
	SNR=6.1									
AQU	**L'Aquila**	**78.90**	**338**	*e*P		**P**		**02 04 05.8**	**-0.5**	
	comp=Z,72nm,1.3s									
AQU	**L'Aquila**	**78.90**	**338**	*e*P		**P**		**02 04 05.8**	**-0.5**	
AQU				pmax		pmax				
	comp=Z,72nm,1.3s									
AQU	**L'Aquila**	**78.90**	**338**	*e*P		**P**		**02 04 06.7**	**+0.4**	
ASHO	**Ashiyiah**	**78.90**	**298**	P		**P**		**02 04 04.7**	**-1.8**	
	SNR=18									
ASHO	**Ashiyiah**	**78.90**	**298**	*i* P		**P**		**02 04 04.2**	**-2.3**	
	SNR=21									
FAQ	**Al Faqa, Dubai**	**79.09**	**298**	P		**P**		**02 04 06.5**	**-1.0**	
	SNR=5.6									
FAQ	**Al Faqa, Dubai**	**79.09**	**298**	*i* P		**P**		**02 04 05.3**	**-2.2**	
	SNR=10.0									
SOHO	**SOHO**	**79.12**	**297**	*i* P		**P**		**02 04 05.6**	**-2.1**	
	SNR=23									
SMDO	**Samad**	**79.24**	**295**	P		**P**		**02 04 08.5**	**0.0**	
	SNR=5.6									
WRAB	**Tennant Creek**	**79.25**	**207**	*e*P		**P**		**02 04 08.3**	**+0.1**	
	comp=Z,80nm,1.8s									
WRAB				LR		LR				
	comp=Z,969nm,22.0s									
WB2	**Warramunga Arr**	**79.26**	**207**	*e*P		**P**		**02 04 07.3**	**-1.0**	
WRA	**Warramunga Arr**	**79.26**	**207**	P		**P**		**02 04 07.9**	**-0.4**	
	comp=Z,6.0nm,0.6s,baz=11,slow=5.8,SNR=24									
WRA				LR		LR		02 37 31.1		
	comp=Z,532nm,21.8s,baz=350,slow=34									
WC3	**Warramunga Arr**	**79.27**	**207**	*e*P		**P**		**02 04 07.9**	**-0.4**	
	comp=Z,57nm,1.6s									
ASUD	**Al Ashush, Dub**	**79.32**	**298**	P		**P**		**02 04 06.4**	**-2.4**	
ALNE	**Al Ain**	**79.58**	**297**	*i* P		**P**		**02 04 08.0**	**-2.2**	
	SNR=13									
PGF	**Pioggiola**	**79.60**	**341**	*e*P		**P**		**02 04 10.4**	**+0.3**	
PGF				pmax		pmax				
	comp=Z,95nm,1.6s									
PALK	**Pallekele**	**79.73**	**268**	*e*P		**P**		**02 04 10.4**	**-0.7**	
	comp=Z,35nm,0.9s									
PALK	**Pallekele**	**79.73**	**268**	P		P		02 04 06.2	-4.9	
PALK	**Pallekele**	**79.73**	**268**	*i* P		**P**		**02 04 13.1**	**+2.0**	
JMDO	**Jabal Madar**	**79.79**	**295**	P		**P**		**02 04 10.4**	**-1.0**	
	SNR=6.6									
IGT	**Igoumenitsa**	**79.89**	**332**	P		**P**		**02 04 12.1**	**+0.4**	
BSY	**Bisya**	**79.94**	**296**	P		**P**		**02 04 11.2**	**-1.0**	
	SNR=15									
CSS	**Mathiatis**	**79.97**	**320**	*e*P		**P**		**02 04 11.0**	**-1.2**	
	comp=Z,174nm,1.8s									
FITZ	**Fitzroy Crossi**	**80.10**	**216**	*e*P		**P**		**02 04 13.2**	**+0.4**	
	comp=Z,16nm,0.9s									
TLIG	**Tlapa**	**80.27**	**73**	*e*P		**P**		**02 04 16.3**	**+2.1**	
	comp=Z,128nm,2.0s									
959A	**Okeechobee**	**80.86**	**54**	P		**P**		**02 04 16.7**	**-0.3**	
	baz=329									
TIP	**Timpagrande**	**81.15**	**334**	*e*P		**P**		**02 04 18.6**	**+0.1**	
	comp=Z,52nm,1.3s									
PBRG	**Braganca**	**82.40**	**352**	*e*P		**P**		**02 04 28.0**	**+3.0**	
	comp=Z,40nm,1.8s									
POLO	**Lamas de Olo**	**82.90**	**353**	*e*P		**P**		**02 04 29.0**	**+1.3**	
AS01	**Alice Springs**	**82.92**	**207**	*e*P		**P**		**02 04 27.2**	**-0.5**	
AS31	**Alice Springs**	**82.93**	**207**	*e*P		**P**		**02 04 28.2**	**+0.5**	
	comp=Z,3.6nm,0.8s									
ASAR	**Alice Springs**	**82.94**	**207**	P		**P**		**02 04 28.1**	**+0.3**	
	comp=Z,7.5nm,0.7s,baz=14,slow=5.3,SNR=55									
ASAR				LR		LR		02 45 28.8		
	comp=Z,492nm,18.1s,baz=14,slow=39									
MVO	**Moncorvo**	**83.06**	**352**	*e*P		**P**		**02 04 29.2**	**+0.7**	
	comp=Z,52nm,2.1s									
PPT	**Papeete**	**83.26**	**135**	P		**P**		**02 04 32.4**	**+2.9**	
	comp=Z,38nm,1.1s,baz=245,slow=21,SNR=2.1									
PPT				LR		LR		02 38 59.0		
	comp=Z,744nm,18.2s,baz=343,slow=34									
PVIS	**Viseu**	**83.56**	**353**	*e*P		**P**		**02 04 34.2**	**+3.1**	
	comp=Z,62nm,1.8s									
MTE	**Manteigas**	**83.85**	**353**	*e*P		**P**		**02 04 33.6**	**+1.0**	
	comp=Z,71nm,1.6s									
ES19	**SONSECA Array**	**84.24**	**350**	*e*P		**P**		**02 04 34.9**	**+0.4**	
PCAS	**Casmilo, Conde**	**84.26**	**353**	*e*P		**P**		**02 04 35.3**	**+0.7**	
	comp=Z,94nm,1.4s									
ESDC	**Sonseca Array**	**84.27**	**350**	P		**P**		**02 04 35.2**	**+0.5**	
	comp=Z,18nm,1.2s,baz=4.9,slow=4.7,SNR=23									
ESLA	**Sonseca Array**	**84.27**	**350**	*e*P		**P**		**02 04 35.6**	**+0.9**	
	comp=Z,109nm,1.8s									
PCBR	**Castelo Branco**	**84.40**	**353**	*e*P		**P**		**02 04 35.9**	**+0.6**	
	comp=Z,84nm,1.4s									
PAB	**San Pablo**	**84.44**	**350**	*e*P		**P**		**02 04 35.9**	**+0.4**	
	comp=Z,66nm,1.4s									
PAB				LR		LR				
	comp=Z,1µm,21.0s									
PAB	**San Pablo**	**84.44**	**350**	*e*P		**P**		**02 04 35.9**	**+0.4**	
PAB				pmax		pmax				
	comp=Z,66nm,1.4s									
PAB				MLR		MLR				
	comp=Z,1µm,21.0s									
PTOM	**Tomar**	**84.69**	**353**	*e*P		**P**		**02 04 37.4**	**+0.7**	
	comp=Z,70nm,1.4s									
CCIG	**Comitan**	**84.76**	**69**	*e*P		**P**		**02 04 39.1**	**+1.5**	
	comp=Z,88nm,1.5s									
PMRV	**Marv??o**	**84.81**	**353**	*e*P		**P**		**02 04 39.7**	**+2.3**	
	comp=Z,67nm,1.7s									
RAYN	**Ar Rayn**	**84.97**	**305**	*e*P		**P**		**02 04 37.0**	**-1.5**	
	comp=Z,204nm,1.6s									
RAYN				LR		LR				
	comp=Z,2µm,19.0s									
RAYN	**Ar Rayn**	**84.97**	**305**	*i* P		**P**		**02 04 37.1**	**-1.3**	
	SNR=68									
RAYN	**Ar Rayn**	**84.97**	**305**	*e*P		**P**		**02 04 37.0**	**-1.5**	
RAYN				pmax		pmax				
	comp=Z,204nm,1.6s									
RAYN				MLR		MLR				
	comp=Z,2µm,19.0s									
MBWA	**Marble Bar**	**84.98**	**220**	*e*P		**P**		**02 04 37.1**	**-1.1**	
MBWA				LR		LR				
	comp=Z,490nm,19.0s									
ALMR	**Almeirim**	**85.16**	**353**	*e*P		**P**		**02 04 40.7**	**+1.6**	
	comp=Z,102nm,1.2s									
PESTR	**Estremoz**	**85.38**	**353**	*e*P		**P**		**02 04 41.1**	**+0.9**	
	comp=Z,47nm,1.6s									
PESTR	**Estremoz**	**85.38**	**353**	*e*P		**P**		**02 04 40.0**	**-0.3**	
	comp=Z,28nm,1.3s									
WHFO	**Wadi Hawf**	**85.72**	**296**	P		**P**		**02 04 40.3**	**-1.9**	
	SNR=7.0									
EVO	**Evora**	**85.74**	**353**	*e*P		**P**		**02 04 44.8**	**+2.8**	
	comp=Z,59nm,1.9s									
KEST	**Kesra**	**86.12**	**339**	P		**P**		**02 04 44.2**	**+0.2**	
	comp=Z,13nm,1.0s,baz=18,slow=1.6,SNR=16									
KEST				LR		LR		02 49 31.5		
	comp=Z,2µm,18.2s,baz=340,slow=40									
KEST	**Kesra**	**86.12**	**339**	*e*P		**P**		**02 04 44.2**	**+0.2**	
	comp=Z,37nm,1.5s									
PBEJ	**Beja**	**86.24**	**353**	*e*P		**P**		**02 04 46.3**	**+1.8**	
	comp=Z,44nm,1.4s									
MESJ	**Messejana**	**86.45**	**353**	*e*P		**P**		**02 04 45.7**	**+0.2**	
MESJ				*e*SKSac		**SKSac**		**02 15 12.1**	**+2.6**	
MESJ				AMS		AMS		02 47 41.1		
	comp=Z,1µm,23.6s									
MESJ	**Messejana**	**86.45**	**353**	*e*P		**P**		**02 04 45.7**	**+0.2**	
PVAQ	**Vaqueiros**	**86.84**	**353**	*e*P		**P**		**02 04 50.2**	**+2.7**	
	comp=Z,58nm,1.9s									
MORF	**Marmelete**	**87.00**	**353**	*e*P		**P**		**02 04 48.3**	**-0.1**	
MORF				*e*SKSac		**SKSac**		**02 15 15.7**	**+2.6**	
MORF				AMS		AMS		02 53 18.4		
	comp=Z,1µm,11.0s									
MORF	**Marmelete**	**87.00**	**353**	*e*P		**P**		**02 04 50.6**	**+2.3**	
MORF	**Marmelete**	**87.00**	**353**	*e*P		**P**		**02 04 48.2**	**-0.1**	
STKA	**Stephens Creek**	**89.22**	**198**	P		**P**		**02 04 59.0**	**+0.5**	
	comp=Z,2.5nm,0.7s,baz=344,slow=6.8,SNR=5.3									
STKA				LR		LR		02 48 37.0		
	comp=Z,732nm,18.0s,baz=4.7,slow=38									
STKA	**Stephens Creek**	**89.22**	**198**	*e*P		**P**		**02 04 59.2**	**+0.7**	
	comp=Z,17nm,1.9s									
STKA	**Stephens Creek**	**89.22**	**198**	P		**P**		**02 04 59.0**	**+0.5**	
STKA				pmax		pmax				
	comp=Z,3.0nm,0.7s									
STKA				MLR		MLR				
	comp=Z,732nm,18.0s									
GTBY	**Guantanamo Bay**	**90.05**	**53**	PFAKE				02 05 10.0	+7.1	
GTBY				LR		LR				
	comp=Z,3µm,19.0s									
GRTK	**Grand Turk**	**90.40**	**49**	PFAKE				02 05 20.0	+16	
GRTK				LR		LR				
	comp=Z,2µm,20.0s									
MTDJ	**Mount Denham**	**90.41**	**56**	PFAKE				02 05 20.0	+15	
MTDJ				LR		LR				
	comp=Z,1µm,20.0s									
SDDR	**Presa de Saban**	**92.57**	**50**	PFAKE				02 05 30.0	+15	
SDDR				LR		LR				
	comp=Z,1µm,22.0s									
DAMY	**Dhamar**	**93.21**	**302**	*e*P		**P**		**02 05 18.0**	**0.0**	
	comp=Z,33nm,1.4s									
JTS	**JuntasAbangare**	**93.54**	**66**	PFAKE				02 05 30.0	+11	
JTS				LR		LR				
	comp=Z,474nm,19.0s									
SJG	**San Juan**	**95.51**	**46**	PFAKE				02 05 40.0	+12	
SJG				LR		LR				
	comp=Z,1µm,20.0s									
MTP	**Monte Pirata**	**95.77**	**46**	*e*P		**P**		**02 05 29.9**	**+0.6**	
	comp=Z,40nm,1.1s									
DGAR	**Diego Garcia**	**96.41**	**266**	PFAKE				02 05 40.0	+7.8	
DGAR				LR		LR				
	comp=Z,928nm,20.0s									
NWAO	**Narrogin (SRO)**	**96.62**	**217**	PFAKE				02 05 40.0	+7.4	
NWAO				LR		LR				
	comp=Z,960nm,19.0s									
BCIP	**Isla Barro Col**	**97.10**	**62**	PFAKE				02 05 50.0	+15	
BCIP				LR		LR				
	comp=Z,780nm,19.0s									
SNZO	**South Karori**	**97.23**	**171**	PFAKE				02 05 50.0	+15	
SNZO				LR		LR				
	comp=Z,1µm,19.0s									
ANWB	**Willy Bob**	**97.64**	**43**	PFAKE				02 05 50.0	+12	
ANWB				LR		LR				
	comp=Z,1

TRQA				LR	LR			
	comp=Z,765nm,20.0s							
TRQA	**Tornquist**	**145.25**	**79**	*e*PKIKP	**PKPab**	**02 11 40.0**	**0.0**	
TRQA				MLR	MLR			
	comp=Z,765nm,20.0s							
QSPA	**South Pole Qui**	**145.53**	**180**	*e*PKPbc	**PKPdf**	**02 11 38.7**	**-0.9**	
QSPA				LR	LR			
	comp=Z,529nm,19.0s							
SYO	**Syowa Base**	**151.88**	**220**	*e*PKPdf	**PKPdf**	**02 11 50.0**	**+0.3**	
SYO	**Syowa Base**	**151.88**	**220**	*e*PKPdf	**PKPbc**	**02 11 55.2**	**-1.0**	
PMSA	**Palmer Station**	**155.55**	**131**	PFAKE		02 12 10.0	-11	
PMSA				LR	LR			
	comp=Z,816nm,19.0s							
NVL	**N'lazarevskaya**	**160.50**	**209**	*e*PKP2	**PKPab**	**02 12 36.9**	**-5.7**	
NVL				*e*		02 16 32.3		
SNAA	**Sanae**	**162.96**	**195**	*e*PKPdf	**PKPdf**	**02 12 06.6**	**+3.0**	
SNAA				*e*PKPab	**PKPab**	**02 12 53.6**	**+0.2**	
SNAA	**Sanae**	**162.96**	**195**	*e*PKIKP	**PKPdf**	**02 12 06.6**	**+3.0**	
SNAA				*e*		02 12 53.6		
HOPE	**Hope Point**	**168.69**	**90**	PFAKE		02 12 20.0	+11	
HOPE				LR	LR			
	comp=Z,581nm,20.0s							

NNC 02 02:01:40.9±7.5, 37°23'N×71°21'E, *h*0km, mb4.0, mpv3.7, 4D, Error ellipse: s-maj=65.7km s-min=45.5km az=156.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.89**	**355**	P		Pn	02 03 10.6	+1.1
	1.0nm,0.2s,baz=172,slow=12,SNR=62							
KK31				⇓S		Sn	02 04 19.5	+1.8
	5.2nm,0.5s,baz=176,slow=20,SNR=10							
AAK	**Ala-Archa**	**5.96**	**24**	⇓P		Pn	02 03 10.8	+0.3
	17nm,1.1s							
AAK				⇓S		Sn	02 04 20.0	+0.4
	6.5nm,0.6s							
AB31	**Akbulak array**	**14.54**	**329**	⇓P		Pn	02 05 03.0	-4.7
	1.9nm,0.8s,baz=133,slow=9.9,SNR=7.3							

NEIC ***02*** *02:17:50.7±1.3, 26°46'S×177°58'W, h176km±11km, mb4.6/11, Error ellipse: s-maj=13.4km s-min=12.5km az=71.0*

IDC ***02*** *02:17:50.3±1.9, 26°45'S×177°57'W, h170km±14km, mb4.2/8, mb1 4.3/11, mb1mx3.9/31, mbtmp4.7/11, Error ellipse: s-maj=22.2km s-min=16.6km az=38.0*

ISC 02 02:17:51.1±0.5, 26°39S±0'.07×177°3W±0'.1, h200km, n41, σ2^{s}90/50, mb4.5/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.90**	**191**	P		**Pn**	**02 18 35.8**	**-3.7**
	185nm,0.3s,baz=25,slow=23,SNR=21							
RAO				S		**Sn**	**02 19 09.3**	**-8.3**
	261nm,0.3s,baz=31,slow=19,SNR=7.8							
URZ	**Urewera**	**12.74**	**200**	P		**Pn**	**02 20 45.1**	**-0.1**
	2.2nm,0.3s,baz=312,slow=4.1,SNR=8.5							
URZ				S		Sn	02 22 44.8	-22
	4.5nm,0.3s,baz=321,slow=22,SNR=23							
AFI	**Afiamalu**	**13.45**	**24**	P		**P**	**02 20 56.6**	**-0.4**
	7.2nm,0.3s,baz=44,slow=11,SNR=5.9							
AFI				S		**S**	**02 23 18.7**	**-5.9**
	6.8nm,0.3s,baz=38,slow=20,SNR=7.0							
AFI	**Afiamalu**	**13.45**	**24**	*e*Pn		**P**	**02 20 55.8**	**-1.3**
AFI				*e*Sn		**S**	**02 23 20.2**	**-4.3**
DZM	**Mont Dzumac**	**15.43**	**283**	*e*Pn		**P**	**02 21 19.3**	**+0.4**
	31nm,0.6s							
CTA	**Charters Tower**	**33.98**	**273**	P		**P**	**02 24 16.8**	**+0.8**
	5.8nm,0.5s,baz=98,slow=9.9,SNR=15							
CTAO	**Charters Tower**	**33.98**	**273**	*e*P		**P**	**02 24 16.6**	**+0.6**
STKA	**Stephens Creek**	**36.15**	**251**	P		**P**	**02 24 34.7**	**+0.3**
	2.5nm,0.8s,baz=38,slow=7.9,SNR=2.8							
STKA	**Stephens Creek**	**36.15**	**251**	*e*P		**P**	**02 24 34.7**	**+0.3**
	6.3nm,1.8s							
AS01	**Alice Springs**	**44.04**	**263**	*e*P		**P**	**02 25 38.2**	**-1.1**
ASAR	**Alice Springs**	**44.08**	**262**	P		**P**	**02 25 39.2**	**-0.5**
	4.4nm,0.5s,baz=91,slow=6.9,SNR=91							
ASAR				PcP		**PP**	**02 27 23.1**	**-3.6**
	0.6nm,0.6s,baz=104,slow=3.9,SNR=3.0							
ASAR				ScP		**ScP**	**02 30 58.8**	**+4.7**
	1.5nm,1.2s,baz=197,slow=28,SNR=3.2							
WB2	**Warramunga Arr**	**44.70**	**268**	*e*P		**P**	**02 25 43.0**	**-1.6**
WRAB	**Tennant Creek**	**44.70**	**268**	*e*P		**P**	**02 25 43.4**	**-1.2**
	14nm,0.8s							
WR1	**Warramunga Arr**	**44.71**	**268**	*e*P		**P**	**02 25 43.9**	**-0.8**
	18nm,0.8s							
WR1				*e*PcP		**PcP**	**02 27 25.2**	**+1.7**
WR1				*e*ScP		**ScP**	**02 31 01.1**	**+4.4**
WRA	**Warramunga Arr**	**44.71**	**268**	P		**P**	**02 25 43.9**	**-0.8**
	12nm,0.7s,baz=106,slow=7.6,SNR=95							
WRA				PcP		**PcP**	**02 27 25.3**	**+1.7**
	1.3nm,0.8s,baz=106,slow=3.7,SNR=4.4							
WRA				ScP		**ScP**	**02 31 01.1**	**+4.4**
	0.5nm,1.1s,baz=108,slow=3.2,SNR=3.1							
SBA	**Scott Base**	**52.07**	**184**	*e*P		**P**	**02 26 43.1**	**+3.2**
	27nm,1.5s							
VNDA	**Vanda**	**52.13**	**186**	P		**P**	**02 26 43.1**	**+2.7**
	2.4nm,0.6s,baz=5.5,slow=7.6,SNR=40							
VNDA	**Vanda**	**52.13**	**186**	*e*P		**P**	**02 26 42.4**	**+2.0**
	11nm,1.4s							
FITZ	**Fitzroy Crossi**	**53.09**	**267**	*e*P		**P**	**02 26 48.0**	**-0.4**
	7.1nm,0.8s							
MBWA	**Marble Bar**	**57.37**	**261**	*e*P		**P**	**02 27 17.3**	**-1.6**
CASY	**Casey**	**58.97**	**207**	*e*P		**P**	**02 27 27.1**	**-2.1**
	7.1nm,0.6s							
QSPA	**South Pole Qui**	**63.71**	**180**	*e*P		**P**	**02 28 02.7**	**+1.6**
LEM	**Lembang**	**73.64**	**270**	P		**P**	**02 29 04.9**	**+1.5**
	31nm,0.6s,baz=306,slow=24,SNR=5.1							
MAW	**Mawson**	**76.27**	**200**	P		**P**	**02 29 18.4**	**+1.2**
	7.0nm,0.8s,baz=123,slow=9.6,SNR=19							
MAW	**Mawson**	**76.27**	**200**	*e*P		**P**	**02 29 18.7**	**+1.5**
	1.8nm,0.8s							
SNAA	**Sanae**	**82.13**	**178**	P		**P**	**02 29 50.1**	**+1.0**
SNAA	**Sanae**	**82.13**	**178**	*e*P		**P**	**02 29 49.9**	**+0.8**
	10nm,1.1s							
VNA3	**Neumayer Olymp**	**82.25**	**176**	P		**P**	**02 29 50.7**	**+1.1**
VNA2	**Neumayer--Watz**	**82.70**	**177**	P		**P**	**02 29 53.7**	**+1.8**
	baz=179,slow=4.4							
VNA1	**Neumayer--Stat**	**82.92**	**176**	P		**P**	**02 29 54.3**	**+1.3**
PLCA	**Paso Flores**	**84.79**	**133**	P		P	02 30 06.8	+3.5
	1.9nm,0.8s,baz=240,slow=4.5,SNR=7.1							
PLCA	**Paso Flores**	**84.79**	**133**	*e*P		P	02 30 06.8	+3.6
	25nm,1.8s							
ARA0	**ARCESS Array S**	**134.80**	**349**	*e*PKPdf		**PKPdf**	**02 36 49.7**	**+4.5**
ARCES	**ARCESS Array B**	**134.80**	**349**	PKP		**PKPdf**	**02 36 49.7**	**+4.5**
	1.2nm,0.6s,baz=20,slow=4.0,SNR=5.1							
NB200	**NORSAR Array S**	**144.88**	**353**	*e*PKPbc		**PKPdf**	**02 37 05.8**	**+2.1**
NOA	**NORSAR Array B**	**144.88**	**353**	PKP		**PKPdf**	**02 37 05.8**	**+2.1**
	2.2nm,0.8s,baz=20,slow=2.8,SNR=5.1							
BR101	**Keskin Array S**	**151.01**	**305**	*e*PKPbc		**PKPab**	**02 37 22.9**	**-5.8**
BRTR	**Keskin Array B**	**151.01**	**305**	PKPbc		**PKPab**	**02 37 22.9**	**-5.8**
	0.8nm,0.5s,baz=139,slow=4.0,SNR=5.6							
ANTO	**Ankara**	**151.58**	**306**	*e*PKPbc		**PKPbc**	**02 37 23.9**	**+2.2**
TORD	**Torodi Ar. Bea**	**166.79**	**176**	PKP		**PKPdf**	**02 37 34.9**	**+1.5**
	0.9nm,0.9s,baz=358,slow=2.3,SNR=5.4							
TORD				PKPab		**PKPab**	**02 38 37.1**	**-0.1**
	1.5nm,0.8s,baz=179,slow=3.8,SNR=12							
TOA1	**Torodi Ar. Sit**	**166.80**	**176**	*e*PKPdf		**PKPdf**	**02 37 34.9**	**+1.5**
TOA1				*e*PKPab		**PKPab**	**02 38 37.1**	**-0.1**

JMA 02 02:41:09.3±0.1, 37°60N×142°94E, h37km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibobu**	**1.36**	**302**	P		Pn	02 41 32.9	+1.1
JIKH				*e*S		Sn	02 41 49.9	+1.3
JIO	**Ouri**	**1.52**	**305**	P		Pn	02 41 34.8	+0.9
JIO				*e*S		Sn	02 41 53.8	+1.4
JKMT	**Kesennumamotoy**	**1.67**	**317**	P		Pn	02 41 37.0	+1.0
JKMT				S		Sn	02 41 57.7	+1.5
JMM	**Marumori**	**1.72**	**280**	P		Pn	02 41 37.6	+0.9
JMM				*e*S		Sn	02 41 58.6	+1.2
JMK	**Ichinoseki**	**1.91**	**315**	P		Pn	02 41 40.7	+1.4
JOU	**Okura**	**1.95**	**294**	P		Pn	02 41 41.5	+1.6
JFT	**Otama**	**2.07**	**269**	P		Pn	02 41 43.3	+1.8
JFT				*e*S		Sn	02 42 08.2	+2.2
JOM	**Ohasama**	**2.27**	**326**	P		Pn	02 41 46.0	+1.7
JYK	**Kaneyama**	**2.42**	**304**	P		Pn	02 41 48.3	+2.0
JANG	**Nango**	**2.98**	**339**	P		Pn	02 41 56.3	+2.3

IDC 02 02:44:27.6±3.0, 6°45S×147°92E, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.5/34, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=72.7km s-min=33.0km az=100.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.03**	**194**	P		Pn	02 45 19.0	+2.2
	2.2nm,0.3s,baz=352,slow=15,SNR=5.9							
PMG				S		Sn	02 45 55.3	+1.5
	1.5nm,0.3s,baz=183,slow=21,SNR=2.0							
WRA	**Warramunga Arr**	**18.81**	**223**	P		P	02 48 48.3	-0.6
	0.1nm,0.3s,baz=51,slow=11,SNR=6.5							
ASAR	**Alice Springs**	**21.78**	**217**	P		P	02 49 19.9	-1.4
	0.4nm,0.5s,baz=48,slow=9.5,SNR=6.6							
FITZ	**Fitzroy Crossi**	**24.62**	**240**	P		P	02 49 49.2	-0.6
	2.4nm,0.4s,baz=52,slow=8.2,SNR=33							
TORD	**Torodi Ar. Bea**	**146.08**	**284**	PKPbc		PKPbc	03 04 10.8	+0.1
	baz=46,slow=2.9							

ISCJB ***02*** *02:54:55.4±0.3, 51°.73N±0°.03×130°.73W±0°.05, h10km, mb3.3/3, Error ellipse: s-maj=6.2km s-min=2.5km az=137.1*

NEIC ***02*** *02:54:55.0±0.0, 51°.67N×130°.86W, h5km, mb4.0/8, MW4.3(OTT), After OTT.*

IDC ***02*** *02:54:55.7±1.1, 51°.73N×130°.83W, h0km, mb3.4/3, mb1 3.9/7, mb1mx3.6/40, mbtmp3.6/7, ML3.8/4, MS3.5/1, Ms1 3.5/1, ms1mx2.8/37, Error ellipse: s-maj=13.3km s-min=6.5km az=20.0*

PGC ***02*** *02:54:56.1±0.8, 51°.72N×130°.83W, h20km, mb4.0, ML4.1/23, Mw4.3, 183km Sse of Sandspit, Bc Haida Gwaii Region*

ISC 02 02:54:55.4±0.7, 51°66N±0°.05×130°91W±0°.04, h10km, n86, σ1^{s}75/95, mb3.5/3, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**1.06**	**331**	P		**Pg**	**02 55 14.9**	**-0.9**
BNB				S		**Sb**	**02 55 29.4**	**-0.4**
BBB	**Bella Bella**	**1.81**	**72**	Pn		**Pn**	**02 55 25.6**	**-1.0**
	46nm,0.3s,baz=268,slow=14,SNR=121							
BBB				Pg		**Pb**	**02 55 27.2**	**-1.4**
	46nm,0.3s,baz=274,slow=15,SNR=179							
BBB				LR		LR	02 55 46.7	
	comp=Z,144nm,19.4s,baz=314,slow=29							
BBB				Lg		Lg	02 55 50.5	
	341nm,0.3s,baz=330,slow=22,SNR=49							
BBB	**Bella Bella**	**1.81**	**72**	*e*Pn		**Pn**	**02 55 25.9**	**-0.7**
BBB				*e*Sn		**Sb**	**02 55 49.7**	**-1.6**
BBB	**Bella Bella**	**1.81**	**72**	Pn		**Pn**	**02 55 25.6**	**-1.0**
BBB				S		**Sb**	**02 55 50.7**	**-0.6**
DIB	**Dawson Inlet,**	**1.82**	**329**	*e*Pn		**Pn**	**02 55 25.4**	**-1.4**
DIB				*e*Sn		**Sg**	**02 55 52.2**	**-1.8**
DIB	**Dawson Inlet,**	**1.82**	**329**	Pn		**Pn**	**02 55 25.5**	**-1.3**
DIB				Sn		**Sn**	**02 55 48.8**	**-1.1**
DIB				Sg		**Sg**	**02 55 52.4**	**-1.6**
H02S1	**DAWSON INLET T**	**1.82**	**329**	Pn		**Pn**	**02 55 25.8**	**-1.0**
H02S1				Pg		**Pb**	**02 55 28.0**	**-0.8**
H02S1				Lg		Lg	02 55 52.2	
H02N1	**VAN INLET T-PH**	**1.89**	**329**	Pn		**Pn**	**02 55 26.8**	**-0.9**
H02N1				Pg		**Pb**	**02 55 29.2**	**-0.8**
H02N1				Lg		Lg	02 55 54.0	
HOLB	**Holberg**	**2.02**	**119**	Pn		**Pn**	**02 55 28.9**	**-0.7**
PHC	**Port Hardy**	**2.38**	**112**	Pn		**Pn**	**02 55 33.0**	**-1.5**
PHC				Sn		**Sn**	**02 56 02.4**	**-1.4**
MASB	**Masset**	**2.46**	**344**	Pn		**Pn**	**02 55 35.0**	**-0.5**
PACB	**Port Alice, BC**	**2.48**	**118**	Pn		**Pn**	**02 55 35.3**	**-0.5**
PACB				Sn		**Sn**	**02 56 04.9**	**-1.2**
NDB	**Naden**	**2.61**	**333**	Pn		**Pn**	**02 55 38.9**	**+1.1**
NDB				Sg		**Sg**	**02 56 17.0**	**-2.3**
BCBC	**Bella Coola**	**2.66**	**73**	Pn		**Pn**	**02 55 37.8**	**-0.5**
BCBC				Sg		**Sb**	**02 56 15.9**	**+0.1**
MAYB	**Maynard**	**2.67**	**117**	Pn		**Pn**	**02 55 38.5**	**-0.1**
RUBB	**Prince Rupert**	**2.70**	**8**	Pn		**Pn**	**02 55 38.6**	**-0.3**
RUBB				Sg		**Sg**	**02 56 18.7**	**-3.5**
TLCB	**Telegraph Cove**	**2.80**	**112**	Pn		**Pn**	**02 55 39.6**	**-0.6**
EDB	**Eliza Dome**	**3.00**	**125**	Pn		**Pn**	**02 55 42.6**	**-0.2**
WOSB	**Woss**	**3.13**	**117**	Pn		**Pn**	**02 55 44.8**	**0.0**
NCRB	**Newcastle Ridg**	**3.31**	**110**	Pn		**Pn**	**02 55 47.3**	**-0.1**
GDR	**Gold River**	**3.62**	**119**	Pn		**Pn**	**02 55 51.3**	**-0.2**
SPLB	**Strathcona Par**	**3.77**	**116**	Pn		**Pn**	**02 55 53.5**	**-0.1**
CBB	**Campbell River**	**3.87**	**113**	Pn		**Pn**	**02 55 54.5**	**-0.4**
CRAG	**Craig**	**4.04**	**342**	*e*Pn		**Pn**	**02 55 57.7**	**+0.4**
MWAB	**Mount Washingt**	**4.05**	**116**	Pn		**Pn**	**02 55 57.0**	**-0.4**
TOFB	**Tofino**	**4.06**	**126**	Pn		**Pn**	**02 55 58.0**	**+0.4**
BTB	**Buttle Lake**	**4.07**	**120**	Pn		**Pn**	**02 55 57.6**	**-0.3**
UBRB	**Upper Baezaeko**	**4.37**	**71**	Pn		**Pn**	**02 56 03.2**	**+1.3**
TXB	**Texada**	**4.56**	**113**	Pn		**Pn**	**02 56 04.4**	**0.0**
MGB	**Mount Grey**	**4.79**	**121**	Pn		**Pn**	**02 56 06.3**	**-1.4**
WRAK	**Wrangell Islan**	**4.85**	**350**	*e*Pn		**Pn**	**02 56 09.7**	**+1.4**
FSB	**Fort Saint Jam**	**4.87**	**52**	Pn		**Pn**	**02 56 08.5**	**-0.2**
SHB	**Sechelt**	**4.93**	**112**	Pn		**Pn**	**02 56 10.5**	**+1.0**
YOUB	**Youbou, Lake C**	**5.08**	**120**	Pn		**Pn**	**02 56 13.1**	**+1.5**
PFB	**Port Renfrew**	**5.18**	**124**	Pn		**Pn**	**02 56 14.6**	**+1.6**
B926	**Mesachie Lake**	**5.19**	**120**	Pn		**Pn**	**02 56 14.0**	**+0.9**
GOBB	**Galiano Island**	**5.46**	**117**	Pn		**Pn**	**02 56 18.0**	**+1.2**
LZB	**Mount Lazard**	**5.48**	**121**	Pn		**Pn**	**02 56 18.2**	**+1.0**
B009	**North Saanich**	**5.66**	**119**	Pn		**Pn**	**02 56 21.3**	**+1.8**
PA02	**PA02 Ocean**	**5.66**	**119**	Pn		**Pn**	**02 56 21.6**	**+2.2**
PGC	**Sidney**	**5.66**	**119**	Pn		**Pn**	**02 56 22.2**	**+2.8**
PA04	**PA04 Cage**	**5.66**	**119**	Pn		**Pn**	**02 56 21.4**	**+1.9**
PA05	**PA05 Willingdo**	**5.66**	**119**	Pn		**Pn**	**02 56 22.5**	**+2.9**
MCW	**Mount Constitu**	**5.98**	**117**	Pn		**Pn**	**02 56 24.7**	**+0.7**
SIT	**Sitka**	**6.00**	**336**	*e*Pn		**Pn**	**02 56 25.8**	**+1.7**
JCW	**Jim Creek**	**6.75**	**117**	Pn		**Pn**	**02 56 34.5**	**-0.1**
BMBC	**Bull Mountain**	**6.80**	**46**	Pn		**Pn**	**02 56 37.1**	**+1.9**
DLBC	**Dease Lake**	**6.81**	**4**	Pn		**Pn**	**02 56 37.7**	**+2.3**
	3.4nm,0.3s,baz=192,slow=12,SNR=32							
DLBC				Sn		**Sn**	**02 57 55.8**	**+2.8**
	1.3nm,0.3s,baz=189,slow=12,SNR=2.0							
DLBC				Lg		Lg	02 58 27.2	
	2.3nm,0.3s,baz=296,slow=23,SNR=9.5							
DLBC				LR		LR	02 59 13.4	
	comp=Z,430nm,20.5s,baz=104,slow=38							
DLBC	**Dease Lake**	**6.81**	**4**	*e*Pn		**Pn**	**02 56 38.5**	**+3.1**
DLBC				Sn		**Sn**	**02 57 55.8**	**+2.8**
DLBC				Lg		Lg	02 58 27.2	
DLBC	**Dease Lake**	**6.81**	**4**	Pn		**Pn**	**02 56 37.5**	**+2.1**
LTY	**Liberty**	**7.99**	**119**	*e*Pn		**Pn**	**02 56 55.3**	**+3.7**
FNBB	**Fort Nelson**	**8.53**	**29**	Pn		**Pn**	**02 57 01.2**	**+2.3**
WHY	**Whitehorse**	**9.29**	**348**	*e*Pn		**Pn**	**02 57 12.2**	**+2.8**
YUK5	**Granite Creek**	**10.24**	**341**	Pn		Pn	02 57 16.9	-5.5
F10A	**Beach Ranch, E**	**10.66**	**117**	*e*Pn		**Pn**	**02 57 23.4**	**-4.7**
F10A				*e*Sn		Sn	02 59 39.9	+12
YKA	**Yellowknife Ar**	**13.96**	**33**	Pn		**Pn**	**02 58 12.2**	**-0.9**
	0.1nm,0.3s,baz=223,slow=13,SNR=3.0							
YKB5	**Yellowknife Ar**	**13.96**	**33**	*e*Pn		**Pn**	**02 58 12.2**	**-0.9**
DHY	**Denali Highway**	**14.43**	**329**	*e*Pn		**Pn**	**02 58 21.7**	**+2.1**
IL1	**Eielson Array**	**15.54**	**334**	*e*Pn		**P**	**02 58 35.9**	**-2.8**
ILAR	**Eielson Array**	**15.54**	**334**	Pn		**P**	**02 58 38.8**	**+0.1**
	0.0nm,0.3s,baz=142,slow=7.6,SNR=2.8							
ILB	**Eielson Array**	**15.54**	**334**	*e*Pn		**Pn**	**02 58 31.4**	**-3.0**
WRH	**Wood River Hil**	**15.66**	**332**	*e*Pn		**P**	**02 58 38.6**	**-1.3**
	31nm,1.8s							
TPAW	**Teton Pass**	**15.71**	**113**	*e*Pn		**Pn**	**02 58 36.4**	**-0.6**
	33nm,1.4s							
LOHW	**Long Hollow**	**15.84**	**113**	*e*Pn		**P**	**02 58 40.3**	**-2.0**
	13nm,1.5s							
SNOW	**Snow King Moun**	**15.84**	**113**	*e*Pn		**Pn**	**02 58 37.5**	**-1.2**
	12nm,1.4s							
REDW	**Red Top Meadow**	**15.85**	**114**	*e*Pn		**Pn**	**02 58 38.4**	**-0.3**
	16nm,1.1s							
NV01	**Mina Array Sit**	**15.91**	**141**	*e*Pn		**P**	**02 58 41.6**	**-1.6**
NVAR	**Mina Array Bea**	**15.91**	**141**	Pn		**P**	**02 58 42.9**	**-0.3**
	0.1nm,0.3s,baz=323,slow=12,SNR=3.0							
MLY	**Manley**	**16.86**	**330**	*e*Pn		**P**	**02 58 51.9**	**-1.5**
	5.9nm,1.0s							
BW06	**Boulder Array**	**16.96**	**113**	*e*Pn		**Pn**	**02 58 48.6**	**-4.3**
	12nm,1.2s							
PD31	**Pinedale Array**	**16.96**	**113**	*e*Pn		**Pn**	**02 58 52.1**	**-0.8**
PDAR	**Pinedale Array**	**16.96**	**113**	Pn		**P**	**02 58 56.9**	**+2.0**
	0.1nm,0.3s,baz=292,slow=7.5,SNR=19							
PDAR	**Pinedale Array**	**16.96**	**113**	*e*Pn		**Pn**	**02 58 52.5**	**-0.4**
IM3	**Indian Mountai**	**18.43**	**330**	*e*P		**P**	**02 59 07.7**	**-2.9**
K22A	**Casper**	**18.80**	**109**	*e*P		**Pn**	**02 59 15.9**	**+0.5**
	9.3nm,1.1s							
LTX	**Lajitas**	**30.13**	**127**	*e*P		**P**	**03 01 07.9**	**+2.5**
TXAR	**Lajitas Array**	**30.13**	**127**	P		**P**	**03 01 07.9**	**+2.5**
	0.1nm,0.4s,baz=336,slow=5.8,SNR=4.0							
H11N2	**WAKE ISLAND Hy**	**57.57**	**261**	T		T	04 07 17.3	
	baz=40,slow=76,SNR=1101							
H11N3	**WAKE ISLAND Hy**	**57.57**	**261**	T		T	04 07 14.0	
	baz=40,slow=76,SNR=1988							
H11N1	**WAKE ISLAND Hy**	**57.59**	**261**	T		T	04 07 16.9	
	baz=40,slow=76,SNR=1353							
H11S1	**WAKE ISLAND Hy**	**58.62**	**260**	T		T	04 08 36.3	
	baz=40,slow=76,SNR=39							
H11S2	**WAKE ISLAND Hy**	**58.63**	**260**	T		T	04 08 36.6	
	baz=40,slow=76,SNR=36							
H11S3	**WAKE ISLAND Hy**	**58.63**	**260**	T		T	04 08 38.6	
	baz=40,slow=76,SNR=37							
MK32	**Makanchi Array**	**77.86**	**337**	*e*P		**P**	**03 06 55.5**	**+2.6**
MKAR	**Makanchi Array**	**77.86**	**337**	P		**P**	**03 06 55.5**	**+2.6**
	0.5nm,0.7s,baz=23,slow=4.7,SNR=3.7							
ESDC	**Sonseca Array**	**77.97**	**39**	P		**P**	**03 06 55.8**	**+2.2**
	0.1nm,0.3s,baz=322,slow=9.2,SNR=2.8							

ISCJB ***02*** *03:05:55.5±0.4, 85°.69N±0°.06×83°.0E±0°.8, h10km, mb4.0/15, MS3.8/11, Error ellipse: s-maj=9.2km s-min=7.9km az=147.6*

IDC ***02*** *03:05:55.6±0.8, 85°.68N×83°.95E, h0km, mb3.8/10, mb1 4.0/14, mb1mx3.8/58, mbtmp3.9/14, ML3.7/3, MS3.9/13, Ms1 3.9/13, ms1mx3.6/42, Error ellipse: s-maj=22.2km s-min=16.3km az=135.0*

NEIC ***02*** *03:05:57.4±0.4, 85°.69N×82°.85E, h10km, mb4.3/5, Error ellipse: s-maj=10.8km s-min=7.6km az=144.0*

ISC 02 03:05:57.4±0.6, 85°.71N±0°.10×82°.24E±0°.07, h10km, n41, σ1^{s}43/36, mb4.2/15, MS3.8/11, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**10.50**	**273**	*e*Pn		**Pn**	**03 08 27.2**	**-0.4**
SPA0	**Spitsbergen Ar**	**10.86**	**267**	*e*Pn		**Pn**	**03 08 31.9**	**-0.6**
SPITS	**Spitsbergen Ar**	**10.86**	**267**	Pn		**Pn**	**03 08 32.0**	**-0.6**
	baz=47,slow=15,SNR=14							
SPITS				Sn		**Sn**	**03 10 29.3**	**-4.7**
	baz=42,slow=24,SNR=5.2							
TIXI	**Tiksi**	**15.80**	**122**	Pn		**Pn**	**03 09 38.0**	**-1.5**
	0.2nm,0.3s,baz=42,slow=2.7,SNR=2.7							
TIXI				LR		LR	03 14 35.0	
	comp=Z,256nm,20.8s,baz=286,slow=33							
NRIK	**Noril'sk**	**16.49**	**173**	Pn		**Pn**	**03 09 47.6**	**-0.8**
	1.1nm,0.3s,baz=6.9,slow=13,SNR=6.4							
NRIK				LR		LR	03 16 14.8	
	comp=Z,627nm,18.8s,baz=7.5,slow=38							
ARA0	**ARCESS Array S**	**18.56**	**247**	*e*P		**P**	**03 10 15.0**	**+1.1**
ARCES	**ARCESS Array B**	**18.56**	**247**	P		**P**	**03 10 15.0**	**+1.1**
	0.1nm,0.3s,baz=16,slow=12,SNR=12							
ARCES				LR		LR	03 17 18.1	
	comp=Z,17nm,19.6s,baz=40,slow=37							
BILL	**Bilibino**	**22.05**	**85**	*e*P		**P**	**03 10 51.9**	**+0.2**
	12nm,1.0s							
INK	**Inuvik**	**25.45**	**30**	P		**P**	**03 11 23.1**	**-1.6**
	6.4nm,1.1s,baz=340,slow=11,SNR=2.9							
INK				LR		LR	03 21 18.6	
	comp=Z,178nm,21.1s,baz=352,slow=36							
INK	**Inuvik**	**25.45**	**30**	*e*P		**P**	**03 11 26.7**	**+2.0**
	31nm,1.4s							
SEY	**Seymchan**	**26.05**	**102**	P		**P**	**03 11 30.2**	**0.0**

APG	**El Apazote**	**1.94**	**63**	P		**Pn**	**03 28 52.5**	**+0.6**
	100nm,0.3s,baz=204,slow=15,SNR=1350							
APG				S		**Sn**	**03 29 18.6**	**+3.4**
	315nm,0.3s,baz=150,slow=22,SNR=13							
CCIG	**Comitan**	**2.15**	**3**	*e*Pn		**Pn**	**03 28 55.8**	**+1.2**
CCIG				*i* S		**Sn**	**03 29 17.8**	**-2.4**
CCIG	**Comitan**	**2.15**	**3**	*e*P		**Pn**	**03 28 53.0**	**-1.7**
CCIG				*i* S		**Sn**	**03 29 17.8**	**-2.4**
RTR	**El Retiro**	**2.54**	**95**	*e*P		**Pn**	**03 28 59.6**	**-0.4**
SBLS	**San Blas**	**2.57**	**96**	*e*P		**Pn**	**03 28 59.7**	**-0.8**
CEVE	**Cerro Verde**	**2.57**	**96**	*e*P		**Pn**	**03 28 59.9**	**-0.6**
CEVE				eS		**Sn**	**03 29 31.1**	**+0.3**
CEVE				IAML			03 29 43.4	
	comp=Z,9μm,0.4s							
SNJE	**San Jose**	**2.59**	**95**	*e*P		**Pn**	**03 29 00.2**	**-0.5**
TGIG		**2.77**	**343**	*e*P		**Pn**	**03 29 01.8**	**-1.2**
TGIG				eS		**Sn**	**03 29 33.7**	**-1.5**
TGIG		**2.77**	**343**	*e*P		**Pn**	**03 29 01.8**	**-1.2**
TGIG				eS		**Sn**	**03 29 33.7**	**-1.5**
MTO3	**Montecristo**	**2.82**	**84**	*e*P		**Pn**	**03 29 03.0**	**-0.9**
MTO3				eS		**Sn**	**03 29 37.8**	**+1.0**
COLS	**Colinas**	**2.91**	**99**	*e*P		**Pn**	**03 29 04.2**	**-0.8**
BOQS	**Boqueron**	**2.92**	**97**	*e*P		**Pn**	**03 29 04.9**	**-0.4**
BOQS				eS		**Sn**	**03 29 39.3**	**+0.1**
UEES	**San Salvador**	**2.95**	**97**	*e*P		**Pn**	**03 29 05.4**	**-0.2**
SNET	**Serv Nac Est T**	**2.97**	**98**	*e*Pn		**Pn**	**03 29 04.9**	**-0.9**
SNET				eSn		**Sn**	**03 29 37.5**	**-2.8**
SNET	**Serv Nac Est T**	**2.97**	**98**	*e*P		**Pn**	**03 29 05.1**	**-0.7**
SNET				eS		**Sn**	**03 29 38.7**	**-1.6**
LFU	**La Fuente**	**3.08**	**97**	*e*P		**Pn**	**03 29 06.7**	**-0.6**
LFRS	**El Faro**	**3.14**	**99**	*e*P		**Pn**	**03 29 07.2**	**-1.0**
LBRS	**Las Brisas**	**3.15**	**97**	*e*P		**Pn**	**03 29 08.1**	**-0.2**
LLGN	**La Laguna**	**3.21**	**89**	*e*P		**Pn**	**03 29 08.4**	**-0.7**
PAVA	**Las Pavas**	**3.25**	**97**	*e*P		**Pn**	**03 29 09.4**	**-0.3**
PAVA				IAML			03 30 01.4	
	comp=Z,1μm,0.5s							
CMIG	**Matias Romero**	**3.88**	**320**	P		**Pn**	**03 29 16.7**	**-1.6**
	comp=Z,7.6nm,0.3s,baz=148,slow=13,SNR=56							
CMIG				LR		LR	03 31 10.7	
	comp=Z,1μm,21.1s,baz=134,slow=41							
LCND	**La Ca˜–ada**	**4.32**	**100**	*e*P		**Pn**	**03 29 23.8**	**-0.5**
LCND				eS		**Sn**	**03 30 11.9**	**-1.5**
TGUH	**Tegucigalpa,Un**	**4.84**	**90**	*e*Pn		**Pn**	**03 29 32.4**	**+1.0**
VHO	**Vista Hermosa**	**5.21**	**305**	*i* P		**Pn**	**03 29 35.3**	**-1.4**
VHO				eS		**Sn**	**03 30 34.1**	**-1.6**
VHO	**Vista Hermosa**	**5.21**	**305**	*i* P		**Pn**	**03 29 35.3**	**-1.4**
VHO				eS		**Sn**	**03 30 34.1**	**-1.6**
ESTN	**Estel**	**5.81**	**99**	*e*Pn		**Pn**	**03 29 45.1**	**+0.2**
ESTN				eSn		**Sn**	**03 30 52.4**	**+2.1**
COPN	**Copaltepe**	**5.85**	**109**	*e*P		**Pn**	**03 29 44.7**	**-0.6**
BOAB	**BOACO BROADBAN**	**6.63**	**104**	*e*Pn		**Pn**	**03 29 55.4**	**-0.6**
BOAB				eSn		**Sn**	**03 31 06.8**	**-3.5**
LVIG	**Laguna Verde**	**6.84**	**325**	*e*Pn		**Pn**	**03 29 58.4**	**-0.5**
LVIG				eSn		**Sn**	**03 31 15.9**	**+0.4**
TLIG	**Tlapa**	**6.97**	**300**	*e*Pn		**Pn**	**03 30 01.8**	**+1.1**
TEIG	**Tepich**	**7.16**	**32**	*e*Pn		**Pn**	**03 30 03.5**	**+0.3**
JTS	**JuntasAbangare**	**8.09**	**117**	P		**Pn**	**03 30 18.4**	**+2.3**
	comp=Z,2.2nm,0.3s,baz=15,slow=20,SNR=13							
JTS				S		**Sn**	**03 31 46.6**	**+0.3**
	comp=Z,1.4nm,0.3s,baz=322,slow=19,SNR=1.9							
JTS	**JuntasAbangare**	**8.09**	**117**	*e*Pn		**Pn**	**03 30 15.3**	**-0.9**
JTS				eSn		**Sn**	**03 31 46.6**	**+0.3**
MOIG	**Morelia**	**10.17**	**304**	*e*Pn		**Pn**	**03 30 46.0**	**+1.2**
LNIG	**Linares**	**12.68**	**329**	*e*Pn		**Pn**	**03 31 19.6**	**+0.7**
JCT	**Junction City**	**17.70**	**338**	*e*Pn		**P**	**03 32 26.2**	**+1.6**
555A	**McAlpin**	**18.08**	**27**	*e*Pn		**Pn**	**03 32 30.9**	**+2.1**
	comp=Z,251nm,1.9s							
LTX	**Lajitas**	**18.45**	**327**	*e*P		**Pn**	**03 32 35.8**	**+2.3**
TX31	**Lajitas Ar. Si**	**18.45**	**327**	*e*P		**Pn**	**03 32 35.4**	**+1.9**
TXAR	**Lajitas Array**	**18.45**	**327**	P		**Pn**	**03 32 35.8**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=149,slow=13,SNR=40							
POPC	**Popayan, Colom**	**19.22**	**125**	*e*P		**Pn**	**03 32 43.5**	**+0.6**
OTAV	**Otavalo**	**19.42**	**134**	*e*P		**P**	**03 32 43.2**	**-0.8**
	comp=Z,1.3nm,0.6s							
SOTA	**Rioblanco**	**19.52**	**126**	*e*P		**Pn**	**03 32 47.5**	**+0.7**
ABTX	**Abilene, Hawle**	**19.61**	**341**	*e*P		**Pn**	**03 32 47.6**	**+0.5**
	comp=Z,6.6nm,0.7s							
152A	**Waverly Hall**	**19.70**	**19**	*e*P		**Pn**	**03 32 48.4**	**+0.2**
	comp=Z,12nm,0.9s							
Z50A	**Ashland**	**19.90**	**16**	*e*P		**Pn**	**03 32 50.1**	**-0.5**
	comp=Z,27nm,1.5s							
ROSC	**El Rosal**	**19.94**	**116**	P		**Pn**	**03 32 51.3**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=236,slow=23,SNR=6.5							
ROSC	**El Rosal**	**19.94**	**116**	*e*P		**P**	**03 32 49.9**	**+0.3**
	comp=Z,6.8nm,0.8s							
ROSC	**El Rosal**	**19.94**	**116**	*e*P		**Pn**	**03 32 51.5**	**-0.1**
PRAC	**Prado**	**20.02**	**119**	*e*P		**P**	**03 32 50.1**	**0.0**
BARC	**Barichara**	**20.19**	**110**	*e*P		Pn	03 32 55.4	+1.0
MIAR	**Mount Ida**	**20.37**	**357**	*e*P		Pn	03 32 55.2	-0.9
	comp=Z,23nm,1.2s							
CHIC	**Chingaza**	**20.55**	**116**	*e*P		Pn	03 32 57.8	-1.1
RUSC	**La Rusia**	**20.56**	**112**	*e*P		**P**	**03 32 56.0**	**-0.5**
X37A	**Clayton**	**20.57**	**353**	*e*P		Pn	03 32 57.5	-1.0
	comp=Z,57nm,1.6s							
FLOC	**Florencia**	**20.61**	**126**	*e*P		Pn	03 32 59.8	+0.6
W41B	**Gary Mavity, V**	**20.96**	**0**	*e*P		Pn	03 33 03.4	+0.3
	comp=Z,36nm,1.6s							
GDL2	**Guadalupe Moun**	**21.12**	**330**	*e*P		**P**	**03 33 04.4**	**+2.3**
MNTX	**Cornudas Mount**	**21.23**	**328**	*e*P		**P**	**03 33 04.6**	**+1.6**
	comp=Z,6.8nm,0.6s							
WMOK	**Wichita Mounta**	**21.35**	**345**	*e*P		**P**	**03 33 05.0**	**+0.6**
	comp=Z,9.3nm,1.1s							
SWET	**Sewanee**	**21.76**	**14**	*e*P		**P**	**03 33 08.5**	**-0.2**
	comp=Z,24nm,1.2s							
SDV	**Santo Domingo**	**21.81**	**101**	P		**P**	**03 33 09.7**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=287,slow=10,SNR=4.0							
MSTX	**Muleshoe**	**21.94**	**336**	*e*P		**P**	**03 33 11.8**	**+1.1**
	comp=Z,9.8nm,0.5s							
AMTX	**Amarillo**	**22.35**	**339**	*e*P		**P**	**03 33 15.6**	**+0.5**
	comp=Z,24nm,0.6s							
TKL	**Tuckaleechee C**	**22.76**	**18**	P		**P**	**03 33 19.4**	**0.0**
	comp=Z,3.4nm,0.5s,baz=181,slow=11,SNR=9.3							
TKL	**Tuckaleechee C**	**22.76**	**18**	*e*P		**P**	**03 33 19.4**	**0.0**
	comp=Z,31nm,1.3s							
319A	**Douglas**	**23.21**	**321**	*e*P		**P**	**03 33 26.8**	**+2.7**
	comp=Z,8.0nm,0.8s							
T47A	**Sharon Grove**	**23.23**	**11**	*e*P		**P**	**03 33 22.7**	**-1.4**
	comp=Z,42nm,1.6s							
BNM	**Barren Site**	**23.81**	**329**	*e*P		**P**	**03 33 32.1**	**+2.2**
CCM	**Cathedral Cave**	**23.85**	**2**	*e*P		**P**	**03 33 29.4**	**-0.6**
	comp=Z,12nm,0.4s							
LPM	**Los Pinos Moun**	**23.94**	**330**	*e*P		**P**	**03 33 34.1**	**+3.1**
LENM	**Lemitar**	**23.99**	**329**	*e*P		**P**	**03 33 34.2**	**+2.6**
LAZ	**Ladron**	**24.26**	**329**	*e*P		**P**	**03 33 34.7**	**+0.7**
ANMO	**Albuquerque**	**24.37**	**331**	P		**P**	**03 33 36.8**	**+1.8**
	comp=Z,3.3nm,0.5s,baz=140,slow=11,SNR=15							
ANMO	**Albuquerque**	**24.37**	**331**	*e*P		**P**	**03 33 36.6**	**+1.7**
	comp=Z,3.6nm,0.6s							
WCI	**Wyandotte Cave**	**24.58**	**11**	*e*P		**P**	**03 33 35.7**	**-0.9**
	comp=Z,10nm,0.6s							
OLIL	**Olney**	**24.79**	**8**	*e*P		**P**	**03 33 37.5**	**-0.9**
	comp=Z,90nm,1.8s							
T25A	**Trinidad**	**25.35**	**337**	*e*P		**P**	**03 33 47.5**	**+3.6**
	comp=Z,5.8nm,0.8s							
S22A	**4UR Ranch, Cre**	**26.86**	**334**	*e*P		**P**	**03 33 59.8**	**+2.2**
	comp=Z,12nm,1.6s							
MVCO	**Mesa Verde**	**27.17**	**331**	*e*P		**P**	**03 34 01.9**	**+1.6**
	comp=Z,30nm,1.6s							
PV02	**Paradox Valley**	**28.08**	**332**	*e*P		**P**	**03 34 11.8**	**+3.2**
	comp=Z,11nm,1.2s							
PV18	**Skein Mesa, Pa**	**28.20**	**331**	*e*P		**P**	**03 34 12.4**	**+2.9**
	comp=Z,13nm,1.3s							
PV12	**Saucer Basin,**	**28.20**	**332**	*e*P		**P**	**03 34 11.9**	**+2.3**
	comp=Z,10nm,0.9s							
PV16	**Nyswonger Mesa**	**28.25**	**332**	*e*P		**P**	**03 34 13.0**	**+3.0**
	comp=Z,24nm,1.6s							
KNB	**Kanab**	**29.26**	**325**	*e*P		**P**	**03 34 22.1**	**+3.2**
	comp=Z,6.3nm,0.9s							
MTPU	**Mount Pierson**	**29.66**	**327**	*e*P		**P**	**03 34 26.1**	**+3.4**
	comp=Z,15nm,1.7s							
CCUT	**Cedar City**	**29.94**	**325**	*e*P		**P**	**03 34 29.2**	**+4.2**
	comp=Z,12nm,1.8s							
P17A	**Butcher Ranch,**	**30.03**	**331**	*e*P		**P**	**03 34 28.2**	**+2.5**
	comp=Z,20nm,1.7s							
TCUT	**Toone Canyon**	**31.65**	**332**	*e*P		**P**	**03 34 43.0**	**+3.0**
	comp=Z,45nm,1.8s							
HWUT	**Hardware Ranch**	**32.11**	**332**	*e*P		**P**	**03 34 46.6**	**+2.6**
	comp=Z,16nm,1.7s							
PD31	**Pinedale Array**	**32.20**	**336**	*e*P		**P**	**03 34 45.9**	**+1.0**
PDAR	**Pinedale Array**	**32.20**	**336**	P		**P**	**03 34 45.9**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=136,slow=9.3,SNR=7.9							
PDAR				PcP		**PcP**	**03 37 32.7**	**0.0**
	comp=Z,0.4nm,0.4s,baz=134,slow=5.4,SNR=6.4							
PDAR				LR		LR	03 50 13.6	
	comp=Z,175nm,20.3s,baz=68,slow=41							
BGU	**Big Grassy Mou**	**32.27**	**330**	*e*P		**P**	**03 34 47.8**	**+2.4**
	comp=Z,9.0nm,1.6s							
HVU	**Hansel Valley**	**32.80**	**331**	*e*P		**P**	**03 34 52.5**	**+2.5**
	comp=Z,26nm,1.8s							
REDW	**Red Top Meadow**	**33.22**	**335**	*e*P		**P**	**03 34 55.3**	**+1.5**
	comp=Z,15nm,1.4s							
SNOW	**Snow King Moun**	**33.27**	**335**	*e*P		**P**	**03 34 56.2**	**+2.0**
	comp=Z,9.8nm,0.6s							
NV11	**Mina Array Sit**	**33.33**	**321**	*e*P		**P**	**03 34 57.9**	**+3.2**
	comp=Z,1.4nm,1.7s							
LOHW	**Long Hollow**	**33.33**	**335**	*e*P		**P**	**03 34 56.1**	**+1.4**
	comp=Z,15nm,1.8s							
NV01	**Mina Array Sit**	**33.42**	**321**	*e*P		**P**	**03 34 58.2**	**+2.7**
NVAR	**Mina Array Bea**	**33.42**	**321**	P		**P**	**03 34 58.4**	**+2.8**
	comp=Z,3.5nm,0.7s,baz=133,slow=8.5,SNR=25							
KVN	**Kaiserville**	**33.69**	**322**	*e*P		**P**	**03 35 01.3**	**+3.4**
	comp=Z,20nm,1.9s							
BMN	**Battle Mountai**	**34.10**	**325**	*e*P		**P**	**03 35 03.6**	**+2.2**
	comp=Z,24nm,0.8s							
PNTR	**Pine Nut**	**34.62**	**321**	*e*P		**P**	**03 35 10.0**	**+4.1**
	comp=Z,5.1nm,0.9s							
GCMT	**Greycliff**	**34.82**	**338**	*e*P		P	03 35 14.2	+6.7
HLID	**Hailey**	**34.95**	**331**	*e*P		**P**	**03 35 11.2**	**+2.6**
	comp=Z,13nm,1.6s							
MCMT	**McKenzie Canyo**	**35.25**	**334**	*e*P		**P**	**03 35 14.2**	**+2.8**
ULM	**Lac du Bonnet**	**36.15**	**356**	LR		LR	03 51 29.1	
	comp=Z,175nm,19.1s,baz=106,slow=38							
J08A	**Cle Bar Ran**	**36.80**	**327**	*e*P		**P**	**03 35 26.4**	**+2.0**
	comp=Z,17nm,0.6s							
SAML	**Samuel**	**36.85**	**127**	*e*P		**P**	**03 35 23.4**	**-1.7**
	comp=Z,5.7nm,1.1s							
GASB	**Alder Springs**	**36.89**	**319**	*e*P		**P**	**03 35 24.2**	**-1.1**
BMO	**Blue Mountains**	**37.29**	**330**	*e*P		**P**	**03 35 29.6**	**+1.0**
	comp=Z,20nm,1.9s							
F10A	**Beach Ranch, E**	**38.08**	**331**	*e*P		**P**	**03 35 36.6**	**+1.4**
	comp=Z,8.3nm,0.8s							
C09A	**Chrisman Ranch**	**39.92**	**333**	*e*P		**P**	**03 35 52.5**	**+2.0**
	comp=Z,26nm,1.8s							
YKA	**Yellowknife Ar**	**50.85**	**347**	P		**P**	**03 37 16.2**	**-0.5**
	comp=Z,4.1nm,0.7s,baz=152,slow=7.3,SNR=16							
YKB5	**Yellowknife Ar**	**50.85**	**347**	*e*P		**P**	**03 37 16.2**	**-0.5**
BDFB	**Brasilia**	**52.80**	**122**	P		**P**	**03 37 31.5**	**-0.6**
	comp=Z,2.4nm,0.9s,baz=153,slow=6.7,SNR=3.3							
PLCA	**Paso Flores**	**58.17**	**161**	P		**P**	**03 38 11.2**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=310,slow=3.8,SNR=3.2							
PLCA	**Paso Flores**	**58.17**	**161**	*e*P		**P**	**03 38 11.2**	**+1.0**
	comp=Z,13nm,1.5s							
IL1	**Eielson Array**	**62.63**	**337**	*e*P		**P**	**03 38 40.6**	**+0.3**
ILAR	**Eielson Array**	**62.63**	**337**	P		**P**	**03 38 40.5**	**+0.2**
	comp=Z,4.9nm,1.1s,baz=132,slow=4.1,SNR=15							
ILAR				LR		LR	04 07 32.7	
	comp=Z,87nm,19.0s,baz=138,slow=38							
ILB	**Eielson Array**	**62.63**	**337**	*e*P		**P**	**03 38 41.5**	**+1.3**
MLY	**Manley**	**64.22**	**336**	*e*P		**P**	**03 38 51.8**	**+0.9**
	comp=Z,5.0nm,0.7s							
EKA	**Eskdalemuir Ar**	**78.01**	**36**	P		**P**	**03 40 11.7**	**-2.7**
	comp=Z,1.1nm,0.5s,baz=265,slow=5.8,SNR=3.7							
BILL	**Billbo**	**81.25**	**338**	*e*P		**P**	**03 40 32.7**	**+0.9**
	comp=Z,22nm,1.5s							
ARA0	**ARCESS Array S**	**86.10**	**18**	*e*P		**P**	**03 40 56.0**	**-0.5**
ARCES	**ARCESS Array B**	**86.10**	**18**	P		**P**	**03 40 56.0**	**-0.5**
	comp=Z,3.1nm,0.9s,baz=328,slow=3.2,SNR=3.2							
TIXI	**Tiksi**	**90.08**	**348**	*e*P		**P**	**03 41 15.0**	**-0.5**
	comp=Z,4.1nm,0.6s							
TOA1	**Torodi Ar. Sit**	**90.59**	**76**	*e*P		**P**	**03 41 15.9**	**-3.1**
TORD	**Torodi Ar. Bea**	**90.59**	**76**	P		**P**	**03 41 15.9**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=292,slow=4.5,SNR=4.4							
KIV	**Kislovodsk**	**109.10**	**33**	*e*P		**PKiKP**	**03 46 46.7**	**+0.7**
MK32	**Makanchi Array**	**119.17**	**4**	*e*PKPdf		**PKPdf**	**03 47 04.8**	**-0.3**
MKAR	**Makanchi Array**	**119.17**	**4**	PKP		**PKPdf**	**03 47 04.8**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=319,slow=2.4,SNR=3.9							
CM31	**Chiang Mai Arr**	**145.79**	**341**	*e*PKPdf		**PKPab**	**03 47 56.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**145.79**	**341**	PKPbc		**PKPab**	**03 47 56.5**	**+0.3**
	comp=Z,2.5nm,0.4s,baz=338,slow=3.3,SNR=10							

DJA 02 03:30:06.7±0.8, 2˚N±5˚, 12˚3E±˚, h10km, M3.8/6, MLv3.8/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.51**	**206**	P	Pn	03 30 34.3	+0.5
MRSI				S	Sn	03 30 53.2	-0.4
KMSI	**Cibinong**	**1.86**	**133**	P	Pn	03 30 39.0	+0.4
LUWI	**Luwuk**	**2.87**	**177**	P	Pn	03 30 50.7	-1.8
LUWI				S	Sn	03 31 28.7	+1.6
APSI	**Ampana**	**2.90**	**199**	P	Pn	03 30 54.1	+1.2
MPSI	**Mapaga**	**3.10**	**241**	P	Pn	03 30 56.0	+0.4
TTSI	**Tana Toraja**	**5.60**	**210**	P	Pb	03 31 45.9	+1.3

*ISCJB **02** 03:37:47.0±0.7, 6˚72S±0.˚05×147.˚4E±0.˚1, h65km, mb4.0/9, Error ellipse: s-maj=15.2km s-min=6.4km az=7.4*
*IDC **02** 03:37:48.4±3.8, 6˚74S×147.˚68E, h74km±27km, mb3.8/7, mb1 4.0/12, mb1mx3.7/40, mbtmp4.2/12, MS2.9/2, Ms1 2.9/2, ms1mx2.6/35, Error ellipse: s-maj=49.8km s-min=16.0km az=74.0*
*NEIC **02** 03:37:49.6±1.1, 6˚80S×147.˚60E, h83km±8km, mb4.1/3, Error ellipse: s-maj=14.8km s-min=6.9km az=79.0*
ISC 02 03:37:49.2±1.0, 6˚83S±0.˚07×147.˚4E±0.˚1, h65km, n28, σ1§81/31, mb4.1/9, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.57**	**186**	P	**Pn**	**03 38 28.8**	**+0.3**
	44nm,0.3s,baz=352,slow=5.7,SNR=86						
PMG				S	**Sn**	**03 39 02.0**	**+3.3**
	131nm,0.3s,baz=260,slow=23,SNR=9.7						
PMG				LR	LR	03 39 44.9	
	comp=Z,178nm,21.0s,baz=212,slow=43						
RABL	**Rabaul**	**5.40**	**61**	*e*Pn	Pn	03 39 11.9	+4.7
JAY	**Jayapura**	**7.95**	**302**	P	**Pn**	**03 39 45.1**	**+3.0**
	1.9nm,0.3s,baz=218,slow=8.5,SNR=5.1						
JAY				LR	LR	03 43 57.3	
	comp=Z,114nm,18.1s,slow=45						
COEN	**Coen**	**8.22**	**210**	*e*Pn	**Pn**	**03 39 47.7**	**+1.8**
COEN				eSn	**Sn**	**03 41 18.4**	**+1.1**
CTA	**Charters Tower**	**13.23**	**185**	P	**Pn**	**03 40 55.5**	**+1.4**
	1.0nm,0.3s,baz=6.7,slow=15,SNR=8.3						
CTAO	**Charters Tower**	**13.23**	**185**	*e*Pn	**Pn**	**03 40 55.7**	**+1.5**
	32nm,0.8s						
SIJI	**Sorong**	**17.17**	**289**	P	**P**	**03 41 45.6**	**0.0**
	1.9nm,0.3s,baz=106,slow=10.0,SNR=8.5						
WRAB	**Tennant Creek**	**18.18**	**223**	*e*Pn	**Pn**	**03 41 58.4**	**+1.1**
WR1	**Warramunga Arr**	**18.20**	**223**	*e*P	**P**	**03 41 57.1**	**+0.2**
	34nm,1.8s						
WRA	**Warramunga Arr**	**18.20**	**223**	P	**P**	**03 41 57.1**	**+0.1**
	0.7nm,0.3s,baz=48,slow=11,SNR=24						
WRA				S	**Sn**	**03 45 14.6**	**-5.5**
	0.3nm,0.3s,baz=40,slow=24,SNR=5.7						
AS01	**Alice Springs**	**21.16**	**216**	*e*P	**P**	**03 42 29.5**	**+0.4**
AS31	**Alice Springs**	**21.19**	**216**	*e*P	**P**	**03 42 29.9**	**+0.5**
	3.9nm,0.3s						
ASAR	**Alice Springs**	**21.19**	**216**	P	**P**	**03 42 30.2**	**+0.7**
	2.6nm,0.4s,baz=51,slow=9.5,SNR=53						
ASAR				S	**S**	**03 46 18.5**	**-3.2**
	1.3nm,0.9s,baz=35,slow=21,SNR=4.1						
FITZ	**Fitzroy Crossi**	**24.00**	**240**	*e*P	**P**	**03 42 59.0**	**+0.9**
	13nm,0.4s						
STKA	**Stephens Creek**	**25.51**	**192**	P	**P**	**03 43 11.2**	**-0.4**
	1.9nm,0.4s,baz=8.6,slow=9.5,SNR=8.1						
STKA	**Stephens Creek**	**25.51**	**192**	*e*P	**P**	**03 43 11.2**	**-0.4**
	4.4nm,1.5s						
MBWA	**Marble Bar**	**30.34**	**239**	*e*P	**P**	**03 43 54.6**	**-0.2**
CM31	**Chiang Mai Arr**	**54.01**	**299**	*e*P	**P**	**03 47 07.3**	**+0.2**
CMAR	**Chiang Mai Arr**	**54.01**	**299**	P	**P**	**03 47 07.3**	**+0.2**
	1.1nm,0.4s,baz=124,slow=4.8,SNR=5.0						
MK32	**Makanchi Array**	**78.40**	**320**	*e*P	**P**	**03 49 41.6**	**-1.3**
MKAR	**Makanchi Array**	**78.40**	**320**	P	**P**	**03 49 41.6**	**-1.3**
	0.8nm,0.7s,baz=95,slow=8.9,SNR=5.2						
ZALV	**Zalesovo Beam**	**79.93**	**328**	P	**P**	**03 49 49.0**	**-2.1**
	1.0nm,0.4s,baz=111,slow=7.3,SNR=3.5						
ZAA1	**Zalesovo Array**	**79.94**	**328**	*e*P	**P**	**03 49 49.0**	**-2.1**
KURK	**Kurchatov**	**82.12**	**323**	*e*P	**P**	**03 50 01.2**	**-1.5**
KURBB	**Kurchatov Arra**	**82.14**	**323**	P	**P**	**03 50 01.2**	**-1.6**
	0.3nm,0.2s,baz=107,slow=5.0,SNR=3.1						
QSPA	**South Pole Qui**	**83.14**	**180**	P	**P**	**03 50 07.1**	**-0.8**
	0.8nm,0.4s,baz=319,slow=3.9,SNR=3.8						
TORD	**Torodi Ar. Bea**	**145.69**	**283**	PKPbc	**PKPdf**	**03 57 20.6**	**-0.8**
	1.0nm,0.4s,baz=66,slow=3.8,SNR=27						
TOA1	**Torodi Ar. Sit**	**145.70**	**283**	*e*PKPdf	**PKPdf**	**03 57 20.6**	**-0.8**

*ISCJB **02** 03:38:08.6±0.4, 27.˚56S±0.˚07×66.˚22E±0.˚09, h10km, mb4.3/24, MS3.7/4, Error ellipse: s-maj=12.0km s-min=10.1km az=143.8*
*IDC **02** 03:38:08.7±0.5, 27.˚52S×66.˚17E, h0km, mb4.3/17, mb1 4.4/17, mb1mx4.2/44, mbtmp4.3/17, MS3.6/4, Ms1 3.7/4, ms1mx3.3/34, Error ellipse: s-maj=21.1km s-min=15.0km az=85.0*
*NEIC **02** 03:38:10.4±0.2, 27.˚52S×66.˚19E, h10km, mb4.4/8, Error ellipse: s-maj=7.5km s-min=6.4km az=60.0*
ISC 02 03:38:10.4±0.5, 27.˚51S±0.˚10×66.˚2E±0.˚1, h10km, n70, σ0§75/62, mb4.4/24, MS3.8/4, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**20.64**	**18**	T	T	04 04 14.7	
	baz=197,slow=76,SNR=6.7						
H08S2	**Diego Garcia H**	**20.64**	**18**	T	T	04 04 12.5	
	baz=197,slow=76,SNR=37						
H08S3	**Diego Garcia H**	**20.66**	**18**	T	T	04 04 13.6	
	baz=197,slow=76,SNR=40						
H08N3	**Diego Garcia H**	**21.54**	**13**	T	T	04 05 27.0	
	baz=252,slow=75,SNR=94						
H08N1	**Diego Garcia H**	**21.55**	**13**	T	T	04 05 25.5	
	baz=252,slow=75,SNR=56						
H08N2	**Diego Garcia H**	**21.56**	**13**	T	T	04 05 26.5	
	baz=252,slow=75,SNR=109						
LSZ	**Lusaka**	**37.25**	**281**	*e*P	**P**	**03 45 22.4**	**-0.3**
	1.4nm,0.3s						
MAW	**Mawson**	**40.17**	**182**	P	**P**	**03 45 46.2**	**-0.1**
	2.4nm,0.6s,baz=14,slow=10,SNR=11						
MAW	**Mawson**	**40.17**	**182**	*e*P	**P**	**03 45 47.6**	**+1.2**
	0.5nm,0.6s						
H01W2	**Cape Leeuwin H**	**41.37**	**113**	T	T	04 29 57.4	
	baz=266,slow=75,SNR=4.5						
H01W3	**Cape Leeuwin H**	**41.37**	**112**	T	T	04 30 05.9	
	baz=266,slow=75,SNR=4.4						
H01W1	**Cape Leeuwin H**	**41.38**	**113**	T	T	04 29 57.2	
	baz=266,slow=75,SNR=4.2						
RAYN	**Ar Rayn**	**54.51**	**337**	*e*P	**P**	**03 47 39.4**	**+0.8**
	5.0nm,1.3s						
FITZ	**Fitzroy Crossi**	**55.18**	**94**	P	**P**	**03 47 42.5**	**-1.2**
	3.4nm,1.0s,baz=169,slow=9.4,SNR=4.2						
PBKT	**Sadao Pong**	**55.30**	**42**	*e*P	**P**	**03 47 43.5**	**-0.8**
CM31	**Chiang

GO03				IAML			04 09 48.6	
	comp=E,10μm,0.2s							
VACH	**Vallenar**	**0.74**	**167**	*i* P	**Pn**		**04 09 42.5**	**0.0**
VACH				*i* S	**Sn**		**04 09 53.7**	**-0.1**
LCO	**Las Campanas**	**1.18**	**170**	*eP*	**Pg**		**04 09 48.7**	**0.0**
LCO				*eS*	**Sg**		**04 10 05.2**	**+1.1**
LCO	**Las Campanas**	**1.18**	**170**	*iP*	**Pg**		**04 09 48.6**	**-0.1**
LCO				*i* S	**Sg**		**04 10 05.1**	**+1.1**
LCO				IAML			04 10 09.7	
	comp=E,899nm,0.3s							
LSCH	**La Serena**	**2.07**	**187**	*eP*	**Pb**		**04 10 00.8**	**-2.7**
LSCH				*i* S	**Sb**		**04 10 29.6**	**+0.3**
LSCH				IAML			04 10 37.0	
	comp=N,262nm,0.3s							
GO04	**Tololo Observa**	**2.32**	**177**	*eP*	**Pn**		**04 10 05.0**	**+0.7**
GO04				*i* S	**Sb**		**04 10 36.5**	**-0.3**
VCA	**Vinchina**	**2.57**	**111**	*eP*	**Pb**		**04 10 10.3**	**-1.9**
AROD	**Rodeo**	**2.65**	**151**	*eP*	**Pb**		**04 10 12.6**	**-0.9**
AGUA	**GUANDACOL**	**2.70**	**128**	*eP*	**Pb**		**04 10 12.6**	**-1.8**
ACCO	**Cerro Coronel**	**3.19**	**149**	*eP*	**Pb**		**04 10 19.4**	**-3.3**
AMOG	**MOGNA**	**3.75**	**146**	*eP*	**Pn**		**04 10 25.8**	**+2.0**
ACLC	**CERRO LA CRUZ**	**3.84**	**115**	*eP*	**Pn**		**04 10 25.7**	**+0.5**
RTLL	**Cerro Villicun**	**4.08**	**149**	*eP*	**Pn**		**04 10 30.4**	**+2.0**
RTLL				IAML			04 11 25.6	
	comp=Z,71nm,0.4s							
RTLS	**Leoncito**	**4.19**	**160**	*eP*	**Pn**		**04 10 32.9**	**+2.9**
RTLS				IAML			04 11 38.6	
	comp=Z,55nm,0.4s							
AUSP	**Uspallata**	**4.56**	**163**	*eP*	**Pn**		**04 10 38.9**	**+3.7**
CYA	**Choya**	**4.58**	**99**	IAML			04 11 33.5	
	comp=Z,23nm,0.5s							
APLL	**PUNTA DE LOS L**	**4.62**	**124**	*eP*	**Pn**		**04 10 36.4**	**+0.6**
FSA	**Cafayete**	**4.75**	**70**	*eP*	**Pn**		**04 10 40.8**	**+3.1**
FSA				IAML			04 10 44.3	
	comp=Z,5.6nm,0.6s							
ASAL	**Salagasta**	**5.07**	**159**	*eP*	**Pn**		**04 10 44.3**	**+2.4**
ARCO	**CERRO ARCO**	**5.27**	**161**	IAML			04 12 02.8	
	comp=Z,31nm,0.4s							
AZAP	**Zapla**	**6.40**	**57**	*eP*	**Pn**		**04 11 00.3**	**-0.1**

*IDC **02** 04:12:55.2±1.5,52.7°S×131.7°W,h0km,mb3.6/1, mb1 3.6/5,mb1mx3.4/48,mbtmp3.2/5,ML3.3/4,MS3.4/2, Ms1 3.4/2,ms1mx2.6/42,Error ellipse: s-maj=36.7km s-min=5.9km az=34.0*

ISC 02 04:12:55.7±1.2,52.8N±0.2×131.6W±0.2,h10km,n9, σ1§25/7,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
H02S1	**DAWSON INLET T**	**0.69**	**307**	Pg	**Pg**		**04 13 08.2**	**-0.8**
H02S1				Lg		Lg	04 13 16.4	
H02N1	**VAN INLET T-PH**	**0.75**	**308**	Pg	**Pg**		**04 13 09.0**	**-1.2**
H02N1				Lg		Lg	04 13 20.1	
BBB	**Bella Bella**	**2.19**	**105**	Pn	**Pb**		**04 13 34.5**	**-0.9**
	5.0nm,0.3s,baz=272,slow=16,SNR=3.6							
BBB				Lg		Lg	04 14 05.6	
	5.7nm,0.3s,baz=169,slow=22,SNR=4.9							
ILAR	**Eielson Array**	**14.34**	**333**	Pn	**Pn**		**04 16 19.9**	**+1.3**
	0.0nm,0.3s,baz=145,slow=9.7,SNR=3.2							
NVAR	**Mina Array Bea**	**17.05**	**142**	P	**Pn**		**04 16 54.2**	**-0.1**
	0.1nm,0.3s,baz=324,slow=9.2,SNR=4.0							
PDAR	**Pinedale Array**	**17.80**	**115**	P	**Pn**		**04 17 03.1**	**-0.5**
	0.0nm,0.3s,baz=339,slow=7.9,SNR=4.9							
TXAR	**Lajitas Array**	**31.14**	**128**	P	**P**		**04 19 15.7**	**+1.2**
	0.6nm,0.7s,baz=326,slow=8.4,SNR=7.8							
TIXI	**Tiksi**	**43.82**	**333**	LR	LR		04 39 12.6	
	comp=Z,38nm,19.0s,baz=126,slow=36							
PTGA	**Pitinga**	**79.53**	**105**	LR	LR		05 05 37.7	
	comp=Z,23nm,18.4s,baz=112,slow=40							

*IDC **02** 04:17:57.9±0.7,85.7°N×83.8°E,h0km,mb3.9/13, mb1 4.1/16,mb1mx3.9/48,mbtmp3.9/16,ML3.4/2,MS3.4/14, Ms1 3.4/14,ms1mx3.1/45,Error ellipse: s-maj=23.2km s-min=13.3km az=143.0*

*NEIC **02** 04:17:59.4±0.3,85.7°N×83.6°E,h10km,mb4.4/9,Error ellipse: s-maj=9.0km s-min=6.2km az=139.0*

*IEPN **02** 04:18:04.0,85.1°N×83.2°E,h20km, station ZFI2 has station magnitude of 3.40*

ISC 02 04:18:00.8±1.0,85.5N±0.2×82.5ZE±0.8,h10km,n48, σ1§27/26,mb4.1/21,MS3.4/11,North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ZFI2	**Zemlya Franca-**	**6.08**	**240**	*i* P		**Pn**	**04 19 31.2**	**+0.7**
ZFI2				*i* S		**Sn**	**04 20 36.5**	**-3.6**
	16nm,1.6s							
KBS	**Kingsbay**	**10.54**	**274**	*i* P		Pn	04 20 30.1	-1.5
KBS				*i* S		Sn	04 22 21.4	-8.0
SPA0	**Spitsbergen Ar**	**10.87**	**268**	*i* P		**Pn**	**04 20 35.9**	**-0.3**
SPA0				*i* S		Sn	04 22 30.6	-7.0
SPITS	**Spitsbergen Ar**	**10.87**	**268**	Pn		Pn	04 20 35.2	-1.0
	baz=47,slow=15,SNR=9.0							
SPITS				Sn		Sn	04 22 30.9	-6.7
	baz=107,slow=24,SNR=4.5							
SPITS				LR		LR	04 24 03.1	
	comp=Z,161nm,18.7s,baz=205,slow=33							
TIXI	**Tiksi**	**15.65**	**122**	Pn		**Pn**	**04 21 40.6**	**-0.3**
	1.1nm,0.3s,baz=342,slow=4.1,SNR=7.0							
NRIK	**Noril'sk**	**16.24**	**174**	LR		LR	04 28 38.4	
	comp=Z,230nm,18.3s,baz=28,slow=39							
ARA0	**ARCESS Array S**	**18.49**	**248**	*eP*		**P**	**04 22 17.1**	**+0.7**
ARCES	**ARCESS Array B**	**18.49**	**248**	P		**P**	**04 22 17.1**	**+0.7**
	0.1nm,0.3s,baz=16,slow=11,SNR=5.3							
ARCES				LR		LR	04 29 50.2	
	comp=Z,6.9nm,19.3s,baz=242,slow=38							
RES	**Resolute Bay**	**19.98**	**358**	LR		LR	04 29 36.5	
	comp=Z,64nm,21.4s,baz=346,slow=35							
BILL	**Bilibino**	**22.05**	**85**	*eP*		**P**	**04 22 53.0**	**-2.1**
	24nm,1.5s							
YAK	**Yakutsk**	**25.22**	**126**	LR		LR	04 33 26.5	
	comp=Z,47nm,20.5s,baz=104,slow=37							
INK	**Inuvik**	**25.66**	**30**	P		P	04 23 27.1	-3.0
	6.0nm,1.1s,baz=343,slow=14,SNR=3.6							
INK				LR		LR	04 33 54.3	
	comp=Z,48nm,18.9s,baz=4.5,slow=38							
INK	**Inuvik**	**25.66**	**30**	*eP*		P	04 23 25.5	-4.6
	26nm,1.4s							
SEY	**Seymchan**	**25.98**	**101**	P		**P**	**04 23 32.3**	**-0.8**
	4.6nm,1.1s,baz=2.2,slow=6.0,SNR=3.7							
NB200	**NORSAR Array S**	**27.96**	**259**	*eP*		**P**	**04 23 51.2**	**+0.2**
NOA	**NORSAR Array B**	**27.96**	**259**	P		**P**	**04 23 51.2**	**+0.2**
	1.0nm,0.9s,baz=14,slow=8.7,SNR=3.4							
NOA				LR		LR	04 35 38.2	
	comp=Z,28nm,18.8s,baz=245,slow=38							
ILAR	**Eielson Array**	**28.55**	**43**	P		P	04 23 52.6	-3.5
	0.3nm,0.8s,baz=346,slow=9.2,SNR=3.6							
ILAR				LR		LR	04 35 30.2	
	comp=Z,38nm,18.3s,baz=360,slow=37							
ILB	**Eielson Array**	**28.55**	**43**	*eP*		P	04 23 52.6	-3.5
ARU	**Arti**	**29.62**	**207**	LR		LR	04 35 59.9	
	comp=Z,132nm,18.5s,baz=337,slow=36							
ZALV	**Zalesovo Beam**	**31.66**	**177**	LR		LR	04 39 06.1	
	comp=Z,61nm,18.3s,baz=252,slow=40							
KURK	**Kurchatov**	**34.91**	**184**	*eP*		**P**	**04 24 52.0**	**0.0**
	3.1nm,0.8s							
AKASG	**Malin Array Be**	**36.91**	**238**	P		**P**	**04 25 07.8**	**-1.2**
	1.9nm,0.6s,baz=5.1,slow=8.3,SNR=4.0							
AKBB	**Malin Array Si**	**36.91**	**238**	*eP*		**P**	**04 25 07.8**	**-1.2**
MK32	**Makanchi Array**	**38.82**	**180**	*eP*		**P**	**04 25 25.1**	**-0.2**
MKAR	**Makanchi Array**	**38.82**	**180**	P		**P**	**04 25 25.1**	**-0.2**
	2.6nm,0.8s,baz=10,slow=7.4,SNR=12							
MK01	**Makanchi Array**	**38.85**	**180**	*eP*		**P**	**04 25 24.9**	**-0.6**
GERES	**GERESS Array B**	**39.88**	**254**	P		**P**	**04 25 34.8**	**+0.6**
	0.5nm,0.7s,baz=31,slow=5.9,SNR=2.9							
KBZ	**Khabaz**	**43.02**	**223**	LR		LR	04 46 04.3	
	comp=Z,59nm,19.6s,baz=12,slow=39							
AAK	**Ala-Archa**	**43.03**	**189**	*eP*		**P**	**04 26 01.6**	**+1.4**
	4.1nm,0.7s							
KDJ	**Kajisay**	**43.51**	**186**	*eP*		**P**	**04 26 05.1**	**+1.0**
	5.8nm,0.8s							
ULM	**Lac du Bonnet**	**44.51**	**359**	LR		LR	04 42 56.3	
	comp=Z,54nm,20.8s,baz=295,slow=34							
BR101	**Keskin Array S**	**47.55**	**232**	*eP*		**P**	**04 26 38.1**	**+2.1**
BRTR	**Keskin Array B**	**47.55**	**232**	P		**P**	**04 26 38.1**	**+2.1**
	1.3nm,0.8s,baz=3.4,slow=5.5,SNR=6.1							
F10A	**Beach Ranch, E**	**48.54**	**18**	*eP*		P	04 26 38.8	-4.9
	4.3nm,1.1s							
PD31	**Pinedale Array**	**51.91**	**11**	*eP*		P	04 27 04.2	-5.0
PDAR	**Pinedale Array**	**51.91**	**11**	P		P	04 27 04.2	-5.0
	0.3nm,0.8s,baz=15,slow=7.5,SNR=3.5							
PDAR				LR		LR	04 52 15.0	
	comp=Z,32nm,18.4s,baz=134,slow=40							
KEST	**Kesra**	**53.25**	**256**	P		**P**	**04 27 18.8**	**-0.3**
	4.6nm,0.8s,baz=348,slow=8.5,SNR=5.7							
NV01	**Mina Array Sit**	**56.05**	**20**	*eP*		P	04 27 35.7	-3.9
NVAR	**Mina Array Bea**	**56.05**	**20**	P		P	04 27 35.7	-3.9
	0.4nm,0.7s,baz=340,slow=5.1,SNR=3.7							
R11A	**Troy Canyon, C**	**56.20**	**17**	*eP*		P	04 27 38.9	-1.7
	2.2nm,1.0s							
LCMT	**Little Creek M**	**57.59**	**15**	*eP*		P	04 27 48.5	-1.9
	2.3nm,0.8s							
RAYN	**Ar Rayn**	**63.00**	**218**	*eP*		**P**	**04 28 28.4**	**+0.9**
	1.2nm,0.3s							
LTX	**Lajitas**	**65.38**	**6**	*eP*		P	04 28 40.4	-2.7
TXAR	**Lajitas Array**	**65.38**	**6**	P		P	04 28 40.4	-2.7
	0.4nm,0.6s,baz=1.5,slow=3.6,SNR=5.6							
TXAR				LR		LR	04 58 07.3	
	comp=Z,51nm,18.2s,baz=0.0,slow=37							
TOA1	**Torodi Ar. Sit**	**76.25**	**262**	*eP*		**P**	**04 29 48.6**	**-0.5**
TOA0	**Torodi Ar. Sit**	**76.25**	**262**	*eP*		**P**	**04 29 49.6**	**+0.4**
TORD	**Torodi Ar. Bea**	**76.25**	**262**	P		**P**	**04 29 48.6**	**-0.6**
	2.0nm,1.0s,baz=359,slow=6.7,SNR=12							
DBIC	**Dimbokro**	**83.19**	**268**	LR		LR	05 08 36.6	
	comp=Z,16nm,19.6s,baz=92,slow=36							

IDC 02 04:38:55.2±1.9,6.2°S×151.8°E,h0km,mb3.5/3, mb1 3.9/4,mb1mx3.6/36,mbtmp3.6/4,ML1.7/1,Error ellipse: s-maj=117.6km s-min=24.7km az=132.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PMG	**Port Moresby**	**5.62**	**235**	Pn		Pn	04 40 20.5	+0.5
	1.5nm,0.3s,baz=245,slow=17,SNR=4.8							
PMG				Sn		Sn	04 41 25.1	-0.2
	2.7nm,0.3s,baz=145,slow=18,SNR=4.1							
WRA	**Warramunga Arr**	**21.80**	**230**	P		P	04 43 49.9	+0.8
	0.4nm,0.5s,baz=56,slow=10,SNR=5.5							
ASAR	**Alice Springs**	**24.46**	**223**	P		P	04 44 16.1	-0.1
	1.1nm,0.7s,baz=54,slow=9.1,SNR=9.5							
ILAR	**Eielson Array**	**83.83**	**22**	P		P	04 51 26.6	+0.2
	0.9nm,0.8s,baz=248,slow=4.3,SNR=6.0							
TORD	**Torodi Ar. Bea**	**149.80**	**285**	PKPbc		PKPbc	04 58 47.3	-1.0
	0.5nm,0.6s,baz=92,slow=3.0,SNR=6.0							

*TIR **02** 04:43:37.5,41.2°N×20.3°E,h7km,Md2.7/6*
*ATH **02** 04:43:37.2,41.2°N×20.3°E,h21km±2km,ML2.2/3,Error ellipse: s-maj=4.1km s-min=1.1km az=210.0*
*ISCJB **02** 04:43:37.6±0.5,41.2°S±0.02°×20.3°E±0.03,h1km±3km, Error ellipse: s-maj=4.1km s-min=2.7km az=143.9*
*SKO **02** 04:43:37.3,41.2°N×20.3°E,h15km,M1.6,ML2.2*
*THE **02** 04:43:38.1,41.2°N×20.3°E,h6km±1km,ML1.9/6,Error ellipse: s-maj=1.5km s-min=0.5km az=298.0*
*BEO **02** 04:43:38.8±0.4,41.2°N×20.3°E,h5km±2km,ML2.0/7*

ISC 02 04:43:37.9±1.0,41.2°N±0.02°×20.3°E±0.02,h5km±9km, n42,σ0§73/73,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
OHR	**Ohrid**	**0.35**	**111**	*i* Pg		**Pg**	**04 43 45.2**	**+0.6**
OHR				*i* Sg		**Sb**	**04 43 51.9**	**-0.5**
OHR				*eLg*		Lg	04 43 52.0	
	comp=N,430nm,0.6s							
OHR				*eLg*		Lg	04 43 52.4	
	comp=E,174nm,0.5s							
TIR	**Tirane**	**0.40**	**286**	*ePg*		**Pg**	**04 43 45.3**	**-0.3**
TIR				*eSg*		**Sb**	**04 43 52.0**	**-1.8**
TIR	**Tirane**	**0.40**	**286**	P		**Pg**	**04 43 45.4**	**-0.3**
TIR				S		**Sg**	**04 43 51.5**	**+0.7**
TIR				AML		AML	04 43 52.5	
	comp=N,1555μm,0.1s							
TIR				AML		AML	04 43 52.5	
	comp=E,1302μm,0.2s							
TIR	**Tirane**	**0.40**	**286**	P		**Pg**	**04 43 45.3**	**-0.3**
TIR				S		**Sg**	**04 43 51.8**	**+1.0**
TIR	**Tirane**	**0.40**	**286**	*i* PG		**Pg**	**04 43 45.3**	**-0.3**
TIR				*i* SG		**Sg**	**04 43 51.8**	**+1.0**
PHP	**Peshkopia**	**0.45**	**7**	P		**Pg**	**04 43 46.0**	**-0.6**
PHP				S		**Sg**	**04 43 52.8**	**+0.3**
PHP	**Peshkopia**	**0.45**	**7**	*i* PG		**Pg**	**04 43 46.3**	**-0.3**
PHP				*i* SG		**Sg**	**04 43 53.4**	**+0.9**
KRUS	**Krusevo**	**0.67**	**79**	*i* Pg		**Pg**	**04 43 50.8**	**-0.1**
KRUS				*i* Sg		**Sb**	**04 44 01.1**	**-0.7**
KBN	**Korca**	**0.69**	**153**	P		**Pg**	**04 43 51.4**	**+0.3**
KBN				S		**Sb**	**04 44 02.3**	**0.0**
KBN	**Korca**	**0.69**	**153**	*i* PG		**Pg**	**04 43 51.4**	**+0.3**
KBN				*i* SG		**Sb**	**04 44 02.8**	**+0.5**
BIA	**Bitola**	**0.75**	**107**	P		**Pg**	**04 43 52.7**	**+0.4**
BIA				S		**Sb**	**04 44 03.2**	**-0.9**
BIA	**Bitola**	**0.75**	**107**	*i* Pg		**Pg**	**04 43 52.6**	**+0.2**
BIA				*i* Sg		**Sb**	**04 44 04.1**	**+0.1**
PUK	**Puka**	**0.88**	**336**	*i* PG		**Pg**	**04 43 54.2**	**-0.6**
PUK				*i* SG		**Sb**	**04 44 07.1**	**-0.7**
FNA	**Florina**	**0.89**	**121**	P		**Pg**	**04 43 54.6**	**-0.3**
FNA				S		**Sb**	**04 44 07.3**	**-0.6**
FNA				AML		AML	04 44 10.6	
	comp=N,775μm,0.3s							
FNA				AML		AML	04 44 11.0	
	comp=E,442μm,0.3s							
FNA	**Florina**	**0.89**	**121**	P		**Pg**	**04 43 54.6**	**-0.3**
FNA				S		**Sb**	**04 44 07.6**	**-0.3**
FNA	**Florina**	**0.89**	**121**	*i* PG		**Pn**	**04 43 57.4**	**+0.3**
FNA				*i* SG		**Sb**	**04 44 08.5**	**+0.6**
NEST	**Nestorio**	**0.97**	**148**	P		**Pg**	**04 43 56.7**	**+0.2**
NEST				S		**Sg**	**04 44 09.2**	**+0.1**
NEST				AML		AML	04 44 11.5	
	comp=N,82μm,0.5s							
NEST				AML		AML	04 44 16.2	
	comp=E,98μm,0.5s							
NEST	**Nestorio**	**0.97**	**148**	P		**Pg**	**04 43 56.4**	**-0.1**
NEST				S		**Sb**	**04 44 10.6**	**+0.2**
SKO	**Skopje**	**1.09**	**47**	*ePg*		**Pg**	**04 43 58.7**	**0.0**
SKO				*eSg*		**Sb**	**04 44 13.4**	**-0.2**
SKO	**Skopje**	**1.09**	**47**	P		**Pg**	**04 43 58.5**	**-0.2**
SKO				S		**Sn**	**04 44 14.9**	**-0.3**
SKO	**Skopje**	**1.09**	**47**	*i* Pg		**Pb**	**04 43 58.8**	**-0.3**
SKO				*i* Sg		**Sb**	**04 44 13.5**	**-0.2**
BCI	**Bajram Curri**	**1.15**	**349**	*i* PN		**Pb**	**04 44 00.1**	**-0.2**
BCI				*i* SN		**Sn**	**04 44 19.1**	**+2.3**
PENT	**Pentalofos**	**1.19**	**151**	P		**Pg**	**04 44 00.6**	**-0.2**
PENT	**Pentalofos**	**1.19**	**151**	P		**Pg**	**04 44 00.6**	**-0.2**
KZN	**Kozani**	**1.41**	**131**	P		**Pn**	**04 44 04.0**	**-0.4**
KZN	**Kozani**	**1.41**	**131**	P		**Pn**	**04 44 04.1**	**-0.2**
KZN				S		**Sg**	**04 44 23.6**	**+0.3**
PDG	**Podgorica**	**1.45**	**325**	*eSg*		**Sg**	**04 44 25.9**	**+1.3**
GRG	**Griva**	**1.56**	**100**	P		**Pn**	**04 44 06.1**	**-0.2**
GRG	**Griva**	**1.56**	**100**	P		**Pn**	**04 44 05.6**	**-0.7**
GRG				S		**Sn**	**04 44 26.7**	**-0.2**
KTI	**Kastanea**	**1.57**	**122**	P		**Pn**	**04 44 05.4**	**-1.1**
KEK	**Kerkira**	**1.58**	**196**	P		**Pn**	**04 44 07.0**	**-0.6**
VAY	**Valandovo**	**1.66**	**86**	*ePg*		**Pg**	**04 44 09.2**	**-0.5**
VAY				*eSg*		**Sb**	**04 44 30.4**	**+0.3**
VAY	**Valandovo**	**1.66**	**86**	*i* Pg		**Pg**	**04 44 09.4**	**-0.3**
VAY				*i* Sg		**Sg**	**04 44 31.5**	**+0.3**
VAY				*eLg*		Lg	04 44 32.0	
	comp=N,12nm,0.7s							
VAY				*eLg*		Lg	04 44 33.6	
	comp=E,7.7nm,0.5s							
BARS	**Barje**	**1.91**	**34**	*ePg*		**Pg**	**04 44 14.0**	**-0.5**
BARS				*eSg*		**Sg**	**04 44 39.3**	**+0.1**
SJES	**Sjenica**	**2.04**	**352**	*ePn*		**Pb**	**04 44 14.0**	**-1.5**
SJES				*eSn*		**Sb**	**04 44 40.6**	**-0.7**
SELS	**Selova**	**2.06**	**15**	*eSn*		**Pb**	**04 44 14.3**	**-1.4**
SELS	**Selova**	**2.06**	**15**	*ePn*		**Sb**	**04 44 40.6**	**-1.0**
THL	**Klokotos Trika**	**2.09**	**143**	P		**Pn**	**04 44 12.9**	**-0.7**
IVAS	**Ivanjica**	**2.34**	**356**	*ePn*		**Pn**	**04 44 18.2**	**+1.1**
IVAS				*eSn*		**Sn**	**04 44 47.5**	**+1.2**
STON	**Ston**	**2.57**	**310**	*ePn*		**Pn**	**04 44 20.4**	**+0.2**
BOVS	**Bovan**	**2.59**	**22**	*ePn*		**Pn**	**04 44 21.1**	**+0.7**
BOVS				*eSn*		**Sn**	**04 44 53.0**	**+0.7**
ZAPS	**Zavoj**	**2.64**	**39**	*ePn*		**Pn**	**04 44 22.6**	**+1.5**
ZAPS				*eSn*		**Sn**	**04 44 54.7**	**+1.2**

*GUC **02** 04:51:18.3±0.5,24.2°S×67.9°W,h230km±10km,ML3.9*
*ISCJB **02** 04:51:19.4±0.9,24.2°S±0.07°×67.5°W±0.06,h200km, mb3.1/1,Error ellipse: s-maj=9.4km s-min=8.1km az=15.0*
*IDC **02** 04:51:23.7±2.0,23.8°S×67.1°W,h230km±21km,mb2.9/1, mb1 3.1/5,mb1mx2.9/30,mbtmp3.6/5,Error ellipse: s-maj=27.6km s-min=18.4km az=84.0*

ISC 02 04:51:18.7±1.0,24.2°S±0.08×67.5°W±0.07,h200km,n14, σ1§10/21,5C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PB15	**IPOC Station P**	**2.05**	**299**	*iP*		**Pn**	**04 51 58.8**	**+0.8**
PB15				*i* S		**Sn**	**04 52 29.8**	**+1.3**
PB06	**IPOC Station P**	**2.41**	**308**	*iP*		**Pn**	**04 52 02.7**	**+0.9**
PB06				*i* S		**Sn**	**04 52 36.2**	**+0.8**
PB06				IAML			04 52 39.5	
	comp=E,428nm,0.3s							
PB14	**IPOC Station P**	**2.66**	**261**	*iP*		**Pn**	**04 52 04.4**	**-0.3**
PB14				*i* S		**Sn**	**04 52 39.5**	**-1.0**
PB14				IAML			04 52 41.7	
	comp=E,148nm,0.4s							
PB05	**IPOC Station P**	**2.81**	**298**	*eP*		**Pn**	**04 52 06.9**	**+0.6**
PB05				*i* S		**Sn**	**04 52 43.2**	**-0.2**
PB05				IAML			04 52 50.1	
	comp=E,142nm,0.3s							
PB10	**IPOC Station P**	**2.86**	**284**	*iP*		Pn	04 52 07.6	+0.8
PB10				*i* S		**Sn**	**04 52 43.7**	**-0.6**
PB10				IAML			04 52 50.3	
	comp=E,138nm,0.4s							
PB03	**IPOC Station P**	**2.98**	**316**	*eP*		**Pn**	**04 52 08.9**	**+0.6**
PB03				*i* S		**Sn**	**04 52 47.5**	**+0.5**
PB03				IAML			04 52 49.8	
	comp=E,282nm,0.3s							
PB04	**IPOC Station P**	**3.06**	**307**	*eP*		**Pn**	**04 52 09.9**	**+0.6**
PB04				*i* S		**Sn**	**04 52 48.6**	**-0.1**
PB04				IAML			04 52 53.8	
	comp=N,263nm,0.3s							
PB07	**IPOC Station P**	**3.30**	**318**	*iP*		**Pn**	**04 52 12.8**	**+0.7**
PB07				*i* S		**Sn**	**04 52 53.7**	**-0.2**
LPAZ	**La Paz**	**7.91**	**356**	P		**Pn**	**04 53 11.3**	**-0.2**
	comp=N,0.4nm,0.3s,baz=166,slow=6.1,SNR=19							
LPAZ				S		**Sn**	**04 54 40.7**	**-0.5**
	comp=N,0.1nm,0.3s,baz=348,slow=20,SNR=3.0							
CPUP	**Villa Florida**	**9.46**	**105**	P		**Pn**	**04 53 33.6**	**+2.6**
	comp=N,0.4nm,0.3s,baz=286,slow=12,SNR=11							
PLCA	**Paso Flores**	**16.66**	**188**	P		Pn	04 55 07.4	+6.5
	comp=N,0.1nm,0.3s,baz=21,slow=12,SNR=7.7							
BDFB	**Brasilia**	**20.21**	**69**	P		**P**	**04 55 36.5**	**-2.2**
	comp=N,0.3nm,0.3s,baz=213,slow=8.1,SNR=4.0							
TORD	**Torodi Ar. Bea**	**77.09**	**69**	P		**P**	**05 02 48.7**	**-1.7**
	comp=N,0.2nm,0.4s,baz=258,slow=5.5,SNR=6.4							
MKAR	**Makanchi Array**	**147.00**	**39**	PKPbc		**PKPbc**	**05 10 37.9**	**+0.1**
	comp=N,0.5nm,0.6s,baz=296,slow=3.6,SNR=3.6							

IDC 02 04:59:52.4±807.0,50.2°N×128.9°E,h0km,Error ellipse: s-maj=303.3km s-min=139.8km az=153.0,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
I45RU	**USSURIYSK INFR**	**6.93**	**162**	*i*			05 43 30.0	
	baz=343,slow=331,SNR=5.2							
I30JP	**ISUMI INFRASON**	**17.55**	**148**	*i*			06 49 00.0	
	baz=338,slow=322,SNR=0.5							
I44RU	**PETROPAVLOVSK**	**17.81**	**71**	*i*			06 52 40.0	
	baz=274,slow=327,SNR=0.6							

IDC 02 05:14:57.5±3.6,30.2°S×138.4°E,h0km,mb1 2.9/3, mb1mx2.8/23,mbtmp2.6/3,ML2.3/3,Error ellipse: s-maj=84.2km s-min=16.0km az=43.0,South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
STKA	**Stephens Creek**	**3.16**	**121**	Pn		Pn	05 15 49.7	+1.2
	0.1nm,0.3s,baz=299,slow=10,SNR=2.3							
STKA				Sn		Sn	05 16 26.9	-0.1
	1.0nm,0.3s,baz=300,slow=16,SNR=5.6							
STKA				Lg		Lg	05 16 37.1	
	1.6nm,0.3s,baz=84,slow=5.7,SNR=5.7							
ASAR	**Alice Springs**	**7.71**	**328**	Pn		Pn	05 16 49.8	-1.4
	0.1nm,0.3s,baz=148,slow=12,SNR=2.7							
ASAR				Sn		Sn	05 18 21.6	+2.2
	0.2nm,0.3s,baz=150,slow=22,SNR=4.3					

*GUC **02** 06:14:00.7±0.6,20.°15S×69.°26W,h122km±4km,ML3.9*
*IDC **02** 06:14:05.9±8.0,19.°98S×68.°47W,h144km±31km,mb3.6/1, mb1 3.5/3,mb1mx3.1/35,mbtmp3.9/3,Error ellipse: s-maj=144.7km s-min=28.8km az=72.0*

ISC 02 06:13:60.0±1.0,20.°17S±0.°03×69.°3W±0.°1,h132km±10km, n15,σ0♦99/28,6C-5D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB11	**IPOC Station P**	**0.53**	**319**	⇓ *i* P	**Pn**	**06 14 19.7**	**+0.1**
PB11				*i* S	**Sn**	**06 14 33.9**	**-0.6**
PB11				IAML		06 14 35.6	
	comp=E,5μm,0.3s						
PB01	**IPOC Station P**	**0.89**	**192**	⇑ *i* P	**Pn**	**06 14 22.9**	**+0.7**
PB01				*i* S	**Sn**	**06 14 39.0**	**-0.1**
PB01				IAML		06 14 41.5	
	comp=E,4μm,0.1s						
PSGC	**Pisagua**	**0.97**	**306**	⇓ *i* P	**Pn**	**06 14 23.3**	**+0.4**
PSGC				*i* S	**Sn**	**06 14 40.3**	**+0.1**
PSGC				IAML		06 14 40.9	
	comp=N,2μm,0.2s						
MNMC	**Minye Minye**	**1.07**	**344**	⇓ *i* P	**Pn**	**06 14 24.6**	**+0.6**
MNMC				*i* S	**Sn**	**06 14 42.4**	**+0.1**
MNMC				IAML		06 14 44.2	
	comp=N,3μm,0.2s						
PB02	**IPOC Station P**	**1.28**	**206**	⇑ *i* P	**Pn**	**06 14 27.2**	**+1.3**
PB02				*i* S	**Sn**	**06 14 46.6**	**+0.9**
PB02				IAML		06 14 49.5	
	comp=E,4μm,0.2s						
PB07	**IPOC Station P**	**1.65**	**200**	⇑ *i* P	**Pn**	**06 14 31.2**	**+1.1**
PB07				*e*S	**Sn**	**06 14 54.0**	**+1.0**
PB07				IAML		06 14 59.0	
	comp=E,1μm,0.4s						
PB12	**IPOC Station P**	**1.83**	**327**	⇓ *i* P	**Pn**	**06 14 32.3**	**+0.2**
PB12				*e*S	**Sn**	**06 14 56.0**	**-0.7**
PB12				IAML		06 14 59.4	
	comp=E,478nm,0.2s						
PB16	**IPOC Station P**	**1.83**	**353**	⇓ *i* P	**Pn**	**06 14 33.7**	**+1.0**
PB16				*e*S	**Sn**	**06 14 58.0**	**+0.4**
PB03	**IPOC Station P**	**1.92**	**193**	⇑ *i* P	**Pn**	**06 14 34.4**	**+1.2**
PB03				*i* S	**Sn**	**06 14 58.9**	**+0.1**
PB03				IAML		06 15 00.5	
	comp=E,1μm,0.2s						
PB04	**IPOC Station P**	**2.30**	**200**	⇑ *i* P	**Pn**	**06 14 39.2**	**+1.3**
PB04				*i* S	**Sn**	**06 15 06.3**	**-0.7**
PB06	**IPOC Station P**	**2.54**	**186**	*e*P	**Pn**	**06 14 41.9**	**+1.0**
PB06				*i* S	**Sn**	**06 15 11.7**	**-0.7**
PB06				IAML		06 15 18.6	
	comp=N,612nm,0.2s						
PB05	**IPOC Station P**	**2.81**	**198**	⇑ *i* P	**Pn**	**06 14 45.2**	**+1.0**
PB05				*e*S	**Sn**	**06 15 16.8**	**-1.6**
PB05				IAML		06 15 19.8	
	comp=E,306nm,0.5s						
LPAZ	**La Paz**	**4.01**	**16**	P	**Pn**	**06 15 02.6**	**+2.1**
	comp=E,5.5nm,0.3s,baz=199,slow=8.1,SNR=224						
LPAZ				S	**Sn**	**06 15 46.9**	**-0.5**
	comp=E,0.8nm,0.3s,baz=293,slow=25,SNR=7.5						
CPUP	**Villa Florida**	**12.58**	**121**	P	**Pn**	**06 16 52.8**	**-1.6**
	comp=E,0.1nm,0.3s,baz=315,slow=8.6,SNR=4.0						
TORD	**Torodi Ar. Bea**	**77.25**	**71**	P	**P**	**06 25 40.3**	**+0.1**
	comp=E,0.6nm,0.4s,baz=240,slow=4.8,SNR=13						

IDC 02 06:25:36.1±1.9,16.°43S×177.°94W,h0km,mb3.8/6, mb1 4.2/6,mb1mx3.9/30,mbtmp3.8/6,MS3.3/1,Ms1 3.3/1, ms1mx2.5/31,Error ellipse: s-maj=127.2km s-min=22.3km az=153.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.36**	**258**	P	P	06 33 56.9	+0.2
	0.9nm,0.3s,baz=95,slow=7.0,SNR=41						
ASAR	**Alice Springs**	**45.64**	**253**	P	P	06 33 58.5	-0.4
	2.0nm,0.4s,baz=90,slow=8.0,SNR=25						
ASAR				LR	LR	06 52 13.5	
	comp=Z,34nm,20.0s,baz=110,slow=35						
NVAR	**Mina Array Bea**	**78.05**	**44**	P	P	06 37 39.1	+1.9
	0.2nm,0.6s,baz=215,slow=8.2,SNR=3.6						
ILAR	**Eielson Array**	**84.35**	**13**	P	P	06 38 09.3	-0.5
	0.4nm,1.1s,baz=250,slow=6.6,SNR=3.9						
TXAR	**Lajitas Array**	**84.82**	**58**	P	P	06 38 12.6	-0.5
	0.4nm,0.6s,baz=223,slow=6.4,SNR=7.0						
PDAR	**Pinedale Array**	**85.97**	**43**	P	P	06 38 18.0	-0.7
	0.3nm,0.8s,baz=236,slow=3.5,SNR=2.9						

*BJI **02** 06:32:30.1,35.°57N×88.°39E,h6km,mb4.1/4,ML4.2/3, Ms4.1/7,Ms7 3.8/4*
*IDC **02** 06:32:32.0±0.9,35.°66N×88.°82E,h0km,mb3.6/5, mb1 3.8/10,mb1mx3.6/44,mbtmp3.6/10,ML3.3/4,MS3.5/16, Ms1 3.5/16,ms1mx3.3/39,Error ellipse: s-maj=43.3km s-min=15.5km az=54.0*
*ISCJB **02** 06:32:33.7±0.4,35.°60N±0.°04×88.°49E±0.°07,h33km, mb3.5/5,MS3.5/11,Error ellipse: s-maj=8.0km s-min=5.4km az=169.2*

ISC 02 06:32:36.5±0.7,35.°60N±0.°07×88.°57E±0.°08,h35km,n31, σ1♦64/21,mb3.6/5,MS3.5/11,Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUN	**Gumba**	**8.00**	**197**	*e*P	**Pn**	**06 34 31.8**	**+1.2**
JIRN	**Jiri**	**8.17**	**195**	*e*P	**Pn**	**06 34 33.7**	**+0.7**
	5.3nm,0.4s						
WMQ	**Urumqi**	**8.24**	**356**	*e*P	**Pn**	**06 34 33.1**	**-0.5**
WMQ				S	**Sn**	**06 36 07.5**	**+2.0**
WMQ				smax	smax		
	comp=N,51nm,1.7s						
WMQ				smax	smax		
	comp=E,78nm,1.9s						
WMQ				LR	LR		
	comp=N,2μm,13.7s						
WMQ				LR	LR		
	comp=E,2μm,19.7s						
DANN	**Dangsing**	**8.30**	**211**	*e*P	Pn	**06 34 33.9**	**-0.8**
	9.4nm,0.6s						
PKI	**Pulchoki**	**8.44**	**199**	*e*P	**Pn**	**06 34 36.6**	**-0.1**
RAMN	**Ramite**	**8.78**	**192**	*e*P	**Pn**	**06 34 39.8**	**-1.5**
	45nm,1.1s						
PYUN	**Piuthan**	**8.85**	**214**	*e*P	**Pn**	**06 34 39.7**	**-2.5**
	40nm,1.0s						
GTA	**Gaotai**	**9.71**	**64**	*e*P	Pn	06 35 00.8	+7.0
GTA				pP		06 35 04.1	
GTA				sP		06 35 06.8	
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MKAR	**Makanchi Array**	**12.14**	**339**	Pn	**Pn**	**06 35 25.1**	**-1.8**
	0.6nm,0.3s,baz=152,slow=14,SNR=13						
MKAR				Lg	Lg	06 39 01.2	
	0.0nm,0.3s,baz=130,slow=23,SNR=2.9						
MKAR				LR	LR	06 40 29.4	
	comp=Z,147nm,19.0s,baz=156,slow=39						
AAK	**Ala-Archa**	**12.98**	**307**	Pn	**Pn**	**06 35 37.5**	**-1.1**
	0.1nm,0.3s,baz=119,slow=7.6,SNR=7.6						
AAK				LR	LR	06 41 41.7	
	comp=Z,210nm,19.7s,baz=106,slow=42						
CD2	**Chengdu**	**13.54**	**106**	*e*P	**Pn**	**06 35 44.0**	**-2.2**
CD2				S	**Sn**	**06 38 17.2**	**+1.8**
CD2				LR	LR		
	comp=E,560nm,7.3s						
CD2				LR	LR		
	comp=Z,610nm,8.0s						
KURBB	**Kurchatov Arra**	**16.68**	**337**	Pn	**Pn**	**06 36 25.2**	**-2.2**
	0.1nm,0.3s,baz=146,slow=12,SNR=8.5						
XAN	**Xi'an**	**16.79**	**89**	P	**P**	**06 36 30.8**	**0.0**
XAN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ZALV	**Zalesovo Beam**	**18.54**	**353**	P	**P**	**06 36 49.0**	**-0.9**
	0.3nm,0.3s,baz=171,slow=9.9,SNR=3.0						
ZALV				LR	LR	06 44 35.4	
	comp=Z,128nm,19.1s,baz=254,slow=39						
TLY	**Talaya**	**19.36**	**29**	LR	LR	06 45 09.8	
	comp=Z,178nm,21.4s,baz=212,slow=40						
CMAR	**Chiang Mai Arr**	**19.39**	**149**	P	**P**	**06 36 59.9**	**+0.3**
	baz=328,slow=13,SNR=3.3						
CMAR				LR	LR	06 45 04.6	
	comp=Z,72nm,20.5s,baz=342,slow=39						
BVAR	**Borovoye Array**	**21.64**	**329**	P	**P**	**06 37 23.4**	**-0.2**
	0.8nm,0.6s,baz=137,slow=8.9,SNR=3.5						
BVAR				LR	LR	06 47 12.7	
	comp=Z,51nm,18.5s,baz=140,slow=41						
GEYT	**Alibeck**	**24.45**	**285**	LR	LR	06 48 49.0	
	comp=Z,87nm,20.9s,baz=245,slow=40						
AKTO	**Aktyubinsk**	**26.58**	**313**	LR	LR	06 49 53.7	
	comp=Z,172nm,21.3s,baz=116,slow=39						
ARU	**Arti**	**29.08**	**325**	LR	LR	06 51 29.9	
	comp=Z,146nm,19.9s,baz=94,slow=39						
KSRS	**Korea Array**	**31.53**	**75**	LR	LR	06 52 11.6	
	comp=Z,54nm,18.3s,baz=12,slow=38						
NRIK	**Noril'sk**	**33.80**	**359**	LR	LR	06 54 06.8	
	comp=Z,174nm,18.2s,baz=182,slow=38						
USRK	**Ussuriysk Ar.**	**34.07**	**62**	LR	LR	06 54 20.0	
	comp=Z,98nm,19.4s,baz=208,slow=39						
KLR	**Kul'dur**	**34.19**	**53**	LR	LR	06 56 53.6	
	comp=E,56nm,20.3s,baz=260,slow=38						
MJAR	**Matsushiro Arr**	**39.78**	**74**	LR	LR	06 56 30.8	
	comp=Z,40nm,18.4s,baz=320,slow=36						
BRTR	**Keskin Array B**	**43.11**	**293**	P	**P**	**06 40 33.9**	**+0.3**
	0.9nm,0.8s,baz=38,slow=7.3,SNR=2.6						
AKASG	**Malin Array Be**	**44.64**	**309**	LR	LR	07 01 24.0	
	comp=Z,92nm,18.3s,baz=85,slow=39						
GERES	**GERESS Array B**	**54.86**	**309**	LR	LR	07 07 30.6	
	comp=Z,78nm,18.0s,baz=341,slow=38						
WRA	**Warramunga Arr**	**70.23**	**134**	P	**P**	**06 43 45.9**	**-0.2**
	0.7nm,0.9s,baz=330,slow=6.5,SNR=8.9						
ASAR	**Alice Springs**	**72.91**	**137**	P	**P**	**06 44 02.5**	**+0.3**
	0.5nm,0.7s,baz=316,slow=5.2,SNR=4.1						
TORD	**Torodi Ar. Bea**	**79.96**	**279**	P	**P**	**06 44 46.3**	**+3.8**
	0.3nm,0.6s,baz=68,slow=6.4						

MEX 02 06:43:14.7±0.8,16.°12N×97.°98W,h8km±10km,MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.30**	**332**	*i* P	Pg	06 43 21.0	+0.2
PNIG				*i* S	Sg	06 43 23.9	-0.9
VHO	**Vista Hermosa**	**1.52**	**51**	*i* P	Pn	06 43 38.5	-3.9
VHO				*i* S	Sn	06 43 57.1	-5.5
TLIG	**Tlapa**	**1.54**	**339**	*e*P	Pn	06 43 38.9	-3.7
TLIG				*i* S	Sn	06 43 57.4	-5.5

MEX 02 07:04:25.1±0.7,16.°06N×98.°35W,h5km,MD3.5,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.40**	**32**	*i* P	Pg	07 04 31.7	-1.1
PNIG				*e*S	Sg	07 04 37.8	-0.2
TLIG	**Tlapa**	**1.51**	**352**	*e*P	Pn	07 04 49.2	-3.8
TLIG				*i* S	Sn	07 05 08.8	-4.4
VHO	**Vista Hermosa**	**1.85**	**57**	*i* P	Pn	07 04 55.0	-2.7
VHO				*i* S	Sn	07 05 17.3	-4.2

*ISCJB **02** 07:11:47.7±0.5,40.°56S±0.°08×16.°3W±0.°1,h10km, mb4.2/12,MS3.9/12,Error ellipse: s-maj=14.5km s-min=10.8km az=8.2*
*IDC **02** 07:11:47.9±0.9,40.°51S×16.°34W,h0km,mb4.1/8, mb1 4.2/8,mb1mx4.0/23,mbtmp4.1/8,MS3.9/12, Ms1 3.9/12,ms1mx3.7/17,Error ellipse: s-maj=27.2km s-min=20.8km az=110.0*
*NEIC **02** 07:11:49.6±0.5,40.°51S×16.°34W,h10km,mb4.2/7,Error ellipse: s-maj=16.7km s-min=14.1km az=118.0*
*GCMT **02** 07:11:52.6±0.3,40.°69S±0.°05×16.°70W±0.°03,h12km, MW4.7/77,Moment Tensor Solution. s14,c18; s77,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.69±.07; $M_{\theta\theta}$0.34±.08; $M_{\phi\phi}$1.34±.05; $M_{r\theta}$-0.42±.38; $M_{\theta\phi}$-0.25±.06; $M_{\phi r}$0.04±.28; Best double couple: $M_0$1.58900×10^{16} NP1:ϕ_s156.00000°,δ49.00000°,λ-105.00000°. NP2: ϕ_s357.00000°,δ43.00000°,λ-74.00000°. Principal axes: T 1.4050, Plg3.0000°, Azm256.0000°; N 0.3610, Plg11.0000°, Azm165.0000°; P -1.7720, Plg79.0000°, Azm359.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 07:11:49.7±0.6,40.°5S±0.°1×16.°3W±0.°1,h10km,n40, σ1♦04/23,mb4.2/12,MS3.9/12,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**30.46**	**175**	P	**P**	**07 18 00.6**	**-1.5**
EFI	**East Falkland**	**30.60**	**235**	*e*P	**P**	**07 18 03.3**	**-0.2**
VNA2	**Neumayer--Watz**	**30.80**	**174**	P	**P**	**07 18 05.0**	**-0.1**
	baz=302,slow=9.9						
VNA3	**Neumayer Olymp**	**30.96**	**176**	P	**P**	**07 18 06.4**	**-0.1**
H10S2	**ASCENSION HYDR**	**31.48**	**3**	T	T	07 51 24.4	
	baz=183,slow=75,SNR=81						
H10S3	**ASCENSION HYDR**	**31.49**	**3**	T	T	07 51 24.9	
	baz=183,slow=75,SNR=73						
H10S1	**ASCENSION HYDR**	**31.50**	**3**	T	T	07 51 25.8	
	baz=183,slow=75,SNR=91						
SNAA	**Sanae**	**31.93**	**172**	P	**P**	**07 18 14.6**	**-0.6**
	0.9nm,0.9s,baz=286,slow=7.4,SNR=2.8						
H10N1	**ASCENSION HYDR**	**32.60**	**3**	T	T	07 52 50.6	
	baz=182,slow=73,SNR=8.0						
H10N3	**ASCENSION HYDR**	**32.60**	**3**	T	T	07 52 57.3	
	baz=182,slow=73,SNR=64						
H10N2	**ASCENSION HYDR**	**32.62**	**3**	T	T	07 52 44.4	
	baz=182,slow=73,SNR=14						
BOSA	**Boshof**	**35.93**	**84**	LR	LR	07 30 50.8	
	comp=Z,194nm,19.0s,baz=210,slow=32						
TSUM	**Tsumeb**	**35.96**	**64**	P	**P**	**07 18 50.0**	**-0.7**
	4.8nm,1.0s,baz=200,slow=9.7,SNR=6.2						
TSUM	**Tsumeb**	**35.96**	**64**	*e*P	**P**	**07 18 51.9**	**+1.2**
	8.8nm,1.1s						
CPUP	**Villa Florida**	**36.70**	**280**	P	**P**	**07 18 57.1**	**+0.2**
	3.9nm,1.1s,baz=148,slow=11,SNR=4.9						
CPUP				LR	LR	07 32 04.9	
	comp=Z,314nm,18.8s,baz=132,slow=33						
CPUP	**Villa Florida**	**36.70**	**280**	*e*P	**P**	**07 18 57.5**	**+0.6**
	5.5nm,1.1s						
BDFB	**Brasilia**	**37.04**	**303**	LR	LR	07 31 30.4	
	comp=Z,72nm,18.8s,baz=214,slow=32						
PLCA	**Paso Flores**	**40.59**	**251**	LR	LR	07 34 18.9	
	comp=Z,335nm,20.4s,baz=141,slow=33						
MATP	**Matopo**	**42.98**	**76**	P	**P**	**07 19 50.1**	**+0.8**
	4.2nm,1.1s,baz=263,slow=8.1,SNR=3.2						
DBIC	**Dimbo**	**48.13**	**15**	LR	LR	07 36 24.4	
	comp=Z,48nm,18.1s,baz=152,slow=31						
MAW	**Mawson**	**49.25**	**150**	P	**P**	**07 20 37.9**	**0.0**
	3.2nm,1.0s,baz=263,slow=13,SNR=6.0						
MAW				LR	LR	07 37 05.5	
	comp=Z,104nm,21.4s,baz=244,slow=31						
MAW	**Mawson**	**49.25**	**150**	*e*P	**P**	**07 20 38.6**	**+0.7**
	1.2nm,1.1s						
QSPA	**South Pole Qui**	**49.72**	**180**	*e*P	**P**	**07 20 41.9**	**+0.1**
	8.9nm,1.1s						
LPAZ	**La Paz**	**50.73**	**283**	LR	LR	07 41 50.4	
	comp=Z,164nm,19.8s,baz=134,slow=36						
SAML	**Samuel**	**52.05**	**294**	*e*P	**P**	**07 21 01.4**	**+1.6**
	2.7nm,1.0s						
PTGA	**Pitinga**	**55.97**	**304**	*e*P	**P**	**07 21 27.9**	**-0.4**
	2.8nm,1.1s						
TOA0	**Torodi Ar. Sit**	**55.97**	**21**	*e*P	**P**	**07 21 27.2**	**-1.0**
	1.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**55.97**	**21**	P	**P**	**07 21 26.8**	**-1.4**
	3.0nm,1.1s,baz=190,slow=6.9,SNR=11						
TORD				LR	LR	07 40 59.1	
	comp=Z,42nm,18.1s,baz=275,slow=31						
TOA1	**Torodi Ar. Sit**	**55.97**	**21**	*e*P	**P**	**07 21 26.8**	**-1.4**
VNDA	**Vanda**	**62.21**	**180**	P	**P**	**07 22 10.9**	**+0.1**
	1.0nm,1.0s,baz=221,slow=9.2,SNR=2.8						
VNDA				LR	LR	07 45 31.6	
	comp=Z,37nm,20.8s,baz=166,slow=32						
KMBO	**Kilima Mbogo**	**62.28**	**65**	LR	LR	07 46 53.8	
	comp=Z,204nm,19.6s,baz=259,slow=34						
ROSC	**El Rosal**	**69.62**	**296**	LR	LR	07 51 54.5	
	comp=Z,246nm,19.8s,baz=152,slow=35						
BRTR	**Keskin Array B**	**91.95**	**36**	P	**P**	**07 24 59.6**	**+1.3**
	2.0nm,1.1s,baz=207,slow=5.7,SNR=5.7						
BR101	**Keskin Array S**	**91.95**	**36**	*e*P	**P**	**07 24 59.5**	**+1.2**
H01W2	**Cape Leeuwin H**	**92.16**	**141**	T	T	09 08 25.2	
	baz=215,slow=75,SNR=12						
H01W3	**Cape Leeuwin H**	**92.17**	**141**	T	T	09 08 26.2	
	baz=215,slow=75,SNR=13						
H01W1	**Cape Leeuwin H**	**92.18**	**141**	T	T	09 08 27.0	
	baz=215,slow=75,SNR=12						
GERES	**GERESS Array B**	**92.88**	**19**	LR	LR	08 02 54.4	
	comp=Z,57nm,21.3s,baz=294,slow=33						
ILAR	**Eielson Array**	**142.88**	**327**	PKP	**PKPdf**	**07 31 20.4**	**-1.9**
	0.5nm,0.9s,baz=166,slow=0.7,SNR=4.6						
TIXI	**Tiksi**	**144.32**	**18**	PKP	**PKPab**	**07 31 21.8**	**-0.9**
	0.9nm,0.2s,baz=37,slow=5.2,SNR=3.8						

*NEIC **02** 07:15:40.5±0.0,52.°19N×131.°94W,h6km,mb4.2/118, MW4.5(OTT),After OTT.*
NEIC Felt at Queen Charlotte and Sandspit.
*PGC **02** 07:15:41.1±3.2,52.°24N×131.°90W,h19km,mb4.2, ML4.8/21,Mw4.5,112km south of Sandspit, Bc Haida Gwaii Region*
*IDC **02** 07:15:41.5±0.6,52.°32N×131.°96W,h0km,mb4.2/18, mb1 4.4/25,mb1mx4.2/43,mbtmp4.2/25,ML4.0/7,MS3.6/23, Ms1 3.6/23,ms1mx3.5/36,Error ellipse: s-maj=11.4km s-min=6.0km az=46.0*
*ISCJB **02** 07:15:43.0±0.6,52.°48N±0.°02×131.°78W±0.°04,h11km±4km, mb4.3/82,MS3.6/19,Error ellipse: s-maj=5.4km s-min=1.9km az=144.0*
*MOS **02** 07:15:43.1±0.9,52.°49N×131.°91W,h17km,mb4.6/24, Error ellipse: s-maj=12.8km s-min=5.2km az=116.1*

ISC 02 07:15:44.2±1.1,52.°39N±0.°04×131.°91W±0.°04,h13km±6km, n392,σ1♦52/382,mb4.3/82,MS3.5/20,1D,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNB	**Barry Inlet**	**0.20**	**27**	P	**Pg**	**07 15 48.7**	**-0.1**
BNB				S	**Sb**	**07 15 53.2**	**-0.5**
BNB	**Barry Inlet**	**0.20**	**27**	P	**Pg**	**07 15 48.6**	**-0.1**
BNB				S	**Sb**	**07 15 53.2**	**-0.5**
DIB	**Dawson Inlet,**	**0.88**	**337**	*e*Pg	**Pb**	**07 15 59.3**	**-2.1**
DIB				*e*Sg	**Sb**	**07 16 12.0**	**-1.0**
DIB	**Dawson Inlet,**	**0.88**	**337**	P	**Pb**	**07 15 59.2**	**-2.1**
DIB				S	**Sg**	**07 16 12.5**	**-0.3**
H02S1	**DAWSON INLET T**	**0.88**	**337**	Pg	**Pb**	**07 16 00.2**	**-1.1**
H02S1				Lg		07 16 12.4	
H02N1	**VAN INLET T-PH**	**0.94**	**336**	Pg	**Pb**	**07 16 00.3**	**-2.2**
H02N1				Lg	Lg	07 16 13.7	
	SNR=2431						
MASB	**Masset**	**1.63**	**358**	P	**Pb**	**07 16 13.9**	**-0.1**
MASB	**Masset**	**1.63**	**358**	P	**Pb**	**07 16 13.9**	**-0.1**
NDB	**Naden**	**1.68**	**339**	P	**Pn**	**07 16 12.4**	**-1.0**
NDB				Sg	**Sg**	**07 16 39.2**	**+0.8**
NDB	**Naden**	**1.68**	**339**	P	**Pn**	**07 16 11.0**	**-2.3**
NDB				Sg	**Sg**	**07 16 39.1**	**+0.7**
RUBB	**Prince Rupert**	**2.17**	**26**	Pn	**Pn**	**07 16 18.8**	**-1.3**
RUBB				Sg	**Sb**	**07 16 50.1**	**-0.1**
RUBB	**Prince Rupert**	**2.17**	**26**	Pn	**Pn**	**07 16 18.6**	**-1.5**
RUBB				Sg	**Sg**	**07 16 51.9**	**-2.1**
BBB	**Bella Bella**	**2.34**	**94**	Pn	**Pn**	**07 16 21.9**	**-0.4**
	32nm,0.3s,baz=279,slow=5.8,SNR=151						
BBB				Lg	Lg	07 16 53.3	
	611nm,0.3s,baz=349,slow=22,SNR=25						
BBB				LR	LR	07 17 15.9	
	comp=Z,422nm,20.6s,baz=190,slow=40						
BBB	**Bella Bella**	**2.34**	**94**	*e*Pn	**Pn**	**07 16 19.1**	**-3.2**
BBB				Sg	**Sn**	**07 16 51.8**	**+1.0**
BBB				*e*Lg	Lg	07 16 52.1	
BBB	**Bella Bella**	**2.34**	**94**	Pn	**Pn**	**07 16 19.0**	**-3.2**
BBB				Sg	**Sn**	**07 16 52.5**	**+1.6**
BCBC	**Bella Coola**	**3.16**	**88**	Pn	**Pn**	**07 16 31.0**	**-2.5**
BCBC				Sg	**Sb**	**07 17 19.0**	**+0.5**
CRAG	**Craig**	**3.16**	**347**	*e*Pn	**Pn**	**07 16 33.3**	**-0.4**
CRAG				*e*Sn	**Sn**	**07 17 13.4**	**+2.2**
PHC	**Port Hardy**	**3.26**	**119**	Pn	Pn	07 16 30.2	-4.8
PHC	**Port Hardy**	**3.26**	**119**	Pn	Pn	07 16 30.2	-4.8
PACB	**Port Alice, BC**	**3.39**	**124**	Pn	Pn	07 16 32.6	-4.1
MAYB	**Maynard**	**3.57**	**122**	Pn	**Pn**	**07 16 35.8**	**-3.6**
MAYB	**Maynard**	**3.57**	**122**	Pn	Pn	07 16 34.6	-4.8
TLCB	**Telegraph Cove**	**3.67**	**118**	Pn	**Pn**	**07 16 36.5**	**-4.1**
EDB	**Eliza Dome**	**3.93**	**128**	Pn	**Pn**	**07 16 41.9**	**-2.3**
WOSB	**Woss**	**4.03**	**122**	Pn	**Pn**	**07 16 42.1**	**-3.5**
WRAK	**Wrangell Islan**	**4.04**	**357**	*e*Pn	**Pn**	**07 16 45.2**	**-0.5**
WRAK				*e*Sn	**Sn**	**07 17 32.5**	**-0.3**
NCRB	**Newcastle Ridg**	**4.17**	**116**	Pn	**Pn**	**07 16 43.5**	**-4.1**
GDR	**Gold River**	**4.53**	**123**	Pn	**Pn**	**07 16 49.7**	**-2.8**
ETB	**Estevan Point**	**4.55**	**130**	Pn	**Pn**	**07 16 49.3**	**-3.3**
SPLB	**Strathcona Par**	**4.67**	**120**	Pn	**Pn**	**07 16 51.5**	**-2.8**
CBB	**Campbell River**	**4.74**	**117**	Pn	**Pn**	**07 16 52.2**	**-3.2**
UBRB	**Upper Baezaeko**	**4.79**	**81**	Pn	**Pn**	**07 16 55.7**	**-0.4**
UBRB				Sg	**Sb**	**07 18 08.5**	**+2.9**
BTB	**Buttle Lake**	**4.99**	**123**	Pn	**Pn**	**07 16 57.1**	**-1.7**
FSB	**Fort Saint Jam**	**4.99**	**62**	Pn	**Pn**	**07 16 57.8**	**-1.0**
TOFB	**Tofino**	**5.00**	**128**	Pn	**Pn**	**07 16 55.9**	**-3.0**
SIT	**Sitka**	**5.08**	**338**	*e*Pn	**Pn**	**07 16 59.5**	**-0.3**
SIT	**Sitka**	**5.08**	**338**	*e*P	**Pn**	**07 16 59.5**	**-0.3**
TXB	**Texada**	**5.43**	**117**	Pn	**Pn**	**07 17 01.9**	**-2.9**
ALB	**Alberni**	**5.46**	**122**	Pn	**Pn**	**07 17 02.4**	**-2.8**
B928	**Bamfield**	**5.59**	**127**	Pn	**Pn**	**07 17 04.0**	**-2.9**
MGB	**Mount Grey**	**5.71**	**124**	Pn	Pn	07 17 01.9	-6.8
GHNB	**Nanoose**	**5.76**	**119**	Pn	**Pn**	**07 17 08.1**	**-1.1**
SHB	**Sechelt**	**5.79**	**116**	Pn	**Pn**	**07 17 07.7**	**-2.1**
NLLB	**Nanaimo Lost L**	**5.94**	**119**	Pn	**Pn**	**07 17 10.1**	**-1.6**
YOUB	**Youbou, Lake C**	**5.99**	**123**	Pn	**Pn**	**07 17 10.3**	**-2.2**
JIS	**Juneau Island**	**6.06**	**348**	*e*Pn	**Pn**	**07 17 13.9**	**+0.5**
B926	**Mesachie Lake**	**6.11**	**123**	Pn	**Pn**	**07 17 13.9**	**-0.2**
PFB	**Port Renfrew**	**6.11**	**126**	Pn	**Pn**	**07 17 14.0**	**-0.2**

PINE Pine Mountain 11.29 135 ePn Pn 07 18 28.6 +3.2
HUMO Hull Mountain 11.50 145 ePn Pn 07 18 31.4 +3.4
F10A Beach Ranch, E 11.54 118 ePn Pn 07 18 28.9 +0.2
KLU Klutina 11.88 326 ePn Pn 07 18 37.8 +4.7
K05A Summer Lake 12.19 138 ePn Pn 07 18 40.7 +3.1
BMO Blue Mountains 12.24 122 ePn Pn 07 18 39.0 +0.8
BMO Blue Mountains 12.24 122 eP Pn 07 18 39.0 +0.8
YBH Yreka Blue Hor 12.36 146 Pn Pn 07 18 42.0 +2.2
0.0nm,0.3s,baz=337,slow=16,SNR=6.3
YBH LR LR 07 22 38.4
comp=Z,453nm,20.6s,baz=336,slow=34
YBH Yreka Blue Hor 12.36 146 ePn Pn 07 18 43.6 +3.8
YBH Yreka Blue Hor 12.36 146 eP Pn 07 18 43.6 +3.8
SCM Sheep Creek Mo 12.60 325 ePn Pn 07 18 44.7 +1.7
SCM Sheep Creek Mo 12.60 325 eP Pn 07 18 44.7 +1.7
J08A Circle Bar Ran 12.75 130 ePn Pn 07 18 47.5 +2.4
BRLK Bradley Lake 12.88 312 ePn Pn 07 18 45.8 -1.0
CNPM China Poot 12.94 311 ePn Pn 07 18 47.2 -0.4
KDAK Kodiak Island 12.99 303 Pn Pn 07 18 47.5 -0.7
0.3nm,0.3s,baz=30,slow=16,SNR=2.6
KDAK LR LR 07 22 16.6
comp=Z,360nm,20.1s,baz=124,slow=30
MOD Modoc Plateau 13.12 139 ePn Pn 07 18 51.7 +1.5
EGAK Eagle 13.30 343 ePn Pn 07 18 56.3 +3.9
WVOR Wild Horse Val 13.39 133 ePn Pn 07 18 56.8 +2.8
WVOR Wild Horse Val 13.39 133 eP Pn 07 18 56.8 +2.8
KMRM Mail Ridge 13.42 152 ePn Pn 07 18 57.0 +2.7
WDC Whiskeytown Da 13.45 148 ePn Pn 07 18 58.2 +3.7
DHY Denali Highway 13.48 329 ePn Pn 07 18 56.1 +1.1
YKA Yellowknife Ar 13.70 36 Pn Pn 07 18 57.2 -0.7
0.4nm,0.3s,baz=228,slow=12,SNR=12
YKA Lg Lg 07 22 56.0
0.1nm,0.3s,baz=225,slow=26,SNR=3.8
YKB5 Yellowknife Ar 13.70 36 ePn Pn 07 18 56.5 -1.4
YKW3 Yellowknife Ar 13.74 35 ePn Pn 07 18 57.2 -1.2
KCPM Cahto Peak 13.95 152 ePn Pn 07 19 03.2 +1.7
RND Reindeer 14.19 328 ePn Pn 07 19 04.8 +0.2
RND eP P 07 19 14.4 +2.3
RND Reindeer 14.19 328 eP Pn 07 19 04.8 +0.2
HRY Holter Researc 14.20 106 ePn Pn 07 19 07.0 +2.1
DLMT Dillon 14.50 111 ePn Pn 07 19 10.2 +1.1
IL1 Eielson Array 14.60 334 ePn Pn 07 19 12.4 +2.2
ILAR Eielson Array 14.60 334 Pn P 07 19 13.5 -3.2
0.0nm,0.3s,baz=318,slow=32,SNR=4.1
ILAR Lg Lg 07 23 35.2
baz=116,slow=26,SNR=4.2
ILAR LR LR 07 24 38.6
comp=Z,345nm,19.0s,baz=156,slow=37
ILB Eielson Array 14.60 334 ePn P 07 19 17.3 +0.6
HLID Hailey 14.64 120 ePn Pn 07 19 11.5 +0.5
MCMT McKenzie Canyo 14.68 113 ePn Pn 07 19 12.2 +0.6
TRF Thorofare Moun 14.70 326 ePn Pn 07 19 13.3 +1.6
WRH Wood River Hil 14.71 332 ePn Pn 07 19 14.2 +2.4
ORV Oroville 14.72 147 ePn Pn 07 19 15.0 +3.0
CCB Clear Creek Bu 14.76 332 ePn Pn 07 19 11.5 -0.9
EGMT Eagleton 14.82 98 ePn Pn 07 19 14.9 +1.4
BEKR Beckworth 14.84 143 ePn Pn 07 19 16.9 +3.1
BOZ Bozeman (W) 14.92 109 ePn Pn 07 19 15.7 +0.9
BOZ Bozeman (W) 14.92 109 eP Pn 07 19 15.7 +0.9
PPLA Purkeypile 15.04 322 ePn Pn 07 19 17.6 +1.3
25nm,1.2s
MDM Murphy Dome 15.12 333 ePn Pn 07 19 18.1 +0.9
10nm,1.2s
PAHR Pah Rah Range 15.35 141 ePn P 07 19 24.3 -0.9
12nm,0.9s
AFDM Forest Hills D 15.44 146 ePn Pn 07 19 22.3 +0.7
9.9nm,0.9s
QLMT Earthquake Lak 15.48 111 ePn Pn 07 19 24.0 +1.7
VCNR Virginia City 15.61 142 ePn Pn 07 19 25.8 +1.8
11nm,0.8s
BMN Battle Mountai 15.64 134 eP P 07 19 28.9 +0.4
20nm,1.1s
BMN Battle Mountai 15.64 134 eP P 07 19 28.9 +0.4
BMN pmax pmax
comp=Z,20nm,1.1s
YHB Horse Butte 15.66 111 ePn Pn 07 19 26.2 +1.6
comp=Z,14nm,1.0s
PNTR Pine Nut 15.81 142 ePn Pn 07 19 28.6 +2.1
comp=Z,17nm,1.0s
YHH Holmes Hill 15.84 110 ePn Pn 07 19 27.6 +0.7
comp=Z,22nm,1.1s
YMR Madison River 15.84 111 ePn Pn 07 19 28.1 +1.1
comp=Z,28nm,1.0s
MLY Manley 15.91 330 ePn P 07 19 31.3 +0.2
comp=Z,15nm,1.2s
GCMT Greycliff 15.96 106 ePn Pn 07 19 28.5 +0.1
INK Inuvik 15.99 358 Pn P 07 19 32.1 +0.2
comp=Z,0.1nm,0.3s,baz=183,slow=13,SNR=3.1
INK Lg Lg 07 24 12.5
comp=Z,0.1nm,0.3s,baz=287,slow=32,SNR=7.4
INK Inuvik 15.99 358 ePn P 07 19 32.2 +0.4
comp=Z,4.9nm,0.8s
INK Lg Lg 07 24 12.5
INK Inuvik 15.99 358 eP P 07 19 32.3 +0.4
INK pmax pmax
comp=Z,5.0nm,0.8s
YERR Yerington 16.03 142 ePn Pn 07 19 31.4 +1.9
comp=Z,14nm,1.0s
YFT Old Faithful 16.05 111 ePn Pn 07 19 30.4 +0.8
comp=Z,10nm,0.8s
YPP Pitchstone Pla 16.17 112 ePn P 07 19 34.4 -0.1
comp=Z,7.9nm,1.0s
H17A Grant Village 16.23 111 ePn P 07 19 34.5 -0.6
comp=Z,13nm,0.9s
IMW Indian Meadow 16.33 113 ePn Pn 07 19 34.8 +1.5
comp=Z,24nm,1.1s
FLWY Flagg Ranch 16.35 112 ePn P 07 19 35.5 -0.9
comp=Z,28nm,1.1s
WAKR Walker 16.38 143 ePn P 07 19 38.2 +1.5
comp=Z,13nm,1.0s
KVN Kaiserville 16.42 139 ePn Pn 07 19 35.9 +1.5
comp=Z,26nm,1.1s
KVN Kaiserville 16.42 139 eP Pn 07 19 35.9 +1.5
KVN pmax pmax
comp=Z,27nm,1.1s
FXWY Fox Creek 16.44 114 ePn P 07 19 38.1 +0.7
comp=Z,8.2nm,0.8s
CMB Columbia Colle 16.46 146 ePn P 07 19 38.9 +1.4
comp=Z,5.6nm,1.0s
CMB Columbia Colle 16.46 146 eP P 07 19 38.9 +1.4
CMB pmax pmax
comp=Z,6.0nm,1.0s
MOOW Moose Ponds 16.53 113 ePn P 07 19 39.6 +1.2
comp=Z,10.0nm,1.0s
RLMT Red Lodge 16.56 107 ePn P 07 19 39.1 +0.3
comp=Z,15nm,0.9s
TPAW Teton Pass 16.58 114 ePn P 07 19 41.2 +2.2
comp=Z,35nm,1.1s
RYN Ryan 16.62 141 ePn P 07 19 40.9 +1.6
comp=Z,15nm,1.2s
LOHW Long Hollow 16.70 113 ePn P 07 19 41.0 +0.7
comp=Z,14nm,1.1s
SNOW Snow King Moun 16.70 114 ePn P 07 19 41.7 +1.3
comp=Z,9.8nm,0.9s
REDW Red Top Meadow 16.71 114 ePn P 07 19 42.1 +1.7
comp=Z,24nm,1.1s
HVU Hansel Valley 16.75 122 ePn P 07 19 41.2 +0.4
comp=Z,9.2nm,1.2s
HVU Hansel Valley 16.75 122 eP P 07 19 41.2 +0.4
HVU pmax pmax
comp=Z,9.0nm,1.2s
NV01 Mina Array Sit 16.88 140 ePn P 07 19 42.8 +0.5
NVAR Mina Array Bea 16.88 140 Pn Pn 07 19 41.1 +0.9
comp=Z,0.1nm,0.3s,baz=335,slow=12,SNR=9.0
NVAR LR LR 07 25 43.9
comp=Z,254nm,18.8s,baz=328,slow=36
NV11 Mina Array Sit 16.93 140 ePn P 07 19 44.0 +1.2
comp=Z,0.8nm,1.1s
AHID Auburn Hatcher 16.97 116 ePn P 07 19 45.1 +1.9
comp=Z,21nm,1.1s
BGU Big Grassy Mou 17.25 124 ePn P 07 19 48.8 +2.5
comp=Z,4.6nm,1.1s
MDPB Devils Postpil 17.28 144 ePn P 07 19 47.8 +1.1
comp=Z,6.0nm,0.9s
OMMB Old Mammoth Mi 17.33 143 ePn P 07 19 48.7 +1.3
comp=Z,6.6nm,1.1s
IM3 Indian Mountai 17.48 330 ePn P 07 19 49.2 +0.7
HWUT Hardware Ranch 17.51 120 ePn P 07 19 49.9 +0.7
comp=Z,12nm,1.0s
LAO LASA Array 17.57 99 ePn P 07 19 50.4 +0.7
comp=Z,10nm,0.9s
BW06 Boulder Array 17.82 114 ePn P 07 19 53.8 +1.0
comp=Z,11nm,1.1s
PD31 Pinedale Array 17.82 114 ePn P 07 19 53.9 +1.2
PDAR Pinedale Array 17.82 114 P P 07 19 53.0 +0.2
comp=Z,0.2nm,0.3s,baz=306,slow=8.8,SNR=30
PDAR LR LR 07 26 12.4
comp=Z,95nm,19.2s,baz=327,slow=35
PDAR Pinedale Array 17.82 114 ePn P 07 19 53.2 +0.5
FFC Flin Flon 17.87 71 ePn P 07 19 53.4 +0.6
comp=Z,19nm,1.0s
FFC Flin Flon 17.87 71 eP P 07 19 53.4 +0.6
FFC pmax pmax
comp=Z,19nm,1.0s
DUG Dugway, Tooele 17.90 125 ePn P 07 19 54.6 +1.1
comp=Z,8.0nm,1.0s
DGMT Dagmar 18.03 92 ePn Pn 07 19 54.2 -0.1
comp=Z,23nm,1.0s
R11A Troy Canyon, C 18.07 135 ePn Pn 07 19 55.2 +0.2
comp=Z,5.1nm,1.1s
PSUT Pine Spring 18.70 131 eP P 07 20 02.8 +0.5
comp=Z,7.0nm,0.9s
TPNV Topopah Spring 18.97 138 eP Pn 07 20 06.8 +0.8
comp=Z,12nm,1.0s
TPNV Topopah Spring 18.97 138 eP Pn 07 20 06.8 +0.8
TPNV pmax pmax
comp=Z,12nm,1.0s
DAC Darwin (Calif) 19.03 142 eP Pn 07 20 08.1 +1.4
comp=Z,7.5nm,1.1s
DAC Darwin (Calif) 19.03 142 eP Pn 07 20 08.1 +1.4
DAC pmax pmax
comp=Z,7.0nm,1.1s
ISA Isabella, Lake 19.26 145 eP Pn 07 20 10.7 +1.3
comp=Z,9.7nm,0.9s
ISA Isabella, Lake 19.26 145 eP Pn 07 20 10.7 +1.3
ISA pmax pmax
comp=Z,10.0nm,0.9s
TCRU Three Creeks R 19.31 128 eP Pn 07 20 11.8 +1.7
comp=Z,5.0nm,1.0s
TMUT Trail Mountain 19.39 124 eP P 07 20 11.2 +1.1
comp=Z,3.8nm,0.8s
P17A Butcher Ranch, 19.50 123 eP P 07 20 12.0 +1.0
comp=Z,2.7nm,1.1s
MSU Marysvale 19.51 128 eP P 07 20 12.2 +0.9
MSU Marysvale 19.51 128 eP P 07 20 12.2 +0.9
K22A Casper 19.62 110 eP P 07 20 13.1 +0.7
comp=Z,21nm,1.0s
P18A Preston Nutter 19.64 122 eP Pn 07 20 14.4 +0.3
comp=Z,5.6nm,0.8s
CCUT Cedar City 19.72 131 eP P 07 20 14.5 +1.0
comp=Z,6.7nm,1.1s
SHPR Sheep Range 19.80 137 eP P 07 20 15.8 +1.4
comp=Z,8.5nm,1.2s
SZCU Shurtz Canyon 19.81 131 eP P 07 20 15.4 +0.9
comp=Z,9.2nm,1.1s
SRU San Rafael Swe 19.88 123 eP Pn 07 20 17.6 +0.7
comp=Z,8.7nm,0.9s
SRU San Rafael Swe 19.88 123 eP Pn 07 20 17.6 +0.7
SRU pmax pmax
comp=Z,9.0nm,0.9s
MTPU Mount Pierson 19.88 128 eP P 07 20 16.4 +1.0
comp=Z,3.2nm,1.1s
GSC Goldstone, Bar 20.19 142 eP Pn 07 20 20.5 +0.1
comp=Z,12nm,1.0s
GSC Goldstone, Bar 20.19 142 eP Pn 07 20 20.5 +0.1
GSC pmax pmax
comp=Z,12nm,1.0s
LCMT Little Creek M 20.22 132 eP P 07 20 19.2 +0.3
comp=Z,19nm,1.1s
RSSD Black Hills 20.22 103 eP Pn 07 20 20.6 -0.3
comp=Z,8.7nm,0.7s
RSSD Black Hills 20.22 103 eP Pn 07 20 20.6 -0.3
RSSD pmax pmax
comp=Z,9.0nm,0.7s
PKCU Pink Cliffs 20.30 130 eP Pn 07 20 22.1 +0.2
comp=Z,20nm,1.1s
O20A White River Ci 20.34 118 eP Pn 07 20 22.0 -0.3
comp=Z,28nm,0.9s
KNB Kanab 20.41 131 eP Pn 07 20 23.4 +0.4
comp=Z,7.2nm,1.1s
KNB Kanab 20.41 131 eP Pn 07 20 23.5 +0.4
KNB pmax pmax
comp=Z,7.0nm,1.1s
MWC Mount Wilson 20.70 146 eP P 07 20 25.1 +1.0
comp=Z,15nm,1.0s
MWC Mount Wilson 20.70 146 eP P 07 20 25.2 +1.0
MWC pmax pmax
comp=Z,15nm,1.0s
PASC Pasadena Art C 20.71 146 eP P 07 20 24.5 +0.4
comp=Z,9.8nm,0.8s
LDFC Landfair 21.05 139 eP P 07 20 28.0 +0.2
comp=Z,19nm,1.0s
PV09 Paradox Valley 21.05 122 eP P 07 20 28.7 +0.6
N23A Red Feather La 21.09 113 eP P 07 20 28.4 -0.1
comp=Z,16nm,1.0s
PV21 Cone Mtn., Par 21.09 122 eP P 07 20 29.5 +1.1
comp=Z,11nm,0.9s
PHWY Pilot Hill 21.10 111 eP P 07 20 28.1 -0.5
comp=Z,12nm,0.9s
MDND Maddock 21.10 90 eP P 07 20 28.4 +0.2
comp=Z,39nm,1.1s
U15A North Rim 21.13 131 eP P 07 20 29.8 +0.9
comp=Z,19nm,1.0s
PV23 Carpenter Ridg 21.15 122 eP P 07 20 29.9 +0.8
comp=Z,14nm,0.9s
PV10 Paradox Valley 21.19 122 eP P 07 20 31.9 +2.3
PV22 Blue Mesa, Par 21.21 122 eP P 07 20 31.6 +1.9
comp=Z,12nm,0.9s
PV20 West Nyswonger 21.26 122 eP P 07 20 30.3 +0.2
comp=Z,7.4nm,0.9s
PV19 Morning Glory 21.27 122 eP P 07 20 30.5 +0.1
comp=Z,8.7nm,1.0s
PV16 Nyswonger Mesa 21.31 122 eP P 07 20 32.7 +1.9
comp=Z,14nm,1.0s
PV17 East Wray Mesa 21.31 122 eP P 07 20 32.2 +1.5
comp=Z,8.5nm,0.9s
PV11 David Mesa, Pa 21.34 122 eP P 07 20 31.5 +0.4
comp=Z,18nm,0.8s
PV18 Skein Mesa, Pa 21.36 122 eP P 07 20 31.5 +0.2
comp=Z,11nm,0.9s
PV12 Saucer Basin, 21.36 122 eP P 07 20 31.3 0.0
comp=Z,10nm,0.9s
PV03 Paradox Valley 21.39 122 eP P 07 20 31.5 -0.1
PV05 Paradox Valley 21.39 123 eP P 07 20 34.2 +2.6
PV13 Radium Mtn., P 21.47 122 eP P 07 20 34.0 +1.5
comp=Z,14nm,1.0s
PV02 Paradox Valley 21.48 122 eP P 07 20 34.9 +2.3
comp=Z,16nm,0.9s
W13A Hualapai Mount 21.54 136 eP P 07 20 34.2 +0.9
comp=Z,8.2nm,0.9s
PV01 Paradox Valley 21.62 122 eP P 07 20 34.4 +0.3
SMCO Snowmass 21.70 118 eP P 07 20 35.6 +0.5
comp=Z,9.8nm,0.9s
PFO Pinyon Flats O 21.82 143 eP P 07 20 37.0 +0.8
comp=Z,5.5nm,0.8s
PFO Pinyon Flats O 21.82 143 eP P 07 20 37.0 +0.8
PFO pmax pmax
comp=Z,5.0nm,0.8s
XPFO Piæon Flat 21.83 143 eP P 07 20 37.0 +0.8
comp=Z,5.7nm,0.8s
ISCO Idaho Springs 22.02 114 eP P 07 20 39.5 +1.1
ISCO Idaho Springs 22.02 114 eP P 07 20 39.5 +1.1
CPE Camp Elliot 22.25 145 eP P 07 20 41.2 +0.6
comp=Z,12nm,1.0s
WUAZ Wupatki 22.30 131 eP P 07 20 41.8 +0.4
comp=Z,18nm,1.1s
MVCO Mesa Verde 22.36 124 eP P 07 20 42.8 +0.7
comp=Z,9.3nm,1.0s
Y12C Blythe 22.44 139 eP P 07 20 43.7 +1.0
comp=Z,12nm,1.0s
ULM Lac du Bonnet 22.48 81 P P 07 20 43.6 +0.6
comp=Z,6.0nm,0.8s,baz=285,slow=4.7,SNR=5.0
ULM LR LR 07 28 44.7
comp=Z,83nm,18.1s,baz=324,slow=35
ULM Lac du Bonnet 22.48 81 eP P 07 20 42.3 -0.7
comp=Z,12nm,0.9s
ULM Lac du Bonnet 22.48 81 eP P 07 20 42.3 -0.7
ULM pmax pmax
comp=Z,12nm,0.9s
BAR Barrett 22.59 145 eP P 07 20 45.2 +0.9
comp=Z,9.6nm,1.0s
S22A 4UR Ranch, Cre 22.82 120 eP P 07 20 47.7 +0.7
comp=Z,5.0nm,0.9s
Y14A Wickenburg 22.91 136 eP P 07 20 48.4 +0.7
comp=Z,8.4nm,0.9s
GLA Glamis 22.94 141 eP P 07 20 48.6 +0.6
comp=Z,21nm,1.0s
GLA Glamis 22.94 141 eP P 07 20 48.6 +0.6
GLA pmax pmax
comp=Z,21nm,1.0s
X16A Lo Mia Camp, P 23.18 133 eP P 07 20 51.8 +1.1
comp=Z,4.6nm,1.0s
OGNE Ogallala 23.31 108 eP P 07 20 51.9 +0.1
comp=Z,21nm,1.1s
W18A Petrified Fore 23.40 129 eP P 07 20 54.6 +1.8
comp=Z,12nm,1.0s
X18A Snowflake 23.78 130 eP P 07 20 57.6 +1.1
comp=Z,15nm,0.9s
KSCO Kaye Shedlock' 24.24 112 eP P 07 21 00.8 0.0
comp=Z,17nm,0.8s
ECSD EROS Data Cent 24.91 96 eP P 07 21 07.3 +0.5
comp=Z,12nm,1.0s
ANMO Albuquerque 25.15 124 P P 07 21 08.5 -0.6
comp=Z,1.0nm,0.8s,baz=320,slow=11,SNR=3.5
ANMO LR LR 07 31 33.6
comp=Z,101nm,18.7s,baz=324,slow=38
ANMO Albuquerque 25.15 124 eP P 07 21 09.8 +0.7
comp=Z,4.4nm,1.0s
ANMO Albuquerque 25.15 124 iP P 07 21 09.1 -0.1
ANMO pmax pmax
comp=Z,2.0nm,1.2s
LAZ Ladron 25.24 126 eP P 07 21 12.0 +2.1
BGNE Belgrade 25.32 102 eP P 07 21 10.3 -0.1
comp=Z,22nm,0.8s
LENM Lemitar 25.51 126 eP P 07 21 13.7 +1.3
LPM Los Pinos Moun 25.57 125 eP P 07 21 13.3 +0.4
BNM Barren Site 25.70 125 eP P 07 21 14.4 +0.2
RES Resolute Bay 26.89 21 LR LR 07 32 27.2
comp=Z,105nm,21.6s,baz=9.5,slow=37
I39A Houston 27.96 92 eP P 07 21 33.6 -0.6
comp=Z,12nm,0.9s
WMOK Wichita Mounta 29.44 114 eP P 07 21 47.7 +0.3
comp=Z,3.0nm,0.8s
WMOK Wichita Mounta 29.44 114 eP P 07 21 47.7 +0.3
WMOK pmax pmax
comp=Z,3.0nm,0.8s
TX31 Lajitas Ar. Si 31.07 127 eP P 07 22 02.4 +0.4
LTX Lajitas 31.07 127 eP P 07 22 01.8 -0.1
LTX Lajitas 31.07 127 eP P 07 22 01.8 -0.1
TXAR Lajitas Array 31.07 127 P P 07 22 01.8 -0.1
comp=Z,1.3nm,0.8s,baz=331,slow=7.1,SNR=13
TXAR LR LR 07 35 00.1
comp=Z,83nm,21.1s,baz=0.0,slow=37
MIAR Mount Ida 32.55 108 eP P 07 22 15.7 +0.8
comp=Z,2.7nm,0.8s
MIAR Mount Ida 32.55 108 eP P 07 22 15.7 +0.8
MIAR pmax pmax
comp=Z,3.0nm,0.8s
BILL Bilibino 32.75 322 eP P 07 22 15.1 -1.1
BILL e 07 23 23.3
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL MLR MLR
comp=Z,60nm,16.0s
VLDQ Val d'Or 34.38 75 eP P 07 22 29.2 -1.4
comp=Z,12nm,1.0s
HKT Hockley 34.67 116 iP P 07 22 33.6 +0.4
HKT pmax pmax
comp=Z,11nm,1.4s
543A St. Martinvill 36.80 111 eP P 07 22 51.4 -0.2
comp=Z,118nm,0.4s
LNIG Linares 36.82 126 eP P 07 22 52.1 +0.3
comp=Z,4.9nm,1.0s
SCHQ Schefferville 37.44 60 LR LR 07 38 52.1
comp=Z,134nm,20.0s,baz=36,slow=37
V52A Sevierville 37.64 97 eP P 07 22 59.2 +0.5
comp=Z,5.0nm,0.8s
V53A Saluda 38.23 96 eP P 07 23 04.5 +0.7
comp=Z,9.7nm,1.0s
FRNY Flat Rock 38.35 77 eP P 07 23 04.5 0.0
comp=Z,15nm,1.0s
250A Grady 38.68 104 eP P 07 23 07.5 0.0
comp=Z,7.8nm,0.8s
Y52A Lilburn 38.69 99 eP P 07 23 08.2 +0.6
comp=Z,9.4nm,1.1s
BLA Blacksburg 38.69 92 eP P 07 23 07.3 -0.3
comp=Z,14nm,0.9s
BLA Blacksburg 38.69 92 eP P 07 23 07.3 -0.3
BLA pmax pmax
comp=Z,14nm,0.9s
MOQ Mont Orford 38.88 76 eP P 07 23 09.9 +0.8
GOGA Godfrey 39.36 99 eP P 07 23 12.4 -0.7
comp=Z,7.2nm,1.1s
GOGA Godfrey 39.36 99 eP P 07 23 12.4 -0.7
GOGA pmax pmax
comp=Z,7.0nm,1.1s
SEY Seymchan 39.48 316 P P 07 23 14.2 +0.4
comp=Z,2.4nm,0.7s,baz=75,slow=7.0,SNR=9.5
SEY Seymchan 39.48 316 iP P 07 23 14.6 +0.8
PEA1 Petropavlovsk- 41.02 300 eP P 07 23 25.8 -0.9
PETK Petropavlovsk- 41.02 300 P P 07 23 25.8 -0.9
comp=Z,5.5nm,0.8s,baz=86,slow=11,SNR=5.4
PETK LR LR 07 39 35.4
comp=Z,53nm,19.3s,baz=110,slow=35
MA2 Magadan 41.52 311 LR LR 07 39 15.5
comp=Z,72nm,21.0s,baz=72,slow=34
SUMG Summit 42.06 27 eP P 07 23 36.5 +1.0
comp=Z,13nm,1.0s
SUMG Summit 42.06 27 iP P 07 23 35.8 +0.3
comp=Z,19nm,0.8s
SUMG Summit 42.06 27 iP P 07 23 35.8 +0.3
SUMG pmax pmax
comp=Z,19nm,0.8s
TIXI Tiksi 44.08 333 P P 07 23 50.7 -0.5
comp=Z,0.6nm,0.4s,baz=70,slow=5.5,SNR=3.7
TIXI LR LR 07 43 18.1
comp=Z,73nm,21.8s,baz=70,slow=38
SPITS Spitsbergen Ar 48.26 8 LR LR 07 45 18.6
comp=Z,38nm,18.2s,baz=15,slow=37
YAK Yakutsk 49.11 322 LR LR 07 45 04.3
comp=Z,60nm,21.3s,baz=84,slow=36
YAK Yakutsk 49.11 322 eP P 07 24 30.8 0.0
YAK pmax pmax
comp=Z,13nm,0.7s
NRIK Noril'sk 55.19 344 P P 07 25 15.3 -0.6
comp=Z,6.4nm,0.9s,baz=52,slow=7.6,SNR=7.7
NRIK LR LR 07 53 30.3
comp=Z,36nm,18.1s,baz=58,slow=41
KLR Kul'dur 56.47 309 iP P 07 25 25.0 -0.4
H11N2 WAKE ISLAND Hy 57.09 259 T T 08 27 31.5
baz=39,slow=76,SNR=1906
H11N3 WAKE ISLAND Hy 57.09 259 T T 08 27 32.7
baz=39,slow=76,SNR=1412
H11N1 WAKE ISLAND Hy 57.11 259 T T 08 27 32.8
baz=39,slow=76,SNR=948
H11S1 WAKE ISLAND Hy 58.15 259 T T 08 28 50.8
baz=40,slow=75,SNR=47
H11S2 WAKE ISLAND Hy 58.16 259 T T 08 28 59.7
baz=40,slow=75,SNR=33
H11S3 WAKE ISLAND Hy 58.16 259 T T 08 29 00.6
baz=40,slow=75,SNR=36
USRK Ussuriysk Ar. 59.86 304 P P 07 25 49.5 +0.3
comp=Z,3.0nm,0.7s,baz=34,slow=7.3,SNR=6.3
USRK LR LR 07 50 31.7
comp=Z,36nm,20.5s,baz=52,slow=35
MAJO Matsushiro 62.00 294 iP P 07 26 05.8 +1.9
MAJO pmax pmax
comp=Z,6.0nm,1.2s
NC303 NORSAR Array S 63.01 19 eP P 07 26 10.8 +0.6
NB2 NORSAR Subarra 63.14 19 P P 07 26 11.1 0.0
comp=Z,1.3nm,0.7s,baz=336,slow=6.9
NB200 NORSAR Array S 63.14 19 eP P 07 26 11.1 0.0
NOA NORSAR Array B 63.14 19 P P 07 26 11.1 0.0
comp=Z,2.4nm,0.8s,baz=337,slow=6.6,SNR=5.3
NOA LR LR 07 53 43.6
comp=Z,73nm,18.6s,baz=300,slow=36
KSRS Korea Array 66.89 302 LR LR 07 55 44.7
comp=Z,62nm,18.2s,baz=107,slow=36
ZAA1 Zalesovo Array 69.69 338 eP P 07 26 52.2 -0.8
ZAA0 Zalesovo Array 69.69 338 eP P 07 26 52.5 -0.5
comp=Z,3.4nm,0.9s
ZALV Zalesovo Beam 69.69 338 P P 07 26 52.2 -0.9
comp=Z,1.3nm,0.6s,baz=20,slow=7.8,SNR=5.0
ZALV LR LR 07 59 55.6
comp=Z,50nm,18.5s,baz=68,slow=38
ZALV Zalesovo Beam 69.69 338 eP P 07 26 52.5 -0.5
ZALV Zalesovo Beam 69.69 338 iP P 07 26 52.7 -0.4
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ARU Arti 71.20 354 P P 07 27 01.4 -0.8
comp=Z,5.5nm,0.6s,baz=344,slow=2.4,SNR=9.9
ARU Arti 71.20 354 eP P 07 27 01.8 -0.4
comp=Z,8.2nm,0.8s
ARU Arti 71.20 354 diP P 07 27 01.3 -0.9
ARU 07 27 19.9
ARU S S 07 36 18.2 -0.3
ARU SS SS 07 40 49.1 -1.8
ARU pmax pmax
comp=Z,11nm,1.0s

HHC	**Hu-ho-hao-te**	**72.11**	**315**	*e*P		**P**	**07 27 10.0**	**+1.9**
HHC				pmax	pmax				
	comp=Z,34nm,1.1s								
HHC				pmax	pmax				
	comp=Z,110nm,5.9s								
OBN	**Obninsk**	**72.43**	**7**	*e*P		**P**	**07 27 08.1**	**-1.5**
OBN				*e*			07 27 29.0		
OBN				*e*			07 29 48.7		
OBN				*e*PPP	PPP		07 31 35.6		
OBN				pmax	pmax				
	comp=Z,6.0nm,0.8s								
OBN				MLR	MLR				
	comp=Z,55nm,13.0s								
BRG	**Berggiesshubel**	**73.14**	**22**	*e*(P)		**P**	**07 27 14.2**	**+0.2**
	comp=Z,9.7nm,1.2s								
BRG	**Berggiesshubel**	**73.14**	**22**	*e*P		**P**	**07 27 14.2**	**+0.2**
BRG				pmax	pmax				
	comp=Z,10.0nm,1.2s								
BRVK	**Borovoye**	**73.29**	**346**	*e*P		**P**	**07 27 14.3**	**-0.5**
	comp=Z,4.3nm,0.8s								
BRVK	**Borovoye**	**73.29**	**346**	*e*P		**P**	**07 27 14.3**	**-0.5**
BRVK				pmax	pmax				
	comp=Z,4.0nm,0.8s								
KURK	**Kurchatov**	**74.07**	**340**	*i* P		**P**	**07 27 18.0**	**-1.4**
KURK				pmax	pmax				
	comp=Z,4.0nm,1.0s								
GERES	**GERESS Array B**	**74.98**	**23**	P		**P**	**07 27 24.9**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=5.0,slow=3.1,SNR=5.3								
GEA0	**GERESS Array S**	**74.98**	**23**	*e*P		**P**	**07 27 24.8**	**-0.1**
AKASG	**Malin Array Be**	**76.05**	**12**	P		**P**	**07 27 30.1**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=342,slow=5.7,SNR=1.9								
AKBB	**Malin Array Si**	**76.05**	**12**	*e*P		**P**	**07 27 30.1**	**-0.7**
AKBB	**Malin Array Si**	**76.05**	**12**	*e*P		**P**	**07 27 30.1**	**-0.7**
KIEV	**Kiev**	**76.05**	**12**	*i* P		**P**	**07 27 30.3**	**-0.5**
KIEV				pmax	pmax				
	comp=Z,4.0nm,1.3s								
MK32	**Makanchi Array**	**76.94**	**337**	*e*P		**P**	**07 27 35.1**	**-0.9**
MKAR	**Makanchi Array**	**76.94**	**337**	P		**P**	**07 27 35.1**	**-0.9**
	comp=Z,2.4nm,0.8s,baz=32,slow=7.1,SNR=7.0								
MK01	**Makanchi Array**	**76.96**	**337**	*e*P		**P**	**07 27 35.3**	**-0.9**
AKTO	**Aktyubinsk**	**77.20**	**354**	P		**P**	**07 27 36.6**	**-0.8**
	comp=Z,3.0nm,0.8s,baz=0.6,slow=4.8,SNR=9.8								
ESDC	**Sonseca Array**	**77.78**	**39**	P		**P**	**07 27 40.4**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=324,slow=7.9,SNR=3.6								
ABKAR	**Akbulak array**	**78.23**	**352**	*e*P		**P**	**07 27 42.7**	**-0.4**
WMQ	**Urumqi**	**78.26**	**332**	*e*P		**P**	**07 27 46.6**	**+3.1**
WMQ				LR	LR				
	comp=N,96nm,20.5s								
WMQ				LR	LR				
	comp=Z,79nm,25.9s								
LZH	**Lanzhou**	**79.39**	**317**	*e*P		**P**	**07 27 51.8**	**+1.8**
LZH				pP	pP		07 27 56.1	+1.8	
LZH				sP	PcP		07 27 58.5	+0.4	
LZH				*e*PP		**PP**	**07 30 54.6**	**+5.2**
LZH				pmax	pmax				
	comp=Z,21nm,1.2s								
AAK	**Ala-Archa**	**82.63**	**341**	*i* P		**P**	**07 28 06.4**	**-0.7**
AAK				pmax	pmax				
	comp=Z,3.0nm,1.1s								
KIV	**Kislovodsk**	**83.92**	**4**	*e*P		**P**	**07 28 13.7**	**+0.1**
KIV				pmax	pmax				
	comp=Z,7.0nm,1.0s								
KBZ	**Khabaz**	**84.15**	**4**	P		**P**	**07 28 14.7**	**+0.1**
	comp=Z,3.9nm,0.9s,baz=11,slow=1.5,SNR=4.4								
LPAZ	**La Paz**	**87.72**	**120**	P		**P**	**07 28 31.1**	**-2.2**
	comp=Z,1.3nm,0.7s,baz=292,slow=2.8,SNR=9.3								
LPAZ	**La Paz**	**87.72**	**120**	*e*P		**P**	**07 28 31.4**	**-1.9**
	comp=Z,4.3nm,1.1s								
LPAZ	**La Paz**	**87.72**	**120**	*e*P		**P**	**07 28 31.4**	**-1.9**
LPAZ				pmax	pmax				
	comp=Z,4.0nm,1.1s								
GNI	**Garni**	**87.79**	**3**	*i* P		**P**	**07 28 32.9**	**-0.1**
GNI				pmax	pmax				
	comp=Z,25nm,1.6s								
GEYT	**Alibeck**	**89.62**	**352**	LR		LR	08 13 26.5		
	comp=Z,72nm,18.9s,baz=65,slow=39								
CMAR	**Chiang Mai Arr**	**96.81**	**312**	LR		LR	08 14 50.5		
	comp=Z,31nm,18.6s,baz=223,slow=37								
KMBO	**Kilima Mbogo**	**128.11**	**14**	PKP		**PKPdf**	**07 34 49.7**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=16,slow=19,SNR=2.1								
CASY	**Casey**	**146.86**	**221**	*e*PKPdf		**PKPdf**	**07 35 23.7**	**+0.9**
VNA3	**Neumayer Olymp**	**148.59**	**148**	PKP		**PKPbc**	**07 35 27.8**	**-1.4**
VNA3				x	x		07 35 32.2		
VNA1	**Neumayer--Stat**	**149.12**	**147**	PKP		**PKPdf**	**07 35 27.9**	**+1.6**
VNA1				x	x		07 35 33.3		
VNA2	**Neumayer--Watz**	**149.37**	**148**	PKP		**PKPbc**	**07 35 30.0**	**-1.2**
	slow=5.4								
VNA2				x	x		07 35 33.3		
SNAA	**Sanae**	**150.67**	**150**	PKP		**PKPbc**	**07 35 33.1**	**-1.3**
SNAA				x	x		07 35 36.5		
SNAA	**Sanae**	**150.67**	**150**	*e*PKPbc		**PKPbc**	**07 35 33.4**	**-1.0**
SNAA	**Sanae**	**150.67**	**150**	*e*PKIKP		**PKPbc**	**07 35 33.4**	**-1.0**
BOSA	**Boshof**	**150.81**	**44**	PKPbc		**PKPbc**	**07 35 34.5**	**-1.7**
	comp=Z,3.0nm,0.8s,baz=33,slow=5.0,SNR=4.2								

IDC 02 07:33:58.8±6.9, 51°09N×133°11E, h0km, mb1 2.3/1, mb1mx2.3/46, mbtmp2.3/1, ML2.1/1, Error ellipse: s-maj=130.2km s-min=42.0km az=117.0, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLR	**Kul'dur**	**2.06**	**206**	Pn	Pn	07 34 34.6	0.0
	0.7nm,0.3s,baz=29,slow=13,SNR=7.4						
KLR				Lg	Lg	07 35 04.0	
	1.0nm,0.3s,baz=338,slow=21,SNR=8.0						
I45RU	**USSURIYSK INFR**	**6.94**	**187**	*i*		08 14 50.0	
	baz=5.0,slow=327,SNR=16						
I44RU	**PETROPAVLOVSK**	**15.24**	**73**	*i*		09 04 40.0	
	baz=274,slow=326,SNR=2.2						
I30JP	**ISUMI INFRASON**	**16.61**	**159**	*i*		09 19 10.0	
	baz=345,slow=322,SNR=0.6						

*ISCJB **02** 07:38:27.7±0.7, 49°.99N×0°.03×78°.6E±0°.1, h0km, Error ellipse: s-maj=9.7km s-min=3.7km az=164.0*
*NNC **02** 07:38:28.2±0.6, 50°.03N×78°.84E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=18.0km s-min=2.5km az=68.0, Suspected Mining explosion.*
*IDC **02** 07:38:29.5±1.0, 50°.06N×78°.74E, h0km, mb1 3.2/2, mb1mx3.0/42, mbtmp3.2/2, ML2.7/2, Error ellipse: s-maj=14.2km s-min=6.3km az=67.0*

ISC 02 07:38:29.0±1.0, 50°.00N±0°.05×78°.64E±0°.09, h0km, n15, σ0§80/27, 16C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.59**	**352**	↑P	**Pg**	**07 38 39.6**	**-0.6**
KUR07				↑S	**Sg**	**07 38 48.5**	**+0.6**
KUR06	**Kurchatov Arra**	**0.60**	**353**	↓P	**Pg**	**07 38 40.1**	**-0.5**
KUR06				↑S	**Sg**	**07 38 49.3**	**+0.8**
KUR14	**Kurchatov Arra**	**0.61**	**357**	↑P	**Pg**	**07 38 39.9**	**-0.9**
KUR14				↑S	**Sg**	**07 38 48.9**	**+0.2**
KUR15	**Kurchatov Arra**	**0.62**	**355**	↑P	**Pg**	**07 38 40.2**	**-0.7**
KUR15				↓S	**Sg**	**07 38 49.2**	**+0.3**
KURBB	**Kurchatov Arra**	**0.62**	**354**	Pg	**Pg**	**07 38 40.5**	**-0.5**
	3.8nm,0.3s,baz=165,slow=19,SNR=104						
KURBB				Lg	Lg	07 38 49.1	
	4.9nm,0.3s,baz=165,slow=36,SNR=30						
KURBB	**Kurchatov Arra**	**0.62**	**354**	↑P	**Pg**	**07 38 40.2**	**-0.8**
	28nm,0.3s						
KURBB				↑S	**Sg**	**07 38 49.4**	**+0.3**
	79nm,0.4s						
KUR16	**Kurchatov Arra**	**0.63**	**352**	↑P	**Pg**	**07 38 40.4**	**-0.7**
KUR16				↑S	**Sg**	**07 38 49.5**	**+0.2**
KUR05	**Kurchatov Arra**	**0.64**	**354**	↑P	**Pg**	**07 38 40.6**	**-0.7**
KUR05				↑S	**Sg**	**07 38 49.8**	**+0.1**
KUR04	**Kurchatov Arra**	**0.66**	**355**	↑P	**Pg**	**07 38 40.9**	**-0.8**
KUR04				↑S	**Sg**	**07 38 50.4**	**+0.1**
KURK	**Kurchatov**	**0.71**	**359**	↓P	**Pg**	**07 38 41.6**	**-1.1**
	10nm,0.3s						
KURK				↑S	**Sg**	**07 38 51.2**	**-0.7**
	18nm,0.4s						
MK31	**Makanchi Array**	**4.03**	**141**	↑Pn	**Pn**	**07 39 32.3**	**+0.3**
	0.1nm,0.1s,baz=323,slow=10,SNR=23						
MK31				Pg	**Pb**	**07 39 39.8**	**-1.1**
	0.4nm,0.2s,baz=325,slow=13,SNR=18						
MK31				Lg	Lg	07 40 35.3	
	5.9nm,0.5s,baz=340,slow=26,SNR=8.6						
MKAR	**Makanchi Array**	**4.03**	**141**	Pn	**Pn**	**07 39 32.7**	**+0.7**
	0.6nm,0.3s,baz=331,slow=11,SNR=23						
MKAR				Pg	**Pb**	**07 39 39.7**	**-1.2**
	1.1nm,0.3s,baz=330,slow=15,SNR=16						
MKAR				Sn	**Sn**	**07 40 21.6**	**+1.7**
	1.1nm,0.3s,baz=332,slow=20,SNR=6.3						
MKAR				Lg	Lg	07 40 32.9	
	2.8nm,0.3s,baz=330,slow=26,SNR=10						
ZALV	**Zalesovo Beam**	**5.49**	**42**	Pn	**Pn**	**07 39 52.9**	**+0.9**
	1.2nm,0.3s,baz=230,slow=14,SNR=8.5						
ZALV				Sn	**Sn**	**07 40 56.6**	**+0.7**
	0.4nm,0.3s,baz=224,slow=23,SNR=3.0						
ZALV				Lg	Lg	07 41 23.4	
	0.7nm,0.3s,baz=226,slow=28,SNR=3.9						
I46RU	**ZALESOVO INFRA**	**5.49**	**42**	*i*		08 08 40.0	
	baz=223,slow=347,SNR=1.3						
BVAR	**Borovoye Array**	**5.97**	**304**	Pg	Pb	07 40 08.0	-6.0
	0.7nm,0.3s,baz=119,slow=16,SNR=7.3						
BVAR				Sn	**Sn**	**07 41 08.3**	**+0.6**
	0.5nm,0.3s,baz=115,slow=24,SNR=3.2						
BVAR				Lg	Lg	07 41 46.0	
	0.6nm,0.3s,baz=109,slow=25,SNR=3.3						

*ISCJB **02** 08:05:13.2±0.6, 20°.4S×0°.1×178°.0W±0°.1, h534km, mb3.5/6, Error ellipse: s-maj=21.5km s-min=9.7km az=142.6*
*IDC **02** 08:05:18.7±2.6, 20°.47S×178°.20W, h581km±28km, mb3.0/6, mb1 3.2/7, mb1mx2.9/47, mbtmp4.0/7, Error ellipse: s-maj=27.4km s-min=16.8km az=169.0*

ISC 02 08:05:13.8±0.7, 20°.3S±0°.1×178°.1W±0°.1, h534km, n15, σ1§49/20, mb3.4/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.77**	**44**	P	**P**	**08 07 20.2**	**+1.2**
	2.9nm,0.3s,baz=120,slow=5.4,SNR=5.8						
AFI				S	**S**	**08 08 59.2**	**-2.5**
	1.9nm,0.3s,baz=354,slow=18,SNR=4.2						
DZM	**Mont Dzumac**	**14.55**	**260**	P	**P**	**08 08 20.1**	**+1.1**
	0.3nm,0.3s,baz=74,slow=18,SNR=8.8						
ASAR	**Alice Springs**	**44.50**	**257**	P	**P**	**08 12 38.5**	**+0.5**
	1.9nm,0.5s,baz=98,slow=7.5,SNR=40						
ASAR				PcP	**PcP**	**08 14 10.4**	**+0.5**
	0.7nm,0.5s,baz=101,slow=4.1,SNR=8.2						
ASAR				S	**S**	**08 18 32.0**	**-2.7**
	0.2nm,0.6s,baz=93,slow=14,SNR=4.3						
WRA	**Warramunga Arr**	**44.57**	**262**	P	**P**	**08 12 39.0**	**+0.4**
	0.4nm,0.3s,baz=97,slow=7.6,SNR=39						
WRA				PcP	**PcP**	**08 14 10.4**	**+0.2**
	0.6nm,1.0s,baz=91,slow=4.1,SNR=3.2						
WRA				S	**S**	**08 18 32.1**	**-3.5**
	0.2nm,0.8s,baz=349,slow=22,SNR=3.4						
FITZ	**Fitzroy Crossi**	**52.99**	**262**	P	**P**	**08 13 41.6**	**+0.6**
	0.8nm,0.5s,baz=103,slow=2.7,SNR=8.1						
SIJI	**Sorong**	**53.14**	**285**	P	**P**	**08 13 43.4**	**+1.3**
	6.2nm,0.6s,baz=221,slow=19,SNR=3.4						
VNDA	**Vanda**	**58.07**	**185**	P	**P**	**08 14 15.8**	**+0.4**
	0.4nm,0.5s,baz=318,slow=7.2,SNR=3.7						
ILAR	**Eielson Array**	**88.16**	**13**	P	**P**	**08 17 08.2**	**+0.9**
	0.2nm,0.4s,baz=218,slow=5.6,SNR=3.9						
VNA3	**Neumayer Olymp**	**88.31**	**176**	P	**P**	**08 17 07.7**	**-0.5**
VNA2	**Neumayer--Watz**	**88.75**	**177**	P	**P**	**08 17 09.9**	**-0.3**
	baz=195,slow=3.6						
BVAR	**Borovoye Array**	**118.91**	**320**	PKP	**PKPdf**	**08 23 01.9**	**+0.4**
	0.7nm,0.4s,baz=152,slow=6.5,SNR=4.0						
AKASG	**Malin Array Be**	**142.84**	**331**	PKP	**PKPdf**	**08 23 44.3**	**-2.0**
	0.4nm,0.3s,baz=41,slow=4.2,SNR=3.9						
BRTR	**Keskin Array B**	**146.68**	**312**	PKPbc	**PKPbc**	**08 23 55.6**	**-0.6**
	0.7nm,0.6s,baz=134,slow=6.3,SNR=3.3						
GERES	**GERESS Array B**	**150.02**	**344**	PKPbc	**PKPbc**	**08 24 04.4**	**+0.2**
	0.7nm,0.5s,baz=10,slow=1.1,SNR=4.6						
TORD	**Torodi Ar. Bea**	**172.85**	**178**	PKPab	**PKPab**	**08 25 51.4**	**-0.9**
	baz=191,slow=1.5						

*ISCJB **02** 08:15:09.9±1.1, 52°.17N±0°.06×132°.3W±0°.1, h18km, mb3.2/1, Error ellipse: s-maj=12.9km s-min=6.6km az=146.9*
*PGC **02** 08:15:11.7±10.0, 52°.24N×132°.28W, h24km±1km, ML3.8/11, 116km Ssw of Sandspit, Bc Haida Gwaii Region*
*IDC **02** 08:15:13.0±1.7, 52°.40N×132°.02W, h0km, mb3.3/1, mb1 4.0/5, mb1mx3.6/64, mbtmp3.6/5, ML3.5/5, Error ellipse: s-maj=20.3km s-min=6.7km az=47.0*

ISC 02 08:15:13.5±1.1, 52°.27N±0°.06×132°.17W±0°.07, h18km, n29, σ2§26/25, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.40**	**40**	P	**Pb**	**08 15 21.1**	**-1.0**
BNB				S	**Sb**	**08 15 27.4**	**-0.6**
DIB	**Dawson Inlet,**	**0.95**	**349**	P	**Pb**	**08 15 28.8**	**-2.7**
H02S1	**DAWSON INLET T**	**0.95**	**349**	Pg	**Pb**	**08 15 28.8**	**-2.7**
H02S1				Lg	Lg	08 15 40.7	
H02N1	**VAN INLET T-PH**	**1.01**	**347**	Pg	**Pb**	**08 15 30.0**	**-2.6**
H02N1				Lg	Lg	08 15 42.6	
	SNR=9113						
MASB	**Masset**	**1.75**	**3**	Pn	**Pn**	**08 15 42.0**	**-1.0**
NDB	**Naden**	**1.75**	**345**	Pn	**Pn**	**08 15 40.6**	**-2.4**
RUBB	**Prince Rupert**	**2.36**	**28**	Pn	**Pn**	**08 15 49.9**	**-1.4**
BBB	**Bella Bella**	**2.50**	**90**	Pn	**Pn**	**08 15 51.4**	**-1.9**
	1.9nm,0.3s,baz=278,slow=18,SNR=6.6						
BBB				Lg	Lg	08 16 28.1	
	33nm,0.3s,baz=0.4,slow=23,SNR=6.6						
BBB	**Bella Bella**	**2.50**	**90**	Pn	**Pn**	**08 15 51.1**	**-2.1**
BBB				Sg	**Sb**	**08 16 28.6**	**+0.4**
BCBC	**Bella Coola**	**3.33**	**86**	Pn	**Pn**	**08 16 03.3**	**-1.3**
PHC	**Port Hardy**	**3.35**	**116**	Pn	**Pn**	**08 16 03.0**	**-1.9**
PHC				Sn	**Sn**	**08 16 39.1**	**-5.1**
MAYB	**Maynard**	**3.65**	**119**	Pn	**Pn**	**08 16 06.5**	**-2.7**
WOSB	**Woss**	**4.11**	**119**	Pn	**Pn**	**08 16 14.5**	**-0.9**
UBRB	**Upper Baezaeko**	**4.97**	**80**	Pn	**Pn**	**08 16 27.6**	**+0.3**
FSB	**Fort Saint Jam**	**5.19**	**62**	Pn	**Pn**	**08 16 29.9**	**-0.3**
DLBC	**Dease Lake**	**6.30**	**10**	Pn	**Pn**	**08 16 47.4**	**+1.8**
	1.7nm,0.3s,baz=192,slow=14,SNR=14						
DLBC				Lg	Lg	08 18 32.8	
	0.9nm,0.3s,baz=328,slow=24,SNR=4.5						
DLBC	**Dease Lake**	**6.30**	**10**	Pn	**Pn**	**08 16 47.3**	**+1.8**
YBH	**Yreka Blue Hor**	**12.35**	**145**	Pn	P	08 18 14.4	-6.1
	0.0nm,0.3s,baz=325,slow=15,SNR=3.8						
YKA	**Yellowknife Ar**	**13.90**	**36**	Pn	**Pn**	**08 18 27.4**	**-1.9**
	0.1nm,0.3s,baz=229,slow=12,SNR=5.3						
ILAR	**Eielson Array**	**14.65**	**334**	Pn	**P**	**08 18 47.9**	**+2.1**
	0.1nm,0.3s,baz=154,slow=11,SNR=11						
NVAR	**Mina Array Bea**	**16.88**	**140**	Pn	**P**	**08 19 12.2**	**+1.2**
	0.0nm,0.3s,baz=324,slow=10,SNR=5.5						
PDAR	**Pinedale Array**	**17.92**	**113**	P	**P**	**08 19 25.1**	**+2.6**
	0.1nm,0.3s,baz=305,slow=8.1,SNR=6.6						
TXAR	**Lajitas Array**	**31.12**	**126**	P	**P**	**08 21 34.1**	**+3.1**
	0.3nm,0.8s,baz=336,slow=6.0,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**56.91**	**259**	T	T	09 27 04.0	
	baz=39,slow=76,SNR=95						
H11N3	**WAKE ISLAND Hy**	**56.92**	**259**	T	T	09 27 01.7	
	baz=39,slow=76,SNR=109						
H11N1	**WAKE ISLAND Hy**	**56.92**	**259**	T	T	09 27 01.3	
	baz=39,slow=76,SNR=77						
H11S1	**WAKE ISLAND Hy**	**57.96**	**259**	T	T	09 28 24.1	
	baz=35						
H11S2	**WAKE ISLAND Hy**	**57.97**	**259**	T	T	09 28 22.3	
	baz=35						
H11S3	**WAKE ISLAND Hy**	**57.98**	**259**	T	T	09 28 25.8	
	baz=35						

*NEIC **02** 08:19:54.8±0.0, 52°.13N×132°.34W, h16km, mb4.5/163, MW5.0(OTT), After OTT.*
*PGC **02** 08:19:55.6±0.9, 52°.18N×132°.31W, h20km, mb4.5, ML4.6/18, Mw5.0, 123km Ssw of Sandspit, Bc Haida Gwaii Region*
*IDC **02** 08:19:56.7±0.4, 52°.31N×132°.13W, h0km, mb4.5/33, mb1 4.6/40, mb1mx4.5/72, mbtmp4.5/40, ML4.2/7, MS3.9/31, Ms1 3.9/31, ms1mx3.8/47, Error ellipse: s-maj=9.2km s-min=5.7km az=43.0*
*MOS **02** 08:19:57.4±0.8, 52°.35N×132°.11W, h14km, mb5.0/47, Error ellipse: s-maj=9.4km s-min=4.4km az=113.4*
*ISCJB **02** 08:19:58.2±0.1, 52°.39N±0°.02×131°.96W±0°.04, h18km, mb4.7/158, MS3.9/28, Error ellipse: s-maj=3.7km s-min=1.5km az=142.6*
*GCMT **02** 08:20:04.8±0.2, 52°.26N±0°.02×132°.02W±0°.03, h12km, MW5.0/104, Moment Tensor Solution. s29,c32; s104,c143; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-3.25±.07; Mθθ 1.82±.08; Mϕϕ 1.42±.07; Mrθ 1.31±.28; Mθϕ-1.35±.06; Mϕr-1.60±.34; Best double couple: Mo3.74000×10^16 NP1:ϕs316.00000°, δ62.00000°, λ-85.00000°. NP2:ϕs126.00000°, δ29.00000°, λ-98.00000°. Principal axes: T 3.5940, Plg17.0000°, Azm43.0000°; N 0.2800, Plg4.0000°, Azm134.0000°; P -3.8850, Plg73.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 08:19:59.5±0.3, 52°.28N±0°.04×132°.03W±0°.04, h18km, n734, σ1§38/710, mb4.7/158, MS4.0/28, 7C-1D, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.34**	**30**	*e*Pg	**Pg**	**08 20 06.3**	**-0.4**
BNB				*e*Sg	**Sg**	**08 20 11.8**	**+0.1**
BNB	**Barry Inlet**	**0.34**	**30**	P	**Pg**	**08 20 06.2**	**-0.6**
BNB				S	**Sb**	**08 20 12.1**	**0.0**
DIB	**Dawson Inlet,**	**0.96**	**344**	*e*Pg	**Pb**	**08 20 14.1**	**-3.4**
DIB				*e*Sg	**Sb**	**08 20 27.6**	**-2.3**
DIB	**Dawson Inlet,**	**0.96**	**344**	P	**Pb**	**08 20 13.9**	**-3.6**
H02S1	**DAWSON INLET T**	**0.96**	**344**	Pg	**Pb**	**08 20 14.3**	**-3.3**
H02S1				Lg	Lg	08 20 26.0	
H02N1	**VAN INLET T-PH**	**1.02**	**342**	Pg	**Pb**	**08 20 15.1**	**-3.5**
H02N1				Lg	Lg	08 20 28.1	
MASB	**Masset**	**1.73**	**0**	P	**Pn**	**08 20 26.7**	**-2.0**
MASB	**Masset**	**1.73**	**0**	Pn	**Pn**	**08 20 26.7**	**-2.0**
NDB	**Naden**	**1.76**	**342**	Pn	**Pn**	**08 20 25.9**	**-3.3**
RUBB	**Prince Rupert**	**2.31**	**27**	Pn	**Pn**	**08 20 35.2**	**-1.3**
RUBB	**Prince Rupert**	**2.31**	**27**	Pn	**Pn**	**08 20 35.3**	**-1.3**
BBB	**Bella Bella**	**2.41**	**91**	Pn	**Pn**	**08 20 36.2**	**-1.8**
	33nm,0.3s,baz=277,slow=8.4,SNR=84						
BBB				Lg	Lg	08 21 14.2	
	169nm,0.3s,baz=165,slow=21,SNR=6.2						
BBB				LR	LR	08 21 48.4	
	comp=Z,4μm,20.8s,baz=338,slow=45						
BBB	**Bella Bella**	**2.41**	**91**	*e*Pn	**Pn**	**08 20 35.5**	**-2.5**
BBB				Lg	Lg	08 21 14.2	
BBB	**Bella Bella**	**2.41**	**91**	Pn	**Pn**	**08 20 35.7**	**-2.2**
BCBC	**Bella Coola**	**3.24**	**86**	Pn	**Pn**	**08 20 48.9**	**-0.4**
CRAG	**Craig**	**3.26**	**349**	*e*Pn	**Pn**	**08 20 47.7**	**-1.9**
CRAG				*e*Pg	**Pb**	**08 20 56.2**	**-0.5**
PHC	**Port Hardy**	**3.28**	**117**	*e*Pn	**Pn**	**08 20 46.8**	**-3.1**
PHC	**Port Hardy**	**3.28**	**117**	Pn	**Pn**	**08 20 46.5**	**-3.4**
PHC				Sn	**Sn**	**08 21 23.6**	**-4.7**
PACB	**Port Alice, BC**	**3.39**	**121**	Pn	**Pn**	**08 20 47.5**	**-4.0**
PACB				Sn	**Sn**	**08 21 26.8**	**-4.4**
MAYB	**Maynard**	**3.58**	**120**	Pn	**Pn**	**08 20 51.0**	**-3.1**
TLCB	**Telegraph Cove**	**3.69**	**116**	Pn	**Pn**	**08 20 52.2**	**-3.3**
TLCB				Sn	**Sn**	**08 21 34.7**	**-3.7**
EDB	**Eliza Dome**	**3.92**	**126**	Pn	**Pn**	**08 20 56.3**	**-2.5**
WOSB	**Woss**	**4.04**	**120**	Pn	**Pn**	**08 20 57.8**	**-2.6**
WRAK	**Wrangell Islan**	**4.15**	**358**	*e*Pn	**Pn**	**08 21 00.0**	**-1.8**
NCRB	**Newcastle Ridg**	**4.19**	**114**	Pn	**Pn**	**08 21 00.1**	**-2.5**
GDR	**Gold River**	**4.54**	**121**	Pn	**Pn**	**08 21 04.9**	**-2.3**
SPLB	**Strathcona Par**	**4.68**	**118**	Pn	**Pn**	**08 21 07.2**	**-1.9**
CBB	**Campbell River**	**4.76**	**116**	Pn	**Pn**	**08 21 08.0**	**-2.2**
CBB				Sn	**Sn**	**08 22 00.2**	**-3.0**
UBRB	**Upper Baezaeko**	**4.88**	**80**	Pn	**Pn**	**08 21 11.7**	**-0.4**
MWAB	**Mount Washingt**	**4.95**	**118**	Pn	**Pn**	**08 21 10.8**	**-2.2**
BTB	**Buttle Lake**	**4.99**	**122**	Pn	**Pn**	**08 21 11.5**	**-2.1**
TOFB	**Tofino**	**4.99**	**126**	Pn	**Pn**	**08 21 11.6**	**-1.9**
FSB	**Fort Saint Jam**	**5.11**	**61**	Pn	**Pn**	**08 21 14.7**	**-0.4**
SIT	**Sitka**	**5.15**	**340**	*e*Pn	**Pn**	**08 21 12.9**	**-2.7**
SIT	**Sitka**	**5.15**	**340**	*e*P	**Pn**	**08 21 12.9**	**-2.7**
TXB	**Texada**	**5.45**	**115**	Pn	**Pn**	**08 21 18.0**	**-1.7**
MGB	**Mount Grey**	**5.71**	**122**	Pn	**Pn**	**08 21 22.5**	**-0.9**
GHNB	**Nanoose**	**5.77**	**118**	Pn	**Pn**	**08 21 22.3**	**-1.8**
SHB	**Sechelt**	**5.81**	**114**	Pn	**Pn**	**08 21 23.5**	**-1.3**
NLLB	**Nanaimo Lost L**	**5.95**	**118**	Pn	**Pn**	**08 21 25.7**	**-0.9**
YOUB	**Youbou, Lake C**	**5.99**	**121**	Pn	**Pn**	**08 21 27.0**	**-0.3**
PFB	**Port Renfrew**	**6.11**	**124**	Pn	**Pn**	**08 21 27.8**	**-1.0**
B926	**Mesachie Lake**	**6.11**	**121**	Pn	**Pn**	**08 21 28.7**	**-0.1**
JIS	**Juneau Island**	**6.16**	**348**	*e*Pn	**Pn**	**08 21 29.4**	**+0.1**
DLBC	**Dease Lake**	**6.27**	**10**	Pn	**Pn**	**08 21 32.2**	**+1.2**
	5.5nm,0.3s,baz=180,slow=11,SNR=46						
DLBC				Sn	**Sn**	**08 22 42.

J05D **Fort Rock, OR** 11.55 137 P Pn 08 22 45.6 +2.1
baz=324,SNR=20
F10A **Beach Ranch, E** 11.56 117 ePn Pn 08 22 44.4 +0.8
L02E **Cave Junction** 11.63 147 P Pn 08 22 47.5 +3.1
baz=332
K04D **Chiloquin, OR** 11.89 140 P Pn 08 22 49.9 +1.7
baz=327
KLU **Klutina** 11.92 326 ePn Pn 08 22 48.6 +0.1
L04D **Klamath Falls** 12.03 143 P Pn 08 22 52.9 +2.8
baz=329
K05A **Summer Lake** 12.16 137 ePn Pn 08 22 55.1 +3.3
BMO **Blue Mountains** 12.25 122 ePn Pn 08 22 54.6 +1.6
BMO **Blue Mountains** 12.25 122 eP Pn 08 22 54.6 +1.6
JTMT **Jette** 12.28 105 ePn Pn 08 22 56.4 +3.0
YBH **Yreka Blue Hor** 12.31 145 Pn Pn 08 22 55.8 +2.0
0.3nm,0.3s,baz=349,slow=8.1,SNR=18
YBH LR LR 08 26 51.2
comp=Z,981nm,20.9s,baz=330,slow=34
YBH **Yreka Blue Hor** 12.31 145 ePn Pn 08 22 58.5 +4.7
DAWY **Dawson** 12.42 345 ePn Pn 08 22 53.3 -1.9
M02C **Callahan** 12.56 147 P Pn 08 23 00.8 +3.6
baz=332
M04C **Macdoel** 12.58 143 P Pn 08 22 58.9 +1.3
baz=329,SNR=9.8
SCM **Sheep Creek Mo** 12.65 325 ePn Pn 08 22 58.0 -0.3
SCM **Sheep Creek Mo** 12.65 325 eP Pn 08 22 58.0 -0.3
J08A **Circle Bar Ran** 12.74 129 ePn Pn 08 23 01.9 +2.3
MSO **Missoula** 12.94 108 ePn Pn 08 23 04.3 +1.9
MSO **Missoula** 12.94 108 P Pn 08 23 04.3 +1.9
baz=301
KDAK **Kodiak Island** 12.98 303 LR LR 08 26 40.4
comp=Z,623nm,21.6s,baz=116,slow=31
N02D **Trinity Center** 12.99 147 P Pn 08 23 05.0 +1.9
baz=333
MOD **Modoc Plateau** 13.08 138 ePn Pn 08 23 07.5 +3.1
KMRM **Mail Ridge** 13.35 151 ePn Pn 08 23 11.7 +3.6
WVOR **Wild Horse Val** 13.38 132 ePn Pn 08 23 11.0 +2.6
WVOR **Wild Horse Val** 13.38 132 eP Pn 08 23 11.0 +2.6
EGAK **Eagle** 13.38 343 ePn Pn 08 23 09.2 +1.0
WDC **Whiskeytown Da** 13.39 147 ePn Pn 08 23 11.6 +3.1
DHY **Denali Highway** 13.53 329 ePn Pn 08 23 11.0 +0.6
O02D **Mt. Diablo Mer** 13.68 149 P Pn 08 23 14.2 +1.7
baz=334
YKA **Yellowknife Ar** 13.84 36 Pn Pn 08 23 13.3 -1.1
0.4nm,0.3s,baz=226,slow=12,SNR=26
YKA Lg Lg 08 27 27.1
0.2nm,0.3s,baz=223,slow=26,SNR=4.6
YKW3 **Yellowknife Ar** 13.88 35 ePn Pn 08 23 15.0 0.0
YKW3 **Yellowknife Ar** 13.88 35 Pn Pn 08 23 13.4 -1.5
O03E **Paynes Creek** 13.90 146 P Pn 08 23 18.7 +3.1
baz=332,SNR=6.0
RND **Reindeer** 14.24 328 ePn Pn 08 23 20.0 0.0
RND **Reindeer** 14.24 328 eP Pn 08 23 20.0 0.0
HRY **Holter Researc** 14.24 105 ePn Pn 08 23 22.1 +1.9
SKT **Skwentna** 14.30 320 ePn Pn 08 23 20.7 -0.2
EPYK **Eagle Plains** 14.32 352 P Pn 08 23 21.1 0.0
baz=169
HDA **Harding Lake** 14.40 333 eP P 08 23 30.7 +1.7
HDA **Harding Lake** 14.40 333 P Pn 08 23 22.6 +0.4
baz=142,SNR=5.5
MCK **McKinley** 14.49 329 eP P 08 23 29.6 -0.4
HLID **Hailey** 14.65 120 ePn Pn 08 23 29.0 +3.2
HLID esP P 08 23 33.9 +1.8
HLID **Hailey** 14.65 120 P Pn 08 23 27.4 +1.5
baz=312,SNR=12
ORV **Oroville** 14.67 146 ePn Pn 08 23 26.8 +0.9
ORV esP P 08 23 34.0 +1.9
ORV **Oroville** 14.67 146 eP Pn 08 23 26.8 +0.9
IL1 **Eielson Array** 14.67 334 ePn Pn 08 23 30.6 +0.7
IL1 epP P 08 23 32.4 +0.5
ILAR **Eielson Array** 14.67 334 Pn P 08 23 32.4 +0.4
0.4nm,0.3s,baz=149,slow=11,SNR=30
ILAR Lg Lg 08 27 56.2
0.1nm,0.3s,baz=116,slow=28,SNR=3.3
ILAR LR LR 08 29 08.6
comp=Z,468nm,19.8s,baz=146,slow=38
ILB **Eielson Array** 14.67 334 ePn P 08 23 33.2 +1.2
MCMT **McKenzie Canyo** 14.70 113 ePn Pn 08 23 28.4 +1.7
MCMT esP P 08 23 34.5 +1.8
TRF **Thorofare Moun** 14.75 326 ePn Pn 08 23 26.9 -0.2
WRH **Wood River Hil** 14.78 332 ePn P 08 23 34.4 +1.3
BEKR **Beckworth** 14.80 142 ePn Pn 08 23 30.3 +2.4
BEKR esP P 08 23 36.0 +2.3
CCB **Clear Creek Bu** 14.83 333 ePn Pn 08 23 29.2 +1.3
CCB esP P 08 23 35.0 +1.3
EGMT **Eagleton** 14.88 98 ePn P 08 23 35.6 +1.1
23nm,0.9s
EGMT **Eagleton** 14.88 98 P Pn 08 23 30.4 +1.6
baz=294
BOZ **Bozeman (W)** 14.95 108 ePn P 08 23 34.1 -1.3
2.8nm,0.7s
BOZ **Bozeman (W)** 14.95 108 eP P 08 23 34.1 -1.3
BOZ pmax pmax
comp=Z,3.0nm,0.7s
BOZ **Bozeman (W)** 14.95 108 P Pn 08 23 30.3 +0.4
baz=303
TCOL **CIGO, UAF Yank** 15.02 333 P Pn 08 23 30.6 +0.1
baz=141
PPLA **Purkeypile** 15.08 323 ePn Pn 08 23 32.1 +0.7
comp=Z,35nm,1.2s
POKR **Poker Plat Res** 15.09 334 P Pn 08 23 31.4 0.0
baz=142
MDM **Murphy Dome** 15.18 333 ePn Pn 08 23 35.0 +2.3
comp=Z,28nm,1.0s
PAHR **Pah Rah Range** 15.31 140 ePn P 08 23 37.1 -2.3
comp=Z,28nm,1.2s
AFDM **Forest Hills D** 15.39 146 ePn Pn 08 23 37.3 +1.7
comp=Z,42nm,1.1s
QLMT **Earthquake Lak** 15.51 111 ePn P 08 23 39.8 -1.8
VCNR **Virginia City** 15.56 142 ePn Pn 08 23 39.8 +1.7
comp=Z,6.6nm,0.9s
RUBR **Rubicon Trail** 15.59 143 ePn P 08 23 44.3 +1.7
BMN **Battle Mountai** 15.61 134 ePn P 08 23 46.0 +3.2
BMN **Battle Mountai** 15.61 134 eP P 08 23 46.0 +3.2
PNTR **Pine Nut** 15.76 142 ePn P 08 23 43.2 -1.3
comp=Z,26nm,1.1s
YHH **Holmes Hill** 15.87 110 ePn P 08 23 44.0 -1.7
comp=Z,24nm,1.2s
YMR **Madison River** 15.87 110 ePn P 08 23 44.4 -1.2
comp=Z,25nm,0.9s
MLY **Manley** 15.97 330 ePn P 08 23 45.5 -0.9
comp=Z,17nm,1.0s
YERR **Yerington** 15.99 141 ePn P 08 23 47.6 +0.6
comp=Z,17nm,1.1s
GCMT **Greycliff** 16.00 105 ePn P 08 23 45.4 -1.6
YNR **Norris Junctio** 16.01 110 ePn P 08 23 47.4 +0.2
comp=Z,16nm,1.1s
INK **Inuvik** 16.09 358 Pn P 08 23 46.6 -1.1
comp=Z,0.2nm,0.3s,baz=162,slow=13,SNR=14
INK Lg Lg 08 28 32.3
comp=Z,0.0nm,0.3s,baz=75,slow=30,SNR=3.6
INK LR LR 08 29 57.4
comp=Z,765nm,20.7s,baz=174,slow=37
INK **Inuvik** 16.09 358 ePn P 08 23 46.8 -0.9
comp=Z,28nm,1.0s
INK Lg Lg 08 28 32.3
INK **Inuvik** 16.09 358 eP P 08 23 46.8 -0.9
INK pmax pmax
comp=Z,28nm,1.0s
H17A **Grant Village** 16.26 111 ePn P 08 23 50.6 +0.6
comp=Z,21nm,1.1s
H17A **Grant Village** 16.26 111 P P 08 23 49.4 -0.6
baz=306
WAKR **Walker** 16.34 143 ePn P 08 23 52.6 +1.8
comp=Z,28nm,1.2s
IMW **Indian Meadow** 16.35 112 ePn P 08 23 50.1 -1.0
comp=Z,24nm,1.1s
FLWY **Flagg Ranch** 16.38 112 ePn P 08 23 50.6 -0.7
comp=Z,7.6nm,0.9s
KVN **Kaiserville** 16.39 138 ePn P 08 23 50.8 -0.6
comp=Z,32nm,1.0s
KVN **Kaiserville** 16.39 138 eP P 08 23 50.8 -0.6
KVN pmax pmax
comp=Z,32nm,1.0s
CMB **Columbia Colle** 16.41 146 ePn P 08 23 53.0 +1.5
comp=Z,19nm,1.1s
FXWY **Fox Creek** 16.47 113 ePn P 08 23 55.4 +3.1
comp=Z,14nm,0.9s
MOOW **Moose Ponds** 16.56 113 ePn P 08 23 54.6 +1.4
comp=Z,13nm,1.0s
RYN **Ryan** 16.58 140 ePn P 08 23 54.3 +0.8
comp=Z,13nm,1.2s
RLMT **Red Lodge** 16.60 107 ePn P 08 23 54.9 +1.1
comp=Z,20nm,1.1s
RLMT **Red Lodge** 16.60 107 P P 08 23 53.4 -0.4
baz=303
TPAW **Teton Pass** 16.60 114 ePn P 08 23 55.1 +1.3
comp=Z,28nm,1.0s
LOHW **Long Hollow** 16.72 113 ePn P 08 23 55.0 -0.1
comp=Z,6.6nm,1.0s
SNOW **Snow King Moun** 16.73 113 ePn P 08 23 55.7 +0.5
comp=Z,18nm,1.1s
REDW **Red Top Meadow** 16.74 114 ePn P 08 23 54.8 -0.5
comp=Z,29nm,1.1s
HVU **Hansel Valley** 16.76 121 ePn P 08 23 54.6 -0.8
comp=Z,0.4nm,0.6s
HVU **Hansel Valley** 16.76 121 eP P 08 23 54.6 -0.8
NV01 **Mina Array Sit** 16.84 140 ePn P 08 23 55.5 -0.9
NVAR **Mina Array Bea** 16.84 140 Pn P 08 23 57.4 +1.0
comp=Z,0.2nm,0.3s,baz=320,slow=11,SNR=17
NVAR PcP PcP 08 28 42.4 +1.0
comp=Z,0.0nm,0.3s,baz=315,slow=0.8,SNR=3.8
NVAR LR LR 08 29 47.8
comp=Z,563nm,21.9s,baz=328,slow=35
NV11 **Mina Array Sit** 16.89 140 ePn P 08 23 57.2 +0.2
comp=Z,2.7nm,1.1s
MDPB **Devils Postpil** 17.24 143 ePn P 08 24 01.5 +0.7
comp=Z,19nm,1.2s
BGU **Big Grassy Mou** 17.25 124 ePn P 08 24 00.2 -0.6
comp=Z,5.8nm,1.0s
OMMB **Old Mammoth Mi** 17.28 143 ePn P 08 24 03.5 +2.1
comp=Z,9.4nm,1.1s
MLAC **Mammoth, Mammo** 17.33 143 P P 08 24 03.9 +2.0
baz=331
HWUT **Hardware Ranch** 17.52 119 ePn P 08 24 04.8 +0.9
comp=Z,14nm,1.1s
IM3 **Indian Mountai** 17.54 330 ePn Pn 08 24 02.5 -0.2
LAO **LASA Array** 17.63 98 ePn P 08 24 06.5 +1.6
comp=Z,12nm,1.0s
LAO **LASA Array** 17.63 98 P P 08 24 05.0 +0.1
baz=297
BW06 **Boulder Array** 17.85 113 ePn P 08 24 09.1 +1.5
comp=Z,12nm,0.9s
BW06 **Boulder Array** 17.85 113 P P 08 24 09.1 +1.5
baz=309,SNR=6.5
PD31 **Pinedale Array** 17.85 113 ePn P 08 24 10.2 +2.6
PDAR **Pinedale Array** 17.85 113 P P 08 24 09.0 +1.5
comp=Z,0.6nm,0.3s,baz=311,slow=9.1,SNR=28
PDAR LR LR 08 30 18.8
comp=Z,86nm,19.0s,baz=318,slow=35
PDAR **Pinedale Array** 17.85 113 ePn P 08 24 09.0 +1.5
DUG **Dugway, Tooele** 17.90 125 ePn P 08 24 09.9 +1.9
comp=Z,18nm,1.1s
DUG **Dugway, Tooele** 17.90 125 P P 08 24 09.1 +1.0
baz=318,SNR=8.6
PMPB **Monarch Peak** 17.93 149 ePn P 08 24 11.6 +3.3
comp=Z,29nm,1.1s
FFC **Flin Flon** 17.98 70 ePn Pn 08 24 08.3 +0.1
comp=Z,30nm,1.1s
FFC **Flin Flon** 17.98 70 eP Pn 08 24 08.3 +0.1
FFC pmax pmax
comp=Z,30nm,1.1s
R11A **Troy Canyon, C** 18.05 134 ePn P 08 24 11.0 +1.3
comp=Z,15nm,1.1s
R11A **Troy Canyon, C** 18.05 134 P P 08 24 10.2 +0.5
baz=325,SNR=20
DGMT **Dagmar** 18.11 91 ePn P 08 24 10.6 +0.5
comp=Z,38nm,0.9s
DGMT **Dagmar** 18.11 91 P Pn 08 24 09.4 -0.5
baz=292
JLU **Jonelle** 18.30 122 eP P 08 24 13.5 +0.9
comp=Z,3.5nm,0.9s
TOLK **Toolik Lake Re** 18.42 340 ePn P 08 24 15.8 +2.3
comp=Z,18nm,1.0s
TOLK **Toolik Lake Re** 18.42 340 P P 08 24 13.4 0.0
baz=145
GRAC **Grapevine Rang** 18.45 140 P Pn 08 24 16.1 +2.0
baz=330,SNR=25
NLU **North Lily Min** 18.45 124 eP Pn 08 24 15.2 +0.9
comp=Z,9.3nm,0.9s
PAGB **Antelope Grade** 18.55 149 eP Pn 08 24 16.1 +0.8
comp=Z,19nm,1.1s
CWC **Cottonwood Cre** 18.66 143 P Pn 08 24 18.8 +1.9
baz=332
PSUT **Pine Spring** 18.68 130 eP Pn 08 24 18.9 +1.7
comp=Z,17nm,1.1s
VES **Vestal, Richgr** 18.84 146 P Pn 08 24 21.3 +2.6
baz=334
TPNV **Topopah Spring** 18.94 138 eP Pn 08 24 21.5 +1.3
TPNV **Topopah Spring** 18.94 138 eP Pn 08 24 21.5 +1.3
TPNV **Topopah Spring** 18.94 138 P Pn 08 24 20.4 +0.2
baz=328,SNR=18
DAC **Darwin (Calif)** 18.99 142 eP Pn 08 24 22.6 +1.8
comp=Z,10nm,1.1s
DAC **Darwin (Calif)** 18.99 142 eP Pn 08 24 22.6 +1.8
DAC pmax pmax
comp=Z,10.0nm,1.1s
SMMC **Simmler** 19.01 148 P Pn 08 24 21.9 +1.0
baz=336
FURC **Furnace Creek,** 19.11 140 P Pn 08 24 23.5 +1.5
baz=330,SNR=6.4
ISA **Isabella, Lake** 19.21 145 eP Pn 08 24 24.3 +0.9
comp=Z,9.4nm,0.9s
ISA **Isabella, Lake** 19.21 145 eP Pn 08 24 24.3 +0.9
ISA pmax pmax
comp=Z,9.0nm,0.9s
ISA **Isabella, Lake** 19.21 145 P Pn 08 24 23.9 +0.5
baz=333,SNR=9.5
MPMC **Manual Prospec** 19.22 142 P Pn 08 24 24.1 +0.5
baz=331,SNR=20
TCRU **Three Creeks R** 19.30 127 eP Pn 08 24 26.1 +1.5
comp=Z,11nm,0.9s
TMUT **Trail Mountain** 19.39 124 eP Pn 08 24 26.8 +1.1
comp=Z,10nm,0.9s
PKM **Mcpherson Peak** 19.46 149 P Pn 08 24 27.5 +1.0
baz=336
P17A **Butcher Ranch,** 19.50 123 eP Pn 08 24 27.5 +0.6
comp=Z,11nm,0.9s
MSU **Marysvale** 19.51 127 eP Pn 08 24 28.0 +0.9
MSU **Marysvale** 19.51 127 eP Pn 08 24 28.0 +0.9
ARVC **Arvin** 19.57 146 P Pn 08 24 27.9 +0.3
baz=335
P18A **Preston Nutter** 19.64 121 eP Pn 08 24 30.1 +1.4
comp=Z,18nm,1.2s
K22A **Casper** 19.66 109 eP Pn 08 24 28.5 -0.3
comp=Z,19nm,1.0s
K22A **Casper** 19.66 109 P Pn 08 24 28.5 -0.3
baz=308
LRMC **Laurel Mtn Rad** 19.66 143 P Pn 08 24 28.9 0.0
baz=332,SNR=8.8
CCUT **Cedar City** 19.70 131 eP Pn 08 24 30.1 +0.7
comp=Z,34nm,1.1s
SHPR **Sheep Range** 19.77 136 eP Pn 08 24 30.7 +0.5
comp=Z,12nm,1.1s
SZCU **Shurtz Canyon** 19.80 130 eP Pn 08 24 31.0 +0.5
comp=Z,29nm,0.9s
SHOC **Shoshone, Teco** 19.84 139 P Pn 08 24 30.8 0.0
baz=330,SNR=11
MTPU **Mount Pierson** 19.87 128 eP Pn 08 24 32.4 +0.9
comp=Z,12nm,1.2s
SRU **San Rafael Swe** 19.88 123 eP Pn 08 24 32.6 +1.1
comp=Z,33nm,0.9s
SRU **San Rafael Swe** 19.88 123 eP Pn 08 24 32.6 +1.1
SRU pmax pmax
comp=Z,33nm,0.9s
EDW2 **Edwards Air Fo** 20.09 145 P Pn 08 24 33.9 +0.1
baz=334
GSC **Goldstone, Bar** 20.15 141 eP Pn 08 24 34.9 +0.4
comp=Z,19nm,1.1s
GSC **Goldstone, Bar** 20.15 141 eP Pn 08 24 34.9 +0.3
GSC pmax pmax
comp=Z,19nm,1.1s
GSC **Goldstone, Bar** 20.15 141 P Pn 08 24 34.5 -0.1
baz=332,SNR=14
LCMT **Little Creek M** 20.20 132 eP Pn 08 24 35.2 0.0
comp=Z,49nm,1.2s
RSSD **Black Hills** 20.27 103 eP Pn 08 24 36.0 0.0
comp=Z,9.7nm,0.9s
RSSD **Black Hills** 20.27 103 eP Pn 08 24 36.0 0.0
RSSD pmax pmax
comp=Z,10.0nm,0.9s
RSSD **Black Hills** 20.27 103 P P 08 24 34.6 +0.6
baz=303
PKCU **Pink Cliffs** 20.29 129 eP Pn 08 24 36.9 +0.5
comp=Z,72nm,1.2s
SCZ2 **Santa Cruz Isl** 20.34 149 P Pn 08 24 37.3 +0.6
baz=337
O20A **White River Ci** 20.35 117 eP Pn 08 24 37.2 +0.2
comp=Z,36nm,1.0s
O20A **White River Ci** 20.35 117 P Pn 08 24 36.6 -0.4
baz=314,SNR=15
TUQ **Turquoise Moun** 20.38 139 P Pn 08 24 36.9 -0.4
baz=330,SNR=12
KNB **Kanab** 20.39 131 eP Pn 08 24 37.6 +0.1
comp=Z,34nm,1.2s
KNB **Kanab** 20.39 131 eP Pn 08 24 37.6 +0.1
KNB pmax pmax
comp=Z,34nm,1.2s
MWC **Mount Wilson** 20.66 145 eP Pn 08 24 39.7 -0.8
comp=Z,25nm,1.0s
MWC **Mount Wilson** 20.66 145 eP Pn 08 24 39.7 -0.9
MWC pmax pmax
comp=Z,25nm,1.0s
PASC **Pasadena Art C** 20.66 146 eP Pn 08 24 39.3 -1.2
comp=Z,28nm,1.1s
HEC **Hector,Ludlow** 20.75 141 P Pn 08 24 40.9 -0.7
baz=331,SNR=17
BFSC **Mount Baldy Ra** 20.78 145 P Pn 08 24 41.0 -1.0
baz=334,SNR=26
LDFC **Landfair** 21.02 138 eP P 08 24 43.1 +1.0
comp=Z,44nm,0.9s
BBRC **Big Bear Solar** 21.03 143 P P 08 24 43.2 +0.9
baz=333,SNR=9.5
GMRC **Granite Mounta** 21.05 140 P P 08 24 43.4 +0.9
baz=331,SNR=21
N23A **Red Feather La** 21.11 112 eP P 08 24 44.6 +1.3
comp=Z,27nm,1.1s
N23A **Red Feather La** 21.11 112 P P 08 24 43.6 +0.4
baz=311,SNR=8.8
U15A **North Rim** 21.11 131 eP P 08 24 45.0 +1.7
comp=Z,52nm,1.1s
PHWY **Pilot Hill** 21.13 111 eP P 08 24 44.3 +0.9
comp=Z,19nm,0.9s
MDND **Maddock** 21.18 89 P P 08 24 44.1 +0.5
baz=294
W13A **Hualapai Mount** 21.51 136 eP P 08 24 48.9 +1.4
comp=Z,31nm,1.1s
MURC **Murrieta** 21.52 144 P P 08 24 48.6 +1.2
baz=334
BELC **Belle Mtn. Jos** 21.61 141 P P 08 24 49.6 +1.2
baz=332,SNR=21
RDOG **Red Dog Mine** 21.66 328 eP P 08 24 49.8 +1.2
comp=Z,16nm,0.9s
SMCO **Snowmass** 21.72 117 eP P 08 24 51.5 +1.6
comp=Z,15nm,0.8s
PFO **Pinyon Flats O** 21.78 143 eP P 08 24 50.5 +0.2
comp=Z,11nm,1.0s
PFO **Pinyon Flats O** 21.78 143 eP P 08 24 50.5 +0.2
PFO pmax pmax
comp=Z,11nm,1.0s
PFO **Pinyon Flats O** 21.78 143 P P 08 24 50.9 +0.6
baz=333,SNR=6.3
XPFO **Piæon Flat** 21.78 143 eP P 08 24 50.7 +0.4
comp=Z,11nm,1.0s
IRM **Iron Mountain** 21.80 140 P P 08 24 52.0 +1.5
baz=331,SNR=29
FRD **Ford Ranch, An** 21.83 143 P P 08 24 51.2 +0.4
baz=333,SNR=7.2
ISCO **Idaho Springs** 22.04 114 P P 08 24 55.4 +2.2
ISCO pmax pmax
comp=Z,11nm,1.6s
ISCO **Idaho Springs** 22.04 114 P P 08 24 54.8 +1.6
baz=313
PDMCI **Parker Dam,Lak** 22.09 137 P P 08 24 54.9 +1.5
baz=329,SNR=12
BC3 **Big Chuckawall** 22.12 141 P P 08 24 54.8 +0.8
baz=332,SNR=6.7
FCC **Fort Churchill** 22.19 58 eP P 08 24 54.0 -0.3
comp=Z,61nm,1.1s
FCC **Fort Churchill** 22.19 58 eP P 08 24 54.0 -0.3
FCC pmax pmax
comp=Z,61nm,1.1s
109C **Camp Elliot, M** 22.20 145 P P 08 24 55.6 +0.9
baz=335
CPE **Camp Elliot** 22.20 145 eP P 08 24 56.1 +1.4
comp=Z,10nm,1.0s
WUAZ **Wupatki** 22.29 131 eP P 08 24 56.4 +0.7
comp=Z,49nm,1.1s
WUAZ **Wupatki** 22.29 131 P P 08 24 57.0 +1.2
baz=325,SNR=20
MVCO **Mesa Verde** 22.36 123 eP P 08 24 58.1 +1.5
comp=Z,15nm,1.0s
MVCO **Mesa Verde** 22.36 123 P P 08 24 56.6 0.0
baz=319,SNR=18
Y12C **Blythe** 22.41 139 eP P 08 24 57.8 +0.9
comp=Z,26nm,1.1s
Y12C **Blythe** 22.41 139 P P 08 24 57.4 +0.5
baz=330,SNR=15
MONP2 **Monument Peak** 22.44 144 P P 08 24 57.6 +0.2
baz=334,SNR=16
BAR **Barrett** 22.54 144 eP P 08 24 59.7 +1.4
comp=Z,17nm,1.1s
ULM **Lac du Bonnet** 22.57 81 P P 08 24 58.5 0.0
comp=Z,9.0nm,0.9s,baz=296,slow=8.2,SNR=6.6
ULM LR LR 08 34 12.4
comp=Z,1µm,18.2s,baz=290,slow=38
ULM **Lac du Bonnet** 22.57 81 eP P 08 24 58.5 0.0
comp=Z,41nm,1.1s
ULM **Lac du Bonnet** 22.57 81 eP P 08 24 58.5 0.0
ULM pmax pmax
comp=Z,41nm,1.1s
SWSC **Sam W. Stewart** 22.62 142 P P 08 25 00.0 +0.9
baz=333
IKP **In-Ko-Pah, Jac** 22.77 143 P P 08 25 01.2 +0.4
baz=334,SNR=9.9
S22A **4UR Ranch, Cre** 22.83 120 eP P 08 25 03.2 +1.5
comp=Z,7.3nm,0.8s
S22A **4UR Ranch, Cre** 22.83 120 P P 08 25 02.8 +1.1
baz=317,SNR=16
Q24A **Divide** 22.88 115 eP P 08 25 03.9 +1.7
comp=Z,8.5nm,1.1s
Q24A **Divide** 22.88 115 P P 08 25 02.4 +0.2
baz=314
Y14A **Wickenburg** 22.88 136 eP P 08 25 02.8 +0.9
comp=Z,31nm,1.1s
GLA **Glamis** 22.90 140 eP P 08 25 02.8 +0.6
comp=Z,44nm,1.1s
GLA **Glamis** 22.90 140 eP P 08 25 02.8 +0.6
GLA pmax pmax
comp=Z,44nm,1.1s
GLA **Glamis** 22.90 140 P P 08 25 02.5 +0.4
baz=332,SNR=13
X16A **Lo Mia Camp, P** 23.16 132 eP P 08 25 06.0 +1.0
comp=Z,9.9nm,1.1s
SUSD **Miller** 23.17 97 P P 08 25 04.9 +0.1
baz=301
AGMN **Agassiz Nation** 23.29 85 eP P 08 25 06.9 +0.9
comp=Z,14nm,1.1s
AGMN **Agassiz Nation** 23.29 85 P P 08 25 05.2 -0.7
baz=293
W18A **Petrified Fore** 23.39 128 eP P 08 25 10.7 +3.4
comp=Z,39nm,1.0s
SDCO **Great Sand Dun** 23.55 118 eP P 08 25 10.0 +1.1
comp=Z,17nm,1.1s
SDCO **Great Sand Dun** 23.55 118 P P 08 25 09.7 +0.8
baz=316,SNR=17
113A **Mohawk Valley,** 23.57 139 eP P 08 25 09.9 +1.1
comp=Z,5.8nm,1.1s
X18A **Snowflake** 23.76 130 eP P 08 25 12.5 +1.6
comp=Z,43nm,1.0s
KSCO **Kaye Shedlock'** 24.27 111 eP P 08 25 17.4 +1.9
comp=Z,26nm,1.0s
KSCO **Kaye Shedlock'** 24.27 111 P P 08 25 14.6 -1.0
baz=312
T25A **Trinidad** 24.59 117 eP P 08 25 19.7 +1.1
comp=Z,9.9nm,1.1s
T25A **Trinidad** 24.59 117 P P 08 25 19.0 +0.5
baz=316
214A **Organ Pipe Nat** 24.67 138 P P 08 25 19.8 +0.6
baz=331,SNR=19
ECSD **EROS Data Cent** 24.98 96 eP P 08 25 24.1 +2.3
comp=Z,19nm,1.0s
ECSD **EROS Data Cent** 24.98 96 P P 08 25 21.5 -0.3
baz=302
ANMO **Albuquerque** 25.16 123 P P 08 25 24.0 +0.3
comp=Z,4.3nm,0.9s,baz=317,slow=8.1,SNR=13
ANMO LR LR 08 35 22.7
comp=Z,81nm,19.6s,baz=308,slow=37
ANMO **Albuquerque** 25.16 123 eP P 08 25 24.6 +0.9
comp=Z,5.5nm,0.9s
ANMO **Albuquerque** 25.16 123 ceP P 08 25 23.5 -0.2
ANMO pmax pmax
comp=Z,8.0nm,1.3s
ANMO **Albuquerque** 25.16 123 P P 08 25 24.1 +0.4
baz=321
TUC **Tucson** 25.23 134 eP P 08 25 26.0 +1.7
TUC **Tucson** 25.23 134 eP P 08 25 26.0 +1.7
LAZ **Ladron** 25.24 125 eP P 08 25 26.0 +1.5
BGNE **Belgrade** 25.37 102 eP P 08 25 27.1 +1.7
comp=Z,39nm,1.1s
BNM **Barren Site** 25.69 125 eP P 08 25 30.4 +1.7

CBKS **Cedar Bluff** 26.07 108 *e*P P 08 25 33.3 +1.5
comp=Z,15nm,1.1s
CBKS **Cedar Bluff** 26.07 108 *e*P P 08 25 33.3 +1.5
CBKS pmax pmax
comp=Z,15nm,1.1s
EYMN **Ely** 26.10 83 *e*P P 08 25 33.0 +1.0
comp=Z,32nm,1.0s
EYMN **Ely** 26.10 83 P P 08 25 32.1 +0.1
baz=295
F37A **Hinrichs Farm,** 26.41 89 P P 08 25 36.1 +1.4
baz=298
121A **Cookes Peak, D** 26.43 129 P P 08 25 35.7 +0.5
baz=325,SNR=7.4
SPMN **Marine on St.** 26.55 90 *e*P P 08 25 38.0 +2.0
comp=Z,13nm,1.0s
SPMN **Marine on St.** 26.55 90 P P 08 25 36.0 0.0
baz=299
319A **Douglas** 26.70 133 *e*P P 08 25 39.2 +1.6
comp=Z,22nm,1.0s
F38A **Pierce - Schro** 26.76 88 P P 08 25 39.8 +1.9
baz=298,SNR=5.7
RES **Resolute Bay** 27.02 21 P P 08 25 40.8 +0.9
comp=Z,4.9nm,0.8s,baz=251,slow=12,SNR=4.9
RES **Resolute Bay** 27.02 21 *e*P P 08 25 41.1 +1.1
comp=Z,14nm,1.0s
RES **Resolute Bay** 27.02 21 *e*P P 08 25 41.1 +1.1
RES pmax pmax
comp=Z,14nm,1.0s
EPT **El Paso** 27.67 128 *e*P P 08 25 47.3 +1.0
comp=Z,8.1nm,0.9s
AMTX **Amarillo** 27.74 117 *e*P P 08 25 47.8 +0.9
comp=Z,17nm,1.0s
AMTX **Amarillo** 27.74 117 P P 08 25 48.1 +1.2
baz=318
MSTX **Muleshoe** 27.84 120 *e*P P 08 25 48.8 +1.0
comp=Z,9.8nm,1.1s
MSTX **Muleshoe** 27.84 120 P P 08 25 48.0 +0.2
baz=320
HSIG 28.01 138 *e*P P 08 25 50.7 +1.4
comp=Z,11nm,0.9s
I39A **Houston** 28.03 91 *e*P P 08 25 50.5 +1.2
comp=Z,12nm,0.8s
I39A **Houston** 28.03 91 P P 08 25 48.9 -0.4
baz=302
J39A **Decorah** 28.20 92 P P 08 25 51.7 +0.9
baz=302
MNTX **Cornudas Mount** 28.28 126 *e*P P 08 25 52.8 +1.1
comp=Z,12nm,1.1s
MNTX **Cornudas Mount** 28.28 126 P P 08 25 52.4 +0.7
baz=324,SNR=18
GDL2 **Guadalupe Moun** 28.39 124 *e*P P 08 25 54.0 +1.3
M39A **Webster** 28.95 96 P P 08 25 57.1 -0.4
baz=305
L40A **Anamosa** 29.20 94 *e*P P 08 26 01.1 +1.4
comp=Z,12nm,1.1s
M40A **Post Highland** 29.40 95 P P 08 26 01.6 +0.1
baz=305
WMOK **Wichita Mounta** 29.46 113 *e*P P 08 26 03.5 +1.4
comp=Z,6.8nm,0.9s
WMOK **Wichita Mounta** 29.46 113 *e*P P 08 26 03.5 +1.4
WMOK pmax pmax
comp=Z,7.0nm,0.9s
WMOK **Wichita Mounta** 29.46 113 P P 08 26 02.6 +0.4
baz=316,SNR=6.5
N41A **Harden Midland** 30.21 96 *e*P P 08 26 10.0 +1.3
comp=Z,23nm,1.0s
N41A **Harden Midland** 30.21 96 P P 08 26 08.8 +0.1
baz=306
O41A **Passleys Farm,** 30.55 97 P P 08 26 11.7 0.0
baz=307
N42A **Yates City** 30.64 95 P P 08 26 12.9 +0.4
baz=306
P41A **Barry, Barry** 30.71 98 P P 08 26 14.1 +1.0
baz=308
Q41A **Truxton** 31.06 99 P P 08 26 16.9 +0.8
baz=309
LTX **Lajitas** 31.06 126 *e*P P 08 26 17.7 +1.3
LTX **Lajitas** 31.06 126 *e*P P 08 26 17.7 +1.3
TX31 **Lajitas Ar. Si** 31.06 126 *e*P P 08 26 17.4 +1.0
TXAR **Lajitas Array** 31.06 126 P P 08 26 17.7 +1.3
comp=Z,9.5nm,0.9s,baz=328,slow=7.6,SNR=85
TXAR LR LR 08 38 42.7
comp=Z,124nm,21.4s,baz=0.0,slow=36
HDIL **Hopedale** 31.26 95 *e*P P 08 26 19.9 +1.9
comp=Z,17nm,1.0s
HDIL **Hopedale** 31.26 95 P P 08 26 18.7 +0.8
baz=306
R41A **Rosebud** 31.38 100 P P 08 26 18.8 -0.3
baz=310,SNR=5.4
Q42A **Golden Eagle** 31.51 98 P P 08 26 20.1 0.0
baz=309
X37A **Clayton** 31.52 110 *e*P P 08 26 21.6 +1.3
comp=Z,11nm,1.1s
CCM **Cathedral Cave** 31.62 100 *e*P P 08 26 20.9 -0.2
comp=Z,11nm,1.1s
CCM **Cathedral Cave** 31.62 100 *e*P P 08 26 20.9 -0.2
CCM pmax pmax
comp=Z,11nm,1.1s
CCM **Cathedral Cave** 31.62 100 P P 08 26 20.3 -0.8
baz=310
S41A **Jillco Farms,** 31.62 102 P P 08 26 20.8 -0.3
baz=310
P43A **Skaggs, Pawnee** 31.67 96 P P 08 26 22.0 +0.4
baz=308
R42A **Luebbering** 31.75 100 P P 08 26 22.4 +0.2
baz=309
U40A **Yellville** 31.77 104 P P 08 26 22.5 0.0
baz=312,SNR=11
SLM **Saint Louis** 31.86 99 *e*P P 08 26 23.6 +0.4
comp=Z,15nm,0.4s
SLM **Saint Louis** 31.86 99 *e*P P 08 26 23.6 +0.4
SLM pmax pmax
comp=Z,15nm,0.4s
T41A **Mountain View** 31.96 102 P P 08 26 23.1 -1.1
baz=311
Q43A **New Douglas** 32.00 98 P P 08 26 24.8 +0.4
baz=308
O44A **Mansfield** 32.01 95 P P 08 26 23.7 -0.8
baz=307
W39A **Magazine** 32.02 107 *e*P P 08 26 25.5 +0.9
comp=Z,9.9nm,1.0s
W39A **Magazine** 32.02 107 P P 08 26 25.0 +0.3
baz=314
S42A **Caledonia** 32.08 100 P P 08 26 25.0 -0.1
baz=310
HPIG 32.12 132 *e*P P 08 26 26.9 +1.0
comp=Z,6.3nm,1.0s
JCT **Junction City** 32.13 120 *e*P P 08 26 25.8 +0.1
comp=Z,5.5nm,0.6s
JCT **Junction City** 32.13 120 *e*P P 08 26 25.8 +0.1
JCT pmax pmax
comp=Z,5.0nm,0.6s
JCT **Junction City** 32.13 120 P P 08 26 25.6 -0.1
baz=322
V40A **Witts Springs** 32.16 105 *e*P P 08 26 26.3 +0.3
comp=Z,7.1nm,0.8s
V40A **Witts Springs** 32.16 105 P P 08 26 26.6 +0.6
baz=313
N45A **Kentland** 32.18 93 P P 08 26 25.7 -0.3
baz=306
WHTX **Lake Whitney,** 32.24 115 P P 08 26 26.3 -0.3
baz=319
X39A **Fountain Ranch** 32.30 108 P P 08 26 27.8 +0.6
baz=315
P44A **Sand Creek, Wi** 32.33 96 P P 08 26 27.4 +0.1
baz=308
U41A **Viola** 32.34 103 P P 08 26 27.5 0.0
baz=312
T42A **Van Buren** 32.38 102 P P 08 26 27.5 -0.3
baz=311
W40A **Ferguson Farm,** 32.44 106 P P 08 26 29.5 +1.1
baz=314
V41A **Mountainview** 32.58 104 P P 08 26 28.9 -0.6
baz=313,SNR=16
MIAR **Mount Ida** 32.59 108 *e*P P 08 26 30.9 +1.2
comp=Z,16nm,1.1s
MIAR **Mount Ida** 32.59 108 *e*P P 08 26 30.9 +1.2
MIAR pmax pmax
comp=Z,16nm,1.1s
MIAR **Mount Ida** 32.59 108 P P 08 26 30.4 +0.7
baz=315,SNR=6.5
S43A **Fulton Ridge,** 32.64 100 P P 08 26 29.5 -0.6
baz=310
LPIG **La Paz** 32.65 141 LR LR 08 39 38.2
comp=Z,119nm,18.4s,baz=337,slow=36
SFIN **Lafayette** 32.71 93 P P 08 26 30.1 -0.6
baz=306
U42A **Revenden** 32.74 103 P P 08 26 30.7 -0.3
baz=312
BILL **Bilibino** 32.79 322 *e*P P 08 26 31.9 +0.8
comp=Z,8.3nm,0.9s
BILL **Bilibino** 32.79 322 *e*P P 08 26 31.6 +0.5
BILL *e* 08 26 39.9
BILL *e* 08 27 40.0
BILL *e*PPP PPP 08 27 51.6
BILL *e* 08 29 16.0
BILL pmax pmax
comp=Z,12nm,1.3s
BILL MLR MLR
comp=Z,85nm,16.0s
P45A **Graceland, Par** 32.83 95 *e*P P 08 26 33.1 +1.4
comp=Z,54nm,1.1s
P45A **Graceland, Par** 32.83 95 P P 08 26 31.9 +0.2
baz=308,SNR=5.4
T43A **Greenville** 32.83 101 P P 08 26 31.9 +0.2
baz=311
X40A **Basin Creek Fa** 33.07 107 P P 08 26 34.3 +0.4
baz=314
435B **Jarrell** 33.09 117 *e*P P 08 26 35.1 +1.1
comp=Z,8.1nm,1.0s
OLIL **Olney** 33.10 96 *e*P P 08 26 35.0 +0.9
comp=Z,22nm,1.0s
X41A **Kaden, Bauxite** 33.25 107 P P 08 26 36.0 +0.5
baz=314
R45A **Skylar, Fairfi** 33.27 97 P P 08 26 36.2 +0.7
baz=309
TULEG **Thule** 33.70 22 *e*P P 08 26 41.6 +2.8
comp=Z,70nm,1.1s
P47A **Martinsville** 33.76 94 P P 08 26 40.2 +0.4
baz=307
BLO **Bloomington** 33.79 94 *e*P P 08 26 41.1 +1.0
comp=Z,44nm,1.1s
BLO **Bloomington** 33.79 94 *e*P P 08 26 41.1 +1.0
BLO pmax pmax
comp=Z,44nm,1.1s
U44B **Burton Farm, H** 33.88 101 P P 08 26 42.0 +1.1
baz=311
140A **Cam and Jess,** 33.96 110 *e*P P 08 26 43.4 +1.8
comp=Z,23nm,0.8s
140A **Cam and Jess,** 33.96 110 P P 08 26 42.3 +0.7
baz=317
O48A **Farmland** 33.97 92 P P 08 26 41.6 -0.1
baz=306
Q47A **Bedord North L** 34.00 95 P P 08 26 41.8 -0.2
baz=308,SNR=7.6
833A **Chaparral WMA,** 34.05 122 *e*P P 08 26 43.8 +1.3
comp=Z,19nm,1.1s
833A **Chaparral WMA,** 34.05 122 P P 08 26 43.1 +0.6
baz=323
P48A **Milroy** 34.29 93 P P 08 26 43.5 -0.9
baz=307
T46A **Princeton** 34.30 99 P P 08 26 44.4 -0.2
baz=310
R47A **Wooly Knot Far** 34.34 96 P P 08 26 44.4 -0.5
baz=309,SNR=5.3
Q48A **North Vernon** 34.43 94 P P 08 26 43.7 -2.0
baz=308
Z42A **Norrel Spur, H** 34.45 108 P P 08 26 45.7 -0.2
baz=315
WCI **Wyandotte Cave** 34.52 96 *e*P P 08 26 47.2 +0.7
comp=Z,17nm,1.0s
WCI **Wyandotte Cave** 34.52 96 *e*P P 08 26 47.2 +0.7
WCI pmax pmax
comp=Z,17nm,1.0s
WCI **Wyandotte Cave** 34.52 96 P P 08 26 45.6 -0.8
baz=309
HKT **Hockley** 34.69 116 *e*P P 08 26 50.0 +2.1
comp=Z,1.0nm,0.9s
HKT **Hockley** 34.69 116 *e*P P 08 26 50.0 +2.1
HKT pmax pmax
comp=Z,1.0nm,0.9s
WVT **Waverly** 34.94 100 P P 08 26 49.4 -0.7
baz=311
V46A **Holladay** 34.99 100 P P 08 26 50.4 -0.1
baz=312
Y44A **Strider, Charl** 34.99 105 P P 08 26 50.8 +0.3
baz=314
S48A **Wiedeman Farm,** 35.03 96 P P 08 26 50.8 -0.1
baz=310,SNR=7.3
U47A **Clarksville** 35.06 99 P P 08 26 51.0 -0.2
baz=311
OXF **Oxford** 35.08 103 *e*P P 08 26 51.6 +0.3
comp=Z,50nm,1.1s
OXF **Oxford** 35.08 103 *e*P P 08 26 51.6 +0.3
OXF pmax pmax
comp=Z,50nm,1.1s
OXF **Oxford** 35.08 103 P P 08 26 50.7 -0.7
baz=313,SNR=9.7
SADO **Sadowa** 35.13 81 LR LR 08 39 50.5
comp=Z,397nm,18.8s,baz=328,slow=34
T48A **Bowling Green** 35.17 97 P P 08 26 52.4 +0.3
baz=310
143A **Socs Landing,** 35.17 108 *e*P P 08 26 53.3 +1.2
comp=Z,36nm,1.0s
143A **Socs Landing,** 35.17 108 P P 08 26 52.2 +0.1
baz=316
P50A **Jamestown** 35.20 92 P P 08 26 52.0 -0.3
baz=307
E53A **Dumoine, Ponti** 35.20 77 P P 08 26 51.1 -1.1
baz=300
W46A **Michie** 35.28 102 P P 08 26 53.2 +0.2
baz=313
V47A **Nunnelly** 35.33 100 P P 08 26 53.0 -0.4
baz=312
S49A **Springfield** 35.42 95 P P 08 26 54.7 +0.5
baz=309
Y45A **Yeager Farm, C** 35.45 104 P P 08 26 55.1 +0.6
baz=314
PLAL **Pickwick Lake** 35.56 101 *e*P P 08 26 55.5 0.0
comp=Z,12nm,0.9s
342A **Flagon Creek P** 35.60 110 *e*P P 08 26 57.8 +2.0
comp=Z,25nm,1.0s
342A **Flagon Creek P** 35.60 110 P P 08 26 56.1 +0.2
baz=317
R50A **Paris** 35.69 94 P P 08 26 56.5 -0.1
baz=309
T49A **Edmonton** 35.70 96 *e*P P 08 26 57.2 +0.5
comp=Z,3.2nm,0.9s
Z45A **Winona** 35.71 105 *e*P P 08 26 57.2 +0.5
comp=Z,27nm,1.0s
Q51A **Peebles** 35.83 92 *e*P P 08 26 58.8 +1.1
comp=Z,6.9nm,0.8s
Y46A **Houston** 35.85 104 P P 08 26 57.9 0.0
baz=314
U49A **Red Boiling Sp** 35.93 97 P P 08 26 58.1 -0.6
baz=311
S50A **Richmond** 36.03 95 P P 08 26 59.9 +0.5
baz=309
VBMS **Vicksburg** 36.04 107 *e*P P 08 27 01.1 +1.5
comp=Z,35nm,1.0s
VBMS **Vicksburg** 36.04 107 P P 08 26 60.0 +0.4
baz=316
244A **Avery, Jackson** 36.07 108 P P 08 26 59.9 +0.1
baz=316,SNR=7.6
R51A **Hillsboro** 36.13 93 P P 08 26 60.0 -0.4
baz=309
T50A **Nancy** 36.18 96 P P 08 26 59.8 -0.9
baz=310
V49A **McMinnville** 36.35 98 P P 08 27 01.7 -0.5
baz=312
Y47A **UCPARC, Winfie** 36.44 103 P P 08 27 02.3 -0.6
baz=314
344A **Westbrook Farm** 36.47 108 *e*P P 08 27 05.0 +1.8
comp=Z,22nm,1.0s
344A **Westbrook Farm** 36.47 108 P P 08 27 04.0 +0.7
baz=317
245A **Little AP, Sta** 36.54 107 P P 08 27 02.6 -1.3
baz=316
X48A **Hartselle** 36.54 101 P P 08 27 03.5 -0.4
baz=313
U50A **Jamestown** 36.57 97 P P 08 27 04.1 0.0
baz=311
R52A **Catlettsburg** 36.69 92 P P 08 27 03.3 -1.8
baz=308
T51A **Gray** 36.76 95 P P 08 27 05.7 0.0
baz=310,SNR=5.4
LNIG **Linares** 36.82 125 *e*P P 08 27 06.8 +0.5
comp=Z,11nm,1.1s
Y48A **Jasper** 36.84 102 P P 08 27 05.7 -0.6
baz=314
Z48A **Northport** 36.98 103 P P 08 27 07.0 -0.6
baz=314
U51A **La Follette** 37.10 96 P P 08 27 07.1 -1.5
baz=311
ZAIG **Zacatecas** 37.12 131 *e*P P 08 27 10.8 +1.6
comp=Z,14nm,1.1s
T52A **Hallie** 37.26 94 P P 08 27 08.5 -1.5
baz=310
346A **Big Creek Wild** 37.26 107 P P 08 27 09.8 -0.2
baz=316
V51A **Loudon** 37.27 97 *e*P P 08 27 10.6 +0.5
comp=Z,14nm,1.0s
V51A **Loudon** 37.27 97 P P 08 27 10.1 0.0
baz=311
TZTN **Tazewell** 37.28 95 *e*P P 08 27 10.8 +0.7
comp=Z,17nm,1.1s
TZTN **Tazewell** 37.28 95 P P 08 27 09.2 -0.9
baz=310
Y49A **Blount Mountai** 37.33 101 *e*P P 08 27 11.4 +0.8
comp=Z,11nm,1.1s
Y49A **Blount Mountai** 37.33 101 P P 08 27 10.5 -0.1
baz=313
X50B **Fort Payne** 37.38 100 P P 08 27 10.3 -0.8
baz=313
CPCT **Cooper Cave** 37.40 98 *e*P P 08 27 11.5 +0.4
comp=Z,14nm,1.2s
U52A **Thorn Hill** 37.48 95 P P 08 27 11.4 -0.5
baz=311
LRAL **Lakeview Retre** 37.55 103 P P 08 27 11.8 -0.6
baz=314
SCHQ **Schefferville** 37.56 59 LR LR 08 43 52.3
comp=Z,115nm,21.0s,baz=312,slow=38
V52A **Sevierville** 37.71 96 *e*P P 08 27 14.4 +0.7
comp=Z,48nm,1.0s
V52A **Sevierville** 37.71 96 P P 08 27 12.9 -0.8
baz=311,SNR=9.1
Y50A **Piedmont** 37.72 101 P P 08 27 12.9 -0.9
baz=313
TKL **Tuckaleechee C** 37.72 97 P P 08 27 14.3 +0.5
comp=Z,3.9nm,0.5s,baz=230,slow=2.6,SNR=15
TKL LR LR 08 43 12.2
comp=Z,289nm,19.7s,baz=323,slow=37
TKL **Tuckaleechee C** 37.72 97 *e*P P 08 27 14.4 +0.6
comp=Z,19nm,1.0s
TKL **Tuckaleechee C** 37.72 97 *e*P P 08 27 14.4 +0.6
TKL pmax pmax
comp=Z,19nm,1.0s
Z49A **Columbiana** 37.72 102 P P 08 27 12.9 -0.9
baz=314
X51A **Calhoun** 37.79 99 *e*P P 08 27 15.1 +0.6
comp=Z,29nm,1.0s
X51A **Calhoun** 37.79 99 P P 08 27 14.5 +0.1
baz=312
347A **Saraland** 37.79 106 P P 08 27 14.4 0.0
baz=316,SNR=5.0
149A **Jones** 37.98 103 P P 08 27 16.1 0.0
baz=315,SNR=7.2
W52A **Murphy** 38.00 98 *e*P P 08 27 16.6 +0.4
comp=Z,34nm,1.1s
W52A **Murphy** 38.00 98 P P 08 27 15.6 -0.6
baz=312,SNR=8.6
Z50A **Ashland** 38.04 102 *e*P P 08 27 16.9 +0.3
comp=Z,9.1nm,1.0s
Z50A **Ashland** 38.04 102 P P 08 27 15.9 -0.7
baz=314
249A **Camden** 38.22 104 P P 08 27 17.9 -0.2
baz=315
V53A **Saluda** 38.30 96 *e*P P 08 27 19.8 +1.0
comp=Z,46nm,1.1s
V53A **Saluda** 38.30 96 P P 08 27 18.4 -0.4
baz=311,SNR=5.4
X52A **Dahlonega** 38.35 98 P P 08 27 19.2 0.0
baz=312
W53A **Cullowhee** 38.41 97 P P 08 27 20.3 +0.4
baz=312,SNR=9.2
150A **Eclectic** 38.44 102 P P 08 27 19.5 -0.3
baz=314
349A **Repton** 38.63 105 P P 08 27 21.3 -0.2
baz=316
BG3 **Lake Jocassee** 38.67 97 *e*P P 08 27 22.6 +0.7
comp=Z,36nm,1.1s
250A **Grady** 38.73 103 *e*P P 08 27 22.8 +0.4
comp=Z,28nm,1.1s
250A **Grady** 38.73 103 P P 08 27 22.2 -0.2
baz=315
BLA **Blacksburg** 38.76 92 *e*P P 08 27 23.5 +0.8
comp=Z,49nm,1.0s
BLA **Blacksburg** 38.76 92 *e*P P 08 27 23.5 +0.8
BLA pmax pmax
comp=Z,49nm,1.0s
BLA **Blacksburg** 38.76 92 P P 08 27 22.6 -0.1
baz=310
X53A **Estanollee** 38.78 98 P P 08 27 22.5 -0.2
baz=312
Z52A **Williamson** 39.00 100 P P 08 27 24.5 -0.2
baz=314
Y53A **Monroe** 39.05 99 P P 08 27 25.1 +0.1
baz=313
251A **Midway** 39.16 102 P P 08 27 25.9 -0.1
baz=315
152A **Waverly Hall** 39.18 101 P P 08 27 26.0 -0.1
baz=314
GOGA **Godfrey** 39.42 99 *e*P P 08 27 28.3 +0.2
comp=Z,8.6nm,1.0s
GOGA **Godfrey** 39.42 99 *e*P P 08 27 28.3 +0.2
GOGA pmax pmax
comp=Z,9.0nm,1.0s
GOGA **Godfrey** 39.42 99 P P 08 27 27.4 -0.7
baz=313
Z53A **Monticello** 39.45 99 P P 08 27 27.4 -0.9
baz=314
PAULI **Pauline** 39.47 96 *e*P P 08 27 29.4 +0.8
comp=Z,19nm,1.1s
SEY **Seymchan** 39.50 316 P P 08 27 29.1 +0.6
comp=Z,14nm,0.9s,baz=80,slow=6.2,SNR=25
SEY **Seymchan** 39.50 316 *ce*P P 08 27 29.0 +0.5
KMSC **Kings Mountain** 39.55 95 P P 08 27 28.6 -0.6
baz=312
Y54A **Tignall** 39.59 98 P P 08 27 28.7 -0.8
baz=313
JSC **Jenkinsville** 40.17 96 *e*P P 08 27 34.8 +0.4
comp=Z,33nm,1.2s
JSC **Jenkinsville** 40.17 96 *e*P P 08 27 34.8 +0.4
JSC pmax pmax
comp=Z,33nm,1.2s
PET **Petropavlovsk** 40.55 300 *i*P P 08 27 37.8 +0.6
PET pmax pmax
comp=Z,52nm,1.1s
PEA1 **Petropavlovsk-** 41.01 300 *e*P P 08 27 41.2 +0.1
PEA0B **Petropavlovsk-** 41.01 300 *e*P P 08 27 41.2 +0.1
comp=Z,30nm,1.1s
PETK **Petropavlovsk-** 41.01 300 P P 08 27 41.2 +0.1
comp=Z,13nm,0.9s,baz=82,slow=11,SNR=12
PETK LR LR 08 42 36.6
comp=Z,92nm,19.4s,baz=91,slow=33
PETK **Petropavlovsk-** 41.01 300 *e*P P 08 27 41.4 +0.3
PETK **Petropavlovsk-** 41.01 300 *e*P P 08 27 41.4 +0.3
156A **Sylvania** 41.14 98 P P 08 27 41.6 -0.8
baz=314
MA2 **Magadan** 41.54 312 P P 08 27 45.7 +0.3
comp=Z,9.2nm,0.9s,baz=137,slow=5.7,SNR=5.3
MA2 **Magadan** 41.54 312 *ce*P P 08 27 46.3 +0.9
MA2 pmax pmax
comp=Z,14nm,1.7s
SUMG **Summit** 42.20 27 *i*P P 08 27 52.8 +1.8
comp=Z,133nm,1.2s
SUMG **Summit** 42.20 27 *i*P P 08 27 52.8 +1.8
SUMG pmax pmax
comp=Z,130nm,1.2s
658A **Bunnell** 43.57 101 P P 08 28 02.6 +0.5
baz=316
TIXI **Tiksi** 44.14 333 *i*P P 08 28 07.0 +0.7
TIXI pmax pmax
comp=Z,2.0nm,1.0s
DAG **Danmarks Havn** 44.63 18 *i*P P 08 28 11.3 +1.2
comp=Z,41nm,1.3s
DAG **Danmarks Havn** 44.63 18 *i*P P 08 28 11.3 +1.2
DAG pmax pmax
comp=Z,78nm,1.3s
YAK **Yakutsk** 49.15 322 P P 08 28 45.4 -0.2
comp=Z,21nm,0.4s,baz=187,slow=1.3,SNR=4.8
YAK **Yakutsk** 49.15 322 *e*P P 08 28 46.3 +0.7
comp=Z,32nm,0.5s
YAK **Yakutsk** 49.15 322 *e*P P 08 28 44.1 -1.5
YAK pmax pmax
comp=Z,27nm,1.3s
YAK pmax pmax
comp=N,7.0nm,1.5s
YAK pmax pmax
comp=E,7.0nm,1.3s
YSS **Yuzh-Sakhalins** 52.41 301 *e*P P 08 29 10.2 -0.2
YSS pmax pmax
comp=Z,30nm,1.2s
GRNR **Gornyy** 53.20 308 *e*P P 08 29 16.2 0.0

GRNR pmax pmax
comp=Z,27nm,1.0s
NRIK Noril'sk 55.27 344 P **P 08 29 30.8 -0.2**
comp=Z,14nm,1.3s,baz=29,slow=8.4,SNR=6.4
NRIK LR LR 08 56 13.2
comp=Z,67nm,18.4s,baz=34,slow=39
KLR Kul'dur 56.48 309 P **P 08 29 39.5 -0.5**
comp=Z,3.0nm,0.8s,baz=5.9,slow=9.6,SNR=4.1
KLR Kul'dur 56.48 309 *i* P **P 08 29 40.4 +0.5**
H11N2 WAKE ISLAND Hy 56.99 259 T T 09 31 47.6
baz=39,slow=75,SNR=193
H11N3 WAKE ISLAND Hy 57.00 259 T T 09 31 47.6
baz=39,slow=75,SNR=157
H11N1 WAKE ISLAND Hy 57.01 259 T T 09 31 48.7
baz=39,slow=75,SNR=143
ARA0 ARCESS Array S 57.39 9 *e*P **P 08 29 46.2 +0.2**
ARCES ARCESS Array B 57.39 9 P **P 08 29 46.2 +0.2**
comp=Z,3.1nm,0.7s,baz=1.7,slow=9.2,SNR=3.5
ARCES LR LR 08 56 32.7
comp=Z,6.3nm,18.1s,baz=338,slow=38
BOD Bodaibo 57.79 325 *e*P **P 08 29 44.4 -4.7**
BOD pmax pmax
comp=Z,10.0nm,1.5s
H11S1 WAKE ISLAND Hy 58.05 259 T T 09 33 07.9
baz=40,slow=75,SNR=14
H11S2 WAKE ISLAND Hy 58.06 259 T T 09 33 11.5
baz=40,slow=75,SNR=9.9
H11S3 WAKE ISLAND Hy 58.07 259 T T 09 33 13.0
baz=40,slow=75,SNR=12
BANI BANI 58.38 101 *e*P **P 08 29 55.0 +1.2**
SGF Sodankyl 59.51 9 *e*P **P 08 30 01.1 +0.2**
USRK Ussuriysk Ar. 59.86 304 P **P 08 30 03.3 -0.3**
comp=Z,10nm,0.9s,baz=39,slow=7.3,SNR=18
MSF Maaselka 61.25 9 *e*P **P 08 30 12.8 0.0**
MSF pmax pmax
comp=Z,53nm,2.9s
MTP Monte Pirata 61.52 97 *e*P **P 08 30 15.1 -0.1**
OUL Oulu 61.73 10 P **P 08 30 15.8 -0.2**
OUL pmax pmax
comp=Z,34nm,1.3s
HIA Hailar 61.95 315 *i* P **P 08 30 17.1 -0.7**
HIA pmax pmax
comp=Z,8.0nm,1.2s
MJAR Matsushiro Arr 61.98 294 P **P 08 30 16.5 -1.7**
comp=Z,1.3nm,0.4s,baz=34,slow=5.7,SNR=3.8
MJAR LR LR 08 56 17.8
comp=Z,18nm,21.3s,baz=10.0,slow=35
MAJO Matsushiro 61.98 294 *e*P **P 08 30 16.5 -1.7**
MAJO Matsushiro 61.98 294 *e*P **P 08 30 16.5 -1.7**
NC303 NORSAR Array S 63.17 19 *e*P **P 08 30 27.3 +1.8**
NB2 NORSAR Subarra 63.27 19 P **P 08 30 27.8 +1.3**
comp=Z,13nm,1.2s,baz=337,slow=6.5
NB200 NORSAR Array S 63.27 19 *e*P **P 08 30 27.5 +1.0**
NOA NORSAR Array B 63.27 19 P **P 08 30 27.5 +1.0**
comp=Z,1.6nm,0.9s,baz=336,slow=6.4,SNR=2.6
NOA LR LR 08 59 08.7
comp=Z,320nm,19.1s,baz=335,slow=37
JHJ Hachijo jima 2 63.55 290 P **P 08 30 28.5 -0.2**
comp=Z,132nm,0.6s,baz=357,slow=15,SNR=2.7
JOF Joensuu 64.39 8 P **P 08 30 34.2 +0.5**
TLY Talaya 66.31 326 *i* P **P 08 30 46.3 -0.1**
TLY pmax pmax
comp=Z,26nm,1.3s
PRGR Permogore 66.41 1 *e*P **P 08 30 46.7 -0.1**
PRGR pmax pmax
comp=Z,35nm,1.3s
ROSC El Rosal 66.85 114 P **P 08 30 51.1 +0.3**
comp=Z,4.0nm,0.8s,baz=4.5,slow=16,SNR=3.6
ROSC El Rosal 66.85 114 *e*P P 08 30 45.4 -5.3
comp=Z,4.7nm,0.9s
KS01 Wonju Array Si 66.89 302 *e*P **P 08 30 49.0 -1.3**
KSRS Korea Array 66.89 302 P **P 08 30 49.9 -0.3**
comp=Z,3.2nm,0.8s,baz=52,slow=6.9,SNR=11
KSRS LR LR 08 59 20.2
comp=Z,35nm,18.9s,baz=44,slow=35
KS15 Wonju Array Si 66.92 302 *e*P **P 08 30 49.9 -0.5**
KSAR Wonju Array Be 66.92 302 P **P 08 30 49.9 -0.5**
KSAR Wonju Array Be 66.92 302 P **P 08 30 49.9 -0.5**
MOY Mondy 67.22 327 *e*P **P 08 30 52.4 +0.1**
MOY pmax pmax
comp=Z,42nm,1.8s
TJN Taejon 68.00 301 *ce*P **P 08 30 56.7 -0.6**
PMOR Pomariorio Ree 68.40 197 *e*T T 09 45 37.5
comp=Z,19nm,0.3s
SONA1 Songino Array 68.50 322 *e*P **P 08 30 57.5 -3.0**
SONA0 Songino Array 68.51 322 *e*P **P 08 31 01.0 +0.5**
SONM Songino Array 68.51 322 P **P 08 31 01.0 +0.5**
comp=Z,1.4nm,0.7s,baz=57,slow=5.3,SNR=4.9
JNU Nakatsue 68.56 297 P **P 08 30 59.6 -1.3**
comp=Z,13nm,1.0s,baz=82,slow=5.5,SNR=4.1
JNU Nakatsue 68.56 297 *e*P **P 08 30 59.4 -1.6**
comp=Z,8.3nm,0.9s
NVS Novosibirsk 69.30 339 *e*P **P 08 31 04.5 -0.6**
ZAA1 Zalesovo Array 69.76 338 *e*P **P 08 31 07.5 -0.4**
ZALV Zalesovo Beam 69.77 338 P **P 08 31 07.5 -0.4**
comp=Z,2.6nm,0.7s,baz=15,slow=6.2,SNR=9.4
ZALV LR LR 09 05 17.7
comp=Z,69nm,18.5s,baz=68,slow=39
ZALV Zalesovo Beam 69.77 338 *i* P **P 08 31 07.9 -0.1**
ZALV pmax pmax
comp=Z,4.0nm,0.9s
HVS Khovu-Aksy 69.97 331 *i* P **P 08 31 09.3 -0.1**
HVS pmax pmax
comp=Z,16nm,1.2s
TIAR Tiarei 71.16 197 *e*T T 09 49 02.8
comp=Z,4.3nm,0.3s
PPT2 Papeete2 71.23 198 *e*S **S 08 40 36.5 +2.8**
comp=Z,344nm,28.8s
PPT2 Papeete2 71.23 198 *e*LR LR 08 52 58.0
comp=Z,360nm,27.2s,baz=5.4
PPT2 Papeete2 71.23 198 *e*T T 09 49 09.8
comp=Z,2.2nm,0.3s
ARU Arti 71.30 354 *e*P **P 08 31 16.9 -0.4**
comp=Z,9.2nm,0.9s
ARU Arti 71.30 354 *d* *i*P **P 08 31 17.0 -0.4**
ARU S **S 08 40 36.2 +2.6**
ARU SS **SS 08 45 09.7 +3.2**
ARU pmax pmax
comp=Z,13nm,1.2s
PAE Paea 71.31 198 *e*T T 09 49 15.2
comp=Z,0.9nm,0.3s
TVO Taravao 71.36 197 *e*T T 09 49 19.7
comp=Z,1.0nm,0.3s
HHC Hu-ho-hao-te 72.13 314 *e*P **P 08 31 22.8 +0.1**
HHC pmax pmax
comp=Z,24nm,0.8s
HHC pmax pmax
comp=Z,100nm,3.9s
OBN Obninsk 72.55 7 *e*P **P 08 31 25.0 +0.2**
OBN *e* 08 31 42.6
OBN *e* 08 34 06.4
OBN *e*PPP PPP 08 35 52.7
OBN pmax pmax
comp=Z,9.0nm,1.1s
OBN MLR MLR
comp=Z,183nm,16.0s
BRG Berggiesshubel 73.27 22 *e*PKP **P 08 31 33.7 +4.5**
comp=Z,27nm,1.9s
BRG *e* 08 31 37.1
comp=Z,28nm,1.7s
BRG Berggiesshubel 73.27 22 *e*P **P 08 31 33.7 +4.5**
BRG *e* 08 31 37.1
BRG pmax pmax
comp=Z,27nm,1.9s
BRG pmax pmax
comp=Z,28nm,1.7s
BRVK Borovoye 73.38 346 *e*P **P 08 31 29.8 0.0**
comp=Z,8.4nm,0.9s
BRVK Borovoye 73.38 346 *ce*P **P 08 31 29.6 -0.2**
BRVK pmax pmax
comp=Z,20nm,2.5s
KURK Kurchatov 74.15 340 *e*P **P 08 31 34.1 -0.2**
comp=Z,7.8nm,0.9s
KURK Kurchatov 74.15 340 *e*P **P 08 31 34.1 -0.2**
KURK pmax pmax
comp=Z,8.0nm,0.9s
KURBB Kurchatov Arra 74.26 340 P **P 08 31 34.9 0.0**
comp=Z,5.5nm,0.8s,baz=20,slow=5.6,SNR=14
TREC Trest 75.10 21 P **P 08 31 40.3 +0.4**
TREC pmax pmax
comp=Z,11nm,0.7s
GERES GERESS Array B 75.11 23 P **P 08 31 40.5 +0.4**
comp=Z,0.4nm,0.5s,baz=354,slow=6.7,SNR=3.9
GERES LR LR 09 04 27.9
comp=Z,151nm,21.9s,baz=321,slow=36
GEA0 GERESS Array S 75.12 23 *e*P **P 08 31 40.7 +0.6**

RKT Rikitea 75.12 183 *e*T T 09 53 55.5
comp=Z,2.0nm,0.2s
LPSR Galich'ya Gora 75.21 6 *e*P **P 08 31 40.1 -0.3**
LPSR pmax pmax
comp=Z,40nm,1.6s
NJ2 Nanjing 75.77 304 *e*P **P 08 31 44.5 +0.5**
NJ2 pmax pmax
comp=Z,16nm,0.8s
NIE Niedzica 75.98 18 P **P 08 31 44.9 -0.1**
AKASG Malin Array Be 76.17 12 P **P 08 31 45.9 -0.1**
comp=Z,0.8nm,0.3s,baz=346,slow=5.2,SNR=2.2
AKASG LR LR 09 07 11.0
comp=Z,174nm,18.9s,baz=315,slow=37
AKBB Malin Array Si 76.17 12 *e*P **P 08 31 45.9 -0.1**
AKBB Malin Array Si 76.17 12 *e*P **P 08 31 45.9 -0.1**
KIEV Kiev 76.18 12 *i* P **P 08 31 46.2 +0.2**
KIEV pmax pmax
comp=Z,6.0nm,1.3s
VSR Storozhevoye 76.61 6 *e*P **P 08 31 47.8 -0.6**
VSR pmax pmax
comp=Z,9.0nm,1.5s
VRH Novokhopyorsk 76.75 4 *e*P **P 08 31 49.5 +0.3**
VRH pmax pmax
comp=Z,10.0nm,1.4s
TBI Tubuai 76.84 196 *e*S **S 08 41 38.6 +2.3**
comp=Z,515nm,38.5s
TBI Tubuai 76.84 196 *e*LR LR 08 55 27.8
comp=Z,273nm,30.2s,baz=1.9
KECS Kecovo 76.91 18 *e*P **P 08 31 50.4 +0.2**
KECS pmax pmax
comp=Z,13nm,1.2s
KECS Kecovo 76.91 18 *e*P **P 08 31 50.4 +0.2**
MK31 Makanchi Array 77.01 337 *e*P **P 08 31 50.3 -0.6**
MK31 Makanchi Array 77.01 337 *e*P **P 08 31 50.3 -0.6**
MK32 Makanchi Array 77.01 337 *e*P **P 08 31 50.6 -0.3**
MKAR Makanchi Array 77.01 337 P **P 08 31 50.6 -0.3**
comp=Z,3.5nm,0.7s,baz=32,slow=5.6,SNR=18
MKAR LR LR 09 08 36.2
comp=Z,112nm,18.4s,baz=10,slow=38
MKAR Makanchi Array 77.01 337 *e*P **P 08 31 50.5 -0.4**
comp=Z,29nm,0.8s
MKAR Makanchi Array 77.01 337 *e*P **P 08 31 50.5 -0.4**
MKAR pmax pmax
comp=Z,29nm,0.8s
MK01 Makanchi Array 77.03 337 *e*P **P 08 31 50.7 -0.3**
AKTO Aktyubinsk 77.30 353 P **P 08 31 52.3 -0.1**
comp=Z,4.1nm,0.8s,baz=13,slow=5.8,SNR=13
AKTO LR LR 09 08 22.4
comp=Z,37nm,21.3s,baz=359,slow=38
PSZ Piszkesteto 77.33 19 P **P 08 31 52.1 -0.6**
PSZ pmax pmax
comp=Z,10.0nm,1.5s
ESDC Sonseca Array 77.91 38 P **P 08 31 56.3 +0.2**
comp=Z,0.3nm,0.5s,baz=334,slow=4.3,SNR=1.8
ESDC LR LR 09 03 50.0
comp=Z,104nm,19.6s,baz=345,slow=34
GTA Gaotai 78.18 322 ⇑P **P 08 31 57.2 -0.4**
GTA pP pP 08 32 02.1 -1.5
GTA sP sP 08 32 04.4 -1.3
GTA S **S 08 41 48.9 -2.3**
GTA sS pS 08 41 57.5 -1.2
GTA Gaotai 78.18 322 SKS **SKSac 08 42 05.9 -5.2**
GTA Gaotai 78.18 322 SS SS 08 46 53.3 +1.3
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA pmax pmax
comp=Z,84nm,7.3s
GTA LR LR
comp=N,190nm,21.3s
GTA LR LR
comp=E,400nm,19.7s
GTA LR LR
comp=Z,130nm,19.0s
WMQ Urumqi 78.32 332 P **P 08 31 59.0 +0.7**
WMQ pP pP 08 32 02.1 -2.1
WMQ pmax pmax
comp=Z,22nm,1.5s
WMQ pmax pmax
comp=Z,570nm,4.5s
WMQ LR LR
comp=N,120nm,22.5s
WMQ LR LR
comp=Z,150nm,27.1s
ABKAR Akbulak array 78.33 352 *e*P **P 08 31 57.6 -0.5**
XAN Xi'an 78.93 312 P **P 08 32 00.9 -0.9**
XAN pmax pmax
comp=Z,14nm,1.3s
XAN pmax pmax
comp=Z,100nm,4.2s
DRGR 78.96 17 P **P 08 32 01.8 +0.1**
DRGR pmax pmax
comp=Z,16nm,1.4s
LZH Lanzhou 79.42 317 *e*P **P 08 32 04.5 -0.1**
LZH pP pP 08 32 10.2 -0.3
LZH sP sP 08 32 13.0 +0.3
LZH *e*PP **PP 08 35 02.2 -1.9**
LZH pmax pmax
comp=Z,25nm,1.2s
NNA Nana 79.61 125 *i* P **P 08 32 07.0 +1.4**
PTGA Pitinga 79.68 105 P **P 08 32 05.8 -0.1**
comp=Z,3.7nm,0.8s,baz=337,slow=4.5,SNR=9.9
PTGA Pitinga 79.68 105 *e*P **P 08 32 05.3 -0.6**
comp=Z,5.5nm,0.9s
VOIR 80.68 16 P **P 08 32 11.6 +0.5**
CFR Carcaliu 81.43 14 P **P 08 32 15.7 +0.8**
FRU Bishkek 82.50 341 *e*P **P 08 32 19.0 -1.7**
FRU *e* 08 32 27.0
AAK Ala-Archa 82.71 341 *i* P **P 08 32 21.9 -0.1**
AAK pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 84.03 4 *e*P **P 08 32 28.1 -0.6**
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,111nm,19.0s
KBZ Khabaz 84.27 4 P **P 08 32 30.0 +0.3**
comp=Z,4.6nm,0.9s,baz=312,slow=5.5,SNR=6.6
KBZ LR LR 09 13 34.2
comp=Z,65nm,20.7s,baz=358,slow=38
NEY Neytrino 84.74 4 *i* P **P 08 32 33.6 +1.2**
NEY pmax pmax
comp=Z,1.0nm,0.9s
KSH Kashi 85.38 339 *e*P **P 08 32 38.4 +2.8**
KEST Kesra 86.09 31 LR LR 09 11 59.4
comp=Z,281nm,18.0s,baz=250,slow=36
BR101 Keskin Array S 87.52 11 *e*P **P 08 32 45.8 -0.4**
BRTR Keskin Array B 87.52 11 P **P 08 32 45.8 -0.4**
comp=Z,1.2nm,0.8s,baz=15,slow=5.1,SNR=4.0
BRTR Keskin Array B 87.52 11 *i* P **P 08 32 47.4 +1.3**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
LPAZ La Paz 87.73 120 P **P 08 32 46.6 -1.2**
comp=Z,7.3nm,0.8s,baz=334,slow=4.2,SNR=40
LPAZ LR LR 09 16 50.6
comp=Z,24nm,18.4s,baz=28,slow=39
DZM Mont Dzumac 91.32 235 P **P 08 33 04.3 +0.4**
comp=Z,4.8nm,1.0s,baz=131,slow=12,SNR=4.5
DZM Mont Dzumac 91.32 235 *e*P **P 08 33 03.6 -0.3**
comp=Z,29nm,1.6s
DZM Mont Dzumac 91.32 235 *e*PS PS 08 45 18.0 +5.3
comp=Z,57nm,25.3s
DZM Mont Dzumac 91.32 235 *e*LR LR 09 02 19.0
comp=Z,276nm,24.6s
DZM Mont Dzumac 91.32 235 *e*P P 08 32 59.0 -4.9
comp=Z,3.8nm,1.0s
SIJI Sorong 94.80 275 P **P 08 33 19.3 -0.8**
comp=Z,3.9nm,0.7s,baz=138,slow=5.4,SNR=3.7
CM31 Chiang Mai Arr 96.83 312 *e*P **P 08 33 28.9 -0.5**
CMAR Chiang Mai Arr 96.83 312 P **P 08 33 28.9 -0.5**
comp=Z,1.8nm,0.4s,baz=20,slow=4.0,SNR=6.7
CMAR LR LR 09 18 25.5
comp=Z,21nm,18.7s,baz=14,slow=36
CMAR Chiang Mai Arr 96.83 312 *i* P **P 08 33 28.8 -0.6**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
KMBO Kilima Mbogo 128.24 14 *i* PKIKP **PKPdf 08 39 06.9 +1.7**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
QSPA South Pole Qui 142.09 180 *e*PKPdf PKPpre 08 39 24.4
OPO Ambohidratompo 146.35 1 PKPbc **PKPbc 08 39 39.1 -0.2**
comp=Z,6.6nm,1.0s,baz=239,slow=3.5,SNR=3.8
CASY Casey 146.73 221 *e*PKPdf **PKPdf 08 39 37.6 +0.7**
VNA3 Neumayer Olymp 148.54 148 PKP **PKPbc 08 39 42.4 -1.2**
VNA1 Neumayer--Stat 149.06 147 PKP **PKPbc 08 39 44.1 -0.7**
VNA1 x x 08 39 48.6

VNA2 Neumayer--Watz 149.31 148 PKP **PKPbc 08 39 44.6 -0.8**
slow=5.0
SNAA Sanae 150.62 150 PKP **PKPbc 08 39 47.9 -0.8**
SNAA Sanae 150.62 150 *e*PKPdf **PKPdf 08 39 41.6 -1.6**
SNAA Sanae 150.62 150 *e*PKIKP **PKPdf 08 39 41.7 -1.6**
BOSA Boshof 150.95 44 PKPbc **PKPbc 08 39 50.8 -0.1**
comp=Z,9.4nm,0.8s,baz=21,slow=1.4,SNR=11

ISCJB ***02*** *08:24:49.1±0.9, 6°.2S±0°.1×154°.21E±0°.06, h100km, mb3.6/5, Error ellipse: s-maj=16.9km s-min=7.9km az=177.4*
IDC ***02*** *08:24:49.5±3.1, 6°.26S×154°.31E, h91km±27km, mb3.5/5, mb1 3.8/9, mb1mx3.5/58, mbtmp4.0/9, MS2.9/5, Ms1 2.9/5, ms1mx2.7/27, Error ellipse: s-maj=33.8km s-min=16.8km az=166.0*

ISC 02 08:24:50.3±0.9, 6°.2S±0°.1×154°.25E±0°.07, h100km, n11, σ1s57/14, mb3.6/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.48**	**120**	P		**Pn**		**08 26 21.0**	**-2.1**
	5.3nm,0.3s,baz=241,slow=3.5,SNR=4.9								
HNR				S		**Sn**		**08 27 39.4**	**+3.6**
	4.3nm,0.3s,baz=24,slow=20,SNR=3.8								
HNR				LR		LR		08 28 47.3	
	comp=Z,77nm,18.6s,baz=68,slow=37								
PMG	**Port Moresby**	**7.71**	**245**	P		**Pn**		**08 26 40.0**	**+0.2**
	2.2nm,0.3s,baz=48,slow=11,SNR=6.3								
PMG				S		**Sn**		**08 28 06.8**	**+1.2**
	3.1nm,0.3s,baz=169,slow=18,SNR=4.8								
PMG				LR		LR		08 29 50.6	
	comp=Z,76nm,19.1s,baz=46,slow=39								
CTA	**Charters Tower**	**15.82**	**209**	P		**P**		**08 28 28.3**	**-0.9**
	0.2nm,0.3s,baz=42,slow=12,SNR=8.2								
DZM	**Mont Dzumac**	**19.68**	**144**	P		**P**		**08 29 10.1**	**-1.6**
	0.2nm,0.3s,baz=111,slow=17,SNR=6.1								
WRA	**Warramunga Arr**	**23.67**	**233**	P		**P**		**08 29 53.1**	**+0.2**
	1.3nm,0.5s,baz=60,slow=9.6,SNR=21								
WRA				PcP		**PcP**		**08 33 35.6**	**+0.7**
	0.2nm,0.5s,baz=56,slow=2.3,SNR=6.7								
WRA				LR		LR		08 38 10.7	
	comp=Z,37nm,21.6s,baz=115,slow=34								
ASAR	**Alice Springs**	**26.15**	**226**	P		**P**		**08 30 15.6**	**+0.2**
	1.1nm,0.6s,baz=59,slow=8.6,SNR=24								
ASAR				PcP		**PcP**		**08 33 41.5**	**+1.1**
	0.2nm,0.6s,baz=57,slow=3.4,SNR=4.5								
FITZ	**Fitzroy Crossi**	**30.30**	**245**	P		**P**		**08 30 52.3**	**-0.1**
	1.3nm,0.6s,baz=55,slow=12,SNR=4.6								
FITZ				LR		LR		08 42 19.5	
	comp=Z,31nm,21.1s,baz=84,slow=35								
DAV	**Davao City (W)**	**31.51**	**294**	LR		LR		08 43 03.0	
	comp=Z,21nm,19.5s,baz=343,slow=35								
ILAR	**Eielson Array**	**82.93**	**22**	P		**P**		**08 37 03.7**	**0.0**
	0.4nm,0.6s,baz=238,slow=6.0,SNR=5.1								
NVAR	**Mina Array Bea**	**91.82**	**52**	P		**P**		**08 37 48.7**	**+1.0**
	0.5nm,0.8s,baz=253,slow=6.3,SNR=3.6								
TORD	**Torodi Ar. Bea**	**152.10**	**286**	PKPbc		**PKPbc**		**08 44 33.8**	**-1.3**
	baz=87,slow=2.3								

IDC ***02*** *08:25:18.7±0.5, 17°.10N×94°.51W, h109km±6km, mb3.6/10, mb1 3.9/13, mb1mx3.7/50, mbtmp4.1/13, MS3.4/2, Ms1 3.4/2, ms1mx2.7/37, Error ellipse: s-maj=25.2km s-min=9.8km az=36.0*
ISCJB ***02*** *08:25:19.4±0.3, 17°.20N±0°.03×94°.52W±0°.02, h122km±3km, mb4.1/53, Error ellipse: s-maj=4.8km s-min=3.3km az=30.1*
MEX ***02*** *08:25:20.6±0.6, 17°.03N×94°.70W, h125km±7km, MD4.2*
NEIC ***02*** *08:25:20.6±0.0, 17°.03N×94°.70W, h125km, mb4.2/82, MD4.2(MEX), After MEX.*

ISC 02 08:25:19.8±0.7, 17°.08N±0°.05×94°.68W±0°.03, h120km±6km, n301, σ1s29/312, mb4.1/53, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.20**	**273**	P		**Pn**		**08 25 35.8**	**-0.5**
	772nm,0.3s,baz=150,slow=3.8								
CMIG				S		**Sn**		**08 25 48.0**	**-0.8**
	614nm,0.3s,baz=253,slow=19,SNR=339								
TUIG	**Tuzandepetl**	**0.98**	**14**	*e*Pn		**Pn**		**08 25 42.0**	**+0.5**
TUIG				*e*Sn		**Sn**		**08 25 59.3**	**+1.2**
TUIG	**Tuzandepetl**	**0.98**	**14**	*i* P		**Pn**		**08 25 42.0**	**+0.5**
TUIG				*i* S		**Sn**		**08 25 59.3**	**+1.2**
TGIG		**1.52**	**101**	*e*Pn		**Pn**		**08 25 47.4**	**-0.1**
TGIG				*e*Sn		**Sn**		**08 26 07.8**	**-0.8**
TGIG		**1.52**	**101**	*e*P		**Pn**		**08 25 47.4**	**-0.1**
TGIG				*e*S		**Sn**		**08 26 07.8**	**-0.8**
HUIG	**Huatulco**	**1.89**	**227**	*e*Pn		Pn		08 25 49.0	-2.9
HUIG				*e*Sn		Sn		08 26 13.0	-3.5
HUIG	**Huatulco**	**1.89**	**227**	*e*P		Pn		08 25 49.0	-2.9
HUIG				*i* S		Sn		08 26 13.0	-3.5
PCIG		**1.96**	**134**	*e*Pn		**Pn**		**08 25 52.4**	**-0.3**
PCIG				*e*Sn		**Sn**		**08 26 16.4**	**-1.5**
PCIG		**1.96**	**134**	*e*P		**Pn**		**08 25 52.4**	**-0.3**
PCIG				*e*S		**Sn**		**08 26 16.4**	**-1.5**
VHO	**Vista Hermosa**	**1.96**	**270**	*e*Pn		**Pn**		**08 25 53.0**	**0.0**
VHO				*e*Sn		**Sn**		**08 26 17.4**	**-0.9**
VHO	**Vista Hermosa**	**1.96**	**270**	*e*P		**Pn**		**08 25 53.0**	**0.0**
VHO				*e*S		**Sn**		**08 26 17.4**	**-0.9**
CCIG	**Comitan**	**2.56**	**108**	*e*Pn		**Pn**		**08 26 00.9**	**+0.3**
CCIG				*e*Sn		**Sn**		**08 26 30.7**	**-1.1**
CCIG	**Comitan**	**2.56**	**108**	*e*P		**Pn**		**08 26 00.8**	**+0.3**
CCIG				*i* S		**Sn**		**08 26 31.1**	**-0.8**
LVIG	**Laguna Verde**	**3.10**	**328**	*e*Pn		**Pn**		**08 26 05.7**	**-1.7**
LVIG				*e*Sn		**Sn**		**08 26 39.7**	**-4.5**
THIG		**3.17**	**133**	*e*Pn		**Pn**		**08 26 07.8**	**-0.5**
THIG				*e*Sn		**Sn**		**08 26 45.1**	**-0.6**
THIG		**3.17**	**133**	*e*P		**Pn**		**08 26 07.8**	**-0.5**
THIG				*i* S		**Sn**		**08 26 45.1**	**-0.6**
PNIG	**Pinotepa**	**3.37**	**259**	*e*Pn		Pn		08 26 08.5	-2.5
PNIG				*e*Sn		Sn		08 26 47.3	-3.3
PNIG	**Pinotepa**	**3.37**	**259**	*e*P		Pn		08 26 08.5	-2.5
PNIG				*i* S		Sn		08 26 47.3	-3.3
TLIG	**Tlapa**	**3.74**	**278**	*e*Pn		**Pn**		**08 26 16.0**	**0.0**
TLIG				*e*Sn		**Sn**		**08 26 57.1**	**-2.5**
APG	**El Apazote**	**4.55**	**116**	P		**Pn**		**08 26 25.4**	**-1.5**
	7.2nm,0.3s,baz=210,slow=17,SNR=82								
APG				S		**Sn**		**08 27 14.7**	**-4.3**
	170nm,0.3s,baz=226,slow=20,SNR=28								
APG				LR		LR		08 27 34.4	
	comp=Z,46nm,22.0s,baz=40,slow=31								
UNM	**Universidad Na**	**4.83**	**298**	*e*Pn		**Pn**		**08 26 32.4**	**+1.8**
ARIG	**Puente Sto Nin**	**5.53**	**283**	*e*P		**Pn**		**08 26 39.8**	**-0.1**
ARIG				*i* S		**Sn**		**08 27 40.8**	**-1.6**
ARIG	**Puente Sto Nin**	**5.53**	**283**	*e*P		**Pn**		**08 26 39.8**	**-0.1**
ARIG				*i* S		**Sn**		**08 27 40.8**	**-1.6**
MYIG	**MØrida**	**6.06**	**50**	*e*Pn		**Pn**		**08 26 47.4**	**+0.5**
JRQG	**Juriquilla Cam**	**6.54**	**304**	*e*Pn		**Pn**		**08 26 56.2**	**+2.5**
MOIG	**Morelia**	**6.70**	**294**	*e*Pn		**Pn**		**08 26 57.2**	**+1.3**
TEIG	**Tepich**	**6.83**	**62**	*e*Pn		**Pn**		**08 26 55.4**	**-2.0**
LNIG	**Linares**	**8.97**	**331**	*e*Pn		**Pn**		**08 27 28.6**	**+2.2**
ZAIG	**Zacatecas**	**9.33**	**309**	*e*Pn		**Pn**		**08 27 34.9**	**+3.4**
JTS	**JuntasAbangare**	**11.61**	**124**	P		**Pn**		**08 28 00.9**	**-1.0**
	4.0nm,0.3s,baz=16,slow=13,SNR=17								
JTS				S		**Sn**		**08 30 09.3**	**-0.5**
	0.3nm,0.3s,baz=307,slow=20,SNR=2.5								
JTS	**JuntasAbangare**	**11.61**	**124**	*e*Pn		**Pn**		**08 28 01.8**	**-0.1**
833A	**Chaparral WMA,**	**12.00**	**340**	*e*Pn		**Pn**		**08 28 07.2**	**+0.2**
833A	**Chaparral WMA,**	**12.00**	**340**	P		**Pn**		**08 28 06.7**	**-0.3**
	baz=158,SNR=13								
441A	**DeRidder**	**13.68**	**5**	P		**Pn**		**08 28 29.6**	**+0.9**
	baz=186								
435B	**Jarrell**	**13.90**	**350**	*e*P		**P**		**08 28 35.5**	**-0.3**
435B	**Jarrell**	**13.90**	**350**	P		**Pn**		**08 28 32.0**	**+0.4**
	baz=168,SNR=13								
HPIG		**14.13**	**316**	*e*Pn		**Pn**		**08 28 36.5**	**+1.7**
JCT	**Junction City**	**14.13**	**342**	*e*Pn		**Pn**		**08 28 34.9**	**+0.3**
JCT	**Junction City**	**14.13**	**342**	P		**Pn**		**08 28 35.7**	**+1.1**
	baz=160,SNR=5.3								
341A	**Kurthwood**	**14.26**	**5**	*e*Pn		**Pn**		**08 28 36.0**	**-0.1**
341A	**Kurthwood**	**14.26**	**5**	P		**Pn**		**08 28 36.5**	**+0.4**
	baz=186								
342A	**Flagon Creek P**	**14.39**	**8**	*e*Pn		**Pn**		**08 28 37.4**	**-0.5**
342A	**Flagon Creek P**	**14.39**	**8**	P		**Pn**		**08 28 37.8**	**0.0**
	baz=189								
446A	**Poplarville**	**14.48**	**19**	P		**Pn**		**08 28 39.3**	**+0.2**
	baz=201								
NATX	**Nacogdoches**	**14.62**	**0**	P		**P**		**08 28 42.0**	**-1.8**
	baz=180								
TXAR	**Lajitas Array**	**14.72**	**328**	P		**Pn**		**08 28 44.0**	**+1.8**
	0.4nm,0.3s,baz=148,slow=14,SNR=38								

TX31	Lajitas Ar. Si	14.72	328	ePn	Pn	08 28 43.4	+1.2		
344A	Westbrook Farm	14.75	13	eP	P	08 28 45.9	+0.7		
344A	Westbrook Farm baz=195	14.75	13	P	Pn	08 28 41.7	-0.8		
345A	Thompson Farm, baz=198	14.78	16	P	Pn	08 28 41.6	-1.2		
241A	Mo Tay, Goldon 17nm,0.9s	14.96	6	eP	P	08 28 48.6	+1.0		
346A	Big Creek Wild baz=200	15.01	17	P	Pn	08 28 44.4	-1.3		
WHTX	Lake Whitney, 18nm,0.6s	15.06	351	eP	P	08 28 49.9	+1.2		
WHTX	Lake Whitney, baz=170,SNR=10	15.06	351	P	Pn	08 28 46.7	+0.4		
242A	Grayson baz=189	15.09	8	P	Pn	08 28 45.6	-1.0		
449A	Pace baz=208	15.22	25	P	Pn	08 28 47.4	-1.0		
059Z	Ave Maria baz=236	15.36	51	P	Pn	08 28 48.4	-1.6		
061Z	Ochoppi baz=238	15.51	53	P	Pn	08 28 51.5	-0.4		
058A	Arcadia baz=233	15.51	48	P	Pn	08 28 51.2	-0.8		
140A	Cam and Jess, 30nm,0.5s	15.53	3	ePn	Pn	08 28 51.6	-0.5		
958A	Wauchula baz=231	15.87	47	P	Pn	08 28 54.7	-1.7		
ABTX	Abilene, Hawle 21nm,0.8s	16.11	345	ePn	P	08 29 00.0	-0.4		
ABTX	Abilene, Hawle baz=163,SNR=7.1	16.11	345	P	P	08 28 59.8	-0.7		
Z41A	Richland Creek 39nm,0.6s	16.20	6	ePn	P	08 29 01.5	+0.2		
452A	Marianna baz=214	16.21	31	P	Pn	08 28 59.2	-1.4		
554A	Perry baz=220	16.39	36	P	Pn	08 29 01.4	-1.4		
DWPF	Disney Wildern baz=231	16.42	46	P	Pn	08 29 01.5	-1.7		
757A	Oxford baz=227	16.54	42	P	Pn	08 29 02.8	-1.8		
656A	Willston 28nm,0.9s	16.54	40	ePn	P	08 29 06.0	+0.9		
147A	Livingston baz=202	16.57	19	P	Pn	08 29 03.3	-1.7		
453A	Whigham baz=217	16.65	33	P	Pn	08 29 04.5	-1.4		
352A	Blakely 30nm,0.9s	16.85	30	eP	P	08 29 09.4	+0.9		
352A	Blakely baz=214	16.85	30	P	Pn	08 29 06.5	-2.0		
657A	Interlachen baz=226	17.11	41	P	Pn	08 29 09.5	-2.1		
Y44A	Strider, Charl baz=194	17.28	13	P	Pn	08 29 12.5	-1.1		
LRAL	Lakeview Retre 7.0nm,1.1s	17.33	22	eP	Pn	08 29 14.1	-0.2		
X39A	Fountain Ranch baz=182	17.37	2	P	Pn	08 29 14.8	+0.1		
252A	Lumpkin baz=213	17.37	29	P	P	08 29 12.9	-1.3		
X40A	Basin Creek Fa 3.8nm,0.8s	17.41	5	eP	Pn	08 29 14.9	-0.3		
X40A	Basin Creek Fa baz=186	17.41	5	P	Pn	08 29 14.8	-0.5		
MIAR	Mount Ida 15nm,1.1s	17.42	3	eP	Pn	08 29 14.9	-0.4		
MIAR	Mount Ida baz=184	17.42	3	P	Pn	08 29 15.3	-0.1		
GDL2	Guadalupe Moun	17.42	332	eP	Pn	08 29 18.8	+3.3		
X37A	Clayton 17nm,0.6s	17.45	358	eP	Pn	08 29 15.7	0.0		
Z48A	Northport baz=203	17.45	20	P	Pn	08 29 15.1	-0.6		
X41A	Kaden, Bauxite baz=187,SNR=5.9	17.45	6	P	Pn	08 29 15.0	-0.6		
TIGA	Tifton baz=218	17.49	33	P	Pn	08 29 15.9	-0.3		
MNTX	Cornudas Mount	17.50	328	eP	Pn	08 29 17.5	+1.2		
MNTX	Cornudas Mount baz=144	17.50	328	P	Pn	08 29 17.2	+0.9		
Y46A	Houston baz=199	17.53	16	P	Pn	08 29 16.5	-0.2		
151A	Opelika baz=211	17.55	27	P	Pn	08 29 16.2	-0.8		
Z49A	Columbiana baz=206	17.65	23	P	Pn	08 29 17.3	-0.7		
X44A	Crenshaw baz=194	17.82	12	P	Pn	08 29 18.9	-1.2		
X45A	UM Field Stati baz=197	17.91	14	P	P	08 29 18.7	-1.5		
Z50A	Ashland 7.4nm,1.0s	17.93	24	eP	Pn	08 29 20.1	-1.4		
Z50A	Ashland baz=208	17.93	24	P	Pn	08 29 19.7	-1.8		
WMOK	Wichita Mounta 5.2nm,0.6s	17.96	349	eP	P	08 29 20.8	0.0		
WMOK	Wichita Mounta baz=167,SNR=6.8	17.96	349	P	P	08 29 20.4	-0.4		
OXF	Oxford 19nm,1.1s	17.99	14	eP	Pn	08 29 21.0	-1.1		
OXF	Oxford baz=196	17.99	14	P	Pn	08 29 21.3	-0.8		
W39A	Magazine 15nm,0.6s	18.06	2	eP	Pn	08 29 22.4	-0.5		
W39A	Magazine baz=183,SNR=8.4	18.06	2	P	Pn	08 29 22.2	-0.8		
W40A	Ferguson Farm, 13nm,0.9s	18.10	4	eP	Pn	08 29 23.8	+0.4		
W40A	Ferguson Farm, baz=185	18.10	4	P	Pn	08 29 22.9	-0.5		
W41B	Gary Mavity, V 9.2nm,1.1s	18.15	6	eP	Pn	08 29 22.9	-1.2		
WHAR	Wooly Hollow 5.7nm,0.8s	18.26	6	eP	Pn	08 29 25.1	-0.3		
Y49A	Blount Mountai 9.2nm,1.1s	18.28	22	eP	Pn	08 29 24.4	-1.3		
MSTX	Muleshoe 57nm,0.8s	18.32	338	eP	Pn	08 29 26.8	+0.6		
MSTX	Muleshoe baz=155,SNR=27	18.32	338	P	P	08 29 25.4	+0.6		
X47A	Russelville baz=201	18.41	18	P	P	08 29 25.0	-0.6		
255A	Hazlehurst 25nm,0.9s	18.46	35	eP	Pn	08 29 27.9	+0.1		
Z52A	Williamson baz=212	18.52	28	P	P	08 29 25.3	-1.5		
Y50A	Piedmont baz=208	18.57	24	P	P	08 29 26.9	-0.4		
V40A	Witts Springs 16nm,0.6s	18.72	5	eP	Pn	08 29 29.2	-1.7		
V40A	Witts Springs baz=186	18.72	5	P	Pn	08 29 29.2	-1.7		
V41A	Mountainview baz=188	18.77	6	P	P	08 29 29.5	-0.1		
GTBY	Guantanamo Bay 40nm,0.9s	18.77	78	eP	Pn	08 29 31.6	0.0		
PLAL	Pickwick Lake 2.3nm,0.8s	18.78	17	eP	P	08 29 28.9	-0.8		
TUL1	Leonard 12nm,0.8s	18.78	357	eP	P	08 29 29.9	+0.2		
TUL1	Leonard baz=177	18.78	357	P	Pn	08 29 30.2	-1.3		
AMTX	Amarillo 44nm,0.6s	18.80	342	eP	Pn	08 29 31.4	-0.4		
AMTX	Amarillo baz=159	18.80	342	P	Pn	08 29 31.3	-0.6		
Y51A	Rockmart baz=210	18.84	25	P	P	08 29 29.3	-1.1		
V42A	Cord baz=190	18.88	8	P	P	08 29 29.9	-0.8		
Z53A	Monticello baz=214	18.98	30	P	P	08 29 30.4	-1.5		
155A	Kite baz=218,SNR=6.8	19.01	33	P	P	08 29 31.4	-0.8		
HHAR	Hobbs 3.0nm,0.8s	19.14	2	eP	Pn	08 29 34.2	-1.5		
Y52A	Lilburn baz=212	19.24	28	P	P	08 29 33.4	-1.4		
U40A	Yellville baz=185,SNR=6.2	19.27	4	P	P	08 29 35.0	0.0		
W48A	Pulaski baz=203	19.27	20	P	P	08 29 34.3	-0.6		
Z54A	Sparta baz=216	19.30	31	P	P	08 29 34.0	-1.3		
U41A	Viola baz=188	19.34	7	P	P	08 29 35.6	-0.2		
121A	Cookes Peak, D baz=140	19.42	325	P	P	08 29 37.7	+0.8		
U42A	Revenden baz=190	19.44	8	P	P	08 29 36.4	-0.4		
319A	Douglas 10nm,0.9s	19.46	320	eP	P	08 29 38.8	+1.6		
V46A	Holladay baz=199	19.54	16	P	P	08 29 36.8	-1.1		
156A	Sylvania baz=220	19.55	35	P	P	08 29 35.8	-2.2		
U43A	Rector baz=192	19.58	10	P	P	08 29 38.0	-0.3		
Z55A	Blythe baz=218	19.65	33	P	P	08 29 38.0	-1.1		
SWET	Sewanee 3.8nm,0.8s	19.68	22	eP	P	08 29 38.8	-0.7		
V47A	Nunnelly baz=201	19.73	17	P	P	08 29 39.3	-0.7		
Y54A	Tignall baz=216	19.88	31	P	P	08 29 40.0	-1.6		
W50A	Signal Mountai 6.3nm,0.9s	19.89	23	eP	P	08 29 40.6	-1.2		
WVT	Waverly 7.4nm,1.1s	19.93	16	eP	P	08 29 41.0	-1.1		
PBMO	Poplar Bluff 4.5nm,0.9s	19.98	10	eP	P	08 29 41.3	-1.3		
U46A	Springville baz=198	20.05	15	P	P	08 29 42.6	-0.8		
T41A	Mountain View baz=188	20.05	7	P	P	08 29 43.2	-0.3		
BNM	Barren Site	20.09	330	eP	Pn	08 29 46.5	-0.6		
T42A	Van Buren 2.7nm,0.7s	20.12	8	eP	P	08 29 43.6	-0.6		
T42A	Van Buren baz=190	20.12	8	P	P	08 29 44.1	-0.1		
LENM	Lemitar	20.27	329	eP	Pn	08 29 48.7	-0.4		
T43A	Greenville baz=192	20.30	10	P	P	08 29 45.6	-0.5		
W52A	Murphy 5.5nm,0.9s	20.35	26	eP	Pn	08 29 47.1	-2.7		
CPCT	Cooper Cave 3.0nm,1.0s	20.41	24	eP	P	08 29 46.2	-1.1		
ANMO	Albuquerque 3.6nm,0.6s,baz=138,slow=11,SNR=12	20.67	332	P	P	08 29 51.7	+1.4		
ANMO	Albuquerque 3.9nm,0.6s	20.67	332	eP	P	08 29 52.3	+1.9		
ANMO	Albuquerque baz=147	20.67	332	P	P	08 29 51.2	+0.9		
BG3	Lake Jocassee 13nm,1.1s	20.70	28	eP	Pn	08 29 51.4	-2.5		
W53A	Cullowhee baz=212	20.74	28	P	P	08 29 50.0	-0.9		
S43A	Fulton Ridge, baz=192	20.81	10	P	P	08 29 51.2	-0.4		
S42A	Caledonia baz=190	20.89	9	P	P	08 29 52.2	-0.3		
TKL	Tuckaleechee C 3.4nm,1.0s,baz=182,slow=10,SNR=2.9	20.89	26	P	P	08 29 50.8	-1.7		
TKL	Tuckaleechee C 7.0nm,1.1s	20.89	26	eP	P	08 29 51.4	-1.1		
U49A	Red Boiling Sp baz=204	20.90	20	P	P	08 29 51.7	-0.8		
T47A	Sharon Grove 7.4nm,0.9s	20.93	17	eP	P	08 29 53.6	+0.7		
T47A	Sharon Grove baz=201	20.93	17	P	P	08 29 52.2	-0.6		
CCM	Cathedral Cave baz=189	21.11	8	P	P	08 29 53.9	-0.9		
V52A	Sevierville baz=210	21.13	26	P	P	08 29 54.5	-0.5		
T48A	Bowling Green baz=202	21.25	19	P	P	08 29 55.6	-0.7		
R42A	Luebbering baz=190	21.39	8	P	P	08 29 57.8	0.0		
R43A	Red Bud baz=192	21.52	10	P	P	08 29 59.1	-0.1		
R44A	Waltonville baz=195	21.65	12	P	P	08 29 58.9	-1.7		
T50A	Nancy baz=206	21.68	22	P	P	08 29 59.2	-1.7		
U52A	Thorn Hill baz=210	21.69	25	P	P	08 29 59.1	-2.0		
T25A	Trinidad 14nm,0.9s	21.75	339	eP	P	08 30 03.6	+1.7		
T25A	Trinidad baz=154,SNR=9.1	21.75	339	P	P	08 30 02.1	+0.3		
Q41A	Truxton baz=189	22.00	7	P	P	08 30 02.4	-1.8		
Q42A	Golden Eagle baz=191	22.05	9	P	P	08 30 03.1	-1.6		
CBKS	Cedar Bluff baz=167	22.10	349	P	P	08 30 04.6	-0.8		
X18A	Snowflake 6.3nm,0.8s	22.11	325	eP	P	08 30 07.4	+1.7		
214A	Organ Pipe Nat baz=128,SNR=5.3	22.12	315	P	P	08 30 07.3	+1.7		
YOTC	Yotoco, Valle	22.20	124	eP	P	08 30 06.7	+0.1		
Q43A	New Douglas baz=193	22.21	10	P	P	08 30 05.0	-1.4		
S49A	Springfield baz=204	22.22	20	P	P	08 30 04.0	-2.5		
WCI	Wyandotte Cave 6.8nm,0.8s	22.32	18	eP	P	08 30 05.7	-1.8		
WCI	Wyandotte Cave baz=202	22.32	18	P	P	08 30 05.7	-1.8		
R48A	Northridge Ran baz=202	22.60	18	P	P	08 30 08.4	-1.9		
SDCO	Great Sand Dun 7.8nm,1.1s	22.68	337	eP	P	08 30 13.1	+1.6		
SDCO	Great Sand Dun baz=152,SNR=8.2	22.68	337	P	P	08 30 12.0	+0.6		
P41A	Barry, Barry baz=189	22.73	7	P	P	08 30 10.3	-1.3		
P42A	Winchester 6.5nm,1.1s	22.74	9	eP	P	08 30 11.0	-0.6		
P42A	Winchester baz=191	22.74	9	P	P	08 30 10.4	-1.2		
POPC	Popayan, Colom	22.84	127	eP	P	08 30 13.7	+0.5		
X16A	Lo Mia Camp, P 9.7nm,0.8s	22.88	322	eP	P	08 30 16.1	+2.8		
P44A	Sand Creek, Wi baz=195	22.92	12	P	P	08 30 11.9	-1.5		
KSCO	Kaye Shedlock' baz=160	22.93	344	P	P	08 30 13.8	+0.2		
OTAV	Otavalo 2.1nm,0.8s	23.14	135	eP	P	08 30 18.5	+2.2		
OTAV	Otavalo	23.14	135	eP	P	08 30 16.8	+0.5		
O41A	Passleys Farm, baz=189	23.19	7	P	P	08 30 15.0	-0.9		
PCON	Cinco Dias	23.19	127	eP	P	08 30 19.1	+2.3		
S22A	4UR Ranch, Cre baz=150,SNR=5.1	23.20	335	P	P	08 30 16.4	0.0		
GCUF	Volcan Galeras	23.22	131	eP	P	08 30 19.1	+2.1		
CRUC	La Cruz	23.27	130	eP	P	08 30 18.3	+0.9		
MVCO	Mesa Verde	23.47	331	eP	P	08 30 20.5	+1.7		
MVCO	Mesa Verde baz=145,SNR=5.2	23.47	331	P	P	08 30 19.3	+0.5		
Y14A	Wickenburg 6.3nm,0.9s	23.50	319	eP	P	08 30 21.7	+2.8		
PRAC	Prado	23.53	122	eP	P	08 30 19.1	-0.3		
WUAZ	Wupatki 17nm,1.0s	23.62	324	eP	P	08 30 22.1	+2.0		
WUAZ	Wupatki baz=137,SNR=9.5	23.62	324	P	P	08 30 20.9	+0.8		
P48A	Milroy baz=202	23.71	18	P	P	08 30 19.3	-1.4		
N39A	Derby Farms, D 9.5nm,0.8s	23.79	4	eP	P	08 30 21.1	-0.3		
N39A	Derby Farms, D baz=185	23.79	4	P	P	08 30 20.5	-0.9		
HDIL	Hopedale 6.6nm,0.8s	23.85	10	eP	P	08 30 21.3	-0.6		
HDIL	Hopedale baz=193	23.85	10	P	P	08 30 20.7	-1.3		
O45A	Potomac baz=197	23.86	13	P	P	08 30 20.7	-1.3		
N40A	Mertquake, Sal baz=187	23.87	6	P	P	08 30 21.2	-0.9		
CHIC	Chingaza	23.97	119	eP	P	08 30 24.5	+0.8		
P49A	Miami Univ. Ec baz=204	24.00	19	P	P	08 30 22.4	-0.9		
Q51A	Peebles baz=207	24.00	22	P	P	08 30 21.5	-1.8		
GLA	Glamis 14nm,0.8s	24.14	315	eP	P	08 30 28.2	+3.5		
GLA	Glamis baz=127,SNR=7.1	24.14	315	P	P	08 30 26.4	+1.7		
M39A	Webster baz=186	24.41	5	P	P	08 30 25.7	-1.3		
SMCO	Snowmass 5.4nm,0.9s	24.49	336	eP	P	08 30 30.3	+2.0		
SJAC	San Juan de Ar	24.54	122	eP	P	08 30 30.7	+2.1		
ISCO	Idaho Springs 4.9nm,0.8s	24.55	339	eP	P	08 30 30.0	+1.3		
ISCO	Idaho Springs baz=154,SNR=7.2	24.55	339	P	P	08 30 29.3	+0.6		
OGNE	Ogallala baz=163	24.61	347	P	P	08 30 29.5	+0.6		
SCIA	State Center 20nm,0.6s	24.77	3	eP	P	08 30 30.0	-0.3		
SCIA	State Center baz=183	24.77	3	P	P	08 30 29.7	-0.6		
U15A	North Rim 3.7nm,0.8s	24.80	324	eP	P	08 30 32.5	+1.6		
BC3	Big Chuckawall baz=127,SNR=6.5	24.92	315	P	P	08 30 32.5	+0.6		
IRM	Iron Mountain baz=128	25.01	317	P	P	08 30 34.1	+1.5		
N48A	Decatur baz=202	25.12	17	P	P	08 30 31.9	-1.5		
MONP2	Monument Peak baz=124	25.14	313	P	P	08 30 35.6	+1.6		
L41A	Preston baz=189	25.17	7	P	P	08 30 33.7	-0.2		
L42A	Oliver, Polo 19nm,1.1s	25.21	9	eP	P	08 30 33.0	-1.2		
BELC	Belle Mtn. Jos baz=126	25.48	315	P	P	08 30 38.0	+1.0		
XPFO	Piæon Flat 3.4nm,1.0s	25.57	314	eP	P	08 30 39.9	+2.1		
PFO	Pinyon Flats O 3.1nm,1.0s	25.57	314	eP	P	08 30 40.0	+2.2		
PFO	Pinyon Flats O baz=125	25.57	314	P	P	08 30 39.1	+1.3		
FRD	Ford Ranch, An baz=124	25.61	314	P	P	08 30 39.3	+1.2		
N23A	Red Feather La 6.6nm,1.1s	25.65	340	eP	P	08 30 40.1	+1.6		
N23A	Red Feather La baz=155	25.65	340	P	P	08 30 39.3	+0.8		
GMRC	Granite Mounta baz=128	25.73	317	P	P	08 30 40.6	+1.4		
M48A	Edgerton 28nm,0.3s	25.79	17	eP	P	08 30 41.4	+1.9		
MTPU	Mount Pierson 6.3nm,1.1s	25.93	327	eP	P	08 30 42.6	+1.4		
K42A	Prairie Point, baz=192	26.02	9	P	P	08 30 40.5	-1.1		
JFWS	Jewell Farm 8.0nm,0.8s	26.02	7	eP	P	08 30 40.5	-1.1		
JFWS	Jewell Farm baz=190	26.02	7	P	P	08 30 40.7	-0.9		
K43A	Burlington 33nm,1.0s	26.11	11	eP	P	08 30 41.6	-0.7		
TUQ	Turquoise Moun baz=129	26.30	318	P	P	08 30 45.1	+0.7		
TMUT	Trail Mountain 4.2nm,1.1s	26.41	330	eP	P	08 30 47.1	+1.6		
J40A	Soldiers Grove baz=188	26.44	6	P	P	08 30 45.7	+0.3		
ECSD	EROS Data Cent 7.7nm,1.1s	26.62	357	eP	P	08 30 46.7	-0.3		
ECSD	EROS Data Cent baz=176	26.62	357	P	P	08 30 46.5	-0.5		
H39A	Augusta baz=187	27.66	5	P	P	08 30 55.2	-1.1		
SPMN	Marine on St. 8.2nm,0.4s	28.10	3	eP	P	08 30 59.1	-1.1		
SPMN	Marine on St. baz=184	28.10	3	P	P	08 30 59.3	-0.9		
G39A	Holcombe baz=187	28.27	5	P	P	08 31 00.9	-0.8		
G41A	Antigo baz=191	28.42	8	P	P	08 31 01.3	-1.7		
PDAR	Pinedale Array 0.3nm,0.5s,baz=137,slow=8.6,SNR=4.1	28.57	337	P	P	08 31 05.9	+1.2		
HVU	Hansel Valley 3.0nm,0.9s	29.10	331	eP	P	08 31 10.5	+1.2		
NV11	Mina Array Sit 0.2nm,0.9s	29.58	321	eP	P	08 31 15.8	+2.2		
REDW	Red Top Meadow 2.6nm,1.1s	29.58	336	eP	P	08 31 14.6	+1.1		
SNOW	Snow King Moun 3.2nm,0.6s	29.63	336	eP	P	08 31 15.4	+1.4		
NV01	Mina Array Sit	29.67	321	eP	P	08 31 16.7	+2.3		
NVAR	Mina Array Bea 2.9nm,0.7s,baz=134,slow=8.9,SNR=23	29.67	321	P	P	08 31 16.8	+2.4		
LOHW	Long Hollow 1.2nm,0.8s	29.69	336	eP	P	08 31 15.8	+1.2		
E43A	Lone Tree Farm 28nm,1.1s	29.90	11	eP	P	08 31 14.6	-1.4		
KVN	Kaiserville 3.0nm,1.1s	29.94	322	eP	P	08 31 18.9	+2.1		
E44A	Grand Marais A baz=197	30.34	12	P	P	08 31 19.2	-0.7		
YERR	Yerington 2.5nm,0.7s	30.59	320	eP	P	08 31 24.6	+2.2		
MDND	Maddock baz=171	30.95	354	P	P	08 31 25.0	-0.4		
AGMN	Agassiz Nation 8.9nm,0.7s	31.15	358	eP	P	08 31 26.3	-0.7		
AGMN	Agassiz Nation baz=178	31.15	358	P	P	08 31 26.4	-0.7		
BEKR	Beckworth 0.9nm,1.0s	31.81	321	eP	P	08 31 35.6	+2.4		
SVB	Belmont 42nm,1.0s	32.46	92	eP	P	08 31 39.9	+0.9		
WVOR	Wild Horse Val	32.51	326	eP	P	08 31 42.3	+3.1		
J08A	Circle Bar Ran 9.6nm,0.7s	33.07	327	eP	P	08 31 45.5	+1.4		
F10A	Beach Ranch, E 7.3nm,1.0s	34.39	332	eP	P	08 31 55.8	+0.4		
NEW	Newport 1.7nm,0.7s,baz=137,slow=10,SNR=3.7	36.11	334	P	P	08 32 10.2	+0.1		
NEW	Newport baz=142	36.11	334	P	P	08 32 10.4	+0.3		
F05D	White Salmon baz=134	36.36	328	P	P	08 32 12.6	+0.4		
I02D	Swisshome baz=128	36.48	324	P	P	08 32 14.0	+0.8		
G03D	McMinnville, O baz=130	36.85	326	P	P	08 32 17.1	+0.8		
YKA	Yellowknife Ar 2.0nm,0.7s,baz=160,slow=7.3,SNR=3.8	47.47	348	P	P	08 33 40.6	-1.6		
INK	Inuvik 5.1nm,1.0s,baz=139,slow=6.6,SNR=12	56.77	344	P	P	08 34 50.7	-0.2		
ILAR	Eielson Array 0.8nm,0.7s,baz=156,slow=4.2,SNR=9.7	59.01	337	P	P	08 35 06.3	-0.3		
SUA	Susitna One 18nm,1.1s	59.17	332	eP	P	08 35 09.1	+1.2		
CCB	Clear Creek Bu	59.30	336	eP	P	08 35 09.0	+0.4		
POKR	Poker Plat Res baz=118	59.38	337	P	P	08 35 09.8	+0.6		
MDM	Murphy Dome 2.4nm,1.2s	59.60	337	eP	P	08 35 10.9	+0.1		
TRF	Thorofare Moun 11nm,1.2s	59.77	335	eP	P	08 35 13.0	+0.9		
MLY	Manley 4.4nm,1.1s	60.59	336	eP	P	08 35 18.0	+0.5		
PLCA	Paso Flores 1.6nm,0.9s,baz=1.8,slow=7.4,SNR=4.8	61.73	159	P	P	08 35 24.9	-0.6		
TOLK	Toolik Lake Re 5.0nm,0.9s	61.76	340	eP	P	08 35 26.1	+0.8		
ESDC	Sonseca Array 0.1nm,0.3s,baz=287,slow=5.2,SNR=4.2	79.84	52	P	P	08 37 14.5	-0.8		
TORD	Torodi Ar. Bea comp=Z,143nm,18.6s,baz=325,slow=35	92.15	76	LR	LR	09 18 51.9			
LZH	Lanzhou	124.29	342	ePKP	PKPdf	08 44 08.9	+3.8		
LZH				pPKP	pPKPdf	08 44 33.1	-4.4		
LZH				sPKP		08 44 44.6			
WRA	Warramunga Arr 0.4nm,0.9s,baz=8.7,slow=0.9,SNR=5.1	133.56	259	PKP	PKPdf	08 44 22.5	-0.4		
ASAR	Alice Springs 0.2nm,0.5s,baz=51,slow=2.4,SNR=3.2	134.16	253	PKP	PKPdf	08 44 23.8	-0.2		

*ISCJB **02** 08:29:11.7±0.6,37°.25N±0°.05×72°.04E±0°.08,h142km, mb3.7/3, Error ellipse: s-maj=10.3km s-min=4.8km az=151.9*

*IDC **02** 08:29:12.5±3.6,37°.28N×72°.11E,h176km±28km,mb3.4/3, mb1 3.4/8,mb1mx3.1/64,mbtmp3.9/8, Error ellipse: s-maj=45.0km s-min=22.6km az=136.0*

*NNC **02** 08:29:19.7±3.1,37°.83N×72°.06E,h190km±45km,mb2.9, mpv4.0, Error ellipse: s-maj=32.5km s-min=16.9km az=5.0*

ISC 02 08:29:11.2±0.8, 37°30N±0°07×71°97E±0°08, h142km, n30, σ1°78/35, mb3.9/3, 2C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.01**	**15**	P	**Pn**	**08 30 27.4**	**+2.6**
	SNR=202						
UCH	**Uchtor**	**5.30**	**21**	P	**Pn**	**08 30 31.1**	**+2.4**
	SNR=22						
KZA	**Kyzart**	**5.40**	**27**	P	**Pn**	**08 30 31.7**	**+1.6**
	SNR=16						
EKS2	**Erkin-Say**	**5.54**	**14**	P	**Pn**	**08 30 34.8**	**+3.2**
	SNR=37						
AAK	**Ala-Archa**	**5.67**	**19**	P	**Pn**	**08 30 36.1**	**+2.6**
	6.1nm,0.3s,baz=170,slow=6.9,SNR=62						
AAK				S	**Sn**	**08 31 38.1**	**+0.2**
	3.8nm,0.3s,baz=314,slow=22,SNR=19						
AAK	**Ala-Archa**	**5.67**	**19**	⇓P	**Pn**	**08 30 36.0**	**+2.6**
	14nm,0.5s						
AAK				⇓S	**Sn**	**08 31 37.5**	**-0.3**
	20nm,0.6s						
AAK	**Ala-Archa**	**5.67**	**19**	P	**Pn**	**08 30 36.1**	**+2.6**
	SNR=26						
KK31	**Karatay Array**	**5.91**	**350**	P	**Pn**	**08 30 39.1**	**+2.7**
	5.8nm,0.3s,baz=167,slow=13,SNR=84						
KK31				⇓S	**Sn**	**08 31 41.4**	**-1.7**
	15nm,0.5s,baz=166,slow=22,SNR=14						
ULHL	**Ulahol**	**5.94**	**32**	P	**Pn**	**08 30 38.5**	**+1.4**
	SNR=6.9						
TKM2	**Tokmak 2**	**6.27**	**25**	⇓P	**Pn**	**08 30 43.2**	**+1.8**
	6.6nm,0.6s						
TKM2				⇑S	**Sn**	**08 31 49.9**	**-2.2**
	3.8nm,0.7s						
TKM2	**Tokmak 2**	**6.27**	**25**	P	**Pn**	**08 30 43.7**	**+2.2**
	SNR=7.8						
GEYT	**Alibeck**	**11.01**	**277**	P	**Pn**	**08 31 47.3**	**+2.6**
	0.5nm,0.3s,baz=122,slow=12,SNR=5.3						
PYUN	**Piuthan**	**13.04**	**132**	*eP*	**Pn**	**08 32 10.7**	**-0.6**
	5.2nm,0.2s						
DANN	**Dangsing**	**13.33**	**129**	*eP*	**Pn**	**08 32 14.5**	**-0.6**
	9.0nm,0.3s						
KOLN	**Koldanda**	**13.65**	**131**	*eP*	**Pn**	**08 32 19.0**	**-0.1**
KURBB	**Kurchatov Arra**	**14.12**	**17**	P	**Pn**	**08 32 26.5**	**+1.7**
	0.1nm,0.3s,baz=206,slow=10,SNR=3.8						
KKN	**Kakani**	**14.68**	**126**	*eP*	**Pn**	**08 32 32.6**	**+0.4**
	8.5nm,0.4s						
DMN	**Daman**	**14.69**	**127**	*eP*	**Pn**	**08 32 32.9**	**+0.5**
	7.0nm,0.3s						
AB31	**Akbulak array**	**14.79**	**328**	⇑P	**P**	**08 32 34.6**	**-0.8**
	1.0nm,0.5s,baz=16,slow=5.8,SNR=28						
PKIN	**Phulchoki**	**14.90**	**127**	*eP*	**Pn**	**08 32 35.1**	**+0.1**
	6.0nm,0.3s						
PKI	**Pulchoki**	**14.91**	**127**	*eP*	**Pn**	**08 32 35.2**	**0.0**
	9.1nm,0.4s						
GUN	**Gumba**	**14.99**	**125**	*eP*	**Pn**	**08 32 36.6**	**+0.5**
	7.2nm,0.3s						
JIRN	**Jiri**	**15.36**	**125**	*eP*	**Pn**	**08 32 41.7**	**+0.9**
	19nm,0.4s						
RAMN	**Ramite**	**16.11**	**126**	*eP*	**P**	**08 32 50.8**	**+0.4**
	8.9nm,0.4s						
AKTO	**Aktyubinsk**	**16.50**	**327**	P	**P**	**08 32 56.0**	**+1.7**
	0.4nm,0.3s,baz=116,slow=12,SNR=4.7						
AKTO				S	**Sn**	**08 35 56.0**	**-2.1**
	0.1nm,0.3s,baz=62,slow=6.6,SNR=2.5						
AKTO	**Aktyubinsk**	**16.50**	**327**	⇓P	**P**	**08 32 55.8**	**+1.5**
	1.8nm,0.6s						
ZALV	**Zalesovo Beam**	**18.87**	**24**	P	**P**	**08 33 18.9**	**-1.3**
	0.4nm,0.3s,baz=219,slow=9.0,SNR=6.7						
ARCES	**ARCESS Array B**	**40.71**	**337**	P	**P**	**08 36 36.5**	**-0.8**
	1.0nm,0.6s,baz=114,slow=9.0,SNR=6.9						
ESDC	**Sonseca Array**	**57.77**	**298**	P	**P**	**08 38 46.3**	**-1.1**
	0.8nm,0.6s,baz=63,slow=7.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**66.51**	**269**	P	**P**	**08 39 43.5**	**-2.5**
	0.7nm,0.4s,baz=54,slow=5.4,SNR=16						

*IDC **02** 08:35:26.5±2.9, 52°.33N×132°.47W, h0km, mb3.3/1, mb1 3.7/5, mb1mx3.4/43, mbtmp3.3/5, ML3.6/4, Error ellipse: s-maj=48.6km s-min=9.3km az=70.0*

*ISCJB **02** 08:35:27.2±2.2, 52°.4N±0°.1×132°.5W±0°.4, h18km, mb3.2/1, Error ellipse: s-maj=39.2km s-min=9.5km az=157.3*

ISC 02 08:35:27.9±2.2, 52°.5N±0°.2×132°.5W±0°.3, h18km, n10, σ0°55/6, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H02S1	**DAWSON INLET T**	**0.72**	**1**	Pg	**Pg**	**08 35 42.2**	**+0.2**
H02S1				Lg	Lg	08 35 56.0	
H02N1	**VAN INLET T-PH**	**0.77**	**358**	Pg	**Pn**	**08 35 43.6**	**-0.3**
H02N1				Lg	Lg	08 35 57.4	
BBB	**Bella Bella**	**2.71**	**95**	Pn	**Pn**	**08 36 10.1**	**-0.4**
	12nm,0.3s,baz=280,slow=16,SNR=9.2						
DLBC	**Dease Lake**	**6.13**	**12**	Pn	Pn	08 37 02.5	+5.0
	0.3nm,0.3s,baz=189,slow=11,SNR=3.7						
NVAR	**Mina Array Bea**	**17.18**	**139**	P	**Pn**	**08 39 27.2**	**+0.1**
	0.1nm,0.3s,baz=312,slow=9.6,SNR=3.0						
PDAR	**Pinedale Array**	**18.19**	**113**	P	**P**	**08 39 40.5**	**+0.7**
	0.1nm,0.3s,baz=291,slow=7.6,SNR=6.3						
TXAR	**Lajitas Array**	**31.41**	**126**	P	**P**	**08 41 47.6**	**-0.3**
	0.2nm,0.5s,baz=318,slow=5.0,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**56.75**	**259**	T	T	09 47 36.6	
	baz=41						
H11N3	**WAKE ISLAND Hy**	**56.75**	**259**	T	T	09 47 34.5	
	baz=41						
H11N1	**WAKE ISLAND Hy**	**56.77**	**259**	T	T	09 47 38.0	
	baz=41						

*IDC **02** 08:35:46.7±1.5, 52°.29N×132°.25W, h0km, mb3.8/2, mb1 4.1/8, mb1mx3.8/45, mbtmp3.8/8, ML3.6/5, Error ellipse: s-maj=18.5km s-min=14.1km az=39.0*

ISC 02 08:35:48.8±1.3, 52°.4N±0°.1×131°.9W±0°.2, h10km, n11, σ1°69/9, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H02S1	**DAWSON INLET T**	**0.84**	**336**	Lg	Lg	08 36 15.2	
H02N1	**VAN INLET T-PH**	**0.90**	**335**	Lg	Lg	08 36 16.9	
BBB	**Bella Bella**	**2.34**	**95**	Pn	**Pb**	**08 36 30.5**	**-0.5**
	33nm,0.3s,baz=277,slow=16,SNR=8.2						
BBB				Lg	Lg	08 37 06.2	
	22nm,0.3s,baz=146,slow=2.9,SNR=8.4						
DLBC	**Dease Lake**	**6.11**	**9**	Pn	**Pn**	**08 37 21.4**	**+2.2**
	1.0nm,0.3s,baz=191,slow=15,SNR=5.8						
YBH	**Yreka Blue Hor**	**12.39**	**146**	Pn	**Pn**	**08 38 47.4**	**+2.2**
	baz=340,slow=13,SNR=4.1						
YKA	**Yellowknife Ar**	**13.67**	**36**	Pn	**Pn**	**08 39 02.1**	**-0.3**
	0.1nm,0.3s,baz=233,slow=12,SNR=4.3						
ILAR	**Eielson Array**	**14.57**	**334**	Pn	**P**	**08 39 19.9**	**-1.3**
	0.1nm,0.3s,baz=143,slow=11,SNR=7.9						
NVAR	**Mina Array Bea**	**16.91**	**141**	Pn	**P**	**08 39 45.8**	**-1.9**
	0.1nm,0.3s,baz=318,slow=12,SNR=8.3						
PDAR	**Pinedale Array**	**17.84**	**114**	P	**P**	**08 39 58.8**	**+0.8**
	0.1nm,0.3s,baz=296,slow=9.0,SNR=7.0						
ANMO	**Albuquerque**	**25.18**	**124**	P	**P**	**08 41 13.6**	**-0.9**
	0.5nm,0.4s,baz=318,slow=14,SNR=3.4						
TXAR	**Lajitas Array**	**31.09**	**127**	P	**P**	**08 42 06.5**	**-0.8**
	1.4nm,0.8s,baz=326,slow=7.9,SNR=14						

*IDC **02** 08:37:07.0±0.9, 52°.29N×132°.35W, h0km, mb4.1/8, mb1 4.3/14, mb1mx4.0/45, mbtmp4.0/14, ML3.6/6, MS3.9/12, Ms1 3.9/12, ms1mx3.6/43, Error ellipse: s-maj=13.7km s-min=7.1km az=62.0*

*PGC **02** 08:37:07.4±3.3, 52°.26N×132°.33W, h20km, mb4.0, ML4.2/10, Mw4.8, 115km Ssw of Sandspit, Bc Haida Gwaii Region*

*ISCJB **02** 08:37:09.4±0.3, 52°.30N±0°.03×132°.13W±0°.06, h18km, mb4.2/36, MS4.0/2, Error ellipse: s-maj=6.2km s-min=2.5km az=151.6*

*NEIC **02** 08:37:10.4±0.3, 52°.22N×132°.22W, h10km, mb4.0/77, MW4.8(OTT), Error ellipse: s-maj=10.1km s-min=3.0km az=57.0*

*GCMT **02** 08:37:15.4±0.3, 52°.18N±0°.03×131°.96W±0°.07, h18km±1km, MW4.9/82, Moment Tensor Solution. s10,c10; s82,c105; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr~3.30±.23; Mθθ 2.22±.15; Mφφ 1.08±.12; Mrθ 0.24±.35; Mrφ -0.63±.08; Mθφ~1.18±.44; Best double couple: M☉3.09300×10^16 NP1: ϕs104.00000°, δ39.00000°, λ-109.00000°. NP2: ϕs309.00000°, δ53.00000°, λ-75.00000°. Principal axes: T 2.5880, Plg7.0000°, Azm28.0000°; N 1.0110, Plg12.0000°, Azm120.0000°; P -3.5990, Plg76.0000°,*

Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 02 08:37:10.7±0.6, 52°.30N±0°.05×131°.98W±0°.06, h18km, n170, σ1°77/150, mb4.2/36, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.31**	**27**	P	**Pg**	**08 37 16.6**	**-0.9**
BNB				S	**Sb**	**08 37 22.7**	**+0.2**
DIB	**Dawson Inlet,**	**0.95**	**342**	*e*Pg	**Pb**	**08 37 24.8**	**-3.9**
DIB	**Dawson Inlet,**	**0.95**	**342**	P	Pb	08 37 24.4	-4.3
DIB				S	**Sb**	**08 37 37.0**	**-3.9**
H02S1	**DAWSON INLET T**	**0.95**	**342**	Pg	Pb	08 37 24.4	-4.2
H02S1				Lg	Lg	08 37 36.3	
H02N1	**VAN INLET T-PH**	**1.01**	**341**	Pg	Pb	08 37 25.3	-4.5
H02N1				Lg	Lg	08 37 38.9	
	SNR=133						
NDB	**Naden**	**1.76**	**341**	Pn	**Pn**	**08 37 38.0**	**-2.3**
RUBB	**Prince Rupert**	**2.28**	**26**	Pn	**Pn**	**08 37 46.3**	**-1.1**
RUBB				Sn	**Sn**	**08 38 15.4**	**+0.4**
BBB	**Bella Bella**	**2.38**	**91**	Pn	**Pb**	**08 37 51.5**	**-1.5**
	9.8nm,0.3s,baz=285,slow=16,SNR=3.0						
BBB				Lg	Lg	08 38 28.1	
	34nm,0.3s,baz=165,slow=20,SNR=5.9						
BBB				LR	LR	08 38 58.7	
	comp=Z,2μm,21.2s,baz=313,slow=43						
BBB	**Bella Bella**	**2.38**	**91**	Pn	**Pn**	**08 37 46.8**	**-1.9**
CRAG	**Craig**	**3.25**	**348**	*e*Pn	**Pn**	**08 38 04.6**	**+4.0**
PHC	**Port Hardy**	**3.26**	**117**	Pn	**Pn**	**08 37 59.5**	**-1.3**
PHC				Sn	**Sn**	**08 38 33.9**	**-5.2**
PACB	**Port Alice, BC**	**3.38**	**122**	Sn	**Sn**	**08 38 37.7**	**-4.2**
TLCB	**Telegraph Cove**	**3.67**	**117**	Pn	**Pn**	**08 38 04.4**	**-2.0**
TLCB				Sn	**Sn**	**08 38 45.2**	**-4.0**
WRAK	**Wrangell Islan**	**4.14**	**357**	*e*Pn	**Pn**	**08 38 14.1**	**+1.2**
CBB	**Campbell River**	**4.74**	**116**	Sn	**Sn**	**08 39 12.5**	**-3.2**
UBRB	**Upper Baezaeko**	**4.85**	**80**	Pn	**Pn**	**08 38 21.4**	**-1.4**
FSB	**Fort Saint Jam**	**5.08**	**62**	Pn	**Pn**	**08 38 23.8**	**-2.0**
SIT	**Sitka**	**5.15**	**339**	*e*Pn	**Pn**	**08 38 27.5**	**+0.8**
JIS	**Juneau Island**	**6.15**	**348**	*e*Pn	**Pn**	**08 38 43.4**	**+3.0**
DLBC	**Dease Lake**	**6.25**	**9**	Pn	**Pn**	**08 38 44.1**	**+2.1**
	1.3nm,0.3s,baz=291,slow=17,SNR=4.0						
DLBC				Lg	Lg	08 40 25.9	
	0.8nm,0.3s,baz=238,slow=7.1,SNR=4.3						
DLBC	**Dease Lake**	**6.25**	**9**	*e*Pn	**Pn**	**08 38 44.6**	**+2.6**
DLBC				Lg	Lg	08 40 25.9	
PGC	**Sidney**	**6.55**	**120**	*e*Pn	**Pn**	**08 38 47.5**	**+1.4**
SKAG	**Skagway**	**7.42**	**347**	*e*Pn	**Pn**	**08 39 00.6**	**+2.7**
WHY	**Whitehorse**	**8.54**	**350**	*e*Pn	**Pn**	**08 39 14.5**	**+1.1**
LON	**Longmire**	**8.63**	**126**	*e*Pn	**Pn**	**08 39 15.8**	**+1.1**
LTY	**Liberty**	**8.88**	**120**	*e*Pn	**Pn**	**08 39 19.9**	**+1.8**
COR	**Corvallis**	**9.63**	**140**	*e*Pn	**Pn**	**08 39 30.8**	**+2.6**
NEW	**Newport**	**10.33**	**107**	Pn	Pn	08 39 44.8	+6.9
	0.1nm,0.3s,baz=307,slow=9.8,SNR=4.5						
NEW				Lg	Lg	08 42 44.2	
	0.1nm,0.3s,baz=80,slow=20,SNR=3.3						
NEW				LR	LR	08 43 39.1	
	comp=Z,303nm,19.4s,baz=294,slow=37						
TGL	**Tana Glacier**	**10.37**	**329**	*e*Pn	**Pn**	**08 39 39.5**	**+1.2**
BALM	**Baldy**	**10.44**	**331**	*e*Pn	**Pn**	**08 39 39.9**	**+0.5**
HUMO	**Hull Mountain**	**11.45**	**144**	*e*Pn	**Pn**	**08 39 55.8**	**+2.6**
KLU	**Klutina**	**11.93**	**326**	*e*Pn	**Pn**	**08 39 59.5**	**-0.2**
K05A	**Summer Lake**	**12.15**	**138**	*e*Pn	**Pn**	**08 40 06.3**	**+3.4**
YBH	**Yreka Blue Hor**	**12.30**	**146**	Pn	**Pn**	**08 40 08.1**	**+3.1**
	0.1nm,0.3s,baz=334,slow=11,SNR=4.2						
YBH				LR	LR	08 44 03.0	
	comp=Z,648nm,20.2s,baz=330,slow=34						
YBH	**Yreka Blue Hor**	**12.30**	**146**	*e*Pn	**Pn**	**08 40 07.4**	**+2.5**
SCM	**Sheep Creek Mo**	**12.65**	**325**	*e*Pn	**Pn**	**08 40 09.8**	**+0.2**
J08A	**Circle Bar Ran**	**12.72**	**129**	*e*Pn	**Pn**	**08 40 12.7**	**+2.0**
PAX	**Paxson**	**12.87**	**331**	*e*Pn	**Pn**	**08 40 13.3**	**+0.7**
KDAK	**Kodiak Island**	**13.00**	**303**	LR	LR	08 43 50.9	
	comp=Z,356nm,21.7s,baz=118,slow=32						
MOD	**Modoc Plateau**	**13.07**	**138**	*e*Pn	**Pn**	**08 40 18.5**	**+3.0**
WVOR	**Wild Horse Val**	**13.36**	**132**	*e*Pn	**Pn**	**08 40 20.9**	**+1.4**
DHY	**Denali Highway**	**13.53**	**329**	*e*Pn	**Pn**	**08 40 24.4**	**+2.7**
YKA	**Yellowknife Ar**	**13.81**	**36**	Pn	**Pn**	**08 40 24.3**	**-0.9**
	0.1nm,0.3s,baz=227,slow=12,SNR=7.9						
SKT	**Skwentna**	**14.31**	**320**	*e*P	**P**	**08 40 38.9**	**-0.3**
HLID	**Hailey**	**14.63**	**120**	*e*Pn	**P**	**08 40 45.5**	**+2.5**
ORV	**Oroville**	**14.66**	**146**	*e*Pn	**Pn**	**08 40 37.4**	**+0.4**
ILAR	**Eielson Array**	**14.67**	**334**	Pn	**Pn**	**08 40 38.3**	**+1.3**
	0.0nm,0.3s,baz=153,slow=12,SNR=3.0						
ILAR				LR	LR	08 45 54.5	
	comp=Z,346nm,19.5s,baz=141,slow=36						
MCMT	**Mckenzie Canyo**	**14.68**	**113**	*e*Pn	**P**	**08 40 46.6**	**+2.9**
TRF	**Thorofare Moun**	**14.75**	**326**	*e*Pn	**P**	**08 40 45.6**	**+1.4**
WRH	**Wood River Hil**	**14.78**	**332**	*e*Pn	**P**	**08 40 46.0**	**+1.7**
CCB	**Clear Creek Bu**	**14.83**	**333**	*e*Pn	**P**	**08 40 46.1**	**+1.3**
MDM	**Murphy Dome**	**15.18**	**333**	*e*Pn	**Pn**	**08 40 46.4**	**+2.5**
MDM				*e*P	**P**	**08 40 50.3**	**+1.4**
PAHR	**Pah Rah Range**	**15.30**	**140**	*e*Pn	**Pn**	**08 40 47.8**	**+1.9**
	12nm,1.2s						
AFDM	**Forest Hills D**	**15.39**	**146**	*e*Pn	**Pn**	**08 40 47.4**	**+0.6**
	9.2nm,1.1s						
QLMT	**Earthquake Lak**	**15.49**	**111**	*e*Pn	**Pn**	**08 40 50.4**	**+2.2**
VCNR	**Virginia City**	**15.56**	**142**	*e*Pn	**P**	**08 40 55.5**	**+2.1**
	13nm,1.1s						
BMN	**Battle Mountai**	**15.60**	**134**	*e*Pn	**P**	**08 40 54.9**	**+1.0**
	14nm,1.1s						
PNTR	**Pine Nut**	**15.76**	**142**	*e*Pn	**P**	**08 40 55.8**	**+0.1**
	12nm,1.1s						
YHH	**Holmes Hill**	**15.85**	**110**	*e*Pn	**Pn**	**08 40 54.8**	**+1.9**
	4.4nm,1.0s						
YMR	**Madison River**	**15.85**	**110**	*e*Pn	**Pn**	**08 40 55.1**	**+2.1**
	8.2nm,1.1s						
MLY	**Manley**	**15.97**	**330**	*e*Pn	**Pn**	**08 40 55.7**	**+1.5**
	11nm,1.0s						
GCMT	**Grgcliff**	**15.98**	**105**	*e*Pn	**P**	**08 40 56.7**	**-1.3**
YERR	**Yerington**	**15.98**	**141**	*e*Pn	**Pn**	**08 40 55.2**	**+0.6**
	5.3nm,1.0s						
INK	**Inuvik**	**16.08**	**358**	Pn	**P**	**08 40 59.0**	**+0.2**
	0.1nm,0.3s,baz=165,slow=9.4,SNR=5.2						
INK				LR	LR	08 47 27.5	
	comp=Z,564nm,19.9s,baz=186,slow=39						
INK	**Inuvik**	**16.08**	**358**	*e*Pn	**P**	**08 40 59.8**	**+1.1**
	17nm,1.1s						
H17A	**Grant Village**	**16.24**	**111**	*e*Pn	**P**	**08 41 01.6**	**+0.6**
	9.8nm,1.1s						
WAKR	**Walker**	**16.33**	**143**	*e*Pn	**P**	**08 41 01.4**	**-0.6**
	13nm,1.2s						
KVN	**Kaiserville**	**16.38**	**139**	*e*Pn	**P**	**08 41 02.0**	**-0.5**
	18nm,1.2s						
CMB	**Columbia Colle**	**16.41**	**146**	*e*Pn	**P**	**08 41 03.3**	**+0.6**
	6.3nm,1.0s						
FXWY	**Fox Creek**	**16.45**	**113**	*e*Pn	**P**	**08 41 04.7**	**+1.5**
	3.1nm,0.8s						
MOOW	**Moose Ponds**	**16.53**	**113**	*e*Pn	**P**	**08 41 05.4**	**+1.1**
	5.6nm,1.1s						
RYN	**Ryan**	**16.57**	**140**	*e*Pn	**Pn**	**08 41 02.8**	**+0.7**
	9.4nm,1.1s						
TPAW	**Teton Pass**	**16.58**	**114**	*e*Pn	**P**	**08 41 05.4**	**+0.7**
	9.9nm,1.0s						
LOHW	**Long Hollow**	**16.70**	**113**	*e*Pn	**P**	**08 41 08.7**	**+2.7**
	4.7nm,1.0s						
SNOW	**Snow King Moun**	**16.71**	**114**	*e*Pn	**Pn**	**08 41 04.7**	**+0.8**
	3.4nm,1.1s						
REDW	**Red Top Meadow**	**16.72**	**114**	*e*Pn	**P**	**08 41 07.6**	**+1.4**
	8.8nm,1.1s						
HVU	**Hansel Valley**	**16.74**	**121**	*e*Pn	**Pn**	**08 41 05.7**	**+1.4**
	4.2nm,1.1s						
NVAR	**Mina Array Bea**	**16.83**	**140**	Pn	**P**	**08 41 07.5**	**0.0**
	0.1nm,0.3s,baz=324,slow=12,SNR=5.7						
NVAR				LR	LR	08 46 59.6	
	comp=Z,404nm,20.9s,baz=325,slow=35						
AHID	**Auburn Hatcher**	**16.97**	**116**	*e*Pn	**P**	**08 41 09.2**	**+0.2**
	3.0nm,0.7s						
BGU	**Big Grassy Mou**	**17.23**	**124**	*e*Pn	**Pn**	**08 41 10.5**	**+0.1**
	7.4nm,1.2s						
MDPB	**Devils Postpil**	**17.23**	**143**	*e*Pn	**P**	**08 41 12.5**	**+0.5**
	6.1nm,1.1s						
OMMB	**Old Mammoth Mi**	**17.28**	**143**	*e*Pn	**Pn**	**08 41 10.9**	**-0.3**
	3.4nm,1.0s						
PDAR	**Pinedale Array**	**17.83**	**113**	P	**P**	**08 41 20.6**	**+2.1**
	0.1nm,0.3s,baz=300,slow=8.2,SNR=6.7						
PDAR				LR	LR	08 47 40.9	
	comp=Z,108nm,20.7s,baz=321,slow=35						
DUG	**Dugway, Tooele**	**17.88**	**125**	*e*Pn	**P**	**08 41 20.0**	**+1.0**
	7.2nm,1.1s						
R11A	**Troy Canyon, C**	**18.03**	**134**	*e*Pn	**P**	**08 41 21.3**	**+0.5**
	7.8nm,1.0s						
TOLK	**Toolik Lake Re**	**18.41**	**339**	*e*P	**Pn**	**08 41 26.6**	**+2.0**
	12nm,1.1s						
NLU	**North Lily Min**	**18.44**	**124**	*e*P	**Pn**	**08 41 25.7**	**+0.4**
	4.5nm,1.1s						
PSUT	**Pine Spring**	**18.67**	**130**	*e*P	**P**	**08 41 28.2**	**+0.4**
	9.8nm,1.0s						
TPNV	**Topopah Spring**	**18.93**	**138**	*e*P	**Pn**	**08 41 32.6**	**+1.3**
	10nm,1.0s						
DAC	**Darwin (Calif)**	**18.98**	**142**	*e*P	**P**	**08 41 32.1**	**+0.9**
	10.0nm,1.1s						
ISA	**Isabella, Lake**	**19.21**	**145**	*e*P	**Pn**	**08 41 34.8**	**+0.2**
	8.2nm,1.1s						
TMUT	**Trail Mountain**	**19.37**	**124**	*e*P	**Pn**	**08 41 36.7**	**0.0**
	5.0nm,1.1s						
P17A	**Butcher Ranch,**	**19.48**	**123**	*e*P	**Pn**	**08 41 37.9**	**0.0**
	6.1nm,1.0s						
MSU	**Marysvale**	**19.49**	**127**	*e*P	**Pn**	**08 41 38.3**	**+0.2**
P18A	**Preston Nutter**	**19.62**	**122**	*e*P	**Pn**	**08 41 40.8**	**+1.0**
	3.2nm,1.0s						
K22A	**Casper**	**19.64**	**109**	*e*P	**Pn**	**08 41 39.8**	**+0.1**
	5.7nm,0.8s						
CCUT	**Cedar City**	**19.69**	**131**	*e*P	**Pn**	**08 41 41.6**	**+1.1**
	16nm,1.2s						
SHPR	**Sheep Range**	**19.76**	**136**	*e*P	**Pn**	**08 41 41.1**	**-0.2**
	6.4nm,1.2s						
SZCU	**Shurtz Canyon**	**19.78**	**131**	*e*P	**P**	**08 41 41.2**	**+1.2**
	21nm,1.2s						
MTPU	**Mount Pierson**	**19.86**	**128**	*e*P	**P**	**08 41 42.1**	**+1.1**
	2.5nm,1.0s						
SRU	**San Rafael Swe**	**19.86**	**123**	*e*P	**Pn**	**08 41 42.7**	**+0.2**
	13nm,1.0s						
GSC	**Goldstone, Bar**	**20.14**	**142**	*e*P	**P**	**08 41 44.0**	**+0.2**
	15nm,1.1s						
LCMT	**Little Creek M**	**20.19**	**132**	*e*P	**P**	**08 41 45.1**	**+0.8**
	14nm,1.2s						
RSSD	**Black Hills**	**20.24**	**103**	*e*P	Pn	08 41 47.0	0.0
	5.0nm,0.9s						
PKCU	**Pink Cliffs**	**20.27**	**129**	*e*P	Pn	08 41 47.7	+0.3
	31nm,1.1s						
O20A	**White River Ci**	**20.33**	**117**	*e*P	Pn	08 41 47.6	-0.4
	18nm,1.0s						
KNB	**Kanab**	**20.38**	**131**	*e*P	Pn	08 41 48.2	-0.3
	16nm,1.2s						
MWC	**Mount Wilson**	**20.65**	**146**	*e*P	**P**	**08 41 50.0**	**+0.6**
	15nm,1.1s						
PASC	**Pasadena Art C**	**20.65**	**146**	*e*P	**P**	**08 41 49.3**	**0.0**
	16nm,1.1s						
LDFC	**Landfair**	**21.01**	**138**	*e*P	**P**	**08 41 53.8**	**+0.6**
	36nm,1.1s						
N23A	**Red Feather La**	**21.09**	**112**	*e*P	**P**	**08 41 55.2**	**+1.0**
	6.9nm,0.9s						
U15A	**North Rim**	**21.10**	**131**	*e*P	**P**	**08 41 55.7**	**+1.3**
	29nm,1.1s						
PHWY	**Pilot Hill**	**21.11**	**111**	*e*P	**P**	**08 41 55.2**	**+0.8**
	4.9nm,0.9s						
W13A	**Hualapai Mount**	**21.50**	**136**	*e*P	**P**	**08 41 59.7**	**+1.1**
	7.7nm,1.1s						
SMCO	**Snowmass**	**21.70**	**117**	*e*P	**P**	**08 41 59.8**	**+0.9**
	14nm,1.1s						
PFO	**Pinyon Flats O**	**21.77**	**143**	*e*P	**P**	**08 42 00.9**	**-0.5**
	4.3nm,1.1s						
WUAZ	**Wupatki**	**22.27**	**131**	*e*P	**P**	**08 42 07.8**	**+1.0**
	13nm,1.1s						
MVCO	**Mesa Verde**	**22.34**	**123**	*e*P	**P**	**08 42 08.1**	**+0.5**
	12nm,1.1s						
Y12C	**Blythe**	**22.40**	**139**	*e*P	**P**	**08 42 08.7**	**+0.7**
	10nm,1.1s						
ULM	**Lac du Bonnet**	**22.54**	**81**	P	**P**	**08 42 10.5**	**+1.1**
	7.8nm,1.0s,baz=319,slow=11,SNR=3.6						
ULM				LR	LR	08 51 31.4	
	comp=Z,572nm,21.7s,baz=282,slow=38						
S22A	**4UR Ranch, Cre**	**22.82**	**120**	*e*P	**P**	**08 42 14.5**	**+1.8**
	4.7nm,1.0s						
Q24A	**Divide**	**22.86**	**115**	*e*P	**P**	**08 42 15.7**	**+2.5**
	2.8nm,0.8s						
Y14A	**Wickenburg**	**22.87**	**136**	*e*P	**P**	**08 42 14.6**	**+1.5**
	18nm,1.1s						
GLA	**Glamis**	**22.89**	**140**	*e*P	**P**	**08 42 13.7**	**+0.4**
	11nm,1.0s						
X16A	**Lo Mia Camp, P**	**23.15**	**132**	*e*P	**P**	**08 42 17

IDC ***02*** *08:57:04.1±0.8, 13°.99N×92°.30W, h0km, mb4.3/15, mb1 4.5/19, mb1mx4.3/51, mbtmp4.3/19, ML4.0/4, MS3.7/18, Ms1 3.7/18, ms1mx3.5/44, Error ellipse: s-maj=24.6km s-min=13.6km az=42.0*

NEIC ***02*** *08:57:07.3±0.0, 13°.90N×92°.35W, h15km±89km, MD4.5 (MEX), After MEX.*

MEX ***02*** *08:57:07.3±0.8, 13°.90N×92°.35W, h15km±89km, MD4.5*

UCR ***02*** *08:57:10.9±1.7, 14°.12N×92°.06W, h21km±923km, ML4.1, mb4.4(NEIC)*

ISC 02 08:57:10.2±1.1, 14°.04N±0°.06×92°.31W±0°.04, h47km±9km, n437, σ1§50/446, mb4.4/115, MS3.7/13, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.87**	**3**	*e*Pn	**Pn**	**08 57 23.5**	**-2.5**
THIG				*e*Sn	**Sn**	**08 57 36.4**	**-1.2**
THIG		**0.87**	**3**	*e*P	**Pn**	**08 57 23.5**	**-2.5**
THIG				*e*S	**Sn**	**08 57 36.4**	**-1.2**
IXG	**Ixpaco**	**1.80**	**85**	*e*P	**Pn**	**08 57 36.9**	**-2.1**
PCIG		**1.88**	**332**	*e*Pn	**Pn**	**08 57 37.1**	**-2.7**
PCIG				*e*Sn	**Sn**	**08 57 59.9**	**-2.4**
PCIG		**1.88**	**332**	*e*P	**Pn**	**08 57 37.1**	**-2.7**
PCIG				*i* S	**Sn**	**08 57 59.9**	**-2.4**
APG	**El Apazote**	**2.03**	**61**	Pn	**Pn**	**08 57 41.8**	**-0.3**
	81nm,0.3s,baz=243,slow=7.2,SNR=818						
APG				Sn	**Sn**	**08 58 08.5**	**+2.1**
	156nm,0.3s,baz=350,slow=18,SNR=9.4						
APG				LR	LR	08 58 16.4	
	comp=Z,902nm,20.9s,baz=265,slow=36						
CCIG	**Comitan**	**2.24**	**4**	*e*Pn	**Pn**	**08 57 44.9**	**0.0**
CCIG				*i* S	**Sn**	**08 58 11.2**	**-0.2**
CCIG				*e*Sn	Sn	08 58 17.7	+6.3
CCIG	**Comitan**	**2.24**	**4**	*e*P	**Pn**	**08 57 43.4**	**-1.5**
CCIG				*i* S	**Sn**	**08 58 11.2**	**-0.2**
RTR	**El Retiro**	**2.59**	**93**	*e*P	**Pn**	**08 57 48.9**	**-0.8**
CEVE	**Cerro Verde**	**2.62**	**94**	*e*P	**Pn**	**08 57 48.7**	**-1.4**
CEVE				*e*S	**Sn**	**08 58 20.0**	**-0.8**
CEVE				IAML		08 58 31.0	
	comp=Z,8μm,0.5s						
SBLS	**San Blas**	**2.62**	**94**	*e*P	**Pn**	**08 57 49.2**	**-0.9**
SNJE	**San Jose**	**2.63**	**93**	*e*P	**Pn**	**08 57 49.5**	**-0.9**
TGIG		**2.84**	**344**	*e*Pn	**Pn**	**08 57 51.9**	**-1.1**
TGIG				*e*Sn	**Sn**	**08 58 25.7**	**-0.3**
TGIG		**2.84**	**344**	*e*P	**Pn**	**08 57 51.9**	**-1.1**
TGIG				*i* S	**Sn**	**08 58 25.7**	**-0.3**
COLS	**Colinas**	**2.95**	**97**	*e*P	**Pn**	**08 57 53.5**	**-1.1**
BOQS	**Boqueron**	**2.96**	**95**	*e*P	**Pn**	**08 57 54.1**	**-0.8**
BOQS				*e*S	**Sn**	**08 58 28.5**	**-0.7**
UEES	**San Salvador**	**2.99**	**96**	*e*P	**Pn**	**08 57 54.4**	**-0.8**
UEES				*e*S	**Sn**	**08 58 27.8**	**-2.1**
UEES				IAML		08 58 31.6	
	comp=Z,2μm,0.3s						
SNET	**Serv Nac Est T**	**3.01**	**96**	*e*Pn	**Pn**	**08 57 53.7**	**-1.8**
SNET				*e*Sn	**Sn**	**08 58 28.5**	**-1.8**
SNET	**Serv Nac Est T**	**3.01**	**96**	*e*P	**Pn**	**08 57 55.0**	**-0.4**
SNET				*e*S	**Sn**	**08 58 27.4**	**-2.9**
SNET				IAML		08 58 37.8	
	comp=Z,1μm,0.4s						
OPAM	**San Salvador**	**3.04**	**96**	*e*P	**Pn**	**08 57 54.9**	**-0.9**
OPAM				*e*S	**Sn**	**08 58 28.2**	**-2.7**
LFU	**La Fuente**	**3.12**	**95**	*e*P	**Pn**	**08 57 56.0**	**-0.9**
LFU				*e*S	**Sn**	**08 58 31.0**	**-2.0**
LFRS	**El Faro**	**3.18**	**97**	*e*P	**Pn**	**08 57 56.6**	**-1.3**
LBRS	**Las Brisas**	**3.19**	**95**	*e*P	**Pn**	**08 57 57.7**	**-0.2**
LBRS				*e*S	**Sn**	**08 58 34.3**	**-0.3**
PAVA	**Las Pavas**	**3.29**	**95**	*e*P	**Pn**	**08 57 58.7**	**-0.7**
PAVA				*e*S	**Sn**	**08 58 35.4**	**-2.0**
PAVA				IAML		08 58 54.8	
	comp=Z,698nm,0.4s						
SNVI	**San Vicente**	**3.40**	**97**	*e*S	**Sn**	**08 58 38.2**	**-1.7**
TECA	**Tecapa**	**3.74**	**98**	*e*P	**Pn**	**08 58 05.1**	**-0.5**
CMIG	**Matias Romero**	**3.92**	**321**	Pn	**Pn**	**08 58 06.3**	**-1.6**
	comp=Z,9.2nm,0.3s,baz=156,slow=13,SNR=126						
CMIG				Sn	**Sn**	**08 58 50.1**	**-2.6**
	comp=Z,26nm,0.3s,baz=110,slow=18,SNR=7.0						
CMIG				Lg	Lg	08 59 02.1	
	comp=Z,64nm,0.3s,baz=238,slow=19,SNR=8.5						
HUIG	**Huatulco**	**4.06**	**296**	*e*Pn	**Pn**	**08 58 07.0**	**-2.7**
HUIG				*e*Sn	**Sn**	**08 58 53.0**	**-3.1**
HUIG	**Huatulco**	**4.06**	**296**	*e*P	**Pn**	**08 58 07.0**	**-2.7**
HUIG				*e*S	**Sn**	**08 58 53.0**	**-3.1**
LCND	**La Ca˜–ada**	**4.36**	**99**	*e*P	**Pn**	**08 58 12.7**	**-1.2**
LCND				*e*S	**Sn**	**08 59 00.4**	**-3.0**
LCND				IAML		08 59 21.0	
	comp=Z,565nm,0.5s						
VHO	**Vista Hermosa**	**5.22**	**306**	*e*Pn	**Pn**	**08 58 23.6**	**-2.3**
VHO				*e*Sn	**Sn**	**08 59 23.2**	**-1.9**
VHO	**Vista Hermosa**	**5.22**	**306**	*i* P	**Pn**	**08 58 23.6**	**-2.3**
VHO				*e*S	**Sn**	**08 59 23.2**	**-1.9**
CRIN	**San Cristobal**	**5.29**	**104**	*e*P	**Pn**	**08 58 26.8**	**0.0**
CRIN				*e*S	**Sn**	**08 59 26.8**	**+0.3**
MOMN	**Momotombo**	**5.85**	**105**	*e*P	**Pn**	**08 58 34.0**	**-0.3**
ESTN	**Estel**	**5.85**	**98**	*e*Pn	**Pn**	**08 58 33.4**	**-1.1**
COPN	**Copaltepe**	**5.87**	**108**	*e*P	**Pn**	**08 58 34.0**	**-0.6**
COPN				IAML		08 58 42.1	
	comp=Z,170nm,0.4s						
MATN	**Matagalpa**	**6.31**	**99**	*e*P	**Pn**	**08 58 40.8**	**+0.1**
BOAB	**BOACO BROADBAN**	**6.66**	**103**	*e*Pn	**Pn**	**08 58 45.6**	**+0.1**
LVIG	**Laguna Verde**	**6.89**	**326**	*e*Pn	**Pn**	**08 58 48.1**	**-0.5**
TLIG	**Tlapa**	**6.97**	**301**	*e*Pn	**Pn**	**08 58 51.6**	**+1.8**
TEIG	**Tepich**	**7.26**	**31**	*e*Pn	**Pn**	**08 58 53.6**	**-0.2**
MYIG	**MÓrida**	**7.31**	**19**	*e*Pn	**Pn**	**08 58 57.1**	**+2.8**
ESPN	**Las Esperanzas**	**8.01**	**102**	*e*Pn	**Pn**	**08 59 04.2**	**+0.1**
ESPN	**Las Esperanzas**	**8.01**	**102**	*e*P	**Pn**	**08 59 03.9**	**-0.2**
JTS	**JuntasAbangare**	**8.10**	**117**	Pn	**Pn**	**08 59 04.4**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=16,slow=20,SNR=4.9						
JTS				Lg	Lg	09 01 04.4	
	comp=Z,0.6nm,0.3s,baz=323,slow=22,SNR=9.6						
JTS				LR	LR	09 01 55.8	
	comp=Z,381nm,21.4s,baz=5.5,slow=36						
JTS	**JuntasAbangare**	**8.10**	**117**	*e*Pn	**Pn**	**08 59 06.0**	**+0.8**
HDC	**Heredia**	**8.96**	**116**	*e*Pn	**Pn**	**08 59 18.8**	**+1.6**
MOIG	**Morelia**	**10.18**	**305**	*e*Pn	**Pn**	**08 59 37.1**	**+3.1**
JRQG	**Juriquilla Cam**	**10.21**	**312**	*e*Pn	Pn	08 59 40.9	+6.5
LNIG	**Linares**	**12.73**	**329**	*e*Pn	**Pn**	**09 00 12.6**	**+4.0**
833A	**Chaparral WMA,**	**15.67**	**336**	*e*Pn	**Pn**	**09 00 47.3**	**-0.5**
	comp=Z,15nm,0.8s						
833A	**Chaparral WMA,**	**15.67**	**336**	P	**Pn**	**09 00 46.9**	**-0.9**
	baz=154,SNR=7.3						
HKT	**Hockley**	**16.17**	**349**	*e*Pn	**P**	**09 00 55.5**	**-1.1**
	comp=Z,3.0nm,0.9s						
058A	**Arcadia**	**16.25**	**36**	P	**Pn**	**09 00 54.4**	**-0.8**
	baz=219						
958A	**Wauchula**	**16.69**	**34**	P	**Pn**	**09 01 00.3**	**-0.5**
	baz=218						
446A	**Poplarville**	**16.89**	**9**	P	**Pn**	**09 01 03.8**	**+0.5**
	baz=190						
857A	**Zephyrhills**	**16.98**	**32**	P	**Pn**	**09 01 03.5**	**-0.9**
	baz=215						
447A	**Lucedale**	**17.02**	**11**	P	**Pn**	**09 01 04.4**	**-0.5**
	baz=192						
343A	**Vidalia**	**17.18**	**2**	P	**Pn**	**09 01 06.6**	**-0.2**
	baz=182						
341A	**Kurthwood**	**17.23**	**358**	P	**Pn**	**09 01 07.9**	**+0.3**
	baz=177						
DWPF	**Disney Wildern**	**17.28**	**34**	P	**Pn**	**09 01 07.0**	**-1.1**
	baz=218						
345A	**Thompson Farm,**	**17.32**	**7**	P	**P**	**09 01 10.3**	**+0.8**
	baz=188						
344A	**Westbrook Farm**	**17.39**	**5**	*e*Pn	**P**	**09 01 12.4**	**+2.1**
	comp=Z,16nm,0.8s						
344A	**Westbrook Farm**	**17.39**	**5**	P	**P**	**09 01 10.5**	**+0.2**
	baz=185						
346A	**Big Creek Wild**	**17.47**	**8**	*e*P	**P**	**09 01 11.8**	**+0.7**
	comp=Z,28nm,0.8s						
346A	**Big Creek Wild**	**17.47**	**8**	P	**P**	**09 01 13.1**	**+2.0**
	baz=189						
655A	**Horseshoe Beac**	**17.53**	**27**	P	**Pn**	**09 01 10.8**	**-0.4**
	baz=210						
859A	**Kempfer Cattle**	**17.53**	**35**	P	**Pn**	**09 01 11.5**	**+0.3**
	baz=219						
451A	**Vernon**	**17.57**	**19**	*e*P	**P**	**09 01 13.1**	**+0.8**
	comp=Z,39nm,1.0s						
757A	**Oxford**	**17.61**	**31**	P	**P**	**09 01 13.3**	**+0.5**
	baz=214						
347A	**Saraland**	**17.63**	**11**	P	**Pn**	**09 01 11.9**	**-0.5**
	baz=192						
656A	**Willston**	**17.74**	**29**	*e*Pn	**P**	**09 01 14.1**	**0.0**
	comp=Z,67nm,1.0s						
656A	**Willston**	**17.74**	**29**	P	**Pn**	**09 01 11.5**	**-2.3**
	baz=212,SNR=5.6						
348A	**Jackson**	**17.76**	**12**	*e*Pn	**P**	**09 01 15.6**	**+1.2**
	comp=Z,36nm,1.0s						
348A	**Jackson**	**17.76**	**12**	P	**P**	**09 01 14.6**	**+0.2**
	baz=194						
349A	**Repton**	**17.86**	**14**	P	**P**	**09 01 17.0**	**+1.5**
	baz=196						
HPIG		**17.90**	**318**	*e*Pn	**P**	**09 01 18.3**	**+2.1**
	comp=Z,4.4nm,0.9s						
241A	**Mo Tay, Goldon**	**17.91**	**358**	*e*Pn	**P**	**09 01 16.9**	**+0.9**
	comp=Z,48nm,1.1s						
241A	**Mo Tay, Goldon**	**17.91**	**358**	P	**P**	**09 01 17.6**	**+1.6**
	baz=178						
240A	**Hunter Patters**	**17.97**	**356**	*e*Pn	**P**	**09 01 17.9**	**+1.3**
	comp=Z,17nm,0.8s						
244A	**Avery, Jackson**	**17.98**	**4**	P	**P**	**09 01 17.8**	**+1.0**
	baz=185						
245A	**Little AP, Sta**	**18.05**	**7**	P	**Pn**	**09 01 18.1**	**+0.5**
	baz=188						
VBMS	**Vicksburg**	**18.17**	**5**	*e*P	**Pn**	**09 01 19.0**	**0.0**
	comp=Z,21nm,0.8s						
VBMS	**Vicksburg**	**18.17**	**5**	P	**P**	**09 01 18.4**	**-0.4**
	baz=186						
555A	**McAlpin**	**18.18**	**27**	*e*Pn	**Pn**	**09 01 22.6**	**+3.4**
	comp=Z,42nm,0.6s						
555A	**McAlpin**	**18.18**	**27**	P	**Pn**	**09 01 19.5**	**+0.4**
	baz=210						
453A	**Whigham**	**18.28**	**22**	*e*P	**Pn**	**09 01 22.3**	**+2.0**
	comp=Z,45nm,1.0s						
453A	**Whigham**	**18.28**	**22**	P	**P**	**09 01 18.7**	**-1.4**
	baz=205						
556A	**Lake Butler**	**18.33**	**28**	P	**P**	**09 01 20.0**	**-0.6**
	baz=212						
142A	**Monroe**	**18.43**	**1**	P	**Pn**	**09 01 22.0**	**-0.1**
	baz=181						
248A	**Dixon Mills**	**18.45**	**12**	P	**Pn**	**09 01 23.1**	**+0.6**
	baz=194						
249A	**Camden**	**18.48**	**14**	P	**Pn**	**09 01 23.2**	**+0.5**
	baz=196						
WHTX	**Lake Whitney,**	**18.48**	**346**	P	**Pn**	**09 01 23.9**	**+1.1**
	baz=164						
141A	**Papa Simpson,**	**18.49**	**358**	P	**Pn**	**09 01 25.3**	**+2.4**
	baz=178						
LTX	**Lajitas**	**18.50**	**327**	*e*P	**Pn**	**09 01 24.1**	**+0.9**
TXAR	**Lajitas Array**	**18.50**	**327**	P	**Pn**	**09 01 24.1**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=151,slow=13,SNR=53						
TXAR				LR	LR	09 09 45.8	
	comp=Z,75nm,20.1s,baz=0.0,slow=41						
140A	**Cam and Jess,**	**18.55**	**357**	*e*P	**Pn**	**09 01 25.5**	**+1.8**
	comp=Z,29nm,1.0s						
352A	**Blakely**	**18.64**	**20**	*e*P	**Pn**	**09 01 24.6**	**-0.1**
	comp=Z,26nm,1.0s						
352A	**Blakely**	**18.64**	**20**	P	**P**	**09 01 23.2**	**-0.7**
	baz=203						
146A	**Union**	**18.75**	**9**	P	**Pn**	**09 01 26.0**	**-0.1**
	baz=190						
353A	**Camilla**	**18.76**	**22**	P	**Pn**	**09 01 27.3**	**+1.1**
	baz=205						
147A	**Livingston**	**18.91**	**11**	*e*P	**Pn**	**09 01 29.4**	**+1.4**
	comp=Z,28nm,1.0s						
147A	**Livingston**	**18.91**	**11**	P	**Pn**	**09 01 28.2**	**+0.2**
	baz=192						
148A	**Greensboro**	**19.02**	**12**	P	**P**	**09 01 28.2**	**0.0**
	baz=194						
251A	**Milway**	**19.05**	**18**	P	**P**	**09 01 28.2**	**-0.4**
	baz=201						
TIGA	**Tifton**	**19.08**	**23**	P	**P**	**09 01 28.5**	**-0.4**
	baz=207						
149A	**Jones**	**19.15**	**14**	P	**Pn**	**09 01 30.9**	**0.0**
	baz=196						
Z40A	**Long Farm, Mag**	**19.16**	**357**	P	**P**	**09 01 30.0**	**+0.2**
	baz=177						
252A	**Lumpkin**	**19.17**	**20**	P	**P**	**09 01 30.0**	**+0.1**
	baz=203						
Z44A	**Pea Ridge, Bel**	**19.23**	**5**	P	**P**	**09 01 29.2**	**-1.3**
	baz=186						
Z46A	**Louisville**	**19.32**	**9**	P	**P**	**09 01 30.9**	**-0.5**
	baz=190,SNR=7.8						
150A	**Eclectic**	**19.36**	**16**	P	**P**	**09 01 31.6**	**-0.2**
	baz=199						
Z47A	**Carrollton**	**19.46**	**11**	P	**P**	**09 01 31.8**	**-1.2**
	baz=192,SNR=5.5						
151A	**Opelika**	**19.48**	**18**	P	**P**	**09 01 32.2**	**-1.1**
	baz=201,SNR=7.9						
LRAL	**Lakeview Retre**	**19.52**	**13**	*e*P	**P**	**09 01 33.6**	**-0.1**
	comp=Z,10nm,1.0s						
LRAL	**Lakeview Retre**	**19.52**	**13**	P	**P**	**09 01 32.2**	**-1.5**
	baz=196						
254A	**Abbeville**	**19.64**	**23**	P	**P**	**09 01 33.6**	**-1.5**
	baz=207						
ABTX	**Abilene, Hawle**	**19.68**	**341**	*e*P	**Pn**	**09 01 37.1**	**0.0**
	comp=Z,12nm,0.9s						
ABTX	**Abilene, Hawle**	**19.68**	**341**	P	**P**	**09 01 35.8**	**+0.4**
	baz=159						
LPIG	**La Paz**	**19.72**	**303**	LR	LR	09 09 41.1	
	comp=Z,153nm,18.2s,baz=127,slow=38						
Z48A	**Northport**	**19.73**	**12**	P	**P**	**09 01 34.6**	**-1.4**
	baz=194						
Z49A	**Columbiana**	**19.78**	**14**	P	**P**	**09 01 36.1**	**-0.4**
	baz=197						
152A	**Waverly Hall**	**19.80**	**19**	*e*P	**Pn**	**09 01 38.3**	**-0.2**
	comp=Z,12nm,0.8s						
152A	**Waverly Hall**	**19.80**	**19**	P	**P**	**09 01 35.7**	**-1.0**
	baz=202						
CCAR	**Cane Creek**	**19.80**	**1**	*e*P	**P**	**09 01 37.3**	**+0.6**
	comp=Z,35nm,1.0s						
Y45A	**Yeager Farm, C**	**19.90**	**7**	P	**P**	**09 01 37.2**	**-0.5**
	baz=188						
Y44A	**Strider, Charl**	**19.93**	**5**	P	**P**	**09 01 38.2**	**+0.1**
	baz=186						
ROSC	**El Real**	**19.94**	**116**	P	**Pn**	**09 01 41.4**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=113,slow=18,SNR=6.9						
ROSC	**El Rosal**	**19.94**	**116**	*e*P	**Pn**	**09 01 41.8**	**+1.0**
	comp=Z,9.7nm,0.9s						
Z50A	**Ashland**	**19.99**	**16**	*e*P	**P**	**09 01 39.4**	**+0.6**
	comp=Z,15nm,1.0s						
Z50A	**Ashland**	**19.99**	**16**	P	**P**	**09 01 37.2**	**-1.6**
	baz=198						
Y46A	**Houston**	**20.00**	**8**	P	**P**	**09 01 38.6**	**-0.3**
	baz=190						
Y47A	**UCPARC, Winfie**	**20.19**	**11**	P	**P**	**09 01 41.3**	**+0.3**
	baz=193						
Y48A	**Jasper**	**20.33**	**12**	P	**P**	**09 01 41.1**	**-1.4**
	baz=194						
X40A	**Basin Creek Fa**	**20.37**	**359**	P	**P**	**09 01 41.9**	**-0.9**
	baz=179						
X41A	**Kaden, Bauxite**	**20.37**	**360**	P	**P**	**09 01 43.3**	**+0.4**
	baz=180						
Z52A	**Williamson**	**20.37**	**19**	P	**P**	**09 01 41.2**	**-1.8**
	baz=202						
Y49A	**Blount Mountai**	**20.45**	**14**	P	**P**	**09 01 43.1**	**-0.7**
	baz=196						
X39A	**Fountain Ranch**	**20.45**	**356**	P	**P**	**09 01 44.9**	**+1.1**
	baz=175						
MIAR	**Mount Ida**	**20.45**	**357**	*e*P	**P**	**09 01 43.6**	**-0.2**
	comp=Z,16nm,0.9s						
MIAR	**Mount Ida**	**20.45**	**357**	P	Pn	09 01 45.1	-1.1
	baz=177						
X45A	**UM Field Stati**	**20.47**	**7**	P	**P**	**09 01 44.0**	**0.0**
	baz=188						
OXF	**Oxford**	**20.55**	**7**	*e*P	**P**	**09 01 44.1**	**-0.8**
	comp=Z,18nm,0.9s						
OXF	**Oxford**	**20.55**	**7**	P	**P**	**09 01 44.3**	**-0.5**
	baz=188						
155A	**Kite**	**20.57**	**24**	P	**P**	**09 01 44.6**	**-0.4**
	baz=208						
Y50A	**Piedmont**	**20.65**	**16**	P	**P**	**09 01 46.3**	**+0.3**
	baz=198						
X37A	**Clayton**	**20.65**	**353**	*e*P	**P**	**09 01 47.0**	**+1.0**
	comp=Z,13nm,0.9s						
X46A	**Booneville**	**20.70**	**9**	P	**P**	**09 01 47.3**	**+0.7**
	baz=190						
Z53A	**Monticello**	**20.74**	**21**	P	**P**	**09 01 46.1**	**-0.8**
	baz=204						
X47A	**Russelville**	**20.79**	**10**	P	**P**	**09 01 46.2**	**-1.2**
	baz=192,SNR=5.5						
Y51A	**Rockmart**	**20.84**	**17**	P	**P**	**09 01 48.0**	**0.0**
	baz=200						
X48A	**Hartselle**	**20.88**	**12**	*e*P	**P**	**09 01 47.1**	**-1.3**
	comp=Z,12nm,1.0s						
X48A	**Hartselle**	**20.88**	**12**	P	**P**	**09 01 46.7**	**-1.7**
	baz=194						
GOGA	**Godfrey**	**20.90**	**21**	*e*P	**P**	**09 01 49.0**	**+0.4**
	comp=Z,9.0nm,0.9s						
GOGA	**Godfrey**	**20.90**	**21**	P	**P**	**09 01 46.7**	**-1.9**
	baz=205						
Z54A	**Sparta**	**20.96**	**23**	P	**P**	**09 01 46.5**	**-2.8**
	baz=206						
CLNB	**Carlsbad**	**21.00**	**332**	*e*P	**P**	**09 01 52.1**	**+2.2**
W41B	**Gary Mavity, V**	**21.05**	**0**	*e*P	**P**	**09 01 52.1**	**+1.9**
	comp=Z,14nm,0.9s						
W41B	**Gary Mavity, V**	**21.05**	**0**	P	**P**	**09 01 49.5**	**-0.7**
	baz=180						
W40A	**Ferguson Farm,**	**21.07**	**358**	P	**P**	**09 01 50.4**	**-0.1**
	baz=178						
X49A	**Woodville**	**21.09**	**14**	P	**P**	**09 01 49.5**	**-1.2**
	baz=196						
W39A	**Magazine**	**21.11**	**357**	*e*P	**P**	**09 01 52.0**	**+1.1**
	comp=Z,10nm,1.0s						
W39A	**Magazine**	**21.11**	**357**	P	**P**	**09 01 51.7**	**+0.8**
	baz=176						
Y52A	**Lilburn**	**21.11**	**19**	*e*P	**P**	**09 01 51.2**	**+0.3**
	comp=Z,8.3nm,0.8s						
Y52A	**Lilburn**	**21.11**	**19**	P	**P**	**09 01 50.2**	**-0.7**
	baz=203						
WHAR	**Wooly Hollow**	**21.16**	**0**	*e*P	**P**	**09 01 52.1**	**+0.7**
	comp=Z,19nm,1.2s						
GDL2	**Guadalupe Moun**	**21.18**	**331**	*e*P	**P**	**09 01 53.9**	**+2.1**
PLAL	**Pickwick Lake**	**21.20**	**10**	*e*P	**P**	**09 01 52.5**	**+0.6**
	comp=Z,6.5nm,0.9s						
X50B	**Fort Payne**	**21.21**	**15**	P	**P**	**09 01 51.8**	**-0.2**
	baz=198						
Y53A	**Monroe**	**21.26**	**20**	P	**P**	**09 01 52.0**	**-0.5**
	baz=204						
MNTX	**Cornudas Mount**	**21.27**	**328**	*e*P	**P**	**09 01 54.0**	**+1.2**
	comp=Z,12nm,0.8s						
MNTX	**Cornudas Mount**	**21.27**	**328**	P	**P**	**09 01 53.2**	**+0.5**
	baz=143,SNR=22						
W46A	**Michie**	**21.30**	**9**	P	**P**	**09 01 53.1**	**+0.2**
	baz=190						
WMOK	**Wichita Mounta**	**21.43**	**345**	*e*P	**P**	**09 01 54.2**	**-0.1**
	comp=Z,8.4nm,0.9s						
WMOK	**Wichita Mounta**	**21.43**	**345**	P	**P**	**09 01 54.1**	**-0.1**
	baz=163,SNR=6.4						
W48A	**Pulaski**	**21.56**	**12**	P	**P**	**09 01 54.1**	**-1.6**
	baz=194						
Y54A	**Tignall**	**21.58**	**22**	P	**P**	**09 01 54.0**	**-1.9**
	baz=206						
V41A	**Mountainview**	**21.66**	**0**	P	**P**	**09 01 56.0**	**-0.8**
	baz=180						
V40A	**Witts Springs**	**21.68**	**359**	*e*P	**P**	**09 01 57.6**	**+0.6**
	comp=Z,11nm,0.9s						
V40A	**Witts Springs**	**21.68**	**359**	P	**P**	**09 01 56.9**	**-0.2**
	baz=179						
W49A	**Belvidere**	**21.69**	**14**	P	**P**	**09 01 55.6**	**-1.5**
	baz=196						
V42A	**Cord**	**21.69**	**2**	P	**P**	**09 01 55.7**	**-1.4**
	baz=182						
SDV	**Santo Domingo**	**21.84**	**101**	P	**P**	**09 01 58.7**	**-0.4**
	comp=Z,2.2nm,0.3s,baz=348,slow=9.3,SNR=3.3						
X52A	**Dahlonega**	**21.84**	**19**	P	**P**	**09 01 57.6**	**-1.2**
	baz=202						
SWET	**Sewanee**	**21.86**	**14**	*e*P	**P**	**09 01 57.6**	**-1.3**
	comp=Z,14nm,0.7s						
X53A	**Estanollee**	**21.95**	**20**	P	**P**	**09 01 59.1**	**-0.7**
	baz=204						
V46A	**Holladay**	**22.00**	**9**	P	**P**	**09 01 57.2**	**-3.2**
	baz=191						
W50A	**Signal Mountai**	**22.00**	**15**	*e*P	**P**	**09 02 01.1**	**+0.7**
	comp=Z,8.5nm,0.9s						
W50A	**Signal Mountai**	**22.00**	**15**	P	**P**	**09 01 59.1**	**-1.3**
	baz=198						
MSTX	**Muleshoe**	**22.00**	**336**	*e*P	**P**	**09 02 00.9**	**+0.4**
	comp=Z,9.5nm,0.8s						
MSTX	**Muleshoe**	**22.00**	**336**	P	**P**	**09 02 00.6**	**+0.1**
	baz=152,SNR=8.4						
TUL1	**Leonard**	**22.00**	**352**	P	**P**	**09 02 01.5**	**+1.0**
	baz=171						
W51A	**Cleveland**	**22.11**	**17**	P	**P**	**09 02 00.5**	**-1.1**
	baz=200						
V47A	**Nunnelly**	**22.12**	**10**	P	**P**	**09 02 00.4**	**-1.3**
	baz=192						
V48A	**Smith Brothers**	**22.17**	**12**	*e*P	**P**	**09 02 00.7**	**-1.6**
	comp=Z,8.7nm,0.7s						
V48A	**Smith Brothers**	**22.17**	**12**	P	**P**	**09 02 00.5**	**-1.7**
	baz=194						
HHAR	**Hobbs**	**22.20**	**357**	*e*P	**P**	**09 02 01.1**	**-1.5**
	comp=Z,12nm,1.1s						
U41A	**Viola**	**22.22**	**1**	P	**P**	**09 02 02.5**	**-0.3**
	baz=181						
U40A	**Yellville**	**22.23**	**359**	P	**P**	**09 02 01.1**	**-1.8**
	baz=179						
U42A	**Revenden**	**22.24**	**2**	P	**P**	**09 02 01.8**	**-1.2**
	baz=183						
W52A	**Murphy**	**22.29**	**18**	P	**P**	**09 02 01.5**	**-2.1**
	baz=202						
U43A	**Rector**	**22.30**	**4**	P	**P**	**09 02 02.1**	**-1.5**
	baz=185						
WVT	**Waverly**	**22.36**	**10**	P	**P**	**09 02 02.8**	**-1.6**
	baz=192						
V49A	**McMinnville**	**22.39**	**14**	P	**P**	**09 02 03.1**	**-1.6**
	baz=196						
AMTX	**Amarillo**	**22.41**	**339**	*e*P	**P**	**09 02 04.8**	**-0.2**
	comp=Z,28nm,0.7s						
AMTX	**Amarillo**	**22.41**	**339**	P	**P**	**09 02 04.8**	**-0.2**
	baz=156						
CPCT	**Cooper Cave**	**22.44**	**17**	*e*P	**P**	**09 02 04.0**	**-1.2**
	comp=Z,9.4nm,0.7s			

baz=184
SIUC Southern Illin 23.74 6 eP P 09 02 17.1 -1.1
comp=Z,23nm,0.8s
TZTN Tazewell 23.75 18 eP P 09 02 16.4 -1.8
comp=Z,12nm,1.1s
TZTN Tazewell 23.75 18 P P 09 02 16.1 -2.1
baz=201
T49A Edmonton 23.76 14 eP P 09 02 16.9 -1.4
comp=Z,10nm,1.0s
T49A Edmonton 23.76 14 P P 09 02 15.6 -2.7
baz=196
T50A Nancy 23.84 15 P P 09 02 16.7 -2.4
baz=198,SNR=6.4
BNM Barren Site 23.86 330 eP P 09 02 21.7 +2.2
U53A Fall Branch 23.88 20 P P 09 02 17.3 -2.2
baz=204
S46A Don Dixon Farm 23.90 9 P P 09 02 17.4 -2.2
baz=191,SNR=5.7
CCM Cathedral Cave 23.94 2 eP P 09 02 20.3 +0.3
comp=Z,3.7nm,0.8s
CCM Cathedral Cave 23.94 2 P P 09 02 18.1 -1.9
baz=183
S47A Hartford 23.95 11 P P 09 02 17.8 -2.3
baz=193
LPM Los Pinos Moun 23.99 330 eP P 09 02 22.3 +1.6
T51A Gray 24.02 17 P P 09 02 17.9 -2.9
baz=200
LENM Lemitar 24.04 329 eP P 09 02 22.8 +1.6
S48A Wiedeman Farm, 24.17 12 P P 09 02 20.0 -2.1
baz=195
R41A Rosebud 24.18 2 P P 09 02 20.0 -2.2
baz=182
LAZ Ladron 24.31 329 eP P 09 02 26.2 +2.5
R45A Skylar, Fairfi 24.42 8 P P 09 02 22.7 -1.6
baz=190
ANMO Albuquerque 24.42 331 P P 09 02 26.0 +1.4
comp=Z,6.1nm,0.8s,baz=152,slow=12,SNR=42
ANMO Albuquerque 24.42 331 eP P 09 02 26.1 +1.4
comp=Z,6.5nm,0.8s
ANMO Albuquerque 24.42 331 P P 09 02 26.7 +2.0
baz=145
T52A Hallie 24.44 18 P P 09 02 22.4 -2.2
baz=202
R46A Gibon Southern 24.45 9 P P 09 02 23.5 -1.1
baz=191
S49A Springfield 24.46 14 P P 09 02 22.4 -2.3
baz=197,SNR=6.6
SLM Saint Louis 24.57 4 eP P 09 02 24.7 -1.0
comp=Z,16nm,0.6s
S50A Richmond 24.57 15 P P 09 02 24.3 -1.4
baz=199
WCI Wyandotte Cave 24.68 11 eP P 09 02 25.1 -1.6
comp=Z,28nm,0.8s
WCI Wyandotte Cave 24.68 11 P P 09 02 25.8 -1.0
baz=194
R47A Wooly Knot Far 24.70 11 P P 09 02 24.5 -2.4
baz=194,SNR=5.8
S51A Beattyville 24.75 17 eP P 09 02 25.4 -2.0
comp=Z,9.4nm,0.8s
S51A Beattyville 24.75 17 P P 09 02 24.5 -2.9
baz=200
Q41A Truxton 24.84 2 P P 09 02 27.1 -1.1
baz=183
OLIL Olney 24.88 8 eP P 09 02 27.6 -0.9
comp=Z,24nm,0.8s
Q43A New Douglas 24.91 5 P P 09 02 27.1 -1.7
baz=186
R48A Northridge Ran 24.93 12 P P 09 02 27.7 -1.3
baz=195
Q44A Meyer Farm, Va 24.94 6 P P 09 02 27.0 -2.1
baz=188
R49A Shelbyville 24.97 13 P P 09 02 26.4 -3.0
baz=196
Q45A Warren Harvey, 25.03 8 P P 09 02 28.3 -1.6
baz=190
ATAH Atahualpa 25.16 146 P P 09 02 31.4 -0.4
comp=Z,4.0nm,0.7s,baz=108,slow=20,SNR=2.0
R51A Hillsboro 25.37 16 P P 09 02 30.5 -2.6
baz=200
T25A Trinidad 25.41 337 eP P 09 02 35.4 +1.8
comp=Z,7.7nm,0.8s
T25A Trinidad 25.41 337 P P 09 02 35.5 +1.8
baz=152
Q48A North Vernon 25.47 12 P P 09 02 32.1 -1.8
baz=195
CBKS Cedar Bluff 25.54 346 P P 09 02 34.6 +0.1
baz=163
P45A Graceland, Par 25.71 8 eP P 09 02 34.4 -1.6
comp=Z,15nm,0.8s
P45A Graceland, Par 25.71 8 P P 09 02 35.0 -1.1
baz=190
Q49A Aurora 25.72 13 P P 09 02 34.0 -2.1
baz=197
P46A Rosedale 25.87 9 P P 09 02 35.6 -1.9
baz=191
P47A Martinsville 25.90 11 P P 09 02 36.1 -1.7
baz=194
P48A Milroy 26.04 12 P P 09 02 36.4 -2.6
baz=195
Q51A Peebles 26.12 16 eP P 09 02 39.0 -0.7
comp=Z,9.3nm,0.9s
Q51A Peebles 26.12 16 P P 09 02 38.0 -1.7
baz=200
O44A Mansfield 26.23 7 P P 09 02 39.5 -1.3
baz=188
Q52A Bidwell 26.36 18 P P 09 02 40.2 -1.8
baz=202
SDCO Great Sand Dun 26.37 336 eP P 09 02 43.9 +1.5
comp=Z,2.0nm,0.8s
SDCO Great Sand Dun 26.37 336 P P 09 02 42.8 +0.4
baz=150,SNR=5.3
KSCO Kaye Shedlock' 26.49 342 eP P 09 02 44.0 +0.7
comp=Z,9.4nm,0.8s
KSCO Kaye Shedlock' 26.49 342 P P 09 02 43.7 +0.4
baz=157
HDIL Hopedale 26.55 5 P P 09 02 41.6 -2.0
baz=187
N41A Harden Midland 26.60 2 eP P 09 02 42.6 -1.5
comp=Z,12nm,1.1s
P51A Williamsport 26.62 16 P P 09 02 40.6 -3.7
baz=200
SFIN Lafayette 26.64 9 eP P 09 02 42.9 -1.5
comp=Z,16nm,1.1s
X16A Lo Mia Camp, P 26.67 323 eP P 09 02 47.2 +2.2
comp=Z,2.2nm,0.8s
S22A 4UR Ranch, Cre 26.91 334 eP P 09 02 48.9 +1.6
comp=Z,7.4nm,1.0s
S22A 4UR Ranch, Cre 26.91 334 P P 09 02 47.8 +0.5
baz=148,SNR=8.9
MVCO Mesa Verde 27.22 331 eP P 09 02 52.1 +2.1
comp=Z,14nm,0.8s
MVCO Mesa Verde 27.22 331 P P 09 02 51.1 +1.1
baz=144,SNR=12
WUAZ Wupatki 27.41 325 P P 09 02 53.0 +1.4
baz=137
ISCO Idaho Springs 28.20 338 P P 09 03 00.2 +1.4
baz=152
U15A North Rim 28.59 325 eP P 09 03 05.2 +2.9
comp=Z,2.5nm,1.0s
BC3 Big Chuckawall 28.68 317 P P 09 03 04.5 +1.6
baz=128
KNB Kanab 29.30 325 eP P 09 03 11.3 +2.8
comp=Z,3.2nm,0.8s
SZCU Shurtz Canyon 29.87 326 eP P 09 03 15.9 +2.3
comp=Z,3.9nm,0.9s
CCUT Cedar City 29.99 325 eP P 09 03 18.1 +3.4
comp=Z,3.9nm,0.9s
MSU Marysvale 30.06 328 eP P 09 03 17.6 +2.3
NNA Nana 30.06 149 LR LR 09 13 03.1
comp=Z,153nm,21.4s,baz=248,slow=32
P17A Butcher Ranch, 30.09 331 eP P 09 03 16.9 +1.5
comp=Z,7.6nm,0.8s
TMUT Trail Mountain 30.17 330 eP P 09 03 18.2 +1.9
comp=Z,5.3nm,1.0s
MPU Maple Canyon 30.94 330 eP P 09 03 24.7 +1.8
comp=Z,5.1nm,0.8s
FURC Furnace Creek, 31.33 320 P P 09 03 26.7 +0.5
baz=130
MPMC Manual Prospec 31.47 319 P P 09 03 28.8 +1.1
baz=128
RSSD Black Hills 31.61 344 eP P 09 03 29.6 +0.7
comp=Z,3.0nm,0.8s
RSSD Black Hills 31.61 344 P P 09 03 28.8 -0.1
baz=158
DUG Dugway, Tooele 31.65 329 P P 09 03 31.0 +1.8
baz=140
TCUT Toone Canyon 31.70 332 eP P 09 03 31.4 +1.6
comp=Z,12nm,0.9s

R11A Troy Canyon, C 31.80 324 eP P 09 03 33.1 +2.6
comp=Z,1.6nm,0.9s
R11A Troy Canyon, C 31.80 324 P P 09 03 31.8 +1.3
baz=134
GRAC Grapevine Rang 31.97 320 P P 09 03 33.4 +1.5
baz=129
HWUT Hardware Ranch 32.16 332 eP P 09 03 35.6 +1.9
comp=Z,3.9nm,0.8s
PDAR Pinedale Array 32.26 336 P P 09 03 34.8 +0.2
comp=Z,0.6nm,0.7s,baz=142,slow=8.3,SNR=5.8
PDAR LR LR 09 18 31.7
comp=Z,78nm,19.1s,baz=159,slow=40
PDAR Pinedale Array 32.26 336 eP P 09 03 36.5 +1.9
REDW Red Top Meadow 33.28 335 eP P 09 03 44.6 +1.1
comp=Z,10nm,0.8s
SNOW Snow King Moun 33.33 335 eP P 09 03 45.0 +1.0
comp=Z,14nm,0.7s
NV11 Mina Array Sit 33.37 321 eP P 09 03 46.8 +2.5
comp=Z,0.3nm,0.8s
LOHW Long Hollow 33.39 336 eP P 09 03 45.7 +1.3
comp=Z,3.7nm,0.8s
TPAW Teton Pass 33.43 335 eP P 09 03 46.5 +1.6
comp=Z,6.2nm,0.8s
NV01 Mina Array Sit 33.45 321 eP P 09 03 47.3 +2.2
NVAR Mina Array Bea 33.45 321 P P 09 03 47.3 +2.2
comp=Z,3.8nm,0.7s,baz=134,slow=8.5,SNR=40
NVAR PcP PcP 09 06 27.1 +1.5
comp=Z,1.1nm,0.8s,baz=113,slow=6.0,SNR=4.6
NVAR LR LR 09 19 38.1
comp=Z,122nm,19.0s,baz=144,slow=40
FXWY Fox Creek 33.58 335 eP P 09 03 47.4 +1.2
comp=Z,1.7nm,0.9s
KVN Kaiserville 33.73 322 eP P 09 03 49.2 +1.7
comp=Z,4.6nm,1.1s
MDND Maddock 34.25 351 P P 09 03 50.6 -1.0
baz=168
LAO LASA Array 34.58 343 P P 09 03 54.3 -0.2
baz=156
PNTR Pine Nut 34.66 321 eP P 09 03 58.0 +2.5
comp=Z,4.3nm,0.8s
E54A Lac Daplat, Po 34.71 18 P P 09 03 52.0 -3.6
baz=206
HLID Hailey 35.00 332 eP P 09 04 00.1 +1.7
comp=Z,6.6nm,1.0s
HLID Hailey 35.00 332 P P 09 03 59.3 +1.0
baz=141,SNR=9.1
PTGA Pitinga 35.23 112 eP P 09 04 00.2 -0.3
comp=Z,5.8nm,0.8s
BOZ Bozeman (W) 35.45 336 P P 09 04 02.9 +0.7
baz=147
DGMT Dagmar 35.72 346 eP P 09 04 05.2 +1.0
comp=Z,7.9nm,0.6s
DGMT Dagmar 35.72 346 P P 09 04 05.0 +0.8
baz=160
ULM Lac Bonnet 36.23 356 LR LR 09 21 09.0
comp=Z,174nm,18.2s,baz=179,slow=40
HRY Holter Researc 36.45 337 eP P 09 04 12.5 +1.8
EGMT Eagleton 36.85 340 eP P 09 04 14.6 +0.6
comp=Z,5.6nm,1.0s
MSO Missoula 37.38 335 eP P 09 04 19.5 +1.0
comp=Z,4.2nm,1.1s
MSO Missoula 37.38 335 P P 09 04 18.3 -0.2
baz=144
F10A Beach Ranch, E 38.13 332 eP P 09 04 25.9 +1.0
comp=Z,16nm,0.8s
YBH Yreka Blue Hor 38.15 322 LR LR 09 22 28.5
comp=Z,139nm,19.0s,baz=151,slow=40
JTMT Jette 38.26 336 eP P 09 04 26.8 +0.8
comp=Z,4.3nm,1.0s
LPAZ La Paz 38.45 141 P P 09 04 28.3 -0.1
comp=Z,0.9nm,0.8s,baz=349,slow=9.3,SNR=5.8
LPAZ La Paz 38.45 141 eP P 09 04 28.8 +0.3
comp=Z,1.4nm,0.9s
KRMB Red Mountain 38.75 321 eP P 09 04 31.8 +1.6
comp=Z,4.9nm,1.1s
I04A Tendick Farm, 39.26 325 P P 09 04 35.3 +0.9
baz=130
G05D Wamic, OR 39.63 328 P P 09 04 38.7 +1.4
baz=133
H04A Detroit Lake 39.72 326 eP P 09 04 41.0 +2.9
comp=Z,11nm,0.8s
I03D Drain, OR 39.73 324 P P 09 04 39.4 +1.3
baz=129
NEW Newport 39.83 334 P P 09 04 38.9 -0.1
comp=Z,1.2nm,0.6s,baz=138,slow=14,SNR=4.6
NEW Newport 39.83 334 eP P 09 04 39.3 +0.3
comp=Z,2.1nm,0.8s
NEW Newport 39.83 334 P P 09 04 38.6 -0.4
baz=141
H04D Lebanon 39.91 326 P P 09 04 40.3 +0.6
baz=130
C09A Chrisman Ranch 39.98 333 eP P 09 04 41.0 +0.8
comp=Z,6.5nm,0.9s
F05D White Salmon 40.13 328 P P 09 04 42.9 +1.4
baz=133
I02D Swisshome 40.27 324 P P 09 04 43.3 +0.7
baz=128
LON Longmire 40.90 329 eP P 09 04 49.6 +1.7
comp=Z,6.1nm,0.9s
B06A Marblemount 41.98 331 eP P 09 04 58.3 +1.7
comp=Z,11nm,0.7s
PGC Sidney 43.01 330 eP P 09 05 06.2 +1.2
comp=Z,11nm,0.9s
RPN Rapa Nui 44.13 202 LR LR 09 18 53.3
comp=Z,113nm,20.1s,baz=2.0,slow=30
DRLN Deer Lake 45.23 32 eP P 09 05 19.5 -3.3
SCHQ Schefferville 45.29 20 LR LR 09 26 21.8
comp=Z,218nm,18.2s,baz=172,slow=39
YKA Yellowknife Ar 50.92 347 P P 09 06 06.2 -0.3
comp=Z,5.9nm,0.8s,baz=153,slow=7.4,SNR=9.4
YKB5 Yellowknife Ar 50.92 347 eP P 09 06 06.8 +0.4
YKW3 Yellowknife Ar 50.98 347 eP P 09 06 07.5 +0.6
comp=Z,15nm,1.0s
CRAG Craig 51.95 332 eP P 09 06 14.6 +0.4
comp=Z,43nm,1.2s
DLBC Dease Lake 52.50 336 P P 09 06 20.9 +2.4
comp=Z,12nm,1.0s,baz=165,slow=4.4,SNR=3.6
DLBC Dease Lake 52.50 336 eP P 09 06 20.0 +1.6
comp=Z,16nm,1.1s
TAOE Nuku Hiva Isla 52.63 247 eT T 10 02 49.8
comp=Z,19nm,0.2s
RKT Rikitea 55.74 229 eLR LR 09 23 10.2
comp=Z,163nm,35.0s
RKT Rikitea 55.74 229 eT T 10 06 38.9
comp=Z,2.9nm,0.3s
PLCA Paso Flores 58.11 161 LR LR 09 27 19.9
comp=Z,118nm,18.8s,baz=24,slow=31
PLCA Paso Flores 58.11 161 eP P 09 07 00.9 +1.9
comp=Z,2.3nm,1.1s
RCBR Riachuelo 59.34 106 eP P 09 07 08.1 0.0
comp=Z,17nm,1.1s
DAWY Dawson 59.53 338 eP P 09 07 09.1 +0.5
comp=Z,3.0nm,1.1s
INK Inuvik 60.32 344 P P 09 07 13.8 0.0
comp=Z,6.4nm,0.8s,baz=133,slow=7.7,SNR=11
INK Inuvik 60.32 344 eP P 09 07 14.0 +0.2
comp=Z,7.7nm,1.0s
RES Resolute Bay 60.66 359 eP P 09 07 14.6 -1.5
comp=Z,7.4nm,1.1s
KLU Klutina 60.81 334 eP P 09 07 19.2 +1.8
comp=Z,8.4nm,1.0s
DOT Dot Lake 61.06 336 eP P 09 07 20.4 +1.4
comp=Z,5.9nm,1.0s
SCRK Sand Creek 61.20 337 eP P 09 07 21.6 +1.6
comp=Z,1.2nm,1.0s
PAX Paxson 61.30 335 eP P 09 07 21.4 +0.7
comp=Z,4.6nm,1.2s
SCM Sheep Creek Mo 61.56 334 eP P 09 07 24.5 +2.0
comp=Z,12nm,1.1s
BRLK Bradley Lake 62.36 331 eP P 09 07 28.7 +0.9
comp=Z,23nm,1.2s
HDA Harding Lake 62.55 336 eP P 09 07 29.9 +0.9
comp=Z,5.2nm,1.0s
IL1 Eielson Array 62.69 337 eP P 09 07 30.6 +0.7
ILAR Eielson Array 62.69 337 P P 09 07 30.5 +0.6
comp=Z,4.8nm,1.1s,baz=118,slow=4.8,SNR=17
ILAR LR LR 09 39 39.8
comp=Z,47nm,18.3s,baz=115,slow=41
RND Reindeer 62.87 335 eP P 09 07 32.6 +1.4
comp=Z,12nm,0.9s
SUA Susitna One 62.91 333 eP P 09 07 32.7 +1.1
comp=Z,10nm,0.8s
CCB Clear Creek Bu 62.98 337 eP P 09 07 32.1 +0.2
comp=Z,4.1nm,1.2s
WRH Wood River Hil 63.02 336 eP P 09 07 32.8 +0.7
comp=Z,6.0nm,1.1s
MCK McKinley 63.04 335 eP P 09 07 33.3 +1.0
comp=Z,4.4nm,0.9s

MDM Murphy Dome 63.28 337 eP P 09 07 34.1 +0.2
comp=Z,4.1nm,0.9s
TRF Thorofare Moun 63.48 335 eP P 09 07 35.8 +0.4
comp=Z,8.6nm,0.8s
PPLA Purkeypile 64.07 334 eP P 09 07 39.2 0.0
comp=Z,4.5nm,0.8s
CAST Castle Rocks 64.21 334 eP P 09 07 40.1 +0.1
comp=Z,17nm,0.7s
MLY Manley 64.28 336 eP P 09 07 41.0 +0.5
comp=Z,9.9nm,0.9s
PPT2 Papeete2 64.65 243 eLR LR 09 26 56.2
comp=Z,110nm,26.0s
TOLK Toolik Lake Re 65.38 340 eP P 09 07 49.0 +1.4
comp=Z,15nm,1.1s
IM3 Indian Mountai 65.81 337 eP P 09 07 50.0 -0.3
TBI Tubuai 67.12 237 eLR LR 09 28 03.4
comp=Z,135nm,33.8s
ESDC Sonseca Array 79.93 52 P P 09 09 14.8 +0.2
comp=Z,0.6nm,0.3s,baz=276,slow=3.5,SNR=7.3
NOA NORSAR Array B 84.25 28 LR LR 09 47 10.2
comp=Z,14nm,19.3s,baz=250,slow=36
ARCES ARCESS Array B 86.19 18 eP P 09 09 45.7 -0.5
SEY Seymchan 88.59 336 P P 09 09 57.9 0.0
comp=Z,0.9nm,0.2s,baz=180,slow=20,SNR=3.0
TIXI Tiksi 90.16 348 P P 09 10 04.8 -0.3
comp=Z,3.7nm,0.7s,baz=22,slow=4.9,SNR=15
TIXI Tiksi 90.16 348 eP P 09 10 04.8 -0.3
comp=Z,4.6nm,0.7s
MA2 Magadan 90.93 333 LR LR 09 55 36.1
comp=Z,7.5nm,21.6s,baz=42,slow=39
NRIK Noril'sk 96.84 0 LR LR 09 58 54.4
comp=Z,69nm,18.1s,baz=38,slow=38
STKA Stephens Creek 127.81 240 ePKPdf PKPdf 09 16 12.2 +1.0
LZH Lanzhou 127.86 343 ePKP PKPdf 09 16 07.2 -4.3
LZH pPKP sPKPdf 09 16 32.2 +1.3
LZH sPKP 09 16 45.3
UOSS Minazif 130.56 39 ePKPdf PKPdf 09 16 17.6 +0.9
WB2 Warramunga Arr 135.10 256 ePKPdf PKPdf 09 16 25.7 +0.4
WR1 Warramunga Arr 135.11 256 ePKPdf PKPdf 09 16 25.2 -0.1
WRA Warramunga Arr 135.11 256 PKP PKPdf 09 16 25.2 -0.1
comp=Z,0.4nm,0.7s,baz=82,slow=1.8,SNR=8.6
LUWI Luwuk 142.98 287 ePKPdf PKPdf 09 16 39.9 0.0
CM31 Chiang Mai Arr 145.86 341 ePKPdf PKPab 09 16 45.7 0.0
CMAR Chiang Mai Arr 145.86 341 PKPbc PKPab 09 16 45.8 +0.1
comp=Z,8.3nm,0.8s,baz=339,slow=3.9,SNR=32
CM01 Chiang Mai Arr 145.89 341 ePKPdf PKPbc 09 16 45.2 -0.2

*IDC **02** 09:05:52.5±1.8, 52°.39N×132°.22W, h0km, mb3.7/1, mb1 3.9/6, mb1mx3.5/49, mbtmp3.5/6, ML3.2/5, Error ellipse: s-maj=21.2km s-min=8.6km az=53.0*
*ISCJB **02** 09:05:53.6±1.7, 52°.5N±0°.1×132°.2W±0°.3, h18km, mb3.6/1, Error ellipse: s-maj=30.7km s-min=10.2km az=154.1*
ISC 02 09:05:54.8±1.5, 52°.4N±0°.1×132°.1W±0°.2, h18km, n11, σ1§73/8, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H02S1	DAWSON INLET T	0.81	342	Pg	Pb	09 06 08.1	-2.2
H02S1				Lg	Lg	09 06 18.9	
BBB	Bella Bella	2.44	94	Pn	Pn	09 06 34.7	+1.1
	4.0nm,0.3s,baz=282,slow=18,SNR=4.6						
BBB				Lg	Lg	09 07 11.3	
	12nm,0.3s,baz=332,slow=22,SNR=5.1						
DLBC	Dease Lake	6.12	10	Pn	Pn	09 07 26.8	+2.4
	0.4nm,0.3s,baz=204,slow=13,SNR=3.5						
DLBC				Lg	Lg	09 09 12.3	
	0.2nm,0.3s,baz=321,slow=12,SNR=3.7						
YKA	Yellowknife Ar	13.72	36	Pn	Pn	09 09 07.8	-0.3
	0.1nm,0.3s,baz=238,slow=12,SNR=3.1						
ILAR	Eielson Array	14.52	334	Pn	P	09 09 26.4	+0.8
	0.0nm,0.3s,baz=146,slow=11,SNR=5.2						
NVAR	Mina Array Bea	16.97	140	Pn	P	09 09 52.9	-0.3
	0.1nm,0.3s,baz=318,slow=12,SNR=6.1						
PDAR	Pinedale Array	17.93	114	P	P	09 10 05.3	+1.5
	0.0nm,0.3s,baz=316,slow=6.2,SNR=6.8						
TXAR	Lajitas Array	31.17	127	P	P	09 12 12.4	-0.3
	0.9nm,0.8s,baz=333,slow=7.7,SNR=4.3						
H11N2	WAKE ISLAND Hy	57.01	259	T	T	10 12 55.2	
	baz=39,slow=75,SNR=14						
H11N3	WAKE ISLAND Hy	57.01	259	T	T	10 12 53.5	
	baz=39,slow=75,SNR=15						
H11N1	WAKE ISLAND Hy	57.02	259	T	T	10 12 59.5	
	baz=39,slow=75,SNR=13						

*ISCJB **02** 09:07:25.0±0.5, 21°.25S±0°.02×70°.48W±0°.06, h57km±5km, mb4.4/43, MS3.5/2, Error ellipse: s-maj=8.8km s-min=3.7km az=177.3*
*NEIC **02** 09:07:25.0±0.0, 21°.27S×70°.36W, h61km, mb4.4/35, ML4.4(GUC), After GUC.*
NEIC Felt [III] at Tocopilla.
*GUC **02** 09:07:25.8±0.6, 21°.28S×70°.37W, h61km±5km, ML4.4*
*IDC **02** 09:07:25.6±0.5, 21°.12S×70°.09W, h50km±4km, mb3.8/12, mb1 4.0/15, mb1mx3.8/36, mbtmp4.1/15, MS3.5/2, Ms1 3.5/2, ms1mx3.0/27, Error ellipse: s-maj=21.6km s-min=12.2km az=68.0*
ISC 02 09:07:25.1±0.5, 21°.24S±0°.03×70°.51W±0°.05, h43km±4km, h43km:pP-P, n109, σ1§64/134, mb4.4/43, 9C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB02	IPOC Station P	0.58	98	⇓*i* P	Pn	09 07 37.7	+0.6
PB02				*i* S	Sn	09 07 46.1	+0.4
PB02				IAML		09 07 46.8	
	comp=E,48μm,0.1s						
PB07	IPOC Station P	0.76	130	⇓*i* P	Pn	09 07 40.2	+0.7
PB07				*i* S	Sn	09 07 50.3	+0.4
PB07				IAML		09 07 51.3	
	comp=E,38μm,0.3s						
PB01	IPOC Station P	0.98	78	ePn	Pn	09 07 42.6	+0.1
PB01				*e*Sn	Sn	09 07 54.5	-0.8
PB01	IPOC Station P	0.98	78	⇓*i* P	Pn	09 07 42.5	+0.1
PB01				*i* S	Sn	09 07 54.7	-0.6
PB01				IAML		09 07 55.6	
	comp=E,28μm,0.2s						
PB03	IPOC Station P	1.07	139	*e*P	Pn	09 07 44.2	+0.5
PB03				*i* S	Sn	09 07 57.8	+0.3
PB03				IAML		09 07 58.6	
	comp=E,13μm,0.2s						
PB03				IAML		09 07 58.8	
	comp=N,17μm,0.5s						
PB04	IPOC Station P	1.14	163	*e*Pn	Pn	09 07 45.5	+0.8
PB04				*e*Sn	Sn	09 07 59.7	+0.5
PB04	IPOC Station P	1.14	163	⇓*i* P	Pn	09 07 45.5	+0.8
PB04				*i* S	Sn	09 08 00.2	+1.0
PB04				IAML		09 08 01.1	
	comp=E,14μm,0.3s						
PB05	IPOC Station P	1.63	170	⇑*i* P	Pn	09 07 51.8	+0.5
PB05				*i* S	Sn	09 08 11.6	+0.4
PSGC	Pisagua	1.68	13	⇑*i* P	Pn	09 07 52.0	0.0
PSGC				*i* S	Sn	09 08 11.6	-0.8
PB11	IPOC Station P	1.68	29	*e*Pn	Pn	09 07 52.1	0.0
PB11				*e*Sn	Sn	09 08 07.0	-5.6
PB11	IPOC Station P	1.68	29	⇑*i* P	Pn	09 07 52.0	-0.1
PB11				*e*S	Sn	09 08 13.5	+0.9
PB06	IPOC Station P	1.70	149	⇑*i* P	Pn	09 07 52.8	+0.4
PB06				*i* S	Sn	09 08 13.0	+0.1
PB06				IAML		09 08 14.6	
	comp=E,8μm,0.2s						
LVC	Limon Verde	2.02	133	*e*Pn	Pn	09 07 58.7	+1.7
LVC				*e*Sn	Sn	09 08 22.5	+1.4
LVC	Limon Verde	2.02	133	⇑*i* P	Pn	09 07 58.5	+1.6
LVC				*i* S	Sn	09 08 22.7	+1.6
PB15	IPOC Station P	2.18	154	⇑*i* P	Pn	09 07 59.4	+0.4
PB15				*e*S	Sn	09 08 25.7	+0.7
PB10	IPOC Station P	2.26	181	*e*Pn	Pn	09 07 60.0	0.0
PB10				*e*Sn	Sn	09 08 25.3	-1.3
PB10	IPOC Station P	2.26	181	IAML		09 08 27.3	
	comp=N,2μm,0.3s						
MNMC	Minye Minye	2.27	22	*e*Pn	Pn	09 08 00.7	+0.3
MNMC				*e*Sn	Sn	09 08 27.6	+0.3
LPAZ	La Paz	5.42	25	P	Pn	09 08 46.4	+2.5
	comp=N,3.3nm,0.3s,baz=224,slow=5.5,SNR=88						
LPAZ	La Paz	5.42	25	*e*Pn	Pn	09 08 47.2	+3.2
LCO	Las Campanas	7.74	181	*e*Pn	Pn	09 09 13.5	-1.9
LCO				*e*Sn	Sn	09 10 36.7	-5.1
GO04	Tololo Observa	8.89	182	*e*Pn	Pn	09 09 29.1	-2.1
GO04				*e*Sn	Sn	09 11 06.9	-3.4
NNA	Nana	11.02	326	P	Pn	09 10 01.3	+1.0
	comp=N,1.1nm,0.3s,baz=201,slow=14,SNR=2.9						
NNA				S	Sn	09 11 55.6	-6.7

comp=N,2.1nm,0.3s,baz=238,slow=15,SNR=5.3
NNA Nana 11.02 326 *e*Pn **Pn 09 10 01.5 +1.2**
NNA *e*Sn **Sn 09 11 58.2 -4.1**
PEL Peldehue 11.85 181 *e*Pn **Pn 09 10 09.6 -2.0**
CPUP Villa Florida 13.09 115 P **Pn 09 10 25.2 -3.2**
comp=N,0.1nm,0.3s,baz=305,slow=12,SNR=3.8
CPUP Villa Florida 13.09 115 *e*Pn Pn 09 10 23.5 -4.9
GO05 HualaæØ 13.77 185 *e*Pn **Pn 09 10 37.1 -0.6**
SAML Samuel 14.12 31 *e*Pn **Pn 09 10 38.7 -3.9**
ATAH Atahualpa 15.96 330 *e*Pn **Pn 09 11 08.2 +1.0**
GO06 Curarrehue 18.30 182 *e*P **P 09 11 35.5 0.0**
comp=N,7.7nm,0.8s
TRQA Tornquist 18.31 158 *e*P **P 09 11 35.5 0.0**
comp=N,19nm,0.7s
PLCA Paso Flores 19.43 180 P **Pn 09 11 49.0 -0.3**
comp=N,0.3nm,0.3s,baz=19,slow=11,SNR=19
PLCA Paso Flores 19.43 180 *e*P **Pn 09 11 49.2 0.0**
comp=N,12nm,1.0s
SPB Sao Paulo 21.46 101 *e*P **P 09 12 11.7 +1.8**
comp=N,22nm,0.9s
BDFB Brasilia 22.05 79 P **P 09 12 14.3 -2.0**
comp=N,4.0nm,0.4s,baz=258,slow=10,SNR=9.7
BDFB Brasilia 22.05 79 *e*P **P 09 12 15.5 -0.9**
PTGA Pitinga 22.84 28 P **P 09 12 23.4 -1.3**
comp=N,1.6nm,0.4s,baz=192,slow=16,SNR=6.1
PTGA Pitinga 22.84 28 *e*P **P 09 12 23.6 -1.1**
comp=N,2.9nm,0.6s
USHA Ushuaia 33.57 178 P **P 09 14 01.6 +0.8**
comp=N,7.4nm,1.1s,baz=326,slow=11,SNR=5.3
APG El Apazote 41.00 330 P **P 09 15 04.7 +0.3**
comp=N,2.1nm,0.8s,baz=186,slow=9.2,SNR=3.0
ZAIG Zacatecas 53.76 323 *e*P **P 09 16 45.0 +1.4**
comp=N,3.7nm,0.8s
342A Flagon Creek P 56.35 338 *e*P **P 09 17 02.4 +0.6**
comp=N,18nm,0.8s
341A Kurthwood 56.62 337 *e*P **P 09 17 04.6 +0.9**
comp=N,7.1nm,0.8s
TXAR Lajitas Array 59.58 326 P **P 09 17 24.2 -0.4**
comp=N,0.6nm,0.8s,baz=146,slow=8.6,SNR=6.1
TXAR pP **pP 09 17 38.2 +1.2**
comp=N,0.1nm,0.6s,baz=161,slow=8.0,SNR=3.3
TXAR LR LR 09 40 18.9
comp=N,32nm,19.2s,baz=0.0,slow=33
LTX Lajitas 59.58 326 *e*P **P 09 17 24.2 -0.4**
LTX *e*pP **pP 09 17 38.2 +1.2**
TX31 Lajitas Ar. Si 59.58 326 *e*P **P 09 17 24.4 -0.2**
MIAR Mount Ida 59.66 338 *e*P **P 09 17 24.5 -0.4**
X37A Clayton 60.35 336 *e*P **P 09 17 29.5 -0.1**
comp=N,5.8nm,0.8s
ABTX Abilene, Hawle 60.37 332 *e*P **P 09 17 30.0 0.0**
comp=N,10nm,1.0s
VNA3 Neumayer Olymp 60.80 161 P **P 09 17 32.6 +0.3**
VNA2 Neumayer--Watz 61.39 160 P **P 09 17 36.6 +0.3**
baz=278,slow=8.9
TUL1 Leonard 61.68 337 *e*P **P 09 17 38.2 -0.4**
comp=N,8.3nm,0.9s
FVM French Village 61.82 342 *e*P **P 09 17 38.8 -0.7**
comp=N,5.4nm,0.8s
BRYW Bryant College 62.85 359 *e*P **P 09 17 44.5 -1.9**
comp=N,15nm,0.7s
SNAA Sanae 63.01 161 P **P 09 17 47.3 +0.1**
SNAA Sanae 63.01 161 P **P 09 17 46.9 -0.4**
comp=N,2.9nm,0.6s,baz=277,slow=7.6,SNR=28
SNAA pP **pP 09 18 01.0 +1.3**
comp=N,1.9nm,0.7s,baz=258,slow=6.6,SNR=6.5
SNAA Sanae 63.01 161 *e*P **P 09 17 47.1 -0.1**
comp=N,3.9nm,0.9s
TRY Troy 63.72 357 *e*P **P 09 17 52.7 +0.6**
comp=N,27nm,1.1s
319A Douglas 64.18 323 *e*P **P 09 17 56.7 +1.1**
comp=N,4.4nm,0.8s
BNM Barren Site 64.93 327 *e*P **P 09 18 01.5 +0.9**
ANMO Albuquerque 65.48 328 P **P 09 18 04.0 0.0**
comp=N,0.8nm,0.5s,baz=160,slow=8.4,SNR=5.0
SDCO Great Sand Dun 67.28 330 *e*P **P 09 18 16.6 +0.9**
comp=N,3.5nm,1.1s
Q24A Divide 68.11 331 *e*P **P 09 18 21.8 +0.9**
comp=N,3.2nm,0.7s
MVCO Mesa Verde 68.28 328 *e*P **P 09 18 22.4 +0.5**
comp=N,4.2nm,0.8s
BATG Bathurst New B 68.32 3 *e*P **P 09 18 21.7 +0.1**
comp=N,1.4nm,0.7s
QSPA South Pole Qui 68.94 180 *e*P **P 09 18 26.6 +1.1**
comp=N,3.1nm,0.7s
DBIC Dimbokro 70.10 74 P **P 09 18 31.3 -2.0**
comp=N,1.4nm,0.6s,baz=250,slow=12,SNR=2.6
KNB Kanab 70.35 325 *e*P **P 09 18 36.8 +2.1**
comp=N,4.3nm,1.0s
P18A Preston Nutter 71.02 329 *e*P **P 09 18 40.2 +1.4**
MSU Marysvale 71.14 327 *e*P **P 09 18 40.8 +1.4**
P17A Butcher Ranch, 71.14 328 *e*P **P 09 18 40.3 +0.9**
comp=N,2.7nm,0.6s
PSUT Pine Spring 72.03 326 *e*P **P 09 18 45.5 +0.8**
comp=N,2.5nm,0.7s
JLU Jordanelle 72.36 328 *e*P **P 09 18 48.0 +1.2**
comp=N,3.0nm,0.8s
DUG Dugway, Tooele 72.73 327 *e*P **P 09 18 50.3 +1.5**
comp=N,3.5nm,1.1s
PDAR Pinedale Array 73.15 331 P **P 09 18 51.5 +0.1**
comp=N,0.3nm,0.7s,baz=175,slow=5.5,SNR=3.7
PDAR LR LR 09 51 47.2
comp=N,30nm,18.5s,baz=76,slow=36
HWUT Hardware Ranch 73.19 329 *e*P **P 09 18 52.2 +0.6**
comp=N,2.3nm,0.8s
BGU Big Grassy Mou 73.39 328 *e*P **P 09 18 53.7 +1.0**
comp=N,2.1nm,1.0s
OMMB Old Mammoth Mi 74.21 322 *e*P **P 09 18 59.4 +1.6**
comp=N,3.8nm,0.8s
NV01 Mina Array Sit 74.38 323 *e*P **P 09 18 59.5 +0.9**
NVAR Mina Array Bea 74.38 323 P **P 09 18 59.5 +0.8**
comp=N,1.6nm,0.7s,baz=150,slow=6.3,SNR=14
NVAR pP **PcP 09 19 13.9 +0.7**
comp=N,0.3nm,0.5s,baz=154,slow=5.0,SNR=2.6
KVN Kaiserville 74.70 323 *e*P **P 09 19 01.6 +1.1**
comp=N,3.3nm,0.8s
YHH Holmes Hill 75.32 332 *e*P **P 09 19 04.4 +0.4**
comp=N,5.2nm,1.1s
PNTR Pine Nut 75.57 323 *e*P **P 09 19 07.0 +1.5**
comp=N,4.4nm,0.8s
PAHR Pah Rah Range 75.87 323 *e*P **P 09 19 08.5 +1.4**
comp=N,5.9nm,0.8s
HLID Hailey 76.04 329 *e*P **P 09 19 09.3 +1.3**
comp=N,4.4nm,1.1s
SYO Syowa Base 77.26 160‖ *e*P **P 09 19 14.4 0.0**
SYO Syowa Base 77.26 160‖ *e*X P 09 19 20.0 +5.6
SYO Syowa Base 77.26 160‖ *e*pP pP 09 19 27.4 +0.2
TOA1 Torodi Ar. Sit 78.68 71 *e*P **P 09 19 20.3 -2.9**
TOA1 *e*pP **PcP 09 19 33.2 +1.2**
TORD Torodi Ar. Bea 78.68 71 P **P 09 19 20.3 -2.9**
comp=N,1.2nm,0.8s,baz=242,slow=5.3,SNR=9.9
TORD pP **PcP 09 19 33.2 +1.2**
comp=N,3.2nm,0.4s,baz=253,slow=5.3,SNR=31
FRB Frobisher Bay 84.72 1 P **P 09 19 53.3 -0.6**
comp=N,18nm,0.9s,baz=143,slow=3.3,SNR=2.6
MAW Mawson 85.00 164 P **P 09 19 55.1 -0.4**
comp=N,1.1nm,0.5s,baz=193,slow=6.2,SNR=10
MAW pP **pP 09 20 10.1 +1.6**
comp=N,3.3nm,0.9s,baz=298,slow=4.7,SNR=8.5
MAW Mawson 85.00 164 *e*P **P 09 19 55.7 +0.2**
comp=N,0.3nm,0.8s
YKA Yellowknife Ar 90.46 341 P **P 09 20 20.8 -0.8**
comp=N,1.2nm,0.6s,baz=141,slow=4.7,SNR=7.4
H11S2 WAKE ISLAND Hyl 26.36 278 T T 11 45 49.9
baz=103,slow=74,SNR=123
H11S1 WAKE ISLAND Hyl 26.37 278 T T 11 45 48.1
baz=103,slow=74,SNR=101
H11S3 WAKE ISLAND Hyl 26.38 278 T T 11 45 52.0
baz=103,slow=74,SNR=90
H11N3 WAKE ISLAND Hyl 26.44 279 T T 11 45 47.6
baz=103,slow=75,SNR=191
H11N2 WAKE ISLAND Hyl 26.46 279 T T 11 45 57.4
baz=103,slow=75,SNR=157
H11N1 WAKE ISLAND Hyl 26.46 279 T T 11 45 53.5
baz=103,slow=75,SNR=165
ASAR Alice Springs 129.42 209 PKP **PKPdf 09 26 30.5 +0.7**
comp=N,0.3nm,0.9s,baz=127,slow=2.0,SNR=2.8
ASAR pPKP **pPKPdf 09 26 45.0 +1.7**
comp=N,0.4nm,1.0s,baz=137,slow=2.2,SNR=2.7
WR1 Warramunga Arr 132.39 212 *e*PKPdf **PKPdf 09 26 36.5 +1.1**
WR1 *ep*PKPdf **pPKPdf 09 26 50.3 +1.4**
WRA Warramunga Arr 132.39 212 PKP **PKPdf 09 26 36.5 +1.1**
comp=N,0.1nm,0.5s,baz=149,slow=1.7,SNR=4.1
WRA pPKP **pPKPdf 09 26 50.3 +1.4**
comp=N,0.3nm,0.6s,baz=146,slow=2.0,SNR=2.8
KSH Kashi 146.09 50 *e*PKPbc **PKPab 09 27 01.7 +0.2**
KSH PP **PP 09 30 29.5 +6.6**
KSH AMB AMB
comp=Z,320nm,5.6s
MK32 Makanchi Array 146.29 34 *e*PKPdf **PKPdf 09 27 00.2 +0.4**
MK32 *ep*PKPdf **pPKPdf 09 27 14.3 +0.9**
MKAR Makanchi Array 146.29 34 PKPbc **PKPdf 09 27 00.2 +0.4**
comp=Z,0.6nm,0.7s,baz=330,slow=3.8,SNR=3.1
MKAR pPKPbc **pPKPdf 09 27 14.3 +1.0**
comp=Z,0.8nm,0.7s,baz=357,slow=3.0,SNR=3.4
USRK Ussuriysk Ar. 150.48 326 PKPbc **PKPbc 09 27 12.2 +0.2**
comp=Z,1.7nm,0.6s,baz=337,slow=2.2,SNR=5.7
USRK pPKPbc **sPKPbc 09 27 28.8 -1.5**
baz=50,slow=1.3
LZH Lanzhou 164.41 17 *e*PKP **PKPdf 09 27 25.2 +0.7**
LZH pPKP sPKPdf 09 27 54.2 +11
LZH sPKP 09 28 04.2

BJI ***02*** *09:43:18.0,25.00S×177.30W,h50km,mb5.1/5,mB5.4/5*
NEIC ***02*** *09:43:23.6±1.1,24.87S×177.23W,h88km±10km,mb4.8/14, Error ellipse: s-maj=9.4km s-min=7.1km az=122.0*
ISCJB ***02*** *09:43:25.6±1.6,24.94S±0.06×177.41W±0.07, h114km±14km,mb4.7/41,Error ellipse: s-maj=10.9km s-min=10.1km az=36.7*
GCMT ***02*** *09:43:27.6±0.4,25.03S±0.04×176.96W±0.03, h135km±5km,MW4.9/66,Moment Tensor Solution. s14,c18; s66,c84; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.21±.17; Mθθ=0.64±.20; Mφφ0.85±.18; Mrθ=1.29±.12; Mθφ=0.30±.15; Mφr=2.00±.09; Best double couple: Mo2.51800×10^16 NP1:φs32.00000°,δ88.00000°, λ=71.00000°. NP2:φs128.00000°,δ19.00000°, λ=173.00000°. Principal axes: T 2.4950, Plg40.0000°, Azm104.0000°; N 0.0460, Plg19.0000°, Azm211.0000°; P -2.5420, Plg44.0000°, Azm320.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***02*** *09:43:33.1±2.4,24.92S×177.44W,h165km±20km, mb4.2/23,mb1 4.3/23,mb1mx4.2/29,mbtmp4.6/23,MS3.3/7, Ms1 3.3/7,ms1mx3.0/32 Error ellipse: s-maj=14.7km s-min=11.1km az=159.0*

ISC 02 09:43:30.5±1.7,25.02S±0.08×177.35W±0.08, h146km±14km,n142,σ1931/142,mb4.7/40,1C-1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.24**	**187**	P		Pn	09 44 30.3	-3.5
	47nn,0.3s,baz=90,slow=20,SNR=2.7							
RAO				S		**Sn**	**09 45 21.1**	**-2.0**
	134nn,0.3s,baz=49,slow=19,SNR=5.4							
RAO				LR		LR	09 45 36.9	
	comp=Z,320nn,19.1s,baz=10.0,slow=29							
AFI	**Afiamalu**	**12.24**	**26**	P		Pn	09 46 08.9	-11
	12nn,0.3s,baz=196,slow=1.3,SNR=24							
AFI				S		Sn	09 48 12.1	-23
	4.5nn,0.3s,baz=139,slow=19,SNR=4.7							
AFI	**Afiamalu**	**12.24**	**26**	*e*Pn		Pn	09 46 09.0	-11
AFI				*e*S		Sn	09 48 16.9	-18
URZ	**Urewera**	**14.01**	**198**	P		Pn	09 46 38.2	-4.4
	0.5nn,0.3s,baz=342,slow=6.4,SNR=3.2							
URZ				S		Sn	09 49 03.4	-14
	1.8nn,0.3s,baz=2.5,slow=21,SNR=8.5							
BKZ	**Black Stump Fm**	**15.03**	**199**	*e*Pn		**Pn**	**09 46 54.6**	**-0.8**
DZM	**Mont Dzumac**	**15.15**	**278**	P		**P**	**09 47 00.5**	**+1.8**
	0.7nn,0.3s,baz=93,slow=18,SNR=25							
DZM	**Mont Dzumac**	**15.15**	**278**	*e*P		**P**	**09 47 01.6**	**+2.9**
	143nn,1.3s							
DZM				*e*LR		LR	09 50 50.0	
	205nn,28.2s							
DZM	**Mont Dzumac**	**15.15**	**278**	*e*P		**P**	**09 47 00.9**	**+2.1**
	56nn,1.1s							
RAR	**Rarotonga**	**16.61**	**80**	S		S	09 50 01.1	-19
	2.8nn,0.3s,baz=87,slow=17,SNR=5.2							
RAR				LR		LR	09 52 36.0	
	comp=Z,122nn,21.3s,baz=226,slow=33							
RPZ	**Rata Peaks**	**20.92**	**204**	P		**P**	**09 47 58.3**	**-3.1**
	19nn,1.1s,baz=7.7,slow=18,SNR=2.4							
RPZ				S		S	09 51 34.5	-12
	14nn,0.9s,baz=320,slow=7.9,SNR=2.8							
KNTN	**Kanton**	**22.77**	**15**	*e*P		**P**	**09 48 18.2**	**-2.3**
TBI	**Tubuai**	**25.48**	**92**	*e*LR		LR	09 54 50.6	
	169nn,37.2s							
TBI	**Tubuai**	**25.48**	**92**	*e*T		T	10 12 37.6	
	12nn,0.4s							
HNR	**Honiara**	**26.59**	**302**	P		**P**	**09 48 54.4**	**-0.8**
	24nn,0.3s,baz=94,slow=18,SNR=2.1							
PAE	**Paea**	**26.85**	**80**	*e*T		T	10 14 40.8	
	5.4nn,0.3s							
PPT2	**Papeete2**	**26.88**	**79**	*e*LQ		LQ	09 54 23.5	
	155nn,26.2s							
PPT2				*e*LR		LR	09 55 32.4	
	133nn,25.2s							
PPT2	**Papeete2**	**26.88**	**79**	*e*T		T	10 14 45.0	
	4.1nn,0.4s							
PPT	**Papeete**	**26.89**	**79**	LR		LR	09 57 27.9	
	comp=Z,67nn,19.5s,baz=271,slow=31							
TVO	**Taravao**	**27.10**	**80**	*e*T		T	10 14 59.5	
	0.9nn,0.3s							
VAH	**Vaihoa**	**29.50**	**76**	*e*T		T	10 18 05.9	
	5.7nn,0.2s							
CTA	**Charters Tower**	**33.90**	**271**	P		**P**	**09 50 01.1**	**+1.5**
	100nn,0.8s,baz=100,slow=11,SNR=131							
CTAO	**Charters Tower**	**33.90**	**271**	*e*P		**P**	**09 50 00.4**	**+0.8**
	75nn,0.8s							
STKA	**Stephens Creek**	**36.57**	**250**	P		**P**	**09 50 22.4**	**0.0**
	2.2nn,0.4s,baz=107,slow=14,SNR=5.1							
STKA				PcP		**PcP**	**09 52 43.4**	**+0.8**
	1.4nn,0.3s,baz=41,slow=3.5,SNR=7.0							
STKA				LR		LR	10 03 12.3	
	comp=Z,34nn,18.8s,baz=40,slow=32							
PMG	**Port Moresby**	**37.14**	**288**	P		**P**	**09 50 27.3**	**0.0**
	14nn,0.7s,baz=109,slow=11,SNR=4.3							
PMG				PcP		**PcP**	**09 52 45.0**	**+0.5**
	9.4nn,0.8s,baz=148,slow=9.5,SNR=2.5							
RKT	**Rikitea**	**38.63**	**96**	*e*T		T	10 28 58.4	
	2.5nn,0.3s							
COEN	**Coen**	**38.67**	**279**	*e*P		**P**	**09 50 41.2**	**+1.0**
	21nn,1.1s							
TAOE	**Nuku Hiva Isla**	**38.88**	**72**	*e*LR		LR	10 01 10.5	
	171nn,29.1s							
BBOO	**Buckleboo**	**41.25**	**248**	*e*P		**P**	**09 51 01.1**	**-0.1**
	6.0nn,0.8s							
AS01	**Alice Springs**	**44.20**	**261**	*e*P		**P**	**09 51 24.9**	**-0.3**
ASAR	**Alice Springs**	**44.24**	**261**	P		**P**	**09 51 24.8**	**-0.8**
	5.9nn,0.8s,baz=99,slow=7.7,SNR=46							
ASAR				PcP		**PcP**	**09 53 08.0**	**+0.4**
	2.4nn,0.8s,baz=106,slow=4.3,SNR=4.5							
WB2	**Warramunga Arr**	**44.73**	**266**	*e*P		**P**	**09 51 28.5**	**-0.9**
WB2				*e*PcP		**PcP**	**09 53 09.7**	**+0.4**
WRAB	**Tennant Creek**	**44.73**	**266**	*e*P		**P**	**09 51 28.7**	**-0.7**
	29nn,1.1s							
WR1	**Warramunga Arr**	**44.74**	**266**	*e*P		**P**	**09 51 28.6**	**-0.9**
WR1				*e*PcP		**PcP**	**09 53 09.8**	**+0.4**
WR1				*e*S		**S**	**09 57 51.8**	**-3.8**
WRA	**Warramunga Arr**	**44.74**	**266**	P		**P**	**09 51 28.6**	**-1.0**
	10nn,0.4s,baz=99,slow=7.1,SNR=262							
WRA				PcP		**PcP**	**09 53 09.8**	**+0.4**
	4.5nn,0.8s,baz=100,slow=3.5,SNR=8.1							
WRA				ScP		**ScP**	**09 56 48.2**	**+0.3**
	0.8nn,0.8s,baz=105,slow=3.8,SNR=3.2							
WRA				S		**S**	**09 57 51.8**	**-3.8**
	0.8nn,0.9s,baz=99,slow=15,SNR=2.7							
WRA				LR		LR	10 07 27.2	
	comp=Z,53nn,21.6s,baz=190,slow=32							
FITZ	**Fitzroy Crossi**	**53.15**	**266**	*e*P		**P**	**09 52 34.3**	**+0.7**
	22nn,1.0s							
SBA	**Scott Base**	**53.42**	**184**	*e*P		**P**	**09 52 37.2**	**+2.5**
	6.3nn,0.9s							
VNDA	**Vanda**	**53.48**	**186**	P		**P**	**09 52 36.6**	**+1.4**
	1.0nn,0.7s,baz=6.7,slow=6.4,SNR=9.3							
VNDA	**Vanda**	**53.48**	**186**	*e*P		**P**	**09 52 36.9**	**+1.8**
SIJI	**Sorong**	**55.07**	**288**	P		**P**	**09 52 46.7**	**-0.9**
	14nn,0.7s,baz=97,slow=6.9,SNR=9.5							
SOEI	**Soe**	**57.34**	**274**	P		**P**	**09 53 06.0**	**+2.2**
MBWA	**Marble Bar**	**57.55**	**260**	*e*P		**P**	**09 53 05.4**	**+0.3**
	8.4nn,0.9s							
BATI	**Baumata**	**57.71**	**274**	P		**P**	**09 53 07.0**	**+0.8**
	30nn,0.4s,baz=130,slow=3.3,SNR=6.1							
BATI	**Baumata**	**57.71**	**274**	P		**P**	**09 53 08.2**	**+1.9**
EDFI	**Ende, Flores**	**60.07**	**274**	P		**P**	**09 53 21.7**	**-1.0**
	38nn,1.1s							
CASY	**Casey**	**60.17**	**206**	*e*P		**P**	**09 53 22.3**	**0.0**
	10nn,0.6s							
WBSI	**Waikabubak, Su**	**61.80**	**272**	P		**P**	**09 53 34.2**	**-0.1**
	46nn,0.8s							
BKSI	**Bulukumba**	**62.90**	**277**	P		**P**	**09 53 39.4**	**-2.1**
	14nn,1.0s							
PLAI	**Plampang**	**63.58**	**272**	P		**P**	**09 53 44.2**	**-1.8**
	106nn,0.8s,755nn							
TWSI	**Taliwang, Sumb**	**64.43**	**272**	P		**P**	**09 53 51.9**	**+0.3**
QSPA	**South Pole Qui**	**65.07**	**180**	*e*P		**P**	**09 53 56.2**	**+1.1**
	6.8nn,0.8s							
MPSI	**Mapaga**	**65.61**	**283**	P		**P**	**09 53 58.6**	**-0.6**
KBKI	**Kotabaru**	**67.33**	**277**	P		**P**	**09 54 14.5**	**+4.4**
WOJI	**Wonogiri, Jawa**	**70.19**	**270**	P		**P**	**09 54 27.8**	**-0.1**
STKI	**Sintang**	**73.00**	**278**	P		**P**	**09 54 43.6**	**-1.1**
LEM	**Lembang**	**73.60**	**270**	P		**P**	**09 54 48.0**	**-0.4**
	67nn,0.8s,baz=88,slow=22,SNR=8.9							
MJAR	**Matsushiro Arr**	**74.20**	**324**	P		**P**	**09 54 49.8**	**-1.3**
	1.7nn,0.7s,baz=161,slow=5.3,SNR=4.0							
MJAR				LR		LR	10 23 56.6	
	comp=Z,21nn,21.7s,baz=270,slow=33							
MAJO	**Matsushiro**	**74.20**	**324**	*e*P		**P**	**09 54 49.8**	**-1.3**
MAW	**Mawson**	**77.53**	**200**	P		**P**	**09 55 10.8**	**+1.2**
	7.1nn,0.7s,baz=129,slow=6.8,SNR=35							
MAW	**Mawson**	**77.53**	**200**	*e*P		**P**	**09 55 11.0**	**+1.3**
	1.4nn,0.7s							
KSRS	**Korea Array**	**80.66**	**319**	P		**P**	**09 55 27.7**	**+0.6**
	1.1nn,0.7s,baz=127,slow=5.3,SNR=3.4							
KSAR	**Wonju Array Be**	**80.68**	**319**	P		**P**	**09 55 27.7**	**+0.5**
PETK	**Petropavlovsk-**	**80.77**	**345**	P		**P**	**09 55 27.2**	**0.0**
	13nn,0.9s,baz=145,slow=8.1,SNR=7.9							
PETK	**Petropavlovsk-**	**80.77**	**345**	*e*P		**P**	**09 55 27.9**	**+0.6**
PEA1	**Petropavlovsk-**	**80.78**	**345**	*e*P		**P**	**09 55 27.2**	**0.0**
SYO	**Syowa Base**	**82.47**	**193**‖	P		**P**	**09 55 35.8**	**-0.3**
SYO	**Syowa Base**	**82.47**	**193**‖	*e*P		**P**	**09 55 39.4**	**+3.3**
YBH	**Yreka Blue Hor**	**83.45**	**38**	P		**P**	**09 55 41.7**	**0.0**
	1.1nn,0.7s,baz=270,slow=2.0,SNR=3.7							
SNAA	**Sanae**	**83.50**	**178**	P		**P**	**09 55 41.5**	**+0.1**
SNAA	**Sanae**	**83.50**	**178**	*e*P		**P**	**09 55 41.6**	**+0.1**
	4.4nn,0.9s							
VNA3	**Neumayer Olymp**	**83.61**	**176**	P		**P**	**09 55 41.7**	**-0.3**
NV01	**Mina Array Sit**	**83.91**	**43**	*e*P		**P**	**09 55 44.0**	**-0.2**
NVAR	**Mina Array Bea**	**83.91**	**43**	P		**P**	**09 55 44.4**	**+0.1**
	0.7nn,0.6s,baz=226,slow=7.8,SNR=6.6							
VNA2	**Neumayer--Watz**	**84.06**	**177**	P		**P**	**09 55 44.6**	**+0.3**
	baz=189,slow=3.7							
VNA1	**Neumayer--Stat**	**84.28**	**176**	P		**P**	**09 55 45.8**	**+0.4**
PSI	**Prapat**	**85.49**	**275**	P		**P**	**09 55 52.5**	**-0.1**
	9.2nn,0.7s,baz=180,slow=8.3							
PLCA	**Paso Flores**	**85.75**	**133**	P		**P**	**09 55 52.7**	**-0.7**
	1.8nn,1.0s,baz=212,slow=6.3,SNR=4.0							
PLCA				LR		LR	10 26 38.7	
	comp=Z,23nn,19.5s,baz=250,slow=30							
PLCA	**Paso Flores**	**85.75**	**133**	*e*P		**P**	**09 55 53.1**	**-0.3**
SKNT	**Sakolnakorn**	**87.22**	**290**	P		**P**	**09 56 03.1**	**+2.3**
MA2	**Magadan**	**88.28**	**344**	P		**P**	**09 56 04.1**	**-0.7**
	17nn,0.8s,baz=123,slow=7.4,SNR=10.0							
MA2	**Magadan**	**88.28**	**344**	*e*P		**P**	**09 56 04.6**	**-0.2**
	28nn,1.0s							
NONG	**Nongkai**	**88.42**	**291**	P		**P**	**09 56 09.7**	**+3.3**
TMUT	**Trail Mountain**	**88.89**	**45**	*e*P		**P**	**09 56 08.3**	**-0.3**
	6.4nn,1.0s							
LTX	**Lajitas**	**89.00**	**57**	*e*P		**P**	**09 56 08.7**	**-0.3**
TXAR	**Lajitas Array**	**89.00**	**57**	P		**P**	**09 56 08.7**	**-0.3**
	0.5nn,0.7s,baz=218,slow=6.4,SNR=6.7							
SEY	**Seymchan**	**90.89**	**347**	P		**P**	**09 56 16.8**	**-0.1**
	12nn,0.9s,baz=132,slow=4.1,SNR=19							
XAN	**Xi'an**	**91.33**	**307**	P		**P**	**09 56 20.5**	**+0.7**
XAN				pmax		pmax		
	comp=Z,8.0nn,1.0s							
XAN				pmax		pmax		
	comp=Z,86nn,4.0s							
PDAR	**Pinedale Array**	**91.84**	**43**	P		**P**	**09 56 21.8**	**-0.3**
	0.9nn,0.8s,baz=199,slow=2.6,SNR=8.0							
CM01	**Chiang Mai Arr**	**92.14**	**289**	*e*P		**P**	**09 56 23.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**92.17**	**289**	P		**P**	**09 56 24.6**	**+0.7**
	3.8nn,0.9s,baz=145,slow=3.5,SNR=13							
CMMT	**Chiang Mai**	**92.32**	**290**	P		**P**	**09 56 28.0**	**+3.4**
CMMT	**Chiang Mai**	**92.32**	**290**	P		**P**	**09 56 28.0**	**+3.4**
CHTO	**Chiang Mai**	**92.33**	**290**	P		**P**	**09 56 28.3**	**+3.7**
	29nn,1.1s							
CHTO	**Chiang Mai**	**92.33**	**290**	P		**P**	**09 56 28.3**	**+3.7**
ILAR	**Eielson Array**	**92.57**	**13**	P		**P**	**09 56 24.1**	**-0.5**
	1.0nn,0.7s,baz=222,slow=5.6,SNR=5.3							
SONA0	**Songino Array**	**99.53**	**318**	*e*Pdif		**Pdif**	**09 56 56.9**	**+0.1**
SONM	**Songino Array**	**99.53**	**318**	P		**Pdif**	**09 56 56.9**	**+0.1**
	0.5nn,0.3s,baz=75,slow=6.1,SNR=2.3							
ZALV	**Zalesovo Beam**	**114.35**	**320**	PKP		PKPdf	10 01 51.6	-0.8
	0.3nn,0.3s,baz=194,slow=5.3,SNR=2.2							
ZAA1	**Zalesovo Array**	**114.35**	**320**	*e*PKiKP		PKPdf	10 01 51.6	-0.8
MK32	**Makanchi Array**	**114.69**	**312**	*e*PKiKP		PKPdf	10 01 52.5	-0.8
MKAR	**Makanchi Array**	**114.69**	**312**	PKP		PKPdf	10 01 52.5	-0.8
	0.5nn,0.6s,baz=80,slow=1.6,SNR=3.7							
KURK	**Kurchatov**	**117.68**	**316**	*e*PKPdf		**PKPdf**	**10 01 58.0**	**-0.8**
KURBB	**Kurchatov Arra**	**117.72**	**316**	PKP		**PKPdf**	**10 01 58.0**	**-0.9**
	0.9nn,0.6s,baz=97,slow=1.7,SNR=8.6							
BVAR	**Borovoye Array**	**122.87**	**318**	PKP		**PKPdf**	**10 02 08.0**	**-0.8**
	1.5nn,0.7s,baz=62,slow=3.5,SNR=7.7							
AKTO	**Aktyubinsk**	**130.77**	**316**	PKP		**PKPdf**	**10 02 23.0**	**-1.0**
	1.0nn,0.3s,baz=85,slow=4.0,SNR=4.7							
ARA0	**ARCESS Array S**	**133.45**	**349**	*e*PKPdf		**PKPdf**	**10 02 28.1**	**-0.4**
ARCES	**ARCESS Array B**	**133.45**	**349**	PKP		**PKPdf**	**10 02 28.1**	**-0.4**
	2.0nn,0.8s,baz=2.9,slow=1.8,SNR=3.6							
NB2	**NORSAR Subarra1**	**143.52**	**353**	PKP		PKPbc	10 02 44.6	-0.3
	comp=Z,2.7nn,0.9s,baz=16,slow=3.2							
NB200	**NORSAR Array S**	**143.52**	**353**	*e*PKPpre		PKPpre

comp=Z,0.3nm,0.9s,baz=132,slow=2.1
TORD PKPab **PKPab** **10 04 28.9 0.0**
comp=Z,0.6nm,0.6s,baz=177,slow=5.8,SNR=6.0
TOA1 Torodi Ar. Sit 168.16 175 *e*PKPdf **PKPdf** **10 03 19.1 -1.3**
TOA1 *e*PKPab **PKPab** **10 04 28.9 0.0**

NIC ***02*** *09:49:11.9±0.1, 35°.35N×33°.07E, h15km, ML2.8*
ISK ***02*** *09:49:11.3, 35°.41N×33°.04E, h14km, ML2.2/13, Suspected Mining explosion.*

ISC 02 09:49:11.6±1.1, 35°.38N±0°.03×33°.05E±0°.03, h15km±10km, n19, σ0.44s/23, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKDN	**Akdeniz- K¨–br**	**0.11**	**219**	PG	**Pg**	**09 49 15.1**	**+0.1**
MAMC	**Mammari**	**0.25**	**147**	P	**Pb**	**09 49 17.0**	**-0.8**
	baz=326						
LEF	**Lefka**	**0.29**	**207**	PG	**Pb**	**09 49 18.4**	**-0.1**
LEF				SG	**Sb**	**09 49 24.1**	**+0.9**
LFK	**Lefkose**	**0.41**	**105**	PG	**Pb**	**09 49 20.3**	**-0.2**
LFK				SG	**Sb**	**09 49 26.8**	**+0.3**
ALFC	**Alefka**	**0.43**	**239**	P	**Pb**	**09 49 20.5**	**-0.5**
	baz=63						
ALFC				S	**Sb**	**09 49 27.4**	**+0.1**
CSS	**Mathiatis**	**0.48**	**151**	PG	**Pb**	**09 49 21.9**	**+0.2**
CSS	**Mathiatis**	**0.48**	**151**	P	**Pg**	**09 49 20.7**	**-0.4**
	baz=331						
CSS				S	**Sb**	**09 49 27.7**	**-0.8**
AKIN	**Ak¨–nc¨–lar- K**	**0.50**	**137**	PG	**Pb**	**09 49 22.1**	**+0.1**
AKMC	**Akamas**	**0.69**	**239**	P	**Pb**	**09 49 25.4**	**+0.1**
	baz=61						
TEKE	**Tekeli-Mersin**	**0.76**	**4**	PG	**Pb**	**09 49 25.8**	**-0.7**
PPCY	**Paphos**	**0.76**	**230**	P	**Pb**	**09 49 26.4**	**-0.1**
	baz=51						
AKKU	**Akkuyu-Mersin**	**0.87**	**27**	PG	**Pb**	**09 49 28.2**	**-0.2**
OREN	**Orenkoy-Mersin**	**0.89**	**22**	PG	**Pb**	**09 49 28.3**	**-0.3**
EREN	**Erenkoy**	**0.92**	**81**	PG	**Pb**	**09 49 29.7**	**+0.4**
BERE	**Bereket-Mersin**	**0.97**	**8**	PG	**Pb**	**09 49 29.9**	**-0.3**
IKL	**Isikli**	**1.00**	**31**	PG	**Pb**	**09 49 30.5**	**0.0**
TEVE	**Tevekalti-Mers**	**1.10**	**17**	PG	**Pb**	**09 49 32.4**	**+0.1**
KEBE	**Keben-Mersin**	**1.19**	**27**	PN	**Pb**	**09 49 33.8**	**-0.1**
KIZK	**Mersin**	**1.41**	**39**	PN	**Pn**	**09 49 36.9**	**+0.3**

JMA ***02*** *09:55:14.8±0.1, 43°.39N×145°.74E, h76km±1km, M2.6*
ISCJB ***02*** *09:55:15.0±0.9, 43°.41N±0°.06×145°.72E±0°.06, h74km±7km, Error ellipse: s-maj=11.2km s-min=5.1km az=145.2*
SKHL ***02*** *09:55:15.2±0.6, 43°.29N×145°.67E, h61km±3km, mb4.0/4*

ISC 02 09:55:15.9±1.6, 43°.41N±0°.06×145°.71E±0°.05, h69km±10km, n12, σ0.52s/23, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.05**	**156**	P	**Pn**	**09 55 25.8**	**-0.1**
NEM2				*e*S	**Sn**	**09 55 33.7**	**+0.6**
JKHN	**Kushirohamanak**	**0.52**	**231**	P	**Pn**	**09 55 28.7**	**-0.1**
JKHN				*e*S	**Sn**	**09 55 38.9**	**+0.7**
GRPR	**Tuman**	**0.58**	**4**	*i* P	**Pn**	**09 55 29.0**	**-0.4**
GRPR				AMB	AMB	09 55 29.0	
	70nm,0.2s						
GRPR				AMB	AMB	09 55 29.0	
	4μm,0.2s						
GRPR				*i* S	**Sn**	**09 55 39.0**	**-0.4**
GRPR				A	A	09 55 40.0	
	620nm,0.2s						
GRPR				A	A	09 55 40.0	
	688nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.63**	**10**	*i* P	**Pn**	**09 55 29.5**	**-0.5**
YUK				AMB	AMB	09 55 29.9	
	50nm,0.1s						
YUK				AMB	AMB	09 55 29.9	
	4μm,0.1s						
YUK				*i* S	**Sn**	**09 55 40.9**	**+0.6**
YUK				A	A	09 55 41.4	
	280nm,0.1s						
YUK				A	A	09 55 41.4	
	429nm,0.1s						
JRA	**Rausu**	**0.68**	**321**	P	**Pn**	**09 55 30.3**	**-0.2**
JRA				*e*S	**Sn**	**09 55 42.1**	**+0.9**
JNK	**Nakash**	**0.74**	**284**	P	**Pn**	**09 55 30.6**	**-0.6**
JNK				*e*S	**Sn**	**09 55 42.0**	**-0.5**
JAK	**Akkeshi**	**0.85**	**241**	P	**Pn**	**09 55 31.9**	**-0.6**
JAK				*e*S	**Sn**	**09 55 44.7**	**0.0**
SHO	**Shikotan**	**0.93**	**60**	*i* P	**Pn**	**09 55 33.0**	**-0.4**
SHO				AMB	AMB	09 55 35.5	
	70nm,0.7s						
SHO				AMB	AMB	09 55 35.5	
	3μm,0.7s						
SHO				*i* S	**Sn**	**09 55 46.1**	**-0.4**
SHO				A	A	09 55 46.8	
	190nm,0.3s						
SHO				A	A	09 55 46.8	
	278nm,0.3s						
JAR	**Ashorobuto**	**1.42**	**266**	P	**Pn**	**09 55 39.6**	**-0.2**
JAR				*e*S	**Sn**	**09 55 58.7**	**+0.9**
JTKR	**Abashiri--Toko**	**1.42**	**294**	P	**Pn**	**09 55 39.6**	**-0.2**
JOB	**Onbets**	**1.47**	**250**	P	**Pn**	**09 55 40.2**	**-0.2**
JOB				*e*S	**Sn**	**09 55 58.8**	**0.0**
KUR	**Kuril'sk**	**2.39**	**40**	*e*P	**Pn**	**09 55 53.0**	**+0.3**
KUR				AMB	AMB	09 55 53.5	
	10.0nm,0.2s						
KUR				AMB	AMB	09 55 53.5	
	3μm,0.2s						
KUR				*e*S	**Sn**	**09 56 21.4**	**+0.5**
KUR				A	A	09 56 22.7	
	200nm,0.5s						
KUR				A	A	09 56 22.7	
	280nm,0.5s						

IDC 02 10:01:01.6±6.6, 18°.81S×174°.96W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.8/36, mbtmp4.0/4, 1C-1D, Error ellipse: s-maj=275.1km s-min=38.4km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.54**	**261**	P	P	10 08 10.1	+0.8
	1.6nm,0.4s,baz=90,slow=7.3,SNR=3.7						
WRA	**Warramunga Arr**	**47.69**	**260**	P	P	10 09 39.6	-0.8
	0.8nm,0.3s,baz=97,slow=7.8,SNR=28						
ASAR	**Alice Springs**	**47.71**	**255**	P	P	10 09 40.2	-0.2
	1.7nm,0.6s,baz=88,slow=7.9,SNR=30						
ILAR	**Eielson Array**	**86.06**	**12**	P	P	10 13 43.8	0.0
	0.6nm,1.0s,baz=188,slow=5.5,SNR=3.5						
SYO	**Syowa Base**	**88.98**	**192**	⇓*e*P	P	10 13 55.0	-2.9
SYO	**Syowa Base**	**88.98**	**192**	⇑*e*P	P	10 13 57.0	-0.9

MOS ***02*** *10:15:31.2±0.9, 40°.66N×48°.34E, h14km, mb4.1/1, Error ellipse: s-maj=16.5km s-min=7.2km az=117.2*
AZER ***02*** *10:15:31.9±0.0, 40°.72N×48°.36E, h41km, ml3.0/25, Error ellipse: s-maj=0.5km s-min=0.4km az=43.0*
DRS ***02*** *10:15:32.8±0.0, 40°.28N×48°.51E, h30km*
ISCJB ***02*** *10:15:33.5±0.4, 40°.69N±0°.02×48°.36E±0°.03, h45km±5km, Error ellipse: s-maj=4.2km s-min=3.0km az=163.8*

ISC 02 10:15:34.2±0.9, 40°.71N±0°.02×48°.36E±0°.02, h31km±6km, n47, σ1.33s/81, 29C-22D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IML	**Ismayilli**	**0.16**	**302**	⇓P	**Pb**	**10 15 39.3**	**-0.9**
	SNR=24						
IML				⇑S	**Sb**	**10 15 45.8**	**+1.4**
PQL	**Pirkuli**	**0.20**	**66**	⇓P	**Pb**	**10 15 39.6**	**-1.1**
	SNR=28						
PQL				⇓S	**Sb**	**10 15 46.0**	**+0.8**
KDMR	**Kurdemir**	**0.36**	**202**	⇑P	**Pb**	**10 15 41.5**	**-1.1**
KDMR				⇓S	**Sb**	**10 15 50.2**	**+2.0**
QBL	**Gabala**	**0.46**	**301**	⇑P	**Pb**	**10 15 42.9**	**-1.2**
	SNR=7.8						
QBL				⇑S	**Sb**	**10 15 51.6**	**+0.7**
ATGJ	**Altiaghaj**	**0.47**	**71**	⇑P	**Pb**	**10 15 43.0**	**-1.2**
	SNR=41						
ATGJ				⇓S	**Sb**	**10 15 52.1**	**+0.9**
GBS	**Qobustan**	**0.48**	**111**	⇓P	**Pb**	**10 15 43.4**	**-1.0**
	SNR=25						
GBS				⇑S	**Sb**	**10 15 53.7**	**+2.3**
XNQ	**Khinaliq**	**0.49**	**341**	⇑P	**Pb**	**10 15 43.2**	**-1.5**
	SNR=198						
XNQ				⇓S	**Sb**	**10 15 52.2**	**+0.3**
SIZA	**Siyzn**	**0.55**	**48**	⇑P	**Pb**	**10 15 44.1**	**-1.5**
	SNR=126						
SIZA				⇑S	**Sb**	**10 15 54.9**	**+1.5**
QUBA	**Quba, Azerbaij**	**0.65**	**9**	⇓P	**Pb**	**10 15 46.3**	**-0.9**
	SNR=26						
QUBA				⇑S	**Sb**	**10 15 57.7**	**+1.6**
ZRD	**Zardab**	**0.67**	**230**	⇓P	**Pb**	**10 15 46.3**	**-1.1**
	SNR=8.1						
ZRD				⇓S	**Sb**	**10 15 58.7**	**+2.3**
QSAR	**Qusar**	**0.81**	**355**	⇑P	**Pn**	**10 15 48.4**	**-1.0**
	SNR=38						
QSAR				⇑S	**Sb**	**10 16 01.2**	**+0.8**
SAAT	**Saatly**	**0.85**	**177**	⇓P	**Pn**	**10 15 48.0**	**-1.9**
SAAT				⇑S	**Sn**	**10 16 01.5**	**+0.2**
ALIB	**Äli-Bayra**	**0.90**	**146**	⇓P	**Pn**	**10 15 50.3**	**-0.4**
	SNR=7.2						
ALIB				⇑S	**Sb**	**10 16 07.4**	**+4.4**
AKT	**Akhty**	**0.90**	**329**	⇑*i*PG	**Pn**	**10 15 50.0**	**-0.9**
AKT				*e*		10 16 04.5	
AKT				pmax	pmax		
	comp=Z,60nm,0.5s						
AKT				smax	smax		
	comp=E,453nm,0.6s						
AKT				smax	smax		
	comp=E,426nm,0.6s						
AKT				smax	smax		
	comp=N,272nm,0.2s						
AKT	**Akhty**	**0.90**	**329**	*e*Pg	**Pn**	**10 15 50.0**	**-0.9**
AKT				*e*Sg	**Sn**	**10 16 04.5**	**+1.6**
KSMR	**Kasumkent**	**0.91**	**349**	*e*PG	**Pn**	**10 15 51.0**	**+0.1**
KSMR				*e*S	**Sn**	**10 16 04.0**	**+1.0**
KSMR				pmax	pmax		
	comp=Z,177nm,0.1s						
KSMR	**Kasumkent**	**0.91**	**349**	*e*Pg	**Pn**	**10 15 51.0**	**+0.1**
KSMR				*e*Sg	**Sn**	**10 16 04.0**	**+1.0**
MNGR	**Mingechevir, A**	**0.97**	**274**	PG	**Pn**	**10 15 50.4**	**-1.2**
MNGR	**Mingechevir, A**	**0.97**	**274**	⇓P	**Pn**	**10 15 50.4**	**-1.2**
	SNR=3.4						
MNGR				⇑S	**Sn**	**10 16 06.4**	**+2.1**
BRDA	**Brd**	**1.00**	**244**	⇑P	**Pn**	**10 15 51.5**	**-0.6**
	SNR=12						
BRDA				⇓S	**Sb**	**10 16 08.4**	**+2.6**
SEKA	**Sheki**	**1.01**	**300**	PG	**Pn**	**10 15 50.6**	**-1.6**
SEKA	**Sheki**	**1.01**	**300**	⇓P	**Pn**	**10 15 50.7**	**-1.6**
	SNR=8.9						
SEKA				⇑S	**Sn**	**10 16 05.7**	**+0.2**
DRN	**Derbent**	**1.32**	**359**	*e*PG	**Pn**	**10 15 55.2**	**-1.2**
DRN				*e*S	**Sn**	**10 16 12.7**	**-0.2**
DRN	**Derbent**	**1.32**	**359**	*e*Pg	**Pn**	**10 15 55.2**	**-1.2**
DRN				*e*Sg	**Sn**	**10 16 12.8**	**-0.2**
GLBA	**Clilabad**	**1.47**	**179**	⇑Pn	**Pn**	**10 15 56.5**	**-1.9**
	SNR=5.0						
GLBA				⇓S	**Sn**	**10 16 16.6**	**0.0**
GANJ	**Ganja**	**1.55**	**268**	PG	**Pn**	**10 15 57.9**	**-1.7**
GANJ	**Ganja**	**1.55**	**268**	⇑Pn	**Pn**	**10 15 57.9**	**-1.7**
GANJ				⇑Sn	**Sn**	**10 16 17.8**	**-0.9**
URKR	**Urkarakh**	**1.55**	**340**	*e*PG	**Pn**	**10 15 59.0**	**-0.8**
URKR				*e*		10 16 19.5	
URKR	**Urkarakh**	**1.55**	**340**	*e*Pg	**Pn**	**10 15 59.0**	**-0.8**
URKR				*e*Sg	**Sn**	**10 16 19.6**	**+0.6**
ZKTA	**Zakatala**	**1.60**	**306**	PN	**Pn**	**10 16 00.3**	**-0.1**
ZKTA	**Zakatala**	**1.60**	**306**	⇑Pn	**Pn**	**10 16 00.3**	**-0.1**
	SNR=6.8						
ZKTA				⇓Sn	**Sb**	**10 16 24.9**	**+1.8**
KMKR	**Kumukh**	**1.71**	**327**	*i* PN	**Pn**	**10 16 00.0**	**-2.0**
KMKR	**Kumukh**	**1.71**	**327**	*i* Pg	**Pn**	**10 16 00.0**	**-2.0**
LGD	**Lagodekhi**	**1.95**	**306**	*e*PN	**Pn**	**10 16 05.9**	**+0.8**
GNBR	**Gunib**	**1.98**	**329**	*e*PN	**Pn**	**10 16 05.8**	**+0.2**
GDB	**GEDABAY**	**1.98**	**271**	⇑Pn	**Pn**	**10 16 03.7**	**-2.0**
GDB				⇑Sn	**Sn**	**10 16 27.9**	**-1.6**
LKRN	**Lenkeran, Azer**	**2.02**	**171**	PN	**Pn**	**10 16 05.6**	**-0.5**
LKRN	**Lenkeran, Azer**	**2.02**	**171**	⇓Pn	**Pn**	**10 16 05.6**	**-0.5**
LKRN				⇑Sn	**Sn**	**10 16 30.6**	**+0.3**
LRK	**Lerik**	**2.06**	**180**	⇓Pn	**Pn**	**10 16 05.5**	**-1.3**
	SNR=9.1						
LRK				⇓Sn	**Sn**	**10 16 30.8**	**-0.8**
ARKR	**Arakani**	**2.15**	**332**	*e*PN	**Pn**	**10 16 08.5**	**+0.6**
ARKR	**Arakani**	**2.15**	**332**	*e*Pn	**Pn**	**10 16 08.5**	**+0.6**
ASTR	**Astara**	**2.17**	**171**	⇓Pn	**Pn**	**10 16 06.9**	**-1.3**
	SNR=10						
ASTR				⇑Sn	**Sn**	**10 16 34.5**	**+0.5**
QZX	**Qazax, Azerbai**	**2.29**	**280**	⇑Pn	**Pn**	**10 16 08.5**	**-1.3**
	SNR=10						
QZX				⇓Sn	**Sn**	**10 16 37.4**	**+0.4**
DGRG	**David-gareji**	**2.37**	**289**	P	**Pn**	**10 16 10.9**	**-0.1**
DGRG				S	**Sn**	**10 16 40.9**	**+1.8**
DGRG	**David-gareji**	**2.37**	**289**	*e*PN	**Pn**	**10 16 10.8**	**-0.1**
DGRG				*e*S	**Sn**	**10 16 40.8**	**+1.8**
ORD	**Ordubad**	**2.54**	**226**	⇑Pn	**Pn**	**10 16 12.2**	**-1.2**
ORD				⇑Sn	**Sn**	**10 16 43.7**	**+0.4**
TRLG	**Trialeti**	**3.32**	**286**	P	**Pn**	**10 16 24.4**	**+0.3**
TRLG				S	**Sn**	**10 17 02.7**	**+0.2**

IDC ***02*** *10:19:34.2±0.5, 7°.41S×127°.80E, h0km, mb4.4/14, mb1 4.4/19, mb1mx4.2/39, mbtmp4.4/19, ML4.1/4, MS3.2/11, Ms1 3.2/11, ms1mx3.0/32, Error ellipse: s-maj=22.9km s-min=11.8km az=67.0*
ISCJB ***02*** *10:19:37.1±0.2, 7°.41S±0°.03×127°.98E±0°.03, h35km, mb4.7/35, MS3.5/10, Error ellipse: s-maj=4.8km s-min=3.8km az=162.5*
NEIC ***02*** *10:19:39.1±0.3, 7°.44S×127°.94E, h35km, mb4.8/17, Error ellipse: s-maj=7.5km s-min=5.0km az=60.0*
DJA ***02*** *10:19:40.5±0.3, 7°.5±2°×12°.8E±°, h46km±6km, M4.4/12, mb4.7/12, mB4.8/6, MLv4.5/6, Mw(mB)4.0/6*

ISC 02 10:19:38.8±0.3, 7°.42S±0°.04×128°.04E±0°.05, h35km, n107, σ2.22s/125, mb4.7/35, MS3.5/11, 1C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.28**	**100**	*e*Pn	**Pn**	**10 20 27.5**	**-0.2**
BNDI	**Bandanaira**	**3.42**	**33**	P	**Pn**	**10 20 29.2**	**-0.5**
BNDI				S	**Sn**	**10 21 07.2**	**-1.9**
AAI	**Ambon**	**3.71**	**2**	P	**Pn**	**10 20 31.0**	**-2.7**
AAI				S	**Sn**	**10 21 10.4**	**-5.8**
SOEI	**Soe**	**4.40**	**238**	*e*Pn	**Pn**	**10 20 43.1**	**-0.1**
SOEI	**Soe**	**4.40**	**238**	P	Pn	10 20 47.7	+4.5
BATI	**Baumata**	**5.14**	**237**	Pn	**Pn**	**10 20 54.3**	**+1.0**
	20nm,0.3s,baz=180,slow=1.6,SNR=14						
BATI					**Sn**	**10 21 49.9**	**-1.6**
	5.2nm,0.3s,baz=146,slow=20,SNR=6.2						
BATI				LR	LR	10 23 04.1	
	comp=Z,130nm,18.1s,baz=82,slow=42						
BATI	**Baumata**	**5.14**	**237**	P	**Pn**	**10 20 55.4**	**+2.1**
SANI	**Sanana**	**5.71**	**339**	P	**Pn**	**10 21 00.3**	**-0.9**
SANI				S	**Sn**	**10 21 59.7**	**-5.9**
MMRI	**Maumere**	**5.87**	**258**	*e*Pn	**Pn**	**10 21 00.9**	**-2.5**
FAKI	**Fak Fak**	**6.13**	**43**	*e*Pn	**Pn**	**10 21 07.9**	**+1.0**
MTN	**Manton Dam**	**6.19**	**151**	*e*Pn	**Pn**	**10 21 07.9**	**+0.2**
EDFI	**Ende, Flores**	**6.43**	**258**	P	**Pn**	**10 21 12.8**	**+1.7**
SIJI	**Sorong**	**7.26**	**26**	Pn	**Pn**	**10 21 22.6**	**+0.2**
	2.7nm,0.3s,baz=331,slow=11,SNR=6.8						
SIJI					Sn	**Sn**	**10 22 36.8**	**-6.9**
	0.6nm,0.3s,baz=300,slow=20,SNR=2.3						
SIJI				LR	LR	10 24 41.3	
	comp=Z,50nm,21.3s,slow=42						
BKSI	**Bulukumba**	**8.14**	**284**	P	**Pn**	**10 21 35.3**	**+0.7**
TNTI	**Ternate**	**8.16**	**355**	*e*Pn	**Pn**	**10 21 34.1**	**-0.7**
TNTI	**Ternate**	**8.16**	**355**	P	**Pn**	**10 21 35.4**	**+0.5**
LUWI	**Luwuk**	**8.23**	**320**	*e*Pn	**Pn**	**10 21 34.6**	**-1.2**
TTSI	**Tana Toraja**	**9.27**	**298**	P	**Pn**	**10 21 50.7**	**+0.7**
MRSI	**Marisa**	**9.93**	**322**	P	**Pn**	**10 21 57.1**	**-2.0**
FITZ	**Fitzroy Crossi**	**10.87**	**192**	Pn	**Pn**	**10 22 10.4**	**-1.6**
	1.3nm,0.3s,baz=32,slow=12,SNR=39						
FITZ					Sn	**Sn**	**10 24 06.0**	**-6.4**
	1.6nm,0.3s,baz=41,slow=9.3,SNR=8.3						
FITZ				LR	LR	10 26 58.6	
	comp=Z,124nm,21.6s,baz=12,slow=41						
FITZ	**Fitzroy Crossi**	**10.87**	**192**	*e*Pn	**Pn**	**10 22 10.9**	**-1.1**
FITZ				*e*Sn	**Sn**	**10 24 10.5**	**-2.0**
JAGI	**Jajag, Banyuwa**	**13.80**	**265**	*e*Pn	**Pn**	**10 22 49.5**	**-2.6**
WRAB	**Tennant Creek**	**13.86**	**154**	*e*Pn	**Pn**	**10 22 52.1**	**-0.8**
WRAB				*e*Sn	**Sn**	**10 25 21.5**	**-4.3**
WR1	**Warramunga Arr**	**13.87**	**154**	*e*Pn	**Pn**	**10 22 51.7**	**-1.3**
WR1				*e*Sn	Sn	10 25 15.2	-11
WRA	**Warramunga Arr**	**13.87**	**154**	Pn	**Pn**	**10 22 51.7**	**-1.3**
	1.2nm,0.3s,baz=322,slow=14,SNR=77						
WRA					Sn	Sn	10 25 15.2	-11
	0.5nm,0.3s,baz=328,slow=22,SNR=5.3						
WB2	**Warramunga Arr**	**13.87**	**154**	*e*Pn	**Pn**	**10 22 51.7**	**-1.3**
WB2				*e*Sn	**Sn**	**10 25 20.6**	**-5.4**
MBWA	**Marble Bar**	**15.85**	**210**	*e*Pn	**Pn**	**10 23 18.2**	**-1.1**
	7.2nm,0.9s						
MBWA				*e*Sn	**Sn**	**10 26 05.5**	**-8.5**
COEN	**Coen**	**16.22**	**115**	*e*Pn	**Pn**	**10 23 23.6**	**-0.6**
	16nm,0.9s						
COEN				*e*Sn	**Sn**	**10 26 18.4**	**-4.8**
AS31	**Alice Springs**	**17.11**	**161**	*e*Pn	**Pn**	**10 23 35.7**	**+0.4**
	3.4nm,1.1s						
AS31				*e*Sn	**Sn**	**10 26 46.8**	**+2.1**
ASAR	**Alice Springs**	**17.11**	**161**	P	**Pn**	**10 23 35.7**	**+0.3**
	0.4nm,0.3s,baz=330,slow=9.5,SNR=54						
ASAR				S	**Sn**	**10 26 36.5**	**-8.1**
	0.5nm,0.3s,baz=326,slow=18,SNR=7.5						
AS01	**Alice Springs**	**17.12**	**161**	*e*Pn	**Pn**	**10 23 34.7**	**-0.8**
AS01				*e*Sn	**Sn**	**10 26 48.6**	**+3.6**
PMG	**Port Moresby**	**19.01**	**97**	P	**Pn**	**10 24 00.1**	**+1.4**
	0.4nm,0.3s,baz=241,slow=16,SNR=3.5						
KSM	**Kuching**	**19.77**	**296**	*e*P	**P**	**10 24 05.6**	**-0.6**
	11nm,1.1s						
CTA	**Charters Tower**	**21.68**	**127**	P	**P**	**10 24 27.6**	**+0.8**
	1.4nm,0.5s,baz=295,slow=13,SNR=6.2						
CTAO	**Charters Tower**	**21.68**	**127**	*e*P	**P**	**10 24 27.7**	**+1.0**
	3.9nm,0.8s						
FORT	**Forrest**	**23.24**	**180**	*e*P	**P**	**10 24 44.4**	**+1.4**
	24nm,0.8s						
BBOO	**Buckleboo**	**26.34**	**165**	*e*P	**P**	**10 25 13.5**	**+1.9**
	4.7nm,0.8s						
NWAO	**Narrogin (SRO)**	**27.29**	**200**	*e*P	**P**	**10 25 20.9**	**+0.8**
	21nm,1.1s						
STKA	**Stephens Creek**	**27.42**	**154**	P	**P**	**10 25 23.3**	**+2.0**
	3.6nm,0.6s,baz=328,slow=10,SNR=10						
STKA					LR	LR	10 36 50.7	
	comp=Z,78nm,19.9s,baz=242,slow=38						
STKA	**Stephens Creek**	**27.42**	**154**	*e*P	**P**	**10 25 22.5**	**+1.2**
	0.8nm,0.8s						
MNSI	**Mandailing Nat**	**29.54**	**285**	P	**P**	**10 25 39.6**	**-0.8**
	18nm,0.9s						
PSI	**Prapat**	**30.78**	**288**	P	**P**	**10 25 50.1**	**-1.4**
	4.5nm,0.3s,baz=180,slow=1.5,SNR=9.4						
HNR	**Honiara**	**31.62**	**96**	LR	LR	10 38 55.1	
	comp=Z,55nm,18.7s,baz=242,slow=36						
CMAR	**Chiang Mai Arr**	**38.54**	**312**	P	**P**	**10 26 57.2**	**-1.1**
	0.5nm,0.4s,baz=146,slow=7.4,SNR=5.7						
CMAR					LR	LR	10 44 17.0	
	comp=Z,14nm,20.1s,baz=160,slow=39						
NJ2	**Nanjing**	**40.22**	**348**	*e*P	**P**	**10 27 12.2**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,18nm,0.6s						
KMI	**Kunming**	**40.66**	**324**	P	**P**	**10 27 17.7**	**+1.5**
KMI				pmax	pmax		
	comp=Z,120nm,5.4s						
KSRS	**Korea Array**	**44.64**	**360**	P	**P**	**10 27 48.9**	**+0.9**
	1.7nm,0.7s,baz=179,slow=10,SNR=7.5						
KSRS					LR	LR	10 49 58.3	
	comp=Z,5.3nm,19.4s,baz=330,slow=41						
MJAR	**Matsushiro Arr**	**44.76**	**12**	P	**P**	**10 27 48.9**	**-0.1**
	5.4nm,1.1s,baz=197,slow=11,SNR=4.0						
MAJO	**Matsushiro**	**44.76**	**12**	*e*P	**P**	**10 27 48.9**	**-0.1**
XAN	**Xi'an**	**45.04**	**337**	P	**P**	**10 27 50.1**	**-1.2**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,85nm,4.3s						
BJI	**Beijing**	**48.48**	**348**	⇓*e*P	**P**	**10 28 20.6**	**+2.6**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.4s						
LZH	**Lanzhou**	**48.89**	**334**	*e*P	**P**	**10 28 24.8**	**+3.3**
LZH				pP	sP	10 28 34.2	-1.9
LZH				sP	pP	10 28 37.8	+5.8
LZH				*e*PP	**PP**	**10 30 17.3**	**+2.1**
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,93nm,4.8s						
LZH				LR	LR		
	comp=N,390nm,14.6s						
LZH				LR	LR		
	comp=E,310nm,13.0s						
LZH				LR	LR		
	comp=Z,470nm,15.7s						
HHC	**Hu-ho-hao-te**	**50.37**	**344**	*e*P	**P**	**10 28 34.7**	**+2.1**
HHC				pmax	pmax		
	comp=Z,30nm,1.0s						
HHC				pmax	pmax		
	comp=Z,220nm,5.2s						
CN2	**Changchun**	**51.03**	**358**	*e*P	**P**	**10 28 41.0**	**+3.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WHZ	**Wether Hill Ro**	**51.45**	**145**	*e*P	**P**	**10 28 42.7**	**+2.0**
USRK	**Ussuriysk Ar.**	**51.50**	**4**	P	**P**	**10 28 41.2**	**+0.3**
	1.5nm,0.5s,baz=149,slow=40						
LBZ	**Lake Benmore**	**51.93**	**142**	*e*P	**P**	**10 28 46.8**	**+2.6**
RPZ	**Rata Peaks**	**52.11**	**141**	P	**P**	**10 28 48.9**	**+3.3**
	32nm,0.8s,baz=318,slow=1.5,SNR=13						
RPZ	**Rata Peaks**	**52.11**	**141**	*e*P	**P**	**10 28 47.5**	**+1.9**
	66nm,1.1s						
KHZ	**Kahutara**	**53.06**	**139**	*e*P	**P**	**10 28 55.7**	**+3.1**
	44nm,1.2s						
MQZ	**McQueen's Vall**	**53.11**	**140**	*e*P	**P**	**10 28 56.4**	**+3.4**
	29nm

17nm,0.9s
ZALV Zalesovo Beam 71.11 335 P **P** **10 30 53.0 -0.5**
13nm,0.8s,baz=126,slow=4.4,SNR=32
ZALV Zalesovo Beam 71.11 335 *eP* **P** **10 30 53.3 -0.2**
ZAA1 Zalesovo Array 71.11 335 *eP* **P** **10 30 53.0 -0.5**
KURK Kurchatov 71.88 329 *eP* **P** **10 30 58.2 0.0**
23nm,0.9s
VNDA Vanda 72.28 173 P **P** **10 31 01.2 +1.0**
0.3nm,0.4s,baz=320,slow=7.3,SNR=6.2
VNDA LR LR 11 00 50.0
comp=Z,29nm,21.2s,baz=336,slow=34
VNDA Vanda 72.28 173 *eP* **P** **10 31 01.5 +1.3**
BVAR Borovoye Array 77.39 328 LR LR 11 08 03.1
comp=Z,18nm,18.8s,baz=16,slow=38
BRVK Borovoye 77.46 328 *eP* **P** **10 31 31.1 +0.5**
15nm,1.1s
NRIK Noril'sk 81.50 347 P **P** **10 31 52.9 +0.7**
3.9nm,0.5s,baz=132,slow=5.2,SNR=3.4
NRIK LR LR 11 12 46.6
comp=Z,29nm,18.2s,baz=70,slow=39
LTX Lajitas 126.81 59 *e*PKPdf **PKPdf** **10 38 40.3 +0.6**
TXAR Lajitas Array 126.81 59 PKP **PKPdf** **10 38 40.3 +0.6**
0.1nm,0.7s,baz=309,slow=3.3,SNR=3.5
TOA0 Torodi Ar. Sit 126.98 281 *e*PKPdf **PKPdf** **10 38 39.4 -0.8**
TORD Torodi Ar. Bea 126.98 281 PKP **PKPdf** **10 38 38.7 -1.5**
0.3nm,0.6s,baz=37,slow=3.2,SNR=4.7
TOA1 Torodi Ar. Sit 126.98 281 *e*PKPdf **PKPdf** **10 38 38.7 -1.5**
PLCA Paso Flores 129.12 162 PKP **PKPdf** **10 38 43.2 -0.5**
1.7nm,1.1s,baz=191,slow=6.8,SNR=3.2
PLCA Paso Flores 129.12 162 *e*PKPdf **PKPdf** **10 38 44.4 +0.7**
CPUP Villa Florida 146.05 171 PKPbc **PKPbc** **10 39 15.9 +0.1**
1.4nm,0.7s,baz=145,slow=5.0,SNR=4.3
CPUP Villa Florida 146.05 171 *e*PKPdf **PKPbc** **10 39 16.1 +0.3**
LPAZ La Paz 151.52 146 PKPbc **PKPbc** **10 39 31.6 +0.5**
1.2nm,0.5s,baz=34,slow=7.1,SNR=12
LPAZ PKPab **pPKPbc** **10 39 41.8 -0.6**
3.0nm,0.7s,baz=202,slow=4.0,SNR=13
LPAZ La Paz 151.52 146 *e*PKPbc **PKPbc** **10 39 31.5 +0.5**
LPAZ *e*PKPab **sPKPdf** **10 39 40.7 +0.4**

DRS ***02*** *10:36:21.5±0.0, 43.00N×45.29E, h16km*
MOS ***02*** *10:36:21.2±0.0, 42.91N×45.45E, h24km, MPVA3.5*
ISC 02 10:36:21.9±1.4, 42.98N±0.06×45.43E±0.02, h7km±13km, n17, σ0.974/34, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.35**	**50**	*e*Pg	**Pb**	**10 36 30.9**	**+0.5**
GROC				*e*Sg	**Sb**	**10 36 37.2**	**+1.1**
KMGR	**Komgaron**	**0.42**	**281**	*i* Pg	**Pb**	**10 36 31.8**	**+0.1**
KMGR				*e*Sg	**Sb**	**10 36 39.0**	**+0.6**
VLKR	**Vladikavkaz**	**0.56**	**277**	*e*Pg	**Pb**	**10 36 34.5**	**+0.5**
VLKR				*e*Sg	**Sb**	**10 36 43.3**	**+1.0**
BTLR	**Botlikh**	**0.66**	**118**	*e*Pg	**Pg**	**10 36 34.8**	**+0.2**
BTLR				*e*Sg	**Sg**	**10 36 43.9**	**+0.6**
LACR	**Lac**	**0.85**	**260**	*i* Pg	**Pb**	**10 36 39.0**	**0.0**
LACR				*e*Sg	**Sb**	**10 36 51.3**	**+0.6**
ARNR	**Ardon**	**0.87**	**284**	*e*Pg	**Pn**	**10 36 40.0**	**-0.6**
ARNR				*e*Sg	**Sn**	**10 36 52.8**	**-0.7**
TRKR	**Terskaya**	**0.90**	**326**	*e*Pg	**Pn**	**10 36 41.5**	**+0.5**
TRKR				*e*Sg	**Sn**	**10 36 55.0**	**+0.7**
KORR	**Kora**	**1.01**	**277**	*e*Pg	**Pn**	**10 36 42.3**	**-0.2**
KORR				*e*Sg	**Sn**	**10 36 56.8**	**-0.2**
DBC	**Dubki**	**1.02**	**87**	*i* Pg	**Pb**	**10 36 41.8**	**-0.2**
DBC				*i* Sg	**Sb**	**10 36 55.1**	**-0.6**
XNZR	**Khunzakh**	**1.03**	**115**	*e*Pg	**Pb**	**10 36 42.1**	**-0.1**
XNZR				*e*Sg	**Sb**	**10 36 55.9**	**-0.1**
STDR	**Stavd-Durt**	**1.08**	**292**	*e*Pg	**Pn**	**10 36 41.8**	**+0.3**
STDR				*e*Sg	**Sn**	**10 36 59.1**	**+0.5**
ZEI	**Tsey**	**1.14**	**261**	*i* Pg	**Pb**	**10 36 43.7**	**-0.4**
ZEI				*e*Sg	**Sb**	**10 36 59.6**	**+0.4**
GNBR	**Gunib**	**1.27**	**117**	*e*Pg	**Pg**	**10 36 45.5**	**-0.9**
GNBR				*e*Sg	**Sg**	**10 37 02.3**	**-0.5**
DIGR	**Digorskoe uzhe**	**1.36**	**267**	*e*Pg	**Pb**	**10 36 47.5**	**-0.3**
DIGR				*e*Sg	**Sn**	**10 37 06.2**	**+0.2**
TRLG	**Trialeti**	**1.75**	**215**	P	**Pg**	**10 36 55.9**	**+0.5**
TRLG				S	**Sg**	**10 37 18.9**	**+1.0**
NEY	**Neytrino**	**2.00**	**279**	*e*Pg	**Pb**	**10 36 57.0**	**-1.8**
NEY				*e*Sg	**Sb**	**10 37 23.9**	**0.0**
SHA1	**Shidzhatmaz**	**2.16**	**291**	*e*Pg	**Pb**	**10 36 59.5**	**-2.0**
SHA1				*e*Sg	**Sb**	**10 37 27.9**	**-0.7**

MEX 02 10:49:41.5±0.7, 16.25N×98.02W, h3km±7km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.17**	**325**	*i* P	Pg	10 49 44.5	-0.4
PNIG				*e*S	Sg	10 49 47.5	+0.3
TLIG	**Tlapa**	**1.41**	**338**	*e*P	Pn	10 50 04.3	-3.9
TLIG				*e*S	Sg	10 50 22.6	-4.2
VHO	**Vista Hermosa**	**1.48**	**56**	*e*P	Pn	10 50 05.8	-3.4
VHO				*i* S	Sb	10 50 24.9	-4.2
HUIG	**Huatulco**	**1.90**	**104**	*i* P	Pn	10 50 11.6	-3.3
HUIG				*e*S	Sn	10 50 34.5	-4.9
CAIG	**El Cayaco**	**2.29**	**291**	*e*P	Pn	10 50 17.3	-3.0
CAIG				*e*S	Sn	10 50 44.1	-5.0

IDC 02 10:58:18.7±1.6, 54.56N×83.42E, h0km, mb1 3.0/3, mb1mx2.9/39, mbtmp3.0/3, ML2.7/3, Error ellipse: s-maj=15.4km s-min=9.7km az=178.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.02**	**126**	*i*		11 04 20.0	
	baz=307,slow=322,SNR=6.4						
ZALV	**Zalesovo Beam**	**1.02**	**126**	Pg	Pg	10 58 37.8	-0.5
	1.9nm,0.3s,baz=309,slow=17,SNR=24						
ZALV				Lg	Lg	10 58 52.8	
	2.7nm,0.3s,baz=310,slow=28,SNR=22						
KURBB	**Kurchatov Arra**	**4.95**	**219**	Pn	Pn	10 59 34.9	+0.7
	0.1nm,0.3s,baz=32,slow=5.8,SNR=4.1						
KURBB				Sn	Sn	11 00 28.6	-3.4
	baz=34,slow=29,SNR=3.8						
KURBB				Lg	Lg	11 00 56.5	
	0.1nm,0.3s,baz=31,slow=32,SNR=4.2						
MKAR	**Makanchi Array**	**7.81**	**186**	Pn	Pn	11 00 14.4	+0.9
	0.1nm,0.3s,baz=12,slow=13,SNR=3.9						
MKAR				Lg	Lg	11 02 26.4	
	0.2nm,0.3s,baz=348,slow=23,SNR=4.1						
BVAR	**Borovoye Array**	**7.87**	**264**	Pn	Pn	11 00 13.7	-0.6
	0.3nm,0.3s,baz=65,slow=12,SNR=2.5						

SOME ***02*** *11:04:26.9, 41.05N×71.03E, h10km*
KRNET ***02*** *11:04:28.2±0.1, 41.42N×70.93E, h21km, mb2.6*
ISCJB ***02*** *11:04:31.5±0.7, 41.31N±0.04×70.99E±0.05, h10km, Error ellipse: s-maj=6.4km s-min=5.5km az=179.7*
NNC ***02*** *11:04:36.0±8.9, 41.48N×70.87E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=84.9km s-min=34.7km az=11.0*
ISC 02 11:04:30.3±1.0, 41.30N±0.05×71.08E±0.04, h10km, n14, σ1.971/28, 15C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.83**	**53**	⇓*e*P	**Pg**	**11 04 45.4**	**-0.9**
	baz=65						
ARK				⇓*e*S	**Sb**	**11 04 57.9**	**-0.3**
	baz=65						
BTK	**Batken**	**1.26**	**189**	⇑*i*P	**Pn**	**11 04 54.1**	**+0.1**
	baz=84						
BTK				⇑*i*S	**Sn**	**11 05 13.5**	**+2.5**
	baz=84						
ARSB	**Arslanbob**	**1.43**	**88**	⇓*e*P	**Pg**	**11 04 57.3**	**-0.5**
	baz=93						
ARSB				⇓*i*S	**Sg**	**11 05 18.0**	**+1.5**
	baz=93						
KK31	**Karatay Array**	**1.85**	**347**	Pn	**Pb**	**11 05 03.4**	**-0.9**
	2.5nm,0.2s,baz=175,slow=13,SNR=40						
KK31				⇑Sn	**Sg**	**11 05 30.2**	**+0.4**
	5.2nm,0.5s,baz=164,slow=26,SNR=15						
BRLS	**Borolday**	**1.96**	**332**	*e*P	**Pn**	**11 05 03.8**	**+0.2**
	9.2nm,0.4s						
BRLS				*e*S	**Sb**	**11 05 29.5**	**-1.1**
	8.9nm,0.2s						
AML	**Almayashu**	**2.13**	**66**	⇑*i*P	**Pb**	**11 05 08.0**	**-1.2**
	baz=70						
AML				⇑*i*S	**Sg**	**11 05 37.4**	**-1.3**
	baz=70						
MRKS	**Merke**	**2.15**	**47**	*e*P	**Pb**	**11 05 09.7**	**+0.2**
	3.9nm,0.3s						
MRKS				*e*S	**Sg**	**11 05 40.6**	**+1.1**
	3.1nm,0.3s						
EKS2	**Erkin-Say**	**2.43**	**55**	⇑*i*P	**Pn**	**11 05 11.2**	**+1.0**
	baz=59						
EKS2				⇑*i*S	**Sb**	**11 05 43.6**	**-0.6**
	baz=59						
ARLS	**Aral**	**2.50**	**76**	⇑*i*P	**Pb**	**11 05 13.0**	**-2.4**
	baz=79						
ARLS				⇑*i*S	**Sb**	**11 05 46.3**	**+0.1**
	baz=79						
UCH	**Uchtor**	**2.73**	**69**	⇑*i*P	**Pb**	**11 05 16.7**	**-2.8**
	baz=72						
UCH				⇑*i*S	**Sb**	**11 05 52.6**	**-0.6**
	baz=72						
AAK	**Ala-Archa**	**2.88**	**61**	⇑Pn	**Pb**	**11 05 21.5**	**-0.3**
	1.3nm,0.4s						
AAK				Sn	**Sg**	**11 06 01.5**	**-1.2**
	1.2nm,0.5s						
KZA	**Kyzart**	**3.22**	**75**	⇑*i*P	**Pn**	**11 05 23.7**	**+2.4**
	baz=77						
KZA				⇑*i*S	**Sb**	**11 06 04.3**	**-2.9**
	baz=77						
TKM2	**Tokmak 2**	**3.73**	**63**	⇑Pn	**Pb**	**11 05 37.0**	**+0.6**
	1.4nm,0.6s						
TKM2				⇓Sn	**Sg**	**11 06 26.9**	**-3.2**
	0.7nm,0.5s						
TKM2	**Tokmak 2**	**3.73**	**63**	⇓*i*P	**Pn**	**11 05 29.9**	**+1.8**
	baz=65						
TKM2				⇓*i*S	**Sn**	**11 06 15.7**	**+3.5**
	baz=65						

DJA 02 11:17:43.8±0.3, 2.5S±3.3×12.0E±., h10km, M3.8/11, MLv3.8/11, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.42**	**66**	P	Pn	11 18 07.8	-1.8
APSI				S	Sn	11 18 27.9	-0.4
TTSI	**Tana Toraja**	**1.63**	**199**	P	Pn	11 18 10.4	-2.1
MPSI	**Mapaga**	**1.88**	**346**	P	Pn	11 18 15.1	-1.0
LUWI	**Luwuk**	**2.45**	**79**	P	Pn	11 18 23.8	-0.1
LUWI				S	Sn	11 18 55.9	+1.9
SPSI	**Sidrap Palu**	**2.52**	**194**	P	Pn	11 18 24.9	+0.1
MRSI	**Marisa**	**2.52**	**39**	P	Pn	11 18 24.7	-0.1
MRSI				S	Sn	11 18 56.8	+1.2
BNSI	**Bone**	**2.89**	**185**	P	Pn	11 18 30.3	+0.3
BKSI	**Bulukumba**	**3.80**	**184**	P	Pn	11 18 42.7	+0.2
KBKI	**Kotabaru**	**4.55**	**247**	P	Pn	11 18 53.7	+0.9

SOME ***02*** *11:17:56.0, 40.52N×77.45E, h0km*
KRNET ***02*** *11:18:01.3±0.1, 40.75N×77.18E, h16km, mb2.5*
ISC 02 11:17:59.4±2.1, 40.61N±0.09×77.33E±0.06, h10km, n23, σ1.957/46, 22C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.30**	**310**	⇑*e*P	**Pn**	**11 18 22.9**	**-1.1**
	baz=7.0						
NRN				⇑*i*S	**Sb**	**11 18 38.6**	**-2.5**
	baz=7.0						
KDJ	**Kajisay**	**1.53**	**356**	⇓*e*P	**Pb**	**11 18 27.4**	**-0.6**
	baz=0.0						
KDJ				⇓*i*S	**Sn**	**11 18 46.5**	**-0.5**
	baz=0.0						
ULHL	**Ulahol**	**1.83**	**334**	⇑*e*P	**Pb**	**11 18 32.3**	**-0.8**
	baz=35						
ULHL				⇑*i*S	**Sn**	**11 18 55.1**	**+0.6**
	baz=35						
KZA	**Kyzart**	**2.15**	**314**	⇑*e*P	**Pb**	**11 18 37.9**	**-0.8**
	baz=13						
KZA				⇑*e*S	**Sb**	**11 19 04.6**	**-0.9**
	baz=13						
BOOM	**Boomskoye usch**	**2.15**	**331**	⇑*e*P	**Pb**	**11 18 37.9**	**-0.7**
	baz=32						
BOOM				⇑*i*S	**Sb**	**11 19 04.6**	**-0.8**
	baz=32						
TNSS	**Tian-Shan**	**2.45**	**353**	*e*P	**Pg**	**11 18 44.7**	**-1.7**
	4.4nm,0.1s						
TNSS				*e*S	**Sg**	**11 19 19.6**	**+1.6**
	2.9nm,0.4s						
IZV	**Izvestkoviy**	**2.49**	**348**	*e*P	**Pg**	**11 18 45.4**	**-1.7**
	3.0nm,0.3s						
IZV				*e*S	**Sg**	**11 19 21.1**	**+1.7**
	7.4nm,0.3s						
MDOK	**Medeo**	**2.56**	**355**	*e*P	**Pb**	**11 18 46.0**	**+0.4**
	4.1nm,0.3s						
MDOK				*e*S	**Sg**	**11 19 22.2**	**+0.3**
	10nm,0.6s						
SATY	**Saty**	**2.58**	**18**	*e*P	**Pb**	**11 18 45.7**	**-0.2**
	1.5nm,0.4s						
SATY				*e*S	**Sg**	**11 19 21.5**	**-0.8**
	16nm,0.5s						
ARLS	**Aral**	**2.59**	**300**	⇑*e*P	**Pb**	**11 18 44.5**	**-1.6**
	baz=99						
ARLS				⇑*i*S	**Sn**	**11 19 15.3**	**+2.1**
	baz=99						
MTBS	**Maitube**	**2.61**	**345**	*e*P	**Pb**	**11 18 47.0**	**+0.6**
	3.3nm,0.2s						
MTBS				*e*S	**Sg**	**11 19 23.6**	**+0.3**
	6.4nm,0.3s						
KOTS	**Kotyrbulak**	**2.63**	**357**	*e*P	**Pb**	**11 18 47.6**	**+0.9**
	2.6nm,0.3s						
KOTS				*e*S	**Sg**	**11 19 24.6**	**+0.6**
	9.5nm,0.4s						
KST	**Kastek**	**2.64**	**338**	*e*P	**Pb**	**11 18 46.5**	**-0.4**
	1.1nm,0.2s						
KST				*e*S	**Sg**	**11 19 22.7**	**-1.6**
	6.6nm,0.5s						
TKM2	**Tokmak 2**	**2.65**	**331**	⇑*e*P	**Pb**	**11 18 44.9**	**-2.2**
	baz=32						
TKM2				⇑*e*S	**Sn**	**11 19 16.6**	**+1.8**
	baz=32						
UCH	**Uchtor**	**2.67**	**308**	⇑*e*P	**Pb**	**11 18 45.3**	**-2.2**
	baz=7.0						
UCH				⇑*e*S	**Sn**	**11 19 17.3**	**+1.8**
	baz=7.0						
KBK	**Karagaybulak**	**2.72**	**320**	⇑*e*P	**Pn**	**11 18 45.6**	**+2.3**
	baz=19						
KBK				⇑*i*S	**Sn**	**11 19 18.3**	**+2.0**
	baz=19						
UZB	**Uzynbulak**	**2.84**	**26**	*e*P	**Pb**	**11 18 49.8**	**-0.4**
	1.2nm,0.3s						
UZB				*e*S	**Sg**	**11 19 28.4**	**-2.2**
	4.2nm,0.5s						
DGS	**Degeres**	**2.88**	**337**	*e*P	**Pb**	**11 18 51.6**	**+0.7**
	2.1nm,0.3s						
DGS				*e*S	**Sg**	**11 19 31.9**	**0.0**
	7.8nm,0.5s						
AAK	**Ala-Archa**	**2.94**	**315**	⇑*i*P	**Pn**	**11 18 48.7**	**+2.4**
	baz=14						
AAK				⇑*i*S	**Sn**	**11 19 23.5**	**+1.7**
	baz=14						
CHMS	**Chumysh**	**3.07**	**322**	⇑*e*P	**Pn**	**11 18 50.5**	**+2.5**
	baz=22						
CHMS				⇑*e*S	**Sn**	**11 19 26.4**	**+1.6**
	baz=22						
AML	**Almayashu**	**3.13**	**300**	⇑*e*P	**Pn**	**11 18 51.8**	**+2.6**
	baz=99						
AML				⇑*e*S	**Sn**	**11 19 28.9**	**+2.1**
	baz=99						
KTBS	**Karatobe**	**3.14**	**351**	*e*P	**Pb**	**11 18 55.6**	**+0.3**
	1.9nm,0.4s						
KTBS				*e*S	**Sg**	**11 19 38.4**	**-1.9**
	4.8nm,0.6s						
EKS2	**Erkin-Say**	**3.36**	**309**	⇓*e*P	**Pn**	**11 18 54.6**	**+2.5**
	baz=8.0						
EKS2				⇓*e*S	**Sn**	**11 19 33.7**	**+1.5**
	baz=8.0						

NEIC ***02*** *11:38:56.6±1.0, 4.37S×153.72E, h97km±8km, mb4.5/23, Error ellipse: s-maj=10.8km s-min=8.4km az=51.0*
IDC ***02*** *11:38:56.7±0.8, 4.57S×153.69E, h85km±5km, mb4.0/15, mb1 4.1/16, mb1mx4.0/34, mbtmp4.3/16, MS3.3/17, Ms1 3.3/17, ms1mx3.0/51, Error ellipse: s-maj=16.9km s-min=12.0km az=95.0*
ISCJB ***02*** *11:38:57.1±0.8, 4.55S±0.05×153.64E±0.05, h104km±6km, mb4.4/36, Error ellipse: s-maj=8.7km s-min=6.8km az=141.6*
BJI ***02*** *11:38:57.4, 4.36S×153.60E, h106km, mb4.8/16, mB4.9/11*
ISC 02 11:38:56.8±0.6, 4.46S±0.06×153.67E±0.06, h90km±5km, h90km:pP-P, n72, σ1.940/81, mb4.4/36, 2C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.52**	**280**	*e*Pn	**Pn**	**11 39 25.2**	**+2.3**
RABL				*e*Sn	**Sn**	**11 39 44.4**	**+1.8**
MANU	**Manus Island**	**6.73**	**291**	*e*Pn	**Pn**	**11 40 31.9**	**-1.2**
HNR	**Honiara**	**7.95**	**129**	P	**Pn**	**11 40 51.2**	**+1.5**
	3.5nm,0.3s,baz=272,slow=18,SNR=4.6						
HNR				S	**Sn**	**11 42 18.0**	**-0.1**
	16nm,0.3s,baz=164,slow=21,SNR=6.6						
HNR				LR	LR	11 44 13.3	
	comp=Z,112nm,21.9s,baz=230,slow=40						
HNR	**Honiara**	**7.95**	**129**	P	**Pn**	**11 40 51.0**	**+1.3**
HNR				S	**Sn**	**11 42 19.0**	**+0.9**
HNR	**Honiara**	**7.95**	**129**	*e*Pn	**Pn**	**11 40 48.9**	**-0.8**
HNR				*e*Sn	**Sn**	**11 42 18.1**	**-0.1**
PMG	**Port Moresby**	**8.12**	**232**	P	**Pn**	**11 40 53.1**	**+1.2**
	21nm,0.3s,baz=36,slow=6.3,SNR=60						
PMG				S	**Sn**	**11 42 21.8**	**-0.3**
	14nm,0.3s,baz=123,slow=18,SNR=7.6						
PMG				LR	LR	11 44 13.4	
	comp=Z,100nm,19.3s,baz=84,slow=39						
JAY	**Jayapura**	**13.08**	**279**	P	**P**	**11 42 05.4**	**-0.8**
	1.7nm,0.3s,baz=11,slow=5.4,SNR=6.0						
JAY				LR	LR	11 46 09.3	
	comp=Z,133nm,21.2s,baz=130,slow=33						
COEN	**Coen**	**14.01**	**227**	*e*Pn	**Pn**	**11 42 12.5**	**+1.1**
CTA	**Charters Tower**	**17.13**	**204**	P	**Pn**	**11 42 50.7**	**0.0**
	0.2nm,0.3s,baz=21,slow=11,SNR=6.1						
CTAO	**Charters Tower**	**17.13**	**204**	*e*Pn	**P**	**11 42 51.9**	**+0.8**
	10.0nm,1.0s						
EIDS	**Eidsvold**	**20.94**	**187**	*e*P	**P**	**11 43 32.3**	**-0.2**
	21nm,0.8s						
FAKI	**Fak Fak**	**21.43**	**273**	*e*P	**P**	**11 43 36.0**	**-1.8**
	23nm,1.1s						
DZM	**Mont Dzumac**	**21.45**	**146**	P	**P**	**11 43 37.8**	**-0.2**
	1.7nm,0.6s,baz=334,slow=19,SNR=8.2						
DZM				pP	**pP**	**11 43 55.0**	**-0.7**
	3.7nm,0.5s,baz=242,slow=8.6,SNR=3.5						
DZM				LR	LR	11 51 28.5	
	comp=Z,99nm,19.1s,baz=142,slow=35						
DZM	**Mont Dzumac**	**21.45**	**146**	*e*P	**P**	**11 43 38.6**	**+0.5**
	5.0nm,0.6s						
SAUI	**Saumlaki**	**22.51**	**260**	*e*P	**P**	**11 43 49.2**	**-0.1**
	125nm,0.9s						
SIJI	**Sorong**	**22.66**	**278**	P	**P**	**11 43 51.7**	**+0.8**
	3.9nm,0.3s,baz=202,slow=21,SNR=5.1						
SIJI				LR	LR	11 52 48.5	
	comp=Z,106nm,18.8s,baz=236,slow=37						
MTN	**Manton Dam**	**23.77**	**248**	*e*P	**P**	**11 44 03.0**	**+1.7**
	10nm,1.0s						
WRAB	**Tennant Creek**	**24.30**	**229**	*e*P	**P**	**11 44 06.3**	**+0.2**
	36nm,0.8s						
WB2	**Warramunga Arr**	**24.31**	**229**	*e*P	**P**	**11 44 06.2**	**0.0**
WR1	**Warramunga Arr**	**24.32**	**229**	*e*P	**P**	**11 44 05.9**	**-0.3**
	34nm,0.8s						
WR1				*e*PcP	**PcP**	**11 47 44.2**	**+0.1**
WRA	**Warramunga Arr**	**24.32**	**229**	P	**P**	**11 44 05.9**	**-0.4**
	29nm,0.7s,baz=56,slow=10,SNR=227						
WRA				PcP	**PcP**	**11 47 44.2**	**+0.1**
	0.9nm,0.8s,baz=47,slow=2.7,SNR=3.7						
ARMA	**Armidale**	**25.89**	**184**	*e*P	**P**	**11 44 21.2**	**+0.6**
	13nm,0.8s						
AS01	**Alice Springs**	**26.95**	**223**	*e*P	**P**	**11 44 29.3**	**-0.9**
AS31	**Alice Springs**	**26.98**	**223**	*e*P	**P**	**11 44 30.1**	**-0.3**
	1.4nm,0.9s						
AS31				*e*PcP	**PcP**	**11 47 50.3**	**+0.2**
ASAR	**Alice Springs**	**26.99**	**223**	P	**P**	**11 44 29.9**	**-0.6**
	3.5nm,0.7s,baz=56,slow=9.1,SNR=46						
ASAR				PcP	**PcP**	**11 47 50.3**	**+0.2**
	1.2nm,0.9s,baz=85,slow=2.3,SNR=4.6						
ASAR				LR	LR	11 54 58.6	
	comp=Z,38nm,18.9s,baz=68,slow=36						
STKA	**Stephens Creek**	**29.54**	**201**	P	**P**	**11 44 52.0**	**-1.0**
	7.6nm,0.7s,baz=5.3,slow=7.9,SNR=18						
STKA				LR	LR	11 57 37.9	
	comp=Z,42nm,18.4s,baz=25,slow=38						
STKA	**Stephens Creek**	**29.54**	**201**	*e*P	**P**	**11 44 52.1**	**-0.8**
	2.3nm,0.9s						
SOEI	**Soe**	**29.63**	**258**	*e*P	**P**	**11 44 50.6**	**-3.6**
	21nm,1.1s						
DAV	**Davao City (W)**	**30.28**	**292**	LR	LR	11 57 15.0	
	comp=Z,27nm,18.5s,baz=134,slow=36						
BATI	**Baumata**	**30.29**	**257**	LR	LR	11 59 32.5	
	comp=Z,91nm,19.8s,baz=63,slow=41						
FITZ	**Fitzroy Crossi**	**30.58**	**241**	P	**P**	**11 45 01.6**	**-0.8**
	8.8nm,0.7s,baz=71,slow=6.9,SNR=24						
FITZ				pP	**pP**	**11 45 22.5**	**-0.3**
	3.4nm,0.7s,baz=77,slow=7.4,SNR=2.9						
FITZ				LR	LR	11 58 43.0	
	comp=Z,50nm,18.3s,baz=67,slow=39						
FORT	**Forrest**	**35.60**	**220**	*e*P	**P**	**11 45 45.1**	**-0.8**
	41nm,0.7s						
MBWA	**Marble Bar**	**36.89**	**240**	*e*P	**P**	**11 45 55.6**	**-1.4**
	14nm,0.9s						
TAU	**Tasmania Unive**	**38.70**	**187**	*e*P	**P**	**11 46 13.1**	**+1.1**
	32nm,1.1s						
BKZ	**Black Stump Fm**	**40.27**	**152**	*e*P	**P**	**11 46 25.6**	**+0.4**
	13nm,1.1s						
RPZ	**Rata Peaks**	**42.01**	**161**	LR	LR	12 04 45.4	
	comp=Z,318nm,18.8s,baz=312,slow=37						
JNU	**Nakatsue**	**43.17**	**332**	P	**P**	**11 46 49.3**	**+0.5**
	3.0nm,0.5s,baz=166,slow=2.1,SNR=6.8						
NWAO	**Narrogin (SRO)**	**44.24**	**226**	LR	LR	12 05 24.2	
	comp=Z,28nm,19.8s,baz=334,slow=36						
CISI	**Cisompet, Garu**	**45.69**	**264**	*e*P	**P**	**11 47 08.4**	**-0.9**
	60nm,1.0s						
KSRS	**Korea Array**	**48.09**	**332**	P	**P**	**11 47 29.1**	**+1.6**
	1.0nm,0.8s,baz=148,slow=11,SNR=4.4						
NJ2	**Nanjing**	**49.13**	**320**	*e*P	**P**	**11 47 33.0**	**-2.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PSI	**Prapat**	**55.17**	**276**	LR	LR	12 17 00.8	
	comp=Z,16nm,20.9s,baz=270,slow=41						
PETK	**Petropavlovsk-**	**57.45**	**3**	P	**P**	**11 48 39.0**	**+2.7**
	1.9nm,0.7s,baz=156,slow=7.1,SNR=5.0						
PETK				LR	LR	12 11 00.0	
	comp=Z,10nm,19.7s,baz=163,slow=33						
PEA1	**Petropavlovsk-**	**57.46**	**3**	*e*P	**P**	**11 48 39.0**	**+2.7**
CM01	**Chiang Mai Arr**	**58.49**	**295**

ILAR	**Eielson Array**	**81.52**	**22**	P		**P**		**11 51 04.5**	**+0.3**
	1.0nm,0.9s,baz=265,slow=5.5,SNR=5.8								
ILB	**Eielson Array**	**81.52**	**22**	*eP*		**P**		**11 51 00.2**	**-3.9**
KSH	**Kashi**	**83.37**	**310**	*eP*		**P**		**11 51 14.0**	**-0.5**
KURK	**Kurchatov**	**84.03**	**322**	*eP*		**P**		**11 51 18.2**	**+0.7**
	3.0nm,0.9s								
QSPA	**South Pole Qui**	**85.50**	**180**	*eP*		**P**		**11 51 24.6**	**0.0**
	3.2nm,0.8s								
MAW	**Mawson**	**86.22**	**203**	P		**P**		**11 51 27.3**	**-0.7**
	6.5nm,0.8s,baz=88,slow=6.2,SNR=22								
MAW				pP		**pP**		**11 51 49.6**	**-2.2**
	2.5nm,0.6s,baz=94,slow=9.1,SNR=3.5								
MAW	**Mawson**	**86.22**	**203**	*eP*		**P**		**11 51 27.4**	**-0.6**
	1.6nm,0.8s								
YBH	**Yreka Blue Hor**	**88.18**	**48**	LR		LR		12 22 34.5	
	comp=Z,23nm,20.5s,baz=288,slow=30								
PFO	**Pinyon Flats O**	**92.33**	**57**	LR		LR		12 26 41.8	
	comp=Z,54nm,21.9s,baz=128,slow=31								
SYO	**Syowa Base**	**94.27**	**199**	*eX*		**P**		**11 52 08.8**	**+3.1**
PDAR	**Pinedale Array**	**97.98**	**48**	LR		LR		12 27 15.9	
	comp=Z,22nm,20.8s,baz=34,slow=30								
TORD	**Torodi Ar. Bea**	**151.02**	**289**	PKPbc		**PKPbc**		**11 58 39.5**	**-1.0**
	2.4nm,0.8s,baz=106,slow=3.2,SNR=14								
TORD				pPKPbc		**pPKPbc**		**11 59 03.6**	**-1.7**
	1.4nm,0.7s,baz=30,slow=4.1,SNR=6.3								
TOA1	**Torodi Ar. Sit**	**151.02**	**289**	*e*PKPbc		**PKPbc**		**11 58 39.5**	**-1.0**
TOA1				*ep*PKPdf		**pPKPbc**		**11 59 03.6**	**-1.7**

IDC 02 11:48:59.4±1.6, 16.65N×126.40E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/42, mbtmp3.7/4, ML3.3/1, Error ellipse: s-maj=110.0km s-min=23.0km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.64**	**182**	P		P	11 53 29.3	-0.4
	0.1nm,0.3s,baz=17,slow=11,SNR=3.0							
WRA	**Warramunga Arr**	**22.83**	**190**	P		P	11 54 03.7	-0.5
	1.2nm,0.4s,baz=340,slow=11,SNR=27							
ASAR	**Alice Springs**	**26.20**	**164**	P		P	11 54 36.4	+0.4
	0.5nm,0.5s,baz=347,slow=9.9,SNR=14							
ASAR				PcP		PcP	11 58 03.5	+0.2
	0.4nm,0.6s,baz=343,slow=2.2,SNR=4.9							
MKAR	**Makanchi Array**	**59.08**	**326**	P		P	11 59 01.2	-0.3
	0.4nm,0.4s,baz=118,slow=8.4,SNR=8.0							

KRSC 02 12:00:57.8±1.6, 49.25N×156.40E, h7km±24km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.45**	**353**	*eP*		Pn	12 01 23.7	-0.7
SKR				*eS*		Sn	12 01 43.2	-0.5
PAU	**Pauzhetka**	**2.24**	**7**	*eS*		Sb	12 02 05.7	-0.7
KDTR	**Khodutka, Kamc**	**2.78**	**22**	*eP*		Pn	12 01 45.0	+2.3
KDTR				*eS*		Sb	12 02 20.1	-1.9
MTVR	**Mutnovka**	**3.43**	**19**	*eP*		Pb	12 01 55.7	-3.3
MTVR				*eS*		Sb	12 02 37.8	-3.1
RUS	**Russkaya**	**3.46**	**22**	*eP*		Pn	12 01 54.3	+2.3
RUS				*eS*		Sn	12 02 36.6	+3.4
KRMR	**Karymshinskiy**	**3.75**	**16**	*eP*		Pb	12 02 00.2	-4.1
PET	**Petropavlovsk**	**4.04**	**20**	*eS*		Sn	12 02 52.0	+4.5
DALK	**Dalny**	**4.07**	**20**	*eP*		Pn	12 02 03.6	+3.2
DALK				*eS*		Sn	12 02 52.0	+3.8
AVH	**Avacha**	**4.28**	**19**	*eP*		Pn	12 02 07.7	+4.3
KOK	**Koryaka**	**4.29**	**18**	*eP*		Pn	12 02 08.1	+4.6
SMAR	**Somma**	**4.29**	**20**	*eP*		Pn	12 02 08.4	+4.7
KRER	**Koryakskii**	**4.32**	**19**	*eP*		Pn	12 02 08.4	+4.3
SDLR	**Sedlovina**	**4.33**	**20**	*eP*		Pn	12 02 07.2	+3.1
KRX	**Arik**	**4.35**	**18**	*eP*		Pn	12 02 09.1	+4.6
GNL	**Ganaly**	**4.56**	**12**	*eP*		Pn	12 02 10.7	+3.5

IDC 02 12:10:24.3±999.0, 47.22N×48.73E, h0km, Error ellipse: s-maj=5025.0km s-min=150.5km az=60.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**6.92**	**59**	*i*			12 56 20.0	
	baz=246,slow=314,SNR=2.2							
I46RU	**ZALESOVO INFRA**	**23.68**	**60**	*i*			14 33 00.0	
	baz=267,slow=313,SNR=1.3							
I34MN	**SONGINO INFRAS**	**38.17**	**67**	*i*			16 05 20.0	
	baz=292,slow=331,SNR=0.4							

*IDC **02** 12:18:20.9±1.7, 12.93N×90.23W, h0km, mb3.8/5, mb1 4.1/7, mb1mx3.8/41, mbtmp3.8/7, ML3.6/2, MS2.8/2, Ms1 2.8/2, ms1mx2.4/31, Error ellipse: s-maj=60.3km s-min=21.5km az=85.0*

*ISCJB **02** 12:18:27.1±1.0, 13.0N±0.1×90.70W±0.04, h38km, mb3.8/11, MS3.1/1, Error ellipse: s-maj=16.6km s-min=4.8km az=11.8*

*UCR **02** 12:18:29.5±0.9, 13.21N×90.56W, h22km±10km, ML3.6, mb4.2(NEIC)*

*NEIC **02** 12:18:30.4±1.5, 13.14N×90.49W, h54km±10km, mb4.2/9, Error ellipse: s-maj=20.2km s-min=9.1km az=209.0*

ISC 02 12:18:29.1±1.1, 13.2N±0.1×90.64W±0.08, h38km, n43, σ0 90/41, mb3.9/11, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
IXG	**Ixpaco**	**1.02**	**10**	*eP*		**Pn**	**12 18 46.9**	**-0.1**
CEVE	**Cerro Verde**	**1.19**	**56**	*eP*		**Pn**	**12 18 49.7**	**+0.4**
CEVE				IAML			12 19 14.0	
	comp=Z,4μm,0.4s							
SBLS	**San Blas**	**1.19**	**56**	*eP*		**Pn**	**12 18 49.7**	**+0.3**
RTR	**El Retiro**	**1.21**	**53**	*eP*		**Pn**	**12 18 50.1**	**+0.5**
SNJE	**San Jose**	**1.22**	**55**	*eP*		**Pn**	**12 18 50.2**	**+0.4**
BOQS	**Boqueron**	**1.44**	**66**	*eP*		**Pn**	**12 18 53.2**	**+0.4**
SNET	**Serv Nac Est T**	**1.46**	**69**	*e*Pn		**Pn**	**12 18 52.5**	**-0.4**
UEES	**San Salvador**	**1.47**	**67**	*eP*		**Pn**	**12 18 53.3**	**+0.2**
LFU	**La Fuente**	**1.59**	**68**	*eP*		**Pn**	**12 18 55.8**	**+1.0**
LFRS	**El Faro**	**1.60**	**73**	*eP*		**Pn**	**12 18 55.2**	**+0.4**
LBRS	**Las Brisas**	**1.65**	**70**	*eP*		**Pn**	**12 18 56.2**	**+0.6**
PAVA	**Las Pavas**	**1.74**	**71**	*eP*		**Pn**	**12 18 58.0**	**+1.2**
PAVA				IAML			12 19 24.0	
	comp=Z,337nm,0.5s							
APG	**El Apazote**	**1.84**	**5**	Pn		**Pn**	**12 18 59.5**	**+1.2**
	comp=Z,43nm,0.3s,baz=204,slow=13,SNR=163							
APG				LR		LR	12 19 20.4	
	comp=Z,63nm,18.3s,baz=197,slow=29							
APG				Lg		Lg	12 19 26.8	
	comp=Z,21nm,0.3s,baz=306,slow=19,SNR=5.2							
TECA	**Tecapa**	**2.10**	**81**	*eP*		**Pn**	**12 19 02.6**	**+0.7**
LCND	**La Ca¯ada**	**2.68**	**87**	*eP*		**Pn**	**12 19 09.6**	**0.0**
LCND				IAML			12 19 14.8	
	comp=Z,211nm,0.3s							
LCND				*eS*		**Sn**	**12 19 41.7**	**+0.9**
TGUH	**Tegucigalpa,Un**	**3.39**	**74**	*e*Pn		**Pn**	**12 19 19.4**	**0.0**
CCIG	**Comitan**	**3.42**	**335**	*e*Pn		Pn	12 19 23.3	+3.3
ESTN	**Estel**	**4.16**	**90**	*e*Pn		**Pn**	**12 19 29.5**	**-0.6**
CMIG	**Matias Romero**	**5.67**	**314**	*e*Pn		**Pn**	**12 19 51.5**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=160,slow=13,SNR=6.4							
CMIG				Sn		**Sn**	**12 20 54.0**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=90,slow=19,SNR=2.5							
TEIG	**Tepich**	**7.38**	**18**	*e*Pn		Pn	12 20 17.5	+3.2
342A	**Flagon Creek P**	**18.19**	**355**	*eP*		**P**	**12 22 39.2**	**+0.6**
	comp=Z,12nm,0.6s							
241A	**Mo Tay, Goldon**	**18.89**	**354**	*eP*		**P**	**12 22 44.5**	**-1.7**
	comp=Z,24nm,0.4s							
LTX	**Lajitas**	**20.13**	**325**	*eP*		**Pn**	**12 23 02.0**	**0.0**
TXAR	**Lajitas Array**	**20.13**	**325**	P		**Pn**	**12 23 02.0**	**0.0**
	comp=Z,1.1nm,0.4s,baz=143,slow=11,SNR=8.6							
TX31	**Lajitas Ar. Si**	**20.13**	**325**	*eP*		**Pn**	**12 23 01.1**	**-1.0**
Z50A	**Ashland**	**20.46**	**11**	*eP*		Pn	12 23 02.8	-2.9
	comp=Z,4.5nm,1.0s							
MNTX	**Cornudas Mount**	**22.89**	**326**	*eP*		**P**	**12 23 29.9**	**+0.4**
	comp=Z,2.2nm,0.8s							
TKL	**Tuckaleechee C**	**23.24**	**14**	LR		LR	12 32 09.8	
	comp=Z,69nm,21.0s,baz=179,slow=36							
REDW	**Red Top Meadow**	**34.77**	**334**	*eP*		**P**	**12 25 17.4**	**+1.3**
	comp=Z,3.2nm,0.8s							
LOHW	**Long Hollow**	**34.87**	**334**	*eP*		**P**	**12 25 18.1**	**+1.1**
NV11	**Mina Array Sit**	**35.06**	**321**	*eP*		**P**	**12 25 21.0**	**+2.3**
	comp=Z,0.1nm,1.0s							
NVAR	**Mina Array Bea**	**35.15**	**321**	P		**P**	**12 25 20.9**	**+1.4**
	comp=Z,0.8nm,0.8s,baz=134,slow=8.8,SNR=6.4							
AGMN	**Agassiz Nation**	**35.30**	**354**	*eP*		**P**	**12 25 19.4**	**-0.9**
	comp=Z,4.7nm,0.7s							
MCMT	**McKenzie Canyo**	**36.81**	**333**	*eP*		**P**	**12 25 35.4**	**+1.8**

BOZ	**Bozeman (W)**	**36.91**	**335**	*eP*		**P**		**12 25 35.1**	**+0.8**
	comp=Z,0.3nm,0.8s								
J08A	**Circle Bar Ran**	**38.46**	**327**	*eP*		**P**		**12 25 48.7**	**+1.3**
	comp=Z,3.6nm,1.0s								
F10A	**Beach Ranch, E**	**39.68**	**331**	*eP*		**P**		**12 25 57.8**	**+0.2**
	comp=Z,3.9nm,0.8s								
YKA	**Yellowknife Ar**	**52.15**	**346**	P		**P**		**12 27 34.6**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=148,slow=7.9,SNR=3.1								
INK	**Inuvik**	**61.62**	**343**	P		**P**		**12 28 41.6**	**-0.8**
	comp=Z,3.1nm,0.9s,baz=128,slow=4.1,SNR=3.6								
ILAR	**Eielson Array**	**64.13**	**337**	P		**P**		**12 28 58.8**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=126,slow=5.9,SNR=6.5								
WR1	**Warramunga Arr**	**136.47**	**255**	*e*PKPdf		**PKPdf**		**12 37 47.7**	**-0.1**
WRA	**Warramunga Arr**	**136.47**	**255**	PKP		**PKPdf**		**12 37 47.7**	**-0.1**
	comp=Z,0.3nm,1.0s,baz=88,slow=2.7,SNR=2.9								
CMAR	**Chiang Mai Arr**	**147.19**	**343**	PKPbc		**PKPdf**		**12 38 07.2**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=348,slow=3.9,SNR=5.2								

*ISCJB **02** 12:51:48.7±0.6, 60.85S±0.08×20.2W±0.2, h10km, mb4.1/8, MS3.3/5, Error ellipse: s-maj=17.6km s-min=8.6km az=146.3*

*IDC **02** 12:51:50.3±1.1, 60.60S×20.42W, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/18, mbtmp3.9/5, MS3.3/5, Ms1 3.3/5, ms1mx3.1/16, Error ellipse: s-maj=43.3km s-min=23.5km az=54.0*

*NEIC **02** 12:51:51.4±0.6, 60.66S×20.32W, h10km, mb4.4/6, Error ellipse: s-maj=17.4km s-min=11.4km az=221.0*

ISC 02 12:51:51.2±0.7, 60.8S±0.1×20.5W±0.1, h10km, n26, σ1 9/34/20, mb4.1/8, MS3.2/5, East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**10.76**	**300**	*e*Pn		**Pn**	**12 54 23.8**	**-1.2**
VNA1	**Neumayer--Stat**	**11.11**	**159**	P		**Pn**	**12 54 28.8**	**-1.0**
VNA3	**Neumayer Olymp**	**11.39**	**162**	P		**Pn**	**12 54 31.5**	**-2.2**
VNA3				S		Sn	12 56 25.8	-15
VNA2	**Neumayer--Watz**	**11.50**	**158**	P		**Pn**	**12 54 33.5**	**-1.7**
	baz=327,slow=15							
VNA2				S		Sn	12 56 29.1	-14
SNAA	**Sanae**	**12.99**	**155**	P		**Pn**	**12 54 53.3**	**-2.3**
SNAA				S		Sn	12 57 07.9	-12
SNAA	**Sanae**	**12.99**	**155**	*e*Pn		**Pn**	**12 54 53.6**	**-2.0**
PMSA	**Palmer Station**	**20.03**	**240**	*eP*		Pn	12 56 27.5	+2.0
	12nm,0.8s							
EFI	**East Falkland**	**22.49**	**277**	*eP*		**P**	**12 56 51.4**	**+0.9**
MAW	**Mawson**	**34.27**	**137**	P		**P**	**12 58 38.2**	**+1.3**
	2.9nm,0.9s,baz=253,slow=12,SNR=8.1							
MAW				LR		LR	13 11 40.1	
	comp=Z,48nm,18.1s,baz=242,slow=35							
MAW	**Mawson**	**34.27**	**137**	*eP*		**P**	**12 58 38.4**	**+1.6**
	0.9nm,1.0s							
TRQA	**Tornquist**	**34.40**	**292**	*eP*		**P**	**12 58 38.0**	**-0.3**
PLCA	**Paso Flores**	**36.32**	**280**	LR		LR	13 13 42.4	
	comp=Z,33nm,18.4s,baz=167,slow=36							
VNDA	**Vanda**	**41.97**	**181**	P		**P**	**12 59 43.3**	**+1.7**
	0.6nm,0.9s,baz=190,slow=6.1,SNR=3.6							
VNDA				LR		LR	13 17 22.4	
	comp=Z,34nm,18.7s,baz=156,slow=36							
VNDA	**Vanda**	**41.97**	**181**	*eP*		**P**	**12 59 43.1**	**+1.5**
CPUP	**Villa Florida**	**42.52**	**307**	P		**P**	**12 59 46.5**	**-0.2**
	0.5nm,0.3s,baz=148,slow=13,SNR=2.9							
CPUP				LR		LR	13 17 03.4	
	comp=Z,24nm,20.7s,baz=116,slow=36							
H10S2	**ASCENSION HYDR**	**51.87**	**7**	T		T	13 57 29.2	
	baz=184,slow=75,SNR=4.0							
H10S3	**ASCENSION HYDR**	**51.87**	**7**	T		T	13 57 22.5	
	baz=184,slow=75,SNR=3.4							
H10S1	**ASCENSION HYDR**	**51.89**	**7**	T		T	13 57 31.7	
	baz=184,slow=75,SNR=3.5							
MNMC	**Minye Minye**	**54.01**	**298**	*eP*		**P**	**13 01 16.4**	**+0.7**
	7.9nm,0.7s							
LPAZ	**La Paz**	**55.91**	**301**	P		**P**	**13 01 30.2**	**+0.4**
	1.7nm,0.5s,baz=136,slow=11,SNR=12							
LPAZ	**La Paz**	**55.91**	**301**	*eP*		**P**	**13 01 30.3**	**+0.4**
	2.6nm,0.7s							
LSZ	**Lusaka**	**57.24**	**60**	*eP*		**P**	**13 01 38.4**	**-0.3**
	1.7nm,0.6s							
SAML	**Samuel**	**60.58**	**310**	*eP*		**P**	**13 02 01.8**	**0.0**
	2.9nm,0.6s							
TORD	**Torodi Ar. Bea**	**75.75**	**22**	P		**P**	**13 03 36.7**	**-0.1**
	0.8nm,0.6s,baz=199,slow=6.1,SNR=6.3							
TOA1	**Torodi Ar. Sit**	**75.75**	**22**	*eP*		**P**	**13 03 36.7**	**-0.1**
STKA	**Stephens Creek**	**86.55**	**165**	LR		LR	13 41 37.5	
	comp=Z,46nm,18.3s,baz=205,slow=34							

MEX 02 13:07:34.0±0.3, 15.96N×98.69W, h5km, MD3.6, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.69**	**51**	*eP*		Pg	13 07 46.0	-1.2
PNIG				*eS*		Sg	13 07 55.7	-0.4
TLIG	**Tlapa**	**1.60**	**4**	*eP*		Pn	13 07 59.4	-3.7
TLIG				*eS*		Sn	13 08 19.6	-4.5
CAIG	**El Cayaco**	**1.86**	**306**	*eP*		Pn	13 08 03.0	-3.6
CAIG				*i* S		Sn	13 08 26.4	-4.1
VHO	**Vista Hermosa**	**2.17**	**59**	*eP*		Pn	13 08 07.4	-3.7
VHO				*i* S		Sn	13 08 34.1	-4.4
HUIG	**Huatulco**	**2.49**	**94**	*eP*		Pn	13 08 11.5	-3.7
HUIG				*i* S		Sn	13 08 42.4	-3.6

IDC 02 13:49:18.1±3.5, 11.07N×99.43E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.5/49, mbtmp3.6/5, ML4.0/1, Error ellipse: s-maj=158.4km s-min=22.6km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**17.29**	**358**	P		Pn	13 53 19.4	-1.7
	0.2nm,0.3s,baz=192,slow=11,SNR=4.4							
WRA	**Warramunga Arr**	**40.09**	**123**	P		P	13 56 56.5	+0.8
	0.6nm,0.7s,baz=302,slow=8.9,SNR=7.5							
ASAR	**Alice Springs**	**41.56**	**129**	P		P	13 57 06.6	-1.3
	0.1nm,0.5s,baz=297,slow=8.2,SNR=5.7							
MKAR	**Makanchi Array**	**47.94**	**344**	P		P	13 57 57.5	-0.9
	1.4nm,0.6s,baz=167,slow=7.5,SNR=3.8							
ZALV	**Zalesovo Beam**	**54.06**	**349**	P		P	13 58 45.5	+1.1
	1.3nm,0.6s,baz=177,slow=8.5,SNR=5.4							

*BJI **02** 14:02:42.8, 4.05N×125.68E, h183km, mb4.7/45, mB4.8/33*

*MOS **02** 14:02:46.8±1.1, 4.68N×125.57E, h182km, mb4.8/26, Error ellipse: s-maj=11.6km s-min=5.8km az=119.8*

*ISCJB **02** 14:02:47.8±0.2, 4.69N±0.02×125.72E±0.03, h190km±2km, mb4.6/94, Error ellipse: s-maj=4.9km s-min=2.7km az=167.1*

*MAN **02** 14:02:48.5, 4.68N×125.82E, h164km, mb5.3, ML4.3, MS4.4*

*IDC **02** 14:02:48.7±0.9, 4.62N×125.54E, h184km±8km, mb4.3/32, mb1 4.3/36, mb1mx4.3/42, mbtmp4.8/36, MS3.1/6, Ms1 3.1/6, ms1mx2.8/35, Error ellipse: s-maj=10.5km s-min=6.0km az=72.0*

*GCMT **02** 14:02:49.3±0.4, 4.50N±0.03×125.74E±0.03, h173km±4km, MW5.0/68, Moment Tensor Solution. s17,c19; s68,c91; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 0.05±.14; Mθθ 0.07±.16; Mφφ -0.12±.20; Mrθ -0.07±.10; Mθφ -2.57±.15; Mφr 2.38±.14; Best double couple: M0 3.50500×10^16 NP1: φs 359.00000°, δ 47.00000°, λ 179.00000°. Principal axes: T 3.5110, Plg29.0000°, Azm233.0000°; N -0.0120, Plg47.0000°, Azm360.0000°; P -3.4990, Plg28.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **02** 14:02:49.6±0.4, 5°N±4×12°6E±°, h166km±5km, M4.5/23, mb4.8/23, mB5.0/18, MLv4.9/13, Mw(mB)4.3/18*

*NEIC **02** 14:02:49.3±0.6, 4.71N×125.67E, h190km±6km, mb4.9/26, Error ellipse: s-maj=6.7km s-min=4.5km az=68.0*

*KLM **02** 14:02:50.0, 4.53N×125.93E, h200km, mb5.2*

ISC 02 14:02:48.1±0.5, 4.63N±0.03×125.69E±0.05, h179km±4km, n258, σ1 8/51/302, mb4.6/94, 12C-5D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SGSI	**Sangihe**	**0.95**	**189**	P		**Pn**	**14 03 15.4**	**-0.1**
GSPH	**General Santos**	**1.62**	**333**	*e*P		**Pn**	**14 03 21.9**	**+0.6**
GSPH				*i* S		**Sn**	**14 03 46.9**	**-0.2**
SKMP	**Bagumbayan, Su**	**2.19**	**329**	*e*P		**Pn**	**14 03 27.6**	**+0.4**
SKMP				*e*S		**Sn**	**14 03 57.5**	**-0.3**
DAV	**Davao City (W)**	**2.42**	**358**	P		**Pn**	**14 03 31.1**	**+1.2**
	150nm,0.3s,baz=234,slow=5.3,SNR=7.6							
DAV				S		**Sn**	**14 04 01.8**	**-0.7**
	294nm,0.3s,baz=270,slow=21,SNR=6.6							
DAV	**Davao City (W)**	**2.42**	**358**	*e*Pn		**Pn**	**14 03 30.4**	**+0.6**
DAV				S		**Sn**	**14 04 01.8**	**-0.7**
CTBH	**Cotabato--PC H**	**2.94**	**331**	*i* P		**Pn**	**14 03 36.5**	**+0.5**
BUKP	**Musuan**	**3.28**	**349**	*eP*		**Pn**	**14 03 40.1**	**-0.1**
BUKP				*e*S		**Sn**	**14 04 20.9**	**-0.1**
BIPH	**Bislig**	**3.59**	**11**	*e*P		**Pn**	**14 03 44.4**	**+0.3**
BIPH				*e*S		**Sn**	**14 04 26.4**	**-1.4**
CGP	**Cagayan de Oro**	**3.92**	**346**	*e*P		**Pn**	**14 03 48.8**	**+0.6**
CGP				*e*S		**Sn**	**14 04 40.2**	**+4.9**
TNTI	**Ternate**	**4.19**	**156**	*e*Pn		**Pn**	**14 03 51.3**	**-0.3**
TNTI	**Ternate**	**4.19**	**156**	P		**Pn**	**14 03 51.4**	**-0.3**
BUTP	**Butuan**	**4.31**	**359**	*eP*		**Pn**	**14 03 54.2**	**+1.0**
BUTP				*e*S		**Sn**	**14 04 49.0**	**+4.8**
KMSI	**Cibinong**	**4.38**	**203**	P		**Pn**	**14 03 55.4**	**+1.3**
MSLP	**Maasin**	**5.53**	**352**	*eP*		**Pn**	**14 04 09.0**	**+0.1**
MSLP				*e*S		**Sn**	**14 05 14.3**	**+1.8**
LBMI	**Labuha**	**5.54**	**161**	P		**Pn**	**14 04 09.2**	**0.0**
MRSI	**Marisa**	**5.57**	**222**	P		**Pn**	**14 04 11.2**	**+1.7**
LUWI	**Luwuk**	**6.34**	**207**	*e*Pn		**Pn**	**14 04 22.6**	**+2.9**
LUWI	**Luwuk**	**6.34**	**207**	P		**Pn**	**14 04 22.4**	**+2.7**
PLP	**Palo**	**6.53**	**354**	*e*P		**Pn**	**14 04 21.9**	**-0.1**
PLP				S		**Sn**	**14 05 30.6**	**-5.6**
SANI	**Sanana**	**6.65**	**177**	P		**Pn**	**14 04 21.0**	**-2.6**
APSI	**Ampana**	**6.83**	**216**	P		**Pn**	**14 04 28.4**	**+2.4**
MPSI	**Mapaga**	**7.19**	**234**	P		**Pn**	**14 04 32.2**	**+1.5**
RCP	**Roxas**	**7.47**	**337**	*e*P		**Pn**	**14 04 36.2**	**+1.7**
SIJI	**Sorong**	**7.81**	**134**	P		**Pn**	**14 04 39.4**	**+0.4**
	4.5nm,0.3s,baz=160,slow=23,SNR=19							
SIJI				S		**Sn**	**14 06 02.1**	**-4.6**
	1.6nm,0.3s,baz=24,slow=23,SNR=6.6							
SIJI				LR		LR	14 07 30.9	
	comp=Z,74nm,20.5s,baz=328,slow=36							
NLAI	**Namlea**	**7.95**	**170**	P		**Pn**	**14 04 39.0**	**-1.8**
MSAI	**Masohi**	**8.56**	**158**	P		**Pn**	**14 04 48.7**	**-0.2**
AAI	**Ambon**	**8.64**	**163**	P		**Pn**	**14 04 49.2**	**-0.7**
AAI				pmax		pmax		
	comp=Z,152nm,0.7s							
AAI	**Ambon**	**8.64**	**163**	P		**Pn**	**14 04 49.0**	**-0.9**
PALU	**Palau**	**9.15**	**72**	P		**Pn**	**14 04 58.1**	**+1.5**
	baz=9.2,SNR=18							
SGKI	**Sangatta, Kali**	**9.56**	**238**	P		**Pn**	**14 04 58.6**	**-3.5**
TTSI	**Tana Toraja**	**9.62**	**218**	P		**Pn**	**14 05 05.4**	**+2.6**
FAKI	**Fak Fak**	**9.96**	**139**	*e*Pn		**Pn**	**14 05 07.9**	**+0.7**
FAKI	**Fak Fak**	**9.96**	**139**	P		**Pn**	**14 05 08.0**	**+0.7**
BNDI	**Bandanaira**	**10.03**	**155**	P		**P**	**14 05 12.8**	**-4.3**
SPSI	**Sidrap Palu**	**10.39**	**215**	P		**Pn**	**14 05 13.9**	**+1.1**
PKPI	**Ransiki, Papua**	**10.45**	**126**	P		**P**	**14 05 17.6**	**-4.2**
BNSI	**Bone**	**10.56**	**212**	P		**Pn**	**14 05 17.1**	**+2.0**
BKSI	**Bulukumba**	**11.34**	**209**	P		**Pn**	**14 05 25.6**	**+0.4**
SBUM	**Sibu**	**13.61**	**261**	*e*Pn		**P**	**14 05 57.2**	**+0.2**
SBUM	**Sibu**	**13.61**	**261**	P		**P**	**14 05 57.0**	**-0.1**
SAUI	**Saumlaki**	**13.73**	**156**	*eP*		**P**	**14 06 00.1**	**+1.8**
EDFI	**Ende, Flores**	**13.88**	**197**	P		**Pn**	**14 05 57.8**	**+0.3**
SOEI	**Soe**	**14.36**	**186**	*e*Pn		**P**	**14 06 05.6**	**+0.1**
SOEI	**Soe**	**14.36**	**186**	P		**P**	**14 06 05.9**	**+0.4**
BATI	**Baumata**	**14.88**	**188**	P		**P**	**14 06 11.7**	**+0.6**
	comp=Z,16nm,0.3s,baz=68,slow=0.4,SNR=19							
BATI				S		**Sn**	**14 08 57.2**	**+1.1**
	comp=Z,3.5nm,0.3s,baz=48,slow=16,SNR=5.3							
BATI	**Baumata**	**14.88**	**188**	P		**P**	**14 06 11.4**	**+0.3**
WBSI	**Waikabubak, Su**	**15.51**	**204**	P		**Pn**	**14 06 17.9**	**+0.3**
PLAI	**Plampang**	**15.52**	**211**	P		**Pn

QIS **Mount Isa** 28.52 152 P P **14 08 27.7 +0.6**
baz=29,SNR=11
SUKH **Sukhothai** 28.53 299 P P **14 08 28.8 +1.7**
comp=Z,8.2nm,0.7s
UMPA **Umpang Tak** 28.73 296 P P **14 08 30.5 +1.5**
comp=Z,3.7nm,0.8s
JNU **Nakatsue** 28.75 9 P P **14 08 28.2 -0.8**
comp=Z,7.3nm,0.9s,baz=241,slow=14,SNR=3.0
JNU LR LR 14 19 28.6
comp=Z,35nm,19.1s,baz=236,slow=35
LAMP **Lampang** 28.95 301 P P **14 08 32.6 +1.7**
comp=Z,9.7nm,0.9s
PAYA **Payao** 29.12 302 P P **14 08 33.5 +1.1**
comp=Z,6.1nm,0.7s
AS31 **Alice Springs** 29.25 164 *e*P P **14 08 34.1 +0.7**
comp=Z,4.8nm,0.5s
ASAR **Alice Springs** 29.25 164 P P **14 08 34.0 +0.5**
comp=Z,6.9nm,0.5s,baz=339,slow=6.8,SNR=318
ASAR S S **14 13 10.3 -2.8**
comp=Z,2.7nm,0.8s,baz=357,slow=22,SNR=7.6
ASAR ScP ScP **14 15 00.9 -0.1**
comp=Z,7.1nm,0.8s,baz=343,slow=2.5,SNR=20
AS01 **Alice Springs** 29.26 164 *e*P P **14 08 34.1 +0.5**
GIRL **Giralia** 29.33 202 P P **14 08 35.6 +1.4**
baz=29,SNR=7.2
CMAR **Chiang Mai Arr** 29.52 300 P P **14 08 37.0 +1.0**
comp=Z,12nm,0.9s,baz=119,slow=7.5,SNR=79
CMAR PcP PcP **14 11 38.0 +1.1**
comp=Z,3.5nm,0.8s,baz=148,slow=1.0,SNR=11
CMAR ScP ScP **14 15 02.0 0.0**
comp=Z,4.0nm,0.9s,baz=140,slow=1.6,SNR=18
WRKA **Warakurna** 29.60 175 P P **14 08 37.4 +0.8**
baz=30,SNR=27
CMMT **Chiang Mai** 29.66 301 P P **14 08 37.8 +0.6**
comp=Z,25nm,1.1s
CHTO **Chiang Mai** 29.67 301 *e*P P **14 08 38.8 +1.6**
comp=Z,32nm,1.3s
CHTO **Chiang Mai** 29.67 301 *e*P P **14 08 38.8 +1.6**
CHTO pmax pmax
comp=Z,32nm,1.3s
CHTO **Chiang Mai** 29.67 301 P P **14 08 37.9 +0.7**
comp=Z,110nm,1.1s
KMI **Kunming** 30.01 315 P P **14 08 42.2 +1.8**
KMI pmax pmax
comp=Z,14nm,0.8s
CTA **Charters Tower** 31.82 141 P P **14 08 57.6 +1.5**
comp=Z,23nm,0.7s,baz=316,slow=10.0,SNR=53
CTA ScP ScP **14 15 10.8 +1.3**
comp=Z,3.6nm,0.8s,baz=311,slow=6.1,SNR=4.9
CTAO **Charters Tower** 31.82 141 *e*P P **14 08 57.8 +1.7**
comp=Z,31nm,1.0s
CTAO **Charters Tower** 31.82 141 *e*P P **14 08 57.8 +1.7**
CTAO pmax pmax
comp=Z,31nm,1.0s
MEEK **Meekatharra** 31.83 192 P P **14 08 56.2 +0.1**
baz=32,SNR=17
KSAR **Wonju Array Be** 32.72 3 P P **14 09 04.7 +1.0**
KSAR ScP ScP **14 15 12.8 +0.5**
KSAR **Wonju Array Be** 32.72 3 P P **14 09 04.7 +1.0**
KSRS **Korea Array** 32.73 3 P P **14 09 04.7 +0.9**
comp=Z,5.2nm,0.8s,baz=181,slow=10,SNR=17
KSRS ScP ScP **14 15 12.8 +0.5**
comp=Z,0.7nm,0.5s,baz=179,slow=3.6,SNR=5.4
XAN **Xi'an** 33.15 334 P P **14 09 06.1 -1.5**
XAN pmax pmax
comp=Z,12nm,0.8s
XAN pmax pmax
comp=Z,65nm,4.2s
CD2 **Chengdu** 33.30 324 *e*P P **14 09 09.5 +0.5**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.0s
MJAR **Matsushiro Ar** 33.78 18 P P **14 09 14.2 +1.3**
comp=Z,1.7nm,0.7s,baz=197,slow=8.6,SNR=4.3
MORW **Morawa** 34.77 195 P P **14 09 21.6 0.0**
baz=35,SNR=26
FORT **Forrest** 35.29 176 P P **14 09 26.8 +0.9**
baz=35,SNR=7.2
QLP **Quilpie** 35.85 151 P P **14 09 31.3 +0.4**
baz=36,SNR=6.9
BLDU **Ballidu** 36.09 193 P P **14 09 32.8 0.0**
baz=36,SNR=40
BJI **Beijing** 36.28 348 P P **14 09 34.5 +0.3**
BJI pmax pmax
comp=Z,6.0nm,0.6s
KLBR **Kellerberrin** 36.81 191 P P **14 09 39.2 +0.4**
baz=37,SNR=22
HNR **Honiara** 36.89 112 P P **14 09 40.6 +0.8**
comp=Z,33nm,0.3s,baz=222,slow=8.6,SNR=8.0
HNR LR LR 14 23 51.2
comp=Z,38nm,21.1s,baz=183,slow=34
LZH **Lanzhou** 37.20 330 *e*P P **14 09 42.8 +0.4**
LZH pP pP 14 10 20.9 +0.5
LZH sP sP 14 10 43.0 +2.1
LZH *e*PP **PnPn** **14 11 13.6 -0.4**
LZH pmax pmax
comp=Z,21nm,1.6s
MUN **Mundaring** 37.51 193 P P **14 09 45.0 +0.2**
baz=38,SNR=17
RMQ **Roma** 38.16 145 P P **14 09 51.0 +0.7**
baz=38,SNR=8.1
NWAO **Narrogin (SRO)** 38.21 192 P P **14 09 51.2 +0.7**
comp=Z,23nm,0.4s,baz=257,slow=7.7,SNR=74
NWAO **Narrogin (SRO)** 38.21 192 P P **14 09 51.3 +0.7**
baz=38,SNR=51
NWAO **Narrogin (SRO)** 38.21 192 *e*P P **14 09 51.3 +0.7**
comp=Z,28nm,0.4s
NWAO **Narrogin (SRO)** 38.21 192 *e*P P **14 09 51.3 +0.7**
NWAO pmax pmax
comp=Z,28nm,0.4s
HHC **Hu-ho-hao-te** 38.22 343 *e*P P **14 09 53.0 +2.2**
HHC pmax pmax
comp=Z,11nm,1.1s
HHC pmax pmax
comp=Z,140nm,4.6s
SHL **Shillong** 38.51 306 *e*P P **14 09 53.3 -0.1**
comp=Z,39nm,0.5s
SHL **Shillong** 38.51 306 *e*P P **14 09 53.3 -0.1**
SHL pmax pmax
comp=Z,39nm,0.5s
BBOO **Buckleboo** 38.52 166 P P **14 09 54.3 +1.1**
baz=39,SNR=144
EIDS **Eidsvold** 38.70 142 P P **14 09 55.1 +0.2**
baz=39,SNR=5.5
EIDS **Eidsvold** 38.70 142 *e*P P **14 09 55.0 +0.2**
comp=Z,37nm,1.4s
CN2 **Changchun** 39.01 360 *e*P P **14 10 01.2 +4.1**
CN2 *e*S S **14 15 48.5 +6.0**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,3.0s
STKA **Stephens Creek** 39.34 158 P P **14 10 01.2 +1.2**
comp=Z,32nm,0.8s,baz=334,slow=8.3,SNR=52
STKA PP PP **14 11 32.8 -1.5**
comp=Z,11nm,0.9s,baz=323,slow=12,SNR=4.2
STKA **Stephens Creek** 39.34 158 P P **14 10 01.3 +1.2**
baz=40,SNR=49
STKA **Stephens Creek** 39.34 158 *e*P P **14 10 01.4 +1.3**
comp=Z,7.6nm,0.9s
STKA **Stephens Creek** 39.34 158 *e*P P **14 10 01.4 +1.3**
STKA pmax pmax
comp=Z,8.0nm,0.9s
USRK **Ussuriysk Ar.** 39.79 7 P P **14 10 04.7 +1.1**
comp=Z,7.7nm,0.8s,baz=187,slow=8.4,SNR=10
HTT **Hallett** 39.88 163 P P **14 10 06.1 +1.5**
baz=40,SNR=14
RKGY **Rocky Gully** 39.89 191 P P **14 10 06.3 +1.8**
baz=40,SNR=15
CMSA **Cobar Meteorol** 40.71 153 P P **14 10 12.6 +1.2**
baz=41,SNR=8.9
GTA **Gaotai** 41.79 330 ⇑P P **14 10 19.8 -0.4**
GTA pP pP 14 11 01.5 +2.5
GTA sP sP 14 11 20.4 +1.1
GTA PcP **PcP** **14 12 14.0 +1.0**
GTA ScP **ScP** **14 15 46.4 0.0**
GTA S S **14 16 24.0 -0.3**
GTA sS sS 14 17 31.6 -0.7
GTA ScS **ScS** **14 20 02.0 -2.0**
GTA pmax pmax
comp=Z,80nm,6.2s
GTA LR LR
comp=Z,310nm,19.0s
GTA LR LR
comp=Z,220nm,18.7s
GTA LR LR
comp=Z,81nm,18.7s
ASAJ **Asahikawa** 42.05 18 P P **14 10 23.6 +1.5**
comp=Z,10.0nm,0.8s,baz=358,slow=32,SNR=8.0
ODAN **Odare** 42.70 305 *e*P P **14 10 27.7 -0.2**
comp=Z,15nm,0.4s
ARMA **Armidale** 42.79 146 P P **14 10 28.8 +0.4**
baz=43,SNR=8.9
ARMA **Armidale** 42.79 146 *e*P P **14 10 30.1 +1.7**
RAMN **Ramite** 43.38 305 *e*P P **14 10 33.4 0.0**
comp=Z,19nm,0.5s
ARPS **Mount Arapiles** 43.87 161 P P **14 10 38.4 +1.7**
baz=44,SNR=27
JIRN **Jiri** 44.00 306 *e*P P **14 10 38.3 -0.1**
comp=Z,26nm,0.4s
YNG **Young** 44.26 153 P P **14 10 42.1 +2.2**
baz=44,SNR=8.6
GUN **Gumba** 44.35 306 *e*P P **14 10 41.1 -0.1**
comp=Z,34nm,0.4s
PKI **Pulchoki** 44.60 305 *e*P P **14 10 42.4 -0.8**
comp=Z,8.3nm,0.4s
PKIN **Phulchoki** 44.61 305 *e*P P **14 10 43.0 -0.2**
comp=Z,6.0nm,0.4s
KLR **Kul'dur** 44.73 6 *i*P P **14 10 42.7 -0.7**
KKN **Kakani** 44.79 305 *e*P P **14 10 43.8 -0.7**
comp=Z,9.6nm,0.4s
PALK **Pallekele** 44.80 276 LR LR 14 30 21.6
comp=Z,32nm,19.5s,baz=117,slow=37
DMN **Daman** 44.86 305 *e*P P **14 10 44.5 -0.6**
comp=Z,11nm,0.6s
CAN **Canberra** 45.38 153 P P **14 10 51.4 +2.6**
CNB **Canberra Magne** 45.54 153 P P **14 10 52.1 +2.0**
baz=46,SNR=11
TOO **Toolangi** 45.86 158 P P **14 10 55.0 +2.5**
baz=46,SNR=5.3
TOO **Toolangi** 45.86 158 P P **14 10 55.9 +3.4**
TOO pmax pmax
comp=Z,25nm,1.4s
ULN **Ulaanbaatar** 45.95 343*ce*P P **14 10 52.8 -0.4**
ULN pmax pmax
comp=Z,4.0nm,0.9s
SONM **Songino Array** 46.12 342 P P **14 10 53.7 -0.8**
comp=Z,2.4nm,0.8s,baz=154,slow=8.9,SNR=8.7
SONM PcP **PcP** **14 12 27.8 +0.3**
comp=Z,6.2nm,0.8s,baz=153,slow=2.8,SNR=12
SONM ScP **ScP** **14 16 03.1 -0.8**
comp=Z,0.9nm,0.6s,baz=156,slow=2.7,SNR=4.4
KOLN **Koldanda** 46.16 305 *e*P P **14 10 55.2 0.0**
comp=Z,60nm,0.6s
DANN **Dangsing** 46.25 305 *e*P P **14 10 55.7 -0.3**
comp=Z,54nm,0.5s
PYUN **Piuthan** 46.78 305 *e*P P **14 11 00.2 +0.1**
comp=Z,37nm,0.6s
HYB **Hyderabad** 47.83 289 *i*P P **14 11 09.0 +0.8**
DZM **Mont Dzumac** 47.90 125 P P **14 11 10.5 +1.8**
comp=Z,19nm,0.8s,baz=306,slow=7.1,SNR=26
ZEA **Zeya** 48.97 1 *e*P P **14 11 16.0 -0.2**
ZEA pmax pmax
comp=Z,20nm,1.0s
WMQ **Urumqi** 51.39 325 P P **14 11 34.8 +0.1**
WMQ pmax pmax
comp=Z,31nm,1.1s
WMQ pmax pmax
comp=Z,210nm,4.3s
WMQ LR LR
comp=Z,170nm,24.5s
WMQ LR LR
comp=Z,74nm,20.9s
HVS **Khovu-Aksy** 53.49 335 *i*P P **14 11 49.9 -0.1**
HVS pmax pmax
comp=Z,15nm,1.0s
PETK **Petropavlovsk-** 55.00 23 P P **14 12 01.5 +0.8**
comp=Z,3.1nm,0.6s,baz=90,slow=3.0,SNR=8.0
MK01 **Makanchi Array** 56.20 325 *e*P P **14 12 09.0 -0.5**
MK31 **Makanchi Array** 56.22 325 *e*P P **14 12 09.4 -0.2**
MK31 **Makanchi Array** 56.22 325 *e*P P **14 12 09.4 -0.2**
MKAR **Makanchi Array** 56.22 325 P P **14 12 09.2 -0.5**
comp=Z,7.9nm,0.4s,baz=122,slow=7.6,SNR=66
MKAR PcP **PcP** **14 13 04.1 -1.0**
comp=Z,7.0nm,0.6s,baz=121,slow=4.3,SNR=9.1
MKAR ScP **ScP** **14 16 45.8 -1.6**
comp=Z,7.8nm,0.8s,baz=117,slow=3.8,SNR=13
KSH **Kashi** 56.67 315 P P **14 12 14.3 +1.2**
KSH pP pP 14 12 58.4 +4.3
KSH PP **PP** **14 14 25.0 +3.9**
KSH S S **14 19 48.6 -2.9**
KSH sS sS 14 21 04.7 +1.7
KSH pmax pmax
comp=Z,42nm,1.3s
KSH pmax pmax
comp=Z,360nm,4.7s
KSH LR LR
comp=Z,180nm,6.1s
KSH LR LR
comp=Z,190nm,8.6s
KSH LR LR
comp=Z,220nm,8.8s
KDJ **Kajisay** 56.98 318 *e*P P **14 12 16.3 +1.0**
comp=Z,15nm,1.3s
KDJ **Kajisay** 56.98 318 *e*P P **14 12 16.3 +1.0**
KDJ pmax pmax
comp=Z,15nm,1.3s
YAK **Yakutsk** 57.35 2 *e*P P **14 12 15.6 -1.5**
YAK pmax pmax
comp=Z,58nm,1.4s
YAK pmax pmax
comp=N,22nm,1.5s
YAK pmax pmax
comp=E,9.0nm,1.5s
ULHL **Ulahol** 57.66 318 P P **14 12 20.4 +0.3**
SNR=6.0
KZA **Kyzart** 58.25 318 P P **14 12 25.0 +0.6**
SNR=8.1
TKM2 **Tokmak 2** 58.38 319 P P **14 12 24.9 -0.2**
SNR=6.8
UCH **Uchtor** 58.81 317 P P **14 12 28.7 +0.4**
SNR=17
AAK **Ala-Archa** 58.99 318 *i*P P **14 12 28.4 -0.8**
AAK pmax pmax
comp=Z,4.0nm,1.2s
FRU **Bishkek** 58.99 318 *e*P P 14 12 44.0 +15
ZAA0 **Zalesovo Array** 59.32 333 *e*P P **14 12 29.6 -1.4**
comp=Z,7.0nm,1.1s
ZALV **Zalesovo Beam** 59.32 333 P P **14 12 29.3 -1.6**
comp=Z,3.9nm,0.6s,baz=121,slow=5.9,SNR=13
ZALV PcP **PcP** **14 13 15.2 -1.8**
comp=Z,1.0nm,0.5s,baz=103,slow=4.7,SNR=4.4
ZALV **Zalesovo Beam** 59.32 333 *e*P P **14 12 28.6 -2.4**
ZALV PcP **PcP** **14 13 15.2 -1.8**
ZALV **Zalesovo Beam** 59.32 333 *e*P P **14 12 28.6 -2.4**
ZALV 14 13 15.3
AML **Almayashu** 59.32 317 P P **14 12 32.3 +0.5**
SNR=12
EKS2 **Erkin-Say** 59.48 318 P P **14 12 33.0 +0.5**
SNR=7.8
KURK **Kurchatov** 60.42 328 *e*P P **14 12 37.6 -1.0**
comp=Z,9.3nm,0.6s
KURK **Kurchatov** 60.42 328 *e*P P **14 12 37.6 -1.0**
KURK pmax pmax
comp=Z,9.0nm,0.6s
NVS **Novosibirsk** 60.60 333 *i*P P **14 12 38.8 -0.9**
SEY **Seymchan** 61.40 14 *i*P P **14 12 47.2 +2.3**
KK31 **Karatay Array** 61.86 317 *e*P P **14 12 48.0 -0.5**
KK31 **Karatay Array** 61.86 317 *e*P P **14 12 48.0 -0.5**
KKAR **Karatay Array** 61.86 317 *e*P P **14 12 48.0 -0.5**
KKAR **Karatay Array** 61.86 317 *e*P P **14 12 48.0 -0.5**
RPZ **Rata Peaks** 63.09 145 P P **14 12 57.1 +0.6**
comp=Z,30nm,1.1s,baz=67,slow=7.7,SNR=3.3
TIXI **Tiksi** 66.96 1 *e*P P **14 13 20.7 -0.2**
comp=Z,17nm,0.8s
TIXI **Tiksi** 66.96 1*ce*P P **14 13 20.4 -0.5**
TIXI pmax pmax
comp=Z,16nm,0.9s
BILL **Bilibino** 68.95 15 *e*P P **14 13 34.3 +0.8**
BILL *e* 14 13 54.0
BILL *e**PP **pP** **14 14 14.2 -1.9**
BILL *e**SP **sP** **14 14 34.7 -0.7**
BILL *e* 14 16 09.0
BILL pmax pmax
comp=Z,2.0nm,1.7s
NRIK **Noril'sk** 69.31 346 P P **14 13 35.3 -0.3**
comp=Z,5.9nm,0.5s,baz=120,slow=5.7,SNR=6.2
NRIK PcP **PcP** **14 13 58.3 +0.3**
comp=Z,6.0nm,0.5s,baz=160,slow=4.3,SNR=4.5
GEYT **Alibeck** 69.52 309 P P **14 13 37.1 -0.5**
comp=Z,4.4nm,0.9s,baz=174,slow=2.8,SNR=15
AB31 **Akbulak array** 70.80 321 *i*P P **14 13 43.8 -1.3**
AB31 pmax pmax
comp=Z,6.0nm,0.8s
CASY **Casey** 71.59 186 *e*P P **14 13 50.6 +1.2**
comp=Z,7.1nm,1.2s
SVE **Sverdlovsk** 72.65 329⇑*i*P P **14 13 55.3 -0.7**
SVE pmax pmax
comp=Z,20nm,1.1s
ARU **Arti** 73.62 328*c i*P P **14 13 59.9 -1.8**
ARU 14 16 46.1
ARU S S **14 23 17.3 +0.2**
ARU SS **SS** **14 28 01.2 -2.9**
ARU pmax pmax
comp=Z,17nm,1.0s
RAYN **Ar Rayn** 79.17 293 *e*P P **14 14 32.4 -1.3**
comp=Z,12nm,0.8s
RAYN **Ar Rayn** 79.17 293 *e*P P **14 14 32.4 -1.3**
RAYN pmax pmax
comp=Z,12nm,0.8s
GNI **Garni** 80.11 310 *i*P P **14 14 39.2 +0.7**
GNI pmax pmax
comp=Z,29nm,2.1s
ZEI **Tsey** 80.84 312 *e*P P **14 14 40.1 -2.3**
ZEI pmax pmax
comp=Z,7.0nm,0.6s
KBZ **Khabaz** 81.61 313 P P **14 14 45.8 -0.3**
comp=Z,1.4nm,0.7s,baz=80,slow=6.1,SNR=2.9
NEY **Neytrino** 81.72 313 *i*P P **14 14 46.9 -0.1**
NEY pmax pmax
comp=Z,1.0nm,0.8s
VRH **Novokhopyorsk** 82.63 321 *e*P P **14 14 50.2 -1.1**
VRH pmax pmax
comp=Z,10.0nm,0.8s
VORD **Divnogorie** 84.16 321 *e*P P **14 14 56.7 -2.4**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR **Storozhevoye** 84.23 321 *e*P P **14 14 57.1 -2.4**
VSR pmax pmax
comp=Z,10.0nm,1.1s
MAW **Mawson** 84.24 200 P P **14 14 57.7 -1.3**
comp=Z,2.3nm,0.7s,baz=54,slow=7.4,SNR=7.6
MAW **Mawson** 84.24 200 P P **14 15 00.1 +1.1**
baz=84,SNR=7.2
LPSR **Galich'ya Gora** 84.38 322 *e*P P **14 14 58.8 -1.4**
LPSR pmax pmax
comp=Z,20nm,1.4s
VNDA **Vanda** 84.45 173 P P **14 14 59.3 -0.7**
comp=Z,0.4nm,0.5s,baz=325,slow=7.2,SNR=8.2
VNDA LR LR 14 54 26.0
comp=Z,15nm,18.1s,baz=57,slow=37
ILAR **Eielson Array** 84.74 25 P P **14 15 01.7 -0.1**
comp=Z,0.4nm,0.5s,baz=251,slow=4.7,SNR=7.4
MOS **Moscow** 85.11 325 *e*P P **14 15 03.1 -0.7**
MOS pmax pmax
comp=Z,42nm,1.0s
OBN **Obninsk** 85.73 325 *e*P P **14 15 07.0 +0.2**
OBN pmax pmax
comp=Z,19nm,0.9s
KMBO **Kilima Mbogo** 88.53 269 P P **14 15 20.9 -0.6**
comp=Z,3.7nm,0.8s,baz=58,slow=7.0,SNR=8.7
KMBO **Kilima Mbogo** 88.53 269 *i*P P **14 15 21.6 +0.1**
KMBO pmax pmax
comp=Z,4.0nm,0.8s
BRTR **Keskin Array B** 88.65 310 P P **14 15 19.4 -2.1**
comp=Z,6.2nm,0.9s,baz=116,slow=4.4,SNR=22
BRTR **Keskin Array B** 88.65 310 *i*P P **14 15 20.6 -0.8**
BRTR pmax pmax
comp=Z,7.0nm,0.9s
ARCES **ARCESS Array B** 89.25 340 P P **14 15 22.4 -1.0**
comp=Z,3.1nm,0.7s,baz=86,slow=6.1,SNR=11
KIEV **Kiev** 90.55 321 *i*P P **14 15 28.5 -1.3**
KIEV pmax pmax
comp=Z,4.0nm,1.0s
SYO **Syowa Base** 92.89 201⇑*e*P P **14 15 40.7 +0.5**
SYO **Syowa Base** 92.89 201⇑*e*PcP **PcP** **14 15 42.4 +1.7**
MLR **Muntele Rosu** 93.53 316⇑*i*P P **14 15 43.2 -0.7**
BURAR **Bucovina Array** 93.64 318‖*i*P P **14 15 42.7 -1.6**
BUR04 **Bucovina Ar. S** 93.64 318 *e*P P **14 15 43.0 -1.3**
BUR08 **Bucovina Ar. S** 93.64 318 *e*P P **14 15 45.1 +0.8**
UZH **Uzhgorod** 95.34 320 *e*P P **14 15 52.0 +0.1**
DRGR 95.48 318⇑*i*P P **14 15 50.9 -1.8**
DRGR 95.48 318 P P **14 15 52.8 +0.1**
DRGR pmax pmax
comp=Z,12nm,1.1s
NOA **NORSAR Array B** 97.52 333 P P **14 16 00.1 -1.5**
comp=Z,0.9nm,0.7s,baz=86,slow=4.5,SNR=3.7
GERES **GERESS Array B** 100.73 321 P **Pdif** **14 16 15.6 -0.7**
comp=Z,0.8nm,0.8s,baz=81,slow=7.3,SNR=4.9
NVAR **Mina Array Bea** 107.08 48 PKKPbc PKKPbc 14 32 11.9 0.0
comp=Z,0.4nm,0.7s,baz=166,slow=3.2,SNR=4.5
NVAR PKKPab **PKKPdf** **14 32 25.6 +1.6**
comp=Z,0.9nm,0.7s,baz=136,slow=5.2,SNR=5.3
PDAR **Pinedale Array** 111.36 41 PKKPbc PKKPbc 14 32 06.2 +7.6
comp=Z,0.4nm,0.4s,baz=129,slow=5.9,SNR=4.0
TORD **Torodi Ar. Bea** 121.65 288 PKP **PKPdf** **14 21 19.6 -2.0**
comp=Z,1.5nm,0.6s,baz=74,slow=1.9,SNR=13
TORD PKKPbc **PKKPab** **14 31 22.6 0.0**
comp=Z,0.6nm,0.7s,baz=282,slow=5.1,SNR=4.1
TXAR **Lajitas Array** 121.86 51 PKP **PKPdf** **14 21 21.3 -0.5**
comp=Z,0.2nm,0.6s,baz=190,slow=1.6,SNR=2.7
TXAR PKKPbc **PKKPbc** **14 31 20.0 -1.1**
comp=Z,0.4nm,0.6s,baz=127,slow=6.8,SNR=4.9
DBIC **Dimbokro** 129.37 282 PKP **PKPdf** **14 21 36.1 -0.2**
comp=Z,2.1nm,0.6s,baz=133,slow=3.7,SNR=3.5
LPAZ **La Paz** 162.16 132 PKPab **PKPab** **14 23 19.0 +1.5**
comp=Z,0.4nm,0.5s,baz=219,slow=6.4,SNR=4.1

IDC ***02*** *14:08:06.6±4.6, 13°.44N×90°.40W,h35km,30km, mb3.5/4, mb1 3.9/6, mb1mx3.6/31, mbtmp3.7/6, ML3.3/2, MS3.3/5, Ms1 3.3/5, ms1mx2.8/28, Error ellipse: s-maj=62.0km s-min=24.7km az=44.0*

ISC 02 14:08:06.5±1.1, 13.2N×0.2×90.6W±0.2, h38km, n13, σ1§73/9, mb3.8/3, MS3.2/5, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**1.79**	**5**	Pg	**Pn**	**14 08 36.2**	**+1.2**
	43nm,0.3s,baz=178,slow=7.9,SNR=128						
APG				Lg	Lg	14 09 02.5	
	49nm,0.3s,baz=313,slow=16,SNR=15						
CMIG	**Matias Romero**	**5.65**	**314**	Pn	**Pn**	**14 09 27.3**	**-0.6**
	0.8nm,0.3s,baz=128,slow=8.9,SNR=5.5						
CMIG				Sn	**Sn**	**14 10 31.2**	**-0.4**
	1.5nm,0.3s,baz=73,slow=10,SNR=3.8						
JTS	**JuntasAbangare**	**6.25**	**117**	Pn	**Pn**	**14 09 36.3**	**0.0**
	0.3s,baz=160,slow=20,SNR=5.6						
TXAR	**Lajitas Array**	**20.11**	**325**	P	Pn	14 12 38.0	-1.2
	2.4nm,0.7s,baz=149,slow=11,SNR=10						
LPIG	**La Paz**	**21.55**	**303**	LR	LR	14 21 59.6	
	comp=Z,52nm,18.4s,baz=124,slow=39						
ATAH	**Atahualpa**	**23.57**	**148**	LR	LR	14 21 55.7	
	comp=Z,52nm,18.5s,baz=7.1,slow=35						
SADO	**Sadowa**	**32.94**	**15**	LR	LR	14 28 49.0	
	comp=Z,103nm,19.6s,baz=169,slow=38						
NVAR	**Mina Array Bea**	**35.13**	**321**	P	**P**	**14 14 58.0**	**+1.3**
	1.1nm,0.7s,baz=137,slow=7.8,SNR=6.4						
NVAR				LR	LR	14 30 38.8	
	comp=Z,37nm,18.9s,baz=106,slow=39						
SCHQ	**Schefferville**	**45.51**	**19**	LR	LR	14 35 35.5	
	comp=Z,45nm,19.5s,baz=14,slow=36						
YKA	**Yellowknife Ar**	**52.11**	**346**	P	**P**	**14 17 10.3**	**-2.3**
	0.7nm,0.6s,baz=129,slow=8.1,SNR=3.4						
ILAR	**Eielson Array**	**64.10**	**337**	P	**P**	**14 18 35.1**	**-1.3**
	0.3nm,0.7s,baz=123,slow=5.4,SNR=5.2						
WRA	**Warramunga Arr**	**136.50**	**255**	PKP	**PKPdf**	**14 27 27.8**	**+2.5**
	0.1nm,0.4s,baz=88,slow=2.6,SNR=6.0						
CMAR	**Chiang Mai Arr**	**147.15**	**343**	PKPbc	**PKPdf**	**14 27 45.5**	**+1.2**
	0.8nm,0.4s,baz=335,slow=3.1,SNR=9.8						

NEIC 02 14:17:35.0±0.0, 19.30N×155.22W, h10km, ML3.8(HVO), **After HVO., Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUH	**Pauahi**	**0.07**	**5**	*e*Pg	Pg	14 17 37.4	0.0
HLP	**Hilina Pali**	**0.08**	**266**	*e*Pg	Pg	14 17 37.9	+0.4
KKO	**Keanakako'i**	**0.10**	**336**	*e*Pg	Pg	14 17 38.0	+0.2
RIM	**Rim**	**0.10**	**332**	*e*Pg	Pg	14 17 37.9	+0.1
SDHHI	**Sand Hill**	**0.11**	**322**	*e*Pg	Pg	14 17 38.0	+0.1
BYL	**Byron's Ledge**	**0.12**	**342**	*e*Pg	Pg	14 17 38.0	+0.1
NPH	**North Pit**	**0.12**	**333**	*e*Pg	Pg	14 17 37.9	-0.1
STCH	**Steam Cracks**	**0.12**	**48**	*e*Pg	Pg	14 17 38.1	+0.1
HATHI	**Halema'uma'u T**	**0.13**	**343**	*e*Pg	Pg	14 17 38.1	+0.1
WRMHI	**West Rim**	**0.13**	**325**	*e*Pg	Pg	14 17 38.1	0.0
OBL	**Observatory Le**	**0.13**	**333**	*e*Pg	Pg	14 17 38.3	+0.1

SBLHI	**Steaming Bluff**	**0.13**	**341**	*e*Pg	Pg	14 17 38.2	+0.1
UWB	**Uwekahuna B**	**0.13**	**337**	*e*Pg	Pg	14 17 38.2	+0.1
UWB				*e*Sg	Sg	14 17 41.2	+0.8
UWE	**Uwekahuna**	**0.14**	**331**	*e*Pg	Pg	14 17 38.4	+0.1
NPOC	**North of Pu'u**	**0.14**	**50**	*e*Pg	Pg	14 17 38.6	+0.3
NPOC				*e*Sg	Sg	14 17 40.6	+0.1
JCUZ	**Jacuzzi**	**0.14**	**54**	*e*Pg	Pg	14 17 38.5	+0.3
AIN	**Ainahou**	**0.23**	**287**	*e*Pg	Pg	14 17 40.3	+0.4
AIN				*e*Sg	Sg	14 17 45.9	+2.7
MLH	**Mauna Loa**	**0.25**	**321**	*e*Pg	Pg	14 17 40.4	+0.2
MLH				*e*Sg	Sg	14 17 46.5	+2.9
HPO	**Honuapo**	**0.38**	**236**	*e*Pg	Pg	14 17 42.7	+0.2
HMH	**Humu'ula Sheep**	**0.39**	**321**	*e*Pg	Pg	14 17 42.6	-0.2
HMH				*e*Sg	Sb	14 17 49.4	-1.0
MWH	**Moku'aweowe**	**0.40**	**297**	*e*Pg	Pg	14 17 42.9	-0.1
MWH				*e*Sg	Sg	14 17 48.9	+0.5
MLOA	**Mauna Loa Obse**	**0.41**	**305**	*e*Pg	Pg	14 17 43.0	-0.1
MLOA				*e*Sg	Sg	14 17 49.6	+1.0
POHA	**Pohakuloa**	**0.54**	**327**	*e*Pg	Pg	14 17 44.7	-0.9
POHA				*e*Sg	Sg	14 17 52.7	-0.1
HUH	**Hualalai**	**0.69**	**303**	*e*Pg	Pg	14 17 47.6	-0.8
HUH				*e*Sg	Sb	14 17 59.5	+0.4
KHLU	**Kahalu'u**	**0.70**	**295**	*e*Pg	Pg	14 17 47.1	-1.4
KHLU				*e*Sg	Sb	14 17 58.4	-0.6
LPH	**Laupahoehoe**	**0.71**	**346**	*e*Pg	Pg	14 17 47.0	-1.8
HPAH	**Hawaii Prepara**	**0.85**	**328**	*e*Pg	Pg	14 17 49.3	-2.2
HPAH				*e*Sg	Sg	14 18 01.7	-0.9
MHA	**Mahukona**	**1.09**	**324**	*e*Pg	Pb	14 17 52.6	-3.4
HLK	**Haleakala**	**1.74**	**327**	*e*Pn	Pn	14 18 01.4	-4.2
HLK				*e*Sn	Sn	14 18 21.7	-6.2
KHLH	**Kahului Airpor**	**1.95**	**325**	*e*Pn	Pn	14 18 04.9	-3.3
KHLH				*e*Sn	Sn	14 18 28.2	-4.5
HON	**Honolulu**	**3.29**	**308**	*e*Pn	Pn	14 18 22.4	-4.3
HON				*e*Sn	Sn	14 18 59.7	-6.2
KIP	**Kipapa**	**3.36**	**309**	*e*Pn	Pn	14 18 22.9	-4.7
OPA	**Opana**	**3.53**	**313**	*e*Pn	Pn	14 18 26.0	-4.0
OPA				*e*Sn	Sn	14 19 03.4	-8.3
KEKH	**Kekaha**	**4.98**	**303**	*e*Pn	Pn	14 18 44.8	-5.0

ISK ***02*** *14:25:22.9, 38.67N×43.22E, h20km, ML2.6/2*
ISCJB ***02*** *14:25:24.1±1.0, 38.59N±0.04×43.24E±0.06, h26km±9km, Error ellipse: s-maj=8.4km s-min=6.0km az=137.1*
DDA ***02*** *14:25:24.9, 38.63N×43.20E, h7km, Ml3.0*
ISC 02 14:25:24.1±1.1,**38.64N**±0.03×**43.22E**±0.03,**h18**km±9km, **n10**,σ1ᵎ5/19,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.14**	**107**	PG	**Pb**	**14 25 28.7**	**+0.7**
VANB				SG	**Sb**	**14 25 32.8**	**+2.2**
TVAN	**Van**	**0.18**	**126**	*i* P	**Pg**	**14 25 28.6**	**-0.4**
TVAN				*i* S	**Sb**	**14 25 32.7**	**+0.7**
GEVA	**Gevas**	**0.35**	**201**	*i* P	**Pg**	**14 25 30.9**	**-0.6**
GEVA				*i* S	**Sb**	**14 25 37.3**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.42**	**294**	*i* P	**Pb**	**14 25 33.0**	**-0.2**
ADCV				*i* S	**Sb**	**14 25 39.9**	**+0.4**
VMUR	**Van-Muradiye**	**0.45**	**38**	*i* P	**Pb**	**14 25 34.6**	**+0.9**
VMUR				*i* S	**Sn**	**14 25 42.7**	**-1.0**
CLDR	**Caldiran**	**0.74**	**47**	PG	**Pg**	**14 25 37.4**	**-1.4**
CLDR				SG	**Sg**	**14 25 48.0**	**-0.7**
TUTA	**Tutak**	**0.83**	**338**	*i* P	**Pg**	**14 25 40.5**	**+0.2**
TUTA				*i* S	**Sn**	**14 25 53.1**	**0.0**
GURO	**Guroymak-BITLI**	**0.93**	**265**	PG	**Pb**	**14 25 41.4**	**-0.5**
AGRB	**Hanur-Agry**	**0.95**	**349**	PG	**Pb**	**14 25 41.1**	**-1.2**
AGRB				SG	**Sb**	**14 25 54.4**	**-0.3**
EATA	**Eleskirt**	**1.35**	**335**	*i* P	**Pg**	**14 25 50.1**	**-0.1**
EATA				*i* S	**Sg**	**14 26 10.6**	**+2.7**

TIF ***02*** *14:29:08.7, 41.27N×41.30E, h11km±5km*
DDA ***02*** *14:29:09.7, 41.30N×41.34E, h7km, Md2.8, Suspected Mining explosion.*
ISK ***02*** *14:29:09.9, 41.31N×41.37E, h12km, ML3.1/8*
ISCJB ***02*** *14:29:10.1±0.4, 41.29N±0.03×41.34E±0.02, h0km, Error ellipse: s-maj=4.2km s-min=2.2km az=161.3*
ISC 02 14:29:09.7±0.8,**41.29N**±0.03×**41.31E**±0.02,**h0**km,**n26**, σ0ᵎ5**4**/43,**Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBOC	**Borcka**	**0.28**	**78**	*i* P	**Pg**	**14 29 15.2**	**+0.1**
DBOC				*i* S	**Sg**	**14 29 18.7**	**+0.1**
BCA	**Borcka**	**0.28**	**57**	PG	**Pg**	**14 29 15.4**	**+0.2**
BCA				SG	**Sg**	**14 29 19.3**	**+0.4**
DBAD	**Bademkaya**	**0.40**	**133**	*i* P	**Pg**	**14 29 17.7**	**+0.3**
DBAD				*i* S	**Sg**	**14 29 22.7**	**+0.1**
BATM	**Batumi**	**0.43**	**43**	P	**Pg**	**14 29 18.3**	**+0.3**
BATM				S	**Sg**	**14 29 24.4**	**+0.9**
CHOM	**Cayeli-Rize**	**0.45**	**245**	PG	**Pb**	**14 29 20.2**	**-0.4**
CHOM				SG	**Sb**	**14 29 27.8**	**-0.1**
ARTV	**Artvin**	**0.48**	**102**	*i* P	**Pg**	**14 29 19.1**	**+0.2**
ARTV				*i* S	**Sg**	**14 29 25.6**	**+0.4**
CHAY	**Cayeli-Rize**	**0.48**	**245**	PG	**Pb**	**14 29 20.9**	**-0.2**
CHAY				SG	**Sb**	**14 29 28.6**	**-0.1**
DAGI	**Agillar**	**0.51**	**115**	*i* P	**Pg**	**14 29 19.7**	**+0.3**
DAGI				*i* S	**Sg**	**14 29 26.2**	**+0.2**
SENK	**Senkaya-Erzuru**	**1.08**	**132**	PG	**Pg**	**14 29 30.4**	**0.0**
SENK				SG	**Sb**	**14 29 45.8**	**-0.2**
EPOS	**Posof**	**1.09**	**78**	*i* P	**Pg**	**14 29 30.1**	**-0.5**
EPOS				*i* S	**Sg**	**14 29 45.3**	**+0.5**
KTUT	**Trabzon**	**1.20**	**256**	PN	**Pb**	**14 29 33.3**	**-0.1**
MACK	**Trabzon**	**1.21**	**254**	*i* P	**Pb**	**14 29 33.2**	**-0.3**
MACK				*i* S	**Sn**	**14 29 50.7**	**-0.4**
BAYT	**Ayd¯–ntepe-Bay**	**1.26**	**225**	PN	**Pg**	**14 29 34.0**	**+0.2**
BAYB	**BAYBURT**	**1.30**	**218**	*i* P	**Pg**	**14 29 34.7**	**0.0**
BAYB				*i* S	**Sb**	**14 29 52.0**	**-0.6**
HOMI	**Horasan**	**1.32**	**160**	*i* P	**Pg**	**14 29 35.0**	**-0.2**
HOMI				*i* S	**Sn**	**14 29 55.0**	**+0.8**
KOPT	**Kop Dagi**	**1.41**	**206**	*i* P	**Pb**	**14 29 38.3**	**+1.2**
KOPT				*i* S	**Sb**	**14 29 55.5**	**-0.3**
KARS	**Kars**	**1.50**	**116**	PN	**Pn**	**14 29 36.9**	**-1.1**
GUMT	**Gumushane**	**1.61**	**240**	PN	**Pn**	**14 29 39.7**	**+0.1**
AKH	**Akhalkalaki**	**1.65**	**85**	PN	**Pn**	**14 29 38.8**	**-1.4**
AKH	**Akhalkalaki**	**1.65**	**85**	P	**Pn**	**14 29 40.2**	**0.0**
AKH				S	**Sn**	**14 30 01.0**	**-1.2**
EATA	**Eleskirt**	**1.69**	**147**	*i* P	**Pb**	**14 29 41.9**	**0.0**
BGD	**Bogdanovka**	**1.73**	**90**	P	**Pn**	**14 29 41.9**	**+0.7**
BGD				S	**Sn**	**14 30 03.7**	**-0.5**
YEDI	**Yedisu-Bingol**	**1.94**	**198**	PN	**Pn**	**14 29 43.9**	**-0.2**
ESPY	**Espiye-Giresun**	**1.98**	**260**	PN	**Pn**	**14 29 44.9**	**+0.3**
ERZN	**Erzincan**	**2.09**	**216**	PN	**Pn**	**14 29 46.3**	**+0.2**
TRLG	**Trialeti**	**2.12**	**82**	P	**Pg**	**14 29 50.3**	**0.0**
TRLG				S	**Sb**	**14 30 17.1**	**+1.0**

MEX 02 14:35:12.4±0.6,**16.48N**×**98.61W**,**h16**km±7km,**MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.47**	**100**	*e*P	Pg	14 35 20.1	-1.7
PNIG				*e*S	Sg	14 35 27.0	-1.1
TLIG	**Tlapa**	**1.08**	**2**	*e*P	Pb	14 35 28.9	-3.9
TLIG				*e*S	Sb	14 35 42.3	-4.5
CAIG	**El Cayaco**	**1.69**	**290**	*i* P	Pn	14 35 37.0	-4.3
CAIG				*i* S	Sn	14 35 58.5	-4.2
HUIG	**Huatulco**	**2.50**	**106**	*i* P	Pn	14 35 48.8	-3.7
HUIG				*i* S	Sn	14 36 18.1	-4.6

ISCJB ***02*** *14:48:27.7±0.4, 5.08N±0.04×125.39E±0.08, h188km±4km, mb3.8/9, Error ellipse: s-maj=13.2km s-min=5.9km az=171.7*
IDC ***02*** *14:48:30.2±0.8, 5.14N×125.44E, h199km±8km, mb3.4/9, mb1 3.7/10, mb1mx3.3/41, mbtmp4.1/10, MS2.7/1, Ms1 2.7/1, ms1mx2.2/25, Error ellipse: s-maj=21.5km s-min=10.0km az=71.0*
DJA ***02*** *14:48:36.4±1.2, 4°N±9′×12°5E±°, h155km±12km, M4.0/6, mb3.9/3, mB4.5/1, MLv4.0/6, Mw(mB)3.6/1*
ISC 02 14:48:28.3±0.7,**5.02N**±0.04×**125.36E**±0.09,**h180**km±7km, **n24**,σ1ᵎ**87**/35,**mb3.8**/9,**2D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.13**	**18**	*e*P	**Pn**	**14 48 57.1**	**+0.1**
DDMP				*e*S	**Sn**	**14 49 18.9**	**-0.5**
GSPH	**General Santos**	**1.14**	**339**	*e*P	**Pn**	**14 48 58.5**	**+1.2**
GSPH				*e*S	**Sn**	**14 49 21.1**	**+1.3**
SGSI	**Sangihe**	**1.33**	**173**	P	**Pn**	**14 49 00.2**	**+1.4**
SGSI				S	**Sn**	**14 49 23.0**	**+0.5**
SKMP	**Bagumbayan, Su**	**1.70**	**331**	*e*P	**Pn**	**14 49 02.9**	**+0.7**
SKMP				*e*S	**Sn**	**14 49 26.4**	**-2.2**
DAV	**Davao City (W)**	**2.05**	**6**	P	**Pn**	**14 49 06.6**	**+0.6**
	baz=267,slow=17,SNR=3.1						
DAV				S	**Sn**	**14 49 37.9**	**+2.6**
	101nm,0.3s,baz=185,slow=22,SNR=10						
CTBH	**Cotabato--PC H**	**2.45**	**333**	⇓*i* P	**Pn**	**14 49 10.9**	**+0.4**
CTBH				*i* S	**Sn**	**14 49 43.2**	**-0.2**
BUKP	**Musuan**	**2.86**	**354**	*e*P	**Pn**	**14 49 13.7**	**-1.7**
BUKP				*e*S	**Sn**	**14 49 50.4**	**-1.6**
BIPH	**Bislig**	**3.30**	**17**	⇓*i* P	**Pn**	**14 49 21.0**	**+0.4**
BIPH				*e*S	**Sn**	**14 49 59.7**	**-1.8**
BUTP	**Butuan**	**3.93**	**4**	*e*P	**Pn**	**14 49 29.9**	**+1.3**
BUTP				*e*S	**Sn**	**14 50 15.3**	**-0.6**
TNTI	**Ternate**	**4.67**	**155**	P	**Pn**	**14 49 38.6**	**+0.5**
SANI	**Sanana**	**7.05**	**175**	P	**Pn**	**14 50 07.3**	**-1.9**
SANI				S	**Sn**	**14 51 21.4**	**-7.5**
BATI	**Baumata**	**15.22**	**186**	P	**P**	**14 51 57.6**	**+2.5**
	5.8nm,0.3s,baz=61,slow=3.7,SNR=5.5						
JAY	**Jayapura**	**17.06**	**116**	P	**Pn**	**14 52 17.2**	**+0.7**
	1.3nm,0.3s,baz=255,slow=5.0,SNR=5.0						
LEM	**Lembang**	**21.27**	**237**	LR		15 02 55.3	
	comp=Z,21nm,19.3s,baz=7.0,slow=40						
FITZ	**Fitzroy Crossi**	**22.97**	**179**	P	**P**	**14 53 18.2**	**+1.0**
	4.1nm,0.5s,baz=0.1,slow=8.8,SNR=33						
WRA	**Warramunga Arr**	**26.33**	**161**	P	**P**	**14 53 48.1**	**+0.4**
	1.4nm,0.7s,baz=335,slow=11,SNR=30						
PSI	**Prapat**	**26.47**	**266**	P	**P**	**14 53 50.0**	**+0.8**
	2.2nm,0.6s,baz=358,slow=0.3,SNR=3.9						
CMAR	**Chiang Mai Arr**	**29.05**	**300**	P	**P**	**14 54 13.1**	**+1.0**
	0.9nm,0.7s,baz=115,slow=7.9,SNR=9.0						
ASAR	**Alice Springs**	**29.70**	**164**	P	**P**	**14 54 18.5**	**+0.8**
	0.8nm,0.4s,baz=340,slow=6.8,SNR=50						
ASAR				PcP	**PcP**	**14 57 17.1**	**-0.3**
	1.0nm,0.3s,baz=342,slow=2.5,SNR=21						
KSRS	**Korea Array**	**32.37**	**4**	P	**P**	**14 54 39.4**	**-1.4**
	0.4nm,0.6s,baz=181,slow=10,SNR=3.4						
STKA	**Stephens Creek**	**39.82**	**158**	P	**P**	**14 55 45.6**	**+1.4**
	2.5nm,0.5s,baz=341,slow=9.0,SNR=10						
MKAR	**Makanchi Array**	**55.73**	**325**	P	**P**	**14 57 45.3**	**-1.0**
	0.5nm,0.4s,baz=121,slow=6.6,SNR=12						
MKAR				PcP	**PcP**	**14 58 43.7**	**+0.3**
	0.3nm,0.4s,baz=111,slow=5.7,SNR=3.0						
ILAR	**Eielson Array**	**84.53**	**25**	P	**P**	**15 00 39.7**	**-1.2**
	0.3nm,0.4s,baz=250,slow=4.6,SNR=8.6						
TORD	**Torodi Ar. Bea**	**121.22**	**289**	PKP	**PKPdf**	**15 06 59.3**	**-1.6**
	0.2nm,0.5s,baz=87,slow=36						

IDC 02 15:19:47.3±1.5,**14.93N**×**122.18E**,**h0**km,**mb3.7**/3, **mb1 3.9**/3,**mb1mx3.4**/60,**mbtmp3.7**/3,**MS3.1**/1,**Ms1 3.1**/1, **ms1mx2.3**/41,**Error ellipse: s-maj=25.6km s-min=17.9km az=156.0,Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.45**	**236**	Pg	Pn	15 20 14.0	-0.9
	144nm,0.3s,baz=72,slow=19,SNR=14						
TGY				Lg	Lg	15 20 33.7	
	154nm,0.3s,baz=276,slow=21,SNR=9.4						
JAY	**Jayapura**	**25.24**	**132**	LR		15 36 51.1	
	comp=Z,36nm,18.1s,baz=146,slow=41						
WRA	**Warramunga Arr**	**36.66**	**161**	P	P	15 26 55.9	0.0
	0.8nm,0.6s,baz=337,slow=9.4,SNR=16						
ASAR	**Alice Springs**	**40.03**	**163**	P	P	15 27 24.1	-0.2
	0.5nm,0.6s,baz=339,slow=7.1,SNR=16						
MKAR	**Makanchi Array**	**45.92**	**322**	P	P	15 28 11.8	-0.1
	0.7nm,0.5s,baz=121,slow=7.6,SNR=6.5						

IDC 02 15:50:43.5±5.9,**3.94N**×**127.89E**,**h46**km±72km,**mb3.0**/3, **mb1 3.2**/4,**mb1mx3.1**/33,**mbtmp3.3**/4,**ML2.9**/1,**Error ellipse: s-maj=140.9km s-min=27.6km az=68.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.85**	**145**	P	Pn	15 52 09.5	+1.7
	0.3nm,0.3s,baz=356,slow=16,SNR=6.8						
SIJI				S	Sn	15 53 12.7	-0.9
	0.7nm,0.3s,baz=114,slow=20,SNR=3.6						
WRA	**Warramunga Arr**	**24.57**	**165**	P	P	15 56 00.0	+0.8
	0.3nm,0.5s,baz=344,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**28.06**	**168**	P	P	15 56 30.5	-0.2
	0.2nm,0.7s,baz=6.3,slow=9.3,SNR=3.2						
MKAR	**Makanchi Array**	**58.05**	**325**	P	P	16 00 31.4	-0.5
	0.4nm,0.4s,baz=117,slow=7.4,SNR=5.1						

ISCJB ***02*** *15:50:53.9±0.4, 39.03N±0.02×26.29E±0.03, h4km±4km, Error ellipse: s-maj=4.1km s-min=2.6km az=151.1*
ATH ***02*** *15:50:53.0, 39.07N×26.35E, h22km±1km, ML2.9/7, Error ellipse: s-maj=2.4km s-min=1.0km az=269.0*
DDA ***02*** *15:50:53.8, 39.07N×26.23E, h16km, Ml3.0*
ISK ***02*** *15:50:53.5, 39.03N×26.30E, h7km, ML3.3/14*
THE ***02*** *15:50:54.4, 39.07N×26.28E, h0km±1km, ML2.7/7, Error ellipse: s-maj=1.1km s-min=0.4km az=101.0*
ISC 02 15:50:54.1±0.9,**39.04N**±0.02×**26.25E**±0.02,**h11**km±7km, **n54**,σ0ᵎ**88**/82,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.21**	**4**	P	**Pg**	**15 50 58.1**	**-0.4**
PRK				AML	AML	15 51 02.3	
	comp=E,12669μm,0.5s						
PRK				S	**Sg**	**15 51 02.4**	**+0.9**
PRK				AML	AML	15 51 04.1	
	comp=N,11386μm,0.7s						
PRK	**Paraskevi**	**0.21**	**4**	P	**Pg**	**15 50 58.0**	**-0.5**
PRK				S	**Sg**	**15 51 01.7**	**+0.3**
SIGR	**SIGRI**	**0.35**	**299**	PG	**Pg**	**15 51 01.7**	**+0.6**
SIGR				SG	**Sb**	**15 51 07.5**	**-0.5**
SIGR	**SIGRI**	**0.35**	**299**	P	**Pg**	**15 51 01.6**	**+0.4**
SIGR				S	**Sb**	**15 51 07.5**	**-0.5**
SIGR				AML	AML	15 51 08.0	
	comp=E,3292μm,0.3s						
SIGR				AML	AML	15 51 09.5	
	comp=N,2103μm,0.5s						
SIGR	**SIGRI**	**0.35**	**299**	P	**Pg**	**15 51 01.5**	**+0.4**
SIGR				S	**Sb**	**15 51 07.4**	**-0.5**
GPNR	**Gulpinar-Canak**	**0.42**	**347**	PG	**Pg**	**15 51 02.6**	**+0.1**
GPNR				SG	**Sb**	**15 51 09.3**	**-0.8**
FOCM	**Foˆ§a**	**0.50**	**131**	PG	**Pg**	**15 51 02.9**	**-0.9**
FOCM				SG	**Sg**	**15 51 09.1**	**-0.8**
KRBN	**Karaburun**	**0.50**	**152**	PG	**Pg**	**15 51 03.3**	**-0.6**
DKL	**Dikili**	**0.51**	**86**	PG	**Pg**	**15 51 03.1**	**-0.9**
CHOS	**Chios island**	**0.67**	**193**	PG	**Pg**	**15 51 06.9**	**-0.2**
CHOS	**Chios island**	**0.67**	**193**	P	**Pg**	**15 51 06.9**	**-0.2**
CHOS				S	**Sb**	**15 51 17.6**	**+0.4**
CHOS				AML	AML	15 51 19.8	
	comp=E,6242μm,0.3s						
CHOS				AML	AML	15 51 20.7	
	comp=N,4068μm,0.4s						
CHOS	**Chios island**	**0.67**	**193**	P	**Pb**	**15 51 08.4**	**+0.5**
CHOS				S	**Sn**	**15 51 18.8**	**-1.4**
CESE	**ˆe¯me**	**0.71**	**177**	PG	**Pg**	**15 51 07.5**	**-0.3**
URLA	**Izmir**	**0.73**	**158**	*i* P	**Pg**	**15 51 07.6**	**-0.6**
URLA				*i* S	**Sn**	**15 51 20.8**	**+0.8**
PSRA	**Psara**	**0.73**	**227**	P	**Pb**	**15 51 09.4**	**+0.6**
PSRA				S	**Sn**	**15 51 20.5**	**-1.0**
PSRA				AML	AML	15 51 22.8	
	comp=E,2552μm,0.3s						
PSRA				AML	AML	15 51 23.3	
	comp=N,1474μm,0.3s						
BOZC	**Bozcaada**	**0.81**	**349**	*i* P	**Pg**	**15 51 09.5**	**-0.4**
BOZC				*i* S	**Sn**	**15 51 23.8**	**+0.2**
BLCB	**Balcova**	**0.90**	**136**	PG	**Pg**	**15 51 10.6**	**-0.8**
BLCB				SG	**Sb**	**15 51 23.2**	**-0.5**
GADA	**Gvkgeada**	**1.18**	**347**	PN	**Pn**	**15 51 16.3**	**-0.3**
GADA	**Gvkgeada**	**1.18**	**347**	P	**Pn**	**15 51 15.8**	**-0.8**
GADA				S	**Sg**	**15 51 32.9**	**+0.7**
STEP	**BALIKESIR_Sava**	**1.19**	**73**	*i* P	**Pn**	**15 51 16.3**	**-0.4**
STEP				*i* S	**Sn**	**15 51 34.1**	**+1.3**
LIA	**Limnos Island**	**1.19**	**316**	P	**Pn**	**15 51 16.3**	**-0.4**
LIA				S	**Sg**	**15 51 33.0**	**+0.5**
LIA				AML	AML	15 51 37.1	
	comp=E,444μm,0.6s						
LIA				AML	AML	15 51 38.7	
	comp=N,431μm,0.4s						
LIA	**Limnos Island**	**1.19**	**316**	P	**Pn**	**15 51 16.5**	**-0.2**
LIA				S	**Sg**	**15 51 34.4**	**+1.9**
AKHS	**Akhisar**	**1.23**	**97**	*i* P	**Pn**	**15 51 16.5**	**-0.7**
AKHS				*i* S	**Sg**	**15 51 35.2**	**+1.6**
SKY	**Skiros Island**	**1.34**	**264**	P	**Pg**	**15 51 20.0**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.37**	**7**	PN	**Pb**	**15 51 19.6**	**-0.1**
LPK	**Lapseki**	**1.39**	**16**	PN	**Pb**	**15 51 19.6**	**-0.4**
BALB	**Balikesir**	**1.40**	**64**	PN	**Pb**	**15 51 19.5**	**-0.7**
SMG	**Samos**	**1.41**	**161**	P	**Pn**	**15 51 19.1**	**-0.6**
SMG				S	**Sg**	**15 51 39.5**	**+0.2**
SMG				AML	AML	15 51 42.9	
	comp=N,1230μm,0.3s						
SMG				AML	AML	15 51 42.9	
	comp=E,1024μm,0.4s						
SMG	**Samos**	**1.41**	**161**	P	**Pb**	**15 51 20.1**	**-0.3**
SMG				S	**Sg**	**15 51 41.1**	**+1.7**
GONE	**Gonen-Balikesi**	**1.50**	**47**	PN	**Pb**	**15 51 21.1**	**-0.8**
SMTH	**Samothraki Isl**	**1.53**	**339**	P	**Pn**	**15 51 21.4**	**0.0**
SMTH	**Samothraki Isl**	**1.53**	**339**	P	**Pn**	**15 51 21.5**	**0.0**
SMTH				S	**Sg**	**15 51 43.4**	**0.0**
KRBG	**Karabiga-Canak**	**1.57**	**30**	PN	**Pb**	**15 51 22.4**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**1.69**	**130**	PN	**Pn**	**15 51 23.6**	**0.0**
ENEZ	**Enez**	**1.69**	**357**	PN	**Pb**	**15 51 24.3**	**-1.0**
RKY	**Sarkoy-Tekirda**	**1.79**	**23**	PN	**Pn**	**15 51 25.6**	**+0.6**
SART	**Tekirdag**	**1.79**	**23**	*i* P	**Pn**	**15 51 25.6**	**+0.5**
SART				*i* S	**Sg**	**15 51 51.4**	**-0.4**
DURS	**Dursunbey**	**1.81**	**71**	*i* P	**Pn**	**15 51 24.6**	**-0.8**
DURS				*i* S	**Sg**	**15 51 51.7**	**-0.6**
KESN	**Edirne-Kesan**	**1.81**	**10**	*i* P	**Pb**	**15 51 26.7**	**-0.9**
KESN				*i* S	**Sg**	**15 51 53.4**	**+0.9**
ALN	**Alexandroupoli**	**1.86**	**355**	PN	**Pn**	**15 51 25.7**	**-0.2**
ALN	**Alexandroupoli**	**1.86**	**355**	P	**Pn**	**15 51 25.8**	**-0.2**
ALN				AML	AML	15 51 54.2	
	comp=N,332μm,0.5s						
ALN				AML	AML	15 51 54.6	
	comp=E,218μm,0.7s						
ALN	**Alexandroupoli**	**1.86**	**355**	P	**Pn**	**15 51 25.8**	**-0.2**
ALN				S	**Sb**	**15 51 51.1**	**-0.3**
MRMT	**Marmara Adasi**	**1.87**	**33**	PN	**Pn**	**15 51 26.6**	**+0.5**
AYDN	**Tasoluk**	**1.88**	**137**	*i* P	**Pn**	**15 51 25.4**	**-0.9**
AYDN				*i* S	**Sg**	**15 51 55.6**	**+1.1**
DEMI	**Demirci**	**1.92**	**89**	*i* P	**Pb**	**15 51 28.9**	**-0.3**
DEMI				*i* S	**Sg**	**15 51 55.4**	**-0.4**
KULA	**Kula-Manisa**	**1.95**	**105**	PN	**Pn**	**15 51 27.4**	**+0.1**
THAS	**Thassos island**	**1.96**	**323**	P	**Pn**	**15 51 27.2**	**-0.1**
KCTX	**Karacabey (Bur**	**2.03**	**52**	PN	**Pn**	**15 51 28.2**	**-0.1**
SBT4	**Kumbag-Tekirda**	**2.04**	**28**	PN	**Pn**	**15 51 29.0**	**+0.8**
APE	**Apeiranthos**	**2.05**	**196**	PN	**Pn**	**15 51 29.2**	**+0.6**
APE	**Apeiranthos**	**2.05**	**196**	P	**Pn**	**15 51 27.7**	**-0.8**
GDZ	**Gediz**	**2.51**	**88**	*i* S	**Sg**	**15 52 17.8**	**+3.0**
ARMT	**Armutlu**	**2.52**	**52**	PN	**Pn**	**15 51 35.8**	**+0.8**
KHAL	**Karahalli**	**2.62**	**104**	*i* P	**Pn**	**15 51 37.1**	**+0.6**
KHAL				*i* S	**Pg**	**15 51 48.1**	**+3.8**

ISCJB ***02*** *16:10:04.8±0.8, 36.87N±0.08×72.2E±0.1, h300km, mb3.3/2, Error ellipse: s-maj=16.5km s-min=8.4km az=146.5*
IDC ***02*** *16:10:07.3±4.6, 36.80N×72.14E, h340km±49km, mb3.1/2, mb1 3.1/5, mb1mx2.7/30, mbtmp3.8/5, Error ellipse: s-maj=35.4km s-min=28.0km az=161.0*
NNC ***02*** *16:10:24.9±5.2, 38.78N×71.94E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=51.0km s-min=32.8km az=155.0*
ISC 02 16:10:05.6±0.9,**36.9N**±0.1×**72.2E**±0.1,**h300**km,**n20,** σ1ᵎ**50**/18,**3C-1D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.02**	**16**	Lg	Lg	16 12 44.0	
	5.7nm,1.1s						
KK31	**Karatay Array**	**6.36**	**349**	⇑Pn	Pn	16 11 33.5	-5.5
	0.3nm,0.4s,baz=169,slow=13						
KK31				⇓Lg	Lg	16 12 46.8	
	0.4nm,0.3s,baz=165,slow=19,SNR=4.0						
TKM2	**Tokmak 2**	**6.58**	**22**	⇑Pn	**Pn**	**16 11 41.2**	**-0.7**
	1.8nm,0.7s						
TKM2				⇑Lg	Lg

MBWA Sn **Sn** **16 31 20.4 +2.2**
LEM **Lembang** **11.55 285** Pn **Pn** **16 29 19.2 -3.0**
2.9nm,0.3s,baz=311,slow=19,SNR=2.1
LEM LR LR 16 33 42.3
comp=Z,105nm,20.2s,baz=95,slow=37
KSM **Kuching** **14.26 323** P **P** **16 30 08.0 +2.1**
SIJI **Sorong** **15.37 54** Pn **Pn** **16 30 11.0 -2.9**
1.4nm,0.3s,baz=212,slow=14,SNR=11
SIJI LR LR 16 36 30.8
comp=Z,260nm,21.6s,baz=250,slow=39
KKM **Kota Kinabalu** **16.21 351** P **P** **16 30 33.0 +5.4**
KDM **Kudat** **16.98 353** P **P** **16 30 41.0 +4.9**
WRA **Warramunga Arr** **17.90 125** P **Pn** **16 30 43.4 -2.5**
0.9nm,0.3s,baz=296,slow=15,SNR=50
WRA S Sn 16 33 49.3 -15
0.6nm,0.3s,baz=294,slow=21,SNR=4.1
WRA LR LR 16 38 00.7
comp=Z,345nm,20.6s,baz=290,slow=38
WRAB **Tennant Creek** **17.90 125** *eP* **Pn** **16 30 44.4 -1.6**
4.1nm,0.6s
DAV **Davao City (W)** **18.29 22** LR LR 16 39 04.2
comp=Z,124nm,18.6s,baz=196,slow=41
ASAR **Alice Springs** **19.75 135** P **P** **16 31 08.0 +1.3**
0.9nm,0.3s,baz=317,slow=10,SNR=113
ASAR S **S** **16 34 41.8 -5.8**
0.6nm,0.3s,baz=317,slow=24,SNR=7.9
ASAR LR LR 16 38 59.4
comp=Z,307nm,21.2s,baz=310,slow=37
NWAO **Narrogin (SRO)** **22.81 183** P **P** **16 31 41.2 +1.8**
13nm,1.0s,baz=13,slow=12,SNR=3.9
NWAO S **S** **16 35 42.3 -4.2**
18nm,0.5s,baz=86,slow=4.7,SNR=8.1
NWAO LR LR 16 40 33.3
comp=Z,221nm,20.9s,baz=3.0,slow=36
NWAO **Narrogin (SRO)** **22.81 183** *eP* **P** **16 31 43.0 +3.6**
PSI **Prapat** **23.59 302** P **P** **16 31 45.4 -2.1**
26nm,1.0s,baz=180,slow=9.6,SNR=17
PSI LR LR 16 41 30.4
comp=Z,99nm,21.9s,baz=91,slow=38
TGY **Tagaytay City** **24.09 5** P **P** **16 31 49.5 -2.6**
84nm,0.8s,baz=183,slow=17,SNR=2.2
TGY LR LR 16 41 51.8
comp=Z,47nm,20.5s,baz=122,slow=38
CTA **Charters Tower** **28.25 114** P **P** **16 32 30.0 +0.3**
0.8nm,0.7s,baz=330,slow=8.1,SNR=1.8
SRAK **Srakaew** **29.14 325** P **P** **16 32 36.0 -1.6**
STKA **Stephens Creek** **30.25 139** P **P** **16 32 48.0 +0.6**
2.3nm,0.5s,baz=304,slow=11,SNR=11
STKA LR LR 16 45 34.4
comp=Z,214nm,20.2s,baz=315,slow=38
CHAI **Chaiyaphum** **30.71 327** P **P** **16 32 52.3 +0.8**
5.2nm,0.7s
UTHA **Uthaitani** **31.88 323** P **P** **16 33 03.5 +1.7**
3.7nm,1.0s
UTTA **Uttaradit** **33.00 327** P **P** **16 33 12.2 +0.6**
3.5nm,0.9s
CMAR **Chiang Mai Arr** **34.47 325** P **P** **16 33 24.2 -0.2**
2.5nm,0.6s,baz=153,slow=6.5,SNR=25
CMAR PcP **PcP** **16 36 00.6 +1.3**
0.9nm,0.5s,baz=177,slow=1.9,SNR=5.6
CMAR LR LR 16 48 43.3
comp=Z,131nm,18.4s,baz=158,slow=39
PAYA **Payao** **34.70 327** P **P** **16 33 27.0 +0.7**
5.5nm,0.8s,56nm
CMMT **Chiang Mai** **34.75 326** P **P** **16 33 27.4 +0.6**
4.4nm,0.9s
CHTO **Chiang Mai** **34.75 326** *eP* **P** **16 33 25.4 -1.5**
4.7nm,0.9s
CHTO **Chiang Mai** **34.75 326** P **P** **16 33 27.9 +1.1**
28nm,0.9s
ENH **Enshi** **41.09 348** *eP* **P** **16 34 18.4 -1.8**
17nm,0.8s
PALK **Pallekele** **41.70 293** P **P** **16 34 24.9 -0.5**
17nm,1.1s,baz=115,slow=9.2,SNR=3.4
XAN **Xi'an** **44.85 348** P **P** **16 34 50.0 -0.6**
XAN pP pP 16 34 59.0 -1.4
XAN pmax pmax
comp=Z,16nm,0.7s
XAN pmax pmax
comp=Z,69nm,4.3s
H08S2 **Diego Garcia H** **45.83 269** T T 17 24 26.5
baz=95,slow=75,SNR=44
H08S3 **Diego Garcia H** **45.84 269** T T 17 24 16.8
baz=95,slow=75,SNR=51
H08S1 **Diego Garcia H** **45.84 269** T T 17 24 18.4
baz=95,slow=75,SNR=9.5
DZM **Mont Dzumac** **47.10 111** P **P** **16 35 09.8 +1.1**
1.4nm,0.9s,baz=306,slow=14,SNR=2.1
DZM **Mont Dzumac** **47.10 111** *eL* LR 16 48 28.6
112nm,27.5s
LSA **Lhasa** **47.68 327** P **P** **16 35 13.4 -0.1**
3.9nm,0.6s
KSAR **Wonju Array Be** **48.00 10** P **P** **16 35 13.8 -1.4**
KSAR PcP **PcP** **16 36 45.0 +2.0**
KSRS **Korea Array** **48.02 10** P **P** **16 35 13.8 -1.5**
3.4nm,0.9s,baz=184,slow=8.7,SNR=11
KSRS PcP **PcP** **16 36 45.0 +1.9**
2.6nm,0.8s,baz=186,slow=3.1,SNR=7.4
KSRS LR LR 16 55 09.0
comp=Z,44nm,20.8s,baz=200,slow=36
JIRN **Jiri** **49.05 321** *eP* **P** **16 35 23.2 -0.7**
23nm,0.6s
GUN **Gumba** **49.42 321** *eP* **P** **16 35 26.0 -0.7**
20nm,0.8s
PKI **Pulchoki** **49.48 320** *eP* **P** **16 35 26.1 -1.0**
10nm,0.7s
PKIN **Phulchoki** **49.49 320** *eP* **P** **16 35 26.2 -0.9**
6.8nm,0.7s
DMN **Daman** **49.69 320** *eP* **P** **16 35 28.0 -0.7**
KKN **Kakani** **49.71 320** *eP* **P** **16 35 28.3 -0.5**
8.6nm,0.7s
MJAR **Matsushiro Arr** **49.81 20** P **P** **16 35 26.8 -2.3**
3.9nm,0.9s,baz=203,slow=7.4,SNR=6.1
MJAR PcP **PcP** **16 36 50.8 +1.3**
2.4nm,0.8s,baz=204,slow=4.9,SNR=4.1
MJAR LR LR 16 55 01.3
comp=Z,33nm,21.9s,baz=255,slow=34
KOLN **Koldanda** **50.77 319** *eP* **P** **16 35 36.2 -0.6**
17nm,0.8s
DANN **Dangsing** **51.06 319** *eP* **P** **16 35 38.4 -0.7**
20nm,0.6s
PYUN **Piuthan** **51.39 319** *eP* **P** **16 35 41.0 -0.5**
13nm,0.7s
GTA **Gaotai** **52.29 341** ⇓P **P** **16 35 48.2 +0.3**
GTA pP pP 16 35 57.8 -0.1
GTA sP sP 16 36 02.1 +0.3
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,69nm,6.5s
GTA LR LR
comp=N,340nm,20.9s
GTA LR LR
comp=E,250nm,20.9s
USRK **Ussuriysk Ar.** **55.30 11** P **P** **16 36 08.4 -1.2**
2.6nm,0.7s,baz=193,slow=4.9,SNR=6.1
USRK LR LR 16 59 05.4
comp=Z,48nm,21.8s,baz=254,slow=35
RPZ **Rata Peaks** **56.15 136** LR LR 17 01 24.0
comp=Z,197nm,18.2s,baz=296,slow=37
ULN **Ulaanbaatar** **58.61 351** P **P** **16 36 30.4 -2.8**
5.4nm,0.9s
SONM **Songino Array** **58.68 350** P **P** **16 36 32.9 -0.8**
4.7nm,0.8s,baz=168,slow=7.8,SNR=18
SONM LR LR 17 03 00.1
comp=Z,45nm,21.9s,baz=210,slow=37
URZ **Urewera** **59.03 129** LR LR 17 04 52.1
comp=Z,130nm,18.2s,baz=299,slow=39
MKAR **Makanchi Array** **65.32 333** P **P** **16 37 17.7 -0.5**
5.8nm,0.7s,baz=148,slow=7.5,SNR=20
MKAR LR LR 17 07 46.0
comp=Z,62nm,21.1s,baz=134,slow=38
MAW **Mawson** **68.19 200** P **P** **16 37 38.3 +2.1**
1.3nm,0.9s,baz=98,slow=7.1,SNR=3.7
MAW LR LR 17 01 32.8
comp=Z,52nm,21.7s,baz=61,slow=31
KURK **Kurchatov** **69.87 334** *eP* **P** **16 37 45.8 -1.0**
ZALV **Zalesovo Beam** **69.97 339** P **P** **16 37 46.1 -1.2**
7.0nm,0.7s,baz=147,slow=4.3,SNR=30
ZALV LR LR 17 10 11.1
comp=Z,42nm,18.2s,baz=76,slow=38
VNDA **Vanda** **70.98 171** P **P** **16 37 55.2 +2.0**
0.8nm,1.0s,baz=308,slow=9.6,SNR=5.2
PETK **Petropavlovsk-** **71.10 24** P **P** **16 37 54.0 -0.2**
6.3nm,0.9s,baz=187,slow=7.0,SNR=6.3
GEYT **Alibeck** **74.05 314** P **P** **16 38 11.1 -1.1**
2.6nm,0.8s,baz=112,slow=6.6,SNR=8.4
RAYN **Ar Rayn** **79.02 296** *eP* **P** **16 38 38.5 -2.2**
3.7nm,0.9s
QSPA **South Pole Qui** **79.94 180** P **P** **16 38 46.7 +1.7**
0.9nm,0.6s,baz=315,slow=7.1,SNR=3.1
AKTO **Aktyubinsk** **80.00 325** LR LR 17 19 29.5
comp=Z,38nm,18.3s,baz=141,slow=40
KMBO **Kilima Mbogo** **81.52 270** P **P** **16 38 56.0 +1.4**
0.7nm,0.4s,baz=69,slow=9.1,SNR=3.9
NRIK **Noril'sk** **82.15 349** P **P** **16 38 56.0 -0.3**
4.6nm,0.6s,baz=125,slow=6.3,SNR=6.7
KBZ **Khabaz** **86.91 315** P **P** **16 39 21.0 0.0**
3.0nm,0.8s,baz=120,slow=7.6,SNR=6.9
BOSA **Boshof** **88.36 241** LR LR 17 10 20.4
comp=Z,32nm,20.6s,baz=70,slow=30
PPT2 **Papeete2** **88.51 107** *eL* LR 17 07 30.3
64nm,25.0s
BRTR **Keskin Array B** **92.68 310** P **P** **16 39 48.6 +0.2**
0.8nm,0.8s,baz=72,slow=4.0,SNR=3.9
IDI **Anoyia** **98.93 304** LR LR 17 29 29.0
comp=Z,17nm,19.2s,baz=258,slow=38
TAOE **Nuku Hiva Isla** **99.18 101** *eL* LR 17 12 40.7
142nm,24.2s
TORD **Torodi Ar. Bea** **118.48 280** PKP **PKPdf** **16 45 25.0 +0.3**
0.9nm,0.6s,baz=38,slow=1.9,SNR=7.8
NVAR **Mina Array Bea** **121.81 51** PKP **PKPdf** **16 45 32.9 +2.2**
0.5nm,0.8s,baz=285,slow=2.9,SNR=3.8
SSPA **Standing Stone** **146.13 23** *e*PKPdf **PKPab** **16 46 17.2 +0.1**
LRAL **Lakeview Retre** **147.01 42** *e*PKPbc **PKPab** **16 46 20.9 +0.2**
TKL **Tuckaleechee C** **147.25 35** PKPbc **PKPbc** **16 46 20.5 +0.6**
9.4nm,0.7s,baz=240,slow=3.2,SNR=11

IDC 02 16:32:34.4±2.0, 11.65S×119.44E, h0km, mb4.0/3, mb1 4.0/6, mb1mx3.7/38, mbtmp3.9/6, ML3.7/2, Error ellipse: s-maj=63.3km s-min=27.5km az=40.0, South of Sumba

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BATI	**Baumata**	**4.39**	**71**	Pn		Pn	16 33 43.6	+1.2
	5.4nm,0.3s,baz=238,slow=9.5,SNR=6.5							
BATI				Sn		Sn	16 34 30.1	-4.3
	10nm,0.3s,baz=214,slow=22,SNR=9.7							
FITZ	**Fitzroy Crossi**	**8.78**	**138**	Pn		Pn	16 34 42.7	+0.1
	0.5nm,0.3s,baz=312,slow=11,SNR=2.2							
FITZ				Sn		Sn	16 36 12.7	-10
	0.4nm,0.3s,baz=191,slow=19,SNR=4.1							
WRA	**Warramunga Arr**	**16.53**	**122**	Pn		Pn	16 36 26.7	-1.1
	baz=302,slow=14,SNR=1.0							
SONM	**Songino Array**	**60.35**	**350**	P		P	16 42 43.9	-1.4
	1.0nm,0.7s,baz=165,slow=8.7,SNR=3.6							
MKAR	**Makanchi Array**	**67.00**	**333**	P		P	16 43 30.6	+1.5
	0.8nm,0.6s,baz=141,slow=7.0,SNR=3.5							
ZALV	**Zalesovo Beam**	**71.66**	**339**	P		P	16 43 57.5	-0.3
	1.1nm,0.6s,baz=141,slow=5.0,SNR=2.2							

*KRNET **02** 16:34:09.4±0.1, 39.04N×71.06E, mb2.9*
*NNC **02** 16:34:13.2±2.5, 39.06N×70.87E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=21.4km s-min=15.4km az=169.0*

ISC 02 16:34:14.5±2.7, 39.4N±0.1×71.27E±0.06, h33km, n13, σ2.89/19, 14C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DRK	**Karamyk**	**0.42**	**74**	⇑*i*P		**Pb**	**16 34 23.7**	**-0.5**
	baz=53							
DRK				⇑*i*S		**Sb**	**16 34 33.9**	**+3.1**
	baz=53							
BTK	**Batken**	**0.77**	**333**	⇑*i*P		**Pb**	**16 34 29.3**	**-0.4**
	baz=50							
BTK				⇑*i*S		**Sb**	**16 34 43.6**	**+3.6**
	baz=50							
ARSB	**Arslanbob**	**2.35**	**33**	⇑*i*P		**Pb**	**16 34 56.1**	**-0.2**
	baz=32							
ARSB				⇑*i*S		**Sb**	**16 35 31.2**	**+6.3**
	baz=32							
AML	**Almayashu**	**3.32**	**33**	P		**Pb**	**16 35 12.0**	**-0.8**
	SNR=7.7							
AML	**Almayashu**	**3.32**	**33**	⇑*i*P		**Pb**	**16 35 10.1**	**-2.8**
	baz=32							
AML				⇑*i*S		**Sb**	**16 35 54.5**	**+1.6**
	baz=32							
UCH	**Uchtor**	**3.77**	**40**	P		**Pb**	**16 35 18.4**	**-2.2**
	SNR=9.0							
UCH	**Uchtor**	**3.77**	**40**	⇑*i*P		**Pb**	**16 35 16.8**	**-3.8**
	baz=38							
UCH				⇑*i*S		**Sb**	**16 36 04.8**	**-1.2**
	baz=38							
KK31	**Karatay Array**	**3.78**	**351**	Pn		**Pb**	**16 35 17.0**	**-3.5**
	0.5nm,0.3s,baz=175,slow=12,SNR=37							
KK31				⇓Sn		**Sb**	**16 36 06.8**	**+1.0**
	1.0nm,0.4s,baz=182,slow=21,SNR=4.7							
KK31				⇑Lg		Lg	16 36 19.1	
	2.8nm,0.5s,baz=172,slow=30,SNR=5.9							
KZA	**Kyzart**	**4.06**	**47**	P		**Pb**	**16 35 23.7**	**-1.7**
	SNR=7.8							
AAK	**Ala-Archa**	**4.08**	**36**	⇓Pn		**Pb**	**16 35 22.5**	**-3.1**
	2.5nm,0.5s							
AAK				⇑Sn		**Sb**	**16 36 17.8**	**+3.3**
	1.7nm,0.6s							
AAK	**Ala-Archa**	**4.08**	**36**	P		**Pb**	**16 35 23.7**	**-2.0**
	SNR=5.5							
TKM2	**Tokmak 2**	**4.82**	**41**	⇑Pn		Pb	16 35 32.9	-5.4
	2.7nm,0.8s							
TKM2				⇑Sn		**Sb**	**16 36 35.9**	**-0.1**
	1.8nm,0.8s							
TKM2	**Tokmak 2**	**4.82**	**41**	P		Pb	16 35 33.1	-5.2
	SNR=6.2							

MEX 02 16:39:30.6±0.5, 16.37N×98.23W, h17km±6km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.10**	**75**	*i* P		Pg	16 39 33.0	-1.1
PNIG				*e*S		Sg	16 39 35.9	-0.5
TLIG	**Tlapa**	**1.23**	**345**	*e*P		Pn	16 39 49.5	-3.7
TLIG				*e*S		Sb	16 40 04.7	-4.6

IDC 02 16:52:09.2±29.0, 23.78S×175.00W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/26, mbtmp3.8/4, Error ellipse: s-maj=524.0km s-min=146.4km az=80.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.05**	**268**	P		P	16 59 14.1	+1.4
	0.9nm,0.3s,baz=100,slow=10,SNR=4.9							
STKA	**Stephens Creek**	**39.02**	**248**	P		P	16 59 36.5	-1.2
	1.4nm,0.9s,baz=98,slow=15,SNR=3.8							
ASAR	**Alice Springs**	**46.56**	**259**	P		P	17 00 38.9	-0.3
	0.3nm,0.4s,baz=95,slow=8.1,SNR=34							
WRA	**Warramunga Arr**	**46.98**	**264**	P		P	17 00 42.0	-0.3
	0.3nm,0.4s,baz=101,slow=8.8,SNR=17							

MEX 02 17:00:24.5±0.3, 24.84N×110.35W, h20km, MD3.6, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LPIG	**La Paz**	**0.74**	**177**	*e*P		Pb	17 00 36.3	-2.4
	baz=357,slow=4.1							
LPIG				*e*S		Sb	17 00 45.5	-2.8

*IDC **02** 17:10:14.8±0.9, 12.88N×145.57E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.7/60, mbtmp3.7/9, MS3.1/4, Ms1 3.2/4, ms1mx2.7/46, Error ellipse: s-maj=25.3km s-min=16.3km az=69.0*
*ISCJB **02** 17:10:19.2±0.8, 12.2N±0.1×145.5E±0.1, h43km, mb3.7/9, MS3.0/4, Error ellipse: s-maj=22.7km s-min=10.5km az=150.9*

ISC 02 17:10:21.1±1.0, 12.9N±0.1×145.5E±0.2, h43km, n14, σ0.59/12, mb3.8/9, MS3.1/4, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GUMO	**Guam**	**0.93**	**320**	Pn		**Pn**	**17 10 36.5**	**-1.2**
	150nm,0.3s,baz=143,slow=11,SNR=69							
GUMO				Sn		**Sn**	**17 10 50.4**	**+0.6**
	240nm,0.3s,baz=24,slow=20,SNR=19							
TGY	**Tagaytay City**	**23.89**	**276**	LR		LR	17 24 59.5	
	comp=Z,30nm,20.7s,baz=258,slow=37							
HNR	**Honiara**	**26.41**	**146**	LR		LR	17 26 34.3	
	comp=Z,77nm,18.0s,baz=196,slow=37							
WRA	**Warramunga Arr**	**34.41**	**199**	P		**P**	**17 17 04.2**	**-0.3**
	0.9nm,0.8s,baz=22,slow=9.8,SNR=17							
KLR	**Kul'dur**	**37.98**	**345**	LR		LR	17 32 00.6	
	comp=Z,36nm,19.1s,baz=201,slow=34							
ASAR	**Alice Springs**	**38.04**	**197**	P		**P**	**17 17 35.5**	**-0.1**
	0.6nm,0.8s,baz=13,slow=12,SNR=10							
CMAR	**Chiang Mai Arr**	**45.06**	**283**	P		**P**	**17 18 33.2**	**0.0**
	1.0nm,0.6s,baz=84,slow=6.5,SNR=17							
CMAR				LR		LR	17 37 18.7	
	comp=Z,14nm,19.0s,baz=210,slow=36							
SONM	**Songino Array**	**47.65**	**325**	P		**P**	**17 18 53.9**	**+0.6**
	0.5nm,0.6s,baz=131,slow=8.0,SNR=3.5							
MKAR	**Makanchi Array**	**62.41**	**316**	P		**P**	**17 20 40.3**	**+0.5**
	0.6nm,0.6s,baz=95,slow=10.0,SNR=4.9							
ZALV	**Zalesovo Beam**	**62.55**	**325**	P		**P**	**17 20 40.8**	**+0.4**
	0.5nm,0.6s,baz=91,slow=7.2,SNR=2.9							
ILAR	**Eielson Array**	**68.95**	**25**	P		**P**	**17 21 21.1**	**-0.5**
	1.0nm,0.8s,baz=262,slow=5.3,SNR=8.5							
BVAR	**Borovoye Array**	**70.85**	**322**	P		**P**	**17 21 33.2**	**-0.3**
	0.7nm,0.5s,baz=103,slow=8.0,SNR=8.3							
NVAR	**Mina Array Bea**	**86.90**	**51**	P		**P**	**17 23 02.3**	**+0.2**
	0.3nm,0.8s,baz=262,slow=6.9,SNR=2.3							
DBIC	**Dimbokro**	**144.70**	**302**	PKP		**PKPab**	**17 29 53.5**	**+0.4**
	2.5nm,0.6s,baz=72,slow=1.2,SNR=5.8							

*NNC **02** 17:10:30.1±7.7, 39.63N×77.23E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=71.8km s-min=51.7km az=65.0*
*SOME **02** 17:10:31.8, 39.45N×76.82E, h15km*
*KRNET **02** 17:10:33.4±0.1, 39.48N×76.39E, mb3.2*

ISC 02 17:10:30.3±2.5, 39.2N±0.1×76.65E±0.06, h10km, n31, σ1.971/59, 21C-10D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NRN	**Naryn**	**2.24**	**347**	⇓*i*P		**Pb**	**17 11 10.1**	**-1.0**
	baz=51							
NRN				⇓*i*S		**Sn**	**17 11 37.0**	**+1.3**
	baz=51							
KDJ	**Kajisay**	**2.91**	**8**	⇑*i*P		**Pb**	**17 11 20.8**	**-1.6**
	baz=13							
KDJ				⇑*i*S		**Sb**	**17 11 55.3**	**-2.9**
	baz=13							
ULHL	**Ulahol**	**3.02**	**354**	⇓*i*P		**Pb**	**17 11 21.4**	**-2.8**
	baz=58							
ULHL				⇓*i*S		**Sn**	**17 11 56.7**	**+2.1**
	baz=58							
KZA	**Kyzart**	**3.03**	**340**	⇑*i*P		**Pn**	**17 11 20.9**	**+2.3**
	baz=42							
KZA				⇑*i*S		**Sn**	**17 11 56.0**	**+0.9**
	baz=42							
ARLS	**Aral**	**3.16**	**327**	⇑*i*P		**Pn**	**17 11 22.8**	**+2.6**
	baz=27							
ARLS				⇑*i*S		**Sn**	**17 11 59.3**	**+1.2**
	baz=27							
BOOM	**Boomskoye usch**	**3.29**	**351**	⇓*i*P		**Pb**	**17 11 25.1**	**-3.7**
	baz=54							
BOOM				⇓*i*S		**Sn**	**17 12 02.8**	**+1.5**
	baz=54							
UCH	**Uchtor**	**3.40**	**332**	⇑*i*P		**Pn**	**17 11 26.0**	**+2.3**
	baz=33							
UCH				⇑*i*S		**Sn**	**17 12 04.3**	**0.0**
	baz=33							
KBK	**Karagaybulak**	**3.65**	**340**	⇑*i*P		**Pn**	**17 11 29.4**	**+2.5**
	baz=41							
KBK				⇑*i*S		**Sn**	**17 12 10.8**	**+0.7**
	baz=41							
AML	**Almayashu**	**3.66**	**323**	⇓*i*P		**Pn**	**17 11 29.8**	**+2.5**
	baz=23							
AML				⇓*i*S		**Sn**	**17 12 10.9**	**+0.2**
	baz=23							
TKM2	**Tokmak 2**	**3.76**	**348**	⇑Pg		**Pb**	**17 11 32.5**	**-4.4**
	5.8nm,0.6s							
TKM2				⇓Lg		Lg	17 12 23.2	
	6.8nm,0.5s							
TKM2	**Tokmak 2**	**3.76**	**348**	⇑*i*P		**Pn**	**17 11 31.5**	**+3.0**
	baz=50							
TKM2				⇑*i*S		**Sn**	**17 12 14.1**	**+1.1**
	baz=50							
AAK	**Ala-Archa**	**3.76**	**335**	⇑Pg		**Pb**	**17 11 38.4**	**+1.5**
	5.7nm,0.6s							
AAK				Lg		Lg	17 12 25.1	
	13nm,0.6s							
AAK	**Ala-Archa**	**3.76**	**335**	⇑*i*P		**Pn**	**17 11 30.9**	**+2.4**
	baz=36							
AAK				⇑*i*S		**Sn**	**17 12 12.9**	**-0.1**
	baz=36							
IZV	**Izvestkoviy**	**3.79**	**360**	*e*P		**Pb**	**17 11 36.4**	**-1.0**
	4.7nm,0.3s							
IZV				*e*S		**Sb**	**17 12 22.7**	**-0.7**
	25nm,0.5s							
TNSS	**Tian-Shan**	**3.80**	**3**	*e*P		**Pb**	**17 11 36.3**	**-1.3**
	6.6nm,0.6s							
TNSS				*e*S		**Sb**	**17 12 22.6**	**-1.3**
	18nm,0.5s							
KST	**Kastek**	**3.83**	**352**	*e*P		**Pb**	**17 11 37.6**	**-0.4**
	6.5nm,0.6s							
KST				*e*S		**Sb**	**17 12 24.9**	**+0.3**
	17nm,0.7s							
MTBS	**Maitube**	**3.89**	**358**	*e*P		**Pb**	**17 11 38.6**	**-0.4**
	6.3nm,0.2s							
MTBS				*e*S		**Sb**	**17 12 25.9**	**-0.3**
	21nm,0.4s							
MDOK	**Medeo**	**3.93**	**4**	*e*P		**Pb**	**17 11 38.7**	**-1.1**
	4.1nm,0.3s							
MDOK				*e*S		**Sb**	**17 12 26.2**	**-1.2**
	27nm,0.6s							
KOTS	**Kotyrbulak**	**4.00**	**5**	*e*P		**Pb**	**17 11 41.1**	**+0.1**
	4.8nm,0.3s							
KOTS				*e*S		**Sb**	**17 12 30.2**	**+0.7**
	23nm,0.2s							
SATY	**Saty**	**4.04**	**19**	*e*P		**Pb**	**17 11 39.7**	**-1.8**
	5.3nm,0.7s							
SATY				*e*S		**Sb**	**17 12 28.0**	**-2.5**
	13nm,0.3s							
EKS2	**Erkin-Say**	**4.05**	**328**	⇑*i*P		**Pn**	**17 11 34.8**	**+2.4**
	baz=29							
EKS2				⇑*i*S		**Sn**	**17 12 19.8**	**-0.2**
	baz=29							
DGS	**Degeres**	**4.05**	**351**	*e*P		**Pb**	**17 11 42.5**	**+0.7**
	7.0nm,0.5s							
DGS				*e*S		**Sb**	**17 12 32.6**	**+1.8**
	16nm,0.8s							
USP	**Ospenovka**	**4.33**	**339**	⇑*i*P		**Pn**	**17 11 38.8**	**+2.5**
	baz=40							
USP				⇑*i*S		**Sn**	**17 12 26.7**	**-0.2**
	baz=40							
SHLS	**Shalkode**	**4.45**	**28**	*e*P		**Pb**	**17 11 47.6**	**-1.0**
	2.2nm,0.5s							
SHLS				*e*S		**Sb**	**17 12 42.2**	**-0.1**
	11nm,0.6s							
KTBS	**Karatobe**	**4.47**	**0**	*e*P		**Pb**	**17 11 48.3**	**-0.5**
	2.5nm,0.4s							
KTBS				*e*S		**Sb**	**17 12 43.2**	**+0.5**
	14nm,0.5s							
CHKK	**Chushkaly**	**4.62**	**3**	*e*P		**Pb**	**17 11 51.1**	**-0.2**
	3.6nm,0.4s							
CHKK				*e*S		**Sb**	**17 12 47.8**	**+0.8**
	12nm,0.2s							
KUU	**Kurty**	**4.65**	**357**	*e*P		**Pb**	**17 11 51.6**	**-0.4**
	2.7nm,0.6s							
KUU				*e*S		**Sb**	**17 12 49.2**	**+1.1**
	12nm,0.2s							
KTMS	**Ketmen**	**5.04**	**32**	*e*P		**Pb**	**17 11 57.7**	**-1.0**
	0.9nm,0.2s							
KTMS				*e*S		**Sb**	**17 12 59.5**	**+0.2**
	8.8nm,0.2s							
ARXS	**Arharly**	**5.04**	**10**	*e*P		**Pb**	**17 11 58.1**	**-0.6**
	1.8nm,0.4s							
ARXS				*e*S		**Sb**	**17 13 00.3**	**+0.9**
	7.9nm,0.4s							
DJR	**Jarkent**	**5.60**	**24**	*e*P		**Pb**	**17 12 07.7**	**-0.5**
	0.9nm,0.7s							
DJR				⇓*i*S		**Sb**	**17 13 16.3**	**+0.9**
	2.2nm,0.5s							
KK31	**Karatay Array**	**6.03**	**312**	Pg		**Pg**	**17 12 22.3**	**-3.3**
	0.3nm,0.3s,baz=127,slow=16,SNR=5.7							
KK31				⇑Lg		Lg	17 13 41.1	
	1.4nm,0.6s,baz=126,slow=28,SNR=4.1							

*IDC **02** 17:19:41.9±1.5, 48.80N×155.16E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.2/55, mbtmp3.4/3, ML2.5/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/39, Error ellipse: s-maj=168.6km s-min=26.8km az=110.0*
*MOS **02** 17:19:44.5±1.2, 48.96N×156.56E, h33km, mb4.3/1, Error*

ellipse: s-maj=32.8km s-min=5.8km az=76.7
*KRSC **02** 17:19:49.9±1.8, 49°.15N×156°.54E, h40km±25km, ML4.2*

ISC 02 17:19:46.6±1.2, 48°.79N±0°.09×156°.2E±0°.1, h35km, n43, σ2943/44, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.89**	**358**	*eP*	**Pn**	**17 20 15.0**	**-1.4**
SKR				*eS*	**Sn**	**17 20 34.7**	**-4.3**
SKR	**Severo-Kuril's**	**1.89**	**358**	*e*Pn	**Pn**	**17 20 15.2**	**-1.2**
PAU	**Pauzhetka**	**2.70**	**8**	*eP*	**Pn**	**17 20 28.0**	**+0.5**
PAU				*eS*	**Sn**	**17 20 56.9**	**-2.1**
PAU	**Pauzhetka**	**2.70**	**8**	PN	**Pn**	**17 20 28.0**	**+0.5**
KDTR	**Khodutka, Kamc**	**3.24**	**21**	*eP*	**Pn**	**17 20 36.2**	**+1.3**
KDTR				*eS*	**Sn**	**17 21 11.2**	**-1.1**
RUS	**Russkaya**	**3.92**	**21**	*eP*	**Pn**	**17 20 45.9**	**+1.6**
RUS				*eS*	**Sn**	**17 21 26.9**	**-2.1**
RUS	**Russkaya**	**3.92**	**21**	PN	**Pn**	**17 20 45.9**	**+1.6**
APC	**Apacha**	**4.18**	**8**	*eP*	**Pn**	**17 20 50.6**	**+2.8**
APC	**Apacha**	**4.18**	**8**	PN	**Pn**	**17 20 50.6**	**+2.8**
KRMR	**Karymshinskiy**	**4.22**	**16**	*eP*	**Pn**	**17 20 49.9**	**+1.6**
KRMR	**Karymshinskiy**	**4.22**	**16**	PN	**Pn**	**17 20 49.9**	**+1.6**
PETK	**Petropavlovsk-**	**4.42**	**12**	Pn	**Pn**	**17 20 53.2**	**+2.1**
	1.0nm,0.3s,baz=183,slow=12,SNR=42						
PETK				Sn	**Sn**	**17 21 46.9**	**+5.5**
	baz=185,slow=14						
PET	**Petropavlovsk**	**4.51**	**19**	*eP*	**Pn**	**17 20 53.4**	**+1.2**
PET				*eS*	**Sn**	**17 21 41.2**	**-2.2**
PET	**Petropavlovsk**	**4.51**	**19**	*e*PN	**Pn**	**17 20 54.8**	**+2.6**
DALK	**Dalny**	**4.53**	**20**	*eP*	**Pn**	**17 20 54.8**	**+2.2**
DALK				*eS*	**Sn**	**17 21 43.3**	**-0.8**
UGLR	**Uglovaya**	**4.72**	**19**	*eP*	**Pn**	**17 20 58.0**	**+2.7**
UGLR	**Uglovaya**	**4.72**	**19**	PN	**Pn**	**17 20 58.0**	**+2.7**
AVH	**Avacha**	**4.75**	**18**	*eP*	**Pn**	**17 20 58.9**	**+3.2**
AVH	**Avacha**	**4.75**	**18**	PN	**Pn**	**17 20 58.9**	**+3.2**
KOK	**Koryaka**	**4.75**	**18**	*eP*	**Pn**	**17 20 59.4**	**+3.6**
KOK	**Koryaka**	**4.75**	**18**	PN	**Pn**	**17 20 59.4**	**+3.6**
SMAR	**Somma**	**4.76**	**19**	*eP*	**Pn**	**17 20 58.7**	**+2.7**
SMAR	**Somma**	**4.76**	**19**	PN	**Pn**	**17 20 58.7**	**+2.7**
KRX	**Arik**	**4.82**	**18**	*eP*	**Pn**	**17 20 58.7**	**+2.0**
KRX	**Arik**	**4.82**	**18**	PN	**Pn**	**17 20 58.7**	**+2.0**
SPN	**Mys Shipunski**	**4.93**	**28**	*eP*	**Pn**	**17 21 00.3**	**+2.2**
SPN				*eS*	**Sn**	**17 21 53.3**	**-0.6**
SPN	**Mys Shipunski**	**4.93**	**28**	PN	**Pn**	**17 21 00.3**	**+2.2**
GNL	**Ganaly**	**5.03**	**12**	*eP*	**Pn**	**17 21 01.6**	**+2.1**
GNL	**Ganaly**	**5.03**	**12**	PN	**Pn**	**17 21 01.6**	**+2.1**
KUR	**Kuril'sk**	**6.74**	**241**	PN	**Pn**	**17 21 23.7**	**+0.8**
KUR				*eS*	**Sn**	**17 22 37.9**	**-0.4**
KUR				pmax	pmax		
	comp=Z,19nm,0.7s						
SHO	**Shikotan**	**8.16**	**236**	PN	Pn	17 21 38.5	-3.9
SHO				pmax	pmax		
	comp=Z,12nm,0.3s						
KBTR	**Krutoberegovo**	**8.44**	**26**	*eP*	**Pn**	**17 21 48.3**	**+2.1**
KBTR	**Krutoberegovo**	**8.44**	**26**	PN	**Pn**	**17 21 48.3**	**+2.1**
BKI	**Bering**	**8.79**	**39**	*e*S	**Sn**	**17 23 24.9**	**-3.8**
H11N2	**WAKE ISLAND Hy**	**30.24**	**160**	T	T	17 58 30.7	
	baz=340						
H11N1	**WAKE ISLAND Hy**	**30.26**	**160**	T	T	17 58 35.1	
	baz=340						
H11N3	**WAKE ISLAND Hy**	**30.26**	**160**	T	T	17 58 30.1	
	baz=340						
H11S1	**WAKE ISLAND Hy**	**31.38**	**161**	T	T	17 59 52.9	
	baz=346,slow=76,SNR=37						
H11S3	**WAKE ISLAND Hy**	**31.39**	**161**	T	T	17 59 52.7	
	baz=346,slow=76,SNR=55						
H11S2	**WAKE ISLAND Hy**	**31.40**	**161**	T	T	17 59 48.6	
	baz=346,slow=76,SNR=44						
ZALV	**Zalesovo Beam**	**43.14**	**305**	LR	LR	17 45 15.6	
	comp=Z,22nm,18.2s,baz=68,slow=36						
WRA	**Warramunga Arr**	**71.16**	**202**	P	**P**	**17 31 00.2**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=13,slow=5.9,SNR=4.9						
ASAR	**Alice Springs**	**74.84**	**201**	P	**P**	**17 31 23.1**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=12,slow=5.4,SNR=8.5						

IDC 02 17:22:58.3±3.2, 5°.50S×149°.14E, h166km±34km, mb2.9/3, mb1 2.9/4, mb1mx2.7/39, mbtmp3.4/4, Error ellipse: s-maj=134.1km s-min=25.9km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.36**	**207**	P	Pn	17 24 03.8	+0.2
	0.7nm,0.3s,baz=4.8,slow=12,SNR=3.6						
PMG				S	Sn	17 24 55.2	+0.5
	1.8nm,0.3s,baz=336,slow=20,SNR=3.8						
WRA	**Warramunga Arr**	**20.34**	**224**	P	P	17 27 21.6	-0.3
	0.2nm,0.4s,baz=47,slow=10,SNR=5.7						
ASAR	**Alice Springs**	**23.28**	**218**	P	P	17 27 51.5	+0.1
	0.5nm,0.5s,baz=57,slow=8.8,SNR=22						
PETK	**Petropavlovsk-**	**58.83**		P	P	17 32 39.1	-0.1
	1.1nm,0.6s,baz=163,slow=5.7,SNR=4.6						

NNC 02 17:27:38.4±6.0, 36°.77N×70°.14E, h0km, mb3.7, mpv3.3, 5C-1D, Error ellipse: s-maj=63.6km s-min=32.4km az=153.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.33**	**2**	P	Pn	17 29 14.9	+1.9
	0.8nm,0.3s,baz=184,slow=12,SNR=40						
KK31				⇑S	Sn	17 30 30.0	+4.0
	0.4nm,0.3s,baz=187,slow=21,SNR=4.7						
AAK	**Ala-Archa**	**6.75**	**28**	P	Pn	17 29 19.8	+0.9
	1.0nm,0.5s						
AAK				⇑S	Sn	17 30 37.7	+1.2
	3.4nm,0.7s						
TKM2	**Tokmak 2**	**7.44**	**33**	⇑P	Pn	17 29 27.3	-1.1
	0.6nm,0.4s						
TKM2				⇑S	Sn	17 30 52.7	-0.8
	2.1nm,0.8s						
AB31	**Akbulak array**	**14.52**	**332**	⇓P	Pn	17 31 03.8	-1.2
	1.0nm,0.3s						
AKTO	**Aktyubinsk**	**16.20**	**331**	⇑P	Pn	17 31 25.7	-1.6
	1.1nm,0.6s						

IDC 02 17:30:19.9±1.2, 12°.62N×143°.93E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/43, mbtmp3.4/3, Error ellipse: s-maj=38.9km s-min=17.8km az=121.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.33**	**43**	Pn	Pn	17 30 46.3	+0.6
	43nm,0.3s,baz=180,slow=15,SNR=29						
GUMO				Sn	Sn	17 31 03.8	-0.3
	145nm,0.3s,baz=54,slow=19,SNR=6.3						
GUMO				LR	LR	17 31 21.3	
	comp=Z,85nm,20.3s,baz=75,slow=46						
WRA	**Warramunga Arr**	**33.71**	**196**	P	P	17 37 02.8	-0.2
	0.5nm,0.5s,baz=20,slow=9.7,SNR=15						
ASAR	**Alice Springs**	**37.37**	**195**	P	P	17 37 34.6	+0.1
	0.2nm,0.5s,baz=22,slow=12,SNR=5.6						
MKAR	**Makanchi Array**	**61.55**	**317**	P	P	17 40 38.8	-0.2
	0.5nm,0.7s,baz=101,slow=8.2,SNR=2.4						

DJA 02 17:31:57.9±1.3, 8°S±9°×107°8E±°, h24km±8km, M3.7/7, mb3.9/1, MLv3.7/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.59**	**360**	P	Pn	17 32 10.3	-0.6
CISI				S	Sn	17 32 18.8	-1.0
CMJI	**Cimerak**	**0.72**	**60**	P	Pn	17 32 12.4	-0.2
CMJI				S	Sn	17 32 23.1	+0.2
LEM	**Lembang**	**1.33**	**351**	P	Pb	17 32 23.0	+0.7
CGJI	**Cibinong**	**2.60**	**306**	P	Pn	17 32 36.9	-1.6
UGM	**Wanagama**	**2.69**	**85**	P	Pn	17 32 39.7	0.0
WOJI	**Wonogiri, Jawa**	**3.09**	**84**	P	Pn	17 32 45.3	+0.1
PCJI	**Pacitan**	**3.32**	**91**	P	Pn	17 32 48.7	+0.3
PCJI				S	Sn	17 33 25.5	-1.7
PWJI	**Pagerwojo**	**3.95**	**88**	P	Pn	17 32 56.1	-0.9
GMJI	**Gumukmas**	**5.57**	**92**	P	Pn	17 33 20.5	+1.2

IDC 02 17:34:56.2±5.1, 1°.83S×141°.33E, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.4/30, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=89.5km s-min=17.7km az=150.0, Ninigo Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**0.92**	**223**	Pg	Pb	17 35 14.6	-0.5
	6.5nm,0.3s,baz=328,slow=1.8,SNR=30						
JAY				Lg	Lg	17 35 26.3	
	11nm,0.3s,baz=160,slow=20,SNR=20						
CTA	**Charters Tower**	**18.77**	**165**	P	Pn	17 39 17.8	+0.3
	0.3nm,0.3s,baz=346,slow=12,SNR=5.6						
WRA	**Warramunga Arr**	**19.25**	**200**	P	P	17 39 22.3	-0.1
	0.1nm,0.3s,baz=23,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**22.87**	**198**	P	P	17 40 02.0	+0.6
	0.4nm,0.7s,baz=28,slow=11,SNR=6.8						
STKA	**Stephens Creek**	**29.89**	**180**	P	P	17 41 04.7	-1.0
	3.2nm,1.1s,baz=11,slow=7.9,SNR=2.6						

DJA 02 17:51:39.9±0.3, 1°S±3°×112°0E±°, h10km, M3.3/9, MLv3.3/9, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**1.65**	**355**	P	Pn	17 52 07.9	-1.1
APSI	**Ampana**	**1.67**	**76**	P	Pn	17 52 07.2	-2.0
APSI				S	Sn	17 52 28.3	-2.4
TTSI	**Tana Toraja**	**1.73**	**187**	P	Pn	17 52 08.1	-1.9
TTSI				S	Sn	17 52 32.1	0.0
MRSI	**Marisa**	**2.62**	**47**	P	Pn	17 52 22.1	-0.1
SPSI	**Sidrap Palu**	**2.64**	**186**	P	Pn	17 52 22.9	+0.3
LUWI	**Luwuk**	**2.75**	**84**	P	Pb	17 52 26.8	-2.5
LUWI				S	Sn	17 52 59.2	+1.7
BNSI	**Bone**	**3.06**	**179**	P	Pn	17 52 30.4	+2.0
BKSI	**Bulukumba**	**3.98**	**179**	P	Pn	17 52 42.5	+1.5
KLI	**Kotabumi**	**15.55**	**257**	P	Pn	17 55 17.6	-1.9

*NIED **02** 17:56:00.43°.40N×146°.80E, h50km, Mw3.9 Best double couple: M0 7.58000×10^14 NP1:φs212.00000°, δ25.00000°, λ41.00000°. NP2:φs84.00000°, δ74.00000°, λ109.00000°.*
*MOS **02** 17:56:04.4±1.4, 43°.30N×146°.87E, h49km, mb4.2/7, Error ellipse: s-maj=10.9km s-min=8.0km az=91.5*
*ISCJB **02** 17:56:06.0±0.7, 43°.42N±0°.06×146°.81E±0°.06, h56km±5km, mb3.8/11, Error ellipse: s-maj=10.9km s-min=5.2km az=143.7*
*JMA **02** 17:56:06.6±0.3, 43°.37N×146°.77E, h36km±3km, M4.0*
JMA Felt I J1.
*SKHL **02** 17:56:07.1±0.5, 43°.47N×146°.81E, h59km±5km, mb4.4/5*
*IDC **02** 17:56:07.3±2.6, 43°.39N×146°.75E, h53km±23km, mb3.6/10, mb1 3.8/15, mb1mx3.5/55, mbtmp3.8/15, ML3.2/4, MS2.8/4, Ms1 2.8/4, ms1mx2.6/59, Error ellipse: s-maj=35.0km s-min=17.5km az=165.0*

ISC 02 17:56:06.7±1.1, 43°.40N±0°.07×146°.82E±0°.05, h45km±9km, n63, σ1938/69, mb3.8/11, 5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.47**	**1**	*i* P	**Pn**	**17 56 17.5**	**+0.2**
SHO				AMB	AMB	17 56 17.7	
	140nm,0.2s						
SHO				AMB	AMB	17 56 17.7	
	100nm,0.2s						
SHO				AMB	AMB	17 56 17.7	
	180nm,0.2s						
SHO				*i* S	**Sn**	**17 56 24.8**	**0.0**
SHO				A	A	17 56 26.3	
	730nm,0.2s						
SHO				A	A	17 56 26.3	
	4μm,0.2s						
SHO	**Shikotan**	**0.47**	**1**	*d* iPN	**Pn**	**17 56 17.4**	**+0.2**
SHO				*i* S	**Sn**	**17 56 24.9**	**+0.1**
SHO				pmax	pmax		
	comp=Z,2μm,0.1s						
SHO				pmax	pmax		
	comp=N,3μm,0.2s						
SHO				pmax	pmax		
	comp=E,2μm,0.2s						
SHO				smax	smax		
	comp=N,4μm,0.3s						
SHO				smax	smax		
	comp=E,5μm,0.2s						
NEM2	**Nemuro 2**	**0.79**	**268**	P	**Pn**	**17 56 20.7**	**-0.7**
NEM2				*e*S	**Sn**	**17 56 30.8**	**-1.3**
YUK	**Yuzh-Kuril'sk**	**0.94**	**313**	*i* P	**Pn**	**17 56 23.0**	**-0.5**
YUK				AMB	AMB	17 56 23.7	
	comp=E,310nm,0.4s						
YUK				AMB	AMB	17 56 23.7	
	comp=E,4μm,0.4s						
YUK				*i* S	**Sn**	**17 56 35.4**	**-0.4**
YUK				A	A	17 56 36.7	
	comp=E,1μm,0.3s						
YUK				A	A	17 56 36.7	
	comp=E,919nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.94**	**313**	*d* iPN	**Pn**	**17 56 23.2**	**-0.3**
YUK				*i* S	**Sn**	**17 56 35.4**	**-0.4**
YUK				pmax	pmax		
	comp=N,968nm,0.3s						
YUK				pmax	pmax		
	comp=Z,4μm,0.3s						
YUK				pmax	pmax		
	comp=E,1μm,0.1s						
YUK				smax	smax		
	comp=N,9μm,0.4s						
YUK				smax	smax		
	comp=E,5μm,0.5s						
GRPR	**Tuman**	**0.96**	**308**	*i* P	**Pn**	**17 56 23.0**	**-0.8**
GRPR				AMB	AMB	17 56 24.0	
	comp=E,120nm,0.2s						
GRPR				AMB	AMB	17 56 24.0	
	comp=E,4μm,0.2s						
GRPR				*i* S	**Sn**	**17 56 35.0**	**-1.4**
GRPR				A	A	17 56 36.0	
	comp=E,890nm,0.2s						
GRPR				A	A	17 56 36.0	
	comp=E,579nm,0.2s						
GRPR	**Tuman**	**0.96**	**308**	*d* iPN	**Pn**	**17 56 23.5**	**-0.3**
GRPR				*i* S	**Sn**	**17 56 35.7**	**-0.7**
GRPR				pmax	pmax		
	comp=Z,1μm,0.3s						
GRPR				smax	smax		
	comp=N,9μm,0.4s						
GLVR	**Golovnino**	**1.00**	**290**	*i* P	**Pn**	**17 56 24.0**	**-0.4**
GLVR				AMB	AMB	17 56 26.0	
	comp=N,380nm,0.4s						
GLVR				AMB	AMB	17 56 26.0	
	comp=N,4μm,0.4s						
GLVR				*e*S	**Sn**	**17 56 36.0**	**-1.3**
GLVR				A	A	17 56 42.0	
	comp=N,290nm,0.4s						
GLVR				A	A	17 56 42.0	
	comp=N,3μm,0.4s						
GLVR	**Golovnino**	**1.00**	**290**	⇓ *i* PN	**Pn**	**17 56 24.2**	**-0.2**
GLVR				*e*S	**Sn**	**17 56 36.8**	**-0.5**
GLVR				pmax	pmax		
	comp=Z,375nm,0.2s						
GLVR				smax	smax		
	comp=N,3μm,0.2s						
GLVR				smax	smax		
	comp=E,2μm,0.2s						
JKHN	**Kushirohamanak**	**1.25**	**256**	P	**Pn**	**17 56 28.3**	**+0.5**
JRA	**Rausu**	**1.34**	**294**	P	**Pn**	**17 56 29.3**	**+0.3**
JRA				*e*S	**Sn**	**17 56 45.8**	**+0.2**
JNK	**Nakash**	**1.54**	**278**	P	**Pn**	**17 56 31.4**	**-0.3**
JNK				*e*S	**Sn**	**17 56 50.1**	**-0.4**
JAK	**Akkeshi**	**1.60**	**256**	P	**Pn**	**17 56 32.8**	**+0.2**
JAK				*e*S	**Sn**	**17 56 52.3**	**+0.2**
KUR	**Kuril'sk**	**1.98**	**22**	*i* P	**Pn**	**17 56 37.9**	**+0.2**
KUR				AMB	AMB	17 56 38.9	
	comp=E,100nm,0.3s						
KUR				AMB	AMB	17 56 38.9	
	comp=E,60nm,0.3s						
KUR				AMB	AMB	17 56 38.9	
	comp=E,80nm,0.3s						
KUR				*i* S	**Sn**	**17 57 01.0**	**-0.2**
KUR				A	A	17 57 03.3	
	comp=E,390nm,0.4s						
KUR				A	A	17 57 03.3	
	comp=E,499nm,0.4s						
KUR	**Kuril'sk**	**1.98**	**22**	*d* iPN	**Pn**	**17 56 37.8**	**+0.1**
KUR				*i* S	**Sn**	**17 57 02.1**	**+0.8**
KUR				pmax	pmax		
	comp=Z,129nm,0.2s						
KUR				smax	smax		
	comp=N,718nm,0.2s						
KUR				smax	smax		
	comp=E,137nm,0.2s						

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTKR	**Abashiri--Toko**	**2.19**	**286**	P	**Pn**	**17 56 41.7**	**+1.1**
JAR	**Ashorobuto**	**2.23**	**268**	P	**Pn**	**17 56 41.9**	**+0.8**
JAR				*e*S	**Sn**	**17 57 08.5**	**+1.1**
JCH	**Churui**	**2.66**	**254**	P	**Pn**	**17 56 47.5**	**+0.5**
HRK	**Horoka**	**2.69**	**273**	*e*P	**Pn**	**17 56 49.8**	**+2.3**
ERM	**Erimo**	**3.04**	**244**	*e*P	**Pn**	**17 56 53.8**	**+1.6**
ERM	**Erimo**	**3.04**	**244**	*i* PN	**Pn**	**17 56 53.8**	**+1.6**
JKA	**Kamikawa-asahi**	**3.14**	**285**	*e*P	**Pn**	**17 56 55.6**	**+1.9**
ASAJ	**Asahikawa**	**3.14**	**285**	P	**Pn**	**17 56 55.6**	**+1.9**
	comp=E,2.3nm,0.3s,baz=138,slow=6.9,SNR=18						
ASAJ				S	**Sn**	**17 57 37.5**	**+7.5**
	comp=E,3.0nm,0.3s,baz=34,slow=18,SNR=2.6						
YSS	**Yuzh-Sakhalins**	**4.57**	**322**	*e*P	**Pn**	**17 57 13.7**	**+0.5**
YSS	**Yuzh-Sakhalins**	**4.57**	**322**	*e*PN	**Pn**	**17 57 13.7**	**+0.5**
MJA0	**Matsu Arr-Jizo**	**9.49**	**227**	*e*PN	**Pn**	**17 58 20.1**	**-0.8**
MJAR	**Matsushiro Arr**	**9.52**	**227**	P	**Pn**	**17 58 20.4**	**-0.8**
	comp=E,0.4nm,0.3s,baz=29,slow=15,SNR=7.3						
MAJO	**Matsushiro**	**9.52**	**227**	*i* PN	**Pn**	**17 58 19.1**	**-2.1**
USRK	**Ussuriysk Ar.**	**10.75**	**279**	P	**Pn**	**17 58 37.0**	**-1.0**
	baz=91,slow=19						
KLR	**Kul'dur**	**11.93**	**304**	LR	LR	18 03 47.2	
	comp=E,52nm,18.1s,baz=121,slow=39						
KLR	**Kul'dur**	**11.93**	**304**	*e*P	**Pn**	**17 58 56.8**	**+2.7**
KLR	**Kul'dur**	**11.93**	**304**	*i* PN	**Pn**	**17 58 56.8**	**+2.7**
PETK	**Petropavlovsk-**	**12.10**	**33**	P	**Pn**	**17 58 55.8**	**-0.6**
	comp=E,0.3nm,0.3s,baz=203,slow=14,SNR=6.2						
KSRS	**Korea Array**	**15.56**	**254**	LR	LR	18 05 54.6	
	comp=E,25nm,18.1s,baz=106,slow=38						
JNU	**Nakatsue**	**16.16**	**236**	LR	LR	18 05 27.0	
	comp=E,36nm,18.3s,baz=14,slow=35						
MA2	**Magadan**	**16.38**	**7**	LR	LR	18 06 27.9	
	comp=E,27nm,18.5s,baz=164,slow=38						
SEY	**Seymchan**	**19.83**	**8**	P	**P**	**18 00 33.5**	**+0.1**
	comp=E,0.1nm,0.3s,baz=195,slow=12,SNR=3.5						
SEY	**Seymchan**	**19.83**	**8**	*e*P	**P**	**18 00 33.6**	**+0.2**
SEY	**Seymchan**	**19.83**	**8**	*i* P	**P**	**18 00 33.6**	**+0.2**
SONM	**Songino Array**	**28.39**	**293**	P	**P**	**18 01 55.5**	**-1.2**
	comp=E,0.6nm,0.5s,baz=74,slow=9.2,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**29.00**	**138**	T	T	18 32 47.6	
	baz=329,slow=76,SNR=364						
H11N1	**WAKE ISLAND Hy**	**29.01**	**138**	T	T	18 32 48.5	
	baz=329,slow=76,SNR=251						
H11N3	**WAKE ISLAND Hy**	**29.02**	**138**	T	T	18 32 43.6	
	baz=329,slow=76,SNR=214						
H11S1	**WAKE ISLAND Hy**	**29.95**	**140**	T	T	18 33 51.6	
	baz=330,slow=76,SNR=742						
H11S3	**WAKE ISLAND Hy**	**29.96**	**140**	T	T	18 33 55.8	
	baz=330,slow=76,SNR=405						
H11S2	**WAKE ISLAND Hy**	**29.97**	**140**	T	T	18 33 55.2	
	baz=330,slow=76,SNR=381						
ILAR	**Eielson Array**	**41.91**	**36**	P	**P**	**18 03 52.4**	**0.0**
	comp=E,0.6nm,0.7s,baz=277,slow=10.0,SNR=6.8						
ILAR	**Eielson Array**	**41.91**	**36**	*e*P	**P**	**18 03 54.0**	**+1.7**
ILAR	**Eielson Array**	**41.91**	**36**	*e*P	**P**	**18 03 54.1**	**+1.7**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**44.53**	**298**	P	**P**	**18 04 13.6**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=81,slow=8.9,SNR=13						
KURK	**Kurchatov**	**45.52**	**304**	*i* P	**P**	**18 04 19.5**	**-2.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
INK	**Inuvik**	**46.82**	**30**	P	**P**	**18 04 31.8**	**+0.3**
	comp=Z,2.2nm,0.4s,baz=286,slow=6.5,SNR=15						
YKA	**Yellowknife Ar**	**56.22**	**34**	P	**P**	**18 05 42.1**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=304,slow=7.4,SNR=3.2						
ARCES	**ARCESS Array B**	**59.49**	**340**	P	**P**	**18 06 04.3**	**-0.3**
	comp=Z,2.9nm,0.8s,baz=50,slow=8.4,SNR=3.5						
NVAR	**Mina Array Bea**	**67.97**	**58**	P	**P**	**18 07 01.3**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=304,slow=7.2,SNR=2.7						
NOA	**NORSAR Array B**	**69.84**	**339**	P	**P**	**18 07 11.0**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=32,slow=6.6,SNR=4.8						
NOA	**NORSAR Array B**	**69.84**	**339**	*e*P	**P**	**18 07 12.0**	**-0.2**
AKASG	**Malin Array Be**	**71.72**	**324**	P	**P**	**18 07 23.3**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=42,slow=6.8,SNR=2.6						
CLL	**Collm**	**77.51**	**332**	*e*P	**P**	**18 07 57.4**	**+0.1**
CLL	**Collm**	**77.51**	**332**	*i* P	**P**	**18 07 57.4**	**+0.1**
CLL	**Collm**	**77.51**	**332**	*i* P	**P**	**18 07 57.4**	**+0.1**
TXAR	**Lajitas Array**	**83.04**	**56**	P	**P**	**18 08 27.5**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=308,slow=3.7,SNR=5.7						
TXAR	**Lajitas Array**	**83.04**	**56**	*e*P	**P**	**18 08 28.5**	**+0.9**

*IDC **02** 17:56:59.6±0.9, 4°.62S×153°.45E, h0km, mb3.9/13, mb1 3.9/15, mb1mx3.8/47, mbtmp3.9/15, ML1.2/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/45, Error ellipse: s-maj=28.4km s-min=14.7km az=93.0*
*ISCJB **02** 17:57:08.6±0.5, 4°.68S±0°.05×153°.39E±0°.06, h85km, mb4.0/22, Error ellipse: s-maj=9.4km s-min=6.6km az=14.4*
*NEIC **02** 17:57:09.3±1.0, 4°.68S×153°.42E, h75km±8km, mb4.2/13, Error ellipse: s-maj=12.2km s-min=6.6km az=97.0*

ISC 02 17:57:10.1±0.6, 4°.70S±0°.07×153°.37E±0°.09, h85km, n40, σ1902/40, mb4.1/22, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.30**	**293**	*e*Pn	**Pn**	**17 57 32.7**	**-0.5**
RABL				*e*Sn	**Sn**	**17 57 50.0**	**-0.6**
MANU	**Manus Island**	**6.55**	**294**	*e*Pn	**Pn**	**17 58 43.5**	**-0.3**
PMG	**Port Moresby**	**7.74**	**232**	Pn	Pn	17 58 54.8	-5.3
	0.2nm,0.3s,baz=257,slow=19,SNR=1.7						
PMG				Sn	**Sn**	**18 00 25.5**	**-0.7**
	1.6nm,0.3s,baz=357,slow=19,SNR=4.1						
HNR	**Honiara**	**8.04**	**126**	LR	LR	18 02 20.4	
	comp=Z,71nm,20.6s,baz=184,slow=40						
PATS	**Pohnpei**	**12.47**	**23**	*e*Pn	**Pn**	**18 00 03.5**	**-1.0**
CTA	**Charters Tower**	**16.80**	**204**	Pn	**Pn**	**18 00 58.5**	**-1.6**
	0.1nm,0.3s,baz=34,slow=15,SNR=2.7						

	1.7nm,0.6s								
TORD	**Torodi Ar. Bea**	**150.82**	**289**	PKPbc	**PKPbc**	**18**	**16**	**53.0**	**-0.8**
	1.6nm,0.7s,baz=41,slow=2.9,SNR=12								
TOA1	**Torodi Ar. Sit**	**150.82**	**289**	*e*PKPbc	**PKPbc**	**18**	**16**	**53.0**	**-0.8**

ISCJB ***02*** *17:58:57.3±1.3, 43˚.46N±0˚.09×146˚.80E±0˚.08, h50km±12km, Error ellipse: s-maj=16.1km s-min=6.9km az=149.2*
JMA ***02*** *17:58:57.0±0.3, 43˚.39N×146˚.80E, h41km±4km, M2.7*
SKHL ***02*** *17:58:58.0±0.5, 43˚.44N×146˚.84E, h45km±4km, mb3.9/5*
ISC 02 17:58:57.9±2.1,**43˚.5N**±0˚.1×**146˚.80E**±0˚.09,**h45**km±20km, **n9,**σ0**52**/17,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.41**	**3**	*i* P		**Pn**	**17 59 08.0**	**+0.3**
SHO					AMB	AMB	17 59 09.0	
	80nm,0.4s							
SHO					AMB	AMB	17 59 09.0	
	90nm,0.4s							
SHO				*i* S		**Sn**	**17 59 15.0**	**+0.3**
SHO				A		A	17 59 15.0	
	479nm,0.2s							
NEM2	**Nemuro 2**	**0.78**	**263**	P		**Pn**	**17 59 11.5**	**-0.9**
NEM2				*e*S		**Sn**	**17 59 22.2**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**0.89**	**311**	*i* P		**Pn**	**17 59 14.1**	**+0.1**
YUK					AMB	AMB	17 59 16.0	
	70nm,0.2s							
YUK					AMB	AMB	17 59 16.0	
	20nm,0.2s							
YUK				*e*S		**Sn**	**17 59 26.0**	**+0.2**
YUK				A		A	17 59 30.0	
	410nm,0.3s							
YUK				A		A	17 59 30.0	
	88nm,0.3s							
GRPR	**Tuman**	**0.92**	**306**	*i* P		**Pn**	**17 59 14.0**	**-0.4**
GRPR					AMB	AMB	17 59 15.0	
	130nm,0.4s							
GRPR					AMB	AMB	17 59 15.0	
	4μm,0.4s							
GRPR				*e*S		**Sn**	**17 59 26.0**	**-0.4**
GRPR				A		A	17 59 27.0	
	330nm,0.4s							
GRPR				A		A	17 59 27.0	
	378nm,0.4s							
GLVR	**Golovnino**	**0.97**	**287**	*e*P		**Pn**	**17 59 15.0**	**-0.1**
GLVR					AMB	AMB	17 59 15.0	
	110nm,0.4s							
GLVR					AMB	AMB	17 59 15.0	
	4μm,0.4s							
GLVR				*e*S		**Sn**	**17 59 28.0**	**+0.3**
GLVR				A		A	17 59 34.0	
	250nm,0.3s							
GLVR				A		A	17 59 34.0	
	348nm,0.3s							
JNK	**Nakash**	**1.52**	**275**	P		**Pn**	**17 59 22.6**	**0.0**
JNK				*e*S		**Sn**	**17 59 41.0**	**-0.2**
JAK	**Akkeshi**	**1.61**	**254**	P		**Pn**	**17 59 24.2**	**+0.5**
KUR	**Kuril'sk**	**1.93**	**23**	*e*P		**Pn**	**17 59 28.0**	**-0.2**
KUR					AMB	AMB	17 59 31.0	
	20nm,0.2s							
KUR					AMB	AMB	17 59 31.0	
	3μm,0.2s							
KUR				*e*S		**Sn**	**17 59 51.0**	**-0.3**
KUR				A		A	17 59 58.0	
	50nm,0.2s							
KUR				A		A	17 59 58.0	
	47nm,0.2s							
JAR	**Ashorobuto**	**2.22**	**267**	P		**Pn**	**17 59 32.6**	**+0.5**
JAR				*e*S		**Sn**	**17 59 59.2**	**+0.9**

DJA 02 18:00:19.7±0.4,**1˚N**±3˚×**12˚2E**±˚,**h67**km±5km,**M3.7/9, mb3.9/1,MLv3.5/9,Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.38**	**241**	P		Pn	18 00 32.3	+1.2
MRSI				S		Sn	18 00 41.7	+2.2
APSI	**Ampana**	**1.68**	**202**	P		Pn	18 00 47.3	+0.3
APSI				S		Sn	18 01 09.4	+1.8
KMSI	**Cibinong**	**1.71**	**93**	P		Pn	18 00 49.4	+2.0
LUWI	**Luwuk**	**1.76**	**163**	P		Pn	18 00 48.7	+0.6
MPSI	**Mapaga**	**2.39**	**262**	P		Pn	18 00 56.8	+0.2
TTSI	**Tana Toraja**	**4.42**	**214**	P		Pn	18 01 24.5	+0.2
SANI	**Sanana**	**4.59**	**126**	P		Pn	18 01 24.2	-2.4

NNC 02 18:14:52.2±3.8,**36˚.83N×70˚.61E, h0**km,**mb3.8, mpv3.5, 4C-4D, Error ellipse: s-maj=33.7km s-min=25.8km az=144.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.27**	**359**	Pn		Pn	18 16 25.5	-0.4
	0.8nm,0.5s,baz=187,slow=14,SNR=16							
KK31				⇑Sn		Sn	18 17 39.3	+1.0
	1.3nm,0.6s							
KK31				⇓Lg		Lg	18 18 09.0	
	1.7nm,0.6s,baz=185,slow=35,SNR=6.2							
AAK	**Ala-Archa**	**6.53**	**26**	⇓Pn		Pn	18 16 28.8	-0.9
	2.1nm,0.5s							
AAK				⇓Sn		Sn	18 17 45.5	+0.6
	3.4nm,0.6s							
TKM2	**Tokmak 2**	**7.19**	**31**	⇑Pn		Pn	18 16 38.0	-0.8
	3.9nm,0.6s							
TKM2				⇑Sn		Sn	18 18 04.6	+3.2
	1.9nm,0.7s							
AB31	**Akbulak array**	**14.64**	**331**	⇑P		Pn	18 18 19.5	-1.1
	0.2nm,0.4s							
AKTO	**Aktyubinsk**	**16.34**	**330**	⇓P		P	18 18 47.1	+1.2
	3.8nm,0.9s							

BJI ***02*** *18:17:28.3, 8.˚88N×126˚.34E, h39km, mb5.7/72, mB5.9/70, Ms5.9/93, Ms7 5.8/86*
MOS ***02*** *18:17:32.9±1.0, 9˚.20N×126˚.15E, h53km, mb6.3/79, MS5.6/53, Error ellipse: s-maj=6.1km s-min=3.5km az=112.8*
NEIC ***02*** *18:17:32.7±0.1, 9˚.22N×126˚.16E, h37km, mb6.2/37, ME6.1, MS5.7/46, MW6.0, MW6.1, MW6.1, Error ellipse: s-maj=3.1km s-min=2.5km az=73.0, Moment Tensor Solution. s40 Moment tensor: Scale 10¹⁸Nm; Mrr=1.12; Mθθ=0.38; Mϕϕ=-1.49; Mrθ=0.26; Mϕθ=-0.11; Mrϕ=0.04; Best double couple: M₀1.40000×10¹⁸ NP1:ϕs167.00000°, δ46.00000°, λ66.00000°. NP2:ϕs20.00000°, δ49.00000°, λ113.00000°. Principal axes: T 1.2000, Plg73.0000°, Azm359.0000°; N 0.3000, Plg17.0000°, Azm184.0000°; P -1.5000, Plg1.0000°, Azm93.0000°; Broadband fault plane solution: P waves. NP1:ϕs159.00000°, δ46.00000°, λ63.00000°. NP2:ϕs15.00000°, δ50.00000°, λ115.00000°. Principal axes: T Plg71.0000°, Azm352.0000°; N Plg0.0000°, Azm0.0000°; P Plg2.0000°, Azm88.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [V PIVS] at General Luna and Tandag; [IV PIVS] at Butuan, Cagdianao, Dapa, Kitcharao, Magallanes, Socorro, Surigao and Tubajon; [III PIVS] at Basilisa, Bislig and Libjo; [II PIVS] at Davao, Magsaysay and Santiago. Also felt at Cabadbaran, Cagayan de Oro, Cortes, General Santos, Lagonglong, Lanuza, Madrid, Naawan, Panabo, Santa Cruz and Sibagat. Felt [II PIVS] at Cebu City, Cebu. Also felt at Mambajao, Camiguin Island, at Borongan and Guiuan, Samar and at Maasin and Tacloban, Leyte.
MAN ***02*** *18:17:33.2, 9˚.31N×126˚.40E, h28km, mb6.6, ML5.7, MS6.5*
IDC ***02*** *18:17:33.7±1.0, 9˚.24N×126˚.11E, h40km±8km, mb5.6/51, mb1 5.6/57, mb1mx5.6/60, mbtmp5.8/57, ML5.2/6, MS5.5/47, Ms1 5.5/47, ms1mx5.4/53, Error ellipse: s-maj=9.9km s-min=6.5km az=77.0*
NEIC ***02*** *18:17:33.0±0.0, 9˚.25N×126˚.57E, h40km, Moment Tensor Solution. s48 Moment tensor: Scale 10¹⁸Nm; Mrr=1.47; Mθθ-0.16; Mϕϕ-1.31; Mrθ=0.07; Mϕθ=0.22; Mrϕ=0.58; Best double couple: M₀1.50000×10¹⁸ NP1:ϕs355.00000°, δ56.00000°, λ96.00000°. NP2:ϕs164.00000°, δ34.00000°, λ81.00000°. Principal axes: T 1.5900, Plg77.0000°, Azm287.0000°; N -0.1300, Plg5.0000°, Azm171.0000°; P -1.4600, Plg10.0000°, Azm80.0000°;*

ISCJB ***02*** *18:17:34.7±0.3, 9˚.25N±0˚.01×126˚.24E±0˚.01, h65km±2km, mb5.8/222 Error ellipse: s-maj=2.5km s-min=1.9km az=149.6*
GCMT ***02*** *18:17:35.7±0.1, 9˚.23N×126˚.48E, h46km, MW6.1/151, Moment Tensor Solution. s151,c341; s144,c486; Duration: 29.7 Moment tensor: Scale 10¹⁸Nm; Mrr=1.50±.01; Mθθ=0.12±.01; Mϕϕ-1.62±.01; Mrθ=0.27±.01; Mϕθ=0.25±.01; Mrϕ=0.35±.01; Best double couple: M₀1.64200×10¹⁸ NP1:ϕs4.00000°, δ52.00000°, λ105.00000°. NP2:ϕs160.00000°, δ41.00000°, λ71.00000°. Principal axes: T 1.5990, Plg77.0000°, Azm328.0000°; N 0.0820, Plg12.0000°, Azm174.0000°; P -1.6860, Plg6.0000°, Azm83.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
DJA ***02*** *18:17:37.1±0.3, 9˚.N±2˚×12˚6E±˚, h62km±3km, M6.1/87, mb5.8/87, mB6.4/86, MLv6.7/3, Mw(mB)6.1/86, Mwp6.0/40*
KLM ***02*** *18:17:40.0, 9˚.13N×126˚.49E, h99km, mb6.1*
NEIC ***02*** *18:17:48.9±0.0, 9˚.43N×126˚.28E, h47km, Moment Tensor Solution. s58 Moment tensor: Scale 10¹⁸Nm; Mrr=1.79; Mθθ-0.04; Mϕϕ-1.75; Mrθ=0.18; Mϕθ=0.24; Mrϕ-0.25; Best double couple: M₀1.80000×10¹⁸ NP1:ϕs168.00000°, δ49.00000°, λ84.00000°. NP2:ϕs357.00000°, δ41.00000°, λ97.00000°. Principal axes: T 1.8200, Plg84.0000°, Azm35.0000°; N -0.0100, Plg4.0000°, Azm171.0000°; P -1.8100, Plg4.0000°, Azm262.0000°;*
ISC 02 18:17:34.7±0.2,**9˚24N**±0˚.02×**126˚.28E**±0˚.03,**h55**km±1km, **h56**km:**pP-P, n2154,**σ**1966**/2391,**mb5.9**/239,**MS5.6**/135, **133C-40D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.70**	**248**	*e*P		**Pn**	**18 17 48.8**	**+0.1**
BUTP				*e*S		**Sn**	**18 18 00.7**	**+1.7**
BIPH	**Bislig**	**1.05**	**176**	⇓*e*P		**Pn**	**18 17 52.4**	**-0.8**
BIPH				*e*S		**Sn**	**18 18 04.3**	**-2.6**
MSLP	**Maasin**	**1.66**	**303**	*e*P		**Pn**	**18 18 03.5**	**+2.0**
MSLP				*e*S		**Sn**	**18 18 19.4**	**-2.3**
CGP	**Cagayan de Oro**	**1.75**	**244**	⇑*e*P		**Pn**	**18 18 04.6**	**+1.9**
CGP				*i* S		**Sn**	**18 18 29.7**	**+5.8**
BUKP	**Musuan**	**1.81**	**222**	*e*P		**Pn**	**18 18 04.7**	**+1.2**
BUKP				*e*S		**Sn**	**18 18 23.9**	**-1.5**
DAV	**Davao City (W)**	**2.26**	**198**	Pn		**Pn**	**18 18 10.1**	**+0.4**
	503nm,0.3s,baz=8.0,slow=3.4,SNR=131							
DAV					Sn	**Sn**	**18 18 38.2**	**+1.8**
	3μm,0.3s,baz=90,slow=20,SNR=11							
DAV					LR	LR	18 19 22.0	
	comp=Z,318μm,18.1s,baz=35,slow=49							
DAV	**Davao City (W)**	**2.26**	**198**	P		**Pn**	**18 18 11.3**	**+1.6**
DAV	**Davao City (W)**	**2.26**	**198**	*e*Pn		**Pn**	**18 18 10.8**	**+1.1**
DAV					Sn	**Sn**	**18 18 38.2**	**+1.8**
PLP	**Palo**	**2.31**	**326**	⇑*i*P		**Pn**	**18 18 12.7**	**+2.4**
PLP				*i* S		**Sn**	**18 18 41.6**	**+4.1**
TBP	**Tagbilaran**	**2.43**	**281**	*e*P		**Pn**	**18 18 14.0**	**+2.0**
TBP				*i* S		**Sn**	**18 18 44.9**	**+4.3**
OCLP	**Ormoc**	**2.44**	**318**	*e*P		**Pn**	**18 18 15.4**	**+3.3**
OCLP				*e*S		**Sn**	**18 18 35.4**	**-5.5**
LLP	**Lapu-Lapu**	**2.52**	**295**	⇓*i*P		**Pn**	**18 18 15.5**	**+2.3**
LLP				*e*S		Sn	18 18 19.1	-24
CTBH	**Cotabato--PC H**	**2.84**	**225**	⇓*e*P		**Pn**	**18 18 18.6**	**+1.0**
DCPH	**Dipolog City**	**2.97**	**258**	⇓*e*P		Pn	18 18 24.4	+5.1
DDMP	**Don Marcelino,**	**3.16**	**190**	*e*P		**Pn**	**18 18 22.1**	**+0.1**
DDMP				*e*S		**Sn**	**18 18 49.6**	**-8.9**
PAGZ	**Pagadian**	**3.18**	**245**	*e*P		**Pn**	**18 18 22.8**	**+0.5**
PAGZ				*e*S		**Sn**	**18 19 03.4**	**+4.4**
SKMP	**Bagumbayan, Su**	**3.20**	**213**	*e*P		**Pn**	**18 18 23.2**	**+0.6**
SKMP				*e*S		Sn	18 19 18.1	+19
GSPH	**General Santos**	**3.40**	**203**	*e*P		**Pn**	**18 18 28.0**	**+2.7**
GUIM	**Jordan**	**3.89**	**291**	*e*P		**Pn**	**18 18 32.2**	**+0.2**
GUIM				*e*S		**Sn**	**18 19 16.5**	**0.0**
MMPH	**Masbate**	**4.05**	**320**	⇑*e*P		**Pn**	**18 18 37.1**	**+2.8**
MMPH				*i* S		**Sn**	**18 19 23.2**	**+2.7**
RCP	**Roxas**	**4.18**	**304**	⇑*i*P		**Pn**	**18 18 40.0**	**+4.1**
RCP				*e*S		**Sn**	**18 19 28.5**	**+5.0**
ZCP	**Zamboanga City**	**4.75**	**242**	⇓*i*P		**Pn**	**18 18 45.0**	**+1.2**
PVCP	**Virac**	**4.81**	**335**	*e*P		**Pn**	**18 18 45.0**	**+0.4**
PVCP				*e*S		**Sn**	**18 19 39.3**	**+0.2**
OTRP	**Odiongan**	**5.21**	**307**	*e*P		**Pn**	**18 18 52.2**	**+2.0**
OTRP				*e*S		Sn	18 19 12.0	-37
SGSI	**Sangihe**	**5.56**	**188**	P		**Pn**	**18 18 57.2**	**+2.2**
SGSI				S		**Sn**	**18 19 59.8**	**+2.2**
GQP	**Guinayangan**	**5.97**	**321**	⇑*e*P		**Pn**	**18 19 02.3**	**+1.8**
GQP				*e*S		**Sn**	**18 19 58.8**	**-8.9**
SJMP	**San Jose**	**6.00**	**303**	*e*P		**Pn**	**18 19 03.9**	**+3.0**
SJMP				*e*S		**Sn**	**18 20 09.1**	**+0.8**
ENPP	**El Nido**	**7.03**	**287**	*e*P		**Pn**	**18 19 17.2**	**+2.2**
ENPP				*e*S		Sn	18 20 54.8	+21
TGY	**Tagaytay City**	**7.13**	**313**	Pn		**Pn**	**18 19 19.6**	**+3.1**
	103nm,0.3s,baz=130,slow=2.8,SNR=201							
TGY					Sn	**Sn**	**18 20 37.9**	**+1.7**
	baz=9.0,slow=19,SNR=1.4							
TGY					LR	LR	18 22 20.5	
	comp=Z,96μm,19.5s,baz=124,slow=41							
TGY	**Tagaytay City**	**7.13**	**313**	⇓P		Pn	18 19 24.4	+7.9
PCPH	**Palayan**	**8.07**	**322**	⇓*e*P		**Pn**	**18 19 31.4**	**+2.1**
PCPH				*e*S		Sn	18 20 31.5	-28
I39PW	**PALAU INFRASON**	**8.35**	**101**	*i*			19 08 30.0	
	baz=280,slow=314,SNR=0.7							
TNTI	**Ternate**	**8.48**	**173**	*e*Pn		**Pn**	**18 19 34.8**	**-0.1**
TNTI	**Ternate**	**8.48**	**173**	P		**Pn**	**18 19 36.8**	**+1.9**
TNTI				S		**Sn**	**18 21 08.7**	**-0.5**
MYLDM	**Lahad Datu**	**8.71**	**243**	*e*Pn		**Pn**	**18 19 41.6**	**+3.6**
SMPP	**San Manuel, Pa**	**8.78**	**322**	*e*P		**Pn**	**18 19 40.5**	**+1.4**
SMPP				*e*S		Sn	18 20 58.7	-18
KMSI	**Cibinong**	**8.90**	**195**	P		**Pn**	**18 19 42.5**	**+1.8**
SCZP	**Santa Cruz**	**8.99**	**317**	*e*P		Pn	18 19 47.8	+5.9
CVP	**Callao Caves**	**9.47**	**333**	⇓*e*P		**Pn**	**18 19 48.3**	**-0.1**
MRSI	**Marisa**	**9.71**	**207**	P		**Pn**	**18 19 52.7**	**+0.9**
LBMI	**Labuha**	**9.88**	**173**	P		**Pn**	**18 19 55.9**	**+1.7**
	1μm,1.1s,20μm							
KKM	**Kota Kinabalu**	**10.47**	**253**	*e*Pn		**Pn**	**18 20 04.8**	**+2.5**
KKM	**Kota Kinabalu**	**10.47**	**253**	P		Pn	18 20 07.0	+4.7
LUWI	**Luwuk**	**10.79**	**199**	*e*Pn		**Pn**	**18 20 10.3**	**+3.8**
LUWI	**Luwuk**	**10.79**	**199**	P		**Pn**	**18 20 10.5**	**+3.9**
MPSI	**Mapaga**	**10.89**	**216**	P		**Pn**	**18 20 11.2**	**+3.3**
APSI	**Ampana**	**11.09**	**205**	P		Pn	18 20 15.4	+4.8
SWI	**Sorong**	**11.19**	**153**	P		**Pn**	**18 20 14.1**	**+2.1**
SWI					pmax	pmax		
	comp=Z,495nm,0.6s							
SWI	**Sorong**	**11.19**	**153**	P		**Pn**	**18 20 12.7**	**+0.7**
	comp=Z,495nm,0.6s,comp=Z,6μm							
SIJI	**Sorong**	**11.20**	**153**	Pn		**Pn**	**18 20 11.6**	**-0.6**
	comp=Z,56nm,0.3s,baz=28,slow=17,SNR=87							
SIJI					Sn	**Sn**	**18 22 09.4**	**-6.5**
	comp=Z,11nm,0.3s,baz=197,slow=19,SNR=9.4							
SIJI					LR	LR	18 24 31.4	
	comp=Z,21μm,21.8s,baz=347,slow=37							
SANI	**Sanana**	**11.21**	**182**	P		**Pn**	**18 20 09.7**	**-2.7**
AAI	**Ambon**	**12.98**	**171**	P		**Pn**	**18 20 38.6**	**+2.2**
AAI					pmax	pmax		
	comp=Z,293nm,0.9s							
AAI	**Ambon**	**12.98**	**171**	P		**Pn**	**18 20 37.8**	**+1.4**
SGKI	**Sangatta, Kali**	**12.99**	**222**	P		**Pn**	**18 20 31.9**	**-4.8**
SMKI	**Samarinda**	**13.20**	**224**	P		**P**	**18 20 45.0**	**-2.7**
RKPI	**Ransiki, Papua**	**13.26**	**143**	P		**Pn**	**18 20 43.7**	**+3.4**
FAKI	**Fak Fak**	**13.46**	**154**	*e*Pn		**Pn**	**18 20 43.5**	**+0.5**
FAKI	**Fak Fak**	**13.46**	**154**	P		**Pn**	**18 20 44.6**	**+1.6**
TTSI	**Tana Toraja**	**13.79**	**208**	P		**P**	**18 20 50.9**	**-3.5**
BKB	**Balikpapan**	**14.00**	**222**	P		**P**	**18 20 56.1**	**-0.6**
BNDI	**Bandanaira**	**14.14**	**165**	P		**Pn**	**18 20 53.1**	**+1.0**
TWG	**Pinlang**	**14.40**	**340**	*e*Pn		**Pn**	**18 20 53.4**	**-2.2**
SPSI	**Sidrap Palu**	**14.63**	**207**	P		**P**	**18 21 02.4**	**-1.3**
KMPI	**Kaimana, Papua**	**14.79**	**150**	P		**P**	**18 21 03.8**	**-1.7**
	comp=Z,1μm,1.1s,comp=Z,25μm							
SRPI	**Serui, Papua**	**14.84**	**138**	P		**Pn**	**18 21 02.9**	**+1.5**
YULB	**Yu-li**	**14.87**	**342**	*e*Pn		**Pn**	**18 20 59.5**	**-2.1**
BNSI	**Bone**	**14.88**	**205**	P		**P**	**18 21 05.2**	**-1.2**
TPUB	**Ta-pu**	**15.00**	**340**	*e*Pn		**Pn**	**18 21 04.0**	**+0.6**
BBSI	**Bau Bau**	**15.09**	**194**	P		**P**	**18 21 08.3**	**-0.4**
	comp=Z,49nm,0.8s,comp=Z,1μm							
MTKI	**Muara Teweh, K**	**15.19**	**229**	P		**P**	**18 21 10.6**	**+0.7**
	comp=Z,514nm,1.9s,comp=Z,19μmcomp=Z,57μm							
SSLB	**Suanglung**	**15.34**	**341**	*e*Pn		**Pn**	**18 21 08.3**	**+0.4**
YOJ	**Yonaguni jima**	**15.46**	**349**	*e*Pn		**Pn**	**18 21 10.1**	**+0.8**
YOJ	**Yonaguni jima**	**15.46**	**349**	*e*P		**Pn**	**18 21 10.1**	**+0.8**
NACB	**Ninganchiao**	**15.52**	**344**	*e*Pn		**Pn**	**18 21 09.6**	**-0.5**
SBUM	**Sibu**	**15.52**	**245**	*e*Pn		**P**	**18 21 11.9**	**-1.6**
SBUM	**Sibu**	**15.52**	**245**	P		**P**	**18 21 14.0**	**+0.4**
BKSI	**Bulukumba**	**15.71**	**203**	P		**P**	**18 21 15.1**	**-0.5**
KBKI	**Kotabaru**	**16.02**	**219**	P		**P**	**18 21 22.3**	**+3.2**
YHNB	**Yeheng**	**16.05**	**344**	*e*Pn		**Pn**	**18 21 16.5**	**-0.4**
TATO	**Taipei**	**16.31**	**344**	*e*Pn		**Pn**	**18 21 19.5**	**-0.6**
SMPI	**Sarmi**	**16.66**	**131**	P		**P**	**18 21 25.1**	**-1.1**
QZH	**Quanzhou**	**17.25**	**336**	⇑*i*P		**Pn**	**18 21 31.1**	**-0.8**
QZH					PP	**pP**	**18 21 45.3**	**+0.5**
QZH					S	**Sn**	**18 24 44.7**	**+1.6**
QZH					pmax	pmax		
	comp=Z,150nm,1.7s							
QZH					pmax	pmax		
	comp=Z,7μm,7.5s							
QZH					LR	LR		
	comp=Z,15μm,17.5s							
QZH					LR	LR		
	comp=Z,10μm,19.4s							
QZH					LR	LR		
	comp=Z,18μm,17.5s							
STKI	**Sintang**	**17.33**	**239**	P		**P**	**18 21 36.7**	**+3.1**
HKC	**Hong Kong Obse**	**17.43**	**320**	⇑P		**P**	**18 21 35.0**	**+0.3**
JOW	**Kunigami**	**17.61**	**6**	P		**P**	**18 21 37.9**	**+1.4**
	comp=Z,9.3nm,0.3s,baz=187,slow=15,SNR=31							
JOW					S	**S**	**18 24 57.3**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=128,slow=19,SNR=3.2							
JOW					LR	LR	18 28 00.9	
	comp=Z,14μm,20.9s,baz=176,slow=36							
JOW	**Kunigami**	**17.61**	**6**	*e*Pn		**P**	**18 21 37.6**	**+1.0**
JOW					S	**S**	**18 24 57.3**	**+0.8**
KSM	**Kuching**	**17.66**	**245**	*e*Pn		**P**	**18 21 38.4**	**+1.1**
KSM	**Kuching**	**17.66**	**245**	P		**P**	**18 21 40.0**	**+2.7**
MCO	**Taipa Grande**	**17.71**	**318**	P		**P**	**18 21 38.0**	**+0.3**
SAUI	**Saumlaki**	**17.82**	**164**	*e*Pn		**Pn**	**18 21 37.3**	**-1.6**
SAUI	**Saumlaki**	**17.82**	**164**	P		P	18 21 50.3	+11
GENI	**Genyem**	**18.15**	**130**	P		**Pn**	**18 21 44.2**	**+1.2**
MMRI	**Maumere**	**18.20**	**193**	*e*P		**P**	**18 21 42.3**	**-0.9**
MMRI	**Maumere**	**18.20**	**193**	P		**Pn**	**18 21 44.5**	**+0.9**
EDFI	**Ende, Flores**	**18.44**	**194**	P		**Pn**	**18 21 46.9**	**+0.3**
JAY	**Jayapura**	**18.52**	**128**	P		**Pn**	**18 21 47.6**	**+0.1**
	comp=Z,1.9nm,0.3s,baz=290,slow=11,SNR=16							
JAY					S	**S**	**18 25 18.9**	**+3.7**
	comp=Z,0.5nm,0.3s,baz=240,slow=20,SNR=3.0							
JAY					LR	LR	18 28 58.9	
	comp=Z,15μm,18.9s,baz=331,slow=37							
JAY	**Jayapura**	**18.52**	**128**	P		**Pn**	**18 21 47.7**	**+0.3**
GZH	**Guangzhou**	**18.53**	**320**	*i* P		**Pn**	**18 21 49.6**	**+2.1**
GZH					S	**S**	**18 25 18.9**	**+3.7**
GZH					pmax	pmax		
	comp=Z,9μm,9.1s							
GZH					LR	LR		
	comp=Z,22μm,20.2s							
GZH					LR	LR		
	comp=Z,18μm,20.4s							
QIZ	**Qiongzhong**	**18.66**	**303**	P		**Pn**	**18 21 49.0**	**-0.1**
QIZ					sP	**pP**	**18 22 01.7**	**+1.2**
QIZ					S	**Sn**	**18 25 16.6**	**-0.6**
QIZ					pmax	pmax		
	comp=Z,200nm,1.4s							
QIZ					pmax	pmax		
	comp=Z,7μm,6.6s							
QIZ					LR	LR		
	comp=Z,17μm,20.1s							
QIZ					LR	LR		
	comp=Z,19μm,16.2s							
QIZ					LR	LR		
	comp=Z,31μm,20.1s							
QIZ	**Qiongzhong**	**18.66**	**303**	*e*P		**P**	**18 21 48.3**	**0.0**
	comp=Z,209nm,0.7s							
GUMO	**Guam**	**18.72**	**75**	P		**Pn**	**18 21 51.3**	**+1.4**
	comp=Z,2.8nm,0.3s,baz=269,slow=6.7,SNR=4.3							
GUMO					LR	LR	18 27 36.9	
	comp=Z,16μm,19.8s,baz=209,slow=32							
GUMO	**Guam**	**18.72**	**75**	*e*P		**Pn**	**18 21 50.5**	**+0.6**
PBKI	**Pangkalan Bun**	**18.78**	**232**	P		**Pn**	**18 21 53.7**	**+3.1**
	comp=Z,1μm,1.1s,comp=Z,18μm							
SOEI	**Soe**	**18.97**	**186**	*e*P		**P**	**18 21 51.4**	**-0.4**
SOEI	**Soe**	**18.97**	**186**	P		**Pn**	**18 21 54.5**	**+1.5**
BATI	**Baumata**	**19.49**	**188**	P		**Pn**	**18 21 58.7**	**-0.3**
	comp=Z,65nm,0.3s,baz=1.0,slow=1.1,SNR=160							
BATI					S	**Sn**	**18 25 37.1**	**-0.1**
	comp=Z,2.0nm,0.3s,baz=72,slow=13,SNR=2.2							
BATI					LR	LR	18 30 18.0	
	comp=Z,13μm,21.7s,baz=341,slow=39							
BATI	**Baumata**	**19.49**	**188**	P		**Pn**	**18 21 58.9**	**-0.1**
PLAI	**Plampang**	**19.84**	**206**	P		**Pn**	**18 22 04.2**	**+1.0**
WBSI	**Waikabubak, Su**	**19.97**	**200**	P		**P**	**18 22 03.0**	**+0.4**
	comp=Z,319nm,0.9s,comp=Z,9μm							
TWSI	**Taliwang, Sumb**	**20.16**	**208**	P		Pn	18 22 07.2	+0.3
ANA2	**Anatahan**	**20.21**	**68**	*e*P		Pn	18 22 08.3	+0.8
KMMI	**Kalianget**	**20.30**	**218**	P		Pn	18 22 09.7	+1.1
	comp=Z,659nm,1.0s,comp=Z,6μm							
SARN	**Sarigan**	**20.39**	**67**	*e*P		Pn	18 22 09.5	-0.1
SRBI	**Singaraja**	**20.43**	**213**	P		Pn	18 22 09.9	-0.3
	comp=Z,263nm,1.5s,comp=

comp=Z,13µm,17.4s
JCJI Jatiwangi 23.80 230 P P 18 22 48.6 +6.0
comp=Z,2µm,1.9s,comp=Z,52µmcomp=Z,36µm
MANU Manus Island 23.81 117 eP P 18 22 43.5 +0.7
MANU eS S 18 26 58.2 +3.4
WHN Wuhan 23.95 334⇑ iP P 18 22 43.4 -0.4
WHN S S 18 26 55.4 -1.2
WHN pmax pmax
comp=Z,2µm,1.7s
WHN LR LR
comp=Z,21µm,25.4s
WHN LR LR
comp=Z,54µm,19.3s
WHN LR LR
comp=Z,40µm,20.4s
NONG Nongkai 24.11 294 P P 18 22 45.7 +0.3
comp=Z,6.2nm,2.2s,comp=Z,236nm
JNU Nakatsue 24.15 9 P P 18 22 45.9 +0.2
comp=Z,645nm,1.1s,baz=182,slow=7.0,SNR=108
JNU LR LR 18 33 31.1
comp=Z,7µm,19.1s,baz=178,slow=40
JNU Nakatsue 24.15 9 eP P 18 22 45.3 -0.3
LEM Lembang 24.50 230 P P 18 22 52.2 +2.9
comp=Z,221nm,0.7s,baz=358,slow=12,SNR=57
CMJI Cimerak 24.52 227 P P 18 22 52.4 +3.2
comp=Z,251nm,1.8s,comp=Z,9µm
CHAI Chaiyaphum 24.61 288 P P 18 22 50.8 +0.8
comp=Z,114nm,1.0s,comp=Z,1µm
CISI Cisompet, Garu 24.83 228 eP P 18 22 50.4 -1.8
CISI Cisompet, Garu 24.83 228 P P 18 22 55.8 +3.7
comp=Z,942nm,1.7s,comp=Z,18µmcomp=Z,27µm
KNRA Kununurra 24.87 174 P P 18 22 52.4 +0.1
baz=25,SNR=75
PATY Pattaya 25.20 281 P P 18 22 59.4 +4.0
comp=Z,27nm,0.7s,comp=Z,841nm
SBJI Serang 25.22 234 P P 18 22 59.8 +4.2
comp=Z,2µm,1.3s,comp=Z,42µm
GYA Guiyang 25.27 315⇑ iP P 18 22 57.1 +1.0
GYA pP pP 18 23 07.6 -2.3
GYA PP **PnPn 18 23 36.0 +2.9**
GYA PcP **PcP 18 26 30.2 +1.9**
GYA S **S 18 27 15.7 -2.6**
GYA sS sS 18 27 35.5 -6.3
GYA SS **SnSn 18 28 19.0 +5.0**
GYA pmax pmax
comp=Z,100nm,2.4s
GYA pmax pmax
comp=Z,3µm,12.7s
GYA LR LR
comp=Z,14µm,25.5s
GYA LR LR
comp=Z,16µm,21.4s
GYA LR LR
comp=Z,27µm,26.4s
SKLT Songkhla 25.48 267 P P 18 23 02.0 +4.1
comp=Z,478nm,2.5s,comp=Z,17µmcomp=Z,75µm
BLSI Bandar Lampung 25.50 236 P P 18 23 02.7 +4.6
comp=Z,606nm,2.4s,comp=Z,13µmcomp=Z,16µm
IPM Ipoh 25.51 261 eP P 18 22 59.0 +0.7
IPM eS S 18 27 18.4 -3.6
KLI Kotabumi 25.54 238 P P 18 23 01.3 +2.8
KLI Kotabumi 25.54 238 P P 18 23 01.9 +3.4
comp=Z,604nm,1.3s,comp=Z,13µm
KULM Kulim 25.72 263 eP P 18 23 00.1 -0.1
KULM eS S 18 27 27.1 +1.7
KULM Kulim 25.72 263 P P 18 23 02.0 +1.9
CGJI Cibinong 25.86 233 P P 18 23 05.4 +4.0
comp=Z,621nm,2.0s,comp=Z,12µmcomp=Z,26µm
MDSI Maura Dua 25.91 239 P P 18 23 04.7 +2.9
comp=Z,391nm,1.7s,comp=Z,8µm
ENH Enshi 26.16 325 eP P 18 23 01.5 -2.5
comp=Z,282nm,1.2s
KASI Kota Agung 26.20 237 P P 18 23 05.3 +0.9
comp=Z,403nm,1.7s,comp=Z,8µmcomp=Z,19µm
LWLI Liwa 26.29 238 P P 18 23 09.3 +3.9
comp=Z,506nm,1.0s
TRTT Trang 26.33 269 P P 18 23 08.5 +2.8
comp=Z,112nm,2.0s,comp=Z,4µm
UTTA Uttaradit 26.38 291 P P 18 23 07.2 +1.1
comp=Z,28nm,1.0s,comp=Z,437nm
PHET Kaeng Krachan 26.40 280 P P 18 23 08.6 +2.3
comp=Z,92nm,1.1s,comp=Z,880nm
NANT Nan 26.54 294 P P 18 23 07.9 +0.3
comp=Z,33nm,0.8s,comp=Z,474nm
BKNI Bangkinang 26.64 252 eP P 18 23 08.7 +0.3
BKNI Bangkinang 26.64 252 P P 18 23 12.7 +4.2
comp=Z,340nm,0.8s,comp=Z,9µmcomp=Z,24µm
KRAB Krabi 26.79 270 P P 18 23 13.1 +3.3
comp=Z,175nm,1.3s,comp=Z,2µm
JHJ Hachijo jima 2 26.84 26 LR LR 18 34 10.7
comp=Z,12µm,19.3s,baz=249,slow=37
MNAI Manna 26.89 241 eP P 18 23 10.9 +0.2
MASI Maura Aman, Be 26.93 244 P P 18 23 14.7 +3.6
comp=Z,817nm,1.6s,comp=Z,23µm
UTHA Uthaitani 26.94 286 P P 18 23 12.6 +1.5
comp=Z,89nm,1.1s,comp=Z,960nm
TJN Taejon 27.04 2c iP P 18 23 12.1 +0.4
SRDT SRDT 27.06 283 P P 18 23 14.0 +1.8
comp=Z,204nm,1.8s,comp=Z,10µm
FITZ Fitzroy Crossi 27.17 181 P P 18 23 12.9 -0.1
comp=Z,286nm,1.0s,baz=14,slow=8.8,SNR=183
FITZ S S 18 27 47.6 -0.3
comp=Z,24nm,1.0s,baz=319,slow=20,SNR=1.5
FITZ LR LR 18 35 47.7
comp=Z,6µm,21.7s,baz=18,slow=40
FITZ Fitzroy Crossi 27.17 181 P P 18 23 13.0 -0.1
baz=27,SNR=236
FITZ Fitzroy Crossi 27.17 181 eP P 18 23 12.8 -0.1
FITZ eS S 18 27 47.1 -0.8
SUKH Sukhothai 27.17 290 P P 18 23 15.6 +2.5
comp=Z,102nm,1.2s,comp=Z,1µm
KMI Kunming 27.41 308 P P 18 23 15.8 +0.3
KMI pP pP 18 23 26.8 -2.6
KMI sP sP 18 23 31.1 -4.9
KMI PP **PnPn 18 24 08.3 +6.0**
KMI PcP **PcP 18 26 34.9 +1.5**
KMI S **S 18 27 53.6 +1.3**
KMI sS sS 18 28 12.2 -3.7
KMI SS **SnSn 18 29 12.7 +6.5**
KMI pmax pmax
comp=Z,61nm,1.4s
KMI pmax pmax
comp=Z,2µm,12.1s
KMI LR LR
comp=Z,8µm,22.5s
KMI LR LR
comp=Z,21µm,21.9s
KMI LR LR
comp=Z,22µm,22.5s
LAMP Lampang 27.43 293 P P 18 23 17.1 +1.5
comp=Z,66nm,1.0s,comp=Z,711nm
PAYA Payao 27.46 294 P P 18 23 16.6 +0.8
comp=Z,98nm,0.9s,comp=Z,879nm
UMPA Umpang Tak 27.61 287 P P 18 23 18.8 +1.6
comp=Z,96nm,1.3s,comp=Z,1µm
PDSI Padang 27.62 250 P P 18 23 19.5 +2.2
comp=Z,183nm,2.6s,comp=Z,5µmcomp=Z,27µm
PKDT Phuket 27.66 269 P P 18 23 20.4 +2.8
comp=Z,130nm,1.5s,comp=Z,2µm
INU Inuyama 27.78 19 eP P 18 23 18.8 +0.3
INU eS S 18 27 56.9 -0.5
PMG Port Moresby 27.84 131 P P 18 23 19.7 +0.5
comp=Z,59nm,0.8s,baz=25,slow=5.5,SNR=22
PMG S S 18 27 57.1 -1.6
comp=Z,7.6nm,0.8s,baz=220,slow=17,SNR=3.2
MNSI Mandailing Nat 27.87 254 P P 18 23 23.8 +4.4
comp=Z,218nm,1.2s,comp=Z,7µmcomp=Z,17µm
PSI Prapat 27.93 258 P P 18 23 20.9 +0.7
comp=Z,125nm,0.9s,baz=0.8,slow=3.6,SNR=107
PSI PcP **PcP 18 26 35.7 +1.0**
comp=Z,60nm,1.0s,baz=360,slow=1.3,SNR=3.8
PSI S S 18 27 58.9 -1.6
comp=Z,2.6nm,0.3s,baz=180,slow=6.1,SNR=4.5
PSI ScP **ScP 18 30 14.0 +2.9**
comp=Z,25nm,0.8s,baz=180,slow=7.0,SNR=11
PSI LR LR 18 36 15.7
comp=Z,10µm,21.9s,baz=90,slow=40
PSI Prapat 27.93 258 eP P 18 23 21.3 +1.1
PSI ePcP **PcP 18 26 34.0 -0.8**
PSI eS S 18 27 59.9 -0.6
PSI eScP **ScP 18 30 15.1 +4.0**
PSI Prapat 27.93 258 eP P 18 23 21.3 +1.1
PSI e 18 26 34.0
PSI eS S 18 27 59.9 -0.6
CM01 Chiang Mai Arr 28.02 292 eP P 18 23 20.3 -0.6
CM01 ePcP **PcP 18 26 36.0 +1.2**
CM31 Chiang Mai Arr 28.05 292 eP P 18 23 21.9 +0.8
CM31 ePcP **PcP 18 26 35.4 +0.6**
CM31 eScP **ScP 18 30 12.7 +1.4**
CM31 Chiang Mai Arr 28.05 292 P P 18 23 22.1 +1.0
SNR=139
CMAR Chiang Mai Arr 28.05 292 P P 18 23 22.0 +1.0
comp=Z,66nm,0.9s,baz=109,slow=6.1,SNR=51
CMAR PcP **PcP 18 26 36.3 +1.5**
comp=Z,61nm,1.0s,baz=77,slow=1.6,SNR=21
CMAR ScP **ScP 18 30 11.8 +0.5**
comp=Z,4.6nm,0.8s,baz=108,slow=1.6,SNR=8.9
CMAR PKiKP **PKiKP 18 34 10.8 -0.2**
comp=Z,1.8nm,0.7s,baz=238,slow=1.3,SNR=6.4
CMAR LR LR 18 35 13.1
comp=Z,14µm,18.1s,baz=101,slow=38
CMAR P3KPbc 18 55 48.2
comp=Z,1.0nm,0.9s,baz=282,slow=5.7,SNR=9.3
TIA Tai'an 28.12 344 P P 18 23 21.0 -0.4
TIA S S 18 28 01.9 -0.8
TIA pmax pmax
comp=Z,81nm,1.4s
TIA pmax pmax
comp=Z,2µm,4.8s
TIA LR LR
comp=Z,6µm,21.2s
TIA LR LR
comp=Z,6µm,15.2s
TIA LR LR
comp=Z,11µm,21.7s
KS15 Wonju Array Si 28.12 3 eP P 18 23 22.2 +0.8
KSAR Wonju Array Be 28.12 3 P P 18 23 22.5 +1.1
KSAR PcP **PcP 18 26 36.3 +1.7**
KSAR ScP **ScP 18 30 12.9 +1.9**
KSAR PKiKP **PKiKP 18 34 10.3 -0.2**
KSAR e 18 55 44.6
KSAR Wonju Array Be 28.12 3 P P 18 23 22.5 +1.1
KSAR 18 26 36.3
KSRS Korea Array 28.13 3 P P 18 23 22.5 +1.0
comp=Z,680nm,1.2s,baz=181,slow=9.3,SNR=284
KSRS PcP **PcP 18 26 36.3 +1.7**
comp=Z,8.2nm,0.9s,baz=200,slow=4.0,SNR=5.7
KSRS ScP **ScP 18 30 12.9 +1.9**
comp=Z,15nm,1.1s,baz=187,slow=2.9,SNR=10
KSRS PKiKP **PKiKP 18 34 10.3 -0.1**
comp=Z,1.7nm,0.8s,baz=238,slow=1.8,SNR=4.4
KSRS LR LR 18 37 19.4
comp=Z,7µm,18.1s,baz=178,slow=42
KSRS P3KPbc 18 55 44.6
comp=Z,3.1nm,0.8s,baz=356,slow=4.5,SNR=7.5
CMMT Chiang Mai 28.14 293 P P 18 23 22.3 +0.4
comp=Z,168nm,2.3s,comp=Z,5µm
CHTO Chiang Mai 28.14 293 eP P 18 23 22.0 +0.1
comp=Z,128nm,1.2s
CHTO Chiang Mai 28.14 293 P P 18 23 22.6 +0.7
SNR=56
CHTO Chiang Mai 28.14 293 eP P 18 23 22.0 +0.1
CHTO pmax pmax
comp=Z,128nm,1.2s
CHTO Chiang Mai 28.14 293 P P 18 23 22.4 +0.5
comp=Z,746nm,2.3s,comp=Z,22µmcomp=Z,72µm
KS01 Wonju Array Si 28.16 3 eP P 18 23 21.5 -0.2
COEN Coen 28.50 144 P P 18 23 24.8 -0.2
baz=28,SNR=39
COEN Coen 28.50 144 eP P 18 23 23.5 -1.5
KCSI Kotacane, Aceh 28.88 261 P P 18 23 29.7 +1.2
RABL Rabaul 29.04 116 eP P 18 23 31.8 +1.8
MJAR Matsushiro Arr 29.26 20 P P 18 23 31.1 -0.5
comp=Z,109nm,1.1s,baz=199,slow=9.7,SNR=82
MJAR ScP **ScP 18 30 16.7 +2.0**
comp=Z,14nm,1.1s,baz=227,slow=5.2,SNR=4.3
MJAR LR LR 18 35 21.3
comp=Z,10µm,19.0s,baz=200,slow=36
MJAR P3KPbc 18 55 39.2
comp=Z,5.8nm,0.8s,baz=346,slow=3.9,SNR=10.0
MAJO Matsushiro 29.26 20 eP P 18 23 30.7 -1.0
comp=Z,376nm,1.4s
MAJO eScP **ScP 18 30 16.7 +2.0**
MAJO e 18 55 39.2
MAJO Matsushiro 29.26 20c iP P 18 23 31.1 -0.5
MAJO pmax pmax
comp=Z,162nm,1.2s
MAT Matsushiro 29.26 20 P P 18 23 30.9 -0.7
MAT S S 18 28 19.2 -1.6
MJB9 Matsu-Tunnel 29.27 20 eP P 18 23 32.0 +0.4
LHMI Lhok Sumawe 29.36 264 eP P 18 23 34.1 +1.4
XAN Xi'an 29.39 330 P P 18 23 31.1 -1.8
XAN pP pP 18 23 40.8 -6.0
XAN sP sP 18 23 45.4 -8.0
XAN PP **PnPn 18 24 25.9 -3.1**
XAN S **S 18 28 18.2 -4.7**
XAN pmax pmax
comp=Z,1µm,9.6s
XAN LR LR
comp=Z,6µm,18.7s
XAN LR LR
comp=Z,9µm,19.4s
XAN LR LR
comp=Z,10µm,18.0s
TPTI 29.52 260 P P 18 23 36.8 +2.7
GSI Gunungsitoli 29.63 256 eP P 18 23 34.5 -0.6
GSI Gunungsitoli 29.63 256 P P 18 23 37.5 +2.4
DL2 Dalian 29.84 353⇑ iP P 18 23 37.9 +1.3
DL2 sP **pP 18 23 51.3 +0.7**
DL2 PP **PP 18 24 39.7 -5.2**
DL2 S **S 18 28 35.6 +6.0**
DL2 pmax pmax
comp=Z,280nm,1.6s
DL2 pmax pmax
comp=Z,2µm,9.4s
DL2 LR LR
comp=Z,7µm,22.1s
DL2 LR LR
comp=Z,4µm,21.2s
DL2 LR LR
comp=Z,10µm,22.8s
WRAB Tennant Creek 30.05 165 eP P 18 23 36.5 -2.2
comp=Z,81nm,0.8s
WRAB Tennant Creek 30.05 165c iP P 18 23 37.4 -1.4
WRAB pmax pmax
comp=Z,41nm,0.9s
WR1 Warramunga Arr 30.06 165 eP P 18 23 38.0 -0.8
WR1 eS S 18 28 34.6 +1.1
WR1 e 18 55 36.2
WRA Warramunga Arr 30.06 165 P P 18 23 38.0 -0.8
comp=Z,24nm,0.7s,baz=345,slow=9.5,SNR=92
WRA S S 18 28 34.6 +1.1
comp=Z,2.4nm,0.7s,baz=133,slow=18,SNR=3.2
WRA LR LR 18 38 51.3
comp=Z,4µm,18.9s,baz=340,slow=42
WRA P3KPbc 18 55 36.2
comp=Z,3.5nm,1.1s,baz=162,slow=3.8,SNR=10.0
WRA Warramunga Arr 30.06 165 i P P 18 23 37.2 -1.6
WRA pmax pmax
comp=Z,26nm,0.7s
WB2 Warramunga Ar 30.06 165 eP P 18 23 36.5 -2.4
MLSI Meulaboh, Aceh 30.07 263 P P 18 23 42.0 +3.0
CD2 Chengdu 30.09 319⇑ iP P 18 23 38.9 -0.2
CD2 pP pP 18 23 49.4 -3.6
CD2 sP sP 18 23 54.3 -5.3
CD2 S **S 18 28 35.7 +1.8**
CD2 sS sS 18 28 53.9 -3.7
CD2 pmax pmax
comp=Z,50nm,0.5s
CD2 pmax pmax
comp=Z,2µm,5.1s
CD2 LR LR
comp=Z,58µm,26.5s
CD2 LR LR
comp=Z,44µm,23.5s
CD2 LR LR
comp=Z,58µm,23.5s
SNSI Sinabang, Aceh 30.54 259 P P 18 23 46.0 +2.8
MBWA Marble Bar 30.88 192 eP P 18 23 45.0 -1.0
comp=Z,403nm,0.7s
MBWA Marble Bar 30.88 192 P P 18 23 45.8 -0.3
SNR=13
TIY Taiyuan 30.99 338 eP P 18 23 45.3 -1.6
TIY S **S 18 28 46.9 -1.0**
TIY sS **sS 18 29 12.0 +0.4**
TIY pmax pmax
comp=Z,41nm,1.0s
TIY pmax pmax
comp=Z,1µm,5.6s
TIY LR LR
comp=Z,4µm,11.6s
TIY LR LR
comp=Z,1µm,13.4s
TIY LR LR
comp=Z,4µm,18.6s
PATS Pohnpei 31.80 92 eP P 18 23 54.2 0.0
BJT Baijiatuau 31.95 345 eP P 18 23 54.8 -0.5
comp=Z,427nm,1.3s
BJT Baijiatuau 31.95 345 eP P 18 23 54.8 -0.5
BJT pmax pmax
comp=Z,427nm,1.3s
BJI Beijing 31.97 345 P P 18 23 54.8 -0.6
QIS Mount Isa 32.38 156 P P 18 23 58.6 -0.6
baz=32,SNR=85
SNY Shenyang 32.55 356 ⇑P P 18 24 01.5 +1.0
SNY pP **pP 18 24 13.0 -1.5**
SNY S **S 18 29 10.7 -1.2**
SNY sS **sS 18 29 34.4 -1.3**
SNY LR LR
comp=Z,10µm,17.1s
SNY LR LR
comp=Z,3µm,15.0s
SNY LR LR
comp=Z,16µm,22.6s
PBA Port Blair 33.06 277 eP P 18 24 05.4 +0.1
AS31 Alice Springs 33.54 167 eP P 18 24 08.0 -1.3
ASAR Alice Springs 33.54 167 P P 18 24 09.2 -0.2
comp=Z,22nm,0.5s,baz=353,slow=7.0,SNR=220
ASAR PcP **PcP 18 26 49.8 +0.6**
comp=Z,21nm,0.9s,baz=14,slow=2.2,SNR=4.4
ASAR S S 18 29 29.6 +1.8
comp=Z,3.0nm,0.8s,baz=243,slow=42,SNR=3.4
ASAR ScP **ScP 18 30 30.8 +1.6**
comp=Z,2.7nm,0.6s,baz=355,slow=3.1,SNR=2.7
ASAR LR LR 18 38 46.1
comp=Z,7µm,21.6s,baz=344,slow=38
ASAR P3KPbc 18 55 20.2
comp=Z,0.8nm,0.9s,baz=160,slow=4.3,SNR=7.2
AS01 Alice Springs 33.55 167 eP P 18 24 07.4 -2.0
LZH Lanzhou 33.63 326 ⇑P P 18 24 09.9 -0.4
LZH pP pP 18 24 21.2 -3.1
LZH sP sP 18 24 29.2 -1.7
LZH PP **PP 18 25 28.6 +1.4**
LZH S **S 18 29 31.3 +2.0**
LZH sS sS 18 29 50.2 -2.9
LZH SS **SnSn 18 31 38.6 +1.4**
LZH pmax pmax
comp=Z,61nm,1.9s
LZH pmax pmax
comp=Z,2µm,7.6s
LZH LR LR
comp=Z,42µm,18.1s
GIRL Giralia 33.81 200 P P 18 24 14.7 +3.1
baz=34,SNR=9.0
LKP Lekhapani 33.90 306 eP P 18 24 10.9 -1.5
LKP IAmb IAmb 18 24 13.3
comp=Z,242nm,1.3s
HHC Hu-ho-hao-te 34.09 340 eP P 18 24 14.4 +0.3
HHC pP pP 18 24 24.6 -3.5
HHC PP **PP 18 25 32.0 -0.1**
HHC S **S 18 29 31.4 -4.7**
HHC sS sS 18 29 56.4 -3.5
HHC SS **SnSn 18 31 47.9 -0.1**
HHC pmax pmax
comp=Z,120nm,1.2s
HHC pmax pmax
comp=Z,2µm,4.2s
HHC LR LR
comp=Z,7µm,17.3s
HHC LR LR
comp=Z,6µm,15.9s
HHC LR LR
comp=Z,11µm,16.9s
VLA Vladivostok 34.11 7c iP P 18 24 15.3 +1.3
VLA pmax pmax
comp=Z,697nm,1.3s
WRKA Warakurna 34.12 177 P P 18 24 14.6 +0.2
baz=34,SNR=213
BTO Baotou 34.42 338 eP P 18 24 16.1 -0.8
CN2 Changchun 34.44 359 ⇑P P 18 24 17.4 +0.4
CN2 eSP sP 18 24 33.3 -4.3
CN2 eS S 18 29 42.9 +1.6
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,6µm,17.0s
CN2 LR LR
comp=Z,5µm,17.0s
CN2 LR LR
comp=Z,6µm,18.0s
SAIH SAIHA 34.53 296 eP P 18 24 18.8 +0.6
MOKO MOKOCHONG 34.55 304 eP P 18 24 17.4 -0.9
MOKO IAmb IAmb 18 24 19.8
comp=Z,294nm,1.2s
KOHI KOHIMA 34.66 302 eP P 18 24 18.0 -1.3
KOHI IAmb IAmb 18 24 20.4
comp=Z,645nm,1.7s
JORH JORHAT 34.94 304 eP P 18 24 19.3 -2.1
CTAO Charters Tower 35.15 146 eP P 18 24 22.9 -0.4
comp=Z,2µm,1.4s
CTAO Charters Tower 35.15 146 eP P 18 24 22.9 -0.4
CTAO pmax pmax
comp=Z,2µm,1.4s
USA0B Ussuriysk Arra 35.19 7 eP P 18 24 24.3 +0.9
USRK Ussuriysk Ar. 35.19 7 P P 18 24 24.9 +1.6
comp=Z,588nm,1.0s,baz=190,slow=5.8,SNR=255
USRK S **S 18 29 54.8 +2.1**
baz=320,slow=34
USRK ScP **ScP 18 30 37.6 +2.9**
baz=182,slow=4.3
USRK LR LR 18 38 10.0
comp=Z,6µm,21.4s,baz=177,slow=35
MDJ Mudanjiang 35.37 4 P P 18 24 26.5 +1.6
MDJ pP pP 18 24 38.4 -0.6
MDJ sP sP 18 24 44.0 -1.6
MDJ S **S 18 29 56.6 +1.1**
MDJ ScP **ScP 18 30 36.1 +0.7**
MDJ pmax pmax
comp=Z,2µm,1.6s
MDJ LR LR
comp=Z,6µm,24.2s
MDJ LR LR
comp=Z,3µm,11.3s
MDJ LR LR
comp=Z,12µm,31.6s
MDJ Mudanjiang 35.37 4 eP P 18 24 25.8 +0.9
comp=Z,2µm,1.4s
SILR SILCHAR 35.42 300 eP P 18 24 25.9 +0.3
ZIRO ZIRO 35.58 305 eP P 18 24 26.5 -0.8
ERM Erimo 35.87 22 eP P 18 24 30.5 +1.2
comp=Z,312nm,1.2s
ERM Erimo 35.87 22ceP P 18 24 31.5 +2.2
ERM pmax pmax
comp=Z,421nm,1.7s
TEZP TEZPUR 36.08 303 eP P 18 24 30.8 -0.5
TEZP IAmb IAmb 18 24 33.0
comp=Z,408nm,1.5s
BELO BELONIA 36.11 297 eP P 18 24 32.0 +0.5
BELO IAmb IAmb 18 24 36.5
comp=Z,5µm,1.1s
COCO West Island 36.19 234 eP P 18 24 30.9 -1.3
comp=Z,1µm,1.1s
COCO West Island 36.19 234 eP P 18 24 31.0 -1.3
COCO pmax pmax
comp=Z,1µm,1.1s
MEEK Meekatharra 36.43 192 P P 18 24 34.6 +0.4
baz=37,SNR=67
SHL Shillong 36.47 301 eP P 18 24 34.6 -0.3
SHL Shillong 36.47 301 eP P 18 24 34.6 -0.3
SHL Shillong 36.47 301 iP P 18 24 34.0 -0.9
SHL eP P 18 24 34.7 -0.1
SHL IAmb IAmb 18 24 36.7
comp=Z,380nm,1.3s
TEY Ternei 36.77 12⇑ iP P 18 24 38.6 +1.7
TEY e 18 25 58.9
TEY eS S 18 30 18.7 +1.9
TEY pmax pmax
comp=N,2µm,2.5s
TEY pmax pmax
comp=Z,3µm,2.2s
TEY smax smax
comp=E,40nm,2.4s
TEY MLR MLR
comp=N,6µm,14.6s
TEY MLR MLR
comp=Z,7µm,16.0s

TAWA Tawang 37.22 304 *e*P **P** **18 24 42.0 +0.5**
ASAJ Asahikawa 37.53 19 P **P** **18 24 45.5 +2.1**
comp=Z,235nm,0.7s,baz=230,slow=11,SNR=84
ASAJ LR LR 18 42 08.0
comp=Z,8μm,18.0s,baz=218,slow=39
ASAJ Asahikawa 37.53 19 *e*P **P** **18 24 45.3 +1.9**
DHUB DHUBRI 38.23 301 *e*P **P** **18 24 49.5 0.0**
DHUB IAmb IAmb 18 24 51.8
comp=Z,364nm,1.2s
GTA Gaotai 38.24 326 ⇑P **P** **18 24 48.9 -0.7**
GTA pP pP 18 24 58.6 -5.2
GTA sP sP 18 25 02.0 -8.3
GTA PP **PnPn** **18 26 20.9 +0.9**
GTA PcP **PcP** **18 27 04.0 +1.0**
GTA S **S** **18 30 37.6 -2.0**
GTA ScP **ScP** **18 30 48.1 +1.7**
GTA PcS **PcS** **18 30 51.7 -0.5**
GTA ScS **ScS** **18 34 55.5 -0.7**
GTA pmax pmax
comp=Z,2μm,7.5s
GTA LR LR
comp=Z,9μm,21.6s
GTA LR LR
comp=Z,12μm,21.6s
GTA LR LR
comp=Z,21μm,22.5s
HNR Honiara 38.30 118 P **P** **18 24 50.0 -0.3**
HNR Honiara 38.30 118 *e*P **P** **18 24 49.5 -0.8**
comp=Z,117nm,0.8s
HNR Honiara 38.30 118 *e*P **P** **18 24 49.5 -0.8**
HNR pmax pmax
comp=Z,117nm,0.8s
YUK Yuzh-Kuril'sk 38.62 23*c* *i*P **P** **18 24 54.5 +2.0**
YUK *e**PP **pP** **18 25 08.1 +1.3**
YUK *e* 18 26 26.1
YUK *e*S **S** **18 30 49.6 +4.6**
YUK *e**SS **sS** **18 31 14.4 +5.3**
YUK pmax pmax
comp=Z,2μm,1.8s
YUK pmax pmax
comp=Z,930nm,1.5s
YUK pmax pmax
comp=E,19nm,1.3s
YUK pmax pmax
comp=N,437nm,1.4s
LSA Lhasa 38.64 307 *e*P **P** **18 24 53.5 0.0**
comp=N,520nm,1.4s
LSA *i* PcP **PcP** **18 27 05.8 +0.8**
LSA Lhasa 38.64 307 *i*P **P** **18 24 54.2 +0.7**
SNR=127
LSA Lhasa 38.64 307 *e*P **P** **18 24 53.5 0.0**
LSA *i* 18 27 05.8
LSA pmax pmax
comp=Z,520nm,1.4s
MORW Morawa 39.34 194 P **P** **18 24 59.5 +0.7**
baz=40,SNR=96
QLP Quilpie 39.64 154 P **P** **18 25 00.6 -0.6**
baz=40,SNR=35
FORT Forrest 39.82 178 P **P** **18 25 03.1 +0.4**
baz=40,SNR=272
FORT Forrest 39.82 178 *e*P **P** **18 25 02.9 +0.2**
GTK Tadong 39.83 302 *e*P **P** **18 25 03.4 +0.2**
YSS Yuzh-Sakhalins 40.12 18 *e*P **P** **18 25 06.2 +1.2**
comp=Z,750nm,1.3s
YSS Yuzh-Sakhalins 40.12 18α *i*P **P** **18 25 06.7 +1.7**
YSS *e* 18 25 17.0
YSS *e*PPP PPP 18 26 41.0
YSS *e*SSS SSS 18 34 09.7
YSS pmax pmax
comp=N,190nm,1.4s
YSS pmax pmax
comp=E,90nm,1.4s
YSS pmax pmax
comp=Z,360nm,1.4s
YSS pmax pmax
comp=Z,2μm,4.0s
YSS MLR MLR
comp=Z,4μm,16.0s
YSS MLR MLR
comp=N,5μm,15.0s
YSS MLR MLR
comp=E,5μm,16.0s
KLR Kul'dur 40.13 6 P **P** **18 25 06.2 +1.1**
comp=E,126nm,0.6s,baz=196,slow=6.9,SNR=298
KLR S **S** **18 31 04.8 -2.6**
comp=E,4.2nm,0.8s,baz=18,slow=20,SNR=4.8
KLR LR LR 18 43 27.4
comp=E,4μm,18.3s,baz=196,slow=39
KLR Kul'dur 40.13 6*c* *i*P **P** **18 25 06.3 +1.3**
H11S3 WAKE ISLAND Hy 40.21 72 T T 19 08 00.9
baz=262,slow=75
H11S1 WAKE ISLAND Hy 40.23 72 T T 19 08 07.2
baz=262,slow=75
H11S2 WAKE ISLAND Hy 40.23 72 T T 19 08 07.4
baz=262,slow=75
HIA Hailar 40.28 353 *e*P **P** **18 25 06.2 -0.1**
comp=E,172nm,1.2s
HIA Hailar 40.28 353 *e*P **P** **18 25 06.2 -0.1**
HIA pmax pmax
comp=Z,172nm,1.2s
WAKE Wake Island 40.29 71 *e*P **P** **18 25 07.4 +0.6**
WAKE LR LR
comp=Z,9μm,22.0s
KUR Kuril'sk 40.41 24 *i*P **P** **18 25 07.0 -0.4**
KUR *i*S **S** **18 31 10.1 -1.6**
KUR pmax pmax
comp=Z,6μm,2.8s
KUR pmax pmax
comp=N,457nm,1.4s
KUR pmax pmax
comp=Z,2μm,1.4s
KUR pmax pmax
comp=E,203nm,1.0s
KUR MLR MLR
comp=Z,3μm,15.0s
KUR MLR MLR
comp=N,3μm,17.0s
BWNR Bhubaneshwar 40.55 290 *e*P **P** **18 25 10.0 +1.1**
BLDU Ballidu 40.67 193 P **P** **18 25 10.4 +0.6**
baz=41,SNR=82
ODAN Odare 40.70 301 *e*P **P** **18 25 11.0 +0.5**
comp=N,456nm,0.5s
KWAJ Kwajalein Atol 40.81 87 *e*P **P** **18 25 11.0 -0.1**
KWAJ Kwajalein Atol 40.81 87 *e*P **P** **18 25 11.0 -0.1**
BOK Bokaro 41.18 296 *e*P **P** **18 25 15.4 +1.3**
BOK IAmb IAmb 18 25 16.5
comp=Z,197nm,1.1s
RAMN Ramite 41.40 300 *e*P **P** **18 25 16.8 +0.6**
comp=Z,2μm,1.5s
KLBR Kellerberrin 41.41 191 P **P** **18 25 16.2 +0.4**
baz=42,SNR=60
RMQ Roma 41.68 149 P **P** **18 25 18.3 +0.2**
baz=42,SNR=10
ULN Ulaanbaatar 41.80 341 *e*P **P** **18 25 18.8 -0.2**
comp=Z,39nm,0.6s
ULN LR LR
comp=Z,9μm,19.0s
ULN Ulaanbaatar 41.80 341 *e*P **P** **18 25 18.8 -0.2**
ULN pmax pmax
comp=Z,39nm,0.6s
ULN MLR MLR
comp=Z,9μm,19.0s
JIRN Jiri 41.97 301 *e*P **P** **18 25 21.4 +0.4**
comp=Z,2μm,1.1s
SONA0 Songino Array 41.99 340 *e*P **P** **18 25 20.3 -0.2**
SONA0 *e*PcP **PcP** **18 27 15.5 +0.6**
SONA0 *e*ScP **ScP** **18 31 01.9 +1.1**
SONM Songino Array 41.99 340 P **P** **18 25 20.3 -0.2**
comp=Z,55nm,1.1s,baz=161,slow=7.7,SNR=84
SONM PcP **PcP** **18 27 15.5 +0.6**
comp=Z,18nm,0.8s,baz=165,slow=4.9,SNR=3.1
SONM ScP **ScP** **18 31 01.9 +1.1**
comp=Z,2.7nm,0.9s,baz=106,slow=4.7,SNR=3.7
SONA1 Songino Array 42.00 340 *e*P **P** **18 25 20.1 -0.5**
EIDS Eidsvold 42.03 145 P **P** **18 25 21.6 +0.6**
baz=42,SNR=6.7
EIDS Eidsvold 42.03 145 *e*P **P** **18 25 20.9 -0.1**
MUN Mundaring 42.10 193 P **P** **18 25 22.4 +1.0**
baz=42,SNR=36
GRNR Gornyy 42.25 10⇑*i*P **P** **18 25 25.0 +2.6**
GRNR *e* 18 25 39.9
GRNR pmax pmax
comp=N,160nm,1.0s
GRNR pmax pmax
comp=Z,260nm,1.0s
GUN Gumba 42.31 302 *e*P **P** **18 25 24.0 +0.3**
comp=Z,682nm,0.9s
VIS Vishakhapatnam 42.53 286 *i*P **P** **18 25 23.8 -1.4**
PKI Pulchoki 42.60 301 *e*P **P** **18 25 25.9 -0.2**
comp=Z,504nm,1.1s
PKIN Phulchoki 42.61 301 *e*P **P** **18 25 25.8 -0.3**
comp=Z,351nm,1.1s
KKN Kakani 42.78 301 *e*P **P** **18 25 27.3 -0.1**
comp=Z,952nm,1.5s
NWAO Narrogin (SRO) 42.80 191 P **P** **18 25 27.8 +0.6**
baz=43,SNR=21
NWAO Narrogin (SRO) 42.80 191 *e*P **P** **18 25 27.7 +0.6**
comp=Z,656nm,0.9s
NWAO LR LR
comp=Z,5μm,21.0s
NWAO Narrogin (SRO) 42.80 191 P **P** **18 25 27.8 +0.6**
SNR=13
NWAO Narrogin (SRO) 42.80 191 *e*P **P** **18 25 27.7 +0.6**
NWAO pmax pmax
comp=Z,656nm,0.9s
NWAO MLR MLR
comp=Z,5μm,21.0s
BBOO Buckleboo 42.84 168 P **P** **18 25 27.6 +0.2**
baz=43,SNR=71
BBOO Buckleboo 42.84 168 *e*P **P** **18 25 28.3 +0.9**
DMN Daman 42.87 301 *e*P **P** **18 25 28.2 0.0**
comp=Z,1μm,1.5s
GKN Gorkha 43.38 301 *e*P **P** **18 25 32.1 -0.1**
comp=Z,2.9nm,0.3s
STKA Stephens Creek 43.42 161 P **P** **18 25 31.9 -0.3**
comp=Z,80nm,0.7s,baz=336,slow=8.3,SNR=138
STKA S **S** **18 31 50.1 -6.5**
comp=Z,5.0nm,0.8s,baz=137,slow=19,SNR=2.8
STKA Stephens Creek 43.42 161 P **P** **18 25 31.9 -0.3**
baz=44,SNR=151
STKA Stephens Creek 43.42 161 *e*P **P** **18 25 32.1 0.0**
STKA *e*S **S** **18 31 50.1 -6.5**
STKA Stephens Creek 43.42 161 *e*P **P** **18 25 32.2 0.0**
STKA *e*S **S** **18 31 50.1 -6.5**
TYV Tymovskoe 43.65 15 *e*P **P** **18 25 35.2 +1.5**
TYV *e*S **S** **18 32 00.6 +1.2**
TYV pmax pmax
comp=Z,279nm,1.7s
TYV pmax pmax
comp=Z,5μm,4.9s
TYV smax smax
comp=N,2μm,6.5s
CIT Chita 43.91 349 *e*P **P** **18 25 36.8 +0.9**
CIT *e* 18 25 47.7
CIT *e* 18 25 59.8
CIT *e* 18 27 19.7
CIT *e* 18 32 05.1
CIT pmax pmax
comp=Z,594nm,1.6s
HTT Hallett 44.10 165 P **P** **18 25 38.4 +0.8**
baz=44,SNR=61
KOLN Koldanda 44.20 300 *e*P **P** **18 25 39.0 +0.2**
comp=Z,586nm,0.9s
DANN Dangsing 44.22 301 *e*P **P** **18 25 39.1 0.0**
comp=Z,734nm,1.0s
ZEA Zeya 44.39 1*ce*P **P** **18 25 39.9 +0.3**
ZEA *e* 18 27 26.0
ZEA *e*SSS SSS 18 35 34.0
ZEA pmax pmax
comp=N,500nm,1.6s
ZEA pmax pmax
comp=N,850nm,1.6s
ZEA pmax pmax
comp=N,2μm,7.0s
ZEA pmax pmax
comp=Z,3μm,7.0s
ZEA pmax pmax
comp=Z,3μm,6.0s
ZEA MLR MLR
comp=Z,7μm,16.0s
ZEA MLR MLR
comp=N,5μm,15.0s
RKGY Rocky Gully 44.49 191 P **P** **18 25 42.7 +2.1**
baz=45,SNR=58
CMSA Cobar Meteorol 44.60 156 P **P** **18 25 41.9 +0.4**
baz=45,SNR=53
PYUN Piuthan 44.80 301 *e*P **P** **18 25 44.0 +0.4**
comp=N,1μm,1.1s
PALK Pallekele 45.13 271 *e*P **P** **18 25 47.5 +1.3**
comp=N,276nm,1.4s
PALK Pallekele 45.13 271 P **P** **18 25 48.1 +1.9**
SNR=18
PALK Pallekele 45.13 271 *i*P **P** **18 25 48.1 +1.9**
SNR=20
PALK Pallekele 45.13 271 *e*P **P** **18 25 47.5 +1.3**
PALK pmax pmax
comp=Z,276nm,1.4s
ZAK Zakamensk 45.23 339 *e*P **P** **18 25 46.1 -0.4**
ZAK pmax pmax
comp=Z,28nm,1.6s
NKL Nikolayevsk 45.32 12 *i*P **P** **18 25 49.0 +2.0**
NKL *e*S **S** **18 32 26.0 +2.5**
NKL pmax pmax
comp=Z,1μm,1.3s
NKL pmax pmax
comp=N,2μm,6.0s
NKL pmax pmax
comp=E,1μm,6.0s
NKL pmax pmax
comp=Z,5μm,8.0s
NKL smax smax
comp=N,3μm,12.0s
NKL smax smax
comp=E,1μm,12.0s
NKL MLR MLR
comp=N,4μm,16.0s
NKL MLR MLR
comp=E,3μm,16.0s
NKL MLR MLR
comp=Z,5μm,16.0s
H01W3 Cape Leeuwin H 45.36 194 P P 18 25 52.0 +4.7
baz=29,slow=7.4,SNR=12
H01W1 Cape Leeuwin H 45.36 194 P **P** **18 25 51.3 +3.9**
baz=29,slow=7.4,SNR=14
H01W2 Cape Leeuwin H 45.37 194 P P 18 25 52.3 +5.0
baz=29,slow=7.4,SNR=17
TLY Talaya 46.21 341 P **P** **18 25 54.3 +0.2**
comp=Z,24nm,0.8s,baz=157,slow=7.9,SNR=32
TLY LR LR 18 48 46.4
comp=Z,6μm,18.4s,baz=141,slow=41
TLY Talaya 46.21 341 *e*P **P** **18 25 53.8 -0.3**
comp=Z,72nm,1.0s
TLY Talaya 46.21 341 P **P** **18 25 54.5 +0.4**
SNR=25
TLY Talaya 46.21 341⇑*i*P **P** **18 25 53.8 -0.3**
TLY *e*S **S** **18 32 34.0 -2.5**
TLY *e*SS **SS** **18 36 01.7 -0.7**
TLY pmax pmax
comp=Z,160nm,1.6s
TLY MLR MLR
comp=Z,7μm,19.0s
ARMA Armidale 46.34 149 P **P** **18 25 56.8 +1.3**
baz=46,SNR=13
ARMA Armidale 46.34 149 *e*P **P** **18 25 56.3 +0.7**
IRK Irkutsk 46.49 341 *e*P **P** **18 25 55.8 -0.5**
IRK pmax pmax
comp=Z,253nm,2.2s
NGP Nagpur 46.93 290 *e*P **P** **18 26 01.4 +1.2**
HYB Hyderabad 47.05 285⇑*i*P **P** **18 26 02.0 +0.8**
comp=Z,340nm,1.0s
HYB *e*pP **pP** **18 26 13.0 -2.8**
HYB *e*PcP **PcP** **18 27 34.0 +1.3**
HYB *e*PP **PP** **18 27 56.0 +3.6**
HYB *e*S **S** **18 32 50.0 +0.5**
TARA Tarawa 47.05 97 *e*P **P** **18 26 00.1 -1.2**
TARA LR LR
comp=Z,179nm,19.0s
MOY Mondy 47.10 339 *e*P **P** **18 26 00.8 -0.5**
MOY pmax pmax
comp=Z,267nm,3.0s
ARPS Mount Arapiles 48.04 163 P **P** **18 26 08.9 +0.4**
baz=48,SNR=115
WMQ Urumqi 48.04 323⇑*i*P **P** **18 26 08.9 +0.3**
WMQ sP sP 18 26 25.6 -4.1
WMQ PcP **PcP** **18 27 35.0 -0.8**
WMQ PP **PP** **18 28 05.1 +4.0**
WMQ S **S** **18 33 02.5 -0.5**
WMQ sS sS 18 33 22.8 -4.9
WMQ pmax pmax
comp=Z,300nm,2.1s
WMQ pmax pmax
comp=Z,5μm,4.3s
WMQ LR LR
comp=Z,24μm,19.3s
WMQ LR LR
comp=Z,17μm,19.3s
WMQ LR LR
comp=Z,16μm,21.7s
SKR Severo-Kuril's 48.10 25*c* *i*P **P** **18 26 10.5 +1.7**
SKR *e* 18 26 29.1
SKR *e* 18 27 36.0
SKR *e*PPP PPP 18 27 57.2
SKR *e*S **S** **18 33 05.0 +1.6**
SKR *e*SS SS 18 36 20.9 -12
SKR pmax pmax
comp=Z,4μm,3.2s
SKR pmax pmax
comp=Z,215nm,0.7s
SKR pmax pmax
comp=Z,1μm,9.8s
SKR MLR MLR
comp=Z,4μm,18.0s
YNG Young 48.11 155 P **P** **18 26 10.0 +0.9**
baz=48,SNR=51
MGCD Mangrove Creek 48.38 152 P **P** **18 26 13.0 +1.8**
baz=48,SNR=6.2
BHPL Bhopal 48.70 293 *e*P **P** **18 26 14.3 +0.3**
BHPL IAmb IAmb 18 26 16.5
comp=Z,92nm,0.7s
LATR Latur 49.00 286 *e*x P 18 26 07.7 -8.6
CAN Canberra 49.24 155 *e*P **P** **18 26 19.5 +1.7**
CAN Canberra 49.24 155 *e*P **P** **18 26 19.5 +1.7**
CNB Canberra Magne 49.39 155 P **P** **18 26 20.3 +1.3**
baz=49,SNR=43
BOD Bodaibo 49.39 351⇓*i*P **P** **18 26 18.9 +0.3**
BOD pmax pmax
comp=Z,322nm,1.7s
DDI Dehra Dun 49.55 302 *e*P **P** **18 26 20.7 +0.3**
DDI IAmb IAmb 18 26 22.8
comp=Z,2μm,1.6s
HVS Khovu-Aksy 49.62 334*d* *i*P **P** **18 26 20.9 +0.3**
HVS pmax pmax
comp=Z,84nm,1.1s
NDI New Delhi 49.88 300 *e*P **P** **18 26 21.5 -1.3**
TOO Toolangi 49.91 160 P **P** **18 26 24.1 +1.2**
baz=50,SNR=101
TOO Toolangi 49.91 160 P **P** **18 26 24.7 +1.8**
TOO pmax pmax
comp=Z,349nm,1.8s
DZM Mont Dzumac 50.19 129 *e*P **P** **18 26 25.0 -0.3**
comp=Z,279nm,1.1s
DZM *e*S **S** **18 33 32.3 -1.4**
comp=Z,14μm,27.6s
DZM *e*LR LR 18 40 48.4
comp=Z,17μm,25.0s,baz=298
DZM Mont Dzumac 50.19 129 *e*P **P** **18 26 26.4 +1.1**
SMLA Simla 50.49 303 *e*P **P** **18 26 27.6 +0.2**
SMLA IAmb IAmb 18 26 29.7
comp=Z,427nm,1.1s
PEA0B Petropavlovsk- 50.57 24 *e*P **P** **18 26 29.4 +1.8**
PETK Petropavlovsk- 50.57 24 P **P** **18 26 29.6 +2.0**
comp=Z,116nm,0.6s,baz=197,slow=3.3,SNR=346
PETK ScP **ScP** **18 31 38.4 +2.1**
baz=205,slow=5.5
PETK Petropavlovsk- 50.57 24 *e*P **P** **18 26 28.1 +0.5**
PETK ScP **ScP** **18 31 38.4 +2.1**
PEA1 Petropavlovsk- 50.58 24 *e*P **P** **18 26 29.6 +2.0**
PEA1 *e*ScP **ScP** **18 31 38.4 +2.1**
MILA Mila 50.80 156 P **P** **18 26 31.6 +2.0**
baz=51,SNR=15
PET Petropavlovsk 50.90 25 *e*P **P** **18 26 31.4 +1.4**
comp=Z,651nm,1.2s
PET LR LR
comp=Z,5μm,19.0s
PET Petropavlovsk 50.90 25α *i*P **P** **18 26 31.9 +1.8**
PET *i*S **S** **18 33 45.3 +2.9**
PET pmax pmax
comp=Z,4μm,4.9s
PET pmax pmax
comp=Z,500nm,1.6s
PET pmax pmax
comp=Z,2μm,19.6s
PET MLR MLR
comp=Z,6μm,19.0s
LHI Lord Howe Isla 51.25 144 *e*P **P** **18 26 33.8 +0.8**
DHRM DHARAMSHALA 51.50 304 *e*P **P** **18 26 34.6 -0.6**
DHRM IAmb IAmb 18 26 36.9
comp=Z,375nm,1.1s
POO Poona 51.58 286 *e*P **P** **18 26 35.5 -0.3**
POO ⇑*i*P **P** **18 26 36.0 +0.2**
comp=Z,39nm,1.2s
POO IAmb IAmb 18 26 38.1
comp=Z,190nm,0.9s
ZSN Zaisan 51.72 325⇑*i*P **P** **18 26 36.2 -0.1**
comp=Z,101nm,3.3s
ZSN *e*S **S** **18 33 51.8 -2.3**
ZSN LR LR 18 49 18.3
comp=Z,753nm,16.8s
MNCI Minicoy 52.57 273 *e*P **P** **18 26 43.9 +0.7**
BOM Bombay 52.58 287 *i*P P 18 26 37.7 -5.5
BOM *e*S **S** **18 34 02.1 -4.4**
HMDM Hanimaadhoo 52.60 271 *e*P **P** **18 26 44.4 +1.0**
YAK Yakutsk 52.76 2 P **P** **18 26 44.6 +0.8**
comp=Z,79nm,0.5s,baz=345,slow=4.4,SNR=156
YAK S **S** **18 34 06.1 -1.6**
comp=Z,5.2nm,0.4s,baz=322,slow=1.2,SNR=3.0
YAK LR LR 18 49 40.0
comp=Z,5μm,20.5s,baz=113,slow=36
YAK Yakutsk 52.76 2 *e*P **P** **18 26 44.0 +0.2**
comp=Z,2μm,1.5s
YAK *e*S **S** **18 34 06.1 -1.6**
YAK Yakutsk 52.76 2*c* *i*P **P** **18 26 44.5 +0.8**
YAK *e**PP **pP** **18 26 55.4 -3.2**
YAK *e* 18 27 55.3
YAK *e* 18 28 43.7
YAK *e*PPP PPP 18 29 56.9
YAK *e*S **S** **18 34 06.5 -1.2**
YAK *e**SS **sS** **18 34 24.9 -7.7**
YAK *e* 18 36 24.1
YAK *e*SS **SS** **18 37 47.3 +0.5**
YAK pmax pmax
comp=Z,506nm,1.1s
YAK pmax pmax
comp=N,360nm,1.6s
YAK pmax pmax
comp=E,93nm,1.3s
YAK pmax pmax
comp=Z,784nm,3.2s
YAK pmax pmax
comp=N,351nm,2.5s
YAK pmax pmax
comp=E,251nm,2.2s
YAK smax smax
comp=N,669nm,3.5s
YAK smax smax
comp=E,942nm,4.0s
YAK MLR MLR
comp=Z,6μm,22.0s
YAK MLR MLR
comp=N,15μm,24.0s
YAK MLR MLR
comp=E,3μm,21.0s
MK01 Makanchi Array 52.84 323 *e*P **P** **18 26 44.1 -0.6**
MK31 Makanchi Array 52.85 323 *e*P **P** **18 26 44.5 -0.3**
MK31 Makanchi Array 52.85 323 *e*P **P** **18 26 44.6 -0.3**
MK31 pmax pmax
comp=Z,109nm,0.7s
MK32 Makanchi Array 52.85 323 *e*P **P** **18 26 44.7 -0.1**
MK32 *e*S **S** **18 34 08.9 -0.7**
MKAR Makanchi Array 52.85 323 P **P** **18 26 44.7 -0.1**
comp=Z,110nm,0.6s,baz=121,slow=6.0,SNR=458
MKAR S **S** **18 34 08.9 -0.7**
comp=Z,1.2nm,0.9s,baz=218,slow=47,SNR=2.9
MKAR LR LR 18 50 59.5
comp=Z,13μm,20.5s,baz=106,slow=38
SHLS Shalkode 52.91 318⇑*i*P **P** **18 26 43.6 -1.9**
comp=Z,372nm,1.8s
SHLS *e*S **S** **18 34 05.3 -5.4**
SHLS LR LR 18 49 05.0
comp=Z,1μm,16.2s
UZB Uzynbulak 53.20 318⇑*i*P **P** **18 26 47.6 0.0**
comp=Z,250nm,1.7s
UZB *e*S **S** **18 34 13.0 -1.8**
UZB LR LR 18 49 32.3
comp=Z,883nm,16.0s
PRZ Przheval'sk 53.34 317 *e*P **P** **18 26 49.4 +0.7**
PRZ Przheval'sk 53.34 317 *e*P **P** **18 26 49.4 +0.7**

MA2 Magadan 53.52 15 P **P 18 26 51.0 +1.5**
comp=Z,107nm,0.7s,baz=202,slow=7.4,SNR=47
MA2 LR LR 18 47 03.2
comp=Z,2μm,21.9s,baz=201,slow=33
MA2 Magadan 53.52 15 *eP* **P 18 26 50.6 +1.2**
comp=Z,632nm,0.8s
MA2 Magadan 53.52 15*c iP* **P 18 26 50.9 +1.4**
MA2 pmax pmax
comp=Z,502nm,1.7s
KPKS Kokpek 53.56 318⇑ *iP* **P 18 26 50.1 -0.1**
comp=Z,419nm,1.9s
KPKS *i* S **S 18 34 17.7 -1.8**
SATY Saty 53.57 317⇑ *iP* **P 18 26 50.7 +0.4**
comp=Z,549nm,1.9s
SATY *e*S **S 18 34 18.4 -1.4**
SATY LR LR 18 49 54.8
comp=Z,2μm,17.6s
ZHN Zhinishke 53.60 318⇑ *iP* **P 18 26 50.6 +0.1**
comp=Z,234nm,2.2s
ZHN LR LR 18 49 48.7
comp=Z,1μm,16.4s
KSH Kashi 53.93 313 P **P 18 26 54.4 +1.4**
KSH pP pP 18 27 04.4 -3.5
KSH PP **PP 18 28 57.4 +2.7**
KSH S **S 18 34 24.1 -0.6**
KSH ScS **ScS 18 36 35.4 -2.4**
KSH SS **SS 18 38 04.9 -1.7**
KSH pmax pmax
comp=Z,950nm,1.5s
KSH pmax pmax
comp=Z,3μm,8.8s
KSH LR LR
comp=Z,19μm,18.2s
KSH LR LR
comp=Z,14μm,18.4s
KSH LR LR
comp=Z,36μm,22.9s
KDJ Kajisay 54.03 316 *eP* **P 18 26 54.6 +0.8**
KDJ Kajisay 54.03 316 *eP* **P 18 26 54.6 +0.8**
TDK Taldyqorghan 54.40 320 *iP* **P 18 26 56.4 +0.3**
comp=Z,961nm,2.4s
TDK *e*S **S 18 34 29.3 -1.3**
TDK LR LR 18 50 17.9
comp=Z,11μm,20.1s
MDOK Medeo 54.52 317 *iP* **P 18 26 57.6 +0.3**
comp=Z,3μm,2.3s
MDOK *e*S **S 18 34 31.2 -1.5**
NRN Naryn 54.59 315 *eP* **P 18 26 57.5 -0.5**
NRN Naryn 54.59 315 *eP* **P 18 26 57.5 -0.5**
AAA Alma-Ata 54.63 317⇑ *eP* **P 18 26 58.5 +0.5**
comp=Z,505nm,1.8s
AAA *e*S **S 18 34 32.8 -1.2**
AAA Alma-Ata 54.63 317 *iP* **P 18 26 58.6 +0.6**
AAA pmax pmax
comp=Z,1μm,4.5s
AAA MLR MLR
comp=Z,3μm,16.0s
ULHL Ulahol 54.72 316 P **P 18 26 58.8 0.0**
SNR=6.8
MOO Moorlands 54.87 161 P **P 18 26 59.9 +0.4**
baz=55,SNR=4.5
KUU Kurty 55.29 318⇑ *iP* **P 18 27 02.8 +0.2**
comp=Z,1μm,1.7s
KUU *e*S **S 18 34 41.2 -1.4**
KUU LR LR 18 53 07.9
comp=Z,2μm,17.7s
TAU Tasmania Unive 55.33 161 *eP* **P 18 27 03.8 +1.0**
comp=Z,439nm,1.5s
TAU Tasmania Unive 55.33 161 P **P 18 27 04.0 +1.2**
KZA Kyzart 55.34 315 P **P 18 27 04.4 +0.9**
SNR=97
TKM2 Tokmak 2 55.41 316 P **P 18 27 03.9 +0.1**
SNR=111
TKM2 Tokmak 2 55.41 316 P **P 18 27 03.7 -0.1**
TKM2 pmax pmax
comp=Z,375nm,1.9s
ZAA0 Zalesovo Array 55.53 332 *eP* **P 18 27 02.4 -1.7**
ZALV Zalesovo Beam 55.53 332 P **P 18 27 03.2 -0.9**
comp=Z,45nm,0.7s,baz=125,slow=6.6,SNR=103
ZALV ScP **ScP 18 32 01.9 +4.0**
comp=Z,10nm,0.9s,baz=122,slow=2.2,SNR=2.4
ZALV LR LR 18 53 12.9
comp=Z,4μm,18.9s,baz=135,slow=39
ZALV PKPPKP **P'P'df 18 57 06.2 -2.7**
comp=Z,0.7nm,0.6s,baz=306,slow=5.3,SNR=4.0
ZALV Zalesovo Beam 55.53 332 *eP* **P 18 27 02.6 -1.6**
ZALV ScP **ScP 18 32 01.9 +4.0**
ZALV P'P' 18 57 06.2
ZAA1 Zalesovo Array 55.54 332 *eP* **P 18 27 03.2 -0.9**
ZAA1 *e*ScP **ScP 18 32 01.9 +4.0**
ZAA1 *e* 18 57 06.2
FUNA Funafuti 55.58 107 *eP* **P 18 27 07.0 +1.9**
comp=Z,1μm,1.3s
FUNA LR LR
comp=Z,6μm,21.0s
KBK Karagaybulak 55.76 316 P **P 18 27 06.7 +0.5**
SNR=121
BHJ Bhuj 55.80 292 *eP* **P 18 27 06.9 +0.3**
BHJ IAmb IAmb 18 27 09.6
comp=Z,300nm,0.5s
UCH Uchtor 55.91 315 P **P 18 27 08.4 +0.7**
SNR=358
CHMS Chumysh 56.02 316 P **P 18 27 07.8 -0.1**
SNR=77
FRU1 Bishkek 56.03 316 *eP* **P 18 27 08.0 -0.1**
FRU1 Bishkek 56.03 316 *eP* **P 18 27 08.0 -0.1**
FRU Bishkek 56.05 316⇑ *eP* **P 18 27 07.0 -1.1**
FRU *e* 18 27 19.0
FRU *e* 18 29 12.0
FRU *e*S **S 18 34 47.0 -5.8**
FRU *e*SS **SS 18 38 40.0 +0.3**
FRU pmax pmax
comp=Z,410nm,2.0s
AAK Ala-Archa 56.07 316 P **P 18 27 08.7 +0.3**
SNR=55
AAK Ala-Archa 56.07 316 *eP* **P 18 27 08.7 +0.3**
comp=Z,234nm,1.6s
AAK LR LR
comp=Z,7μm,20.0s
AAK Ala-Archa 56.07 316 P **P 18 27 08.4 0.0**
SNR=96
AAK Ala-Archa 56.07 316 *iP* **P 18 27 08.7 +0.3**
SNR=85
AAK Ala-Archa 56.07 316*c iP* **P 18 27 08.6 +0.2**
AAK pmax pmax
comp=Z,84nm,1.7s
MIDW Midway 56.10 62 *eP* **P 18 27 08.7 +0.1**
MIDW LR LR
comp=Z,7μm,21.0s
DGAR Diego Garcia 56.12 255 *eP* **P 18 27 09.2 +0.2**
comp=Z,376nm,1.1s
DGAR LR LR
comp=Z,2μm,20.0s
DGAR Diego Garcia 56.12 255 *iP* **P 18 27 08.4 -0.6**
USP Ospenovka 56.29 316 P **P 18 27 09.9 +0.1**
SNR=96
AML Almayashu 56.45 315 P **P 18 27 11.9 +0.5**
SNR=139
EKS2 Erkin-Say 56.57 315 P **P 18 27 12.4 +0.4**
SNR=100
NVS Novosibirsk 56.81 332⇓ *iP* **P 18 27 12.8 -0.4**
NVS *e*S **S 18 35 05.0 +2.7**
NVS pmax pmax
comp=Z,189nm,1.4s
NVS pmax pmax
comp=N,135nm,1.6s
NVS pmax pmax
comp=E,73nm,0.9s
NVS smax smax
comp=N,27nm,1.3s
NVS smax smax
comp=E,22nm,1.4s
SEY Seymchan 56.82 14 P **P 18 27 15.2 +2.0**
comp=E,154nm,1.2s,baz=225,slow=6.3,SNR=126
SEY Seymchan 56.82 14*c iP* **P 18 27 15.7 +2.6**
KURK Kurchatov 56.92 326 *eP* **P 18 27 13.8 -0.3**
KURK LR LR
comp=Z,8μm,20.0s
KURK Kurchatov 56.92 326*c iP* **P 18 27 13.6 -0.5**
KURK pmax pmax
comp=Z,771nm,1.7s
KURBB Kurchatov Arra 56.93 326 PKPPKP **P'P'df 18 57 01.7 -5.4**
comp=Z,1.7nm,0.8s,baz=275,slow=4.0,SNR=7.6
H08N1 Diego Carcia H 57.21 256 P **P 18 27 15.0 -1.4**
baz=106,slow=3.2,SNR=8.4
H08N2 Diego Garcia H 57.22 256 P **P 18 27 15.2 -1.2**
baz=106,slow=3.2,SNR=15
H08N3 Diego Garcia H 57.23 256 P **P 18 27 15.2 -1.3**
baz=106,slow=3.2,SNR=9.1
BTLS Baital 57.24 318⇑ *iP* **P 18 27 16.0 -0.5**
comp=Z,141nm,1.7s
BTLS *e*S **S 18 35 06.3 -2.1**
BTLS LR LR 18 52 36.9
comp=Z,1μm,15.3s
BTK Batken 57.88 312 P **P 18 27 20.9 -0.3**
KBL Kabul 57.93 305 *eP* **P 18 27 21.2 -0.6**
KBL Kabul 57.93 305 *eP* **P 18 27 21.2 -0.6**
SMY Shemya 58.01 32 *eP* **P 18 27 23.4 +1.7**
SMY Shemya 58.01 32 *eP* **P 18 27 23.4 +1.7**
DZA Taraz 58.35 315 *eP* **P 18 27 24.4 +0.1**
comp=Z,125nm,1.5s
DZA *e*S **S 18 35 21.7 -1.3**
DZA LR LR 18 52 49.7
comp=Z,1μm,16.1s
KK31 Karatay Array 58.98 315 *eP* **P 18 27 27.6 -1.1**
KK31 Karatay Array 58.98 315 *iP* **P 18 27 28.2 -0.5**
KK31 pmax pmax
comp=Z,529nm,1.8s
KKAR Karatay Array 58.98 315 *eP* **P 18 27 27.9 -0.8**
KKAR Karatay Array 58.98 315 *eP* **P 18 27 27.9 -0.8**
BRZS Berezniki 60.01 323⇑ *iP* **P 18 27 35.3 -0.3**
comp=Z,374nm,1.8s
BRZS *e*S **S 18 35 42.4 -1.7**
BRZS LR LR 18 54 03.8
comp=Z,2μm,16.6s
TIXI Tiksi 62.38 1 P **P 18 27 51.3 +0.1**
comp=Z,162nm,0.7s,baz=162,slow=6.0,SNR=290
TIXI S **S 18 36 14.9 +1.4**
comp=Z,2.2nm,0.7s,baz=78,slow=4.3,SNR=9.7
TIXI LR LR 18 54 51.8
comp=Z,6μm,21.9s,baz=184,slow=36
TIXI Tiksi 62.38 1*c iP* **P 18 27 51.1 -0.2**
TIXI pmax pmax
comp=Z,1μm,1.7s
BVAR Borovoye Array 62.52 326 S **S 18 36 16.8 +0.8**
comp=Z,1.5nm,0.9s,baz=159,slow=26,SNR=2.8
BVAR LR LR 18 57 23.7
comp=Z,3μm,18.2s,baz=120,slow=38
BRVK Borovoye 62.59 326 *eP* **P 18 27 52.4 -0.6**
comp=Z,560nm,0.9s
BRVK LR LR
comp=Z,2μm,22.0s
BRVK Borovoye 62.59 326 *eP* **P 18 27 52.4 -0.6**
BRVK pmax pmax
comp=Z,560nm,0.9s
BRVK MLR MLR
comp=Z,2μm,22.0s
ADK Adak 62.74 36 *eP* **P 18 27 55.1 +1.1**
comp=Z,415nm,1.4s
ADK LR LR
comp=Z,5μm,21.0s
ADK Adak 62.74 36 *eP* **P 18 27 55.1 +1.1**
ADK pmax pmax
comp=Z,415nm,1.4s
ADK MLR MLR
comp=Z,5μm,21.0s
JOHN Johnston Islan 62.78 76 *eP* **P 18 27 56.6 +1.8**
comp=Z,79nm,1.2s
JOHN LR LR
comp=Z,421nm,21.0s
KNTN Kanton 62.92 98 *eP* **P 18 27 56.2 +0.3**
ATKA Atka Island 64.29 36 *eP* **P 18 28 05.6 +1.4**
BILL Bilibino 64.39 16 *eP* **P 18 28 05.3 +0.6**
comp=Z,764nm,1.5s
BILL LR LR
comp=Z,7μm,22.0s
BILL Bilibino 64.39 16*c iP* **P 18 28 05.7 +1.1**
BILL *e**PP **sP 18 28 24.1 -2.0**
BILL *e*SP pP 18 28 27.9 +8.0
BILL *e* 18 30 28.1
BILL *e*S **S 18 36 38.3 -0.4**
BILL *e*SS **SS 18 40 53.9 +4.6**
BILL pmax pmax
comp=Z,619nm,1.7s
NRIK Noril'sk 65.01 346 P **P 18 28 08.8 +0.2**
comp=Z,211nm,1.1s,baz=138,slow=6.3,SNR=157
NRIK S **S 18 36 46.8 +0.4**
comp=Z,1.3nm,0.3s,baz=194,slow=4.2,SNR=6.4
NRIK SKKP 18 52 01.3
comp=Z,3.3nm,0.5s,baz=128,slow=4.0,SNR=3.6
NRIK PKP2bc 18 56 59.0
comp=Z,3.9nm,0.5s,baz=354,slow=4.5,SNR=7.4
NRIK LR LR 18 57 26.6
comp=Z,7μm,21.8s,baz=146,slow=37
HIZ Hauiti 65.57 140 *eP* **P 18 28 15.7 +2.9**
AFI Afiamalu 65.62 110 *eP* **P 18 28 15.7 +2.1**
AFI LR LR
comp=Z,6μm,22.0s
AFI Afiamalu 65.62 110 *eP* **P 18 28 15.7 +2.1**
AFI MLR MLR
comp=Z,6μm,22.0s
WBK Wadi Bani Khal 65.62 291 P **P 18 28 13.3 -0.2**
SNR=8.8
FOZ Fox Glacier 65.73 147 *eP* **P 18 28 13.9 +0.3**
PYZ Puysegur Point 65.93 150 *eP* **P 18 28 14.9 0.0**
RAO Raoul Island 65.96 128 *eP* **P 18 28 16.5 +1.0**
RAO LR LR
comp=Z,3μm,20.0s
RAO Raoul Island 65.96 128 *eP* **P 18 28 16.5 +1.0**
RAO MLR MLR
comp=Z,3μm,20.0s
MLZ Mavora Lakes 66.08 149 *eP* **P 18 28 17.7 +1.7**
WKZ Wanaka 66.17 148 *eP* **P 18 28 17.8 +1.2**
THZ Tophouse 66.33 144 *eP* **P 18 28 18.5 +0.8**
WHZ Wether Hill Ro 66.36 150 *eP* **P 18 28 17.8 +0.1**
BIDO Bidbid 66.39 292 P **P 18 28 18.3 -0.2**
SNR=75
JMDO Jabal Madar 66.42 290 P **P 18 28 18.4 -0.2**
SNR=12
SMDO Samad 66.47 291 P **P 18 28 20.9 +1.9**
SNR=12
LBZ Lake Benmore 66.49 147 *eP* **P 18 28 19.8 +1.2**
RPZ Rata Peaks 66.52 146 *eP* **P 18 28 19.4 +0.6**
LTZ Lake Taylor 66.61 145 *eP* **P 18 28 20.6 +1.3**
OXZ Oxford 66.82 145 *eP* **P 18 28 21.2 +0.5**
URZ Urewera 66.89 138 *eP* **P 18 28 22.3 +1.1**
BKZ Black Stump Fm 66.99 140 *eP* **P 18 28 22.7 +0.8**
BKZ *e*S **S 18 37 11.3 -0.1**
KHZ Kahutara 67.11 144 *eP* **P 18 28 23.0 +0.5**
SNZO South Karori 67.13 142 *eP* **P 18 28 22.6 0.0**
SNZO LR LR
comp=Z,6μm,19.0s
HOQ Hoqain 67.14 292 P **P 18 28 22.8 -0.4**
SNR=11
GEYT Alibeck 67.17 307 P **P 18 28 23.3 +0.1**
comp=Z,16nm,0.7s,baz=95,slow=18,SNR=46
GEYT PKPPKP **P'P'df 18 56 45.5 -6.0**
comp=Z,0.6nm,0.7s,baz=348,slow=6.4,SNR=4.2
GEYT LR LR 19 02 06.3
comp=Z,3μm,19.9s,baz=345,slow=40
GYA0B ALIBECK ARRAY 67.17 307 *eP* **P 18 28 23.0 -0.2**
ODZ Otahua Downs 67.18 147 *eP* **P 18 28 23.6 +0.7**
BSY Bisya 67.25 291 P **P 18 28 24.8 +0.9**
SNR=9.8
MXZ Matakaoa Point 67.30 137 *eP* **P 18 28 24.5 +0.7**
MQZ McQueen's Vall 67.41 145 *eP* **P 18 28 24.8 +0.4**
NIKH Nikolski High 67.63 36 *eP* **P 18 28 25.0 -0.7**
AB31 Akbulak array 67.66 320 P **P 18 28 25.4 -0.6**
AB31 pmax pmax
comp=Z,79nm,1.0s
ABKAR Akbulak array 67.66 320 *eP* **P 18 28 25.1 -0.9**
BFZ Birch Farm 67.70 141 *eP* **P 18 28 25.8 -0.5**
SOHO SOHO 67.85 292 *iP* **P 18 28 26.8 -0.8**
SNR=60
ARQ Araqi 67.87 291 P **P 18 28 27.8 0.0**
SNR=16
BANOM Banah 68.06 294 P **P 18 28 30.1 +1.1**
SNR=23
BANOM Banah 68.06 294 *iP* **P 18 28 28.9 -0.1**
SNR=18
UOSS Minazif 68.14 293 *eP* **P 18 28 28.0 -1.5**
UOSS Minazif 68.14 293 P **P 18 28 28.5 -1.0**
SNR=20
UOSS Minazif 68.14 293 *iP* **P 18 28 28.5 -1.0**
SNR=28
MSFE Esma-Masafi 68.19 294 *iP* **P 18 28 29.3 -0.5**
SNR=33
SHME Shamm 68.20 294 *iP* **P 18 28 30.1 +0.2**
SNR=17
HATD Hatta, Dubai 68.21 293 *iP* **P 18 28 29.4 -0.5**
SNR=58
HATD Hatta, Dubai 68.21 293 *iP* **P 18 28 29.7 -0.2**
SNR=68
ASHO Ashiyiah 68.28 293 P **P 18 28 30.0 -0.4**
SNR=43
ASHO Ashiyiah 68.28 293 *iP* **P 18 28 30.3 -0.1**
SNR=54
ALNE Al Ain 68.57 292 *iP* **P 18 28 32.4 +0.2**
SNR=40
UMQ Umm Al-Quwin 68.63 294 *iP* **P 18 28 33.5 +1.0**
SNR=11
NAZ Nazwa, Dubai 68.64 293 P **P 18 28 32.4 -0.2**
SNR=33
NAZ Nazwa, Dubai 68.64 293 *iP* **P 18 28 32.4 -0.2**
SNR=20
FAQ Al Faqa, Dubai 68.70 293 P **P 18 28 32.7 -0.3**
SNR=27
FAQ Al Faqa, Dubai 68.70 293 *iP* **P 18 28 32.8 -0.2**
SNR=28
NIUE Niue 68.87 115 P **P 18 28 33.3 -0.7**
baz=69,SNR=4.8
ASUD Al Ashush, Dub 68.94 293 P **P 18 28 34.7 +0.2**
SNR=19
ASUD Al Ashush, Dub 68.94 293 *iP* **P 18 28 34.9 +0.4**
SNR=17
SVE Sverdlovsk 69.08 328*d iP* **P 18 28 34.4 -0.3**
SVE *e* 18 31 09.4
SVE *e*PPP PPP 18 32 53.0
SVE *e*S **S 18 37 29.2 -6.6**
SVE pmax pmax
comp=Z,487nm,1.6s
SVE MLR MLR
comp=Z,4μm,21.0s
AKTO Aktyubinsk 69.12 321 P **P 18 28 34.9 -0.2**
comp=Z,33nm,0.7s,baz=101,slow=6.9,SNR=3.8
AKTO S **S 18 37 32.9 -3.6**
comp=Z,0.4nm,0.4s,baz=47,slow=4.6,SNR=2.4
AKTO LR LR 19 01 05.9
comp=Z,10μm,20.0s,baz=103,slow=38
AKTO Aktyubinsk 69.12 321 P **P 18 28 34.9 -0.2**
AKTO S **S 18 37 32.9 -3.6**
AKTO pmax pmax
comp=Z,33nm,0.7s
AKTO MLR MLR
comp=Z,10μm,20.0s
MCQ Macquarie Isla 69.19 160 *eP* **P 18 28 34.3 -1.0**
MCQ Macquarie Isla 69.19 160 *eP* **P 18 28 34.3 -1.0**
UNV Unalaska Valle 69.21 36 *eP* **P 18 28 36.2 +0.7**
AJN Ajban 69.26 293 *iP* **P 18 28 36.1 -0.3**
SNR=24
AKUT Akutan 69.69 36 *eP* **P 18 28 39.4 +0.9**
ARU Arti 70.09 327 P **P 18 28 40.8 -0.2**
ARU LR LR 19 01 23.5
comp=Z,3μm,21.0s,baz=96,slow=38
ARU Arti 70.09 327 *eP* **P 18 28 40.5 -0.5**
ARU Arti 70.09 327*c iP* **P 18 28 40.7 -0.2**
ARU *PP **sP 18 28 58.3 -4.3**
ARU 18 31 16.5
ARU PPP PPP 18 32 57.9
ARU SS SS 18 42 15.6 -2.4
ARU pmax pmax
comp=Z,577nm,2.5s
ARU MLR MLR
comp=Z,4μm,24.0s
RBK Rabkut 70.27 285 P **P 18 28 42.9 +0.1**
SNR=10
WHFO Wadi Hawf 70.66 286 P **P 18 28 44.7 -0.4**
SNR=10
MZR Muzera 70.68 291 *iP* **P 18 28 45.5 +0.3**
SNR=20
FALS False Pass 71.19 35 *eP* **P 18 28 48.3 +0.7**
KEKH Kekaha 71.83 70 *eP* **P 18 28 52.8 +0.7**
ANM Nome 72.48 25 *eP* **P 18 28 57.1 +1.9**
ANM Nome 72.48 25 *eP* **P 18 28 57.1 +1.9**
SDPT Sand Point 72.94 35 *eP* **P 18 28 59.2 +1.1**
OPA Opana 73.43 70 *eP* **P 18 29 01.1 -0.6**
OPA Opana 73.43 70 *eP* **P 18 29 01.1 -0.6**
KIP Kipapa 73.44 70 *eP* **P 18 29 01.8 +0.1**
KIP LR LR
comp=Z,13μm,20.0s
KIP Kipapa 73.44 70 *eP* **P 18 29 01.8 +0.1**
KIP MLR MLR
comp=Z,13μm,20.0s
HON Honolulu 73.46 70 *eP* **P 18 29 03.2 +1.4**
HON Honolulu 73.46 70 *eP* **P 18 29 03.2 +1.4**
CHQN Chignik 74.22 34 *eP* **P 18 29 06.3 +0.8**
RDOG Red Dog Mine 74.35 22 *eP* **P 18 29 08.0 +1.8**
KHLH Kahului Airpor 74.95 71 *eP* **P 18 29 12.9 +2.4**
HLK Haleakala 75.13 71 *eP* **P 18 29 13.0 +1.1**
AKT Akhty 75.38 310⇑ *iP* **P 18 29 12.9 +0.1**
AKT *e* 18 29 27.2
AKT *e* 18 32 06.8
AKT *e*S **S 18 38 47.8 -0.9**
AKT pmax pmax
comp=Z,274nm,1.6s
KKH Kailua Kona 75.43 72 *eP* **P 18 29 15.6 +2.3**
KKH Kailua Kona 75.43 72 *eP* **P 18 29 15.6 +2.3**
MHA Mahukona 75.50 72 *eP* **P 18 29 16.5 +2.8**
MHA Mahukona 75.50 72 *eP* **P 18 29 16.5 +2.8**
KHLU Kahalu'u 75.56 72 *eP* **P 18 29 14.8 +0.6**
MAK Makhachkala 75.56 312 *eP* **P 18 29 12.2 -1.4**
MAK *e*PP **PcP 18 29 27.1 +0.7**
MAK *e*SP **sP 18 29 36.4 +1.0**
MAK *e*PPP PPP 18 33 46.9
MAK *e*S **S 18 38 48.6 -1.7**
MAK *e*SS **sS 18 39 15.7 -0.9**
MAK *e*SSS SSS 18 46 59.5
MAK pmax pmax
comp=Z,191nm,1.4s
HUH Hualalai 75.60 72 *eP* **P 18 29 16.4 +1.8**
HPAH Hawaii Prepara 75.70 72 *eP* **P 18 29 16.3 +1.3**
MWH Moku'aweowe 75.84 72 *eP* **P 18 29 18.3 +2.0**
MLOA Mauna Loa Obse 75.86 72 *eP* **P 18 29 18.7 +2.4**
POHA Pohakuloa 75.88 72 *eP* **P 18 29 18.5 +2.3**
comp=Z,1μm,1.1s
POHA LR LR
comp=Z,6μm,22.0s
HPO Honuapo 75.92 73 *eP* **P 18 29 18.9 +2.8**
HMH Humu'ula Sheep 75.94 72 *eP* **P 18 29 18.9 +2.3**
LPH Laupahoehoe 75.98 72 *eP* **P 18 29 19.7 +3.3**
AIN Ainahou 75.98 72 *eP* **P 18 29 18.7 +2.0**
MLH Mauna Loa 76.04 72 *eP* **P 18 29 18.4 +1.3**
PAF Port-aux-Franc 76.13 214 *eP* **P 18 29 18.6 +2.1**
XMAS Kiritimati 76.13 90 *eP* **P 18 29 19.7 +2.3**
WRMHI West Rim 76.13 72 *eP* **P 18 29 19.9 +2.5**
HLP Hilina Pali 76.13 72 *eP* **P 18 29 19.3 +1.9**
UWE Uwekahuna 76.14 72 *eP* **P 18 29 18.4 +0.9**
SDHHI Sand Hill 76.14 72 *eP* **P 18 29 17.2 -0.4**
OBL Observatory Le 76.14 72 *eP* **P 18 29 17.6 +0.1**
NPH North Pit 76.15 72 *eP* **P 18 29 17.1 -0.5**
NPH North Pit 76.15 72 *eP* **P 18 29 17.1 -0.5**
UWB Uwekahuna B 76.15 72 *eP* **P 18 29 17.0 -0.6**
RIM Rim 76.16 72 *eP* **P 18 29 15.1 +2.5**
SBLHI Steaming Bluff 76.16 72 *eP* **P 18 29 17.7 +0.1**
KKO Keanakako'i 76.16 72 *eP* **P 18 29 18.9 +1.3**
HATHI Halema'uma'u T 76.17 72 *eP* **P 18 29 17.3 -0.3**
BYL Byron's Ledge 76.17 72 *eP* **P 18 29 17.4 -0.3**
CASY Casey 76.20 186 *eP* **P 18 29 17.0 +0.3**
comp=Z,202nm,1.0s
CASY LR LR
comp=Z,350nm,21.0s
PUH Pauahi 76.21 72 *eP* **P 18 29 18.9 +1.0**
SVW2 Sparrevohn 76.23 29 *eP* **P 18 29 17.2 +0.1**
STCH Steam Cracks 76.30 72 *eP* **P 18 29 18.4 0.0**
NPOC North of Pu'u 76.31 72 *eP* **P 18 29 19.4 +1.0**
JUZ Jacuzzi 76.32 72 *eP* **P 18 29 20.7 +2.2**
SII Sitkinak Islan 76.58 34 *eP* **P 18 29 20.4 +1.2**
GROC Groznyy 76.82 312 *eP* **P 18 29 20.1 -0.6**
GROC *e* 18 29 31.1
GROC *e*PP **sP 18 29 38.9 -3.6**
GROC *e*S **S 18 38 58.9 -5.2**
GROC *e* 18 39 21.5
GROC pmax pmax
comp=Z,409nm,1.4s
OHAK Old Harbor 77.11 33 *eP* **P 18 29 23.6 +1.6**
KDAK Kodiak Island 77.52 33 P **P 18 29 25.9 +1.6**
comp=Z,219nm,0.9s,baz=261,slow=4.5,SNR=27
KDAK LR LR 18 59 16.7
comp=Z,6μm,22.0s,baz=256,slow=32
IM3 Indian Mountai 77.53 24 *eP* **P 18 29 26.6 +2.2**
TBLG Delisi 77.62 311 *eP* **P 18 29 25.4 +0.1**
TBLG Delisi 77.62 311 *eP* **P 18 29 25.4 +0.1**
GNI Garni 77.66 309 P **P 18 29 26.7 +0.9**
comp=Z,433nm,1.4s,baz=139,slow=0.8,SNR=87

GNI S **S** **18 39 10.3 -3.4**
comp=Z,1.5nm,0.5s,baz=131,slow=19,SNR=1.9
GNI **Garni** **77.66 309** *e*P **P** **18 29 26.3 +0.5**
comp=Z,3μm,1.5s
GNI *e*S **S** **18 39 10.3 -3.4**
GNI LR LR
comp=Z,5μm,22.0s
GNI **Garni** **77.66 309** P **P** **18 29 26.5 +0.8**
SNR=85
GNI **Garni** **77.66 309** *i* P **P** **18 29 26.8 +1.0**
SNR=54
GNI **Garni** **77.66 309** *c i*P **P** **18 29 26.3 +0.5**
GNI pmax pmax
comp=Z,2μm,1.7s
RAYN **Ar Rayn** **77.97 292** *e*P **P** **18 29 26.8 -0.9**
comp=Z,177nm,1.0s
RAYN LR LR
comp=Z,4μm,21.0s
RAYN **Ar Rayn** **77.97 292** *i* P **P** **18 29 27.5 -0.2**
SNR=253
RAYN **Ar Rayn** **77.97 292** *e*P **P** **18 29 26.8 -0.9**
RAYN pmax pmax
comp=Z,177nm,1.0s
RAYN MLR MLR
comp=Z,4μm,21.0s
PPLA **Purkeypile** **77.98 28** *e*P **P** **18 29 28.7 +1.7**
TASB **TASBURUN-IGDIR** **78.05 309** P **P** **18 29 28.9 +1.1**
CAST **Castle Rocks** **78.05 27** *e*P **P** **18 29 28.3 +1.0**
ZEI **Tsey** **78.21 312** *e*P P 18 29 23.4 -5.4
ZEI pmax pmax
comp=Z,136nm,0.9s
SKT **Skwentna** **78.23 29** *e*P **P** **18 29 28.8 +0.5**
CNPM **China Poot** **78.29 31** *e*P **P** **18 29 29.0 +0.3**
CLDR **Caldiran** **78.33 308** P **P** **18 29 30.8 +1.2**
NCK **Nalchik** **78.42 313** *c i*P **P** **18 29 29.4 -0.3**
NCK pmax pmax
comp=Z,67nm,1.0s
BRLK **Bradley Lake** **78.47 31** *e*P **P** **18 29 29.9 +0.2**
AKH **Akhalkalaki** **78.56 310** *e*P **P** **18 29 31.5 +0.7**
AKH **Akhalkalaki** **78.56 310** ⇑ *i*P **P** **18 29 32.2 +1.4**
AKH **Akhalkalaki** **78.56 310** *e*P **P** **18 29 31.5 +0.7**
BPAW **Bear Paw Mtn.** **78.58 26** *e*P **P** **18 29 31.8 +1.6**
SUA **Susitna One** **78.59 29** *e*P **P** **18 29 30.8 +0.4**
RAR **Rarotonga** **78.62 114** *e*P **P** **18 29 33.1 +1.9**
RAR LR LR
comp=Z,3μm,19.0s
CUKT **Cukurca** **78.67 306** P **P** **18 29 31.7 +0.3**
MLY **Manley** **78.72 25** *e*P **P** **18 29 32.0 +1.0**
GOF **Gofitskoye** **78.76 314** ⇑ *i*P **P** **18 29 31.6 0.0**
GOF pmax pmax
comp=Z,230nm,1.4s
VANB **Van** **78.77 308** P **P** **18 29 32.7 +0.8**
TRF **Thorofare Moun** **78.86 27** *e*P **P** **18 29 32.2 +0.3**
KARS **Kars** **78.91 310** P **P** **18 29 33.9 +1.2**
KBZ **Khabaz** **78.91 313** P **P** **18 29 32.2 -0.1**
comp=Z,154nm,1.3s,baz=67,slow=5.9,SNR=79
KBZ S **S** **18 39 24.8 -1.9**
comp=Z,1.2nm,1.0s,baz=90,slow=5.1,SNR=3.7
KBZ LR LR 19 08 35.3
comp=Z,6μm,21.0s,baz=76,slow=39
AGRB **Hanur-Agry** **79.03 309** P **P** **18 29 34.6 +1.2**
COLD **Coldfoot** **79.03 23** *e*P **P** **18 29 34.7 +2.1**
COLD *e*S **S** **18 39 28.8 +1.7**
KVAR **Kislovodsk Arr** **79.05 313** P **P** **18 29 33.5 +0.2**
comp=Z,21nm,0.6s,baz=88,slow=23,SNR=28
KVAR S **S** **18 39 29.9 +1.4**
comp=Z,6.4nm,1.0s,baz=130,slow=7.9,SNR=2.8
KIV **Kislovodsk** **79.06 313** *e*P **P** **18 29 32.3 -1.0**
comp=Z,108nm,0.8s
KIV *e*S **S** **18 39 29.4 +0.9**
KIV LR LR
comp=Z,5μm,21.0s
KIV **Kislovodsk** **79.06 313** P **P** **18 29 33.2 -0.1**
SNR=32
KIV **Kislovodsk** **79.06 313** *i* P **P** **18 29 33.1 -0.2**
SNR=33
KIV **Kislovodsk** **79.06 313** *e*P **P** **18 29 33.1 -0.2**
KIV *e* 18 32 32.7
KIV *e*PPP PPP 18 34 21.3
KIV *e*S **S** **18 39 26.3 -2.2**
KIV pmax pmax
comp=Z,153nm,1.1s
KIV pmax pmax
comp=Z,614nm,4.2s
KIV MLR MLR
comp=Z,5μm,19.0s
NEY **Neytrino** **79.06 312** *d i*P **P** **18 29 34.6 +1.1**
NEY pmax pmax
comp=Z,20nm,1.0s
RC01 **Rabbit Creek A** **79.07 29** *e*P **P** **18 29 33.4 +0.5**
SEW **Seward** **79.20 30** *e*P **P** **18 29 34.5 +0.9**
BWN **Browne** **79.24 26** *e*P **P** **18 29 35.3 +1.5**
TOLK **Toolik Lake Re** **79.33 22** *e*P **P** **18 29 36.1 +1.9**
TOLK **Toolik Lake Re** **79.33 22** P **P** **18 29 36.4 +2.1**
baz=268
MIR **Mirnyy** **79.39 193** ⇑ *i*P **P** **18 29 35.0 +0.7**
MIR *e* 18 29 56.0
MIR *e* 18 32 35.0
MIR *e*PPP PPP 18 34 33.0
MIR *e*S **S** **18 39 27.0 -3.6**
MIR *e*PS **PnS** **18 40 16.0 -4.6**
MIR *e*SSS SSS 18 47 56.0
MIR pmax pmax
comp=Z,4μm,3.0s
MIR pmax pmax
comp=Z,840nm,1.0s
GHO **Glory Hole Cre** **79.46 29** *e*P **P** **18 29 36.0 +0.8**
VRH **Novokhopyorsk** **79.47 320** *e*P **P** **18 29 33.9 -1.3**
VRH *e*S **S** **18 39 25.0 -7.3**
VRH pmax pmax
comp=Z,350nm,1.4s
VRH pmax pmax
comp=Z,670nm,1.4s
VRH smax smax
comp=E,600nm,3.0s
SENK **Senkaya-Erzuru** **79.47 310** P **P** **18 29 36.8 +1.0**
MCK **McKinley** **79.47 27** *e*P **P** **18 29 35.6 +0.5**
MCK **McKinley** **79.47 27** *e*P **P** **18 29 35.6 +0.5**
RND **Reindeer** **79.51 27** *e*P **P** **18 29 35.9 +0.6**
RND **Reindeer** **79.51 27** *e*P **P** **18 29 35.9 +0.6**
SIRT **Sirnak** **79.58 306** P **P** **18 29 37.0 +0.7**
SML **Sawmill** **79.75 29** *e*P **P** **18 29 37.8 +1.2**
SML **Sawmill** **79.75 29** *e*P **P** **18 29 37.8 +1.2**
MDM **Murphy Dome** **79.79 26** *e*P **P** **18 29 37.5 +0.8**
GURO **Guroymak-BITLI** **79.83 308** P **P** **18 29 38.9 +1.2**
WRH **Wood River Hil** **79.85 26** *e*P **P** **18 29 37.5 +0.4**
DAMY **Dhamar** **79.94 283** *e*P **P** **18 29 39.6 +0.8**
TCOL **CIGO, UAF Yank** **79.94 26** P **P** **18 29 38.2 +0.7**
baz=270
COLA **College** **79.95 26** *e*P **P** **18 29 38.2 +0.7**
comp=E,90nm,0.9s
COLA LR LR
comp=Z,2μm,19.0s
COLA **College** **79.95 26** *e*P **P** **18 29 38.3 +0.7**
COLA pmax pmax
comp=Z,90nm,0.9s
COLA MLR MLR
comp=Z,2μm,19.0s
CCB **Clear Creek Bu** **79.97 26** *e*P **P** **18 29 37.6 -0.1**
POKR **Poker Plat Res** **80.12 25** P **P** **18 29 39.3 +0.8**
baz=271
DHY **Denali Highway** **80.18 27** *e*P **P** **18 29 39.8 +0.7**
SCM **Sheep Creek Mo** **80.22 29** *e*P **P** **18 29 40.2 +1.0**
SCM **Sheep Creek Mo** **80.22 29** *e*P **P** **18 29 40.2 +1.0**
VRTB **Varto-Mus** **80.24 308** P **P** **18 29 41.7 +1.8**
HDA **Harding Lake** **80.34 26** *e*P **P** **18 29 39.8 0.0**
HDA **Harding Lake** **80.34 26** P **P** **18 29 40.3 +0.5**
baz=271
GLI **Glacier Island** **80.36 30** *e*P **P** **18 29 40.8 +0.9**
ILAR **Eielson Array** **80.36 26** P **P** **18 29 40.4 +0.5**
comp=Z,43nm,1.0s,baz=254,slow=4.3,SNR=140
ILAR PKKPbc **PKKPbc** **18 48 21.6 -2.7**
comp=Z,1.9nm,0.7s,baz=49,slow=2.0,SNR=10
ILAR PKPPKP **P'P'df** **18 56 25.0 -2.0**
comp=Z,1.2nm,1.0s,baz=100,slow=0.5,SNR=4.5
ILAR LR LR 19 04 20.2
comp=Z,1μm,21.7s,baz=276,slow=35
ILB **Eielson Array** **80.36 26** *e*P **P** **18 29 39.3 -0.5**
IL1 **Eielson Array** **80.36 26** *e*P **P** **18 29 38.6 -1.2**
SVAN **Silvan-Diyarba** **80.52 307** P **P** **18 29 42.3 +1.0**
CHOM **Cayeli-Rize** **80.64 310** P P 18 29 33.0 -8.8
FID **Port Fidalgo** **80.66 30** *e*P **P** **18 29 42.1 +0.6**
BNGB **Bing℁ll** **80.86 308** P **P** **18 29 44.3 +1.1**
KLU **Klutina** **80.90 29** *e*P **P** **18 29 44.0 +1.1**

YEDI **Yedisu-Bingol** **80.93 309** P **P** **18 29 44.3 +0.7**
DIV **Divide** **80.99 29** *e*P **P** **18 29 45.1 +1.8**
FYU **Fort Yukon** **80.99 24** *e*P **P** **18 29 45.1 +2.0**
VORD **Divnogorie** **81.01 320** *e*P **P** **18 29 42.2 -1.3**
VORD pmax pmax
comp=Z,190nm,1.4s
VORR **Voronezh** **81.02 321** ⇑ *i*P **P** **18 29 41.0 -2.6**
VORR pmax pmax
comp=Z,600nm,1.8s
EYAK **Cordova Ski Ar** **81.03 30** *e*P **P** **18 29 44.5 +1.1**
PAX **Paxson** **81.05 28** *e*P **P** **18 29 44.0 +0.3**
PAX **Paxson** **81.05 28** *e*P **P** **18 29 44.0 +0.3**
VSR **Storozhevoye** **81.07 321** *e*P **P** **18 29 41.5 -2.4**
VSR *e*S **S** **18 39 41.6 -7.5**
VSR pmax pmax
comp=Z,210nm,1.2s
VSR pmax pmax
comp=Z,670nm,1.9s
VSR smax smax
comp=N,150nm,2.1s
LPSR **Galich'ya Gora** **81.13 322** *e*P **P** **18 29 43.0 -1.2**
LPSR pmax pmax
comp=Z,300nm,1.2s
MAZI **Mazidag** **81.16 307** P **P** **18 29 45.4 +0.6**
HARP **HAARP** **81.22 28** *e*P **P** **18 29 45.5 +1.0**
RIDG **Independ'e Rid** **81.29 27** *e*P **P** **18 29 45.8 +0.9**
KTUT **Trabzon** **81.40 310** P **P** **18 29 46.1 +0.3**
BMRM **Bremner River** **81.57 30** *e*P **P** **18 29 48.2 +1.8**
RAGM **Ragged Mountai** **81.57 30** *e*P **P** **18 29 47.9 +1.5**
DOT **Dot Lake** **81.64 27** *e*P **P** **18 29 47.9 +1.1**
SCRK **Sand Creek** **81.66 26** *e*P **P** **18 29 47.8 +0.9**
MOS **Moscow** **81.69 325** *e*P **P** **18 29 44.3 -2.7**
MOS *e**PP **pP** **18 30 02.2 -0.6**
MOS *e*S **S** **18 39 47.7 -7.6**
MOS *e* 18 39 57.2
MOS pmax pmax
comp=Z,1μm,2.3s
MOS pmax pmax
comp=Z,378nm,1.4s
MOS MLR MLR
comp=Z,4μm,19.0s
MOS MLR MLR
comp=E,4μm,19.0s
TNCL **Tunceli-Merkez** **81.73 308** *i* P **P** **18 29 50.7 +2.9**
ATD **Arta Tunnel** **81.82 280** LR LR 19 05 34.6
comp=E,886nm,20.5s,baz=66,slow=35
ATD **Arta Tunnel** **81.82 280** *e*P **P** **18 29 49.4 +0.8**
KELT **Kelkit** **81.86 309** *i* P **P** **18 29 50.0 +1.4**
PTK **Pertek** **81.86 308** P **P** **18 29 49.6 +1.0**
SVRC **Sivrice-ELAZID** **81.98 308** P **P** **18 29 50.1 +0.9**
ESPY **Espiye-Giresun** **82.19 310** P **P** **18 29 48.6 -1.4**
CRQM **Cirque** **82.30 30** *e*P **P** **18 29 49.2 -1.2**
OBN **Obninsk** **82.34 325** P **P** **18 29 50.5 0.0**
comp=E,13nm,0.7s,baz=81,slow=3.3,SNR=38
OBN LR LR 19 10 00.0
comp=E,761nm,18.9s,baz=84,slow=38
OBN **Obninsk** **82.34 325** *e*P **P** **18 29 49.4 -1.0**
comp=E,785nm,1.3s
OBN LR LR
comp=Z,2μm,19.0s
OBN **Obninsk** **82.34 325** *c i*P **P** **18 29 49.7 -0.7**
OBN *e**PP **pP** **18 30 07.5 +1.3**
OBN *e*SP **sP** **18 30 15.0 +2.7**
OBN *e*S **S** **18 39 54.2 -7.8**
OBN pmax pmax
comp=Z,299nm,1.3s
OBN MLR MLR
comp=Z,4μm,22.0s
TGL **Tana Glacier** **82.45 30** *e*P **P** **18 29 51.9 +0.8**
URFA **Urfa** **82.45 307** P **P** **18 29 52.5 +0.9**
KEMA **Kemaliye** **82.53 309** *i* P **P** **18 29 53.3 +1.4**
APA **Apatity** **82.63 337** ⇓ *i*P **P** **18 29 50.7 -1.1**
APA *i* 18 33 06.0
APA *i* PPP PPP 18 35 03.0
APA *i* S **S** **18 40 01.0 -3.6**
APA *i* PS **PnS** **18 41 02.0 +1.2**
APA pmax pmax
comp=Z,236nm,1.0s
SUSE **Susehri** **82.65 309** *i* P **P** **18 29 53.9 +1.2**
BALM **Baldy** **82.66 29** *e*P **P** **18 29 53.7 +1.5**
BALM **Baldy** **82.66 29** *e*P **P** **18 29 53.7 +1.5**
SURC **SANLIURFA_SURC** **82.68 306** *i* P **P** **18 29 53.9 +1.2**
ANN **Anapa** **82.76 314** *c i*P **P** **18 29 51.8 -1.1**
ANN *e**PP **pP** **18 30 10.1 +1.5**
ANN *e* 18 33 06.6
ANN *e*S **S** **18 40 04.0 -2.7**
ANN pmax pmax
comp=N,119nm,1.5s
ANN pmax pmax
comp=Z,456nm,1.5s
ANN pmax pmax
comp=E,65nm,1.5s
ANN MLR MLR
comp=E,381nm,22.0s
ANN MLR MLR
comp=Z,5μm,22.0s
ANN MLR MLR
comp=N,2μm,22.0s
ABPO **Ambohimpanom** **82.78 249** *e*P **P** **18 29 52.8 -0.9**
ABPO LR LR
comp=Z,2μm,22.0s
ABPO **Ambohimpanom** **82.78 249** *e*P **P** **18 29 52.8 -0.9**
ABPO MLR MLR
comp=Z,2μm,22.0s
EGAK **Eagle** **82.81 26** *e*P **P** **18 29 53.9 +1.1**
EGAK LR LR
comp=Z,3μm,22.0s
CUZAR **Zara_SIVAS** **83.02 309** *i* P **P** **18 29 55.5 +1.0**
CUKAN **kangal_SIVAS** **83.31 309** *i* P **P** **18 29 57.6 +1.5**
DARE **Darende-Malaty** **83.38 308** P **P** **18 29 57.8 +1.4**
SCER **sogukcermik** **83.51 309** *i* P **P** **18 29 58.4 +1.3**
SVSK **Karacayir** **83.60 309** P **P** **18 29 58.2 +0.9**
DAWY **Dawson** **83.66 26** *e*P **P** **18 29 58.8 +1.6**
ERBA **Erbaa** **83.70 310** *i* P **P** **18 29 59.1 +1.2**
GAZ **Gaziantep** **83.76 307** P **P** **18 29 59.1 +0.8**
PCA **Pinnacle** **83.79 30** *e*P **P** **18 29 59.5 +1.5**
CUALT **Altinyayla-SIV** **83.87 309** *i* P **P** **18 30 00.9 +1.9**
TOKT **Tokat** **83.90 310** P **P** **18 29 59.3 +0.3**
KUZU **Kuzuini** **83.91 306** *i* P **P** **18 30 00.3 +1.2**
KMRS **Kahramanmaras** **83.97 307** P **P** **18 30 00.0 +0.7**
YKU2 **Yakutat** **84.17 31** *e*P **P** **18 29 59.9 +0.2**
CUSAR **Sarkisla-SIVAS** **84.24 309** *i* P **P** **18 30 01.9 +1.0**
ANDN **Andirin** **84.39 307** *i* P **P** **18 30 02.7 +1.1**
EPYK **Eagle Plains** **84.41 24** P **P** **18 30 02.4 +1.4**
baz=280
HAVZ **Havza** **84.43 311** *i* P **P** **18 30 02.5 +0.9**
KEV **Kevo** **84.60 340** *e*P **P** **18 30 01.0 -0.8**
KEV LR LR
comp=Z,6μm,21.0s
KEV **Kevo** **84.60 340** *e*P **P** **18 30 01.0 -0.8**
KEV MLR MLR
comp=Z,6μm,21.0s
BNN **Bunyan** **84.62 308** P **P** **18 30 02.9 +0.2**
ASF **Jabal al Asfar** **84.64 302** P **P** **18 30 04.0 +1.1**
comp=Z,60nm,1.1s,baz=45,slow=1.4,SNR=48
ASF S **S** **18 40 25.4 -1.0**
comp=Z,1.4nm,0.6s,baz=90,slow=5.1,SNR=2.7
TAHT **Tahtakopru-Hat** **84.67 306** P **P** **18 30 03.5 +0.6**
SNOP **Sinop** **84.69 312** P **P** **18 30 02.7 -0.1**
DIKM **Dikmen** **84.70 311** P **P** **18 30 02.9 0.0**
KOZT **Kozan** **84.81 307** P **P** **18 30 04.0 +0.4**
YOZ **Yozgat** **84.92 309** P **P** **18 30 04.2 -0.1**
DHAK **Deception Hill** **84.97 31** *e*P **P** **18 30 02.7 -1.2**
SPA0 **Spitsbergen Ar** **85.03 349** *e*P **P** **18 30 03.4 -0.5**
SPA0 **Spitsbergen Ar** **85.03 349** *e*P **P** **18 30 04.4 +0.5**
SPA0 *e*S **S** **18 40 30.9 +2.4**
SPITS **Spitsbergen Ar** **85.03 349** P **P** **18 30 04.4 +0.5**
comp=Z,143nm,0.8s,baz=90,slow=8.3,SNR=34
HYT **Haines Junctio** **85.03 29** *e*P **P** **18 30 05.1 +0.8**
SIM **Simferopol'** **85.08 315** *c e*P **P** **18 30 04.3 -0.4**
SIM *e*S **SKSac** **18 40 20.0 -4.9**
SIM pmax pmax
comp=Z,235nm,1.0s
SIM pmax pmax
comp=Z,500nm,9.9s
PUL **Pulkovo** **85.09 330** *c e*P **P** **18 30 04.6 +0.2**
PUL pmax pmax
comp=Z,217nm,0.5s
COAL **Corum-Alaca** **85.09 310** *i* P **P** **18 30 05.4 +0.3**
HWQ **Hawqa** **85.15 304** *e*P **P** **18 30 05.7 +0.3**
ARA0 **ARCESS Array S** **85.16 340** *e*P **P** **18 30 04.5 -0.2**
ARCES **ARCESS Array B** **85.16 340** P **P** **18 30 04.5 -0.2**
comp=Z,96nm,0.7s,baz=81,slow=5.8,SNR=267
ARCES LR LR 19 13 02.3
comp=Z,114nm,20.2s,baz=90,slow=39
ARCES **ARCESS Array B** **85.16 340** *e*P **P** **18 30 03.8 -0.9**
ARE0 **ARCESS Array S** **85.16 340** *e*P **P** **18 30 04.0 -0.6**
ARE0 **ARCESS Array S** **85.16 340** *e*P **P** **18 30 04.8 +0.1**
ARE0 *e*S **S** **18 40 30.4 +0.4**
CTAK **Corum_Osmancik** **85.19 310** *i* P **P** **18 30 06.1 +0.5**
INK **Inuvik** **85.24 22** P **P** **18 30 06.2 +1.3**
comp=Z,158nm,1.1s,baz=283,slow=5.6,SNR=66
INK S **SKSac** **18 40 24.1 -0.8**
comp=Z,2.0nm,1.0s,baz=139,slow=20,SNR=3.6
INK PKKPbc **PKKPbc** **18 48 12.3 -0.7**
comp=Z,5.3nm,1.0s,baz=70,slow=3.1,SNR=5.7
INK LR LR 19 12 28.2
comp=Z,2μm,18.8s,baz=282,slow=39
KRTS **Karatas** **85.30 306** P **P** **18 30 07.3 +1.3**
CORM **Corum** **85.37 310** P **P** **18 30 05.9 -0.6**
AVNS **Nevsehir-Avano** **85.40 308** *i* P **P** **18 30 07.7 +1.1**
BHL **Bhannes** **85.44 303** *e*P **P** **18 30 06.8 -0.1**
SHBL **Chebaa** **85.44 303** *e*P **P** **18 30 07.8 +0.8**
HAMF **Hammerfest** **85.50 341** *e*P **P** **18 30 06.2 0.0**
DQRL **Deir Qamar** **85.53 303** *e*P **P** **18 30 08.2 +0.8**
KBS **Kingsbay** **85.54 350** *e*P **P** **18 30 06.5 +0.1**
KBS LR LR
comp=Z,4μm,22.0s
KBS **Kingsbay** **85.54 350** *c i*P **P** **18 30 06.1 -0.3**
KBS pmax pmax
comp=Z,479nm,1.3s
KBS **Kingsbay** **85.54 350** *e*P **P** **18 30 06.7 +0.3**
KBS *e*SKSac **SKSac** **18 40 23.5 -3.1**
BEYL **Beirut** **85.58 303** *e*P **P** **18 30 07.7 +0.3**
BZK **Bozkurt** **85.59 312** P P 18 30 01.2 -6.1
HSPB **Hornsund (broa** **85.63 348** *e*P **P** **18 30 08.2 +1.4**
MMAI **Mount Meron Ar** **85.77 303** P **P** **18 30 08.9 +0.3**
comp=Z,137nm,1.1s,baz=96,slow=6.0,SNR=51
MERS **Mersin** **85.83 307** P **P** **18 30 09.1 -0.1**
ILGA **Ilgaz** **85.93 311** *i* P **P** **18 30 09.9 +0.6**
CANT **Cankiri** **86.07 310** P **P** **18 30 09.9 0.0**
KTK1 **Kautokeino** **86.08 339** *e*P **P** **18 30 09.1 -0.1**
AAE **Adis Abeba** **86.15 278** *i* P **P** **18 30 08.3 -2.7**
AAE *i* S **SKSac** **18 40 33.1 -0.3**
AAE **Adis Abeba** **86.15 278** *i* P **P** **18 30 08.3 -2.7**
AAE *i* S **SKSac** **18 40 33.1 -0.3**
KERG **Konya-Eregli** **86.17 307** *i* P **P** **18 30 10.7 +0.2**
YAYX **Yaylak** **86.18 309** P **P** **18 30 09.9 -0.6**
KAMT **Kaman** **86.19 309** P **P** **18 30 09.1 -1.4**
BR101 **Keskin Array S** **86.19 309** *e*P **P** **18 30 09.6 -1.0**
BR131 **Keskin Array S** **86.19 309** *e*P **P** **18 30 09.2 -1.4**
BR131 **Keskin Array S** **86.19 309** P **P** **18 30 09.6 -1.0**
SNR=22
BRTR **Keskin Array B** **86.19 309** P **P** **18 30 09.6 -1.0**
comp=Z,13nm,0.8s,baz=121,slow=4.1,SNR=45
BRTR LR LR 19 15 13.9
comp=Z,676nm,18.0s,baz=67,slow=40
FURI **Furi** **86.26 278** *e*P **P** **18 30 13.7 +2.1**
AKSY **AKSARAY - Alti** **86.26 308** *i* P **P** **18 30 11.2 +0.4**
KIZK **Mersin** **86.29 306** *i* P **P** **18 30 11.5 +0.6**
WHY **Whitehorse** **86.33 29** *e*P **P** **18 30 12.5 +1.7**
SKAG **Skagway** **86.36 30** *e*P **P** **18 30 12.5 +1.7**
SERE **Sereflikochisa** **86.37 309** P **P** **18 30 10.3 -1.1**
EREN **Erenkoy** **86.41 305** P **P** **18 30 11.7 +0.2**
PHNC **Paralimni** **86.60 305** P **P** **18 30 14.1 +1.6**
KEBE **Keben-Mersin** **86.64 306** P **P** **18 30 12.7 0.0**
EIL **Elat** **86.64 299** P **P** **18 30 13.1 +0.3**
comp=Z,65nm,0.8s,baz=84,slow=2.6,SNR=67
EIL S **SKSac** **18 40 35.0 -0.3**
comp=Z,1.7nm,0.8s,baz=153,slow=4.5,SNR=2.3
AFSR **Afˆar-Bala (A** **86.67 309** P **P** **18 30 12.5 -0.4**
IKL **Isikli** **86.69 306** P **P** **18 30 12.6 -0.3**
BESE **Bessie Mountai** **86.78 31** *e*P **P** **18 30 13.2 +0.3**
KULU **Kulu** **86.79 309** P **P** **18 30 12.8 -0.7**
AKKU **Akkuyu-Mersin** **86.81 306** P **P** **18 30 13.1 -0.4**
ANTO **Ankara** **86.81 310** *e*P **P** **18 30 12.5 -1.0**
ANTO LR LR
comp=Z,2μm,20.0s
ANTO **Ankara** **86.81 310** *e*P **P** **18 30 12.5 -1.0**
ANTO MLR MLR
comp=Z,2μm,20.0s
GULN **MERSIN_Gulnar** **86.81 306** *i* P **P** **18 30 14.5 +1.0**
BR231 **Keskin MP Arra** **86.83 310** *e*P **P** **18 30 12.7 -1.0**
LOD **Lodumlu** **86.83 310** P **P** **18 30 13.4 -0.2**
TEVE **Tevekalti-Mers** **86.86 306** P **P** **18 30 13.5 -0.3**
SIT **Sitka** **86.86 33** *e*P **P** **18 30 15.2 +2.0**
CMDR **Camlidere-ANKA** **86.95 310** *i* P **P** **18 30 14.7 +0.5**
LFK **Lefkose** **86.97 305** P **P** **18 30 14.4 +0.1**
BERE **Bereket-Mersin** **87.04 306** P **P** **18 30 14.7 -0.1**
JIS **Juneau Island** **87.09 31** *e*P **P** **18 30 14.7 +0.4**
VSU **Vasula** **87.16 329** *e*P **P** **18 30 13.4 -1.2**
VSU lAmb lAmb 18 30 16.4
comp=Z,311nm,1.0s
VSU **Vasula** **87.16 329** *c i*P **P** **18 30 14.0 -0.6**
VSU pmax pmax
comp=Z,1μm,2.5s
CSS **Mathiatis** **87.18 305** *e*P **P** **18 30 14.3 -1.1**
CSS **Mathiatis** **87.18 305** P **P** **18 30 14.2 -1.1**
BCAM **Yenicaga** **87.21 311** *i* P **P** **18 30 15.3 -0.1**
PPT **Papeete** **87.23 108** LR LR 19 01 20.7
comp=Z,3μm,21.8s,baz=267,slow=30
PPT **Papeete** **87.23 108** *e*P **P** **18 30 14.7 -1.1**
PPT **Papeete** **87.23 108** *e*P **P** **18 30 14.7 -1.1**
MAMC **Mammari** **87.24 305** P **P** **18 30 15.6 0.0**
PPT2 **Papeete2** **87.24 108** *e*P **P** **18 30 13.9 -2.0**
comp=Z,59nm,1.4s
PPT2 *e*pP **pP** **18 30 31.0 -0.8**
comp=Z,147nm,1.4s
PPT2 **Papeete2** **87.24 108** *e*PP PP 18 33 35.7 -5.0
comp=Z,502nm,25.5s
PPT2 *e*S **S** **18 40 48.0 -4.2**
comp=Z,5μm,27.8s
PPT2 *e*SS **SS** **18 46 37.0 -0.5**
comp=Z,3μm,26.0s
PPT2 *e*LQ LQ 18 54 12.2
comp=Z,5μm,30.8s
PPT2 *e*LR LR 18 57 55.4
comp=Z,7μm,23.8s,baz=294
PPT2 **Papeete2** **87.24 108** *e*T T 20 06 34.8
comp=Z,8.6nm,0.3s
ERMK **Ermenek** **87.24 307** *i* P **P** **18 30 16.1 +0.3**
PAE **Paea** **87.25 108** *e*P **P** **18 30 13.5 -2.4**
comp=Z,17nm,1.6s
PAE **Paea** **87.25 108** *e*T T 20 06 34.0
comp=Z,6.0nm,0.2s
PPTF **Pamatai, Papee** **87.25 108** *e*P **P** **18 30 14.7 -1.3**
TRO **Tromso** **87.35 340** *e*P **P** **18 30 14.1 -1.2**
AKASG **Malin Array Be** **87.37 321** P **P** **18 30 14.6 -1.2**
comp=Z,18nm,0.7s,baz=65,slow=5.0,SNR=104
AKASG LR LR 19 13 53.8
comp=Z,2μm,19.2s,baz=65,slow=39
AKBB **Malin Array Si** **87.37 321** *e*P **P** **18 30 14.6 -1.2**
KIEV **Kiev** **87.38 321** *e*P **P** **18 30 13.8 -2.1**
KIEV LR LR
comp=Z,3μm,22.0s
KIEV **Kiev** **87.38 321** *i* P **P** **18 30 14.8 -1.1**
SNR=39
KIEV **Kiev** **87.38 321** *c i*P **P** **18 30 14.9 -1.0**
KIEV pmax pmax
comp=Z,74nm,1.4s
MICGM **Minsk** **87.40 325** ⇓ *e*P **P** **18 30 16.0 +0.1**
MICGM PM 18 30 17.0
comp=Z,0.5nm,2.0s
MICGM *e*pP **sP** **18 30 44.0 +6.1**
MICGM *e*sP pP 18 30 52.0 +20
MICGM *e*SKS **SKSac** **18 40 42.0 +3.1**
MICGM *e*S **S** **18 40 52.0 -0.2**
MICGM *e*LR LR 19 05 40.0
MICGM LRM MLR 19 11 28.0
comp=Z,5.5nm,20.0s
MNK **Minsk** **87.40 325** ⇓ *e*P **P** **18 30 16.0 +0.1**
MNK *e**PP **sP** **18 30 41.0 +3.1**
MNK *e* 18 40 42.0
MNK *e*S **S** **18 40 52.0 -0.2**
MNK pmax pmax
comp=Z,480nm,2.0s
LADK **Ladik-KONYA** **87.42 308** P **P** **18 30 15.4 -1.1**
TIAR **Tiarei** **87.45 108** *e*P **P** **18 30 14.6 -2.3**
comp=Z,25nm,1.2s
TIAR *e*pP **pP** **18 30 31.8 -1.0**
comp=Z,44nm,1.1s
TIAR **Tiarei** **87.45 108** *e*T T 20 06 49.3
comp=Z,4.0nm,0.2s
LEF **Lefka** **87.51 305** P **P** **18 30 16.5 -0.4**
KDHN **Kadinhani** **87.56 308** *i* P **P** **18 30 16.6 -0.6**
TVO **Taravao** **87.58 108** *e*P **P** **18 30 15.5 -2.0**
comp=Z,46nm,1.5s

TVO *ep* **pP** **18 30 32.6 -0.8**
comp=Z,69nm,1.3s
TVO **Taravao** **87.58 108** *e*T T 20 06 52.8
comp=Z,1.9nm,0.3s
SZAC **Souni** **87.58 305** P **P** **18 30 16.6 -0.7**
KIZT **Kizilcal** **87.68 309** P **P** **18 30 17.0 -0.8**
ALFC **Alefka** **87.74 305** P **P** **18 30 16.7 -1.3**
GAZI **Gazipasa** **87.79 306** *i* P **P** **18 30 19.7 +1.5**
SVRH **Sivrihisar-ESK** **87.85 309** P **P** **18 30 17.9 -0.7**
IDID **Didziasalis** **87.86 326** *e*P **P** **18 30 17.4 -0.8**
IDID lAmb lAmb 18 30 20.7
comp=Z,23nm,1.0s
MDUB **Mudurnu** **87.92 311** P **P** **18 30 18.1 -0.8**
NACGM **Naroch** **87.93 325** *e*P **P** **18 30 17.0 -1.4**
NACGM *e*PcP **sP** **18 30 36.0 -4.5**
NACGM *e*PP **PP** **18 33 40.0 -4.9**
NACGM *e*S **S** **18 40 51.0 -6.3**
NACGM *e*PS **pS** **18 41 14.0 -3.5**
NACGM *e*SS SS 18 47 15.0 +30
NACGM *e*LQ LQ 19 03 32.0
NACGM *e*LR LR 19 08 50.0
NACGM LRM MLR 19 13 12.0
comp=Z,3.3nm,20.0s
PPCY **Paphos** **87.99 305** P **P** **18 30 18.1 -1.1**
ISAL **Salakas** **88.15 326** *e*P **P** **18 30 18.7 -0.7**
ISAL lAmb lAmb 18 30 22.0
comp=Z,14nm,1.0s
KEPZ **Antalya-Kepez** **88.23 307** *i* P **P** **18 30 19.4 -1.0**
KIS **Kishinev** **88.37 317** *e*P **P** **18 30 20.0 -0.7**
comp=Z,200nm,2.0s
KIS **Kishinev** **88.37 317** *e*PP PP 18 33 40.0 -8.7
KIS **Kishinev** **88.37 317** *e*PS PS 18 42 04.0 -7.9
KIS *e*SS SS 18 46 12.0 -40
KIS *e*SSS SSS 18 50 18.0
KIS *e*LQ LQ 19 01 18.0
KIS *e*LR LR 19 10 12.0
comp=Z,8µm,22.0s
KIS **Kishinev** **88.37 317** *e*P **P** **18 30 20.0 -0.7**
KIS *i* 18 30 33.0
KIS *e*S **S** **18 40 55.0 -6.8**
KIS *e*PS **PnS** **18 42 04.0 -6.8**
KIS *e*SSS SSS 18 50 18.0
KIS pmax pmax
comp=Z,210nm,2.0s
KIS pmax pmax
comp=Z,1µm,8.0s
KIS pmax pmax
comp=Z,2µm,8.0s
PMOR **Pomariorio Ree** **88.37 105** *e*P **P** **18 30 19.3 -2.0**
comp=Z,54nm,0.9s
PMOR *ep*P **pP** **18 30 36.4 -0.8**
comp=Z,154nm,0.9s
PMOR **Pomariorio Ree** **88.37 105** *e*T T 20 07 59.5
comp=Z,5.8nm,0.2s
TBI **Tubuai** **88.40 114** *e*PP PP 18 33 47.6 -2.2
comp=Z,675nm,25.0s
TBI *e*S **S** **18 40 58.7 -4.2**
comp=Z,5µm,29.2s
TBI *e*SS **SS** **18 46 53.9 -0.2**
comp=Z,4µm,31.5s
TBI *e*LQ LQ 18 54 45.6
comp=Z,4µm,41.5s
TBI *e*LR LR 18 58 31.0
comp=Z,8µm,24.8s,baz=290
CRAG **Craig** **88.41 34** *e*P **P** **18 30 22.1 +1.4**
BOLV **Bolvadin** **88.42 309** *i* P **P** **18 30 21.2 -0.1**
GULT **Gulveren** **88.44 311** P **P** **18 30 20.5 -0.8**
SORM **Soroca** **88.44 318**⇑*i*P **P** **18 30 19.7 -1.3**
SORM **Soroca** **88.44 318**⇑P **P** **18 30 19.7 -1.3**
WRAK **Wrangell Islan** **88.60 33** *e*P **P** **18 30 24.5 +2.9**
WRAK LR LR
comp=Z,2µm,22.0s
SUTC **Sutluce-Ispart** **88.61 308** P **P** **18 30 20.9 -1.3**
VAH **Vaihoa** **88.66 106** *e*P **P** **18 30 20.6 -2.0**
comp=Z,155nm,1.5s
VAH *ep*P **pP** **18 30 37.7 -0.9**
comp=Z,93nm,1.1s
VAH **Vaihoa** **88.66 106** *e*T T 20 08 21.2
comp=Z,6.7nm,0.3s
BAGO **Egridir - ISPA** **88.68 308** *i* P **P** **18 30 22.1 -0.3**
MAW **Mawson** **88.74 200** P **P** **18 30 22.2 +0.4**
comp=Z,127nm,1.1s,baz=54,slow=5.9,SNR=120
MAW S **SKSac** **18 40 43.5 -2.6**
comp=Z,1.0nm,0.8s,baz=354,slow=9.2,SNR=2.0
MAW **Mawson** **88.74 200** P **P** **18 30 22.2 +0.4**
baz=89,SNR=151
MAW **Mawson** **88.74 200** *e*P **P** **18 30 21.7 -0.1**
MAW *e*SKSac **SKSac** **18 40 43.0 -3.1**
TLCR **88.74 315**⇑*i*P **P** **18 30 22.6 +0.1**
TLCR **88.74 315**⇑P **P** **18 30 22.7 +0.2**
VNDA **Vanda** **88.91 173** P **P** **18 30 22.9 +0.3**
comp=Z,80nm,0.9s,baz=319,slow=5.8,SNR=240
VNDA S **SKSac** **18 40 45.1 -1.8**
comp=Z,0.8nm,1.0s,baz=214,slow=3.6,SNR=3.9
VNDA PKKPbc **PKKPdf** **18 48 02.0 +2.1**
comp=Z,1.7nm,0.8s,baz=16,slow=0.5,SNR=7.9
VNDA LR LR 19 11 52.4
comp=Z,2µm,18.7s,baz=346,slow=37
VNDA **Vanda** **88.91 173** *e*P **P** **18 30 22.4 -0.1**
VNDA *e*PcP **PcP** **18 30 22.7 -1.3**
VNDA *e*SKSac **SKSac** **18 40 43.9 -3.0**
VNDA *e*S **S** **18 41 03.2 -2.4**
VNDA *e*PKKPdf **PKKPbc** **18 48 04.5 -0.6**
ISP **Isparta** **88.92 308** *e*P **P** **18 30 21.7 -1.9**
ISP **Isparta** **88.92 308**⇑*i*P **P** **18 30 22.0 -1.6**
ISP **Isparta** **88.92 308**⇑P **P** **18 30 22.0 -1.6**
TIRR **Tirgusor** **89.17 315** *e*P **P** **18 30 23.3 -1.2**
TIRR **Tirgusor** **89.17 315**⇓*i*P **P** **18 30 24.2 -0.3**
TIRR **Tirgusor** **89.17 315**⇓P **P** **18 30 24.2 -0.3**
KORT **Korkueli** **89.20 307** *i* P **P** **18 30 25.7 +0.7**
CFR **Carcaliu** **89.21 316**⇓*i*P **P** **18 30 24.4 -0.3**
CFR **Carcaliu** **89.21 316**⇓P **P** **18 30 24.4 -0.3**
STEI **Steigen** **89.22 339** *e*P **P** **18 30 23.4 -0.8**
KMBO **Kilima Mbogo** **89.22 269** P **P** **18 30 26.3 +0.6**
comp=Z,71nm,1.1s,baz=64,slow=5.0,SNR=87
KMBO LR LR 19 08 05.6
comp=Z,1µm,21.6s,baz=80,slow=34
KMBO **Kilima Mbogo** **89.22 269** *e*P **P** **18 30 25.4 -0.3**
KMBO *e*PcP **P** **18 30 26.0 +0.3**
KMBO **Kilima Mbogo** **89.22 269** P **P** **18 30 26.3 +0.6**
SNR=84
KMBO **Kilima Mbogo** **89.22 269** *i* P **P** **18 30 26.1 +0.3**
SNR=72
DLBC **Dease Lake** **89.27 31** P **P** **18 30 27.7 +2.9**
comp=Z,19nm,1.0s,baz=252,slow=6.1,SNR=9.6
DLBC PKKPbc **PKKPbc** **18 48 01.3 -1.9**
comp=Z,3.8nm,0.7s,baz=344,slow=16,SNR=4.1
DLBC **Dease Lake** **89.27 31** *e*P **P** **18 30 25.9 +1.1**
DLBC PKKPbc **PKKPbc** **18 48 01.3 -1.9**
BRDR **BURDUR-Merkez** **89.30 308** *i* P **P** **18 30 24.3 -1.1**
DIB **Dawson Inlet,** **89.34 36** *e*P **P** **18 30 26.5 +1.4**
TLB **Topalu** **89.40 315**⇑*i*P **P** **18 30 25.1 -0.5**
TLB **Topalu** **89.40 315**⇑P **P** **18 30 25.1 -0.5**
TVSB **Tavsanli** **89.42 310** P **P** **18 30 25.3 -0.7**
HARR **Harsova** **89.46 315**⇓*i*P **P** **18 30 25.8 -0.1**
HARR **Harsova** **89.46 315**⇓P **P** **18 30 25.8 -0.1**
PSN **Preselentsi** **89.49 314** *e*P **P** **18 30 24.6 -1.5**
ELL **Elmali** **89.60 307** P **P** **18 30 26.1 -0.8**
KHAL **Karahalli** **89.61 309** *i* P **P** **18 30 26.4 -0.5**
SLIT **Slitere, Latvi** **89.66 329** *e*P **P** **18 30 24.1 -2.3**
SLIT lAmb lAmb 18 30 27.2
comp=Z,712nm,1.3s
NAI **Nairobi** **89.69 269** *e*P **P** **18 30 28.5 +0.7**
PETR **Petresti** **89.71 316**⇓*i*P **P** **18 30 28.3 +1.3**
SBA **Scott Base** **89.81 172** *e*P **P** **18 30 28.1 +1.4**
SBA **Scott Base** **89.81 172** *e*P **P** **18 30 28.1 +1.4**
GRER **89.97 316**⇑*i*P **P** **18 30 28.4 +0.2**
PRAR **RASCA** **90.01 318**⇑*i*P **P** **18 30 29.7 +1.3**
VRI **Vrincioaia** **90.02 316**⇓*i*P **P** **18 30 28.7 +0.2**
VRI **Vrincioaia** **90.02 316**⇓P **P** **18 30 28.7 +0.2**
PGOR **Pogoanele** **90.07 315**⇑*i*P **P** **18 30 28.8 +0.1**
PLOR **Plostina** **90.08 316**⇓*i*P **P** **18 30 28.7 -0.1**
PLOR **Plostina** **90.08 316**⇓P **P** **18 30 28.7 -0.1**
PRD **Provadia** **90.16 314** *e*P **P** **18 30 28.7 -0.4**
SUW **Suwalki** **90.19 325** *e*P **P** **18 30 27.9 -1.2**
SUW *e*S S 18 41 34.5 +16
SUW **Suwalki** **90.19 325** *e*P **P** **18 30 27.9 -1.2**
BIZ **Bicaz** **90.19 318**⇑*i*P **P** **18 30 29.8 +0.5**
MORB **Moi Rana** **90.20 338** *e*P **P** **18 30 26.6 -2.3**
FETY **Fethiye** **90.27 307** P **P** **18 30 28.4 -1.5**
LODK **Lodwar** **90.36 274** *e*P **P** **18 30 28.7 -2.1**
LODK *e* 18 30 44.1
baz=83,slow=6.9
LODK *e*S **SKSac** **18 41 00.9 +2.7**
LODK AMP 18 58 01.3
comp=N,207nm,56.7s
LODK AMP 19 02 23.6
comp=E,326nm,30.7s
LODK **Lodwar** **90.36 274** *e*P **P** **18 30 29.9 -0.9**
LODK *e* 18 31 35.9
baz=71,slow=6.5
LODK *e*S S 18 41 40.7 +19
LODK *e*S ScS 18 41 42.0 +16
LODK AMP 18 58 54.4
comp=N,195nm,24.0s
LODK AMP 19 02 29.3
comp=E,359nm,30.0s
KONS **Konsvik** **90.55 338** *e*P **P** **18 30 29.8 -0.7**
MRMT **Marmara Adasi** **90.58 311** P **P** **18 30 28.4 -2.9**
BURAR **Bucovina Array** **90.62 318**⇑*i*P **P** **18 30 31.5 +0.1**
BURAR **Bucovina Array** **90.62 318**⇑P **P** **18 30 31.5 +0.1**
BUR04 **Bucovina Ar. S** **90.62 318** *e*P **P** **18 30 30.1 -1.3**
BUR08 **Bucovina Ar. S** **90.62 318** *e*P **P** **18 30 30.6 -0.8**
SULR **90.62 315**⇓*i*P **P** **18 30 31.8 +0.5**
MLR **Muntele Rosu** **90.65 316** P **P** **18 30 31.6 +0.1**
comp=E,16nm,0.9s,baz=21,slow=4.8,SNR=16
MLR LR LR 19 13 50.4
comp=E,3µm,21.3s,baz=60,slow=37
MLR **Muntele Rosu** **90.65 316** *e*P **P** **18 30 30.1 -1.5**
MLR **Muntele Rosu** **90.65 316**⇑*i*P **P** **18 30 31.1 -0.5**
LVV **L'vov** **90.81 321** *e*P **P** **18 30 31.0 -1.1**
LVV *e*S **S** **18 41 16.0 -8.5**
DOPR **Dopca** **90.91 317**⇑*i*P **P** **18 30 33.5 +0.8**
EDRB **Edirne** **90.93 313** P **P** **18 30 32.1 -0.7**
AYDB **Zeytinkoy-Aydi** **90.93 309** P **P** **18 30 32.8 -0.3**
SZH **Strazhica** **91.18 314** *e*P **P** **18 30 32.8 -1.2**
VOIR **91.27 316**⇑*i*P **P** **18 30 34.6 +0.2**
VOIR **91.27 316**⇑P **P** **18 30 34.6 +0.2**
HUMR **Humele** **91.54 315**⇓*i*P **P** **18 30 35.0 -0.6**
ARR **Arges** **91.57 316**⇑*i*P **P** **18 30 36.4 +0.6**
BODT **Bodrum** **91.57 308** P **P** **18 30 34.8 -1.1**
ENEZ **Enez** **91.62 312** P **P** **18 30 33.8 -2.2**
ALN **Alexandroupoli** **91.66 312** *e*P **P** **18 30 33.9 -2.3**
ALN **Alexandroupoli** **91.66 312** P **P** **18 30 34.6 -1.6**
ALN **Alexandroupoli** **91.66 312** *e*P **P** **18 30 33.9 -2.3**
KWP **Kalwaria Pacla** **91.69 321** *e*P **P** **18 30 35.8 -0.4**
KWP *e*S S 18 41 23.8 -8.7
KWP **Kalwaria Pacla** **91.69 321** *e*P **P** **18 30 34.8 -1.4**
KWP **Kalwaria Pacla** **91.69 321**⇑*e*P **P** **18 30 35.8 -0.4**
KWP *e*S S 18 41 23.8 -8.7
DAG **Danmarks Havn** **91.77 352**⇑*i*P **P** **18 30 35.8 -0.2**
comp=E,253nm,1.3s
DAG **Danmarks Havn** **91.77 352**⇑*i*P **P** **18 30 35.8 -0.2**
DAG pmax pmax
comp=Z,490nm,1.3s
SMG **Samos** **91.80 308** P **P** **18 30 36.1 -0.8**
NSS **Namsos** **91.83 337** *e*P **P** **18 30 35.4 -1.1**
CJR **Cluj-Napoca** **91.92 318**⇑*i*P **P** **18 30 37.7 +0.3**
CJR **Cluj-Napoca** **91.92 318**⇑P **P** **18 30 37.7 +0.3**
RDO **Rodhopi** **91.98 312** P **P** **18 30 36.3 -1.4**
KARP **Karpathos** **92.02 306** *e*P **P** **18 30 36.9 -1.2**
LOT **Lotru** **92.14 317**⇓*i*P **P** **18 30 38.3 -0.2**
SMTH **Samothraki Isl** **92.14 311** P **P** **18 30 35.8 -2.7**
BBB **Bella Bella** **92.17 36** *e*P **P** **18 30 39.4 +1.1**
TRPA **Tarpa** **92.22 319**⇑*i*P **P** **18 30 38.4 -0.2**
TRPA **Tarpa** **92.22 319**⇑*e*SKKPdf **P** **18 30 37.8 -0.8**
UZH **Uzhgorod** **92.23 320**⇑*i*P **P** **18 30 38.3 -0.4**
UZH *i* *PP **pP** **18 30 53.6 -1.0**
UZH *i* 18 34 20.0
UZH *i*S S 18 41 30.9 -6.4
UZH *e*SSS SSS 18 51 25.6
CHOS **Chios island** **92.24 309** P **P** **18 30 37.3 -1.8**
PLD **Plovdiv** **92.35 313** *e*P **P** **18 30 38.3 -1.1**
DRGR **92.48 318**⇑*i*P **P** **18 30 39.8 -0.2**
DRGR **92.48 318**⇑P **P** **18 30 39.8 -0.2**
RES **Resolute Bay** **92.51 10** P **P** **18 30 40.6 +1.2**
comp=Z,63nm,0.9s,baz=300,slow=5.8,SNR=70
RES LR LR 19 16 43.3
comp=Z,730nm,18.5s,baz=313,slow=38
RES **Resolute Bay** **92.51 10** *e*P **P** **18 30 40.2 +0.8**
DEV **Deva** **92.61 317**⇑*i*P **P** **18 30 41.4 +0.9**
DEV **Deva** **92.61 317**⇑P **P** **18 30 41.4 +0.9**
THAS **Thassos island** **92.71 312** P **P** **18 30 38.6 -2.5**
SRE **Strehaia** **92.73 316**⇑*i*P **P** **18 30 41.6 +0.5**
SRE **Strehaia** **92.73 316**⇑P **P** **18 30 41.6 +0.5**
GZR **Gura Zlata** **92.83 317**⇑*i*P **P** **18 30 40.8 -0.8**
GZR **Gura Zlata** **92.83 317**⇑P **P** **18 30 40.8 -0.8**
LTVH **L"tav"rtes,** **92.84 319** *e*P **P** **18 30 41.5 0.0**
HFS **Hagfors** **92.97 332** P **P** **18 30 41.1 -0.7**
comp=Z,52nm,1.0s,baz=96,slow=4.5,SNR=33
TBLU **Trondheim** **93.08 336** *e*P **P** **18 30 41.5 -0.8**
NVR **Nevrokopi** **93.15 313** P **P** **18 30 41.2 -1.9**
SANT **Santorini** **93.18 307** *e*P **P** **18 30 41.1 -2.3**
SANT **Santorini** **93.18 307**⇑*i*P **P** **18 30 41.4 -2.0**
MMB **Musomiste** **93.18 313** *e*P **P** **18 30 41.9 -1.4**
NIE **Niedzica** **93.25 321** *e*P **P** **18 30 43.3 -0.1**
NIE *e* 18 43 34.4
NIE **Niedzica** **93.25 321**⇑*e*P **P** **18 30 43.3 -0.1**
NIE *e* 18 43 34.4
VTS **Vitosha** **93.29 314** *e*P **P** **18 30 42.9 -1.0**
VTS **Vitosha** **93.29 314**⇑*i*P **P** **18 30 43.0 -0.7**
VTS **Vitosha** **93.29 314** *e*P **P** **18 30 42.9 -1.0**
VTS **Vitosha** **93.29 314** P **P** **18 30 43.0 -0.9**
VTS **Vitosha** **93.29 314**⇑P **P** **18 30 43.2 -0.7**
OJC **Ojcow** **93.31 322** *e*P **P** **18 30 43.5 -0.1**
OJC **Ojcow** **93.31 322** *e*P **P** **18 30 42.9 -0.7**
OJC **Ojcow** **93.31 322** *e*P **P** **18 30 43.5 -0.1**
OUR **Ouranopolis** **93.32 312** P **P** **18 30 42.7 -1.2**
SIRR **Siria** **93.33 318**⇑*i*P **P** **18 30 43.8 0.0**
NC405 **NORSAR Array S** **93.44 334** *e*P **P** **18 30 42.1 -1.8**
LAST **Lasithi** **93.45 306** P **P** **18 30 43.6 -1.1**
NC303 **NORSAR Array S** **93.54 334** *e*P **P** **18 30 41.8 -2.6**
BZS **Buzias** **93.55 317**⇑*i*P **P** **18 30 44.0 -0.8**
BZS **Buzias** **93.55 317**⇑P **P** **18 30 44.0 -0.8**
KKB **Krupnik** **93.57 313** *e*P **P** **18 30 43.9 -1.2**
NB201 **NORSAR Array S** **93.65 334** *e*P **P** **18 30 43.5 -1.5**
SOH **Sokhos** **93.66 312** P **P** **18 30 45.2 -0.3**
NC602 **NORSAR Array S** **93.68 334** *e*P **P** **18 30 43.4 -1.7**
NB2 **NORSAR Subarra** **93.69 334** P **P** **18 30 44.0 -1.2**
comp=Z,8.7nm,0.9s,baz=62,slow=4.6
NB2 **NORSAR Subarra** **93.69 334** P **P** **18 30 42.4 -2.8**
NB2 pmax pmax
comp=Z,369nm,1.9s
NB2 **NORSAR Subarra** **93.69 334** P **P** **18 30 44.0 -1.2**
baz=62,slow=4.6
NB200 **NORSAR Array S** **93.69 334** *e*P **P** **18 30 43.7 -1.5**
NOA **NORSAR Array B** **93.69 334** P **P** **18 30 43.7 -1.5**
comp=Z,16nm,0.9s,baz=64,slow=4.6,SNR=28
NOA LR LR 19 16 03.1
comp=Z,4µm,21.2s,baz=60,slow=38
AOS **Alonnisos** **93.70 310** P **P** **18 30 43.6 -2.1**
MDVR **Moldovita** **93.72 316**⇓*i*P **P** **18 30 45.4 -0.3**
NC204 **NORSAR Array S** **93.78 334** *e*P **P** **18 30 44.4 -1.2**
GKP **Gorka Klasztor** **93.78 325** *e*P **P** **18 30 45.3 -0.4**
GKP **Gorka Klasztor** **93.78 325** *e*P **P** **18 30 45.3 -0.4**
LANS **Liptovska Anna** **93.86 321** *e*P **P** **18 30 46.8 +0.6**
LANS **Liptovska Anna** **93.86 321** *e*P **P** **18 30 46.8 +0.6**
NBO00 **NORSAR Array S** **93.88 334** *e*P **P** **18 30 44.6 -1.4**
IDI **Anoyia** **93.89 307** P **P** **18 30 45.5 -1.2**
comp=Z,24nm,0.8s,baz=118,slow=17,SNR=11
IDI **Anoyia** **93.89 307** *e*P **P** **18 30 45.2 -1.5**
IDI **Anoyia** **93.89 307**⇑*i*P **P** **18 30 44.2 -2.5**
KNT **Kendrikon** **93.90 313** P **P** **18 30 44.6 -2.0**
NAO01 **NORSAR Array S** **93.92 334** *e*P **P** **18 30 45.0 -1.2**
PSZ **Piszkesteto** **93.98 320** *e*P **P** **18 30 46.3 -0.6**
PSZ **Piszkesteto** **93.98 320**⇓*i*P **P** **18 30 46.9 0.0**
PSZ **Piszkesteto** **93.98 320**⇓*e*P **P** **18 30 46.3 -0.6**
PSZ **Piszkesteto** **93.98 320** ⇓P **P** **18 30 46.9 0.0**
VAY **Valandovo** **94.09 313** P **P** **18 30 45.6 -1.8**
VAY **Valandovo** **94.09 313** *i* P **P** **18 30 45.9 -1.5**
DOMB **Dombas** **94.14 335** *e*P **P** **18 30 46.8 -0.5**
XOR **Xorichti** **94.16 311** P **P** **18 30 45.5 -2.3**
GRG **Griva** **94.32 312** P **P** **18 30 46.3 -2.2**
BSD **Bornholm Skovb** **94.37 328**⇑*i*P **P** **18 30 47.5 -0.8**
comp=Z,67nm,1.0s
BSD **Bornholm Skovb** **94.37 328**⇑*i*P **P** **18 30 47.5 -0.8**
BSD pmax pmax
comp=Z,67nm,1.0s
VAM **Vamos** **94.41 307** P **P** **18 30 48.0 -1.0**
OKC **Ostrava-Krasne** **94.44 322** *e*P **P** **18 30 48.6 -0.2**
OKC AMS AMS 19 20 00.0
comp=Z,2µm,18.7s
OKC **Ostrava-Krasne** **94.44 322** *e*P **P** **18 30 48.6 -0.2**
OKC MLR MLR
comp=Z,2µm,18.7s
VYHS **Vyhne** **94.46 320** *e*P **P** **18 30 48.8 -0.2**
VYHS pmax pmax
comp=Z,83nm,2.0s
VYHS **Vyhne** **94.46 320** *e*P **P** **18 30 48.8 -0.2**
LIT **Litokhoron** **94.49 312** *e*P **P** **18 30 46.7 -2.6**
LIT **Litokhoron** **94.49 312** P **P** **18 30 46.7 -2.6**
LIT **Litokhoron** **94.49 312** *e*P **P** **18 30 46.7 -2.6**
LKR **Lokris** **94.50 310** P **P** **18 30 46.7 -2.6**
MOL **Molde** **94.50 336** *e*P **P** **18 30 48.7 -0.1**
IMMV **Iera Moni Meta** **94.57 307** P **P** **18 30 48.7 -1.0**
GVD **Gavdhos** **94.64 306** P **P** **18 30 48.7 -1.4**
YKW3 **Yellowknife Ar** **94.65 24** *e*P **P** **18 30 50.1 +0.6**
BUD **Budapest** **94.67 319**⇑*e*P **P** **18 30 49.5 -0.4**
BUD **Budapest** **94.67 319** P **P** **18 30 51.7 +1.8**
YKA **Yellowknife Ar** **94.69 24** P **P** **18 30 50.9 +1.2**
comp=Z,24nm,0.9s,baz=298,slow=4.6,SNR=35
YKA PKKP **PKKPdf** **18 47 47.2 -0.8**
comp=Z,2.7nm,0.7s,baz=124,slow=2.7,SNR=5.4
YKA LR LR 19 11 43.6
comp=Z,160nm,21.9s,baz=298,slow=34
YKB5 **Yellowknife Ar** **94.69 24** *e*P **P** **18 30 49.9 +0.2**
SKO **Skopje** **94.72 314** *i* P **P** **18 30 49.0 -1.4**
MORC **Moravsky Berou** **94.83 322** *e*P **P** **18 30 50.2 -0.5**
MORC **Moravsky Berou** **94.83 322**⇑*i*P **P** **18 30 50.9 +0.2**
MORC **Moravsky Berou** **94.83 322**⇑P **P** **18 30 50.9 +0.2**
MORC **Moravsky Berou** **94.83 322**⇑*i*P **P** **18 30 50.6 -0.1**
TAOE **Nuku Hiva Isla** **94.88 98** *e*PP PP 18 34 37.5 -3.9
comp=Z,584nm,25.5s
TAOE *e*SP SP 18 43 16.3 -2.2
comp=Z,3µm,30.4s
TAOE *e*SS **SS** **18 48 25.7 -2.4**
comp=Z,2µm,26.3s
TAOE *e*LQ LQ 18 57 36.2
comp=Z,4µm,30.8s
TAOE *e*LR LR 19 01 25.9
comp=Z,10µm,29.5s,baz=278
AGG **Agios Georgios** **94.90 311** *e*P **P** **18 30 48.0 -3.2**
AGG **Agios Georgios** **94.90 311** *e*P **P** **18 30 48.0 -3.2**
AKN **Aaknes** **94.92 336** *e*P **P** **18 30 51.9 +1.1**
KRUS **Krusevo** **95.03 313** *i* P **P** **18 30 50.2 -1.7**
KONO **Kongsberg** **95.04 333** *e*P **P** **18 30 50.2 -1.1**
KONO **Kongsberg** **95.04 333***ce*P **P** **18 30 51.0 -0.3**
KONO pmax pmax
comp=Z,79nm,2.5s
JAVC **Velka Javorina** **95.07 321**⇑*i*P **P** **18 30 52.6 +0.8**
BIA **Bitola** **95.08 313** *i* P **P** **18 30 50.2 -1.9**
KYTH **Kithira** **95.09 308** P **P** **18 30 50.8 -1.4**
DIVS **Divibare** **95.10 316** *e*P **P** **18 30 50.1 -2.0**
FNA **Florina** **95.11 313** *e*P **P** **18 30 49.8 -2.4**
FNA **Florina** **95.11 313** P **P** **18 30 49.7 -2.5**
FNA **Florina** **95.11 313** *e*P **P** **18 30 49.8 -2.4**
KTHR **Kythira** **95.13 308** P **P** **18 30 50.2 -2.1**
KRLC **Kraliky** **95.19 322** *e*P **P** **18 30 52.9 +0.6**
KRLC **Kraliky** **95.19 322** *e*P **P** **18 30 52.9 +0.6**
KSP **Ksiaz** **95.20 323** *e*P **P** **18 30 52.2 -0.1**
KSP **Ksiaz** **95.20 323**⇑*e*P **P** **18 30 52.2 -0.1**
SERG **Sergoula** **95.27 310** P **P** **18 30 50.9 -2.0**
KLV **Kalavryta, Ach** **95.30 310** P **P** **18 30 50.4 -2.7**
VLX **Vlachokerasia** **95.31 309** P **P** **18 30 51.3 -1.9**
MORH **M¨‡r¨igy, Hung** **95.33 318**⇑*e*P **P** **18 30 52.4 -0.6**
DPC **Dobruska-Polom** **95.36 323** *e*P **P** **18 30 53.7 +0.6**
DPC AMS AMS 19 15 50.0
comp=Z,4µm,24.0s
DPC **Dobruska-Polom** **95.36 323** *e*P **P** **18 30 53.7 +0.6**
DPC MLR MLR
comp=Z,4µm,24.0s
LAKA **Lakka** **95.38 310** P **P** **18 30 51.1 -2.3**
EFP **Efpalio** **95.38 310** P **P** **18 30 51.7 -1.7**
MODS **Modra-Piesok** **95.48 321** *e*P **P** **18 30 52.7 -1.0**
MODS pmax pmax
comp=Z,104nm,1.8s
MODS **Modra-Piesok** **95.48 321** *e*P **P** **18 30 52.7 -1.0**
PHP **Peshkopia** **95.52 314** P **P** **18 30 52.0 -2.0**
MBAR **Mbarara** **95.57 270** *e*P **P** **18 30 54.1 -0.8**
MBAR LR LR
comp=Z,432nm,19.0s
MBAR **Mbarara** **95.57 270***c* *i*P **P** **18 30 52.4 -2.6**
VRAC **Vranov** **95.57 322** P **P** **18 30 54.5 +0.4**
comp=Z,19nm,0.8s,baz=78,slow=4.7,SNR=29
VRAC **Vranov** **95.57 322**⇓*i*P **P** **18 30 54.8 +0.7**
VRAC **Vranov** **95.57 322**⇓P **P** **18 30 54.8 +0.7**
VRAC **Vranov** **95.57 322**⇑*i*P **P** **18 30 54.1 0.0**
PVO **Paravola** **95.62 310** P **P** **18 30 53.1 -1.4**
DRO **Drossia** **95.66 310** P **P** **18 30 53.2 -1.5**
ITM **Ithomi** **95.71 309** *e*P **P** **18 30 52.6 -2.4**
ITM **Ithomi** **95.71 309** P **P** **18 30 53.4 -1.6**
KRUC **Moravsky** **95.78 322**⇑*i*P **P** **18 30 54.7 -0.3**
RLS **Riolos of Patr** **95.82 310** P **P** **18 30 54.0 -1.4**
PDO **Prodromos** **95.88 310** P **P** **18 30 53.2 -2.5**
PDG **Podgorica** **96.13 315**⇑*i*P **P** **18 30 55.9 -0.8**
TTG **Podgorica** **96.13 315** *e*P **P** **18 30 54.9 -1.8**
TTG **Podgorica** **96.13 315** *e*P **P** **18 30 54.9 -1.8**
PGC **Sidney** **96.17 39** *e*P **P** **18 30 57.0 +0.3**
SOP **Sopron** **96.18 320**⇑*e*P **P** **18 30 56.4 -0.4**
SOP **Sopron** **96.18 320** P **P** **18 30 57.6 +0.8**
TREC **Trest** **96.25 322** *e*SP SP 18 43 32.6 +1.1
TREC AMS AMS 19 22 00.0
comp=Z,3µm,17.7s
KULLO **Kullorsuaq** **96.32 1** *i* P **P** **18 30 57.3 +0.4**
comp=Z,111nm,0.9s
KULLO **Kullorsuaq** **96.32 1** *i* P **P** **18 30 57.3 +0.4**
KULLO pmax pmax
comp=Z,110nm,0.9s
PVCC **Panska Ves** **96.34 323** *e*P **P** **18 30 59.4 +1.9**
PVCC AMS AMS 19 21 40.0
comp=Z,4µm,19.7s
PVCC **Panska Ves** **96.34 323** *e*P **P** **18 30 59.4 +1.9**
PVCC MLR MLR
comp=Z,4µm,19.7s
GOPC **GO Pecny, Ondr** **96.44 323** *e*P **P** **18 30 59.2 +1.2**
GOPC *ex* x 18 43 25.9
GOPC AMS AMS 19 21 20.0
comp=Z,4µm,16.8s
GOPC **GO Pecny, Ondr** **96.44 323** *e*P **P** **18 30 59.2 +1.2**
GOPC MLR MLR
comp=Z,4µm,16.8s
BEHE **Becsehely** **96.47 319**⇑*e*P **P** **18 30 58.1 0.0**
CONA **Conrad Observa** **96.53 321** *i* PcP **P** **18 30 58.5 0.0**
comp=Z,54nm,1.6s,SNR=20
BLS5 **Blasjo** **96.55 333** *e*P **P** **18 30 58.3 0.0**
BRG **Berggiesshubel** **96.57 324**⇓*i*P **P** **18 30 58.0 -0.5**
comp=Z,121nm,1.6s
BRG PP **PP** **18 34 56.0 +3.1**
BRG SS SS 18 48 53.0 +3.7
comp=N,2µm,19.1s
comp=E,3µm,22.3s
comp=Z,4µm,23.8s
BRG **Berggiesshubel** **96.57 324**⇓*i*P **P** **18 30 58.0 -0.5**
BRG 18 34 56.0
BRG SS SS 18 48 53.0 +3.7
BRG pmax pmax
comp=Z,121nm,1.6s
BRG MLR MLR
comp=N,2µm,19.1s
BRG MLR MLR
comp=E,3µm,22.3s
BRG MLR MLR
comp=Z,4µm,23.8s
PRA **Prague** **96.59 323** AMS AMS 19 15 10.0
comp=Z,5µm,24.2s
A04D **Lummi Island** **96.60 38** P **P** **18 31 00.3 +1.6**
baz=292
MUD **Monsted U'grnd** **96.73 330** *i* P **P** **18 30 58.5 -0.5**
comp=Z,195nm,1.6s
MUD **Monsted U'grnd** **96.73 330** *i* P **P** **18 30 58.5 -0.5**
MUD pmax pmax
comp=Z,200nm,1.6s
D03D **Eldon** **96.80 40** P **P** **18 31 01.6 +1.9**
baz=292,SNR=34
E03A **Lebam** **96.86 41** *e*P **P** **18 31 01.5 +1.7**
CLL **Collm** **96.94 324** *e*P **P** **18 30 59.2 -0.9**
CLL **Collm** **96.94 324**⇑*i*P **P** **18 31 00.0 -0.2**
comp=Z,116nm,1.6s
CLL *i* 18 31 27.6
CLL *i* 18 31 38.0
CLL *e*PP **PP** **18 34 50.0 -5.7**
CLL *e*S **S** **18 42 17.0 -1.3**
CLL *e*SP **SP** **18 43 37.0 -1.8**
CLL *e*PS **PS** **18 43 45.0 -1.2**
CLL *e*SS SS 18 49 06.0 +12
CLL *e* 18 55 03.0
CLL Lm MLR 19 18 00.0
comp=Z,4µm,20.3s

CLL Collm 96.94 324 eP P 18 30 59.2 -0.9
ARSA Arzberg 96.99 320 i PcP P 18 31 00.4 -0.1
comp=Z,37nm,1.8s,SNR=9.4
D04E Lakebay 97.13 40 P Pdif 18 31 03.5 +2.3
baz=292
B05A Bryant 97.15 39 P Pdif 18 31 02.8 +1.5
baz=292
SYO Syowa Base 97.36 201 ⇓iP Pdif 18 31 03.1 +1.5
F04D Rainier, OR 97.38 41 P Pdif 18 31 04.2 +1.8
baz=292
B06A Marblemount 97.43 38 eP Pdif 18 31 03.1 +0.7
KHC Kasperske Hory 97.47 322 eP P 18 31 01.8 -0.9
KHC Kasperske Hory 97.47 322 eP P 18 31 02.4 -0.3
KHC ex x 18 31 37.0
KHC ex x 18 41 49.6
KHC AMS AMS 19 16 20.0
comp=Z,4μm,24.0s
KHC Kasperske Hory 97.47 322 eP P 18 31 02.4 -0.3
KHC MLR MLR
comp=Z,4μm,24.0s
PERS Pernice 97.47 320 i P Pdif 18 31 03.5 +0.7
PERS Pernice 97.47 320 i P Pdif 18 31 03.5 +0.7
E04D Cinebar 97.49 40 P Pdif 18 31 05.1 +2.2
baz=292,SNR=9.5
GEC2 GERESS Array S 97.51 322 eP P 18 31 02.4 -0.6
GEC2 GERESS Array S 97.51 322 eP P 18 31 02.4 -0.6
GERES GERESS Array B 97.51 322 P P 18 31 02.9 -0.1
comp=Z,10nm,0.9s,baz=66,slow=4.5,SNR=45
GERES PP PP 18 35 01.6 +1.2
comp=Z,2.0nm,0.9s,baz=40,slow=8.8,SNR=3.6
GERES PKKP PKKPbc 18 47 41.4 0.0
comp=Z,0.9nm,0.9s,baz=281,slow=2.2,SNR=5.7
GERES LR LR 19 20 45.7
comp=Z,2μm,19.4s,baz=85,slow=39
SOKA Soboth 97.51 320 i PcP P 18 31 02.6 -0.4
comp=Z,20nm,1.2s,SNR=8.9
GEA0 GERESS Array S 97.51 322 eP P 18 31 01.6 -1.4
G03D McMinnville, O 97.53 42 P Pdif 18 31 04.9 +1.8
baz=291
MOA Molln 97.55 321 i PcP PcP 18 31 03.1 0.0
comp=Z,67nm,1.1s,SNR=23
SCO Scoresbysund 97.58 350 eP Pdif 18 31 02.7 0.0
SCO Scoresbysund 97.58 350 i P Pdif 18 31 04.0 +1.3
comp=Z,62nm,1.1s
SCO Scoresbysund 97.58 350 i P Pdif 18 31 04.0 +1.3
SCO pmax pmax
comp=Z,62nm,1.1s
NKC Novy Kostel 97.70 324 AMS AMS 19 17 50.0
comp=Z,4μm,22.1s
COR Corvallis 97.73 43 eP Pdif 18 31 04.1 +0.2
COR Corvallis 97.73 43 eP Pdif 18 31 04.1 +0.2
SUMG Summit 97.75 355 eP P 18 31 03.8 -0.2
SUMG Summit 97.75 355 i P Pdif 18 31 04.4 +0.4
comp=Z,156nm,1.3s
SUMG Summit 97.75 355 i P Pdif 18 31 04.4 +0.4
SUMG pmax pmax
comp=Z,160nm,1.3s
BOJS Bojanci 97.80 319 eP P 18 31 03.7 -0.5
BOJS eSKSac SKSac 18 41 35.9 -1.4
BOJS eS SKKSac 18 41 58.7 -7.0
BOJS Bojanci 97.80 319 eP P 18 31 03.7 -0.5
BOJS eSKSac SKSac 18 41 35.9 -1.4
BOJS eS SKKSac 18 41 58.7 -7.0
J01E Myrtle Point 97.81 44 P Pdif 18 31 06.0 +1.7
baz=290
OBKA Obir 97.88 320 i PcP P 18 31 04.3 -0.3
comp=Z,16nm,1.1s,SNR=5.3
WET Wettzell 97.89 323 P Pdif 18 31 05.1 +0.5
LON Longmire 97.91 40 eP Pdif 18 31 05.0 +0.3
LON Longmire 97.91 40 eP Pdif 18 31 05.0 +0.2
KBO Bosley Butte 97.93 45 eP Pdif 18 31 06.7 +1.6
VISS Visnje 97.96 319 eP P 18 31 04.3 -0.7
VISS Visnje 97.96 319 eP P 18 31 04.3 -0.7
MOX Moxa 98.01 324 P Pdif 18 31 05.4 +0.3
I03D Drain, OR 98.02 43 P Pdif 18 31 06.8 +1.6
baz=291
C06D Leavenworth 98.02 39 P Pdif 18 31 06.6 +1.3
baz=293
H04D Lebanon 98.13 42 P Pdif 18 31 07.2 +1.5
baz=292,SNR=9.3
K02D Willamette Mer 98.15 44 P Pdif 18 31 07.5 +1.5
baz=291,SNR=5.4
L02E Cave Junction 98.39 45 P Pdif 18 31 08.8 +1.8
baz=291
MYKA Terra Mystica 98.42 320 ePcP P 18 31 06.4 -0.6
comp=Z,11nm,1.1s
LTY Liberty 98.43 39 eP Pdif 18 31 07.9 +0.8
KBA Koelnbreinsper 98.43 320 i PcP P 18 31 06.3 -0.9
comp=Z,20nm,1.2s,SNR=6.6
KBA Koelnbreinsper 98.43 320 P P 18 31 06.3 -0.9
JAVS Javornik 98.43 319 eP P 18 31 06.4 -0.7
JAVS eSKSac SKSac 18 41 44.2 +3.5
JAVS eS SKKSac 18 42 01.1 -9.4
JAVS Javornik 98.43 319 eP P 18 31 06.4 -0.7
JAVS eSKSac SKSac 18 41 44.2 +3.5
JAVS eS SKKSac 18 42 01.1 -9.4
H04A Detroit Lake 98.44 42 eP Pdif 18 31 07.7 +0.5
F05D White Salmon 98.46 41 P Pdif 18 31 09.1 +1.9
baz=293
JCC Jacoby Creek, 98.55 46 eP Pdif 18 31 09.4 +1.8
I04A Tendick Farm, 98.62 43 P Pdif 18 31 08.7 +0.7
baz=292,SNR=11
HUMO Hull Mountain 98.67 44 eP Pdif 18 31 10.0 +1.7
KHMM Horse Mountain 98.74 46 eP Pdif 18 31 10.0 +1.3
G05D Wamic, OR 98.80 41 P Pdif 18 31 10.5 +1.8
baz=293,SNR=6.1
B08A Colville Reser 98.80 38 eP Pdif 18 31 09.9 +1.2
KMRM Mail Ridge 98.98 47 eP Pdif 18 31 10.3 +0.6
TIP Timpagrande 98.98 312 eP P 18 31 07.7 -2.0
TIP Timpagrande 98.98 312 ⇑iP P 18 31 05.9 -3.8
J04D Umpqua Nationa 99.02 43 P Pdif 18 31 10.9 +0.9
baz=292,SNR=8.1
ABTA Abfaltersbach 99.08 320 i Pdiff Pdif 18 31 09.2 -0.8
comp=Z,16nm,1.3s,SNR=8.1
QSPA South Pole Qui 99.11 180 LR LR 19 14 46.7
comp=Z,2μm,21.4s,baz=344,slow=35
QSPA South Pole Qui 99.11 180 eP Pdif 18 31 09.7 +0.1
I05D Terrebonne, OR 99.13 42 P Pdif 18 31 11.8 +1.5
baz=292,SNR=5.9
YBH Yreka Blue Hor 99.16 45 eP Pdif 18 31 11.1 +0.6
YBH Yreka Blue Hor 99.16 45 eP Pdif 18 31 11.1 +0.6
M02C Callahan 99.18 45 P Pdif 18 31 12.4 +1.8
baz=291,SNR=14
G06A Carlson Farm, 99.25 41 eP Pdif 18 31 11.8 +1.1
KCPM Cahto Peak 99.26 47 eP Pdif 18 31 11.5 +0.5
L04D Klamath Falls 99.27 44 P Pdif 18 31 12.5 +1.5
baz=292,SNR=13
WTTA Wattenberg 99.42 321 i Pdiff Pdif 18 31 11.1 -0.5
comp=Z,42nm,1.2s,SNR=9.0
WATA Walderalm 99.42 321 i Pdiff Pdif 18 31 10.6 -1.0
comp=Z,18nm,0.9s,SNR=7.2
N02D Trinity Center 99.43 46 P Pdif 18 31 13.8 +2.0
baz=291,SNR=8.6
F07A Phinny Hill Vi 99.44 40 eP Pdif 18 31 13.3 +1.7
HAWA Hanford 99.49 40 ePdif Pdif 18 31 14.0 +2.3
HAWA LR LR
comp=Z,4μm,22.0s
K04D Chiloquin, OR 99.50 44 P Pdif 18 31 13.5 +1.5
baz=292
D08A Wollman Farm, 99.60 39 ePdif Pdif 18 31 14.1 +1.8
J05D Fort Rock, OR 99.60 43 P Pdif 18 31 14.2 +1.7
baz=292,SNR=9.8
PINE Pine Mountain 99.60 43 ePdif Pdif 18 31 15.0 +2.4
WDC Whiskeytown Da 99.69 46 ePdif Pdif 18 31 14.9 +2.1
SQTA Sankt Quirin 99.70 321 i Pdiff Pdif 18 31 12.2 -0.6
comp=Z,40nm,1.2s,SNR=14
MOTA Moosalm 99.71 321 i Pdiff Pdif 18 31 12.1 -0.8
comp=Z,16nm,0.9s,SNR=8.1
E08A Dider Farm, El 99.75 40 ePdif Pdif 18 31 13.5 +0.7
M04C Macdoel 99.75 45 P Pdif 18 31 14.8 +1.6
baz=292,SNR=17
RETA Reutte 99.86 322 ePdiff Pdif 18 31 13.2 -0.2
comp=Z,14nm,1.5s
HOPS Hopland Field 99.87 48 ePdif Pdif 18 31 14.9 +1.3
K05A Summer Lake 100.04 44 ePdif Pdif 18 31 16.9 +2.4
FETA Feichten 100.08 321 i Pdiff Pdif 18 31 14.3 -0.3
comp=Z,27nm,1.2s,SNR=10
LSZ Lusaka 100.13 256 PFAKE 18 31 30.0 +15
LSZ LR LR
comp=Z,3μm,21.0s
LSZ Lusaka 100.13 256 P Pdif 18 31 14.2 -1.2
SNR=6.0
NEW Newport 100.18 37 ePdif Pdif 18 31 14.3 -0.5
NEW LR LR
comp=Z,2μm,22.0s
NEW Newport 100.18 37 eP Pdif 18 31 14.4 -0.5
NEW MLR MLR
comp=Z,2μm,22.0s
NEW Newport 100.18 37 P Pdif 18 31 16.6 +1.8
baz=296
G08A Pilot Rock 100.31 41 ePdif Pdif 18 31 17.6 +2.1
E09A Wood Farm, Sta 100.31 39 ePdif Pdif 18 31 17.2 +1.8
O03E Paynes Creek 100.32 46 P Pdif 18 31 16.8 +1.1
baz=292
DAVA Damuels 100.49 322 ePdiff Pdif 18 31 16.0 -0.4
comp=Z,22nm,1.6s
FUORN Ofenpass-Fuorn 100.54 321 ePdif Pdif 18 31 16.7 0.0
MOD Modoc Plateau 100.77 44 ePdif Pdif 18 31 18.1 +0.3
ORV Oroville 100.81 47 ePdif Pdif 18 31 19.3 +1.6
ORV Oroville 100.81 47 eP Pdif 18 31 19.3 +1.6
BFO Black Forest 100.96 323 ePdif Pdif 18 31 18.4 +0.1
BFO LR LR
comp=Z,102nm,20.0s
BFO Black Forest 100.96 323 eP Pdif 18 31 18.4 +0.1
TUE Stuetta 101.18 321 ePdif Pdif 18 31 19.9 +0.3
MEM Membach 101.20 326 ⇓Pdif Pdif 18 31 19.7 +0.4
AFDM Forest Hills D 101.41 47 ePdif Pdif 18 31 21.1 +0.6
J08A Circle Bar Ran 101.42 42 ePdif Pdif 18 31 22.3 +1.7
BEKR Beckworth 101.51 46 ePdif Pdif 18 31 23.0 +1.9
BMO Blue Mountains 101.55 41 ePdif Pdif 18 31 22.5 +1.4
BMO LR LR
comp=Z,4μm,22.0s
BMO Blue Mountains 101.55 41 eP Pdif 18 31 22.5 +1.4
BMO MLR MLR
comp=Z,4μm,22.0s
RKT Rikitea 101.56 112 ePP PP 18 35 29.8 -2.4
comp=Z,514nm,26.8s
RKT eSKSac SKSac 18 41 51.9 -4.7
comp=Z,1μm,26.5s
RKT eSP SP 18 44 28.5 -1.8
comp=Z,2μm,33.2s
RKT eSS SS 18 50 01.3 -0.1
comp=Z,3μm,31.0s
RKT Rikitea 101.56 112 eLQ LQ 19 00 18.0
comp=Z,2μm,34.2s
RKT eLR LR 19 04 35.8
comp=Z,2μm,36.8s
RKT Rikitea 101.56 112 eT T 20 24 40.8
comp=Z,2.3nm,0.3s
WLF Walferdange 101.58 325 ePdif Pdif 18 31 22.1 +1.1
WLF Walferdange 101.58 325 eP Pdif 18 31 22.1 +1.1
WLF Walferdange 101.58 325 ⇑Pdif Pdif 18 31 22.0 +1.0
comp=Z,52nm,1.9s
BCLA Clavier 101.68 326 ⇓Pdif Pdif 18 31 19.5 -1.9
comp=Z,40nm,1.9s
WVOR Wild Horse Val 101.69 43 PFAKE 18 31 30.0 +8.2
WVOR LR LR
comp=Z,3μm,22.0s
SAO San Andreas Ge 101.86 49 ePdif Pdif 18 31 24.9 +2.4
SAO San Andreas Ge 101.86 49 eP Pdif 18 31 24.9 +2.4
JTMT Jette 102.11 37 ePdif Pdif 18 31 24.7 +1.2
CMB Columbia Colle 102.18 48 ePdif Pdif 18 31 25.6 +1.6
CMB Columbia Colle 102.18 48 eP Pdif 18 31 25.6 +1.6
DOU Dourbes 102.24 326 ⇑Pdif Pdif 18 31 23.8 0.0
PAHR Pah Rah Range 102.26 46 ePdif Pdif 18 31 26.5 +2.1
PNTR Pine Nut 102.35 47 ePdif Pdif 18 31 27.6 +2.7
YERR Yerington 102.64 47 ePdif Pdif 18 31 28.4 +2.2
WAKR Walker 102.69 47 ePdif Pdif 18 31 29.0 +2.6
MSO Missoula 102.75 38 ePdif Pdif 18 31 28.0 +1.6
MSO Missoula 102.75 38 P Pdif 18 31 27.4 +1.0
baz=299
EKA Eskdalemuir Ar 103.15 333 Pdiff Pdif 18 31 28.0 +0.2
comp=Z,4.6nm,1.1s,baz=90,slow=0.7,SNR=3.9
EKA PKKPbc PKKPbc 18 47 24.4 -1.0
comp=Z,1.2nm,0.6s,baz=224,slow=2.3,SNR=4.3
EKA Eskdalemuir Ar 103.15 333 eP Pdif 18 31 28.0 +0.2
ESK Eskdalemuir 103.18 333 ePdif Pdif 18 31 28.1 +0.1
ESK LR LR
comp=Z,4μm,20.0s
ESK Eskdalemuir 103.18 333 eP Pdif 18 31 28.1 +0.1
ESK MLR MLR
comp=Z,4μm,20.0s
RYN Ryan 103.30 47 ePdif Pdif 18 31 31.6 +2.5
OMMB Old Mammoth Mi 103.35 48 ePdif Pdif 18 31 31.8 +2.2
KVN Kaiserville 103.43 46 ePdif Pdif 18 31 31.9 +2.2
KVN Kaiserville 103.43 46 eP Pdif 18 31 31.9 +2.2
MLAC Mammoth, Mammt 103.47 48 P Pdif 18 31 31.9 +1.9
baz=293
SMMC Simmler 103.48 50 P Pdif 18 31 31.9 +2.1
baz=292
LBTB Lobatse 103.48 246 ePdif Pdif 18 31 29.2 -0.8
LBTB Lobatse 103.48 246 eP Pdif 18 31 29.2 -0.8
NV01 Mina Array Sit 103.54 47 ePKKPbc PKKPbc 18 47 23.1 -0.9
NVAR Mina Array Bea 103.54 47 Pdiff Pdif 18 31 31.8 +1.5
comp=Z,10nm,1.0s,baz=271,slow=4.8,SNR=37
NVAR PKKP PKiKP 18 35 47.9 -0.8
comp=Z,4.4nm,1.0s,baz=258,slow=4.5,SNR=5.4
NVAR PKKPbc PKKPbc 18 47 24.2 +0.2
comp=Z,5.6nm,0.7s,baz=133,slow=4.2,SNR=27
NV11 Mina Array Sit 103.64 47 ePdif Pdif 18 31 32.1 +1.5
PKM Mcpherson Peak 103.77 51 P Pdif 18 31 33.3 +2.0
baz=292
SFJD Kangerlussuaq 103.94 359 PFAKE 18 31 40.0 +9.0
SFJD LR LR
comp=Z,2μm,22.0s
VES Vestal, Richgr 103.97 50 P Pdif 18 31 33.2 +1.3
baz=292
HLID Hailey 103.99 41 ePdif Pdif 18 31 32.8 +0.7
HLID LR LR
comp=Z,2μm,20.0s
HLID Hailey 103.99 41 P Pdif 18 31 34.1 +2.0
baz=298
SBC Santa Barbara 104.01 51 P Pdif 18 31 33.9 +1.8
baz=292
HRY Holter Researc 104.07 37 ePdif Pdif 18 31 34.8 +2.5
TIN Tinemaha, Big 104.14 48 P Pdif 18 31 34.8 +2.0
baz=293
SCZ2 Santa Cruz Isl 104.24 51 P Pdif 18 31 34.3 +1.1
baz=292
DLMT Dillon 104.28 39 ePdif Pdif 18 31 35.6 +2.3
MCMT McKenzie Canyo 104.38 39 ePdif Pdif 18 31 36.3 +2.4
ARVC Arvin 104.43 50 P Pdif 18 31 35.6 +1.6
baz=292
CWC Cottonwood Cre 104.49 49 P Pdif 18 31 35.8 +1.4
baz=293
ISA Isabella, Lake 104.50 50 ePdif Pdif 18 31 33.9 -0.5
ISA Isabella, Lake 104.50 50 eP Pdif 18 31 33.9 -0.5
ISA Isabella, Lake 104.50 50 P Pdif 18 31 35.8 +1.4
baz=293
FFC Flin Flon 104.56 27 PFAKE 18 31 50.0 +16
FFC LR LR
comp=Z,2μm,20.0s
SNCC San Nicolas Is 104.60 52 P Pdif 18 31 36.8 +2.0
baz=292
EGMT Eagleton 104.60 35 PFAKE 18 31 50.0 +15
EGMT LR LR
comp=Z,2μm,21.0s
EGMT Eagleton 104.60 35 P Pdif 18 31 35.9 +1.3
baz=302
BLG Laguna Peak, P 104.64 51 P Pdif 18 31 36.4 +1.4
baz=292
OSI Osito Audit: C 104.71 51 P Pdif 18 31 36.8 +1.5
baz=292
BOZ Bozeman (W) 104.75 38 PFAKE 18 31 50.0 +15
BOZ LR LR
comp=Z,2μm,21.0s
BOZ Bozeman (W) 104.75 38 P Pdif 18 31 37.2 +1.8
baz=300
GRAC Grapevine Rang 104.79 48 P Pdif 18 31 37.6 +2.0
baz=294
DAC Darwin (Calif) 104.91 49 ePdif Pdif 18 31 38.5 +2.1
DAC Darwin (Calif) 104.91 49 eP Pdif 18 31 38.5 +2.1
MPMC Manual Prospec 105.08 49 P Pdif 18 31 38.6 +1.5
baz=294
DECC Green Verdugo 105.14 51 P Pdif 18 31 38.4 +1.2
baz=293
EDW2 Edwards Air Fo 105.16 50 P Pdif 18 31 38.9 +1.6
baz=293
LRMC Laurel Mtn Rad 105.16 49 P Pdif 18 31 38.8 +1.4
baz=293
FURC Furnace Creek, 105.38 48 P Pdif 18 31 39.8 +1.7
baz=294
FMP Fort Macarthur 105.38 51 P Pdif 18 31 39.7 +1.5
baz=292
CIS Catalina Islan 105.40 52 P Pdif 18 31 39.8 +1.4
baz=292
R11A Troy Canyon, C 105.52 46 ePdif Pdif 18 31 39.2 +0.2
R11A Troy Canyon, C 105.52 46 P Pdif 18 31 40.9 +1.9
baz=296
TPNV Topopah Spring 105.63 48 ePdif Pdif 18 31 41.8 +2.3
TPNV Topopah Spring 105.63 48 P Pdif 18 31 40.9 +1.4
baz=295
YHH Holmes Hill 105.64 38 ePdif Pdif 18 31 42.6 +3.1
BFSC Mount Baldy Ra 105.66 51 P Pdif 18 31 41.1 +1.5
baz=293
GSC Goldstone, Bar 105.89 49 ePdif Pdif 18 31 41.8 +1.2
GSC Goldstone, Bar 105.89 49 eP Pdif 18 31 41.8 +1.2
GSC Goldstone, Bar 105.89 49 P Pdif 18 31 42.3 +1.7
baz=294
HVU Hansel Valley 105.89 42 ePdif Pdif 18 31 41.3 +0.7
HVU Hansel Valley 105.89 42 eP Pdif 18 31 41.3 +0.7
RRX Edison Barstow 105.92 50 P Pdif 18 31 42.5 +1.9
baz=294
H17A Grant Village 106.01 39 P Pdif 18 31 44.5 +3.3
baz=301
LKWY Lake 106.03 38 PFAKE 18 36 10.0
LKWY LR LR
comp=Z,2μm,22.0s
SHOC Shoshone, Teco 106.04 49 P Pdif 18 31 43.3 +2.1
baz=294
FXWY Fox Creek 106.11 39 ePdif Pdif 18 31 42.8 +1.2
PTCN Pitcairn Islan 106.14 113 PFAKE 18 36 10.0
PTCN LR LR
comp=Z,2μm,22.0s
BBRC Big Bear Solar 106.22 50 P Pdif 18 31 43.8 +1.6
baz=294
MOOW Moose Ponds 106.23 39 ePdif Pdif 18 31 43.0 +0.9
MURC Murrieta 106.27 51 P Pdif 18 31 44.0 +1.7
baz=293
RLMT Red Lodge 106.43 37 PFAKE 18 36 10.0
RLMT LR LR
comp=Z,1μm,20.0s
RLMT Red Lodge 106.43 37 P Pdif 18 31 45.0 +2.1
baz=302
HEC Hector,Ludlow 106.43 50 P Pdif 18 31 44.9 +1.9
baz=294
TUQ Turquoise Moun 106.49 49 P Pdif 18 31 45.3 +2.0
baz=295
AHID Auburn Hatcher 106.50 40 PFAKE 18 36 10.0
AHID LR LR
comp=Z,4μm,22.0s
SHPR Sheep Range 106.61 48 ePdif Pdif 18 31 44.5 +0.6
DUG Dugway, Tooele 106.61 43 P Pdif 18 31 45.6 +1.8
baz=298
109C Camp Elliot, M 106.61 52 P Pdif 18 31 45.6 +1.8
baz=293
FRD Ford Ranch, An 106.76 51 P Pdif 18 31 46.4 +1.9
baz=294
HWUT Hardware Ranch 106.77 42 ePdif Pdif 18 31 47.1 +2.6
PFO Pinyon Flats O 106.83 51 ePdif Pdif 18 31 44.0 -0.9
PFO Pinyon Flats O 106.83 51 eP Pdif 18 31 44.0 -0.9
PFO Pinyon Flats O 106.83 51 P Pdif 18 31 46.3 +1.4
baz=294
XPFO Piæon Flat 106.83 51 ePdif Pdif 18 31 43.5 -1.3
GMRC Granite Mounta 106.96 49 P Pdif 18 31 47.1 +1.7
baz=295
BELC Belle Mtn. Jos 107.02 50 P Pdif 18 31 47.1 +1.4
baz=294
MONP2 Monument Peak 107.14 51 P Pdif 18 31 48.1 +1.7
baz=294
NLU North Lily Min 107.22 43 ePdif Pdif 18 31 45.0 -1.6
LAO LASA Array 107.34 35 P Pdif 18 31 48.5 +1.7
baz=305
DGMT Dagmar 107.40 33 P Pdif 18 31 48.5 +1.6
baz=307
BW06 Boulder Array 107.48 40 P Pdif 18 31 49.1 +1.4
baz=301
PD31 Pinedale Array 107.48 40 ePdif Pdif 18 31 48.3 +0.6
PD31 ePKiKP PKiKP 18 35 55.7 -0.2
PD31 ePKKPdf PKKPdf 18 47 25.1 +0.3
PDAR Pinedale Array 107.48 40 Pdiff Pdif 18 31 49.2 +1.6
comp=Z,0.5nm,0.7s,baz=289,slow=4.5,SNR=5.6
PDAR PKiKP PKiKP 18 35 56.3 +0.5
comp=Z,0.6nm,0.7s,baz=270,slow=3.2,SNR=2.8
PDAR PKKPbc PKKPbc 18 47 10.1 -2.1
comp=Z,2.7nm,1.0s,baz=113,slow=3.9,SNR=4.7
PDAR PKKPab PKKPdf 18 47 25.1 +0.3
comp=Z,3.8nm,0.8s,baz=112,slow=5.7,SNR=12
PDAR Pinedale Array 107.48 40 ePdif Pdif 18 31 46.3 -1.4
PDAR PKiKP PKiKP 18 35 56.3 +0.5
PDAR PKKPbc PKKPbc 18 47 10.1 -2.1
PDAR PKKPab PKKPdf 18 47 25.1 +0.3
IKP In-Ko-Pah, Jac 107.48 52 P Pdif 18 31 49.5 +1.8
baz=294
BC3 Big Chuckawall 107.58 50 P Pdif 18 31 50.2 +2.0
baz=294
SWSC Sam W. Stewart 107.60 51 P Pdif 18 31 49.6 +1.5
baz=294
IRM Iron Mountain 107.60 50 P Pdif 18 31 50.2 +2.0
baz=295
NEE2 Needles Airpor 107.74 49 P Pdif 18 31 50.6 +1.9
baz=295
MTPU Mount Pierson 108.05 45 ePdif Pdif 18 31 49.5 -1.0
W13A Hualapai Mount 108.15 48 ePdif Pdif 18 31 50.6 -0.2
Y12C Blythe 108.24 50 P Pdif 18 31 53.0 +2.1
baz=295
PDMCI Parker Dam,Lak 108.30 49 P Pdif 18 31 53.2 +2.1
baz=295
GLA Glamis 108.30 51 P Pdif 18 31 53.7 +2.4
baz=295
K22A Casper 109.43 39 P Pdif 18 31 56.5 +0.2
baz=304
O20A White River Ci 109.69 42 P Pdif 18 31 56.7 -0.8
baz=302
WUAZ Wupatki 109.80 47 P Pdif 18 32 00.1 +2.0
baz=298
RSSD Black Hills 110.08 36 P Pdif 18 31 59.1 -0.1
baz=306
MDND Maddock 110.18 31 P Pdif 18 32 01.3 +2.0
baz=311
214A Organ Pipe Nat 110.31 51 P Pdif 18 32 02.6 +2.4
baz=296
ULM Lac du Bonnet 110.34 27 PKKPab PKKPab 18 47 10.2 -3.8
comp=Z,14nm,0.9s,baz=113,slow=2.3,SNR=9.0
SNAA Sanae 110.38 195 Pdiff Pdif 18 32 03.4 +3.7
SNAA Sanae 110.38 195 P PKKPbc 18 47 01.4 -2.2
SNAA Sanae 110.38 195 PKKPbc PKKPbc 18 47 01.5 -2.1
comp=Z,5.2nm,0.8s,baz=262,slow=5.5,SNR=20
SNAA Sanae 110.38 195 ePdif Pdif 18 31 59.7 0.0
SNAA ePKKPbc PKKPbc 18 47 01.5 -2.2
SNAA Sanae 110.38 195 eP Pdif 18 31 59.7 0.0
SNAA e 18 47 01.5
N23A Red Feather La 110.76 40 P Pdif 18 32 04.1 +1.8
baz=304
MVCO Mesa Verde 111.01 44 P PKiKP 18 36 04.8 +2.1
baz=300
W18A Petrified Fore 111.17 47 P PKiKP 18 36 04.8 +1.8
baz=299
ISCO Idaho Springs 111.57 41 P PKiKP 18 36 07.2 +3.4
baz=304
TUC Tucson 111.70 50 P PKiKP 18 36 04.5 +0.5
baz=297
AGMN Agassiz Nation 111.72 29 P PKiKP 18 36 06.0 +2.6
baz=315
S22A 4UR Ranch, Cre 111.87 43 P PKiKP 18 36 06.1 +1.7
baz=302
VNA2 Neumayer--Watz 112.01 195 PKiKP PKiKP 18 36 03.0 -0.3
baz=139,slow=1.1
VNA2 Neumayer--Watz 112.01 195 Pdiff Pdif 18 32 08.4 +1.6
baz=105,slow=3.9
VNA2 Neumayer--Watz 112.01 195 P PKKPbc 18 46 56.9 -1.3
baz=310,slow=6.2
Q24A Divide 112.33 41 P PKiKP 18 36 07.3 +2.0
baz=304
VNA3 Neumayer Olymp 112.36 194 PKiKP PKiKP 18 36 04.1 +0.2
VNA3 Neumayer Olymp 112.36 194 Pdiff Pdif 18 32 09.6 +1.2
VNA3 Neumayer Olymp 112.36 194 P PKKPbc 18 46 54.5 -2.5
VNA1 Neumayer--Stat 112.40 195 PKiKP PKiKP 18 36 04.7 +0.8
VNA1 Neumayer--Stat 112.40 195 P PKKPbc 18 46 55.0 -1.7
SUSD Miller 112.75 33 P PKiKP 18 36 06.0 +0.5
baz=311
SDCO Great Sand Dun 112.77 42 P PKiKP 18 36 04.8 -1.3
baz=303
ESDC Sonseca Array 113.01 320 PKiKP PKiKP 18 36 06.8 +0.7
comp=Z,2.4nm,0.9s,baz=26,slow=4.3,SNR=7.1
ESDC PP PP 18 36 55.2 +0.2
comp=Z,1.6nm,0.7s,baz=45,slow=7.2,SNR=6.0
OGNE Ogallala 113.16 38 P PKiKP 18 36 08.5 +2.0
baz=307
PBRG Braganca 113.43 323 eLR LR 19 17 26.4
comp=Z,2μm,20.0s
ANMO Albuquerque 113.58 46 PKiKP PKiKP 18 36 09.2 +1.6
comp=Z,5.8nm,0.9s,baz=201,slow=3.0,SNR=6.4
ANMO PP PP 18 36 59.3 -0.2
comp=Z,1.4nm,0.8s,baz=305,slow=6.7,SNR=3.2
ANMO Albuquerque 113.58 46 ePKiKP PKiKP 18 36 09.7 +2.1

ANMO				*e*PP		**PP**	**18 36 58.0**	**-1.5**
ANMO	**Albuquerque**	**113.58**	**46**	P		**PKiKP**	**18 36 08.4**	**+0.8**
	baz=301							
T25A	**Trinidad**	**113.82**	**43**	P		**PKiKP**	**18 36 08.8**	**+0.8**
	baz=304							
121A	**Cookes Peak, D**	**113.83**	**48**	P		**PKiKP**	**18 36 09.9**	**+1.7**
	baz=299							
KSCO	**Kaye Shedlock'**	**113.93**	**40**	P		**PKiKP**	**18 36 07.6**	**-0.4**
	baz=306							
MVO	**Moncorvo**	**114.00**	**323**	*e*PKPdf		PKPdf	18 36 10.5	
MVO	**Moncorvo**	**114.00**	**323**	*e*LQ		LQ	19 13 55.7	
MVO				eLR		LR	19 17 05.5	
	comp=Z,2μm,20.0s							
PGAV	**Gavieira, Arco**	**114.22**	**324**	*e*PKPdf		PKPdf	18 36 11.0	+2.5
PGAV	**Gavieira, Arco**	**114.22**	**324**	*e*LR		LR	19 17 07.6	
	comp=Z,4μm,20.0s							
POLO	**Lamas de Olo**	**114.32**	**324**	*e*PKPdf		PKPdf	18 36 10.2	+1.5
POLO	**Lamas de Olo**	**114.32**	**324**	*e*LR		LR	19 14 10.9	
	comp=Z,1μm,20.0s							
ECSD	**EROS Data Cent**	**114.48**	**33**	P		PKPdf	18 36 08.3	-0.5
	baz=313							
MTE	**Manteigas**	**114.78**	**323**	*e*PKPdf		PKPdf	18 36 10.9	+1.3
PVIS	**Viseu**	**114.79**	**323**	*e*PKPdf		PKPdf	18 36 11.4	+1.8
C40A	**Isle Royale Na**	**115.03**	**25**	P		**PKPdf**	**18 36 12.0**	**+2.3**
	baz=321							
PCBR	**Castelo Branco**	**115.08**	**322**	*e*PKPdf		**PKPdf**	**18 36 11.5**	**+1.4**
BGNE	**Belgrade**	**115.17**	**36**	P		**PKPdf**	**18 36 12.3**	**+2.1**
	baz=310							
PMRV	**Marv??o**	**115.29**	**322**	*e*PKPdf		**PKPdf**	**18 36 11.4**	**+0.9**
PMRV	**Marv??o**	**115.29**	**322**	*e*PP		PP	18 37 12.2	+1.2
PMRV	**Marv??o**	**115.29**	**322**	eLQ		LQ	19 15 22.2	
PMRV				eLR		LR	19 18 18.7	
	comp=Z,2μm,22.0s							
F38A	**Pierce - Schro**	**115.29**	**28**	P		**PKPdf**	**18 36 09.5**	**-0.8**
	baz=318							
SPMN	**Marine on St.**	**115.39**	**30**	P		**PKPdf**	**18 36 12.7**	**+2.2**
	baz=317							
PCAS	**Casmilo, Conde**	**115.57**	**323**	*e*PKPdf		**PKPdf**	**18 36 13.0**	**+2.0**
PCAS	**Casmilo, Conde**	**115.57**	**323**	eLQ		LQ	19 14 48.2	
PCAS				eLR		LR	19 17 17.9	
	comp=Z,3μm,22.0s							
E39A	**Mellen**	**115.59**	**27**	P		**PKPdf**	**18 36 14.4**	**+3.5**
	baz=319							
PESTR	**Estremoz**	**115.75**	**321**	eLR		LR	19 18 31.6	
	comp=Z,1μm,18.0s							
F39A	**Loretta**	**115.77**	**28**	P		**PKPdf**	**18 36 14.1**	**+2.9**
	baz=319							
PTOM	**Tomar**	**115.79**	**322**	*e*PKPdf		**PKPdf**	**18 36 12.5**	**+1.1**
E40A	**Wakefield**	**115.84**	**27**	P		**PKPdf**	**18 36 13.5**	**+2.2**
	baz=320							
CBKS	**Cedar Bluff**	**115.85**	**39**	P		**PKPdf**	**18 36 12.0**	**+0.3**
	baz=308							
G38A	**Ridgeland**	**115.89**	**29**	P		**PKPdf**	**18 36 14.6**	**+3.2**
	baz=318							
D41A	**Chassel**	**115.95**	**26**	P		**PKPdf**	**18 36 10.7**	**-0.8**
	baz=321							
MNTX	**Cornudas Mount**	**116.01**	**48**	*e*PKPdf		**PKPdf**	**18 36 12.9**	**+0.8**
MNTX	**Cornudas Mount**	**116.01**	**48**	P		**PKPdf**	**18 36 11.7**	**-0.4**
	baz=301							
H38A	**Maiden Rock**	**116.04**	**30**	P		**PKPdf**	**18 36 13.3**	**+1.5**
	baz=317							
SLBS	**Sierra La Lagu**	**116.07**	**58**	*e*PKPdf		**PKPdf**	**18 36 13.5**	**+1.0**
G39A	**Holcombe**	**116.12**	**29**	P		**PKPdf**	**18 36 10.1**	**-1.8**
	baz=318							
F40A	**Park Falls**	**116.14**	**27**	P		**PKPdf**	**18 36 12.8**	**+0.8**
	baz=320							
ALMR	**Almeirim**	**116.18**	**322**	*e*PP		PP	18 37 17.1	-0.1
ALMR				AMS		AMS	19 24 35.0	
	comp=N,2μm,18.8s							
EVO	**Evora**	**116.22**	**321**	*e*PKPdf		**PKPdf**	**18 36 16.4**	**+4.1**
E41A	**Kenton**	**116.24**	**26**	P		**PKPdf**	**18 36 12.7**	**+0.6**
	baz=321							
PBEJ	**Beja**	**116.44**	**321**	*e*PKPdf		**PKPdf**	**18 36 13.8**	**+1.1**
GDL2	**Guadalupe Moun**	**116.50**	**47**	*e*PKPdf		**PKPdf**	**18 36 13.8**	**+0.6**
H39A	**Augusta**	**116.52**	**29**	P		**PKPdf**	**18 36 13.4**	**+0.7**
	baz=318							
G40A	**Rib Lake**	**116.59**	**28**	*e*PKPdf		**PKPdf**	**18 36 12.3**	**-0.5**
G40A	**Rib Lake**	**116.59**	**28**	P		**PKPdf**	**18 36 13.2**	**+0.3**
	baz=319							
MSTX	**Muleshoe**	**116.68**	**45**	*e*PKPdf		**PKPdf**	**18 36 14.2**	**+0.7**
MSTX	**Muleshoe**	**116.68**	**45**	P		**PKPdf**	**18 36 14.4**	**+1.0**
	baz=304							
E42A	**Champion**	**116.72**	**26**	P		**PKPdf**	**18 36 12.4**	**-0.6**
	baz=322							
PVAQ	**Vaqueiros**	**116.72**	**320**	eLQ		LQ	19 16 33.8	
PVAQ				eLR		LR	19 24 13.3	
	comp=N,2μm,20.0s							
PMAFR	**Mafra**	**116.73**	**322**	*e*LR		LR	19 15 54.1	
	comp=N,2μm,22.0s							
F41A	**Three Lakes**	**116.73**	**27**	P		**PKPdf**	**18 36 13.6**	**+0.5**
	baz=320							
MESJ	**Messejana**	**116.77**	**321**	*e*PKPdf		**PKPdf**	**18 36 12.9**	**-0.4**
MESJ				*e*PP		**PP**	**18 37 21.3**	**-0.2**
MESJ				AMS		AMS	19 31 05.1	
	comp=Z,2μm,26.5s							
MESJ	**Messejana**	**116.77**	**321**	*e*PKPdf		**PKPdf**	**18 36 15.9**	**+2.5**
MESJ	**Messejana**	**116.77**	**321**	*e*PKIKP		**PKPdf**	**18 36 12.9**	**-0.4**
MESJ				*e*			18 37 21.2	
LIS	**Lisbon**	**116.80**	**322**	*e*PP		PP	18 37 21.4	-0.1
LIS				AMS		AMS	19 33 39.8	
	comp=E,2μm,19.8s							
AMTX	**Amarillo**	**116.92**	**43**	P		**PKPdf**	**18 36 14.9**	**+1.0**
	baz=305							
PBDV	**Barranco-do-Ve**	**116.95**	**320**	A		A	19 34 40.2	
	comp=E,2μm,18.0s							
H40A	**Chili**	**116.99**	**29**	P		**PKPdf**	**18 36 13.4**	**-0.2**
	baz=319							
I39A	**Houston**	**117.01**	**30**	*e*PKPdf		**PKPdf**	**18 36 12.1**	**-1.6**
I39A	**Houston**	**117.01**	**30**	P		**PKPdf**	**18 36 13.7**	**+0.1**
	baz=317							
G41A	**Antigo**	**117.10**	**27**	P		**PKPdf**	**18 36 13.9**	**+0.1**
	baz=320							
F42A	**Maple Grove Fa**	**117.15**	**26**	P		**PKPdf**	**18 36 14.0**	**+0.1**
	baz=321							
E43A	**Lone Tree Farm**	**117.15**	**25**	P		**PKPdf**	**18 36 14.6**	**+0.7**
	baz=323							
PTEO	**Sao Teotonio**	**117.27**	**321**	*e*PKPdf		**PKPdf**	**18 36 17.1**	**+2.8**
MDT	**Midelt**	**117.27**	**314**	PKP		**PKPdf**	**18 36 15.8**	**+1.2**
	comp=E,5.1nm,0.7s,baz=104,slow=4.5,SNR=12							
J39A	**Decorah**	**117.30**	**30**	P		**PKPdf**	**18 36 14.1**	**-0.2**
	baz=317							
H41A	**Junction City**	**117.34**	**28**	P		**PKPdf**	**18 36 14.4**	**+0.1**
	baz=320							
MORF	**Marmelete**	**117.37**	**321**	*e*PKPdf		**PKPdf**	**18 36 14.1**	**-0.5**
MORF				AMS		AMS	19 31 54.8	
	comp=Z,2μm,21.1s							
MORF	**Marmelete**	**117.37**	**321**	*e*PKPdf		**PKPdf**	**18 36 17.5**	**+2.9**
MORF	**Marmelete**	**117.37**	**321**	*e*PKIKP		**PKPdf**	**18 36 14.1**	**-0.5**
E44A	**Grand Marais A**	**117.40**	**24**	P		**PKPdf**	**18 36 14.2**	**-0.1**
	baz=324							
G42A	**Mountain**	**117.42**	**27**	P		**PKPdf**	**18 36 14.7**	**+0.3**
	baz=321							
I40A	**Norwalk**	**117.43**	**29**	P		**PKPdf**	**18 36 14.5**	**+0.1**
	baz=318							
F43A	**Flat Rock, Esc**	**117.51**	**26**	P		**PKPdf**	**18 36 14.5**	**0.0**
	baz=322							
SCIA	**State Center**	**117.55**	**32**	P		**PKPdf**	**18 36 15.3**	**+0.5**
	baz=315							
PFVI	**Vila Bisbo**	**117.59**	**320**	eLR		LR	19 14 51.1	
	comp=Z,2μm,22.0s							
I41A	**Arkdale**	**117.66**	**29**	P		**PKPdf**	**18 36 14.6**	**-0.3**
	baz=319							
K39A	**Oelwein**	**117.67**	**31**	P		**PKPdf**	**18 36 14.3**	**-0.7**
	baz=317							
F44A	**Big Bay de Noc**	**117.72**	**25**	P		**PKPdf**	**18 36 15.7**	**+0.7**
	baz=323							
J40A	**Soldiers Grove**	**117.73**	**30**	P		**PKPdf**	**18 36 15.0**	**-0.1**
	baz=318							
G43A	**Wallace**	**117.74**	**26**	P		**PKPdf**	**18 36 15.0**	**0.0**
	baz=322							
E45A	**Wooded Hills,**	**117.92**	**24**	P		**PKPdf**	**18 36 16.4**	**+1.1**
	baz=324							
H42A	**Shiocton**	**117.94**	**28**	P		**PKPdf**	**18 36 14.8**	**-0.6**
	baz=321							
L39A	**Vinton**	**118.03**	**31**	P		**PKPdf**	**18 36 15.0**	**-0.7**
	baz=316							
K40A	**Colesburg**	**118.05**	**31**	P		**PKPdf**	**18 36 15.1**	**-0.6**
	baz=317							
J41A	**Loganville**	**118.11**	**29**	P		**PKPdf**	**18 36 15.7**	**-0.1**
	baz=319							
HPIG		**118.13**	**53**	*e*PKPdf		**PKPdf**	**18 36 16.4**	**-0.1**
D47A	**Chapleau**	**118.15**	**22**	P		**PKPdf**	**18 36 16.5**	**+0.7**
	baz=327							
I42A	**Draeger Farm,**	**118.24**	**28**	P		**PKPdf**	**18 36 15.7**	**-0.3**
	baz=320							
H43A	**Windswept, Lux**	**118.31**	**27**	P		**PKPdf**	**18 36 16.6**	**+0.4**
	baz=321							
F45A	**CMU Biological**	**118.33**	**25**	P		**PKPdf**	**18 36 16.2**	**+0.1**
	baz=324							
JFWS	**Jewell Farm**	**118.33**	**30**	*e*PKPdf		**PKPdf**	**18 36 15.5**	**-0.7**
JFWS	**Jewell Farm**	**118.33**	**30**	P		**PKPdf**	**18 36 16.4**	**+0.2**
	baz=318							
M39A	**Webster**	**118.41**	**32**	P		**PKPdf**	**18 36 16.5**	**+0.1**
	baz=316							
L40A	**Anamosa**	**118.47**	**31**	*e*PKPdf		**PKPdf**	**18 36 15.3**	**-1.2**
L40A	**Anamosa**	**118.47**	**31**	P		**PKPdf**	**18 36 16.1**	**-0.5**
	baz=317							
TX31	**Lajitas Ar. Si**	**118.49**	**50**	*e*PKPdf		**PKPdf**	**18 36 17.3**	**+0.3**
TX31				*e*PKPdf		**PKiKP**	**18 36 18.1**	**+1.0**
LTX	**Lajitas**	**118.49**	**50**	*e*PKPdf		**PKPdf**	**18 36 18.5**	**+1.5**
LTX				*e*PKKPbc		**PKKPbc**	**18 46 29.2**	**-5.5**
TXAR	**Lajitas Array**	**118.49**	**50**	PKP		**PKPdf**	**18 36 18.5**	**+1.5**
	comp=Z,7.0nm,0.8s,baz=249,slow=1.1,SNR=30							
TXAR				PKKPbc		**PKKPbc**	**18 46 29.2**	**-5.5**
	comp=Z,1.0nm,0.7s,baz=154,slow=6.8,SNR=6.5							
K41A	**Shullsburg**	**118.53**	**30**	P		**PKPdf**	**18 36 16.0**	**-0.6**
	baz=318							
F46A	**Macinaw City C**	**118.56**	**24**	P		**PKPdf**	**18 36 17.4**	**+0.8**
	baz=325							
J42A	**Columbus**	**118.57**	**29**	P		**PKPdf**	**18 36 16.1**	**-0.6**
	baz=320							
I43A	**Langenfeld Bro**	**118.60**	**28**	P		**PKPdf**	**18 36 16.4**	**-0.3**
	baz=321							
N39A	**Derby Farms, D**	**118.66**	**33**	*e*PKPdf		**PKPdf**	**18 36 16.7**	**-0.2**
N39A	**Derby Farms, D**	**118.66**	**33**	P		**PKPdf**	**18 36 16.4**	**-0.5**
	baz=315							
M40A	**Post Highland**	**118.80**	**32**	P		**PKPdf**	**18 36 16.7**	**-0.5**
	baz=317							
L41A	**Preston**	**118.83**	**31**	P		**PKPdf**	**18 36 16.6**	**-0.6**
	baz=318							
J43A	**Natural Harves**	**118.86**	**28**	P		**PKPdf**	**18 36 19.0**	**+1.7**
	baz=320							
K42A	**Prairie Point,**	**118.88**	**29**	P		**PKPdf**	**18 36 18.6**	**+1.4**
	baz=319							
WMOK	**Wichita Mounta**	**118.94**	**42**	*e*PKPdf		**PKPdf**	**18 36 17.4**	**-0.3**
WMOK	**Wichita Mounta**	**118.94**	**42**	P		**PKPdf**	**18 36 18.2**	**+0.6**
	baz=307							
N40A	**Mertquake, Sal**	**119.14**	**32**	P		**PKPdf**	**18 36 16.7**	**-1.1**
	baz=316							
L42A	**Oliver, Polo**	**119.30**	**30**	P		**PKPdf**	**18 36 18.1**	**0.0**
	baz=319							
M41A	**Milan**	**119.32**	**31**	P		**PKPdf**	**18 36 17.7**	**-0.5**
	baz=318							
GLMI	**Grayling**	**119.39**	**25**	P		**PKPdf**	**18 36 18.4**	**+0.2**
	baz=325							
K43A	**Burlington**	**119.42**	**29**	P		**PKPdf**	**18 36 18.2**	**-0.1**
	baz=320							
ABTX	**Abilene, Hawle**	**119.60**	**44**	*e*PKPdf		**PKPdf**	**18 36 20.1**	**+1.0**
ABTX	**Abilene, Hawle**	**119.60**	**44**	P		**PKPdf**	**18 36 19.7**	**+0.6**
	baz=306							
L43A	**Garden Prairie**	**119.62**	**29**	P		**PKPdf**	**18 36 18.6**	**-0.1**
	baz=320							
N41A	**Harden Midland**	**119.65**	**32**	P		**PKPdf**	**18 36 18.4**	**-0.4**
	baz=317							
J45A	**Montague**	**119.74**	**27**	P		**PKPdf**	**18 36 19.6**	**+0.6**
	baz=322							
N42A	**Yates City**	**119.98**	**31**	P		**PKPdf**	**18 36 19.4**	**0.0**
	baz=318							
D53A	**Lac Vacive, Po**	**120.00**	**19**	P		**PKPdf**	**18 36 19.1**	**-0.2**
	baz=333							
L44A	**Lake County Fo**	**120.02**	**29**	P		**PKPdf**	**18 36 18.0**	**-1.5**
	baz=320							
O41A	**Passleys Farm,**	**120.07**	**32**	P		**PKPdf**	**18 36 19.4**	**-0.3**
	baz=317							
M43A	**Waltham Townsh**	**120.08**	**30**	P		**PKPdf**	**18 36 20.2**	**+0.6**
	baz=319							
TUL1	**Leonard**	**120.12**	**39**	*e*PKPdf		**PKPdf**	**18 36 19.5**	**-0.3**
TUL1	**Leonard**	**120.12**	**39**	P		**PKPdf**	**18 36 20.5**	**+0.6**
	baz=310							
J46A	**Howard City**	**120.14**	**26**	P		**PKPdf**	**18 36 19.6**	**-0.1**
	baz=323							
D54A	**Lac Fusel, La**	**120.26**	**18**	P		**PKPdf**	**18 36 20.9**	**+1.0**
	baz=334							
P41A	**Barry, Barry**	**120.29**	**33**	P		**PKPdf**	**18 36 20.8**	**+0.7**
	baz=316							
N43A	**Stutzman Famil**	**120.34**	**31**	P		**PKPdf**	**18 36 19.5**	**-0.6**
	baz=319							
O42A	**Bath**	**120.43**	**32**	P		**PKPdf**	**18 36 20.2**	**-0.2**
	baz=318							
M44A	**Midewin, Midew**	**120.56**	**30**	P		**PKPdf**	**18 36 20.3**	**-0.3**
	baz=320							
HDIL	**Hendale**	**120.57**	**31**	P		**PKPdf**	**18 36 20.1**	**-0.5**
	baz=318							
K46A	**Dorr**	**120.61**	**27**	P		**PKPdf**	**18 36 20.3**	**-0.3**
	baz=323							
TOA0	**Torodi Ar. Sit**	**120.65**	**291**	*e*PKPdf		**PKPdf**	**18 36 21.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**120.65**	**291**	PKP		**PKPdf**	**18 36 21.6**	**+0.2**
	comp=Z,43nm,0.8s,baz=6.6,slow=5.3							
TORD				PKKPbc		**PKKPab**	**18 46 28.9**	**+0.8**
	comp=Z,4.4nm,0.9s,baz=283,slow=3.4,SNR=9.8							
TOA1	**Torodi Ar. Sit**	**120.66**	**291**	*e*PKPdf		**PKPdf**	**18 36 21.6**	**+0.2**
TOA1				*e*PKKPbc		**PKKPab**	**18 46 28.9**	**+0.8**
JCT	**Junction City**	**120.71**	**46**	*e*PKPdf		**PKPdf**	**18 36 21.9**	**+0.7**
JCT	**Junction City**	**120.71**	**46**	P		**PKPdf**	**18 36 21.5**	**+0.3**
	baz=304							
Q41A	**Truxton**	**120.71**	**34**	P		**PKPdf**	**18 36 21.4**	**+0.5**
	baz=316							
P42A	**Winchester**	**120.73**	**32**	*e*PKPdf		**PKPdf**	**18 36 19.8**	**-1.2**
P42A	**Winchester**	**120.73**	**32**	P		**PKPdf**	**18 36 20.8**	**-0.2**
	baz=317							
E54A	**Lac Daplat, Po**	**120.74**	**19**	P		**PKPdf**	**18 36 20.8**	**0.0**
	baz=333							
O43A	**Sugar Creek Fa**	**120.76**	**31**	P		**PKPdf**	**18 36 21.0**	**+0.1**
	baz=318							
I49A	**Point Hope**	**120.85**	**24**	P		**PKPdf**	**18 36 21.5**	**+0.5**
	baz=326							
L46A	**Eue Claire**	**120.91**	**28**	P		**PKPdf**	**18 36 21.7**	**+0.5**
	baz=322							
N44A	**Piper City**	**120.97**	**30**	P		**PKPdf**	**18 36 21.2**	**-0.2**
	baz=320							
K47A	**Vermontville**	**120.97**	**27**	P		**PKPdf**	**18 36 21.0**	**-0.3**
	baz=324							
J48A	**Bridge Port**	**120.98**	**25**	P		**PKPdf**	**18 36 23.6**	**+2.2**
	baz=325							
HHAR	**Hobbs**	**121.01**	**37**	*e*PKPdf		**PKPdf**	**18 36 21.4**	**-0.2**
R41A	**Rosebud**	**121.10**	**34**	P		**PKPdf**	**18 36 22.2**	**+0.5**
	baz=315							
Q42A	**Golden Eagle**	**121.12**	**33**	P		**PKPdf**	**18 36 22.0**	**+0.3**
	baz=316							
P43A	**Skaggs, Pawnee**	**121.13**	**32**	P		**PKPdf**	**18 36 21.7**	**+0.1**
	baz=318							
J49A	**Marlette**	**121.20**	**25**	P		**PKPdf**	**18 36 21.0**	**-0.7**
	baz=326							
X37A	**Clayton**	**121.23**	**40**	*e*PKPdf		**PKPdf**	**18 36 21.7**	**-0.3**
X37A				*e*PP		**PP**	**18 37 47.5**	**-4.7**
N45A	**Kentland**	**121.23**	**30**	P		**PKPdf**	**18 36 22.5**	**+0.7**
	baz=320							
K48A	**Perry**	**121.25**	**26**	P		**PKPdf**	**18 36 21.3**	**-0.5**
	baz=324							
O44A	**Mansfield**	**121.29**	**31**	P		**PKPdf**	**18 36 22.2**	**+0.2**
	baz=319							
CCM	**Cathedral Cave**	**121.34**	**34**	*e*PKPdf		**PKPdf**	**18 36 22.1**	**-0.1**
CCM	**Cathedral Cave**	**121.34**	**34**	P		**PKPdf**	**18 36 22.4**	**+0.3**
	baz=316							
M46A	**Old House Fiel**	**121.35**	**28**	P		**PKPdf**	**18 36 22.8**	**+0.7**
	baz=322							
S41A	**Jillco Farms,**	**121.39**	**35**	P		**PKPdf**	**18 36 22.4**	**+0.1**
	baz=315							
L47A	**Sherwood**	**121.43**	**27**	P		**PKPdf**	**18 36 22.7**	**+0.4**
	baz=323							
R42A	**Luebbering**	**121.43**	**34**	P		**PKPdf**	**18 36 22.6**	**+0.3**
	baz=316							
WHTX	**Lake Whitney,**	**121.47**	**44**	P		**PKPdf**	**18 36 23.8**	**+1.3**
	baz=307							
K49A	**Clarkson**	**121.55**	**25**	P		**PKPdf**	**18 36 22.2**	**-0.2**
	baz=325							
Q43A	**New Douglas**	**121.55**	**33**	P		**PKPdf**	**18 36 23.4**	**+0.9**
	baz=317							
SADO	**Sadowa**	**121.55**	**21**	PKKPbc		PKKPbc	18 46 23.1	-0.7
	comp=Z,7.4nm,0.7s,baz=148,slow=1.8,SNR=5.2							
SADO	**Sadowa**	**121.55**	**21**	*e*PKPdf		**PKPdf**	**18 36 22.7**	**+0.3**
SADO				PKKPbc		**PKKPbc**	**18 46 23.1**	**-0.7**
N46A	**Monticello**	**121.57**	**29**	P		**PKPdf**	**18 36 22.6**	**+0.1**
	baz=321							
O45A	**Potomac**	**121.58**	**30**	P		**PKPdf**	**18 36 21.6**	**-0.9**
	baz=320							
U40A	**Yellville**	**121.60**	**37**	P		**PKPdf**	**18 36 23.1**	**+0.3**
	baz=313							
P44A	**Sand Creek, Wi**	**121.72**	**31**	P		**PKPdf**	**18 36 23.1**	**+0.3**
	baz=319							
M47A	**Cromwell**	**121.73**	**28**	P		**PKPdf**	**18 36 23.2**	**+0.4**
	baz=322							
T41A	**Mountain View**	**121.76**	**35**	P		**PKPdf**	**18 36 23.3**	**+0.3**
	baz=314							
SFIN	**Lafayette**	**121.79**	**30**	P		**PKPdf**	**18 36 22.1**	**-0.8**
	baz=320							
S42A	**Caledonia**	**121.80**	**34**	P		**PKPdf**	**18 36 23.4**	**+0.3**
	baz=316							
L48A	**N Adams**	**121.80**	**27**	P		**PKPdf**	**18 36 23.4**	**+0.4**
	baz=324							
W39A	**Magazine**	**121.82**	**38**	*e*PKPdf		**PKPdf**	**18 36 23.7**	**+0.5**
W39A				*e*PP		**PP**	**18 37 48.8**	**-7.4**
W39A	**Magazine**	**121.82**	**38**	P		**PKPdf**	**18 36 23.9**	**+0.7**
	baz=312							
FVM	**French Village**	**121.85**	**34**	*e*PKPdf		**PKPdf**	**18 36 22.2**	**-0.9**
AAM	**Ann Arbor**	**121.85**	**26**	P		**PKPdf**	**18 36 23.0**	**0.0**
	baz=325							
K50A	**Casco**	**121.90**	**25**	P		**PKPdf**	**18 36 23.0**	**0.0**
	baz=326							
R43A	**Red Bud**	**121.91**	**33**	P		**PKPdf**	**18 36 23.4**	**+0.1**
	baz=317							
Q44A	**Meyer Farm, Va**	**121.94**	**32**	P		**PKPdf**	**18 36 23.5**	**+0.3**
	baz=318							
L49A	**Milan**	**121.96**	**26**	P		**PKPdf**	**18 36 23.8**	**+0.6**
	baz=325							
V40A	**Witts Springs**	**122.00**	**37**	*e*PKPdf		**PKPdf**	**18 36 22.9**	**-0.6**
V40A	**Witts Springs**	**122.00**	**37**	P		**PKPdf**	**18 36 23.7**	**+0.1**
	baz=313							
M48A	**Edgerton**	**122.05**	**27**	P		**PKPdf**	**18 36 22.5**	**-0.9**
	baz=323							
X39A	**Fountain Ranch**	**122.07**	**39**	P		**PKPdf**	**18 36 24.8**	**+1.1**
	baz=311							
N47A	**Urbana**	**122.08**	**28**	P		**PKPdf**	**18 36 23.0**	**-0.4**
	baz=322							
435B	**Jarrell**	**122.10**	**45**	*e*PKPdf		**PKPdf**	**18 36 24.5**	**+0.7**
435B	**Jarrell**	**122.10**	**45**	P		**PKPdf**	**18 36 25.0**	**+1.2**
	baz=306							
P45A	**Graceland, Par**	**122.12**	**31**	*e*PKPdf		**PKPdf**	**18 36 24.0**	**+0.4**
P45A	**Graceland, Par**	**122.12**	**31**	P		**PKPdf**	**18 36 23.8**	**+0.1**
	baz=320							
T42A	**Van Buren**	**122.16**	**35**	*e*PKPdf		**PKPdf**	**18 36 23.9**	**+0.2**
T42A	**Van Buren**	**122.16**	**35**	P		**PKPdf**	**18 36 23.1**	**-0.6**
	baz=315							
U41A	**Viola**	**122.16**	**36**	P		**PKPdf**	**18 36 23.7**	**0.0**
	baz=314							
833A	**Chaparral WMA,**	**122.20**	**48**	*e*PKPdf		**PKPdf**	**18 36 25.0**	**+0.9**
833A	**Chaparral WMA,**	**122.20**	**48**	P		**PKPdf**	**18 36 25.6**	**+1.6**
	baz=304							
W40A	**Ferguson Farm,**	**122.26**	**38**	*e*PKPdf		**PKPdf**	**18 36 23.8**	**-0.2**
W40A				*e*PP		**PP**	**18 37 56.0**	**-3.1**
W40A	**Ferguson Farm,**	**122.26**	**38**	P		**PKPdf**	**18 36 24.7**	**+0.7**
	baz=312							
P46A	**Rosedale**	**122.32**	**30**	P		**PKPdf**	**18 36 24.5**	**+0.5**
	baz=320							
S43A	**Fulton Ridge,**	**122.34**	**34**	P		**PKPdf**	**18 36 24.1**	**0.0**
	baz=316							
O47A	**Sheridan**	**122.35**	**29**	P		**PKPdf**	**18 36 24.1**	**0.0**
	baz=321							
MIAR	**Mount Ida**	**122.38**	**39**	*e*PKPdf		**PKPdf**	**18 36 24.8**	**+0.5**
MIAR				*e*PP		**PP**	**18 37 56.8**	**-3.2**
MIAR	**Mount Ida**	**122.38**	**39**	PKIKP		**PKPdf**	**18 36 24.8**	**+0.5**
MIAR	**Mount Ida**	**122.38**	**39**	P		**PKPdf**	**18 36 24.8**	**+0.5**
	baz=312							
M49A	**Liberty Center**	**122.38**	**27**	P		**PKPdf**	**18 36 24.2**	**+0.2**
	baz=324							
R44A	**Waltonville**	**122.38**	**33**	P		**PKPdf**	**18 36 24.3**	**+0.1**
	baz=318							
Q45A	**Warren Harvey,**	**122.39**	**32**	P		**PKPdf**	**18 36 25.2**	**+1.1**
	baz=319							
N48A	**Decatur**	**122.40**	**28**	P		**PKPdf**	**18 36 24.5**	**+0.4**
	baz=323							
V41A	**Mountainview**	**122.41**	**37**	P		**PKPdf**	**18 36 24.3**	**0.0**
	baz=314							
OLIL	**Olney**	**122.54**	**32**	*e*PKPdf		**PKPdf**	**18 36 24.3**	**-0.2**
**U42

	baz=316							
Z41A	Richland Creek	123.71	39	P		PKPdf	18 36 27.5	+0.6
	baz=312							
W43A	Forest City	123.74	36	P		PKPdf	18 36 27.1	+0.3
	baz=315							
HKT	Hockley	123.81	44	*e*PKPdf		PKPdf	18 36 28.1	+1.1
HKT				*e*PP		PP	18 38 05.8	-4.0
ACSO	Alum Creek Sta	123.83	27	*e*PKPpre		PKPpre	18 36 15.7	
ACSO				*e*PKPdf		PKPdf	18 36 26.8	-0.1
ACSO	Alum Creek Sta	123.83	27	P		PKPdf	18 36 27.0	+0.1
	baz=325,SNR=9.4							
WCI	Wyandotte Cave	123.84	31	*e*PKPpre		PKPpre	18 36 13.9	
WCI				*e*PKPdf		PKPdf	18 36 27.3	+0.3
WCI	Wyandotte Cave	123.84	31	*e*PKIKP		PKPpre	18 36 13.9	
WCI				*e*			18 36 27.3	
WCI	Wyandotte Cave	123.84	31	P		PKPdf	18 36 27.3	+0.3
	baz=320							
NCB	Newcomb	123.87	18	*e*PKPdf		PKPdf	18 36 26.6	-0.3
NCB				*e*PP		PP	18 38 08.9	-0.5
240A	Hunter Patters	123.90	41	P		PKPdf	18 36 28.2	+1.0
	baz=310							
T46A	Princeton	123.91	33	P		PKPdf	18 36 27.1	-0.1
	baz=318							
R48A	Northridge Ran	123.92	30	P		PKPdf	18 36 28.0	+0.9
	baz=321,SNR=7.0							
Q49A	Aurora	123.93	29	P		PKPdf	18 36 26.9	-0.2
	baz=322							
U45A	Rockin P Farm,	123.95	34	P		PKPdf	18 36 27.4	+0.2
	baz=317							
Y42A	Garnett, Star	123.95	38	P		PKPdf	18 36 27.3	0.0
	baz=313							
P50A	Jamestown	123.97	28	P		PKPdf	18 36 26.9	-0.3
	baz=324,SNR=7.2							
PKME	Peaks-Kenny Pk	123.97	13	P		PKPdf	18 36 27.6	+0.7
	baz=342							
LNIG	Linares	123.98	52	*e*PKPdf		PKPdf	18 36 27.4	-0.2
S47A	Hartford	124.03	32	P		PKPdf	18 36 27.3	-0.1
	baz=320							
X43A	Marvell	124.03	37	P		PKPdf	18 36 27.9	+0.5
	baz=314							
O51A	Pataskala	124.07	27	P		PKPdf	18 36 26.9	-0.4
	baz=325,SNR=7.8							
141A	Papa Simpson,	124.08	40	P		PKPdf	18 36 27.8	+0.3
	baz=311							
M54A	Oil Creek Stat	124.16	23	*e*PKPdf		PKPdf	18 36 28.0	+0.5
M54A	Oil Creek Stat	124.16	23	P		PKPdf	18 36 27.2	-0.3
	baz=329							
W44A	Shelby Farms P	124.22	36	P		PKPdf	18 36 28.2	+0.4
	baz=316							
Z42A	Norrel Spur, H	124.24	39	P		PKPdf	18 36 28.1	+0.3
	baz=313							
U46A	Springville	124.26	34	P		PKPdf	18 36 28.2	+0.4
	baz=318							
LMN	Caledonia Moun	124.27	9	*e*PKPpre		PKPpre	18 36 12.9	
LMN				*e*PKPdf		PKiKP	18 36 28.4	+0.6
LMN				*e*PP		PP	18 38 11.2	-0.6
LBNH	Lisbon	124.28	16	P		PKPdf	18 36 26.4	-1.2
	baz=338							
V45A	Humboldt	124.28	35	P		PKPdf	18 36 27.0	-0.8
	baz=317							
R49A	Shelbyville	124.35	30	P		PKPdf	18 36 27.9	-0.1
	baz=322,SNR=6.4							
T47A	Sharon Grove	124.37	32	*e*PKPdf		PKPdf	18 36 28.1	+0.2
T47A				*e*PP		PP	18 38 07.0	-6.2
T47A	Sharon Grove	124.37	32	P		PKPdf	18 36 28.2	+0.2
	baz=319							
S48A	Wiedeman Farm,	124.40	31	P		PKPdf	18 36 28.0	-0.1
	baz=320,SNR=18							
P51A	Williamsport	124.41	27	*e*PKPdf		PKPdf	18 36 27.8	-0.2
P51A	Williamsport	124.41	27	P		PKPdf	18 36 27.6	-0.4
	baz=324							
Y43A	Makayla and Ka	124.42	38	P		PKPdf	18 36 28.7	+0.5
	baz=314							
O52A	Adamsville	124.43	26	*e*PKPdf		PKPdf	18 36 28.0	-0.1
O52A	Adamsville	124.43	26	P		PKPdf	18 36 27.4	-0.7
	baz=326							
241A	Mo Tay, Goldon	124.45	41	P		PKPdf	18 36 29.2	+1.0
	baz=311							
X44A	Crenshaw	124.48	37	P		PKPdf	18 36 28.2	-0.1
	baz=315							
N54A	Moraine State	124.49	24	*e*PKPdf		PKPdf	18 36 27.3	-0.9
N54A				*e*PP		PP	18 38 14.1	+0.3
N54A	Moraine State	124.49	24	P		PKPdf	18 36 28.6	+0.4
	baz=328							
Q50A	Georgetown	124.49	29	P		PKPdf	18 36 28.0	-0.2
	baz=323							
WVL	Waterville	124.54	14	*e*PKPdf		PKPdf	18 36 27.9	-0.2
W45A	Hickory Valley	124.57	35	P		PKPdf	18 36 28.2	-0.2
	baz=316							
GGN	Saint George	124.62	11	*e*PKPdf		PKPdf	18 36 27.8	-0.4
WVT	Waverly	124.62	33	*e*PKPdf		PKPdf	18 36 28.6	+0.1
WVT	Waverly	124.62	33	P		PKPdf	18 36 28.8	+0.3
	baz=318							
Q51A	Peebles	124.64	28	*e*PKPdf		PKPdf	18 36 28.0	-0.5
Q51A	Peebles	124.64	28	P		PKPdf	18 36 28.0	-0.5
	baz=324,SNR=5.2							
T48A	Bowling Green	124.65	32	P		PKPdf	18 36 28.8	+0.3
	baz=320,SNR=11							
HNH	Hanover	124.67	16	*e*PKPdf		PKPdf	18 36 29.6	+1.3
U47A	Clarksville	124.68	33	P		PKPdf	18 36 29.3	+0.7
	baz=319							
S49A	Springfield	124.69	30	P		PKPdf	18 36 28.6	0.0
	baz=321,SNR=8.0							
P52A	Corning	124.70	27	P		PKPdf	18 36 28.4	-0.2
	baz=325,SNR=6.1							
V46A	Holladay	124.70	34	P		PKPdf	18 36 28.7	0.0
	baz=318							
Z43A	Armstrong Fami	124.71	38	P		PKPdf	18 36 28.9	+0.1
	baz=313							
142A	Monroe	124.72	39	P		PKPdf	18 36 29.0	+0.2
	baz=312							
341A	Kurthwood	124.74	41	*e*PKPdf		PKPdf	18 36 29.4	+0.5
341A	Kurthwood	124.74	41	P		PKPdf	18 36 29.3	+0.5
	baz=310							
R50A	Paris	124.77	29	P		PKPdf	18 36 28.4	-0.3
	baz=322,SNR=6.7							
Y44A	Strider, Charl	124.82	37	P		PKPdf	18 36 29.4	+0.5
	baz=315							
BINY	Binghamton	124.90	20	*e*PKPdf		PKPdf	18 36 29.5	+0.6
BINY	Binghamton	124.90	20	P		PKPdf	18 36 29.2	+0.3
	baz=333							
OXF	Oxford	124.90	36	*e*PKPdf		PKPdf	18 36 28.2	-0.9
OXF	Oxford	124.90	36	P		PKPdf	18 36 29.0	-0.1
	baz=316							
242A	Grayson	124.92	40	P		PKPdf	18 36 29.9	+0.7
	baz=312							
143A	Socs Landing,	124.96	39	P		PKPdf	18 36 30.0	+0.7
	baz=313							
X45A	UM Field Stati	124.97	36	P		PKPdf	18 36 28.9	-0.4
	baz=316							
V47A	Nunnelly	125.01	34	P		PKPdf	18 36 29.4	+0.1
	baz=318							
U48A	Cassie Pea, Po	125.03	32	P		PKPdf	18 36 29.7	+0.4
	baz=319,SNR=7.7							
W46A	Michie	125.05	35	P		PKPdf	18 36 29.0	-0.4
	baz=317							
T49A	Edmonton	125.09	31	*e*PKPdf		PKPdf	18 36 28.0	-1.4
T49A				*e*PP		PP	18 38 15.4	-2.5
T49A	Edmonton	125.09	31	P		PKPdf	18 36 29.3	-0.1
	baz=321,SNR=7.1							
441A	DeRidder	125.10	42	P		PKPdf	18 36 31.1	+1.6
	baz=310							
R51A	Hillsboro	125.11	29	P		PKPdf	18 36 29.3	-0.1
	baz=323							
P53A	Whipple	125.14	26	*e*PKPdf		PKPdf	18 36 29.6	+0.2
P53A	Whipple	125.14	26	P		PKPdf	18 36 29.8	+0.4
	baz=326							
GBN	Guysborough	125.16	7	*e*PKPdf		PKPdf	18 36 30.3	+1.1
GBN				*e*PP		PP	18 38 16.5	-1.2
Z44A	Pea Ridge, Bel	125.16	38	P		PKPdf	18 36 29.8	+0.2
	baz=314							
TRY	Troy	125.17	18	*e*PKPdf		PKPdf	18 36 28.8	-0.5
Q52A	Bidwell	125.19	27	P		PKPdf	18 36 29.2	-0.3
	baz=325,SNR=5.6							
S50A	Richmond	125.21	30	P		PKPdf	18 36 29.5	-0.1
	baz=322,SNR=9.8							
342A	Flagon Creek P	125.26	41	P		PKPdf	18 36 31.1	+1.3
	baz=311							
Y45A	Yeager Farm, C	125.28	37	P		PKPdf	18 36 30.6	+0.7
	baz=315							
PLAL	Pickwick Lake	125.33	35	*e*PKPdf		PKPdf	18 36 29.3	-0.6
X46A	Booneville	125.34	35	P		PKPdf	18 36 29.9	0.0
	baz=316							
W47A	Westpoint	125.40	34	P		PKPdf	18 36 30.0	0.0
	baz=318,SNR=11							
U49A	Red Boiling Sp	125.42	32	P		PKPdf	18 36 30.0	0.0
	baz=320,SNR=15							
V48A	Smith Brothers	125.45	33	*e*PKPdf		PKPdf	18 36 29.5	-0.6
V48A	Smith Brothers	125.45	33	P		PKPdf	18 36 29.9	-0.3
	baz=319,SNR=7.0							
243A	Waterproof	125.46	40	P		PKPdf	18 36 30.8	+0.6
	baz=312							
T50A	Nancy	125.51	31	P		PKPdf	18 36 30.0	-0.2
	baz=321,SNR=13							
R52A	Catlettsburg	125.52	28	P		PKPdf	18 36 29.8	-0.3
	baz=324							
Z45A	Winona	125.54	37	*e*PKPdf		PKPdf	18 36 28.9	-1.4
Z45A	Winona	125.54	37	P		PKPdf	18 36 30.8	+0.5
	baz=315							
KSPA	Keystone Colle	125.55	20	*e*PKPdf		PKPdf	18 36 29.7	-0.4
KSPA				*e*PP		PP	18 38 17.0	-3.6
SSPA	Standing Stone	125.59	23	*e*PKPpre		PKPpre	18 36 20.8	
SSPA				*e*PKPdf		PKiKP	18 36 30.4	-0.2
SSPA				*e*PP		PP	18 38 16.1	-4.9
SSPA	Standing Stone	125.59	23	P		PKPdf	18 36 30.7	+0.4
	baz=330							
144A	Alexander Plac	125.61	38	P		PKPdf	18 36 30.9	+0.5
	baz=314							
442A	Mamou	125.62	41	P		PKPdf	18 36 31.6	+1.1
	baz=311							
S51A	Beattyville	125.63	29	*e*PKPdf		PKPdf	18 36 30.1	-0.3
S51A	Beattyville	125.63	29	P		PKPdf	18 36 30.8	+0.4
	baz=323,SNR=9.8							
O56A	Blue Knob Stat	125.65	23	*e*PKPdf		PKPdf	18 36 30.2	-0.3
O56A	Blue Knob Stat	125.65	23	P		PKPdf	18 36 30.9	+0.5
	baz=330							
MCWV	Mont Chateau	125.65	25	P		PKPdf	18 36 30.9	+0.5
	baz=328							
Y46A	Houston	125.67	36	P		PKPdf	18 36 30.8	+0.2
	baz=316							
343A	Vidalia	125.77	40	P		PKPdf	18 36 32.1	+1.3
	baz=312							
X47A	Russelville	125.79	35	P		PKPdf	18 36 30.5	-0.3
	baz=317							
VBMS	Vicksburg	125.83	39	P		PKPdf	18 36 31.9	+1.0
	baz=313							
W48A	Pulaski	125.84	34	P		PKPdf	18 36 31.0	+0.1
	baz=318,SNR=7.9							
S52A	Salyersville	125.85	29	P		PKPdf	18 36 31.0	+0.1
	baz=324							
244A	Avery, Jackson	125.85	39	P		PKPdf	18 36 32.0	+1.1
	baz=313							
542A	Morse	125.92	42	P		PKPdf	18 36 30.6	-0.5
	baz=310							
V49A	McMinnville	125.92	32	P		PKPdf	18 36 31.3	+0.2
	baz=320,SNR=6.6							
145A	Houston Renfro	125.93	38	P		PKPdf	18 36 31.9	+0.8
	baz=314							
QUA2	Belchertown	125.97	17	*e*PKPdf		PKPdf	18 36 32.3	+1.4
U50A	Jamestown	125.98	31	P		PKPdf	18 36 31.7	+0.6
	baz=321,SNR=24							
HRV	Adam Dziewonsk	125.98	16	P		PKPdf	18 36 31.0	+0.1
	baz=338							
T51A	Gray	126.00	30	P		PKPdf	18 36 31.5	+0.4
	baz=322							
443A	Delano Plantat	126.01	41	P		PKPdf	18 36 31.7	+0.4
	baz=311							
Z46A	Louisville	126.11	37	P		PKPdf	18 36 31.9	+0.5
	baz=315							
N59A	State Game Lan	126.11	21	*e*PKPdf		PKPdf	18 36 31.4	+0.1
N59A	State Game Lan	126.11	21	P		PKPdf	18 36 32.0	+0.7
	baz=333							
W49A	Belvidere	126.22	33	P		PKPdf	18 36 31.7	+0.1
	baz=319,SNR=10							
344A	Westbrook Farm	126.22	40	P		PKPdf	18 36 33.1	+1.4
	baz=313							
Y47A	UCPARC, Winfie	126.24	35	P		PKPdf	18 36 31.7	+0.1
	baz=317,SNR=11							
X48A	Hartselle	126.29	34	*e*PKPdf		PKPdf	18 36 31.6	-0.2
X48A	Hartselle	126.29	34	P		PKPdf	18 36 31.2	-0.5
	baz=318,SNR=6.6							
SWET	Sewanee	126.33	33	*e*PKPdf		PKPdf	18 36 31.1	-0.8
245A	Little AP, Sta	126.35	38	P		PKPdf	18 36 32.7	+0.8
	baz=314							
T52A	Hallie	126.35	29	P		PKPdf	18 36 31.9	+0.1
	baz=323,SNR=5.1							
ODNJ	Ogdensburg	126.36	20	*e*PKPdf		PKPdf	18 36 32.2	+0.5
543A	St. Martinvill	126.40	42	P		PKPdf	18 36 33.8	+1.8
	baz=311							
V50A	Pikevile	126.42	32	P		PKPdf	18 36 32.3	+0.3
	baz=320,SNR=8.1							
U51A	La Follette	126.42	30	P		PKPdf	18 36 32.2	+0.2
	baz=322							
146A	Union	126.44	37	P		PKPdf	18 36 33.1	+1.0
	baz=315							
TZTN	Tazewell	126.52	30	*e*PKPdf		PKPdf	18 36 31.7	-0.5
TZTN	Tazewell	126.52	30	P		PKPdf	18 36 32.5	+0.3
	baz=323							
BRYW	Bryant College	126.53	17	*e*PKPdf		PKPdf	18 36 31.8	-0.2
Y48A	Jasper	126.62	35	P		PKPdf	18 36 32.0	-0.4
	baz=318							
Z47A	Carrollton	126.62	36	P		PKPdf	18 36 32.7	+0.3
	baz=316							
X49A	Wooville	126.64	34	P		PKPdf	18 36 32.5	+0.1
	baz=319,SNR=9.4							
PAL	Palisades	126.66	19	*e*PKPdf		PKPdf	18 36 32.9	+0.7
PAL	Palisades	126.66	19	P		PKPdf	18 36 32.8	+0.6
	baz=335							
W50A	Signal Mountai	126.67	32	*e*PKPdf		PKPdf	18 36 32.5	0.0
W50A	Signal Mountai	126.67	32	P		PKPdf	18 36 33.1	+0.6
	baz=320,SNR=7.9							
V51A	Loudon	126.70	31	*e*PKPdf		PKPdf	18 36 32.6	+0.1
V51A	Loudon	126.70	31	P		PKPdf	18 36 33.0	+0.5
	baz=321,SNR=7.6							
444A	Pine Grove	126.71	40	P		PKPdf	18 36 34.0	+1.4
	baz=312							
MVL	Millersville	126.72	22	*e*PKPdf		PKPdf	18 36 31.5	-0.9
U52A	Thorn Hill	126.73	30	P		PKPdf	18 36 33.0	+0.4
	baz=323							
345A	Thompson Farm,	126.76	39	P		PKPdf	18 36 33.7	+1.0
	baz=313							
Z48A	Northport	126.79	36	P		PKPdf	18 36 32.9	+0.2
	baz=317,SNR=6.9							
246A	Jackson Lee, B	126.83	38	P		PKPdf	18 36 33.7	+0.9
	baz=315							
147A	Livingston	126.88	37	*e*PKPdf		PKPdf	18 36 32.9	0.0
147A	Livingston	126.88	37	P		PKPdf	18 36 33.5	+0.6
	baz=316							
445A	Amite	126.96	40	P		PKPdf	18 36 34.2	+1.1
	baz=313							
W51A	Cleveland	126.99	32	P		PKPdf	18 36 33.6	+0.6
	baz=321							
X50B	Fort Payne	127.05	33	P		PKPdf	18 36 33.1	-0.1
	baz=319							
V52A	Sevierville	127.05	30	*e*PKPdf		PKPdf	18 36 33.7	+0.5
V52A	Sevierville	127.05	30	P		PKPdf	18 36 33.9	+0.7
	baz=322,SNR=14							
346A	Big Creek Wild	127.06	39	P		PKPdf	18 36 34.1	+0.8
	baz=314							
Y49A	Blount Mountai	127.08	34	*e*PKPdf		PKPdf	18 36 32.8	-0.5
Y49A	Blount Mountai	127.08	34	P		PKPdf	18 36 33.2	-0.1
	baz=318,SNR=5.8							
TKL	Tuckaleechee C	127.11	31	PKP		PKPdf	18 36 33.1	-0.2
	comp=2,31nm,0.8s,baz=183,slow=0.6,SNR=20							
TKL	Tuckaleechee C	127.11	31	*e*PKPdf		PKPdf	18 36 33.4	+0.1
M65A	Busby, Falmout	127.11	16	P		PKPdf	18 36 34.0	+0.9
	baz=339							
247A	Quitman	127.11	38	P		PKPdf	18 36 34.4	+1.0
	baz=315							
U53A	Fall Branch	127.14	29	P		PKPdf	18 36 33.5	+0.2
	baz=324							
148A	Greensboro	127.31	36	P		PKPdf	18 36 34.1	+0.4
	baz=316							
LRAL	Lakeview Retre	127.36	35	*e*PKPpre		PKPpre	18 36 21.9	
LRAL				*e*PKPdf		PKPdf	18 36 33.9	0.0
LRAL	Lakeview Retre	127.36	35	P		PKPdf	18 36 34.5	+0.7
	baz=317							
X51A	Calhoun	127.39	32	*e*PKPdf		PKPdf	18 36 33.5	-0.3
X51A	Calhoun	127.39	32	P		PKPdf	18 36 34.6	+0.8
	baz=320							
Y50A	Piedmont	127.43	34	P		PKPdf	18 36 34.2	+0.3
	baz=319							
BLA	Blacksburg	127.45	27	*e*PKPpre		PKPpre	18 36 23.3	
BLA				*e*PKPdf		PKPdf	18 36 34.1	+0.2
BLA	Blacksburg	127.45	27	P		PKPdf	18 36 34.4	+0.4
	baz=326							
W52A	Murphy	127.47	31	*e*PKPdf		PKPdf	18 36 34.2	+0.2
W52A	Murphy	127.47	31	P		PKPdf	18 36 34.4	+0.4
	baz=322							
Z49A	Columbiana	127.50	35	P		PKPdf	18 36 34.5	+0.4
	baz=318,SNR=10.0							
446A	Poplarville	127.53	39	P		PKPdf	18 36 34.7	+0.5
	baz=314							
V53A	Saluda	127.58	30	*e*PKPdf		PKPdf	18 36 34.8	+0.6
V53A	Saluda	127.58	30	P		PKPdf	18 36 35.0	+0.7
	baz=323							
248A	Dixon Mills	127.60	37	P		PKPdf	18 36 35.5	+1.1
	baz=316							
347A	Saraland	127.61	38	P		PKPdf	18 36 35.5	+1.1
	baz=315							
546A	Slidell	127.69	40	P		PKPdf	18 36 35.6	+1.1
	baz=313							
Y51A	Rockmart	127.79	33	P		PKPdf	18 36 34.8	+0.1
	baz=320							
149A	Jones	127.79	36	P		PKPdf	18 36 35.2	+0.5
	baz=317,SNR=7.5							
W53A	Cullowhee	127.80	31	P		PKPdf	18 36 35.6	+0.9
	baz=322							
Z50A	Ashland	127.80	34	P		PKPdf	18 36 35.3	+0.6
	baz=318,SNR=6.9							
X52A	Dahlonega	127.87	32	P		PKPdf	18 36 35.8	+1.0
	baz=321							
CBN	Corbin Frederi	127.89	24	P		PKPdf	18 36 35.4	+0.7
	baz=330							
R58B	Mineral	127.90	24	P		PKPdf	18 36 35.2	+0.5
	baz=329							
447A	Lucedale	127.97	39	P		PKPdf	18 36 36.2	+1.1
	baz=314							
348A	Jackson	127.99	38	P		PKPdf	18 36 36.1	+1.0
	baz=316							
249A	Camden	128.05	36	P		PKPdf	18 36 35.9	+0.8
	baz=317							
Z51A	Franklin	128.17	34	P		PKPdf	18 36 35.5	+0.1
	baz=319							
150A	Eclectic	128.23	35	P		PKPdf	18 36 36.1	+0.6
	baz=318,SNR=7.8							
X53A	Estanollee	128.25	31	P		PKPdf	18 36 36.3	+0.8
	baz=322							
TLIG	Tlapa	128.31	59	*e*PKPdf		PKPdf	18 36 35.7	-0.5
Y52A	Lilburn	128.35	32	*e*PKPdf		PKPdf	18 36 36.5	+0.8
Y52A	Lilburn	128.35	32	P		PKPdf	18 36 37.0	+1.2
	baz=321							
448A	Bay Minette	128.36	38	P		PKPdf	18 36 37.3	+1.5
	baz=315							
349A	Repton	128.46	37	P		PKPdf	18 36 37.3	+1.4
	baz=316,SNR=5.9							
250A	Grady	128.55	36	*e*PKPdf		PKPdf	18 36 36.0	-0.2
250A	Grady	128.55	36	P		PKPdf	18 36 36.7	+0.6
	baz=318							
Y53A	Monroe	128.61	32	P		PKPdf	18 36 37.0	+0.7
	baz=321							
BRAL	Brewton	128.68	37	*e*PKPdf		PKPdf	18 36 37.7	+1.3
BRAL	Brewton	128.68	37	P		PKPdf	18 36 37.5	+1.1
	baz=316							
151A	Opelika	128.68	35	P		PKPdf	18 36 36.9	+0.5
	baz=319							
Z52A	Williamson	128.68	33	P		PKPdf	18 36 37.5	+1.1
	baz=320							
KMSC	Kings Mountain	128.72	29	P		PKPdf	18 36 36.9	+0.5
	baz=324							
KIC	Kosan Boka	128.79	286	*e*PKIKP		PKPdf	18 36 37.5	+0.4
	comp=Z,518nm,1.4s							
DBIC	Dimbokro	128.81	286	PKP		PKPdf	18 36 37.0	-0.1
	comp=Z,41nm,0.8s,baz=56,slow=2.3,SNR=35							
DBIC				PP		PP	18 38 42.9	-1.2
	comp=Z,4.1nm,0.6s,baz=49,slow=7.7,SNR=4.5							
449A	Pace	128.87	38	P		PKPdf	18 36 37.9	+1.1
	baz=316							
152A	Waverly Hall	128.91	34	*e*PKPdf		PKPdf	18 36 36.9	+0.1
152A	Waverly Hall	128.91	34	P		PKPdf	18 36 37.4	+0.6
	baz=319							
350A	Dozier	128.91	36	P		PKPdf	18 36 37.8	+1.0
	baz=317							
251A	Midway	128.95	35	P		PKPdf	18 36 38.0	+1.1
	baz=318							
TIC	Toumodi	128.97	286	*e*PKIKP		PKPdf	18 36 37.5	+0.1
GOGA	Godfrey	129.02	32	*e*PKPdf		PKPdf	18 36 36.3	-0.7
GOGA	Godfrey	129.02	32	*e*PKIKP		PKPdf	18 36 36.3	-0.7
GOGA	Godfrey	129.02	32	P		PKPdf	18 36 37.8	+0.9
	baz=321							
LVIG	Laguna Verde	129.05	55	*e*PKPdf		PKPdf	18 36 38.2	+0.8
Z53A	Monticello	129.06	32	P		PKPdf	18 36 37.8	+0.7
	baz=321							
Y54A	Tignall	129.07	31	P		PKPdf	18 36 38.2	+1.1
	baz=322							
LIC	Lamto	129.10	286	*e*PKIKP		PKPdf	18 36 38.0	+0.4
	comp=Z,476nm,1.4s							
450A	Crestview	129.21	37	P		PKPdf	18 36 38.7	+1.3
	baz=316							
252A	Lumpkin	129.41	35	P		PKPdf	18 36 38.6	+0.8
	baz=319							
153A	Fort Valley	129.41	33	P		PKPdf	18 36 38.6	+0.8
	baz=320							
351A	Pinckard	129.45	36	P		PKPdf	18 36 38.6	+0.7
	baz=318							
Z54A	Sparta	129.48	32	P		PKPdf	18 36 38.8	+1.0
	baz=322							
352A	Blakely	129.68	35	*e*PKPdf		PKPdf	18 36 37.7	-0.6
352A	Blakely	129.68	35	P		PKPdf	18 36 39.2	+1.0
	baz=319							
253A	Americus	129.69	34	P		PKPdf	18 36 38.9	+0.6
	baz=320							
154A	Montrose	129.82	33	P		PKPdf	18 36 39.2	+0.7
	baz=321							
451A	Vernon	129.85	37	P		PKPdf	18 36 39.9	+1.3
	baz=317							
Z55A	Blythe	129.86	31	P		PKPdf	18 36 39.8	+1.2
	baz=322							
452A	Marianna	130.00	36	P		PKPdf	18 36 40.0	+1.1
	baz=318							
155A	Kite	130.16	32	P		PKPdf	18 36 40.5	+1.3
	baz=322					

757A	**Oxford**	**133.22**	**35**	P	**PKPdf**	**18 36 45.8**	**+0.7**
	baz=320						
658A	**Bunnell**	**133.30**	**34**	P	**PKPdf**	**18 36 46.3**	**+1.1**
	baz=321						
857A	**Zephyrhills**	**133.64**	**36**	P	**PKPdf**	**18 36 46.9**	**+1.1**
	baz=320						
758A	**Lake Helen**	**133.68**	**34**	P	**PKPdf**	**18 36 46.9**	**+1.0**
	baz=321						
957A	**Wimauma**	**134.08**	**36**	P	**PKPdf**	**18 36 47.4**	**+0.7**
	baz=319						
858A	**St. Cloud**	**134.17**	**35**	P	**PKPdf**	**18 36 47.5**	**+0.7**
	baz=321						
DWPF	**Disney Wildern**	**134.21**	**35**	P	**PKPdf**	**18 36 47.6**	**+0.7**
	baz=320						
958A	**Wauchula**	**134.43**	**36**	P	**PKPdf**	**18 36 48.4**	**+1.0**
	baz=320						
859A	**Kempfer Cattle**	**134.55**	**35**	P	**PKPdf**	**18 36 47.8**	**+0.2**
	baz=321						
058A	**Arcadia**	**134.79**	**36**	P	**PKPdf**	**18 36 48.3**	**+0.3**
	baz=319						
959A	**Okeechobee**	**134.97**	**35**	P	**PKPdf**	**18 36 48.7**	**+0.3**
	baz=321						
059A	**Moore Haven**	**135.25**	**36**	P	**PKPdf**	**18 36 49.4**	**+0.5**
	baz=320						
059Z	**Ave Maria**	**135.55**	**37**	P	**PKPdf**	**18 36 50.5**	**+1.0**
	baz=319						
060A	**Indiantown**	**135.64**	**35**	P	**PKPdf**	**18 36 50.9**	**+1.3**
	baz=321						
060Z	**West Palm Beac**	**136.01**	**36**	P	**PKPdf**	**18 36 51.9**	**+1.6**
	baz=320						
061Z	**Ochoppi**	**136.22**	**37**	P	**PKPdf**	**18 36 51.7**	**+1.0**
	baz=320						
APG	**El Apazote**	**136.34**	**57**	PKP	**PKPdf**	**18 36 52.2**	**+0.7**
	comp=Z,19nm,0.9s,baz=304,slow=5.1,SNR=11						
ESTN	**Estel**	**140.71**	**56**	*e*P	**PKPdf**	**18 36 56.3**	**-3.1**
PAYG	**Puerto Ayora**	**142.63**	**79**	*e*PKPdf	**PKPdf**	**18 37 01.7**	**-1.0**
ESPN	**Las Esperanzas**	**142.89**	**56**	*e*P	**PKPdf**	**18 37 00.1**	**-3.1**
CUI	**Cuipilapa**	**143.00**	**58**	*e*P	**PKPdf**	**18 37 01.3**	**-2.1**
PLVR	**Palo Verde**	**143.00**	**59**	*e*P	**PKPdf**	**18 37 01.0**	**-2.6**
JTS	**JuntasAbangare**	**143.36**	**59**	PKP	**PKPdf**	**18 37 03.0**	**-1.0**
	comp=Z,43nm,1.0s,baz=349,slow=2.4,SNR=16						
JTS	**JuntasAbangare**	**143.36**	**59**	*e*PKPdf	**PKPdf**	**18 37 02.8**	**-1.3**
JTS	**JuntasAbangare**	**143.36**	**59**	PKIKP	**PKPdf**	**18 37 03.0**	**-1.0**
JTS				pmax	pmax		
	comp=Z,43nm,1.0s						
JTS	**JuntasAbangare**	**143.36**	**59**	*e*P	PKPab	18 36 59.9	-0.2
ARE1	**Arenal 1**	**143.47**	**58**	*e*P	PKPbc	18 37 01.0	-0.6
MTDJ	**Mount Denham**	**143.98**	**41**	*e*PKPdf	**PKPdf**	**18 37 04.2**	**-0.9**
GTBY	**Guantanamo Bay**	**144.18**	**36**	*e*PKPdf	**PKPdf**	**18 37 04.8**	**-0.5**
HDC	**Heredia**	**144.22**	**58**	*e*P	**PKPdf**	**18 37 04.8**	**-0.9**
LCR2	**La Lucha 2**	**144.44**	**59**	*e*P	PKPbc	18 37 05.3	+0.6
PRVC	**Isla de Provid**	**144.53**	**51**	*e*P	**PKPab**	**18 37 04.5**	**0.0**
GRTK	**Grand Turk**	**144.99**	**29**	*e*PKPbc	**PKPdf**	**18 37 06.8**	**+0.1**
PLCA	**Paso Flores**	**145.25**	**157**	PKPbc	**PKPdf**	**18 37 07.2**	**+0.5**
	comp=Z,142nm,0.9s,baz=244,slow=3.7,SNR=104						
PLCA				SKPbc	**SKiKP**	**18 40 43.6**	**+1.3**
	comp=Z,5.3nm,0.8s,baz=254,slow=8.6,SNR=2.8						
EDPN	**Palmar Norte**	**145.31**	**59**	*e*P	**PKPdf**	**18 37 10.9**	**+3.6**
DRK0	**Durika**	**145.33**	**59**	*e*P	**PKPdf**	**18 37 08.8**	**+1.1**
GO06	**Curarrehue**	**145.87**	**155**	*e*PKPdf	**PKPab**	**18 37 08.7**	**-0.2**
BRU2	**Volcan**	**146.04**	**59**	*e*P	**PKPab**	**18 37 12.0**	**+1.7**
SDDR	**Presa de Saban**	**147.04**	**32**	*e*PKPdf	**PKPdf**	**18 37 10.9**	**+0.6**
BCIP	**Isla Barro Col**	**148.21**	**56**	*e*PKPdf	**PKPdf**	**18 37 12.9**	**+0.6**
BCIP	**Isla Barro Col**	**148.21**	**56**	*e*P	**PKPdf**	**18 37 11.2**	**-1.1**
BCIP	**Isla Barro Col**	**148.21**	**56**	*e*P	**PKPdf**	**18 37 12.4**	**+0.1**
AZU	**Azuero**	**148.60**	**58**	*e*P	**PKPdf**	**18 37 13.8**	**+0.9**
GO05	**HualaæØ**	**149.41**	**150**	*e*PKPdf	**PKPdf**	**18 37 14.3**	**+0.6**
GO05	**HualaæØ**	**149.41**	**150**	*e*P	**PKPbc**	**18 37 18.8**	**+0.6**
MPR	**Mayaguez**	**149.68**	**26**	*e*PKPdf	**PKPdf**	**18 37 14.7**	**+0.2**
EMPR	**Esperanza - Ma**	**149.70**	**25**	*e*PKPdf	**PKPdf**	**18 37 14.7**	**+0.2**
EMPR				*e*PKPbc	**PKiKP**	**18 37 19.9**	**-0.3**
CRPR	**Cabo Rojo, PR**	**149.88**	**26**	*e*PKPdf	**PKPdf**	**18 37 14.6**	**-0.2**
CRPR				*e*PKPbc	**PKiKP**	**18 37 20.8**	**+0.2**
OBIP	**Obispado Ponce**	**150.06**	**25**	*e*PKPdf	**PKPdf**	**18 37 15.0**	**-0.1**
OBIP				*e*PKPbc	**PKiKP**	**18 37 21.4**	**+0.4**
CBYP	**Canovanas**	**150.16**	**24**	*e*PKPdf	**PKPdf**	**18 37 14.6**	**-0.8**
CBYP				*e*PKPbc	**PKiKP**	**18 37 21.3**	**0.0**
SJG	**San Juan**	**150.18**	**24**	PKP	**PKPdf**	**18 37 16.5**	**+1.2**
	comp=Z,9.7nm,0.4s,baz=320,slow=3.7,SNR=11						
SJG				PKPbc	**PKiKP**	**18 37 21.6**	**+0.4**
	comp=Z,48nm,0.7s,baz=20,slow=15,SNR=15						
SJG	**San Juan**	**150.18**	**24**	*e*PKPdf	**PKPdf**	**18 37 14.1**	**-1.2**
SJG				*e*PKPdf	**PKPdf**	**18 37 16.5**	**+1.2**
SJG				*e*PKPbc	**PKiKP**	**18 37 21.6**	**+0.4**
SJG	**San Juan**	**150.18**	**24**	*e*P	**PKPdf**	**18 37 14.7**	**-0.6**
ICMP	**Isla Caja de M**	**150.23**	**25**	*e*PKPdf	**PKPdf**	**18 37 15.8**	**+0.4**
ICMP				*e*PKPbc	**PKiKP**	**18 37 21.9**	**+0.6**
HUMP	**Col San Antoni**	**150.28**	**24**	*e*PKPdf	**PKPdf**	**18 37 14.9**	**-0.5**
CUPR	**Culebra, Puert**	**150.35**	**23**	*e*PKPdf	**PKPdf**	**18 37 15.2**	**-0.4**
CUPR				*e*PKPbc	**PKiKP**	**18 37 22.2**	**+0.7**
TRQA	**Tornquist**	**150.35**	**167**	*e*PKPdf	**PKPdf**	**18 37 14.7**	**-0.4**
TRQA				*e*PKPbc	**PKiKP**	**18 37 21.2**	**+0.1**
TRQA	**Tornquist**	**150.35**	**167**	*e*PKIKP	**PKPdf**	**18 37 14.7**	**-0.4**
TRQA				*e*		18 37 21.3	
STVI	**Saint Thomas**	**150.43**	**22**	*e*PKPdf	**PKPdf**	**18 37 15.6**	**-0.1**
STVI				*e*PKPbc	**PKiKP**	**18 37 21.8**	**+0.1**
MTP	**Monte Pirata**	**150.44**	**23**	*e*PKPdf	**PKPdf**	**18 37 16.1**	**+0.4**
MTP				*e*PKPbc	**PKiKP**	**18 37 22.1**	**+0.4**
PTAC	**Punta Ardita,**	**151.00**	**57**	*e*P	**PKPdf**	**18 37 16.5**	**-0.2**
SMRC	**Santa Marta, M**	**151.25**	**46**	*e*P	**PKPdf**	**18 37 18.0**	**+0.9**
SMRT	**St. Maarten**	**151.36**	**19**	*e*PKPdf	**PKPdf**	**18 37 17.8**	**+0.6**
SMRT				*e*PKPbc	**PKiKP**	**18 37 24.1**	**+0.5**
ROC1	**El Roble**	**151.48**	**148**	*e*PKPdf	**PKPdf**	**18 37 17.1**	**-0.1**
ROC1				*e*PKPbc	**PKiKP**	**18 37 24.5**	**+0.6**
ROC1	**El Roble**	**151.48**	**148**	*e*P	**PKPdf**	**18 37 18.5**	**+1.2**
PEL	**Peldehue**	**151.52**	**149**	*e*PKPdf	**PKPdf**	**18 37 17.1**	**0.0**
PEL				*e*PKPbc	**PKiKP**	**18 37 24.4**	**+0.7**
PEL	**Peldehue**	**151.52**	**149**	*e*P	**PKPbc**	**18 37 23.4**	**+0.1**
PEL	**Peldehue**	**151.52**	**149**	*e*PKIKP	**PKPdf**	**18 37 17.1**	**0.0**
MOTC	**Monteria, Cord**	**151.75**	**51**	*e*P	**PKPdf**	**18 37 18.4**	**+0.6**
DBBC	**Dabeiba**	**152.38**	**55**	*e*P	**PKPdf**	**18 37 21.0**	**+2.1**
URIC	**Uribia, Colomb**	**152.38**	**41**	*e*P	**PKPdf**	**18 37 19.4**	**+0.7**
AAGR	**Agrelo**	**152.47**	**152**	*e*P	**PKPdf**	**18 37 18.8**	**+0.2**
CODC	**Agust¨›n Codaz**	**152.65**	**46**	*e*P	**PKPdf**	**18 37 19.7**	**+0.5**
GRGC	**Isla de Gorgon**	**152.77**	**65**	*e*P	**PKPbc**	**18 37 27.6**	**+1.0**
ASAL	**Salagasta**	**152.87**	**151**	*e*P	**PKPdf**	**18 37 18.8**	**-0.4**
AUSP	**Uspallata**	**152.91**	**150**	*e*P	**PKPdf**	**18 37 18.2**	**-1.3**
MALC	**Bahia Malaga**	**153.03**	**62**	*e*P	**PKPbc**	**18 37 28.2**	**+1.1**
ZARC	**Zaragoza, Cauc**	**153.17**	**52**	*e*P	**PKPdf**	**18 37 20.0**	**+0.1**
RTLS	**Leoncito**	**153.29**	**149**	*e*P	**PKPdf**	**18 37 19.9**	**-0.1**
HELC	**Santa Helena**	**153.41**	**56**	*e*P	**PKPdf**	**18 37 20.8**	**0.0**
PLMC	**San Jos¨ del**	**153.48**	**59**	*e*P	**PKPdf**	**18 37 20.1**	**-0.5**
RTCV	**Cerro Valdivia**	**153.62**	**151**	*e*P	**PKPdf**	**18 37 20.2**	**0.0**
OTAV	**Otavalo**	**153.64**	**70**	*e*P	**PKPdf**	**18 37 21.4**	**+0.2**
GO04	**Tololo Observa**	**153.76**	**145**	*e*PKPdf	**PKPdf**	**18 37 19.9**	**-0.7**
GO04	**Tololo Observa**	**153.76**	**145**	*e*P	**PKPdf**	**18 37 20.5**	**-0.2**
TDBA	**Terre de Bas,**	**153.87**	**18**	*e*P	**PKPdf**	**18 37 22.2**	**+1.3**
OCAC	**Ocana**	**153.88**	**49**	*e*P	**PKPdf**	**18 37 21.7**	**+0.5**
MAGL	**Barre de l'ile**	**153.88**	**17**	*e*P	**PKPdf**	**18 37 23.0**	**+2.1**
ACAN	**Cantantal**	**153.90**	**153**	*e*P	**PKPdf**	**18 37 19.1**	**-1.4**
YOTC	**Yotoco, Valle**	**153.90**	**61**	*e*P	**PKPdf**	**18 37 20.3**	**-0.9**
HORQ	**Saladito**	**153.91**	**62**	*e*P	**PKPdf**	**18 37 22.5**	**+1.1**
GUYC	**Guyana, Colomb**	**154.06**	**57**	*e*P	**PKPbc**	**18 37 30.8**	**+0.8**
RTLL	**Cerro Villicun**	**154.08**	**150**	*e*P	**PKPdf**	**18 37 22.2**	**+1.3**
RTLL				*e*P	**PKPdf**	**18 37 22.8**	**+1.9**
LPA	**La Plata**	**154.16**	**172**	*ce*PKIKP	**PKPdf**	**18 37 22.0**	**+1.3**
LPA				*e*PKS	**PKiKP**	**18 37 29.0**	**0.0**
LPA	**La Plata**	**154.16**	**172**	*e*PKP	**PKPab**	**18 37 43.0**	**+0.4**
LPA				*e*SKIKP		18 40 50.0	
LPA				*e*PKIKS		18 40 55.0	
LPA				*e*SKIKS		18 44 26.0	
LPA				*e*PPP	PPP	18 44 48.0	
GCUF	**Volcan Galeras**	**154.27**	**67**	*e*P	**PKPdf**	**18 37 22.3**	**+0.1**
RREF	**El Recreo**	**154.27**	**58**	*e*P	**PKPdf**	**18 37 23.3**	**+1.0**
BRRC	**Barranca, Sant**	**154.30**	**51**	*e*P	**PKPdf**	**18 37 21.6**	**0.0**
POPC	**Popayan, Colom**	**154.31**	**64**	*e*P	**PKPdf**	**18 37 20.6**	**-1.3**
ACCO	**Cerro Coronel**	**154.38**	**148**	*e*P	**PKPdf**	**18 37 21.6**	**0.0**
AMOG	**MOGNA**	**154.39**	**150**	*e*P	**PKPdf**	**18 37 23.1**	**+1.7**
ANIL	**Santa Ana**	**154.44**	**59**	*e*P	**PKPdf**	**18 37 22.5**	**+0.3**
TOLC	**Tolima**	**154.46**	**58**	*e*P	**PKPdf**	**18 37 23.0**	**+0.8**
AROD	**Rodeo**	**154.50**	**147**	*e*P	**PKPdf**	**18 37 20.8**	**-1.1**
SOTA	**Rioblanco**	**154.55**	**65**	*e*P	**PKPdf**	**18 37 22.7**	**+0.1**
PCON	**Cinco Dias**	**154.65**	**64**	*e*P	**PKPdf**	**18 37 23.9**	**+1.1**
LCO	**Las Campanas**	**154.68**	**143**	*e*PKPdf	**PKPdf**	**18 37 21.9**	**-0.1**
LCO	**Las Campanas**	**154.68**	**143**	*e*P	**PKPdf**	**18 37 23.4**	**+1.3**
LCO	**Las Campanas**	**154.68**	**143**	*e*PKIKP	**PKPdf**	**18 37 21.9**	**-0.1**
GIRC	**Giron, Santand**	**154.72**	**51**	*e*P	**PKPdf**	**18 37 24.4**	**+2.1**
MARP	**Paez Belalcaza**	**154.80**	**63**	*e*P	**PKPdf**	**18 37 23.6**	**+1.0**
PAMC	**Pamplona, Colo**	**154.93**	**50**	*e*P	**PKPdf**	**18 37 23.9**	**+0.8**
CXM	**Morne La Croix**	**154.99**	**17**	*e*P	**PKPdf**	**18 37 26.3**	**+3.7**
GBMF	**Grand Be**	**155.01**	**17**	*e*P	**PKPdf**	**18 37 26.6**	**+4.0**
FDF	**Fort de France**	**155.07**	**17**	*e*PKPdf	**PKPdf**	**18 37 23.2**	**+0.6**
FDF				*e*PKPbc	PKPbc	18 37 32.4	
FDF	**Fort de France**	**155.07**	**17**	*e*P	**PKPdf**	**18 37 26.3**	**+3.7**
FDF	**Fort de France**	**155.07**	**17**	*e*PKIKP	**PKPdf**	**18 37 23.2**	**+0.6**
ROSC	**El Rosal**	**155.16**	**57**	PKP	**PKPdf**	**18 37 24.1**	**+0.9**
	comp=Z,10.0nm,0.6s,baz=10.0,slow=2.1,SNR=23						
ROSC	**El Rosal**	**155.16**	**57**	*e*PKPdf	**PKPdf**	**18 37 23.1**	**-0.2**
ROSC	**El Rosal**	**155.16**	**57**	*e*P	**PKPdf**	**18 37 23.6**	**+0.3**
ZAM	**Aeronautique**	**155.26**	**17**	*e*P	**PKPdf**	**18 37 28.5**	**+5.7**
TRMF	**Trois Ilets**	**155.29**	**17**	*e*P	**PKPdf**	**18 37 29.8**	**+6.9**
PRAC	**Prado**	**155.29**	**60**	*e*P	**PKPdf**	**18 37 23.6**	**+0.6**
SDV	**Santo Domingo**	**155.35**	**44**	PKP	**PKPdf**	**18 37 23.9**	**+0.6**
	comp=Z,15nm,0.8s,baz=323,slow=0.5,SNR=44						
SDV	**Santo Domingo**	**155.35**	**44**	*e*PKPdf	**PKPdf**	**18 37 23.3**	**+0.1**
SDV	**Santo Domingo**	**155.35**	**44**	*e*P	**PKPdf**	**18 37 23.0**	**-0.2**
ATAH	**Atahualpa**	**155.49**	**87**	PKP	**PKPdf**	**18 37 25.8**	**+2.1**
	comp=Z,31nm,1.1s,baz=329,slow=3.8,SNR=23						
RUSC	**La Rusia**	**155.54**	**53**	*e*P	**PKPdf**	**18 37 23.9**	**0.0**
AGUA	**GUANDACOL**	**155.56**	**148**	*e*P	**PKPdf**	**18 37 23.8**	**+0.8**
FLOC	**Florencia**	**155.65**	**65**	*e*P	**PKPdf**	**18 37 23.3**	**-0.2**
CHIC	**Chingaza**	**155.76**	**56**	*e*P	**PKPdf**	**18 37 23.8**	**-0.4**
TCA	**Tanti**	**155.79**	**157**	*e*P	**PKPdf**	**18 37 23.1**	**-0.2**
GO03	**Copiap**	**155.99**	**142**	*e*PKPdf	**PKPdf**	**18 37 23.3**	**-0.3**
GO03	**Copiap**	**155.99**	**142**	*e*P	**PKPdf**	**18 37 25.1**	**+1.5**
TAMC	**Tame, Arauca**	**156.19**	**50**	*e*P	**PKPdf**	**18 37 23.6**	**-0.6**
VCA	**Vinchina**	**156.30**	**147**	*e*P	**PKPdf**	**18 37 24.5**	**+0.4**
NNA	**Nana**	**157.11**	**99**	PKP	**PKPdf**	**18 37 27.4**	**+2.1**
	comp=Z,11nm,0.7s,baz=267,slow=2.5,SNR=5.8						
NNA				PKPab	**PKPab**	**18 37 58.6**	**+2.5**
	comp=Z,20nm,0.7s,baz=281,slow=4.7,SNR=5.6						
NNA	**Nana**	**157.11**	**99**	*e*PKPdf	**PKPdf**	**18 37 26.5**	**+1.2**
NNA				*e*PKPdf	**PKPdf**	**18 37 27.4**	**+2.1**
NNA				*e*PKPab	**PKPab**	**18 37 58.6**	**+2.5**
NNA	**Nana**	**157.11**	**99**	*e*PKIKP	**PKPdf**	**18 37 26.5**	**+1.2**
CYA	**Choya**	**157.77**	**151**	*e*P	**PKPdf**	**18 37 25.6**	**-0.2**
PB14	**IPOC Station P**	**157.93**	**136**	*e*P	**PKPdf**	**18 37 28.2**	**+1.8**
PB05	**IPOC Station P**	**159.19**	**133**	*e*P	**PKPdf**	**18 37 27.9**	**+0.2**
AHML	**Horco Molle**	**159.37**	**149**	*e*P	**PKPdf**	**18 37 27.6**	**-0.1**
AHML				*e*P	**PKPdf**	**18 37 29.1**	**+1.3**
PB04	**IPOC Station P**	**159.54**	**131**	*e*P	**PKPdf**	**18 37 29.9**	**+1.7**
FSJA	**Cafayete**	**159.58**	**147**	*e*P	**PKPdf**	**18 37 27.4**	**-0.9**
PB06	**IPOC Station P**	**159.74**	**133**	*e*P	**PKPdf**	**18 37 27.9**	**-0.5**
PB03	**IPOC Station P**	**160.01**	**131**	*e*P	**PKPdf**	**18 37 29.4**	**+0.6**
PB07	**IPOC Station P**	**160.10**	**130**	*e*P	**PKPdf**	**18 37 29.9**	**+1.0**
LVC	**Limon Verde**	**160.27**	**134**	*e*PKPdf	**PKPdf**	**18 37 29.6**	**+0.3**
LVC	**Limon Verde**	**160.27**	**134**	*e*P	**PKPdf**	**18 37 30.2**	**+0.9**
LVC	**Limon Verde**	**160.27**	**134**	*e*PKIKP	**PKPdf**	**18 37 29.6**	**+0.3**
PB09	**IPOC Station P**	**160.54**	**132**	*e*P	**PKPdf**	**18 37 30.5**	**+1.1**
PB01	**IPOC Station P**	**160.80**	**129**	*e*PKPdf	**PKPdf**	**18 37 29.5**	**-0.1**
PB01	**IPOC Station P**	**160.80**	**129**	*e*P	**PKPdf**	**18 37 29.4**	**-0.2**
SLA	**San Lorenzo**	**160.94**	**145**	*e*P	**PKPdf**	**18 37 30.2**	**+0.5**
PSGCX	**Pisagua**	**161.08**	**125**	*e*P	**PKPdf**	**18 37 29.5**	**-0.4**
PB11	**IPOC Station P**	**161.38**	**126**	*e*PKPdf	**PKPdf**	**18 37 30.2**	**-0.1**
PB11	**IPOC Station P**	**161.38**	**126**	*e*P	**PKPdf**	**18 37 31.1**	**+0.8**
PB12	**IPOC Station P**	**161.39**	**122**	*e*P	**PKPdf**	**18 37 30.2**	**0.0**
PB08	**IPOC Station P**	**161.57**	**128**	*e*P	**PKPdf**	**18 37 31.4**	**+0.6**
AZAP	**Zapla**	**161.57**	**145**	*e*P	**PKPdf**	**18 37 30.5**	**0.0**
MNMC	**Minye Minye**	**161.75**	**124**	*e*PKPdf	**PKPdf**	**18 37 31.6**	**+0.7**
MNMCX	**Minye Minye**	**161.75**	**124**	*e*P	**PKPdf**	**18 37 31.7**	**+0.8**
RCBR	**Riachuelo**	**162.02**	**280**	PP	PP	18 42 14.8	+13
	comp=Z,139nm,0.9s,baz=128,slow=0.2,SNR=4.0						
RCBR	**Riachuelo**	**162.02**	**280**	*e*PKPdf	**PKPdf**	**18 37 31.2**	**+0.2**
RCBR				*e*PKPab	**PKPab**	**18 38 17.6**	**+0.1**
RCBR	**Riachuelo**	**162.02**	**280**	*e*PKIKP	**PKPdf**	**18 37 31.2**	**+0.2**
RCBR				*e*		18 38 17.6	
HJA	**Humahuaca**	**162.16**	**143**	*e*P	**PKPdf**	**18 37 32.2**	**+0.9**
PB16	**IPOC Station P**	**162.21**	**122**	*e*P	**PKPdf**	**18 37 32.8**	**+1.1**
ALOL	**LOMAS DE OLMED**	**162.49**	**147**	*e*P	**PKPdf**	**18 37 31.4**	**+0.2**
CPUP	**Villa Florida**	**162.66**	**169**	PKP	**PKPdf**	**18 37 31.8**	**+0.6**
	comp=Z,19nm,1.1s,baz=153,slow=0.2,SNR=30						
CPUP				PKPab	**PKPab**	**18 38 20.8**	**+1.2**
	comp=Z,42nm,0.9s,baz=206,slow=4.1,SNR=15						
CPUP				PP	PP	**18 42 08.2**	**+5.5**
	comp=Z,14nm,1.1s,baz=166,slow=5.5,SNR=4.7						
CPUP	**Villa Florida**	**162.66**	**169**	*e*PKPdf	**PKPdf**	**18 37 31.4**	**+0.1**
CPUP				*e*PKPab	**PKPab**	**18 38 20.5**	**+1.0**
CPUP				*e*PP	**PP**	**18 42 01.0**	**-1.6**
CPUP				PP	PP	18 42 08.2	+5.5
LPAZ	**La Paz**	**164.30**	**118**	PKP	**PKPdf**	**18 37 34.9**	**+1.1**
	comp=Z,31nm,0.9s,baz=255,slow=1.3,SNR=74						
LPAZ				PP	PP	18 42 22.9	+8.9
	comp=Z,4.5nm,1.0s,baz=281,slow=3.8,SNR=3.7						
LPAZ	**La Paz**	**164.30**	**118**	*e*PKPdf	**PKPdf**	**18 37 34.0**	**+0.2**
LPAZ				*e*		18 37 34.3	
LPAZ				PP	PP	18 42 22.9	+8.9
LPAZ	**La Paz**	**164.30**	**118**	*e*P	**PKPdf**	**18 37 32.5**	**-1.3**
LPAZ	**La Paz**	**164.30**	**118**	*e*PKIKP	**PKPdf**	**18 37 34.0**	**+0.2**
SPB	**Sao Paulo**	**164.51**	**202**	*e*PKPdf	**PKPdf**	**18 37 32.8**	**-0.2**
SPB				*e*PKPab	**PKPab**	**18 38 27.9**	**+0.2**
MDP	**Montagnes des**	**165.72**	**356**	PKP	**PKPdf**	**18 37 34.9**	**+0.5**
	comp=Z,33nm,1.0s,baz=338,slow=1.2,SNR=20						
MDP				PKPab	**PKPab**	**18 38 33.0**	**-0.2**
	comp=Z,27nm,1.0s,baz=15,slow=5.9,SNR=7.0						
MDP				PP	**PP**	**18 42 19.5**	**+0.9**
	comp=Z,12nm,1.2s,baz=20,slow=6.2,SNR=5.8						
PTGA	**Pitinga**	**169.51**	**37**	PKP	**PKPdf**	**18 37 37.1**	**0.0**
	comp=Z,18nm,1.0s,baz=333,slow=0.7,SNR=32						
PTGA				PKPab	**PKPab**	**18 38 51.2**	**+1.0**
	comp=Z,94nm,1.0s,baz=332,slow=5.4,SNR=26						
PTGA				PP	**PP**	**18 42 40.9**	**+2.0**
	comp=Z,5.0nm,0.7s,baz=338,slow=4.4,SNR=7.0						
PTGA	**Pitinga**	**169.51**	**37**	*e*PKPdf	**PKPdf**	**18 37 36.4**	**-0.7**
PTGA				*e*PKPab	**PKPab**	**18 38 50.6**	**+0.4**
PTGA				*e*PP	**PP**	**18 42 39.5**	**+0.6**
SAML	**Samuel**	**170.65**	**89**	*e*PKPdf	**PKPdf**	**18 37 37.5**	**-0.2**
SAML				*e*PKPab	**PKPab**	**18 38 55.9**	**+0.3**
SAML	**Samuel**	**170.65**	**89**	*e*PKIKP	**PKPdf**	**18 37 37.5**	**-0.2**
SAML				*e*		18 38 55.9	
BDFB	**Brasilia**	**171.54**	**221**	PKP	**PKPdf**	**18 37 38.6**	**+0.4**
	comp=Z,28nm,1.1s,baz=0.3,slow=0.6,SNR=24						
BDFB				PKPab	**PKPab**	**18 38 58.9**	**-0.4**
	comp=Z,6.6nm,0.7s,baz=145,slow=3.6,SNR=5.8						
BDFB				PP	**PP**	**18 42 54.4**	**+5.0**
	comp=Z,10nm,0.9s,baz=140,slow=3.9,SNR=6.8						
BDFB	**Brasilia**	**171.54**	**221**	*e*PKPdf	**PKPdf**	**18 37 37.5**	**-0.7**
BDFB				*e*PKPdf	**PKPdf**	**18 37 38.6**	**+0.4**
BDFB				*e*PKPab	**PKPab**	**18 38 58.8**	**-0.5**

*ISCJB **02** 18:22:38.7±0.3, 44°.47N±0°.01×6°.66E±0°.02, h7km±2km,*
Error ellipse: s-maj=2.5km s-min=2.1km az=43.6
*GEN **02** 18:22:39.6, 44°.47N×6°.70E, h5km±1km, Ml2.5*
*ROM **02** 18:22:40.0±0.3, 44°.494N±0°.010×6°.77E±0°.02, h9km±1km, ML2.6/16*
*LDG **02** 18:22:41.1±0.1, 44°.43N×6°.76E, h2km, Md2.6/7, Ml3.1/26,*
Error ellipse: s-maj=2.4km s-min=2.1km az=58.0

ISC 02 18:22:39.5±1.0, 44°.46N±0°.02×6°.70E±0°.02, h7km±9km, n60, σ1§11/102, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBDF	**Montbardon**	**0.27**	**12**	*e*Pg	**Pg**	**18 22 44.9**	**0.0**
MBDF				*e*Sg	**Sg**	**18 22 49.1**	**+0.5**
	396nm,0.2s						
PZZ	**Stroppo**	**0.30**	**81**	P	**Pg**	**18 22 45.7**	**+0.1**
PZZ				S	**Sg**	**18 22 49.7**	**+0.1**
PZZ	**Stroppo**	**0.30**	**81**	P	**Pg**	**18 22 45.7**	**+0.1**
PZZ				S	**Sg**	**18 22 50.0**	**+0.4**
PZZ				AML	AML		
	comp=E,4570µm,0.7s						
PZZ				AML	AML		
	comp=N,4510µm,0.3s						
PZZ				AML	AML		
	comp=E,4570µm,0.7s						
PZZ				AML	AML		
	comp=N,4505µm,0.3s						
PZZ				AML	AML		
	comp=N,4505µm,0.3s						
PZZ				AML	AML		
	comp=E,4570µm,0.7s						
DOI	**San Damiano**	**0.40**	**83**	P	**Pg**	**18 22 47.3**	**0.0**
DOI				S	**Sg**	**18 22 53.5**	**+1.0**
DOI				AML	AML		
	comp=E,1525µm,0.3s						
DOI				AML	AML		
	comp=N,1410µm,0.5s						
DOI				AML	AML		
	comp=N,1410µm,0.5s						
DOI				AML	AML		
	comp=E,1525µm,0.3s						
RRL	**Rocca Remolon**	**0.47**	**8**	P	**Pg**	**18 22 48.5**	**-0.1**
RRL				S	**Sg**	**18 22 54.8**	**+0.1**
RRL	**Rocca Remolon**	**0.47**	**8**	P	**Pg**	**18 22 48.6**	**+0.1**
RRL				S	**Sg**	**18 22 55.1**	**+0.4**
RRL				AML	AML		
	comp=E,916µm,1.3s						
RRL				AML	AML		
	comp=N,1092µm,1.0s						
RRL				AML	AML		
	comp=E,916µm,1.3s						
RRL				AML	AML		
	comp=N,1092µm,1.0s						
RRL				AML	AML		
	comp=N,1092µm,1.0s						
RRL				AML	AML		
	comp=E,916µm,1.3s						
STV	**Sant Anna di V**	**0.50**	**115**	P	**Pg**	**18 22 49.5**	**+0.3**
STV				S	**Sg**	**18 22 55.8**	**+0.1**
STV	**Sant Anna di V**	**0.50**	**115**	P	**Pg**	**18 22 49.5**	**+0.3**
STV				S	**Sg**	**18 22 55.9**	**+0.2**
STV				AML	AML		
	comp=E,703µm,0.3s						
STV				AML	AML		
	comp=N,906µm,0.6s				

	comp=E,544µm,0.4s							
MONC					AML	AML		
	comp=N,522µm,1.5s							
MONC					AML	AML		
	comp=E,544µm,0.4s							
LMR	**La Mourre**	**1.13**	**187**	*e*Pg		**Pn**	**18 23 01.8**	**+0.1**
LMR				*e*Sg		**Sb**	**18 23 16.3**	**0.0**
	comp=E,123nm,0.2s,SNR=1.0							
QLNO	**Quiliano**	**1.19**	**96**	P		**Pg**	**18 23 02.1**	**-0.2**
QLNO				AML	AML			
	comp=E,366µm,0.6s							
QLNO				AML	AML			
	comp=N,325µm,1.2s							
QLNO				AML	AML			
	comp=N,325µm,1.2s							
QLNO				AML	AML			
	comp=E,366µm,0.6s							
FINB	**Finale Ligure**	**1.20**	**103**	P		**Pg**	**18 23 02.0**	**-0.6**
CIRO	**Champorcher**	**1.30**	**28**	AML	AML			
	comp=N,122µm,0.8s							
CIRO				AML	AML			
	comp=E,134µm,1.1s							
CIRO				AML	AML			
	comp=N,122µm,0.8s							
CIRO				AML	AML			
	comp=E,134µm,1.1s							
PCP	**Piancastagn**	**1.33**	**86**	P		**Pg**	**18 23 04.0**	**-0.9**
PCP				AML	AML			
	comp=E,242µm,1.6s							
PCP				AML	AML			
	comp=N,252µm,1.3s							
PCP				AML	AML			
	comp=N,252µm,1.3s							
PCP				AML	AML			
	comp=E,242µm,1.6s							
VIVF	**Saint-Julien-I**	**1.50**	**286**	*e*Pn		**Pn**	**18 23 07.3**	**+0.5**
	SNR=1.0							
VIVF				*e*Sn		**Sb**	**18 23 27.2**	**+0.4**
	comp=E,46nm,0.3s,SNR=1.0							
LASF	**Ste Croix**	**2.08**	**260**	*e*Pn		**Pn**	**18 23 14.9**	**+0.2**
	SNR=1.0							
LASF				*e*Sn		**Sn**	**18 23 40.9**	**+0.1**
	comp=E,18nm,0.4s							
CABF	**La Chapelle**	**2.19**	**349**	*e*Pn		**Pb**	**18 23 18.3**	**-1.2**
	SNR=1.0							
CABF				*e*Sn		**Sn**	**18 23 43.4**	**-0.5**
	comp=E,40nm,0.9s,SNR=1.0							
CABF				*e*Sg		**Sg**	**18 23 50.9**	**+1.0**
	comp=E,21nm,0.3s							
PGF	**Pioggiola**	**2.54**	**138**	*e*Pn		**Pn**	**18 23 20.9**	**-0.3**
	SNR=1.0							
PGF				*e*Sn		**Sn**	**18 23 50.1**	**-2.4**
	comp=E,46nm,0.7s,SNR=1.0							
PGF	**Pioggiola**	**2.54**	**138**	P		**Pn**	**18 23 21.2**	**0.0**
SMF	**Signal de Mont**	**2.97**	**318**	*e*Pn		**Pn**	**18 23 28.2**	**+1.2**
	SNR=1.0							
SMF				*e*Sn		**Sn**	**18 24 01.1**	**-1.7**
	comp=E,7.9nm,0.3s,SNR=1.0							
AVF	**Avril sur Loir**	**3.31**	**316**	*e*Pn		**Pn**	**18 23 33.2**	**+1.6**
	SNR=1.0							
AVF				*e*Sg		**Sg**	**18 24 26.6**	**+1.0**
	comp=E,19nm,0.5s							
CAF	**Calviac**	**3.33**	**280**	*e*Pn		**Pn**	**18 23 33.0**	**+0.9**
	SNR=1.0							
CAF				*e*Sn		**Sn**	**18 24 11.7**	**-0.2**
	SNR=1.0							
HINF	**Hinteralfeld**	**3.36**	**2**	*e*Pn		**Pn**	**18 23 32.6**	**+0.2**
	SNR=1.0							
HINF				*e*Sn		**Sn**	**18 24 11.4**	**-1.1**
	comp=E,4.9nm,0.3s,SNR=1.0							
HINF				*e*Sg		**Sg**	**18 24 26.8**	**-0.5**
	comp=E,10nm,0.5s,SNR=1.0							
BGF	**Bois d'Agland**	**3.42**	**309**	*e*Pn		**Pn**	**18 23 34.8**	**+1.6**
	SNR=1.0							
BGF				*e*Sn		**Sn**	**18 24 13.8**	**-0.3**
	comp=E,11nm,0.3s							
BGF				*e*Sg		**Sg**	**18 24 30.0**	**+0.6**
	comp=E,38nm,0.5s							
MTLF	**Montolieu**	**3.42**	**252**	*e*Pn		**Pn**	**18 23 34.0**	**+0.7**
	SNR=1.0							
MTLF				*e*Sn		**Sn**	**18 24 12.5**	**-1.6**
	comp=E,4.5nm,0.2s,SNR=1.0							
MTLF				*e*Sg		**Sg**	**18 24 31.2**	**+1.8**
	comp=E,4.9nm,0.3s,SNR=1.0							
SSF	**Saint Saulge**	**3.43**	**320**	*e*Pn		**Pn**	**18 23 34.9**	**+1.6**
	SNR=1.0							
SSF				*e*Sg		**Sg**	**18 24 29.6**	**+0.1**
	comp=E,8.0nm,0.3s							
LOR	**Lormes**	**3.44**	**326**	*e*Pn		**Pn**	**18 23 34.7**	**+1.2**
	baz=150,SNR=1.0							
LOR				*e*Sn		**Sn**	**18 24 13.8**	**-0.6**
	comp=E,16nm,0.3s,SNR=1.0							
LOR				*e*Sg		**Sg**	**18 24 30.4**	**+0.6**
	comp=E,11nm,0.3s,SNR=1.0							
DAVA	**Damuels**	**3.60**	**37**	*i* Pn		**Pb**	**18 23 40.3**	**-3.2**
	comp=E,0.5nm,0.2s							
DAVA				*e*Sn		**Sn**	**18 24 21.4**	**+2.9**
	comp=E,6.6nm,0.3s							
TCF	**Toulx Ste Croi**	**3.65**	**302**	*e*Pn		**Pn**	**18 23 37.0**	**+0.6**
	SNR=1.0							
RJF	**Les Rejaudoux**	**3.78**	**285**	*e*Pn		**Pn**	**18 23 39.0**	**+0.9**
	SNR=1.0							
RJF				*e*Sn		**Sn**	**18 24 21.4**	**-1.4**
	comp=E,5.5nm,0.3s,SNR=1.0							
SFTF	**Sexfontaines**	**3.92**	**344**	*e*Pn		**Pn**	**18 23 40.0**	**0.0**
CDF	**Champ du Feu**	**3.97**	**6**	*e*Pn		**Pn**	**18 23 41.0**	**+0.1**
	SNR=1.0							
PAGF	**Fort de Pagny**	**4.15**	**351**	*e*Pn		**Pn**	**18 23 43.0**	**-0.2**
	baz=164							
SQTA	**Sankt Quirin**	**4.19**	**47**	*i* Pn		**Pn**	**18 23 47.4**	**+3.5**
	comp=E,1.4nm,0.2s							
SQTA				*e*Sn		**Sn**	**18 24 34.6**	**+1.5**
	comp=E,2.0nm,0.3s							
MEZF	**Maizieres J'vi**	**4.20**	**345**	*e*Sn		**Sn**	**18 24 32.5**	**-0.7**
	comp=E,11nm,0.4s,SNR=1.0							
MEZF				*e*Sg		**Sg**	**18 24 53.0**	**-1.3**
	comp=E,19nm,0.5s,SNR=1.0							
MOTA	**Moosalm**	**4.22**	**45**	*i* Pn		**Pn**	**18 23 48.6**	**+4.3**
	comp=E,0.8nm,0.2s							
MOTA				*e*Sn		**Sn**	**18 24 35.9**	**+2.0**
	comp=E,2.1nm,0.5s							
ABTA	**Abfaltersbach**	**4.68**	**59**	*e*Pn		Pn	18 23 55.4	+4.9
	comp=E,0.7nm,0.3s							
ABTA				*i* Sn		**Sn**	**18 24 48.0**	**+2.9**
	comp=E,1.3nm,0.2s							
EPF	**Esparros**	**4.82**	**255**	*e*Sg		**Sg**	**18 25 13.8**	**-0.4**
	comp=E,5.9nm,0.5s,SNR=1.0							
ETSF	**Etsaut**	**5.49**	**256**	*e*Pn		**Pn**	**18 24 01.6**	**-0.1**
	SNR=1.0							
BAIF	**Baives**	**5.85**	**344**	*e*Pn		**Pn**	**18 24 08.6**	**+2.0**
	SNR=1.0							
BAIF				*e*Sn		**Sn**	**18 25 12.8**	**-1.1**
	comp=E,3.5nm,0.5s,SNR=1.0							
LDF	**La Druitiere**	**6.26**	**314**	*e*Pn		**Pn**	**18 24 14.1**	**+1.9**
	SNR=1.0							
GRR	**Gorron**	**6.53**	**310**	*e*Pn		**Pn**	**18 24 17.0**	**+1.1**
	SNR=1.0							

MAN 02 18:28:52.1, 9°48N×126°47E, h24km, mb4.9, ML3.8, MS3.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BUTP	**Butuan**	**0.98**	**239**	*e*P		Pn	18 29 09.4	-0.9
BUTP				*e*S		Sb	18 29 19.7	-3.2
BIPH	**Bislig**	**1.29**	**185**	*i*P		Pn	18 29 13.4	-1.2
BIPH				*i*S		Sn	18 29 25.3	-5.9
BUKP	**Musuan**	**2.11**	**221**	*e*P		Pn	18 29 26.8	+0.8
BUKP				*e*S		Sn	18 29 46.4	-5.1
BESP	**Borongan**	**2.34**	**334**	*e*P		Pn	18 29 30.1	+1.1
BESP				*e*S		Sn	18 29 57.6	+0.5

*ISCJB **02** 18:54:42.6±0.6, 9°.07N±0°.04×126°.28E±0°.07, h69km±6km, mb3.9/19, Error ellipse: s-maj=12.1km s-min=5.2km az=164.2*
*MAN **02** 18:54:43.3, 9°.12N×126°.34E, h31km, mb5.1, ML4.0, MS4.1*
*IDC **02** 18:54:46.2±1.6, 9°.13N×126°.22E, h83km±16km, mb3.7/19, mb1 3.9/22, mb1mx3.7/64, mbtmp4.1/22, Error ellipse: s-maj=21.2km s-min=10.3km az=83.0*

ISC 02 18:54:42.3±1.1, 9°.12N±0°.04×126°.39E±0°.07, h48km±11km, n40, σ2s06/48, mb4.1/19, 1C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BUTP	**Butuan**	**0.77**	**259**	*e*P		**Pn**	**18 54 57.2**	**+0.2**
BUTP						*e*S	**Sn**	**18 55 05.0**	**-2.6**
BIPH	**Bislig**	**0.93**	**182**			*e*P	**Pn**	**18 54 60.0**	**+0.9**
BIPH						*e*S	**Sn**	**18 55 11.8**	**+0.5**
BUKP	**Musuan**	**1.80**	**227**			*e*P	**Pn**	**18 55 12.7**	**+1.7**
BUKP						*e*S	**Sn**	**18 55 29.9**	**-2.7**
MSLP	**Maasin**	**1.81**	**304**			*e*P	**Pn**	**18 55 11.8**	**+0.7**
MSLP						*e*S	**Sn**	**18 55 35.0**	**+2.1**
DAV	**Davao City (W)**	**2.19**	**202**	P			**Pn**	**18 55 19.6**	**+3.3**
	45nm,0.3s,baz=38,slow=17,SNR=4.1							
DAV						S	**Sn**	**18 55 47.0**	**+4.9**
	99nm,0.3s,baz=325,slow=15,SNR=7.4							
PLP	**Palo**	**2.46**	**326**			*e*P	**Pn**	**18 55 20.9**	**+0.9**
PLP						*e*S	**Sn**	**18 55 52.6**	**+3.7**
OCLP	**Ormoc**	**2.60**	**318**			*e*P	**Pn**	**18 55 24.0**	**+2.1**
OCLP						*e*S	Sn	18 55 41.6	-11
LLP	**Lapu-Lapu**	**2.67**	**297**			*e*P	**Pn**	**18 55 25.1**	**+2.3**
LLP						*e*S	**Sn**	**18 55 56.9**	**+2.9**
CTBH	**Cotabato--PC H**	**2.84**	**229**			*e*P	**Pn**	**18 55 26.9**	**+1.7**
DDMP	**Don Marcelino,**	**3.07**	**193**			*e*P	**Pn**	**18 55 26.4**	**-2.0**
DDMP						*e*S	**Sn**	**18 56 01.9**	**-2.0**
PAGZ	**Pagadian**	**3.23**	**247**			*e*P	**Pn**	**18 55 31.6**	**+1.1**
PAGZ						*e*S	Sn	18 55 54.4	-13
CNP	**Catarman**	**3.77**	**333**			*e*P	**Pn**	**18 55 38.9**	**+0.8**
CNP						*e*S	Sn	18 56 11.6	-10
GUIM	**Jordan**	**4.03**	**292**			*e*P	**Pn**	**18 55 40.7**	**-0.9**
GUIM						*e*S	Sn	18 56 08.4	-19
RCP	**Roxas**	**4.33**	**304**			*e*P	**Pn**	**18 55 48.2**	**+2.5**
PVCP	**Virac**	**4.96**	**334**			*e*P	**Pn**	**18 55 54.5**	**+0.1**
PVCP						*e*S	**Sn**	**18 56 45.7**	**-4.7**
SIJI	**Sorong**	**11.05**	**154**	P			**Pn**	**18 57 21.4**	**+3.6**
	1.3nm,0.3s,baz=195,slow=23,SNR=14							
SIJI						S	**Sn**	**18 59 15.1**	**-4.9**
	0.4nm,0.3s,baz=120,slow=20,SNR=3.1							
BATI	**Baumata**	**19.39**	**188**	P			**Pn**	**18 59 05.4**	**-0.5**
	2.6nm,0.3s,baz=72,slow=5.4,SNR=5.5							
FITZ	**Fitzroy Crossi**	**27.05**	**182**	P			**P**	**19 00 21.0**	**+0.6**
	5.1nm,0.9s,baz=6.8,slow=7.8,SNR=11							
CMAR	**Chiang Mai Arr**	**28.19**	**292**	P			**P**	**19 00 30.3**	**-0.3**
	0.3nm,0.8s,baz=114,slow=9.1,SNR=4.1							
CMAR						PcP	**PcP**	**19 03 44.0**	**+0.4**
	0.5nm,0.7s,baz=163,slow=0.3,SNR=6.4							
KSRS	**Korea Array**	**28.25**	**3**	P			**P**	**19 00 30.9**	**+0.1**
	1.7nm,1.0s,baz=184,slow=9.6,SNR=4.6							
WRA	**Warramunga Arr**	**29.92**	**165**	P			**P**	**19 00 46.0**	**+0.1**
	0.6nm,0.6s,baz=342,slow=8.2,SNR=25							
ASAR	**Alice Springs**	**33.40**	**167**	P			**P**	**19 01 17.0**	**+0.5**
	0.8nm,0.3s,baz=347,slow=7.3,SNR=48							
USRK	**Ussuriysk Ar.**	**35.29**	**7**	P			**P**	**19 01 32.9**	**+0.4**
	3.2nm,0.8s,baz=192,slow=7.2,SNR=5.8							
ASAJ	**Asahikawa**	**37.61**	**19**	P			**P**	**19 01 53.9**	**+1.5**
	13nm,1.0s,baz=180,slow=20,SNR=3.6							
H11S3	**WAKE ISLAND Hy**	**40.15**	**72**	T			T	19 45 07.1	
	baz=262,slow=75,SNR=63							
H11S1	**WAKE ISLAND Hy**	**40.16**	**72**	T			T	19 45 08.1	
	baz=262,slow=75,SNR=68							
H11S2	**WAKE ISLAND Hy**	**40.16**	**72**	T			T	19 45 08.2	
	baz=262,slow=75,SNR=97							
KLR	**Kul'dur**	**40.23**	**5**	P			**P**	**19 02 14.8**	**+0.5**
	1.4nm,0.5s,baz=176,slow=14,SNR=4.1							
SONM	**Songino Array**	**42.13**	**340**	P			**P**	**19 02 28.4**	**-1.6**
	0.5nm,0.8s,baz=18,slow=5.2,SNR=3.5							
STKA	**Stephens Creek**	**43.28**	**161**	P			**P**	**19 02 40.1**	**+0.8**
	1.0nm,0.3s,baz=347,slow=7.2,SNR=6.3							
PETK	**Petropavlovsk-**	**50.64**	**24**	P			**P**	**19 03 37.8**	**+1.3**
	1.4nm,0.5s,baz=209,slow=6.4,SNR=9.9							
MKAR	**Makanchi Array**	**53.01**	**323**	P			**P**	**19 03 53.7**	**-0.7**
	1.9nm,0.6s,baz=114,slow=7.3,SNR=14							
ZALV	**Zalesovo Beam**	**55.69**	**332**	P			**P**	**19 04 11.3**	**-2.3**
	0.4nm,0.5s,baz=28,slow=29,SNR=3.7							
KURBB	**Kurchatov Arra**	**57.08**	**326**	P			**P**	**19 04 22.7**	**-0.9**
	1.8nm,0.5s,baz=122,slow=7.3,SNR=15							
TIXI	**Tiksi**	**62.49**	**1**	P			**P**	**19 05 00.7**	**+0.3**
	1.5nm,0.4s,baz=232,slow=3.3,SNR=11							
BVAR	**Borovoye Array**	**62.67**	**326**	P			**P**	**19 05 01.3**	**-0.7**
	1.2nm,0.7s,baz=117,slow=8.5,SNR=5.4							
ILAR	**Eielson Array**	**80.42**	**26**	P			**P**	**19 06 49.0**	**+0.4**
	0.6nm,0.6s,baz=282,slow=6.4,SNR=5.4							
ARCES	**ARCESS Array B**	**85.31**	**340**	P			**P**	**19 07 13.5**	**-0.3**
	2.7nm,0.6s,baz=75,slow=5.8,SNR=14							
VNDA	**Vanda**	**88.78**	**173**	P			**P**	**19 07 30.2**	**-0.2**
	0.8nm,0.6s,baz=335,slow=5.0,SNR=10							
TORD	**Torodi Ar. Bea**	**120.79**	**291**	PKP			**PKPdf**	**19 13 29.4**	**-0.8**
	0.3nm,0.4s,baz=48,slow=2.1,SNR=6.0							

MAN 02 18:58:18.8, 16°.45N×119°.98E, h32km, mb4.3, ML3.1, MS2.8, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BOLP	**Bolinao**	**0.09**	**221**	*e*P		Pb	18 58 25.7	+1.2
BOLP				*e*S		Sb	18 58 29.6	+1.3
SCZP	**Santa Cruz**	**0.68**	**185**	*e*P		Pb	18 58 33.3	+1.1
SCZP				*e*S		Sb	18 58 40.8	-0.6
SMPP	**San Manuel, Pa**	**0.74**	**114**	*e*P		Pn	18 58 30.0	-3.0
SMPP				*e*S		Sb	18 58 35.4	-7.7
ABRA	**Dolores**	**1.38**	**30**	*e*P		Pn	18 58 41.6	-0.3
ABRA				*e*S		Sb	18 59 00.6	-0.8
CAUP	**Cauayan**	**1.83**	**74**	*e*P		Pn	18 58 49.8	+1.6
CAUP				*e*S		Sn	18 59 10.0	-0.3
APYP	**Conner**	**1.85**	**41**	*e*P		Pn	18 58 47.7	-0.7
APYP				*e*S		Sn	18 59 08.7	-2.0

*ISCJB **02** 18:58:37.3±0.6, 61°.05S±0°.1×53°.9W±0°.4, h10km, mb4.1/10, Error ellipse: s-maj=30.4km s-min=12.7km az=161.1*
*IDC **02** 18:58:37.3±1.1, 60°.91S×53°.76W, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/22, mbtmp3.9/7, Error ellipse: s-maj=46.0km s-min=22.6km az=69.0*
*NEIC **02** 18:58:42.0±0.5, 60°.91S×53°.99W, h35km, mb4.3/5, Error ellipse: s-maj=26.3km s-min=11.2km az=69.0*

ISC 02 18:58:38.6±0.8, 60°.9S±0°.1×53°.8W±0°.2, h10km, n17, σ1s24/17, mb4.0/8, South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SNAA	**Sanae**	**22.37**	**140**	P		**P**	**19 03 36.7**	**+0.3**
	1.9nm,0.9s,baz=281,slow=10,SNR=3.8							
SNAA	**Sanae**	**22.37**	**140**	*e*P		**P**	**19 03 36.3**	**-0.1**
	6.6nm,1.4s							
PLCA	**Paso Flores**	**22.63**	**325**	P		**P**	**19 03 41.4**	**+1.9**
	2.6nm,0.6s,baz=182,slow=8.8,SNR=9.8							
PLCA	**Paso Flores**	**22.63**	**325**	*e*P		**P**	**19 03 40.4**	**+0.8**
	18nm,1.5s							
TRQA	**Tornquist**	**23.40**	**344**	*e*P		**P**	**19 03 48.9**	**+1.5**
	18nm,1.7s							
QSPA	**South Pole Qui**	**29.37**	**180**	P		**P**	**19 04 42.2**	**+0.7**
	5.8nm,0.8s,baz=173,slow=7.1,SNR=21							
QSPA	**South Pole Qui**	**29.37**	**180**	*e*P		**P**	**19 04 42.6**	**+1.0**
	5.7nm,0.8s							
MAW	**Mawson**	**43.84**	**150**	P		**P**	**19 06 44.6**	**+0.4**
	1.4nm,0.8s,baz=214,slow=10,SNR=5.9							
MAW	**Mawson**	**43.84**	**150**	*e*P		**P**	**19 06 45.3**	**+1.2**
	0.3nm,0.8s							
LPAZ	**La Paz**	**45.70**	**341**	*e*P		**P**	**19 06 59.2**	**-1.0**
	5.9nm,1.6s							
TORD	**Torodi Ar. Bea**	**85.82**	**54**	P		**P**	**19 11 18.0**	**0.0**
	0.4nm,0.8s,baz=193,slow=5.0							
TOA1	**Torodi Ar. Sit**	**85.82**	**54**	*e*P		**P**	**19 11 18.0**	**0.0**
ASAR	**Alice Springs**	**95.54**	**187**	P		**P**	**19 12 02.6**	**-1.2**
	0.2nm,0.4s,baz=168,slow=4.6,SNR=6.2							
WR1	**Warramunga Arr**	**99.21**	**188**	*e*P		**Pdif**	**19 12 18.4**	**-2.0**
	20nm,1.8s							
WRA	**Warramunga Arr**	**99.21**	**188**	P		**Pdif**	**19 12 18.4**	**-2.0**
	0.2nm,0.4s,baz=180,slow=4.0,SNR=6.0							
ILAR	**Eielson Array**	**143.05**	**315**	PKP		**PKPdf**	**19 18 09.7**	**-1.2**
	0.3nm,0.7s,baz=130,slow=0.3,SNR=3.0							
KDJ	**Kajisay**	**145.25**	**100**	*e*PKPbc		**PKPab**	**19 18 15.3**	**-0.2**

MAN 02 19:01:59.3, 9°.13N×126°.23E, h30km, mb4.4, ML3.3, MS3.0, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BUTP	**Butuan**	**0.62**	**255**	*e*P		Pn	19 02 12.2	+0.1
BUTP				*e*S		Sn	19 02 21.9	+0.8
BIPH	**Bislig**	**0.95**	**172**	*i*P		Pn	19 02 15.8	-0.9
BIPH				*e*S		Sn	19 02 28.2	-1.1
BUKP	**Musuan**	**1.70**	**223**	*e*P		Pb	19 02 28.7	-1.2
BUKP				*e*S		Sn	19 02 45.8	-2.0
PLP	**Palo**	**2.36**	**329**	*e*P		Pn	19 02 36.3	+0.2
PLP				*e*S		Sn	19 03 05.4	+1.2

MEX 02 19:07:57.6±0.4, 18°.11N×100°.59W, h44km±4km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.28**	**53**	*i* P		Pn	19 08 04.7	-1.5
ARIG				*e*S		Sn	19 08 10.2	-1.9
MEIG	**Mezcala**	**0.94**	**101**	*e*P		Pn	19 08 12.9	-1.6
MEIG				*e*S		Sn	19 08 25.3	-1.5
ZIIG	**Zihuatanejo**	**0.97**	**239**	*e*P		Pn	19 08 13.2	-1.7
ZIIG				*e*S		Sn	19 08 25.2	-2.3
PLIG	**Platanillo**	**1.07**	**75**	*e*P		Pn	19 08 14.4	-1.8
PLIG				*e*S		Sn	19 08 27.9	-2.1
CAIG	**El Cayaco**	**1.10**	**164**	*e*P		Pn	19 08 15.2	-1.4
CAIG				*e*S		Sn	19 08 28.1	-2.5

MAN 02 19:38:10.9, 9°.17N×126°.30E, h28km, mb4.7, ML3.6, MS3.4, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BUTP	**Butuan**	**0.70**	**253**	*e*P		Pb	19 38 24.4	-0.2
BUTP				*e*S		Sb	19 38 32.1	-1.9
BIPH	**Bislig**	**0.98**	**177**	*i*P		Pn	19 38 28.2	-0.6
BIPH				*e*S		Sn	19 38 40.7	-1.1
MSLP	**Maasin**	**1.71**	**304**	*e*P		Pb	19 38 41.0	-0.8
MSLP				*e*S		Sn	19 38 59.8	-0.1
BUKP	**Musuan**	**1.78**	**224**	*e*P		Pn	19 38 40.4	+0.6
BUKP				*e*S		Sn	19 38 55.9	-5.6
PLP	**Palo**	**2.37**	**327**	*i*P		Pn	19 38 48.6	+0.7
PLP				*e*S		Sn	19 39 17.4	+1.3
OCLP	**Ormoc**	**2.50**	**318**	*e*P		Pn	19 38 41.6	-8.2
OCLP				*e*S		Sn	19 39 17.9	-1.4
CNP	**Catarman**	**3.69**	**334**	*e*P		Pn	19 39 06.8	+0.7
CNP				*e*S		Sn	19 39 38.9	-10

*IDC **02** 19:47:41.6±33.0, 11°.07N×123°.95E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/37, mbtmp3.4/3, MS3.6/1, Ms1 3.6/1, ms1mx2.9/30, Error ellipse: s-maj=584.5km s-min=308.4km az=147.0*
*MAN **02** 19:48:04.0, 10°.07N×125°.73E, h96km, mb4.4, ML3.2, MS3.0*
*ISCJB **02** 19:48:04.5±0.7, 10°.19N±0°.05×125°.6E±0°.1, h125km±7km, mb3.4/3, Error ellipse: s-maj=17.6km s-min=7.5km az=174.3*

ISC 02 19:48:05.5±1.0, 10°.15N±0°.05×125°.5E±0°.1, h125km±10km, n13, σ2s42/19, mb3.2/3, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSLP	**Maasin**	**0.66**	**269**	*e*P		**Pn**	**19 48 27.9**	**+2.9**
MSLP				*e*S		**Sn**	**19 48 39.7**	**0.0**
PLP	**Palo**	**1.14**	**332**	*i*P		**Pn**	**19 48 30.4**	**+1.0**
PLP				*e*S		**Sn**	**19 48 47.2**	**-0.3**
BUTP	**Butuan**	**1.18**	**176**	*e*P		Pn	19 48 19.7	-10
BUTP				*e*S		**Sn**	**19 48 48.5**	**+0.4**
OCLP	**Ormoc**	**1.27**	**315**	*e*P		**Pn**	**19 48 30.1**	**-0.6**
OCLP				*e*S		**Sn**	**19 48 43.6**	**-6.3**
BESP	**Borongan**	**1.44**	**356**	*e*P		**Pn**	**19 48 32.5**	**-0.1**
BESP				*e*S		**Sn**	**19 48 51.4**	**-1.9**
LLP	**Lapu-Lapu**	**1.55**	**276**	*e*P		**Pn**	**19 48 34.4**	**+0.6**
LLP				*e*S		**Sn**	**19 48 55.6**	**+0.3**
BUKP	**Musuan**	**2.30**	**192**	*e*P		**Pn**	**19 48 40.4**	**-2.7**
BUKP				*e*S		**Sn**	**19 49 07.5**	**-4.3**
CNP	**Catarman**	**2.50**	**340**	*e*P		**Pn**	**19 48 45.5**	**+0.1**
CNP				*e*S		**Sn**	**19 49 14.8**	**-1.3**
PVCP	**Virac**	**3.68**	**339**	*e*P		**Pn**	**19 48 59.5**	**-1.4**
PVCP				*e*S		Sn	19 49 26.7	-17
LEM	**Lembang**	**24.55**	**227**	LR		LR	20 03 05.0	
	comp=Z,163nm,20.9s,baz=116,slow=38							
WRA	**Warramunga Arr**	**31.14**	**164**	P		**P**	**19 54 13.8**	**+1.2**
	0.3nm,0.8s,baz=341,slow=8.8,SNR=4.2							
ASAR	**Alice Springs**	**34.59**	**166**	P		**P**	**19 54 43.2**	**+0.6**
	0.2nm,0.4s,baz=345,slow=7.1,SNR=9.4							
STKA	**Stephens Creek**	**44.53**	**160**	P		**P**	**19 56 06.5**	**+1.6**
	0.6nm,0.4s,baz=332,slow=8.0,SNR=4.7							

*JMA **02** 19:50:39.9±0.2, 32°.60N×137°.75E, h390km, M3.5*
*ISCJB **02** 19:50:40.7±0.4, 32°.60N±0°.05×137°.71E±0°.05, h376km, mb3.4/16, Error ellipse: s-maj=7.2km s-min=5.7km az=142.5*
*IDC **02** 19:50:41.5±0.6, 32°.58N×137°.60E, h365km±6km, mb3.2/16, mb1 3.3/22, mb1mx3.2/46, mbtmp3.9/22, Error ellipse: s-maj=12.3km s-min=10.1km az=71.0*

ISC 02 19:50:41.4±0.6, 32°.58N±0°.06×137°.80E±0°.06, h376km, n57, σ1s59/66, mb3.6/16, Southeast of Honshu

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

GKN	**Gorkha**	**45.74**	**279**	*eP*		**P**	**19 58 27.0**	**-0.1**
	0.6nm,0.3s								
DANN	**Dangsing**	**46.36**	**280**	*eP*		**P**	**19 58 32.1**	**0.0**
	11nm,0.3s								
KOLN	**Koldanda**	**46.69**	**279**	*eP*		**P**	**19 58 34.3**	**-0.2**
PYUN	**Piuthan**	**47.08**	**280**	*eP*		**P**	**19 58 37.5**	**0.0**
	29nm,0.4s								
WRA	**Warramunga Arr**	**52.33**	**184**	P		**P**	**19 59 16.7**	**+0.5**
	0.2nm,0.3s,baz=0.3,slow=7.7,SNR=12								
ILAR	**Eielson Array**	**54.83**	**30**	P		**P**	**19 59 34.9**	**+1.2**
	0.8nm,0.7s,baz=268,slow=5.4,SNR=8.2								
ASAR	**Alice Springs**	**56.05**	**184**	P		**P**	**19 59 44.3**	**+1.5**
	0.2nm,0.5s,baz=5.5,slow=7.1,SNR=4.7								
INK	**Inuvik**	**59.69**	**26**	P		**P**	**20 00 09.1**	**+2.0**
	3.1nm,1.0s,baz=270,slow=13,SNR=3.4								
ARCES	**ARCESS Array B**	**67.11**	**339**	P		**P**	**20 00 55.2**	**0.0**
	1.6nm,0.7s,baz=64,slow=8.2,SNR=4.2								
KBZ	**Khabaz**	**71.53**	**310**	P		**P**	**20 01 23.6**	**+1.2**
	2.6nm,0.8s,baz=23,slow=2.7,SNR=5.3								
AKASG	**Malin Array Be**	**75.96**	**322**	P		**P**	**20 01 47.4**	**-0.4**
	1.3nm,0.5s,baz=52,slow=5.5,SNR=4.0								
NOA	**NORSAR Array B**	**77.10**	**336**	P		**P**	**20 01 54.2**	**+0.2**
	0.5nm,0.6s,baz=39,slow=5.7,SNR=2.9								
BRTR	**Keskin Array B**	**79.52**	**310**	P		**P**	**20 02 08.3**	**+0.7**
	1.1nm,0.8s,baz=111,slow=5.4,SNR=5.9								
NVAR	**Mina Array Bea**	**80.07**	**51**	P		**P**	**20 02 13.5**	**+2.8**
	0.3nm,0.6s,baz=293,slow=7.7,SNR=3.5								
PDAR	**Pinedale Array**	**82.92**	**43**	P		**P**	**20 02 27.3**	**+1.8**
	0.1nm,0.4s,baz=46,slow=5.2,SNR=3.0								
TXAR	**Lajitas Array**	**95.22**	**50**	P		**P**	**20 03 25.9**	**+2.3**
	0.4nm,0.8s,baz=330,slow=3.1,SNR=2.5								

IDC ***02*** *19:55:52.3±1.1,9.02N×126.07E,h0km,mb3.8/5, mb1 3.9/5,mb1mx3.5/45,mbtmp3.8/5, Error ellipse: s-maj=64.8km s-min=22.6km az=77.0*
MAN ***02*** *19:55:58.0,9.17N×126.51E,h26km,mb4.8,ML3.6,MS3.6*
ISC 02 19:55:56.6±1.6,9.16N±0.03×126.52E±0.07,h28km±12km, n17,σ2s36/28,1C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BUTP	**Butuan**	**0.91**	**258**	*eP*		**Pb**	**19 56 13.3**	**-0.5**
BUTP				*eS*		**Sb**	**19 56 23.4**	**-2.2**
BIPH	**Bislig**	**0.98**	**189**	*eP*		**Pb**	**19 56 16.4**	**+1.4**
BIPH				*i* S		**Sb**	**19 56 28.3**	**+0.7**
MSLP	**Maasin**	**1.91**	**301**	*eP*		**Pn**	**19 56 28.4**	**+1.1**
MSLP				*eS*		**Sb**	**19 56 56.6**	**+2.4**
BUKP	**Musuan**	**1.93**	**229**	*eP*		**Pb**	**19 56 30.3**	**-0.8**
BUKP				*eS*		**Sn**	**19 56 46.7**	**-4.3**
PLP	**Palo**	**2.51**	**323**	*eP*		**Pn**	**19 56 37.7**	**+2.1**
PLP				*eS*		**Sn**	**19 57 07.4**	**+2.1**
BESP	**Borongan**	**2.65**	**336**	*eP*		**Pn**	**19 56 38.6**	**+1.1**
BESP				*eS*		**Sn**	**19 57 07.8**	**-1.0**
OCLP	**Ormoc**	**2.66**	**315**	*eP*		**Pb**	**19 56 40.7**	**-2.9**
OCLP				*eS*		**Sn**	**19 57 08.7**	**-0.4**
LLP	**Lapu-Lapu**	**2.77**	**295**	*eP*		**Pn**	**19 56 42.0**	**+2.7**
LLP				*eS*		**Sn**	**19 57 14.2**	**+2.4**
CTBH	**Cotabato--PC H**	**2.96**	**230**	*iP*		**Pn**	**19 56 44.3**	**+2.4**
DDMP	**Don Marcelino,**	**3.14**	**195**	*eP*		**Pn**	**19 56 41.7**	**-2.7**
DDMP				*eS*		**Sn**	**19 57 22.4**	**+1.4**
PAGZ	**Pagadian**	**3.37**	**247**	*eP*		**Pn**	**19 56 49.3**	**+1.8**
PAGZ				*eS*		**Sn**	**19 57 26.5**	**-0.1**
CNP	**Catarman**	**3.80**	**331**	*eP*		**Pn**	**19 56 55.2**	**+1.9**
CNP				*eS*		**Sn**	**19 57 31.0**	**-6.1**
WRA	**Warramunga Arr**	**29.93**	**165**	P		**P**	**20 02 02.8**	**+0.3**
	0.3nm,0.7s,baz=344,slow=8.5,SNR=4.8								
ASAR	**Alice Springs**	**33.41**	**168**	P		**P**	**20 02 31.7**	**-1.5**
	0.1nm,0.3s,baz=347,slow=7.1,SNR=5.4								
PETK	**Petropavlovsk-**	**50.54**	**24**	P		**P**	**20 04 54.7**	**+2.2**
	2.0nm,0.8s,baz=212,slow=8.0,SNR=4.4								
MKAR	**Makanchi Array**	**53.06**	**323**	P		**P**	**20 05 10.6**	**-0.9**
	0.5nm,0.5s,baz=122,slow=6.9,SNR=4.5								
ARCES	**ARCESS Array B**	**85.31**	**340**	P		**P**	**20 08 30.4**	**-0.4**
	3.7nm,0.9s,baz=80,slow=6.5,SNR=4.9								

IDC 02 20:00:12.4±1.7,3.36N×128.10E,h0km,mb3.1/3, mb1 3.3/4,mb1mx3.2/46,mbtmp3.2/4,ML2.4/1,Error ellipse: s-maj=103.8km s-min=23.2km az=64.0,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**5.26**	**143**	Pn		Pn	20 01 32.2	-0.1
	0.1nm,0.3s,baz=287,slow=19,SNR=3.4							
SIJI				Sn		Sn	20 02 28.0	-5.7
	0.3nm,0.3s,baz=217,slow=20,SNR=4.2							
WRA	**Warramunga Arr**	**23.95**	**165**	P		P	20 05 28.8	+0.2
	0.2nm,0.6s,baz=346,slow=10.0,SNR=5.7							
ASAR	**Alice Springs**	**27.45**	**168**	P		P	20 05 59.9	-0.4
	0.2nm,0.8s,baz=343,slow=7.7,SNR=3.5							
MKAR	**Makanchi Array**	**58.64**	**325**	P		P	20 10 11.7	+0.2
	0.4nm,0.7s,baz=120,slow=8.5,SNR=2.8							

IDC ***02*** *20:02:17.6±0.6,15.70N×147.03E,h0km,mb4.1/23, mb1 4.2/24,mb1mx4.1/54,mbtmp4.1/24,ML4.1/1,MS3.6/3, Ms1 3.6/3,ms1mx3.1/47,Error ellipse: s-maj=20.6km s-min=11.2km az=103.0*
ISCJB ***02*** *20:02:21.7±0.2,15.70N±0.03×146.86E±0.05,h33km, mb4.7/85,MS3.7/2,Error ellipse: s-maj=6.5km s-min=4.7km az=22.2*
BJI ***02*** *20:02:22.3,15.46N×147.32E,h72km,mb4.6/33,mB5.0/22, Ms4.6/9,Ms7 4.3/8*
MOS ***02*** *20:02:24.3±1.4,15.86N×146.75E,h50km,mb5.0/17,Error ellipse: s-maj=14.1km s-min=8.2km az=106.3*
NEIC ***02*** *20:02:26.7±1.0,15.67N×146.82E,h66km±8km,mb4.9/52, Error ellipse: s-maj=7.8km s-min=4.9km az=103.0*
ISC 02 20:02:23.6±0.4,15.77N±0.05×146.83E±0.07,h33km,n155, σ1s64/158,mb4.7/85,7C-1D,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ANA2	**Anatahan**	**1.21**	**298**	*e*Pn		**Pb**	**20 02 49.5**	**+3.4**
SARN	**Sarigan**	**1.37**	**313**	*e*Pn		**Pb**	**20 02 49.9**	**+1.3**
GUMO	**Guam**	**2.82**	**221**	Pn		**Pn**	**20 03 06.7**	**-0.5**
	24nm,0.3s,baz=121,slow=7.7,SNR=18							
GUMO				Sn		**Sn**	**20 03 41.6**	**+1.0**
	44nm,0.3s,baz=15,slow=22,SNR=6.2							
GUMO				LR		LR	20 04 17.0	
	comp=Z,478nm,18.4s,baz=101,slow=40							
JHJ2	**Mitsune**	**18.40**	**341**	*e*P		**P**	**20 06 30.0**	**-5.8**
	1µm,1.4s							
MJAR	**Matsushiro Arr**	**22.07**	**341**	P		**P**	**20 07 15.8**	**+0.1**
	3.1nm,0.8s,baz=170,slow=9.9,SNR=4.2							
MAJO	**Matsushiro**	**22.07**	**341**	*e*P		**P**	**20 07 16.6**	**+0.9**
	103nm,2.0s							
MAJO	**Matsushiro**	**22.07**	**341**	*e*P		**P**	**20 07 16.6**	**+0.9**
MAJO					pmax	pmax		
	comp=Z,103nm,2.0s							
MJB9	**Matsu-Tunnel**	**22.07**	**341**	*e*P		**P**	**20 07 16.5**	**+0.7**
	comp=Z,105nm,2.0s							
JNU	**Nakatsue**	**22.52**	**323**	*e*P		**P**	**20 07 21.8**	**+1.2**
	comp=Z,56nm,1.9s							
DAV	**Davao City (W)**	**22.53**	**250**	LR		LR	20 15 17.7	
	comp=Z,208nm,21.9s,baz=80,slow=34							
SIJI	**Sorong**	**22.58**	**224**	P		**P**	**20 07 21.4**	**+0.1**
	comp=Z,8.5nm,0.6s,baz=41,slow=7.7,SNR=7.4							
FAKI	**Fak Fak**	**23.51**	**219**	*e*P		**P**	**20 07 29.3**	**-1.6**
PMG	**Port Moresby**	**25.02**	**179**	P		**P**	**20 07 44.1**	**-0.6**
	comp=Z,15nm,0.8s,baz=312,slow=5.4,SNR=5.7							
YHNB	**Yeheng**	**25.44**	**294**	*e*P		**P**	**20 07 50.0**	**+1.4**
	comp=Z,59nm,1.3s							
SSLB	**Suanglung**	**25.59**	**292**	*e*P		**P**	**20 07 50.8**	**+0.8**
	comp=Z,33nm,1.5s							
TPUB	**Ta-pu**	**25.77**	**291**	*e*P		**P**	**20 07 51.8**	**+0.2**
	comp=Z,153nm,1.8s							
ERM	**Erimo**	**26.35**	**354**	*i* P		**P**	**20 07 54.9**	**-1.6**
ERM					pmax	pmax		
	comp=Z,45nm,1.1s							
KSRS	**Korea Array**	**27.32**	**326**	P		**P**	**20 08 07.3**	**+2.0**
	comp=Z,0.7nm,0.7s,baz=134,slow=8.6,SNR=3.7							
KSAR	**Wonju Array Be**	**27.33**	**326**	P		**P**	**20 08 07.3**	**+1.8**
KSAR	**Wonju Array Be**	**27.33**	**326**	P		**P**	**20 08 07.3**	**+1.8**
ASAJ	**Asahikawa**	**28.48**	**354**	P		**P**	**20 08 16.9**	**+1.2**
	comp=Z,8.6nm,0.9s,baz=190,slow=14,SNR=4.4							
ASAJ	**Asahikawa**	**28.48**	**354**	*e*P		**P**	**20 08 17.8**	**+2.1**
	comp=Z,196nm,1.6s							
NJ2	**Nanjing**	**30.15**	**308**	*e*P		**P**	**20 08 32.2**	**+1.6**
NJ2					pmax	pmax		
	comp=Z,16nm,0.9s							
MDJ	**Mudanjiang**	**32.24**	**337**	*e*P		**P**	**20 08 49.9**	**+1.0**
	comp=Z,51nm,1.8s							
MTN	**Manton Dam**	**32.39**	**210**	*e*P		**P**	**20 08 49.0**	**-1.4**
	comp=Z,63nm,1.5s							
CN2	**Changchun**	**33.34**	**331**	*e*P		**P**	**20 09 01.5**	**+3.0**
CN2					pmax	pmax		
	comp=Z,10.0nm,0.6s							
KLR	**Kul'dur**	**35.57**	**343**	P		**P**	**20 09 17.2**	**-0.6**
	comp=Z,1.9nm,0.5s,baz=163,slow=7.8,SNR=8.4							
KLR	**Kul'dur**	**35.57**	**343**	*i* P		**P**	**20 09 14.9**	**-2.8**
WRAB	**Tennant Creek**	**37.54**	**199**	*e*P		**P**	**20 09 33.2**	**-1.6**
	comp=Z,26nm,1.9s							
WB2	**Warramunga Arr**	**37.55**	**199**	*e*P		**P**	**20 09 33.4**	**-1.5**
	comp=Z,4.6nm,0.8s							
WR1	**Warramunga Arr**	**37.55**	**199**	*e*P		**P**	**20 09 32.2**	**-2.7**
	comp=Z,6.0nm,0.9s							
WRA	**Warramunga Arr**	**37.55**	**199**	P		**P**	**20 09 32.2**	**-2.7**
	comp=Z,1.5nm,0.8s,baz=21,slow=9.4,SNR=11							
WRA	**Warramunga Arr**	**37.55**	**199**	*ce*P		P	20 09 52.0	+17
WRA					pmax	pmax		
	comp=Z,1.0nm,0.7s							
GYA	**Guiyang**	**38.80**	**293**	*e*P		**P**	**20 09 47.0**	**+1.3**
GYA					pmax	pmax		
	comp=Z,10.0nm,1.0s							
HHC	**Hu-ho-hao-te**	**39.43**	**316**	*e*P		**P**	**20 09 51.0**	**+0.3**
HHC				S		**S**	**20 15 48.2**	**-2.3**
HHC					pmax	pmax		
	comp=Z,10.0nm,1.1s							
HHC					pmax	pmax		
	comp=Z,130nm,5.1s							
HHC					LR	LR		
	comp=Z,260nm,13.8s							
HHC					LR	LR		
	comp=Z,380nm,16.4s							
HHC					LR	LR		
	comp=Z,640nm,14.7s							
FITZ	**Fitzroy Crossi**	**39.60**	**213**	P		**P**	**20 09 50.8**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=20,slow=3.8,SNR=12							
FITZ	**Fitzroy Crossi**	**39.60**	**213**	*e*P		**P**	**20 09 51.1**	**-1.1**
	comp=Z,15nm,1.5s							
EIDS	**Eidsvold**	**41.10**	**174**	*e*P		**P**	**20 10 08.5**	**+4.1**
	comp=Z,66nm,1.8s							
AS01	**Alice Springs**	**41.16**	**198**	*e*P		**P**	**20 10 05.8**	**+0.7**
AS31	**Alice Springs**	**41.18**	**198**	*e*P		**P**	**20 10 06.1**	**+0.9**
	comp=Z,3.8nm,1.9s							
ASAR	**Alice Springs**	**41.18**	**198**	P		**P**	**20 10 05.3**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=21,slow=7.7,SNR=10.0							
JOHN	**Johnston Islan**	**41.85**	**82**	*e*P		**P**	**20 10 10.9**	**+0.1**
	comp=Z,311nm,1.4s							
CD2	**Chengdu**	**42.05**	**299**	*e*P		**P**	**20 10 11.6**	**-0.8**
CD2					pmax	pmax		
	comp=Z,10.0nm,0.5s							
CD2					pmax	pmax		
	comp=Z,140nm,5.0s							
KMI	**Kunming**	**42.19**	**290**	P		**P**	**20 10 16.1**	**+2.3**
KMI					pmax	pmax		
	comp=Z,7.0nm,0.8s							
LZH	**Lanzhou**	**43.20**	**306**	⇑P		**P**	**20 10 23.5**	**+1.7**
LZH				pP		sP	20 10 38.2	+2.6
LZH				*e*PP		**PP**	**20 12 04.5**	**+2.0**
LZH					pmax	pmax		
	comp=Z,41nm,1.4s							
LZH					pmax	pmax		
	comp=Z,140nm,4.3s							
LZH					LR	LR		
	comp=Z,490nm,14.6s							
LZH					LR	LR		
	comp=Z,410nm,13.0s							
LZH					LR	LR		
	comp=Z,570nm,15.7s							
MA2	**Magadan**	**43.83**	**3**	*e*P		**P**	**20 10 27.8**	**+1.5**
	comp=Z,23nm,1.2s							
MA2	**Magadan**	**43.83**	**3**	*e*P		**P**	**20 10 27.8**	**+1.5**
MA2					pmax	pmax		
	comp=Z,23nm,1.2s							
PBKT	**Sadao Pong**	**43.98**	**278**	*e*P		**P**	**20 10 28.4**	**+0.4**
	comp=Z,4.4nm,0.8s							
CHTO	**Chiang Mai**	**45.72**	**281**	*e*P		**P**	**20 10 41.2**	**-0.7**
	comp=Z,11nm,1.6s							
CHTO	**Chiang Mai**	**45.72**	**281**	*e*P		**P**	**20 10 41.2**	**-0.7**
CHTO					pmax	pmax		
	comp=Z,11nm,1.6s							
CM01	**Chiang Mai Arr**	**45.73**	**280**	*e*P		**P**	**20 10 41.6**	**-0.5**
ULN	**Ulaanbaatar**	**45.74**	**323**	*i* P		**P**	**20 10 40.4**	**-1.5**
CM31	**Chiang Mai Arr**	**45.74**	**281**	*e*P		**P**	**20 10 43.0**	**+0.8**
CMAR	**Chiang Mai Arr**	**45.74**	**281**	P		**P**	**20 10 43.5**	**+1.4**
	comp=Z,2.8nm,0.8s,baz=81,slow=6.2,SNR=31							
SONA0	**Songino Array**	**46.10**	**323**	*e*P		**P**	**20 10 44.5**	**-0.2**
SONM	**Songino Array**	**46.10**	**323**	P		**P**	**20 10 44.5**	**-0.2**
	comp=Z,1.6nm,1.0s,baz=128,slow=5.8,SNR=8.6							
SONA1	**Songino Array**	**46.10**	**323**	*e*P		**P**	**20 10 44.4**	**-0.3**
ARMA	**Armidale**	**46.15**	**174**	*e*P		**P**	**20 10 44.3**	**-0.9**
	comp=Z,67nm,1.8s							
ADK	**Adak**	**46.23**	**31**	*e*P		**P**	**20 10 46.2**	**+0.7**
	comp=Z,200nm,1.5s							
ADK	**Adak**	**46.23**	**31**	*e*P		**P**	**20 10 46.2**	**+0.7**
ADK					pmax	pmax		
	comp=Z,200nm,1.5s							
GTA	**Gaotai**	**47.21**	**309**	⇑P		**P**	**20 10 54.4**	**+0.9**
GTA				PcP		**PcP**	**20 12 24.9**	**+0.3**
GTA				S		**S**	**20 17 44.8**	**+0.4**
GTA				SS		**SS**	**20 21 04.9**	**-7.0**
GTA					pmax	pmax		
	comp=Z,4.0nm,1.3s							
GTA					pmax	pmax		
	comp=Z,210nm,6.5s							
GTA					LR	LR		
	comp=Z,280nm,17.5s							
GTA					LR	LR		
	comp=Z,290nm,19.4s							
GTA					LR	LR		
	comp=Z,160nm,20.0s							
SEY	**Seymchan**	**47.27**	**3**	P		**P**	**20 10 53.8**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=195,slow=20,SNR=3.6							
STKA	**Stephens Creek**	**47.64**	**186**	P		**P**	**20 10 54.7**	**-2.0**
	comp=Z,1.7nm,0.7s,baz=76,slow=11,SNR=3.0							
STKA					LR	LR	20 32 49.4	
	comp=Z,104nm,18.7s,baz=205,slow=38							
STKA	**Stephens Creek**	**47.64**	**186**	*e*P		**P**	**20 10 53.7**	**-3.0**
	comp=Z,4.6nm,1.8s							
STKA				*e*			20 32 49.4	
STKA	**Stephens Creek**	**47.64**	**186**	*e*P		**P**	**20 10 53.7**	**-3.0**
STKA					pmax	pmax		
	comp=Z,5.0nm,1.8s							
YAK	**Yakutsk**	**47.78**	**349**	*e*P		**P**	**20 10 57.0**	**-0.5**
	comp=Z,19nm,0.7s							
YAK	**Yakutsk**	**47.78**	**349**	*e*P		P	20 11 05.0	+7.6
YAK					pmax	pmax		
	comp=Z,20nm,1.0s							
YAK					pmax	pmax		
	comp=N,4.0nm,1.4s							
YAK					pmax	pmax		
	comp=E,3.0nm,1.1s							
MNAI	**Manna**	**47.80**	**249**	*e*P		**P**	**20 10 58.4**	**+0.1**
	comp=E,220nm,1.2s							
BBOO	**Buckleboo**	**49.39**	**192**	*e*P		**P**	**20 11 08.8**	**-1.3**
	comp=E,71nm,1.9s							
FORT	**Forrest**	**49.68**	**201**	*e*P		**P**	**20 11 12.3**	**-0.1**
	comp=E,31nm,1.1s							
GSI	**Gunungsitoli**	**50.62**	**258**	*e*P		P	**20 11 19.4**	**-0.5**
	comp=E,32nm,1.1s							
PBA	**Port Blair**	**52.59**	**273**	*e*P		P	20 11 34.8	+0.2
	comp=E,45nm,1.0s							
LSA	**Lhasa**	**52.74**	**295**	*e*P		**P**	**20 11 36.7**	**+0.6**
	comp=E,4.1nm,0.6s							
LSA	**Lhasa**	**52.74**	**295**	*e*P		**P**	**20 11 36.7**	**+0.6**
LSA					pmax	pmax		
	comp=Z,4.0nm,0.6s							
BILL	**Bilibino**	**53.72**	**9**	*ce*P		**P**	**20 11 45.0**	**+2.9**
BILL				*e*			20 13 41.3	
BILL				*e*PPP		PPP	20 14 48.9	
BILL					pmax	pmax		
	comp=Z,7.0nm,1.3s							
TIXI	**Tiksi**	**56.89**	**353**	*e*P		**P**	**20 12 03.6**	**-1.2**
	comp=Z,6.0nm,1.0s							
TIXI	**Tiksi**	**56.89**	**353**	*ce*P		**P**	**20 12 04.0**	**-0.8**
TIXI					pmax	pmax		
	comp=Z,5.0nm,0.8s							
WMQ	**Urumqi**	**57.05**	**312**	*e*P		**P**	**20 12 07.5**	**+0.9**
WMQ				pP		sP	20 12 24.6	+4.1
WMQ					pmax	pmax		
	comp=Z,26nm,1.9s							
WMQ					pmax	pmax		
	comp=Z,410nm,5.1s							
JIRN	**Jiri**	**57.08**	**293**	*e*P		**P**	**20 12 08.1**	**+0.7**
	comp=Z,14nm,0.6s							
GUN	**Gumba**	**57.35**	**293**	*e*P		**P**	**20 12 10.1**	**+0.8**
	comp=Z,9.7nm,0.5s							
PKI	**Pulchoki**	**57.77**	**293**	*e*P		**P**	**20 12 11.9**	**-0.4**
	comp=Z,4.7nm,0.4s							
PKIN	**Phulchoki**	**57.78**	**293**	*e*P		**P**	**20 12 12.2**	**-0.1**
	comp=Z,4.3nm,0.5s							
KKN	**Kakani**	**57.88**	**293**	*e*P		**P**	**20 12 13.1**	**+0.2**
DMN	**Daman**	**58.04**	**293**	*e*P		**P**	**20 12 14.2**	**+0.1**
	comp=Z,5.6nm,0.4s							
ANM	**Nome**	**58.47**	**22**	*e*P		**P**	**20 12 16.7**	**+0.6**
	comp=Z,107nm,1.2s							
ANM	**Nome**	**58.47**	**22**	*e*P		**P**	**20 12 16.7**	**+0.6**
ANM					pmax	pmax		
	comp=Z,107nm,1.2s							
DANN	**Dangsing**	**59.20**	**294**	*e*P		**P**	**20 12 22.9**	**+0.7**
	comp=Z,20nm,0.6s							
KOLN	**Koldanda**	**59.37**	**293**	*e*P		**P**	**20 12 23.5**	**+0.3**
	comp=Z,10nm,0.9s							
PYUN	**Piuthan**	**59.89**	**294**	*e*P		**P**	**20 12 27.0**	**+0.1**
	comp=Z,13nm,0.9s							
ZAA0	**Zalesovo Array**	**60.99**	**323**	*e*P		**P**	**20 12 32.0**	**-1.6**
	comp=Z,3.9nm,1.1s							
ZALV	**Zalesovo Beam**	**60.99**	**323**	P		**P**	**20 12 33.0**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=101,slow=7.7,SNR=6.8							
ZALV	**Zalesovo Beam**	**60.99**	**323**	*e*P		**P**	**20 12 31.9**	**-1.7**
ZALV	**Zalesovo Beam**	**60.99**	**323**	*i* P		**P**	**20 12 33.5**	**-0.1**
ZALV					pmax	pmax		
	comp=Z,1.0nm,0.5s							
ZAA1	**Zalesovo Array**	**60.99**	**323**	*e*P		**P**	**20 12 33.0**	**-0.6**
MK01	**Makanchi Array**	**61.26**	**315**	*e*P		**P**	**20 12 35.9**	**+0.2**
MK31	**Makanchi Array**	**61.27**	**315**	*e*P		**P**	**20 12 35.4**	**-0.3**
MK31	**Makanchi Array**	**61.27**	**315**	*e*P		**P**	**20 12 35.4**	**-0.3**
MK32	**Makanchi Array**	**61.27**	**315**	*e*P		**P**	**20 12 36.3**	**+0.6**
MKAR	**Makanchi Array**	**61.27**	**315**	P		**P**	**20 12 36.3**	**+0.6**
	comp=Z,4.2nm,0.6s,baz=90,slow=8.3,SNR=28							
MKAR	**Makanchi Array**	**61.27**	**315**	*e*P		**P**	**20 12 35.4**	**-0.3**
	comp=Z,29nm,0.5s							
PPLA	**Purkeypile**	**63.00**	**27**	*e*P		**P**	**20 12 48.2**	**+1.1**
	comp=Z,59nm,1.6s							
PRZ	**Przheval'sk**	**63.66**	**310**	*e*P		**P**	**20 12 53.3**	**+1.3**
	comp=Z,11nm,1.0s							
PRZ	**Przheval'sk**	**63.66**	**310**	*e*P		**P**	**20 12 53.3**	**+1.3**
PRZ					pmax	pmax		
	comp=Z,11nm,1.0s							
KURK	**Kurchatov**	**64.17**	**319**	*e*P		**P**	**20 12 54.7**	**-0.2**
	comp=Z,13nm,0.9s							
KURK	**Kurchatov**	**64.17**	**319**	*ce*P		**P**	**20 12 54.8**	**-0.1**
KURK					pmax	pmax		
	comp=Z,20nm,1.3s							
MLY	**Manley**	**64.30**	**25**	*e*P		**P**	**20 12 55.7**	**+0.2**
	comp=Z,8.8nm,1.2s							
SML	**Sawmill**	**64.40**	**28**	*e*P		**P**	**20 12 57.6**	**+1.3**
	comp=Z,45nm,1.3s							
SML	**Sawmill**	**64.40**	**28**	*e*P		**P**	**20 12 57.6**	**+1.3**
SML					pmax	pmax		
	comp=Z,45nm,1.3s							
KDJ	**Kajisay**	**64.56**	**309**	*e*P		**P**	**20 12 59.1**	**+1.3**
	comp=Z,4.7nm,1.0s							
RND	**Reindeer**	**64.60**	**27**	*e*P		**P**	**20 12 59.0**	**+1.4**
	comp=Z,30nm,1.6s							
RND	**Reindeer**	**64.60**	**27**	*e*P		**P**	**20 12 59.0**	**+1.4**
RND					pmax	pmax		
	comp=Z,30nm,1.6s							
SCM	**Sheep Creek Mo**	**64.87**	**29**	*e*P		**P**	**20 13 02.7**	**+3.3**
	comp=Z,112nm,1.5s							
SCM	**Sheep Creek Mo**	**64.87**	**29**	*e*P		**P**	**20 13 02.7**	**+3.3**
SCM					pmax	pmax		
	comp=Z,113nm,1.5s							
FID	**Port Fidalgo**	**65.02**	**30**	*e*P		**P**	**20 13 01.9**	**+1.6**
	comp=Z,186nm,1.8s							
DHY	**Denali Highway**	**65.16**	**27**	*e*P		**P**	**20 13 03.4**	**+2.1**
	comp=Z,51nm,1.9s							
WRH	**Wood River Hil**	**65.22**	**26**	*e*P		**P**	**20 13 03.9**	**+2.4**
	comp=Z,54nm,2.0s							
MDM	**Murphy Dome**	**65.30**	**25**	*e*P		**P**	**20 13 04.1**	**+2.1**
	comp=Z,32nm,2.0s							
KSH	**Kashi**	**65.45**	**307**	*e*P		**P**	**20 13 07.8**	**+4.2**
KSH				S		**S**	**20 21 47.5**	**+1.2**
KSH					pmax	pmax		
	comp=Z,9.0nm,0.6s							
KSH					pmax	pmax		
	comp=Z,170nm,7.8s							
ILAR	**Eielson Array**	**65.80**	**25**	P		**P**	**20 13 02.9**	**-2.4**
	comp=Z,1.2nm,0.8s,baz=249,slow=4.7,SNR=8.7							
ILB	**Eielson Array**	**65.80**	**25**	*e*P		**P**	**20 13 03.0**	**-2.2**
IL1	**Eielson Array**	**65.80**	**25**	*e*P		**P**	**20 13 04.0**	**-1.3**
**AAK

*PAS **02** 20:03:38.0±0.0, 32.60N×115.71W, h8km*
*ECX **02** 20:03:38.7±0.8, 32.61N×115.72W, h4km, MD2.6, ML2.8*
ISC 02 20:03:36.8±1.1, 32.63N±0.03×115.70W±0.02, h16km±7km, n38, σ0s52/52, 7C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.03**	**324**	⇓ *i* P	**Pg**	**20 03 39.6**	**-0.1**
ERPC	**Ernies Place**	**0.12**	**16**	⇑ *i* P	**Pb**	**20 03 41.5**	**+0.7**
YUH	**Yuha Desert**	**0.19**	**277**	⇑ *i* P	**Pb**	**20 03 41.9**	**0.0**
COK	**Cook Ranch**	**0.23**	**355**	⇓ *i* P	**Pb**	**20 03 43.3**	**+0.8**
RMX	**La Rumorosa**	**0.32**	**266**	⇑ *e* P	**Pg**	**20 03 43.7**	**+0.1**
RMX				*e* P	**Pg**	**20 03 43.7**	**+0.1**
SWSC	**Sam W. Stewart**	**0.33**	**346**	*e* P	**Pb**	**20 03 44.8**	**+0.4**
SWSC	**Sam W. Stewart**	**0.33**	**346**	P	**Pb**	**20 03 44.7**	**+0.4**
SWSC	baz=167,SNR=41			S	**Sb**	**20 03 49.6**	**+0.2**
	baz=167						
IKP	**In-Ko-Pah, Jac**	**0.34**	**274**	⇑ *i* P	**Pb**	**20 03 44.7**	**+0.1**
IKP	**In-Ko-Pah, Jac**	**0.34**	**274**	P	**Pb**	**20 03 44.7**	**+0.1**
IKP	baz=98,SNR=53			S	**Sb**	**20 03 49.9**	**+0.1**
	baz=98						
CRR	**Carrizo Plain**	**0.34**	**320**	⇑ *i* P	**Pb**	**20 03 45.0**	**+0.5**
CPBX	**Cerro Prieto**	**0.40**	**121**	*e* P	**Pb**	**20 03 45.9**	**+0.4**
CPBX				*e*		20 03 57.1	
CPBX	comp=N,2μm,0.1s			IAML		20 03 57.1	
MONP2	**Monument Peak**	**0.66**	**294**	⇑ *i* P	**Pb**	**20 03 50.6**	**+0.5**
MONP2	**Monument Peak**	**0.66**	**294**	P	**Pb**	**20 03 50.6**	**+0.5**
MONP2	baz=116,SNR=6.7			S	**Sb**	**20 03 59.3**	**+0.2**
	baz=116						
BAR	**Barrett**	**0.82**	**274**	⇑ *i* P	**Pb**	**20 03 53.1**	**+0.5**
BAR	**Barrett**	**0.82**	**274**	*e* Pg	**Pb**	**20 03 53.2**	**+0.5**
BAR				*e* Sn	**Sb**	**20 04 03.5**	**+0.1**
TJIG	**Tijuana**	**0.84**	**257**	*e* P	**Pg**	**20 03 53.4**	**+0.2**
GLA	**Glamis**	**0.85**	**60**	*e* Pg	**Pb**	**20 03 53.2**	**-0.1**
GLA				*e* Sg	**Sb**	**20 04 04.5**	**-0.1**
GLA	**Glamis** baz=239,SNR=7.2	**0.85**	**60**	P	**Pb**	**20 03 53.2**	**-0.1**
GLA	baz=239			S	**Sb**	**20 04 04.4**	**-0.1**
CBX	**Cerro Bola**	**0.87**	**249**	*e* P	**Pg**	**20 03 54.1**	**+0.4**
EML	**El Monte Cty P**	**1.00**	**286**	*e* P	**Pn**	**20 03 56.2**	**0.0**
BC3	**Big Chuckawall** baz=191,SNR=5.0	**1.05**	**11**	P	**Pb**	**20 03 56.5**	**-0.2**
BC3	baz=191			S	**Sb**	**20 04 09.9**	**-0.4**
SDRC	**San Diego Road**	**1.05**	**276**	⇑ *i* P	**Pg**	**20 03 57.3**	**+0.1**
FRD	**Ford Ranch, An** baz=140,SNR=15	**1.15**	**319**	P	**Pb**	**20 03 58.1**	**-0.3**
FRD	baz=140			S	**Sb**	**20 04 12.8**	**-0.3**
XPFO	**Piæon Flat**	**1.17**	**328**	*e* Pg	**Pn**	**20 03 58.2**	**-0.5**
XPFO				*e* Sn	**Sb**	**20 04 12.7**	**-1.0**
PFO	**Pinyon Flats O**	**1.17**	**327**	*e* Pg	**Pn**	**20 03 58.2**	**-0.4**
PFO				*e* Sn	**Sb**	**20 04 12.7**	**-1.0**
PFO	**Pinyon Flats O** baz=148,SNR=6.8	**1.17**	**327**	P	**Pn**	**20 03 58.2**	**-0.4**
PFO	baz=148			S	**Sb**	**20 04 13.3**	**-0.4**
109C	**Camp Elliot, M** baz=103,SNR=9.4	**1.21**	**283**	Pb	**Pg**	**20 03 59.8**	**-0.4**
109C	baz=103			Sb	**Sn**	**20 04 15.3**	**+0.2**
CPE	**Camp Elliot**	**1.21**	**283**	*e* Pg	**Pg**	**20 03 59.8**	**-0.4**
CPE				*e* Sn	**Sn**	**20 04 15.2**	**+0.1**
ECNX	**Esteban Cantu**	**1.23**	**218**	*e* P	**Pb**	**20 03 59.8**	**+0.1**
Y12C	**Blythe**	**1.50**	**41**	*e* Pn	**Pg**	**20 04 05.8**	**+0.1**
SPX	**San Pedro Mart**	**1.59**	**173**	*e* P	**Pn**	**20 04 03.9**	**-0.7**
IRM	**Iron Mountain** baz=197,SNR=9.5	**1.60**	**17**	Pb	**Pb**	**20 04 05.9**	**-0.1**
113A	**Mohawk Valley,**	**1.64**	**84**	*e* Pn	**Pn**	**20 04 04.5**	**-0.4**
HEC	**Hector,Ludlow** baz=167	**2.26**	**347**	S	**Sn**	**20 04 40.7**	**-0.5**
MWC	**Mount Wilson**	**2.53**	**310**	*e* Pn	**Pb**	**20 04 20.8**	**-1.2**
PASC	**Pasadena Art C**	**2.59**	**307**	*e* Pn	**Pn**	**20 04 19.6**	**+1.6**
Y14A	**Wickenburg**	**2.61**	**59**	*e* Pn	**Pn**	**20 04 18.8**	**+0.4**
W13A	**Hualapai Mount**	**2.90**	**31**	*e* Pn	**Pn**	**20 04 23.5**	**+1.1**

IDC 02 20:11:03.9±2.6, 4.15N×128.49E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/40, mbtmp3.2/3, MS3.7/1, Ms1 3.9/1, ms1mx3.1/13, Error ellipse: s-maj=194.5km s-min=26.1km az=68.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.62**	**167**	P	P	20 16 26.1	-0.1
	0.2nm,0.4s,baz=347,slow=9.9,SNR=9.3						
ASAR	**Alice Springs**	**28.15**	**169**	P	P	20 16 58.3	+0.3
	0.1nm,0.5s,baz=2.2,slow=8.4,SNR=4.3						
CMAR	**Chiang Mai Arr**	**32.20**	**299**	LR	LR	20 31 12.4	
	comp=Z,121nm,20.3s,baz=59,slow=38						
MKAR	**Makanchi Array**	**58.23**	**324**	P	P	20 20 60.0	-0.2
	0.2nm,0.4s,baz=111,slow=7.9,SNR=3.8						

MEX 02 20:15:19.8±0.4, 16.30N×98.25W, h14km±1km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.15**	**53**	*e* P	Pg	20 15 22.9	-0.8
PNIG				*e* S	Sg	20 15 25.9	-0.4
TLIG	**Tlapa**	**1.29**	**347**	*e* Pn	Pn	20 15 39.7	-3.8
TLIG				*i* S	Sb	20 15 55.7	-4.7
HUIG	**Huatulco**	**2.13**	**104**	*i* P	Pn	20 15 52.3	-2.7
HUIG				*i* S	Sn	20 16 16.9	-4.3

*IDC **02** 20:38:59.2±3.2, 10.58N×122.95E, h81km±29km, mb4.0/14, mb1 4.1/15, mb1mx3.8/46, mbtmp4.4/15, Error ellipse: s-maj=29.4km s-min=11.0km az=67.0*
*ISCJB **02** 20:39:00.6±0.2, 10.63N±0.02×122.82E±0.03, h104km±3km, mb4.4/55, Error ellipse: s-maj=5.2km s-min=3.5km az=159.7*
*MAN **02** 20:39:00.3, 10.65N×122.68E, h90km, mb5.4, ML4.4, MS4.6*
*NEIC **02** 20:39:03.6±0.8, 10.57N×122.91E, h126km±7km, mb4.5/33, Error ellipse: s-maj=7.3km s-min=4.0km az=65.0*
*BJI **02** 20:39:04.2, 10.83N×122.66E, h112km, mb4.4/18, mB4.8/10*
ISC 02 20:39:00.6±0.7, 10.64N±0.03×122.67E±0.03, h89km±6km, n127, σ2s27/146, mb4.4/55, 3C-4D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.08**	**258**	*e* P	**Pn**	**20 39 13.2**	**0.0**
GUIM				*e* S	**Sn**	**20 39 20.3**	**-2.1**
RCP	**Roxas**	**0.92**	**5**	⇑ *e* P	**Pn**	**20 39 19.9**	**+0.6**
RCP				*e* S	**Sn**	**20 39 34.9**	**+1.7**
LLP	**Lapu-Lapu**	**1.31**	**104**	⇓ *i* P	**Pn**	**20 39 24.6**	**+0.6**
LLP				*i* S	**Sn**	**20 39 41.8**	**+0.2**
CUYO	**Cuyo Island**	**1.64**	**277**	*e* P	**Pn**	**20 39 29.3**	**+1.2**
CUYO				*e* S	**Sn**	**20 39 43.4**	**-5.5**
OTRP	**Odiongan**	**1.82**	**340**	*e* P	**Pn**	**20 39 30.6**	**+0.1**
OTRP				*e* S	**Sn**	**20 39 46.7**	**-6.5**
MMPH	**Masbate**	**1.94**	**29**	⇑ *e* P	**Sn**	**20 39 32.8**	**+0.7**
MMPH				*i* S	**Sn**	**20 39 56.8**	**+0.8**
OCLP	**Ormoc**	**1.95**	**78**	*e* P	**Pn**	**20 39 32.6**	**+0.6**
OCLP				*e* S	**Sn**	**20 39 49.9**	**-6.2**
MSLP	**Maasin**	**2.21**	**103**	*e* P	**Pn**	**20 39 36.9**	**+1.4**
MSLP				*e* S	**Sn**	**20 39 59.2**	**-3.2**
PLP	**Palo**	**2.33**	**77**	⇓ *i* P	**Pn**	**20 39 37.4**	**+0.3**
SJMP	**San Jose**	**2.36**	**320**	*e* P	**Pn**	**20 39 39.0**	**+1.4**
SJMP				*e* S	**Sn**	**20 39 58.8**	**-7.1**
AUQP	**San Andres**	**2.66**	**0**	*e* P	**Pn**	**20 39 42.8**	**+1.1**
AUQP				*e* S	**Sn**	**20 40 14.9**	**+1.8**
BUSP	**Coron**	**2.78**	**299**	*e* P	**Pn**	**20 39 44.3**	**+1.2**
BUSP				*e* S	Sn	20 40 03.1	-13
PAGZ	**Pagadian**	**2.86**	**166**	*e* P	**Pn**	**20 39 46.2**	**+1.8**
PAGZ				*e* S	**Sn**	**20 40 20.8**	**+2.9**
BESP	**Borongan**	**2.88**	**70**	*e* P	**Pn**	**20 39 45.0**	**+0.5**
BESP				*e* S	**Sn**	**20 40 16.4**	**-1.9**
BOAC	**Boac**	**2.91**	**344**	*e* P	**Pn**	**20 39 45.6**	**+0.6**
BOAC				*e* S	**Sn**	**20 40 12.0**	**-7.1**
ENPP	**El Nido**	**3.24**	**280**	*e* P	**Pn**	**20 39 49.4**	**+0.1**
ENPP				*e* S	**Sn**	**20 40 20.4**	**-6.5**
GQP	**Guinayangan**	**3.25**	**356**	⇓ *e* P	**Pn**	**20 39 51.4**	**+1.9**
GQP				*e* S	Sn	20 40 17.6	-10
BUTP	**Butuan**	**3.35**	**120**	*e* P	**Pn**	**20 39 51.5**	**+0.7**
BUTP				*e* S	Sn	20 40 14.7	-15
BUKP	**Musuan**	**3.62**	**139**	*e* P	**Pn**	**20 39 56.0**	**+1.4**
BUKP				*e* S	**Sn**	**20 40 28.2**	**-8.2**
ZCP	**Zamboanga City**	**3.73**	**189**	⇑ *e* P	**Pn**	**20 39 57.7**	**+1.6**
ZCP				*i* S	**Sn**	**20 40 39.4**	**+0.5**
CTBH	**Cotabato--PC H**	**3.74**	**155**	⇓ *i* P	**Pn**	**20 40 00.2**	**+4.0**
TGY	**Tagaytay City**	**3.83**	**334**	P	**Pn**	**20 39 57.8**	**+0.3**
	37nm,0.3s,baz=292,slow=4.1,SNR=5.1						
SKMP	**Bagumbayan, Su**	**4.50**	**156**	*e* P	**Pn**	**20 40 07.2**	**+0.8**
SKMP				*e* S	Sn	20 40 39.5	-18
DAV	**Davao City (W)**	**4.57**	**141**	*e* Pn	**Pn**	**20 40 07.9**	**+0.5**
MYLDM	**Lahad Datu**	**6.82**	**218**	*e* Pn	**Pn**	**20 40 42.4**	**+4.3**
MYLDM				*e* Sn	**Sn**	**20 41 49.2**	**-5.1**
KKM	**Kota Kinabalu**	**7.85**	**235**	*e* Pn	**Pn**	**20 40 55.8**	**+3.6**
TNTI	**Ternate**	**10.86**	**154**	*e* Pn	**Pn**	**20 41 33.3**	**+0.1**
LUWI	**Luwuk**	**11.61**	**179**	*e* Pn	**Pn**	**20 41 46.1**	**+2.8**
SSLB	**Suanglung**	**13.18**	**353**	*e* Pn	**P**	**20 42 08.4**	**-2.6**
MMRI	**Maumere** 37nm,0.9s	**19.16**	**181**	*e* P	**Pn**	**20 43 17.9**	**-1.0**
SKNT	**Sakolnakorn** 10nm,1.5s	**19.20**	**291**	P	**Pn**	**20 43 20.7**	**+1.2**
NONG	**Nongkai** 0.2nm,1.1s	**20.29**	**294**	P	Pn	20 43 32.5	+0.3
SOEI	**Soe** 19nm,0.9s	**20.33**	**175**	*e* P	**P**	**20 43 29.8**	**-0.1**
MYKOM	**Kota Tinggi** 8.9nm,0.7s	**20.66**	**246**	*e* P	Pn	20 43 37.8	+1.3
BATI	**Baumata** 54nm,0.5s,baz=255,slow=1.2,SNR=28	**20.74**	**177**	P	**P**	**20 43 34.5**	**+0.3**
CHAI	**Chaiyaphum** 11nm,0.8s,101nm	**20.79**	**287**	P	Pn	20 43 36.8	-1.3
NJ2	**Nanjing**	**21.60**	**351**	*e* P	**P**	**20 43 43.9**	**+0.6**
NJ2	comp=Z,11nm,0.8s			pmax	pmax		
PBKT	**Sadao Pong** 29nm,1.0s	**21.89**	**288**	*e* P	**P**	**20 43 47.6**	**+1.1**
PBKT	**Sadao Pong** 31nm,1.1s	**21.89**	**288**	P	**P**	**20 43 48.8**	**+2.2**
UGM	**Wanagama** 232nm,1.6s	**22.05**	**214**	*e* P	**P**	**20 43 51.3**	**+3.0**
IPM	**Ipoh** 28nm,0.8s	**22.30**	**256**	*e* P	**P**	**20 43 52.0**	**+1.0**
KULM	**Kulim** 16nm,0.8s	**22.44**	**258**	*e* P	**P**	**20 43 54.5**	**+2.0**
PHET	**Kaeng Krachan** 5.7nm,1.0s	**22.67**	**278**	P	**P**	**20 43 58.3**	**+3.5**
NANT	**Nan** 3.7nm,0.7s	**22.73**	**293**	P	**P**	**20 43 56.9**	**+1.5**
ENH	**Enshi** 47nm,2.0s	**23.07**	**330**	*e* P	**P**	**20 44 00.2**	**+1.4**
UTHA	**Uthaitani** 5.5nm,1.1s,46nm	**23.14**	**285**	P	**P**	**20 44 01.4**	**+1.9**
SRDT	**SRDT** 20nm,1.2s,2μm	**23.28**	**282**	P	**P**	**20 44 03.0**	**+2.2**
SUKH	**Sukhothai** 5.5nm,0.8s	**23.34**	**290**	P	**P**	**20 44 04.6**	**+3.2**
CISI	**Cisompet, Garu** 36nm,1.2s	**23.36**	**220**	*e* P	**P**	**20 44 03.9**	**+2.3**
LAMP	**Lampang** 7.4nm,0.8s,81nm	**23.61**	**292**	P	**P**	**20 44 06.0**	**+2.2**
PAYA	**Payao** 9.2nm,1.0s,76nm	**23.64**	**294**	P	**P**	**20 44 05.7**	**+1.5**
UMPA	**Umpang Tak** 3.1nm,0.9s	**23.80**	**286**	P	**P**	**20 44 08.7**	**+3.1**
CM01	**Chiang Mai Arr**	**24.20**	**291**	*e* P	**P**	**20 44 10.7**	**+1.6**
CM31	**Chiang Mai Arr**	**24.22**	**291**	*e* P	**P**	**20 44 11.0**	**+1.6**
CMAR	**Chiang Mai Arr** 7.8nm,0.9s,baz=108,slow=8.3,SNR=57	**24.22**	**291**	P	**P**	**20 44 11.2**	**+1.9**
CMMT	**Chiang Mai** 7.1nm,1.1s	**24.32**	**292**	P	**P**	**20 44 12.9**	**+2.7**
CHTO	**Chiang Mai** 4.4nm,0.8s	**24.32**	**292**	*e* P	**P**	**20 44 12.5**	**+2.3**
CHTO	**Chiang Mai** 32nm,1.1s	**24.32**	**292**	P	**P**	**20 44 13.0**	**+2.8**
PSI	**Prapat** 19nm,0.8s,baz=0.5,slow=2.9,SNR=17	**24.82**	**253**	P	**P**	**20 44 16.9**	**+1.9**
PSI	**Prapat** 23nm,0.9s	**24.82**	**253**	*e* P	**P**	**20 44 16.2**	**+1.3**
LHMI	**Lhok Sumawe** 236nm,1.5s	**26.03**	**260**	*e* P	**P**	**20 44 26.8**	**+1.1**
XAN	**Xi'an**	**26.47**	**334**	P	**P**	**20 44 29.4**	**-0.2**
XAN	comp=Z,6.0nm,1.0s			pmax	pmax		
XAN	comp=Z,130nm,4.9s			pmax	pmax		
GSI	**Gunungsitoli** 54nm,1.3s	**26.60**	**251**	*e* P	**P**	**20 44 32.0**	**+1.1**
CD2	**Chengdu**	**26.74**	**322**	*e* P	**P**	**20 44 33.0**	**+1.0**
CD2	comp=Z,10.0nm,0.5s			pmax	pmax		
KS15	**Wonju Array Si**	**27.09**	**9**	*e* P	**P**	**20 44 35.9**	**+0.8**
FITZ	**Fitzroy Crossi** 1.1nm,0.4s,baz=9.7,slow=4.3,SNR=5.8	**28.71**	**174**	P	**P**	**20 44 47.0**	**-2.6**
FITZ	**Fitzroy Crossi** 26nm,1.9s	**28.71**	**174**	*e* P	**P**	**20 44 47.6**	**-2.0**
LZH	**Lanzhou**	**30.54**	**329**	*e* P	**P**	**20 45 08.7**	**+2.8**
LZH				pP	sP	20 45 35.6	-0.9
LZH				sP	pP	20 45 46.3	+20
LZH				*e* PP	**PP**	**20 46 16.7**	**+0.2**
LZH	comp=Z,20nm,1.4s			pmax	pmax		
LZH	comp=Z,83nm,4.8s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**31.65**	**344**	*e* P	**P**	**20 45 19.1**	**+3.6**
HHC	comp=Z,11nm,1.0s			pmax	pmax		
HHC	comp=Z,120nm,5.6s			pmax	pmax		
MBWA	**Marble Bar** 14nm,1.1s	**31.73**	**185**	*e* P	**P**	**20 45 14.6**	**-1.7**
WRAB	**Tennant Creek** 8.7nm,1.4s	**32.49**	**159**	*e* P	**P**	**20 45 19.8**	**-3.1**
WR1	**Warramunga Arr** 8.6nm,1.1s	**32.49**	**159**	*e* P	**P**	**20 45 20.1**	**-2.9**
WR1				*e* PcP	**PcP**	**20 48 06.8**	**-1.4**
WRA	**Warramunga Arr** 2.2nm,0.4s,baz=341,slow=9.3,SNR=29	**32.49**	**159**	P	**P**	**20 45 20.1**	**-2.9**
WRA	0.6nm,0.5s,baz=338,slow=2.8,SNR=5.5			PcP	**PcP**	**20 48 06.8**	**-1.4**
WB2	**Warramunga Arr** 13nm,1.5s	**32.50**	**159**	*e* P	**P**	**20 45 19.6**	**-3.5**
SHL	**Shillong** 8.7nm,0.9s	**32.70**	**301**	*e* P	**P**	**20 45 25.5**	**+0.4**
CN2	**Changchun**	**33.12**	**4**	*e* P	**P**	**20 45 31.0**	**+2.8**
CN2	comp=Z,10.0nm,0.5s			pmax	pmax		
GTA	**Gaotai**	**35.14**	**328**	*e* P	**P**	**20 45 47.1**	**+1.2**
GTA				pP	sP	20 46 12.9	-3.8
GTA				sP	pP	20 46 26.1	+20
GTA				S	**S**	**20 51 13.3**	**+0.8**
GTA	comp=Z,50nm,6.5s			pmax	pmax		
GTA	comp=N,140nm,17.1s			LR	LR		
GTA	comp=E,170nm,18.4s			LR	LR		
GTA	comp=Z,130nm,18.1s			LR	LR		
AS31	**Alice Springs** 1.6nm,0.4s	**35.82**	**162**	*e* P	**P**	**20 45 49.7**	**-2.1**
ASAR	**Alice Springs** 2.7nm,0.5s,baz=344,slow=6.8,SNR=57	**35.83**	**162**	P	**P**	**20 45 50.1**	**-1.7**
ASAR	0.8nm,0.5s,baz=341,slow=3.1,SNR=6.1			PcP	**PcP**	**20 48 16.4**	**-1.3**
AS01	**Alice Springs**	**35.84**	**162**	*e* P	**P**	**20 45 49.8**	**-2.2**
RAMN	**Ramite** 7.3nm,0.5s	**37.63**	**301**	*e* P	**P**	**20 46 08.6**	**+1.1**
JIRN	**Jiri** 26nm,0.6s	**38.20**	**301**	*e* P	**P**	**20 46 13.3**	**+0.9**
GUN	**Gumba** 22nm,0.5s	**38.55**	**302**	*e* P	**P**	**20 46 16.3**	**+1.0**
PKI	**Pulchoki** 10nm,0.8s	**38.83**	**301**	*e* P	**P**	**20 46 18.1**	**+0.5**
PKIN	**Phulchoki** 7.7nm,0.5s	**38.84**	**301**	*e* P	**P**	**20 46 18.0**	**+0.3**
KKN	**Kakani**	**39.01**	**301**	*e* P	**P**	**20 46 19.4**	**+0.4**
DMN	**Daman** 11nm,0.8s	**39.10**	**301**	*e* P	**P**	**20 46 20.9**	**+1.1**
ULN	**Ulaanbaatar** 5.7nm,1.4s	**39.36**	**343**	*e* P	**P**	**20 46 21.7**	**+0.2**
SONA0	**Songino Array**	**39.52**	**343**	*e* P	**P**	**20 46 24.1**	**+1.2**
SONM	**Songino Array** 0.9nm,0.7s,baz=158,slow=9.8,SNR=7.5	**39.52**	**343**	P	**P**	**20 46 24.1**	**+1.2**
SONA1	**Songino Array**	**39.53**	**343**	*e* P	**P**	**20 46 23.0**	**+0.1**
KOLN	**Koldanda** 7.2nm,0.5s	**40.42**	**301**	*e* P	**P**	**20 46 31.6**	**+0.9**
DANN	**Dangsing** 7.9nm,0.4s	**40.46**	**301**	*e* P	**P**	**20 46 31.7**	**+0.6**
PYUN	**Piuthan** 20nm,0.7s	**41.03**	**301**	*e* P	**P**	**20 46 36.8**	**+1.1**
FORT	**Forrest** 18nm,0.6s	**41.51**	**173**	*e* P	**P**	**20 46 37.4**	**-1.8**
NWAO	**Narrogin (SRO)** 61nm,1.5s	**43.63**	**187**	*e* P	**P**	**20 46 56.0**	**-0.5**
WMQ	**Urumqi**	**44.80**	**324**	*e* P	**P**	**20 47 07.8**	**+2.1**
WMQ	comp=N,290nm,24.9s			LR	LR		
WMQ	comp=E,260nm,25.9s			LR	LR		
WMQ	comp=Z,380nm,26.9s			LR	LR		
BBOO	**Buckleboo** 48nm,1.6s	**45.06**	**164**	*e* P	**P**	**20 47 05.8**	**-2.0**
EIDS	**Eidsvold** 83nm,1.9s	**45.25**	**143**	*e* P	**P**	**20 47 06.9**	**-2.5**
STKA	**Stephens Creek** 0.9nm,0.4s,baz=348,slow=6.4,SNR=6.3	**46.00**	**157**	P	**P**	**20 47 13.3**	**-1.8**
STKA	**Stephens Creek** 4.4nm,1.6s	**46.00**	**157**	*e* P	**P**	**20 47 13.4**	**-1.8**
MK01	**Makanchi Array**	**49.60**	**324**	*e* P	**P**	**20 47 43.7**	**+0.7**
MK31	**Makanchi Array**	**49.62**	**324**	*e* P	**P**	**20 47 42.7**	**-0.4**
MK32	**Makanchi Array**	**49.62**	**324**	*e* P	**P**	**20 47 44.2**	**+1.1**
MKAR	**Makanchi Array** 1.4nm,0.8s,baz=134,slow=8.7,SNR=5.2	**49.62**	**324**	P	**P**	**20 47 44.2**	**+1.1**
MKAR	**Makanchi Array** 34nm,1.2s	**49.62**	**324**	*e* P	**P**	**20 47 42.7**	**-0.4**
KDJ	**Kajisay** 5.8nm,1.3s	**50.56**	**317**	*e* P	**P**	**20 47 52.0**	**+1.5**
AAK	**Ala-Archa** 5.7nm,1.6s	**52.59**	**316**	*e* P	**P**	**20 48 06.3**	**+0.7**
ZAA0	**Zalesovo Array** 1.8nm,0.6s	**52.64**	**333**	*e* P	**P**	**20 48 05.5**	**-0.1**
ZALV	**Zalesovo Beam** 1.9nm,0.4s,baz=119,slow=7.6,SNR=9.1	**52.64**	**333**	P	**P**	**20 48 05.8**	**+0.3**
ZALV	**Zalesovo Beam**	**52.64**	**333**	*e* P	**P**	**20 48 05.4**	**-0.1**
ZAA1	**Zalesovo Array**	**52.64**	**333**	*e* P	**P**	**20 48 05.8**	**+0.3**
KURK	**Kurchatov** 5.8nm,0.8s	**53.79**	**327**	*e* P	**P**	**20 48 14.3**	**+0.4**
KK31	**Karatay Array**	**55.49**	**315**	*e* P	**P**	**20 48 27.2**	**+0.8**
KKAR	**Karatay Array**	**55.49**	**315**	*e* P	**P**	**20 48 27.2**	**+0.8**
BRVK	**Borovoye** 9.3nm,1.4s	**59.44**	**326**	*e* P	**P**	**20 48 54.4**	**+0.3**
NRIK	**Noril'sk** 1.4nm,0.3s,baz=127,slow=6.3,SNR=4.0	**62.81**	**347**	P	**P**	**20 49 17.3**	**+0.8**
GEYT	**Alibeck** 1.6nm,0.7s,baz=106,slow=8.6,SNR=4.5	**63.49**	**307**	P	**P**	**20 49 22.8**	**+1.1**
GYA0B	**ALIBECK ARRAY** 3.2nm,0.8s	**63.49**	**307**	*e* P	**P**	**20 49 22.8**	**+1.1**
ABKAR	**Akbulak array**	**64.30**	**320**	*e* P	**P**	**20 49 26.4**	**-0.3**
RAYN	**Ar Rayn** 3.0nm,0.8s	**74.14**	**292**	*e* P	**P**	**20 50 27.9**	**-0.2**
ARA0	**ARCESS Array S**	**82.61**	**339**	*e* P	**P**	**20 51 13.3**	**-0.4**
ARCES	**ARCESS Array B** 2.9nm,0.7s,baz=80,slow=7.5,SNR=7.0	**82.61**	**339**	P	**P**	**20 51 13.3**	**-0.4**
VNDA	**Vanda** 0.5nm,0.6s,baz=320,slow=6.1,SNR=8.5	**90.76**	**172**	P	**P**	**20 51 51.4**	**-1.8**
VNDA	**Vanda** 2.4nm,0.8s,baz=250,slow=2.0,SNR=5.2	**90.76**	**172**	*e* P	**P**	**20 51 52.1**	**-1.1**
PLCA	**Paso Flores**	**147.83**	**161**	PKPbc	**PKPbc**	**20 58 35.5**	**-0.3**
PLCA	**Paso Flores**	**147.83**	**161**	*e* PKPbc	**PKPbc**	**20 58 35.3**	**-0.5**

*IDC **02** 20:40:10.7±2.5, 7.47S×130.40E, h57km±31km, mb3.2/1, mb1 3.4/6, mb1mx3.2/41, mbtmp3.4/6, ML3.2/5, Error ellipse: s-maj=41.6km s-min=25.0km az=94.0*
ISC 02 20:40:07.5±1.1, 7.56S±0.09×130.0E±0.2, h27km, n6, σ0s46/5, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong** 0.3nm,0.3s,baz=228,slow=22,SNR=7.6	**6.76**	**11**	P	**Pn**	**20 41 44.7**	**-0.3**
SIJI	1.4nm,0.3s,baz=295,slow=24,SNR=7.3			S	Sn	20 42 50.0	-11
BATI	**Baumata** 0.9nm,0.3s,baz=265,slow=4.2,SNR=6.1	**6.81**	**247**	P	Pb	20 41 55.3	-10
FITZ	**Fitzroy Crossi** 0.4nm,0.3s,baz=21,slow=10,SNR=27	**11.31**	**202**	P	Pn	20 42 52.2	+4.8
FITZ	0.3nm,0.3s,baz=317,slow=3.4,SNR=5.5			S	**Sn**	**20 44 52.7**	**-0.3**
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=338,slow=14,SNR=8.4	**13.00**	**162**	P	**Pn**	**20 43 10.8**	**+0.2**
ASAR	**Alice Springs** 0.3nm,0.6s,baz=340,slow=9.7,SNR=3.6	**16.44**	**167**	P	**P**	**20 43 58.8**	**-0.2**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=110,slow=9.4,SNR=3.1	**68.70**	**327**	P	**P**	**20 51 09.1**	**+0.4**

*IDC **02** 20:54:34.8±0.7, 35.73N×34.71W, h0km, mb3.8/11, mb1 4.1/11, mb1mx3.8/64, mbtmp3.8/11, MS3.7/16, Ms1 3.7/16, ms1mx3.5/44, Error ellipse: s-maj=27.8km s-min=15.9km az=170.0*
*ISCJB **02** 20:54:35.6±0.6, 35.8N±0.2×34.7W±0.1, h17km, mb3.8/11, MS3.7/16, Error ellipse: s-maj=22.8km s-min=12.5km az=168.3*
ISC 02 20:54:37.4±0.8, 35.7N±0.2×34.7W±0.1, h17km, n20, σ0s72/11, mb3.8/11, MS3.7/16, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**24.57**	**72**	P	**P**	**20 59 56.2**	**-0.3**
	2.0nm,0.9s,baz=278,slow=8.5,SNR=7.2						
MDT	**Midelt** 1.6nm,0.8s,baz=277,slow=11,SNR=3.8	**24.98**	**88**	P	**P**	**21 00 00.8**	**+0.5**
MDT	comp=Z,128nm,20.9s,baz=312,slow=31			LR	LR	21 07 25.7	
SCHQ	**Schefferville** comp=Z,206nm,22.0s,baz=94,slow=34	**29.23**	**321**	LR	LR	21 10 54.9	
SFJD	**Kangerlussuaq** comp=Z,271nm,18.6s,baz=136,slow=32	**32.65**	**348**	LR	LR	21 11 42.6	
SADO	**Sadowa** comp=Z,58nm,20.3s,baz=105,slow=33	**34.74**	**299**	LR	LR	21 13 43.1	
NOA	**NORSAR Array B** comp=Z,74nm,20.0s,baz=255,slow

IDC ***02*** *21:00:16.7±7.1,20.88S×68.67W,h107km±51km,mb3.3/5, mb1 3.6/6,mb1mx3.4/40,mbtmp3.8/6,Error ellipse: s-maj=66.8km s-min=23.7km az=18.0*

ISC 02 21:00:16.4±0.7,**20.86S**±0.05×**68.86W**±0.09,**h106**km±6km, **n20,σ0§83/31,mb3.5**/4,**4C-3D,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.62**	**252**	*e*P	**Pn**	**21 00 33.0**	**-0.7**
PB01				*e*S	**Sn**	**21 00 46.3**	**-0.4**
PB01				IAML		21 00 47.7	
	comp=N,19μm,0.2s						
PB08	**IPOC Station P**	**0.76**	**339**	*i*P	**Pn**	**21 00 35.4**	**0.0**
PB08				*e*S	**Sn**	**21 00 49.6**	**+0.1**
PB08				IAML		21 00 51.0	
	comp=E,4μm,0.2s						
PB09	**IPOC Station P**	**1.00**	**201**	*i*P	**Pn**	**21 00 37.5**	**+0.1**
PB09				*e*S	**Sn**	**21 00 54.3**	**+1.0**
PB09				IAML		21 00 55.9	
	comp=N,3μm,0.4s						
PB02	**IPOC Station P**	**1.07**	**244**	*i*P	**Pn**	**21 00 37.9**	**-0.2**
PB02				*e*S	**Sn**	**21 00 54.4**	**-0.1**
PB07	**IPOC Station P**	**1.29**	**228**	*i*P	**Pn**	**21 00 40.4**	**-0.2**
PB07				*e*S	**Sn**	**21 00 59.3**	**+0.3**
PB11	**IPOC Station P**	**1.32**	**325**	*i*P	**Pn**	**21 00 40.7**	**-0.2**
PB11				*e*S	**Sn**	**21 00 59.8**	**+0.2**
PB11				IAML		21 01 06.4	
	comp=E,3μm,0.3s						
PB03	**IPOC Station P**	**1.45**	**215**	*i*P	**Pn**	**21 00 42.4**	**-0.1**
PB03				*e*S	**Sn**	**21 01 02.6**	**+0.3**
PB03				IAML		21 01 03.9	
	comp=E,4μm,0.4s						
PSGC	**Pisagua**	**1.73**	**316**	*i*P	**Pn**	**21 00 45.4**	**-0.4**
PSGC				IAML		21 01 13.9	
	comp=E,2μm,0.3s						
PB04	**IPOC Station P**	**1.90**	**219**	*e*P	**Pn**	**21 00 48.1**	**+0.1**
PB04				*e*S	**Sn**	**21 01 13.8**	**+1.6**
LPAZ	**La Paz**	**4.60**	**9**	P	**Pn**	**21 01 25.8**	**+1.5**
	comp=E,9.5nm,0.3s,baz=181,slow=6.5,SNR=97						
BDFB	**Brasilia**	**20.46**	**79**	P	**P**	**21 04 44.5**	**-1.4**
	comp=E,1.4nm,0.4s,baz=252,slow=9.1,SNR=2.6						
PTGA	**Pitinga**	**21.81**	**25**	P	**P**	**21 04 58.8**	**-1.3**
	comp=E,2.1nm,0.3s,baz=327,slow=22,SNR=6.1						
TXAR	**Lajitas Array**	**60.13**	**325**	P	**P**	**21 10 12.8**	**-0.2**
	comp=E,0.1nm,0.5s,baz=154,slow=9.0,SNR=2.5						
NVAR	**Mina Array Bea**	**75.02**	**322**	P	**P**	**21 11 48.6**	**+1.9**
	comp=E,0.3nm,0.5s,baz=143,slow=9.1,SNR=2.4						
TORD	**Torodi Ar. Bea**	**77.10**	**70**	P	**P**	**21 11 57.5**	**-1.2**
	comp=E,0.5nm,0.4s,baz=234,slow=6.1,SNR=14						
TORD				pP	**pP**	**21 12 26.0**	**+0.4**
	comp=E,0.6nm,0.6s,baz=266,slow=5.9,SNR=6.0						
WRA	**Warramunga Arr**	**133.53**	**211**	PKP	**PKPdf**	**21 19 20.1**	**-1.1**
	comp=E,0.3nm,0.7s,baz=137,slow=1.4,SNR=4.0						
ZALV	**Zalesovo Beam**	**141.35**	**25**	PKP	**PKPdf**	**21 19 35.0**	**+0.5**
	comp=E,0.6nm,0.5s,baz=304,slow=3.0,SNR=2.9						
MKAR	**Makanchi Array**	**145.09**	**35**	PKPbc	**PKPdf**	**21 19 41.7**	**+0.3**
	comp=E,2.7nm,0.7s,baz=338,slow=2.5,SNR=17						
MKAR				pPKPbc	**pPKPdf**	**21 20 11.2**	**+0.9**
	comp=E,1.0nm,0.8s,baz=316,slow=4.0,SNR=2.9						
USRK	**Ussuriysk Ar.**	**150.99**	**328**	PKPbc	**PKPbc**	**21 19 57.0**	**+0.1**
	comp=E,1.4nm,0.7s,baz=45,slow=0.8,SNR=4.1						
SONM	**Songino Array**	**152.81**	**7**	PKP	**PKPdf**	**21 19 53.8**	**0.0**
	comp=E,0.4nm,0.5s,baz=352,slow=3.5,SNR=3.7						
SONM				PKPbc	**PKiKP**	**21 20 01.7**	**+0.4**
	comp=E,0.4nm,0.4s,baz=316,slow=4.0,SNR=3.1						

ISCJB ***02*** *21:07:16.8±0.3,43.86N±0.02×105.25W±0.03,h0km, mb4.5/1,Error ellipse: s-maj=3.2km s-min=2.7km az=155.1*

ANF ***02*** *21:07:18.8±0.8,43.72N×105.38W,ML3.8/14,Error ellipse: s-maj=9.3km s-min=7.2km az=124.0*

NEIC ***02*** *21:07:18.8±0.3,43.85N×105.28W,h0km,ML3.5,Error ellipse: s-maj=5.5km s-min=4.7km az=141.0,Suspected Mining explosion.*

NEIC 52 km [32 miles] SSE of Gillette.

IDC ***02*** *21:07:18.2±0.9,43.92N×105.57W,h0km,mb4.3/1, mb1 4.1/6,mb1mx3.7/49,mbtmp3.8/6,ML3.3/4,Error ellipse: s-maj=21.7km s-min=8.1km az=146.0*

ISC 02 21:07:18.9±0.6,**43.81N**±0.03×**105.32W**±0.03,**h0**km,**n44,** σ1§28/73,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.98**	**71**	*e*Pg	**Pg**	**21 07 37.4**	**-0.3**
RSSD	**Black Hills**	**0.98**	**71**	P	**Pg**	**21 07 37.3**	**-0.3**
	baz=254						
K22A	**Casper**	**1.45**	**218**	P	**Pn**	**21 07 44.2**	**-2.4**
	baz=36						
K22A				S	**Sg**	**21 08 03.5**	**-2.0**
	baz=36						
N23A	**Red Feather La**	**2.94**	**189**	P	**Pn**	**21 08 07.1**	**-0.1**
	baz=9.2						
N23A				Sb	**Sb**	**21 08 48.0**	**-1.0**
	baz=9.2						
LAO	**LASA Array**	**2.95**	**348**	*e*Pn	**Pn**	**21 08 07.0**	**-0.1**
LAO				*e*Pg	**Pg**	**21 08 15.4**	**-0.1**
LAO				*e*Sg	**Sg**	**21 08 52.7**	**-1.1**
RLMT	**Red Lodge**	**3.12**	**296**	*e*Pn	**Pn**	**21 08 09.4**	**-0.1**
RLMT				*e*Pb	**Pb**	**21 08 16.1**	**+0.8**
RLMT				*e*Sn	**Sn**	**21 08 48.9**	**+1.4**
RLMT				*e*Sg	**Sg**	**21 08 59.6**	**+0.5**
RLMT	**Red Lodge**	**3.12**	**296**	P	**Pn**	**21 08 09.8**	**+0.3**
	baz=113						
PDAR	**Pinedale Array**	**3.26**	**253**	Pn	**Pn**	**21 08 11.2**	**-0.3**
	11nm,0.3s,baz=71,slow=15,SNR=110						
PDAR				Lg	Lg	21 08 56.5	
	20nm,0.3s,baz=76,slow=34,SNR=8.9						
BW06	**Boulder Array**	**3.26**	**253**	*e*Pn	**Pn**	**21 08 11.7**	**+0.1**
BW06				*e*Sn	**Sn**	**21 08 54.0**	**+2.8**
BW06	**Boulder Array**	**3.26**	**253**	P	**Pn**	**21 08 11.7**	**+0.1**
	baz=69						
BW06				Sb	**Sb**	**21 08 56.4**	**-1.8**
	baz=69						
LKWY	**Lake**	**3.73**	**284**	*e*Pn	**Pn**	**21 08 19.1**	**+1.1**
LKWY				*e*Pb	**Pb**	**21 08 27.4**	**+1.6**
OGNE	**Ogallala**	**3.75**	**138**	*e*Pn	**Pn**	**21 08 18.7**	**+0.5**
OGNE				*e*Pb	**Pb**	**21 08 27.6**	**+1.4**
OGNE				*e*Pg	**Pg**	**21 08 31.5**	**+0.7**
OGNE				*e*Sg	**Sg**	**21 09 20.7**	**+1.2**
OGNE	**Ogallala**	**3.75**	**138**	P	**Pn**	**21 08 18.4**	**+0.3**
	baz=322						
H17A	**Grant Village**	**3.83**	**281**	P	**Pn**	**21 08 19.8**	**+0.4**
	baz=96						
ISCO	**Idaho Springs**	**4.01**	**183**	*e*Pn	**Pn**	**21 08 21.4**	**-0.5**
ISCO				*e*Pb	**Pb**	**21 08 31.3**	**+0.8**
ISCO				*e*Sb	**Sb**	**21 09 20.8**	**+1.1**
ISCO	**Idaho Springs**	**4.01**	**183**	P	**Pn**	**21 08 21.7**	**-0.2**
	baz=3.4						
O20A	**White River Ci**	**4.26**	**212**	P	**Pn**	**21 08 25.3**	**0.0**
	baz=30						
AHID	**Auburn Hatcher**	**4.35**	**258**	*e*Pn	**Pn**	**21 08 26.9**	**+0.5**
AHID				*e*Pb	**Pb**	**21 08 35.6**	**-0.7**
DGMT	**Dagmar**	**4.73**	**9**	*e*Pn	**Pn**	**21 08 32.5**	**+1.0**
DGMT				*e*Pb	**Pb**	**21 08 44.0**	**+1.3**
DGMT				*e*Sn	**Sn**	**21 09 26.1**	**-1.0**
DGMT	**Dagmar**	**4.73**	**9**	P	**Pn**	**21 08 33.0**	**+1.5**
	baz=190						
Q24A	**Divide**	**4.84**	**178**	P	**Pn**	**21 08 33.0**	**-0.3**
	baz=359						
BOZ	**Bozeman (W)**	**4.84**	**294**	*e*Pn	**Pn**	**21 08 33.0**	**-0.1**
BOZ				*e*Pb	**Pb**	**21 08 46.0**	**+1.4**
BOZ				*e*Sb	**Sb**	**21 09 45.9**	**+2.4**
BOZ	**Bozeman (W)**	**4.84**	**294**	P	**Pn**	**21 08 32.9**	**-0.2**
	baz=110						
HWUT	**Hardware Ranch**	**5.10**	**247**	*e*Pn	**Pn**	**21 08 36.3**	**-0.4**
	23nm,0.5s						
HWUT				*e*Pb	**Pb**	**21 08 47.2**	**-1.9**
KSCO	**Kaye Shedlock'**	**5.20**	**156**	P	**Pn**	**21 08 37.1**	**-1.0**
	baz=338						
KSCO				Sb	**Sb**	**21 09 55.4**	**+1.6**
	baz=338						
EGMT	**Eagleton**	**5.23**	**325**	*e*Pn	**Pn**	**21 08 38.2**	**-0.2**
	45nm,0.6s						
EGMT				*e*Sn	**Sn**	**21 09 41.2**	**+1.7**
EGMT	**Eagleton**	**5.23**	**325**	P	**Pn**	**21 08 38.3**	**-0.2**
	baz=142						
SDCO	**Great Sand Dun**	**6.05**	**181**	*e*Pn	**Pn**	**21 08 49.7**	**-0.2**
	9.6nm,0.9s						
SDCO				*e*Pb	**Pb**	**21 09 06.6**	**+1.2**
SDCO				*e*Sg	**Sg**	**21 10 30.7**	**-2.7**
ECSD	**EROS Data Cent**	**6.30**	**88**	*e*Pn	**Pn**	**21 08 52.4**	**-0.7**
	13nm,0.6s						
ECSD				*e*Sn	**Sn**	**21 10 05.2**	**-0.7**
ECSD				*e*Sg	**Sg**	**21 10 39.7**	**-1.6**
HLID	**Hailey**	**6.60**	**271**	*e*Pn	**Pn**	**21 08 58.1**	**+0.8**
	2.9nm,0.5s						
HLID				*e*Pb	**Pb**	**21 09 12.8**	**-1.8**
HLID				*e*Sg	**Sg**	**21 10 51.8**	**+1.0**
DUG	**Dugway, Tooele**	**6.64**	**240**	*e*Pn	**Pn**	**21 08 57.2**	**-0.7**
	7.6nm,0.8s						
DUG				*e*Pg	**Pg**	**21 09 25.6**	**-0.6**
DUG				*e*Sn	**Sn**	**21 10 16.8**	**+2.4**
MVCO	**Mesa Verde**	**7.02**	**201**	*e*Pn	**Pn**	**21 09 04.0**	**+0.9**
	12nm,0.6s						
WALA	**Waterton Lakes**	**7.92**	**315**	*e*Pn	**Pn**	**21 09 14.2**	**-1.2**
	5.5nm,0.8s						
AGMN	**Agassiz Nation**	**7.96**	**52**	*e*Pn	**Pn**	**21 09 14.4**	**-1.4**
	28nm,0.5s						
ANMO	**Albuquerque**	**8.89**	**186**	Pg	Pg	21 10 01.2	-8.0
	0.2nm,0.3s,baz=348,slow=13,SNR=4.4						
I10CA	**LAC DU BONNET**	**9.01**	**42**	*i*		22 01 40.0	
	baz=224,slow=320,SNR=4.1						
ULM	**Lac du Bonnet**	**9.12**	**42**	Pn	**Pn**	**21 09 29.4**	**-2.2**
	2.3nm,0.3s,baz=232,slow=12,SNR=17						
ULM				Pg		21 10 05.8	
	2.8nm,0.3s,baz=226,slow=14,SNR=9.3						
ULM				Lg	Lg	21 12 02.0	
	0.6nm,0.3s,baz=342,slow=16,SNR=2.9						
WUAZ	**Wupatki**	**9.50**	**211**	*e*Pn	**Pn**	**21 09 36.4**	**-0.7**
	8.9nm,0.5s						
WVOR	**Wild Horse Val**	**9.84**	**267**	*e*Pn	**Pn**	**21 09 42.7**	**+1.1**
	3.3nm,1.2s						
FFC	**Flin Flon**	**11.14**	**10**	*e*Pn	**Pn**	**21 09 57.4**	**-2.0**
	6.8nm,0.6s						
NVAR	**Mina Array Bea**	**11.16**	**246**	Pn	**Pn**	**21 10 01.1**	**+1.1**
	0.2nm,0.3s,baz=51,slow=11,SNR=11						
TXAR	**Lajitas Array**	**14.50**	**174**	Pn	**Pn**	**21 10 48.1**	**+2.6**
	0.1nm,0.3s,baz=0.7,slow=8.8,SNR=5.6						
YKA	**Yellowknife Ar**	**19.49**	**347**	P	**P**	**21 11 45.3**	**-1.9**
	0.1nm,0.3s,baz=164,slow=13,SNR=4.0						
ARCES	**ARCESS Array B**	**61.36**	**18**	P	**P**	**21 17 34.0**	**-2.0**
	3.2nm,0.9s,baz=334,slow=8.1,SNR=5.1						

CNRM ***02*** *21:13:38.1,35.04N×4.58W,h10km,ML2.0*

ISCJB ***02*** *21:13:39.2±0.5,35.13N±0.03×4.61W±0.03,h81km±6km, Error ellipse: s-maj=4.6km s-min=4.1km az=42.9*

INMG ***02*** *21:13:40.5±1.8,35.06N×4.56W,h83km±6km,ML2.3,Error ellipse: s-maj=4.7km s-min=4.4km az=76.0*

MDD ***02*** *21:13:41.0±1.2,35.09N×4.48W,h71km±22km,mb2.6/15, Error ellipse: s-maj=12.3km s-min=6.1km az=4.0,PRIMO*

SFS ***02*** *21:13:41.0,35.08N×4.47W,h70km,ML2.7,TORRES DE ALCALA (MARRUECOS)*

IGIL ***02*** *21:13:42.2,35.06N×4.56W,h83km,ML2.4*

ISC 02 21:13:39.2±1.3,**35.09N**±0.03×**4.53W**±0.03,**h84**km±8km, **n49,σ1§70/87,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVLZ	**Peæn de**	**0.21**	**66**	*e*P	**Pn**	**21 13 51.9**	**+0.4**
PVLZ				*i* S	**Sn**	**21 14 00.4**	**-0.1**
MPAL	**Palemas**	**0.50**	**74**	P	**Pn**	**21 13 54.3**	**+0.8**
MPAL	**Palemas**	**0.50**	**74**	S	**Sn**	**21 14 04.2**	**+0.2**
CEUT	**Ceuta**	**1.02**	**321**	P	**Pn**	**21 13 57.0**	**-1.8**
CEUT	**Ceuta**	**1.02**	**321**	S	**Sn**	**21 14 11.3**	**-2.1**
CEU	**Ceuta**	**1.06**	**320**	*e*P	**Pn**	**21 14 01.8**	**+2.6**
CEU				*e*S	**Sn**	**21 14 13.7**	**-0.5**
ECEU	**Ceuta**	**1.06**	**320**	P	**Pn**	**21 14 00.9**	**+1.6**
	0.7nm,0.1s,SNR=7.9						
ECEU				S	**Sn**	**21 14 15.0**	**+0.7**
	7.1nm,0.1s,SNR=7.9						
EMEL	**Melilla**	**1.31**	**80**	S	**Sn**	**21 14 17.2**	**-2.4**
	28nm,0.1s,SNR=7.9						
EALB	**Alboran**	**1.49**	**55**	P	**Pn**	**21 14 04.2**	**-0.4**
	1.5nm,0.1s,SNR=7.9						
EALB				S	**Sn**	**21 14 22.0**	**-1.7**
	8.1nm,0.2s,SNR=4.0						
IFR	**Ifrane**	**1.64**	**198**	*e*P	**Pn**	**21 14 06.7**	**0.0**
IFR				*e*S	**Sn**	**21 14 26.1**	**-1.4**
ELGU	**Los Guajares,**	**1.92**	**22**	P	**Pn**	**21 14 10.3**	**0.0**
	1.7nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**21 14 31.4**	**-2.5**
	2.7nm,0.1s,SNR=7.9						
EGOR	**Sierra Gorda,**	**2.05**	**10**	P	**Pn**	**21 14 12.6**	**+0.6**
	0.4nm,0.2s,SNR=4.0						
EGOR				S	**Sn**	**21 14 38.0**	**+1.0**
	1.5nm,0.2s,SNR=4.0						
EBER	**Berja**	**2.25**	**36**	P	**Pn**	**21 14 14.5**	**-0.2**
	0.8nm,0.2s,SNR=6.0						
EBER				S	**Sn**	**21 14 40.9**	**-0.8**
	1.6nm,0.2s,SNR=9.4						
MDT	**Midelt**	**2.27**	**182**	P	**Pn**	**21 14 15.7**	**+0.8**
MDT	**Midelt**	**2.27**	**182**	S	**Sn**	**21 14 42.1**	**0.0**
EQUE	**Quentar**	**2.29**	**22**	P	**Pn**	**21 14 15.9**	**+0.7**
	0.1nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**21 14 43.3**	**+0.6**
	1.1nm,0.3s,SNR=5.4						
EQES	**Quesada**	**2.96**	**23**	P	**Pn**	**21 14 26.1**	**+2.0**
	0.2nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**21 15 01.6**	**+2.9**
	0.5nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**3.07**	**347**	P	**Pn**	**21 14 27.2**	**+1.7**
	0.1nm,0.1s,SNR=6.1						
ECAB				S	**Sn**	**21 14 59.3**	**-1.9**
	1.7nm,0.2s,SNR=10						
EADA	**Adamuz**	**3.07**	**359**	P	**Pn**	**21 14 27.1**	**+1.5**
	0.7nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**21 15 00.4**	**-1.0**
	1.4nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.18**	**328**	P	**Pn**	**21 14 28.0**	**+0.9**
	0.2nm,0.1s,SNR=8.2						
EMIN				S	**Sn**	**21 15 02.3**	**-1.7**
	1.6nm,0.1s,SNR=8.2						
EGRO	**El Granado**	**3.41**	**317**	P	**Pn**	**21 14 31.5**	**+1.3**
	2.4nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**21 15 08.1**	**-1.5**
	5.4nm,0.1s,SNR=7.9						
PVAQ	**Vaqueiros**	**3.46**	**313**	*e*P	**Pn**	**21 14 32.1**	**+1.3**
PVAQ				*e*S	**Sn**	**21 15 09.3**	**-1.4**
PVAQ				A	A	21 15 10.3	
	7.2nm,0.3s						
PVAQ	**Vaqueiros**	**3.46**	**313**	P	**Pn**	**21 14 32.1**	**+1.3**
PVAQ				S	**Sn**	**21 15 09.3**	**-1.4**
	7.2nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.49**	**309**	*e*P	**Pn**	**21 14 32.5**	**+1.2**
PBDV				*e*S	**Sn**	**21 15 10.5**	**-1.0**
PBDV				A	A	21 15 10.9	
	6.4nm,0.8s						
PBDV	**Barranco-do-Ve**	**3.49**	**309**	P	**Pn**	**21 14 32.5**	**+1.2**
PBDV				S	**Sn**	**21 15 10.5**	**-1.0**
	6.4nm,0.8s						
PBEJ	**Beja**	**3.98**	**319**	*e*P	**Pn**	**21 14 40.3**	**+2.5**
PBEJ				*e*S	**Sn**	**21 15 22.1**	**-1.2**
PBEJ				A	A	21 15 23.7	
	4.3nm,0.1s						
PBEJ	**Beja**	**3.98**	**319**	P	**Pn**	**21 14 40.3**	**+2.5**
PBEJ				S	**Sn**	**21 15 22.1**	**-1.2**
	2.2nm,0.1s						
MORF	**Marmelete**	**4.00**	**305**	*e*P	**Pn**	**21 14 39.1**	**+0.9**
MORF	**Marmelete**	**4.00**	**305**	*e*P	**Pn**	**21 14 40.0**	**+1.8**
MORF				*e*S	**Sn**	**21 15 23.1**	**-0.8**
MORF				A	A	21 15 31.8	
	4.1nm,0.4s						
MORF	**Marmelete**	**4.00**	**305**	P	**Pn**	**21 14 39.1**	**+0.9**
MORF				S	**Sn**	**21 15 23.1**	**-0.8**
	4.1nm,0.4s						
PFVI	**Vila Bisbo**	**4.03**	**302**	*e*P	**Pn**	**21 14 39.8**	**+1.2**
PFVI				*e*S	**Sn**	**21 15 23.3**	**-1.3**
PFVI				A	A	21 15 24.2	
	16nm,0.7s						
PFVI	**Vila Bisbo**	**4.03**	**302**	P	**Pn**	**21 14 40.3**	**+1.7**
	4.4nm,0.2s,SNR=7.9						
PFVI				S	**Sn**	**21 15 22.6**	**-2.0**
	1.8nm,0.1s,SNR=4.0						
MESJ	**Messejana**	**4.05**	**314**	*e*P	**Pn**	**21 14 40.0**	**+1.2**
MESJ				*e*S	**Sn**	**21 15 22.0**	**-3.0**
MESJ				AML	AML	21 15 25.0	
	comp=N,8.7nm,0.1s						
MESJ	**Messejana**	**4.05**	**314**	*e*P	**Pn**	**21 14 39.9**	**+1.2**
MESJ				*e*S	**Sn**	**21 15 23.3**	**-1.7**
MESJ				A	A	21 15 25.3	
	comp=N,4.9nm,0.6s						
MESJ	**Messejana**	**4.05**	**314**	P	**Pn**	**21 14 40.0**	**+1.2**
MESJ				S	**Sn**	**21 15 22.0**	**-3.0**
	comp=N,8.7nm,0.1s						
EBAD	**Badajoz**	**4.17**	**332**	P	**Pn**	**21 14 41.6**	**+1.2**
	comp=N,0.2nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**21 15 25.5**	**-2.4**
	comp=N,9.3nm,0.2s,SNR=18						
PTEO	**Sao Teotonio**	**4.18**	**307**	*e*P	**Pn**	**21 14 42.1**	**+1.5**
PTEO				*e*S	**Sn**	**21 15 27.1**	**-1.1**
PTEO				*e*S	**Sn**	**21 15 27.4**	**-0.8**
PTEO				A	A	21 15 28.4	
	comp=N,5.9nm,0.4s						
PTEO	**Sao Teotonio**	**4.18**	**307**	P	**Pn**	**21 14 42.1**	**+1.5**
PTEO				S	**Sn**	**21 15 27.1**	**-1.1**
ETOB	**Tobarra**	**4.28**	**33**	P	**Pn**	**21 14 44.5**	**+2.4**
	comp=N,0.1nm,0.2s,SNR=4.0						
OKGL	**Djebel Kef Gue**	**4.33**	**76**	P	**Pn**	**21 14 43.9**	**+1.3**
	comp=N,3.0nm,0.2s,SNR=4.0						
EVO	**Evora**	**4.43**	**322**	*e*P	**Pn**	**21 14 47.5**	**+3.5**
EVO				*e*S	**Sn**	**21 15 34.8**	**+0.5**
EVO				A	A	21 15 36.6	
	comp=N,8.6nm,0.1s						
EVO	**Evora**	**4.43**	**322**	P	**Pn**	**21 14 47.5**	**+3.5**
EVO				S	**Sn**	**21 15 34.8**	**+0.5**
	comp=N,8.6nm,0.1s						
PAB	**San Pablo**	**4.45**	**2**	P	**Pn**	**21 14 44.9**	**+0.5**
	comp=N,0.1nm,0.2s,SNR=7.9						
PAB				S	**Sn**	**21 15 32.2**	**-2.9**
	comp=N,0.3nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**4.50**	**328**	*e*P	**Pn**	**21 14 46.7**	**+1.8**
PESTR				*e*S	**Sn**	**21 15 34.3**	**-1.7**
PESTR				A	A	21 15 38.0	
	comp=N,3.2nm,0.6s						
ESDC	**Sonseca Array**	**4.60**	**6**	P	**Pn**	**21 14 47.7**	**+1.3**
	comp=N,0.1nm,0.1s,baz=185,slow=12,SNR=7.9						
ESDC				S	**Sn**	**21 15 35.9**	**-2.7**
	comp=N,0.4nm,0.1s,baz=190,slow=23,SNR=3.6						
PMRV	**Marv??o**	**4.89**	**333**	*e*P	**Pn**	**21 14 51.7**	**+1.3**
PMRV				*e*S	**Sn**	**21 15 43.3**	**-2.4**
PMRV				A	A	21 15 47.1	
	comp=N,1.3nm,0.3s						
PMRV	**Marv??o**	**4.89**	**333**	P	**Pn**	**21 14 51.7**	**+1.3**
PMRV				S	**Sn**	**21 15 43.3**	**-2.4**
	comp=N,1.3nm,0.3s						
PCBR	**Castelo Branco**	**5.29**	**335**	*e*S	**Sn**	**21 15 52.3**	**-3.0**
PCBR				A	A	21 15 52.5	
	comp=N,2.3nm,0.3s						
PCBR	**Castelo Branco**	**5.29**	**335**	S	**Sn**	**21 15 52.3**	**-3.0**
	comp=N,1.2nm,0.3s						

MEX 02 21:31:03.5±0.5,**14.51N**×**92.64W,h58**km±20km,**MD3.7, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.31**	**335**	*e*P	Pn	21 31 24.0	-1.6
PCIG				*e*S	Sn	21 31 40.1	-2.0
CCIG	**Comitan**	**1.83**	**15**	*i* P	Pn	21 31 32.0	-0.8
CCIG				*e*S	Sn	21 31 52.6	-2.4
TGIG		**2.30**	**349**	*i* P	Pn	21 31 37.8	-1.3
TGIG				*i* S	Sn	21 32 05.2	-1.2

NDI ***02*** *21:31:47.3±2.7,24.96N×94.98E,h12km±17km,ML4.4, mb4.5(NEIC)*

ISCJB ***02*** *21:31:48.0±0.3,24.94N±0.02×94.90E±0.02,h109km±3km, mb4.2/34,Error ellipse: s-maj=4.2km s-min=3.3km az=35.0*

NEIC ***02*** *21:31:48.6±0.6,24.89N×95.09E,h106km±6km,mb4.5/13, Error ellipse: s-maj=8.3km s-min=5.6km az=51.0*

BJI ***02*** *21:31:48.1,25.15N×95.03E,h81km,mb4.4/25,mB4.7/18, Ms4.1/5*

IDC ***02*** *21:31:48.6±0.7,24.80N×95.11E,h111km±6km,mb3.9/22, mb1 4.0/24,mb1mx3.8/57,mbtmp4.2/24,Error ellipse: s-maj=11.5km s-min=9.6km az=58.0*

ISC 02 21:31:49.2±0.6,**24.95N**±0.04×**94.91E**±0.05,**h106**km±5km, **n112,σ1§48/142,mb4.3**/34,**8C-4D,Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOHI	**KOHIMA**	**1.06**	**317**	*e*P	**Pn**	**21 32 10.8**	**-0.1**
KOHI				*e*S	**Sn**	**21 32 28.1**	**+0.9**
MOKO	**MOKOCHONG**	**1.42**	**346**	*e*P	**Pn**	**21 32 14.7**	**-0.2**
MOKO				*e*S	**Sn**	**21 32 34.1**	**-0.4**
JORH	**JORHAT**	**1.89**	**342**	*e*P	**Pn**	**21 32 20.7**	**+0.1**
JORH				*e*S	**Sn**	**21 32 44.2**	**-0.3**
JORH				IAML		21 32 46.0	
	comp=N,2μm,0.2s						
JORH				IAML		21 32 47.2	
	comp=E,2μm,0.2s						
LKP	**Lekhapani**	**2.52**	**19**	*e*P	**Pn**	**21 32 27.5**	**-1.3**
LKP				*e*S	**Sn**	**21 32 57.3**	**-1.9**
TEZP	**TEZPUR**	**2.52**	**312**	*e*P	**Pn**	**21 32 28.9**	**+0.1**
TEZP				*e*S	**Sn**	**21 32 59.4**	**+0.2**
ZIRO	**ZIRO**	**2.74**	**340**	*e*P	**Pn**	**21 32 31.1**	**-0.7**
ZIRO				*e*S	**Sn**	**21 33 02.5**	**-2.1**
ZIRO				IAML		21 33 05.6	
	comp=N,10μm,0.2s						
ZIRO				IAML		21 33 06.0	
	comp=E,8μm,0.3s				

comp=E,10.0nm,0.5s
CD2 pmax pmax
comp=E,120nm,4.8s
PBKT Sadao Pong 10.08 145 P **Pn 21 34 12.0 +1.1**
comp=E,6.6nm,0.7s,comp=E,2µmcomp=E,0.2nm
UTHA Uthaitani 10.26 155 P **Pn 21 34 14.1 +0.6**
comp=E,3.0nm,0.9s,comp=E,0.0nm
KOLN Koldanda 10.52 288 *e*Pn **Pn 21 34 16.4 -0.7**
KOLN *e*Sn **Sn 21 36 10.7 -2.4**
comp=E,50nm,0.4s
DANN Dangsing 10.53 291 *e*Pn **Pn 21 34 16.2 -1.1**
DANN *e*Sn **Sn 21 36 10.3 -3.1**
comp=E,89nm,0.6s
PYUN Piuthan 11.12 289 *e*Pn **Pn 21 34 23.8 -1.4**
PYUN *e*Sn **Sn 21 36 24.6 -3.1**
comp=E,98nm,0.7s
CHAI Chaiyaphum 11.18 142 P **Pn 21 34 25.6 -0.2**
SRAK Srakaew 12.78 147 P **P 21 34 57.2 +3.3**
LZH Lanzhou 13.51 33 *e*P **Pn 21 34 53.1 -3.5**
LZH pP P 21 35 10.4 +8.4
LZH sP 21 35 24.2
LZH pmax pmax
comp=E,18nm,1.1s
ENH Enshi 13.97 64 *e*Pn **Pn 21 34 58.1 -4.4**
comp=E,15nm,0.7s
GTA Gaotai 15.01 15 *e*P **P 21 35 18.3 -0.3**
GTA pP Pn 21 35 27.8 +12
GTA S **Sn 21 38 05.1 +3.6**
GTA pmax pmax
comp=E,7.0nm,0.8s
GTA pmax pmax
comp=E,65nm,6.2s
XAN Xi'an 15.19 50 P **Pn 21 35 17.9 -0.1**
XAN pmax pmax
comp=E,6.0nm,0.8s
XAN pmax pmax
comp=E,88nm,4.3s
WMQ Urumqi 19.73 344 *e*P **Pn 21 36 12.4 -0.5**
HHC Hu-ho-hao-te 21.09 37 *e*P **P 21 36 26.2 +1.1**
HHC pmax pmax
comp=E,12nm,1.2s
HHC pmax pmax
comp=E,130nm,5.0s
KSH Kashi 21.56 317 *e*P **P 21 36 32.1 +1.9**
KSH S **S 21 40 18.0 -5.1**
KSH pmax pmax
comp=E,240nm,5.2s
NJ2 Nanjing 22.18 66 *e*P **P 21 36 38.4 +1.8**
NJ2 pmax pmax
comp=E,9.0nm,0.6s
MK01 Makanchi Array 24.00 338 *e*P **P 21 36 55.1 +1.2**
MK31 Makanchi Array 24.02 338 *e*P **P 21 36 55.8 +1.6**
MKAR Makanchi Array 24.02 338 P **P 21 36 55.7 +1.6**
comp=E,9.4nm,0.5s,baz=150,slow=9.3,SNR=125
MKAR Makanchi Array 24.02 338 *e*P **P 21 36 55.8 +1.6**
comp=E,98nm,0.4s
AAK Ala-Archa 24.37 321 P **P 21 36 59.4 +1.9**
comp=E,1.8nm,0.6s,baz=137,slow=2.9,SNR=9.3
AAK Ala-Archa 24.37 321 *e*P **P 21 36 59.3 +1.7**
comp=E,13nm,1.8s
SONM Songino Array 24.59 19 P **P 21 36 58.9 -0.5**
comp=E,1.8nm,0.7s,baz=199,slow=9.5,SNR=14
SONA1 Songino Array 24.60 19 *e*P **P 21 36 58.9 -0.6**
ULN Ulaanbaatar 24.82 20 *e*P **P 21 37 00.5 -1.0**
comp=E,3.1nm,1.0s
KURBB Kurchatov Arra 28.59 338 P **P 21 37 36.0 +1.0**
comp=E,2.6nm,0.5s,baz=148,slow=9.4,SNR=22
KURBB PcP **PcP 21 40 43.0 -0.7**
comp=E,0.8nm,0.5s,baz=160,slow=2.0,SNR=6.1
KURK Kurchatov 28.63 338 *e*P **P 21 37 36.5 +1.0**
comp=E,4.0nm,0.6s
KURK PcP **PcP 21 40 43.0 -0.8**
ZALV Zalesovo Beam 29.93 348 P **P 21 37 47.5 +0.5**
comp=E,0.8nm,0.4s,baz=182,slow=10,SNR=5.2
ZALV Zalesovo Beam 29.93 348 *e*P **P 21 37 47.6 +0.6**
CN2 Changchun 31.20 45 *e*P **P 21 38 01.0 +2.8**
CN2 pmax pmax
comp=E,10.0nm,0.5s
BVAR Borovoye Array 33.58 333 P **P 21 38 19.7 +0.8**
comp=E,2.4nm,0.5s,baz=143,slow=13,SNR=19
BVAR PcP **PcP 21 40 56.4 -0.5**
comp=E,1.6nm,0.6s,baz=114,slow=3.7,SNR=8.8
ABKAR Akbulak array 36.46 321 *e*P **P 21 38 45.0 +1.3**
AKTO Aktyubinsk 38.12 322 P **P 21 38 58.9 +1.1**
comp=E,1.9nm,0.4s,baz=92,slow=9.5,SNR=9.9
ARU Arti 40.98 330 P **P 21 39 22.5 +1.2**
RAYN Ar Rayn 44.87 279 *e*P **P 21 39 54.3 +1.0**
comp=E,2.7nm,0.6s
AKH Akhalkalaki 45.39 304 *e*P **P 21 39 59.0 +1.7**
comp=E,9.5nm,0.7s
KBZ Khabaz 46.05 307 P **P 21 40 03.6 +1.4**
comp=E,0.7nm,0.4s,baz=268,slow=7.9,SNR=5.9
KVAR Kislovodsk Arr 46.22 308 P **P 21 40 05.7 +1.9**
comp=E,2.6nm,0.6s,baz=90,slow=20,SNR=7.4
KIV Kislovodsk 46.23 308 *e*P **P 21 40 05.4 +1.7**
comp=E,9.8nm,1.0s
FITZ Fitzroy Crossi 52.22 142 P **P 21 40 46.7 -2.8**
comp=E,1.6nm,0.9s,baz=355,slow=9.4,SNR=3.6
BR131 Keskin Array S 52.88 302 *e*P **P 21 40 55.3 +1.0**
BRTR Keskin Array B 52.88 302 P **P 21 40 55.2 +0.8**
comp=E,2.0nm,0.6s,baz=121,slow=7.6,SNR=17
AKASG Malin Array Be 55.85 316 P **P 21 41 14.9 -0.5**
comp=E,1.0nm,0.4s,baz=80,slow=6.8,SNR=8.4
AKASG pP **pP 21 41 42.0 +0.9**
comp=E,0.8nm,0.4s,baz=79,slow=6.3,SNR=1.9
CFR Carcaliu 56.65 309 ⇓*i*P **P 21 41 19.3 -2.0**
TLB Topalu 56.75 308 ⇑*i*P **P 21 41 19.1 -2.9**
HARR Harsova 56.82 308 ⇓*i*P **P 21 41 22.1 -0.4**
VRI Vrincioaia 57.60 310 ⇑*i*P **P 21 41 29.0 +1.0**
PLOR Plostina 57.66 310 ⇓*i*P **P 21 41 30.1 +1.7**
MLR Muntele Rosu 58.17 309 *e*P **P 21 41 33.3 +1.1**
comp=E,4.7nm,0.7s
MLR Muntele Rosu 58.17 309 ⇑*i*P **P 21 41 32.5 +0.3**
BUR04 Bucovina Ar. S 58.53 312 *e*P **P 21 41 34.5 -0.1**
ALN Alexandroupoli 58.55 304 *e*P **P 21 41 34.6 -0.1**
comp=E,7.1nm,1.5s
VOIR 58.80 309 ⇑*i*P **P 21 41 36.4 -0.1**
WRA Warramunga Ar 58.84 136 P **P 21 41 34.1 -2.8**
comp=E,2.5nm,0.7s,baz=323,slow=7.5,SNR=32
WRA pP **pP 21 42 01.4 -1.5**
comp=E,0.8nm,0.5s,baz=325,slow=7.5,SNR=3.2
ARR Arges 59.10 309 ⇑*i*P **P 21 41 38.9 +0.4**
ARCES ARCESS Array B 59.67 338 P **P 21 41 41.8 -0.2**
comp=E,3.2nm,0.9s,baz=86,slow=5.6,SNR=7.7
DRGR 60.30 311 ⇑*i*P **P 21 41 46.7 0.0**
VTS Vitosha 60.44 306 *e*P **P 21 41 48.1 +0.3**
comp=E,3.1nm,0.7s
VTS Vitosha 60.44 306 ⇑*i*P **P 21 41 48.5 +0.6**
MDVR Moldovita 61.22 309 ⇑*i*P **P 21 41 51.5 -1.5**
ASAR Alice Springs 61.35 139 P **P 21 41 51.5 -2.5**
comp=E,1.4nm,0.7s,baz=322,slow=7.0,SNR=18
ASAR pP **pP 21 42 18.1 -2.1**
comp=E,1.1nm,0.7s,baz=320,slow=6.8,SNR=4.7
KMBO Kilima Mbogo 61.48 254 P **P 21 41 56.0 +0.6**
comp=E,2.3nm,0.6s,baz=34,slow=7.8,SNR=7.7
KRLC Kraliky 63.82 315 *e*P **P 21 42 11.0 +0.8**
VRAC Vranov 64.06 315 ⇓*i*P **P 21 42 12.8 +1.1**
DPC Dobruska-Polom 64.08 316 *e*P **P 21 42 12.9 +1.1**
NC405 NORSAR Array S 65.23 328 *e*P **P 21 42 19.4 +0.3**
NB2 NORSAR Subarra 65.48 328 P **P 21 42 20.1 -0.7**
comp=E,2.7nm,0.5s,baz=82,slow=6.5
NOA NORSAR Array B 65.48 328 P **P 21 42 20.4 -0.4**
comp=E,3.7nm,0.6s,baz=83,slow=6.4,SNR=18
GERES GERESS Array B 66.01 314 P **P 21 42 24.9 +0.5**
comp=E,1.6nm,0.5s,baz=58,slow=6.8,SNR=12
GEA0 GERESS Array S 66.01 314 *e*P **P 21 42 24.8 +0.3**
KHC Kasperske Hory 66.04 315 *e*P **P 21 42 24.9 +0.4**
KEST Kesra 72.48 302 P **P 21 43 04.3 -0.3**
comp=E,6.3nm,0.9s,baz=228,slow=0.4,SNR=5.9
KEST Kesra 72.48 302 *e*P **P 21 43 04.8 +0.2**
comp=E,8.1nm,0.9s
LSZ Lusaka 76.32 246 *e*P **P 21 43 27.6 +0.5**
comp=Z,11nm,0.6s
ESDC Sonseca Array 80.87 309 P **P 21 43 52.0 +0.3**
comp=Z,0.4nm,0.5s,baz=46,slow=4.8,SNR=7.8
BOSA Boshof 85.54 236 P **P 21 44 16.0 +0.1**
comp=Z,1.5nm,0.5s,baz=26,slow=2.0,SNR=8.5
BOSA pP **pP 21 44 44.4 +0.9**
comp=Z,2.3nm,0.8s,baz=67,slow=13,SNR=2.4
TOA0 Torodi Ar. Sit 87.41 283 *e*P **P 21 44 24.8 -0.4**
TORD Torodi Ar. Bea 87.41 283 P **P 21 44 24.8 -0.4**
comp=Z,1.3nm,0.5s,baz=55,slow=4.3,SNR=28
BDFB Brasilia 144.11 278 PKP PKPbc 21 51 11.6 -0.1
comp=Z,4.9nm,0.8s,baz=138,slow=4.4,SNR=6.7
PLCA Paso Flores 160.12 214 PKPab **PKPab 21 52 13.3 -3.3**
comp=Z,1.8nm,0.7s,baz=162,slow=4.8,SNR=4.8

MDD ***02*** *22:07:59.1±2.4, 41.˙65N×15.˙87W, h0km, mb3.7/11, Error ellipse: s-maj=22.2km s-min=19.7km az=145.0, PRXIMO*
INMG ***02*** *22:08:00.9±2.0, 41.˙67N×16.˙35W, h10km, ML2.7, Error ellipse: s-maj=10.1km s-min=8.1km az=94.0*

ISC 02 22:08:03.5±3.8, 41˚56N±0.˙07×15˚4W±0.˙2, h10km, n41, σ1§21/65, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**4.98**	**72**	S			**Sn**	**22 10 14.7**	**-1.2**
	3.0nm,0.1s,SNR=7.9								
PGAV	**Gavieira, Arco**	**5.36**	**83**	*e*Pn			**Pn**	**22 09 24.6**	**+1.0**
PGAV				*e*Sn			**Sn**	**22 10 27.0**	**+1.5**
PGAV				A		A		22 10 32.1	
	5.2nm,0.1s								
PMAFR	**Mafra**	**5.36**	**117**	*e*Pn			**Pn**	**22 09 24.2**	**+0.6**
PMAFR				*e*Sn			**Sn**	**22 10 27.0**	**+1.6**
PMAFR				A		A		22 10 30.9	
	14nm,0.6s								
PMAFR	**Mafra**	**5.36**	**117**	P			**Pn**	**22 09 23.9**	**+0.3**
	2.4nm,0.1s,SNR=7.9								
PMAFR				S			**Sn**	**22 10 26.3**	**+0.9**
	5.3nm,0.1s,SNR=7.9								
PCAS	**Casmilo, Conde**	**5.46**	**104**	*e*Pn			**Pn**	**22 09 24.9**	**0.0**
PCAS				*e*Sn			**Sn**	**22 10 28.9**	**+1.1**
PCAS				A		A		22 10 32.8	
	3.2nm,0.1s								
ELOB	**Lobios**	**5.52**	**84**	P			**Pn**	**22 09 25.8**	**+0.1**
	0.5nm,0.3s,SNR=7.9								
ELOB				S			**Sn**	**22 10 30.5**	**+1.3**
	1.7nm,0.1s,SNR=7.7								
PCAB	**Cabril**	**5.54**	**86**	*e*Pn			**Pn**	**22 09 27.0**	**+1.0**
PCAB				*e*Sn			**Sn**	**22 10 31.2**	**+1.4**
PCAB				A		A		22 10 36.8	
	7.3nm,0.1s								
PCAB	**Cabril**	**5.54**	**86**	P			**Pn**	**22 09 27.0**	**+1.0**
PCAB				S			**Sn**	**22 10 31.2**	**+1.4**
	3.7nm,0.1s								
EAGO	**Agolada(Pontev**	**5.59**	**75**	P			**Pn**	**22 09 24.6**	**-2.0**
	0.2nm,0.1s,SNR=7.9								
EAGO				S			**Sn**	**22 10 29.9**	**-1.0**
	1.1nm,0.1s,SNR=7.9								
PTOM	**Tomar**	**5.67**	**108**	*e*Pn			**Pn**	**22 09 28.2**	**+0.4**
PTOM				A		A		22 10 36.4	
	7.8nm,0.3s								
PTOM	**Tomar**	**5.67**	**108**	P			**Pn**	**22 09 28.2**	**+0.4**
POLO	**Lamas de Olo**	**5.73**	**89**	*e*Pn			**Pn**	**22 09 29.6**	**+0.9**
POLO				*e*Sn			**Sn**	**22 10 35.4**	**+0.8**
POLO				A		A		22 10 41.1	
	1.7nm,0.5s								
PVIS	**Viseu**	**5.74**	**96**	*e*Pn			**Pn**	**22 09 29.6**	**+0.8**
PVIS				*e*Sn			**Sn**	**22 10 36.3**	**+1.5**
PVIS				A		A		22 10 40.1	
	8.2nm,0.2s								
PVIS	**Viseu**	**5.74**	**96**	P			**Pn**	**22 09 29.6**	**+0.8**
PVIS				S			**Sn**	**22 10 36.3**	**+1.5**
	4.1nm,0.2s								
MTE	**Manteigas**	**6.07**	**98**	*e*Sn			**Sn**	**22 10 44.1**	**+1.2**
MTE				A		A		22 10 46.4	
	3.4nm,0.7s								
MTE	**Manteigas**	**6.07**	**98**	S			**Sn**	**22 10 44.1**	**+1.2**
	1.7nm,0.7s								
PCBR	**Castelo Branco**	**6.27**	**103**	*e*Sn			**Sn**	**22 10 47.3**	**-0.5**
PCBR				A		A		22 10 53.6	
	2.5nm,0.6s								
PCBR	**Castelo Branco**	**6.27**	**103**	S			**Sn**	**22 10 47.3**	**-0.5**
	1.2nm,0.6s								
MVO	**Moncorvo**	**6.33**	**91**	*e*Sn			**Sn**	**22 10 50.0**	**+0.8**
MVO				A		A		22 10 55.2	
	3.4nm,0.6s								
MVO	**Moncorvo**	**6.33**	**91**	S			**Sn**	**22 10 49.1**	**0.0**
	1.5nm,0.1s,SNR=5.9								
EPON	**Pontenova**	**6.37**	**71**	S			**Sn**	**22 10 48.5**	**-1.6**
	3.2nm,0.1s,SNR=7.9								
EVO	**Evora**	**6.43**	**116**	*e*Pn			**Pn**	**22 09 40.4**	**+2.1**
EVO	**Evora**	**6.43**	**116**	P			**Pn**	**22 09 40.4**	**+2.1**
PMRV	**Marv??o**	**6.48**	**107**	*e*Pn			**Pn**	**22 09 39.1**	**+0.2**
PMRV				*e*Sn			**Sn**	**22 10 52.8**	**0.0**
PMRV				A		A		22 10 55.1	
	1.6nm,0.3s								
PMRV	**Marv??o**	**6.48**	**107**	P			**Pn**	**22 09 39.1**	**+0.2**
PMRV				S			**Sn**	**22 10 52.8**	**0.0**
	1.6nm,0.3s								
PBRG	**Braganca**	**6.50**	**85**	*e*Sn			**Sn**	**22 10 54.3**	**+0.8**
PBRG				A		A		22 10 58.6	
	2.1nm,0.7s								
PBRG	**Braganca**	**6.50**	**85**	S			**Sn**	**22 10 54.3**	**+0.8**
	1.1nm,0.7s								
ECAL	**Calabor**	**6.50**	**84**	P			**Pn**	**22 09 40.1**	**+0.8**
	0.2nm,0.1s,SNR=7.9								
ECAL				S			**Sn**	**22 10 52.6**	**-1.0**
	2.1nm,0.3s,SNR=7.9								
PESTR	**Estremoz**	**6.56**	**112**	*e*Sn			**Sn**	**22 10 55.2**	**+0.2**
MESJ	**Messejana**	**6.67**	**121**	*e*Pn			**Pn**	**22 09 41.7**	**+0.1**
MESJ				*e*Sn			**Sn**	**22 10 57.4**	**-0.3**
MESJ				A		A		22 10 59.7	
	1.8nm,0.4s								
MESJ	**Messejana**	**6.67**	**121**	P			**Pn**	**22 09 41.7**	**+0.1**
MESJ				S			**Sn**	**22 10 57.4**	**-0.3**
	1.8nm,0.4s								
EBAD	**Badajoz**	**7.02**	**111**	P			**Pn**	**22 09 45.6**	**-0.7**
	0.4nm,0.1s,SNR=7.9								
EBAD				S			**Sn**	**22 11 04.0**	**-2.1**
	2.5nm,0.2s,SNR=7.9								
EPLA	**Plasencia**	**7.24**	**99**	P			**Pn**	**22 09 50.0**	**+0.6**
	0.6nm,0.2s,SNR=7.9								
PVAQ	**Vaqueiros**	**7.26**	**122**	*e*Pn			**Pn**	**22 09 50.0**	**+0.5**
PVAQ				*e*Sn			**Sn**	**22 11 12.0**	**0.0**
PVAQ				A		A		22 11 14.6	
	2.4nm,0.3s								
PVAQ	**Vaqueiros**	**7.26**	**122**	P			**Pn**	**22 09 50.0**	**+0.5**
PVAQ				S			**Sn**	**22 11 12.0**	**0.0**
	2.4nm,0.3s								
EMIN	**Mina Concepcio**	**7.73**	**116**	P			**Pn**	**22 09 55.6**	**-0.5**
	0.2nm,0.1s,SNR=7.9								
EMIN				S			**Sn**	**22 11 22.7**	**-1.1**
	0.2nm,0.1s,SNR=7.9								
EARI	**Arriondas**	**7.75**	**74**	P			**Pn**	**22 09 57.5**	**+1.2**
	0.3nm,0.2s,SNR=4.0								
ECAB	**El Cabril**	**8.44**	**111**	P			**Pn**	**22 10 05.6**	**-0.3**
	0.2nm,0.2s,SNR=7.9								
ECAB				S			**Sn**	**22 11 38.6**	**-2.6**
	0.2nm,0.2s,SNR=7.9								
PAB	**San Pablo**	**8.66**	**100**	P			**Pn**	**22 10 08.8**	**-0.2**
	0.1nm,0.1s,SNR=7.9								
PAB				S			**Sn**	**22 11 44.6**	**-2.1**
	0.2nm,0.1s,SNR=7.9								
ESDC	**Sonseca Array**	**8.91**	**98**	P			**Pn**	**22 10 12.6**	**+0.2**
	0.1nm,0.1s,baz=291,slow=13,SNR=3.8								
ESDC				S			**Sn**	**22 11 49.8**	**-3.0**
	0.3nm,0.2s,baz=291,slow=23,SNR=4.0								
EADA	**Adamuz**	**9.00**	**109**	P			**Pn**	**22 10 13.1**	**-0.4**
	0.6nm,0.1s,SNR=7.9								
EADA				S			**Sn**	**22 11 51.3**	**-3.6**
	0.3nm,0.1s,SNR=7.9								

IDC ***02*** *22:13:22.9±2.1, 9.˚16N×126.˚19E, h50km±19km, mb4.0/22, mb1 4.2/25, mb1mx4.0/41, mbtmp4.3/25, ML4.5/3, MS3.2/8, Ms1 3.3/8, ms1mx3.0/45, Error ellipse: s-maj=22.7km s-min=10.2km az=78.0*
ISCJB ***02*** *22:13:23.1±0.8, 9.˚15N±0.˚04×126.˚36E±0.˚06, h72km±7km, mb4.1/44, Error ellipse: s-maj=10.1km s-min=5.5km az=161.8*
NEIC ***02*** *22:13:23.0±0.8, 9.˚18N×126.˚23E, h52km±8km, mb4.2/18, Error ellipse: s-maj=7.4km s-min=3.9km az=80.0*

ISC 02 22:13:24.8±1.0, 9.˚18N±0.˚04×126.˚32E±0.˚07, h68km±9km, n68, σ1§57/67, mb4.2/43, 4C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**1.76**	**246**	⇑*e*P			**Pn**	**22 13 50.4**	**-2.9**
CGP				*e*S			**Sn**	**22 14 13.2**	**-1.6**
DAV	**Davao City (W)**	**2.22**	**199**	P			**Pn**	**22 13 56.2**	**-3.2**
	34nm,0.3s,baz=225,slow=2.9,SNR=2.1								
DAV				S			**Sn**	**22 14 30.4**	**+4.5**
	178nm,0.3s,baz=336,slow=20,SNR=14								
DAV				LR		LR		22 14 46.4	
	comp=Z,437nm,21.5s,baz=332,slow=38								
DAV	**Davao City (W)**	**2.22**	**199**	*e*Pn			**Pn**	**22 13 56.7**	**-2.8**
DAV				S			**Sn**	**22 14 30.4**	**+4.5**
PLP	**Palo**	**2.38**	**326**	⇑*e*P			**Pn**	**22 14 01.2**	**-0.4**
PLP				*e*S			**Sn**	**22 14 31.7**	**+2.0**
LLP	**Lapu-Lapu**	**2.58**	**296**	⇓*e*P			**Pn**	**22 14 05.1**	**+0.7**
LLP				*e*S			**Sn**	**22 14 36.6**	**+1.8**
CTBH	**Cotabato--PC H**	**2.83**	**227**	⇑*i*P			**Pn**	**22 14 07.3**	**-0.4**
GSPH	**General Santos**	**3.36**	**204**	*e*P			**Pn**	**22 14 17.7**	**+2.6**
RCP	**Roxas**	**4.24**	**304**	⇑*e*P			**Pn**	**22 14 28.5**	**+1.5**
RCP				*e*S			**Sn**	**22 15 16.5**	**+1.1**
TGY	**Tagaytay City**	**7.20**	**313**	LR		LR		22 18 54.5	
	comp=Z,257nm,18.9s,baz=7.0,slow=47								
SIJI	**Sorong**	**11.13**	**153**	P			**Pn**	**22 16 00.9**	**-0.3**
	5.1nm,0.3s,baz=325,slow=19,SNR=8.7								
TATO	**Taipei**	**16.37**	**344**	Pn			**Pn**	**22 17 09.0**	**-1.4**
	2.1nm,0.4s								
GUMO	**Guam**	**18.70**	**75**	P			**P**	**22 17 38.0**	**+0.1**
	6.2nm,0.4s								
BATI	**Baumata**	**19.44**	**188**	P			**P**	**22 17 46.5**	**+0.5**
	3.6nm,0.3s,baz=261,slow=3.2,SNR=9.5								
SKNT	**Sakolnakorn**	**23.08**	**292**	P			**P**	**22 18 27.7**	**+2.7**
	4.4nm,1.3s								
CHAI	**Chaiyaphum**	**24.66**	**288**	P			**P**	**22 18 42.7**	**+3.2**
	3.3nm,0.8s								
PBKT	**Sadao Pong**	**25.77**	**289**	P			**P**	**22 18 52.7**	**+3.2**
	4.6nm,1.1s,2µm								
UTHA	**Uthaitani**	**26.99**	**286**	P			**P**	**22 19 04.4**	**+3.8**
	2.7nm,0.9s								
FITZ	**Fitzroy Crossi**	**27.11**	**181**	P			**P**	**22 19 01.1**	**-0.4**
	3.4nm,0.9s,baz=28,slow=18,SNR=8.2								
PSI	**Prapat**	**27.96**	**259**	LR		LR		22 31 52.7	
	comp=Z,45nm,18.8s,baz=90,slow=40								
CMAR	**Chiang Mai Arr**	**28.11**	**292**	P			**P**	**22 19 10.3**	**-0.3**
	2.1nm,0.3s,baz=113,slow=7.9,SNR=7.4								
CMAR				PcP			**PcP**	**22 22 23.7**	**+0.1**
	0.9nm,0.4s,baz=114,slow=1.4,SNR=4.8								
CMAR				ScP			**ScP**	**22 26 00.6**	**+1.8**
	0.3nm,0.3s,baz=121,slow=0.5,SNR=4.5								
CMAR				LR			LR	22 30 44.5	
	comp=Z,45nm,18.8s,baz=114,slow=37								
KSAR	**Wonju Array Be**	**28.18**	**3**	P			**P**	**22 19 10.5**	**-0.4**
KSRS	**Korea Array**	**28.18**	**3**	P			**P**	**22 19 10.5**	**-0.5**
	1.7nm,0.6s,baz=175,slow=9.6,SNR=5.8								
WRAB	**Tennant Creek**	**29.99**	**165**	*e*P			**P**	**22 19 26.4**	**-0.8**
	0.5nm,0.5s								
WRA	**Warramunga Arr**	**29.99**	**165**	P			**P**	**22 19 26.6**	**-0.6**
	1.7nm,0.6s,baz=346,slow=9.5,SNR=26								
MBWA	**Marble Bar**	**30.84**	**192**	P			**P**	**22 19 34.2**	**-0.3**
	1.7nm,0.4s								
BJT	**Baijiatuan**	**32.02**	**345**	P			**P**	**22 19 44.4**	**-0.5**
	0.8nm,0.3s								
ASAR	**Alice Springs**	**33.47**	**167**	P			**P**	**22 19 57.5**	**-0.3**
	0.9nm,0.3s,baz=346,slow=7.4,SNR=20								
CTAO	**Charters Tower**	**35.08**	**146**	P			**P**	**22 20 11.9**	**+0.2**
	2.6nm,0.1s								
USRK	**Ussuriysk Ar.**	**35.24**	**7**	P			**P**	**22 20 13.7**	**+1.0**
	4.7nm,0.8s,baz=198,slow=7.5,SNR=8.5								
MDJ	**Mudanjiang**	**35.42**	**4**	P			**P**	**22 20 14.4**	**+0.1**
	0.9nm,0.3s								
HNR	**Honiara**	**38.24**	**118**	LR		LR		22 35 52.6	
	comp=Z,37nm,18.4s,baz=246,slow=35								
LSA	**Lhasa**	**38.71**	**307**	P			**P**	**22 20 42.4**	**-0.6**
	0.5nm,0.3s								
H11S3	**WAKE ISLAND Hy**	**40.19**	**72**	T		T		23 03 59.1	
	baz=262,slow=75,SNR=160								
H11S1	**WAKE ISLAND Hy**	**40.20**	**72**	T		T		23 03 50.4	
	baz=262,slow=75,SNR=72								
H11S2	**WAKE ISLAND Hy**	**40.21**	**72**	T		T		23 03 55.8	
	baz=262,slow=75,SNR=101								
ULN	**Ulaanbaatar**	**41.86**	**341**	*e*P			**P**	**22 21 07.8**	**-0.7**
	0.6nm,0.6s								
SONM	**Songino Array**	**42.06**	**340**	P			**P**	**22 21 08.8**	**-1.1**
	0.2nm,0.6s,baz=69,slow=41,SNR=2.9								
NWAO	**Narrogin (SRO)**	**42.76**	**191**	P			**P**	**22 21 15.8**	**+0.2**
	7.7nm,0.8s								
STKA	**Stephens Creek**	**43.36**	**161**	P			**P**	**22 21 19.9**	**-0.7**
	2.3nm,0.4s,baz=337,slow=8.7,SNR=11								
PALK	**Pallekele**	**45.17**	**271**	LR		LR		22 40 19.7	
	comp=Z,17nm,20.0s,baz=115,slow=36								
PALK	**Pallekele**	**45.17**	**271**	P			**P**	**22 21 34.3**	**-1.1**
	3.3nm,0.9s								
DZM	**Mont Dzumac**	**50.12**	**129**	LR		LR		22 42 24.0	
	comp=Z,36nm,18.5s,baz=211,slow=35								
PETK	**Petropavlovsk-**	**50.61**	**24**	P			**P**	**22 22 18.5**	**+1.7**
	1.7nm,0.5s,baz=203,slow=4.6,SNR=8.2								
MKAR	**Makanchi Array**	**52.93**	**323**	P			**P**	**22 22 33.9**	**-0.3**
	4.0nm,0.6s,baz=127,slow=8.0,SNR=30								
MKAR				PcP			**PcP**	**22 23 42.5**	**+0.1**
	0.8nm,0.5s,baz=108,slow=4.9,SNR=5.3								
ZALV	**Zalesovo Beam**	**55.60**	**332**	P			**P**	**22 22 52.0**	**-1.4**
	0.8nm,0.3s,baz=107,slow=5.1,SNR=4.6								
AAK	**Ala-Archa**	**56.14**	**316**	P			**P**	**22 22 57.8**	**+0.1**
	0.2nm,0.3s								
KURK	**Kurchatov**	**56.99**	**326**	P			**P**	**22 23 02.9**	**-0.6**
	1.8nm,0.8s								
KURBB	**Kurchatov Arra**	**57.00**	**326**	P			**P**	**22 23 02.9**	**-0.6**
	2.8nm,0.5s,baz=124,slow=6.8,SNR=38								
TIXI	**Tiksi**	**62.44**	**1**	*e*P			**P**	**22 23 40.6**	**+0.2**
	3.9nm,0.6s								
BVAR	**Borovoye Array**	**62.59**	**326**	P			**P**	**22 23 41.5**	**-0.3**
	1.8nm,0.7s,baz=122,slow=7.5,SNR=12								
BRVK	**Borovoye**	**62.66**	**326**	*e*P			**P**	**22 23 41.3**	**-1.0**
	6.9nm,0.9s								
NRIK	**Noril'sk**	**65.08**	**346**	P			**P**	**22 23 57.7**	**-0.1**
	4.9nm,1.0s,baz=127,slow=7.9,SNR=6.7								
AFI	**Afiamalu**	**65.56**	**110**	LR		LR		22 49 23.8	
	comp=Z,30nm,19.0s,baz=2.0,slow=33								
ARU	**Arti**	**70.16**	**327**	*e*P			**P**	**22 24 29.2**	**-0.9**
	2.3nm,0.5s								
CASY	**Casey**	**76.14**	**187**	*e*P			**P**	**22 25 05.4**	**+0.3**

az=113.5
NEIC **02** *22:34:21.5±0.4,37.°68N×141.°54E,h46km×3km,mb4.8/105, Error ellipse: s-maj=3.5km s-min=2.5km az=132.0*
NEIC Felt at Sendai. Recorded [4 JMA] in Fukushima.
ISC 02 22:34:18.0±0.5,37.°63N±0.°03×141.°72E±0.°03,h28km±2km, h28km:pP-P,n589,σ1s57/604,mb4.9/199,MS4.3/47, 63C-30D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
JIKH	**Ishinomakikobu**	**0.70**	**344**	P	**Pb**	**22 34 30.6**	**-1.2**
JIKH				S	**Sb**	**22 34 40.0**	**-1.1**
JFK	**Kawauchi**	**0.72**	**249**	⇓P	**Pb**	**22 34 30.7**	**-1.4**
JFK				S	**Sb**	**22 34 40.3**	**-1.4**
JMM	**Marumori**	**0.77**	**288**	⇓P	**Pn**	**22 34 31.7**	**-1.3**
JMM				S	**Sb**	**22 34 41.7**	**-1.3**
JIO	**Ouri**	**0.87**	**340**	⇑P	**Pn**	**22 34 33.2**	**-1.2**
JIO				S	**Sb**	**22 34 44.2**	**-1.6**
ONAJ	**Iwakimizuishiy**	**0.91**	**234**	⇓P	**Pn**	**22 34 33.2**	**-1.8**
ONAJ				S	**Sb**	**22 34 44.4**	**-2.5**
JFT	**Otama**	**1.10**	**264**	⇓P	**Pn**	**22 34 36.7**	**-1.0**
JFT				S	**Sb**	**22 34 51.6**	**-0.9**
JOU	**Okura**	**1.11**	**312**	⇑P	**Pb**	**22 34 37.5**	**-1.1**
JOU				S	**Sb**	**22 34 51.9**	**-0.8**
JKMT	**Kesennumamotoy**	**1.19**	**351**	P	**Pn**	**22 34 37.8**	**-1.0**
JKMT				S	**Sn**	**22 34 52.5**	**-1.6**
JHO	**Hitachi**	**1.37**	**222**	⇓P	**Pn**	**22 34 39.6**	**-1.8**
JMK	**Ichinoseki**	**1.37**	**344**	⇑P	**Pn**	**22 34 40.9**	**-0.4**
JMK				S	**Sn**	**22 34 57.8**	**-0.8**
JYS	**Shirataka**	**1.43**	**295**	⇑P	**Pb**	**22 34 42.3**	**-1.8**
JYS				S	**Sb**	**22 35 01.6**	**-0.4**
OFUJ	**Ofunato**	**1.45**	**358**	⇑P	**Pn**	**22 34 41.2**	**-1.1**
JSB	**Shiboa**	**1.58**	**246**	⇓P	**Pb**	**22 34 44.5**	**-2.1**
JFY	**Yanaizu**	**1.62**	**263**	⇓P	**Pb**	**22 34 45.1**	**-2.1**
JFY				S	**Sb**	**22 35 05.8**	**-1.5**
JYK	**Kaneyama**	**1.67**	**321**	⇑P	**Pn**	**22 34 45.4**	**0.0**
JYA	**Atsumi**	**1.85**	**302**	⇑P	**Pn**	**22 34 48.2**	**+0.3**
JOM	**Ohasama**	**1.87**	**350**	⇑P	**Pn**	**22 34 48.0**	**-0.1**
JNS	**Sasagawa**	**1.91**	**276**	⇑P	**Pn**	**22 34 49.4**	**+0.6**
MIYJ	**Miyakonagasawa**	**1.94**	**2**	⇑P	**Pn**	**22 34 47.9**	**-1.3**
JRG	**Rokugo**	**1.96**	**335**	⇑P	**Pn**	**22 34 49.8**	**+0.4**
JAW	**Awa shima**	**2.12**	**294**	P	**Pn**	**22 34 52.7**	**+1.1**
JAG	**Ashikaga**	**2.18**	**237**	⇓P	**Pn**	**22 34 52.2**	**-0.2**
JHK	**Hiroka**	**2.19**	**261**	⇓P	**Pn**	**22 34 53.2**	**+0.7**
JGK	**Kuni**	**2.69**	**247**	⇓P	**Pn**	**22 35 00.9**	**+1.5**
JAH	**Hinai**	**2.69**	**342**	⇑P	**Pn**	**22 35 00.3**	**+0.9**
JRY	**Ryogami san**	**2.78**	**235**	⇓P	**Pn**	**22 35 00.4**	**-0.3**
JJN	**Nakama**	**2.88**	**260**	P	**Pn**	**22 35 03.5**	**+1.4**
MJAR	**Matsushiro Arr**	**3.01**	**250**	Pn	**Pn**	**22 35 04.5**	**+0.6**
	154nm,0.3s,baz=81,slow=16,SNR=588						
MJAR				Sn	**Sn**	**22 35 42.0**	**+2.9**
	76nm,0.3s,baz=42,slow=32,SNR=5.2						
MJAR				LR	LR	22 36 22.5	
	comp=Z,3μm,18.2s,baz=90,slow=44						
MAJO	**Matsushiro**	**3.01**	**250**	*e*Pn	**Pn**	**22 35 05.3**	**+1.4**
MAJO	**Matsushiro**	**3.01**	**250**	*i* P	**Pn**	**22 35 05.1**	**+1.2**
MAT	**Matsushiro**	**3.01**	**250**	P	**Pn**	**22 35 05.0**	**+1.1**
MAT				S	**Sb**	**22 35 42.7**	**-4.6**
MAT	**Matsushiro**	**3.01**	**250**	P	**Pn**	**22 35 05.4**	**+1.5**
MJB9	**Matsu-Tunnel**	**3.01**	**250**	*e*Pn	**Pn**	**22 35 05.3**	**+1.4**
BSO1	**Boso 1**	**3.03**	**192**	P	**Pn**	**22 35 04.8**	**+1.1**
JNG	**Nsakai**	**3.15**	**248**	⇓P	**Pn**	**22 35 07.2**	**+1.4**
JNT	**Takato**	**3.37**	**240**	P	**Pn**	**22 35 10.5**	**+1.6**
JGN	**Niukaw**	**3.80**	**250**	P	**Pn**	**22 35 17.8**	**+3.0**
JNY	**Yasuok**	**3.85**	**235**	P	**Pn**	**22 35 17.5**	**+2.0**
JGF	**Kuroka**	**4.05**	**241**	P	**Pn**	**22 35 20.5**	**+2.3**
JYZW	**Yoshizawa**	**4.16**	**232**	P	**Pn**	**22 35 21.6**	**+2.0**
HMMJ	**Hamamatsu 2**	**4.26**	**231**	P	**Pn**	**22 35 22.6**	**+1.6**
JAO	**Obara**	**4.30**	**238**	P	**Pn**	**22 35 23.9**	**+2.2**
INU	**Inuyama**	**4.42**	**240**	*e*Pn	**Pn**	**22 35 25.2**	**+1.9**
ERM	**Erimo**	**4.51**	**14**	*e*Pn	**Pn**	**22 35 27.0**	**+2.6**
ERM	**Erimo**	**4.51**	**14**	*i* P	**Pn**	**22 35 24.4**	**-0.1**
JAA	**Atsumi**	**4.76**	**232**	P	**Pn**	**22 35 30.6**	**+2.7**
JHJ2	**Mitsune**	**4.77**	**200**	*e*Pn	**Pn**	**22 35 28.7**	**+0.7**
JHJ	**Hachijo jima 2**	**4.77**	**200**	Pn	**Pn**	**22 35 28.4**	**+0.3**
	312nm,0.3s,baz=123,slow=1.5,SNR=42						
JHJ				Sn	**Sn**	**22 36 21.2**	**-1.3**
	215nm,0.3s,baz=81,slow=23,SNR=6.7						
JHJ				LR	LR	22 37 35.0	
	comp=Z,639nm,18.7s,baz=100,slow=42						
JFM	**Mihama**	**5.07**	**247**	P	**Pn**	**22 35 35.6**	**+3.4**
TSUJ	**Tsu 2**	**5.19**	**237**	P	**Pn**	**22 35 35.7**	**+2.0**
JIE	**Ise**	**5.19**	**233**	P	**Pn**	**22 35 35.4**	**+1.5**
JKN2	**Miekihoku**	**5.57**	**234**	P	**Pn**	**22 35 39.9**	**+0.9**
ASAJ	**Asahikawa**	**6.51**	**6**	Pn	**Pn**	**22 35 52.1**	**+0.2**
	7.5nm,0.3s,baz=221,slow=10,SNR=19						
ASAJ				Sn	**Sn**	**22 37 06.7**	**+1.4**
	10nm,0.3s,baz=336,slow=27,SNR=5.8						
ASAJ				LR	LR	22 39 04.9	
	comp=Z,934nm,20.4s,baz=203,slow=45						
ASAJ	**Asahikawa**	**6.51**	**6**	*e*Pn	**Pn**	**22 35 53.1**	**+1.2**
ASAJ				Sn	**Sn**	**22 37 06.7**	**+1.4**
YUK	**Yuzh-Kuril'sk**	**7.12**	**25**	*e*P	**Pn**	**22 35 58.9**	**-1.4**
YUK				*e*S	**Sn**	**22 37 15.4**	**-4.9**
YUK				pmax	pmax		
	comp=Z,276nm,0.5s						
YUK				pmax	pmax		
	comp=E,15nm,0.4s						
YUK				pmax	pmax		
	comp=N,118nm,0.2s						
YUK				MLR	MLR		
	comp=Z,668nm,14.0s						
SHO	**Shikotan**	**7.34**	**30**	*e*P	**Pn**	**22 36 00.2**	**-3.0**
SHO				*i* S	**Sn**	**22 37 17.7**	**-7.8**
SHO				pmax	pmax		
	comp=Z,69nm,0.4s						
SHO				pmax	pmax		
	comp=E,26nm,0.2s						
SHO				pmax	pmax		
	comp=N,25nm,0.5s						
TEY	**Ternei**	**8.34**	**334**	⇑*e*P	Pn	22 36 20.8	+3.9
TEY				*e*S	**Sn**	**22 37 51.8**	**+1.7**
TEY				pmax	pmax		
	comp=Z,100nm,0.8s						
TEY				pmax	pmax		
	comp=N,110nm,0.7s						
TEY				pmax	pmax		
	comp=E,70nm,0.7s						
KUR	**Kuril'sk**	**8.88**	**29**	*e*P	**Pn**	**22 36 23.9**	**-0.5**
KUR				*e*S	**Sn**	**22 37 55.8**	**-7.7**
KUR				pmax	pmax		
	comp=Z,106nm,0.6s						
KUR				smax	smax		
	comp=E,253nm,0.5s						
KUR				smax	smax		
	comp=N,236nm,0.6s						
VLA	**Vladivostok**	**9.29**	**309**	*c i* P	**Pn**	**22 36 29.6**	**-0.4**
YSS	**Yuzh-Sakhalins**	**9.35**	**4**	*e*Pn	**Pn**	**22 36 32.7**	**+1.9**
YSS	**Yuzh-Sakhalins**	**9.35**	**4**	*e*P	**Pn**	**22 36 32.1**	**+1.3**
YSS				pmax	pmax		
	comp=Z,50nm,1.0s						
YSS				MLR	MLR		
	comp=Z,1μm,12.0s						
USA0B	**Ussuriysk Arra**	**9.86**	**315**	*e*Pn	**Pn**	**22 36 39.1**	**+1.3**
USRK	**Ussuriysk Ar.**	**9.86**	**315**	Pn	**Pn**	**22 36 38.1**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=122,slow=14,SNR=23						
USRK				Sn	**Sn**	**22 38 28.6**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=124,slow=23,SNR=5.2						
USRK				LR	LR	22 40 14.3	
	comp=Z,1μm,19.4s,baz=122,slow=37						
JNU	**Nakatsue**	**9.93**	**246**	Pn	**Pn**	**22 36 40.9**	**+2.0**
	comp=Z,0.8nm,0.3s,baz=47,slow=14,SNR=3.9						
JNU				LR	LR	22 41 00.7	
	comp=Z,812nm,18.1s,baz=70,slow=41						
JNU	**Nakatsue**	**9.93**	**246**	*e*Pn	**Pn**	**22 36 41.2**	**+2.3**
CBIJ	**Chichi jima**	**10.52**	**178**	*e*Pn	**Pn**	**22 36 45.2**	**-1.6**
CBIJ				Sn	**Sn**	**22 38 35.9**	**-7.9**
JCJ	**Chichijima**	**10.52**	**178**	Pn	**Pn**	**22 36 44.8**	**-2.1**
JCJ				Sn	**Sn**	**22 38 35.9**	**-7.9**
KSRS	**Korea Array**	**10.96**	**273**	Pn	**Pn**	**22 36 55.0**	**+2.1**
	comp=Z,0.6nm,0.3s,baz=86,slow=14,SNR=18						
KSRS				LR	LR	22 40 49.1	
	comp=Z,1μm,19.0s,baz=75,slow=36						
KS01	**Wonju Array Si**	**10.98**	**273**	*e*Pn	Pn	22 36 57.0	+3.8
KS15	**Wonju Array Si**	**10.99**	**273**	*e*Pn	**Pn**	**22 36 56.2**	**+2.9**
KSAR	**Wonju Array Be**	**10.99**	**273**	Pn	**Pn**	**22 36 55.0**	**+1.7**
KSAR	**Wonju Array Be**	**10.99**	**273**	P	**Pn**	**22 36 55.0**	**+1.7**
MDJ	**Mudanjiang**	**11.49**	**311**	P	Pn	22 37 04.8	+4.6
MDJ				pmax	pmax		
	comp=Z,94nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,400nm,3.6s						
MDJ				LR	LR		
	comp=Z,1μm,17.5s						
MDJ				LR	LR		
	comp=Z,1μm,17.5s						
MDJ				LR	LR		
	comp=Z,2μm,16.9s						
MDJ	**Mudanjiang**	**11.49**	**311**	*e*Pn	**Pn**	**22 37 02.4**	**+2.2**
	comp=Z,92nm,1.0s						
TJN	**Taejon**	**11.55**	**268**	*i* P	**Pn**	**22 36 59.3**	**-1.7**
KLR	**Kul'dur**	**13.65**	**331**	Pn	**Pn**	**22 37 30.6**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=131,slow=13,SNR=14						
KLR				LR	LR	22 42 46.4	
	comp=Z,668nm,18.7s,baz=135,slow=38						
KLR	**Kul'dur**	**13.65**	**331**	*i* P	**Pn**	**22 37 28.7**	**-1.0**
GRNR	**Gornyy**	**13.66**	**346**	*e*P	**Pn**	**22 37 25.8**	**-4.0**
SNY	**Shenyang**	**14.57**	**292**	⇑P	**Pn**	**22 37 42.6**	**+0.4**
SNY				S	S	22 40 31.4	-10
SNY				pmax	pmax		
	comp=Z,15nm,1.0s						
SNY				pmax	pmax		
	comp=Z,210nm,5.3s						
SNY				LR	LR		
	comp=Z,3μm,16.0s						
SNY				LR	LR		
	comp=Z,710nm,16.2s						
SNY				LR	LR		
	comp=Z,2μm,17.1s						
JOW	**Kunigami**	**15.65**	**230**	*e*Pn	**P**	**22 37 58.4**	**-2.0**
	comp=Z,51nm,1.1s						
DL2	**Dalian**	**15.83**	**281**	P	**P**	**22 38 03.2**	**+0.8**
DL2				S	**S**	**22 40 59.6**	**-7.8**
DL2				pmax	pmax		
	comp=Z,60nm,1.0s						
DL2				pmax	pmax		
	comp=Z,310nm,4.1s						
DL2				LR	LR		
	comp=Z,890nm,14.9s						
DL2				LR	LR		
	comp=Z,660nm,15.8s						
DL2				LR	LR		
	comp=Z,710nm,21.1s						
OKH	**Okha**	**15.94**	**3**	⇓*e*P	**P**	**22 38 05.8**	**+2.3**
OKH				*e*S	**Sn**	**22 40 54.4**	**-1.5**
OKH				smax	smax		
	comp=Z,600nm,16.9s						
ZEA	**Zeya**	**18.95**	**333**	*e*P	**Pn**	**22 38 36.4**	**-1.2**
ZEA				pmax	pmax		
	comp=N,77nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,93nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,700nm,14.0s						
ZEA				MLR	MLR		
	comp=N,600nm,15.0s						
ZEA				MLR	MLR		
	comp=E,600nm,15.0s						
PETK	**Petropavlovsk-**	**19.05**	**31**	P	**Pn**	**22 38 38.1**	**-0.6**
	comp=E,0.2nm,0.3s,baz=212,slow=11,SNR=4.6						
PETK				LR	LR	22 45 25.5	
	comp=E,251nm,21.9s,baz=217,slow=35						
PETK				PKKP	**PKKPdf**	**23 05 55.9**	**-3.3**
	comp=E,0.1nm,0.3s,baz=253,slow=9.1,SNR=4.2						
PETK	**Petropavlovsk-**	**19.05**	**31**	*e*P	**Pn**	**22 38 39.9**	**+1.1**
PETK				PKKP	**PKKPdf**	**23 05 55.9**	**-3.3**
PETK	**Petropavlovsk-**	**19.05**	**31**	*e*P	**Pn**	**22 38 39.9**	**+1.1**
PET	**Petropavlovsk**	**19.38**	**32**	*i* P	**Pn**	**22 38 43.3**	**+0.6**
PET				pmax	pmax		
	comp=Z,28nm,1.3s						
NJ2	**Nanjing**	**19.56**	**260**	*e*P	**Pn**	**22 38 45.4**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
NJ2				LR	LR		
	comp=Z,640nm,13.3s						
NJ2				LR	LR		
	comp=Z,710nm,14.6s						
NJ2				LR	LR		
	comp=Z,680nm,14.1s						
TIA	**Tai'an**	**19.71**	**273**	P	**P**	**22 38 44.6**	**-0.6**
TIA				S	**Sn**	**22 42 28.9**	**+1.6**
TIA				pmax	pmax		
	comp=Z,15nm,1.3s						
TIA				LR	LR		
	comp=Z,490nm,12.8s						
TIA				LR	LR		
	comp=Z,700nm,13.1s						
TIA				LR	LR		
	comp=Z,940nm,13.7s						
BJI	**Beijing**	**20.02**	**285**	⇑*i* P	**P**	**22 38 47.6**	**-1.0**
BJI				pmax	pmax		
	comp=Z,26nm,1.4s						
BJT	**Baijiatuau**	**20.03**	**285**	*e*P	**P**	**22 38 47.5**	**-1.1**
	comp=Z,17nm,0.6s						
BJT	**Baijiatuau**	**20.03**	**285**	*e*P	**P**	**22 38 47.6**	**-1.1**
BJT				pmax	pmax		
	comp=Z,17nm,0.6s						
SARN	**Sarigan**	**21.16**	**169**	*e*P	**P**	**22 39 02.7**	**+1.6**
	comp=Z,110nm,1.2s						
YHNB	**Yeheng**	**21.62**	**239**	*e*P	**P**	**22 39 07.1**	**+1.0**
	comp=Z,220nm,2.0s						
NACB	**Ninganchiao**	**21.81**	**238**	*e*P	**P**	**22 39 09.2**	**+1.3**
	comp=Z,29nm,1.0s						
SSLB	**Suanglung**	**22.50**	**238**	*e*P	**P**	**22 39 15.6**	**+0.2**
	comp=Z,30nm,1.2s						
YULB	**Yu-li**	**22.54**	**237**	*e*P	**P**	**22 39 16.4**	**+0.5**
	comp=Z,37nm,1.4s						
MA2	**Magadan**	**22.72**	**12**	P	**P**	**22 39 16.8**	**-0.6**
	comp=Z,31nm,0.7s,baz=196,slow=9.1,SNR=13						
MA2				LR	LR	22 49 08.7	
	comp=Z,240nm,18.2s,baz=200,slow=39						
MA2	**Magadan**	**22.72**	**12**	*e*P	**P**	**22 39 19.0**	**+1.6**
	comp=Z,37nm,0.9s						
MA2	**Magadan**	**22.72**	**12**	*ce*P	**P**	**22 39 17.0**	**-0.4**
MA2				pmax	pmax		
	comp=Z,27nm,0.7s						
TPUB	**Ta-pu**	**23.05**	**238**	*e*P	**P**	**22 39 21.5**	**+0.4**
	comp=Z,88nm,1.5s						
TWG	**Pinlang**	**23.08**	**236**	*e*P	**P**	**22 39 22.2**	**+0.7**
	comp=Z,675nm,1.8s						
TIY	**Taiyuan**	**23.14**	**279**	*e*P	**P**	**22 39 21.9**	**-0.2**
TIY				pmax	pmax		
	comp=Z,120nm,3.7s						
TIY				LR	LR		
	comp=Z,380nm,15.0s						
TIY				LR	LR		
	comp=Z,510nm,12.4s						
TIY				LR	LR		
	comp=Z,780nm,14.7s						
HHC	**Hu-ho-hao-te**	**23.52**	**287**	*e*P	**P**	**22 39 22.4**	**-3.5**
HHC				S	**S**	**22 43 29.0**	**-9.0**
HHC				pmax	pmax		
	comp=Z,22nm,1.3s						
HHC				pmax	pmax		
	comp=Z,170nm,4.1s						
HHC				LR	LR		
	comp=Z,230nm,7.3s						
HHC				LR	LR		
	comp=Z,590nm,12.6s						
HHC				LR	LR		
	comp=Z,420nm,10.1s						
WHN	**Wuhan**	**23.69**	**261**	P	**P**	**22 39 26.6**	**-0.8**
WHN				pmax	pmax		
	comp=Z,30nm,0.7s						
WHN				LR	LR		
	comp=Z,1μm,11.9s						
WHN				LR	LR		
	comp=Z,940nm,12.4s						
WHN				LR	LR		
	comp=Z,2μm,15.4s						
GUMO	**Guam**	**24.11**	**172**	LR	LR	22 47 46.1	
	comp=Z,144nm,21.9s,baz=316,slow=34						
CIT	**Chita**	**24.42**	**315**	*e*P	**P**	**22 39 33.6**	**-0.5**
CIT				*e*		22 39 40.4	
CIT				*e*		22 39 54.9	
CIT				*e*		22 40 12.9	
CIT				pmax	pmax		
	comp=Z,183nm,1.5s						
BTO	**Baotou**	**24.70**	**287**	*e*P	**P**	**22 39 34.1**	**-2.7**
YAK	**Yakutsk**	**25.54**	**347**	P	**P**	**22 39 44.1**	**0.0**
	comp=Z,93nm,0.7s,baz=36,slow=1.5,SNR=23						
YAK				LR		22 50 12.3	
	comp=Z,625nm,18.6s,baz=260,slow=38						
YAK	**Yakutsk**	**25.54**	**347**	*e*P	**P**	**22 39 44.2**	**+0.1**
	comp=Z,104nm,0.8s						
YAK	**Yakutsk**	**25.54**	**347**	*e*P	**P**	**22 39 43.1**	**-0.9**
YAK				*e**PP	**sP**	**22 39 53.1**	**-2.5**
YAK				*e*		22 40 21.6	
YAK				*e*S	**S**	**22 44 07.3**	**-2.4**
YAK				*e**SS	**sS**	**22 44 23.5**	**+0.4**
YAK				*e*		22 50 41.7	
YAK				pmax	pmax		
	comp=Z,86nm,0.9s						
YAK				pmax	pmax		
	comp=N,53nm,1.3s						
YAK				pmax	pmax		
	comp=E,23nm,1.2s						
YAK				pmax	pmax		
	comp=Z,192nm,3.5s						
YAK				pmax	pmax		
	comp=N,107nm,3.3s						
YAK				pmax	pmax		
	comp=E,86nm,2.7s						
YAK				smax	smax		
	comp=N,158nm,2.6s						
YAK				smax	smax		
	comp=E,137nm,2.6s						
YAK				MLR	MLR		
	comp=Z,952nm,14.0s						
YAK				MLR	MLR		
	comp=E,245nm,14.0s						
YAK				MLR	MLR		
	comp=N,1μm,14.0s						
SEY	**Seymchan**	**26.16**	**11**	P	**P**	**22 39 49.5**	**-0.1**
	comp=N,30nm,1.1s,baz=199,slow=7.0,SNR=28						
SEY	**Seymchan**	**26.16**	**11**	*ce*P	**P**	**22 39 50.4**	**+0.8**
XAN	**Xi'an**	**26.75**	**272**	P	**P**	**22 39 54.4**	**-1.0**
XAN				pP	pP	22 40 02.4	-1.1
XAN				PP	**PnPn**	**22 40 45.5**	**+8.4**
XAN				pmax	pmax		
	comp=N,10.0nm,0.8s						
XAN				pmax	pmax		
	comp=N,57nm,4.7s						
XAN				LR	LR		
	comp=N,380nm,13.7s						
XAN				LR	LR		
	comp=N,380nm,15.1s						
XAN				LR	LR		
	comp=N,350nm,17.3s						
BOD	**Bodaibo**	**27.16**	**327**	⇓*i* P	**P**	**22 39 58.0**	**-0.7**
BOD				pmax	pmax		
	comp=Z,73nm,0.9s						
ULN	**Ulaanbaatar**	**27.23**	**303**	*e*P	**P**	**22 39 58.7**	**-0.9**
	comp=Z,14nm,0.6s						
ULN	**Ulaanbaatar**	**27.23**	**303**	P	**P**	**22 39 58.8**	**-0.9**
	SNR=5.9						
ULN	**Ulaanbaatar**	**27.23**	**303**	*ce*P	**P**	**22 39 58.5**	**-1.1**
ULN				pmax	pmax		
	comp=Z,13nm,0.6s						
ENH	**Enshi**	**27.63**	**264**	*e*P	**P**	**22 40 02.7**	**-0.6**
	comp=Z,56nm,0.8s						
SONA1	**Songino Array**	**27.66**	**303**	*e*P	**P**	**22 40 02.3**	**-1.2**
SONM	**Songino Array**	**27.66**	**303**	P	**P**	**22 40 02.8**	**-0.7**
	comp=Z,20nm,0.7s,baz=104,slow=7.6,SNR=89						
SONM				LR	LR	22 51 18.5	
	comp=Z,371nm,18.7s,baz=90,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.25**	**122**	T	T	23 09 36.5	
	baz=315,slow=75,SNR=1631						
H11N1	**WAKE ISLAND Hy**	**28.26**	**122**	T	T	23 09 37.0	
	baz=315,slow=75,SNR=2245						
H11N3	**WAKE ISLAND Hy**	**28.27**	**122**	T	T	23 09 37.8	
	baz=315,slow=75,SNR=1646						
H11S1	**WAKE ISLAND Hy**	**28.99**	**124**	T	T	23 10 31.2	
	baz=316,slow=76,SNR=2669						
H11S3	**WAKE ISLAND Hy**	**28.99**	**124**	T	T	23 10 36.6	
	baz=316,slow=76,SNR=2765						
H11S2	**WAKE ISLAND Hy**	**29.00**	**124**	T	T	23 10 28.7	
	baz=316,slow=76,SNR=2496						
ZAK	**Zakamensk**	**30.09**	**307**	*e*P	**P**	**22 40 25.0**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,12nm,1.3s						
TLY	**Talaya**	**30.13**	**310**	P	**P**	**22 40 24.4**	**-0.8**
	comp=Z,7.5nm,0.7s,baz=124,slow=16,SNR=5.7						
TLY	**Talaya**	**30.13**	**310**	*e*P	**P**	**22 40 25.9**	**+0.6**
	comp=Z,12nm,0.8s						
TLY	**Talaya**	**30.13**	**310**	*e*P	**P**	**22 40 26.0**	**+0.8**
TLY				*e*		22 41 34.1	
TLY				*e*SS	SS	22 47 14.4	-16
TLY				pmax	pmax		
	comp=Z,21nm,1.3s						
TLY				MLR	MLR		
	comp=Z,698nm,16.0s						
LZH	**Lanzhou**	**30.21**	**279**	⇑P	**P**	**22 40 25.9**	**-0.4**
LZH				pP	sP	22 40 37.4	-0.5
LZH				sP	pP	22 40 41.8	+7.3
LZH				*e*PP	**PnPn**	**22 41 24.6**	**+0.3**
LZH				pmax	pmax		
	comp=Z,27nm,1.2s						
LZH				pmax	pmax		
	comp=Z,98nm,4.3s						
LZH				LR	LR		
	comp=Z,860nm,15.7s						
LZH				LR	LR		
	comp=Z,1μm,15.2s						
LZH				LR	LR		
	comp=Z,970nm,15.7s						
GYA	**Guiyang**	**31.57**	**260**	⇑*i* P	**P**	**22 40 37.3**	**-1.0**
GYA				pP	sP	22 40 49.6	-0.3
GYA				PP	**PnPn**	**22 41 44.0**	**+2.0**
GYA				S	**S**	**22 45 44.2**	**-1.2**
GYA				sS	sS	22 46 00.4	+1.5
GYA				pmax	pmax		
	comp=Z,80nm,0.9s						
GYA				pmax	pmax		
	comp=Z,130nm,5.2s						
GYA				LR	LR		
	comp=Z,540nm,21.0s						
GYA				LR	LR		
	comp=Z,530nm,19.8s						
GYA				LR	LR		
	comp=Z,510nm,20.6s						
CD2	**Chengdu**	**31.92**	**269**	P	**P**	**22 40 40.8**	**-0.5**
CD2				S	**S**	**22 45 48.0**	**-2.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
CD2				LR	LR		
	comp=Z,1μm,21.6s						
CD2				LR	LR		
	comp=Z,1μm,15.7s						
CD2				LR	LR		
	comp=Z,1μm,15.7s						
GTA	**Gaotai**	**32.62**	**286**	⇑P	**P**	**22 40 46.6**	**-0.9**
GTA				pP	sP	22 40 56.7	-2.4
GTA				sP	pP	22 41 01.2	+5.5
GTA				PcP	**PcP**	**22 43 33.4**	**+0.2**
GTA				S	**S**	**22 45 59.0**	**-2.7**
GTA				ScS	**ScS**	**22 51 10.5**	**-4.3**
GTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,100nm,5.4s						
GTA				LR	LR		
	comp=Z,270nm,16.5s						
GTA				LR	LR		
	comp=Z,320nm,16.2s						
GTA				LR	LR		
	comp=Z,450nm,16.5s						
BILL	**Bilibino**	**33.38**	**17**	*e*P	**P**	**22 40 53.7**	**+0.1**
BILL				*e*		22 42 05.4	
BILL				*e*PPP	PPP	22 42 17.7	
BILL				*e*		22 43 34.9	
BILL				pmax	pmax		
	comp=Z,5.

KMI S **S** 22 46 41.7 -1.7
KMI pmax pmax
comp=Z,47nm,0.9s
KMI pmax pmax
comp=Z,200nm,3.1s
KMI LR LR
comp=Z,330nm,18.8s
KMI LR LR
comp=Z,290nm,20.7s
KMI LR LR
comp=Z,500nm,21.5s
HVS Khovu-Aksy 36.22 308 *i* P **P** **22 41 18.6 +0.2**
HVS pmax pmax
comp=Z,12nm,0.9s
NONG Nongkai 38.94 251 P **P** **22 41 42.5 +0.9**
comp=Z,0.5nm,1.0s
SKNT Sakolnakorn 38.99 249 P **P** **22 41 43.0 +0.9**
comp=Z,13nm,1.1s
JAY Jayapura 39.96 182 LR LR 22 58 01.6
comp=Z,66nm,20.1s,baz=170,slow=36
PAYA Payao 40.65 255 P P 22 42 05.2 +9.3
WMQ Urumqi 40.79 296⇑ *i* P **P** **22 41 57.7 +0.8**
WMQ pP pP 22 42 04.9 -0.3
WMQ sP sP 22 42 15.7 +7.1
WMQ ScS ScS 22 51 57.0 -3.0
WMQ pmax pmax
comp=Z,76nm,1.1s
WMQ pmax pmax
comp=Z,450nm,3.8s
WMQ LR LR
comp=Z,3μm,19.3s
WMQ LR LR
comp=Z,740nm,8.5s
WMQ LR LR
comp=Z,560nm,25.3s
UTTA Uttaradit 41.08 253 P P 22 42 08.6 +9.2
CHAI Chaiyaphum 41.15 249 P **P** **22 42 01.0 +1.0**
comp=Z,11nm,1.0s,comp=Z,81nm
FAKI Fak Fak 41.30 194 *e*P **P** **22 42 02.9 +1.7**
comp=Z,20nm,0.7s
LAMP Lampang 41.32 254 P P 22 42 10.4 +9.0
PBKT Sadao Pong 41.49 251 P **P** **22 42 03.3 +0.6**
comp=Z,17nm,1.4s,comp=Z,1μm
CMMT Chiang Mai 41.67 255 P **P** **22 42 05.4 +1.1**
comp=Z,8.7nm,0.8s
CHTO Chiang Mai 41.68 255 *e*P **P** **22 42 04.7 +0.4**
comp=Z,6.1nm,0.8s
CHTO Chiang Mai 41.68 255 P **P** **22 42 05.5 +1.2**
comp=Z,39nm,0.8s
ZAA0 Zalesovo Array 41.69 312 *e*P **P** **22 42 03.7 -0.3**
comp=Z,48nm,0.8s
ZALV Zalesovo Beam 41.69 312 P **P** **22 42 04.3 +0.2**
comp=Z,42nm,0.7s,baz=89,slow=7.2,SNR=152
ZALV LR LR 22 59 56.1
comp=Z,238nm,20.7s,baz=68,slow=37
ZALV Zalesovo Beam 41.69 312 *e*P **P** **22 42 03.6 -0.5**
ZALV Zalesovo Beam 41.69 312 P **P** **22 42 04.3 +0.2**
ZALV pmax pmax
comp=Z,42nm,0.7s
ZALV MLR MLR
comp=Z,238nm,20.7s
CMAR Chiang Mai Arr 41.89 255 P **P** **22 42 06.5 +0.5**
comp=Z,1.2nm,0.4s,baz=51,slow=6.5,SNR=7.9
CMAR LR LR 23 00 32.5
comp=Z,163nm,18.6s,baz=53,slow=38
SUKH Sukhothai 41.94 253 P P 22 42 16.0 +10
SDPT Sand Point 42.21 46 *e*P **P** **22 42 09.6 +1.4**
comp=Z,993nm,2.0s
SRAK Srakaew 42.32 247 P **P** **22 42 07.8 -1.8**
comp=Z,84nm,0.8s,comp=Z,662nm
LSA Lhasa 42.40 275 *e*P **P** **22 42 11.4 +0.8**
comp=Z,32nm,1.1s
LSA *e*pP **sP** **22 42 20.8 -1.7**
LSA Lhasa 42.40 275 P **P** **22 42 12.1 +1.4**
LSA Lhasa 42.40 275 *e*P **P** **22 42 11.5 +0.8**
LSA *e**PP **sP** **22 42 20.8 -1.7**
LSA pmax pmax
comp=Z,32nm,1.1s
NVS Novosibirsk 42.60 313⇓ *i* P **P** **22 42 11.9 +0.4**
NVS pmax pmax
comp=Z,24nm,0.5s
NVS pmax pmax
comp=N,2.0nm,0.4s
NVS pmax pmax
comp=E,18nm,0.6s
NRIK Noril'sk 42.83 335 P **P** **22 42 12.8 -0.3**
comp=E,6.5nm,0.6s,baz=105,slow=9.8,SNR=17
NRIK LR LR 23 01 04.2
comp=E,337nm,19.1s,baz=90,slow=38
UTHA Uthaitani 43.26 251 P P 22 42 26.4 +9.2
UMPA Umpang Tak 43.30 252 P **P** **22 42 20.3 +2.7**
SHL Shillong 43.66 269 *e*P **P** **22 42 21.8 +1.2**
comp=E,24nm,1.1s
SHL Shillong 43.66 269 *e*P **P** **22 42 21.8 +1.2**
SHL pmax pmax
comp=Z,24nm,1.1s
MK01 Makanchi Array 44.01 302 *e*P **P** **22 42 23.4 +0.5**
MK31 Makanchi Array 44.01 302 *e*P **P** **22 42 23.5 +0.5**
MK31 Makanchi Array 44.01 302 *e*P **P** **22 42 23.5 +0.5**
MKAR Makanchi Array 44.01 302 P **P** **22 42 23.2 +0.2**
comp=Z,48nm,0.8s,baz=89,slow=9.3,SNR=139
MKAR LR LR 23 01 15.9
comp=Z,166nm,19.4s,baz=86,slow=37
MKAR Makanchi Array 44.01 302 *e*P **P** **22 42 23.5 +0.5**
comp=Z,343nm,0.9s
MKAR Makanchi Array 44.01 302 *e*P **P** **22 42 23.5 +0.5**
MKAR pmax pmax
comp=Z,343nm,0.9s
SRDT SRDT 44.26 250 P P 22 42 30.4 +5.1
comp=Z,22nm,1.1s
PHET Kaeng Krachan 44.81 248 P **P** **22 42 31.5 +1.8**
comp=Z,139nm,0.7s,comp=Z,147nm
KURK Kurchatov 45.76 308 *e*P **P** **22 42 36.6 -0.2**
comp=Z,125nm,1.1s
KURK Kurchatov 45.76 308 P **P** **22 42 36.7 -0.1**
SNR=45
KURK Kurchatov 45.76 308 *e*P **P** **22 42 36.6 -0.2**
KURK pmax pmax
comp=Z,125nm,1.1s
IM3 Indian Mountai 46.01 31 *e*P **P** **22 42 40.5 +1.9**
ODAN Odare 46.62 273 *e*P **P** **22 42 44.4 +0.2**
comp=Z,55nm,1.0s
RAMN Ramite 47.21 274 *e*P **P** **22 42 48.9 +0.1**
comp=Z,91nm,0.9s
JIRN Jiri 47.21 275 *e*P **P** **22 42 49.5 +0.6**
GUN Gumba 47.34 275 *e*P **P** **22 42 50.3 +0.4**
comp=Z,95nm,0.8s
PKI Pulchoki 47.87 275 *e*P **P** **22 42 53.7 -0.3**
comp=Z,91nm,1.3s
KKN Kakani 47.87 275 *e*P **P** **22 42 54.0 +0.1**
comp=Z,54nm,0.7s
PKIN Phulchoki 47.87 275 *e*P **P** **22 42 53.8 -0.2**
DMN Daman 48.09 275 *e*P **P** **22 42 55.8 +0.2**
comp=Z,22nm,0.8s
MDM Murphy Dome 48.28 32 *e*P **P** **22 42 58.5 +2.2**
comp=Z,19nm,1.2s
GKN Gorkha 48.28 276 *e*P **P** **22 42 57.1 +0.1**
comp=Z,1.5nm,0.3s
KDJ Kajisay 48.68 297 *e*P **P** **22 43 01.6 +1.6**
comp=Z,12nm,0.7s
DANN Dangsing 48.82 277 *e*P **P** **22 43 01.7 +0.4**
comp=Z,268nm,0.8s
IL1 Eielson Array 48.86 33 *e*P **P** **22 43 01.3 +0.6**
ILAR Eielson Array 48.86 33 P **P** **22 43 01.5 +0.8**
comp=Z,1.6nm,0.6s,baz=263,slow=5.9,SNR=28
ILB Eielson Array 48.86 33 *e*P **P** **22 43 01.8 +1.0**
PKDT Phuket 49.12 244 P P 22 43 13.4 +10
KOLN Koldanda 49.20 276 *e*P **P** **22 43 04.4 +0.3**
comp=Z,80nm,1.0s
ULHL Ulahol 49.31 297 P **P** **22 43 05.7 +0.9**
SNR=12
PYUN Piuthan 49.54 277 *e*P **P** **22 43 07.0 +0.3**
comp=Z,196nm,1.0s
TKM2 Tokmak 2 49.56 298 P **P** **22 43 07.4 +0.7**
SNR=81
TKM2 Tokmak 2 49.56 298 *i* P **P** **22 43 07.4 +0.7**
TKM2 pmax pmax
comp=Z,36nm,0.7s
HNR Honiara 49.83 156 LR LR 23 00 59.0
comp=Z,146nm,21.8s,baz=334,slow=32
KZA Kyzart 50.06 297 P **P** **22 43 12.6 +1.9**
SNR=28
KBK Karagaybulak 50.10 298 P **P** **22 43 11.1 +0.3**
SNR=116
CHMS Chumysh 50.13 298 P **P** **22 43 11.2 +0.4**
SNR=8.9
SCRK Sand Creek 50.17 34 *e*P **P** **22 43 11.7 +0.8**
comp=Z,15nm,1.2s
USP Ospenovka 50.22 299 P **P** **22 43 12.0 +0.5**
SNR=11
FRU1 Bishkek 50.27 298 *e*P **P** **22 43 12.9 +1.0**
comp=Z,47nm,0.8s
FRU Bishkek 50.27 298⇑ *e*P **P** **22 43 11.0 -0.9**
FRU *e* 22 43 20.0
FRU pmax pmax
comp=Z,60nm,1.8s
KSH Kashi 50.39 294 P P 22 43 17.1 +4.2
KSH sP sP 22 43 30.6 +5.8
KSH PP **PP** **22 45 13.7 +5.3**
KSH S **S** **22 50 27.1 +2.7**
KSH ScS **ScS** **22 53 01.3 -0.8**
KSH pmax pmax
comp=Z,35nm,1.0s
KSH pmax pmax
comp=Z,400nm,6.1s
KSH LR LR
comp=Z,720nm,14.0s
KSH LR LR
comp=Z,550nm,11.7s
KSH LR LR
comp=Z,2μm,15.5s
BRVK Borovoye 50.41 312 *e*P **P** **22 43 13.3 +0.6**
comp=Z,18nm,0.8s
BRVK Borovoye 50.41 312 P **P** **22 43 12.7 0.0**
SNR=7.6
BRVK Borovoye 50.41 312 *c i*P **P** **22 43 12.3 -0.4**
BRVK pmax pmax
comp=Z,19nm,0.8s
AAK Ala-Archa 50.42 298 P **P** **22 43 13.5 +0.3**
SNR=36
AAK Ala-Archa 50.42 298 *e*P **P** **22 43 12.7 -0.4**
comp=Z,29nm,0.8s
AAK Ala-Archa 50.42 298 P **P** **22 43 13.4 +0.3**
SNR=9.7
AAK Ala-Archa 50.42 298 *i* P **P** **22 43 13.5 +0.3**
SNR=61
AAK Ala-Archa 50.42 298 *i* P **P** **22 43 13.4 +0.3**
AAK pmax pmax
comp=Z,31nm,0.8s
BATI Baumata 50.51 203 P **P** **22 43 15.1 +1.2**
comp=Z,6.5nm,0.3s,baz=315,slow=1.4,SNR=2.7
UCH Uchtor 50.54 298 P **P** **22 43 15.1 +0.7**
SNR=16
EKS2 Erkin-Say 50.92 298 P **P** **22 43 17.3 +0.4**
SNR=49
AML Almaashu 51.15 298 P **P** **22 43 19.9 +1.0**
SNR=79
PSI Prapat 52.31 239 P **P** **22 43 28.0 +0.5**
comp=Z,4.3nm,0.7s,baz=1.1,slow=5.2,SNR=4.8
PSI Prapat 52.31 239 *e*P **P** **22 43 28.5 +1.0**
comp=Z,23nm,0.7s
PSI Prapat 52.31 239 *e*P **P** **22 43 28.5 +1.0**
PSI pmax pmax
comp=Z,23nm,0.7s
KK31 Karatay Array 53.04 300 *e*P **P** **22 43 32.5 0.0**
KK31 Karatay Array 53.04 300 *e*P **P** **22 43 32.5 0.0**
KKAR Karatay Array 53.04 300 *e*P **P** **22 43 32.5 0.0**
KKAR Karatay Array 53.04 300 *e*P **P** **22 43 32.5 0.0**
INK Inuvik 53.74 27 P **P** **22 43 38.6 +1.4**
comp=Z,6.2nm,0.8s,baz=295,slow=6.9,SNR=10.0
INK Inuvik 53.74 27 *e*P **P** **22 43 39.0 +1.8**
comp=Z,14nm,1.1s
INK Inuvik 53.74 27 *e*P **P** **22 43 39.0 +1.8**
INK pmax pmax
comp=Z,14nm,1.1s
GSI Gunungsitoli 54.32 239 *e*P **P** **22 43 43.4 +1.2**
comp=Z,94nm,0.6s
SVE Sverdlovsk 54.86 318 *d i*P **P** **22 43 46.2 +0.6**
SVE pmax pmax
comp=Z,76nm,1.4s
SVE MLR MLR
comp=Z,674nm,16.0s
ARU Arti 56.08 318 *c i*P **P** **22 43 54.3 0.0**
ARU 22 44 48.7
ARU 22 45 57.2
ARU S **S** **22 51 41.4 +0.4**
ARU SS **SS** **22 55 23.0 -3.8**
ARU pmax pmax
comp=Z,95nm,1.7s
ARU MLR MLR
comp=Z,429nm,17.0s
FITZ Fitzroy Crossi 57.46 198 P **P** **22 44 03.3 -1.2**
comp=Z,5.1nm,1.1s,baz=24,slow=10.0,SNR=2.1
FITZ Fitzroy Crossi 57.46 198 *e*P **P** **22 44 06.0 +1.5**
comp=Z,7.4nm,0.8s
WRAB Tennant Creek 57.68 188 *e*P **P** **22 44 07.7 +1.8**
comp=Z,16nm,0.9s
WRAB Tennant Creek 57.68 188 *e*P **P** **22 44 06.7 +0.7**
WRAB pmax pmax
comp=Z,12nm,1.3s
WB2 Warramunga Arr 57.69 188 *e*P **P** **22 44 07.2 +1.2**
WRA Warramunga Arr 57.69 188 P **P** **22 44 06.0 -0.1**
comp=Z,3.8nm,0.9s,baz=5.9,slow=6.9,SNR=50
WRA LR LR 23 09 14.7
comp=Z,55nm,18.4s,baz=100,slow=36
WRA Warramunga Arr 57.69 188 P **P** **22 44 06.0 -0.1**
ABKAR Akbulak array 57.74 310 *e*P **P** **22 44 06.0 -0.2**
HYB Hyderabad 58.46 268 *i* P **P** **22 44 13.0 +1.2**
SPA0 Spitsbergen Ar 59.98 349 *e*P **P** **22 44 23.0 +1.6**
KBS Kingsbay 60.11 350 *e*P **P** **22 44 24.1 +1.9**
comp=Z,66nm,1.4s
KBS Kingsbay 60.11 350 *e*P **P** **22 44 24.1 +1.9**
KBS pmax pmax
comp=Z,66nm,1.4s
AS01 Alice Springs 61.41 188 *e*P **P** **22 44 32.3 +0.7**
ASAR Alice Springs 61.41 188 P **P** **22 44 32.5 +0.8**
comp=Z,2.4nm,1.0s,baz=12,slow=5.9,SNR=20
POO Poona 61.59 272 *e*P **P** **22 44 33.0 -0.2**
MBWA Marble Bar 62.03 203 P **P** **22 44 37.2 +1.3**
APA Apatity 62.24 336⇑ *i*P **P** **22 44 35.5 -1.3**
APA pmax pmax
comp=Z,13nm,0.8s
YKW3 Yellowknife Ar 63.13 30 *e*P **P** **22 44 44.5 +1.8**
comp=Z,16nm,1.3s
YKA Yellowknife Ar 63.17 30 P **P** **22 44 43.6 +0.6**
comp=Z,2.8nm,0.7s,baz=303,slow=6.5,SNR=10.0
ARCES ARCESS Array B 63.52 339 P **P** **22 44 45.5 +0.2**
comp=Z,7.1nm,0.9s,baz=49,slow=5.6,SNR=8.4
ARCES LR LR 23 16 21.2
comp=Z,10nm,18.4s,baz=5.5,slow=40
ARCES ARCESS Array B 63.52 339 *e*P **P** **22 44 44.8 -0.5**
GEYT Alibeck 63.76 299 P **P** **22 44 47.8 +0.3**
comp=Z,12nm,1.0s,baz=65,slow=4.2,SNR=30
GEYT LR LR 23 13 18.3
comp=Z,74nm,19.7s,baz=215,slow=37
GYA0B ALIBECK ARRAY 63.76 299 *e*P **P** **22 44 47.9 +0.4**
comp=Z,34nm,1.2s
DZM Mont Dzumac 63.78 154 *e*P P 22 44 58.0 +10
comp=Z,47nm,1.4s
DZM Mont Dzumac 63.78 154 *e*LR LR 23 04 01.6
comp=Z,247nm,21.2s
DZM Mont Dzumac 63.78 154 *e*P **P** **22 44 49.7 +2.1**
comp=Z,22nm,1.2s
DAG Danmarks Havn 65.20 355⇑ *i*P **P** **22 44 56.1 0.0**
comp=Z,8.7nm,0.7s
DAG Danmarks Havn 65.20 355⇑ *i*P **P** **22 44 56.1 0.0**
DAG pmax pmax
comp=Z,6.0nm,0.7s
MOS Moscow 66.91 323 *e*P **P** **22 45 06.0 -1.5**
MOS *e* 22 45 40.6
MOS pmax pmax
comp=Z,59nm,1.3s
VRH Novokhopyorsk 67.30 318 *e*P **P** **22 45 09.3 -0.7**
VRH pmax pmax
comp=Z,30nm,0.6s
OBN Obninsk 67.76 323 *e*P **P** **22 45 12.2 -0.6**
OBN *e* 22 45 37.7
OBN *e* 22 47 38.8
OBN *e*PPP PPP 22 49 17.9
OBN pmax pmax
comp=Z,51nm,1.7s
OBN MLR MLR
comp=Z,182nm,19.0s
LPSR Galich'ya Gora 68.00 320 *e*P **P** **22 45 14.2 -0.2**
LPSR pmax pmax
comp=Z,40nm,0.7s
VSR Storozhevoye 68.64 319 *e*P **P** **22 45 17.4 -1.0**
VSR pmax pmax
comp=Z,30nm,0.7s
VORD Divnogorie 68.72 318 *e*P **P** **22 45 18.7 -0.2**
VORD pmax pmax
comp=Z,10.0nm,0.6s
AKT Akhty 68.92 307 *e*P **P** **22 45 20.6 +0.1**
AKT *e* 22 45 44.8
AKT pmax pmax
comp=Z,22nm,0.7s
STKA Stephens Creek 69.15 180 P **P** **22 45 23.6 +1.9**
comp=Z,1.3nm,0.5s,baz=1.3,slow=8.8,SNR=3.3
STKA LR LR 23 15 00.0
comp=Z,68nm,20.7s,baz=22,slow=35
STKA Stephens Creek 69.15 180 *e*P **P** **22 45 23.5 +1.9**
comp=Z,4.4nm,1.6s
GROC Groznyy 69.22 309 *e*P **P** **22 45 21.6 -0.6**
GROC *e* 22 45 43.4
GROC pmax pmax
comp=Z,9.0nm,0.6s
FORT Forrest 69.25 193 *e*P **P** **22 45 23.5 +1.3**
comp=Z,28nm,0.9s
PINE Pine Mountain 69.77 50 *e*P **P** **22 45 27.6 +1.8**
comp=Z,15nm,1.2s
GOF Gofitskoye 69.88 312 *e*P **P** **22 45 26.9 +0.7**
VSU Vasula 70.06 330 *e*P **P** **22 45 27.1 0.0**
VSU IAmb IAmb 22 45 27.9
comp=Z,77nm,1.0s
VSU Vasula 70.06 330 *ce*P **P** **22 45 27.1 0.0**
VSU pmax pmax
comp=Z,88nm,1.7s
SUMG Summit 70.09 0 *e*P **P** **22 45 28.1 +0.6**
comp=Z,16nm,1.0s
SUMG Summit 70.09 0 *i* P **P** **22 45 27.7 +0.2**
comp=Z,42nm,1.0s
SUMG Summit 70.09 0 *e*P **P** **22 45 28.1 +0.6**
SUMG pmax pmax
comp=Z,16nm,1.0s
NCK Nalchik 70.40 310 *i* P **P** **22 45 29.4 -0.1**
NCK pmax pmax
comp=Z,16nm,1.2s
ZEI Tsey 70.61 309 *e*P P 22 45 25.4 -5.6
ZEI pmax pmax
comp=Z,19nm,1.5s
TBLG Delisi 70.67 308 *e*P **P** **22 45 32.0 +0.8**
comp=Z,16nm,0.9s
KBZ Khabaz 70.70 311 P **P** **22 45 31.8 +0.6**
comp=Z,18nm,0.9s,baz=36,slow=2.1,SNR=28
KBZ LR LR 23 21 12.2
comp=Z,178nm,18.2s,baz=44,slow=40
KIV Kislovodsk 70.70 311 *e*P **P** **22 45 31.9 +0.5**
comp=Z,56nm,1.0s
KIV Kislovodsk 70.70 311 P **P** **22 45 31.8 +0.4**
SNR=11
KIV Kislovodsk 70.70 311 *i* P **P** **22 45 32.3 +0.9**
SNR=6.1
KIV Kislovodsk 70.70 311 *e*P **P** **22 45 31.9 +0.5**
KIV pmax pmax
comp=Z,64nm,1.1s
KIV MLR MLR
comp=Z,182nm,18.0s
NEY Neytrino 71.07 310 *e*P **P** **22 45 34.9 +1.1**
NEY pmax pmax
comp=Z,3.0nm,0.9s
BIDO Bidbid 71.18 285 P **P** **22 45 34.9 +0.4**
BANOM Banah 71.25 289 *i* P **P** **22 45 36.7 +1.7**
SNR=6.6
SHME Shamm 71.30 289 *i* P **P** **22 45 34.9 -0.3**
SNR=9.4
GNI Garni 71.54 307 *e*P **P** **22 45 38.1 +1.4**
comp=Z,28nm,1.3s
GNI Garni 71.54 307 P **P** **22 45 37.4 +0.7**
SNR=6.7
GNI Garni 71.54 307 *i* P **P** **22 45 37.7 +1.0**
SNR=7.4
GNI Garni 71.54 307 *c i*P **P** **22 45 37.8 +1.1**
GNI pmax pmax
comp=Z,111nm,1.7s
AKH Akhalkalaki 71.63 308 *e*P **P** **22 45 38.2 +1.0**
comp=Z,15nm,1.1s
AKH Akhalkalaki 71.63 308⇑ *i*P **P** **22 45 38.2 +1.0**
AKH Akhalkalaki 71.63 308 *e*P **P** **22 45 38.2 +1.0**
AKH pmax pmax
comp=Z,15nm,1.1s
MSFE Esma-Masafi 71.66 288 *i* P **P** **22 45 38.0 +0.6**
SNR=6.8
UOSS Minazif 71.86 288 *e*P **P** **22 45 38.9 +0.3**
comp=Z,20nm,1.0s
UOSS Minazif 71.86 288 P **P** **22 45 38.4 -0.2**
UOSS Minazif 71.86 288 *i* P **P** **22 45 38.7 +0.1**
SNR=9.2
WVOR Wild Horse Val 71.92 50 P **P** **22 45 39.4 +0.6**
WVOR Wild Horse Val 71.92 50 P **P** **22 45 39.4 +0.6**
HATD Hatta, Dubai 71.98 288 P **P** **22 45 38.9 -0.5**
SNR=6.5
HATD Hatta, Dubai 71.98 288 *i* P **P** **22 45 39.5 +0.2**
SNR=13
SOHO SOHO 72.06 287 *i* P **P** **22 45 39.3 -0.4**
SNR=12
IDID Didziasalis 72.11 327 *e*P **P** **22 45 39.6 +0.1**
IDID IAmb IAmb 22 45 41.4
comp=Z,12nm,0.9s
ASHO Ashiyiah 72.11 288 P **P** **22 45 41.0 +0.9**
SNR=6.3
ASHO Ashiyiah 72.11 288 *i* P **P** **22 45 40.3 +0.1**
SNR=10
ISAL Salakas 72.20 327 *e*P **P** **22 45 40.3 +0.2**
ISAL *e* 22 45 40.6
ISAL IAmb IAmb 22 45 42.2
comp=Z,23nm,1.1s
NAZ Nazwa, Dubai 72.24 288 P **P** **22 45 41.0 +0.1**
BEKR Beckworth 72.30 53 *e*P **P** **22 45 44.0 +2.8**
comp=Z,3.9nm,0.9s
IIGN Ignalina 72.31 327 *e*P **P** **22 45 40.8 +0.1**
IIGN IAmb IAmb 22 45 42.7
comp=Z,12nm,0.9s
NACGM Naroch 72.36 327 *e* **P** **22 45 40.0 -1.0**
FAQ Al Faqa, Dubai 72.43 288 *i* P **P** **22 45 42.0 0.0**
SNR=6.3
ALNE Al Ain 72.69 287 *i* P **P** **22 45 43.4 -0.2**
SNR=12
ASUD Al Ashush, Dub 72.70 288 P **P** **22 45 44.0 +0.4**
PAHR Pah Rah Range 73.01 53 *e*P **P** **22 45 47.2 +1.7**
comp=Z,7.7nm,1.1s
FFC Flin Flon 73.07 33 *e*P **P** **22 45 46.5 +1.2**
comp=Z,11nm,0.9s
FFC Flin Flon 73.07 33 *i* P **P** **22 45 47.3 +2.0**
CMB Columbia Colle 73.32 55 *e*P **P** **22 45 50.1 +2.9**
comp=Z,12nm,1.6s
HRY Holter Researc 73.35 44 *e*P **P** **22 45 48.4 +1.1**
NC405 NORSAR Array S 73.52 337 *e*P **P** **22 45 48.2 +0.4**
EGMT Eagleton 73.66 42 *e*P **P** **22 45 50.6 +1.6**
comp=Z,12nm,0.8s
NC204 NORSAR Array S 73.68 338 *e*P **P** **22 45 49.7 +0.8**
NB201 NORSAR Array S 73.70 337 *e*P **P** **22 45 49.5 +0.6**
NB2 NORSAR Subarra 73.73 337 P **P** **22 45 49.0 -0.1**
comp=Z,6.7nm,0.8s,baz=38,slow=5.9
NB2 NORSAR Subarra 73.73 337 P **P** **22 45 46.7 -2.4**
NB2 pmax pmax
comp=Z,7.0nm,0.8s
NOA NORSAR Array B 73.73 337 P **P** **22 45 49.3 +0.2**
comp=Z,13nm,0.8s,baz=38,slow=5.8,SNR=27
NOA LR LR 23 20 38.2
comp=Z,191nm,21.4s,baz=35,slow=38
DLMT Dillon 73.75 45 *e*P **P** **22 45 51.3 +1.6**
comp=Z,7.7nm,0.9s
HLID Hailey 73.78 47 *e*P **P** **22 45 52.1 +2.1**
comp=Z,1.6nm,0.2s
NBO00 NORSAR Array S 73.87 337 *e*P **P** **22 45 50.5 +0.6**
AKASG Malin Array Be 73.97 322 P **P** **22 45 50.6 -0.1**
comp=Z,11nm,0.6s,baz=46,slow=6.0,SNR=37
AKASG LR LR 23 18 48.2
comp=Z,110nm,20.9s,baz=35,slow=36
KIEV Kiev 73.98 322 *e*P **P** **22 45 50.5 -0.2**
comp=Z,22nm,0.8s
KIEV Kiev 73.98 322 *i* P **P** **22 45 50.5 -0.2**
SNR=12
KIEV Kiev 73.98 322 *d i*P **P** **22 45 50.8 +0.1**
KIEV pmax pmax
comp=Z,21nm,1.0s
BOZ Bozeman (W) 74.14 44 *e*P **P** **22 45 53.7 +1.7**
comp=Z,4.9nm,0.9s
BOZ Bozeman (W) 74.14 44 *e*P **P** **22 45 53.7 +1.7**
BOZ pmax pmax
comp=Z,5.0nm,0.9s
KVN Kaiserville 74.20 53 *e*P **P** **22 45 53.9 +1.4**
comp=Z,4.9nm,1.0s
KVN Kaiserville 74.20 53 *e*P **P** **22 45 53.9 +1.4**
KVN pmax pmax
comp=Z,5.0nm,1.0s
NV01 Mina Array Sit 74.43 53 *e*P **P** **22 45 55.4 +1.5**
NVAR Mina Array Bea 74.43 53 P **P** **22 45 55.3 +1.4**
comp=Z,2.0nm,0.8s,baz=281,slow=5.8,SNR=13

NVAR LR LR 23 13 34.9
comp=Z,55nm,19.1s,baz=305,slow=32
SUW Suwalki 74.52 327 *eP* **P 22 45 54.0 +0.3**
SUW Suwalki 74.52 327 *eP* **P 22 45 54.5 +0.7**
comp=Z,28nm,1.0s
SUW Suwalki 74.52 327 *eP* **P 22 45 54.5 +0.7**
SUW pmax pmax
comp=Z,28nm,1.0s
KELT Kelkit 74.98 309 *i* P **P 22 45 58.3 +1.3**
SIM Simferopol' 75.07 316 *eP* **P 22 45 57.2 0.0**
SIM pmax pmax
comp=Z,18nm,0.8s
SIM MLR MLR
comp=Z,110nm,14.2s
YPP Pitchstone Pla 75.42 45 *eP* P 22 46 03.0 +3.4
comp=Z,4.3nm,0.9s
H17A Grant Village 75.47 45 *eP* P 22 46 03.7 +3.9
comp=Z,11nm,0.9s
IMW Indian Meadow 75.58 45 *eP* **P 22 46 02.9 +2.4**
comp=Z,9.7nm,1.0s
FXWY Fox Creek 75.69 46 *eP* **P 22 46 03.5 +2.4**
comp=Z,4.7nm,0.9s
TPAW Teton Pass 75.83 46 *eP* **P 22 46 04.4 +2.5**
comp=Z,14nm,1.3s
REDW Red Top Meadow 75.96 46 *eP* **P 22 46 02.8 +0.2**
comp=Z,8.1nm,1.0s
KEMA Kemaliye 75.98 309 *i* P **P 22 46 03.8 +1.2**
SORM Soroca 76.08 321 ⇓*i*P **P 22 46 03.0 +0.1**
SORM Soroca 76.08 321 *eP* **P 22 46 03.0 +0.1**
ERBA Erbaa 76.18 311 *i* P **P 22 46 02.0 -1.7**
R11A Troy Canyon, C 76.20 52 *eP* **P 22 46 05.7 +1.7**
comp=Z,20nm,1.8s
CUKAN kangal_SIVAS 76.58 309 *i* P **P 22 46 07.4 +1.3**
TPNV Topopah Spring 76.62 54 *eP* **P 22 46 08.5 +2.1**
comp=Z,12nm,1.3s
TPNV Topopah Spring 76.62 54 *eP* **P 22 46 08.5 +2.1**
TPNV pmax pmax
comp=Z,12nm,1.3s
HWUT Hardware Ranch 76.64 48 *eP* **P 22 46 08.8 +2.3**
comp=Z,6.1nm,0.9s
DUG Dugway, Tooele 76.78 49 *eP* **P 22 46 08.7 +1.5**
comp=Z,8.9nm,1.3s
DUG Dugway, Tooele 76.78 49 *eP* **P 22 46 08.7 +1.5**
DUG pmax pmax
comp=Z,9.0nm,1.3s
LVV L'vov 77.04 324 *eP* **P 22 46 07.9 -0.4**
LVV MLR MLR
comp=N,80nm,16.0s
LVV MLR MLR
comp=E,220nm,16.0s
LVV MLR MLR
comp=Z,230nm,16.0s
CUALT Altinyayla-SIV 77.05 310 *i* P **P 22 46 10.5 +1.8**
BW06 Boulder Array 77.07 46 *eP* **P 22 46 10.0 +1.1**
comp=Z,6.3nm,0.8s
PD31 Pinedale Array 77.07 46 *eP* **P 22 46 09.9 +1.0**
PDAR Pinedale Array 77.07 46 P **P 22 46 09.9 +1.0**
comp=Z,1.4nm,0.6s,baz=270,slow=2.0,SNR=19
PDAR LR LR 23 16 04.0
comp=Z,36nm,22.0s,baz=354,slow=33
PDAR Pinedale Array 77.07 46 *eP* **P 22 46 08.8 -0.1**
PSUT Pine Spring 77.17 51 *eP* **P 22 46 11.5 +2.0**
comp=Z,6.0nm,0.9s
LEOM Leova 77.24 319 ⇓*i*P **P 22 46 09.7 +0.3**
LEOM Leova 77.24 319 P **P 22 46 09.6 +0.2**
CUSAR Sarkisla-SIVAS 77.27 310 *i* P **P 22 46 11.0 +1.1**
MPU Maple Canyon 77.60 49 *eP* **P 22 46 13.8 +2.0**
comp=Z,4.9nm,0.6s
KWP Kalwaria Pacla 77.78 324 *eP* **P 22 46 13.9 +1.4**
KWP Kalwaria Pacla 77.78 324 *eP* **P 22 46 13.8 +1.3**
comp=Z,442nm,1.2s
KWP Kalwaria Pacla 77.78 324 *eP* **P 22 46 13.9 +1.4**
BUR08 Bucovina Ar. S 77.98 322 *eP* **P 22 46 14.6 +0.9**
BUR04 Bucovina Ar. S 77.99 322 *eP* **P 22 46 13.8 0.0**
BURAR Bucovina Array 77.99 322 ⇑*i*P **P 22 46 14.2 +0.4**
BURAR Bucovina Array 77.99 322 P **P 22 46 14.2 +0.4**
BIZ Bicaz 78.02 321 ⇓*i*P **P 22 46 14.9 +1.1**
CFR Carcaliu 78.16 319 ⇑*i*P **P 22 46 14.5 -0.1**
CFR Carcaliu 78.16 319 P **P 22 46 15.8 +1.2**
CFR pmax pmax
comp=Z,10.0nm,1.2s
PETR Petresti 78.27 319 ⇑*i*P **P 22 46 16.6 +1.4**
ODBI Odobesti 78.33 319 ⇑*i*P **P 22 46 16.9 +1.4**
ANDN Andirin 78.34 309 *i* P **P 22 46 17.3 +1.4**
VRI Vrincioaia 78.43 320 ⇑*i*P **P 22 46 16.9 +0.8**
VRI Vrincioaia 78.43 320 P **P 22 46 16.9 +0.8**
P17A Butcher Ranch, 78.47 49 *eP* **P 22 46 19.2 +2.5**
comp=Z,5.5nm,0.8s
PLOR Plostina 78.48 320 ⇑*i*P **P 22 46 16.7 +0.3**
PLOR Plostina 78.48 320 P **P 22 46 16.6 +0.2**
LCMT Little Creek M 78.49 52 *eP* **P 22 46 19.1 +2.3**
comp=Z,5.2nm,1.0s
MTPU Mount Pierson 78.50 51 *eP* **P 22 46 18.9 +1.7**
comp=Z,4.3nm,0.9s
HARR Harsova 78.59 318 ⇓*i*P **P 22 46 16.9 -0.1**
HARR Harsova 78.59 318 P **P 22 46 16.9 -0.1**
TLB Topalu 78.61 318 ⇑*i*P **P 22 46 17.7 +0.6**
BR131 Keskin Array S 78.64 312 *eP* **P 22 46 18.1 +0.6**
BRTR Keskin Array B 78.64 312 P **P 22 46 18.1 +0.6**
comp=Z,3.4nm,0.9s,baz=96,slow=3.7,SNR=18
BRTR LR LR 23 25 41.9
comp=Z,79nm,18.1s,baz=63,slow=39
OJC Ojcow 78.68 326 *eP* **P 22 46 18.0 +0.6**
OJC Ojcow 78.68 326 *eP* **P 22 46 17.9 +0.6**
comp=Z,22nm,1.0s
OJC Ojcow 78.68 326 *eP* **P 22 46 18.0 +0.6**
UZH Uzhgorod 78.69 324 *eP* **P 22 46 18.4 +1.0**
UZH *i* 22 46 27.2
ARCR ARCALIA 78.78 322 ⇑*i*P **P 22 46 19.6 +1.6**
SRU San Rafael Swe 78.83 49 *eP* **P 22 46 20.6 +1.9**
comp=Z,6.8nm,0.7s
ULM Lac du Bonnet 78.87 34 P **P 22 46 19.1 +0.7**
comp=Z,2.8nm,0.7s,baz=145,slow=16,SNR=3.3
TRPA Tarpa 78.92 323 ⇑*i*P **P 22 46 19.7 +1.0**
TRPA Tarpa 78.92 323 ⇑*e*P **P 22 46 19.8 +1.0**
PGOR Pogoanele 78.94 319 ⇑*i*P **P 22 46 20.4 +1.5**
ISR Istrita 79.03 319 ⇑*i*P **P 22 46 20.4 +0.9**
ISR Istrita 79.03 319 P **P 22 46 20.1 +0.6**
ISR pmax pmax
comp=Z,41nm,0.9s
NIE Niedzica 79.04 325 *eP* **P 22 46 20.5 +1.1**
NIE Niedzica 79.04 325 *eP* **P 22 46 20.5 +1.1**
DOPR Dopca 79.04 320 ⇓*i*P **P 22 46 20.4 +0.9**
MLR Muntele Rosu 79.08 320 *eP* **P 22 46 20.3 +0.4**
comp=Z,16nm,1.3s
MLR Muntele Rosu 79.08 320 ⇓*i*P **P 22 46 20.3 +0.4**
MLR Muntele Rosu 79.08 320 *eP* **P 22 46 20.3 +0.4**
MLR pmax pmax
comp=Z,16nm,1.3s
CJR Cluj-Napoca 79.41 322 ⇓*i*P **P 22 46 22.9 +1.3**
CJR Cluj-Napoca 79.41 322 P **P 22 46 22.8 +1.2**
U15A North Rim 79.45 52 *eP* **P 22 46 24.1 +1.8**
comp=Z,5.2nm,1.0s
VOIR 79.58 320 ⇑*i*P **P 22 46 24.0 +1.5**
VOIR 79.58 320 P **P 22 46 24.5 +2.0**
VOIR pmax pmax
comp=Z,9.0nm,0.9s
KSP Ksiaz 79.72 328 *eP* **P 22 46 23.6 +0.5**
KSP Ksiaz 79.72 328 *eP* **P 22 46 23.6 +0.5**
DRGR 79.79 322 ⇑*i*P **P 22 46 24.2 +0.6**
DRGR 79.79 322 P **P 22 46 24.4 +0.8**
DRGR pmax pmax
comp=Z,11nm,1.2s
ARR Arges 79.84 320 ⇑*i*P **P 22 46 25.1 +1.2**
MORC Moravsky Berou 79.99 327 *eP* **P 22 46 24.4 -0.2**
comp=Z,14nm,1.0s
MORC Moravsky Berou 79.99 327 ⇑*i*P **P 22 46 25.3 +0.7**
MORC Moravsky Berou 79.99 327 *eP* **P 22 46 24.4 -0.2**
MORC pmax pmax
comp=Z,14nm,1.0s
MORC Moravsky Berou 79.99 327 *eP* **P 22 46 25.4 +0.8**
DPC Dobruska-Polom 80.08 328 *eP* **P 22 46 26.3 +1.2**
DPC AMS AMS 22 46 40.0
DPC Dobruska-Polom 80.08 328 *eP* **P 22 46 26.3 +1.2**
KRLC Kraliky 80.09 328 *eP* **P 22 46 26.2 +1.0**
KRLC Kraliky 80.09 328 *eP* **P 22 46 26.2 +1.0**
PV21 Cone Mtn., Par 80.11 49 *eP* **P 22 46 27.8 +2.0**
comp=Z,9.5nm,0.8s
PV10 Paradox Valley 80.19 49 *eP* **P 22 46 28.1 +1.9**
PV20 West Nyswonger 80.26 49 *eP* **P 22 46 29.0 +2.5**
comp=Z,11nm,0.8s
PV19 Morning Glory 80.27 49 *eP* **P 22 46 27.8 +1.2**
comp=Z,11nm,0.9s
PV17 East Wray Mesa 80.31 49 *eP* **P 22 46 29.2 +2.4**
comp=Z,16nm,0.8s
PSZ Piszkesteto 80.31 325 *eP* **P 22 46 26.8 +0.4**
comp=Z,22nm,1.1s
PSZ Piszkesteto 80.31 325 ⇓*i*P **P 22 46 26.9 +0.4**
PSZ Piszkesteto 80.31 325 ⇓*e*P **P 22 46 27.3 +0.9**
PSZ Piszkesteto 80.31 325 *eP* **P 22 46 26.8 +0.4**
PSZ pmax pmax
comp=Z,22nm,1.1s
PV16 Nyswonger Mesa 80.31 49 *eP* **P 22 46 29.1 +2.3**
comp=Z,8.7nm,0.8s
PV11 David Mesa, Pa 80.34 49 *eP* **P 22 46 29.6 +2.6**
comp=Z,11nm,0.9s
VYHS Vyhne 80.37 325 *eP* **P 22 46 27.6 +0.9**
VYHS pmax pmax
comp=Z,6.0nm,1.1s
VYHS Vyhne 80.37 325 *eP* **P 22 46 27.5 +0.9**
PV03 Paradox Valley 80.39 49 *eP* **P 22 46 29.9 +2.7**
PV13 Radium Mtn., P 80.47 49 *eP* **P 22 46 29.4 +1.7**
comp=Z,11nm,1.0s
WUAZ Wupatki 80.60 52 *eP* **P 22 46 29.5 +1.2**
comp=Z,7.6nm,1.0s
JAVC Velka Javorina 80.62 326 *eP* **P 22 46 29.7 +1.7**
RAYN Ar Rayn 80.65 292 *eP* **P 22 46 28.5 -0.1**
comp=Z,43nm,2.0s
RAYN Ar Rayn 80.65 292 *i* P **P 22 46 28.6 -0.1**
SNR=10
BRG Berggiesshubel 80.66 330 *eP* **P 22 46 28.6 +0.5**
comp=Z,9.9nm,0.9s
BRG *e* 22 46 41.1
comp=Z,5.7nm,1.0s
BRG Berggiesshubel 80.66 330 *eP* **P 22 46 28.6 +0.5**
BRG *e* 22 46 41.1
BRG pmax pmax
comp=Z,10.0nm,0.9s
BRG pmax pmax
comp=Z,6.0nm,1.0s
PVCC Panska Ves 80.67 329 *eP* **P 22 46 29.7 +1.5**
PVCC Panska Ves 80.67 329 *eP* **P 22 46 29.7 +1.5**
SIRR Siria 80.67 323 ⇓*i*P **P 22 46 29.4 +1.1**
CLL Collm 80.70 330 *eP* **P 22 46 28.4 0.0**
comp=Z,23nm,1.0s
CLL Collm 80.70 330 ⇓*i*P **P 22 46 28.8 +0.5**
comp=Z,24nm,1.1s
CLL *e*PP **PP 22 49 32.0 +0.4**
CLL Lm MLR 23 25 00.0
comp=Z,200nm,18.8s
CLL Collm 80.70 330 ⇓*i*P **P 22 46 28.8 +0.5**
CLL pmax pmax
comp=Z,24nm,1.1s
GZR Gura Zlata 80.75 321 ⇓*i*P **P 22 46 29.3 +0.5**
VRAC Vranov 80.75 327 ⇑*i*P **P 22 46 29.5 +0.9**
VRAC Vranov 80.75 327 P **P 22 46 29.8 +1.1**
VRAC pmax pmax
comp=Z,13nm,1.2s
VRAC Vranov 80.75 327 *eP* **P 22 46 29.6 +0.9**
SMOL Smolenice 80.98 326 *eP* **P 22 46 31.6 +1.7**
SMOL Smolenice 80.98 326 *eP* **P 22 46 31.6 +1.7**
KRUC Moravsky 81.02 327 *eP* **P 22 46 30.8 +0.7**
GOPC GO Pecny, Ondr 81.05 328 *eP* **P 22 46 31.4 +1.1**
GOPC AMS AMS 22 46 40.0
GOPC GO Pecny, Ondr 81.05 328 *eP* **P 22 46 31.4 +1.1**
MODS Modra-Piesok 81.16 326 *eP* **P 22 46 31.4 +0.5**
MODS pmax pmax
comp=Z,13nm,1.1s
MODS Modra-Piesok 81.16 326 *eP* **P 22 46 31.4 +0.5**
BZS Buzias 81.16 322 ⇑*i*P **P 22 46 31.1 +0.2**
X16A Lo Mia Camp, P 81.26 53 *eP* **P 22 46 33.3 +1.4**
comp=Z,8.3nm,1.3s
ISCO Idaho Springs 81.26 46 P P 22 46 37.1 +5.1
ISCO pmax pmax
comp=Z,5.0nm,1.5s
MVCO Mesa Verde 81.28 49 *eP* **P 22 46 34.1 +2.1**
comp=Z,8.1nm,1.1s
HERR Herculane 81.30 321 ⇑*i*P **P 22 46 31.7 +0.1**
MDVR Moldovita 81.72 321 ⇑*i*P **P 22 46 33.6 -0.3**
MOX Moxa 81.76 331 P **P 22 46 35.8 +1.8**
MOX pmax pmax
comp=Z,11nm,2.4s
S22A 4UR Ranch, Cre 81.92 48 *eP* **P 22 46 37.1 +1.6**
comp=Z,4.8nm,0.9s
CONA Conrad Observa 82.11 327 *i* P **P 22 46 37.1 +1.0**
comp=Z,10nm,1.0s
MORH M¯ţr¯igy, Hung 82.14 324 *eP* **P 22 46 35.5 -0.6**
KHC Kasperske Hory 82.16 329 *eP* **P 22 46 36.9 +0.7**
comp=Z,4.6nm,0.9s
KHC Kasperske Hory 82.16 329 *eP* **P 22 46 36.8 +0.7**
KHC *ex* x 22 46 45.5
KHC AMS AMS 22 46 50.0
KHC Kasperske Hory 82.16 329 *eP* **P 22 46 36.9 +0.7**
KHC pmax pmax
comp=Z,5.0nm,0.9s
GEC2 GERESS Array S 82.33 328 *eP* **P 22 46 37.7 +0.5**
comp=Z,9.9nm,1.3s
GEC2 GERESS Array S 82.33 328 *eP* **P 22 46 37.7 +0.5**
GEC2 pmax pmax
comp=Z,10.0nm,1.3s
GERES GERESS Array B 82.33 328 P **P 22 46 37.6 +0.5**
comp=Z,3.5nm,0.6s,baz=49,slow=4.1,SNR=14
GERES LR LR 23 27 23.8
comp=Z,187nm,18.4s,baz=14,slow=39
GEA0 GERESS Array S 82.34 328 *eP* **P 22 46 37.2 +0.1**
WET Wettzell 82.44 329 P **P 22 46 38.6 +1.0**
VTS Vitosha 82.52 319 *eP* **P 22 46 39.0 +0.7**
comp=Z,8.6nm,0.8s
VTS Vitosha 82.52 319 ⇑*i*P **P 22 46 39.1 +0.7**
VTS Vitosha 82.52 319 *eP* **P 22 46 39.0 +0.7**
VTS pmax pmax
comp=Z,9.0nm,0.8s
ARSA Arzberg 82.78 326 *i* P **P 22 46 40.0 +0.6**
comp=Z,7.3nm,1.0s
MOA Molln 82.86 327 *eP* **P 22 46 41.1 +1.3**
comp=Z,8.9nm,1.2s
DIVS Divibare 83.06 322 *eP* **P 22 46 41.2 +0.2**
comp=Z,14nm,1.3s
DIVS Divibare 83.06 322 ⇑*i*P **P 22 46 41.1 +0.1**
ECSD EROS Data Cent 83.30 38 *eP* **P 22 46 43.0 +0.9**
comp=Z,11nm,1.2s
PERS Pernice 83.43 326 *eP* **P 22 46 43.3 +0.5**
PERS Pernice 83.43 326 *eP* **P 22 46 43.3 +0.5**
SOKA Soboth 83.43 326 *i* P **P 22 46 42.8 -0.1**
comp=Z,13nm,0.8s,SNR=9.0
DOB Doboj 83.50 323 *eP* **P 22 46 45.3 +2.2**
E38A The Farm, Brul 83.50 34 *eP* **P 22 46 43.7 +0.5**
comp=Z,12nm,0.9s
BBLS Lazići 83.52 322 ⇑*i*P **P 22 46 43.9 +0.5**
HAPS Han Pijesak,BI 83.58 322 ⇑*i*P **P 22 46 43.7 0.0**
KNT Kendrikon 83.70 318 P **P 22 46 45.1 +0.8**
KNT pmax pmax
comp=Z,10.0nm,1.4s
VAY Valandovo 83.76 319 *i* P **P 22 46 45.0 +0.4**
OBKA Obir 83.78 326 *i* P **P 22 46 44.1 -0.6**
comp=Z,4.8nm,0.8s
KBA Koelnbreinsper 83.86 327 *eP* **P 22 46 45.1 -0.1**
comp=Z,9.4nm,0.8s
KBA Koelnbreinsper 83.86 327 P **P 22 46 46.9 +1.7**
KBA pmax pmax
comp=Z,12nm,0.8s
FUR Furstenfeldbru 83.86 329 P **P 22 46 46.3 +1.3**
FUR pmax pmax
comp=Z,27nm,0.8s
SKO Skopje 83.88 320 *i* P **P 22 46 46.0 +0.9**
CRES Cresnjev 83.90 325 *eP* **P 22 46 45.2 0.0**
BLY Banja Luka 83.92 324 *eP* **P 22 46 45.4 +0.1**
comp=Z,9.1nm,1.0s
BLY Banja Luka 83.92 324 ⇑*i*P **P 22 46 45.7 +0.4**
BLY Banja Luka 83.92 324 *eP* **P 22 46 41.4 -3.9**
ANMO Albuquerque 84.02 50 *eP* **P 22 46 47.8 +1.5**
comp=Z,7.6nm,1.1s
ANMO Albuquerque 84.02 50 *eP* **P 22 46 47.8 +1.5**
ANMO pmax pmax
comp=Z,8.0nm,1.1s
MYKA Terra Mystica 84.08 327 *i* P **P 22 46 45.9 -0.3**
comp=Z,4.4nm,0.6s
GRG Griva 84.11 318 P **P 22 46 46.8 +0.4**
GRG pmax pmax
comp=Z,10.0nm,1.7s
VISS Visnje 84.19 326 *eP* **P 22 46 46.9 +0.2**
VISS Visnje 84.19 326 *eP* **P 22 46 46.9 +0.2**
PMOR Pomariorio Ree 84.20 114 *eT* T 00 19 15.2
comp=Z,36nm,0.2s
BOJS Bojanci 84.24 325 *i* P **P 22 46 47.4 +0.5**
BOJS *i* 22 46 57.0
BOJS Bojanci 84.24 325 *i* P **P 22 46 47.4 +0.5**
BOJS *i* 22 46 57.0
UPM Unac-Piva 84.25 322 ⇑*i*P **P 22 46 47.5 +0.2**
WATA Walderalm 84.40 329 *i* P **P 22 46 47.9 +0.1**
comp=Z,2.3nm,0.6s
KRUS Krusevo 84.42 319 *i* P **P 22 46 48.3 +0.2**
CEY Cerknica 84.42 326 *eP* **P 22 46 47.7 -0.2**
JAVS Javornik 84.47 326 *eP* **P 22 46 47.9 -0.3**
JAVS Javornik 84.47 326 *eP* **P 22 46 47.9 -0.3**
ABTA Altaltersbach 84.47 328 *i* P **P 22 46 48.3 +0.1**
comp=Z,3.4nm,0.8s
MOTA Moosalm 84.59 329 *eP* **P 22 46 48.8 -0.1**
comp=Z,5.1nm,0.8s,SNR=5.1
RETA Reutte 84.61 329 *i* PcP **PcP 22 46 49.7 -2.7**
comp=Z,12nm,0.7s,SNR=6.2
SQTA Sankt Quirin 84.64 329 *eP* **P 22 46 49.5 +0.4**
comp=Z,6.3nm,0.7s
PDG Podgorica 84.65 321 ⇑*i*P **P 22 46 49.2 +0.2**
PDG Podgorica 84.65 321 *eP* **P 22 46 49.3 +0.2**
TTG Podgorica 84.65 321 *eP* **P 22 46 49.0 0.0**
comp=Z,15nm,0.8s
TTG Podgorica 84.65 321 *eP* **P 22 46 49.0 0.0**
TTG pmax pmax
comp=Z,15nm,0.8s
BRY Bratogost 84.66 322 *eP* **P 22 46 48.7 -0.6**
LIT Litokhoron 84.68 318 *eP* **P 22 46 49.4 +0.1**
comp=Z,19nm,0.8s
LIT Litokhoron 84.68 318 *eP* **P 22 46 49.4 +0.1**
LIT pmax pmax
comp=Z,19nm,0.8s
PPT Papeete 84.68 117 LR LR 23 20 26.5
comp=Z,128nm,19.0s,baz=348,slow=33
SCHQ Schefferville 84.69 16 LR LR 23 26 37.7
comp=Z,51nm,19.6s,baz=333,slow=37
PPT2 Papeete2 84.70 117 *e*LR LR 23 13 41.6
comp=Z,155nm,24.5s
OHR Ohrid 84.84 319 *i* P **P 22 46 50.5 +0.4**
TIAR Tiarei 84.84 117 *e*T T 00 20 03.0
comp=Z,3.3nm,0.2s
DRME Dracevica, Mon 84.87 321 *eP* **P 22 46 50.4 +0.2**
BFO Black Forest 84.90 331 *eP* **P 22 46 50.8 +0.5**
comp=Z,20nm,0.9s
BFO Black Forest 84.90 331 *eP* **P 22 46 50.8 +0.5**
BFO pmax pmax
comp=Z,19nm,0.9s
FETA Feichten 85.00 329 *i* P **P 22 46 51.0 0.0**
comp=Z,8.8nm,0.8s
DAVA Damuels 85.13 329 *eP* **P 22 46 51.5 -0.1**
comp=Z,15nm,0.8s
ECH Echery 85.44 331 *eP* **P 22 46 53.1 +0.2**
comp=Z,14nm,0.9s
ECH Echery 85.44 331 *eP* **P 22 46 53.1 +0.2**
ECH pmax pmax
comp=Z,14nm,0.9s
FUORN Ofenpass-Fuorn 85.51 329 *eP* **P 22 46 53.9 +0.2**
comp=Z,18nm,0.7s
TAOE Nuku Hiva Isla 86.08 104 *e*LR LR 23 13 40.2
comp=Z,383nm,31.7s
IDI Anoyia 86.76 313 ⇑*i*P **P 22 46 56.0 -3.8**
ITM Ithomi 87.09 316 *eP* **P 22 47 01.3 0.0**
comp=Z,27nm,0.7s
TIP Timpagrande 88.34 320 ⇑*i*P **P 22 47 06.0 -1.3**
TBI Tubuai 88.62 121 *e*T T 00 24 45.2
comp=Z,64nm,0.3s
TX31 Lajitas Ar. Si 89.56 53 *eP* **P 22 47 14.6 +1.3**
TXAR Lajitas Array 89.56 53 P **P 22 47 14.6 +1.3**
comp=Z,0.9nm,0.5s,baz=308,slow=2.9,SNR=13
TXAR LR LR 23 26 07.7
comp=Z,41nm,18.9s,baz=0.0,slow=35
CCM Cathedral Cave 90.24 39 *eP* **P 22 47 16.9 +0.7**
CCM pP **sP 22 47 28.7 +0.3**
CCM Cathedral Cave 90.24 39 *eP* **P 22 47 16.9 +0.7**
CCM *PP **sP 22 47 28.7 +0.3**
MIAR Mount Ida 91.71 43 *eP* **P 22 47 24.2 +1.2**
MIAR Mount Ida 91.71 43 *eP* **P 22 47 24.2 +1.2**
WHAR Wooly Hollow 91.83 41 *eP* **P 22 47 25.1 +1.6**
comp=Z,7.2nm,0.8s
KEST Kesra 94.69 323 LR LR 23 35 06.0
comp=Z,195nm,18.2s,baz=317,slow=39
ES19 SONSECA Array 96.81 334 *eP* **P 22 47 46.8 +0.4**
ESDC Sonseca Array 96.86 334 P **P 22 47 46.8 +0.2**
comp=Z,0.6nm,0.7s,baz=1.8,slow=3.5,SNR=4.5
ESDC LR LR 23 34 43.0
comp=Z,183nm,19.8s,baz=280,slow=38
TORD Torodi Ar. Bea 117.08 315 PKP **PKPdf 22 53 00.6 -0.3**
comp=Z,1.0nm,1.1s,baz=19,slow=1.9,SNR=5.2
TORD PP PP 22 53 56.8 -13
baz=39,slow=4.2
SNAA Sanae 141.39 197 PKP PKPpre 22 53 39.2
SNAA Sanae 141.39 197 *e*PKPpre PKPpre 22 53 40.7
SNAA Sanae 141.39 197 *e*PKHKP PKPpre 22 53 40.7
VNA2 Neumayer--Watz 142.96 196 PKP **PKPdf 22 53 45.4 -2.5**
slow=2.5
VNA3 Neumayer Olymp 143.21 195 PKP PKPbc 22 53 44.7 -0.7
VNA1 Neumayer--Stat 143.36 196 PKP **PKPdf 22 53 46.2 -2.3**
LPAZ La Paz 146.18 59 PKPbc **PKPab 22 53 57.7 +0.1**
comp=Z,3.9nm,0.7s,baz=328,slow=3.3,SNR=17
PB11 IPOC Station P 147.43 66 *e*PKPdf **PKPbc 22 53 59.2 -0.6**
PMSA Palmer Station 148.84 159 *e*PKPdf **PKPbc 22 54 00.2 -1.8**

IDC 02 22:40:01.0±8.2, **13.46S**×**166.95E**, **h184**km±79km, **mb3.6**/4, **mb1 3.6**/5, **mb1mx3.2**/45, **mbtmpg3.9**/5, **MS4.3/1**, **Ms1 4.3/1**, **ms1mx2.7**/23, **Error ellipse: s-maj=65.9km s-min=38.0km az=161.0**, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.57**	**183**	P		P	Pn	22 42 02.0	+0.1
	0.1nm,0.3s,baz=310,slow=17,SNR=3.5								
DZM				S		Sn		22 43 38.2	+0.2
	0.1nm,0.3s,baz=330,slow=20,SNR=2.5								
RAO	**Raoul Island**	**21.07**	**141**	LR		LR		22 50 17.4	
	comp=Z,873nm,20.4s,baz=320,slow=29								
STKA	**Stephens Creek**	**29.59**	**228**	P		P		22 45 49.4	+0.5
	2.8nm,0.4s,baz=30,slow=9.1,SNR=9.5								
WRA	**Warramunga Arr**	**31.85**	**254**	P		P		22 46 08.7	-0.2
	0.6nm,0.7s,baz=82,slow=8.6,SNR=2.5								
ASAR	**Alice Springs**	**32.85**	**247**	P		P		22 46 17.1	-0.5
	1.4nm,0.5s,baz=77,slow=9.4,SNR=12								
MKAR	**Makanchi Array**	**96.08**	**317**	P		P		22 53 08.5	+0.9
	0.3nm,0.5s,baz=85,slow=6.2,SNR=3.9								
ARCES	**ARCESS Array B**	**118.96**	**345**	PKP		PKPdf		22 58 25.8	-1.2
	2.5nm,0.9s,baz=62,slow=2.1,SNR=5.2								

NIED ***02*** *23:04:00,29.50N×131.50E,h5km,Mw4.1 Best double couple: M0 1.52000×10^15 NP1:φs 16.00000°,δ29.00000°, λ-86.00000°. NP2:φs 191.00000°,δ61.00000°, λ-92.00000°.*

IDC ***02*** *23:04:08.2±0.7,29.52N×131.48E,h0km,mb3.8/11, mb1 3.9/17,mb1mx3.8/35,mbtmpg3.8/17,ML3.7/5,MS3.0/3, Ms1 3.1/3,ms1mx2.7/38,Error ellipse: s-maj=25.5km s-min=13.7km az=84.0*

NEIC ***02*** *23:04:10.4±2.7,29.46N×131.48E,h16km±17km,mb4.2/7, Error ellipse: s-maj=8.1km s-min=5.9km az=89.0*

JMA ***02*** *23:04:11.9±0.1,29.48N×131.53E,h61km±3km,M4.0*

ISC 02 23:04:10.2±1.6, **29.48N**±0.03×**131.50E**±0.05, **h15**km±10km, **n46**, **σ0.65**/63, **mb4.0**/15, **Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JMTN	**Minamitane**	**1.05**	**331**	P		P	**Pg**	**23 04 30.9**	**+0.3**
JMTN						eS	**Sn**	**23 04 45.3**	**+0.4**
JYAK	**Yakushimahirau**	**1.14**	**312**	P		P	**Pg**	**23 04 32.3**	**0.0**
JYAK						eS	**Sg**	**23 04 47.0**	**-0.3**
JTN	**Tanegashima 3**	**1.26**	**339**	P		P	**Pb**	**23 04 33.6**	**0.0**
JTN						eS	**Sn**	**23 04 49.9**	**0.0**
JNN	**Nakanoshima**	**1.46**	**285**	P		P	**Pb**	**23 04 36.8**	**-0.2**
JNN						eS	**Sb**	**23 04 55.5**	**+0.1**
JKC	**Kuchinoerabu**	**1.50**	**311**	P		P	**Pb**	**23 04 37.2**	**-0.5**
JKC						eS	**Sb**	**23 04 56.3**	**-0.2**
JTSR	**Tashiro 2**	**1.76**	**344**	P		P	**Pn**	**23 04 40.7**	**+0.6**
JTSR						eS	**Sn**	**23 05 02.1**	**-0.2**
JZK	**Kikaishima**	**1.77**	**229**	P		P	**Pb**	**23 04 41.5**	**-0.8**
JZK						eS	**Sn**	**23 05 02.8**	**+0.3**
JAM	**Amami Oshima**	**1.97**	**238**	P		P	**Pn**	**23 04 43.6**	**+0.6**
JAM						eS	**Sn**	**23 05 07.5**	**+0.1**
JTAJ	**Takarajima**	**2.03**	**261**	P		P	**Pn**	**23 04 44.1**	**+1.0**
JTAJ						eS	**Sn**	**23 05 09.6**	**+0.7**
JNAR	**Kushima--Naru**	**2.05**	**355**	P		P	**Pn**	**23 04 45.1**	**+0.9**
JNAR						eS	**Sn**	**23 05 09.3**	**-0.2**
JSU	**Suzuyama**	**2.21**	**336**	P		P	**Pn**	**23 04 46.9**	**+0.5**
JSU						eS	**Sn**	**23 05 13.1**	**-0.4**
JAMN	**Amaminishikomi**	**2.38**	**239**	P		P	**Pn**	**23 04 49.4**	**+0.8**
JAMN						eS	**Sn**	**23 05 18.2**	**+0.7**

JTZ	**Takazaki**	**2.44**	**352**	P	**Pn**	**23 04 50.4**	**+0.9**
JTZ				*e*S	**Sn**	**23 05 18.8**	**-0.3**
JSJ	**Shimokoshiki**	**2.68**	**325**	P	**Pn**	**23 04 52.5**	**-0.3**
JSJ				*e*S	**Sn**	**23 05 23.4**	**-1.6**
JTSN	**Tsuno**	**2.76**	**0**	P	**Pn**	**23 04 54.3**	**+0.4**
JTSN				*e*S	**Sn**	**23 05 26.9**	**-0.1**
JZO	**Okuchi**	**2.77**	**344**	P	**Pn**	**23 04 54.9**	**+0.9**
JZO				*e*S	**Sn**	**23 05 27.4**	**+0.2**
JTK	**Tokunoshima**	**2.80**	**234**	P	**Pn**	**23 04 55.3**	**+0.8**
JTK				*e*S	**Sn**	**23 05 28.4**	**+0.4**
JNU	**Nakatsue**	**3.67**	**352**	Pn	**Pn**	**23 05 06.8**	**+0.3**
	14nm,0.3s,baz=181,slow=8.8,SNR=61						
JNU				Sn	**Sn**	**23 05 48.7**	**-0.8**
	5.1nm,0.3s,baz=57,slow=22,SNR=8.3						
JOW	**Kunigami**	**3.88**	**228**	Pn	**Pn**	**23 05 08.3**	**-1.0**
	13nm,0.3s,baz=142,slow=22,SNR=22						
JOW				Sn	**Sn**	**23 05 53.1**	**-1.5**
	6.1nm,0.3s,baz=128,slow=19,SNR=3.6						
KSRS	**Korea Array**	**8.50**	**340**	Pn	**Pn**	**23 06 13.2**	**+0.5**
	0.4nm,0.3s,baz=162,slow=15,SNR=3.1						
KSAR	**Wonju Array Be**	**8.50**	**340**	Pn	**Pn**	**23 06 13.2**	**+0.5**
MAJO	**Matsushiro**	**9.02**	**37**	Pn	**Pn**	**23 06 20.7**	**+0.8**
MJAR	**Matsushiro Arr**	**9.02**	**37**	Pn	**Pn**	**23 06 20.1**	**+0.2**
	0.8nm,0.3s,baz=236,slow=15,SNR=6.0						
JCJ	**Chichijima**	**9.72**	**102**	LR	LR	23 09 23.1	
	comp=Z,125nm,18.6s,baz=236,slow=32						
USRK	**Ussuriysk Ar.**	**14.70**	**1**	Pn	**Pn**	**23 07 37.8**	**+0.2**
	baz=178,slow=13						
MDJ	**Mudanjiang**	**15.19**	**355**	Pn	**Pn**	**23 07 44.8**	**+0.7**
	2.6nm,0.4s						
ENH	**Enshi**	**19.10**	**278**	P	**P**	**23 08 32.6**	**+0.1**
	0.9nm,0.3s						
KLR	**Kul'dur**	**19.73**	**0**	P	**Pn**	**23 08 40.4**	**-0.3**
	0.2nm,0.3s,baz=180,slow=8.9,SNR=4.9						
GUMO	**Guam**	**20.09**	**139**	P	**P**	**23 08 43.1**	**-0.2**
	76nm,1.0s						
SONM	**Songino Array**	**26.65**	**320**	P	**P**	**23 09 48.0**	**-0.4**
	0.7nm,0.4s,baz=136,slow=11,SNR=8.2						
SONM				LR	LR	23 21 08.2	
	comp=Z,37nm,18.6s,baz=79,slow=38						
TLY	**Talaya**	**30.33**	**325**	P	**P**	**23 10 21.1**	**0.0**
	1.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**31.60**	**257**	LR	LR	23 25 49.8	
	comp=Z,17nm,18.3s,baz=305,slow=41						
MKAR	**Makanchi Array**	**41.66**	**309**	P	**P**	**23 11 58.4**	**+0.4**
	0.3nm,0.5s,baz=89,slow=9.2,SNR=5.7						
KURK	**Kurchatov**	**44.56**	**314**	P	**P**	**23 12 21.8**	**+0.4**
	1.6nm,0.5s						
NRIK	**Noril'sk**	**47.12**	**340**	P	**P**	**23 12 41.1**	**-0.2**
	2.0nm,0.7s,baz=114,slow=5.5,SNR=4.3						
WRAB	**Tennant Creek**	**49.20**	**176**	P	**P**	**23 12 56.4**	**-1.5**
	7.8nm,1.7s						
WRA	**Warramunga Arr**	**49.21**	**176**	P	**P**	**23 12 58.2**	**+0.3**
	0.6nm,1.0s,baz=355,slow=8.2,SNR=3.3						
ASAR	**Alice Springs**	**52.89**	**177**	P	**P**	**23 13 27.3**	**+1.7**
	0.3nm,0.6s,baz=10.0,slow=12,SNR=3.6						
ILAR	**Eielson Array**	**60.21**	**29**	P	**P**	**23 14 16.7**	**-0.6**
	0.3nm,0.6s,baz=266,slow=4.9,SNR=6.7						
STKA	**Stephens Creek**	**61.77**	**170**	P	**P**	**23 14 29.1**	**+0.9**
	0.9nm,0.4s,baz=335,slow=15,SNR=2.5						
TAU	**Tasmania Unive**	**73.49**	**168**	P	**P**	**23 15 41.7**	**-0.2**
	6.8nm,0.9s						
AKASG	**Malin Array Be**	**74.93**	**320**	P	**P**	**23 15 50.1**	**-0.4**
	0.8nm,0.3s,baz=58,slow=6.0,SNR=3.2						
BRTR	**Keskin Array B**	**77.31**	**308**	P	**P**	**23 16 05.0**	**+0.5**
	1.6nm,0.8s,baz=106,slow=4.2,SNR=7.1						
NB2	**NORSAR Subarra**	**77.66**	**335**	P	**P**	**23 16 05.4**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=51,slow=5.9						
NOA	**NORSAR Array B**	**77.66**	**335**	P	**P**	**23 16 05.6**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=49,slow=5.5,SNR=3.0						
NVAR	**Mina Array Bea**	**86.18**	**48**	P	**P**	**23 16 51.2**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=296,slow=5.5,SNR=8.0						

SJA ***02*** *23:42:22.5±1.2, 35˚.35S×72˚.73W, h33km, ML4.7, MW4.3*

ISCJB ***02*** *23:42:36.7±0.4, 34˚.80S±0˚.03×71˚.80W±0˚.07, h60km±3km, mb4.5/21, Error ellipse: s-maj=9.7km s-min=4.4km az=19.8*

GUC ***02*** *23:42:36.5±0.5, 34˚.85S×71˚.79W, h60km±4km, ML4.6*

NEIC ***02*** *23:42:36.0±0.0, 34˚.85S×71˚.79W, h60km, mb4.5/14, MW4.3, ML4.6(GUC), Moment Tensor Solution. s5 Moment tensor: Scale 10^15^Nm; Mrr2.08; Mθθ-0.30; Mφφ-1.78; Mrθ0.15; Mrφ-0.52; Mθφ-2.25; Best double couple: Mo3.00000×10^15^ NP1:φs182.00000°, δ69.00000°, λ80.00000°. NP2:φs29.00000°, δ23.00000°, λ114.00000°. Principal axes: T 3.1500, Plg64.0000°, Azm76.0000°; N -0.2700, Plg9.0000°, Azm186.0000°; P -2.8800, Plg24.0000°, Azm280.0000°; After GUC.*

NEIC Felt [IV] at Curico, Duao, Hualane, Iloca, Lolol, Longavi and Romeral; [III] at Constitucion, Linares, Maule, Molina, Paredones, Pelarco, Pencahue, Pichilemu, San Clemente, San Fernando, San Javier, Santa Cruz, Talca and Villa Alegre; [II] at Colbun and Rancagua.

IDC ***02*** *23:42:37.3±0.6, 34˚.76S×71˚.62W, h47km±6km, mb4.0/11, mb1 4.1/14, mb1mx3.9/40, mbtmp4.2/14, MS3.5/5, Ms1 3.5/5, ms1mx3.1/25 Error ellipse: s-maj=23.1km s-min=14.4km az=79.0*

ISC 02 23:42:37.3±0.5, 34.79S±0˚.04×71.82W±0˚.07, h49km±5km, n71, σ1s09/85, mb4.5/21, 4C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**HualaæØ**	**0.24**	**202**	*e*Pn	**Pn**	**23 42 46.3**	**+0.4**
GO05	**HualaæØ**	**0.24**	**202**	⇑*i*P	**Pn**	**23 42 46.0**	**+0.1**
GO05				*e*S	**Sn**	**23 42 52.6**	**+0.7**
ANTU	**Antumapu**	**1.56**	**39**	*e*P	**Pn**	**23 43 02.6**	**0.0**
ANTU				*e*S	**Sn**	**23 43 22.3**	**+0.6**
ANTU				IAML		23 43 24.8	
	comp=E,10μm,0.5s						
LMEL	**Las Melosas**	**1.63**	**55**	⇓*i*P	**Pn**	**23 43 03.2**	**-0.5**
LMEL				*e*S	**Sn**	**23 43 24.2**	**+0.6**
CLCH	**Cerro Calan**	**1.75**	**38**	⇓*i*P	**Pn**	**23 43 05.1**	**-0.1**
CLCH				*e*S	**Sn**	**23 43 26.8**	**+0.4**
CLCH				IAML		23 43 35.2	
	comp=N,9μm,0.2s						
CCHI	**Chillan**	**1.83**	**187**	*e*P	**Pn**	**23 43 07.7**	**+1.5**
PEL	**Peldehue**	**1.89**	**30**	*e*Pn	**Pn**	**23 43 07.4**	**+0.3**
PEL	**Peldehue**	**1.89**	**30**	*e*P	**Pn**	**23 43 07.5**	**+0.3**
PEL				*e*S	**Sn**	**23 43 35.0**	**+5.3**
PEL	**Peldehue**	**1.89**	**30**	⇑*i*P	**Pn**	**23 43 07.3**	**+0.3**
PEL				*e*S	**Sn**	**23 43 30.1**	**+0.3**
ROC1	**El Roble**	**1.92**	**21**	*e*Pn	**Pn**	**23 43 08.2**	**+0.4**
ROC1	**El Roble**	**1.92**	**21**	*e*P	**Pn**	**23 43 08.2**	**+0.4**
ROC1				⇓*e*S	**Sn**	**23 43 31.8**	**+0.8**
FCH	**Farellones**	**1.93**	**42**	⇑*i*P	**Pn**	**23 43 08.0**	**0.0**
FCH				*e*S	**Sn**	**23 43 31.8**	**+0.6**
ROCH	**El Roble**	**1.93**	**21**	*e*P	**Pn**	**23 43 08.1**	**+0.3**
ROCH				*e*S	**Sn**	**23 43 32.3**	**+1.2**
ROCH				IAML		23 43 38.6	
	comp=N,7μm,0.4s						
AAGR	**Agrelo**	**3.01**	**57**	⇓*e*P	**Pn**	**23 43 24.4**	**+1.9**
ARCO	**CERRO ARCO**	**3.09**	**52**	*e*P	**Pn**	**23 43 25.8**	**+2.1**
ARCO				IAML		23 43 45.3	
	comp=Z,561nm,0.4s						
AUSP	**Uspallata**	**3.26**	**39**	⇓*e*P	**Pn**	**23 43 28.5**	**+2.3**
ASAL	**Salagasta**	**3.31**	**49**	*e*P	**Pn**	**23 43 29.0**	**+2.3**
RTLS	**Leoncito**	**3.65**	**36**	*e*P	**Pn**	**23 43 33.7**	**+2.1**
RTLS				IAML		23 43 52.8	
	comp=Z,404nm,0.8s						
RTCV	**Cerro Valdivia**	**4.00**	**44**	*e*P	**Pn**	**23 43 37.2**	**+1.0**
RTLL	**Cerro Villicun**	**4.45**	**40**	*e*P	**Pn**	**23 43 42.6**	**+0.4**
RTLL				⇓*e*S	Sn	23 44 43.7	+11
RTLL				IAML		23 44 44.5	
	comp=N,797nm,0.5s						
ACAN	**Cantantal**	**4.61**	**58**	*e*P	**Pn**	**23 43 45.5**	**+1.1**
GO04	**Tololo Observa**	**4.68**	**11**	*e*Pn	**Pn**	**23 43 45.2**	**-0.4**
AMOG	**MOGNA**	**4.75**	**37**	⇓*e*P	**Pn**	**23 43 46.7**	**+0.3**
ACCO	**Cerro Coronel**	**4.79**	**30**	*e*P	**Pn**	**23 43 47.5**	**+0.3**
GO06	**Curarrehue**	**4.80**	**177**	*e*Pn	**Pn**	**23 43 48.0**	**+0.9**
AROD	**Rodeo**	**5.01**	**24**	*e*P	**Pn**	**23 43 51.4**	**+1.1**
LCO	**Las Campanas**	**5.83**	**10**	*e*Pn	**Pn**	**23 44 00.6**	**-0.9**
AGUA	**GUANDACOL**	**5.99**	**29**	*e*P	**Pn**	**23 44 03.5**	**0.0**
PLCA	**Paso Flores**	**6.02**	**171**	P	**Pn**	**23 44 05.2**	**+1.4**
	comp=N,2.4nm,0.3s,baz=359,slow=12,SNR=35						
PLCA				LR	LR	23 46 32.4	
	comp=N,230nm,18.2s,baz=10,slow=39						
PLCA	**Paso Flores**	**6.02**	**171**	*e*Pn	**Pn**	**23 44 04.7**	**+0.8**
VCA	**Vinchina**	**6.77**	**28**	*e*P	**Pn**	**23 44 13.4**	**-0.8**
VCA				*e*P	**Pn**	**23 44 14.6**	**+0.3**
VCA				IAML		23 45 47.7	
	comp=Z,166nm,0.5s						
TCA	**Tanti**	**6.97**	**62**	*e*P	**Pn**	**23 44 16.0**	**-0.9**
TCA				IAML		23 44 19.9	
	comp=Z,49nm,0.5s						
GO03	**Copiap**	**7.30**	**11**	*e*Pn	**Pn**	**23 44 19.5**	**-1.9**
TRQA	**Tornquist**	**8.57**	**115**	*e*Pn	**Pn**	**23 44 38.6**	**-0.1**
	comp=Z,11nm,0.7s						
CPUP	**Villa Florida**	**15.05**	**60**	P	**Pn**	**23 46 06.4**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=216,slow=15,SNR=3.3						
CPUP				LR	LR	23 52 35.4	
	comp=Z,163nm,18.4s,baz=242,slow=40						
PB11	**IPOC Station P**	**15.09**	**8**	*e*Pn	**Pn**	**23 46 08.3**	**+0.8**
	comp=Z,16nm,1.0s						
MNMC	**Minye Minye**	**15.72**	**8**	*e*Pn	**Pn**	**23 46 17.2**	**+1.4**
	comp=Z,23nm,0.8s						
LPAZ	**La Paz**	**18.71**	**11**	P	**Pn**	**23 46 53.8**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=172,slow=7.6,SNR=19						
LPAZ	**La Paz**	**18.71**	**11**	*e*P	**P**	**23 46 52.1**	**-0.3**
	comp=Z,4.7nm,0.8s						
USHA	**Ushuaia**	**20.18**	**174**	P	Pn	23 47 09.2	-0.7
	comp=Z,6.1nm,0.7s,baz=246,slow=9.4,SNR=5.2						
USHA				LR	LR	23 56 13.9	
	comp=Z,154nm,18.1s,baz=326,slow=40						
SAML	**Samuel**	**26.91**	**19**	*e*P	**P**	**23 48 12.9**	**-1.0**
	comp=Z,2.8nm,0.9s						
BDFB	**Brasilia**	**28.63**	**54**	P	**P**	**23 48 27.3**	**-2.1**
	comp=Z,1.8nm,0.4s,baz=233,slow=7.6,SNR=4.4						
BDFB				LR	LR	00 00 47.0	
	comp=Z,133nm,21.0s,baz=209,slow=38						
BDFB	**Brasilia**	**28.63**	**54**	*e*P	**P**	**23 48 29.2**	**-0.3**
	comp=Z,10nm,1.0s						
PTGA	**Pitinga**	**35.64**	**21**	*e*P	**P**	**23 49 29.6**	**-1.1**
	comp=Z,12nm,0.8s						
SDV	**Santo Domingo**	**43.45**	**2**	*e*P	**P**	**23 50 35.2**	**-0.6**
	comp=Z,7.1nm,1.0s						
VNA3	**Neumayer Olymp**	**48.56**	**158**	P	**P**	**23 51 15.8**	**+0.5**
VNA2	**Neumayer--Watz**	**49.22**	**157**	P	**P**	**23 51 20.7**	**+0.4**
	baz=288,slow=8.8						
SNAA	**Sanae**	**50.79**	**158**	P	**P**	**23 51 32.3**	**0.0**
SNAA	**Sanae**	**50.79**	**158**	*e*P	**P**	**23 51 32.7**	**+0.4**
	comp=Z,4.1nm,1.0s						
QSPA	**South Pole Qui**	**55.45**	**180**	P	**P**	**23 52 07.1**	**+0.4**
	comp=Z,2.5nm,0.7s,baz=185,slow=1.1,SNR=8.4						
QSPA				pP	**pP**	**23 52 20.0**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=121,slow=2.9,SNR=3.0						
QSPA	**South Pole Qui**	**55.45**	**180**	*e*P	**P**	**23 52 08.1**	**+1.3**
	comp=Z,6.2nm,1.0s						
QSPA				pP	**pP**	**23 52 20.0**	**-0.2**
SYO	**Syowa Base**	**65.07**	**158**	‖*e*X	**P**	**23 53 11.3**	**-0.9**
SYO	**Syowa Base**	**65.07**	**158**	‖*e*X	pP	23 53 20.0	-5.9
TXAR	**Lajitas Array**	**70.51**	**331**	P	**P**	**23 53 47.9**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=158,slow=8.3,SNR=10.0						
TXAR				pP	**pP**	**23 54 01.1**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=156,slow=9.1,SNR=9.5						
SWET	**Sewanee**	**70.88**	**348**	*e*P	**P**	**23 53 49.4**	**+0.4**
	comp=Z,9.7nm,1.0s						
V48A	**Smith Brothers**	**71.55**	**347**	*e*P	**P**	**23 53 53.2**	**+0.2**
	comp=Z,13nm,0.6s						
WVT	**Waverly**	**72.11**	**346**	*e*P	**P**	**23 53 56.1**	**-0.2**
	comp=Z,12nm,0.7s						
MAW	**Mawson**	**72.38**	**163**	P	**P**	**23 53 57.2**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=205,slow=4.7,SNR=9.8						
MAW				LR	LR	00 26 04.8	
	comp=Z,36nm,18.7s,baz=242,slow=36						
CCM	**Cathedral Cave**	**74.68**	**344**	*e*P	**P**	**23 54 11.8**	**+0.4**
	comp=Z,9.5nm,0.9s						
LIC	**Lamto**	**74.85**	**71**	*e*P	**P**	**23 54 12.0**	**-1.0**
	comp=Z,18nm,0.7s						
TIC	**Toumodi**	**75.12**	**71**	*e*P	**P**	**23 54 13.7**	**-0.9**
KIC	**Kosan Boka**	**75.16**	**71**	*e*P	**P**	**23 54 14.0**	**-0.8**
	comp=Z,26nm,0.9s						
DBIC	**Dimbokro**	**75.26**	**71**	P	**P**	**23 54 14.9**	**-0.5**
	comp=Z,5.4nm,0.7s,baz=206,slow=6.3,SNR=6.3						
BOSA	**Boshof**	**79.55**	**117**	P	**P**	**23 54 38.9**	**-0.6**
	comp=Z,4.0nm,0.6s,baz=244,slow=4.2,SNR=16						
BOSA				pP	**pP**	**23 54 53.0**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=296,slow=7.3,SNR=2.6						
ECSD	**EROS Data Cent**	**81.35**	**342**	*e*P	**P**	**23 54 48.8**	**+0.4**
	comp=Z,5.4nm,0.9s						
TOA0	**Torodi Ar. Sit**	**84.31**	**70**	*e*P	**P**	**23 55 03.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**84.31**	**70**	P	**P**	**23 55 03.3**	**-1.0**
	comp=Z,3.3nm,0.9s,baz=289,slow=4.5,SNR=18						
PDAR	**Pinedale Array**	**84.54**	**333**	P	**P**	**23 55 05.0**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=88,slow=4.9,SNR=3.6						
NVAR	**Mina Array Bea**	**84.63**	**325**	P	**P**	**23 55 06.7**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=143,slow=6.2,SNR=5.3						
NVAR				pP	**pP**	**23 55 20.5**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=152,slow=6.9,SNR=3.2						
MATP	**Matopo**	**86.63**	**112**	P	**P**	**23 55 16.2**	**+0.1**
	comp=Z,4.3nm,0.9s,baz=260,slow=4.3,SNR=8.0						
WRA	**Warramunga Arr**	**120.16**	**209**	PKP	**PKPdf**	**00 01 22.6**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=152,slow=1.5,SNR=7.2						
WRA				pPKP	**pPKPdf**	**00 01 36.3**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=158,slow=1.5,SNR=2.7						

DDA 02 23:51:50.6, 39.52N×28.83E, h7km, MI2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DURS	**Dursunbey**	**0.28**	**286**	*i* P	Pg	23 51 56.2	0.0
DURS				*i* S	Sg	23 52 00.8	+0.7
DEMI	**Demirci**	**0.49**	**190**	*i* P	Pg	23 52 00.6	+0.6
DEMI				*i* S	Sg	23 52 07.3	+0.9
GDZ	**Gediz**	**0.67**	**130**	*i* P	Pg	23 52 03.7	+0.2
GDZ				*i* S	Sb	23 52 13.3	-0.9
AKHS	**Akhisar**	**1.02**	**231**	*i* P	Pn	23 52 11.5	+0.1
AKHS				*i* S	Sb	23 52 24.9	+0.8
KHAL	**Karahalli**	**1.26**	**156**	*i* P	Pg	23 52 15.8	+1.0
KHAL				*i* S	Sn	23 52 32.3	+0.3

ISCJB ***02*** *23:56:05.0±1.3, 44˚.22S±0˚.08×72˚.4W±0˚.5, h150km, mb3.8/9, Error ellipse: s-maj=47.7km s-min=10.5km az=4.5*

IDC ***02*** *23:56:07.0±2.8, 44˚.23S×72˚.14W, h153km±24km, mb3.6/9, mb1 3.6/10, mb1mx3.4/36, mbtmp4.0/10, Error ellipse: s-maj=45.3km s-min=14.6km az=95.0*

ISC 02 23:56:06.6±1.3, 44.22S±0˚.10×72.2W±0˚.3, h150km, n17, σ0s56/17, mb3.9/9, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.70**	**20**	P	**Pn**	**23 57 03.4**	**+0.4**
	1.5nm,0.3s,baz=226,slow=13,SNR=39						
CPUP	**Villa Florida**	**21.53**	**39**	P	**P**	**00 00 44.1**	**+0.2**
	0.8nm,0.4s,baz=223,slow=8.7,SNR=4.4						
LPAZ	**La Paz**	**28.06**	**8**	P	**P**	**00 01 45.0**	**+0.4**
	1.1nm,0.4s,baz=168,slow=5.3,SNR=13						
BDFB	**Brasilia**	**35.11**	**43**	P	**P**	**00 02 45.2**	**-0.5**
	0.8nm,0.4s,baz=254,slow=7.4,SNR=2.8						
VNA3	**Neumayer Olymp**	**40.10**	**154**	P	**P**	**00 03 27.6**	**+0.7**
VNA1	**Neumayer--Stat**	**40.49**	**153**	P	**P**	**00 03 31.1**	**+1.1**
VNA2	**Neumayer--Watz**	**40.80**	**153**	P	**P**	**00 03 33.5**	**+0.8**
	baz=270,slow=8.9						
SNAA	**Sanae**	**42.31**	**154**	P	**P**	**00 03 45.8**	**+0.7**
SNAA	**Sanae**	**42.31**	**154**	P	**P**	**00 03 44.9**	**-0.1**
	2.3nm,0.8s,baz=251,slow=16,SNR=13						
PTGA	**Pitinga**	**44.65**	**18**	P	**P**	**00 04 03.9**	**-0.4**
	2.6nm,0.5s,baz=213,slow=8.9,SNR=8.7						
QSPA	**South Pole Qui**	**46.03**	**180**	P	**P**	**00 04 14.5**	**-0.2**
	2.8nm,1.0s,baz=179,slow=2.0,SNR=5.6						
MAW	**Mawson**	**63.45**	**162**	P	**P**	**00 06 19.6**	**-0.2**
	1.3nm,0.9s,baz=265,slow=11,SNR=3.9						
BOSA	**Boshof**	**75.58**	**116**	P	**P**	**00 07 34.4**	**-0.6**
	1.5nm,0.6s,baz=202,slow=5.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**87.88**	**69**	P	**P**	**00 08 39.0**	**-0.2**
	0.6nm,0.8s,baz=216,slow=4.4,SNR=6.0						
GERES	**GERESS Array B**	**119.21**	**49**	PKP	**PKPdf**	**00 14 37.0**	**-0.1**
	0.2nm,0.4s,baz=204,slow=1.7,SNR=2.8						
CMAR	**Chiang Mai Arr**	**153.26**	**161**	PKPbc	**PKPbc**	**00 15 46.9**	**-0.1**
	0.7nm,0.3s,baz=216,slow=4.0,SNR=4.3						
MKAR	**Makanchi Array**	**161.97**	**73**	PKPab	**PKPab**	**00 16 36.8**	**+0.4**
	0.8nm,0.7s,baz=262,slow=4.7,SNR=4.0						

SOME ***03*** *00:01:56.7, 43˚.10N×78˚.40E, h10km*

KRNET ***03*** *00:01:56.6±0.1, 43˚.12N×78˚.37E, h18km, mb2.6*

ISC 03 00:01:57.0±0.8, 43.14N±0˚.03×78.33E±0˚.02, h6km±6km, n36, σ1s19/72, 13C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHN	**Zhinishke**	**0.08**	**67**	*e*P	**Pg**	**00 01 59.4**	**+0.4**
	baz=44						
ZHN				*e*S	**Sg**	**00 02 01.3**	**+0.9**
	baz=44						
ZHN	**Zhinishke**	**0.08**	**67**	*e*P	**Pg**	**00 01 59.4**	**+0.4**
	41nm,0.1s						
ZHN				*e*S	**Sg**	**00 02 01.2**	**+0.9**
	540nm,0.2s						
SATY	**Saty**	**0.09**	**143**	⇑*i*P	**Pg**	**00 01 58.5**	**-0.6**
	444nm,0.1s						
SATY				⇓*i*S	**Sg**	**00 01 59.8**	**-0.9**
	1μm,0.1s						
KPKS	**Kokpek**	**0.42**	**38**	*e*P	**Pg**	**00 02 04.4**	**-0.7**
	baz=34						
KPKS				*e*S	**Sg**	**00 02 09.9**	**-0.8**
	baz=34						
KPKS	**Kokpek**	**0.42**	**38**	*e*P	**Pg**	**00 02 04.4**	**-0.7**
	2.6nm,0.1s						
KPKS				*e*S	**Sg**	**00 02 09.9**	**-0.8**
	11nm,0.3s						
UZB	**Uzynbulak**	**0.51**	**88**	*e*P	**Pg**	**00 02 05.9**	**-0.9**
	baz=86						
UZB				*e*S	**Sg**	**00 02 12.4**	**-1.0**
	baz=86						
UZB	**Uzynbulak**	**0.51**	**88**	*e*P	**Pg**	**00 02 05.9**	**-0.9**
	3.8nm,0.1s						
UZB				*e*S	**Sg**	**00 02 12.4**	**-1.0**
	16nm,0.1s						
SHLS	**Shalkode**	**0.83**	**88**	*e*P	**Pn**	**00 02 17.5**	**+2.2**
	baz=87						
SHLS				*e*S	**Sn**	**00 02 32.3**	**+4.3**
	baz=87						
SHLS	**Shalkode**	**0.83**	**88**	*e*P	**Pn**	**00 02 17.5**	**+2.2**
	1.4nm,0.2s						
SHLS				*e*S	**Sn**	**00 02 32.2**	**+4.3**
	5.4nm,0.3s						
KOTS	**Kotyrbulak**	**0.90**	**277**	*e*P	**Pb**	**00 02 14.3**	**-0.7**
	1.5nm,0.2s						
KOTS				*e*S	**Sg**	**00 02 26.7**	**+0.9**
	6.4nm,0.3s						
MDOK	**Medeo**	**0.94**	**272**	⇓*i*P	**Pb**	**00 02 15.0**	**-0.7**
	baz=73						
MDOK				⇓*i*S	**Sb**	**00 02 27.7**	**-0.8**
	baz=73						
MDOK	**Medeo**	**0.94**	**272**	⇓*i*P	**Pb**	**00 02 15.0**	**-0.7**
	1.4nm,0.2s						
MDOK				⇓*i*S	**Sb**	**00 02 27.7**	**-0.8**
	3.1nm,0.4s						
MNBS	**Baschi**	**0.94**	**3**	*e*P	**Pg**	**00 02 15.6**	**+0.5**
	1.8nm,0.1s						
MNBS				*e*S	**Sn**	**00 02 29.1**	**-1.7**
	2.9nm,0.1s						
TNSS	**Tian-Shan**	**1.02**	**265**	*e*P	**Pb**	**00 02 16.3**	**-0.9**
	baz=66						
TNSS				*e*S	**Sb**	**00 02 29.8**	**-1.2**
	baz=66						
TNSS	**Tian-Shan**	**1.02**	**265**	*e*P	**Pb**	**00 02 16.3**	**-0.9**
	3.0nm,0.1s						
TNSS				*e*S	**Sb**	**00 02 29.8**	**-1.2**
	4.8nm,0.1s						
ARXS	**Arharly**	**1.14**	**341**	*e*P	**Pb**	**00 02 18.9**	**-0.2**
	1.6nm,0.2s						
ARXS				*e*S	**Sg**	**00 02 34.7**	**+1.1**
	5.5nm,0.2s						
CHKK	**Chushkaly**	**1.21**	**307**	*e*P	**Pn**	**00 02 19.5**	**-1.0**
	baz=7.0						
CHKK				*e*S	**Sb**	**00 02 35.1**	**-1.2**
	baz=7.0						
CHKK	**Chushkaly**	**1.21**	**307**	*e*P	**Pn**	**00 02 19.4**	**-1.0**
	2.6nm,0.1s						
CHKK				*e*S	**Sb**	**00 02 35.1**	**-1.2**
	12nm,0.2s						
IZV	**Izvestkoviy**	**1.26**	**266**	*e*P	**Pb**	**00 02 20.9**	**-0.3**
	baz=67						
IZV				*e*S	**Sb**	**00 02 37.4**	**-0.4**
	baz=67						
IZV	**Izvestkoviy**	**1.26**	**266**	*e*P	**Pb**	**00 02 20.9**	**-0.3**
	2.5nm,0.1s						
IZV				*e*S	**Sb**	**00 02 37.5**	**-0.4**
	5.9nm,0.2s						
KDJ	**Kajisay**	**1.31**	**221**	⇑*i*P	**Pb**	**00 02 21.7**	**-0.5**
	baz=22			

0.2nm,0.3s,baz=36,slow=23,SNR=4.0
WRA ScP **ScP 00 24 29.5 +1.8**
0.0nm,0.3s,baz=5.4,slow=2.1,SNR=2.7
BATI Baumata 20.53 253 P **P 00 16 59.1 +0.2**
11nm,0.4s,baz=284,slow=8.3,SNR=2.5
ASAR Alice Springs 21.26 205 P **P 00 17 08.1 +1.4**
4.6nm,0.5s,baz=34,slow=7.5,SNR=41
ASAR S **S 00 21 01.0 +3.8**
0.2nm,0.5s,baz=130,slow=16,SNR=3.5
FITZ Fitzroy Crossi 22.16 231 P **P 00 17 16.8 +0.5**
19nm,1.1s,baz=52,slow=10.0,SNR=33
STKA Stephens Creek 27.36 184 P **P 00 18 05.3 +1.3**
0.9nm,0.5s,baz=3.5,slow=14,SNR=2.6
STKA LR LR 00 29 35.4
comp=Z,71nm,18.1s,baz=25,slow=38
KSRS Korea Array 44.15 342 P **P 00 20 27.4 +0.4**
1.5nm,0.7s,baz=171,slow=9.8,SNR=4.3
VNDA Vanda 73.68 176 P **P 00 23 52.1 +1.5**
0.3nm,0.6s,baz=354,slow=5.8,SNR=3.4
MKAR Makanchi Array 74.12 321 P **P 00 23 55.2 +1.5**
0.3nm,0.5s,baz=95,slow=6.1,SNR=7.2
ZALV Zalesovo Beam 75.88 329 P **P 00 24 04.6 +0.9**
0.8nm,0.6s,baz=122,slow=7.1,SNR=4.2
MAW Mawson 82.36 202 P **P 00 24 41.0 +2.3**
0.7nm,0.3s,baz=81,slow=7.6,SNR=5.3
BVAR Borovoye Array 83.50 324 P **P 00 24 45.6 +0.7**
0.7nm,0.5s,baz=114,slow=6.6,SNR=3.3
ILAR Eielson Array 85.43 24 P **P 00 24 54.2 -0.1**
0.9nm,0.7s,baz=258,slow=4.8,SNR=10
TORD Torodi Ar. Bea 141.37 285 PKP **PKPdf 00 31 47.9 -0.5**
0.3nm,0.8s,baz=100,slow=3.1
LPAZ La Paz 142.51 124 PKP **PKPdf 00 31 50.5 -0.7**
0.5nm,0.4s,baz=247,slow=1.5,SNR=2.3
DBIC Dimbokro 148.48 275 PKPbc **PKPbc 00 32 05.2 +0.8**
2.1nm,0.7s,baz=56,slow=3.6,SNR=3.0

*IDC **03** 00:16:41.8±1.2, 15°.75S×69°.96W, h244km±7km, mb3.4/5, mb1 3.4/8, mb1mx3.2/27, mbtmp4.0/8, Error ellipse: s-maj=34.6km s-min=15.9km az=26.0*
ISC 03 00:16:40.3±0.9, 15°.6S±0°.2×70°.0W±0°.1, h224km, n12, σ1§73/12, mb3.8/5, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.90**	**112**	P		Pn	Pn	00 17 24.6	+4.3
	46nm,0.3s,baz=304,slow=7.7,SNR=1244								
LPAZ				S			**S**	**00 17 55.6**	**+4.2**
	5.8nm,0.3s,baz=23,slow=16,SNR=22								
NNA	**Nana**	**7.57**	**297**	P			**Pn**	**00 18 29.3**	**+1.1**
	1.4nm,0.3s,baz=98,slow=15,SNR=3.1								
NNA				S		S	S	00 19 47.2	-7.3
	2.1nm,0.3s,baz=192,slow=14,SNR=3.8								
CPUP	**Villa Florida**	**15.91**	**134**	P			**P**	**00 20 10.4**	**-1.4**
	0.1nm,0.3s,baz=307,slow=5.1,SNR=1.8								
PTGA	**Pitinga**	**17.76**	**35**	P			**Pn**	**00 20 34.7**	**+0.4**
	1.6nm,0.3s,baz=210,slow=13,SNR=16								
BDFB	**Brasília**	**21.14**	**93**	P			**P**	**00 21 06.8**	**-1.6**
	0.5nm,0.5s,baz=235,slow=19,SNR=2.0								
DBIC	**Dimbokro**	**68.16**	**76**	P			**P**	**00 27 16.1**	**-0.8**
	1.7nm,0.6s,baz=274,slow=8.2,SNR=3.9								
ULM	**Lac du Bonnet**	**69.40**	**343**	P			**P**	**00 27 22.8**	**-0.9**
	2.1nm,0.6s,baz=169,slow=5.2,SNR=3.7								
TORD	**Torodi Ar. Bea**	**76.41**	**72**	P			**P**	**00 28 05.3**	**-0.3**
	0.6nm,0.4s,baz=258,slow=4.8,SNR=20								
YKA	**Yellowknife Ar**	**85.30**	**341**	P			**P**	**00 28 51.8**	**+0.2**
	1.2nm,0.7s,baz=134,slow=4.8,SNR=4.9								
ZALV	**Zalesovo Beam**	**136.95**	**22**	PKP			**PKPdf**	**00 35 36.8**	**+0.7**
	1.2nm,0.5s,baz=301,slow=4.1,SNR=5.0								
WRA	**Warramunga Arr**	**137.37**	**215**	PKP			**PKPdf**	**00 35 37.0**	**-1.0**
	0.3nm,0.9s,baz=135,slow=1.9,SNR=2.8								
SONM	**Songino Array**	**147.70**	**5**	PKPbc			**PKPbc**	**00 35 59.2**	**+0.6**
	1.2nm,0.6s,baz=328,slow=2.0,SNR=11								

*IDC **03** 00:26:01.1±3.4, 35°.76N×71°.70E, h0km, mb3.6/4, mb1 3.8/7, mb1mx3.4/56, mbtmp3.7/7, ML3.6/3, Error ellipse: s-maj=67.2km s-min=27.6km az=134.0*
*NNC **03** 00:26:17.2±4.7, 36°.83N×70°.51E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=46.5km s-min=21.1km az=152.0*
ISC 03 00:26:08.7±1.9, 36°.2N±0°.1×71°.0E±0°.1, h10km, n12, σ2§84/14, mb3.7/3, 3C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.91**	**357**	⇓Pn			**Pn**	**00 27 53.2**	**+3.2**
	0.3nm,0.3s,baz=179,slow=13,SNR=40								
KK31				⇓Sn			**Sn**	**00 29 05.3**	**-3.4**
	1.9nm,0.5s,baz=185,slow=25								
AAK	**Ala-Archa**	**6.97**	**22**	Pn			**Pn**	**00 27 50.9**	**-0.1**
	1.3nm,0.3s,baz=203,slow=7.7,SNR=18								
AAK				Sn			**Sn**	**00 29 07.2**	**-3.2**
	baz=216,slow=9.2,SNR=3.2								
AAK	**Ala-Archa**	**6.97**	**22**	Pn			Pn	00 27 54.4	+3.4
	1.1nm,0.3s								
AAK				Sn			**Sn**	**00 29 09.9**	**-0.6**
	2.4nm,0.6s								
TKM2	**Tokmak 2**	**7.59**	**26**	⇓Pn			Pn	00 28 02.1	+2.6
	1.2nm,0.5s								
TKM2				⇓Sn			**Sn**	**00 29 30.5**	**+4.8**
	1.4nm,0.9s								
GEYT	**Alibeck**	**10.45**	**283**	Pn			**Pn**	**00 28 40.5**	**+1.8**
	0.4nm,0.3s,baz=96,slow=12,SNR=7.7								
GEYT				Sn			Sn	00 30 32.5	-3.3
	0.2nm,0.3s,baz=95,slow=28,SNR=3.7								
GYA0B	**ALIBECK ARRAY**	**10.45**	**283**	⇑Pn			**Pn**	**00 28 42.0**	**+3.3**
	1.5nm,0.5s								
GYA0B				⇓Sn			**Sn**	**00 30 35.4**	**-0.4**
	2.5nm,0.7s								
AB31	**Akbulak array**	**15.36**	**332**	⇑Pn			**Pn**	**00 29 42.2**	**-3.1**
	0.5nm,0.7s,baz=142,slow=13,SNR=7.4								
AB31				⇑Sn			Sn	00 32 27.2	-8.2
	1.5nm,1.0s								
AKTO	**Aktyubinsk**	**17.05**	**331**	P			**Pn**	**00 30 07.9**	**+0.8**
	0.1nm,0.3s,baz=124,slow=11,SNR=3.8								
ZALV	**Zalesovo Beam**	**20.19**	**24**	P			Pn	00 30 39.0	-6.1
	0.7nm,0.4s,baz=225,slow=12,SNR=3.5								
ARCES	**ARCESS Array B**	**41.43**	**338**	P			**P**	**00 33 54.8**	**-0.2**
	2.9nm,0.9s,baz=110,slow=7.8,SNR=11								
NOA	**NORSAR Array B**	**44.63**	**323**	P			**P**	**00 34 20.8**	**-0.3**
	0.6nm,0.6s,baz=104,slow=7.3,SNR=3.0								
TORD	**Torodi Ar. Bea**	**65.72**	**269**	P			**P**	**00 36 51.1**	**-2.8**
	0.4nm,0.9s,baz=40,slow=6.2								

IDC 03 00:33:07.6±3.7, 4°.14S×128°.91E, h170km±48km, mb3.1/2, mb1 3.1/5, mb1mx2.9/34, mbtmp3.6/5, MS2.8/1, Ms1 3.0/1, ms1mx2.3/13, Error ellipse: s-maj=66.0km s-min=17.1km az=89.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.01**	**36**	P		Pn	Pn	00 34 09.3	+0.7
	1.0nm,0.3s,baz=252,slow=20,SNR=3.8								
SIJI				S		Sn	Sn	00 34 56.7	+0.4
	3.5nm,0.3s,baz=205,slow=22,SNR=9.4								
FITZ	**Fitzroy Crossi**	**14.24**	**193**	P			Pn	00 36 22.8	+1.0
	0.1nm,0.3s,baz=23,slow=7.7,SNR=3.6								
WRA	**Warramunga Arr**	**16.58**	**162**	P			P	00 36 49.0	-1.0
	0.3nm,0.3s,baz=348,slow=13,SNR=45								
ASAR	**Alice Springs**	**20.01**	**166**	P			P	00 37 27.5	+0.2
	1.5nm,0.4s,baz=346,slow=12,SNR=22								
CMAR	**Chiang Mai Arr**	**37.09**	**308**	LR			LR	00 57 12.7	
	comp=Z,12nm,18.4s,baz=30,slow=39								
MKAR	**Makanchi Array**	**65.25**	**327**	P			P	00 43 30.8	-0.2
	0.5nm,0.8s,baz=110,slow=8.9,SNR=5.2								

IDC 03 01:11:14.9±1.5, 48°.05N×155°.62E, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.3/52, mbtmp3.6/4, ML3.3/2, MS4.3/1, Ms1 4.3/1, ms1mx2.5/29, Error ellipse: s-maj=57.4km s-min=28.5km az=130.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.24**	**14**	Pn		Pn	Pn	01 12 33.6	-0.8
	0.5nm,0.3s,baz=190,slow=14,SNR=14								
PETK				Sn		Sn	Sn	01 13 40.1	+4.7
	baz=185,slow=14								
ASAJ	**Asahikawa**	**9.87**	**251**	Pn		Pn	Pn	01 13 38.9	+1.0
	0.9nm,0.3s,baz=126,slow=19,SNR=4.0								
H11S1	**WAKE ISLAND Hy**	**30.82**	**159**	T		T	T	01 50 45.8	
	baz=349,slow=74								
H11S3	**WAKE ISLAND Hy**	**30.83**	**159**	T		T	T	01 50 44.6	
	baz=349,slow=74								
H11S2	**WAKE ISLAND Hy**	**30.84**	**159**	T		T	T	01 50 43.5	
	baz=349								
DLBC	**Dease Lake**	**43.47**	**47**	LR		LR		01 40 13.3	
	comp=Z,334nm,18.9s,baz=90,slow=40								
WRA	**Warramunga Arr**	**70.32**	**201**	P		P		01 22 29.7	-0.4
	0.1nm,0.3s,baz=17,slow=6.4,SNR=4.7								
TXAR	**Lajitas Array**	**75.38**	**62**	P		P		01 23 01.0	+0.6
	0.1nm,0.4s,baz=295,slow=4.9,SNR=3.6								

*MAN **03** 01:16:02.7, 16°.87N×120°.99E, h5km, mb4.7, ML3.5, MS3.4*
*ISCJB **03** 01:16:04.6±0.4, 16°.91N±0°.04×121°.12E±0°.08, h33km, mb3.9/16, MS2.9/6, Error ellipse: s-maj=11.7km s-min=5.7km az=9.3*
*IDC **03** 01:16:10.3±1.9, 16°.84N×121°.25E, h74km±21km, mb3.6/16, mb1 3.8/17, mb1mx3.6/48, mbtmp4.0/17, MS3.0/8, Ms1 3.1/8, ms1mx2.8/47, Error ellipse: s-maj=19.9km s-min=11.8km az=85.0*
ISC 03 01:16:06.8±0.6, 16°.93N±0°.05×121°.2E±0°.1, h35km, n25, σ1§44/25, mb3.8/16, MS2.9/6, 3D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**0.96**	**36**	⇓*i*P			**Pn**	**01 16 23.5**	**-0.3**
CVP				*i* S			**Sn**	**01 16 37.0**	**+0.8**
PCPH	**Palayan**	**1.36**	**185**	⇓*e*P			**Pn**	**01 16 26.4**	**-3.0**
PCPH				*e*S			**Sn**	**01 16 45.3**	**-0.8**
TGY	**Tagaytay City**	**2.82**	**186**	P			**Pn**	**01 16 53.3**	**+3.8**
	68nm,0.3s,baz=4.2,slow=9.0,SNR=7.9								
TGY				S			**Sn**	**01 17 24.9**	**+2.5**
	95nm,0.3s,baz=206,slow=16,SNR=3.1								
GQP	**Guinayangan**	**3.23**	**159**	⇓*e*P			**Pn**	**01 16 56.1**	**+1.2**
JOW	**Kunigami**	**11.82**	**32**	LR		LR		01 23 32.3	
	comp=Z,62nm,19.2s,baz=311,slow=37								
JNU	**Nakatsue**	**18.32**	**27**	P			**Pn**	**01 20 19.5**	**+1.3**
	0.7nm,0.3s,baz=168,slow=7.0,SNR=4.0								
JNU				LR		LR		01 27 11.8	
	comp=Z,46nm,20.3s,baz=188,slow=36								
KSRS	**Korea Array**	**21.28**	**15**	P			**P**	**01 20 50.0**	**-0.2**
	2.3nm,0.6s,baz=198,slow=12,SNR=8.5								
KSRS				LR		LR		01 30 13.0	
	comp=Z,50nm,18.5s,baz=187,slow=40								
CMAR	**Chiang Mai Arr**	**21.29**	**277**	P			**P**	**01 20 51.3**	**+0.8**
	1.7nm,0.4s,baz=88,slow=8.5,SNR=11								
CMAR				LR		LR		01 28 18.2	
	comp=Z,28nm,19.0s,baz=105,slow=34								
MJAR	**Matsushiro Arr**	**24.66**	**34**	P			**P**	**01 21 24.4**	**+0.1**
	1.9nm,1.0s,baz=238,slow=9.1,SNR=3.5								
PSI	**Prapat**	**26.03**	**240**	LR			LR	01 32 27.9	
	comp=Z,45nm,18.2s,baz=94,slow=38								
LEM	**Lembang**	**27.17**	**211**	LR			LR	01 32 56.8	
	comp=Z,23nm,19.1s,baz=135,slow=37								
JAY	**Jayapura**	**27.25**	**133**	LR			LR	01 34 46.3	
	comp=Z,29nm,18.1s,baz=302,slow=41								
USRK	**Ussuriysk Ar.**	**28.67**	**16**	P			**P**	**01 22 00.9**	**+0.6**
	4.5nm,0.8s,baz=202,slow=8.5,SNR=8.8								
SONM	**Songino Array**	**33.15**	**342**	P			**P**	**01 22 40.3**	**+0.4**
	0.7nm,0.7s,baz=156,slow=9.2,SNR=4.9								
KLR	**Kul'dur**	**33.34**	**13**	P			**P**	**01 22 42.2**	**+0.9**
	10.0nm,0.8s,baz=237,slow=6.5,SNR=23								
WRA	**Warramunga Arr**	**38.84**	**160**	P			**P**	**01 23 26.6**	**-2.0**
	1.6nm,1.0s,baz=342,slow=9.0,SNR=9.1								
ASAR	**Alice Springs**	**42.20**	**163**	P			**P**	**01 23 54.9**	**-1.6**
	0.6nm,0.8s,baz=338,slow=6.3,SNR=6.3								
MKAR	**Makanchi Array**	**43.80**	**321**	P			**P**	**01 24 09.5**	**+0.3**
	0.9nm,0.8s,baz=101,slow=7.5,SNR=3.5								
MKAR				PcP			**PcP**	**01 25 55.3**	**-0.1**
	0.8nm,0.7s,baz=114,slow=2.9,SNR=4.3								
MKAR				LR		LR		01 42 56.1	
	comp=Z,30nm,18.1s,baz=26,slow=37								
ZALV	**Zalesovo Beam**	**46.47**	**331**	P			**P**	**01 24 29.9**	**-0.4**
	0.3nm,0.3s,baz=144,slow=8.6,SNR=3.1								
SEY	**Seymchan**	**50.80**	**18**	P			**P**	**01 25 04.2**	**+0.8**
	0.6nm,0.3s,baz=209,slow=5.9,SNR=4.0								
STKA	**Stephens Creek**	**52.31**	**158**	P			**P**	**01 25 14.5**	**-0.6**
	5.0nm,1.0s,baz=340,slow=9.7,SNR=6.5								
TIXI	**Tiksi**	**54.90**	**3**	P			**P**	**01 25 33.4**	**-0.2**
	2.1nm,0.8s,baz=143,slow=6.0,SNR=6.2								
NRIK	**Noril'sk**	**56.41**	**346**	P			**P**	**01 25 43.8**	**-0.6**
	1.5nm,0.4s,baz=142,slow=6.6,SNR=4.5								
GEYT	**Alibeck**	**58.71**	**304**	P			**P**	**01 26 00.4**	**-0.8**
	1.0nm,0.7s,baz=98,slow=7.7,SNR=3.0								
ILAR	**Eielson Array**	**75.64**	**26**	P			**P**	**01 27 47.5**	**-0.5**
	0.5nm,0.9s,baz=267,slow=4.1,SNR=4.6								

*DDA **03** 01:16:41.1, 37°.69N×36°.05E, h5km, Ml2.6*
*ISK **03** 01:16:41.0, 37°.64N×36°.02E, h8km, ML2.3/3*
ISC 03 01:16:41.4±1.0, 37°.64N±0°.04×36°.02E±0°.02, h8km±9km, n14, σ1§10/23, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.22**	**224**	PG			**Pg**	**01 16 45.7**	**-0.2**
KOZT				SG			**Sg**	**01 16 49.9**	**+0.9**
ANDN	**Andirin**	**0.26**	**104**	*i* P			**Pg**	**01 16 46.6**	**-0.1**
ANDN				*i* S			**Sg**	**01 16 51.3**	**+1.1**
KMRS	**Kahramanmaras**	**0.71**	**101**	PG			**Pg**	**01 16 54.5**	**-0.6**
GULE	**Gulek**	**1.05**	**251**	*i* P			**Pg**	**01 17 01.6**	**-0.3**
GULE				*i* S			**Sn**	**01 17 18.8**	**+1.3**
GAZ	**Gaziantep**	**1.06**	**116**	PG			**Pn**	**01 17 02.3**	**-0.2**
GAZ				SG			**Sn**	**01 17 16.8**	**-0.6**
KUZU	**Kuzuini**	**1.21**	**136**	*i* P			**Pn**	**01 17 04.2**	**-0.4**
KUZU				*i* S			**Sn**	**01 17 23.7**	**+2.6**
BNN	**Bunyan**	**1.22**	**353**	PN			**Pn**	**01 17 04.8**	**0.0**
TAHT	**Tahtakopru-Hat**	**1.27**	**174**	PN			**Pn**	**01 17 04.8**	**-0.6**
MERS	**Mersin**	**1.43**	**238**	PN			**Pb**	**01 17 07.6**	**-0.6**
MERS				SN			**Sg**	**01 17 27.4**	**+0.2**
DARE	**Darende-Malaty**	**1.48**	**51**	PN			**Pb**	**01 17 08.5**	**-0.7**
DARE				SN			**Sg**	**01 17 29.0**	**0.0**
AVNS	**Nevsehir-Avano**	**1.49**	**322**	*i* P			**Pg**	**01 17 09.7**	**-0.2**
AVNS				*i* S			**Sg**	**01 17 30.5**	**+1.3**
KEBE	**Keben-Mersin**	**2.20**	**238**	PN			**Pb**	**01 17 19.6**	**-1.8**
SURC	**SANLIURFA_SURC**	**2.20**	**109**	*i* P			**Pb**	**01 17 22.1**	**+0.6**
SURC				*i* S			**Sg**	**01 17 53.4**	**+1.3**
URFA	**Urfa**	**2.23**	**94**	PN			**Pb**	**01 17 20.1**	**-1.9**

*SOME **03** 01:34:53.5, 41°.63N×72°.73E, h10km*
*KRNET **03** 01:34:53.2±0.1, 41°.61N×72°.74E, h12km, mb2.7*
*KNET **03** 01:34:55.2±0.8, 41°.69N×72°.84E, h0km, ml2.1, Error ellipse: s-maj=7.2km s-min=5.1km az=113.0*
*NNC **03** 01:34:56.0±5.2, 41°.66N×72°.72E, h7km±31km, mb3.3, mpv2.9, Error ellipse: s-maj=45.1km s-min=20.7km az=170.0*
ISC 03 01:34:52.8±1.2, 41°.64N±0°.03×72°.74E±0°.02, h2km±11km, n39, σ1§20/69, 34C-15D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.36**	**150**	⇓*i*P			**Pg**	**01 34 59.4**	**-0.4**
	baz=48								
ARSB				⇓*i*S			**Sg**	**01 35 04.3**	**-0.2**
	baz=48								
ARK	**Arkit**	**0.60**	**286**	⇑*i*P			**Pg**	**01 35 04.5**	**+0.1**
	baz=87								
ARK				⇑*i*S			**Sg**	**01 35 13.3**	**+1.0**
	baz=87								
AML	**Almayashu**	**0.87**	**55**	⇑P			**Pg**	**01 35 10.3**	**+0.8**
	6.9nm,0.1s,SNR=42								
AML				⇑S			**Sb**	**01 35 23.0**	**-0.1**
	12nm,0.2s								
AML	**Almayashu**	**0.87**	**55**	⇓*i*P			**Pg**	**01 35 10.3**	**+0.8**
	baz=53								
AML				⇓*i*S			**Sb**	**01 35 22.3**	**-0.8**
	baz=53								
MRKS	**Merke**	**1.17**	**18**	*e*P			**Pn**	**01 35 16.6**	**+0.3**
	4.9nm,0.2s								
MRKS				*e*S			**Sn**	**01 35 31.9**	**-0.9**
	13nm,0.2s								
ARLS	**Aral**	**1.21**	**79**	⇑*i*P			**Pb**	**01 35 16.0**	**-0.5**
	baz=77								
ARLS				⇑*i*S			**Sn**	**01 35 33.2**	**-0.7**
	baz=77								
EKS2	**Erkin-Say**	**1.28**	**37**	⇑P			**Pg**	**01 35 17.9**	**+0.5**
	1.8nm,0.2s,SNR=11								
EKS2				⇑S			**Sn**	**01 35 35.9**	**+0.1**
	4.1nm,0.2s								
EKS2	**Erkin-Say**	**1.28**	**37**	⇑*i*P			**Pg**	**01 35 17.8**	**+0.4**
	baz=36								
EKS2				⇑*i*S			**Sn**	**01 35 35.5**	**-0.2**
	baz=36								
UCH	**Uchtor**	**1.45**	**65**	⇑P			**Pb**	**01 35 20.9**	**+0.1**
	4.0nm,0.1s,SNR=35								
UCH				⇑S			**Sg**	**01 35 42.4**	**+2.9**
	24nm,0.4s								
UCH	**Uchtor**	**1.45**	**65**	⇑*i*P			**Pb**	**01 35 20.8**	**0.0**
	baz=64								
UCH				⇑*i*S			**Sg**	**01 35 41.0**	**+1.6**
	baz=64								
AAK	**Ala-Archa**	**1.64**	**52**	Pn			**Pg**	**01 35 25.0**	**+0.7**
	4.3nm,0.3s								
AAK				Sn			**Sg**	**01 35 47.2**	**+1.5**
	3.5nm,0.3s								
AAK	**Ala-Archa**	**1.64**	**52**	⇓P			**Pg**	**01 35 25.1**	**+0.7**
	2.5nm,0.1s								
AAK	**Ala-Archa**	**1.64**	**52**	⇑*i*P			**Pb**	**01 35 23.7**	**-0.3**
	baz=51								
AAK				⇑*i*S			**Sg**	**01 35 46.5**	**+0.8**
	baz=51								
KZA	**Kyzart**	**1.93**	**76**	⇑P			**Pb**	**01 35 29.6**	**+0.7**
	4.8nm,0.2s,SNR=25								
KZA	**Kyzart**	**1.93**	**76**	⇓*i*P			**Pb**	**01 35 29.4**	**+0.5**
	baz=75								
KZA				⇓*i*S			**Sg**	**01 35 55.4**	**+0.7**
	baz=75								
KBK	**Karagaybulak**	**1.93**	**57**	⇑*i*P			**Pb**	**01 35 29.4**	**+0.5**
	baz=57								
KBK				⇑*i*S			**Sg**	**01 35 55.6**	**+0.7**
	baz=57								
CHMS	**Chumysh**	**2.02**	**47**	⇑P			**Pg**	**01 35 31.6**	**0.0**
	4.9nm,0.2s,SNR=7.4								
CHMS	**Chumysh**	**2.02**	**47**	⇑*i*P			**Pb**	**01 35 30.0**	**-0.3**
	baz=46								
CHMS				⇑*i*S			**Sg**	**01 35 57.4**	**-0.3**
	baz=46								
USP	**Ospenovka**	**2.09**	**38**	⇑P			**Pg**	**01 35 32.3**	**-0.5**
	11nm,0.3s,SNR=20								
USP	**Ospenovka**	**2.09**	**38**	⇓*i*P			**Pb**	**01 35 31.3**	**-0.1**
	baz=38								
USP				⇓*i*S			**Sg**	**01 35 58.9**	**-1.0**
	baz=38								
BTK	**Batken**	**2.15**	**223**	⇑*e*P			**Pb**	**01 35 31.8**	**-0.7**
	baz=24								
BTK				⇑*i*S			**Sb**	**01 36 00.4**	**+0.8**
	baz=24								
KK31	**Karatay Array**	**2.21**	**312**	⇓Pn			**Pb**	**01 35 33.3**	**-0.2**
	1.2nm,0.3s,baz=131,slow=15,SNR=62								
KK31				⇓Lg			Lg	01 36 03.6	
	5.4nm,0.4s,baz=138,slow=27,SNR=7.4								
NRN	**Naryn**	**2.46**	**94**	⇑*i*P			**Pn**	**01 35 36.0**	**+1.8**
	baz=93								
NRN				⇑*i*S			**Sb**	**01 36 07.5**	**-1.2**
	baz=93								
TKM2	**Tokmak 2**	**2.48**	**58**	⇓Pn			**Pb**	**01 35 39.2**	**+1.0**
	9.1nm,0.5s								
TKM2				⇑Lg			Lg	01 36 12.8	
	15nm,0.6s								
TKM2	**Tokmak 2**	**2.48**	**58**	⇑P			**Pb**	**01 35 39.6**	**+1.4**
	14nm,0.3s,SNR=29								
TKM2	**Tokmak 2**	**2.48**	**58**	⇓*i*P			**Pb**	**01 35 37.0**	**-1.2**
	baz=57								
TKM2				⇓*i*S			**Sb**	**01 36 08.6**	**-0.6**
	baz=57								
BOOM	**Boomskoye usch**	**2.53**	**69**	⇑*i*P			**Pb**	**01 35 37.5**	**-1.6**
	baz=69								
BOOM				⇑*i*S			**Sb**	**01 36 09.7**	**-1.0**
	baz=69								
BRLS	**Borolday**	**2.56**	**304**	*e*P			**Pb**	**01 35 39.9**	**+0.4**
	0.8nm,0.7s								
BRLS				*e*S			**Sg**	**01 36 13.4**	**-1.8**
	14nm,0.4s								
ULHL	**Ulahol**	**2.68**	**76**	⇓P			**Pb**	**01 35 42.4**	**+0.7**
	2.3nm,0.2s,SNR=16								
ULHL	**Ulahol**	**2.68**	**76**	⇑*i*P			**Pb**	**01 35 39.4**	**+2.2**
	baz=75								
ULHL				⇑*i*S			**Sb**	**01 36 13.5**	**-1.6**
	baz=75								
DGS	**Degeres**	**2.76**	**53**	*e*P			**Pb**	**01 35 43.6**	**+0.7**
	5.4nm,0.4s								
DGS				*e*S			**Sg**	**01 36 19.4**	**-2.0**
	17nm,0.5s								
KST	**Kastek**	**2.77**	**58**	*e*P			**Pb**	**01 35 44.3**	**+1.2**
	9.0nm,0.2s								
KST				*e*S			**Sg**	**01 36 20.8**	**-1.1**
	32nm,0.5s								
MTBS	**Maitube**	**3.11**	**60**	*e*P			**Pg**	**01 35 51.2**	**-1.3**
	3.8nm,0.2s								
MTBS				*e*S			**Sg**	**01 36 32.6**	**-0.3**
	6.5nm,0.5s								
IZV	**Izvestkoviy**	**3.19**	**63**	*e*P			**Pb**	**01 35 51.9**	**+1.5**
	6.3nm,0.3s								
IZV				*e*S			**Sg**	**01 36 33.8**	**-1.6**
	5.8nm,0.3s								
TNSS	**Tian-Shan**	**3.42**	**64**

MTVR	**Mutnovka**	**1.88**	**2**	*eP*		**Pn**	**01 42 34.9**	**-0.1**
MTVR				*eS*		**Sn**	**01 42 57.0**	**-1.1**
MTVR	**Mutnovka**	**1.88**	**2**	PN		**Pn**	**01 42 34.9**	**-0.1**
MTVR				S		**Sn**	**01 42 57.0**	**-1.1**
GRL	**Gorelyy**	**1.95**	**360**	*i* P		**Pn**	**01 42 36.3**	**+0.4**
GRL				*eS*		**Sn**	**01 42 59.0**	**-0.7**
GRL	**Gorelyy**	**1.95**	**360**	PN		**Pn**	**01 42 36.3**	**+0.4**
GRL				S		**Sn**	**01 42 59.0**	**-0.7**
KRMR	**Karymshinskiy**	**2.23**	**1**	*eP*		**Pn**	**01 42 39.9**	**+0.5**
KRMR				*eS*		**Sn**	**01 43 06.9**	**+0.8**
KRMR	**Karymshinskiy**	**2.23**	**1**	PN		**Pn**	**01 42 39.9**	**+0.5**
KRMR				S		**Sn**	**01 43 06.9**	**+0.8**
APC	**Apacha**	**2.40**	**346**	*eP*		**Pn**	**01 42 42.1**	**+0.5**
APC	**Apacha**	**2.40**	**346**	PN		**Pn**	**01 42 42.1**	**+0.5**
PET	**Petropavlovsk**	**2.45**	**8**	*eP*		**Pn**	**01 42 42.3**	**0.0**
PET				*eS*		**Sn**	**01 43 10.2**	**-1.1**
PET	**Petropavlovsk**	**2.45**	**8**	⇑*i* PN		**Pn**	**01 42 42.4**	**+0.1**
PET				*eS*		**Sn**	**01 43 09.5**	**-1.8**
PET				pmax	pmax			
	comp=Z,111nm,0.4s							
PET				smax	smax			
	comp=N,551nm,0.4s							
PET				smax	smax			
	comp=E,335nm,0.6s							
DALK	**Dalny**	**2.46**	**9**	*eP*		**Pn**	**01 42 42.7**	**+0.1**
DALK				*eS*		**Sn**	**01 43 10.4**	**-1.4**
PETK	**Petropavlovsk-**	**2.52**	**355**	P		**Pn**	**01 42 43.8**	**+0.5**
	comp=E,7.9nm,0.3s,baz=122,slow=16,SNR=102							
PETK				S		**Sn**	**01 43 15.1**	**+1.9**
	baz=180,slow=17							
UGLR	**Uglovaya**	**2.65**	**10**	*i* P		**Pn**	**01 42 45.8**	**+0.6**
UGLR				*eS*		**Sn**	**01 43 16.0**	**-0.4**
UGLR	**Uglovaya**	**2.65**	**10**	PN		**Pn**	**01 42 45.8**	**+0.6**
UGLR				S		**Sn**	**01 43 16.0**	**-0.4**
NLC	**Nalytchevo**	**2.69**	**16**	*eP*		**Pn**	**01 42 44.4**	**-1.1**
NLC				*eS*		**Sn**	**01 43 13.6**	**-3.4**
NLC	**Nalytchevo**	**2.69**	**16**	PN		**Pn**	**01 42 44.4**	**-1.1**
NLC				S		**Sn**	**01 43 13.6**	**-3.4**
AVH	**Avacha**	**2.69**	**8**	*i* P		**Pn**	**01 42 46.9**	**+1.1**
AVH				*eS*		**Sn**	**01 43 15.6**	**-1.8**
AVH	**Avacha**	**2.69**	**8**	PN		**Pn**	**01 42 46.9**	**+1.1**
AVH				S		**Sn**	**01 43 15.6**	**-1.8**
SMAR	**Somma**	**2.70**	**9**	*eP*		**Pn**	**01 42 46.3**	**+0.4**
SMAR	**Somma**	**2.70**	**9**	PN		**Pn**	**01 42 46.3**	**+0.4**
KOK	**Koryaka**	**2.71**	**7**	*i* P		**Pn**	**01 42 47.3**	**+1.3**
KOK				*eS*		**Sn**	**01 43 18.7**	**+0.8**
KOK	**Koryaka**	**2.71**	**7**	PN		**Pn**	**01 42 47.3**	**+1.3**
KOK				S		**Sn**	**01 43 18.7**	**+0.8**
SDLR	**Sedlovina**	**2.72**	**10**	*i* P		**Pn**	**01 42 46.4**	**+0.2**
SDLR	**Sedlovina**	**2.72**	**10**	PN		**Pn**	**01 42 46.4**	**+0.2**
KRER	**Koryakskii**	**2.73**	**8**	*i* P		**Pn**	**01 42 47.2**	**+0.8**
KRER				*eS*		**Sn**	**01 43 17.8**	**-0.8**
KRER	**Koryakskii**	**2.73**	**8**	PN		**Pn**	**01 42 47.2**	**+0.8**
KRER				S		**Sn**	**01 43 17.8**	**-0.8**
SPN	**Mys Shipunski**	**2.77**	**25**	*eP*		**Pn**	**01 42 47.0**	**+0.3**
SPN				*eS*		**Sn**	**01 43 17.5**	**-1.6**
SPN	**Mys Shipunski**	**2.77**	**25**	PN		**Pn**	**01 42 47.0**	**+0.3**
SPN				S		**Sn**	**01 43 17.5**	**-1.6**
KRX	**Arik**	**2.78**	**7**	*eP*		**Pn**	**01 42 47.8**	**+0.8**
KRX				*eS*		**Sn**	**01 43 19.3**	**-0.3**
KRX	**Arik**	**2.78**	**7**	PN		**Pn**	**01 42 47.8**	**+0.8**
KRX				S		**Sn**	**01 43 19.3**	**-0.3**
GNL	**Ganaly**	**3.10**	**358**	*eP*		**Pn**	**01 42 52.2**	**+1.0**
GNL	**Ganaly**	**3.10**	**358**	PN		**Pn**	**01 42 52.2**	**+1.0**
MKZ	**Mys Kozlova**	**4.54**	**28**	*eP*		**Pn**	**01 43 10.3**	**-0.3**
MKZ				*eS*		**Sn**	**01 43 58.9**	**-3.1**
MKZ	**Mys Kozlova**	**4.54**	**28**	PN		**Pn**	**01 43 10.3**	**-0.3**
MKZ				S		**Sn**	**01 43 58.9**	**-3.1**
TUMD	**Tumrok D**	**4.81**	**16**	*eP*		**Pn**	**01 43 15.3**	**+0.9**
TUMD				*eS*		**Sn**	**01 44 07.1**	**-1.7**
TUMR	**Tumrok**	**4.85**	**14**	PN		**Pn**	**01 43 15.3**	**+0.3**
TUMR				S		**Sn**	**01 44 07.1**	**-2.7**
BDR	**Baidarnaya**	**6.25**	**16**	*eP*		**Pn**	**01 43 35.9**	**+1.8**
BDR	**Baidarnaya**	**6.25**	**16**	PN		**Pn**	**01 43 35.9**	**+1.8**
KBTR	**Krutoberegovo**	**6.28**	**25**	*eP*		**Pn**	**01 43 34.4**	**0.0**
KBTR	**Krutoberegovo**	**6.28**	**25**	PN		**Pn**	**01 43 34.4**	**0.0**
SRKR	**Sorokina**	**6.33**	**16**	*eP*		**Pn**	**01 43 36.7**	**+1.6**
SRKR	**Sorokina**	**6.33**	**16**	PN		**Pn**	**01 43 36.7**	**+1.6**
BKI	**Bering**	**6.63**	**43**	*eP*		**Pn**	**01 43 38.4**	**-0.7**
BKI	**Bering**	**6.63**	**43**	PN		**Pn**	**01 43 38.4**	**-0.7**
MA2	**Magadan**	**9.91**	**338**	LR		LR	01 48 12.8	
	comp=E,42nm,18.4s,baz=122,slow=38							
SEY	**Seymchan**	**12.74**	**348**	P		**Pn**	**01 45 04.2**	**+1.9**
	comp=E,0.1nm,0.3s,baz=197,slow=19,SNR=2.8							
SEY	**Seymchan**	**12.74**	**348**	*i* PN		**Pn**	**01 45 03.5**	**+1.3**
KLR	**Kul'dur**	**16.99**	**276**	P		**P**	**01 46 00.0**	**+2.6**
	comp=E,0.2nm,0.3s,baz=59,slow=5.0,SNR=5.3							
KLR	**Kul'dur**	**16.99**	**276**	*i* P		**Pn**	**01 45 56.5**	**-0.3**
YAK	**Yakutsk**	**19.28**	**317**	*i* P		**P**	**01 46 20.8**	**-1.6**
YAK				pmax	pmax			
	comp=Z,11nm,0.9s							
VLA	**Vladivostok**	**19.35**	**257**	*i* P		**P**	**01 46 22.1**	**-1.2**
VLA				pmax	pmax			
	comp=Z,28nm,1.0s							
HIA	**Hailar**	**24.54**	**282**	*i* P		**P**	**01 47 15.0**	**-1.3**
HIA				pmax	pmax			
	comp=E,5.0nm,0.9s							
TIXI	**Tiksi**	**24.89**	**338**	P		**P**	**01 47 18.4**	**-0.7**
	comp=Z,24nm,0.8s,baz=141,slow=10,SNR=53							
TIXI	**Tiksi**	**24.89**	**338**	*i* P		**P**	**01 47 17.6**	**-1.5**
TIXI				pmax	pmax			
	comp=Z,18nm,0.9s							
KSRS	**Korea Array**	**25.16**	**250**	P		**P**	**01 47 24.2**	**+2.2**
	comp=Z,1.4nm,0.6s,baz=41,slow=8.6,SNR=4.2							
ILAR	**Eielson Array**	**31.47**	**42**	P		**P**	**01 48 19.2**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=263,slow=7.2,SNR=3.8							
H11N2	**WAKE ISLAND Hy**	**31.59**	**164**	T		T	02 22 13.9	
	baz=349,slow=76,SNR=44							
H11N3	**WAKE ISLAND Hy**	**31.61**	**164**	T		T	02 22 15.0	
	baz=349,slow=76,SNR=58							
H11N1	**WAKE ISLAND Hy**	**31.61**	**164**	T		T	02 22 15.1	
	baz=349,slow=76,SNR=45							
H11S1	**WAKE ISLAND Hy**	**32.75**	**165**	T		T	02 23 33.0	
	baz=349,slow=76,SNR=69							
H11S3	**WAKE ISLAND Hy**	**32.76**	**165**	T		T	02 23 35.5	
	baz=349,slow=76,SNR=95							
H11S2	**WAKE ISLAND Hy**	**32.77**	**165**	T		T	02 23 34.4	
	baz=349,slow=76,SNR=18							
SONM	**Songino Array**	**33.32**	**286**	P		**P**	**01 48 33.3**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=64,slow=7.1,SNR=4.3							
ZALV	**Zalesovo Beam**	**43.11**	**304**	P		**P**	**01 49 55.0**	**-1.2**
	comp=Z,1.3nm,0.5s,baz=60,slow=7.6,SNR=6.5							
MKAR	**Makanchi Array**	**48.14**	**297**	P		**P**	**01 50 35.2**	**-0.8**
	comp=Z,1.5nm,0.3s,baz=63,slow=7.2,SNR=37							
SPITS	**Spitsbergen Ar**	**49.38**	**350**	P		**P**	**01 50 45.3**	**+0.2**
SPITS				pmax	pmax			
	comp=Z,5.0nm,0.4s							
BRVK	**Borovoye**	**51.01**	**309**	*i* P		**P**	**01 50 56.3**	**-1.4**
BRVK				pmax	pmax			
	comp=Z,1.0nm,0.9s							
ARU	**Arti**	**54.39**	**318**	*c i* P		**P**	**01 51 21.6**	**-1.0**
ARU				*PP		**pP**	**01 51 45.2**	**+2.3**
ARU				S		**S**	**01 58 51.9**	**-2.4**
ARU				SS		**SS**	**02 02 35.5**	**-1.3**
ARU				pmax	pmax			
	comp=Z,14nm,2.5s							
AAK	**Ala-Archa**	**55.07**	**297**	*i* P		**P**	**01 51 25.9**	**-2.0**
AAK				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ARCES	**ARCESS Array B**	**55.26**	**342**	P		**P**	**01 51 27.8**	**-0.8**
	comp=Z,2.7nm,0.7s,baz=44,slow=8.0,SNR=16							
JIRN	**Jiri**	**57.90**	**276**	*eP*		**P**	**01 51 49.7**	**+1.3**
GUN	**Gumba**	**57.92**	**276**	*eP*		**P**	**01 51 49.5**	**+1.0**
DMN	**Daman**	**58.62**	**276**	*eP*		**P**	**01 51 54.1**	**+0.8**
	comp=Z,19nm,0.8s							
DANN	**Dangsing**	**58.95**	**278**	*eP*		**P**	**01 51 56.5**	**+0.9**
	comp=Z,11nm,0.5s							
KOLN	**Koldanda**	**59.46**	**278**	*eP*		**P**	**01 51 59.7**	**+0.7**
	comp=Z,12nm,0.8s							
PYUN	**Piuthan**	**59.61**	**278**	*eP*		**P**	**01 52 00.8**	**+0.7**
	comp=Z,16nm,0.7s							
PMG	**Port Moresby**	**60.52**	**192**	LR		LR	02 14 20.2	
	comp=Z,209nm,19.5s,baz=28,slow=32							
NB2	**NORSAR Subarra**	**65.57**	**343**	P		**P**	**01 52 38.9**	**-0.1**
	comp=Z,2.9nm,0.6s,baz=23,slow=6.9							
NB2	**NORSAR Subarra**	**65.57**	**343**	P		**P**	**01 52 38.8**	**-0.2**
NB2				pmax	pmax			
	comp=Z,3.0nm,0.6s							
NOA	**NORSAR Array B**	**65.57**	**343**	P		**P**	**01 52 39.4**	**+0.3**
	comp=Z,3.9nm,0.7s,baz=22,slow=6.7,SNR=19							
GEYT	**Alibeck**	**67.39**	**302**	P		**P**	**01 52 51.6**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=69,slow=8.3,SNR=5.1							
AKASG	**Malin Array Be**	**70.09**	**328**	P		**P**	**01 53 06.7**	**-0.8**

	comp=Z,0.8nm,0.4s,baz=30,slow=6.7,SNR=4.0							
SORM	**Soroca**	**72.58**	**327**	⇑*i* P		**P**	**01 53 22.1**	**-0.4**
SORM	**Soroca**	**72.58**	**327**	P		**P**	**01 53 22.0**	**-0.4**
TXAR	**Lajitas Array**	**72.79**	**65**	P		**P**	**01 53 26.4**	**+2.2**
	comp=Z,0.4nm,0.5s,baz=301,slow=4.8,SNR=8.4							
WRA	**Warramunga Arr**	**73.30**	**203**	P		**P**	**01 53 28.4**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=19,slow=6.2,SNR=8.3							
BURAR	**Bucovina Array**	**74.09**	**329**	⇑*i* P		**P**	**01 53 31.9**	**+0.4**
BURAR	**Bucovina Array**	**74.09**	**329**	P		**P**	**01 53 31.8**	**+0.3**
CLL	**Collm**	**74.22**	**338**	⇓*i* P		**P**	**01 53 32.8**	**+0.7**
	comp=Z,9.0nm,1.0s							
CLL	**Collm**	**74.22**	**338**	⇓*i* P		**P**	**01 53 32.8**	**+0.7**
CLL				pmax	pmax			
	comp=Z,9.0nm,1.0s							
BRG	**Berggiesshubel**	**74.39**	**337**	*e*(P)		**P**	**01 53 33.9**	**+0.7**
	comp=Z,19nm,1.9s							
BRG	**Berggiesshubel**	**74.39**	**337**	*eP*		**P**	**01 53 33.8**	**+0.7**
BRG				pmax	pmax			
	comp=Z,19nm,1.9s							
MORC	**Moravsky Berou**	**74.47**	**335**	⇑*i* P		**P**	**01 53 34.3**	**+0.6**
MORC	**Moravsky Berou**	**74.47**	**335**	P		**P**	**01 53 34.2**	**+0.6**
MORC	**Moravsky Berou**	**74.47**	**335**	*eP*		**P**	**01 53 34.6**	**+1.0**
TRPA	**Tarpa**	**74.49**	**331**	⇑*i* P		**P**	**01 53 34.7**	**+1.0**
LANS	**Liptovska Anna**	**74.49**	**333**	*eP*		**P**	**01 53 35.6**	**+1.8**
LANS	**Liptovska Anna**	**74.49**	**333**	*eP*		**P**	**01 53 35.6**	**+1.8**
VRAC	**Vranov**	**75.15**	**335**	*eP*		**P**	**01 53 38.5**	**+1.0**
CFR	**Carcaliu**	**75.20**	**326**	⇑*i* P		**P**	**01 53 38.4**	**+0.6**
CFR	**Carcaliu**	**75.20**	**326**	P		**P**	**01 53 38.4**	**+0.6**
VYHS	**Vyhne**	**75.27**	**333**	*eP*		**P**	**01 53 39.2**	**+1.0**
VYHS				pmax	pmax			
	comp=Z,162nm,4.0s							
VYHS	**Vyhne**	**75.27**	**333**	*eP*		**P**	**01 53 39.2**	**+1.0**
KRUC	**Moravsky**	**75.43**	**335**	*eP*		**P**	**01 53 40.2**	**+1.1**
DRGR		**75.62**	**330**	⇑*i* P		**P**	**01 53 40.8**	**+0.4**
DRGR		**75.62**	**330**	P		**P**	**01 53 40.7**	**+0.4**
MLR	**Muntele Rosu**	**75.70**	**327**	⇑*i* P		**P**	**01 53 41.3**	**+0.4**
TLB	**Topalu**	**75.75**	**326**	⇓*i* P		**P**	**01 53 41.4**	**+0.4**
VOIR		**76.05**	**328**	⇑*i* P		**P**	**01 53 43.8**	**+1.0**
VOIR		**76.05**	**328**	P		**P**	**01 53 43.8**	**+1.0**
ARR	**Arges**	**76.25**	**328**	⇑*i* P		**P**	**01 53 43.8**	**-0.1**
GERES	**GERESS Array B**	**76.33**	**337**	P		**P**	**01 53 45.3**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=31,slow=5.7,SNR=6.7							
GZR	**Gura Zlata**	**76.84**	**329**	⇑*i* P		**P**	**01 53 47.7**	**+0.4**
GZR	**Gura Zlata**	**76.84**	**329**	P		**P**	**01 53 47.6**	**+0.3**
BZS	**Buzias**	**77.01**	**330**	⇑*i* P		**P**	**01 53 48.4**	**+0.3**
BZS	**Buzias**	**77.01**	**330**	P		**P**	**01 53 48.3**	**+0.2**
HERR	**Herculane**	**77.41**	**329**	⇑*i* P		**P**	**01 53 50.6**	**+0.2**
BRTR	**Keskin Array B**	**77.73**	**319**	P		**P**	**01 53 52.7**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=42,slow=3.0,SNR=9.0							
VTS	**Vitosha**	**79.19**	**328**	⇑*i* P		**P**	**01 54 00.9**	**+0.5**
VTS	**Vitosha**	**79.19**	**328**	P		**P**	**01 54 00.9**	**+0.5**

MEX 03 01:49:50.3±0.4, **14.42N**×**93.68W, h15**km, **MD3.9, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**1.35**	**19**	*eP*		Pn		01 50 10.6	-4.0
PCIG				*eS*		Sn		01 50 26.9	-5.3
CCIG	**Comitan**	**2.37**	**39**	*eP*		Pn		01 50 25.0	-3.9
CCIG				*eS*		Sn		01 50 53.1	-4.6
TGIG		**2.40**	**13**	*eP*		Pn		01 50 26.5	-2.6
TGIG				*eS*		Sn		01 50 54.3	-4.0

*MDD **03** 01:54:07.6±2.5, 37.41N×12.85W, h0km, mb3.5/6, Error ellipse: s-maj=22.6km s-min=21.3km az=41.0, PRXIMO*
*INMG **03** 01:54:10.4±1.3, 37.39N×13.28W, h10km, ML2.1, Error ellipse: s-maj=16.3km s-min=12.9km az=5.0*

ISC 03 01:54:09.1±4.1, **37.5N**±0.1×**12.7W**±0.2, **h10**km, **n26, σ1s52/41, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**3.06**	**61**	*e*Pn		**Pn**	**Pn**	**01 54 59.0**	**+1.4**
PMAFR				*e*Sn		**Sn**	**Sn**	**01 55 35.8**	**+1.5**
PMAFR				A		A	A	01 55 36.3	
	11nm,0.7s								
PMAFR	**Mafra**	**3.06**	**61**	P		**Pn**	**Pn**	**01 54 57.6**	**+0.1**
	3.2nm,0.2s,SNR=7.9								
PMAFR				S		**Sn**	**Sn**	**01 55 34.8**	**+0.6**
	1.9nm,0.1s,SNR=7.9								
PTEO	**Sao Teotonio**	**3.16**	**88**	*e*Pn		**Pn**	**Pn**	**01 55 01.1**	**+2.2**
PTEO	**Sao Teotonio**	**3.16**	**88**	P		**Pn**	**Pn**	**01 55 01.1**	**+2.2**
MESJ	**Messejana**	**3.58**	**83**	*e*Pn		**Pn**	**Pn**	**01 55 04.8**	**+0.2**
MESJ				*e*Sn		**Sn**	**Sn**	**01 55 48.6**	**+1.8**
MESJ				A		A	A	01 55 50.8	
	2.6nm,0.5s								
MESJ	**Messejana**	**3.58**	**83**	P		**Pn**	**Pn**	**01 55 04.8**	**+0.2**
MESJ				S		**Sn**	**Sn**	**01 55 48.6**	**+1.8**
	2.6nm,0.5s								
PBDV	**Barranco-do-Ve**	**3.81**	**92**	*e*Sn		**Sn**	**Sn**	**01 55 53.8**	**+1.1**
PBDV	**Barranco-do-Ve**	**3.81**	**92**	S		**Sn**	**Sn**	**01 55 53.8**	**+1.1**
EVO	**Evora**	**3.85**	**73**	*e*Pn		**Pn**	**Pn**	**01 55 10.4**	**+2.1**
EVO				*e*Sn		**Sn**	**Sn**	**01 55 54.9**	**+1.3**
EVO				A		A	A	01 56 00.0	
	1.9nm,0.3s								
EVO	**Evora**	**3.85**	**73**	P		**Pn**	**Pn**	**01 55 10.4**	**+2.1**
EVO				S		**Sn**	**Sn**	**01 55 54.9**	**+1.3**
	1.9nm,0.3s								
PVAQ	**Vaqueiros**	**3.97**	**90**	*e*Sn		**Sn**	**Sn**	**01 55 56.4**	**-0.2**
PVAQ				A		A	A	01 56 02.3	
	3.4nm,1.0s								
PVAQ	**Vaqueiros**	**3.97**	**90**	S		**Sn**	**Sn**	**01 55 56.4**	**-0.2**
	3.4nm,1.0s								
PTOM	**Tomar**	**3.98**	**56**	*e*Pn		**Pn**	**Pn**	**01 55 11.6**	**+1.5**
PTOM				*e*Sn		**Sn**	**Sn**	**01 55 56.4**	**-0.4**
PTOM	**Tomar**	**3.98**	**56**	P		**Pn**	**Pn**	**01 55 11.6**	**+1.5**
PTOM				S		**Sn**	**Sn**	**01 55 56.4**	**-0.4**
EGRO	**El Granado**	**4.15**	**88**	P		**Pn**	**Pn**	**01 55 11.4**	**-1.1**
	0.2nm,0.1s,SNR=7.9								
EGRO				S		**Sn**	**Sn**	**01 55 58.6**	**-2.4**
	0.9nm,0.2s,SNR=7.9								
PMRV	**Marv??o**	**4.59**	**64**	*e*Pn		**Pn**	**Pn**	**01 55 19.3**	**+0.7**
PMRV				*e*Sn		**Sn**	**Sn**	**01 56 11.9**	**-0.1**
PMRV				A		A	A	01 56 17.8	
	1.8nm,0.7s								
PMRV	**Marv??o**	**4.59**	**64**	P		**Pn**	**Pn**	**01 55 19.3**	**+0.7**
PMRV				S		**Sn**	**Sn**	**01 56 11.9**	**-0.1**
	1.8nm,0.7s								
EBAD	**Badajoz**	**4.66**	**73**	P		**Pn**	**Pn**	**01 55 19.3**	**-0.2**
	0.5nm,0.1s,SNR=7.9								
EBAD				S		**Sn**	**Sn**	**01 56 10.4**	**-3.2**
	1.3nm,0.2s,SNR=7.9								
PCBR	**Castelo Branco**	**4.71**	**59**	*e*Pn		**Pn**	**Pn**	**01 55 21.4**	**+1.2**
PCBR	**Castelo Branco**	**4.71**	**59**	P		**Pn**	**Pn**	**01 55 21.4**	**+1.2**
EMIN	**Mina Concepcio**	**4.80**	**85**	P		**Pn**	**Pn**	**01 55 20.0**	**-1.3**
	0.1nm,0.1s,SNR=7.9								
EMIN				S		**Sn**	**Sn**	**01 56 14.8**	**-2.2**
	0.1nm,0.1s,SNR=7.9								
ELOB	**Lobios**	**5.65**	**38**	S		**Sn**	**Sn**	**01 56 36.3**	**-1.8**
	0.4nm,0.1s,SNR=7.9								
ECAB	**El Cabril**	**5.80**	**82**	P		**Pn**	**Pn**	**01 55 34.0**	**-1.1**
	0.4nm,0.1s,SNR=7.9								
ECAB				S		**Sn**	**Sn**	**01 56 39.3**	**-2.5**
	0.1nm,0.2s,SNR=7.9								
EAGO	**Agolada(Pontev**	**6.37**	**32**	S		**Sn**	**Sn**	**01 56 53.4**	**-2.5**
	0.1nm,0.1s,SNR=7.9								
EADA	**Adamuz**	**6.47**	**82**	P		**Pn**	**Pn**	**01 55 44.0**	**-0.3**
	0.4nm,0.1s,SNR=7.9								
EADA				S		**Sn**	**Sn**	**01 56 56.4**	**-1.8**
	0.1nm,0.1s,SNR=7.9								
ESDC	**Sonseca Array**	**7.18**	**70**	P		**Pn**	**Pn**	**01 55 54.0**	**-0.2**
	0.5nm,0.1s,baz=255,slow=13,SNR=4.8								

*NIED **03** 02:01:00, 35.60N×140.20E, h68km, Mw3.6 Best double couple: M0 3.11000×10^14 NP1:φs=89.00000°, δ2.00000°, λ-3.00000°. NP2:φs=183.00000°, δ90.00000°, λ-92.00000°.*
*ISCJB **03** 02:01:21.2±0.5, 35.53N±0.04×140.11E±0.05, h76km±4km, mb3.5/4, Error ellipse: s-maj=7.5km s-min=5.6km az=161.6*
*JMA **03** 02:01:21.4±0.2, 35.59N×140.11E, h69km±2km, M3.3*
JMA Felt I J1.
*IDC **03** 02:01:26.4±1.9, 35.28N×139.27E, h82km±13km, mb3.3/4, mb1 3.4/5, mb1mx3.1/51, mbtmp3.7/5, Error ellipse: s-maj=61.9km s-min=10.4km az=69.0*

ISC 03 02:01:22.2±0.9, **35.53N**±0.04×**140.11E**±0.05, **h70**km±7km, **n23, σ1s00/31, mb3.7/4, 6D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.13**	**145**	⇓P		**Pn**		**02 01 32.4**	**-0.2**
JCN				S		**Sn**		**02 01 40.9**	**+0.8**
JSMT	**Sammumatsuo**	**0.30**	**67**	P		**Pn**		**02 01 32.9**	**-0.5**
JSMT				S		**Sn**		**02 01 42.5**	**+0.9**
TOK	**Tokyo**	**0.33**	**299**	P		**Pn**		**02 01 33.4**	**-0.1**
TOK				S		**Sn**		**02 01 43.3**	**+1.5**
BSO3	**Boso 3**	**0.80**	**155**	⇓P		**Pn**		**02 01 37.7**	**-0.3**
BSO3				*eX*				02 01 51.2	
JOD2	**Odawara 2**	**0.87**	**253**	⇓P		**Pn**		**02 01 38.7**	**-0.5**
JOD2				S		**Sn**		**02 01 51.0**	**-0.8**
JIM2	**Oshima 3**	**0.98**	**215**	P		**Pn**		**02 01 39.6**	**-0.9**
JIM2				S		**Sn**		**02 01 53.4**	**-0.7**
JAG	**Ashikaga**	**1.04**	**330**	⇓P		**Pn**		**02 01 40.2**	**-1.0**
JAG				*eS*		**Sn**		**02 01 53.8**	**-1.6**
JRY	**Ryogami san**	**1.10**	**297**	⇓P		**Pn**		**02 01 41.8**	**-0.1**
BSO1	**Boso 1**	**1.13**	**140**	P		**Pn**		**02 01 41.2**	**-0.6**
JYN	**Shimob**	**1.28**	**269**	⇓P		**Pn**		**02 01 44.8**	**+0.5**
JYN				S		**Sn**		**02 02 00.7**	**-0.2**
JIZS	**Izushimoda**	**1.29**	**232**	P		**Pn**		**02 01 44.2**	**-0.2**
JIZS				S		**Sn**		**02 02 00.6**	**-0.5**
JKT	**Katashina**	**1.42**	**331**	P		**Pn**		**02 01 45.1**	**-1.1**
JKT				S		**Sn**		**02 02 02.8**	**-1.4**
MJAR	**Matsushiro Arr**	**1.84**	**304**	P		**Pn**		**02 01 51.5**	**-0.3**
	16nm,0.3s,baz=146,slow=14,SNR=101								
MJAR				LR		LR		02 02 32.2	
	comp=Z,50nm,20.6s,baz=85,slow=44								
MAT	**Matsushiro**	**1.84**	**304**	P		**Pn**		**02 01 51.9**	**+0.1**
MAT				S		**Sn**		**02 02 15.4**	**+1.2**
JHJ	**Hachijo jima 2**	**2.42**	**186**	P		**Pn**		**02 01 59.9**	**+0.3**
	53nm,0.3s,baz=70,slow=22,SNR=10								
JHJ				S		**Sn**		**02 02 28.6**	**+0.5**
	87nm,0.3s,baz=87,slow=22,SNR=8.0								
JCJ	**Chichijima**	**8.59**	**168**	P		**Pn**		**02 03 21.1**	**-2.8**
	12nm,0.3s,baz=304,slow=15,SNR=6.1								
H11S3	**WAKE ISLAND Hy**	**28.99**	**119**	T		T		02 37 14.5	
	baz=311,slow=74,SNR=4.5								
H11S1	**WAKE ISLAND Hy**	**29.00**	**119**	T		T		02 37 21.0	
	baz=311,slow=74,SNR=4.4								
H11S2	**WAKE ISLAND Hy**	**29.01**	**119**	T		T		02 37 22.2	
	baz=311								
ZALV	**Zalesovo Beam**	**42.17**	**314**	P		**P**		**02 09 07.3**	**-0.3**
	0.5nm,0.4s,baz=110,slow=6.9,SNR=2.8								
MKAR	**Makanchi Array**	**44.04**	**303**	P		**P**		**02 09 23.1**	**+0.2**
	0.9nm,0.8s,baz=82,slow=8.5,SNR=3.4								
WRA	**Warramunga Arr**	**55.44**	**187**	P		**P

SEY	**Seymchan**	**68.84**	**5**	P		**P**	**02 19 24.8**	**-0.4**
	comp=Z,5.9nm,0.8s,baz=165,slow=4.1,SNR=12							
WMQ	**Urumqi**	**69.38**	**321**	*e*P		**P**	**02 19 29.5**	**+0.5**
WMQ				LR		LR		
	comp=N,200nm,24.9s							
WMQ				LR		LR		
	comp=E,150nm,29.3s							
WMQ				LR		LR		
	comp=Z,200nm,21.7s							
VNDA	**Vanda**	**72.59**	**176**	P		**P**	**02 19 48.7**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=336,slow=7.2,SNR=5.7							
VNDA	**Vanda**	**72.59**	**176**	*e*P		**P**	**02 19 49.0**	**+1.2**
	comp=Z,3.2nm,1.2s							
MKAR	**Makanchi Array**	**74.14**	**322**	P		**P**	**02 19 57.8**	**+0.2**
	comp=Z,3.5nm,0.6s,baz=113,slow=7.1,SNR=7.0							
BILL	**Bilibino**	**75.47**	**9**	*e*P		**P**	**02 20 03.9**	**-0.8**
	comp=Z,2.6nm,0.6s							
KSH	**Kashi**	**75.52**	**313**	*e*P		**P**	**02 20 06.4**	**+0.6**
NRIK	**Noril'sk**	**83.47**	**343**	P		**P**	**02 20 47.9**	**-0.3**
	comp=Z,2.4nm,0.3s,baz=114,slow=6.3,SNR=4.7							
BRVK	**Borovoye**	**83.69**	**325**	*e*P		**P**	**02 20 49.4**	**-0.4**
QSPA	**South Pole Qui**	**84.32**	**180**	*e*P		**P**	**02 20 52.8**	**-0.1**
RND	**Reindeer**	**85.84**	**25**	*e*P		**P**	**02 20 58.7**	**-1.7**
DHY	**Denali Highway**	**86.35**	**25**	*e*P		**P**	**02 21 02.5**	**-0.6**
CCB	**Clear Creek Bu**	**86.71**	**24**	*e*P		**P**	**02 21 03.1**	**-1.5**
COLA	**College**	**86.77**	**24**	*e*P		**P**	**02 21 03.4**	**-1.4**
	comp=Z,2.3nm,0.5s							
IL1	**Eielson Array**	**87.13**	**24**	*e*P		**P**	**02 21 04.1**	**-2.5**
ILAR	**Eielson Array**	**87.13**	**24**	P		**P**	**02 21 04.1**	**-2.5**
	comp=Z,4.3nm,0.7s,baz=259,slow=4.7,SNR=41							
ILB	**Eielson Array**	**87.13**	**24**	*e*P		**P**	**02 21 04.7**	**-2.0**
TOLK	**Toolik Lake Re**	**87.51**	**20**	*e*P		**P**	**02 21 08.1**	**-0.4**
SYO	**Syowa Base**	**89.21**	**201**⇑	*e*X		**P**	**02 21 13.0**	**-3.5**
SYO	**Syowa Base**	**89.21**	**201**⇑	*e*pP		pP	02 21 29.0	+4.3
EGAK	**Eagle**	**89.47**	**25**	*e*P		**P**	**02 21 17.6**	**-0.1**
DAWY	**Dawson**	**90.05**	**26**	*e*P		**P**	**02 21 20.8**	**+0.2**
GERES	**GERESS Array B**	**118.78**	**324**	PKP		**PKPdf**	**02 27 09.3**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=70,slow=1.6,SNR=6.1							
PLCA	**Paso Flores**	**125.00**	**150**	PKP		**PKPdf**	**02 27 22.7**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=242,slow=6.6,SNR=5.4							
TORD	**Torodi Ar. Bea**	**140.24**	**284**	PKhKP	PKPpre		02 27 47.8	
	baz=102,slow=2.6							
LPAZ	**La Paz**	**143.02**	**127**	PKhKP	PKPpre		02 27 53.0	
	comp=Z,1.0nm,0.6s,baz=298,slow=4.9,SNR=5.0							
CPUP	**Villa Florida**	**143.07**	**150**	PKhKP	PKPpre		02 27 52.1	
	comp=Z,1.1nm,0.7s,baz=236,slow=3.2,SNR=4.3							
DBIC	**Dimbokro**	**147.09**	**274**	PKPbc	**PKPdf**		**02 28 03.5**	**+0.6**
	comp=Z,5.1nm,0.8s,baz=111,slow=3.5,SNR=4.7							
SDV	**Santo Domingo**	**147.42**	**82**	*e*PKPbc	**PKPbc**		**02 28 05.5**	**-0.8**
SJG	**San Juan**	**149.80**	**63**	*e*PKPbc	**PKPbc**		**02 28 10.8**	**-1.2**
SAML	**Samuel**	**150.96**	**120**	*e*PKPdf	**PKPdf**		**02 28 08.9**	**-0.3**
SAML				*e*PKPbc	**PKPbc**		**02 28 14.9**	**0.0**

IDC ***03*** *02:10:04.5±1.6, 3.°62S×100.°64E, h0km, mb4.4/13, mb1 4.5/14, mb1mx4.3/42, mbtmp4.4/14, ML3.5/1, MS3.7/15, Ms1 3.7/15, ms1mx3.4/42, Error ellipse: s-maj=38.7km s-min=27.5km az=172.0*

BJI ***03*** *02:10:04.4, 3.°70S×100.°80E, h10km, mb4.7/43, mB5.0/28, Ms4.6/21, Ms7 4.3/20*

MOS ***03*** *02:10:06.8±1.1, 3.°73S×100.°88E, h38km, mb4.9/21, Error ellipse: s-maj=14.7km s-min=6.9km az=100.5*

ISCJB ***03*** *02:10:06.8±0.3, 3.°72S±0.°04×100.°71E±0.°04, h32km, mb4.6/53, MS4.0/22, Error ellipse: s-maj=7.0km s-min=4.4km az=41.3*

DJA ***03*** *02:10:07.1±0.5, 4.°S±6.°×10.°1E±.°, h57km±24km, M4.6/17, mB5.2/3, mb4.5/7, MLv4.7/17, Mw(mB)4.6/3*

NEIC ***03*** *02:10:09.5±1.1, 3.°70S×100.°75E, h38km±7km, mb4.6/8, Error ellipse: s-maj=12.3km s-min=6.8km az=213.0*

ISC 03 02:10:08.7±0.5, 3.°72S±0.°06×100.°69E±0.°06, h32km, n177, σ1s70/169, mb4.7/53, MS3.9/22, 7C-2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**1.17**	**324**	P	**Pn**	**02 10 27.6**	**-1.2**
MASI	**Maura Aman, Be**	**1.65**	**70**	P	**Pb**	**02 10 36.3**	**-2.2**
KRJI	**Kerinci**	**1.79**	**25**	P	**Pn**	**02 10 37.8**	**+0.3**
MNAI	**Manna**	**2.35**	**106**	*e*Pn	**Pn**	**02 10 45.7**	**+0.7**
MNAI	**Manna**	**2.35**	**106**	P	**Pn**	**02 10 45.8**	**+0.7**
PDSI	**Padang**	**2.80**	**355**	P	**Pn**	**02 10 50.1**	**-1.2**
SDSI	**Sungai Dareh**	**2.86**	**15**	P	**Pn**	**02 10 51.9**	**-0.3**
PPI	**Padang Panjang**	**3.25**	**355**	P	**Pn**	**02 10 56.0**	**-1.5**
MDSI	**Maura Dua**	**3.56**	**103**	P	**Pn**	**02 11 02.1**	**+0.3**
LWLI	**Liwa**	**3.60**	**111**	P	**Pn**	**02 11 02.1**	**-0.3**
BKNI	**Bangkinang**	**4.03**	**5**	*e*Pn	**Pn**	**02 11 08.1**	**-0.2**
BKNI	**Bangkinang**	**4.03**	**5**	P	**Pb**	**02 11 19.3**	**+0.2**
KLSI		**4.14**	**104**	P	Pb	02 11 25.6	+4.7
KASI	**Kota Agung**	**4.20**	**115**	P	**Pn**	**02 11 09.8**	**-0.7**
PBSI	**Pulau Batu**	**4.36**	**326**	P	**Pn**	**02 11 10.3**	**-2.5**
MNSI	**Mandailing Nat**	**4.62**	**346**	P	**Pn**	**02 11 13.2**	**-3.1**
PPBI	**Pangkal Pinang**	**5.65**	**74**	P	Pb	02 11 41.1	-5.6
CGJI	**Cibinong**	**5.75**	**120**	P	**Pn**	**02 11 30.3**	**-1.6**
GSI	**Gunungsitoli**	**5.88**	**328**	*e*Pn	**Pn**	**02 11 34.1**	**+0.4**
GSI	**Gunungsitoli**	**5.88**	**328**	P	**Pn**	**02 11 31.3**	**-2.4**
MYKOM	**Kota Tinggi**	**6.32**	**30**	*e*Pn	**Pn**	**02 11 40.0**	**+0.4**
PSI	**Prapat**	**6.71**	**345**	Pn	**Pn**	**02 11 43.6**	**-1.6**
	1.1nm,0.3s,baz=181,slow=3.0,SNR=10						
PSI	**Prapat**	**6.71**	**345**	*e*Pn	**Pn**	**02 11 44.1**	**-1.1**
PSI	**Prapat**	**6.71**	**345**	*e*P	**Pn**	**02 11 44.1**	**-1.1**
LEM	**Lembang**	**7.56**	**114**	LR	LR	02 15 29.3	
	comp=Z,618nm,19.6s,baz=238,slow=42						
KCSI	**Kotacane, Aceh**	**7.76**	**338**	P	**Pn**	**02 11 59.7**	**+0.2**
TPTI		**7.77**	**333**	P	**Pn**	**02 11 57.9**	**-1.7**
CISI	**Cisompet, Garu**	**8.05**	**119**	P	**Pn**	**02 12 01.8**	**-1.7**
IPM	**Ipoh**	**8.15**	**2**	*e*Pn	**Pn**	**02 12 05.8**	**+0.9**
KULM	**Kulim**	**8.95**	**360**	*e*Pn	**Pn**	**02 12 16.3**	**+0.4**
KPJI	**Karang Pucung**	**8.95**	**114**	P	**Pn**	**02 12 16.6**	**+0.7**
MLSI	**Meulaboh, Aceh**	**9.01**	**332**	P	**Pn**	**02 12 13.0**	**-3.7**
COCO	**West Island**	**9.24**	**204**	*i* P	**Pn**	**02 12 20.2**	**+0.4**
SBUM	**Sibu**	**13.05**	**62**	*e*Pn	**Pn**	**02 13 10.6**	**-1.4**
SRAK	**Srakaew**	**17.66**	**4**	P	**Pn**	**02 14 11.7**	**-0.8**
	54nm,0.9s						
SPSI	**Sidrap Palu**	**19.04**	**91**	P	Pn	02 14 38.6	+9.3
UTHA	**Uthaitani**	**19.19**	**356**	P	**Pn**	**02 14 32.4**	**+1.3**
	3.7nm,0.9s,121nm						
BKSI	**Bulukumba**	**19.43**	**95**	P	**Pn**	**02 14 34.9**	**+0.9**
CHAI	**Chaiyaphum**	**19.54**	**4**	P	**Pn**	**02 14 35.9**	**+0.7**
	3.0nm,1.2s,309nm						
MPSI	**Mapaga**	**19.61**	**79**	P	**Pn**	**02 14 38.8**	**+2.7**
SKNT	**Sakolnakorn**	**20.82**	**9**	P	**P**	**02 14 46.3**	**-1.4**
	11nm,1.0s,1μm						
SUKH	**Sukhothai**	**21.09**	**357**	P	**P**	**02 14 55.4**	**+4.8**
	3.1nm,0.9s						
NONG	**Nongkai**	**21.78**	**6**	P	**P**	**02 14 55.5**	**-2.5**
	0.7nm,1.0s						
CM01	**Chiang Mai Arr**	**22.06**	**356**	*e*P	**P**	**02 15 01.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**22.10**	**356**	P	**P**	**02 14 59.8**	**-1.7**
	6.5nm,0.8s,baz=184,slow=8.2,SNR=16						
LAMP	**Lampang**	**22.12**	**357**	P	**P**	**02 15 04.2**	**+2.5**
	5.5nm,1.0s,137nm						
CMMT	**Chiang Mai**	**22.45**	**356**	P	**P**	**02 15 06.1**	**+0.8**
	14nm,1.1s						
CHTO	**Chiang Mai**	**22.45**	**356**	*e*P	**P**	**02 15 05.5**	**+0.2**
	14nm,1.0s						
CHTO	**Chiang Mai**	**22.45**	**356**	*e*P	**P**	**02 15 05.5**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,13nm,1.0s						
CHTO	**Chiang Mai**	**22.45**	**356**	P	**P**	**02 15 06.2**	**+0.9**
	comp=Z,61nm,1.1s						
PALK	**Pallekele**	**22.74**	**299**	LR	LR	02 23 01.6	
	comp=Z,309nm,20.7s,baz=116,slow=34						
PAYA	**Payao**	**22.95**	**358**	P	**P**	**02 15 11.0**	**+0.5**
	comp=Z,7.0nm,1.2s,comp=Z,386nm						
QIZ	**Qiongzhong**	**24.33**	**21**	P	**P**	**02 15 24.2**	**+0.4**
QIZ				S	**S**	**02 19 47.4**	**+6.3**
QIZ				pmax	pmax		
	comp=Z,30nm,1.5s						
QIZ				LR	LR		
	comp=Z,380nm,13.7s						
QIZ				LR	LR		
	comp=Z,260nm,16.2s						
QIZ				LR	LR		
	comp=Z,350nm,17.2s						
H08S2	**Diego Garcia H**	**28.32**	**261**	T	T	02 45 30.2	
	baz=83,slow=75,SNR=1693						
H08S3	**Diego Garcia H**	**28.33**	**261**	T	T	02 45 28.8	
	baz=83,slow=75,SNR=5246						
H08S1	**Diego Garcia H**	**28.34**	**261**	T	T	02 45 31.6	
	baz=83,slow=75,SNR=499						
KMI	**Kunming**	**28.74**	**4**	P	**P**	**02 16 07.8**	**+4.1**
KMI				pmax	pmax		
	comp=Z,19nm,0.5s						
KMI				LR	LR		
	comp=Z,400nm,14.0s						
KMI				LR	LR		
	comp=Z,410nm,15.2s						
KMI				LR	LR		
	comp=Z,580nm,14.8s						
SHL	**Shillong**	**30.34**	**344**	P	**P**	**02 16 18.5**	**+0.7**
SHL				pmax	pmax		
	comp=Z,17nm,0.9s						
GYA	**Guiyang**	**30.55**	**11**	*e*P	**P**	**02 16 21.8**	**+2.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ODAN	**Odare**	**33.01**	**338**	*e*P	**P**	**02 16 42.6**	**+1.3**
	comp=Z,71nm,1.0s						
TAPN	**Taplejung**	**33.33**	**339**	*e*P	**P**	**02 16 45.8**	**+1.6**
	comp=Z,126nm,0.9s						
RAMN	**Ramite**	**33.39**	**337**	*e*P	**P**	**02 16 45.9**	**+1.2**
H01W3	**Cape Leeuwin H**	**33.43**	**160**	T	T	02 51 54.5	
	baz=335,slow=76,SNR=70						
H01W2	**Cape Leeuwin H**	**33.44**	**160**	T	T	02 51 55.5	
	baz=335,slow=76,SNR=102						
H01W1	**Cape Leeuwin H**	**33.44**	**160**	T	T	02 51 55.6	
	baz=335,slow=76,SNR=66						
JIRN	**Jiri**	**34.19**	**337**	*e*P	**P**	**02 16 53.0**	**+1.2**
	comp=Z,95nm,1.0s						
PKI	**Pulchoki**	**34.42**	**336**	*e*P	**P**	**02 16 54.4**	**+0.6**
	comp=Z,14nm,0.8s						
PKIN	**Phulchoki**	**34.43**	**336**	*e*P	**P**	**02 16 54.4**	**+0.6**
CD2	**Chengdu**	**34.56**	**5**	*e*P	**P**	**02 16 55.5**	**+0.9**
CD2				S	**S**	**02 22 23.8**	**+2.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,4.8s						
CD2				LR	LR		
	comp=Z,950nm,13.7s						
CD2				LR	LR		
	comp=Z,2μm,15.2s						
CD2				LR	LR		
	comp=Z,960nm,13.2s						
KKN	**Kakani**	**34.67**	**336**	*e*P	**P**	**02 16 56.6**	**+0.8**
KOLN	**Koldanda**	**35.38**	**333**	*e*P	**P**	**02 17 02.8**	**+0.9**
	comp=Z,47nm,1.0s						
DANN	**Dangsing**	**35.80**	**334**	*e*P	**P**	**02 17 06.4**	**+0.8**
PYUN	**Piuthan**	**35.94**	**333**	*e*P	**P**	**02 17 07.5**	**+0.8**
WRAB	**Tennant Creek**	**36.55**	**119**	*e*P	**P**	**02 17 11.3**	**-0.6**
WRAB	**Tennant Creek**	**36.55**	**119**	*e*P	**P**	**02 17 11.3**	**-0.6**
NJ2	**Nanjing**	**39.54**	**25**	*e*P	**P**	**02 17 37.2**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,19nm,0.8s						
LZH	**Lanzhou**	**39.71**	**4**	⇓P	**P**	**02 17 38.2**	**-0.1**
LZH				PP	**PnPn**	**02 19 17.6**	**+4.4**
LZH				pmax	pmax		
	comp=Z,35nm,1.6s						
LZH				pmax	pmax		
	comp=Z,160nm,5.4s						
LZH				LR	LR		
	comp=Z,620nm,16.3s						
LZH				LR	LR		
	comp=Z,800nm,16.8s						
LZH				LR	LR		
	comp=Z,750nm,14.6s						
GTA	**Gaotai**	**42.92**	**359**	⇑P	**P**	**02 18 04.6**	**-0.1**
GTA				pP	pP	02 18 12.7	-1.5
GTA				sP	sP	02 18 16.9	-1.1
GTA				PcP	**PcP**	**02 19 52.7**	**-2.4**
GTA				S	**S**	**02 24 27.2**	**-0.5**
GTA				sS	sS	02 24 44.5	+1.1
GTA				SS	**SS**	**02 27 32.9**	**-7.3**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,42nm,6.7s						
GTA				LR	LR		
	comp=Z,270nm,17.5s						
GTA				LR	LR		
	comp=Z,390nm,19.4s						
GTA				LR	LR		
	comp=Z,280nm,16.5s						
BTO	**Baotou**	**44.93**	**10**	*e*P	**P**	**02 18 20.0**	**-0.7**
HHC	**Hu-ho-hao-te**	**45.45**	**12**	*e*P	**P**	**02 18 27.8**	**+2.9**
HHC				pmax	pmax		
	comp=Z,20nm,0.9s						
HHC				pmax	pmax		
	comp=Z,100nm,6.1s						
JNU	**Nakatsue**	**46.46**	**36**	LR	LR	02 38 44.2	
	comp=Z,62nm,19.1s,baz=210,slow=37						
JNU	**Nakatsue**	**46.46**	**36**	*e*P	**P**	**02 18 32.9**	**0.0**
	comp=Z,34nm,1.2s						
STKA	**Stephens Creek**	**47.50**	**131**	LR	LR	02 40 03.0	
	comp=Z,141nm,21.0s,baz=298,slow=38						
KSAR	**Wonju Array Be**	**48.12**	**29**	P	**P**	**02 18 45.8**	**+0.1**
KSAR	**Wonju Array Be**	**48.12**	**29**	P	**P**	**02 18 49.3**	**-0.8**
KSRS	**Korea Array**	**48.15**	**29**	P	**P**	**02 18 45.8**	**-0.1**
	comp=Z,14nm,1.1s,baz=219,slow=8.1,SNR=27						
KS01	**Wonju Array Si**	**48.16**	**29**	*e*P	**P**	**02 18 45.6**	**-0.4**
KSH	**Kashi**	**48.67**	**334**	P	**P**	**02 18 49.3**	**-0.8**
KSH				sP	sP	02 19 03.4	-0.1
KSH				PcP	**PcP**	**02 20 14.7**	**-0.4**
KSH				S	**S**	**02 25 44.7**	**-5.8**
KSH				pmax	pmax		
	comp=Z,25nm,1.2s						
KSH				pmax	pmax		
	comp=Z,400nm,6.5s						
WMQ	**Urumqi**	**48.75**	**347**⇑	*i*P	**P**	**02 18 51.5**	**+1.0**
WMQ				pP	pP	02 18 59.9	-0.2
WMQ				S	S	02 26 02.7	+11
WMQ				pmax	pmax		
	comp=Z,69nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,290nm,5.1s						
WMQ				LR	LR		
	comp=Z,190nm,27.3s						
WMQ				LR	LR		
	comp=Z,140nm,32.3s						
WMQ				LR	LR		
	comp=Z,200nm,22.1s						
KDJ	**Kajisay**	**50.38**	**337**	*e*P	**P**	**02 19 05.4**	**+2.2**
	comp=Z,29nm,1.0s						
KDJ	**Kajisay**	**50.38**	**337**	*e*P	**P**	**02 19 05.4**	**+2.2**
KDJ				pmax	pmax		
	comp=Z,29nm,1.0s						
ULHL	**Ulahol**	**50.85**	**337**	P	**P**	**02 19 07.7**	**+0.9**
	SNR=6.7						
KZA	**Kyzart**	**51.11**	**336**	P	**P**	**02 19 10.3**	**+1.4**
	SNR=5.5						
BTK	**Batken**	**51.47**	**331**	P	**P**	**02 19 12.2**	**+0.9**
BTK				AP	**pP**	**02 19 22.1**	**+1.1**
SONM	**Songino Array**	**51.58**	**5**	P	**P**	**02 19 12.8**	**+0.8**
	comp=Z,9.5nm,1.0s,baz=190,slow=9.0,SNR=24						
SONA1	**Songino Array**	**51.59**	**5**	*e*P	**P**	**02 19 12.7**	**+0.6**
ULN	**Ulaanbaatar**	**51.67**	**5**	*e*P	**P**	**02 19 13.1**	**+0.4**
	comp=Z,6.6nm,1.0s						
ULN	**Ulaanbaatar**	**51.67**	**5**	*e*P	**P**	**02 19 13.1**	**+0.4**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TKM2	**Tokmak 2**	**51.67**	**337**	P	**P**	**02 19 13.4**	**+0.5**
	SNR=18						
KBK	**Karagaybulak**	**51.71**	**336**	P	**P**	**02 19 14.2**	**+1.1**
	SNR=6.3						
AML	**Almayashu**	**51.80**	**335**	P	**P**	**02 19 14.7**	**+0.6**
	SNR=5.4						
AAK	**Ala-Archa**	**51.88**	**336**	*e*P	**P**	**02 19 14.6**	**+0.2**
	comp=Z,8.4nm,1.3s						
AAK	**Ala-Archa**	**51.88**	**336**	*i* P	**P**	**02 19 14.1**	**-0.3**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
EKS2	**Erkin-Say**	**52.20**	**335**	P	**P**	**02 19 17.8**	**+1.1**
	SNR=13						
CN2	**Changchun**	**52.28**	**23**	*e*P	**P**	**02 19 15.7**	**-1.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=Z,340nm,18.0s						
CN2				LR	LR		
	comp=Z,290nm,18.0s						
CN2				LR	LR		
	comp=Z,330nm,18.0s						
USP	**Ospenovka**	**52.40**	**336**	P	**P**	**02 19 18.9**	**+0.8**
	SNR=5.8						
MK01	**Makanchi Array**	**52.83**	**344**	*e*P	**P**	**02 19 21.3**	**+0.1**
MK31	**Makanchi Array**	**52.86**	**344**	*e*P	**P**	**02 19 21.9**	**+0.5**
MK31	**Makanchi Array**	**52.86**	**344**	*e*P	**P**	**02 19 21.9**	**+0.5**
MKAR	**Makanchi Array**	**52.86**	**344**	P	**P**	**02 19 21.6**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=146,slow=7.6,SNR=32						
MKAR				LR	LR	02 46 41.4	
	comp=Z,67nm,18.3s,baz=128,slow=42						
MAJO	**Matsushiro**	**53.18**	**38**	*e*P	**P**	**02 19 23.0**	**-1.0**
	comp=Z,5.0nm,0.6s						
MAJO	**Matsushiro**	**53.18**	**38**	*e*P	**P**	**02 19 23.0**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MAT	**Matsushiro**	**53.18**	**38**	P	**P**	**02 19 22.5**	**-1.5**
MJAR	**Matsushiro Arr**	**53.18**	**38**	P	**P**	**02 19 23.4**	**-0.5**
	comp=Z,5.7nm,1.0s,baz=226,slow=8.7,SNR=8.6						
VLA	**Vladivostok**	**54.47**	**28**	*i* P	**P**	**02 19 30.1**	**-3.1**
VLA				pmax	pmax		
	comp=Z,30nm,0.9s						
HVS	**Khovu-Aksy**	**54.97**	**355**	*i* P	**P**	**02 19 33.5**	**-3.3**
HVS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TLY	**Talaya**	**55.24**	**2**	LR	LR	02 45 22.6	
	comp=Z,48nm,18.5s,baz=191,slow=38						
HIA	**Hailar**	**55.30**	**15**	*i* P	**P**	**02 19 38.0**	**-1.2**
HIA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
USA0B	**Ussuriysk Arra**	**55.35**	**27**	*e*P	**P**	**02 19 39.8**	**+0.2**
USA0B				*e*pP	**pP**	**02 19 47.9**	**-1.4**
USRK	**Ussuriysk Ar.**	**55.35**	**27**	P	**P**	**02 19 39.3**	**-0.2**
	comp=Z,5.1nm,0.5s,baz=213,slow=5.2,SNR=21						
GEYT	**Alibeck**	**57.20**	**320**	P	**P**	**02 19 53.3**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=165,slow=12,SNR=5.0						
GEYT				LR	LR	02 47 14.2	
	comp=Z,40nm,19.3s,baz=10.0,slow=39						
KURK	**Kurchatov**	**57.44**	**344**	*e*P	**P**	**02 19 54.4**	**+0.1**
KURK	**Kurchatov**	**57.44**	**344**	*ce*P	**P**	**02 19 54.6**	**+0.3**
KURK				pmax	pmax		
	comp=Z,20nm,1.0s						
ZAA0	**Zalesovo Array**	**58.97**	**349**	*e*P	**P**	**02 20 04.8**	**-0.2**
	comp=Z,23nm,1.0s						
ZALV	**Zalesovo Beam**	**58.97**	**349**	P	**P**	**02 20 04.7**	**-0.3**
	comp=Z,19nm,1.0s,baz=160,slow=4.7,SNR=42						
ZALV	**Zalesovo Beam**	**58.97**	**349**	*i* P	**P**	**02 20 04.6**	**-0.4**
ZALV				pmax	pmax		
	comp=Z,19nm,1.0s						
KLR	**Kul'dur**	**59.22**	**23**	*e*P	**P**	**02 20 03.9**	**-2.9**
NVS	**Novosibirsk**	**60.12**	**348**	*e*P	**P**	**02 20 12.0**	**-0.9**
RAYN	**Ar Rayn**	**60.17**	**300**	*e*P	**P**	**02 20 14.0**	**+0.1**
	comp=Z,1.0nm,0.6s						
RAYN	**Ar Rayn**	**60.17**	**300**	*e*P	**P**	**02 20 14.0**	**+0.1**
RAYN				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**62.09**	**340**	*e*P	**P**	**02 20 25.6**	**-0.7**
BRVK	**Borovoye**	**62.09**	**340**	*ce*P	**P**	**02 20 25.2**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BOD	**Bodaibo**	**62.27**	**8**	*e*P	**P**	**02 20 26.0**	**-1.4**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.3s						
YSS	**Yuzh-Sakhalins**	**62.57**	**31**	P	P	02 20 23.4	-6.2
KMBO	**Kilima Mbogo**	**63.42**	**271**	LR	LR	02 47 14.6	
	comp=Z,35nm,18.3s,baz=91,slow=35						
ABKAR	**Akbulak array**	**63.47**	**331**	*e*P	**P**	**02 20 35.1**	**-0.4**
GNI	**Garni**	**67.24**	**316**	*e*P	**P**	**02 21 00.8**	**+0.4**
GNI	**Garni**	**67.24**	**316**	*i* P	**P**	**02 21 01.2**	**+0.8**
GNI				pmax	pmax		
	comp=Z,12nm,1.1s						
SVE	**Sverdlovsk**	**68.52**	**338**	*e*P	**P**	**02 21 07.9**	**0.0**
SVE				pmax	pmax		
	comp=Z,18nm,1.1s						
MAW	**Mawson**	**68.80**	**195**	LR	LR	02 44 46.4	
	comp=Z,96nm,22.0s,baz=61,slow=30						
ZEI	**Tsey**	**68.98**	**319**	*e*P	**P**	**02 21 10.9**	**-0.4**
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARU	**Arti**	**69.05**	**336**	*d i*P	**P**	**02 21 11.9**	**+0.7**
ARU						02 21 36.2	
ARU						02 23 39.1	
ARU				S	**S**	**02 30 18.9**	**+4.9**
ARU				pmax	pmax		
	comp=Z,16nm,1.7s						
YAK	**Yakutsk**	**69.22**	**14**	*i* P	**P**	**02 21 10.8**	**-1.3**
YAK				pmax	pmax		
	comp=Z,17nm,1.0s						
NCK	**Nalchik**	**69.49**	**319**	*i* P	**P**	**02 21 14.2**	**0.0**
NCK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
NEY	**Neytrino**	**69.95**	**319**	*i* P	**P**	**02 21 16.5**	**-0.8**
NEY				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KBZ	**Khabaz**	**70.05**	**319**	P	**P**	**02 21 18.2**	**+0.6**
	comp=Z,3.9nm,0.9s,baz=99,slow=3.8,SNR=5.9						
SKR	**Severo-Kuril's**	**71.91**	**33**	*e*P	**P**	**02 21 32.4**	**+3.7**
NRIK	**Noril'sk**	**73.46**	**355**	P	**P**	**02 21 37.7**	**+0.1**
	comp=Z,5.5nm,0.6s,baz=163,slow=8.3,SNR=4.4						
MA2	**Magadan**	**74.31**	**24**	LR	LR	02 56 34.2	
	comp=Z,64nm,18.6s,baz=230,slow=38						
BR131	**Keskin Array S**	**74.98**	**313**	*e*P	**P**	**02 21 47.3**	**0

0.2nm,0.3s,baz=192,slow=14,SNR=3.1
NVAR Mina Array Bea 16.96 138 Pn P 02 27 12.4 -1.0
0.1nm,0.3s,baz=322,slow=12,SNR=3.4
PDAR Pinedale Array 18.12 112 P P 02 27 26.7 +0.5
0.0nm,0.3s,baz=310,slow=7.6,SNR=4.9
TXAR Lajitas Array 31.27 125 P P 02 29 33.2 -0.9
0.2nm,0.7s,baz=327,slow=6.5,SNR=3.1
NRIK Noril'sk 55.32 344 LR LR 02 58 46.8
comp=Z,58nm,19.9s,baz=174,slow=39
H11N2 WAKE ISLAND Hy 56.61 259 T T 03 35 14.3
baz=39,slow=75,SNR=13
H11N3 WAKE ISLAND Hy 56.61 259 T T 03 35 14.5
baz=39,slow=75,SNR=12
H11N1 WAKE ISLAND Hy 56.62 259 T T 03 35 15.6
baz=39,slow=75,SNR=8.7

IDC 03 03:08:28.8±1.4, 4°.14S×152°.64E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/29, mbtmp3.9/3, Error ellipse: s-maj=39.3km s-min=31.4km az=160.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**22.29**	**144**	P	P	03 13 27.5	-0.5
	1.9nm,0.4s,baz=267,slow=9.5,SNR=9.8						
WRA	**Warramunga Arr**	**23.76**	**227**	P	P	03 13 44.4	+1.2
	2.8nm,0.4s,baz=53,slow=10,SNR=58						
WRA				PcP	PcP	03 17 27.8	+0.5
	0.2nm,0.5s,baz=48,slow=2.6,SNR=5.1						
ASAR	**Alice Springs**	**26.53**	**221**	P	P	03 14 09.3	+0.9
	0.4nm,0.3s,baz=53,slow=8.9,SNR=13						
TORD	**Torodi Ar. Bea**	**149.94**	**289**	PKPbc	PKPbc	03 28 20.7	-1.6
	0.3nm,0.4s,baz=60,slow=2.6,SNR=11						
BDFB	**Brasilia**	**151.64**	**134**	PKPbc	PKPbc	03 28 25.1	-1.3
	2.1nm,0.5s,baz=237,slow=6.9,SNR=5.3						

*TIF **03** 03:21:32.5, 41°.52N×43°.51E, h15km±2km*
*NORS **03** 03:21:32.6±0.0, 41°.52N×43°.52E, h30km, MPVA3.0*
*DDA **03** 03:21:37.8, 41°.17N×43°.22E, h7km, Ml2.3*

ISC 03 03:21:32.7±0.9, 41°.51N±0°.03×43°.50E±0°.02, h12km±7km, n18, σ0s62/36, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKH	**Akhalkalaki**	**0.10**	**183**	P	**Pg**	**03 21 35.6**	**-0.1**
AKH				S	**Sg**	**03 21 37.6**	**-0.3**
BGD	**Bogdanovka**	**0.26**	**163**	P	**Pg**	**03 21 38.5**	**+0.3**
BGD				S	**Sg**	**03 21 42.0**	**+0.1**
TRLG	**Trialeti**	**0.45**	**87**	P	**Pb**	**03 21 43.0**	**+0.3**
TRLG				S	**Sb**	**03 21 49.5**	**0.0**
KZRT	**Kazreti**	**0.69**	**100**	P	**Pg**	**03 21 45.9**	**-0.1**
KZRT				S	**Sb**	**03 21 56.0**	**-0.1**
EAK	**Akyaka**	**0.83**	**174**	*i* P	**Pg**	**03 21 48.1**	**-0.7**
EAK				*i* S	**Sb**	**03 22 00.2**	**-0.2**
TBLG	**Delisi**	**0.95**	**76**	P	**Pg**	**03 21 50.8**	**-0.3**
TBLG				S	**Sb**	**03 22 04.3**	**+0.5**
DIGO	**Kars**	**1.10**	**185**	*i* P	**Pb**	**03 21 53.5**	**-0.4**
DIGO				*i* S	**Sn**	**03 22 09.6**	**+0.1**
ARTV	**Artvin**	**1.23**	**255**	*i* P	**Pn**	**03 21 55.9**	**0.0**
ARTV				*i* S	**Sn**	**03 22 12.7**	**+0.2**
DAGI	**Agillar**	**1.27**	**250**	*i* P	**Pg**	**03 21 57.1**	**0.0**
DAGI				*i* S	**Sg**	**03 22 14.8**	**+1.1**
ZEI	**Tsey**	**1.31**	**13**	*e*Pg	**Pb**	**03 21 57.4**	**0.0**
ZEI				*e*Sg	**Sg**	**03 22 16.0**	**+1.1**
DIGR	**Digorskoe uzhe**	**1.39**	**2**	*e*Pg	**Pg**	**03 21 59.2**	**-0.2**
DIGR				*e*Sg	**Sg**	**03 22 18.0**	**+0.6**
DBOC	**Borcka**	**1.39**	**264**	*i* P	**Pb**	**03 21 58.4**	**-0.2**
DBOC				*i* S	**Sg**	**03 22 16.9**	**-0.5**
DGRG	**David-gareji**	**1.41**	**92**	P	**Pg**	**03 21 59.6**	**-0.2**
DGRG				S	**Sg**	**03 22 19.6**	**+1.6**
LACR	**Lac**	**1.44**	**24**	*e*Pg	**Pb**	**03 21 59.8**	**+0.2**
LACR				*e*Sg	**Sg**	**03 22 19.4**	**+0.4**
DBAD	**Bademkaya**	**1.45**	**251**	*i* P	**Pb**	**03 21 59.6**	**-0.1**
DBAD				*i* S	**Sb**	**03 22 18.4**	**+0.3**
DDEM	**Demirkent**	**1.46**	**245**	*i* P	**Pb**	**03 22 00.1**	**+0.2**
DDEM				*i* S	**Sg**	**03 22 20.6**	**+0.9**
NEY	**Neytrino**	**1.83**	**342**	*e*Pg	**Pb**	**03 22 05.3**	**-0.9**
NEY				*e*Sg	**Sg**	**03 22 30.4**	**-1.0**
LGD	**Lagodekhi**	**2.08**	**80**	P	**Pb**	**03 22 10.3**	**0.0**
LGD				S	**Sg**	**03 22 38.0**	**-1.5**

*IDC **03** 03:31:39.6±2.1, 32°.86S×177°.98W, h0km, mb4.2/3, mb1 4.4/4, mb1mx3.8/38, mbtmp4.2/4, ML3.9/1, MS3.3/3, Ms1 3.2/3, ms1mx2.7/41, Error ellipse: s-maj=56.5km s-min=40.3km az=149.0*
*WEL **03** 03:31:45.1±0.8, 33°.S±15°×177°.9W±3°.7, h133km±32km*

ISC 03 03:31:43.5±1.6, 32°.99S±0°.10×177°.9W±0°.2, h34km, n32, σ1s94/40, mb4.3/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.72**	**360**	P	Pn	03 32 36.7	-1.9
GLKZ				S	**Sn**	**03 33 17.6**	**-3.5**
MXZ	**Matakaoa Point**	**5.51**	**213**	P	**Pn**	**03 33 04.9**	**+1.7**
MXZ				S	**Sn**	**03 34 04.4**	**-1.0**
WMGZ	**Waiomatatini S**	**5.68**	**211**	P	**Pn**	**03 33 08.3**	**+2.9**
WMGZ				S	**Sn**	**03 34 11.5**	**+2.1**
HAZ	**Te Kaha**	**5.92**	**215**	P	**Pn**	**03 33 10.6**	**+1.9**
HAZ				S	**Sn**	**03 34 16.3**	**+1.0**
RUGZ	**Raukumara Rang**	**6.13**	**215**	P	**Pn**	**03 33 13.1**	**+1.3**
TWGZ	**Tauwhareparae**	**6.17**	**212**	P	**Pn**	**03 33 12.7**	**+0.6**
TWGZ				S	**Sn**	**03 34 22.6**	**+1.1**
MWZ	**Matawai**	**6.50**	**214**	P	**Pn**	**03 33 17.2**	**+0.4**
MWZ				S	**Sn**	**03 34 28.8**	**-0.9**
URZ	**Urewera**	**6.64**	**216**	Pn	**Pn**	**03 33 19.2**	**+0.6**
	2.6nm,0.3s,baz=29,slow=19,SNR=3.3						
URZ				Sn	**Sn**	**03 34 31.1**	**-2.0**
	5.5nm,0.3s,baz=238,slow=20,SNR=5.2						
URZ	**Urewera**	**6.64**	**216**	P	**Pn**	**03 33 18.9**	**+0.2**
URZ				S	**Sn**	**03 34 31.2**	**-2.0**
RIGZ	**Rimuhau**	**6.70**	**210**	P	**Pn**	**03 33 20.2**	**+0.7**
RIGZ				S	**Sn**	**03 34 34.1**	**-0.5**
PRGZ	**Paritu Road**	**6.83**	**209**	P	**Pn**	**03 33 22.3**	**+0.9**
PRGZ				S	**Sn**	**03 34 37.0**	**-0.9**
SNGZ	**Shannon Statio**	**6.95**	**212**	P	**Pn**	**03 33 23.8**	**+0.9**
SNGZ				S	**Sn**	**03 34 40.0**	**-0.7**
MUGZ	**Murupara**	**6.98**	**217**	S	**Sn**	**03 34 38.2**	**-3.3**
KNZ	**Kokohu**	**7.00**	**210**	P	**Pn**	**03 33 22.6**	**-1.0**
KNZ				S	**Sn**	**03 34 38.6**	**-3.4**
RAHZ	**Arahi**	**7.17**	**213**	P	**Pn**	**03 33 27.3**	**+1.3**
RAHZ				S	**Sn**	**03 34 45.8**	**-0.5**
MTHZ	**Maungataniwha**	**7.24**	**215**	P	**Pn**	**03 33 28.1**	**+1.2**
NMHZ	**Naumai**	**7.45**	**214**	P	**Pn**	**03 33 31.2**	**+1.4**
NMHZ				S	**Sn**	**03 34 51.3**	**-1.8**
ARHZ	**Aropaoanui**	**7.50**	**212**	P	**Pn**	**03 33 30.4**	**+0.1**
ARHZ				S	**Sn**	**03 34 52.9**	**-1.3**
BFZ	**Birch Farm**	**8.99**	**210**	P	**Pn**	**03 33 48.6**	**-2.3**
BFZ				S	**Sn**	**03 35 24.5**	**-6.5**
DZM	**Mont Dzumac**	**17.62**	**304**	LR	LR	03 41 27.6	
	comp=Z,151nm,18.8s,baz=138,slow=34						
PPT	**Papeete**	**29.74**	**66**	LR	LR	03 47 15.3	
	comp=Z,14nm,20.4s,baz=294,slow=32						
STKA	**Stephens Creek**	**34.06**	**261**	LR	LR	03 51 15.8	
	comp=Z,86nm,18.7s,baz=34,slow=35						
CTA	**Charters Tower**	**34.38**	**283**	P	**P**	**03 38 29.1**	**+1.6**
	1.7nm,0.5s,baz=110,slow=13,SNR=7.4						
ASAR	**Alice Springs**	**43.12**	**270**	P	**P**	**03 39 40.8**	**0.0**
	1.6nm,0.6s,baz=110,slow=7.2,SNR=21						
WRA	**Warramunga Arr**	**44.34**	**275**	P	**P**	**03 39 50.3**	**-0.3**
	2.4nm,0.4s,baz=114,slow=7.7,SNR=60						
SNAA	**Sanae**	**75.57**	**178**	P	P	03 43 36.1	+12
VNA3	**Neumayer Olymp**	**75.72**	**176**	P	P	03 43 39.9	+15
VNA2	**Neumayer--Watz**	**76.15**	**177**	P	P	03 43 42.4	+15
	baz=180,slow=5.5						
VNA1	**Neumayer--Stat**	**76.38**	**176**	P	P	03 43 43.8	+15
ARCES	**ARCESS Array B**	**141.13**	**347**	PKP	**PKPdf**	**03 51 08.3**	**-1.0**
	2.6nm,0.9s,baz=22,slow=2.9,SNR=3.1						
NOA	**NORSAR Array B**	**151.32**	**351**	PKPbc	**PKPbc**	**03 51 34.1**	**+1.3**
	0.7nm,0.7s,baz=14,slow=4.1,SNR=3.3						
BRTR	**Keskin Array B**	**153.82**	**294**	PKPbc	**PKPbc**	**03 51 40.9**	**+1.7**
	0.4nm,0.5s,baz=138,slow=2.7,SNR=7.0						

JMA 03 03:36:23.9±0.2, 38°.86N×143°.89E, h35km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**1.75**	**278**	P	Pn	03 36 52.9	+1.2
OFUJ				S	Sn	03 37 14.0	+1.3
MIYJ	**Miyakonagasawa**	**1.76**	**295**	P	Pn	03 36 53.0	+1.1
MIYJ				S	Sn	03 37 14.6	+1.5
JKMT	**Kesennumamotoy**	**1.89**	**269**	P	Pn	03 36 54.9	+1.3
JKMT				*e*S	Sn	03 37 18.0	+1.8
JTH	**Tanohata**	**1.90**	**305**	P	Pn	03 36 54.9	+1.0
JTH				*e*S	Sn	03 37 17.8	+1.2
JIO	**Ouri**	**2.03**	**259**	P	Pn	03 36 56.8	+1.2
JIO				S	Sn	03 37 20.4	+0.7
JMK	**Ichinoseki**	**2.08**	**273**	P	Pn	03 36 58.1	+1.8
JOM	**Ohasama**	**2.11**	**288**	P	Pn	03 36 58.3	+1.6
JYK	**Kaneyama**	**2.76**	**272**	P	Pn	03 37 08.4	+2.8
JFT	**Otama**	**3.10**	**246**	P	Pn	03 37 12.2	+1.8
JFT				*e*S	Sn	03 37 47.7	+1.5
JNBK	**Urakawa-nobuka**	**3.52**	**346**	P	Pn	03 37 17.3	+1.2
JNBK				S	Sn	03 37 58.1	+1.5

TRN 03 03:56:38.5, 10°.26N×63°.30W, h93km, MD3.5, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUAY	**Buenos Aires**	**1.59**	**95**	*e*P	Pn	03 57 06.6	+1.0
TPP	**Pointe-a-Pierr**	**1.82**	**88**	*e*P	Pn	03 57 08.5	+0.1
TPP				*e*S	Sn	03 57 30.8	-0.4
TRN	**Trinidad (W)**	**1.90**	**78**	*e*P	Pn	03 57 09.7	+0.2
TRN				*e*S	Sn	03 57 32.0	-1.2
TPR	**Prospect**	**2.64**	**69**	*e*P	Pn	03 57 19.5	+0.2
BOT	**Bacolet**	**2.69**	**70**	*e*P	Pn	03 57 19.9	0.0
TOSP	**Speyside**	**2.90**	**69**	*e*P	Pn	03 57 22.2	-0.6
TOSP				*e*S	Sn	03 57 56.4	-0.5
FDF	**Fort de France**	**4.91**	**25**	*e*P	Pn	03 57 49.5	-0.6
PML	**Morne Lenard**	**4.94**	**24**	*e*P	Pn	03 57 50.5	+0.2
PCM	**Pelee Case Pet**	**4.96**	**24**	*e*P	Pn	03 57 50.6	-0.1
GBMF	**Grand Be**	**4.96**	**25**	*e*P	Pn	03 57 52.6	+1.8
BAMF	**Morne Balai**	**4.99**	**25**	*e*P	Pn	03 57 51.1	+0.1

*BJI **03** 03:58:24.6, 6°.63S×128°.31E, h360km, mb4.9/48, mB4.5/26*
*ISCJB **03** 03:58:28.5±0.2, 6°.36S±0°.02×127°.97E±0°.03, h368km±2km, mb4.5/71, Error ellipse: s-maj=4.3km s-min=3.6km az=159.2*
*MOS **03** 03:58:28.2±0.9, 6°.35S×127°.92E, h362km, mb4.5/20, Error ellipse: s-maj=11.4km s-min=6.4km az=109.3*
*IDC **03** 03:58:29.4±0.8, 6°.35S×127°.93E, h356km±8km, mb4.2/20, mb1 4.3/25, mb1mx4.1/43, mbtmp5.1/25, Error ellipse: s-maj=11.5km s-min=6.9km az=72.0*
*NEIC **03** 03:58:29.3±0.3, 6°.33S×127°.96E, h360km±3km, mb4.7/25, Error ellipse: s-maj=5.0km s-min=3.2km az=65.0*
*DJA **03** 03:58:29.6±0.1, 6°.S±2°×127°.8E±°, h351km±2km, M5.0/55, mb5.2/55, mB5.5/38, MLv5.7/20, Mw(mB)4.9/38*

ISC 03 03:58:29.0±0.5, 6°.33S±0°.04×127°.95E±0°.05, h358km±5km, n268, σ1s08/289, mb4.5/71, 7C-10D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**2.64**	**5**	P	**Pn**	**03 59 27.7**	**+1.8**
AAI	**Ambon**	**2.64**	**5**	P	**Pn**	**03 59 26.8**	**+0.9**
BNDI	**Bandanaira**	**2.65**	**47**	P	**Pn**	**03 59 26.6**	**+0.6**
MSAI	**Masohi**	**3.12**	**18**	P	**Pn**	**03 59 31.0**	**+0.9**
SAUI	**Saumlaki**	**3.71**	**116**	*e*Pn	**Pn**	**03 59 36.5**	**+0.9**
SAUI	**Saumlaki**	**3.71**	**116**	P	**Pn**	**03 59 35.4**	**-0.2**
SANI	**Sanana**	**4.68**	**335**	P	**Pn**	**03 59 46.2**	**+0.6**
SOEI	**Soe**	**4.99**	**227**	*e*Pn	**Pn**	**03 59 49.0**	**-0.1**
SOEI	**Soe**	**4.99**	**227**	P	**Pn**	**03 59 48.8**	**-0.2**
BBSI	**Bau Bau**	**5.42**	**279**	P	**Pn**	**03 59 55.3**	**+1.7**
FAKI	**Fak Fak**	**5.46**	**52**	*e*Pn	**Pn**	**03 59 53.4**	**-0.7**
FAKI	**Fak Fak**	**5.46**	**52**	P	**Pn**	**03 59 53.4**	**-0.7**
LBMI	**Labuha**	**5.67**	**355**	P	**Pn**	**03 59 57.8**	**+1.3**
BATI	**Baumata**	**5.73**	**227**	P	**Pn**	**03 59 57.7**	**+0.6**
	941nm,0.3s,baz=74,slow=1.7,SNR=331						
BATI				S	**S**	**04 01 06.5**	**-2.1**
	459nm,0.3s,baz=281,slow=19,SNR=29						
BATI	**Baumata**	**5.73**	**227**	P	**Pn**	**03 59 57.5**	**+0.4**
MMRI	**Maumere**	**6.11**	**248**	*e*Pn	**Pn**	**04 00 02.0**	**+0.6**
MMRI	**Maumere**	**6.11**	**248**	P	**Pn**	**04 00 02.0**	**+0.6**
KMPI	**Kaimana, Papua**	**6.32**	**65**	P	**Pn**	**04 00 03.8**	**+0.1**
SIJI	**Sorong**	**6.35**	**32**	P	**Pn**	**04 00 03.3**	**-0.9**
	62nm,0.3s,baz=200,slow=11,SNR=57						
SIJI				S	**S**	**04 01 15.9**	**-5.6**
	94nm,0.3s,baz=278,slow=22,SNR=21						
SWI	**Sorong**	**6.36**	**31**	P	**Pn**	**04 00 04.5**	**+0.3**
SWI				pmax	pmax		
	comp=Z,302nm,0.7s						
SWI	**Sorong**	**6.36**	**31**	P	**Pn**	**04 00 04.0**	**-0.2**
EDFI	**Ende, Flores**	**6.66**	**248**	P	**Pn**	**04 00 08.1**	**+0.3**
TNTI	**Ternate**	**7.08**	**355**	P	**P**	**04 00 13.6**	**-0.3**
LUWI	**Luwuk**	**7.37**	**315**	*e*Pn	**P**	**04 00 17.3**	**+0.1**
LUWI	**Luwuk**	**7.37**	**315**	P	**P**	**04 00 17.6**	**+0.4**
RKPI	**Ransiki, Papua**	**7.84**	**53**	P	**P**	**04 00 22.4**	**-0.2**
BKSI	**Bulukumba**	**7.85**	**277**	P	**P**	**04 00 22.7**	**0.0**
KMSI	**Cibinong**	**7.92**	**330**	P	**P**	**04 00 24.4**	**+0.9**
BNSI	**Bone**	**8.04**	**283**	P	**P**	**04 00 25.5**	**-0.9**
APSI	**Ampana**	**8.28**	**310**	P	**P**	**04 00 28.8**	**-0.2**
SPSI	**Sidrap Palu**	**8.48**	**286**	P	**P**	**04 00 30.5**	**-0.8**
TTSI	**Tana Toraja**	**8.74**	**292**	P	**P**	**04 00 34.1**	**0.0**
MRSI	**Marisa**	**9.04**	**318**	P	**P**	**04 00 36.8**	**-0.7**
	comp=Z,653nm,0.7s,comp=Z,6μm						
WBSI	**Waikabubak, Su**	**9.09**	**248**	P	**Pn**	**04 00 35.3**	**-1.0**
	comp=Z,214nm,0.8s,comp=Z,3μm						
SRPI	**Serui, Papua**	**9.38**	**62**	P	**P**	**04 00 41.3**	**0.0**
SGSI	**Sangihe**	**10.24**	**346**	P	**Pn**	**04 00 50.4**	**+0.5**
	comp=Z,1μm,0.9s,comp=Z,13μm						
PLAI	**Plampang**	**10.39**	**256**	P	**Pn**	**04 00 50.2**	**-1.4**
	comp=Z,101nm,0.4s,comp=Z,2μm						
MPSI	**Mapaga**	**10.41**	**309**	P	**P**	**04 00 53.8**	**+1.0**
	comp=Z,117nm,1.3s,comp=Z,1μm						
TWSI	**Taiwang, Sumb**	**11.23**	**257**	P	**Pn**	**04 01 00.6**	**-1.1**
	comp=Z,65nm,0.8s,comp=Z,1μm						
SMPI	**Sarmi**	**11.56**	**69**	P	**Pn**	**04 01 07.9**	**+2.3**
	comp=Z,253nm,0.6s,comp=Z,4μm						
SGKI	**Sangatta, Kali**	**11.82**	**299**	P	Pn	04 01 18.1	+9.4
FITZ	**Fitzroy Crossi**	**11.91**	**191**	*e*P	**P**	**04 01 09.3**	**-0.1**
KBKI	**Kotabaru**	**12.12**	**284**	P	Pn	04 01 19.0	+6.8
BKB	**Balikpapan**	**12.12**	**294**	P	Pn	04 01 19.0	+6.8
MMPI	**Merauke**	**12.51**	**101**	P	**Pn**	**04 01 18.4**	**+1.6**
	comp=Z,3μm,0.7s,comp=Z,38μm						
DDMP	**Don Marcelino,**	**12.55**	**350**	*e*P	**P**	**04 01 14.1**	**-2.4**
GENI	**Genyem**	**12.73**	**74**	P	**Pn**	**04 01 20.4**	**+1.0**
	comp=Z,627nm,0.6s,comp=Z,9μm						
SRBI	**Singaraja**	**12.76**	**261**	P	**Pn**	**04 01 20.9**	**+1.2**
	comp=Z,49nm,0.8s						
SKMP	**Bagumbayan, Su**	**13.21**	**345**	*e*P	**Pn**	**04 01 24.8**	**-0.2**
JAY	**Jayapura**	**13.27**	**74**	P	**Pn**	**04 01 26.5**	**+0.8**
	comp=Z,24nm,0.3s,baz=243,slow=6.8,SNR=60						
JAY	**Jayapura**	**13.27**	**74**	P	**Pn**	**04 01 26.8**	**+1.1**
	comp=Z,3μm,0.9s,comp=Z,27μm						
DAV	**Davao City (W)**	**13.52**	**350**	P	**Pn**	**04 01 29.6**	**+1.0**
	comp=Z,111nm,0.3s,baz=242,slow=5.6,SNR=8.6						
DAV	**Davao City (W)**	**13.52**	**350**	*e*P	**P**	**04 01 27.6**	**+0.4**
JAGI	**Jajag, Banyuwa**	**13.85**	**260**	P	**P**	**04 01 31.7**	**+0.9**
KMMI	**Kalianget**	**13.91**	**266**	P	**Pn**	**04 01 33.7**	**+0.5**
CTBH	**Cotabato--PC H**	**13.96**	**345**	*i*P	**P**	**04 01 32.4**	**+0.4**
MTKI	**Muara Teweh, K**	**14.08**	**292**	P	**Pn**	**04 01 34.9**	**-0.3**
	comp=Z,173nm,0.8s						
BLJI	**Banyuglugur**	**14.32**	**264**	P	**P**	**04 01 36.3**	**+0.4**
BUKP	**Musuan**	**14.41**	**348**	*e*P	**P**	**04 01 37.7**	**+0.7**
GMJI	**Gumukmas**	**14.52**	**261**	P	**Pn**	**04 01 39.3**	**-0.9**
PAGZ	**Pagadian**	**14.80**	**342**	*e*P	**P**	**04 01 41.6**	**+0.4**
MYLDM	**Lahad Datu**	**14.82**	**320**	*e*P	**Pn**	**04 01 45.6**	**+1.9**
WRAB	**Tennant Creek**	**14.88**	**156**	*e*P	**P**	**04 01 42.2**	**+0.2**
WRAB	**Tennant Creek**	**14.88**	**156**	*d*P	**P**	**04 01 42.0**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,1μm,0.8s						
WRA	**Warramunga Arr**	**14.89**	**156**	P	**P**	**04 01 42.1**	**0.0**
	comp=Z,44nm,0.3s,baz=332,slow=12,SNR=629						
WRA				S	**S**	**04 04 18.6**	**-3.6**
	comp=Z,7.8nm,0.3s,baz=343,slow=20,SNR=11						
WB2	**Warramunga Arr**	**14.89**	**156**	*e*P	**P**	**04 01 42.2**	**+0.1**
CGP	**Cagayan de Oro**	**15.04**	**347**	*i*P	**Pn**	**04 01 45.4**	**-0.9**
BUTP	**Butuan**	**15.37**	**351**	*e*P	**P**	**04 01 47.4**	**-0.1**
MSLP	**Maasin**	**16.64**	**349**	*e*P	**P**	**04 02 00.9**	**-0.2**
MBWA	**Marble Bar**	**16.75**	**208**	*e*P	**P**	**04 02 02.1**	**-0.2**
COEN	**Coen**	**16.79**	**118**	*e*P	**P**	**04 02 03.1**	**+0.4**
	comp=Z,301nm,0.6s						
KKM	**Kota Kinabalu**	**16.98**	**316**	*e*P	**P**	**04 02 05.9**	**+0.9**
	comp=Z,128nm,0.7s						
OCLP	**Ormoc**	**17.58**	**349**	*e*P	P	04 02 02.5	-8.7
BESP	**Borongan**	**17.99**	**352**	*e*P	**P**	**04 02 15.7**	**+0.2**
AS31	**Alice Springs**	**18.16**	**162**	*e*P	**P**	**04 02 17.6**	**+0.2**
	comp=Z,48nm,0.6s						
ASAR	**Alice Springs**	**18.16**	**162**	P	**P**	**04 02 17.5**	**+0.1**
	comp=Z,30nm,0.3s,baz=345,slow=12,SNR=1831						
ASAR				S	**S**	**04 05 24.8**	**-1.9**
	comp=Z,3.7nm,0.3s,baz=345,slow=20,SNR=20						
AS01	**Alice Springs**	**18.18**	**162**	*e*P	**P**	**04 02 16.2**	**-1.3**
RCP	**Roxas**	**18.51**	**344**	*i*P	**P**	**04 02 21.3**	**+0.2**
KSM	**Kuching**	**19.24**	**293**	*e*P	**P**	**04 02 29.9**	**+0.9**
	comp=Z,51nm,0.8s						
PMG	**Port Moresby**	**19.27**	**100**	P	**P**	**04 02 29.6**	**+0.4**
	comp=Z,11nm,0.3s,baz=273,slow=5.9,SNR=36						
BUSP	**Coron**	**19.78**	**337**	*e*P	**P**	**04 02 34.7**	**+0.3**
SJMP	**San Jose**	**19.86**	**340**	*e*P	**P**	**04 02 34.2**	**-1.1**
CISI	**Cisompet, Garu**	**20.02**	**265**	*e*P	**P**	**04 02 36.6**	**-0.3**
	comp=Z,47nm,0.8s						
BOAC	**Boac**	**20.57**	**343**	*e*P	**P**	**04 02 42.3**	**+0.4**
LUBP	**Lubang**	**21.35**	**339**	*e*P	**P**	**04 02 49.3**	**+0.5**
TGY	**Tagaytay City**	**21.46**	**341**	P	**P**	**04 02 50.4**	**+0.4**
	comp=Z,430nm,0.5s,baz=256,slow=2.4,SNR=13						
CTA	**Charters Tower**	**22.43**	**129**	P	**P**	**04 02 59.7**	**+1.0**
	comp=Z,24nm,0.7s,baz=311,slow=12,SNR=34						
CTAO	**Charters Tower**	**22.43**	**129**	*e*P	**P**	**04 02 59.1**	**+0.4**
	comp=Z,31nm,0.8s						
CTAO	**Charters Tower**	**22.43**	**129**	*e*P	**P**	**04 02 59.1**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,31nm,0.8s						
SMPP	**San Manuel, Pa**	**23.47**	**342**	*e*P	**P**	**04 03 07.4**	**-0.7**
BOLP	**Bolinao**	**23.93**	**341**	*e*P	**P**	**04 03 11.0**	**-1.2**
FORT	**Forrest**	**24.32**	**180**	*e*P	**P**	**04 03 15.6**	**0.0**
	comp=Z,170nm,0.7s						
BBOO	**Buckleboo**	**27.41**	**165**	*e*P	**P**	**04 03 43.0**	**-0.1**
	comp=Z,71nm,0.7s						
NWAO	**Narrogin (SRO)**	**28.28**	**199**	P	**P**	**04 03 50.8**	**-0.1**
	comp=Z,19nm,0.4s,baz=273,slow=7.8,SNR=33						
STKA	**Stephens Creek**	**28.44**	**155**	P	**P**	**04 03 52.5**	**+0.2**
	comp=Z,8.9nm,0.5s,baz=329,slow=8.7,SNR=39						
STKA	**Stephens Creek**	**28.44**	**155**	*e*P	**P**	**04 03 52.4**	**+0.2**
	comp=Z,12nm,0.7s						
STKA	**Stephens Creek**	**28.44**	**155**	*e*P	**P**	**04 03 52.4**	**+0.2**
STKA				pmax	pmax		
	comp=Z,12nm,0.7s						
YULB	**Yu-li**	**30.25**	**348**	*e*P	**P**	**04 04 07.7**	**-0.5**
	comp=Z,102nm,1.8s						
TPUB	**Ta-pu**	**30.31**	**347**	*e*P	**P**	**04 04 07.3**	**-1.4**
	comp=Z,29nm,0.7s						
PSI	**Prapat**	**30.37**	**287**	P	**P**	**04 04 09.3**	**-0.2**
	comp=Z,6.3nm,0.8s,baz=181,slow=1.7,SNR=6.0						
PSI				ScP	**ScP**	**04 10 06.5**	**-1.1**
	comp=Z,3.9nm,0.4s,baz=358,slow=2.6,SNR=4.0						
PSI	**Prapat**	**30.37**	**287**	*e*P	**P**	**04 04 08.8**	**-0.7**
	comp=Z,10nm,0.9s						
PSI				ScP	**ScP**	**04 10 06.5**	**-1.1**
PSI	**Prapat**	**30.37**	**287**	*e*P	**P**	**04 04 08.8**	**-0.7**
PSI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SSLB	**Suanglung**	**30.70**	**347**	*e*P	**P**	**04 04 10.0**	**-2.2**
	comp=Z,14nm,0.6s						
UBPT	**Khong Chiam**	**30.94**	**314**	P	**P**	**04 04 14.8**	**+0.5**
	comp=Z,22nm,0.7s						
ARMA	**Armidale**	**32.70**	**140**	*e*P	**P**	**04 04 30.5**	**+0.9**
	comp=Z,84nm,1.8s						
JOW	**Kunigami**	**32.97**	**1**	*e*P	**P**	**04 04 31.9**	**+0.2**
	comp=Z,65nm,0.9s						
SKNT	**Sakolnakorn**	**33.13**	**315**	P	**P**	**04 04 33.5**	**+0.2**

GTA				sP	sP	04 09 02.5	+2.4		
GTA				ScP	**ScP**	**04 11 35.1**	**+1.2**		
GTA				S	**S**	**04 14 06.4**	**+2.1**		
GTA				sS	sS	04 16 14.5	-2.4		
GTA				ScS	**ScS**	**04 16 17.3**	**-0.9**		
GTA				SS	**SS**	**04 17 50.6**	**+2.5**		
GTA				pmax	pmax				
	comp=Z,41nm,0.7s								
GTA				LR	LR				
	comp=Z,190nm,19.7s								
GTA				LR	LR				
	comp=Z,190nm,19.0s								
GTA				LR	LR				
	comp=Z,94nm,16.2s								
JIRN	**Jiri**	**52.62**	**312**	*e*P	**P**	**04 07 08.3**	**+0.1**		
	comp=Z,48nm,0.4s								
GUN	**Gumba**	**52.99**	**312**	*e*P	**P**	**04 07 11.0**	**+0.2**		
	comp=Z,89nm,0.5s								
RPZ	**Rata Peaks**	**53.01**	**142**	*e*P	**P**	**04 07 10.5**	**+0.1**		
	comp=Z,97nm,1.3s								
PKI	**Pulchoki**	**53.15**	**311**	*e*P	**P**	**04 07 11.7**	**-0.3**		
	comp=Z,48nm,0.5s								
PKIN	**Phulchoki**	**53.16**	**311**	*e*P	**P**	**04 07 11.7**	**-0.3**		
	comp=Z,34nm,0.5s								
KKN	**Kakani**	**53.37**	**312**	*e*P	**P**	**04 07 13.4**	**0.0**		
	comp=Z,41nm,0.6s								
DMN	**Daman**	**53.40**	**311**	*e*P	**P**	**04 07 13.7**	**0.0**		
	comp=Z,15nm,0.3s								
GKN	**Gorkha**	**53.96**	**311**	*e*P	**P**	**04 07 17.6**	**0.0**		
	comp=Z,9.7nm,0.3s								
BKZ	**Black Stump Fm**	**54.52**	**134**	*e*P	**P**	**04 07 21.7**	**+0.4**		
	comp=Z,31nm,0.7s								
URZ	**Urewera**	**54.60**	**133**	*e*P	**P**	**04 07 21.7**	**-0.1**		
	comp=Z,65nm,1.4s								
KOLN	**Koldanda**	**54.62**	**311**	*e*P	**P**	**04 07 22.5**	**+0.2**		
DANN	**Dangsing**	**54.80**	**311**	*e*P	**P**	**04 07 23.6**	**-0.1**		
PYUN	**Piuthan**	**55.25**	**311**	*e*P	**P**	**04 07 27.0**	**+0.2**		
KLR	**Kul'dur**	**55.43**	**3**	*i* P	**P**	**04 07 25.9**	**-1.5**		
ULN	**Ulaanbaatar**	**57.02**	**343**	*e*P	**P**	**04 07 40.0**	**+1.2**		
	comp=Z,23nm,1.0s								
ULN	**Ulaanbaatar**	**57.02**	**343**	*d* iP	**P**	**04 07 39.6**	**+0.8**		
ULN				pmax	pmax				
	comp=Z,21nm,1.0s								
SONM	**Songino Array**	**57.19**	**343**	P	**P**	**04 07 40.9**	**+1.0**		
	comp=Z,17nm,0.7s,baz=166,slow=7.5,SNR=76								
SONA1	**Songino Array**	**57.19**	**343**	*e*P	**P**	**04 07 40.7**	**+0.7**		
ZAK	**Zakamensk**	**60.39**	**342**	*e*P	**P**	**04 08 01.7**	**+0.1**		
ZAK				pmax	pmax				
	comp=Z,4.0nm,1.2s								
TLY	**Talaya**	**61.43**	**343**	*i* P	**P**	**04 08 08.9**	**+0.5**		
TLY				pmax	pmax				
	comp=Z,7.0nm,1.0s								
WMQ	**Urumqi**	**61.74**	**328**	P	**P**	**04 08 11.8**	**+1.1**		
WMQ				sP	sP	04 10 03.2	-3.5		
WMQ				pmax	pmax				
	comp=Z,91nm,1.1s								
WMQ				pmax	pmax				
	comp=Z,120nm,3.9s								
MOY	**Mondy**	**62.22**	**341**	*e*P	**P**	**04 08 15.6**	**+1.8**		
MOY				pmax	pmax				
	comp=Z,13nm,1.4s								
PETK	**Petropavlovsk-**	**64.35**	**19**	P	**P**	**04 08 28.6**	**+1.1**		
	comp=Z,22nm,0.5s,baz=181,slow=4.9,SNR=33								
PETK	**Petropavlovsk-**	**64.35**	**19**	*e*P	**P**	**04 08 28.0**	**+0.6**		
PETK	**Petropavlovsk-**	**64.35**	**19**	*e*P	**P**	**04 08 28.0**	**+0.6**		
HVS	**Khovu-Aksy**	**64.37**	**337**	*i* P	**P**	**04 08 27.9**	**+0.2**		
HVS				pmax	pmax				
	comp=Z,23nm,0.9s								
BOD	**Bodaibo**	**64.93**	**352**	*e*P	**P**	**04 08 32.0**	**+1.0**		
BOD				pmax	pmax				
	comp=Z,4.0nm,0.9s								
KSH	**Kashi**	**66.16**	**318**	P	**P**	**04 08 40.6**	**+1.2**		
KSH				S	**S**	**04 16 52.7**	**-6.3**		
KSH				pmax	pmax				
	comp=Z,27nm,0.6s								
KSH				pmax	pmax				
	comp=Z,340nm,6.5s								
MK01	**Makanchi Array**	**66.54**	**328**	*e*P	**P**	**04 08 42.0**	**+0.5**		
MK31	**Makanchi Array**	**66.56**	**328**	*e*P	**P**	**04 08 42.5**	**+0.8**		
MK31	**Makanchi Array**	**66.56**	**328**	*e*P	**P**	**04 08 42.5**	**+0.8**		
MKAR	**Makanchi Array**	**66.56**	**328**	P	**P**	**04 08 42.4**	**+0.7**		
	comp=Z,28nm,0.4s,baz=117,slow=8.3,SNR=428								
KZA	**Kyzart**	**67.96**	**320**	P	**P**	**04 08 52.2**	**+1.3**		
	SNR=11								
MA2	**Magadan**	**68.16**	**12**	*ce*P	**P**	**04 08 52.2**	**+0.9**		
MA2				pmax	pmax				
	comp=Z,15nm,0.9s								
YAK	**Yakutsk**	**68.17**	**1**	*e*P	**P**	**04 08 51.3**	**0.0**		
	comp=Z,47nm,0.7s								
YAK	**Yakutsk**	**68.17**	**1**	*i* P	**P**	**04 08 51.5**	**+0.2**		
YAK				pmax	pmax				
	comp=Z,30nm,0.7s								
TKM2	**Tokmak 2**	**68.18**	**321**	P	**P**	**04 08 53.0**	**+0.9**		
	SNR=13								
TKM2	**Tokmak 2**	**68.18**	**321**	P	**P**	**04 08 52.3**	**+0.2**		
TKM2				pmax	pmax				
	comp=Z,9.0nm,0.8s								
UCH	**Uchtor**	**68.50**	**320**	P	**P**	**04 08 55.9**	**+1.5**		
	SNR=8.1								
AAK	**Ala-Archa**	**68.73**	**320**	P	**P**	**04 08 56.6**	**+1.3**		
	comp=Z,5.5nm,0.5s,baz=108,slow=6.5,SNR=17								
AAK	**Ala-Archa**	**68.73**	**320**	P	**P**	**04 08 56.6**	**+1.3**		
	SNR=7.8								
AAK	**Ala-Archa**	**68.73**	**320**	*e*P	**P**	**04 08 55.8**	**+0.5**		
	comp=Z,7.1nm,0.7s								
AAK	**Ala-Archa**	**68.73**	**320**	*e*P	**P**	**04 08 55.8**	**+0.5**		
AAK				pmax	pmax				
	comp=Z,7.0nm,0.7s								
AML	**Almayashu**	**68.98**	**320**	P	**P**	**04 08 58.4**	**+1.2**		
	SNR=14								
USP	**Ospenovka**	**69.05**	**321**	P	**P**	**04 08 58.0**	**+0.9**		
	SNR=7.5								
EKS2	**Erkin-Say**	**69.19**	**320**	P	**P**	**04 08 59.5**	**+1.3**		
	SNR=8.3								
ZAA0	**Zalesovo Array**	**70.10**	**335**	*e*P	**P**	**04 09 03.1**	**0.0**		
ZALV	**Zalesovo Beam**	**70.10**	**335**	P	**P**	**04 09 03.2**	**0.0**		
	comp=Z,15nm,0.5s,baz=131,slow=5.3,SNR=54								
ZALV				S	**S**	**04 17 40.9**	**-3.4**		
	comp=Z,0.3nm,0.3s,baz=112,slow=16,SNR=3.9								
KURBB	**Kurchatov Arra**	**70.89**	**329**	P	**P**	**04 09 08.6**	**+0.6**		
	comp=Z,17nm,0.6s,baz=131,slow=5.1,SNR=108								
KURK	**Kurchatov**	**70.90**	**329**	*e*P	**P**	**04 09 08.7**	**+0.7**		
KURK	**Kurchatov**	**70.90**	**329**	*ce*P	**P**	**04 09 08.6**	**+0.6**		
KURK				pmax	pmax				
	comp=Z,23nm,1.0s								
NVS	**Novosibirsk**	**71.38**	**335**	*e*P	**P**	**04 09 10.7**	**-0.1**		
NVS				pmax	pmax				
	comp=N,3.0nm,0.5s								
NVS				pmax	pmax				
	comp=E,4.0nm,0.5s								
NVS				pmax	pmax				
	comp=Z,7.0nm,0.5s								
KK31	**Karatay Array**	**71.50**	**319**	*e*P	**P**	**04 09 12.7**	**+0.8**		
KK31	**Karatay Array**	**71.50**	**319**	*e*P	**P**	**04 09 12.7**	**+0.8**		
KKAR	**Karatay Array**	**71.50**	**319**	*e*P	**P**	**04 09 12.7**	**+0.8**		
KKAR	**Karatay Array**	**71.50**	**319**	*e*P	**P**	**04 09 12.7**	**+0.8**		
SEY	**Seymchan**	**71.54**	**12**	*ce*P	**P**	**04 09 11.4**	**-0.2**		
VNDA	**Vanda**	**73.36**	**173**	P	**P**	**04 09 21.8**	**-0.2**		
	comp=Z,1.7nm,0.6s,baz=320,slow=7.0,SNR=23								
ADK	**Adak**	**74.68**	**32**	*e*P	**P**	**04 09 29.1**	**-0.9**		
	comp=Z,106nm,1.3s								
ADK	**Adak**	**74.68**	**32**	*e*P	**P**	**04 09 29.1**	**-0.9**		
ADK				pmax	pmax				
	comp=Z,106nm,1.3s								
MAW	**Mawson**	**74.83**	**201**	P	**P**	**04 09 31.3**	**+0.6**		
	comp=Z,1.8nm,0.5s,baz=67,slow=7.3,SNR=7.8								
BVAR	**Borovoye Array**	**76.42**	**328**	P	**P**	**04 09 40.4**	**+0.6**		
	comp=Z,1.7nm,0.5s,baz=120,slow=10,SNR=7.9								
BRVK	**Borovoye**	**76.49**	**328**	*i* P	**P**	**04 09 40.7**	**+0.5**		
BRVK				pmax	pmax				
	comp=Z,3.0nm,0.9s								
TIXI	**Tiksi**	**77.82**	**0**	*e*P	**P**	**04 09 46.6**	**-0.5**		
TIXI	**Tiksi**	**77.82**	**0**	*ce*P	**P**	**04 09 47.1**	**0.0**		
TIXI				pmax	pmax				
	comp=Z,8.0nm,1.0s								
ABKAR	**Akbulak array**	**80.73**	**322**	*e*P	**P**	**04 10 03.7**	**+0.5**		
AKTO	**Aktyubinsk**	**82.31**	**323**	P	**P**	**04 10 11.9**	**+0.6**		
	comp=Z,1.9nm,0.5s,baz=127,slow=8.2,SNR=7.4								
AKTO	**Aktyubinsk**	**82.31**	**323**	P	**P**	**04 10 11.8**	**+0.4**		
AKTO				pmax	pmax				
	comp=Z,2.0nm,0.6s								
SYO	**Syowa Base**	**83.55**	**201**	‖*e*P	**P**	**04 10 17.0**	**-0.3**		
SYO	**Syowa Base**	**83.55**	**201**	‖*e*PcP	**PcP**	**04 10 22.2**	**+1.5**		
QSPA	**South Pole Qui**	**83.64**	**180**	*e*P	**P**	**04 10 17.5**	**-0.5**		
	comp=Z,7.4nm,0.5s								
RND	**Reindeer**	**92.57**	**27**	*e*P	**P**	**04 10 59.4**	**-0.9**		

RND	**Reindeer**	**92.57**	**27**	*e*P	**P**	**04 10 59.4**	**-0.9**		
WRH	**Wood River Hil**	**93.06**	**26**	*e*P	**P**	**04 11 01.8**	**-0.7**		
DHY	**Denali Highway**	**93.18**	**27**	*e*P	**P**	**04 11 03.2**	**-0.1**		
CCB	**Clear Creek Bu**	**93.21**	**25**	*e*P	**P**	**04 11 01.9**	**-1.2**		
IL1	**Eielson Array**	**93.61**	**25**	*e*P	**P**	**04 11 02.5**	**-2.5**		
ILAR	**Eielson Array**	**93.61**	**25**	P	**P**	**04 11 03.0**	**-2.0**		
	comp=Z,1.9nm,0.7s,baz=235,slow=4.8,SNR=27								
ILAR				PKKP	**PKKPdf**	**04 28 08.4**	**-1.0**		
	comp=Z,0.2nm,0.5s,baz=24,slow=2.5,SNR=5.6								
ILB	**Eielson Array**	**93.61**	**25**	*e*P	**P**	**04 11 03.1**	**-1.8**		
SNAA	**Sanae**	**95.83**	**194**	P	**P**	**04 11 15.4**	**+0.3**		
SNAA	**Sanae**	**95.83**	**194**	*i* P	**P**	**04 11 14.7**	**-0.4**		
VNA2	**Neumayer--Watz**	**97.41**	**193**	P	Pdif	04 11 26.7	+4.5		
	baz=151,slow=3.6								
VNA3	**Neumayer Olymp**	**97.69**	**193**	P	**P**	**04 11 22.9**	**-0.5**		
VNA1	**Neumayer--Stat**	**97.81**	**193**	P	**P**	**04 11 23.0**	**-0.9**		
BOSA	**Boshof**	**98.04**	**240**	P	**P**	**04 11 25.9**	**-0.2**		
	comp=Z,1.5nm,0.6s,baz=120,slow=2.9,SNR=5.1								
ARCES	**ARCESS Array B**	**100.25**	**340**	P	**Pdif**	**04 11 33.9**	**-0.8**		
	comp=Z,1.6nm,0.6s,baz=72,slow=4.0,SNR=4.6								
AKASG	**Malin Array Be**	**100.39**	**320**	*i* P	**Pdif**	**04 11 33.7**	**-2.1**		
YKA	**Yellowknife Ar**	**108.04**	**26**	PKiKP	**PKiKP**	**04 16 14.0**	**-0.3**		
	comp=Z,1.5nm,0.6s,baz=289,slow=2.0,SNR=9.7								
GERES	**GERESS Array B**	**110.60**	**320**	PKiKP	**PKiKP**	**04 16 19.6**	**-0.1**		
	comp=Z,0.9nm,0.5s,baz=76,slow=2.0,SNR=11								
NVAR	**Mina Array Bea**	**112.47**	**51**	PKiKP	**PKiKP**	**04 16 24.6**	**+0.8**		
	comp=Z,0.7nm,0.7s,baz=242,slow=3.5,SNR=6.8								
NVAR				SKP		04 19 25.2			
	comp=Z,0.4nm,0.8s,baz=259,slow=3.0,SNR=4.2								
HLID	**Hailey**	**114.23**	**45**	*e*PKP	PKPdf	04 16 27.4	+0.5		
KEST	**Kesra**	**116.80**	**307**	PKP	**PKPdf**	**04 16 32.5**	**+0.6**		
	comp=Z,1.2nm,0.5s,baz=56,slow=5.8,SNR=5.5								
PDAR	**Pinedale Array**	**117.86**	**45**	PKP	**PKPdf**	**04 16 34.1**	**+0.2**		
	comp=Z,0.9nm,0.5s,baz=65,slow=0.2,SNR=18								
LAO	**LASA Array**	**118.68**	**40**	*e*PKPdf	**PKPdf**	**04 16 35.9**	**+0.6**		
MVCO	**Mesa Verde**	**120.30**	**50**	*e*PKPdf	**PKPdf**	**04 16 39.1**	**+0.3**		
RSSD	**Black Hills**	**121.12**	**42**	*e*PKPdf	**PKPdf**	**04 16 39.3**	**-0.9**		
RSSD	**Black Hills**	**121.12**	**42**	*e*PKIKP	**PKPdf**	**04 16 39.3**	**-0.9**		
ANMO	**Albuquerque**	**122.53**	**52**	PKP	**PKPdf**	**04 16 44.3**	**+1.1**		
	comp=Z,4.1nm,0.9s,baz=283,slow=2.3,SNR=12								
ANMO	**Albuquerque**	**122.53**	**52**	*i* PKIKP	**PKPdf**	**04 16 42.7**	**-0.4**		
ULM	**Lac du Bonnet**	**122.98**	**32**	PKP	**PKPdf**	**04 16 42.6**	**-0.6**		
	comp=Z,6.7nm,0.7s,baz=286,slow=2.6,SNR=10								
MNTX	**Comudas Mount**	**124.28**	**56**	*e*PKPdf	**PKPdf**	**04 16 46.4**	**0.0**		
TXAR	**Lajitas Array**	**126.32**	**58**	PKP	**PKPdf**	**04 16 51.0**	**+0.6**		
	comp=Z,1.2nm,0.6s,baz=237,slow=1.4,SNR=14								
TORD	**Torodi Ar. Bea**	**126.68**	**282**	PKP	**PKPdf**	**04 16 50.2**	**-1.1**		
	comp=Z,2.6nm,0.6s,baz=87,slow=1.9,SNR=25								
JCT	**Junction City**	**129.21**	**56**	*e*PKPdf	**PKPdf**	**04 16 55.8**	**-0.1**		
JCT	**Junction City**	**129.21**	**56**	*e*PKIKP	**PKPdf**	**04 16 55.8**	**-0.1**		
PLCA	**Paso Flores**	**130.18**	**162**	PKP	**PKPdf**	**04 16 58.2**	**+0.7**		
	comp=Z,1.9nm,0.6s,baz=220,slow=1.8,SNR=10								
PLCA				SKPbc	**SKPbc**	**04 19 45.9**	**-0.5**		
	comp=Z,7.1nm,0.9s,baz=232,slow=4.2,SNR=14								
SCHQ	**Schefferville**	**130.19**	**11**	PKP	**PKPdf**	**04 16 57.6**	**+0.7**		
	comp=Z,1.9nm,0.3s,baz=25,slow=3.1,SNR=9.9								
SCHQ				SKPbc	**SKPbc**	**04 19 45.3**	**-0.6**		
	comp=Z,5.6nm,0.6s,baz=14,slow=4.4,SNR=6.2								
DBIC	**Dimbokro**	**133.12**	**273**	PKP	**PKPdf**	**04 17 03.9**	**+0.4**		
	comp=Z,2.5nm,0.4s,baz=40,slow=2.0,SNR=12								
DBIC				SKPbc	**SKPbc**	**04 19 57.0**	**-0.5**		
	comp=Z,4.6nm,0.8s,baz=83,slow=4.9,SNR=4.4								
DBIC	**Dimbokro**	**133.12**	**273**	PKIKP	**PKPdf**	**04 17 04.0**	**+0.4**		
LVC	**Limon Verde**	**146.84**	**151**	*e*PKPbc	**PKPbc**	**04 17 31.6**	**+0.6**		
CPUP	**Villa Florida**	**147.13**	**171**	PKP	**PKPdf**	**04 17 29.1**	**+0.6**		
	comp=Z,18nm,0.8s,baz=192,slow=1.5,SNR=36								
CPUP				PKPbc	**PKPbc**	**04 17 31.3**	**+0.2**		
	comp=Z,18nm,0.8s,baz=188,slow=2.6,SNR=44								
JTS	**JuntasAbangare**	**147.22**	**81**	*e*PKPbc	**PKPbc**	**04 17 32.0**	**+0.2**		
JTS	**JuntasAbangare**	**147.22**	**81**	*e*PKP2	**PKPbc**	**04 17 32.0**	**+0.2**		
NNA	**Nana**	**149.35**	**126**	*e*PKPbc	**PKPbc**	**04 17 37.1**	**-0.1**		
NNA	**Nana**	**149.35**	**126**	*e*PKP2	**PKPbc**	**04 17 37.1**	**-0.1**		
LPAZ	**La Paz**	**152.46**	**145**	PKP	**PKPdf**	**04 17 39.0**	**+1.2**		
	comp=Z,3.9nm,1.0s,baz=295,slow=1.5,SNR=12								
LPAZ				PKPbc	**PKiKP**	**04 17 45.5**	**+0.3**		
	comp=Z,6.9nm,0.4s,baz=33,slow=2.8,SNR=100								
LPAZ				PKPab	**PKPab**	**04 17 57.6**	**+0.9**		
	comp=Z,8.9nm,0.5s,baz=180,slow=2.0,SNR=3.5								
OTAV	**Otavalo**	**152.97**	**102**	*e*PKPdf	**PKPdf**	**04 17 39.7**	**+1.2**		
OTAV				*e*PKPbc	**PKiKP**	**04 17 47.0**	**+0.7**		
OTAV	**Otavalo**	**152.97**	**102**	*e*PKIKP	**PKPdf**	**04 17 39.7**	**+1.2**		
SAML	**Samuel**	**161.20**	**144**	*e*PKPdf	**PKPdf**	**04 17 47.5**	**-0.7**		
SAML				*e*PKPab	**PKPab**	**04 18 32.9**	**-0.8**		
SAML	**Samuel**	**161.20**	**144**	*e*PKIKP	**PKPdf**	**04 17 47.5**	**-0.7**		
SAML				*e*		04 18 32.9			
SDV	**Santo Domingo**	**161.41**	**81**	*e*PKPdf	**PKPdf**	**04 17 48.0**	**-0.6**		
SDV				*e*PKPab	**PKPab**	**04 18 35.7**	**+0.6**		

*IDC **03** 04:23:03.8±1.2, 52.37N×132.09W, h0km, mb3.8/4, mb1 4.0/7, mb1mx3.7/38, mbtmp3.8/7, ML3.5/4, Error ellipse: s-maj=23.9km s-min=7.8km az=59.0*
*ISCJB **03** 04:23:04.8±0.9, 52.5N±0.1×131.9W±0.1, h10km, mb3.8/4, Error ellipse: s-maj=19.2km s-min=7.0km az=38.0*
ISC 03 04:23:05.6±1.1, 52.4N±0.1×131.9W±0.1, h10km, n13, σ1§77/11, mb3.9/4, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H02S1	**DAWSON INLET T**	**0.86**	**338**	Pg	**Pg**	**04 23 20.6**	**-1.5**
H02S1				Lg	Lg	04 23 32.2	
H02N1	**VAN INLET T-PH**	**0.92**	**337**	Pg	**Pg**	**04 23 21.5**	**-1.8**
H02N1				Lg	Lg	04 23 33.9	
BBB	**Bella Bella**	**2.36**	**94**	Pn	**Pn**	**04 23 43.4**	**-0.9**
	3.4nm,0.3s,baz=269,slow=9.9,SNR=40						
BBB				Sn	**Sn**	**04 24 12.1**	**-1.1**
	24nm,0.3s,baz=315,slow=18,SNR=4.1						
DLBC	**Dease Lake**	**6.14**	**9**	Pn	**Pn**	**04 24 39.0**	**+2.6**
	0.7nm,0.3s,baz=186,slow=13,SNR=12						
NVAR	**Mina Array Bea**	**16.90**	**140**	Pn	**P**	**04 27 04.4**	**+0.1**
	0.1nm,0.3s,baz=318,slow=12,SNR=8.5						
PDAR	**Pinedale Array**	**17.85**	**114**	Pn	**P**	**04 27 17.0**	**+2.2**
	0.1nm,0.3s,baz=316,slow=6.2,SNR=20						
TXAR	**Lajitas Array**	**31.09**	**127**	P	**P**	**04 29 25.7**	**+1.7**
	0.4nm,0.7s,baz=337,slow=6.3,SNR=4.8						
SEY	**Seymchan**	**39.45**	**316**	P	**P**	**04 30 35.5**	**+0.1**
	2.3nm,0.7s,baz=50,slow=12,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**57.07**	**259**	T	T	05 34 53.7	
	baz=39						
H11N3	**WAKE ISLAND Hy**	**57.08**	**259**	T	T	05 34 50.7	
	baz=39,slow=74,SNR=25						
H11N1	**WAKE ISLAND Hy**	**57.09**	**259**	T	T	05 34 55.4	
	baz=39,slow=74,SNR=13						
ZALV	**Zalesovo Beam**	**69.67**	**338**	P	**P**	**04 34 13.6**	**-1.3**
	0.5nm,0.3s,baz=77,slow=6.4,SNR=3.0						
MKAR	**Makanchi Array**	**76.92**	**337**	P	**P**	**04 34 56.8**	**-1.0**
	0.8nm,0.7s,baz=36,slow=7.5,SNR=3.2						

*IDC **03** 04:25:15.7±0.6, 52.34N×132.19W, h0km, mb4.3/16, mb1 4.4/22, mb1mx4.3/41, mbtmp4.3/22, ML3.4/5, MS3.6/17, Ms1 3.6/17, ms1mx3.4/34, Error ellipse: s-maj=14.2km s-min=7.2km az=64.0*
*PGC **03** 04:25:16.4±4.4, 52.35N×132.27W, h31km, mb4.4, ML4.1/11, Mw4.5, 105km Ssw of Sandspit, Bc Haida Gwaii Region*
*MOS **03** 04:25:16.7±0.9, 52.51N×132.03W, h16km, mb4.7/26, Error ellipse: s-maj=12.7km s-min=4.8km az=118.8*
*ISCJB **03** 04:25:18.6±0.5, 52.53N±0.02×131.99W±0.04, h28km±3km, mb4.5/84, MS3.6/12, Error ellipse: s-maj=5.7km s-min=2.2km az=138.3*
*NEIC **03** 04:25:19.8±0.7, 52.52N×132.02W, h23km±5km, mb4.4/121, MW4.5(OTT), Error ellipse: s-maj=4.9km s-min=1.7km az=48.0*
*GCMT **03** 04:25:20.8±0.4, 52.28N±0.04×132.25W±0.05, h13km±1km, MW4.7/69, Moment Tensor Solution. s12,c13; s69,c89; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr~1.46±.14; Mθθ 0.20±.08; Mϕϕ 1.27±.09; Mrθ 0.34±.23; Mϕθ~0.59±.05; Mϕr~0.42±.20; Best double couple: M0 1.59100×10^16 NP1: ϕs 161.00000°, δ55.00000°, λ~96.00000°. NP2: ϕs 161.00000°, δ36.00000°, λ~81.00000°. Principal axes: T 1.6220, Plg10.0000°, Azm65.0000°; N -0.0560, Plg5.0000°, Azm334.0000°; P -1.5600, Plg79.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 03 04:25:19.7±1.0, 52.44N±0.06×132.03W±0.05, h27km±6km, n414, σ1§37/402, mb4.5/84, MS3.6/12, 8C-2D, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.22**	**50**	P	**Pb**	**04 25 25.1**	**-0.7**
BNB				S	**Sb**	**04 25 31.4**	**+1.4**
DIB	**Dawson Inlet,**	**0.81**	**341**	P	**Pb**	**04 25 32.6**	**-2.7**
DIB				S	**Sb**	**04 25 44.0**	**-1.9**
H02S1	**DAWSON INLET T**	**0.81**	**341**	Pg	**Pb**	**04 25 32.4**	**-2.9**
H02S1				Lg	Lg	04 25 44.0	
H02N1	**VAN INLET T-PH**	**0.87**	**339**	Pg	**Pb**	**04 25 33.2**	**-3.1**
H02N1				Lg	Lg	04 25 45.7	
VIB	**Van Inlet**	**0.87**	**339**	P	**Pb**	**04 25 33.3**	**-3.1**
VIB				S	**Sb**	**04 25 45.8**	**-1.9**
BBB	**Bella Bella**	**2.42**	**94**	Pn	**Pn**	**04 25 55.5**	**-1.9**
	7.3nm,0.3s,baz=273,slow=7.9,SNR=6.0						
BBB				Sn	**Sn**	**04 26 24.0**	**-2.1**
	290nm,0.3s,baz=358,slow=21,SNR=17						
BBB				LR	LR	04 27 07.9	
	comp=Z,2μm,19.3s,baz=322,slow=45						
BBB	**Bella Bella**	**2.42**	**94**	*e*Pn	**Pn**	**04 25 54.0**	**-3.5**
BBB				Sn	**Sn**	**04 26 24.0**	**-2.1**
BBB	**Bella Bella**	**2.42**	**94**	Pn	**Pn**	**04 25 55.5**	**-1.9**
CRAG	**Craig**	**3.11**	**348**	*e*Pn	**Pn**	**04 26 08.2**	**+1.3**
PHC	**Port Hardy**	**3.35**	**119**	Pn	**Pn**	**04 26 06.2**	**-4.1**
PHC				Sn	**Sn**	**04 26 42.4**	**-6.7**
MAYB	**Maynard**	**3.66**	**122**	Pn	**Pn**	**04 26 11.0**	**-3.7**
WRAK	**Wrangell Islan**	**4.00**	**357**	*e*Pn	**Pn**	**04 26 15.4**	**-3.8**
WRAK				eSg	**Sb**	**04 27 20.1**	**+2.9**
WOSB	**Woss**	**4.11**	**122**	Pn	**Pn**	**04 26 17.5**	**-3.4**
NCRB	**Newcastle Ridg**	**4.26**	**116**	Pn	**Pn**	**04 26 20.6**	**-2.3**
SPLB	**Strathcona Par**	**4.75**	**120**	Pn	**Pn**	**04 26 27.0**	**-2.5**
CBB	**Campbell River**	**4.83**	**117**	Pn	**Pn**	**04 26 28.4**	**-2.2**
CBB				Sn	**Sn**	**04 27 21.8**	**-3.8**
UBRB	**Upper Baezaeko**	**4.86**	**81**	Pn	**Pn**	**04 26 30.8**	**-0.3**
UBRB				Sn	**Sn**	**04 27 27.8**	**+1.4**
SIT	**Sitka**	**5.01**	**339**	*e*Pn	**Pn**	**04 26 32.2**	**-0.8**
SIT	**Sitka**	**5.01**	**339**	*e*P	**Pn**	**04 26 32.2**	**-0.8**
JIS	**Juneau Island**	**6.00**	**348**	*e*Pn	**Pn**	**04 26 48.4**	**+1.6**
DLBC	**Dease Lake**	**6.12**	**10**	Pn	**Pn**	**04 26 51.2**	**+2.7**
	1.6nm,0.3s,baz=184,slow=12,SNR=7.1						
B05A	**Bryant**	**7.60**	**119**	P	**Pn**	**04 27 09.6**	**+0.9**
	baz=308						
FNBB	**Fort Nelson**	**8.23**	**35**	Pn	**Pn**	**04 27 18.5**	**+1.2**
SLEB	**Sale Mountain**	**8.71**	**93**	Pn	**Pn**	**04 27 23.4**	**-0.7**
LON	**Longmire**	**8.74**	**127**	*e*Pn	**Pn**	**04 27 25.6**	**+1.3**
LON	**Longmire**	**8.74**	**127**	*e*P	**Pn**	**04 27 25.6**	**+1.3**
LTY	**Liberty**	**8.98**	**121**	*e*Pn	**Pn**	**04 27 29.1**	**+1.5**
B08A	**Colville Reser**	**9.07**	**112**	*e*Pn	**Pn**	**04 27 30.6**	**+1.6**
C09A	**Chrisman Ranch**	**9.97**

comp=Z,27nm,1.1s
YERR Yerington 16.11 142 *e*Pn P 04 29 06.3 -1.2
comp=Z,11nm,1.2s
YFT Old Faithful 16.13 111 *e*Pn Pn 04 29 04.5 -0.2
comp=Z,20nm,1.2s
YPP Pitchstone Pla 16.26 112 *e*Pn Pn 04 29 07.9 +1.5
comp=Z,11nm,1.1s
LKWY Lake 16.31 110 *e*Pn Pn 04 29 06.8 -0.2
comp=Z,24nm,0.9s
LKWY Lake 16.31 110 *e*P Pn 04 29 06.8 -0.2
LKWY pmax pmax
comp=Z,24nm,0.9s
H17A Grant Village 16.31 111 *e*Pn Pn 04 29 08.3 +1.3
comp=Z,28nm,1.2s
H17A Grant Village 16.31 111 P P 04 29 09.1 -0.7
baz=308,SNR=9.8
IMW Indian Meadow 16.41 113 *e*Pn Pn 04 29 09.8 +1.5
comp=Z,19nm,1.0s
FLWY Flagg Ranch 16.43 112 *e*Pn Pn 04 29 10.1 +1.6
comp=Z,21nm,1.1s
WAKR Walker 16.46 143 *e*Pn Pn 04 29 09.1 +0.3
comp=Z,16nm,1.3s
KVN Kaiserville 16.50 139 *e*Pn Pn 04 29 10.9 +1.5
comp=Z,17nm,1.0s
FXWY Fox Creek 16.52 114 *e*Pn Pn 04 29 09.3 -0.5
comp=Z,24nm,1.0s
CMB Columbia Colle 16.54 146 *e*Pn Pn 04 29 09.7 0.0
comp=Z,27nm,2.0s
CMB Columbia Colle 16.54 146 *e*P Pn 04 29 09.7 0.0
CMB pmax pmax
comp=Z,27nm,2.0s
MOOW Moose Ponds 16.61 113 *e*Pn Pn 04 29 10.5 -0.3
comp=Z,16nm,1.0s
RLMT Red Lodge 16.64 107 *e*Pn Pn 04 29 11.2 0.0
comp=Z,22nm,1.1s
RLMT Red Lodge 16.64 107 P P 04 29 14.5 +1.1
baz=305,SNR=10
TPAW Teton Pass 16.66 114 *e*Pn P 04 29 13.5 -0.2
comp=Z,54nm,1.1s
RYN Ryan 16.70 140 *e*Pn P 04 29 13.3 -0.7
comp=Z,14nm,1.1s
LOHW Long Hollow 16.78 113 *e*Pn Pn 04 29 13.8 +0.9
comp=Z,23nm,1.1s
SNOW Snow King Moun 16.79 114 *e*Pn Pn 04 29 13.1 0.0
comp=Z,21nm,0.9s
REDW Red Top Meadow 16.80 114 *e*Pn Pn 04 29 13.9 +0.7
comp=Z,34nm,1.1s
HVU Hansel Valley 16.84 122 *e*Pn Pn 04 29 14.0 +0.4
comp=Z,12nm,1.3s
HVU Hansel Valley 16.84 122 *e*P Pn 04 29 14.0 +0.4
HVU pmax pmax
comp=Z,12nm,1.3s
NV01 Mina Array Sit 16.95 140 *e*Pn Pn 04 29 16.0 +0.8
NVAR Mina Array Bea 16.95 140 Pn Pn 04 29 15.9 +0.7
comp=Z,0.1nm,0.3s,baz=315,slow=11,SNR=31
NV11 Mina Array Sit 17.01 140 *e*Pn P 04 29 17.3 -0.2
comp=Z,1.4nm,1.2s
AHID Auburn Hatcher 17.05 116 *e*Pn Pn 04 29 17.0 +0.6
comp=Z,14nm,1.0s
COLD Coldfoot 17.30 336 *e*Pn Pn 04 29 17.4 -1.6
comp=Z,30nm,1.8s
BGU Big Grassy Mou 17.33 124 *e*Pn Pn 04 29 20.2 +0.5
comp=Z,6.5nm,1.0s
SPUT South Promonto 17.35 122 *e*Pn Pn 04 29 20.7 +0.8
comp=Z,24nm,1.8s
MDPB Devils Postpil 17.36 143 *e*Pn P 04 29 22.0 +0.5
comp=Z,22nm,1.9s
IM3 Indian Mountai 17.41 330 *e*Pn P 04 29 20.8 -0.6
OMMB Old Mammoth Mi 17.41 143 *e*Pn P 04 29 22.7 +0.7
comp=Z,4.7nm,1.0s
HWUT Hardware Ranch 17.60 120 *e*Pn Pn 04 29 23.8 +0.7
comp=Z,12nm,1.1s
LAO LASA Array 17.65 99 *e*Pn Pn 04 29 23.3 -0.2
comp=Z,14nm,1.0s
LAO LASA Array 17.65 99 P P 04 29 25.2 +0.9
baz=299,SNR=5.2
BW06 Boulder Array 17.91 114 *e*Pn P 04 29 28.0 +0.6
BW06 Boulder Array 17.91 114 P P 04 29 29.1 +1.7
baz=311,SNR=24
PD31 Pinedale Array 17.91 114 *e*Pn P 04 29 28.1 +0.7
PDAR Pinedale Array 17.91 114 P P 04 29 28.6 +1.2
comp=Z,0.4nm,0.3s,baz=307,slow=8.4,SNR=29
PDAR LR LR 04 36 23.8
comp=Z,104nm,18.5s,baz=312,slow=37
PDAR Pinedale Array 17.91 114 *e*Pn P 04 29 28.0 +0.6
FFC Flin Flon 17.92 71 *i* P Pn 04 29 26.2 -0.6
comp=Z,18nm,1.1s
FFC Flin Flon 17.92 71 *i* P Pn 04 29 26.7 -0.1
DUG Dugway, Tooele 17.99 125 *e*Pn Pn 04 29 28.3 +0.4
comp=Z,13nm,1.1s
DUG Dugway, Tooele 17.99 125 *e*P Pn 04 29 28.3 +0.4
DUG pmax pmax
comp=Z,13nm,1.1s
DUG Dugway, Tooele 17.99 125 P Pn 04 29 28.3 +0.4
baz=320,SNR=10
TCUT Toone Canyon 18.03 121 *e*Pn P 04 29 29.8 +1.0
comp=Z,10nm,0.8s
DGMT Dagmar 18.11 92 *e*Pn Pn 04 29 28.9 -0.3
comp=Z,53nm,1.1s
DGMT Dagmar 18.11 92 P P 04 29 29.9 +0.5
baz=294
R11A Troy Canyon, C 18.15 134 *e*Pn Pn 04 29 29.9 0.0
comp=Z,7.7nm,1.1s
R11A Troy Canyon, C 18.15 134 P P 04 29 30.9 +0.8
baz=326,SNR=12
NLU North Lily Min 18.54 124 *e*P Pn 04 29 35.5 +0.8
comp=Z,8.7nm,0.9s
GRAC Grapevine Rang 18.57 140 P Pn 04 29 37.1 +2.3
baz=331,SNR=6.9
PSUT Pine Spring 18.78 131 *e*P Pn 04 29 38.3 +0.6
comp=Z,12nm,1.1s
CWC Cottonwood Cre 18.79 143 P Pn 04 29 38.9 +1.3
baz=333
TPNV Topopah Spring 19.05 138 *e*P Pn 04 29 42.0 +1.1
comp=Z,18nm,1.2s
TPNV Topopah Spring 19.05 138 *e*P Pn 04 29 42.0 +1.1
TPNV pmax pmax
comp=Z,18nm,1.2s
TPNV Topopah Spring 19.05 138 P Pn 04 29 42.0 +1.1
baz=330,SNR=12
DAC Darwin (Calif) 19.11 142 *e*P Pn 04 29 43.0 +1.4
comp=Z,18nm,1.5s
DAC Darwin (Calif) 19.11 142 *e*P Pn 04 29 43.0 +1.4
DAC pmax pmax
comp=Z,19nm,1.5s
ISA Isabella, Lake 19.34 145 *e*P Pn 04 29 46.0 +1.8
comp=Z,17nm,1.2s
ISA Isabella, Lake 19.34 145 *e*P Pn 04 29 46.0 +1.8
ISA pmax pmax
comp=Z,17nm,1.2s
ISA Isabella, Lake 19.34 145 P Pn 04 29 45.7 +1.5
baz=335,SNR=10
MPMC Manual Prospec 19.34 142 P Pn 04 29 45.5 +1.1
baz=333,SNR=13
TMUT Trail Mountain 19.47 124 *e*P P 04 29 45.3 +0.6
comp=Z,6.1nm,0.8s
MSU Marysvale 19.60 127 *e*P Pn 04 29 47.4 0.0
MSU Marysvale 19.60 127 *e*P Pn 04 29 47.4 0.0
K22A Casper 19.71 110 *e*P P 04 29 47.5 +0.4
comp=Z,28nm,1.0s
K22A Casper 19.71 110 P P 04 29 47.9 +0.8
baz=309,SNR=11
P18A Preston Nutter 19.72 122 *e*P Pn 04 29 48.7 -0.2
comp=Z,14nm,1.1s
LRMC Laurel Mtn Rad 19.79 143 P Pn 04 29 51.0 +1.4
baz=334
CCUT Cedar City 19.80 131 *e*P Pn 04 29 49.6 -0.3
comp=Z,11nm,1.0s
SHPR Sheep Range 19.88 137 *e*P Pn 04 29 51.3 +0.5
comp=Z,21nm,1.5s
SZCU Shurtz Canyon 19.90 131 *e*P Pn 04 29 50.5 -0.5
comp=Z,16nm,0.9s
RWWY Rawlins 19.93 113 *e*P P 04 29 49.9 +0.3
comp=Z,13nm,0.9s
SHOC Shoshone, Teco 19.95 140 P Pn 04 29 52.0 +0.6
baz=331
SRU San Rafael Swe 19.96 123 *e*P P 04 29 50.8 +0.9
comp=Z,18nm,1.1s
SRU San Rafael Swe 19.96 123 *e*P P 04 29 50.8 +0.9
SRU pmax pmax
comp=Z,18nm,1.1s
MTPU Mount Pierson 19.96 128 *e*P P 04 29 51.2 +1.0
comp=Z,10nm,1.3s
EDW2 Edwards Air Fo 20.21 145 P Pn 04 29 55.3 +0.8
baz=335
GSC Goldstone, Bar 20.27 142 P Pn 04 29 55.5 +0.3
baz=333
RSSD Black Hills 20.30 103 *e*P P 04 29 54.7 +1.1
comp=Z,7.8nm,0.8s
RSSD Black Hills 20.30 103 *e*P P 04 29 54.7 +1.1
RSSD pmax pmax
comp=Z,8.0nm,0.8s
LCMT Little Creek M 20.30 132 *e*P Pn 04 29 55.5 -0.1
comp=Z,23nm,1.2s
PKCU Pink Cliffs 20.38 130 *e*P P 04 29 55.6 +0.9
comp=Z,42nm,1.2s
O20A White River Ci 20.42 118 *e*P P 04 29 56.3 +1.4
comp=Z,30nm,0.9s
O20A White River Ci 20.42 118 P Pn 04 29 56.5 -0.6
baz=315,SNR=11
KNB Kanab 20.49 131 *e*P Pn 04 29 57.7 -0.2
comp=Z,20nm,1.3s
KNB Kanab 20.49 131 *e*P Pn 04 29 57.7 -0.2
KNB pmax pmax
comp=Z,20nm,1.3s
TUQ Turquoise Moun 20.49 140 P Pn 04 29 57.9 -0.1
baz=331,SNR=5.5
MWC Mount Wilson 20.78 146 *e*P P 04 29 59.5 +0.7
comp=Z,17nm,1.1s
MWC Mount Wilson 20.78 146 *e*P P 04 29 59.5 +0.7
MWC pmax pmax
comp=Z,17nm,1.1s
HEC Hector,Ludlow 20.87 141 P Pn 04 30 01.8 -0.4
baz=333
BFSC Mount Baldy Ra 20.91 145 P Pn 04 30 03.4 +0.7
baz=335
LDFC Landfair 21.13 139 *e*P P 04 30 02.2 -0.3
comp=Z,26nm,1.2s
PV09 Paradox Valley 21.14 122 *e*P P 04 30 03.8 +1.0
GMRC Granite Mounta 21.17 140 P P 04 30 04.8 +1.8
baz=332
MDND Maddock 21.17 90 *e*P P 04 30 04.5 +1.8
comp=Z,68nm,1.0s
MDND Maddock 21.17 90 P P 04 30 04.1 +1.3
baz=305,SNR=8.2
N23A Red Feather La 21.17 113 *e*P P 04 30 04.0 +0.8
comp=Z,44nm,1.4s
N23A Red Feather La 21.17 113 P P 04 30 03.9 +0.8
baz=312,SNR=9.1
PV21 Cone Mtn., Par 21.17 122 *e*P P 04 30 04.0 +0.9
comp=Z,13nm,0.9s
PHWY Pilot Hill 21.18 111 *e*P P 04 30 03.5 +0.3
comp=Z,26nm,0.8s
U15A North Rim 21.21 131 *e*P P 04 30 04.5 +0.9
comp=Z,37nm,1.4s
PV23 Carpenter Ridg 21.24 122 *e*P P 04 30 04.8 +1.0
comp=Z,24nm,0.9s
PV10 Paradox Valley 21.28 122 *e*P P 04 30 05.9 +1.6
PV14 Lion Creek, Pa 21.29 122 *e*P P 04 30 05.0 +0.7
comp=Z,33nm,1.0s
PV22 Blue Mesa, Par 21.29 122 *e*P P 04 30 05.3 +1.0
comp=Z,22nm,1.1s
PV20 West Nyswonger 21.34 122 *e*P P 04 30 06.0 +1.1
comp=Z,21nm,0.9s
PV19 Morning Glory 21.36 122 *e*P P 04 30 05.8 +0.7
comp=Z,23nm,0.9s
PV16 Nyswonger Mesa 21.39 122 *e*P P 04 30 06.3 +0.9
comp=Z,17nm,1.0s
PV17 East Wray Mesa 21.39 122 *e*P P 04 30 06.3 +0.9
comp=Z,25nm,0.9s
PV11 David Mesa, Pa 21.42 122 *e*P P 04 30 06.7 +0.9
comp=Z,24nm,0.9s
PV18 Skein Mesa, Pa 21.44 122 *e*P P 04 30 06.9 +0.9
comp=Z,19nm,1.1s
PV12 Saucer Basin, 21.45 122 *e*P P 04 30 06.9 +0.9
comp=Z,16nm,1.0s
PV03 Paradox Valley 21.47 122 *e*P P 04 30 07.0 +0.7
PV05 Paradox Valley 21.47 123 *e*P P 04 30 07.3 +1.0
PV13 Radium Mtn., P 21.56 122 *e*P P 04 30 08.1 +0.9
comp=Z,29nm,1.1s
PV02 Paradox Valley 21.56 122 *e*P P 04 30 08.1 +0.8
comp=Z,20nm,1.1s
W13A Hualapai Mount 21.62 136 *e*P P 04 30 09.1 +1.2
comp=Z,13nm,1.3s
PV01 Paradox Valley 21.70 122 *e*P P 04 30 09.6 +0.8
BELC Belle Mtn. Jos 21.73 142 P P 04 30 10.8 +1.8
baz=333
SMCO Snowmass 21.79 118 *e*P P 04 30 10.5 +0.6
comp=Z,29nm,0.9s
PFO Pinyon Flats O 21.90 143 *i* P P 04 30 13.9 +3.1
IRM Iron Mountain 21.92 140 P P 04 30 13.2 +2.3
baz=332,SNR=8.5
ISCO Idaho Springs 22.10 114 *e*P P 04 30 13.1 0.0
comp=Z,8.1nm,1.1s
ISCO Idaho Springs 22.10 114 *e*P P 04 30 13.1 0.0
ISCO pmax pmax
comp=Z,8.0nm,1.1s
ISCO Idaho Springs 22.10 114 P P 04 30 14.2 +1.1
baz=314
WUAZ Wupatki 22.39 131 *e*P P 04 30 17.8 +1.8
comp=Z,20nm,1.1s
WUAZ Wupatki 22.39 131 P P 04 30 17.6 +1.6
baz=325,SNR=5.5
MVCO Mesa Verde 22.44 123 *e*P P 04 30 17.4 +0.7
comp=Z,21nm,1.2s
MVCO Mesa Verde 22.44 123 P P 04 30 17.6 +0.9
baz=320,SNR=8.6
Y12C Blythe 22.52 139 P P 04 30 19.7 +2.4
baz=332,SNR=5.5
ULM Lac du Bonnet 22.54 81 P P 04 30 17.5 +0.1
comp=Z,8.0nm,0.8s,baz=295,slow=8.6,SNR=11
ULM LR LR 04 39 31.4
comp=Z,632nm,18.9s,baz=302,slow=38
ULM Lac du Bonnet 22.54 81 *e*P P 04 30 17.5 +0.1
comp=Z,40nm,1.4s
ULM Lac du Bonnet 22.54 81 *e*P P 04 30 17.5 +0.1
ULM pmax pmax
comp=Z,41nm,1.4s
MONP2 Monument Peak 22.56 144 P P 04 30 19.9 +1.9
baz=335
S22A 4UR Ranch, Cre 22.91 120 *e*P P 04 30 22.8 +1.1
comp=Z,24nm,1.3s
S22A 4UR Ranch, Cre 22.91 120 P P 04 30 23.3 +1.6
baz=318,SNR=9.9
Y14A Wickenburg 22.99 136 *e*P P 04 30 24.1 +1.8
comp=Z,19nm,1.5s
GLA Glamis 23.02 141 P P 04 30 24.9 +2.3
baz=333
SUSD Miller 23.19 97 P P 04 30 25.6 +1.5
baz=302
AGMN Agassiz Nation 23.27 86 *e*P P 04 30 25.2 +0.2
comp=Z,23nm,1.3s
AGMN Agassiz Nation 23.27 86 P P 04 30 24.9 -0.1
baz=294,SNR=5.6
OGNE Ogallala 23.39 107 *e*P P 04 30 26.5 +0.2
OGNE Ogallala 23.39 107 P P 04 30 27.0 +0.7
baz=310
SDCO Great Sand Dun 23.62 118 *e*P P 04 30 29.8 +1.0
comp=Z,20nm,1.4s
SDCO Great Sand Dun 23.62 118 P P 04 30 29.2 +0.5
baz=317,SNR=10
X18A Snowflake 23.86 130 *e*P P 04 30 33.0 +2.0
comp=Z,14nm,0.9s
KSCO Kaye Shedlock' 24.32 112 *e*P P 04 30 37.0 +1.8
comp=Z,27nm,0.9s
KSCO Kaye Shedlock' 24.32 112 P P 04 30 36.4 +1.2
baz=314,SNR=7.7
T25A Trinidad 24.66 117 *e*P P 04 30 40.3 +2.0
comp=Z,6.5nm,0.9s
T25A Trinidad 24.66 117 P P 04 30 40.0 +1.7
baz=317
ECSD EROS Data Cent 24.99 96 *e*P P 04 30 41.1 +0.1
comp=Z,12nm,0.9s
ECSD EROS Data Cent 24.99 96 P P 04 30 42.0 +1.0
baz=303,SNR=8.9
ANMO Albuquerque 25.24 124 P P 04 30 44.2 +0.6
comp=Z,1.7nm,0.9s,baz=325,slow=11,SNR=6.3
ANMO LR LR 04 40 20.8
comp=Z,65nm,18.6s,baz=320,slow=36
ANMO Albuquerque 25.24 124 *e*P P 04 30 47.1 +3.6
comp=Z,6.8nm,1.3s
ANMO Albuquerque 25.24 124 *ce*P P 04 30 46.3 +2.7
ANMO pmax pmax
comp=Z,7.0nm,1.7s
ANMO Albuquerque 25.24 124 P P 04 30 45.6 +2.0
baz=322
EYMN Ely 26.08 84 *e*P P 04 30 52.5 +1.6
comp=Z,36nm,1.0s
EYMN Ely 26.08 84 P P 04 30 52.3 +1.4
baz=295,SNR=12
CBKS Cedar Bluff 26.12 109 *e*P P 04 30 52.1 +0.8
comp=Z,4.5nm,0.4s
CBKS Cedar Bluff 26.12 109 *e*P P 04 30 52.1 +0.8
CBKS pmax pmax
comp=Z,4.0nm,0.4s
121A Cookes Peak, D 26.53 129 P P 04 30 58.1 +2.9
baz=326
SPMN Marine on St. 26.54 90 *e*P P 04 30 56.5 +1.4
comp=Z,9.4nm,0.9s
SPMN Marine on St. 26.54 90 P P 04 30 56.3 +1.2
baz=300
E38A The Farm, Brul 26.64 86 P P 04 30 57.4 +1.5
baz=298
F38A Pierce - Schro 26.75 88 P P 04 30 58.6 +1.7
baz=299
RES Resolute Bay 26.88 21 LR LR 04 40 57.6
comp=Z,169nm,19.0s,baz=217,slow=35
AMTX Amarillo 27.81 117 *e*P P 04 31 07.2 +0.5
comp=Z,12nm,0.9s
I39A Houston 28.04 91 P P 04 31 09.8 +1.3
baz=302
J39A Decorah 28.20 93 P P 04 31 11.0 +1.1
baz=303,SNR=5.7
MNTX Cornudas Mount 28.37 126 *e*P P 04 31 12.9 +1.3
comp=Z,9.2nm,1.3s
MNTX Cornudas Mount 28.37 126 P P 04 31 12.9 +1.3
baz=325,SNR=5.6
J40A Soldiers Grove 28.76 92 P P 04 31 15.1 +0.1
baz=303
WMOK Wichita Mounta 29.52 114 *e*P P 04 31 21.4 -0.4
comp=Z,21nm,1.6s
WMOK Wichita Mounta 29.52 114 *e*P P 04 31 21.4 -0.4
WMOK pmax pmax
comp=Z,21nm,1.6s
WMOK Wichita Mounta 29.52 114 P P 04 31 22.8 +1.1
baz=317
N41A Harden Midland 30.23 96 P P 04 31 27.9 0.0
baz=307
Q41A Truxton 31.08 99 P P 04 31 35.5 0.0
baz=310
TX31 Lajitas Ar. Si 31.15 127 *e*P P 04 31 36.8 +0.5
TXAR Lajitas Array 31.15 127 P P 04 31 37.1 +0.8
comp=Z,1.3nm,0.8s,baz=326,slow=7.6,SNR=16
TXAR LR LR 04 43 22.7
comp=Z,84nm,18.8s,baz=0.0,slow=35
R41A Rosebud 31.41 100 P P 04 31 38.4 0.0
baz=310
CCM Cathedral Cave 31.64 101 P P 04 31 40.5 +0.1
baz=311
S41A Jillco Farms, 31.65 102 P P 04 31 40.3 -0.2
baz=311
U40A Yellville 31.81 105 P P 04 31 42.1 +0.1
baz=313
S42A Caledonia 32.10 101 P P 04 31 44.2 -0.3
baz=311
JCT Junction City 32.20 120 *e*P P 04 31 46.9 +1.4
comp=Z,2.2nm,0.3s
JCT Junction City 32.20 120 *e*P P 04 31 46.9 +1.4
JCT pmax pmax
comp=Z,2.0nm,0.3s
V40A Witts Springs 32.20 105 *e*P P 04 31 46.1 +0.7
comp=Z,9.9nm,1.1s
V40A Witts Springs 32.20 105 P P 04 31 45.6 +0.2
baz=314
V41A Mountainview 32.61 105 P P 04 31 48.7 -0.3
baz=314,SNR=12
MIAR Mount Ida 32.64 108 *e*P P 04 31 49.3 +0.1
comp=Z,8.9nm,0.9s
MIAR Mount Ida 32.64 108 *e*P P 04 31 49.3 +0.1
MIAR pmax pmax
comp=Z,9.0nm,0.9s
MIAR Mount Ida 32.64 108 P P 04 31 49.6 +0.4
baz=315
S43A Fulton Ridge, 32.66 100 P P 04 31 49.4 +0.1
baz=311
BILL Bilibino 32.67 322 *ce*P P 04 31 49.7 +0.6
BILL *e*PPP PPP 04 33 04.9
BILL pmax pmax
comp=Z,14nm,1.7s
BILL MLR MLR
comp=Z,78nm,18.0s
P45A Graceland, Par 32.84 95 *e*P P 04 31 51.1 +0.2
comp=Z,20nm,1.0s
P45A Graceland, Par 32.84 95 P P 04 31 50.8 -0.1
baz=308
OLIL Olney 33.12 97 *e*P P 04 31 54.1 +0.8
comp=Z,40nm,1.4s
P47A Martinsville 33.76 94 P P 04 31 58.9 -0.1
baz=308
BLO Bloomington 33.80 95 *e*P P 04 32 00.3 +1.0
comp=Z,16nm,0.8s
BLO Bloomington 33.80 95 *e*P P 04 32 00.3 +1.0
BLO pmax pmax
comp=Z,16nm,0.8s
O48A Farmland 33.98 92 P P 04 32 00.8 0.0
baz=307
WCI Wyandotte Cave 34.53 96 *e*P P 04 32 05.5 -0.1
comp=Z,11nm,0.9s
WCI Wyandotte Cave 34.53 96 *e*P P 04 32 05.5 -0.1
WCI pmax pmax
comp=Z,11nm,0.9s
HKT Hockley 34.76 116 *e*P P 04 32 08.0 +0.4
comp=Z,12nm,0.9s
HKT Hockley 34.76 116 *e*P P 04 32 08.0 +0.4
HKT pmax pmax
comp=Z,12nm,0.9s
S48A Wiedeman Farm, 35.04 96 P P 04 32 10.1 0.0
baz=310,SNR=6.3
OXF Oxford 35.12 104 *e*P P 04 32 10.0 -0.7
comp=Z,32nm,1.1s
OXF Oxford 35.12 104 *e*P P 04 32 10.0 -0.7
OXF pmax pmax
comp=Z,32nm,1.1s
OXF Oxford 35.12 104 P P 04 32 10.9 +0.2
baz=314
S49A Springfield 35.43 96 P P 04 32 13.4 0.0
baz=310
PLAL Pickwick Lake 35.59 102 *e*P P 04 32 14.6 -0.2
comp=Z,7.1nm,0.8s
R50A Paris 35.70 94 P P 04 32 15.7 0.0
baz=309,SNR=5.2
Y46A Houston 35.88 104 P P 04 32 17.5 +0.2
baz=315
S50A Richmond 36.04 95 P P 04 32 18.8 +0.1
baz=310
244A Avery, Jackson 36.12 108 P P 04 32 20.2 +0.9
baz=317
R51A Hillsboro 36.14 93 P P 04 32 19.4 -0.1
baz=309
X48A Hartselle 36.57 101 P P 04 32 23.1 0.0
baz=314
U50A Jamestown 36.59 97 P P 04 32 23.2 -0.1
baz=311
T51A Gray 36.77 95 P P 04 32 25.3 +0.4
baz=311,SNR=5.8
X50B Fort Payne 37.40 100 P P 04 32 30.3 0.0
baz=313
SCHQ Schefferville 37.48 60 LR LR 04 48 29.9
comp=Z,493nm,19.3s,baz=325,slow=37
V52A Sevierville 37.72 97 *e*P P 04 32 33.6 +0.7
comp=Z,18nm,0.8s
V52A Sevierville 37.72 97 P P 04 32 33.4 +0.4
baz=312,SNR=7.2
X51A Calhoun 37.81 99 P P 04 32 33.9 +0.2
baz=313
347A Saraland 37.83 106 P P 04 32 34.7 +0.8
baz=317
149A Jones 38.01 103 P P 04 32 35.6 +0.2
baz=315
W52A Murphy 38.02 98 *e*P P 04 32 35.9 +0.3
comp=Z,16nm,0.9s
W52A Murphy 38.02 98 P P 04 32 35.8 +0.3
baz=313
V53A Saluda 38.31 96 *e*P P 04 32 38.9 +0.9
comp=Z,14nm,0.8s
V53A Saluda 38.31 96 P P 04 32 38.5 +0.5
baz=312
W53A Cullowhee 38.43 97 P P 04 32 39.7 +0.6
baz=312,SNR=9.9
BG3 Lake Jocassee 38.69 97 *e*P P 04 32 42.3 +1.1
comp=Z,14nm,0.9s
BLA Blacksburg 38.77 92 *e*P P 04 32 42.2 +0.4
comp=Z,12nm,0.7s
BLA Blacksburg 38.77 92 *e*P P 04 32 42.2 +0.4
BLA pmax pmax
comp=Z,12nm,0.7s
BLA Blacksburg 38.77 92 P P 04 32 42.3 +0.5
baz=310
X53A Estanollee 38.80 98 P P 04 32 42.4 +0.4
baz=313
Z52A Williamson 39.02 100 P P 04 32 44.3 +0.4
baz=314
Y53A Monroe 39.07 99 P P 04 32 44.3 +0.1
baz=314

N59A	**State Game Lan**	**39.32**	**84**	P		**P**	**04 32 45.9**	**-0.4**
	baz=307							
SEY	**Seymchan**	**39.39**	**316**	P		**P**	**04 32 47.6**	**+0.9**
	comp=Z,5.5nm,0.8s,baz=88,slow=6.1,SNR=12							
SEY	**Seymchan**	**39.39**	**316**	*ce*P		**P**	**04 32 46.8**	**+0.1**
Y54A	**Tignall**	**39.60**	**98**	P		**P**	**04 32 48.8**	**+0.1**
	baz=314							
R58B	**Mineral**	**39.84**	**89**	P		**P**	**04 32 50.6**	**-0.1**
	baz=310							
Z54A	**Sparta**	**39.94**	**99**	P		**P**	**04 32 51.6**	**+0.1**
	baz=314							
PETK	**Petropavlovsk-**	**40.94**	**300**	P		**P**	**04 32 59.6**	**0.0**
	comp=Z,6.0nm,0.7s,baz=78,slow=14,SNR=5.9							
PETK				LR		LR	04 47 53.8	
	comp=Z,68nm,20.0s,baz=84,slow=33							
TIXI	**Tiksi**	**44.00**	**333**	*i* P		**P**	**04 33 23.8**	**-0.4**
TIXI				pmax		pmax		
	comp=Z,1.0nm,0.9s							
YAK	**Yakutsk**	**49.03**	**322**	P		**P**	**04 34 04.8**	**+1.1**
	comp=Z,20nm,0.5s,baz=252,slow=2.1,SNR=4.4							
YAK	**Yakutsk**	**49.03**	**322**	*i* P		**P**	**04 34 03.8**	**+0.1**
YAK				pmax		pmax		
	comp=Z,18nm,0.8s							
YSS	**Yuzh-Sakhalins**	**52.34**	**300**	*i* P		**P**	**04 34 28.9**	**0.0**
YSS				pmax		pmax		
	comp=Z,24nm,1.0s							
H11N2	**WAKE ISLAND Hy**	**57.02**	**259**	T		T	05 37 06.5	
	baz=39,slow=75,SNR=60							
H11N3	**WAKE ISLAND Hy**	**57.03**	**259**	T		T	05 37 11.0	
	baz=39,slow=75,SNR=58							
H11N1	**WAKE ISLAND Hy**	**57.04**	**259**	T		T	05 37 07.6	
	baz=39,slow=75,SNR=55							
BOD	**Bodaibo**	**57.67**	**325**	*e*P		**P**	**04 35 06.2**	**-1.0**
BOD				pmax		pmax		
	comp=Z,8.0nm,2.0s							
USRK	**Ussuriysk Ar.**	**59.77**	**304**	P		**P**	**04 35 21.6**	**-0.5**
	comp=Z,5.3nm,0.8s,baz=50,slow=5.8,SNR=9.4							
TLY	**Talaya**	**66.19**	**326**	*e*P		**P**	**04 36 03.2**	**-1.4**
TLY				pmax		pmax		
	comp=Z,9.0nm,0.9s							
KS01	**Wonju Array Si**	**66.81**	**302**	*e*P		**P**	**04 36 07.7**	**-1.0**
KSRS	**Korea Array**	**66.81**	**302**	P		**P**	**04 36 07.9**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=69,slow=6.8,SNR=6.2							
KSAR	**Wonju Array Be**	**66.84**	**302**	P		**P**	**04 36 07.9**	**-1.1**
KSAR	**Wonju Array Be**	**66.84**	**302**	P		**P**	**04 36 07.9**	**-1.1**
ULN	**Ulaanbaatar**	**68.11**	**322**	*ce*P		**P**	**04 36 16.4**	**-0.7**
ULN				pmax		pmax		
	comp=Z,4.0nm,1.7s							
SONA1	**Songino Array**	**68.38**	**322**	*e*P		**P**	**04 36 18.7**	**0.0**
SONM	**Songino Array**	**68.39**	**322**	P		**P**	**04 36 18.8**	**0.0**
	comp=Z,1.2nm,0.9s,baz=41,slow=2.7,SNR=9.2							
OTAV	**Otavalo**	**68.48**	**120**	*e*P		**P**	**04 36 21.1**	**+1.0**
	comp=Z,1.5nm,0.7s							
OTAV	**Otavalo**	**68.48**	**120**	*e*P		**P**	**04 36 21.1**	**+1.0**
OTAV				pmax		pmax		
	comp=Z,1.0nm,0.7s							
PMOR	**Pomariorio Ree**	**68.55**	**196**	*e*T		T	05 50 59.0	
	comp=Z,8.0nm,0.3s							
ZAA0	**Zalesovo Array**	**69.62**	**338**	*e*P		**P**	**04 36 26.1**	**-0.1**
	comp=Z,1.9nm,1.8s							
ZALV	**Zalesovo Beam**	**69.62**	**338**	P		**P**	**04 36 26.1**	**0.0**
	comp=Z,1.3nm,0.6s,baz=25,slow=5.1,SNR=6.0							
ZALV				LR		LR	05 11 24.5	
	comp=Z,18nm,18.9s,baz=68,slow=40							
ZALV	**Zalesovo Beam**	**69.62**	**338**	*e*P		**P**	**04 36 25.8**	**-0.3**
HVS	**Khovu-Aksy**	**69.83**	**331**	*i* P		**P**	**04 36 27.5**	**-0.1**
ARU	**Arti**	**71.15**	**354**	*d i*P		**P**	**04 36 35.7**	**+0.3**
ARU							04 39 08.4	
ARU				S		**S**	**04 45 51.9**	**+1.9**
ARU				pmax		pmax		
	comp=Z,17nm,1.7s							
TIAR	**Tiarei**	**71.31**	**197**	*e*T		T	05 54 25.9	
	comp=Z,2.2nm,0.2s							
PPT	**Papeete**	**71.36**	**198**	LR		LR	05 00 44.2	
	comp=Z,35nm,21.9s,baz=26,slow=30							
PPT2	**Papeete2**	**71.38**	**198**	*e*LR		LR	04 58 02.0	
	comp=Z,94nm,30.0s							
PPT2	**Papeete2**	**71.38**	**198**	*e*T		T	05 54 31.2	
	comp=Z,1.7nm,0.3s							
HHC	**Hu-ho-hao-te**	**72.02**	**314**	*e*P		**P**	**04 36 41.3**	**+0.2**
HHC				pmax		pmax		
	comp=Z,17nm,0.7s							
HHC				pmax		pmax		
	comp=Z,65nm,4.3s							
OBN	**Obninsk**	**72.40**	**7**	*e*P		**P**	**04 36 43.0**	**+0.1**
OBN				*e*			04 37 01.4	
OBN				*e*			04 39 19.4	
OBN				*e*PPP		PPP	04 41 03.3	
OBN				*e*S		**SKSac**	**04 46 38.1**	**-7.2**
OBN				pmax		pmax		
	comp=Z,11nm,1.6s							
OBN				MLR		MLR		
	comp=Z,47nm,15.0s							
BRVK	**Borovoye**	**73.23**	**346**	*e*P		**P**	**04 36 48.0**	**+0.1**
BRVK	**Borovoye**	**73.23**	**346**	*ce*P		**P**	**04 36 46.8**	**-1.1**
BRVK				pmax		pmax		
	comp=Z,9.0nm,1.7s							
KURK	**Kurchatov**	**74.01**	**340**	*e*P		**P**	**04 36 51.4**	**-1.1**
KURK	**Kurchatov**	**74.01**	**340**	*e*P		**P**	**04 36 51.4**	**-1.1**
RKT	**Rikitea**	**75.28**	**183**	*e*T		T	05 59 17.4	
	comp=Z,1.6nm,0.3s							
AKASG	**Malin Array Be**	**76.02**	**12**	P		**P**	**04 37 04.6**	**+0.5**
	comp=Z,0.3nm,0.2s,baz=341,slow=5.2,SNR=6.7							
KIEV	**Kiev**	**76.02**	**12**	*e*P		**P**	**04 37 04.5**	**+0.4**
	comp=Z,3.6nm,0.7s							
KIEV	**Kiev**	**76.02**	**12**	*i* P		**P**	**04 37 03.4**	**-0.7**
KIEV				pmax		pmax		
	comp=Z,6.0nm,1.1s							
MKAR	**Makanchi Array**	**76.87**	**337**	P		**P**	**04 37 08.9**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=28,slow=5.5,SNR=8.3							
MKAR	**Makanchi Array**	**76.87**	**337**	*ce*P		**P**	**04 37 08.8**	**-0.3**
MKAR				pmax		pmax		
	comp=Z,3.0nm,0.8s							
MK01	**Makanchi Array**	**76.89**	**337**	*e*P		**P**	**04 37 08.7**	**-0.5**
ABKAR	**Akbulak array**	**78.17**	**352**	*e*P		**P**	**04 37 16.4**	**+0.1**
WMQ	**Urumqi**	**78.19**	**332**	*e*P		**P**	**04 37 19.9**	**+3.4**
LZH	**Lanzhou**	**79.31**	**317**	*e*P		**P**	**04 37 22.0**	**-1.0**
LZH				pP		pP	04 37 28.0	-3.5
LZH				sP		PcP	04 37 31.1	0.0
LZH				*e*PP		**PP**	**04 40 29.1**	**+6.8**
LZH				pmax		pmax		
	comp=Z,27nm,1.3s							
LZH				pmax		pmax		
	comp=Z,96nm,4.3s							
AAK	**Ala-Archa**	**82.56**	**341**	*e*P		**P**	**04 37 40.6**	**+0.4**
	comp=Z,6.8nm,1.3s							
AAK	**Ala-Archa**	**82.56**	**341**	*i* P		**P**	**04 37 40.2**	**0.0**
AAK				pmax		pmax		
	comp=Z,4.0nm,1.2s							
KBZ	**Khabaz**	**84.11**	**4**	P		**P**	**04 37 49.4**	**+1.5**
	comp=Z,1.9nm,0.7s,baz=320,slow=5.8,SNR=4.4							
NEY	**Neytrino**	**84.58**	**4**	*i* P		**P**	**04 37 49.7**	**-0.9**
NEY				pmax		pmax		
	comp=Z,1.0nm,1.1s							
BTK	**Batken**	**85.77**	**343**	P		**P**	**04 37 56.6**	**+0.2**
BRTR	**Keskin Array B**	**87.37**	**11**	P		**P**	**04 38 04.8**	**+0.5**
	comp=Z,1.3nm,0.9s,baz=336,slow=2.7,SNR=5.9							
GNI	**Garni**	**87.75**	**2**	*ce*P		**P**	**04 38 07.2**	**+1.0**
GNI				pmax		pmax		
	comp=Z,19nm,1.3s							
LPAZ	**La Paz**	**87.81**	**120**	P		**P**	**04 38 06.1**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=314,slow=5.7,SNR=8.2							
LPAZ				LR		LR	05 21 04.1	
	comp=Z,20nm,18.8s,baz=356,slow=38							
DZM	**Mont Dzumac**	**91.42**	**235**	*e*LR		LR	05 07 30.8	
	comp=Z,116nm,24.4s							
BRDH	**Bariadhala**	**96.08**	**320**	LR		LR	05 24 43.1	
	comp=Z,20nm,18.1s,baz=124,slow=37							
CMAR	**Chiang Mai Arr**	**96.73**	**312**	P		**P**	**04 38 47.5**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=19,slow=4.5,SNR=6.7							
CMAR	**Chiang Mai Arr**	**96.73**	**312**	*ce*P		**P**	**04 38 48.0**	**+0.1**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
PMSA	**Palmer Station**	**128.03**	**150**	*e*PKPdf		**PKPdf**	**04 44 23.8**	**+2.2**
CASY	**Casey**	**146.85**	**221**	*e*PKPbc		**PKPdf**	**04 44 56.2**	**+0.2**

MEX 03 04:26:32.2±0.6, 16.07N×98.10W, h3km±4km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.32**	**355**	*i* P		Pg	04 26 37.9	-0.6
PNIG				*e*S		Sg	04 26 42.9	+0.2
TLIG	**Tlapa**	**1.55**	**343**	*e*P		Pn	04 26 57.5	-3.4
TLIG				*e*S		Sn	04 27 16.4	-5.3
VHO	**Vista Hermosa**	**1.64**	**52**	*e*P		Pn	04 26 59.1	-3.1
VHO				*e*S		Sn	04 27 19.3	-4.6

*IDC **03** 04:40:06.3±2.4,5.56N×126.28E,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.5/34,mbtmp3.7/3,Error ellipse: s-maj=197.9km s-min=26.0km az=65.0*
*ISCJB **03** 04:40:12.6±1.1,5.6N±0.1×126.6E±0.1,h66km,mb3.5/3, Error ellipse: s-maj=23.5km s-min=8.3km az=138.9*
*MAN **03** 04:40:12.7,5.56N×126.50E,h113km,mb4.4,ML3.3, MS3.1*

ISC 03 04:40:13.8±1.4, 5.7N±0.1×126.6E±0.1, h66km, n8, σ1s88/10, mb3.6/3, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.00**	**294**	*e*P	**Pn**	**04 40 30.7**	**-1.4**
DDMP				*e*S	**Sn**	**04 40 43.9**	**-1.8**
DAV	**Davao City (W)**	**1.72**	**323**	LR	LR	04 41 33.5	
	comp=Z,75nm,20.6s,baz=108,slow=53						
SKMP	**Bagumbayan, Su**	**2.23**	**292**	*e*P	**Pn**	**04 40 49.0**	**+0.5**
SKMP				*e*S	**Sn**	**04 41 15.4**	**+0.4**
BUKP	**Musuan**	**2.67**	**325**	*e*P	**Pn**	**04 40 55.5**	**+1.0**
BUKP				*e*S	**Sn**	**04 41 28.7**	**+2.8**
BUTP	**Butuan**	**3.41**	**343**	*e*P	**Sn**	**04 41 40.6**	**-3.2**
WRA	**Warramunga Arr**	**26.58**	**164**	P	**P**	**04 45 46.1**	**+0.2**
	0.6nm,0.5s,baz=342,slow=10,SNR=12						
ASAR	**Alice Springs**	**30.03**	**167**	P	**P**	**04 46 16.9**	**+0.2**
	0.6nm,0.5s,baz=345,slow=7.1,SNR=13						
MKAR	**Makanchi Array**	**55.90**	**325**	P	**P**	**04 49 45.3**	**+0.3**
	0.3nm,0.4s,baz=115,slow=8.0,SNR=5.9						

*IDC **03** 05:06:23.5±1.6,14.15N×144.43E,h134km±8km,mb3.6/7, mb1 3.8/7,mb1mx3.4/44,mbtmp4.0/7,Error ellipse: s-maj=49.3km s-min=17.9km az=109.0*
*ISCJB **03** 05:06:24.7±1.5,13.9N±0.2×144.5E±0.3,h144km,mb3.7/7, Error ellipse: s-maj=40.5km s-min=24.6km az=32.7*

ISC 03 05:06:24.7±1.3, 14.1N±0.2×144.5E±0.3, h144km, n11, σ1s17/9, mb3.8/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.60**	**145**	P	**Pn**	**05 06 46.0**	**+0.1**
	92nm,0.3s,baz=288,slow=3.1,SNR=34						
GUMO				S	**Sn**	**05 07 00.6**	**-1.5**
	430nm,0.3s,baz=58,slow=23,SNR=90						
H11S3	**WAKE ISLAND Hy**	**21.72**	**75**	T	T	05 32 51.9	
	baz=263,slow=74,SNR=7.4						
H11S1	**WAKE ISLAND Hy**	**21.73**	**75**	T	T	05 32 52.1	
	baz=263,slow=74,SNR=4.6						
H11S2	**WAKE ISLAND Hy**	**21.74**	**75**	T	T	05 32 52.8	
	baz=263,slow=74,SNR=4.4						
WRA	**Warramunga Arr**	**35.27**	**197**	P	**P**	**05 13 05.7**	**-0.2**
	3.8nm,0.7s,baz=21,slow=9.7,SNR=65						
ASAR	**Alice Springs**	**38.93**	**196**	P	**P**	**05 13 36.5**	**-0.3**
	0.9nm,0.6s,baz=17,slow=12,SNR=16						
DZM	**Mont Dzumac**	**41.88**	**149**	P	**P**	**05 14 01.6**	**+0.5**
	3.3nm,0.5s,baz=294,slow=4.9,SNR=8.0						
STKA	**Stephens Creek**	**45.79**	**183**	P	**P**	**05 14 31.5**	**-0.5**
	0.8nm,0.4s,baz=13,slow=9.9,SNR=4.0						
ILAR	**Eielson Array**	**68.27**	**25**	P	**P**	**05 17 08.2**	**-1.5**
	0.2nm,0.4s,baz=251,slow=5.6,SNR=7.4						
NVAR	**Mina Array Bea**	**86.88**	**51**	P	**P**	**05 18 55.1**	**+1.4**
	0.4nm,0.5s,baz=272,slow=5.9,SNR=5.7						
VNDA	**Vanda**	**91.98**	**176**	P	**P**	**05 19 17.6**	**+1.2**
	0.5nm,0.7s,baz=328,slow=4.5,SNR=4.5						

IDC 03 05:08:42.2±1.9, 10.48N×127.01E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/44, mbtmp3.9/4, Error ellipse: s-maj=167.0km s-min=23.4km az=69.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.08**	**167**	P	P	05 15 02.0	-0.3
	0.4nm,0.6s,baz=346,slow=9.3,SNR=4.4						
ASAR	**Alice Springs**	**34.59**	**169**	P	P	05 15 33.3	+0.2
	0.6nm,0.5s,baz=350,slow=7.2,SNR=9.0						
MKAR	**Makanchi Array**	**52.31**	**322**	P	P	05 17 56.0	+0.3
	0.8nm,0.6s,baz=115,slow=7.5,SNR=7.6						
ARCES	**ARCESS Array B**	**84.25**	**340**	P	P	05 21 15.0	-0.5
	6.3nm,1.0s,baz=74,slow=6.7,SNR=3.9						

MEX 03 05:12:05.9±0.4, 16.81N×100.46W, h14km±5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACP2	**Acapulco**	**0.56**	**83**	*i* P	Pg	05 12 15.5	-1.3
ACP2				*e*S	Sg	05 12 22.8	-1.5
ZIIG	**Zihuatanejo**	**1.25**	**310**	*e*P	Pn	05 12 24.9	-4.0
ZIIG				*e*S	Sb	05 12 40.4	-4.7
MEIG	**Mezcala**	**1.37**	**36**	*e*P	Pn	05 12 27.1	-3.6
MEIG				*e*S	Sn	05 12 43.5	-5.3
ARIG	**Puente Sto Nin**	**1.47**	**4**	*e*P	Pn	05 12 28.9	-3.1
ARIG				*e*S	Sn	05 12 46.0	-5.0
PLIG	**Platanillo**	**1.82**	**30**	*e*P	Pn	05 12 33.7	-3.3
PLIG				*e*S	Sn	05 12 55.1	-4.8
TLIG	**Tlapa**	**1.96**	**67**	*e*P	Pn	05 12 35.7	-3.2
TLIG				*e*S	Sn	05 12 58.4	-4.9

*NEIC **03** 05:18:59.9±0.0, 15.90N×94.89W, h17km, mb4.2/2, MD3.9(MEX), After MEX.*

MEX 03 05:18:59.9±0.5, 15.90N×94.89W, h17km±18km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.18**	**264**	*e*Pn	Pn	05 19 18.2	-3.4
HUIG				*e*Sn	Sb	05 19 32.3	-4.5
HUIG	**Huatulco**	**1.18**	**264**	*e*P	Pn	05 19 18.2	-3.4
HUIG				*e*S	Sb	05 19 32.3	-4.5
TGIG		**1.91**	**63**	*e*Pn	Pn	05 19 28.5	-3.3
TGIG				*e*Sn	Sn	05 19 51.1	-4.5
TGIG		**1.91**	**63**	*e*P	Pn	05 19 28.5	-3.3
TGIG				*e*S	Sn	05 19 51.1	-4.5
VHO	**Vista Hermosa**	**2.12**	**304**	*e*Pn	Pn	05 19 31.9	-2.9
VHO				*e*Sn	Sn	05 19 56.2	-4.6
VHO	**Vista Hermosa**	**2.12**	**304**	*e*P	Pn	05 19 31.9	-2.9
VHO				*e*S	Sn	05 19 56.2	-4.6
CCIG	**Comitan**	**2.68**	**81**	*e*Pn	Pn	05 19 40.4	-2.1
CCIG				*e*Sn	Sg	05 20 24.5	-1.5
TLIG	**Tlapa**	**3.89**	**296**	*e*Pn	Pn	05 19 58.0	-1.1
TLIG				*e*Sn	Sn	05 20 41.3	-3.2
TEIG	**Tepich**	**7.62**	**55**	*e*Pn	Pn	05 20 48.7	-1.6
Z41A	**Richland Creek**	**17.39**	**6**	*e*Pn	Pn	05 23 02.4	+0.6
	12nm,0.7s						
555A	**McAlpin**	**17.89**	**36**	*e*Pn	Pn	05 23 06.9	-1.2
	25nm,1.1s						

*CNRM **03** 05:57:28.8,36.79N×13.03W,h107km*
*MDD **03** 05:57:28.7±1.4,37.16N×12.75W,h0km,mb4.1/27,Error ellipse: s-maj=12.5km s-min=9.3km az=71.0,PRXIMO*
*LDG **03** 05:57:28.4±0.5,37.08N×13.13W,h20km,Ml3.4/3,Error ellipse: s-maj=8.7km s-min=7.0km az=59.0*
*IGIL **03** 05:57:29.5,37.20N×12.78W,h5km,ML2.7*
*INMG **03** 05:57:31.3±1.0,37.06N×13.09W,h10km,ML2.8,Error ellipse: s-maj=5.6km s-min=3.7km az=81.0*

ISC 03 05:57:25.9±2.9, 37.23N±0.08×12.7W±0.1, h10km, n87, σ2s97/154, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**3.12**	**91**	*e*Pn	**Pn**	**05 58 18.1**	**+2.9**
PFVI				*e*Sn	**Sn**	**05 58 53.7**	**+1.2**
PFVI				A	A	05 59 02.2	
	17nm,0.8s						
PFVI	**Vila Bisbo**	**3.12**	**91**	P	**Pn**	**05 58 18.0**	**+2.9**
	3.7nm,0.1s,SNR=6.1						
PFVI				S	**Sn**	**05 58 53.6**	**+1.2**
	80nm,1.2s,SNR=7.9						
PMST	**Lisbon--Monsan**	**3.18**	**61**	*e*Sn	**Sn**	**05 58 56.9**	**+2.9**
PMST				A	A	05 59 05.0	
	24nm,0.6s						
PTEO	**Sao Teotonio**	**3.21**	**83**	*e*Pn	**Pn**	**05 58 20.2**	**+3.9**
PTEO				*e*Sn	**Sn**	**05 58 56.1**	**+1.5**
PTEO				A	A	05 59 07.0	
	14nm,0.4s						
PTEO	**Sao Teotonio**	**3.21**	**83**	P	**Pn**	**05 58 20.2**	**+3.9**
PTEO				S	**Sn**	**05 58 56.1**	**+1.5**
	7.1nm,0.4s						
PMAFR	**Mafra**	**3.22**	**57**	*e*Pn	**Pn**	**05 58 20.3**	**+3.8**
PMAFR				*e*Sn	**Sn**	**05 58 58.0**	**+3.0**
PMAFR				A	A	05 59 04.5	
	40nm,0.2s						
PMAFR	**Mafra**	**3.22**	**57**	P	**Pn**	**05 58 20.1**	**+3.6**
	11nm,0.1s,SNR=22						
PMAFR				S	**Sn**	**05 58 58.0**	**+3.0**
	29nm,0.3s,SNR=9.4						
MORF	**Marmelete**	**3.26**	**87**	*e*P	**Pn**	**05 58 19.9**	**+2.8**
MORF				*e*S	**Sn**	**05 58 57.2**	**+1.3**
MORF				AML	AML	05 59 02.3	
	comp=N,19nm,0.4s						
MORF	**Marmelete**	**3.26**	**87**	*e*Pn	**Pn**	**05 58 20.6**	**+3.5**
MORF				*e*Sn	**Sn**	**05 58 58.6**	**+2.7**
MORF				A	A	05 59 02.3	
	comp=N,12nm,0.4s						
MORF	**Marmelete**	**3.26**	**87**	P	**Pn**	**05 58 19.9**	**+2.8**
MORF				S	**Sn**	**05 58 57.2**	**+1.3**
	comp=N,19nm,0.4s						
MESJ	**Messejana**	**3.64**	**79**	*e*P	**Pn**	**05 58 25.5**	**+3.2**
MESJ				*e*S	**Sn**	**05 59 05.8**	**+0.6**
MESJ				AML	AML	05 59 11.2	
	comp=N,21nm,0.5s						
MESJ	**Messejana**	**3.64**	**79**	*e*Pn	**Pn**	**05 58 26.5**	**+4.3**
MESJ				*e*Sn	**Sn**	**05 59 06.8**	**+1.6**
MESJ				A	A	05 59 11.3	
	comp=N,11nm,0.4s						
MESJ	**Messejana**	**3.64**	**79**	P	**Pn**	**05 58 25.5**	**+3.2**
MESJ				S	**Sn**	**05 59 05.8**	**+0.6**
	comp=N,21nm,0.5s						
ALMR	**Almeirim**	**3.80**	**58**	*e*P	**Pn**	**05 58 27.8**	**+3.4**
ALMR				*e*S	**Sn**	**05 59 09.5**	**+0.3**
ALMR				AML	AML	05 59 14.5	
	comp=N,26nm,0.3s						
ALMR	**Almeirim**	**3.80**	**58**	*e*Pn	**Pn**	**05 58 29.0**	**+4.6**
ALMR				*e*Sn	**Sn**	**05 59 12.5**	**+3.4**
ALMR				A	A	05 59 21.7	
	comp=N,33nm,0.4s						
ALMR	**Almeirim**	**3.80**	**58**	P	**Pn**	**05 58 27.8**	**+3.4**
ALMR				S	**Sn**	**05 59 09.5**	**+0.3**
	comp=N,13nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.83**	**88**	*e*Pn	**Pn**	**05 58 28.7**	**+3.8**
PBDV				*e*Sn	**Sn**	**05 59 11.7**	**+1.6**
PBDV				A	A	05 59 20.2	
	comp=N,8.0nm,0.8s						
PBDV	**Barranco-do-Ve**	**3.83**	**88**	P	**Pn**	**05 58 28.7**	**+3.8**
PBDV				S	**Sn**	**05 59 11.7**	**+1.6**
	comp=N,8.0nm,0.8s						
PBEJ	**Beja**	**3.94**	**77**	*e*Pn	**Pb**	**05 58 31.7**	**-3.8**
PBEJ				*e*Sn	**Sn**	**05 59 15.4**	**+2.6**
PBEJ				A	A	05 59 20.4	
	comp=N,16nm,0.2s						
PBEJ	**Beja**	**3.94**	**77**	P	**Pb**	**05 58 31.7**	**-3.8**
PBEJ				S	**Sn**	**05 59 15.4**	**+2.6**
	comp=N,7.8nm,0.2s						
EVO	**Evora**	**3.96**	**69**	*e*Pn	**Pb**	**05 58 32.5**	**-3.2**
EVO				*e*Sn	**Sn**	**05 59 16.4**	**+3.4**
EVO				A	A	05 59 22.4	
	comp=N,14nm,0.1s						
EVO	**Evora**	**3.96**	**69**	P	**Pb**	**05 58 32.0**	**-3.7**
EVO				S	**Sn**	**05 59 16.3**	**+3.2**
EVO	**Evora**	**3.96**	**69**	*e*P	**Pb**	**05 58 32.0**	**-3.7**
EVO				*e*S	**Sn**	**05 59 16.3**	**+3.2**
PVAQ	**Vaqueiros**	**4.00**	**86**	*e*Pn	**Pn**	**05 58 31.1**	**+3.8**
PVAQ				*e*Sn	**Sn**	**05 59 15.4**	**+1.2**
PVAQ				A	A	05 59 23.2	
	comp=N,16nm,0.3s						
PVAQ	**Vaqueiros**	**4.00**	**86**	P	**Pn**	**05 58 31.1**	**+3.8**
PVAQ				S	**Sn**	**05 59 15.4**	**+1.2**
	comp=N,16nm,0.3s						
PVAQ	**Vaqueiros**	**4.00**	**86**	P	**Pn**	**05 58 31.5**	**+4.2**
PVAQ	**Vaqueiros**	**4.00**	**86**	S	**Sb**	**05 59 23.1**	**-1.9**
PTOM	**Tomar**	**4.15**	**54**	*e*Pn	**Pn**	**05 58 33.4**	**+4.1**
PTOM				*e*Sn	**Sn**	**05 59 20.9**	**+3.1**
PTOM				A	A	05 59 25.2	
	comp=N,28nm,0.2s						
PTOM	**Tomar**	**4.15**	**54**	P	**Pn**	**05 58 33.4**	**+4.1**
PTOM				S	**Sn**	**05 59 20.9**	**+3.1**
	comp=N,14nm,0.2s						
EGRO	**El Granado**	**4.19**	**84**	P	**Pn**	**05 58 33.6**	**+3.7**
	comp=N,3.2nm,0.1s,SNR=6.9						
EGRO				S	**Sn**	**05 59 20.4**	**+1.5**
	comp=N,0.5nm,0.2s,SNR=7.9						
PCAS	**Casmilo, Conde**	**4.35**	**48**	*e*Pn	**Pn**	**05 58 35.9**	**+3.8**
PCAS				*e*Sn	**Sn**	**05 59 24.7**	**+1.9**
PCAS				A	A	05 59 30.6	
	comp=N,8.7nm,0.8s						
PMRV	**Marv??o**	**4.74**	**61**	*e*Pn	**Pn**	**05 58 41.0**	**+3.6**
PMRV				*e*Sn	**Sn**	**05 59 33.6**	**+1.2**
PMRV				A	A	05 59 37.8	
	comp=N,10nm,0.2s						
PMRV	**Marv??o**	**4.74**	**61**	P	**Pn**	**05 58 41.0**	**+3.6**
PMRV				S	**Sn**	**05 59 33.6**	**+1.2**
	comp=N,10nm,0.2s						
EBAD	**Badajoz**	**4.77**	**70**	P	**Pn**	**05 58 41.3**	**+3.5**
	comp=N,2.5nm,0.1s,SNR=11						
EBAD				S	**Sn**	**05 59 32.9**	**-0.2**
	comp=N,7.1nm,0.6s,SNR=5.0						
**

EMAZ S Sn 06 00 08.2 -5.1
comp=N,3.3nm,0.1s,SNR=7.9
PBRG Braganca 6.51 44 ePn Pn 05 59 05.0 +3.3
PBRG eSn Sn 06 00 15.5 -0.5
PBRG A A 06 00 19.7
comp=N,2.5nm,0.7s
PBRG Braganca 6.51 44 P Pn 05 59 05.0 +3.3
PBRG S Sn 06 00 15.5 -0.5
comp=N,1.2nm,0.7s
EADA Adamuz 6.54 79 P Pn 05 59 05.8 +3.7
comp=N,1.5nm,0.1s,SNR=7.9
EADA S Sn 06 00 15.5 -1.2
comp=N,4.2nm,0.2s,SNR=7.9
ECAL Calabor 6.60 43 P Pn 05 59 06.2 +3.2
comp=N,4.6nm,0.2s,SNR=13
ECAL S Sn 06 00 18.0 -0.4
comp=N,14nm,0.6s,SNR=6.9
EAGO Agolada(Pontev 6.61 31 P Pn 05 59 05.4 +2.4
comp=N,1.0nm,0.1s,SNR=7.9
EAGO S Sn 06 00 14.2 -4.3
comp=N,0.9nm,0.7s,SNR=7.9
PAB San Pablo 6.98 68 P Pn 05 59 11.2 +3.0
comp=N,0.7nm,0.1s,SNR=7.9
PAB S Sn 06 00 27.3 -0.4
comp=N,1.1nm,0.4s,SNR=7.9
ELGU Los Guajares, 7.29 90 P Pn 05 59 13.5 +1.0
comp=N,0.4nm,0.0s,SNR=7.9
ELGU S Sn 06 00 31.4 -4.0
comp=N,0.6nm,0.2s,SNR=7.9
ESDC Sonseca Array 7.30 68 P Pn 05 59 15.6 +3.0
comp=N,1.8nm,0.3s,baz=253,slow=13,SNR=39
ESDC S Sn 06 00 34.0 -1.6
comp=N,0.4nm,0.3s,baz=254,slow=23,SNR=4.0
EPON Pontenova 7.44 33 P Pn 05 59 17.0 +2.6
comp=N,0.1nm,0.1s,SNR=7.9
EPON S Sn 06 00 39.0 +0.2
comp=N,1.5nm,0.4s,SNR=7.9
GUD Guadarrama 7.50 60 P Pn 05 59 18.5 +3.0
comp=N,0.1nm,0.2s,SNR=7.9
GUD S Sn 06 00 39.8 -0.9
comp=N,0.8nm,0.2s,SNR=7.9
TTIG Tnine Tigouga, 7.56 151 P Pn 05 59 12.1 -4.1
TTIG Tnine Tigouga, 7.56 151 S Sn 06 00 32.8 -9.3
EQES Quesada 7.70 83 P Pn 05 59 21.5 +3.4
comp=N,0.2nm,0.1s,SNR=7.9
EQES S Sn 06 00 45.0 -0.5
comp=N,6.8nm,0.7s,SNR=7.9
MDT Midelt 7.98 121 P Pn 05 59 23.5 +1.5
MDT Midelt 7.98 121 S Sn 06 00 51.4 -1.1
UCM Universidad Co 8.02 65 eS Pn 05 59 26.9 +4.3
SESP Santiago Espad 8.13 81 S Sn 06 00 50.3 -5.8
comp=N,24nm,0.4s,SNR=7.9
EARI Arriondas 8.36 41 P Pn 05 59 31.2 +4.1
comp=N,0.3nm,0.2s,SNR=7.9
EARI S Sn 06 01 01.4 -0.1
comp=N,0.6nm,0.3s,SNR=7.9
ETOB Tobarra 8.95 78 P Pn 05 59 37.6 +2.3
comp=N,0.7nm,0.2s,SNR=5.9
ETOB S Sn 06 01 15.1 -1.1
comp=N,0.9nm,0.4s,SNR=7.9
ECHE Chera 9.53 72 P Pn 05 59 46.9 +3.7
comp=N,0.2nm,0.2s,SNR=7.9
ECHE S Sn 06 01 27.8 -2.6
comp=N,0.5nm,0.4s,SNR=7.9
EMOS Mosqueruela 10.07 68 P Pn 05 59 55.3 +4.6
comp=N,0.8nm,0.4s,SNR=7.9
EMOS S Sn 06 01 39.9 -3.9
comp=N,0.6nm,0.2s,SNR=7.9
EORO Oroz-Betelu 10.42 54 P Pn 05 59 59.6 +4.2
comp=N,1.7nm,0.3s,SNR=7.9
IELO Elcoad 10.44 54 P Pn 05 59 59.5 +3.8
comp=N,6.0nm,0.2s,SNR=7.9
IELO S Sn 06 01 52.0 -0.8
comp=N,1.2nm,0.4s,SNR=7.9
SJPF Ste Jean 10.58 53 ePn Pn 06 00 01.1 +3.6
SJPF eSn Sn 06 01 55.2 -0.9
comp=N,0.8nm,0.3s
SJPF Ste Jean 10.58 53 Pn Pn 06 00 01.1 +3.6
SJPF Sn Sn 06 01 55.2 -0.9
comp=N,0.4nm,0.3s
ATE Arette 10.90 54 P Pn 06 00 05.7 +3.8
comp=N,1.6nm,0.2s,SNR=7.9
ETSF Etsaut 10.91 55 ePn Pn 06 00 06.4 +4.3
ETSF eSn Sn 06 02 01.8 -2.4
comp=N,0.8nm,0.3s
ETSF Etsaut 10.91 55 Pn Pn 06 00 06.4 +4.3
ETSF Sn Sn 06 02 01.8 -2.4
comp=N,0.4nm,0.3s
EPF Esparros 11.56 56 ePn Pn 06 00 15.5 +4.6
EPF eSn Sn 06 02 18.3 -1.8
comp=N,0.9nm,0.3s
EPF Esparros 11.56 56 Pn Pn 06 00 15.5 +4.6
EPF Sn Sn 06 02 18.3 -1.8
comp=N,0.4nm,0.3s
CSOR Sort 11.84 60 P Pn 06 00 19.3 +4.5
comp=N,0.2nm,0.2s,SNR=7.9
CLLI Llivia 12.46 61 P Pn 06 00 26.6 +3.4
comp=N,0.2nm,0.2s,SNR=7.9

*CNRM **03** 06:03:30.9, 36°.98N × 12°.94W, h187km*
*MDD **03** 06:03:33.0 ± 1.5, 37°.27N × 12°.71W, h0km, mb4.0/21, Error ellipse: s-maj=13.9km s-min=11.2km az=57.0, PRXIMO*
*LDG **03** 06:03:33.5 ± 0.4, 37°.20N × 12°.97W, h20km, Ml3.2/3, Error ellipse: s-maj=7.8km s-min=5.9km az=56.0*
*IGIL **03** 06:03:33.1, 37°.33N × 12°.70W, h1km, ML2.4*
*INMG **03** 06:03:35.0 ± 1.1, 37°.05N × 13°.03W, h10km, ML2.5, Error ellipse: s-maj=6.2km s-min=4.2km az=85.0*
ISC 03 06:03:30.9 ± 3.2, 37°.30N ± 0°.08 × 12°.8W ± 0°.2, h10km, n75, σ 2s 33/137, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**3.14**	**92**	ePn	**Pn**	**06 04 20.9**	**+0.5**
PFVI				eSn	**Sn**	**06 04 56.3**	**-1.6**
PFVI				A	A	06 05 01.7	
	5.5nm,0.1s						
PFVI	**Vila Bisbo**	**3.14**	**92**	P	**Pn**	**06 04 21.2**	**+0.8**
	2.1nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**06 04 56.5**	**-1.4**
	0.7nm,0.6s,SNR=7.9						
PMST	**Lisbon--Monsan**	**3.16**	**62**	ePn	**Pn**	**06 04 22.9**	**+2.2**
PMST				eSn	**Sn**	**06 04 58.9**	**+0.4**
PMST				A	A	06 05 02.5	
	12nm,0.2s						
PMAFR	**Mafra**	**3.20**	**58**	ePn	**Pn**	**06 04 23.6**	**+2.4**
PMAFR				eSn	**Sn**	**06 05 00.6**	**+1.2**
PMAFR				A	A	06 05 11.4	
	14nm,0.6s						
PMAFR	**Mafra**	**3.20**	**58**	P	**Pn**	**06 04 23.0**	**+1.8**
	6.3nm,0.1s,SNR=12						
PMAFR				S	**Sn**	**06 05 01.1**	**+1.8**
	17nm,0.2s,SNR=10						
PTEO	**Sao Teotonio**	**3.22**	**84**	ePn	**Pn**	**06 04 22.9**	**+1.4**
PTEO				eSn	**Sn**	**06 04 59.1**	**-0.7**
PTEO				A	A	06 05 06.5	
	12nm,0.6s						
PTEO	**Sao Teotonio**	**3.22**	**84**	P	**Pn**	**06 04 22.9**	**+1.4**
PTEO				S	**Sn**	**06 04 59.1**	**-0.7**
	5.9nm,0.6s						
MORF	**Marmelete**	**3.27**	**89**	eP	**Pn**	**06 04 23.0**	**+0.7**
MORF				eS	**Sn**	**06 04 59.7**	**-1.5**
MORF				AML	AML	06 05 07.7	
	comp=N,14nm,0.2s						
MORF	**Marmelete**	**3.27**	**89**	ePn	**Pn**	**06 04 23.0**	**+0.7**
MORF				eSn	**Sn**	**06 04 59.9**	**-1.4**
MORF				A	A	06 05 07.6	
	comp=N,10nm,0.1s						
MORF	**Marmelete**	**3.27**	**89**	P	**Pn**	**06 04 23.0**	**+0.7**
MORF				S	**Sn**	**06 04 59.9**	**-1.4**
	comp=N,10nm,0.1s						
MESJ	**Messejana**	**3.64**	**80**	eP	**Pn**	**06 04 28.2**	**+0.9**
MESJ				eS	**Sn**	**06 05 08.3**	**-2.0**
MESJ				AML	AML	06 05 16.1	
	comp=N,11nm,0.2s						
MESJ	**Messejana**	**3.64**	**80**	ePn	**Pn**	**06 04 29.9**	**+2.6**
MESJ				eSn	**Sn**	**06 05 09.1**	**-1.2**
MESJ				A	A	06 05 15.9	
	comp=N,7.2nm,0.2s						
MESJ	**Messejana**	**3.64**	**80**	P	**Pn**	**06 04 29.9**	**+2.6**
MESJ				S	**Sn**	**06 05 09.1**	**-1.2**
	comp=N,7.2nm,0.2s						
ALMR	**Almeirim**	**3.77**	**59**	eP	**Pn**	**06 04 30.1**	**+1.0**
ALMR	**Almeirim**	**3.77**	**59**	ePn	**Pn**	**06 04 32.7**	**+3.6**
ALMR				eSn	**Sn**	**06 05 15.7**	**+2.1**
ALMR				A	A	06 05 26.3	
	comp=N,12nm,0.4s						
ALMR	**Almeirim**	**3.77**	**59**	P	**Pn**	**06 04 30.1**	**+1.0**
ALMR				S	**Sn**	**06 05 15.7**	**+2.1**
	comp=N,6.1nm,0.4s						
PBDV	**Barranco-do-Ve**	**3.85**	**89**	ePn	**Pn**	**06 04 31.4**	**+1.2**
PBDV				eSn	**Sn**	**06 05 14.9**	**-0.5**
PBDV				A	A	06 05 20.0	
	comp=N,8.4nm,0.6s						
PBDV	**Barranco-do-Ve**	**3.85**	**89**	P	**Pn**	**06 04 31.4**	**+1.2**
PBDV				S	**Sn**	**06 05 14.9**	**-0.5**
	comp=N,8.4nm,0.6s						
PBEJ	**Beja**	**3.94**	**78**	ePn	**Pn**	**06 04 34.6**	**+3.1**
PBEJ				eSn	**Sn**	**06 05 17.2**	**-0.6**
PBEJ				A	A	06 05 23.3	
	comp=N,10nm,0.2s						
PBEJ	**Beja**	**3.94**	**78**	P	**Pn**	**06 04 34.6**	**+3.1**
PBEJ				S	**Sn**	**06 05 17.2**	**-0.6**
	comp=N,5.2nm,0.2s						
EVO	**Evora**	**3.94**	**70**	ePn	**Pn**	**06 04 35.9**	**+4.4**
EVO				eSn	**Sn**	**06 05 18.5**	**+0.7**
EVO				A	A	06 05 25.8	
	comp=N,9.8nm,0.1s						
EVO	**Evora**	**3.94**	**70**	P	**Pn**	**06 04 35.9**	**+4.4**
EVO				S	**Sn**	**06 05 18.5**	**+0.7**
	comp=N,9.8nm,0.1s						
EVO	**Evora**	**3.94**	**70**	eP	**Pn**	**06 04 35.2**	**+3.8**
EVO				eS	**Sn**	**06 05 19.1**	**+1.3**
PVAQ	**Vaqueiros**	**4.01**	**87**	ePn	**Pn**	**06 04 34.1**	**+1.7**
PVAQ				eSn	**Sn**	**06 05 17.7**	**-1.8**
PVAQ				A	A	06 05 25.0	
	comp=N,9.3nm,0.3s						
PVAQ	**Vaqueiros**	**4.01**	**87**	P	**Pn**	**06 04 36.2**	**+3.8**
PVAQ				S	**Sn**	**06 05 23.5**	**+4.0**
PVAQ	**Vaqueiros**	**4.01**	**87**	P	**Pn**	**06 04 36.2**	**+3.8**
PTOM	**Tomar**	**4.12**	**54**	ePn	**Pn**	**06 04 36.8**	**+2.9**
PTOM				eSn	**Sn**	**06 05 22.7**	**+0.6**
PTOM				A	A	06 05 28.7	
	comp=N,13nm,0.3s						
PTOM	**Tomar**	**4.12**	**54**	P	**Pn**	**06 04 36.8**	**+2.9**
PTOM				S	**Sn**	**06 05 22.7**	**+0.6**
	comp=N,6.6nm,0.3s						
EGRO	**El Granado**	**4.20**	**85**	P	**Pn**	**06 04 36.5**	**+1.5**
	comp=N,1.7nm,0.1s,SNR=15						
EGRO				S	**Sn**	**06 05 23.6**	**-0.6**
	comp=N,16nm,1.0s						
PCAS	**Casmilo, Conde**	**4.32**	**49**	ePn	**Pn**	**06 04 39.2**	**+2.6**
PCAS				eSn	**Sn**	**06 05 27.2**	**+0.2**
PCAS				A	A	06 05 39.3	
	comp=N,4.2nm,0.4s						
PMRV	**Marv??o**	**4.72**	**62**	ePn	**Pn**	**06 04 44.4**	**+2.3**
PMRV				eSn	**Sn**	**06 05 36.4**	**-0.5**
PMRV				A	A	06 05 42.7	
	comp=N,4.3nm,0.6s						
PMRV	**Marv??o**	**4.72**	**62**	P	**Pn**	**06 04 44.4**	**+2.3**
PMRV				S	**Sn**	**06 05 36.4**	**-0.5**
	comp=N,4.3nm,0.6s						
EBAD	**Badajoz**	**4.76**	**70**	P	**Pn**	**06 04 44.3**	**+1.6**
	comp=N,2.5nm,0.1s,SNR=7.8						
EBAD				S	**Sn**	**06 05 35.9**	**-2.0**
	comp=N,2.4nm,0.5s						
PCBR	**Castelo Branco**	**4.85**	**57**	ePn	**Pn**	**06 04 46.3**	**+2.4**
PCBR				eSn	**Sn**	**06 05 39.5**	**-0.6**
PCBR				A	A	06 05 45.4	
	comp=N,4.1nm,0.4s						
PCBR	**Castelo Branco**	**4.85**	**57**	P	**Pn**	**06 04 46.3**	**+2.4**
PCBR				S	**Sn**	**06 05 39.5**	**-0.6**
	comp=N,2.0nm,0.4s						
EMIN	**Mina Concepcio**	**4.86**	**83**	P	**Pn**	**06 04 45.0**	**+1.0**
	comp=N,0.7nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**5.09**	**46**	ePn	**Pn**	**06 04 50.0**	**+2.7**
PVIS				eSn	**Sn**	**06 05 44.9**	**-1.3**
PVIS				A	A	06 05 51.4	
	comp=N,4.0nm,0.3s						
PVIS	**Viseu**	**5.09**	**46**	P	**Pn**	**06 04 50.0**	**+2.7**
PVIS				S	**Sn**	**06 05 44.9**	**-1.3**
	comp=N,2.0nm,0.3s						
MTE	**Manteigas**	**5.11**	**51**	ePn	**Pn**	**06 04 49.9**	**+2.3**
MTE				eSn	**Sn**	**06 05 46.4**	**-0.2**
MTE				A	A	06 05 50.4	
	comp=N,6.4nm,0.3s						
MTE	**Manteigas**	**5.11**	**51**	P	**Pn**	**06 04 49.9**	**+2.3**
MTE				S	**Sn**	**06 05 46.4**	**-0.2**
	comp=N,3.2nm,0.3s						
PVRL	**Vila Real**	**5.57**	**43**	eSn	**Sn**	**06 05 57.8**	**-0.1**
PVRL	**Vila Real**	**5.57**	**43**	S	**Sn**	**06 05 57.8**	**-0.1**
POLO	**Lamas de Olo**	**5.60**	**42**	ePn	**Pn**	**06 04 56.5**	**+2.2**
POLO				eSn	**Sn**	**06 05 56.4**	**-2.3**
POLO				A	A	06 06 03.1	
	comp=N,1.3nm,0.6s						
PCAB	**Cabril**	**5.72**	**38**	ePn	**Pn**	**06 04 58.8**	**+2.9**
PCAB				eSn	**Sn**	**06 06 00.7**	**-1.0**
PCAB				A	A	06 06 02.9	
	comp=N,3.0nm,0.1s						
PCAB	**Cabril**	**5.72**	**38**	P	**Pn**	**06 04 58.8**	**+2.9**
PCAB				S	**Sn**	**06 06 00.7**	**-1.0**
	comp=N,1.5nm,0.1s						
PGAV	**Gavieira, Arco**	**5.80**	**35**	eSn	**Sn**	**06 06 01.8**	**-2.0**
PGAV				A	A	06 06 07.2	
	comp=N,2.4nm,0.1s						
ELOB	**Lobios**	**5.83**	**37**	P	**Pn**	**06 04 59.4**	**+2.0**
	comp=N,0.4nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**06 06 01.4**	**-2.8**
	comp=N,3.0nm,0.5s,SNR=7.9						
ECAB	**El Cabril**	**5.87**	**80**	P	**Pn**	**06 04 59.1**	**+1.2**
	comp=N,1.3nm,0.1s,SNR=20						
ECAB				S	**Sn**	**06 06 01.7**	**-3.6**
	comp=N,18nm,1.4s						
MVO	**Moncorvo**	**5.88**	**47**	ePn	**Pn**	**06 05 00.1**	**+1.9**
MVO				eSn	**Sn**	**06 06 04.2**	**-1.5**
MVO				A	A	06 06 19.1	
	comp=N,3.6nm,0.5s						
MVO	**Moncorvo**	**5.88**	**47**	P	**Pn**	**06 05 00.1**	**+1.9**
	comp=N,0.9nm,0.1s,SNR=5.9						
MVO				S	**Sn**	**06 06 02.9**	**-2.8**
	comp=N,18nm,1.0s						
HORN	**Hornachuelos**	**5.98**	**82**	P	**Pn**	**06 05 01.0**	**+1.5**
HORN	**Hornachuelos**	**5.98**	**82**	S	**Sn**	**06 06 10.3**	**+2.3**
EMAZ	**Mazaricos**	**6.34**	**26**	P	**Pn**	**06 05 04.6**	**+0.2**
	comp=N,0.4nm,0.1s,SNR=7.9						
EMAZ				S	**Sn**	**06 06 11.1**	**-5.8**
	comp=N,1.6nm,0.3s,SNR=7.9						
PBRG	**Braganca**	**6.47**	**44**	ePn	**Pn**	**06 05 08.1**	**+1.9**
PBRG				eSn	**Sn**	**06 06 18.4**	**-1.6**
PBRG				A	A	06 06 22.2	
	comp=N,2.1nm,0.6s						
PBRG	**Braganca**	**6.47**	**44**	P	**Pn**	**06 05 08.1**	**+1.9**
PBRG				S	**Sn**	**06 06 18.4**	**-1.6**
	comp=N,1.1nm,0.6s						
EADA	**Adamuz**	**6.54**	**80**	P	**Pn**	**06 05 08.7**	**+1.5**
	comp=N,1.3nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**06 06 18.7**	**-3.1**
	comp=N,1.2nm,0.3s,SNR=7.9						
EAGO	**Agolada(Pontev**	**6.56**	**32**	P	**Pn**	**06 05 08.9**	**+1.5**
	comp=N,0.9nm,0.1s,SNR=7.9						
EAGO				S	**Sn**	**06 06 17.1**	**-5.2**
	comp=N,1.8nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**6.56**	**43**	P	**Pn**	**06 05 09.3**	**+1.8**
	comp=N,0.4nm,0.1s,SNR=5.3						
ECAL				S	**Sn**	**06 06 19.3**	**-3.0**
	comp=N,2.2nm,0.4s,SNR=7.9						
PAB	**San Pablo**	**6.97**	**69**	P	**Pn**	**06 05 14.7**	**+1.6**
	comp=N,0.2nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**06 06 30.1**	**-2.3**
	comp=N,0.7nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**7.29**	**68**	P	**Pn**	**06 05 19.5**	**+2.0**
	comp=N,0.6nm,0.2s,baz=255,slow=13,SNR=22						
ELGU	**Los Guajares,**	**7.31**	**91**	P	**Pn**	**06 05 18.9**	**+1.2**
	comp=N,0.3nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**06 06 39.9**	**-0.9**
	comp=N,0.5nm,0.3s,SNR=7.9						
EPON	**Pontenova**	**7.39**	**34**	P	**Pn**	**06 05 19.5**	**+0.8**
	comp=N,0.3nm,0.1s,SNR=7.9						
EPON				S	**Sn**	**06 06 38.8**	**-3.8**
	comp=N,0.0nm,0.1s,SNR=7.9						
GUD	**Guadarrama**	**7.48**	**61**	P	**Pn**	**06 05 22.3**	**+2.1**
	comp=N,0.4nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**06 06 41.6**	**-3.6**
	comp=N,0.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**7.71**	**83**	P	**Pn**	**06 05 25.9**	**+2.7**
	comp=N,0.1nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**06 06 47.2**	**-3.5**
	comp=N,4.4nm,0.6s,SNR=7.9						
MDT	**Midelt**	**8.03**	**121**	P	**Pn**	**06 05 24.6**	**-3.1**
MDT	**Midelt**	**8.03**	**121**	S	**Sn**	**06 06 55.4**	**-3.3**
ETOB	**Tobarra**	**8.95**	**78**	P	**Pn**	**06 05 41.1**	**+0.8**
	comp=N,0.2nm,0.1s,SNR=7.9						
ETOB				S	**Sn**	**06 07 20.9**	**-0.2**
	comp=N,0.5nm,0.3s,SNR=7.9						
IELO	**Elcoad**	**10.41**	**54**	P	**Pn**	**06 06 02.8**	**+2.4**
	comp=N,1.0nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**10.55**	**53**	ePn	**Pn**	**06 06 04.5**	**+2.3**
SJPF				eSn	**Sn**	**06 07 56.4**	**-4.0**
	comp=N,1.7nm,0.5s						
SJPF	**Ste Jean**	**10.55**	**53**	P	**Pn**	**06 06 04.5**	**+2.3**
SJPF				S	**Sn**	**06 07 56.4**	**-4.0**
	comp=N,0.9nm,0.5s						
ATE	**Arette**	**10.88**	**54**	P	**Pn**	**06 06 08.7**	**+2.1**
	comp=N,0.4nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**10.88**	**55**	ePn	**Pn**	**06 06 08.9**	**+2.2**
ETSF				eSn	**Sn**	**06 08 03.7**	**-4.8**
	comp=N,0.2nm,0.1s						
ETSF	**Etsaut**	**10.88**	**55**	P	**Pn**	**06 06 08.9**	**+2.2**
ETSF				S	**Sn**	**06 08 03.7**	**-4.8**
	comp=N,0.1nm,0.1s						
EPF	**Esparros**	**11.53**	**56**	ePn	**Pn**	**06 06 17.6**	**+2.0**
EPF				eSn	**Sn**	**06 08 19.8**	**-4.7**
	comp=N,0.4nm,0.2s						
EPF	**Esparros**	**11.53**	**56**	P	**Pn**	**06 06 17.6**	**+2.0**
EPF				S	**Sn**	**06 08 19.8**	**-4.7**
	comp=N,0.2nm,0.2s						

*MDD **03** 06:09:59.5 ± 1.4, 37°.25N × 12°.72W, h0km, mb4.4/37, Error ellipse: s-maj=12.4km s-min=8.6km az=65.0, PRXIMO*
*IGIL **03** 06:09:59.8, 37°.24N × 12°.75W, h0km, ML3.0*
*INMG **03** 06:10:00.9 ± 1.9, 37°.03N × 13°.08W, h10km, ML3.0, Error ellipse: s-maj=6.8km s-min=4.9km az=78.0*
*CNRM **03** 06:10:00.9, 36°.88N × 12°.87W, h128km*
*LDG **03** 06:10:00.0 ± 0.3, 37°.13N × 12°.96W, h20km, Ml3.6/3, Error ellipse: s-maj=6.2km s-min=4.8km az=64.0*
ISC 03 06:09:59.4 ± 2.9, 37°.33N ± 0°.07 × 12°.7W ± 0°.1, h10km, n101, σ 1s 83/178, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**3.06**	**92**	ePn	**Pn**	**06 10 47.9**	**+0.2**
PFVI				eSn	**Sn**	**06 11 23.6**	**-0.8**
PFVI				A	A	06 11 25.6	
	21nm,0.4s						
PFVI	**Vila Bisbo**	**3.06**	**92**	P	**Pn**	**06 10 47.9**	**+0.2**
	12nm,0.2s,SNR=18						
PFVI				S	**Sn**	**06 11 23.5**	**-0.9**
	7.4nm,0.4s,SNR=7.9						
PMST	**Lisbon--Monsan**	**3.08**	**62**	ePn	**Pn**	**06 10 49.8**	**+1.8**
PMST				eSn	**Sn**	**06 11 26.3**	**+1.4**
PMST				A	A	06 11 32.6	
	31nm,0.2s						
LIS	**Lisbon**	**3.09**	**62**	eS	**Sn**	**06 11 25.6**	**+0.4**
LIS				AML	AML	06 11 26.7	
	comp=E,58nm,0.3s						
LIS	**Lisbon**	**3.09**	**62**	S	**Sn**	**06 11 25.6**	**+0.4**
	comp=E,58nm,0.3s						
PMAFR	**Mafra**	**3.11**	**57**	ePn	**Pn**	**06 10 50.0**	**+1.5**
PMAFR				eSn	**Sn**	**06 11 27.9**	**+2.1**
PMAFR				A	A	06 11 35.0	
	comp=E,69nm,0.2s						
PMAFR	**Mafra**	**3.11**	**57**	P	**Pn**	**06 10 50.0**	**+1.5**
	comp=E,40nm,0.2s,SNR=50						
PMAFR				S	**Sn**	**06 11 27.8**	**+2.1**
	comp=E,43nm,0.3s,SNR=12						
PTEO	**Sao Teotonio**	**3.13**	**85**	ePn	**Pn**	**06 10 49.5**	**+0.7**
PTEO				eSn	**Sn**	**06 11 25.5**	**-0.7**
PTEO				A	A	06 11 33.1	
	comp=E,18nm,0.1s						
PTEO	**Sao Teotonio**	**3.13**	**85**	P	**Pn**	**06 10 49.5**	**+0.7**
PTEO				S	**Sn**	**06 11 25.5**	**-0.7**
	comp=E,8.9nm,0.1s						
MORF	**Marmelete**	**3.19**	**89**	eP	**Pn**	**06 10 49.9**	**+0.3**
MORF				eS	**Sn**	**06 11 27.3**	**-0.4**
MORF				AML	AML	06 11 31.8	
	comp=N,46nm,0.4s						
MORF	**Marmelete**	**3.19**	**89**	ePn	**Pn**	**06 10 49.9**	**+0.3**
MORF				eSn	**Sn**	**06 11 27.3**	**-0.4**
MORF				A	A	06 11 32.5	
	comp=N,22nm,0.1s						
MORF	**Marmelete**	**3.19**	**89**	P	**Pn**	**06 10 49.9**	**+0.3**
MORF				S	**Sn**	**06 11 27.3**	**-0.4**
	comp=N,22nm,0.1s						
MESJ	**Messejana**	**3.56**	**80**	eP	**Pn**	**06 10 55.6**	**+1.0**
MESJ				eS	**Sn**	**06 11 36.3**	**-0.3**
MESJ				AML	AML	06 11 41.2	
	comp=N,33nm,0.6s						
MESJ	**Messejana**	**3.56**	**80**	ePn	**Pn**	**06 10 55.6**	**+1.0**
MESJ				eSn	**Sn**	**06 11 36.3**	**-0.3**
MESJ				A	A	06 11 43.8	
	comp=N,20nm,0.2s						
MESJ	**Messejana**	**3.56**	**80**	P	**Pn**	**06 10 55.6**	**+1.0**
MESJ				S	**Sn**	**06 11 36.3**	**-0.3**
	comp=N,20nm,0.2s						
ALMR	**Almeirim**	**3.69**	**59**	eP	**Pn**	**06 10 57.9**	**+1.4**
ALMR				eS	**Sn**	**06 11 40.2**	**+0.2**
ALMR				AML	AML	06 11 44.3	
	comp=N,47nm,0.5s						
ALMR	**Almeirim**	**3.69**	**59**	ePn	**Pn**	**06 10 58.9**	**+2.5**
ALMR				eSn	**Sn**	**06 11 41.8**	**+1.8**
ALMR				A	A	06 11 48.5	
	comp=N,56nm,0.4s						
ALMR	**Almeirim**	**3.69**	**59**	P	**Pn**	**06 10 58.9**	**+2.5**
ALMR				S	**Sn**	**06 11 41.8**	**+1.8**
	comp=N,28nm,0.4s						
PBDV	**Barranco-do-Ve**	**3.76**	**90**	ePn	**Pn**	**06 10 58.5**	**+1.0**
PBDV				eSn	**Sn**	**06 11 43.3**	**+1.5**
PBDV				A	A	06 11 46.9	
	comp=N,14nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.76**	**90**	P	**Pn**	**06 10 58.5**	**+1.0**
PBDV				S	**Sn**	**06 11 43.3**	**+1.5**
	comp=N,14nm,0.3s						
EVO	**Evora**	**3.86**	**70**	ePn	**Pn**	**06 11 01.6**	**+2.8**
EVO				eSn	**Sn**	**06 11 45.8**	**+1.7**
EVO				A	A	06 11 51.5	
	comp=N,22nm,0.1s						
EVO	**Evora**	**3.86**	**70**	P	**Pn**	**06 11 01.6**	**+2.8**
EVO				S	**Sn**	**06 11 45.8**	**+1.7**
	comp=N,22nm,0.1s						
EVO	**Evora**	**3.86**	**70**	eP	**Pn**	**06 11 01.7**	**+3.0**
EVO				eS	**Sn**	**06 11 45.9**	**+1.8**
PBEJ	**Beja**	**3.86**	**78**	ePn	**Pn**	**06 11 01.4**	**+2.6**
PBEJ				eSn	**Sn**	**06 11 44.2**	**0.0**
PBEJ				A	A	06 11 50.3	
	comp=N,27nm,0.2s						
PBEJ	**Beja**	**3.86**	**78**	P	**Pn**	**06 11 01.4**	**+2.6**
PBEJ				S	**Sn**	**06 11 44.2**	**0.0**
	comp=N,14nm,0.2s						
PVAQ	**Vaqueiros**	**3.93**	**87**	ePn	**Pn**	**06 11 00.7**	**+1.0**
PVAQ				eSn	**Sn**	**06 11 44.3**	**-1.6**
PVAQ				A	A	06 11 53.2	
	comp=N,24nm,0.2s						
PVAQ	**Vaqueiros**

PCBR	**Castelo Branco**	**4.77**	**57**	*e*Pn		**Pn**	**06 11 12.9 +1.7**
PCBR				*e*Sn		**Sn**	**06 12 06.9 +0.4**
PCBR				A		A	06 12 11.4
	comp=N,16nm,0.3s						
PCBR	**Castelo Branco**	**4.77**	**57**	P		**Pn**	**06 11 12.9 +1.7**
PCBR				S		**Sn**	**06 12 06.9 +0.4**
	comp=N,7.8nm,0.3s						
EMIN	**Mina Concepcio**	**4.77**	**83**	P		**Pn**	**06 11 12.0 +0.7**
	comp=N,4.4nm,0.1s,SNR=7.9						
EMIN				S		**Sn**	**06 12 04.7 -2.0**
	comp=N,10.0nm,0.1s,SNR=7.9						
PTO	**Porto**	**4.94**	**38**	*e*Pn		**Pn**	**06 11 15.7 +2.1**
PTO				*e*Sn		**Sn**	**06 12 11.2 +0.5**
PTO				A		A	06 12 13.2
	comp=N,23nm,0.3s						
PTO	**Porto**	**4.94**	**38**	P		**Pn**	**06 11 15.7 +2.1**
PTO				S		**Sn**	**06 12 11.2 +0.5**
	comp=N,12nm,0.3s						
PVIS	**Viseu**	**5.02**	**46**	*e*Pn		**Pn**	**06 11 15.8 +1.1**
PVIS				*e*Sn		**Sn**	**06 12 11.0 -1.8**
PVIS				A		A	06 12 18.2
	comp=N,14nm,0.4s						
PVIS	**Viseu**	**5.02**	**46**	P		**Pn**	**06 11 15.8 +1.1**
PVIS				S		**Sn**	**06 12 11.0 -1.8**
	comp=N,6.8nm,0.4s						
MTE	**Manteigas**	**5.03**	**51**	*e*Pn		**Pn**	**06 11 16.2 +1.3**
MTE				*e*Sn		**Sn**	**06 12 13.3 +0.2**
MTE				A		A	06 12 18.8
	comp=N,22nm,0.8s						
MTE	**Manteigas**	**5.03**	**51**	P		**Pn**	**06 11 16.2 +1.3**
MTE				S		**Sn**	**06 12 13.3 +0.2**
	comp=N,11nm,0.8s						
PVRL	**Vila Real**	**5.50**	**43**	*e*Pn		**Pn**	**06 11 23.4 +2.1**
PVRL				*e*Sn		**Sn**	**06 12 24.2 -0.4**
PVRL	**Vila Real**	**5.50**	**43**	P		**Pn**	**06 11 23.4 +2.1**
PVRL				S		**Sn**	**06 12 24.2 -0.4**
POLO	**Lamas de Olo**	**5.52**	**41**	*e*Pn		**Pn**	**06 11 23.0 +1.3**
POLO				*e*Sn		**Sn**	**06 12 23.9 -1.4**
POLO				A		A	06 12 27.4
	comp=N,3.0nm,0.4s						
PCAB	**Cabril**	**5.65**	**38**	*e*Pn		**Pn**	**06 11 24.9 +1.5**
PCAB				*e*Sn		**Sn**	**06 12 26.8 -1.6**
PCAB				A		A	06 12 45.6
	comp=N,6.7nm,0.4s						
PCAB	**Cabril**	**5.65**	**38**	P		**Pn**	**06 11 24.9 +1.5**
PCAB				S		**Sn**	**06 12 26.8 -1.6**
	comp=N,3.3nm,0.4s						
PGAV	**Gavieira, Arco**	**5.74**	**35**	*e*Pn		**Pn**	**06 11 26.3 +1.7**
PGAV				*e*Sn		**Sn**	**06 12 28.7 -1.9**
PGAV				A		A	06 12 38.9
	comp=N,8.6nm,0.6s						
ELOB	**Lobios**	**5.75**	**37**	P		**Pn**	**06 11 26.3 +1.4**
	comp=N,2.7nm,0.1s,SNR=9.4						
ELOB				S		**Sn**	**06 12 29.8 -1.3**
	comp=N,112nm,1.6s						
ECAB	**El Cabril**	**5.78**	**80**	P		**Pn**	**06 11 26.2 +0.9**
	comp=N,4.4nm,0.1s,SNR=88						
ECAB				S		**Sn**	**06 12 30.0 -1.6**
	comp=N,3.4nm,0.3s						
MVO	**Moncorvo**	**5.81**	**47**	*e*Pn		**Pn**	**06 11 26.9 +1.3**
MVO				*e*Sn		**Sn**	**06 12 30.5 -1.8**
MVO				A		A	06 12 32.9
	comp=N,12nm,0.3s						
MVO	**Moncorvo**	**5.81**	**47**	P		**Pn**	**06 11 26.4 +0.8**
	comp=N,9.2nm,0.3s,SNR=27						
MVO				S		**Sn**	**06 12 29.8 -2.5**
	comp=N,3.5nm,0.4s,SNR=7.9						
EPLA	**Plasencia**	**5.82**	**60**	P		**Pn**	**06 11 27.5 +1.7**
	comp=N,4.4nm,0.1s,SNR=7.9						
EPLA				S		**Sn**	**06 12 29.4 -3.2**
	comp=N,10nm,0.2s,SNR=7.9						
AVE	**Averroes**	**5.87**	**132**	P		**Pn**	**06 11 27.1 +0.7**
AVE	**Averroes**	**5.87**	**132**	S		**Sn**	**06 12 29.8 -3.9**
HORN	**Hornachuelos**	**5.89**	**83**	P		**Pn**	**06 11 28.2 +1.5**
HORN	**Hornachuelos**	**5.89**	**83**	S		**Sn**	**06 12 37.5 +3.2**
ECEU	**Ceuta**	**6.02**	**101**	P		**Pn**	**06 11 28.4 -0.1**
	comp=N,13nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.28**	**25**	P		**Pn**	**06 11 32.5 +0.4**
	comp=N,1.9nm,0.1s,SNR=7.9						
EMAZ				S		**Sn**	**06 12 38.1 -5.8**
	comp=N,9.2nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**6.39**	**44**	*e*Pn		**Pn**	**06 11 34.8 +1.2**
PBRG				*e*Sn		**Sn**	**06 12 43.9 -2.7**
PBRG				A		A	06 12 56.9
	comp=N,3.0nm,0.2s						
PBRG	**Braganca**	**6.39**	**44**	P		**Pn**	**06 11 34.8 +1.2**
PBRG				S		**Sn**	**06 12 43.9 -2.7**
	comp=N,1.5nm,0.2s						
EADA	**Adamuz**	**6.45**	**80**	P		**Pn**	**06 11 35.5 +1.0**
	comp=N,4.8nm,0.1s,SNR=7.9						
EADA				S		**Sn**	**06 12 46.8 -1.4**
	comp=N,3.9nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**6.49**	**43**	P		**Pn**	**06 11 35.8 +0.9**
	comp=N,29nm,0.5s,SNR=23						
ECAL				S		**Sn**	**06 12 48.4 -0.6**
	comp=N,9.8nm,0.3s,SNR=5.1						
EAGO	**Agolada(Pontev**	**6.49**	**31**	P		**Pn**	**06 11 35.4 +0.4**
	comp=N,2.0nm,0.1s,SNR=7.9						
EAGO				S		**Sn**	**06 12 44.0 -5.1**
	comp=N,1.2nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**6.88**	**69**	P		**Pn**	**06 11 40.8 +0.4**
	comp=N,3.5nm,0.2s,SNR=7.9						
PAB				S		**Sn**	**06 12 57.3 -1.5**
	comp=N,11nm,0.6s,SNR=7.9						
ESDC	**Sonseca Array**	**7.20**	**68**	P		**Pn**	**06 11 45.5 +0.8**
	comp=N,4.7nm,0.2s,baz=252,slow=13,SNR=90						
ESDC				S		**Sn**	**06 13 03.8 -2.9**
	comp=N,1.5nm,0.4s,baz=260,slow=24,SNR=4.6						
ELGU	**Los Guajares,**	**7.22**	**91**	P		**Pn**	**06 11 47.1 +2.0**
	comp=N,0.6nm,0.1s,SNR=7.9						
ELGU				S		**Sn**	**06 13 07.2 0.0**
	comp=N,1.3nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**7.32**	**33**	P		**Pn**	**06 11 47.4 +1.1**
	comp=N,1.4nm,0.1s,SNR=6.2						
EPON				S		**Sn**	**06 13 06.0 -3.4**
	comp=N,4.0nm,0.4s,SNR=7.9						
EQUE	**Quentar**	**7.34**	**88**	P		**Pn**	**06 11 47.7 +1.0**
	comp=N,0.5nm,0.2s,SNR=7.9						
EQUE				S		**Sn**	**06 13 08.2 -2.0**
	comp=N,0.3nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**7.40**	**61**	P		**Pn**	**06 11 48.4 +0.9**
	comp=N,5.8nm,0.3s,SNR=17						
GUD				S		**Sn**	**06 13 08.3 -3.3**
	comp=N,1.2nm,0.2s,SNR=7.9						
TTIG	**Tnine Tigouga,**	**7.61**	**151**	P		Pn	06 11 44.2 -6.2
TTIG	**Tnine Tigouga,**	**7.61**	**151**	S		Sn	06 13 03.4 -13
EQES	**Quesada**	**7.62**	**84**	P		**Pn**	**06 11 50.8 +0.2**
	comp=N,2.3nm,0.2s,SNR=9.8						
EQES				S		**Sn**	**06 13 14.9 -2.2**
	comp=N,1.4nm,0.6s,SNR=7.9						
EBER	**Berja**	**7.81**	**90**	P		**Pn**	**06 11 53.4 +0.2**
	comp=N,0.2nm,0.1s,SNR=7.9						
UCM	**Universidad Co**	**7.92**	**65**	*e*P		**Pn**	**06 11 55.9 +1.3**
UCM				*e*S		**Sn**	**06 13 22.1 -2.2**
MDT	**Midelt**	**7.97**	**122**	P		**Pn**	**06 11 54.1 -1.3**
MDT	**Midelt**	**7.97**	**122**	S		**Sn**	**06 13 22.1 -3.6**
EARI	**Arriondas**	**8.24**	**41**	P		**Pn**	**06 12 00.9 +2.0**
	comp=N,0.5nm,0.2s,SNR=7.9						
EARI				S		**Sn**	**06 13 30.2 -1.9**
	comp=N,4.9nm,4.9s,SNR=7.9						
ETOB	**Tobarra**	**8.86**	**78**	P		**Pn**	**06 12 07.3 -0.2**
	comp=N,0.5nm,0.2s,SNR=16						
ETOB				S		**Sn**	**06 13 44.3 -3.2**
	comp=N,1.6nm,0.4s,SNR=5.8						
EMUR	**La Murta**	**9.07**	**83**	P		**Pn**	**06 12 11.3 +0.9**
	comp=N,0.2nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**9.18**	**47**	P		**Pn**	**06 12 13.6 +1.7**
	comp=N,0.3nm,0.2s,SNR=7.9						
ELAN				S		**Sn**	**06 13 51.7 -3.6**
	comp=N,0.6nm,0.2s,SNR=7.9						
ECHE	**Chera**	**9.44**	**73**	P		**Pn**	**06 12 16.7 +1.3**
	comp=N,0.5nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**9.97**	**69**	P		**Pn**	**06 12 24.4 +1.5**
	comp=N,0.4nm,0.2s,SNR=7.9						
EMOS				S		**Sn**	**06 14 10.6 -4.2**
	comp=N,0.4nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**10.08**	**54**	P		**Pn**	**06 12 25.8 +1.7**
	comp=N,2.1nm,0.2s,SNR=7.9						
EORO	**Oroz-Betelu**	**10.31**	**54**	P		**Pn**	**06 12 29.1 +1.8**
	comp=N,4.5nm,0.3s,SNR=7.9						
EORO				S		**Sn**	**06 14 20.9 -2.1**
	comp=N,0.9nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**10.33**	**54**	P		**Pn**	**06 12 29.4 +1.8**
	comp=N,7.7nm,0.2s,SNR=7.9						
IELO				S		**Sn**	**06 14 20.5 -3.0**
	comp=N,1.5nm,0.3s,SNR=7.9						
SJPF	**Ste Jean**	**10.47**	**53**	*e*Pn		**Pn**	**06 12 30.9 +1.4**
SJPF				*e*Sn		**Sn**	**06 14 25.3 -1.6**
	comp=N,1.9nm,0.3s						
SJPF	**Ste Jean**	**10.47**	**53**	P		**Pn**	**06 12 30.9 +1.4**
SJPF				S		**Sn**	**06 14 25.3 -1.6**
	comp=N,0.9nm,0.3s						
ATE	**Arette**	**10.79**	**54**	P		**Pn**	**06 12 35.8 +1.8**
	comp=N,6.4nm,0.4s,SNR=7.9						
ETSF	**Etsaut**	**10.80**	**55**	*e*Pn		**Pn**	**06 12 35.6 +1.5**
ETSF				*e*Sn		**Sn**	**06 14 32.1 -2.9**
	comp=N,1.4nm,0.3s						
ETSF	**Etsaut**	**10.80**	**55**	P		**Pn**	**06 12 35.6 +1.5**
ETSF				S		**Sn**	**06 14 32.1 -2.9**
	comp=N,0.7nm,0.3s						
EPOB	**Poblet**	**11.36**	**65**	P		**Pn**	**06 12 42.3 +0.5**
	comp=N,0.6nm,0.2s,SNR=7.9						
EPF	**Esparros**	**11.45**	**56**	*e*Pn		**Pn**	**06 12 44.7 +1.8**
EPF				*e*Sn		**Sn**	**06 14 47.5 -3.4**
	comp=N,2.9nm,0.4s						
EPF	**Esparros**	**11.45**	**56**	P		**Pn**	**06 12 44.7 +1.8**
EPF				S		**Sn**	**06 14 47.5 -3.4**
	comp=N,1.4nm,0.4s						
CSOR	**Sort**	**11.73**	**60**	P		**Pn**	**06 12 48.7 +1.9**
	comp=N,0.3nm,0.1s,SNR=6.0						
CLLI	**Llivia**	**12.35**	**61**	P		**Pn**	**06 12 57.7 +2.3**
	comp=N,0.3nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**12.35**	**74**	P		**Pn**	**06 12 57.0 +1.8**
	comp=N,0.2nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**12.46**	**65**	P		**Pn**	**06 12 57.6 +0.8**
	comp=N,1.3nm,0.2s,SNR=7.1						

*IGIL **03** 06:15:19.8,37.°26′N×12.°70′W,h0km,ML1.9*
*MDD **03** 06:15:20.5±2.0,37.°24′N×12.°68′W,h0km,mb3.6/10,Error ellipse: s-maj=17.7km s-min=15.5km az=71.0,PRX/MO*
*INMG **03** 06:15:21.4±1.2,37.°11′N×13.°20′W,h10km,ML2.2,Error ellipse: s-maj=10.7km s-min=6.0km az=95.0*

ISC 03 06:15:17.7±3.6,37.°29′N±0.°1′0×12.°8′W±0.°2′,h10km,n39, σ2s18/62,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**3.20**	**92**	P		**Pn**	**06 16 08.3**	**+0.3**
	1.0nm,0.1s,SNR=4.0							
PFVI				S		**Sn**	**06 16 44.5**	**-1.8**
	2.3nm,0.3s,SNR=7.9							
PMAFR	**Mafra**	**3.26**	**58**	*e*Pn		**Pn**	**06 16 11.5**	**+2.7**
PMAFR				*e*Sn		**Sn**	**06 16 48.4**	**+0.8**
PMAFR	**Mafra**	**3.26**	**58**	P		**Pn**	**06 16 10.6**	**+1.8**
	1.4nm,0.1s,SNR=7.9							
PMAFR				S		**Sn**	**06 16 47.3**	**-0.3**
	5.9nm,0.2s,SNR=7.9							
PTEO	**Sao Teotonio**	**3.28**	**84**	*e*Pn		**Pn**	**06 16 11.8**	**+2.7**
PTEO	**Sao Teotonio**	**3.28**	**84**	P		**Pn**	**06 16 11.8**	**+2.7**
MORF	**Marmelete**	**3.34**	**88**	*e*P		**Pn**	**06 16 09.7**	**-0.2**
MORF	**Marmelete**	**3.34**	**88**	P		**Pn**	**06 16 09.7**	**-0.2**
MESJ	**Messejana**	**3.71**	**80**	*e*P		**Pn**	**06 16 15.2**	**+0.2**
MESJ				*e*S		**Sn**	**06 16 55.5**	**-3.2**
MESJ				AML		AML	06 17 00.3	
	comp=N,3.2nm,0.5s							
MESJ	**Messejana**	**3.71**	**80**	*e*Pn		**Pn**	**06 16 17.3**	**+2.3**
MESJ				*e*Sn		**Sn**	**06 16 59.0**	**+0.3**
MESJ				A		A	06 17 01.3	
	comp=N,1.4nm,0.1s							
MESJ	**Messejana**	**3.71**	**80**	P		**Pn**	**06 16 15.2**	**+0.2**
MESJ				S		**Sn**	**06 16 55.5**	**-3.2**
	comp=N,3.2nm,0.5s							
ALMR	**Almeirim**	**3.83**	**60**	*e*Pn		**Pn**	**06 16 20.1**	**+3.4**
ALMR				*e*Sn		**Sn**	**06 17 02.7**	**+0.8**
ALMR	**Almeirim**	**3.83**	**60**	P		**Pn**	**06 16 20.1**	**+3.4**
ALMR				S		**Sn**	**06 17 02.7**	**+0.8**
PBDV	**Barranco-do-Ve**	**3.91**	**89**	*e*Pn		**Pn**	**06 16 19.8**	**+2.0**
PBDV				*e*Sn		**Sn**	**06 17 04.0**	**+0.2**
PBDV				A		A	06 17 16.1	
	comp=N,7.7nm,0.7s							
PBDV	**Barranco-do-Ve**	**3.91**	**89**	P		**Pn**	**06 16 19.8**	**+2.0**
PBDV				S		**Sn**	**06 17 04.0**	**+0.2**
	comp=N,7.7nm,0.7s							
EVO	**Evora**	**4.01**	**71**	*e*Sn		**Sn**	**06 17 06.8**	**+0.6**
EVO	**Evora**	**4.01**	**71**	S		**Sn**	**06 17 06.8**	**+0.6**
PVAQ	**Vaqueiros**	**4.08**	**87**	*e*Pn		**Pn**	**06 16 21.7**	**+1.6**
PVAQ				*e*Sn		**Sn**	**06 17 05.9**	**-2.0**
PVAQ				A		A	06 17 12.5	
	comp=N,4.6nm,0.8s							
PVAQ	**Vaqueiros**	**4.08**	**87**	P		**Pn**	**06 16 21.7**	**+1.6**
PVAQ				S		**Sn**	**06 17 05.9**	**-2.0**
	comp=N,4.6nm,0.8s							
PTOM	**Tomar**	**4.18**	**55**	*e*Sn		**Sn**	**06 17 10.7**	**+0.4**
PTOM				A		A	06 17 17.2	
	comp=N,3.5nm,0.2s							
PTOM	**Tomar**	**4.18**	**55**	S		**Sn**	**06 17 10.7**	**+0.4**
	comp=N,1.8nm,0.2s							
EGRO	**El Granado**	**4.27**	**85**	P		**Pn**	**06 16 24.0**	**+1.3**
	comp=N,0.6nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**06 17 10.6**	**-1.9**
	comp=N,0.3nm,0.1s,SNR=7.9							
PMRV	**Marv??o**	**4.78**	**62**	*e*Pn		**Pn**	**06 16 31.6**	**+1.8**
PMRV				*e*Sn		**Sn**	**06 17 23.5**	**-1.7**
PMRV				A		A	06 17 28.2	
	comp=N,2.2nm,0.5s							
PMRV	**Marv??o**	**4.78**	**62**	P		**Pn**	**06 16 31.6**	**+1.8**
PMRV				S		**Sn**	**06 17 23.5**	**-1.7**
	comp=N,2.2nm,0.5s							
EBAD	**Badajoz**	**4.82**	**71**	P		**Pn**	**06 16 31.8**	**+1.5**
	comp=N,0.5nm,0.1s,SNR=7.9							
EBAD				S		**Sn**	**06 17 23.3**	**-2.9**
	comp=N,0.4nm,0.1s,SNR=7.9							
PCBR	**Castelo Branco**	**4.91**	**57**	*e*Pn		**Pn**	**06 16 34.1**	**+2.6**
PCBR				*e*Sn		**Sn**	**06 17 28.2**	**-0.2**
PCBR	**Castelo Branco**	**4.91**	**57**	P		**Pn**	**06 16 34.1**	**+2.6**
PCBR				S		**Sn**	**06 17 28.2**	**-0.2**
EMIN	**Mina Concepcio**	**4.92**	**83**	P		**Pn**	**06 16 32.6**	**+0.9**
	comp=N,0.3nm,0.1s,SNR=7.9							
EMIN				S		**Sn**	**06 17 25.7**	**-3.0**
	comp=N,0.1nm,0.1s,SNR=7.9							
PVIS	**Viseu**	**5.15**	**47**	*e*Sn		**Sn**	**06 17 31.6**	**-2.7**
PVIS				A		A	06 17 37.3	
	comp=N,2.5nm,0.6s							
PVIS	**Viseu**	**5.15**	**47**	S		**Sn**	**06 17 31.6**	**-2.7**
	comp=N,1.2nm,0.6s							
ELOB	**Lobios**	**5.87**	**37**	S		**Sn**	**06 17 50.4**	**-1.8**
	comp=N,0.4nm,0.3s,SNR=7.9							
ECAB	**El Cabril**	**5.93**	**80**	P		**Pn**	**06 16 47.1**	**+1.5**
	comp=N,0.2nm,0.1s,SNR=6.5							
ECAB				S		**Sn**	**06 17 49.7**	**-4.0**
	comp=N,0.1nm,0.2s,SNR=7.9							
MVO	**Moncorvo**	**5.94**	**48**	*e*Sn		**Sn**	**06 17 52.6**	**-1.2**
MVO	**Moncorvo**	**5.94**	**48**	P		**Pn**	**06 16 48.0**	**+2.2**
	comp=N,0.3nm,0.1s,SNR=7.9							
MVO				S		**Sn**	**06 17 50.3**	**-3.5**
	comp=N,1.1nm,0.2s,SNR=7.9							
EMAZ	**Mazaricos**	**6.38**	**26**	S		**Sn**	**06 17 59.6**	**-4.9**
	comp=N,0.1nm,0.1s,SNR=7.9							
PBRG	**Braganca**	**6.52**	**44**	*e*Pn		**Pn**	**06 16 55.8**	**+2.2**
PBRG	**Braganca**	**6.52**	**44**	P		**Pn**	**06 16 55.8**	**+2.2**
EAGO	**Agolada(Pontev**	**6.60**	**32**	P		**Pn**	**06 16 55.8**	**+1.1**
	comp=N,0.2nm,0.1s,SNR=7.9							
EAGO				S		**Sn**	**06 18 04.8**	**-5.2**
	comp=N,0.4nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**6.61**	**43**	P		**Pn**	**06 16 57.3**	**+2.3**
	comp=N,0.3nm,0.1s,SNR=7.9							
ECAL				S		**Sn**	**06 18 07.9**	**-2.5**
	comp=N,0.6nm,0.3s,SNR=7.9							
PAB	**San Pablo**	**7.03**	**69**	P		**Pn**	**06 17 01.6**	**+0.9**
	comp=N,0.1nm,0.1s,SNR=7.9							

IDC 03 06:16:37.0±1.6,17.°80′N×147.°24′E,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.5/43,mbtmp3.6/3,MS2.8/2,Ms1 2.8/2, ms1mx2.3/42,Error ellipse: s-maj=149.0km s-min=25.0km az=114.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**39.59**	**199**	P		P	06 24 10.6	+0.3
	0.8nm,0.7s,baz=22,slow=10,SNR=13							
WRA				LR		LR	06 41 17.3	
	comp=Z,18nm,21.2s,baz=125,slow=37							
ASAR	**Alice Springs**	**43.22**	**198**	P		P	06 24 39.6	-0.6
	0.3nm,0.7s,baz=23,slow=7.3,SNR=5.3							
ILAR	**Eielson Array**	**63.80**	**26**	P		P	06 27 10.8	0.0
	0.6nm,0.8s,baz=246,slow=7.3,SNR=7.2							
YKA	**Yellowknife Ar**	**78.09**	**28**	LR		LR	07 03 26.9	
	comp=Z,5.1nm,19.3s,baz=246,slow=36							
LPAZ	**La Paz**	**146.18**	**93**	PKPbc		PKPdf	06 36 20.2	+0.2
	0.3nm,0.6s,baz=307,slow=5.1,SNR=3.0							

*SJA **03** 06:59:09.4±0.7,24.°02′S×66.°90′W,h225km±11km,ML2.9, MW3.0*
*ISCJB **03** 06:59:10.6±0.5,24.°10′S±0.°05×67.°09′W±0.°06,h209km±7km, mb3.1/2,Error ellipse: s-maj=9.1km s-min=6.6km az=146.1*
*IDC **03** 06:59:11.8±1.3,24.°01′S×67.°00′W,h205km±26km,mb2.9/2, mb1 3.4/5,mb1mx3.2/20,mbtmp3.8/5,Error ellipse: s-maj=27.7km s-min=20.1km az=27.0*
*GUC **03** 06:59:13.0±0.5,24.°01′S×67.°69′W,h245km±13km,ML4.3*

ISC 03 06:59:11.8±1.3,24.°04′S±0.°07×67.°2′W±0.°2′,h219km±18km, n31,σ0s92/34,3C-7D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HJA	**Humahuaca**	**1.84**	**64**	*e*P		Pn	06 59 47.7	-3.0
HJA				IAML			06 59 49.0	
	comp=Z,32nm,0.2s							
AZAP	**Zapla**	**1.96**	**96**	⇓*e*P		Pn	06 59 47.8	-3.8
PB15	**IPOC Station P**	**2.24**	**291**	⇓*e*P		**Pn**	**06 59 55.4**	**+1.0**
PB15	**IPOC Station P**	**2.24**	**291**	⇓*i*P		**Pn**	**06 59 55.4**	**+1.0**
PB15				*i* S		**S**	**07 00 27.4**	**0.0**
PB06	**IPOC Station P**	**2.55**	**301**	⇓*e*P		**Pn**	**06 59 58.6**	**+1.0**
PB06	**IPOC Station P**	**2.55**	**301**	⇑*i*P		**Pn**	**06 59 58.6**	**+1.0**
PB06				*i* S		**S**	**07 00 32.9**	**-0.2**
PB06				IAML			07 00 34.6	
	comp=N,1μm,0.4s							
PB14	**IPOC Station P**	**2.98**	**258**	*i* P		**Pn**	**07 00 02.8**	**+0.3**
PB14				*i* S		**S**	**07 00 40.5**	**-1.4**
PB14				IAML			07 00 41.8	
	comp=E,301nm,0.6s							
PB05	**IPOC Station P**	**3.00**	**293**	⇓*e*P		**Pn**	**07 00 03.7**	**+1.1**
PB05	**IPOC Station P**	**3.00**	**293**	*e*P		**Pn**	**07 00 03.5**	**+1.0**
PB05				*i* S		**S**	**07 00 41.0**	**-1.0**
PB05				IAML			07 00 45.3	
	comp=E,313nm,0.3s							
PB03	**IPOC Station P**	**3.07**	**310**	*e*P		**Pn**	**07 00 04.4**	**+0.8**
PB03	**IPOC Station P**	**3.07**	**310**	⇑*i*P		**Pn**	**07 00 04.3**	**+0.8**
PB03				*e*S		**S**	**07 00 43.2**	**-0.5**
PB03				IAML			07 00 45.2	
	comp=E,542nm,0.2s							
PB10	**IPOC Station P**	**3.12**	**279**	*e*P		**Pn**	**07 00 05.2**	**+1.4**
PB10	**IPOC Station P**	**3.12**	**279**	⇓*i*P		**Pn**	**07 00 04.8**	**+1.1**
PB10				*i* S		**S**	**07 00 43.5**	**-0.7**
PB10				IAML			07 00 47.7	
	comp=E,280nm,0.4s							
PB04	**IPOC Station P**	**3.20**	**301**	*e*P		**Pn**	**07 00 06.1**	**+1.2**
AHML	**Horco Molle**	**3.21**	**149**	*e*P		Pn	07 00 01.5	-3.4
AHML				IAML			07 00 02.3	
	comp=Z,24nm,0.4s							
PB07	**IPOC Station P**	**3.38**	**312**	*e*P		**Pn**	**07 00 07.9**	**+0.9**
PB07	**IPOC Station P**	**3.38**	**312**	⇑*i*P		**Pn**	**07 00 07.8**	**+0.7**
PB07				*e*S		**S**	**07 00 49.3**	**-0.9**
PB01	**IPOC Station P**	**3.65**	**324**	*e*P		**Pn**	**07 00 10.8**	**+0.6**
PB02	**IPOC Station P**	**3.68**	**317**	*e*P		**Pn**	**07 00 11.1**	**+0.6**
CYA	**Choya**	**4.56**	**164**	*e*P		Pn	07 00 18.9	-2.3
CYA				IAML			07 00 20.4	
	comp=Z,8.6nm,0.4s							
VCA	**Vinchina**	**4.76**	**191**	*e*P		**Pn**	**07 00 24.1**	**+0.2**
VCA				IAML			07 00 24.7	
	comp=Z,11nm,0.2s							
PB11	**IPOC Station P**	**4.83**	**331**	*e*P		**Pn**	**07 00 24.4**	**-0.3**
PB16	**IPOC Station P**	**6.07**	**339**	*e*P		**Pn**	**07 00 42.2**	**+1.4**
PB12	**IPOC Station P**	**6.13**	**331**	⇓*e*P		**Pn**	**07 00 40.9**	**-0.3**
LPAZ	**La Paz**	**7.76**	**353**	P		**Pn**	**07 01 03.4**	**+0.8**
	comp=Z,1.5nm,0.3s,baz=168,slow=8.9,SNR=52							
LPAZ				S		**S**	**07 02 29.9**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=192,slow=16,SNR=2.0							
PLCA	**Paso Flores**	**16.88**	**189**	P		**Pn**	**07 02 55.4**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=28,slow=11,SNR=5.6							
BDFB	**Brasilia**	**19.87**	**69**	P		**P**	**07 03 25.9**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=246,slow=11,SNR=20							
TXAR	**Lajitas Array**	**63.60**	**325**	P		P	07 09 21.5	+1.9

AAGR	**Agrelo**	**2.84**	**101**	*e*P	**Pb**	**07 22 11.2**	**-0.3**
RTCV	**Cerro Valdivia**	**3.14**	**78**	*e*P	**Pn**	**07 22 13.8**	**+3.2**
RTCV				*e*S	**Sb**	**07 22 53.5**	**-2.0**
ACCO	**Cerro Coronel**	**3.30**	**54**	*e*P	**Pn**	**07 22 15.2**	**+2.2**
ACCO				*e*S	**Sb**	**07 22 58.5**	**-1.7**
AROD	**Rodeo**	**3.32**	**44**	*e*P	**Pn**	**07 22 15.1**	**+1.8**
RTLL	**Cerro Villicun**	**3.37**	**69**	*e*P	**Pn**	**07 22 16.3**	**+2.7**
RTLL				IAML		07 23 20.4	
	comp=Z,108nm,0.1s						
AMOG	**MOGNA**	**3.52**	**63**	*e*P	**Pn**	**07 22 17.6**	**+1.9**
ACDV	**Cuesta del Vie**	**3.54**	**48**	*e*P	**Pn**	**07 22 18.2**	**+2.1**
ACAN	**Cantantal**	**4.21**	**87**⇓	*e*P	**Pn**	**07 22 27.7**	**+2.5**
AGUA	**GUANDACOL**	**4.40**	**46**	*e*P	**Pn**	**07 22 30.6**	**+2.6**
VCA	**Vinchina**	**5.12**	**43**	*e*P	**Pn**	**07 22 40.2**	**+2.3**
VCA				IAML		07 23 54.7	
	comp=Z,36nm,0.4s						
CYA	**Choya**	**6.86**	**55**	*e*P	**Pn**	**07 23 01.0**	**-0.6**
CYA				IAML		07 24 29.8	
	comp=Z,6.9nm,0.4s						

MAN 03 07:28:47.1, 9°.14N × 126°.32E, h24 km, mb4.6, ML3.5, MS3.3, 4C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.71**	**256**	*e*P	Pb	07 29 00.7	-0.1
BUTP				*e*S	Sn	07 29 12.1	+0.3
BIPH	**Bislig**	**0.95**	**177**⇓	*i*P	Pb	07 29 04.1	-0.8
BIPH				*i* S	Sb	07 29 16.8	-0.3
CGP	**Cagayan de Oro**	**1.74**	**247**⇑	*e*P	Pb	07 29 17.7	-0.8
CGP				*e*S	Sb	07 29 39.3	-0.6
MSLP	**Maasin**	**1.75**	**305**	*e*P	Pn	07 29 16.9	+0.9
MSLP				*e*S	Sn	07 29 37.9	+0.4
BUKP	**Musuan**	**1.76**	**225**	*e*P	Pn	07 29 15.9	-0.3
BUKP				*e*S	Sb	07 29 39.4	-1.1
PLP	**Palo**	**2.41**	**327**⇑	*i*P	Pn	07 29 25.2	+0.2
PLP				*i* S	Sn	07 29 54.7	+0.9
TBP	**Tagbilaran**	**2.48**	**283**	*e*P	Pn	07 29 26.5	+0.4
BESP	**Borongan**	**2.60**	**341**	*e*P	Pn	07 29 28.3	+0.7
LLP	**Lapu-Lapu**	**2.60**	**297**	*e*P	Pn	07 29 28.2	+0.5
LLP				*e*S	Sn	07 29 59.8	+1.2
CTBH	**Cotabato--PC H**	**2.80**	**227**⇑	*i*P	Pb	07 29 33.6	-2.9
DDMP	**Don Marcelino,**	**3.07**	**191**	*e*P	Pn	07 29 37.0	+2.8
RCP	**Roxas**	**4.26**	**305**⇑	*e*P	Pn	07 29 52.5	+1.9

*IDC **03** 08:03:07.1±0.9, 33°.34S × 68°.88W, h0 km, mb3.7/3, mb1 3.7/6, mb1mx3.6/30, mbtmp3.5/6, ML3.2/3, MS2.9/4, Ms1 2.9/4, ms1mx2.7/20, Error ellipse: s-maj=40.6km s-min=25.2km az=94.0*

*ISCJB **03** 08:03:09.7±0.9, 33°.49S±0°.04 × 68°.78W±0°.04, h16 km±7 km, mb3.6/3, MS2.9/2, Error ellipse: s-maj=7.8km s-min=4.8km az=148.4*

*SJA **03** 08:03:09.4±1.0, 33°.41S × 68°.97W, h7 km±9 km, ML3.9, MW3.9*

*GUC **03** 08:03:11.9±0.5, 33°.30S × 68°.99W, h15 km±4 km, ML3.4*

ISC 03 08:03:10.0±0.9, 33°.34S±0°.04 × 68°.97W±0°.04, h18 km±4 km, n33, σ1§45/40, mb3.6/3, 4D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAGR	**Agrelo**	**0.28**	**25**	*e*P	**Pb**	**08 03 17.7**	**+1.2**
ARCO	**CERRO ARCO**	**0.50**	**4**	*e*P	**Pn**	**08 03 21.4**	**-1.0**
ARCO				*e*S	**Sn**	**08 03 29.7**	**-0.9**
ARCO				IAML		08 03 30.4	
	comp=Z,11µm,0.3s						
ASAL	**Salagasta**	**0.76**	**9**	*e*P	**Pn**	**08 03 26.1**	**+0.3**
FCH	**Farellones**	**1.11**	**270**	*i* P	**Pg**	**08 03 32.2**	**+0.8**
FCH				*i* S	**Sn**	**08 03 47.4**	**+1.5**
FCH				IAML		08 03 48.3	
	comp=N,1µm,0.3s						
LMEL	**Las Melosas**	**1.15**	**244**⇓	*i*P	**Pg**	**08 03 32.8**	**+0.6**
LMEL				*e*S	**Sg**	**08 03 49.1**	**+1.8**
LMEL				IAML		08 03 51.1	
	comp=N,3µm,0.2s						
AUSP	**Uspallata**	**1.17**	**342**	*e*P	**Pg**	**08 03 33.2**	**+0.5**
CLCH	**Cerro Calan**	**1.31**	**267**⇓	*i*P	**Pg**	**08 03 36.0**	**+0.6**
CLCH				IAML		08 04 00.5	
	comp=E,1µm,0.3s						
ANTU	**Antumapu**	**1.41**	**260**	*e*P	**Pg**	**08 03 37.4**	**+0.2**
ANTU				*e*S	**Sg**	**08 03 56.5**	**+0.9**
PEL	**Peldehue**	**1.45**	**277**	*e*P	**Pg**	**08 03 37.5**	**-0.4**
PEL				*e*S	**Sg**	**08 03 57.5**	**+0.7**
PEL				IAML		08 03 59.6	
	comp=N,757nm,0.2s						
RTLS	**Leoncito**	**1.56**	**350**⇓	*e*P	**Pg**	**08 03 40.9**	**+0.8**
RTLS				IAML		08 04 05.9	
	comp=Z,562nm,0.3s						
ROCH	**El Roble**	**1.75**	**282**⇓	*i*P	**Pg**	**08 03 43.7**	**0.0**
ROCH				*e*S	**Sg**	**08 04 07.4**	**+0.9**
ROCH				IAML		08 04 12.4	
	comp=N,681nm,0.5s						
ACAN	**Cantantal**	**1.84**	**55**	*e*P	**Pb**	**08 03 43.7**	**+0.6**
SJA	**San Juan**	**1.84**	**11**	*e*P	Pn	08 03 33.6	-7.1
RTLL	**Cerro Villicun**	**2.05**	**12**	*e*P	**Pb**	**08 03 46.5**	**-0.3**
RTLL				*e*S	**Sg**	**08 04 16.1**	**+0.2**
RTLL				IAML		08 04 16.8	
	comp=N,1µm,0.4s						
AMOG	**MOGNA**	**2.43**	**10**	*e*P	**Pb**	**08 03 52.7**	**-0.5**
ACCO	**Cerro Coronel**	**2.75**	**358**	*e*P	**Pb**	**08 03 59.0**	**+0.3**
ACDV	**Cuesta del Vie**	**3.16**	**358**	*e*P	**Pb**	**08 04 03.8**	**-2.0**
AGUA	**GUANDACOL**	**3.86**	**6**	*e*P	**Pb**	**08 04 13.4**	**-4.3**
TCA	**Tanti**	**4.21**	**63**	*e*P	**Pn**	**08 04 14.3**	**+0.9**
PLCA	**Paso Flores**	**7.49**	**189**	Pn	**Pn**	**08 04 58.3**	**0.0**
	comp=N,0.0nm,0.3s,baz=16,slow=6.9,SNR=1.7						
PLCA				Sn	**Sn**	**08 06 17.2**	**-5.6**
	comp=N,0.3nm,0.3s,baz=65,slow=13,SNR=2.4						
PLCA				Lg	Lg	08 07 01.6	
	comp=N,0.5nm,0.3s,baz=121,slow=22,SNR=2.0						
PLCA				LR	LR	08 07 39.2	
	comp=N,61nm,18.4s,baz=26,slow=36						
CPUP	**Villa Florida**	**12.28**	**58**	Pn	**Pn**	**08 06 02.8**	**-1.2**
	comp=N,0.1nm,0.3s,baz=224,slow=14,SNR=4.0						
CPUP				Sn	**Sn**	**08 08 21.6**	**+1.2**
	comp=N,0.2nm,0.3s,baz=227,slow=14,SNR=1.5						
CPUP				Lg	Lg	08 09 40.9	
	comp=N,0.5nm,0.3s,baz=332,slow=14,SNR=3.7						
CPUP				LR	LR	08 11 01.7	
	comp=N,47nm,19.3s,baz=246,slow=39						
LPAZ	**La Paz**	**17.00**	**3**	Pn	**Pn**	**08 07 07.2**	**-0.2**
	comp=N,0.1nm,0.3s,baz=189,slow=13,SNR=2.8						
NNA	**Nana**	**22.44**	**339**	LR	LR	08 15 29.6	
	comp=N,26nm,18.6s,baz=193,slow=33						
BDFB	**Brasilia**	**25.88**	**52**	LR	LR	08 19 10.9	
	comp=N,60nm,18.7s,baz=50,slow=37						
VNA3	**Neumayer Olymp**	**49.01**	**158**	P	**P**	**08 11 56.0**	**+0.8**
VNA2	**Neumayer--Watz**	**49.64**	**158**	P	**P**	**08 12 00.5**	**+0.5**
	baz=283,slow=8.9						
SNAA	**Sanae**	**51.24**	**158**	P	**P**	**08 12 12.7**	**+0.6**
SNAA	**Sanae**	**51.24**	**158**	P	**P**	**08 12 12.2**	**+0.1**
	comp=N,1.2nm,0.6s,baz=270,slow=8.7,SNR=6.6						
TXAR	**Lajitas Array**	**70.47**	**328**	P	**P**	**08 14 24.6**	**+1.1**
	comp=N,0.2nm,0.5s,baz=152,slow=8.2,SNR=4.1						
TORD	**Torodi Ar. Bea**	**81.58**	**68**	P	**P**	**08 15 27.1**	**+0.1**
	comp=N,0.5nm,0.8s,baz=222,slow=5.8						
WRA	**Warramunga Arr**	**122.53**	**206**	PKP	**PKPdf**	**08 22 04.0**	**-0.9**
	comp=N,0.2nm,0.6s,baz=167,slow=1.6,SNR=10.0						
KURBB	**Kurchatov Arra**	**150.62**	**44**	PKPbc	**PKPbc**	**08 23 00.8**	**+0.4**
	comp=N,0.9nm,0.7s,baz=296,slow=3.2,SNR=8.2						
ZALV	**Zalesovo Beam**	**152.27**	**34**	PKPbc	**PKPbc**	**08 23 04.1**	**0.0**
	comp=N,1.9nm,0.4s,baz=316,slow=4.0,SNR=7.8						
ZALV				PKPab	**sPKPbc**	**08 23 11.6**	**-0.7**
	comp=N,0.6nm,0.5s,baz=317,slow=3.9,SNR=3.9						

*TIR **03** 08:06:17.4, 42°.44N × 18°.62E, h3 km, Md3.3/4*

*PDG **03** 08:06:19.9±0.4, 42°.36N × 18°.72E, h12 km, MD3.0/6, ML3.0/10, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*

*SAR **03** 08:06:20.8±0.3, 42°.39N × 18°.74E, h3 km±1 km, MD3.1/1*

*ISCJB **03** 08:06:20.3±0.3, 42°.41N±0°.01 × 18°.73E±0°.02, h7 km±2 km, Error ellipse: s-maj=2.7km s-min=2.1km az=139.3*

*SKO **03** 08:06:21.0, 42°.43N × 18°.70E, h0 km, M2.5, ML3.0*

*BEO **03** 08:06:21.7±0.4, 42°.39N × 18°.76E, h5 km±1 km, ML2.9/18*

ISC 03 08:06:20.5±0.9, 42°.38N±0°.02 × 18°.71E±0°.02, h6 km±7 km, n91, σ1§04/147, 15C-21D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUM	**Brajici-Budva**	**0.16**	**121**⇓	*i*Pg	**Pg**	**08 06 23.0**	**-0.7**
BUM				*e*Sg	**Sg**	**08 06 25.8**	**-0.1**
HCY	**Herceg Novi**	**0.17**	**292**⇓	*i*Pg	**Pg**	**08 06 23.8**	**-0.3**
HCY				*e*Sg	**Sg**	**08 06 27.3**	**+0.9**
HCY	**Herceg Novi**	**0.17**	**292**⇓	*i*Pg	**Pg**	**08 06 23.7**	**-0.3**
HCY				*e*Sg	**Sg**	**08 06 27.5**	**+1.1**
CEME	**Cevo**	**0.23**	**43**⇓	*i*Pg	**Pg**	**08 06 24.5**	**-0.5**
CEME				*e*Sg	**Sg**	**08 06 28.7**	**+0.7**
DRME	**Dracevica, Mon**	**0.40**	**119**⇓	*i*Pg	**Pg**	**08 06 27.5**	**-0.8**
DRME				*e*Sg	**Sg**	**08 06 33.8**	**+0.3**
DRME	**Dracevica, Mon**	**0.40**	**119**⇓	*i*Pg	**Pg**	**08 06 27.3**	**-1.0**
DRME				*e*Sg	**Sg**	**08 06 33.8**	**+0.3**
PDG	**Podgorica**	**0.41**	**83**	*e*Pg	**Pg**	**08 06 27.5**	**-0.9**
PDG				*e*Sg	**Sg**	**08 06 34.3**	**+0.6**
PDG	**Podgorica**	**0.41**	**83**⇓	*i*P	**Pg**	**08 06 27.2**	**-1.1**
PDG				*i* S	**Sg**	**08 06 33.0**	**-0.7**
PDG	**Podgorica**	**0.41**	**83**⇓	*i*Pg	**Pg**	**08 06 27.3**	**-1.1**
PDG				*e*Sg	**Sg**	**08 06 33.7**	**0.0**
TTG	**Podgorica**	**0.41**	**83**⇓	*i*Pg	**Pg**	**08 06 27.4**	**-0.9**
TTG				*e*Sg	**Sg**	**08 06 34.1**	**+0.4**
NKME	**Niksic**	**0.42**	**25**⇓	*i*Pg	**Pg**	**08 06 28.1**	**-0.6**
NKME				*e*Sg	**Sg**	**08 06 35.2**	**+0.9**
TREB	**Trebinje**	**0.43**	**322**	*e*Pg	**Pg**	**08 06 29.0**	**+0.2**
TREB				*e*Sg	**Sb**	**08 06 36.8**	**-0.5**
TREB	**Trebinje**	**0.43**	**322**⇓	*i*Pg	**Pg**	**08 06 28.6**	**-0.2**
TREB				*e*Sg	**Sg**	**08 06 35.6**	**+1.2**
NKY	**Niksic**	**0.48**	**26**⇓	*i*Pg	**Pg**	**08 06 29.0**	**-0.8**
NKY				*e*Sg	**Sg**	**08 06 37.3**	**+1.3**
BRY	**Bratogost**	**0.54**	**346**	*e*Pg	**Pg**	**08 06 30.2**	**-0.7**
BRY				*e*Sg	**Sg**	**08 06 38.9**	**+1.0**
BRY	**Bratogost**	**0.54**	**346**⇓	*i*Pg	**Pg**	**08 06 30.0**	**-0.9**
BRY				*e*Sg	**Sg**	**08 06 37.7**	**-0.2**
ULC	**Ulcinj**	**0.57**	**136**⇓	*i*Pg	**Pg**	**08 06 30.2**	**-1.4**
ULC				*e*Sg	**Sg**	**08 06 38.5**	**+0.4**
KOME	**Kolasin**	**0.76**	**51**⇓	*i*Pg	**Pg**	**08 06 33.7**	**-1.3**
KOME				*e*Sg	**Sb**	**08 06 46.1**	**-0.6**
UPM	**Unac-Piva**	**0.83**	**10**⇑	*i*Pg	**Pg**	**08 06 35.3**	**-1.2**
UPM				*e*Sg	**Sb**	**08 06 49.4**	**+0.3**
UPM	**Unac-Piva**	**0.83**	**10**⇑	*i*Pg	**Pg**	**08 06 35.4**	**-1.1**
UPM				*e*Sg	**Sg**	**08 06 47.6**	**+0.2**
STON	**Ston**	**0.89**	**304**	*i* Pg	**Pg**	**08 06 35.9**	**-1.7**
STON				Sg	**Sg**	**08 06 50.2**	**+0.9**
PUK	**Puka**	**0.94**	**111**	*i* PG	**Pg**	**08 06 37.9**	**-0.6**
PUK				*i* SG	**Sn**	**08 06 53.9**	**-0.3**
PVY	**Plav**	**0.95**	**77**⇑	*i*Pg	**Pg**	**08 06 37.7**	**-1.0**
PVY				*e*Sg	**Sb**	**08 06 52.3**	**0.0**
IVA	**Berane**	**1.00**	**60**⇑	*i*Pg	**Pg**	**08 06 38.6**	**-1.1**
IVA				*e*Sg	**Sb**	**08 06 54.2**	**+0.4**
BCI	**Bajram Curri**	**1.00**	**90**	*i* PG	**Pg**	**08 06 38.7**	**-1.0**
BCI				*i* SG	**Sn**	**08 06 55.5**	**-0.1**
PLE	**Pljevlja**	**1.07**	**27**⇑	*i*Pg	**Pg**	**08 06 40.3**	**-0.8**
PLE				*e*Sg	**Sn**	**08 06 57.4**	**-0.1**
SJES	**Sjenica**	**1.28**	**46**	*e*Pg	**Pg**	**08 06 43.7**	**-1.3**
SJES				*e*Sg	**Sb**	**08 07 01.9**	**+0.1**
TIR	**Tirane**	**1.34**	**140**	*e*Pg	**Pn**	**08 06 46.3**	**+0.5**
TIR				*e*Sg	**Sn**	**08 07 04.6**	**+0.6**
TIR	**Tirane**	**1.34**	**140**⇑	*i*P	**Pn**	**08 06 46.3**	**+0.5**
TIR	**Tirane**	**1.34**	**140**	S	**Sg**	**08 07 03.1**	**-0.6**
TIR	**Tirane**	**1.34**	**140**	*i* PN	**Pn**	**08 06 46.4**	**+0.6**
TIR				*i* SN	**Sn**	**08 07 07.0**	**+2.9**
PHP	**Peshkopia**	**1.46**	**118**	*i* PN	**Pn**	**08 06 46.4**	**-1.1**
PHP				*i* SN	**Sn**	**08 07 11.0**	**+3.9**
BBLS	**Lazići**	**1.57**	**19**	*e*Pg	**Pn**	**08 06 49.7**	**+0.8**
BBLS				*e*Sg	**Sg**	**08 07 11.8**	**+0.9**
BBLS	**Lazići**	**1.57**	**19**⇑	*i*Pn	**Pn**	**08 06 49.8**	**+0.8**
BBLS				*e*Sn	**Sn**	**08 07 09.9**	**+0.2**
IVAS	**Ivanjica**	**1.59**	**41**	*e*Pg	**Pn**	**08 06 49.1**	**-0.2**
IVAS				*e*Sg	**Sn**	**08 07 10.9**	**+0.6**
HAPS	**Han Pijesak,Bl**	**1.71**	**6**	*e*Pg	**Pn**	**08 06 52.1**	**+1.1**
HAPS				*e*Sg	**Sg**	**08 07 15.8**	**+0.2**
HAPS	**Han Pijesak,Bl**	**1.71**	**6**	*e*Pn	**Pn**	**08 06 51.6**	**+0.6**
HAPS				*e*Sn	**Sn**	**08 07 13.6**	**+0.3**
DIVS	**Divibare**	**1.95**	**28**	*e*Pn	**Pn**	**08 06 55.4**	**+1.1**
DIVS				*e*Sg	**Sg**	**08 07 23.5**	**+0.2**
DIVS	**Divibare**	**1.95**	**28**⇑	*i*Pn	**Pn**	**08 06 55.0**	**+0.7**
DIVS				*e*Sn	**Sn**	**08 07 19.1**	**-0.1**
SELS	**Selova**	**1.96**	**64**	*e*Pn	**Pn**	**08 06 55.1**	**+0.8**
SELS				*e*Sg	**Sg**	**08 07 23.5**	**0.0**
OHR	**Ohrid**	**2.01**	**128**	*i* Pn	**Pb**	**08 06 57.8**	**+0.3**
OHR				*e*Sn	**Sb**	**08 07 23.9**	**+1.1**
OHR				*e*Lg	Lg	08 07 30.5	
	comp=N,84nm,0.5s						
OHR				*e*Lg	Lg	08 07 31.0	
	comp=E,90nm,0.5s						
GRUS	**Gruza**	**2.10**	**44**	*e*Pn	**Pn**	**08 06 56.9**	**+0.6**
GRUS				*e*Sn	**Sn**	**08 07 23.8**	**+1.1**
KRUS	**Krusevo**	**2.15**	**117**	*i* Pn	**Pn**	**08 06 58.6**	**+1.6**
SG1	**Sgolgore (BA)**	**2.17**	**225**	*e*Pg	**Pb**	**08 06 59.7**	**-0.5**
SG1				Sg	**Sn**	**08 07 21.9**	**-2.5**
TRUS	**Trudelj**	**2.22**	**33**	*e*Pn	**Pn**	**08 06 59.4**	**+1.5**
TRUS				*e*Sn	**Sn**	**08 07 26.0**	**+0.4**
MATE	**Matera**	**2.29**	**222**⇓	*i*P	**Pb**	**08 07 01.7**	**-0.6**
BARS	**Barje**	**2.33**	**78**	*e*Pn	**Pn**	**08 06 59.4**	**0.0**
BARS	**Barje**	**2.33**	**78**	*e*Pn	**Pg**	**08 07 08.3**	**+3.1**
BARS				*e*Sn	**Sn**	**08 07 28.2**	**-0.2**
BIA	**Bitola**	**2.38**	**124**	*i* Pn	**Pn**	**08 07 02.1**	**+2.0**
BOVS	**Bovan**	**2.53**	**59**	*e*Pn	**Pn**	**08 07 02.7**	**+0.6**
BOVS				*e*Sn	**Sn**	**08 07 33.9**	**+0.7**
BLY	**Banja Luka**	**2.61**	**335**	*e*Pn	**Pn**	**08 07 05.9**	**+2.6**
BLY				*e*Sn	**Sb**	**08 07 38.4**	**-1.7**
BLY	**Banja Luka**	**2.61**	**335**⇓	*i*P	**Pb**	**08 07 05.9**	**+1.6**
BLY	**Banja Luka**	**2.61**	**335**	S	**Sb**	**08 07 39.9**	**-0.2**
BLY	**Banja Luka**	**2.61**	**335**	*e*Pn	**Pn**	**08 07 04.5**	**+1.2**
BLY				*e*Sn	**Sn**	**08 07 36.3**	**+1.0**
FRGS	**Fruska Gora**	**2.89**	**16**	*e*Pn	**Pn**	**08 07 07.4**	**+0.3**
FRGS				*e*Sn	**Sn**	**08 07 43.4**	**+1.3**
FRGS	**Fruska Gora**	**2.89**	**16**	*e*Pn	**Pn**	**08 07 07.6**	**+0.5**
FRGS				*e*Sn	**Sn**	**08 07 42.2**	**+0.1**
ZAGS	**Zajecar**	**2.95**	**60**	*e*Pn	**Pn**	**08 07 08.4**	**+0.5**
ZAGS				*e*Sn	**Sn**	**08 07 44.6**	**+1.0**
KUBS	**Kucevo**	**2.96**	**46**	*e*Pn	**Pn**	**08 07 08.4**	**+0.3**
KUBS				*e*Sn	**Sn**	**08 07 43.9**	**-0.1**
ZAPS	**Zavoj**	**3.02**	**72**	*e*Pn	**Pn**	**08 07 10.6**	**+1.7**
ZAPS				*e*Sn	**Sn**	**08 07 44.9**	**-0.5**
UDBI	**Udbina**	**3.04**	**316**	*e*Pn	**Pn**	**08 07 11.1**	**+2.0**
UDBI				Sn	**Sb**	**08 07 50.7**	**-1.6**
VAY	**Valandovo**	**3.07**	**109**	*e*Pn	**Pn**	**08 07 11.2**	**+1.6**
VAY				*e*Sn	**Sb**	**08 07 52.5**	**-0.7**
VAY				*e*Lg	Lg	08 08 04.7	
	comp=E,19nm,0.8s						
VAY				*e*Lg	Lg	08 08 07.0	
	comp=N,30nm,0.8s						
MDVR	**Moldovita**	**3.24**	**41**⇓	*i*P	**Pn**	**08 07 12.9**	**+0.9**
MDVR	**Moldovita**	**3.24**	**41**	S	**Sn**	**08 07 50.5**	**-0.4**
VTS	**Vitosha**	**3.33**	**85**⇓	*i*P	**Pn**	**08 07 15.0**	**+1.7**
VTS	**Vitosha**	**3.33**	**85**	S	**Sn**	**08 07 52.1**	**-1.2**
TIP	**Timpagrande**	**3.53**	**206**⇑	*i*P	**Pn**	**08 07 15.1**	**-0.8**
HERR	**Herculane**	**3.67**	**46**⇑	*i*P	**Pn**	**08 07 18.3**	**+0.5**
HERR	**Herculane**	**3.67**	**46**	S	**Sn**	**08 08 00.7**	**-0.7**
MORH	**M¨‡r¨¡gy, Hung**	**3.83**	**359**	*e*Pn	**Pn**	**08 07 20.6**	**+0.6**
MORH				*e*Sn	**Sn**	**08 08 04.9**	**-0.5**
BZS	**Buzias**	**3.85**	**32**⇑	*i*P	**Pn**	**08 07 21.7**	**+1.4**
BZS	**Buzias**	**3.85**	**32**	S	**Sn**	**08 08 06.3**	**+0.4**
CRES	**Cresnjev**	**4.17**	**327**	*e*Pn	**Pn**	**08 07 25.0**	**+0.4**
CRES				*e*Sn	**Sn**	**08 08 13.2**	**-0.4**
GZR	**Gura Zlata**	**4.21**	**43**⇓	*i*P	**Pn**	**08 07 24.9**	**-0.3**
GZR	**Gura Zlata**	**4.21**	**43**	S	**Sn**	**08 08 14.8**	**+0.1**
SIRR	**Siria**	**4.42**	**28**⇑	*i*P	**Pn**	**08 07 28.7**	**+0.5**
SIRR	**Siria**	**4.42**	**28**	S	**Sn**	**08 08 20.2**	**+0.2**
CEY	**Cerknica**	**4.56**	**319**	*e*Pn	**Pn**	**08 07 30.1**	**0.0**
CEY				*e*Sn	**Sn**	**08 08 22.7**	**-0.7**
SOKA	**Soboth**	**5.04**	**330**	*i* Pn	**Pn**	**08 07 38.2**	**+1.6**
	comp=N,0.9nm,0.2s						
ARR	**Arges**	**5.22**	**53**⇑	*i*P	**Pn**	**08 07 39.3**	**+0.2**
ARR	**Arges**	**5.22**	**53**	S	**Sn**	**08 08 38.8**	**-0.8**
DRGR		**5.25**	**32**⇑	*i*P	**Pn**	**08 07 41.1**	**+1.5**
DRGR		**5.25**	**32**	S	**Sn**	**08 08 40.8**	**+0.3**
ARSA	**Arzberg**	**5.37**	**336**	*i* Pn	**Pn**	**08 07 42.8**	**+1.7**
	comp=N,1.6nm,0.3s						
VOIR		**5.50**	**54**⇑	*i*P	**Pn**	**08 07 42.4**	**-0.7**
VOIR		**5.50**	**54**	S	**Sn**	**08 08 46.6**	**-0.1**
KBA	**Koelnbreinsper**	**6.05**	**323**	*i* Pn	**Pn**	**08 07 52.3**	**+1.6**
	comp=N,1.1nm,0.3s						
MLR	**Muntele Rosu**	**6.08**	**57**⇓	*i*P	**Pn**	**08 07 51.1**	**+0.1**
MLR	**Muntele Rosu**	**6.08**	**57**	S	**Sn**	**08 08 59.5**	**-1.4**
VYHS	**Vyhne**	**6.11**	**1**	*e*SN	**Sn**	**08 09 02.1**	**+0.5**
KECS	**Kecovo**	**6.23**	**11**	*e*SN	**Sn**	**08 09 03.9**	**-0.5**
MOTA	**Moosalm**	**7.34**	**315**	*i* Pn	**Pn**	**08 08 09.8**	**+1.5**
	comp=N,1.8nm,0.4s						

*NEIC **03** 08:06:29.9±0.0, 22°.37N × 120°.43E, h40 km, ML4.5(TAP),*

After TAP.

NEIC Recorded [1 TAP] in Kaohsiung.

TAP 03 08:06:30.3, 22°.46N × 120°.41E, h25 km, ML3.2, 6C-2D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WLCH	**Liuqiu**	**0.11**	**193**⇑	*i*P	Pn	08 06 36.3	-0.2
	baz=193						
WLCH				S	Sb	08 06 41.6	+3.3
	baz=193						
TWP	**Hsiaoliuchiu**	**0.12**	**200**⇑	*i*P	Pn	08 06 36.2	-0.4
	baz=197						
TWP				S	Sb	08 06 41.3	+2.8
	baz=197						
KAU	**Kaohsiung**	**0.14**	**319**	P	Pn	08 06 37.2	+0.3
	baz=313						
KAU				*e*S	Sb	08 06 42.6	+3.9
	baz=313						
SCZT	**Fangliau**	**0.22**	**114**⇑	*i*P	Pb	08 06 36.8	+0.6
	baz=114						
SCZT				*i* S	Sb	08 06 41.8	+1.6
	baz=114						
MASBT	**Mashibuluo**	**0.26**	**54**	⇓P	Pb	08 06 37.6	+0.8
	baz=67						
MASBT				S	Sn	08 06 43.0	-0.6
	baz=67						
SSD	**Sandimen**	**0.35**	**36**⇓	*i*P	Pn	08 06 39.1	-0.7
	baz=51						
SSD				*e*S	Sn	08 06 45.6	-0.4
	baz=51						
TWM1	**Shoushan**	**0.36**	**2**	*e*P	Pn	08 06 41.0	+1.1
	baz=352						
EAST	**Anshuo**	**0.41**	**101**⇑	*i*P	Pn	08 06 40.3	-0.4
	baz=102						
EAST				S	Sn	08 06 47.9	+0.2
	baz=102						
TAW	**Tawu**	**0.46**	**103**⇑	*i*P	Pn	08 06 40.9	-0.5
	baz=104						
TAW				S	Sn	08 06 49.1	+0.3
	baz=104						
ECL	**Taimali**	**0.52**	**75**	P	Pn	08 06 41.9	-0.2
	baz=77						
ECL				S	Sn	08 06 49.8	-0.4
	baz=77						
HEN	**Hengchun**	**0.55**	**146**	*e*P	Pn	08 06 42.1	-0.4
	baz=145						
HEN				*e*S	Sn	08 06 51.4	+0.6
	baz=145						
TWK1	**Hengchun**	**0.63**	**144**	*e*P	Pb	08 06 43.2	+0.4
	baz=144						
TWK1				*e*S	Sn	08 06 52.8	-0.2
	baz=144						
TWKBT	**Hengchun**	**0.64**	**144**	P	Pb	08 06 43.1	+0.2
	baz=144						
TWKBT				S	Sn	08 06 52.9	-0.2
	baz=144						
TWG	**Pinlang**	**0.71**	**60**⇑	*i*P	Pn	08 06 45.3	+0.6
	baz=66						
TWG				S	Sn	08 06 55.3	+0.4
	baz=66						
TWG	**Pinlang**	**0.71**	**60**	*e*Pn	Pn	08 06 45.3	+0.5
TWG				*e*Sn	Sn	08 06 56.3	+1.4
**T

WHFO	**Wadi Hawf**	**5.21**	**314**	P		**Pn**	**08 19 01.8**	**+1.6**
	SNR=7.8							
JMDO	**Jabal Madar**	**8.05**	**3**	P		**Pn**	**08 19 40.6**	**+1.5**
	SNR=13							
WBK	**Wadi Bani Khal**	**8.37**	**8**	P		**Pn**	**08 19 44.5**	**+0.9**
	SNR=11							
BSY	**Bisya**	**8.42**	**357**	P		**Pn**	**08 19 45.3**	**+1.0**
	SNR=16							
SMDO	**Samad**	**8.73**	**2**	P		**Pn**	**08 19 49.4**	**+0.8**
	SNR=13							
HOQ	**Hoqain**	**9.25**	**358**	P		**Pn**	**08 19 57.3**	**+1.6**
	SNR=25							
ASHO	**Ashiyiah**	**10.46**	**352**	P		**Pn**	**08 20 12.4**	**+0.3**
	SNR=17							
ASUD	**Al Ashush, Dub**	**10.52**	**348**	P		**Pn**	**08 20 14.1**	**+1.1**
	SNR=12							
HATD	**Hatta, Dubai**	**10.58**	**352**	P		**Pn**	**08 20 14.5**	**+0.6**
UOSS	**Minazif**	**10.69**	**353**	*e*Pn		**Pn**	**08 20 15.0**	**-0.4**
UOSS	**Minazif**	**10.69**	**353**	P		**Pn**	**08 20 15.5**	**+0.1**
	SNR=23							
RAYN	**Ar Rayn**	**14.72**	**310**	*e*Pn		**Pn**	**08 21 09.0**	**-1.6**
H08N2	**Diego Garcia H**	**24.37**	**146**	T		T	08 48 03.7	
	baz=326,slow=76,SNR=26							
H08N3	**Diego Garcia H**	**24.39**	**146**	T		T	08 48 05.1	
	baz=326,slow=76,SNR=16							
H08N1	**Diego Carcia H**	**24.39**	**146**	T		T	08 48 07.2	
	baz=326,slow=76,SNR=16							
KMBO	**Kilima Mbogo**	**25.37**	**235**	P		**P**	**08 23 13.6**	**+3.6**
	2.4nm,0.7s,baz=47,slow=15,SNR=5.8							
KMBO	**Kilima Mbogo**	**25.37**	**235**	*e*P		**P**	**08 23 08.9**	**-1.1**
	2.6nm,0.8s							
GNI	**Garni**	**28.15**	**339**	LR		LR	08 35 54.4	
	comp=Z,20nm,18.8s,baz=256,slow=38							
KK31	**Karatay Array**	**30.76**	**19**	*e*P		**P**	**08 23 57.2**	**-0.4**
KKAR	**Karatay Array**	**30.76**	**19**	*e*P		**P**	**08 23 57.4**	**-0.3**
AAK	**Ala-Archa**	**31.76**	**24**	*e*P		**P**	**08 24 07.8**	**+1.2**
	1.9nm,0.8s							
ALN	**Alexandroupoli**	**38.22**	**320**	*e*P		**P**	**08 25 03.6**	**+1.4**
	2.2nm,0.6s							
MK01	**Makanchi Array**	**38.38**	**27**	*e*P		**P**	**08 25 03.7**	**+0.2**
MK31	**Makanchi Array**	**38.39**	**27**	*e*P		**P**	**08 25 03.9**	**+0.3**
MK32	**Makanchi Array**	**38.39**	**27**	*e*P		**P**	**08 25 04.7**	**+1.1**
MKAR	**Makanchi Array**	**38.39**	**27**	P		**P**	**08 25 04.7**	**+1.1**
	1.2nm,0.6s,baz=213,slow=8.7,SNR=6.8							
MKAR	**Makanchi Array**	**38.39**	**27**	*e*P		**P**	**08 25 03.9**	**+0.2**
	10nm,0.7s							
CMAR	**Chiang Mai Arr**	**39.75**	**78**	P		**P**	**08 25 15.2**	**-0.1**
	1.2nm,0.3s,baz=275,slow=9.9,SNR=4.3							
KURBB	**Kurchatov Arra**	**39.99**	**21**	P		**P**	**08 25 18.3**	**+1.4**
	1.3nm,0.8s,baz=219,slow=8.3,SNR=8.5							
KURK	**Kurchatov**	**40.10**	**21**	*e*P		**P**	**08 25 18.2**	**+0.5**
MATP	**Matopo**	**44.86**	**220**	P		**P**	**08 25 56.4**	**-0.6**
	2.1nm,0.6s,baz=46,slow=8.4,SNR=5.9							
ZAA0	**Zalesovo Array**	**44.95**	**22**	*e*P		**P**	**08 25 57.2**	**+0.1**
	3.0nm,0.7s							
ZALV	**Zalesovo Beam**	**44.95**	**22**	P		**P**	**08 25 57.4**	**+0.3**
	2.8nm,0.6s,baz=224,slow=7.8,SNR=12							
ZALV	**Zalesovo Beam**	**44.95**	**22**	*e*P		**P**	**08 25 57.1**	**-0.1**
ZAA1	**Zalesovo Array**	**44.95**	**22**	*e*P		**P**	**08 25 57.4**	**+0.3**
SONA0	**Songino Array**	**52.25**	**40**	*e*P		**P**	**08 26 54.2**	**+0.5**
SONM	**Songino Array**	**52.25**	**40**	P		**P**	**08 26 54.2**	**+0.5**
	0.4nm,0.4s,baz=227,slow=6.6,SNR=3.2							
TORD	**Torodi Ar. Bea**	**54.29**	**276**	P		**P**	**08 27 09.4**	**+0.4**
	0.6nm,1.1s,baz=76,slow=7.2							
TOA1	**Torodi Ar. Sit**	**54.29**	**276**	*e*P		**P**	**08 27 09.4**	**+0.4**
H01W3	**Cape Leeuwin H**	**72.50**	**134**	T		T	09 48 13.7	
	baz=303,slow=75,SNR=12							
H01W2	**Cape Leeuwin H**	**72.50**	**134**	T		T	09 48 09.5	
	baz=303,slow=75,SNR=15							
H01W1	**Cape Leeuwin H**	**72.51**	**134**	T		T	09 48 13.0	
	baz=303,slow=75,SNR=15							
WRA	**Warramunga Arr**	**82.69**	**113**	P		**P**	**08 30 05.0**	**-1.5**
	0.4nm,0.6s,baz=298,slow=4.2,SNR=15							
WR1	**Warramunga Arr**	**82.69**	**113**	*e*P		**P**	**08 30 05.0**	**-1.5**
	1.2nm,0.7s							
ASAR	**Alice Springs**	**83.47**	**116**	P		**P**	**08 30 08.6**	**-1.9**
	0.5nm,0.8s,baz=294,slow=5.1,SNR=6.3							

*ISCJB **03** 08:40:52.0±0.4, 38.°85N±0.°05×93.°16E±0.°05, h10km, mb3.9/19, Error ellipse: s-maj=8.5km s-min=4.8km az=27.4*
*IDC **03** 08:40:52.5±0.6, 38.°85N×93.°18E, h0km, mb4.0/17, mb1 4.1/21, mb1mx4.0/56, mbtmp3.9/21, ML3.4/4, MS3.2/7, Ms1 3.2/7, ms1mx2.8/47, Error ellipse: s-maj=22.2km s-min=13.0km az=43.0*
*NEIC **03** 08:40:55.9±1.7, 38.°87N×93.°17E, h23km±12km, mb4.0/5, Error ellipse: s-maj=7.6km s-min=5.4km az=213.0*
*BJI **03** 08:40:56.7, 38.°88N×93.°25E, h9km, ML3.8/10, Ms3.5/4, Ms7 3.5/1*
*NNC **03** 08:40:58.9±5.6, 38.°73N×92.°46E, h0km, mb4.7, Error ellipse: s-maj=52.9km s-min=44.4km az=15.0*

ISC 03 08:40:53.8±0.6, 38.°77N±0.°08×93.°07E±0.°04, h10km, n57, σ1§84/64, mb4.1/19, 3C-2D, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GTA	**Gaotai**	**5.29**	**81**	Pn		**Pn**	**08 42 15.3**	**+2.3**
GTA				Pg		**Pb**	**08 42 30.1**	**+3.7**
GTA				Sn		**Sn**	**08 43 15.4**	**+1.3**
GTA				Sg		**Sg**	**08 43 38.6**	**-5.0**
GTA				*smax*		*smax*		
	comp=N,100nm,1.1s							
GTA				*smax*		*smax*		
	comp=E,50nm,1.3s							
GTA				LR		LR		
	comp=N,310nm,10.5s							
GTA				LR		LR		
	comp=E,290nm,12.4s							
WMQ	**Urumqi**	**6.46**	**323**	Pn		Pn	08 42 34.0	+4.9
WMQ				Sn		**Sn**	**08 43 48.6**	**+5.7**
MK01	**Makanchi Array**	**11.24**	**319**	*e*Pn		**Pn**	**08 43 35.1**	**+0.7**
MK31	**Makanchi Array**	**11.26**	**319**	⇑Pn		**Pn**	**08 43 35.7**	**+1.0**
	6.8nm,0.5s,baz=133,slow=14,SNR=104							
MK31				⇓Sn		**Sn**	**08 45 44.0**	**+3.4**
	5.2nm,0.6s,baz=132,slow=23							
MK31	**Makanchi Array**	**11.26**	**319**	*e*Pn		**Pn**	**08 43 35.6**	**+0.8**
MK32	**Makanchi Array**	**11.26**	**319**	*e*Pn		**Pn**	**08 43 35.4**	**+0.7**
MK32				*e*Sn		**Sn**	**08 45 37.4**	**-3.2**
MKAR	**Makanchi Array**	**11.26**	**319**	Pn		**Pn**	**08 43 35.4**	**+0.7**
	2.8nm,0.3s,baz=125,slow=13,SNR=78							
MKAR				Sn		**Sn**	**08 45 37.4**	**-3.2**
	0.9nm,0.3s,baz=129,slow=24,SNR=3.6							
MKAR				Lg		Lg	08 46 47.4	
	baz=127,slow=26,SNR=2.3							
KDJ	**Kajisay**	**12.56**	**291**	*e*Pn		**Pn**	**08 43 54.8**	**+2.1**
KDJ				*e*Sn		**Sn**	**08 46 15.9**	**+3.2**
MDOK	**Medeo**	**12.87**	**295**	Pn		**Pn**	**08 43 59.9**	**+2.9**
	4.6nm,0.5s							
MDOK				Sn		**Sn**	**08 46 17.6**	**-2.8**
	8.2nm,0.6s							
SONA0	**Songino Array**	**13.26**	**43**	*e*Pn		**Pn**	**08 44 01.2**	**-0.9**
SONM	**Songino Array**	**13.26**	**43**	Pn		**Pn**	**08 44 01.2**	**-0.9**
	0.4nm,0.3s,baz=230,slow=16,SNR=5.8							
SONM				Lg		Lg	08 47 40.9	
	0.4nm,0.3s,baz=238,slow=27,SNR=3.3							
TKM2	**Tokmak 2**	**13.86**	**293**	⇓Pn		**Pn**	**08 44 12.4**	**+2.0**
	12nm,0.4s							
TKM2				⇑Sn		**Sn**	**08 46 40.8**	**-3.7**
	6.7nm,0.8s							
AAK	**Ala-Archa**	**14.60**	**291**	Pn		**Pn**	**08 44 20.4**	**-0.2**
	0.7nm,0.3s,baz=110,slow=8.4,SNR=5.9							
AAK				LR		LR	08 50 55.3	
	comp=Z,43nm,19.6s,baz=50,slow=41							
AAK	**Ala-Archa**	**14.60**	**291**	⇑Pn		**Pn**	**08 44 19.1**	**-1.6**
	4.3nm,0.5s							
AAK				Sn		**Sn**	**08 46 59.9**	**-2.7**
	3.2nm,0.9s							
KURBB	**Kurchatov Arra**	**15.69**	**324**	Pn		**Pn**	**08 44 32.3**	**-2.5**
	0.1nm,0.3s,baz=131,slow=11,SNR=3.1							
KURBB				Lg		Lg	08 49 12.6	
	baz=130,slow=29,SNR=2.8							
KURK	**Kurchatov**	**15.71**	**324**	*e*Pn		**Pn**	**08 44 32.3**	**-2.8**
BRDH	**Bariadhala**	**16.09**	**185**	LR		LR	08 52 07.4	
	comp=Z,60nm,18.6s,baz=360,slow=42							
ZALV	**Zalesovo Beam**	**16.19**	**342**	Pn		**Pn**	**08 44 40.0**	**-1.3**
	0.2nm,0.3s,baz=155,slow=11,SNR=4.8							
ZALV				Lg		Lg	08 49 20.5	
	0.1nm,0.3s,baz=148,slow=30,SNR=2.1							
ZALV				LR		LR	08 51 05.4	
	comp=Z,40nm,21.2s,baz=68,slow=38							
ZALV	**Zalesovo Beam**	**16.19**	**342**	*e*Pn		**Pn**	**08 44 41.0**	**-0.3**
ZAA1	**Zalesovo Array**	**16.20**	**342**	*e*Pn		**Pn**	**08 44 40.0**	**-1.3**
CM31	**Chiang Mai Arr**	**20.88**	**164**	*e*P		**P**	**08 45 36.4**	**+0.2**
CMAR	**Chiang Mai Arr**	**20.88**	**164**	P		Pn	08 45 38.5	-0.2
	1.0nm,0.3s,baz=351,slow=12,SNR=6.5							
CMAR				LR		LR	08 54 40.6	
	comp=Z,33nm,20.8s,baz=345,slow=40							
BRVK	**Borovoye**	**21.21**	**320**	*e*P		**P**	**08 45 40.1**	**+0.6**
	7.1nm,0.7s							
ABKAR	**Akbulak array**	**25.83**	**305**	*e*P		**P**	**08 46 26.3**	**+1.1**
AKTO	**Aktyubinsk**	**27.29**	**307**	P		**P**	**08 46 39.6**	**+1.3**
	0.8nm,0.4s,baz=122,slow=7.6,SNR=4.0							
AKTO				LR		LR	08 58 12.6	
	comp=Z,25nm,18.1s,baz=27,slow=38							
KSAR	**Wonju Array Be**	**27.33**	**82**	P		**P**	**08 46 37.7**	**-1.1**
KSRS	**Korea Array**	**27.36**	**82**	P		**P**	**08 46 37.7**	**-1.4**
	0.6nm,0.4s,baz=291,slow=9.4,SNR=3.5							
ARU	**Arti**	**28.78**	**319**	P		**P**	**08 46 52.2**	**+0.6**
BR101	**Keskin Array S**	**45.28**	**291**	*e*P		**P**	**08 49 11.7**	**-0.1**
BRTR	**Keskin Array B**	**45.28**	**291**	P		**P**	**08 49 11.7**	**-0.1**
	2.1nm,0.8s,baz=102,slow=7.5,SNR=9.0							
ARA0	**ARCESS Array S**	**46.47**	**333**	*e*P		**P**	**08 49 20.7**	**+0.1**
ARCES	**ARCESS Array B**	**46.47**	**333**	P		**P**	**08 49 20.7**	**+0.1**
	1.5nm,0.7s,baz=89,slow=7.7,SNR=8.0							
HFS	**Hagfors**	**52.26**	**322**	P		**P**	**08 50 04.0**	**-0.9**
	3.1nm,0.8s,baz=104,slow=6.3,SNR=9.0							
NB2	**NORSAR Subarra**	**53.22**	**323**	P		**P**	**08 50 11.9**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=73,slow=7.4							
NB200	**NORSAR Array S**	**53.22**	**323**	*e*P		**P**	**08 50 12.1**	**0.0**
NOA	**NORSAR Array B**	**53.22**	**323**	P		**P**	**08 50 12.1**	**0.0**
	comp=Z,1.9nm,0.6s,baz=75,slow=7.5,SNR=8.3							
IDI	**Anoyia**		**53.39**	**289**	P	**P**	**08 50 14.4**	**+0.7**
GERES	**GERESS Array B**	**55.70**	**308**	P		**P**	**08 50 30.9**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=61,slow=8.2,SNR=5.7							
EKA	**Eskdalemuir Ar**	**62.39**	**320**	P		**P**	**08 51 17.0**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=62,slow=5.0,SNR=6.3							
ILAR	**Eielson Array**	**66.69**	**24**	P		**P**	**08 51 44.1**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=279,slow=4.7,SNR=7.4							
ILAR				LR		LR	09 22 57.1	
	comp=Z,100nm,18.3s,baz=160,slow=38							
ILB	**Eielson Array**	**66.69**	**24**	*e*P		**P**	**08 51 43.2**	**-1.3**
INK	**Inuvik**	**67.71**	**17**	P		**P**	**08 51 50.6**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=334,slow=9.4,SNR=4.6							
INK	**Inuvik**	**67.71**	**17**	*e*P		**P**	**08 51 49.8**	**-1.1**
	comp=Z,2.8nm,0.9s							
PMG	**Port Moresby**	**69.45**	**121**	LR		LR	09 23 22.9	
	comp=Z,30nm,20.6s,baz=202,slow=37							
WR1	**Warramunga Arr**	**70.05**	**139**	*e*P		**P**	**08 52 06.2**	**+0.2**
	comp=Z,1.6nm,0.8s							
WRA	**Warramunga Arr**	**70.05**	**139**	P		**P**	**08 52 06.2**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=336,slow=5.8,SNR=9.6							
ES19	**SONSECA Array**	**71.11**	**306**	*e*P		**P**	**08 52 11.8**	**-0.8**
ESDC	**Sonseca Array**	**71.17**	**306**	P		**P**	**08 52 13.9**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=48,slow=6.3,SNR=7.6							
AS31	**Alice Springs**	**72.94**	**141**	*e*P		**P**	**08 52 22.6**	**-0.9**
	comp=Z,0.7nm,1.1s							
ASAR	**Alice Springs**	**72.94**	**141**	P		**P**	**08 52 24.1**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=330,slow=6.3,SNR=28							
YKA	**Yellowknife Ar**	**76.64**	**13**	P		**P**	**08 52 43.7**	**-0.7**
	comp=Z,2.5nm,0.9s,baz=338,slow=5.5,SNR=2.3							
YKB5	**Yellowknife Ar**	**76.64**	**13**	*e*P		**P**	**08 52 43.5**	**-0.9**
TOA1	**Torodi Ar. Sit**	**82.95**	**281**	*e*P		**P**	**08 53 18.6**	**-0.8**
TORD	**Torodi Ar. Bea**	**82.95**	**281**	P		**P**	**08 53 18.6**	**-0.8**
	comp=Z,0.8nm,0.9s,baz=35,slow=5.4,SNR=4.8							
STKA	**Stephens Creek**	**83.53**	**140**	P		**P**	**08 53 21.5**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=339,slow=8.6,SNR=2.7							
STKA	**Stephens Creek**	**83.53**	**140**	*e*P		**P**	**08 53 21.7**	**-0.2**
	comp=Z,0.3nm,0.8s							
CPUP	**Villa Florida**	**152.26**	**288**	PKPbc		**PKPbc**	**09 00 49.7**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=2.7,slow=2.7,SNR=4.1							

WEL 03 08:59:53.0±0.9, 38.°8S±8.°×18.°0W±.°, h33km, ML3.7/18, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**1.27**	**263**	P		Pn	09 00 14.2	-0.3
MXZ	**Matakaoa Point**	**1.36**	**275**	P		Pn	09 00 15.7	+0.1
MXZ				S		Sn	09 00 33.6	+1.1
PUZ	**Puketiti**	**1.44**	**254**	P		Pn	09 00 16.6	-0.2
PUZ				S		Sn	09 00 35.5	+0.9
CNGZ	**Carnagh Statio**	**1.63**	**240**	P		Pn	09 00 19.7	+0.3
TWGZ	**Tauwhareparae**	**1.68**	**252**	P		Pn	09 00 20.2	+0.1
TWGZ				S		Sn	09 00 40.5	0.0
HAZ	**Te Kaha**	**1.77**	**267**	P		Pn	09 00 21.4	+0.2
TKGZ	**Te Karaka**	**1.87**	**245**	P		Pn	09 00 22.6	0.0
TKGZ				S		Sn	09 00 46.1	+1.1
RUGZ	**Raukumara Rang**	**1.87**	**261**	P		Pn	09 00 22.7	-0.1
RIGZ	**Rimuhau**	**2.04**	**239**	P		Pn	09 00 25.0	-0.1
RIGZ				S		Sn	09 00 50.5	+1.0
MWZ	**Matawai**	**2.07**	**251**	P		Pn	09 00 24.8	-0.6
MWZ				S		Sn	09 00 50.6	+0.6
PRGZ	**Paritu Road**	**2.08**	**233**	P		Pn	09 00 25.7	+0.1
RAGZ	**Rawiri**	**2.20**	**248**	P		Pn	09 00 27.6	+0.3
RAGZ				S		Sn	09 00 53.8	+0.3
MHGZ	**Mahia Peninsul**	**2.21**	**228**	P		Pn	09 00 26.9	-0.4
MHGZ				S		Sn	09 00 54.6	+1.1
KNZ	**Kokohu**	**2.27**	**233**	P		Pn	09 00 27.6	-0.6
KNZ				S		Sn	09 00 54.8	-0.2
URZ	**Urewera**	**2.36**	**255**	P		Pn	09 00 30.0	+0.5
URZ				S		Sn	09 00 58.0	+0.7
SNGZ	**Shannon Statio**	**2.37**	**242**	P		Pn	09 00 29.5	-0.1
SNGZ				S		Sn	09 00 58.4	+0.8
RTZ	**Ruatahuna**	**2.56**	**248**	P		Pn	09 00 32.9	+0.6
RAHZ	**Arahi**	**2.61**	**241**	P		Pn	09 00 33.3	+0.4
RAHZ				S		Sn	09 01 04.3	+0.8
MUGZ	**Murupara**	**2.68**	**252**	P		Pn	09 00 33.9	+0.1
MUGZ				S		Sn	09 01 05.0	0.0
MTHZ	**Maungataniwha**	**2.75**	**244**	P		Pn	09 00 34.7	-0.2
MTHZ				S		Sn	09 01 07.8	+0.8
ARHZ	**Aropaoanui**	**2.84**	**235**	P		Pn	09 00 36.8	+0.7
ARHZ				S		Sn	09 01 10.7	+1.5
NMHZ	**Naumai**	**2.89**	**240**	P		Pn	09 00 36.9	+0.1
NMHZ				S		Sn	09 01 11.2	+0.8
MRHZ	**Matea Rd**	**3.05**	**247**	P		Pn	09 00 39.0	0.0
BKZ	**Black Stump Fm**	**3.13**	**241**	P		Pn	09 00 39.9	-0.2
BKZ				S		Sn	09 01 16.4	0.0
MCHZ	**McNeill Hill**	**3.14**	**235**	P		Pn	09 00 40.3	+0.2
BHHZ	**Black Hill Sta**	**3.58**	**239**	P		Pn	09 00 45.9	-0.4
PRHZ	**Porangahau**	**3.68**	**225**	P		Pn	09 00 46.1	-1.6
PNHZ	**Pukenui**	**3.72**	**232**	P		Pn	09 00 46.9	-1.2
MKAZ	**Moumakai**	**3.90**	**277**	P		Pn	09 00 50.5	-0.1
TSZ	**Takapari Road**	**3.95**	**232**	P		Pn	09 00 49.7	-1.7
MRZ	**Mangatainoka R**	**4.55**	**228**	P		Pn	09 00 57.2	-2.3
WCZ	**Waipu Caves**	**4.87**	**289**	P		Pn	09 01 05.1	+1.2

MEX 03 09:06:49.2±0.6, 17.°15N×94.°66W, h136km±12km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TGIG		**1.52**	**104**	*e*P		Pn	09 07 17.0	-0.9
TGIG				*e*S		Sn	09 07 37.8	-2.1
HUIG	**Huatulco**	**1.96**	**226**	*e*P		Pn	09 07 21.8	-1.2
HUIG				*e*S		Sn	09 07 46.5	-2.4
VHO	**Vista Hermosa**	**1.99**	**268**	*i* P		Pn	09 07 23.1	-0.4
VHO				*i* S		Sn	09 07 48.7	-1.1

*NIED **03** 09:36:00, 36.°80N×143.°90E, h5km, Mw3.6 Best double couple: M0 3.16000×10^14 NP1:φ=34.00000°, δ 18.00000°, λ=-90.00000°. NP2:φ=213.00000°, δ 72.00000°, λ=-90.00000°.*
*IDC **03** 09:36:26.0±1.2, 36.°65N×144.°03E, h0km, mb3.6/5, mb1 3.8/9, mb1mx3.6/49, mbtmp3.7/9, ML3.7/3, MS2.6/1, Ms1 2.6/1, ms1mx2.1/41, Error ellipse: s-maj=31.5km s-min=21.8km az=77.0*
*ISCJB **03** 09:36:28.8±0.7, 36.°75N±0.°04×143.°88E±0.°06, h33km, mb3.6/5, Error ellipse: s-maj=6.5km s-min=5.7km az=5.2*
*JMA **03** 09:36:29.6±0.2, 36.°82N×143.°90E, h55km, M3.6*

ISC 03 09:36:31.0±1.0, 36.°77N±0.°05×143.°86E±0.°09, h35km, n27, σ1§34/31, mb3.6/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**2.45**	**310**	P		**Pn**	**09 37 08.3**	**-0.1**
JIKH				*e*X			09 37 36.8	
JFK	**Kawauchi**	**2.46**	**285**	P		**Pn**	**09 37 08.8**	**+0.1**
JFK				*e*S		**Sn**	**09 37 37.7**	**+0.1**
ONAJ	**Iwakimizuishiy**	**2.48**	**279**	*e*S		**Sn**	**09 37 37.8**	**-0.1**
JIO	**Ouri**	**2.61**	**311**	P		**Pn**	**09 37 10.5**	**-0.1**
JIO				S		**Sn**	**09 37 40.3**	**-0.8**
CHOJ	**Chosi**	**2.65**	**247**	P		**Pn**	**09 37 12.0**	**+0.8**
CHOJ				S		**Sn**	**09 37 43.6**	**+1.4**
JMK	**Ichinoseki**	**3.02**	**317**	P		**Pn**	**09 37 16.3**	**0.0**
JMK				S		**Sn**	**09 37 50.8**	**-0.4**
BSO1	**Boso 1**	**3.16**	**229**	P		**Pn**	**09 37 18.2**	**+0.5**
BSO1				X			09 37 55.0	
JRY	**Ryogami san**	**4.07**	**261**	P		**Pn**	**09 37 31.1**	**+0.3**
JRY				S		**Sn**	**09 38 17.1**	**-0.2**
JOD2	**Odawara 2**	**4.15**	**250**	S		**Sn**	**09 38 19.9**	**+0.6**
MJAR	**Matsushiro Arr**	**4.55**	**269**	Pn		**Pn**	**09 37 39.0**	**+1.7**
	2.5nm,0.3s,baz=102,slow=11,SNR=26							
MJAR				Sn		**Sn**	**09 38 27.2**	**-1.9**
	0.4nm,0.3s,baz=144,slow=12,SNR=3.3							
MAT	**Matsushiro**	**4.55**	**269**	P		**Pn**	**09 37 39.4**	**+2.0**
MAT				*e*S		**Sn**	**09 38 27.2**	**-1.9**
JHJ2	**Mitsune**	**4.94**	**223**	P		**Pn**	**09 37 41.9**	**-0.8**
JHJ2				S		**Sn**	**09 38 37.6**	**-1.0**
JHJ	**Hachijo jima 2**	**4.95**	**224**	Pn		**Pn**	**09 37 41.3**	**-1.5**
	12nm,0.3s,baz=244,slow=23,SNR=8.1							
JHJ				Sn		**Sn**	**09 38 35.1**	**-3.8**
	19nm,0.3s,baz=75,slow=20,SNR=4.5							
ASAJ	**Asahikawa**	**7.40**	**353**	Pn		**Pn**	**09 38 15.8**	**-0.7**
	1.2nm,0.3s,baz=210,slow=15,SNR=12							
ASAJ				Sn		**Sn**	**09 39 37.0**	**-2.1**
	0.6nm,0.3s,baz=290,slow=29,SNR=2.6							
USRK	**Ussuriysk Ar.**	**11.69**	**313**	Pn		**Pn**	**09 39 16.4**	**+1.2**
	baz=120,slow=12							
KLR	**Kul'dur**	**15.26**	**328**	Pn		**Pn**	**09 40 02.1**	**-1.5**
	0.2nm,0.3s,baz=95,slow=12,SNR=2.1							
KLR				LR		LR	09 46 06.7	
	comp=Z,25nm,21.4s,baz=99,slow=38							
H11N2	**WAKE ISLAND Hy**	**26.35**	**124**	T		T	10 09 18.6	
	baz=318,SNR=28							
H11N1	**WAKE ISLAND Hy**	**26.36**	**124**	T		T	10 09 14.4	
	baz=318							
H11N3	**WAKE ISLAND Hy**	**26.37**	**124**	T		T	10 09 14.4	
	baz=318							
H11S1	**WAKE ISLAND Hy**	**27.09**	**126**	T		T	10 10 13.7	
	baz=317,slow=76,SNR=5.8							
H11S3	**WAKE ISLAND Hy**	**27.09**	**126**	T		T	10 10 17.2	
	baz=317,slow=76,SNR=7.6							
H11S2	**WAKE ISLAND Hy**	**27.11**	**126**	T		T	10 10 06.3	
	baz=317,slow=76,SNR=5.3							
SONM	**Songino Array**	**29.56**	**304**	P		**P**	**09 42 33.9**	**+1.4**
	0.2nm,0.3s,baz=108,slow=9.3,SNR=2.6							
WRA	**Warramunga Arr**	**57.12**	**191**	P		**P**	**09 46 12.9**	**-1.2**
	0.5nm,0.6s,baz=12,slow=7.3,SNR=9.5							
ASAR	**Alice Springs**	**60.84**	**190**	P		**P**	**09 46 39.3**	**-0.6**
	0.4nm,0.9s,baz=14,slow=5.6,SNR=5.1							
STKA	**Stephens Creek**	**68.33**	**182**	P		**P**	**09 47 28.6**	**+0.1**
	0.5nm,0.3s,baz=350,slow=11,SNR=3.9							
TXAR	**Lajitas Array**	**88.71**	**54**	P		**P**	**09 49 22.3**	**+1.1**
	0.2nm,0.6s,baz=310,slow=3.9,SNR=4.2							

*ISCJB **03** 09:46:59.6±0.3, 16.°41S±0.°04×71.°80W±0.°07, h100km, mb4.2/32, Error ellipse: s-maj=9.9km s-min=3.3km az=152.9*
*NEIC **03** 09:47:02.4±0.7, 16.°53S×71.°81W, h118km±8km, mb4.3/23, Error ellipse: s-maj=11.7km s-min=7.4km az=85.0*
*IDC **03** 09:47:04.9±1.6, 16.°37S×71.°88W, h124km±13km, mb3.7/10, mb1 3.9/13, mb1mx3.7/36, mbtmp4.1/13, Error ellipse: s-maj=20.9km

GBGM	Boggs Mountain	72.70	321	*e*P		P	09 58 17.3	-1.3
TOA0	Torodi Ar. Sit	78.53	73	*e*P		P	09 58 50.6	-1.7
TORD	Torodi Ar. Bea	78.53	73	P		P	09 58 50.9	-1.4
	2.8nm,0.5s,baz=254,slow=4.9,SNR=37							
ESDC	Sonseca Array	84.43	46	P		P	09 59 23.8	+0.9
	1.1nm,0.6s,baz=257,slow=4.9,SNR=9.1							
ESLA	Sonseca Array	84.43	46	*e*P		P	09 59 19.9	-3.0
	3.0nm,1.0s							
ES19	SONSECA Array	84.49	46	*e*P		P	09 59 21.9	-1.3
YKA	Yellowknife Ar	85.62	342	P		P	09 59 28.3	+0.1
	2.8nm,0.6s,baz=137,slow=5.0,SNR=7.9							
ASAR	Alice Springs	132.69	213	PKP		PKPdf	10 06 05.4	+0.1
	0.2nm,0.7s,baz=103,slow=2.0,SNR=5.8							
WRA	Warramunga Arr	135.45	216	PKP		PKPdf	10 06 11.5	+1.0
	0.2nm,0.4s,baz=135,slow=1.7,SNR=10							
WRA				pPKP		pPKPdf	10 06 39.7	+1.7
	0.2nm,0.5s,baz=150,slow=1.9,SNR=2.2							
ZALV	Zalesovo Beam	138.56	21	PKP		PKPdf	10 06 16.9	+1.8
	2.1nm,0.7s,baz=281,slow=2.8,SNR=7.7							
MKAR	Makanchi Array	143.08	30	PKP		PKPdf	10 06 21.7	-1.9
	0.3nm,0.5s,baz=294,slow=2.0,SNR=2.8							
SONM	Songino Array	148.80	2	PKPbc		PKPbc	10 06 38.9	+1.5
	1.7nm,0.6s,baz=328,slow=1.9,SNR=6.7							
KSRS	Korea Array	152.79	324	PKPbc		PKPbc	10 06 47.0	+0.2
	0.7nm,0.5s,baz=336,slow=2.5,SNR=4.4							

*IDC **03** 09:48:21.1±0.7, 52.50N×132.63W, h0km, mb4.1/10, mb1 4.1/17, mb1mx3.9/57, mbtmp3.9/17, ML3.4/7, MS3.3/12, Ms1 3.3/12, ms1mx3.0/39, Error ellipse: s-maj=10.9km s-min=7.0km az=78.0*

*PGC **03** 09:48:22.5±4.6, 52.56N×132.41W, h30km, mb4.0, ML3.9/18, 86km southwest of Sandspit, Bc Haida Gwaii Region*

*NEIC **03** 09:48:23.5±0.3, 52.53N×132.65W, h10km, mb4.0/64, Error ellipse: s-maj=9.1km s-min=2.9km az=50.0*

ISC 03 09:48:23.8±1.4, 52.61N±0.05×132.36W±0.05, h16km±9km, n216, σ1961/210, mb4.2/38, MS3.3/7, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BNB	Barry Inlet	0.37	95	P		Pg	09 48 31.0	-0.5
BNB				S		Sb	09 48 37.6	-0.1
DIB	Dawson Inlet,	0.60	353	*e*Pg		Pg	09 48 35.6	0.0
DIB				*e*Sg		Sb	09 48 44.1	0.0
DIB	Dawson Inlet,	0.60	353	P		Pg	09 48 34.7	-0.9
DIB				S		Sb	09 48 44.1	0.0
H02S1	DAWSON INLET T	0.60	353	Pg		Pb	09 48 36.2	+0.3
H02S1				Lg		Lg	09 48 44.1	
H02N1	VAN INLET T-PH	0.65	350	Pg		Pg	09 48 35.5	-1.2
H02N1				Lg		Lg	09 48 45.4	
VIB	Van Inlet	0.65	351	P		Pg	09 48 36.0	-0.7
VIB				S		Sb	09 48 45.6	-0.2
BNAB	Bonilla	1.37	49	Pn		Pn	09 48 47.0	-1.2
NDB	Naden	1.39	346	Pn		Pn	09 48 46.5	-2.1
RUBB	Prince Rupert	2.13	35	Pn		Pn	09 48 58.0	-0.7
BBB	Bella Bella	2.64	98	Pn		Pn	09 49 02.9	-2.7
	5.7nm,0.3s,baz=287,slow=9.2,SNR=59							
BBB				Pg		Pb	09 49 09.7	-0.9
	20nm,0.3s,baz=284,slow=17,SNR=34							
BBB				Sn		Sn	09 49 34.8	-2.4
	62nm,0.3s,baz=291,slow=17,SNR=6.1							
BBB				LR		LR	09 50 10.0	
	comp=Z,446nm,21.7s,baz=328,slow=39							
BBB	Bella Bella	2.64	98	*e*Pn		Pn	09 49 02.6	-3.1
BBB				Pg		Pb	09 49 09.7	-0.9
BBB				Sn		Sn	09 49 34.8	-2.4
BBB	Bella Bella	2.64	98	Pn		Pn	09 49 02.9	-2.7
CRAG	Craig	2.90	351	*e*Pn		Pn	09 49 08.6	-0.7
BCBC	Bella Coola	3.44	92	Pn		Pn	09 49 15.0	-1.6
PHC	Port Hardy	3.61	120	Pn		Pn	09 49 14.5	-4.6
PACB	Port Alice, BC	3.74	124	Pn		Pn	09 49 17.9	-2.9
BPBC	Brooks Peninsu	3.78	129	Pn		Pn	09 49 18.6	-2.8
WRAK	Wrangell Islan	3.82	0	*e*Pn		Pn	09 49 21.7	-0.2
WRAK				*e*Sn		Sn	09 50 06.8	+0.4
MAYB	Maynard	3.92	122	Pn		Pn	09 49 19.9	-3.6
TLCB	Telegraph Cove	4.02	119	Pn		Pn	09 49 19.6	-5.0
WOSB	Woss	4.38	122	Pn		Pn	09 49 26.8	-2.9
NCRB	Newcastle Ridg	4.52	117	Pn		Pn	09 49 28.5	-3.1
SIT	Sitka	4.78	340	*e*Pn		Pn	09 49 33.6	-1.4
SIT				*e*Sn		Sn	09 50 27.4	-2.6
GDR	Gold River	4.88	123	Pn		Pn	09 49 34.4	-2.1
SPLB	Strathcona Par	5.01	120	Pn		Pn	09 49 36.2	-2.1
UBRB	Upper Baezaeko	5.04	83	Pn		Pn	09 49 38.5	-0.2
CBB	Campbell River	5.09	118	Pn		Pn	09 49 36.9	-2.5
FSB	Fort Saint Jam	5.14	65	Pn		Pn	09 49 40.1	-0.1
BTB	Buttle Lake	5.34	123	Pn		Pn	09 49 41.5	-1.5
JIS	Juneau Island	5.80	349	*e*Pn		Pn	09 49 51.3	+2.3
DLBC	Dease Lake	5.99	12	Pn		Pn	09 49 54.4	+2.6
	0.5nm,0.3s,baz=189,slow=12,SNR=9.8							
DLBC				Sn		Sn	09 50 56.7	-3.3
	0.8nm,0.3s,baz=281,slow=16,SNR=2.7							
DLBC				Lg		Lg	09 51 37.3	
	1.6nm,0.3s,baz=331,slow=15,SNR=4.7							
DLBC				LR		LR	09 52 19.9	
	comp=Z,230nm,19.1s,baz=209,slow=39							
DLBC	Dease Lake	5.99	12	*e*Pn		Pn	09 49 56.7	+4.9
DLBC				Sn		Sn	09 50 56.7	-3.3
DLBC				Lg		Lg	09 51 37.3	
DLBC	Dease Lake	5.99	12	Pn		Pn	09 49 50.1	-1.7
MGB	Mount Grey	6.06	124	Pn		Pn	09 49 51.7	-1.0
BMBC	Bull Mountain	6.90	56	Pn		Pn	09 50 04.6	+0.3
SKAG	Skagway	7.07	348	*e*Pn		Pn	09 50 08.0	+1.6
WHY	Whitehorse	8.19	351	*e*Pn		Pn	09 50 23.1	+1.1
WHY	Whitehorse	8.19	351	Pn		Pn	09 50 21.9	-0.1
FNBB	Fort Nelson	8.21	36	Pn		Pn	09 50 22.3	+0.1
D05A	Enumclaw	8.61	125	*e*Pn		Pn	09 50 30.2	+2.5
PCA	Pinnacle	8.69	333	*e*Pn		Pn	09 50 29.5	+0.7
SLEB	Sale Mountain	8.92	94	Pn		Pn	09 50 32.5	+0.4
LON	Longmire	9.01	126	*e*Pn		Pn	09 50 34.6	+1.4
LTY	Liberty	9.24	121	*e*Pn		Pn	09 50 37.4	+1.0
TGL	Tana Glacier	9.98	329	*e*Pn		Pn	09 50 46.3	-0.2
BALM	Baldy	10.05	331	*e*Pn		Pn	09 50 48.4	+1.0
NEW	Newport	10.64	108	Pn		Pn	09 50 58.0	+2.4
	0.1nm,0.3s,baz=293,slow=12,SNR=3.9							
NEW				Lg		Lg	09 54 00.4	
	0.1nm,0.3s,baz=62,slow=15,SNR=2.4							
NEW				LR		LR	09 54 59.7	
	comp=Z,238nm,18.9s,baz=296,slow=37							
KBO	Bosley Butte	11.76	149	*e*Pn		Pn	09 51 08.7	-2.2
HUMO	Hull Mountain	11.84	144	*e*Pn		Pn	09 51 14.7	+2.8
F10A	Beach Ranch, E	11.89	118	*e*Pn		Pn	09 51 14.8	+2.1
J05D	Fort Rock, OR	11.93	137	P		Pn	09 51 14.2	+0.9
	baz=324							
WALA	Waterton Lakes	12.19	100	*e*Pn		Pn	09 51 19.4	+2.6
SCM	Sheep Creek Mo	12.26	325	*e*Pn		Pn	09 51 17.6	0.0
K05A	Summer Lake	12.53	138	*e*Pn		Pn	09 51 24.2	+2.6
JTMT	Jette	12.56	106	*e*Pn		Pn	09 51 24.2	+2.4
KDAK	Kodiak Island	12.64	302	LR		LR	09 54 54.8	
	comp=Z,174nm,18.3s,baz=112,slow=31							
YBH	Yreka Blue Hor	12.69	145	Pn		Pn	09 51 24.6	+0.9
	0.1nm,0.3s,baz=318,slow=3.8,SNR=5.5							
YBH	Yreka Blue Hor	12.69	145	*e*Pn		Pn	09 51 27.7	+4.1
GHO	Glory Hole Cre	12.80	322	*e*Pn		Pn	09 51 25.5	+0.5
EGAK	Eagle	13.01	343	*e*Pn		Pn	09 51 30.4	+2.6
JCC	Jacoby Creek,	13.10	151	*e*Pn		Pn	09 51 31.9	+2.9
DHY	Denali Highway	13.15	329	*e*Pn		Pn	09 51 30.8	+1.0
N02D	Trinity Center	13.37	147	P		Pn	09 51 35.2	+2.3
	baz=333							
YKA	Yellowknife Ar	13.69	37	Pn		Pn	09 51 37.0	0.0
	0.1nm,0.3s,baz=222,slow=12,SNR=3.5							
RND	Reindeer	13.86	328	*e*Pn		Pn	09 51 40.1	+0.7
HDA	Harding Lake	14.02	333	*e*Pn		Pn	09 51 42.5	+0.9
MCK	McKinley	14.11	329	*e*P		P	09 51 51.8	+1.4
IL1	Eielson Array	14.29	334	*e*Pn		P	09 51 49.1	-3.3
ILAR	Eielson Array	14.29	334	Pn		Pn	09 51 45.6	+0.4
	0.1nm,0.3s,baz=151,slow=12,SNR=11							
ILB	Eielson Array	14.29	334	*e*P		P	09 51 54.2	+1.9
TRF	Thorofare Moun	14.36	326	*e*Pn		Pn	09 51 47.4	+1.0
WRH	Wood River Hil	14.39	332	*e*P		P	09 51 55.0	+1.5
CCB	Clear Creek Bu	14.44	333	*e*Pn		Pn	09 51 48.7	+1.4
HRY	Holter Researc	14.52	106	*e*P		P	09 51 56.6	+1.4
PPLA	Purkeypile	14.70	322	*e*P		P	09 51 58.0	+1.0
DLMT	Dillon	14.83	111	*e*P		P	09 52 00.7	+2.0
HLID	Hailey	14.99	120	*e*Pn		Pn	09 51 56.5	+1.5
	5.4nm,1.1s							
HLID	Hailey	14.99	120	P		P	09 51 58.5	-2.0
	baz=313							
MCMT	McKenzie Canyo	15.02	113	*e*P		P	09 52 02.7	+1.9
EGMT	Eagleton	15.13	99	*e*Pn		P	09 52 02.6	+0.7
	9.9nm,0.9s							
SVW2	Sparrevohn	15.21	313	*e*Pn		P	09 52 02.8	+0.3
	24nm,1.0s							
BOZ	Bozeman (W)	15.25	109	P		Pn	09 51 59.5	+1.0
	baz=304							
FYU	Fort Yukon	15.39	340	*e*Pn		P	09 52 06.8	+2.3
	8.9nm,0.8s							
MLY	Manley	15.58	330	*e*Pn		Pn	09 52 03.2	+0.6
	15nm,1.0s							
QLMT	Earthquake Lak	15.81	111	*e*Pn		P	09 52 08.3	-1.4
YHB	Horse Butte	16.00	111	*e*Pn		P	09 52 13.3	+1.6
	12nm,0.9s							
YHH	Holmes Hill	16.17	110	*e*Pn		Pn	09 52 11.4	+0.9
	12nm,1.1s							
YMR	Madison River	16.18	111	*e*Pn		P	09 52 12.5	-1.2
	20nm,1.1s							
GCMT	Greycliff	16.29	106	*e*Pn		P	09 52 16.5	+1.7
YNR	Norris Junctio	16.31	110	*e*Pn		P	09 52 14.2	-1.0
	8.5nm,1.1s							
YFT	Old Faithful	16.38	111	*e*Pn		P	09 52 19.1	+3.1
	5.8nm,0.9s							
YPP	Pitchstone Pla	16.51	112	*e*Pn		P	09 52 19.6	+2.2
	6.5nm,1.1s							
H17A	Grant Village	16.56	111	*e*Pn		P	09 52 17.9	-0.1
	8.6nm,1.1s							
H17A	Grant Village	16.56	111	P		Pn	09 52 16.1	+0.6
	baz=307							
IMW	Indian Meadow	16.67	113	*e*Pn		P	09 52 21.2	+2.1
	4.1nm,0.9s							
KVN	Kaiserville	16.77	138	*e*Pn		P	09 52 19.4	-0.8
	11nm,1.2s							
FXWY	Fox Creek	16.78	114	*e*Pn		P	09 52 22.6	+2.3
	8.2nm,1.1s							
MOOW	Moose Ponds	16.87	113	*e*Pn		P	09 52 23.6	+2.2
	4.8nm,0.9s							
RLMT	Red Lodge	16.89	107	*e*Pn		P	09 52 23.4	+1.8
	6.3nm,1.0s							
RLMT	Red Lodge	16.89	107	P		Pn	09 52 19.8	+0.2
	baz=304							
TPAW	Teton Pass	16.92	114	*e*Pn		P	09 52 24.5	+2.6
	11nm,0.9s							
LOHW	Long Hollow	17.04	113	*e*Pn		P	09 52 25.4	+2.2
	6.1nm,1.1s							
SNOW	Snow King Moun	17.05	114	*e*Pn		P	09 52 25.9	+2.6
	8.4nm,1.1s							
REDW	Red Top Meadow	17.06	114	*e*Pn		P	09 52 26.3	+2.9
	7.8nm,1.0s							
IM3	Indian Mountai	17.15	330	*e*Pn		Pn	09 52 23.1	+0.6
NV01	Mina Array Sit	17.22	140	*e*Pn		Pn	09 52 24.4	+0.7
NVAR	Mina Array Bea	17.22	140	P		Pn	09 52 24.4	+0.6
	0.0nm,0.3s,baz=314,slow=11,SNR=12							
NVAR				LR		LR	09 59 03.0	
	comp=Z,44nm,19.9s,baz=348,slow=37							
NV11	Mina Array Sit	17.27	140	*e*Pn		P	09 52 25.9	+0.2
	0.4nm,1.1s							
BGU	Big Grassy Mou	17.60	124	*e*Pn		P	09 52 30.3	+1.0
	1.3nm,1.2s							
LAO	LASA Array	17.88	99	*e*Pn		P	09 52 33.4	+1.1
	6.9nm,0.8s							
BW06	Boulder Array	18.16	114	*e*Pn		P	09 52 37.0	+1.3
	6.3nm,1.0s							
PD31	Pinedale Array	18.16	114	*e*Pn		P	09 52 38.0	+2.3
PDAR	Pinedale Array	18.16	114	P		P	09 52 36.5	+0.8
	0.1nm,0.3s,baz=308,slow=7.9,SNR=21							
PDAR	Pinedale Array	18.16	114	*e*Pn		P	09 52 37.6	+1.9
DUG	Dugway, Tooele	18.25	125	*e*Pn		P	09 52 37.3	+0.7
	5.2nm,1.0s							
DUG	Dugway, Tooele	18.25	125	P		P	09 52 36.7	+0.1
	baz=319,SNR=5.4							
DGMT	Dagmar	18.32	92	*e*Pn		P	09 52 38.2	+1.1
	17nm,1.0s							
R11A	Troy Canyon, C	18.42	134	*e*P		Pn	09 52 39.3	+0.8
	4.7nm,1.0s							
R11A	Troy Canyon, C	18.42	134	P		Pn	09 52 39.1	+0.6
	baz=326,SNR=11							
PSUT	Pine Spring	19.05	130	*e*P		Pn	09 52 46.8	+0.7
	3.0nm,1.0s							
TPNV	Topopah Spring	19.32	138	*e*P		Pn	09 52 51.0	+1.6
	11nm,1.1s							
TPNV	Topopah Spring	19.32	138	P		Pn	09 52 50.7	+1.3
	baz=329							
ISA	Isabella, Lake	19.60	144	*e*P		Pn	09 52 54.9	+2.3
	4.6nm,1.1s							
ISA	Isabella, Lake	19.60	144	P		Pn	09 52 54.6	+2.0
	baz=334							
MPMC	Maual Prospec	19.61	142	P		Pn	09 52 54.6	+1.8
	baz=332							
P17A	Butcher Ranch,	19.85	123	*e*P		Pn	09 52 55.4	-0.2
	7.5nm,1.2s							
MSU	Marysvale	19.86	127	*e*P		Pn	09 52 56.0	+0.1
K22A	Casper	19.96	110	*e*P		P	09 52 55.3	+0.1
	9.5nm,1.0s							
P18A	Preston Nutter	19.98	122	*e*P		Pn	09 52 58.1	+0.6
	7.1nm,1.1s							
CCUT	Cedar City	20.07	131	*e*P		Pn	09 52 57.8	-0.6
	11nm,1.2s							
SZCU	Shurtz Canyon	20.16	130	*e*P		P	09 52 58.6	+1.0
	7.0nm,1.0s							
RSSD	Black Hills	20.54	103	P		Pn	09 53 05.5	+1.7
	baz=304							
LCMT	Little Creek M	20.57	132	*e*P		P	09 53 03.1	+1.2
	9.1nm,1.1s							
PKCU	Pink Cliffs	20.65	129	*e*P		Pn	09 53 04.9	-0.4
	15nm,1.2s							
O20A	White River Ci	20.68	117	*e*P		P	09 53 04.3	+1.2
	9.4nm,0.9s							
O20A	White River Ci	20.68	117	P		Pn	09 53 04.7	-0.8
	baz=315							
KNB	Kanab	20.76	131	*e*Pn		Pn	09 53 06.9	+0.5
	7.4nm,1.0s							
TUQ	Turquoise Moun	20.76	139	P		P	09 53 04.7	+0.8
	baz=330							
MDND	Maddock	21.38	90	*e*P		P	09 53 11.3	+1.0
	42nm,1.1s							
MDND	Maddock	21.38	90	P		P	09 53 11.1	+0.8
	baz=295,SNR=5.6							
LDFC	Landfair	21.40	138	*e*P		P	09 53 15.5	+4.7
	18nm,1.1s							
PV09	Paradox Valley	21.40	122	*e*P		P	09 53 11.2	+0.1
N23A	Red Feather La	21.43	113	*e*P		P	09 53 11.6	+0.3
	7.4nm,0.8s							
N23A	Red Feather La	21.43	113	P		P	09 53 11.7	+0.5
	baz=312,SNR=5.6							
PHWY	Pilot Hill	21.43	111	*e*P		P	09 53 11.4	+0.1
	11nm,0.8s							
PV21	Cone Mtn., Par	21.44	122	*e*P		P	09 53 14.6	+3.2
	3.9nm,0.9s							
U15A	North Rim	21.48	131	*e*P		P	09 53 12.9	+1.0
	5.8nm,0.8s							
PV23	Carpenter Ridg	21.50	122	*e*P		P	09 53 13.2	+1.1
	13nm,1.1s							
PV10	Paradox Valley	21.54	122	*e*P		P	09 53 14.2	+1.7
PV14	Lion Creek, Pa	21.55	122	*e*P		P	09 53 13.3	+0.7
	18nm,1.1s							
PV22	Blue Mesa, Par	21.55	121	*e*P		P	09 53 13.3	+0.7
	7.4nm,1.0s							
PV20	West Nyswonger	21.61	122	*e*P		P	09 53 14.1	+1.0
	12nm,1.0s							
PV19	Morning Glory	21.62	122	*e*P		P	09 53 13.9	+0.6
	12nm,1.0s							
PV16	Nyswonger Mesa	21.66	122	*e*P		P	09 53 14.5	+0.8
	6.1nm,0.9s							
PV17	East Wray Mesa	21.66	122	*e*P		P	09 53 14.5	+0.8
	17nm,1.1s							
PV11	David Mesa, Pa	21.69	122	*e*P		P	09 53 15.0	+1.1
	5.6nm,0.8s							
PV12	Saucer Basin,	21.71	122	*e*P		P	09 53 14.9	+0.6
	7.6nm,1.0s							
PV03	Paradox Valley	21.73	122	*e*P		P	09 53 15.0	+0.5
PV05	Paradox Valley	21.74	123	*e*P		P	09 53 15.9	+1.4
PV13	Radium Mtn., P	21.82	122	*e*P		P	09 53 16.1	+0.7
	11nm,1.2s							
W13A	Hualapai Mount	21.89	136	*e*P		P	09 53 17.0	+0.8
	5.5nm,1.0s							
PV01	Paradox Valley	21.97	122	*e*P		P	09 53 17.6	+0.5
SMCO	Snowmass	22.05	117	*e*P		P	09 53 18.4	+0.4
	14nm,0.9s							
PFO	Pinyon Flats O	22.16	143	LR		LR	10 02 12.3	
	comp=Z,31nm,19.2s,baz=112,slow=38							
IRM	Iron Mountain	22.18	139	P		P	09 53 19.6	+0.5
	baz=331							
MVCO	Mesa Verde	22.71	123	*e*P		P	09 53 25.0	+0.1
	6.4nm,1.1s							
MVCO	Mesa Verde	22.71	123	P		P	09 53 25.2	+0.3
	baz=320							
ULM	Lac du Bonnet	22.72	81	P		P	09 53 23.6	-1.1
	2.8nm,0.9s,baz=288,slow=7.6,SNR=5.1							
ULM				LR		LR	10 02 17.5	
	comp=Z,147nm,19.8s,baz=350,slow=36							
S22A	4UR Ranch, Cre	23.17	120	*e*P		P	09 53 30.7	+0.9
	5.2nm,1.0s							
S22A	4UR Ranch, Cre	23.17	120	P		P	09 53 30.2	+0.4
	baz=318,SNR=6.3							
Y14A	Wickenburg	23.25	136	*e*P		P	09 53 31.9	+1.5
SUSD	Miller	23.41	97	P		P	09 53 32.6	+0.7
	baz=302							
AGMN	Agassiz Nation	23.47	86	*e*P		P	09 53 34.4	+2.0
	8.2nm,1.0s							
SDCO	Great Sand Dun	23.88	118	*e*P		P	09 53 37.3	+0.5
	4.7nm,0.9s							
SDCO	Great Sand Dun	23.88	118	P		P	09 53 37.6	+0.8
	baz=317,SNR=6.3							
KSCO	Kaye Shedlock'	24.58	112	*e*P		P	09 53 44.8	+1.7
	14nm,1.1s							
KSCO	Kaye Shedlock'	24.58	112	P		P	09 53 43.6	+0.6
	baz=313							
ECSD	EROS Data Cent	25.21	96	*e*P		P	09 53 49.0	+0.5
	7.2nm,0.9s							
ECSD	EROS Data Cent	25.21	96	P		P	09 53 48.9	+0.3
	baz=303,SNR=5.7							
ANMO	Albuquerque	25.50	124	P		P	09 53 51.6	+0.1
	0.4nm,0.3s,baz=336,slow=12,SNR=3.8							
ANMO				LR		LR	10 04 27.8	
	comp=Z,55nm,18.3s,baz=56,slow=38							
EYMN	Ely	26.27	84	*e*P		P	09 54 00.7	+2.6
	23nm,1.1s							
EYMN	Ely	26.27	84	P		P	09 54 00.0	+1.9
	baz=296,SNR=5.9							
RES	Resolute Bay	26.79	21	LR		LR	10 04 00.3	
	comp=Z,88nm,19.1s,baz=148,slow=35							
F38A	Pierce - Schro	26.95	88	P		P	09 54 05.6	+1.4
	baz=299							
Q41A	Truxton	31.31	99	P		P	09 54 43.1	+0.1
	baz=309							
TX31	Lajitas Ar. Si	31.42	126	*e*P		P	09 54 44.7	+0.5
TXAR	Lajitas Array	31.42	126	P		P	09 54 44.7	+0.5
	1.4nm,0.9s,baz=331,slow=7.4,SNR=13							
TXAR				PcP		PcP	09 57 37.4	0.0
	0.4nm,1.0s,baz=352,slow=1.9,SNR=2.6							
R41A	Rosebud	31.64	100	P		P	09 54 45.9	-0.1
	baz=310							
CCM	Cathedral Cave	31.88	101	P		P	09 54 48.1	0.0
	baz=310							
U40A	Yellville	32.05	105	P		P	09 54 49.4	-0.2
	baz=313							
V41A	Mountainview	32.85	105	P		P	09 54 56.2	-0.4
	baz=313,SNR=6.3							
R47A	Wooly Knot Far	34.57	96	P		P	09 55 11.6	+0.1
	baz=310							
S48A	Wiedeman Farm,	35.26	96	P		P	09 55 17.6	+0.1
	baz=310							
U50A	Jamestown	36.81	97	P		P	09 55 30.5	-0.3
	baz=311							
W52A	Murphy	38.24	98	*e*P		P	09 55 43.0	0.0
	20nm,1.0s							
W52A	Murphy	38.24	98	P		P	09 55 42.4	-0.6
	baz=312							
SEY	Seymchan	39.13	315	P		P	09 55 50.1	+0.1
	4.1nm,0.8s,baz=93,slow=9.2,SNR=5.4							
PETK	Petropavlovsk-	40.67	300	P		P	09 56 02.0	-1.0
	5.6nm,0.8s,baz=91,slow=9.0,SNR=5.8							
YAK	Yakutsk	48.77	322	P		P	09 57 07.3	0.0
	7.0nm,0.4s,baz=91,slow=0.9,SNR=4.1							
H11N2	WAKE ISLAND Hy	56.86	259	T		T	11 00 18.5	
	baz=39,slow=76,SNR=134							
H11N3	WAKE ISLAND Hy	56.86	259	T		T	11 00 02.2	
	baz=39,slow=76,SNR=126							
H11N1	WAKE ISLAND Hy	56.87	259	T		T	11 00 21.0	
	baz=39,slow=76,SNR=110							
H11S1	WAKE ISLAND Hy	57.92	258	T		T	11 01 24.4	
	baz=39,slow=75,SNR=11							
H11S2	WAKE ISLAND Hy	57.93	258	T		T	11 01 31.0	
	baz=39,slow=75,SNR=8.3							
H11S3	WAKE ISLAND Hy	57.93	258	T		T	11 01 33.3	
	baz=39,slow=75,SNR=10							
USRK	Ussuriysk Ar.	59.51	304	P		P	09 58 24.9	-1.0
	3.4nm,0.8s,baz=32,slow=11,SNR=7.1							
MJAR	Matsushiro Ant	61.66	294	P		P	09 58 38.2	-2.5
	1.1nm,0.7s,baz=47,slow=7.4,SNR=3.5							
NOA	NORSAR Array B	63.03	19	LR		LR	10 24 46

	56nm,0.4s								
DJR	**Jarkent**	**3.05**	**214**	*e*	P		**Pg**	**09 54 51.5**	**-1.9**
	7.3nm,0.4s								
DJR				*e*	S		**Sg**	**09 55 32.7**	**-0.2**
	37nm,0.4s								
KTMS	**Ketmen**	**3.67**	**201**	*e*	P		**Pb**	**09 55 02.1**	**+2.5**
	10.0nm,0.2s								
KTMS				*e*	S		**Sg**	**09 55 52.1**	**-0.9**
	54nm,0.3s								
SEM	**Semipalatinsk**	**3.73**	**341**	*e*	P		**Pg**	**09 55 06.4**	**-0.1**
	30nm,0.5s								
SEM				*e*	S		**Sg**	**09 55 58.7**	**+3.8**
	128nm,0.3s								
MNBS	**Baschi**	**3.85**	**224**	*e*	P		**Pg**	**09 55 06.7**	**-2.2**
	34nm,0.5s								
MNBS				*e*	S		**Sg**	**09 55 60.0**	**+1.2**
	77nm,0.7s								
ARXS	**Arharly**	**4.05**	**230**	*e*	P		**Pg**	**09 55 10.8**	**-1.8**
	27nm,0.3s								
ARXS				*e*	S		**Sg**	**09 56 06.8**	**+1.9**
	83nm,0.5s								
SHLS	**Shalkode**	**4.19**	**208**	*e*	P		**Pb**	**09 55 09.9**	**+1.5**
	15nm,0.4s								
SHLS				*e*	S		**Sb**	**09 56 03.9**	**+5.1**
	83nm,0.4s								
KPKS	**Kokpek**	**4.21**	**217**	*e*	P		**Pb**	**09 55 12.0**	**+3.3**
	21nm,0.1s								
KPKS				*e*	S		**Sg**	**09 56 09.1**	**-1.1**
	97nm,0.6s								
UZB	**Uzynbulak**	**4.35**	**212**	*e*	P		**Pb**	**09 55 13.9**	**+2.8**
	1.8nm,0.2s								
UZB				*e*	S		**Sg**	**09 56 12.5**	**-2.2**
	34nm,0.6s								
UKR	**Ust'-Kan**	**4.40**	**22**	*e*	Pn		**Pn**	**09 54 59.6**	**-1.6**
UKR				*e*	Pg		**Pb**	**09 55 10.5**	**-1.5**
UKR				*e*	Sn		**Sn**	**09 55 49.0**	**-3.1**
UKR				*e*	Sg		**Sb**	**09 56 04.3**	**-0.5**
UKR	**Ust'-Kan**	**4.40**	**22**	*e*	PN		**Pn**	**09 54 59.6**	**-1.6**
UKR				*e*				09 55 10.5	
UKR				*e*				09 55 49.0	
UKR				*e*				09 56 04.3	
KURBB	**Kurchatov Arra**	**4.43**	**329**	⇓	Pg		**Pb**	**09 55 10.9**	**-1.5**
	30nm,0.7s								
KURBB				⇓	Lg		Lg	09 56 09.0	
	129nm,0.5s								
KURK	**Kurchatov**	**4.48**	**330**	*i*	PN		**Pn**	**09 55 00.3**	**-1.8**
DGZ	**Jazzator, Alta**	**4.51**	**50**	*e*	PN		**Pb**	**09 55 09.1**	**-4.7**
ZHN	**Zhinishke**	**4.56**	**217**	*e*	P		**Pg**	**09 55 20.3**	**-2.1**
	6.6nm,0.2s								
ZHN				*e*	S		**Sg**	**09 56 22.7**	**+1.3**
	30nm,0.3s								
SATY	**Saty**	**4.66**	**216**	*e*	P		**Pg**	**09 55 21.3**	**-3.0**
	8.0nm,0.2s								
SATY				*e*	S		**Sg**	**09 56 23.5**	**-1.2**
	40nm,0.4s								
CHKK	**Chushkaly**	**4.74**	**232**	*e*	P		**Pg**	**09 55 23.0**	**-2.7**
	9.0nm,0.4s								
CHKK				*e*	S		**Sg**	**09 56 27.9**	**+0.9**
	29nm,0.3s								
AKAR	**Aktash**	**5.00**	**45**	*e*	Pn		**Pn**	**09 55 08.7**	**-0.7**
AKAR				*e*	Pg		**Pb**	**09 55 21.9**	**-0.2**
AKAR				*e*	Sn		**Sn**	**09 56 03.3**	**-3.5**
AKAR				*e*	Sg		**Sb**	**09 56 23.1**	**+1.3**
AKAR	**Aktash**	**5.00**	**45**	*e*	PN		**Pn**	**09 55 08.7**	**-0.7**
AKAR				*e*				09 55 21.9	
AKAR				*e*				09 56 23.1	
KTBS	**Karatobe**	**5.00**	**232**	*e*	P		**Pg**	**09 55 28.3**	**-2.4**
	9.1nm,0.3s								
KTBS				*e*	S		**Sg**	**09 56 36.1**	**+0.7**
	33nm,0.6s								
KUU	**Kurty**	**5.07**	**236**	*e*	P		**Pg**	**09 55 28.1**	**-4.0**
	4.3nm,0.3s								
KUU				⇑	*i*S		**Sg**	**09 56 35.4**	**-2.3**
	42nm,0.6s								
KOTS	**Kotyrbulak**	**5.11**	**226**	*e*	P		**Pg**	**09 55 30.2**	**-2.6**
	4.8nm,0.4s								
KOTS				*e*	S		**Sg**	**09 56 38.9**	**-0.1**
	46nm,0.5s								
MDOK	**Medeo**	**5.19**	**226**	⇓	Pn		**Pn**	**09 55 14.4**	**+2.3**
	4.9nm,0.4s								
MDOK				⇑	Lg		Lg	09 56 39.3	
	16nm,0.6s								
MDOK	**Medeo**	**5.19**	**226**		PN		**Pn**	**09 55 14.4**	**+2.3**
MDOK					pmax		pmax		
	comp=Z,5.0nm,0.4s								
MDOK	**Medeo**	**5.19**	**226**	*e*	P		**Pg**	**09 55 30.8**	**-3.6**
	comp=Z,6.2nm,0.3s								
MDOK				*e*	S		**Sg**	**09 56 41.0**	**-0.6**
	comp=Z,12nm,0.5s								
TNSS	**Tian-Shan**	**5.33**	**226**	*e*	P		**Pg**	**09 55 34.4**	**-2.8**
	comp=Z,14nm,0.5s								
TNSS				*e*	S		**Sg**	**09 56 46.3**	**+0.1**
	comp=Z,30nm,0.5s								
IZV	**Izvestkoviy**	**5.50**	**227**	*e*	P		**Pg**	**09 55 36.6**	**-3.8**
IZV				*e*	S		**Sg**	**09 56 50.7**	**-0.8**
MTBS	**Maitube**	**5.53**	**229**	*e*	P		**Pg**	**09 55 36.9**	**-4.0**
	comp=Z,7.3nm,0.5s								
MTBS				⇓	*i*S		**Sg**	**09 56 50.5**	**-1.9**
	comp=Z,20nm,0.4s								
ARTR	**Artybash**	**5.95**	**32**	*e*	Pn		**Pn**	**09 55 21.1**	**-1.2**
ARTR				*e*	Pg		**Pb**	**09 55 40.0**	**+1.8**
ARTR				*e*	Sn		**Sn**	**09 56 29.2**	**-0.8**
ARTR				*e*	Sg		**Sb**	**09 56 49.9**	**+0.8**
ARTR	**Artybash**	**5.95**	**32**	*e*	PN		**Pn**	**09 55 21.1**	**-1.2**
ARTR				*e*				09 55 40.0	
ARTR				*e*				09 56 29.2	
ARTR				*e*				09 56 49.9	
TKM2	**Tokmak 2**	**6.11**	**232**	⇑	Pn		**Pn**	**09 55 26.7**	**+1.9**
	comp=Z,2.1nm,0.5s								
TKM2				⇓	Lg		Lg	09 57 10.7	
	comp=Z,9.6nm,0.6s								
TKM2	**Tokmak 2**	**6.11**	**232**		PN		**Pn**	**09 55 26.7**	**+1.9**
TKM2					pmax		pmax		
	comp=Z,2.0nm,0.5s								
ELT	**Eltsovka**	**6.90**	**21**	*e*	Pn		**Pn**	**09 55 33.0**	**-2.3**
ELT				*e*	Sg		**Sb**	**09 57 21.3**	**+4.9**
ELT	**Eltsovka**	**6.90**	**21**	*e*	PN		**Pn**	**09 55 33.0**	**-2.3**
ELT				*e*				09 57 21.3	
AAK	**Ala-Archa**	**6.91**	**235**	⇑	Pn		**Pn**	**09 55 38.3**	**+2.6**
	comp=Z,3.6nm,0.5s								
AAK				⇓	Lg		Lg	09 57 37.1	
	comp=Z,5.2nm,0.7s								
AAK	**Ala-Archa**	**6.91**	**235**	*ce*	PN		**Pn**	**09 55 38.4**	**+2.7**
AAK					pmax		pmax		
	comp=Z,4.0nm,0.6s								
TASR	**Tashtagol**	**6.94**	**30**	*e*	Sg		**Sb**	**09 57 22.9**	**+5.2**
ZAA0	**Zalesovo Array**	**7.27**	**13**	⇑	Pn		**Pn**	**09 55 41.3**	**+1.0**
	comp=Z,2.7nm,0.6s								
ZAA0				⇑	Sn		**Sn**	**09 56 59.9**	**-2.5**
	comp=Z,8.6nm,0.7s								
ZAA0				⇓	Lg		Lg	09 57 34.8	
	comp=Z,15nm,0.7s								
ZALV	**Zalesovo Beam**	**7.27**	**13**	*i*	PN		**Pn**	**09 55 37.0**	**-3.4**
ZALV					pmax		pmax		
	comp=Z,1.0nm,0.3s								
NVS	**Novosibirsk**	**7.99**	**5**	*e*	Sg		Sb	09 58 00.4	+13
HVS	**Khovu-Aksy**	**8.70**	**57**	*i*	P		**Pn**	**09 56 02.1**	**+1.9**
KK31	**Karatay Array**	**9.07**	**250**	⇑	Pn		**Pn**	**09 56 05.0**	**-0.1**
	comp=Z,2.1nm,0.5s,baz=62,slow=12,SNR=29								
KK31				⇓	Lg		Lg	09 58 44.2	
	comp=Z,4.8nm,0.6s,baz=56,slow=26,SNR=4.6								
KK31	**Karatay Array**	**9.07**	**250**		P		**Pn**	**09 56 05.4**	**+0.2**
KK31					pmax		pmax		
	comp=Z,2.0nm,0.5s								
BRVK	**Borovoye**	**9.81**	**313**	⇑	Sn		**Sn**	**09 58 01.9**	**-3.1**
	comp=Z,2.6nm,0.6s								
BRVK				⇓	Lg		Lg	09 58 59.3	
	comp=Z,11nm,0.9s								
TLY	**Talaya**	**14.81**	**63**	*i*	P		**P**	**09 57 26.6**	**-2.8**
KIV	**Kislovodsk**	**27.65**	**278**	*i*	P		**P**	**09 59 45.0**	**+3.1**
KIV					pmax		pmax		
	comp=Z,7.0nm,1.0s								
NEY	**Neytrino**	**27.87**	**277**	*i*	P		**P**	**09 59 49.6**	**+5.6**
NEY					pmax		pmax		
	comp=Z,1.0nm,1.0s								
KIEV	**Kiev**	**34.46**	**296**	*i*	P		**P**	**10 00 45.6**	**+4.0**
KIEV					pmax		pmax		
	comp=Z,3.0nm,1.5s								
YKA	**Yellowknife Ar**	**70.14**	**8**	⇑	*e*P		P	10 05 11.5	+5.4

*SJA **03** 10:09:54.8±1.0,30.70S×70.99W,h33km±5km, ML2.8, MW3.2*
*GUC **03** 10:09:55.1±0.6,30.71S×70.75W,h76km±4km, ML3.1*
ISC 03 10:09:56.4±1.7**,30.72S**±0.03×**70.86W**±0.05**,h16**km±11km,
n24,σ**1**^{64}**/35,2C-4D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.47**	**195**	⇑ *i*P		**Pn**	**10 10 09.5**	**+0.9**
CMCH				*i* S		**Sn**	**10 10 19.9**	**+3.3**
GO04	**Tololo Observa**	**0.54**	**5**	⇓ *i*P		**Pn**	**10 10 10.5**	**+0.8**
GO04				*i* S		**Sn**	**10 10 21.8**	**+3.2**
LSCH	**La Serena**	**0.87**	**337**	⇓ *i*P		**Pn**	**10 10 13.8**	**-0.2**
LSCH				*i* S		**Sn**	**10 10 27.2**	**+0.9**
LSCH				IAML			10 10 28.3	
	comp=E,711nm,0.2s							
AROD	**Rodeo**	**1.31**	**66**	*e*P		**Pg**	**10 10 21.5**	**-0.3**
AROD				*e*S		**Sg**	**10 10 40.3**	**+1.4**
ACCO	**Cerro Coronel**	**1.55**	**86**	*e*P		**Pb**	**10 10 24.5**	**-0.4**
ACCO				*e*S		**Sg**	**10 10 46.3**	**-0.1**
ACDV	**Cuesta del Vie**	**1.59**	**71**	*e*P		**Pb**	**10 10 25.2**	**-0.4**
LCO	**Las Campanas**	**1.70**	**5**	⇓ *i*P		**Pn**	**10 10 24.5**	**-1.2**
LCO				*e*S		**Sn**	**10 10 46.8**	**-0.4**
LCO				IAML			10 10 50.4	
	comp=N,186nm,0.3s							
RTLS	**Leoncito**	**1.72**	**129**	*e*P		**Pn**	**10 10 26.7**	**+0.8**
RTLS				IAML			10 10 27.2	
	comp=Z,74nm,0.2s							
RTLS				*e*S		**Sb**	**10 10 49.9**	**+0.7**
AUSP	**Uspallata**	**1.96**	**141**	*e*P		**Pn**	**10 10 29.4**	**+0.2**
AUSP				*e*S		**Sn**	**10 10 55.0**	**+1.5**
AMOG	**MOGNA**	**2.04**	**97**	*e*P		**Pn**	**10 10 30.7**	**+0.5**
AMOG				*e*S		**Sb**	**10 10 58.0**	**-0.4**
RTLL	**Cerro Villicun**	**2.13**	**107**	*e*P		**Pn**	**10 10 30.9**	**-0.5**
RTLL				⇓ *e*S		**Sn**	**10 10 57.7**	**+0.1**
RTLL				IAML			10 11 01.5	
	comp=Z,31nm,0.2s							
VACH	**Vallenar**	**2.13**	**2**	*e*P		**Pn**	**10 10 30.1**	**-1.3**
VACH				*i* S		**Sn**	**10 10 55.9**	**-1.7**
ROCH	**El Roble**	**2.25**	**183**	IAML			10 11 05.9	
	comp=N,106nm,0.4s							
RTCV	**Cerro Valdivia**	**2.29**	**121**	*e*P		**Pn**	**10 10 33.7**	**+0.2**
RTCV				*e*S		**Sn**	**10 11 03.5**	**+2.1**
AGUA	**GUANDACOL**	**2.39**	**60**	*e*P		**Pn**	**10 10 36.5**	**+1.6**
AGUA				*e*S		**Sn**	**10 11 04.1**	**+0.3**
PEL	**Peldehue**	**2.42**	**177**	⇑ *i*P		**Pn**	**10 10 33.9**	**-1.5**
PEL				*e*S		**Sn**	**10 11 03.2**	**-1.6**
PEL				IAML			10 11 08.6	
	comp=N,63nm,0.3s							
ASAL	**Salagasta**	**2.54**	**138**	*e*P		**Pn**	**10 10 37.7**	**+0.7**
ASAL				*e*S		**Sn**	**10 11 02.3**	**-5.4**
FCH	**Farellones**	**2.65**	**170**	IAML			10 11 16.0	
	comp=E,70nm,0.2s							
CLCH	**Cerro Calan**	**2.69**	**174**	IAML			10 11 16.0	
	comp=N,77nm,0.3s							
AAGR	**Agrelo**	**2.92**	**144**	*e*P		**Pn**	**10 10 43.8**	**+1.4**
AAGR				*e*S		Sn	10 11 07.5	-10
VCA	**Vinchina**	**3.03**	**50**	*e*P		**Pn**	**10 10 45.4**	**+1.5**
VCA				IAML			10 11 28.7	
	comp=Z,59nm,0.3s							
LMEL	**Las Melosas**	**3.17**	**170**	IAML			10 11 32.5	
	comp=N,76nm,0.2s							
ACAN	**Cantantal**	**3.50**	**117**	*e*P		**Pn**	**10 10 49.1**	**-1.0**
CYA	**Choya**	**4.95**	**64**	*e*P		**Pn**	**10 11 09.1**	**-1.0**

*ISCJB **03** 10:44:19.7±0.5,24.24N±0.01×122.13E±0.01,h12km±3km, Error ellipse: s-maj=2.4km s-min=1.9km az=27.7*
*TAP **03** 10:44:20.0,24.29N×122.07E,h25km,ML3.1,C*
*JMA **03** 10:44:20.0±0.2,24.20N×122.07E,h41km±5km,M2.3*
ISC 03 10:44:18.5±1.0**,24.22N**±0.02×**122.17E**±0.02**,h14**km±8km,
n78,σ**0**^{63}**/143,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.33**	**353**	*e*P		**Pb**	**10 44 27.1**	**+0.9**
	baz=17							
EOS1				*e*S		**Sb**	**10 44 32.7**	**+1.4**
	baz=17							
ENA	**Nanau**	**0.44**	**297**	P		**Pg**	**10 44 27.6**	**+0.2**
	baz=300							
ENA				*e*S		**Sg**	**10 44 33.9**	**+0.6**
	baz=300							
TWC	**Suao**	**0.48**	**323**	*e*P		**Pg**	**10 44 28.0**	**-0.1**
	baz=333							
TWC				*e*S		**Sg**	**10 44 34.0**	**-0.5**
	baz=333							
NACB	**Ninganchiao**	**0.53**	**265**	*e*P		**Pb**	**10 44 29.8**	**+0.1**
	baz=259							
NACB				*e*S		**Sg**	**10 44 37.0**	**+1.0**
	baz=259							
TWD	**Chiawan**	**0.54**	**255**	*e*P		**Pb**	**10 44 30.3**	**+0.4**
	baz=229							
TWD				S		**Sb**	**10 44 39.0**	**+1.4**
	baz=229							
HWA	**Hwalien**	**0.57**	**245**	*e*P		**Pn**	**10 44 31.8**	**-0.5**
	baz=232							
HWA				*e*S		**Sn**	**10 44 40.8**	**-0.8**
	baz=232							
ENLB	**Shoufeng**	**0.61**	**239**	*e*P		**Pn**	**10 44 32.5**	**-0.3**
	baz=228							
ENLB				S		**Sb**	**10 44 40.9**	**+1.4**
	baz=228							
EGS		**0.66**	**341**	*e*P		**Pb**	**10 44 32.3**	**+0.5**
	baz=349							
EGS				*e*S		**Sg**	**10 44 39.7**	**-0.3**
	baz=349							
ILA	**Ilan**	**0.66**	**325**	*e*P		**Pb**	**10 44 32.2**	**+0.2**
	baz=330							
ILA				*e*S		**Sg**	**10 44 39.9**	**-0.3**
	baz=330							
TWE	**Neicheng**	**0.67**	**317**	P		**Pg**	**10 44 31.6**	**-0.2**
	baz=324							
TWE				*e*S		**Sg**	**10 44 40.8**	**+0.1**
	baz=324							
ENTT	**Nioudou**	**0.69**	**307**	P		**Pg**	**10 44 31.9**	**0.0**
	baz=311							
ENTT				S		**Sg**	**10 44 40.4**	**-0.7**
	baz=311							
NTC	**Toucheng**	**0.70**	**334**	*e*P		**Pg**	**10 44 32.2**	**0.0**
	baz=349							
NTC				*e*S		**Sb**	**10 44 42.5**	**+0.4**
	baz=349							
JYNG	**Yonagunijimaku**	**0.74**	**72**	P		**Pn**	**10 44 35.6**	**+0.9**
JYNG				S		**Sn**	**10 44 47.3**	**+1.5**
NNSB	**Datong**	**0.75**	**286**	P		**Pg**	**10 44 33.4**	**+0.3**
	baz=290							
NNSB				*e*S		**Sg**	**10 44 43.0**	**+0.1**
	baz=290							
NNS	**Nan Shan**	**0.76**	**287**	P		**Pg**	**10 44 33.3**	**0.0**
	baz=289							
NNS				S		**Sg**	**10 44 43.2**	**-0.1**
	baz=289							
ESL	**Shilin**	**0.79**	**239**	P		**Pb**	**10 44 34.2**	**+0.2**
	baz=230							
ESL				*e*S		**Sb**	**10 44 45.6**	**+0.9**
	baz=230							
TWB1	**Santiao Chiao**	**0.80**	**348**	*e*P		**Pb**	**10 44 34.2**	**0.0**
	baz=350							
TWB1				*e*S		**Sb**	**10 44 45.1**	**+0.1**
	baz=350							
YOJ	**Yonaguni jima**	**0.80**	**73**	*e*P		**Pn**	**10 44 36.5**	**+1.0**
	baz=71							
YOJ				*e*S		**Sn**	**10 44 48.3**	**+1.1**
	baz=71							
YOJ	**Yonaguni jima**	**0.80**	**73**	P		**Pn**	**10 44 36.2**	**+0.7**
YOJ				S		**Sn**	**10 44 49.0**	**+1.7**
NWLT	**Wulai**	**0.82**	**312**	P		**Pg**	**10 44 34.0**	**-0.4**
	baz=314							
WHF	**Hehuan Shan**	**0.83**	**265**	P		**Pg**	**10 44 34.9**	**+0.2**
	baz=259							
WHF				S		**Sg**	**10 44 46.5**	**+0.8**
	baz=259							
YHNB	**Yeheng**	**0.85**	**302**	P		**Pg**	**10 44 34.9**	**-0.1**
	baz=310							
YHNB				*e*S		**Sg**	**10 44 45.9**	**-0.3**
	baz=310							
NSK	**Sanguang**	**0.87**	**301**	P		**Pg**	**10 44 35.2**	**-0.2**
	baz=310							
NSK				S		**Sg**	**10 44 46.4**	**-0.3**
	baz=310							
EGFH	**Guangfu**	**0.88**	**231**	*e*P		**Pb**	**10 44 36.0**	**+0.4**
	baz=209							
EGFH				*e*S		**Sb**	**10 44 48.0**	**+0.8**
	baz=209							
TWT	**Tachien**	**0.91**	**272**	*e*P		**Pn**	**10 44 37.3**	**+0.2**
	baz=259							
TWT				S		**Sg**	**10 44 48.5**	**+0.4**
	baz=259							
NWF	**Wu-fen Shan**	**0.91**	**337**	*e*P		**Pn**	**10 44 36.6**	**-0.5**
	baz=357							
NWF				*e*S		**Sb**	**10 44 48.7**	**+0.3**
	baz=357							
WFSB	**Wu-fen Shan**	**0.91**	**337**	*e*P		**Pn**	**10 44 36.6**	**-0.4**
	baz=357							
WFSB				*e*S		**Sg**	**10 44 48.2**	**-0.1**
	baz=357							
TWA	**Mucha**	**0.92**	**325**	*e*P		**Pb**	**10 44 36.3**	**-0.1**
	baz=320							
TWA				*e*S		**Sb**	**10 44 48.7**	**+0.1**
	baz=320							
CHGB	**Renai**	**0.92**	**260**	*e*P		**Pg**	**10 44 36.6**	**+0.1**
	baz=240							
CHGB				*e*S		**Sg**	**10 44 48.7**	**+0.1**
	baz=240							
TDCB	**Techi**	**0.92**	**272**	P		**Pb**	**10 44 36.9**	**+0.4**
	baz=268							
TDCB				*e*S		**Sg**	**10 44 48.8**	**+0.2**
	baz=268							
TATO	**Taipei**	**0.97**	**320**	P		**Pg**	**10 44 37.4**	**0.0**
	baz=339							
TATO				*e*S		**Sb**	**10 44 50.0**	**0.0**
	baz=339							
HGSD	**Ruisui**	**1.00**	**223**	*e*P		**Pg**	**10 44 38.0**	**+0.2**
	baz=204							
HGSD				*e*S		**Sg**	**10 44 51.4**	**+0.5**
	baz=204							
EHY	**Hungye**	**1.05**	**228**	*e*P		**Pb**	**10 44 37.7**	**-1.0**
	baz=220							
EHY				*e*S		**Sb**	**10 44 53.0**	**+0.6**
	baz=220							
YM01	**YM01**	**1.07**	**329**	*e*P		**Pb**	**10 44 38.4**	**-0.5**
	baz=347							
YM01				*e*S		**Sb**	**10 44 52.0**	**-0.8**
	baz=347							
YM07	**YM07**	**1.07**	**332**	P		**Pb**	**10 44 38.6**	**-0.3**
	baz=337							
YM07				*e*S		**Sb**	**10 44 51.8**	**-1.1**
	baz=337							
YM10	**YM10**	**1.08**	**329**	*e*P		**Pb**	**10 44 39.0**	**-0.1**
	baz=346							
YM10				*e*S		**Sb**	**10 44 52.5**	**-0.7**
	baz=346							
YM11	**YM11**	**1.08**	**330**	*e*P		**Pb**	**10 44 39.0**	**-0.1**
	baz=347							
YM11				*e*S		**Sb**	**10 44 52.5**	**-0.8**
	baz=347							
YM05	**YM05**	**1.08**	**330**	*e*P		**Pb**	**10 44 38.9**	**-0.3**
	baz=347							
YM05				*e*S		**Sb**	**10 44 53.1**	**-0.1**
	baz=347							
YM04	**YM04**	**1.09**	**328**	*e*P		**Pb**	**10 44 39.0**	**-0.2**
	baz=345							
YM04				*e*S		**Sb**	**10 44 52.6**	**-0.8**
	baz=345							
YM08	**YM08**	**1.09**	**331**	P		**Pg**	**10 44 39.7**	**0.0**
	baz=348							
YM08				*e*S		**Sb**	**10 44 52.3**	**-1.2**
	baz=348							
TWS1	**Kuangyinshan**	**1.11**	**322**	*e*P		**Pn**	**10 44 39.7**	**0.0**
	baz=338							
TWS1				*e*S		**Sg**	**10 44 54.4**	**-0.1**
	baz=338							
YM03	**YM03**	**1.11**	**329**	*e*P		**Pb**	**10 44 39.2**	**-0.4**
	baz=346							
YM03				*e*S		**Sb**	**10 44 52.8**	**-1.2**
	baz=346							
LIOB	**Emei**	**1.13**	**292**	P		**Pb**	**10 44 39.8**	**-0.2**
	baz=292							
LIOB				S		**Sb**	**10 44 54.5**	**-0.1**
	baz=292							
NSTT	**Nanjuang**	**1.14**	**291**	P		**Pn**	**10 44 40.0**	**-0.2**
	baz=290							
NSTT				*e*S		**Sb**	**10 44 54.6**	**-0.2**
	baz=290							
NTST	**Danshui**	**1.14**	**325**	*e*P		**Pg**	**10 44 40.4**	**-0.2**
	baz=329							
YULB	**Yu-li**	**1.15**	**224**	*e*P		**Pn**	**10 44 39.2**	**-1.1**
	baz=217							
YULB				*e*S		**Sb**	**10 44 54.2**	**-0.9**
	baz=217							
NCU	**National Centr**	**1.16**	**310**	*e*S		**Sb**	**10 44 55.2**	**-0.2**
	baz=312							
NCUH	**Zhongli**	**1.16**	**310**	*e*P		**Pn**	**10 44 40.1**	**-0.4**
	baz=311							
TWY	**Chenhua**	**1.17**	**334**	P		**Pg**	**10 44 41.1**	**0.0**
	baz=339							
TWY				*e*S		**Sb**	**10 44 55.0**	**-0.6**
	baz=339							
TWF1	**Yuli**	**1.18**	**223**	*e*P		**Pb**	**10 44 40.9**	**+0.2**
	baz=215							
TWF1				*e*S		**Sb**	**10 44 56.2**	**+0.3**
	baz=215							
SSLB	**Suanglung**	**1.19**	**249**	*e*P		**Pn**	**10 44 40.8**	**-0.2**
	baz=243							
SSLB				*e*S		**Sb**	**10 44 55.9**	**-0.5**
	baz=243							
SMLT	**Sun Moon Lake**	**1.21**	**254**	*e*P		**Pn**	**10 44 41.3**	**+0.1**
	baz=236							
SMLT				*e*S		**Sb**	**10 44 56.6**	**-0.3**
	baz=236							
SBCB	**Hsinchu**	**1.22**	**298**	*e*P		**Pn**	**10 44 41.1**	**-0.1**
	baz=298							
TYC	**Yuchr**	**1.24**	**255**	*e*P		**Pn**	**10 44 41.8**	**+0.3**
	baz=238							
TYC				*e*S		**Sb**	**10 44 56.6**	**-1.1**
	baz=238							
TWQ1	**Liyutan**	**1.28**	**276**	*e*P		**Pb**	**10 44 43.0**	**+0.5**
	baz=273							
TWQ1				*e*S		**Sb**	**10 44 58.7**	**-0.2**
	baz=273							
FULB	**Fuli**	**1.30**	**218**	*e*P		**Pn**	**10 44 41.8**	**-0.6**
	baz=201							
YUS	**Yu-Shan**	**1.33**	**237**	*e*P		**Pn**	**10 44 43.2**	**-0.1**
	baz=216							
YUS				*e*S		**Sb**	**10 45 00.2**	**-0.6**
	baz=216							
CHKT	**Chengkung**	**1.34**	**214**	*e*S		**Sn**	**10 44 58.7**	**-1.9**
	baz=194							
WJS	**Zhushan**	**1.38**	**253**	*e*P		**Pn**	**10 44 44.9**	**-0.2**
	baz=237							
WJS				*e*S		**Sb**	**10 45 02.6**	**+1.0**
	baz=237							
WNT	**Mingjian**	**1.40**	**256**	*e*S

	baz=228								
CHN1				*e*S		**Sb**	**10 45 14.2**	**-0.4**	
	baz=228								
SLGT	**Liugui**	**1.86**	**229**	*e*S		**Sb**	**10 45 15.7**	**+0.2**	
	baz=213								
JISG	**Ishigakijimahi**	**1.98**	**79**	P		**Pb**	**10 44 53.9**	**-0.6**	
JISG				S		**Sb**	**10 45 18.5**	**-0.6**	
MASBT	**Mashibuluo**	**2.14**	**222**	*e*P		**Pb**	**10 44 56.6**	**-0.5**	
	baz=214								
MASBT				*e*S		**Sb**	**10 45 22.6**	**-0.9**	
	baz=214								

IDC ***03*** *11:12:16.4±0.3, 10.50N×126.84E, h0km, mb5.0/51, mb1 5.0/55, mb1mx5.0/65, mbtmp5.0/55, ML4.6/4, MS4.6/41, Ms1 4.6/41, ms1mx4.5/58, Error ellipse: s-maj=11.4km s-min=7.6km az=74.0*

ISCJB ***03*** *11:12:17.4±0.7, 10.52N±0.02×126.89E±0.02, h18km±5km, mb5.2/184, MS4.8/67, Error ellipse: s-maj=3.4km s-min=2.5km az=157.2*

MAN ***03*** *11:12:18.4, 10.65N×126.92E, h33km, mb5.8, ML4.8, MS5.2*

BJI ***03*** *11:12:18.9, 10.23N×127.03E, h47km, mb5.1/82, mB5.4/68, Ms5.2/88, Ms7 4.9/77*

MOS ***03*** *11:12:19.5±1.1, 10.51N×126.90E, h33km, mb5.6/52, MS4.8/12, Error ellipse: s-maj=8.3km s-min=4.3km az=117.4*

GCMT ***03*** *11:12:19.7±0.1, 10.55N±0.01×126.88E±0.01, h12km, MW5.3/124, Moment Tensor Solution. s89,c131; s124,c214; Duration: 1†1 Moment tensor: Scale 10^17 Nm; Mrr=1.11±.01; Mθθ=0.18±.01; Mϕϕ=0.92±.01; Mrθ=-0.09±.04; Mθϕ=-0.28±.01; Mϕr=0.38±.03; Best double couple: M=1.13300×10^17 NP1:ϕs=163.00000°, δ=55.00000°, λ=-88.00000°. NP2:ϕs=340.00000°, δ=35.00000°, λ=-92.00000°. Principal axes: T 1.0870, Plg10.0000°, Azm252.0000°; N 0.0940, Plg1.0000°, Azm342.0000°; P -1.1790, Plg80.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***03*** *11:12:21.7±0.2, 10.52N×126.93E, h35km, mb5.5/64 Error ellipse: s-maj=4.8km s-min=3.3km az=81.0*

DJA ***03*** *11:12:22.1±0.6, 10°N±4°×12°7E±°, h45km±6km, M5.4/40, mb5.3/40, mB5.8/40, MLv6.2/1, Mw(mB)5.3/40, Mwp5.2/2*

ISC 03 11:12:20.7±0.3, 10.54N±0.02×126.92E±0.03, h30km±2km, h30km:pP-P, n583, σ1†70/657, mb5.2/189, MS4.7/69, 48C-29D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.80**	**306**	*e*P		**Pn**	**11 12 46.9**	**-2.7**
BESP				*e*S		**Sn**	**11 13 10.9**	**-0.6**
PLP	**Palo**	**2.00**	**288**⇑	*e*P		**Pn**	**11 12 49.9**	**-2.7**
PLP				*i* S		**Sn**	**11 13 13.3**	**-3.3**
BUTP	**Butuan**	**2.02**	**219**	*e*P		**Pn**	**11 12 51.0**	**-1.8**
BUTP				*e*S		**Sn**	**11 13 17.4**	**+0.4**
MSLP	**Maasin**	**2.07**	**259**	*e*P		**Pn**	**11 12 52.2**	**-1.2**
OCLP	**Ormoc**	**2.33**	**283**	*e*P		**Pn**	**11 12 56.0**	**-0.9**
BIPH	**Bislig**	**2.40**	**193**⇑	*i*P		**Pn**	**11 12 57.4**	**-0.6**
BIPH				*i* S		**Sn**	**11 13 23.7**	**-2.7**
LLP	**Lapu-Lapu**	**2.91**	**266**⇑	*e*P		**Pn**	**11 13 04.4**	**-0.6**
LLP				*e*S		**Sn**	**11 13 38.1**	**-1.0**
CNP	**Catarman**	**2.96**	**312**	*e*P		**Pn**	**11 13 03.3**	**-2.3**
CNP				*e*S		**Sn**	**11 13 36.5**	**-3.5**
CGP	**Cagayan de Oro**	**3.02**	**227**⇓	*e*P		**Pn**	**11 13 06.2**	**-0.3**
CGP				*e*S		**Sn**	**11 13 40.0**	**-1.6**
TBP	**Tagbilaran**	**3.13**	**255**	*e*P		**Pn**	**11 13 08.2**	**+0.3**
TBP				*i* S		**Sn**	**11 13 46.2**	**+1.9**
BUKP	**Musuan**	**3.22**	**215**	*e*P		**Pn**	**11 13 09.3**	**+0.1**
BUKP				*e*S		**Sn**	**11 13 40.0**	**-6.6**
DAV	**Davao City (W)**	**3.69**	**201**	Pn		**Pn**	**11 13 17.6**	**+1.8**
	78nm,0.3s,baz=61,slow=3.8,SNR=11							
DAV				Sn		**Sb**	**11 14 05.9**	**-3.7**
	74nm,0.3s,baz=110,slow=23,SNR=11							
DAV	**Davao City (W)**	**3.69**	**201**	P		**Pn**	**11 13 16.0**	**+0.2**
DAV	**Davao City (W)**	**3.69**	**201**	*e*Pn		**Pn**	**11 13 20.4**	**+4.6**
DAV				*e*Sn		**Sn**	**11 14 01.9**	**+3.6**
DAV	**Davao City (W)**	**3.69**	**201**	P		**Pn**	**11 13 18.3**	**+2.5**
	SNR=31							
PVCP	**Virac**	**4.07**	**319**	*e*P		**Pn**	**11 13 20.1**	**-0.8**
RCP	**Roxas**	**4.22**	**284**⇑	*e*P		**Pn**	**11 13 22.5**	**-0.5**
RCP				*e*S		**Sn**	**11 14 11.1**	**-0.3**
CTBH	**Cotabato--PC H**	**4.22**	**219**⇑	*e*P		**Pn**	**11 13 22.5**	**-0.6**
GUIM	**Jordan**	**4.26**	**272**	*e*P		**Pn**	**11 13 21.7**	**-1.9**
PAGZ	**Pagadian**	**4.40**	**233**	*e*P		**Pn**	**11 13 24.9**	**-0.5**
DDMP	**Don Marcelino,**	**4.56**	**195**	*e*P		Pn	11 13 22.5	-5.3
SKMP	**Bagumbayan, Su**	**4.63**	**211**	*e*P		**Pn**	**11 13 27.2**	**-1.5**
AUQP	**San Andres**	**4.99**	**304**	*e*P		**Pn**	**11 13 33.8**	**+0.2**
OTRP	**Odiongan**	**5.13**	**291**	*e*P		**Pn**	**11 13 35.5**	**-0.1**
BOAC	**Boac**	**5.75**	**301**	*e*P		**Pn**	**11 13 43.4**	**-0.6**
CUYO	**Cuyo Island**	**5.81**	**274**	*e*P		**Pn**	**11 13 44.0**	**-0.9**
TGY	**Tagaytay City**	**6.83**	**302**	Pn		**Pn**	**11 14 00.1**	**+1.1**
	36nm,0.3s,baz=246,slow=19,SNR=3.5							
TGY				LR		LR	11 16 39.3	
	comp=Z,5μm,21.2s,baz=130,slow=39							
PALU	**Palau**	**8.11**	**112**	P		**Pn**	**11 14 11.9**	**-4.6**
	baz=8.1,SNR=8.8							
SMPP	**San Manuel, Pa**	**8.24**	**313**	*e*P		Pn	11 14 11.2	-7.1
BOLP	**Bolinao**	**8.95**	**311**	*e*P		Pn	11 14 21.9	-6.1
APYP	**Conner**	**9.12**	**324**	*e*P		**Pn**	**11 14 27.5**	**-2.9**
APYP				*e*S		Sn	11 16 02.4	-10
BATP	**Bataraza**	**9.15**	**260**	*e*P		**Pn**	**11 14 26.5**	**-4.4**
TNTI	**Ternate**	**9.71**	**177**	*e*Pn		**Pn**	**11 14 38.5**	**0.0**
TNTI	**Ternate**	**9.71**	**177**	P		**Pn**	**11 14 38.2**	**-0.3**
	374nm,0.8s,7μm2μm							
MYLDM	**Lahad Datu**	**9.89**	**238**	*e*Pn		Pn	11 14 46.7	+5.8
LBMI	**Labuha**	**11.12**	**177**	P		**Pn**	**11 14 57.1**	**-0.6**
	450nm,1.4s,8μm							
KKM	**Kota Kinabalu**	**11.49**	**248**	*e*Pn		**Pn**	**11 15 05.5**	**+2.5**
SWI	**Sorong**	**12.12**	**159**	P		**Pn**	**11 15 12.2**	**+0.7**
	58nm,1.2s,1μm							
SIJI	**Sorong**	**12.13**	**159**	Pn		**Pn**	**11 15 11.1**	**-0.5**
	2.8nm,0.3s,baz=354,slow=15,SNR=11							
SIJI				Sn		**Sn**	**11 17 17.5**	**-8.4**
	0.6nm,0.3s,baz=218,slow=19,SNR=2.5							
LUWI	**Luwuk**	**12.22**	**200**	*e*Pn		**Pn**	**11 15 15.0**	**+2.1**
LUWI	**Luwuk**	**12.22**	**200**	P		**Pn**	**11 15 14.2**	**+1.4**
	165nm,1.6s,4μm							
SANI	**Sanana**	**12.54**	**184**	P		**Pn**	**11 15 13.1**	**-4.1**
	158nm,1.6s,2μm4μm							
TWG	**Pinlang**	**13.43**	**336**	*e*Pn		**P**	**11 15 35.5**	**-2.9**
YULB	**Yu-li**	**13.86**	**338**	*e*Pn		**Pn**	**11 15 36.4**	**+1.2**
MSAI	**Masohi**	**13.94**	**172**	P		**Pn**	**11 15 36.3**	**0.0**
	56nm,1.6s,832nm							
TPUB	**Ta-pu**	**14.04**	**335**	*e*Pn		**Pn**	**11 15 39.2**	**+1.5**
SSLB	**Suanglung**	**14.35**	**337**	*e*Pn		**Pn**	**11 15 44.4**	**+2.5**
SGKI	**Sangatta, Kali**	**14.38**	**221**	P		Pn	11 15 34.5	-7.9
FAKI	**Fak Fak**	**14.38**	**158**	*e*Pn		**Pn**	**11 15 42.4**	**0.0**
FAKI	**Fak Fak**	**14.38**	**158**	P		**Pn**	**11 15 42.2**	**-0.2**
	104nm,1.6s,4μm							
YHNB	**Yeheng**	**15.01**	**340**	*e*Pn		**P**	**11 15 54.2**	**-1.8**
	126nm,1.1s							
TTSI	**Tana Toraja**	**15.23**	**208**	P		**Pn**	**11 15 53.8**	**0.0**
	340nm,1.4s,4μm							
BNDI	**Bandanaira**	**15.25**	**169**	P		**Pn**	**11 15 52.7**	**-1.4**
	550nm,1.8s,10μm							
BKB	**Balikpapan**	**15.39**	**221**	P		**Pn**	**11 15 55.4**	**-0.5**
	366nm,1.4s,7μm							
SPSI	**Sidrap Palu**	**16.07**	**207**	P		**Pn**	**11 16 03.9**	**-0.7**
	92nm,1.2s,3μm							
JOW	**Kunigami**	**16.26**	**4**	Pn		**P**	**11 16 08.9**	**-0.9**
	5.8nm,0.3s,baz=168,slow=15,SNR=22							
JOW				LR		LR	11 23 09.0	
	comp=Z,3μm,19.0s,baz=185,slow=40							
JOW	**Kunigami**	**16.26**	**4**	*e*Pn		**P**	**11 16 10.6**	**+0.9**
	102nm,0.9s							
BNSI	**Bone**	**16.32**	**205**	P		**Pn**	**11 16 07.7**	**-0.1**
	199nm,1.6s,6μm							
QZH	**Quanzhou**	**16.36**	**332**⇑	*i*P		**Pn**	**11 16 06.8**	**-1.5**
QZH				S		**Sn**	**11 19 06.6**	**-2.5**
QZH				pmax		pmax		
	comp=Z,620nm,5.5s							
QZH				LR		LR		
	comp=N,2μm,15.7s							
QZH				LR		LR		
	comp=E,1μm,12.9s							
QZH				LR		LR		
	comp=Z,3μm,15.3s							
SBUM	**Sibu**	**16.66**	**242**	*e*Pn		**P**	**11 16 13.1**	**-1.2**
	150nm,1.5s							
SMPI	**Sarmi**	**17.11**	**136**	P		**Pn**	**11 16 17.9**	**+0.2**
	484nm,1.8s,9μm							
BKSI	**Bulukumba**	**17.15**	**204**	P		**Pn**	**11 16 16.7**	**-1.6**
	51nm,1.5s,1μm							
KBKI	**Kotabaru**	**17.42**	**218**	P		**P**	**11 16 23.9**	**+1.2**
	56nm,1.5s,1μm							
GUMO	**Guam**	**17.81**	**78**	P		**P**	**11 16 27.0**	**-0.1**
	2.4nm,0.3s,baz=126,slow=15,SNR=2.0							
GUMO				LR		LR	11 23 03.6	
	comp=Z,4μm,18.0s,baz=252,slow=36							
GUMO	**Guam**	**17.81**	**78**	P		**P**	**11 16 27.0**	**-0.1**
GZH	**Guangzhou**	**18.00**	**316**	P		**P**	**11 16 32.5**	**+3.5**
GZH				pmax		pmax		
	comp=Z,2μm,7.4s							
GZH				LR		LR		
	comp=N,5μm,14.8s							
GZH				LR		LR		
	comp=E,4μm,14.7s							
QIZ	**Qiongzhong**	**18.53**	**299**	P		**Pn**	**11 16 35.5**	**+0.2**
QIZ				S		**S**	**11 20 02.6**	**-2.3**
QIZ				sS		**sS**	**11 20 17.8**	**+0.1**
QIZ				pmax		pmax		
	comp=Z,23nm,0.6s							
QIZ				pmax		pmax		
	comp=Z,1μm,5.9s							
QIZ				LR		LR		
	comp=N,2μm,14.2s							
QIZ				LR		LR		
	comp=E,3μm,13.7s							
QIZ				LR		LR		
	comp=Z,3μm,14.7s							
GENI	**Genyem**	**18.55**	**134**	P		**Pn**	**11 16 36.0**	**+0.5**
	254nm,1.5s,9μm							
KSM	**Kuching**	**18.80**	**242**	*e*P		**Pn**	**11 16 39.1**	**+0.5**
	370nm,1.2s							
JAY	**Jayapura**	**18.88**	**133**	P		**P**	**11 16 37.6**	**-1.2**
	0.6nm,0.3s,baz=298,slow=9.9,SNR=18							
JAY				LR		LR	11 24 12.8	
	comp=Z,4μm,18.2s,slow=38							
JAY	**Jayapura**	**18.88**	**133**	P		**P**	**11 16 39.1**	**+0.3**
	468nm,2.0s,22μm							
SAUI	**Saumlaki**	**18.91**	**167**	*e*P		**Pn**	**11 16 40.1**	**+0.2**
	357nm,1.0s							
SAUI	**Saumlaki**	**18.91**	**167**	P		**Pn**	**11 16 39.7**	**-0.2**
	375nm,1.1s,9μm							
MMRI	**Maumere**	**19.61**	**194**	*e*P		**Pn**	**11 16 48.0**	**-0.3**
	358nm,1.0s							
MMRI	**Maumere**	**19.61**	**194**	P		**P**	**11 16 47.2**	**+0.4**
	408nm,1.6s,5μm							
EDFI	**Ende, Flores**	**19.86**	**195**	P		**P**	**11 16 49.7**	**+0.1**
	165nm,1.5s,2μm							
PBKI	**Pangkalan Bun**	**20.09**	**230**	P		**P**	**11 16 52.2**	**+0.2**
	573nm,1.5s,7μm							
SOEI	**Soe**	**20.33**	**188**	*e*P		Pn	11 16 55.9	-1.1
	754nm,1.3s							
SOEI	**Soe**	**20.33**	**188**	P		**P**	**11 16 54.4**	**-0.4**
	464nm,1.4s,8μm							
BATI	**Baumata**	**20.86**	**189**	P		**P**	**11 17 00.8**	**+0.3**
	260nm,0.7s,baz=331,slow=1.6,SNR=25							
BATI				S		**S**	**11 20 51.6**	**0.0**
	43nm,0.7s,baz=116,slow=24,SNR=6.4							
BATI				LR		LR	11 26 14.1	
	comp=Z,691nm,20.4s,baz=344,slow=40							
BATI	**Baumata**	**20.86**	**189**	P		**P**	**11 17 00.5**	**+0.1**
	241nm,0.9s,3μm							
SSE	**Sheshan**	**21.14**	**346**	P		**P**	**11 17 05.1**	**+1.9**
SSE				pmax		pmax		
	comp=Z,15nm,0.7s							
SSE				LR		LR		
	comp=N,930nm,18.3s							
SSE				LR		LR		
	comp=E,830nm,12.0s							
PLAI	**Plampang**	**21.28**	**206**	P		**P**	**11 17 01.8**	**-3.1**
	172nm,1.1s,2μm							
WBSI	**Waikabubak, Su**	**21.40**	**201**	P		**P**	**11 17 03.4**	**-2.8**
	115nm,1.4s,1μm							
TWSI	**Taliwang, Sumb**	**21.60**	**208**	P		**P**	**11 17 05.4**	**-2.9**
	123nm,1.7s,2μm							
SRBI	**Singaraja**	**21.86**	**213**	P		**P**	**11 17 09.0**	**-2.2**
	45nm,1.6s,1μm							
CBIJ	**Chichi jima**	**21.87**	**39**	*e*P		**P**	**11 17 11.1**	**-0.1**
	466nm,0.9s							
JCJ	**Chichijima**	**21.87**	**39**	P		**P**	**11 17 11.9**	**+0.7**
	462nm,0.9s,baz=238,slow=4.0,SNR=14							
JCJ				LR		LR	11 25 38.6	
	comp=Z,2μm,18.6s,baz=258,slow=37							
BLJI	**Banyuglugur**	**22.49**	**217**	P		**P**	**11 17 15.9**	**-2.0**
IGBI	**Denpasar**	**22.52**	**212**	P		**P**	**11 17 15.5**	**-2.7**
NJ2	**Nanjing**	**22.67**	**342**	*e*P		**P**	**11 17 13.7**	**-6.0**
NJ2				pP		**pP**	**11 17 26.2**	**-1.6**
NJ2				sP		**sP**	**11 17 32.1**	**+0.5**
NJ2				S		S	11 21 13.8	-12
NJ2				sS		**pS**	**11 21 30.1**	**-5.6**
NJ2				pmax		pmax		
	comp=Z,49nm,1.0s							
NJ2				pmax		pmax		
	comp=Z,1μm,5.4s							
NJ2				LR		LR		
	comp=N,1μm,10.8s							
NJ2				LR		LR		
	comp=E,2μm,14.1s							
NJ2				LR		LR		
	comp=Z,2μm,16.3s							
JAGI	**Jajag, Banyuwa**	**22.76**	**214**	*e*P		**P**	**11 17 21.8**	**+1.0**
	comp=Z,382nm,1.4s							
JAGI	**Jajag, Banyuwa**	**22.76**	**214**	P		**P**	**11 17 20.0**	**-0.8**
JNU	**Nakatsue**	**22.77**	**9**	P		**P**	**11 17 20.8**	**0.0**
	comp=Z,99nm,0.8s,baz=155,slow=4.1,SNR=26							
JNU				LR		LR	11 27 14.6	
	comp=Z,1μm,18.9s,baz=176,slow=39							
JNU	**Nakatsue**	**22.77**	**9**	*e*P		**P**	**11 17 20.7**	**0.0**
	comp=Z,106nm,0.9s							
TBJI	**Tambak Boyo**	**22.86**	**222**	P		**P**	**11 17 20.9**	**-0.9**
GMJI	**Gumukmas**	**23.00**	**216**	P		**P**	**11 17 20.4**	**-2.9**
WHN	**Wuhan**	**23.09**	**331**	P		**P**	**11 17 24.4**	**+0.4**
WHN				pP		**sP**	**11 17 34.6**	**-1.4**
WHN				pmax		pmax		
	comp=Z,3μm,7.2s							
WHN				LR		LR		
	comp=Z,4μm,11.4s							
WHN				LR		LR		
	comp=Z,2μm,12.9s							
WHN				LR		LR		
	comp=Z,5μm,17.6s							
SKNT	**Sakolnakorn**	**23.17**	**289**	P		**P**	**11 17 25.2**	**+0.2**
	comp=Z,14nm,1.0s,comp=Z,919nm							
UWJI	**Ujung Watu**	**23.17**	**224**	P		**P**	**11 17 24.8**	**-0.2**
NGJI	**Ngawi**	**23.52**	**221**	P		**P**	**11 17 27.4**	**-1.0**
MTN	**Manton Dam**	**23.60**	**170**	P		**P**	**11 17 28.7**	**-0.5**
	baz=24,SNR=37							
MTN	**Manton Dam**	**23.60**	**170**	*e*P		**P**	**11 17 28.3**	**-0.9**
	comp=Z,1μm,1.8s							
KDU	**Kakadu**	**23.72**	**166**	P		**P**	**11 17 29.7**	**-0.6**
	baz=24,SNR=52							
MANU	**Manus Island**	**23.88**	**120**	*e*P		**P**	**11 17 31.4**	**-0.5**
	comp=Z,362nm,1.8s							
SMRI	**Semarang**	**23.97**	**224**	*e*P		**P**	**11 17 34.7**	**+2.0**
	comp=Z,544nm,1.3s							
SMRI	**Semarang**	**23.97**	**224**	P		**P**	**11 17 33.0**	**+0.3**
PCJI	**Pacitan**	**24.33**	**221**	P		**P**	**11 17 33.4**	**-2.6**
MYKOM	**Kota Tinggi**	**24.51**	**251**	*e*P		**P**	**11 17 37.7**	**0.0**
	comp=Z,736nm,1.8s							
UGM	**Wanagama**	**24.54**	**222**	*e*P		**P**	**11 17 39.4**	**+1.4**
	comp=Z,1μm,1.6s							
UGM	**Wanagama**	**24.54**	**222**	P		**P**	**11 17 37.1**	**-0.9**
SRAK	**Srakaew**	**24.55**	**281**	P		**P**	**11 17 31.2**	**-6.8**
GYA	**Guiyang**	**24.83**	**312**⇑	*i*P		**P**	**11 17 40.1**	**-0.6**
GYA				pP		sP	11 17 55.2	+2.1
GYA				sP		pP	11 18 00.5	+11
GYA				PP		**PnPn**	**11 18 21.0**	**+7.2**
GYA				PcP		**PcP**	**11 21 18.9**	**+2.3**
GYA				S		**S**	**11 22 04.4**	**+2.6**
GYA				sS		sS	11 22 21.8	+5.6
GYA				SS		**SnSn**	**11 22 59.0**	**+8.6**
GYA				pmax		pmax		
	comp=Z,20nm,0.9s							
GYA				pmax		pmax		
	comp=Z,690nm,6.5s							
GYA				LR		LR		
	comp=Z,2μm,14.9s							
GYA				LR		LR		
	comp=Z,2μm,16.4s							
GYA				LR		LR		
	comp=Z,3μm,16.2s							
CHAI	**Chaiyaphum**	**24.84**	**285**	P		**P**	**11 17 40.0**	**-0.7**
	comp=Z,16nm,0.7s,comp=Z,203nm							
KPJI	**Karang Pucung**	**25.22**	**226**	P		**P**	**11 17 43.0**	**-1.1**
JHJ	**Hachijo jima 2**	**25.40**	**26**	LR		LR	11 27 51.8	
	comp=Z,2μm,19.8s,baz=217,slow=37							
ENH	**Enshi**	**25.47**	**323**	*e*P		**P**	**11 17 46.1**	**-0.2**
	comp=Z,306nm,1.4s							
PATY	**Pattaya**	**25.61**	**278**	P		**P**	**11 17 49.1**	**+1.4**
	comp=Z,18nm,0.7s							
TJN	**Taejon**	**25.73**	**1**	*i*P		**P**	**11 17 48.6**	**+0.1**
LEM	**Lembang**	**25.82**	**229**	P		**P**	**11 17 48.9**	**-0.9**
	comp=Z,53nm,0.8s,baz=37,slow=7.0,SNR=16							
LEM				LR		LR	11 30 31.2	
	comp=Z,2μm,18.2s,baz=64,slow=42							
PBKT	**Sadao Pong**	**25.91**	**286**	P		**P**	**11 17 49.3**	**-1.1**
	comp=Z,45nm,1.5s,comp=Z,2μm							
KNRA	**Kununurra**	**26.11**	**176**	P		**P**	**11 17 51.9**	**-0.2**
	baz=26,SNR=12							
CISI	**Cisompet, Garu**	**26.17**	**227**	*e*P		**P**	**11 17 53.7**	**+0.9**
	comp=Z,316nm,1.5s							
SKLT	**Songkhla**	**26.20**	**265**	P		**P**	**11 17 56.6**	**+3.6**
	comp=Z,55nm,1.3s,comp=Z,2μm							
INU	**Inuyama**	**26.35**	**19**	*e*P		**P**	**11 17 53.9**	**-0.3**
	comp=Z,38nm,0.7s							
IPM	**Ipoh**	**26.36**	**259**	*e*P		**P**	**11 17 52.6**	**-1.9**
	comp=Z,170nm,1.2s							
KULM	**Kulim**	**26.53**	**261**	*e*P		**P**	**11 17 55.9**	**-0.1**
	comp=Z,122nm,1.4s							
UTTA	**Uttaradit**	**26.53**	**289**	P		**P**	**11 17 55.4**	**-0.6**
	comp=Z,4.6nm,0.8s							
NANT	**Nan**	**26.63**	**291**	P		**P**	**11 17 55.1**	**-1.8**
	comp=Z,8.6nm,0.6s							
KS15	**Wonju Array Si**	**26.80**	**2**	*e*P		**P**	**11 17 58.6**	**+0.4**
KSAR	**Wonju Array Be**	**26.80**	**2**	P		**P**	**11 17 58.8**	**+0.6**
KSAR				PcP		**PcP**	**11 21 21.7**	**+1.0**
KSAR	**Wonju Array Be**	**26.80**	**2**	P		**P**	**11 17 58.8**	**+0.6**
KSAR							11 21 21.7	
KSRS	**Korea Array**	**26.81**	**2**	P		**P**	**11 17 58.8**	**+0.5**
	comp=Z,27nm,0.8s,baz=175,slow=9.9,SNR=79							
KSRS				PcP		**PcP**	**11 21 21.7**	**+1.0**
	comp=Z,2.4nm,0.8s,baz=181,slow=3.6,SNR=4.9							
KSRS				LR		LR	11 30 18.1	
	comp=Z,2μm,18.7s,baz=162,slow=40							
PHET	**Kaeng Krachan**	**26.82**	**278**	P		**P**	**11 17 57.6**	**-1.0**
	comp=Z,31nm,0.8s,comp=Z,382nm							
KS01	**Wonju Array Si**	**26.84**	**2**	*e*P		**P**	**11 17 58.2**	**-0.3**
TRTT	**Trang**	**27.01**	**267**	P		**P**	**11 18 02.2**	**+1.9**
	comp=Z,18nm,1.3s,comp=Z,433nm							
TIA	**Tai'an**	**27.06**	**342**	P		**P**	**11 18 00.8**	**+0.2**
TIA				S		**S**	**11 22 39.5**	**+2.9**
TIA				pmax		pmax		
	comp=Z,15nm,0.7s							
TIA				pmax		pmax		
	comp=Z,260nm,3.0s							
TIA				LR		LR		
	comp=Z,760nm,13.0s							
TIA				LR		LR		
	comp=Z,930nm,14.1s							
TIA				LR		LR		
	comp=Z,2μm,17.2s							
KMI	**Kunming**	**27.14**	**306**	P		**P**	**11 18 00.7**	**-1.0**
KMI				pP		sP	11 18 12.0	-2.1
KMI				PP		**PnPn**	**11 18 47.8**	**+2.4**
KMI				S		**S**	**11 22 35.7**	**-2.9**
KMI				sS		sS	11 22 56.9	+3.9
KMI				pmax		pmax		
	comp=Z,22nm,1.1s							
KMI				pmax		pmax		
	comp=Z,350nm,5.5s							
KMI				LR		LR		
	comp=Z,1μm,17.1s							
KMI				LR		LR		
	comp=Z,2μm,15.1s							
KMI				LR		LR		
	comp=Z,2μm,17.7s							
UTHA	**Uthaitani**	**27.21**	**283**	P		**P**	**11 18 02.0**	**-0.2**
	comp=Z,7.4nm,0.8s,comp=Z,86nm							
SUKH	**Sukhothai**	**27.34**	**288**	P		**P**	**11 18 03.3**	**0.0**
	comp=Z,4.5nm,0.7s							
SRDT	**SRDT**	**27.40**	**281**	P		**P**	**11 18 03.9**	**+0.1**
	comp=Z,32nm,0.8s							
PAYA	**Payao**	**27.53**	**292**	P		**P**	**11 18 03.7**	**-1.4**
	comp=Z,18nm,0.7s,comp=Z,183nm							
LAMP	**Lampang**	**27.55**	**290**	P		**P**	**11 18 09.2**	**+4.0**
	comp=Z,6.6nm,0.8s							
MAJO	**Matsushiro**	**27.83**	**20**	*e*P		**P**	**11 18 06.5**	**-1.1**
	comp=Z,28nm,1.0s							
MAJO	**Matsushiro**	**27.83**	**20**	*c*e*c*P		**P**	**11 18 07.1**	**-0.4**
MAJO				pmax		pmax		
	comp=Z,25nm,0.8s							
MAT	**Matsushiro**	**27.83**	**20**	P		**P**	**11 18 06.5**	**-1.0**
MAT				S		**S**	**11 22 45.4**	**-3.4**
MJAR	**Matsushiro Arr**	**27.83**	**20**	P		**P**	**11 18 06.1**	**-1.4**
	comp=Z,15nm,0.8s,baz=201,slow=10,SNR=31							
MJAR				LR		LR	11 29 31.1	
	comp=Z,2μm,18.5s,baz=195,slow=37							
MJB9	**Matsu-Tunnel**	**27.83**	**20**	*e*P		**P**	**11 18 07.0**	**-0.5**
	comp=Z,29nm,1.0s							
UMPA	**Umpang Tak**	**27.86**	**285**	P		**P**	**11 18 08.1**	**+0.1**
	comp=Z,11nm,0.9s,comp=Z,2μm							
CM31	**Chiang Mai Arr**	**28.18**	**289**	*e*P		**P**	**11 18 09.2**	**-1.6**
CM31	**Chiang Mai Arr**	**28.18**	**289**	P		**P**	**11 18 10.2**	**-0.6**
	SNR=9.3				

COEN **Coen** 29.19 146 *e*P P 11 18 19.0 -0.8
comp=Z,288nm,1.8s
CD2 **Chengdu** 29.55 317 P P 11 18 23.8 +0.9
CD2 pP sP 11 18 36.4 +1.0
CD2 S **S** **11 23 16.5 +0.4**
CD2 sS sS 11 23 38.4 +7.8
CD2 pmax pmax
comp=Z,60nm,0.5s
CD2 pmax pmax
comp=Z,810nm,5.3s
CD2 LR LR
comp=Z,7µm,16.2s
CD2 LR LR
comp=Z,7µm,16.2s
CD2 LR LR
comp=Z,11µm,16.2s
TIY **Taiyuan** 30.03 337 *e*P P 11 18 27.5 +0.4
TIY PP PnPn **11 19 23.0 -1.5**
TIY SS SS 11 25 06.6 -25
TIY pmax pmax
comp=Z,23nm,0.6s
TIY pmax pmax
comp=Z,340nm,6.7s
TIY LR LR
comp=Z,2µm,16.4s
TIY LR LR
comp=Z,440nm,7.2s
TIY LR LR
comp=Z,1µm,12.2s
LHMI **Lhok Sumawe** 30.14 262 *e*P P 11 18 30.2 +2.0
comp=Z,174nm,0.8s
GSI **Gunungsitoli** 30.56 254 *e*P P 11 18 31.1 -0.9
comp=Z,48nm,0.8s
BJT **Baijiatuau** 30.87 344 *e*P P 11 18 34.6 +0.2
comp=Z,19nm,0.9s
WRAB **Tennant Creek** 31.15 166 *e*P P 11 18 34.1 -3.0
comp=Z,68nm,1.4s
WRAB **Tennant Creek** 31.15 166 *i*P P 11 18 35.0 -2.1
WRAB pmax pmax
comp=Z,23nm,1.1s
WRA **Warramunga Arr** 31.16 166 P P 11 18 35.5 -1.6
comp=Z,7.9nm,0.6s,baz=347,slow=9.5,SNR=45
WRA PcP **PcP** **11 21 32.5 +0.6**
comp=Z,3.7nm,0.6s,baz=341,slow=3.0,SNR=6.5
WRA **Warramunga Arr** 31.16 166 *i*P P 11 18 35.7 -1.4
WRA pmax pmax
comp=Z,8.0nm,0.6s
WB2 **Warramunga Arr** 31.16 166 *e*P P 11 18 35.7 -1.4
PATS **Pohnpei** 31.24 94 *e*P P 11 18 39.5 +1.5
comp=Z,354nm,1.5s
SNY **Shenyang** 31.31 355 ⇓P P 11 18 39.1 +0.9
SNY S **S** **11 23 42.1 -1.1**
SNY pmax pmax
comp=Z,43nm,0.9s
SNY pmax pmax
comp=Z,370nm,4.6s
SNY LR LR
comp=Z,1µm,13.5s
SNY LR LR
comp=Z,720nm,16.5s
SNY LR LR
comp=Z,2µm,18.0s
MBWA **Marble Bar** 32.28 193 *e*P P 11 18 46.7 -0.3
comp=Z,170nm,1.8s
LZH **Lanzhou** 32.93 324 ⇑P P 11 18 54.0 +1.2
LZH pP sP 11 19 06.0 +0.8
LZH sP pP 11 19 14.1 +13
LZH S **S** **11 24 10.0 +1.0**
LZH sS sS 11 24 32.7 +9.1
LZH SS **SnSn** **11 26 14.4 +6.8**
LZH pmax pmax
comp=Z,95nm,1.9s
LZH pmax pmax
comp=Z,540nm,6.0s
LZH LR LR
comp=Z,3µm,15.2s
LZH LR LR
comp=Z,2µm,15.2s
LZH LR LR
comp=Z,3µm,16.8s
HHC **Hu-ho-hao-te** 33.10 338 *e*P P 11 18 55.4 +1.3
HHC S **S** **11 24 11.0 -0.4**
HHC pmax pmax
comp=Z,23nm,1.1s
HHC pmax pmax
comp=Z,440nm,6.8s
HHC LR LR
comp=Z,1µm,15.4s
HHC LR LR
comp=Z,920nm,16.7s
HHC LR LR
comp=Z,650nm,14.7s
CN2 **Changchun** 33.16 358 *e*P P 11 18 53.8 -0.7
CN2 *ep*P sP 11 19 05.4 -1.6
CN2 *e*PP **PnPn** **11 20 05.8 +0.9**
CN2 *e*S **S** **11 24 09.3 -2.8**
CN2 *e*SS **SnSn** **11 26 12.5 -0.4**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,930nm,17.0s
CN2 LR LR
comp=Z,720nm,17.0s
CN2 LR LR
comp=Z,1µm,17.0s
QIS **Mount Isa** 33.33 158 P P 11 18 56.3 +0.1
baz=33,SNR=18
BTO **Baotou** 33.47 336 *e*P P 11 18 52.6 -4.8
PBA **Port Blair** 33.55 275 *e*P P 11 18 57.9 -0.3
comp=Z,115nm,1.2s
USA0B **Ussuriysk Arra** 33.82 7 *e*P P 11 19 01.4 +1.2
comp=Z,48nm,0.8s
USRK **Ussuriysk Ar.** 33.82 7 P P 11 19 00.9 +0.7
comp=Z,54nm,0.8s,baz=190,slow=8.5,SNR=66
USRK LR LR 11 31 20.2
comp=Z,918nm,21.5s,baz=172,slow=34
MDJ **Mudanjiang** 34.03 3 P P 11 19 03.1 +1.1
MDJ pP sP 11 19 15.6 +1.1
MDJ sP pP 11 19 21.1 +10
MDJ S **S** **11 24 29.7 +4.1**
MDJ sS sS 11 24 50.4 +10
MDJ pmax pmax
comp=Z,53nm,0.9s
MDJ pmax pmax
comp=Z,380nm,4.7s
MDJ LR LR
comp=Z,1µm,13.9s
MDJ LR LR
comp=Z,660nm,11.6s
MDJ LR LR
comp=Z,2µm,20.6s
MDJ **Mudanjiang** 34.03 3 *e*P P 11 19 02.9 +0.8
comp=Z,41nm,0.9s
AS31 **Alice Springs** 34.67 169 *e*P P 11 19 07.0 -0.9
comp=Z,6.9nm,0.8s
ASAR **Alice Springs** 34.67 169 P P 11 19 07.0 -0.9
comp=Z,12nm,0.6s,baz=348,slow=7.5,SNR=123
ASAR PcP **PcP** **11 21 42.1 +0.5**
comp=Z,3.3nm,0.5s,baz=337,slow=2.9,SNR=7.7
ASAR LR LR 11 37 25.6
comp=Z,384nm,18.1s,baz=18,slow=44
AS01 **Alice Springs** 34.68 169 *e*P P 11 19 05.9 -2.0
TEY **Ternei** 35.37 12⇑*e*P P 11 19 14.5 +0.9
TEY pmax pmax
comp=N,30nm,0.7s
TEY pmax pmax
comp=Z,30nm,0.6s
WRKA **Warakurna** 35.38 178 P P 11 19 13.1 -0.8
baz=35,SNR=61
BRDH **Bariadhala** 35.80 294 LR LR 11 36 05.0
comp=Z,1µm,19.1s,baz=133,slow=40
CTA **Charters Tower** 35.90 148 P P 11 19 18.3 -0.1
comp=Z,11nm,0.7s,baz=328,slow=10,SNR=18
CTAO **Charters Tower** 35.90 148 *e*P P 11 19 18.8 +0.4
comp=Z,219nm,1.8s
CTAO **Charters Tower** 35.90 148 *e*P P 11 19 18.8 +0.4
CTAO pmax pmax
comp=Z,219nm,1.8s
ASAJ **Asahikawa** 36.10 19 LR LR 11 34 41.2
comp=Z,2µm,19.3s,baz=207,slow=37
SHL **Shillong** 36.37 299 *e*P P 11 19 21.1 -1.6
comp=Z,53nm,0.9s
SHL **Shillong** 36.37 299 *e*P P 11 19 21.1 -1.6
SHL pmax pmax
comp=Z,53nm,0.9s
YUK **Yuzh-Kuril'sk** 37.18 23*c* *i*P P 11 19 26.2 -2.9
YUK *e**PP **pP** 11 19 37.0 -1.0
YUK *e* 11 20 55.2
YUK *e*S **S** **11 25 10.0 -3.9**
YUK *e*SS **SnSn** **11 27 45.0 -5.2**
YUK pmax pmax
comp=E,327nm,1.0s
YUK pmax pmax
comp=Z,350nm,1.0s
YUK pmax pmax
comp=N,319nm,1.3s
YUK pmax pmax
comp=Z,609nm,2.2s
SHO **Shikotan** 37.42 24 *e*P P 11 19 38.5 +7.4
SHO pmax pmax
comp=Z,5.0nm,0.3s
GTA **Gaotai** 37.53 325 ⇑P P 11 19 33.3 +1.0
GTA pP sP 11 19 44.7 -0.1
GTA sP pP 11 19 49.9 +8.7
GTA PP **PnPn** **11 20 59.6 +0.4**
GTA PcP **PcP** **11 21 48.3 -1.8**
GTA S **S** **11 25 18.4 -1.2**
GTA SS **SnSn** **11 27 55.8 -3.2**
GTA pmax pmax
comp=Z,34nm,1.1s
GTA pmax pmax
comp=Z,660nm,6.7s
GTA LR LR
comp=Z,790nm,15.2s
GTA LR LR
comp=Z,1µm,16.5s
GTA LR LR
comp=Z,1µm,17.1s
MEEK **Meekatharra** 37.82 192 P P 11 19 34.6 -0.1
baz=38,SNR=17
HNR **Honiara** 38.38 120 LR LR 11 33 11.0
comp=Z,1µm,21.6s,baz=294,slow=33
LSA **Lhasa** 38.39 305 *e*P P 11 19 39.5 -0.6
comp=Z,74nm,1.3s
LSA **Lhasa** 38.39 305 *e*P P 11 19 39.5 -0.6
LSA pmax pmax
comp=Z,74nm,1.3s
YSS **Yuzh-Sakhalins** 38.70 17⇓*e*P P 11 19 42.6 +0.8
YSS *e* 11 19 51.1
YSS pmax pmax
comp=Z,30nm,0.7s
YSS pmax pmax
comp=N,30nm,1.4s
YSS pmax pmax
comp=E,30nm,1.2s
KLR **Kul'dur** 38.78 5*c*P P 11 19 43.4 +0.9
TAPN **Taplejung** 40.47 300 *e*P P 11 19 55.7 -1.6
QLP **Quilpie** 40.55 156 P P 11 19 56.8 -0.7
baz=41,SNR=9.9
ODAN **Odare** 40.60 299 *e*P P 11 19 56.7 -1.6
comp=E,74nm,0.8s
MORW **Morawa** 40.75 195 P P 11 19 58.8 -0.4
baz=41,SNR=8.3
ULN **Ulaanbaatar** 40.79 339 *e*P P 11 20 00.2 +0.8
comp=E,112nm,1.8s
ULN **Ulaanbaatar** 40.79 339 P P 11 20 00.7 +1.2
SNR=17
ULN **Ulaanbaatar** 40.79 339*c**e*P P 11 20 00.3 +0.8
ULN pmax pmax
comp=Z,28nm,1.7s
GRNR **Gornyy** 40.87 9 *e*P P 11 20 01.2 +1.3
GRNR pmax pmax
comp=Z,26nm,1.0s
SONM **Songino Array** 41.00 339 P P 11 20 02.0 +0.8
comp=Z,10nm,1.0s,baz=156,slow=8.3,SNR=40
SONM PP **PP** **11 21 33.6 -2.4**
comp=Z,5.0nm,1.0s,baz=158,slow=12,SNR=1.9
SONM PcP **PcP** **11 22 00.9 0.0**
comp=Z,5.1nm,0.9s,baz=200,slow=4.7,SNR=3.3
SONA1 **Songino Array** 41.00 339 *e*P P 11 20 01.6 +0.4
FORT **Forrest** 41.09 179 P P 11 20 02.8 +0.9
baz=41,SNR=9.8
FORT **Forrest** 41.09 179 *e*P P 11 20 01.8 -0.1
comp=Z,67nm,0.6s
RAMN **Ramite** 41.31 299 *e*P P 11 20 02.4 -1.7
comp=Z,46nm,0.7s
JIRN **Jiri** 41.85 300 *e*P P 11 20 07.0 -1.7
comp=Z,90nm,0.9s
GUN **Gumba** 42.18 300 *e*P P 11 20 09.8 -1.6
comp=Z,113nm,0.9s
RMQ **Roma** 42.48 150 P P 11 20 13.3 -0.1
baz=43,SNR=12
PKI **Pulchoki** 42.49 299 *e*P P 11 20 11.7 -2.2
comp=Z,22nm,0.6s
KKN **Kakani** 42.66 300 *e*P P 11 20 13.0 -2.2
EIDS **Eidsvold** 42.76 147 P P 11 20 15.5 -0.1
baz=43,SNR=7.4
EIDS **Eidsvold** 42.76 147 *e*P P 11 20 15.1 -0.5
comp=Z,78nm,1.4s
DMN **Daman** 42.76 299 *e*P P 11 20 13.8 -2.2
KLBR **Kellerberrin** 42.80 192 P P 11 20 15.6 -0.3
baz=43,SNR=6.6
ZEA **Zeya** 43.09 0 *e*P P 11 20 17.8 -0.1
ZEA *e* 11 30 13.0
ZEA pmax pmax
comp=Z,46nm,1.4s
ZEA MLR MLR
comp=N,2µm,16.0s
ZEA MLR MLR
comp=E,600nm,16.0s
ZEA MLR MLR
comp=Z,2µm,16.0s
MUN **Mundaring** 43.50 193 P P 11 20 20.9 -0.6
baz=44,SNR=8.4
BBOO **Buckleboo** 43.98 169 P P 11 20 25.7 +0.4
baz=44,SNR=58
BBOO **Buckleboo** 43.98 169 *e*P P 11 20 25.4 +0.1
comp=Z,138nm,0.8s
KOLN **Koldanda** 44.10 299 *e*P P 11 20 24.8 -1.9
comp=Z,34nm,0.7s
NWAO **Narrogin (SRO)** 44.20 192 P P 11 20 27.0 -0.1
comp=Z,10nm,0.6s,baz=246,slow=11,SNR=12
NWAO **Narrogin (SRO)** 44.20 192 P P 11 20 27.1 -0.1
baz=44,SNR=5.4
NWAO **Narrogin (SRO)** 44.20 192 *e*P P 11 20 27.6 +0.5
comp=Z,68nm,1.1s
NWAO **Narrogin (SRO)** 44.20 192 *e*P P 11 20 27.6 +0.5
NWAO pmax pmax
comp=Z,68nm,1.1s
ZAK **Zakamensk** 44.25 338 *e*P P 11 20 26.9 -0.6
ZAK pmax pmax
comp=Z,11nm,1.5s
STKA **Stephens Creek** 44.45 162 P P 11 20 29.0 -0.1
comp=Z,8.9nm,0.5s,baz=334,slow=8.7,SNR=51
STKA PP **PcP** **11 22 12.7 +0.3**
comp=Z,9.9nm,0.8s,baz=350,slow=7.3,SNR=3.2
STKA LR LR 11 42 41.0
comp=Z,270nm,19.8s,baz=0.7,slow=41
STKA **Stephens Creek** 44.45 162 P P 11 20 29.2 -0.1
baz=44,SNR=37
STKA **Stephens Creek** 44.45 162 *e*P P 11 20 29.1 -0.1
comp=Z,20nm,1.4s
STKA PP **PcP** **11 22 12.7 +0.3**
STKA **Stephens Creek** 44.45 162 *e*P P 11 20 29.1 -0.1
STKA 11 22 12.7
STKA pmax pmax
comp=Z,20nm,1.4s
PYUN **Piuthan** 44.70 299 *e*P P 11 20 30.1 -1.5
comp=Z,133nm,0.9s
HTT **Hallett** 45.19 166 P P 11 20 35.8 +0.7
baz=45,SNR=17
TLY **Talaya** 45.20 340 *e*P P 11 20 35.8 +0.8
comp=Z,17nm,0.8s
TLY **Talaya** 45.20 340 P P 11 20 36.1 +1.1
SNR=13
TLY **Talaya** 45.20 340 *e*P P 11 20 36.1 +1.1
TLY *e*S **S** **11 27 10.1 -2.8**
TLY *e*SS **ScS** **11 30 30.0 +0.4**
TLY *e*SSS SSS 11 31 27.3
TLY pmax pmax
comp=Z,16nm,0.8s
IRK **Irkutsk** 45.47 341 *e*P P 11 20 37.5 +0.5
IRK pmax pmax
comp=Z,64nm,2.2s
CMSA **Cobar Meteorol** 45.54 157 P P 11 20 38.2 +0.4
baz=46,SNR=29
PALK **Pallekele** 45.74 270 P P 11 20 40.9 +1.1
comp=Z,6.5nm,0.8s,baz=117,slow=8.3,SNR=4.3
PALK PcP **PcP** **11 22 18.1 +0.7**
comp=Z,8.9nm,0.8s,baz=116,slow=1.4,SNR=3.9
PALK LR LR 11 41 42.5
comp=Z,702nm,18.1s,baz=116,slow=39
PALK **Pallekele** 45.74 270*c**e*P P 11 20 44.2 +4.4
MOY **Mondy** 46.13 338 *e*P P 11 20 43.4 +1.0
MOY pmax pmax
comp=Z,95nm,1.9s
SKR **Severo-Kuril's** 46.66 25 *e*P P 11 20 43.6 -2.8
SKR *e*S **S** **11 27 39.2 +5.4**
SKR *e*SSS SSS 11 32 01.7
SKR MLR MLR
comp=Z,1µm,17.0s
ARMA **Armidale** 47.15 150 P P 11 20 51.8 +1.2
baz=47,SNR=7.2
ARMA **Armidale** 47.15 150 *e*P P 11 20 52.2 +1.6
comp=Z,102nm,1.5s
HYB **Hyderabad** 47.33 284 *i*P P 11 20 52.0 -0.2
WMQ **Urumqi** 47.41 322 P P 11 20 53.6 +1.1
WMQ pP sP 11 21 04.3 -0.9
WMQ sP pP 11 21 11.7 +10
WMQ PP **PP** **11 22 44.6 +0.6**
WMQ S **S** **11 27 46.3 +1.4**
WMQ sS sS 11 28 10.1 +10
WMQ pmax pmax
comp=Z,160nm,0.9s
WMQ LR LR
comp=Z,2µm,14.5s
WMQ LR LR
comp=Z,2µm,18.3s
WMQ LR LR
comp=Z,2µm,19.7s
HVS **Khovu-Aksy** 48.74 333 *i*P P 11 21 02.3 -0.4
HVS pmax pmax
comp=Z,6.0nm,0.8s
YNG **Young** 49.03 156 P P 11 21 06.2 +1.2
baz=49,SNR=6.7
ARPS **Mount Arapiles** 49.10 164 P P 11 21 06.3 +0.8
baz=49,SNR=21
PETK **Petropavlovsk-** 49.13 24 P P 11 21 07.0 +1.5
comp=Z,29nm,0.7s,baz=199,slow=4.1,SNR=54
PETK LR LR 11 40 46.0
comp=Z,820nm,20.8s,baz=217,slow=35
PETK **Petropavlovsk-** 49.13 24 *e*P P 11 21 07.2 +1.7
PETK **Petropavlovsk-** 49.13 24 *e*P P 11 21 07.2 +1.7
PET **Petropavlovsk** 49.46 25 *i*P P 11 21 07.9 -0.1
PET pmax pmax
comp=Z,25nm,1.1s
CAN **Canberra** 50.16 156 *e*P P 11 21 14.6 +0.9
comp=Z,179nm,1.7s
CAN **Canberra** 50.16 156 *e*P P 11 21 14.6 +0.9
CAN pmax pmax
comp=Z,179nm,1.7s
CNB **Canberra Magne** 50.30 156 P P 11 21 15.9 +1.1
baz=50,SNR=12
DZM **Mont Dzumac** 50.53 130 P P 11 21 17.2 +0.5
comp=Z,19nm,0.9s,baz=327,slow=8.3,SNR=14
DZM **Mont Dzumac** 50.53 130 *e*P P 11 21 17.5 +0.8
comp=Z,121nm,1.5s
DZM *e*S **S** **11 28 28.3 -0.9**
comp=Z,778nm,26.6s
DZM *e*LR LR 11 35 42.9
comp=Z,1µm,27.6s
DZM **Mont Dzumac** 50.53 130 *e*P P 11 21 17.4 +0.8
comp=Z,154nm,1.7s
TOO **Toolangi** 50.93 161 P P 11 21 20.7 +1.4
baz=51,SNR=27
YAK **Yakutsk** 51.44 2 P P 11 21 23.2 +0.4
comp=Z,10nm,0.3s,baz=162,slow=0.8,SNR=8.4
YAK LR LR 11 44 46.7
comp=Z,672nm,18.8s,baz=224,slow=38
YAK **Yakutsk** 51.44 2 *e*P P 11 21 24.4 +1.6
comp=Z,44nm,0.9s
YAK **Yakutsk** 51.44 2 *e*P P 11 21 23.5 +0.7
YAK *e**PP **sP** **11 21 33.7 -1.9**
YAK *e* 11 22 41.0
YAK *e* 11 23 17.7
YAK *e*PPP PPP 11 24 26.5
YAK *e*S **S** **11 28 38.7 -1.9**
YAK *e**SS **sS** **11 28 58.5 +2.9**
YAK *e* 11 31 09.2
YAK *e*SSS SSS 11 33 47.9
YAK pmax pmax
comp=Z,38nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=N,7.0nm,0.9s
YAK pmax pmax
comp=Z,163nm,3.6s
YAK pmax pmax
comp=N,98nm,3.0s
YAK pmax pmax
comp=E,103nm,3.3s
YAK smax smax
comp=E,502nm,5.3s
YAK smax smax
comp=N,270nm,4.1s
YAK MLR MLR
comp=Z,803nm,18.0s
YAK MLR MLR
comp=E,287nm,16.0s
YAK MLR MLR
comp=N,716nm,16.0s
POO **Poona** 51.83 285 *e*P P 11 21 26.0 -0.5
MA2 **Magadan** 52.11 15 LR LR 11 42 16.6
comp=N,374nm,20.3s,baz=206,slow=34
MA2 **Magadan** 52.11 15 *e*P P 11 21 29.0 +1.1
comp=N,26nm,0.8s
MA2 **Magadan** 52.11 15 *i*P P 11 21 28.9 +1.0
MA2 pmax pmax
comp=Z,25nm,0.9s
MK01 **Makanchi Array** 52.19 322 *e*P P 11 21 28.9 +0.2
MK31 **Makanchi Array** 52.20 322 *e*P P 11 21 29.7 +0.9
MK31 **Makanchi Array** 52.20 322 *i*P P 11 21 29.6 +0.7
MK31 pmax pmax
comp=Z,102nm,1.1s
MKAR **Makanchi Array** 52.20 322 P P 11 21 29.6 +0.8
comp=Z,44nm,0.8s,baz=120,slow=8.0,SNR=56
MKAR LR LR 11 47 02.1
comp=Z,625nm,19.4s,baz=106,slow=40
MKAR **Makanchi Array** 52.20 322 *e*P P 11 21 29.7 +0.8
comp=Z,345nm,1.0s
MKAR **Makanchi Array** 52.20 322 *e*P P 11 21 29.7 +0.8
MKAR pmax pmax
comp=Z,345nm,1.0s
KSH **Kashi** 53.53 312 P P 11 21 42.2 +3.3
KSH sP sP 11 22 00.6 +8.9
KSH PP **PP** **11 23 44.9 +5.2**
KSH S **S** **11 29 10.2 0.0**
KSH sS sS 11 29 31.7 +6.4
KSH ScS **ScS** **11 31 22.3 -4.3**
KSH pmax pmax
comp=Z,96nm,1.4s
KSH LR LR
comp=Z,2µm,14.0s
KSH LR LR
comp=Z,2µm,18.1s
KSH LR LR
comp=Z,1µm,19.9s
AAA **Alma-Ata** 54.12 316 *e*P P 11 21 43.6 +0.5
AAA *e*S **S** **11 29 21.4 +3.4**
AAA pmax pmax
comp=Z,400nm,4.9s
AAA smax smax
comp=N,600nm,4.9s
AAA MLR MLR
comp=Z,700nm,16.0s
ULHL **Ulahol** 54.24 315 P P 11 21 45.4 +1.3
SNR=19
ZALV **Zalesovo Beam** 54.70 331 P P 11 21 46.5 -0.6
comp=Z,9.7nm,0.6s,baz=118,slow=6.3,SNR=35
ZALV LR LR 11 47 18.9
comp=Z,319nm,19.5s,baz=70,slow=38
KZA **Kyzart** 54.88 314 P P 11 21 50.3 +1.2
SNR=37
TKM2 **Tokmak 2** 54.92 316 P P 11 21 50.1 +1.1
SNR=33
TKM2 **Tokmak 2** 54.92 316 P P 11 21 49.1 0.0
TKM2 pmax pmax
comp=Z,56nm,1.2s
KBK **Karagaybulak** 55.28 315 P P 11 21 53.1 +1.4
SNR=20
SEY **Seymchan** 55.41 14 P P 11 21 53.7 +1.8
comp=Z,12nm,0.7s,baz=232,slow=6.2,SNR=25
SEY LR LR 11 43 44.1
comp=Z,824nm,19.8s,baz=150,slow=34
SEY **Seymchan** 55.41 14 *i*P P 11 21 52.9 +1.0

UCH	Uchtor	55.44	314		P		P	11 21 54.0	+0.8	
	SNR=90									
CHMS	Chumysh	55.53	315		P		P	11 21 54.1	+0.8	
	SNR=14									
FRU	Bishkek	55.57	315		*e*P		P	11 21 53.0	-0.6	
FRU					*e*			11 22 03.5		
FRU					*e*			11 24 06.0		
FRU					MLR		MLR			
	comp=E,2µm,16.0s									
AAK	Ala-Archa	55.59	315		P		P	11 21 54.4	+0.5	
	comp=E,7.4nm,0.8s,baz=146,slow=7.7,SNR=19									
AAK					PcP		PcP	11 22 54.2	+0.8	
	comp=E,5.4nm,0.7s,baz=72,slow=4.9,SNR=4.2									
AAK	Ala-Archa	55.59	315		P		P	11 21 54.0	+0.1	
	SNR=11									
AAK	Ala-Archa	55.59	315		*e*P		P	11 21 54.9	+1.1	
	comp=E,48nm,1.3s									
AAK					PcP		PcP	11 22 54.2	+0.8	
AAK	Ala-Archa	55.59	315		P		P	11 21 54.4	+0.5	
	SNR=19									
AAK	Ala-Archa	55.59	315	*ce*	P		P	11 21 54.2	+0.3	
AAK					pmax		pmax			
	comp=Z,110nm,2.5s									
USP	Ospenovka	55.79	316		P		P	11 21 56.1	+0.9	
	SNR=16									
MOO	Moorlands	55.90	162		P		P	11 21 57.9	+2.1	
	baz=56,SNR=3.1									
NVS	Novosibirsk	55.98	331		*e*P		P	11 21 56.6	+0.5	
NVS					*e*S		S	11 29 52.2	+10	
NVS					pmax		pmax			
	comp=N,34nm,1.7s									
NVS					pmax		pmax			
	comp=E,36nm,1.7s									
NVS					pmax		pmax			
	comp=Z,66nm,1.7s									
NVS					smax		smax			
	comp=N,24nm,2.6s									
NVS					smax		smax			
	comp=E,25nm,2.6s									
AML	Almayashu	55.99	314		P		P	11 21 58.5	+1.5	
	SNR=38									
EKS2	Erkin-Say	56.10	315		P		P	11 21 58.0	+0.5	
	SNR=29									
KURK	Kurchatov	56.21	325		*e*P		P	11 21 58.1	+0.2	
	comp=E,261nm,1.2s									
KURK	Kurchatov	56.21	325		P		P	11 21 58.4	+0.5	
	SNR=109									
KURK	Kurchatov	56.21	325		P		P	11 21 58.5	+0.5	
KURK					pmax		pmax			
	comp=Z,49nm,0.8s									
KURBB	Kurchatov Arra	56.22	325		P		P	11 21 58.5	+0.5	
	comp=Z,49nm,0.8s,baz=127,slow=6.6,SNR=146									
KK31	Karatay Array	58.52	314		*i* P		P	11 22 13.6	-0.8	
KK31					pmax		pmax			
	comp=Z,27nm,0.9s									
TIXI	Tiksi	61.08	1		P		P	11 22 31.1	-0.4	
	comp=Z,20nm,0.9s,baz=193,slow=3.4,SNR=32									
TIXI					LR		LR	11 50 34.8		
	comp=Z,842nm,19.9s,baz=190,slow=38									
TIXI	Tiksi	61.08	1		*e*P		P	11 22 29.9	-1.5	
TIXI	Tiksi	61.08	1	*ce*	P		P	11 22 31.3	-0.1	
TIXI					pmax		pmax			
	comp=Z,20nm,0.9s									
BRVK	Borovoye	61.88	325		*e*P		P	11 22 37.8	+0.6	
BRVK	Borovoye	61.88	325		P		P	11 22 37.5	+0.3	
	SNR=50									
BRVK	Borovoye	61.88	325		*e*P		P	11 22 37.8	+0.6	
BILL	Bilibino	62.98	16		*e*P		P	11 22 44.7	+0.4	
BILL	Bilibino	62.98	16	*d*	*i*P		P	11 22 44.6	+0.4	
BILL					*e*			11 23 18.7		
BILL					*e*			11 25 03.5		
BILL					*i* S		S	11 31 10.4	-1.9	
BILL					pmax		pmax			
	comp=Z,8.0nm,1.0s									
BILL					MLR		MLR			
	comp=Z,639nm,18.0s									
NRIK	Noril'sk	63.91	345		P		P	11 22 51.0	+0.6	
	comp=Z,5.5nm,0.7s,baz=144,slow=5.4,SNR=14									
NRIK					LR		LR	11 54 08.3		
	comp=Z,730nm,18.6s,baz=146,slow=39									
NRIK	Noril'sk	63.91	345		P		P	11 22 51.0	+0.6	
NRIK					pmax		pmax			
	comp=Z,6.0nm,0.7s									
NRIK					MLR		MLR			
	comp=Z,730nm,18.6s									
GEYT	Alibeck	66.90	307		P		P	11 23 10.9	+0.5	
	comp=Z,2.5nm,0.7s,baz=238,slow=4.5,SNR=7.2									
GEYT					LR		LR	11 56 38.0		
	comp=Z,280nm,19.9s,baz=260,slow=40									
AB31	Akbulak array	67.09	319		*i* P		P	11 23 10.6	-0.7	
AB31					pmax		pmax			
	comp=Z,36nm,0.9s									
LBZ	Lake Benmore	67.25	148		*e*P		P	11 23 15.2	+2.9	
RPZ	Rata Peaks	67.26	147		P		P	11 23 11.7	-0.7	
	comp=Z,12nm,0.6s,baz=307,slow=4.6,SNR=6.5									
URZ	Urewera	67.44	139		P		P	11 23 15.5	+1.8	
	comp=Z,6.8nm,0.6s,baz=221,slow=12,SNR=5.3									
BKZ	Black Stump Fm	67.58	140		*e*P		P	11 23 15.1	+0.5	
UOSS	Minazif	68.22	293		P		P	11 23 19.1	+0.1	
SVE	Sverdlovsk	68.33	327	‖	*e*P		P	11 23 19.7	+0.7	
SVE					pmax		pmax			
	comp=Z,105nm,1.8s									
ASHO	Ashiyiah	68.36	292		P		P	11 23 18.7	-1.2	
AKTO	Aktyubinsk	68.53	320		P		P	11 23 20.2	-0.2	
	comp=Z,14nm,0.8s,baz=94,slow=9.2,SNR=35									
ASUD	Al Ashush, Dub	69.03	292		P		P	11 23 24.8	+0.8	
ARU	Arti	69.36	327	*d*	*i*P		P	11 23 24.8	-0.6	
ARU								11 25 54.9		
ARU					S		S	11 32 29.2	-1.0	
ARU					SS		SS	11 36 53.6	-3.7	
ARU					pmax		pmax			
	comp=Z,56nm,1.7s									
KDAK	Kodiak Island	76.09	33		LR		LR	11 53 07.2		
	comp=Z,813nm,21.9s,baz=292,slow=32									
GROC	Groznyy	76.41	312		*e*P		P	11 24 07.7	+0.2	
GROC					*e*			11 24 19.0		
GROC					*e*			11 26 59.7		
GROC					*e*S		S	11 33 53.0	+2.0	
GROC					pmax		pmax			
	comp=Z,68nm,1.2s									
GNI	Garni	77.33	309		P		P	11 24 14.5	+1.5	
	comp=Z,5.0nm,0.4s,baz=156,slow=2.7,SNR=9.7									
GNI					LR		LR	12 04 16.0		
	comp=Z,271nm,18.2s,baz=76,slow=40									
GNI	Garni	77.33	309		*e*P		P	11 24 13.4	+0.4	
	comp=Z,444nm,1.3s									
GNI	Garni	77.33	309		P		P	11 24 14.1	+1.1	
	SNR=16									
GNI	Garni	77.33	309	*ce*	P		P	11 24 14.1	+1.1	
GNI					pmax		pmax			
	comp=Z,89nm,1.3s									
CASY	Casey	77.56	187		*e*P		P	11 24 13.2	-0.1	
	comp=Z,114nm,1.6s									
ZEI	Tsey	77.82	312		*e*P		P	11 24 15.3	-0.4	
ZEI					pmax		pmax			
	comp=Z,47nm,1.0s									
TOLK	Toolik Lake Re	77.89	22		P		P	11 24 16.5	+1.2	
	baz=268									
NCK	Nalchik	78.00	312	*ce*	P		P	11 24 18.5	+2.0	
NCK					pmax		pmax			
	comp=Z,30nm,0.3s									
RAYN	Ar Rayn	78.06	292		*e*P		P	11 24 16.2	-1.0	
	comp=Z,49nm,1.3s									
RAYN	Ar Rayn	78.06	292		*e*P		P	11 24 16.3	-1.0	
RAYN					pmax		pmax			
	comp=Z,49nm,1.3s									
AKH	Akhalkalaki	78.20	310	⇑	*i*P		P	11 24 19.3	+1.4	
GOF	Gofitskoye	78.31	314		*e*P		P	11 24 19.4	+1.3	
GOF					pmax		pmax			
	comp=Z,50nm,1.0s									
KBZ	Khabaz	78.50	313		P		P	11 24 19.1	0.0	
	comp=Z,14nm,1.0s,baz=122,slow=3.4,SNR=18									
KBZ					LR		LR	12 04 23.1		
	comp=Z,663nm,18.1s,baz=82,slow=40									
TCOL	CIGO, UAF Yank	78.50	26		P		P	11 24 19.9	+1.2	
	baz=270									
COLA	College	78.51	26		*e*P		P	11 24 19.0	+0.3	
	comp=Z,12nm,0.9s									
COLA	College	78.51	26		*e*P		P	11 24 19.0	+0.3	
COLA					pmax		pmax			
	comp=Z,13nm,0.9s									
KVAR	Kislovodsk Arr	78.63	313		P		P	11 24 20.9	+0.8	
	comp=Z,7.3nm,0.7s,baz=256,slow=20,SNR=8.3									
KVAR					LR		LR	12 03 27.8		
	comp=Z,220nm,18.6s,baz=249,slow=39									
KIV	Kislovodsk	78.64	313		*e*P		P	11 24 20.8	+0.8	
	comp=Z,39nm,0.8s									
KIV	Kislovodsk	78.64	313		P		P	11 24 20.9	+0.8	
	SNR=12									
KIV	Kislovodsk	78.64	313		*e*P		P	11 24 21.1	+1.0	
KIV					*e*S		S	11 34 15.1	-0.2	
KIV					pmax		pmax			
	comp=Z,55nm,3.2s									
KIV					pmax		pmax			
	comp=Z,48nm,1.0s									
NEY	Neytrino	78.66	312	*ce*	P		P	11 24 22.0	+1.7	
NEY					pmax		pmax			
	comp=Z,4.0nm,0.9s									
POKR	Poker Plat Res	78.68	25		P		P	11 24 20.7	+0.9	
	baz=270									
VRH	Novokhopyorsk	78.87	320		*e*P		P	11 24 20.4	-0.6	
VRH					*e**PP		pP	11 24 31.1	+0.5	
VRH					pmax		pmax			
	comp=Z,80nm,1.3s									
HDA	Harding Lake	78.90	26		P		P	11 24 20.5	-0.5	
	baz=271									
ILAR	Eielson Array	78.92	26		P		P	11 24 20.4	-0.7	
	comp=Z,5.1nm,0.8s,baz=238,slow=5.1,SNR=54									
ILAR					LR		LR	11 58 14.9		
	comp=Z,199nm,21.7s,baz=274,slow=35									
VORR	Voronezh	80.41	321		P		P	11 24 28.0	-1.4	
VORR					pmax		pmax			
	comp=Z,250nm,1.4s									
VORD	Divnogorie	80.42	320		*e*P		P	11 24 28.9	-0.5	
VORD					*e**PP		pP	11 24 39.5	+0.5	
VORD					pmax		pmax			
	comp=Z,20nm,0.7s									
VSR	Storozhevoye	80.47	320		*e*P		P	11 24 28.2	-1.6	
VSR					*e**PP		pP	11 24 38.9	-0.4	
VSR					pmax		pmax			
	comp=Z,20nm,0.7s									
LPSR	Galich'ya Gora	80.50	322		*e*P		P	11 24 29.9	0.0	
LPSR					*e**PP		sP	11 24 40.2	-2.8	
LPSR					pmax		pmax			
	comp=Z,40nm,0.8s									
MIR	Mirnyy	80.79	193		*e*P		P	11 24 33.0	+2.0	
MIR					pmax		pmax			
	comp=Z,108nm,1.8s									
MOS	Moscow	80.98	325		*e*P		P	11 24 30.1	-2.3	
MOS					*e*			11 24 42.4		
MOS					*e*			11 27 33.1		
MOS					*e*S		S	11 34 36.0	-3.4	
MOS					pmax		pmax			
	comp=Z,54nm,0.7s									
EGAK	Eagle	81.37	26		*e*P		P	11 24 35.3	+1.0	
	comp=Z,10nm,0.9s									
PTK	Pertek	81.56	308		*e*P		P	11 24 37.3	+1.2	
OBN	Obninsk	81.65	325	*c*	*i*P		P	11 24 35.7	-0.2	
OBN					*e*			11 24 46.0		
OBN					*i* S		S	11 34 42.0	-4.2	
OBN					pmax		pmax			
	comp=Z,22nm,0.8s									
OBN					MLR		MLR			
	comp=Z,568nm,18.0s									
APA	Apatity	81.68	337	‖	*i*P		P	11 24 35.0	-0.9	
APA					pmax		pmax			
	comp=Z,24nm,0.8s									
APA					MLR		MLR			
	comp=Z,1µm,16.0s									
ATD	Arta Tunnel	82.21	280		P		P	11 24 39.9	+0.1	
	comp=Z,4.1nm,0.4s,baz=252,slow=20,SNR=2.7									
DAWY	Dawson	82.22	26		*e*P		P	11 24 39.7	+0.9	
	comp=Z,21nm,1.0s									
ANN	Anapa	82.31	314		*e*P		P	11 24 38.5	-1.1	
ANN					*e*S		S	11 34 49.4	-4.1	
ANN					pmax		pmax			
	comp=Z,140nm,1.4s									
EPYK	Eagle Plains	82.97	24		P		P	11 24 43.6	+0.9	
	baz=280									
OPO	Ambohidratompo	83.76	250		P		P	11 24 47.8	0.0	
	comp=Z,5.1nm,0.3s,baz=298,slow=0.7,SNR=9.9									
INK	Inuvik	83.80	22		P		P	11 24 47.3	+0.5	
	comp=Z,4.6nm,0.5s,baz=308,slow=2.6,SNR=33									
INK					LR		LR	12 06 40.5		
	comp=Z,207nm,18.5s,baz=283,slow=39									
SPA0	Spitsbergen Ar	83.88	349		*e*P		P	11 24 46.3	-0.8	
ARCES	ARCESS Array B	84.17	340		P		P	11 24 49.1	+0.3	
	comp=Z,17nm,0.7s,baz=80,slow=6.1,SNR=61									
ARE0	ARCESS Array S	84.17	340		*e*P		P	11 24 49.1	+0.4	
ASF	Jabal al Asfar	84.49	302		P		P	11 24 52.0	+0.7	
	comp=Z,1.4nm,0.5s,baz=337,slow=0.6,SNR=13									
ASF	Jabal al Asfar	84.49	302		P		P	11 24 52.0	+0.7	
KOZT	Kozan	84.54	307		*e*P		P	11 24 51.4	+0.1	
SIM	Simferopol'	84.62	315	*ce*	P		P	11 24 50.9	-0.6	
SIM					*e*S		S	11 35 13.0	-3.9	
SIM					pmax		pmax			
	comp=Z,54nm,1.1s									
SIM					MLR		MLR			
	comp=Z,200nm,15.0s									
KTK1	Kautokeino	85.08	339		*e*P		P	11 24 53.7	+0.3	
MERS	Mersin	85.67	307		*e*P		P	11 24 56.9	-0.1	
MMLI	Mount Malkishu	85.68	302		*e*P		P	11 24 58.5	+1.3	
BR131	Keskin Array S	85.86	309		P		P	11 24 57.7	-0.4	
	SNR=8.5									
BRTR	Keskin Array B	85.86	309		P		P	11 24 57.6	-0.4	
	comp=Z,13nm,0.7s,baz=111,slow=4.2,SNR=38									
BRTR					LR		LR	12 09 39.7		
	comp=Z,80nm,18.0s,baz=77,slow=40									
KAMT	Kaman	85.86	309		*e*P		P	11 24 57.9	-0.1	
YAYX	Yaylak	85.86	309		*e*P		P	11 24 57.6	-0.4	
VSU	Vasula	86.38	329		*e*P		P	11 25 00.1	+0.1	
VSU					lAmb		lAmb	11 25 12.9		
	comp=Z,175nm,0.9s									
VSU	Vasula	86.38	329	*ce*	P		P	11 25 00.1	+0.1	
VSU					pmax		pmax			
	comp=Z,96nm,0.8s									
KEBE	Keben-Mersin	86.38	306		*e*P		P	11 25 01.0	+0.4	
HRFI	Mount Harif	86.42	300		*e*P		P	11 25 01.8	+1.0	
IKL	Isikli	86.44	306		*e*P		P	11 25 00.9	+0.1	
EIL	Elat	86.56	299		P		P	11 25 01.9	+0.4	
	comp=Z,15nm,0.8s,baz=68,slow=1.6,SNR=24									
AKKU	Akkuyu-Mersin	86.56	306		*e*P		P	11 25 00.8	-0.6	
AKASG	Malin Array Be	86.76	321		P		P	11 25 01.6	-0.4	
	comp=Z,3.9nm,0.6s,baz=65,slow=4.6,SNR=21									
KIEV	Kiev	86.77	321		*e*P		P	11 25 01.8	-0.2	
	comp=Z,152nm,1.6s									
KIEV	Kiev	86.77	321		*e*P		P	11 25 01.8	-0.2	
KIEV					pmax		pmax			
	comp=Z,152nm,1.6s									
BERE	Bereket-Mersin	86.79	306		*e*P		P	11 25 02.6	-0.1	
CSS	Mathiatis	86.96	305		*e*P		P	11 25 04.2	+0.8	
PPT	Papeete	87.04	108		LR		LR	11 59 59.2		
	comp=Z,635nm,18.2s,baz=288,slow=33									
PPT2	Papeete2	87.05	108		*e*P		P	11 25 07.4	+3.3	
	comp=Z,39nm,1.4s									
PPT2	Papete2	87.05	108		*e*S		S	11 35 40.6	-1.1	
	comp=Z,217nm,24.0s									
PPT2	Papeete2	87.05	108		*e*LR		LR	11 52 36.8		
	comp=Z,499nm,22.2s,baz=281									
PAE	Paea	87.06	108		*e*P		P	11 25 06.8	+2.7	
	comp=Z,8.7nm,1.3s									
IDID	Didziasalis	87.15	326		*e*P		P	11 25 03.7	-0.1	
IDID					lAmb		lAmb	11 25 06.7		
	comp=Z,7.9nm,0.8s									
TIAR	Tiarei	87.25	108		*e*P		P	11 25 08.0	+2.9	
	comp=Z,16nm,1.3s									
KIZT	Kizilcal	87.35	309		*e*P		P	11 25 04.9	-0.4	
TVO	Taravao	87.39	109		*e*P		P	11 25 09.0	+3.2	
	comp=Z,26nm,1.4s									
ISAL	Salakas	87.42	326		*e*P		P	11 25 05.1	0.0	
ISAL					lAmb		lAmb	11 25 07.9		
	comp=Z,9.5nm,0.9s									
IIGN	Ignalina	87.43	326		*e*P		P	11 25 05.0	-0.1	
IIGN					lAmb		lAmb	11 25 07.2		
	comp=Z,3.9nm,0.8s									
KIS	Kishinev	87.84	317		*e*P		P	11 25 07.0	-0.3	
	comp=Z,200nm,2.5s									
KIS	Kishinev	87.84	317		*e*P		P	11 25 07.0	-0.3	
KIS					*e*			11 25 17.0		
KIS					*e*			11 35 29.0		
KIS					*e*S		S	11 35 49.0	+0.8	
KIS					pmax		pmax			
	comp=Z,180nm,2.5s									
KIS					MLR		MLR			
	comp=Z,300nm,22.0s									
SORM	Soroca	87.89	318	⇑	*i*P		P	11 25 07.1	-0.4	
SORM	Soroca	87.89	318	⇑	P		P	11 25 07.1	-0.4	
PMOR	Pomariorio Ree	88.11	106		*e*P		P	11 25 12.3	+3.2	
	comp=Z,119nm,1.2s									
STEI	Steigen	88.23	339		*e*P		P	11 25 07.5	-1.2	
TLCR		88.26	316	⇑	*i*P		P	11 25 09.8	+0.5	
TLCR		88.26	316	⇑	P		P	11 25 09.8	+0.5	
TBI	Tubuai	88.35	114		*e*S		S	11 35 52.4	-1.4	
	comp=Z,504nm,27.8s									
TBI	Tubuai	88.35	114		*e*LR		LR	11 53 27.6		
	comp=Z,1µm,24.0s,baz=294									
ISP	Isparta	88.61	308	⇑	*e*P		P	11 25 09.8	-1.5	
ISP					pmax		pmax			
	comp=Z,12nm,0.8s									
TIRR	Tirgusor	88.70	315	‖	*i*P		P	11 25 11.2	-0.2	
TIRR	Tirgusor	88.70	315	‖	P		P	11 25 11.2	-0.2	
CFR	Carcaliu	88.72	316	⇑	*i*P		P	11 25 11.6	+0.1	
CFR	Carcaliu	88.72	316	⇑	P		P	11 25 11.6	+0.1	
TLB	Topalu	88.93	315	⇑	*i*P		P	11 25 12.8	+0.3	
TLB	Topalu	88.93	315	⇑	P		P	11 25 12.8	+0.3	
HARR	Harsova	88.98	315	‖	*i*P		P	11 25 13.4	+0.6	
HARR	Harsova	88.98	315	‖	P		P	11 25 13.4	+0.6	
MOR8	Moi Rana	89.24	338		*e*P		P	11 25 11.7	-1.9	
SUW	Suwalki	89.49	325		*e*P		P	11 25 14.4	-0.5	
SUW	Suwalki	89.49	325		*e*P		P	11 25 14.4	-0.5	
VRI	Vrincioaia	89.52	317	⇑	*i*P		P	11 25 15.7	+0.4	
VRI	Vrincioaia	89.52	317	⇑	P		P	11 25 15.7	+0.4	
PLOR	Plostina	89.58	317	‖	*i*P		P	11 25 16.0	+0.4	
PLOR	Plostina	89.58	317	‖	P		P	11 25 16.0	+0.4	
ISR	Istrita	89.83	316	⇑	*i*P		P	11 25 16.9	+0.1	
ISR	Istrita	89.83	316	⇑	P		P	11 25 16.9	+0.1	
KMBO	Kilima Mbogo	89.88	269		P		P	11 25 16.8	-1.1	
	comp=Z,1.1nm,0.3s,baz=81,slow=5.6,SNR=6.2									
KMBO					LR		LR	12 06 30.7		
	comp=Z,748nm,18.0s,baz=94,slow=36									
KMBO	Kilima Mbogo	89.88	269		*i* P		P	11 25 20.2	+2.3	
KMBO					pmax		pmax			
	comp=Z,1.0nm,0.3s									
BURAR	Bucovina Array	90.07	319	‖	*i*P		P	11 25 18.1	+0.2	
BURAR	Bucovina Array	90.07	319	‖	P		P	11 25 18.1	+0.2	
VNDA	Vanda	90.11	173		P		P	11 25 17.4	+0.1	
	comp=Z,3.7nm,0.7s,baz=319,slow=6.2,SNR=28									
VNDA					PP		PP	11 28 46.6	-4.3	
	comp=Z,1.0nm,0.9s,baz=295,slow=3.1,SNR=3.9									
VNDA					LR		LR	12 08 59.7		
	comp=Z,356nm,18.4s,baz=348,slow=38									
MLR	Muntele Rosu	90.14	316	‖	*i*P		P	11 25 17.8	-0.6	
MLR	Muntele Rosu	90.14	316	‖	P		P	11 25 17.8	-0.6	
MAW	Mawson	90.17	200		P		P	11 25 18.0	+0.4	
	comp=Z,6.1nm,0.7s,baz=59,slow=6.1,SNR=13									
MAW					LR		LR	12 05 42.1		
	comp=Z,100nm,18.3s,baz=61,slow=36									
MAW	Mawson	90.17	200		P		P	11 25 18.3	+0.6	
	baz=90,SNR=15									
LVV	L'vov	90.21	321		*e*P		P	11 25 18.5	+0.1	
DOPR	Dopca	90.39	317	⇑	*i*P		P	11 25 19.1	-0.3	
SZH	Strazhica	90.73	314		*e*P		P	11 25 21.5	+0.5	
VOIR		90.77	316	‖	*i*P		P	11 25 20.9	-0.3	
VOIR		90.77	316	‖	P		P	11 25 20.9	-0.3	
NSS	Namsos	90.89	337		*e*P		P	11 25 20.0	-1.3	
SBA	Scott Base	91.01	172		*e*P		P	11 25 22.8	+1.4	
	comp=Z,131nm,2.0s									
ARR	Arges	91.07	316	⇑	*i*P		P	11 25 22.3	-0.3	
KWP	Kalwaria Pacla	91.08	321		*e*P		P	11 25 23.4	+1.0	
KWP	Kalwaria Pacla	91.08	321		*e*P		P	11 25 23.5	+1.0	
RES	Resolute Bay	91.12	10		P		P	11 25 22.8	+0.7	
	comp=Z,24nm,0.8s,baz=300,slow=5.4,SNR=38									
PVL	Pavlikeni	91.17	314		*e*P		P	11 25 24.1	+1.1	
TRPA	Tarpa	91.64	320	⇑	*i*P		P	11 25 25.0	-0.1	
TRPA	Tarpa	91.64	320		*e*P		P	11 25 25.5	+0.4	
UZH	Uzhgorod	91.65	320		*e*P		P	11 25 25.5	+0.4	
UZH					*i*			11 25 33.6		
UZH					*e*			11 25 40.0		
DRGR		91.94	318	‖	*i*P		P	11 25 26.0	-0.6	
DRGR		91.94	318	‖	P		P	11 25 26.0	-0.6	
TBLU	Trondheim	92.16	336		*e*P		P	11 25 26.3	-0.9	
PGB	Panagyurishte	92.18	314		*e*P		P	11 25 29.3	+1.5	
GZR	Gura Zlata	92.31	317	‖	*i*P		P	11 25 28.8	+0.4	
GZR	Gura Zlata	92.31	317	‖	P		P	11 25 28.8	+0.4	
NIE	Niedzica	92.64	321		*e*P		P	11 25 31.7	+2.0	
NIE	Niedzica	92.64	321		*e*P		P	11 25 31.7	+2.0	
OJC	Ojcow	92.68	322		*e*P		P	11 25 30.2	+0.3	
OJC	Ojcow	92.68	322		*e*P		P	11 25 30.2	+0.3	
NB2	NORSAR Subarra	92.80	334		P		P	11 25 28.9	-1.3	
	comp=Z,4.0nm,0.7s,baz=66,slow=4.6									
NB2	NORSAR Subarra	92.80	334		P		P	11 25 27.3	-2.9	
NB2					pmax		pmax			
	comp=Z,4.0nm,0.7s									
NB2	NORSAR Subarra	92.80	334		P		P	11 25 28.9	-1.3	
	baz=66,slow=4.6									
NOA	NORSAR Array B	92.80	334		P		P	11 25 29.2	-1.0	
	comp=Z,6.2nm,0.8s,baz=64,slow=4.6,SNR=26						

BRG					MLR	MLR			
	comp=Z,616nm,19.3s								
CONA	**Conrad Observa**	**95.92**	**321**	*e*PcP	**P**		**11 25 46.0**	**+1.1**	
	comp=Z,388nm,1.6s								
CLL	**Collm**	**96.25**	**325**	*i* P	**P**		**11 25 45.8**	**-0.4**	
CLL				*i* pP	**pP**		**11 25 56.2**	**+0.3**	
	comp=Z,48nm,2.0s								
CLL				*es*P	**sP**		**11 26 03.0**	**+3.6**	
CLL				*e*PP	**PP**		**11 29 40.0**	**+0.8**	
CLL	**Collm**	**96.25**	**325**	*i* P	**P**		**11 25 45.8**	**-0.4**	
CLL				*i* *PP	**pP**		**11 25 56.2**	**+0.3**	
ARSA	**Arzberg**	**96.39**	**320**	*e*PcP	**P**		**11 25 47.1**	**+0.1**	
	comp=Z,19nm,1.3s								
KHC	**Kasperske Hory**	**96.83**	**323**	*e*P	**P**		**11 25 49.7**	**+0.8**	
KHC				*ep*P	**sP**		**11 26 00.0**	**-2.1**	
KHC					AMS	AMS	12 18 00.0		
	comp=Z,500nm,18.3s								
KHC	**Kasperske Hory**	**96.83**	**323**	*e*P	**P**		**11 25 49.7**	**+0.8**	
KHC				*e*			11 26 00.0		
KHC					MLR	MLR			
	comp=Z,500nm,18.3s								
GERES	**GERESS Array B**	**96.87**	**322**	P	**P**		**11 25 48.7**	**-0.5**	
	comp=Z,1.7nm,0.9s,baz=58,slow=3.8,SNR=7.5								
PERS	**Pernice**	**96.89**	**320**	*e*P	**P**		**11 25 49.5**	**+0.2**	
PERS				*i* pP	**sP**		**11 25 59.9**	**-2.6**	
PERS	**Pernice**	**96.89**	**320**	*e*P	**P**		**11 25 49.5**	**+0.2**	
PERS				*i* pP	**sP**		**11 25 59.9**	**-2.6**	
SOKA	**Soboth**	**96.93**	**320**	*e*PcP	**P**		**11 25 49.7**	**+0.2**	
	comp=Z,32nm,1.8s								
MOA	**Molln**	**96.94**	**321**	*e*PcP	**P**		**11 25 50.2**	**+0.8**	
	comp=Z,39nm,1.2s								
NKC	**Novy Kostel**	**97.03**	**324**		AMS	AMS	12 19 00.0		
	comp=Z,600nm,21.5s								
I04A	**Tendick Farm,**	**97.24**	**43**	P		Pdif	11 25 50.6	-0.5	
	baz=292								
OBKA	**Obir**	**97.30**	**320**	*e*PcP	**P**		**11 25 50.7**	**-0.5**	
	comp=Z,17nm,1.0s								
CRNS	**Crni Vrh**	**97.66**	**320**	*e*P	**P**		**11 25 52.7**	**0.0**	
CRNS	**Crni Vrh**	**97.66**	**320**	*e*P	**P**		**11 25 52.7**	**0.0**	
M02C	**Callahan**	**97.82**	**45**	P		Pdif	11 25 54.7	+1.0	
	baz=291								
MYKA	**Terra Mystica**	**97.83**	**320**	*e*PcP	**P**		**11 25 52.8**	**-0.7**	
	comp=Z,22nm,1.7s								
ABTA	**Abfaltersbach**	**98.48**	**321**	*e*Pdiff	**P**		**11 25 55.9**	**-0.6**	
	comp=Z,21nm,1.1s								
TIP	**Timpagrande**	**98.58**	**312**⇑	*i*P		Pdif	11 25 57.1	0.0	
NEW	**Newport**	**98.77**	**37**	P		Pdif	11 25 58.1	+0.4	
	comp=Z,3.2nm,0.9s,baz=322,slow=3.0,SNR=6.3								
NEW	**Newport**	**98.77**	**37**	P		Pdif	11 25 57.7	0.0	
	baz=297								
SYO	**Syowa Base**	**98.80**	**201**⇑	*e*Pdiff	**P**		**11 25 56.8**	**-0.3**	
WTTA	**Wattenberg**	**98.80**	**321**	*e*Pdiff	Pdif		11 25 58.1	0.0	
	comp=Z,29nm,1.4s								
SQTA	**Sankt Quirin**	**99.08**	**322**	*e*Pdiff	**Pdif**		**11 25 59.9**	**+0.7**	
	comp=Z,35nm,1.6s								
MOTA	**Moosalm**	**99.09**	**322**	*e*Pdiff	**Pdif**		**11 25 59.2**	**-0.1**	
	comp=Z,5.2nm,0.8s								
FETA	**Feichten**	**99.46**	**322**	*e*Pdiff	**Pdif**		**11 26 02.5**	**+1.5**	
	comp=Z,25nm,1.4s								
RKT	**Rikitea**	**101.46**	**112**	*e*T	T		11 31 19.3		
	comp=Z,2.0nm,0.3s								
RKT	**Rikitea**	**101.46**	**112**	*e*LR	LR		11 59 25.9		
	comp=Z,523nm,24.0s								
NVAR	**Mina Array Bea**	**102.19**	**47**	P	**Pdif**		**11 26 14.8**	**+1.4**	
	comp=Z,0.7nm,0.7s,baz=281,slow=5.3,SNR=6.5								
NVAR				PP	**PP**		**11 30 24.3**	**-0.9**	
	comp=Z,0.5nm,0.8s,baz=265,slow=9.0,SNR=5.1								
PDAR	**Pinedale Array**	**106.08**	**40**	PKiKP	**PKiKP**		**11 30 44.9**	**+2.3**	
	comp=Z,0.4nm,0.9s,baz=14,slow=4.2,SNR=3.3								
PDAR				PKKP	**PKKPdf**		**11 42 18.7**	**+2.1**	
	comp=Z,0.6nm,0.7s,baz=103,slow=4.7,SNR=5.4								
ESDC	**Sonseca Array**	**112.41**	**321**	PP	**PP**		11 31 41.4	+1.8	
	comp=Z,0.1nm,0.3s,baz=37,slow=9.6,SNR=4.4								
TXAR	**Lajitas Array**	**117.17**	**49**	PKP	**PKPdf**		**11 31 04.6**	**+0.8**	
	comp=Z,0.9nm,0.5s,baz=349,slow=1.2,SNR=17								
TXAR				PP	**PP**		**11 32 13.3**	**-0.4**	
	comp=Z,0.8nm,0.8s,baz=261,slow=4.5,SNR=4.3								
TXAR				PKKPab	**PKKPab**		**11 41 39.4**	**+6.5**	
	comp=Z,1.5nm,1.2s,baz=111,slow=6.9,SNR=4.6								
TORD	**Torodi Ar. Bea**	**120.76**	**292**	PKP	**PKPdf**		**11 31 10.5**	**-0.4**	
	comp=Z,2.8nm,0.8s,baz=66,slow=2.4,SNR=19								
TORD				PKKPbc	**PKKPab**		**11 41 15.9**	**-0.9**	
	comp=Z,0.6nm,0.5s,baz=287,slow=2.7,SNR=6.8								
KIC	**Kosan Boka**	**129.03**	**287**	*e*PKP2	**PKPdf**		**11 31 26.6**	**-0.2**	
	comp=Z,208nm,2.1s								
DBIC	**Dimbokro**	**129.03**	**288**	PKP	**PKPdf**		**11 31 27.5**	**+0.8**	
	comp=Z,2.1nm,0.6s,baz=67,slow=2.8,SNR=2.9								
TIC	**Toumodi**	**129.20**	**288**	*e*PKP2	**PKPdf**		**11 31 26.7**	**-0.4**	
LIC	**Lamto**	**129.34**	**287**	*e*PKP2	**PKPdf**		**11 31 27.7**	**+0.3**	
	comp=Z,48nm,1.3s								
PLCA	**Paso Flores**	**146.19**	**156**	PKPbc	**PKPab**		**11 31 59.8**	**+0.5**	
	comp=Z,16nm,0.6s,baz=252,slow=2.8,SNR=74								
BCIP	**Isla Barro Col**	**146.95**	**55**	*e*P	**PKPbc**		**11 32 00.9**	**-0.5**	
UPA	**Univ. de Panam**	**147.31**	**55**	*e*P	**PKPdf**		**11 32 00.3**	**+0.2**	
CODC	**Agust¯›n Codaz**	**151.29**	**46**	*e*P	**PKPbc**		**11 32 09.6**	**-2.8**	
ZARC	**Zaragoza, Cauc**	**151.88**	**51**	*e*P	**PKPdf**		**11 32 07.6**	**+0.2**	
OCAC	**Ocana**	**152.54**	**48**	*e*P	**PKPbc**		**11 32 15.6**	**+0.1**	
OTAV	**Otavalo**	**152.59**	**69**	*e*P	**PKPdf**		**11 32 11.0**	**+2.0**	
YOTC	**Yotoco, Valle**	**152.71**	**59**	*e*P	**PKPdf**		**11 32 08.9**	**+0.2**	
GUYC	**Guyana, Colomb**	**152.82**	**56**	*e*P	**PKPbc**		**11 32 18.2**	**+1.7**	
NORC	**Norcasia**	**153.04**	**55**	*e*P	**PKPbc**		**11 32 16.2**	**-0.2**	
POPC	**Popayan, Colom**	**153.16**	**62**	*e*P	**PKPdf**		**11 32 08.9**	**-0.6**	
ANIL	**Santa Ana**	**153.22**	**57**	*e*P	**PKPdf**		**11 32 08.0**	**-1.7**	
SOTA	**Rioblanco**	**153.41**	**63**	*e*P	**PKPdf**		**11 32 09.6**	**-0.7**	
MARP	**Paez Belalcaza**	**153.63**	**61**	*e*P	**PKPbc**		**11 32 14.2**	**-3.8**	
BARC	**Barichara**	**153.73**	**50**	*e*P	**PKPbc**		**11 32 18.2**	**0.0**	
ROSC	**El Rosal**	**153.91**	**55**	PKP	**PKPdf**		**11 32 10.8**	**-0.1**	
	comp=Z,4.2nm,0.3s,baz=66,slow=23,SNR=5.0								
ROSC				PKPbc	**pPKPdf**		**11 32 21.2**	**+0.4**	
	comp=Z,5.7nm,0.4s,baz=336,slow=7.2,SNR=5.6								
CPUP	**Villa Florida**	**163.79**	**166**	PKP	**PKPdf**		**11 32 22.0**	**+0.4**	
	comp=Z,3.3nm,0.9s,baz=309,slow=3.6,SNR=6.6								
CPUP				PKPab	**PKPab**		**11 33 15.1**	**+1.5**	
	comp=Z,2.1nm,0.9s,baz=183,slow=8.4,SNR=2.8								
LPAZ	**La Paz**	**164.29**	**113**	PKP	**PKPdf**		**11 32 24.6**	**+1.5**	
	comp=Z,3.6nm,1.0s,baz=17,slow=1.3,SNR=12								
LPAZ				PKPab	**PKPab**		**11 33 18.9**	**+1.7**	
	comp=Z,5.3nm,0.9s,baz=192,slow=1.9,SNR=6.8								

GUC 03 11:22:55.7±0.6, 20°.74S×67°.15W, h263km±24km, ML3.8, 4C-1D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
PB08	**IPOC Station P**	**1.97**	**287**⇑	*i*P		Pn	11 23 41.1		+1.6
PB08				*i* S		S	11 24 16.6		+2.6
PB08				IAML			11 24 18.9		
	comp=N,49nm,0.4s								
PB01	**IPOC Station P**	**2.21**	**262**	*e*P		Pn	11 23 43.0		+1.8
PB01				*i* S		S	11 24 19.4		+2.1
PB01				IAML			11 24 21.1		
	comp=N,146nm,0.2s								
PB11	**IPOC Station P**	**2.55**	**292**⇑	*i*P		Pn	11 23 45.9		+1.3
PB11				*i* S		S	11 24 24.7		+1.5
PB11				IAML			11 24 26.4		
	comp=N,190nm,0.4s								
PB02	**IPOC Station P**	**2.63**	**257**	*e*P		Pn	11 23 47.9		+2.5
PB02				*i* S		S	11 24 26.7		+2.0
PB02				IAML			11 24 27.1		
	comp=N,384nm,0.3s								
PB03	**IPOC Station P**	**2.76**	**241**⇓	*i*P		Pn	11 23 49.1		+2.4
PB03				*i* S		S	11 24 29.0		+2.0
PB03				IAML			11 24 30.0		
	comp=N,117nm,0.6s								
PB06	**IPOC Station P**	**2.99**	**229**⇑	*i*P		Pn	11 23 52.0		+3.0
PB06				*i* S		S	11 24 33.7		+2.4
PB12	**IPOC Station P**	**3.67**	**305**⇑	*i*P		Pn	11 23 56.4		-0.1
PB12				*i* S		S	11 24 44.4		-0.3

*IDC **03** 11:33:28.7±1.2, 10°.22N×126°.59E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.7/52, mbtmp3.9/8, Error ellipse: s-maj=75.5km s-min=19.1km az=64.0*
*ISCJB **03** 11:33:32.6±1.1, 10°.2N±0°.2×126°.6E±0°.4, h42km, mb3.8/8, Error ellipse: s-maj=56.7km s-min=15.8km az=155.0*

ISC 03 11:33:34.4±1.2, 10°.2N±0°.2×126°.6E±0°.4, h42km, n9, σ0°.79/9, mb3.9/8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
CMAR	**Chiang Mai Arr**	**28.01**	**290**	P		**P**	**11 39 21.9**		**+0.2**
	comp=Z,0.4nm,0.4s,baz=106,slow=8.5,SNR=1.8								
WRA	**Warramunga Arr**	**30.92**	**166**	P		**P**	**11 39 48.6**		**+1.2**
	comp=Z,0.3nm,0.4s,baz=345,slow=9.5,SNR=0.4								

ASAR	**Alice Springs**	**34.42**	**168**	P		**P**	**11 40 17.2**		**-0.9**
	comp=Z,0.6nm,0.5s,baz=343,slow=7.0,SNR=10.0								
SONM	**Songino Array**	**41.19**	**339**	P		**P**	**11 41 14.9**		**-0.2**
	comp=Z,0.3nm,0.6s,baz=149,slow=12,SNR=2.1								
MKAR	**Makanchi Array**	**52.27**	**323**	P		**P**	**11 42 42.2**		**+0.5**
	comp=Z,2.6nm,0.7s,baz=120,slow=8.2,SNR=7.3								
KURBB	**Kurchatov Arra**	**56.31**	**325**	P		**P**	**11 43 11.6**		**+0.7**
	comp=Z,1.4nm,0.6s,baz=125,slow=6.1,SNR=4.1								
AKTO	**Aktyubinsk**	**68.58**	**320**	P		**P**	**11 44 33.0**		**+0.1**
	comp=Z,1.1nm,0.5s,baz=127,slow=5.1,SNR=3.7								
BRTR	**Keskin Array B**	**85.83**	**309**	P		**P**	**11 46 09.2**		**-0.9**
	comp=Z,0.7nm,0.6s,baz=142,slow=4.8,SNR=3.6								
PLCA	**Paso Flores**	**146.02**	**156**	PKPbc		**PKPab**	**11 53 10.5**		**-0.2**
	comp=Z,0.8nm,0.6s,baz=223,slow=2.8,SNR=5.1								

*KRSC **03** 11:34:17.3±1.8, 51°.21N×160°.24E, h41km±25km, ML4.5*
*ISCJB **03** 11:34:20.3±1.4, 51°.35N±0°.04×160°.10E±0°.06, h27km±11km, mb4.1/20, MS4.4/2, Error ellipse: s-maj=6.7km s-min=6.1km az=3.0*
*MOS **03** 11:34:22.9±1.2, 51°.48N×159°.96E, h41km, mb4.5/7, Error ellipse: s-maj=11.7km s-min=4.8km az=98.8*
*NEIC **03** 11:34:24.8±0.5, 51°.62N×159°.81E, h35km, mb4.4/3, Error ellipse: s-maj=10.3km s-min=9.2km az=206.0*
*IDC **03** 11:34:29.1±3.4, 51°.75N×159°.52E, h67km±27km, mb3.5/13, mb1 3.7/15, mb1mx3.4/58, mbtmp3.9/15, ML3.6/2, MS4.4/2, Ms1 4.3/2, ms1mx3.2/50, Error ellipse: s-maj=27.9km s-min=18.8km az=107.0*

ISC 03 11:34:20.9±1.8, 51°.47N±0°.05×159°.90E±0°.05, h12km±10km, n99, σ1s52/108, mb4.3/20, 4C-3D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
KDTR	**Khodutka, Kamc**	**1.19**	**287**	*e*P		**Pn**	**11 34 43.3**		**0.0**
KDTR				*es*		**Sn**	**11 35 02.2**		**+2.9**
RUS	**Russkaya**	**1.29**	**319**	*e*P		**Pn**	**11 34 44.4**		**-0.3**
RUS				*es*		**Sn**	**11 35 04.4**		**+2.5**
RUS	**Russkaya**	**1.29**	**319**	PN		**Pn**	**11 34 44.4**		**-0.3**
RUS				S		**Sn**	**11 35 04.4**		**+2.5**
GRL	**Gorelyy**	**1.56**	**315**	*e*P		**Pb**	**11 34 49.6**		**-0.2**
GRL				*es*		**Sg**	**11 35 14.5**		**+3.3**
GRL	**Gorelyy**	**1.56**	**315**	PN		**Pb**	**11 34 49.6**		**-0.2**
GRL				S		**Sg**	**11 35 14.5**		**+3.3**
SPN	**Mys Shipunski**	**1.63**	**3**	*e*P		**Pn**	**11 34 49.0**		**-0.4**
SPN				*es*		**Sg**	**11 35 13.2**		**-0.1**
SPN	**Mys Shipunski**	**1.63**	**3**	PN		**Pn**	**11 34 49.0**		**-0.4**
SPN				S		**Sg**	**11 35 13.2**		**-0.1**
DALK	**Dalny**	**1.71**	**336**	*e*P		**Pn**	**11 34 50.3**		**-0.3**
PET	**Petropavlovsk**	**1.73**	**334**	*e*Pn		**Pn**	**11 34 51.1**		**+0.3**
PET	**Petropavlovsk**	**1.73**	**334**	*e*PN		**Pn**	**11 34 51.4**		**+0.6**
PET				*es*		**Sn**	**11 35 13.3**		**+0.4**
PET				smax		smax			
	comp=E,712nm,0.6s								
PET				smax		smax			
	comp=N,915nm,0.5s								
NLC	**Nalytchevo**	**1.74**	**349**	*e*P		**Pn**	**11 34 51.0**		**+0.1**
NLC	**Nalytchevo**	**1.74**	**349**	PN		**Pn**	**11 34 51.0**		**+0.1**
KRMR	**Karymshinskiy**	**1.74**	**322**	*e*P		**Pn**	**11 34 51.2**		**+0.2**
KRMR				*es*		**Sg**	**11 35 16.7**		**-0.2**
KRMR	**Karymshinskiy**	**1.74**	**322**	PN		**Pn**	**11 34 51.2**		**+0.2**
KRMR				S		**Sg**	**11 35 16.7**		**-0.2**
UGLR	**Uglovaya**	**1.86**	**340**	*e*P		**Pg**	**11 34 56.6**		**0.0**
UGLR	**Uglovaya**	**1.86**	**340**	PN		**Pg**	**11 34 56.6**		**0.0**
SMAR	**Somma**	**1.92**	**340**	*e*P		**Pn**	**11 34 53.6**		**0.0**
SMAR	**Somma**	**1.92**	**340**	PN		**Pn**	**11 34 53.6**		**0.0**
AVH	**Avacha**	**1.93**	**339**	*e*P		**Pb**	**11 34 56.0**		**-0.1**
AVH	**Avacha**	**1.93**	**339**	PN		**Pb**	**11 34 56.0**		**-0.1**
KOK	**Koryaka**	**1.98**	**337**	*e*P		**Pb**	**11 34 55.7**		**-1.2**
KOK	**Koryaka**	**1.98**	**337**	PN		**Pb**	**11 34 55.7**		**-1.2**
KRX	**Arik**	**2.04**	**338**	*e*P		**Pn**	**11 34 55.9**		**+0.7**
KRX	**Arik**	**2.04**	**338**	PN		**Pn**	**11 34 55.9**		**+0.7**
PEA0B	**Petropavlovsk-**	**2.12**	**321**	*e*Pn		**Pn**	**11 34 57.2**		**+1.0**
PEA0B				*e*Sn		**Sn**	**11 35 18.7**		**-3.8**
PETK	**Petropavlovsk-**	**2.12**	**321**	P		**Pn**	**11 34 57.1**		**+0.9**
	comp=N,101nm,0.3s,baz=133,slow=16,SNR=433								
PETK				S		**Sb**	**11 35 26.4**		**+0.7**
	comp=N,30nm,0.3s,baz=135,slow=17,SNR=7.4								
PEA1	**Petropavlovsk-**	**2.13**	**321**	*e*Pn		**Pn**	**11 34 57.1**		**+0.9**
PEA1				*e*Sn		**Sb**	**11 35 26.4**		**+0.6**
APC	**Apacha**	**2.23**	**312**	*e*P		**Pb**	**11 34 59.1**		**-2.0**
APC				*e*S		**Sg**	**11 35 31.1**		**-1.3**
APC	**Apacha**	**2.23**	**312**	PN		**Pb**	**11 34 59.1**		**-2.0**
APC				S		**Sg**	**11 35 31.1**		**-1.3**
SKR	**Severo-Kuril's**	**2.51**	**253**	*e*P		**Pn**	**11 35 00.9**		**-0.6**
SKR				*e*S		**Sn**	**11 35 32.1**		**0.0**
SKR	**Severo-Kuril's**	**2.51**	**253**	PN		**Pn**	**11 35 00.9**		**-0.6**
SKR				S		**Sn**	**11 35 32.1**		**0.0**
GNL	**Ganaly**	**2.53**	**333**	*e*P		**Pn**	**11 35 03.0**		**+1.1**
GNL	**Ganaly**	**2.53**	**333**	PN		**Pn**	**11 35 03.0**		**+1.1**
MKZ	**Mys Kozlova**	**3.28**	**19**	*e*P		**Pn**	**11 35 11.8**		**-0.3**
MKZ	**Mys Kozlova**	**3.28**	**19**	PN		**Pn**	**11 35 11.8**		**-0.3**
TUMD	**Tumrok D**	**3.75**	**4**	*e*P		**Pn**	**11 35 19.1**		**+0.5**
TUMR	**Tumrok**	**3.82**	**2**	PN		**Pn**	**11 35 19.1**		**-0.5**
ZLN	**Zelenaya**	**4.59**	**6**	*e*P		**Pn**	**11 35 32.9**		**+2.8**
ZLN	**Zelenaya**	**4.59**	**6**	PN		**Pn**	**11 35 32.9**		**+2.8**
KBTR	**Krutoberegovo**	**5.05**	**19**	*e*P		**Pn**	**11 35 36.5**		**+0.1**
KBTR	**Krutoberegovo**	**5.05**	**19**	PN		**Pn**	**11 35 36.5**		**+0.1**
SMKR	**Semkarok**	**5.20**	**10**	*e*P		**Pn**	**11 35 40.7**		**+2.1**
SMKR	**Semkarok**	**5.20**	**10**	PN		**Pn**	**11 35 40.7**		**+2.1**
BKI	**Bering**	**5.22**	**42**	*e*P		**Pn**	**11 35 38.5**		**-0.1**
BKI	**Bering**	**5.22**	**42**	PN		**Pn**	**11 35 38.5**		**-0.1**
SRKR	**Sorokina**	**5.25**	**8**	*e*P		**Pn**	**11 35 42.0**		**+2.8**
SRKR	**Sorokina**	**5.25**	**8**	PN		**Pn**	**11 35 42.0**		**+2.8**
SMY	**Shemya**	**8.84**	**76**	*e*Pn		**Pn**	**11 36 29.4**		**+1.1**
SMY	**Shemya**	**8.84**	**76**	*e*PN		**Pn**	**11 36 29.4**		**+1.1**
KLR	**Kul'dur**	**18.06**	**274**	P		**P**	**11 38 32.6**		**+0.7**
	comp=N,0.2nm,0.3s,baz=52,slow=15,SNR=3.6								
KLR	**Kul'dur**	**18.06**	**274**⇓	*e*P		**P**	**11 38 33.8**		**+1.9**
YAK	**Yakutsk**	**19.45**	**315**	P		**P**	**11 38 45.2**		**-1.9**
	comp=N,0.0nm,0.3s,baz=225,slow=2.5,SNR=4.3								
YAK	**Yakutsk**	**19.45**	**315**	*e*P		**P**	**11 38 44.9**		**-2.1**
	comp=N,20nm,1.2s								
YAK	**Yakutsk**	**19.45**	**315**⇓	*e*P		**P**	**11 38 44.6**		**-2.5**
YAK				pmax		pmax			
	comp=Z,14nm,1.1s								
TIXI	**Tiksi**	**24.52**	**337**	P		**P**	**11 39 38.6**		**-1.1**
	comp=Z,2.6nm,0.4s,baz=121,slow=10,SNR=7.5								
TIXI	**Tiksi**	**24.52**	**337**⇓	*e*P		**P**	**11 39 39.2**		**-0.5**
TIXI				pmax		pmax			
	comp=Z,6.0nm,1.2s								
HIA	**Hailar**	**25.49**	**281**	*e*P		**P**	**11 39 47.5**		**-1.3**
	comp=Z,8.6nm,0.9s								
HIA	**Hailar**	**25.49**	**281**	*e*P		**P**	**11 39 47.5**		**-1.3**
HIA				pmax		pmax			
	comp=Z,9.0nm,0.9s								
KSRS	**Korea Array**	**26.53**	**251**	P		**P**	**11 39 60.0**		**+1.8**
	comp=Z,0.6nm,0.7s,baz=51,slow=8.9,SNR=3.3								
KSRS	**Korea Array**	**26.53**	**251**	P		**P**	**11 40 00.0**		**+1.8**
KSRS				pmax		pmax			
	comp=Z,1.0nm,0.7s								
KS15	**Wonju Array Si**	**26.56**	**251**	*e*P		**P**	**11 39 59.2**		**+0.6**
KSAR	**Wonju Array Be**	**26.56**	**251**	P		**P**	**11 39 60.0**		**+1.5**
KSAR	**Wonju Array Be**	**26.56**	**251**	P		**P**	**11 40 00.0**		**+1.5**
H11N2	**WAKE ISLAND Hy**	**32.15**	**168**	T		T	12 14 48.1		
	baz=351,slow=76,SNR=31								
H11N3	**WAKE ISLAND Hy**	**32.16**	**168**	T		T	12 14 52.6		
	baz=351,slow=76,SNR=20								
H11N1	**WAKE ISLAND Hy**	**32.17**	**168**	T		T	12 14 48.2		
	baz=351,slow=76,SNR=26								
H11S1	**WAKE ISLAND Hy**	**33.33**	**168**	T		T	12 16 23.1		
	baz=352,slow=76,SNR=7.2								
H11S3	**WAKE ISLAND Hy**	**33.34**	**168**	T		T	12 16 18.3		
	baz=352,slow=76,SNR=10.0								
H11S2	**WAKE ISLAND Hy**	**33.35**	**168**	T		T	12 16 21.3		
	baz=352,slow=76,SNR=5.2								
KURK	**Kurchatov**	**48.50**	**303**	*e*P		**P**	**11 43 01.4**		**-1.8**
KURK	**Kurchatov**	**48.50**	**303**	*i*P		**P**	**11 43 01.2**		**-2.0**
KURK				pmax		pmax			
	comp=Z,6.0nm,0.9s								
KURBB	**Kurchatov Arra**	**48.60**	**303**	P		**P**	**11 43 01.4**		**-2.6**
	comp=Z,3.4nm,0.8s,baz=60,slow=7.6,SNR=9.4								
SPITS	**Spitsbergen Ar**	**48.72**	**351**	P		**P**	**11 43 04.7**		**+0.1**
	comp=Z,52nm,1.3s,baz=32,slow=8.5,SNR=4.8								
MK32	**Makanchi Array**	**48.77**	**297**	*e*P		**P**	**11 43 03.6**		**-1.8**
MKAR	**Makanchi Array**	**48.77**	**297**	P		**P**	**11 43 03.6**		**-1.8**
	comp=Z,0.3nm,0.5s,baz=64,slow=8.1,SNR=2.5								
BVAR	**Borovoye Array**	**51.31**	**309**	P		**P**	**11 43 22.6**		**-2.0**
	comp=Z,1.7nm,0.4s,baz=60,slow=6.5,SNR=9.1								
BRVK	**Borovoye**	**51.34**	**309**⇑	*e*P		**P**	**11 43 23.5**		**-1.3**
BRVK				pmax		pmax			
	comp=Z,2.0nm,0.6s								

ARA0	**ARCESS Array S**	**54.80**	**342**	*e*P		**P**	**11 43 49.5**		**-0.5**
ARCES	**ARCESS Array B**	**54.80**	**342**	P		**P**	**11 43 49.5**		**-0.5**
	comp=Z,3.2nm,0.8s,baz=31,slow=7.9,SNR=7.7								
ARCES	**ARCESS Array B**	**54.80**	**342**	*e*P		**P**	**11 43 49.7**		**-0.3**
ARCES				pmax		pmax			
	comp=Z,3.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**57.74**	**259**	P		**P**	**11 44 13.6**		**+1.9**
	comp=Z,0.4nm,0.3s,baz=20,slow=6.9,SNR=4.8								
PDAR	**Pinedale Array**	**58.43**	**60**	LR		LR	12 07 36.5		
	comp=Z,588nm,22.0s,baz=306,slow=34								
ULM	**Lac du Bonnet**	**60.03**	**46**	LR		LR	12 13 27.8		
	comp=Z,150nm,19.0s,baz=320,slow=39								
NB2	**NORSAR Subarra**	**65.07**	**344**	P		**P**	**11 45 00.6**		**-0.1**
	comp=Z,1.1nm,0.6s,baz=18,slow=6.9								
NB200	**NORSAR Array S**	**65.07**	**344**	*e*P		**P**	**11 44 59.7**		**-1.0**
NOA	**NORSAR Array B**	**65.07**	**344**	P		**P**	**11 44 59.7**		**-1.0**
	comp=Z,0.6nm,0.6s,baz=12,slow=13,SNR=4.4								
AKASG	**Malin Array Be**	**69.94**	**329**	P		**P**	**11 45 30.2**		**-1.4**
	comp=Z,1.9nm,0.5s,baz=31,slow=6.6,SNR=3.2								
AKBB	**Malin Array Si**	**69.94**	**329**	*e*P		**P**	**11 45 30.2**		**-1.4**
AKBB	**Malin Array Si**	**69.94**	**329**	*e*P		**P**	**11 45 30.2**		**-1.4**
KIEV	**Kiev**	**69.95**	**329**⇑	*i*P		**P**	**11 45 31.0**		**-0.7**
KIEV				pmax		pmax			
	comp=Z,5.0nm,1.1s								
LTX	**Lajitas**	**71.39**	**66**	*e*P		**P**	**11 45 42.5**		**+1.6**
LTX	**Lajitas**	**71.39**	**66**	*e*P		**P**	**11 45 42.5**		**+1.6**
TXAR	**Lajitas Array**	**71.39**	**66**	P		**P**	**11 45 42.5**		**+1.6**
	comp=Z,0.2nm,0.6s,baz=308,slow=4.4,SNR=3.4								
WRAB	**Tennant Creek**	**74.55**	**205**⇑	*e*P		**P**	**11 46 03.0**		**+3.6

ellipse: s-maj=30.7km s-min=17.8km az=115.0
*ISCJB **03** 12:02:03.1±0.7,9°.81S±0°.08×124°.32E±0°.07,h39km±5km, mb3.9/6,Error ellipse: s-maj=16.1km s-min=7.4km az=42.6.*
*DJA **03** 12:02:05.0±0.3,10°S±3°×12°4E±°,h10km,M3.3/3, MLv3.3/3*

ISC 03 12:02:04.2±0.9,**9°.72S**±0°.06×**124°.33E**±0°.06,**h29**km±6km, **n13**,σ2**$17**/19,**mb3.9**/6,**Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.07**	**242**	P	**Pb**	**12 02 08.2**	**-1.1**
SOEI				S	**Sb**	**12 02 14.7**	**+1.9**
BATI	**Baumata**	**0.81**	**234**	Pn	**Pb**	**12 02 20.6**	**+0.9**
	46nm,0.3s,baz=103,slow=4.1,SNR=20						
BATI				Sn	**Sn**	**12 02 34.6**	**+3.7**
	49nm,0.3s,baz=108,slow=20,SNR=27						
BATI	**Baumata**	**0.81**	**234**	P	**Pn**	**12 02 18.9**	**-0.8**
BATI				S	**Sb**	**12 02 28.1**	**-2.3**
MMRI	**Maumere**	**2.33**	**297**	P	**Pn**	**12 02 40.3**	**-0.3**
EDFI	**Ende, Flores**	**2.78**	**290**	P	**Pn**	**12 02 46.4**	**-0.5**
EDFI				S	**Sn**	**12 03 16.9**	**-2.6**
WRA	**Warramunga Arr**	**14.02**	**138**	Pn	**Pn**	**12 05 21.0**	**-0.1**
	0.1nm,0.3s,baz=315,slow=13,SNR=18						
WRA				Sn	**Sn**	**12 07 53.2**	**-2.7**
	0.2nm,0.3s,baz=305,slow=25,SNR=4.7						
ASAR	**Alice Springs**	**16.61**	**148**	Pn	**Pn**	**12 05 55.4**	**+0.2**
	0.2nm,0.3s,baz=324,slow=12,SNR=19						
ASAR				Sn	**Sn**	**12 08 55.1**	**-3.8**
	0.1nm,0.3s,baz=332,slow=25,SNR=3.7						
CTA	**Charters Tower**	**23.53**	**118**	P	**P**	**12 07 15.9**	**+3.7**
	3.7nm,1.0s,baz=270,slow=6.1,SNR=2.7						
CMAR	**Chiang Mai Arr**	**37.57**	**318**	P	**P**	**12 09 17.3**	**+0.9**
	0.3nm,0.3s,baz=146,slow=6.7,SNR=4.9						
SONM	**Songino Array**	**59.47**	**346**	P	**P**	**12 12 05.4**	**+0.7**
	0.5nm,0.7s,baz=163,slow=10,SNR=3.7						
MKAR	**Makanchi Array**	**67.60**	**330**	P	**P**	**12 12 58.3**	**+0.1**
	0.6nm,0.6s,baz=124,slow=7.7,SNR=4.4						
GEYT	**Alibeck**	**77.78**	**312**	P	**P**	**12 13 57.9**	**-1.1**
	1.0nm,0.6s,baz=355,slow=3.0,SNR=2.7						
AKTO	**Aktyubinsk**	**82.86**	**324**	P	**P**	**12 14 25.8**	**-0.2**
	1.9nm,0.4s,baz=136,slow=6.8,SNR=3.1						

*IDC **03** 12:05:22.4±0.9, 10°.91N×126°.50E,h0km,mb4.1/11, mb1 4.2/11,mb1mx3.9/50,mbtmp4.1/11, Error ellipse: s-maj=51.6km s-min=14.2km az=68.0*
*ISCJB **03** 12:05:26.7±0.6, 10°.93N±0°.03×126°.33E±0°.04,h37km, mb4.1/12,Error ellipse: s-maj=6.3km s-min=4.9km az=0.4*
*MAN **03** 12:05:27.7, 10°.95N×126°.19E,h69km,mb4.7,ML3.6, MS3.5*

ISC 03 12:05:28.4±0.7,**10°.92N**±0°.05×**126°.29E**±0°.07,**h37**km,**n34**, σ1$**20**/33,**mb4.3**/12,**4D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.08**	**309**	*e*P	**Pn**	**12 05 46.4**	**-0.5**
PLP	**Palo**	**1.31**	**281**	*e*P	Pn	12 05 60.0	+10
PLP				*i* S	**Sn**	**12 06 05.5**	**-0.9**
MSLP	**Maasin**	**1.61**	**241**	*e*P	**Pn**	**12 05 52.1**	**-2.2**
MSLP				*e*S	**Sn**	**12 06 14.2**	**+0.4**
BUTP	**Butuan**	**2.05**	**199**	*e*P	**Pn**	**12 05 59.0**	**-1.2**
BUTP				*e*S	**Sn**	**12 06 24.9**	**+0.4**
CNP	**Catarman**	**2.25**	**315**	*e*P	**Pn**	**12 06 03.3**	**+0.3**
LLP	**Lapu-Lapu**	**2.36**	**256**	*e*P	Pn	12 06 13.7	+9.1
LLP				*e*S	**Sn**	**12 06 32.1**	**-0.3**
TBP	**Tagbilaran**	**2.68**	**243**	*e*P	**Pn**	**12 06 09.0**	**0.0**
TBP				*i* S	**Sn**	**12 06 40.4**	**0.0**
BIPH	**Bislig**	**2.72**	**179**	*e*P	**Pn**	**12 06 10.8**	**+1.4**
CGP	**Cagayan de Oro**	**2.91**	**213**	*e*P	**Pn**	**12 06 13.2**	**+1.0**
CGP				*e*S	**Sn**	**12 06 46.2**	**+0.3**
BUKP	**Musuan**	**3.25**	**202**	*e*P	**Pn**	**12 06 17.5**	**+0.6**
BUKP				*e*S	**Sn**	**12 06 55.4**	**+0.9**
PVCP	**Virac**	**3.38**	**322**	*e*P	**Pn**	**12 06 17.7**	**-1.0**
RCP	**Roxas**	**3.54**	**281**	*e*P	**Pn**	**12 06 21.7**	**+0.9**
RCP				*e*S	**Sn**	**12 07 04.2**	**+2.8**
GUIM	**Jordan**	**3.65**	**266**	*e*P	**Pn**	**12 06 21.5**	**-0.8**
DAV	**Davao City (W)**	**3.89**	**190**	Pn	Pn	12 06 34.5	+8.9
	66nm,0.3s,baz=240,slow=10,SNR=2.6						
DAV				Sn	Sn	12 07 19.1	+9.1
	59nm,0.3s,baz=270,slow=8.1,SNR=3.1						
PAGZ	**Pagadian**	**4.19**	**224**	*e*P	**Pn**	**12 06 29.3**	**-0.4**
BATI	**Baumata**	**21.15**	**187**	P	**P**	**12 10 12.8**	**+2.4**
	21nm,0.5s,baz=315,slow=3.2,SNR=5.4						
CMAR	**Chiang Mai Arr**	**27.47**	**289**	P	**P**	**12 11 13.0**	**+1.7**
	0.4nm,0.4s,baz=94,slow=6.3,SNR=3.3						
WRA	**Warramunga Arr**	**31.67**	**165**	P	**P**	**12 11 45.6**	**-2.9**
	0.5nm,0.6s,baz=344,slow=9.4,SNR=6.2						
ASAR	**Alice Springs**	**35.17**	**168**	P	**P**	**12 12 18.1**	**-0.8**
	0.7nm,0.3s,baz=344,slow=7.1,SNR=19						
H11S3	**WAKE ISLAND Hy**	**39.72**	**74**	T	T	12 55 43.7	
	baz=264,slow=75,SNR=25						
H11S1	**WAKE ISLAND Hy**	**39.73**	**74**	T	T	12 55 45.0	
	baz=264,slow=75,SNR=22						
H11S2	**WAKE ISLAND Hy**	**39.74**	**74**	T	T	12 55 45.4	
	baz=264,slow=75,SNR=43						
H11N1	**WAKE ISLAND Hy**	**40.04**	**72**	T	T	12 56 08.6	
	baz=265,slow=74,SNR=17						
H11N2	**WAKE ISLAND Hy**	**40.04**	**72**	T	T	12 56 09.2	
	baz=265,slow=74,SNR=12						
H11N3	**WAKE ISLAND Hy**	**40.05**	**72**	T	T	12 56 09.4	
	baz=265,slow=74,SNR=13						
SONM	**Songino Array**	**40.42**	**339**	P	**P**	**12 13 03.2**	**+0.1**
	1.1nm,0.5s,baz=155,slow=9.4,SNR=6.7						
NWAO	**Narrogin (SRO)**	**44.45**	**191**	P	**P**	**12 13 35.4**	**-0.4**
	6.9nm,0.6s,baz=257,slow=6.0,SNR=7.4						
STKA	**Stephens Creek**	**45.01**	**161**	P	**P**	**12 13 39.4**	**-0.9**
	1.5nm,0.7s,baz=354,slow=12,SNR=5.6						
MKAR	**Makanchi Array**	**51.53**	**322**	P	**P**	**12 14 31.0**	**+0.4**
	2.9nm,0.7s,baz=123,slow=8.0,SNR=16						
ZALV	**Zalesovo Beam**	**54.07**	**331**	P	**P**	**12 14 49.1**	**-0.1**
	1.8nm,0.7s,baz=105,slow=8.6,SNR=7.3						
AKTO	**Aktyubinsk**	**67.84**	**320**	P	**P**	**12 16 22.4**	**-0.4**
	1.4nm,0.4s,baz=56,slow=7.3,SNR=2.3						
ARU	**Arti**	**68.70**	**327**	P	**P**	**12 16 28.9**	**+0.9**
	2.4nm,0.5s,baz=114,slow=12,SNR=3.8						
ARCES	**ARCESS Array B**	**83.60**	**340**	P	**P**	**12 17 53.0**	**+0.5**
	1.1nm,0.4s,baz=79,slow=6.9,SNR=15						
PLCA	**Paso Flores**	**146.79**	**156**	PKPbc	**PKPab**	**12 25 07.4**	**-0.8**
	1.0nm,0.7s,baz=323,slow=5.1,SNR=4.7						

*ISCJB **03** 12:06:58.4±0.6,50°.20N±0°.04×19°.21E±0°.03,h0km, Error ellipse: s-maj=5.5km s-min=2.9km az=17.2*
*PRU **03** 12:07:00.1±0.0,50°.18N×19°.26E,h0km*
*WAR **03** 12:07:00.7,50°.18N×19°.34E,h1km,Mw2.5*

ISC 03 12:06:59.8±0.9,**50°.17N**±0°.04×**19°.27E**±0°.02,**h0**km,**n17**, σ0$**65**/33,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.35**	**81**	*e*Pg	**Pg**	**12 07 06.3**	**-0.1**
OJC				*e*Sg	**Sg**	**12 07 10.8**	**-0.1**
OJC	**Ojcow**	**0.35**	**81**	*e*Pg	**Pg**	**12 07 06.3**	**-0.1**
OJC				*e*Sg	**Sg**	**12 07 10.8**	**-0.1**
OKC	**Ostrava-Krasne**	**0.79**	**246**	*e*PG	**Pg**	**12 07 15.1**	**+0.2**
OKC				*e*SG	**Sb**	**12 07 26.9**	**-0.8**
	comp=Z,22nm,0.5s						
NIE	**Niedzica**	**1.00**	**138**	*e*Pg	**Pg**	**12 07 19.3**	**+0.3**
NIE				*e*Sg	**Sg**	**12 07 32.6**	**+0.6**
NIE	**Niedzica**	**1.00**	**138**	*e*Pg	**Pg**	**12 07 19.3**	**+0.3**
NIE				*e*Sg	**Sg**	**12 07 32.6**	**+0.6**
LANS	**Liptovska Anna**	**1.03**	**173**	*e*PG	**Pb**	**12 07 20.2**	**-0.2**
LANS				*e*SG	**Sb**	**12 07 34.6**	**+0.2**
MORC	**Moravsky Berou**	**1.18**	**251**	*e*Pg	**Pg**	**12 07 22.7**	**+0.4**
MORC				*e*Sg	**Sb**	**12 07 38.8**	**-0.1**
KRLC	**Kraliky**	**1.60**	**268**	*e*PG	Pn	**12 07 28.8**	**-0.6**
KRLC				*e*SG	**Sn**	**12 07 50.9**	**+0.1**
	comp=Z,6.8nm,0.5s						
VYHS	**Vyhne**	**1.70**	**190**	*e*PG	**Pn**	**12 07 30.5**	**-0.2**
VYHS				*e*SN	**Sn**	**12 07 52.1**	**-1.0**
VYHS				*e*LG	Lg	12 07 57.5	
DPC	**Dobruska-Polom**	**1.90**	**277**	*e*PG	**Pb**	**12 07 34.9**	**-0.4**
DPC				*e*SG	**Sb**	**12 07 59.2**	**-0.3**
	comp=Z,16nm,0.5s						
VRAC	**Vranov**	**1.94**	**245**	*e*PN	**Pn**	**12 07 34.1**	**+0.2**
VRAC				*e*SG	**Sb**	**12 08 00.9**	**+0.3**
KSP	**Ksiaz**	**2.02**	**291**	*e*Pg	**Pg**	**12 07 39.3**	**+0.9**
KSP				*e*Sg	**Sg**	**12 08 04.8**	**+0.4**
KSP	**Ksiaz**	**2.02**	**291**	*e*Pg	**Pg**	**12 07 39.3**	**+0.9**
KSP				*e*Sg	**Sg**	**12 08 04.8**	**+0.4**
KRUC	**Moravsky**	**2.17**	**240**	*e*SG	**Sb**	**12 08 08.1**	**+0.8**
PVCC	**Panska Ves**	**3.03**	**279**	*e*SG	**Sg**	**12 08 37.1**	**+0.1**
	comp=Z,17nm,0.5s						
BRG	**Berggiesshubel**	**3.47**	**284**	PG	**Pg**	**12 08 05.7**	**-0.6**
BRG				SG	**Sg**	**12 08 50.6**	**-0.6**
	5.1nm,0.5s						
KHC	**Kasperske Hory**	**3.84**	**257**	*e*PN	**Pn**	**12 08 00.0**	**-0.1**
KHC				*e*PG	**Pb**	**12 08 09.7**	**+1.4**
KHC				*e*SG	**Sg**	**12 09 01.0**	**-2.0**
	comp=Z,8.2nm,0.6s						

JMA 03 12:18:37.5±0.3,**26°.02N**×**128°.58E**,**h44**km,**M3.6**,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.70**	**315**	P	Pn	12 18 50.9	-0.2
JNTH				*e*S	Sn	12 19 00.4	-0.5
JJT3	**Tamagusuku3**	**0.73**	**280**	P	Pn	12 18 51.6	+0.2
JJT3				S	Sn	12 19 02.5	+1.1
JOW	**Kunigami**	**0.85**	**341**	P	Pn	12 18 53.4	+0.2
JOW				S	Sn	12 19 04.4	-0.1
JYRO	**Yoronjima**	**1.01**	**353**	P	Pn	12 18 55.4	+0.2
JYRO				*e*S	Sn	12 19 09.3	+1.1
JIH	**Iheya**	**1.15**	**332**	P	Pn	12 18 57.9	+0.7
JIH				S	Sn	12 19 13.2	+1.5
JAGN	**Aguni-jima**	**1.33**	**296**	P	Pn	12 19 00.4	+0.8
JAGN				*e*S	Sn	12 19 17.3	+1.2
JOKE	**Okinoerabujima**	**1.34**	**360**	P	Pn	12 19 00.3	+0.6
JOKE				*e*S	Sn	12 19 16.8	+0.5
JKE	**Kume jima 2**	**1.64**	**281**	P	Pn	12 19 03.5	-0.4
JKE				S	Sn	12 19 23.9	+0.1
JTK	**Tokunoshima**	**1.79**	**11**	P	Pn	12 19 06.4	+0.5
JTK				*e*S	Sn	12 19 27.4	-0.1
JMZ	**Minamidaito 2**	**2.39**	**94**	P	Pn	12 19 11.9	-2.2
JMZ				S	Sn	12 19 36.4	-5.7

*ISCJB **03** 12:18:40.5±0.9,52°.38N±0°.02×132°.64W±0°.05,h6km±6km, mb4.1/53,MS4.0/10,Error ellipse: s-maj=6.5km s-min=2.5km az=146.5*
*PGC **03** 12:18:42.5±5.3,52°.40N×132°.39W,h26km,mb4.0, ML4.2/19,Mw4.6,102km southwest of Sandspit, Bc Haida Gwaii Region*
*NEIC **03** 12:18:42.5±0.2,52°.32N×132°.79W,h10km,mb4.0/108, MW4.6(OTT),Error ellipse: s-maj=6.6km s-min=2.3km az=56.0*
*IDC **03** 12:18:42.9±1.0,52°.45N×132°.15W,h0km,mb3.8/8, mb1 3.9/14,mb1mx3.8/46,mbtmp3.7/14,ML3.3/6,MS3.9/18, Ms1 3.9/18,ms1mx3.6/44,Error ellipse: s-maj=14.4km s-min=6.5km az=51.0*

ISC 03 12:18:42.2±1.7,**52°.38N**±0°.06×**132°.43W**±0°.05,**h7**km±10km, **n237**,σ1$**65**/227,**mb4.2**/53,**MS3.9**/11,**Queen Charlotte Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.46**	**64**	P	**Pg**	**12 18 51.4**	**+0.4**
BNB				S	**Sg**	**12 18 57.6**	**+0.5**
DIB	**Dawson Inlet,**	**0.82**	**358**	*e*Pg	**Pg**	**12 18 57.5**	**-0.5**
DIB	**Dawson Inlet,**	**0.82**	**358**	P	**Pg**	**12 18 57.5**	**-0.5**
DIB				S	**Sg**	**12 19 08.7**	**0.0**
H02S1	**DAWSON INLET T**	**0.82**	**358**	Pg	**Pg**	**12 18 57.6**	**-0.4**
H02S1				Lg	Lg	12 19 09.1	
H02N1	**VAN INLET T-PH**	**0.88**	**356**	Pg	**Pg**	**12 18 58.5**	**-0.5**
H02N1				Lg	Lg	12 19 10.2	
VIB	**Van Inlet**	**0.88**	**356**	P	**Pg**	**12 18 58.4**	**-0.6**
VIB				S	**Sg**	**12 19 10.6**	**+0.2**
BNAB	**Bonilla**	**1.56**	**43**	Pn	**Pn**	**12 19 08.2**	**-2.0**
NDB	**Naden**	**1.61**	**349**	Pn	**Pn**	**12 19 09.5**	**-1.9**
NDB				Sg	**Sn**	**12 19 29.5**	**-2.4**
MASB	**Masset**	**1.66**	**8**	Pn	**Pn**	**12 19 09.3**	**-2.2**
RUBB	**Prince Rupert**	**2.34**	**33**	Pn	**Pn**	**12 19 19.8**	**-1.2**
BBB	**Bella Bella**	**2.66**	**93**	Pn	**Pn**	**12 19 22.2**	**-3.1**
	2.1nm,0.3s,baz=270,slow=16,SNR=2.0						
BBB				Sn	**Sn**	**12 19 53.7**	**-4.0**
	30nm,0.3s,baz=270,slow=15,SNR=5.8						
BBB				Lg	Lg	12 20 01.4	
	29nm,0.3s,baz=280,slow=16,SNR=3.9						
BBB				LR	LR	12 20 24.3	
	comp=Z,891nm,19.9s,baz=352,slow=41						
BBB	**Bella Bella**	**2.66**	**93**	*e*Pn	**Pb**	**12 19 28.4**	**-1.6**
BBB				Sn	**Sn**	**12 19 53.7**	**-4.0**
BBB				*e*Sn	**Sb**	**12 20 03.0**	**+0.3**
BBB	**Bella Bella**	**2.66**	**93**	Pn	**Pn**	**12 19 23.6**	**-1.7**
CRAG	**Craig**	**3.12**	**353**	*e*Pn	**Pn**	**12 19 31.5**	**-0.1**
BCBC	**Bella Coola**	**3.48**	**88**	Pn	**Pn**	**12 19 36.4**	**-0.2**
PHC	**Port Hardy**	**3.54**	**116**	Pn	**Pn**	**12 19 33.9**	**-3.6**
PACB	**Port Alice, BC**	**3.65**	**120**	Pn	**Pn**	**12 19 37.0**	**-2.0**
BPBC	**Brooks Peninsu**	**3.67**	**125**	Pn	**Pn**	**12 19 37.2**	**-2.2**
MAYB	**Maynard**	**3.84**	**119**	Pn	**Pn**	**12 19 38.7**	**-3.0**
TLCB	**Telegraph Cove**	**3.95**	**115**	Pn	**Pn**	**12 19 39.8**	**-3.3**
WRAK	**Wrangell Islan**	**4.05**	**1**	*e*Pn	**Pn**	**12 19 44.7**	**+0.3**
WOSB	**Woss**	**4.30**	**119**	Pn	**Pn**	**12 19 44.9**	**-3.1**
NCRB	**Newcastle Ridg**	**4.46**	**114**	Pn	**Pn**	**12 19 46.0**	**-4.1**
SPLB	**Strathcona Par**	**4.94**	**118**	Pn	**Pn**	**12 19 52.9**	**-3.8**
SIT	**Sitka**	**4.98**	**341**	*e*Pn	**Pn**	**12 19 55.7**	**-1.5**
CBB	**Campbell River**	**5.02**	**115**	Pn	**Pn**	**12 19 56.3**	**-3.6**
UBRB	**Upper Baezaeko**	**5.11**	**81**	Pn	**Pn**	**12 19 59.7**	**+0.6**
BTB	**Buttle Lake**	**5.25**	**121**	Pn	**Pn**	**12 19 59.9**	**-1.2**
FSB	**Fort Saint Jam**	**5.28**	**63**	Pn	**Pn**	**12 20 01.1**	**-0.2**
TXB	**Texada**	**5.71**	**115**	Pn	**Pn**	**12 20 05.4**	**-1.9**
MGB	**Mount Grey**	**5.97**	**121**	Pn	**Pn**	**12 20 08.7**	**-2.2**
JIS	**Juneau Island**	**6.01**	**350**	*e*Pn	**Pn**	**12 20 13.4**	**+2.0**
SHB	**Sechelt**	**6.08**	**114**	Pn	**Pn**	**12 20 09.9**	**-2.5**
DLBC	**Dease Lake**	**6.22**	**12**	Pn	**Pn**	**12 20 16.4**	**+2.1**
	1.8nm,0.3s,baz=164,slow=2.0,SNR=15						
DLBC				Lg	Lg	12 22 07.0	
	1.1nm,0.3s,baz=179,slow=5.9,SNR=3.9						
DLBC				LR	LR	12 22 44.4	
	comp=Z,2µm,21.0s,baz=210,slow=40						
DLBC	**Dease Lake**	**6.22**	**12**	*e*Pn	**Pn**	**12 20 17.0**	**+2.7**
DLBC				Lg	Lg	12 22 07.0	
DLBC	**Dease Lake**	**6.22**	**12**	Pn	**Pn**	**12 20 16.8**	**+2.4**
BESE	**Bessie Mountai**	**6.36**	**348**	*e*Pn	**Pn**	**12 20 18.1**	**+1.8**
PGC	**Sidney**	**6.83**	**120**	*e*Pn	**Pn**	**12 20 23.3**	**+0.6**
SKAG	**Skagway**	**7.28**	**348**	*e*Pn	**Pn**	**12 20 27.8**	**-1.0**
WHY	**Whitehorse**	**8.41**	**352**	*e*Pn	**Pn**	**12 20 43.4**	**-1.0**
D05A	**Enumclaw**	**8.52**	**123**	*e*Pn	**Pn**	**12 20 47.2**	**+1.4**
LON	**Longmire**	**8.90**	**125**	*e*Pn	**Pn**	**12 20 55.0**	**+3.8**
LTY	**Liberty**	**9.16**	**119**	*e*Pn	Pn	12 20 59.8	+5.1
BALM	**Baldy**	**10.23**	**332**	*e*Pn	**Pn**	**12 21 09.9**	**+0.6**
NEW	**Newport**	**10.62**	**107**	Lg	Lg	12 24 15.6	
	0.1nm,0.3s,baz=323,slow=17,SNR=4.3						
NEW				LR	LR	12 25 04.3	
	comp=Z,268nm,19.9s,baz=324,slow=36						
E09A	**Wood Farm, Sta**	**10.99**	**117**	*e*Pn	**Pn**	**12 21 23.4**	**+3.8**
G08A	**Pilot Rock**	**11.35**	**123**	*e*Pn	**Pn**	**12 21 25.7**	**+1.0**
PINE	**Pine Mountain**	**11.51**	**134**	*e*Pn	**Pn**	**12 21 29.7**	**+2.7**
HUMO	**Hull Mountain**	**11.68**	**143**	*e*Pn	**Pn**	**12 21 30.5**	**+1.4**
KLU	**Klutina**	**11.71**	**327**	*e*Pn	**Pn**	**12 21 31.0**	**+1.5**
F10A	**Beach Ranch, E**	**11.82**	**117**	*e*Pn	**Pn**	**12 21 35.2**	**+4.1**
DAWY	**Dawson**	**12.27**	**345**	*e*Pn	**Pn**	**12 21 38.1**	**+1.1**
K05A	**Summer Lake**	**12.39**	**137**	*e*Pn	**Pn**	**12 21 41.7**	**+2.7**
SCM	**Sheep Creek Mo**	**12.43**	**325**	*e*Pn	**Pn**	**12 21 38.1**	**-1.2**
BMO	**Blue Mountains**	**12.51**	**121**	*e*Pn	**Pn**	**12 21 42.2**	**+1.7**
YBH	**Yreka Blue Hor**	**12.53**	**144**	Pn	**Pn**	**12 21 44.7**	**+3.9**
	0.1nm,0.3s,baz=341,slow=12,SNR=5.3						
YBH				LR	LR	12 25 41.0	
	comp=Z,500nm,20.3s,baz=332,slow=34						
YBH	**Yreka Blue Hor**	**12.53**	**144**	*e*Pn	**Pn**	**12 21 42.1**	**+1.3**
JTMT	**Jette**	**12.54**	**105**	*e*Pn	**Pn**	**12 21 43.6**	**+2.7**
KDAK	**Kodiak Island**	**12.73**	**303**	LR	LR	12 25 21.7	
	comp=Z,213nm,20.3s,baz=128,slow=31						
J08A	**Circle Bar Ran**	**12.99**	**129**	*e*Pn	**Pn**	**12 21 48.5**	**+1.4**
MSO	**Missoula**	**13.20**	**108**	*e*Pn	**Pn**	**12 21 51.9**	**+2.0**
EGAK	**Eagle**	**13.22**	**343**	*e*Pn	**Pn**	**12 21 50.1**	**+0.1**
MOD	**Modoc Plateau**	**13.32**	**137**	*e*Pn	**Pn**	**12 21 53.7**	**+2.1**
DHY	**Denali Highway**	**13.32**	**329**	*e*Pn	**Pn**	**12 21 50.1**	**-1.5**
KMRM	**Mail Ridge**	**13.56**	**150**	*e*Pn	**Pn**	**12 21 56.0**	**+1.2**
WDC	**Whiskeytown Da**	**13.61**	**146**	*e*Pn	**Pn**	**12 21 57.7**	**+2.3**
WVOR	**Wild Horse Val**	**13.62**	**131**	*e*Pn	**Pn**	**12 21 58.8**	**+3.1**
YKA	**Yellowknife Ar**	**13.90**	**36**	Pn	**Pn**	**12 21 57.4**	**-1.8**
	0.2nm,0.3s,baz=228,slow=13,SNR=3.5						
HDA	**Harding Lake**	**14.21**	**334**	*e*Pn	**Pn**	**12 22 03.1**	**-0.4**
MCK	**McKinley**	**14.29**	**329**	*e*Pn	**Pn**	**12 22 04.0**	**-0.6**
IL1	**Eielson Array**	**14.48**	**335**	*e*Pn	Pn	12 22 02.4	-4.8
ILAR	**Eielson Array**	**14.48**	**335**	Pn	**Pn**	**12 22 09.6**	**+2.4**
	0.1nm,0.3s,baz=153,slow=12,SNR=3.8						
ILAR				LR	LR	12 27 25.4	
	comp=Z,246nm,20.8s,baz=146,slow=36						
ILB	**Eielson Array**	**14.48**	**335**	*e*Pn	**Pn**	**12 22 04.0**	**-3.2**
HRY	**Holter Researc**	**14.50**	**105**	*e*Pn	**Pn**	**12 22 10.2**	**+2.5**
TRF	**Thorofare Moun**	**14.53**	**327**	*e*Pn	**Pn**	**12 22 05.9**	**-2.2**
WRH	**Wood River Hil**	**14.57**	**332**	*e*Pn	**Pn**	**12 22 06.0**	**-2.5**
CCB	**Clear Creek Bu**	**14.63**	**333**	*e*Pn	**Pn**	**12 22 06.7**	**-2.5**
DLMT	**Dillon**	**14.79**	**110**	*e*Pn	**Pn**	**12 22 12.2**	**+0.5**
COLA	**College**	**14.82**	**334**	*e*Pn	**Pn**	**12 22 11.9**	**+0.2**
PPLA	**Purkeypile**	**14.86**	**323**	*e*Pn	**Pn**	**12 22 11.0**	**-1.5**
ORV	**Oroville**	**14.88**	**145**	*e*Pn	**Pn**	**12 22 14.6**	**+1.8**
HLID	**Hailey**	**14.91**	**119**	*e*Pn	**P**	**12 22 17.2**	**-1.9**
	6.4nm,1.1s						
MCMT	**McKenzie Canyo**	**14.96**	**113**	*e*Pn	**P**	**12 22 18.7**	**-1.1**
MDM	**Murphy Dome**	**14.98**	**333**	*e*Pn	**Pn**	**12 22 14.7**	**+0.6**
BEKR	**Beckworth**	**15.03**	**142**	*e*Pn	**Pn**	**12 22 17.1**	**+2.1**
	20nm,1.2s						
GDXM	**Geysers**	**15.13**	**150**	*e*Pn	**Pn**	**12 22 18.0**	**+1.7**
	6.4nm,1.1s						
SVW2	**Sparrevohn**	**15.33**	**314**	*e*Pn	**Pn**	**12 22 19.3**	**+0.6**
	7.1nm,1.0s						
PAHR	**Pah Rah Range**	**15.54**	**139**	*e*Pn	**Pn**	**12 22 23.5**	**+1.8**
	10.0nm,1.1s						
FYU	**Fort Yukon**	**15.59**	**341**	*e*Pn	**Pn**	**12 22 23.6**	**+1.6**
	16nm,0.7s						
AFDM	**Forest Hills D**	**15.61**	**145**	*e*Pn	**Pn**	**12 22 23.9**	**+1.4**
	19nm,1.2s						
MLY	**Manley**	**15.76**	**331**	*e*Pn	**P**	**12 22 27.0**	**-1.3**
	3.2nm,0.8s						
QLMT	**Earthquake Lak**	**15.77**	**110**	*e*Pn	**Pn**	**12 22 27.2**	**+2.5**
VCNR	**Virginia City**	**15.79**	**141**	*e*Pn	**P**	**12 22 28.3**	**-0.7**
	7.6nm,1.2s						
RUBR	**Rubicon Trail**	**15.81**	**143**	*e*Pn	**Pn**	**12 22 26.1**	**+0.8**
	10.0nm,0.7s						
BMN	**Battle Mountai**	**15.86**	**133**	*e*Pn	**Pn**	**12 22 25.8**	**-0.1**
	31nm,1.3s						
YHB	**Horse Butte**	**15.95**	**110**	*e*Pn	**Pn**	**12 22 28.5**	**+1.4**
	9.7nm,0.9s						
INK	**Inuvik**	**15.99**	**359**	Pn	**P**	**12 22 31.2**	**+0.5**
	0.1nm,0.3s,baz=165,slow=11,SNR=3.8						
INK				Lg	Lg	12 27 12.7	
	baz=286,slow=12,SNR=3.6						
INK				LR	LR	12 28 59.0	
	comp=Z,378nm,21.2s,baz=176,slow=39						
PNTR	**Pine Nut**	**15.99**	**141**	*e*Pn	**P**	**12 22 30.4**	**-0.8**
	17nm,1.1s						
YHH	**Holmes Hill**	**16.13**	**110**	*e*Pn	**P**	**12 22 33.4**	**+0.6**
	11nm,1.1s						
YMR	**Madison River**	**16.14**	**110**	*e*Pn	**P**	**12 22 33.9**	**+1.1**
	18nm,1.0s						
YERR	**Yerington**	**16.22**	**140**	*e*Pn	**P**	**12 22 33.5**	**-0.2**
	7.8nm,1.1s						
GCMT	**Greycliff**	**16.26**	**105**	*e*Pn	**P**	**12 22 35.0**	**+0.9**
YNR	**Norris Junctio**	**16.27**	**109**	*e*Pn	**P**	**12 22 35.2**	**+0.9**
	10nm,1.1s						
YPP	**Pitchstone Pla**	**16.46**	**

PASC	**Pasadena Art C**	**20.88**	**145**	*e*P		**P**	**12 23 24.0**	**-0.7**
	14nm,1.1s							
LDFC	**Landfair**	**21.25**	**138**	*e*P		**P**	**12 23 29.0**	**+0.2**
	23nm,1.1s							
PV09	**Paradox Valley**	**21.32**	**121**	*e*P		**P**	**12 23 30.0**	**+0.3**
PV21	**Cone Mtn., Par**	**21.35**	**121**	*e*P		**P**	**12 23 30.3**	**+0.3**
	8.4nm,1.0s							
U15A	**North Rim**	**21.36**	**130**	*e*P		**P**	**12 23 30.7**	**+0.5**
	29nm,1.1s							
N23A	**Red Feather La**	**21.38**	**112**	*e*P		**P**	**12 23 33.0**	**+2.7**
	16nm,1.0s							
PHWY	**Pilot Hill**	**21.39**	**110**	*e*P		**P**	**12 23 32.0**	**+1.6**
	12nm,1.0s							
PV23	**Carpenter Ridg**	**21.42**	**121**	*e*P		**P**	**12 23 31.9**	**+1.2**
	26nm,1.1s							
PV10	**Paradox Valley**	**21.46**	**121**	*e*P		**P**	**12 23 32.0**	**+0.8**
PV14	**Lion Creek, Pa**	**21.47**	**121**	*e*P		**P**	**12 23 32.1**	**+0.9**
	26nm,1.1s							
PV22	**Blue Mesa, Par**	**21.47**	**121**	*e*P		**P**	**12 23 32.7**	**+1.4**
	5.4nm,1.0s							
PV20	**West Nyswonger**	**21.52**	**121**	*e*P		**P**	**12 23 32.7**	**+0.9**
	16nm,1.2s							
PV19	**Morning Glory**	**21.54**	**122**	*e*P		**P**	**12 23 32.9**	**+0.9**
	13nm,1.1s							
PV16	**Nyswonger Mesa**	**21.57**	**121**	*e*P		**P**	**12 23 32.9**	**+0.6**
	11nm,1.1s							
PV17	**East Wray Mesa**	**21.57**	**122**	*e*P		**P**	**12 23 32.9**	**+0.6**
	12nm,1.0s							
PV11	**David Mesa, Pa**	**21.60**	**121**	*e*P		**P**	**12 23 32.5**	**-0.2**
	22nm,1.1s							
PV18	**Skein Mesa, Pa**	**21.62**	**121**	*e*P		**P**	**12 23 34.5**	**+1.6**
	11nm,1.1s							
PV12	**Saucer Basin,**	**21.63**	**121**	*e*P		**P**	**12 23 34.0**	**+1.1**
	12nm,1.1s							
PV03	**Paradox Valley**	**21.65**	**121**	*e*P		**P**	**12 23 33.8**	**+0.6**
PV05	**Paradox Valley**	**21.65**	**122**	*e*P		**P**	**12 23 33.8**	**+0.6**
PV13	**Radium Mtn., P**	**21.73**	**122**	*e*P		**P**	**12 23 34.7**	**+0.6**
	11nm,1.2s							
PV02	**Paradox Valley**	**21.74**	**121**	*e*P		**P**	**12 23 36.2**	**+2.0**
	13nm,1.2s							
W13A	**Hualapai Mount**	**21.75**	**135**	*e*P		**P**	**12 23 34.4**	**+0.1**
	8.2nm,1.0s							
PV01	**Paradox Valley**	**21.88**	**121**	*e*P		**P**	**12 23 36.3**	**+0.6**
SMCO	**Snowmass**	**21.98**	**117**	*e*P		**P**	**12 23 37.6**	**+0.7**
	13nm,1.0s							
PFO	**Pinyon Flats O**	**22.01**	**142**	*e*P		**P**	**12 23 37.9**	**+0.9**
	5.8nm,1.1s							
XPFO	**Piæon Flat**	**22.01**	**142**	*e*P		**P**	**12 23 37.1**	**+0.1**
	5.2nm,1.1s							
ISCO	**Idaho Springs**	**22.30**	**114**	*e*P		**P**	**12 23 41.3**	**+1.0**
	2.9nm,1.0s							
CPE	**Camp Elliot**	**22.42**	**144**	*e*P		**P**	**12 23 41.1**	**-0.1**
	9.9nm,1.1s							
WUAZ	**Wupatki**	**22.54**	**130**	*e*P		**P**	**12 23 43.9**	**+1.3**
	15nm,1.1s							
MVCO	**Mesa Verde**	**22.62**	**123**	*e*P		**P**	**12 23 45.0**	**+1.4**
	10nm,1.0s							
Y12C	**Blythe**	**22.64**	**138**	*e*P		**P**	**12 23 44.8**	**+1.2**
	7.2nm,1.1s							
BAR	**Barrett**	**22.76**	**144**	*e*P		**P**	**12 23 45.3**	**+0.4**
	5.2nm,1.0s							
ULM	**Lac du Bonnet**	**22.79**	**81**	P		**P**	**12 23 47.9**	**+2.8**
	3.4nm,1.0s,baz=321,slow=12,SNR=2.2							
ULM				LR		LR	12 31 37.6	
	comp=Z,272nm,18.6s,baz=308,slow=34							
S22A	**4UR Ranch, Cre**	**23.09**	**119**	*e*P		**P**	**12 23 49.2**	**+0.6**
	4.9nm,1.0s							
Y14A	**Wickenburg**	**23.12**	**135**	*e*P		**P**	**12 23 48.9**	**+0.2**
	11nm,1.1s							
GLA	**Glamis**	**23.13**	**140**	*e*P		**P**	**12 23 49.1**	**+0.3**
	15nm,1.1s							
Q24A	**Divide**	**23.14**	**115**	*e*P		**P**	**12 23 48.8**	**-0.3**
	3.6nm,0.9s							
X16A	**Lo Mia Camp, P**	**23.41**	**132**	*e*P		**P**	**12 23 52.1**	**+0.3**
	2.2nm,0.9s							
W18A	**Petrified Fore**	**23.64**	**128**	*e*P		**P**	**12 23 53.4**	**-0.7**
	12nm,1.1s							
113A	**Mohawk Valley,**	**23.81**	**138**	*e*P		**P**	**12 23 56.1**	**+0.7**
	1.9nm,0.8s							
SDCO	**Great Sand Dun**	**23.81**	**117**	*e*P		**P**	**12 23 55.0**	**-0.8**
	4.5nm,1.1s							
X18A	**Snowflake**	**24.02**	**129**	*e*P		**P**	**12 23 57.8**	**+0.2**
	9.3nm,0.9s							
KSCO	**Kaye Shedlock'**	**24.53**	**111**	*e*P		**P**	**12 24 03.8**	**+1.5**
	13nm,0.9s							
ANMO	**Albuquerque**	**25.41**	**123**	P		**P**	**12 24 12.1**	**+1.7**
	0.4nm,0.3s,baz=295,slow=9.8,SNR=2.5							
TUC	**Tucson**	**25.48**	**133**	*e*P		**P**	**12 24 10.9**	**+0.1**
	1.2nm,0.9s							
LAZ	**Ladron**	**25.49**	**125**	*e*P		**P**	**12 24 11.3**	**+0.2**
LENM	**Lemitar**	**25.76**	**125**	*e*P		**P**	**12 24 13.3**	**-0.2**
ADK	**Adak**	**26.86**	**287**	*e*P		**P**	**12 24 20.9**	**-2.1**
	56nm,1.1s							
RES	**Resolute Bay**	**27.02**	**21**	P		**P**	**12 24 25.9**	**+1.7**
	2.5nm,0.8s,baz=234,slow=12,SNR=3.2							
RES				LR		LR	12 34 36.0	
	comp=Z,198nm,21.8s,baz=254,slow=35							
MNTX	**Cornudas Mount**	**28.54**	**126**	*e*P		**P**	**12 24 35.6**	**-2.6**
	1.9nm,1.0s							
TX31	**Lajitas Ar. Si**	**31.32**	**126**	*e*P		**P**	**12 25 03.7**	**+0.8**
TXAR	**Lajitas Array**	**31.32**	**126**	P		**P**	**12 25 03.6**	**+0.7**
	0.5nm,0.7s,baz=327,slow=7.3,SNR=6.7							
SCHQ	**Schefferville**	**37.72**	**59**	LR		LR	12 41 54.5	
	comp=Z,444nm,18.9s,baz=47,slow=37							
SEY	**Seymchan**	**39.26**	**316**	P		**P**	**12 26 12.5**	**+1.7**
	1.0nm,0.7s,baz=51,slow=17,SNR=2.2							
NRIK	**Noril'sk**	**55.11**	**344**	LR		LR	12 54 34.1	
	comp=Z,70nm,18.6s,baz=24,slow=39							
H11N2	**WAKE ISLAND Hy**	**56.77**	**259**	T		T	13 30 31.9	
	baz=41							
H11N3	**WAKE ISLAND Hy**	**56.77**	**259**	T		T	13 30 32.1	
	baz=41							
H11N1	**WAKE ISLAND Hy**	**56.79**	**259**	T		T	13 30 33.2	
	baz=41							
NOA	**NORSAR Array B**	**63.26**	**19**	P		**P**	**12 29 12.1**	**+1.3**
	0.7nm,0.8s,baz=338,slow=6.4,SNR=2.9							
NOA				LR		LR	12 58 00.6	
	comp=Z,145nm,19.2s,baz=320,slow=37							
SONM	**Songino Array**	**68.28**	**322**	P		**P**	**12 29 45.8**	**+2.2**
	0.3nm,0.4s,baz=57,slow=5.3,SNR=3.4							
SONM				LR		LR	12 59 23.3	
	comp=Z,66nm,18.7s,baz=11,slow=36							
PMOR	**Pomariorio Ree**	**68.43**	**196**	*e*T		T	13 44 32.9	
	6.7nm,0.2s							
ZALV	**Zalesovo Beam**	**69.58**	**338**	P		**P**	**12 29 51.5**	**+0.2**
	0.5nm,0.3s,baz=42,slow=4.5,SNR=3.6							
ZALV				LR		LR	13 03 02.5	
	comp=Z,48nm,18.4s,baz=70,slow=38							
TIAR	**Tiarei**	**71.18**	**197**	*e*T		T	13 47 58.7	
	1.6nm,0.2s							
PPT	**Papeete**	**71.23**	**197**	LR		LR	12 54 07.3	
	comp=Z,71nm,19.6s,baz=356,slow=30							
PPT2	**Papeete2**	**71.25**	**197**	*e*LR		LR	12 51 32.1	
	151nm,28.5s							
HHC	**Hu-ho-hao-te**	**71.89**	**314**	*e*P		**P**	**12 30 04.1**	**-1.6**
HHC				pmax		pmax		
	comp=Z,12nm,0.8s							
HHC				pmax		pmax		
	comp=Z,74nm,5.2s							
AKASG	**Malin Array Be**	**76.13**	**12**	P		P	12 30 34.5	+4.4
	comp=Z,1.5nm,0.7s,baz=341,slow=4.9,SNR=5.8							
MKAR	**Makanchi Array**	**76.83**	**336**	P		**P**	**12 30 36.7**	**+2.5**
	comp=Z,0.9nm,0.6s,baz=40,slow=4.9,SNR=3.5							
WMQ	**Urumqi**	**78.12**	**332**	*e*P		**P**	**12 30 42.3**	**+0.7**
WMQ				LR		LR		
	comp=N,120nm,28.7s							
WMQ				LR		LR		
	comp=E,160nm,22.9s							
WMQ				LR		LR		
	comp=Z,100nm,20.1s							
LZH	**Lanzhou**	**79.19**	**317**	*e*P		**P**	**12 30 46.2**	**-1.5**
LZH				pP		pP	12 30 51.7	+1.6
LZH				sP		PcP	12 30 55.1	-1.0
LZH				*e*PP		**PP**	**12 33 45.7**	**-0.8**
LZH				pmax		pmax		
	comp=Z,23nm,1.4s							
HNR	**Honiara**	**84.17**	**247**	LR		LR	13 05 03.7	
	comp=Z,435nm,18.0s,baz=272,slow=33							
LPAZ	**La Paz**	**87.99**	**120**	P		**P**	**12 31 32.2**	**-1.3**
	comp=Z,1.0nm,0.8s,baz=18,slow=16,SNR=4.2							
DZM	**Mont Dzumac**	**91.18**	**234**	*e*LR		LR	13 00 43.9	
	comp=Z,129nm,22.1s							
PMG	**Port Moresby**	**91.58**	**257**	LR		LR	13 06 32.1	
	comp=Z,102nm,21.6s,baz=214,slow=31							

MOS ***03*** *12:33:06.3±1.7,55°.30N×111°.29E,h10km,mb4.2/1,Error ellipse: s-maj=24.1km s-min=12.9km az=84.6*

BYKL 03 12:33:06.3±0.2,55°.34N×111°.30E,2C,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
YLYR	**Ulyunkhan**	**0.47**	**190**			*e*Pg	Pg	12 33 15.3	0.0
YLYR						*i* Sg	Sg	12 33 22.4	+1.0
YLYR						Pmax			
	112nm,0.3s								
YLYR						Smax			
	1µm,0.7s								
YLYR	**Ulyunkhan**	**0.47**	**190**			*e*PG	Pg	12 33 15.3	0.0
YLYR						*e*		12 33 20.7	
YLYR						pmax	pmax		
	comp=Z,104nm,0.2s								
YLYR						smax	smax		
	comp=E,731nm,0.1s								
KMO	**Kumora**	**0.55**	**354**	Î		*i*Pg	Pg	12 33 16.2	-0.7
KMO						*i* Sg	Sg	12 33 23.8	-0.2
KMO						Pmax			
	comp=E,525nm,0.5s								
KMO						Smax			
	comp=E,1µm,0.6s								
KMO	**Kumora**	**0.55**	**354**			*e*PG	Pg	12 33 16.3	-0.6
KMO						*e*		12 33 23.8	
KMO						pmax	pmax		
	comp=Z,504nm,0.3s								
KMO						smax	smax		
	comp=N,1µm,0.4s								
YOA	**Uoyan**	**0.83**	**17**			*e*Pg	Pg	12 33 21.0	-1.2
YOA						*e*Pb	Pn	12 33 24.5	-0.8
YOA						*e*Sg	Sg	12 33 33.4	+0.4
YOA						max			
	comp=N,351nm,0.3s								
YOA						Smax			
	comp=N,2µm,0.2s								
YOA	**Uoyan**	**0.83**	**17**			*e*PG	Pg	12 33 21.2	-1.0
YOA						*i*		12 33 33.6	
YOA						pmax	pmax		
	comp=Z,165nm,0.2s								
YOA						smax	smax		
	comp=E,1µm,0.3s								
NIZ	**Nizh Angarsk**	**1.09**	**294**			*e*Pg	Pg	12 33 26.2	-1.0
NIZ						*e*Pb	Pn	12 33 28.7	-0.1
NIZ						*e*Sg	Sg	12 33 41.3	0.0
NIZ						*e*Sb	Sn	12 33 44.9	+0.3
NIZ						Pmax			
	comp=E,147nm,0.3s								
NIZ						max			
	comp=E,540nm,0.4s								
NIZ	**Nizh Angarsk**	**1.09**	**294**			*e*PG	Pg	12 33 26.1	-1.1
NIZ						*e*		12 33 41.2	
NIZ						pmax	pmax		
	comp=Z,144nm,0.4s								
NIZ						smax	smax		
	comp=N,537nm,0.4s								
UKT	**Uakit**	**1.33**	**83**	Î		*i*Pg	Pg	12 33 30.1	-1.8
UKT						*e*Sg	Sg	12 33 47.9	-1.3
UKT						*e*Sb	Sn	12 33 50.4	-0.4
UKT						Pmax			
	comp=N,81nm,0.2s								
UKT						max			
	comp=N,739nm,0.3s								
UKT	**Uakit**	**1.33**	**83**			*e*PG	Pg	12 33 29.9	-2.0
UKT						*e*		12 33 47.9	
UKT						pmax	pmax		
	comp=Z,75nm,0.3s								
UKT						smax	smax		
	comp=N,507nm,0.2s								
SVKR	**Severomuysk**	**1.50**	**58**			*e*Pg	Pn	12 33 33.0	-1.5
SVKR						*e*Pb	Pg	12 33 34.4	-0.6
SVKR						*e*		12 33 39.5	
SVKR						*e*Sg	Sb	12 33 54.5	0.0
SVKR						*e*Sb	Sn	12 33 56.1	+1.4
SVKR						max			
	comp=N,154nm,0.3s								
SVKR						max			
	comp=N,2µm,0.6s								
SVKR	**Severomuysk**	**1.50**	**58**			*e*PG	Pn	12 33 34.4	-0.1
SVKR						*e*		12 33 55.0	
SVKR						pmax	pmax		
	comp=Z,140nm,0.3s								
SVKR						smax	smax		
	comp=N,2µm,0.9s								
SYVR	**Suvo**	**1.85**	**205**			*e*Pn	Pn	12 33 38.4	-0.9
SYVR						*e*Pg	Pb	12 33 39.2	-1.7
SYVR						*e*Sg	Sb	12 34 04.1	-0.5
SYVR						Pmax			
	comp=N,27nm,0.6s								
SYVR						Smax			
	comp=N,196nm,0.5s								
MXMB	**Maximikha**	**2.56**	**217**			*e*Pg	Pb	12 33 52.8	-0.3
MXMB						*e*		12 33 56.0	
MXMB						*e*Sn	Sn	12 34 21.0	0.0
MXMB						*e*Sg	Sb	12 34 26.6	+1.4
NLYR	**Nelyaty**	**2.73**	**63**			*e*Pn	Pn	12 33 50.0	-1.4
NLYR						*e*Pg	Pb	12 33 55.2	-0.8
NLYR						*e*Sn	Sn	12 34 22.5	-2.7
NLYR						*e*Sg	Sb	12 34 31.4	+1.3
NLYR						Pmax			
	comp=N,26nm,0.6s								
NLYR						Smax			
	comp=N,208nm,1.3s								
OGRR	**Ongureny**	**2.75**	**233**			*e*Pn	Pn	12 33 52.3	+0.7
OGRR						*e*Pg	Pb	12 33 55.3	-1.0
OGRR						*e*		12 34 00.1	
OGRR						*e*Sn	Sn	12 34 25.3	-0.2
OGRR						*e*Sg	Sb	12 34 32.0	+1.5
OGRR						max			
	comp=N,17nm,0.7s								
OGRR						Smax			
	comp=N,94nm,1.0s								
BOD	**Bodaibo**	**2.90**	**30**			*e*Pn	Pn	12 33 52.2	-1.5
BOD						*e*Pg	Pb	12 33 57.6	-1.3
BOD						*e*Sn	Sn	12 34 26.8	-2.4
BOD						*e*Sg	Sb	12 34 34.2	-0.6
BOD						Pmax			
	comp=N,14nm,0.5s								
BOD						Smax			
	comp=N,89nm,0.5s								
CIT	**Chita**	**3.58**	**157**			*e*Sg	Sb	12 34 57.9	+3.3
CIT						Smax			
	comp=N,154nm,0.2s								
CIT	**Chita**	**3.58**	**157**			*e*PN	Pb	12 34 12.0	+1.4
CIT						*e*		12 34 54.0	
CIT						pmax	pmax		
	comp=Z,50nm,0.3s								
CIT						smax	smax		
	comp=E,138nm,0.4s								
TRG	**Tyrgan**	**3.90**	**230**			*e*	Pb	12 34 16.2	+0.3
TRG						*e*		12 34 49.0	
TRG						*e*Sg	Sb	12 35 06.1	+2.5
TRG						max			
	comp=E,6.0nm,0.3s								
TRG						Smax			
	comp=E,42nm,0.4s								
UUDB	**Ulan-Yde**	**4.10**	**213**			*e*	Pg	12 34 23.1	-1.7
UUDB						*e*Sg	Sg	12 35 14.0	-3.9
UUDB						max			
	comp=E,11nm,0.7s								
UUDB						Smax			
	comp=E,42nm,0.8s								
CRS	**Chara**	**4.20**	**65**			*e*Pn	Pn	12 34 10.9	-0.7
CRS						*e*Pg	Pb	12 34 21.2	+0.1
CRS						*e*		12 34 25.5	
CRS						*e*Sg	Sb	12 35 16.1	+3.8
CRS						max			
	comp=E,16nm,0.8s								
CRS						Smax			
	comp=E,69nm,0.7s								
CRS	**Chara**	**4.20**	**65**			*e*PN	Pb	12 34 23.8	+2.7
CRS						*e*		12 35 16.8	
CRS						pmax	pmax		
	comp=Z,24nm,0.6s								
CRS						smax	smax		
	comp=E,62nm,0.7s								
HRMR	**Khuramsha**	**4.53**	**217**			*e*Pn	Pn	12 34 15.1	-1.1
HRMR						*e*Pg	Pb	12 34 27.7	+1.0
HRMR						*e*Sg	Sb	12 35 26.6	+4.7
HRMR						Pmax			
	comp=E,11nm,0.6s								
HRMR						Smax			
	comp=E,121nm,0.7s								
BGT	**Bolshoye Golou**	**4.81**	**229**			*e*Sg	Sb	12 35 35.0	+5.2
BGT						Smax			
	comp=E,31nm,0.7s								
TUP	**Tupik**	**5.08**	**97**			*e*Pn	Pn	12 34 22.0	-1.7
TUP						*e*Pg	Pb	12 34 36.5	+0.5
TUP						*e*Sn	Sn	12 35 18.2	-4.8
TUP						*e*Sg	Sg	12 35 44.2	-5.2
TUP						Pmax			
	comp=E,9.0nm,0.7s								
TUP						Smax			
	comp=E,78nm,0.8s								
TUP	**Tupik**	**5.08**	**97**			*e*PN	Pn	12 34 21.9	-1.8
TUP						*e*		12 34 36.4	
TUP						*e*		12 35 44.2	
TUP						pmax	pmax		
	comp=Z,14nm,0.5s								
TUP						smax	smax		
	comp=N,79nm,0.8s								
LSTR	**Listvyanka**	**5.19**	**231**			*e*Sg	Sb	12 35 46.2	+5.5
LSTR						Smax			
	comp=N,18nm,1.3s								
IVK	**Ivanovka**	**5.42**	**232**			*e*Sg	Sb	12 35 53.1	+5.7
KPC	**Khapcheranga**	**5.68**	**173**			*e*	Pn	12 34 37.2	+5.2
KPC						*e*Sg	Sb	12 36 01.6	+6.6
KPC						max			
	comp=N,3.0nm,0.8s								
KPC						Smax			
	comp=N,60nm,1.6s								
ARS	**Arshan**	**6.29**	**241**			*e*Sg	Sb	12 36 19.3	+6.8
ARS						Smax			
	comp=N,87nm,0.8s								

ISCJB ***03*** *12:39:25.3±1.0,16°.28N±0°.06×98°.32W±0°.04,h20km±6km, Error ellipse: s-maj=10.5km s-min=5.1km az=20.6*
MEX ***03*** *12:39:26.8±0.5,16°.26N×98°.32W,h6km±2km, MD4.0*
NEIC ***03*** *12:39:26.8±0.0,16°.26N×98°.32W,h6km, MD4.0(MEX), After MEX.*

ISC 03 12:39:26.7±1.2,16°.31N±0°.07×98°.31W±0°.04,h19km±4km, n23,σ1s78/34,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PNIG	**Pinotepa**	**0.20**	**64**			*e*Pg	**Pg**	**12 39 30.7**	**-1.1**
PNIG						*e*Sg	**Sg**	**12 39 34.5**	**-0.8**
PNIG	**Pinotepa**	**0.20**	**64**			*i* P	**Pg**	**12 39 30.7**	**-1.1**
PNIG						*e*S	**Sg**	**12 39 34.5**	**-0.8**
TLIG	**Tlapa**	**1.27**	**349**			*e*Pn	**Pn**	**12 39 48.0**	**-1.6**
TLIG						*e*Sn	**Sb**	**12 40 04.6**	**-1.5**
TLIG	**Tlapa**	**1.27**	**349**			*e*P	**Pn**	**12 39 47.9**	**-1.6**
TLIG						*e*S	**Sb**	**12 40 04.2**	**-2.0**
ACP2	**Acapulco**	**1.61**	**291**			*i* P	**Pn**	**12 39 53.0**	**-1.1**
ACP2						*i* S	**Sn**	**12 40 11.9**	**-2.4**
VHO	**Vista Hermosa**	**1.70**	**63**			*e*Pn	**Pn**	**12 39 54.0**	**-1.5**
VHO						*e*Sn	**Sn**	**12 40 15.7**	**-1.0**
VHO	**Vista Hermosa**	**1.70**	**63**			*e*P	**Pn**	**12 39 54.0**	**-1.5**
VHO						*i* S	**Sn**	**12 40 15.7**	**-1.0**
CAIG	**El Cayaco**	**2.01**	**292**			*e*Pn	**Pn**	**12 39 58.2**	**-1.4**
CAIG						*e*Sn	**Sn**	**12 40 22.7**	**-1.5**
CAIG	**El Cayaco**	**2.01**	**292**			*e*P	**Pn**	**12 39 58.2**	**-1.4**
CAIG						*e*S	**Sn**	**12 40 22.7**	**-1.5**
HUIG	**Huatulco**	**2.19**	**104**			*e*Pn	**Pn**	**12 40 00.5**	**-1.5**
HUIG						*e*Sn	**Sn**	**12 40 26.7**	**-1.8**
HUIG	**Huatulco**	**2.19**	**104**			*e*P	**Pn**	**12 40 00.5**	**-1.5**
HUIG						*i* S	**Sn**	**12 40 26.7**	**-1.8**
LVIG	**Laguna Verde**	**3.85**	**28**			*e*Pn	**Pn**	**12 40 25.1**	**+0.3**
MOIG	**Morelia**	**4.33**	**321**			*e*Pn	**Pn**	**12 40 34.2**	**+2.6**
JRQG	**Juriquilla Cam**	**4.82**	**336**			*e*Pn	**Pn**	**12 40 40.3**	**+1.8**
CCIG	**Comitan**	**5.93**	**89**			*e*Pn	**Pn**	**12 40 56.2**	**+2.5**
LNIG	**Linares**	**8.62**	**353**			*e*Pn	**Pn**	**12 41 33.5**	**+3.1**
MYIG	**MÖrida**	**9.35**	**59**			*e*Pn	**Pn**	**12 41 40.3**	**-0.1**
TEIG	**Tepich**	**10.30**	**66**			*e*Pn	**Pn**	**12 41 55.4**	**+1.9**
KVTX	**Kingsville**	**11.19**	**2**			*e*Pn	**Pn**	**12 42 07.9**	**+2.3**
HKT	**Hockley**	**13.77**	**9**			*e*Pn	**Pn**	**12 42 43.5**	**+2.6**
JTS	**JuntasÁbangare**	**14.31**	**113**			*e*Pn	**Pn**	**12 42 49.3**	**+0.9**
X16A	**Lo Mia Camp, P**	**21.55**	**329**			*e*P	**P**	**12 44 16.4**	**+1.3**
PV22	**Blue Mesa, Par**	**23.98**	**339**			*e*P	**P**	**12 44 41.9**	**+1.7**

MEX 03 12:51:55.9±0.9,16°.11N×98°.20W,h5km,MD3.8,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PNIG	**Pinotepa**	**0.29**	**14**			*e*P	Pg	12 52 00.2	-1.4
PNIG						*e*S	Sg	12 52 05.0	-0.4
TLIG	**Tlapa**	**1.49**	**346**			*e*P	Pn	12 52 20.0	-3.5
TLIG						*e*S	Sn	12 52 38.9	-4.5
VHO	**Vista Hermosa**	**1.70**	**56**			*e*P	Pn	12 52 23.4	-3.1
VHO						*e*S	Sn	12 52 44.2	-4.5

IDC ***03*** *12:58:09.9±0.3,7°.16N×34°.01W,h0km,mb4.9/31, mb1 5.0/33,mb1mx4.9/38,mbtmp4.9/33,ML5.0/2,MS5.1/31, Ms1 5.1/31,ms1mx5.1/35,Error ellipse: s-maj=11.9km s-min=10.0km az=150.0*
MOS ***03*** *12:58:10.7±1.3,7°.19N×34°.03W,h10km,mb5.4/123, MS5.2/42,Error ellipse: s-maj=6.1km s-min=3.9km az=54.7*
ISCJB ***03*** *12:58:10.8±0.1,7°.11N±0°.03×34°.03W±0°.01,h14km, mb5.3/490,MS5.2/314,Error ellipse: s-maj=3.7km s-min=2.1km az=168.9*
NEIC ***03*** *12:58:12.2±0.1,7°.05N×34°.07W,h10km,mb5.5/300, MS5.2/256,MW5.6,MW5.6,Error ellipse: s-maj=4.1km s-min=3.0km az=178.0,Moment Tensor Solution. s49 Moment tensor: Scale 10¹⁷Nm; Mrr0.25; Mθθ-0.61; Mφφ0.35; Mrθ-0.66; Mrφ-2.80; Mθφ-0.50; Best double couple: M₀3.00000×10¹⁷ NP1:φs4.00000°,δ80.00000°, λ-9.00000°. NP2:φs96.00000°,δ81.00000°,λ-170.00000°. Principal axes: T 2.7100, Plg1.0000°, Azm230.0000°; N 0.4500, Plg76.0000°, Azm135.0000°; P -3.1600, Plg14.0000°, Azm320.0000°;*
NEIC ***03*** *12:58:12.0±0.0,7°.17N×34°.08W,h15km,Moment Tensor Solution. s47 Moment tensor: Scale 10¹⁷Nm; Mrr-0.22; Mθθ0.95; Mφφ-0.73; Mrθ-0.09; Mrφ-3.00; Mθφ0.00; Best double couple: M₀3.10000×10¹⁷ NP1:φs262.00000°, δ90.00000°,λ178.00000°. NP2:φs352.00000°,δ88.00000°, λ0.00000°. Principal axes: T 3.2300, Plg1.0000°, Azm217.0000°; N -0.2200, Plg88.0000°, Azm79.0000°

comp=Z,5µm,20.0s
H10S3 ASCENSION HYDR 25.07 129 T T 13 29 39.8
baz=309,slow=75,SNR=2031
H10S1 ASCENSION HYDR 25.07 129 T T 13 29 53.1
baz=309,slow=75,SNR=1526
H10S2 ASCENSION HYDR 25.09 129 T T 13 29 49.2
baz=309,slow=75,SNR=3331
BBGH Gun Hill 25.80 285 PFAKE 13 04 00.0 +16
BBGH LR LR
comp=Z,6µm,21.0s
BDFB Brasilia 26.52 211 P **P 13 03 50.0 -0.6**
comp=Z,72nm,1.0s,baz=31,slow=11,SNR=28
BDFB LR LR 13 13 34.8
comp=Z,13µm,18.6s,baz=22,slow=35
BDFB Brasilia 26.52 211 *e*P **P 13 03 50.0 -0.6**
comp=Z,435nm,1.3s
BDFB Brasilia 26.52 211 *e*P **P 13 03 50.0 -0.6**
BDFB pmax pmax
comp=Z,435nm,1.3s
MACI Morro de la Ar 26.77 36 *e*P **P 13 03 52.5 -0.4**
comp=Z,63nm,0.9s
PTGA Pitinga 27.01 254 P **P 13 03 53.5 -1.4**
comp=Z,106nm,0.9s,baz=84,slow=10,SNR=64
PTGA LR LR 13 13 36.4
comp=Z,4µm,21.5s,baz=74,slow=34
PTGA Pitinga 27.01 254 *e*P **P 13 03 53.3 -1.6**
comp=Z,155nm,1.0s
H05S1 Guadeloupe/Mar 27.28 288 T T 13 32 17.5
SNR=138
SVB Belmont 27.45 285 PFAKE 13 04 10.0 +11
SVB LR LR
comp=Z,2µm,19.0s
FDF Fort de France 27.64 288 *e*P **P 13 04 01.9 +1.3**
comp=Z,199nm,1.1s
FDF LR LR
comp=Z,3µm,21.0s
FDF Fort de France 27.64 288 *e*P **P 13 04 01.9 +1.3**
FDF pmax pmax
comp=Z,199nm,1.1s
FDF MLR MLR
comp=Z,3µm,21.0s
H05N1 Guadeloupe/Mar 27.95 291 T T 13 33 04.8
SNR=50
TIC Toumodi 28.82 89 *e*P **P 13 04 09.6 -1.6**
LIC Lamto 28.84 90 *e*P **P 13 04 08.8 -2.5**
comp=Z,99nm,1.0s
DBIC Dimbokro 28.98 89 P **P 13 04 09.8 -2.8**
comp=Z,14nm,0.8s,baz=252,slow=8.6,SNR=15
DBIC LR LR 13 12 53.8
comp=Z,2µm,20.9s,baz=248,slow=30
ANWB Willy Bob 29.00 294 PFAKE 13 04 20.0 +7.3
ANWB LR LR
comp=Z,3µm,22.0s
KIC Kosan Boka 29.11 90 *e*P **P 13 04 11.3 -2.5**
comp=Z,67nm,1.2s
SKI Saint Kitts 29.77 293 PFAKE 13 04 30.0 +10
SKI LR LR
comp=Z,15µm,21.0s
PMOZ Porto Moniz, M 29.98 29 *e*LQ LQ 13 10 50.2
PMOZ *e*LR LR 13 11 43.6
comp=Z,3µm,20.0s
SEUS St. Eustatius 30.04 293 PFAKE 13 04 30.0 +8.1
SEUS LR LR
comp=Z,6µm,22.0s
SMRT St. Maarten 30.29 294 *e*P **P 13 04 23.0 -1.1**
comp=Z,129nm,1.4s
SMRT LR LR
comp=Z,5µm,22.0s
SABA Saba 30.32 293 *e*P **P 13 04 23.5 -0.9**
comp=Z,77nm,1.0s
SABA LR LR
comp=Z,6µm,22.0s
ABVI Anegada Island 31.63 294 PFAKE 13 04 50.0 +14
ABVI LR LR
comp=Z,4µm,22.0s
CDVI St. Croix 31.75 292 *e*P **P 13 04 36.4 -0.6**
comp=Z,128nm,1.2s
STVI Saint Thomas 32.08 293 *e*P **P 13 04 38.1 -1.8**
comp=Z,86nm,1.4s
CUPR Culebra, Puert 32.37 293 *e*P **P 13 04 42.6 +0.2**
comp=Z,30nm,1.1s
CUPR LR LR
comp=Z,2µm,22.0s
MTP Monte Pirata 32.56 293 *e*P **P 13 04 42.9 -1.3**
comp=Z,87nm,1.2s
HUMP Col San Antoni 32.84 292 *e*P **P 13 04 44.8 -1.8**
comp=Z,109nm,1.5s
HUMP LR LR
comp=Z,6µm,22.0s
CBYP Canovanas 32.89 293 *e*P **P 13 04 45.2 -1.8**
comp=Z,140nm,1.8s
CBYP LR LR
comp=Z,6µm,21.0s
SJG San Juan 33.11 292 P **P 13 04 46.9 -2.0**
comp=Z,23nm,0.3s,baz=97,slow=4.3,SNR=9.8
SJG San Juan 33.11 292 *e*P **P 13 04 47.2 -1.8**
comp=Z,156nm,1.6s
SJG LR LR
comp=Z,4µm,21.0s
SJG San Juan 33.11 292 *e*P **P 13 04 47.2 -1.8**
SJG pmax pmax
comp=Z,156nm,1.6s
SJG MLR MLR
comp=Z,4µm,21.0s
SAML Samuel 33.14 242 *e*P **P 13 04 48.3 -0.9**
comp=Z,87nm,1.3s
SPB Sao Paulo 33.22 203 *e*P **P 13 04 46.9 -2.8**
comp=Z,86nm,1.8s
SPB LR LR
comp=Z,7µm,21.0s
ICMP Isla Caja de M 33.40 292 *e*P **P 13 04 50.0 -1.5**
comp=Z,106nm,1.3s
ICMP LR LR
comp=Z,4µm,20.0s
OBIP Obispado Ponce 33.51 292 *e*P **P 13 04 50.7 -1.8**
comp=Z,80nm,1.4s
EMPR Esperanza - Ma 33.56 293 PFAKE 13 05 00.0 +7.2
EMPR LR LR
comp=Z,2µm,19.0s
CRPR Cabo Rojo, PR 33.97 292 *e*P **P 13 04 55.2 -1.2**
comp=Z,418nm,1.9s
CRPR LR LR
comp=Z,11µm,22.0s
MPR Mayaguez 34.05 292 *e*P **P 13 04 55.3 -1.8**
comp=Z,46nm,1.1s
MPR LR LR
comp=Z,4µm,22.0s
AGP Aguadilla 34.10 292 PFAKE 13 05 10.0 +12
AGP LR LR
comp=Z,3µm,22.0s
TOC5 Torodi Ar. Sit 35.64 77 PFAKE 13 05 20.0 +9.1
TOC5 LR LR
comp=Z,7µm,18.0s
TOC7 Torodi Ar. Sit 35.65 77 PFAKE 13 05 20.0 +9.0
TOC7 LR LR
comp=Z,6µm,18.0s
TOB5 Torodi Ar. Sit 35.65 77 PFAKE 13 05 20.0 +9.0
TOB5 LR LR
comp=Z,7µm,19.0s
TOB4 Torodi Ar. Sit 35.65 77 PFAKE 13 05 20.0 +9.0
TOB4 LR LR
comp=Z,6µm,18.0s
TOA1 Torodi Ar. Sit 35.66 77 PFAKE 13 05 20.0 +8.9
TOA1 LR LR
comp=Z,6µm,19.0s
TOA3 Torodi Ar. Sit 35.66 77 PFAKE 13 05 20.0 +8.9
TOA3 LR LR
comp=Z,6µm,19.0s
TOA0 Torodi Ar. Sit 35.66 77 *e*P **P 13 05 08.0 -3.1**
TOA0 LR LR
comp=Z,6µm,19.0s
TOA0 Torodi Ar. Sit 35.66 77 P **P 13 05 09.8 -1.3**
SNR=15
TORD Torodi Ar. Bea 35.66 77 P **P 13 05 08.2 -3.0**
comp=Z,12nm,0.7s,baz=221,slow=11,SNR=41
TORD PcP **PcP 13 07 39.2 -0.5**
baz=308,slow=4.9
TORD LR LR 13 17 46.5
comp=Z,5µm,19.9s,baz=290,slow=33
TOC4 Torodi Ar. Sit 35.66 77 PFAKE 13 05 20.0 +8.9
TOC4 LR LR
comp=Z,6µm,18.0s
TOA2 Torodi Ar. Sit 35.67 77 PFAKE 13 05 20.0 +8.8
TOA2 LR LR
comp=Z,6µm,19.0s
TOB3 Torodi Ar. Sit 35.67 77 PFAKE 13 05 20.0 +8.8
TOB3 LR LR
comp=Z,6µm,18.0s
TOC1 Torodi Ar. Sit 35.67 77 PFAKE 13 05 20.0 +8.8
TOC1 LR LR
comp=Z,7µm,19.0s
TOB2 Torodi Ar. Sit 35.67 77 PFAKE 13 05 20.0 +8.8
TOB2 LR LR
comp=Z,6µm,18.0s
TOC3 Torodi Ar. Sit 35.69 77 PFAKE 13 05 20.0 +8.7
TOC3 LR LR
comp=Z,6µm,18.0s
TOC2 Torodi Ar. Sit 35.69 77 PFAKE 13 05 20.0 +8.7
TOC2 LR LR
comp=Z,6µm,18.0s
SDV Santo Domingo 36.26 275 *e*P **P 13 05 15.8 -0.7**
comp=Z,26nm,0.8s
RTC Rabat Centre 36.68 39 PFAKE 13 05 30.0 +10
RTC LR LR
comp=Z,19µm,20.0s
BANI BANI 37.06 291 *e*P **P 13 05 22.6 -0.6**
PFVI Vila Bisbo 37.67 34 *e*P **P 13 05 32.5 +4.6**
PFVI *e*S **S 13 11 24.4 +6.4**
MORF Marmelete 37.89 34 *e*P **P 13 05 29.6 -0.3**
MORF *e*S **S 13 11 22.8 +1.3**
MORF AMS AMS 13 17 32.2
comp=Z,4µm,21.0s
MORF Marmelete 37.89 34 *e*P **P 13 05 30.7 +0.8**
MORF *e*S **S 13 11 29.1 +7.6**
MORF Marmelete 37.89 34 *e*P **P 13 05 29.6 -0.3**
MORF *e*S **S 13 11 22.7 +1.3**
SDDR Presa de Saban 38.05 292 *e*P **P 13 05 30.6 -0.9**
comp=Z,74nm,1.1s
SDDR LR LR
comp=Z,4µm,22.0s
PBDV Barranco-do-Ve 38.24 35 *e*P **P 13 05 32.3 -0.6**
comp=Z,159nm,1.4s
PBDV *e*S **S 13 11 33.4 +6.6**
PVAQ Vaqueiros 38.48 35 *e*P **P 13 05 32.5 -2.3**
comp=Z,124nm,1.8s
PVAQ *e*S **S 13 11 37.7 +7.4**
PVAQ *e*LQ LQ 13 14 01.1
PVAQ *e*LR LR 13 15 09.3
comp=Z,4µm,22.0s
MESJ Messejana 38.51 34 *e*P **P 13 05 35.0 0.0**
MESJ *e*S **S 13 11 32.0 +1.3**
MESJ AMS AMS 13 18 01.0
comp=Z,4µm,22.6s
MESJ Messejana 38.51 34 *e*P **P 13 05 36.1 +1.1**
MESJ Messejana 38.51 34 *e*P **P 13 05 35.0 0.0**
MESJ *e*S **S 13 11 32.0 +1.3**
LIS Lisbon 38.65 32 *e*P **P 13 05 36.1 -0.1**
LIS *e*S **S 13 11 34.2 +1.4**
LIS AMS AMS 13 18 00.7
comp=Z,4µm,21.3s
LIS Lisbon 38.65 32 *e*P **P 13 05 36.0 -0.1**
LIS *e*S **S 13 11 34.2 +1.4**
SFS San Fernando 38.71 37 PFAKE 13 05 50.0 +13
SFS LR LR
comp=Z,2µm,22.0s
PMAFR Mafra 38.76 31 *e*S **S 13 11 40.8 +6.3**
RUSC La Rusia 38.80 271 *e*P **P 13 05 41.6 +3.3**
PBEJ Beja 38.84 34 *e*P **P 13 05 39.4 +1.6**
comp=Z,47nm,1.9s
BARC Barichara 38.85 272 *e*P **P 13 05 38.3 -0.2**
CODC Agust`>n Codaz 39.04 277 *e*P **P 13 05 39.6 -0.2**
EVO Evora 39.12 33 *e*P **P 13 05 41.3 +1.1**
comp=Z,82nm,1.6s
LGNH L`Oogne 39.17 291 *e*P **P 13 05 42.0 +1.2**
comp=Z,128nm,1.2s
ALMR Almeirim 39.28 32 *e*S **S 13 11 43.4 +1.2**
ALMR AMS AMS 13 18 21.3
comp=Z,3µm,19.2s
ALMR Almeirim 39.28 32 *e*P **P 13 05 44.2 +2.8**
comp=Z,181nm,1.5s
CHIC Chingaza 39.54 269 *e*P **P 13 05 44.2 -0.3**
SMLC San Mart`>n de 39.66 275 *e*P **P 13 05 40.2 -4.7**
PTOM Tomar 39.70 32 *e*P **P 13 05 44.5 -0.5**
comp=Z,92nm,1.0s
SMRC Santa Marta, M 39.84 279 *e*P **P 13 05 44.2 -2.3**
PCAS Casmilo, Conde 39.98 31 *e*P **P 13 05 45.4 -1.9**
comp=Z,144nm,1.7s
PCAS *e*S **S 13 12 00.4 +7.5**
PMRV Marv??o 40.10 33 *e*P **P 13 05 48.0 -0.4**
comp=Z,128nm,2.0s
PMRV *e*S **S 13 11 58.9 +4.2**
PMRV *e*LQ LQ 13 14 57.8
PMRV *e*LR LR 13 16 22.7
comp=Z,3µm,22.0s
ROSC El Rosal 40.11 269 P **P 13 05 49.7 +0.5**
comp=Z,18nm,0.6s,baz=2.3,slow=3.4,SNR=20
ROSC LR LR 13 22 53.9
comp=Z,3µm,18.0s,baz=87,slow=37
ROSC El Rosal 40.11 269 *e*P **P 13 05 51.0 +1.8**
comp=Z,172nm,1.8s
CPUP Villa Florida 40.21 213 P **P 13 05 48.5 -0.9**
comp=Z,9.7nm,0.9s,baz=38,slow=8.1,SNR=15
CPUP PcP **PcP 13 07 56.0 +2.6**
comp=Z,8.5nm,1.0s,baz=325,slow=6.1,SNR=3.1
CPUP LR LR 13 22 08.7
comp=Z,7µm,18.3s,baz=48,slow=36
CPUP Villa Florida 40.21 213 *e*P **P 13 05 49.4 +0.1**
comp=Z,56nm,1.4s
CPUP PcP **PcP 13 07 56.0 +2.6**
PCBR Castelo Branco 40.36 32 *e*P **P 13 05 49.8 -0.6**
comp=Z,56nm,1.7s
ZARC Zaragoza, Cauc 40.47 273 *e*P P 13 05 44.9 -6.8
MTE Manteigas 40.73 31 *e*P **P 13 05 51.5 -2.1**
MTE *e*S **S 13 12 08.7 +4.5**
MTE *e*LQ LQ 13 15 00.9
MTE *e*LR LR 13 16 48.5
comp=Z,3µm,18.0s
MTE Manteigas 40.73 31 PFAKE 13 06 10.0 +16
MTE LR LR
comp=Z,3µm,20.0s
PTO Porto 40.74 30 *e*P **P 13 05 54.0 +0.4**
PVIS Viseu 40.78 31 *e*P **P 13 05 54.6 +0.6**
comp=Z,111nm,1.8s
LPAZ La Paz 40.98 235 P **P 13 05 55.9 -0.6**
comp=Z,44nm,0.8s,baz=54,slow=7.9,SNR=144
LPAZ LR LR 13 22 23.8
comp=Z,4µm,18.4s,baz=58,slow=35
LPAZ La Paz 40.98 235 *e*P **P 13 05 55.8 -0.7**
comp=Z,82nm,1.0s
LPAZ La Paz 40.98 235 *e*P **P 13 05 54.6 -2.0**
TAM Tamanrasset 41.11 63 *e*P **P 13 05 56.9 -0.2**
comp=Z,23nm,1.2s
TAM LR LR
comp=Z,6µm,19.0s
TAM Tamanrasset 41.11 63 *e*P **P 13 05 56.9 -0.2**
TAM pmax pmax
comp=Z,23nm,1.2s
TAM MLR MLR
comp=Z,6µm,19.0s
POLO Lamas de Olo 41.32 30 *e*P **P 13 05 57.8 -0.7**
POLO *e*S **S 13 12 18.6 +5.6**
PCAB Cabril 41.46 30 *e*P **P 13 06 01.3 +1.8**
comp=Z,116nm,1.7s
PGAV Gavieira, Arco 41.53 29 *e*P **P 13 06 00.6 +0.4**
PGAV *e*S **S 13 12 21.8 +5.7**
PGAV *e*LQ LQ 13 15 17.4
PGAV *e*LR LR 13 17 12.2
comp=Z,2µm,20.0s
MVO Moncorvo 41.56 31 *e*P **P 13 05 59.6 -0.8**
comp=Z,70nm,1.2s
MVO *e*S **S 13 12 23.6 +7.2**
MVO *e*LQ LQ 13 15 19.2
MVO *e*LR LR 13 16 56.7
comp=Z,3µm,20.0s
DBBC Dabeiba 41.83 273 *e*P **P 13 06 04.8 +1.8**
PAB San Pablo 41.87 35 *e*P **P 13 06 04.8 +1.8**
comp=Z,43nm,1.7s
PAB LR LR
comp=Z,4µm,20.0s
PAB San Pablo 41.87 35 *e*P **P 13 06 04.8 +1.8**
PAB pmax pmax
comp=Z,43nm,1.7s
PAB MLR MLR
comp=Z,4µm,20.0s
PBRG Braganca 42.17 31 *e*P **P 13 06 05.0 -0.4**
comp=Z,81nm,1.7s
PBRG *e*S **S 13 12 31.4 +5.9**
ESDC Sonseca Array 42.17 35 P **P 13 06 03.9 -1.6**
comp=Z,1.7nm,0.6s,baz=237,slow=8.5,SNR=11
ESDC PcP **PcP 13 08 00.3 +0.5**
comp=Z,0.7nm,0.7s,baz=224,slow=5.4,SNR=4.3
ESDC LR LR 13 20 31.4
comp=Z,2µm,20.5s,baz=225,slow=32
ESLA Sonseca Array 42.17 35 PFAKE 13 06 20.0 +15
ESLA LR LR
comp=Z,3µm,20.0s
ES19 SONSECA Array 42.23 35 *e*P **P 13 06 08.2 +2.4**
ALOL LOMAS DE OLMED 42.43 223 *e*P **P 13 06 07.0 -0.7**
CART Cartagena 42.63 40 PFAKE 13 06 20.0 +11
CART LR LR
comp=Z,2µm,18.0s
POPC Popayan, Colom 42.70 266 *e*P **P 13 06 08.2 -2.2**
HJA Humahuaca 43.00 225 *e*P **P 13 06 12.4 -0.4**
AZAP Zapla 43.44 223 *e*P **P 13 06 14.6 -1.5**
MNMC Minye Minye 43.68 233 *e*P **P 13 06 15.1 -3.1**
comp=Z,48nm,1.0s
MNMC LR LR
comp=Z,5µm,22.0s
SLA San Lorenzo 44.06 223 *e*P **P 13 06 19.4 -1.6**
PB11 IPOC Station P 44.07 232 *e*P **P 13 06 18.5 -2.7**
comp=Z,40nm,1.2s
PB11 LR LR
comp=Z,6µm,20.0s
PB01 IPOC Station P 44.66 230 *e*P **P 13 06 22.9 -3.0**
comp=Z,11nm,0.8s
PB01 LR LR
comp=Z,4µm,18.0s
OTAV Otavalo 44.81 263 *e*P **P 13 06 27.6 +0.1**
comp=Z,20nm,1.0s
OTAV Otavalo 44.81 263 *ce*P **P 13 06 27.1 -0.4**
OTAV pmax pmax
comp=Z,22nm,1.7s
LVC Limon Verde 45.15 228 *e*P **P 13 06 28.0 -2.0**
comp=Z,37nm,1.0s
LVC LR LR
comp=Z,6µm,20.0s
LVC Limon Verde 45.15 228 *e*P **P 13 06 28.0 -2.0**
LVC pmax pmax
comp=Z,37nm,1.0s
LVC MLR MLR
comp=Z,6µm,20.0s
FSA Cafayete 45.31 222 *e*P **P 13 06 28.8 -2.3**
AHML Horco Molle 45.34 221 *e*P **P 13 06 29.3 -1.8**
HAL Halifax 45.36 330 PFAKE 13 06 40.0 +9.1
HAL LR LR
comp=Z,3µm,20.0s
PB04 IPOC Station P 45.91 229 *e*P **P 13 06 34.3 -1.5**
comp=Z,77nm,0.9s
PB04 LR LR
comp=Z,5µm,22.0s
SJPF Ste Jean 46.00 33 *e*P **P 13 06 35.8 -0.3**
SJPF pmax pmax
comp=Z,222nm,2.2s
ETSF Etsaut 46.23 34 *e*P **P 13 06 36.7 -1.2**
ETSF pmax pmax
comp=Z,260nm,2.6s
DRLN Deer Lake 46.40 339 *e*P **P 13 06 38.6 -0.4**
comp=Z,146nm,1.4s
NNA Nana 46.60 246 PFAKE 13 06 50.0 +8.8
NNA LR LR
comp=Z,5µm,20.0s
NNA Nana 46.60 246 *ce*P **P 13 06 41.6 +0.4**
NNA pmax pmax
comp=Z,160nm,1.7s
DFRA Djebel Bou Aff 46.69 45 P **P 13 06 45.0 +3.3**
CYA Choya 46.79 219 *e*P **P 13 06 39.8 -2.7**
LMN Caledonia Moun 46.83 331 *e*P **P 13 06 42.0 -0.6**
comp=Z,23nm,0.9s
LMN LR LR
comp=Z,3µm,20.0s
PB10 IPOC Station P 46.90 228 *e*P **P 13 06 42.4 -0.9**
comp=Z,71nm,1.1s
PB10 LR LR
comp=Z,9µm,19.0s
CKFL Kef-Lekhel 47.22 46 P **P 13 06 46.3 +0.4**
GGN Saint George 47.34 329 *e*P **P 13 06 49.1 +2.7**
comp=Z,66nm,1.3s
GGN LR LR
comp=Z,4µm,22.0s
LPA La Plata 47.51 207 *ce*P **P 13 06 48.0 +0.1**
LPA *es*P **pP 13 06 51.0 0.0**
LPA *e*PCP **PcP 13 08 18.0 0.0**
LPA *e*PP **PP 13 08 39.0 -0.4**
LPA *e*pPP 13 08 44.0
LPA *e*PPP PPP 13 09 24.0
LPA *e*PPP PPP 13 09 34.0
LPA *e*S **S 13 13 40.0 -2.8**
LPA *es*S **pS 13 13 46.0 -0.5**
LPA *e*PS 13 13 50.0
LPA *e*PSP PSP 13 13 57.0
LPA *e*PKIKP **PKiKP 13 15 10.0 -0.7**
LPA *e*SCS **ScS 13 16 40.0 -2.1**
LPA *e*SS **SS 13 17 11.0 +0.1**
LPA *e*SS **SS 13 17 17.0 +6.1**
LPA *e*SS **SS 13 17 21.0 +10**
LPA *e*SSS SSS 13 18 13.0
LPA *e*PKIKS 13 18 43.0
LPA *e*SSS SSS 13 18 56.0
LPA *e*SKIKS 13 22 15.0
ABSA Djebel Ababsia 47.70 46 P **P 13 06 50.8 +1.2**
CMAH Djebel Manchou 47.82 46 P **P 13 06 50.4 -0.1**
060A Indiantown 48.16 300 PFAKE 13 07 00.0 +6.9
060A LR LR
comp=Z,3µm,21.0s
HRV Adam Dziewonsk 48.31 323 *e*P **P 13 06 54.5 +0.4**
comp=Z,75nm,1.1s
HRV LR LR
comp=Z,3µm,20.0s
HRV Adam Dziewonsk 48.31 323 *e*P **P 13 06 54.5 +0.4**
HRV pmax pmax
comp=Z,75nm,1.1s
HRV MLR MLR
comp=Z,3µm,20.0s
HRV Adam Dziewonsk 48.31 323 P **P 13 06 54.4 +0.4**
baz=126
061Z Ochoppi 48.33 298 PFAKE 13 07 10.0 +16
061Z LR LR
comp=Z,2µm,21.0s
QUIF Quistinic 48.38 28 *e*P **P 13 06 53.4 -1.1**
QUIF pmax pmax
comp=Z,183nm,2.0s
H09N1 TRISTAN DA CUN 48.44 157 T T 13 59 11.1
SNR=5.4
BATG Bathurst New B 48.45 331 *e*P **P 13 06 54.7 -0.4**
comp=Z,68nm,0.9s
BATG LR LR
comp=Z,4µm,20.0s
H09W1 TRISTAN DA CUN 48.46 157 T T 13 59 07.0
SNR=15
VCA Vinchina 48.53 221 *e*P **P 13 06 55.0 -1.1**
PKME Peaks-Kenny Pk 48.73 327 *e*P P 13 06 51.7 -5.5
PKME LR LR
comp=Z,3µm,21.0s
VAL Valentia 48.78 19 *i*/S **S 13 13 58.4 -2.1**
059A Moore Haven 48.81 300 PFAKE 13 07 10.0 +12
059A LR LR
comp=Z,3µm,22.0s
KEST Kesra 48.82 48 P **P 13 06 57.2 -1.0**
comp=Z,18nm,0.8s,baz=324,slow=6.3,SNR=9.4
KEST LR LR 13 26 07.6
comp=Z,4µm,21.9s,baz=200,slow=34
KEST Kesra 48.82 48 *e*P **P 13 06 59.6 +1.4**
comp=Z,32nm,0.9s
CPNY Central Park 48.84 320 *e*P **P 13 06 58.3 +0.2**
comp=Z,54nm,1.1s
MFF Saint Martin d 48.91 31 *e*P **P 13 06 57.6 -1.1**
MFF pmax pmax
comp=Z,34nm,1.2s
PAL Palisades 48.92 320 *e*P **P 13 06 58.9 +0.1**
comp=Z,59nm,0.9s
PAL LR LR
comp=Z,2µm,20.0s
PAL Palisades 48.92 320 *e*P **P 13 06 58.9 +0.1**
PAL pmax pmax
comp=Z,59nm,0.9s
PAL MLR MLR
comp=Z,2µm,20.0s
PAL Palisades 48.92 320 P **P 13 06 58.9 +0.1**
baz=123
RJF Les Rejaudoux 48.93 33 *e*P **P 13 06 58.8 0.0**
RJF pmax pmax
comp=Z,25nm,1.0s
CNNC Cliffs of the 48.95 311 PFAKE 13 07 10.0 +11
CNNC LR LR
comp=Z,2µm,21.0s
CAF Calviac 48.98 34 *e*P **P 13 06 58.8 -0.5**
CAF pmax pmax

comp=Z,57nm,1.1s
PQI Presque Isle 48.99 329 *eP* **P 13 07 02.2 +3.0**
comp=Z,107nm,1.5s
GO03 Copiap 49.15 224 PFAKE 13 07 10.0 +9.2
GO03 LR LR
comp=Z,10µm,19.0s
AGUA GUANDACOL 49.22 221 *eP* **P 13 07 00.4 -1.0**
TAMR Tamra 49.22 46 *eP* **P 13 07 02.8 +1.7**
comp=Z,36nm,0.8s
DWPF Disney Wildern 49.36 301 PFAKE 13 07 10.0 +7.6
DWPF LR LR
comp=Z,4µm,22.0s
PSUB Penn St. - Bra 49.37 318 *eP* **P 13 07 02.4 +0.1**
comp=Z,48nm,1.0s
PSUB LR LR
comp=Z,2µm,19.0s
ODNJ Ogdensburg 49.41 320 *eP* **P 13 07 03.4 +0.8**
comp=Z,32nm,1.0s
ODNJ LR LR
comp=Z,2µm,21.0s
HDC Heredia 49.55 277 PFAKE 13 07 20.0 +16
HDC LR LR
comp=Z,800nm,19.0s
LBNH Lisbon 49.55 325 PFAKE 13 07 20.0 +16
LBNH LR LR
comp=Z,3µm,20.0s
658A Bunnell 49.58 303 PFAKE 13 07 20.0 +16
658A LR LR
comp=Z,4µm,22.0s
TRY Troy 49.72 322 *eP* **P 13 07 05.9 +1.1**
comp=Z,68nm,1.1s
ESPN Las Esperanzas 49.74 280 PFAKE 13 07 20.0 +15
ESPN LR LR
comp=Z,800nm,21.0s
GRR Gorron 49.80 29 *eP* **P 13 07 06.9 +1.5**
GRR pmax pmax
comp=Z,102nm,1.6s
CBN Corbin Frederi 49.86 315 PFAKE 13 07 20.0 +14
CBN LR LR
comp=Z,2µm,20.0s
NHSC New Hope 49.89 308 *eP* **P 13 07 07.0 +0.7**
comp=Z,337nm,1.3s
NHSC LR LR
comp=Z,2µm,20.0s
957A Wimauma 49.93 300 PFAKE 13 07 20.0 +13
957A LR LR
comp=Z,4µm,22.0s
TCF Toulx Ste Croi 49.93 32 *eP* **P 13 07 10.0 +3.5**
TCF pmax pmax
comp=Z,56nm,1.5s
MVL Millersville 50.00 318 *eP* **P 13 07 07.5 +0.4**
comp=Z,41nm,1.0s
SDMD Soldier's Deli 50.05 317 *eP* **P 13 07 07.8 +0.3**
comp=Z,34nm,1.2s
SDMD LR LR
comp=Z,1µm,19.0s
857A Zephyrhills 50.08 301 P **P 13 07 07.7 -0.2**
baz=106
N59A State Game Lan 50.08 319 *eP* **P 13 07 08.1 +0.4**
comp=Z,53nm,1.1s
N59A LR LR
comp=Z,3µm,22.0s
N59A State Game Lan 50.08 319 P **P 13 07 07.9 +0.3**
baz=121,SNR=7.2
ACCN Adirondack Com 50.08 323 *eP* **P 13 07 07.7 0.0**
comp=Z,42nm,1.3s
ACCN LR LR
comp=Z,2µm,21.0s
R58B Mineral 50.11 314 P **P 13 07 07.9 0.0**
baz=117,SNR=8.9
257A Skidaway Islan 50.18 306 PFAKE 13 07 20.0 +11
257A LR LR
comp=Z,3µm,19.0s
FLN La Foliniere 50.24 28 *eP* **P 13 07 10.8 +2.1**
FLN pmax pmax
comp=Z,44nm,1.1s
ACCO Cerro Coronel 50.33 220 *eP* **P 13 07 09.1 -0.9**
PAGS Pennsylvania G 50.36 318 PFAKE 13 07 20.0 +10
PAGS LR LR
comp=Z,2µm,20.0s
LCO Las Campanas 50.37 223 *eP* **P 13 07 09.9 -0.4**
comp=Z,157nm,1.8s
LCO LR LR
comp=Z,5µm,18.0s
LCO Las Campanas 50.37 223 *ceP* **P 13 07 12.9 +2.6**
JTS JuntasAbangare 50.38 277 PFAKE 13 07 20.0 +10
JTS LR LR
comp=Z,900nm,22.0s
JTS JuntasAbangare 50.38 277⇑ *eP* **P 13 07 09.3 -1.0**
MOQ Mont Orford 50.39 325 *eP* **P 13 07 10.7 +0.7**
KSPA Keystone Colle 50.40 320 *eP* **P 13 07 10.3 +0.2**
comp=Z,82nm,1.3s
KSPA LR LR
comp=Z,3µm,22.0s
VIVF Saint-Julien-l 50.41 35 *eP* **P 13 07 11.9 +1.8**
VIVF pmax pmax
comp=Z,17nm,1.0s
SSB Saint Sauveur 50.58 35 *eP* **P 13 07 12.1 +0.6**
comp=Z,168nm,2.0s
SSB LR LR
comp=Z,4µm,19.0s
SSB Saint Sauveur 50.58 35 *eP* **P 13 07 12.1 +0.6**
SSB pmax pmax
comp=Z,168nm,2.0s
SSB MLR MLR
comp=Z,4µm,19.0s
456A Hilliard 50.60 304 PFAKE 13 07 20.0 +8.3
456A LR LR
comp=Z,3µm,20.0s
656A Willston 50.63 302 *eP* **P 13 07 12.4 +0.4**
comp=Z,47nm,0.9s
656A LR LR
comp=Z,3µm,21.0s
556A Lake Butler 50.70 303 P **P 13 07 12.6 0.0**
baz=107
NCB Newcomb 50.75 323 *eP* **P 13 07 12.9 +0.2**
comp=Z,30nm,1.2s
NCB LR LR
comp=Z,2µm,22.0s
AVF Avril sur Loir 50.86 33 *eP* **P 13 07 13.7 +0.3**
AVF pmax pmax
comp=Z,44nm,1.4s
RTCV Cerro Valdivia 50.86 218 *eP* **P 13 07 12.2 -1.5**
FRNY Flat Rock 50.87 324 *eP* **P 13 07 13.6 +0.1**
comp=Z,38nm,1.0s
FRNY LR LR
comp=Z,2µm,19.0s
BINY Binghamton 50.88 320 *eP* **P 13 07 14.2 +0.5**
comp=Z,55nm,1.2s
BINY Binghamton 50.88 320 P **P 13 07 14.1 +0.5**
baz=121
SSF Saint Saulge 51.11 32 *eP* **P 13 07 15.5 +0.2**
SSF pmax pmax
comp=Z,51nm,1.6s
JSC Jenkinsville 51.15 309 *eP* **P 13 07 15.5 -0.4**
comp=Z,38nm,1.0s
JSC LR LR
comp=Z,2µm,19.0s
JSC Jenkinsville 51.15 309 *eP* **P 13 07 15.5 -0.4**
JSC pmax pmax
comp=Z,38nm,1.0s
JSC MLR MLR
comp=Z,2µm,19.0s
GO04 Tololo Observa 51.18 222 *eP* **P 13 07 15.4 -0.9**
comp=Z,65nm,0.8s
GO04 LR LR
comp=Z,5µm,18.0s
DSB Dublin 51.19 21 PFAKE 13 07 30.0 +14
DSB LR LR
comp=Z,5µm,22.0s
555A McAlpin 51.20 303 *eP* **P 13 07 16.8 +0.5**
comp=Z,122nm,1.3s
555A LR LR
comp=Z,3µm,20.0s
555A McAlpin 51.20 303 P **P 13 07 16.2 -0.1**
baz=106
655A Horseshoe Beac 51.28 302 P **P 13 07 16.9 0.0**
baz=106,SNR=5.1
RTLS Leoncito 51.29 219 *eP* **P 13 07 16.5 -0.8**
LONY Lake Ozonia 51.33 324 PFAKE 13 07 30.0 +13
LONY LR LR
comp=Z,2µm,20.0s
255A Hazlehurst 51.33 305 PFAKE 13 07 30.0 +13
255A LR LR
comp=Z,3µm,21.0s
SSPA Standing Stone 51.34 318 *eP* **P 13 07 17.0 -0.2**
comp=Z,43nm,1.3s
SSPA LR LR
comp=Z,2µm,20.0s
SSPA Standing Stone 51.34 318 P **P 13 07 17.2 +0.1**
baz=118
455A Stateville 51.43 304 P **P 13 07 18.5 +0.5**
baz=107,SNR=6.9
KMSC Kings Mountain 51.51 310 *eP* **P 13 07 18.9 +0.3**
comp=Z,44nm,1.3s
KMSC LR LR
comp=Z,2µm,19.0s
KMSC Kings Mountain 51.51 310 P **P 13 07 18.6 +0.1**
baz=112,SNR=6.8
155A Kite 51.54 306 P **P 13 07 18.9 +0.1**
baz=109
MBDF Montbardon 51.55 37 *eP* **P 13 07 19.7 +0.8**
MBDF pmax pmax
comp=Z,18nm,0.9s
BLA Blacksburg 51.62 313 *eP* **P 13 07 19.7 +0.3**
comp=Z,88nm,1.0s
BLA LR LR
comp=Z,1µm,21.0s
BLA Blacksburg 51.62 313 *eP* **P 13 07 19.7 +0.3**
BLA pmax pmax
comp=Z,88nm,1.0s
BLA MLR MLR
comp=Z,1µm,21.0s
BLA Blacksburg 51.62 313 P **P 13 07 19.6 +0.3**
baz=114,SNR=12
O56A Blue Knob Stat 51.63 317 *eP* **P 13 07 19.8 +0.4**
comp=Z,50nm,1.1s
O56A LR LR
comp=Z,2µm,19.0s
O56A Blue Knob Stat 51.63 317 P **P 13 07 19.7 +0.4**
baz=118,SNR=6.4
BNI Bardonecchia 51.68 36 *eP* **P 13 07 21.1 +1.3**
comp=Z,36nm,1.1s
BNI LR LR
comp=Z,3µm,20.0s
BNI Bardonecchia 51.68 36 *eP* **P 13 07 21.1 +1.3**
BNI pmax pmax
comp=Z,36nm,1.1s
BNI MLR MLR
comp=Z,3µm,20.0s
PAULI Pauline 51.77 309 *eP* **P 13 07 20.8 +0.4**
comp=Z,125nm,1.9s
PAULI LR LR
comp=Z,2µm,20.0s
ESTN Estel 51.77 281 PFAKE 13 07 30.0 +9.1
ESTN LR LR
comp=Z,2µm,20.0s
AAGR Agrelo 51.88 217 *eP* **P 13 07 19.0 -2.4**
HODGE Hodges 51.91 308 *eP* **P 13 07 22.2 +0.7**
comp=Z,46nm,1.3s
HODGE LR LR
comp=Z,2µm,18.0s
TRQA Tornquist 51.94 208 *eP* **P 13 07 24.1 +2.4**
comp=Z,56nm,1.4s
TRQA LR LR
comp=Z,6µm,19.0s
TRQA Tornquist 51.94 208 *eP* **P 13 07 24.1 +2.4**
TRQA pmax pmax
comp=Z,56nm,1.4s
TRQA MLR MLR
comp=Z,6µm,19.0s
LPG La Plagne 51.98 36 *eP* **P 13 07 23.9 +1.7**
LPG pmax pmax
comp=Z,31nm,1.3s
LPL La Plagne 51.98 36 *eP* **P 13 07 23.8 +1.7**
LPL pmax pmax
comp=Z,25nm,1.3s
254A Abbeville 52.00 305 P **P 13 07 22.3 +0.1**
baz=108,SNR=5.3
Z54A Sparta 52.04 307 P **P 13 07 22.7 +0.2**
baz=109,SNR=14
154A Montrose 52.05 306 *eP* **P 13 07 23.4 +0.8**
comp=Z,149nm,1.2s
154A LR LR
comp=Z,3µm,21.0s
154A Montrose 52.05 306 P **P 13 07 22.8 +0.1**
baz=108,SNR=5.3
ALFO Alfred 52.07 324 P **P 13 07 22.5 -0.1**
baz=125,SNR=13
Y54A Tignall 52.12 308 P **P 13 07 23.2 +0.1**
baz=110,SNR=11
MCWV Mont Chateau 52.23 316 PFAKE 13 07 40.0 +16
MCWV LR LR
comp=Z,1µm,20.0s
MMNY Mt. Morris Dam 52.37 320 PFAKE 13 07 40.0 +15
MMNY LR LR
comp=Z,2µm,20.0s
CLTB Caltabellotta 52.42 47 *eP* **P 13 07 25.6 +0.3**
comp=Z,22nm,0.9s
CLTB LR LR
comp=Z,8µm,21.0s
553A Crawfordville 52.44 303 P **P 13 07 25.8 +0.2**
baz=106
453A Whigham 52.53 304 PFAKE 13 07 40.0 +14
453A LR LR
comp=Z,4µm,21.0s
453A Whigham 52.53 304 P **P 13 07 26.4 +0.2**
baz=106,SNR=5.4
353A Camilla 52.58 304 P **P 13 07 26.7 +0.1**
baz=106,SNR=8.3
GOGA Godfrey 52.59 307 *eP* **P 13 07 26.9 +0.3**
comp=Z,40nm,1.3s
GOGA LR LR
comp=Z,3µm,21.0s
GOGA Godfrey 52.59 307 *eP* **P 13 07 26.9 +0.3**
GOGA pmax pmax
comp=Z,40nm,1.3s
GOGA MLR MLR
comp=Z,3µm,21.0s
GOGA Godfrey 52.59 307 P **P 13 07 26.7 +0.1**
baz=109,SNR=6.5
Z53A Monticello 52.63 307 P **P 13 07 27.1 +0.1**
baz=108,SNR=8.1
BG3 Lake Jocassee 52.69 309 *eP* **P 13 07 28.0 +0.6**
comp=Z,76nm,1.1s
BG3 LR LR
comp=Z,2µm,21.0s
253A Americus 52.71 305 PFAKE 13 07 40.0 +12
253A LR LR
comp=Z,2µm,20.0s
WDD Wied Dalam 52.74 50 PFAKE 13 07 40.0 +12
WDD LR LR
comp=Z,5µm,19.0s
SENIN Lac Senin/Sane 52.78 35 *eP* **P 13 07 29.0 +0.9**
comp=Z,82nm,1.8s
SENIN LR LR
comp=Z,4µm,20.0s
X53A Estanollee 52.81 308 P **P 13 07 28.6 +0.4**
baz=110,SNR=12
Y53A Monroe 52.82 307 P **P 13 07 28.6 +0.3**
baz=109,SNR=12
V53A Saluda 52.83 310 *eP* **P 13 07 28.8 +0.3**
comp=Z,31nm,1.0s
V53A LR LR
comp=Z,2µm,22.0s
V53A Saluda 52.83 310 P **P 13 07 28.6 +0.2**
baz=111,SNR=10
U53A Fall Branch 52.90 311 P **P 13 07 28.8 -0.1**
baz=111,SNR=11
N54A Moraine State 52.91 317 *eP* **P 13 07 28.9 0.0**
comp=Z,66nm,1.0s
N54A LR LR
comp=Z,2µm,21.0s
N54A Moraine State 52.91 317 P **P 13 07 28.9 0.0**
baz=117,SNR=8.8
W53A Cullowhee 52.93 309 P **P 13 07 29.1 -0.1**
baz=110,SNR=16
MEDO Medina 52.93 320 P **P 13 07 28.6 -0.4**
baz=120
M54A Oil Creek Stat 52.94 318 *eP* **P 13 07 29.3 +0.2**
comp=Z,67nm,1.0s
M54A LR LR
comp=Z,2µm,19.0s
M54A Oil Creek Stat 52.94 318 P **P 13 07 29.0 0.0**
baz=118,SNR=9.9
PLVO Plevna 53.04 323 PFAKE 13 07 40.0 +10
PLVO LR LR
comp=Z,2µm,22.0s
PLVO Plevna 53.04 323 P **P 13 07 29.7 0.0**
baz=122
PEL Peldehue 53.06 219 PFAKE 13 07 40.0 +10
PEL LR LR
comp=Z,2µm,20.0s
PEL Peldehue 53.06 219 P **P 13 07 29.0 -1.1**
PEL pmax pmax
comp=Z,42nm,1.3s
DELO Deloro Mine 53.09 322 P **P 13 07 30.5 +0.3**
baz=121
252A Lumpkin 53.19 305 P **P 13 07 31.2 +0.1**
baz=107,SNR=12
352A Blakely 53.20 304 *eP* **P 13 07 32.0 +0.9**
comp=Z,94nm,1.3s
352A LR LR
comp=Z,3µm,20.0s
Y52A Lilburn 53.20 307 *eP* **P 13 07 31.0 -0.1**
comp=Z,64nm,1.2s
Y52A LR LR
comp=Z,2µm,22.0s
Y52A Lilburn 53.20 307 P **P 13 07 31.3 +0.1**
baz=108,SNR=10
P53A Whipple 53.24 315 *eP* **P 13 07 31.2 -0.1**
comp=Z,50nm,0.8s
P53A LR LR
comp=Z,2µm,22.0s
P53A Whipple 53.24 315 P **P 13 07 31.2 -0.1**
baz=114,SNR=12
452A Marianna 53.24 303 P **P 13 07 31.8 +0.3**
baz=106
Z52A Williamson 53.28 306 P **P 13 07 31.9 +0.1**
baz=108,SNR=7.1
X52A Dahlonega 53.30 308 P **P 13 07 32.0 +0.1**
baz=109,SNR=12
152A Waverly Hall 53.37 306 *eP* **P 13 07 32.8 +0.4**
comp=Z,52nm,1.3s
152A LR LR
comp=Z,2µm,21.0s
152A Waverly Hall 53.37 306 P **P 13 07 32.5 +0.1**
baz=107,SNR=7.2
HINF Hinteralfeld 53.37 33 *eP* **P 13 07 32.2 0.0**
BAIF Baives 53.38 30 *eP* **P 13 07 31.1 -1.0**
BAIF pmax pmax
comp=Z,35nm,1.0s
STCO Saint Catharin 53.41 320 P **P 13 07 32.6 +0.1**
baz=119
ERPA Erie 53.43 318 PFAKE 13 07 40.0 +7.3
ERPA LR LR
comp=Z,2µm,21.0s
ERPA Erie 53.43 318 P **P 13 07 33.1 +0.4**
baz=118
DRCO St. Marys Ceme 53.44 321 P **P 13 07 33.0 +0.3**
baz=120
VLC Villacollemand 53.45 39 PFAKE 13 07 50.0 +17
VLC LR LR
comp=Z,2µm,21.0s
DRWO Darlington Wes 53.46 321 P **P 13 07 33.0 +0.2**
baz=120
T52A Hallie 53.47 311 P **P 13 07 33.0 -0.1**
baz=112,SNR=10
V52A Sevierville 53.49 310 *eP* **P 13 07 33.2 0.0**
comp=Z,45nm,1.4s
V52A LR LR
comp=Z,2µm,22.0s
V52A Sevierville 53.49 310 P **P 13 07 32.9 -0.3**
baz=110,SNR=7.0
W52A Murphy 53.49 309 *eP* **P 13 07 33.5 +0.2**
comp=Z,31nm,1.2s
W52A LR LR
comp=Z,2µm,18.0s
W52A Murphy 53.49 309 P **P 13 07 33.5 +0.2**
baz=109
U52A Thorn Hill 53.50 310 P **P 13 07 33.2 -0.1**
baz=111,SNR=14
TKL Tuckaleechee C 53.56 309 *eP* **P 13 07 33.7 -0.1**
comp=Z,40nm,1.1s
TKL LR LR
comp=Z,2µm,19.0s
TKL Tuckaleechee C 53.56 309 *eP* **P 13 07 33.7 -0.1**
TKL pmax pmax
comp=Z,40nm,1.1s
TKL MLR MLR
comp=Z,2µm,19.0s
DOU Dourbes 53.59 30 ⇑P **P 13 07 33.6 -0.1**
comp=Z,18nm,0.9s
451A Vernon 53.65 303 *eP* **P 13 07 35.4 +0.9**
comp=Z,148nm,1.1s
451A LR LR
comp=Z,4µm,22.0s
451A Vernon 53.65 303 P **P 13 07 34.0 -0.4**
baz=105
Q52A Bidwell 53.65 314 P **P 13 07 34.1 -0.2**
baz=113,SNR=15
R52A Catlettsburg 53.68 313 P **P 13 07 34.9 +0.3**
baz=113,SNR=5.3
TZTN Tazewell 53.69 311 *eP* **P 13 07 34.5 -0.2**
comp=Z,49nm,1.2s
TZTN LR LR
comp=Z,2µm,21.0s
TZTN Tazewell 53.69 311 P **P 13 07 34.9 +0.2**
baz=111,SNR=8.1
351A Pinckard 53.70 304 P **P 13 07 34.6 -0.2**
baz=106
S52A Salyersville 53.75 312 P **P 13 07 35.0 -0.1**
baz=112,SNR=16
251A Midway 53.76 305 P **P 13 07 35.1 -0.2**
baz=106,SNR=12
ECH Echery 53.77 33 *eP* **P 13 07 35.4 +0.3**
comp=Z,92nm,1.9s
ECH LR LR
comp=Z,2µm,22.0s
ECH Echery 53.77 33 *eP* **P 13 07 35.4 +0.3**
ECH pmax pmax
comp=Z,92nm,1.9s
ECH MLR MLR
comp=Z,2µm,22.0s
TYNO Tyneside 53.81 319 P **P 13 07 35.5 +0.1**
baz=118
O52A Adamsville 53.81 315 *eP* **P 13 07 35.1 -0.4**
comp=Z,94nm,1.0s
O52A LR LR
comp=Z,2µm,20.0s
O52A Adamsville 53.81 315 P **P 13 07 35.4 -0.2**
baz=115,SNR=15
151A Opelika 53.82 305 P **P 13 07 35.6 -0.1**
baz=107,SNR=6.3
P52A Corning 53.82 315 P **P 13 07 35.1 -0.5**
baz=114,SNR=11
E54A Lac Daplat, Po 53.85 324 P **P 13 07 35.8 +0.1**
baz=123
UCC Uccle 53.93 29 PFAKE 13 07 50.0 +14
UCC LR LR
comp=Z,2µm,19.0s
D54A Lac Fusel, La 53.94 325 P **P 13 07 36.4 +0.1**
baz=124
ESK Eskdalemuir 53.97 21 PFAKE 13 07 50.0 +14
ESK LR LR
comp=Z,4µm,20.0s
U51A La Follette 53.99 310 P **P 13 07 36.6 -0.3**
baz=110,SNR=10
Y51A Rockmart 54.01 307 P **P 13 07 36.7 -0.4**
baz=108,SNR=8.0
TUE Stuetta 54.02 36 *eP* **P 13 07 37.3 +0.1**
comp=Z,82nm,2.0s
TUE LR LR
comp=Z,4µm,21.0s
TEIG Tepich 54.05 290 PFAKE 13 07 50.0 +12
TEIG LR LR
comp=Z,1µm,21.0s
X51A Calhoun 54.05 308 *eP* **P 13 07 37.9 +0.5**
comp=Z,55nm,1.1s
X51A LR LR
comp=Z,2µm,21.0s
X51A Calhoun 54.05 308 P **P 13 07 37.3 0.0**
baz=108,SNR=6.1
V51A Loudon 54.05 309 *eP* **P 13 07 37.3 0.0**
comp=Z,41nm,1.0s
V51A LR LR
comp=Z,2µm,20.0s
V51A Loudon 54.05 309 P **P 13 07 37.0 -0.3**
baz=110,SNR=12
CPCT Cooper Cave 54.07 309 *eP* **P 13 07 37.7 +0.3**
comp=Z,42nm,1.1s
CPCT LR LR
comp=Z,2µm,21.0s
E53A Dumoine, Ponti 54.10 324 P **P 13 07 37.7 +0.2**
baz=122
ALGO Algonquin Park 54.10 323 P **P 13 07 37.0 -0.6**
baz=122
WLF Walferdange 54.11 31 PFAKE 13 07 50.0 +12
WLF LR LR
comp=Z,2µm,20.0s
WLF Walferdange 54.11 31 ⇑P **P 13 07 36.5 -1.0**
S51A Beattyville 54.12 312 *eP* **P 13 07 37.9 +0.1**

comp=Z,36nm,1.0s
S51A LR LR
comp=Z,2µm,20.0s
S51A Beattyville 54.12 312 P **P** 13 07 37.4 -0.4
baz=111,SNR=7.6
T51A Gray 54.14 311 P **P** 13 07 37.6 -0.4
baz=111,SNR=8.2
BCLA Clavier 54.15 30 ⇑P **P** 13 07 36.1 -1.7
comp=Z,23nm,1.3s
W51A Cleveland 54.16 309 P **P** 13 07 38.0 -0.2
baz=109,SNR=10
SADO Sadowa 54.16 322 *e*P **P** 13 07 37.6 -0.4
comp=Z,43nm,1.1s
SADO LR LR
comp=Z,2µm,20.0s
ACTO Acton 54.17 320 P **P** 13 07 36.9 -1.2
baz=118
SCHQ Schefferville 54.32 337 P **P** 13 07 36.4 -2.6
comp=Z,13nm,0.7s,baz=114,slow=8.1,SNR=7.3
SCHQ LR LR 13 28 31.2
comp=Z,2µm,18.6s,baz=136,slow=34
SCHQ Schefferville 54.32 337 *e*P **P** 13 07 39.4 +0.4
comp=Z,40nm,0.8s
CHGQ Chibougamau 54.33 329 P **P** 13 07 38.5 -0.6
baz=128
350A Dozier 54.34 304 P **P** 13 07 39.4 -0.1
baz=105,SNR=5.2
R51A Hillsboro 54.35 313 P **P** 13 07 39.4 -0.1
baz=112,SNR=32
O51A Pataskala 54.36 315 P **P** 13 07 39.3 -0.3
baz=114
150A Eclectic 54.40 305 P **P** 13 07 39.7 -0.2
baz=106,SNR=14
P51A Williamsport 54.42 314 *e*P **P** 13 07 39.3 -0.7
comp=Z,87nm,0.9s
P51A LR LR
comp=Z,2µm,22.0s
P51A Williamsport 54.42 314 P **P** 13 07 39.7 -0.3
baz=113,SNR=16
250A Grady 54.43 304 *e*P **P** 13 07 40.7 +0.5
comp=Z,205nm,1.8s
250A LR LR
comp=Z,3µm,20.0s
Q51A Peebles 54.45 313 *e*P **P** 13 07 39.6 -0.6
comp=Z,117nm,1.0s
Q51A LR LR
comp=Z,1µm,20.0s
Q51A Peebles 54.45 313 P **P** 13 07 40.1 -0.2
baz=113,SNR=30
BFO Black Forest 54.48 34 *e*P **P** 13 07 40.5 +0.2
comp=Z,50nm,1.5s
BFO LR LR
comp=Z,2µm,21.0s
BFO Black Forest 54.48 34 *ce*P **P** 13 07 41.2 +0.9
BFO pmax pmax
comp=Z,6.0nm,1.7s
D53A Lac Vacive, Po 54.50 325 P **P** 13 07 40.6 +0.2
baz=123
Z50A Ashland 54.50 306 *e*P **P** 13 07 40.7 0.0
comp=Z,57nm,1.4s
Z50A LR LR
comp=Z,3µm,20.0s
Z50A Ashland 54.50 306 P **P** 13 07 40.6 0.0
baz=107,SNR=8.5
N51A Ashland 54.52 316 *e*P **P** 13 07 40.8 +0.1
comp=Z,53nm,0.8s
N51A LR LR
comp=Z,2µm,21.0s
N51A Ashland 54.52 316 P **P** 13 07 40.5 -0.2
baz=115
Y50A Piedmont 54.54 307 P **P** 13 07 41.0 0.0
baz=107,SNR=8.7
AQU L'Aquila 54.54 42 PFAKE 13 07 50.0 +9.2
AQU LR LR
comp=Z,2µm,21.0s
AQU L'Aquila 54.54 42 P **P** 13 07 41.7 +0.9
AQU pmax pmax
comp=Z,55nm,1.0s
M51A Elyria 54.56 316 P **P** 13 07 40.9 -0.1
baz=115
SNET Serv Nac Est T 54.57 282 PFAKE 13 07 50.0 +8.5
SNET LR LR
comp=Z,1µm,20.0s
V50A Pikevile 54.59 309 P **P** 13 07 41.1 -0.2
baz=109,SNR=10.0
W50A Signal Mountai 54.60 308 *e*P **P** 13 07 41.6 +0.2
comp=Z,42nm,0.8s
W50A LR LR
comp=Z,2µm,21.0s
W50A Signal Mountai 54.60 308 P **P** 13 07 41.6 +0.2
baz=108,SNR=17
MEM Membach 54.62 30 P **P** 13 07 41.0 -0.2
MEM pmax pmax
comp=Z,39nm,1.1s
MEM Membach 54.62 30 ⇓P **P** 13 07 41.1 -0.1
comp=Z,28nm,1.5s
U50A Jamestown 54.63 310 P **P** 13 07 41.5 -0.1
baz=110,SNR=12
CEL Celeste 54.63 48 PFAKE 13 07 50.0 +8.4
CEL LR LR
comp=Z,3µm,22.0s
FUORN Ofenpass-Fuorn 54.64 36 *e*P **P** 13 07 40.3 -1.4
comp=Z,50nm,1.4s
FUORN LR LR
comp=Z,4µm,21.0s
X50B Fort Payne 54.64 307 P **P** 13 07 41.8 +0.1
baz=108,SNR=12
ACSO Alum Creek Sta 54.66 315 *e*P **P** 13 07 41.9 +0.2
comp=Z,81nm,1.0s
ACSO LR LR
comp=Z,2µm,22.0s
ACSO Alum Creek Sta 54.66 315 P **P** 13 07 41.8 +0.1
baz=114,SNR=16
CLWO Collingwood 54.73 321 P **P** 13 07 41.9 -0.2
baz=119
S50A Richmond 54.73 312 P **P** 13 07 42.2 -0.1
baz=111,SNR=18
DAVA Damuels 54.77 35 *e*P **P** 13 07 42.6 0.0
comp=Z,43nm,1.3s
F52A Sundridge 54.78 323 P **P** 13 07 42.5 0.0
baz=120
ELFO Elginfield 54.79 319 P **P** 13 07 42.1 -0.5
baz=117
T50A Nancy 54.83 311 P **P** 13 07 42.6 -0.4
baz=110,SNR=13
Q50A Georgetown 54.84 313 P **P** 13 07 42.5 -0.5
baz=112,SNR=7.8
BRAL Brewton 54.87 303 *e*P **P** 13 07 44.5 +1.1
comp=Z,92nm,0.8s
BRAL LR LR
comp=Z,4µm,21.0s
R50A Paris 54.89 312 P **P** 13 07 43.2 -0.2
baz=111,SNR=14
VLDQ Val d'Or 54.92 326 *e*P **P** 13 07 47.1 +3.6
comp=Z,115nm,1.8s
VLDQ LR LR
comp=Z,3µm,19.0s
Z49A Columbiana 54.98 306 P **P** 13 07 44.1 0.0
baz=106,SNR=18
N50A Nevada 54.99 316 P **P** 13 07 43.8 -0.3
baz=114,SNR=7.7
P50A Jamestown 55.00 314 P **P** 13 07 43.9 -0.2
baz=112,SNR=13
149A Jones 55.03 305 P **P** 13 07 44.4 -0.1
baz=106,SNR=16
349A Repton 55.03 303 P **P** 13 07 44.6 0.0
baz=104,SNR=10
Y49A Blount Mountai 55.07 307 *e*P **P** 13 07 44.8 0.0
comp=Z,50nm,1.4s
Y49A LR LR
comp=Z,3µm,20.0s
Y49A Blount Mountai 55.07 307 P **P** 13 07 44.6 -0.2
baz=107,SNR=8.3
GO05 HualaæØ 55.07 218 *e*P **P** 13 07 45.0 +0.3
comp=Z,98nm,1.6s
GO05 LR LR
comp=Z,4µm,19.0s
O50A Cable 55.08 315 P **P** 13 07 44.3 -0.5
baz=113,SNR=7.0
SWET Sewanee 55.09 308 *e*P **P** 13 07 45.0 0.0
comp=Z,86nm,1.3s
SWET LR LR
comp=Z,2µm,22.0s
FETA Feichten 55.12 36 *e*P **P** 13 07 44.7 -0.4
comp=Z,26nm,1.2s
M50A Fremont 55.18 316 *e*P **P** 13 07 45.5 0.0
comp=Z,48nm,0.9s
M50A LR LR
comp=Z,2µm,20.0s
M50A Fremont 55.18 316 P **P** 13 07 45.6 +0.1
baz=114
X49A Woodville 55.19 307 P **P** 13 07 45.2 -0.4
baz=107,SNR=14
LSQQ Lebel-sur-Quev 55.19 327 P **P** 13 07 44.7 -0.7
baz=125
STU Stuttgart 55.20 34 PFAKE 13 08 00.0 +15
STU LR LR
comp=Z,2µm,22.0s
CUC Castrocucco 55.23 46 PFAKE 13 08 00.0 +14
CUC LR LR
comp=Z,2µm,19.0s
V49A McMinnville 55.23 309 P **P** 13 07 45.5 -0.4
baz=108,SNR=8.9
LRAL Lakeview Retre 55.31 305 *e*P **P** 13 07 46.0 -0.5
comp=Z,57nm,1.2s
LRAL LR LR
comp=Z,3µm,21.0s
LRAL Lakeview Retre 55.31 305 P **P** 13 07 46.0 -0.5
baz=106,SNR=16
W49A Belvidere 55.32 308 P **P** 13 07 46.0 -0.5
baz=108,SNR=16
U49A Red Boiling Sp 55.38 310 P **P** 13 07 46.6 -0.3
baz=109,SNR=20
T49A Edmonton 55.38 311 *e*P **P** 13 07 47.0 0.0
comp=Z,53nm,1.3s
T49A LR LR
comp=Z,2µm,20.0s
T49A Edmonton 55.38 311 P **P** 13 07 46.8 -0.2
baz=110,SNR=11
RETA Reutte 55.38 36 *e*P **P** 13 07 46.0 -0.9
comp=Z,21nm,1.1s
S49A Springfield 55.43 311 P **P** 13 07 47.0 -0.3
baz=110,SNR=12
MYIG MØrida 55.48 290 PFAKE 13 08 00.0 +12
MYIG LR LR
comp=Z,900nm,21.0s
SQTA Sankt Quirin 55.50 36 *e*P **P** 13 07 46.8 -1.0
comp=Z,37nm,1.0s
MOTA Moosalm 55.51 36 *e*P **P** 13 07 47.2 -0.7
comp=Z,16nm,1.0s
R49A Shelbyville 55.52 312 P **P** 13 07 47.7 -0.2
baz=111,SNR=12
Q49A Aurora 55.56 313 P **P** 13 07 48.0 -0.3
baz=111,SNR=9.3
TIP Timpagrande 55.60 47 *e*P **P** 13 07 48.2 -0.4
comp=Z,13nm,0.9s
TIP LR LR
comp=Z,4µm,21.0s
TIP Timpagrande 55.60 47 ⇓*i*P **P** 13 07 46.3 -2.3
O49A Covington 55.60 314 *e*P **P** 13 07 48.4 -0.2
comp=Z,51nm,1.0s
O49A LR LR
comp=Z,2µm,22.0s
O49A Covington 55.60 314 P **P** 13 07 48.3 -0.2
baz=112,SNR=8.0
P49A Miami Univ. Ec 55.63 314 P **P** 13 07 48.6 -0.1
baz=112,SNR=11
TNS Taunus Mts 55.63 32 P **P** 13 07 48.3 -0.3
TNS pmax pmax
comp=Z,14nm,1.0s
348A Jackson 55.64 303 *e*P **P** 13 07 49.9 +1.0
comp=Z,154nm,1.1s
348A LR LR
comp=Z,4µm,20.0s
148A Greensboro 55.67 305 P **P** 13 07 49.0 -0.1
baz=105,SNR=7.6
Y48A Jasper 55.69 306 P **P** 13 07 48.9 -0.3
baz=106,SNR=16
X48A Hartselle 55.74 307 *e*P **P** 13 07 49.0 -0.6
comp=Z,35nm,1.1s
X48A LR LR
comp=Z,2µm,20.0s
X48A Hartselle 55.74 307 P **P** 13 07 49.1 -0.5
baz=107,SNR=8.2
N49A Columbus Grove 55.77 315 *e*P **P** 13 07 49.5 -0.2
comp=Z,61nm,1.2s
N49A LR LR
comp=Z,2µm,18.0s
N49A Columbus Grove 55.77 315 P **P** 13 07 49.6 -0.2
baz=113,SNR=8.1
WTTA Wattenberg 55.77 36 *e*P **P** 13 07 47.7 -2.2
comp=Z,22nm,1.0s
WATA Walderalm 55.78 36 *e*P **P** 13 07 48.7 -1.1
W48A Pulaski 55.85 308 P **P** 13 07 50.1 -0.3
baz=107,SNR=11
Z48A Northport 55.85 306 P **P** 13 07 50.2 -0.2
baz=106,SNR=11
V48A Smith Brothers 55.94 309 *e*P **P** 13 07 50.9 -0.1
comp=Z,48nm,1.0s
V48A LR LR
comp=Z,2µm,22.0s
V48A Smith Brothers 55.94 309 P **P** 13 07 50.9 -0.1
baz=108,SNR=17
MATQ Matagami 55.95 327 P **P** 13 07 50.7 0.0
baz=124
U48A Cassie Pea, Po 55.96 310 P **P** 13 07 50.9 -0.3
baz=108,SNR=9.9
S48A Wiedeman Farm, 55.96 311 P **P** 13 07 51.1 0.0
baz=110,SNR=9.7
L49A Milan 55.96 317 P **P** 13 07 51.1 +0.1
baz=114
AAM Ann Arbor 55.96 317 *e*P **P** 13 07 51.3 +0.2
comp=Z,65nm,0.8s
AAM LR LR
comp=Z,2µm,20.0s
AAM Ann Arbor 55.96 317 *e*P **P** 13 07 51.3 +0.2
AAM pmax pmax
comp=Z,65nm,0.8s
AAM MLR MLR
comp=Z,2µm,20.0s
AAM Ann Arbor 55.96 317 P **P** 13 07 50.9 -0.1
baz=114,SNR=5.9
ABTA Abfaltersbach 56.03 37 *e*P **P** 13 07 49.9 -1.7
comp=Z,35nm,1.2s
T48A Bowling Green 56.03 310 P **P** 13 07 51.1 -0.5
baz=109,SNR=11
FUR Furstenfeldbru 56.04 35 P **P** 13 07 50.2 -1.3
R48A Northridge Ran 56.07 312 P **P** 13 07 51.3 -0.5
baz=110,SNR=6.6
P48A Milroy 56.11 313 P **P** 13 07 51.6 -0.6
baz=111,SNR=6.6
447A Lucedale 56.12 302 *e*P **P** 13 07 53.4 +1.0
comp=Z,55nm,0.9s
447A LR LR
comp=Z,4µm,21.0s
Q48A North Vernon 56.15 313 P **P** 13 07 52.0 -0.4
baz=110,SNR=10
O48A Farmland 56.21 314 P **P** 13 07 52.7 -0.2
baz=112,SNR=6.3
Z47A Carrollton 56.22 305 P **P** 13 07 52.8 -0.2
baz=105,SNR=5.2
Y47A UCPARC, Winfie 56.23 306 P **P** 13 07 52.9 -0.2
baz=106,SNR=18
147A Livingston 56.25 305 *e*P **P** 13 07 53.6 +0.3
comp=Z,150nm,1.4s
147A LR LR
comp=Z,2µm,22.0s
147A Livingston 56.25 305 P **P** 13 07 53.0 -0.3
baz=105,SNR=6.3
TRI Trieste 56.29 39 PFAKE 13 08 10.0 +17
TRI LR LR
comp=Z,1µm,19.0s
WCI Wyandotte Cave 56.32 312 *e*P **P** 13 07 53.8 +0.1
comp=Z,38nm,0.9s
WCI LR LR
comp=Z,2µm,21.0s
WCI Wyandotte Cave 56.32 312 *e*P **P** 13 07 53.8 +0.1
WCI pmax pmax
comp=Z,38nm,0.9s
WCI MLR MLR
comp=Z,2µm,21.0s
WCI Wyandotte Cave 56.32 312 P **P** 13 07 53.5 -0.2
baz=110
L48A N Adams 56.35 316 P **P** 13 07 53.4 -0.4
baz=114,SNR=6.7
M48A Edgerton 56.36 316 *e*P **P** 13 07 53.8 -0.1
comp=Z,101nm,1.4s
M48A LR LR
comp=Z,2µm,18.0s
247A Quitman 56.38 304 P **P** 13 07 54.0 -0.2
baz=104
W47A Westpoint 56.40 308 P **P** 13 07 53.7 -0.6
baz=107,SNR=17
X47A Russelville 56.40 307 P **P** 13 07 53.7 -0.6
baz=106,SNR=12
K48A Perry 56.48 317 P **P** 13 07 54.6 -0.2
baz=114
V47A Nunnelly 56.51 308 P **P** 13 07 54.5 -0.6
baz=107,SNR=18
U47A Clarksville 56.51 309 P **P** 13 07 54.6 -0.5
baz=108,SNR=10
R47A Wooly Knot Far 56.52 312 P **P** 13 07 54.7 -0.4
baz=110,SNR=7.1
T47A Sharon Grove 56.54 310 *e*P **P** 13 07 54.7 -0.5
comp=Z,91nm,1.1s
T47A LR LR
comp=Z,2µm,20.0s
T47A Sharon Grove 56.54 310 P **P** 13 07 54.8 -0.5
baz=108,SNR=22
S47A Hartford 56.55 311 P **P** 13 07 54.8 -0.5
baz=109,SNR=19
MYKA Terra Mystica 56.66 38 *e*P **P** 13 07 54.6 -1.4
comp=Z,40nm,1.3s
Q47A Bedord North L 56.66 312 P **P** 13 07 55.8 -0.3
baz=110
KBA Koelnbreinsper 56.69 37 *e*P **P** 13 07 55.6 -0.8
comp=Z,12nm,0.7s
PLAL Pickwick Lake 56.70 307 *e*P **P** 13 07 54.9 -1.6
comp=Z,68nm,1.3s
PLAL LR LR
comp=Z,2µm,22.0s
GORS Gorjuse 56.72 38 *i*P **P** 13 07 55.0 -1.6
GORS Gorjuse 56.72 38 *i*P **P** 13 07 55.0 -1.6
P47A Martinsville 56.73 313 P **P** 13 07 56.2 -0.5
baz=110,SNR=5.2
BLO Bloomington 56.81 313 *e*P **P** 13 07 57.1 0.0
comp=Z,37nm,1.0s
GRFO Grafenberg 56.82 33 *e*P **P** 13 08 01.8 +4.8
comp=Z,43nm,1.3s
GRFO LR LR
comp=Z,1µm,20.0s
GRFO Grafenberg 56.82 33 *e*P **P** 13 08 01.8 +4.8
GRFO pmax pmax
comp=Z,43nm,1.3s
GRFO MLR MLR
comp=Z,1µm,20.0s
GRF Grafenberg Arr 56.82 33 P **P** 13 07 56.9 -0.1
GRF pmax pmax
comp=Z,30nm,1.3s
N47A Urbana 56.82 315 P **P** 13 07 56.8 -0.4
baz=112,SNR=5.3
WVT Waverly 56.84 309 *e*P **P** 13 07 56.6 -0.8
comp=Z,138nm,1.9s
WVT LR LR
comp=Z,2µm,22.0s
WVT Waverly 56.84 309 *e*P **P** 13 07 56.6 -0.8
WVT pmax pmax
comp=Z,138nm,1.9s
WVT MLR MLR
comp=Z,2µm,22.0s
WVT Waverly 56.84 309 P **P** 13 07 56.7 -0.8
baz=107
146A Union 56.88 304 *e*P **P** 13 07 58.4 +0.6
comp=Z,68nm,0.9s
146A LR LR
comp=Z,2µm,19.0s
146A Union 56.88 304 P **P** 13 07 57.1 -0.7
baz=104,SNR=8.2
L47A Sherwood 56.89 316 P **P** 13 07 57.4 -0.3
baz=113,SNR=7.0
546A Slidell 56.90 301 P **P** 13 07 57.2 -0.7
baz=102
Z46A Louisville 56.93 305 P **P** 13 07 57.8 -0.3
baz=104,SNR=6.6
O47A Sheridan 56.93 314 P **P** 13 07 57.6 -0.4
baz=111,SNR=6.5
346A Big Creek Wild 56.93 303 PFAKE 13 08 10.0 +12
346A LR LR
comp=Z,4µm,20.0s
M47A Cromwell 56.95 315 P **P** 13 07 57.7 -0.4
baz=112
V46A Holladay 56.96 308 P **P** 13 07 57.7 -0.6
baz=107,SNR=20
W46A Michie 56.98 307 P **P** 13 07 58.0 -0.5
baz=106
X46A Booneville 56.99 307 P **P** 13 07 57.8 -0.7
baz=106,SNR=8.0
K47A Vermontville 57.02 317 P **P** 13 07 58.2 -0.4
baz=113,SNR=6.2
Y46A Houston 57.03 306 P **P** 13 07 58.2 -0.6
baz=105,SNR=11
OBKA Obir 57.15 38 *e*P **P** 13 07 59.6 0.0
comp=Z,32nm,1.0s
T46A Princeton 57.15 310 P **P** 13 07 59.3 -0.3
baz=108
U46A Springville 57.17 309 P **P** 13 07 59.4 -0.4
baz=107
TSUM Tsumeb 57.19 118 P **P** 13 07 58.6 -1.7
comp=Z,2.7nm,0.4s,baz=274,slow=7.2,SNR=12
TSUM Tsumeb 57.19 118 *e*P **P** 13 07 59.1 -1.3
comp=Z,26nm,1.3s
TSUM LR LR
comp=Z,2µm,21.0s
S46A Don Dixon Farm 57.21 311 P **P** 13 07 59.7 -0.3
baz=108,SNR=7.5
R46A Gibon Southern 57.23 311 P **P** 13 07 60.0 -0.2
baz=109,SNR=15
USIN University of 57.26 311 *e*P **P** 13 08 00.7 +0.3
comp=Z,85nm,1.3s
USIN LR LR
comp=Z,2µm,19.0s
245A Little AP, Sta 57.44 303 P **P** 13 08 01.4 -0.3
baz=103,SNR=9.9
CCIG Comitan 57.44 285 *e*P **P** 13 08 01.0 -1.2
comp=Z,72nm,1.3s
WET Wettzell 57.45 35 P **P** 13 07 59.2 -2.4
WET pmax pmax
comp=Z,11nm,2.0s
P46A Rosedale 57.46 313 P **P** 13 08 01.5 -0.2
baz=110,SNR=14
M46A Old House Fiel 57.47 315 *e*P **P** 13 08 01.7 -0.1
comp=Z,73nm,1.1s
M46A LR LR
comp=Z,2µm,18.0s
M46A Old House Fiel 57.47 315 P **P** 13 08 01.7 -0.1
baz=112
SOKA Soboth 57.52 38 *e*P **P** 13 08 01.1 -1.1
comp=Z,28nm,0.9s
445A Amite 57.52 302 P **P** 13 08 01.9 -0.5
baz=102
MOX Moxa 57.55 33 P **P** 13 08 01.5 -0.7
MOX pmax pmax
comp=Z,14nm,1.8s
PERS Pernice 57.56 38 *e*P **P** 13 08 00.8 -1.6
PERS Pernice 57.56 38 *e*P **P** 13 08 00.8 -1.6
K46A Dorr 57.56 317 P **P** 13 08 02.1 -0.2
baz=113,SNR=6.1
N46A Monticello 57.56 314 P **P** 13 08 02.2 -0.2
baz=111,SNR=6.4
Z45A Winona 57.58 305 *e*P **P** 13 08 02.8 +0.1
comp=Z,160nm,1.4s
Z45A LR LR
comp=Z,3µm,20.0s
Z45A Winona 57.58 305 P **P** 13 08 02.5 -0.2
baz=104
Y45A Yeager Farm, C 57.58 306 P **P** 13 08 02.1 -0.5
baz=104,SNR=5.4
145A Houston Renfro 57.59 304 P **P** 13 08 02.2 -0.6
baz=104
X45A UM Field Stati 57.60 306 P **P** 13 08 01.9 -0.9
baz=105,SNR=7.9
V45A Humboldt 57.60 308 P **P** 13 08 02.1 -0.7
baz=106
MOA Molln 57.61 37 *e*P **P** 13 08 01.7 -1.0
comp=Z,17nm,0.8s
U45A Rockin P Farm, 57.62 309 P **P** 13 08 02.1 -0.8
baz=107
W45A Hickory Valley 57.62 307 P **P** 13 08 02.3 -0.7
baz=106
OXF Oxford 57.63 306 *e*P **P** 13 08 01.8 -1.3
comp=Z,42nm,0.8s
OXF LR LR
comp=Z,2µm,19.0s
OXF Oxford 57.63 306 *e*P **P** 13 08 01.8 -1.3
OXF pmax pmax
comp=Z,42nm,0.8s
OXF MLR MLR
comp=Z,2µm,19.0s
OXF Oxford 57.63 306 P **P** 13 08 02.2 -0.9
baz=105,SNR=8.3
SFIN Lafayette 57.64 314 *e*P **P** 13 08 02.2 -0.7
comp=Z,87nm,1.2s
SFIN LR LR
comp=Z,2µm,22.0s

SFIN Lafayette 57.64 314 P P 13 08 03.2 +0.2
baz=110
GLMI Grayling 57.65 319 eP P 13 08 02.9 -0.1
comp=Z,45nm,0.8s
GLMI LR LR
comp=Z,2µm,19.0s
D47A Chapleau 57.68 322 P P 13 08 03.2 0.0
baz=118
GEA0 GERESS Array S 57.77 35 eP P 13 08 01.6 -2.2
GEC2 GERESS Array S 57.77 35 eP P 13 08 03.2 -0.7
comp=Z,18nm,1.2s
GEC2 LR LR
comp=Z,3µm,21.0s
GERES GERESS Array B 57.77 35 P P 13 08 01.9 -2.0
comp=Z,2.2nm,0.7s,baz=257,slow=5.3,SNR=17
GERES LR LR 13 29 53.4
comp=Z,3µm,21.1s,baz=260,slow=33
NKC Novy Kostel 57.78 33 AMS AMS 13 29 10.0
comp=Z,2µm,16.6s
P45A Graceland, Par 57.82 313 eP P 13 08 03.6 -0.7
comp=Z,54nm,0.9s
P45A LR LR
comp=Z,1µm,19.0s
P45A Graceland, Par 57.82 313 P P 13 08 03.8 -0.5
baz=109,SNR=13
R45A Skylar, Fairfi 57.83 311 P P 13 08 03.9 -0.4
baz=108,SNR=11
OLIL Olney 57.83 312 eP P 13 08 04.0 -0.3
comp=Z,105nm,1.2s
KHC Kasperske Hory 57.84 35 eP P 13 08 02.8 -1.6
comp=Z,27nm,2.0s
KHC LR LR
comp=Z,1µm,21.0s
KHC Kasperske Hory 57.84 35 eP P 13 08 04.0 -0.3
KHC epP pP 13 08 06.9 -0.6
KHC eS S 13 16 04.4 +0.5
KHC AMS AMS 13 28 20.0
comp=Z,3µm,22.1s
KHC Kasperske Hory 57.84 35 eP P 13 08 04.0 -0.3
KHC e 13 08 06.9
KHC eS S 13 16 04.4 +0.5
KHC MLR MLR
comp=Z,3µm,22.1s
S45A Carrier Mills 57.87 310 P P 13 08 04.1 -0.6
baz=108,SNR=6.1
Q45A Warren Harvey, 57.92 312 P P 13 08 04.7 -0.3
baz=109,SNR=14
GO06 Curarrehue 57.94 214 eP P 13 08 04.9 -0.3
comp=Z,69nm,1.3s
GO06 LR LR
comp=Z,4µm,18.0s
VBMS Vicksburg 57.99 304 PFAKE 13 08 20.0 +14
VBMS LR LR
comp=Z,3µm,20.0s
KEK Kerkira 57.99 47 P P 13 08 06.2 +0.7
344A Westbrook Farm 58.01 303 eP P 13 08 06.6 +0.9
comp=Z,134nm,1.0s
344A LR LR
comp=Z,5µm,20.0s
344A Westbrook Farm 58.01 303 P P 13 08 05.7 0.0
baz=102,SNR=13
U44B Burton Farm, H 58.07 309 P P 13 08 05.6 -0.5
baz=106
ARSA Arzberg 58.09 38 eP P 13 08 05.0 -1.1
comp=Z,12nm,0.8s
N45A Kentland 58.10 314 P P 13 08 05.8 -0.4
baz=110,SNR=5.4
F46A Macinaw City C 58.14 320 P P 13 08 06.1 -0.3
baz=115
Y44A Strider, Charl 58.14 306 P P 13 08 05.9 -0.8
baz=104
Z44A Pea Ridge, Bel 58.16 305 P P 13 08 06.0 -0.8
baz=104
FSK Fiskardo 58.16 49 P P 13 08 04.0 -2.7
D46A Sault St. Mari 58.18 322 P P 13 08 06.6 0.0
baz=117
MET Memphis--Engin 58.21 307 PFAKE 13 08 20.0 +13
MET LR LR
comp=Z,2µm,20.0s
PLCA Paso Flores 58.26 212 P P 13 08 05.8 -1.6
comp=Z,22nm,1.3s,baz=53,slow=10,SNR=7.0
PLCA LR LR 13 33 39.1
comp=Z,14µm,18.0s,baz=78,slow=36
PLCA Paso Flores 58.26 212 eP P 13 08 07.7 +0.3
comp=Z,49nm,1.5s
PLCA Paso Flores 58.26 212 eP P 13 08 07.7 +0.3
PLCA pmax pmax
comp=Z,49nm,1.5s
IGT Igoumenitsa 58.32 48 P P 13 08 10.0 +2.2
LKD2 Lefkada island 58.33 49 P P 13 08 08.5 +0.6
SIUC Southern Illin 58.36 310 eP P 13 08 07.9 -0.2
comp=Z,45nm,0.9s
SIUC LR LR
comp=Z,2µm,19.0s
PVMO Portageville 58.36 309 PFAKE 13 08 20.0 +12
PVMO LR LR
comp=Z,2µm,20.0s
S44A Carbondale 58.38 310 P P 13 08 07.6 -0.7
baz=107
R44A Waltonville 58.41 311 P P 13 08 07.7 -0.8
baz=108,SNR=12
P44A Sand Creek, Wi 58.44 312 P P 13 08 08.1 -0.6
baz=108,SNR=14
GNAR Gosnell 58.49 308 PFAKE 13 08 20.0 +11
GNAR LR LR
comp=Z,2µm,21.0s
N44A Piper City 58.52 314 P P 13 08 08.7 -0.5
baz=110,SNR=8.6
PDG Podgorica 58.54 44 ⇑iP P 13 08 08.3 -1.0
TTG Podgorica 58.54 44 eP P 13 08 08.5 -0.7
comp=Z,52nm,1.3s
TTG LR LR
comp=Z,2µm,22.0s
TTG Podgorica 58.54 44 eP P 13 08 08.5 -0.7
TTG pmax pmax
comp=Z,52nm,1.3s
TTG MLR MLR
comp=Z,2µm,22.0s
O44A Mansfield 58.55 313 P P 13 08 08.5 -0.9
baz=109,SNR=7.3
Q44A Meyer Farm, Va 58.56 312 P P 13 08 08.9 -0.6
baz=108,SNR=8.7
TIR Tirane 58.59 45 PFAKE 13 08 20.0 +10
TIR LR LR
comp=Z,2µm,20.0s
CONA Conrad Observa 58.60 37 eP P 13 08 09.1 -0.6
comp=Z,20nm,1.5s
PYL PYLOS 58.60 51 P P 13 08 07.8 -2.0
CLL Collm 58.64 33 PFAKE 13 08 20.0 +10
CLL LR LR
comp=Z,2µm,18.0s
CLL Collm 58.64 33 eP P 13 08 09.0 -0.8
comp=Z,11nm,1.3s
CLL i 13 08 36.0
comp=Z,31nm,1.7s
CLL ePP PP 13 10 18.0 -1.5
CLL eS S 13 16 15.0 +0.8
comp=N,1µm,24.1s
CLL eS S 13 16 15.0 +0.8
comp=E,1µm,24.2s
CLL eSS SS 13 20 12.0 +4.9
CLL eSSS SSS 13 22 43.0
CLL Lm MLR 13 29 00.0
comp=Z,2µm,21.4s
CLL Collm 58.64 33 eP P 13 08 09.0 -0.8
CLL eS S 13 16 15.0 +0.8
CLL pmax pmax
comp=Z,11nm,1.3s
CLL MLR MLR
comp=Z,2µm,21.4s
E45A Wooded Hills, 58.65 321 P P 13 08 10.0 0.0
baz=115
M44A Midewin, Midew 58.66 315 PFAKE 13 08 20.0 +10
M44A LR LR
comp=Z,2µm,22.0s
543A St. Martinvill 58.69 301 PFAKE 13 08 20.0 +10
543A LR LR
comp=Z,3µm,19.0s
AMT Artemida-Makis 58.75 50 P P 13 08 19.9 +9.0
PRA Prague 58.79 34 eS S 13 16 19.7 +3.5
PRA AMS AMS 13 32 20.0
comp=Z,2µm,18.8s
X43A Marvell 58.81 306 PFAKE 13 08 20.0 +8.7
X43A LR LR
comp=Z,2µm,19.0s
ITM Ithomi 58.82 51 eP P 13 08 12.3 +0.9
comp=Z,36nm,1.0s
ITM LR LR
comp=Z,2µm,22.0s
ITM Ithomi 58.82 51 P P 13 08 13.8 +2.4
143A Socs Landing, 58.83 304 PFAKE 13 08 20.0 +8.6
143A LR LR
comp=Z,3µm,20.0s
DRO Drossia 58.87 50 P P 13 08 10.8 -0.9
HBAR Harrisburg 58.89 307 PFAKE 13 08 20.0 +8.2
HBAR LR LR
comp=Z,2µm,21.0s
SOP Sopron 58.91 38 ||eP P 13 08 10.7 -1.0
SOP Sopron 58.91 38 ||eP P 13 08 10.7 -1.0
SOP Sopron 58.91 38 P P 13 08 12.3 +0.6
SOP pmax pmax
comp=Z,39nm,1.4s
GOPC GO Pecny, Ondr 58.91 35 eS S 13 16 20.9 +3.0
GOPC AMS AMS 13 29 00.0
comp=Z,2µm,17.2s
GOPC GO Pecny, Ondr 58.91 35 eP P 13 08 20.3 +8.5
GOPC eS S 13 16 20.9 +3.0
GOPC MLR MLR
comp=Z,2µm,17.2s
BRG Berggiesshubel 58.92 33 eP P 13 08 11.2 -0.6
comp=Z,19nm,1.5s
BRG e 13 08 19.4
comp=Z,34nm,1.6s
BRG S S 13 16 18.0 +0.1
BRG SS SS 13 20 04.0 -7.5
comp=N,1µm,13.2s
comp=E,1µm,19.7s
comp=Z,2µm,13.1s
BRG Berggiesshubel 58.92 33 eP P 13 08 11.2 -0.6
BRG e 13 08 19.4
BRG S S 13 16 18.0 +0.1
BRG SS SS 13 20 04.0 -7.5
BRG pmax pmax
comp=Z,19nm,1.5s
BRG pmax pmax
comp=Z,34nm,1.6s
BRG MLR MLR
comp=N,1µm,13.2s
BRG MLR MLR
comp=E,1µm,19.7s
BRG MLR MLR
comp=Z,2µm,13.1s
PVO Paravola 58.93 49 P P 13 08 10.8 -1.2
S43A Fulton Ridge, 58.97 310 P P 13 08 11.4 -1.0
baz=106,SNR=12
T43A Greenville 59.00 309 P P 13 08 11.6 -1.0
baz=106,SNR=9.4
TREC Trest 59.02 36 AMS AMS 13 29 40.0
comp=Z,2µm,16.9s
PBMO Poplar Bluff 59.03 309 eP P 13 08 11.4 -1.3
comp=Z,29nm,1.4s
PBMO LR LR
comp=Z,2µm,18.0s
R43A Red Bud 59.06 311 P P 13 08 12.1 -0.9
baz=107,SNR=6.0
Q43A New Douglas 59.08 311 P P 13 08 12.3 -0.8
baz=107,SNR=6.5
PVCC Panska Ves 59.09 34 AMS AMS 13 35 50.0
comp=Z,1µm,17.1s
EFP Efpalio 59.16 49 P P 13 08 04.5 -9.1
P43A Skaggs, Pawnee 59.16 312 P P 13 08 12.8 -0.9
baz=108
VLX Vlachokerasia 59.22 51 P P 13 08 14.6 +0.3
E44A Grand Marais A 59.23 321 PFAKE 13 08 30.0 +16
E44A LR LR
comp=Z,2µm,20.0s
KLV Kalavryta, Ach 59.23 50 P P 13 08 13.9 -0.4
TRIZ Trizonia 59.27 49 P P 13 08 13.8 -0.6
SERG Sergoula 59.27 49 P P 13 08 09.3 -5.2
HDIL Hopedale 59.28 313 eP P 13 08 13.8 -0.6
comp=Z,89nm,1.4s
HDIL LR LR
comp=Z,1µm,20.0s
HDIL Hopedale 59.28 313 P P 13 08 13.8 -0.6
baz=109
F44A Big Bay de Noc 59.28 320 P P 13 08 14.1 -0.2
baz=114
K43A Burlington 59.31 316 eP P 13 08 14.9 +0.2
comp=Z,109nm,1.1s
K43A LR LR
comp=Z,2µm,18.0s
K43A Burlington 59.31 316 P P 13 08 14.2 -0.4
baz=111
N43A Stutzman Famil 59.31 314 P P 13 08 14.2 -0.5
baz=109
M43A Waltham Townsh 59.32 314 P P 13 08 14.5 -0.2
baz=109,SNR=6.1
342A Flagon Creek P 59.32 302 eP P 13 08 15.1 +0.2
comp=Z,206nm,2.0s
342A LR LR
comp=Z,5µm,20.0s
FVM French Village 59.35 310 eP P 13 08 13.9 -1.1
comp=Z,134nm,1.8s
FVM French Village 59.35 310 eP P 13 08 14.0 -1.1
FVM pmax pmax
comp=Z,134nm,1.8s
CCAR Cane Creek 59.39 305 PFAKE 13 08 30.0 +15
CCAR LR LR
comp=Z,3µm,20.0s
SLM Saint Louis 59.39 311 PFAKE 13 08 30.0 +15
SLM LR LR
comp=Z,2µm,22.0s
Z42A Norrel Spur, H 59.40 304 P P 13 08 14.5 -0.9
baz=102,SNR=11
X42A Stuttgart 59.42 306 P P 13 08 14.6 -0.9
baz=104
L43A Garden Prairie 59.42 315 P P 13 08 14.8 -0.6
baz=110
KRUC Moravsky 59.43 36 P P 13 08 15.1 -0.3
KRUC Moravsky 59.43 36 eP P 13 08 13.1 -2.3
FNA Florina 59.48 47 eP P 13 08 16.3 +0.4
comp=Z,20nm,1.2s
FNA LR LR
comp=Z,2µm,22.0s
FNA Florina 59.48 47 P P 13 08 14.6 -1.3
FNA Florina 59.48 47 eP P 13 08 16.3 +0.4
FNA pmax pmax
comp=Z,20nm,1.2s
FNA MLR MLR
comp=Z,2µm,22.0s
VLI Veliai 59.48 51 P P 13 08 15.2 -0.7
V42A Cord 59.53 307 P P 13 08 15.5 -0.8
baz=104,SNR=20
U42A Revenden 59.55 308 P P 13 08 15.7 -0.7
baz=105,SNR=13
H43A Windswept, Lux 59.57 318 eP P 13 08 16.4 0.0
comp=Z,101nm,1.3s
H43A LR LR
comp=Z,2µm,21.0s
H43A Windswept, Lux 59.57 318 P P 13 08 15.9 -0.5
baz=112
THL Klokotos Trika 59.57 48 P P 13 08 15.8 -0.7
S42A Caledonia 59.57 310 P P 13 08 15.7 -0.8
baz=106,SNR=11
MORH M¯ţr¡gy, Hung 59.58 40 ||eP P 13 08 14.0 -2.4
MORH M¯ţr¡gy, Hung 59.58 40 ||eP P 13 08 14.0 -2.4
I43A Langenfeld Bro 59.61 317 P P 13 08 16.1 -0.6
baz=111
T42A Van Buren 59.61 309 eP P 13 08 14.9 -1.9
comp=Z,22nm,0.9s
T42A LR LR
comp=Z,2µm,19.0s
T42A Van Buren 59.61 309 P P 13 08 15.8 -1.0
baz=105,SNR=9.4
J43A Natural Harves 59.61 317 P P 13 08 16.1 -0.6
baz=111
DSF Desfina 59.62 49 P P 13 08 03.7 -13
MODS Modra-Piesok 59.65 37 eP P 13 08 16.7 -0.2
MODS pmax pmax
comp=Z,28nm,1.1s
MODS Modra-Piesok 59.65 37 eP P 13 08 16.7 -0.2
DIVS Divibare 59.65 43 eP P 13 08 18.4 +1.3
comp=Z,15nm,0.9s
DIVS LR LR
comp=Z,1µm,19.0s
AGG Agios Georgios 59.65 49 eP P 13 08 18.8 +1.7
comp=Z,32nm,1.2s
AGG LR LR
comp=Z,2µm,19.0s
AGG Agios Georgios 59.65 49 P P 13 08 15.5 -1.6
VRAC Vranov 59.66 36 ⇑iP P 13 08 17.0 0.0
VRAC Vranov 59.66 36 eP P 13 08 14.8 -2.2
F43A Flat Rock, Esc 59.70 320 P P 13 08 16.7 -0.5
baz=113,SNR=10
R42A Luebbering 59.71 310 P P 13 08 16.3 -1.2
baz=106,SNR=12
P42A Winchester 59.75 312 eP P 13 08 15.8 -1.9
comp=Z,25nm,0.8s
P42A LR LR
comp=Z,2µm,21.0s
P42A Winchester 59.75 312 P P 13 08 17.0 -0.7
baz=107,SNR=6.9
E43A Lone Tree Farm 59.80 320 eP P 13 08 17.8 -0.2
comp=Z,78nm,1.1s
E43A LR LR
comp=Z,2µm,20.0s
E43A Lone Tree Farm 59.80 320 P P 13 08 17.2 -0.8
baz=114,SNR=8.0
G43A Wallace 59.81 319 eP P 13 08 18.2 +0.2
comp=Z,22nm,0.8s
G43A LR LR
comp=Z,2µm,21.0s
G43A Wallace 59.81 319 P P 13 08 17.5 -0.6
baz=112
541A Lake Charles 59.82 301 PFAKE 13 08 30.0 +12
541A LR LR
comp=Z,2µm,20.0s
N42A Yates City 59.90 313 P P 13 08 17.9 -0.8
baz=108,SNR=7.8
DID Didima 59.92 51 P P 13 08 19.1 +0.1
241A Mo Tay, Goldon 59.95 303 PFAKE 13 08 30.0 +11
241A LR LR
comp=Z,3µm,22.0s
DPC Dobruska-Polom 59.99 35 eP P 13 08 19.6 +0.4
DPC epP sP 13 08 24.2 +0.6
DPC eS S 13 16 32.7 +0.9
DPC AMS AMS 13 29 30.0
comp=Z,1µm,18.6s
DPC Dobruska-Polom 59.99 35 eP P 13 08 19.6 +0.4
DPC e 13 08 24.2
DPC eS S 13 16 32.7 +0.9
DPC MLR MLR
comp=Z,1µm,18.6s
CCM Cathedral Cave 59.99 310 eP P 13 08 17.7 -1.7
comp=Z,139nm,1.8s
CCM LR LR
comp=Z,2µm,20.0s
CCM Cathedral Cave 59.99 310 eP P 13 08 17.7 -1.7
CCM pmax pmax
comp=Z,139nm,1.8s
CCM MLR MLR
comp=Z,2µm,20.0s
CCM Cathedral Cave 59.99 310 P P 13 08 18.2 -1.3
baz=106
L42A Oliver, Polo 60.01 315 eP P 13 08 19.7 +0.2
comp=Z,35nm,0.9s
L42A LR LR
comp=Z,2µm,20.0s
L42A Oliver, Polo 60.01 315 P P 13 08 19.0 -0.5
baz=109
341A Kurthwood 60.02 302 P P 13 08 18.6 -1.1
baz=101
K42A Prairie Point, 60.04 316 P P 13 08 19.0 -0.7
baz=110,SNR=9.3
LKR Lokris 60.04 49 P P 13 08 17.6 -2.2
UALR University of 60.05 306 eP P 13 08 19.2 -0.7
comp=Z,59nm,0.9s
UALR LR LR
comp=Z,2µm,21.0s
141A Papa Simpson, 60.05 304 P P 13 08 19.1 -0.8
baz=102
W41B Gary Mavity, V 60.06 307 eP P 13 08 18.8 -1.1
comp=Z,33nm,0.9s
W41B LR LR
comp=Z,2µm,20.0s
W41B Gary Mavity, V 60.06 307 P P 13 08 18.8 -1.1
baz=103,SNR=8.9
Y41A Eaglette Beard 60.07 305 P P 13 08 19.2 -0.8
baz=102
J42A Columbus 60.07 316 P P 13 08 19.1 -0.8
baz=110
U41A Viola 60.08 308 P P 13 08 18.9 -1.1
baz=104,SNR=13
LIT Litokhoron 60.08 48 eP P 13 08 20.8 +0.8
comp=Z,46nm,1.4s
LIT LR LR
comp=Z,2µm,20.0s
LIT Litokhoron 60.08 48 P P 13 08 17.6 -2.4
LIT Litokhoron 60.08 48 eP P 13 08 20.8 +0.8
LIT pmax pmax
comp=Z,46nm,1.4s
LIT MLR MLR
comp=Z,2µm,20.0s
H42A Shiocton 60.09 318 eP P 13 08 20.4 +0.4
comp=Z,81nm,1.4s
H42A LR LR
comp=Z,3µm,21.0s
H42A Shiocton 60.09 318 P P 13 08 19.5 -0.5
baz=111
Z41A Richland Creek 60.09 304 eP P 13 08 20.1 -0.1
comp=Z,237nm,2.0s
Z41A LR LR
comp=Z,3µm,20.0s
Z41A Richland Creek 60.09 304 P P 13 08 19.0 -1.2
baz=102
WHAR Wooly Hollow 60.12 307 eP P 13 08 19.3 -1.1
comp=Z,114nm,1.8s
WHAR LR LR
comp=Z,2µm,20.0s
X41A Kaden, Bauxite 60.12 306 P P 13 08 19.3 -1.1
baz=103
I42A Draeger Farm, 60.13 317 eP P 13 08 19.1 -1.1
comp=Z,102nm,1.1s
I42A LR LR
comp=Z,2µm,19.0s
I42A Draeger Farm, 60.13 317 P P 13 08 19.6 -0.6
baz=111,SNR=9.4
V41A Mountainview 60.13 307 P P 13 08 19.3 -1.1
baz=104,SNR=13
T41A Mountain View 60.13 309 P P 13 08 19.1 -1.3
baz=105,SNR=18
R41A Rosebud 60.16 310 P P 13 08 19.5 -1.1
baz=106,SNR=9.6
KSP Ksiaz 60.21 34 eP P 13 08 20.0 -0.7
KSP Ksiaz 60.21 34 eP P 13 08 20.0 -0.7
Q41A Truxton 60.23 311 P P 13 08 19.8 -1.3
baz=106,SNR=13
S41A Jillco Farms, 60.25 309 P P 13 08 20.1 -1.1
baz=105,SNR=16
GRG Griva 60.27 47 P P 13 08 19.5 -1.8
GRG pmax pmax
comp=Z,26nm,1.0s
G42A Mountain 60.29 319 eP P 13 08 20.1 -1.2
comp=Z,98nm,1.3s
G42A LR LR
comp=Z,2µm,21.0s
G42A Mountain 60.29 319 P P 13 08 20.7 -0.6
baz=112,SNR=8.6
F42A Maple Grove Fa 60.30 319 P P 13 08 20.7 -0.6
baz=112
O41A Passleys Farm, 60.30 312 P P 13 08 20.5 -1.0
baz=107
P41A Barry, Barry 60.31 312 P P 13 08 20.5 -1.0
baz=107,SNR=8.2
BUD Budapest 60.33 39 P P 13 08 20.9 -0.6
BUD pmax pmax
comp=Z,31nm,0.8s
X40A Basin Creek Fa 60.38 306 eP P 13 08 21.4 -0.7
comp=Z,84nm,2.0s
X40A LR LR
comp=Z,2µm,20.0s
X40A Basin Creek Fa 60.38 306 P P 13 08 20.9 -1.2
baz=103
XOR Xorichti 60.39 49 P P 13 08 19.9 -2.2
E42A Champion 60.41 320 P P 13 08 21.4 -0.7
baz=113
MORC Moravsky Berou 60.42 36 eP P 13 08 21.7 -0.6
comp=Z,56nm,1.7s
MORC Moravsky Berou 60.42 36 ||iP P 13 08 21.6 -0.6
MORC Moravsky Berou 60.42 36 eP P 13 08 21.7 -0.6
MORC pmax pmax
comp=Z,57nm,1.7s
MORC Moravsky Berou 60.42 36 eP P 13 08 21.1 -1.1
M41A Milan 60.43 314 P P 13 08 21.4 -1.0
baz=108
VLY Voula,Athens 60.43 50 P P 13 08 13.8 -8.7
N41A Harden Midland 60.45 313 eP P 13 08 21.1 -1.4
comp=Z,61nm,0.9s
N41A LR LR
comp=Z,2µm,22.0s

N41A Harden Midland 60.45 313 P P 13 08 21.6 -1.0
baz=108,SNR=6.3
SKIA Skiathos 60.54 49 P P 13 08 21.4 -1.7
PTL Penteli 60.54 50 P P 13 08 21.4 -1.8
THE Thessaloniki 60.58 47 P P 13 08 23.2 -0.2
THE pmax pmax
comp=Z,13nm,0.8s
Z40A Long Farm, Mag 60.58 304 P P 13 08 22.9 -0.6
baz=102,SNR=7.1
140A Cam and Jess, 60.61 303 eP P 13 08 23.6 -0.1
comp=Z,90nm,0.9s
140A LR LR
comp=Z,1µm,20.0s
140A Cam and Jess, 60.61 303 P P 13 08 22.8 -0.9
baz=101,SNR=6.1
L41A Preston 60.62 315 P P 13 08 23.2 -0.4
baz=108,SNR=14
VYHS Vyhne 60.63 37 eP P 13 08 23.2 -0.4
VYHS pmax pmax
comp=Z,27nm,2.0s
VYHS Vyhne 60.63 37 eP P 13 08 23.2 -0.4
Y40A Okolona 60.64 305 P P 13 08 22.7 -1.2
baz=102
240A Hunter Patters 60.65 303 eP P 13 08 24.5 +0.4
comp=Z,152nm,1.1s
240A LR LR
comp=Z,3µm,20.0s
K41A Shullsburg 60.65 315 P P 13 08 22.9 -1.0
baz=109,SNR=9.6
V40A Witts Springs 60.66 307 eP P 13 08 21.8 -2.3
comp=Z,22nm,0.8s
V40A LR LR
comp=Z,2µm,19.0s
V40A Witts Springs 60.66 307 P P 13 08 22.8 -1.3
baz=103,SNR=13
IDI Anoyia 60.67 53 eP P 13 08 25.1 +0.8
comp=Z,30nm,0.9s
IDI LR LR
comp=Z,3µm,22.0s
IDI Anoyia 60.67 53⇑iP P 13 08 22.0 -2.2
KNT Kendrikon 60.69 47 P P 13 08 25.2 +1.0
KNT Kendrikon 60.69 47 P P 13 08 23.5 -0.7
J41A Loganville 60.70 316 P P 13 08 23.5 -0.7
baz=110,SNR=11
JFWS Jewell Farm 60.71 316 eP P 13 08 23.6 -0.6
comp=Z,49nm,0.9s
JFWS LR LR
comp=Z,2µm,20.0s
JFWS Jewell Farm 60.71 316 eP P 13 08 23.6 -0.6
JFWS pmax pmax
comp=Z,49nm,0.9s
JFWS MLR MLR
comp=Z,2µm,20.0s
JFWS Jewell Farm 60.71 316 P P 13 08 23.2 -1.1
baz=109,SNR=8.7
W40A Ferguson Farm, 60.72 306 eP P 13 08 24.2 -0.3
comp=Z,66nm,0.9s
W40A LR LR
comp=Z,2µm,21.0s
W40A Ferguson Farm, 60.72 306 P P 13 08 23.4 -1.0
baz=103,SNR=18
OKC Ostrava-Krasne 60.80 36 eS S 13 16 49.2 +7.1
OKC AMS AMS 13 31 00.0
comp=Z,2µm,17.2s
U40A Yellville 60.81 308 P P 13 08 23.8 -1.3
baz=104,SNR=22
I41A Arkdale 60.83 317 eP P 13 08 24.7 -0.4
comp=Z,80nm,1.4s
I41A LR LR
comp=Z,2µm,22.0s
I41A Arkdale 60.83 317 P P 13 08 24.6 -0.4
baz=110
AOS Alonnisos 60.85 49 P P 13 08 22.9 -2.3
PLG Polygyros 60.86 48 P P 13 08 23.7 -1.7
H41A Junction City 60.88 318 eP P 13 08 24.8 -0.6
comp=Z,35nm,1.1s
H41A Junction City 60.88 318 P P 13 08 24.5 -0.8
baz=110,SNR=6.1
F41A Three Lakes 60.92 319 eP P 13 08 24.5 -1.1
comp=Z,58nm,0.8s
F41A LR LR
comp=Z,2µm,20.0s
F41A Three Lakes 60.92 319 P P 13 08 24.8 -0.8
baz=112,SNR=16
SOH Sokhos 60.92 47 P P 13 08 24.9 -0.9
SOH pmax pmax
comp=Z,9.0nm,1.9s
MIAR Mount Ida 60.99 306 eP P 13 08 25.6 -0.7
comp=Z,22nm,1.0s
MIAR LR LR
comp=Z,2µm,19.0s
MIAR Mount Ida 60.99 306 eP P 13 08 25.6 -0.7
MIAR pmax pmax
comp=Z,23nm,1.0s
MIAR MLR MLR
comp=Z,2µm,19.0s
MIAR Mount Ida 60.99 306 P P 13 08 24.9 -1.4
baz=102,SNR=8.0
N40A Mertquake, Sal 61.04 313 P P 13 08 25.3 -1.2
baz=107
KKB Krupnik 61.04 46 eP P 13 08 25.9 -0.6
MDVR Moldovita 61.04 42⇑iP P 13 08 25.3 -1.2
PSZ Piszkesteto 61.05 38 eP P 13 08 26.6 +0.1
comp=Z,38nm,1.0s
PSZ Piszkesteto 61.05 38⇓iP P 13 08 25.6 -0.9
PSZ Piszkesteto 61.05 38⇓eP P 13 08 26.3 -0.2
PSZ Piszkesteto 61.05 38⇓eP P 13 08 26.3 -0.2
PSZ Piszkesteto 61.05 38 eP P 13 08 26.6 +0.1
PSZ pmax pmax
comp=Z,38nm,1.0s
D41A Chassel 61.07 320 eP P 13 08 26.4 -0.2
comp=Z,90nm,1.2s
D41A LR LR
comp=Z,2µm,19.0s
D41A Chassel 61.07 320 P P 13 08 25.9 -0.7
baz=113
COWI Conover 61.07 319 eP P 13 08 26.1 -0.6
comp=Z,51nm,1.4s
COWI LR LR
comp=Z,2µm,22.0s
E41A Kenton 61.09 320 P P 13 08 26.5 -0.3
baz=112
L40A Anamosa 61.13 314 eP P 13 08 25.5 -1.6
comp=Z,36nm,0.9s
L40A LR LR
comp=Z,2µm,20.0s
M40A Post Highland 61.14 314 P P 13 08 26.3 -0.9
baz=107
SRS Serrai 61.18 47 P P 13 08 26.0 -1.5
J40A Soldiers Grove 61.21 316 P P 13 08 26.6 -1.0
baz=109,SNR=6.4
NPS Neapolis 61.25 54 P P 13 08 26.7 -1.4
K40A Colesburg 61.26 315 P P 13 08 26.8 -1.2
baz=108,SNR=11
BZS Buzias 61.27 41⇓iP P 13 08 26.5 -1.5
I40A Norwalk 61.29 317 P P 13 08 27.5 -0.7
baz=109,SNR=9.3
W39A Magazine 61.29 306 eP P 13 08 27.2 -1.1
comp=Z,83nm,1.5s
W39A LR LR
comp=Z,2µm,21.0s
W39A Magazine 61.29 306 P P 13 08 26.8 -1.5
baz=102,SNR=13
IOSP Ios island 61.31 52 P P 13 08 29.8 +1.3
VTS Vitosha 61.35 45 eP P 13 08 28.5 -0.3
comp=Z,14nm,1.1s
VTS LR LR
comp=Z,1µm,19.0s
VTS Vitosha 61.35 45⇑iP P 13 08 27.6 -1.2
VTS Vitosha 61.35 45 eP P 13 08 28.1 -0.7
VTS Vitosha 61.35 45 eP P 13 08 28.5 -0.3
VTS pmax pmax
comp=Z,14nm,1.1s
VTS MLR MLR
comp=Z,1µm,19.0s
NATX Nacogdoches 61.35 302 eP P 13 08 28.7 -0.2
comp=Z,108nm,1.0s
NATX Nacogdoches 61.35 302 P P 13 08 27.9 -0.9
baz=100,SNR=9.6
SANT Santorini 61.37 52 eP P 13 08 29.4 +0.6
comp=Z,59nm,0.9s
SANT LR LR
comp=Z,1µm,18.0s
SANT Santorini 61.37 52⇓iP P 13 08 26.3 -2.6
H40A Chili 61.38 317 P P 13 08 28.1 -0.6
baz=110,SNR=7.6
MMB Musomiste 61.41 46 eP P 13 08 30.4 +1.3

X39A Fountain Ranch 61.41 305 P P 13 08 28.4 -0.8
baz=102,SNR=12
NVR Nevrokopi 61.44 47 P P 13 08 29.0 -0.3
G40A Rib Lake 61.47 318 eP P 13 08 28.9 -0.5
comp=Z,34nm,1.2s
G40A LR LR
comp=Z,2µm,21.0s
G40A Rib Lake 61.47 318 P P 13 08 28.9 -0.5
baz=110
SIRR Siria 61.53 41⇑iP P 13 08 29.4 -0.4
APE Apeiranthos 61.58 52⇑iP P 13 08 28.5 -1.8
APE Apeiranthos 61.58 52c iP P 13 08 31.5 +1.2
APE pmax pmax
comp=Z,30nm,1.0s
M39A Webster 61.63 314 P P 13 08 29.8 -0.7
baz=107
F40A Park Falls 61.65 319 P P 13 08 30.1 -0.4
baz=111,SNR=7.1
HHAR Hobbs 61.65 307 eP P 13 08 30.9 +0.2
comp=Z,54nm,1.9s
HHAR LR LR
comp=Z,2µm,20.0s
E40A Wakefield 61.69 319 P P 13 08 29.9 -1.0
baz=111,SNR=14
L39A Vinton 61.70 314 P P 13 08 29.8 -1.2
baz=107
N39A Derby Farms, D 61.70 313 eP P 13 08 29.4 -1.6
comp=Z,59nm,1.2s
N39A LR LR
comp=Z,2µm,22.0s
N39A Derby Farms, D 61.70 313 P P 13 08 30.2 -0.8
baz=106,SNR=12
K39A Oelwein 61.79 315 P P 13 08 30.4 -1.2
baz=108,SNR=11
J39A Decorah 61.86 316 P P 13 08 31.0 -1.0
baz=108,SNR=15
I39A Houston 61.89 316 eP P 13 08 31.1 -1.2
comp=Z,128nm,1.5s
I39A LR LR
comp=Z,2µm,20.0s
I39A Houston 61.89 316 P P 13 08 31.1 -1.2
baz=109,SNR=7.0
NIE Niedzica 61.90 37 eP P 13 08 30.1 -2.1
NIE Niedzica 61.90 37 eP P 13 08 30.1 -2.1
KONO Kongsberg 61.91 23 PFAKE 13 08 40.0 +8.0
KONO LR LR
comp=Z,3µm,20.0s
OJC Ojcow 61.93 36 eP P 13 08 32.1 -0.3
OJC Ojcow 61.93 36 eP P 13 08 32.8 +0.4
comp=Z,17nm,1.0s
OJC Ojcow 61.93 36 eP P 13 08 32.8 +0.4
OJC pmax pmax
comp=Z,17nm,1.0s
GZR Gura Zlata 61.96 42⇑iP P 13 08 32.5 -0.2
LIA Limnos Island 62.01 48 P P 13 08 33.5 +0.4
PGB Panagyurishte 62.01 45 eP P 13 08 33.7 +0.6
HKT Hockley 62.07 300 eP P 13 08 33.1 -0.5
comp=Z,58nm,1.6s
HKT LR LR
comp=Z,3µm,22.0s
HKT Hockley 62.07 300 eP P 13 08 33.1 -0.5
HKT pmax pmax
comp=Z,58nm,1.6s
HKT MLR MLR
comp=Z,3µm,22.0s
E39A Mellen 62.09 319 P P 13 08 32.8 -0.8
baz=111,SNR=7.9
G39A Holcombe 62.12 318 P P 13 08 33.0 -0.7
baz=110,SNR=7.6
RZN Rozhen 62.15 46 eP P 13 08 34.5 +0.2
F39A Loretta 62.17 319 P P 13 08 33.2 -0.9
baz=110
DEV Deva 62.21 41 P P 13 08 24.0 -10
CHOS Chios island 62.29 50 P P 13 08 31.8 -3.3
SIGR SIGRI 62.34 49 P P 13 08 33.5 -1.8
DRGR 62.40 40⇑iP P 13 08 35.2 -0.5
SCIA State Center 62.50 314 PFAKE 13 08 50.0 +14
SCIA LR LR
comp=Z,2µm,20.0s
G38A Ridgeland 62.54 318 P P 13 08 36.1 -0.4
baz=109
KARP Karpathos 62.54 54 eP P 13 08 35.8 -1.0
comp=Z,114nm,0.9s
KARP LR LR
comp=Z,2µm,21.0s
KARP Karpathos 62.54 54 P P 13 08 35.3 -1.5
RDO Rodhopi 62.60 47 P P 13 08 35.1 -1.9
KDZ Kurdzhali 62.65 47 eP P 13 08 39.4 +2.0
H38A Maiden Rock 62.67 317 P P 13 08 36.7 -0.7
baz=108,SNR=7.1
TRPA Tarpa 62.77 39⇑iP P 13 08 38.0 0.0
TRPA Tarpa 62.77 39⇓eP P 13 08 37.4 -0.6
TRPA Tarpa 62.77 39⇓eP P 13 08 37.4 -0.6
UZH Uzhgorod 62.80 38 eP P 13 08 35.5 -2.7
UZH i 13 08 40.4
UZH eS S 13 17 00.0 -7.4
F38A Pierce - Schro 62.81 318 P P 13 08 37.7 -0.7
baz=109
ALN Alexandroupoli 62.91 48 eP P 13 08 38.5 -0.6
comp=Z,18nm,1.2s
ALN Alexandroupoli 62.91 48 P P 13 08 37.3 -1.8
ALN Alexandroupoli 62.91 48 eP P 13 08 38.5 -0.6
ALN pmax pmax
comp=Z,19nm,1.2s
BODT Bodrum 62.97 52 P P 13 08 36.7 -2.9
TUL1 Leonard 63.04 307 eP P 13 08 39.1 -1.0
comp=Z,46nm,1.0s
TUL1 Leonard 63.04 307 P P 13 08 39.1 -1.0
baz=101,SNR=12
ARR Arges 63.19 42⇑iP P 13 08 39.4 -1.6
SPMN Marine on St. 63.19 317 eP P 13 08 39.0 -1.9
comp=Z,82nm,1.3s
SPMN Marine on St. 63.19 317 P P 13 08 40.1 -0.8
baz=108,SNR=13
NBO00 NORSAR Array S 63.23 23 eP P 13 08 42.5 +1.6
NC602 NORSAR Array S 63.35 23 eP P 13 08 41.2 -0.4
NC204 NORSAR Array S 63.38 22 eP P 13 08 41.1 -0.8
NB2 NORSAR Subarra 63.41 23 P P 13 08 40.5 -1.6
comp=Z,18nm,0.9s,baz=232,slow=6.9
NB2 NORSAR Subarra 63.41 23 P P 13 08 40.4 -1.6
NB2 pmax pmax
comp=Z,5.0nm,0.7s
NB2 NORSAR Subarra 63.41 23 P P 13 08 40.5 -1.6
baz=232,slow=6.9
NOA NORSAR Array B 63.41 23 P P 13 08 40.4 -1.6
comp=Z,8.4nm,0.8s,baz=233,slow=6.6,SNR=14
NOA LR LR 13 32 11.3
comp=Z,3µm,20.9s,baz=235,slow=32
KWP Kalwaria Pacla 63.42 37 eP P 13 08 38.7 -3.7
KWP Kalwaria Pacla 63.42 37 eP P 13 08 38.7 -3.7
NB201 NORSAR Array S 63.44 23 eP P 13 08 44.3 +2.0
VOIR 63.49 42⇓iP P 13 08 42.0 -1.0
VOIR 63.49 42 P P 13 08 41.9 -1.0
TLIG Tlapa 63.62 286 eP P 13 08 44.8 +0.4
comp=Z,26nm,1.2s
NC405 NORSAR Array S 63.65 23 eP P 13 08 44.1 +0.5
435B Jarrell 63.68 301 eP P 13 08 43.5 -1.0
comp=Z,58nm,1.1s
435B Jarrell 63.68 301 P P 13 08 43.5 -1.0
baz=98
WHTX Lake Whitney, 63.74 302 eP P 13 08 44.0 -0.8
comp=Z,52nm,1.0s
WHTX Lake Whitney, 63.74 302 P P 13 08 44.0 -0.8
baz=98
DOPR Dopca 63.88 42⇑iP P 13 08 44.8 -0.7
CHRN Cochrane 63.99 208 eP P 13 08 49.9 +3.9
comp=Z,9.7nm,0.8s
MLR Muntele Rosu 64.11 43 eP P 13 08 46.5 -0.6
comp=Z,87nm,1.1s
MLR Muntele Rosu 64.11 43⇑iP P 13 08 45.8 -1.3
MLR Muntele Rosu 64.11 43 eP P 13 08 46.5 -0.6
MLR pmax pmax
comp=Z,87nm,1.1s
BUR04 Bucovina Ar. S 64.28 40 eP P 13 08 47.9 -0.3
BUR08 Bucovina Ar. S 64.28 40 eP P 13 08 49.5 +1.3
BURAR Bucovina Array 64.28 40⇓iP P 13 08 47.7 -0.5
BURAR Bucovina Array 64.28 40 P P 13 08 47.6 -0.6
LVV L'vov 64.29 38 eP P 13 08 56.1 +8.0
KSU1 Kansas State U 64.33 310 eP P 13 08 46.5 -2.0
ISR Istrita 64.40 43⇑iP P 13 08 47.5 -1.4
ISR Istrita 64.40 43 P P 13 08 47.5 -1.4
ISR pmax pmax
comp=Z,58nm,1.0s
BIZ Bicaz 64.65 41⇓iP P 13 08 50.2 -0.3
PLOR Plostina 64.68 42⇑iP P 13 08 49.6 -1.2

PLOR Plostina 64.68 42 P P 13 08 49.6 -1.2
VRI Vrincioaia 64.74 42⇑iP P 13 08 49.9 -1.2
VRI Vrincioaia 64.74 42 P P 13 08 49.8 -1.3
LNIG Linares 64.75 294 eP P 13 08 49.9 -1.6
comp=Z,27nm,1.3s
833A Chaparral WMA, 64.97 298 eP P 13 08 52.6 -0.2
comp=Z,72nm,1.0s
833A Chaparral WMA, 64.97 298 P P 13 08 52.1 -0.8
baz=96,SNR=11
HARR Harsova 65.23 44⇓iP P 13 08 53.5 -0.8
WMOK Wichita Mounta 65.24 305 eP P 13 08 48.0 -6.6
comp=Z,14nm,0.9s
WMOK Wichita Mounta 65.24 305 eP P 13 08 48.0 -6.6
WMOK pmax pmax
comp=Z,14nm,0.9s
WMOK Wichita Mounta 65.24 305 P P 13 08 53.6 -1.0
baz=99
TLB Topalu 65.28 44⇑iP P 13 08 53.8 -0.8
SUR Sutherland 65.32 130 P P 13 08 54.3 -1.0
comp=Z,7.5nm,0.6s,baz=275,slow=9.1,SNR=11
SUW Suwalki 65.38 33 eP P 13 08 54.1 -1.0
SUW Suwalki 65.38 33 eP P 13 08 56.2 +1.1
comp=Z,69nm,0.8s
SUW Suwalki 65.38 33 eP P 13 08 54.1 -1.0
ECSD EROS Data Cent 65.40 315 eP P 13 08 53.8 -1.7
comp=Z,18nm,0.8s
ECSD EROS Data Cent 65.40 315 P P 13 08 54.5 -0.9
baz=104,SNR=9.9
SUMG Summit 65.44 359 eP P 13 08 55.6 +0.1
comp=Z,277nm,1.9s
SUMG Summit 65.44 359 i P P 13 08 55.7 +0.1
comp=Z,112nm,1.0s
SUMG Summit 65.44 359 i P P 13 08 55.7 +0.1
SUMG pmax pmax
comp=Z,110nm,1.0s
CFR Carcaliu 65.50 43⇑iP P 13 08 54.2 -1.8
JCT Junction City 65.54 300 eP P 13 08 55.8 -0.9
comp=Z,133nm,1.6s
JCT Junction City 65.54 300 eP P 13 08 55.8 -0.9
JCT pmax pmax
comp=Z,133nm,1.6s
JCT Junction City 65.54 300 P P 13 08 55.7 -0.9
baz=96,SNR=14
LSZ Lusaka 65.55 110 eP P 13 08 57.6 +0.6
comp=Z,63nm,1.8s
ISP Isparta 65.62 52 i P P 13 08 56.7 -0.4
ISP pmax pmax
comp=Z,13nm,0.9s
ABTX Abilene, Hawle 65.66 302 eP P 13 08 55.5 -1.9
comp=Z,106nm,1.5s
ABTX Abilene, Hawle 65.66 302 P P 13 08 56.2 -1.1
baz=97,SNR=17
BGNE Belgrade 65.97 312 eP P 13 08 57.9 -1.3
comp=Z,153nm,1.1s
BGNE Belgrade 65.97 312 P P 13 08 58.2 -1.0
baz=102,SNR=9.4
AGMN Agassiz Nation 66.12 320 eP P 13 08 58.3 -1.7
comp=Z,70nm,1.6s
AGMN Agassiz Nation 66.12 320 P P 13 08 59.9 -0.1
baz=107
LBTB Lobatse 66.22 121 eP P 13 08 59.6 -1.5
comp=Z,40nm,1.4s
LBTB Lobatse 66.22 121 eP P 13 08 59.6 -1.5
LBTB pmax pmax
comp=Z,40nm,1.4s
MILM Milestii Mici 66.42 42⇓iP P 13 09 00.4 -1.5
KIS Kishinev 66.44 42 eP P 13 09 00.0 -2.0
KIS Kishinev 66.44 42 ePcP P 13 09 12.0 +10
KIS Kishinev 66.44 42 ePP PP 13 11 25.0 -3.3
KIS eS S 13 17 49.0 -3.5
KIS Kishinev 66.44 42 eP P 13 09 00.0 -2.0
KIS e 13 11 25.0
KIS eS S 13 17 49.0 -3.5
KIS e 13 18 18.0
SORM Soroca 66.45 40⇑iP P 13 09 00.3 -1.8
SORM Soroca 66.45 40 P P 13 09 00.2 -1.8
CBKS Cedar Bluff 66.66 309 eP P 13 09 03.0 -0.7
comp=Z,52nm,1.0s
CBKS Cedar Bluff 66.66 309 P P 13 09 02.6 -1.2
baz=100,SNR=10
ULM Lac du Bonnet 66.72 322 P P 13 09 01.4 -2.3
comp=Z,12nm,0.9s,baz=112,slow=6.4,SNR=10
ULM LR LR 13 33 28.2
comp=Z,2µm,20.5s,baz=110,slow=32
ULM Lac du Bonnet 66.72 322 eP P 13 09 01.9 -1.8
comp=Z,38nm,1.1s
ULM Lac du Bonnet 66.72 322 eP P 13 09 02.0 -1.8
ULM pmax pmax
comp=Z,38nm,1.1s
SUSD Miller 67.20 315 P P 13 09 06.1 -0.9
baz=103
BOSA Boshof 67.25 125 P P 13 09 05.3 -2.4
comp=Z,22nm,0.8s,baz=293,slow=6.8,SNR=20
BOSA LR LR 13 32 19.7
comp=Z,1µm,21.0s,baz=273,slow=30
BOSA Boshof 67.25 125 eP P 13 09 05.7 -2.0
comp=Z,22nm,0.8s
BOSA Boshof 67.25 125 eP P 13 09 05.7 -2.0
BOSA pmax pmax
comp=Z,23nm,0.8s
CSS Mathiatis 67.43 55 P P 13 09 07.0 -1.6
ZAIG Zacatecas 67.49 292 eP P 13 09 10.7 +1.1
comp=Z,30nm,1.2s
IIGN Ignalina 67.53 32 eP P 13 09 08.8 +0.1
IIGN IAmb IAmb 13 09 14.1
comp=Z,9.3nm,0.8s
ISAL Salakas 67.56 32 eP P 13 09 09.0 0.0
ISAL IAmb IAmb 13 09 13.0
comp=Z,8.5nm,1.1s
AMTX Amarillo 67.63 305 eP P 13 09 09.2 -0.8
comp=Z,26nm,1.0s
AMTX Amarillo 67.63 305 P P 13 09 09.0 -1.0
baz=97
NACGM Naroch 67.67 33 e P 13 09 09.0 -0.7
NACGM eLQ LQ 13 30 08.0
NACGM eLR LR 13 33 10.0
KIEV Kiev 67.72 38 eP P 13 09 09.5 -0.5
comp=Z,23nm,1.0s
KIEV Kiev 67.72 38⇑eP P 13 09 09.8 -0.3
KIEV pmax pmax
comp=Z,20nm,1.6s
KIEV MLR MLR
comp=Z,708nm,17.0s
ANTO Ankara 67.72 50 eP P 13 09 09.7 -0.7
comp=Z,102nm,1.2s
AKASG Malin Array Be 67.73 38 P P 13 09 07.9 -2.2
comp=Z,7.6nm,0.8s,baz=254,slow=6.2,SNR=18
AKASG LR LR 13 37 32.6
comp=Z,412nm,20.0s,baz=265,slow=35
AKASG Malin Array Be 67.73 38 i P P 13 09 08.6 -1.5
AKASG pmax pmax
comp=Z,8.0nm,0.8s
IDID Didziasalis 67.79 33 eP P 13 09 10.5 +0.1
IDID IAmb IAmb 13 09 15.7
comp=Z,11nm,1.0s
MICGM Minsk 68.13 34⇓eP P 13 09 13.0 +0.4
MICGM PM 13 09 14.0
comp=Z,0.1nm,1.0s
MICGM eLR LR 13 30 20.0
MICGM LRM MLR 13 36 38.0
comp=Z,2.6nm,10.0s
MNK Minsk 68.13 34⇓eP P 13 09 13.0 +0.4
MNK pmax pmax
comp=Z,130nm,1.0s
BR131 Keskin Array S 68.34 50 eP P 13 09 13.5 -1.0
BRTR Keskin Array B 68.34 50 P P 13 09 13.0 -1.4
comp=Z,14nm,1.0s,baz=250,slow=5.6,SNR=23
BRTR LR LR 13 39 27.8
comp=Z,707nm,21.7s,baz=235,slow=36
MSTX Muleshoe 68.42 304 eP P 13 09 13.9 -1.0
comp=Z,41nm,1.1s
MSTX Muleshoe 68.42 304 P P 13 09 13.7 -1.3
baz=96,SNR=12
MDND Maddock 68.42 319 eP P 13 09 13.3 -1.3
comp=Z,314nm,1.4s
MDND Maddock 68.42 319 P P 13 09 13.9 -0.7
baz=104,SNR=15
FCC Fort Churchill 68.69 331 eP P 13 09 15.7 -0.3
FCC Fort Churchill 68.69 331 eP P 13 09 15.7 -0.3
OGNE Ogallala 68.76 311 eP P 13 09 16.5 -0.5
comp=Z,274nm,1.8s
OGNE Ogallala 68.76 311 P P 13 09 15.9 -1.1
baz=99
TXAR Lajitas Array 68.78 299 P P 13 09 16.9 -0.5
comp=Z,4.3nm,0.6s,baz=91,slow=8.0,SNR=30
TXAR LR LR 13 36 40.9

comp=Z,1µm,21.7s,baz=0.0,slow=34
TX31 Lajitas Ar. Si 68.79 299 *e*P P **13 09 17.2 -0.2**
KSCO Kaye Shedlock' 68.92 309 *e*P P **13 09 18.0 -0.1**
comp=Z,28nm,0.9s
KSCO Kaye Shedlock' 68.92 309 P P **13 09 17.5 -0.6**
baz=98
VSU Vasula 68.93 29⇓ *e*P P **13 09 20.7 +3.2**
VSU pmax pmax
comp=Z,55nm,1.0s
SIM Simferopol' 69.58 45 *e*P P **13 09 20.6 -1.2**
SIM *e* 13 12 00.0
SIM *e*S S **13 18 27.0 -3.1**
SIM pmax pmax
comp=Z,12nm,1.0s
SIM MLR MLR
comp=Z,900nm,16.0s
GDL2 Guadalupe Moun 69.59 302 *e*P P **13 09 22.5 +0.2**
T25A Trinidad 70.08 307 *e*P P **13 09 25.6 +0.2**
comp=Z,41nm,1.2s
T25A Trinidad 70.08 307 P P **13 09 24.9 -0.5**
baz=96,SNR=20
DAG Danmarks Havn 70.11 4 *i*P P **13 09 23.5 -1.0**
comp=Z,13nm,0.9s
DAG Danmarks Havn 70.11 4 *i*P P **13 09 23.5 -1.0**
DAG pmax pmax
comp=Z,11nm,0.9s
MNTX Cornudas Mount 70.42 301 *e*P P **13 09 26.4 -0.9**
comp=Z,18nm,0.9s
MNTX Cornudas Mount 70.42 301 P P **13 09 26.2 -1.0**
baz=94,SNR=36
HPIG 70.43 296 *e*P P **13 09 27.6 -0.1**
comp=Z,60nm,1.7s
RSSD Black Hills 70.72 314 *e*P P **13 09 28.6 -0.6**
comp=Z,6.8nm,0.8s
RSSD Black Hills 70.72 314 *e*P P **13 09 28.6 -0.6**
RSSD pmax pmax
comp=Z,7.0nm,0.8s
Q24A Divide 70.86 309 *e*P P **13 09 30.1 -0.2**
comp=Z,44nm,1.3s
Q24A Divide 70.86 309 P P **13 09 30.1 -0.2**
baz=96,SNR=21
SDCO Great Sand Dun 71.01 307 *e*P P **13 09 30.6 -0.5**
comp=Z,21nm,1.0s
SDCO Great Sand Dun 71.01 307 P P **13 09 30.6 -0.5**
baz=96,SNR=25
PUL Pulkovo 71.12 29⇑ *e*P P **13 09 32.3 +1.4**
PUL pmax pmax
comp=Z,50nm,1.1s
ISCO Idaho Springs 71.31 310 *e*P P **13 09 32.1 -0.8**
comp=Z,60nm,1.5s
ISCO Idaho Springs 71.31 310 *e*P P **13 09 32.1 -0.8**
ISCO pmax pmax
comp=Z,60nm,1.5s
ISCO Idaho Springs 71.31 310 P P **13 09 32.6 -0.4**
baz=96,SNR=22
PHWY Pilot Hill 71.37 311 *e*P P **13 09 33.0 -0.3**
comp=Z,79nm,1.9s
EPT El Paso 71.38 301 *e*P P **13 09 33.5 +0.3**
comp=Z,24nm,0.9s
FFC Flin Flon 71.54 325 *e*P P **13 09 33.5 -0.1**
comp=Z,93nm,1.4s
FFC Flin Flon 71.54 325 *e*P P **13 09 33.5 -0.1**
FFC pmax pmax
comp=Z,93nm,1.4s
ANMO Albuquerque 71.54 304 *e*P P **13 09 34.3 0.0**
comp=Z,32nm,1.3s
ANMO Albuquerque 71.54 304 *ce*P P **13 09 34.6 +0.3**
ANMO pmax pmax
comp=Z,21nm,1.3s
ANMO Albuquerque 71.54 304 P P **13 09 34.3 0.0**
baz=94
DGMT Dagmar 71.56 319 *e*P P **13 09 34.2 +0.3**
comp=Z,99nm,1.1s
DGMT Dagmar 71.56 319 P P **13 09 34.1 +0.3**
baz=100,SNR=15
KMBO Kilima Mbogo 71.60 94 LR LR 13 39 10.2
comp=Z,785nm,19.7s,baz=274,slow=34
KMBO Kilima Mbogo 71.60 94 *e*P P **13 09 36.5 +1.5**
comp=Z,36nm,1.9s
KMBO Kilima Mbogo 71.60 94 *i*P P **13 09 37.0 +2.0**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
BNM Barren Site 71.62 304 *e*P P **13 09 35.2 +0.4**
LPM Los Pinos Moun 71.64 304 *e*P P **13 09 35.9 +1.0**
N23A Red Feather La 71.69 311 *e*P P **13 09 35.2 0.0**
comp=Z,94nm,1.4s
N23A Red Feather La 71.69 311 P P **13 09 34.9 -0.2**
baz=97,SNR=17
ANN Anapa 71.88 45 *e*P P **13 09 34.8 -1.0**
ANN *e* 13 12 14.1
ANN *e*PPP PPP 13 13 57.2
ANN *e*S S **13 18 55.5 -1.4**
ANN pmax pmax
comp=Z,49nm,1.1s
ANN MLR MLR
comp=Z,937nm,17.0s
LENM Lemitar 71.91 304 *e*P P **13 09 36.8 +0.3**
S22A 4UR Ranch, Cre 72.06 307 *e*P P **13 09 38.0 +0.5**
comp=Z,33nm,1.2s
S22A 4UR Ranch, Cre 72.06 307 P P **13 09 37.7 +0.2**
baz=95,SNR=24
LAZ Ladron 72.06 304 *e*P P **13 09 38.0 +0.6**
SMCO Snowmass 72.30 309 *e*P P **13 09 38.8 -0.2**
comp=Z,38nm,1.2s
K22A Casper 72.32 312 *e*P P **13 09 38.0 -0.8**
comp=Z,32nm,1.3s
K22A Casper 72.32 312 P P **13 09 38.6 -0.2**
baz=97
121A Cookes Peak, D 72.50 302 P P **13 09 40.6 +0.5**
baz=93,SNR=23
JOF Joensuu 72.61 26 P P **13 09 40.7 +0.9**
JOF pmax pmax
comp=Z,34nm,0.9s
LAO LASA Array 72.63 317 *e*P P **13 09 40.5 +0.1**
comp=Z,79nm,1.0s
LAO LASA Array 72.63 317 P P **13 09 40.5 +0.1**
baz=98,SNR=24
RWWY Rawlins 72.72 311 *e*P P **13 09 41.6 +0.3**
comp=Z,92nm,1.5s
ARCES ARCESS Array B 73.01 18 P P **13 09 41.2 -0.9**
comp=Z,8.7nm,0.9s,baz=260,slow=7.1,SNR=13
OBN Obninsk 73.14 34⇓ *e*P P **13 09 41.8 -1.3**
OBN *e* 13 10 01.7
OBN *e* 13 12 24.3
OBN *e*PPP PPP 13 14 07.1
OBN *i*S S **13 19 06.4 -4.4**
OBN pmax pmax
comp=Z,18nm,0.7s
OBN MLR MLR
comp=Z,725nm,17.0s
MVCO Mesa Verde 73.34 307 *e*P P **13 09 44.9 -0.2**
comp=Z,26nm,0.9s
MVCO Mesa Verde 73.34 307 P P **13 09 44.7 -0.3**
baz=94,SNR=18
O20A White River Ci 73.36 310 *e*P P **13 09 44.6 -0.4**
comp=Z,135nm,1.1s
O20A White River Ci 73.36 310 P P **13 09 45.0 0.0**
baz=95,SNR=36
PV01 Paradox Valley 73.46 308 *e*P P **13 09 46.5 +0.8**
KEV Kevo 73.58 19 P P **13 09 46.0 +0.6**
KEV Kevo 73.58 19 P P **13 09 46.0 +0.6**
PV02 Paradox Valley 73.60 308 *e*P P **13 09 47.3 +0.8**
comp=Z,52nm,1.0s
PV12 Saucer Basin, 73.66 308 *e*P P **13 09 47.4 +0.6**
comp=Z,21nm,0.9s
PV22 Blue Mesa, Par 73.66 308 *e*P P **13 09 47.7 +0.9**
comp=Z,27nm,1.2s
PV13 Radium Mtn., P 73.66 308 *e*P P **13 09 46.7 -0.2**
comp=Z,43nm,0.9s
PV03 Paradox Valley 73.69 308 *e*P P **13 09 47.5 +0.5**
PV11 David Mesa, Pa 73.71 308 *e*P P **13 09 47.8 +0.6**
comp=Z,32nm,1.0s
319A Douglas 73.73 301 *e*P P **13 09 48.1 +0.8**
comp=Z,32nm,1.0s
PV18 Skein Mesa, Pa 73.74 308 *e*P P **13 09 47.9 +0.5**
comp=Z,48nm,1.2s
PV16 Nyswonger Mesa 73.75 308 *e*P P **13 09 47.8 +0.4**
comp=Z,32nm,1.1s
PV17 East Wray Mesa 73.78 308 *e*P P **13 09 48.1 +0.5**
comp=Z,43nm,1.0s
PV20 West Nyswonger 73.79 308 *e*P P **13 09 48.4 +0.8**
comp=Z,34nm,1.0s
PV19 Morning Glory 73.80 308 *e*P P **13 09 48.2 +0.6**
comp=Z,25nm,0.9s
PV21 Cone Mtn., Par 73.81 308 *e*P P **13 09 48.4 +0.6**
comp=Z,43nm,1.0s
PV23 Carpenter Ridg 73.83 308 *e*P P **13 09 49.0 +1.1**
comp=Z,43nm,1.0s
PV14 Lion Creek, Pa 73.83 308 *e*P P **13 09 48.4 +0.5**
comp=Z,43nm,1.1s
PV10 Paradox Valley 73.85 308 *e*P P **13 09 48.6 +0.6**
MOS Moscow 73.85 34 *e*P P **13 09 43.6 -3.7**
MOS *e* 13 10 02.5
MOS pmax pmax
comp=Z,37nm,0.9s
MOS MLR MLR
comp=Z,1µm,18.0s
PV05 Paradox Valley 73.88 307 *e*P P **13 09 48.2 +0.1**
PV09 Paradox Valley 73.93 308 *e*P P **13 09 49.3 +0.8**
VSR Storozhevoye 73.97 39 *e*P P **13 09 46.3 -1.8**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 74.02 39 *e*P P **13 09 47.6 -0.7**
VORD pmax pmax
comp=Z,10.0nm,0.6s
LPSR Galich'ya Gora 74.04 37 *e*P P **13 09 46.2 -2.3**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
VORR Voronezh 74.07 38 P P **13 09 49.0 +0.3**
VORR pmax pmax
comp=Z,250nm,2.0s
W18A Petrified Fore 74.23 304 *e*P P **13 09 50.5 +0.2**
comp=Z,35nm,1.1s
W18A Petrified Fore 74.23 304 P P **13 09 50.1 -0.2**
baz=92,SNR=12
X18A Snowflake 74.39 304 *e*P P **13 09 51.7 +0.5**
comp=Z,38nm,1.3s
RLMT Red Lodge 74.56 315 *e*P P **13 09 51.8 -0.2**
comp=Z,37nm,1.0s
RLMT Red Lodge 74.56 315 P P **13 09 51.6 -0.4**
baz=96,SNR=15
PD31 Pinedale Array 74.56 312 *e*P P **13 09 50.9 -1.2**
PDAR Pinedale Array 74.56 312 P P **13 09 50.8 -1.2**
comp=Z,12nm,0.9s,baz=98,slow=4.9,SNR=43
PDAR LR LR 13 39 28.2
comp=Z,1µm,19.5s,baz=122,slow=33
PDAR Pinedale Array 74.56 312 *e*P P **13 09 50.0 -2.1**
BW06 Boulder Array 74.56 312 *e*P P **13 09 51.1 -0.9**
comp=Z,36nm,1.0s
BW06 Boulder Array 74.56 312 P P **13 09 51.4 -0.7**
baz=95,SNR=18
LPIG La Paz 74.61 293 LR LR 13 40 32.1
comp=Z,683nm,21.6s,baz=75,slow=34
P18A Preston Nutter 74.86 309 *e*P P **13 09 53.9 0.0**
comp=Z,108nm,1.2s
GCMT Greycliff 74.90 315 *e*P P **13 09 54.0 +0.1**
APA Apatity 74.94 22⇓ *i*P P **13 09 53.5 +0.1**
APA *i*S S **13 19 27.0 -3.7**
APA *i*PS PnS **13 20 04.0 -1.4**
APA pmax pmax
comp=Z,13nm,0.9s
TUC Tucson 75.03 301 *e*P P **13 09 55.2 +0.5**
comp=Z,25nm,1.0s
TUC Tucson 75.03 301 P P **13 09 55.3 +0.5**
TUC pmax pmax
comp=Z,27nm,1.1s
TUC Tucson 75.03 301 P P **13 09 55.1 +0.3**
baz=91
SRU San Rafael Swe 75.05 308 *e*P P **13 09 55.2 +0.3**
comp=Z,37nm,1.1s
SRU San Rafael Swe 75.05 308 *e*P P **13 09 55.2 +0.3**
SRU pmax pmax
comp=Z,37nm,1.1s
PMSA Palmer Station 75.11 193 LR LR 13 39 44.0
comp=Z,546nm,21.7s,baz=24,slow=33
EGMT Eagleton 75.18 318 *e*P P **13 09 54.8 -0.6**
comp=Z,51nm,1.4s
P17A Butcher Ranch, 75.23 309 *e*P P **13 09 56.5 +0.5**
comp=Z,32nm,1.1s
LKWY Lake 75.31 314 *e*P P **13 09 58.0 +1.6**
comp=Z,55nm,1.3s
LKWY Lake 75.31 314 *e*P P **13 09 58.0 +1.6**
LKWY pmax pmax
comp=Z,55nm,1.3s
LOHW Long Hollow 75.39 313 *e*P P **13 09 56.7 -0.1**
comp=Z,194nm,1.9s
H17A Grant Village 75.42 314 *e*P P **13 09 58.5 +1.4**
comp=Z,23nm,1.0s
H17A Grant Village 75.42 314 P P **13 09 58.1 +1.0**
baz=94,SNR=10
SNOW Snow King Moun 75.48 313 *e*P P **13 09 57.6 +0.2**
comp=Z,110nm,1.5s
FLWY Flagg Ranch 75.49 314 *e*P P **13 09 56.7 -0.7**
comp=Z,116nm,1.2s
MOOW Moose Ponds 75.50 313 *e*P P **13 09 57.2 -0.2**
comp=Z,63nm,1.6s
NEY Neytrino 75.52 47⇑ *e*P P **13 09 58.4 +0.9**
NEY pmax pmax
comp=Z,2.0nm,0.8s
YNR Norris Junctio 75.52 314 *e*P P **13 09 58.7 +1.2**
comp=Z,26nm,1.2s
KIV Kislovodsk 75.54 47 *e*P P **13 09 58.7 +1.2**
comp=Z,45nm,1.1s
KIV Kislovodsk 75.54 47 P P **13 09 59.1 +1.6**
SNR=7.5
KIV Kislovodsk 75.54 47 *e*P P **13 09 57.4 -0.1**
KIV *e*S S **13 19 39.3 +0.8**
KIV pmax pmax
comp=Z,122nm,4.4s
KIV pmax pmax
comp=Z,40nm,1.0s
KIV MLR MLR
comp=Z,654nm,18.0s
REDW Red Top Meadow 75.55 313 *e*P P **13 09 57.7 -0.1**
comp=Z,110nm,1.5s
VRH Novokhopyorsk 75.56 39 *e*P P **13 09 57.3 0.0**
VRH pmax pmax
comp=Z,10.0nm,0.8s
YPP Pitchstone Pla 75.58 314 *e*P P **13 09 58.5 +0.6**
comp=Z,36nm,1.3s
WUAZ Wupatki 75.59 305 *e*P P **13 09 59.0 +1.0**
comp=Z,52nm,1.0s
WUAZ Wupatki 75.59 305 P P **13 09 58.5 +0.4**
baz=92,SNR=40
TMUT Trail Mountain 75.59 309 *e*P P **13 09 58.4 +0.3**
comp=Z,76nm,1.7s
YFT Old Faithful 75.61 314 *e*P P **13 09 59.6 +1.5**
comp=Z,50nm,1.0s
X16A Lo Mia Camp, P 75.62 304 *e*P P **13 09 59.0 +0.8**
comp=Z,33nm,1.1s
TPAW Teton Pass 75.63 313 *e*P P **13 09 58.2 -0.1**
comp=Z,154nm,1.6s
IMW Indian Meadow 75.65 313 *e*P P **13 09 57.7 -0.7**
comp=Z,91nm,1.3s
YHH Holmes Hill 75.65 314 *e*P P **13 09 58.7 +0.3**
comp=Z,52nm,1.4s
KBZ Khabaz 75.68 47 P P **13 09 58.3 +0.2**
comp=Z,10nm,1.0s,baz=332,slow=3.0,SNR=12
KBZ LR LR 13 45 55.0
comp=Z,507nm,19.8s,baz=286,slow=38
RES Resolute Bay 75.68 346 *e*P P **13 09 58.8 +1.2**
comp=Z,128nm,1.8s
RES Resolute Bay 75.68 346 *e*P P **13 09 58.8 +1.2**
RES pmax pmax
comp=Z,128nm,1.8s
AHID Auburn Hatcher 75.69 312 *e*P P **13 09 58.2 -0.3**
comp=Z,72nm,1.4s
FXWY Fox Creek 75.69 313 *e*P P **13 09 58.2 -0.4**
comp=Z,55nm,1.3s
YMR Madison River 75.72 314 *e*P P **13 09 58.4 -0.3**
comp=Z,78nm,1.0s
TCUT Toone Canyon 75.83 311 *e*P P **13 09 59.5 0.0**
comp=Z,45nm,0.8s
JLU Jonanelle 75.83 310 *e*P P **13 09 59.8 +0.3**
comp=Z,88nm,1.7s
GOF Gofitskoye 75.87 45 *e*P P **13 10 00.6 +1.3**
GOF pmax pmax
comp=Z,80nm,1.0s
YHB Horse Butte 75.89 314 *e*P P **13 10 00.4 +0.8**
comp=Z,33nm,0.9s
MPU Maple Canyon 75.95 309 *e*P P **13 10 00.7 +0.6**
comp=Z,36nm,1.7s
QLMT Earthquake Lak 76.06 314 *e*P P **13 10 01.5 +0.9**
CTU Camp Tracy 76.07 310 *e*P P **13 10 01.1 +0.4**
comp=Z,24nm,1.0s
NCK Nalchik 76.17 47⇓ *i*P P **13 10 03.2 +2.2**
NCK pmax pmax
comp=Z,22nm,0.5s
BOZ Bozeman (W) 76.25 315 *e*P P **13 10 01.4 -0.2**
comp=Z,13nm,0.9s
BOZ Bozeman (W) 76.25 315 *e*P P **13 10 01.4 -0.2**
BOZ pmax pmax
comp=Z,13nm,0.9s
BOZ Bozeman (W) 76.25 315 P P **13 10 02.0 +0.4**
baz=94,SNR=14
NLU North Lily Min 76.28 309 *e*P P **13 10 02.4 +0.4**
comp=Z,65nm,1.4s
MTPU Mount Pierson 76.31 307 *e*P P **13 10 03.2 +0.9**
comp=Z,55nm,1.0s
MSU Marysvale 76.31 308 *e*P P **13 10 03.1 +0.9**
MSU Marysvale 76.31 308 *e*P P **13 10 03.1 +0.9**
U15A North Rim 76.35 306 *e*P P **13 10 03.5 +1.0**
comp=Z,25nm,0.9s
ZEI Tsey 76.35 48 *e*P P **13 10 00.4 -1.9**
ZEI pmax pmax
comp=Z,31nm,1.3s
PKCU Pink Cliffs 76.39 307 *e*P P **13 10 03.2 +0.4**
comp=Z,39nm,1.2s
HRY Holter Researc 76.47 316 *e*P P **13 10 02.8 0.0**
SPUT South Promonto 76.62 311 *e*P P **13 10 04.4 +0.6**
comp=Z,60nm,1.4s
214A Organ Pipe Nat 76.74 301 P P **13 10 04.8 +0.2**
baz=90,SNR=24
KNB Kanab 76.79 306 *e*P P **13 10 04.9 0.0**
comp=Z,15nm,1.0s
KNB Kanab 76.79 306 *e*P P **13 10 04.9 0.0**
KNB pmax pmax
comp=Z,15nm,1.0s
LRM Limekiln Ridge 76.84 315 *e*P P **13 10 05.2 +0.1**
DUG Dugway, Tooele 76.86 310 *e*P P **13 10 05.0 -0.2**
comp=Z,102nm,1.5s
DUG Dugway, Tooele 76.86 310 P P **13 10 05.7 +0.5**
DUG Dugway, Tooele 76.86 310 P P **13 10 05.0 -0.2**
baz=92,SNR=19
HVU Hansel Valley 76.88 311 *e*P P **13 10 05.0 -0.3**
comp=Z,40nm,1.4s
HVU Hansel Valley 76.88 311 *e*P P **13 10 05.0 -0.3**
HVU pmax pmax
comp=Z,40nm,1.4s
Y14A Wickenburg 76.91 303 *e*P P **13 10 06.5 +1.0**
comp=Z,27nm,1.1s
DLMT Dillon 76.92 315 *e*P P **13 10 05.8 +0.4**
comp=Z,107nm,1.4s
TBLG Delisi 76.93 49 *e*P P **13 10 07.6 +2.2**
comp=Z,37nm,1.1s
TBLG Delisi 76.93 49 *e*P P **13 10 07.6 +2.2**
TBLG pmax pmax
comp=Z,37nm,1.1s
SZCU Shurtz Canyon 77.01 307 *e*P P **13 10 06.8 +0.6**
comp=Z,60nm,1.4s
BGU Big Grassy Mou 77.05 310 *e*P P **13 10 06.4 +0.2**
comp=Z,75nm,1.2s
MCMT McKenzie Canyo 77.07 314 *e*P P **13 10 06.8 +0.4**
LCMT Little Creek M 77.13 306 *e*P P **13 10 07.0 +0.3**
comp=Z,8.0nm,1.1s
CCUT Cedar City 77.23 307 *e*P P **13 10 08.4 +1.0**
comp=Z,45nm,1.1s
113A Mohawk Valley, 77.55 302 *e*P P **13 10 09.8 +0.9**
comp=Z,11nm,1.1s
PSUT Pine Spring 77.63 308 *e*P P **13 10 10.5 +0.9**
comp=Z,30nm,1.1s
W13A Hualapai Mount 77.64 304 *e*P P **13 10 10.8 +1.1**
comp=Z,23nm,1.2s
RAYN Ar Rayn 77.64 68 *e*P P **13 10 09.6 -0.1**
comp=Z,18nm,1.1s
RAYN Ar Rayn 77.64 68 *e*P P **13 10 09.6 -0.1**
RAYN pmax pmax
comp=Z,18nm,1.1s
MSO Missoula 77.92 316 *e*P P **13 10 11.2 +0.2**
comp=Z,48nm,1.6s
MSO Missoula 77.92 316 P P **13 10 10.9 -0.1**
baz=92
WALA Waterton Lakes 78.01 319 *e*P P **13 10 11.5 +0.1**
comp=Z,136nm,1.6s
HLID Hailey 78.15 313 *e*P P **13 10 12.5 +0.2**
comp=Z,40nm,1.3s
HLID Hailey 78.15 313 P P **13 10 12.8 +0.5**
baz=92,SNR=29
Y12C Blythe 78.17 303 *e*P P **13 10 13.5 +1.0**
comp=Z,44nm,1.1s
Y12C Blythe 78.17 303 P P **13 10 13.3 +0.8**
baz=89,SNR=12
JTMT Jette 78.20 317 *e*P P **13 10 12.0 -0.4**
comp=Z,18nm,0.9s
GLA Glamis 78.44 302 *e*P P **13 10 15.6 +1.6**
comp=Z,43nm,1.2s
GLA Glamis 78.44 302 *e*P P **13 10 15.6 +1.6**
GLA pmax pmax
comp=Z,43nm,1.2s
GLA Glamis 78.44 302 P P **13 10 15.4 +1.4**
baz=89,SNR=14
LDFC Landfair 78.64 304 *e*P P **13 10 16.6 +1.5**
comp=Z,60nm,1.3s
SHPR Sheep Range 78.67 306 *e*P P **13 10 16.2 +0.9**
comp=Z,17nm,1.2s
IRM Iron Mountain 78.68 303 P P **13 10 16.2 +0.9**
baz=89,SNR=19
BC3 Big Chuckawall 78.95 303 P P **13 10 18.3 +1.4**
baz=89,SNR=9.1
R11A Troy Canyon, C 78.99 308 *e*P P **13 10 17.5 +0.4**
comp=Z,35nm,1.4s
R11A Troy Canyon, C 78.99 308 P P **13 10 17.3 +0.2**
baz=90,SNR=23
MAK Makhachkala 79.00 48 *e*P P 13 10 11.7 -5.1
MAK *e* 13 13 12.7
MAK *e*S S **13 20 10.3 -5.6**
MAK pmax pmax
comp=Z,252nm,1.2s
GMRC Granite Mounta 79.10 304 P P **13 10 18.1 +0.4**
baz=89,SNR=15
AKT Akhty 79.17 49 *e*P P **13 10 20.1 +2.2**
AKT *e* 13 10 27.6
AKT pmax pmax
comp=Z,19nm,1.0s
SWSC Sam W. Stewart 79.25 302 P P **13 10 19.3 +0.9**
baz=88
TUQ Turquoise Moun 79.30 305 P P **13 10 19.6 +0.8**
baz=89,SNR=24
YKA Yellowknife Ar 79.35 332 P P **13 10 15.9 -2.4**
comp=Z,13nm,0.8s,baz=97,slow=5.7,SNR=6.1
YKA LR LR 13 42 48.9
comp=Z,85nm,18.2s,baz=88,slow=34
YKB5 Yellowknife Ar 79.35 332 *e*P P **13 10 19.3 +1.0**
BELC Belle Mtn. Jos 79.39 303 P P **13 10 20.4 +1.1**
baz=89,SNR=13
IKP In-Ko-Pah, Jac 79.52 302 P P **13 10 20.5 +0.5**
baz=88
TPNV Topopah Spring 79.53 306 *e*P P **13 10 21.2 +1.2**
comp=Z,30nm,0.9s
TPNV Topopah Spring 79.53 306 *e*P P **13 10 21.3 +1.2**
TPNV pmax pmax
comp=Z,30nm,0.9s
TPNV Topopah Spring 79.53 306 P P **13 10 21.0 +1.0**
baz=89,SNR=22
VNA1 Neumayer--Stat 79.54 172 P P **13 10 22.4 +3.4**
SHOC Shoshone, Teco 79.58 305 P P **13 10 21.5 +1.3**
baz=89,SNR=13
HEC Hector,Ludlow 79.65 304 P P **13 10 21.7 +1.0**
baz=89,SNR=11
MONP2 Monument Peak 79.78 302 P P **13 10 22.5 +1.0**
baz=88
XPFO Piæon Flat 79.78 303 *e*P P **13 10 22.5 +1.1**
comp=Z,19nm,1.3s
PFO Pinyon Flats O 79.79 303 *e*P P **13 10 22.6 +1.1**
comp=Z,18nm,1.2s
VNA3 Neumayer Olymp 79.88 172 P P **13 10 21.2 +0.2**
FRD Ford Ranch, An 79.91 303 P P **13 10 22.0 -0.1**
baz=88,SNR=8.3
VNA2 Neumayer--Watz 79.91 171 P P **13 10 21.6 +0.5**
BAR Barrett 80.00 302 *e*P P **13 10 23.7 +1.2**
comp=Z,12nm,0.9s
GSC Goldstone, Bar 80.02 305 *e*P P **13 10 23.7 +1.0**
comp=Z,30nm,1.0s
GSC Goldstone, Bar 80.02 305 P P **13 10 23.1 +0.4**
baz=88,SNR=16
FURC Furnace Creek, 80.04 306 P P **13 10 23.7 +1.1**
baz=89,SNR=12
NEW Newport 80.11 318 LR LR 13 41 22.2
comp=Z,1µm,21.2s,baz=86,slow=32
NEW Newport 80.11 318 *e*P P **13 10 22.0 -0.8**
comp=Z,25nm,1.3s
NEW Newport 80.11 318 *e*P P **13 10 22.0 -0.8**
NEW pmax pmax
comp=Z,25nm,1.3s
NEW Newport 80.11 318 P P **13 10 22.9 +0.1**
baz=90
BMO Blue Mountains 80.24 314 *e*P P **13 10 23.1 -0.6**
comp=Z,56nm,1.6s
BMO Blue Mountains 80.24 314 *e*P P **13 10 23.1 -0.6**
BMO pmax pmax
comp=Z,56nm,1.6s

RPN	Rapa Nui	80.29	241	LR	LR	13 43 04.4	
	comp=Z,1μm,18.5s,baz=52,slow=34						
GRAC	Grapevine Rang	80.43	306	P	P	13 10 26.2	+1.5
	baz=88						
MPMC	Manual Prospec	80.56	305	P	P	13 10 26.6	+1.0
	baz=88,SNR=25						
DAC	Darwin (Calif)	80.63	306	eP	P	13 10 27.2	+1.1
	comp=Z,32nm,1.2s						
DAC	Darwin (Calif)	80.63	306	eP	P	13 10 27.2	+1.1
DAC				pmax	pmax		
	comp=Z,32nm,1.2s						
LRMC	Laurel Mtn Rad	80.73	305	P	P	13 10 27.4	+0.8
	baz=88,SNR=29						
E09A	Wood Farm, Sta	80.81	316	eP	P	13 10 26.4	-0.1
	comp=Z,28nm,1.1s						
C09A	Chrisman Ranch	80.89	317	eP	P	13 10 26.5	-0.5
	comp=Z,11nm,0.9s						
KVN	Kaiserville	80.94	308	eP	P	13 10 27.4	-0.3
	comp=Z,17nm,0.9s						
KVN	Kaiserville	80.94	308	eP	P	13 10 27.4	-0.3
KVN				pmax	pmax		
	comp=Z,17nm,0.9s						
NV11	Mina Array Sit	81.01	308	eP	P	13 10 28.3	+0.3
	comp=Z,3.9nm,1.6s						
EDW2	Edwards Air Fo	81.01	304	P	P	13 10 28.8	+0.8
	baz=88,SNR=21						
CWC	Cottonwood Cre	81.02	306	P	P	13 10 28.7	+0.6
	baz=88						
MWC	Mount Wilson	81.09	303	eP	P	13 10 28.8	+0.3
	comp=Z,17nm,1.0s						
J08A	Circle Bar Ran	81.10	313	eP	P	13 10 28.7	+0.4
	comp=Z,23nm,1.2s						
NV01	Mina Array Sit	81.12	308	eP	P	13 10 28.4	-0.2
NVAR	Mina Array Bea	81.12	308	P	P	13 10 28.9	+0.3
	comp=Z,5.1nm,0.8s,baz=97,slow=6.0,SNR=25						
NVAR				LR	LR	13 42 35.2	
	comp=Z,708nm,21.9s,baz=106,slow=33						
WVOR	Wild Horse Val	81.25	312	eP	P	13 10 29.7	+0.6
	comp=Z,76nm,1.5s						
WVOR	Wild Horse Val	81.25	312	eP	P	13 10 29.7	+0.6
WVOR				pmax	pmax		
	comp=Z,76nm,1.5s						
SNAA	Sanae	81.28	170	P	P	13 10 27.9	-0.7
SNAA	Sanae	81.28	170	P	P	13 10 28.0	-0.5
	comp=Z,4.0nm,1.0s,baz=251,slow=1.0,SNR=9.3						
SNAA	Sanae	81.28	170	eP	P	13 10 28.5	-0.1
	comp=Z,16nm,1.0s						
SNAA	Sanae	81.28	170	eP	P	13 10 31.0	+2.5
RYN	Ryan	81.29	308	eP	P	13 10 30.5	+1.0
	comp=Z,21nm,1.0s						
D08A	Wollman Farm,	81.34	316	eP	P	13 10 29.4	+0.1
	comp=Z,42nm,1.8s						
ISA	Isabella, Lake	81.37	305	eP	P	13 10 30.9	+1.0
	comp=Z,29nm,1.1s						
ISA	Isabella, Lake	81.37	305	eP	P	13 10 30.9	+1.0
ISA				pmax	pmax		
	comp=Z,29nm,1.1s						
ISA	Isabella, Lake	81.37	305	P	P	13 10 30.8	+0.9
	baz=88,SNR=23						
G08A	Pilot Rock	81.41	315	eP	P	13 10 29.6	-0.3
	comp=Z,13nm,1.3s						
E08A	Dider Farm, El	81.45	316	eP	P	13 10 29.5	-0.4
	comp=Z,70nm,1.8s						
MLAC	Mammoth, Mammo	81.57	307	P	P	13 10 32.2	+1.0
	baz=88						
ARVC	Arvin	81.69	304	P	P	13 10 31.8	+0.4
	baz=87						
OMMB	Old Mammoth Mi	81.71	307	eP	P	13 10 33.0	+1.0
	comp=Z,55nm,1.5s						
MDPB	Devils Postpil	81.77	307	eP	P	13 10 33.6	+1.4
	comp=Z,15nm,1.1s						
HAWA	Hanford	81.78	316	eP	P	13 10 32.2	+0.5
	comp=Z,48nm,1.8s						
YERR	Yerington	81.83	308	eP	P	13 10 34.7	+2.3
	comp=Z,29nm,1.5s						
VES	Vestal, Richgr	81.86	305	P	P	13 10 32.6	+0.3
	baz=87						
PAHR	Pah Rah Range	81.91	309	eP	P	13 10 33.4	+0.6
	comp=Z,16nm,1.3s						
WAKR	Walker	82.01	308	eP	P	13 10 34.8	+1.5
	comp=Z,55nm,1.4s						
F07A	Phinny Hill Vi	82.07	315	eP	P	13 10 34.2	+1.0
	comp=Z,89nm,1.5s						
PNTR	Pine Nut	82.11	308	eP	P	13 10 35.3	+1.4
	comp=Z,103nm,1.7s						
VCNR	Virginia City	82.14	309	eP	P	13 10 35.1	+1.1
	comp=Z,29nm,1.4s						
PKM	Mcpherson Peak	82.50	304	P	P	13 10 36.1	+0.1
	baz=87						
MOD	Modoc Plateau	82.51	311	eP	P	13 10 37.3	+1.5
	comp=Z,67nm,1.4s						
LTY	Liberty	82.53	317	eP	P	13 10 35.2	-0.5
	comp=Z,63nm,1.7s						
G06A	Carlson Farm,	82.59	315	eP	P	13 10 36.6	+0.5
	comp=Z,87nm,1.6s						
SMMC	Simmler	82.63	305	P	P	13 10 36.7	+0.3
	baz=87						
BEKR	Beckworth	82.66	309	eP	P	13 10 37.1	+0.4
	comp=Z,45nm,1.2s						
CMB	Columbia Colle	82.78	307	eP	P	13 10 38.2	+1.0
	comp=Z,10nm,1.1s						
CMB	Columbia Colle	82.78	307	eP	P	13 10 38.2	+1.0
CMB				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PINE	Pine Mountain	82.88	313	eP	P	13 10 39.1	+1.3
	comp=Z,22nm,1.3s						
K05A	Summer Lake	82.90	312	eP	P	13 10 39.3	+1.4
	comp=Z,77nm,1.5s						
J05D	Fort Rock, OR	83.12	313	P	P	13 10 39.3	+0.3
	baz=87						
F05D	White Salmon	83.14	315	P	P	13 10 38.7	-0.1
	baz=87						
I05D	Terrebonne, OR	83.14	314	P	P	13 10 39.0	+0.1
	baz=87						
AFDM	Forest Hills D	83.18	308	eP	P	13 10 40.1	+0.8
	comp=Z,10.0nm,1.1s						
PMPB	Monarch Peak	83.22	306	eP	P	13 10 41.0	+1.4
	comp=Z,38nm,1.0s						
B05A	Bryant	83.44	318	P	P	13 10 39.6	-0.7
	baz=87						
NVL	N'lazarevskaya	83.53	166	eP	P	13 10 41.4	+1.2
NVL				eS	S	13 21 03.8	+2.0
NVL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ORV	Oroville	83.55	309	eP	P	13 10 41.7	+0.6
	comp=Z,10nm,1.0s						
ORV	Oroville	83.55	309	eP	P	13 10 41.7	+0.6
ORV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
I04A	Tendick Farm,	83.94	313	P	P	13 10 42.5	-0.5
	baz=86						
D04E	Lakebay	83.96	317	P	P	13 10 42.5	-0.4
	baz=86						
L04D	Klamath Falls	83.97	312	P	P	13 10 42.7	-0.7
	baz=86						
D03D	Eldon	84.15	317	P	P	13 10 44.4	+0.4
	baz=86						
YBH	Yreka Blue Hor	84.31	311	LR	LR	13 45 28.7	
	comp=Z,1μm,20.2s,baz=90,slow=34						
YBH	Yreka Blue Hor	84.31	311	eP	P	13 10 45.3	+0.3
	comp=Z,44nm,1.9s						
YBH	Yreka Blue Hor	84.31	311	eP	P	13 10 45.3	+0.3
YBH				pmax	pmax		
	comp=Z,44nm,1.9s						
E03A	Lebam	84.55	316	eP	P	13 10 47.2	+1.2
	comp=Z,172nm,1.4s						
HOPS	Hopland Field	84.81	309	eP	P	13 10 49.4	+1.9
	comp=Z,75nm,1.4s						
K02D	Willamette Mer	84.94	312	P	P	13 10 48.0	-0.2
	baz=85						
L02E	Cave Junction	84.94	312	P	P	13 10 48.0	-0.2
	baz=85						
KHMM	Horse Mountain	85.15	310	eP	P	13 10 48.4	-0.9
	comp=Z,137nm,1.7s						
KRMB	Red Mountain	85.22	311	eP	P	13 10 51.2	+1.5
	comp=Z,130nm,1.6s						
SVE	Sverdlovsk	86.65	33	eP	P	13 10 57.2	+1.0
SVE				pmax	pmax		
	comp=Z,26nm,1.5s						
INK	Inuvik	86.92	338	eP	P	13 10 58.1	+0.8
	comp=Z,46nm,1.5s						
INK	Inuvik	86.92	338	eP	P	13 10 58.1	+0.8
INK				pmax	pmax		
	comp=Z,46nm,1.5s						
DLBC	Dease Lake	87.11	328	eP	P	13 11 00.2	+1.7
	comp=Z,54nm,1.3s						
HATD	Hatta, Dubai	87.21	65	P	P	13 10 59.7	0.0
	SNR=12						
ABKAR	Akbulak array	87.26	41	eP	P	13 10 59.8	+0.4
UOSS	Minazif	87.26	65	eP	P	13 11 00.9	+1.0
	comp=Z,44nm,1.4s						
UOSS	Minazif	87.26	65	P	P	13 11 01.3	+1.4
	SNR=9.8						
GEYT	Alibeck	87.37	52	P	P	13 11 00.7	+0.4
	comp=Z,2.2nm,0.9s,baz=274,slow=8.5,SNR=6.0						
GEYT				LR	LR	13 53 50.8	
	comp=Z,159nm,18.8s,baz=265,slow=38						
EPYK	Eagle Plains	88.56	337	P	P	13 11 05.6	+0.2
	baz=76						
DAWY	Dawson	90.27	335	eP	P	13 11 13.6	+0.2
	comp=Z,36nm,1.4s						
SYO	Syowa Base	90.82	160	eP	P	13 11 15.4	-0.2
SYO	Syowa Base	90.82	160	epP	P	13 11 17.2	+1.6
SCRK	Sand Creek	92.21	335	eP	P	13 11 25.0	+2.5
	comp=Z,56nm,1.8s						
TOLK	Toolik Lake Re	92.40	341	eP	P	13 11 24.1	+0.9
	comp=Z,69nm,1.7s						
TOLK	Toolik Lake Re	92.40	341	P	P	13 11 23.5	+0.3
	baz=64						
BRVK	Borovoye	92.86	36	eP	P	13 11 26.2	+0.7
	comp=Z,10nm,1.2s						
BRVK	Borovoye	92.86	36	eP	P	13 11 26.0	+0.5
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
IL1	Eielson Array	93.08	337	eP	P	13 11 25.7	-0.6
ILAR	Eielson Array	93.08	337	P	P	13 11 26.1	-0.2
	comp=Z,4.4nm,1.0s,baz=55,slow=3.6,SNR=19						
ILAR				PP	PP	13 15 09.1	+0.1
	comp=Z,0.7nm,0.8s,baz=58,slow=6.9,SNR=4.1						
ILAR				LR	LR	13 51 53.5	
	comp=Z,2μm,18.6s,baz=76,slow=35						
ILB	Eielson Array	93.08	337	eP	P	13 11 26.6	+0.3
WRH	Wood River Hil	93.67	337	eP	P	13 11 32.4	+3.4
	comp=Z,46nm,1.8s						
NRIK	Noril'sk	93.97	18	P	P	13 11 31.1	+0.8
	comp=Z,2.3nm,0.5s,baz=0.0,slow=7.1,SNR=2.9						
NRIK				LR	LR	13 54 18.0	
	comp=Z,491nm,19.1s,baz=304,slow=36						
QSPA	South Pole Qui	97.15	180	P	P	13 11 44.4	-0.5
	comp=Z,2.0nm,0.9s,baz=187,slow=2.7						
QSPA				PP	PP	13 15 42.7	+1.8
	comp=Z,2.2nm,1.1s,baz=163,slow=2.1,SNR=2.4						
KURK	Kurchatov	98.51	36	eP	Pdif	13 11 51.8	+0.5
	comp=Z,17nm,1.8s						
KURK	Kurchatov	98.51	36	eP	Pdif	13 11 51.8	+0.5
KURK				pmax	pmax		
	comp=Z,17nm,1.8s						
AAK	Ala-Archa	98.61	45	eP	Pdif	13 11 54.9	+2.7
	comp=Z,4.0nm,1.1s						
AAK	Ala-Archa	98.61	45	eP	Pdif	13 11 53.2	+1.0
AAK				pmax	pmax		
	comp=Z,12nm,3.7s						
MAW	Mawson	99.19	157	LR	LR	13 49 42.4	
	comp=Z,579nm,18.8s,baz=256,slow=31						
NVS	Novosibirsk	99.36	31	eP	Pdif	13 12 04.6	+10
TIXI	Tiksi	100.58	5	iP	Pdif	13 11 59.2	-0.9
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.4s						
ZALV	Zalesovo Beam	100.59	32	PP	PP	13 16 09.0	+1.9
	comp=Z,0.5nm,0.2s,baz=307,slow=12,SNR=2.9						
KSH	Kashi	100.64	48	eP	Pdif	13 12 00.0	-1.3
KSH				S	Sdif	13 23 31.9	-7.1
KSH				pmax	pmax		
	comp=Z,290nm,6.4s						
KSH				LR	LR		
	comp=Z,1μm,21.2s						
MKAR	Makanchi Array	102.30	39	P	Pdif	13 12 08.5	+0.2
	comp=Z,1.0nm,0.7s,baz=309,slow=4.6,SNR=5.0						
RKT	Rikitea	102.78	248	eSP	SP	13 25 23.7	-7.8
	comp=Z,542nm,31.0s						
RKT				eSS	SS	13 31 05.8	0.0
	comp=Z,532nm,25.5s						
RKT	Rikitea	102.78	248	eLQ	LQ	13 41 26.7	
	comp=Z,2μm,33.2s						
RKT				eLR	LR	13 45 52.3	
	comp=Z,1μm,28.0s						
TAOE	Nuku Hiva Isla	106.91	263	eLR	LR	13 47 41.5	
	comp=Z,542nm,28.0s						
SONM	Songino Array	115.11	28	PKP	PKPdf	13 16 54.6	+0.3
	comp=Z,0.8nm,0.9s,baz=328,slow=2.8,SNR=3.8						
SONM				PP	PP	13 17 50.3	-2.9
	comp=Z,1.6nm,1.0s,baz=318,slow=8.0,SNR=5.0						
ULN	Ulaanbaatar	115.40	28	iPKIKP	PKPdf	13 16 56.3	+1.4
TBI	Tubuai	116.10	248	eSP	SP	13 27 39.3	-2.9
	comp=Z,462nm,27.5s						
TBI				eSS	SS	13 34 04.7	-0.3
	comp=Z,498nm,32.0s						
TBI	Tubuai	116.10	248	eLR	LR	13 52 02.4	
	comp=Z,861nm,27.2s						
PPT2	Papeete2	116.42	254	eSP	SP	13 27 46.4	+1.0
	comp=Z,174nm,25.0s						
PPT2				eSS	SS	13 34 10.4	+0.8
	comp=Z,636nm,31.0s						
PPT2	Papeete2	116.42	254	eLQ	LQ	13 47 10.3	
	comp=Z,967nm,28.5s						
PPT2				eLR	LR	13 52 05.3	
	comp=Z,908nm,23.2s						
GTA	Gaotai	117.05	39	ePKP	PKPdf	13 17 00.1	+1.8
GTA				PP	PP	13 18 13.9	+6.7
GTA				SKS	SKSdf	13 24 11.6	+0.7
GTA				SKKS	SKKSac	13 25 07.9	-1.4
GTA				SS	SS	13 34 21.0	+5.4
GTA				AMB	AMB		
	comp=Z,170nm,8.1s						
GTA				LR	LR		
	comp=Z,380nm,20.3s						
GTA				LR	LR		
	comp=Z,650nm,21.3s						
GTA				LR	LR		
	comp=Z,710nm,22.5s						
LZH	Lanzhou	121.61	40	ePKP	PKPdf	13 17 01.4	-5.8
LZH				sPKP		13 17 16.3	
LZH				ePP	PP	13 18 41.2	+2.5
LZH				SS	SS	13 35 11.4	-3.1
LZH				LR	LR		
	comp=Z,930nm,17.9s						
LZH				LR	LR		
	comp=Z,1μm,19.0s						
LZH				LR	LR		
	comp=Z,1μm,19.0s						
KLR	Kul'dur	122.52	11	iPKIKP	PKPdf	13 17 08.6	+0.2
HHC	Hu-ho-hao-te	122.75	31	ePKP	PKPdf	13 17 09.7	+0.5
HHC				PP	PP	13 18 50.2	+4.2
HHC				SS	SS	13 35 30.9	+2.6
HHC				AMB	AMB		
	comp=Z,390nm,6.1s						
HHC				LR	LR		
	comp=Z,1μm,23.3s						
HHC				LR	LR		
	comp=Z,670nm,19.0s						
HHC				LR	LR		
	comp=Z,2μm,16.4s						
CD2	Chengdu	124.67	45	PKP	PKPdf	13 17 11.8	-1.3
CD2				PP	PP	13 18 58.6	-0.9
CD2				SKS	SKSdf	13 24 23.8	-1.8
CD2				SKKS	SKKSac	13 25 55.8	-3.4
CD2				SS	SS	13 35 53.8	+0.2
CD2				AMB	AMB		
	comp=Z,340nm,6.4s						
CD2				LR	LR		
	comp=Z,2μm,21.6s						
CD2				LR	LR		
	comp=Z,2μm,16.2s						
CD2				LR	LR		
	comp=Z,2μm,19.1s						
CN2	Changchun	126.02	18	PKP	PKPdf	13 17 14.2	-1.0
XAN	Xi'an	126.10	38	PKP	PKPdf	13 17 15.8	0.0
XAN				AMB	AMB		
	comp=Z,71nm,4.0s						
XAN				LR	LR		
	comp=Z,880nm,23.0s						
XAN				LR	LR		
	comp=Z,580nm,21.6s						
XAN				LR	LR		
	comp=Z,800nm,24.4s						
CHTO	Chiang Mai	126.97	60	ePKPdf	PKPdf	13 17 17.9	+0.2
CHTO	Chiang Mai	126.97	60	ePKIKP	PKPdf	13 17 17.9	+0.2
CHTO	Chiang Mai	126.97	60	PKP	PKPdf	13 17 19.2	+1.5
CMMT	Chiang Mai	126.98	60	PKP	PKPdf	13 17 19.1	+1.3
CM31	Chiang Mai Arr	127.12	61	ePKPdf	PKPdf	13 17 20.2	+2.2
CM31	Chiang Mai Arr	127.12	61	P	PKPdf	13 17 18.5	+0.5
	SNR=9.8						
CMAR	Chiang Mai Arr	127.12	61	PKP	PKPdf	13 17 18.1	+0.1
	comp=Z,5.0nm,0.8s,baz=287,slow=3.6,SNR=28						
KMI	Kunming	127.13	51	PKP	PKPdf	13 17 20.2	+2.0
KMI				PP	PP	13 19 14.5	-1.8
KMI				LR	LR		
	comp=Z,330nm,31.8s						
KMI				LR	LR		
	comp=Z,330nm,26.0s						
KMI				LR	LR		
	comp=Z,600nm,40.3s						
CM01	Chiang Mai Arr	127.15	61	ePKPdf	PKPdf	13 17 17.9	-0.1
USRK	Ussuriysk Ar.	127.38	13	PKP	PKPdf	13 17 18.1	+0.3
	comp=Z,2.3nm,0.8s,baz=14,slow=2.4,SNR=5.1						
NANT	Nan	128.49	59	PKP	PKPdf	13 17 25.2	+4.6
UTHA	Uthaitani	128.72	64	PKP	PKPdf	13 17 26.4	+5.3
UTTA	Uttaradit	128.81	61	PKP	PKPdf	13 17 24.9	+3.7
ENH	Enshi	128.95	41	ePKPdf	PKPdf	13 17 21.8	+0.5
GYA	Guiyang	129.34	47	ePdif	Pdif	13 14 07.2	-1.9
GYA				PKP	PKPdf	13 17 21.8	-0.4
GYA				PP	PP	13 19 33.0	+2.4
GYA				PKS	PKSdf	13 20 56.3	-2.7
GYA				SKKS		13 26 24.6	
GYA				SS	SS	13 36 51.5	-0.7
GYA				AMB	AMB		
	comp=Z,180nm,8.6s						
GYA				LR	LR		
	comp=Z,260nm,21.9s						
GYA				LR	LR		
	comp=Z,210nm,22.4s						
GYA				LR	LR		
	comp=Z,230nm,21.2s						
CHAI	Chaiyaphum	130.82	62	PKP	PKPdf	13 17 35.3	+10
NONG	Nongkai	130.89	59	PKP	PKPdf	13 17 28.6	+3.4
SRAK	Srakaew	131.63	64	PKP	PKPdf	13 17 30.7	+4.1
SKNT	Sakolnakorn	132.09	60	PKP	PKPdf	13 17 30.5	+3.0
NJ2	Nanjing	133.24	32	ePKP	PKPdf	13 17 30.4	+1.1
NJ2				PP	PP	13 19 58.1	+3.1
NJ2				SS	SS	13 37 45.8	+7.3
NJ2				AMB	AMB		
	comp=Z,220nm,5.7s						
NJ2				LR	LR		
	comp=Z,970nm,16.3s						
NJ2				LR	LR		
	comp=Z,510nm,13.6s						
NJ2				LR	LR		
	comp=Z,1μm,19.0s						
KRJI	Kerinci	135.39	86	P	PKPdf	13 17 31.9	-2.0
KRJI	Kerinci	135.39	86	PKP	PKPdf	13 17 31.9	-2.0
QIZ	Qiongzhong	135.93	53	PKP	PKPdf	13 17 33.5	-1.2
QIZ				PP	PP	13 20 15.1	+2.1
QIZ				SS	SS	13 38 15.4	+2.9
QIZ				LR	LR		
	comp=Z,410nm,24.5s						
QIZ				LR	LR		
	comp=Z,480nm,18.6s						
QIZ				LR	LR		
	comp=Z,520nm,21.4s						
MJAR	Matsushiro Arr	135.96	9	PKP	PKPdf	13 17 35.4	+1.1
	comp=Z,2.7nm,1.0s,baz=38,slow=4.3,SNR=4.4						
STKI	Sintang	144.88	80	PKP	PKPdf	13 17 58.6	+7.6
MBWA	Marble Bar	151.07	122	ePKPbc	PKPbc	13 18 07.1	+0.4
FORT	Forrest	151.11	147	ePKPbc	PKPbc	13 18 07.3	+0.8
CAN	Canberra	151.80	185	ePKPbc	PKPbc	13 18 08.9	+0.8
STKA	Stephens Creek	155.04	171	PKP	PKPdf	13 18 04.8	-1.7
	comp=Z,1.6nm,0.8s,baz=310,slow=7.9,SNR=2.3						
DZM	Mont Dzumac	155.27	231	eLR	LR	14 10 11.0	
	comp=Z,2μm,24.2s						
ASAR	Alice Springs	159.89	146	PKP	PKPdf	13 18 12.6	-0.2
	comp=Z,4.4nm,1.0s,baz=164,slow=0.6,SNR=25						
ASAR				PKPab	PKPab	13 18 52.4	+0.5
	comp=Z,4.0nm,1.0s,baz=212,slow=3.7,SNR=6.4						
AS31	Alice Springs	159.90	146	ePKPdf	PKPdf	13 18 13.2	+0.5
AS01	Alice Springs	159.92	146	ePKPdf	PKPdf	13 18 11.9	-0.9
WRA	Warramunga Arr	163.00	140	PKP	PKPdf	13 18 15.6	-0.5
	comp=Z,1.7nm,1.0s,baz=248,slow=1.6,SNR=7.9						
WRA				PKPab	PKPab	13 19 03.5	-2.0
	comp=Z,4.0nm,1.0s,baz=214,slow=2.8,SNR=7.7						
WRA				PP	PP	13 22 50.6	+1.1
	comp=Z,0.7nm,1.1s,baz=223,slow=4.4,SNR=4.0						
WB2	Warramunga Arr	163.00	140	ePKPdf	PKPdf	13 18 15.6	-0.5
SIJI	Sorong	164.09	68	PKPab	PKPab	13 19 10.9	+0.3
	comp=Z,2.7nm,0.5s,baz=214,slow=11,SNR=2.3						
CTA	Charters Tower	167.11	181	PKPab	PKPab	13 19 22.9	-0.5
	comp=Z,7.5nm,1.1s,baz=106,slow=3.9,SNR=3.4						

MEX 03 13:02:00.4±0.4, 16°27N×98°35W, h3km±3km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.25	59	eP	Pg	13 02 04.8	-0.4
PNIG				eS	Sg	13 02 08.6	+0.2
TLIG	Tlapa	1.31	351	eP	Pg	13 02 21.5	-4.0
TLIG				iS	Sg	13 02 38.3	-4.2

MAN 03 13:05:08.1, 9°19N×126°29E, h24km, mb4.7, ML3.5, MS3.4, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	Butuan	0.69	252	eP	Pb	13 05 20.9	-0.7
BUTP				eS	Sn	13 05 33.3	+0.9
BIPH	Bislig	1.00	176	iP	Pn	13 05 25.9	-0.8
BIPH				iS	Sb	13 05 38.9	-0.6
MSLP	Maasin	1.69	304	eP	Pn	13 05 36.8	+0.5
MSLP				eS	Sn	13 05 57.4	+0.2
BUKP	Musuan	1.78	223	eP	Pn	13 05 38.2	+0.8
BUKP				eS	Sb	13 06 04.6	+2.6
BESP	Borongan	2.54	341	eP	Pn	13 05 48.0	+0.1

*ISCJB **03** 13:06:24.7±0.6, 24°.33S±0°.05×179°.8W±0°.1, h490km, mb3.7/10, Error ellipse: s-maj=13.6km s-min=6.1km az=175.2*

*IDC **03** 13:06:29.0±2.7, 24°.41S×179°.87W, h529km±31km, mb3.3/11, mb1 3.5/13, mb1mx3.3/34, mbtmp4.3/13, Error ellipse: s-maj=19.1km s-min=17.7km az=49.0*

*WEL **03** 13:06:30.6±1.2, 25°.5±9°×17°.9W±3°.8, h516km±18km*

ISC 03 13:06:25.7±0.9, 24°.46S±0°.08×179°.7W±0°.1, h490km, n45, σ1°85/57, mb3.8/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	Green Lake	5.05	162	P	P	13 07 54.1	+1.6
GLKZ				S	S	13 09 02.9	-0.5
WCZ	Waipu Caves	12.53	203	P	P	13 09 12.2	+2.4
KUZ	Kuaotunu	12.86	197	P	P	13 09 13.9	+0.7
AFI	Afiamalu	12.90	37	P	P	13 09 18.0	+4.0
	8.5nm,0.3s,baz=239,slow=7.7,SNR=11						
DZM	Mont Dzumac	12.93	278	P	P	13 09 16.5	+2.2
	0.7nm,0.3s,baz=88,slow=16,SNR=12						
MXZ	Matakaoa Point	13.17	187	P	P	13 09 19.5	+3.0
HAZ	Te Kaha	13.43	189	P	P	13 09 19.9	+0.7
HAZ				S	S	13 11 43.9	+1.5
RUGZ	Raukumara Rang	13.65	189	P	P	13 09 22.0	+0.3
PUZ	Puketiti	13.68	187	P	P	13 09 23.5	+1.5
TWGZ	Tauwhareparae	13.82	188	P	P	13 09 26.6	+3.2
URZ	Urewera	14.02	190	P	P	13 09 23.9	-1.6
	0.8nm,0.3s,baz=35,slow=16,SNR=6.3						
URZ				S	S	13 11 53.1	-0.8
	0.3nm,0.3s,baz=5.8,

BFZ				S	**S**	**13 12 38.0**	**-3.6**	
MRZ	**Mangatainoka R**	**16.63**	**193**	P	**P**	**13 09 49.6**	**-3.4**	
MRZ				S	**S**	**13 12 41.0**	**-2.5**	
OGWZ	**Otaki Gorge**	**16.86**	**193**	P	**P**	**13 09 54.2**	**-1.2**	
HOWZ	**Holdsworth Sta**	**16.87**	**192**	P	**P**	**13 09 53.9**	**-1.6**	
HOWZ				S	**S**	**13 12 44.6**	**-3.1**	
CAW	**Cannon Point**	**17.16**	**193**	P	**P**	**13 09 57.1**	**-1.3**	
TCW	**Tory Channel**	**17.44**	**195**	P	**P**	**13 10 01.3**	**+0.2**	
NNZ	**Nelson**	**17.68**	**197**	P	**P**	**13 10 02.0**	**-1.2**	
TUWZ	**Tuamarina**	**17.73**	**196**	P	**P**	**13 10 02.5**	**-1.3**	
RPZ	**Rata Peaks**	**20.64**	**199**	P	**P**	**13 10 30.2**	**-0.2**	
	12nm,0.7s,baz=45,slow=20,SNR=4.4							
CTA	**Charters Tower**	**31.72**	**271**	P	**P**	**13 12 09.2**	**+0.6**	
	6.2nm,0.3s,baz=93,slow=11,SNR=19							
STKA	**Stephens Creek**	**34.74**	**249**	P	**P**	**13 12 33.4**	**-0.7**	
	2.0nm,0.6s,baz=73,slow=8.3,SNR=7.3							
ASAR	**Alice Springs**	**42.19**	**261**	P	**P**	**13 13 34.7**	**-0.2**	
	2.8nm,0.8s,baz=97,slow=8.1,SNR=30							
ASAR				PcP	**PcP**	**13 15 16.2**	**-1.8**	
	0.4nm,0.6s,baz=98,slow=4.2,SNR=3.4							
WRA	**Warramunga Arr**	**42.61**	**267**	P	**P**	**13 13 37.5**	**-0.7**	
	2.4nm,0.4s,baz=98,slow=8.3,SNR=112							
SIJI	**Sorong**	**52.84**	**289**	P	**P**	**13 14 54.2**	**-1.0**	
	1.7nm,0.3s,baz=56,slow=18,SNR=3.9							
VNDA	**Vanda**	**53.85**	**185**	P	**P**	**13 15 02.2**	**+0.9**	
	0.4nm,0.5s,baz=9.4,slow=6.6,SNR=4.1							
QSPA	**South Pole Qui**	**65.63**	**180**	P	**P**	**13 16 21.0**	**+0.6**	
	2.1nm,0.8s,baz=306,slow=0.3,SNR=6.4							
MAW	**Mawson**	**77.31**	**200**	P	**P**	**13 17 28.9**	**+0.3**	
	1.4nm,0.5s,baz=134,slow=6.7,SNR=14							
TXAR	**Lajitas Array**	**90.52**	**58**	P	**P**	**13 18 35.2**	**+0.1**	
	0.2nm,0.3s,baz=228,slow=3.5,SNR=2.7							
ILAR	**Eielson Array**	**92.51**	**13**	P	**P**	**13 18 41.9**	**-1.4**	
	0.2nm,0.6s,baz=209,slow=5.2,SNR=3.1							

*ISCJB **03** 13:12:44.7±0.4,0.°15S±0.°05×123.°33E±0.°04,h157km, mb3.5/6, Error ellipse: s-maj=7.5km s-min=5.9km az=9.2*
*DJA **03** 13:12:45.6±0.4,0.°S±3.°×12.°3E±.°,h125km±5km,M3.8/9, mb3.7/2,MLv3.9/9*
*IDC **03** 13:12:50.9±3.7,0.°05N×123.°57E,h205km±37km, mb3.1/6, mb1 3.3/7,mb1mx3.1/35,mbtmp3.6/7,Error ellipse: s-maj=34.2km s-min=13.8km az=67.0*

ISC 03 13:12:45.6±0.7,0.°11S±0.°06×123.°31E±0.°05,h157km,n22, σ2.°21/31,mb3.6/6,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.95**	**45**	P	**Pn**	**13 13 09.8**	**-0.8**
KMSI				S	**Sn**	**13 13 26.5**	**-3.3**
LUWI	**Luwuk**	**1.07**	**210**	P	**Pn**	**13 13 09.6**	**-2.0**
LUWI				S	**Sn**	**13 13 26.8**	**-4.8**
MRSI	**Marisa**	**1.49**	**293**	P	**Pn**	**13 13 13.0**	**-2.5**
MRSI				S	**Sn**	**13 13 33.6**	**-4.9**
APSI	**Ampana**	**1.84**	**244**	P	**Pn**	**13 13 18.2**	**-1.1**
APSI				S	**Sn**	**13 13 41.6**	**-3.7**
SANI	**Sanana**	**3.30**	**126**	P	**Pn**	**13 13 34.9**	**-2.1**
SANI				S	**Sn**	**13 14 14.6**	**-2.3**
MPSI	**Mapaga**	**3.44**	**277**	P	**Pn**	**13 13 39.6**	**+0.8**
MPSI				S	**Sn**	**13 14 19.4**	**-0.7**
TTSI	**Tana Toraja**	**4.55**	**230**	P	**Pn**	**13 13 53.5**	**+0.3**
TTSI				S	**Sn**	**13 14 45.1**	**-0.9**
SPSI	**Sidrap Palu**	**5.22**	**223**	P	**Pn**	**13 14 01.3**	**-0.7**
	8.7nm,0.7s,0.0nm						
BNSI	**Bone**	**5.33**	**217**	P	**Pn**	**13 14 04.5**	**+1.0**
SIJI	**Sorong**	**7.99**	**95**	P	**Pn**	**13 14 40.6**	**+1.8**
	0.5nm,0.3s,baz=271,slow=6.1,SNR=4.8						
WRA	**Warramunga Arr**	**22.48**	**152**	P	**P**	**13 17 33.5**	**+1.5**
	1.4nm,0.5s,baz=331,slow=10,SNR=27						
ASAR	**Alice Springs**	**25.58**	**157**	P	**P**	**13 18 01.8**	**+1.6**
	0.2nm,0.4s,baz=341,slow=14,SNR=5.2						
ASAR				PcP	**PcP**	**13 21 27.1**	**-0.2**
	0.2nm,0.5s,baz=303,slow=1.9,SNR=2.8						
CMAR	**Chiang Mai Arr**	**30.23**	**309**	P	**P**	**13 18 43.4**	**+1.7**
	0.8nm,0.7s,baz=123,slow=6.5,SNR=3.2						
MJAR	**Matsushiro Arr**	**39.00**	**19**	P	**P**	**13 19 55.4**	**-1.3**
	1.9nm,0.8s,baz=181,slow=10,SNR=6.1						
RAMN	**Ramite**	**44.38**	**310**	*eP*	**P**	**13 20 43.3**	**+2.4**
	7.1nm,0.5s						
JIRN	**Jiri**	**45.06**	**311**	*eP*	**P**	**13 20 48.4**	**+1.9**
	9.4nm,0.5s						
GUN	**Gumba**	**45.42**	**311**	*eP*	**P**	**13 20 51.1**	**+1.8**
	7.6nm,0.4s						
KOLN	**Koldamda**	**47.09**	**309**	*eP*	**P**	**13 21 04.1**	**+1.9**
	9.5nm,0.8s						
DANN	**Dangsing**	**47.26**	**310**	*eP*	**P**	**13 21 05.1**	**+1.6**
	12nm,0.7s						
PYUN	**Piuthan**	**47.73**	**309**	*eP*	**P**	**13 21 09.0**	**+1.9**
	8.9nm,0.7s						
SONM	**Songino Array**	**49.97**	**345**	P	**P**	**13 21 24.0**	**+0.3**
	0.6nm,0.5s,baz=157,slow=9.0,SNR=4.1						
MKAR	**Makanchi Array**	**58.87**	**328**	P	**P**	**13 22 28.7**	**+0.8**
	0.1nm,0.3s,baz=121,slow=8.2,SNR=5.5						
MKAR				PcP	**PcP**	**13 23 13.7**	**-1.9**
	0.1nm,0.4s,baz=166,slow=3.4,SNR=3.5						

*IDC **03** 13:18:58.5±1.4,59.°91S×30.°27W,h0km,mb3.9/2, mb1 4.3/3,mb1mx3.8/26,mbtmp4.3/3,ML4.7/1,Error ellipse: s-maj=82.3km s-min=31.0km az=116.0*
*ISCJB **03** 13:19:03.0±1.7,60.°7S±0.°2×23.°7W±0.°8,h10km,mb3.7/2, Error ellipse: s-maj=60.1km s-min=18.4km az=167.4*

ISC 03 13:19:04.3±1.9,60.°7S±0.°2×24.°1W±0.°5,h10km,n10, σ0.°39/7,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**11.91**	**154**	P	**Pn**	**13 21 54.3**	**+0.4**
VNA3	**Neumayer Olymp**	**12.09**	**157**	P	**Pn**	**13 21 56.3**	**0.0**
VNA3				S	Sn	13 23 57.5	-14
VNA2	**Neumayer--Watz**	**12.31**	**154**	P	**Pn**	**13 21 59.3**	**0.0**
	baz=315,slow=15						
VNA2				S	Sn	13 24 03.0	-13
SNAA	**Sanae**	**13.87**	**151**	P	**Pn**	**13 22 20.7**	**0.0**
VNDA	**Vanda**	**42.02**	**182**	P	**P**	**13 26 55.1**	**0.0**
	0.5nm,0.7s,baz=189,slow=5.3,SNR=4.8						
H10S2	**ASCENSION HYDR**	**52.07**	**12**	T	T	14 24 38.8	
	baz=186,slow=75,SNR=5.9						
H10S3	**ASCENSION HYDR**	**52.07**	**12**	T	T	14 24 39.6	
	baz=186,slow=75,SNR=5.9						
H10S1	**ASCENSION HYDR**	**52.09**	**12**	T	T	14 24 40.8	
	baz=186,slow=75,SNR=7.1						
TORD	**Torodi Ar. Bea**	**76.38**	**26**	P	**P**	**13 30 53.8**	**+0.3**
	2.7nm,0.9s,baz=193,slow=6.2,SNR=12						
SONM	**Songino Array**	**149.15**	**92**	PKPbc	**PKPab**	**13 38 55.7**	**-0.6**
	0.5nm,0.5s,baz=233,slow=3.7,SNR=4.2						

IDC 03 13:21:59.9±45.0,16.°38S×172.°44W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.6/47,mbtmp4.0/3,MS4.1/3,Ms1 4.0/3, ms1mx3.4/27,Error ellipse: s-maj=865.2km s-min=178.3km az=80.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**13.77**	**201**	LR	LR	13 29 13.1	
	comp=Z,755nm,21.3s,baz=108,slow=32						
STKA	**Stephens Creek**	**44.37**	**241**	P	P	13 30 12.6	+0.3
	0.9nm,0.4s,baz=69,slow=9.7,SNR=5.8						
WRA	**Warramunga Arr**	**50.53**	**257**	P	P	13 30 59.8	-0.7
	0.4nm,0.5s,baz=97,slow=7.0,SNR=13						
ASAR	**Alice Springs**	**50.70**	**253**	P	P	13 31 01.9	+0.1
	4.6nm,0.6s,baz=88,slow=8.2,SNR=124						
VNDA	**Vanda**	**62.51**	**186**	LR	LR	13 59 13.4	
	comp=Z,31nm,18.0s,baz=162,slow=36						
PETK	**Petropavlovsk-**	**73.84**	**342**	LR	LR	14 01 07.2	
	comp=Z,464nm,21.7s,baz=21,slow=32						

*IDC **03** 13:23:34.3±1.3,39.°23N×110.°29E,h0km,mb3.6/7, mb1 3.8/8,mb1mx3.5/46,mbtmp3.6/8,ML2.9/1,MS3.5/1, Ms1 3.5/1,ms1mx2.7/33,Error ellipse: s-maj=41.0km s-min=16.1km az=61.0*
*ISCJB **03** 13:23:36.6±1.1,39.°46N±0.°09×110.°6E±0.°2,h33km, mb3.5/7,Error ellipse: s-maj=27.6km s-min=11.1km az=163.7*

ISC 03 13:23:39.1±1.3,39.°4N±0.°1×110.°4E±0.°3,h35km,n10, σ1.°49/11,mb3.6/7,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**8.91**	**342**	Pn	**Pn**	**13 25 46.6**	**+1.2**
	0.1nm,0.3s,baz=162,slow=12,SNR=19						
SONM				Sn	**Sn**	**13 27 22.2**	**-2.3**
	0.1nm,0.3s,baz=153,slow=23,SNR=2.3						
SONM				Lg	Lg	13 28 20.0	
	0.3nm,0.3s,baz=156,slow=27,SNR=5.4						
SONM				LR	LR	13 29 46.2	
	comp=Z,307nm,19.1s,baz=185,slow=41						
MKAR	**Makanchi Array**	**21.74**	**299**	P	**P**	**13 28 26.4**	**-0.9**
	2.1nm,0.9s,baz=96,slow=12,SNR=8.1						
ZALV	**Zelesovo Beam**	**22.63**	**318**	P	**P**	**13 28 38.1**	**+1.4**
	0.7nm,0.6s,baz=111,slow=7.9,SNR=2.8						
CMMT	**Chiang Mai**	**22.80**	**209**	P	**P**	**13 28 39.6**	**+0.7**
CHTO	**Chiang Mai**	**22.80**	**209**	P	**P**	**13 28 39.7**	**+0.8**
CMAR	**Chiang Mai Arr**	**23.13**	**209**	P	**P**	**13 28 39.6**	**-2.6**
	2.6nm,0.7s,baz=13,slow=9.2,SNR=26						
KURBB	**Kurchatov Arra**	**24.98**	**307**	P	**P**	**13 28 59.5**	**+0.2**
	1.8nm,0.9s,baz=109,slow=9.5,SNR=11						
AAK	**Ala-Archa**	**27.16**	**289**	P	**P**	**13 29 20.0**	**+0.7**
	1.2nm,0.8s,baz=86,slow=6.1,SNR=4.7						
WRA	**Warramunga Arr**	**63.14**	**155**	P	**P**	**13 34 03.1**	**-0.3**
	0.2nm,0.7s,baz=345,slow=7.0,SNR=4.6						
ASAR	**Alice Springs**	**66.48**	**157**	P	**P**	**13 34 24.7**	**-0.4**
	0.4nm,0.8s,baz=338,slow=5.8,SNR=5.6						

*GUC **03** 13:26:11.2±0.4,32.°24S×72.°04W,h5km±9km,ML3.3*
*SJA **03** 13:26:11.9±1.0,32.°54S×72.°38W,h64km±34km,ML3.6, MW3.9*

ISC 03 13:26:11.0±4.7,32.°29S±0.°07×72.°2W±0.°2,h3km±29km,n20, σ1.°53/25,1C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROC1	**El Roble**	**1.20**	**125**	*eP*	**Pn**	**13 26 34.3**	**-0.6**
ROC1				*eS*	**Sb**	**13 26 51.3**	**+0.8**
ROCH	**El Roble**	**1.20**	**125**	*eP*	**Pn**	**13 26 34.1**	**-0.8**
ROCH				*eS*	**Sn**	**13 26 51.5**	**-0.3**
ROCH				IAML		13 26 57.8	
	comp=N,2μm,0.6s						
CMCH	**Combarbala**	**1.51**	**42**	*eP*	**Pn**	**13 26 37.9**	**-1.1**
PEL	**Peldehue**	**1.52**	**124**	*eP*	**Pn**	**13 26 39.2**	**0.0**
PEL				*eS*	**Sn**	**13 26 58.7**	**-0.8**
PEL	**Peldehue**	**1.52**	**124**	*eP*	**Pn**	**13 26 39.0**	**-0.1**
PEL				*eS*	**Sb**	**13 26 59.9**	**+0.2**
PEL				IAML		13 27 07.0	
	comp=E,961nm,0.5s						
CLCH	**Cerro Calan**	**1.77**	**129**	*eP*	**Pn**	**13 26 43.1**	**+0.5**
CLCH				*eS*	**Sb**	**13 27 07.7**	**+0.9**
FCH	**Farellones**	**1.90**	**123**	*iP*	**Pn**	**13 26 44.5**	**-0.1**
FCH				IAML		13 27 17.4	
	comp=E,309nm,0.3s						
AUSP	**Uspallata**	**2.37**	**89**	*eP*	**Pb**	**13 26 54.0**	**-0.5**
GO04	**Tololo Observa**	**2.43**	**30**	*eP*	**Pn**	**13 26 50.5**	**-1.3**
RTLS	**Leoncito**	**2.50**	**79**	*eP*	**Pb**	**13 26 56.4**	**-0.3**
RTLS				IAML		13 27 42.9	
	comp=Z,110nm,0.6s						
ASAL	**Salagasta**	**2.85**	**97**	*eP*	**Pb**	**13 27 02.6**	**+0.1**
AAGR	**Agrelo**	**2.94**	**106**	*eP*	**Pb**	**13 27 05.9**	**+1.8**
RTCV	**Cerro Valdivia**	**3.12**	**83**	*eP*	**Pb**	**13 27 04.4**	**-2.9**
AROD	**Rodeo**	**3.15**	**48**	*eP*	**Pb**	**13 27 05.6**	**-2.1**
ACCO	**Cerro Coronel**	**3.16**	**58**	*eP*	**Pb**	**13 27 08.8**	**+0.8**
RTLL	**Cerro Villicun**	**3.30**	**74**	*eP*	**Pb**	**13 27 10.1**	**-0.1**
AMOG	**MOGNA**	**3.43**	**68**	*eP*	**Pb**	**13 27 12.2**	**-0.2**
ACAN	**Cantantal**	**4.23**	**91**	*eP*	**Pn**	**13 27 14.6**	**-1.9**
AGUA	**GUANDACOL**	**4.23**	**50**	*eP*	**Pn**	**13 27 20.3**	**+3.8**
VCA	**Vinchina**	**4.94**	**45**	*eP*	**Pn**	**13 27 29.1**	**+2.8**
VCA				IAML		13 29 00.5	
	comp=Z,63nm,0.6s						

*ISCJB **03** 13:56:19.2±0.6,15.°49S±0.°04×71.°52W±0.°07,h127km±6km, mb4.7/31,Error ellipse: s-maj=11.4km s-min=4.8km az=156.0*
*NEIC **03** 13:56:19.9±0.6,15.°51S×71.°58W,h114km±6km,mb4.9/16, Error ellipse: s-maj=9.3km s-min=4.9km az=73.0*
*IDC **03** 13:56:23.5±0.7,15.°47S×71.°59W,h145km±6km,mb4.2/17, mb1 4.3/20,mb1mx4.2/28,mbtmp4.6/20,MS3.3/1, Ms1 3.3/1,ms1mx2.9/29,Error ellipse: s-maj=13.4km s-min=9.9km az=44.0*

ISC 03 13:56:20.9±0.5,15.°65S±0.°05×71.°81W±0.°06,h127km±5km, h127km;pP-P,n288,σ1.°16/296,mb4.8/31,1C-5D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB12	**IPOC Station P**	**3.27**	**155**	*iP*	**Pn**	**13 57 11.4**	**+0.4**
PB12				*eS*	**Sn**	**13 57 48.6**	**-1.1**
PB12				IAML		13 57 52.0	
	comp=N,6μm,0.8s						
PB16	**IPOC Station P**	**3.46**	**141**	*iP*	**Pn**	**13 57 16.1**	**+2.2**
PB16				*eS*	**Sn**	**13 57 57.5**	**+2.5**
PB16				IAML		13 58 01.1	
	comp=N,994nm,0.8s						
LPAZ	**La Paz**	**3.59**	**101**	P	**Pn**	**13 57 18.6**	**+2.9**
	comp=N,12nm,0.3s,baz=294,slow=12,SNR=159						
LPAZ				S	**Sn**	**13 57 59.8**	**+1.7**
	comp=N,2.5nm,0.3s,baz=274,slow=14,SNR=2.9						
LPAZ	**La Paz**	**3.59**	**101**	*iP*	**Pn**	**13 57 18.8**	**+3.0**
LPAZ				*eS*	**Sn**	**13 57 58.0**	**-0.2**
MNMC	**Minye Minye**	**4.05**	**149**	*ePn*	**Pn**	**13 57 22.2**	**+0.7**
MNMC	**Minye Minye**	**4.05**	**149**	*iP*	**Pn**	**13 57 22.0**	**+0.4**
MNMC				*eS*	**Sn**	**13 58 06.9**	**-1.7**
PSGC	**Pisagua**	**4.24**	**158**	*iP*	**Pn**	**13 57 23.6**	**-0.3**
PSGC				*eS*	**Sn**	**13 58 09.7**	**-3.1**
PB11	**IPOC Station P**	**4.57**	**154**	*ePn*	**Pn**	**13 57 28.0**	**-0.4**
PB11	**IPOC Station P**	**4.57**	**154**	*eP*	**Pn**	**13 57 28.0**	**-0.4**
PB11				*eS*	**Sn**	**13 58 17.7**	**-3.1**
PB08	**IPOC Station P**	**5.13**	**151**	*eP*	**Pn**	**13 57 36.2**	**+0.1**
PB01	**IPOC Station P**	**5.80**	**158**	*ePn*	**Pn**	**13 57 44.0**	**-0.8**
NNA	**Nana**	**6.10**	**306**	P	**Pn**	**13 57 49.2**	**+0.5**
	comp=N,17nm,0.3s,baz=140,slow=10,SNR=21						
NNA				S	**Sn**	**13 58 53.5**	**-3.9**
	comp=N,26nm,0.3s,baz=31,slow=15,SNR=16						
NNA	**Nana**	**6.10**	**306**	*ePn*	**Pn**	**13 57 49.0**	**+0.2**
PB04	**IPOC Station P**	**6.83**	**167**	*ePn*	**Pn**	**13 57 56.9**	**-1.8**
LVC	**Limon Verde**	**7.44**	**159**	*ePn*	**Pn**	**13 58 06.9**	**-0.3**
PB10	**IPOC Station P**	**7.91**	**172**	*ePn*	**Pn**	**13 58 11.8**	**-1.4**
ATAH	**Atahualpa**	**10.64**	**322**	S	**Sn**	**14 00 48.1**	**+0.1**
	comp=N,0.8nm,0.3s,baz=120,slow=20,SNR=2.3						
LCO	**Las Campanas**	**13.34**	**176**	*ePn*	**Pn**	**13 59 27.3**	**+1.8**
GO04	**Tololo Observa**	**14.48**	**177**	*ePn*	**Pn**	**13 59 41.7**	**+1.6**
OTAV	**Otavalo**	**17.10**	**337**	*eP*	**Pn**	**14 00 16.8**	**+4.0**
CPUP	**Villa Florida**	**17.18**	**131**	P	**P**	**14 00 11.8**	**-1.0**
	comp=N,0.3nm,0.3s,baz=305,slow=10,SNR=8.7						
CPUP	**Villa Florida**	**17.18**	**131**	*eP*	**P**	**14 00 12.6**	**-0.2**
	comp=N,8.2nm,1.3s						
FLOC	**Florencia**	**17.54**	**347**	*eP*	**Pn**	**14 00 18.4**	**+0.7**
GCUF	**Volcan Galeras**	**17.64**	**341**	*eP*	Pn	14 00 26.9	+7.6
SOTA	**Rioblanco**	**18.30**	**345**	*eP*	**Pn**	**14 00 28.0**	**+0.8**
PCON	**Cinco Dias**	**18.43**	**345**	*eP*	**Pn**	**14 00 31.2**	**+2.3**
MARP	**Paez Belalcaza**	**18.83**	**347**	*eP*	**Pn**	**14 00 32.8**	**-0.5**
PTGA	**Pitinga**	**18.88**	**39**	P	**Pn**	**14 00 30.4**	**-3.1**
	comp=N,17nm,0.3s,baz=213,slow=12,SNR=157						
PTGA				LR	LR	14 08 50.6	
	comp=N,94nm,19.2s,baz=320,slow=40						
PTGA	**Pitinga**	**18.88**	**39**	*eP*	**Pn**	**14 00 30.5**	**-3.1**
	comp=N,54nm,0.7s						
PRAC	**Prado**	**19.48**	**351**	*eP*	**Pn**	**14 00 40.8**	**+0.1**
YOTC	**Yotoco, Valle**	**20.02**	**347**	*eP*	**P**	**14 00 44.0**	**-0.1**
CHIC	**Chingaza**	**20.24**	**354**	*eP*	Pn	14 00 49.3	-0.6
TOLC	**Tolima**	**20.41**	**350**	*eP*	Pn	14 00 50.9	-0.9
ROSC	**El Rosal**	**20.51**	**353**	P	**P**	**14 00 48.6**	**-1.0**
	comp=N,6.8nm,0.4s,baz=119,slow=19,SNR=2.7						
RREF	**El Recreo**	**20.72**	**350**	*eP*	**P**	**14 00 51.9**	**-0.2**
RUSC	**La Rusia**	**21.44**	**357**	*eP*	**P**	**14 00 57.2**	**-2.5**
BDFB	**Brasilia**	**22.91**	**93**	P	**P**	**14 01 13.1**	**-1.1**
	comp=N,25nm,0.5s,baz=266,slow=11,SNR=33						
BDFB	**Brasilia**	**22.91**	**93**	*eP*	**P**	**14 01 13.2**	**-1.1**
	comp=N,49nm,0.5s						
GO06	**Curarrehue**	**23.84**	**179**	*eP*	**P**	**14 01 23.9**	**+1.3**
	comp=N,32nm,0.7s						
SDV	**Santo Domingo**	**24.41**	**3**	P	**P**	**14 01 26.5**	**-1.4**
	comp=N,20nm,0.5s,baz=198,slow=10,SNR=28						
SDV	**Santo Domingo**	**24.41**	**3**	*eP*	**P**	**14 01 26.5**	**-1.4**
	comp=N,51nm,1.0s						
PLCA	**Paso Flores**	**25.02**	**178**	P	**P**	**14 01 34.5**	**+1.3**
	comp=N,13nm,0.9s,baz=18,slow=8.2,SNR=23						
PLCA	**Paso Flores**	**25.02**	**178**	*eP*	**P**	**14 01 34.4**	**+1.2**
	comp=N,35nm,1.3s						
PCRV	**Puerto La Cruz**	**26.63**	**16**	P	**P**	**14 01 45.6**	**-2.3**
	comp=N,14nm,0.7s,baz=229,slow=6.7,SNR=5.1						
CHRN	**Cochrane**	**31.51**	**181**	*eP*	**P**	**14 02 32.9**	**+2.2**
	comp=N,15nm,0.8s						
CRPR	**Cabo Rojo, PR**	**33.76**	**8**	*eP*	**P**	**14 02 48.5**	**-2.2**
	comp=N,50nm,0.6s						

CBYP	**Canovanas**	**34.22**	**10**	*eP*	**P**	**14 02 52.7**	**-2.0**
	comp=N,46nm,0.7s						
254A	**Abbeville**	**48.59**	**347**	P	**P**	**14 04 51.9**	**+0.3**
	baz=165						
251A	**Midway**	**49.23**	**345**	P	**P**	**14 04 56.7**	**+0.2**
	baz=162						
347A	**Saraland**	**49.47**	**341**	P	**P**	**14 04 59.1**	**+0.7**
	baz=158						
249A	**Camden**	**49.58**	**343**	P	**P**	**14 04 59.6**	**+0.5**
	baz=160						
Z54A	**Sparta**	**49.74**	**348**	P	**P**	**14 05 00.8**	**+0.4**
	baz=166						
150A	**Eclectic**	**49.88**	**344**	P	**P**	**14 05 01.8**	**+0.4**
	baz=162						
Z53A	**Monticello**	**49.94**	**347**	P	**P**	**14 05 01.9**	**+0.1**
	baz=165						
Z52A	**Williamson**	**50.04**	**346**	P	**P**	**14 05 03.0**	**+0.4**
	baz=164,SNR=6.1						
GOGA	**Godfrey**	**50.04**	**347**	P	**P**	**14 05 02.8**	**+0.1**
	baz=165						
149A	**Jones**	**50.07**	**343**	P	**P**	**14 05 02.7**	**-0.2**
	baz=161,SNR=7.7						
Y54A	**Tignall**	**50.32**	**348**	P	**P**	**14 05 04.9**	**+0.2**
	baz=166						
Z50A	**Ashland**	**50.47**	**345**	*eP*	**P**	**14 05 05.6**	**-0.3**
	comp=N,21nm,0.7s						
Z50A	**Ashland**	**50.47**	**345**	P	**P**	**14 05 06.0**	**+0.1**
	baz=162,SNR=10						
LRAL	**Lakeview Retre**	**50.54**	**343**	P	**P**	**14 05 06.3**	**-0.2**
	baz=161						
Z48A	**Northport**	**51.02**	**343**	P	**P**	**14 05 09.8**	**-0.2**
	baz=160,SNR=6.4						
Y50A	**Piedmont**	**51.02**	**345**	P	**P**	**14 05 09.7**	**-0.3**
	baz=162						
Y49A	**Blount Mountai**	**51.16**	**344**	*eP*	**P**	**14 05 10.8**	**-0.3**
	comp=N,12nm,0.6s						
Y49A	**Blount Mountai**	**51.16**	**344**	P	**P**	**14 05 10.9**	**-0.3**
	baz=162						
Y48A	**Jasper**	**51.42**	**344**	P	**P**	**14 05 12.9**	**-0.1**
	baz=161						
X50B	**Fort Payne**	**51.55**	**345**	P	**P**	**14 05 13.7**	**-0.3**
	baz=163						
Y47A	**UCPARC, Winfie**	**51.59**	**343**	P	**P**	**14 05 14.1**	**-0.2**
	baz=160,SNR=7.6						
W53A	**Cullowhee**	**51.68**	**348**	P	**P**	**14 05 15.4**	**+0.4**
	baz=166,SNR=6.3						
X49A	**Woodville**	**51.76**	**345**	P	**P**	**14 05 15.2**	**-0.3**
	baz=162						
X48A	**Hartselle**	**51.89**	**344**	*eP*	**P**	**14 05 16.0**	**-0.5**
	comp=N,12nm,0.8s						
X48A	**Hartselle**	**51.89**	**344**	P	**P**	**14 05 16.0**	**-0.5**
	baz=161,SNR=5.8						
W51A	**Cleveland**	**52.01**	**347**	P	**P**	**14 05 17.2**	**-0.1**
	baz=164						
V53A	**Saluda**	**52.09**	**349**	P	**P**	**14 05 18.0**	**-0.1**
	baz=166						
X47A	**Russelville**	**52.17**	**343**	P	**P**	**14 05 18.5**	**-0.1**
	baz=160						
SWET	**Sewanee**	**52.33**	**345**	*eP*	**P**	**14 05 19.4**	**-0.4**
	comp=N,10nm,0.7s						
V52A	**Sevierville**	**52.41**	**348**	P	**P**	**14 05 20.2**	**-0.1**
	baz=165,SNR=7.2						
W48A	**Pulaski**	**52.51**	**344**	P	**P**	**14 05 20.8**	**-0.2**
	baz=161						
V51A	**Loudon**	**52.53**	**347**	P	**P**	**14 05 21.0**	**-0.2**
	baz=164						
V50A	**Pikevile**	**52.57**	**346**	P	**P**	**14 05 21.2**	**-0.3**
	baz=164						
W47A	**Westpoint**	**52.79**	**344**	P	**P**	**14 05 22.8**	**-0.3**
	baz=161						
V49A	**McMinnville**	**52.85**	**346**	P	**P**	**14 05 23.1**	**-0.5**
	baz=163						
U51A	**La Follette**	**53.02**	**348**	P	**P**	**14 05 24.5**	**-0.3**
	baz=165						
V48A	**Smith Brothers**	**53.05**	**345**	P	**P**	**14 05 24.7**	**-0.4**
	baz=162,SNR=5.4						
TZTN	**Tazewell**	**53.08**	**348**	P	**P**	**14 05 24.8**	**-0.5**
	baz=166						
U50A	**Jamestown**	**53.23**	**347**	P	**P**	**14 05 26.1**	**-0.2**
	baz=164,SNR=7.8						

baz=160,SNR=8.2
O56A **Blue Knob Stat** 55.98 354 P P 14 05 47.0 +0.8
baz=172
Q47A **Bedord North L** 56.00 346 P P 14 05 45.7 -0.5
baz=163
R44A **Waltonville** 56.01 344 P P 14 05 45.9 -0.4
baz=160,SNR=5.3
S42A **Caledonia** 56.06 342 P P 14 05 46.0 -0.7
baz=158
P50A **Jamestown** 56.10 349 P P 14 05 46.2 -0.7
baz=166
S41A **Jillco Farms,** 56.18 341 P P 14 05 47.1 -0.5
baz=156,SNR=6.5
O52A **Adamsville** 56.26 351 P P 14 05 47.9 -0.2
baz=168
R43A **Red Bud** 56.27 343 P P 14 05 48.2 0.0
baz=159,SNR=7.3
P48A **Milroy** 56.28 347 P P 14 05 47.7 -0.6
baz=164
Q45A **Warren Harvey,** 56.38 345 P P 14 05 48.4 -0.5
baz=161
CCM **Cathedral Cave** 56.45 342 P P 14 05 49.1 -0.4
baz=157
P47A **Martinsville** 56.49 347 P P 14 05 49.2 -0.5
baz=163
R42A **Luebbering** 56.53 342 P P 14 05 49.8 -0.2
baz=158,SNR=6.0
ACSO **Alum Creek Sta** 56.56 350 P P 14 05 49.9 -0.4
baz=167
O50A **Cable** 56.59 349 P P 14 05 49.9 -0.6
baz=166
Q44A **Meyer Farm, Va** 56.61 344 P P 14 05 49.9 -0.7
baz=160
R41A **Rosebud** 56.72 342 P P 14 05 50.9 -0.5
baz=157,SNR=9.5
N54A **Moraine State** 56.83 353 P P 14 05 52.9 +0.7
baz=170
P45A **Graceland, Par** 56.87 345 P P 14 05 52.1 -0.3
baz=161
O48A **Farmland** 56.99 348 P P 14 05 52.7 -0.6
baz=164
P44A **Sand Creek, Wi** 57.04 345 P P 14 05 53.8 +0.3
baz=160
Q42A **Golden Eagle** 57.04 343 P P 14 05 53.4 -0.2
baz=158
MNTX **Cornudas Mount** 57.04 326 P P 14 05 54.0 +0.1
baz=140
O47A **Sheridan** 57.19 347 P P 14 05 54.2 -0.4
baz=163
Q41A **Truxton** 57.28 342 P P 14 05 55.2 -0.1
baz=157
M54A **Oil Creek Stat** 57.33 353 P P 14 05 56.2 +0.5
baz=171
P43A **Skaggs, Pawnee** 57.44 344 P P 14 05 55.6 -0.8
baz=159
N49A **Columbus Grove** 57.44 349 P P 14 05 55.8 -0.6
baz=166
SFIN **Lafayette** 57.53 346 P P 14 05 55.7 -1.3
baz=162
O45A **Potomac** 57.55 346 P P 14 05 55.9 -1.2
baz=162
P42A **Winchester** 57.61 343 P P 14 05 57.0 -0.6
baz=158
BINY **Binghamton** 57.69 356 P P 14 05 58.7 +0.6
baz=175
N47A **Urbana** 57.70 348 P P 14 05 57.3 -0.9
baz=164
P41A **Barry, Barry** 57.90 343 P P 14 05 59.1 -0.5
baz=158
N46A **Monticello** 57.94 347 P P 14 05 58.9 -1.0
baz=163
M49A **Liberty Center** 57.94 349 P P 14 05 59.2 -0.7
baz=166
L48A **N Adams** 58.48 349 P P 14 06 02.9 -0.7
baz=166
N43A **Stutzman Famil** 58.56 345 P P 14 06 03.5 -0.7
baz=160,SNR=5.8
L47A **Sherwood** 58.66 348 P P 14 06 04.3 -0.6
baz=165
N42A **Yates City** 58.68 344 P P 14 06 04.2 -0.8
baz=159
TYNO **Tyneside** 58.92 353 P P 14 06 07.3 +0.6
baz=171
STCO **Saint Catharin** 58.96 354 P P 14 06 07.0 +0.1
baz=172
M43A **Waltham Townsh** 58.98 345 P P 14 06 06.0 -1.0
baz=160
121A **Cookes Peak, D** 59.00 325 P P 14 06 08.1 +0.5
baz=138
K48A **Perry** 59.26 349 P P 14 06 08.4 -0.6
baz=166
K47A **Vermontville** 59.29 349 P P 14 06 08.4 -0.8
baz=165
N39A **Derby Farms, D** 59.43 342 P P 14 06 09.3 -0.9
baz=156
ACTO **Acton** 59.45 353 P P 14 06 10.9 +0.6
baz=170
K46A **Dorr** 59.46 348 P P 14 06 09.3 -1.0
baz=164
DRWO **Darlington Wes** 59.57 354 P P 14 06 11.2 +0.1
baz=172
DRCO **St. Marys Ceme** 59.57 354 P P 14 06 11.0 -0.1
baz=172
L43A **Garden Prairie** 59.63 345 P P 14 06 10.8 -0.8
baz=161
PKRO **Pickering** 59.70 354 P P 14 06 11.8 -0.1
baz=172
K43A **Burlington** 60.02 346 P P 14 06 13.5 -0.7
baz=161
BWLO **Walkerton** 60.09 352 P P 14 06 14.3 -0.3
baz=169
DELO **Deloro Mine** 60.11 355 P P 14 06 14.5 -0.3
baz=173
ANMO **Albuquerque** 60.12 327 P P 14 06 16.3 +1.0
baz=141
K42A **Prairie Point,** 60.34 345 P P 14 06 15.8 -0.6
baz=160
SADO **Sadowa** 60.50 354 eP P 14 06 17.4 -0.1
comp=N,28nm,0.9s
PLVO **Plevna** 60.59 356 P P 14 06 18.1 +0.1
baz=174
J43A **Natural Harves** 60.69 346 P P 14 06 18.0 -0.7
baz=161
JFWS **Jewell Farm** 60.69 345 P P 14 06 18.0 -0.8
baz=159
K40A **Colesburg** 60.73 344 P P 14 06 18.3 -0.7
baz=158
ORIO **Orleans, Innes** 60.90 357 P P 14 06 19.8 -0.3
baz=176
K39A **Oelwein** 60.94 343 P P 14 06 19.8 -0.6
baz=158
ALFO **Alfred** 61.05 358 P P 14 06 20.8 -0.3
baz=176
J41A **Loganville** 61.05 345 P P 14 06 21.0 -0.3
baz=160
I43A **Langenfeld Bro** 61.10 347 P P 14 06 21.2 -0.4
baz=162
BUKO **Buck Lake** 61.19 354 P P 14 06 20.7 -1.4
baz=171
KLBO **Killbear Provi** 61.19 353 P P 14 06 20.7 -1.4
baz=170
PEMO **Pembroke** 61.24 356 P P 14 06 22.3 -0.1
baz=174
J40A **Soldiers Grove** 61.27 344 P P 14 06 22.2 -0.5
baz=159
I42A **Draeger Farm,** 61.28 346 P P 14 06 22.3 -0.4
baz=161
J39A **Decorah** 61.47 344 P P 14 06 23.5 -0.5
baz=158
ALGO **Algonquin Park** 61.57 355 P P 14 06 24.6 -0.1
baz=173
I40A **Norwalk** 61.70 345 P P 14 06 25.2 -0.3
baz=159
BGNE **Belgrade** 61.79 338 P P 14 06 26.3 +0.1
baz=151
SDCO **Great Sand Dun** 61.84 330 eP P 14 06 28.0 +1.0
comp=N,8.3nm,0.7s
SDCO **Great Sand Dun** 61.84 330 P P 14 06 28.0 +1.0
baz=142
I39A **Houston** 61.90 344 P P 14 06 26.3 -0.6
baz=158
E54A **Lac Daplat, Po** 61.98 356 P P 14 06 27.1 -0.3
baz=174
H41A **Junction City** 62.14 346 P P 14 06 28.0 -0.5
baz=160
H40A **Chili** 62.33 345 P P 14 06 29.2 -0.5
baz=160
X16A **Lo Mia Camp, P** 62.45 324 eP P 14 06 33.0 +2.0
comp=N,3.4nm,0.8s

G42A **Mountain** 62.45 347 P P 14 06 30.2 -0.4
baz=162
D53A **Lac Vacive, Po** 62.66 355 P P 14 06 31.7 -0.2
baz=173
D54A **Lac Fusel, La** 62.66 356 P P 14 06 31.6 -0.3
baz=174
F44A **Big Bay de Noc** 62.74 349 P P 14 06 32.5 0.0
baz=163
F43A **Flat Rock, Esc** 62.75 348 P P 14 06 32.0 -0.5
baz=163
F41A **Three Lakes** 63.08 346 P P 14 06 34.6 -0.1
baz=161
G38A **Ridgeland** 63.21 344 P P 14 06 35.4 -0.2
baz=158
E43A **Lone Tree Farm** 63.24 348 P P 14 06 35.3 -0.5
baz=163
ECSD **EROS Data Cent** 63.31 340 P P 14 06 36.4 +0.1
baz=153
E42A **Champion** 63.48 348 P P 14 06 37.1 -0.3
baz=162
F40A **Park Falls** 63.48 346 P P 14 06 37.4 0.0
baz=160
SPMN **Marine on St.** 63.52 344 P P 14 06 37.5 -0.1
baz=157
F39A **Loretta** 63.67 345 P P 14 06 38.4 -0.2
baz=159
E40A **Wakefield** 63.92 346 P P 14 06 40.4 +0.1
baz=160
E39A **Mellen** 64.02 346 P P 14 06 40.9 +0.1
baz=160
D41A **Chassel** 64.21 347 P P 14 06 42.2 +0.1
baz=162
E38A **The Farm, Brul** 64.47 345 P P 14 06 43.8 0.0
baz=159
LSQQ **Lebel-sur-Quev** 64.58 356 P P 14 06 44.2 -0.3
baz=174
O20A **White River Ci** 65.03 330 P P 14 06 49.3 +1.5
baz=141
CHGQ **Chibougamau** 65.31 358 P P 14 06 48.1 -1.1
baz=177
MATQ **Matagami** 65.33 356 P P 14 06 48.1 -1.2
baz=174
RSSD **Black Hills** 66.36 335 P P 14 06 57.7 +1.4
baz=146
VNA3 **Neumayer Olymp** 66.46 162 P P 14 06 57.6 +1.3
VNA1 **Neumayer--Stat** 66.68 161 P P 14 06 59.5 +1.7
TPNV **Topopah Spring** 67.01 322 P P 14 07 02.2 +1.7
baz=133
VNA2 **Neumayer--Watz** 67.05 161 P P 14 07 01.4 +1.3
baz=289,slow=6.5
MPMC **Manual Prospec** 67.15 321 P P 14 07 03.1 +1.6
baz=131
AGMN **Agassiz Nation** 67.18 343 P P 14 07 01.3 +0.2
baz=155
DUG **Dugway, Tooele** 67.39 327 P P 14 07 04.2 +1.4
baz=137
ISA **Isabella, Lake** 67.50 320 P P 14 07 05.6 +2.1
baz=130
R11A **Troy Canyon, C** 67.59 324 P P 14 07 05.8 +1.7
baz=134
PDAR **Pinedale Array** 67.69 331 P P 14 07 05.0 +0.2
comp=N,1.4nm,0.8s,baz=114,slow=6.4,SNR=8.4
PDAR **Pinedale Array** 67.69 331 eP P 14 07 04.9 +0.1
MDND **Maddock** 67.92 340 P P 14 07 07.0 +1.2
baz=151
SNAA **Sanae** 68.67 162 P P 14 07 11.6 +1.3
SNAA **Sanae** 68.67 162 eP P 14 07 11.6 +1.3
comp=N,12nm,0.7s
ULM **Lac du Bonnet** 68.95 344 P P 14 07 11.6 -0.5
comp=N,11nm,0.8s,baz=160,slow=6.2,SNR=14
NVAR **Mina Array Bea** 69.21 322 P P 14 07 15.9 +1.6
comp=N,1.1nm,0.8s,baz=154,slow=7.5,SNR=9.3
RLMT **Red Lodge** 69.39 333 P P 14 07 16.1 +0.8
baz=141
LIC **Lamto** 69.59 77 eP P 14 07 12.7 -4.2
comp=N,45nm,1.8s
TIC **Toumodi** 69.73 77 eP P 14 07 10.7 -7.1
DBIC **Dimbokro** 69.90 77 P P 14 07 16.9 -1.8
comp=N,4.6nm,0.7s,baz=235,slow=5.0,SNR=8.1
KIC **Kosan Boka** 69.90 77 eP P 14 07 15.3 -3.5
comp=N,20nm,0.9s
DGMT **Dagmar** 70.05 338 P P 14 07 20.3 +1.3
baz=146
SCHQ **Scheffenville** 70.33 3 P P 14 07 19.8 -0.7
comp=N,6.9nm,0.8s,baz=139,slow=4.6,SNR=3.7
HLID **Hailey** 70.65 329 P P 14 07 24.4 +1.5
baz=136
EGMT **Eagleton** 71.86 334 P P 14 07 31.1 +1.0
baz=141
MSO **Missoula** 72.81 331 P P 14 07 37.4 +1.7
baz=137
TOA0 **Torodi Ar. Sit** 78.12 73 eP P 14 08 04.9 -1.7
TORD **Torodi Ar. Bea** 78.12 73 P P 14 08 04.1 -2.5
comp=N,12nm,0.9s,baz=270,slow=4.4,SNR=58
TORD pP pP 14 08 41.4 +3.0
baz=249,slow=5.2
VNDA **Vanda** 82.10 190 P P 14 08 29.1 +2.3
comp=N,3.1nm,0.8s,baz=124,slow=4.2,SNR=15
SYO **Syowa Base** 82.91 160 eP P 14 08 30.6 -0.5
ESDC **Sonseca Array** 83.69 46 P P 14 08 35.8 0.0
comp=N,5.8nm,0.7s,baz=257,slow=5.1,SNR=35
YKA **Yellowknife Ar** 84.79 342 P P 14 08 40.9 +0.3
comp=N,5.9nm,0.6s,baz=134,slow=5.1,SNR=9.8
MAW **Mason** 90.68 164 P P 14 09 10.2 +1.2
comp=N,2.4nm,0.5s,baz=208,slow=5.1,SNR=14
SUMG **Summit** 90.76 10 i P P 14 09 10.5 +1.0
comp=N,56nm,1.0s
GERES **GERESS Array B** 98.71 42 P P 14 09 44.5 -1.5
comp=N,0.3nm,0.2s,baz=210,slow=3.2,SNR=4.5
STKA **Stephens Creek** 122.91 214 PKP PKPdf 14 15 03.2 +0.5
comp=N,1.0nm,0.5s,baz=77,slow=5.7,SNR=4.5
ASAR **Alice Springs** 133.54 213 PKP PKPdf 14 15 23.7 +0.5
comp=N,0.7nm,0.5s,baz=125,slow=2.0,SNR=21
ASAR pPKP pPKPdf 14 16 00.7 +3.4
comp=N,0.7nm,0.8s,baz=132,slow=2.0,SNR=4.0
WRA **Warramunga Arr** 136.28 217 PKP PKPdf 14 15 29.3 +0.9
comp=N,1.4nm,0.4s,baz=131,slow=1.7,SNR=27
WRA pPKP pPKPdf 14 16 06.4 +3.9
comp=N,1.1nm,0.8s,baz=141,slow=1.5,SNR=5.4
ZALV **Zalesovo Beam** 137.65 20 PKhKP PKPpre 14 15 21.3
comp=N,0.4nm,0.3s,baz=333,slow=5.2,SNR=2.5
ZALV PKP PKPdf 14 15 28.2 -1.7
comp=N,2.2nm,0.6s,baz=293,slow=1.1,SNR=8.5
ZALV pPKP pPKPdf 14 16 08.7 +4.8
comp=N,3.1nm,0.7s,baz=290,slow=2.6,SNR=5.4
MKAR **Makanchi Array** 142.21 29 PKhKP PKPpre 14 15 34.4
comp=N,1.0nm,0.7s,baz=311,slow=2.6,SNR=5.4
USRK **Ussuriysk Ar.** 145.11 330 PKPbc PKPbc 14 15 43.6 +0.3
baz=77,slow=6.4
MJAR **Matsushiro Arr** 146.17 314 PKPbc PKPdf 14 15 46.5 +0.9
comp=N,2.0nm,0.9s,baz=39,slow=0.3,SNR=4.5
WMQ **Urumqi** 146.95 28 PKPbc PKPab 14 15 49.8 -0.7
SONM **Songino Array** 147.87 2 PKPbc PKPbc 14 15 52.1 +0.8
comp=N,5.2nm,0.7s,baz=322,slow=2.3,SNR=22
SONM pPKPbc sPKPdf 14 16 32.4 -2.9
comp=N,5.0nm,0.9s,baz=339,slow=2.7,SNR=6.6
KSRS **Korea Array** 152.13 325 PKPbc PKPbc 14 16 02.1 +0.4
comp=N,1.7nm,0.8s,baz=357,slow=2.6,SNR=6.1
KSAR **Wonju Array Be** 152.16 325 PKPbc PKPbc 14 16 02.1 +0.3
HHC **Hu-ho-hao-te** 154.72 354 ePKPbc PKPdf 14 16 00.4 +1.5
GTA **Gaotai** 155.22 16 ePKPbc PKPdf 14 16 01.9 +2.3
GTA pPKPab pPKPdf 14 16 29.7 -4.1
GTA pPKP PKPab 14 16 30.8 +5.9
GTA sPKP 14 16 45.5
LZH **Lanzhou** 159.28 10 ePKP PKPdf 14 16 07.6 +2.7
LZH pPKP pPKPdf 14 16 33.1 -6.0
LZH LR LR
comp=N,100nm,17.8s
LZH LR LR
comp=N,96nm,18.0s
LZH LR LR
comp=N,140nm,20.0s
NJ2 **Nanjing** 161.00 331 ePKP PKPdf 14 16 06.0 -0.6
CMAR **Weifang Mai Arr** 170.72 71 PKPab PKPab 14 17 32.6 -0.9
comp=N,1.9nm,0.8s,baz=289,slow=5.5,SNR=12

MEX 03 14:02:58.3±0.7, 16.36N×98.36W, h4km±4km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.22**	**82**	*eP*	Pg	14 03 02.1	-0.5
PNIG				*eS*	Sg	14 03 06.0	+0.4
VHO	**Vista Hermosa**	**1.71**	**65**	*eS*	Sn	14 03 46.5	-5.0

*IGQ **03** 14:06:08.9±0.3, 1.5±1.7×7.9W±1.2°, h4km±2km, M3.6/18*
ISC 03 14:06:08.9±1.0, 1.31S±0.03×78.58W±0.05, h14km±9km, n32,σ1ᵖ40/36, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JUI6	**Juive**	**0.16**	**134**	P	**Pg**	**14 06 12.7**	**-0.4**
BIL2	**Estacion Bilba**	**0.16**	**150**	P	**Pg**	**14 06 12.8**	**-0.4**
POND	**Pondoa**	**0.17**	**129**	P	**Pg**	**14 06 13.0**	**-0.3**
POND				S	**Sg**	**14 06 16.2**	**-0.1**
RUN5	**Runtun**	**0.19**	**122**	P	**Pg**	**14 06 13.0**	**-0.6**
RETU	**Refugio**	**0.20**	**135**	P	**Pg**	**14 06 13.5**	**-0.3**
ARRY	**Arrayan**	**0.23**	**146**	P	**Pg**	**14 06 13.6**	**-0.6**
PAT1	**Patacocha**	**0.24**	**143**	P	**Pg**	**14 06 14.0**	**-0.5**
PISA	**Pisayambo**	**0.32**	**38**	P	**Pg**	**14 06 15.2**	**-0.6**
PUYO	**Puyo, Santa Ro**	**0.59**	**108**	P	**Pg**	**14 06 19.4**	**-1.1**
PUYO				S	**Sg**	**14 06 26.8**	**-1.6**
BNAS	**Cotopaxi Volca**	**0.65**	**9**	P	**Pg**	**14 06 21.0**	**-0.7**
BNAS				S	**Sg**	**14 06 29.9**	**-0.5**
BTAM	**Cotopaxi Volca**	**0.66**	**16**	P	**Pg**	**14 06 21.2**	**-0.8**
BTAM				S	**Sg**	**14 06 30.7**	**-0.2**
BVC2	**Cotopaxi Volca**	**0.67**	**15**	P	**Pg**	**14 06 21.5**	**-0.8**
NAS2	**Nasa**	**0.67**	**10**	P	**Pg**	**14 06 21.7**	**-0.5**
COV1	**Cotopaxi Volc**	**0.69**	**20**	P	**Pg**	**14 06 21.4**	**-1.2**
VC1	**Cotopaxi 1**	**0.69**	**15**	P	**Pg**	**14 06 21.9**	**-0.7**
PITA	**Cotopaxi Volc**	**0.77**	**11**	P	**Pg**	**14 06 23.1**	**-0.8**
ARDO	**Archidona, Ten**	**0.84**	**68**	P	**Pg**	**14 06 23.5**	**-1.8**
NINA	**Atacazo Ninahu**	**0.92**	**358**	P	**Pg**	**14 06 25.7**	**-1.1**
ANTI	**Antisana**	**0.96**	**26**	P	**Pg**	**14 06 25.7**	**-1.9**
GGPC	**Guagua Pichinc**	**1.13**	**359**	P	**Pg**	**14 06 29.1**	**-1.7**
YANA	**Yana**	**1.19**	**1**	P	**Pg**	**14 06 30.0**	**-1.9**
COHC	**Cochancay**	**1.33**	**210**	P	**Pn**	**14 06 33.2**	**+0.2**
MILO	**Milagro-Astudi**	**1.36**	**225**	P	**Pn**	**14 06 33.2**	**-0.3**
CAYA	**Cayambe**	**1.50**	**23**	P	**Pb**	**14 06 39.5**	**+2.6**
OTAV	**Otavalo**	**1.55**	**5**	*eP*	**Pn**	**14 06 36.0**	**-0.5**
CONE	**Cono NE Rev Vo**	**1.55**	**37**	P	**Pn**	**14 06 36.6**	**+0.1**
COTA	**Cotacachi**	**1.66**	**9**	P	**Pn**	**14 06 38.5**	**+0.5**
MAG1	**Magdalena**	**1.71**	**316**	P	**Pn**	**14 06 39.8**	**+1.4**
GCUF	**Volcan Galeras**	**2.81**	**26**	*eP*	**Pb**	**14 06 59.4**	**+0.2**
CRUC	**La Cruz**	**3.29**	**30**	*eP*	**Pb**	**14 07 08.0**	**+0.6**
SOTA	**Rioblanco**	**3.96**	**30**	*eP*	**Pb**	**14 07 16.5**	**-2.3**
POPC	**Popayan, Colom**	**4.28**	**26**	*eP*	**Pn**	**14 07 18.6**	**+4.7**

*NIED **03** 14:38:00, 43.80N×148.30E, h20km, Mw4.0 Best double couple: M0 1.16000×10^15 NP1:φs195.00000°, δ19.00000°, λ84.00000°. NP2:φs22.00000°, δ72.00000°, λ92.00000°.*
*IDC **03** 14:38:36.8±1.1, 44.09N×148.44E, h0km, mb3.9/13, mb1 4.0/18, mb1mx3.9/51, mbtmp3.8/18, ML3.3/4, Error ellipse: s-maj=34.3km s-min=14.3km az=164.0*
*ISCJB **03** 14:38:39.8±0.8, 43.99N±0.05×148.49E±0.06, h34km±7km, mb3.8/15, MS3.4/1, Error ellipse: s-maj=8.9km s-min=5.3km az=139.4*
*JMA **03** 14:38:39.2±0.3, 43.80N×148.26E, h0km, M4.8*
*MOS **03** 14:38:40.8±1.1, 44.05N×148.38E, h43km, mb4.1/10, Error ellipse: s-maj=10.0km s-min=9.1km az=67.7*
*SKHL **03** 14:38:40.3±1.0, 43.96N×148.59E, h56km±1km, mb4.4/6*
ISC 03 14:38:40.5±2.9, 43.98N±0.05×148.51E±0.06, h27km±20km, n75,σ1ᵖ29/93, mb3.8/15, 2C-3D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**1.22**	**266**	*eP*	**Pn**	**14 39 01.0**	**-0.7**
SHO				AMB	AMB	14 39 04.0	
	90nm,0.1s						
SHO				AMB	AMB	14 39 04.0	
	30nm,0.1s						
SHO				*eS*	**Sn**	**14 39 16.0**	**-1.3**
SHO				A	A	14 39 18.0	
	390nm,0.2s						
SHO				A	A	14 39 18.0	
	259nm,0.2s						
SHO	**Shikotan**	**1.22**	**266**	*e*PN	**Pn**	**14 39 01.1**	**-0.7**
SHO				*eS*	**Sn**	**14 39 16.0**	**-1.3**
SHO				pmax	pmax		
	comp=E,263nm,0.2s						
SHO				pmax	pmax		
	comp=Z,333nm,0.2s						
SHO				pmax	pmax		
	comp=N,94nm,0.1s						
SHO				smax	smax		
	comp=N,4μm,0.4s						
SHO				smax	smax		
	comp=E,2μm,0.2s						
KUR	**Kuril'sk**	**1.34**	**340**	*i* P	**Pn**	**14 39 02.0**	**-1.4**
KUR				AMB	AMB	14 39 02.0	
	comp=E,120nm,0.2s						
KUR				AMB	AMB	14 39 02.0	
	comp=E,30nm,0.2s						
KUR				AMB	AMB	14 39 02.0	
	comp=E,60nm,0.2s						
KUR				*eS*	**Sn**	**14 39 18.2**	**-2.1**
KUR				A	A	14 39 19.0	
	comp=E,540nm,0.2s						
KUR				A	A	14 39 19.0	
	comp=E,139nm,0.2s						
KUR	**Kuril'sk**	**1.34**	**340**	*d i*PN	**Pn**	**14 39 02.5**	**-0.9**
KUR				*eS*	**Sn**	**14 39 18.2**	**-2.1**
KUR				pmax	pmax		
	comp=E,388nm,0.3s						
KUR				pmax	pmax		
	comp=Z,843nm,0.3s						
KUR				pmax	pmax		
	comp=N,645nm,0.2s						
KUR				smax	smax		
	comp=E,1μm,0.3s						
KUR				smax	smax		
	comp=N,538nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.91**	**273**	*i* P	**Pn**	**14 39 10.3**	**-1.0**
YUK				AMB	AMB	14 39 14.0	
	comp=N,170nm,0.2s						
YUK				AMB	AMB	14 39 14.0	
	comp=N,100nm,0.2s						
YUK				*eS*	**Sn**	**14 39 32.0**	**-2.4**
YUK				A	A	14 39 34.0	
	comp=N,190nm,0.3s						
YUK				A	A	14 39 34.0	
	comp=N,389nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.91**	**273**	*d i*PN	**Pn**	**14 39 10.2**	**-1.0**
YUK				*eS*	**Sn**	**14 39 32.8**	**-1.6**
YUK				pmax	pmax		
	comp=Z,1μm,0.2s						
YUK				pmax	pmax		
	comp=E,172nm,0.1s						
YUK				smax	smax		
	comp=E,4μm,0.5s						
YUK				smax	smax		
	comp=N,2μm,0.3s						
GRPR	**Tuman**	**1.98**	**271**	*e*P	**Pn**	**14 39 11.0**	**-1.1**
GRPR				AMB	AMB	14 39 15.0	
	comp=N,90nm,0.4s						
GRPR				AMB	AMB	14 39 15.0	
	comp=N,190nm,0.4s						
GRPR				AMB	AMB	14 39 15.0	
	comp=N,60nm,0.4s						
GRPR				*i* S	**Sn**	**14 39 35.0**	**-1.0**
GRPR				A	A	14 39 37.0	
	comp=N,170nm,0.3s						
GRPR				A	A	14 39 37.0	
	comp=N,349nm,0.3s						
GRPR	**Tuman**	**1.98**	**271**	*e*PN	**Pn**	**14 39 11.1**	**-1.1**
GRPR				*i* S	**Sn**	**14 39 35.1**	**-1.0**
GRPR				pmax	pmax		
	comp=Z,594nm,0.2s						
GRPR				pmax	pmax		
	comp=N,89nm,0.1s						
GRPR				pmax	pmax		
	comp=E,187nm,0.1s						
GRPR				smax	smax		
	comp=E,3μm,0.3s						
GRPR				smax	smax		
	comp=N,2μm,0.2s						
NEM2	**Nemuro 2**	**2.10**	**254**	P	**Pn**	**14 39 13.0**	**-0.8**
NEM2				*eS*	**Sn**	**14 39 37.3**	**-1.7**
GLVR	**Golovnino**	**2.18**	**265**	*i* P	**Pn**	**14 39 15.0**	**+0.1**
GLVR				AMB	AMB	14 39 17.0	
	comp=N,230nm,0.4s						
GLVR				AMB	AMB	14 39 17.0	
	comp=N,330nm,0.4s						
GLVR				AMB	AMB	14 39 17.0	
	comp=N,110nm,0.4s						
GLVR				*i* S	**Sn**	**14 39 42.0**	**+1.0**
GLVR				A	A	14 39 44.0	

	comp=N,400nm,0.5s							
GLVR					A	A	14 39 44.0	
	comp=N,519nm,0.5s							
GLVR	**Golovnino**	**2.18**	**265**	*c*	iPN	**Pn**	**14 39 15.5**	**+0.6**
GLVR					*i* S	**Sn**	**14 39 42.3**	**+1.3**
GLVR					pmax	pmax		
	comp=Z,1μm,0.3s							
GLVR					pmax	pmax		
	comp=E,334nm,0.2s							
GLVR					pmax	pmax		
	comp=N,231nm,0.1s							
GLVR					smax	smax		
	comp=N,4μm,0.3s							
GLVR					smax	smax		
	comp=E,512nm,0.4s							
JRA	**Rausu**	**2.45**	**270**		P	**Pn**	**14 39 19.0**	**+0.4**
JRA					*e*S	**Sn**	**14 39 48.3**	**+0.7**
JKHN	**Kushirohamanak**	**2.59**	**251**		P	**Pn**	**14 39 20.1**	**-0.5**
JNK	**Nakash**	**2.77**	**263**		P	**Pn**	**14 39 23.3**	**+0.2**
JNK					*e*S	**Sn**	**14 39 55.0**	**-0.7**
JAK	**Akkeshi**	**2.94**	**252**		P	**Pn**	**14 39 24.7**	**-0.7**
JAK					*e*S	**Sn**	**14 39 58.8**	**-1.1**
JTKR	**Abashiri--Toko**	**3.32**	**272**		P	**Pn**	**14 39 31.2**	**+0.5**
JTKR					*e*S	**Sn**	**14 40 11.6**	**+2.4**
JAR	**Ashorobuto**	**3.51**	**261**		*e*S	**Sn**	**14 40 15.6**	**+1.8**
JCH	**Churui**	**4.00**	**252**		P	**Pn**	**14 39 40.3**	**+0.4**
JCH					*e*S	**Sn**	**14 40 25.2**	**-0.7**
JKK2	**Kamakawa 2**	**4.17**	**271**		P	**Pn**	**14 39 45.0**	**+2.7**
ERM	**Erimo**	**4.39**	**245**	*e*	P	**Pn**	**14 39 47.5**	**+2.2**
ERM	**Erimo**	**4.39**	**245**	*d*	iPN	**Pn**	**14 39 47.5**	**+2.2**
JNBK	**Urakawa-nobuka**	**4.54**	**250**		P	**Pn**	**14 39 48.6**	**+1.2**
JNBK					*e*S	**Sn**	**14 40 39.3**	**0.0**
YSS	**Yuzh-Sakhalins**	**5.03**	**308**	*e*	P	**Pn**	**14 39 54.8**	**+0.7**
YSS					AMB	AMB	14 39 55.0	
	comp=E,20nm,0.6s							
YSS					AMB	AMB	14 39 55.0	
	comp=E,4μm,0.6s							
YSS					*e*S	**Sn**	**14 40 50.6**	**-0.6**
YSS	**Yuzh-Sakhalins**	**5.03**	**308**	*e*	PN	**Pn**	**14 39 54.8**	**+0.7**
YSS					*e*S	**Sn**	**14 40 50.6**	**-0.6**
YSS					pmax	pmax		
	comp=Z,20nm,0.4s							
YSS					MLR	MLR		
	comp=Z,400nm,15.0s							
JKB	**Kayabe**	**5.87**	**252**		P	**Pn**	**14 40 06.6**	**+0.9**
JKB					*e*S	**Sn**	**14 41 09.7**	**-2.4**
JOT	**Ohata**	**6.08**	**247**		P	**Pn**	**14 40 09.3**	**+0.8**
JOT					*e*S	**Sn**	**14 41 13.6**	**-3.6**
JANG	**Nango**	**6.32**	**238**		P	**Pn**	**14 40 11.2**	**-0.7**
JANG					*e*S	**Sn**	**14 41 17.3**	**-5.9**
MJA0	**Matsu Arr-Jizo**	**10.79**	**230**		*e*PN	**Pn**	**14 41 14.2**	**+1.0**
MJAR	**Matsushiro Arr**	**10.81**	**230**		Pn	**Pn**	**14 41 13.7**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=28,slow=14,SNR=7.6							
PETK	**Petropavlovsk-**	**10.97**	**30**		Pn	**Pn**	**14 41 15.5**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=207,slow=14,SNR=15							
USRK	**Ussuriysk Ar.**	**11.89**	**277**		Pn	**Pn**	**14 41 28.6**	**+0.4**
	baz=86,slow=13							
KLR	**Kul'dur**	**12.66**	**300**		Pn	**Pn**	**14 41 37.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=143,slow=20,SNR=2.4							
KSRS	**Korea Array**	**16.89**	**254**		Pn	**Pn**	**14 42 34.6**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=66,slow=11,SNR=5.0							
KSRS	**Korea Array**	**16.89**	**254**		*e*P	**P**	**14 42 38.5**	**+1.8**
SEY	**Seymchan**	**19.13**	**5**		*e*P	**Pn**	**14 43 02.7**	**+0.6**
SEY	**Seymchan**	**19.13**	**5**		*i* P	**Pn**	**14 43 02.7**	**+0.6**
HIA	**Hailar**	**20.39**	**295**		*e*P	**P**	**14 43 15.0**	**-0.1**
HIA	**Hailar**	**20.39**	**295**		*i* P	**P**	**14 43 15.0**	**-0.1**
HIA					pmax	pmax		
	comp=Z,3.0nm,0.8s							
BILL	**Bilibino**	**25.88**	**15**		*e*P	**P**	**14 44 10.3**	**+0.7**
BILL	**Bilibino**	**25.88**	**15**		*e*P	**P**	**14 44 10.3**	**+0.7**
BILL					*e*		14 44 49.1	
BILL					*e*S	**S**	**14 48 37.7**	**+0.2**
BILL					pmax	pmax		
	comp=Z,3.0nm,1.3s							
BILL					MLR	MLR		
	comp=Z,90nm,17.0s							
H11N2	**WAKE ISLAND Hy**	**28.65**	**142**		T	T	15 15 22.8	
	baz=332,slow=76,SNR=104							
H11N1	**WAKE ISLAND Hy**	**28.66**	**142**		T	T	15 15 25.0	
	baz=332,slow=76,SNR=116							
H11N3	**WAKE ISLAND Hy**	**28.66**	**142**		T	T	15 15 20.9	
	baz=332,slow=76,SNR=125							
SONM	**Songino Array**	**29.29**	**293**		P	**P**	**14 44 39.7**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=85,slow=9.0,SNR=5.6							
SONM	**Songino Array**	**29.29**	**293**		*e*P	**P**	**14 44 40.5**	**-0.1**
SONM					pmax	pmax		
	comp=Z,1.0nm,0.5s							
TIXI	**Tiksi**	**29.35**	**347**		*e*P	**P**	**14 44 40.5**	**-0.1**
TIXI	**Tiksi**	**29.35**	**347**		*e*P	**P**	**14 44 40.5**	**-0.1**
TIXI					pmax	pmax		
	comp=Z,1.0nm,0.9s							
H11S1	**WAKE ISLAND Hy**	**29.64**	**143**		T	T	15 16 35.4	
	baz=333,slow=76,SNR=565							
H11S3	**WAKE ISLAND Hy**	**29.64**	**143**		T	T	15 16 38.6	
	baz=333,slow=76,SNR=435							
H11S2	**WAKE ISLAND Hy**	**29.65**	**143**		T	T	15 16 36.7	
	baz=333,slow=76,SNR=399							
KDAK	**Kodiak Island**	**38.37**	**48**		P	**P**	**14 45 59.4**	**+0.5**
	comp=Z,16nm,1.0s,baz=243,slow=9.0,SNR=3.8							
ILAR	**Eielson Array**	**40.72**	**36**		P	**P**	**14 46 19.2**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=271,slow=8.0,SNR=14							
ILAR	**Eielson Array**	**40.72**	**36**		*e*P	**P**	**14 46 19.5**	**+1.1**
ILAR	**Eielson Array**	**40.72**	**36**		*e*P	**P**	**14 46 19.6**	**+1.1**
ILAR					pmax	pmax		
	comp=Z,1.0nm,0.5s							
ZALV	**Zalesovo Beam**	**41.65**	**307**		PcP	**PcP**	**14 48 23.0**	**+0.4**
	comp=Z,0.6nm,0.2s,baz=96,slow=2.9,SNR=1.9							
MKAR	**Makanchi Array**	**45.35**	**298**		P	**P**	**14 46 55.8**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=76,slow=8.0,SNR=8.9							
MKAR					PcP	**PcP**	**14 48 33.9**	**-1.4**
	comp=Z,0.8nm,0.9s,baz=57,slow=5.3,SNR=3.0							
MKAR	**Makanchi Array**	**45.35**	**298**		*e*P	**P**	**14 46 56.0**	**-0.2**
MKAR	**Makanchi Array**	**45.35**	**298**		*e*P	**P**	**14 46 56.0**	**-0.2**
MKAR					pmax	pmax		
	comp=Z,2.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**48.53**	**255**		P	**P**	**14 47 22.2**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=41,slow=7.3,SNR=2.9							
GUN	**Gumba**	**51.98**	**274**		*e*P	**P**	**14 47 47.8**	**0.0**
RAMN	**Ramite**	**52.02**	**273**		*e*P	**P**	**14 47 48.0**	**0.0**
	comp=Z,7.9nm,0.3s							
PKI	**Pulchoki**	**52.52**	**274**		*e*P	**P**	**14 47 51.6**	**-0.1**
DANN	**Dangsing**	**53.25**	**276**		*e*P	**P**	**14 47 57.7**	**+0.6**
	comp=Z,8.7nm,0.4s							
KOLN	**Koldanda**	**53.70**	**275**		*e*P	**P**	**14 48 00.4**	**+0.1**
PYUN	**Piuthan**	**53.95**	**276**		*e*P	**P**	**14 48 02.2**	**+0.1**
	comp=Z,4.6nm,0.5s							
GEYT	**Alibeck**	**65.19**	**299**		P	**P**	**14 49 19.6**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=54,slow=3.8,SNR=4.9							
NVAR	**Mina Array Bea**	**66.62**	**59**		P	**P**	**14 49 28.4**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=298,slow=6.9,SNR=5.1							
PDAR	**Pinedale Array**	**69.01**	**51**		P	**P**	**14 49 43.3**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=335,slow=6.1,SNR=3.4							
NB2	**NORSAR Subarra**	**69.74**	**339**		P	**P**	**14 49 46.9**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**69.74**	**339**		P	**P**	**14 49 47.1**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=31,slow=6.6,SNR=8.6							
KBZ	**Khabaz**	**70.38**	**312**		P	**P**	**14 49 52.5**	**+0.8**
	comp=Z,1.0nm,0.4s,baz=0.0,slow=2.0,SNR=3.3							
AKASG	**Malin Array Be**	**71.98**	**324**		P	**P**	**14 50 00.4**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=38,slow=6.1,SNR=5.1							
BRTR	**Keskin Array B**	**78.10**	**314**		P	**P**	**14 50 35.8**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=46,slow=4.2,SNR=2.1							
TXAR	**Lajitas Array**	**81.70**	**57**		P	**P**	**14 50 57.8**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=295,slow=3.9,SNR=7.5							
TORD	**Torodi Ar. Bea**	**115.61**	**324**		PKP	**PKPdf**	**14 57 21.6**	**+1.2**
	comp=Z,0.2nm,0.7s,baz=321,slow=3.7							

*ISCJB **03** 14:41:22.0±0.3,5.°05S×0.°03×132.°70E±0.°03, h33km, mb4.2/12, MS4.0/2, Error ellipse: s-maj=3.9km s-min=3.8km az=136.6*

*BJI **03** 14:41:23.6, 4.°80S×132.°99E, h49km, mb4.8/13, mB5.0/8, Ms4.3/2, Ms7 4.2/2*

*NEIC **03** 14:41:24.2±0.5, 5.°07S×132.°66E, h35km, mb4.3/1, Error ellipse: s-maj=10.2km s-min=7.7km az=65.0*

*IDC **03** 14:41:25.2±0.7, 5.°01S×132.°55E, h42km±5km, mb3.8/7, mb1 4.1/10, mb1mx3.8/37, mbtmp4.2/10, ML4.8/4, MS3.8/1, Ms1 3.8/1, ms1mx2.9/40, Error ellipse: s-maj=25.3km s-min=14.2km az=62.0*

*DJA **03** 14:41:25.6±0.2, 5.°5S×132.°3E±.°, h46km±8km, M5.1/13, mb5.3/13, mB5.4/8, MLv5.3/6, Mw(mB)4.8/8*

ISC 03 14:41:24.1±0.4, 4.°98S±0.°04×132.°66E±0.°04, h35km, n71, σ2°53/82, mb4.3/14, 1C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMPI	**Kaimana, Papua**	**1.67**	**39**	P	**Pn**	**14 41 52.7**	**+1.8**
KMPI				S	**Sn**	**14 42 12.4**	**+1.3**
FAKI	**Fak Fak**	**2.09**	**349**	*e*Pn	**Pn**	**14 41 57.7**	**+1.1**
FAKI	**Fak Fak**	**2.09**	**349**	P	**Pn**	**14 41 58.0**	**+1.4**
FAKI				S	**Sn**	**14 42 20.8**	**-0.6**
BNDI	**Bandanaira**	**2.78**	**279**	P	**Pn**	**14 42 08.8**	**+2.6**
BNDI				S	**Sn**	**14 42 40.9**	**+2.3**
SAUI	**Saumlaki**	**3.28**	**204**	P	**Pn**	**14 42 16.5**	**+3.5**
SAUI				S	**Sn**	**14 42 55.7**	**+4.9**
RKPI	**Ransiki, Papua**	**3.76**	**24**	P	**Pn**	**14 42 22.1**	**+2.4**
RKPI				S	**Sn**	**14 43 03.0**	**+0.2**
MSAI	**Masohi**	**4.06**	**293**	P	**Pn**	**14 42 25.9**	**+2.1**
SIJI	**Sorong**	**4.31**	**341**	P	**Pn**	**14 42 27.1**	**-0.1**
	55nm,0.3s,baz=116,slow=2.7,SNR=141						
SIJI				S	**Sn**	**14 43 11.5**	**-4.9**
	201nm,0.3s,baz=198,slow=20,SNR=27						
SWI	**Sorong**	**4.32**	**341**	P	**Pn**	**14 42 27.7**	**+0.4**
SWI				S	**Sn**	**14 43 12.4**	**-4.1**
AAI	**Ambon**	**4.63**	**286**	P	**Pn**	**14 42 33.6**	**+1.9**
AAI				S	**Sn**	**14 43 21.7**	**-2.6**
SRPI	**Serui, Papua**	**4.72**	**49**	P	**Pn**	**14 42 34.2**	**+1.3**
LBMI	**Labuha**	**6.72**	**310**	P	**Pn**	**14 43 02.0**	**+1.7**
	417nm,0.6s,6μm1.4nm						
SMPI	**Sarmi**	**6.73**	**64**	S	**Sn**	**14 44 16.0**	**+0.1**
SANI	**Sanana**	**7.27**	**293**	P	**Pn**	**14 43 07.9**	**0.0**
	227nm,0.6s,3μm0.8nm						
SANI				S	**Sn**	**14 44 23.0**	**-6.2**
	227nm,0.6s,3μm0.8nm						
TNTI	**Ternate**	**7.78**	**317**	*e*Pn	**Pn**	**14 43 16.2**	**+1.3**
TNTI	**Ternate**	**7.78**	**317**	P	**Pn**	**14 43 16.3**	**+1.3**
	41nm,0.7s,723nm0.2nm						
GENI	**Genyem**	**7.86**	**73**	P	**Pn**	**14 43 18.3**	**+2.4**
	92nm,0.7s,4μm0.7nm						
MTN	**Manton Dam**	**7.96**	**191**	*e*Pn	**Pn**	**14 43 18.6**	**+1.2**
JAY	**Jayapura**	**8.39**	**73**	P	**Pn**	**14 43 25.3**	**+2.0**
	2.7nm,0.3s,baz=233,slow=11,SNR=11						
JAY				S	**Sn**	**14 44 56.5**	**-0.4**
	2.3nm,0.3s,baz=274,slow=14,SNR=6.2						
JAY	**Jayapura**	**8.39**	**73**	S	**Sn**	**14 44 55.4**	**-1.5**
MMPI	**Merauke**	**8.41**	**115**	P	**Pn**	**14 43 26.4**	**+2.8**
SOEI	**Soe**	**9.58**	**240**	*e*Pn	**Pn**	**14 43 41.1**	**+1.4**
SOEI	**Soe**	**9.58**	**240**	P	**Pn**	**14 43 41.1**	**+1.4**
BBSI	**Bau Bau**	**10.06**	**267**	P	Pn	14 43 52.9	+6.7
KMSI	**Cibinong**	**10.28**	**302**	P	**Pn**	**14 43 49.5**	**+0.4**
	400nm,0.6s,4μm						
BATI	**Baumata**	**10.32**	**239**	P	**Pn**	**14 43 49.2**	**-0.5**
	27nm,0.3s,baz=112,slow=3.9,SNR=12						
BATI				S	**Sn**	**14 45 39.4**	**-4.9**
	4.8nm,0.3s,baz=127,slow=15,SNR=2.9						
BATI	**Baumata**	**10.32**	**239**	P	**Pn**	**14 43 50.9**	**+1.1**
LUWI	**Luwuk**	**10.62**	**291**	*e*Pn	**Pn**	**14 43 54.5**	**+0.7**
LUWI	**Luwuk**	**10.62**	**291**	P	**Pn**	**14 43 54.8**	**+0.9**
MMRI	**Maumere**	**10.97**	**250**	P	Pn	14 44 08.1	+9.5
EDFI	**Ende, Flores**	**11.52**	**250**	P	**Pn**	**14 44 09.1**	**+2.9**
APSI	**Ampana**	**11.71**	**290**	P	**Pn**	**14 44 10.5**	**+1.7**
MRSI	**Marisa**	**12.00**	**297**	P	**Pn**	**14 44 13.6**	**+0.8**
	51nm,0.6s,442nm						
BKSI	**Bulukumba**	**12.49**	**268**	P	**Pn**	**14 44 22.0**	**+2.5**
BKSI				S	**Pn**	**14 44 21.7**	**+2.2**
BNSI	**Bone**	**12.53**	**272**	P	**P**	**14 44 33.5**	**+2.4**
COEN	**Coen**	**13.67**	**131**	*e*Pn	**Pn**	**14 44 33.6**	**-2.1**
MPSI	**Mapaga**	**13.80**	**292**	P	**Pn**	**14 44 40.5**	**+3.2**
	25nm,1.2s,336nm						
WBSI	**Waikabubak, Su**	**13.95**	**250**	P	**P**	**14 44 44.1**	**-2.9**
	48nm,0.8s						
FITZ	**Fitzroy Crossi**	**14.74**	**207**	P	**Pn**	**14 44 46.6**	**-3.4**
	24nm,0.3s,baz=37,slow=12,SNR=291						
FITZ				S	Sn	14 47 17.8	-14
	6.4nm,0.3s,baz=119,slow=13,SNR=3.9						
FITZ	**Fitzroy Crossi**	**14.74**	**207**	*e*Pn	**Pn**	**14 44 48.1**	**-2.0**
WRAB	**Tennant Creek**	**14.96**	**174**	*e*Pn	**Pn**	**14 44 50.0**	**-3.1**
WRA	**Warramunga Arr**	**14.96**	**174**	P	**Pn**	**14 44 50.0**	**-3.1**
	5.3nm,0.3s,baz=354,slow=13,SNR=165						
WRA				S	Sn	14 47 25.3	-13
	6.6nm,0.3s,baz=7.2,slow=22,SNR=8.7						
WB2	**Warramunga Arr**	**14.96**	**174**	*e*Pn	**Pn**	**14 44 50.4**	**-2.8**
PMG	**Port Moresby**	**15.04**	**108**	P	**Pn**	**14 44 54.2**	**+0.1**
	2.6nm,0.3s,baz=320,slow=2.3,SNR=11						
PMG				S	**Sn**	**14 47 33.0**	**-6.7**
	0.9nm,0.3s,baz=256,slow=18,SNR=3.0						
AS31	**Alice Springs**	**18.62**	**176**	*e*P	**P**	**14 45 38.7**	**0.0**
	12nm,0.5s						
ASAR	**Alice Springs**	**18.62**	**176**	P	**P**	**14 45 37.3**	**-1.4**
	4.3nm,0.3s,baz=354,slow=14,SNR=129						
ASAR				S	Sn	14 48 52.1	-14
	2.8nm,0.3s,baz=1.3,slow=26,SNR=12						
AS01	**Alice Springs**	**18.62**	**176**	*e*P	**P**	**14 45 38.7**	**0.0**
CTA	**Charters Tower**	**20.01**	**140**	P	Pn	14 45 55.8	-0.1
	17nm,0.7s,baz=321,slow=12,SNR=25						
CTA				S	S	14 49 24.7	-13
	2.0nm,0.6s,baz=34,slow=3.6,SNR=2.2						
MBWA	**Marble Bar**	**20.40**	**217**	*e*P	**P**	**14 45 59.0**	**+0.8**
STKA	**Stephens Creek**	**28.04**	**164**	P	**P**	**14 47 12.3**	**+0.2**
	2.2nm,0.8s,baz=339,slow=6.9,SNR=7.1						
JOW	**Kunigami**	**31.91**	**353**	LR	LR	14 58 56.8	
	comp=Z,163nm,20.4s,baz=162,slow=33						
CHAI	**Chaiyaphum**	**36.77**	**305**	P	**P**	**14 48 29.3**	**+0.6**
NJ2	**Nanjing**	**39.10**	**341**	*e*P	**P**	**14 48 45.6**	**-2.5**
NJ2				pmax	pmax		
	comp=Z,16nm,0.7s						
CMAR	**Chiang Mai Arr**	**40.58**	**306**	P	**P**	**14 48 59.8**	**-0.9**
	1.3nm,0.8s,baz=137,slow=7.2,SNR=14						
MJAR	**Matsushiro Arr**	**41.63**	**7**	pP	pP	14 49 25.0	+5.7
	2.9nm,0.8s,baz=193,slow=11,SNR=5.4						
XAN	**Xi'an**	**44.83**	**332**	P	**P**	**14 49 34.0**	**-0.9**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,140nm,5.6s						
CD2	**Chengdu**	**45.12**	**324**	*e*P	**P**	**14 49 36.0**	**-1.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LZH	**Lanzhou**	**48.97**	**329**	*e*P	**P**	**14 50 09.3**	**+1.9**
LZH				pP	sP	14 50 21.9	-0.1
LZH				sP	pP	14 50 27.6	+10
LZH				*e*PP	**PP**	**14 52 04.8**	**+3.6**
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
LZH				pmax	pmax		
	comp=Z,100nm,5.4s						
CN2	**Changchun**	**48.99**	**353**	*e*P	**P**	**14 50 05.8**	**-1.4**
HHC	**Hu-ho-hao-te**	**49.54**	**339**	*e*P	**P**	**14 50 12.5**	**+0.9**
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,5.2s						
GTA	**Gaotai**	**53.56**	**329**	↑P	P	14 50 49.8	+8.0
GTA				pP	sP	14 51 02.1	+5.6
GTA				sP	pP	14 51 07.6	+15
GTA				S	S	14 58 25.0	+12
GTA				sS	sS	14 58 45.3	+15
GTA	**Gaotai**	**53.56**	**329**	SS	**SS**	**15 02 03.9**	**+10**
GTA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,68nm,6.0s						
GTA				LR	LR		
	comp=N,230nm,18.7s						
GTA				LR	LR		
	comp=E,170nm,20.0s						
GTA				LR	LR		
	comp=Z,130nm,21.0s						
SONM	**Songino Array**	**57.44**	**339**	P	**P**	**14 51 09.0**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=158,slow=9.2,SNR=2.1						
SONM				pP	**sP**	**14 51 23.3**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=155,slow=7.3,SNR=4.2						
WMQ	**Urumqi**	**63.21**	**325**	*e*P	**P**	**14 51 49.8**	**+0.8**
WMQ				LR	LR		
	comp=Z,220nm,24.7s						
WMQ				LR	LR		
	comp=Z,260nm,23.7s						
MKAR	**Makanchi Array**	**68.04**	**325**	P	**P**	**14 52 19.9**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=109,slow=8.6,SNR=14						
MKAR				pP	**pP**	**14 52 31.5**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=113,slow=7.9,SNR=6.9						
MKAR				sP	**sP**	**14 52 37.1**	**+2.2**
	comp=Z,5.8nm,0.7s,baz=117,slow=7.0,SNR=15						
KSH	**Kashi**	**68.37**	**316**	*e*P	**P**	**14 52 23.8**	**+1.4**
SEY	**Seymchan**	**69.37**	**9**	sP	sP	14 52 45.6	+2.8
	comp=Z,3.0nm,0.9s,baz=201,slow=2.5,SNR=3.3						
ZALV	**Zalesovo Beam**	**70.99**	**332**	P	**P**	**14 52 39.2**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=102,slow=6.1,SNR=2.7						
ZALV				sP	**PcP**	**14 52 57.0**	**-1.3**
MAW	**Mawson**	**77.79**	**202**	P	**P**	**14 53 18.1**	**+0.8**
	comp=Z,2.2nm,0.9s,baz=42,slow=9.3,SNR=6.2						
CPUP	**Villa Florida**	**147.41**	**163**	PKPbc	**PKPdf**	**15 01 03.2**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=170,slow=4.7,SNR=3.1						
LPAZ	**La Paz**	**150.51**	**136**	PKPbc	**PKPbc**	**15 01 15.3**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=232,slow=23,SNR=3.8						

*IDC **03** 15:09:05.7±2.3, 52.°55N×132.°41W, h0km, mb3.4/1, mb1 3.6/5, mb1mx3.4/38, mbtmp3.3/5, ML3.3/4, Error ellipse: s-maj=39.6km s-min=8.6km az=69.0*

*ISCJB **03** 15:09:06.3±1.8, 52.°7N±0.°2×132.°3W±0.°3, h10km, mb3.1/1, Error ellipse: s-maj=36.6km s-min=9.1km az=143.1*

ISC 03 15:09:08.1±2.1, 52.°7N±0.°2×132.°2W±0.°3, h10km, n10, σ1°36/7, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H02S1	**DAWSON INLET T**	**0.54**	**342**	Pg	**Pg**	**15 09 17.6**	**-1.0**
H02S1				Lg	Lg	15 09 28.0	
	SNR=72						
H02N1	**VAN INLET T-PH**	**0.60**	**340**	Pg	**Pg**	**15 09 18.4**	**-1.3**
H02N1				Lg	Lg	15 09 30.5	
	SNR=66						
BBB	**Bella Bella**	**2.55**	**100**	Pn	**Pn**	**15 09 49.7**	**+0.3**
	2.1nm,0.3s,baz=287,slow=17,SNR=3.1						
BBB				Lg	Lg	15 10 24.2	
	5.8nm,0.3s,baz=218,slow=18,SNR=4.0						
DLBC	**Dease Lake**	**5.89**	**11**	Pn	**Pn**	**15 10 36.4**	**+1.0**
	0.3nm,0.3s,baz=198,slow=6.4,SNR=4.9						
DLBC				Lg	Lg	15 12 27.0	
	0.2nm,0.3s,baz=241,slow=16,SNR=2.8						
ILAR	**Eielson Array**	**14.26**	**334**	Pn	**Pn**	**15 12 30.6**	**+0.8**
	0.0nm,0.3s,baz=141,slow=10,SNR=2.9						
PDAR	**Pinedale Array**	**18.10**	**114**	P	**P**	**15 13 18.6**	**-1.5**
	0.1nm,0.3s,baz=302,slow=11,SNR=2.8						
TXAR	**Lajitas Array**	**31.39**	**127**	P	**P**	**15 15 29.9**	**+0.8**
	0.1nm,0.3s,baz=316,slow=5.1,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**56.97**	**259**	T	T	16 20 50.5	
	baz=39,slow=76,SNR=8.8						
H11N3	**WAKE ISLAND Hy**	**56.98**	**259**	T	T	16 20 50.6	
	baz=39,slow=76,SNR=6.9						
H11N1	**WAKE ISLAND Hy**	**56.99**	**259**	T	T	16 20 51.8	
	baz=39,slow=76,SNR=5.9						

*ISK **03** 15:11:07.9, 37.°30N×42.°56E, h5km, ML2.7/5*

*DDA **03** 15:11:08.9, 37.°25N×42.°68E, h15km, Ml2.6*

*ISN **03** 15:11:09.0±0.9, 37.°22N×42.°86E, h0km..3km, ML2.8*

ISC 03 15:11:08.6±1.5, 37.°24N±0.°06×42.°67E±0.°03, h2km±11km, n15, σ1°27/27, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIRT	**Sirnak**	**0.32**	**325**	PG	**Pg**	**15 11 12.9**	**-1.8**
SIRT				SG	**Sg**	**15 11 17.4**	**-1.5**
SIRN	**S¨–rnak**	**0.33**	**322**	*i* P	**Pg**	**15 11 13.6**	**-1.3**
SIRN				*i* S	**Sb**	**15 11 24.9**	**+1.9**
CUKT	**Cukurca**	**0.75**	**89**	PG	**Pn**	**15 11 25.6**	**-0.8**
CUKT				SG	**Sn**	**15 11 37.9**	**-0.5**
HAKT	**HAKKARI**	**0.89**	**69**	*i* P	**Pg**	**15 11 26.1**	**+0.5**
HAKT				*i* S	**Sb**	**15 11 38.4**	**-0.9**
GEVA	**Gevas**	**1.11**	**16**	*i* P	**Pg**	**15 11 30.1**	**+0.1**
GEVA				*i* S	**Sb**	**15 11 45.4**	**-0.4**
BTMN	**Batman**	**1.29**	**301**	*i* P	**Pg**	**15 11 33.2**	**-0.1**
BTMN				*i* S	**Sn**	**15 11 51.8**	**+0.2**
GURO	**Guroymak-BITLI**	**1.40**	**339**	PN	**Pn**	**15 11 33.9**	**-1.4**
SVAN	**Silvan-Diyarba**	**1.48**	**308**	PN	**Pn**	**15 11 35.0**	**-1.3**
SVAN				SN	**Sn**	**15 11 55.5**	**-0.7**

IDC 03 15:40:27.8±1.6, 4°98′S×129°94′E, h0km, mb3.4/1, mb1 3.6/4, mb1mx3.3/36, mbtmp3.4/4, ML3.3/4, Error ellipse: s-maj=65.3km s-min=24.4km az=86.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.29**	**18**	Pn	Pn	15 41 34.1	-0.3
	2.2nm,0.3s,baz=43,slow=21,SNR=14						
SIJI				Sn	Sn	15 42 20.7	-4.6
	2.2nm,0.3s,baz=143,slow=20,SNR=7.6						
FITZ	**Fitzroy Crossi**	**13.70**	**198**	Pn	Pn	15 43 43.8	+0.3
	0.1nm,0.3s,baz=25,slow=14,SNR=2.1						
WRA	**Warramunga Arr**	**15.48**	**164**	Pn	Pn	15 44 05.8	-1.8
	0.1nm,0.3s,baz=344,slow=13,SNR=7.1						
WRA				Sn	Sn	15 46 48.4	-11
	0.1nm,0.3s,baz=351,slow=24,SNR=3.9						
ASAR	**Alice Springs**	**18.97**	**169**	P	Pn	15 44 51.4	-0.1
	0.2nm,0.3s,baz=353,slow=11,SNR=22						
MKAR	**Makanchi Array**	**66.52**	**326**	P	P	15 51 19.6	+0.1
	0.2nm,0.5s,baz=120,slow=11,SNR=4.6						

JMA 03 15:43:56.6±0.5, 45°55′N×146°43′E, h270km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.24**	**193**	P	Pn	15 44 42.9	0.0
NEM2				*e*S	S	15 45 19.2	-0.4
JTKR	**Abashiri--Toko**	**2.39**	**230**	P	Pn	15 44 44.8	+0.5
JAK	**Akkeshi**	**2.84**	**207**	P	Pn	15 44 48.8	+0.1
JAK				*e*S	S	15 45 29.4	-0.7
JAR	**Ashorobuto**	**2.95**	**221**	P	Pn	15 44 50.7	+0.9
JCH	**Churui**	**3.67**	**218**	P	Pn	15 44 57.3	-0.3
JCH				*e*S	S	15 45 44.5	-1.8
JNBK	**Urakawa-nobuka**	**4.21**	**220**	P	Pn	15 45 03.0	-0.8
JNBK				*e*S	S	15 45 54.5	-2.9
JKB	**Kayabe**	**5.36**	**229**	P	Pn	15 45 16.0	-1.3
JKB				*e*S	S	15 46 18.2	-3.7
JOT	**Ohata**	**5.72**	**225**	*e*S	S	15 46 24.6	-5.3
JANG	**Nango**	**6.30**	**217**	*e*S	S	15 46 38.7	-4.4
JOM	**Ohasama**	**7.16**	**214**	*e*S	S	15 46 58.5	-3.9

*NORS **03** 15:44:00.0±0.0, 42°.72N×44°.47E, h5km*
*MOS **03** 15:44:00.8±0.0, 42°.80N×44°.41E, h16km, MPVA2.9*
*ISCJB **03** 15:44:01.2±0.6, 42°.72N±0°.04×44°.41E±0°.03, h10km±10km, Error ellipse: s-maj=7.0km s-min=3.8km az=1.6*

ISC 03 15:44:02.1±1.2, 42°.71N±0°.04×44°.42E±0°.03, h5km±10km, n14, σ0°89/24, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LACR	**Lac**	**0.15**	**323**	*i* Pg	**Pg**	**15 44 04.2**	**-0.9**
LACR				*e*Sg	**Sg**	**15 44 07.7**	**+0.6**
GUDG	**Gudauri**	**0.25**	**170**	P	Pg	15 44 04.0	-2.9
VLKR	**Vladikavkaz**	**0.39**	**29**	*e*Pg	**Pg**	**15 44 10.3**	**+0.7**
VLKR				*e*Sg	**Sg**	**15 44 14.9**	**+0.2**
ZEI	**Tsey**	**0.39**	**282**	*e*Pg	**Pg**	**15 44 09.7**	**0.0**
ZEI				*e*Sg	**Sg**	**15 44 15.3**	**+0.5**
KORR	**Kora**	**0.46**	**326**	*e*Pg	**Pg**	**15 44 11.3**	**+0.4**
KORR				*e*Sg	**Sg**	**15 44 16.8**	**0.0**
KMGR	**Komgaron**	**0.48**	**43**	*e*Pg	**Pg**	**15 44 10.5**	**-0.8**
KMGR				*e*Sg	**Sg**	**15 44 16.5**	**-1.0**
DUS	**Dusheti**	**0.65**	**161**	P	**Pg**	**15 44 14.7**	**+0.1**
STDR	**Stavd-Durt**	**0.71**	**339**	*e*Pg	**Pg**	**15 44 15.1**	**-0.7**
STDR				*e*Sg	**Sg**	**15 44 23.6**	**-1.4**
GROC	**Groznyy**	**1.13**	**63**	*e*Pg	**Pb**	**15 44 24.2**	**+0.1**
GROC				*e*Sg	**Sb**	**15 44 39.1**	**+0.1**
TRLG	**Trialeti**	**1.19**	**192**	P	**Pn**	**15 44 24.8**	**-0.8**
DVE	**Vedeno**	**1.28**	**78**	*e*Pg	**Pn**	**15 44 27.0**	**+0.3**
DVE				*e*Sg	**Sb**	**15 44 44.3**	**+0.8**
KBTC	**Kuba-Taba**	**1.33**	**327**	*e*Pg	**Pn**	**15 44 27.1**	**-0.3**
KBTC				*e*Sg	**Sg**	**15 44 47.7**	**+2.8**
NEY	**Neytrino**	**1.36**	**294**	*e*Pg	**Pn**	**15 44 27.6**	**-0.3**
NEY				*e*Sg	**Sb**	**15 44 45.5**	**-0.3**
SHA1	**Shidzhatmaz**	**1.65**	**309**	*e*Pg	**Pn**	**15 44 32.0**	**+0.1**
SHA1				*e*Sg	**Sn**	**15 44 53.4**	**-0.3**

*IDC **03** 16:00:30.8±3.1, 10°.86S×113°.81E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.5/38, mbtmp3.5/6, Error ellipse: s-maj=186.1km s-min=19.4km az=48.0*
*ISCJB **03** 16:00:33.3±0.7, 10°.72S±0°.05×113°.82E±0°.05, h33km, mb3.4/6, Error ellipse: s-maj=8.6km s-min=6.2km az=135.6*
*DJA **03** 16:00:33.6±1.2, 11°.5±12°×11°.4E±°, h21km±19km, M3.7/6, MLv3.7/6*

ISC 03 16:00:35.6±1.0, 10°.70S±0°.09×113°.85E±0°.06, h35km, n15, σ1°23/20, mb3.4/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.23**	**8**	P	**Pn**	**16 01 09.2**	**-1.0**
JAGI				S	**Sn**	**16 01 36.4**	**-0.2**
IGBI	**Denpasar**	**2.26**	**34**	P	**Pn**	**16 01 09.5**	**-1.1**
IGBI				S	**Sn**	**16 01 37.1**	**-0.2**
GMJI	**Gumukmas**	**2.44**	**350**	P	**Pn**	**16 01 11.9**	**-1.2**
GMJI				S	**Sn**	**16 01 41.6**	**-0.2**
SRBI	**Singaraja**	**2.92**	**27**	P	**Pn**	**16 01 18.5**	**-1.2**
BLJI	**Banyuglugur**	**2.95**	**355**	P	**Pn**	**16 01 18.8**	**-1.2**
PWJI	**Pagerwojo**	**3.34**	**323**	P	**Pn**	**16 01 24.1**	**-1.3**
PWJI				S	**Sn**	**16 02 03.0**	**-0.9**
TWSI	**Taliwang, Sumb**	**3.57**	**57**	P	**Pn**	**16 01 27.2**	**-1.3**
PCJI	**Pacitan**	**3.63**	**313**	P	**Pn**	**16 01 28.0**	**-1.4**
WOJI	**Wonogiri, Jawa**	**4.06**	**314**	P	**Pn**	**16 01 33.9**	**-1.4**
WOJI				S	**Sn**	**16 02 21.0**	**-0.6**
WRA	**Warramunga Arr**	**21.77**	**117**	P	**P**	**16 05 24.8**	**+0.3**
	0.9nm,0.6s,baz=291,slow=12,SNR=14						
ASAR	**Alice Springs**	**23.05**	**127**	P	**P**	**16 05 36.5**	**-1.6**
	0.4nm,0.7s,baz=297,slow=8.6,SNR=13						
CMAR	**Chiang Mai Arr**	**32.49**	**333**	P	**P**	**16 07 05.6**	**+2.4**
	0.4nm,0.9s,baz=174,slow=8.7,SNR=4.5						
STKA	**Stephens Creek**	**33.17**	**134**	P	**P**	**16 07 09.1**	**0.0**
	1.1nm,0.7s,baz=305,slow=12,SNR=3.2						
MKAR	**Makanchi Array**	**63.81**	**336**	P	**P**	**16 11 05.9**	**+1.6**
	0.1nm,0.3s,baz=131,slow=7.3,SNR=3.5						
ZALV	**Zalesovo Beam**	**68.95**	**342**	P	**P**	**16 11 36.9**	**-0.1**
	0.5nm,0.3s,baz=136,slow=7.1,SNR=2.5						

*IDC **03** 16:08:53.3±11.0, 54°.33S×131°.89W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/16, mbtmp3.4/2, MS3.2/3, Ms1 3.2/3, ms1mx3.0/10, Error ellipse: s-maj=1264.0km s-min=150.2km az=152.0*

ISC 03 16:08:49.0±4.0, 57°.4S±0°.8×128°.3W±0°.7, h10km, n13, σ0°25/7, MS3.2/3, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**42.80**	**329**	LR	LR	16 27 28.5	
	comp=Z,21nm,19.5s,baz=176,slow=28						
VNA3	**Neumayer Olymp**	**44.66**	**156**	P	**P**	**16 17 01.0**	**-0.2**
VNA2	**Neumayer--Watz**	**45.39**	**157**	P	**P**	**16 17 07.1**	**+0.2**
	baz=221,slow=9.7						
VNA1	**Neumayer--Stat**	**45.41**	**156**	P	**P**	**16 17 07.3**	**+0.3**
SNAA	**Sanae**	**45.74**	**159**	P	**P**	**16 17 09.6**	**-0.2**
MAW	**Mawson**	**55.07**	**185**	LR	LR	16 41 25.0	
	comp=Z,40nm,18.1s,baz=242,slow=34						
STKA	**Stephens Creek**	**63.86**	**251**	LR	LR	16 42 56.9	
	comp=Z,16nm,19.3s,baz=24,slow=32						
H01W1	**Cape Leeuwin H**	**74.19**	**229**	T	T	17 42 31.4	
	baz=149,slow=76,SNR=34						
H01W2	**Cape Leeuwin H**	**74.20**	**229**	T	T	17 42 32.9	
	baz=149,slow=76,SNR=29						
H01W3	**Cape Leeuwin H**	**74.21**	**229**	T	T	17 42 33.6	
	baz=149,slow=76,SNR=32						
ASAR	**Alice Springs**	**74.47**	**251**	P	**P**	**16 20 27.3**	**-0.1**
	0.3nm,1.1s,baz=140,slow=5.9,SNR=4.1						
WRA	**Warramunga Arr**	**77.33**	**253**	P	**P**	**16 20 43.9**	**+0.2**
	0.4nm,0.9s,baz=138,slow=5.0,SNR=3.5						
SONM	**Songino Array**	**146.33**	**278**	PKP	**PKPbc**	**16 28 28.9**	**-0.1**
	0.5nm,0.9s,baz=116,slow=3.4,SNR=2.6						

*ISCJB **03** 16:09:10.7±0.4, 13°.88N±0°.04×120°.47E±0°.08, h146km±4km, mb3.6/13, Error ellipse: s-maj=12.5km s-min=5.5km az=168.9*
*IDC **03** 16:09:11.8±0.5, 13°.94N×121°.05E, h146km±2km, mb3.5/13, mb1 3.6/13, mb1mx3.4/39, mbtmp3.9/13, MS2.8/1, Ms1 2.8/1, ms1mx2.3/21, Error ellipse: s-maj=31.8km s-min=10.9km az=68.0*
*MAN **03** 16:09:12.4, 13°.90N×120°.42E, h117km, mb4.3, ML3.1, MS2.9*

ISC 03 16:09:11.6±0.7, 13°.86N±0°.04×120°.50E±0°.07, h142km±6km, n28, σ1°34/33, mb3.8/13, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.49**	**61**	P	**Pn**	**16 09 32.8**	**+0.7**
	672nm,0.3s,baz=228,slow=15,SNR=46						
TGY				S	**Sn**	**16 09 47.9**	**+0.3**
	382nm,0.3s,baz=66,slow=19,SNR=17						
TGY	**Tagaytay City**	**0.49**	**61**	*i*P	Pn	16 09 22.6	-9.5
TGY				*e*S	**Sn**	**16 09 47.7**	**+0.1**
BOAC	**Boac**	**1.37**	**107**	*e*P	**Pn**	**16 09 39.5**	**+0.4**
BOAC				*e*S	**Sn**	**16 10 01.3**	**+1.1**
SJMP	**San Jose**	**1.52**	**156**	*e*P	**Pn**	**16 09 41.0**	**+0.3**
BUSP	**Coron**	**1.87**	**189**	*e*P	**Pn**	**16 09 45.3**	**+0.5**
BUSP				*e*S	**Sn**	**16 10 09.2**	**-0.9**
SCZP	**Santa Cruz**	**1.98**	**343**	*e*P	**Pn**	**16 09 46.0**	**-0.1**
SCZP				*e*S	**Sn**	**16 10 10.6**	**-1.9**
OTRP	**Odiongan**	**2.10**	**135**	*e*P	**Pn**	**16 09 48.1**	**+0.6**
OTRP				*e*S	**Sn**	**16 10 11.6**	**-3.5**
BALP	**Baler**	**2.14**	**29**	*e*P	**Pn**	**16 09 48.4**	**+0.5**
AUQP	**San Andres**	**2.18**	**104**	*e*P	**Pn**	**16 09 50.6**	**+2.2**
SMPP	**San Manuel, Pa**	**2.28**	**4**	*e*P	**Pn**	**16 09 49.4**	**-0.3**
SMPP				*e*S	**Sn**	**16 10 17.8**	**-1.2**
BOLP	**Bolinao**	**2.57**	**347**	*e*P	**Pn**	**16 09 53.4**	**+0.3**
BOLP				*e*S	**Sn**	**16 10 23.4**	**-1.9**
ENPP	**El Nido**	**2.84**	**202**	*e*P	**Pn**	**16 09 58.5**	**+1.8**
CAUP	**Cauayan**	**3.32**	**22**	*e*P	**Pn**	**16 10 03.6**	**+0.9**
APYP	**Conner**	**4.04**	**10**	*e*P	**Pn**	**16 10 13.1**	**+0.9**
JOW	**Kunigami**	**14.81**	**28**	LR	LR	16 16 35.6	
	comp=Z,38nm,21.4s,baz=62,slow=31						
CMAR	**Chiang Mai Arr**	**21.20**	**285**	P	P	16 13 52.1	+6.1
	0.6nm,0.9s,baz=91,slow=9.5,SNR=5.4						
BATI	**Baumata**	**24.12**	**172**	P	**P**	**16 14 13.2**	**-1.2**
	9.9nm,0.5s,baz=23,slow=0.6,SNR=4.4						
SONM	**Songino Array**	**35.85**	**344**	P	**P**	**16 15 58.5**	**+0.9**
	1.0nm,0.6s,baz=164,slow=11,SNR=7.8						
WRA	**Warramunga Arr**	**36.25**	**158**	P	**P**	**16 16 00.1**	**-1.1**
	1.2nm,0.5s,baz=336,slow=9.5,SNR=28						
ASAR	**Alice Springs**	**39.54**	**160**	P	**P**	**16 16 28.3**	**-0.5**
	0.5nm,0.3s,baz=332,slow=7.8,SNR=38						
MKAR	**Makanchi Array**	**45.78**	**324**	P	**P**	**16 17 21.2**	**+2.3**
	1.1nm,0.7s,baz=121,slow=8.8,SNR=6.9						
ZALV	**Zalesovo Beam**	**48.82**	**333**	P	**P**	**16 17 43.2**	**+1.0**
	1.5nm,0.3s,baz=126,slow=7.2,SNR=7.9						
STKA	**Stephens Creek**	**49.77**	**156**	P	**P**	**16 17 48.3**	**-1.4**
	0.3nm,0.3s,baz=315,slow=14,SNR=3.2						
NRIK	**Noril'sk**	**59.21**	**347**	P	**P**	**16 18 58.1**	**+0.8**
	1.5nm,0.5s,baz=143,slow=7.5,SNR=4.7						
ILAR	**Eielson Array**	**78.69**	**26**	P	**P**	**16 20 55.9**	**-1.8**
	0.2nm,0.7s,baz=263,slow=3.4,SNR=3.3						
ARCES	**ARCESS Array B**	**78.86**	**339**	P	**P**	**16 20 58.7**	**+0.1**
	3.7nm,0.9s,baz=66,slow=6.8,SNR=10						
BRTR	**Keskin Array B**	**78.89**	**308**	P	**P**	**16 21 00.9**	**+1.4**
	0.6nm,0.8s,baz=72,slow=4.0,SNR=3.5						
NOA	**NORSAR Array B**	**87.03**	**333**	P	**P**	**16 21 40.6**	**-0.2**
	0.5nm,0.8s,baz=78,slow=4.2,SNR=2.5						

MAN 03 16:38:58.8, 10°.38N×125°.19E, h1km, mb4.4, ML3.2, MS3.0, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.40**	**234**	*e*P	Pg	16 39 07.0	+0.4
MSLP				*e*S	Sb	16 39 15.2	-0.2
PLP	**Palo**	**0.81**	**345**	↑*i*P	Pg	16 39 14.7	+0.3
PLP				*i* S	Sb	16 39 28.6	+1.4
OCLP	**Ormoc**	**0.88**	**320**	*e*P	Pb	16 39 16.4	-0.5
OCLP				*e*S	Sn	16 39 33.5	+1.6
LLP	**Lapu-Lapu**	**1.21**	**267**	↓*i*P	Sb	16 39 38.5	-0.1
LLP				*i* S	Sn	16 39 45.0	+5.2
BESP	**Borongan**	**1.24**	**11**	*e*P	Pg	16 39 21.8	-0.8
TBP	**Tagbilaran**	**1.47**	**243**	*e*P	Pn	16 39 25.3	-1.2
CNP	**Catarman**	**2.18**	**346**	*e*P	Pb	16 39 37.8	-1.3
CNP				*e*S	Sb	16 40 07.5	+0.8
GUIM	**Jordan**	**2.57**	**276**	*e*P	Pn	16 39 42.8	+1.3

*NIED **03** 16:56:00, 31°.50N×131°.90E, h26km, Mw3.9 Best double couple: M0 7.95000×10^14 NP1:φ=257.00000°, δ=43.00000°, λ=135.00000°. NP2:φ=23.00000°, δ=61.00000°, λ=56.00000°.*
*IDC **03** 16:56:31.9±1.1, 31°.48N×131°.68E, h0km, mb3.4/8, mb1 3.5/12, mb1mx3.4/45, mbtmp3.4/12, ML3.0/4, MS3.0/3, Ms1 3.0/3, ms1mx2.5/40, Error ellipse: s-maj=28.0km s-min=11.6km az=79.0*
*ISCJB **03** 16:56:35.9±0.8, 31°.56N±0°.04×131°.87E±0°.08, h48km±7km, mb3.4/8, MS2.9/1, Error ellipse: s-maj=11.0km s-min=6.9km az=10.7*
*JMA **03** 16:56:35.9±0.1, 31°.54N×131°.87E, h24km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φ=31.00000°, δ=87.00000°, λ=82.00000°. NP2:φ=282.00000°, δ=8.00000°, λ=161.00000°. Principal axes: T Plg47.0000°, Azm293.0000°; N Plg8.0000°, Azm31.0000°; P Plg42.0000°, Azm128.0000°;*
JMA Felt I J1.

ISC 03 16:56:36.2±1.4, 31°.55N±0°.04×131°.82E±0°.07, h33km±6km, n27, σ1°08/27, mb3.4/8, 4C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	**Kushima--Naru**	**0.47**	**268**	↓P	**Pb**	**16 56 46.1**	**-0.2**
JNAR				S	**Sb**	**16 56 53.4**	**+0.1**
JTZ	**Takazaki**	**0.72**	**300**	↑P	**Pn**	**16 56 50.0**	**0.0**
JTZ				S	**Sn**	**16 57 00.1**	**+0.2**
JTSN	**Tsuno**	**0.75**	**339**	↓P	**Pb**	**16 56 50.5**	**-0.3**
JTSN				S	**Sb**	**16 57 01.1**	**+0.3**
JTN	**Tanegashima 3**	**1.15**	**219**	↑P	**Pn**	**16 56 56.6**	**+0.7**
JTN				S	**Sb**	**16 57 13.0**	**+1.0**
JSU	**Suzuyama**	**1.17**	**268**	↑P	**Pn**	**16 56 57.1**	**+0.9**
JSU				S	**Sb**	**16 57 14.2**	**+1.5**
JZO	**Okuchi**	**1.20**	**300**	↑P	**Pn**	**16 56 57.3**	**+0.6**
JZO				S	**Sn**	**16 57 13.1**	**+1.3**
JMTN	**Minamitane**	**1.39**	**215**	P	**Pn**	**16 57 00.0**	**+0.7**
JNU	**Nakatsue**	**1.76**	**333**	Pg	**Pb**	**16 57 06.1**	**-1.8**
	25nm,0.3s,baz=205,slow=14,SNR=256						
JNU				Lg	Lg	16 57 29.6	
	33nm,0.3s,baz=234,slow=22,SNR=24						
JNU				LR	LR	16 57 36.3	
	comp=Z,114nm,20.4s,baz=208,slow=36						
JOW	**Kunigami**	**5.63**	**214**	Pn	**Pn**	**16 57 57.0**	**-0.6**
	0.9nm,0.3s,baz=120,slow=20,SNR=9.6						
JOW				Sn	**Sn**	**16 58 58.7**	**-2.4**
	1.2nm,0.3s,baz=108,slow=20,SNR=2.4						
KSRS	**Korea Array**	**6.71**	**332**	Pn	**Pn**	**16 58 13.8**	**+1.4**
	0.1nm,0.3s,baz=146,slow=13,SNR=3.2						
KSRS				LR	LR	17 01 16.3	
	comp=Z,105nm,18.4s,baz=119,slow=42						
MJAR	**Matsushiro Arr**	**7.27**	**45**	Pn	**Pn**	**16 58 21.6**	**+1.5**
	0.2nm,0.3s,baz=242,slow=15,SNR=3.1						
USRK	**Ussuriysk Ar.**	**12.63**	**1**	LR	LR	17 04 01.7	
	comp=Z,60nm,19.5s,baz=356,slow=35						
KLR	**Kul'dur**	**17.66**	**360**	P	**P**	**17 00 41.2**	**+0.9**
	0.2nm,0.3s,baz=108,slow=20,SNR=2.4						
SONM	**Songino Array**	**25.28**	**317**	P	**P**	**17 01 59.1**	**-0.4**
	0.7nm,0.8s,baz=139,slow=11,SNR=4.3						
SONM				LR	LR	17 13 40.2	
	comp=Z,33nm,18.4s,baz=91,slow=41						
CMAR	**Chiang Mai Arr**	**32.39**	**254**	P	**P**	**17 03 02.8**	**-0.2**
	0.3nm,0.3s,baz=51,slow=7.1,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**33.60**	**102**	T	T	17 38 58.4	
	baz=298,slow=75,SNR=4.9						
H11N1	**WAKE ISLAND Hy**	**33.60**	**102**	T	T	17 38 57.2	
	baz=298,slow=75,SNR=3.3						
H11N3	**WAKE ISLAND Hy**	**33.62**	**102**	T	T	17 38 56.6	
	baz=298,slow=75,SNR=3.9						
H11S3	**WAKE ISLAND Hy**	**34.01**	**104**	T	T	17 39 27.5	
	baz=306						
H11S1	**WAKE ISLAND Hy**	**34.01**	**104**	T	T	17 39 31.5	
	baz=306						
H11S2	**WAKE ISLAND Hy**	**34.03**	**104**	T	T	17 39 28.7	
	baz=306						
MKAR	**Makanchi Array**	**40.62**	**307**	P	**P**	**17 04 12.0**	**-1.0**
	0.4nm,0.5s,baz=90,slow=11,SNR=5.1						
KURBB	**Kurchatov Arra**	**43.41**	**312**	P	**P**	**17 04 34.9**	**-0.7**
	0.2nm,0.3s,baz=93,slow=7.8,SNR=3.5						
BVAR	**Borovoye Array**	**48.58**	**315**	P	**P**	**17 05 15.8**	**-0.5**
	0.4nm,0.4s,baz=100,slow=9.1,SNR=5.7						
WRA	**Warramunga Arr**	**51.25**	**177**	P	**P**	**17 05 38.3**	**+1.4**
	0.2nm,0.9s,baz=353,slow=7.9,SNR=2.8						
ASAR	**Alice Springs**	**54.94**	**178**	P	**P**	**17 06 04.9**	**+1.0**
	0.2nm,0.9s,baz=131,slow=13,SNR=4.7						
NOA	**NORSAR Array B**	**75.92**	**334**	P	**P**	**17 08 18.5**	**-0.9**
	0.3nm,0.5s,baz=53,slow=5.2,SNR=2.4						

*PGC **03** 17:25:51.5±13.0, 52°.28N×132°.72W, h20km, mb4.0, ML3.7/11, 123km southwest of Sandspit, Bc Haida Gwaii Region*
*IDC **03** 17:25:54.6±2.1, 52°.52N×132°.08W, h0km, mb4.0/2, mb1 3.9/5, mb1mx3.5/43, mbtmp3.6/5, ML3.3/4, MS3.3/4, Ms1 3.4/4, ms1mx2.8/40, Error ellipse: s-maj=48.4km s-min=10.9km az=51.0*
*ISCJB **03** 17:25:55.1±0.4, 52°.55N±0°.04×132°.4W±0°.1, h18km, mb4.1/31, MS3.6/2, Error ellipse: s-maj=9.9km s-min=3.5km az=154.1*
*NEIC **03** 17:25:56.0±0.5, 52°.55N×132°.36W, h10km, mb4.0/54, Error ellipse: s-maj=12.4km s-min=3.3km az=61.0*

ISC 03 17:25:56.6±0.8, 52°.49N±0°.07×132°.29W±0°.08, h18km, n110, σ1°90/100, mb4.1/30, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.34**	**75**	P	**Pg**	**17 26 03.8**	**-0.1**
BNB				S	**Sn**	**17 26 12.8**	**-0.4**
DIB	**Dawson Inlet,**	**0.72**	**351**	*e*Pg	**Pb**	**17 26 08.7**	**-1.9**
DIB	**Dawson Inlet,**	**0.72**	**351**	P	**Pb**	**17 26 08.5**	**-2.1**
H02S1	**DAWSON INLET T**	**0.72**	**351**	Pg	**Pb**	**17 26 08.6**	**-2.0**
H02N1	**VAN INLET T-PH**	**0.78**	**349**	Pg	**Pb**	**17 26 09.7**	**-2.0**
VIB	**Van Inlet**	**0.78**	**349**	P	**Pb**	**17 26 09.3**	**-2.4**
BNAB	**Bonilla**	**1.42**	**44**	Pn	**Pn**	**17 26 20.5**	**-1.0**
RUBB	**Prince Rupert**	**2.21**	**33**	Pn	**Pn**	**17 26 31.6**	**-0.7**
BBB	**Bella Bella**	**2.58**	**95**	Pn	**Pn**	**17 26 35.3**	**-2.2**
	1.2nm,0.3s,baz=278,slow=9.0,SNR=6.4						
BBB	**Bella Bella**	**2.58**	**95**	*e*Pn	**Pn**	**17 26 34.6**	**-2.8**
BBB	**Bella Bella**	**2.58**	**95**	Pn	**Pn**	**17 26 35.2**	**-2.2**
CRAG	**Craig**	**3.03**	**351**	*e*Pn	**Pn**	**17 26 41.8**	**-1.7**
PHC	**Port Hardy**	**3.52**	**119**	Pn	**Pn**	**17 26 46.9**	**-3.4**
PACB	**Port Alice, BC**	**3.64**	**122**	Pn	**Pn**	**17 26 49.5**	**-2.5**
MAYB	**Maynard**	**3.83**	**121**	Pn	**Pn**	**17 26 51.5**	**-3.1**
WRAK	**Wrangell Islan**	**3.94**	**360**	*e*Pn	**Pn**	**17 26 54.0**	**-2.0**
WOSB	**Woss**	**4.28**	**121**	Pn	**Pn**	**17 26 58.9**	**-1.9**
NCRB	**Newcastle Ridg**	**4.42**	**116**	Pn	**Pn**	**17 27 00.6**	**-2.3**
UBRB	**Upper Baezaeko**	**5.01**	**82**	Pn	**Pn**	**17 27 11.4**	**+0.5**
FSB	**Fort Saint Jam**	**5.16**	**64**	Pn	**Pn**	**17 27 13.9**	**+1.0**
JIS	**Juneau Island**	**5.92**	**349**	*e*Pn	**Pn**	**17 27 22.9**	**-0.3**
DLBC	**Dease Lake**	**6.10**	**11**	*e*Pn	**Pn**	**17 27 24.6**	**-1.2**
WHY	**Whitehorse**	**8.32**	**351**	*e*Pn	**Pn**	**17 27 55.1**	**-1.1**
COR	**Corvallis**	**9.90**	**139**	*e*Pn	**Pn**	**17 28 18.6**	**+0.7**
TGL	**Tana Glacier**	**10.10**	**329**	*e*Pn	**Pn**	**17 28 20.0**	**-0.7**
C09A	**Chrisman Ranch**	**10.14**	**112**	*e*Sn	Sn	17 30 24.9	+10
BALM	**Baldy**	**10.18**	**331**	*e*Pn	**Pn**	**17 28 20.9**	**-0.8**
DIV	**Divide**	**11.36**	**325**	*e*Pn	Pn	17 28 43.7	+5.9
FID	**Port Fidalgo**	**11.36**	**322**	*e*Pn	**Pn**	**17 28 41.9**	**+4.1**
K05A	**Summer Lake**	**12.42**	**137**	*e*Pn	**Pn**	**17 28 55.6**	**+3.2**
KDAK	**Kodiak Island**	**12.74**	**303**	LR	LR	17 32 51.6	
	comp=Z,73nm,19.2s,baz=122,slow=32						
IL1	**Eielson Array**	**14.42**	**334**	*e*P	**P**	**17 29 26.5**	**+0.2**
ILAR	**Eielson Array**	**14.42**	**334**	Pn	**Pn**	**17 29 20.5**	**+1.0**
	0.1nm,0.3s,baz=147,slow=13,SNR=4.6						
ILAR				LR	LR	17 34 51.6	
	comp=Z,86nm,20.0s,baz=184,slow=37						
ILB	**Eielson Array**	**14.42**	**334**	*e*Pn	**P**	**17 29 25.9**	**-0.3**
YHB	**Horse Butte**	**15.91**	**111**	*e*Pn	**P**	**17 29 45.0**	**+1.7**
	10nm,1.1s						
YHH	**Holmes Hill**	**16.09**	**110**	*e*Pn	**P**	**17 29 47.1**	**+1.8**
	9.9nm,1.4s						
YMR	**Madison River**	**16.10**	**111**	*e*Pn	**P**	**17 29 46.8**	**+1.5**
	13nm,1.2s						
KVN	**Kaiserville**	**16.65**	**138**	*e*Pn	**Pn**	**17 29 51.3**	**+2.2**
	38nm,2.0s						
FXWY	**Fox Creek**	**16.70**	**114**	*e*Pn	**P**	**17 29 54.3**	**+2.3**
	21nm,1.6s						
MOOW	**Moose Ponds**	**16.78**	**113**	*e*Pn	**P**	**17 29 55.7**	**+2.8**
	26nm,1.8s						
RLMT	**Red Lodge**	**16.82**	**107**	*e*Pn	**P

24nm,1.8s
WUAZ Wupatki 22.54 131 *e*P P 17 30 55.5 -0.1
3.4nm,0.9s
MVCO Mesa Verde 22.61 123 *e*P P 17 30 57.4 +1.0
18nm,1.6s
Y12C Blythe 22.67 139 *e*P P 17 31 00.0 +3.2
5.0nm,1.0s
S22A 4UR Ranch, Cre 23.08 120 *e*P P 17 31 02.2 +0.8
31nm,1.9s
Y14A Wickenburg 23.14 136 *e*P P 17 31 01.6 -0.1
3.2nm,1.1s
GLA Glamis 23.16 140 *e*P P 17 31 03.4 +1.4
4.5nm,1.0s
X16A Lo Mia Camp, P 23.42 132 *e*P P 17 31 06.6 +1.9
2.3nm,1.1s
AGMN Agassiz Nation 23.43 86 *e*P P 17 31 05.6 +1.0
9.2nm,1.1s
OGNE Ogallala 23.56 107 *e*P P 17 31 08.4 +2.5
62nm,1.8s
SDCO Great Sand Dun 23.79 118 *e*P P 17 31 09.5 +1.1
6.7nm,1.1s
X18A Snowflake 24.02 130 *e*P P 17 31 11.9 +1.4
3.3nm,0.7s
TUC Tucson 25.49 134 *e*P P 17 31 26.2 +2.5
8.1nm,1.7s
PETK Petropavlovsk- 40.77 300 LR LR 17 49 10.3
comp=Z,46nm,18.6s,baz=92,slow=34
H11N2 WAKE ISLAND Hy 56.87 259 T T 18 38 06.0
baz=39,slow=76,SNR=16
H11N3 WAKE ISLAND Hy 56.88 259 T T 18 38 04.4
baz=39,slow=76,SNR=12
H11N1 WAKE ISLAND Hy 56.89 259 T T 18 38 06.0
baz=39,slow=76,SNR=9.5
NB2 NORSAR Subarra 63.13 19 P P 17 36 23.2 +0.6
comp=Z,6.4nm,1.4s,baz=336,slow=6.5
NB200 NORSAR Array S 63.13 19 *e*P P 17 36 23.2 +0.6
NOA NORSAR Array B 63.13 19 P P 17 36 23.2 +0.6
comp=Z,1.1nm,0.8s,baz=338,slow=6.2,SNR=3.8
RPN Rapa Nui 81.78 159 LR LR 18 04 57.5
comp=Z,49nm,18.9s,baz=328,slow=29
LPAZ La Paz 87.97 120 P P 17 38 45.5 -0.6
comp=Z,0.9nm,0.7s,baz=329,slow=5.9,SNR=4.7

MEX 03 17:26:07.8±0.5, **15˚.83N**×**94˚.20W**, **h86**km±8km, **MD3.8,**
Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCIG		**0.95**	**97**	*e*P		Pn		17 26 25.8	-0.8
PCIG				*e*S		Sn		17 26 38.9	-1.8
TGIG		**1.40**	**47**	*e*P		Pn		17 26 30.6	-1.5
TGIG				*e*S		Sn		17 26 48.9	-1.7
HUIG	**Huatulco**	**1.84**	**268**	*e*P		Pn		17 26 36.6	-1.2
HUIG				*e*S		Sn		17 26 58.6	-2.0
CCIG	**Comitan**	**2.03**	**77**	*i* P		Pn		17 26 39.6	-2.8
CCIG				*i* S		Sn		17 27 03.2	-2.2

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*IDC **03** 17:49:09.8±0.9, 52˚.40N×132˚.15W, h0km, mb4.1/7, mb1 4.2/11, mb1mx3.9/50, mbtmp3.9/11, ML3.7/5, MS3.6/22, Ms1 3.7/22, ms1mx3.4/49, Error ellipse: s-maj=19.7km s-min=6.7km az=63.0*

*PGC **03** 17:49:09.7±1.3, 52˚.33N×132˚.37W, h26km, mb4.2, ML4.1/17, Mw4.5, 109km Ssw of Sandspit, Bc Haida Gwaii Region*

*NEIC **03** 17:49:11.7±0.2, 52˚.38N×132˚.33W, h10km, mb4.2/110, MW4.5(OTT), Error ellipse: s-maj=7.9km s-min=2.2km az=53.0*

ISC 03 17:49:12.1±1.5, **52˚.41N**±0˚.05×**132˚.19W**±0˚.05, **h15**km±9km, **n283,** σ1§53/255, **mb4.3**/53, **MS3.7**/14, **Queen Charlotte Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.31**	**59**	P		**Pg**		**17 49 19.2**	**+0.5**
BNB				S		**Sb**		**17 49 25.6**	**+1.2**
DIB	**Dawson Inlet,**	**0.81**	**348**	*e*Pg		**Pb**		**17 49 25.9**	**-2.0**
DIB				*e*Sg		**Sg**		**17 49 37.3**	**-1.2**
DIB	**Dawson Inlet,**	**0.81**	**348**	P		**Pb**		**17 49 25.9**	**-2.0**
DIB				S		**Sg**		**17 49 37.5**	**-1.0**
H02S1	**DAWSON INLET T**	**0.81**	**348**	Pg		**Pb**		**17 49 26.0**	**-1.9**
H02S1				Lg		Lg		17 49 37.3	
H02N1	**VAN INLET T-PH**	**0.87**	**346**	Pg		**Pb**		**17 49 26.7**	**-2.2**
H02N1				Lg		Lg		17 49 38.7	
VIB	**Van Inlet**	**0.87**	**346**	P		**Pb**		**17 49 26.8**	**-2.2**
VIB				S		**Sb**		**17 49 38.9**	**-1.4**
BNAB	**Bonilla**	**1.43**	**40**	Pn		**Pn**		**17 49 36.3**	**-1.2**
BNAB				Sg		**Sb**		**17 49 57.5**	**+1.0**
MASB	**Masset**	**1.61**	**4**	Pn		**Pn**		**17 49 38.9**	**-1.0**
NDB	**Naden**	**1.61**	**344**	Pn		**Pn**		**17 49 37.6**	**-2.4**
NDB				Sn		**Sn**		**17 49 57.6**	**-2.9**
RUBB	**Prince Rupert**	**2.24**	**30**	Pn		**Pn**		**17 49 47.8**	**-0.8**
BBB	**Bella Bella**	**2.51**	**94**	Pn		**Pn**		**17 49 49.8**	**-2.6**
	4.9nm,0.3s,baz=268,slow=10,SNR=27								
BBB				LR		LR		17 50 52.0	
	comp=Z,546nm,21.9s,baz=320,slow=41								
BBB	**Bella Bella**	**2.51**	**94**	*e*Pn		**Pn**		**17 49 50.0**	**-2.4**
BBB	**Bella Bella**	**2.51**	**94**	Pn		**Pn**		**17 49 49.7**	**-2.6**
CRAG	**Craig**	**3.11**	**350**	*e*Pn		**Pn**		**17 49 59.7**	**-0.8**
BCBC	**Bella Coola**	**3.33**	**89**	Pn		**Pn**		**17 50 02.7**	**-0.9**
PHC	**Port Hardy**	**3.43**	**118**	*e*Sn		**Sn**		**17 50 39.0**	**-6.1**
PHC	**Port Hardy**	**3.43**	**118**	Pn		**Pn**		**17 50 00.8**	**-4.1**
PHC				Sn		**Sn**		**17 50 38.9**	**-6.3**
PACB	**Port Alice, BC**	**3.54**	**122**	Pn		**Pn**		**17 50 02.5**	**-4.0**
MAYB	**Maynard**	**3.73**	**121**	Pn		**Pn**		**17 50 05.0**	**-4.2**
TLCB	**Telegraph Cove**	**3.83**	**117**	Pn		**Pn**		**17 50 06.6**	**-3.9**
TLCB				Sn		**Sn**		**17 50 50.0**	**-5.3**
WRAK	**Wrangell Islan**	**4.01**	**359**	*e*Pn		**Pn**		**17 50 12.3**	**-0.7**
WOSB	**Woss**	**4.19**	**120**	Pn		**Pn**		**17 50 11.7**	**-3.7**
NCRB	**Newcastle Ridg**	**4.34**	**115**	Pn		**Pn**		**17 50 14.7**	**-2.9**
CBB	**Campbell River**	**4.91**	**116**	Pn		Pn		17 50 19.4	-5.9
UBRB	**Upper Baezaeko**	**4.96**	**81**	Pn		**Pn**		**17 50 25.5**	**-0.5**
UBRB				Sg		**Sb**		**17 51 44.4**	**+6.3**
SIT	**Sitka**	**5.00**	**340**	*e*Pn		**Pn**		**17 50 24.9**	**-1.5**
FSB	**Fort Saint Jam**	**5.13**	**63**	Pn		**Pn**		**17 50 27.7**	**-0.7**
BTB	**Buttle Lake**	**5.14**	**122**	Pn		**Pn**		**17 50 28.1**	**-0.6**
MGB	**Mount Grey**	**5.86**	**123**	Pn		**Pn**		**17 50 40.3**	**+1.8**
JIS	**Juneau Island**	**6.01**	**349**	*e*Pn		**Pn**		**17 50 40.0**	**-0.4**
DLBC	**Dease Lake**	**6.16**	**11**	Pn		**Pn**		**17 50 44.6**	**+2.1**
	2.0nm,0.3s,baz=190,slow=13,SNR=27								
DLBC				LR		LR		17 53 22.0	
	comp=Z,906nm,19.3s,baz=214,slow=41								
DLBC	**Dease Lake**	**6.16**	**11**	Pn		**Pn**		**17 50 43.7**	**+1.2**
BMBC	**Bull Mountain**	**6.93**	**54**	Pn		**Pn**		**17 50 50.4**	**-2.7**
FNBB	**Fort Nelson**	**8.30**	**35**	Pn		**Pn**		**17 51 12.5**	**+0.6**
WHY	**Whitehorse**	**8.40**	**351**	*e*Pn		**Pn**		**17 51 12.2**	**-1.1**
WHY	**Whitehorse**	**8.40**	**351**	Pn		**Pn**		**17 51 09.3**	**-4.0**
LON	**Longmire**	**8.80**	**126**	*e*Pn		**Pn**		**17 51 19.3**	**+0.5**
PCA	**Pinnacle**	**8.91**	**333**	*e*Pn		**Pn**		**17 51 19.8**	**-0.4**
HYT	**Haines Junctio**	**8.92**	**343**	*e*Pn		**Pn**		**17 51 18.3**	**-2.1**
LTY	**Liberty**	**9.05**	**120**	*e*Pn		**Pn**		**17 51 23.8**	**+1.6**
TGL	**Tana Glacier**	**10.20**	**329**	*e*Pn		**Pn**		**17 51 37.4**	**-0.5**
BALM	**Baldy**	**10.27**	**331**	*e*Pn		**Pn**		**17 51 38.9**	**0.0**
NEW	**Newport**	**10.48**	**107**	LR		LR		17 55 23.8	
	comp=Z,122nm,18.1s,baz=290,slow=36								
I04A	**Tendick Farm,**	**10.81**	**139**	P		**Pn**		**17 51 48.4**	**+2.1**
	baz=326								
K02D	**Willamette Mer**	**11.29**	**146**	P		**Pn**		**17 51 54.4**	**+1.5**
	baz=332								
HUMO	**Hull Mountain**	**11.62**	**144**	*e*Pn		**Pn**		**17 51 56.6**	**-0.7**
J05D	**Fort Rock, OR**	**11.72**	**137**	P		**Pn**		**17 52 00.8**	**+2.1**
	baz=325,SNR=7.1								
KLU	**Klutina**	**11.76**	**326**	*e*Pn		**Pn**		**17 51 58.9**	**-0.3**
GLI	**Glacier Island**	**11.77**	**322**	*e*Pn		Pn		17 52 05.0	+5.7
HARP	**HAARP**	**12.19**	**330**	*e*Pn		**Pn**		**17 52 07.4**	**+2.5**
K05A	**Summer Lake**	**12.32**	**137**	*e*Pn		**Pn**		**17 52 08.8**	**+1.7**
YBH	**Yreka Blue Hor**	**12.47**	**145**	LR		LR		17 56 06.6	
	comp=Z,286nm,18.9s,baz=328,slow=34								
SCM	**Sheep Creek Mo**	**12.48**	**325**	*e*Pn		**Pn**		**17 52 08.3**	**-0.8**
M02C	**Callahan**	**12.73**	**146**	P		**Pn**		**17 52 14.5**	**+2.0**
	baz=333								
M04C	**Macdoel**	**12.74**	**142**	P		**Pn**		**17 52 15.2**	**+2.4**
	baz=330								
KDAK	**Kodiak Island**	**12.83**	**303**	LR		LR		17 55 37.1	
	comp=Z,198nm,18.1s,baz=129,slow=30								
GHO	**Glory Hole Cre**	**13.02**	**323**	*e*Pn		**Pn**		**17 52 17.2**	**+0.8**
SCRK	**Sand Creek**	**13.12**	**337**	*e*Pn		**Pn**		**17 52 18.8**	**+1.0**
RIDG	**Independ'e Rid**	**13.15**	**335**	*e*Pn		**Pn**		**17 52 19.8**	**+1.7**
N02D	**Trinity Center**	**13.15**	**147**	P		**Pn**		**17 52 20.4**	**+2.1**
	baz=333								
MOD	**Modoc Plateau**	**13.24**	**138**	*e*Pn		**Pn**		**17 52 21.8**	**+2.2**
WVOR	**Wild Horse Val**	**13.54**	**132**	*e*Pn		**Pn**		**17 52 24.8**	**+1.2**
WDC	**Whiskeytown Da**	**13.56**	**147**	*e*Pn		**Pn**		**17 52 24.7**	**+1.0**
O02D	**Mt. Diablo Mer**	**13.84**	**148**	P		**Pn**		**17 52 29.8**	**+2.1**
	baz=335								
EPYK	**Eagle Plains**	**14.18**	**353**	P		**Pn**		**17 52 32.7**	**+0.5**
	baz=169								
HDA	**Harding Lake**	**14.24**	**333**	P		**Pn**		**17 52 34.5**	**+1.5**
	baz=141								
MCK	**McKinley**	**14.33**	**329**	*e*Pn		**Pn**		**17 52 35.8**	**+1.5**
IL1	**Eielson Array**	**14.51**	**334**	*e*Pn		**Pn**		**17 52 38.4**	**+1.7**
ILAR	**Eielson Array**	**14.51**	**334**	Pn		**Pn**		**17 52 36.2**	**-0.5**
	0.1nm,0.3s,baz=154,slow=11,SNR=5.0								
ILAR				LR		LR		17 58 34.8	
	comp=Z,257nm,18.5s,baz=131,slow=39								
ILB	**Eielson Array**	**14.51**	**334**	*e*Pn		**Pn**		**17 52 36.8**	**+0.1**
TRF	**Thorofare Moun**	**14.58**	**326**	*e*Pn		**Pn**		**17 52 37.0**	**-0.8**
WRH	**Wood River Hil**	**14.61**	**332**	*e*Pn		**Pn**		**17 52 39.1**	**+1.1**
CCB	**Clear Creek Bu**	**14.66**	**333**	*e*Pn		**P**		**17 52 41.3**	**-3.6**
DLMT	**Dillon**	**14.67**	**111**	*e*Pn		**Pn**		**17 52 41.4**	**+2.4**
HLID	**Hailey**	**14.80**	**120**	*e*Pn		**P**		**17 52 44.4**	**-2.4**
HLID	**Hailey**	**14.80**	**120**	P		**Pn**		**17 52 42.4**	**+1.5**
	baz=313								
ORV	**Oroville**	**14.83**	**146**	*e*Pn		**P**		**17 52 46.9**	**0.0**
MCMT	**McKenzie Canyo**	**14.84**	**113**	*e*Pn		**Pn**		**17 52 42.2**	**+0.7**
COLA	**College**	**14.85**	**333**	*e*Pn		**Pn**		**17 52 42.1**	**+0.8**
POKR	**Poker Plat Res**	**14.93**	**334**	P		**Pn**		**17 52 43.2**	**+0.9**
	baz=142								
BEKR	**Beckworth**	**14.96**	**142**	*e*Pn		**P**		**17 52 49.0**	**+0.4**
EGMT	**Eagleton**	**15.00**	**98**	*e*Pn		**P**		**17 52 48.5**	**-0.3**
EGMT	**Eagleton**	**15.00**	**98**	P		**Pn**		**17 52 44.3**	**+0.9**
	baz=295								
MDM	**Murphy Dome**	**15.02**	**333**	*e*Pn		**P**		**17 52 49.7**	**+0.8**
BPAW	**Bear Paw Mtn.**	**15.25**	**327**	*e*Pn		**Pn**		**17 52 47.6**	**+1.0**
	54nm,1.8s								
SVW2	**Spovohn**	**15.42**	**313**	*e*Pn		**P**		**17 52 53.2**	**-0.1**
	64nm,1.8s								
PAHR	**Pah Rah Range**	**15.48**	**140**	*e*Pn		**P**		**17 52 51.8**	**-2.4**
	16nm,1.3s								
AFDM	**Forest Hills D**	**15.55**	**146**	*e*Pn		**Pn**		**17 52 50.6**	**-0.1**
	17nm,1.2s								
FYU	**Fort Yukon**	**15.61**	**340**	*e*Pn		**P**		**17 52 55.9**	**+0.6**
	22nm,0.9s								
FYU				*e*Sn		Sn		17 55 31.0	-13
QLMT	**Earthquake Lak**	**15.65**	**111**	*e*Pn		**Pn**		**17 52 53.5**	**+1.4**
VCNR	**Virginia City**	**15.73**	**142**	*e*Pn		**Pn**		**17 52 54.5**	**+1.3**
	12nm,1.3s								
BMN	**Battle Mountai**	**15.78**	**134**	*e*Pn		**P**		**17 52 58.2**	**+0.6**
	25nm,1.3s								
MLY	**Manley**	**15.80**	**330**	*e*Pn		**P**		**17 52 54.9**	**-2.7**
	75nm,1.8s								
YHB	**Horse Butte**	**15.83**	**111**	*e*Pn		**Pn**		**17 52 53.2**	**-1.3**
	32nm,1.8s								
PNTR	**Pine Nut**	**15.93**	**142**	*e*Pn		**Pn**		**17 52 55.2**	**-0.6**
	26nm,1.4s								
INK	**Inuvik**	**15.96**	**358**	LR		LR		17 59 28.7	
	comp=Z,282nm,18.8s,baz=181,slow=39								
INK	**Inuvik**	**15.96**	**358**	*e*Pn		**Pn**		**17 52 55.5**	**-0.3**
	38nm,1.8s								
YHH	**Holmes Hill**	**16.00**	**110**	*e*Pn		**Pn**		**17 52 58.2**	**+1.4**
	23nm,1.8s								
YMR	**Madison River**	**16.01**	**111**	*e*Pn		**P**		**17 52 60.0**	**-0.3**
	36nm,1.8s								
GCMT	**Greycliff**	**16.13**	**105**	*e*Pn		**P**		**17 53 00.4**	**-1.1**
YNR	**Nora Junctio**	**16.15**	**110**	*e*Pn		**P**		**17 53 00.5**	**-1.3**
	19nm,1.7s								
YERR	**Yerington**	**16.16**	**141**	*e*Pn		**P**		**17 53 01.8**	**0.0**
	22nm,1.3s								
YFT	**Old Faithful**	**16.21**	**111**	*e*Pn		**P**		**17 53 01.3**	**-1.3**
	17nm,1.5s								
H17A	**Grant Village**	**16.40**	**111**	*e*Pn		**P**		**17 53 04.1**	**-0.5**
	7.2nm,1.0s								
LKWY	**Lake**	**16.40**	**110**	*e*Pn		**P**		**17 53 03.9**	**-0.7**
	10nm,0.8s								
IMW	**Indian Meadow**	**16.49**	**113**	*e*Pn		**P**		**17 53 06.1**	**+0.4**
	14nm,1.5s								
WAKR	**Walker**	**16.50**	**142**	*e*Pn		**P**		**17 53 06.9**	**+1.2**
	59nm,2.0s								
FLWY	**Flagg Ranch**	**16.52**	**112**	*e*Pn		**P**		**17 53 09.0**	**+3.2**
	26nm,1.8s								
KVN	**Kaiserville**	**16.55**	**138**	*e*Pn		**P**		**17 53 05.3**	**-0.9**
	19nm,1.2s								
CMB	**Columbia Colle**	**16.58**	**146**	*e*Pn		**P**		**17 53 06.8**	**+0.5**
	17nm,1.5s								
FXWY	**Fox Creek**	**16.61**	**114**	*e*Pn		**P**		**17 53 09.3**	**+2.4**
	15nm,1.4s								
MOOW	**Moose Ponds**	**16.70**	**113**	*e*Pn		**P**		**17 53 08.6**	**+0.8**
	9.6nm,1.4s								
RYN	**Ryan**	**16.74**	**140**	*e*Pn		**P**		**17 53 08.1**	**-0.3**
	23nm,1.6s								
TPAW	**Teton Pass**	**16.74**	**114**	*e*Pn		**P**		**17 53 09.5**	**+1.1**
	15nm,1.1s								
LOHW	**Long Hollow**	**16.86**	**113**	*e*Pn		**P**		**17 53 10.3**	**+0.6**
	17nm,1.5s								
REDW	**Red Top Meadow**	**16.88**	**114**	*e*Pn		**P**		**17 53 09.3**	**-0.6**
	22nm,1.3s								
SDPT	**Sand Point**	**16.88**	**291**	*e*Pn		**P**		**17 53 11.2**	**+1.6**
	93nm,0.9s								
HVU	**Hansel Valley**	**16.91**	**121**	*e*Pn		**Pn**		**17 53 08.8**	**+0.6**
	13nm,1.8s								
NV01	**Mina Array Sit**	**17.00**	**140**	*e*Pn		**P**		**17 53 10.5**	**-0.7**
NVAR	**Mina Array Bea**	**17.00**	**140**	Pn		**P**		**17 53 11.2**	**-0.1**
	0.1nm,0.3s,baz=315,slow=11,SNR=11								
NVAR				LR		LR		17 59 03.6	
	comp=Z,120nm,21.9s,baz=338,slow=35								
NV11	**Mina Array Sit**	**17.06**	**140**	*e*Pn		**P**		**17 53 12.0**	**+0.2**
	1.2nm,1.3s								
AHID	**Auburn Hatcher**	**17.13**	**116**	*e*Pn		**P**		**17 53 14.1**	**+1.4**
	9.2nm,1.2s								
IM3	**Indian Mountai**	**17.38**	**330**	*e*Pn		**P**		**17 53 13.6**	**-1.3**
SAO	**San Andreas Ge**	**17.39**	**150**	*e*Pn		**P**		**17 53 16.2**	**+1.0**
	25nm,1.8s								
BGU	**Big Grassy Mou**	**17.40**	**124**	*e*Pn		**Pn**		**17 53 14.8**	**+0.4**
	20nm,1.9s								
MDPB	**Devils Postpil**	**17.40**	**143**	*e*Pn		**P**		**17 53 15.9**	**+0.2**
	17nm,1.8s								
OMMB	**Old Mammoth Mi**	**17.45**	**143**	*e*Pn		**P**		**17 53 16.6**	**+0.3**
	11nm,1.5s								
HWUT	**Hardware Ranch**	**17.67**	**120**	*e*Pn		**P**		**17 53 21.6**	**+3.0**
	16nm,1.8s								
LAO	**LASA Array**	**17.74**	**98**	*e*Pn		**P**		**17 53 21.7**	**+2.4**
	48nm,1.9s								
BW06	**Boulder Array**	**17.99**	**113**	*e*Pn		**P**		**17 53 23.8**	**+1.6**
	8.1nm,1.3s								
PD31	**Pinedale Array**	**17.99**	**113**	*e*Pn		**P**		**17 53 23.2**	**+1.0**
PDAR	**Pinedale Array**	**17.99**	**113**	Pn		**P**		**17 53 24.4**	**+2.2**
	0.1nm,0.3s,baz=302,slow=8.5,SNR=11								
PDAR	**Pinedale Array**	**17.99**	**113**	*e*Pn		**P**		**17 53 23.2**	**+1.0**
DUG	**Dugway, Tooele**	**18.05**	**125**	*e*Pn		**P**		**17 53 22.7**	**-0.1**
	6.9nm,1.0s								
DUG	**Dugway, Tooele**	**18.05**	**125**	P		**P**		**17 53 24.3**	**+1.5**
	baz=319								
TCUT	**Toone Canyon**	**18.10**	**120**	*e*Pn		**Pn**		**17 53 23.0**	**-0.1**
	18nm,1.4s								
R11A	**Troy Canyon, C**	**18.21**	**134**	*e*Pn		**P**		**17 53 25.1**	**+0.5**
	12nm,1.3s								
R11A	**Troy Canyon, C**	**18.21**	**134**	P		**P**		**17 53 25.6**	**+1.1**
	baz=326,SNR=9.0								
TOLK	**Toolik Lake Re**	**18.26**	**340**	*e*Pn		**P**		**17 53 25.7**	**+1.0**
	10nm,1.0s								
TOLK	**Toolik Lake Re**	**18.26**	**340**	P		**P**		**17 53 25.3**	**+0.5**
	baz=145								
NLU	**North Lily Min**	**18.61**	**124**	*e*P		**Pn**		**17 53 29.1**	**-0.2**
	6.9nm,1.4s								
PAGB	**Antelope Grade**	**18.71**	**148**	*e*P		**Pn**		**17 53 29.8**	**-0.5**
	31nm,1.8s								
PSUT	**Pine Spring**	**18.84**	**130**	*e*P		**Pn**		**17 53 32.1**	**0.0**
	6.6nm,1.0s								
TPNV	**Topopah Spring**	**19.10**	**138**	*e*P		**Pn**		**17 53 35.7**	**+0.5**
	28nm,1.4s								
TPNV	**Topopah Spring**	**19.10**	**138**	P		**Pn**		**17 53 35.9**	**+0.7**
	baz=329,SNR=11								
DAC	**Darwin (Calif)**	**19.15**	**142**	*e*P		**Pn**		**17 53 35.7**	**-0.2**
	8.8nm,1.2s								
ISA	**Isabella, Lake**	**19.38**	**144**	*e*P		**P**		**17 53 37.2**	**0.0**
	40nm,1.9s								
ISA	**Isabella, Lake**	**19.38**	**144**	P		**Pn**		**17 53 39.3**	**+0.9**
	baz=334,SNR=5.6								
MPMC	**Manual Prospec**	**19.39**	**142**	P		**Pn**		**17 53 39.2**	**+0.6**
	baz=332								
TCRU	**Three Creeks R**	**19.45**	**127**	*e*P		**P**		**17 53 38.6**	**+0.3**
	6.5nm,0.7s								
TMUT	**Trail Mountain**	**19.54**	**124**	*e*P		**Pn**		**17 53 40.0**	**-0.6**
	20nm,1.8s								
P17A	**Butcher Ranch,**	**19.65**	**123**	*e*P		**P**		**17 53 40.9**	**+0.5**
	24nm,1.8s								
MSU	**Marysvale**	**19.66**	**127**	*e*P		**Pn**		**17 53 42.0**	**0.0**
P18A	**Preston Nutter**	**19.79**	**122**	*e*P		**Pn**		**17 53 43.5**	**-0.1**
	12nm,1.4s								
K22A	**Casper**	**19.79**	**109**	*e*P		**P**		**17 53 42.1**	**+0.2**
	22nm,1.5s								
LRMC	**Laurel Mtn Rad**	**19.83**	**143**	P		**Pn**		**17 53 43.8**	**0.0**
	baz=333								
CCUT	**Cedar City**	**19.86**	**131**	*e*P		**Pn**		**17 53 44.0**	**-0.4**
	13nm,1.1s								
SHPR	**Sheep Range**	**19.94**	**136**	*e*P		**Pn**		**17 53 44.2**	**-1.0**
	11nm,1.4s								
SZCU	**Shurtz Canyon**	**19.96**	**130**	*e*P		**Pn**		**17 53 44.9**	**-0.6**
	16nm,1.1s								
MTPU	**Mount Pierson**	**20.03**	**128**	*e*P		Pn		17 53 46.0	-0.5
	15nm,1.7s								
SRU	**San Rafael Swe**	**20.03**	**123**	*e*P		Pn		17 53 46.3	-0.1
	15nm,1.2s								
GSC	**Goldstone, Bar**	**20.31**	**141**	*e*P		Pn		17 53 48.7	-0.8
	13nm,1.3s								
LCMT	**Little Creek M**	**20.36**	**132**	*e*P		Pn		17 53 49.0	-1.1
	17nm,1.1s								
RSSD	**Black Hills**	**20.39**	**103**	*e*P		Pn		17 53 51.0	+0.4
	4.9nm,1.0s								
PKCU	**Pink Cliffs**	**20.44**	**129**	*e*P		**P**		**17 53 50.0**	**+0.8**
	19nm,1.1s								
O20A	**White River Ci**	**20.50**	**117**	*e*P		Pn		17 53 50.8	-0.9
	8.0nm,0.8s								
TUQ	**Turquoise Moun**	**20.54**	**139**	P		Pn		17 53 51.6	-0.7
	baz=331,SNR=5.2								
KNB	**Kanab**	**20.55**	**131**	*e*P		Pn		17 53 51.3	-1.1
	11nm,1.2s								
MWC	**Mount Wilson**	**20.82**	**145**	*e*P		**P**		**17 53 53.9**	**+0.8**
	12nm,1.0s								
PASC	**Pasadena Art C**	**20.82**	**146**	*e*P		**P**		**17 53 53.5**	**+0.6**
	26nm,1.5s								
HEC	**Hector,Ludlow**	**20.91**	**141**	P		Pn		17 53 55.5	-1.1
	baz=332,SNR=6.5								
BFSC	**Mount Baldy Ra**	**20.95**	**144**	P		Pn		17 53 55.6	-1.3
	baz=334								
LDFC	**Landfair**	**21.18**	**138**	*e*P		**P**		**17 53 56.4**	**-0.5**
	26nm,1.1s								
PV09	**Paradox Valley**	**21.21**	**122**	*e*P		**P**		**17 53 58.4**	**+1.0**
GMRC	**Granite Mounta**	**21.21**	**140**	P		**P**		**17 53 58.4**	**+1.1**
	baz=331,SNR=5.8								
PV21	**Cone Mtn., Par**	**21.25**	**121**	*e*P		**P**		**17 53 57.8**	**+0.1**
	8.8nm,1.1s								
N23A	**Red Feather La**	**21.26**	**112**	*e*P		**P**		**17 53 58.6**	**+0.7**
	8.2nm,0.9s								
PHWY	**Pilot Hill**	**21.27**	**111**	*e*P		**P**		**17 53 58.4**	**+0.4**
	8.3nm,1.1s								
U15A	**North Rim**	**21.27**	**131**	*e*P		**P**		**17 53 58.5**	**+0.4**
	16nm,1.0s								
PV23	**Carpenter Ridg**	**21.31**	**122**	*e*P		**P**		**17 53 58.1**	**-0.3**
	26nm,1.5s								
PV10	**Paradox Valley**	**21.35**	**122**	*e*P		**P**		**17 54 00.2**	**+1.3**
PV14	**Lion Creek, Pa**	**21.36**	**122**	*e*P		**P**		**17 53 59.5**	**+0.5**
	15nm,1.1s								
PV22	**Blue Mesa, Par**	**21.36**	**121**	*e*P		**P**		**17 54 00.1**	**+1.1**
	10nm,1.1s								
PV20	**West Nyswonger**	**21.41**	**122**	*e*P		**P**		**17 53 59.4**	**-0.1**
	11nm,1.2s								
PV19	**Morning Glory**	**21.43**	**122**	*e*P		**P**		**17 53 60.0**	**+0.3**
	16nm,1.2s								
PV16	**Nyswonger Mesa**	**21.46**	**122**	*e*P		**P**		**17 54 00.1**	**0.0**
	16nm,1.3s								

baz=308
FRB Frobisher Bay 34.01 45 LR LR 18 10 17.1
comp=Z,240nm,19.7s,baz=133,slow=37
240A Hunter Patters 34.43 111 *e*P **P 17 55 59.2 +0.5**
47nm,0.6s
S48A Wiedeman Farm, 35.14 96 P **P 17 56 04.8 0.0**
baz=310
SADO Sadowa 35.21 81 LR LR 18 11 15.1
comp=Z,164nm,18.2s,baz=356,slow=38
U50A Jamestown 36.68 97 P **P 17 56 18.1 -0.1**
baz=311
T51A Gray 36.87 95 P **P 17 56 19.9 +0.2**
baz=310
SCHQ Schefferville 37.58 60 LR LR 18 12 23.4
comp=Z,189nm,20.0s,baz=34,slow=37
TKL Tuckaleechee C 37.83 97 P **P 17 56 28.0 +0.1**
3.4nm,0.7s,baz=50,slow=3.6,SNR=4.3
TKL LR LR 18 11 21.7
comp=Z,89nm,20.9s,baz=358,slow=35
TKL Tuckaleechee C 37.83 97 *e*P **P 17 56 27.5 -0.4**
46nm,1.8s
W53A Cullowhee 38.53 97 P **P 17 56 33.4 -0.5**
baz=312,SNR=5.8
PEA1 Petropavlovsk- 40.86 300 *e*P **P 17 56 53.4 +0.4**
PETK Petropavlovsk- 40.86 300 P **P 17 56 53.4 +0.4**
4.0nm,0.8s,baz=90,slow=8.7,SNR=5.4
PETK LR LR 18 13 19.6
comp=Z,18nm,19.9s,baz=54,slow=36
SUMG Summit 42.12 27 *i* P P 17 57 11.1 +7.5
65nm,1.2s
DAG Danmarks Havn 44.53 18 *i* P **P 17 57 23.7 +1.3**
19nm,1.3s
H11N2 WAKE ISLAND Hy 56.92 259 T T 19 00 52.5
baz=39,slow=76,SNR=92
H11N3 WAKE ISLAND Hy 56.92 259 T T 19 01 00.7
baz=39,slow=76,SNR=91
H11N1 WAKE ISLAND Hy 56.94 259 T T 19 00 55.4
baz=39,slow=76,SNR=96
H11S1 WAKE ISLAND Hy 57.98 258 T T 19 02 18.8
baz=40,slow=75,SNR=8.9
H11S2 WAKE ISLAND Hy 57.99 258 T T 19 02 19.7
baz=40,slow=75,SNR=5.5
H11S3 WAKE ISLAND Hy 58.00 258 T T 19 02 20.3
baz=40,slow=75,SNR=9.7
NB2 NORSAR Subarra 63.18 19 P P 17 59 45.9 +6.9
comp=Z,3.4nm,0.9s,baz=335,slow=6.9
NOA NORSAR Array B 63.18 19 LR LR 18 28 29.5
comp=Z,95nm,18.7s,baz=335,slow=37
PMOR Pomariorio Ree 68.50 196 *e*T T 19 15 04.4
comp=Z,6.0nm,0.3s
ZAA1 Zalesovo Array 69.60 338 *e*P **P 18 00 20.6 +0.5**
ZALV Zalesovo Beam 69.61 338 P **P 18 00 20.6 +0.5**
comp=Z,0.3nm,0.4s,baz=78,slow=7.5,SNR=2.9
ZALV LR LR 18 37 00.4
comp=Z,36nm,18.2s,baz=70,slow=41
TIAR Tiarei 71.26 197 *e*T T 19 18 31.5
comp=Z,1.8nm,0.3s
PPT2 Papeete2 71.33 198 *e*LR LR 18 21 54.4
comp=Z,128nm,31.8s
HHC Hu-ho-hao-te 71.97 314 *e*P **P 18 00 36.5 +1.6**
HHC pmax pmax
comp=Z,5.0nm,0.8s
HHC pmax pmax
comp=Z,60nm,6.1s
GERES GERESS Array B 75.03 23 LR LR 18 37 07.1
comp=Z,28nm,18.6s,baz=274,slow=38
AKASG Malin Array Be 76.06 12 LR LR 18 36 12.2
comp=Z,80nm,18.5s,baz=80,slow=37
MKAR Makanchi Array 76.85 336 LR LR 18 36 58.3
comp=Z,28nm,18.2s,baz=350,slow=37
WMQ Urumqi 78.16 332 *e*P **P 18 01 12.9 +2.4**
LZH Lanzhou 79.26 317 *e*P **P 18 01 17.9 +1.1**
LZH pP sP 18 01 23.2 -0.4
LZH sP PcP 18 01 25.1 0.0
LZH *e*PP **PP 18 04 18.4 +2.6**
LZH pmax pmax
comp=Z,27nm,1.4s
LZH pmax pmax
comp=Z,110nm,5.4s
VAE Valguarnera 85.86 26 LR LR 18 40 50.4
comp=Z,58nm,18.8s,baz=256,slow=36
KEST Kesra 86.02 30 LR LR 18 39 25.2
comp=Z,40nm,20.6s,baz=252,slow=35
LPAZ La Paz 87.88 120 P **P 18 02 00.3 -1.3**
comp=Z,2.3nm,0.7s,baz=349,slow=4.2,SNR=12
LPAZ La Paz 87.88 120 *e*P **P 18 02 00.4 -1.3**
comp=Z,2.5nm,0.7s
CM31 Chiang Mai Arr 96.67 312 *e*P **P 18 02 41.1 -0.7**
CMAR Chiang Mai Arr 96.67 312 P **P 18 02 41.7 -0.1**
comp=Z,0.4nm,0.7s,baz=24,slow=5.4,SNR=4.2
SNAA Sanae 150.78 150 PKPbc **PKPbc 18 09 01.2 -1.0**
comp=Z,2.7nm,1.1s,baz=140,slow=1.4,SNR=7.0

MEX 03 17:52:37.5±0.5, 14°.05N×91°.42W, h94km±17km, MD3.8, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.33**	**343**	*i*	P	Pn		17 53 12.8	-1.6
CCIG				*i*	S	Sn		17 53 40.9	-1.5
PCIG		**2.40**	**314**	*i*	P	Pn		17 53 14.0	-1.1
PCIG				*e*	S	Sn		17 53 42.5	-1.3
TGIG		**3.17**	**329**	*e*	P	Pn		17 53 24.2	-1.3
TGIG				*i*	S	Sn		17 54 01.8	-0.7

*IDC **03** 17:59:57.9±2.6, 43°.34N×105°.26W, h0km, mb1 3.6/2, mb1mx3.3/46, mbtmp3.4/2, ML3.3/2, Error ellipse: s-maj=62.1km s-min=10.6km az=157.0*
*NEIC **03** 18:00:00.8±0.6, 43°.81N×105°.35W, h0km, ML2.7, Error ellipse: s-maj=9.3km s-min=7.7km az=149.0, Suspected Mining explosion.*
NEIC 55 km [34 miles] SSE of Gillette.
ISC 03 17:59:53.9±1.1, 43°.38N±0°.09×105°.45W±0°.06, h0km, n10, σ1°43/9, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.27**	**53**	*e*	Pg		**Pn**	**18 00 19.6**	**+0.5**
BW06	**Boulder Array**	**3.07**	**260**	*e*	Pn		**Pg**	**18 00 53.1**	**+0.3**
PDAR	**Pinedale Array**	**3.07**	**260**		Pn		**Pg**	**18 00 53.3**	**+0.5**
4.1nm,0.3s,baz=80,slow=16,SNR=35									
PDAR						Lg	Lg	18 01 37.1	
6.3nm,0.3s,baz=82,slow=33,SNR=15									
RLMT	**Red Lodge**	**3.25**	**304**	*e*	Pn		**Pb**	**18 00 50.6**	**-2.1**
LAO	**LASA Array**	**3.36**	**351**	*e*	Pn		**Pn**	**18 00 48.3**	**+0.6**
OGNE	**Ogallala**	**3.51**	**133**	*e*	Pn		**Pg**	**18 01 00.8**	**-0.4**
ISCO	**Idaho Springs**	**3.57**	**182**	*e*	Pn		**Pg**	**18 01 03.1**	**+0.7**
DGMT	**Dagmar**	**5.17**	**9**	*e*	Pn		**Pn**	**18 01 15.0**	**+2.4**
I10CA	**LAC DU BONNET**	**9.40**	**40**	*i*				18 55 10.0	
baz=222,slow=307,SNR=1.5									
ULM	**Lac du Bonnet**	**9.50**	**40**		Pn		**Pn**	**18 02 12.4**	**+0.5**
0.5nm,0.3s,baz=229,slow=13,SNR=5.4									

*KRNET **03** 18:06:17.5±0.1, 40°.96N×77°.81E, h30km, mb3.2*
*SOME **03** 18:06:18.3, 41°.00N×77°.78E, h10km*
*NNC **03** 18:06:23.4±2.0, 41°.13N×77°.61E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=17.2km s-min=14.3km az=107.0*
ISC 03 18:06:13.8±1.9, 40°.72N±0°.09×77°.75E±0°.04, h5km±11km, n54, σ1°40/92, 17C-24D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.47**	**343**	⇑*i*	P		**Pn**	**18 06 41.1**	**-0.1**
baz=39									
KDJ				⇑*i*	S		**Sn**	**18 06 57.5**	**-3.5**
baz=39									
NRN	**Naryn**	**1.50**	**299**	⇓*i*	P		**Pg**	**18 06 43.8**	**+1.2**
baz=89									
NRN				⇓*e*	S		**Sg**	**18 07 03.0**	**+0.9**
baz=89									
PRZ	**Przheval'sk**	**1.83**	**15**	⇑*e*	P		**Pn**	**18 06 46.1**	**0.0**
baz=16									
PRZ				⇑*i*	S		**Sn**	**18 07 06.3**	**-3.4**
baz=16									
ULHL	**Ulahol**	**1.90**	**324**	P			**Pb**	**18 06 49.0**	**-0.1**
SNR=14									
ULHL	**Ulahol**	**1.90**	**324**	⇓*i*	P		**Pb**	**18 06 49.0**	**-0.1**
baz=18									
ULHL				⇓*i*	S		**Sn**	**18 07 11.3**	**-0.2**
baz=18									
BOOM	**Boomskoye usch**	**2.23**	**323**	⇓*i*	P		**Pb**	**18 06 54.4**	**-0.3**
baz=18									
BOOM				⇓*i*	S		**Sn**	**18 07 19.8**	**+0.2**
KZA	**Kyzart**	**2.32**	**307**		P		**Pg**	**18 06 57.7**	**-0.6**
SNR=75									
KZA	**Kyzart**	**2.32**	**307**	⇑*i*	P		**Pg**	**18 06 57.7**	**-0.6**
baz=1.0									
KZA				⇑*i*	S		**Sb**	**18 07 27.2**	**+1.7**
baz=1.0									
SATY	**Saty**	**2.39**	**12**	*e*	P		**Pb**	**18 06 57.5**	**+0.1**
102nm,0.4s									
SATY				*e*	S		**Sb**	**18 07 25.4**	**-1.8**
113nm,0.4s									
TNSS	**Tian-Shan**	**2.39**	**346**	⇑*i*	P		**Pb**	**18 06 57.4**	**-0.2**
74nm,0.6s									
TNSS				*e*	S		**Sn**	**18 07 25.5**	**+1.5**
79nm,0.6s									
IZV	**Izvestkoviy**	**2.47**	**340**	*e*	P		**Pb**	**18 06 58.9**	**+0.2**
33nm,0.3s									
IZV				*e*	S		**Sb**	**18 07 28.6**	**-0.9**
397nm,0.6s									
MDOK	**Medeo**	**2.50**	**348**	Pn			**Pb**	**18 06 58.7**	**-0.6**
33nm,0.9s									
MDOK				Sn			**Sn**	**18 07 27.8**	**+1.6**
74nm,0.4s									
MDOK	**Medeo**	**2.50**	**348**	*e*	P		**Pb**	**18 06 59.0**	**-0.2**
25nm,0.4s									
MDOK				*e*	S		**Sn**	**18 07 28.2**	**+2.0**
94nm,0.6s									
ZHN	**Zhinishke**	**2.50**	**12**	*e*	P		**Pb**	**18 06 59.6**	**+0.4**
56nm,0.3s									
ZHN				*e*	S		**Sb**	**18 07 29.1**	**-1.3**
86nm,0.4s									
KOTS	**Kotyrbulak**	**2.56**	**349**	*e*	P		**Pb**	**18 07 00.1**	**-0.1**
28nm,0.4s									
KOTS				*e*	S		**Sb**	**18 07 30.6**	**-1.5**
140nm,0.6s									
KNDC	**Almaty**	**2.56**	**347**	⇓Pn			**Pb**	**18 07 00.1**	**-0.2**
17nm,0.3s									
KNDC				⇑Lg			Lg	18 07 31.4	
159nm,0.5s									
AAA	**Alma-Ata**	**2.56**	**346**	*e*	P		**Pb**	**18 07 00.8**	**+0.5**
45nm,0.4s									
AAA				*e*	S		**Sb**	**18 07 31.3**	**-0.9**
105nm,0.3s									
MTBS	**Maitube**	**2.60**	**338**	*e*	P		**Pb**	**18 07 01.2**	**+0.2**
16nm,0.4s									
MTBS				*e*	S		**Sb**	**18 07 32.0**	**-1.3**
148nm,0.5s									
UZB	**Uzynbulak**	**2.60**	**21**	*e*	P		**Pb**	**18 07 01.2**	**+0.2**
20nm,0.6s									
UZB				*e*	S		**Sb**	**18 07 31.8**	**-1.6**
50nm,0.8s									
KST	**Kastek**	**2.68**	**331**	*e*	P		**Pb**	**18 07 03.5**	**+1.2**
19nm,0.4s									
KST				*e*	S		**Sb**	**18 07 35.8**	**+0.3**
92nm,0.3s									
TKM2	**Tokmak 2**	**2.73**	**325**	⇑Pn			**Pb**	**18 07 02.8**	**-0.3**
9.4nm,0.5s									
TKM2				⇓Lg			Lg	18 07 37.0	
47nm,0.5s									
TKM2	**Tokmak 2**	**2.73**	**325**		P		**Pb**	**18 07 04.4**	**+1.2**
SNR=13									
TKM2	**Tokmak 2**	**2.73**	**325**	⇓*i*	P		**Pb**	**18 07 02.1**	**-1.1**
baz=21									
TKM2				⇓*i*	S		**Sn**	**18 07 32.9**	**+1.0**
baz=21									
SHLS	**Shalkode**	**2.75**	**27**	*e*	P		**Pg**	**18 07 07.8**	**+1.3**
32nm,0.4s									
SHLS				*e*	S		**Sg**	**18 07 43.1**	**+1.0**
144nm,0.5s									
ARLS	**Aral**	**2.82**	**295**	⇓*e*	P		**Pb**	**18 07 03.6**	**-1.2**
baz=90									
ARLS				⇓*i*	S		**Sn**	**18 07 36.5**	**+2.3**
baz=90									
KPKS	**Kokpek**	**2.83**	**14**	*e*	P		**Pb**	**18 07 05.1**	**+0.2**
55nm,0.4s									
KPKS				*e*	S		**Sb**	**18 07 38.4**	**-1.5**
291nm,0.5s									
KBK	**Karagaybulak**	**2.86**	**314**		P		**Pb**	**18 07 05.7**	**+0.4**
SNR=22									
KBK	**Karagaybulak**	**2.86**	**314**	⇓*i*	P		**Pb**	**18 07 04.7**	**-0.6**
baz=9.0									
KBK				⇓*i*	S		**Sb**	**18 07 38.7**	**-2.0**
baz=9.0									
UCH	**Uchtor**	**2.86**	**303**		P		**Pg**	**18 07 08.9**	**+0.2**
SNR=13									
UCH	**Uchtor**	**2.86**	**303**	⇑*i*	P		**Pb**	**18 07 05.5**	**-0.1**
baz=98									
UCH				⇑*i*	S		**Sb**	**18 07 41.3**	**+0.2**
baz=98									
DGS	**Degeres**	**2.92**	**330**	*e*	P		**Pb**	**18 07 07.3**	**+0.9**
30nm,0.7s									
DGS				*e*	S		**Sb**	**18 07 42.8**	**+0.3**
270nm,0.5s									
KTBS	**Karatobe**	**3.10**	**345**	*e*	P		**Pb**	**18 07 09.3**	**-0.1**
22nm,0.3s									
KTBS				*e*	S		**Sb**	**18 07 45.7**	**-1.8**
130nm,0.5s									
AAK	**Ala-Archa**	**3.10**	**309**	⇓Pn			**Pb**	**18 07 11.5**	**+1.9**
6.8nm,0.6s									
AAK				⇓Lg			Lg	18 07 50.2	
52nm,0.8s									
AAK	**Ala-Archa**	**3.10**	**309**		P		**Pg**	**18 07 11.9**	**-1.3**
SNR=8.0									
AAK	**Ala-Archa**	**3.10**	**309**	⇓*i*	P		**Pb**	**18 07 09.4**	**-0.1**
baz=5.0									
AAK				⇓*i*	S		**Sb**	**18 07 45.6**	**-2.1**
baz=5.0									
CHKK	**Chushkaly**	**3.18**	**350**	*e*	P		**Pb**	**18 07 11.6**	**+0.8**
16nm,0.4s									
CHKK				*e*	S		**Sb**	**18 07 49.8**	**-0.1**
98nm,0.5s									
CHMS	**Chumysh**	**3.19**	**316**		P		**Pb**	**18 07 12.8**	**+1.8**
SNR=7.5									
CHMS	**Chumysh**	**3.19**	**316**	⇑*e*	P		**Pb**	**18 07 09.1**	**-1.9**
baz=13									
CHMS				⇑*e*	S		**Sn**	**18 07 45.5**	**+2.3**
baz=13									
KUU	**Kurty**	**3.34**	**342**	*e*	P		**Pb**	**18 07 14.1**	**+0.6**
5.7nm,0.6s									
KUU				*e*	S		**Sb**	**18 07 54.0**	**-0.5**
103nm,0.8s									
KTMS	**Ketmen**	**3.34**	**35**	*e*	P		**Pb**	**18 07 14.3**	**+0.7**
7.8nm,0.3s									
KTMS				*e*	S		**Sb**	**18 07 54.8**	**+0.1**
75nm,0.6s									
AML	**Almayashu**	**3.36**	**296**		P		**Pg**	**18 07 18.3**	**+0.1**
SNR=8.3									
AML	**Almayashu**	**3.36**	**296**	⇓*e*	P		**Pb**	**18 07 15.4**	**+1.3**
baz=92									
AML				⇓*i*	S		**Sb**	**18 07 55.8**	**+0.4**
baz=92									
MNBS	**Baschi**	**3.39**	**8**	*e*	P		**Pb**	**18 07 14.6**	**+0.1**
15nm,0.4s									
MNBS				*e*	S		**Sb**	**18 07 55.1**	**-0.9**
77nm,0.5s									
ARXS	**Arhaly**	**3.49**	**1**	*e*	P		**Pb**	**18 07 16.5**	**+0.4**
7.3nm,0.8s									
ARXS				*e*	S		**Sb**	**18 07 58.0**	**-0.8**
116nm,0.6s									
USP	**Ospenovka**	**3.52**	**317**		P		**Pb**	**18 07 18.4**	**+1.9**
SNR=7.9									
USP	**Ospenovka**	**3.52**	**317**	⇓*e*	P		**Pb**	**18 07 13.3**	**-3.2**
baz=14									
USP				⇓*i*	S		**Sn**	**18 07 52.9**	**+1.8**
baz=14									
EKS2	**Erkin-Say**	**3.55**	**304**		P		**Pg**	**18 07 21.3**	**-0.5**
SNR=7.7									
EKS2	**Erkin-Say**	**3.55**	**304**	⇑*e*	P		**Pb**	**18 07 16.3**	**-0.9**
baz=1.0									
EKS2				⇑*i*	S		**Sb**	**18 07 58.0**	**-2.7**
baz=1.0									
DJR	**Jarkent**	**3.91**	**22**	*e*	P		**Pb**	**18 07 22.4**	**-0.9**
2.9nm,0.6s									
DJR				*e*	S		**Sb**	**18 08 08.2**	**-2.7**
7.2nm,0.6s									
MRKS	**Merke**	**3.94**	**302**	*e*	P		**Pg**	**18 07 29.1**	**-0.3**
5.3nm,0.7s									
MRKS				*e*	S		**Sg**	**18 08 19.6**	**-0.9**
16nm,0.5s									
KAPS	**Kapalarasan**	**4.71**	**14**	*e*	P		**Pb**	**18 07 38.5**	**+1.6**
4.7nm,0.9s									
KAPS				*e*	S		**Sb**	**18 08 35.9**	**+1.9**
7.8nm,0.7s									
BTLS	**Baital**	**5.11**	**329**	*e*	P		**Pb**	**18 07 45.9**	**+2.3**
2.1nm,0.5s									
BTLS				*e*	S		**Sb**	**18 08 48.3**	**+3.1**
9.1nm,0.8s									
KK31	**Karatay Array**	**5.90**	**296**	⇓Pg			**Pg**	**18 08 03.7**	**-3.1**
1.1nm,0.6s,baz=108,slow=15,SNR=9.8									
KK31				⇓Lg			Lg	18 09 20.6	
2.3nm,0.6s,baz=112,slow=29,SNR=5.0									
MK31	**Makanchi Array**	**6.90**	**27**	⇑Pn			Pn	18 08 02.0	+6.4
3.6nm,1.1s,baz=204,slow=14,SNR=5.6									
MK31				⇑Lg			Lg	18 09 50.4	
5.6nm,0.8s									

IDC 03 18:09:38.2±2.0, 6°.31N×92°.67E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.3/43, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=52.1km s-min=35.5km az=24.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.93**	**275**			Pn	Pn	18 12 29.5	-0.2
0.2nm,0.3s,baz=115,slow=23,SNR=2.6									
CMAR	**Chiang Mai Arr**	**13.53**	**26**			Pn	Pn	18 12 52.0	+0.4
0.1nm,0.3s,baz=226,slow=12,SNR=4.8									
H08S3	**Diego Garcia H**	**24.44**	**236**			T	T	18 40 55.9	
baz=62									
H08S2	**Diego Garcia H**	**24.44**	**236**			T	T	18 40 36.2	
baz=62,slow=74,SNR=18									
H08S1	**Diego Carcia H**	**24.46**	**236**			T	T	18 40 38.9	
baz=62,slow=74,SNR=6.6									
WRA	**Warramunga Arr**	**48.58**	**123**			P	P	18 18 23.7	-0.2
0.3nm,0.6s,baz=305,slow=8.9,SNR=7.8									
ASAR	**Alice Springs**	**50.07**	**128**			P	P	18 18 35.2	0.0
0.5nm,0.8s,baz=299,slow=7.5,SNR=7.7									

IDC 03 18:12:50.2±1.9, 6°.21N×92°.69E, h0km, mb3.7/2, mb1 4.0/4, mb1mx3.4/47, mbtmp3.8/4, ML3.8/2, Error ellipse: s-maj=51.9km s-min=35.1km az=26.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.95**	**276**			Pn	Pn	18 15 41.7	-0.3
0.6nm,0.3s,baz=116,slow=13,SNR=3.3									
CMAR	**Chiang Mai Arr**	**13.62**	**26**			Pn	Pn	18 16 05.2	+0.4
0.1nm,0.3s,baz=231,slow=14,SNR=6.4									
H08S3	**Diego Garcia H**	**24.39**	**236**			T	T	18 43 58.4	
baz=55,slow=75,SNR=23									
H08S2	**Diego Garcia H**	**24.39**	**236**			T	T	18 43 53.5	
baz=55,slow=75,SNR=21									
H08S1	**Diego Carcia H**	**24.41**	**236**			T	T	18 43 55.5	
baz=55,slow=75,SNR=11									
WRA	**Warramunga Arr**	**48.52**	**123**			P	P	18 21 35.0	-0.5
0.6nm,0.6s,baz=305,slow=9.2,SNR=14									
ASAR	**Alice Springs**	**50.00**	**128**			P	P	18 21 47.0	+0.2
1.2nm,0.8s,baz=300,slow=7.0,SNR=15									

*ISCJB **03** 18:16:37.5±0.7, 71°.45N±0°.07×10°.6W±0°.2, h10km, Error ellipse: s-maj=10.2km s-min=6.0km az=24.5*
*BER **03** 18:16:41.2±0.4, 71°.43N×9°.87W, h0km±277km, ML2.6*
ISC 03 18:16:38.7±1.0, 71°.47N±0°.08×10°.47W±0°.07, h10km, n8, σ2§26/11, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**0.78**	**133**	*e*	P		**Pb**	**18 16 54.0**	**-0.4**
JNW	**Jan Mayen West**	**0.79**	**123**	*e*	P		**Pb**	**18 16 53.9**	**-0.7**
JNW				IAML				18 17 05.7	
comp=Z,255nm,0.2s									
JMIC	**Jan Mayen**	**0.80**	**126**	*e*	P		**Pb**	**18 16 54.0**	**-0.7**
JMIC				*e*	S		**Sb**	**18 17 03.3**	**-2.2**
JMIC				IAML				18 17 05.0	
comp=Z,215nm,0.4s									
JNE	**Jan Mayen East**	**0.85**	**123**	*e*	P		**Pb**	**18 16 54.6**	**-0.9**
JNE				IAML				18 17 05.9	
comp=Z,200nm,0.3s									
SCO	**Scoresbysund**	**3.89**	**261**	*i*	P		**Pn**	**18 17 39.6**	**+1.2**
SCO				*i*	S		**Sn**	**18 18 22.2**	**-1.8**
DAG	**Danmarks Havn**	**5.78**	**341**	*i*	P		**Pn**	**18 18 05.1**	**+0.8**
DAG				*e*	S		**Sn**	**18 19 06.5**	**-4.0**
KBS	**Kingsbay**	**9.33**	**27**	*e*	P		**Pn**	**18 18 55.1**	**+2.2**
KBS				*e*	S			18 19 15.1	
KBS				IAML				18 19 25.3	
comp=Z,5.7nm,0.3s									
SPA0	**Spitsbergen Ar**	**9.61**	**34**	*e*	P		**Pn**	**18 18 59.7**	**+2.8**

*KRSC **03** 18:20:40.3±1.3, 54°.15N×163°.74E, h42km±24km, ML3.8*
*IDC **03** 18:20:41.4±1.0, 54°.24N×163°.52E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.4/63, mbtmp3.4/7, ML2.0/1, MS2.1/1, Ms1 2.1/1, ms1mx1.9/39, Error ellipse: s-maj=40.8km s-min=20.8km az=173.0*
ISC 03 18:20:40.5±2.0, 54°.18N±0°.05×163°.71E±0°.05, h2km±12km, n29, σ1§83/38, mb3.5/6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.22**	**289**	*e*	P		**Pg**	**18 21 03.9**	**0.0**
MKZ				*e*	S		**Sg**	**18 21 18.8**	**-1.0**
BKI	**Bering**	**1.67**	**51**	*e*	P		**Pn**	**18 21 09.6**	**-1.2**
BKI				*e*	S		**Sn**	**18 21 28.5**	**-4.3**
KBTR	**Krutoberegovo**	**2.10**	**346**	*e*	P		**Pn**	**18 21 14.9**	**-1.9**
KBTR				*e*	S		**Sn**	**18 21 39.3**	**-4.2**
TUMD	**Tumrok D**	**2.18**	**300**	*e*	P		**Pn**	**18 21 18.2**	**+0.3**
TUMD				*e*	S		**Sn**	**18 21 43.2**	**-2.3**
SPN	**Mys Shipunski**	**2.45**	**245**	*e*	P		**Pn**	**18 21 20.7**	**-0.8**
SPN				*e*	S		**Sn**	**18 21 47.5**	**-4.5**
ZLN	**Zelenaya**	**2.49**	**319**	*e*	P		**Pn**	**18 21 22.5**	**+0.3**
LGNR	**Loginova**	**2.58**	**319**	*e*	P		**Pn**	**18 21 24.3**	**+0.6**
LGNR				*e*	S		**Sn**	**18 21 55.5**	**-0.3**
KRSR	**Krestovskiy**	**2.73**	**320**	*e*	P		**Pn**	**18 21 25.4**	**-0.1**
KRSR				*e*	S		**Sn**	**18 21 58.2**	**-0.9**
SMKR	**Semkarok**	**2.73**	**333**	*e*	P		**Pn**	**18 21 25.3**	**-0.2**
SMKR				*e*	S		**Sn**	**18 21 58.6**	**-0.5**
KLY	**Klyuchi**	**2.77**	**322**	*e*	P		**Pn**	**18 21 25.1**	**-0.8**
KLY				*e*	S		**Sn**	**18 21 58.8**	**-1.1**
BDR	**Baidarnaya**	**2.79**	**330**	*e*	P		**Pn**	**18 21 26.5**	**+0.2**
SRKR	**Sorokina**	**2.88**	**331**	*e*	P		**Pn**	**18 21 27.5**	**0.0**
SRKR				*e*	S		**Sn**	**18 21 59.2**	**-3.5**
SMAR	**Somma**	**3.06**	**255**	*e*	P		**Pn**	**18 21 30.6**	**+0.5**
AVH	**Avacha**	**3.09**	**255**	*e*	P		**Pn**	**18 21 31.6**	**+1.1**
KRX	**Arik**	**3.12**	**257**	*e*	P		**Pn**	**18 21 30.9**	**+0.1**
KOK	**Koryaka**	**3.14**	**256**	*e*	P		**Pn**	**18 21 31.4**	**+0.2**
DALK	**Dalny**	**3.17**	**251**	*e*	P		**Pn**	**18 21 30.6**	**-0.8**
DALK				*e*	S		**Sn**	**18 22 06.5**	**-3.3**
PET	**Petropavlovsk**	**3.23**	**251**	*e*	S		**Sn**	**18 22 08.4**	**-2.8**
ESO	**Esso**	**3.38**	**303**	*e*	P		**Pn**	**18 21 34.4**	**+0.1**
GNL	**Ganaly**	**3.44**	**264**	*e*	P		**Pn**	**18 21 36.4**	**+1.1**
RUS	**Russkaya**	**3.57**	**243**	*e*	P		**Pn**	**18 21 36.7**	**-0.3**
PETK	**Petropavlovsk-**	**3.74**	**256**		Pn		**Pn**	**18 21 40.2**	**+1.0**
0.7nm,0.3s,baz=79,slow=19,SNR=37									
PETK					LR		LR	18 22 52.1	
comp=Z,22nm,18.6s

MS4.4
*ISCJB **03** 18:40:53.5±0.3, 17.49N±0.02×120.31E±0.03, h67km±4km, mb4.3/40, Error ellipse: s-maj=4.8km s-min=3.5km az=8.5*
*NEIC **03** 18:40:53.1±0.6, 17.45N×120.38E, h50km±6km, mb4.4/33, Error ellipse: s-maj=6.1km s-min=4.0km az=94.0*
NEIC Felt [III PIVS] at Cauayan, Santa Catalina, San Vicente and Vigan; [II PIVS] at Bantay, Burgos, Narvacan, Santa and Santa Maria.
*IDC **03** 18:40:56.8±2.9, 17.39N×120.38E, h85km±29km, mb3.7/12, mb1 3.8/12, mb1mx3.6/42, mbtmp4.0/12, MS3.5/16, Ms1 3.5/16, ms1mx3.3/37, Error ellipse: s-maj=25.0km s-min=12.3km az=72.0*

ISC 03 18:40:53.9±0.7, 17.48N±0.03×120.19E±0.04, h50km±8km, n142, σ1§82/143, mb4.3/41, MS3.6/17, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**0.53**	**71**	*eP*	**Pn**	**18 41 04.3**	**-1.1**
ABRA				*eS*	**Sn**	**18 41 13.9**	**+0.1**
APYP	**Conner**	**1.08**	**69**	*eP*	**Pn**	**18 41 12.0**	**-0.6**
APYP				*eS*	**Sn**	**18 41 27.8**	**+1.3**
BOLP	**Bolinao**	**1.12**	**193**	*eP*	**Pn**	**18 41 12.7**	**-0.6**
BOLP				*eS*	**Sn**	**18 41 29.2**	**+1.5**
SMPP	**San Manuel, Pa**	**1.40**	**160**	*eP*	**Pn**	**18 41 16.8**	**-0.3**
SMPP				*eS*	**Sn**	**18 41 34.1**	**-0.4**
CVP	**Callao Caves**	**1.58**	**82↓**	*eP*	**Pn**	**18 41 20.0**	**+0.6**
CVP				*i* S	**Sn**	**18 41 40.7**	**+2.0**
CAUP	**Cauayan**	**1.65**	**109**	*eP*	**Pn**	**18 41 22.7**	**+2.3**
CAUP				*eS*	**Sn**	**18 41 47.0**	**+6.4**
SCZP	**Santa Cruz**	**1.71**	**189**	*eP*	**Pn**	**18 41 20.9**	**-0.4**
SCZP				*eS*	**Sn**	**18 41 42.2**	**+0.1**
SGCP	**Mt. Cagua**	**1.93**	**67**	*eP*	**Pn**	**18 41 24.3**	**+0.1**
SGCP				*eS*	**Sn**	**18 41 49.0**	**+1.6**
PALP	**Palanan**	**2.18**	**101**	*eP*	**Pn**	**18 41 28.1**	**+0.5**
BALP	**Baler**	**2.18**	**142**	*eP*	**Pn**	**18 41 28.9**	**+1.1**
TGY	**Tagaytay City**	**3.43**	**168**	P	**Pn**	**18 41 47.3**	**+2.3**
	252nm,0.3s,baz=300,slow=2.0,SNR=72						
TGY				LR	LR	18 43 39.2	
	comp=Z,719nm,20.1s,baz=312,slow=49						
TGY	**Tagaytay City**	**3.43**	**168⇑**	*eP*	**Pn**	**18 41 48.8**	**+3.8**
TGY				*i* S	Sn	18 42 33.8	+9.3
GQP	**Guinayangan**	**4.17**	**148↓**	*eP*	**Pn**	**18 41 52.7**	**-2.3**
GQP				*eS*	**Sn**	**18 42 45.4**	**+2.9**
BOAC	**Boac**	**4.30**	**158**	*eP*	**Pn**	**18 41 59.0**	**+2.1**
SJMP	**San Jose**	**5.07**	**170**	*eP*	**Pn**	**18 42 10.0**	**+2.6**
TWG	**Pinlang**	**5.38**	**9**	*ePn*	**Pn**	**18 42 09.7**	**-1.9**
TPUB	**Ta-pu**	**5.81**	**4**	*ePn*	**Pn**	**18 42 15.2**	**-2.3**
YULB	**Yu-li**	**5.97**	**10**	*ePn*	**Pn**	**18 42 17.7**	**-2.1**
ENPP	**El Nido**	**6.28**	**187**	*eP*	**Pn**	**18 42 23.3**	**-0.6**
SSLB	**Suanglung**	**6.32**	**6**	*ePn*	**Pn**	**18 42 24.2**	**-0.3**
NACB	**Ninganchiao**	**6.79**	**11**	*ePn*	**Pn**	**18 42 30.5**	**-0.5**
NACB				*eSn*	**Sn**	**18 43 44.4**	**-2.5**
YHNB	**Yeheng**	**7.24**	**9**	*ePn*	**Pn**	**18 42 36.9**	**-0.3**
YOJ	**Yonaguni jima**	**7.43**	**20**	*ePn*	**Pn**	**18 42 37.9**	**-1.8**
TATO	**Taipei**	**7.56**	**9**	*ePn*	**Pn**	**18 42 41.9**	**+0.4**
GZH	**Guangzhou**	**8.51**	**312**	P	**Pn**	**18 42 55.2**	**+0.7**
GZH				S	**Sn**	**18 44 26.9**	**-2.2**
GZH				smax	smax		
	comp=N,59nm,0.7s						
GZH				smax	smax		
	comp=E,72nm,1.0s						
QIZ	**Qiongzhong**	**9.95**	**281**	P	Pn	18 43 10.2	-4.1
QIZ				S	**Sn**	**18 45 02.3**	**-2.2**
QIZ				LR	LR		
	comp=N,260nm,10.8s						
QIZ				LR	LR		
	comp=E,410nm,12.7s						
QIZ				LR	LR		
	comp=Z,420nm,18.1s						
QIZ	**Qiongzhong**	**9.95**	**281**	*ePn*	**Pn**	**18 43 11.8**	**-2.4**
QIZ				*eSn*	Sn	18 44 56.3	-8.3
JOW	**Kunigami**	**11.95**	**37**	LR	LR	18 48 01.6	
	comp=Z,100nm,21.2s,baz=271,slow=36						
KKM	**Kota Kinabalu**	**12.01**	**199**	*ePn*	**Pn**	**18 43 43.5**	**+0.9**
MYLDM	**Lahad Datu**	**12.33**	**188**	*ePn*	**Pn**	**18 43 50.8**	**+3.9**
NJ2	**Nanjing**	**14.56**	**355**	*eP*	**Pn**	**18 44 16.7**	**-0.3**
SKNT	**Sakolnakorn**	**15.49**	**271**	P	**Pn**	**18 44 31.4**	**+2.2**
	comp=Z,10nm,1.3s						
NONG	**Nongkai**	**16.24**	**275**	P	**P**	**18 44 41.9**	**+0.7**
	comp=Z,0.5nm,1.3s,comp=Z,100nm						
SBUM	**Sibu**	**16.86**	**209**	*ePn*	**Pn**	**18 44 46.4**	**-0.1**
	comp=Z,14nm,1.2s						
MRSI	**Marisa**	**16.98**	**174**	P	**P**	**18 44 49.9**	**+0.5**
	comp=Z,13nm,0.9s						
MPSI	**Mapaga**	**17.04**	**181**	P	**P**	**18 44 49.0**	**-1.0**
	comp=Z,7.3nm,0.9s						
CHAI	**Chaiyaphum**	**17.51**	**268**	P	**P**	**18 44 56.6**	**+1.4**
	comp=Z,3.6nm,1.0s,comp=Z,66nm						
SRAK	**Srakaew**	**17.80**	**261**	P	**P**	**18 44 54.3**	**-4.1**
	comp=Z,30nm,1.1s,comp=Z,555nm						
KMI	**Kunming**	**17.93**	**298**	P	**Pn**	**18 45 03.0**	**+3.0**
KMI				*pP*	*pP*	18 45 11.9	+0.5
KMI				*sP*	*sP*	18 45 16.2	-1.5
KMI				S	**Sn**	**18 48 18.5**	**-0.9**
KMI				*pmax*	*pmax*		
	comp=Z,8.0nm,0.7s						
KMI				*pmax*	*pmax*		
	comp=Z,120nm,8.5s						
KMI				LR	LR		
	comp=Z,370nm,11.5s						
KMI				LR	LR		
	comp=Z,400nm,11.8s						
TNTI	**Ternate**	**18.04**	**156**	*ePn*	**P**	**18 44 58.7**	**-2.3**
	comp=Z,26nm,1.0s						
TNTI	**Ternate**	**18.04**	**156**	P	**P**	**18 44 58.9**	**-2.2**
JNU	**Nakatsue**	**18.31**	**30**	*eP*	**P**	**18 45 02.3**	**-1.7**
	comp=Z,27nm,1.1s						
APSI	**Ampana**	**18.33**	**175**	P	**Pn**	**18 45 06.4**	**+1.8**
	comp=Z,24nm,0.9s						
PBKT	**Sadao Pong**	**18.40**	**270**	*eP*	**Pn**	**18 45 06.8**	**+1.3**
	comp=Z,40nm,1.4s						
PBKT	**Sadao Pong**	**18.40**	**270**	P	**Pn**	**18 45 07.2**	**+1.7**
	comp=Z,20nm,1.2s,comp=Z,1μm						
LUWI	**Luwuk**	**18.58**	**172**	*eP*	**Pn**	**18 45 07.1**	**-0.6**
	comp=Z,50nm,0.9s						
LUWI	**Luwuk**	**18.58**	**172**	P	**Pn**	**18 45 07.0**	**-0.6**
	comp=Z,59nm,1.2s,comp=Z,610nm						
KSM	**Kuching**	**18.64**	**212**	*eP*	**Pn**	**18 45 10.2**	**+1.9**
	comp=Z,14nm,0.9s						
UTTA	**Uttaradit**	**18.72**	**274**	P	**Pn**	**18 45 11.1**	**+1.8**
	comp=Z,2.6nm,0.8s,comp=Z,41nm						
PATY	**Pattaya**	**19.18**	**259**	P	**Pn**	**18 45 16.7**	**+1.8**
	comp=Z,4.8nm,0.9s,comp=Z,582nm						
XAN	**Xi'an**	**19.34**	**331**	P	**Pn**	**18 45 19.0**	**+2.3**
XAN				*pP*	*pP*	18 45 30.8	+4.2
XAN				*sP*	*sP*	18 45 36.1	+3.2
XAN				*pmax*	*pmax*		
	comp=Z,9.0nm,1.3s						
PAYA	**Payao**	**19.37**	**279**	P	**Pn**	**18 45 18.4**	**+1.3**
	comp=Z,7.9nm,0.8s,comp=Z,71nm						
LAMP	**Lampang**	**19.58**	**276**	P	**Pn**	**18 45 22.6**	**+3.0**
	comp=Z,4.4nm,1.1s						
SUKH	**Sukhothai**	**19.61**	**273**	P	**Pn**	**18 45 23.1**	**+3.2**
	comp=Z,5.1nm,0.9s						
UTHA	**Uthaitani**	**19.98**	**268**	P	Pn	18 45 26.8	+2.5
	comp=Z,9.3nm,0.9s,comp=Z,96nm						
CD2	**Chengdu**	**20.05**	**315**	*eP*	**P**	**18 45 22.8**	**-0.2**
CD2				*pmax*	*pmax*		
	comp=Z,10.0nm,0.5s						
CM01	**Chiang Mai Arr**	**20.22**	**276**	*eP*	**P**	**18 45 25.7**	**+0.8**
CMMT	**Chiang Mai**	**20.23**	**277**	P	**P**	**18 45 26.6**	**+1.6**
	comp=Z,18nm,1.3s						
CHTO	**Chiang Mai**	**20.23**	**277**	*eP*	**P**	**18 45 26.2**	**+1.2**
	comp=Z,22nm,1.1s						
CHTO	**Chiang Mai**	**20.23**	**277**	P	**P**	**18 45 26.7**	**+1.7**
	comp=Z,78nm,1.4s						
SANI	**Sanana**	**20.23**	**163**	P	**P**	**18 45 20.7**	**-4.3**
	comp=Z,17nm,0.6s						
CM31	**Chiang Mai Arr**	**20.23**	**276**	*eP*	**P**	**18 45 27.1**	**+2.0**
CMAR	**Chiang Mai Arr**	**20.23**	**276**	P	**P**	**18 45 26.8**	**+1.8**
	comp=Z,10nm,1.0s,baz=93,slow=8.3,SNR=78						
PHET	**Kaeng Krachan**	**20.35**	**260**	P	Pn	18 45 29.2	+0.5
	comp=Z,9.9nm,0.9s,comp=Z,115nm						
UMPA	**Umpang Tak**	**20.45**	**270**	P	Pn	18 45 30.9	+0.9
	comp=Z,7.7nm,1.0s						
SRDT	**SRDT**	**20.49**	**264**	P	Pn	18 45 30.3	-0.1
	comp=Z,17nm,1.2s,comp=Z,2μm						
KS15	**Wonju Array Si**	**21.01**	**17**	*eP*	**P**	**18 45 32.6**	**-0.7**
KSRS	**Korea Array**	**21.03**	**17**	P	**P**	**18 45 31.8**	**-1.7**
	comp=Z,4.4nm,0.9s,baz=202,slow=11,SNR=11						
KS01	**Wonju Array Si**	**21.05**	**17**	*eP*	**P**	**18 45 32.1**	**-1.6**
CBIJ	**Chichi jima**	**22.46**	**61**	*eP*	**P**	**18 45 47.1**	**-1.8**
	comp=Z,329nm,1.7s						
KULM	**Kulim**	**22.63**	**240**	*eP*	**P**	**18 45 51.2**	**+0.4**
	comp=Z,22nm,1.4s						
BJT	**Baijiatuan**	**22.73**	**352**	*eP*	**P**	**18 45 51.6**	**-0.1**
	comp=Z,45nm,1.4s						
BJI	**Beijing**	**22.75**	**352**	P	**P**	**18 45 51.6**	**-0.2**
BJI				*pmax*	*pmax*		
	comp=Z,14nm,1.4s						
IPM	**Ipoh**	**22.78**	**238**	*eP*	**P**	**18 45 52.3**	**-0.2**
	comp=Z,16nm,1.3s						
FAKI	**Fak Fak**	**23.50**	**148**	*eP*	**P**	**18 45 59.0**	**-0.6**
	comp=Z,30nm,1.1s						
LZH	**Lanzhou**	**23.52**	**325**	*eP*	**P**	**18 45 59.0**	**-0.8**
LZH				*pP*	*pP*	18 46 12.2	+0.2
LZH				*sP*	*sP*	18 46 18.6	+0.5
LZH				S	**S**	**18 50 08.2**	**-2.1**
LZH				*pmax*	*pmax*		
	comp=Z,22nm,1.2s						
LZH				*pmax*	*pmax*		
	comp=Z,170nm,4.9s						
LZH				LR	LR		
	comp=Z,550nm,15.2s						
GUMO	**Guam**	**24.09**	**96**	LR	LR	18 53 57.2	
	comp=Z,148nm,20.5s,baz=276,slow=33						
HHC	**Hu-ho-hao-te**	**24.45**	**344**	*eP*	**P**	**18 46 09.9**	**+1.7**
HHC				*pmax*	*pmax*		
	comp=Z,10.0nm,1.3s						
HHC				*pmax*	*pmax*		
	comp=Z,100nm,6.0s						
MAJO	**Matsushiro**	**24.79**	**36**	*eP*	**P**	**18 46 11.2**	**0.0**
	comp=Z,23nm,1.4s						
MJB9	**Matsu-Tunnel**	**24.79**	**36**	*eP*	**P**	**18 46 11.8**	**+0.5**
	comp=Z,24nm,1.5s						
SHL	**Shillong**	**27.49**	**292**	*eP*	**P**	**18 46 35.7**	**-0.2**
	comp=Z,12nm,0.9s						
SHL	**Shillong**	**27.49**	**292**	*eP*	**P**	**18 46 35.0**	**-0.9**
GTA	**Gaotai**	**28.13**	**325**	*eP*	P	18 46 46.6	+5.2
GTA				*pP*	*pP*	18 46 58.2	+4.0
GTA				*sP*	*sP*	18 47 03.6	+3.5
GTA				*PcP*	**PcP**	**18 49 58.1**	**+3.4**
GTA				S	**S**	**18 51 30.9**	**+7.6**
GTA				*pmax*	*pmax*		
	comp=Z,2.0nm,1.1s						
GTA				*pmax*	*pmax*		
	comp=Z,58nm,5.4s						
GTA				LR	LR		
	comp=Z,140nm,18.4s						
GTA				LR	LR		
	comp=Z,170nm,18.1s						
USRK	**Ussuriysk Ar.**	**28.44**	**18**	P	**P**	**18 46 44.8**	**+0.9**
	comp=Z,2.6nm,0.8s,baz=175,slow=12,SNR=4.3						
LSA	**Lhasa**	**29.17**	**300**	*eP*	**P**	**18 46 52.7**	**+1.6**
	comp=Z,5.2nm,0.9s						
ODAN	**Odare**	**31.70**	**293**	*eP*	**P**	**18 47 14.0**	**+0.7**
	comp=Z,20nm,0.8s						
MTN	**Manton Dam**	**32.01**	**160**	*eP*	**P**	**18 47 14.8**	**-0.9**
	comp=Z,9.3nm,1.2s						
ULN	**Ulaanbaatar**	**32.16**	**343**	*eP*	**P**	**18 47 17.9**	**+0.9**
	comp=Z,6.3nm,1.3s						
SONM	**Songino Array**	**32.32**	**343**	P	**P**	**18 47 19.3**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=158,slow=11,SNR=9.7						
SONM				LR	LR	19 01 41.2	
	comp=Z,88nm,19.2s,baz=164,slow=38						
SONA1	**Songino Array**	**32.33**	**343**	*eP*	**P**	**18 47 18.4**	**0.0**
RAMN	**Ramite**	**32.41**	**293**	*eP*	**P**	**18 47 20.5**	**+1.0**
	comp=Z,32nm,0.9s						
JIRN	**Jiri**	**32.89**	**294**	*eP*	**P**	**18 47 24.6**	**+0.7**
	comp=Z,25nm,1.0s						
KLR	**Kul'dur**	**33.03**	**14**	P	**P**	**18 47 25.0**	**+0.6**
	comp=Z,3.2nm,1.1s,baz=212,slow=9.1,SNR=4.3						
KLR				LR	LR	19 01 39.2	
	comp=Z,84nm,18.3s,baz=190,slow=38						
GUN	**Gumba**	**33.21**	**294**	*eP*	**P**	**18 47 27.3**	**+0.7**
	comp=Z,36nm,1.1s						
PKI	**Pulchoki**	**33.56**	**294**	*eP*	**P**	**18 47 29.7**	**0.0**
	comp=Z,13nm,1.1s						
PKIN	**Phulchoki**	**33.57**	**294**	*eP*	**P**	**18 47 29.7**	**0.0**
KKN	**Kakani**	**33.71**	**294**	*eP*	**P**	**18 47 31.2**	**+0.4**
	comp=Z,26nm,1.2s						
DMN	**Daman**	**33.83**	**294**	*eP*	**P**	**18 47 32.3**	**+0.4**
DANN	**Dangsing**	**35.13**	**295**	*eP*	**P**	**18 47 43.4**	**+0.2**
	comp=Z,21nm,1.0s						
KOLN	**Koldanda**	**35.17**	**294**	*eP*	**P**	**18 47 43.8**	**+0.3**
	comp=Z,17nm,1.1s						
PYUN	**Piuthan**	**35.76**	**294**	*eP*	**P**	**18 47 48.8**	**+0.3**
	comp=Z,29nm,1.0s						
FITZ	**Fitzroy Crossi**	**35.76**	**171**	*eP*	**P**	**18 47 46.6**	**-1.6**
	comp=Z,36nm,1.9s						
WMQ	**Urumqi**	**37.94**	**321**	*eP*	**P**	**18 48 08.4**	**+1.7**
WMQ				LR	LR		
	comp=Z,630nm,24.1s						
WMQ				LR	LR		
	comp=Z,320nm,26.3s						
WRAB	**Tennant Creek**	**39.70**	**159**	*eP*	**P**	**18 48 18.6**	**-2.9**
	comp=Z,25nm,1.8s						
WRA	**Warramunga Arr**	**39.70**	**159**	P	**P**	**18 48 19.5**	**-2.1**
	comp=Z,0.9nm,0.5s,baz=343,slow=8.9,SNR=18						
WB2	**Warramunga Arr**	**39.70**	**159**	*eP*	**P**	**18 48 17.9**	**-3.7**
	comp=Z,7.6nm,1.0s						
MK01	**Makanchi Array**	**42.73**	**322**	*eP*	**P**	**18 48 47.3**	**+1.1**
MK31	**Makanchi Array**	**42.75**	**322**	*eP*	**P**	**18 48 47.2**	**+0.8**
MKAR	**Makanchi Array**	**42.75**	**322**	P	**P**	**18 48 47.4**	**+1.1**
	comp=Z,2.0nm,0.9s,baz=108,slow=12,SNR=6.9						
MKAR	**Makanchi Array**	**42.75**	**322**	*eP*	**P**	**18 48 47.2**	**+0.8**
	comp=Z,32nm,1.0s						
AS31	**Alice Springs**	**43.03**	**161**	*eP*	**P**	**18 48 46.5**	**-2.3**
	comp=Z,0.9nm,0.8s						
ASAR	**Alice Springs**	**43.03**	**161**	P	**P**	**18 48 46.6**	**-2.2**
	comp=Z,1.0nm,0.4s,baz=338,slow=7.2,SNR=39						
AS01	**Alice Springs**	**43.05**	**161**	*eP*	**P**	**18 48 46.6**	**-2.4**
KDJ	**Kajisay**	**44.05**	**313**	*eP*	**P**	**18 48 57.3**	**+0.1**
	comp=Z,3.7nm,0.8s						
NRN	**Naryn**	**44.65**	**312**	*eP*	**P**	**18 49 02.1**	**0.0**
	comp=Z,8.0nm,1.3s						
YAK	**Yakutsk**	**45.00**	**6**	LR	LR	19 08 45.5	
	comp=Z,38nm,21.3s,baz=230,slow=37						
YAK	**Yakutsk**	**45.00**	**6**	*eP*	**P**	**18 49 03.6**	**-0.5**
	comp=Z,8.9nm,0.5s						
ZAA0	**Zalesovo Array**	**45.51**	**331**	*eP*	**P**	**18 49 07.9**	**-0.4**
	comp=Z,5.2nm,1.3s						
ZALV	**Zalesovo Beam**	**45.51**	**331**	P	**P**	**18 49 08.0**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=128,slow=5.9,SNR=4.5						
ZALV				LR	LR	19 08 57.8	
	comp=Z,77nm,18.3s,baz=70,slow=37						
PEA0B	**Petropavlovsk-**	**46.01**	**31**	*eP*	**P**	**18 49 12.0**	**-0.3**
	comp=Z,189nm,1.8s						
PETK	**Petropavlovsk-**	**46.01**	**31**	LR	LR	19 09 46.5	
	comp=Z,25nm,18.5s,baz=224,slow=38						
PETK	**Petropavlovsk-**	**46.01**	**31**	*eP*	**P**	**18 49 10.9**	**-1.3**
KURK	**Kurchatov**	**46.81**	**325**	*eP*	**P**	**18 49 19.0**	**+0.4**
	comp=Z,7.2nm,0.8s						
MA2	**Magadan**	**47.54**	**21**	LR	LR	19 12 07.6	
	comp=Z,42nm,18.0s,baz=264,slow=39						
MA2	**Magadan**	**47.54**	**21**	*eP*	**P**	**18 49 22.4**	**-1.7**
	comp=Z,29nm,1.2s						
KK31	**Karatay Array**	**49.03**	**312**	*eP*	**P**	**18 49 36.4**	**+0.4**
KKAR	**Karatay Array**	**49.03**	**312**	*eP*	**P**	**18 49 35.9**	**0.0**
BBOO	**Buckleboo**	**52.26**	**163**	*eP*	**P**	**18 49 58.0**	**-2.3**
	comp=Z,40nm,1.8s						
BRVK	**Borovoye**	**52.48**	**324**	*eP*	**P**	**18 50 01.6**	**-0.1**
	comp=Z,3.0nm,0.9s						
STKA	**Stephens Creek**	**53.20**	**157**	P	**P**	**18 50 05.5**	**-1.7**
	comp=Z,1.7nm,0.6s,baz=323,slow=9.0,SNR=8.6						
STKA				LR	LR	19 17 11.4	
	comp=Z,31nm,19.1s,baz=16,slow=41						
STKA	**Stephens Creek**	**53.20**	**157**	*eP*	**P**	**18 50 05.1**	**-2.1**
	comp=Z,3.3nm,1.6s						
TIXI	**Tiksi**	**54.41**	**3**	*eP*	**P**	**18 50 13.9**	**-1.7**
	comp=Z,5.1nm,1.1s						
GEYT	**Alibeck**	**57.57**	**304**	P	**P**	**18 50 39.7**	**+0.9**
	comp=Z,2.2nm,0.8s,baz=91,slow=5.9,SNR=6.9						
GEYT				LR	LR	19 20 12.5	
	comp=Z,43nm,19.1s,baz=195,slow=41						
ABKAR	**Akbulak array**	**57.60**	**318**	*eP*	**P**	**18 50 38.9**	**+0.2**
KBZ	**Khabaz**	**69.03**	**311**	LR	LR	19 24 01.8	
	comp=Z,57nm,21.4s,baz=45,slow=37						
RAYN	**Ar Rayn**	**69.52**	**289**	*eP*	**P**	**18 51 57.6**	**-0.3**
	comp=Z,4.4nm,1.0s						
BRTR	**Keskin Array B**	**76.45**	**308**	LR	LR	19 30 41.0	
	comp=Z,18nm,18.5s,baz=348,slow=39						
AKASG	**Malin Array Be**	**77.28**	**319**	LR	LR	19 28 18.5	
	comp=Z,26nm,18.1s,baz=270,slow=37						
BUR04	**Bucovina Ar. S**	**80.57**	**317**	*eP*	**P**	**18 53 01.2**	**-0.1**
NB2	**NORSAR Subarra**	**83.70**	**332**	P	**P**	**18 53 16.3**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=65,slow=5.6						
NOA	**NORSAR Array B**	**83.70**	**332**	P	**P**	**18 53 16.5**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=64,slow=4.9,SNR=5.8						
NOA				LR	LR	19 33 20.2	
	comp=Z,73nm,19.4s,baz=70,slow=38						
GERES	**GERESS Array B**	**87.41**	**321**	LR	LR	19 32 48.5	
	comp=Z,32nm,20.5s,baz=74,slow=36						

DJA 03 18:50:28.5±0.3, 0°S±3°×12°5E±°, h10km, M3.6/7, MLv3.6/7, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.61**	**292**	P	Pn	18 50 56.2	-0.7
KMSI				S	Sb	18 51 18.4	-0.2
TNTI	**Ternate**	**2.06**	**67**	P	Pn	18 51 03.2	0.0
TNTI				S	Sn	18 51 29.9	+1.0
SANI	**Sanana**	**2.07**	**166**	P	Pn	18 51 02.2	-1.2
SANI				S	Sn	18 51 30.4	+1.1
LUWI	**Luwuk**	**2.88**	**250**	P	Pn	18 51 15.2	+0.7
LUWI				S	Sn	18 51 50.3	+1.1
MRSI	**Marisa**	**3.56**	**278**	P	Pn	18 51 22.3	-1.6
APSI	**Ampana**	**3.92**	**257**	P	Pn	18 51 29.5	+0.7
APSI				S	Sn	18 52 16.1	+1.2

*ISCJB **03** 18:50:28.1±0.6, 35.61N±0.03×139.49E±0.07, h41km±9km, mb3.5/2, Error ellipse: s-maj=9.1km s-min=4.7km az=179.5*
*JMA **03** 18:50:28.7±0.1, 35.64N×139.43E, h31km±1km, M3.3 Broadband fault plane solution: P waves. NP1: ϕs34.00000°, δ85.00000°, λ82.00000°. NP2:ϕs274.00000°, δ9.00000°, λ150.00000°. Principal axes: T Plg49.0000°, Azm295.0000°; N Plg8.0000°, Azm34.0000°; P Plg40.0000°, Azm131.0000°;*
JMA Felt II J1.
*IDC **03** 18:50:30.4±2.2, 35.50N×139.18E, h52km±17km, mb3.1/2, mb1 3.4/3, mb1mx3.0/40, mbtmp3.5/3, ML3.6/1 Error ellipse: s-maj=69.8km s-min=11.9km az=69.0*

ISC 03 18:50:28.2±1.0, 35.61N±0.03×139.46E±0.05, h32km±8km, n18, σ0§72/24, 3C-4D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOK	**Tokyo**	**0.26**	**72**	*i*P	**Pn**	**18 50 36.3**	**+0.6**
JHU	**Hanno**	**0.28**	**330**	*i*P	**Pb**	**18 50 35.5**	**-0.2**
JHU				S	**Sb**	**18 50 40.8**	**+0.1**
JOD2	**Odawara 2**	**0.46**	**221**	*i*P	**Pb**	**18 50 38.2**	**+0.1**
JOD2				S	**Sn**	**18 50 45.8**	**+0.2**
JRY	**Ryogami san**	**0.61**	**312**	*i*P	**Pb**	**18 50 39.8**	**-0.7**
JYN	**Shimob**	**0.75**	**262**	*i*P	**Pn**	**18 50 42.4**	**-0.2**
JYN				*eS*	**Sb**	**18 50 52.6**	**-0.3**
JAG	**Ashikaga**	**0.81**	**360**	*i*P	**Pn**	**18 50 43.3**	**-0.1**
JAG				S	**Sn**	**18 50 54.3**	**-0.1**
JIM2	**Oshima 3**	**0.89**	**181**	P	**Pn**	**18 50 44.0**	**-0.5**
JIM2				S	**Sn**	**18 50 56.7**	**+0.5**
JIZS	**Izushimoda**	**1.01**	**208**	P	**Pn**	**18 50 46.2**	**+0.2**
JIZS				S	**Sb**	**18 51 00.2**	**+0.2**
SHZ3	**Shizuoka 3**	**1.15**	**242**	*i*P	**Pn**	**18 50 49.1**	**+1.0**
JKT	**Katashina**	**1.17**	**352**	P	**Pn**	**18 50 48.8**	**+0.4**
JKT				S	**Sn**	**18 51 04.1**	**+0.9**
MJAR	**Matsushiro Arr**	**1.37**	**313**	P	**Pn**	**18 50 51.8**	**+0.6**
	64nm,0.3s,baz=136,slow=12,SNR=966						
MAT	**Matsushiro**	**1.38**	**313**	P	**Pn**	**18 50 52.5**	**+1.4**
MAT				S	**Sb**	**18 51 10.9**	**+0.3**
JHJ	**Hachijo jima 2**	**2.50**	**174**	P	**Pn**	**18 51 07.2**	**+0.7**
	32nm,0.3s,baz=151,slow=24,SNR=16						
JHJ				S	**Sn**	**18 51 37.0**	**+1.1**
	23nm,0.3s,baz=61,slow=22,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**28.86**	**116**	T	T	19 25 53.2	
	baz=308,slow=75,SNR=9.6						
H11N1	**WAKE ISLAND Hy**	**28.87**	**116**	T	T	19 26 00.8	
	baz=308,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**28.88**	**116**	T	T	19 25 57.7	
	baz=308,slow=75,SNR=9.3						
WRA	**Warramunga Arr**	**55.46**	**186**	P	**P**	**18 59 58.1**	**-1.6**
	0.3nm,0.4s,baz=0.7,slow=7.7,SNR=18						
ASAR	**Alice Springs**	**59.19**	**186**	P	**P**	**19 00 26.1**	**0.0**
	0.2nm,0.5s,baz=17,slow=9.8,SNR=5.4						

MEX 03 18:56:38.4±1.0, 16.46N×97.87W, h3km±6km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.25**	**255**	*eP*	Pg	18 56 42.9	-0.3
PNIG				*e

PMG	**Port Moresby**	**3.85**	**179**	P	**Pn**	**19 09 54.0**	**-0.9**
	59nm,0.3s,baz=12,slow=12,SNR=238							
PMG				S	**Sn**	**19 10 38.3**	**-3.6**
	22nm,0.3s,baz=18,slow=16,SNR=7.1							
RABL	**Rabaul**	**5.23**	**76**	*e*Pn	**Pn**	**19 10 12.3**	**-0.1**
JAY	**Jayapura**	**7.03**	**295**	P	**Pn**	**19 10 33.3**	**-2.5**
	5.7nm,0.3s,baz=132,slow=8.7,SNR=50							
COEN	**Coen**	**9.22**	**204**	*e*Pn	Pn	19 10 59.3	-5.0	
COEN				*e*Sn	**Sn**	**19 12 49.3**	**+1.7**	
HNR	**Honiara**	**13.33**	**108**	P	**Pn**	**19 11 56.8**	**-0.1**	
	6.7nm,0.3s,baz=230,slow=9.2,SNR=3.1							
CTA	**Charters Tower**	**14.50**	**183**	P	**P**	**19 12 12.7**	**-0.1**	
	0.1nm,0.3s,baz=10,slow=17,SNR=2.7							
CTAO	**Charters Tower**	**14.50**	**183**	*e*Pn	**Pn**	**19 12 11.8**	**+0.4**	
FAKI	**Fak Fak**	**15.02**	**279**	*e*Pn	**P**	**19 12 19.4**	**+0.8**	
	35nm,1.1s							
SIJI	**Sorong**	**16.45**	**286**	P	**P**	**19 12 33.9**	**-0.5**	
	0.5nm,0.3s,baz=196,slow=5.2,SNR=4.1							
MTN	**Manton Dam**	**17.34**	**244**	*e*P	**P**	**19 12 44.9**	**+0.8**	
	6.5nm,0.8s							
WRAB	**Tennant Creek**	**18.93**	**220**	*e*P	**P**	**19 13 02.0**	**+0.6**	
	16nm,0.6s							
WRAB				*e*S	**S**	**19 16 26.1**	**-0.1**	
WB2	**Warramunga Arr**	**18.94**	**220**	*e*P	**P**	**19 13 01.1**	**-0.5**	
WB2				*e*S	**S**	**19 16 26.0**	**-0.4**	
WRA	**Warramunga Arr**	**18.95**	**220**	P	**P**	**19 13 02.6**	**+0.9**	
	4.4nm,0.3s,baz=38,slow=11,SNR=335							
WRA				S	**S**	**19 16 26.3**	**-0.3**	
	0.2nm,0.3s,baz=40,slow=21,SNR=9.7							
AS01	**Alice Springs**	**22.03**	**214**	*e*P	**P**	**19 13 35.1**	**+1.0**	
AS31	**Alice Springs**	**22.05**	**214**	*e*P	**P**	**19 13 35.8**	**+1.4**	
	5.4nm,0.4s							
AS31				*e*S	**S**	**19 17 30.6**	**+7.1**	
ASAR	**Alice Springs**	**22.05**	**214**	P	**P**	**19 13 35.6**	**+1.2**	
	7.7nm,0.6s,baz=48,slow=8.4,SNR=118							
ASAR				S	**S**	**19 17 24.6**	**+1.1**	
	0.5nm,0.7s,baz=33,slow=22,SNR=3.9							
SOEI	**Soe**	**23.00**	**258**	*e*P	**P**	**19 13 45.0**	**+1.8**	
	10nm,0.9s							
FITZ	**Fitzroy Crossi**	**24.39**	**237**	P	**P**	**19 13 56.2**	**+0.6**	
	4.8nm,0.5s,baz=60,slow=10.0,SNR=40							
DZM	**Mont Dzumac**	**24.92**	**133**	P	**P**	**19 14 00.5**	**0.0**	
	4.4nm,0.6s,baz=6.6,slow=6.0,SNR=12							
DZM	**Mont Dzumac**	**24.92**	**133**	*e*P	**P**	**19 14 00.9**	**+0.4**	
	7.5nm,0.8s							
ARMA	**Armidale**	**25.13**	**171**	*e*P	**P**	**19 14 02.3**	**0.0**	
	24nm,1.5s							
STKA	**Stephens Creek**	**26.71**	**190**	*e*P	P	19 14 27.1	+11	
	1.0nm,0.8s							
BBOO	**Buckleboo**	**29.03**	**199**	*e*P	P	19 14 44.3	+7.3	
	34nm,1.5s							
OXZ	**Oxford**	**43.61**	**153**	*e*P	P	19 16 49.1	+9.0	
	178nm,1.9s							
HHC	**Hu-ho-hao-te**	**56.48**	**328**	*e*P	P	19 18 28.0	+11	
HHC				pmax	pmax			
	comp=Z,6.0nm,1.3s							
HHC				pmax	pmax			
	comp=Z,84nm,5.2s							
LZH	**Lanzhou**	**57.91**	**319**	*e*P	P	19 18 36.7	+10	
LZH				pP	pP	19 19 05.8	-5.8	
LZH				sP	PcP	19 19 15.5	-1.7	
LZH				*e*PP	PP	19 20 47.0	+9.2	
LZH				pmax	pmax			
	comp=Z,20nm,1.1s							
SONM	**Songino Array**	**64.03**	**331**	P	**P**	**19 19 07.2**	**-0.8**	
	comp=Z,0.4nm,0.4s,baz=151,slow=3.3,SNR=3.5							
VNDA	**Vanda**	**72.38**	**177**	P	**P**	**19 20 00.4**	**+1.2**	
	comp=Z,0.7nm,0.6s,baz=339,slow=6.8,SNR=11							
WMQ	**Urumqi**	**72.49**	**319**	*e*P	P	19 20 09.3	+8.7	
MKAR	**Makanchi Array**	**77.19**	**320**	P	**P**	**19 20 27.6**	**+0.1**	
	comp=Z,0.1nm,0.4s,baz=110,slow=6.5,SNR=3.9							
ZALV	**Zalesovo Beam**	**78.66**	**328**	P	**P**	**19 20 34.7**	**-0.6**	
	comp=Z,0.4nm,0.4s,baz=90,slow=5.8,SNR=2.8							
JLAB	**Laurel Hill**	**94.24**	**53**	*e*P	P	19 22 00.8	+8.5	
TORD	**Torodi Ar. Bea**	**145.05**	**285**	PKPbc	**PKPbc**	**19 28 09.1**	**-0.9**	
	comp=Z,0.2nm,0.4s,baz=58,slow=4.2,SNR=4.5							

IDC 03 19:23:57.1±39.0**, 27°32N**×**70°13E, h0**km**, mb3.6/3, mb1 3.7/3, mb1mx3.2/30, mbtmp3.7/3, Error ellipse: s-maj=1270.0km s-min=33.6km az=138.0, India-Pakistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**21.68**	**23**	P	P	19 28 48.0	-1.4
	1.2nm,0.6s,baz=206,slow=10,SNR=9.6						
ZALV	**Zalesovo Beam**	**28.72**	**18**	P	P	19 29 57.3	+1.3
	0.5nm,0.3s,baz=205,slow=9.1,SNR=4.4						
TORD	**Torodi Ar. Bea**	**65.06**	**272**	P	P	19 34 39.7	-0.1
	0.5nm,0.9s,baz=53,slow=6.1,SNR=4.0						

*IDC **03** 19:25:10.6±0.6, 16°.68S×173°.59W, h0km, mb4.4/15, mb1 4.6/17, mb1mx4.5/27, mbtmp4.4/17, ML3.9/2, MS3.6/24, Ms1 3.6/24, ms1mx3.5/33, Error ellipse: s-maj=24.3km s-min=13.7km az=126.0*

*ISCJB **03** 19:25:11.0±0.2, 16°.70S±0°.05×173°.65W±0°.06, h10km, mb4.9/70, MS3.6/21, Error ellipse: s-maj=9.0km s-min=5.2km az=34.1*

*NEIC **03** 19:25:13.2±0.2, 16°.66S×173°.62W, h15km, mb5.1/55, Error ellipse: s-maj=8.3km s-min=4.5km az=126.0*

ISC 03 19:25:11.5±0.4**, 16°.59S**±0°.07×**173°.41W**±0°.07**, h10**km**, n180, σ1s56/163, mb5.0/70, MS3.7/21, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.10**	**31**	Pn	**Pn**	**19 26 02.2**	**+1.6**
	17nm,0.3s,baz=212,slow=9.5,SNR=18						
AFI				Sn	**Sn**	**19 26 33.3**	**-4.4**
	60nm,0.3s,baz=31,slow=23,SNR=13						
AFI				LR	LR	19 26 57.3	
	comp=Z,231nm,18.7s,baz=224,slow=33						
AFI	**Afiamalu**	**3.10**	**31**	*e*Pn	**Pn**	**19 26 01.0**	**+0.5**
AFI				*e*Sn	**Sn**	**19 26 33.0**	**-4.7**
RAR	**Rarotonga**	**13.69**	**112**	Pn	**Pn**	**19 28 23.9**	**-2.0**
	1.1nm,0.3s,baz=229,slow=9.5,SNR=3.7						
RAR				LR	LR	19 32 27.7	
	comp=Z,167nm,21.8s,baz=316,slow=32						
RAR	**Rarotonga**	**13.69**	**112**	*e*Pn	**Pn**	**19 28 23.3**	**-2.6**
KNTN	**Kanton**	**13.83**	**7**	*e*Pn	**Pn**	**19 28 23.9**	**-4.0**
DZM	**Mont Dzumac**	**19.77**	**251**	P	**Pn**	**19 29 42.0**	**-1.6**
	0.3nm,0.3s,baz=81,slow=18,SNR=4.3						
DZM				LR	LR	19 35 59.6	
	comp=Z,313nm,21.8s,baz=65,slow=33						
DZM	**Mont Dzumac**	**19.77**	**251**	*e*P	**Pn**	**19 29 47.1**	**+3.5**
	15nm,0.8s						
DZM				*e*LR	LR	19 34 25.4	
	526nm,26.1s						
DZM	**Mont Dzumac**	**19.77**	**251**	*e*P	**P**	**19 29 37.9**	**-4.1**
	59nm,1.9s						
MXZ	**Matakaoa Point**	**22.13**	**198**	*e*P	**P**	**19 30 05.4**	**-1.9**
	279nm,1.4s						
PAE	**Paea**	**22.79**	**96**	*e*T	T	19 53 42.5	
	3.1nm,0.3s						
PPT	**Papeete**	**22.80**	**96**	LR	LR	19 36 38.5	
	comp=Z,97nm,20.9s,baz=232,slow=30						
PPT2	**Papeete2**	**22.80**	**96**	*e*LR	LR	19 35 33.6	
	295nm,25.8s						
TIAR	**Tiarei**	**23.02**	**96**	*e*T	T	19 53 59.2	
	3.0nm,0.3s						
URZ	**Urewera**	**23.14**	**199**	P	**P**	**19 30 17.1**	**-0.8**
	12nm,0.7s,baz=0.0,slow=14,SNR=11						
TBI	**Tubuai**	**23.47**	**111**	*e*LR	LR	19 35 55.9	
	342nm,27.5s						
TBI	**Tubuai**	**23.47**	**111**	*e*T	T	19 54 30.3	
	13nm,0.3s						
HIZ	**Hauiti**	**24.14**	**203**	*e*P	**P**	**19 30 27.3**	**-0.5**
	318nm,1.6s						
BKZ	**Black Stump Fm**	**24.16**	**199**	*e*P	**P**	**19 30 27.4**	**-0.6**
	86nm,1.7s						
PMOR	**Pomariorio Ree**	**24.60**	**90**	*e*T	T	19 55 58.6	
	3.7nm,0.2s						
HNR	**Honiara**	**26.90**	**282**	LR	LR	19 40 00.3	
	comp=Z,388nm,20.4s,baz=86,slow=33						
THZ	**Tophouse**	**27.71**	**202**	*e*P	**P**	**19 30 58.1**	**-1.9**
	125nm,1.7s						
KHZ	**Kahutara**	**28.06**	**201**	*e*P	**P**	**19 31 03.4**	**+0.3**
	75nm,1.4s						
LTZ	**Lake Taylor**	**28.83**	**202**	*e*P	**P**	**19 31 10.3**	**+0.3**
	130nm,1.7s						
OXZ	**Oxford**	**29.39**	**202**	*e*P	**P**	**19 31 16.9**	**+2.0**
	16nm,0.8s						
MQZ	**McQueen's Vall**	**29.50**	**201**	*e*P	**P**	**19 31 16.6**	**+0.7**
	67nm,1.2s						
RPZ	**Rata Peaks**	**30.08**	**203**	P	**P**	**19 31 20.7**	**-0.4**
	26nm,1.1s,baz=18,slow=9.6,SNR=2.4						
FOZ	**Fox Glacier**	**30.40**	**205**	*e*P	**P**	**19 31 24.3**	**+0.4**
	120nm,1.4s						
ODZ	**Otahua Downs**	**31.37**	**202**	*e*P	**P**	**19 31 34.6**	**+2.1**
	126nm,2.0s						
WKZ	**Wanaka**	**31.80**	**204**	*e*P	**P**	**19 31 36.8**	**+0.5**
	137nm,1.6s						
MLZ	**Mavora Lakes**	**32.60**	**204**	*e*P	**P**	**19 31 43.6**	**+0.2**
	90nm,1.7s						
WHZ	**Wether Hill Ro**	**33.10**	**204**	*e*P	**P**	**19 31 47.8**	**+0.2**
	109nm,1.6s						
TAOE	**Nuku Hiva Isla**	**33.30**	**81**	*e*T	T	20 06 51.9	
	39nm,0.3s						
EIDS	**Eidsvold**	**34.20**	**249**	*e*P	**P**	**19 31 56.5**	**-1.0**
	49nm,1.8s						
ARMA	**Armidale**	**34.73**	**240**	*e*P	**P**	**19 32 00.8**	**-1.4**
	57nm,1.9s						
RKT	**Rikitea**	**36.65**	**107**	*e*T	T	20 10 59.7	
	3.8nm,0.3s						
CTAO	**Charters Tower**	**38.38**	**258**	*e*P	**P**	**19 32 31.4**	**-1.9**
	13nm,1.3s						
H11S2	**WAKE ISLAND Hy**	**39.98**	**330**	T	T	20 15 32.1	
	baz=149,slow=74,SNR=10.0						
H11S3	**WAKE ISLAND Hy**	**39.99**	**330**	T	T	20 15 35.9	
	baz=149,slow=74,SNR=1.9						
H11S1	**WAKE ISLAND Hy**	**40.00**	**330**	T	T	20 15 30.3	
	baz=149						
H11N3	**WAKE ISLAND Hy**	**40.94**	**331**	T	T	20 16 41.4	
	baz=151,slow=76,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**40.95**	**331**	T	T	20 16 45.7	
	baz=151,slow=76,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**40.96**	**331**	T	T	20 16 42.6	
	baz=151,slow=76,SNR=5.4						
COEN	**Coen**	**41.91**	**267**	*e*P	**P**	**19 33 03.7**	**+1.1**
	61nm,1.8s						
STKA	**Stephens Creek**	**43.45**	**241**	P	**P**	**19 33 13.5**	**-1.5**
	16nm,0.8s,baz=84,slow=9.1,SNR=33						
STKA				LR	LR	19 50 11.1	
	comp=Z,59nm,18.1s,baz=30,slow=35						
STKA	**Stephens Creek**	**43.45**	**241**	*e*P	**P**	**19 33 13.4**	**-1.5**
	4.2nm,1.0s						
BBOO	**Buckleboo**	**48.22**	**241**	*e*P	**P**	**19 33 50.7**	**-2.0**
	16nm,0.9s						
WB2	**Warramunga Arr**	**49.56**	**258**	*e*P	**P**	**19 34 00.6**	**-2.5**
WB2				*e*PcP	**PcP**	**19 35 24.6**	**-0.3**
WRAB	**Tennant Creek**	**49.57**	**258**	*e*P	**P**	**19 34 00.8**	**-2.4**
	4.9nm,0.9s						
WR1	**Warramunga Arr**	**49.58**	**258**	*e*P	**P**	**19 34 01.0**	**-2.2**
	19nm,1.7s						
WR1				*e*PcP	**PcP**	**19 35 24.2**	**-0.8**
WRA	**Warramunga Arr**	**49.58**	**258**	P	**P**	**19 34 01.0**	**-2.3**
	1.4nm,0.3s,baz=96,slow=7.3,SNR=44						
WRA				PcP	**PcP**	**19 35 24.2**	**-0.8**
	0.8nm,0.5s,baz=96,slow=3.4,SNR=4.6						
WRA				LR	LR	19 54 05.0	
	comp=Z,90nm,19.2s,baz=120,slow=35						
AS01	**Alice Springs**	**49.70**	**253**	*e*P	**P**	**19 34 02.3**	**-1.9**
AS01				*e*PcP	**PcP**	**19 35 24.8**	**-0.7**
AS31	**Alice Springs**	**49.74**	**253**	*e*P	**P**	**19 34 02.8**	**-1.8**
	9.4nm,0.6s						
ASAR	**Alice Springs**	**49.74**	**253**	P	**P**	**19 34 02.8**	**-1.7**
	31nm,0.7s,baz=88,slow=8.6,SNR=581						
ASAR				PcP	**PcP**	**19 35 25.0**	**-0.6**
	1.4nm,0.7s,baz=95,slow=4.7,SNR=2.7						
ASAR				LR	LR	19 54 11.6	
	comp=Z,77nm,18.3s,baz=102,slow=35						
FORT	**Forrest**	**54.88**	**244**	*e*P	**P**	**19 34 40.9**	**-1.6**
	24nm,1.2s						
FAKI	**Fak Fak**	**55.07**	**278**	*e*P	**P**	**19 34 44.2**	**0.0**
	44nm,1.3s						
FITZ	**Fitzroy Crossi**	**57.96**	**259**	LR	LR	19 57 31.1	
	comp=Z,71nm,21.3s,baz=98,slow=34						
FITZ	**Fitzroy Crossi**	**57.96**	**259**	*e*P	**P**	**19 35 04.0**	**-0.7**
	15nm,1.5s						
SOEI	**Soe**	**60.87**	**268**	*e*P	**P**	**19 35 25.9**	**+0.9**
	29nm,0.9s						
VNDA	**Vanda**	**62.20**	**186**	P	**P**	**19 35 33.4**	**+0.6**
	1.5nm,0.9s,baz=12,slow=6.5,SNR=12						
VNDA				LR	LR	20 00 25.8	
	comp=Z,12nm,18.4s,baz=42,slow=34						
VNDA	**Vanda**	**62.20**	**186**	*e*P	**P**	**19 35 33.7**	**+0.9**
NWAO	**Narrogin (SRO)**	**64.03**	**241**	LR	LR	20 03 14.4	
	comp=Z,34nm,18.4s,baz=110,slow=36						
DAV	**Davao City (W)**	**64.75**	**286**	LR	LR	20 02 58.4	
	comp=Z,44nm,18.5s,baz=98,slow=35						
CASY	**Casey**	**69.33**	**205**	*e*P	**P**	**19 36 18.0**	**-0.9**
	7.8nm,1.2s						
MJAR	**Matsushiro Arr**	**69.84**	**320**	P	**P**	**19 36 24.2**	**+1.6**
	1.0nm,0.7s,baz=151,slow=6.0,SNR=5.3						
MJAR				LR	LR	20 01 25.6	
	comp=Z,27nm,22.0s,baz=215,slow=31						
MAJO	**Matsushiro**	**69.84**	**320**	*e*P	**P**	**19 36 24.2**	**+1.6**
ASAJ	**Asahikawa**	**72.55**	**328**	*e*P	**P**	**19 36 41.1**	**+2.4**
	66nm,1.2s						
JNU	**Nakatsue**	**72.61**	**313**	*e*P	**P**	**19 36 40.2**	**+0.8**
	114nm,2.0s						
KMRM	**Mail Ridge**	**73.00**	**38**	*e*P	**P**	**19 36 44.6**	**+2.9**
	24nm,1.2s						
KKM	**Kota Kinabalu**	**73.11**	**282**	*e*P	**P**	**19 36 43.7**	**+0.8**
	32nm,1.5s						
QSPA	**South Pole Qui**	**73.46**	**180**	*e*P	**P**	**19 36 44.4**	**+0.3**
	23nm,1.9s						
PEA0B	**Petropavlovsk-**	**73.76**	**342**	*e*P	**P**	**19 36 47.5**	**+1.8**
	313nm,1.9s						
PETK	**Petropavlovsk-**	**73.76**	**342**	P	**P**	**19 36 46.6**	**+0.9**
	6.3nm,0.7s,baz=120,slow=7.4,SNR=9.8						
PETK				LR	LR	20 01 27.2	
	comp=Z,17nm,21.8s,baz=128,slow=30						
PETK	**Petropavlovsk-**	**73.76**	**342**	*e*P	**P**	**19 36 47.5**	**+1.8**
PEA1	**Petropavlovsk-**	**73.76**	**342**	*e*P	**P**	**19 36 46.6**	**+0.8**
UGM	**Wanagama**	**74.48**	**266**	*e*P	**P**	**19 36 49.8**	**-1.1**
	406nm,1.7s						
WAKR	**Walker**	**74.54**	**41**	*e*P	**P**	**19 36 53.6**	**+2.7**
	17nm,1.8s						
YBH	**Yreka Blue Hor**	**74.55**	**37**	*e*P	**P**	**19 36 53.2**	**+2.5**
	18nm,1.8s						
NV01	**Mina Array Sit**	**75.22**	**42**	*e*P	**P**	**19 36 57.0**	**+2.2**
NVAR	**Mina Array Bea**	**75.22**	**42**	P	**P**	**19 36 56.5**	**+1.6**
	1.6nm,0.8s,baz=222,slow=9.6,SNR=14						
NVAR				LR	LR	20 01 57.4	
	comp=Z,66nm,20.2s,baz=274,slow=29						
NV11	**Mina Array Sit**	**75.31**	**42**	*e*P	**P**	**19 36 56.8**	**+1.5**
	0.3nm,0.6s						
SSLB	**Suanglung**	**75.61**	**301**	*e*P	**P**	**19 36 57.2**	**0.0**
	54nm,1.7s						
TPUB	**Ta-pu**	**75.67**	**300**	*e*P	**P**	**19 36 57.7**	**+0.1**
	124nm,1.9s						
K05A	**Summer Lake**	**76.22**	**37**	*e*P	**P**	**19 37 02.9**	**+2.5**
	53nm,1.8s						
KSRS	**Korea Array**	**77.00**	**316**	P	**P**	**19 37 06.5**	**+1.8**
	1.6nm,0.8s,baz=126,slow=6.0,SNR=5.5						
KSRS				LR	LR	20 05 52.7	
	comp=Z,15nm,21.7s,baz=175,slow=32						
KS15	**Wonju Array Si**	**77.02**	**316**	*e*P	**P**	**19 37 05.7**	**+0.9**
KSAR	**Wonju Array Be**	**77.02**	**316**	P	**P**	**19 37 06.5**	**+1.7**
TMUT	**Trail Mountain**	**80.33**	**44**	*e*P	**P**	**19 37 25.6**	**+2.2**
	4.7nm,0.9s						
LTX	**Lajitas**	**81.28**	**56**	*e*P	**P**	**19 37 30.9**	**+2.5**
TXAR	**Lajitas Array**	**81.28**	**56**	P	**P**	**19 37 30.9**	**+2.4**
	0.5nm,0.5s,baz=224,slow=3.5,SNR=6.2						
TXAR				LR	LR	20 06 31.3	
	comp=Z,27nm,21.4s,baz=0.0,slow=30						
ANMO	**Albuquerque**	**81.57**	**50**	*e*P	**P**	**19 37 31.0**	**+1.0**
	6.9nm,1.5s						
S22A	**4UR Ranch, Cre**	**82.58**	**47**	*e*P	**P**	**19 37 37.5**	**+2.1**
	5.2nm,0.8s						
TPAW	**Teton Pass**	**82.64**	**41**	*e*P	**P**	**19 37 37.1**	**+1.5**
	31nm,2.0s						
FXWY	**Fox Creek**	**82.67**	**40**	*e*P	**P**	**19 37 37.4**	**+1.7**
	4.0nm,1.2s						
IMW	**Indian Meadow**	**82.86**	**40**	*e*P	**P**	**19 37 38.2**	**+1.5**
	3.7nm,0.9s						
PMSA	**Palmer Station**	**83.09**	**156**	LR	LR	20 12 19.7	
	comp=Z,68nm,18.4s,baz=141,slow=34						
SMCO	**Snowmass**	**83.14**	**46**	*e*P	**P**	**19 37 40.4**	**+2.0**
	5.0nm,1.0s						
YHB	**Horse Butte**	**83.14**	**39**	*e*P	**P**	**19 37 40.6**	**+2.6**
	10.0nm,1.0s						
PD31	**Pinedale Array**	**83.15**	**42**	*e*P	**P**	**19 37 39.1**	**+0.9**
PDAR	**Pinedale Array**	**83.15**	**42**	P	**P**	**19 37 39.2**	**+1.1**
	3.3nm,0.8s,baz=205,slow=3.1,SNR=15						
PDAR				LR	LR	20 07 03.8	
	comp=Z,52nm,20.0s,baz=326,slow=30						
PDAR	**Pinedale Array**	**83.15**	**42**	*e*P	**P**	**19 37 38.8**	**+0.6**
YMR	**Madison River**	**83.24**	**40**	*e*P	**P**	**19 37 41.1**	**+2.6**
	9.7nm,1.0s						
CCB	**Clear Creek Bu**	**83.33**	**11**	*e*P	**P**	**19 37 39.1**	**+0.9**
	3.7nm,0.7s						
MDM	**Murphy Dome**	**83.54**	**10**	*e*P	**P**	**19 37 41.5**	**+2.1**
	21nm,1.8s						
IL1	**Eielson Array**	**83.61**	**11**	*e*P	**P**	**19 37 39.9**	**+0.2**
ILAR	**Eielson Array**	**83.61**	**11**	P	**P**	**19 37 40.3**	**+0.6**
	0.9nm,0.5s,baz=210,slow=5.4,SNR=16						
ILB	**Eielson Array**	**83.61**	**11**	*e*P	**P**	**19 37 40.0**	**+0.3**
HRY	**Holter Researc**	**83.79**	**37**	*e*P	**P**	**19 37 42.0**	**+0.8**
BILL	**Bilibino**	**85.68**	**352**	*e*P	**P**	**19 37 50.6**	**+0.6**
	7.2nm,0.8s						
ABTX	**Abilene, Hawle**	**85.76**	**54**	*e*P	**P**	**19 37 52.5**	**+1.1**
	10nm,1.1s						
MAW	**Mawson**	**86.67**	**199**	LR	LR	20 12 40.3	
	comp=Z,30nm,21.7s,baz=188,slow=33						
ENH	**Enshi**	**87.55**	**302**	*e*P	**P**	**19 38 00.4**	**+0.2**
	28nm,1.7s						
PLCA	**Paso Flores**	**88.72**	**132**	LR	LR	20 07 47.3	
	comp=Z,31nm,20.9s,baz=291,slow=29						
PBKT	**Sadao Pong**	**90.59**	**287**	*e*P	**P**	**19 38 14.7**	**0.0**
	2.9nm,0.9s						
UTTA	**Uttaradit**	**91.31**	**288**	P	**P**	**19 38 20.9**	**+2.9**
NANT	**Nan**	**91.48**	**289**	P	**P**	**19 38 21.0**	**+2.2**
LAMP	**Lampang**	**92.37**	**289**	P	**P**	**19 38 25.2**	**+2.2**
PAYA	**Payao**	**92.39**	**289**	P	**P**	**19 38 25.2**	**+2.1**
CM01	**Chiang Mai Arr**	**92.95**	**288**	*e*P	**P**	**19 38 26.9**	**+1.2**
CM31	**Chiang Mai Arr**	**92.98**	**288**	*e*P	**P**	**19 38 26.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**92.98**	**288**	P	**P**	**19 38 26.3**	**+0.5**
	0.3nm,0.3s,baz=83,slow=2.3,SNR=4.3						
CMAR				LR	LR	20 21 48.2	
	comp=Z,17nm,18.1s,baz=104,slow=37						
CMMT	**Chiang Mai**	**93.08**	**289**	P	**P**	**19 38 27.7**	**+1.5**
CHTO	**Chiang Mai**	**93.08**	**289**	*e*P	**P**	**19 38 27.0**	**+0.8**
	4.2nm,0.7s						
CHTO	**Chiang Mai**	**93.08**	**289**	P	**P**	**19 38 27.7**	**+1.5**
ULM	**Lac du Bonnet**	**94.86**	**39**	LR	LR	20 14 23.7	
	comp=Z,81nm,19.2s,baz=262,slow=31						
SONA0	**Songino Array**	**95.72**	**318**	*e*P	**P**	**19 38 38.5**	**+0.6**
SONM	**Songino Array**	**95.72**	**318**	P	**P**	**19 38 38.5**	**+0.6**
	0.4nm,0.6s,baz=133,slow=4.8,SNR=2.7						
SONM				LR	LR	20 15 57.3	
	comp=Z,26nm,21.8s,baz=35,slow=32						
ARA0	**ARCESS Array S**	**125.78**	**352**	*e*PKPdf	**PKPdf**	**19 44 13.5**	**+0.6**
ARCES	**ARCESS Array B**	**125.78**	**352**	PKP	**PKPdf**	**19 44 13.5**	**+0.6**
	3.8nm,0.9s,baz=58,slow=4.2,SNR=6.2						
KWP	**Kalwaria Pacla**	**144.55**	**342**	*e*PKP	**PKPdf**	**19 44 48.5**	**+0.1**
OJC	**Ojcow**	**144.80**	**345**	*e*PKP	**PKPdf**	**19 44 48.7**	**-0.1**
OJC	**Ojcow**	**144.80**	**345**	*e*PKPdf	**PKPdf**	**19 44 48.0**	**-0.7**
KSP	**Ksiaz**	**144.96**	**349**	*e*PKP	**PKPdf**	**19 44 49.5**	**+0.5**
CLL	**Collm**	**144.99**	**353**	*e*PKPbc	**PKPdf**	**19 44 48.6**	**-0.4**
CLL	**Collm**	**144.99**	**353**	*i* PKPbc	**PKPdf**	**19 44 48.4**	**-0.6**
	comp=Z,8.0nm,0.9s						
CLL				*i*		19 44 50.2	
	comp=Z,9.0nm,0.8s						
KMBO	**Kilima Mbogo**	**145.00**	**243**	*e*PKPdf	**PKPdf**	**19 44 50.2**	**-0.3**
BRG	**Berggiesshubel**	**145.30**	**352**	*i* PKP	**PKPab**	**19 44 50.0**	**+0.6**
	comp=Z,9.8nm,0.9s						
NIE	**Niedzica**	**145.42**	**344**	*e*PKP	**PKPab**	**19 44 51.2**	**+1.3**
DPC	**Dobruska-Polom**	**145.42**	**349**	*e*PKP	**PKPab**	**19 44 51.3**	**+1.3**
BUR08	**Bucovina Ar. S**	**145.45**	**338**	*e*PKPbc	**PKPab**	**19 44 50.9**	**+0.7**
BUR04	**Bucovina Ar. S**	**145.46**	**338**	*e*PKPbc	**PKPab**	**19 44 50.4**	**+0.2**
OKC	**Ostrava-Krasne**	**145.54**	**347**	*e*PKP	**PKPab**	**19 44 51.6**	**+1.3**
PVCC	**Panska Ves**	**145.54**	**351**	*e*PKP	**PKPab**	**19 44 51.8**	**+1.5**
KRLC	**Kraliky**	**145.60**	**348**	*e*PKP	**PKPab**	**19 44 52.1**	**+1.5**
MORC	**Moravsky Berou**	**145.73**	**347**	*e*PKPdf	**PKPab**	**19 44 51.7**	**+0.6**
MORC	**Moravsky Berou**	**145.73**	**347**	*e*PKP	**PKPab**	**19 44 51.9**	**+0.8**
LANS	**Liptovska Anna**	**145.88**	**345**	*e*PKP	**PKPab**	**19 44 53.7**	**+2.0**
GOPC	**GO

MMLI	**Mount Malkishu**	**0.74**	**144**	Pg		**Pb**	**19 57 29.5**	**-0.7**
MMLI				Sg		**Sb**	**19 57 39.5**	**-0.4**
SHBL	**Chebaa**	**0.77**	**66**	*eP*		**Pb**	**19 57 30.0**	**-0.6**
SLTI	**Sal'it**	**0.81**	**172**	Pg		**Pb**	**19 57 30.7**	**-0.5**
SLTI				Sg		**Sb**	**19 57 42.0**	**+0.3**
DQRL	**Deir Qamar**	**0.87**	**40**	*eP*		**Pb**	**19 57 31.6**	**-0.7**
DQRL				*eS*		**Sb**	**19 57 42.3**	**-1.2**
HMDT	**Nahal Hemdat**	**0.95**	**146**	Pg		**Pb**	**19 57 32.9**	**-0.7**
HMDT				Sg		**Sb**	**19 57 46.0**	**+0.3**
BEYL	**Beirut**	**0.96**	**31**	Pg		**Pb**	**19 57 33.0**	**-0.8**
BEYL	**Beirut**	**0.96**	**31**	*eP*		**Pb**	**19 57 33.0**	**-0.8**
BEYL				*eS*		**Sb**	**19 57 45.0**	**-1.2**
AJLJ	**Ajlon**	**1.00**	**136**	P		**Pb**	**19 57 33.8**	**-0.7**
BHL	**Bhannes**	**1.06**	**36**	Pg		**Pb**	**19 57 34.1**	**-1.5**
BHL				Sg		**Sb**	**19 57 48.1**	**-1.1**
BHL	**Bhannes**	**1.06**	**36**	*eP*		**Pb**	**19 57 34.6**	**-1.0**
BHL				*eS*		**Sb**	**19 57 47.9**	**-1.3**
HSUJ	**Al Zarqa**	**1.44**	**130**	P		**Pn**	**19 57 41.2**	**+0.9**
AMAZ	**Amatzia**	**1.50**	**180**	Pn		**Pn**	**19 57 41.8**	**+0.6**
AMAZ				Sn		**Sb**	**19 58 02.2**	**+0.4**
HWQ	**Hawqa**	**1.51**	**35**	Pn		**Pn**	**19 57 41.0**	**-0.4**
HWQ	**Hawqa**	**1.51**	**35**	*eP*		**Pn**	**19 57 41.7**	**+0.3**
DSI	**Dead Sea**	**1.52**	**164**	Pn		**Pn**	**19 57 41.7**	**+0.3**
DSI				Sn		**Sb**	**19 58 02.2**	**0.0**
WALJ	**Wala**	**1.66**	**152**	P		**Pn**	**19 57 44.4**	**+1.0**
YTIR	**Yattir**	**1.68**	**174**	Pn		**Pn**	**19 57 44.8**	**+1.1**
MZDA	**Masada**	**1.77**	**167**	Pn		**Pn**	**19 57 45.6**	**+0.8**
GHAJ	**Ghor Haditha**	**1.82**	**162**	Pn		**Pn**	**19 57 46.5**	**+1.0**
GHAJ				Sn		**Sb**	**19 58 11.8**	**+1.0**
LISJ	**El Lisan**	**1.86**	**165**	P		**Pn**	**19 57 47.5**	**+1.5**
ASF	**Jabal al Asfar**	**1.89**	**117**	P		**Pn**	**19 57 47.7**	**+1.1**
SWQJ	**Swaqa**	**2.04**	**151**	P		**Pn**	**19 57 50.7**	**+2.0**
CSS	**Mathiatis**	**2.32**	**326**	*eP*		**Pn**	**19 57 52.8**	**+0.4**
CSS				*eS*		**Sn**	**19 58 20.1**	**0.0**
CSS	**Mathiatis**	**2.32**	**326**	Pn		**Pn**	**19 57 52.6**	**+0.2**
JDRJ	**Daraweish**	**2.40**	**164**	P		**Pn**	**19 57 54.8**	**+1.2**
ZFRI	**Zfri**	**2.49**	**175**	Pn		**Pn**	**19 57 55.7**	**+1.0**
LFK	**Lefkose**	**2.50**	**333**	*eP*		**Pn**	**19 57 55.9**	**+0.9**
LFK				*eS*		**Sn**	**19 58 25.0**	**+0.2**
EREN	**Erenkoy**	**2.56**	**346**	*eP*		**Pn**	**19 57 56.9**	**+1.3**
EREN				*eS*		**Sn**	**19 58 27.7**	**+1.8**
LEF	**Lefka**	**2.66**	**322**	*eP*		**Pn**	**19 57 57.6**	**+0.5**
PRNI	**Paran**	**2.68**	**178**	Pn		**Pn**	**19 57 57.7**	**+0.3**
HRFI	**Mount Harif**	**3.00**	**178**	Pn		**Pn**	**19 58 02.5**	**+0.7**
HNKL	**Nakhl** baz=195	**3.20**	**194**	P		**Pn**	**19 58 04.8**	**+0.2**
AKKU	**Akkuyu-Mersin**	**3.30**	**341**	*eP*		**Pn**	**19 58 06.5**	**+0.6**
AQBJ	**Aqaba**	**3.31**	**178**	P		**Pn**	**19 58 08.3**	**+2.3**
GULN	**MERSIN_Gulnar**	**3.33**	**341**	*i* P		**Pn**	**19 58 07.0**	**+0.7**
GULN				*i* S		**Sn**	**19 58 44.2**	**-0.8**
IKL	**Isikli**	**3.34**	**343**	*eP*		**Pn**	**19 58 06.4**	**-0.1**
KIZK	**Mersin**	**3.49**	**350**	*eP*		**Pn**	**19 58 08.9**	**+0.5**
KIZK	**Mersin**	**3.49**	**350**	*i* P		**Pn**	**19 58 09.0**	**+0.5**
KIZK				*i* S		**Sn**	**19 58 48.0**	**-0.9**
TAHT	**Tahtakopru-Hat**	**3.49**	**17**	*eP*		**Pn**	**19 58 09.5**	**+1.0**
KEBE	**Keben-Mersin**	**3.54**	**344**	*eP*		**Pn**	**19 58 09.8**	**+0.6**
KRTS	**Karatas**	**3.54**	**6**	*eP*		**Pn**	**19 58 10.7**	**+1.5**
BERE	**Bereket-Mersin**	**3.58**	**338**	*eP*		**Pn**	**19 58 10.5**	**+0.7**
TEVE	**Tevekalti-Mers**	**3.59**	**341**	*eP*		**Pn**	**19 58 11.6**	**+1.6**
YURE	**YUREGIR**	**3.82**	**9**	*eP*		**Pn**	**19 58 14.5**	**+1.4**
GAZI	**Gazipasa**	**3.83**	**327**	*eP*		**Pn**	**19 58 14.0**	**+0.8**
GAZI	**Gazipasa**	**3.83**	**327**	*i* P		**Pn**	**19 58 15.8**	**+2.6**
GAZI				*i* S		**Sn**	**19 58 57.9**	**+0.4**
ERMK	**Ermenek**	**3.95**	**336**	*i* P		**Pn**	**19 58 18.7**	**+3.7**
ERMK				*i* S		**Sn**	**19 59 02.1**	**+1.6**
ZNM	**Zenema** baz=207	**4.05**	**206**	P		**Pn**	**19 58 16.7**	**+0.6**
ZNM				S		**Sn**	**19 58 59.1**	**-3.7**
ZNM	baz=207			AMP			19 59 00.0	
KOT	**Kottamia** baz=223	**4.07**	**221**	P		**Pn**	**19 58 16.0**	**-0.5**
GULE	**Gulek**	**4.23**	**359**	*i* P		**Pn**	**19 58 18.7**	**-0.2**
GULE				*i* S		**Sn**	**19 59 07.9**	**+0.4**
ZAF	**Zafarana** baz=210	**4.26**	**209**	P		**Pn**	**19 58 19.4**	**+0.4**
GLL	**Jalalah** baz=221	**4.41**	**219**	P		**Pn**	**19 58 21.0**	**-0.1**
KERG	**Konya-Eregli**	**4.41**	**352**	*i* P		**Pn**	**19 58 22.4**	**+1.1**
KERG				*i* S		**Sn**	**19 59 12.2**	**+0.4**
HKAT	**Jabal Katrina** baz=190	**4.57**	**190**	P		**Pn**	**19 58 23.1**	**-0.5**
KEPZ	**Antalya-Kepez**	**4.71**	**326**	*i* P		**Pn**	**19 58 26.4**	**+1.2**
KEPZ				*i* S		**Sn**	**19 59 20.6**	**+1.6**
SH2	**Sharm el Sheik** baz=188	**5.19**	**188**	P		**Pn**	**19 58 31.2**	**-0.6**
FETY	**Fethiye**	**5.98**	**308**	*eP*		**Pn**	**19 58 43.6**	**+0.9**
BODT	**Bodrum**	**7.41**	**305**	*eP*		**Pn**	**19 59 02.6**	**+0.3**

*IDC **03** 20:06:04.3±1.2,27˚.73S×176˚.64W, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.8/20, mbtmp3.8/6, ML4.4/1, MS3.1/6, Ms1 3.1/6, ms1mx3.0/22, Error ellipse: s-maj=33.5km s-min=27.1km az=64.0*

*ISCJB **03** 20:06:09.2±0.9, 28˚.24S±0˚.07×176˚.9W±0˚.1, h35km, mb4.4/14, MS3.2/3, Error ellipse: s-maj=16.1km s-min=9.9km az=166.2*

*NEIC **03** 20:06:13.4±0.8, 28˚.30S×176˚.97W, h60km, mb4.7/17, Error ellipse: s-maj=17.7km s-min=10.2km az=94.0*

ISC 03 20:06:09.7±0.8, 28˚.00S±0˚.09×176˚.8W±0˚.1, h35km, n51, σ1§88/50, mb4.6/14, MS3.3/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
RAO	**Raoul Island**	**1.60**	**219**	Pn		Pn	20 06 41.9	+6.5
	305nm,0.3s,baz=65,slow=19,SNR=23							
RAO				Sn		Sn	20 07 08.1	+13
	443nm,0.3s,baz=73,slow=22,SNR=18							
RAO	**Raoul Island**	**1.60**	**219**	*e*Pn		Pn	20 06 41.8	+6.3
RAO				*e*Sn		Sn	20 07 08.0	+13
URZ	**Urewera**	**11.44**	**205**	Pn		**Pn**	**20 08 47.4**	**-3.0**
	1.3nm,0.3s,baz=0.0,slow=20,SNR=6.6							
URZ				Sn		**Sn**	**20 10 59.6**	**+2.7**
	1.9nm,0.3s,baz=109,slow=22,SNR=7.9							
URZ				LR		LR	20 13 04.7	
	comp=Z,126nm,20.9s,baz=31,slow=36							
URZ	**Urewera**	**11.44**	**205**	*e*Pn		**Pn**	**20 08 47.3**	**-3.2**
URZ				*e*Sn		**Sn**	**20 10 56.0**	**-1.0**
BKZ	**Black Stump Fm**	**12.46**	**205**	*e*Pn		**Pn**	**20 09 03.6**	**-0.9**
HIZ	**Hauiti**	**12.60**	**212**	*e*Pn		**Pn**	**20 09 05.5**	**-0.9**
BFZ	**Birch Farm**	**13.89**	**203**	*e*Pn		**Pn**	**20 09 22.9**	**-1.2**
AFI	**Afiamalu**	**14.78**	**19**	LR		LR	20 14 35.3	
	comp=Z,266nm,20.7s,baz=76,slow=35							
THZ	**Tophouse**	**16.11**	**209**	*e*Pn		**Pn**	**20 09 51.9**	**-1.6**
	163nm,2.0s							
DZM	**Mont Dzumac**	**16.32**	**287**	LR		LR	20 14 38.3	
	comp=Z,110nm,19.4s,baz=236,slow=32							
DZM	**Mont Dzumac**	**16.32**	**287**	*e*P		**P**	**20 09 59.1**	**+0.2**
	8.9nm,0.8s							
DZM				*e*LR		LR	20 13 52.7	
	192nm,26.1s							
KHZ	**Kahutara**	**16.40**	**206**	*e*Pn		**Pn**	**20 09 52.0**	**-5.0**
	56nm,1.3s							
LTZ	**Lake Taylor**	**17.22**	**208**	*e*Pn		**Pn**	**20 10 04.3**	**-3.1**
	83nm,1.6s							
OXZ	**Oxford**	**17.76**	**208**	*e*Pn		**Pn**	**20 10 10.1**	**-4.0**
	144nm,2.0s							
MQZ	**McQueen's Vall**	**17.84**	**206**	*e*Pn		**Pn**	**20 10 11.9**	**-3.1**
	124nm,1.7s							
RPZ	**Rata Peaks**	**18.49**	**209**	P		**Pn**	**20 10 24.7**	**+1.7**
	1.1nm,0.3s,baz=45,slow=1.7,SNR=3.9							
RPZ	**Rata Peaks**	**18.49**	**209**	*e*P		**P**	**20 10 20.7**	**-2.0**
	112nm,1.7s							
ODZ	**Otahua Downs**	**19.75**	**207**	*e*P		**P**	**20 10 36.1**	**-0.2**
	64nm,1.5s							
WKZ	**Wanaka**	**20.26**	**210**	*e*P		**P**	**20 10 41.3**	**-0.8**
	187nm,1.9s							
PPT2	**Papeete2**	**27.07**	**73**	*e*LR		LR	20 18 01.7	
	126nm,28.0s							
PPT	**Papeete**	**27.08**	**73**	LR		LR	20 19 20.5	
	comp=Z,31nm,19.7s,baz=204,slow=30							
TAU	**Tasmania Unive**	**32.54**	**233**	*e*P		**P**	**20 12 40.3**	**+3.0**
	122nm,1.8s							
CTAO	**Charters Tower**	**34.57**	**275**	*e*P		**P**	**20 12 53.9**	**-1.4**
	14nm,1.4s							
STKA	**Stephens Creek**	**36.13**	**253**	P		**P**	**20 13 09.9**	**+1.3**
	1.0nm,0.7s,baz=74,slow=7.4,SNR=2.7							
STKA	**Stephens Creek**	**36.13**	**253**	*e*P		**P**	**20 13 10.2**	**+1.7**
	1.1nm,1.2s							
BBOO	**Buckleboo**	**40.71**	**251**	*e*P		**P**	**20 13 46.9**	**-0.1**
	46nm,1.8s							
ASAR	**Alice Springs**	**44.37**	**264**	P		**P**	**20 14 17.6**	**+0.6**
	0.4nm,0.7s,baz=98,slow=7.6,SNR=4.0							
ASAR				LR		LR	20 31 25.8	
	comp=Z,37nm,20.5s,baz=92,slow=34							
WB2	**Warramunga Arr**	**45.14**	**269**	*e*P		**P**	**20 14 22.3**	**-0.8**
	15nm,1.7s							
WB2				*e*PcP		**PcP**	**20 16 04.9**	**+1.6**
WB2				*e*PP		**PP**	**20 16 07.1**	**-1.8**
WRAB	**Tennant Creek**	**45.14**	**269**	*e*P		**P**	**20 14 22.2**	**-0.9**
	30nm,2.0s							
WRAB				*e*PcP		**PcP**	**20 16 03.7**	**+0.5**
WR1	**Warramunga Arr**	**45.15**	**269**	*e*P		**P**	**20 14 23.4**	**+0.2**
	22nm,1.9s							
WRA	**Warramunga Arr**	**45.15**	**269**	P		**P**	**20 14 23.4**	**+0.2**
	0.4nm,0.4s,baz=107,slow=7.7,SNR=17							
FORT	**Forrest**	**47.74**	**253**	*e*P		**P**	**20 14 42.4**	**-1.0**
	22nm,0.9s							
SBA	**Scott Base**	**50.50**	**184**	*e*P		**P**	**20 15 03.0**	**-0.7**
	9.9nm,1.5s							
VNDA	**Vanda**	**50.58**	**186**	P		**P**	**20 15 07.8**	**+3.5**
	0.1nm,0.4s,baz=45,slow=5.4,SNR=2.7							
VNDA	**Vanda**	**50.58**	**186**	*e*P		**P**	**20 15 05.1**	**+0.7**
CASY	**Casey**	**57.75**	**207**	*e*P		**P**	**20 15 59.2**	**+2.4**
	4.1nm,0.8s							
CASY				*e*PcP		**PcP**	**20 16 46.2**	**-3.1**
QSPA	**South Pole Qui**	**62.10**	**180**	P		**P**	**20 16 28.1**	**+1.3**
	2.3nm,0.7s,baz=27,slow=2.6,SNR=9.2							
MAW	**Mawson**	**74.92**	**200**	LR		LR	20 50 24.7	
	comp=Z,22nm,18.7s,baz=298,slow=35							
SNAA	**Sanae**	**80.51**	**178**	P		**P**	**20 18 16.6**	**-1.1**
VNA3	**Neumayer Olymp**	**80.61**	**176**	P		**P**	**20 18 17.7**	**-0.6**
VNA2	**Neumayer--Watz** baz=167,slow=2.3	**81.06**	**176**	P		**P**	**20 18 20.5**	**-0.1**
VNA1	**Neumayer--Stat**	**81.28**	**176**	P		**P**	**20 18 22.0**	**+0.2**
NB2	**NORSAR Subarra1**	**46.53**	**353**	PKP		**PKPdf**	**20 25 43.7**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=9.1,slow=3.0							
NB200	**NORSAR Array S**	**46.53**	**353**	*e*PKPdf		**PKPdf**	**20 25 44.2**	**-1.0**
NOA	**NORSAR Array B**	**46.53**	**353**	PKPbc		**PKPdf**	**20 25 44.2**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=13,slow=4.5,SNR=5.5							
AKASG	**Malin Array Be**	**149.98**	**326**	PKPbc		**PKPbc**	**20 25 56.6**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=56,slow=3.6,SNR=2.8							
AKBB	**Malin Array Si**	**149.98**	**326**	*e*PKPbc		**PKPbc**	**20 25 56.6**	**+0.6**
BR101	**Keskin Array S**	**152.31**	**303**	*e*PKPbc		**PKPbc**	**20 26 02.9**	**+0.9**
BRTR	**Keskin Array B**	**152.31**	**303**	PKPbc		**PKPbc**	**20 26 02.9**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=115,slow=3.7,SNR=2.4							
TORD	**Torodi Ar. Bea**	**165.15**	**174**	PKPab		**PKPab**	**20 27 07.0**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=202,slow=3.1,SNR=3.8							
TOA1	**Torodi Ar. Sit**	**165.15**	**174**	*e*PKPab		**PKPab**	**20 27 07.0**	**-0.8**

MEX 03 20:10:31.5±0.8, 18˚.22N×100˚.91W, h51km±11km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ARIG	**Puente Sto Nin**	**0.54**	**83**	*e*P		Pn	20 10 40.9	-2.4
ARIG				*i* S		Sn	20 10 50.5	-1.3
ZIIG	**Zihuatanejo**	**0.81**	**221**	*e*P		Pn	20 10 44.8	-1.8
ZIIG				*i* S		Sn	20 10 55.4	-2.3
MEIG	**Mezcala**	**1.26**	**103**	*e*P		Pn	20 10 51.4	-1.5
MEIG				*e*S		Sn	20 11 06.3	-2.4
CAIG	**El Cayaco**	**1.31**	**152**	*e*P		Pn	20 10 52.3	-1.2
CAIG				*e*S		Sn	20 11 07.6	-2.3
PLIG	**Platanillo**	**1.35**	**82**	*e*P		Pn	20 10 52.4	-1.6
PLIG				*e*S		Sn	20 11 08.6	-2.3
TLIG	**Tlapa**	**2.32**	**106**	*e*P		Pn	20 11 06.5	-0.9
TLIG				*e*S		Sn	20 11 32.9	-1.9

*IDC **03** 20:36:02.9±2.5, 29˚.47S×176˚.09W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.8/22, mbtmp3.9/5, ML3.7/1, Error ellipse: s-maj=62.8km s-min=28.6km az=27.0*

*NEIC **03** 20:36:11.3±2.5, 29˚.86S×176˚.48W, h43km±14km, mb4.6/5, Error ellipse: s-maj=29.8km s-min=10.6km az=67.0*

ISC 03 20:36:08.1±1.6, 29˚.83S±0˚.10×176˚.4W±0˚.1, h21km, n21, σ1§19/24, mb4.0/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
RAO	**Raoul Island**	**1.47**	**293**	Pn		**Pb**	**20 36 34.1**	**-0.6**
	237nm,0.3s,baz=88,slow=18,SNR=12							
RAO				Sn		**Sb**	**20 36 53.6**	**+0.7**
	361nm,0.3s,baz=116,slow=17,SNR=6.6							
RAO				LR		LR	20 37 16.6	
	comp=Z,239nm,19.7s,baz=186,slow=46							
URZ	**Urewera**	**10.00**	**211**	Pn		**Pn**	**20 38 32.1**	**+1.6**
	0.6nm,0.3s,baz=12,slow=14,SNR=3.8							
URZ				Sn		**Sn**	**20 40 23.1**	**+1.2**
	2.5nm,0.3s,baz=298,slow=22,SNR=8.0							
URZ	**Urewera**	**10.00**	**211**	*e*Pn		**Pn**	**20 38 31.9**	**+1.4**
URZ				*e*Sn		**Sn**	**20 40 18.9**	**-3.1**
BKZ	**Black Stump Fm**	**11.02**	**210**	*e*Pn		**Pn**	**20 38 44.6**	**+0.1**
HIZ	**Hauiti**	**11.30**	**218**	*e*Pn		**Pn**	**20 38 50.0**	**+1.7**
BFZ	**Birch Farm**	**12.39**	**207**	*e*Pn		**Pn**	**20 39 03.9**	**+0.7**
THZ	**Tophouse**	**14.73**	**213**	*e*Pn		**Pn**	**20 39 35.8**	**+0.5**
KHZ	**Kahutara**	**14.96**	**210**	*e*Pn		**Pn**	**20 39 39.2**	**+0.9**
OXZ	**Oxford**	**16.35**	**211**	*e*Pn		**Pn**	**20 39 56.8**	**+0.5**
	80nm,1.8s							
MQZ	**McQueen's Vall**	**16.39**	**209**	*e*Pn		**Pn**	**20 39 56.1**	**-0.6**
	98nm,1.5s							
CTA	**Charters Tower**	**35.12**	**277**	P		**P**	**20 43 00.1**	**-0.1**
	1.6nm,0.7s,baz=105,slow=16,SNR=2.7							
STKA	**Stephens Creek**	**35.99**	**256**	P		**P**	**20 43 08.4**	**+0.7**
	1.5nm,0.9s,baz=105,slow=10,SNR=5.7							
STKA	**Stephens Creek**	**35.99**	**256**	*e*P		**P**	**20 43 09.2**	**+1.6**
	0.9nm,1.2s							
BBOO	**Buckleboo**	**40.49**	**253**	*e*P		**P**	**20 43 43.7**	**-1.8**
	27nm,1.6s							
AS01	**Alice Springs**	**44.52**	**266**	*e*P		**P**	**20 44 19.2**	**+0.8**
ASAR	**Alice Springs**	**44.56**	**266**	P		**P**	**20 44 18.3**	**-0.5**
	0.6nm,0.6s,baz=101,slow=7.6,SNR=12							
WB2	**Warramunga Arr**	**45.49**	**271**	*e*P		**P**	**20 44 25.6**	**-0.6**
WR1	**Warramunga Arr**	**45.50**	**271**	*e*P		**P**	**20 44 25.6**	**-0.7**
	7.4nm,1.4s							
WRA	**Warramunga Arr**	**45.50**	**271**	P		**P**	**20 44 25.6**	**-0.7**
	1.1nm,0.7s,baz=110,slow=6.2,SNR=19							
TORD	**Torodi Ar. Bea**	**163.30**	**173**	PKPab		**PKPab**	**20 57 00.4**	**+0.3**
	1.1nm,1.0s,baz=178,slow=3.7,SNR=5.9							
TOA1	**Torodi Ar. Sit**	**163.31**	**173**	*e*PKPab		**PKPab**	**20 57 00.4**	**+0.3**

*MOS **03** 20:49:08.1±1.1, 21˚.79S×176˚.35W, h89km, mb5.0/24, Error ellipse: s-maj=9.6km s-min=8.0km az=142.1*

*BJI **03** 20:49:10.8, 21˚.36S×175˚.89W, h112km, mb4.8/24, mB5.3/17*

*IDC **03** 20:49:11.6±1.4, 21˚.90S×176˚.33W, h112km±12km, mb4.5/23, mb1 4.7/26, mb1mx4.7/31, mbtmp4.9/26, MS4.0/18, Ms1 4.0/18, ms1mx3.8/32, Error ellipse: s-maj=12.1km s-min=8.7km az=126.0*

*ISCJB **03** 20:49:14.5±0.8, 22˚.17S±0˚.03×176˚.37W±0˚.03, h155km±7km, mb4.8/150, Error ellipse: s-maj=5.9km s-min=3.4km az=144.1*

*NEIC **03** 20:49:14.3±0.1, 22˚.03S×176˚.32W, mb4.8/84, Error ellipse: s-maj=5.9km s-min=3.7km az=133.0*

*GCMT **03** 20:49:15.3±0.1, 22˚.09S±0˚.01×175˚.92W±0˚.01, h147km, MW5.5/128, Moment Tensor Solution. s110,c187; s128,c237; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr 0.93±.02; Mθθ 0.27±.03; Mϕϕ -1.20±.03; Mrθ -0.98±.02; Mrϕ -0.26±.03; Mθϕ -1.33±.02; Best double couple: M0 1.99700×10^17 NP1: ϕs 213.00000°, δ75.00000°, λ106.00000°. NP2: ϕs 344.00000°, δ22.00000°, λ44.00000°. Principal axes: T 1.9520, Plg57.0000°, Azm144.0000°; N 0.0910, Plg16.0000°, Azm28.0000°; P -2.0430, Plg28.0000°, Azm289.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*WEL **03** 20:49:28.7±1.4, 24˚.5S×173˚.4W±4˚.7, h247km±12km*

ISC 03 20:49:14.3±0.4, 22˚.06S±0˚.04×176˚.13W±0˚.05, h142km±3km, h142km=pP-P, n669, σ1§56/704, mb4.9/150, 60C-30D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
RIZ	**Raoul Island**	**7.34**	**192**	P		**Pn**	**20 50 58.6**	**-0.2**
RIZ				S		**Sn**	**20 52 20.3**	**-0.5**
RIZ	**Raoul Island**	**7.34**	**192**	P		**Pn**	**20 50 57.2**	**-1.7**
RIZ				S		**Sn**	**20 52 22.0**	**+1.2**
RAO	**Raoul Island**	**7.34**	**192**	P		**Pn**	**20 50 57.8**	**-1.1**
	38nm,0.3s,baz=60,slow=14,SNR=3.0							
RAO				S		**Sn**	**20 52 19.4**	**-1.5**
	241nm,0.3s,baz=86,slow=23,SNR=18							
GLKZ	**Green Lake**	**7.35**	**192**	P		**Pn**	**20 51 00.3**	**+1.3**
GLKZ				S		**Sn**	**20 52 19.6**	**-1.5**
GLKZ	**Green Lake**	**7.35**	**192**	P		**Pn**	**20 51 00.6**	**+1.6**
GLKZ				S		**Sn**	**20 52 18.1**	**-3.0**
AFI	**Afiamalu**	**9.10**	**28**	P		Pn	20 51 15.1	-7.6
	12nm,0.3s,baz=158,slow=6.6,SNR=9.1							
AFI				S		Sn	20 52 46.4	-17
	30nm,0.3s,baz=108,slow=20,SNR=3.8							
AFI	**Afiamalu**	**9.10**	**28**	*e*Pn		Pn	20 51 15.2	-7.5
AFI				*e*Sn		Sn	20 52 45.6	-18
AFI	**Afiamalu**	**9.10**	**28**	*e*P		Pn	20 51 15.2	-7.4
RAR	**Rarotonga**	**15.24**	**90**	P		**P**	**20 52 42.2**	**-1.5**
	13nm,0.3s,baz=259,slow=9.6,SNR=22							
RAR				S		**Sn**	**20 55 21.0**	**-10**
	13nm,0.3s,baz=116,slow=15,SNR=6.0							
RAR				LR		LR	20 57 43.0	
	comp=Z,777nm,18.8s,baz=244,slow=33							
RAR	**Rarotonga**	**15.24**	**90**	*e*Pn		**P**	**20 52 42.5**	**-1.3**
	144nm,0.6s							
RAR				*e*Sn		**Sn**	**20 55 20.6**	**-11**
RAR	**Rarotonga**	**15.24**	**90**	*e*P		**P**	**20 52 42.5**	**-1.3**
RAR				pmax		pmax		
	comp=Z,144nm,0.6s							
GRZ	**Great Barrier**	**15.92**	**206**	P		**Pn**	**20 52 52.2**	**+1.7**
WCZ	**Waipu Caves**	**16.13**	**209**	P		**P**	**20 52 55.3**	**+1.7**
DZM	**Mont Dzumac**	**16.15**	**267**	P		**Pn**	**20 52 56.0**	**+2.4**
	comp=Z,2.7nm,0.3s,baz=86,slow=16,SNR=35							
DZM				LR		LR	20 56 37.9	
	comp=Z,2μm,18.6s,baz=194,slow=28							
DZM	**Mont Dzumac**	**16.15**	**267**	*e*P		**Pn**	**20 52 55.4**	**+1.9**
	comp=Z,269nm,1.8s							
DZM				*e*LR		LR	20 56 22.2	
	comp=Z,2μm,24.8s							
DZM	**Mont Dzumac**	**16.15**	**267**	*e*Pn		**Pn**	**20 52 56.1**	**+2.6**
	comp=Z,64nm,0.8s							
MXZ	**Matakaoa Point**	**16.18**	**196**	P		**Pn**	**20 52 52.5**	**-1.1**
MXZ				S		S	20 55 37.1	-17
MXZ	**Matakaoa Point**	**16.18**	**196**	P		**Pn**	**20 52 49.7**	**-3.9**
MXZ				S		S	20 55 35.4	-19
WMGZ	**Waiomatatini S**	**16.40**	**195**	P		**Pn**	**20 52 54.2**	**-2.1**
WMGZ				S		S	20 55 43.5	-16
HAZ	**Te Kaha**	**16.50**	**197**	P		**P**	**20 52 53.3**	**-4.4**
WIAZ	**Waiheke Island**	**16.52**	**205**	P		**Pn**	**20 52 59.6**	**+1.8**
PUZ	**Puketiti**	**16.68**	**196**	P		**P**	**20 52 58.5**	**-1.1**
PUZ				S		S	20 55 46.9	-19
MWZ	**Matawai**	**17.11**	**197**	P		**P**	**20 53 04.1**	**-0.4**
MWZ				S		S	20 55 59.5	-16
URZ	**Urewera**	**17.16**	**198**	P		**P**	**20 53 04.4**	**-0.5**
	comp=Z,16nm,0.3s,baz=296,slow=2.3,SNR=50							
URZ				S		S	20 56 02.2	-14
	comp=Z,17nm,0.3s,baz=246,slow=20,SNR=6.2							
URZ				LR		LR	20 59 27.1	
	comp=Z,212nm,20.0s,baz=21,slow=36							
URZ	**Urewera**	**17.16**	**198**	*e*P		**P**	**20 53 04.3**	**-0.6**
	comp=Z,102nm,1.1s							
URZ				*e*S		S	20 56 02.2	-14
URZ	**Urewera**	**17.16**	**198**	P		**P**	**20 53 01.7**	**-3.2**
URZ				S		S	20 56 01.5	-15
TOZ	**Tahuroa Road**	**17.21**	**203**	P		**Pn**	**20 53 07.3**	**+1.2**
MUGZ	**Murupara**	**17.46**	**199**	P		**P**	**20 53 07.3**	**-0.9**
MUGZ				S		S	20 56 07.5	-15
RTZ	**Ruatahuna**	**17.53**	**198**	P		**P**	**20 53 07.

PPT **Papeete** 25.37 85 P P 20 54 29.5 +1.0
comp=Z,14nm,0.5s,baz=82,slow=9.0,SNR=4.5
PPT LR LR 21 01 50.3
comp=Z,518nm,21.1s,baz=262,slow=30
TIAR **Tiarei** 25.58 85 *e*P P 20 54 31.2 +0.7
comp=Z,11nm,1.0s
TIAR **Tiarei** 25.58 85 *e*T T 21 19 56.4
comp=Z,4.0nm,0.3s
TVO **Taravao** 25.61 85 *e*T T 21 19 56.4
comp=Z,3.8nm,0.3s
WKZ **Wanaka** 25.79 205 *e*P P 20 54 31.2 -0.8
comp=Z,100nm,1.2s
HNR **Honiara** 26.17 295 P P 20 54 32.9 -2.8
comp=Z,67nm,0.5s,baz=222,slow=9.0,SNR=6.8
MLZ **Mavora Lakes** 26.59 205 *e*P P 20 54 40.0 +0.8
comp=Z,58nm,0.9s
WHZ **Wether Hill Ro** 27.09 205 *e*P P 20 54 44.3 +0.6
comp=Z,51nm,0.8s
ARMA **Armidale** 30.01 247 P P 20 55 10.5 +0.6
baz=30,SNR=7.6
ARMA **Armidale** 30.01 247 *e*P P 20 55 09.8 -0.2
comp=Z,19nm,0.8s
EIDS **Eidsvold** 30.16 257 P P 20 55 11.1 0.0
baz=30,SNR=8.2
EIDS **Eidsvold** 30.16 257 *e*P P 20 55 11.1 0.0
comp=Z,12nm,0.5s
MGCD **Mangrove Creek** 30.95 242 P P 20 55 19.0 +0.9
baz=31,SNR=29
RMQ **Roma** 32.24 255 P P 20 55 30.5 +1.0
baz=32,SNR=9.8
CNB **Canberra Magne** 32.85 239 P P 20 55 35.7 +1.0
baz=33,SNR=18
CAN **Canberra** 33.14 239 *e*P P 20 55 37.7 +0.5
comp=Z,24nm,0.6s
CAN **Canberra** 33.14 239 *e*P P 20 55 37.7 +0.5
CAN pmax pmax
comp=Z,24nm,0.6s
YNG **Young** 33.39 241 P P 20 55 40.8 +1.3
baz=34,SNR=9.0
MILA **Mila** 33.48 236 P P 20 55 40.6 +0.5
baz=34,SNR=22
CTA **Charters Tower** 35.10 266 P P 20 55 54.2 0.0
comp=Z,50nm,0.4s,baz=93,slow=11,SNR=211
CTAO **Charters Tower** 35.10 266 *e*P P 20 55 54.4 +0.2
comp=Z,64nm,0.6s
CTAO **Charters Tower** 35.10 266 *e*P P 20 55 54.4 +0.2
CTAO pmax pmax
comp=Z,64nm,0.6s
CMSA **Cobar Meteorol** 35.21 246 P P 20 55 54.7 -0.3
baz=35,SNR=62
QLP **Quilpie** 36.30 255 P P 20 56 04.0 -0.4
baz=36,SNR=43
TOO **Toolangi** 36.43 236 P P 20 56 05.6 +0.1
baz=36,SNR=42
TOO **Toolangi** 36.43 236 P P 20 56 05.1 -0.4
TOO pmax pmax
comp=Z,19nm,1.1s
MOO **Moorlands** 36.70 228 P P 20 56 08.2 +0.6
baz=37,SNR=3.9
TAOE **Nuku Hiva Isla** 36.97 75 *e*LR LR 21 06 09.7
comp=Z,1µm,30.0s
TAOE **Nuku Hiva Isla** 36.97 75 *e*T T 21 34 01.6
comp=Z,20nm,0.2s
RKT **Rikitea** 37.93 100 *e*LQ LQ 21 05 12.7
comp=Z,1µm,26.5s
RKT *e*LR LR 21 06 49.0
comp=Z,1µm,28.2s
RKT **Rikitea** 37.93 100 *e*T T 21 35 43.0
comp=Z,8.7nm,0.3s
STKA **Stephens Creek** 38.72 246 P P 20 56 24.6 -0.1
comp=Z,27nm,0.6s,baz=94,slow=11,SNR=81
STKA S S 21 02 12.7 +1.4
comp=Z,1.5nm,0.6s,baz=106,slow=15,SNR=2.8
STKA LR LR 21 09 27.4
comp=Z,293nm,20.6s,baz=79,slow=32
STKA **Stephens Creek** 38.72 246 P P 20 56 24.6 -0.1
baz=39,SNR=83
STKA **Stephens Creek** 38.72 246 *e*P P 20 56 24.2 -0.5
comp=Z,6.1nm,0.6s
STKA *e* 21 09 27.4
ARPS **Mount Arapiles** 39.12 238 P P 20 56 27.6 -0.4
baz=39,SNR=14
COEN **Coen** 39.43 275 P P 20 56 30.6 -0.2
baz=39,SNR=19
COEN **Coen** 39.43 275 *e*P P 20 56 30.5 -0.4
comp=Z,63nm,1.1s
HTT **Hallett** 41.08 244 P P 20 56 43.5 -0.7
baz=41,SNR=25
QIS **Mount Isa** 41.16 264 P P 20 56 44.0 -1.0
baz=41,SNR=18
BBOO **Buckleboo** 43.45 245 P P 20 57 02.1 -1.3
baz=44,SNR=64
BBOO **Buckleboo** 43.45 245 *e*P P 20 57 02.1 -1.3
comp=Z,31nm,0.6s
AS01 **Alice Springs** 45.84 258 *e*P P 20 57 21.5 -1.0
AS01 *e*PcP PcP 20 58 57.0 -0.6
AS31 **Alice Springs** 45.88 258 *e*P P 20 57 21.9 -0.9
comp=Z,12nm,0.7s
AS31 *e*PcP PcP 20 58 57.2 -0.5
AS31 *e*ScP ScP 21 02 40.5 +2.8
AS31 *e*S S 21 03 51.5 -5.2
ASAR **Alice Springs** 45.88 258 P P 20 57 21.9 -0.9
comp=Z,54nm,0.9s,baz=96,slow=7.1,SNR=161
ASAR PcP PcP 20 58 57.9 +0.2
comp=Z,8.3nm,0.5s,baz=106,slow=3.7,SNR=12
ASAR ScP ScP 21 02 40.5 +2.8
comp=Z,1.7nm,0.7s,baz=112,slow=4.4,SNR=6.1
ASAR S S 21 03 51.5 -5.2
comp=Z,0.4nm,0.5s,baz=97,slow=14,SNR=4.1
WB2 **Warramunga Arr** 46.12 263 *e*P P 20 57 22.6 -2.1
WB2 *e*PcP PcP 20 58 58.4 -0.1
WRAB **Tennant Creek** 46.12 263 *e*P P 20 57 22.8 -1.9
comp=Z,33nm,1.0s
WRAB *e*PcP PcP 20 58 58.8 +0.2
WRAB **Tennant Creek** 46.12 263 *de*P P 20 57 23.2 -1.5
WRAB pmax pmax
comp=Z,39nm,1.3s
WR1 **Warramunga Arr** 46.13 263 *e*P P 20 57 23.3 -1.5
comp=Z,28nm,0.7s
WR1 *e*PcP PcP 20 58 58.9 +0.3
WR1 *e*ScP ScP 21 02 41.6 +2.9
WR1 *e*S S 21 03 54.2 -6.0
WRA **Warramunga Arr** 46.13 263 P P 20 57 23.3 -1.5
comp=Z,13nm,0.4s,baz=96,slow=7.4,SNR=429
WRA PcP PcP 20 58 58.9 +0.3
comp=Z,9.2nm,0.7s,baz=95,slow=3.6,SNR=11
WRA ScP ScP 21 02 41.6 +2.9
comp=Z,2.8nm,0.8s,baz=94,slow=3.9,SNR=8.8
WRA S S 21 03 54.2 -6.0
comp=Z,0.6nm,0.6s,baz=103,slow=13,SNR=8.8
JAY **Jayapura** 46.19 289 P P 20 57 24.2 -1.1
JAY pmax pmax
comp=Z,42nm,0.6s
JAY **Jayapura** 46.19 289 P P 20 57 23.5 -1.8
comp=Z,556nm,1.0s,comp=Z,6µm
GENI **Genyem** 46.62 288 P P 20 57 26.6 -2.1
comp=Z,76nm,0.7s
SMPI **Sarmi** 48.19 288 P P 20 57 38.7 -2.1
comp=Z,49nm,0.5s
KDU **Kakadu** 49.73 272 P P 20 57 51.0 -1.6
baz=50,SNR=19
FORT **Forrest** 50.30 248 P P 20 57 55.2 -1.4
baz=50,SNR=87
FORT **Forrest** 50.30 248 *e*P P 20 57 55.0 -1.6
comp=Z,153nm,0.8s
WRKA **Warakurna** 50.73 255 P P 20 57 58.4 -1.6
baz=51,SNR=194
MTN **Manton Dam** 50.93 271 *e*P P 20 57 59.5 -2.0
comp=Z,19nm,0.6s
KNRA **Kununurra** 52.30 267 P P 20 58 10.5 -1.2
baz=52,SNR=19
FAKI **Fak Fak** 53.55 283 P P 20 58 18.5 -2.4
comp=Z,25nm,1.3s
FITZ **Fitzroy Crossi** 54.56 263 P P 20 58 27.2 -1.1
baz=54,SNR=119
FITZ **Fitzroy Crossi** 54.56 263 *e*P P 20 58 27.1 -1.1
comp=Z,24nm,0.6s
BNDI **Bandanaira** 55.02 280 P P 20 58 30.3 -1.2
comp=Z,162nm,0.8s
SWI **Sorong** 55.33 285 P P 20 58 32.7 -1.0
SWI pmax pmax
comp=Z,76nm,1.0s
SWI **Sorong** 55.33 285 P P 20 58 32.0 -1.7
comp=Z,64nm,0.7s
MSAI **Masohi** 56.38 281 P P 20 58 39.7 -1.6
comp=Z,13nm,0.6s

SBA **Scott Base** 56.45 184 P P 20 58 44.8 +4.1
SBA pmax pmax
comp=Z,56nm,2.3s
VNDA **Vanda** 56.53 186 P P 20 58 44.1 +2.8
comp=Z,3.8nm,0.7s,baz=12,slow=7.7,SNR=20
PALU **Palau** 56.53 295 P P 20 58 41.9 -0.4
baz=56,SNR=5.9
AAI **Ambon** 56.91 280 P P 20 58 44.7 -0.3
AAI pmax pmax
comp=Z,58nm,0.6s
AAI **Ambon** 56.91 280 P P 20 58 44.5 -0.5
comp=Z,58nm,0.5s
SOEI **Soe** 58.29 272 *e*P P 20 58 54.9 +0.1
comp=Z,60nm,0.8s
SOEI **Soe** 58.29 272 P P 20 58 53.9 -0.9
comp=Z,89nm,0.8s,comp=Z,1µm
BATI **Baumata** 58.70 271 P P 20 58 56.6 -0.9
comp=Z,22nm,0.7s
LBMI **Labuha** 58.81 283 P P 20 58 57.0 -1.3
comp=Z,74nm,0.8s,comp=Z,3µm
KLBR **Kellerberrin** 58.99 246 P P 20 58 58.2 -1.1
baz=59,SNR=11
MEEK **Meekatharra** 59.06 251 P P 20 58 58.7 -1.2
baz=59,SNR=11
MBWA **Marble Bar** 59.22 258 *e*P P 20 58 59.4 -1.7
comp=Z,60nm,1.1s
NWAO **Narrogin (SRO)** 59.24 244 P P 20 59 00.3 -0.7
baz=59,SNR=5.2
TNTI **Ternate** 59.54 285 P P 20 59 01.9 -1.4
comp=Z,48nm,1.0s,comp=Z,1µm
SANI **Sanana** 59.59 281 P P 20 59 01.1 -2.5
comp=Z,56nm,1.1s,comp=Z,718nm
BLDU **Ballidu** 60.02 247 P P 20 59 05.3 -1.1
baz=60,SNR=24
MUN **Mundaring** 60.23 245 P P 20 59 07.3 -0.5
baz=60,SNR=5.2
MMRI **Mare** 60.56 272 P P 20 59 08.5 -1.7
comp=Z,39nm,0.5s
MORW **Morawa** 60.86 248 P P 20 59 11.0 -1.1
baz=61,SNR=13
EDFI **Ende, Flores** 61.02 272 P P 20 59 11.6 -1.9
comp=Z,39nm,0.9s,comp=Z,462nm
WBSI **Waikabubak, Su** 62.85 270 P P 20 59 23.9 -1.8
comp=Z,25nm,0.8s,comp=Z,616nm
LUWI **Luwuk** 62.93 281 P P 20 59 24.9 -1.2
comp=Z,42nm,1.2s,comp=Z,1µm
CASY **Casey** 63.31 206 *e*P P 20 59 28.8 +1.0
comp=Z,39nm,0.8s
GIRL **Giralia** 63.82 255 P P 20 59 31.2 -0.7
baz=64,SNR=7.3
APSI **Ampana** 64.01 280 P P 20 59 32.0 -1.2
comp=Z,11nm,1.0s,comp=Z,573nm
BNSI **Bone** 64.06 276 P P 20 59 32.2 -1.4
comp=Z,15nm,1.0s
PLAI **Plampang** 64.63 271 P P 20 59 35.5 -1.8
comp=Z,49nm,0.9s,comp=Z,588nm
TWSI **Taliwang, Sumb** 65.49 270 P P 20 59 41.7 -1.1
comp=Z,29nm,0.8s,comp=Z,613nm
MPSI **Mapaga** 66.11 281 P P 20 59 45.2 -1.6
comp=Z,8.5nm,1.0s,comp=Z,280nm
IGBI **Denpasar** 67.07 270 P P 20 59 51.8 -1.1
comp=Z,196nm,0.5s,comp=Z,3µm
QSPA **South Pole Qui** 68.02 180 *e*P P 21 00 00.1 +1.9
comp=Z,28nm,1.0s
KMMI **Kalianget** 68.78 271 P P 21 00 02.4 -1.2
comp=Z,18nm,1.1s
GMJI **Gumukmas** 68.84 269 P P 21 00 02.5 -1.4
comp=Z,22nm,1.0s
JHJ **Hachijo jima 2** 69.13 321 LR LR 21 23 20.0
comp=Z,90nm,21.4s,baz=110,slow=30
MYLDM **Lahad Datu** 69.41 285 *e*P P 21 00 07.3 -0.2
comp=Z,11nm,1.1s
MIR **Mirnyy** 70.33 205 ↓*i*P P 21 00 14.0 +1.9
MIR *i* 21 00 40.0
MIR pmax pmax
comp=Z,182nm,2.0s
PWJI **Pagerwojo** 70.44 269 P P 21 00 12.4 -1.4
comp=Z,35nm,0.5s
PCJI **Pacitan** 70.97 269 P P 21 00 15.5 -1.5
comp=Z,147nm,0.5s
WOJI **Wonogiri, Jawa** 71.33 269 P P 21 00 17.9 -1.2
comp=Z,26nm,0.9s
UGM **Wanagama** 71.67 269 P P 21 00 19.8 -1.5
comp=Z,102nm,0.8s
MJAR **Matsushiro Arr** 72.49 323 P P 21 00 23.8 -1.8
comp=Z,6.6nm,0.5s,baz=164,slow=6.2,SNR=55
MAJO **Matsushiro** 72.49 323 *e*P P 21 00 23.3 -2.3
comp=Z,9.5nm,0.6s
MAJO **Matsushiro** 72.49 323 *ce*P P 21 00 24.3 -1.3
MAJO pmax pmax
comp=Z,8.0nm,0.6s
MAT **Matsushiro** 72.49 323 P P 21 00 24.1 -1.5
MAT S S 21 09 37.0 -1.4
JOW **Kunigami** 72.50 309 LR LR 21 25 41.2
comp=Z,87nm,21.8s,baz=41,slow=30
JOW **Kunigami** 72.50 309 *e*P P 21 00 25.2 -0.6
comp=Z,40nm,1.3s
KPJI **Karang Pucung** 73.35 269 P P 21 00 29.5 -1.7
comp=Z,39nm,0.5s
CISI **Cisompet, Garu** 74.31 268 P P 21 00 35.1 -1.7
comp=Z,24nm,1.2s
LEM **Lembang** 74.75 269 LR LR 21 33 09.6
comp=Z,172nm,20.5s,baz=109,slow=35
LEM **Lembang** 74.75 269 P P 21 00 40.1 +0.6
LEM pmax pmax
comp=Z,23nm,0.7s
LEM **Lembang** 74.75 269 P P 21 00 38.9 -0.6
comp=Z,371nm,0.7s
CGJI **Cibinong** 76.61 268 P P 21 00 48.1 -1.8
comp=Z,46nm,0.5s,comp=Z,570nm
SCZ2 **Santa Cruz Isl** 77.43 45 P P 21 00 55.6 +1.6
baz=232
PKM **Mcpherson Peak** 77.86 44 P P 21 00 58.6 +2.0
baz=232
SMMC **Simmler** 78.00 44 P P 21 00 59.6 +2.4
baz=232
KASI **Kota Agung** 78.11 269 P P 21 00 56.6 -1.6
comp=Z,23nm,1.0s
PETK **Petropavlovsk-** 78.22 344 P P 21 00 56.9 -1.1
comp=Z,4.9nm,0.6s,baz=137,slow=5.7,SNR=11
PETK LR LR 21 32 39.2
comp=Z,72nm,18.7s,baz=153,slow=33
PEA1 **Petropavlovsk-** 78.23 344 *e*P P 21 00 56.9 -1.1
PEA1 *e* 21 32 39.2
MDSI **Maura Dua** 78.78 270 P P 21 00 58.6 -3.3
MURC **Murrieta** 78.82 47 P P 21 01 02.9 +1.2
baz=234
KMRM **Mail Ridge** 78.87 38 *e*P P 21 01 03.8 +1.9
comp=Z,23nm,0.7s
BFSC **Mount Baldy Ra** 78.89 46 P P 21 01 02.9 +0.7
baz=234
VES **Vestal, Richgr** 78.91 44 P P 21 01 03.2 +1.1
baz=232
MONP2 **Monument Peak** 78.94 48 P P 21 01 03.5 +0.9
baz=235
IKP **In-Ko-Pah, Jac** 79.02 48 P P 21 01 04.0 +1.1
baz=235,SNR=5.2
EDW2 **Edwards Air Fo** 79.05 45 P P 21 01 04.1 +1.1
baz=233,SNR=12
FRD **Ford Ranch, An** 79.16 47 P P 21 01 04.7 +1.1
baz=234,SNR=8.2
PMSA **Palmer Station** 79.17 156 *e*P P 21 01 05.1 +2.0
comp=Z,20nm,1.1s
ISA **Isabella, Lake** 79.20 44 *e*P P 21 01 04.5 +0.7
comp=Z,9.3nm,1.1s
ISA **Isabella, Lake** 79.20 44 *e*P P 21 01 04.5 +0.7
ISA pmax pmax
comp=Z,9.0nm,1.1s
ISA **Isabella, Lake** 79.20 44 P P 21 01 05.0 +1.2
baz=233,SNR=11
KSRS **Korea Array** 79.20 318 P P 21 01 03.0 -0.6
comp=Z,3.0nm,1.0s,baz=129,slow=7.3,SNR=6.4
KSRS LR LR 21 31 01.9
comp=Z,61nm,22.0s,baz=126,slow=32
KSRS **Korea Array** 79.20 318 P P 21 01 03.0 -0.6
KSRS pmax pmax
comp=Z,3.0nm,1.0s
KSRS MLR MLR
comp=Z,61nm,22.0s
KS15 **Wonju Array Si** 79.22 318 *e*P P 21 01 02.5 -1.2
KSAR **Wonju Array Be** 79.22 318 P P 21 01 03.0 -0.7
KSAR **Wonju Array Be** 79.22 318 P P 21 01 03.0 -0.7
PFO **Pinyon Flats O** 79.33 47 P P 21 01 05.6 +1.0
baz=235
TPFO **Pinon Flats** 79.33 47 P P 21 01 05.6 +1.0
baz=235
O02D **Mt. Diablo Mer** 79.37 39 P P 21 01 06.3 +1.7
baz=229

CMB **Columbia Colle** 79.44 42 *e*P P 21 01 05.5 +0.5
comp=Z,5.4nm,1.0s
CMB **Columbia Colle** 79.44 42 *e*P P 21 01 05.5 +0.5
CMB pmax pmax
comp=Z,5.0nm,1.0s
LRMC **Laurel Mtn Rad** 79.61 45 P P 21 01 07.2 +1.1
baz=234
AFDM **Forest Hills D** 79.66 41 *e*P P 21 01 06.7 +0.5
comp=Z,6.5nm,1.1s
BELC **Belle Mtn. Jos** 79.87 47 P P 21 01 08.7 +1.1
baz=235,SNR=12
CWC **Cottonwood Cre** 79.92 44 P P 21 01 09.3 +1.5
baz=233
N02D **Trinity Center** 79.94 38 P P 21 01 09.1 +1.4
baz=229
MDPB **Devils Postpil** 80.01 43 *e*pP pP 21 01 46.3 +2.6
O03E **Paynes Creek** 80.03 39 P P 21 01 09.7 +1.5
baz=230
BC3 **Big Chuckawall** 80.04 48 P P 21 01 09.9 +1.4
baz=235
OMMB **Old Mammoth Mi** 80.04 43 *e*P P 21 01 08.9 +0.3
comp=Z,6.1nm,1.4s
MPMC **Manual Prospec** 80.08 45 P P 21 01 09.8 +1.1
baz=234,SNR=10
GSC **Goldstone, Bar** 80.08 46 P P 21 01 09.7 +1.1
baz=234
M02C **Callahan** 80.13 38 P P 21 01 10.2 +1.5
baz=229,SNR=5.6
WAKR **Walker** 80.32 42 *e*P P 21 01 10.7 +0.7
comp=Z,4.7nm,0.7s
WAKR *e*pP pP 21 01 46.6 +1.3
YBH **Yreka Blue Hor** 80.44 38 P P 21 01 11.6 +1.3
comp=Z,7.4nm,0.6s,baz=308,slow=0.6,SNR=29
YBH **Yreka Blue Hor** 80.44 38 *e*P P 21 01 11.5 +1.1
comp=Z,7.9nm,0.8s
IRM **Iron Mountain** 80.54 47 P P 21 01 12.3 +1.3
baz=235,SNR=5.9
K02D **Willamette Mer** 80.54 36 P P 21 01 13.2 +2.4
baz=228
GMRC **Granite Mounta** 80.55 47 P P 21 01 12.5 +1.4
baz=235
PNTR **Pine Nut** 80.58 41 *e*P P 21 01 12.6 +1.2
comp=Z,11nm,0.6s
BEKR **Beckworth** 80.61 40 *e*P P 21 01 12.3 +0.9
comp=Z,4.7nm,0.7s
VCNR **Virginia City** 80.68 41 *e*P P 21 01 11.9 +0.1
comp=Z,4.4nm,0.8s
VCNR *e*pP pP 21 01 47.3 0.0
MAW **Mawson** 80.69 199 P P 21 01 12.7 +1.5
comp=Z,13nm,0.8s,baz=132,slow=7.4,SNR=30
MAW **Mawson** 80.69 199 P P 21 01 12.9 +1.7
baz=81,SNR=17
MAW **Mawson** 80.69 199 *e*P P 21 01 12.9 +1.7
comp=Z,3.7nm,0.8s
FURC **Furnace Creek,** 80.72 45 P P 21 01 13.7 +1.8
baz=234
Y12C **Blythe** 80.73 48 P P 21 01 13.3 +1.4
baz=236
YERR **Yerington** 80.74 41 *e*P P 21 01 13.1 +1.0
comp=Z,7.0nm,0.5s
YERR *e*pP pP 21 01 48.0 +0.4
TUQ **Turquoise Moun** 80.74 46 P P 21 01 13.3 +1.1
baz=235,SNR=5.7
NV01 **Mina Array Sit** 80.98 42 *e*P P 21 01 14.0 +0.6
NV01 *e*pP pP 21 01 48.9 0.0
NVAR **Mina Array Bea** 80.98 42 P P 21 01 14.4 +0.9
comp=Z,2.0nm,0.6s,baz=224,slow=8.3,SNR=24
NVAR LR LR 21 31 11.5
comp=Z,60nm,18.9s,baz=242,slow=31
L04D **Klamath Falls** 80.98 37 P P 21 01 14.4 +1.1
baz=229,SNR=6.3
NV11 **Mina Array Sit** 81.07 42 *e*P P 21 01 14.4 +0.5
comp=Z,0.8nm,1.4s
NV11 *e*pP pP 21 01 50.2 +0.9
PAHR **Pah Rah Range** 81.09 41 *e*P P 21 01 14.8 +0.8
comp=Z,3.6nm,0.8s
PAHR *e*pP pP 21 01 50.2 +0.8
USRK **Ussuriysk Ar.** 81.23 325 P P 21 01 13.7 -0.6
comp=Z,6.6nm,0.9s,baz=114,slow=3.7,SNR=6.6
USRK LR LR 21 31 43.0
comp=Z,51nm,19.6s,baz=123,slow=32
PDMCI **Parker Dam,Lak** 81.31 48 P P 21 01 16.9 +1.9
baz=236
TPNV **Topopah Spring** 81.41 44 *e*P P 21 01 16.6 +0.9
comp=Z,7.1nm,0.6s
TPNV **Topopah Spring** 81.41 44 *e*P P 21 01 16.6 +0.9
TPNV pmax pmax
comp=Z,7.0nm,0.6s
TPNV **Topopah Spring** 81.41 44 P P 21 01 16.7 +1.0
baz=234,SNR=10
J04D **Umpqua Nationa** 81.76 37 P P 21 01 18.3 +0.9
baz=229
Y14A **Wickenburg** 81.89 49 *e*P P 21 01 19.1 +0.9
comp=Z,6.9nm,0.6s
KDAK **Kodiak Island** 81.94 12 P P 21 01 17.7 0.0
comp=Z,10nm,0.9s,baz=243,slow=11,SNR=3.2
I04A **Tendick Farm,** 81.95 36 P P 21 01 20.3 +2.1
baz=229
K05A **Summer Lake** 82.11 38 *e*P P 21 01 19.9 +0.6
comp=Z,27nm,1.3s
NJ2 **Nanjing** 82.21 309 *e*P P 21 01 20.2 +0.5
NJ2 pmax pmax
comp=Z,26nm,0.5s
H04D **Lebanon** 82.25 35 P P 21 01 22.4 +2.7
baz=229
J05D **Fort Rock, OR** 82.27 37 P P 21 01 21.2 +1.2
baz=230,SNR=7.8
TUC **Tucson** 82.59 51 P P 21 01 23.6 +1.7
TUC pmax pmax
comp=Z,13nm,0.9s
TUC **Tucson** 82.59 51 P P 21 01 23.5 +1.7
baz=238
R11A **Troy Canyon, C** 82.65 44 *e*P P 21 01 22.8 +0.6
comp=Z,2.2nm,1.0s
R11A **Troy Canyon, C** 82.65 44 P P 21 01 23.5 +1.3
baz=235
PINE **Pine Mountain** 82.76 37 *e*P P 21 01 23.9 +1.3
comp=Z,22nm,1.4s
PINE *e*pP pP 21 01 59.1 +0.8
MDJ **Mudanjiang** 82.79 324 P P 21 01 23.5 +1.0
MDJ pP pP 21 01 51.0 -7.1
MDJ pmax pmax
comp=Z,13nm,1.1s
MDJ pmax pmax
comp=Z,250nm,3.5s
MDJ **Mudanjiang** 82.79 324 *e*P P 21 01 21.2 -1.2
comp=Z,15nm,1.2s
BMN **Battle Mountai** 82.85 41 *e*P P 21 01 23.5 +0.4
comp=Z,6.3nm,1.0s
BMN *e*pP pP 21 01 59.9 +1.2
BMN **Battle Mountai** 82.85 41 *e*P P 21 01 23.5 +0.4
BMN *e**PP pP 21 01 59.9 +1.2
BMN pmax pmax
comp=Z,6.0nm,1.0s
I05D **Terrebonne, OR** 82.89 36 P P 21 01 24.6 +1.5
baz=230
WVOR **Wild Horse Val** 83.22 39 *e*P P 21 01 25.6 +0.7
comp=Z,18nm,1.4s
WVOR *e*pP pP 21 02 01.2 +0.6
WVOR **Wild Horse Val** 83.22 39 *e*P P 21 01 25.7 +0.7
WVOR *e**PP pP 21 02 01.2 +0.6
WVOR pmax pmax
comp=Z,18nm,1.4s
G05D **Wamic, OR** 83.49 36 P P 21 01 28.4 +2.2
baz=230
E04D **Cinebar** 83.69 34 P P 21 01 28.8 +1.8
baz=229
KNB **Kanab** 83.70 46 *e*P P 21 01 28.9 +1.3
comp=Z,8.7nm,0.9s
KNB **Kanab** 83.70 46 *e*P P 21 01 28.9 +1.3
KNB pmax pmax
comp=Z,9.0nm,0.9s
U15A **North Rim** 83.74 47 *e*P P 21 01 29.2 +1.3
comp=Z,17nm,0.6s
G06A **Carlson Farm,** 83.85 36 *e*P P 21 01 29.0 +1.0
comp=Z,9.3nm,1.3s
WUAZ **Wupatki** 83.87 48 P P 21 01 29.9 +1.4
baz=238
J08A **Circle Bar Ran** 83.88 38 *e*P P 21 01 29.0 +0.7
comp=Z,7.5nm,0.6s
J08A *e*pP pP 21 02 04.0 +0.1
X18A **Snowflake** 84.34 49 *e*P P 21 01 32.2 +1.3
comp=Z,10nm,0.7s
CN2 **Changchun** 84.59 322 *e*P P 21 01 40.4 +8.7
CN2 *e*pP pP 21 02 09.2 +1.8
CN2 **Changchun** 84.59 322 SKS S 21 11 50.4 +3.6
CN2 **Changchun** 84.59 322 *e*SS SS 21 17 32.8 +11

CN2 pmax pmax
comp=Z,10.0nm,1.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
KLR Kul'dur 84.75 329⇑ *iP* **P 21 01 32.7 +0.4**
W18A Petrified Fore 84.80 49 P **P 21 01 34.9 +1.7**
baz=239
G08A Pilot Rock 84.81 37 *eP* **P 21 01 33.4 +0.5**
comp=Z,8.7nm,1.1s
G08A *epP* **pP 21 02 09.0 +0.4**
121A Cookes Peak, D 84.88 52 P **P 21 01 34.9 +1.3**
baz=240
IPM Ipoh 85.05 277 *eP* **P 21 01 34.0 -0.7**
comp=Z,15nm,0.7s
B05A Bryant 85.05 33 P **P 21 01 35.0 +1.2**
baz=229
LTY Liberty 85.13 34 *eP* **P 21 01 34.5 +0.1**
comp=Z,4.6nm,0.8s
HAWA Hanford 85.18 35 *eP* **P 21 01 35.2 +0.6**
comp=Z,12nm,1.5s
HAWA *epP* **pP 21 02 11.0 +0.7**
DUG Dugway, Tooele 85.47 43 P **P 21 01 37.1 +0.8**
baz=236
SYO Syowa Base 85.59 192⇓ *eP* **P 21 01 36.4 +0.1**
SYO Syowa Base 85.59 192⇑ *ePcP* **PcP 21 01 40.7 +1.7**
GLI Glacier Island 85.92 14 *eP* **P 21 01 38.5 +0.6**
comp=Z,26nm,0.7s
TMUT Trail Mountain 86.01 45 *eP* **P 21 01 40.4 +1.2**
comp=Z,11nm,0.7s
MNTX Cornudas Mount 86.25 54 *eP* **P 21 01 40.9 +0.7**
comp=Z,6.6nm,0.7s
MNTX Cornudas Mount 86.25 54 P **P 21 01 41.5 +1.3**
baz=241
GHO Glory Hole Cre 86.34 13 *eP* **P 21 01 40.0 0.0**
comp=Z,24nm,0.6s
PSI Prapat 86.36 274 LR LR 21 42 37.8
comp=Z,104nm,19.2s,baz=90,slow=37
PSI Prapat 86.36 274 *eP* **P 21 01 39.5 -1.8**
comp=Z,18nm,1.1s
PSI Prapat 86.36 274 *eP* **P 21 01 39.5 -1.8**
PSI pmax pmax
comp=Z,18nm,1.1s
SRU San Rafael Swe 86.36 45 *eP* **P 21 01 41.5 +0.7**
comp=Z,10nm,0.7s
SRU San Rafael Swe 86.36 45 *eP* **P 21 01 41.5 +0.7**
SRU pmax pmax
comp=Z,10.0nm,0.7s
HLID Hailey 86.38 40 P **P 21 01 41.8 +0.9**
baz=235
SNAA Sanae 86.41 178 P **P 21 01 41.0 +0.5**
SNAA Sanae 86.41 178 *eP* **P 21 01 40.8 +0.3**
comp=Z,19nm,1.5s
SNAA Sanae 86.41 178 *ceP* **P 21 01 41.4 +1.0**
LTX Lajitas 86.44 57 *eP* **P 21 01 42.7 +1.4**
LTX Lajitas 86.44 57 *eP* **P 21 01 42.7 +1.4**
TX31 Lajitas Ar. Si 86.44 57 *eP* **P 21 01 41.7 +0.3**
TX31 *epP* **pP 21 02 18.8 +1.6**
TXAR Lajitas Array 86.44 57 P **P 21 01 42.7 +1.3**
comp=Z,4.2nm,0.6s,baz=213,slow=8.3,SNR=37
VNA3 Neumayer Olymp 86.47 176 P **P 21 01 41.7 +1.0**
MVCO Mesa Verde 86.73 48 P **P 21 01 43.3 +0.5**
baz=239
VNA2 Neumayer--Watz 86.93 176 P **P 21 01 44.1 +1.2**
baz=184,slow=3.8
PLCA Paso Flores 86.94 133 P **P 21 01 45.7 +2.0**
comp=Z,3.7nm,0.8s,baz=292,slow=6.5,SNR=4.3
PLCA LR LR 21 33 53.2
comp=Z,138nm,19.7s,baz=292,slow=31
PLCA Paso Flores 86.94 133 *eP* **P 21 01 45.4 +1.7**
comp=Z,11nm,1.1s
PLCA Paso Flores 86.94 133 *eP* **P 21 01 45.4 +1.7**
PLCA pmax pmax
comp=Z,11nm,1.1s
ANMO Albuquerque 87.03 50⇑ *iP* **P 21 01 44.9 +0.7**
ANMO pmax pmax
comp=Z,13nm,2.5s
ANMO Albuquerque 87.03 50 P **P 21 01 45.0 +0.8**
baz=241
VNA1 Neumayer--Stat 87.15 176 P **P 21 01 44.8 +0.9**
GDL2 Guadalupe Moun 87.25 54 *eP* **P 21 01 45.8 +0.6**
NVL N'lazarevskaya 87.26 183 *eP* P 21 01 58.9 +14
NVL *eS* **S 21 12 19.6 +7.5**
NVL pmax pmax
comp=Z,10.0nm,0.7s
TRTT Trang 87.55 279 P **P 21 01 48.8 +1.9**
TRF Thorofare Moun 87.61 11 *eP* **P 21 01 45.7 -0.5**
comp=Z,27nm,0.7s
TRF *epP* **pP 21 02 22.7 +0.5**
NEW Newport 87.63 35 P **P 21 01 47.5 +1.0**
baz=233
S22A 4UR Ranch, Cre 88.15 48 *eP* **P 21 01 50.2 +0.7**
comp=Z,8.5nm,1.2s
S22A 4UR Ranch, Cre 88.15 48 P **P 21 01 50.3 +0.7**
baz=240
SEY Seymchan 88.29 346⇑ *eP* **P 21 01 47.8 -1.4**
O20A White River Ci 88.40 45 P **P 21 01 51.3 +0.8**
baz=239
PATY Pattaya 88.44 285 P **P 21 01 55.1 +4.1**
DLMT Dillon 88.47 39 *eP* **P 21 01 51.9 +1.1**
comp=Z,5.2nm,1.1s
CMIG Matias Romero 88.52 71 P **P 21 01 52.1 +0.8**
comp=Z,4.5nm,0.9s,baz=231,slow=6.3,SNR=6.5
MSO Missoula 88.53 37 P **P 21 01 51.6 +0.7**
baz=235
EFI East Falkland 88.83 147 *eP* **P 21 01 52.1 -0.2**
EFI East Falkland 88.83 147 *eP* **P 21 01 52.1 -0.2**
BW06 Boulder Array 88.91 43 P **P 21 01 53.5 +0.5**
baz=238
PDAR Pinedale Array 88.91 43 P **P 21 01 53.4 +0.4**
comp=Z,1.9nm,0.6s,baz=210,slow=4.3,SNR=22
PDAR Pinedale Array 88.91 43 *eP* **P 21 01 52.5 -0.5**
GYA Guiyang 88.93 299 *eP* **P 21 01 54.0 +0.7**
GYA pP pP 21 02 22.4 -6.9
GYA sP sP 21 02 34.3 -10
GYA PP **PP 21 05 27.0 +2.0**
GYA SKS **SKSac 21 12 11.9 +1.9**
GYA S **S 21 12 30.2 +0.6**
GYA pmax pmax
comp=Z,10.0nm,1.0s
WRH Wood River Hil 88.95 12 *eP* **P 21 01 52.3 0.0**
comp=Z,39nm,1.4s
SDCO Great Sand Dun 89.07 48 *eP* **P 21 01 54.3 +0.4**
comp=Z,1.8nm,0.6s
SDCO Great Sand Dun 89.07 48 P **P 21 01 54.9 +1.0**
baz=241
HDA Harding Lake 89.12 12 *eP* **P 21 01 52.8 -0.3**
comp=Z,9.8nm,1.0s
CCB Clear Creek Bu 89.16 12 *eP* **P 21 01 53.0 -0.3**
comp=Z,17nm,1.4s
BOZ Bozeman (W) 89.17 39 P **P 21 01 55.1 +1.1**
baz=237
MSTX Muleshoe 89.25 53 *eP* **P 21 01 55.1 +0.5**
comp=Z,19nm,0.8s
MSTX Muleshoe 89.25 53 P **P 21 01 55.5 +0.9**
baz=243
SCRK Sand Creek 89.35 14 *eP* **P 21 01 55.8 +1.5**
comp=Z,10nm,1.0s
TCOL CIGO, UAF Yank 89.36 12 P **P 21 01 55.1 +1.0**
baz=206
COLA College 89.36 12 P **P 21 01 55.0 +0.8**
COLA pmax pmax
comp=Z,21nm,0.7s
IM3 Indian Mountai 89.40 9 *eP* **P 21 01 54.1 -0.3**
IM3 *epP* **pP 21 02 31.0 +0.5**
IL1 Eielson Array 89.45 12 *eP* **P 21 01 53.5 -1.2**
IL1 *epP* **pP 21 02 29.8 -0.9**
ILAR Eielson Array 89.45 12 P **P 21 01 54.5 -0.1**
comp=Z,2.1nm,0.6s,baz=203,slow=5.6,SNR=27
ILAR LR LR 21 40 15.5
comp=Z,54nm,18.8s,baz=224,slow=34
ILB Eielson Array 89.45 12 *eP* **P 21 01 54.5 -0.1**
T25A Trinidad 89.54 49 P **P 21 01 56.6 +0.6**
baz=242
PHET Kaeng Krachan 89.55 284 P **P 21 01 58.8 +2.6**
POKR Poker Flat Res 89.66 12 P **P 21 01 56.8 +1.2**
baz=207
PBKT Sadao Pong 89.76 288 P **P 21 01 58.5 +1.3**
RLMT Red Lodge 90.32 41 P **P 21 02 00.5 +1.0**
baz=239
XAN Xi'an 90.45 307 P **P 21 01 59.9 -0.2**
XAN pmax pmax
comp=Z,7.0nm,0.8s
XAN pmax pmax
comp=Z,130nm,5.8s
AMTX Amarillo 90.47 52 P **P 21 02 01.2 +1.0**
baz=243

DAWY Dawson 90.48 15 *eP* **P 21 01 60.0 +0.4**
comp=Z,11nm,0.8s
EGAK Eagle 90.67 14 *eP* **P 21 02 01.2 +0.9**
comp=Z,15nm,1.1s
BILL Bilibino 90.76 353 *ceP* **P 21 02 01.6 +0.9**
BILL *i* *PP **pP 21 02 35.1 -1.7**
BILL pmax pmax
comp=Z,5.0nm,0.7s
NANT Nan 90.86 290 P **P 21 02 04.3 +2.0**
ABTX Abilene, Hawle 91.00 55 P **P 21 02 03.4 +0.7**
baz=244
HHC Hu-ho-hao-te 91.68 314 *eP* **P 21 02 06.7 +1.0**
HHC pmax pmax
comp=Z,11nm,1.0s
HHC pmax pmax
comp=Z,46nm,5.2s
LAMP Lampang 91.69 289 P **P 21 02 08.1 +2.0**
PAYA Payao 91.80 290 P **P 21 02 09.6 +2.9**
435B Jarrell 91.81 58 P **P 21 02 07.9 +1.5**
baz=246
CM31 Chiang Mai Arr 92.27 289 *eP* **P 21 02 08.5 -0.3**
CMAR Chiang Mai Arr 92.27 289 P **P 21 02 09.5 +0.6**
comp=Z,5.4nm,1.0s,baz=118,slow=3.2,SNR=29
CMAR PKKPbc **PKKPbc 21 19 23.1 +0.1**
comp=Z,0.6nm,0.5s,baz=303,slow=4.1,SNR=5.7
CMAR LR LR 21 41 53.3
comp=Z,58nm,19.6s,baz=138,slow=34
CMMT Chiang Mai 92.40 289 P **P 21 02 10.4 +1.0**
CHTO Chiang Mai 92.40 289 P **P 21 02 10.8 +1.4**
WHTX Lake Whitney, 92.41 57 P **P 21 02 09.9 +0.7**
baz=246
WMOK Wichita Mounta 92.55 54 P **P 21 02 10.6 +0.8**
baz=245
LAO LASA Array 92.95 40 P **P 21 02 12.7 +1.3**
baz=241
EPYK Eagle Plains 93.03 15 P **P 21 02 13.6 +2.4**
baz=216
RSSD Black Hills 93.08 43 *eP* **P 21 02 11.9 -0.4**
comp=Z,11nm,0.8s
RSSD Black Hills 93.08 43 *eP* **P 21 02 11.9 -0.4**
RSSD pmax pmax
comp=Z,11nm,0.8s
RSSD Black Hills 93.08 43 P **P 21 02 12.6 +0.4**
baz=242
CD2 Chengdu 93.09 302 *eP* **P 21 02 13.0 +0.6**
YAK Yakutsk 94.21 337⇓ *iP* **P 21 02 15.9 -0.8**
YAK pmax pmax
comp=Z,12nm,1.2s
LZH Lanzhou 95.09 307 *eP* **P 21 02 22.1 +0.5**
LZH pP pP 21 02 54.1 -3.7
LZH sP sP 21 03 05.7 -6.9
LZH *ePP* **PP 21 06 12.4 -1.0**
LZH pmax pmax
comp=Z,26nm,1.2s
LZH pmax pmax
comp=Z,100nm,5.4s
INK Inuvik 95.32 15 P **P 21 02 21.2 -0.5**
comp=Z,2.4nm,0.9s,baz=324,slow=1.1,SNR=4.9
INK Inuvik 95.32 15 *eP* **P 21 02 20.6 -1.0**
comp=Z,2.7nm,0.8s
BGNE Belgrade 95.78 48 P **P 21 02 24.7 +0.2**
baz=245
ECSD EROS Data Cent 97.75 46 P Pdif 21 02 33.8 +0.5
baz=247
SONM Songino Array 98.07 318 LR LR 21 40 21.4
comp=Z,48nm,20.9s,baz=130,slow=31
GTA Gaotai 99.30 309 *eP* **Pdif 21 02 41.7 +1.2**
GTA pmax pmax
comp=Z,2.0nm,0.9s
LPAZ La Paz 99.86 112 P **Pdif 21 02 46.4 +2.2**
comp=Z,0.5nm,0.4s,baz=251,slow=5.6,SNR=4.0
LPAZ La Paz 99.86 112 *ePdif* **Pdif 21 02 45.9 +1.7**
LPAZ La Paz 99.86 112 *eP* **Pdif 21 02 45.9 +1.7**
ZAA1 Zalesovo Array 112.79 321 *ePKiKP* **PKiKP 21 07 32.8 -1.2**
ZALV Zalesovo Beam 112.79 321 PKiKP **PKiKP 21 07 32.8 -1.2**
comp=Z,2.9nm,0.5s,baz=93,slow=1.0,SNR=16
MK32 Makanchi Array 113.53 313 *ePKiKP* **PKiKP 21 07 34.5 -1.1**
MKAR Makanchi Array 113.53 313 PKiKP **PKiKP 21 07 34.5 -1.1**
comp=Z,2.3nm,0.5s,baz=118,slow=0.5,SNR=29
KURK Kurchatov 116.31 317 *ePKPdf* **PKPdf 21 07 39.6 -1.1**
KURK Kurchatov 116.31 317⇓ *iPKIKP* **PKPdf 21 07 40.3 -0.5**
KSH Kashi 117.20 304 *ePKP* **PKPdf 21 07 46.0 +3.0**
NRN Naryn 117.40 306 *ePKPdf* **PKPdf 21 07 46.2 +2.6**
NRN Naryn 117.40 306 *ePKIKP* **PKPdf 21 07 46.2 +2.6**
AAK Ala-Archa 118.62 308 *iPKIKP* **PKPdf 21 07 46.8 +1.1**
BRVK Borovoye 121.45 320 *ePKPdf* **PKPdf 21 07 49.5 -1.1**
BRVK Borovoye 121.45 320⇑ *iPKIKP* **PKPdf 21 07 51.0 +0.4**
KK31 Karatay Array 121.57 308 *ePKPdf* **PKPdf 21 07 50.2 -1.0**
KK31 Karatay Array 121.57 308 *ePKIKP* **PKPdf 21 07 50.2 -1.0**
KKAR Karatay Array 121.57 308 *ePKPdf* **PKPdf 21 07 50.0 -1.2**
KKAR Karatay Array 121.57 308 *ePKIKP* **PKPdf 21 07 50.0 -1.2**
KBL Kabul 122.16 298 *ePKPdf* **PKPdf 21 07 52.0 -0.9**
KBL Kabul 122.16 298 *ePKIKP* **PKPdf 21 07 52.0 -0.9**
BOSA Boshof 125.56 203 PKP **PKPdf 21 08 01.7 +2.2**
comp=Z,2.8nm,0.8s,baz=214,slow=0.7,SNR=6.0
ARU Arti 127.47 325 *ePKPdf* **PKPdf 21 08 01.2 -0.8**
ARU Arti 127.47 325 *i PKIKP* **PKPdf 21 08 02.1 +0.1**
ARU 21 09 59.9
ARU 21 15 02.8
ABKAR Akbulak array 128.41 316 *ePKPdf* **PKPdf 21 08 03.1 -0.9**
ARA0 ARCESS Array S 130.75 350 *ePKPpre* PKPpre 21 07 56.5
ARA0 *ePKPdf* **PKPdf 21 08 07.8 -0.1**
ARCES ARCESS Array B 130.75 350 PKhKP PKPpre 21 07 56.5
comp=Z,2.6nm,0.8s,baz=356,slow=1.6,SNR=6.0
ARCES PKP **PKPdf 21 08 07.8 -0.1**
comp=Z,4.2nm,0.4s,baz=30,slow=1.2,SNR=38
ARE0 ARCESS Array S 130.75 350 *ePKPdf* **PKPdf 21 08 07.9 0.0**
GEYT Alibeck 131.08 302 PKP **PKPdf 21 08 09.7 +0.1**
comp=Z,0.8nm,0.4s,baz=91,slow=2.2,SNR=6.6
GEYT SKPbc **SKPab 21 11 22.2 +0.6**
comp=Z,2.9nm,0.9s,baz=286,slow=5.5,SNR=8.3
KTK1 Kautokeino 131.57 351 *ePKPdf* **PKPdf 21 08 09.6 +0.1**
HEF Hetta 132.06 350 *ePKPdf* **PKPdf 21 08 10.0 -0.4**
UOSS Minazif 132.16 284 *ePKPdf* **PKPdf 21 08 10.7 -1.3**
LSZ Lusaka 135.90 215 *ePKPdf* **PKPdf 21 08 19.6 +0.2**
OBN Obninsk 138.95 332⇑ *ePKIKP* **PKPdf 21 08 23.0 -0.6**
OBN *i* 21 09 01.3
OBN *i* 21 11 15.2
OBN *i* PPP PPP 21 14 17.2
OBN *i* 21 15 23.9
OBN pmax pmax
comp=Z,26nm,1.6s
KMBO Kilima Mbogo 140.10 239 PKhKP PKPpre 21 08 20.2
comp=Z,0.8nm,0.5s,baz=10,slow=11,SNR=3.4
NB2 NORSAR Subarra 140.71 354 PKP PKPpre 21 08 19.3
comp=Z,1.4nm,0.6s,baz=14,slow=3.8
NB2 NORSAR Subarra 140.71 354 PKP PKPpre 21 08 19.3
baz=14,slow=3.8
NB200 NORSAR Array S 140.71 354 *ePKPpre* PKPpre 21 08 19.2
NOA NORSAR Array B 140.71 354 PKhKP PKPpre 21 08 19.2
comp=Z,0.6nm,0.5s,baz=49,slow=1.8,SNR=16
NBO00 NORSAR Array S 140.76 355 *e* PKPpre 21 08 20.7
NAO01 NORSAR Array S 140.93 355 *e* PKPpre 21 08 20.0
GNI Garni 141.03 307⇓ *ePKIKP* **PKPdf 21 08 29.2 +1.1**
KBZ Khabaz 141.22 313 PKP **PKPdf 21 08 27.1 -0.9**
comp=Z,1.9nm,1.0s,baz=202,slow=2.1,SNR=2.5
KIV Kislovodsk 141.28 314 *iPKIKP* **PKPdf 21 08 30.3 +2.0**
KIV pmax pmax
comp=Z,7.0nm,1.1s
NEY Neytrino 141.51 313⇑ *ePKIKP* **PKPdf 21 08 29.8 +0.9**
ASK Askoy 141.59 359 *ePKPdf* PKPpre 21 08 24.4
ODD1 Odda 142.13 358 *ePKPdf* PKPpre 21 08 25.0
KONO Kongsberg 142.22 355 *ePKPdf* PKPpre 21 08 24.4
BLS5 Blasjo 142.62 358 *ePKPdf* PKPpre 21 08 26.2
STRU Stroemstad 142.69 354 *eP* PKPpre 21 08 25.6
RSC Scourie 143.16 8 *eP* PKPpre 21 08 27.9
KAC Achnashellach 143.97 8 *eP* PKPab 21 08 30.0 -0.1
KPL Plockton 144.08 9 *eP* **PKPab 21 08 30.4 -0.1**
MCD Coleburn Disti 144.14 7 *eP* **PKPab 21 08 30.7 -0.1**
KSB Sheil Bridge 144.24 9 *eP* **PKPab 21 08 31.1 -0.1**
DRUM Mains of Drumt 144.88 6 *eP* PKPbc 21 08 32.8 -0.8
SUW Suwalki 144.90 340 *ePKP* PKPbc 21 08 34.1 +0.3
SUW Suwalki 144.90 340 *ePKPbc* PKPbc 21 08 33.3 -0.4
SUW Suwalki 144.90 340 *ePKIKP* PKPbc 21 08 34.1 +0.4
LAWE Loch Awe, Argy 145.16 9 *eP* **PKPbc 21 08 34.0 -0.4**
INVG Invergeldie, C 145.18 8 *eP* **PKPbc 21 08 34.2 -0.3**
EDU Dundee 145.18 7 *eP* **PKPbc 21 08 34.5 -0.1**
AKASG Malin Array Be 145.21 331 PKP **PKPdf 21 08 33.7 -1.2**
comp=Z,13nm,0.6s,baz=41,slow=4.2,SNR=66
AKBB Malin Array Si 145.21 331 *ePKPbc* **PKPdf 21 08 33.7 -1.2**
AKBB Malin Array Si 145.21 331 *ePKIKP* **PKPdf 21 08 33.7 -1.2**
KIEV Kiev 145.22 331⇑ *iPKIKP* **PKPdf 21 08 33.9 -1.0**
KLNR Kaliningrad 145.25 343⇑ *ePKIKP* **PKPdf 21 08 35.2 +0.4**
EAB Aberfoyle 145.37 8 *eP* **PKPdf 21 08 34.8 -0.2**

MUD Monsted U'grnd 145.42 355 *ePKIKP* **PKPdf 21 08 35.5 +0.5**
MBAR Mbarara 145.44 233 *dPKP2* **PKPab 21 08 38.7 +1.4**
PGBU Glenifferbraes 145.72 8 *eP* **PKPdf 21 08 35.7 +0.1**
COP Copenhagen 145.81 351 *i PKP2* **PKPab 21 08 38.0 +0.9**
ESY Stoneypath 145.84 6 *eP* **PKPdf 21 08 36.0 +0.2**
BSD Bornholm Skovb 145.97 349 *i PKP2* **PKPbc 21 08 37.2 +0.2**
SIM Simferopol' 146.30 320 *ePKP2* **PKPdf 21 08 38.2 +1.3**
SIM pmax pmax
comp=Z,40nm,0.8s
EDMD Edmundbyers 146.98 6 *eP* **PKPbc 21 08 39.5 -0.5**
DIKM Dikmen 147.21 314 *i P* **PKPab 21 08 43.8 +0.7**
IOMK Kirk Michael 147.22 9 *eP* **PKPbc 21 08 41.2 +0.5**
SORM Soroca 147.43 329⇓ *iP* **PKPbc 21 08 41.4 0.0**
SORM Soroca 147.43 329⇑ *iPKP2* **PKPbc 21 08 41.4 0.0**
HPK Haverah Park 147.88 6 *eP* **PKPbc 21 08 42.2 -0.3**
KIS Kishinev 147.99 327 *ePKP* **PKPbc 21 08 45.0 +2.1**
comp=Z,100nm,1.8s
KIS Kishinev 147.99 327 *ePKP2* **PKPbc 21 08 45.0 +2.1**
KIS pmax pmax
comp=Z,110nm,1.8s
YOZ Yozgat 148.03 310 *i P* **PKPbc 21 08 43.6 +0.1**
LVV L'vov 148.05 335 *ePKP2* **PKPbc 21 08 42.5 -0.5**
WPM1 Penmaenmawr 148.29 9 *eP* **PKPbc 21 08 44.3 +0.7**
KOZT Kozan 148.47 306 *i P* **PKPbc 21 08 44.8 +0.2**
LEOM Leova 148.63 327⇓ *iP* **PKPbc 21 08 45.6 +1.0**
LEOM Leova 148.63 327⇓ *iPKP2* **PKPbc 21 08 45.6 +1.0**
KWP Kalwaria Pacla 148.71 336 *ePKP* **PKPbc 21 08 46.4 +1.8**
KWP Kalwaria Pacla 148.71 336 *ePKP2* **PKPbc 21 08 46.6 +1.8**
FOEL Foel Wylfa 148.74 8 *eP* **PKPbc 21 08 44.5 -0.2**
PRAR RASCA 148.99 330⇑ *iP* **PKPbc 21 08 47.0 +1.5**
HLM1 Long Mynd 149.15 8 *eP* **PKPbc 21 08 45.4 -0.4**
BR101 Keskin Array S 149.17 312 *ePKPbc* **PKPbc 21 08 46.1 -0.3**
BR131 Keskin Array S 149.17 312 *ePKPbc* **PKPbc 21 08 45.7 -0.7**
BRTR Keskin Array B 149.17 312 PKPbc **PKPbc 21 08 46.2 -0.3**
comp=Z,11nm,0.5s,baz=141,slow=5.1,SNR=86
TLCR 149.18 324⇓ *iP* **PKPbc 21 08 46.1 +0.1**
TLCR 149.18 324⇓ *iPKP2* **PKPbc 21 08 46.1 +0.1**
OJC Ojcow 149.22 340 *ePKP* **PKPdf 21 08 43.0 +1.3**
OJC Ojcow 149.22 340 *ePKPbc* **PKPbc 21 08 46.2 +0.1**
OJC Ojcow 149.22 340 *ePKIKP* **PKPdf 21 08 42.9 +1.3**
BUR08 Bucovina Ar. S 149.25 331 *ePKPbc* **PKPbc 21 08 46.4 0.0**
BUR04 Bucovina Ar. S 149.26 331 *ePKPdf* **PKPdf 21 08 42.2 +0.3**
BUR04 *ePKPbc* **PKPbc 21 08 47.2 +0.9**
BURAR Bucovina Array 149.26 331⇓ *iP* **PKPbc 21 08 47.9 +1.6**
BURAR Bucovina Array 149.26 331⇓ *iPKP2* **PKPbc 21 08 47.9 +1.6**
BIZ Bicaz 149.35 329⇓ *iP* **PKPbc 21 08 46.7 +0.2**
CFR Carcaliu 149.55 325⇓ *iP* **PKPbc 21 08 47.7 +0.8**
CFR Carcaliu 149.55 325⇓ *iPKP2* **PKPbc 21 08 47.7 +0.8**
MCH1 Michaelchurch 149.64 8 *eP* **PKPbc 21 08 46.3 -0.7**
KSP Ksiaz 149.67 344 *ePKP* **PKPbc 21 08 47.6 +0.5**
KSP Ksiaz 149.67 344 *ePKP2* **PKPbc 21 08 47.6 +0.5**
BHL Bhannes 149.67 300 *eP* **PKPbc 21 08 47.8 +0.1**
UZH Uzhgorod 149.68 335 *c iPKHKP* PKPpre 21 08 45.6
UZH *i* 21 08 50.1
ANTO Ankara 149.69 312 *ePKPbc* **PKPbc 21 08 47.0 -0.5**
ANTO *epPKPab* **pPKPbc 21 09 25.7 +0.6**
BR231 Keskin MP Arra 149.71 312 *ePKPbc* **PKPbc 21 08 47.4 -0.3**
ODBI Odobesti 149.72 327⇑ *iP* **PKPbc 21 08 47.7 +0.4**
SHBL Chebaa 149.73 299 *eP* **PKPbc 21 08 48.3 +0.2**
NIE Niedzica 149.75 338 *ePKP* **PKPbc 21 08 47.3 -0.1**
NIE Niedzica 149.75 338 *ePKP2* **PKPbc 21 08 47.3 -0.1**
DQRL Deir Qamar 149.79 299 *eP* **PKPbc 21 08 48.4 +0.3**
VRI Vrincioaia 149.81 327⇑ *iP* **PKPbc 21 08 47.8 +0.2**
VRI Vrincioaia 149.81 327⇑ *iPKP2* **PKPbc 21 08 47.8 +0.2**
SSW Stow on the Wo 149.82 7 *eP* **PKPbc 21 08 47.5 +0.1**
MONM Monmouth 149.82 8 *eP* **PKPbc 21 08 46.8 -0.6**
PLOR Plostina 149.86 327⇑ *iP* **PKPbc 21 08 47.5 -0.3**
PLOR Plostina 149.86 327⇑ *iPKP2* **PKPbc 21 08 47.5 -0.3**
TIRR Tirgusor 149.87 324 *ePKPdf* **PKPdf 21 08 42.5 -0.3**
TIRR *ePKPbc* **PKPbc 21 08 47.9 +0.2**
TIRR *epPKPab* **pPKPbc 21 09 26.3 +1.0**
TIRR Tirgusor 149.87 324⇑ *iP* **PKPbc 21 08 48.7 +1.0**
TIRR Tirgusor 149.87 324 *ePKIKP* **PKPdf 21 08 42.5 -0.3**
CLL Collm 149.95 349 *ePKPbc* **PKPbc 21 08 47.1 -0.6**
CLL *epPKPdf* **pPKPdf 21 09 24.0 +3.5**
CLL Collm 149.95 349 *ePKPbc* **PKPbc 21 08 48.0 +0.3**
comp=Z,29nm,0.7s
CLL *e* 21 08 51.0
CLL *ePKPab* **PKPab 21 08 54.0 +0.2**
CLL *epPKPbc* **pPKPdf 21 09 24.0 +3.5**
CLL *i* 21 09 27.0
comp=Z,83nm,2.0s
CLL *epPKPab* **pPKPbc 21 09 29.0 +3.7**
CLL *i* 21 09 49.8
CLL *epPKSdf* 21 12 48.0
CLL *ePPS* PPS 21 25 12.0
CLL *eSS* SS 21 31 30.0 +3.6
CLL Collm 149.95 349 *ePKP2* **PKPbc 21 08 48.0 +0.3**
CLL pmax pmax
comp=Z,29nm,0.7s
HARR Harsova 149.98 324⇑ *iP* **PKPbc 21 08 49.2 +1.2**
HARR Harsova 149.98 324⇑ *iPKP2* **PKPbc 21 08 49.2 +1.2**
TLB Topalu 149.99 324⇑ *iP* **PKPbc 21 08 47.9 -0.1**
TLB Topalu 149.99 324⇑ *iPKP2* **PKPbc 21 08 47.9 -0.1**
TRPA Tarpa 149.99 335⇑ *iP* **PKPbc 21 08 48.8 +0.9**
ARCR ARCALIA 150.05 331⇑ *iP* **PKPbc 21 08 50.9 +2.8**
WTSB Winterswijk 150.06 356 *ePKP* **PKPbc 21 08 47.9 0.0**
comp=Z,28nm,0.6s
DPC Dobruska-Polom 150.11 344⇑ *ePKP* **PKPbc 21 08 49.0 +0.8**
DPC Dobruska-Polom 150.11 344 *ePKP2* **PKPbc 21 08 49.0 +0.8**
BRG Berggiesshubel 150.18 347 *ePKP* **PKPbc 21 08 48.5 +0.2**
comp=Z,22nm,1.0s
BRG *epPKP* **pPKPdf 21 09 20.0 -0.9**
comp=Z,28nm,1.5s
BRG Berggiesshubel 150.18 347 *ePKP2* **PKPbc 21 08 48.5 +0.2**
BRG pmax pmax
comp=Z,22nm,1.0s
BRG pmax pmax
comp=Z,28nm,1.5s
KRLC Kraliky 150.24 343⇑ *ePKP* **PKPbc 21 08 49.2 +0.6**
KRLC Kraliky 150.24 343 *ePKP2* **PKPbc 21 08 49.2 +0.6**
LANS Liptovska Anna 150.26 339 *ePKP2* **PKPbc 21 08 49.8 +1.2**
LANS Liptovska Anna 150.26 339 *ePKP* **PKPbc 21 08 49.8 +1.2**
LANS *e* 21 09 25.1
SWN1 Swindon 150.27 7 *eP* **PKPbc 21 08 48.2 -0.5**
MORC Moravsky Berou 150.30 342 *ePKPbc* **PKPbc 21 08 48.9 +0.2**
MORC *epPKPdf* **pPKPdf 21 09 25.1 +3.9**
MORC Moravsky Berou 150.30 342 *ePKP2* **PKPbc 21 08 50.0 +1.3**
MORC Moravsky Berou 150.30 342 *ePKP* **PKPbc 21 08 49.2 +0.5**
MORC *e* 21 09 26.0
PVCC Panska Ves 150.37 346⇑ *ePKP* **PKPbc 21 08 49.4 +0.6**
PVCC Panska Ves 150.37 346 *ePKIKP* **PKPbc 21 08 49.4 +0.6**
DOPR Dopca 150.40 329⇑ *iP* **PKPbc 21 08 49.6 +0.6**
ISR Istrita 150.43 326⇑ *iP* **PKPbc 21 08 49.9 +0.7**
ISR Istrita 150.43 326⇑ *iPKIKP* **PKPbc 21 08 49.9 +0.7**
MLR Muntele Rosu 150.47 328 *ePKPbc* **PKPbc 21 08 48.9 -0.5**
MLR Muntele Rosu 150.47 328⇑ *iP* **PKPbc 21 08 49.5 +0.1**
MLR Muntele Rosu 150.47 328⇑ *iPKIKP* **PKPbc 21 08 49.5 +0.1**
WOL Wolverton 150.53 6 *eP* **PKPbc 21 08 49.3 +0.2**
CJR Cluj-Napoca 150.67 332⇓ *iP* **PKPbc 21 08 49.9 +0.2**
CJR Cluj-Napoca 150.67 332⇓ *iPKIKP* **PKPbc 21 08 49.9 +0.2**
SECR 150.73 327⇓ *iP* **PKPbc 21 08 49.7 -0.1**
SULR 150.88 326⇓ *iP* **PKPbc 21 08 53.0 +2.9**
GOPC GO Pecny, Ondr 150.89 345⇑ *ePKP* **PKPbc 21 08 50.5 +0.4**
GOPC GO Pecny, Ondr 150.89 345 *ePKIKP* **PKPbc 21 08 50.5 +0.4**
VOIR 150.95 328⇓ *iP* **PKPbc 21 08 50.7 +0.3**
VOIR 150.95 328⇓ *iPKIKP* **PKPbc 21 08 50.7 +0.3**
DRGR 150.99 333⇑ *iP* **PKPdf 21 08 47.4 +2.8**
DRGR 150.99 333⇑ *iPKIKP* **PKPdf 21 08 47.4 +2.8**
VRAC Vranov 150.99 343⇓ *iPKP* **PKPbc 21 08 50.8 +0.5**
VRAC Vranov 150.99 343 *ePKP* **PKPbc 21 08 49.9 -0.4**
VRAC *e* 21 09 26.1
VYHS Vyhne 151.04 339 *ePKIKP* **PKPbc 21 08 50.8 +0.4**
VYHS Vyhne 151.04 339 *ePKP* **PKPbc 21 08 50.8 +0.4**
NKC Novy Kostel 151.08 349⇑ *ePKP* **PKPbc 21 08 51.1 +0.6**
NKC Novy Kostel 151.08 349 *ePKIKP* **PKPbc 21 08 51.1 +0.6**
JAVC Velka Javorina 151.08 341 *ePKP* **PKPbc 21 08 51.1 +0.5**
JAVC *e* 21 09 28.9
KOLL Kolacno 151.10 340 *ePKIKP* **PKPbc 21 08 50.9 +0.3**
KOLL Kolacno 151.10 340 *ePKP* **PKPbc 21 08 50.9 +0.3**
PSZ Piszkesteto 151.17 337 *ePKPdf* **PKPdf 21 08 43.3 -1.5**
PSZ *ePKPbc* **PKPbc 21 08 50.6 -0.2**
PSZ Piszkesteto 151.17 337⇓ *iP* **PKPbc 21 08 51.6 +0.8**
PSZ Piszkesteto 151.17 337 *ePKIKP* **PKPdf 21 08 43.3 -1.5**
ARR Arges 151.20 329⇑ *iP* **PKPbc 21 08 51.8 +0.8**
CSS Mathiatis 151.21 303 *ePKPbc* **PKPbc 21 08 50.9 -0.3**
MAMC Mammari 151.23 303 P **PKPbc 21 08 51.6 +0.3**
KRUC Moravsky 151.27 343 *ePKP* **PKPbc 21 08 50.1 -0.8**
KRUC *e* 21 09 27.9
TREC Trest 151.30 344⇑ *ePKP* **PKPbc 21 08 50.9 -0.1**

TREC	Trest	151.30	344	*e*PKIKP	PKPbc	21 08 50.9	-0.1
HGN	Heimansgroeve	151.30	357	*e*PKP	PKPbc	21 08 51.2	+0.3
	comp=Z,71nm,1.8s						
SGRR	Singureni	151.34	326	⇑*i*P	PKPbc	21 08 51.6	+0.4
MEM	Membach	151.45	357	⇑PKPbc	PKPbc	21 08 51.3	0.0
SMOL	Smolenice	151.46	341	*e*PKIKP	PKPbc	21 08 52.3	+0.9
SMOL	Smolenice	151.46	341	*e*PKP	PKPbc	21 08 52.3	+0.9
LOT	Lotru	151.55	330	⇑*i*P	PKPbc	21 08 54.3	+2.5
DEV	Deva	151.61	331	⇓*i*P	PKPbc	21 08 53.7	+1.9
DEV	Deva	151.61	331	⇓PKIKP	PKPbc	21 08 53.7	+1.9
SZAC	Souni	151.62	303	P	PKPbc	21 08 51.1	-1.2
HUMR	Humele	151.63	327	⇓*i*P	PKPbc	21 08 51.7	-0.2
MODS	Modra-Piesok	151.63	341	*e*PKIKP	PKPbc	21 08 52.9	+1.1
MODS	Modra-Piesok	151.63	341	*e*PKP	PKPbc	21 08 52.9	+1.1
BCLA	Clavier	151.67	358	⇑PKPbc	PKPbc	21 08 51.5	-0.3
ALFC	Alefka	151.71	304	P	PKPbc	21 08 51.1	-1.3
SIRR	Siria	151.85	333	⇑*i*P	PKPbc	21 08 52.5	+0.1
KHC	Kasperske Hory	151.90	346	*e*PKPdf	PKPdf	21 08 46.3	+0.5
KHC				*e*PKPbc	PKPbc	21 08 52.5	0.0
KHC				*ep*PKPdf	pPKPbc	21 09 29.6	-0.4
KHC	Kasperske Hory	151.90	346	*e*PKPDF	PKPdf	21 08 47.1	+1.2
KHC				⇑*e*PKP	PKPbc	21 08 52.8	+0.4
KHC				*ep*PKP	pPKPbc	21 09 29.0	-1.0
KHC	Kasperske Hory	151.90	346	*e*PKIKP	PKPdf	21 08 47.1	+1.2
DOU	Dourbes	152.01	359	⇓PKPbc	PKPbc	21 08 52.9	+0.3
DOU				⇑PKPab	PKPab	21 09 01.4	-1.0
GZR	Gura Zlata	152.05	331	⇑*i*P	PKPbc	21 08 52.6	-0.3
GZR	Gura Zlata	152.05	331	⇑PKIKP	PKPbc	21 08 52.6	-0.3
GEC2	GERESS Array S	152.14	346	*e*PKPbc	PKPbc	21 08 52.4	-0.7
GERES	GERESS Array B	152.14	346	PKP	PKPdf	21 08 47.3	+1.0
	comp=Z,0.5nm,0.7s,baz=166,slow=2.8,SNR=5.5						
GERES				PKPbc	PKPbc	21 08 53.0	0.0
	comp=Z,5.0nm,0.6s,baz=20,slow=1.7,SNR=32						
GEA0	GERESS Array S	152.15	346	*e*PKPdf	PKPdf	21 08 46.3	0.0
GEA0				*e*PKPbc	PKPbc	21 08 53.2	+0.2
GEA0				*e*		21 09 31.6	
ISP	Isparta	152.20	310	*e*PKIKP	PKPbc	21 08 54.6	+1.0
BZS	Buzias	152.38	333	⇑*i*P	PKPbc	21 08 53.5	-0.1
BZS	Buzias	152.38	333	⇑PKIKP	PKPbc	21 08 53.5	-0.1
WLF	Walferdange	152.39	357	⇑PKPbc	PKPbc	21 08 54.4	+0.9
SRE	Strehaia	152.40	329	⇑*i*P	PKPbc	21 08 54.0	+0.4
SRE	Strehaia	152.40	329	⇑PKIKP	PKPbc	21 08 54.1	+0.4
CONA	Conrad Observa	152.45	342	*i* PKiKP	PKPbc	21 08 54.3	+0.5
	comp=Z,10nm,0.7s						
HERR	Herculane	152.60	331	⇑*i*P	PKPbc	21 08 53.8	-0.3
BANR	Banloc	152.77	333	⇑*i*P	PKPbc	21 08 55.0	+0.6
MOA	Molln	152.94	344	*i* PKiKP	PKPbc	21 08 54.7	0.0
	comp=Z,3.8nm,0.6s						
MDVR	Moldovita	153.00	331	⇑*i*P	PKPbc	21 08 54.8	-0.2
MORH	M¨‡r¡gy, Hung	153.07	337	*e*P	PKPbc	21 08 55.6	+0.6
ARSA	Arzberg	153.16	342	*e*PKiKP	PKPbc	21 08 55.1	-0.2
	comp=Z,7.4nm,1.0s						
ALN	Alexandroupoli	153.47	320	*e*PKPdf	PKPdf	21 08 46.4	-1.9
ALN				*e*PKPbc	PKPbc	21 08 54.7	-1.4
ALN				*ep*PKPdf	pPKPdf	21 09 30.4	+4.2
FRGS	Fruska Gora	153.50	334	*e*P	PKPbc	21 08 55.8	-0.3
BFO	Black Forest	153.54	353	*e*PKPbc	PKPbc	21 08 56.5	+0.4
ECH	Echery	153.77	355	*e*PKPab	PKPab	21 09 10.5	+0.6
SOKA	Soboth	153.82	342	*i* PKiKP	PKPbc	21 08 57.3	+0.5
	comp=Z,4.9nm,0.9s						
VTS	Vitosha	153.92	326	*e*PKPdf	PKPdf	21 08 46.3	-2.8
VTS				*e*PKPbc	PKPbc	21 08 56.1	-1.1
VTS	Vitosha	153.92	326	⇑*i*P	PKPbc	21 08 57.0	-0.2
VTS	Vitosha	153.92	326	*e*PKIKP	PKPdf	21 08 46.3	-2.8
WATA	Walderalm	154.02	348	*i* PKiKP	PKPbc	21 08 57.0	-0.2
	comp=Z,5.6nm,0.5s						
RETA	Reutte	154.03	349	*i* PKiKP	PKPbc	21 08 57.4	+0.2
	comp=Z,2.9nm,0.5s						
WTTA	Wattenberg	154.08	348	*i* PKiKP	PKPbc	21 08 57.1	-0.4
	comp=Z,10nm,0.8s						
OBKA	Obir	154.11	343	*e*PKiKP	PKPbc	21 08 57.4	0.0
	comp=Z,2.2nm,0.5s						
SQTA	Sankt Quirin	154.20	348	*i* PKiKP	PKPbc	21 08 57.3	-0.4
	comp=Z,5.5nm,0.8s						
MYKA	Terra Mystica	154.23	344	*e*PKPbc	PKPbc	21 08 57.2	-0.5
	comp=Z,5.7nm,0.8s						
DIVS	Divibare	154.29	333	*e*PKPdf	PKPdf	21 08 47.3	-2.2
DIVS				*e*PKPbc	PKPbc	21 08 57.9	+0.1
DIVS	Divibare	154.29	333	*e*P	PKPbc	21 08 59.0	+1.1
ABTA	Abfaltersbach	154.39	346	*e*PKPbc	PKPbc	21 08 57.5	-0.5
	comp=Z,7.2nm,0.6s						
BBLS	Lazići	154.73	333	*e*P	PKPbc	21 08 59.5	+0.7
HAPS	Han Pijesak,BI	154.74	334	*e*P	PKPbc	21 08 58.8	-0.1
BLY	Banja Luka	154.85	337	*e*P	PKPbc	21 09 00.8	+1.9
FUORN	Ofenpass-Fuorn	154.95	350	*e*PKPbc	PKPdf	21 08 59.0	+8.4
ES19	SONSECA Array	161.21	19	*e*PKPdf	PKPdf	21 08 57.7	-0.5
ES19				*e*PKPab	PKPab	21 09 42.7	+0.4
ES19				*ep*PKPab	pPKPab	21 10 17.3	-1.3
ESDC	Sonseca Array	161.21	19	PKP	PKPdf	21 08 58.3	+0.1
	comp=Z,1.0nm,0.9s,baz=7.2,slow=2.2,SNR=7.2						
ESDC				PKPab	PKPab	21 09 42.2	-0.1
	comp=Z,2.3nm,0.7s,baz=332,slow=4.0,SNR=17						
DBIC	Dimbokro	162.54	150	PKP	PKPdf	21 08 60.0	-0.2
	comp=Z,3.6nm,0.8s,baz=236,slow=3.6,SNR=3.2						
DBIC				PKPab	PKPab	21 09 50.2	+1.5
	comp=Z,4.7nm,0.8s,baz=206,slow=4.2,SNR=4.0						
DBIC	Dimbokro	162.54	150	*e*PKIKP	PKPdf	21 09 00.0	-0.2
KEST	Kesra	165.56	342	PKPab	PKPab	21 10 00.6	-1.0
	comp=Z,3.8nm,1.0s,baz=252,slow=3.2,SNR=4.8						
KEST	Kesra	165.56	342	*e*PKPab	PKPab	21 09 60.0	-1.6
TOA0	Torodi Ar. Sit	170.90	166	*e*PKPdf	PKPdf	21 09 04.6	-1.9
TOA0				*e*PKPab	PKPab	21 10 23.8	-1.6
TOA0				*e*PKPab	PKPab	21 10 25.6	+0.1
TORD	Torodi Ar. Bea	170.90	166	PKP	PKPdf	21 09 05.3	-1.2
	comp=Z,1.5nm,0.9s,baz=117,slow=1.7,SNR=6.5						
TORD				PKPab	PKPab	21 10 26.7	+1.3
	comp=Z,3.6nm,1.0s,baz=186,slow=5.3,SNR=13						
TORD				PP	PP	21 14 09.5	-5.2
	baz=226,slow=7.9						
TOA1	Torodi Ar. Sit	170.91	166	*e*PKPdf	PKPdf	21 09 05.2	-1.2
TOA1				*e*PKPab	PKPab	21 10 26.7	+1.2
TOA1				*e*PP	PP	21 14 09.5	-5.2

ATH 03 21:06:52.9, 39.49N × 26.20E, h18 km ± 6 km, ML 1.0/2, Error ellipse: s-maj=6.0km s-min=1.0km az=171.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.25	168	P	Pg	21 06 57.9	-0.7
PRK				S	Sg	21 07 01.8	-0.6
PRK				AML	AML	21 07 01.9	
	comp=N,199μm,0.2s						
PRK				AML	AML	21 07 03.1	
	comp=E,110μm,0.2s						
SIGR	SIGRI	0.39	224	P	Pg	21 07 00.7	-0.2
SIGR				S	Sg	21 07 06.4	0.0
LIA	Limnos Island	0.89	298	P	Pb	21 07 09.6	-0.1
LIA				S	Sg	21 07 21.7	-0.2
CHOS	Chios island	1.11	186	P	Pn	21 07 13.9	+0.4
CHOS				S	Sg	21 07 29.1	+0.2
SMTH	Samothraki Isl	1.11	332	P	Pg	21 07 14.0	-0.4
SMTH				S	Sn	21 07 28.6	+0.2
SMTH				AML	AML	21 07 30.7	
	comp=E,7μm,0.2s						
SMTH				AML	AML	21 07 31.0	
	comp=N,9μm,0.2s						
ALN	Alexandroupoli	1.41	355	P	Pg	21 07 19.8	-0.4
ALN				S	Sg	21 07 39.2	+0.7

*ISCJB **03** 21:26:42.3±0.4, 8.51S±0.06×112.74E±0.03, h142km±3km, mb3.8/10, Error ellipse: s-maj=10.3km s-min=4.7km az=15.5*
*DJA **03** 21:26:44.0±0.4, 9.S±4.×11.3E±.°, h115km±5km, M3.9/7, MLv3.9/7*
*IDC **03** 21:26:46.1±6.3, 8.37S×112.87E, h157km±59km, mb3.6/10, mb1 3.6/11, mb1mx3.5/29, mbtmp4.0/11, Error ellipse: s-maj=38.8km s-min=12.3km az=62.0*

ISC 03 21:26:43.0±0.8, 8.57S±0.07×112.73E±0.04, h133 km ± 6 km, n38, σ 0 95/48, mb3.9/10, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	Gumukmas	0.77	67	P	Pn	21 27 04.1	-0.1
GMJI				S	Sn	21 27 19.5	-0.8
PWJI	Pagerwojo	1.07	301	P	Pn	21 27 06.4	-0.4
PWJI				S	Sn	21 27 23.9	-1.0
BLJI	Banyuglugur	1.19	46	P	Pn	21 27 08.4	+0.4
BLJI				S	Sn	21 27 27.3	+0.3
JAGI	Jajag, Banyuwa	1.41	86	P	Pn	21 27 10.4	0.0
JAGI				S	Sn	21 27 30.8	-0.4
PCJI	Pacitan	1.58	284	P	Pn	21 27 12.5	+0.3
PCJI				S	Sn	21 27 33.9	-0.6
GRJI	Gresik	1.67	351	P	Pn	21 27 13.9	+0.6
GRJI				S	Sn	21 27 37.9	+1.5
NGJI	Ngawi	1.74	314	P	Pn	21 27 16.3	+2.3
WOJI	Wonogiri, Jawa	1.93	292	P	Pn	21 27 16.8	+0.5
KMMI	Kalianget	1.95	39	P	Pn	21 27 17.3	+0.7
TBJI	Tambak Boyo	1.95	333	P	Pn	21 27 17.8	+1.2
TBJI				S	Sn	21 27 43.6	+1.3
UGM	Wanagama	2.28	287	P	Pn	21 27 21.4	+0.8
UGM				S	Sn	21 27 50.0	+0.5
IGBI	Denpasar	2.40	96	P	Pn	21 27 22.9	+0.8
DNP	Denpasar	2.46	93	S	Sn	21 27 53.9	+0.5
SRBI	Singaraja	2.51	79	P	Pn	21 27 23.7	+0.3
SRBI				S	Sn	21 27 54.6	+0.1
CISI	Cisompet, Garu	4.97	281	P	Pn	21 27 56.1	+0.2
FITZ	Fitzroy Crossi	15.72	128	P	P	21 30 18.8	+0.3
	0.4nm,0.3s,baz=307,slow=11,SNR=15						
FITZ				S	Sn	21 32 59.5	-12
	0.4nm,0.3s,baz=182,slow=16,SNR=6.2						
WRA	Warramunga Arr	23.76	121	P	P	21 31 44.2	+0.7
	0.4nm,0.5s,baz=296,slow=12,SNR=28						
WRA				PcP	PcP	21 35 23.9	+0.1
	0.4nm,0.9s,baz=328,slow=1.9,SNR=3.5						
ASAR	Alice Springs	25.22	129	P	P	21 31 57.6	+0.8
	1.9nm,0.7s,baz=304,slow=8.9,SNR=27						
CMAR	Chiang Mai Arr	30.11	333	P	P	21 32 40.8	+0.5
	1.4nm,0.7s,baz=166,slow=7.8,SNR=13						
STKA	Stephens Creek	35.44	135	P	P	21 33 28.3	+1.7
	1.9nm,0.5s,baz=310,slow=7.1,SNR=8.1						
ODAN	Odare	42.95	326	*e*P	P	21 34 28.9	-0.4
	13nm,0.4s						
RAMN	Ramite	43.47	325	*e*P	P	21 34 33.3	-0.1
	3.9nm,0.2s						
JIRN	Jiri	44.24	325	*e*P	P	21 34 39.1	-0.7
	22nm,0.5s						
GUN	Gumba	44.61	325	*e*P	P	21 34 42.0	-0.7
	11nm,0.3s						
PKI	Pulchoki	44.62	325	*e*P	P	21 34 41.6	-1.1
	2.8nm,0.4s						
PKIN	Phulchoki	44.63	325	*e*P	P	21 34 41.6	-1.2
	3.4nm,0.4s						
DMN	Daman	44.82	324	*e*P	P	21 34 43.2	-1.1
	8.8nm,0.4s						
GKN	Gorkha	45.39	324	*e*P	P	21 34 47.5	-1.1
	1.8nm,0.2s						
KOLN	Koldanda	45.83	323	*e*P	P	21 34 50.8	-1.3
	8.8nm,0.4s						
DANN	Dangsing	46.16	324	*e*P	P	21 34 53.6	-1.2
	9.4nm,0.5s						
PYUN	Piuthan	46.43	323	*e*P	P	21 34 56.0	-0.9
	4.7nm,0.4s						
MJAR	Matsushiro Arr	50.86	27	P	P	21 35 28.3	-2.1
	1.2nm,0.8s,baz=189,slow=9.6,SNR=5.1						
USRK	Ussuriysk Ar.	55.35	17	P	P	21 36 02.7	-0.3
	1.0nm,0.5s,baz=225,slow=3.5,SNR=5.4						
SONM	Songino Array	56.44	355	P	P	21 36 10.5	-0.4
	3.2nm,0.5s,baz=176,slow=8.4,SNR=20						
MKAR	Makanchi Array	61.43	337	P	P	21 36 44.5	-0.8
	0.9nm,0.3s,baz=150,slow=7.4,SNR=40						
ZALV	Zalesovo Beam	66.60	342	P	P	21 37 17.5	-1.4
	1.0nm,0.4s,baz=145,slow=5.4,SNR=6.3						
VNDA	Vanda	73.42	170	P	P	21 38 01.6	+1.5
	0.4nm,0.5s,baz=307,slow=6.8,SNR=4.4						
CPUP	Villa Florida	143.98	195	PKP	PKPdf	21 46 03.5	0.0
	0.6nm,0.4s,baz=202,slow=3.0,SNR=4.2						

*IDC **03** 21:39:44.5±1.2, 9.67S×118.95E, h0km, mb3.9/6, mb1 3.9/9, mb1mx3.7/30, mbtmp3.8/9, ML3.6/3, MS3.2/3, Ms1 3.2/3, ms1mx2.6/39, Error ellipse: s-maj=45.5km s-min=18.0km az=50.0*
*ISCJB **03** 21:39:48.6±0.5, 9.81S±0.04×119.03E±0.04, h46km, mb4.1/13, MS3.6/1, Error ellipse: s-maj=6.4km s-min=5.5km az=31.3*
*NEIC **03** 21:39:48.0±3.7, 9.74S×118.93E, h25km±29km, mb4.0/7, Error ellipse: s-maj=12.4km s-min=8.5km az=205.0*
*DJA **03** 21:39:53.9±0.4, 10.S×11.9E±.°, h37km±4km, M4.3/10, mb4.2/2, mB4.4/1, MLv4.3/10, Mw(mB)3.5/1*

ISC 03 21:39:50.7±0.6, 9.81S±0.07×119.12E±0.05, h46 km, n37, σ 1 55/37, mb4.0/13, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.32	58	P	Pn	21 40 00.9	+1.2
WBSI				S	Sn	21 40 07.2	+1.1
PLAI	Plampang	1.65	306	P	Pn	21 40 20.3	+3.2
PLAI				S	Sn	21 40 40.7	+3.6
TWSI	Taliwang, Sumb	2.45	296	P	Pn	21 40 32.7	+4.5
EDFI	Ende, Flores	2.75	68	P	Pn	21 40 32.8	+0.4
EDFI				S	Sn	21 41 03.3	-1.2
MMRI	Maumere	3.29	69	P	Pn	21 40 41.1	+1.3
MMRI				S	Sn	21 41 17.4	-0.4
IGBI	Denpasar	4.04	284	P	Pn	21 40 56.0	+6.0
BATI	Baumata	4.50	95	Pn	Pn	21 40 58.2	+1.9
	59nm,0.3s,baz=302,slow=2.4,SNR=56						
BATI				Sn	Sn	21 41 46.3	-1.1
	25nm,0.3s,baz=176,slow=23,SNR=7.6						
BATI	Baumata	4.50	95	P	Pn	21 40 58.4	+2.1
BATI				S	Sn	21 41 47.8	+0.4
BKSI	Bulukumba	4.57	13	P	Pn	21 40 59.2	+1.9
BKSI				S	Sn	21 41 49.7	+0.5
SOEI	Soe	5.08	90	P	Pn	21 41 06.4	+2.0
BNSI	Bone	5.46	10	P	Pn	21 41 14.5	+4.9
BNSI				S	Sn	21 42 12.1	+0.9
BBSI	Bau Bau	5.49	39	P	Pn	21 41 11.3	+1.3
	8.8nm,0.7s						
SPSI	Sidrap Palu	5.84	6	P	Pn	21 41 17.1	+2.3
FITZ	Fitzroy Crossi	10.39	143	Pn	Pn	21 42 17.9	+0.8
	0.5nm,0.3s,baz=336,slow=10,SNR=25						
FITZ				Sn	Sn	21 44 03.9	-8.3
	1.3nm,0.3s,baz=202,slow=20,SNR=10						
FITZ				LR	LR	21 46 28.8	
	comp=Z,61nm,18.1s,baz=329,slow=38						
WRA	Warramunga Arr	17.81	126	P	Pn	21 43 56.1	+0.7
	0.2nm,0.3s,baz=306,slow=14,SNR=14						
WRA				S	Sn	21 46 58.9	-14
	0.3nm,0.3s,baz=291,slow=23,SNR=5.8						
WRA				LR	LR	21 52 21.8	
	comp=Z,48nm,18.0s,baz=320,slow=42						
WRAB	Tennant Creek	17.82	126	*e*Pn	Pn	21 43 55.9	+0.4
	0.4nm,0.8s						
ASAR	Alice Springs	19.73	136	P	P	21 44 18.3	+1.6
	0.1nm,0.3s,baz=319,slow=11,SNR=14						
ASAR				S	S	21 47 46.5	-10
	0.1nm,0.3s,baz=312,slow=24,SNR=2.9						
COCO	West Island	22.00	262	P	P	21 44 38.3	-2.8
	24nm,0.5s						
CTA	Charters Tower	28.09	114	LR	LR	21 57 16.6	
	comp=Z,182nm,22.0s,baz=254,slow=37						
CTAO	Charters Tower	28.09	114	P	P	21 45 40.4	+2.1
	1.3nm,0.4s						
PBKT	Sadao Pong	31.77	325	P	P	21 46 12.9	+2.1
CMAR	Chiang Mai Arr	34.43	325	P	P	21 46 33.4	-0.6
	0.7nm,0.5s,baz=148,slow=6.1,SNR=6.5						
HNR	Honiara	40.24	93	P	P	21 47 25.1	+1.7
	17nm,0.4s						
ENH	Enshi	40.91	347	P	P	21 47 27.2	-1.5
	2.6nm,0.5s						
PALK	Pallekele	41.86	293	P	P	21 47 35.2	-1.5
	3.4nm,1.2s						
H08S2	Diego Garcia H	46.11	269	T	T	22 37 38.8	
	baz=95,slow=75,SNR=19						
H08S3	Diego Garcia H	46.12	269	T	T	22 37 35.8	
	baz=95,slow=75,SNR=15						
H08S1	Diego Carcia H	46.13	269	T	T	22 37 39.0	
	baz=95,slow=75,SNR=3.7						
LSA	Lhasa	47.63	326	P	P	21 48 21.6	-1.4
	0.4nm,0.4s						
KSAR	Wonju Array Be	47.72	9	P	P	21 48 22.4	-0.5
KSRS	Korea Array	47.73	9	P	P	21 48 22.4	-0.7
	0.7nm,0.7s,baz=199,slow=7.9,SNR=2.9						
MAJO	Matsushiro	49.48	20	P	P	21 48 36.3	-0.3
	0.6nm,0.3s						
USRK	Ussuriysk Ar.	55.01	11	P	P	21 49 16.0	-1.4
	1.4nm,0.6s,baz=199,slow=6.8,SNR=4.5						
SONM	Songino Array	58.49	350	P	P	21 49 40.6	-1.7
	0.6nm,0.5s,baz=170,slow=7.8,SNR=4.3						
MKAR	Makanchi Array	65.23	333	P	P	21 50 26.4	-1.0
	0.8nm,0.4s,baz=154,slow=6.2,SNR=17						
ZALV	Zalesovo Beam	69.83	339	P	P	21 50 55.6	-0.7
	0.7nm,0.3s,baz=143,slow=4.8,SNR=4.4						
TORD	Torodi Ar. Bea	118.71	280	PKP	PKPdf	21 58 35.0	+0.3
	0.4nm,0.6s,baz=51,slow=2.3,SNR=5.0						

*ISCJB **03** 21:55:51.3±0.7, 36.30N±0.06×39.13E±0.05, h10km, Error ellipse: s-maj=9.5km s-min=5.8km az=161.5*
*ISK **03** 21:55:51.2, 36.33N×39.13E, h10km±1km, ML3.6/15*

ISC 03 21:55:52.1±1.2, 36.31N±0.05×39.12E±0.05, h10 km, n26, σ 0 92/27, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	Urfa	1.16	348	PN	Pb	21 56 13.7	-0.6
URFA				SN	Sb	21 56 29.5	+0.1
MAZI	Mazidag	1.56	42	PN	Pn	21 56 18.2	-1.9
GAZ	Gaziantep	1.76	300	PN	Pn	21 56 22.0	-0.8
SVRC	Sivrice-ELAZID	2.07	4	PN	Pn	21 56 26.8	-0.3
KMRS	Kahramanmaras	2.15	304	PN	Pn	21 56 26.8	-1.2
TAHT	Tahtakopru-Hat	2.37	272	PN	Pn	21 56 31.8	+0.7
SVAN	Silvan-Diyarba	2.47	41	PN	Pn	21 56 31.5	-1.0
PTK	Pertek	2.59	5	PN	Pn	21 56 34.8	+0.6
DARE	Darende-Malaty	2.61	330	PN	Pn	21 56 34.8	+0.4
YURE	YUREGIR	2.86	281	PN	Pn	21 56 37.9	+0.1
KOZT	Kozan	2.89	295	PN	Pn	21 56 37.7	-0.5
SIRT	Sirnak	2.91	65	PN	Pn	21 56 39.2	+0.6
BNGB	Bing¶ll	2.95	24	PN	Pn	21 56 39.7	+0.6
KRTS	Karatas	3.04	276	PN	Pn	21 56 41.2	+1.0
ILIC	ilic-Erzincan	3.17	352	PN	Pn	21 56 42.4	+0.2
GURO	Guroymak-BITLI	3.22	45	PN	Pn	21 56 42.0	-0.9
HWQ	Hawqa	3.30	233	*e*P	Pb	21 56 50.7	-0.1
YEDI	Yedisu-Bingol	3.32	19	PN	Pn	21 56 44.6	+0.3
VRTB	Varto-Mus	3.39	32	PN	Pn	21 56 45.9	+0.6
BNN	Bunyan	3.64	315	PN	Pn	21 56 49.9	+1.3
CUKT	Cukurca	3.72	74	PN	Pn	21 56 50.9	+1.2
BHL	Bhannes	3.72	231	*e*P	Pb	21 56 57.0	-1.0
DQRL	Deir Qamar	3.91	229	*e*P	Pb	21 57 01.0	-0.1
SHBL	Chebaa	4.06	224	*e*P	Pn	21 56 54.1	-0.3
AGRB	Hanur-Agry	4.47	42	PN	Pn	21 57 01.9	+1.8
YOZ	Yozgat	4.48	319	PN	Pn	21 57 01.5	+1.3

*IDC **03** 22:06:46.9±1.9, 15.24S×174.00W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/42, mbtmp4.1/4, ML3.9/1, MS3.7/23, Ms1 3.7/23, ms1mx3.7/30, Error ellipse: s-maj=122.9km s-min=20.5km az=150.0*
*NEIC **03** 22:06:48.3±0.5, 15.26S×174.02W, h10km, mb4.4/6, Error ellipse: s-maj=11.1km s-min=9.6km az=123.0*
*ISCJB **03** 22:06:53.1±0.6, 14.9S±0.1×174.06W±0.07, h73km, mb4.1/9, Error ellipse: s-maj=17.0km s-min=7.9km az=159.7*

ISC 03 22:06:55.1±0.7, 14.9S±0.1×173.99W±0.09, h73 km, n45, σ 1 95/15, mb4.3/9, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.37	65	Pn	Pn	22 07 29.7	-2.3
	24nm,0.3s,baz=105,slow=19,SNR=25						
AFI				Sn	Sn	22 08 00.5	+0.4
	12nm,0.3s,baz=39,slow=21,SNR=4.4						
AFI				LR	LR	22 08 29.3	
	comp=Z,1μm,18.6s,baz=268,slow=40						
FUNA	Funafuti	9.21	313	*e*Pn	Pn	22 09 03.7	-1.6
RAO	Raoul Island	14.71	194	Pn	Pn	22 10 10.5	-8.8
RAR	Rarotonga	14.89	117	LR	LR	22 15 07.0	
	comp=Z,177nm,19.0s,baz=280,slow=34						
DZM	Mont Dzumac	19.86	246	LR	LR	22 17 12.9	
	comp=Z,362nm,18.6s,baz=48,slow=32						
DZM	Mont Dzumac	19.86	246	*e*LR	LR	22 16 02.6	
	588nm,26.7s						
PPT	Papeete	23.58	100	LR	LR	22 19 45.6	
	comp=Z,52nm,18.6s,baz=285,slow=33						
PPT2	Papeete2	23.58	100	*e*LQ	LQ	22 16 38.5	
	1μm,30.8s						
PPT2				*e*LR	LR	22 17 42.9	
	129nm,26.8s						
PPT2	Papeete2	23.58	100	*e*T	T	22 36 27.2	
	7.4nm,0.3s						
PAE	Paea	23.58	100	*e*T	T	22 36 27.7	
	8.7nm,0.3s						
TIAR	Tiarei	23.80	100	*e*T	T	22 36 43.0	
	4.5nm,0.3s						
TVO	Taravao	23.90	100	*e*T	T	22 36 50.8	
	2.8nm,0.3s						
URZ	Urewera	24.54	197	LR	LR	22 19 57.9	
	comp=Z,463nm,21.2s,baz=17,slow=33						
TBI	Tubuai	24.61	114	*e*LQ	LQ	22 17 06.4	
	594nm,

JMA ***03*** *22:35:55.8±0.1, 43˚.04N×146˚.80E, h61km±2km, M4.0*
JMA Felt I J1.
SKHL ***03*** *22:35:56.3±0.6, 43˚.07N×146˚.86E, h66km±5km, mb4.6/6*
IDC ***03*** *22:35:57.9±2.9, 42˚.99N×146˚.91E, h72km±26km, mb3.5/12, mb1 3.7/14, mb1mx3.5/34, mbtmp3.8/14, MS3.1/3, Ms1 3.1/3, ms1mx2.5/40, Error ellipse: s-maj=19.3km s-min=16.8km az=101.0*

ISC 03 22:35:54.9±0.7, 42˚.99N±0˚.06×146˚.91E±0˚.06, h38km±2km, n69, σ1§39/89, mb4.0/17, MS3.3/3, 5C-7D, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.89**	**356**	*i* P	**Pn**	**22 36 11.0**	**+0.2**
SHO				AMB	AMB	22 36 12.5	
	830nm,0.4s						
SHO				AMB	AMB	22 36 12.5	
	400nm,0.4s						
SHO				AMB	AMB	22 36 12.5	
	1μm,0.4s						
SHO				*i* S	**Sn**	**22 36 22.9**	**+0.4**
SHO				A	A	22 36 23.7	
	6μm,0.6s						
SHO				A	A	22 36 23.7	
	679nm,0.6s						
SHO	**Shikotan**	**0.89**	**356**	*d* iPN	**Pn**	**22 36 11.8**	**+1.0**
SHO				*i* S	**Sn**	**22 36 22.8**	**+0.3**
SHO				pmax	pmax		
	comp=N,980nm,0.4s						
SHO				pmax	pmax		
	comp=E,425nm,0.4s						
SHO				pmax	pmax		
	comp=Z,2μm,0.4s						
SHO				smax	smax		
	comp=N,7μm,0.4s						
SHO				smax	smax		
	comp=E,6μm,0.4s						
NEM2	**Nemuro 2**	**0.93**	**294**	P	**Pn**	**22 36 12.0**	**+0.6**
NEM2				*e*S	**Sn**	**22 36 23.9**	**+0.3**
GLVR	**Golovnino**	**1.26**	**307**	*i* P	**Pn**	**22 36 16.0**	**0.0**
GLVR				AMB	AMB	22 36 16.0	
	comp=E,300nm,0.2s						
GLVR				AMB	AMB	22 36 16.0	
	comp=E,190nm,0.2s						
GLVR				AMB	AMB	22 36 16.0	
	comp=E,130nm,0.2s						
GLVR				*e*S	**Sn**	**22 36 31.0**	**-0.7**
GLVR				A	A	22 36 33.0	
	comp=E,2μm,0.4s						
GLVR				A	A	22 36 33.0	
	comp=E,379nm,0.4s						
GLVR	**Golovnino**	**1.26**	**307**	*c i* PN	**Pn**	**22 36 16.3**	**+0.3**
GLVR				*e*S	**Sn**	**22 36 31.6**	**-0.1**
GLVR				pmax	pmax		
	comp=Z,1μm,0.3s						
GLVR				pmax	pmax		
	comp=E,187nm,0.2s						
GLVR				pmax	pmax		
	comp=N,298nm,0.1s						
GLVR				smax	smax		
	comp=N,2μm,0.2s						
GLVR				smax	smax		
	comp=E,4μm,0.2s						
JKHN	**Kushirohamanak**	**1.28**	**275**	P	**Pn**	**22 36 17.0**	**+0.7**
JKHN				*e*S	**Sn**	**22 36 33.1**	**+0.9**
YUK	**Yuzh-Kuril'sk**	**1.30**	**324**	*i* P	**Pn**	**22 36 16.3**	**-0.2**
YUK				AMB	AMB	22 36 17.0	
	comp=E,280nm,0.3s						
YUK				AMB	AMB	22 36 17.0	
	comp=E,510nm,0.3s						
YUK				AMB	AMB	22 36 17.0	
	comp=E,270nm,0.3s						
YUK				*e*S	**Sn**	**22 36 31.0**	**-1.5**
YUK				A	A	22 36 32.7	
	comp=E,2μm,0.5s						
YUK				A	A	22 36 32.7	
	comp=E,29μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.30**	**324**	*d* iPN	**Pn**	**22 36 16.2**	**-0.2**
YUK				*e*S	**Sn**	**22 36 31.7**	**-0.8**
YUK				pmax	pmax		
	comp=E,510nm,0.2s						
YUK				pmax	pmax		
	comp=Z,3μm,0.2s						
YUK				pmax	pmax		
	comp=N,276nm,0.3s						
YUK				smax	smax		
	comp=N,924nm,0.4s						
YUK				smax	smax		
	comp=E,2μm,0.4s						
GRPR	**Tuman**	**1.30**	**321**	*i* P	**Pn**	**22 36 16.0**	**-0.5**
GRPR				AMB	AMB	22 36 17.0	
	comp=E,820nm,0.2s						
GRPR				AMB	AMB	22 36 17.0	
	comp=E,420nm,0.2s						
GRPR				AMB	AMB	22 36 17.0	
	comp=E,140nm,0.2s						
GRPR				*e*S	**Sn**	**22 36 31.0**	**-1.7**
GRPR				A	A	22 36 33.0	
	comp=E,1μm,0.3s						
GRPR				A	A	22 36 33.0	
	comp=E,259nm,0.3s						
GRPR	**Tuman**	**1.30**	**321**	*d* iPN	**Pn**	**22 36 16.3**	**-0.2**
GRPR				*e*S	**Sn**	**22 36 31.6**	**-1.1**
GRPR				pmax	pmax		
	comp=N,820nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,1μm,0.3s						
GRPR				pmax	pmax		
	comp=E,416nm,0.2s						
GRPR				smax	smax		
	comp=N,1μm,0.2s						
GRPR				smax	smax		
	comp=E,2μm,0.2s						
JRA	**Rausu**	**1.61**	**307**	P	**Pn**	**22 36 21.1**	**+0.3**
JRA				*e*S	**Sn**	**22 36 40.3**	**0.0**
JAK	**Akkeshi**	**1.62**	**271**	P	**Pn**	**22 36 21.5**	**+0.6**
JAK				*e*S	**Sn**	**22 36 40.4**	**-0.1**
JNK	**Nakash**	**1.71**	**291**	P	**Pn**	**22 36 22.1**	**0.0**
JNK				*e*S	**Sn**	**22 36 41.7**	**-1.0**
JOB	**Onbets**	**2.26**	**269**	P	**Pn**	**22 36 30.4**	**+0.8**
JOB				*e*S	**Sn**	**22 36 55.8**	**-0.4**
JAR	**Ashorobuto**	**2.32**	**279**	P	**Pn**	**22 36 31.2**	**+0.7**
JAR				*e*S	**Sn**	**22 36 57.6**	**-0.1**
KUR	**Kuril'sk**	**2.35**	**17**	*e*P	**Pn**	**22 36 31.7**	**+0.8**
KUR				AMB	AMB	22 36 34.0	
	comp=E,120nm,0.7s						
KUR				AMB	AMB	22 36 34.0	
	comp=E,230nm,0.7s						
KUR				AMB	AMB	22 36 34.0	
	comp=E,140nm,0.7s						
KUR				*e*S	**Sn**	**22 36 57.9**	**-0.6**
KUR				A	A	22 37 00.0	
	comp=E,380nm,0.4s						
KUR				A	A	22 37 00.0	
	comp=E,429nm,0.4s						
KUR	**Kuril'sk**	**2.35**	**17**	*e*PN	**Pn**	**22 36 32.0**	**+1.1**
KUR				*e*S	**Sn**	**22 36 57.5**	**-1.0**
KUR				pmax	pmax		
	comp=Z,89nm,0.4s						
KUR				pmax	pmax		
	comp=N,52nm,0.5s						
KUR				smax	smax		
	comp=E,334nm,0.5s						
KUR				smax	smax		
	comp=N,334nm,0.6s						
JTKR	**Abashiri--Toko**	**2.40**	**295**	P	**Pn**	**22 36 32.6**	**+1.1**
JTKR				*e*S	**Sn**	**22 37 00.6**	**+1.0**
JCH	**Churui**	**2.63**	**263**	P	**Pn**	**22 36 35.4**	**+0.6**
JCH				*e*S	**Sn**	**22 37 04.7**	**-0.8**
HRK	**Horoka**	**2.80**	**281**	*e*P	**Pn**	**22 36 38.7**	**+1.5**
HRK				*e*S	**Sn**	**22 37 10.0**	**+0.2**
JEM	**Erimo**	**2.94**	**252**	P	**Pn**	**22 36 40.6**	**+1.6**
ERM	**Erimo**	**2.94**	**252**	*de*PN	**Pn**	**22 36 41.2**	**+2.2**
JNBK	**Urakawa-nobuka**	**3.15**	**258**	P	**Pn**	**22 36 42.7**	**+0.9**
JNBK				*e*S	**Sn**	**22 37 17.6**	**-0.5**
JKK2	**Kamakawa 2**	**3.16**	**288**	P	**Pn**	**22 36 43.7**	**+1.7**
JFR	**Furan**	**3.17**	**275**	P	**Pn**	**22 36 43.5**	**+1.4**
JFR				*e*S	**Sn**	**22 37 18.6**	**-0.1**
JKA	**Kamikawa-asahi**	**3.33**	**291**	*e*P	**Pn**	**22 36 46.6**	**+2.2**
ASAJ	**Asahikawa**	**3.33**	**291**	P	**Pn**	**22 36 46.5**	**+2.1**
	comp=N,17nm,0.3s,baz=122,slow=9.4,SNR=86						
ASAJ				S	**Sn**	**22 37 27.6**	**+4.9**
	comp=N,15nm,0.3s,baz=331,slow=18,SNR=6.6						
ASAJ				LR	LR	22 38 14.8	
	comp=N,108nm,20.1s,baz=20,slow=41						
ASAJ	**Asahikawa**	**3.33**	**291**	P	**Pn**	**22 36 46.5**	**+2.1**
YSS	**Yuzh-Sakhalins**	**4.94**	**325**	*e*P	**Pn**	**22 37 07.7**	**+1.2**
YSS				AMB	AMB	22 37 08.8	
	comp=N,40nm,0.6s						
YSS				AMB	AMB	22 37 08.8	
	comp=N,4μm,0.6s						
YSS				*e*S	**Sn**	**22 38 01.5**	**-0.8**
YSS	**Yuzh-Sakhalins**	**4.94**	**325**	ǁ *e*PN	**Pn**	**22 37 07.6**	**+1.1**
YSS				*e*S	**Sn**	**22 38 03.6**	**+1.3**
YSS				pmax	pmax		
	comp=Z,30nm,0.6s						
MJA0	**Matsu Arr-Jizo**	**9.26**	**229**	*e*PN	**Pn**	**22 38 06.1**	**+0.2**
MAJO	**Matsushiro**	**9.28**	**229**	*e*P	**Pn**	**22 38 07.8**	**+1.6**
MAJO	**Matsushiro**	**9.28**	**229**	ǁ *e*PN	**Pn**	**22 38 07.8**	**+1.6**
MAJO				pmax	pmax		
	comp=Z,9.0nm,1.4s						
MJAR	**Matsushiro Arr**	**9.28**	**229**	P	**Pn**	**22 38 06.9**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=24,slow=14,SNR=5.1						
PETK	**Petropavlovsk-**	**12.42**	**32**	P	**Pn**	**22 38 47.7**	**-1.3**
	baz=198,slow=14						
BILL	**Bilibino**	**27.14**	**16**	*e*P	**P**	**22 41 37.0**	**+3.0**
BILL	**Bilibino**	**27.14**	**16**	ǁ *e*P	**P**	**22 41 37.0**	**+3.0**
BILL				*e*		22 42 18.3	
BILL				*i* S	**S**	**22 46 16.5**	**+7.0**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.6s						
BILL				MLR	MLR		
	comp=Z,42nm,13.0s						
ULN	**Ulaanbaatar**	**28.17**	**294**	*e*P	**P**	**22 41 43.5**	**-0.1**
ULN	**Ulaanbaatar**	**28.17**	**294**	ǁ *e*P	**P**	**22 41 43.5**	**-0.1**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.4s						
SONM	**Songino Array**	**28.61**	**294**	P	**P**	**22 41 47.1**	**-0.4**
	comp=Z,1.8nm,0.6s,baz=93,slow=8.7,SNR=11						
SONM	**Songino Array**	**28.61**	**294**	*e*P	**P**	**22 41 47.4**	**-0.1**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.65**	**138**	T	T	23 12 45.4	
	baz=329,slow=75,SNR=84						
H11N1	**WAKE ISLAND Hy**	**28.66**	**138**	T	T	23 12 50.2	
	baz=329,slow=75,SNR=75						
H11N3	**WAKE ISLAND Hy**	**28.66**	**138**	T	T	23 12 49.4	
	baz=329,slow=75,SNR=83						
H11S1	**WAKE ISLAND Hy**	**29.59**	**139**	T	T	23 13 58.2	
	baz=330,slow=76,SNR=135						
H11S3	**WAKE ISLAND Hy**	**29.60**	**139**	T	T	23 13 52.1	
	baz=330,slow=76,SNR=62						
H11S2	**WAKE ISLAND Hy**	**29.61**	**139**	T	T	23 13 56.6	
	baz=330,slow=76,SNR=73						
ZALV	**Zalesovo Beam**	**41.32**	**308**	P	**P**	**22 43 35.7**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=53,slow=5.7,SNR=4.2						
ZALV	**Zalesovo Beam**	**41.32**	**308**	*e*P	**P**	**22 43 37.1**	**+0.6**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	**Eielson Array**	**42.21**	**36**	P	**P**	**22 43 43.1**	**-0.5**
	comp=Z,0.6nm,0.9s,baz=259,slow=6.2,SNR=4.2						
ILAR	**Eielson Array**	**42.21**	**36**	*e*P	**P**	**22 43 45.0**	**+1.4**
ILAR	**Eielson Array**	**42.21**	**36**	*e*P	**P**	**22 43 45.0**	**+1.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**44.79**	**298**	P	**P**	**22 44 04.1**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=75,slow=8.5,SNR=10						
KURK	**Kurchatov**	**45.81**	**305**	*e*P	**P**	**22 44 11.9**	**-0.8**
KURK	**Kurchatov**	**45.81**	**305**	ǁ *e*P	**P**	**22 44 11.9**	**-0.8**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**47.15**	**30**	P	**P**	**22 44 22.6**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=291,slow=8.2,SNR=5.4						
BRVK	**Borovoye**	**49.90**	**310**	*e*P	**P**	**22 44 44.0**	**-0.3**
BRVK	**Borovoye**	**49.90**	**310**	ǁ *i*P	**P**	**22 44 44.0**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.7s						
PMG	**Port Moresby**	**52.14**	**180**	LR	LR	23 08 04.9	
	comp=Z,30nm,18.4s,baz=55,slow=37						
ARU	**Arti**	**54.78**	**317**	*e*P	**P**	**22 45 19.7**	**-0.7**
ARU	**Arti**	**54.78**	**317**	*c i*P	**P**	**22 45 19.7**	**-0.7**
ARU						22 47 20.1	
ARU				S	**S**	**22 52 57.5**	**-0.7**
ARU				pmax	pmax		
	comp=Z,12nm,2.5s						
ARCES	**ARCESS Array B**	**59.90**	**340**	P	**P**	**22 45 55.6**	**-0.8**
	comp=Z,5.6nm,1.1s,baz=37,slow=9.1,SNR=3.1						
WRA	**Warramunga Arr**	**63.67**	**193**	P	**P**	**22 46 21.4**	**-0.8**
	comp=Z,0.4nm,0.9s,baz=12,slow=7.0,SNR=3.3						
ASAR	**Alice Springs**	**67.39**	**193**	P	**P**	**22 46 46.3**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=343,slow=4.8,SNR=3.6						
NVAR	**Mina Array Bea**	**68.14**	**57**	P	**P**	**22 46 50.6**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=295,slow=6.6,SNR=6.7						
NB2	**NORSAR Subarra**	**70.25**	**339**	P	**P**	**22 47 02.4**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=32,slow=6.5						
NOA	**NORSAR Array B**	**70.25**	**339**	P	**P**	**22 47 02.3**	**-1.3**
	comp=Z,0.8nm,0.4s,baz=32,slow=6.5,SNR=8.8						
NOA				LR	LR	23 22 36.9	
	comp=Z,15nm,18.0s,baz=285,slow=40						
PDAR	**Pinedale Array**	**70.54**	**49**	P	**P**	**22 47 05.2**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=263,slow=1.9,SNR=6.9						
TXAR	**Lajitas Array**	**83.22**	**56**	P	**P**	**22 48 17.5**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=287,slow=3.7,SNR=3.7						

ATH ***03*** *22:41:23.0, 37˚.77N×26˚.94E, h17km±1km, ML2.3/5, Error ellipse: s-maj=3.0km s-min=1.3km az=264.0*
ISCJB ***03*** *22:41:24.2±0.3, 37˚.76N±0˚.02×26˚.94E±0˚.03, h8km±3km, Error ellipse: s-maj=3.9km s-min=3.0km az=160.7*
THE ***03*** *22:41:24.6, 37˚.68N×26˚.84E, h8km, ML2.1/5, Error ellipse: s-maj=2.1km s-min=0.8km az=69.0*
ISK ***03*** *22:41:24.4, 37˚.79N×26˚.98E, h8km, ML2.6/10*

ISC 03 22:41:23.7±0.8, 37˚.77N±0˚.02×26˚.94E±0˚.02, h10km±6km, n35, σ0§96/54, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMG	**Samos**	**0.10**	**235**	P	**Pg**	**22 41 26.4**	**+0.2**
SMG				S	**Sg**	**22 41 28.1**	**+0.1**
SMG				AML	AML	22 41 28.7	
	comp=E,7857μm,0.4s						
SMG				AML	AML	22 41 28.7	
	comp=N,17573μm,0.3s						
SMG	**Samos**	**0.10**	**235**	P	**Pg**	**22 41 26.3**	**+0.1**
SMG				S	**Sg**	**22 41 27.6**	**-0.4**
GCAM	**G?zelcaml?**	**0.24**	**105**	PG	**Pg**	**22 41 29.5**	**+0.9**
GCAM				SG	**Sg**	**22 41 32.8**	**+0.8**
GMLD	**Gumuldur**	**0.31**	**357**	PG	**Pb**	**22 41 31.3**	**-0.1**
GMLD				SG	**Sb**	**22 41 35.7**	**-0.9**
DIDI	**Didim-Aydin**	**0.46**	**148**	PG	**Pb**	**22 41 33.9**	**0.0**
DIDI				SG	**Sb**	**22 41 40.8**	**+0.1**
BLCB	**Balcova**	**0.62**	**8**	PG	**Pg**	**22 41 36.3**	**+0.5**
BLCB				SG	**Sb**	**22 41 45.4**	**-0.2**
URLA	**Izmir**	**0.65**	**336**	PG	**Pg**	**22 41 36.4**	**+0.1**
BODT	**Bodrum**	**0.76**	**157**	PG	**Pb**	**22 41 39.4**	**+0.3**
BODT	**Bodrum**	**0.76**	**157**	P	**Pg**	**22 41 38.0**	**-0.4**
BODT				S	**Sg**	**22 41 48.9**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**0.78**	**76**	PG	**Pb**	**22 41 39.7**	**+0.3**
AYDB				SG	**Sb**	**22 41 49.6**	**-0.5**
MLSB	**Milas**	**0.81**	**125**	PG	**Pb**	**22 41 40.2**	**+0.2**
KRBN	**Karaburun**	**0.88**	**340**	PG	**Pb**	**22 41 41.6**	**+0.5**
CHOS	**Chios island**	**0.93**	**312**	PG	**Pn**	**22 41 42.8**	**-0.2**
CHOS				SG	**Sn**	**22 41 56.8**	**+0.3**
CHOS	**Chios island**	**0.93**	**312**	P	**Pg**	**22 41 41.3**	**-0.4**
CHOS				S	**Sb**	**22 41 54.8**	**+0.2**
CHOS				AML	AML	22 41 56.7	
	comp=N,251μm,0.4s						
CHOS				AML	AML	22 41 57.1	
	comp=E,273μm,0.3s						
CHOS	**Chios island**	**0.93**	**312**	P	**Pg**	**22 41 41.9**	**+0.2**
CHOS				S	**Sn**	**22 41 55.4**	**-1.1**
DAT	**Datca**	**1.15**	**154**	PN	**Pg**	**22 41 46.9**	**+1.0**
NIS1	**Nisyros Isl.**	**1.18**	**171**	PN	**Pg**	**22 41 48.0**	**+1.7**
NIS1	**Nisyros Isl.**	**1.18**	**171**	P	**Pn**	**22 41 45.9**	**-0.4**
NIS1	**Nisyros Isl.**	**1.18**	**171**	P	**Pn**	**22 41 45.9**	**-0.4**
AMGA	**Amorgos Island**	**1.25**	**222**	P	**Pn**	**22 41 46.8**	**-0.5**
AMGA				S	**Sb**	**22 42 03.5**	**-0.1**
AMGA				AML	AML	22 42 07.1	
	comp=N,290μm,0.7s						
AMGA				AML	AML	22 42 08.7	
	comp=E,198μm,0.7s						
AMGA	**Amorgos Island**	**1.25**	**222**	P	**Pn**	**22 41 45.7**	**-1.6**
DKL	**Dikili**	**1.30**	**359**	PN	**Pg**	**22 41 48.9**	**+0.2**
DKL				SN	**Sg**	**22 42 07.2**	**+1.5**
APE	**Apeiranthos**	**1.32**	**239**	PN	**Pg**	**22 41 50.3**	**+1.3**
APE				SN	**Sg**	**22 42 09.1**	**+3.0**
APE	**Apeiranthos**	**1.32**	**239**	P	**Pn**	**22 41 48.0**	**-0.3**
APE				S	**Sn**	**22 42 05.8**	**-0.2**
APE	**Apeiranthos**	**1.32**	**239**	P	**Pn**	**22 41 45.9**	**-2.4**
APE				S	**Sb**	**22 42 03.5**	**-2.1**
KULA	**Kula-Manisa**	**1.55**	**61**	PN	**Pb**	**22 41 52.6**	**0.0**
PRK	**Paraskevi**	**1.57**	**341**	P	**Pn**	**22 41 52.1**	**+0.4**
PRK				S	**Sb**	**22 42 12.9**	**+0.2**
PRK				AML	AML	22 42 18.0	
	comp=N,133μm,0.5s						
PRK				AML	AML	22 42 21.3	
	comp=E,128μm,0.4s						
PRK	**Paraskevi**	**1.57**	**341**	P	**Pb**	**22 41 52.5**	**-0.3**
PRK				S	**Sg**	**22 42 14.4**	**+0.3**
TURN	**Turunc**	**1.60**	**123**	PN	**Pb**	**22 41 49.2**	**-2.9**
DALY	**Dalyan (Mu˘la**	**1.66**	**124**	PN	**Pb**	**22 41 54.1**	**-0.3**
SIGR	**SIGRI**	**1.68**	**330**	PN	**Pb**	**22 41 55.1**	**+0.4**
SIGR	**SIGRI**	**1.68**	**330**	P	**Pn**	**22 41 53.1**	**0.0**
SIGR				AML	AML	22 42 20.7	
	comp=N,70μm,0.5s						
SIGR				AML	AML	22 42 21.9	
	comp=E,91μm,0.4s						
SIGR	**SIGRI**	**1.68**	**330**	P	**Pn**	**22 41 52.5**	**-0.6**
SIGR				S	**Sb**	**22 42 15.7**	**-0.1**
IOSP	**Ios island**	**1.68**	**232**	P	**Pb**	**22 41 54.2**	**-0.5**
ANAF	**Anafi Island**	**1.69**	**214**	P	**Pn**	**22 41 54.1**	**+0.8**

ATH ***03*** *22:49:50.4, 37˚.77N×27˚.02E, h19km±2km, ML2.3/5, Error ellipse: s-maj=4.7km s-min=1.4km az=272.0*
ISCJB ***03*** *22:49:52.4±0.3, 37˚.76N±0˚.02×26˚.95E±0˚.03, h7km±3km, Error ellipse: s-maj=4.2km s-min=2.6km az=155.4*
THE ***03*** *22:49:52.3, 37˚.77N×26˚.97E, h3km±2km, ML2.2/4, Error ellipse: s-maj=2.5km s-min=0.5km az=216.0*
DDA ***03*** *22:49:52.8, 37˚.74N×27˚.02E, h24km, Ml2.4*
ISK ***03*** *22:49:52.2, 37˚.76N×26˚.96E, h6km, ML2.6/7*

ISC 03 22:49:52.6±0.8, 37˚.75N±0˚.02×26˚.94E±0˚.03, h11km±6km, n36, σ1§11/58, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMG	**Samos**	**0.09**	**243**	P	**Pg**	**22 49 55.0**	**-0.1**
SMG				S	**Sg**	**22 49 56.8**	**-0.1**
SMG				AML	AML	22 49 57.3	
	comp=E,9792μm,0.3s						
SMG				AML	AML	22 49 57.3	
	comp=N,17925μm,0.3s						
SMG	**Samos**	**0.09**	**243**	P	**Pg**	**22 49 54.9**	**-0.1**
SMG				S	**Sg**	**22 49 56.8**	**-0.1**
DGB	**˜zmir**	**0.31**	**352**	*i* P	**Pg**	**22 49 59.2**	**+0.4**
DGB				*i* S	**Sg**	**22 50 03.1**	**+0.3**
GMLD	**Gumuldur**	**0.33**	**357**	PG	**Pg**	**22 49 58.9**	**-0.2**
DIDI	**Didim-Aydin**	**0.44**	**147**	PG	**Pg**	**22 50 01.6**	**+0.3**
DIDI				SG	**Sg**	**22 50 08.1**	**+1.0**
BLCB	**Balcova**	**0.64**	**8**	PG	**Pg**	**22 50 04.6**	**-0.4**
URLA	**Izmir**	**0.67**	**336**	PG	**Pg**	**22 50 05.4**	**-0.1**
URLA				SG	**Sg**	**22 50 14.9**	**+0.6**
BODT	**Bodrum**	**0.75**	**156**	PG	**Pg**	**22 50 06.6**	**-0.4**
BODT				SG	**Sg**	**22 50 18.3**	**+1.5**
BODT	**Bodrum**	**0.75**	**156**	P	**Pg**	**22 50 06.7**	**-0.3**
BODT				S	**Sg**	**22 50 17.9**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**0.78**	**75**	PG	**Pg**	**22 50 08.2**	**+0.5**
AYDB				SG	**Sg**	**22 50 17.5**	**-0.4**
MLSB	**Milas**	**0.81**	**124**	PG	**Pg**	**22 50 07.7**	**-0.5**
MLSB				SG	**Sg**	**22 50 19.1**	**+0.4**
KRBN	**Karaburun**	**0.90**	**341**	PG	**Pb**	**22 50 10.1**	**0.0**
KRBN				SG	**Sb**	**22 50 22.1**	**0.0**
CHOS	**Chios island**	**0.94**	**313**	PG	**Pb**	**22 50 10.7**	**-0.3**
CHOS	**Chios island**	**0.94**	**313**	P	**Pb**	**22 50 09.9**	**-1.1**
CHOS				S	**Sb**	**22 50 22.9**	**-0.6**
CHOS				AML	AML	22 50 25.1	
	comp=E,349μm,0.3s						
CHOS				AML	AML	22 50 25.1	
	comp=N,256μm,0.4s						
CHOS	**Chios island**	**0.94**	**313**	P	**Pb**	**22 50 10.6**	**-0.4**
CHOS				S	**Sb**	**22 50 24.3**	**+0.8**
DAT	**Datca**	**1.14**	**153**	PN	**Pb**	**22 50 14.3**	**-0.1**
DAT				SN	**Sg**	**22 50 30.7**	**+1.4**
DAT	**Datca**	**1.14**	**153**	*i* P	**Pb**	**22 50 13.7**	**-0.7**
DAT				*i* S	**Sb**	**22 50 30.6**	**+1.4**
NIS1	**Nisyros Isl.**	**1.16**	**170**	PN	**Pn**	**22 50 15.5**	**-0.7**
NIS1	**Nisyros Isl.**	**1.16**	**170**	P	**Pn**	**22 50 14.6**	**-0.2**
AMGA	**Amorgos Island**	**1.24**	**223**	P	**Pn**	**22 50 15.3**	**-0.5**
AMGA				S	**Sb**	**22 50 33.1**	**+1.2**
AMGA				AML	AML	22 50 35.6	
	comp=N,231μm,0.6s						
AMGA				AML	AML	22 50 37.2	
	comp=E,208μm,0.6s						
APE	**Apeiranthos**	**1.31**	**239**	PN	**Pn**	**22 50 17.4**	**+0.6**
APE	**Apeiranthos**	**1.31**	**239**	P	**Pn**	**22 50 16.8**	**0.0**
APE				S	**Sn**	**22 50 34.9**	**+0.5**
APE	**Apeiranthos**	**1.31**	**239**	P	**Pn**	**22 50 16.7**	**-0.1**
DKL	**Dikili**	**1.32**	**359**	PN	**Pn**	**22 50 17.9**	**+0.9**
PRK	**Paraskevi**	**1.58**	**341**	P	**Pn**	**22 50 19.1**	**-1.4**
PRK				S	**Sn**	**22 50 40.9**	**-0.2**
PRK				AML	AML	22 50 46.5	
	comp=N,89μm,0.8s						
PRK				AML	AML	22 50 49.8	
	comp=E,86μm,0.4s						
PRK	**Paraskevi**	**1.58**	**341**	P	**Pn**	**22 50 19.5**	**-1.1**
PRK				S	**Sn**	**22 50 41.1**	**0.0**
TURN	**Turunc**	**1.59**	**123**	PN	**Pn**	**22 50 17.7**	**-3.0**
TURN	**Turunc**	**1.59**	**123**	*i* P	**Pn**	**22 50 17.8**	**-3.0**
TURN				*i* S	**Sn**	**22 50 37.3**	**-4.0**
DALY	**Dalyan (Mu˘la**	**1.66**	**124**	PN	**Pn**	**22 50 22.9**	**+1.3**
ANAF	**Anafi Island**	**1.67**	**214**	P	**Pn**	**22 50 21.9**	**+0.1**
SIGR	**SIGRI**	**1.69**	**330**	PN	**Pn**	**22 50 23.2**	**+1.2**
SIGR	**SIGRI**	**1.69**	**330**	P	**Pn**	**22 50 20.8**	**-1.2**
SIGR				AML	AML	22 50 49.2	
	comp=N,62μm,0.5s						
SIGR				AML	AML	22 50 51.6	
	comp=E,102μm,0.6s						
SIGR	**SIGRI**	**1.69**	**330**	P	**Pn**	**22 50 20.8**	**-1.2**
SIGR				S	**Sn**	**22 50 43.

PPT	**Papeete**	**23.56**	**99**	LR	LR	23 11 55.3		
	comp=Z,54nm,18.7s,baz=284,slow=33							
PPT2	**Papeete2**	**23.56**	**99**	*e*LQ	LQ	23 08 53.0		
	1μm,26.5s							
PPT2				*e*LR	LR	23 09 52.9		
	236nm,26.2s							
PPT2	**Papeete2**	**23.56**	**99**	*e*T	T	23 28 38.5		
	12nm,0.3s							
TIAR	**Tiarei**	**23.78**	**99**	*e*T	T	23 28 54.0		
	5.2nm,0.3s							
URZ	**Urewera**	**24.10**	**197**	LR	LR	23 12 28.5		
	comp=Z,637nm,19.1s,baz=16,slow=34							
TBI	**Tubuai**	**24.48**	**113**	*e*LQ	LQ	23 09 18.1		
	849nm,27.8s							
TBI				*e*LR	LR	23 10 09.9		
	494nm,30.2s							
TBI	**Tubuai**	**24.48**	**113**	*e*T	T	23 29 49.6		
	40nm,0.4s							
VAH	**Vaihoa**	**25.47**	**93**	*e*T	T	23 31 00.0		
	15nm,0.3s							
HNR	**Honiara**	**26.07**	**280**	LR	LR	23 14 44.6		
	comp=Z,105nm,18.0s,baz=121,slow=36							
HNR	**Honiara**	**26.07**	**280**	P	**P**	**23 04 33.7**	**-0.3**	
	5.3nm,0.2s							
TAOE	**Nuku Hiva Isla**	**33.73**	**83**	*e*T	T	23 41 17.2		
	29nm,0.2s							
RKT	**Rikitea**	**37.59**	**108**	*e*T	T	23 46 11.0		
	14nm,0.3s							
CTAO	**Charters Tower**	**38.05**	**257**	P	**P**	**23 06 18.8**	**-0.3**	
	2.0nm,0.4s							
H11S2	**WAKE ISLAND Hy**	**38.63**	**330**	T	T	23 47 08.9		
	baz=149,slow=76,SNR=185							
H11S3	**WAKE ISLAND Hy**	**38.64**	**330**	T	T	23 47 09.9		
	baz=149,slow=76,SNR=157							
H11S1	**WAKE ISLAND Hy**	**38.64**	**330**	T	T	23 47 10.3		
	baz=149,slow=76,SNR=149							
H11N3	**WAKE ISLAND Hy**	**39.59**	**331**	T	T	23 48 32.7		
	baz=151,slow=76,SNR=146							
H11N1	**WAKE ISLAND Hy**	**39.59**	**331**	T	T	23 48 29.9		
	baz=151,slow=76,SNR=172							
H11N2	**WAKE ISLAND Hy**	**39.60**	**331**	T	T	23 48 30.8		
	baz=151,slow=76,SNR=127							
TAU	**Tasmania Unive**	**42.92**	**222**	P	**P**	**23 06 58.4**	**-0.7**	
	2.7nm,0.8s							
STKA	**Stephens Creek**	**43.52**	**240**	P	**P**	**23 07 03.8**	**-0.3**	
	1.2nm,0.3s,baz=70,slow=13,SNR=2.2							
STKA				LR	LR	23 24 09.3		
	comp=Z,183nm,18.2s,baz=32,slow=35							
WRAB	**Tennant Creek**	**49.24**	**257**	*e*P	**P**	**23 07 49.0**	**-0.3**	
	7.7nm,1.0s							
WRA	**Warramunga Arr**	**49.25**	**257**	P	**P**	**23 07 48.6**	**-0.8**	
	2.7nm,1.1s,baz=91,slow=7.5,SNR=16							
WRA				LR	LR	23 27 15.6		
	comp=Z,205nm,19.0s,baz=95,slow=35							
ASAR	**Alice Springs**	**49.53**	**252**	P	**P**	**23 07 50.3**	**-1.2**	
	4.0nm,0.7s,baz=87,slow=7.2,SNR=38							
MBWA	**Marble Bar**	**62.78**	**254**	P	**P**	**23 09 25.5**	**-0.7**	
	2.8nm,0.6s							
SBA	**Scott Base**	**63.23**	**184**	P	**P**	**23 09 28.7**	**+0.5**	
	0.3nm,0.7s							
VNDA	**Vanda**	**63.34**	**186**	P	**P**	**23 09 29.2**	**+0.3**	
	0.6nm,0.9s,baz=14,slow=5.5,SNR=4.9							
VNDA				LR	LR	23 32 04.9		
	comp=Z,36nm,20.9s,baz=18,slow=31							
NWAO	**Narrogin (SRO)**	**64.10**	**241**	P	**P**	**23 09 34.6**	**-0.2**	
	1.7nm,0.5s							
MJAR	**Matsushiro Arr**	**68.52**	**320**	LR	LR	23 34 25.8		
	comp=Z,71nm,21.8s,baz=150,slow=31							
MAJO	**Matsushiro**	**68.52**	**320**	P	**P**	**23 10 03.6**	**+0.6**	
	0.8nm,0.5s							
YBH	**Yreka Blue Hor**	**73.95**	**37**	P	**P**	**23 10 38.0**	**+2.2**	
	0.9nm,0.7s,baz=252,slow=3.2,SNR=3.8							
QSPA	**South Pole Qui**	**74.67**	**180**	*e*P	**P**	**23 10 40.4**	**+0.6**	
	0.5nm,0.6s							
NVAR	**Mina Array Bea**	**74.72**	**42**	P	**P**	**23 10 42.3**	**+1.8**	
	1.4nm,1.1s,baz=226,slow=7.3,SNR=3.3							
NVAR				LR	LR	23 35 48.8		
	comp=Z,128nm,18.9s,baz=254,slow=30							
KSRS	**Korea Array**	**75.71**	**316**	LR	LR	23 41 26.0		
	comp=Z,50nm,18.5s,baz=136,slow=34							
USRK	**Ussuriysk Ar.**	**76.99**	**323**	LR	LR	23 38 06.8		
	comp=Z,77nm,20.5s,baz=140,slow=30							
MA2	**Magadan**	**79.95**	**343**	P	**P**	**23 11 09.1**	**0.0**	
	2.9nm,0.4s							
TXAR	**Lajitas Array**	**81.11**	**56**	P	**P**	**23 11 17.8**	**+1.6**	
	0.6nm,0.8s,baz=274,slow=3.6,SNR=5.2							
TXAR				LR	LR	23 41 55.5		
	comp=Z,85nm,18.2s,baz=0.0,slow=32							
ILAR	**Eielson Array**	**82.54**	**11**	P	**P**	**23 11 23.9**	**+1.2**	
	1.2nm,1.0s,baz=234,slow=4.6,SNR=5.4							
ILAR				LR	LR	23 41 53.3		
	comp=Z,58nm,19.3s,baz=186,slow=31							
PDAR	**Pinedale Array**	**82.66**	**42**	LR	LR	23 41 23.9		
	comp=Z,105nm,20.0s,baz=278,slow=31							
MAW	**Mawson**	**87.62**	**199**	LR	LR	23 49 24.1		
	comp=Z,141nm,18.0s,baz=62,slow=35							
PLCA	**Paso Flores**	**89.99**	**132**	LR	LR	23 43 41.3		
	comp=Z,87nm,19.7s,baz=274,slow=30							
CMAR	**Chiang Mai Arr**	**92.02**	**288**	LR	LR	23 47 56.8		
	comp=Z,46nm,20.8s,baz=38,slow=32							
ULM	**Lac du Bonnet**	**94.30**	**39**	LR	LR	23 50 29.0		
	comp=Z,139nm,20.8s,baz=248,slow=33							
SONM	**Songino Array**	**94.41**	**318**	LR	LR	23 48 45.7		
	comp=Z,64nm,20.9s,baz=64,slow=32							
BRTR	**Keskin Array B**	**145.75**	**320**	PKPbc	**PKPab**	**23 18 39.5**	**-0.7**	
	1.3nm,0.8s,baz=116,slow=2.9,SNR=7.2							
GERES	**GERESS Array B**	**146.02**	**351**	PKPbc	**PKPab**	**23 18 40.4**	**-0.4**	
	0.4nm,0.6s,baz=98,slow=2.8,SNR=4.3							

KRSC 03 23:12:52.9±1.2, 55°.98N×164°.21E, h16km±30km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.81**	**287**	*e*P	Pb	23 13 08.3	-0.3
KBTR				*e*S	Sg	23 13 19.9	+0.5
BKI	**Bering**	**1.27**	**127**	*e*P	Pn	23 13 15.8	0.0
BKI				*e*S	Sb	23 13 32.3	0.0
SMKR	**Semkarok**	**1.65**	**293**	*e*P	Pn	23 13 21.2	+0.1
SMKR				*e*S	Sn	23 13 42.6	+0.7
BDR	**Baidarnaya**	**1.78**	**291**	*e*P	Pb	23 13 24.0	-1.0
BDR				*e*S	Sb	23 13 46.9	-0.2
SRKR	**Sorokina**	**1.82**	**293**	*e*P	Pn	23 13 23.8	+0.2
SRKR				*e*S	Sn	23 13 46.3	-0.1
ZLN	**Zelenaya**	**1.92**	**272**	*e*P	Pb	23 13 27.0	-0.4
ZLN				*e*S	Sb	23 13 52.7	+1.6
LGNR	**Loginova**	**1.98**	**274**	*e*P	Pb	23 13 28.0	-0.6
KLY	**Klyuchi**	**2.02**	**281**	*e*P	Pn	23 13 26.3	+0.1
KLY				*e*S	Sn	23 13 50.8	-0.2
KRSR	**Krestovskiy**	**2.06**	**278**	*e*P	Pn	23 13 28.1	+1.3
KRSR				*e*S	Sb	23 13 54.3	-0.9
TUMD	**Tumrok D**	**2.30**	**252**	*e*P	Pb	23 13 33.0	-1.0
TUMD				*e*S	Sb	23 14 02.3	+0.2
SPN	**Mys Shipunski**	**3.78**	**222**	*e*S	Sn	23 14 35.9	+1.4
NLC	**Nalytchevo**	**4.00**	**227**	*e*S	Sn	23 14 43.5	+3.8
AVH	**Avacha**	**4.19**	**232**	*e*P	Pb	23 14 01.4	-4.7
GNL	**Ganaly**	**4.29**	**240**	*e*P	Pn	23 14 01.8	+4.3
KRMR	**Karymshinskiy**	**4.75**	**231**	*e*S	Sn	23 15 02.6	+4.2

*IDC **04** 00:16:31.5±0.7, 14°.84S×167°.38E, h132km±5km, mb4.5/28, mb1 4.5/30, mb1mx4.4/45, mbtmp4.9/30, MS3.6/19, Ms1 3.6/19, ms1mx3.4/44, Error ellipse: s-maj=11.0km s-min=8.5km az=95.0*

*MOS **04** 00:16:31.3±0.9, 14°.81S×167°.35E, h146km, mb4.8/14, Error ellipse: s-maj=10.7km s-min=9.7km az=22.6*

*BJI **04** 00:16:32.4, 14°.34S×167°.27E, h127km, mb4.6/31, mB4.8/20*

*ISCJB **04** 00:16:32.0±0.9, 14°.86S±0°.03×167°.37E±0°.04, h151km±9km, mb4.8/79, Error ellipse: s-maj=6.2km s-min=5.2km az=179.0*

*NEIC **04** 00:16:32.7±0.7, 14°.83S×167°.34E, h142km±6km, mb4.9/31, Error ellipse: s-maj=4.5km s-min=4.0km az=89.0*

NEIC Felt at Luganville.

*GCMT **04** 00:16:33.6±0.3, 14°.68S±0°.02×167°.11E±0°.02, h129km±2km, MW5.1/79, Moment Tensor Solution. s31,c40; s79,c115; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 0.31±.12; Mθθ 0.04±.16; Mϕϕ 0.27±.14; Mrθ 1.34±.10; Mϕθ 5.39±.14; Mϕr 0.76±.10; Best double couple: M0 5.61300×10^16 NP1: ϕ92.00000°, δ82.00000°, λ14.00000°. NP2: ϕ360.00000°, δ76.00000°, λ172.00000°. Principal axes: T 5.6510, Plg16.0000°, Azm316.0000°; N -0.0760,*

Plg74.0000°, Azm121.0000°; P -5.5750, Plg4.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 04 00:16:32.3±0.5, 14°.85S±0°.04×167°.35E±0°.05, h138km±4km, h139km: pP-P, n222, σ1°.34/230, mb4.9/79, 7C-5D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.23**	**187**	P	**Pn**	**00 18 15.7**	**+0.1**
	116nm,0.3s,baz=103,slow=13,SNR=188						
DZM				S	**Sn**	**00 19 35.8**	**-0.6**
	27nm,0.3s,baz=310,slow=22,SNR=7.5						
DZM				LR	LR	00 20 17.1	
	comp=Z,440nm,21.0s,baz=72,slow=31						
DZM	**Mont Dzumac**	**7.23**	**187**	*e*Pn	**Pn**	**00 18 15.6**	**+0.1**
	731nm,1.1s						
DZM				*e*Sn	**Sn**	**00 19 33.8**	**-2.6**
	2μm,1.2s						
DZM				*e*LR	LR	00 19 44.7	
	1μm,27.4s						
DZM	**Mont Dzumac**	**7.23**	**187**	*e*Pn	**Pn**	**00 18 16.0**	**+0.5**
DZM				*e*Sn	**Sn**	**00 19 37.5**	**+1.1**
HNR	**Honiara**	**9.02**	**306**	P	**Pn**	**00 18 39.7**	**+0.2**
	82nm,0.3s,baz=197,slow=4.1,SNR=19						
HNR				S	**Sn**	**00 20 21.7**	**+2.2**
	52nm,0.3s,baz=238,slow=22,SNR=12						
HNR				LR	LR	00 22 02.7	
	comp=Z,135nm,20.9s,baz=144,slow=37						
HNR	**Honiara**	**9.02**	**306**	*e*P	**Pn**	**00 18 40.0**	**+0.5**
HNR				*e*S	**Sn**	**00 20 12.0**	**-7.6**
FUNA	**Funafuti**	**13.19**	**63**	*e*Pn	**Pn**	**00 19 36.2**	**+1.7**
LHI	**Lord Howe Isla**	**18.24**	**203**	*e*P	**P**	**00 20 33.5**	**-1.5**
	109nm,1.1s						
EIDS	**Eidsvold**	**18.50**	**233**	P	**Pn**	**00 20 40.2**	**+0.5**
	baz=19,SNR=79						
EIDS	**Eidsvold**	**18.50**	**233**	*e*P	**Pn**	**00 20 40.0**	**+0.3**
	183nm,0.7s						
AFI	**Afiamalu**	**20.24**	**90**	LR	LR	00 26 23.3	
	comp=Z,160nm,19.8s,baz=247,slow=29						
AFI	**Afiamalu**	**20.24**	**90**	*e*P	**P**	**00 20 56.6**	**-0.4**
	61nm,1.2s						
AFI	**Afiamalu**	**20.24**	**90**	*e*P	**P**	**00 20 56.6**	**-0.4**
AFI				pmax	pmax		
	comp=Z,61nm,1.2s						
PMG	**Port Moresby**	**20.46**	**283**	P	**P**	**00 20 59.5**	**+0.3**
	comp=Z,38nm,0.8s,baz=97,slow=5.4,SNR=7.3						
PMG				LR	LR	00 27 34.9	
	comp=Z,299nm,18.2s,baz=66,slow=32						
CTA	**Charters Tower**	**20.78**	**252**	P	**P**	**00 21 03.0**	**+0.3**
	comp=Z,50nm,0.8s,baz=76,slow=12,SNR=56						
CTA				S	**S**	**00 24 49.2**	**+2.1**
	comp=Z,5.1nm,1.0s,baz=88,slow=21,SNR=5.5						
CTAO	**Charters Tower**	**20.78**	**252**	*e*P	**P**	**00 21 03.5**	**+0.9**
	comp=Z,63nm,0.8s						
CTAO	**Charters Tower**	**20.78**	**252**	*e*P	**P**	**00 21 03.5**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,63nm,0.8s						
RMQ	**Roma**	**20.86**	**233**	P	**P**	**00 21 05.2**	**+1.7**
	baz=21,SNR=61						
ARMA	**Armidale**	**21.18**	**220**	P	**P**	**00 21 08.5**	**+1.5**
	baz=21,SNR=19						
ARMA	**Armidale**	**21.18**	**220**	*e*P	**P**	**00 21 07.8**	**+0.8**
	comp=Z,80nm,1.0s						
PATS	**Pohnpei**	**23.34**	**337**	P	**P**	**00 21 28.9**	**+0.5**
	baz=23,SNR=3.5						
PATS	**Pohnpei**	**23.34**	**337**	*e*P	**P**	**00 21 26.5**	**-1.9**
	comp=Z,128nm,1.2s						
COEN	**Coen**	**23.43**	**269**	P	**P**	**00 21 30.1**	**+0.8**
	baz=24,SNR=7.3						
COEN	**Coen**	**23.43**	**269**	*e*P	**P**	**00 21 29.1**	**-0.2**
	comp=Z,13nm,0.8s						
MGCD	**Mangrove Creek**	**23.48**	**216**	P	**P**	**00 21 31.0**	**+1.5**
	baz=24,SNR=38						
RIV	**Riverview**	**23.91**	**215**	P	**P**	**00 21 35.0**	**+1.6**
	baz=24,SNR=17						
QLP	**Quilpie**	**24.52**	**238**	P	**P**	**00 21 39.9**	**+0.9**
	baz=25,SNR=64						
URZ	**Urewera**	**24.86**	**161**	P	**P**	**00 21 42.8**	**+0.8**
	comp=Z,12nm,0.8s,baz=277,slow=2.8,SNR=7.0						
URZ	**Urewera**	**24.86**	**161**	*e*P	**P**	**00 21 43.4**	**+1.4**
BKZ	**Black Stump Fm**	**25.52**	**163**	*e*P	**P**	**00 21 48.2**	**+0.1**
	comp=Z,27nm,1.0s						
YNG	**Young**	**25.84**	**218**	P	**P**	**00 21 52.0**	**+1.0**
	baz=26,SNR=8.3						
CMSA	**Cobar Meteorol**	**25.84**	**226**	P	**P**	**00 21 51.4**	**+0.4**
	baz=26,SNR=70						
CNB	**Canberra Magne**	**26.00**	**215**	P	**P**	**00 21 53.4**	**+0.9**
	baz=26,SNR=24						
CAN	**Canberra**	**26.21**	**216**	*e*P	**P**	**00 21 54.9**	**+0.6**
	comp=Z,68nm,1.7s						
CAN	**Canberra**	**26.21**	**216**	*e*P	**P**	**00 21 54.9**	**+0.6**
CAN				pmax	pmax		
	comp=Z,68nm,1.7s						
QIS	**Mount Isa**	**27.01**	**254**	P	**P**	**00 22 01.8**	**+0.2**
	baz=27,SNR=5.0						
THZ	**Tophouse**	**27.24**	**171**	*e*P	**P**	**00 22 03.4**	**-0.1**
	comp=Z,60nm,1.3s						
KHZ	**Kahutara**	**27.98**	**170**	*e*P	**P**	**00 22 10.1**	**+0.2**
	comp=Z,68nm,1.5s						
LTZ	**Lake Taylor**	**28.15**	**172**	*e*P	**P**	**00 22 12.0**	**+0.4**
	comp=Z,24nm,0.8s						
OXZ	**Oxford**	**28.66**	**173**	*e*P	**P**	**00 22 15.8**	**-0.2**
	comp=Z,25nm,0.8s						
FOZ	**Fox Glacier**	**28.66**	**176**	*e*P	**P**	**00 22 16.1**	**+0.2**
	comp=Z,66nm,1.1s						
RPZ	**Rata Peaks**	**28.94**	**174**	P	**P**	**00 22 18.5**	**0.0**
	comp=Z,21nm,0.7s,baz=280,slow=3.3,SNR=7.9						
RPZ	**Rata Peaks**	**28.94**	**174**	*e*P	**P**	**00 22 18.4**	**0.0**
	comp=Z,100nm,1.6s						
STKA	**Stephens Creek**	**28.97**	**230**	P	**P**	**00 22 19.6**	**+0.6**
	comp=Z,55nm,0.6s,baz=44,slow=7.8,SNR=128						
STKA				ScP	**ScP**	**00 28 52.6**	**-0.6**
	comp=Z,2.9nm,0.8s,baz=42,slow=7.4,SNR=3.6						
STKA	**Stephens Creek**	**28.97**	**230**	P	**P**	**00 22 20.1**	**+1.2**
	baz=29,SNR=63						
MQZ	**McQueen's Vall**	**29.11**	**172**	*e*P	**P**	**00 22 20.1**	**+0.2**
	comp=Z,113nm,1.7s						
LBZ	**Lake Benmore**	**29.53**	**176**	*e*P	**P**	**00 22 24.1**	**+0.4**
	comp=Z,28nm,1.0s						
TOO	**Toolangi**	**29.80**	**217**	P	**P**	**00 22 27.0**	**+0.8**
	baz=30,SNR=10						
WKZ	**Wanaka**	**29.91**	**178**	*e*P	**P**	**00 22 27.7**	**+0.6**
	comp=Z,247nm,1.9s						
MLZ	**Mavora Lakes**	**30.42**	**179**	*e*P	**P**	**00 22 32.2**	**+0.6**
	comp=Z,121nm,1.8s						
SMPI	**Sarmi**	**31.02**	**292**	P	**P**	**00 22 38.5**	**+1.3**
	comp=Z,75nm,1.4s						
ARPS	**Mount Arapiles**	**31.50**	**221**	P	**P**	**00 22 42.1**	**+0.9**
	baz=32,SNR=12						
HTT	**Hallett**	**31.70**	**229**	P	**P**	**00 22 43.9**	**+1.0**
	baz=32,SNR=36						
WB2	**Warramunga Arr**	**31.86**	**256**	*e*P	**P**	**00 22 43.6**	**-1.0**
WB2				*e*S	**S**	**00 27 44.3**	**-0.9**
WRAB	**Tennant Creek**	**31.86**	**256**	*e*P	**P**	**00 22 43.5**	**-1.0**
	comp=Z,9.4nm,0.9s						
WRAB	**Tennant Creek**	**31.86**	**256**	*e*P	**P**	**00 22 43.1**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,14nm,1.2s						
WRA	**Warramunga Arr**	**31.87**	**256**	P	**P**	**00 22 43.4**	**-1.2**
	comp=Z,8.6nm,0.9s,baz=85,slow=8.9,SNR=48						
WRA				S	**S**	**00 27 41.0**	**-4.5**
	comp=Z,2.3nm,1.0s,baz=86,slow=14,SNR=4.5						
WRA				ScP	**ScP**	**00 29 04.1**	**+1.2**
	comp=Z,2.4nm,0.9s,baz=86,slow=3.3,SNR=8.3						
WRA				LR	LR	00 35 38.6	
	comp=Z,158nm,18.2s,baz=85,slow=36						
AS01	**Alice Springs**	**32.66**	**249**	*e*P	**P**	**00 22 50.2**	**-1.3**
AS31	**Alice Springs**	**32.70**	**249**	*e*P	**P**	**00 22 50.5**	**-1.4**
	comp=Z,12nm,0.9s						
ASAR	**Alice Springs**	**32.70**	**249**	P	**P**	**00 22 50.8**	**-1.1**
	comp=Z,32nm,0.9s,baz=78,slow=9.1,SNR=141						
ASAR				PcP	**PcP**	**00 25 33.7**	**-0.7**
	comp=Z,2.5nm,0.9s,baz=71,slow=6.1,SNR=4.0						
ASAR				S	**S**	**00 27 55.5**	**-2.8**
	comp=Z,6.1nm,1.2s,baz=78,slow=16,SNR=12						
ASAR				ScP	**ScP**	**00 29 07.3**	**+1.6**
	comp=Z,4.1nm,0.9s,baz=87,slow=3.3,SNR=14						
BBOO	**Buckleboo**	**33.56**	**232**	P	**P**	**00 22 59.8**	**+0.6**
	baz=34,SNR=82						
BBOO	**Buckleboo**	**33.56**	**232**	*e*P	**P**	**00 23 00.0**	**+0.8**
	comp=Z,62nm,0.6s						
FAKI	**Fak Fak**	**36.58**	**285**	*e*P	**P**	**00 23 25.0**	**-0.3**
	comp=Z,32nm,1.2s						
KNRA	**Kununurra**	**37.20**	**264**	P	**P**	**00 23 30.0**	**-0.5**
	baz=37,SNR=8.3						

WRKA	**Warakurna**	**37.96**	**248**	P	**P**	**00 23 36.1**	**-0.8**	
	baz=38,SNR=69							
SIJI	**Sorong**	**38.26**	**288**	P	**P**	**00 23 38.7**	**-0.7**	
	baz=70,slow=15							
XMAS	**Kiritimati**	**38.68**	**67**	*e*P	**P**	**00 23 42.5**	**-0.4**	
	comp=Z,73nm,1.2s							
JOHN	**Johnston Islan**	**38.81**	**37**	*e*P	**P**	**00 23 44.0**	**+0.1**	
	comp=Z,244nm,1.9s							
FORT	**Forrest**	**39.30**	**239**	P	**P**	**00 23 48.0**	**+0.1**	
	baz=39,SNR=27							
FORT	**Forrest**	**39.30**	**239**	*e*P	**P**	**00 23 48.3**	**+0.4**	
	comp=Z,75nm,0.7s							
FITZ	**Fitzroy Crossi**	**40.07**	**259**	P	**P**	**00 23 54.4**	**-0.1**	
	comp=Z,13nm,0.6s,baz=89,slow=8.1,SNR=54							
FITZ				LR	LR	00 40 42.3		
	comp=Z,151nm,18.1s,baz=84,slow=36							
FITZ	**Fitzroy Crossi**	**40.07**	**259**	P	**P**	**00 23 54.3**	**-0.1**	
	baz=40,SNR=38							
FITZ	**Fitzroy Crossi**	**40.07**	**259**	*e*P	**P**	**00 23 54.3**	**-0.1**	
	comp=Z,20nm,0.9s							
PPT2	**Papeete2**	**41.39**	**100**	*e*LR	LR	00 35 57.0		
	comp=Z,118nm,25.5s							
SOEI	**Soe**	**42.35**	**272**	*e*P	**P**	**00 24 13.6**	**+0.4**	
	comp=Z,13nm,0.8s							
SOEI	**Soe**	**42.35**	**272**	P	**P**	**00 24 15.8**	**+2.6**	
	comp=Z,16nm,0.9s							
SANI	**Sanana**	**42.74**	**283**	P	**P**	**00 24 17.8**	**+1.5**	
	comp=Z,32nm,1.1s							
BATI	**Baumata**	**42.84**	**271**	P	**P**	**00 24 18.1**	**+0.9**	
	comp=Z,34nm,0.6s,baz=73,slow=1.8,SNR=6.7							
BATI	**Baumata**	**42.84**	**271**	P	**P**	**00 24 19.2**	**+2.0**	
	comp=Z,21nm,0.7s							
EDFI	**Ende, Flores**	**45.04**	**272**	P	P	00 24 27.7	-7.1	
MBWA	**Marble Bar**	**45.59**	**255**	*e*P	**P**	**00 24 39.0**	**+0.1**	
	comp=Z,32nm,0.9s							
MEEK	**Meekatharra**	**46.81**	**247**	P	**P**	**00 24 48.1**	**-0.3**	
	baz=47,SNR=20							
WBSI	**Waikabubak, Su**	**47.08**	**271**	P	P	00 25 01.9	+11	
KLBR	**Kellerberrin**	**48.11**	**241**	P	**P**	**00 24 57.8**	**-0.6**	
	baz=48,SNR=5.8							
CBIJ	**Chichi jima**	**48.33**	**330**	P	**P**	**00 24 59.5**	**-0.5**	
JCJ	**Chichijima**	**48.33**	**330**	P	**P**	**00 24 59.5**	**-0.5**	
	comp=Z,40nm,0.5s							
NWAO	**Narrogin (SRO)**	**48.75**	**239**	P	**P**	**00 25 02.6**	**-0.6**	
	comp=Z,21nm,0.9s,baz=296,slow=9.7,SNR=4.7							
NWAO				LR	LR	00 45 18.9		
	comp=Z,144nm,18.2s,baz=334,slow=35							
NWAO	**Narrogin (SRO)**	**48.75**	**239**	P	**P**	**00 25 02.7**	**-0.6**	
	baz=49,SNR=4.4							
NWAO	**Narrogin (SRO)**	**48.75**	**239**	*e*P	**P**	**00 25 02.6**	**-0.6**	
	comp=Z,77nm,1.5s							
NWAO	**Narrogin (SRO)**	**48.75**	**239**	*e*P	**P**	**00 25 02.7**	**-0.6**	
NWAO				pmax	pmax			
	comp=Z,77nm,1.5s							
MORW	**Morawa**	**49.28**	**244**	P	**P**	**00 25 07.3**	**-0.1**	
	baz=49,SNR=5.6							
TWSI	**Taliwang, Sumb**	**49.69**	**271**	P	**P**	**00 25 11.8**	**+1.2**	
	comp=Z,42nm,1.0s,comp=Z,664nm							
RIM	**Rim**	**50.11**	**48**	*e*P	**P**	**00 25 14.1**	**+0.3**	
	comp=Z,127nm,1.3s							
PUH	**Pauahi**	**50.14**	**48**	*e*P	**P**	**00 25 14.3**	**+0.3**	
	comp=Z,47nm,0.7s							
MYLDM	**Lahad Datu**	**52.34**	**289**	*e*P	**P**	**00 25 30.5**	**+0.1**	
	comp=Z,55nm,1.4s							
KKM	**Kota Kinabalu**	**54.77**	**289**	*e*P	**P**	**00 25 48.5**	**+0.2**	
	comp=Z,79nm,1.4s							
JOW	**Kunigami**	**56.19**	**317**	P	**P**	**00 25 57.9**	**-0.1**	
	comp=Z,10nm,0.5s,baz=145,slow=5.9,SNR=4.4							
JOW	**Kunigami**	**56.19**	**317**	*e*P	**P**	**00 25 57.6**	**-0.5**	
	comp=Z,65nm,1.3s							
SBUM	**Sibu**	**57.21**	**283**	*e*P	**P**	**00 26 05.4**	**-0.1**	
	comp=Z,6.2nm,1.2s							
MJAR	**Matsushiro Arr**	**58.05**	**332**	P	**P**	**00 26 09.6**	**-1.4**	
	comp=Z,22nm,1.4s,baz=288,slow=6.5,SNR=20							
MJAR				pP	**pP**	**00 26 41.6**	**-2.1**	
	comp=Z,3.8nm,1.0s,baz=167,slow=7.9,SNR=3.1							
MAJO	**Matsushiro**	**58.05**	**332**	*e*P	**P**	**00 26 10.6**	**-0.4**	
	comp=Z,16nm,1.0s							
MAJO	**Matsushiro**	**58.05**	**332**	*e*P	**P**	**00 26 10.6**	**-0.4**	
MAJO				pmax	pmax			
	comp=Z,16nm,1.0s							
MAT	**Matsushiro**	**58.05**	**332**	P	**P**	**00 26 09.9**	**-1.1**	
MJB9	**Matsu-Tunnel**	**58.06**	**332**	*e*P	**P**	**00 26 10.6**	**-0.4**	
	comp=Z,17nm,1.1s							
LEM	**Lembang**	**59.06**	**271**	LR	LR	00 50 52.5		
	comp=Z,64nm,21.1s,baz=46,slow=35							
JNU

	comp=Z,25nm,1.7s						
CHTO	**Chiang Mai**	**75.20**	**294**	P		**P**	**00 28 02.0 +1.8**
	comp=Z,40nm,1.7s						
HHC	**Hu-ho-hao-te**	**75.73**	**320**	*e*P		**P**	**00 28 03.5 +0.6**
HHC				S		**S**	**00 37 33.5 +0.1**
HHC				pmax	pmax		
	comp=Z,13nm,1.4s						
HHC				pmax	pmax		
	comp=Z,130nm,7.0s						
CD2	**Chengdu**	**76.15**	**308**	*e*P		**P**	**00 28 05.5 +0.1**
HIA	**Hailar**	**76.43**	**330**	⇓*i*P		**P**	**00 28 07.1 +0.5**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CHGN	**Chignik**	**76.46**	**19**	*e*P		**P**	**00 28 06.8 +0.4**
	comp=Z,113nm,0.7s						
SEY	**Seymchan**	**78.41**	**353**	⇓*e*P		**P**	**00 28 16.9 -0.3**
LZH	**Lanzhou**	**78.46**	**312**	*e*P		**P**	**00 28 21.9 +3.6**
LZH				pP	pP		00 28 55.0 +2.2
LZH				pmax	pmax		
	comp=Z,21nm,1.4s						
LZH				pmax	pmax		
	comp=Z,86nm,4.9s						
MAW	**Mawson**	**81.80**	**202**	P		**P**	**00 28 35.4 -0.1**
	comp=Z,4.0nm,0.8s,baz=120,slow=5.7,SNR=12						
MAW				LR	LR		01 02 21.2
	comp=Z,45nm,18.2s,baz=63,slow=34						
MAW	**Mawson**	**81.80**	**202**	P		**P**	**00 28 36.0 +0.6**
	baz=82,SNR=7.6						
YAK	**Yakutsk**	**82.17**	**343**	*e*P		**P**	**00 28 36.4 -0.9**
YAK				pmax	pmax		
	comp=Z,17nm,1.0s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.4s						
ULN	**Ulaanbaatar**	**82.28**	**324**	*e*P		**P**	**00 28 38.2 -0.3**
	comp=E,10nm,1.1s						
ULN	**Ulaanbaatar**	**82.28**	**324**	*ce*P		**P**	**00 28 39.0 +0.5**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
SONM	**Songino Array**	**82.64**	**324**	P		**P**	**00 28 39.9 -0.5**
	comp=Z,5.0nm,1.0s,baz=140,slow=6.2,SNR=16						
SONA1	**Songino Array**	**82.64**	**324**	*e*P		**P**	**00 28 40.5 +0.1**
BILL	**Bilibino**	**82.67**	**360**	⇓*e*P		**P**	**00 28 38.9 -0.9**
BILL				pmax	pmax		
	comp=Z,13nm,1.4s						
GTA	**Gaotai**	**82.81**	**314**	⇓P		**P**	**00 28 42.8 +1.4**
GTA				pP	pP		00 29 18.5 +2.3
GTA				S		**S**	**00 38 49.0 +0.6**
GTA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,86nm,5.7s						
GTA				LR	LR		
	comp=Z,310nm,19.0s						
GTA				LR	LR		
	comp=Z,200nm,20.3s						
GTA				LR	LR		
	comp=Z,100nm,20.3s						
IM3	**Indian Mountai**	**85.67**	**15**	*e*P		**P**	**00 28 55.2 +0.2**
PAS	**Pasadena**	**85.86**	**53**	P		**P**	**00 28 54.1 -2.6**
ILAR	**Eielson Array**	**86.62**	**18**	P		**P**	**00 28 58.3 -1.4**
	comp=Z,0.8nm,0.4s,baz=235,slow=5.0,SNR=24						
ILAR				pP		**pP**	**00 29 33.4 -1.5**
	comp=Z,2.3nm,0.8s,baz=237,slow=5.1,SNR=4.3						
ILB	**Eielson Array**	**86.62**	**18**	*e*P		**P**	**00 28 58.8 -1.0**
IL1	**Eielson Array**	**86.62**	**18**	*e*P		**P**	**00 28 58.7 -1.1**
IL1				*e*pP		**pP**	**00 29 35.3 +0.5**
NV01	**Mina Array Sit**	**87.29**	**49**	*e*P		**P**	**00 29 03.3 -0.6**
NV01				*e*pP		**pP**	**00 29 42.5 +3.4**
NVAR	**Mina Array Bea**	**87.29**	**49**	P		**P**	**00 29 03.3 -0.6**
	comp=Z,0.3nm,0.6s,baz=225,slow=8.2,SNR=3.9						
NVAR				pP		**pP**	**00 29 38.5 -0.6**
	comp=Z,0.6nm,0.6s,baz=232,slow=10,SNR=3.1						
NVAR				LR	LR		01 01 46.6
	comp=Z,55nm,19.9s,baz=291,slow=31						
SYO	**Syowa Base**	**88.61**	**197**	⇑*e*P		**P**	**00 29 08.8 -0.5**
SYO	**Syowa Base**	**88.61**	**197**	⇑*e*PcP		**P**	**00 29 10.1 +0.8**
SYO	**Syowa Base**	**88.61**	**197**	⇑*e*pP		pP	00 29 45.0 +0.5
TIXI	**Tiksi**	**90.11**	**349**	P		**P**	**00 29 15.8 -0.3**
	comp=Z,1.9nm,0.3s,baz=295,slow=1.9,SNR=5.6						
WMQ	**Urumqi**	**92.87**	**315**	*e*P		**P**	**00 29 30.5 +0.9**
WMQ				LR	LR		
	comp=Z,75nm,19.7s						
WMQ				LR	LR		
	comp=Z,35nm,21.1s						
WMQ				LR	LR		
	comp=Z,51nm,22.5s						
SNAA	**Sanae**	**93.43**	**183**	P		**P**	**00 29 28.2 -3.6**
SNAA	**Sanae**	**93.43**	**183**	⇑*e*P		**P**	**00 29 31.5 -0.3**
VNA3	**Neumayer Olymp**	**94.09**	**181**	P		**P**	**00 29 33.3 -1.4**
VNA2	**Neumayer--Watz**	**94.36**	**182**	P		**P**	**00 29 34.8 -1.2**
	baz=178,slow=4.1						
VNA1	**Neumayer--Stat**	**94.66**	**181**	P		**P**	**00 29 35.9 -1.4**
PDAR	**Pinedale Array**	**94.97**	**47**	LR		LR	01 11 04.9
	comp=Z,40nm,18.1s,baz=320,slow=34						
TXAR	**Lajitas Array**	**96.27**	**61**	LR		LR	01 07 24.4
	comp=Z,16nm,19.4s,baz=0.0,slow=32						
MK01	**Makanchi Array**	**97.33**	**316**	*e*P		**P**	**00 29 49.6 -0.2**
MK31	**Makanchi Array**	**97.35**	**316**	*e*P		**P**	**00 29 49.5 -0.4**
MKAR	**Makanchi Array**	**97.35**	**316**	P		**P**	**00 29 49.6 -0.3**
	comp=Z,0.9nm,0.4s,baz=81,slow=6.5,SNR=16						
MKAR	**Makanchi Array**	**97.35**	**316**	*e*P		**P**	**00 29 49.7 -0.2**
MKAR	**Makanchi Array**	**97.35**	**316**	*i* P		**P**	**00 29 50.2 +0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAA0	**Zalesovo Array**	**97.54**	**324**	*e*P		**P**	**00 29 49.8 -0.7**
	comp=Z,2.4nm,0.6s						
ZALV	**Zalesovo Beam**	**97.54**	**324**	P		**P**	**00 29 49.3 -1.3**
	comp=Z,1.5nm,0.7s,baz=116,slow=5.1,SNR=7.6						
ZALV				LR	LR		01 12 40.2
	comp=Z,8.4nm,21.2s,baz=72,slow=34						
KSH	**Kashi**	**100.33**	**308**	*e*P		**Pdif**	**00 30 07.2 +3.6**
KURK	**Kurchatov**	**100.55**	**320**	PP		PP	00 34 09.0 -3.8
KURBB	**Kurchatov Arra**	**100.58**	**320**	PP		PP	00 34 09.0 -4.1
	comp=Z,0.7nm,0.9s,baz=102,slow=6.4,SNR=3.6						
ARCES	**ARCESS Array B**	**120.39**	**345**	PKP		**PKPdf**	**00 35 06.1 -0.6**
	comp=Z,1.8nm,0.4s,baz=86,slow=2.2,SNR=57						
OBN	**Obninsk**	**124.85**	**328**	⇑*e*PKIKP		**PKPdf**	**00 35 13.6 -2.0**
OBN				pmax	pmax		
	comp=Z,18nm,1.9s						
KIV	**Kislovodsk**	**124.99**	**314**	*e*PKIKP		**PKPdf**	**00 35 13.2 -3.2**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MATP	**Matopo**	**126.48**	**230**	PKP		**PKPdf**	**00 35 19.9 -0.1**
	comp=Z,0.5nm,0.3s,baz=202,slow=5.4,SNR=5.4						
LSZ	**Lusaka**	**129.75**	**235**	SKPbc	SKPbc		00 38 37.4 +1.3
	comp=Z,3.5nm,1.0s,baz=147,slow=5.0,SNR=5.2						
NB2	**NORSAR Subarra**	**130.76**	**345**	PKP		**PKPdf**	**00 35 27.6 +0.8**
	comp=Z,0.1nm,0.4s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**130.76**	**345**	PKP		**PKPdf**	**00 35 26.4 -0.4**
	comp=Z,0.1nm,0.3s,baz=26,slow=2.0,SNR=2.9						
NOA				SKPbc		**SKPbc**	**00 38 38.9 +0.7**
	comp=Z,2.8nm,1.0s,baz=30,slow=3.0,SNR=5.6						
AKASG	**Malin Array Be**	**130.88**	**326**	SKPbc		**SKPbc**	**00 38 39.3 +0.5**
	comp=Z,0.4nm,0.4s,baz=49,slow=4.7,SNR=5.2						
BRTR	**Keskin Array B**	**132.65**	**311**	PKP		**PKPdf**	**00 35 32.5 +1.3**
	comp=Z,0.3nm,0.5s,baz=52,slow=2.4,SNR=2.6						
BRTR				SKPbc		**SKPbc**	**00 38 45.5 -0.3**
	comp=Z,0.6nm,1.0s,baz=165,slow=1.1,SNR=2.6						
TSUM	**Tsumeb**	**134.93**	**222**	PKP		**PKPdf**	**00 35 36.3 +0.2**
	comp=Z,1.4nm,1.0s,baz=79,slow=3.9,SNR=6.8						
ALN	**Alexandroupoli**	**137.58**	**315**	*e*PKPdf		**PKPdf**	**00 35 38.4 -1.7**
ALN	**Alexandroupoli**	**137.58**	**315**	*e*PKIKP		**PKPdf**	**00 35 38.4 -1.7**
GERES	**GERESS Array B**	**139.79**	**333**	PKHKP		PKPpre	00 35 38.6
	comp=Z,0.3nm,0.4s,baz=49,slow=3.3,SNR=7.4						
BOJS	**Bojanci**	**141.45**	**328**	*e*PKPdf		**PKPdf**	**00 35 48.0 +1.0**
BOJS	**Bojanci**	**141.45**	**328**	*e*PKPdf		**PKPdf**	**00 35 48.0 +1.0**
JAVS	**Javornik**	**141.78**	**330**	*e*PKPdf		**PKPdf**	**00 35 46.7 -1.0**
JAVS	**Javornik**	**141.78**	**330**	*e*PKPdf		**PKPdf**	**00 35 46.7 -1.0**
WATA	**Walderalm**	**141.86**	**333**	*e*PKPdf		**PKPdf**	**00 35 44.7 -3.2**
	comp=Z,0.6nm,0.4s						
ABTA	**Abfaltersbach**	**141.89**	**332**	*e*PKPdf		**PKPdf**	**00 35 44.4 -3.5**
	comp=Z,1.0nm,0.5s						
MOTA	**Moosalm**	**142.06**	**334**	*e*PKPdf		**PKPdf**	**00 35 44.8 -3.5**
	comp=Z,0.6nm,0.4s						
SQTA	**Sankt Quirin**	**142.11**	**333**	*e*PKPdf		**PKPdf**	**00 35 45.4 -3.0**
	comp=Z,3.2nm,0.9s						
FUORN	**Ofenpass-Fuorn**	**142.99**	**334**	*e*PKPdf		**PKPdf**	**00 35 47.6 -2.4**
TUE	**Stuetta**	**143.49**	**334**	*e*PKPdf		PKPbc	00 35 48.9 +0.3
SENIN	**Lac Senin/Sane**	**144.41**	**336**	*e*PKPdf		PKPbc	00 35 51.9 +0.6
AQU	**L'Aquila**	**144.58**	**326**	*e*PKPdf		PKPbc	00 35 52.5 +0.8
AQU	**L'Aquila**	**144.58**	**326**	*e*PKIKP		PKPbc	00 35 52.5 +0.7
TIP	**Timpagrande**	**144.59**	**319**	*e*PKPdf		**PKPab**	**00 35 52.4 +0.6**
BNI	**Bardonecchia**	**145.74**	**335**	*e*PKPdf		**PKPbc**	**00 35 56.3 +0.9**
BNI	**Bardonecchia**	**145.74**	**335**	*e*PKP2		**PKPbc**	**00 35 56.3 +0.9**
SSB	**Saint Sauveur**	**146.37**	**338**	*e*PKPdf		**PKPbc**	**00 35 57.6 +0.4**
SSB	**Saint Sauveur**	**146.37**	**338**	*e*PKP2		**PKPbc**	**00 35 57.6 +0.4**
KEST	**Kesra**	**151.35**	**321**	PKPbc		**PKPbc**	**00 36 10.6 +0.4**
	comp=Z,1.9nm,0.3s,baz=140,slow=1.9,SNR=26						
ESDC	**Sonseca Array**	**154.12**	**345**	PKPab		**PKPab**	**00 36 30.1 -0.1**
	comp=Z,0.4nm,0.5s,baz=1.9,slow=4.8,SNR=6.1						
TORD	**Torodi Ar. Bea**	**165.98**	**265**	PKP		**PKPdf**	**00 36 20.8 -1.0**
	comp=Z,0.7nm,0.9s,baz=175,slow=1.0,SNR=3.8						
TORD				PKPab		**PKPab**	**00 37 21.9 -0.8**
	comp=Z,1.5nm,1.0s,baz=67,slow=4.3,SNR=5.1						

MEX 04 00:17:05.6±0.5, 15°.93N×96°.77W, h25km±12km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.65**	**104**	*e*P	Pb	00 17 16.4	-1.9
HUIG				*e*S	Sb	00 17 24.7	-2.4
VHO	**Vista Hermosa**	**1.14**	**2**	*e*P	Pn	00 17 23.1	-3.1
VHO				*e*S	Sn	00 17 37.1	-4.0
PNIG	**Pinotepa**	**1.39**	**290**	*e*P	Pn	00 17 26.1	-3.4
PNIG				*e*S	Sn	00 17 43.5	-3.6

MEX 04 00:25:03.8±0.7, 17°.01N×100°.13W, h5km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.13**	**286**	*i* P	Pg	00 25 06.1	-0.4
CAIG				*e*S	Sg	00 25 08.3	0.0
ACP2	**Acapulco**	**0.27**	**120**	*i* P	Pg	00 25 08.4	-0.7
ACP2				*e*S	Sg	00 25 12.8	+0.1
MEIG	**Mezcala**	**1.03**	**28**	*e*P	Pg	00 25 20.5	-3.2
MEIG				*e*S	Sg	00 25 33.8	-3.3
ARIG	**Puente Sto Nin**	**1.28**	**351**	*e*P	Pg	00 25 24.5	-3.8
ARIG				*e*S	Sg	00 25 41.2	-3.8
ZIIG	**Zihuatanejo**	**1.40**	**295**	*e*P	Pn	00 25 26.4	-3.7
ZIIG				*e*S	Sb	00 25 43.8	-5.0
PLIG	**Platanillo**	**1.50**	**24**	*e*P	Pn	00 25 28.1	-3.4
PLIG				*e*S	Sn	00 25 46.4	-5.1
TLIG	**Tlapa**	**1.59**	**70**	*e*P	Pn	00 25 29.9	-2.9
TLIG				*i* S	Sn	00 25 49.4	-4.5

*IDC **04** 00:57:38.9±1.9, 52°.15N×132°.20W, h0km, mb3.7/1, mb1 3.6/5, mb1mx3.3/49, mbtmp3.4/5, ML3.5/4, Error ellipse: s-maj=25.7km s-min=11.2km az=50.0*
*ISCJB **04** 00:57:39.9±1.2, 52°.27N±0°.08×131°.9W±0°.2, h10km, mb3.7/1, Error ellipse: s-maj=16.7km s-min=7.5km az=144.0*

ISC 04 00:57:40.4±1.4, 52°.2N±0°.1×132°.0W±0°.1, h10km, n11, σ2s49/11, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H02S1	**DAWSON INLET T**	**1.08**	**344**	**Pg**	**Pg**	**00 57 58.4**	**-2.8**
H02N1	**VAN INLET T-PH**	**1.14**	**343**	Pg	**Pn**	**00 58 00.7**	**-1.8**
BBB	**Bella Bella**	**2.39**	**88**	Pn	**Pn**	**00 58 19.4**	**-0.2**
	2.8nm,0.3s,baz=274,slow=16,SNR=8.7						
BBB				Pg	**Pb**	**00 58 24.9**	**+1.4**
	16nm,0.3s,baz=278,slow=17,SNR=25						
BBB				Sn	**Sn**	**00 58 44.2**	**-4.6**
	22nm,0.3s,baz=259,slow=16,SNR=7.3						
BBB				Lg	Lg	00 58 51.4	
	38nm,0.3s,baz=43,slow=19,SNR=9.8						
DLBC	**Dease Lake**	**6.39**	**9**	Pn	**Pn**	**00 59 16.7**	**+2.2**
	0.5nm,0.3s,baz=207,slow=14,SNR=10.0						
DLBC				Sn	**Sn**	**01 00 28.6**	**+1.1**
	0.3nm,0.3s,baz=234,slow=6.0,SNR=3.2						
DLBC				Lg	Lg	01 00 57.3	
	0.3nm,0.3s,baz=187,slow=9.4,SNR=4.1						
ILAR	**Eielson Array**	**14.79**	**334**	Pn	**P**	**01 01 17.4**	**+2.0**
	0.1nm,0.3s,baz=153,slow=10,SNR=9.0						
NVAR	**Mina Array Bea**	**16.73**	**140**	Pn	**P**	**01 01 37.1**	**-0.1**
	0.0nm,0.3s,baz=316,slow=8.3,SNR=3.8						
PDAR	**Pinedale Array**	**17.78**	**113**	P	**P**	**01 01 51.0**	**+2.1**
	0.1nm,0.3s,baz=298,slow=6.8,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**57.00**	**260**	T	T	02 09 45.0	
	baz=40,slow=76,SNR=23						
H11N3	**WAKE ISLAND Hy**	**57.00**	**260**	T	T	02 09 45.1	
	baz=40,slow=76,SNR=23						
H11N1	**WAKE ISLAND Hy**	**57.01**	**260**	T	T	02 09 45.8	
	baz=40,slow=76,SNR=21						
ZALV	**Zalesovo Beam**	**69.89**	**338**	P	**P**	**01 08 50.6**	**-0.3**
	0.4nm,0.4s,baz=12,slow=7.8,SNR=2.8						

KRSC 04 01:09:55.2±1.0, 52°.82N×160°.59E, h45km±11km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.44**	**309**	*e*P	Pn	01 10 06.7	+1.3
SPN				*e*S	Sn	01 10 13.2	+0.6
NLC	**Nalytchevo**	**0.83**	**295**	*e*P	Pn	01 10 11.8	+1.4
NLC				*e*S	Sn	01 10 22.6	+1.1
SMAR	**Somma**	**1.16**	**293**	*e*P	Pn	01 10 16.8	+1.6
PET	**Petropavlovsk**	**1.19**	**281**	*e*P	Pn	01 10 17.0	+1.7
PET				*e*S	Sn	01 10 31.1	+0.8
AVH	**Avacha**	**1.20**	**292**	*e*P	Pn	01 10 17.7	+2.1
KOK	**Koryaka**	**1.27**	**293**	*e*P	Pn	01 10 18.5	+2.0
KOK				*e*S	Sn	01 10 33.5	+1.1
KRX	**Arik**	**1.29**	**295**	*e*P	Pn	01 10 18.7	+1.9
KRX				*e*S	Sn	01 10 34.2	+1.3
RUS	**Russkaya**	**1.32**	**254**	*e*P	Pn	01 10 18.6	+1.4
RUS				*e*S	Sn	01 10 34.3	+0.7
KRMR	**Karymshinskiy**	**1.49**	**271**	*e*P	Pn	01 10 21.1	+1.6
KRMR				*e*S	Sn	01 10 38.2	+0.5
GNL	**Ganaly**	**1.81**	**300**	*e*P	Pn	01 10 27.5	+3.5
GNL				*e*S	Sn	01 10 49.1	+3.3
KDTR	**Khodutka, Kamc**	**1.84**	**238**	*e*P	Pn	01 10 26.3	+2.0
TUMD	**Tumrok D**	**2.39**	**357**	*e*P	Pn	01 10 35.5	+3.7
TUMD				*e*S	Sn	01 11 03.0	+3.2
ZLN	**Zelenaya**	**3.20**	**2**	*e*P	Pn	01 10 46.8	+3.7
KBTR	**Krutoberegovo**	**3.63**	**20**	*e*P	Pn	01 10 52.3	+3.4
BKI	**Bering**	**3.97**	**51**	*e*P	Pn	01 10 56.3	+2.8

DJA 04 01:20:46.4±0.3, 8°.3S×112°.4E±°, h10km, M3.9/7, mb4.7/1, MLv3.5/7, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.44**	**246**	P	Pn	01 21 11.2	-1.3
MMRI				S	Sn	01 21 30.5	-1.0
SOEI	**Soe**	**1.82**	**158**	P	Pb	01 21 19.0	-0.9
EDFI	**Ende, Flores**	**1.98**	**250**	P	Pn	01 21 19.2	-0.9
EDFI				S	Sn	01 21 44.5	-0.6
BATI	**Baumata**	**2.13**	**178**	P	Pb	01 21 24.1	-1.1
BATI				S	Sb	01 21 51.3	-0.5
BBSI	**Bau Bau**	**2.74**	**339**	P	Pn	01 21 30.6	+0.1
BBSI				S	Sn	01 22 05.8	+2.1
BKSI	**Bulukumba**	**4.37**	**308**	P	Pn	01 21 52.0	-0.9
BNSI	**Bone**	**5.01**	**316**	P	Pb	01 22 15.2	+1.0

IDC 04 01:37:05.5±5.6, 5°.66S×147°.42E, h191km±56km, mb3.3/2, mb1 3.4/4, mb1mx3.1/34, mbtmp3.7/4, MS3.6/1, Ms1 3.6/1, ms1mx2.5/24, Error ellipse: s-maj=89.7km s-min=44.4km az=130.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.73**	**184**	P	Pn	01 38 05.5	+1.9
	7.8nm,0.3s,baz=354,slow=10,SNR=8.0						
PMG				S	Sn	01 38 48.8	-0.5
	5.0nm,0.3s,baz=37,slow=20,SNR=4.1						
WRA	**Warramunga Arr**	**19.06**	**221**	P	P	01 41 13.7	+0.1
	0.3nm,0.3s,baz=47,slow=12,SNR=25						
ASAR	**Alice Springs**	**22.14**	**215**	P	P	01 41 46.8	+0.8
	0.7nm,0.7s,baz=49,slow=7.9,SNR=14						
FITZ	**Fitzroy Crossi**	**24.60**	**238**	P	P	01 42 08.3	-0.1
	2.4nm,0.4s,baz=53,slow=10,SNR=28						
DAV	**Davao City (W)**	**25.20**	**300**	LR	LR	01 51 18.0	
	comp=Z,140nm,21.9s,baz=330,slow=34						
TORD	**Torodi Ar. Bea**	**145.41**	**285**	PKPbc	PKPdf	01 56 20.4	-1.3
	baz=105,slow=2.9						

*IDC **04** 01:48:14.0±0.6, 10°.57N×126°.82E, h0km, mb4.1/18, mb1 4.2/18, mb1mx4.1/41, mbtmp4.1/18, MS3.0/9, Ms1 3.0/9, ms1mx2.7/43, Error ellipse: s-maj=29.7km s-min=12.3km az=77.0*
*NEIC **04** 01:48:15.5±0.3, 10°.57N×126°.87E, h10km, mb4.1/3, Error ellipse: s-maj=15.8km s-min=6.4km az=78.0*
*MAN **04** 01:48:16.4, 10°.81N×126°.94E, h32km, mb5.2, ML4.2, MS4.3*
*DJA **04** 01:48:28.3±1.9, 10°N±17°×12°8E±1°3, h10km, M4.5/7, mb4.5/7, mB5.2/1, Mw(mB)4.6/1*

ISC 04 01:48:14.8±2.2, 10°.55N±0°.04×126°.82E±0°.07, h5km±13km, n46, σ1s17/44, mb4.0/20, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.91**	**289**	⇑*i* P	**Pn**	**01 48 47.9**	**-0.1**
PLP				*i* S	**Sn**	**01 49 10.9**	**-1.5**
BUTP	**Butuan**	**1.96**	**217**	*e*P	**Pg**	**01 48 52.5**	**0.0**
BUTP				*e*S	**Sb**	**01 49 15.9**	**0.0**
MSLP	**Maasin**	**1.97**	**258**	*e*P	**Pn**	**01 48 49.9**	**+1.1**
MSLP				*e*S	**Sg**	**01 49 17.3**	**-0.9**
CNP	**Catarman**	**2.88**	**313**	*e*P	**Pb**	**01 49 07.3**	**+0.7**
CNP				*e*S	**Sn**	**01 49 35.6**	**-0.7**
CGP	**Cagayan de Oro**	**2.95**	**225**	⇓*e*P	**Pb**	**01 49 08.2**	**+0.2**
CGP				*e*S	**Sn**	**01 49 39.4**	**+1.3**
BUKP	**Musuan**	**3.17**	**213**	*e*P	**Pb**	**01 49 08.8**	**-2.9**
BUKP				*e*S	**Sb**	**01 49 49.3**	**-1.3**
RCP	**Roxas**	**4.13**	**285**	⇓*e*P	**Pn**	**01 49 20.7**	**+2.2**
TTSI	**Tana Toraja**	**15.20**	**208**	P	**P**	**01 51 55.0**	**-0.4**
	29nm,1.2s,986nm						
SPSI	**Sidrap Palu**	**16.04**	**206**	P	**P**	**01 52 07.0**	**+2.3**
	10.0nm,0.8s						
GUMO	**Guam**	**17.91**	**78**	LR	LR	01 57 29.5	
	comp=Z,93nm,20.8s,baz=122,slow=31						
EDFI	**Ende, Flores**	**19.84**	**195**	P	**Pn**	**01 52 52.2**	**+3.9**
	12nm,0.7s						
SOEI	**Soe**	**20.33**	**187**	P	Pn	01 52 56.8	+2.7
BATI	**Baumata**	**20.86**	**189**	P	Pn	01 52 59.1	-1.0
	38nm,0.7s,baz=44,slow=0.5,SNR=8.4						
BATI				LR	LR	02 03 15.9	
	comp=Z,65nm,18.1s,baz=295,slow=43						
BATI	**Baumata**	**20.86**	**189**	P			
JNU	**Nakatsue**	**22.78**	**9**	LR	LR	02 02 32.0	
	comp=Z,14nm,18.2s,baz=125,slow=38						
JHJ	**Hachijo jima 2**	**25.43**	**26**	LR	LR	02 03 36.1	
	comp=Z,32nm,19.3s,baz=261,slow=36						
LEM	**Lembang**	**25.76**	**229**	LR	LR	02 05 22.4	
	comp=Z,48nm,18.6s,baz=76,slow=40						
KSRS	**Korea Array**	**26.81**	**2**	LR	LR	02 06 21.6	
	comp=Z,24nm,18.6s,baz=212,slow=41						
MJAR	**Matsushiro Arr**	**27.86**	**20**	LR	LR	02 03 41.4	
	comp=Z,21nm,21.6s,baz=210,slow=33						
CMAR	**Chiang Mai Arr**	**28.08**	**289**	P	**P**	**01 54 07.0**	**-0.7**
	1.1nm,0.3s,baz=99,slow=8.1,SNR=3.4						
CMAR				LR	LR	02 05 35.0	
	comp=Z,16nm,18.2s,baz=117,slow=37						
FITZ	**Fitzroy Crossi**	**28.49**	**182**	P	**P**	**01 54 10.5**	**-0.6**
	0.9nm,0.6s,baz=333,slow=16,SNR=3.9						
PSI	**Prapat**	**28.73**	**256**	LR	LR	02 06 47.9	
	comp=Z,40nm,18.4s,baz=276,slow=39						
WRA	**Warramunga Arr**	**31.19**	**166**	P	**P**	**01 54 34.3**	**-0.8**
	0.8nm,0.7s,baz=331,slow=12,SNR=9.1						
WRA				PcP	**PcP**	**01 57 30.2**	**0.0**
	0.7nm,0.6s,baz=339,slow=2.9,SNR=8.9						
USRK	**Ussuriysk Ar.**	**33.83**	**7**	P	**P**	**01 54 57.4**	**-0.5**
	2.5nm,0.8s,baz=202,slow=6.2,SNR=6.2						
ASAR	**Alice Springs**	**34.70**	**169**	P	**P**	**01 55 06.0**	**+0.3**
	1.2nm,0.6s,baz=349,slow=7.6,SNR=24						
ASAR				PcP	**PcP**	**01 57 40.5**	**+0.7**
	0.7nm,0.5s,baz=348,slow=2.4,SNR=9.9						
ULN	**Ulaanbaatar**	**40.75**	**340**	*e*P	**P**	**01 55 56.5**	**-0.4**
	1.2nm,0.7s						
SONM	**Songino Array**	**40.95**	**339**	P	**P**	**01 55 58.9**	**+0.4**
	0.8nm,0.8s,baz=156,slow=8.1,SNR=4.6						
STKA	**Stephens Creek**	**44.49**	**162**	P	**P**	**01 56 27.5**	**+0.3**
	2.3nm,0.7s,baz=324,slow=7.6,SNR=5.7						
PETK	**Petropavlovsk-**	**49.16**	**24**	P	**P**	**01 57 03.6**	**0.0**
	4.5nm,0.8s,baz=250,slow=4.3,SNR=5.2						
MKAR	**Makanchi Array**	**52.14**	**322**	P	**P**	**01 57 27.9**	**+1.7**
	2.3nm,0.6s,baz=120,slow=7.8,SNR=14						

PB01 IPOC Station P 10.81 147 ePn Pn 01 54 42.0 -3.1
PB04 IPOC Station P 11.58 153 ePn Pn 01 54 52.9 -2.6
LVC Limon Verde 12.40 149 ePn Pn 01 55 04.6 -1.9
LVC Limon Verde 12.40 149 eP Pn 01 55 04.6 -1.9
OTAV Otavalo 12.45 347 ePn Pn 01 55 05.0 -2.3
OTAV Otavalo 12.45 347 eP Pn 01 55 05.7 -1.6
OTAV Otavalo 12.45 347 eP Pn 01 55 05.0 -2.3
SAML Samuel 12.73 77 ePn Pn 01 55 08.6 -2.0
0.4nm,0.1s
SAML eSn Sn 01 57 27.4 -3.4
SAML Samuel 12.73 77 eP Pn 01 55 08.6 -2.0
SAML e 01 57 27.4
GCUF Volcan Galeras 13.24 353 eP Pn 01 55 15.7 -2.0
FLOC Florencia 13.50 0 eP Pn 01 55 17.7 -2.9
CRUC La Cruz 13.54 355 eP Pn 01 55 19.0 -2.4
SOTA Rioblanco 14.07 357 eP Pn 01 55 28.9 +0.5
PCON Cinco Dias 14.26 357 eP P 01 55 42.2 +7.4
BETC Betania 14.60 1 eP Pn 01 55 33.6 -1.1
PRAC Prado 15.64 3 eP Pn 01 55 46.2 -1.6
YOTC Yotoco, Valle 15.90 358 eP Pn 01 55 47.6 -3.6
GO03 Copiap 16.35 162 ePn Pn 01 55 54.3 -2.3
46nm,1.0s
ANIL Santa Ana 16.39 1 eP Pn 01 55 56.2 -1.2
TOLC Tolima 16.49 2 eP P 01 56 02.9 +3.4
CHIC Chingaza 16.65 7 eP Pn 01 56 02.2 +1.5
FSA Cafayete 16.79 148 eP P 01 56 03.9 +1.4
ROSC El Rosal 16.80 5 P Pn 01 56 03.5 +1.0
2.5nm,0.3s,baz=233,slow=23,SNR=25
ROSC LR LR 02 03 52.9
comp=Z,233nm,18.0s,baz=210,slow=42
ROSC El Rosal 16.80 5 ePn Pn 01 56 03.2 +0.7
38nm,0.8s
ROSC El Rosal 16.80 5 eP Pn 01 56 04.2 +1.7
RREF El Recreo 16.80 1 eP P 01 56 05.5 +2.3
GUYC Guyana, Colomb 17.12 1 eP Pn 01 56 08.8 +2.3
NORC Norcasia 17.48 3 eP P 01 56 11.5 +1.4
LCO Las Campanas 17.57 165 ePn P 01 56 09.4 -1.7
41nm,1.0s
LCO Las Campanas 17.57 165 eP P 01 56 09.5 -1.7
LCO pmax pmax
comp=Z,41nm,1.0s
AHML Horco Molle 17.67 148 eP Pn 01 56 14.2 +1.5
VCA Vinchina 18.08 158 eP Pn 01 56 19.4 +1.7
HELC Santa Helena 18.08 1 eP P 01 56 18.1 +1.2
SOLC Bahia Solano 18.19 355 eP P 01 56 18.8 +1.0
BARC Barichara 18.65 8 eP P 01 56 24.1 +1.0
GO04 Tololo Observa 18.65 166 eP P 01 56 23.3 +0.2
comp=Z,61nm,0.9s
AGUA GUANDACOL 18.66 160 eP P 01 56 24.7 +1.7
TAMC Tame, Arauca 18.74 12 eP P 01 56 24.1 +0.2
CYA Choya 18.81 152 eP Pn 01 56 26.7 +0.4
AROD Rodeo 18.99 163 eP Pn 01 56 29.0 +0.3
BRRC Barranca, Sant 19.10 6 eP P 01 56 28.1 +0.4
GIRC Giron, Santand 19.13 8 eP P 01 56 28.1 -0.1
PTGA Pitinga 19.26 56 P P 01 56 30.2 +0.7
comp=Z,1.9nm,0.3s,baz=232,slow=13,SNR=21
PTGA S S 01 59 58.1 -3.9
comp=Z,0.6nm,0.3s,baz=323,slow=20,SNR=4.5
PTGA Pitinga 19.26 56 eP P 01 56 28.6 -0.9
comp=Z,22nm,0.7s
PTGA S S 01 59 58.1 -3.9
ZARC Zaragoza, Cauc 19.39 3 eP P 01 56 32.1 +1.2
ACCO Cerro Coronel 19.50 162 eP P 01 56 34.2 +1.8
AMOG MOGNA 20.00 161 eP P 01 56 38.9 +1.4
AZU Azuero 20.17 347 eP P 01 56 40.7 +1.3
OCAC Ocana 20.26 7 eP P 01 56 39.4 -1.1
RTLL Cerro Villicun 20.37 162 eP P 01 56 43.0 +1.5
UPD2 Meteti 20.54 354 eP P 01 56 42.7 -0.6
RTLS Leoncito 20.58 164 eP P 01 56 45.5 +1.5
MOTC Monteria, Cord 20.65 0 eP P 01 56 45.4 +0.9
SMLC San Mart`n de 20.74 5 eP P 01 56 45.4 -0.1
RTCV Cerro Valdivia 20.85 163 eP P 01 56 47.6 +1.0
UPA Univ. de Panam 21.18 350 eP P 01 56 50.0 -0.2
ROC1 El Roble 21.32 169 eP P 01 56 51.8 0.0
comp=Z,36nm,0.8s
SDV Santo Domingo 21.37 14 P P 01 56 52.8 +0.4
comp=Z,34nm,0.5s,baz=199,slow=8.9,SNR=22
SDV Santo Domingo 21.37 14 eP P 01 56 53.1 +0.7
comp=Z,53nm,0.8s
SDV Santo Domingo 21.37 14 eP P 01 56 52.0 -0.4
BCIP Isla Barro Col 21.42 349 eP P 01 56 52.3 -0.5
comp=Z,130nm,0.9s
BCIP Isla Barro Col 21.42 349 eP P 01 56 52.3 -0.5
BCIP pmax pmax
comp=Z,130nm,0.9s
PEL Peldehue 21.55 168 eP P 01 56 55.2 +1.2
comp=Z,142nm,1.1s
PEL Peldehue 21.55 168 eP P 01 56 55.2 +1.2
PEL pmax pmax
comp=Z,142nm,1.1s
ACAN Cantantal 21.66 160 eP P 01 56 56.5 +1.3
TCA Tanti 21.83 154 eP P 01 56 57.1 0.0
CODC Agust`n Codaz 21.92 6 eP P 01 56 56.7 -1.4
AAGR Agrelo 21.92 164 eP P 01 56 58.9 +0.8
CPUP Villa Florida 22.45 132 P P 01 57 04.0 +0.5
comp=Z,2.4nm,0.7s,baz=317,slow=10,SNR=8.4
CPUP pP pP 01 57 25.6 +1.2
comp=Z,14nm,0.9s,baz=310,slow=10,SNR=9.4
CPUP Villa Florida 22.45 132 eP P 01 57 02.9 -0.6
comp=Z,16nm,1.0s
CPUP pP pP 01 57 25.6 +1.2
CPUP Villa Florida 22.45 132 eP P 01 57 02.9 -0.6
CPUP *PP pP 01 57 25.6 +1.2
CPUP pmax pmax
comp=Z,16nm,1.0s
GO05 HualaæØ 23.16 172 eP P 01 57 09.9 -0.5
comp=Z,58nm,1.1s
URIC Uribia, Colomb 23.85 9 eP P 01 57 12.0 -4.8
JTS JuntasAbangare 23.96 337 P P 01 57 18.3 +0.5
comp=Z,7.6nm,0.8s,baz=164,slow=5.9,SNR=7.3
JTS JuntasAbangare 23.96 337 eP P 01 57 17.9 +0.1
comp=Z,18nm,1.0s
JTS JuntasAbangare 23.96 337 ||/P P 01 57 19.4 +1.6
PCRV Puerto La Cruz 24.65 27 P P 01 57 24.8 +0.6
comp=Z,11nm,0.7s,baz=214,slow=3.6,SNR=4.3
BDFB Brasilia 27.17 101 P P 01 57 46.6 -0.4
comp=Z,1.3nm,0.5s,baz=212,slow=13,SNR=3.1
BDFB LR LR 02 09 28.1
comp=Z,130nm,18.5s,baz=220,slow=38
TRQA Tornquist 28.72 157 eP P 01 57 59.8 -0.6
comp=Z,5.0nm,1.0s
TRQA Tornquist 28.72 157 eP P 01 57 59.8 -0.6
TRQA pmax pmax
comp=Z,5.0nm,1.0s
PLCA Paso Flores 28.98 172 P P 01 58 02.3 -0.5
comp=Z,3.1nm,0.6s,baz=11,slow=9.8,SNR=8.5
PLCA PcP PcP 02 01 10.0 +1.0
comp=Z,3.6nm,0.8s,baz=25,slow=4.0,SNR=4.8
PLCA LR LR 02 08 08.8
comp=Z,59nm,19.2s,baz=17,slow=33
PLCA Paso Flores 28.98 172 eP P 01 58 03.0 +0.2
comp=Z,45nm,1.3s
PLCA PcP PcP 02 01 10.0 +1.0
PLCA Paso Flores 28.98 172 eP P 01 58 03.0 +0.2
PLCA 02 01 10.0
PLCA pmax pmax
comp=Z,45nm,1.3s
SPB Sao Paulo 29.27 117 eP P 01 58 03.5 -1.9
comp=Z,18nm,1.0s
OBIP Obispado Ponce 31.20 17 eP P 01 58 22.3 -0.1
comp=Z,42nm,1.1s
MPR Mayaguez 31.21 16 eP P 01 58 22.5 0.0
comp=Z,57nm,1.2s
CBYP Canovanas 31.63 18 eP P 01 58 26.2 -0.1
comp=Z,32nm,1.0s
CBYP epP pP 01 58 51.9 +1.5
CUPR Culebra, Puert 31.85 19 eP P 01 58 28.2 +0.1
comp=Z,21nm,0.8s
CUPR eSP pP 01 58 53.9 +1.7
SKI Saint Kitts 31.86 24 eP P 01 58 28.1 -0.2
comp=Z,305nm,1.2s
SKI Saint Kitts 31.86 24 eP P 01 58 28.1 -0.2
555A McAlpin 42.45 351 P P 01 59 57.6 -0.1
baz=170
553A Crawfordville 42.77 349 P P 02 00 00.7 +0.5
baz=167
LNIG Linares 43.36 328 eP P 02 00 05.2 +0.1
comp=Z,11nm,0.8s
453A Whigham 43.40 349 P P 02 00 05.4 +0.1
baz=168
452A Marianna 43.56 348 P P 02 00 06.5 0.0
baz=166
353A Camilla 43.86 350 P P 02 00 08.9 0.0
baz=168

251A Midway 44.81 348 P P 02 00 16.0 -0.5
baz=166
152A Waverly Hall 45.24 349 eP P 02 00 19.3 -0.6
comp=Z,8.0nm,0.8s
149A Jones 45.59 347 P P 02 00 21.9 -0.8
baz=165,SNR=6.4
Z52A Williamson 45.70 350 P P 02 00 23.0 -0.4
baz=168
HKT Hockley 45.98 336 ||/eP P 02 00 25.4 -0.3
HKT pmax pmax
comp=Z,39nm,1.8s
Z50A Ashland 46.04 348 P P 02 00 25.6 -0.6
baz=166
LRAL Lakeview Retre 46.05 347 eP P 02 00 25.6 -0.7
comp=Z,33nm,1.5s
LRAL Lakeview Retre 46.05 347 P P 02 00 25.6 -0.7
baz=165
Y54A Tignall 46.09 352 P P 02 00 26.0 -0.6
baz=170
Z49A Columbiana 46.11 347 P P 02 00 25.9 -0.8
baz=165
Y53A Monroe 46.21 351 P P 02 00 27.2 -0.3
baz=169
Z47A Carrollton 46.46 346 P P 02 00 28.9 -0.5
baz=163
Y51A Rockmart 46.50 349 P P 02 00 29.1 -0.7
baz=167
Z48A Northport 46.51 346 P P 02 00 29.3 -0.5
baz=164
Y49A Blount Mountai 46.72 348 P P 02 00 30.8 -0.8
baz=166
X53A Estanollee 46.80 351 P P 02 00 34.5 +2.4
baz=170
X52A Dahlonega 46.99 351 P P 02 00 33.0 -0.7
baz=169
Y47A UCP2, Winfie 47.08 346 P P 02 00 33.1 -1.2
baz=164
W53A Cullowhee 47.44 352 P P 02 00 37.0 -0.2
baz=170
X47A Russelville 47.67 346 P P 02 00 37.5 -1.3
baz=164
W50A Signal Mountai 47.81 349 eP P 02 00 39.5 -0.5
comp=Z,9.2nm,0.8s
W50A Signal Mountai 47.81 349 P P 02 00 40.9 +0.9
baz=167
CPCT Cooper Cave 47.92 350 eP P 02 00 40.3 -0.4
comp=Z,7.2nm,0.9s
CPCT epP pP 02 01 04.9 -1.4
W48A Pulaski 48.07 348 P P 02 00 40.6 -1.3
baz=165
JCT Junction City 48.16 332 eP P 02 00 42.6 -0.2
comp=Z,7.3nm,0.8s
JCT Junction City 48.16 332 eP P 02 00 42.6 -0.2
JCT pmax pmax
comp=Z,7.0nm,0.8s
V52A Sevierville 48.16 351 eP P 02 00 41.9 -0.7
comp=Z,40nm,1.4s
V52A epP pP 02 01 05.7 -2.4
V52A Sevierville 48.16 351 P P 02 00 41.6 -1.1
baz=170
PLAL Pickwick Lake 48.17 346 epP pP 02 01 09.2 +1.1
V50A Pikevile 48.23 350 P P 02 00 41.7 -1.4
baz=168
V51A Loudon 48.24 351 eP P 02 00 43.1 -0.1
comp=Z,31nm,1.4s
V51A epP pP 02 01 06.8 -1.9
V51A Loudon 48.24 351 P P 02 00 42.2 -1.1
baz=169
W47A Westpoint 48.32 347 P P 02 00 42.8 -1.1
baz=164
HPIG 48.39 323 eP P 02 00 45.0 +0.1
comp=Z,8.9nm,0.8s
V48A Smith Brothers 48.62 348 eP P 02 00 45.0 -1.2
comp=Z,12nm,0.9s
V48A Smith Brothers 48.62 348 P P 02 00 45.2 -1.0
baz=166,SNR=8.1
TZTN Tazewell 48.84 352 epP pP 02 01 11.2 -2.2
TZTN Tazewell 48.84 352 P P 02 00 47.2 -0.7
baz=170
U50A Jamestown 48.92 350 P P 02 00 47.5 -1.0
baz=168
TXAR Lajitas Array 49.14 327 P P 02 00 50.4 +0.1
comp=Z,5.7nm,0.7s,baz=150,slow=9.0,SNR=38
TXAR PcP PcP 02 02 12.6 +0.3
comp=Z,2.6nm,0.6s,baz=147,slow=6.5,SNR=5.4
TX31 Lajitas Ar. Si 49.14 327 eP P 02 00 50.4 0.0
WVT Waverly 49.21 347 P P 02 00 48.9 -1.8
baz=164
MIAR Mount Ida 49.29 341 eP P 02 00 51.2 0.0
comp=Z,13nm,0.9s
MIAR Mount Ida 49.29 341 eP P 02 00 51.3 0.0
MIAR pmax pmax
comp=Z,13nm,0.9s
MIAR Mount Ida 49.29 341 P P 02 00 51.4 +0.1
baz=157
T51A Gray 49.31 351 P P 02 00 50.8 -0.6
baz=169
T52A Hallie 49.32 352 P P 02 00 52.4 +0.9
baz=171
X39A Fountain Ranch 49.44 340 P P 02 00 53.2 +0.8
baz=156
T50A Nancy 49.51 350 P P 02 00 53.4 +0.5
baz=168
T49A Edmonton 49.71 350 eP P 02 00 53.4 -1.1
comp=Z,28nm,1.4s
T49A epP pP 02 01 18.1 -1.9
T49A Edmonton 49.71 350 P P 02 00 53.3 -1.1
baz=167
W40A Ferguson Farm, 49.72 341 eP P 02 00 54.9 +0.3
comp=Z,23nm,1.1s
W40A Ferguson Farm, 49.72 341 P P 02 00 54.8 +0.3
baz=158
ABTX Abilene, Hawle 49.91 333 eP P 02 00 56.2 +0.1
comp=Z,15nm,0.8s
ABTX Abilene, Hawle 49.91 333 P P 02 00 56.2 +0.1
baz=149,SNR=6.3
X37A Clayton 49.94 339 eP P 02 00 56.8 +0.6
comp=Z,23nm,1.1s
V41A Mountainview 50.00 343 P P 02 00 56.2 -0.4
baz=159
S50A Richmond 50.08 351 P P 02 00 56.3 -0.9
baz=169
V40A Witts Springs 50.21 342 eP P 02 00 58.0 -0.4
comp=Z,51nm,1.8s
V40A Witts Springs 50.21 342 P P 02 00 57.8 -0.5
baz=158
U42A Revenden 50.27 344 P P 02 00 58.7 +0.1
baz=160
S49A Springfield 50.33 350 P P 02 00 59.3 +0.2
baz=168
R51A Hillsboro 50.58 352 P P 02 01 00.8 -0.1
baz=170
R50A Paris 50.66 351 P P 02 01 00.7 -0.9
baz=169
T43A Greenville 50.70 345 P P 02 01 00.8 -1.1
baz=162
U40A Yellville 50.73 342 P P 02 01 01.8 -0.4
baz=158
R49A Shelbyville 50.80 350 P P 02 01 02.1 -0.5
baz=168
T42A Van Buren 50.86 344 eP P 02 01 01.8 -1.3
comp=Z,18nm,1.3s
T42A Van Buren 50.86 344 P P 02 01 01.7 -1.3
baz=160
WCI Wyandotte Cave 50.94 349 eP P 02 01 02.2 -1.4
comp=Z,10nm,0.8s
WCI epP pP 02 01 27.4 -2.0
WCI Wyandotte Cave 50.94 349 eP P 02 01 02.2 -1.4
WCI e*PP pP 02 01 27.4 -2.0
WCI pmax pmax
comp=Z,10.0nm,0.8s
WCI Wyandotte Cave 50.94 349 P P 02 01 02.4 -1.2
baz=167
HHAR Hobbs 51.00 341 eP P 02 01 04.4 +0.2
comp=Z,17nm,1.3s
R48A Northridge Ran 51.03 350 P P 02 01 03.6 -0.7
baz=167
S44A Carbondale 51.03 346 P P 02 01 03.3 -1.0
baz=163
SIUC Southern Illin 51.05 346 eP P 02 01 04.4 0.0
comp=Z,46nm,1.5s
Q50A Georgetown 51.16 352 P P 02 01 04.3 -1.1
baz=170
Q51A Peebles 51.26 352 P P 02 01 05.0 -1.0
baz=170
TUL1 Leonard 51.28 339 eP P 02 01 06.1 -0.1
comp=Z,16nm,0.8s
TUL1 Leonard 51.28 339 P P 02 01 05.8 -0.4

baz=155
WMOK Wichita Mounta 51.37 336 eP P 02 01 07.2 +0.2
comp=Z,9.7nm,0.6s
WMOK Wichita Mounta 51.37 336 eP P 02 01 07.2 +0.2
WMOK pmax pmax
comp=Z,10.0nm,0.6s
WMOK Wichita Mounta 51.37 336 P P 02 01 06.6 -0.3
baz=151
R45A Skylar, Fairfi 51.39 347 P P 02 01 06.6 -0.4
baz=164
P53A Whipple 51.49 354 eP P 02 01 07.2 -0.6
comp=Z,24nm,0.8s
P53A epP pP 02 01 30.7 -2.9
Q48A North Vernon 51.52 350 P P 02 01 06.9 -1.1
baz=168
S41A Jillco Farms, 51.56 344 P P 02 01 07.1 -1.3
baz=160
Q47A Bedord North L 51.65 349 P P 02 01 07.8 -1.1
baz=167,SNR=7.6
P52A Corning 51.72 354 P P 02 01 08.4 -1.0
baz=172
OLIL Olney 51.78 348 eP P 02 01 08.8 -1.0
comp=Z,36nm,1.4s
CCM Cathedral Cave 51.87 344 eP P 02 01 11.1 +0.5
comp=Z,15nm,0.8s
P50A Jamestown 51.89 352 P P 02 01 09.8 -0.9
baz=170
BLO Bloomington 51.89 349 eP P 02 01 09.8 -1.0
comp=Z,21nm,0.8s
BLO epP pP 02 01 34.2 -2.4
BLO Bloomington 51.89 349 eP P 02 01 09.8 -1.0
BLO e*PP pP 02 01 34.2 -2.4
BLO pmax pmax
comp=Z,21nm,0.8s
MNTX Cornudas Mount 51.91 328 eP P 02 01 10.8 -0.3
comp=Z,8.4nm,0.9s
MNTX Cornudas Mount 51.91 328 P P 02 01 10.7 -0.4
baz=142,SNR=6.6
P49A Miami Univ. Ec 51.95 351 P P 02 01 09.7 -1.4
baz=169
P48A Milroy 51.99 351 P P 02 01 10.0 -1.4
baz=168
Q44A Meyer Farm, Va 52.14 347 P P 02 01 11.4 -1.1
baz=164
P47A Martinsville 52.15 350 P P 02 01 11.6 -1.1
baz=167,SNR=6.4
O50A Cable 52.40 352 P P 02 01 14.2 -0.3
baz=170
MSTX Muleshoe 52.45 332 P P 02 01 14.3 -0.9
baz=146
P46A Rosedale 52.45 349 P P 02 01 13.4 -1.5
baz=166
P45A Graceland, Par 52.47 348 eP P 02 01 13.7 -1.3
comp=Z,22nm,0.8s
P45A Graceland, Par 52.47 348 P P 02 01 14.2 -0.9
baz=165,SNR=5.8
Q42A Golden Eagle 52.50 345 P P 02 01 14.7 -0.5
baz=162
O49A Covington 52.53 352 P P 02 01 14.8 -0.7
baz=169
P44A Sand Creek, Wi 52.59 347 P P 02 01 16.4 +0.4
baz=164
Q41A Truxton 52.71 345 P P 02 01 16.5 -0.3
baz=161
O48A Farmland 52.72 351 P P 02 01 16.3 -0.5
baz=168
N54A Moraine State 52.84 356 P P 02 01 17.1 -0.7
baz=175
O47A Sheridan 52.87 350 P P 02 01 17.3 -0.6
baz=167
P43A Skaggs, Pawnee 52.95 347 P P 02 01 17.7 -0.9
baz=163
P42A Winchester 53.09 346 eP P 02 01 19.4 -0.2
comp=Z,12nm,0.9s
P42A Winchester 53.09 346 P P 02 01 18.5 -1.1
baz=162
O45A Potomac 53.16 349 P P 02 01 18.5 -1.6
baz=165
PMSA Palmer Station 53.32 174 P P 02 01 21.7 +0.8
comp=Z,3.4nm,0.5s,baz=231,slow=5.8,SNR=4.8
PMSA Palmer Station 53.32 174 eP P 02 01 21.0 +0.1
N47A Urbana 53.42 351 P P 02 01 20.8 -1.1
baz=168
O42A Bath 53.61 346 P P 02 01 22.4 -1.0
baz=162
O41A Passleys Farm, 53.72 346 P P 02 01 23.3 -0.9
baz=162
319A Douglas 53.80 324 eP P 02 01 25.7 +0.6
comp=Z,38nm,1.2s
N42A Yates City 54.20 347 P P 02 01 26.5 -1.2
baz=163
L49A Milan 54.35 353 P P 02 01 27.8 -1.0
baz=170
LAZ Ladron 54.94 328 eP P 02 01 34.1 +0.7
ANMO Albuquerque 55.02 329 eP P 02 01 33.2 -0.7
comp=Z,11nm,1.2s
ANMO ePcP PcP 02 02 33.8 -0.6
ANMO Albuquerque 55.02 329 ||/P P 02 01 33.9 -0.1
ANMO pmax pmax
comp=Z,9.0nm,1.0s
ANMO Albuquerque 55.02 329 P P 02 01 34.3 +0.3
baz=142
TUC Tucson 55.35 324 eP P 02 01 35.5 -0.8
comp=Z,8.9nm,1.0s
TUC ePcP PcP 02 02 33.9 -1.6
TUC Tucson 55.35 324 eP P 02 01 35.5 -0.8
TUC e 02 02 33.9
TUC pmax pmax
comp=Z,9.0nm,1.0s
TUC Tucson 55.35 324 P P 02 01 36.5 +0.2
baz=137
J47A Sunmer 55.60 352 P P 02 01 36.4 -1.3
baz=169
L40A Anamosa 55.65 346 eP P 02 01 37.6 -0.5
comp=Z,12nm,0.9s
T25A Trinidad 55.81 332 eP P 02 01 39.7 +0.1
comp=Z,9.5nm,0.8s
T25A Trinidad 55.81 332 P P 02 01 40.0 +0.3
baz=146,SNR=6.5
214A Organ Pipe Nat 56.30 322 P P 02 01 43.6 +0.7
baz=135,SNR=12
J43A Natural Harves 56.32 349 P P 02 01 41.5 -1.4
baz=165
X18A Snowflake 56.53 326 eP P 02 01 45.5 +0.8
comp=Z,4.4nm,0.8s
SDCO Great Sand Dun 56.81 332 eP P 02 01 45.8 -1.0
comp=Z,8.7nm,1.0s
SDCO Great Sand Dun 56.81 332 P P 02 01 46.8 0.0
baz=145,SNR=11
X16A Lo Mia Camp, P 57.27 325 eP P 02 01 50.4 +0.4
comp=Z,9.2nm,0.8s
BUKO Buck Lake 57.27 357 P P 02 01 48.8 -0.8
baz=176
ALFO Alfred 57.37 1 P P 02 01 50.3 +0.2
baz=181
PEMO Pembroke 57.43 359 P P 02 01 50.2 -0.4
baz=178
S22A 4UR Ranch, Cre 57.43 331 eP P 02 01 50.9 -0.3
comp=Z,13nm,1.5s
113A Mohawk Valley, 57.44 322 eP P 02 01 51.7 +0.7
comp=Z,7.1nm,0.6s
Q24A Divide 57.65 333 eP P 02 01 53.0 +0.3
comp=Z,13nm,1.0s
Q24A Divide 57.65 333 P P 02 01 52.7 0.0
baz=145
Y14A Wickenburg 57.81 324 eP P 02 01 54.3 +0.7
comp=Z,7.0nm,0.8s
MVCO Mesa Verde 57.82 329 eP P 02 01 53.8 -0.1
comp=Z,7.7nm,1.0s
MVCO Mesa Verde 57.82 329 P P 02 01 53.9 0.0
baz=141
WUAZ Wupatki 58.04 326 eP P 02 01 54.5 -0.8
comp=Z,16nm,1.0s
WUAZ Wupatki 58.04 326 P P 02 01 55.9 +0.6
baz=138,SNR=9.3
ISCO Idaho Springs 58.54 333 eP P 02 01 59.1 +0.2
comp=Z,4.9nm,0.8s
ISCO Idaho Springs 58.54 333 eP P 02 01 59.1 +0.2
ISCO pmax pmax
comp=Z,5.0nm,0.8s
ISCO Idaho Springs 58.54 333 P P 02 01 58.9 +0.1
baz=145,SNR=5.5
PV01 Paradox Valley 58.58 330 eP P 02 01 59.4 +0.3
Y12C Blythe 58.58 322 eP P 02 01 59.9 +1.0
comp=Z,17nm,0.9s
Y12C Blythe 58.58 322 P P 02 01 59.7 +0.8
baz=134,SNR=7.5
SMCO Snowmass 58.65 332 eP P 02 02 00.2 +0.4

	comp=Z,4.9nm,0.8s							
PV02	Paradox Valley	58.72	330	eP		P	02 02 00.5	+0.5
	comp=Z,23nm,1.5s							
PV13	Radium Mtn., P	58.72	330	eP		P	02 02 00.4	+0.3
	comp=Z,22nm,1.2s							
PV12	Saucer Basin,	58.83	330	eP		P	02 02 01.3	+0.4
	comp=Z,50nm,1.9s							
PV22	Blue Mesa, Par	59.00	330	eP		P	02 02 02.2	+0.3
	comp=Z,32nm,1.9s							
SPMN	Marine on St.	59.01	346	eP		P	02 02 00.7	-1.0
	comp=Z,31nm,1.5s							
BC3	Big Chuckawall	59.07	322	P		P	02 02 03.2	+0.7
	baz=133,SNR=15							
W13A	Hualapai Mount	59.15	324	eP		P	02 02 03.9	+0.8
	comp=Z,14nm,1.3s							
MONP2	Monument Peak	59.16	320	P		P	02 02 03.5	+0.3
	baz=132							
BAR	Barrett	59.17	320	eP		P	02 02 03.8	+0.8
	comp=Z,7.7nm,0.7s							
U15A	North Rim	59.21	326	eP		P	02 02 04.3	+0.7
	comp=Z,9.9nm,1.0s							
IRM	Iron Mountain	59.23	322	P		P	02 02 04.0	+0.6
	baz=134,SNR=25							
N23A	Red Feather La	59.58	334	P		P	02 02 06.0	0.0
	baz=145							
BELC	Belle Mtn. Jos	59.64	322	P		P	02 02 06.6	+0.2
	baz=133,SNR=7.3							
XPFO	Piæon Flat	59.66	321	eP		P	02 02 07.1	+0.6
	comp=Z,7.4nm,0.9s							
PFO	Pinyon Flats O	59.66	321	eP		P	02 02 06.5	0.0
	comp=Z,8.0nm,0.9s							
PFO	Pinyon Flats O	59.66	321	eP		P	02 02 06.6	0.0
PFO					pmax	pmax		
	comp=Z,8.0nm,0.9s							
PFO	Pinyon Flats O	59.66	321	P		P	02 02 07.2	+0.7
	baz=132,SNR=5.6							
FRD	Ford Ranch, An	59.67	321	P		P	02 02 07.2	+0.6
	baz=132							
KNB	Kanab	59.93	326	eP		P	02 02 09.6	+1.2
	comp=Z,19nm,1.0s							
KNB	Kanab	59.93	326	eP		P	02 02 09.6	+1.2
KNB					pmax	pmax		
	comp=Z,19nm,1.0s							
PKCU	Pink Cliffs	59.97	327	eP		P	02 02 09.9	+1.1
	comp=Z,28nm,1.4s							
GMRC	Granite Mounta	59.97	322	P		P	02 02 09.4	+0.7
	baz=134,SNR=8.5							
O20A	White River Ci	60.00	332	eP		P	02 02 09.2	+0.3
	comp=Z,6.6nm,0.6s							
O20A	White River Ci	60.00	332	P		P	02 02 09.1	+0.3
	baz=143,SNR=5.5							
MURC	Murrieta	60.11	320	P		P	02 02 10.1	+0.7
	baz=132							
LCMT	Little Creek M	60.16	326	eP		P	02 02 10.8	+0.9
	comp=Z,7.3nm,1.0s							
SRU	San Rafael Swe	60.30	329	eP		P	02 02 11.1	+0.2
	comp=Z,9.5nm,1.0s							
SRU	San Rafael Swe	60.30	329	eP		P	02 02 11.1	+0.2
SRU					pmax	pmax		
	comp=Z,10.0nm,1.0s							
MTPU	Mount Pierson	60.35	327	eP		P	02 02 11.9	+0.5
	comp=Z,6.3nm,1.3s							
HEC	Hector,Ludlow	60.41	322	P		P	02 02 12.3	+0.8
	baz=133,SNR=5.8							
SZCU	Shurtz Canyon	60.50	326	eP		P	02 02 13.2	+0.9
	comp=Z,8.3nm,1.2s							
ASCN	Ascension	60.51	92	eP		P	02 02 11.5	-1.1
P18A	Preston Nutter	60.56	330	eP		P	02 02 13.2	+0.4
	comp=Z,5.0nm,0.7s							
TUQ	Turquoise Moun	60.58	323	P		P	02 02 13.3	+0.6
	baz=134							
CCUT	Cedar City	60.62	326	eP		P	02 02 13.8	+0.7
	comp=Z,6.6nm,0.9s							
P17A	Butcher Ranch,	60.68	329	eP		P	02 02 13.8	+0.3
	comp=Z,12nm,0.9s							
MSU	Marysvale	60.69	328	eP		P	02 02 14.0	+0.4
MSU	Marysvale	60.69	328	eP		P	02 02 14.0	+0.4
TMUT	Trail Mountain	60.78	329	eP		P	02 02 14.7	+0.4
TMUT				ePcP		sP	02 02 56.6	+3.9
BFSC	Mount Baldy Ra	60.82	321	P		P	02 02 14.8	+0.3
	baz=132							
SHPR	Sheep Range	60.88	324	eP		P	02 02 13.8	-1.0
SHPR				ePcP		sP	02 02 56.8	+3.5
GSC	Goldstone, Bar	61.01	322	eP		P	02 02 16.3	+0.6
	comp=Z,4.7nm,0.7s							
GSC	Goldstone, Bar	61.01	322	eP		P	02 02 16.3	+0.6
GSC					pmax	pmax		
	comp=Z,5.0nm,0.7s							
GSC	Goldstone, Bar	61.01	322	P		P	02 02 16.4	+0.8
	baz=133,SNR=6.3							
MWC	Mount Wilson	61.06	320	eP		P	02 02 16.8	+0.7
	comp=Z,17nm,0.9s							
MWC	Mount Wilson	61.06	320	eP		P	02 02 16.8	+0.7
MWC					pmax	pmax		
	comp=Z,17nm,0.9s							
PASC	Pasadena Art C	61.10	320	eP		P	02 02 17.2	+1.0
	comp=Z,32nm,1.4s							
K22A	Casper	61.27	335	eP		P	02 02 17.3	-0.1
	comp=Z,12nm,0.7s							
K22A	Casper	61.27	335	P		P	02 02 17.5	+0.2
	baz=145,SNR=6.2							
EDW2	Edwards Air Fo	61.45	321	P		P	02 02 18.9	+0.3
	baz=132,SNR=8.5							
RSSD	Black Hills	61.50	337	eP		P	02 02 18.1	-0.8
	comp=Z,8.1nm,1.0s							
RSSD	Black Hills	61.50	337	eP		P	02 02 18.1	-0.8
RSSD					pmax	pmax		
	comp=Z,8.0nm,1.0s							
RSSD	Black Hills	61.50	337	P		P	02 02 19.1	+0.1
	baz=148							
MATQ	Matagami	61.52	359	P		P	02 02 18.1	-0.6
	baz=178							
MPU	Maple Canyon	61.54	329	eP		P	02 02 19.8	+0.5
	comp=Z,6.0nm,0.8s							
PSUT	Pine Spring	61.60	327	eP		P	02 02 20.4	+0.7
	comp=Z,7.7nm,0.9s							
LRMC	Laurel Mtn Rad	61.66	322	P		P	02 02 20.3	+0.2
	baz=132,SNR=6.7							
NLU	North Lily Min	61.72	329	eP		P	02 02 21.2	+0.7
	comp=Z,12nm,1.3s							
TPNV	Topopah Spring	61.81	324	eP		P	02 02 21.9	+0.9
	comp=Z,12nm,0.9s							
TPNV	Topopah Spring	61.81	324	eP		P	02 02 22.0	+0.9
TPNV					pmax	pmax		
	comp=Z,12nm,0.9s							
TPNV	Topopah Spring	61.81	324	P		P	02 02 21.7	+0.6
	baz=134,SNR=14							
FURC	Furnace Creek,	61.84	323	P		P	02 02 21.7	+0.6
	baz=133,SNR=9.6							
JLU	Jordanelle	61.90	330	eP		P	02 02 22.4	+0.7
	comp=Z,15nm,1.0s							
MPMC	Manual Prospec	61.93	322	P		P	02 02 22.2	+0.2
	baz=132,SNR=8.6							
CTU	Camp Tracy	62.12	330	eP		P	02 02 23.6	+0.5
	comp=Z,6.5nm,0.8s							
DAC	Darwin (Calif)	62.14	322	eP		P	02 02 23.1	-0.3
	comp=Z,4.9nm,0.9s							
DAC	Darwin (Calif)	62.14	322	eP		P	02 02 23.1	-0.3
DAC					pmax	pmax		
	comp=Z,5.0nm,0.9s							
ISA	Isabella, Lake	62.26	321	eP		P	02 02 24.8	+0.7
	comp=Z,9.7nm,0.8s							
ISA	Isabella, Lake	62.26	321	P		P	02 02 24.7	+0.6
	baz=132,SNR=12							
TCUT	Toone Canyon	62.27	330	eP		P	02 02 24.8	+0.6
	comp=Z,18nm,0.8s							
DUG	Dugway, Tooele	62.27	329	eP		P	02 02 24.8	+0.7
	comp=Z,18nm,0.8s							
DUG	Dugway, Tooele	62.27	329	eP		P	02 02 24.8	+0.7
DUG					pmax	pmax		
	comp=Z,18nm,0.8s							
DUG	Dugway, Tooele	62.27	329	P		P	02 02 24.6	+0.5
	baz=138,SNR=28							
R11A	Troy Canyon, C	62.41	325	eP		P	02 02 25.9	+0.8
	comp=Z,11nm,1.2s							
R11A	Troy Canyon, C	62.41	325	P		P	02 02 25.7	+0.6
	baz=135,SNR=17							
CWC	Cottonwood Cre	62.54	322	P		P	02 02 26.4	+0.4
	baz=132							
PKM	Mcpherson Peak	62.59	320	P		P	02 02 26.4	0.0
	baz=130,SNR=5.7							
AGMN	Agassiz Nation	62.63	345	P		P	02 02 25.6	-0.5
	baz=158							
PD31	Pinedale Array	62.68	333	eP		P	02 02 26.1	-0.8
PDAR	Pinedale Array	62.68	333	P		P	02 02 26.3	-0.6
	comp=Z,3.2nm,0.7s,baz=118,slow=8.3,SNR=28							
PDAR				PcP		PcP	02 03 04.0	-0.8
	comp=Z,1.9nm,0.7s,baz=132,slow=5.4,SNR=5.8							
PDAR	Pinedale Array	62.68	333	eP		P	02 02 25.4	-1.5
PDAR				PcP		PcP	02 03 04.0	-0.8
BW06	Boulder Array	62.69	333	eP		P	02 02 26.1	-0.8
	comp=Z,14nm,1.4s							
BW06	Boulder Array	62.69	333	P		P	02 02 26.3	-0.6
	baz=142,SNR=7.3							
HWUT	Hardware Ranch	62.72	330	eP		P	02 02 26.8	-0.3
	comp=Z,21nm,0.9s							
VES	Vestal, Richgr	62.75	321	P		P	02 02 27.8	+0.6
	baz=131,SNR=8.7							
SPUT	South Promonto	62.93	330	eP		P	02 02 28.8	+0.3
	comp=Z,24nm,1.5s							
BGU	Big Grassy Mou	62.93	329	eP		P	02 02 28.8	+0.3
	comp=Z,7.2nm,0.8s							
SMMC	Simmler	62.98	320	P		P	02 02 29.6	+0.8
	baz=130,SNR=5.9							
MDND	Maddock	63.26	342	eP		P	02 02 30.7	+0.4
	comp=Z,63nm,1.1s							
MDND	Maddock	63.26	342	P		P	02 02 30.7	+0.4
	baz=154,SNR=5.3							
PAGB	Antelope Grade	63.40	320	eP		P	02 02 32.6	+1.0
	comp=Z,8.7nm,0.8s							
HVU	Hansel Valley	63.44	330	eP		P	02 02 31.9	+0.1
	comp=Z,13nm,0.7s							
HVU	Hansel Valley	63.44	330	eP		P	02 02 31.9	+0.1
HVU					pmax	pmax		
	comp=Z,13nm,0.7s							
REDW	Red Top Meadow	63.74	332	eP		P	02 02 33.6	-0.3
	comp=Z,14nm,1.4s							
SNOW	Snow King Moun	63.77	332	eP		P	02 02 34.3	+0.2
	comp=Z,36nm,1.8s							
LOHW	Long Hollow	63.82	332	eP		P	02 02 34.1	-0.3
	comp=Z,5.4nm,0.7s							
OMMB	Old Mammoth Mi	63.87	323	eP		P	02 02 35.4	+0.4
	comp=Z,20nm,0.9s							
TPAW	Teton Pass	63.88	332	eP		P	02 02 34.8	0.0
	comp=Z,5.7nm,0.8s							
NV11	Mina Array Sit	63.93	324	eP		P	02 02 36.0	+0.9
	comp=Z,0.4nm,0.8s							
MDPB	Devils Postpil	63.93	323	eP		P	02 02 35.8	+0.6
	comp=Z,13nm,0.9s							
MOOW	Moose Ponds	63.99	332	eP		P	02 02 35.2	-0.3
	comp=Z,3.7nm,1.0s							
NV01	Mina Array Sit	64.01	324	eP		P	02 02 36.2	+0.4
NVAR	Mina Array Bea	64.01	324	P		P	02 02 36.2	+0.5
	comp=Z,4.9nm,0.7s,baz=148,slow=6.9,SNR=49							
FXWY	Fox Creek	64.03	332	eP		P	02 02 35.5	-0.3
	comp=Z,8.2nm,1.1s							
PMPB	Monarch Peak	64.06	320	eP		P	02 02 37.4	+1.5
	comp=Z,13nm,0.8s							
IMW	Indian Meadow	64.20	332	eP		P	02 02 36.9	0.0
	comp=Z,6.5nm,0.8s							
FLWY	Flagg Ranch	64.23	333	eP		P	02 02 37.5	+0.5
	comp=Z,25nm,0.8s							
RYN	Ryan	64.27	324	eP		P	02 02 37.5	+0.2
	comp=Z,12nm,1.5s							
KVN	Kaiserville	64.31	324	eP		P	02 02 37.9	+0.2
	comp=Z,11nm,1.5s							
H17A	Grant Village	64.42	333	P		P	02 02 39.0	+0.6
	baz=142							
YPP	Pitchstone Pla	64.43	333	eP		P	02 02 38.5	0.0
	comp=Z,6.3nm,1.1s							
RLMT	Red Lodge	64.43	334	eP		P	02 02 38.2	-0.2
	comp=Z,30nm,1.6s							
RLMT	Red Lodge	64.43	334	P		P	02 02 38.3	0.0
	baz=143							
ULM	Lac du Bonnet	64.45	346	P		P	02 02 37.1	-0.9
	comp=Z,7.9nm,0.6s,baz=161,slow=6.7,SNR=14							
ULM				pP		pP	02 03 05.2	+0.4
	comp=Z,14nm,0.8s,baz=153,slow=6.8,SNR=6.6							
ULM	Lac du Bonnet	64.45	346	eP		P	02 02 36.9	-1.1
	comp=Z,42nm,1.4s							
ULM				pP		pP	02 03 05.2	+0.4
ULM	Lac du Bonnet	64.45	346	eP		P	02 02 36.9	-1.1
ULM				*PP		pP	02 03 05.2	+0.4
ULM					pmax	pmax		
	comp=Z,42nm,1.4s							
LKWY	Lake	64.48	333	eP		P	02 02 39.1	+0.4
	comp=Z,12nm,1.0s							
LKWY	Lake	64.48	333	eP		P	02 02 39.1	+0.4
LKWY					pmax	pmax		
	comp=Z,12nm,1.0s							
LAO	LASA Array	64.49	337	P		P	02 02 38.8	+0.3
	baz=147							
YFT	Old Faithful	64.58	333	eP		P	02 02 39.8	+0.4
	comp=Z,12nm,1.1s							
WAKR	Walker	64.72	323	eP		P	02 02 40.8	+0.4
	comp=Z,8.8nm,1.0s							
YNR	Norris Junctio	64.72	333	eP		P	02 02 40.2	-0.1
	comp=Z,6.6nm,0.8s							
YMR	Madison River	64.81	333	eP		P	02 02 40.8	0.0
	comp=Z,14nm,0.9s							
YHH	Holmes Hill	64.85	333	eP		P	02 02 42.1	+1.0
	comp=Z,13nm,0.8s							
YERR	Yerington	64.93	324	eP		P	02 02 42.4	+0.8
	comp=Z,39nm,1.6s							
CMB	Columbia Colle	64.97	322	eP		P	02 02 42.2	+0.4
	comp=Z,4.6nm,0.8s							
CMB	Columbia Colle	64.97	322	eP		P	02 02 42.2	+0.4
CMB					pmax	pmax		
	comp=Z,5.0nm,0.8s							
YHB	Horse Butte	64.98	333	eP		P	02 02 43.0	+1.1
	comp=Z,22nm,0.9s							
GCMT	Greycliff	65.14	335	eP		P	02 02 43.1	+0.3
PNTR	Pine Nut	65.20	324	eP		P	02 02 43.9	+0.4
	comp=Z,11nm,0.8s							
DGMT	Dagmar	65.27	340	eP		P	02 02 43.3	-0.2
	comp=Z,16nm,0.8s							
DGMT	Dagmar	65.27	340	P		P	02 02 43.8	+0.3
	baz=149							
VCNR	Virginia City	65.37	324	eP		P	02 02 45.5	+1.0
	comp=Z,16nm,1.0s							
PAHR	Pah Rah Range	65.49	324	eP		P	02 02 46.1	+0.9
	comp=Z,26nm,1.0s							
HLID	Hailey	65.58	330	eP		P	02 02 46.1	+0.4
	comp=Z,8.1nm,0.7s							
HLID	Hailey	65.58	330	P		P	02 02 46.1	+0.4
	baz=138,SNR=17							
MCMT	McKenzie Canyo	65.78	332	eP		P	02 02 47.6	+0.5
BOZ	Bozeman (W)	65.83	333	eP		P	02 02 47.4	+0.1
	comp=Z,11nm,0.8s							
BOZ	Bozeman (W)	65.83	333	eP		P	02 02 47.4	+0.1
BOZ					pmax	pmax		
	comp=Z,11nm,0.8s							
BOZ	Bozeman (W)	65.83	333	P		P	02 02 47.4	+0.1
	baz=141,SNR=15							
AFDM	Forest Hills D	65.92	323	eP		P	02 02 48.4	+0.6
	comp=Z,6.3nm,0.8s							
DLMT	Dillon	66.08	332	eP		P	02 02 49.4	+0.6
	comp=Z,30nm,1.4s							
BEKR	Beckworth	66.16	324	eP		P	02 02 49.6	0.0
	comp=Z,15nm,1.0s							
ORV	Oroville	66.62	323	eP		P	02 02 53.2	+0.9
	comp=Z,32nm,0.9s							
ORV	Oroville	66.62	323	eP		P	02 02 53.2	+0.9
ORV					pmax	pmax		
	comp=Z,33nm,0.9s							
HRY	Holter Researc	66.78	334	eP		P	02 02 53.8	+0.5
WVOR	Wild Horse Val	66.93	327	eP		P	02 02 54.6	+0.2
	comp=Z,9.9nm,1.3s							
WVOR	Wild Horse Val	66.93	327	eP		P	02 02 54.6	+0.2
WVOR					pmax	pmax		
	comp=Z,10.0nm,1.3s							
EGMT	Eagleton	66.96	336	eP		P	02 02 54.5	+0.2
	comp=Z,10nm,0.8s							
EGMT	Eagleton	66.96	336	P		P	02 02 54.4	0.0
	baz=144,SNR=5.1							
SCHQ	Schefferville	67.01	6	P		P	02 02 54.5	+0.2
	comp=Z,8.4nm,0.9s,baz=186,slow=6.0,SNR=4.6							
O03E	Paynes Creek	67.28	323	P		P	02 02 55.9	-0.6
	baz=130,SNR=5.2							
MOD	Modoc Plateau	67.48	325	eP		P	02 02 58.3	+0.5
	comp=Z,17nm,0.8s							
J08A	Circle Bar Ran	67.48	328	eP		P	02 02 57.8	0.0
	comp=Z,5.2nm,0.8s							
MSO	Missoula	67.80	333	eP		P	02 03 00.3	+0.6
	comp=Z,17nm,0.9s							
MSO	Missoula	67.80	333	P		P	02 03 00.0	+0.3
	baz=139,SNR=12							
WDC	Whiskeytown Da	67.89	323	eP		P	02 02 58.9	-1.4
	comp=Z,5.3nm,0.7s							
WDC	Whiskeytown Da	67.89	323	eP		P	02 02 58.9	-1.4
WDC					pmax	pmax		
	comp=Z,5.0nm,0.7s							
BMO	Blue Mountains	67.94	329	eP		P	02 03 00.3	-0.3
	comp=Z,6.0nm,0.9s							
BMO	Blue Mountains	67.94	329	eP		P	02 03 00.3	-0.3
BMO					pmax	pmax		
	comp=Z,6.0nm,0.9s							
N02D	Trinity Center	68.24	323	P		P	02 03 01.7	-0.8
	baz=130							
M04C	Macdoel	68.26	325	P		P	02 03 03.0	+0.3
	baz=131,SNR=11							
K05A	Summer Lake	68.35	326	eP		P	02 03 03.6	+0.2
	comp=Z,50nm,1.5s							
KMRM	Mail Ridge	68.36	322	eP		P	02 03 04.3	+1.0
	comp=Z,27nm,1.1s							
I07A	Izee	68.53	328	eP		P	02 03 04.6	+0.3
	comp=Z,17nm,0.9s							
M02C	Callahan	68.59	324	P		P	02 03 04.3	-0.4
	baz=130,SNR=5.3							
JTMT	Jette	68.65	333	eP		P	02 03 05.9	+0.9
	comp=Z,8.2nm,0.8s							
F10A	Beach Ranch, E	68.70	330	eP		P	02 03 05.8	+0.4
	comp=Z,7.0nm,0.6s							
YBH	Yreka Blue Hor	68.73	324	eP		P	02 03 04.6	-1.0
	comp=Z,7.9nm,0.8s							
YBH	Yreka Blue Hor	68.73	324	eP		P	02 03 04.6	-1.0
YBH					pmax	pmax		
	comp=Z,8.0nm,0.8s							
KHMM	Horse Mountain	68.78	323	eP		P	02 03 06.2	+0.3
	comp=Z,23nm,1.0s							
L04D	Klamath Falls	68.81	325	P		P	02 03 05.7	-0.4
	baz=130,SNR=5.0							
J05D	Fort Rock, OR	68.91	326	P		P	02 03 07.2	+0.5
	baz=132,SNR=9.0							
G08A	Pilot Rock	69.08	329	eP		P	02 03 08.2	+0.4
	comp=Z,11nm,0.8s							
PINE	Pine Mountain	69.09	327	eP		P	02 03 08.8	+0.8
	comp=Z,22nm,0.9s							
KRMB	Red Mountain	69.29	323	eP		P	02 03 09.1	0.0
	comp=Z,27nm,1.1s							
J04D	Umpqua Nationa	69.36	326	P		P	02 03 10.0	+0.4
	baz=131,SNR=8.8							
WALA	Waterton Lakes	69.49	334	eP		P	02 03 10.7	+0.6
	comp=Z,13nm,0.6s							
L02E	Cave Junction	69.51	324	P		P	02 03 10.4	+0.1
	baz=129							
E09A	Wood Farm, Sta	69.54	330	eP		P	02 03 10.8	+0.4
	comp=Z,14nm,0.8s							
VAH	Vaihoa	69.64	258	eP		P	02 03 12.1	+0.5
	comp=Z,66nm,1.0s							
I05D	Terrebonne, OR	69.67	327	P		P	02 03 12.1	+0.8
	baz=132,SNR=9.2							
K02D	Willamette Mer	69.89	324	P		P	02 03 13.2	+0.5
	baz=129,SNR=7.5							
I04A	Tendick Farm,	69.89	326	P		P	02 03 12.6	-0.1
	baz=131							
G06A	Carlson Farm,	69.90	328	eP		P	02 03 12.8	+0.1
	comp=Z,34nm,1.6s							
PMOR	Pomariorio Ree	69.93	258	eP		P	02 03 14.2	+0.8
	comp=Z,62nm,0.9s							
E08A	Dider Farm, El	69.97	330	eP		P	02 03 13.1	+0.1
	comp=Z,17nm,1.3s							
F07A	Phinny Hill Vi	69.99	329	eP		P	02 03 14.0	+0.9
	comp=Z,18nm,0.8s							
FFC	Flin Flon	70.07	344	eP		P	02 03 12.8	-0.7
	comp=Z,2.0nm,0.5s							
FFC	Flin Flon	70.07	344	eP		P	02 03 12.8	-0.7
FFC					pmax	pmax		
	comp=Z,2.0nm,0.5s							
HAWA	Hanford	70.14	329	eP		P	02 03 13.6	-0.5
	comp=Z,13nm,0.7s							
G05D	Wamic, OR	70.26	328	P		P	02 03 15.9	+1.1
	baz=132,SNR=5.1							
D08A	Wollman Farm,	70.30	330	eP		P	02 03 15.8	+0.8
	comp=Z,4.9nm,0.7s							
NEW	Newport	70.31	332	eP		P	02 03 15.1	0.0
	comp=Z,12nm,1.0s							
NEW	Newport	70.31	332	eP		P	02 03 15.1	0.0
NEW					pmax	pmax		
	comp=Z,12nm,1.0s							
NEW	Newport	70.31	332	P		P	02 03 15.5	+0.3
	baz=137,SNR=10.0							
I03D	Drain, OR	70.35	325	P		P	02 03 15.8	+0.4
	baz=130							
H04A	Detroit Lake	70.35	327	eP		P	02 03 15.1	-0.4
	comp=Z,15nm,0.8s							
C09A	Chrisman Ranch	70.52	331	eP		P	02 03 17.2	+0.8
	comp=Z,11nm,0.8s							
VNA3	Neumayer Olymp	71.10	162	P		P	02 03 20.3	+0.8
LTY	Liberty	71.30	329	eP		P	02 03 21.1	-0.1
	comp=Z,31nm,1.8s							
VNA1	Neumayer--Stat	71.36	161	P		P	02 03 22.4	+1.3
B08A	Colville Reser	71.41	331	eP		P	02 03 21.9	+0.1
	comp=Z,11nm,0.8s							
LON	Longmire	71.53	329	eP		P	02 03 22.9	+0.4
	comp=Z,8.8nm,0.8s							
LON	Longmire	71.53	329	eP		P	02 03 22.9	+0.4
LON					pmax	pmax		
	comp=Z,9.0nm,0.8s							
VNA2	Neumayer--Watz	71.71	161	P		P	02 03 23.8	+0.5
	baz=286,slow=6.1							
D05A	Enumclaw	71.91	329	eP		P	02 03 25.4	+0.6
	comp=Z,42nm,0.8s							
B06A	Marblemount	72.56	330	eP		P	02 03 28.1	-0.4
	comp=Z,30nm,0.7s							
B05A	Bryant	72.69	330	P		P	02 03 29.6	+0.3
	baz=132,SNR=9.9							
D03D	Eldon	72.70	329	P		P	02 03 30.2	+0.8
	baz=131							
DBIC	Dimbokro	72.89	79	P		P	02 03 31.4	+0.1
	comp=Z,9.0nm,0.7s,baz=234,slow=5.1,SNR=17							
DBIC				pP		pP	02 04 01.2	+2.5
	comp=Z,4.4nm,0.8s,baz=182,slow=7.6,SNR=2.7							
DBIC				LR		LR	02 34 02.7	
	comp=Z,33nm,19.2s,baz=228,slow=34							
A05A	Maple Falls	73.18	330	eP		P	02 03 33.0	+0.8
	comp=Z,4.7nm,0.9s							
SNAA	Sanae	73.32	162	P		P	02 03 33.5	+0.6
SNAA	Sanae	73.32	162	eP		P	02 03 33.4	+0.5
	comp=Z,22nm,1.4s							
SNAA	Sanae	73.32	162	*iP		P	02 03 33.3	+0.5
NVL	N'lazarevskaya	77.96	160	eP		P	02 03 57.4	-1.8
NVL					pmax	pmax		
	comp=Z,3.0nm,0.5s							
QSPA	South Pole Qui	78.13	180	eP		P	02 04 00

comp=Z,8.0nm,0.9s
TAM Tamanrasset 86.72 66 *e*P **P 02 04 46.3 +0.4**
TAM pmax pmax
comp=Z,8.0nm,0.9s
RES Resolute Bay 87.34 355 *e*P **P 02 04 47.4 -0.1**
comp=Z,5.8nm,0.8s
RES Resolute Bay 87.34 355 *e*P **P 02 04 47.4 -0.1**
RES pmax pmax
comp=Z,6.0nm,0.8s
SYO Syowa Base 87.60 161⇑ *e*P **P 02 04 48.6 -0.4**
SUMG Summit 87.86 11 *e*P **P 02 04 50.6 0.0**
comp=Z,36nm,1.1s
SUMG Summit 87.86 11 *i*P **P 02 04 51.3 +0.7**
SUMG Summit 87.86 11 *i*P **P 02 04 51.3 +0.7**
TSUM Tsumeb 89.22 109 *e*P **P 02 04 58.2 +0.3**
comp=Z,6.8nm,0.9s
DAWY Dawson 89.69 337 *e*P **P 02 04 59.0 +0.1**
comp=Z,11nm,1.0s
INK Inuvik 89.88 342 *e*P **P 02 04 58.8 -0.7**
comp=Z,25nm,1.2s
INK Inuvik 89.88 342 *e*P **P 02 04 58.8 -0.7**
INK pmax pmax
comp=Z,25nm,1.2s
SCO Scoresbysund 90.03 16 *i*P **P 02 05 01.1 +0.9**
comp=Z,0.8nm,0.4s
SCO Scoresbysund 90.03 16 *i*P **P 02 05 01.1 +0.9**
SCO pmax pmax
comp=Z,1.0nm,0.4s
EGAK Eagle 90.70 337 *e*P **P 02 05 03.5 0.0**
comp=Z,11nm,1.0s
KLU Klutina 91.26 333 *e*P **P 02 05 06.4 +0.1**
comp=Z,16nm,0.8s
PAX Paxson 91.65 335 *e*P **P 02 05 07.8 -0.3**
comp=Z,32nm,1.6s
PAX Paxson 91.65 335 *e*P **P 02 05 07.8 -0.3**
PAX pmax pmax
comp=Z,32nm,1.6s
IL1 Eielson Array 92.93 336 *e*P **P 02 05 12.9 -0.9**
ILAR Eielson Array 92.93 336 P **P 02 05 12.8 -1.1**
comp=Z,1.2nm,0.7s,baz=151,slow=3.9,SNR=16
ILB Eielson Array 92.93 336 *e*P **P 02 05 13.7 -0.1**
COLA College 93.35 336 *e*P **P 02 05 14.9 -0.8**
comp=Z,7.2nm,1.1s
COLA College 93.35 336 *e*P **P 02 05 14.9 -0.8**
COLA pmax pmax
comp=Z,7.0nm,1.1s
MDM Murphy Dome 93.53 336 *e*P **P 02 05 16.5 -0.2**
comp=Z,14nm,0.9s
BOSA Boshof 93.78 120 P **P 02 05 18.4 -0.4**
comp=Z,2.2nm,0.8s,baz=232,slow=4.8,SNR=3.8
BOSA LR LR 02 43 51.9
comp=Z,35nm,18.7s,baz=244,slow=33
SKT Skwentna 93.94 333 *e*P **P 02 05 18.4 -0.2**
comp=Z,13nm,0.8s
BPAW Bear Paw Mtn. 94.36 335 *e*P **P 02 05 20.0 -0.5**
comp=Z,55nm,1.8s
DAG Danmarks Havn 94.52 11 *i*P **P 02 05 20.2 -0.7**
comp=Z,3.7nm,0.8s
DAG Danmarks Havn 94.52 11 *i*P **P 02 05 20.2 -0.7**
DAG pmax pmax
comp=Z,3.0nm,0.8s
MAW Mawson 95.19 165 P **P 02 05 24.4 +0.2**
comp=Z,4.2nm,0.7s,baz=219,slow=5.4,SNR=12
MAW LR LR 02 45 44.0
comp=Z,42nm,21.9s,baz=240,slow=34
MAW Mawson 95.19 165 *e*P **P 02 05 24.9 +0.6**
comp=Z,1.3nm,0.9s
MAW Mawson 95.19 165 *e*P **P 02 05 24.9 +0.6**
MAW pmax pmax
comp=Z,1.0nm,0.9s
FETA Feichten 96.30 43 *e*PcP **P 02 05 30.5 +0.6**
comp=Z,5.1nm,0.9s
MOTA Moosalm 96.61 43 *e*PcP **P 02 05 31.8 +0.5**
comp=Z,3.0nm,0.7s,SNR=8.2
SQTA Sankt Quirin 96.66 43 *e*PcP **P 02 05 32.4 +0.9**
comp=Z,9.9nm,1.1s,SNR=5.3
WATA Walderalm 96.92 43 *e*PcP **P 02 05 33.4 +0.7**
comp=Z,3.0nm,0.7s
WTTA Wattenberg 96.95 43 *e*PcP **P 02 05 33.9 +1.0**
comp=Z,6.2nm,0.8s
ABTA Abfaltersbach 97.46 44 *e*PcP **P 02 05 35.9 +0.8**
comp=Z,8.1nm,0.9s
MYKA Terra Mystica 98.20 44 *e*Pdiff **P 02 05 38.5 +0.1**
comp=Z,4.6nm,0.7s
GERES GERESS Array B 98.57 42 P **P 02 05 40.3 +0.3**
comp=Z,0.9nm,0.9s,baz=276,slow=5.2,SNR=6.7
GERES PKKPbc **PKKPbc 02 22 09.6 -1.3**
comp=Z,0.4nm,0.8s,baz=103,slow=2.9,SNR=3.9
MOA Molln 98.80 43 *e*Pdiff **P 02 05 42.1 +1.1**
comp=Z,7.9nm,1.1s
NOA NORSAR Array B 98.94 29 P **Pdif 02 05 41.8 +0.6**
comp=Z,1.1nm,0.9s,baz=284,slow=3.6,SNR=3.1
NOA LR LR 02 48 45.7
comp=Z,21nm,18.9s,baz=275,slow=34
ARSA Arzberg 99.57 44 *e*Pdiff **Pdif 02 05 45.1 +0.7**
comp=Z,3.4nm,1.1s
CONA Conrad Observa 99.88 43 *e*Pdiff **Pdif 02 05 46.6 +0.8**
comp=Z,3.6nm,0.9s
VYHS Vyhne 101.92 43 *e*P **Pdif 02 05 55.8 +1.0**
VYHS Vyhne 101.92 43 *e*PDIFF **Pdif 02 05 55.8 +1.0**
ANN Anapa 114.80 46 *i*PKIKP PKPpre 02 10 34.0
ANN pmax pmax
comp=Z,63nm,1.1s
TIXI Tiksi 118.54 351⇓ *i*PKIKP **PKPdf 02 10 47.1 -0.7**
NEY Neytrino 118.82 47⇑ *i*PKIKP **PKPdf 02 10 47.8 -1.6**
SEY Seymchan 118.85 337⇓ *i*PKIKP **PKPdf 02 10 48.4 -0.2**
KBZ Khabaz 118.85 47 PKP **PKPdf 02 10 49.1 -0.1**
comp=Z,2.5nm,0.9s,baz=225,slow=6.3,SNR=4.6
PETK Petropavlovsk- 121.07 326 PKP **PKPdf 02 10 52.2 -1.0**
comp=Z,2.7nm,0.7s,baz=84,slow=2.2,SNR=6.1
STKA Stephens Creek 123.58 218 PKP **PKPdf 02 10 58.2 -0.5**
comp=Z,4.9nm,0.7s,baz=32,slow=1.9,SNR=13
STKA Stephens Creek 123.58 218 *e*PKPdf **PKPdf 02 10 58.9 +0.2**
STKA Stephens Creek 123.58 218 *e*PKIKP **PKPdf 02 10 58.9 +0.2**
YAK Yakutsk 126.79 345⇑ *e*PKIKP **PKPdf 02 11 03.6 -0.2**
CTAO Charters Tower 127.78 233 *e*PKPdf **PKPdf 02 11 07.1 +0.1**
ABKAR Akbulak array 127.95 35 *e*PKPdf **PKPdf 02 11 07.5 +1.1**
BRVK Borovoye 130.89 26 *e*PKPdf **PKPdf 02 11 12.4 +0.4**
BRVK Borovoye 130.89 26⇑ *i*PKIKP **PKPdf 02 11 12.6 +0.7**
GEYT Alibeck 131.51 50 PKP **PKPdf 02 11 14.1 +0.5**
comp=Z,0.5nm,0.5s,baz=197,slow=4.5,SNR=3.6
YSS Yuzh-Sakhalins 132.46 325⇑ *e*PKIKP **PKPdf 02 11 16.0 +0.9**
NWAO Narrogin (SRO) 133.63 195 *e*PKPdf **PKPdf 02 11 18.2 +0.4**
AS31 Alice Springs 134.19 219 *e*PKPdf **PKPdf 02 11 19.1 -0.1**
ASAR Alice Springs 134.19 219 PKhKP PKPpre 02 11 02.4
comp=Z,0.4nm,0.6s,baz=123,slow=2.9,SNR=6.1
ASAR PKP **PKPdf 02 11 18.8 -0.4**
comp=Z,6.6nm,0.7s,baz=130,slow=2.0,SNR=60
ZAA0 Zalesovo Array 135.41 16 *e*PKPdf **PKPdf 02 11 20.7 +0.3**
ZALV Zalesovo Beam 135.41 16 PKP **PKPdf 02 11 20.9 +0.5**
comp=Z,7.6nm,0.7s,baz=304,slow=2.5,SNR=26
ZALV Zalesovo Beam 135.41 16 *e*PKPdf **PKPdf 02 11 20.5 +0.1**
KURK Kurchatov 136.09 23 *e*PKPdf **PKPdf 02 11 21.9 +0.2**
KURK Kurchatov 136.09 23 *i*PKIKP **PKPdf 02 11 22.3 +0.5**
KLR Kul'dur 136.47 334⇓ *e*PKIKP **PKPdf 02 11 21.0 -1.5**
WB2 Warramunga Arr 136.57 223 *e*PKPdf **PKPdf 02 11 22.5 -1.1**
WRA Warramunga Arr 136.57 223 PKhKP PKPpre 02 11 09.8
comp=Z,0.7nm,0.7s,baz=139,slow=2.8,SNR=12
WRA PKP **PKPdf 02 11 23.6 -0.1**
comp=Z,9.2nm,0.7s,baz=131,slow=2.0,SNR=51
WRAB Tennant Creek 136.57 223 *e*PKPdf **PKPdf 02 11 23.1 -0.6**
WRAB Tennant Creek 136.57 223 *i*PKIKP **PKPdf 02 11 23.7 0.0**
AAK Ala-Archa 140.03 35 *e*PKPdf **PKPdf 02 11 29.2 -0.3**
AAK Ala-Archa 140.03 35 *i*PKIKP **PKPdf 02 11 30.1 +0.6**
USRK Ussuriysk Ar. 140.03 329 PKhKP PKPpre 02 11 20.7
comp=Z,2.7nm,0.7s,baz=48,slow=4.7,SNR=7.0
USRK PKP **PKPdf 02 11 29.1 -0.1**
comp=Z,5.9nm,0.9s,baz=130,slow=0.7,SNR=7.1
HVS Khovu-Aksy 140.04 10 *i*PKIKP **PKPdf 02 11 32.1 +2.9**
MKAR Makanchi Array 140.69 24 PKhKP PKPpre 02 11 22.5
comp=Z,1.5nm,0.5s,baz=312,slow=3.3,SNR=17
MK01 Makanchi Array 140.71 24 *e*PKPdf **PKPdf 02 11 28.2 -2.3**
MJAR Matsushiro Arr 140.90 314 PKhKP PKPpre 02 11 22.3
comp=Z,8.3nm,0.9s,baz=100,slow=1.2,SNR=17
MAJO Matsushiro 140.90 314 *e*PKPpre PKPpre 02 11 23.1
MAJO *e*PKPdf **PKPdf 02 11 29.0 -2.1**
MAJO Matsushiro 140.90 314 *i*PKIKP **PKPdf 02 11 33.3 +2.2**
MAT Matsushiro 140.90 314 PKP PKPpre 02 11 23.1
MJB9 Matsu-Tunnel 140.90 314 *e*PKPdf **PKPdf 02 11 28.9 -2.1**
NRN Naryn 141.66 35 *e*PKPdf **PKPdf 02 11 31.9 -0.8**
NRN Naryn 141.66 35 *e*PKIKP **PKPdf 02 11 31.9 -0.8**
KSH Kashi 142.90 37 *e*PKP **PKPdf 02 11 34.4 -0.3**
KSH PP **PP 02 14 48.4 +4.0**
KSH SKS **SKSdf 02 18 32.5 -2.4**
KSH AMB AMB
comp=Z,230nm,5.1s

FITZ Fitzroy Crossi 143.38 216 *e*PKPpre PKPpre 02 11 32.4
MTN Manton Dam 143.65 228 *e*PKPpre PKPpre 02 11 33.7
MBWA Marble Bar 143.70 205 *e*PKPdf PKPab 02 11 33.6 +0.3
ULN Ulaanbaatar 144.18 357 *e*PKPdf **PKPab 02 11 34.8 +0.1**
ULN Ulaanbaatar 144.18 357 *e*PKIKP **PKPab 02 11 34.8 +0.1**
SONA1 Songino Array 144.23 358 *e*PKPdf **PKPab 02 11 35.3 +0.5**
SONM Songino Array 144.24 358 PKP **PKPab 02 11 35.8 +1.0**
comp=Z,11nm,0.7s,baz=325,slow=2.4,SNR=31
WMQ Urumqi 145.23 21 *e*PKPbc **PKPbc 02 11 38.3 -0.1**
KSRS Korea Array 146.95 324 PKPbc **PKPdf 02 11 42.0 +0.5**
comp=Z,9.8nm,0.8s,baz=42,slow=1.7,SNR=18
KS01 Wonju Array Si 146.95 324 *e*PKPdf **PKPdf 02 11 41.4 -0.2**
KSAR Wonju Array Be 146.98 324 PKPbc **PKPdf 02 11 42.0 +0.5**
KSAR Wonju Array Be 146.98 324 PKP2 **PKPdf 02 11 42.1 +0.5**
JNU Nakatsue 147.81 315 *e*PKPbc **PKPdf 02 11 45.3 +2.1**
FAKI Fak Fak 148.46 244 *e*PKPbc **PKPbc 02 11 49.4 +0.9**
BJI Beijing 150.15 341 PKPbc **PKPbc 02 11 51.2 -0.6**
BJT Baijiatuan 150.17 341 *e*PKPbc **PKPbc 02 11 50.8 -1.1**
BJT Baijiatuan 150.17 341 *e*PKIKP **PKPbc 02 11 50.8 -1.1**
SOEI Soe 150.61 223 *e*PKPbc **PKPbc 02 11 54.9 +1.0**
BTO Baotou 151.06 351 *e*PKPbc **PKPbc 02 11 52.9 -1.2**
GTA Gaotai 152.43 7 *e*PKPbc **PKPdf 02 11 49.1 -1.3**
GTA PKPab **PKPab 02 12 07.2 -0.5**
GTA pPKP pPKPdf 02 12 15.0 -5.0
GTA sPKP 02 12 26.5
NJ2 Nanjing 155.94 328 *e*PKP **PKPdf 02 11 55.8 +0.5**
LZH Lanzhou 156.02 1 *e*PKP **PKPdf 02 11 54.4 -1.2**
LZH pPKP PKPab 02 12 18.7 -4.4
LZH sPKP 02 12 32.1
LZH LR LR
comp=Z,100nm,17.8s
LZH LR LR
comp=Z,96nm,18.0s
LZH LR LR
comp=Z,140nm,20.0s
CD2 Chengdu 161.18 1 PKP **PKPdf 02 12 00.0 -1.7**
GYA Guiyang 165.44 351 *e*PKP **PKPdf 02 12 04.8 -1.2**
GYA pPKP pPKPdf 02 12 31.0 -4.7
GYA PKPab **PKPab 02 13 05.2 +0.9**
GYA PP **PP 02 16 53.6 +3.6**
GYA AMB AMB
comp=Z,120nm,8.2s
CMAR Chiang Mai Arr 171.80 38 PKP **PKPdf 02 12 10.6 +0.5**
comp=Z,1.1nm,0.3s,baz=260,slow=1.1,SNR=11
CMAR PKPab **PKPab 02 13 32.2 -0.4**
comp=Z,1.5nm,0.3s,baz=318,slow=5.9,SNR=4.5

MEX 04 02:01:52.5±0.5, **16.33N**×**98.21W**, **h15**km±2km, **MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.10**	**50**	*e*P	Pg	02 01 54.8	-1.1
PNIG				*e*S	Sg	02 01 57.6	-0.4

*IDC **04** 02:13:23.2±1.9, 29.46N×81.79E, h0km, mb3.5/7, mb1 3.7/9, mb1mx3.4/33, mbtmp3.5/9, ML3.4/2, Error ellipse: s-maj=67.3km s-min=22.4km az=67.0*
ISC 04 02:13:28.0±1.1, **29.6N**±0.1×**81.78E**±0.08, **h31**km, **n13**, σ1s**73**/14, **mb3.4/7, Nepal**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NDI	**New Delhi**	**4.09**	**258**	*e*P	**Pb**	**02 14 38.0**	**-1.3**
NDI				*e*S	**Sb**	**02 15 31.9**	**+3.6**
CHCP	**Chirah Chowk**	**8.31**	**301**	P	**Pn**	**02 15 25.2**	**-1.3**
THW	**Thamme Wali**	**9.17**	**293**	P	**Pn**	**02 15 35.8**	**-2.4**
CEP	**Cherat**	**9.40**	**299**	P	**Pn**	**02 15 39.3**	**-2.2**
AAK	**Ala-Archa**	**14.28**	**338**	Pn	**Pn**	**02 16 48.5**	**+0.4**
	0.2nm,0.3s,baz=180,slow=5.1,SNR=2.7						
MKAR	**Makanchi Array**	**17.18**	**1**	P	**Pn**	**02 17 25.6**	**-0.1**
	0.1nm,0.3s,baz=178,slow=12,SNR=5.3						
KURBB	**Kurchatov Arra**	**21.15**	**354**	P	**P**	**02 18 10.1**	**-0.3**
	0.5nm,0.5s,baz=181,slow=10,SNR=6.3						
ZALV	**Zalesovo Beam**	**24.44**	**4**	P	**P**	**02 18 45.7**	**+1.9**
	0.6nm,0.3s,baz=194,slow=12,SNR=3.5						
SONM	**Songino Array**	**26.30**	**39**	P	**P**	**02 19 01.2**	**+0.4**
	0.3nm,0.3s,baz=238,slow=8.0,SNR=2.8						
ARCES	**ARCESS Array B**	**50.95**	**338**	P	**P**	**02 22 26.7**	**+0.5**
	4.5nm,1.1s,baz=88,slow=8.2,SNR=3.0						
WRA	**Warramunga Arr**	**70.64**	**128**	P	**P**	**02 24 40.5**	**-0.3**
	0.2nm,0.6s,baz=322,slow=6.2,SNR=4.2						
ASAR	**Alice Springs**	**72.89**	**131**	P	**P**	**02 24 53.5**	**-0.8**
	0.2nm,0.7s,baz=323,slow=5.9,SNR=2.8						
ILAR	**Eielson Array**	**78.62**	**19**	P	**P**	**02 25 27.4**	**+1.0**
	0.5nm,0.8s,baz=298,slow=5.0,SNR=4.3						

IDC 04 02:25:39.1±88.0, **16.88S**×**163.66E**, **h0**km, **mb3.6/3, mb1 3.8/3, mb1mx3.5/34, mbtmp3.6/3, Error ellipse: s-maj=1463.0km s-min=109.6km az=65.0, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**24.96**	**229**	P	P	02 31 03.9	-0.5
	0.9nm,0.4s,baz=51,slow=6.5,SNR=3.8						
WRA	**Warramunga Arr**	**27.96**	**259**	P	P	02 31 31.8	+0.1
	0.1nm,0.3s,baz=91,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**28.68**	**251**	P	P	02 31 38.3	+0.3
	0.2nm,0.3s,baz=74,slow=9.8,SNR=6.6						

*CNRM **04** 02:32:30.2, 32.53N×12.13W, h10km, ML3.5*
*INMG **04** 02:32:32.3±0.9, 32.89N×12.59W, h53km±13km, ML2.4, Error ellipse: s-maj=3.9km s-min=3.6km az=121.0*
ISC 04 02:32:22.9±1.5, **32.86N**±0.06×**12.53W**±0.07, **h10**km, **n12**, σ3s**03**/14, **Madeira Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMPS	**Porto Santo**	**3.21**	**275**	*e*S	**Sn**	**02 33 49.7**	**-1.9**
TTIG	**Tnine Tigouga,**	**4.18**	**122**	P	**Pn**	**02 33 27.9**	**+1.1**
TTIG	**Tnine Tigouga,**	**4.18**	**122**	S	**Sn**	**02 34 11.9**	**-3.9**
AVE	**Averroes**	**4.31**	**83**	P	**Pn**	**02 33 30.5**	**+1.9**
AVE	**Averroes**	**4.31**	**83**	S	**Sn**	**02 34 20.6**	**+1.7**
PTEO	**Sao Teotonio**	**5.61**	**33**	*e*S	**Sn**	**02 34 48.5**	**-2.4**
PBDV	**Barranco-do-Ve**	**5.77**	**39**	*e*P	**Pn**	**02 33 52.3**	**+3.7**
PBDV				*e*S	**Sn**	**02 34 52.0**	**-2.9**
PVAQ	**Vaqueiros**	**6.00**	**40**	*e*P	**Pn**	**02 33 54.3**	**+2.5**
PVAQ				*e*S	**Sn**	**02 34 57.3**	**-3.3**
PVAQ				A	A	02 35 02.7	
	3.8nm,0.6s						
MESJ	**Messejana**	**6.09**	**34**	*e*S	**Sn**	**02 34 59.6**	**-3.0**
MDT	**Midelt**	**6.66**	**88**	P	**Pn**	**02 34 02.6**	**+1.7**
MDT	**Midelt**	**6.66**	**88**	S	**Sn**	**02 35 15.2**	**-1.7**
EVO	**Evora**	**6.74**	**32**	*e*S	**Sn**	**02 35 14.9**	**-3.9**

MEX 04 02:32:39.9±0.4, **15.09N**×**93.16W**, **h72**km±5km, **MD3.7, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.62**	**354**	*e*P	Pn	02 32 52.9	-1.2
PCIG				*e*S	Sn	02 33 02.8	-1.7
CCIG	**Comitan**	**1.54**	**39**	*e*P	Pn	02 33 04.4	-1.2
CCIG				*i* S	Sn	02 33 23.9	-1.2
TGIG		**1.68**	**1**	*e*P	Pn	02 33 05.9	-1.5
TGIG				*i* S	Sn	02 33 25.9	-2.4

IDC 04 02:36:01.4±3.2, **9.70N**×**125.13E**, **h0**km, **mb3.5**/4, **mb1 3.6**/4, **mb1mx3.3**/38, **mbtmp3.5**/4, **MS3.1**/1, **Ms1 3.1**/1, **ms1mx2.3**/25, **Error ellipse: s-maj=320.5km s-min=21.9km az=65.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**30.82**	**163**	P	P	02 42 19.7	+0.5
	0.2nm,0.6s,baz=343,slow=11,SNR=2.8						
WRA				LR	LR	02 56 14.2	
	comp=Z,31nm,18.4s,baz=350,slow=39						
ASAR	**Alice Springs**	**34.26**	**166**	P	P	02 42 48.8	-0.6
	0.2nm,0.5s,baz=340,slow=7.3,SNR=5.0						
MKAR	**Makanchi Array**	**51.81**	**324**	P	P	02 45 11.4	+0.2
	0.5nm,0.6s,baz=117,slow=6.7,SNR=3.2						
KURBB	**Kurchatov Arra**	**55.91**	**326**	P	P	02 45 40.7	-0.4
	0.4nm,0.2s,baz=125,slow=6.4,SNR=3.7						

ROM 04 02:39:07.6±0.1, **39.904N**±0.004×**16.011E**±0.007,
h9km, **ML1.4/6, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUC	**Castrocucco**	**0.17**	**301**	P	Pg	02 39 11.8	+0.5
CUC				S	Sg	02 39 14.8	+1.0
CUC				AML	AML		
	comp=E,186μm,0.4s						
CUC				AML	AML		
	comp=N,159μm,1.0s						
CUC				AML	AML		
	comp=E,234μm,1.1s						
CUC				AML	AML		
	comp=N,182μm,1.0s						
CUC				AML	AML		
	comp=E,186μm,0.4s						
CUC				AML	AML		
	comp=N,159μm,1.0s						
CUC				AML	AML		
	comp=E,234μm,1.1s						
CUC				AML	AML		
	comp=N,182μm,1.0s						
CUC				AML	AML		
	comp=E,186μm,0.4s						
CUC				AML	AML		
	comp=N,182μm,1.0s						
CUC				AML	AML		
	comp=N,159μm,1.0s						
CUC				AML	AML		
	comp=E,234μm,1.1s						
T0702	**Acquaformosa (**	**0.19**	**163**	P	Pg	02 39 12.5	+1.0
T0702				S	Sg	02 39 15.6	+1.4
SALB	**San Lorenzo Be**	**0.26**	**96**	P	Pg	02 39 13.4	+0.6
SALB				S	Sg	02 39 17.6	+1.3
SALB				AML	AML		
	comp=E,116μm,0.4s						
SALB				AML	AML		
	comp=N,76μm,0.4s						
SALB				AML	AML		
	comp=E,116μm,0.4s						
SALB				AML	AML		
	comp=N,76μm,0.4s						
SALB				AML	AML		
	comp=N,76μm,0.4s						
SALB				AML	AML		
	comp=E,116μm,0.4s						
SCHR	**S. Chirico Rap**	**0.30**	**10**	P	Pg	02 39 14.1	+0.5
SCHR				S	Sb	02 39 19.7	-0.6
SIRI	**Monte Sirino -**	**0.30**	**338**	P	Pb	02 39 14.5	-0.7
SIRI				S	Sb	02 39 19.9	-0.4
SIRI				AML	AML		
	comp=E,179μm,0.3s						
SIRI				AML	AML		
	comp=N,126μm,0.8s						
SIRI				AML	AML		
	comp=E,175μm,0.3s						
SIRI				AML	AML		
	comp=N,116μm,0.2s						
SIRI				AML	AML		
	comp=E,179μm,0.3s						
SIRI				AML	AML		
	comp=N,126μm,0.8s						
SIRI				AML	AML		
	comp=E,176μm,0.3s						
SIRI				AML	AML		
	comp=N,116μm,0.2s						
SIRI				AML	AML		
	comp=N,116μm,0.2s						
SIRI				AML	AML		
	comp=N,127μm,0.8s						
SIRI				AML	AML		
	comp=E,175μm,0.3s						
SIRI				AML	AML		
	comp=E,179μm,0.3s						
CET2	**Cetraro**	**0.38**	**187**	P	Pb	02 39 15.8	-0.7
CET2				S	Sb	02 39 21.3	-1.1
CET2				AML	AML		
	comp=E,114μm,0.5s						
CET2				AML	AML		
	comp=N,166μm,1.2s						
CET2				AML	AML		
	comp=E,114μm,0.5s						
CET2				AML	AML		
	comp=N,166μm,1.2s						
CET2				AML	AML		
	comp=E,114μm,0.5s						
CET2				AML	AML		
	comp=N,166μm,1.2s						
MTSN	**Montesano sull**	**0.41**	**331**	P	Pg	02 39 16.4	+0.7
MTSN				S	Sb	02 39 23.1	-0.5
MTSN				AML	AML		
	comp=E,50μm,0.3s						
MTSN				AML	AML		
	comp=N,47μm,1.5s						
MTSN				AML	AML		
	comp=E,50μm,0.3s						
MTSN				AML	AML		
	comp=N,47μm,1.5s						
MTSN				AML	AML		
	comp=E,50μm,0.3s						
MTSN				AML	AML		
	comp=N,47μm,1.5s						
MGR	**Morigerati**	**0.42**	**304**	P	Pg	02 39 16.2	+0.4
MGR				S	Sb	02 39 22.8	-0.9
MGR				AML	AML		
	comp=E,57μm,1.0s						
MGR				AML	AML		
	comp=N,47μm,0.8s						
MGR				AML	AML		
	comp=E,57μm,1.0s						
MGR				AML	AML		
	comp=N,47μm,0.8s						
MGR				AML	AML		
	comp=E,57μm,1.0s						
MGR				AML	AML		
	comp=N,47μm,0.8s						
CELI	**Celico**	**0.63**	**142**	P	Pb	02 39 20.5	-0.3

BUC 04 02:41:05.1±0.3, **45.73N**×**26.71E**, **h133**km±3km, **MD3.9/6, 48C-42D, Error ellipse: s-maj=2.4km s-min=2.0km az=71.0, Romania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.13**	**342⇑**	*i*P	Pn	02 41 22.8	-0.4
PLOR	**Plostina**	**0.13**	**342⇑**	*i*P	Pn	02 41 22.8	-0.4
PLOR				*i* S	Sn	02 41 35.9	-1.1
VRI	**Vrincioaia**	**0.14**	**6⇑**	*i*P	Pn	02 41 23.0	-0.2
VRI	**Vrincioaia**	**0.14**	**6⇑**	*i*P	Pn	02 41 23.0	-0.2
VRI				*i* S	Sn	02 41 35.9	-1.0
ODBI	**Odobesti**	**0.25**	**81⇑**	*i*P	Pn	02 41 24.0	+0.6
ODBI	**Odobesti**	**0.25**	**81⇑**	*i*P	Pn	02 41 24.0	+0.6
ODBI				*i* S	Sn	02 41 37.9	+0.7
PETR	**Petresti**	**0.37**	**90⇑**	*i*P	Pn	02 41 24.0	+0.2
PETR	**Petresti**	**0.37**	**90⇑**	*i*P	Pn	02 41 24.0	+0.2
PETR				*i* S	Sn	02 41 38.1	+0.2
GRER		**0.39**	**151⇓**	*i*P	Pn	02 41 24.7	+0.7
GRER		**0.39**	**151⇓**	*i*P	Pn	02 41 24.7	+0.7
MLR	**Muntele Rosu**	**0.58**	**247⇑**	*i*P	Pn	02 41 25.0	-0.1
MLR	**Muntele Rosu**	**0.58**	**247⇑**	*i*P	Pn	02 41 25.0	-0.1
MLR				*i* S	Sn	02 41 39.6	-0.7
ISR	**Istrita**	**0.62**	**191⇓**	*i*P	Pn	02 41 25.7	+0.4
ISR	**Istrita**	**0.62**	**191⇓**	*i*P	Pn	02 41 25.7	+0.4
SECR		**0.82**	**213⇑**	*i*P	Pn	02 41 27.2	+0.5
SECR		**0.82**	**213⇑**	*i*P	Pn	02 41 27.2	+0.5
SECR				*i* S	Sn	02 41 43.6	+0.5
PGOR	**Pogoanele**	**0.84**	**166⇓**	*i*P	Pn	02 41 27.1	+0.3
PGOR	**Pogoanele**	**0.84**	**166⇓**	*i*P	Pn	02 41 27.1	+0.3
PGOR				*i* S	Sn	02 41 43.9	+0.6
PLAR	**PLOIESTI**	**0.94**	**211⇑**	*i*P	Pn	02 41 28.2	+0.5
PLAR	**PLOIESTI**	**0.94**	**211⇑**	*i*P	Pn	02 41 28.2	+0.5
DOPR	**Dopca**	**0.95**	**285⇑**	*i*P	Pn	02 41 27.5	-0.3
DOPR	**Dopca**	**0.95**	**285⇑**	*i*P	Pn	02 41 27.5	-0.3
DOPR				*i* S	Sn	02 41 44.2	-0.9
GIUM	**Giurgiulesti**	**1.08**	**102⇓**	*i*P	Pn	02 41 29.1	+0.1
GIUM	**Giurgiulesti**	**1.08**	**102⇓**	*i*P	Pn	02 41 29.1	+0.1
GIUM				*i* S	Sn	02 41 46.6	-0.5
SULR		**1.09**	**197⇓**	*i*P	Pn	02 41 29.4	+0.3
SULR		**1.09**	**197⇓**	*i*P	Pn	02 41 29.4	+0.3
SULR				*i* S	Sn	02 41 47.7	+0.4
CFR	**Carcaliu**	**1.14**	**118⇓**	*i*P	Pn	02 41 29.1	-0.5
CFR	**Carcaliu**	**1.14**	**118⇓**	*i*P	Pn	02 41 29.1	-0.5
CFR				*i* S	Sn	02 41 47.1	-1.1
AMRR	**Amara**	**1.20**	**158⇓**	*i*P	Pn	02 41 30.3

AMRR				*i* S		Sn	02 41 48.8	-0.4	
VOIR		**1.20**	**257**	⇑*i*P		Pn	02 41 29.7	-0.6	
VOIR		**1.20**	**257**	⇑*i*P		Pn	02 41 29.7	-0.6	
VOIR				*i* S		Sn	02 41 48.0	-1.4	
GIRR	**Girov**	**1.24**	**353**	⇑*i*P		Pn	02 41 30.6	0.0	
GIRR	**Girov**	**1.24**	**353**	⇑*i*P		Pn	02 41 30.6	0.0	
MTUR	**Matau**	**1.26**	**247**	⇑*i*P		Pn	02 41 31.1	+0.2	
MTUR	**Matau**	**1.26**	**247**	⇑*i*P		Pn	02 41 31.1	+0.2	
JOSR	**Joseni**	**1.28**	**320**	⇑*i*P		Pn	02 41 30.8	-0.3	
JOSR	**Joseni**	**1.28**	**320**	⇑*i*P		Pn	02 41 30.8	-0.3	
BIZ	**Bicaz**	**1.28**	**341**	⇑*i*P		Pn	02 41 31.5	+0.5	
BIZ	**Bicaz**	**1.28**	**341**	⇑*i*P		Pn	02 41 31.5	+0.5	
BIZ				*i* S		Sn	02 41 50.5	-0.4	
LEOM	**Leova**	**1.31**	**54**	⇑*i*P		Pn	02 41 31.3	+0.1	
LEOM	**Leova**	**1.31**	**54**	⇑*i*P		Pn	02 41 31.3	+0.1	
LEOM				*i* S		Sn	02 41 50.0	-1.1	
INCR	**INCERC-Sediu C**	**1.34**	**197**	⇓*i*P		Pn	02 41 31.6	0.0	
INCR	**INCERC-Sediu C**	**1.34**	**197**	⇓*i*P		Pn	02 41 31.6	0.0	
INCR				*i* S		Sn	02 41 50.9	-0.9	
HARR	**Harsova**	**1.35**	**140**	⇓*i*P		Pn	02 41 31.6	-0.1	
HARR	**Harsova**	**1.35**	**140**	⇓*i*P		Pn	02 41 31.6	-0.1	
BUC1	**Bucharest**	**1.46**	**200**	⇑*i*P		Pn	02 41 33.0	+0.1	
BUC1	**Bucharest**	**1.46**	**200**	⇑*i*P		Pn	02 41 33.0	+0.1	
BUC1				*i* S		Sn	02 41 53.3	-0.8	
TLB	**Topalu**	**1.48**	**140**	⇓*i*P		Pn	02 41 33.0	-0.1	
TLB	**Topalu**	**1.48**	**140**	⇓*i*P		Pn	02 41 33.0	-0.1	
TLB				*i* S		Sn	02 41 53.1	-1.4	
ARR	**Arges**	**1.50**	**257**	⇑*i*P		Pn	02 41 33.3	-0.1	
ARR	**Arges**	**1.50**	**257**	⇑*i*P		Pn	02 41 33.3	-0.1	
ARR				*i* S		Sn	02 41 54.1	-0.9	
TLCR		**1.58**	**109**	⇓*i*P		Pn	02 41 34.0	-0.2	
TLCR		**1.58**	**109**	⇓*i*P		Pn	02 41 34.0	-0.2	
TLCR				*i* S		Sn	02 41 55.2	-1.2	
IAS	**Iasi**	**1.58**	**22**	⇓*i*P		Pn	02 41 34.0	-0.3	
IAS	**Iasi**	**1.58**	**22**	⇓*i*P		Pn	02 41 34.0	-0.3	
IAS				*i* S		Sn	02 41 54.7	-1.9	
SGRR	**Singureni**	**1.59**	**199**	⇓*i*P		Pn	02 41 34.2	-0.2	
SGRR	**Singureni**	**1.59**	**199**	⇓*i*P		Pn	02 41 34.2	-0.2	
SGRR				*i* S		Sn	02 41 55.3	-1.4	
PRAR	**RASCA**	**1.67**	**349**	⇑*i*P		Pn	02 41 35.6	+0.3	
PRAR	**RASCA**	**1.67**	**349**	⇑*i*P		Pn	02 41 35.6	+0.3	
CVDA	**Cernavoda**	**1.68**	**145**	⇓*i*P		Pn	02 41 35.5	+0.1	
CVDA	**Cernavoda**	**1.68**	**145**	⇓*i*P		Pn	02 41 35.5	+0.1	
CVDA				*i* S		Sn	02 41 57.2	-1.3	
HUMR	**Humele**	**1.71**	**226**	⇓*i*P		Pn	02 41 35.5	-0.3	
HUMR	**Humele**	**1.71**	**226**	⇓*i*P		Pn	02 41 35.5	-0.3	
HUMR				*i* S		Sn	02 41 57.8	-1.4	
TIRR	**Tirgusor**	**1.75**	**136**	⇓*i*P		Pn	02 41 36.1	-0.1	
TIRR	**Tirgusor**	**1.75**	**136**	⇓*i*P		Pn	02 41 36.1	-0.1	
TIRR				*i* S		Sn	02 41 58.5	-1.5	
ICOR	**Ion Corvin**	**1.79**	**154**	*i* S		Sn	02 42 00.0	-0.7	
ICOR	**Ion Corvin**	**1.79**	**154**	*i* S		Sn	02 42 00.0	-0.7	
MILM	**Milestii Mici**	**1.89**	**50**	⇑*i*P		Pn	02 41 37.8	0.0	
MILM	**Milestii Mici**	**1.89**	**50**	⇑*i*P		Pn	02 41 37.8	0.0	
MILM				*i* S		Sn	02 42 01.0	-1.8	
KIS	**Kishinev**	**1.94**	**48**	⇑*i*P		Pn	02 41 38.5	+0.1	
KIS				*i* S		Sn	02 42 02.5	-1.5	
	500nm,0.5s								
KIS	**Kishinev**	**1.94**	**48**	⇓*i*P		Pn	02 41 38.5	+0.1	
KIS	**Kishinev**	**1.94**	**48**	⇓*i*P		Pn	02 41 38.5	+0.1	
KIS				*i* S		Sn	02 42 02.5	-1.5	
LOT	**Lotru**	**2.08**	**263**	⇑*i*P		Pn	02 41 40.4	+0.1	
LOT				S		Sn	02 42 07.7	+0.4	
LOT	**Lotru**	**2.08**	**263**	⇑*i*P		Pn	02 41 40.4	+0.1	
LOT				*i* S		Sn	02 42 07.7	+0.4	
BURAR	**Bucovina Array**	**2.15**	**332**	⇓*i*P		Pn	02 41 42.5	+1.4	
BURAR	**Bucovina Array**	**2.15**	**332**	⇓*i*P		Pn	02 41 42.5	+1.4	
ZIMR		**2.28**	**205**	S		Sn	02 42 09.3	-2.1	
ZIMR		**2.28**	**205**	*i* S		Sn	02 42 09.3	-2.1	
MANR	**Mangalia**	**2.33**	**144**	⇓*i*P		Pn	02 41 43.2	-0.1	
MANR	**Mangalia**	**2.33**	**144**	⇓*i*P		Pn	02 41 43.2	-0.1	
CJR	**Cluj-Napoca**	**2.38**	**296**	⇓*i*P		Pn	02 41 44.1	+0.3	
CJR	**Cluj-Napoca**	**2.38**	**296**	⇓*i*P		Pn	02 41 44.1	+0.3	
SORM	**Soroca**	**2.66**	**24**	⇑*i*P		Pn	02 41 46.8	-0.6	
SORM	**Soroca**	**2.66**	**24**	⇑*i*P		Pn	02 41 46.8	-0.6	
SORM				*i* S		Sn	02 42 16.9	-3.1	
DEV	**Deva**	**2.67**	**275**	⇑*i*P		Pn	02 41 48.4	+0.9	
DEV	**Deva**	**2.67**	**275**	⇑*i*P		Pn	02 41 48.4	+0.9	
GZR	**Gura Zlata**	**2.78**	**265**	⇓*i*P		Pn	02 41 48.1	-0.9	
GZR	**Gura Zlata**	**2.78**	**265**	⇓*i*P		Pn	02 41 48.1	-0.9	
DRGR		**2.97**	**292**	⇑*i*P		Pn	02 41 50.1	-1.3	
HERR	**Herculane**	**3.14**	**256**	⇑*i*P		Pn	02 41 54.3	+0.7	
HERR	**Herculane**	**3.14**	**256**	⇑*i*P		Pn	02 41 54.3	+0.7	
HERR				*i* S		Sn	02 42 27.9	-3.2	
MDVR	**Moldovita**	**3.65**	**257**	⇑*i*P		Pn	02 42 00.6	+0.3	
MDVR				S		Sn	02 42 39.6	-3.5	
MDVR	**Moldovita**	**3.65**	**257**	⇑*i*P		Pn	02 42 00.6	+0.3	
MDVR				*i* S		Sn	02 42 39.6	-3.5	

DJA 04 02:42:30.2±0.5, 0°S±4°, 112°3E±°, h51km±20km, M3.5/8, MLv3.5/8, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.77**	**193**	P	Pn	02 42 45.8	+0.9
MRSI	**Marisa**	**1.27**	**307**	P	Pn	02 42 51.3	-0.2
KMSI	**Cibinong**	**1.34**	**50**	P	Sn	02 43 13.8	+4.5
APSI	**Ampana**	**1.44**	**245**	P	Pn	02 42 53.8	-0.1
MPSI	**Mapaga**	**3.12**	**282**	P	Pn	02 43 17.3	+0.4
TTSI	**Tana Toraja**	**4.16**	**229**	P	Pn	02 43 30.9	-0.3
SPSI	**Sidrap Palu**	**4.84**	**221**	P	Pn	02 43 40.4	-0.1
BNSI	**Bone**	**4.97**	**215**	P	Pn	02 43 43.0	+0.6

*ISCJB **04** 02:43:49.2±0.4, 36°37'N±0°03'×71°24'E±0°04, h114km, mb3.5/6, Error ellipse: s-maj=5.6km s-min=4.2km az=135.3*
*NEIC **04** 02:43:50.3±2.2, 36°37N×71°25E, h119km±14km, mb4.1/2, Error ellipse: s-maj=28.9km s-min=8.7km az=163.0*
*IDC **04** 02:43:50.3±3.6, 36°40N×71°38E, h94km±32km, mb3.4/6, mb1 3.7/13, mb1mx3.4/44, mbtmp4.0/13, Error ellipse: s-maj=27.9km s-min=18.7km az=6.0*
*NNC **04** 02:43:53.7±1.4, 36°71N×71°11E, h112km±18km, mb4.0, mpv4.7, Error ellipse: s-maj=13.2km s-min=8.1km az=165.0*

ISC 04 02:43:51.3±0.7, 36°55N±0°06×71°29E±0°06, h114km, n59, σ2s23/71, mb3.5/6, 7C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**4.74**	**50**	Pn	**Pn**	**02 44 57.1**	**-3.6**
KSH				Sn	Sn	02 45 41.8	-13
KSH				smax	smax		
	comp=N,3μm,0.5s						
KSH				smax	smax		
	comp=E,2μm,0.4s						
AML	**Almayashu**	**5.88**	**18**	P	**Pn**	**02 45 18.1**	**+1.8**
	SNR=92						
NRN	**Naryn**	**6.10**	**36**	*e*Pn	**Pn**	**02 45 19.1**	**-0.2**
NRN				*e*Sn	Sn	02 46 21.1	-6.9
UCH	**Uchtor**	**6.20**	**23**	P	**Pn**	**02 45 22.2**	**+1.6**
	SNR=64						
KZA	**Kyzart**	**6.32**	**28**	P	**Pn**	**02 45 24.2**	**+1.9**
	SNR=7.2						
EKS2	**Erkin-Say**	**6.40**	**17**	P	**Pn**	**02 45 25.1**	**+1.9**
	SNR=49						
AAK	**Ala-Archa**	**6.56**	**21**	P	**Pn**	**02 45 27.3**	**+2.0**
	comp=E,7.7nm,0.3s,baz=190,slow=8.1,SNR=225						
AAK				S	**Sn**	**02 46 37.7**	**-1.2**
	comp=E,3.9nm,0.3s,baz=124,slow=23,SNR=15						
AAK	**Ala-Archa**	**6.56**	**21**	⇓P	**Pn**	**02 45 27.0**	**+1.6**
	comp=E,46nm,0.6s						
AAK				⇑S	**Sn**	**02 46 38.9**	**+0.1**
	comp=E,114nm,1.1s						
AAK	**Ala-Archa**	**6.56**	**21**	P	**Pn**	**02 45 27.4**	**+2.0**
	SNR=64						
AAK	**Ala-Archa**	**6.56**	**21**	*e*Pn	**Pn**	**02 45 26.8**	**+1.4**
AAK				*e*Sn	**Sn**	**02 46 37.1**	**-1.8**
KK31	**Karatay Array**	**6.57**	**355**	⇑P	**Pn**	**02 45 26.8**	**+1.4**
	comp=E,67nm,0.6s,baz=173,slow=14,SNR=2.6						
KK31				⇑S	**Sn**	**02 46 37.5**	**-1.4**
	comp=E,12nm,0.4s,baz=182,slow=22,SNR=4.9						
KK31	**Karatay Array**	**6.57**	**355**	*e*Pn	**Pn**	**02 45 27.0**	**+1.6**
KK31				*e*Sn	**Sn**	**02 46 34.4**	**-4.5**
KKAR	**Karatay Array**	**6.57**	**355**	*e*Pn	**Pn**	**02 45 27.0**	**+1.6**
KBK	**Karagaybulak**	**6.72**	**24**	P	**Pn**	**02 45 29.9**	**+2.4**
	SNR=14						
FRU1	**Bishkek**	**6.76**	**21**	*e*Pn	**Pn**	**02 45 30.3**	**+2.3**
ULHL	**Ulahol**	**6.86**	**32**	P	**Pn**	**02 45 31.1**	**+1.6**
	SNR=7.1						
CHMS	**Chumysh**	**6.97**	**21**	P	**Pn**	**02 45 32.6**	**+1.8**
	SNR=6.8						
USP	**Ospenovka**	**7.15**	**19**	P	**Pn**	**02 45 35.2**	**+2.0**
	SNR=26						
TKM2	**Tokmak 2**	**7.18**	**26**	⇓P	**Pn**	**02 45 35.3**	**+1.5**
	comp=E,43nm,0.7s						
TKM2	**Tokmak 2**	**7.18**	**26**	P	**Pn**	**02 45 35.5**	**+1.7**
	SNR=10						
MDOK	**Medeo**	**7.95**	**32**	⇑P	**Pn**	**02 45 46.1**	**+1.9**
	comp=E,9.9nm,0.6s						
KNDC	**Almaty**	**7.96**	**31**	⇑P	**Pn**	**02 45 44.3**	**+0.1**
	comp=E,36nm,0.7s						
GEYT	**Alibeck**	**10.59**	**281**	P	**Pn**	**02 46 19.7**	**-0.2**
	comp=E,0.4nm,0.3s,baz=113,slow=14,SNR=6.4						
GEYT				S	**Sn**	**02 48 14.7**	**-1.8**
	comp=E,0.9nm,0.3s,baz=82,slow=10,SNR=7.8						
GYA0B	**ALIBECK ARRAY**	**10.59**	**281**	⇓P	**Pn**	**02 46 19.9**	**+0.1**
	comp=E,4.6nm,0.7s						
GYA0B				⇑S	**Sn**	**02 48 13.8**	**-2.7**
	comp=E,44nm,1.2s						
GYA0B	**ALIBECK ARRAY**	**10.59**	**281**	*e*Pn	**Pn**	**02 46 19.5**	**-0.4**
GYA0B				*e*Sn	**Sn**	**02 48 12.3**	**-4.2**
MK01	**Makanchi Array**	**13.10**	**35**	*e*Pn	**Pn**	**02 46 53.9**	**+1.0**
MK31	**Makanchi Array**	**13.12**	**35**	⇓P	**Pn**	**02 46 53.9**	**+0.8**
	comp=E,9.6nm,1.1s,baz=225,slow=13,SNR=9.2						
MK31	**Makanchi Array**	**13.12**	**35**	*e*Pn	**Pn**	**02 46 54.4**	**+1.3**
MKAR	**Makanchi Array**	**13.12**	**35**	P	**Pn**	**02 46 53.4**	**+0.3**
	comp=E,0.2nm,0.3s,baz=219,slow=13,SNR=9.4						
MKAR	**Makanchi Array**	**13.12**	**35**	*e*Pn	**Pn**	**02 46 54.4**	**+1.3**
DANN	**Dangsing**	**13.32**	**124**	*e*P	**Pn**	**02 46 54.2**	**-2.0**
	comp=E,15nm,0.4s						
KOLN	**Koldanda**	**13.60**	**127**	*e*P	**Pn**	**02 46 57.1**	**-2.7**
	comp=E,6.1nm,0.3s						
GKN	**Gorkha**	**14.13**	**123**	*e*P	**Pn**	**02 47 04.2**	**-2.3**
	comp=E,1.3nm,0.2s						
DMN	**Daman**	**14.71**	**123**	*e*P	**Pn**	**02 47 11.8**	**-2.1**
	comp=E,14nm,0.5s						
PKIN	**Phulchoki**	**14.92**	**123**	*e*P	**Pn**	**02 47 13.9**	**-2.8**
	comp=E,5.1nm,0.3s						
PKI	**Pulchoki**	**14.93**	**123**	*e*P	**Pn**	**02 47 14.0**	**-2.9**
	comp=E,9.2nm,0.4s						
KURBB	**Kurchatov Array**	**15.00**	**18**	P	**Pn**	**02 47 19.4**	**+2.2**
	comp=E,0.1nm,0.3s,baz=208,slow=10,SNR=13						
GUN	**Gumba**	**15.04**	**121**	*e*P	**Pn**	**02 47 16.1**	**-2.1**
	comp=E,12nm,0.5s						
AB31	**Akbulak array**	**15.15**	**330**	P	**Pn**	**02 47 19.4**	**+0.2**
	comp=E,4.6nm,0.6s,baz=138,slow=12,SNR=70						
AB31				⇓S	**Sn**	**02 50 04.0**	**-2.5**
	comp=E,1.8nm,0.5s,baz=151,slow=11,SNR=3.9						
ABKAR	**Akbulak array**	**15.15**	**330**	*e*Pn	**Pn**	**02 47 19.6**	**+0.5**
JIRN	**Jiri**	**15.41**	**121**	*e*P	**Pn**	**02 47 20.0**	**-2.9**
	comp=E,22nm,0.4s						
RAMN	**Ramite**	**16.14**	**122**	*e*P	**Pn**	**02 47 28.5**	**-3.4**
	comp=E,9.0nm,0.4s						
BVAR	**Borovoye Array**	**16.49**	**358**	P	**Pn**	**02 47 36.5**	**+0.8**
	comp=E,0.4nm,0.3s,baz=168,slow=10,SNR=13						
BRVK	**Borovoye**	**16.52**	**358**	*e*Pn	**Pn**	**02 47 36.2**	**+0.1**
	comp=E,5.0nm,0.7s						
ODAN	**Odare**	**16.74**	**121**	*e*P	**Pn**	**02 47 36.8**	**-2.4**
	comp=E,6.7nm,0.4s						
AKTO	**Aktyubinsk**	**16.86**	**330**	P	**P**	**02 47 41.8**	**+1.4**
	comp=E,0.7nm,0.3s,baz=143,slow=14,SNR=18						
AKTO				S	**Sn**	**02 50 39.8**	**-7.7**
	comp=E,0.2nm,0.3s,baz=79,slow=16,SNR=4.5						
AKTO	**Aktyubinsk**	**16.86**	**330**	⇑P	**P**	**02 47 42.2**	**+1.8**
	comp=E,9.1nm,0.9s						
AKTO				⇓S	**Sn**	**02 50 45.2**	**-2.3**
	comp=E,11nm,0.9s						
ZAA0	**Zalesovo Array**	**19.77**	**24**	⇓P	**P**	**02 48 13.6**	**+1.4**
	comp=E,6.5nm,0.6s						
ZAA0	**Zalesovo Array**	**19.77**	**24**	*e*P	**P**	**02 48 13.2**	**+1.0**
	comp=E,8.2nm,0.6s						
ZALV	**Zalesovo Beam**	**19.77**	**24**	P	**P**	**02 48 13.2**	**+1.0**
	comp=E,1.8nm,0.3s,baz=223,slow=11,SNR=35						
ZALV				S	**S**	**02 51 47.8**	**-0.8**
	comp=E,0.1nm,0.3s,baz=221,slow=17,SNR=2.9						
ZALV	**Zalesovo Beam**	**19.77**	**24**	*e*P	**P**	**02 48 13.1**	**+0.9**
GNI	**Garni**	**21.10**	**288**	*e*P	**P**	**02 48 24.9**	**-1.9**
KBZ	**Khabaz**	**22.79**	**297**	P	**P**	**02 48 47.5**	**+3.5**
	comp=E,1.9nm,0.9s,baz=297,slow=13,SNR=2.0						
ARCES	**ARCESS Array B**	**41.19**	**337**	P	**P**	**02 51 24.6**	**+0.4**
	comp=E,2.7nm,0.8s,baz=115,slow=9.3,SNR=3.0						
NB2	**NORSAR Subarra**	**44.48**	**323**	P	**P**	**02 51 54.7**	**+3.8**
	comp=Z,0.7nm,0.4s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.48**	**323**	P	**P**	**02 51 54.6**	**+3.7**
	comp=Z,0.5nm,0.4s,baz=99,slow=8.1,SNR=9.7						
TORD	**Torodi Ar. Bea**	**65.95**	**269**	P	**P**	**02 54 26.9**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=53,slow=6.4,SNR=15						
WRA	**Warramunga Arr**	**81.82**	**122**	P	**P**	**02 55 58.7**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=325,slow=4.9,SNR=16						
ASAR	**Alice Springs**	**84.09**	**125**	P	**P**	**02 56 10.2**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=294,slow=4.8,SNR=3.8						

MEX 04 02:48:18.0±0.4, 15°73N×97°96W, h19km±68km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.68**	**346**	*e*P	Pb	02 48 28.9	-2.3
PNIG				*e*S	Sb	02 48 37.6	-2.7
VHO	**Vista Hermosa**	**1.77**	**41**	*e*P	Pn	02 48 44.5	-3.5
VHO				*e*S	Sn	02 49 05.9	-4.3

*ATH **04** 03:00:34.0, 37°78N×27°01E, h10km±1km, ML2.3/3, Error ellipse: s-maj=3.0km s-min=1.5km az=274.0*
*DDA **04** 03:00:34.9, 37°73N×26°91E, h5km, Ml2.6*
*ISK **04** 03:00:34.3, 37°73N×26°90E, h17km, ML2.4/7*
*ISCJB **04** 03:00:35.4±0.4, 37°74N±0°02×26°94E±0°03, h8km±3km, Error ellipse: s-maj=3.7km s-min=3.2km az=140.5*

ISC 04 03:00:35.1±0.8, 37°73N±0°02×26°92E±0°02, h14km±6km, n35, σ1s16/55, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.07**	**250**	P	**Pg**	**03 00 38.0**	**+0.1**
SMG				S	**Sg**	**03 00 39.9**	**0.0**
SMG				AML	AML	03 00 40.4	
	comp=N,13956μm,0.2s						
SMG				AML	AML	03 00 40.8	
	comp=E,9501μm,0.3s						
GCAM	**G?zelcaml?**	**0.25**	**97**	PG	**Pb**	**03 00 40.8**	**-0.6**
GCAM				SG	**Sb**	**03 00 45.2**	**-0.5**
GCAM	**G?zelcaml?**	**0.25**	**97**	*i* P	**Pb**	**03 00 40.8**	**-0.6**
GCAM				*i* S	**Sb**	**03 00 45.6**	**-0.1**
DGB	**¯zmir**	**0.32**	**355**	*i* P	**Pb**	**03 00 41.5**	**-1.1**
DGB				*i* S	**Sb**	**03 00 46.4**	**-1.4**
GMLD	**Gumuldur**	**0.34**	**359**	PG	**Pb**	**03 00 42.4**	**-0.7**
ZEY	**¯zmir**	**0.60**	**327**	*i* P	**Pb**	**03 00 47.2**	**-0.3**
ZEY				*i* S	**Sn**	**03 00 57.9**	**-1.0**
BLCB	**Balcova**	**0.66**	**8**	PG	**Pb**	**03 00 47.7**	**-0.8**
BLCB				SG	**Sb**	**03 00 56.9**	**-0.6**
URLA	**Izmir**	**0.68**	**338**	PG	**Pb**	**03 00 48.7**	**-0.1**
URLA				SG	**Sb**	**03 00 58.1**	**0.0**
URLA	**Izmir**	**0.68**	**338**	*i* P	**Pb**	**03 00 48.7**	**-0.1**
URLA				*i* S	**Sb**	**03 00 58.8**	**+0.8**
BODT	**Bodrum**	**0.74**	**155**	PG	**Pb**	**03 00 49.4**	**-0.4**
AYDN	**Tasoluk**	**0.76**	**95**	*i* P	**Pb**	**03 00 49.9**	**-0.4**
AYDN				*i* S	**Sb**	**03 01 00.8**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**0.80**	**74**	PG	**Pb**	**03 00 50.7**	**-0.2**
MLSB	**Milas**	**0.81**	**122**	PG	**Pb**	**03 00 50.5**	**-0.5**
CHOS	**Chios island**	**0.94**	**314**	PG	**Pg**	**03 00 52.5**	**-0.9**
CHOS				SG	**Sb**	**03 01 05.1**	**-0.7**
CHOS	**Chios island**	**0.94**	**314**	P	**Pn**	**03 00 53.6**	**-0.5**
CHOS				S	**Sb**	**03 01 05.9**	**+0.1**
CHOS				AML	AML	03 01 08.2	
	comp=N,294μm,0.4s						
CHOS				AML	AML	03 01 08.2	
	comp=E,328μm,0.2s						
DAT	**Datca**	**1.13**	**152**	PN	**Pb**	**03 00 55.7**	**-0.9**
DAT	**Datca**	**1.13**	**152**	*i* P	**Pn**	**03 00 56.7**	**+0.1**
DAT				*i* S	**Sn**	**03 01 14.8**	**+2.8**
NIS1	**Nisyros Isl.**	**1.15**	**170**	PN	**Pb**	**03 00 55.3**	**-1.5**
NIS1	**Nisyros Isl.**	**1.15**	**170**	P	**Pn**	**03 00 56.6**	**-0.2**
AMGA	**Amorgos Island**	**1.22**	**223**	P	**Pg**	**03 00 58.4**	**-0.1**
AMGA				S	**Sn**	**03 01 16.7**	**+2.6**
APE	**Apeiranthos**	**1.29**	**240**	PN	**Pn**	**03 00 57.7**	**-1.1**
APE	**Apeiranthos**	**1.29**	**240**	P	**Pg**	**03 00 59.3**	**-0.7**
APE				S	**Sg**	**03 01 18.1**	**+1.3**
DKL	**Dikili**	**1.34**	**360**	PN	**Pn**	**03 00 58.9**	**-0.5**
AKHS	**Akhisar**	**1.34**	**31**	*i* P	**Pg**	**03 01 00.5**	**-0.5**
AKHS				*i* S	**Sg**	**03 01 19.1**	**+0.6**
KULA	**Kula-Manisa**	**1.58**	**60**	PN	**Pn**	**03 01 02.6**	**-0.2**
TURN	**Turunc**	**1.59**	**122**	PN	**Pn**	**03 01 00.6**	**-2.3**
TURN	**Turunc**	**1.59**	**122**	*i* P	**Pn**	**03 01 00.1**	**-2.8**
TURN				*i* S	**Sb**	**03 01 24.2**	**-0.1**
PRK	**Paraskevi**	**1.59**	**342**	P	**Pn**	**03 01 03.1**	**+0.1**
PRK				AML	AML	03 01 31.2	
	comp=N,77μm,0.5s						
PRK				AML	AML	03 01 31.4	
	comp=E,102μm,0.5s						
IOSP	**Ios island**	**1.65**	**233**	P	**Pg**	**03 01 06.0**	**-0.7**
IOSP				S	**Sg**	**03 01 30.4**	**+2.3**
ANAF	**Anafi Island**	**1.65**	**214**	P	**Pg**	**03 01 05.9**	**-1.0**
SIGR	**SIGRI**	**1.70**	**331**	PN	**Pn**	**03 01 04.2**	**-0.2**
SIGR	**SIGRI**	**1.70**	**331**	P	**Pb**	**03 01 05.3**	**-0.9**
STEP	**BALIKESIR_Sava**	**1.76**	**21**	*i* P	**Pg**	**03 01 08.7**	**-0.2**
STEP				*i* S	**Sg**	**03 01 34.6**	**+2.9**
DEMI	**Demirci**	**1.92**	**47**	*i* P	**Pg**	**03 01 11.4**	**-0.7**
DEMI				*i* S	**Sg**	**03 01 39.8**	**+2.8**
DURS	**Dursunbey**	**2.23**	**33**	*i* P	**Pg**	**03 01 17.6**	**-0.3**
DURS				*i* S	**Sg**	**03 01 47.4**	**+0.6**

*ISCJB **04** 03:07:13.6±0.6, 17°69S±0°10×175°3W±0°1, h250km, mb3.8/9, Error ellipse: s-maj=15.8km s-min=11.7km az=38.2*
*IDC **04** 03:07:14.0±1.9, 17°845S×175°30W, h238km±19km, mb3.6/9, mb1 3.8/11, mb1mx3.5/32, mbtmp4.2/11, Error ellipse: s-maj=20.4km s-min=12.1km az=106.0*

ISC 04 03:07:14.4±0.6, 17°7S±0°1×175°1W±0°1, h250km, n14, σ2s00/17, mb3.9/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.93**	**41**	P	**Pn**	**03 08 29.8**	**+0.3**
	5.4nm,0.3s,baz=164,slow=3.4,SNR=6.7						
AFI				S	**S**	**03 09 25.1**	**-4.3**
	7.6nm,0.3s,baz=238,slow=20,SNR=7.3						
RAR	**Rarotonga**	**14.92**	**106**	P	**Pn**	**03 10 35.3**	**+1.6**
	0.4nm,0.3s,baz=277,slow=11,SNR=3.6						
URZ	**Urewera**	**21.62**	**197**	P	**P**	**03 11 43.2**	**-1.6**
	5.4nm,0.5s,baz=45,slow=7.1,SNR=11						
URZ				S	**S**	**03 15 23.1**	**-3.5**
	4.8nm,0.6s,baz=95,slow=20,SNR=7.2						
STKA	**Stephens Creek**	**41.49**	**242**	P	**P**	**03 14 36.8**	**-0.6**
	2.1nm,0.7s,baz=98,slow=9.6,SNR=6.1						
WRA	**Warramunga Arr**	**47.74**	**259**	P	**P**	**03 15 25.4**	**-1.5**
	1.1nm,0.4s,baz=98,slow=6.6,SNR=40						
ASAR	**Alice Springs**	**47.86**	**254**	P	**P**	**03 15 26.7**	**-1.0**
	15nm,0.7s,baz=90,slow=8.1,SNR=176						
ASAR				PcP	**PcP**	**03 16 52.5**	**+0.2**
	0.9nm,0.8s,baz=94,slow=3.7,SNR=4.2						
VNDA	**Vanda**	**60.98**	**186**	P	**P**	**03 17 02.4**	**+1.4**
	0.1nm,0.3s,baz=348,slow=4.6,SNR=4.9						
MJAR	**Matsushiro Arr**	**69.61**	**321**	P	**P**	**03 17 58.0**	**+1.1**
	2.1nm,0.8s,baz=166,slow=5.4,SNR=7.5						
PETK	**Petropavlovsk-**	**74.28**	**343**	P	**P**	**03 18 24.8**	**+0.7**
	1

mb4.8/23,mB4.9/13,MLv5.1/9,Mw(mB)4.2/13
*IDC **04** 04:14:03.0±0.7,5.°84N×126.°17E,h150km±6km,mb4.0/22,*
mb1 4.1/24,mb1mx4.0/48,mbtmp4.5/24,Error ellipse:
s-maj=17.9km s-min=7.2km az=78.0
ISC 04 04:14:02.8±0.6,**5.°82N**±0.°04×**126.°29E**±0.°06,**h147**km±5km,
n118,σ1**945/132,mb4.4/41,2C-1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.64**	**296**	*e*P	**Pn**	**04 14 23.7**	**-0.9**
DDMP				*e*S	**Sn**	**04 14 41.1**	**0.0**
GSPH	**General Santos**	**1.36**	**281**	*e*P	**Pn**	**04 14 30.1**	**-0.7**
GSPH				*i* S	**Sn**	**04 14 50.5**	**-1.7**
DAV	**Davao City (W)**	**1.43**	**330**	P	**Pn**	**04 14 31.8**	**+0.4**
	134nm,0.3s,baz=245,slow=7.2,SNR=21						
DAV				S	**Sn**	**04 14 52.4**	**-0.9**
	336nm,0.3s,baz=76,slow=22,SNR=6.6						
DAV	**Davao City (W)**	**1.43**	**330**	*e*Pn	**Pn**	**04 14 30.9**	**-0.6**
DAV				*e*Sn	**Sn**	**04 14 52.1**	**-1.2**
SKMP	**Bagumbayan, Su**	**1.87**	**292**	*e*P	**Pn**	**04 14 33.7**	**-2.6**
SKMP				*e*S	**Sn**	**04 15 00.5**	**-1.4**
SGSI	**Sangihe**	**2.25**	**200**	P	**Pn**	**04 14 41.4**	**+0.6**
BIPH	**Bislig**	**2.35**	**2**	i*P*	**Sn**	**04 15 12.0**	**-0.2**
BIPH				*i* S	**Sn**	**04 15 12.0**	**-0.2**
BUKP	**Musuan**	**2.38**	**329**	*e*P	**Pn**	**04 14 42.8**	**+0.4**
BUKP				*e*S	**Sn**	**04 15 14.2**	**+1.2**
CGP	**Cagayan de Oro**	**3.06**	**329**	*e*P	**Pn**	**04 14 51.6**	**+0.8**
CGP				*e*S	**Sn**	**04 15 25.9**	**-2.1**
BUTP	**Butuan**	**3.20**	**348**	*e*P	**Pn**	**04 14 52.6**	**0.0**
BUTP				*e*S	**Sn**	**04 15 33.6**	**+2.4**
PAGZ	**Pagadian**	**3.52**	**305**	*e*P	**Pn**	**04 14 54.6**	**-2.2**
TNTI	**Ternate**	**5.13**	**168**	*e*Pn	**Pn**	**04 15 16.7**	**-1.2**
TNTI	**Ternate**	**5.13**	**168**	P	**Pn**	**04 15 17.6**	**-0.3**
KMSI	**Cibinong**	**5.70**	**204**	P	**Pn**	**04 15 26.3**	**+0.8**
MRSI	**Marisa**	**6.86**	**219**	P	**Pn**	**04 15 41.8**	**+0.8**
LUWI	**Luwuk**	**7.67**	**207**	*e*Pn	**Pn**	**04 15 52.8**	**+1.0**
LUWI	**Luwuk**	**7.67**	**207**	P	**Pn**	**04 15 53.7**	**+1.9**
SANI	**Sanana**	**7.82**	**182**	P	**Pn**	**04 15 50.5**	**-3.4**
APSI	**Ampana**	**8.13**	**215**	P	**Pn**	**04 16 01.0**	**+2.9**
SWI	**Sorong**	**8.29**	**143**	P	**Pn**	**04 15 59.9**	**-0.2**
SIJI	**Sorong**	**8.30**	**143**	P	**Pn**	**04 15 59.9**	**-0.3**
	7.6nm,0.3s,baz=344,slow=18,SNR=10						
SIJI				S	**Sn**	**04 17 28.6**	**-4.0**
	3.1nm,0.3s,baz=208,slow=23,SNR=2.1						
NLAI	**Namlea**	**9.03**	**175**	P	**Pn**	**04 16 08.1**	**-2.0**
BNDI	**Bandanaira**	**10.89**	**161**	P	Pn	04 16 29.5	-5.2
TTSI	**Tana Toraja**	**10.92**	**216**	P	**Pn**	**04 16 36.8**	**+1.7**
SPSI	**Sidrap Palu**	**11.70**	**214**	P	**Pn**	**04 16 45.4**	**+0.1**
BNSI	**Bone**	**11.88**	**211**	P	**Pn**	**04 16 48.6**	**+0.9**
SRPI	**Serui, Papua**	**12.53**	**127**	P	**P**	**04 17 03.7**	**+1.8**
BKSI	**Bulukumba**	**12.66**	**209**	P	**Pn**	**04 16 57.4**	**-0.5**
EDFI	**Ende, Flores**	**15.18**	**198**	P	**Pn**	**04 17 29.1**	**-0.7**
SOEI	**Soe**	**15.60**	**187**	*e*Pn	**Pn**	**04 17 35.4**	**+0.3**
	55nm,0.8s						
SOEI	**Soe**	**15.60**	**187**	P	**P**	**04 17 36.1**	**0.0**
STKI	**Sintang**	**15.85**	**249**	P	**P**	**04 17 42.4**	**+3.6**
BATI	**Baumata**	**16.13**	**189**	P	**P**	**04 17 42.7**	**+0.8**
	16nm,0.3s,baz=65,slow=5.1,SNR=14						
BATI	**Baumata**	**16.13**	**189**	P	**P**	**04 17 42.3**	**+0.4**
GENI	**Genyem**	**16.18**	**121**	P	**P**	**04 17 46.6**	**+4.1**
WBSI	**Waikabubak, Su**	**16.82**	**204**	P	**P**	**04 17 49.1**	**-0.5**
PLAI	**Plampang**	**16.84**	**210**	P	**P**	**04 17 49.1**	**-0.6**
TWSI	**Taliwang, Sumb**	**17.23**	**213**	P	**P**	**04 17 52.9**	**-1.1**
MTN	**Manton Dam**	**19.15**	**165**	*e*P	**P**	**04 18 14.9**	**-0.1**
	30nm,0.8s						
YHNB	**Yeheng**	**19.33**	**346**	*e*P	**Pn**	**04 18 20.4**	**+0.8**
	103nm,1.5s						
JOW	**Kunigami**	**20.98**	**5**	P	**P**	**04 18 34.4**	**-0.2**
	22nm,0.9s,baz=197,slow=11,SNR=3.4						
FITZ	**Fitzroy Crossi**	**23.77**	**182**	P	**P**	**04 19 02.1**	**+0.1**
	17nm,0.5s,baz=8.3,slow=9.9,SNR=78						
FITZ	**Fitzroy Crossi**	**23.77**	**182**	*e*P	**P**	**04 19 02.2**	**+0.1**
	21nm,0.6s						
PMG	**Port Moresby**	**25.72**	**126**	P	**P**	**04 19 20.2**	**+0.5**
	26nm,1.0s,baz=331,slow=3.2,SNR=3.5						
COEN	**Coen**	**25.82**	**140**	*e*P	**P**	**04 19 22.1**	**+1.4**
	20nm,0.7s						
WRAB	**Tennant Creek**	**26.79**	**163**	*e*P	**P**	**04 19 28.2**	**-1.1**
	5.4nm,0.5s						
WRA	**Warramunga Arr**	**26.80**	**163**	P	**P**	**04 19 28.8**	**-0.6**
	3.5nm,0.5s,baz=342,slow=11,SNR=30						
WB2	**Warramunga Arr**	**26.80**	**163**	*e*P	**P**	**04 19 29.0**	**-0.4**
	8.8nm,0.6s						
NJ2	**Nanjing**	**27.01**	**346**	*e*P	**P**	**04 19 32.5**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,28nm,0.5s						
PHET	**Kaeng Krachan**	**27.21**	**287**	P	**P**	**04 19 37.2**	**+4.0**
	3.9nm,0.9s						
JNU	**Nakatsue**	**27.50**	**8**	P	**P**	**04 19 34.7**	**-0.8**
	5.8nm,0.7s,baz=227,slow=4.1,SNR=3.5						
MBWA	**Marble Bar**	**27.57**	**193**	*e*P	**P**	**04 19 35.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**29.48**	**298**	P	**P**	**04 19 52.5**	**-0.8**
	0.8nm,0.3s,baz=110,slow=8.4,SNR=5.5						
CHTO	**Chiang Mai**	**29.61**	**298**	*e*P	**P**	**04 19 54.3**	**-0.1**
	2.5nm,0.3s						
AS31	**Alice Springs**	**30.23**	**166**	*e*P	**P**	**04 19 60.0**	**+0.1**
	3.0nm,0.6s						
ASAR	**Alice Springs**	**30.23**	**166**	P	**P**	**04 19 59.7**	**-0.2**
	7.5nm,0.5s,baz=343,slow=7.1,SNR=127						
ASAR				PcP	**PcP**	**04 22 57.1**	**-0.1**
	1.1nm,0.4s,baz=348,slow=2.5,SNR=5.0						
AS01	**Alice Springs**	**30.24**	**166**	*e*P	**P**	**04 19 59.8**	**-0.1**
KSAR	**Wonju Array Be**	**31.51**	**2**	P	**P**	**04 20 12.0**	**+1.1**
KSRS	**Korea Array**	**31.52**	**2**	P	**P**	**04 20 12.0**	**+1.0**
	1.0nm,0.5s,baz=183,slow=10,SNR=3.0						
CTA	**Charters Tower**	**32.38**	**143**	P	**P**	**04 20 19.8**	**+1.1**
	2.3nm,0.7s,baz=299,slow=10,SNR=3.1						
CTAO	**Charters Tower**	**32.38**	**143**	*e*P	**P**	**04 20 19.4**	**+0.7**
	14nm,0.6s						
MAJO	**Matsushiro**	**32.47**	**18**	*e*P	**P**	**04 20 17.9**	**-1.5**
MJAR	**Matsushiro Arr**	**32.47**	**18**	P	**P**	**04 20 17.6**	**-1.7**
	1.5nm,0.7s,baz=200,slow=10,SNR=6.5						
CD2	**Chengdu**	**32.72**	**322**	*e*P	**P**	**04 20 22.0**	**+0.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
FORT	**Forrest**	**36.43**	**177**	*e*P	**P**	**04 20 53.2**	**-0.2**
	68nm,0.6s						
LZH	**Lanzhou**	**36.50**	**329**	*e*P	**P**	**04 20 56.3**	**+2.1**
LZH				pP	pP	04 21 25.2	-0.8
LZH				sP	sP	04 21 43.6	+0.8
LZH				*e*PP	**PP**	**04 22 16.7**	**-3.6**
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				pmax	pmax		
	comp=Z,110nm,5.4s						
HHC	**Hu-ho-hao-te**	**37.29**	**341**	*e*P	**P**	**04 21 04.0**	**+3.2**
HHC				S	**S**	**04 26 34.4**	**-3.0**
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,180nm,4.3s						
USRK	**Ussuriysk Ar.**	**38.55**	**7**	P	**P**	**04 21 11.8**	**+0.7**
	2.7nm,0.7s,baz=178,slow=7.1,SNR=8.4						
NWAO	**Narrogin (SRO)**	**39.48**	**192**	P	**P**	**04 21 19.4**	**+0.4**
	21nm,0.5s,baz=253,slow=8.0,SNR=44						
NWAO	**Narrogin (SRO)**	**39.48**	**192**	*e*P	**P**	**04 21 19.1**	**+0.1**
BBOO	**Buckleboo**	**39.52**	**167**	*e*P	**P**	**04 21 19.1**	**-0.2**
	25nm,0.6s						
STKA	**Stephens Creek**	**40.23**	**160**	P	**P**	**04 21 25.8**	**+0.6**
	12nm,0.7s,baz=339,slow=8.3,SNR=39						
STKA	**Stephens Creek**	**40.23**	**160**	*e*P	**P**	**04 21 25.2**	**0.0**
	3.2nm,0.8s						
GTA	**Gaotai**	**41.10**	**328**	*e*P	**P**	**04 21 33.2**	**+0.8**
GTA				pP	pP	04 22 05.5	+0.7
GTA				sP	sP	04 22 21.6	+0.1
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TAPN	**Taplejung**	**42.45**	**305**	*e*P	**P**	**04 21 42.6**	**-1.2**
	4.8nm,0.3s						
RAMN	**Ramite**	**43.21**	**304**	*e*P	**P**	**04 21 49.3**	**-0.6**
	2.3nm,0.2s						
KLR	**Kul'dur**	**43.51**	**5**	P	**P**	**04 21 51.9**	**+0.3**
	2.3nm,0.4s,baz=231,slow=5.7,SNR=8.6						
JIRN	**Jiri**	**43.82**	**304**	*e*P	**P**	**04 21 53.7**	**-1.2**
	9.1nm,0.4s						
GUN	**Gumba**	**44.17**	**305**	*e*P	**P**	**04 21 56.4**	**-1.2**
	7.9nm,0.4s						
ULN	**Ulaanbaatar**	**45.01**	**342**	*e*P	**P**	**04 22 03.5**	**-0.3**
	2.8nm,0.8s						
SONM	**Songino Array**	**45.19**	**341**	P	**P**	**04 22 06.3**	**+1.1**
	0.4nm,0.6s,baz=150,slow=6.7,SNR=3.3						
SONM				PcP	**PcP**	**04 23 42.7**	**-0.2**
	1.1nm,0.8s,baz=130,slow=3.8,SNR=4.7						
KOLN	**Koldanda**	**46.00**	**303**	*e*P	**P**	**04 22 11.0**	**-0.9**
	7.3nm,0.4s						
DANN	**Dangsing**	**46.07**	**304**	*e*P	**P**	**04 22 11.4**	**-1.2**
	9.9nm,0.4s						
PYUN	**Piuthan**	**46.62**	**304**	*e*P	**P**	**04 22 15.9**	**-0.9**
	16nm,0.9s						
WMQ	**Urumqi**	**50.78**	**324**	*e*P	**P**	**04 22 50.1**	**+2.0**
WMQ				LR	LR		
	comp=N,140nm,24.3s						
WMQ				LR	LR		
	comp=Z,67nm,19.9s						
PETK	**Petropavlovsk-**	**53.68**	**23**	P	**P**	**04 23 10.2**	**+0.9**
	2.0nm,0.6s,baz=193,slow=4.1,SNR=4.6						
MK01	**Makanchi Array**	**55.59**	**325**	*e*P	**P**	**04 23 22.3**	**-0.9**
MK31	**Makanchi Array**	**55.60**	**325**	*e*P	**P**	**04 23 22.1**	**-1.2**
MKAR	**Makanchi Array**	**55.60**	**325**	P	**P**	**04 23 22.2**	**-1.2**
	1.3nm,0.4s,baz=118,slow=7.4,SNR=18						
MKAR				ScP	**ScP**	**04 28 04.6**	**-1.9**
	0.4nm,0.6s,baz=94,slow=6.1,SNR=3.7						
MKAR	**Makanchi Array**	**55.60**	**325**	*e*P	**P**	**04 23 22.1**	**-1.2**
	15nm,0.8s						
MKAR				ScP	**ScP**	**04 28 04.6**	**-1.9**
YAK	**Yakutsk**	**56.15**	**2**	*e*P	**P**	**04 23 26.7**	**-0.1**
	15nm,0.5s						
KSH	**Kashi**	**56.27**	**314**	*e*P	**P**	**04 23 32.4**	**+4.1**
KSH				S	**S**	**04 31 09.3**	**+2.2**
KSH				pmax	pmax		
	comp=Z,210nm,6.3s						
MA2	**Magadan**	**56.80**	**15**	P	**P**	**04 23 30.4**	**-1.1**
	6.4nm,0.5s,baz=160,slow=16,SNR=4.0						
AAK	**Ala-Archa**	**58.53**	**317**	*e*P	**P**	**04 23 43.5**	**-0.6**
ZALV	**Zalesovo Beam**	**58.54**	**333**	P	**P**	**04 23 42.3**	**-1.5**
	0.7nm,0.3s,baz=132,slow=6.3,SNR=2.6						
KURK	**Kurchatov**	**59.76**	**327**	*e*P	**P**	**04 23 51.0**	**-1.2**
BRVK	**Borovoye**	**65.42**	**327**	*e*P	**P**	**04 24 29.6**	**0.0**
TIXI	**Tiksi**	**65.77**	**1**	*e*P	**P**	**04 24 31.5**	**-0.2**
ABKAR	**Akbulak array**	**70.27**	**320**	*e*P	**P**	**04 24 59.5**	**-0.6**
CASY	**Casey**	**72.83**	**187**	*e*P	**P**	**04 25 14.9**	**-0.1**
IM3	**Indian Mountai**	**80.63**	**24**	*e*P	**P**	**04 25 59.8**	**+0.9**
TOLK	**Toolik Lake Re**	**82.48**	**22**	*e*P	**P**	**04 26 10.0**	**+1.4**
	34nm,1.8s						
HDA	**Harding Lake**	**83.39**	**26**	*e*P	**P**	**04 26 13.0**	**-0.4**
	5.4nm,0.7s						
ILAR	**Eielson Array**	**83.42**	**26**	P	**P**	**04 26 12.7**	**-0.9**
	1.6nm,0.7s,baz=245,slow=5.0,SNR=24						
IL1	**Eielson Array**	**83.42**	**26**	*e*P	**P**	**04 26 12.3**	**-1.2**
RIDG	**Independ'e Rid**	**84.32**	**27**	*e*P	**P**	**04 26 19.0**	**+0.8**
	32nm,1.6s						
VNDA	**Vanda**	**85.54**	**173**	P	**P**	**04 26 23.8**	**0.0**
	1.1nm,0.5s,baz=322,slow=6.8,SNR=9.1						
ARCES	**ARCESS Array B**	**88.35**	**340**	P	**P**	**04 26 36.0**	**-1.6**
	4.6nm,0.9s,baz=83,slow=6.5,SNR=17						
BRTR	**Keskin Array B**	**88.36**	**310**	P	**P**	**04 26 36.0**	**-2.5**
	0.4nm,0.7s,baz=96,slow=4.7,SNR=4.1						
INK	**Inuvik**	**88.39**	**21**	*e*P	**P**	**04 26 37.5**	**-0.3**
	1.8nm,0.6s						
SYO	**Syowa Base**	**94.20**	**201**	*e*sP	sP	04 27 59.0	+1.6
TXAR	**Lajitas Array**	**120.65**	**51**	PKP	**PKPdf**	**04 32 38.6**	**+0.5**
	0.5nm,0.7s,baz=168,slow=1.8,SNR=3.5						
TORD	**Torodi Ar. Bea**	**121.84**	**289**	PKP	**PKPdf**	**04 32 39.0**	**-1.5**
	1.1nm,0.7s,baz=50,slow=2.3,SNR=8.2						
PLCA	**Paso Flores**	**142.10**	**159**	PKhKP	PKPpre	04 33 13.4	
	1.3nm,0.7s,baz=280,slow=2.9,SNR=6.0						
JTS	**Juntas Abangare**	**145.01**	**63**	*e*PKPbc	**PKPdf**	**04 33 24.4**	**+0.6**
LCO	**Las Campanas**	**151.88**	**147**	*e*PKPbc	**PKPbc**	**04 33 41.7**	**+0.2**
CPUP	**Villa Florida**	**159.31**	**171**	PKPab	**PKPab**	**04 34 22.5**	**+0.1**
	2.2nm,0.8s,baz=209,slow=5.7,SNR=6.3						
LPAZ	**La Paz**	**162.45**	**128**	PKPab	**PKPab**	**04 34 39.3**	**+2.1**
	0.8nm,0.3s,baz=240,slow=3.3,SNR=4.6						

*IDC **04** 04:16:36.5±0.5,29.°72S×177.°63W,h0km,mb4.6/17,*
mb1 4.7/20,mb1mx4.6/38,mbtmp4.6/20,ML3.9/3,MS3.5/11,
Ms1 3.5/11,ms1mx3.3/23,Error ellipse: s-maj=17.2km
s-min=15.8km az=133.0
*BJI **04** 04:16:38.8,29.°90S×177.°80W,h24km,mb5.2/7,mB5.5/1*
*ISCJB **04** 04:16:40.3±0.3,30.°06S±0.°02×177.°85W±0.°06,h35km,*
mb4.7/37,MS3.4/8,Error ellipse: s-maj=8.2km
s-min=2.5km az=16.5
*NEIC **04** 04:16:40.7±1.3,29.°87S×177.°74W,h26km±9km,mb4.7/26,*
Error ellipse: s-maj=8.9km s-min=5.9km az=117.0
*WEL **04** 04:16:40.5±0.6,30.°5S±11.°1×17.°8W±2.°0,h33km,ML5.4/2*
ISC 04 04:16:42.0±0.4,**29.°94S**±0.°05×**177.°72W**±0.°08,**h35**km,
n140,σ1**994/150,mb4.8/37,MS3.4/8,2C,Kermadec**
Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**0.70**	**345**	P	**Pn**	**04 16 54.4**	**-0.9**
GLKZ				S	**Sn**	**04 17 02.5**	**-1.4**
RAO	**Raoul Island**	**0.71**	**346**	Pn	**Pn**	**04 16 54.1**	**-1.3**
	3μm,0.3s,baz=97,slow=8.7,SNR=293						
RAO				Sn	**Sn**	**04 17 02.1**	**-3.0**
	5μm,0.3s,baz=72,slow=21,SNR=17						
RAO	**Raoul Island**	**0.71**	**346**	*e*Pn	**Pn**	**04 16 54.3**	**-1.2**
RAO				*e*Sn	**Sn**	**04 17 04.6**	**-0.5**
RIZ	**Raoul Island**	**0.71**	**345**	P	**Pn**	**04 16 54.7**	**-0.9**
RIZ				S	**Sn**	**04 17 03.6**	**-1.7**
MXZ	**Matakaoa Point**	**8.29**	**202**	P	**Pn**	**04 18 37.1**	**-2.6**
MXZ				S	**Sn**	**04 20 10.9**	**-1.2**
WMGZ	**Waiomatatini S**	**8.49**	**201**	P	**Pn**	**04 18 40.8**	**-1.6**
WMGZ				S	**Sn**	**04 20 17.2**	**+0.2**
HAZ	**Te Kaha**	**8.65**	**204**	P	**Pn**	**04 18 42.9**	**-1.7**
PUZ	**Puketiti**	**8.77**	**201**	S	**Sn**	**04 20 22.9**	**-1.1**
RUGZ	**Raukumara Rang**	**8.87**	**204**	P	**Pn**	**04 18 46.0**	**-1.8**
RUGZ				S	**Sn**	**04 20 26.9**	**+0.4**
TWGZ	**Tauwhareparae**	**8.96**	**202**	P	**Pn**	**04 18 46.5**	**-2.4**
TWGZ				S	**Sn**	**04 20 27.9**	**-0.6**
CNGZ	**Carnagh Statio**	**9.17**	**200**	P	**Pn**	**04 18 49.2**	**-2.5**
CNGZ				S	**Sn**	**04 20 31.9**	**-1.7**
MWZ	**Matawai**	**9.25**	**204**	P	**Pn**	**04 18 51.0**	**-1.9**
MWZ				S	**Sn**	**04 20 35.1**	**-0.7**
URZ	**Urewera**	**9.34**	**206**	Pn	**Pn**	**04 18 53.6**	**-0.5**
	0.8nm,0.3s,baz=288,slow=3.5,SNR=8.8						
URZ				Sn	**Sn**	**04 20 35.7**	**-2.1**
	8.4nm,0.3s,baz=199,slow=21,SNR=15						
URZ	**Urewera**	**9.34**	**206**	*e*Pn	**Pn**	**04 18 52.8**	**-1.2**
URZ				*e*Sn	**Sn**	**04 20 31.7**	**-6.1**
URZ	**Urewera**	**9.34**	**206**	P	**Pn**	**04 18 50.7**	**-3.4**
URZ				S	**Sn**	**04 20 36.8**	**-1.0**
RIGZ	**Rimuhau**	**9.51**	**202**	P	**Pn**	**04 18 53.8**	**-2.6**
RIGZ				S	**Sn**	**04 20 40.4**	**-1.6**
SNGZ	**Shannon Statio**	**9.72**	**204**	P	**Pn**	**04 18 57.3**	**-1.9**
SNGZ				S	**Sn**	**04 20 46.1**	**-1.1**
KNZ	**Kokohu**	**9.82**	**202**	P	**Pn**	**04 18 57.8**	**-2.9**
KNZ				S	**Sn**	**04 20 46.7**	**-3.0**
MTHZ	**Maungataniwha**	**9.96**	**205**	P	**Pn**	**04 19 00.4**	**-2.2**
MTHZ				S	**Sn**	**04 20 51.9**	**-1.3**
NMHZ	**Naumai**	**10.19**	**205**	P	**Pn**	**04 19 04.6**	**-1.2**
NMHZ				S	**Sn**	**04 20 57.6**	**-1.3**
BKZ	**Black Stump Fm**	**10.37**	**206**	*e*Pn	**Pn**	**04 19 07.0**	**-1.2**
BKZ	**Black Stump Fm**	**10.37**	**206**	P	**Pn**	**04 19 07.1**	**-1.1**
BKZ				S	**Sn**	**04 20 60.0**	**-3.2**
MCHZ	**McNeill Hill**	**10.54**	**204**	P	**Pn**	**04 19 09.4**	**-1.0**
MCHZ				S	**Sn**	**04 21 06.3**	**-0.9**
KWHZ	**Kaweka Forest**	**10.62**	**205**	P	**Pn**	**04 19 10.9**	**-0.7**
KWHZ				S	**Sn**	**04 21 06.5**	**-2.9**
KAHZ	**Kahuranaki**	**10.79**	**203**	P	**Pn**	**04 19 10.4**	**-3.5**
KAHZ				S	**Sn**	**04 21 09.2**	**-4.2**
BFZ	**Birch Farm**	**11.79**	**203**	*e*Pn	**Pn**	**04 19 27.9**	**+0.2**
BFZ	**Birch Farm**	**11.79**	**203**	P	**Pn**	**04 19 23.1**	**-4.5**
PAWZ	**Paruwai Farm**	**12.70**	**204**	P	**Pn**	**04 19 38.7**	**-1.3**
DUWZ	**D'Urville Isla**	**12.80**	**210**	S	**Sn**	**04 21 57.0**	**-5.7**
QRZ	**Quartz Range**	**13.45**	**214**	S	**Sn**	**04 22 12.8**	**-5.8**
THZ	**Tophouse**	**14.03**	**210**	*e*Pn	**Pn**	**04 19 58.3**	**+0.1**
THZ				*e*Sn	**Sn**	**04 22 26.1**	**-6.5**
THZ	**Tophouse**	**14.03**	**210**	P	**Pn**	**04 19 57.5**	**-0.7**
KHZ	**Kahutara**	**14.30**	**207**	*e*Pn	**Pn**	**04 20 00.9**	**-0.9**
OXZ	**Oxford**	**15.67**	**209**	*e*Pn	**Pn**	**04 20 19.8**	**-0.3**
	51nm,0.4s						
DZM	**Mont Dzumac**	**16.24**	**295**	Pn	**P**	**04 20 34.8**	**+4.4**
	0.6nm,0.3s,baz=103,slow=21,SNR=3.9						
DZM				LR	LR	04 25 24.5	
	comp=Z,307nm,20.4s,baz=124,slow=33						
DZM	**Mont Dzumac**	**16.24**	**295**	*e*P	**P**	**04 20 36.4**	**+6.1**
	46nm,0.8s						
DZM				*e*LR	LR	04 24 32.0	
	508nm,25.1s						
DZM	**Mont Dzumac**	**16.24**	**295**	*e*Pn	**Pn**	**04 20 25.2**	**-2.4**
	24nm,0.7s						
RPZ	**Rata Peaks**	**16.41**	**210**	Pn	**Pn**	**04 20 29.8**	**+0.4**
	3.1nm,0.3s,baz=334,slow=1.6,SNR=18						
RPZ				LR	LR	04 26 55.1	
	comp=Z,131nm,21.7s,baz=32,slow=37						
RPZ	**Rata Peaks**	**16.41**	**210**	*e*Pn	**Pn**	**04 20 29.9**	**+0.4**
	28nm,0.6s						
RAR	**Rarotonga**	**18.35**	**66**	P	**P**	**04 20 51.5**	**-2.1**
	0.8nm,0.3s,baz=254,slow=8.2,SNR=3.7						
RAR				LR	LR	04 25 55.3	
	comp=Z,232nm,19.6s,baz=244,slow=31						
TBI	**Tubuai**	**26.05**	**82**	*e*LR	LR	04 28 19.2	
	257nm,27.0s,baz=250						
TBI	**Tubuai**	**26.05**	**82**	*e*T	T	04 49 03.4	
	15nm,0.3s						
EIDS	**Eidsvold**	**27.96**	**272**	*e*P	**P**	**04 22 32.0**	**+2.7**
	13nm,0.6s						
PAE	**Paea**	**28.41**	**71**	*e*T	T	04 51 59.6	
	3.0nm,0.3s						
PPT2	**Papeete2**	**28.45**	**71**	*e*LR	LR	04 29 30.0	
	256nm,26.8s,baz=250						
PPT2	**Papeete2**	**28.45**	**71**	*e*T	T	04 52 03.3	
	3.3nm,0.3s						
PPT	**Papeete**	**28.46**	**71**	LR	LR	04 31 10.5	
	comp=Z,53nm,20.9s,baz=217,slow=31						
TVO	**Taravao**	**28.62**	**71**	*e*T	T	04 52 15.4	
	1.8nm,0.3s						
HNR	**Honiara**	**29.19**	**310**	LR	LR	04 32 08.1	
	comp=Z,66nm,21.2s,baz=208,slow=32						
TAU	**Tasmania Unive**	**30.74**	**235**	*e*P	**P**	**04 22 54.6**	**+0.8**
	20nm,0.8s						
VAH	**Vaihoa**	**31.28**	**69**	*e*T	T	04 55 33.6	
	12nm,0.2s						
CTA	**Charters Tower**	**33.97**	**278**	P	**P**	**04 23 24.1**	**+1.8**
	26nm,0.4s,baz=101,slow=10,SNR=51						
CTAO	**Charters Tower**	**33.97**	**278**	*e*P	**P**	**04 23 23.8**	**+1.4**
STKA	**Stephens Creek**	**34.82**	**256**	P	**P**	**04 23 31.9**	**+2.3**
	6.7nm,0.5s,baz=103,slow=14,SNR=14						
STKA				LR	LR	04 36 25.3	
	comp=Z,122nm,18.4s,baz=28,slow=34						
STKA	**Stephens Creek**	**34.82**	**256**	*e*P	**P**	**04 23 32.0**	**+2.3**
	1.7nm,0.8s						
PMG	**Port Moresby**	**38.63**	**295**	LR	LR	04 37 05.4	
	comp=Z,108nm,21.5s,baz=135,slow=32						
BBOO	**Buckleboo**	**39.33**	**254**	*e*P	**P**	**04 24 08.3**	**+0.4**
	12nm,0.6s						
TAOE	**Nuku Hiva Isla**	**40.90**	**67**	*e*LR	LR	04 35 12.3	
	185nm,28.5s						
AS01	**Alice Springs**	**43.34**	**266**	*e*P	**P**	**04 24 40.5**	**-0.5**
AS31	**Alice Springs**	**43.38**	**266**	*e*P	**P**	**04 24 41.4**	**+0.1**
	5.0nm,0.4s						
ASAR	**Alice Springs**	**43.38**	**266**	P	**P**	**04 24 41.1**	**-0.2**
	8.5nm,0.4s,baz=105,slow=7.2,SNR=73						
ASAR				PcP	**PcP**	**04 26 28.3**	**-1.2**
	1.5nm,0.7s,baz=113,slow=4.4,SNR=4.3						
ASAR				ScP	**ScP**	**04 30 19.1**	**+0.9**
	0.2nm,0.4s,baz=121,slow=4.8,SNR=3.1						
WB2	**Warramunga Arr**	**44.32**	**272**	*e*P	**P**	**04 24 48.6**	**-0.2**
WRAB	**Tennant Creek**	**44.32**	**272**	*e*P	**P**	**04 24 48.3**	**-0.5**
	7.8nm,0.5s						
WRA	**Warramunga Arr**	**44.33**	**272**	P	**P**	**04 24 48.5**	**-0.4**
	12nm,0.7s,baz=110,slow=8.2,SNR=51						
WRA				PcP	**PcP**	**04 26

H10S1	**ASCENSION HYDR**	**38.05**	**155**	T	T	07 11 20.1		
	baz=204,slow=75,SNR=92							
ARCES	**ARCESS Array B**	**138.19**	**348**	PKhKP	PKPpre	04 35 52.9		
	1.1nm,0.5s,baz=56,slow=2.1,SNR=11							
ARCES				PKP	**PKiKP**	**04 36 03.4**	**-1.0**	
	2.8nm,0.7s,baz=82,slow=2.3,SNR=6.8							
H10N3	**ASCENSION HYDR**	**39.12**	**154**	T	T	07 12 09.6		
	baz=204,slow=74,SNR=76							
H10N1	**ASCENSION HYDR**	**39.12**	**154**	T	T	07 12 10.8		
	baz=204,SNR=56							
H10N2	**ASCENSION HYDR**	**39.14**	**154**	T	T	07 12 11.2		
	baz=204,slow=74,SNR=67							
KBZ	**Khabaz**	**145.06**	**305**	PKP	**PKPbc**	**04 36 14.8**	**-0.1**	
	2.3nm,0.7s,baz=21,slow=7.0,SNR=4.6							
NB2	**NORSAR Subarra**	**148.33**	**352**	PKP	**PKPbc**	**04 36 22.6**	**-1.3**	
	comp=Z,26nm,1.7s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**148.33**	**352**	PKPbc	**PKPbc**	**04 36 22.6**	**-1.3**	
	comp=Z,5.6nm,0.7s,baz=14,slow=4.2,SNR=34							
AKASG	**Malin Array Be**	**151.08**	**323**	PKPbc	**PKPbc**	**04 36 29.8**	**-1.1**	
	comp=Z,7.0nm,0.6s,baz=48,slow=2.8,SNR=25							
KIEV	**Kiev**	**151.09**	**323**	*e*PKPbc	**PKPbc**	**04 36 29.7**	**-1.2**	
BRTR	**Keskin Array B**	**152.59**	**299**	PKPbc	**PKPbc**	**04 36 33.6**	**-1.3**	
	comp=Z,2.3nm,0.6s,baz=128,slow=4.2,SNR=18							
DPC	**Dobruska-Polom**	**157.03**	**337**	*e*PKPAB	**PKPab**	**04 37 04.0**	**0.0**	
CLL	**Collm**	**157.20**	**342**	*i* PKPab	**PKPab**	**04 37 03.6**	**-0.9**	
	comp=Z,7.0nm,0.8s							
BRG	**Berggiesshubel**	**157.34**	**341**	*e*PKP	**PKPab**	**04 37 04.2**	**-1.0**	
	comp=Z,6.0nm,0.8s							
PVCC	**Panska Ves**	**157.45**	**339**	*e*PKPAB	**PKPab**	**04 37 05.5**	**-0.2**	
VYHS	**Vyhne**	**157.55**	**330**	*e*PKP	**PKPab**	**04 37 09.7**	**+3.5**	
NKC	**Novy Kostel**	**158.33**	**342**	*e*PKPAB	**PKPab**	**04 37 09.1**	**-0.4**	
KHC	**Kasperske Hory**	**158.99**	**339**	*e*PKPAB	**PKPab**	**04 37 12.0**	**-0.4**	
GERES	**GERESS Array B**	**159.20**	**338**	PKPab	**PKPab**	**04 37 11.8**	**-1.7**	
	comp=Z,0.6nm,0.6s,baz=38,slow=4.2,SNR=8.2							
TORD	**Torodi Ar. Bea**	**163.28**	**178**	PKP	**PKPdf**	**04 36 40.7**	**-0.8**	
	comp=Z,1.3nm,1.0s,baz=186,slow=2.9,SNR=6.2							
TORD				PKPab	**PKPab**	**04 37 31.4**	**-0.4**	
	comp=Z,0.8nm,0.6s,baz=185,slow=3.2,SNR=8.5							

MEX 04 04:22:09.8±0.8, 15°.83N×97°.91W, h10km±14km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.60**	**340**	*i* P	Pg	04 22 20.1	-1.3
PNIG				*e*S	Sg	04 22 28.5	-0.8
VHO	**Vista Hermosa**	**1.67**	**42**	*e*P	Pn	04 22 35.1	-4.3
VHO				*e*S	Sn	04 22 55.7	-5.3

*MOS **04** 04:28:23.1±0.0, 42°.19N×45°.92E, h19km, MPVA3.3*
ISC 04 04:28:24.3±1.4, 42°.14N±0°.05×45°.95E±0°.05, h23km±16km, n9, σ0°75/17, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTLR	**Botlikh**	**0.56**	**21**	*e*Pg	**Pb**	**04 28 34.8**	**-0.8**
BTLR				*e*Sg	**Sb**	**04 28 43.1**	**-0.1**
DDFL	**Dedoflistskaro**	**0.70**	**170**	P	**Pn**	**04 28 39.2**	**+0.3**
GNBR	**Gunib**	**0.79**	**71**	*i* Pg	**Pn**	**04 28 40.3**	**+0.1**
GNBR				*e*Sg	**Sn**	**04 28 51.6**	**+0.3**
DVE	**Vedeno**	**0.83**	**9**	*e*Pg	**Pn**	**04 28 40.2**	**-0.5**
DVE				*e*Sg	**Sn**	**04 28 51.7**	**-0.5**
GROC	**Groznyy**	**1.07**	**354**	*e*Pg	**Pb**	**04 28 44.5**	**+0.4**
GROC				*e*Sg	**Sn**	**04 28 59.0**	**+0.9**
KZRT	**Kazreti**	**1.39**	**238**	P	**Pn**	**04 28 46.9**	**-1.5**
KZRT				S	**Sb**	**04 29 06.8**	**-0.1**
LACR	**Lac**	**1.41**	**300**	*e*Pg	**Pb**	**04 28 50.2**	**+0.3**
LACR				*e*Sg	**Sb**	**04 29 08.5**	**+1.0**
TRLG	**Trialeti**	**1.51**	**247**	P	**Pb**	**04 28 51.6**	**-0.1**
TRLG				S	**Sb**	**04 29 11.4**	**+0.9**
ZEI	**Tsey**	**1.65**	**294**	*e*Pg	**Pb**	**04 28 53.7**	**-0.5**
ZEI				*e*Sg	**Sb**	**04 29 15.6**	**+0.9**

MEX 04 04:42:01.0±0.4, 16°.57N×96°.30W, h67km±5km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**0.65**	**320**	*e*P	Pn	04 42 13.7	-1.7
VHO				*e*S	Sn	04 42 24.1	-1.7
HUIG	**Huatulco**	**0.82**	**167**	*e*P	Pn	04 42 15.7	-1.5
HUIG				*i* S	Sn	04 42 27.2	-1.8
PNIG	**Pinotepa**	**1.76**	**264**	*e*P	Pn	04 42 28.1	-1.3
PNIG				*e*S	Sn	04 42 48.8	-2.2

*ISK **04** 05:06:00.5, 37°.75N×26°.90E, h7km, ML2.3/5*
*ISCJB **04** 05:06:01.4±0.4, 37°.76N±0°.02×26°.96E±0°.03, h7km±4km, Error ellipse: s-maj=4.6km s-min=3.3km az=143.5*
*DDA **04** 05:06:01.7, 37°.75N×26°.94E, h7km, Ml2.6*
*ATH **04** 05:06:01.1, 37°.76N×26°.95E, h9km±2km, ML2.2/2, Error ellipse: s-maj=4.3km s-min=1.3km az=266.0*
*THE **04** 05:06:01.0, 37°.75N×26°.97E, h1km, ML1.8/5, Error ellipse: s-maj=1.0km s-min=0.4km az=75.0*
ISC 04 05:06:01.4±0.8, 37°.74N±0°.02×26°.93E±0°.02, h11km±5km, n29, σ0°99/48, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMG	**Samos**	**0.08**	**245**	P	**Pg**	**05 06 03.6**	**-0.3**
SMG				S	**Sg**	**05 06 05.5**	**-0.3**
SMG				AML	AML	05 06 06.0	
	comp=N,9577μm,0.3s						
SMG				AML	AML	05 06 06.4	
	comp=E,5681μm,0.3s						
SMG	**Samos**	**0.08**	**245**	P	**Pg**	**05 06 03.6**	**-0.3**
SMG				S	**Sg**	**05 06 05.5**	**-0.3**
GCAM	**G?zelcaml?**	**0.24**	**100**	PG	**Pg**	**05 06 06.4**	**-0.1**
GCAM				SG	**Sg**	**05 06 10.6**	**+0.7**
GCAM	**G?zelcaml?**	**0.24**	**100**	*i* P	**Pg**	**05 06 06.7**	**+0.2**
GCAM				*i* S	**Sg**	**05 06 11.7**	**+1.7**
DGB	**˜zmir**	**0.31**	**353**	*i* P	**Pg**	**05 06 07.2**	**-0.5**
DGB				*i* S	**Sg**	**05 06 12.3**	**+0.4**
ZEY	**˜zmir**	**0.60**	**326**	*i* P	**Pg**	**05 06 12.8**	**-0.3**
ZEY				*i* S	**Sb**	**05 06 23.8**	**+1.4**
BLCB	**Balcova**	**0.65**	**8**	PG	**Pg**	**05 06 13.1**	**-0.9**
URLA	**Izmir**	**0.67**	**337**	PG	**Pg**	**05 06 13.6**	**-0.8**
URLA				SG	**Sg**	**05 06 23.2**	**-0.1**
URLA	**Izmir**	**0.67**	**337**	*i* P	**Pg**	**05 06 13.7**	**-0.8**
URLA				*i* S	**Sb**	**05 06 25.2**	**+0.7**
BODT	**Bodrum**	**0.74**	**156**	PG	**Pg**	**05 06 15.5**	**-0.3**
BODT	**Bodrum**	**0.74**	**156**	P	**Pg**	**05 06 15.2**	**-0.6**
BODT				S	**Sb**	**05 06 26.6**	**0.0**
AYDN	**Tasoluk**	**0.76**	**96**	*i* P	**Pg**	**05 06 15.7**	**-0.5**
AYDN				*i* S	**Sb**	**05 06 26.4**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**0.79**	**75**	PG	**Pg**	**05 06 16.6**	**-0.1**
CHOS	**Chios island**	**0.94**	**313**	PG	**Pg**	**05 06 17.5**	**-2.1**
CHOS	**Chios island**	**0.94**	**313**	P	**Pg**	**05 06 19.1**	**-0.5**
CHOS				S	**Sg**	**05 06 31.9**	**-0.1**
CHOS				AML	AML	05 06 33.5	
	comp=N,136μm,0.3s						
CHOS				AML	AML	05 06 33.5	
	comp=E,155μm,0.2s						
CHOS	**Chios island**	**0.94**	**313**	P	**Pg**	**05 06 19.4**	**-0.2**
CHOS				S	**Sn**	**05 06 33.9**	**-0.3**
DAT	**Datca**	**1.14**	**153**	PN	**Pb**	**05 06 23.2**	**0.0**
DAT	**Datca**	**1.14**	**153**	*i* P	**Pb**	**05 06 23.2**	**0.0**
DAT				*i* S	**Sn**	**05 06 40.6**	**+1.6**
AMGA	**Amorgos Island**	**1.23**	**223**	P	**Pn**	**05 06 24.5**	**0.0**
AMGA				S	**Sn**	**05 06 42.0**	**+0.8**
AMGA	**Amorgos Island**	**1.23**	**223**	P	**Pn**	**05 06 24.4**	**-0.2**
AMGA				S	**Sn**	**05 06 42.4**	**+1.3**
APE	**Apeiranthos**	**1.30**	**239**	PN	**Pn**	**05 06 25.3**	**-0.3**
APE	**Apeiranthos**	**1.30**	**239**	P	**Pn**	**05 06 25.5**	**-0.1**
APE	**Apeiranthos**	**1.30**	**239**	P	**Pn**	**05 06 25.3**	**-0.3**
APE				S	**Sg**	**05 06 44.6**	**+1.2**
DKL	**Dikili**	**1.33**	**359**	PN	**Pn**	**05 06 25.9**	**0.0**
TURN	**Turunc**	**1.59**	**123**	*i* P	**Pn**	**05 06 28.7**	**-0.9**
TURN				*i* S	**Sn**	**05 06 46.0**	**-4.0**
SIGR	**SIGRI**	**1.69**	**330**	PN	**Pn**	**05 06 31.3**	**+0.4**
SIGR	**SIGRI**	**1.69**	**330**	P	**Pb**	**05 06 32.6**	**0.0**
SIGR	**SIGRI**	**1.69**	**330**	P	**Pn**	**05 06 31.1**	**+0.2**
SIGR				S	**Sb**	**05 06 53.5**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.74**	**21**	*i* P	**Sb**	**05 06 57.1**	**+1.7**
STEP				*i* S	**Sg**	**05 06 58.7**	**+1.1**

*PGC **04** 05:07:47.7±5.2, 52°.32N×131°.95W, h18km, mb4.0, ML4.3/21, Mw4.3, 104km south of Sandspit, Bc Haida Gwaii Region*
*IDC **04** 05:07:48.3±1.2, 52°.35N×132°.38W, h0km, mb4.0/7, mb1 4.2/13, mb1mx3.9/44, mbtmp3.9/13, ML3.6/6, MS3.3/21, Ms1 3.3/21, ms1mx3.2/49, Error ellipse: s-maj=24.6km s-min=7.7km az=72.0*
*ISCJB **04** 05:07:51.3±0.7, 52°.69N±0°.03×131°.65W±0°.06, h4km±5km, mb4.1/41, MS3.4/12, Error ellipse: s-maj=7.1km s-min=3.3km az=153.5*
*NEIC **04** 05:07:54.3±0.4, 52°.68N×131°.67W, h10km, mb4.0/75, MW4.3(OTT), Error ellipse: s-maj=9.2km s-min=3.4km az=58.0*
ISC 04 05:07:51.9±1.1, 52°.59N±0°.05×131°.94W±0°.05, h10km±6km, n204, σ1§90/178, mb4.2/41, MS3.4/12, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNB	**Barry Inlet**	**0.12**	**98**	P	**Pg**	**05 07 53.9**	**-0.9**
BNB				S	**Sg**	**05 07 57.9**	**+1.1**
DIB	**Dawson Inlet,**	**0.69**	**332**	*e*Pg	**Pg**	**05 08 04.6**	**-0.7**
DIB	**Dawson Inlet,**	**0.69**	**332**	P	**Pg**	**05 08 04.8**	**-0.5**
DIB				S	**Sn**	**05 08 17.7**	**-0.9**
H02S1	**DAWSON INLET T**	**0.69**	**332**	Pg	**Pg**	**05 08 04.5**	**-0.7**
H02S1				Lg	Lg	05 08 16.5	
	SNR=5869						
H02N1	**VAN INLET T-PH**	**0.75**	**331**	Pg	**Pg**	**05 08 05.7**	**-0.8**
H02N1				Lg	Lg	05 08 19.0	
	SNR=704						
VIB	**Van Inlet**	**0.75**	**331**	P	**Pg**	**05 08 05.7**	**-0.8**
VIB				S	**Sn**	**05 08 19.8**	**-0.6**
BNAB	**Bonilla**	**1.20**	**41**	Pn	**Pb**	**05 08 12.7**	**-2.1**
BNAB				Sg	**Sn**	**05 08 32.1**	**+1.1**
MASB	**Masset**	**1.43**	**358**	Pn	**Pn**	**05 08 17.1**	**-0.8**
NDB	**Naden**	**1.49**	**337**	Pn	**Pn**	**05 08 16.9**	**-1.9**
RUBB	**Prince Rupert**	**2.01**	**30**	Pn	**Pn**	**05 08 24.6**	**-1.3**
RUBB				Sg	**Sg**	**05 08 56.7**	**+0.2**
BBB	**Bella Bella**	**2.38**	**98**	Pn	**Pn**	**05 08 28.8**	**-2.3**
	39nm,0.3s,baz=276,slow=15,SNR=50						
BBB				Lg	Lg	05 09 01.2	
	318nm,0.3s,baz=22,slow=23,SNR=16						
BBB				LR	LR	05 09 33.0	
	comp=Z,941nm,19.2s,baz=326,slow=40						
BBB	**Bella Bella**	**2.38**	**98**	*e*Pn	**Pn**	**05 08 29.1**	**-1.9**
BBB				Lg	Lg	05 09 01.2	
BBB	**Bella Bella**	**2.38**	**98**	Pn		05 08 25.8	-5.3
BBB				Sg	**Sn**	**05 09 00.2**	**-0.1**
CRAG	**Craig**	**2.96**	**347**	*e*Pn	**Pn**	**05 08 39.8**	**+0.8**
BCBC	**Bella Coola**	**3.18**	**92**	Pn	**Pn**	**05 08 40.3**	**-1.7**
BCBC				Sg	**Sb**	**05 09 26.3**	**-0.9**
PHC	**Port Hardy**	**3.38**	**122**	Pn	Pn	05 08 37.2	-7.6
PHC				Sn	Sn	05 09 14.1	-11
PACB	**Port Alice, BC**	**3.52**	**126**	Pn	Pn	05 08 39.8	-6.9
BPBC	**Brooks Peninsu**	**3.57**	**131**	Pn	Pn	05 08 41.4	-6.1
MAYB	**Maynard**	**3.70**	**124**	Pn	Pn	05 08 42.2	-7.1
TLCB	**Telegraph Cove**	**3.79**	**121**	Pn	Pn	05 08 43.8	-6.5
WRAK	**Wrangell Islan**	**3.84**	**357**	*e*Pn	**Pn**	**05 08 51.1**	**0.0**
WOSB	**Woss**	**4.15**	**124**	Pn	Pn	05 08 49.8	-5.7
NCRB	**Newcastle Ridg**	**4.28**	**118**	Pn	Pn	05 08 51.4	-5.9
GDR	**Gold River**	**4.66**	**125**	Pn	Pn	05 08 56.7	-5.7
UBRB	**Upper Baezaeko**	**4.79**	**83**	Pn	**Pn**	**05 09 02.3**	**-1.9**
UBRB				Sg	**Sb**	**05 10 17.1**	**+3.5**
SPLB	**Strathcona Par**	**4.79**	**122**	Pn	Pn	05 08 59.1	-5.0
CBB	**Campbell River**	**4.86**	**119**	Pn	Pn	05 08 59.2	-5.9
FSB	**Fort Saint Jam**	**4.92**	**64**	Pn	**Pn**	**05 09 03.9**	**-2.0**
BTB	**Buttle Lake**	**5.12**	**125**	Pn	Pn	05 09 03.7	-5.1
TXB	**Texada**	**5.54**	**119**	Pn	Pn	05 09 09.1	-5.5
B927	**Port Alberni**	**5.63**	**124**	Pn	**Pn**	**05 09 12.1**	**-3.6**
MGB	**Mount Grey**	**5.84**	**125**	Pn	Pn	05 09 13.7	-4.9
JIS	**Juneau Island**	**5.86**	**347**	*e*Pn	**Pn**	**05 09 20.1**	**+1.3**
GHNB	**Nanoose**	**5.88**	**121**	Pn	**Pn**	**05 09 15.1**	**-3.9**
SHB	**Sechelt**	**5.90**	**117**	Pn	**Pn**	**05 09 15.8**	**-3.7**
DLBC	**Dease Lake**	**5.96**	**10**	Pn	**Pn**	**05 09 22.8**	**+2.5**
	1.5nm,0.3s,baz=200,slow=14,SNR=21						
DLBC				Lg	Lg	05 11 01.1	
	1.8nm,0.3s,baz=126,slow=27,SNR=9.2						
DLBC				LR	LR	05 11 16.2	
	comp=Z,162nm,20.8s,baz=191,slow=33						
DLBC	**Dease Lake**	**5.96**	**10**	Pn	**Pn**	**05 09 21.5**	**+1.3**
NLLB	**Nanaimo Lost L**	**6.05**	**121**	Pn	Pn	05 09 16.5	-5.0
WPB	**Watts Point**	**6.23**	**115**	Pn	Pn	05 09 18.0	-5.9
B926	**Mesachie Lake**	**6.23**	**124**	Pn	**Pn**	**05 09 19.9**	**-4.0**
PFB	**Port Renfrew**	**6.25**	**127**	Pn	Pn	05 09 18.3	-5.9
BIB	**Bowen Island**	**6.32**	**117**	Pn	**Pn**	**05 09 20.5**	**-4.6**
GOBB	**Galiano Island**	**6.47**	**121**	Pn	**Pn**	**05 09 23.6**	**-3.6**
LZB	**Mount Lazard**	**6.52**	**124**	Pn	**Pn**	**05 09 24.7**	**-3.3**
PGC	**Sidney**	**6.69**	**123**	*e*Pn	**Pn**	**05 09 30.2**	**0.0**
PGC	**Sidney**	**6.69**	**123**	Pn	**Pn**	**05 09 27.7**	**-2.5**
BMBC	**Bull Mountain**	**6.70**	**55**	Pn	**Pn**	**05 09 30.8**	**+0.3**
SKAG	**Skagway**	**7.14**	**346**	*e*Pn	**Pn**	**05 09 38.4**	**+2.1**
FNBB	**Fort Nelson**	**8.07**	**35**	Pn	**Pn**	**05 09 48.8**	**-0.3**
E03A	**Lebam**	**8.14**	**135**	*e*Pn	**Pn**	**05 09 48.7**	**-1.3**
WHY	**Whitehorse**	**8.25**	**350**	*e*Pn	**Pn**	**05 09 52.6**	**+0.9**
WHY				eLg	Lg	05 12 15.9	
WHY	**Whitehorse**	**8.25**	**350**	Pn	**Pn**	**05 09 52.5**	**+0.9**
D05A	**Enumclaw**	**8.40**	**126**	*e*Pn	**Pn**	**05 09 55.9**	**+2.2**
SLEB	**Sale Mountain**	**8.66**	**94**	Pn	**Pn**	**05 09 55.8**	**-1.7**
LON	**Longmire**	**8.79**	**128**	*e*Pn	**Pn**	**05 10 00.1**	**-2.6**
LTY	**Liberty**	**9.02**	**122**	*e*Pn	**Pn**	**05 10 00.2**	**-2.0**
B08A	**Colville Reser**	**9.09**	**113**	*e*Pn	**Pn**	**05 10 00.4**	**-2.8**
EBG	**Ellensburg**	**9.30**	**123**	*e*Pn	**Pn**	**05 10 04.8**	**-1.3**
COR	**Corvallis**	**9.84**	**141**	*e*Pn	**Pn**	**05 10 14.6**	**+1.2**
C09A	**Chrisman Ranch**	**9.99**	**113**	*e*Pn	**Pn**	**05 10 14.7**	**-0.7**
D08A	**Wollman Farm,**	**10.07**	**118**	*e*Pn	**Pn**	**05 10 13.5**	**-3.0**
NEW	**Newport**	**10.40**	**109**	Pn	**Pn**	**05 10 20.6**	**-0.4**
	0.3nm,0.3s,baz=284,slow=12,SNR=3.0						
NEW				Lg	Lg	05 13 11.1	
	0.1nm,0.3s,baz=21,slow=21,SNR=3.1						
NEW				LR	LR	05 14 01.2	
	comp=Z,198nm,20.7s,baz=296,slow=35						
NEW	**Newport**	**10.40**	**109**	*e*Pn	**Pn**	**05 10 22.0**	**+1.0**
NEW				Lg	Lg	05 13 11.1	
G06A	**Carlson Farm,**	**10.46**	**130**	*e*Pn	**Pn**	**05 10 21.9**	**-0.1**
E09A	**Wood Farm, Sta**	**10.82**	**119**	*e*Pn	**Pn**	**05 10 27.0**	**+0.1**
F10A	**Beach Ranch, E**	**11.66**	**119**	*e*Pn	**Pn**	**05 10 37.1**	**-1.3**
HUMO	**Hull Mountain**	**11.68**	**145**	*e*Pn	**Pn**	**05 10 40.0**	**+1.4**
DAWY	**Dawson**	**12.14**	**344**	*e*Pn	Pn	05 10 50.6	+5.8
JTMT	**Jette**	**12.31**	**106**	*e*Pn	**Pn**	**05 10 51.3**	**+4.0**
K05A	**Summer Lake**	**12.35**	**139**	*e*Pn	**Pn**	**05 10 48.6**	**+0.7**
BMO	**Blue Mountains**	**12.37**	**123**	*e*Pn	**Pn**	**05 10 47.1**	**-1.0**
SCM	**Sheep Creek Mo**	**12.43**	**324**	*e*Pn	**Pn**	**05 10 52.8**	**+4.0**
YBH	**Yreka Blue Hor**	**12.54**	**146**	Pn	**Pn**	**05 10 49.6**	**-0.8**
	0.1nm,0.3s,baz=346,slow=7.9,SNR=7.0						
YBH				LR	LR	05 14 34.3	
	comp=Z,143nm,20.5s,baz=338,slow=32						
YBH	**Yreka Blue Hor**	**12.54**	**146**	*e*Pn	**Pn**	**05 10 50.8**	**+0.4**
KDAK	**Kodiak Island**	**12.86**	**302**	LR	LR	05 14 34.6	
	comp=Z,278nm,20.3s,baz=128,slow=32						
J08A	**Circle Bar Ran**	**12.89**	**130**	*e*Pn	**Pn**	**05 10 55.9**	**+0.6**
MOD	**Modoc Plateau**	**13.28**	**139**	*e*Pn	**Pn**	**05 11 02.9**	**+2.3**
WVOR	**Wild Horse Val**	**13.55**	**133**	*e*Pn	**Pn**	**05 11 03.8**	**-0.4**
YKA	**Yellowknife Ar**	**13.55**	**36**	Pn	**Pn**	**05 11 02.2**	**-1.8**
	0.1nm,0.3s,baz=227,slow=12,SNR=2.0						
YKA				LR	LR	05 16 50.7	
	comp=Z,20nm,18.4s,baz=214,slow=39						
KMRM	**Mail Ridge**	**13.60**	**152**	*e*Pn	**Pn**	**05 11 06.3**	**+1.4**
ILAR	**Eielson Array**	**14.42**	**334**	Pn	**Pn**	**05 11 17.9**	**+2.0**
	baz=161,slow=12,SNR=4.2						
ILAR				LR	LR	05 16 22.9	
	comp=Z,179nm,19.1s,baz=161,slow=36						
DLMT	**Dillon**	**14.59**	**112**	*e*Pn	**Pn**	**05 11 19.6**	**+1.1**
HLID	**Hailey**	**14.76**	**121**	*e*Pn	**Pn**	**05 11 21.8**	**+1.0**
MCMT	**McKenzie Canyo**	**14.78**	**114**	*e*Pn	**P**	**05 11 24.7**	**-2.5**
PPLA	**Purkeypile**	**14.87**	**322**	*e*Pn	**P**	**05 11 30.0**	**+2.0**
BOZ	**Bozeman (W)**	**15.00**	**110**	*e*Pn	**P**	**05 11 31.4**	**+1.8**
	2.7nm,0.7s						
BEKR	**Beckworth**	**15.01**	**143**	*e*Pn	**P**	**05 11 29.1**	**-0.7**
	6.3nm,1.0s						
BPAW	**Bear Paw Mtn.**	**15.18**	**327**	*e*Pn	**P**	**05 11 32.1**	**+0.8**
	7.1nm,0.9s						
PAHR	**Pah Rah Range**	**15.52**	**141**	*e*Pn	**P**	**05 11 33.8**	**-1.5**
	17nm,1.1s						
AFDM	**Forest Hills D**	**15.62**	**147**	*e*Pn	**Pn**	**05 11 34.0**	**+1.9**
	8.8nm,1.2s						
YHB	**Horse Butte**	**15.75**	**112**	*e*Pn	**Pn**	**05 11 35.7**	**+1.7**
	9.1nm,1.0s						
VCNR	**Virginia City**	**15.78**	**143**	*e*Pn	**P**	**05 11 36.6**	**-1.6**
	9.5nm,1.0s						
INK	**Inuvik**	**15.79**	**358**	Pn	**P**	**05 11 39.0**	**+1.0**
	0.0nm,0.3s,baz=150,slow=8.1,SNR=2.5						
INK				LR	LR	05 18 28.4	
	comp=Z,124nm,21.1s,baz=44,slow=40						
YHH	**Holmes Hill**	**15.93**	**111**	*e*Pn	**Pn**	**05 11 36.7**	**+0.4**
	10nm,1.1s						
YMR	**Madison River**	**15.93**	**111**	*e*Pn	**Pn**	**05 11 36.8**	**+0.4**
	16nm,1.0s						
PNTR	**Pine Nut**	**15.98**	**143**	*e*Pn	**Pn**	**05 11 37.8**	**+0.8**
	12nm,1.0s						
GCMT	**Greycliff**	**16.03**	**106**	*e*Pn	**Pn**	**05 11 38.7**	**+1.1**
FXWY	**Fox Creek**	**16.54**	**114**	*e*Pn	**P**	**05 11 45.5**	**-1.2**
	8.0nm,0.9s						
WAKR	**Walker**	**16.55**	**143**	*e*Pn	**Pn**	**05 11 45.7**	**+1.4**
	12nm,1.0s						
KVN	**Kaiserville**	**16.59**	**139**	*e*Pn	**Pn**	**05 11 46.1**	**+1.5**
	16nm,1.0s						
MOOW	**Moose Ponds**	**16.63**	**114**	*e*Pn	**Pn**	**05 11 46.0**	**+0.7**
	5.7nm,0.9s						
CMB	**Columbia Colle**	**16.64**	**146**	*e*Pn	**Pn**	**05 11 46.4**	**+1.2**
	4.4nm,1.0s						
RLMT	**Red Lodge**	**16.64**	**108**	*e*Pn	**Pn**	**05 11 46.3**	**+0.9**
	6.0nm,0.9s						
TPAW	**Teton Pass**	**16.68**	**115**	*e*Pn	**P**	**05 11 48.5**	**+0.1**
	11nm,0.8s						
RYN	**Ryan**	**16.79**	**141**	*e*Pn	**Pn**	**05 11 48.5**	**+1.3**
	9.5nm,1.0s						
LOHW	**Long Hollow**	**16.79**	**114**	*e*Pn	**P**	**05 11 49.5**	**0.0**
	6.3nm,0.9s						
SNOW	**Snow King Moun**	**16.81**	**114**	*e*Pn	**P**	**05 11 49.6**	**-0.2**
	6.6nm,1.0s						
REDW	**Red Top Meadow**	**16.82**	**115**	*e*Pn	**P**	**05 11 50.1**	**+0.3**
	11nm,0.9s						
HVU	**Hansel Valley**	**16.88**	**122**	*e*Pn	**P**	**05 11 52.8**	**+2.4**
	4.9nm,1.0s						
NV01	**Mina Array Sit**	**17.04**	**141**	*e*Pn	**P**	**05 11 55.2**	**+2.9**
NVAR	**Mina Array Bea**	**17.04**	**141**	Pn	**Pn**	**05 11 49.1**	**-1.3**
	0.1nm,0.3s,baz=318,slow=10,SNR=5.6						
NV11	**Mina Array Sit**	**17.10**	**140**	*e*Pn	**Pn**	**05 11 51.8**	**+0.7**
	0.6nm,1.1s						
IM3	**Indian Mountai**	**17.30**	**329**	*e*Pn	**P**	**05 11 55.3**	**+0.6**
MDPB	**Devils Postpil**	**17.45**	**144**	*e*Pn	**P**	**05 11 57.1**	**+0.2**
	4.9nm,0.9s						
OMMB	**Old Mammoth Mi**	**17.50**	**144**	*e*Pn	**P**	**05 11 57.4**	**-0.1**
	3.7nm,1.0s						
HWUT	**Hardware Ranch**	**17.63**	**120**	*e*Pn	**P**	**05 11 58.3**	**-0.4**
	6.3nm,1.1s						
MLNR	**Milner Canyon**	**17.76**	**142**	*e*Pn	**P**	**05 12 03.3**	**+3.1**
MLNR				*e*Sn	Sn	05 15 06.2	-11
MLNR				*e*S	**S**	**05 15 21.2**	**-3.3**
BW06	**Boulder Array**	**17.92**	**114**	*e*Pn	**P**	**05 12 02.9**	**+0.9**
	7.6nm,0.8s						
PD31	**Pinedale Array**	**17.92**	**114**	*e*Pn	**P**	**05 12 02.5**	**+0.5**
PDAR	**Pinedale Array**	**17.92**	**114**	P	**Pn**	**05 12 01.1**	**-0.3**
	0.1nm,0.3s,baz=319,slow=8.8,SNR=15						
PDAR				LR	LR	05 18 08.2	
	comp=Z,70nm,22.0s,baz=309,slow=34						
PDAR	**Pinedale Array**	**17.92**	**114**	*e*Pn	**Pn**	**05 12 00.9**	**-0.6**
PSUT	**Pine Spring**	**18.84**	**131**	*e*P	**

TXAR	**Lajitas Array**	**31.20**	**127**	P		**P**	**05 14 09.4**	**-2.0**
	1.7nm,0.8s,baz=332,slow=13,SNR=4.7							
TXAR				LR		LR	05 26 41.3	
	comp=Z,56nm,20.0s,baz=0.0,slow=36							
LNIG	**Linares**	**36.95**	**126**	*eP*		**P**	**05 15 01.5**	**+0.3**
	3.2nm,1.1s							
PETK	**Petropavlovsk-**	**40.91**	**300**	LR		LR	05 31 03.8	
	comp=Z,29nm,20.1s,baz=101,slow=34							
TIXI	**Tiksi**	**43.89**	**333**	LR		LR	05 37 40.4	
	comp=Z,29nm,18.1s,baz=66,slow=41							
YAK	**Yakutsk**	**48.94**	**322**	LR		LR	05 36 43.7	
	comp=Z,46nm,19.8s,baz=78,slow=35							
H11N2	**WAKE ISLAND Hy**	**57.10**	**259**	T		T	06 19 35.4	
	baz=39,slow=76,SNR=439							
H11N3	**WAKE ISLAND Hy**	**57.11**	**259**	T		T	06 19 34.2	
	baz=39,slow=76,SNR=484							
H11N1	**WAKE ISLAND Hy**	**57.12**	**259**	T		T	06 19 34.9	
	baz=39,slow=76,SNR=327							
H11S1	**WAKE ISLAND Hy**	**58.16**	**259**	T		T	06 20 51.5	
	baz=40,slow=75,SNR=25							
H11S2	**WAKE ISLAND Hy**	**58.17**	**259**	T		T	06 20 50.5	
	baz=40,slow=75,SNR=19							
H11S3	**WAKE ISLAND Hy**	**58.18**	**259**	T		T	06 20 53.7	
	baz=40,slow=75,SNR=16							
USRK	**Ussuriysk Ar.**	**59.73**	**304**	LR		LR	05 43 00.5	
	comp=Z,30nm,20.1s,baz=81,slow=35							
NOA	**NORSAR Array B**	**62.96**	**19**	P		**P**	**05 18 17.5**	**-0.8**
	1.5nm,1.0s,baz=337,slow=6.9,SNR=3.2							
KSRS	**Korea Array**	**66.77**	**302**	LR		LR	05 47 09.9	
	comp=Z,8.4nm,19.1s,baz=175,slow=35							
ZALV	**Zalesovo Beam**	**69.50**	**338**	P		**P**	**05 18 59.0**	**-1.2**
	0.4nm,0.3s,baz=18,slow=5.2,SNR=2.6							
ZALV				LR		LR	05 51 58.2	
	comp=Z,22nm,18.5s,baz=70,slow=38							
HHC	**Hu-ho-hao-te**	**71.95**	**314**	*eP*		**P**	**05 19 16.7**	**+1.2**
HHC				pmax	pmax			
	comp=Z,10.0nm,1.3s							
HHC				pmax	pmax			
	comp=Z,270nm,6.0s							
GERES	**GERESS Array B**	**74.80**	**23**	P		**P**	**05 19 30.8**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=333,slow=3.6,SNR=2.5							
MKAR	**Makanchi Array**	**76.75**	**337**	P		**P**	**05 19 41.6**	**-1.6**
	comp=Z,0.9nm,0.7s,baz=354,slow=3.7,SNR=5.0							
MKAR				LR		LR	05 58 23.8	
	comp=Z,20nm,18.2s,baz=12,slow=40							
WMQ	**Urumqi**	**78.07**	**332**	*eP*		**P**	**05 19 53.3**	**+2.5**
LZH	**Lanzhou**	**79.23**	**317**	*eP*		**P**	**05 19 57.1**	**-0.3**
LZH				pP		sP	05 20 02.7	+1.0
LZH				sP		PcP	05 20 04.7	-1.0
LZH				*e*PP		PP	05 21 32.9	-83
LZH				pmax	pmax			
	comp=Z,17nm,1.1s							
LZH				pmax	pmax			
	comp=Z,55nm,4.3s							
CMAR	**Chiang Mai Arr**	**96.66**	**312**	P		**P**	**05 21 20.8**	**-1.7**
	comp=Z,0.9nm,0.4s,baz=15,slow=3.7,SNR=2.6							
CMAR				LR		LR	06 08 30.9	
	comp=Z,33nm,18.1s,baz=74,slow=38							
BDFB	**Brasilia**	**98.64**	**104**	LR		LR	06 13 41.3	
	comp=Z,22nm,18.1s,baz=190,slow=40							
VNA3	**Neumayer Olymp**	**148.77**	**148**	PKP		**PKPdf**	**05 27 34.4**	**+0.2**
VNA3				x		x	05 27 39.7	
VNA1	**Neumayer--Stat**	**149.30**	**147**	PKP		**PKPdf**	**05 27 36.9**	**+1.9**
VNA1				x		x	05 27 41.4	

TAP 04 05:22:38.8,22.51N×121.25E,h12km,ML2.7,D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.26**	**339**	*e*P		Pg	05 22 44.5	+0.3
	baz=340							
ECL	**Taimali**	**0.29**	**288**	*i* P		Pb	05 22 45.6	-0.2
	baz=288							
ECL				*i* S		Sb	05 22 50.0	-0.5
	baz=288							
TWGBT	**Beinan**	**0.34**	**333**	P		Pb	05 22 46.5	-0.3
	baz=333							
TWGBT				*e*S		Sb	05 22 51.7	-0.5
	baz=333							
TWG	**Pinlang**	**0.35**	**332**	*i* P		Pb	05 22 46.5	-0.4
	baz=333							
TWG				*e*S		Sb	05 22 51.7	-0.7
	baz=333							
TAW	**Tawu**	**0.36**	**245**	*e*P		Pb	05 22 46.8	-0.3
	baz=244							
TAW				S		Sb	05 22 52.4	-0.2
	baz=244							
EAST	**Anshuo**	**0.39**	**251**	*i* P		Pb	05 22 47.3	-0.3
	baz=250							
EAST				*e*S		Sb	05 22 53.2	-0.4
	baz=250							
MASBT	**Mashibuluo**	**0.58**	**280**	*e*P		Pg	05 22 50.0	0.0
	baz=280							
CHKT	**Chengkung**	**0.60**	**10**	*e*P		Pb	05 22 50.8	-0.3
	baz=11							
CHKT				*e*S		Sb	05 22 59.5	-0.1
	baz=11							
SCZT	**Fangliau**	**0.60**	**257**	*e*P		Pb	05 22 51.0	-0.1
	baz=256							
SCZT				*e*S		Sb	05 23 00.1	+0.6
	baz=256							
SSD	**Sandimen**	**0.62**	**293**	*e*P		Pg	05 22 50.3	-0.4
	baz=292							
TSEB	**Hengchuen, Pin**	**0.69**	**208**	*e*S		Sn	05 23 03.7	-1.1
	baz=210							
FULB	**Fuli**	**0.69**	**4**	*e*P		Pb	05 22 53.4	+0.7
	baz=3.0							
FULB				*e*S		Sb	05 23 01.7	-0.5
	baz=3.0							
ELDTW	**Lidau**	**0.71**	**343**	*e*P		Pn	05 22 54.8	+0.1
	baz=343							
SLGT	**Liugui**	**0.73**	**311**	*e*P		Pg	05 22 53.1	+0.1
	baz=310							
SLGT				*e*S		Sb	05 23 03.2	-0.3
	baz=310							
SGST	**Jiashian**	**0.84**	**313**	*e*P		Pb	05 22 55.3	0.0
	baz=313							
SGST				*e*S		Sb	05 23 07.3	+0.8
	baz=313							
TWF1	**Yuli**	**0.84**	**3**	*e*P		Pg	05 22 55.1	+0.1
	baz=3.0							
YULB	**Yu-li**	**0.88**	**3**	*e*P		Pn	05 22 56.6	-0.4
	baz=2.0							
WTP	**Ta-pu**	**0.94**	**322**	*e*P		Pb	05 22 57.1	+0.1
	baz=321							
WTP				S		Sb	05 23 09.9	+0.5
	baz=321							
CHN1	**Nanshi**	**0.94**	**316**	P		Pg	05 22 56.9	-0.1
	baz=315							
CHN1				S		Sb	05 23 10.3	+0.7
	baz=315							
TPUB	**Ta-pu**	**0.97**	**324**	P		Pg	05 22 57.4	-0.1
	baz=324							
TPUB				*e*S		Sn	05 23 11.3	-0.7
	baz=324							
YUS	**Yu-Shan**	**1.01**	**344**	*e*P		Pg	05 22 58.1	-0.3
	baz=344							
YUS				*e*S		Sn	05 23 13.7	+0.1
	baz=344							
TWK	**Hsinying**	**1.03**	**317**	P		Pb	05 22 58.2	-0.3
	baz=317							
TWK				S		Sg	05 23 12.6	+0.5
	baz=317							
CHN4	**Tsaushan**	**1.03**	**324**	*e*P		Pb	05 22 58.3	-0.3
	baz=324							
CHN4				*e*S		Sg	05 23 12.7	+0.5
	baz=324							
CHN5	**Tsauling**	**1.20**	**334**	P		Pn	05 23 01.4	0.0
	baz=334							
CHN5				S		Sg	05 23 17.6	-0.1
	baz=334							
SSLB	**Suanglung**	**1.30**	**348**	*e*P		Pb	05 23 03.0	-0.1
	baz=348							
SSLB				*e*S		Sn	05 23 20.4	+0.3
	baz=348							
TYC	**Yuchr**	**1.43**	**346**	*e*P		Pb	05 23 05.1	-0.3
	baz=345							
TYC				*e*S		Sb	05 23 23.6	0.0
	baz=345							
CHGB	**Renai**	**1.55**	**357**	*e*P		Pb	05 23 07.2	-0.3
	baz=357							

*ISK **04** 05:24:05.3,41.03N×33.49E,h6km,ML3.5/13*
*DDA **04** 05:24:05.8,41.02N×33.49E,h18km,Ml3.4*

ISC 04 05:24:06.8±0.9,40.99N±0.02×33.55E±0.02,h16km±7km, n53,σ1s70/74,4C-3D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ILGA	**Ilgaz**	**0.14**	**64**	*i* P		**Pg**	**05 24 10.2**	**-0.8**
ILGA				*i* S		**Sg**	**05 24 14.4**	**+0.6**
TOS	**Tosya**	**0.36**	**82**	PG		**Pg**	**05 24 13.7**	**-0.6**
TOS				SG		**Sg**	**05 24 19.9**	**+0.4**
CANT	**Cankiri**	**0.39**	**172**	PG		**Pb**	**05 24 14.4**	**-0.9**
CANT				SG		**Sb**	**05 24 20.9**	**-0.1**
ELDT	**Eldivan**	**0.51**	**190**	*i* P		**Pb**	**05 24 16.8**	**-0.6**
ELDT				*i* S		**Sb**	**05 24 25.9**	**+1.2**
KAST	**KASTAMONU**	**0.58**	**30**	*i* P		**Pg**	**05 24 16.5**	**-1.7**
KAST				*i* S		**Sg**	**05 24 25.7**	**-0.3**
CMDR	**Camlidere-ANKA**	**0.95**	**239**	*i* P		**Pg**	**05 24 23.6**	**-1.7**
CMDR				*i* S		**Sn**	**05 24 39.9**	**+0.9**
CTAK	**Corum_Osmancik**	**1.00**	**109**	*i* P		**Pn**	**05 24 26.4**	**0.0**
CTAK				*i* S		**Sn**	**05 24 41.5**	**+1.2**
BZK	**Bozkurt**	**1.03**	**19**	PG		**Pb**	**05 24 25.0**	**-1.2**
BZK				SG		**Sb**	**05 24 39.2**	**-0.3**
BCAM	**Yenicaga**	**1.14**	**262**	*i* P		**Pb**	**05 24 27.0**	**-1.1**
BCAM				*i* S		**Sn**	**05 24 45.5**	**+2.0**
CORM	**Corum**	**1.16**	**134**	PN		**Pb**	**05 24 27.1**	**-1.4**
LOD	**Lodumlu**	**1.25**	**209**	PN		**Pn**	**05 24 29.3**	**-0.4**
COAL	**Corum-Alaca**	**1.32**	**123**	*i* P		**Pb**	**05 24 31.4**	**+0.2**
COAL				*i* S		**Sg**	**05 24 50.3**	**+0.9**
DIKM	**Dikmen**	**1.45**	**62**	PN		**Pn**	**05 24 32.7**	**+0.4**
DIKM				SN		**Sg**	**05 24 53.5**	**0.0**
AFSR	**Afˇar-Bala (A**	**1.58**	**193**	PN		**Pb**	**05 24 35.3**	**-0.4**
SINO	**SINOP_Merkez**	**1.61**	**50**	*i* P		**Pb**	**05 24 37.2**	**+1.0**
SINO				*i* S		**Sg**	**05 25 05.3**	**+6.5**
SNOP	**Sinop**	**1.62**	**50**	PN		**Pn**	**05 24 35.2**	**+0.5**
KAMT	**Kaman**	**1.62**	**175**	PN		**Pb**	**05 24 36.0**	**-0.4**
HAVZ	**Havza**	**1.64**	**86**	*i* P		**Pb**	**05 24 37.0**	**+0.3**
HAVZ				*i* S		**Sg**	**05 25 01.2**	**+1.4**
MDUB	**Mudurnu**	**1.86**	**255**	PN		**Pn**	**05 24 37.8**	**-0.3**
YOZ	**Yozgat**	**1.91**	**134**	PN		**Pn**	**05 24 39.9**	**+1.1**
KULU	**Kulu**	**1.99**	**192**	PN		**Pb**	**05 24 40.9**	**-1.8**
SAMS	**Samsun-Alacam**	**2.03**	**79**	*i* P		**Pb**	**05 24 43.1**	**-0.1**
SAMS				*i* S		**Sg**	**05 25 12.9**	**+0.8**
SERE	**Sereflikochisa**	**2.04**	**180**	PN		**Pb**	**05 24 42.0**	**-1.5**
SAHE	**Sakarya_HENDEK**	**2.05**	**267**	*i* P		**Pb**	**05 24 42.3**	**-1.3**
SAHE				*i* S		**Sg**	**05 25 15.3**	**+2.7**
SVRH	**Sivrihisar-ESK**	**2.19**	**226**	PN		**Pn**	**05 24 43.1**	**+0.5**
AKSY	**AKSARAY - Alti**	**2.34**	**176**	*i* P		**Pb**	**05 24 48.6**	**-0.1**
AKSY				*i* S		**Sg**	**05 25 23.0**	**+0.9**
GULT	**Gulveren**	**2.37**	**257**	PN		**Pn**	**05 24 45.9**	**+0.8**
TOKT	**Tokat**	**2.38**	**105**	PN		**Pn**	**05 24 46.7**	**+1.6**
AVNS	**Nevsehir-Avano**	**2.40**	**155**	*i* P		**Pg**	**05 24 50.8**	**-2.0**
AVNS				*i* S		**Sg**	**05 25 24.9**	**+1.0**
ERBA	**Erbaa**	**2.45**	**96**	*i* P		**Pn**	**05 24 48.0**	**+1.8**
ERBA				*i* S		**Sg**	**05 25 25.2**	**-0.5**
SAUV	**Serdivan-Sakar**	**2.46**	**265**	PN		**Pn**	**05 24 47.0**	**+0.8**
CHBY	**Cihanbeyli**	**2.46**	**192**	PN		**Pn**	**05 24 47.8**	**+1.5**
KIZT	**Kizilcal**	**2.46**	**212**	PN		**Pn**	**05 24 45.9**	**-0.5**
SPNC	**Sapanca-Adapaz**	**2.48**	**264**	PN		**Pn**	**05 24 47.0**	**+0.5**
GEYV	**SAKARYA_Geyve**	**2.52**	**260**	*i* P		**Pb**	**05 24 52.4**	**+0.7**
KAND	**Kocaeli-Kandir**	**2.54**	**273**	*i* P		**Pb**	**05 24 51.1**	**-0.9**
KAND				*i* S		**Sb**	**05 25 25.0**	**+2.1**
CUSAR	**Sarkisla-SIVAS**	**2.59**	**126**	*i* P		**Pn**	**05 24 49.8**	**+1.6**
BORA	**Eskisehir**	**2.61**	**246**	PN		**Pn**	**05 24 48.1**	**-0.3**
BORA	**Eskisehir**	**2.61**	**246**	*i* P		**Pn**	**05 24 49.1**	**+0.7**
BORA				*i* S		**Sg**	**05 25 32.9**	**+2.2**
KDHN	**Kadinhani**	**2.70**	**205**	*i* P		**Pn**	**05 24 49.3**	**-0.3**
KDHN				*i* S		**Sg**	**05 25 32.6**	**-0.9**
BNN	**Bunyan**	**2.77**	**140**	PN		**Pn**	**05 24 52.1**	**+1.4**
SULT	**Sultanhani-AKS**	**2.79**	**181**	PN		**Pn**	**05 24 52.4**	**+1.6**
SVSK	**Karacayir**	**2.84**	**111**	PN		**Pn**	**05 24 52.4**	**+0.9**
BOLV	**Bolvadin**	**3.02**	**222**	*i* P		**Pn**	**05 24 53.9**	**-0.2**
BOLV				*i* S		**Sg**	**05 25 49.5**	**+5.5**
TIRR	**Tirgusor**	**5.13**	**314**	*i*P		**Pn**	**05 25 23.6**	**+0.7**
TIRR	**Tirgusor**	**5.13**	**314**	S		Sn	05 26 12.9	-8.9
TLB	**Topalu**	**5.42**	**313**	*i*P		**Pn**	**05 25 27.9**	**+1.1**
HARR	**Harsova**	**5.54**	**314**	*i*P		**Pn**	**05 25 27.6**	**-1.0**
CFR	**Carcaliu**	**5.76**	**318**	*i*P		**Pn**	**05 25 32.6**	**+1.0**
CFR	**Carcaliu**	**5.76**	**318**	S		**Sn**	**05 26 30.5**	**-6.9**
MLR	**Muntele Rosu**	**7.14**	**312**	*i*P		**Pn**	**05 25 50.3**	**-0.4**
VOIR		**7.63**	**308**	*i*P		**Pn**	**05 25 57.8**	**+0.4**
DOPR	**Dopca**	**7.74**	**313**	*i*P		**Pn**	**05 25 58.5**	**-0.3**

*MAN **04** 05:24:19.3,10.72N×127.27E,h54km,mb5.3,ML4.2, MS4.4*
*IDC **04** 05:24:22.2±0.7,10.33N×126.71E,h0km,mb4.0/14, mb1 4.1/14,mb1mx4.0/46,mbtmp4.0/14,MS3.0/5, Ms1 3.1/5,ms1mx2.7/41,Error ellipse: s-maj=36.2km s-min=14.4km az=74.0*
*ISCJB **04** 05:24:23.1±0.4,10.35N±0.05×126.85E±0.06,h20km, mb4.2/25,MS2.9/4,Error ellipse: s-maj=9.2km s-min=6.4km az=162.9*
*NEIC **04** 05:24:23.5±0.2,10.32N×126.76E,h10km,mb4.3/8,Error ellipse: s-maj=8.4km s-min=4.2km az=75.0*

ISC 04 05:24:24.8±0.6,10.42N±0.06×126.84E±0.07,h20km,n55, σ1s53/54,mb4.2/25,MS3.0/4,1C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.88**	**220**	*e*P		**Pb**	**05 24 56.8**	**-1.7**
BUTP				*e*S		**Sb**	**05 25 25.5**	**+4.0**
MSLP	**Maasin**	**1.97**	**262**	*e*P		**Pb**	**05 24 57.9**	**-2.1**
MSLP				*e*S		**Sb**	**05 25 26.9**	**+2.9**
PLP	**Palo**	**1.97**	**292**	*e*P		**Pn**	**05 24 55.9**	**-1.1**
PLP				*e*S		**Sn**	**05 25 18.4**	**-2.8**
RCP	**Roxas**	**4.17**	**286**	*e*P		**Pn**	**05 25 29.0**	**+1.7**
LUWI	**Luwuk**	**12.09**	**200**	*e*Pn		Pn	05 27 08.0	-8.1
SBUM	**Sibu**	**16.53**	**242**	*e*Pn		**P**	**05 28 14.7**	**-3.5**
	19nm,1.6s							
GUMO	**Guam**	**17.92**	**78**	LR		LR	05 34 50.1	
	comp=Z,76nm,19.2s,baz=126,slow=35							
JNU	**Nakatsue**	**22.89**	**9**	*e*P		**P**	**05 29 28.4**	**+1.0**
	88nm,1.9s							
MTN	**Manton Dam**	**23.51**	**169**	*e*P		**P**	**05 29 33.0**	**-0.6**
	26nm,1.5s							
MYKOM	**Kota Tinggi**	**24.39**	**251**	*e*P		**P**	**05 29 42.0**	**0.0**
	31nm,1.4s							
ENH	**Enshi**	**25.52**	**323**	*e*P		**P**	**05 29 52.7**	**+0.5**
	23nm,1.2s							
JHJ	**Hachijo jima 2**	**25.54**	**26**	LR		LR	05 40 08.1	
	comp=Z,34nm,19.6s,baz=336,slow=37							
KS15	**Wonju Array Si**	**26.92**	**2**	*e*P		**P**	**05 30 05.9**	**+1.2**
KSAR	**Wonju Array Be**	**26.92**	**2**	P		**P**	**05 30 05.2**	**+0.6**
KSRS	**Korea Array**	**26.93**	**2**	P		**P**	**05 30 05.2**	**+0.5**
	4.6nm,1.2s,baz=265,slow=27,SNR=4.4							
CM01	**Chiang Mai Arr**	**28.11**	**290**	*e*P		**P**	**05 30 15.1**	**-0.6**
CM31	**Chiang Mai Arr**	**28.14**	**290**	*e*P		**P**	**05 30 14.9**	**-0.9**
CMAR	**Chiang Mai Arr**	**28.14**	**290**	P		**P**	**05 30 14.9**	**-0.9**
	0.6nm,0.3s,baz=94,slow=5.9,SNR=3.5							
CMAR				LR		LR	05 42 00.1	
	comp=Z,14nm,18.6s,baz=305,slow=38							
WRAB	**Tennant Creek**	**31.06**	**166**	*e*P		**P**	**05 30 41.3**	**-0.4**
	7.2nm,1.4s							
WR1	**Warramunga Arr**	**31.07**	**166**	*e*P		**P**	**05 30 40.6**	**-1.1**
WRA	**Warramunga Arr**	**31.07**	**166**	P		**P**	**05 30 40.6**	**-1.1**
	0.6nm,0.6s,baz=348,slow=9.5,SNR=5.1							
USRK	**Ussuriysk Ar.**	**33.95**	**7**	P		**P**	**05 31 07.8**	**+1.1**
	2.1nm,0.8s,baz=198,slow=8.9							
AS31	**Alice Springs**	**34.58**	**169**	*e*P		**P**	**05 31 11.2**	**-1.3**
	1.0nm,1.1s							
ASAR	**Alice Springs**	**34.58**	**169**	P		**P**	**05 31 12.3**	**-0.2**
	0.5nm,0.5s,baz=351,slow=7.8,SNR=12							
AS01	**Alice Springs**	**34.59**	**168**	*e*P		**P**	**05 31 12.2**	**-0.3**
KLR	**Kulˇdur**	**38.90**	**5**	P		**P**	**05 31 50.2**	**+1.2**
	1.0nm,0.5s,baz=213,slow=3.7,SNR=4.2							
SONA0	**Songino Array**	**41.07**	**339**	*e*P		**P**	**05 32 08.8**	**+1.6**
SONM	**Songino Array**	**41.07**	**339**	P		**P**	**05 32 08.8**	**+1.6**
	1.4nm,0.8s,baz=161,slow=9.4,SNR=6.4							
SONM				LR		LR	05 51 32.0	
	comp=Z,26nm,18.6s,baz=53,slow=40							
STKA	**Stephens Creek**	**44.37**	**162**	P		**P**	**05 32 33.7**	**-0.3**
	0.9nm,0.5s,baz=326,slow=13,SNR=3.4							
STKA	**Stephens Creek**	**44.37**	**162**	*e*P		**P**	**05 32 33.8**	**-0.3**
	2.6nm,1.6s							
PETK	**Petropavlovsk-**	**49.27**	**24**	LR		LR	05 54 09.3	
	comp=Z,20nm,20.3s,baz=88,slow=36							
MK01	**Makanchi Array**	**52.23**	**322**	*e*P		**P**	**05 33 35.3**	**+0.8**
MK31	**Makanchi Array**	**52.24**	**322**	*e*P		**P**	**05 33 34.9**	**+0.3**
MK32	**Makanchi Array**	**52.24**	**322**	*e*P		**P**	**05 33 35.2**	**+0.6**
MKAR	**Makanchi Array**	**52.24**	**322**	P		**P**	**05 33 35.2**	**+0.6**
	6.1nm,0.8s,baz=119,slow=6.4,SNR=22							
MKAR	**Makanchi Array**	**52.24**	**322**	*e*P		**P**	**05 33 34.9**	**+0.3**
	46nm,0.9s							
MAKZ	**Makanchi**	**52.44**	**322**	*e*P		**P**	**05 33 37.5**	**+1.4**
	17nm,1.2s							
NRN	**Naryn**	**54.15**	**314**	*e*P		**P**	**05 33 50.2**	**+1.1**
	3.2nm,0.8s							
ZALV	**Zalesovo Beam**	**54.76**	**331**	P		**P**	**05 33 54.6**	**+1.6**
	1.4nm,0.7s,baz=125,slow=7.4,SNR=4.4							
ZAA1	**Zalesovo Array**	**54.76**	**331**	*e*P		**P**	**05 33 54.6**	**+1.6**
KURK	**Kurchatov**	**56.26**	**325**	*e*P		**P**	**05 34 04.6**	**+0.8**
	23nm,1.0s							
BRVK	**Borovoye**	**61.93**	**325**	*e*P		**P**	**05 34 44.0**	**+0.9**
	12nm,1.1s							
ABKAR	**Akbulak array**	**67.12**	**319**	*e*P		**P**	**05 35 16.8**	**-0.3**
ILAR	**Eielson Array**	**79.06**	**26**	P		**P**	**05 36 23.7**	**-3.8**
	0.3nm,0.9s,baz=254,slow=5.8,SNR=3.4							
ILB	**Eielson Array**	**79.06**	**26**	*e*P		**P**	**05 36 23.7**	**-3.8**
ARA0	**ARCESS Array S**	**84.24**	**340**	*e*P		**P**	**05 36 54.8**	**0.0**
ARCES	**ARCESS Array B**	**84.24**	**340**	P		**P**	**05 36 54.8**	**0.0**
	3.4nm,1.0s,baz=72,slow=5.8,SNR=3.2							
BR101	**Keskin Array S**	**85.86**	**309**	*e*P		**P**	**05 37 03.7**	**0.0**
BRTR	**Keskin Array B**	**85.86**	**309**	P		**P**	**05 37 03.7**	**0.0**
	1.3nm,0.8s,baz=106,slow=4.7,SNR=5.1							
AKASG	**Malin Array Be**	**86.80**	**321**	P		**P**	**05 37 09.1**	**+1.3**
	1.1nm,0.6s,baz=62,slow=5.0,SNR=8.2							
AKBB	**Malin Array Si**	**86.80**	**321**	*e*P		**P**	**05 37 09.1**	**+1.3**
VNDA	**Vanda**	**90.01**	**173**	P		**P**	**05 37 23.3**	**+0.9**
	1.0nm,1.0s,baz=317,slow=6.1,SNR=5.1							
VNDA	**Vanda**	**90.01**	**173**	*e*P		**P**	**05 37 23.7**	**+1.3**
BUR04	**Bucovina Ar. S**	**90.10**	**318**	*e*P		**P**	**05 37 23.7**	**+0.1**
PLCA	**Paso Flores**	**146.12**	**156**	PKPbc		**PKPab**	**05 44 05.3**	**+0.7**
	1.2nm,0.6s,baz=241,slow=3.1,SNR=5.6							

*SOME **04** 05:26:59.9,41.47N×76.77E,h5km*
*NNC **04** 05:26:59.5±14.0,41.24N×76.71E,h18km±68km,mb3.1, mpv2.6,Error ellipse: s-maj=129.1km s-min=81.1km az=177.0*
*KRNET **04** 05:27:00.1±0.1,41.46N×76.75E,h15km,mb2.6*
*KNET **04** 05:27:05.9±1.0,41.58N×76.34E,h0km,ml1.9,Error ellipse: s-maj=8.7km s-min=2.4km az=110.0*

ISC 04 05:26:59.3±1.4,41.36N±0.05×76.67E±0.03,h18km±7km, n46,σ1s07/81,37C-9D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NRN	**Naryn**	**0.51**	**279**	*i*P		**Pn**	**05 27 11.2**	**-0.8**
	baz=67							
NRN				⇑*i*S		**Sn**	**05 27 19.5**	**-1.0**
	baz=67							
KDJ	**Kajisay**	**0.86**	**26**	⇑*i*P		**Pb**	**05 27 14.4**	**-1.5**
	baz=26							
KDJ				⇑*i*S		**Sb**	**05 27 24.5**	**-2.7**
	baz=26							
ULHL	**Ulahol**	**0.95**	**340**	⇑S		**Sb**	**05 27 29.3**	**-0.3**
	24nm,0.1s							
ULHL	**Ulahol**	**0.95**	**340**	⇑*i*P		**Pb**	**05 27 16.8**	**-0.5**
	baz=34							
ULHL				⇑*i*S		**Sb**	**05 27 29.1**	**-0.5**
	baz=34							
BOOM	**Boomskoye usch**	**1.26**	**335**	⇑*i*P		**Pb**	**05 27 22.6**	**0.0**
	baz=30							
BOOM				⇑*i*S		**Sn**	**05 27 38.8**	**0.0**
	baz=30							
KZA	**Kyzart**	**1.29**	**305**	⇓P		**Pg**	**05 27 24.4**	**+0.2**
	4.6nm,0.2s							
KZA	**Kyzart**	**1.29**	**305**	⇑*i*P		**Pg**	**05 27 24.0**	**-0.2**
	baz=99							
KZA				⇑*i*S		**Sg**	**05 27 41.6**	**+0.6**
	baz=99							
IZV	**Izvestkoviy**	**1.68**	**359**	*e*P		**Pb**	**05 27 30.0**	**+0.2**
	4.4nm,0.1s							
IZV				*e*S		**Sb**	**05 27 51.6**	**+0.9**
	28nm,0.4s							
TNSS	**Tian-Shan**	**1.69**	**7**	*e*P		**Pb**	**05 27 29.8**	**-0.4**
	5.3nm,0.2s							
TNSS				*e*S		**Sb**	**05 27 51.0**	**-0.3**
	19nm,0.3s							
TKM2	**Tokmak 2**	**1.76**	**333**	⇑P		**Pg**	**05 27 32.4**	**-0.7**
	1.8nm,0.7s,baz=120,slow=29							
TKM2				⇓S		**Sg**	**05 27 55.1**	**-0.8**
	2.9nm,0.5s,baz=120,slow=29							
TKM2	**Tokmak 2**	**1.76**	**333**	⇑P		**Pg**	**05 27 33.0**	**-0.1**
	2.7nm,0.1

	5.6nm,0.3s							
CHKK				*e*S		**Sb**	05 28 15.7	**+1.4**
	30nm,0.2s							
EKS2	**Erkin-Say**	**2.52**	**302**	⇑*i*P		**Pb**	05 27 43.8	**-0.3**
	baz=99							
EKS2				⇑*i*S		**Sb**	05 28 15.2	**+0.4**
	baz=99							
KUU	**Kurty**	**2.55**	**355**	*e*P		**Pb**	05 27 44.5	**0.0**
	1.4nm,0.3s							
KUU				*e*S		**Sb**	05 28 17.1	**+1.5**
	17nm,0.3s							
KPKS	**Kokpek**	**2.58**	**35**	*e*P		**Pb**	05 27 43.9	**-1.3**
	5.9nm,0.3s							
KPKS				*e*S		**Sb**	05 28 16.3	**-0.3**
	26nm,0.4s							
SHLS	**Shalkode**	**2.75**	**48**	*e*P		**Pg**	05 27 53.2	**+1.2**
	3.9nm,0.2s							
SHLS				*e*S		**Sg**	05 28 31.2	**+3.7**
	16nm,0.4s							
ARSB	**Arslanbob**	**2.78**	**271**	⇑*e*P		**Pb**	05 27 48.3	**-0.2**
	baz=68							
ARSB				⇑*i*S		**Sb**	05 28 23.1	**+0.9**
	baz=68							
MRKS	**Merke**	**2.92**	**300**	*e*P		**Pg**	05 27 54.0	**-1.2**
	4.9nm,0.4s							
MRKS				*e*S		**Sg**	05 28 32.8	**-0.2**
	5.4nm,0.3s							
ARXS	**Arharly**	**2.98**	**16**	*e*P		**Pb**	05 27 52.2	**+0.3**
	1.4nm,0.3s							
ARXS				*e*S		**Sb**	05 28 29.6	**+1.6**
	14nm,0.4s							
MNBS	**Baschi**	**3.01**	**25**	*e*P		**Pb**	05 27 52.4	**0.0**
	1.2nm,0.2s							
MNBS				*e*S		**Sb**	05 28 29.7	**+0.9**
	12nm,0.3s							
DJR	**Jarkent**	**3.76**	**37**	*e*P		**Pb**	05 28 04.5	**-0.6**
	0.3nm,0.2s							
DJR				⇓*i*S		**Sb**	05 28 51.0	**+0.7**
	1.4nm,0.4s							
KAPS	**Kapalarasan**	**4.39**	**26**	*e*P		**Pb**	05 28 16.9	**+1.0**
	0.9nm,0.7s							
KAPS				*e*S		**Sb**	05 29 11.9	**+3.4**
	1.7nm,0.4s							
KK31	**Karatay Array**	**4.89**	**293**	⇓Lg		Lg	05 29 36.1	
	0.4nm,0.4s,baz=120,slow=29,SNR=3.6							

*IDC **04** 05:39:50.5±3.2, 36°.22N×71°.12E, h112km±28km, mb3.4/7, mb1 3.6/10, mb1mx3.3/54, mbtmp3.8/10, MS3.5/1, Ms1 3.5/1, ms1mx2.4/30, Error ellipse: s-maj=24.5km s-min=17.1km az=170.0*

*ISCJB **04** 05:39:53.3±0.3, 36°.39N±0°.03×71°.20E±0°.05, h150km, mb3.5/6, Error ellipse: s-maj=5.8km s-min=3.8km az=149.2*

*NNC **04** 05:40:01.2±2.1, 36°.86N×70°.95E, h164km±20km, mb3.4, mpv4.5, Error ellipse: s-maj=19.0km s-min=9.7km az=158.0*

ISC 04 05:39:53.2±0.7, 36°.37N±0°.07×71°.13E±0°.06, h150km, n40, σ2℘10/36, mb3.5/6, 2C-10D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.62**	**166**	P	Pn	05 40 38.4	+2.4
CHCP	**Chirah Chowk**	**3.22**	**146**	P	Pn	05 40 45.9	+2.4
THW	**Thamme Wali**	**3.60**	**172**	P	Pn	05 40 50.5	+2.1
SARP	**Sargodha**	**4.62**	**164**	P	Pn	05 41 03.1	+1.5
AML	**Almayashu**	**6.09**	**18**	P	**Pn**	**05 41 21.4**	**0.0**
	SNR=14						
UCH	**Uchtor**	**6.41**	**23**	P	**Pn**	**05 41 26.9**	**+1.1**
	SNR=12						
EKS2	**Erkin-Say**	**6.61**	**17**	P	**Pn**	**05 41 28.2**	**+0.1**
	SNR=6.2						
KK31	**Karatay Array**	**6.74**	**356**	P	**Pn**	**05 41 29.7**	**0.0**
	27nm,0.3s,baz=181,slow=13,SNR=214						
KK31				⇑S	**Sn**	**05 42 42.7**	**-2.8**
	5.5nm,0.3s,baz=184,slow=22,SNR=6.5						
AAK	**Ala-Archa**	**6.78**	**22**	P	**Pn**	**05 41 30.7**	**+0.4**
	2.5nm,0.3s,baz=190,slow=7.7,SNR=19						
AAK				S	**Sn**	**05 42 44.4**	**-2.1**
	2.3nm,0.3s,baz=328,slow=19,SNR=10						
AAK	**Ala-Archa**	**6.78**	**22**	⇑S	**Sn**	**05 42 46.0**	**-0.5**
	19nm,0.6s						
CHMS	**Chumysh**	**7.18**	**22**	P	**Pn**	**05 41 37.1**	**+1.4**
	SNR=5.9						
TKM2	**Tokmak 2**	**7.39**	**26**	⇓P	**Pn**	**05 41 40.9**	**+2.3**
	10nm,0.6s						
TKM2				⇓S	**Sn**	**05 43 01.8**	**+0.5**
	15nm,0.9s						
TKM2	**Tokmak 2**	**7.39**	**26**	P	**Pn**	**05 41 41.5**	**+2.9**
	SNR=14						
GEYT	**Alibeck**	**10.51**	**282**	P	**Pn**	**05 42 19.2**	**-0.6**
	0.7nm,0.3s,baz=92,slow=12,SNR=6.5						
GEYT				S	**Sn**	**05 44 15.4**	**-0.7**
	1.3nm,0.3s,baz=75,slow=27,SNR=4.4						
GYA0B	**ALIBECK ARRAY**	**10.51**	**282**	⇓P	Pn	05 42 25.3	+5.4
	1.9nm,0.5s						
GYA0B				⇓S	**Sn**	**05 44 18.6**	**+2.4**
	14nm,0.7s						
PYUN	**Piuthan**	**12.98**	**126**	*e*P	**Pn**	**05 42 51.3**	**-1.1**
	28nm,0.4s						
DANN	**Dangsing**	**13.33**	**123**	*e*P	P	05 42 55.9	-5.3
	22nm,0.3s						
MK31	**Makanchi Array**	**13.33**	**35**	⇓P	**P**	**05 43 02.6**	**+1.7**
	1.2nm,0.6s,baz=201,slow=8.4,SNR=7.0						
MKAR	**Makanchi Array**	**13.33**	**35**	P	**Pn**	**05 42 56.3**	**-0.3**
	0.1nm,0.3s,baz=208,slow=14,SNR=2.9						
KOLN	**Koldanda**	**13.60**	**126**	*e*P	**P**	**05 42 59.7**	**-4.4**
	9.6nm,0.3s						
GKN	**Gorkha**	**14.14**	**122**	*e*P	**P**	**05 43 07.4**	**-2.7**
	2.1nm,0.2s						
KKN	**Kakani**	**14.72**	**122**	*e*P	**P**	**05 43 13.8**	**-2.8**
	16nm,0.4s						
PKIN	**Phulchoki**	**14.93**	**122**	*e*P	**P**	**05 43 17.2**	**-1.8**
	13nm,0.3s						
PKI	**Pulchoki**	**14.95**	**122**	*e*P	**P**	**05 43 17.2**	**-2.0**
GUN	**Gumba**	**15.06**	**120**	*e*P	**P**	**05 43 18.8**	**-1.7**
	17nm,0.3s						
AB31	**Akbulak array**	**15.25**	**331**	⇓P	**P**	**05 43 22.1**	**+0.1**
	1.1nm,0.3s,baz=146,slow=12,SNR=88						
AB31				S	**Sn**	**05 46 06.4**	**-3.5**
	1.2nm,0.5s,baz=152,slow=23,SNR=4.7						
JIRN	**Jiri**	**15.43**	**120**	*e*P	**P**	**05 43 23.8**	**-0.8**
	66nm,0.4s						
RAMN	**Ramite**	**16.16**	**121**	*e*P	**P**	**05 43 31.3**	**-1.2**
	7.9nm,0.2s						
BRVK	**Borovoye**	**16.70**	**358**	⇓P	**Pn**	**05 43 39.8**	**+1.6**
	3.1nm,0.9s						
AKTO	**Aktyubinsk**	**16.95**	**330**	⇓P	**Pn**	**05 43 44.2**	**+3.0**
	6.9nm,0.9s						
AKTO				⇓S	**S**	**05 46 44.6**	**-4.8**
	2.8nm,0.9s						
ZAA0	**Zalesovo Array**	**19.99**	**24**	⇓P	Pn	05 44 15.7	-1.4
	1.9nm,0.5s						
ZALV	**Zalesovo Beam**	**19.99**	**24**	P	Pn	05 44 15.5	-1.5
	2.1nm,0.3s,baz=222,slow=11,SNR=13						
ARCES	**ARCESS Array B**	**41.30**	**338**	P	P	05 47 26.3	+2.8
	1.1nm,0.5s,baz=116,slow=8.7,SNR=12						
GERES	**GERESS Array B**	**43.09**	**305**	LR	LR	06 08 10.4	
	comp=Z,55nm,20.8s,baz=310,slow=39						
NB2	**NORSAR Subarra**	**44.55**	**323**	P	**P**	**05 47 51.6**	**+1.9**
	comp=Z,0.8nm,0.7s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.55**	**323**	P	**P**	**05 47 51.9**	**+2.1**
	comp=Z,0.9nm,0.7s,baz=96,slow=7.8,SNR=8.5						
TORD	**Torodi Ar. Bea**	**65.82**	**269**	P	**P**	**05 50 22.7**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=57,slow=5.8,SNR=10						
YKA	**Yellowknife Ar**	**81.37**	**3**	P	P	05 51 55.2	+2.5
	comp=Z,2.0nm,0.8s,baz=348,slow=6.1,SNR=2.6						
WRA	**Warramunga Ar**	**81.83**	**122**	P	**P**	**05 51 57.2**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=326,slow=5.0,SNR=7.2						
ASAR	**Alice Springs**	**84.09**	**125**	P	**P**	**05 52 08.8**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=308,slow=4.8,SNR=6.0						

*IDC **04** 05:40:52.5±1.4, 2°.49S×139°.10E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.3/27, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=31.0km s-min=28.5km az=91.0*

*DJA **04** 05:40:55.1±1.6, 3°.5±12°×13°.9E±°, h10km, M3.3/3, MLv3.3/3*

*ISCJB **04** 05:40:56.6±0.8, 2°.69S±0°.07×139°.02E±0°.06, h37km, mb3.0/2, Error ellipse: s-maj=11.2km s-min=8.2km az=33.7*

ISC 04 05:40:57.8±1.0, 2°.6S±0°.1×139°.06E±0°.08, h37km, n7, σ1℘54/9, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.71**	**330**	P	**Pn**	**05 41 10.4**	**-0.9**
SMPI				S	**Sn**	**05 41 22.0**	**+1.0**
GENI	**Genyem**	**1.10**	**89**	P	**Pn**	**05 41 15.8**	**-0.9**
GENI				S	**Sn**	**05 41 31.8**	**+1.1**
JAY	**Jayapura**	**1.64**	**87**	Pn	**Pn**	**05 41 22.0**	**-2.1**
	4.0nm,0.3s,baz=234,slow=12,SNR=4.7						
JAY	**Jayapura**	**1.64**	**87**	P	**Pn**	**05 41 24.9**	**+0.7**
WRA	**Warramunga Arr**	**17.84**	**195**	P	**Pn**	**05 45 01.9**	**-1.3**
	0.1nm,0.3s,baz=16,slow=12,SNR=9.7						
ASAR	**Alice Springs**	**21.52**	**193**	P	**P**	**05 45 45.6**	**+1.9**
	0.3nm,0.4s,baz=13,slow=11,SNR=11						
MKAR	**Makanchi Array**	**69.92**	**322**	P	**P**	**05 52 05.2**	**0.0**
	0.1nm,0.4s,baz=112,slow=8.2,SNR=2.7						

*ISCJB **04** 06:15:10.9±0.6, 42°.47N±0°.03×30°.89E±0°.08, h33km, Error ellipse: s-maj=9.0km s-min=3.1km az=159.0*

*DDA **04** 06:15:10.7, 42°.24N×31°.04E, h7km, Ml2.9*

ISC 04 06:15:11.2±1.4, 42°.47N±0°.04×31°.04E±0°.08, h35km, n29, σ1℘20/34, 12C-2D, Black Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAND	**Kocaeli-Kandir**	**1.52**	**205**	*i* P	**Pn**	**06 15 35.6**	**-0.2**
KAND				*i* S	**Sn**	**06 15 53.6**	**-0.7**
SAHE	**Sakarya_HENDEK**	**1.62**	**185**	*i* P	**Pn**	**06 15 37.6**	**+0.3**
SAHE				*i* S	**Sn**	**06 15 56.9**	**-0.1**
BCAM	**Yenicaga**	**1.83**	**155**	*i* P	**Pn**	**06 15 40.6**	**+0.4**
BCAM				*i* S	**Sn**	**06 16 03.2**	**+1.0**
GEYV	**SAKARYA_Geyve**	**2.06**	**196**	*i* P	**Pn**	**06 15 43.7**	**+0.4**
GEYV				*i* S	**Sn**	**06 16 07.3**	**-0.6**
MANR	**Mangalia**	**2.24**	**308**	⇑*i* P	**Pn**	**06 15 46.5**	**+0.8**
MANR	**Mangalia**	**2.24**	**308**	S	**Sn**	**06 16 12.3**	**+0.2**
ELBA	**Catalca**	**2.35**	**237**	*i* P	**Pn**	**06 16 12.5**	**-2.6**
ELBA				*i* S	**Sn**	**06 16 13.4**	**-1.7**
TIRR	**Tirgusor**	**2.75**	**317**	⇑*i* P	**Pn**	**06 15 53.3**	**+0.5**
TIRR	**Tirgusor**	**2.75**	**317**	S	**Sn**	**06 16 24.0**	**-0.8**
TLB	**Topalu**	**3.03**	**315**	⇑*i* P	**Pn**	**06 15 58.0**	**+1.4**
TLB	**Topalu**	**3.03**	**315**	S	**Sn**	**06 16 31.3**	**-0.4**
TLCR		**3.15**	**330**	⇓*i* P	**Pn**	**06 15 58.5**	**+0.2**
TLCR		**3.15**	**330**	S	**Sn**	**06 16 32.9**	**-1.7**
HARR	**Harsova**	**3.16**	**316**	⇑*i* P	**Pn**	**06 15 59.9**	**+1.5**
CFR	**Carcaliu**	**3.42**	**323**	⇑*i* P	**Pn**	**06 16 02.5**	**+0.5**
CFR	**Carcaliu**	**3.42**	**323**	S	**Sn**	**06 16 40.2**	**-1.1**
ISR	**Istrita**	**4.19**	**311**	⇑*i* P	**Pn**	**06 16 14.5**	**+1.9**
ISR	**Istrita**	**4.19**	**311**	S	**Sn**	**06 17 00.0**	**-0.4**
MILM	**Milestii Mici**	**4.72**	**341**	⇑*i* P	**Pn**	**06 16 19.3**	**-0.5**
MILM	**Milestii Mici**	**4.72**	**341**	S	**Sn**	**06 17 10.4**	**-2.8**
MLR	**Muntele Rosu**	**4.75**	**311**	⇑*i* P	**Pn**	**06 16 21.8**	**+1.4**
MLR	**Muntele Rosu**	**4.75**	**311**	S	**Sn**	**06 17 13.9**	**-0.4**
VOIR		**5.24**	**306**	⇑*i* P	**Pn**	**06 16 28.6**	**+1.6**
VOIR		**5.24**	**306**	S	**Sn**	**06 17 25.6**	**-0.6**
DOPR	**Dopca**	**5.35**	**313**	⇑*i* P	**Pn**	**06 16 30.1**	**+1.5**
LOT	**Lotru**	**6.03**	**302**	⇑*i* P	**Pn**	**06 16 39.2**	**+1.3**
LOT	**Lotru**	**6.03**	**302**	S	**Sn**	**06 17 45.5**	**-0.2**
GZR	**Gura Zlata**	**6.64**	**299**	⇓*i* P	**Pn**	**06 16 47.6**	**+1.4**
BZS	**Buzias**	**7.48**	**298**	⇑*i* P	**Pn**	**06 16 58.3**	**+0.6**

*IDC **04** 06:29:34.2±1.5, 2°.66S×139°.11E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/35, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=31.0km s-min=22.8km az=160.0*

*ISCJB **04** 06:29:37.9±0.8, 2°.78S±0°.07×138°.99E±0°.05, h37km, mb3.3/2, Error ellipse: s-maj=9.9km s-min=7.6km az=17.2*

*DJA **04** 06:29:37.6±1.8, 2°.5S×66°×13°9E±2°8, h84km±12km, M3.4/3, MLv3.4/3*

ISC 04 06:29:39.2±1.1, 2°.72S±0°.10×139°.04E±0°.07, h37km, n7, σ1℘46/11, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.79**	**336**	P	**Pn**	**06 29 53.1**	**-0.8**
SMPI				S	**Sn**	**06 30 04.7**	**+0.2**
GENI	**Genyem**	**1.14**	**84**	P	**Pn**	**06 29 58.3**	**-0.3**
GENI				S	**Sn**	**06 30 14.5**	**+1.5**
JAY	**Jayapura**	**1.68**	**83**	Pn	**Pn**	**06 30 03.9**	**-2.1**
	7.0nm,0.3s,baz=218,slow=12,SNR=22						
JAY				Sn	**Sn**	**06 30 25.7**	**-0.7**
	8.7nm,0.3s,baz=76,slow=7.0,SNR=7.4						
JAY	**Jayapura**	**1.68**	**83**	P	**Pn**	**06 30 04.7**	**-1.4**
JAY				S	**Sn**	**06 30 28.4**	**+2.0**
WRA	**Warramunga Arr**	**17.72**	**195**	P	**Pn**	**06 33 42.2**	**-1.0**
	0.1nm,0.3s,baz=18,slow=13,SNR=4.9						
ASAR	**Alice Springs**	**21.41**	**193**	P	**P**	**06 34 25.3**	**+1.3**
	1.0nm,0.8s,baz=17,slow=12,SNR=14						
MKAR	**Makanchi Array**	**69.99**	**322**	P	**P**	**06 40 47.7**	**+0.6**
	0.3nm,0.5s,baz=100,slow=9.6,SNR=4.3						

*ISCJB **04** 06:37:32.6±0.4, 15°.80S±0°.02×72°.00W±0°.03, h95km±3km, mb5.4/427, Error ellipse: s-maj=4.4km s-min=2.7km az=154.6*

*MOS **04** 06:37:34.2±1.2, 15°.78S×72°.06W, h104km, mb5.5/79, Error ellipse: s-maj=7.9km s-min=4.7km az=102.7*

*ARE **04** 06:37:35.0±0.0, 15°.99S×72°.28W, h116km*

*GUC **04** 06:37:36.5±0.4, 16°.59S×72°.35W, h160km±25km, ML5.4, MW5.1*

*BJI **04** 06:37:36.4, 15°.82S×72°.67W, h122km, mB5.2/15*

*IDC **04** 06:37:37.1±0.5, 15°.80S×71°.81W, h119km±4km, mb4.8/37, mb1 4.9/39, mb1mx4.8/49, mbtmp5.2/39, MS4.2/12, Ms1 4.1/12, ms1mx3.9/29, Error ellipse: s-maj=9.6km s-min=8.1km az=63.0*

*GCMT **04** 06:37:37.3±0.2, 16°.07S±0°.01×72°.18W±0°.01, h134km, MW5.5/110, Moment Tensor Solution. s93,c153; s110,c191; Duration: 1℘3 Moment tensor: Scale 10^17 Nm; Mrr-0.46±.03; Mθθ-0.06±.03; Mφφ 0.51±.03; Mrθ 0.33±.02; Mθφ-1.63±.03; Mφr-1.23±.03; Best double couple: Mo2.05500×10^17 NP1:℘≈360.00000°, δ85.00000°, λ-39.00000°. NP2:℘≈94.00000°, δ51.00000°, λ-174.00000°. Principal axes: T 2.3660, Plg23.0000°, Azm53.0000°; N -0.6210, Plg51.0000°, Azm174.0000°; P -1.7440, Plg30.0000°, Azm309.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **04** 06:37:38.3±0.1, 15°.87S×71°.88W, mb5.4/297, ML5.1(ARE) Error ellipse: s-maj=4.2km s-min=2.6km az=68.0*

NEIC Felt [IV] at Aplao and [III] at Arequipa, Camana, Mollendo and Ocona.

ISC 04 06:37:36.4±0.3, 15°.98S±0°.03×72°.03W±0°.04, h122km±2km, h123km:pP-P, n1190, σ1℘59/1370, mb5.4/433, 14C-21D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**0.70**	**133**	⇓*i* P	**Pn**	**06 37 56.0**	**-0.4**
ARE				*e* S	**Sn**	**06 38 07.0**	**-4.4**
ARE	**Arequipa**	**0.70**	**133**	⇓*i* P	**Pn**	**06 37 56.0**	**-0.4**
ARE				*e* S	**Sn**	**06 38 07.0**	**-4.4**
PB12	**IPOC Station P**	**3.08**	**148**	⇓*i* P	**Pn**	**06 38 23.1**	**-0.9**
PB12				*e* S	**Sn**	**06 38 58.3**	**-2.3**
PB12				IAML		06 39 06.1	
	comp=N,7μm,0.4s						
PB16	**IPOC Station P**	**3.36**	**135**	⇓*i* P	**Pn**	**06 38 29.6**	**+1.6**
PB16				*i* S	**Sn**	**06 39 10.6**	**+2.7**
PB16				IAML		06 39 12.7	
	comp=N,5μm,0.4s						
I08BO	**LAS PENAS INFR**	**3.44**	**94**	P	**Pn**	**06 38 30.0**	**+1.0**
	baz=261,slow=17,SNR=0.5						
I08BO				S	**Sn**	**06 39 12.8**	**+3.1**
	baz=259,slow=344						
I08BO				*i*		06 50 50.0	
	baz=263,slow=341,SNR=0.7						
LPAZ	**La Paz**	**3.76**	**95**	P	**Pn**	**06 38 36.6**	**+3.3**
	comp=N,205nm,0.3s,baz=282,slow=8.0,SNR=2223						
LPAZ				S	**Sn**	**06 39 12.9**	**-4.4**
	comp=N,50nm,0.3s,baz=270,slow=9.1,SNR=3.3						
LPAZ	**La Paz**	**3.76**	**95**	*e*P	**Pn**	**06 38 37.1**	**+3.8**
LPAZ				*e*Sn	**Sn**	**06 39 16.5**	**-0.8**
LPAZ	**La Paz**	**3.76**	**95**	*e*P	**Pn**	**06 38 37.1**	**+3.8**
LPAZ				*e*		06 39 16.5	
MNMC	**Minye Minye**	**3.90**	**144**	*e*Pn	**Pn**	**06 38 34.7**	**-0.2**
MNMC				*e*Sn	Sn	06 39 09.4	-11
MNMC	**Minye Minye**	**3.90**	**144**	⇓*i* P	**Pn**	**06 38 34.5**	**-0.4**
MNMC				*i* S	**Sn**	**06 39 19.1**	**-1.1**
PSGC	**Pisagua**	**4.03**	**154**	⇓*i* P	**Pn**	**06 38 35.1**	**-1.3**
PSGC				*e*S	**Sn**	**06 39 19.0**	**-4.0**
PB11	**IPOC Station P**	**4.38**	**149**	*e*Pn	**Pn**	**06 38 40.3**	**-1.0**
PB11				*e*Sn	**Sn**	**06 39 22.8**	**-8.9**
PB11	**IPOC Station P**	**4.38**	**149**	⇓*i* P	**Pn**	**06 38 40.1**	**-1.2**
PB11				*i* S	**Sn**	**06 39 27.9**	**-3.7**
PB01	**IPOC Station P**	**5.58**	**155**	*e*Pn	**Pn**	**06 38 55.7**	**-1.6**
PB01				*e*Sn	**Sn**	**06 39 54.8**	**-5.5**
PB01	**IPOC Station P**	**5.58**	**155**	⇓*i* P	**Pn**	**06 38 55.5**	**-1.8**
PB01				*i* S	**Sn**	**06 39 54.9**	**-5.5**
PB02	**IPOC Station P**	**5.68**	**160**	⇓*i* P	**Pn**	**06 38 56.9**	**-1.8**
PB02				*i* S	**Sn**	**06 39 57.7**	**-5.1**
PB07	**IPOC Station P**	**6.06**	**161**	⇓*i* P	**Pn**	**06 39 01.9**	**-2.0**
PB07				*i* S	**Sn**	**06 40 06.5**	**-5.7**
NNA	**Nana**	**6.13**	**310**	P	**Pn**	**06 39 01.9**	**-2.8**
	comp=N,219nm,0.3s,baz=134,slow=11,SNR=530						
NNA				S	**Sn**	**06 40 05.8**	**-7.9**
	comp=N,84nm,0.3s,baz=296,slow=14,SNR=7.5						
NNA	**Nana**	**6.13**	**310**	*e*Pn	**Pn**	**06 39 01.9**	**-2.8**
NNA				*e*Sn	**Sn**	**06 40 06.1**	**-7.6**
NNA	**Nana**	**6.13**	**310**	*e*P	**Pn**	**06 39 02.0**	**-2.8**
NNA				*e*		06 40 06.1	
PB03	**IPOC Station P**	**6.41**	**161**	⇓*i* P	**Pn**	**06 39 06.5**	**-2.0**
PB04	**IPOC Station P**	**6.56**	**165**	*e*Pn	**Pn**	**06 39 08.2**	**-2.4**
PB04				*e*Sn	**Sn**	**06 40 17.8**	**-6.4**
LVC	**Limon Verde**	**7.22**	**156**	*e*Pn	**Pn**	**06 39 18.7**	**-1.0**
LVC				*e*Sn	**Sn**	**06 40 36.1**	**-4.3**
LVC	**Limon Verde**	**7.22**	**156**	*e*P	**Pn**	**06 39 18.7**	**-1.0**
LVC				*e*		06 40 36.1	
PB10	**IPOC Station P**	**7.62**	**170**	*e*Pn	**Pn**	**06 39 22.2**	**-2.5**
PB10				*e*Sn	**Sn**	**06 40 44.4**	**-5.2**
ATAH	**Atahualpa**	**10.78**	**324**	P	**Pn**	**06 40 05.2**	**-2.5**
	comp=N,2.8nm,0.3s,baz=168,slow=5.1,SNR=12						
ATAH				S	**Sn**	**06 41 60.0**	**-6.9**
	comp=N,2.4nm,0.3s,baz=94,slow=19,SNR=2.6						
SAML	**Samuel**	**11.11**	**52**	*e*Pn	**Pn**	**06 40 08.9**	**-2.9**
SAML	**Samuel**	**11.11**	**52**	*e*P	**Pn**	**06 40 08.9**	**-2.9**
LCO	**Las Campanas**	**13.03**	**175**	*e*Pn	**Pn**	**06 40 36.0**	**-1.2**
LCO				*e*Sn	**Sn**	**06 42 54.9**	**-6.0**
LCO	**Las Campanas**	**13.03**	**175**	*ce*P	**Pn**	**06 40 40.1**	**+2.9**
AGUA	**GUANDACOL**	**13.83**	**167**	*e*P	**Pn**	**06 40 48.5**	**+1.1**
GO04	**Tololo Observa**	**14.17**	**176**	*e*Pn	**Pn**	**06 40 51.9**	**+0.1**
GO04				*e*Sn	**Sn**	**06 43 24.5**	**-4.0**
AROD	**Rodeo**	**14.31**	**171**	*e*P	**P**	**06 40 56.2**	**-1.0**
ACDV	**Cuesta del Vie**	**14.37**	**170**	*e*P	**P**	**06 40 56.7**	**-1.0**
ACCO	**Cerro Coronel**	**14.79**	**170**	*e*P	**P**	**06 41 02.0**	**-0.6**
RTLL	**Cerro Villicun**	**15.62**	**169**	*e*P	**P**	**06 41 11.5**	**+0.1**
RTLL				IAML		06 41 44.2	
	comp=Z,87nm,0.6s						
ZON	**Zonda**	**15.79**	**169**	*e*P	**Pn**	**06 41 12.5**	**+0.5**
RTLS	**Leoncito**	**15.94**	**172**	*e*P	**P**	**06 41 16.1**	**+0.8**
RTLS				IAML		06 41 19.2	
	comp=Z,38nm,0.7s						
RTCV	**Cerro Valdivia**	**16.12**	**169**	*e*P	**P**	**06 41 17.7**	**+0.6**
AUSP	**Uspallata**	**16.35**	**172**	*e*P	**P**	**06 41 20.8**	**+1.0**
ASAL	**Salagasta**	**16.79**	**171**	*e*P	**P**	**06 41 26.0**	**+1.6**
ACAN	**Cantantal**	**16.81**	**166**	*e*P	**P**	**06 41 26.7**	**+2.1**
ROC1	**El Roble**	**16.95**	**177**	*e*P	**Pn**	**06 41 26.9**	**+0.6**
	comp=Z,87nm,0.8s						
ROC1				*e*Sn	**Sn**	**06 44 26.0**	**-9.2**
ARCO	**CERRO ARCO**	**17.02**	**171**	*e*P	**Pn**	**06 41 28.9**	**+1.8**
ARCO				IAML		06 41 29.9	
	comp=Z,111nm,0.6s						
CPUP	**Villa Florida**	**17.13**	**129**	P	**P**	**06 41 26.9**	**-1.2**
	comp=Z,1.5nm,0.3s,baz=316,slow=11,SNR=31						
CPUP				S	**Sn**	**06 44 34.4**	**-5.0**
	comp=Z,0.3nm,0.3s,baz=338,slow=16,SNR=1.8						
CPUP				LR	LR	06 49 14.1	
	comp=Z,706nm,18.9s,baz=311,slow=41						
CPUP	**Villa Florida**	**17.13**	**129**	*e*P	**P**	**06 41 26.9**	**-1.2**
	comp=Z,64nm,1.3s						
CPUP				S	**Sn**	**06 44 34.4**	**-5.0**
CPUP	**Villa Florida**	**17.13**	**129**	*e*P	**P**	**06 41 27.0**	**-1.1**
CPUP				S	**Sn**	**06 44 34.4**	**-5.0**
CPUP				pmax	pmax		
	comp=Z,64nm,1.3s						
PEL	**Peldehue**	**17.13**	**176**	*e*P	**P**	**06 41 28.4**	**+0.2**
	comp=Z,104nm,1.0s						
PEL	**Peldehue**	**17.13**	**176**	*e*P	**P**	**06 41 28.4**	**+0.2**
PEL				pmax	pmax		
	comp=Z,104nm,1.0s						
AAGR	**Agrelo**	**17.27**	**171**	*e*P	**Pn**	**06 41 31.7**	**+1.5**
OTAV	**Otavalo**	**17.32**	**338**	*e*P	**Pn**	**06 41 31.5**	**+0.3**
	comp=Z,542nm,1.9s						
OTAV	**Otavalo**	**17.32**	**338**	*e*P	**Pn**	**06 41 32.4**	**+1.1**
OTAV	**Otavalo**	**17.32**	**338**	*ce*P	**Pn**

SDV S S 06 46 55.5 -4.9
SDV Santo Domingo 24.75 3 *e*P P 06 42 45.5 -1.5
MOTC Monteria, Cord 24.86 351 *e*P P 06 42 47.5 -0.3
AZU Azuero 24.99 340 *e*P P 06 42 50.8 +1.9
UPD2 Meteti 25.08 346 *e*P P 06 42 57.4 +7.7
CODC Agust`n Codaz 25.79 357 *e*P P 06 42 52.8 -3.3
BCIP Isla Barro Col 26.16 342 *e*P P 06 42 58.4 -1.1
comp=Z,110nm,1.2s
PCRV Puerto La Cruz 27.00 16 P P 06 43 05.4 -1.7
comp=Z,12nm,0.9s,baz=186,slow=4.2,SNR=7.4
MDP Montagnes des 28.41 44 P P 06 43 19.3 -0.3
comp=Z,22nm,0.9s,baz=227,slow=9.7,SNR=12
MDP LR LR 06 56 08.2
comp=Z,1µm,20.6s,baz=218,slow=40
HDC Heredia 28.45 334 *e*P P 06 43 21.0 +0.8
comp=Z,169nm,1.5s
JTS JuntasAbangare 29.07 333 P P 06 43 26.2 +0.7
comp=Z,26nm,1.2s,baz=159,slow=1.1,SNR=9.2
JTS JuntasAbangare 29.07 333 *e*P P 06 43 26.7 +1.2
comp=Z,41nm,1.3s
JTS JuntasAbangare 29.07 333 *d*P P 06 43 27.1 +1.6
SVB Belmont 30.96 21 *e*P P 06 43 40.4 -1.7
comp=Z,438nm,1.3s
CHRN Cochrane 31.18 181 *e*P P 06 43 43.0 -0.7
comp=Z,20nm,0.6s
H05S1 Guadeloupe/Mar 32.17 21 P P 06 43 52.0 -0.7
ESTN Estel 32.19 333 *e*P P 06 43 51.7 -1.3
comp=Z,35nm,1.2s
FDF Fort de France 32.35 20 *e*P P 06 43 52.3 -2.1
comp=Z,80nm,1.1s
FDF Fort de France 32.35 20 *e*P P 06 43 52.3 -2.1
FDF pmax pmax
comp=Z,80nm,1.1s
H05N1 Guadeloupe/Mar 33.87 19 P P 06 44 04.4 -3.1
SNET Serv Nac Est T 34.03 329 *e*P P 06 44 08.9 -0.2
comp=Z,229nm,1.3s
ICMP Isla Caja de M 34.09 9 *e*P P 06 44 08.1 -1.2
comp=Z,181nm,1.2s
CRPR Cabo Rojo, PR 34.12 8 *e*P P 06 44 08.2 -1.4
comp=Z,226nm,1.1s
OBIP Obispado Ponce 34.23 9 *e*P P 06 44 09.0 -1.5
comp=Z,122nm,1.4s
CDVI St. Croix 34.27 12 *e*P P 06 44 08.8 -2.2
comp=Z,54nm,0.7s
LGNH LØogne 34.28 359 *e*P P 06 44 09.4 -1.6
MPR Mayaguez 34.32 8 *e*P P 06 44 09.6 -1.7
comp=Z,128nm,1.4s
SKI Saint Kitts 34.35 16 *e*P P 06 44 09.7 -1.9
comp=Z,323nm,1.1s
SJG San Juan 34.37 10 P P 06 44 09.7 -2.1
comp=Z,34nm,0.8s,baz=131,slow=6.9,SNR=12
SJG S S 06 49 24.1 -6.5
comp=Z,2.0nm,0.4s,baz=68,slow=19,SNR=7.0
SJG San Juan 34.37 10 *e*P P 06 44 09.5 -2.2
comp=Z,72nm,1.0s
SJG S S 06 49 24.1 -6.5
MTDJ Mount Denham 34.42 351 *e*P P 06 44 11.6 -0.8
comp=Z,139nm,1.4s
HUMP Col San Antoni 34.45 10 *e*P P 06 44 10.3 -2.2
comp=Z,45nm,1.1s
MTP Monte Pirata 34.46 11 *e*P P 06 44 10.0 -2.6
comp=Z,121nm,1.2s
CBYP Canovanas 34.58 10 *e*P P 06 44 11.6 -2.0
comp=Z,132nm,1.1s
CUPR Culebra, Puert 34.71 11 *e*P P 06 44 12.1 -2.7
comp=Z,48nm,0.7s
SDDR Presa de Saban 34.75 1 *e*P P 06 44 14.2 -1.0
comp=Z,36nm,1.0s
STVI Saint Thomas, 34.82 12 *e*P P 06 44 13.5 -2.2
comp=Z,66nm,1.2s
ANWB Willy Bob 34.93 17 *e*P P 06 44 13.5 -3.1
comp=Z,170nm,1.0s
ABVI Anegada Island 35.31 13 *e*P P 06 44 17.5 -2.4
comp=Z,166nm,0.9s
APG El Apazote 35.77 328 P P 06 44 25.1 +0.9
comp=Z,31nm,0.9s,baz=168,slow=5.5,SNR=30
APG LR LR 06 58 56.5
comp=Z,222nm,19.7s,baz=143,slow=36
RPN Rapa Nui 36.30 246 *e*P P 06 44 27.5 -0.9
comp=Z,286nm,1.4s
RPN Rapa Nui 36.30 246 *e*P P 06 44 27.5 -0.9
RPN pmax pmax
comp=Z,287nm,1.4s
RCBR Riachuelo 36.82 78 *e*P P 06 44 33.0 0.0
RCBR *ep*P pP 06 45 02.2 +2.1
RCBR Riachuelo 36.82 78 *e*P P 06 44 33.0 0.0
GO10 Punta Arenas 37.10 179 *e*P P 06 44 34.4 -0.4
comp=Z,166nm,1.3s
EFI East Falkland 37.31 166↓ *e*P P 06 44 38.0 +1.4
EFI pmax pmax
comp=Z,209nm,1.9s
CCIG Comitan 37.70 327 *e*P P 06 44 39.9 -0.6
comp=Z,85nm,1.5s
TEIG Tepich 39.37 336 *e*P P 06 44 52.8 -1.2
comp=Z,104nm,1.4s
CMIG Matias Romero 39.85 325 P P 06 44 59.1 +0.9
comp=Z,19nm,0.9s,baz=127,slow=5.2,SNR=21
MYIG MÛrida 40.62 334 *e*P P 06 45 03.2 -1.2
comp=Z,129nm,1.0s
TLIG Tlapa 42.37 321 *e*P P 06 45 19.5 +0.6
comp=Z,99nm,1.5s
LVIG Laguna Verde 42.83 325 *e*P P 06 45 22.0 -0.5
comp=Z,44nm,1.2s
059Z Ave Maria 43.05 348 P P 06 45 25.9 +1.8
baz=166
060A Indiantown 43.52 349 *e*P P 06 45 28.2 +0.3
comp=Z,107nm,1.1s
059A Moore Haven 43.60 348 *e*P P 06 45 28.7 +0.2
comp=Z,55nm,1.1s
059A Moore Haven 43.60 348 P P 06 45 29.2 +0.7
baz=167
058A Arcadia 43.82 347 P P 06 45 31.2 +0.9
baz=166
957A Wimauma 44.51 347 *e*P P 06 45 36.3 +0.5
comp=Z,46nm,0.5s
859A Kempfer Cattle 44.62 349 P P 06 45 38.3 +1.7
baz=168
DWPF Disney Wildern 44.77 348 *e*P P 06 45 37.0 -0.9
comp=Z,136nm,1.7s
857A Zephyrhills 45.08 347 P P 06 45 41.4 +1.1
baz=166
758A Lake Helen 45.55 349 P P 06 45 45.1 +1.1
baz=167
MOIG Morelia 45.58 320 *e*P P 06 45 44.4 -0.3
comp=Z,133nm,0.9s
757A Oxford 45.70 348 P P 06 45 46.5 +1.3
baz=166
JRQG Juriquilla Cam 45.91 322 *e*P P 06 45 48.4 +1.1
comp=Z,229nm,1.0s
656A Willston 46.21 347 *e*P P 06 45 49.0 -0.2
comp=Z,66nm,1.5s
656A Willston 46.21 347 P P 06 45 50.5 +1.3
baz=166
657A Interlachen 46.28 348 P P 06 45 51.5 +1.8
baz=167
557A Orange Park 46.68 348 P P 06 45 54.7 +1.8
baz=167
556A Lake Butler 46.80 348 P P 06 45 54.5 +0.7
baz=166
555A McAlpin 47.03 347 *e*P P 06 45 55.4 -0.2
comp=Z,55nm,1.4s
HOPE Hope Point 47.11 152 *e*P P 06 45 57.5 +1.6
comp=Z,174nm,1.4s
456A Hilliard 47.42 348 *e*P P 06 45 59.5 +0.9
comp=Z,49nm,0.6s
553A Crawfordville 47.43 345 P P 06 45 59.8 +1.1
baz=164
356A Blackshear 48.02 348 P P 06 46 04.2 +1.0
baz=167
453A Whigham 48.04 346 *e*P P 06 46 03.4 0.0
comp=Z,24nm,0.8s
453A Whigham 48.04 346 P P 06 46 03.8 +0.5
baz=164
451A Vernon 48.17 344 *e*P P 06 46 04.5 +0.2
comp=Z,225nm,1.7s
451A Vernon 48.17 344 P P 06 46 05.0 +0.6
baz=162
355A Pearson 48.19 348 P P 06 46 05.0 +0.5
baz=166
452A Marianna 48.25 345 P P 06 46 05.3 +0.3
baz=163
TIGA Tifton 48.44 347 *e*P P 06 46 05.7 -0.8
comp=Z,128nm,1.8s
TIGA Tifton 48.44 347 P P 06 46 06.6 +0.2
baz=165
353A Camilla 48.49 346 P P 06 46 07.2 +0.3
baz=164
450A Crestview 48.58 343 P P 06 46 08.3 +0.8
baz=161
256A Glennville 48.62 349 P P 06 46 09.4 +1.6
baz=167
LNIG Linares 48.65 326 *e*P P 06 46 08.4 +0.2
comp=Z,142nm,1.1s
255A Hazlehurst 48.68 348 *e*P P 06 46 08.4 +0.2
comp=Z,180nm,1.7s
255A Hazlehurst 48.68 348 P P 06 46 10.1 +1.8
baz=166
ZAIG Zacatecas 48.75 321 *e*P P 06 46 10.1 +0.8
comp=Z,108nm,1.0s
351A Pinckard 48.76 344 P P 06 46 09.3 +0.4
baz=162,SNR=8.2
352A Blakely 48.79 345 *e*P P 06 46 08.7 -0.4
comp=Z,175nm,1.8s
352A Blakely 48.79 345 P P 06 46 09.3 +0.2
baz=163,SNR=5.5
PMSA Palmer Station 49.05 175 P P 06 46 12.7 +2.1
comp=Z,17nm,0.9s,baz=349,slow=6.3,SNR=9.5
PMSA Palmer Station 49.05 175 *e*P P 06 46 12.1 +1.5
comp=Z,68nm,1.4s
BRAL Brewton 49.05 343 *e*P P 06 46 11.2 +0.1
BRAL *ep*P pP 06 46 43.1 +3.5
BRAL Brewton 49.05 343 P P 06 46 11.4 +0.3
baz=161,SNR=6.6
253A Americus 49.16 346 *e*P P 06 46 11.6 -0.3
comp=Z,98nm,1.4s
253A Americus 49.16 346 P P 06 46 12.3 +0.4
baz=164,SNR=6.8
447A Lucedale 49.18 341 *e*P P 06 46 11.1 -1.0
447A *ep*P pP 06 46 42.4 +1.8
156A Sylvania 49.20 349 P P 06 46 13.1 +0.9
baz=168
252A Lumpkin 49.24 346 P P 06 46 12.6 +0.1
baz=164
RGRS Roger Stewart 49.24 351 *e*P P 06 46 13.5 +1.0
comp=Z,576nm,0.5s
349A Repton 49.26 343 P P 06 46 13.0 +0.2
baz=160,SNR=15
155A Kite 49.35 348 P P 06 46 14.0 +0.7
baz=167
446A Poplarville 49.40 340 P P 06 46 14.3 +0.5
baz=158
NHSC New Hope 49.43 351 *e*P P 06 46 14.3 +0.4
comp=Z,225nm,1.3s
NHSC *ep*P pP 06 46 46.0 +3.6
NHSC New Hope 49.43 351 P P 06 46 14.9 +1.0
baz=170,SNR=5.0
154A Montrose 49.47 348 *e*P P 06 46 14.4 +0.1
154A *ep*P pP 06 46 46.2 +3.4
154A Montrose 49.47 348 P P 06 46 14.6 +0.3
baz=166,SNR=7.8
251A Midway 49.49 345 P P 06 46 14.4 -0.1
baz=163,SNR=18
348A Jackson 49.53 342 *e*P P 06 46 14.6 -0.1
comp=Z,34nm,0.8s
348A *ep*P pP 06 46 47.0 +3.8
250A Grady 49.60 344 *e*P P 06 46 15.2 -0.1
comp=Z,114nm,1.4s
250A *ep*P pP 06 46 47.1 +3.3
250A Grady 49.60 344 P P 06 46 15.2 -0.1
baz=162,SNR=12
543A St. Martinvill 49.63 337 *ep*P pP 06 46 48.6 +4.6
347A Saraland 49.71 341 P P 06 46 16.3 +0.2
baz=159,SNR=15
249A Camden 49.83 343 P P 06 46 17.3 +0.3
baz=161,SNR=15
152A Waverly Hall 49.88 346 *e*P P 06 46 16.3 -1.0
152A *ep*P pP 06 46 47.8 +1.9
152A Waverly Hall 49.88 346 P P 06 46 17.3 0.0
baz=164,SNR=10
346A Big Creek Wild 49.99 340 *e*P P 06 46 18.0 -0.2
comp=Z,60nm,1.0s
346A *ep*P pP 06 46 49.9 +3.1
346A Big Creek Wild 49.99 340 P P 06 46 18.5 +0.3
baz=158,SNR=8.1
Z54A Sparta 50.02 348 P P 06 46 18.6 +0.2
baz=166
345A Thompson Farm, 50.10 340 P P 06 46 19.3 +0.3
baz=157
248A Dixon Mills 50.12 343 P P 06 46 19.4 +0.2
baz=160,SNR=16
150A Eclectic 50.14 345 P P 06 46 19.1 -0.2
baz=162,SNR=13
Z53A Monticello 50.21 347 P P 06 46 19.8 0.0
baz=165
Z52A Williamson 50.31 346 P P 06 46 20.5 -0.1
baz=164,SNR=8.7
GOGA Godfrey 50.31 348 *e*P P 06 46 20.4 -0.2
comp=Z,24nm,1.4s
GOGA *ep*P pP 06 46 52.2 +3.0
GOGA Godfrey 50.31 348 *e*P P 06 46 20.4 -0.2
GOGA *e**PP pP 06 46 52.2 +3.0
GOGA pmax pmax
comp=Z,25nm,1.4s
GOGA Godfrey 50.31 348 P P 06 46 20.5 -0.1
baz=166
247A Quitman 50.34 342 P P 06 46 21.2 +0.4
baz=159,SNR=8.3
344A Westbrook Farm 50.47 339 *e*P P 06 46 22.2 +0.4
comp=Z,48nm,1.0s
344A *ep*P pP 06 46 53.5 +3.1
344A Westbrook Farm 50.47 339 P P 06 46 22.5 +0.7
baz=156,SNR=5.7
148A Greensboro 50.59 343 P P 06 46 22.5 -0.2
baz=160,SNR=8.0
Y54A Tignall 50.60 349 P P 06 46 22.8 0.0
baz=166
245A Little AP, Sta 50.72 340 P P 06 46 24.1 +0.4
baz=158,SNR=5.6
Z50A Ashland 50.73 345 *e*P P 06 46 22.9 -0.9
Z50A *ep*P pP 06 46 55.0 +2.6
Z50A Ashland 50.73 345 P P 06 46 23.5 -0.3
baz=162,SNR=16
Y53A Monroe 50.77 348 P P 06 46 24.0 -0.1
baz=165
LRAL Lakeview Retre 50.80 344 *e*P P 06 46 23.4 -0.8
comp=Z,81nm,1.5s
LRAL *ep*P pP 06 46 55.4 +2.4
LRAL Lakeview Retre 50.80 344 P P 06 46 24.0 -0.3
baz=161,SNR=12
147A Livingston 50.82 342 *e*P P 06 46 24.3 -0.2
comp=Z,89nm,1.4s
147A *ep*P pP 06 46 55.3 +2.3
147A Livingston 50.82 342 P P 06 46 24.2 -0.2
baz=160
Z49A Columbiana 50.83 344 P P 06 46 24.3 -0.2
baz=162,SNR=15
Y52A Lilburn 50.88 347 *e*P P 06 46 23.8 -1.1
Y52A *ep*P pP 06 46 56.7 +3.2
Y52A *e*PcP PcP 06 47 40.0 +0.2
Y52A Lilburn 50.88 347 P P 06 46 24.8 0.0
baz=165
342A Flagon Creek P 50.96 338 *e*P P 06 46 25.3 -0.2
comp=Z,90nm,0.9s
342A *ep*P pP 06 46 57.8 +3.7
342A Flagon Creek P 50.96 338 P P 06 46 26.4 +0.9
baz=154,SNR=12
244A Avery, Jackson 50.99 340 P P 06 46 25.8 +0.1
baz=157,SNR=6.8
146A Union 51.02 341 *e*P P 06 46 25.2 -0.7
146A *ep*P pP 06 46 57.3 +2.7
VBMS Vicksburg 51.10 340 *e*P P 06 46 26.2 -0.3
comp=Z,104nm,1.5s
VBMS *ep*P pP 06 46 57.5 +2.3
HKT Hockley 51.11 333 *e*P P 06 46 27.2 +0.6
comp=Z,105nm,1.8s
HKT *ep*P pP 06 46 57.8 +2.5
HKT Hockley 51.11 333 *e*P P 06 46 27.2 +0.6
HKT pmax pmax
comp=Z,105nm,1.8s
Y51A Rockmart 51.14 346 P P 06 46 26.6 -0.2
baz=164,SNR=12
341A Kurthwood 51.24 337 *e*P P 06 46 28.5 +0.9
341A *ep*P pP 06 46 59.0 +2.7
341A Kurthwood 51.24 337 P P 06 46 28.1 +0.5
baz=154,SNR=5.2
CNNC Cliffs of the 51.24 354 *e*P P 06 46 27.4 -0.1
comp=Z,33nm,0.9s
CNNC *ep*P pP 06 46 58.7 +2.5
CNNC Cliffs of the 51.24 354 P P 06 46 28.7 +1.2
baz=173
Z47A Carrollton 51.25 343 P P 06 46 27.5 -0.2
baz=160,SNR=14
145A Houston Renfro 51.26 341 P P 06 46 27.7 0.0
baz=158,SNR=6.9
Z48A Northport 51.27 343 P P 06 46 27.2 -0.6
baz=161,SNR=21
Y50A Piedmont 51.29 345 P P 06 46 27.7 -0.3
baz=163,SNR=6.1
PAULI Pauline 51.37 350 *e*P P 06 46 27.9 -0.6
comp=Z,29nm,1.1s
PAULI *ep*P pP 06 47 00.6 +3.3
833A Chaparral WMA, 51.40 329 *e*P P 06 46 29.1 +0.2
comp=Z,86nm,0.8s
833A *ep*P pP 06 47 00.4 +2.9
833A Chaparral WMA, 51.40 329 P P 06 46 29.4 +0.5
baz=146,SNR=16
Y49A Blount Mountai 51.42 345 *e*P P 06 46 27.8 -1.2
comp=Z,13nm,0.6s
Y49A Blount Mountai 51.42 345 P P 06 46 28.8 -0.2
baz=162
Z46A Louisville 51.50 342 P P 06 46 29.7 +0.2
baz=159,SNR=7.1
242A Grayson 51.52 338 P P 06 46 30.4 +0.7
baz=155,SNR=9.0
KMSC Kings Mountain 51.60 350 *e*P P 06 46 30.7 +0.4
comp=Z,31nm,1.1s
KMSC Kings Mountain 51.60 350 P P 06 46 30.6 +0.4
baz=168,SNR=9.1
Y48A Jasper 51.67 344 P P 06 46 29.9 -0.9
baz=161,SNR=7.7
X51A Calhoun 51.73 346 *e*P P 06 46 30.4 -0.8
comp=Z,88nm,1.8s
X51A Calhoun 51.73 346 P P 06 46 31.4 +0.2
baz=164
BG3 Lake Jocassee 51.74 349 *e*P P 06 46 31.2 -0.1
comp=Z,42nm,1.4s
241A Mo Tay, Goldon 51.76 337 *e*P P 06 46 31.6 +0.1
241A *ep*P pP 06 47 04.0 +3.7
241A Mo Tay, Goldon 51.76 337 P P 06 46 31.9 +0.4
baz=154,SNR=5.5
X50B Fort Payne 51.81 346 P P 06 46 31.2 -0.7
baz=163,SNR=8.2
143A Socs Landing, 51.84 339 *e*P P 06 46 31.1 -0.9
143A *ep*P pP 06 47 04.7 +3.9
Y47A UCPARC, Winfie 51.85 343 P P 06 46 31.5 -0.6
baz=160,SNR=15
Z45A Winona 51.89 341 *e*P P 06 46 32.3 -0.1
comp=Z,140nm,1.3s
Z45A *ep*P pP 06 47 04.8 +3.6
Z45A Winona 51.89 341 P P 06 46 32.8 +0.4
baz=158,SNR=8.4
W53A Cullowhee 51.96 348 P P 06 46 33.3 +0.3
baz=166,SNR=8.7
X49A Woodville 52.02 345 P P 06 46 32.8 -0.5
baz=162,SNR=6.6
W52A Murphy 52.03 348 *e*P P 06 46 33.5 +0.1
comp=Z,53nm,1.4s
W52A Murphy 52.03 348 P P 06 46 33.6 +0.1
baz=165
Z44A Pea Ridge, Bel 52.04 340 P P 06 46 33.8 +0.3
baz=157,SNR=6.4
240A Hunter Patters 52.10 337 *e*P P 06 46 34.5 +0.5
240A *ep*P pP 06 47 06.6 +3.9
Y46A Houston 52.12 342 P P 06 46 33.6 -0.5
baz=159
X48A Hartselle 52.15 344 *e*P P 06 46 33.3 -1.0
comp=Z,77nm,1.5s
X48A *ep*P pP 06 47 05.5 +2.3
X48A Hartselle 52.15 344 P P 06 46 34.0 -0.3
baz=162,SNR=12
NATX Nacogdoches 52.20 335 *e*P P 06 46 35.7 +0.9
NATX *ep*P pP 06 47 06.8 +3.2
W51A Cleveland 52.28 347 P P 06 46 35.2 0.0
baz=164
141A Papa Simpson, 52.28 338 P P 06 46 36.3 +1.0
baz=154,SNR=6.9
Y45A Yeager Farm, C 52.31 342 P P 06 46 35.5 +0.1
baz=158,SNR=8.3
V53A Saluda 52.38 349 *e*P P 06 46 35.9 -0.1
comp=Z,8.4nm,0.8s
V53A Saluda 52.38 349 P P 06 46 36.1 +0.1
baz=167
X47A Russelville 52.43 343 P P 06 46 35.8 -0.6
baz=160,SNR=11
W50A Signal Mountai 52.44 346 *e*P P 06 46 36.1 -0.4
comp=Z,98nm,1.8s
W50A Signal Mountai 52.44 346 P P 06 46 36.3 -0.2
baz=164
CPCT Cooper Cave 52.50 347 *e*P P 06 46 36.1 -0.8
comp=Z,50nm,1.6s
Z42A Norrel Spur, H 52.55 339 P P 06 46 37.4 +0.2
baz=156
TKL Tuckaleechee C 52.55 348 P P 06 46 37.0 -0.3
comp=Z,4.8nm,0.7s,baz=137,slow=8.0,SNR=10
TKL Tuckaleechee C 52.55 348 *e*P P 06 46 36.6 -0.7
comp=Z,25nm,1.2s
140A Cam and Jess, 52.56 337 *e*P P 06 46 37.8 +0.4
comp=Z,86nm,0.9s
140A *ep*P pP 06 47 09.8 +3.6
140A *es*P sP 06 47 17.8 -2.0
140A Cam and Jess, 52.56 337 P P 06 46 38.5 +1.1
baz=154,SNR=5.5
435B Jarrell 52.60 332 *e*P P 06 46 37.2 -0.5
comp=Z,51nm,1.1s
435B *ep*P pP 06 47 09.2 +2.7
435B Jarrell 52.60 332 P P 06 46 38.5 +0.8
baz=148,SNR=6.8
SWET Sewanee 52.60 346 *e*P P 06 46 36.3 -1.4
SWET *ep*P pP 06 47 08.9 +2.4
SWET *es*P sP 06 47 16.2 -3.8
X46A Booneville 52.67 343 P P 06 46 37.6 -0.6
baz=160
V52A Sevierville 52.69 348 *e*P P 06 46 37.5 -0.8
V52A *ep*P pP 06 47 09.8 +2.6
V52A Sevierville 52.69 348 P P 06 46 38.1 -0.2
baz=166,SNR=6.0
W48A Pulaski 52.77 345 P P 06 46 38.5 -0.4
baz=162,SNR=9.3
X45A UM Field Stati 52.78 342 P P 06 46 39.0 0.0
baz=159,SNR=9.9
V51A Loudon 52.81 347 *e*P P 06 46 38.5 -0.7
comp=Z,66nm,1.6s
V51A Loudon 52.81 347 P P 06 46 38.8 -0.4
baz=165
Z41A Richland Creek 52.83 338 *e*P P 06 46 39.0 -0.4
Z41A *ep*P pP 06 47 11.6 +3.4
Z41A *e*PcP PcP 06 47 47.6 +0.6
V50A Pikevile 52.84 347 P P 06 46 38.9 -0.5
baz=164,SNR=9.1
OXF Oxford 52.87 342 *e*P P 06 46 38.4 -1.2
comp=Z,63nm,1.2s
OXF *ep*P pP 06 47 11.0 +2.6
OXF Oxford 52.87 342 *e*P P 06 46 38.4 -1.2
OXF *e**PP pP 06 47 11.0 +2.6
OXF pmax pmax
comp=Z,63nm,1.2s
OXF Oxford 52.87 342 P P 06 46 38.8 -0.8
baz=159,SNR=9.8
PLAL Pickwick Lake 52.93 343 *e*P P 06 46 38.8 -1.2
PLAL *ep*P pP 06 47 11.3 +2.4
Y42A Garnett, Star 53.00 339 P P 06 46 41.1 +0.5
baz=156
U53A Fall Branch 53.01 349 P P 06 46 40.8 +0.1
baz=167
W47A Westpoint 53.05 344 P P 06 46 40.6 -0.4
baz=161,SNR=7.8
CCAR Cane Creek 53.07 339 *e*P P 06 46 40.7 -0.4
CCAR *ep*P pP 06 47 13.8 +3.8
V49A McMinnville 53.12 346 P P 06 46 40.6 -0.8
baz=163,SNR=5.4
U52A Thorn Hill 53.18 349 P P 06 46 42.1 +0.1
baz=166
U51A La Follette 53.30 348 P P 06 46 42.8 0.0
baz=165
V48A Smith Brothers 53.31 345 *e*P P 06 46 42.0 -0.8
V48A *ep*P pP 06 47 14.5 +2.7
V48A Smith Brothers 53.31 345 P P 06 46 42.3 -0.5
baz=162,SNR=12
X43A Marvell 53.33 341 *e*P P 06 46 42.5 -0.5
comp=Z,222nm,1.8s
TZTN Tazewell 53.36 348 *e*P P 06 46 42.9 -0.3
comp=Z,9.0nm,1.0s
TZTN Tazewell 53.36 348 P P 06 46 42.9 -0.3
baz=166
JCT Junction City 53.38 330 *e*P P 06 46 43.2 -0.3
comp=Z,58nm,1.1s
JCT Junction City 53.38 330 *e*P P 06 46 43.2 -0.3
JCT pmax pmax
comp=Z,58nm,1.1s
JCT Junction City 53.38 330 P P 06 46 43.7 +0.2
baz=146,SNR=16

W45A	Hickory Valley	53.40	342	P		P	06 46 43.0	-0.6
	baz=159,SNR=5.4							
BLA	Blacksburg	53.49	352	eP		P	06 46 44.5	+0.3
	comp=Z,40nm,1.1s							
BLA	Blacksburg	53.49	352	eP		P	06 46 44.5	+0.3
BLA				pmax		pmax		
	comp=Z,40nm,1.1s							
BLA	Blacksburg	53.49	352	P		P	06 46 45.3	+1.1
	baz=170							
U50A	Jamestown	53.50	347	P		P	06 46 44.0	-0.3
	baz=164,SNR=7.4							
WHTX	Lake Whitney,	53.57	333	eP		P	06 46 43.8	-1.0
	comp=Z,158nm,1.3s							
WHTX	Lake Whitney,	53.57	333	P		P	06 46 45.0	+0.2
	baz=149,SNR=32							
Y40A	Okolona	53.68	338	P		P	06 46 46.2	+0.6
	baz=154,SNR=8.1							
V46A	Holladay	53.71	344	P		P	06 46 44.7	-1.0
	baz=161							
HPIG		53.73	322	eP		P	06 46 46.1	-0.2
	comp=Z,91nm,1.3s							
U49A	Red Boiling Sp	53.80	346	P		P	06 46 46.8	+0.4
	baz=163							
T52A	Hallie	53.80	349	P		P	06 46 46.7	+0.3
	baz=167							
T51A	Gray	53.85	348	P		P	06 46 46.5	-0.3
	baz=166,SNR=6.8							
WVT	Waverly	53.94	344	eP		P	06 46 46.1	-1.3
WVT				epP		pP	06 47 18.2	+1.8
WVT	Waverly	53.94	344	eP		P	06 46 46.1	-1.3
WVT				e*PP		pP	06 47 18.2	+1.8
WVT	Waverly	53.94	344	P		P	06 46 46.7	-0.8
	baz=161							
X40A	Basin Creek Fa	53.95	339	eP		P	06 46 46.8	-0.8
	comp=Z,43nm,1.8s							
U48A	Cassie Pea, Po	53.98	346	P		P	06 46 47.0	-0.8
	baz=162							
UALR	University of	54.04	339	eP		P	06 46 47.6	-0.6
UALR				epP		pP	06 47 19.9	+2.7
UALR				esP		sP	06 47 28.4	-2.3
T50A	Nancy	54.08	347	P		P	06 46 48.2	-0.3
	baz=165							
U47A	Clarksville	54.10	345	P		P	06 46 48.1	-0.5
	baz=162,SNR=5.8							
SLBS	Sierra La Lagu	54.10	316	eP		P	06 46 50.1	+1.1
	comp=Z,58nm,1.3s							
CBN	Corbin Frederi	54.13	355	eP		P	06 46 48.9	+0.1
	comp=Z,40nm,0.6s							
CBN	Corbin Frederi	54.13	355	P		P	06 46 49.9	+1.1
	baz=174,SNR=5.5							
MIAR	Mount Ida	54.27	338	eP		P	06 46 49.8	-0.1
	comp=Z,47nm,1.0s							
MIAR				epP		pP	06 47 21.9	+3.1
MIAR	Mount Ida	54.27	338	eP		P	06 46 49.8	-0.1
MIAR				e*PP		pP	06 47 21.9	+3.1
MIAR				pmax		pmax		
	comp=Z,47nm,1.0s							
MIAR	Mount Ida	54.27	338	P		P	06 46 49.8	-0.1
	baz=154,SNR=34							
T49A	Edmonton	54.31	347	eP		P	06 46 49.5	-0.6
	comp=Z,72nm,1.4s							
T49A	Edmonton	54.31	347	P		P	06 46 49.5	-0.6
	baz=164							
W41B	Gary Mavity, V	54.38	340	eP		P	06 46 50.2	-0.3
	comp=Z,61nm,1.4s							
W41B	Gary Mavity, V	54.38	340	P		P	06 46 50.3	-0.3
	baz=156,SNR=15							
S52A	Salyersville	54.38	349	P		P	06 46 51.0	+0.4
	baz=167							
X39A	Fountain Ranch	54.43	338	P		P	06 46 51.5	+0.5
	baz=154,SNR=16							
TXAR	Lajitas Array	54.43	326	P		P	06 46 51.4	+0.1
	comp=Z,12nm,0.8s,baz=145,slow=7.6,SNR=83							
TX31	Lajitas Ar. Si	54.43	326	eP		P	06 46 51.5	+0.2
WHAR	Wooly Hollow	54.49	340	eP		P	06 46 51.4	0.0
	comp=Z,49nm,1.2s							
T48A	Bowling Green	54.52	346	P		P	06 46 51.2	-0.4
	baz=163,SNR=7.4							
T47A	Sharon Grove	54.57	345	eP		P	06 46 51.5	-0.5
	comp=Z,81nm,1.6s							
T47A	Sharon Grove	54.57	345	P		P	06 46 51.5	-0.5
	baz=162,SNR=6.8							
S50A	Richmond	54.63	348	P		P	06 46 52.1	-0.3
	baz=165,SNR=6.8							
LPIG	La Paz	54.63	316	P		P	06 46 52.5	-0.2
	comp=Z,35nm,1.0s,baz=28,slow=1.3,SNR=5.9							
W40A	Ferguson Farm,	54.67	339	eP		P	06 46 52.6	-0.1
	comp=Z,115nm,1.1s							
W40A				epP		pP	06 47 25.2	+3.5
W40A				esP		sP	06 47 33.5	-1.8
W40A	Ferguson Farm,	54.67	339	P		P	06 46 53.3	+0.5
	baz=155,SNR=23							
PVMO	Portageville	54.72	343	eP		P	06 46 52.9	-0.2
	comp=Z,87nm,0.7s							
U44A	Portageville	54.80	343	P		P	06 46 53.7	0.0
	baz=159							
T46A	Princeton	54.82	344	P		P	06 46 52.9	-0.9
	baz=161,SNR=5.4							
U43A	Rector	54.89	342	P		P	06 46 54.3	0.0
	baz=158							
V41A	Mountainview	54.90	340	P		P	06 46 53.7	-0.7
	baz=156,SNR=16							
S49A	Springfield	54.91	347	P		P	06 46 54.0	-0.5
	baz=164							
W39A	Magazine	54.93	338	eP		P	06 46 54.5	-0.1
W39A				epP		pP	06 47 26.8	+3.1
W39A				esP		sP	06 47 36.1	-1.0
W39A	Magazine	54.93	338	P		P	06 46 55.3	+0.8
	baz=154,SNR=18							
S48A	Wiedeman Farm,	54.96	346	P		P	06 46 54.4	-0.4
	baz=163,SNR=7.6							
PARMO	Parma	54.97	343	eP		P	06 46 53.9	-1.0
	comp=Z,145nm,1.3s							
PARMO				epP		pP	06 47 26.8	+2.9
PARMO				ePcP		PcP	06 47 55.1	-0.1
X37A	Clayton	54.97	336	eP		P	06 46 55.1	+0.2
	comp=Z,118nm,1.4s							
X37A				epP		pP	06 47 27.4	+3.4
T45A	Paducah	55.00	344	eP		P	06 46 53.8	-1.3
	comp=Z,38nm,0.8s							
R51A	Hillsboro	55.07	349	P		P	06 46 55.4	-0.1
	baz=166							
ABTX	Abilene, Hawle	55.08	332	eP		P	06 46 55.3	-0.5
	comp=Z,134nm,1.0s							
ABTX	Abilene, Hawle	55.08	332	P		P	06 46 56.4	+0.5
	baz=147,SNR=55							
S47A	Hartford	55.09	346	P		P	06 46 55.1	-0.7
	baz=162,SNR=9.0							
U42A	Revenden	55.13	341	P		P	06 46 55.0	-1.0
	baz=157,SNR=21							
V40A	Witts Springs	55.14	339	eP		P	06 46 54.8	-1.4
V40A				epP		pP	06 47 27.7	+2.5
V40A	Witts Springs	55.14	339	P		P	06 46 55.9	-0.3
	baz=155,SNR=13							
R50A	Paris	55.20	348	P		P	06 46 56.3	-0.1
	baz=165							
PBMO	Poplar Bluff	55.28	342	eP		P	06 46 55.9	-1.1
	comp=Z,56nm,1.2s							
PBMO				epP		pP	06 47 28.2	+2.1
PBMO				esP		sP	06 47 36.8	-2.9
SDMD	Soldier's Deli	55.28	355	eP		P	06 46 57.7	+0.7
	comp=Z,17nm,1.1s							
SDMD				epP		pP	06 47 28.2	+2.0
U41A	Viola	55.34	340	P		P	06 46 56.7	-0.8
	baz=156,SNR=17							
R49A	Shelbyville	55.38	347	P		P	06 46 57.0	-0.8
	baz=164							
S46A	Don Dixon Farm	55.38	345	P		P	06 46 57.0	-0.8
	baz=161,SNR=13							
Q52A	Bidwell	55.49	350	P		P	06 46 58.5	0.0
	baz=168							
T43A	Greenville	55.52	342	P		P	06 46 58.2	-0.5
	baz=158,SNR=22							
WCI	Wyandotte Cave	55.56	346	eP		P	06 46 57.8	-1.3
WCI				epP		pP	06 47 30.3	+2.1
WCI	Wyandotte Cave	55.56	346	eP		P	06 46 57.8	-1.3
WCI				e*PP		pP	06 47 30.3	+2.1
WCI	Wyandotte Cave	55.56	346	P		P	06 46 58.4	-0.7
	baz=163							
S45A	Carrier Mills	55.60	344	P		P	06 46 58.8	-0.5
	baz=160,SNR=14							
R48A	Northridge Ran	55.63	347	P		P	06 46 59.1	-0.5
	baz=164							
USIN	University of	55.64	345	eP		P	06 46 58.5	-1.1
	comp=Z,74nm,1.1s							
USIN				epP		pP	06 47 31.0	+2.2
U40A	Yellville	55.65	340	P		P	06 46 59.4	-0.4
	baz=155,SNR=18							
Q50A	Georgetown	55.67	349	P		P	06 46 59.3	-0.6
	baz=166							
R47A	Wooly Knot Far	55.68	346	P		P	06 46 59.3	-0.6
	baz=163,SNR=6.2							
T42A	Van Buren	55.71	342	eP		P	06 46 58.5	-1.6
T42A				epP		pP	06 47 31.5	+2.2
T42A	Van Buren	55.71	342	P		P	06 46 59.5	-0.7
	baz=158,SNR=11							
PSUB	Penn St. - Bra	55.71	357	eP		P	06 46 59.9	-0.2
	comp=Z,18nm,0.8s							
Q51A	Peebles	55.73	349	eP		P	06 47 00.3	0.0
	comp=Z,65nm,1.9s							
Q51A	Peebles	55.73	349	P		P	06 46 59.8	-0.5
	baz=167							
S44A	Carbondale	55.79	343	P		P	06 47 00.0	-0.7
	baz=160,SNR=22							
SIUC	Southern Illin	55.80	344	eP		P	06 47 00.3	-0.5
	comp=Z,70nm,1.0s							
SIUC				epP		pP	06 47 32.8	+2.9
MCWV	Mont Chateau	55.83	353	P		P	06 47 00.4	-0.6
	baz=171							
R46A	Gibon Southern	55.83	345	P		P	06 47 00.4	-0.6
	baz=162							
MVL	Millersville	55.84	356	eP		P	06 47 01.4	+0.4
	comp=Z,34nm,0.9s							
P53A	Whipple	55.87	351	eP		P	06 47 01.6	+0.4
	comp=Z,170nm,1.8s							
P53A	Whipple	55.87	351	P		P	06 47 01.8	+0.6
	baz=169							
S43A	Fulton Ridge,	55.91	343	P		P	06 47 01.1	-0.5
	baz=159,SNR=12							
T41A	Mountain View	55.93	341	P		P	06 47 01.2	-0.6
	baz=157,SNR=12							
HHAR	Hobbs	55.96	339	eP		P	06 47 00.9	-1.1
	comp=Z,59nm,1.2s							
R45A	Skar, Fairfi	56.10	345	P		P	06 47 02.3	-0.6
	baz=161,SNR=10							
Q48A	North Vernon	56.11	347	P		P	06 47 02.3	-0.7
	baz=164,SNR=6.0							
P52A	Corning	56.12	351	P		P	06 47 02.7	-0.3
	baz=168							
P51A	Williamsport	56.13	350	eP		P	06 47 02.6	-0.4
	comp=Z,81nm,1.8s							
R44A	Waltonville	56.27	344	P		P	06 47 03.5	-0.6
	baz=160,SNR=12							
Q47A	Bedord North L	56.27	347	P		P	06 47 03.5	-0.6
	baz=163							
O56A	Blue Knob Stat	56.29	354	eP		P	06 47 06.0	+1.7
O56A				epP		pP	06 47 37.0	+3.5
O56A	Blue Knob Stat	56.29	354	P		P	06 47 05.2	+0.9
	baz=172							
TUL1	Leonard	56.30	337	eP		P	06 47 04.5	+0.1
	comp=Z,48nm,0.9s							
TUL1				epP		pP	06 47 36.3	+2.7
TUL1	Leonard	56.30	337	P		P	06 47 04.6	+0.1
	baz=152,SNR=19							
H10S3	ASCENSION HYDR	56.30	90	P		P	06 47 05.9	+1.3
	baz=270,slow=7.7,SNR=2.8							
S42A	Caledonia	56.30	342	P		P	06 47 03.5	-0.9
	baz=158,SNR=5.9							
H10S2	ASCENSION HYDR	56.32	90	P		P	06 47 06.7	+2.0
	baz=270,slow=7.7,SNR=4.4							
H10S1	ASCENSION HYDR	56.32	90	P		P	06 47 07.0	+2.3
	baz=270,slow=7.7,SNR=7.0							
P50A	Jastown	56.38	349	P		P	06 47 04.3	-0.6
	baz=166							
FVM	French Village	56.39	343	eP		P	06 47 04.2	-0.8
	comp=Z,180nm,1.3s							
FVM	French Village	56.39	343	eP		P	06 47 04.2	-0.8
FVM				pmax		pmax		
	comp=Z,180nm,1.3s							
S41A	Jillco Farms,	56.42	341	P		P	06 47 04.3	-0.9
	baz=157,SNR=18							
OLIL	Olney	56.47	345	eP		P	06 47 04.8	-0.7
	comp=Z,59nm,1.4s							
OLIL				ePcP		PcP	06 48 01.6	+0.6
P49A	Miami Univ. Ec	56.48	348	P		P	06 47 05.2	-0.5
	baz=165							
WMOK	Wichita Mounta	56.49	334	eP		P	06 47 05.2	-0.6
	comp=Z,36nm,1.3s							
WMOK				epP		pP	06 47 38.0	+3.1
WMOK				ePcP		PcP	06 48 01.7	+0.5
WMOK	Wichita Mounta	56.49	334	eP		P	06 47 05.2	-0.6
WMOK				e*PP		pP	06 47 38.1	+3.1
WMOK				e			06 48 01.7	
WMOK				pmax		pmax		
	comp=Z,36nm,1.3s							
WMOK	Wichita Mounta	56.49	334	P		P	06 47 05.4	-0.4
	baz=149,SNR=19							
BLO	Bloomington	56.52	347	eP		P	06 47 04.8	-1.0
	comp=Z,107nm,1.7s							
BLO	Bloomington	56.52	347	eP		P	06 47 04.8	-1.0
BLO				pmax		pmax		
	comp=Z,107nm,1.7s							
R43A	Red Bud	56.53	343	P		P	06 47 05.3	-0.6
	baz=159,SNR=12							
O52A	Adamsville	56.55	351	eP		P	06 47 05.0	-1.1
	comp=Z,73nm,1.8s							
O52A	Adamsville	56.55	351	P		P	06 47 06.0	-0.1
	baz=168							
P48A	Milroy	56.55	348	P		P	06 47 05.5	-0.6
	baz=164							
SSPA	Standing Stone	56.59	355	eP		P	06 47 06.3	-0.1
	comp=Z,45nm,1.4s							
SSPA	Standing Stone	56.59	355	P		P	06 47 06.5	+0.1
	baz=173							
Q45A	Warren Harvey,	56.64	345	P		P	06 47 06.2	-0.6
	baz=161							
CCM	Cathedral Cave	56.70	342	eP		P	06 47 06.8	-0.4
	comp=Z,64nm,1.3s							
CCM				ePcP		PcP	06 48 02.6	+0.7
CCM	Cathedral Cave	56.70	342	eP		P	06 47 06.8	-0.4
CCM				e			06 48 02.6	
CCM				pmax		pmax		
	comp=Z,64nm,1.3s							
CCM	Cathedral Cave	56.70	342	P		P	06 47 06.9	-0.3
	baz=158							
O51A	Pataskala	56.70	350	P		P	06 47 06.9	-0.3
	baz=168							
P47A	Martinsville	56.76	347	P		P	06 47 06.8	-0.7
	baz=163							
R42A	Luebbering	56.78	342	P		P	06 47 07.0	-0.8
	baz=158,SNR=10							
ASCN	Ascension	56.83	89	eP		P	06 47 08.7	+0.1
	comp=Z,364nm,1.1s							
ACSO	Alum Creek Sta	56.84	350	eP		P	06 47 08.0	-0.2
	comp=Z,27nm,1.1s							
ACSO	Alum Creek Sta	56.84	350	P		P	06 47 08.0	-0.2
	baz=167							
Q44A	Meyer Farm, Va	56.87	344	P		P	06 47 07.7	-0.7
	baz=160,SNR=8.7							
O50A	Cable	56.87	349	P		P	06 47 07.9	-0.5
	baz=166							
SLM	Saint Louis	56.95	343	eP		P	06 47 07.9	-1.0
	comp=Z,101nm,1.5s							
SLM	Saint Louis	56.95	343	eP		P	06 47 07.9	-1.0
SLM				pmax		pmax		
	comp=Z,101nm,1.5s							
R41A	Rosebud	56.97	342	P		P	06 47 08.5	-0.5
	baz=158,SNR=18							
YLE	Yale	57.01	359	eP		P	06 47 09.3	+0.1
	comp=Z,138nm,1.1s							
O49A	Covington	57.04	349	eP		P	06 47 09.0	-0.6
	comp=Z,93nm,1.8s							
O49A				ePcP		PcP	06 48 03.9	+0.8
O49A	Covington	57.04	349	P		P	06 47 08.8	-0.7
	baz=166							
GDL2	Guadalupe Moun	57.05	327	eP		P	06 47 09.9	-0.1
Q43A	New Douglas	57.08	344	P		P	06 47 09.1	-0.7
	baz=160							
N54A	Moraine State	57.13	353	eP		P	06 47 09.9	-0.3
	comp=Z,49nm,1.2s							
N54A	Moraine State	57.13	353	P		P	06 47 10.8	+0.6
	baz=171,SNR=6.8							
P45A	Graceland, Par	57.14	346	eP		P	06 47 09.3	-1.0
	comp=Z,24nm,0.9s							
P45A	Graceland, Par	57.14	346	P		P	06 47 09.6	-0.6
	baz=162							
MNTX	Cornudas Mount	57.20	326	eP		P	06 47 09.7	-1.2
	comp=Z,62nm,1.0s							
MNTX				ePcP		PcP	06 48 04.6	+0.6
MNTX	Cornudas Mount	57.20	326	P		P	06 47 09.9	-0.9
	baz=141,SNR=84							
O48A	Farmland	57.27	348	P		P	06 47 10.5	-0.7
	baz=165							
Q42A	Golden Eagle	57.29	343	P		P	06 47 10.8	-0.5
	baz=159,SNR=8.6							
P44A	Sand Creek, Wi	57.30	345	P		P	06 47 10.8	-0.6
	baz=161							
KSPA	Keystone Colle	57.35	357	eP		P	06 47 12.7	+1.0
	comp=Z,30nm,1.1s							
O47A	Sheridan	57.46	347	P		P	06 47 11.8	-0.7
	baz=164,SNR=7.6							
Q41A	Truxton	57.53	342	P		P	06 47 12.6	-0.4
	baz=158,SNR=11							
BRYW	Bryant College	57.61	0	eP		P	06 47 13.8	+0.3
	comp=Z,83nm,1.0s							
BRYW				ePcP		PcP	06 48 07.4	+2.0
M54A	Oil Creek Stat	57.63	353	eP		P	06 47 14.1	+0.4
	comp=Z,102nm,1.5s							
M54A	Oil Creek Stat	57.63	353	P		P	06 47 13.8	+0.1
	baz=171,SNR=5.2							
MSTX	Muleshoe	57.67	330	eP		P	06 47 14.2	0.0
	comp=Z,138nm,1.1s							
MSTX	Muleshoe	57.67	330	P		P	06 47 14.1	-0.2
	baz=144,SNR=65							
P43A	Skaggs, Pawnee	57.69	344	P		P	06 47 13.5	-0.6
	baz=160,SNR=7.1							
N49A	Columbus Grove	57.73	349	eP		P	06 47 13.9	-0.5
	comp=Z,70nm,1.4s							
N49A	Columbus Grove	57.73	349	P		P	06 47 14.0	-0.3
	baz=166							
O45A	Potomac	57.82	346	P		P	06 47 14.1	-0.9
	baz=162,SNR=6.1							
N48A	Decatur	57.82	348	P		P	06 47 14.1	-0.9
	baz=165							
ALLY	Alegheny Colle	57.83	353	eP		P	06 47 15.6	+0.6
	comp=Z,83nm,1.3s							
P42A	Winchester	57.86	343	eP		P	06 47 14.1	-1.2
	comp=Z,45nm,1.4s							
P42A	Winchester	57.86	343	P		P	06 47 14.4	-0.9
	baz=159,SNR=6.1							
EPT	El Paso	57.86	325	eP		P	06 47 15.4	-0.3
	comp=Z,63nm,1.1s							
AMTX	Amarillo	57.90	331	eP		P	06 47 15.5	-0.2
	comp=Z,113nm,1.6s							
AMTX	Amarillo	57.90	331	P		P	06 47 15.6	-0.2
	baz=146							
O44A	Mansfield	57.91	345	P		P	06 47 14.9	-0.7
	baz=161							
N47A	Urbana	57.98	348	P		P	06 47 15.2	-0.8
	baz=164							
U32A	Winter Ranch,	57.98	334	eP		P	06 47 16.4	+0.1
	comp=Z,56nm,1.1s							
M50A	Fremont	58.00	350	eP		P	06 47 15.9	-0.3
	comp=Z,20nm,0.8s							
BINY	Binghamton	58.00	357	eP		P	06 47 16.8	+0.5
	comp=Z,48nm,0.8s							
BINY	Binghamton	58.00	357	P		P	06 47 16.8	+0.5
	baz=175,SNR=12							
SRIG	Santa Rosalia	58.09	317	eP		P	06 47 16.8	-0.3
	comp=Z,49nm,1.3s							
SRIG				ePcP		PcP	06 48 06.7	-0.9
HRV	Adam Dziewonsk	58.20	0	eP		P	06 47 16.9	-0.7
	comp=Z,45nm,0.9s							
HRV	Adam Dziewonsk	58.20	0	eP		P	06 47 16.9	-0.7
HRV				pmax		pmax		
	comp=Z,45nm,0.9s							
HRV	Adam Dziewonsk	58.20	0	P		P	06 47 17.7	+0.1
	baz=180							
M49A	Liberty Center	58.23	349	P		P	06 47 17.2	-0.6
	baz=166							
O43A	Sugar Creek Fa	58.24	344	P		P	06 47 17.0	-0.9
	baz=160							
ERPA	Erie	58.27	353	eP		P	06 47 18.7	+0.6
	comp=Z,109nm,1.3s							
ERPA	Erie	58.27	353	P		P	06 47 18.7	+0.6
	baz=171							
TRY	Troy	58.44	359	eP		P	06 47 19.2	0.0
	comp=Z,72nm,1.0s							
HSIG		58.44	320	eP		P	06 47 19.7	+0.1
	comp=Z,115nm,1.7s							
HSIG				ePcP		PcP	06 48 09.0	0.0
HDIL	Hopedale	58.49	345	eP		P	06 47 18.1	-1.6
	comp=Z,41nm,1.2s							
O41A	Passleys Farm,	58.51	343	P		P	06 47 19.5	-0.3
	baz=158,SNR=5.8							
L48A	N Adams	58.76	349	P		P	06 47 21.9	+0.3
	baz=166							
N43A	Stutzman Famil	58.82	345	P		P	06 47 21.1	-0.9
	baz=160,SNR=12							
L47A	Sherwood	58.94	349	P		P	06 47 22.0	-0.7
	baz=165							
N42A	Yates City	58.94	344	P		P	06 47 21.7	-1.0
	baz=160,SNR=8.3							
N41A	Harden Midland	59.05	343	eP		P	06 47 22.6	-1.0
	comp=Z,61nm,1.1s							
ACCN	Adirondack Com	59.09	359	eP		P	06 47 23.6	-0.2
	comp=Z,31nm,1.1s							
319A	Douglas	59.13	323	eP		P	06 47 24.7	+0.2
	comp=Z,91nm,0.9s							
121A	Cookes Peak, D	59.15	325	P		P	06 47 25.3	+0.7
	baz=139,SNR=33							
MEDO	Medina	59.15	355	P		P	06 47 25.6	+1.5
	baz=173							
TYNO	Tyneside	59.22	353	P		P	06 47 26.3	+1.7
	baz=171							
STCO	Saint Catharin	59.26	354	P		P	06 47 26.6	+1.7
	baz=172							
RKT	Rikitea	59.37	252	eP		P	06 47 27.6	+1.4
	comp=Z,81nm,1.2s							
RKT				epP		pP	06 47 54.2	-1.4
	comp=Z,25nm,0.9s							
RKT				eS		S	06 55 24.9	-0.8
	comp=Z,570nm,27.8s							
HNH	Hanover	59.39	360	eP		P	06 47 25.2	-0.7
	comp=Z,142nm,1.9s							
N40A	Mertquake, Sal	59.42	343	P		P	06 47 25.4	-0.6
	baz=158							
ELFO	Elginfield	59.50	352	P		P	06 47 28.0	+1.5
	baz=170							
K47A	Vermontville	59.57	349	P		P	06 47 26.5	-0.6
	baz=165							
M41A	Milan	59.59	344	P		P	06 47 26.4	-0.8
	baz=159							
N39A	Derby Farms, D	59.68	342	eP		P	06 47 26.5	-1.3
	comp=Z,24nm,1.0s							
N39A	Derby Farms, D	59.68	342	P		P	06 47 27.3	-0.5
	baz=157,SNR=5.7							
NCB	Newcomb	59.69	358	eP		P	06 47 28.1	+0.1
	comp=Z,33nm,1.2s							
ACTO	Acton	59.75	353	P		P	06 47 28.5	+0.1
	baz=171							
BNM	Barren Site	59.76	327	eP		P	06 47 28.2	-0.6
Y22D	IRIS PASSCAL I	59.85	327	P		P	06 47 30.3	+0.9
	baz=140							
DRWO	Darlington Wes	59.88	354	P		P	06 47 30.1	+1.0
	baz=172							
DRCO	St. Marys Ceme	59.88	354	P		P	06 47 29.5	+0.3
	baz=172							
M40A	Post Highland	59.88	343	P		P	06 47 28.6	-0.6
	baz=158							
LPM	Los Pinos Moun	59.88	327	eP		P	06 47 28.7	-1.0
LPM				epP		pP	06 48 01.9	+2.8
L43A	Garden Prairie	59.89	346	P		P	06 47 28.4	-0.9
	baz=161							
LBNH	Lisbon	59.93	0	eP		P	06 47 28.2	-1.3
	comp=Z,96nm,1.3s							
LBNH	Lisbon	59.93	0	eP		P	06 47 28.2	-1.3
LBNH				pmax

comp=Z,41nm,1.2s
ANMO Albuquerque 60.28 328 P P 06 47 32.8 +0.4
baz=141
WVL Waterville 60.29 2 eP P 06 47 31.7 -0.3
comp=Z,70nm,1.2s
LONY Lake Ozonia 60.35 358 eP P 06 47 32.4 -0.1
comp=Z,28nm,0.9s
LONY Lake Ozonia 60.35 358 P P 06 47 33.6 +1.2
baz=177,SNR=5.2
CBKS Cedar Bluff 60.37 335 eP P 06 47 32.2 -0.5
comp=Z,95nm,1.1s
CBKS epP pP 06 48 04.1 +1.9
CBKS Cedar Bluff 60.37 335 eP P 06 47 32.2 -0.5
CBKS pmax pmax
comp=Z,95nm,1.1s
CBKS Cedar Bluff 60.37 335 P P 06 47 33.0 +0.3
baz=149,SNR=13
BWLO Walkerton 60.38 352 P P 06 47 33.6 +1.0
baz=170
L40A Anamosa 60.41 344 eP P 06 47 31.8 -1.0
comp=Z,78nm,1.3s
L40A Anamosa 60.41 344 P P 06 47 32.4 -0.5
baz=159,SNR=5.2
DELO Deloro Mine 60.42 355 P P 06 47 34.3 +1.5
baz=174
FRNY Flat Rock 60.54 359 eP P 06 47 33.5 -0.2
comp=Z,48nm,1.0s
K42A Prairie Point, 60.60 345 P P 06 47 33.5 -0.6
baz=161,SNR=7.2
CLWO Collingwood 60.61 353 P P 06 47 34.6 +0.5
baz=171
K41A Shullsburg 60.68 345 P P 06 47 34.2 -0.5
baz=160
L39A Vinton 60.68 343 P P 06 47 34.5 -0.2
baz=158
TUC Tucson 60.69 323 eP P 06 47 34.0 -1.0
comp=Z,31nm,1.1s
TUC Tucson 60.69 323 eP P 06 47 34.0 -1.0
TUC pmax pmax
comp=Z,31nm,1.1s
TUC Tucson 60.69 323 P P 06 47 35.6 +0.5
baz=136
SADO Sadowa 60.80 354 P P 06 47 35.6 +0.2
comp=Z,12nm,0.6s,baz=189,slow=6.8,SNR=18
SADO Sadowa 60.80 354 eP P 06 47 34.6 -0.8
comp=Z,60nm,0.8s
SCIA State Center 60.83 342 eP P 06 47 35.0 -0.7
comp=Z,28nm,1.1s
SCIA ePcP PcP 06 48 15.2 -3.0
BMRO Meriville Lake 60.86 352 P P 06 47 37.5 +1.7
baz=170
PLVO Plevna 60.90 356 eP P 06 47 35.5 -0.6
comp=Z,21nm,1.0s
PLVO Plevna 60.90 356 P P 06 47 36.8 +0.7
baz=174
JFWS Jewell Farm 60.95 345 eP P 06 47 35.1 -1.4
JFWS ePcP PcP 06 48 15.3 -3.4
JFWS Jewell Farm 60.95 345 eP P 06 47 35.1 -1.4
JFWS e 06 48 15.3
JFWS Jewell Farm 60.95 345 P P 06 47 35.9 -0.6
baz=160
K40A Colesburg 60.98 344 P P 06 47 35.9 -0.8
baz=159
GGN Saint George 60.99 4 eP P 06 47 36.4 -0.3
comp=Z,68nm,1.2s
MOQ Mont Orford 61.00 360 eP P 06 47 36.5 -0.4
PKME Peaks-Kenny Pk 61.00 2 eP P 06 47 36.8 0.0
comp=Z,109nm,1.3s
PKME Peaks-Kenny Pk 61.00 2 P P 06 47 37.5 +0.8
baz=183,SNR=6.7
T25A Trinidad 61.02 331 eP P 06 47 36.1 -1.2
comp=Z,79nm,1.0s
T25A Trinidad 61.02 331 P P 06 47 37.9 +0.6
baz=144,SNR=44
J42A Columbus 61.06 346 P P 06 47 37.4 +0.2
baz=161
K39A Oelwein 61.19 343 P P 06 47 37.3 -0.8
baz=158,SNR=7.5
ORIO Orleans, Innes 61.22 357 P P 06 47 38.9 +0.7
baz=176
J41A Loganville 61.32 345 P P 06 47 38.5 -0.4
baz=160,SNR=6.6
ALFO Alfred 61.37 358 P P 06 47 40.1 +0.9
baz=177,SNR=5.1
I43A Langenfeld Bro 61.37 347 P P 06 47 38.6 -0.7
baz=162
BUKO Buck Lake 61.49 354 P P 06 47 39.7 -0.4
baz=172,SNR=9.5
KLBO Killbear Provi 61.50 353 P P 06 47 39.8 -0.3
baz=171
J40A Soldiers Grove 61.53 345 P P 06 47 40.1 -0.3
baz=159,SNR=7.2
I42A Draeger Farm, 61.55 346 eP P 06 47 39.7 -0.8
I42A ePcP PcP 06 48 18.2 -2.9
I42A Draeger Farm, 61.55 346 P P 06 47 40.5 0.0
baz=161
214A Organ Pipe Nat 61.65 321 P P 06 47 42.3 +0.8
baz=134,SNR=34
J39A Decorah 61.73 344 P P 06 47 41.1 -0.6
baz=158,SNR=11
KSCO Kaye Shedlock' 61.74 333 eP P 06 47 41.9 -0.2
comp=Z,152nm,1.0s
KSCO Kaye Shedlock' 61.74 333 P P 06 47 42.7 +0.6
baz=146,SNR=20
X18A Snowflake 61.84 325 eP P 06 47 42.3 -0.6
comp=Z,73nm,1.1s
H43A Windswept, Lux 61.85 347 eP P 06 47 40.9 -1.6
H43A ePcP PcP 06 48 20.5 -1.8
ALGO Algonquin Park 61.88 355 P P 06 47 42.8 +0.2
baz=173
I41A Arkdale 61.94 346 eP P 06 47 41.2 -1.8
comp=Z,39nm,1.3s
I41A ePcP PcP 06 48 21.6 -1.1
I41A Arkdale 61.94 346 P P 06 47 42.8 -0.3
baz=160
I40A Norwalk 61.96 345 P P 06 47 43.1 -0.2
baz=160,SNR=6.8
BGNE Belgrade 62.01 338 eP P 06 47 43.0 -0.7
comp=Z,109nm,0.8s
BGNE Belgrade 62.01 338 P P 06 47 43.9 +0.2
baz=151,SNR=15
SDCO Great Sand Dun 62.02 330 eP P 06 47 43.8 -0.4
comp=Z,92nm,0.9s
SDCO Great Sand Dun 62.02 330 P P 06 47 44.8 +0.7
baz=143,SNR=174
H42A Shiocton 62.05 347 eP P 06 47 42.5 -1.3
H42A ePcP PcP 06 48 21.7 -1.4
H42A Shiocton 62.05 347 P P 06 47 44.0 +0.2
baz=162
W18A Petrified Fore 62.15 325 eP P 06 47 43.9 -1.1
comp=Z,128nm,1.4s
W18A Petrified Fore 62.15 325 P P 06 47 44.7 -0.3
baz=138,SNR=16
I39A Houston 62.16 344 eP P 06 47 43.0 -1.6
I39A ePcP PcP 06 48 22.4 -1.2
I39A Houston 62.16 344 P P 06 47 44.1 -0.5
baz=159,SNR=9.6
E54A Lac Daplat, Po 62.30 356 P P 06 47 45.5 +0.1
baz=174
H41A Junction City 62.41 346 eP P 06 47 45.1 -1.1
comp=Z,30nm,1.4s
H41A ePcP PcP 06 48 24.5 -0.1
PQI Presque Isle 62.46 3 eP P 06 47 45.8 -0.7
comp=Z,54nm,1.1s
G43A Wallace 62.59 348 eP P 06 47 46.7 -0.7
G43A ePcP PcP 06 48 25.5 +0.3
X16A Lo Mia Camp, P 62.59 324 eP P 06 47 46.9 -1.1
comp=Z,71nm,1.0s
H40A Chili 62.59 345 P P 06 47 47.2 -0.2
baz=160
S22A 4UR Ranch, Cre 62.66 329 eP P 06 47 48.0 -0.4
comp=Z,31nm,1.0s
S22A 4UR Ranch, Cre 62.66 329 P P 06 47 49.2 +0.8
baz=142,SNR=29
G42A Mountain 62.73 347 eP P 06 47 47.0 -1.3
comp=Z,22nm,1.0s
G42A ePcP PcP 06 48 25.5 -0.3
113A Mohawk Valley, 62.79 321 eP P 06 47 48.4 -0.6
comp=Z,47nm,1.1s
Q24A Divide 62.83 331 eP P 06 47 48.3 -1.2
comp=Z,81nm,1.1s
Q24A Divide 62.83 331 P P 06 47 49.8 +0.3
baz=144,SNR=16
D53A Lac Vacive, Po 62.98 356 P P 06 47 51.2 +1.3
baz=174
D54A Lac Fusel, La 62.98 356 P P 06 47 50.6 +0.7
baz=175

F43A Flat Rock, Esc 63.03 348 P P 06 47 50.4 +0.1
baz=164
MVCO Mesa Verde 63.08 328 eP P 06 47 50.8 -0.4
comp=Z,101nm,1.4s
MVCO epP PcP 06 48 24.6 -3.2
MVCO Mesa Verde 63.08 328 P P 06 47 51.8 +0.6
baz=140,SNR=37
OGNE Ogallala 63.11 335 eP P 06 47 51.0 -0.1
comp=Z,97nm,1.1s
OGNE epP pP 06 48 24.2 +3.4
OGNE Ogallala 63.11 335 P P 06 47 51.9 +0.8
baz=147,SNR=8.2
H38A Maiden Rock 63.12 344 P P 06 47 51.0 0.0
baz=158,SNR=5.5
Y14A Wickenburg 63.15 322 eP P 06 47 51.4 -0.1
comp=Z,50nm,0.9s
BATG Bathurst New B 63.19 5 eP P 06 47 51.0 -0.4
comp=Z,50nm,1.0s
BATG epP PcP 06 48 28.9 +1.2
F41A Three Lakes 63.35 347 eP P 06 47 51.4 -1.1
F41A esP PcP 06 48 30.9 +2.5
WUAZ Wupatki 63.35 325 eP P 06 47 52.2 -0.6
comp=Z,118nm,1.1s
WUAZ Wupatki 63.35 325 P P 06 47 53.9 +1.0
baz=137,SNR=77
G39A Holcombe 63.41 345 P P 06 47 53.1 +0.2
baz=159
G38A Ridgeland 63.47 344 P P 06 47 52.9 -0.3
baz=158,SNR=6.0
E43A Lone Tree Farm 63.52 348 eP P 06 47 52.0 -1.6
E43A epP PcP 06 48 30.8 +1.7
ECSD EROS Data Cent 63.55 340 eP P 06 47 52.8 -1.0
comp=Z,65nm,1.2s
ECSD EROS Data Cent 63.55 340 P P 06 47 53.8 0.0
baz=153,SNR=23
GLA Glamis 63.63 320 P P 06 47 55.5 +0.8
baz=133,SNR=7.0
COWI Conover 63.70 347 eP P 06 47 53.9 -0.8
comp=Z,66nm,1.8s
ISCO Idaho Springs 63.72 332 eP P 06 47 54.8 -0.6
comp=Z,35nm,1.0s
ISCO Idaho Springs 63.72 332 eP P 06 47 54.8 -0.6
ISCO pmax pmax
comp=Z,35nm,1.0s
ISCO Idaho Springs 63.72 332 P P 06 47 55.8 +0.4
baz=144,SNR=41
F40A Park Falls 63.75 346 P P 06 47 55.2 +0.1
baz=160,SNR=7.4
E42A Champion 63.75 348 P P 06 47 54.8 -0.3
baz=163
SPMN Marine on St. 63.77 344 eP P 06 47 54.5 -0.7
comp=Z,40nm,1.1s
SPMN Marine on St. 63.77 344 P P 06 47 55.0 -0.2
baz=158,SNR=10
PV01 Paradox Valley 63.83 328 eP P 06 47 56.3 +0.2
SMCO Snowmass 63.86 330 eP P 06 47 56.2 -0.3
comp=Z,40nm,0.8s
Y12C Blythe 63.92 321 eP P 06 47 56.1 -0.4
comp=Z,57nm,1.3s
Y12C Blythe 63.92 321 P P 06 47 57.9 +1.4
baz=134,SNR=24
F39A Loretta 63.93 345 P P 06 47 56.1 -0.2
baz=160
PV02 Paradox Valley 63.97 328 eP P 06 47 57.0 +0.1
comp=Z,47nm,1.0s
PV13 Radium Mtn., P 63.97 328 eP P 06 47 57.3 +0.3
comp=Z,54nm,0.9s
VLDQ Val d'Or 63.98 356 eP P 06 47 57.4 +0.9
comp=Z,34nm,1.4s
E41A Kenton 64.00 347 P P 06 47 57.1 +0.3
baz=162
PV05 Paradox Valley 64.05 328 eP P 06 47 57.8 +0.3
PV03 Paradox Valley 64.06 328 eP P 06 47 57.6 +0.1
PDMCI Parker Dam,Lak 64.08 322 P P 06 47 58.4 +1.0
baz=134,SNR=6.4
PV12 Saucer Basin, 64.08 328 eP P 06 47 58.2 +0.5
comp=Z,173nm,1.8s
PV18 Skein Mesa, Pa 64.08 328 eP P 06 47 57.7 0.0
comp=Z,33nm,1.1s
PV11 David Mesa, Pa 64.11 328 eP P 06 47 57.7 -0.1
comp=Z,141nm,1.7s
PV17 East Wray Mesa 64.13 328 eP P 06 47 58.0 -0.1
comp=Z,112nm,1.8s
PV16 Nyswonger Mesa 64.14 328 eP P 06 47 57.6 -0.4
comp=Z,126nm,1.9s
IKP In-Ko-Pah, Jac 64.15 319 P P 06 47 59.5 +1.4
baz=132,SNR=12
SWSC Sam W. Stewart 64.16 320 P P 06 47 59.2 +1.2
baz=132,SNR=9.2
PV19 Morning Glory 64.17 328 eP P 06 47 58.3 0.0
comp=Z,68nm,1.7s
PV20 West Nyswonger 64.19 328 eP P 06 47 58.5 +0.1
comp=Z,30nm,1.2s
F37A Hinrichs Farm, 64.19 344 P P 06 47 58.3 +0.3
baz=158,SNR=8.8
E40A Wakefield 64.19 346 P P 06 47 58.1 +0.1
baz=161,SNR=11
F38A Pierce - Schro 64.21 345 P P 06 47 58.0 0.0
baz=159,SNR=6.2
PV14 Lion Creek, Pa 64.24 328 eP P 06 47 58.7 0.0
comp=Z,68nm,1.4s
PV14 epP PcP 06 48 34.7 +2.2
PV22 Blue Mesa, Par 64.24 329 eP P 06 47 59.1 +0.4
comp=Z,46nm,1.1s
PV10 Paradox Valley 64.25 328 eP P 06 47 58.7 -0.1
E39A Mellen 64.28 346 P P 06 47 58.4 -0.1
baz=160,SNR=11
PV23 Carpenter Ridg 64.29 328 eP P 06 47 59.2 +0.1
comp=Z,30nm,1.2s
PV21 Cone Mtn., Par 64.36 328 eP P 06 47 59.8 +0.3
comp=Z,86nm,1.6s
PV09 Paradox Valley 64.39 328 eP P 06 48 00.1 +0.3
BC3 Big Chuckawall 64.42 321 P P 06 48 00.9 +1.0
baz=133,SNR=25
W13A Hualapai Mount 64.48 323 eP P 06 48 00.7 +0.3
comp=Z,34nm,1.0s
MONP2 Monument Peak 64.51 319 P P 06 48 01.9 +1.3
baz=132,SNR=18
U15A North Rim 64.52 325 eP P 06 48 01.0 +0.3
comp=Z,52nm,0.9s
BAR Barrett 64.53 319 eP P 06 48 00.6 +0.1
comp=Z,60nm,1.1s
IRM Iron Mountain 64.58 321 P P 06 48 02.2 +1.4
baz=133,SNR=42
E38A The Farm, Brul 64.74 345 eP P 06 48 01.0 -0.4
comp=Z,25nm,1.1s
E38A The Farm, Brul 64.74 345 P P 06 48 01.4 0.0
baz=159,SNR=5.5
N23A Red Feather La 64.75 332 eP P 06 48 01.6 -0.4
comp=Z,56nm,1.3s
N23A Red Feather La 64.75 332 P P 06 48 02.8 +0.8
baz=144,SNR=24
PHWY Pilot Hill 64.86 333 eP P 06 48 02.9 +0.1
comp=Z,34nm,1.0s
LSQQ Lebel-sur-Quev 64.90 356 P P 06 48 03.5 +1.0
baz=175
109C Camp Elliot, M 64.94 319 P P 06 48 04.2 +1.1
baz=131,SNR=8.3
CPE Camp Elliot 64.94 319 eP P 06 48 03.3 +0.2
comp=Z,72nm,1.4s
SUSD Miller 64.96 339 P P 06 48 03.1 +0.1
baz=151,SNR=7.8
BELC Belle Mtn. Jos 64.99 320 P P 06 48 04.8 +1.2
baz=132,SNR=14
TPFO Pinon Flats 65.01 320 P P 06 48 05.1 +1.4
baz=132
XPFO Piæon Flat 65.01 320 eP P 06 48 04.4 +0.6
comp=Z,55nm,1.3s
PFO Pinyon Flats O 65.01 320 eP P 06 48 04.2 +0.5
comp=Z,50nm,1.2s
PFO Pinyon Flats O 65.01 320 eP P 06 48 04.2 +0.5
PFO pmax pmax
comp=Z,50nm,1.2s
PFO Pinyon Flats O 65.01 320 P P 06 48 05.1 +1.4
baz=132,SNR=19
FRD Ford Ranch, An 65.03 320 P P 06 48 05.4 +1.6
baz=132,SNR=20
O20A White River Ci 65.21 330 eP P 06 48 05.2 +0.3
comp=Z,57nm,0.9s
O20A White River Ci 65.21 330 P P 06 48 05.8 +0.8
baz=141,SNR=30
KNB Kanab 65.24 325 eP P 06 48 05.6 +0.4
comp=Z,124nm,1.0s
KNB Kanab 65.24 325 eP P 06 48 05.6 +0.4
KNB pmax pmax
comp=Z,124nm,1.0s
PKCU Pink Cliffs 65.27 325 eP P 06 48 05.8 +0.2
comp=Z,76nm,1.2s

GMRC Granite Mounta 65.32 321 P P 06 48 07.1 +1.4
baz=133,SNR=31
MURC Murrieta 65.47 319 P P 06 48 08.2 +1.6
baz=131,SNR=8.9
LCMT Little Creek M 65.47 325 eP P 06 48 05.8 -0.9
comp=Z,44nm,1.0s
SRU San Rafael Swe 65.56 328 eP P 06 48 07.6 +0.4
comp=Z,42nm,0.8s
SRU San Rafael Swe 65.56 328 eP P 06 48 07.6 +0.4
SRU pmax pmax
comp=Z,42nm,0.8s
CHGQ Chibougamau 65.63 358 P P 06 48 08.2 +1.0
baz=177
MATQ Matagami 65.64 356 P P 06 48 06.9 -0.3
baz=174
MTPU Mount Pierson 65.64 326 eP P 06 48 08.8 +0.9
comp=Z,164nm,1.9s
BBRC Big Bear Solar 65.73 320 P P 06 48 10.1 +1.6
baz=132,SNR=5.7
HEC Hector,Ludlow 65.75 321 P P 06 48 10.2 +1.7
baz=132,SNR=42
SZCU Shurtz Canyon 65.81 325 eP P 06 48 09.6 +0.7
comp=Z,66nm,1.3s
P18A Preston Nutter 65.81 328 eP P 06 48 08.5 -0.5
comp=Z,62nm,1.1s
TUQ Turquoise Moun 65.92 322 P P 06 48 10.9 +1.3
baz=133,SNR=24
CCUT Cedar City 65.92 325 eP P 06 48 10.7 +1.0
comp=Z,75nm,1.0s
P17A Butcher Ranch, 65.94 328 eP P 06 48 10.1 +0.4
comp=Z,65nm,0.8s
RWWY Rawlins 65.95 332 eP P 06 48 10.0 +0.2
comp=Z,112nm,1.4s
EYMN Ely 65.98 346 eP P 06 48 08.8 -0.7
comp=Z,82nm,1.6s
EYMN Ely 65.98 346 P P 06 48 09.3 -0.1
baz=159,SNR=8.9
MSU Marysvale 65.98 326 eP P 06 48 11.1 +1.1
MSU Marysvale 65.98 326 eP P 06 48 11.1 +1.1
TMUT Trail Mountain 66.05 328 eP P 06 48 10.5 0.0
comp=Z,18nm,0.7s
BFSC Mount Baldy Ra 66.17 320 P P 06 48 12.0 +0.8
baz=131,SNR=18
SHPR Sheep Range 66.21 323 eP P 06 48 12.2 +0.9
comp=Z,69nm,1.1s
DRLN Deer Lake 66.21 10 eP P 06 48 10.3 -0.6
comp=Z,67nm,1.0s
VNA3 Neumayer Olymp 66.22 162 P P 06 48 12.4 +1.6
GSC Goldstone, Bar 66.36 321 eP P 06 48 12.3 0.0
comp=Z,73nm,1.4s
GSC Goldstone, Bar 66.36 321 eP P 06 48 12.3 0.0
GSC pmax pmax
comp=Z,73nm,1.4s
GSC Goldstone, Bar 66.36 321 P P 06 48 13.7 +1.4
baz=132,SNR=26
MWC Mount Wilson 66.41 319 eP P 06 48 13.0 +0.2
comp=Z,57nm,1.2s
MWC Mount Wilson 66.41 319 eP P 06 48 13.0 +0.2
MWC pmax pmax
comp=Z,57nm,1.2s
K22A Casper 66.42 333 eP P 06 48 12.7 +0.1
comp=Z,46nm,0.9s
K22A Casper 66.42 333 P P 06 48 13.7 +1.1
baz=143,SNR=19
VNA1 Neumayer--Stat 66.44 161 P P 06 48 14.2 +2.1
PASC Pasadena Art C 66.46 319 eP P 06 48 13.3 +0.4
comp=Z,57nm,1.3s
RSSD Black Hills 66.57 335 eP P 06 48 13.8 +0.1
comp=Z,88nm,1.6s
RSSD Black Hills 66.57 335 eP P 06 48 13.8 +0.1
RSSD pmax pmax
comp=Z,88nm,1.6s
RSSD Black Hills 66.57 335 P P 06 48 14.6 +1.0
baz=146
DECC Green Verdugo 66.61 319 P P 06 48 15.5 +1.7
baz=131,SNR=8.5
TAOE Nuku Hiva Isla 66.67 267 eLR LR 07 08 33.3
comp=Z,658nm,29.9s
VNA2 Neumayer--Watz 66.80 161 P P 06 48 16.0 +1.5
baz=280,slow=6.5
EDW2 Edwards Air Fo 66.81 320 P P 06 48 15.8 +0.7
baz=131,SNR=27
MPU Maple Canyon 66.81 328 eP P 06 48 15.7 +0.5
comp=Z,65nm,1.2s
PSUT Pine Spring 66.90 325 eP P 06 48 16.6 +0.8
comp=Z,57nm,0.9s
BLG Laguna Peak, P 66.97 319 P P 06 48 17.3 +1.2
baz=130
NLU North Lily Min 66.99 327 eP P 06 48 17.2 +0.8
comp=Z,52nm,1.1s
LRMC Laurel Mtn Rad 67.01 321 P P 06 48 17.7 +1.2
baz=132,SNR=28
OSI Osito Audit: C 67.09 319 eP P 06 48 17.6 +0.7
comp=Z,42nm,1.2s
TPNV Topopah Spring 67.14 323 eP P 06 48 18.0 +0.7
comp=Z,85nm,1.1s
TPNV Topopah Spring 67.14 323 eP P 06 48 18.0 +0.7
TPNV pmax pmax
comp=Z,85nm,1.1s
TPNV Topopah Spring 67.14 323 P P 06 48 18.6 +1.2
baz=133,SNR=62
JLU Jordanelle 67.15 328 eP P 06 48 18.2 +0.8
comp=Z,58nm,1.0s
FURC Furnace Creek, 67.18 322 P P 06 48 18.9 +1.5
baz=133,SNR=62
SCZ2 Santa Cruz Isl 67.27 318 P P 06 48 19.2 +1.3
baz=130,SNR=6.0
MPMC Manual Prospec 67.28 321 P P 06 48 19.2 +0.9
baz=132,SNR=27
CTU Camp Tracy 67.37 328 eP P 06 48 19.4 +0.7
comp=Z,20nm,0.9s
AGMN Agassiz Nation 67.43 343 eP P 06 48 18.1 -0.5
comp=Z,39nm,0.8s
AGMN Agassiz Nation 67.43 343 P P 06 48 18.6 -0.1
baz=155,SNR=17
DAC Darwin (Calif) 67.49 321 eP P 06 48 19.7 +0.1
comp=Z,57nm,1.1s
DAC Darwin (Calif) 67.49 321 eP P 06 48 19.7 +0.1
DAC pmax pmax
comp=Z,57nm,1.1s
TCUT Toone Canyon 67.52 329 eP P 06 48 20.1 +0.4
comp=Z,58nm,0.9s
DUG Dugway, Tooele 67.55 327 eP P 06 48 20.6 +0.8
comp=Z,94nm,1.0s
DUG Dugway, Tooele 67.55 327 eP P 06 48 20.6 +0.8
DUG pmax pmax
comp=Z,94nm,1.0s
DUG Dugway, Tooele 67.55 327 P P 06 48 21.1 +1.3
baz=137,SNR=77
ISA Isabella, Lake 67.61 320 eP P 06 48 21.1 +0.9
comp=Z,46nm,1.0s
ISA Isabella, Lake 67.61 320 eP P 06 48 21.1 +0.9
ISA pmax pmax
comp=Z,46nm,1.0s
ISA Isabella, Lake 67.61 320 P P 06 48 21.8 +1.6
baz=131,SNR=38
R11A Troy Canyon, C 67.73 324 eP P 06 48 21.6 +0.6
comp=Z,46nm,1.0s
R11A Troy Canyon, C 67.73 324 P P 06 48 22.7 +1.7
baz=134,SNR=77
GRAC Grapevine Rang 67.83 322 P P 06 48 23.1 +1.5
baz=132,SNR=20
BW06 Boulder Array 67.88 331 eP P 06 48 21.9 0.0
comp=Z,45nm,1.4s
BW06 Boulder Array 67.88 331 P P 06 48 22.6 +0.6
baz=141,SNR=23
PD31 Pinedale Array 67.88 331 eP P 06 48 21.9 -0.1
PDAR Pinedale Array 67.88 331 P P 06 48 21.9 -0.1
comp=Z,14nm,1.1s,baz=142,slow=5.3,SNR=60
PDAR Pinedale Array 67.88 331 eP P 06 48 20.9 -1.0
CWC Cottonwood Cre 67.89 321 P P 06 48 23.5 +1.4
baz=132
PKM Mcpherson Peak 67.95 319 P P 06 48 23.7 +1.2
baz=130,SNR=24
HWUT Hardware Ranch 67.96 329 eP P 06 48 22.3 -0.1
comp=Z,47nm,1.0s
VES Vestal, Richgr 68.11 320 P P 06 48 24.9 +1.7
baz=131,SNR=15
MDND Maddock 68.16 340 eP P 06 48 23.6 +0.3
comp=Z,130nm,0.8s
MDND Maddock 68.16 340 P P 06 48 24.4 +1.1
baz=151,SNR=25
SPUT South Promonto 68.18 328 eP P 06 48 24.1 +0.3
comp=Z,77nm,1.3s
BGU Big Grassy Mou 68.19 328 eP P 06 48 24.3 +0.5
comp=Z,51nm,1.1s
SMMC Simmler 68.33 319 P P 06 48 26.7 +2.0
baz=130,SNR=22

TIN Tinemaha, Big 68.39 322 P P 06 48 26.8 +1.7
baz=132,SNR=11
SNAA Sanae 68.43 161 P P 06 48 26.2 +1.5
SNAA Sanae 68.43 161 *eP* P 06 48 25.6 +0.8
comp=Z,25nm,0.7s
SNAA Sanae 68.43 161 *d iP* P 06 48 25.9 +1.1
SNAA *i* *PP **pP** 06 48 52.8 -2.1
AHID Auburn Hatcher 68.61 330 *eP* P 06 48 26.9 +0.5
comp=Z,49nm,1.0s
HVU Hansel Valley 68.69 328 *eP* P 06 48 27.1 +0.1
comp=Z,42nm,0.9s
HVU Hansel Valley 68.69 328 *eP* P 06 48 27.1 +0.1
HVU pmax pmax
comp=Z,42nm,0.9s
PAGB Antelope Grade 68.76 319 *eP* P 06 48 28.5 +1.2
comp=Z,58nm,1.2s
REDW Red Top Meadow 68.94 331 *eP* P 06 48 29.1 +0.6
comp=Z,100nm,1.4s
SNOW Snow King Moun 68.97 331 *eP* P 06 48 29.0 +0.2
comp=Z,38nm,1.2s
LOHW Long Hollow 69.02 331 *eP* P 06 48 29.0 0.0
comp=Z,26nm,1.0s
TPAW Teton Pass 69.09 331 *eP* P 06 48 29.9 +0.4
comp=Z,40nm,1.2s
MLAC Mammoth, Mammo 69.13 322 P P 06 48 31.4 +1.5
baz=131,SNR=21
MOOW Moose Ponds 69.19 331 *eP* P 06 48 30.4 +0.3
comp=Z,38nm,1.3s
ULM Lac du Bonnet 69.21 344 P P 06 48 28.9 -0.7
comp=Z,23nm,0.8s,baz=152,slow=6.4,SNR=25
ULM Lac du Bonnet 69.21 344 *eP* P 06 48 29.0 -0.7
comp=Z,36nm,0.9s
ULM Lac du Bonnet 69.21 344 *eP* P 06 48 29.0 -0.7
ULM pmax pmax
comp=Z,36nm,0.9s
OMMB Old Mammoth Mi 69.21 322 *eP* P 06 48 31.3 +0.9
comp=Z,77nm,1.0s
FXWY Fox Creek 69.24 331 *eP* P 06 48 30.5 +0.1
comp=Z,36nm,1.0s
NV11 Mina Array Sit 69.26 323 *eP* P 06 48 31.0 +0.5
comp=Z,3.3nm,1.2s
MDPB Devils Postpil 69.27 322 *eP* P 06 48 31.6 +0.9
comp=Z,50nm,1.0s
NV01 Mina Array Sit 69.34 323 *eP* P 06 48 31.5 +0.4
NVAR Mina Array Bea 69.34 323 P P 06 48 32.1 +1.0
comp=Z,20nm,0.9s,baz=144,slow=6.4,SNR=134
IMW Indian Meadow 69.39 331 *eP* P 06 48 31.8 +0.4
comp=Z,72nm,1.3s
PMPB Monarch Peak 69.41 319 *eP* P 06 48 31.9 +0.5
comp=Z,91nm,1.2s
FLWY Flagg Ranch 69.42 331 *eP* P 06 48 32.1 +0.6
comp=Z,108nm,1.0s
LAO LASA Array 69.56 336 *eP* P 06 48 32.2 +0.1
comp=Z,79nm,1.4s
LAO LASA Array 69.56 336 P P 06 48 32.9 +0.9
baz=145,SNR=15
RLMT Red Lodge 69.58 333 *eP* P 06 48 32.9 +0.5
comp=Z,72nm,1.2s
RLMT Red Lodge 69.58 333 P P 06 48 33.4 +1.0
baz=142,SNR=27
RYN Ryan 69.61 323 *eP* P 06 48 33.3 +0.6
comp=Z,39nm,1.0s
H17A Grant Village 69.61 332 *eP* P 06 48 33.2 +0.6
comp=Z,37nm,1.4s
H17A Grant Village 69.61 332 P P 06 48 33.8 +1.2
baz=140,SNR=9.3
YPP Pitchstone Pla 69.62 331 *eP* P 06 48 33.0 +0.3
comp=Z,60nm,1.6s
YPP *ePcP* **PcP** 06 48 52.8 -2.1
KVN Kaiserville 69.64 323 *eP* P 06 48 33.3 +0.4
comp=Z,57nm,1.1s
KVN Kaiserville 69.64 323 *eP* P 06 48 33.3 +0.4
KVN pmax pmax
comp=Z,57nm,1.1s
LKWY Lake 69.66 332 *eP* P 06 48 33.9 +1.0
comp=Z,62nm,1.0s
YFT Old Faithful 69.77 331 *eP* P 06 48 34.7 +1.1
comp=Z,59nm,1.4s
LIC Lamto 69.87 77 *eP* P 06 48 32.8 -1.8
comp=Z,410nm,1.1s
YNR Norris Junctio 69.90 332 *eP* P 06 48 34.9 +0.5
comp=Z,19nm,0.9s
TIC Toumodi 70.01 77 *eP* P 06 48 36.0 +0.5
YHH Holmes Hill 70.03 332 *eP* P 06 48 36.2 +0.9
comp=Z,69nm,1.3s
WAKR Walker 70.06 322 *eP* P 06 48 36.8 +1.4
comp=Z,63nm,1.1s
SAO San Andreas Ge 70.16 320 *eP* P 06 48 36.0 +0.2
comp=Z,51nm,1.6s
SAO San Andreas Ge 70.16 320 *eP* P 06 48 36.1 +0.2
SAO pmax pmax
comp=Z,51nm,1.6s
YHB Horse Butte 70.16 331 *eP* P 06 48 37.0 +1.0
comp=Z,58nm,1.0s
DBIC Dimbokro 70.17 77 P P 06 48 36.2 -0.2
comp=Z,207nm,1.0s,baz=232,slow=6.1,SNR=107
DBIC LR LR 07 17 02.4
comp=Z,202nm,21.9s,baz=228,slow=34
KIC Kosan Boka 70.18 77 *eP* P 06 48 34.8 -1.7
comp=Z,387nm,0.8s
YERR Yerington 70.26 323 *eP* P 06 48 36.7 0.0
comp=Z,86nm,1.0s
DGMT Dagmar 70.27 338 *eP* P 06 48 36.7 +0.4
comp=Z,105nm,1.3s
DGMT Dagmar 70.27 338 P P 06 48 37.6 +1.3
baz=147,SNR=13
GCMT Greycliff 70.28 333 *eP* P 06 48 37.2 +0.6
CMB Columbia Colle 70.32 321 *eP* P 06 48 37.5 +0.6
comp=Z,26nm,1.1s
CMB Columbia Colle 70.32 321 *eP* P 06 48 37.5 +0.6
CMB pmax pmax
comp=Z,26nm,1.1s
QLMT Earthquake Lak 70.33 331 *eP* P 06 48 37.2 +0.2
PNTR Pine Nut 70.54 322 *eP* P 06 48 39.2 +0.8
comp=Z,86nm,1.0s
SCHQ Schefferville 70.67 3 P P 06 48 38.5 -0.1
comp=Z,21nm,0.9s,baz=173,slow=3.4,SNR=8.7
SCHQ LR LR 07 19 51.2
comp=Z,82nm,21.7s,baz=150,slow=36
SCHQ Schefferville 70.67 3 *eP* P 06 48 38.4 -0.1
comp=Z,37nm,1.0s
VCNR Virginia City 70.70 323 *eP* P 06 48 40.2 +0.8
comp=Z,71nm,1.0s
HLID Hailey 70.82 329 *eP* P 06 48 41.0 +1.0
comp=Z,42nm,1.1s
HLID Hailey 70.82 329 P P 06 48 41.0 +1.0
baz=137,SNR=44
PAHR Pah Rah Range 70.82 323 *eP* P 06 48 41.1 +1.1
comp=Z,141nm,1.0s
RUBR Rubicon Trail 70.84 322 *eP* P 06 48 41.2 +0.9
comp=Z,60nm,1.2s
MCMT McKenzie Canyo 70.99 331 *eP* P 06 48 42.1 +1.0
BOZ Bozeman (W) 71.01 332 *eP* P 06 48 41.7 +0.7
comp=Z,56nm,1.3s
BOZ Bozeman (W) 71.01 332 *eP* P 06 48 41.7 +0.7
BOZ pmax pmax
comp=Z,56nm,1.3s
BOZ Bozeman (W) 71.01 332 P P 06 48 41.9 +0.9
baz=140,SNR=27
AFDM Forest Hills D 71.26 322 *eP* P 06 48 42.8 +0.3
comp=Z,51nm,1.1s
BEKR Beckworth 71.49 323 *eP* P 06 48 44.4 +0.3
comp=Z,60nm,1.2s
LRM Limekiln Ridge 71.55 331 *eP* P 06 48 45.7 +1.3
HRY Holter Researc 71.95 332 *eP* P 06 48 47.6 +1.0
HRY *ePcP* **PcP** 06 49 00.5 -4.1
ORV Oroville 71.96 322 *eP* P 06 48 47.8 +1.1
comp=Z,161nm,1.1s
ORV Oroville 71.96 322 *eP* P 06 48 47.8 +1.1
ORV pmax pmax
comp=Z,161nm,1.1s
EGMT Eagleton 72.07 334 *eP* P 06 48 46.9 -0.3
comp=Z,56nm,1.1s
EGMT Eagleton 72.07 334 P P 06 48 48.1 +0.9
baz=142,SNR=18
WVOR Wild Horse Val 72.23 326 *eP* P 06 48 47.9 -0.5
comp=Z,42nm,1.4s
WVOR Wild Horse Val 72.23 326 *eP* P 06 48 47.9 -0.5
WVOR pmax pmax
comp=Z,42nm,1.4s
GDXM Geysers 72.27 321 *eP* P 06 48 48.6 -0.1
comp=Z,28nm,1.1s
VAH Vaihoa 72.40 259 *eP* P 06 48 51.9 +2.1
comp=Z,141nm,1.1s
TBI Tubuai 72.53 250 *eS* S 06 58 03.6 -1.9
comp=Z,616nm,25.5s
TBI Tubuai 72.53 250 *eLR* LR 07 11 05.8
comp=Z,516nm,37.0s
HOPS Hopland Field 72.56 321 *eP* P 06 48 49.0 -1.2
comp=Z,63nm,1.3s
O03E Paynes Creek 72.61 322 P P 06 48 51.4 +0.7
baz=130,SNR=22
PMOR Pomariorio Ree 72.70 259 *eP* P 06 48 53.8 +2.2
comp=Z,195nm,1.2s
J08A Circle Bar Ran 72.77 326 *eP* P 06 48 51.7 +0.2
comp=Z,30nm,1.1s
MOD Modoc Plateau 72.79 324 *eP* P 06 48 52.5 +0.7
comp=Z,105nm,1.0s
MSO Missoula 72.99 331 *eP* P 06 48 53.0 +0.2
comp=Z,77nm,1.3s
MSO *ePcP* **PcP** 06 49 08.4 -0.6
MSO Missoula 72.99 331 P P 06 48 54.1 +1.3
baz=138,SNR=29
NVL N'lazarevskaya 73.01 160 ⇓ *iP* P 06 48 55.4 +3.0
NVL *eS* **SKiKP** 06 58 14.2 +1.4
NVL pmax pmax
comp=Z,46nm,1.1s
O02D Mt. Diablo Mer 73.12 322 P P 06 48 54.2 +0.5
baz=129
BMO Blue Mountains 73.20 328 *eP* P 06 48 54.2 +0.2
comp=Z,39nm,1.0s
WDC Whiskeytown Da 73.23 322 *eP* P 06 48 53.5 -0.7
comp=Z,22nm,0.9s
WDC Whiskeytown Da 73.23 322 *eP* P 06 48 53.5 -0.7
WDC pmax pmax
comp=Z,22nm,0.9s
KCPM Cahto Peak 73.30 321 *eP* P 06 48 55.6 +0.8
comp=Z,65nm,1.1s
TVO Taravao 73.40 256 *eP* P 06 48 57.8 +2.0
comp=Z,19nm,1.3s
TIAR Tiarei 73.53 256 *eP* P 06 48 58.4 +1.9
comp=Z,10nm,1.1s
N02D Trinity Center 73.58 322 P P 06 48 56.6 +0.3
baz=129,SNR=21
M04C Macdoel 73.59 323 P P 06 48 57.6 +1.2
baz=130,SNR=36
K05A Summer Lake 73.67 325 *eP* P 06 48 57.7 +0.8
comp=Z,118nm,1.1s
KMRM Mail Ridge 73.70 321 *eP* P 06 48 58.0 +1.0
comp=Z,90nm,1.1s
PPT2 Papeete2 73.74 256 *eP* P 06 48 59.0 +1.2
comp=Z,49nm,1.4s
PPT2 *eS* **S** 06 58 19.0 -0.4
comp=Z,297nm,30.0s
PPT2 Papeete2 73.74 256 *eLR* LR 07 11 45.3
comp=Z,339nm,26.8s
PPT Papeete 73.75 256 P P 06 48 59.3 +1.6
comp=Z,37nm,1.1s,baz=112,slow=24,SNR=4.8
I07A Izee 73.81 326 *eP* P 06 48 58.6 +0.9
comp=Z,175nm,2.0s
JTMT Jette 73.83 332 *eP* P 06 48 58.5 +0.8
comp=Z,56nm,1.3s
M02C Callahan 73.93 323 P P 06 48 59.1 +0.7
baz=129,SNR=22
F10A Beach Ranch, E 73.95 329 *eP* P 06 48 58.6 +0.2
comp=Z,41nm,1.0s
YBH Yreka Blue Hor 74.06 323 P P 06 48 59.2 +0.1
comp=Z,35nm,1.0s,baz=119,slow=5.0,SNR=67
YBH Yreka Blue Hor 74.06 323 *eP* P 06 48 59.3 +0.2
comp=Z,38nm,0.9s
YBH Yreka Blue Hor 74.06 323 *eP* P 06 48 59.3 +0.2
YBH pmax pmax
comp=Z,38nm,0.9s
K04D Chiloquin, OR 74.08 324 P P 06 49 00.7 +1.5
baz=130,SNR=18
KHMM Horse Mountain 74.12 322 *eP* P 06 49 00.1 +0.5
comp=Z,74nm,1.1s
L04D Klamath Falls 74.13 324 P P 06 49 00.6 +1.0
baz=130,SNR=24
QSPA South Pole Qui 74.18 180 *eP* P 06 49 00.3 +0.7
comp=Z,34nm,0.8s
J05D Fort Rock, OR 74.22 325 P P 06 49 01.4 +1.3
baz=131,SNR=43
JCC Jacoby Creek, 74.26 322 *eP* P 06 49 00.6 +0.4
comp=Z,112nm,1.1s
G08A Pilot Rock 74.35 328 *eP* P 06 49 01.2 +0.5
comp=Z,37nm,1.1s
PINE Pine Mountain 74.39 325 *eP* P 06 49 02.1 +1.0
comp=Z,94nm,0.9s
KRMB Red Mountain 74.63 322 *eP* P 06 49 03.1 +0.7
comp=Z,80nm,1.1s
WALA Waterton Lakes 74.64 333 *eP* P 06 49 02.9 +0.6
comp=Z,54nm,1.3s
J04D Umpqua Nationa 74.68 324 P P 06 49 04.2 +1.4
baz=130,SNR=14
HUMO Hull Mountain 74.75 324 *eP* P 06 49 03.0 0.0
comp=Z,28nm,1.2s
E09A Wood Farm, Sta 74.78 329 *eP* P 06 49 03.4 +0.4
comp=Z,63nm,1.1s
L02E Cane Junction 74.84 323 P P 06 49 05.2 +1.6
baz=129,SNR=19
FFC Flin Flon 74.90 343 *eP* P 06 49 03.2 -0.3
comp=Z,26nm,1.4s
FFC Flin Flon 74.90 343 *ceP* P 06 49 04.5 +1.0
FFC pmax pmax
comp=Z,90nm,2.5s
I05D Terrebonne, OR 74.97 326 P P 06 49 06.3 +2.0
baz=131,SNR=35
G06A Carlson Farm, 75.18 327 *eP* P 06 49 06.4 +1.0
comp=Z,50nm,1.1s
I04A Tendick Farm, 75.20 325 P P 06 49 06.9 +1.3
baz=130,SNR=14
K02D Willamette Mer 75.22 323 P P 06 49 07.5 +1.7
baz=129,SNR=20
E08A Dider Farm, El 75.22 328 *eP* P 06 49 05.7 +0.1
comp=Z,36nm,1.1s
KBO Bosley Butte 75.24 323 *eP* P 06 49 06.1 +0.2
comp=Z,138nm,1.3s
F07A Phinny Hill Vi 75.26 328 *eP* P 06 49 07.6 +1.8
comp=Z,82nm,1.2s
HAWA Hanford 75.39 328 *eP* P 06 49 07.7 +1.1
comp=Z,86nm,1.1s
NEW Newport 75.52 331 P P 06 49 07.9 +0.6
comp=Z,6.9nm,1.1s,baz=136,slow=3.0,SNR=7.4
NEW Newport 75.52 331 *eP* P 06 49 07.7 +0.4
comp=Z,37nm,1.5s
NEW Newport 75.52 331 P P 06 49 08.4 +1.1
baz=135,SNR=8.1
D08A Wollman Farm, 75.54 329 *eP* P 06 49 07.8 +0.4
comp=Z,55nm,1.4s
G05D Wamic, OR 75.55 326 P P 06 49 09.7 +2.2
baz=131,SNR=18
J01E Myrtle Point 75.66 324 P P 06 49 09.6 +1.5
baz=128,SNR=7.4
I03D Drain, OR 75.66 324 P P 06 49 09.6 +1.4
baz=129,SNR=13
KEBM Edson Butte 75.71 323 *eP* P 06 49 08.8 +0.3
comp=Z,176nm,1.1s
C09A Chrisman Ranch 75.74 330 *eP* P 06 49 08.3 -0.2
comp=Z,58nm,1.2s
H04D Lebanon 75.85 325 P P 06 49 10.2 +1.0
baz=130,SNR=5.4
F05D White Salmon 76.05 327 P P 06 49 12.6 +2.3
baz=131,SNR=7.1
COR Corvallis 76.20 325 *eP* P 06 49 11.6 +0.4
comp=Z,139nm,1.0s
COR Corvallis 76.20 325 *eP* P 06 49 11.6 +0.4
COR pmax pmax
comp=Z,139nm,1.0s
I02D Swisshome 76.20 324 P P 06 49 12.0 +0.9
baz=129
LTY Liberty 76.55 328 *eP* P 06 49 13.6 +0.3
comp=Z,104nm,1.3s
G03D McMinnville, O 76.58 325 P P 06 49 14.7 +1.4
baz=130
B08A Colville Reser 76.64 330 *eP* P 06 49 13.7 +0.1
comp=Z,46nm,1.2s
TTIG Tnine Tigouga, 76.66 53 P P 06 49 16.1 +1.8
LON Longmire 76.80 327 *eP* P 06 49 15.3 +0.7
comp=Z,25nm,1.0s
LON Longmire 76.80 327 *eP* P 06 49 15.3 +0.7
LON pmax pmax
comp=Z,25nm,1.0s
E04D Cinebar 77.07 327 P P 06 49 17.5 +1.5
baz=130,SNR=10.0
D05A Enumclaw 77.18 328 *eP* P 06 49 17.4 +0.8
comp=Z,130nm,0.9s
D04E Lakebay 77.58 327 P P 06 49 19.5 +0.7
baz=130,SNR=11
E03A Lebam 77.59 326 *eP* P 06 49 20.5 +1.6
comp=Z,136nm,1.1s
B06A Marblemount 77.80 329 *eP* P 06 49 20.7 +0.7
comp=Z,58nm,0.9s
B05A Bryant 77.94 328 P P 06 49 21.7 +0.9
baz=131,SNR=17
D03D Eldon 77.97 327 P P 06 49 22.3 +1.3
baz=130,SNR=19
TOA0 Torodi Ar. Sit 78.42 73 *eP* P 06 49 24.1 -0.1
TORD Torodi Ar. Bea 78.42 73 P P 06 49 22.2 -1.9
comp=Z,128nm,0.9s,baz=271,slow=6.3,SNR=214
TORD pP **pP** 06 49 54.0 -1.0
comp=Z,20nm,0.7s,baz=234,slow=6.4,SNR=7.9
TORD LR LR 07 23 54.3
comp=Z,206nm,18.1s,baz=280,slow=36
A05A Maple Falls 78.42 329 *eP* P 06 49 23.9 +0.5
comp=Z,10nm,1.1s
A04D Lummi Island 78.55 328 P P 06 49 25.1 +1.0
baz=130,SNR=6.7
PGC Sidney 78.88 328 *eP* P 06 49 25.8 -0.1
comp=Z,103nm,1.1s
IVI Ivigtut 79.25 11 *eP* P 06 49 28.2 +0.5
comp=Z,230nm,1.4s
PFVI Vila Bisbo 79.51 47 *eP* P 06 49 35.4 +5.7
PTEO Sao Teotonio 79.78 46 *eP* P 06 49 33.3 +2.2
PVAQ Vaqueiros 80.41 47 *eP* P 06 49 37.7 +3.2
PBEJ Beja 80.61 46 *eP* P 06 49 38.5 +2.9
comp=Z,44nm,1.8s
ALMR Almeirim 80.67 45 *eP* P 06 49 36.3 +0.4
ALMR AMb AMB 06 49 39.6
comp=Z,99nm,1.3s
ALMR Almeirim 80.67 45 *eP* P 06 49 38.9 +3.1
ALMR Almeirim 80.67 45 *eP* P 06 49 36.2 +0.4
SBA Scott Base 80.69 191 *eP* P 06 49 36.9 +1.5
comp=Z,27nm,1.3s
SBA Scott Base 80.69 191 *eP* P 06 49 36.9 +1.5
SBA pmax pmax
comp=Z,27nm,1.3s
PTOM Tomar 81.00 44 *eP* P 06 49 39.0 +1.4
comp=Z,63nm,1.1s
PCAS Casmilo, Conde 81.16 44 *eP* P 06 49 40.3 +1.8
PMRV Marv??o 81.60 45 *eP* P 06 49 41.9 +1.1
VNDA Vanda 81.74 190 P P 06 49 43.5 +2.5
comp=Z,10nm,1.1s,baz=135,slow=3.8,SNR=22
VNDA pP **pP** 06 50 12.2 +0.2
comp=Z,5.6nm,0.8s,baz=118,slow=4.2,SNR=6.3
VNDA LR LR 07 20 26.7
comp=Z,194nm,18.7s,baz=128,slow=31
VNDA Vanda 81.74 190 *eP* P 06 49 41.4 +0.5
comp=Z,14nm,1.1s
VNDA pP **pP** 06 50 12.2 +0.2
PCBR Castelo Branco 81.74 45 *eP* P 06 49 43.3 +1.8
comp=Z,31nm,1.3s
MTE Manteigas 81.96 44 *eP* P 06 49 43.8 +1.0
POLO Lamas de Olo 82.27 43 *eP* P 06 49 46.0 +1.6
HORN Hornachuelos 82.35 47 P P 06 49 45.8 +1.1
SYO Syowa Base 82.67 160 ⇑ *ePcP* P 06 49 47.0 +1.1
SYO Syowa Base 82.67 160 ⇑ *epP* pP 06 50 15.0 -2.1
MVO Moncorvo 82.67 44 *eP* P 06 49 48.2 +1.7
comp=Z,54nm,1.5s
PBRG Braganca 83.17 43 *eP* P 06 49 50.3 +1.3
comp=Z,69nm,1.5s
BBB Bella Bella 83.41 329 P P 06 49 50.3 +0.5
comp=Z,30nm,1.0s,baz=153,slow=8.7,SNR=3.2
PAB San Pablo 83.74 46 *eP* P 06 49 53.2 +1.3
comp=Z,79nm,1.1s
PAB San Pablo 83.74 46 *eP* P 06 49 53.3 +1.3
PAB pmax pmax
comp=Z,79nm,1.1s
SUR Sutherland 83.94 122 *eP* P 06 49 54.6 +1.1
comp=Z,34nm,1.2s
ESDC Sonseca Array 84.07 46 P P 06 49 54.7 +1.1
comp=Z,34nm,0.8s,baz=254,slow=5.2,SNR=100
ESDC LR LR 07 26 27.8
comp=Z,94nm,18.5s,baz=245,slow=35
ESLA Sonseca Array 84.07 46 *eP* P 06 49 54.3 +0.7
comp=Z,48nm,0.9s
ES19 SONSECA Array 84.12 46 *eP* P 06 49 54.2 +0.3
SESP Santiago Espad 84.39 48 P P 06 49 56.5 +1.1
TSUM Tsumeb 84.51 108 *eP* P 06 49 57.3 +0.9
comp=Z,81nm,1.2s
YKA Yellowknife Ar 85.04 342 P P 06 49 58.2 +0.3
comp=Z,17nm,0.6s,baz=138,slow=5.1,SNR=67
YKA pP **pP** 06 50 29.6 +0.4
comp=Z,4.7nm,0.7s,baz=138,slow=4.6,SNR=2.9
YKB5 Yellowknife Ar 85.04 342 *eP* P 06 49 57.9 +0.1
TAM Tamanrasset 85.07 65 *eP* P 06 49 59.9 +0.7
comp=Z,134nm,1.4s
YKW3 Yellowknife Ar 85.09 342 *eP* P 06 49 58.1 0.0
comp=Z,31nm,1.1s
WRAK Wrangell Islan 87.87 331 *eP* P 06 50 12.7 +0.9
comp=Z,48nm,0.9s
DLBC Dease Lake 87.97 333 P P 06 50 13.9 +1.5
comp=Z,34nm,0.9s,baz=121,slow=5.5,SNR=25
DLBC pP **pP** 06 50 45.5 +1.6
comp=Z,12nm,0.9s,baz=133,slow=6.3,SNR=3.1
DLBC Dease Lake 87.97 333 *eP* P 06 50 13.0 +0.6
comp=Z,67nm,1.1s
DLBC pP **pP** 06 50 45.5 +1.6
QUIF Quistinic 88.23 39 *eP* P 06 50 13.8 +0.1
QUIF pmax pmax
comp=Z,65nm,1.2s
BOSA Boshof 88.67 119 P P 06 50 17.2 +0.7
comp=Z,4.4nm,0.6s,baz=248,slow=3.3,SNR=16
BOSA LR LR 07 27 36.7
comp=Z,106nm,18.4s,baz=216,slow=34
BOSA Boshof 88.67 119 *eP* P 06 50 16.4 -0.1
comp=Z,27nm,1.4s
SGMF Saint Gilles 88.75 39 *eP* P 06 50 15.1 -1.0
SGMF pmax pmax
comp=Z,133nm,1.6s
GRR Gorron 89.83 39 *eP* P 06 50 21.1 -0.1
GRR pmax pmax
comp=Z,30nm,1.0s
LBTB Lobatse 90.04 116 *eP* P 06 50 22.2 -0.8
comp=Z,18nm,1.1s
LBTB Lobatse 90.04 116 *eP* P 06 50 22.2 -0.8
LBTB pmax pmax
comp=Z,18nm,1.1s
RJF Les Rejaudoux 90.09 43 *eP* P 06 50 22.6 +0.1
RJF pmax pmax
comp=Z,18nm,0.8s
FLN La Foliniere 90.21 39 *eP* P 06 50 23.1 +0.1
FLN pmax pmax
comp=Z,34nm,1.1s
CAF Calviac 90.30 43 *eP* P 06 50 23.8 +0.2
MAW Mawson 90.42 164 P P 06 50 25.4 +1.7
comp=Z,7.9nm,0.4s,baz=212,slow=5.9,SNR=18
MAW pP **pP** 06 50 59.3 +4.0
comp=Z,6.4nm,0.8s,baz=231,slow=6.1,SNR=4.5
MAW LR LR 07 29 58.6
comp=Z,43nm,21.8s,baz=234,slow=35
MAW Mawson 90.42 164 *eP* P 06 50 24.3 +0.6
comp=Z,4.1nm,0.9s
MAW *epP* **pP** 06 50 59.8 +4.4
SUMG Summit 91.11 10 *eP* P 06 50 28.1 +0.9
SUMG *epP* **pP** 06 51 01.1 +2.3
SUMG Summit 91.11 10 *i P* P 06 50 28.6 +1.4
comp=Z,56nm,0.7s
SUMG Summit 91.11 10 *i P* P 06 50 28.6 +1.4
SUMG pmax pmax
comp=Z,56nm,0.7s
BGF Bois d'Agland 91.42 42 *eP* P 06 50 28.8 +0.1
ESK Eskdalemuir 91.48 32 *i P* P 06 50 30.3 +1.6
RES Resolute Bay 91.62 354 P P 06 50 30.0 +1.0
comp=Z,2.0nm,0.7s,baz=207,slow=6.8,SNR=3.3
RES Resolute Bay 91.62 354 P P 06 50 30.0 +1.0
AVF Avril sur Loir 91.83 42 *eP* P 06 50 30.4 -0.2
AVF pmax pmax
comp=Z,34nm,1.3s
VIVF Saint-Julien-l 92.00 44 *eP* P 06 50 32.3 +0.8
VIVF pmax pmax
comp=Z,40nm,1.6s
SSF Saint Saulge 92.03 41 *eP* P 06 50 31.2 -0.3
SSF pmax pmax
comp=Z,22nm,1.1s
LOR Lormes 92.33 41 *eP* P 06 50 32.6 -0.3
LOR pmax pmax
comp=Z,41nm,1.6s
KEST Kesra 92.39 54 P P 06 50 34.8 +1.3
comp=Z,7.2nm,0.9s,baz=227,slow=4.9,SNR=5.3
KEST LR LR 07 34 04.2
comp=Z,93nm,18.4s,baz=197,slow=37
FRF La Foret Royal 92.90 46 *eP* P 06 50 36.3 +0.7
FRF pmax pmax
comp=Z,41nm,1.3s
BNI Bardonecchia 93.41 44 P P 06 50 39.4 +1.3
CABF La Chapelle 93.53 43 *eP* P 06 50 38.8 +0.2
CABF pmax pmax
comp=Z,62nm,1.8s
LPL La Plagne 93.60 44 *eP* P 06 50 40.1 +1.1
LPL pmax pmax

comp=Z,13nm,0.8s
LPG La Plagne 93.60 44 *e*P **P** **06 50 40.3 +1.1**
LPG pmax pmax
comp=Z,23nm,1.0s
GIVF Givet 93.92 39 *e*P **P** **06 50 41.2 +1.1**
GIVF pmax pmax
comp=Z,19nm,1.0s
HINF Hinteralfeld 94.42 42 *e*P **P** **06 50 42.0 -0.5**
HINF pmax pmax
comp=Z,8.0nm,0.8s
WLF Walferdange 94.58 40 *e*P **P** **06 50 44.4 +1.2**
WLF pmax pmax
comp=Z,17nm,1.7s
ECH Echery 94.74 41 *e*P **P** **06 50 43.8 -0.2**
comp=Z,21nm,1.2s
ECH Echery 94.74 41 *e*P **P** **06 50 44.1 +0.1**
INK Inuvik 94.78 341 P **P** **06 50 44.4 +0.8**
comp=Z,6.5nm,1.1s,baz=172,slow=2.5,SNR=15
INK Inuvik 94.78 341 *e*P **P** **06 50 43.7 +0.1**
comp=Z,31nm,1.5s
CDF Champ du Feu 94.88 41 *e*P **P** **06 50 44.7 0.0**
CDF pmax pmax
comp=Z,17nm,1.2s
SLE Schleitheim 95.45 42 P **P** **06 50 47.9 +0.6**
SLE pmax pmax
comp=Z,9.0nm,1.5s
TUE Stuetta 95.63 43 *e*P **P** **06 50 48.1 -0.2**
comp=Z,15nm,1.1s
STU Stuttgart 96.20 41 *e*P **P** **06 50 49.8 -0.8**
comp=Z,18nm,0.9s
STU Stuttgart 96.20 41 *e*P **P** **06 50 49.8 -0.8**
STU pmax pmax
comp=Z,18nm,0.9s
DAVA Damuels 96.21 43 *e*PcP **P** **06 50 51.5 +0.7**
comp=Z,17nm,1.0s
FUORN Ofenpass-Fuorn 96.27 43 *e*P **P** **06 50 50.1 -1.1**
comp=Z,21nm,1.4s
KLU Klutina 96.44 332 *e*P **P** **06 50 51.2 -0.2**
comp=Z,23nm,1.1s
FETA Feichten 96.69 43 *e*PcP **P** **06 50 53.2 +0.1**
comp=Z,12nm,1.1s
RETA Reutte 96.84 43 *e*PcP **P** **06 50 53.6 -0.1**
comp=Z,15nm,1.0s
MOTA Moosalm 97.03 43 *e*PcP **P** **06 50 54.7 +0.2**
comp=Z,13nm,1.0s,SNR=10
MOTA *e*PP **PP** **06 54 49.1 -3.0**
comp=Z,12nm,1.4s
SQTA Sankt Quirin 97.06 43 *e*PcP **P** **06 50 54.6 -0.1**
comp=Z,36nm,1.1s,SNR=9.8
SQTA *e*PP **PP** **06 54 47.6 -4.7**
comp=Z,12nm,1.3s
WATA Walderalm 97.33 43 *e*PcP **P** **06 50 56.3 +0.3**
comp=Z,28nm,1.3s,SNR=9.0
WATA PP **PP** **06 54 50.6 -3.8**
comp=Z,5.3nm,1.0s
WTTA Wattenberg 97.36 43 *e*PcP **P** **06 50 56.6 +0.5**
comp=Z,16nm,0.9s
FUR Furstenfeldbru 97.36 42 P **P** **06 50 57.4 +1.5**
GRF Grafenberg Arr 97.74 41 P **P** **06 50 58.0 +0.5**
GRF pmax pmax
comp=Z,14nm,1.7s
CLZ Clausthal 97.80 38 P Pdif 06 50 59.6 +1.8
ABTA Abfaltersbach 97.80 44 *e*PcP **P** **06 50 58.9 +1.0**
comp=Z,20nm,1.1s,SNR=7.4
ABTA *e*PP **PP** **06 54 51.6 -6.3**
comp=Z,12nm,1.5s
ILAR Eielson Array 98.02 335 P **P** **06 50 58.1 -0.3**
comp=Z,1.0nm,0.9s,baz=157,slow=3.4,SNR=9.1
ILAR PP **PP** **06 54 53.4 -5.7**
comp=Z,1.7nm,1.0s,baz=124,slow=5.2,SNR=7.5
KBA Koelnbreinsper 98.44 44 *e*Pdiff **P** **06 51 01.4 +0.5**
comp=Z,5.7nm,0.9s
KBA PP **PP** **06 54 58.3 -4.6**
comp=Z,13nm,1.6s
KBA Koelnbreinsper 98.44 44 P **P** **06 51 01.2 +0.3**
KBA pmax pmax
comp=Z,9.0nm,1.0s
COLA College 98.44 335 *e*P **P** **06 50 59.7 -0.6**
comp=Z,12nm,1.1s
COLA College 98.44 335 *e*P Pdif 06 51 00.7 +0.4
MYKA Terra Mystica 98.52 44 *e*Pdiff **P** **06 51 00.8 -0.3**
MYKA comp=Z,12nm,1.4s PP **PP** **06 54 56.7 -6.7**
comp=Z,20nm,1.2s
MDM Murphy Dome 98.63 335 *e*P **P** **06 51 00.6 -0.5**
comp=Z,12nm,1.0s
WET Wettzell 98.64 41 P Pdif 06 51 02.7 +1.1
WET pmax pmax
comp=Z,11nm,1.2s
KHC Kasperske Hory 99.08 42 *e*PDIFF **Pdif** **06 51 04.7 +1.1**
KHC Kasperske Hory 99.08 42 *i* P **Pdif** **06 51 04.7 +1.1**
GEA0 GERESS Array S 99.09 42 *e*P **Pdif** **06 51 03.8 +0.1**
GEC2 GERESS Array S 99.09 42 *e*P **Pdif** **06 51 04.0 +0.3**
comp=Z,5.8nm,0.9s
GEC2 GERESS Array S 99.09 42 *e*P **Pdif** **06 51 04.0 +0.3**
GEC2 pmax pmax
comp=Z,6.0nm,0.9s
GERES GERESS Array B 99.09 42 P **Pdif** **06 51 03.8 +0.1**
comp=Z,3.2nm,0.8s,baz=245,slow=2.8,SNR=21
GERES PP **PP** **06 55 03.0 -4.7**
comp=Z,1.6nm,1.0s,baz=251,slow=8.1,SNR=4.9
MOA Molln 99.23 43 *e*Pdiff **Pdif** **06 51 04.6 +0.4**
comp=Z,5.6nm,0.7s
MOA PP **PP** **06 55 01.1 -7.6**
comp=Z,6.3nm,1.4s
CLL Collm 99.25 39⇓ *i*Pdif **Pdif** **06 51 05.4 +1.2**
comp=Z,10.0nm,1.1s
CLL *i* PP **PP** **06 55 03.8 -4.9**
comp=Z,31nm,2.1s
CLL *e*SKSac **SKSac** **07 01 32.0 +1.0**
CLL *e*SP **SP** **07 03 53.0 +0.6**
CLL *e*PPS PPS 07 04 48.0
CLL *e*SS **SS** **07 09 18.0 +0.7**
CLL *e*SSS SSS 07 13 06.0
CLL *e* 07 15 00.0
CLL Collm 99.25 39⇓ *i*P **Pdif** **06 51 05.4 +1.2**
CLL *i* 06 55 03.8
CLL *e* 07 01 37.0
CLL *e*S **S** **07 02 27.0 +1.8**
CLL pmax pmax
comp=Z,10.0nm,1.1s
KONO Kongsberg 99.47 31⇑ *e*P **Pdif** **06 51 06.4 +1.4**
KONO pmax pmax
comp=Z,66nm,3.5s
BRG Berggiesshubel 99.72 40 *e*P **Pdif** **06 51 07.3 +1.0**
BRG *e* 06 55 08.1
BRG pmax pmax
comp=Z,14nm,1.3s
ARSA Arzberg 99.92 44 *e*Pdiff **Pdif** **06 51 07.1 -0.3**
comp=Z,5.2nm,1.3s
CONA Conrad Observa 100.29 43 *e*Pdiff **Pdif** **06 51 08.1 -0.9**
comp=Z,7.0nm,1.7s
CONA PP **PP** **06 55 09.4 -7.4**
comp=Z,4.6nm,1.4s
NOA NORSAR Array B 100.60 29 P **Pdif** **06 51 10.4 +0.4**
comp=Z,1.0nm,1.0s,baz=264,slow=4.2,SNR=3.6
KRUC Moravsky 100.88 42 P **Pdif** **06 51 13.4 +1.9**
DPC Dobruska-Polom 101.09 41 *e*PDIFF **Pdif** **06 51 14.6 +2.1**
DPC Dobruska-Polom 101.09 41 *i* P **Pdif** **06 51 14.6 +2.1**
MORC Moravsky Berou 101.75 41 *e*Pdif **Pdif** **06 51 16.3 +0.8**
MORC Moravsky Berou 101.75 41 *e*P **Pdif** **06 51 16.3 +0.8**
VYHS Vyhne 102.35 43 *e*P **Pdif** **06 51 19.5 +1.4**
VYHS Vyhne 102.35 43 *e*PDIFF **Pdif** **06 51 19.5 +1.4**
SRS Serrai 104.50 51 P **Pdif** **06 51 28.9 +1.1**
SRS pmax pmax
comp=Z,4.0nm,1.0s
BUR04 Bucovina Ar. S 106.47 44 *e*Pdif **Pdif** **06 51 37.8 +1.2**
ARCES ARCESS Array B 107.49 21 PKKPbc PKKPbc 07 07 05.0 -1.3
comp=Z,4.6nm,1.0s,baz=84,slow=5.0,SNR=10
AKASG Malin Array Be 109.30 41 PP PP 06 56 14.3 -8.9
comp=Z,0.7nm,0.7s,baz=272,slow=6.4,SNR=2.9
BRTR Keskin Array B 111.99 53 PKiKP **PKiKP** **06 55 59.1 +1.5**
comp=Z,0.8nm,0.7s,baz=194,slow=3.0,SNR=4.7
BRTR PP **PP** **06 56 37.4 -5.9**
comp=Z,0.5nm,0.5s,baz=210,slow=8.3,SNR=2.9
OBN Obninsk 113.59 36 *i* PKIKP **PKiKP** **06 56 01.1 +1.2**
OBN *e*PS **PS** **07 06 27.9 -3.8**
OBN *e*SS SS 07 12 40.7 +9.2
OBN pmax pmax
comp=Z,5.0nm,0.9s
BILL Bilibino 116.34 339⇑ *i*PKIKP **PKPdf** **06 56 06.2 +1.3**
BILL *e* 06 57 14.1
BILL *e*SS SS 07 13 03.3 -3.5
BILL pmax pmax
comp=Z,3.0nm,1.0s
KBZ Khabaz 118.84 49 PKP **PKPdf** **06 56 11.4 +1.0**
comp=Z,4.7nm,0.9s,baz=279,slow=1.7,SNR=5.9
GNI Garni 120.52 53⇑ *i*PKIKP **PKPdf** **06 56 15.3 +1.3**
GNI pmax pmax
comp=Z,33nm,1.7s
STKA Stephens Creek 122.52 214 PKP **PKPdf** **06 56 19.1 +1.0**
comp=Z,1.6nm,0.4s,baz=118,slow=4.3,SNR=9.4
HNR Honiara 122.69 247 PKP **PKPdf** **06 56 19.4 +0.7**
comp=Z,47nm,0.3s,baz=169,slow=2.2,SNR=10
TIXI Tiksi 122.97 352⇑ *i*PKIKP **PKPdf** **06 56 18.1 +0.5**
SEY Seymchan 123.89 337 PKP **PKPdf** **06 56 21.3 +1.8**
comp=Z,4.9nm,0.7s,baz=30,slow=3.2,SNR=6.2
H11N3 WAKE ISLAND Hyl 124.01 283 T T 09 12 10.8
baz=98,slow=75,SNR=18
H11N2 WAKE ISLAND Hyl 124.02 283 T T 09 12 12.1
baz=98,slow=75,SNR=21
H11N1 WAKE ISLAND Hyl 124.03 283 T T 09 12 11.7
baz=98,slow=75,SNR=17
H11S2 WAKE ISLAND Hyl 124.06 282 T T 09 12 18.4
baz=99,slow=75,SNR=30
H11S1 WAKE ISLAND Hyl 124.07 282 T T 09 12 15.2
baz=99,slow=75,SNR=24
H11S3 WAKE ISLAND Hyl 124.08 282 T T 09 12 15.2
baz=99,slow=75,SNR=29
ARU Arti 125.11 31 *i* PKIKP **PKPdf** **06 56 23.7 +1.6**
ARU 06 58 14.5
ARU 07 03 25.5
ARU SS SS 07 15 00.9 +1.5
PETK Petropavlovsk- 126.38 325 PKP **PKPdf** **06 56 26.5 +1.8**
comp=Z,3.2nm,0.6s,baz=121,slow=2.2,SNR=7.8
AKTO Aktyubinsk 127.31 38 PKP **PKPdf** **06 56 28.1 +1.6**
comp=Z,4.3nm,0.7s,baz=260,slow=1.1,SNR=13
ABKAR Akbulak array 128.91 39 *e*PKPdf **PKPdf** **06 56 31.0 +1.4**
GEYT Alibeck 131.13 53 PKP **PKPdf** **06 56 36.8 +2.6**
comp=Z,1.4nm,0.5s,baz=319,slow=6.1,SNR=3.6
BRVK Borovoye 132.65 30*c* *i*PKIKP **PKPdf** **06 56 38.9 +2.3**
BRVK pmax pmax
comp=Z,9.0nm,1.3s
BVAR Borovoye Array 132.72 30 PKP **PKPdf** **06 56 38.6 +1.8**
comp=Z,1.8nm,0.6s,baz=298,slow=3.2,SNR=9.4
BVAR SKiKP **SKPab** **06 59 56.6 +2.2**
comp=Z,2.2nm,1.0s,baz=288,slow=1.4,SNR=6.2
AS01 Alice Springs 133.13 213 *e*PKPdf **PKPdf** **06 56 38.5 0.0**
ASAR Alice Springs 133.15 213 PKhKP PKPpre 06 56 24.9
comp=Z,0.2nm,0.3s,baz=134,slow=3.1,SNR=7.0
ASAR PKP **PKPdf** **06 56 38.7 +0.2**
comp=Z,1.6nm,0.3s,baz=121,slow=1.7,SNR=23
ASAR PKKP **PKKPdf** **07 06 29.3 +0.5**
comp=Z,0.4nm,0.6s,baz=347,slow=1.4,SNR=7.4
AS31 Alice Springs 133.15 213 *e*PKPdf **PKPdf** **06 56 39.3 +0.8**
WB2 Warramunga Arr 135.88 217 *e*PKPdf **PKPdf** **06 56 43.9 +0.2**
WB2 *e*PKPdf **PKiKP** **06 56 44.4 -0.9**
WRA Warramunga Arr 135.89 217 PKhKP PKPpre 06 56 31.5
comp=Z,0.4nm,0.4s,baz=137,slow=3.5,SNR=11
WRA PKP **PKiKP** **06 56 44.9 -0.4**
comp=Z,3.8nm,0.4s,baz=150,slow=1.4,SNR=13
WRA SKiKP **SKPbc** **07 00 06.7 +2.4**
comp=Z,1.3nm,0.9s,baz=129,slow=3.4,SNR=5.8
WRAB Tennant Creek 135.89 217 *e*PKPdf **PKPdf** **06 56 44.2 +0.6**
WRAB Tennant Creek 135.89 217*d* *i*PKIKP **PKPdf** **06 56 44.4 +0.7**
WRAB pmax pmax
comp=Z,19nm,1.7s
NVS Novosibirsk 136.76 21 *e*PKIKP **PKPdf** **06 56 44.3 +0.1**
ZAA0 Zalesovo Array 138.03 20 *e*PKPdf **PKPdf** **06 56 47.7 +1.1**
ZALV Zalesovo Beam 138.03 20 PKhKP PKPpre 06 56 40.6
comp=Z,1.4nm,0.4s,baz=286,slow=1.1,SNR=3.9
ZALV PKP **PKPdf** **06 56 46.7 +0.2**
comp=Z,15nm,0.7s,baz=286,slow=1.9,SNR=32
ZALV SKiKP **SKiKP** **07 00 11.9 -1.6**
comp=Z,2.8nm,0.9s,baz=336,slow=3.2,SNR=7.1
KURK Kurchatov 138.09 28 *e*PKPdf **PKPdf** **06 56 46.5 -0.2**
KURK Kurchatov 138.09 28*d* *i*PKIKP **PKPdf** **06 56 48.5 +1.8**
KURK pmax pmax
comp=Z,40nm,1.3s
AAK Ala-Archa 140.96 40 PKP **PKPdf** **06 56 50.6 -1.9**
comp=Z,1.6nm,0.6s,baz=348,slow=9.3,SNR=3.0
AAK Ala-Archa 140.96 40 *e*PKPdf **PKPdf** **06 56 52.7 +0.2**
AAK Ala-Archa 140.96 40⇑ *i*PKIKP **PKPdf** **06 56 55.0 +2.5**
AAK pmax pmax
comp=Z,26nm,1.3s
KLR Kul'dur 141.59 335⇑ *i*PKIKP **PKPdf** **06 56 54.9 +1.7**
comp=Z,2.4nm,0.6s,baz=78,slow=9.3,SNR=3.4
KLR Kul'dur 141.59 335 *i*PKIKP **PKPdf** **06 56 54.9 +1.7**
FITZ Fitzroy Crossi 141.93 208 *e*PKPpre PKPpre 06 56 51.0
NRN Naryn 142.55 41 *e*PKPdf **PKPdf** **06 56 54.5 -1.1**
MK31 Makanchi Array 142.59 29 *e*PKPpre PKPpre 06 56 52.1
MKAR Makanchi Array 142.59 29 PKhKP PKPpre 06 56 52.1
comp=Z,2.6nm,0.5s,baz=315,slow=2.9,SNR=22
MK01 Makanchi Array 142.62 29 *e*PKPpre PKPpre 06 56 52.4
KDJ Kajisay 142.89 39 *e*PKPdf **PKPdf** **06 56 56.5 +0.5**
KDJ Kajisay 142.89 39 *e*PKIKP **PKPdf** **06 56 56.5 +0.5**
MTN Manton Dam 143.33 220 *e*PKPdf PKPbc 06 56 55.9 +1.2
KSH Kashi 143.55 44 PKP **PKPdf** **06 56 56.8 -0.3**
KSH PP **PP** **07 00 13.0 +2.9**
KSH SS SS 07 18 43.7 +1.6
KSH AMB AMB
comp=Z,300nm,4.9s
KSH LR LR
comp=Z,300nm,10.5s
KSH LR LR
comp=Z,170nm,6.9s
KSH LR LR
comp=Z,230nm,14.2s
GUMO Guam 144.28 271 *e*PKPdf **PKPdf** **06 56 58.6 -0.3**
GUMO Guam 144.28 271 *e*PKIKP **PKPdf** **06 56 58.6 -0.3**
USA0B Ussuriysk Arra 145.29 329 *e*PKPdf **PKPab** **06 57 00.3 +0.3**
USRK Ussuriysk Ar. 145.29 329 PKPbc **PKPab** **06 57 00.8 +0.8**
comp=Z,41nm,1.0s,baz=28,slow=3.9,SNR=36
HIA Hailar 145.44 346 *e*PKPdf **PKPbc** **06 57 00.3 +0.1**
HIA Hailar 145.44 346 *e*PKIKP **PKPbc** **06 57 00.3 +0.1**
ZAK Zakamensk 145.48 5 *e*PKIKP **PKPdf** **06 57 00.2 +0.1**
ZAK *e* 06 57 32.1
ZAK pmax pmax
comp=Z,15nm,1.1s
MDJ Mudanjiang 146.11 332 PKPbc **PKPdf** **06 57 01.7 +0.5**
VLA Vladivostok 146.12 328*ce* PKP2 **PKPab** **06 57 03.6 +0.4**
MJAR Matsushiro Arr 146.25 313 PKPbc **PKPbc** **06 57 03.4 +0.3**
comp=Z,81nm,1.0s,baz=87,slow=0.8,SNR=69
MAJO Matsushiro 146.25 313 *e*PKPdf **PKPdf** **06 57 01.5 -0.3**
MAJO *e*PKPbc **PKPab** **06 57 03.9 -0.1**
MAJO Matsushiro 146.25 313*d* *i*PKP2 **PKPbc** **06 57 03.3 +0.3**
MAJO pmax pmax
comp=Z,261nm,1.3s
MAT Matsushiro 146.25 313 PKP **PKPab** **06 57 03.6 -0.4**
MJB9 Matsu-Tunnel 146.25 313 *e*PKPdf **PKPdf** **06 57 01.6 -0.2**
MJB9 *e*PKPbc **PKPab** **06 57 04.0 0.0**
WMQ Urumqi 147.34 28 *e*PKPbc **PKPbc** **06 57 06.0 0.0**
WMQ LR LR
comp=Z,160nm,29.1s
WMQ LR LR
comp=Z,250nm,34.5s
WMQ LR LR
comp=Z,170nm,29.1s
INU Inuyama 147.67 312 *e*PKPdf **PKPdf** **06 57 03.8 -0.4**
INU *e*PKPbc **PKPbc** **06 57 08.0 +1.0**
ULN Ulaanbaatar 148.20 1 *e*PKPdf **PKPbc** **06 57 06.7 -1.6**
ULN *e*PKPbc **PKiKP** **06 57 10.5 +0.6**
ULN Ulaanbaatar 148.20 1 *e*PKIKP **PKPbc** **06 57 06.7 -1.6**
ULN *e* 06 57 10.5
SONA1 Songino Array 148.20 2 *e*PKPdf **PKPdf** **06 57 05.3 +0.5**
SONA1 *e*PKPbc **PKiKP** **06 57 10.0 +0.1**
SONA1 *e*PKPab **PKPab** **06 57 14.1 +2.7**
SONM Songino Array 148.21 2 PKP **PKPbc** **06 57 06.8 -1.4**
comp=Z,21nm,0.6s,baz=275,slow=0.8,SNR=106
SONM PKPbc **PKiKP** **06 57 09.8 -0.1**
comp=Z,21nm,0.6s,baz=324,slow=2.3,SNR=93
SONM pPKPbc **pPKPbc** **06 57 40.8 -0.2**
comp=Z,7.5nm,0.8s,baz=316,slow=1.6,SNR=3.0
FAKI Fak Fak 149.52 234 *e*PKPbc **PKPbc** **06 57 13.5 +1.0**
SOEI Soe 149.77 213 *e*PKPbc **PKPbc** **06 57 15.0 +1.9**
HYB Hyderabad 151.79 83 *i* PKP **PKPdf** **06 57 12.5 +1.3**
HYB *e* 06 57 19.5
HYB *e* 06 57 28.5
KSRS Korea Array 152.28 324 PKP **PKPdf** **06 57 13.2 +1.9**
comp=Z,4.1nm,1.0s,baz=342,slow=0.4,SNR=7.2
KSRS PKPbc **PKiKP** **06 57 19.9 +1.5**
comp=Z,32nm,0.9s,baz=31,slow=1.6,SNR=37
KSRS pPKPbc **pPKPbc** **06 57 50.7 -0.3**
comp=Z,4.8nm,0.6s,baz=13,slow=2.0,SNR=2.3
KS01 Wonju Array Si 152.28 324 *e*PKPdf **PKPdf** **06 57 12.1 +0.8**
KS01 *e*PKPbc **PKiKP** **06 57 19.9 +1.5**
KS01 *e*PKPab **PKPab** **06 57 29.6 +1.2**
KSAR Wonju Array Be 152.31 324 PKP **PKPdf** **06 57 13.2 +1.9**
KSAR PKPbc **PKiKP** **06 57 19.9 +1.4**
KSAR pPKPbc **pPKPbc** **06 57 50.7 -0.4**
KSAR Wonju Array Be 152.31 324 PKiKP **PKPdf** **06 57 13.2 +1.9**
KSAR 06 57 50.7
HHC Hu-ho-hao-te 155.03 354 *e*PKPbc **PKPdf** **06 57 13.8 -1.5**
HHC PP **PP** **07 01 17.9 +2.6**
HHC SS SS 07 20 48.4 +0.4
GTA Gaotai 155.59 15⇑ PKP **PKPdf** **06 57 10.2 -5.9**
GTA PKPab **PKPab** **06 57 39.8 -2.7**
GTA PP **PP** **07 01 17.7 -1.0**
GTA SKS **SKSdf** **07 04 05.0 -6.5**
GTA SKKS **SKKSac** **07 07 54.6 -3.2**
GTA SS **SS** **07 20 54.9 +0.5**
GTA AMB AMB
comp=Z,83nm,7.5s
GTA LR LR
comp=Z,140nm,20.9s
GTA LR LR
comp=Z,190nm,21.3s
GTA LR LR
comp=Z,120nm,21.3s
LZH Lanzhou 159.64 10 *e*PKP **PKPdf** **06 57 23.7 +2.4**
LZH pPKP pPKPdf 06 57 50.0 -4.5
LZH LR LR
comp=Z,300nm,17.8s
LZH LR LR
comp=Z,300nm,18.0s
LZH LR LR
comp=Z,340nm,20.1s
NJ2 Nanjing 161.19 330 *e*PKP **PKPdf** **06 57 22.4 -0.5**
CD2 Chengdu 164.65 14 PKP **PKPdf** **06 57 24.6 -1.7**
GYA Guiyang 169.50 6 *e*PKP **PKPdf** **06 57 29.2 -0.9**
GYA pPKP pPKPdf 06 58 02.0 -1.4
GYA PKS **PKSdf** **07 01 00.8 -2.0**
GYA PP **PP** **07 02 35.3 +3.1**
GYA AMB AMB
comp=Z,140nm,8.2s
KMI Kunming 169.67 27 PKP **PKPdf** **06 57 33.9 +3.5**
CHTO Chiang Mai 170.93 71 *e*PKPdf **PKPdf** **06 57 30.7 -0.3**
CHTO *ep*PKPdf **pPKPdf** **06 58 04.9 +0.6**
CHTO *e*PKPab **PKPab** **06 58 51.6 +1.2**
CHTO Chiang Mai 170.93 71 *e*PKIKP **PKPdf** **06 57 30.7 -0.3**
CHTO *e* 06 58 04.9
CHTO *e* 06 58 51.6
CMAR Chiang Mai Arr 171.03 73 PKP **PKPdf** **06 57 32.4 +1.3**
comp=Z,0.9nm,0.3s,baz=266,slow=1.7,SNR=4.3
CM01 Chiang Mai Arr 171.05 73 *e*PKPdf **PKPdf** **06 57 31.2 +0.2**
CM01 *ep*PKPdf **pPKPdf** **06 58 04.8 +0.5**
CM01 *e*PKPab **PKPab** **06 58 51.4 +0.5**
SRDT SRDT 171.30 100 PKP **PKPdf** **06 57 35.4 +4.2**
PBKT Sadao Pong 173.25 84 *e*PKPdf **PKPdf** **06 57 32.1 0.0**
PBKT *ep*PKPdf **pPKPdf** **06 58 04.2 -1.1**
PBKT *e*PKPab **PKPab** **06 59 02.3 +1.6**

ISK ***04*** *06:42:55.0, 37.72N×26.86E, h7km, ML2.9/12*
ISCJB ***04*** *06:42:56.3±0.4, 37.73N±0.02×26.93E±0.03, h8km±3km, Error ellipse: s-maj=4.0km s-min=3.1km az=157.9*
THE ***04*** *06:42:56.4, 37.72N×26.94E, h7km±1km, ML2.5/4, Error ellipse: s-maj=2.0km s-min=0.6km az=235.0*
ATH ***04*** *06:42:56.3, 37.73N×26.89E, h15km±1km, ML2.5/6, Error ellipse: s-maj=3.1km s-min=1.2km az=95.0*
DDA ***04*** *06:42:56.2, 37.74N×26.86E, h6km, Ml3.0*
ISC 04 06:42:56.7±0.8, 37.73N±0.02×26.88E±0.02, h12km±4km, n38, σ1s07/59, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMG	**Samos**	**0.04**	**244**	P	**Pg**	**06 42 58.9**	**-0.1**
SMG				S	**Sg**	**06 43 00.9**	**+0.3**
SMG				AML	AML	06 43 01.1	
	comp=N,14253μm,0.3s						
SMG				AML	AML	06 43 01.7	
	comp=E,7043μm,0.3s						
SMG	**Samos**	**0.04**	**244**	P	**Pg**	**06 42 58.8**	**-0.1**
SMG				S	**Sg**	**06 43 00.1**	**-0.5**
GCAM	**G?zelcaml?**	**0.28**	**95**	PG	**Pg**	**06 43 01.7**	**-0.7**
GCAM				SG	**Sg**	**06 43 06.1**	**-0.2**
GCAM	**G?zelcaml?**	**0.28**	**95**	*i* P	**Pg**	**06 43 02.0**	**-0.4**
GCAM				*i* S	**Sg**	**06 43 06.8**	**+0.6**
DGB	**˜zmir**	**0.33**	**360**	*i* P	**Pg**	**06 43 02.4**	**-0.9**
DGB				*i* S	**Sg**	**06 43 07.3**	**-0.4**
GMLD	**Gumuldur**	**0.35**	**4**	PG	**Pg**	**06 43 02.7**	**-1.1**
GMLD				SG	**Sg**	**06 43 07.9**	**-0.6**
ZEY	**˜zmir**	**0.59**	**330**	*i* P	**Pg**	**06 43 07.7**	**-0.6**
ZEY				*i* S	**Sb**	**06 43 18.8**	**+1.4**
BLCB	**Balcova**	**0.67**	**11**	PG	**Pg**	**06 43 08.4**	**-1.3**
URLA	**Izmir**	**0.67**	**340**	PG	**Pg**	**06 43 09.4**	**-0.4**
URLA	**Izmir**	**0.67**	**340**	*i* P	**Pb**	**06 43 10.2**	**-0.2**
URLA				*i* S	**Sb**	**06 43 21.3**	**+1.6**
BODT	**Bodrum**	**0.74**	**153**	PG	**Pg**	**06 43 10.2**	**-0.9**
BODT	**Bodrum**	**0.74**	**153**	P	**Pg**	**06 43 10.6**	**-0.5**
BODT				S	**Sg**	**06 43 20.5**	**-0.4**
AYDN	**Tasoluk**	**0.79**	**94**	*i* P	**Pg**	**06 43 10.9**	**-1.1**
AYDN				*i* S	**Sb**	**06 43 23.9**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**0.83**	**74**	PG	**Pg**	**06 43 11.5**	**-1.2**
MLSB	**Milas**	**0.83**	**121**	PG	**Pg**	**06 43 11.6**	**-1.1**
KRBN	**Karaburun**	**0.90**	**343**	PG	**Pg**	**06 43 12.9**	**-1.3**
CHOS	**Chios island**	**0.93**	**316**	P	**Pg**	**06 43 14.2**	**-0.4**
CHOS				S	**Sb**	**06 43 27.2**	**+0.1**
CHOS				AML	AML	06 43 29.2	
	comp=E,508μm,0.3s						
CHOS				AML	AML	06 43 34.0	
	comp=N,318μm,0.5s						
CHOS	**Chios island**	**0.93**	**316**	P	**Pg**	**06 43 14.2**	**-0.4**
CHOS				S	**Sn**	**06 43 28.6**	**-0.3**
FOCM	**Fo˜ça**	**0.99**	**353**	PG	**Pg**	**06 43 14.6**	**-1.2**
DAT	**Datca**	**1.14**	**151**	PN	**Pg**	**06 43 17.4**	**-1.2**
DAT	**Datca**	**1.14**	**151**	*i* P	**Pn**	**06 43 19.0**	**+0.5**
DAT				*i* S	**Sn**	**06 43 38.1**	**+4.0**
NIS1	**Nisyros Isl.**	**1.15**	**168**	PN	**Pg**	**06 43 16.9**	**-1.8**
AMGA	**Amorgos Island**	**1.19**	**222**	P	**Pg**	**06 43 18.8**	**-0.8**
AMGA				S	**Sn**	**06 43 35.6**	**+0.3**
AMGA				AML	AML	06 43 40.3	
	comp=N,373μm,0.6s						
AMGA				AML	AML	06 43 41.3	
	comp=E,363μm,0.5s						
AMGA	**Amorgos Island**	**1.19**	**222**	P	**Pg**	**06 43 18.8**	**-0.8**
APE	**Apeiranthos**	**1.26**	**239**	P	**Pg**	**06 43 20.9**	**-0.1**
APE				S	**Sn**	**06 43 37.5**	**+0.4**
APE				AML	AML	06 43 45.2	
	comp=E,87μm,0.3s						
APE				AML	AML	06 43 47.4	
	comp=N,154μm,0.4s						
APE	**Apeiranthos**	**1.26**	**239**	P	**Pn**	**06 43 19.1**	**-1.1**
GOMA	**Golmarmara-Man**	**1.27**	**39**	PN	**Pn**	**06 43 19.9**	**-0.4**
DKL	**Dikili**	**1.34**	**1**	PN	**Pn**	**06 43 21.0**	**-0.2**
AKHS	**Akhisar**	**1.36**	**32**	*i* P	**Pn**	**06 43 21.6**	**0.0**
AKHS				*i* S	**Sn**	**06 43 42.2**	**+2.6**
PRK	**Paraskevi**	**1.59**	**343**	P	**Pn**	**06 43 24.5**	**-0.2**
PRK				S	**Sn**	**06 43 45.2**	**0.0**
KULA	**Kula-Manisa**	**1.61**	**60**	PN	**Pn**	**06 43 25.2**	**+0.2**
TURN	**Turunc**	**1.61**	**121**	PN	**Pn**	**06 43 21.7**	**-3.3**
ANAF	**Anafi Island**	**1.63**	**213**	P	**Pb**	**06 43 27.0**	**+0.3**
ANAF				S	**Sg**	**06 43 48.8**	**-0.4**
ANAF				AML	AML	06 43 54.8	
	comp=N,389μm,0.4s						
ANAF				AML	AML	06 43 55.2	
	comp=E,403μm,0.4s						
ANAF	**Anafi Island**	**1.63**	**213**	P	**Pn**	**06 43 24.7**	**-0.5**
SIGR	**SIGRI**	**1.69**	**332**	P	**Pb**	**06 43 27.7**	**0.0**
SIGR				S	**Sb**	**06 43 49.2**	**+0.3**
SIGR				AML	AML	06 43 53.6	
	comp=N,267μm,0.5s						
SIGR				AML	AML	06 43 53.8	
	comp=E,223μm,0.5s						
SIGR	**SIGRI**	**1.69**	**332**	P	**Pn**	**06 43 25.3**	**-0.7**
SIGR				S	**Sn**	**06 43 48.1**	**+0.6**
STEP	**BALIKESIR_Sava**	**1.77**	**21**	*i* P	**Pb**	**06 43 28.9**	**-0.2**
STEP				*i* S	**Sg**	**06 43 54.5**	**+0.8**
FETY	**Fethiye**	**2.07**	**121**	PN	**Pn**	**06 43 31.4**	**+0.2**

IDC ***04*** *07:33:39.6±1.3, 32.47S×178.61W, h0km, mb4.4/3, mb1 4.6/5, mb1mx4.0/35, mbtmp4.4/5, ML4.0/1, MS3.4/6, Ms1 3.4/6, ms1mx3.1/34, Error ellipse: s-maj=33.9km s-min=25.6km az=88.0*
NEIC ***04*** *07:33:43.5±0.6, 32.64S×178.49W, h35km, mb4.4/8, Error ellipse: s-maj=14.4km s-min=8.4km az=108.0*
ISC 04 07:33:43.7±0.7, 32.68S±0.07×178.5W±0.1, h33km, n48, σ2s09/45, mb4.5/12, MS3.1/5, 2C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.46**	**9**	Pn	**Pn**	**07 34 32.0**	**-3.2**
	baz=120,slow=20						
RAO	**Raoul Island**	**3.46**	**9**	*e*Pn	**Pn**	**07 34 33.2**	**-2.0**
MXZ	**Matakaoa Point**	**5.52**	**207**	*e*Pn	**Pn**	**07 35 02.6**	**-1.0**
URZ	**Urewera**	**6.61**	**211**	Pn	**Pn**	**07 35 18.4**	**-0.1**
	2.7nm,0.3s,baz=268,slow=3.9,SNR=36						
URZ				Sn	**Sn**	**07 36 30.9**	**-1.8**
	10nm,0.3s,baz=204,slow=22,SNR=9.9						
URZ	**Urewera**	**6.61**	**211**	*e*Pn	**Pn**	**07 35 18.4**	**-0.1**
URZ				*e*Sn	**Sn**	**07 36 30.9**	**-1.8**
URZ				*e*Sn	**Sn**	**07 36 34.0**	**+1.4**
BKZ	**Black Stump Fm**	**7.63**	**211**	*e*Pn	**Pn**	**07 35 32.8**	**+0.2**
BKZ				*e*Sn	**Sn**	**07 36 56.5**	**-1.5**
HIZ	**Hauiti**	**7.93**	**221**	*e*Pn	**Pn**	**07 35 40.4**	**+3.7**
BFZ	**Birch Farm**	**9.02**	**206**	*e*Pn	**Pn**	**07 35 49.5**	**-2.2**
BFZ				*e*Sn	**Sn**	**07 37 29.2**	**-2.9**
SNZO	**South Karori**	**10.17**	**210**	*e*Pn	**Pn**	**07 36 05.7**	**-1.7**
SNZO				*e*Sn	Sn	07 37 50.2	-10
KHZ	**Kahutara**	**11.58**	**211**	*e*Pn	**Pn**	**07 36 22.5**	**-4.1**
KHZ				*e*Sn	**Sn**	**07 38 28.6**	**-6.0**
DZM	**Mont Dzumac**	**17.01**	**305**	LR	LR	07 41 59.6	
	comp=Z,194nm,18.9s,baz=72,slow=30						
DZM	**Mont Dzumac**	**17.01**	**305**	*e*Pn	**P**	**07 37 44.3**	**+3.5**
	45nm,1.4s						
RAR	**Rarotonga**	**20.21**	**60**	LR	LR	07 45 58.1	
	comp=Z,57nm,18.7s,baz=234,slow=37						
PPT	**Papeete**	**30.09**	**67**	LR	LR	07 51 53.8	
	comp=Z,45nm,18.1s,baz=195,slow=36						
STKA	**Stephens Creek**	**33.59**	**260**	LR	LR	07 53 31.3	
	comp=Z,98nm,18.1s,baz=32,slow=36						
STKA	**Stephens Creek**	**33.59**	**260**	*e*P	**P**	**07 40 20.7**	**-0.2**
	4.1nm,1.9s						
CTAO	**Charters Tower**	**33.80**	**283**	*e*P	**P**	**07 40 21.7**	**-1.1**
	16nm,1.3s						
TARA	**Tarawa**	**34.80**	**345**	*e*P	**P**	**07 40 29.1**	**-2.3**
	83nm,1.0s						
BBOO	**Buckleboo**	**37.97**	**257**	*e*P	**P**	**07 40 58.5**	**+0.1**
BBOO				*e*pP	**pP**	**07 41 08.9**	**+0.7**
AS01	**Alice Springs**	**42.55**	**270**	*e*P	**P**	**07 41 36.3**	**-0.3**
AS31	**Alice Springs**	**42.59**	**270**	*e*P	**P**	**07 41 36.4**	**-0.5**
	1.6nm,1.0s						
ASAR	**Alice Springs**	**42.59**	**270**	P	**P**	**07 41 37.0**	**+0.1**
	3.9nm,0.9s,baz=105,slow=7.3,SNR=23						
WB2	**Warramunga Arr**	**43.78**	**275**	*e*P	**P**	**07 41 46.1**	**-0.3**
WRAB	**Tennant Creek**	**43.78**	**275**	*e*P	**P**	**07 41 46.1**	**-0.4**
	8.2nm,1.2s						
WR1	**Warramunga Arr**	**43.79**	**275**	*e*P	**P**	**07 41 46.7**	**+0.2**
	5.7nm,0.6s						
WRA	**Warramunga Arr**	**43.79**	**275**	P	**P**	**07 41 46.7**	**+0.2**
	4.1nm,0.6s,baz=114,slow=7.9,SNR=35						
VNDA	**Vanda**	**45.79**	**186**	LR	LR	07 57 19.9	
	comp=Z,21nm,20.6s,baz=305,slow=31						
QSPA	**South Pole Qui**	**57.44**	**180**	P	**P**	**07 43 31.9**	**+2.9**
	8.0nm,1.0s,baz=67,slow=3.2,SNR=12						
QSPA	**South Pole Qui**	**57.44**	**180**	*e*P	**P**	**07 43 28.7**	**-0.4**
	9.2nm,1.0s						
BATI	**Baumata**	**57.53**	**279**	LR	LR	08 08 29.4	
	comp=Z,80nm,18.1s,baz=130,slow=36						
SYO	**Syowa Base**	**74.80**	**193**	*e*P	**P**	**07 45 22.9**	**+2.7**
SYO	**Syowa Base**	**74.80**	**193**	*e*P	P	07 45 32.5	+12
SNAA	**Sanae**	**75.90**	**179**	P	**P**	**07 45 29.1**	**+2.5**
SNAA	**Sanae**	**75.90**	**179**	*e*P	**P**	**07 45 29.1**	**+2.5**
	3.6nm,1.0s						
VNA3	**Neumayer Olymp**	**76.07**	**176**	P	**P**	**07 45 30.0**	**+2.6**
VNA2	**Neumayer--Watz**	**76.50**	**177**	P	**P**	**07 45 32.8**	**+2.9**
	baz=173,slow=4.3						
VNA1	**Neumayer--Stat**	**76.73**	**177**	P	**P**	**07 45 33.6**	**+2.5**
PB01	**IPOC Station P**	**93.73**	**118**	*e*P	**P**	**07 46 56.3**	**-1.5**
	15nm,0.3s						
D05A	**Enumclaw**	**94.35**	**35**	*e*P	**P**	**07 46 59.5**	**-0.1**
	154nm,1.6s						
ARA0	**ARCESS Array S**	**140.71**	**347**	*e*PKPpre	PKPpre	07 53 05.4	
ARCES	**ARCESS Array B**	**140.71**	**347**	PKhKP	PKPpre	07 53 05.4	
	4.7nm,1.1s,baz=82,slow=2.1,SNR=3.5						
NB2	**NORSAR Subarra**	**150.92**	**350**	PKP	**PKPbc**	**07 53 32.3**	**0.0**
	comp=Z,0.9nm,0.9s,baz=17,slow=2.6						
NB200	**NORSAR Array S**	**150.92**	**350**	*e*PKPbc	**PKPbc**	**07 53 32.7**	**+0.4**
NOA	**NORSAR Array B**	**150.92**	**350**	PKPbc	**PKPbc**	**07 53 32.7**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=14,slow=4.1,SNR=5.4						
TOA0	**Torodi Ar. Sit**	**160.56**	**181**	*e*PKPab	**PKPab**	**07 54 21.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**160.56**	**181**	PKPab	**PKPab**	**07 54 23.1**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=184,slow=4.3,SNR=5.7						
TOA1	**Torodi Ar. Sit**	**160.56**	**181**	*e*PKPab	**PKPab**	**07 54 23.1**	**+1.1**
KHC	**Kasperske Hory**	**161.23**	**335**	*e*PKPdif	PKPdf	07 53 53.6	+13

PGC ***04*** *07:42:11.5±2.1,52.51N×131.98W,h9km,mb4.1,ML4.0, ML4.6/20,83km Ssw of Sandspit, Bc Haida Gwaii Region*
IDC ***04*** *07:42:12.7±0.9,52.67N×131.80W,h0km,mb4.0/11, mb1 4.2/16,mb1mx4.0/39,mbtmp3.9/16,ML3.7/5,MS3.6/24, Ms1 3.6/24,ms1mx3.4/48,Error ellipse: s-maj=16.5km s-min=5.0km az=39.0*
NEIC ***04*** *07:42:16.0±0.3,52.76N×131.78W,h10km,mb4.1/120, MW4.5(OTT),Error ellipse: s-maj=6.5km s-min=2.3km az=57.0*

ISC 04 07:42:14.2±1.1,52.79N±0.03×131.76W±0.03,h3km±8km, n441,σ1s76/427,mb4.3/77,MS3.6/15,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.22**	**179**	P	Pg	07 42 14.7	-3.6
BNB				S	**Sg**	**07 42 16.9**	**-4.3**
BNB	**Barry Inlet**	**0.22**	**179**	P	Pg	07 42 14.7	-3.6
BNB				S	**Sg**	**07 42 16.9**	**-4.3**
DIB	**Dawson Inlet,**	**0.60**	**314**	*e*Pg	**Pg**	**07 42 25.0**	**-0.6**
DIB				*e*Sg	**Sg**	**07 42 35.2**	**+1.8**
DIB	**Dawson Inlet,**	**0.60**	**314**	P	**Pg**	**07 42 25.1**	**-0.6**
DIB				S	**Sg**	**07 42 35.0**	**+1.6**
DIB	**Dawson Inlet,**	**0.60**	**314**	P	**Pg**	**07 42 25.1**	**-0.6**
DIB				S	**Sg**	**07 42 35.0**	**+1.6**
H02S1	**DAWSON INLET T**	**0.60**	**314**	Pg	**Pg**	**07 42 25.4**	**-0.2**
H02S1				Lg	Lg	07 42 34.5	
H02N1	**VAN INLET T-PH**	**0.66**	**315**	Pg	**Pg**	**07 42 26.4**	**-0.4**
H02N1				Lg	Lg	07 42 36.8	
VIB	**Van Inlet**	**0.66**	**315**	P	**Pg**	**07 42 26.2**	**-0.6**
VIB				S	**Sg**	**07 42 37.1**	**+1.7**
VIB	**Van Inlet**	**0.66**	**315**	P	**Pg**	**07 42 26.2**	**-0.6**
VIB				S	**Sg**	**07 42 37.1**	**+1.7**
BNAB	**Bonilla**	**0.97**	**43**	P	**Pg**	**07 42 33.6**	**+0.8**
BNAB	**Bonilla**	**0.97**	**43**	P	**Pg**	**07 42 33.6**	**+0.8**
MASB	**Masset**	**1.23**	**353**	P	**Pn**	**07 42 38.9**	**+0.6**
MASB	**Masset**	**1.23**	**353**	P	**Pn**	**07 42 38.9**	**+0.6**
NDB	**Naden**	**1.36**	**329**	P	**Pn**	**07 42 38.1**	**-2.0**
NDB				S	**Sb**	**07 42 59.9**	**+1.7**
NDB	**Naden**	**1.36**	**329**	P	**Pn**	**07 42 38.1**	**-2.0**
NDB				S	**Sb**	**07 42 59.9**	**+1.7**
RUBB	**Prince Rupert**	**1.78**	**30**	Pn	**Pn**	**07 42 45.3**	**-0.5**
RUBB				Sn	**Sb**	**07 43 12.3**	**+2.2**
RUBB	**Prince Rupert**	**1.78**	**30**	Pn	**Pn**	**07 42 45.3**	**-0.5**
RUBB				Sn	**Sb**	**07 43 12.3**	**+2.2**
BBB	**Bella Bella**	**2.31**	**104**	Pn	**Pn**	**07 42 49.9**	**-3.1**
	5.4nm,0.3s,baz=276,slow=9.5,SNR=21						
BBB				Pg	**Pb**	**07 42 54.4**	**-2.0**
	54nm,0.3s,baz=281,slow=17,SNR=60						
BBB				Sn	**Sn**	**07 43 19.4**	**-2.5**
	75nm,0.3s,baz=336,slow=23,SNR=7.6						
BBB				LR	LR	07 43 23.6	
	comp=Z,467nm,19.1s,baz=302,slow=31						
BBB				Lg	Lg	07 43 24.6	
	319nm,0.3s,baz=18,slow=19,SNR=15						
BBB	**Bella Bella**	**2.31**	**104**	*e*Pn	**Pn**	**07 42 50.3**	**-2.7**
BBB				Sn	**Sn**	**07 43 19.4**	**-2.5**
BBB				*e*Sn	**Sb**	**07 43 25.5**	**+0.2**
BBB	**Bella Bella**	**2.31**	**104**	Pn	**Pn**	**07 42 50.0**	**-3.1**
BBB				Sg	**Sb**	**07 43 24.9**	**-0.4**
BBB	**Bella Bella**	**2.31**	**104**	Pn	**Pn**	**07 42 50.0**	**-3.1**
BBB				Sg	**Sb**	**07 43 24.9**	**-0.4**
CRAG	**Craig**	**2.80**	**344**	*e*Pn	**Pn**	**07 43 00.2**	**+0.4**
BCBC	**Bella Coola**	**3.08**	**96**	Pn	**Pn**	**07 43 03.3**	**-0.4**
BCBC				Sg	**Sb**	**07 43 49.3**	**+1.8**
BCBC	**Bella Coola**	**3.08**	**96**	Pn	**Pn**	**07 43 03.3**	**-0.4**
BCBC				Sg	**Sb**	**07 43 49.3**	**+1.8**
PHC	**Port Hardy**	**3.41**	**126**	Pn	Pn	07 43 03.0	-5.1
PHC				Sn	**Sn**	**07 43 42.9**	**-6.1**
PHC	**Port Hardy**	**3.41**	**126**	Pn	Pn	07 43 03.0	-5.1
PHC				Sn	**Sn**	**07 43 42.9**	**-6.1**
PACB	**Port Alice, BC**	**3.56**	**130**	Pn	Pn	07 43 04.5	-5.6
PACB				Sn	**Sn**	**07 43 47.9**	**-4.8**
PACB	**Port Alice, BC**	**3.56**	**130**	Pn	Pn	07 43 04.5	-5.6
PACB				Sn	**Sn**	**07 43 47.9**	**-4.8**
BPBC	**Brooks Peninsu**	**3.63**	**135**	Pn	Pn	07 43 05.2	-6.1
BPBC	**Brooks Peninsu**	**3.63**	**135**	Pn	Pn	07 43 05.2	-6.1
WRAK	**Wrangell Islan**	**3.65**	**355**	*e*Pn	**Pn**	**07 43 13.5**	**+2.0**
WRAK				*e*Sg	**Sg**	**07 44 11.1**	**-0.3**
MAYB	**Maynard**	**3.73**	**128**	Pn	Pn	07 43 07.2	-5.5
MAYB	**Maynard**	**3.73**	**128**	Pn	Pn	07 43 07.2	-5.5
TLCB	**Telegraph Cove**	**3.80**	**124**	Pn	Pn	07 43 09.1	-4.4
TLCB				Sn	**Sn**	**07 43 54.0**	**-4.7**
TLCB	**Telegraph Cove**	**3.80**	**124**	Pn	Pn	07 43 09.1	-4.4
TLCB				Sn	**Sn**	**07 43 54.0**	**-4.7**
WOSB	**Woss**	**4.18**	**127**	Pn	Pn	07 43 14.8	-4.0
WOSB	**Woss**	**4.18**	**127**	Pn	Pn	07 43 14.8	-4.0
NCRB	**Newcastle Ridg**	**4.29**	**122**	Pn	**Pn**	**07 43 16.5**	**-3.8**
NCRB	**Newcastle Ridg**	**4.29**	**122**	Pn	**Pn**	**07 43 16.5**	**-3.8**
UBRB	**Upper Baezaeko**	**4.66**	**86**	Pn	**Pn**	**07 43 25.4**	**0.0**
UBRB				Sg	**Sb**	**07 44 37.8**	**+4.9**
UBRB	**Upper Baezaeko**	**4.66**	**86**	Pn	**Pn**	**07 43 25.4**	**0.0**
UBRB				Sg	**Sb**	**07 44 37.8**	**+4.9**
GDR	**Gold River**	**4.69**	**128**	Pn	**Pn**	**07 43 23.5**	**-2.2**
GDR	**Gold River**	**4.69**	**128**	Pn	**Pn**	**07 43 23.5**	**-2.2**
FSB	**Fort Saint Jam**	**4.73**	**66**	Pn	**Pn**	**07 43 26.6**	**+0.2**
FSB	**Fort Saint Jam**	**4.73**	**66**	Pn	**Pn**	**07 43 26.6**	**+0.2**
SIT	**Sitka**	**4.74**	**336**	*e*Pn	**Pn**	**07 43 26.8**	**+0.3**
SPLB	**Strathcona Par**	**4.80**	**125**	Pn	**Pn**	**07 43 24.9**	**-2.5**
SPLB	**Strathcona Par**	**4.80**	**125**	Pn	**Pn**	**07 43 24.9**	**-2.5**
CBB	**Campbell River**	**4.86**	**122**	Pn	Pn	07 43 22.9	-5.3
CBB				Sn	**Sn**	**07 44 20.7**	**-4.2**
CBB	**Campbell River**	**4.86**	**122**	Pn	Pn	07 43 22.9	-5.3
CBB				Sn	**Sn**	**07 44 20.7**	**-4.2**
BTB	**Buttle Lake**	**5.15**	**128**	Pn	Pn	07 43 27.0	-5.2
BTB	**Buttle Lake**	**5.15**	**128**	Pn	Pn	07 43 27.0	-5.2
TXB	**Texada**	**5.54**	**121**	Pn	**Pn**	**07 43 34.7**	**-2.9**
TXB	**Texada**	**5.54**	**121**	Pn	**Pn**	**07 43 34.7**	**-2.9**
JIS	**Juneau Island**	**5.69**	**346**	*e*Pn	**Pn**	**07 43 39.7**	**+0.2**
DLBC	**Dease Lake**	**5.74**	**9**	Pn	**Pn**	**07 43 42.7**	**+2.4**
	1.6nm,0.3s,baz=216,slow=9.9,SNR=23						
DLBC				Lg	Lg	07 45 16.7	
	2.7nm,0.3s,baz=31,slow=9.6,SNR=8.9						
DLBC				LR	LR	07 46 02.4	
	comp=Z,1μm,19.9s,baz=182,slow=39						
DLBC	**Dease Lake**	**5.74**	**9**	*e*Pn	**Pn**	**07 43 43.7**	**+3.4**
DLBC				Lg		07 45 16.7	
DLBC	**Dease Lake**	**5.74**	**9**	Pn	**Pn**	**07 43 42.6**	**+2.4**
DLBC				Sg	**Sg**	**07 45 15.1**	**-3.3**
DLBC	**Dease Lake**	**5.74**	**9**	Pn	**Pn**	**07 43 42.6**	**+2.4**
DLBC				Sg	**Sg**	**07 45 15.1**	**-3.3**
MGB	**Mount Grey**	**5.87**	**128**	Pn	**Pn**	**07 43 39.9**	**-2.1**
MGB	**Mount Grey**	**5.87**	**128**	Pn	**Pn**	**07 43 39.9**	**-2.1**
GHNB	**Nanoose**	**5.89**	**123**	Pn	**Pn**	**07 43 41.1**	**-1.1**
GHNB	**Nanoose**	**5.89**	**123**	Pn	**Pn**	**07 43 41.1**	**-1.1**
SHB	**Sechelt**	**5.90**	**120**	Pn	**Pn**	**07 43 41.0**	**-1.4**
SHB	**Sechelt**	**5.90**	**120**	Pn	**Pn**	**07 43 41.0**	**-1.4**
NLLB	**Nanaimo Lost L**	**6.07**	**123**	Pn	**Pn**	**07 43 43.0**	**-1.6**
NLLB	**Nanaimo Lost L**	**6.07**	**123**	Pn	**Pn**	**07 43 43.0**	**-1.6**
PFB	**Port Renfrew**	**6.28**	**129**	Pn	**Pn**	**07 43 45.3**	**-2.4**
PFB	**Port Renfrew**	**6.28**	**129**	Pn	**Pn**	**07 43 45.3**	**-2.4**
BMBC	**Bull Mountain**	**6.49**	**56**	Pn	**Pn**	**07 43 50.8**	**+0.2**
BMBC				Sg	**Sg**	**07 43 39.7**	**-2.9**
BMBC	**Bull Mountain**	**6.49**	**56**	Pn	**Pn**	**07 43 50.8**	**+0.2**
BMBC				Sg	**Sg**	**07 43 39.7**	**-2.9**
LZB	**Mount Lazard**	**6.55**	**127**	Pn	**Pn**	**07 43 50.2**	**-1.1**
LZB	**Mount Lazard**	**6.55**	**127**	Pn	**Pn**	**07 43 50.2**	**-1.1**
PA02	**PA02 Ocean**	**6.71**	**125**	Sg	**Sb**	**07 45 40.5**	**+8.7**
PA02	**PA02 Ocean**	**6.71**	**125**	Sg	**Sb**	**07 45 40.5**	**+8.7**
PGC	**Sidney**	**6.71**	**125**	Sg	**Sb**	**07 45 39.1**	**+7.3**
PGC	**Sidney**	**6.71**	**125**	Sg	**Sb**	**07 45 39.1**	**+7.3**
SKAG	**Skagway**	**6.97**	**345**	*e*Pn	**Pn**	**07 44 00.1**	**+3.0**
A04D	**Lummi Island**	**7.04**	**122**	P	**Pn**	**07 43 58.2**	**+0.2**
	baz=309						
VDB	**Vedder Mountai**	**7.17**	**118**	Pn	**Pn**	**07 43 58.5**	**-1.4**
VDB	**Vedder Mountai**	**7.17**	**118**	Pn	**Pn**	**07 43 58.5**	**-1.4**
B05A	**Bryant**	**7.64**	**123**	P	**Pn**	**07 44 05.9**	**-0.4**
	baz=310						
D03D	**Eldon**	**7.66**	**130**	P	**Pn**	**07 44 08.7**	**+2.2**
	baz=316						
FNBB	**Fort Nelson**	**7.84**	**35**	Pn	**Pn**	**07 44 10.1**	**+1.1**
FNBB	**Fort Nelson**	**7.84**	**35**	Pn	**Pn**	**07 44 10.1**	**+1.1**
D04E	**Lakebay**	**8.07**	**131**	P	**Pn**	**07 44 14.0**	**+1.9**
	baz=317						
WHY	**Whitehorse**	**8.07**	**349**	*e*Pn	**Pn**	**07 44 13.9**	**+1.6**
WHY	**Whitehorse**	**8.07**	**349**	Pn	**Pn**	**07 44 13.2**	**+1.0**
WHY	**Whitehorse**	**8.07**	**349**	Pn	**Pn**	**07 44 13.2**	**+1.0**
E03A	**Lebam**	**8.20**	**136**	*e*Pn	**Pn**	**07 44 14.7**	**+0.7**
D05A	**Enumclaw**	**8.43**	**128**	*e*Pn	**Pn**	**07 44 21.6**	**+4.6**
SLEB	**Sale Mountain**	**8.57**	**96**	Pn	**Pn**	**07 44 19.1**	**-0.1**
SLEB				Sg	Sg	07 46 39.6	-9.4
SLEB	**Sale Mountain**	**8.57**	**96**	Pn	**Pn**	**07 44 19.1**	**-0.1**
SLEB				Sg	Sg	07 46 39.6	-9.4
E04D	**Cinebar**	**8.63**	**133**	P	**Pn**	**07 44 21.0**	**+1.2**
	baz=320						
HYT	**Haines Junctio**	**8.64**	**341**	*e*Pn	**Pn**	**07 44 23.6**	**+3.5**
LON	**Longmire**	**8.83**	**129**	*e*Pn	**Pn**	**07 44 23.4**	**+0.8**
YUK6	**Outpost Mounta**	**8.93**	**339**	Sg	**Sg**	**07 46 56.5**	**-4.1**
YUK6	**Outpost Mounta**	**8.93**	**339**	Sg	**Sg**	**07 46 56.5**	**-4.1**
LTY	**Liberty**	**9.03**	**123**	*e*Pn	**Pn**	**07 44 26.0**	**+0.6**
B08A	**Colville Reser**	**9.06**	**114**	*e*Pn	**Pn**	**07 44 27.5**	**+1.7**
G03D	**McMinnville, O**	**9.41**	**140**	P	**Pn**	**07 44 31.3**	**+0.8**
	baz=327						
F05D	**White Salmon**	**9.63**	**132**	P	**Pn**	**07 44 35.5**	**+1.9**
	baz=319						
C09A	**Chisman Ranch**	**9.97**	**115**	*e*Pn	**Pn**	**07 44 39.7**	**+1.6**
D08A	**Wollman Farm,**	**10.07**	**120**	*e*Pn	**Pn**	**07 44 38.1**	**-1.4**
H04D	**Lebanon**	**10.19**	**141**	P	**Pn**	**07 44 43.3**	**+2.0**
	baz=327						
G05D	**Wamic, OR**	**10.20**	**134**	P	**Pn**	**07 44 42.5**	**+1.1**
	baz=321						
F07A	**Phinny Hill Vi**	**10.35**	**127**	*e*Pn	**Pn**	**07 44 45.2**	**+1.9**
NEW	**Newport**	**10.36**	**110**	Pn	**Pn**	**07 44 44.8**	**+1.3**
	0.1nm,0.3s,baz=286,slow=11,SNR=9.5						
NEW				Lg	Lg	07 47 31.9	
	0.1nm,0.3s,baz=38,slow=20,SNR=4.7						
NEW				LR	LR	07 48 47.8	
	comp=Z,338nm,20.1s,baz=293,slow=38						
NEW	**Newport**	**10.36**	**110**	P	**Pn**	**07 44 45.7**	**+2.2**
	baz=301						
E08A	**Dider Farm, El**	**10.37**	**122**	*e*Pn	**Pn**	**07 44 43.3**	**-0.3**
G06A	**Carlson Farm,**	**10.51**	**132**	*e*Pn	**Pn**	**07 44 47.4**	**+1.8**
I03D	**Drain, OR**	**10.68**	**145**	P	**Pn**	**07 44 49.3**	**+1.4**
	baz=331						
E09A	**Wood Farm, Sta**	**10.82**	**120**	*e*Pn	**Pn**	**07 44 49.8**	**-0.1**
I05D	**Terrebonne, OR**	**10.91**	**137**	P	**Pn**	**07 44 52.2**	**+1.1**
	baz=324						
I04A	**Tendick Farm,**	**10.94**	**142**	P	**Pn**	**07 44 53.0**	**+1.5**
	baz=329						
PRDA	**Priddis**	**10.98**	**93**	Pn	**Pn**	**07 44 51.7**	**-0.4**
PRDA				Sg		07 47 56.8	
PRDA	**Priddis**	**10.98**	**93**	Pn	**Pn**	**07 44 51.7**	**-0.4**
PRDA				Sg		07 47 56.8	
G08A	**Pilot Rock**	**11.25**	**127**	*e*Pn	**Pn**	**07 44 56.7**	**+0.8**
K02D	**Willamette Mer**	**11.47**	**149**	P	**Pn**	**07 45 00.2**	**+1.4**
	baz=334						
PINE	**Pine Mountain**	**11.52**	**137**	*e*Pn	**Pn**	**07 45 00.0**	**+0.4**
J04D	**Umpqua Nationa**	**11.53**	**142**	P	**Pn**	**07 45 01.5**	**+1.8**
	baz=329						
F10A	**Beach Ranch, E**	**11.66**	**120**	*e*Pn	**Pn**	**07 45 01.5**	**+0.1**
HUMO	**Hull Mountain**	**11.78**	**146**	*e*Pn	**Pn**	**07 45 03.4**	**+0.4**
J05D	**Fort Rock, OR**	**11.82**	**139**	P	**Pn**	**07 45 04.9**	**+1.2**
	baz=327						
WALA	**Waterton Lakes**	**11.86**	**101**	*e*Pn	**Pn**	**07 45 02.5**	**-1.7**
I07A	**Izee**	**11.91**	**132**	*e*Pn	**Pn**	**07 45 04.2**	**-0.7**
I07A				*e*Sn	Sn	07 47 04.7	-14
L02E	**Cave Junction**	**11.97**	**149**	P	**Pn**	**07 45 07.6**	**+1.9**
	baz=335						
DAWY	**Dawson**	**11.98**	**344**	*e*Pn	**Pn**	**07 45 09.0**	**+3.4**
DAWY	**Dawson**	**11.98**	**344**	Sg		07 48 31.7	
DAWY	**Dawson**	**11.98**	**344**	Sg		07 48 31.7	
HARP	**HAARP**	**11.99**	**329**	*e*Pn	**Pn**	**07 45 05.7**	**-0.1**
K04D	**Chiloquin, OR**	**12.19**	**143**	P	**Pn**	**07 45 10.1**	**+1.4**
	baz=330						
JTMT	**Jette**	**12.26**	**107**	*e*Pn	**Pn**	**07 45 12.9**	**+3.3**
L04D	**Klamath Falls**	**12.35**	**145**	P	**Pn**	**07 45 11.9**	**+1.1**
	baz=332						
BMO	**Blue Mountains**	**12.38**	**124**	*e*Pn	**Pn**	**07 45 13.0**	**+1.7**
K05A	**Summer Lake**	**12.43**	**140**	*e*Pn	**Pn**	**07 45 14.2**	**+2.1**
YBH	**Yreka Blue Hor**	**12.64**	**147**	Pn	**Pn**	**07 45 16.4**	**+1.5**
	0.0nm,0.3s,baz=341,slow=11,SNR=5.5						
YBH				LR	LR	07 49 25.5	
	comp=Z,274nm,18.6s,baz=329,slow=34						
YBH	**Yreka Blue Hor**	**12.64**	**147**	*e*Pn	**Pn**	**07 45 16.7**	**+1.9**
KDAK	**Kodiak Island**	**12.85**	**301**	LR	LR	07 49 17.1	
	comp=Z,292nm,18.2s,baz=124,slow=33						
M04C	**Macdoel**	**12.89**	**145**	P	**Pn**	**07 45 19.2**	**+0.9**
	baz=332						
M02C	**Callahan**	**12.90**	**149**	P	**Pn**	**07 45 20.5**	**+2.1**
	baz=335						
J08A	**Circle Bar Ran**	**12.94**	**132**	*e*Pn	**Pn**	**07 45 19.4**	**+0.5**
EGAK	**Eagle**	**12.95**	**342**	*e*Pn	**Pn**	**07 45 22.7**	**+3.9**
MSO	**Missoula**	**12.95**	**110**	*e*Pn	**Pn**	**07 45 21.6**	**+2.6**
MSO	**Missoula**	**12.95**	**110**	P	**Pn**	**07 45 20.7**	**+1.7**
	baz=304						
YKA	**Yellowknife Ar**	**13.32**	**36**	Pn	**Pn**	**07 45 23.3**	**-0.6**
	0.1nm,0.3s,baz=228,slow=12,SNR=5.2						
YKA				Lg	Lg	07 49 17.4	
	0.1nm,0.3s,baz=218,slow=28,SNR=2.8						
N02D	**Trinity Center**	**13.33**	**149**	P	**Pn**	**07 45 25.4**	**+1.2**
	baz=336,SNR=8.8						
MOD	**Modoc Plateau**	**13.36**	**140**	*e*Pn	**Pn**	**07 45 25.4**	**+0.7**
WVOR	**Wild Horse Val**	**13.60**	**134**	*e*Pn	**Pn**	**07 45 28.8**	**+0.8**
KMRM	**Mail Ridge**	**13.73**	**153**	*e*Pn	**Pn**	**07 45 31.2**	**+1.5**
EPYK	**Eagle Plains**	**13.84**	**352**	P	**Pn**	**07 45 32.9**	**+1.9**
	baz=167						
O02D	**Mt. Diablo Mer**	**14.04**	**150**	P	**Pn**	**07 45 34.8**	**+0.9**
	baz=337						
HRY	**Holter Researc**	**14.22**	**107**	*e*Pn	**Pn**	**07 45 38.8**	**+2.3**
O03E	**Paynes Creek**	**14.24**	**147**	P	**Pn**	**07 45 38.7**	**+2.1**
	baz=335						
ILAR	**Eielson Array**	**14.29**	**333**	Pn	**Pn**	**07 45 40.1**	**+3.1**
	0.0nm,0.3s,baz=158,slow=12,SNR=4.3						
ILAR				Lg	Lg	07 49 57.7	
	0.0nm,0.3s,baz=114,slow=24,SNR=6.2						
ILAR				LR	LR	07 51 12.9	
	comp=Z,246nm,20.9s,baz=132,slow=38						
DLMT	**Dillon**	**14.56**	**113**	*e*Pn	**Pn**	**07 45 43.0**	**+1.8**
MCMT	**McKenzie Canyo**	**14.76**	**115**	*e*Pn	**Pn**	**07 45 45.1**	**+1.2**
HLID	**Hailey**	**14.77**	**122**	*e*Pn	**Pn**	**07 45 44.2**	**+0.3**
HLID	**Hailey**	**14.77**	**122**	P	**Pn**	**07 45 44.0**	**+0.1**
	baz=315,SNR=9.4						
EGMT	**Eagleton**	**14.80**	**100**	P	**Pn**	**07 45 45.4**	**+1.1**
	baz=297						
BOZ	**Bozeman (W)**	**14.97**	**111**	*e*Pn	**Pn**	**07 45 47.8**	**+1.1**
**BO

GRAC	Grapevine Rang baz=332,SNR=7.0	18.74	142	P	Pn	07 46 36.8	+2.5
PSUT	Pine Spring 5.8nm,1.0s	18.89	132	eP	P	07 46 36.3	+0.4
CWC	Cottonwood Cre baz=334	18.97	144	P	Pn	07 46 37.8	+0.5
TPNV	Topopah Spring 7.7nm,1.0s	19.21	139	eP	P	07 46 39.6	+0.3
TPNV	Topopah Spring baz=330,SNR=10	19.21	139	P	P	07 46 39.8	+0.5
FURC	Furnace Creek, baz=332,SNR=10	19.40	141	P	Pn	07 46 42.6	+0.5
MPMC	Manual Prospec baz=333,SNR=7.8	19.53	143	P	Pn	07 46 44.2	+0.2
ISA	Isabella, Lake 6.5nm,1.0s	19.54	146	eP	Pn	07 46 44.0	0.0
ISA	Isabella, Lake baz=335,SNR=12	19.54	146	P	P	07 46 43.7	+0.9
P17A	Butcher Ranch, 5.2nm,1.1s	19.64	124	eP	P	07 46 44.9	+0.9
K22A	Casper 8.2nm,1.0s	19.68	111	eP	P	07 46 45.0	+0.6
K22A	Casper baz=310,SNR=9.0	19.68	111	P	P	07 46 44.6	+0.3
MSU	Marysvale	19.69	129	eP	P	07 46 43.4	-1.2
P18A	Preston Nutter 6.1nm,1.1s	19.77	123	eP	Pn	07 46 47.3	+0.3
CCUT	Cedar City 7.4nm,1.2s	19.92	133	eP	P	07 46 47.5	+0.4
RWWY	Rawlins 24nm,1.1s	19.92	114	eP	Pn	07 46 49.3	+0.5
LRMC	Laurel Mtn Rad baz=334	19.98	144	P	P	07 46 48.4	+0.8
SZCU	Shurtz Canyon 8.4nm,1.1s	20.01	132	eP	P	07 46 48.3	+0.2
SRU	San Rafael Swe 8.8nm,1.1s	20.03	125	eP	P	07 46 49.6	+1.4
SHPR	Sheep Range 4.1nm,1.2s	20.03	138	eP	P	07 46 48.6	+0.3
MTPU	Mount Pierson 3.3nm,1.2s	20.06	130	eP	P	07 46 49.6	+0.8
SHOC	Shoshone, Teco baz=332	20.12	141	P	P	07 46 49.5	+0.4
RSSD	Black Hills 4.1nm,1.0s	20.22	104	eP	P	07 46 51.5	+1.1
LCMT	Little Creek M 9.5nm,1.2s	20.42	133	eP	P	07 46 52.9	+0.5
O20A	White River Ci 36nm,1.1s	20.45	119	eP	P	07 46 53.5	+0.7
O20A	White River Ci baz=316,SNR=9.9	20.45	119	P	P	07 46 53.4	+0.6
GSC	Goldstone, Bar 6.8nm,1.0s	20.45	143	eP	P	07 46 53.4	+0.6
GSC	Goldstone, Bar baz=333	20.45	143	P	P	07 46 53.4	+0.6
PKCU	Pink Cliffs 9.2nm,1.1s	20.49	131	eP	P	07 46 54.2	+0.8
KNB	Kanab 4.9nm,1.1s	20.61	132	eP	P	07 46 55.0	+0.5
TUQ	Turquoise Moun baz=332,SNR=8.6	20.66	141	P	P	07 46 55.5	+0.4
MWC	Mount Wilson 7.1nm,1.1s	20.99	147	eP	P	07 46 58.9	+0.2
HEC	Hector,Ludlow baz=333	21.05	142	P	P	07 46 59.7	+0.5
BFSC	Mount Baldy Ra baz=336	21.11	146	P	P	07 47 00.0	+0.1
PHWY	Pilot Hill 15nm,1.0s	21.16	112	eP	P	07 47 00.6	0.0
N23A	Red Feather La 19nm,1.1s	21.16	114	eP	P	07 47 00.8	+0.2
N23A	Red Feather La baz=313	21.16	114	P	P	07 47 00.7	+0.2
PV09	Paradox Valley	21.19	123	eP	P	07 47 01.8	+0.9
PV21	Cone Mtn., Par 3.7nm,0.9s	21.23	123	eP	P	07 47 03.7	+2.5
PV23	Carpenter Ridg 14nm,1.2s	21.29	123	eP	P	07 47 02.3	+0.3
U15A	North Rim 8.7nm,1.0s	21.33	132	eP	P	07 47 02.9	+0.4
PV10	Paradox Valley	21.34	123	eP	P	07 47 03.5	+1.1
GMRC	Granite Mounta baz=332,SNR=5.9	21.34	141	P	P	07 47 02.6	+0.2
PV22	Blue Mesa, Par 11nm,0.9s	21.34	123	eP	P	07 47 04.1	+1.7
PV14	Lion Creek, Pa 15nm,1.1s	21.35	123	eP	P	07 47 02.9	+0.4
PV19	Morning Glory 16nm,1.2s	21.41	123	eP	P	07 47 03.4	+0.1
PV16	Nyswonger Mesa 9.8nm,1.1s	21.45	123	eP	P	07 47 03.9	+0.3
PV17	East Wray Mesa 12nm,1.0s	21.45	123	eP	P	07 47 03.9	+0.2
PV11	David Mesa, Pa 11nm,0.9s	21.48	123	eP	P	07 47 04.1	+0.2
PV12	Saucer Basin, 9.0nm,1.0s	21.50	123	eP	P	07 47 04.3	+0.1
PV18	Skein Mesa, Pa 9.1nm,1.0s	21.50	123	eP	P	07 47 04.4	+0.2
PV03	Paradox Valley	21.52	123	eP	P	07 47 04.9	+0.4
PV05	Paradox Valley	21.53	124	eP	P	07 47 05.4	+0.9
PV13	Radium Mtn., P 10nm,1.1s	21.61	123	eP	P	07 47 05.4	0.0
PV02	Paradox Valley 14nm,1.1s	21.62	123	eP	P	07 47 06.1	+0.6
PV01	Paradox Valley	21.76	123	eP	P	07 47 06.6	-0.3
W13A	Hualapai Mount 2.9nm,0.9s	21.77	137	eP	P	07 47 07.0	-0.1
SMCO	Snowmass 19nm,1.1s	21.81	119	eP	P	07 47 07.2	-0.5
BELC	Belle Mtn. Jos baz=334,SNR=6.6	21.91	143	P	P	07 47 08.7	+0.2
IRM	Iron Mountain baz=332,SNR=5.6	22.09	141	P	P	07 47 10.7	+0.3
ISCO	Idaho Springs 6.0nm,1.1s	22.10	116	eP	P	07 47 13.9	+3.2
ULM	Lac du Bonnet 9.4nm,0.9s,baz=286,slow=8.8,SNR=7.2	22.33	82	P	P	07 47 12.6	-0.2
ULM	comp=Z,378nm,18.5s,baz=278,slow=38			LR	LR	07 56 33.9	
ULM	Lac du Bonnet 14nm,0.9s	22.33	82	eP	P	07 47 14.1	+1.4
WUAZ	Wupatki 8.8nm,1.1s	22.50	132	eP	P	07 47 14.8	0.0
WUAZ	Wupatki baz=326,SNR=7.4	22.50	132	P	P	07 47 14.7	-0.2
MVCO	Mesa Verde 12nm,1.1s	22.51	125	eP	P	07 47 14.7	-0.3
MVCO	Mesa Verde baz=321,SNR=6.3	22.51	125	P	P	07 47 14.7	-0.3
Y12C	Blythe 3.0nm,1.0s	22.69	140	eP	P	07 47 18.1	+1.4
Q24A	Divide 3.8nm,0.8s	22.95	116	eP	P	07 47 21.2	+1.5
S22A	4UR Ranch, Cre 5.0nm,1.0s	22.95	121	eP	P	07 47 19.4	-0.3
S22A	4UR Ranch, Cre baz=319	22.95	121	P	P	07 47 19.4	-0.3
AGMN	Agassiz Nation 12nm,1.1s	23.09	87	eP	P	07 47 21.8	+1.0
AGMN	Agassiz Nation baz=295,SNR=9.2	23.09	87	P	P	07 47 21.6	+0.8
Y14A	Wickenburg 6.4nm,1.1s	23.14	137	eP	P	07 47 21.7	+0.3
GLA	Glamis 12nm,1.1s	23.19	142	eP	P	07 47 22.4	+0.4
OGNE	Ogallala 33nm,1.0s	23.34	109	eP	P	07 47 25.7	+2.2
SDCO	Great Sand Dun 3.2nm,1.1s	23.65	119	eP	P	07 47 26.3	-0.5
SDCO	Great Sand Dun baz=318	23.65	119	P	P	07 47 26.8	0.0
X18A	Snowflake 7.9nm,0.9s	23.97	131	eP	P	07 47 30.5	+0.7
KSCO	Kaye Shedlock' 19nm,1.1s	24.31	113	eP	P	07 47 33.9	+1.0
T25A	Trinidad baz=318	24.68	118	P	P	07 47 36.2	-0.2
ECSD	EROS Data Cent 7.4nm,0.9s	24.87	97	eP	P	07 47 38.1	+0.3
ECSD	EROS Data Cent baz=304	24.87	97	P	P	07 47 38.0	+0.2
214A	Organ Pipe Nat baz=332	24.95	139	P	P	07 47 38.8	+0.2
ANMO	Albuquerque 2.1nm,0.9s,baz=320,slow=9.3,SNR=9.3	25.30	125	P	P	07 47 41.6	-0.4
ANMO	comp=Z,281nm,19.2s,baz=204,slow=35			LR	LR	07 56 58.7	
ANMO	Albuquerque 3.7nm,1.0s	25.30	125	eP	P	07 47 43.1	+1.1
ANMO	Albuquerque baz=323	25.30	125	P	P	07 47 42.1	+0.1
LAZ	Ladron	25.40	127	eP	P	07 47 44.4	+1.5
LENM	Lemitar	25.67	127	eP	P	07 47 45.5	+0.2
EYMN	Ely 20nm,1.1s	25.88	84	eP	P	07 47 48.1	+1.2
EYMN	Ely baz=296,SNR=7.7	25.88	84	P	P	07 47 48.0	+1.1
SPMN	Marine on St. 9.9nm,0.9s	26.38	91	eP	P	07 47 52.2	+0.8
SPMN	Marine on St. baz=301	26.38	91	P	P	07 47 52.1	+0.6
E38A	The Farm, Brul 10nm,1.1s	26.46	87	eP	P	07 47 53.8	+1.7
F38A	Pierce - Schro baz=300,SNR=8.1	26.58	89	P	P	07 47 54.1	+0.9
121A	Cookes Peak, D baz=327	26.63	130	P	P	07 47 54.4	+0.4
319A	Douglas 7.1nm,1.1s	26.93	134	eP	P	07 47 57.4	+0.7
G39A	Holcombe baz=301	27.34	89	P	P	07 48 00.5	+0.4
H39A	Augusta baz=302	27.59	91	P	P	07 48 03.0	+0.7
I39A	Houston 12nm,1.0s	27.88	92	eP	P	07 48 05.3	+0.4
I39A	Houston baz=303	27.88	92	P	P	07 48 05.0	0.0
J39A	Decorah baz=304	28.06	93	P	P	07 48 06.4	-0.1
MNTX	Cornudas Mount 2.6nm,1.1s	28.46	127	eP	P	07 48 10.1	-0.1
MNTX	Cornudas Mount baz=326,SNR=5.9	28.46	127	P	P	07 48 10.1	-0.1
WMOK	Wichita Mounta 2.6nm,0.8s	29.52	115	eP	P	07 48 19.8	+0.2
WMOK	Wichita Mounta baz=318	29.52	115	P	P	07 48 19.6	0.0
N42A	Yates City baz=307	30.53	96	P	P	07 48 28.8	+0.3
TX31	Lajitas Ar. Si	31.24	128	eP	P	07 48 34.6	-0.3
TXAR	Lajitas Array 0.9nm,0.7s,baz=326,slow=6.9,SNR=9.2	31.24	128	P	P	07 48 34.8	-0.2
TXAR	comp=Z,44nm,18.8s,baz=0.0,slow=37			LR	LR	08 01 21.0	
R41A	Rosebud baz=311	31.31	101	P	P	07 48 34.7	-0.7
CCM	Cathedral Cave 5.9nm,1.0s	31.55	101	eP	P	07 48 37.5	0.0
CCM	Cathedral Cave baz=311	31.55	101	P	P	07 48 37.0	-0.6
U40A	Yellville baz=314	31.74	106	P	P	07 48 38.6	-0.6
S42A	Caledonia baz=311	32.01	101	P	P	07 48 40.5	-1.0
V40A	Witts Springs 4.8nm,1.1s	32.14	106	eP	P	07 48 43.0	+0.2
V40A	Witts Springs baz=314	32.14	106	P	P	07 48 42.6	-0.1
V41A	Mountainview baz=314,SNR=7.4	32.55	106	P	P	07 48 45.3	-0.9
S43A	Fulton Ridge, baz=311	32.57	101	P	P	07 48 45.6	-0.8
MIAR	Mount Ida 5.1nm,1.1s	32.59	109	eP	P	07 48 47.4	+0.7
MIAR	Mount Ida baz=316	32.59	109	P	P	07 48 46.7	0.0
P45A	Graceland, Par 21nm,0.9s	32.71	96	eP	P	07 48 47.9	+0.3
P45A	Graceland, Par baz=309	32.71	96	P	P	07 48 47.6	-0.1
OLIL	Olney 13nm,1.1s	33.00	98	eP	P	07 48 50.2	+0.1
Q47A	Bedord North L baz=309	33.88	96	P	P	07 48 58.2	+0.3
S46A	Don Dixon Farm baz=311	33.91	99	P	P	07 48 57.8	-0.3
R47A	Wooly Knot Far baz=310	34.23	97	P	P	07 49 00.7	-0.2
S48A	Wiedeman Farm, baz=311,SNR=5.4	34.92	97	P	P	07 49 06.7	-0.2
T48A	Bowling Green baz=311	35.08	98	P	P	07 49 07.5	-0.7
PLAL	Pickwick Lake 7.7nm,1.1s	35.51	102	eP	P	07 49 11.7	-0.3
342A	Flagon Creek P 7.1nm,0.8s	35.63	111	eP	P	07 49 14.4	+1.4
U49A	Red Boiling Sp baz=312	35.84	98	P	P	07 49 14.6	-0.2
T50A	Nancy baz=311	36.07	97	P	P	07 49 16.4	-0.4
244A	Avery, Jackson baz=317	36.07	109	P	P	07 49 17.1	+0.3
U50A	Jamestown baz=312,SNR=5.1	36.47	98	P	P	07 49 20.0	-0.2
SCHQ	Schefferville comp=Z,395nm,18.6s,baz=148,slow=37	37.16	60	LR	LR	08 05 02.7	
V51A	Loudon 8.3nm,1.0s	37.17	98	eP	P	07 49 25.9	-0.3
V51A	Loudon baz=312	37.17	98	P	P	07 49 25.7	-0.5
Y49A	Blount Mountai baz=315	37.27	102	P	P	07 49 26.4	-0.7
CPCT	Cooper Cave 1.9nm,1.0s	37.31	99	eP	P	07 49 27.4	0.0
X50B	Fort Payne baz=314	37.31	101	P	P	07 49 26.7	-0.7
V52A	Sevierville 20nm,1.1s	37.60	97	eP	P	07 49 29.7	-0.1
V52A	Sevierville baz=312,SNR=5.5	37.60	97	P	P	07 49 29.4	-0.4
TKL	Tuckaleechee C 7.9nm,1.1s,baz=339,slow=8.1,SNR=4.8	37.62	98	P	P	07 49 29.6	-0.3
TKL	Tuckaleechee C 5.9nm,1.0s	37.62	98	eP	P	07 49 30.3	+0.3
Y50A	Piedmont baz=314	37.65	102	P	P	07 49 29.8	-0.5
X51A	Calhoun 21nm,1.0s	37.71	100	eP	P	07 49 30.8	0.0
X51A	Calhoun baz=314	37.71	100	P	P	07 49 30.8	0.0
W52A	Murphy 21nm,1.0s	37.91	98	eP	P	07 49 31.6	-0.9
149A	Jones baz=316	37.94	104	P	P	07 49 32.2	-0.5
V53A	Saluda 9.9nm,1.1s	38.19	97	eP	P	07 49 34.9	0.0
V53A	Saluda baz=312	38.19	97	P	P	07 49 34.5	-0.3
249A	Camden baz=316	38.19	105	P	P	07 49 34.1	-0.7
W53A	Cullowhee baz=313,SNR=6.4	38.31	98	P	P	07 49 36.0	0.0
BG3	Lake Jocassee 18nm,1.2s	38.57	98	eP	P	07 49 38.7	+0.7
Y52A	Lilbrn 8.1nm,1.1s	38.67	100	eP	P	07 49 38.9	0.0
Y52A	Lilburn baz=314	38.67	100	P	P	07 49 38.5	-0.3
X53A	Estanollee baz=313	38.69	99	P	P	07 49 38.5	-0.5
Z52A	Williamson baz=315	38.93	101	P	P	07 49 40.1	-0.9
152A	Waverly Hall 1.6nm,1.1s	39.12	102	eP	P	07 49 42.0	-0.7
152A	Waverly Hall baz=315	39.12	102	P	P	07 49 41.5	-1.1
251A	Midway baz=316	39.12	103	P	P	07 49 41.8	-0.8
GOGA	Godfrey 6.9nm,0.9s	39.34	100	eP	P	07 49 44.0	-0.4
GOGA	Godfrey baz=314	39.34	100	P	P	07 49 43.6	-0.8
Z53A	Monticello baz=315	39.37	100	P	P	07 49 43.7	-1.0
Y54A	Tignall baz=314,SNR=6.5	39.49	99	P	P	07 49 45.3	-0.4
PETK	Petropavlovsk- comp=Z,58nm,20.0s,baz=75,slow=34	40.90	300	LR	LR	08 05 17.8	
H11N2	WAKE ISLAND Hy baz=39,slow=76,SNR=2639	57.25	259	T	T	08 53 51.6	
H11N3	WAKE ISLAND Hy baz=39,slow=76,SNR=2006	57.25	259	T	T	08 53 51.8	
H11N1	WAKE ISLAND Hy baz=39,slow=76,SNR=1597	57.27	259	T	T	08 53 52.8	
H11S1	WAKE ISLAND Hy baz=39,slow=76,SNR=70	58.31	259	T	T	08 55 11.1	
H11S2	WAKE ISLAND Hy baz=39,slow=76,SNR=51	58.32	259	T	T	08 55 13.3	
H11S3	WAKE ISLAND Hy baz=39,slow=76,SNR=88	58.33	259	T	T	08 55 15.0	
USRK	Ussuriysk Ar. comp=Z,50nm,20.3s,baz=25,slow=35	59.71	304	LR	LR	08 17 23.5	
TAOE	Nuku Hiva Isla 100nm,24.1s	61.82	189	eLR	LR	08 11 00.1	
TAOE	Nuku Hiva Isla 41nm,0.2s	61.82	189	eT	T	08 59 13.7	
NOA	NORSAR Array B 2.3nm,1.1s,baz=337,slow=6.7,SNR=3.3	62.74	19	P	P	07 52 40.5	+0.5
NOA	comp=Z,91nm,18.6s,baz=345,slow=37			LR	LR	08 21 08.4	
PMOR	Pomariorio Ree 109nm,0.3s	68.94	197	eT	T	09 08 08.2	
VAH	Vaihoa 13nm,0.3s	69.12	196	eT	T	09 08 14.3	
ZALV	Zalesovo Beam 1.1nm,0.6s,baz=14,slow=7.8,SNR=5.6	69.36	338	P	P	07 53 22.1	-0.5
TIAR	Tiarei 30nm,0.2s	71.70	198	eT	T	09 11 34.6	
PPT2	Papeete2 106nm,27.8s	71.77	198	eLR	LR	08 15 27.1	
PPT2	Papeete2 12nm,0.2s	71.77	198	eT	T	09 11 40.0	
PAE	Paea 6.3nm,0.3s	71.84	198	eT	T	09 11 41.3	
HHC	Hu-ho-hao-te	71.89	315	eP	P	07 53 39.0	+0.6
HHC	comp=Z,14nm,1.3s			pmax	pmax		
HHC	comp=Z,160nm,6.6s			pmax	pmax		
TVO	Taravao comp=Z,5.8nm,0.3s	71.90	198	eT	T	09 11 49.8	
CLL	Collm comp=Z,24nm,2.3s	72.11	22	eP	P	07 53 40.0	+0.6
BRG	Berggiesshubel comp=Z,18nm,1.7s	72.73	22	eP	P	07 53 44.2	+1.1
MORC	Moravsky Berou	74.55	20	eP	P	07 53 54.5	+0.6
GERES	GERESS Array B comp=Z,1.2nm,0.9s,baz=343,slow=4.2,SNR=10	74.57	23	P	P	07 53 55.0	+0.9
VRAC	Vranov	74.79	21	eP	P	07 53 56.3	+1.0
AFI	Afiamalu comp=Z,25nm,19.3s,baz=104,slow=33	74.82	220	LR	LR	08 23 02.2	
KRUC	Moravsky	74.98	21	eP	P	07 53 56.9	+0.5
SQTA	Sankt Quirin comp=Z,13nm,1.5s	75.47	25	epP	P	07 54 00.9	+1.5
FETA	Feichten comp=Z,10.0nm,1.5s	75.53	25	epP	P	07 54 00.8	+1.0
AKASG	Malin Array Be comp=Z,0.2nm,0.3s,baz=355,slow=6.5,SNR=5.4	75.64	12	P	P	07 53 59.4	-0.7
AKASG	comp=Z,40nm,18.8s,baz=340,slow=37			LR	LR	08 29 02.1	
MOA	Molln comp=Z,4.6nm,1.4s	75.64	23	epP	P	07 54 02.6	+2.4
RKT	Rikitea comp=Z,1μm,36.2s	75.64	183	eLR	LR	08 17 20.0	
RKT	Rikitea comp=Z,8.4nm,0.3s	75.64	183	eT	T	09 16 28.4	
CONA	Conrad Observa comp=Z,5.6nm,1.1s	75.93	22	epP	P	07 54 03.6	+1.6
VYHS	Vyhne	76.04	20	eP	P	07 54 01.7	-0.7
KBA	Koelnbreinsper comp=Z,13nm,1.4s	76.14	24	epP	P	07 54 04.6	+1.3
ARSA	Arzberg comp=Z,4.0nm,1.2s	76.49	22	epP	P	07 54 06.6	+1.5
MKAR	Makanchi Array comp=Z,0.8nm,0.8s,baz=48,slow=3.6,SNR=4.1	76.61	337	P	P	07 54 04.2	-1.6
SOKA	Soboth comp=Z,11nm,1.5s	76.92	23	eP	P	07 54 08.3	+0.8
TBI	Tubuai comp=Z,18nm,0.3s	77.37	197	eT	T	09 18 39.6	
ESDC	Sonseca Array comp=Z,0.7nm,0.7s,baz=311,slow=6.0,SNR=4.0	77.41	39	P	P	07 54 10.7	+0.3
RAR	Rarotonga comp=Z,81nm,18.1s,baz=61,slow=32	77.62	207	LR	LR	08 23 39.8	
WMQ	Urumqi	77.95	332	eP	P	07 54 16.3	+2.9
LZH	Lanzhou	79.16	317	eP	P	07 54 19.4	-0.9
LZH				pP	sP	07 54 26.5	+4.8
LZH				sP	PcP	07 54 28.5	-0.2
LZH				ePP	PP	07 57 15.2	-3.7
LZH	comp=Z,23nm,1.3s			pmax	pmax		
LZH	comp=Z,110nm,5.4s			pmax	pmax		
PTGA	Pitinga comp=Z,28nm,21.5s,baz=330,slow=36	79.65	105	LR	LR	08 30 27.3	
NNA	Nana comp=Z,16nm,18.7s,baz=6.5,slow=34	79.77	126	LR	LR	08 28 00.5	
KEST	Kesra comp=Z,56nm,18.3s,baz=232,slow=36	85.56	31	LR	LR	08 34 19.7	
BRTR	Keskin Array B comp=Z,10.0nm,19.0s,baz=281,slow=39	86.99	11	LR	LR	08 38 27.6	
LPAZ	La Paz comp=Z,1.3nm,0.7s,baz=357,slow=9.3,SNR=8.4	87.84	121	P	P	07 55 03.0	-2.5
BDFB	Brasilia comp=Z,14nm,21.9s,baz=187,slow=36	98.58	104	LR	LR	08 40 48.8	
VNA3	Neumayer Olymp	148.88	148	PKP	PKPdf	08 01 59.7	+2.1
VNA3				x	x	08 02 04.3	
SNAA	Sanae	150.97	150	PKP	PKPdf	08 02 04.0	+2.9
SNAA				x	x	08 02 08.6	

ISCJB ***04*** *07:59:44.4±0.3, 16°64S±0.07×174°22W±0.08, h111km, mb4.4/25, Error ellipse: s-maj=12.6km s-min=7.9km az=42.4*

IDC ***04*** *07:59:45.8±2.5, 16°70S×174°14W, h109km±22km, mb4.0/16, mb1 4.1/18, mb1mx3.9/45, mbtmp4.3/18, Error ellipse: s-maj=21.2km s-min=11.7km az=135.0*

NEIC ***04*** *07:59:46.1±1.2, 16°68S×174°11W, h116km±10km, mb4.5/11, Error ellipse: s-maj=12.9km s-min=6.7km az=135.0*

ISC 04 07:59:45.6±0.4, 16°63S±0.10×174°1W±0.1, h111km, n94, σ092/94, mb4.4/25, 14C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu 102nm,0.3s,baz=196,slow=2.8,SNR=79	3.49	39	P	Pn	08 00 39.7	+1.4
AFI				S	Sn	08 01 16.5	-2.4
	293nm,0.3s,baz=183,slow=5.2,SNR=17						
AFI	Afiamalu	3.49	39	ePn	Pn	08 00 39.5	+1.2
AFI				eSn	Sn	08 01 16.3	-2.7
DZM	Mont Dzumac 0.2nm,0.3s,baz=131,slow=19,SNR=2.3	19.16	251	P	P	08 04 01.2	+0.6
DZM	Mont Dzumac 17nm,0.9s	19.16	251	eP	P	08 04 01.2	+0.6
URZ	Urewera 7.1nm,0.4s,baz=287,slow=3.9,SNR=12	22.90	198	P	P	08 04 38.9	-0.9
ARMA	Armidale 51nm,1.8s	34.17	240	eP	P	08 06 20.3	-0.1
CTA	Charters Tower 3.4nm,0.8s,baz=83,slow=9.9,SNR=4.9	37.76	259	P	P	08 06 49.8	-1.3
H11S2	WAKE ISLAND Hy baz=146,slow=76,SNR=13	39.70	331	T	T	08 48 36.4	
H11S3	WAKE ISLAND Hy baz=146,slow=76,SNR=12	39.72	331	T	T	08 48 39.4	
H11S1	WAKE ISLAND Hy baz=146,slow=76,SNR=8.9	39.72	331	T	T	08 48 36.4	
STKA	Stephens Creek 8.0nm,0.5s,baz=92,slow=10,SNR=31	42.88	241	P	P	08 07 33.5	+0.3
STKA	Stephens Creek 2.9nm,0.9s	42.88	241	eP	P	08 07 33.3	+0.1
WB2	Warramunga Arr	48.94	258	eP	P	08 08 19.9	-1.0
WR1	Warramunga Arr 4.1nm,1.0s	48.95	258	eP	P	08 08 20.2	-0.8
WR1				ePcP	PcP	08 09 43.4	-0.3
WRA	Warramunga Arr 1.7nm,0.6s,baz=96,slow=7.7,SNR=30	48.95	258	P	P	08 08 20.2	-0.8
WRA	1.3nm,0.9s,baz=92,slow=4.4,SNR=6.1			PcP	PcP	08 09 43.4	-0.3
AS01	Alice Springs	49.09	253	eP	P	08 08 21.1	-1.0
AS31	Alice Springs 5.8nm,0.8s	49.13	253	eP	P	08 08 21.0	-1.4
ASAR	Alice Springs 20nm,0.7s,baz=89,slow=8.2,SNR=314	49.13	253	P	P	08 08 21.8	-0.6
SIJI	Sorong 15nm,0.6s,baz=7.9,slow=22,SNR=4.7	56.04	280	P	P	08 09 13.6	+0.2
FITZ	Fitzroy Crossi 2.1nm,1.0s,baz=132,slow=12,SNR=3.1	57.34	259	P	P	08 09 21.8	-0.7
FITZ	Fitzroy Crossi 20nm,1.8s	57.34	259	eP	P	08 09 21.7	-0.9
SOEI	Soe 52nm,0.6s	60.24	268	eP	P	08 09 40.9	-1.9

SBA	**Scott Base**	**61.98**	**185**	*e*P		**P**	**08 09 54.5**	**+1.2**
	6.6nm,0.8s							
VNDA	**Vanda**	**62.09**	**186**	P		**P**	**08 09 54.7**	**+0.6**
	4.4nm,1.0s,baz=15,slow=6.6,SNR=11							
VNDA	**Vanda**	**62.09**	**186**	*e*P		**P**	**08 09 53.7**	**-0.4**
CASY	**Casey**	**69.03**	**205**	*e*P		**P**	**08 10 39.1**	**+0.2**
	7.3nm,1.0s							
MJAR	**Matsushiro Arr**	**69.47**	**320**	P		**P**	**08 10 42.8**	**+0.8**
	0.8nm,0.5s,baz=158,slow=5.6,SNR=6.2							
MAJO	**Matsushiro**	**69.47**	**320**	*e*P		**P**	**08 10 42.8**	**+0.7**
QSPA	**South Pole Qui**	**73.42**	**180**	*e*P		**P**	**08 11 06.2**	**+0.7**
	7.1nm,0.8s							
PETK	**Petropavlovsk-**	**73.61**	**343**	P		**P**	**08 11 07.0**	**+0.4**
	4.6nm,0.9s,baz=140,slow=12,SNR=3.8							
PEA1	**Petropavlovsk-**	**73.61**	**343**	*e*P		**P**	**08 11 07.0**	**+0.4**
YBH	**Yreka Blue Hor**	**74.96**	**37**	P		**P**	**08 11 17.1**	**+2.4**
	1.6nm,0.8s,baz=166,slow=4.9,SNR=5.1							
NV01	**Mina Array Sit**	**75.67**	**42**	*e*P		**P**	**08 11 19.5**	**+0.5**
NVAR	**Mina Array Bea**	**75.67**	**42**	P		**P**	**08 11 20.0**	**+0.9**
	0.5nm,0.7s,baz=224,slow=6.9,SNR=5.4							
I07A	**Izee**	**78.26**	**37**	*e*P		**P**	**08 11 32.8**	**-0.5**
	18nm,1.7s							
PD31	**Pinedale Array**	**83.61**	**42**	*e*P		**P**	**08 12 01.2**	**-0.7**
PDAR	**Pinedale Array**	**83.61**	**42**	P		**P**	**08 12 02.5**	**+0.5**
	0.5nm,0.6s,baz=210,slow=3.4,SNR=6.6							
COLA	**College**	**83.69**	**11**	*e*P		**P**	**08 12 01.6**	**+0.2**
	17nm,1.2s							
IL1	**Eielson Array**	**83.77**	**11**	*e*P		**P**	**08 12 01.7**	**-0.2**
ILAR	**Eielson Array**	**83.77**	**11**	P		**P**	**08 12 02.1**	**+0.2**
	0.6nm,0.5s,baz=226,slow=5.4,SNR=14							
ILB	**Eielson Array**	**83.77**	**11**	*e*P		**P**	**08 12 01.6**	**-0.4**
IM3	**Indian Mountai**	**83.78**	**8**	*e*P		**P**	**08 12 02.1**	**+0.2**
MAW	**Mawson**	**86.43**	**199**	P		**P**	**08 12 15.2**	**-0.1**
	3.2nm,1.1s,baz=122,slow=6.4,SNR=6.3							
MAW	**Mawson**	**86.43**	**199**	*e*P		**P**	**08 12 15.2**	**-0.1**
	2.3nm,1.2s							
VNA3	**Neumayer Olymp**	**91.69**	**175**	P		**P**	**08 12 40.1**	**0.0**
SNAA	**Sanae**	**91.71**	**177**	P		**P**	**08 12 39.8**	**-0.4**
VNA2	**Neumayer--Watz**	**92.18**	**176**	P		**P**	**08 12 42.8**	**+0.4**
	baz=195,slow=4.0							
VNA1	**Neumayer--Stat**	**92.38**	**175**	P		**P**	**08 12 43.4**	**+0.1**
CM31	**Chiang Mai Arr**	**92.40**	**288**	*e*P		**P**	**08 12 46.0**	**+1.7**
CMAR	**Chiang Mai Arr**	**92.40**	**288**	P		**P**	**08 12 46.0**	**+1.7**
	1.1nm,0.4s,baz=97,slow=2.5,SNR=9.4							
MK32	**Makanchi Array**	**111.23**	**314**	*e*PKiKP		**PKiKP**	**08 18 06.1**	**-0.3**
MKAR	**Makanchi Array**	**111.23**	**314**	PKiKP		**PKiKP**	**08 18 06.1**	**-0.3**
	0.7nm,0.6s,baz=86,slow=1.8,SNR=5.7							
ARA0	**ARCESS Array S**	**125.73**	**352**	*e*PKPdf		**PKPdf**	**08 18 33.7**	**+0.2**
ARCES	**ARCESS Array B**	**125.73**	**352**	PKP		**PKPdf**	**08 18 33.7**	**+0.2**
	2.5nm,1.0s,baz=60,slow=3.6,SNR=3.0							
KMBO	**Kilima Mbogo**	**144.42**	**243**	PKP		**PKPdf**	**08 19 09.8**	**-0.3**
	4.9nm,0.7s,baz=64,slow=2.2,SNR=12							
KMBO	**Kilima Mbogo**	**144.42**	**243**	*e*PKPdf		PKPbc	08 19 09.2	+0.3
CLL	**Collm**	**144.95**	**352**	*i* PKPbc		**PKPab**	**08 19 09.2**	**+0.1**
	comp=Z,8.0nm,0.8s							
BRG	**Berggiesshubel**	**145.24**	**351**	*e*PKP		**PKPab**	**08 19 10.4**	**+0.2**
	comp=Z,3.8nm,0.6s							
BURAR	**Bucovina Array**	**145.26**	**337**⇑	*i* P		**PKPab**	**08 19 11.6**	**+1.1**
DPC	**Dobruska-Polom**	**145.34**	**348**	*e*PKP		**PKPab**	**08 19 11.7**	**+1.1**
BIZ	**Bicaz**	**145.47**	**335**⇑	*i* P		**PKPab**	**08 19 12.1**	**+0.9**
PVCC	**Panska Ves**	**145.48**	**350**	*e*PKP		**PKPab**	**08 19 12.2**	**+1.1**
KRLC	**Kraliky**	**145.51**	**348**	*e*PKP		**PKPab**	**08 19 12.3**	**+1.0**
MORC	**Moravsky Berou**	**145.63**	**347**⇑	P		**PKPab**	**08 19 12.9**	**+1.2**
MORC	**Moravsky Berou**	**145.63**	**347**	*e*PKP		**PKPab**	**08 19 11.7**	**0.0**
TLCR		**145.67**	**331**⇑	*i* P		**PKPab**	**08 19 12.5**	**+0.6**
GOPC	**GO Pecny, Ondr**	**146.04**	**350**	*e*PKP		**PKPab**	**08 19 14.1**	**+0.9**
VRI	**Vrincioaia**	**146.07**	**334**⇑	*i* P		**PKPab**	**08 19 13.4**	**-0.1**
PLOR	**Plostina**	**146.12**	**334**⇑	*i* P		**PKPab**	**08 19 14.1**	**+0.4**
VRAC	**Vranov**	**146.28**	**347**⇑	*i* P		**PKPab**	**08 19 14.8**	**+0.7**
VRAC	**Vranov**	**146.28**	**347**	*e*PKP		**PKPab**	**08 19 14.4**	**+0.3**
HARR	**Harsova**	**146.45**	**331**⇑	*i* P		**PKPab**	**08 19 15.5**	**+0.6**
JAVC	**Velka Javorina**	**146.46**	**346**	*e*PKP		**PKPab**	**08 19 16.3**	**+1.4**
TLB	**Topalu**	**146.48**	**331**⇑	*i* P		**PKPab**	**08 19 15.4**	**+0.4**
KRUC	**Moravsky**	**146.55**	**347**	*e*PKP		**PKPab**	**08 19 14.7**	**-0.5**
BR101	**Keskin Array S**	**146.69**	**319**	*e*PKPbc		**PKPbc**	**08 19 15.5**	**+0.6**
BRTR	**Keskin Array B**	**146.69**	**319**	PKPbc		**PKPbc**	**08 19 15.5**	**+0.6**
	comp=Z,7.0nm,0.8s,baz=129,slow=2.3,SNR=35							
MLR	**Muntele Rosu**	**146.71**	**334**⇑	*i* P		**PKPbc**	**08 19 14.7**	**-0.1**
DRGR		**146.86**	**339**⇑	*i* P		**PKPbc**	**08 19 15.4**	**+0.3**
KHC	**Kasperske Hory**	**147.00**	**351**	*e*PKP		**PKPab**	**08 19 16.4**	**-0.6**
VOIR		**147.12**	**335**⇑	*i* P		**PKPab**	**08 19 17.0**	**-0.7**
GERES	**GERESS Array B**	**147.25**	**351**	PKPbc		**PKPbc**	**08 19 16.3**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=26,slow=3.1,SNR=11							
CONA	**Conrad Observa**	**147.74**	**347**	*e*PKiKP		**PKiKP**	**08 19 18.6**	**-0.8**
	comp=Z,6.6nm,1.5s							
GZR	**Gura Zlata**	**148.04**	**337**⇑	*i* P		**PKPbc**	**08 19 17.6**	**-0.7**
MOA	**Molln**	**148.12**	**349**	*e*PKiKP		**PKiKP**	**08 19 19.7**	**-0.4**
	comp=Z,3.9nm,1.0s							
BZS	**Buzias**	**148.26**	**339**⇑	*i* P		**PKPbc**	**08 19 19.3**	**+0.5**
MOTA	**Moosalm**	**149.08**	**353**	*e*PKiKP		**PKiKP**	**08 19 22.0**	**-0.3**
	comp=Z,1.9nm,0.7s							
WTTA	**Wattenberg**	**149.09**	**352**	*e*PKiKP		**PKPbc**	**08 19 21.2**	**+0.1**
	comp=Z,2.3nm,0.6s							
SQTA	**Sankt Quirin**	**149.19**	**353**	*e*PKiKP		**PKPbc**	**08 19 21.6**	**+0.4**
	comp=Z,5.4nm,0.9s							
FETA	**Feichten**	**149.44**	**354**	*e*PKiKP		**PKiKP**	**08 19 22.6**	**-0.4**
	comp=Z,6.7nm,1.1s							
ABTA	**Abfaltersbach**	**149.48**	**351**	*e*PKiKP		**PKPbc**	**08 19 22.2**	**+0.2**
	comp=Z,7.5nm,0.9s,SNR=6.4							
ESDC	**Sonseca Array**	**149.47**	**19**	PKPab		**PKPab**	**08 19 52.9**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=339,slow=5.0,SNR=3.1							
TORD	**Torodi Ar. Bea**	**174.63**	**130**	PKP		**PKPdf**	**08 19 40.8**	**-2.4**
	comp=Z,0.8nm,0.9s,baz=270,slow=1.5,SNR=5.0							
TOA1	**Torodi Ar. Sit**	**174.63**	**130**	*e*PKPdf		**PKPdf**	**08 19 40.8**	**-2.4**

IDC 04 08:00:43.7±4.3,4°89S×148°40E, *h*0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/38, mbtmp3.4/3, Error ellipse: s-maj=150.8km s-min=46.4km az=114.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.28**	**221**	P	P	08 05 20.9	-0.2
	0.4nm,0.3s,baz=50,slow=12,SNR=6.4						
ASAR	**Alice Springs**	**23.32**	**215**	P	P	08 05 53.8	+0.1
	0.3nm,0.4s,baz=46,slow=8.4,SNR=11						
FITZ	**Fitzroy Crossi**	**25.84**	**238**	P	P	08 06 16.9	-0.1
	1.1nm,0.7s,baz=37,slow=5.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**146.15**	**286**	PKPbc	PKPdf	08 20 26.4	+0.3
	baz=102,slow=2.1						

*JMA **04** 08:01:21.4±0.2,22°02N×121°10E, h68km±3km, M3.7*
*TAP **04** 08:01:21.4,21°99N×121°27E, h12km, ML3.2, D*
ISC 04 08:01:21.3±1.5,21°99N±0°04×121°31E±0°04, h11km±10km, n41,σ0°62/64, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin**	**0.39**	**257**	P	**Pb**	**08 01 30.4**	**+0.1**
	baz=256						
TSEB				*i* S	**Sb**	**08 01 36.6**	**+0.4**
	baz=256						
TWKBT	**Hengchun**	**0.46**	**264**	*e*P	**Pg**	**08 01 30.6**	**+0.1**
	baz=263						
TWKBT				*e*S	**Sb**	**08 01 37.8**	**-0.6**
	baz=263						
TWK1	**Hengchun**	**0.47**	**264**	P	**Pg**	**08 01 30.8**	**+0.3**
	baz=263						
TWK1				*e*S	**Sb**	**08 01 37.7**	**-0.8**
	baz=263						
TAW	**Tawu**	**0.53**	**314**	*e*P	**Pb**	**08 01 32.7**	**+0.1**
	baz=316						
TAW				*e*S	**Sb**	**08 01 40.4**	**+0.1**
	baz=316						
HEN	**Hengchun**	**0.53**	**272**	P	**Pb**	**08 01 32.1**	**-0.5**
	baz=271						
HEN				*e*S	**Sb**	**08 01 39.7**	**-0.5**
	baz=271						
EAST	**Anshuo**	**0.58**	**312**	*i* P	**Pb**	**08 01 33.3**	**-0.2**
	baz=315						
EAST				*i* S	**Sb**	**08 01 41.9**	**+0.2**
	baz=315						
ECL	**Taimali**	**0.69**	**331**	*e*P	**Pg**	**08 01 33.6**	**-1.0**
	baz=334						
ECL				*e*S	**Sb**	**08 01 45.1**	**+0.3**
	baz=334						
SCZT	**Fangliau**	**0.74**	**301**	P	**Pg**	**08 01 35.9**	**+0.2**
	baz=302						
SCZT				S	**Sb**	**08 01 46.1**	**-0.3**
	baz=302						
TWGBT	**Beinan**	**0.85**	**346**	*e*P	**Pg**	**08 01 37.4**	**-0.3**
	baz=347						
TWGBT				*e*S	**Sb**	**08 01 50.0**	**+0.5**
	baz=347						
TWG	**Pinlang**	**0.85**	**345**	P	**Pg**	**08 01 37.4**	**-0.4**
	baz=347						
TWG				S	**Sb**	**08 01 50.0**	**+0.3**
	baz=347						
MASBT	**Mashibuluo**	**0.88**	**315**	*e*P	**Pg**	**08 01 38.2**	**-0.1**
	baz=316						
SSD	**Sandimen**	**0.98**	**320**	*e*P	**Pn**	**08 01 40.8**	**-0.2**
	baz=322						
SSD				*e*S	**Sg**	**08 01 53.0**	**0.0**
	baz=322						
CHKT	**Chengkung**	**1.10**	**3**	*e*P	**Pb**	**08 01 42.2**	**-0.2**
	baz=4.0						
CHKT				*e*S	**Sg**	**08 01 57.6**	**+0.6**
	baz=4.0						
SLGT	**Liugui**	**1.17**	**329**	*e*P	**Pb**	**08 01 43.2**	**-0.4**
	baz=329						
FULB	**Fuli**	**1.20**	**359**	*e*P	**Pn**	**08 01 43.3**	**-0.8**
	baz=1.0						
FULB				S	**Sn**	**08 02 00.7**	**+0.2**
	baz=1.0						
STYT	**Tauyuan**	**1.27**	**336**	*e*P	**Pn**	**08 01 44.7**	**-0.4**
	baz=338						
CHN1	**Nanshi**	**1.39**	**329**	*e*P	**Pg**	**08 01 47.8**	**-0.3**
	baz=330						
CHN1				*e*S	**Sg**	**08 02 05.9**	**-0.2**
	baz=330						
WTP	**Ta-pu**	**1.40**	**333**	*e*P	**Pb**	**08 01 47.8**	**+0.2**
	baz=334						
TPUB	**Ta-pu**	**1.45**	**334**	*e*P	**Pb**	**08 01 48.3**	**0.0**
	baz=335						
HGSD	**Ruisui**	**1.50**	**4**	*e*P	**Pn**	**08 01 48.1**	**-0.1**
	baz=5.0						
CHN4	**Tsaushan**	**1.51**	**334**	*e*P	**Pb**	**08 01 49.3**	**0.0**
	baz=335						
YUS	**Yu-Shan**	**1.53**	**348**	*e*P	**Pn**	**08 01 48.4**	**-0.6**
	baz=348						
CHN5	**Tsauling**	**1.70**	**340**	*e*P	**Pb**	**08 01 52.3**	**-0.3**
	baz=341						
SSLB	**Suanglung**	**1.82**	**350**	*e*P	**Pn**	**08 01 53.6**	**+1.1**
	baz=350						
SMLT	**Sun Moon Lake**	**1.92**	**349**	*e*P	**Pb**	**08 01 55.3**	**-1.1**
	baz=349						
TYC	**Yuchr**	**1.95**	**348**	*e*P	**Pn**	**08 01 55.5**	**+1.2**
	baz=349						
CHGB	**Renai**	**2.06**	**357**	*e*P	**Pn**	**08 01 56.4**	**+0.2**
	baz=357						
CHGB				*e*S	**Sn**	**08 02 21.3**	**-0.6**
	baz=357						
WHF	**Hehuan Shan**	**2.14**	**359**	P	**Pn**	**08 01 57.9**	**+0.5**
NACB	**Ninganchiao**	**2.19**	**7**	*e*P	**Pn**	**08 01 58.4**	**+0.7**
	baz=7.0						
NACB				*e*S	**Sn**	**08 02 25.8**	**+1.0**
	baz=7.0						
TDCB	**Techi**	**2.25**	**357**	*e*P	**Pn**	**08 01 59.6**	**+0.9**
	baz=357						
EOS1	**EOS1**	**2.66**	**16**	*e*P	**Pn**	**08 02 04.6**	**+0.6**
	baz=17						
YHNB	**Yeheng**	**2.67**	**1**	*e*P	**Pn**	**08 02 05.5**	**+1.2**
	baz=2.0						
YHNB				*e*S	**Sn**	**08 02 37.1**	**+0.5**
	baz=2.0						
NSK	**Sanguang**	**2.67**	**1**	*e*P	**Pn**	**08 02 05.7**	**+1.3**
	baz=1.0						
NSK				*e*S	**Sn**	**08 02 37.2**	**+0.5**
	baz=1.0						
JYNG	**Yonagunijimaku**	**2.87**	**31**	P	**Pn**	**08 02 07.6**	**+0.5**
JYNG				S	**Sn**	**08 02 41.6**	**0.0**
YOJ	**Yonaguni jima**	**2.92**	**32**	*e*P	**Pn**	**08 02 08.4**	**+0.8**
	baz=32						
HATJ	**Hateruma jima**	**3.08**	**48**	P	**Pn**	**08 02 10.8**	**+0.8**
HATJ				S	**Sn**	**08 02 46.0**	**-0.8**
IRIF	**Iriomote-Funau**	**3.23**	**43**	P	**Pn**	**08 02 12.8**	**+0.9**
JKRS	**Kuro-shima**	**3.34**	**48**	P	**Pn**	**08 02 14.4**	**+0.9**
JKRS				S	**Sn**	**08 02 52.2**	**-1.0**
JIJ	**Ishigaki jima**	**3.52**	**47**	P	**Pn**	**08 02 16.2**	**+0.3**
JIJ				*e*S	**Sn**	**08 02 56.6**	**-0.9**
JISG	**Ishigakijimahi**	**3.78**	**46**	P	**Pn**	**08 02 19.9**	**+0.4**
JTJ	**Tarama**	**4.08**	**49**	P	**Pn**	**08 02 24.4**	**+0.7**
JTJ				S	**Sn**	**08 03 10.9**	**-0.6**

JMA 04 08:35:20.2±0.2,25°75N×127°09E, h8km±4km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.64**	**335**	P	Pg	08 35 32.6	+0.1
JKE				S	Sg	08 35 41.5	+0.7
JJT3	**Tamagusuku3**	**0.74**	**58**	P	Pg	08 35 34.5	+0.1
JJT3				S	Sb	08 35 45.3	-0.3
JAGN	**Aguni-jima**	**0.85**	**9**	P	Pg	08 35 36.6	+0.1
JAGN				S	Sg	08 35 47.5	0.0
JNTH	**Nagotoyohara**	**1.14**	**47**	P	Pg	08 35 41.0	-1.0
JIH	**Iheya**	**1.50**	**31**	P	Pn	08 35 47.8	+0.4
JIH				S	Sn	08 36 07.0	-0.2
JOW	**Kunigami**	**1.51**	**44**	P	Pn	08 35 47.6	0.0
JOW				S	Sn	08 36 05.9	-1.7

*KRSC **04** 08:36:03.5±1.1,53°14N×158°18E, h190km±8km, ML3.6*
*ISCJB **04** 08:36:05.5±0.7,53°21N±0°07×158°2E±0°1, h178km±4km, mb3.3/4, Error ellipse: s-maj=14.0km s-min=9.2km az=36.0*
*IDC **04** 08:36:05.7±4.6,52°96N×159°71E, h116km±88km, mb3.2/4, mb1 3.6/4, mb1mx3.1/42, mbtmp3.5/4, Error ellipse: s-maj=128.2km s-min=66.2km az=103.0*
ISC 04 08:36:06.8±1.0,53°21N±0°07×158°23E±0°08, h175km±7km, n22,σ1°06/34, mb3.4/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOK	**Koryaka**	**0.26**	**70**	*e*P	**Pn**	**08 36 30.3**	**0.0**
KRX	**Arik**	**0.29**	**59**	*e*P	**Pn**	**08 36 30.4**	**-0.1**
AVH	**Avacha**	**0.31**	**79**	*e*P	**Pn**	**08 36 30.6**	**+0.2**
PET	**Petropavlovsk**	**0.31**	**125**	*i* P	**Pn**	**08 36 30.0**	**-0.3**
PET				*e*S	**Sn**	**08 36 48.8**	**+0.4**
PETK	**Petropavlovsk-**	**0.34**	**253**	P	**Pn**	**08 36 29.4**	**-1.1**
	8.1nm,0.3s,baz=83,slow=4.3,SNR=103						
PETK				S	**Sn**	**08 36 47.9**	**-0.6**
	1.9nm,0.3s,baz=102,slow=12,SNR=4.6						
SMAR	**Somma**	**0.35**	**80**	*e*P	**Pn**	**08 36 30.8**	**+0.1**
UGLR	**Uglovaya**	**0.36**	**89**	*e*P	**Pn**	**08 36 30.7**	**+0.1**
DALK	**Dalny**	**0.36**	**119**	*e*P	**Pn**	**08 36 30.1**	**-0.4**
DALK				*e*S	**Sn**	**08 36 49.3**	**+0.7**
KRMR	**Karymshinskiy**	**0.38**	**189**	*e*P	**Pn**	**08 36 29.8**	**-0.8**
KRMR				*e*S	**Sn**	**08 36 49.2**	**+0.4**
GNL	**Ganaly**	**0.52**	**341**	*e*P	**Pn**	**08 36 30.4**	**-0.8**
GNL				*e*S	**Sn**	**08 36 49.2**	**-0.9**
NLC	**Nalytchevo**	**0.67**	**93**	*e*P	**Pn**	**08 36 31.6**	**-0.2**
NLC				*e*S	**Sn**	**08 36 52.7**	**+1.7**
APC	**Apacha**	**0.71**	**247**	*i* P	**Pn**	**08 36 31.1**	**-0.9**
APC				*e*S	**Sn**	**08 36 50.0**	**-1.4**
RUS	**Russkaya**	**0.79**	**167**	*e*P	**Pn**	**08 36 31.8**	**-0.8**
RUS				*e*S	**Sn**	**08 36 52.7**	**+0.4**
SPN	**Mys Shipunski**	**1.08**	**95**	*i* P	**Pn**	**08 36 34.2**	**-0.4**
SPN				*e*S	**Sn**	**08 36 55.4**	**-0.7**
TUMR	**Tumrok**	**2.37**	**28**	*e*P	**Pn**	**08 36 48.5**	**+0.8**
TUMR				*e*S	**Sn**	**08 37 20.9**	**+1.4**
SRKR	**Sorokina**	**3.85**	**25**	*e*P	**Pn**	**08 37 05.6**	**-0.1**
KBTR	**Krutoberegovo**	**4.02**	**40**	*e*P	**Pn**	**08 37 07.0**	**-0.8**
KBTR				*e*S	**Sn**	**08 37 54.1**	**-1.5**
BKI	**Bering**	**4.97**	**63**	*e*P	**Pn**	**08 37 19.5**	**-0.5**
BKI				*e*S	**Sn**	**08 38 13.7**	**-3.8**
ILAR	**Eielson Array**	**29.53**	**45**	P	**P**	**08 41 54.2**	**-0.1**
	0.3nm,0.7s,baz=255,slow=7.2,SNR=5.6						
NVAR	**Mina Array Bea**	**56.75**	**69**	P	**P**	**08 45 32.6**	**+0.2**
	0.4nm,0.7s,baz=294,slow=7.4,SNR=4.2						
PDAR	**Pinedale Array**	**58.44**	**60**	P	**P**	**08 45 45.3**	**+1.2**
	0.6nm,0.8s,baz=3.0,slow=2.6,SNR=6.5						
TXAR	**Lajitas Array**	**71.62**	**66**	P	**P**	**08 47 09.8**	**+0.7**
	0.3nm,0.4s,baz=305,slow=5.2,SNR=5.0						

IDC 04 08:37:27.1±1.0,11°12S×113°68E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.4/35, mbtmp3.5/6, ML3.1/1, Error ellipse: s-maj=39.0km s-min=20.7km az=53.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.49**	**122**	Pn	Pn	08 40 38.1	-1.7
	0.1nm,0.3s,baz=311,slow=11,SNR=2.2						
FITZ				Sn	Sn	08 42 55.4	-15
	0.1nm,0.3s,baz=146,slow=17,SNR=2.4						

WRA	**Warramunga Arr**	**21.73**	**116**	P		P	08 42 21.6	+1.4
	0.5nm,0.6s,baz=292,slow=12,SNR=6.6							
ASAR	**Alice Springs**	**22.94**	**126**	P		P	08 42 32.3	-0.9
	0.6nm,0.8s,baz=299,slow=8.6,SNR=8.7							
MKAR	**Makanchi Array**	**64.13**	**337**	P		P	08 48 03.9	+0.6
	0.2nm,0.4s,baz=162,slow=6.1,SNR=3.6							
MAW	**Mawson**	**65.50**	**199**	P		P	08 48 11.5	-0.3
	0.3nm,0.3s,baz=21,slow=8.6,SNR=3.4							
ZALV	**Zalesovo Beam**	**69.30**	**342**	P		P	08 48 35.9	-0.2
	0.4nm,0.4s,baz=156,slow=7.4,SNR=2.9							

*MDD **04** 08:39:12.2±2.0,37°29N×12°75W, h0km, mb3.7/9, Error ellipse: s-maj=18.3km s-min=16.6km az=46.0, PRXIMO*
*INMG **04** 08:39:14.3±1.0,37°17N×13°12W, h10km, ML2.2, Error ellipse: s-maj=11.9km s-min=6.1km az=93.0*
ISC 04 08:39:11.7±3.7,37°4N±0°1×12°7W±0°2, h10km, n34, σ1°63/60, 1C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**3.14**	**59**	*e*Pn	**Pn**	**08 40 03.2**	**+1.9**
PMAFR				*e*Sn	**Sn**	**08 40 39.6**	**+0.7**
PMAFR				A	A	08 40 47.5	
	14nm,0.8s						
PMAFR	**Mafra**	**3.14**	**59**	P	**Pn**	**08 40 03.0**	**+1.7**
	1.1nm,0.2s,SNR=7.9						
PMAFR				S	**Sn**	**08 40 40.5**	**+1.6**
	3.7nm,0.6s,SNR=6.4						
PTEO	**Sao Teotonio**	**3.19**	**86**	*e*Pn	**Pn**	**08 40 02.4**	**+0.4**
PTEO				*e*Sn	**Sn**	**08 40 40.5**	**+0.4**
PTEO	**Sao Teotonio**	**3.19**	**86**	P	**Pn**	**08 40 02.4**	**+0.4**
PTEO				S	**Sn**	**08 40 40.5**	**+0.4**
MORF	**Marmelete**	**3.25**	**90**	*e*Pn	**Pn**	**08 40 04.5**	**+1.6**
MORF	**Marmelete**	**3.25**	**90**	P	**Pn**	**08 40 04.5**	**+1.6**
MESJ	**Messejana**	**3.61**	**81**⇑	*e*Pn	**Pn**	**08 40 09.1**	**+1.3**
MESJ				*e*Sn	**Sn**	**08 40 48.7**	**-1.8**
MESJ	**Messejana**	**3.61**	**81**	P	**Pn**	**08 40 09.1**	**+1.3**
MESJ				S	**Sn**	**08 40 48.7**	**-1.8**
ALMR	**Almeirim**	**3.72**	**60**	*e*Pn	**Pn**	**08 40 11.7**	**+2.4**
ALMR				*e*Sn	**Sn**	**08 40 54.1**	**+0.9**
ALMR	**Almeirim**	**3.72**	**60**	P	**Pn**	**08 40 11.7**	**+2.4**
ALMR				S	**Sn**	**08 40 54.1**	**+0.9**
PBDV	**Barranco-do-Ve**	**3.83**	**91**	*e*Pn	**Pn**	**08 40 11.5**	**+0.7**
PBDV				*e*Sn	**Sn**	**08 40 56.4**	**+0.5**
PBDV	**Barranco-do-Ve**	**3.83**	**91**	P	**Pn**	**08 40 11.5**	**+0.7**
PBDV				S	**Sn**	**08 40 56.4**	**+0.5**
PBEJ	**Beja**	**3.91**	**79**	*e*Pn	**Pn**	**08 40 14.0**	**+2.1**
PBEJ				*e*Sn	**Sn**	**08 40 59.3**	**+1.4**
PBEJ	**Beja**	**3.91**	**79**	P	**Pn**	**08 40 14.0**	**+2.1**
PBEJ				S	**Sn**	**08 40 59.3**	**+1.4**
PVAQ	**Vaqueiros**	**3.99**	**88**	*e*Pn	**Pn**	**08 40 14.0**	**+1.0**
PVAQ				*e*Sn	**Sn**	**08 40 58.1**	**-1.8**
PVAQ				A	A	08 41 11.8	
	4.4nm,0.5s						
PVAQ	**Vaqueiros**	**3.99**	**88**	P	**Pn**	**08 40 14.0**	**+1.0**
PVAQ				S	**Sn**	**08 40 58.1**	**-1.8**
	4.4nm,0.5s						
PTOM	**Tomar**	**4.06**	**55**	*e*Pn	**Pn**	**08 40 15.2**	**+1.3**
PTOM				*e*Sn	**Sn**	**08 41 01.9**	**+0.3**
PTOM				A	A	08 41 05.7	
	4.1nm,0.7s						
PTOM	**Tomar**	**4.06**	**55**	P	**Pn**	**08 40 15.2**	**+1.3**
PTOM				S	**Sn**	**08 41 01.9**	**+0.3**
	2.0nm,0.7s						
EGRO	**El Granado**	**4.18**	**86**	P	**Pn**	**08 40 15.7**	**+0.2**
	1.1nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**08 41 03.4**	**-1.0**
	2.3nm,0.5s,SNR=7.9						
PCAS	**Casmilo, Conde**	**4.26**	**50**	*e*Pn	**Pn**	**08 40 18.1**	**+1.5**
PMRV	**Marv??o**

BWN	Browne	14.95	329	ePn	Pn	08 55 11.7	+0.1
PAHR	Pah Rah Range 8.3nm,1.4s	15.30	141	ePn	Pn	08 55 17.6	+1.0
AFDM	Forest Hills D 4.1nm,1.2s	15.40	147	ePn	Pn	08 55 19.2	+1.4
YHB	Horse Butte 7.2nm,1.1s	15.55	112	ePn	Pn	08 55 21.0	+1.1
YHH	Holmes Hill 8.3nm,1.3s	15.72	111	ePn	P	08 55 28.9	+2.6
YMR	Madison River 13nm,1.2s	15.73	111	ePn	P	08 55 29.4	+3.1
YERR	Yerington 4.7nm,1.3s	15.98	142	ePn	Pn	08 55 25.9	+0.4
WAKR	Walker 10nm,1.5s	16.33	144	ePn	Pn	08 55 34.5	+4.4
KVN	Kaiserville 8.1nm,1.5s	16.36	140	ePn	Pn	08 55 31.9	+1.5
CMB	Columbia Colle 6.0nm,1.4s	16.42	147	ePn	Pn	08 55 31.6	+0.6
RYN	Ryan 11nm,1.5s	16.57	141	ePn	Pn	08 55 34.1	+1.1
NV01	Mina Array Sit	16.82	141	ePn	Pn	08 55 37.3	+1.0
NVAR	Mina Array Bea 0.1nm,0.3s,baz=324,slow=11,SNR=7.8	16.82	141	Pn	Pn	08 55 37.2	+1.0
NV11	Mina Array Sit 0.7nm,1.5s	16.88	141	ePn	Pn	08 55 37.9	+1.0
COLD	Coldfoot 6.6nm,1.4s	17.39	336	ePn	Pn	08 55 41.6	-1.3
IM3	Indian Mountai	17.51	329	eP	Pn	08 55 46.7	+2.2
PD31	Pinedale Array	17.72	114	ePn	Pn	08 55 48.9	+1.4
PDAR	Pinedale Array 0.1nm,0.3s,baz=302,slow=9.8,SNR=11	17.72	114	P	P	08 55 50.4	+2.1
PDAR	Pinedale Array	17.72	114	eP	Pn	08 55 49.3	+1.8
DUG	Dugway, Tooele 1.4nm,1.0s	17.82	126	ePn	Pn	08 55 48.9	+0.3
PMPB	Monarch Peak 15nm,1.2s	17.96	150	eP	Pn	08 55 51.9	+1.7
R11A	Troy Canyon, C 5.4nm,1.4s	18.00	135	ePn	Pn	08 55 51.9	+1.0
PSUT	Pine Spring 5.8nm,1.4s	18.62	131	eP	P	08 55 59.1	+0.8
TPNV	Topopah Spring 14nm,1.6s	18.91	139	eP	P	08 56 02.4	+1.0
MSU	Marysvale	19.43	128	eP	P	08 56 08.7	+1.6
K22A	Casper 14nm,1.4s	19.51	110	eP	P	08 56 09.1	+1.2
P18A	Preston Nutter 3.7nm,1.2s	19.54	122	eP	P	08 56 09.9	+1.5
CCUT	Cedar City 10nm,1.5s	19.65	132	eP	P	08 56 10.4	+0.9
SZCU	Shurtz Canyon 5.8nm,1.1s	19.74	131	eP	P	08 56 10.9	+0.4
SHPR	Sheep Range 5.4nm,1.4s	19.74	137	eP	P	08 56 11.6	+1.1
SRU	San Rafael Swe 8.2nm,1.2s	19.79	124	eP	P	08 56 12.9	+1.9
MTPU	Mount Pierson 1.9nm,1.1s	19.80	129	eP	P	08 56 12.8	+1.4
OSI	Osito Audit: C 4.4nm,0.8s	20.09	147	eP	P	08 56 16.5	+2.3
LCMT	Little Creek M 12nm,1.3s	20.14	133	eP	P	08 56 15.9	+1.0
PKCU	Pink Cliffs 14nm,1.2s	20.22	130	eP	P	08 56 17.5	+1.6
O20A	White River Ci 8.8nm,1.0s	20.23	118	eP	Pn	08 56 21.0	+3.2
KNB	Kanab 18nm,1.7s	20.33	132	eP	P	08 56 18.0	+1.1
MWC	Mount Wilson 11nm,1.4s	20.66	146	eP	P	08 56 20.6	0.0
PV09	Paradox Valley	20.96	123	eP	P	08 56 24.9	+1.1
N23A	Red Feather La 9.5nm,1.2s	20.98	113	eP	Pn	08 56 28.8	+2.2
PHWY	Pilot Hill 10nm,1.4s	20.98	112	eP	P	08 56 25.0	+0.9
LDFC	Landfair 9.3nm,1.1s	20.99	139	eP	P	08 56 24.1	+0.1
PV21	Cone Mtn., Par 15nm,1.6s	21.00	122	eP	P	08 56 25.3	+1.1
U15A	North Rim 9.9nm,1.2s	21.06	132	eP	P	08 56 25.6	+0.7
PV23	Carpenter Ridg 13nm,1.2s	21.06	123	eP	P	08 56 25.4	+0.5
PV10	Paradox Valley	21.10	123	eP	P	08 56 26.7	+1.4
PV22	Blue Mesa, Par 9.6nm,1.6s	21.11	122	eP	P	08 56 25.1	-0.3
PV14	Lion Creek, Pa 9.4nm,1.1s	21.11	123	eP	P	08 56 26.4	+1.0
PV20	West Nyswonger 10nm,1.2s	21.16	123	eP	P	08 56 27.0	+1.0
PV19	Morning Glory 4.8nm,0.8s	21.18	123	eP	P	08 56 27.2	+1.0
PV16	Nyswonger Mesa 5.9nm,1.1s	21.21	123	eP	P	08 56 26.7	+0.2
PV17	East Wray Mesa 13nm,1.4s	21.22	123	eP	P	08 56 26.6	+0.1
PV11	David Mesa, Pa 6.9nm,1.0s	21.25	123	eP	P	08 56 27.9	+1.0
PV12	Saucer Basin,	21.27	123	eP	P	08 56 28.1	+1.0
PV03	Paradox Valley	21.29	123	eP	P	08 56 28.1	+0.7
PV05	Paradox Valley	21.30	123	eP	P	08 56 28.4	+1.0
PV13	Radium Mtn., P 8.6nm,1.2s	21.38	123	eP	P	08 56 29.3	+1.0
PV02	Paradox Valley 6.0nm,1.0s	21.39	123	eP	P	08 56 28.8	+0.5
PV01	Paradox Valley	21.53	122	eP	P	08 56 30.9	+1.0
SMCO	Snowmass 12nm,1.1s	21.60	118	eP	P	08 56 31.9	+1.1
WUAZ	Wupatki 8.4nm,1.3s	22.23	132	eP	P	08 56 38.6	+1.2
MVCO	Mesa Verde 7.7nm,1.3s	22.27	124	eP	P	08 56 38.7	+0.8
S22A	4UR Ranch, Cre 6.3nm,1.3s	22.73	120	eP	P	08 56 43.4	+0.6
Y14A	Wickenburg 8.9nm,1.5s	22.84	137	eP	P	08 56 44.9	+1.1
W18A	Petrified Fore 18nm,1.5s	23.32	129	eP	P	08 56 50.5	+1.7
SDCO	Great Sand Dun 10nm,1.6s	23.43	118	eP	P	08 56 51.0	+0.9
X18A	Snowflake 7.8nm,1.1s	23.70	130	eP	P	08 56 53.3	+0.7
LAZ	Ladron	25.16	126	eP	P	08 57 08.4	+2.5
TUC	Tucson 4.2nm,1.4s	25.19	135	eP	P	08 57 07.5	+1.3
BNM	Barren Site	25.61	126	eP	P	08 57 10.3	+0.1
CPRX	Cap Rock	27.89	123	eP	P	08 57 31.3	+0.6
MNTX	Cornudas Mount 4.6nm,1.4s	28.20	127	eP	P	08 57 33.9	+0.6
TX31	Lajitas Ar. Si	30.98	127	eP	P	08 57 58.4	+0.4
LTX	Lajitas	30.98	127	eP	P	08 57 58.6	+0.6
TXAR	Lajitas Array 1.6nm,0.9s,baz=320,slow=6.4,SNR=9.3	30.98	127	P	P	08 57 58.6	+0.5
H11N2	WAKE ISLAND Hy	57.23	260	T	T	10 03 30.9	
	baz=39,slow=76,SNR=38						
H11N3	WAKE ISLAND Hy	57.23	260	T	T	10 03 37.4	
	baz=39,slow=76,SNR=52						
H11N1	WAKE ISLAND Hy	57.25	260	T	T	10 03 32.1	
	baz=39,slow=76,SNR=37						
H11S1	WAKE ISLAND Hy	58.29	259	T	T	10 04 54.4	
	baz=50						
H11S2	WAKE ISLAND Hy	58.30	259	T	T	10 04 58.6	
	baz=50						
H11S3	WAKE ISLAND Hy	58.31	259	T	T	10 05 01.7	
	baz=50						
LPAZ	La Paz 0.8nm,0.7s,baz=325,slow=3.2,SNR=4.5	87.62	121	P	P	09 04 28.1	-1.7

*IDC **04** 08:55:02.7±0.9,52°.23N×132°.18W,h0km,mb4.0/9, mb1 4.2/13,mb1mx3.9/49,mbtmp3.9/13,ML3.6/5,MS3.5/19, Ms1 3.6/19,ms1mx3.3/42,Error ellipse: s-maj=16.4km s-min=9.0km az=63.0*

*ISCJB **04** 08:55:05.1±0.3,52°.45N±0°.03×131°.83W±0°.08,h18km, mb4.0/46,MS3.6/12,Error ellipse: s-maj=7.9km s-min=2.2km az=147.2*

*NEIC **04** 08:55:06.1±0.2,52°.45N×131°.79W,h10km,mb4.0/75, Error ellipse: s-maj=8.0km s-min=2.1km az=57.0*

*GCMT **04** 08:55:11.1±0.5,52°.39N±0°.05×132°.06W±0°.06,h28km±1km, MW4.9/69,Moment Tensor Solution. s19,c20; s69,c90; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.64±.22; Mθθ1.06±.14; Mφφ1.58±.14; Mrθ0.96±.22; Mφθ-0.52±.07; Mφr0.31±.21; Best double couple: M0 2.41700×10^16 NP1:φs312.00000°,δ50.00000°,λ-109.00000°. NP2:*

φs160.00000°,δ43.00000°,λ-68.00000°. Principal axes: T 1.9180, Plg4.0000°, Azm55.0000°; N 0.9980, Plg15.0000°, Azm324.0000°; P -2.9160, Plg75.0000°, Azm159.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 04 08:55:06.4±0.6,52°.39N±0°.06×131°.92W±0°.06,h18km, n183,σ1°36/169,mb4.1/46,MS3.7/12,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIB	Dawson Inlet,	0.89	338	ePg	Pb	08 55 21.2	-2.1
DIB				eSn	Sb	08 55 34.5	-0.3
H02S1	DAWSON INLET T	0.89	338	Pg	Pb	08 55 21.0	-2.2
H02N1	VAN INLET T-PH	0.95	337	Pg	Pb	08 55 21.8	-2.6
BBB	Bella Bella 4.0nm,0.3s,baz=269,slow=9.8,SNR=8.2	2.34	93	Pn	Pn	08 55 42.5	-1.5
BBB	14nm,0.3s,baz=276,slow=17,SNR=16			Pg	Pb	08 55 48.1	0.0
BBB	56nm,0.3s,baz=256,slow=16,SNR=6.8			Sn	Sn	08 56 10.9	-1.4
BBB	comp=Z,416nm,19.3s,baz=310,slow=30			LR	LR	08 56 18.9	
BBB	Bella Bella	2.34	93	ePn	Pn	08 55 42.4	-1.5
BBB				Pg	Pb	08 55 48.1	0.0
BBB				eSn	Sn	08 56 09.5	-2.8
CRAG	Craig	3.17	347	ePn	Pn	08 55 54.5	-0.8
CRAG				eSn	Sn	08 56 32.6	-0.1
WRAK	Wrangell Islan	4.05	357	ePn	Pn	08 56 07.9	+0.4
WRAK				eSn	Sn	08 56 52.9	-1.4
SIT	Sitka	5.08	338	ePn	Pn	08 56 23.3	+1.8
SIT				eSn	Sn	08 57 20.1	+0.4
JIS	Juneau Island	6.07	348	ePn	Pn	08 56 36.9	+1.7
DLBC	Dease Lake 2.4nm,0.3s,baz=186,slow=12,SNR=26	6.16	9	Pn	Pn	08 56 39.5	+3.0
DLBC	3.0nm,0.3s,baz=90,slow=18,SNR=3.1			Sn	Sn	08 57 49.8	+3.4
DLBC	2.5nm,0.3s,baz=67,slow=16,SNR=6.7			Lg	Lg	08 58 22.2	
DLBC	comp=Z,1μm,18.9s,baz=210,slow=38			LR	LR	08 59 06.5	
DLBC	Dease Lake	6.16	9	ePn	Pn	08 56 36.1	-0.4
DLBC				eSn	Sn	08 57 49.8	+3.4
DLBC				Lg	Lg	08 58 22.2	
BESE	Bessie Mountai	6.43	346	ePn	Pn	08 56 40.6	+0.5
PGC	Sidney	6.57	121	ePn	Pn	08 56 41.7	-0.3
SKAG	Skagway	7.34	346	ePn	Pn	08 56 51.3	-1.3
E03A	Lebam	7.98	134	ePn	Pn	08 57 02.8	+1.4
D05A	Enumclaw	8.26	125	ePn	Pn	08 57 07.4	+2.1
WHY	Whitehorse	8.46	350	ePn	Pn	08 57 07.9	-0.1
LON	Longmire	8.65	127	ePn	Pn	08 57 11.5	+0.8
LTY	Liberty	8.90	121	ePn	Pn	08 57 14.3	+0.2
HYT	Haines Junctio	9.00	342	ePn	Pn	08 57 13.5	-1.9
PCA	Pinnacle	9.01	332	ePn	Pn	08 57 15.8	+0.3
C09A	Chrisman Ranch	9.89	112	ePn	Pn	08 57 27.5	-0.1
NEW	Newport 0.1nm,0.3s,baz=350,slow=6.1,SNR=1.9	10.32	108	Lg	Lg	09 00 30.6	
NEW	comp=Z,162nm,19.7s,baz=288,slow=38			LR	LR	09 01 33.7	
BALM	Baldy	10.38	331	ePn	Pn	08 57 44.7	+10
HUMO	Hull Mountain	11.50	145	ePn	Pn	08 57 50.4	+0.8
F10A	Beach Ranch, E	11.55	118	ePn	Pn	08 57 53.5	+3.2
DIV	Divide	11.58	325	ePn	Pn	08 57 50.9	+0.2
FID	Port Fidalgo	11.58	322	ePn	Pn	08 57 51.2	+0.6
K05A	Summer Lake	12.19	138	ePn	Pn	08 58 00.9	+1.8
YBH	Yreka Blue Hor 0.0nm,0.3s,baz=350,slow=6.4,SNR=3.2	12.36	146	Pn	Pn	08 58 04.1	+2.7
YBH	comp=Z,184nm,20.3s,baz=331,slow=34			LR	LR	09 01 56.9	
SCM	Sheep Creek Mo	12.60	325	ePn	Pn	08 58 09.0	+4.3
DOT	Dot Lake	12.97	335	ePn	P	08 58 16.9	-3.1
KDAK	Kodiak Island comp=Z,132nm,21.0s,baz=122,slow=30	12.99	303	LR	LR	09 01 35.4	
MOD	Modoc Plateau	13.11	139	ePn	Pn	08 58 13.9	+2.1
GHO	Glory Hole Cre	13.15	322	ePn	Pn	08 58 13.8	+1.7
EGAK	Eagle	13.31	343	ePn	Pn	08 58 15.4	+1.3
DHY	Denali Highway	13.48	329	ePn	Pn	08 58 15.3	-1.3
YKA	Yellowknife Ar 0.1nm,0.3s,baz=232,slow=13,SNR=4.1	13.71	36	Pn	Pn	08 58 19.5	-0.1
YKB5	Yellowknife Ar	13.71	36	ePn	Pn	08 58 19.6	-0.1
HDA	Harding Lake	14.35	333	eP	P	08 58 37.5	+2.1
MCK	McKinley	14.44	329	ePn	Pn	08 58 30.5	+0.7
IL1	Eielson Array	14.61	334	ePn	Pn	08 58 30.1	-1.9
ILAR	Eielson Array 0.0nm,0.3s,baz=160,slow=13,SNR=4.5	14.61	334	Pn	P	08 58 35.2	-3.0
ILAR	comp=Z,110nm,20.5s,baz=138,slow=34			LR	LR	09 03 23.5	
ILB	Eielson Array	14.61	334	ePn	P	08 58 40.0	+1.7
HLID	Hailey	14.64	120	eP	P	08 58 40.5	+1.6
MCMT	McKenzie Canyo	14.68	113	eP	P	08 58 41.3	+1.9
TRF	Thorofare Moun	14.70	326	ePn	P	08 58 41.5	+2.0
WRH	Wood River Hil	14.72	332	ePn	P	08 58 41.5	+2.1
CCB	Clear Creek Bu	14.77	332	ePn	P	08 58 41.6	+1.6
BEKR	Beckworth	14.84	143	ePn	Pn	08 58 37.1	+1.8
PPLA	Purkeypile 6.6nm,1.0s	15.04	322	ePn	P	08 58 44.8	+1.6
MDM	Murphy Dome 8.4nm,0.8s	15.12	333	ePn	P	08 58 45.7	+1.7
PAHR	Pah Rah Range 5.7nm,1.0s	15.35	141	ePn	Pn	08 58 42.7	+0.6
BPAW	Bear Paw Mtn. 11nm,0.9s	15.36	327	ePn	P	08 58 47.9	+1.3
VCNR	Virginia City 2.8nm,0.9s	15.60	142	ePn	Pn	08 58 47.1	+1.6
BMN	Battle Mountai 9.7nm,1.1s	15.63	134	ePn	P	08 58 51.5	+1.6
YHH	Holmes Hill 8.0nm,1.1s	15.84	110	ePn	P	08 58 52.7	+0.3
MLY	Manley 11nm,0.9s	15.91	330	ePn	P	08 58 54.9	+2.1
GCMT	Greycliff	15.96	106	ePn	Pn	08 58 49.4	-0.6
INK	Inuvik 0.1nm,0.3s,baz=162,slow=11,SNR=6.0	15.99	358	Pn	P	08 58 54.8	+1.3
INK	Inuvik 14nm,1.0s	15.99	358	ePn	P	08 58 56.8	+3.3
YERR	Yerington 3.5nm,1.1s	16.03	142	ePn	Pn	08 58 51.5	+0.5
WAKR	Walker 0.9nm,0.8s	16.38	143	ePn	Pn	08 58 56.5	+1.1
KVN	Kaiserville 6.8nm,1.0s	16.42	139	ePn	Pn	08 58 56.4	+0.5
FXWY	Fox Creek 6.8nm,1.0s	16.44	114	ePn	P	08 59 01.6	+2.6
CMB	Columbia Colle 1.3nm,0.9s	16.46	146	ePn	P	08 58 58.1	-0.8
RLMT	Red Lodge 3.3nm,1.0s	16.57	107	ePn	Pn	08 58 57.6	-0.2
TPAW	Teton Pass 12nm,1.1s	16.58	114	ePn	Pn	08 58 58.1	0.0
RYN	Ryan 3.0nm,0.9s	16.61	141	ePn	P	08 58 59.9	-0.9
NV01	Mina Array Sit	16.87	140	ePn	Pn	08 59 02.7	+1.0
NVAR	Mina Array Bea 0.1nm,0.3s,baz=319,slow=11,SNR=4.9	16.87	140	Pn	Pn	08 59 01.9	+0.2
NVAR	comp=Z,120nm,19.2s,baz=328,slow=35			LR	LR	09 05 01.9	
OMMB	Old Mammoth Mi 2.6nm,1.1s	17.32	143	ePn	P	08 59 09.1	+0.3
IM3	Indian Mountai	17.48	330	ePn	Pn	08 59 09.5	+0.5
PDAR	Pinedale Array 0.1nm,0.3s,baz=294,slow=11,SNR=8.2	17.83	114	P	P	08 59 14.9	+0.7
PDAR	Pinedale Array	17.83	114	ePn	Pn	08 59 13.6	0.0
DUG	Dugway, Tooele 3.8nm,1.1s	17.90	125	ePn	Pn	08 59 14.2	-0.3
R11A	Troy Canyon, C 2.8nm,1.1s	18.07	135	ePn	Pn	08 59 16.6	+0.1
TOLK	Toolik Lake Re 8.3nm,1.0s	18.35	339	ePn	P	08 59 22.6	+3.0
PSUT	Pine Spring 4.4nm,1.1s	18.70	131	eP	Pn	08 59 24.2	0.0
TPNV	Topopah Spring 3.6nm,1.0s	18.97	138	eP	Pn	08 59 27.7	+0.2
TCRU	Three Creeks R 3.2nm,0.7s	19.30	128	eP	P	08 59 30.9	+0.4
P17A	Butcher Ranch, 2.4nm,0.9s	19.50	123	eP	Pn	08 59 33.5	-0.3
MSU	Marysvale	19.51	128	eP	Pn	08 59 34.0	-0.1
CCUT	Cedar City 3.0nm,0.9s	19.72	131	eP	P	08 59 34.8	-0.3
SHPR	Sheep Range 4.7nm,1.2s	19.80	137	eP	P	08 59 36.3	+0.4
SZCU	Shurtz Canyon 5.3nm,1.2s	19.81	131	eP	P	08 59 36.4	+0.4
SRU	San Rafael Swe 9.3nm,1.2s	19.88	123	eP	P	08 59 37.1	+0.3
MTPU	Mount Pierson 2.6nm,1.2s	19.88	128	eP	P	08 59 35.9	-1.1
GSC	Goldstone, Bar 3.4nm,1.1s	20.19	142	eP	P	08 59 41.0	+1.0
LCMT	Little Creek M 12nm,1.2s	20.22	132	eP	P	08 59 41.1	+0.8
PKCU	Pink Cliffs 18nm,1.2s	20.30	130	eP	Pn	08 59 43.2	-0.3
O20A	White River Ci 18nm,1.1s	20.34	118	eP	P	08 59 42.5	+0.8
KNB	Kanab 6.0nm,1.2s	20.41	131	eP	Pn	08 59 44.0	-0.6
LDFC	Landfair 16nm,1.1s	21.05	139	eP	P	08 59 49.4	+0.1
PV09	Paradox Valley	21.05	122	eP	P	08 59 50.7	+1.1
PV21	Cone Mtn., Par 7.4nm,1.0s	21.09	122	eP	P	08 59 50.6	+0.6
N23A	Red Feather La 9.4nm,1.1s	21.09	113	eP	P	08 59 51.4	+1.4
U15A	North Rim 10nm,1.0s	21.13	131	eP	P	08 59 51.3	+0.9
PV23	Carpenter Ridg 9.9nm,1.0s	21.15	122	eP	P	08 59 51.1	+0.5
PV10	Paradox Valley	21.20	122	eP	P	08 59 52.9	+1.8
PV14	Lion Creek, Pa 9.1nm,0.9s	21.21	122	eP	P	08 59 51.4	+0.2
PV20	West Nyswonger 4.9nm,0.9s	21.26	122	eP	P	08 59 52.1	+0.4
PV19	Morning Glory 10.0nm,1.2s	21.27	122	eP	P	08 59 52.4	+0.5
PV16	Nyswonger Mesa 9.5nm,1.2s	21.31	122	eP	P	08 59 52.1	-0.1
PV17	East Wray Mesa 8.7nm,0.9s	21.31	122	eP	P	08 59 52.9	+0.7
PV11	David Mesa, Pa 15nm,1.1s	21.34	122	eP	P	08 59 52.9	+0.3
PV18	Skein Mesa, Pa 7.1nm,1.1s	21.36	122	eP	P	08 59 53.5	+0.7
PV12	Saucer Basin, 9.0nm,1.1s	21.36	122	eP	P	08 59 53.2	+0.4
PV03	Paradox Valley	21.39	122	eP	P	08 59 53.5	+0.4
PV05	Paradox Valley	21.39	123	eP	P	08 59 53.8	+0.7
PV13	Radium Mtn., P 16nm,1.0s	21.47	122	eP	P	08 59 54.4	+0.4
PV02	Paradox Valley 9.9nm,1.0s	21.48	122	eP	P	08 59 55.8	+1.7
W13A	Hualapai Mount 3.8nm,0.9s	21.54	136	eP	P	08 59 54.2	-0.5
PV01	Paradox Valley	21.62	122	eP	P	08 59 56.1	+0.5
SMCO	Snowmass 5.8nm,0.9s	21.70	118	eP	P	08 59 56.9	+0.2
WUAZ	Wupatki 3.4nm,0.8s	22.30	131	eP	P	09 00 03.1	+0.2
MVCO	Mesa Verde 8.2nm,1.0s	22.36	123	eP	P	09 00 03.8	+0.3
Y12C	Blythe 9.2nm,1.1s	22.44	139	eP	P	09 00 04.3	+0.1
ULM	Lac du Bonnet comp=Z,297nm,19.7s,baz=300,slow=38	22.48	81	LR	LR	09 09 25.7	
S22A	4UR Ranch, Cre 0.4nm,0.6s	22.82	120	eP	P	09 00 09.3	+0.7
Y14A	Wickenburg 8.1nm,1.1s	22.91	136	eP	P	09 00 09.8	+0.7
GLA	Glamis 7.7nm,1.0s	22.94	141	eP	P	09 00 10.2	+0.7
X16A	Lo Mia Camp, P 2.6nm,1.0s	23.18	133	eP	P	09 00 12.5	+0.4
OGNE	Ogallala 13nm,1.1s	23.31	107	eP	P	09 00 13.4	+0.1
W18A	Petrified Fore 7.4nm,1.0s	23.40	129	eP	P	09 00 15.7	+1.4
SDCO	Great Sand Dun 3.8nm,1.0s	23.54	118	eP	P	09 00 15.8	0.0
113A	Mohawk Valley, 2.1nm,0.9s	23.61	139	eP	P	09 00 15.5	-0.6
X18A	Snowflake 10nm,0.9s	23.78	130	eP	P	09 00 18.6	+0.6
T25A	Trinidad	24.57	117	eP	P	09 00 26.0	+0.6
ANMO	Albuquerque 0.5nm,0.4s,baz=319,slow=11,SNR=5.9	25.15	124	P	P	09 00 30.8	+0.1
ANMO	Albuquerque 1.6nm,1.0s	25.15	124	eP	P	09 00 30.1	-0.5
LAZ	Ladron	25.24	126	eP	P	09 00 32.2	+0.8
TUC	Tucson 2.4nm,1.1s	25.26	134	eP	P	09 00 31.9	+0.5
BNM	Barren Site	25.70	125	eP	P	09 00 36.2	+0.6
319A	Douglas 4.9nm,1.0s	26.72	133	eP	P	09 00 48.4	+3.7
RES	Resolute Bay 1.9nm,0.8s,baz=245,slow=10,SNR=3.4	26.90	21	P	P	09 00 48.2	+2.4
RES	comp=Z,177nm,21.1s,baz=191,slow=37			LR	LR	09 11 46.8	
RES	Resolute Bay 7.8nm,0.9s	26.90	21	eP	P	09 00 45.4	-0.5
AMTX	Amarillo 8.3nm,1.1s	27.73	117	eP	P	09 00 54.2	+0.5
MNTX	Cornudas Mount 4.1nm,1.1s	28.29	127	eP	P	09 00 58.8	+0.1
TX31	Lajitas Ar. Si	31.07	127	eP	P	09 01 23.8	+0.4
LTX	Lajitas	31.07	127	eP	P	09 01 24.0	+0.6
TXAR	Lajitas Array 2.5nm,0.8s,baz=329,slow=7.1,SNR=16	31.07	127	P	P	09 01 24.0	+0.6
MIAR	Mount Ida 2.2nm,1.1s	32.56	108	eP	P	09 01 36.9	+0.5
BILL	Bilibino 2.3nm,0.9s	32.75	322	eP	P	09 01 38.3	+0.6
OXF	Oxford 16nm,1.0s	35.04	104	eP	P	09 01 58.0	+0.1
SCHQ	Schefferville comp=Z,380nm,18.1s,baz=124,slow=37	37.45	60	LR	LR	09 18 15.1	
V53A	Saluda 10nm,0.9s	38.24	96	eP	P	09 02 25.8	+0.6
PETK	Petropavlovsk- comp=Z,26nm,18.5s,baz=66,slow=36	41.02	300	LR	LR	09 19 34.4	
NRIK	Noril'sk comp=Z,20nm,18.9s,baz=46,slow=39	55.20	344	LR	LR	09 30 47.6	
H11N2	WAKE ISLAND Hy baz=39,slow=76,SNR=75	57.08	259	T	T	10 06 55.5	
H11N3	WAKE ISLAND Hy baz=39,slow=76,SNR=78	57.08	259	T	T	10 06 59.3	
H11N1	WAKE ISLAND Hy baz=39,slow=76,SNR=71	57.10	259	T	T	10 06 56.3	
ARA0	ARCESS Array S	57.27	9	eP	P	09 04 52.0	-0.2
ARCES	ARCESS Array B 4.5nm,0.9s,baz=0.8,slow=6.3,SNR=4.2	57.27	9	P	P	09 04 52.0	-0.2
H11S1	WAKE ISLAND Hy baz=40,slow=75,SNR=8.1	58.14	259	T	T	10 08 20.5	
H11S2	WAKE ISLAND Hy baz=40,slow=75,SNR=6.0	58.15	259	T	T	10 08 20.4	
H11S3	WAKE ISLAND Hy baz=40,slow=75,SNR=6.1	58.16	259	T	T	10 08 15.2	
NB2	NORSAR Subarra comp=Z,4.0nm,1.0s,baz=338,slow=6.5	63.15	19	P	P	09 05 33.5	+0.9
NB200	NORSAR Array S	63.15	19	eP	P	09 05 32.6	0.0
NOA	NORSAR Array B comp=Z,0.7nm,0.9s,baz=312,slow=6.5,SNR=2.3	63.15	19	P	P	09 05 32.6	0.0
NOA	comp=Z,93nm,19.5s,baz=335,slow=36			LR	LR	09 32 43.1	
KSRS	Korea Array comp=Z,13nm,18.2s,baz=63,slow=36	66.89	302	LR	LR	09 35 36.3	
PMOR	Pomariorio Ree comp=Z,5.7nm,0.2s	68.52	197	eT	T	10 20 40.2	
ZAA1	Zalesovo Array	69.69	338	eP	P	09 06 14.4	-0.1
ZALV	Zalesovo Beam comp=Z,0.9nm,0.5s,baz=22,slow=4.8,SNR=4.3	69.70	338	P	P	09 06 14.4	-0.1
AKASG	Malin Array Be comp=Z,44nm,18.5s,baz=355,slow=38	76.06	12	LR	LR	09 42 45.9	
MK32	Makanchi Array

comp=Z,1.7nm,0.7s,baz=282,slow=1.0,SNR=9.9
LPAZ La Paz 87.72 120 *e*P P 09 07 53.0 -1.7
comp=Z,2.3nm,0.8s
VNA3 Neumayer Olymp 148.59 148 P PKPbc 09 14 49.0 -1.7
VNA1 Neumayer--Stat 149.11 147 P PKPbc 09 14 50.3 -1.6
VNA2 Neumayer--Watz 149.37 148 P PKPbc 09 14 51.1 -1.5
baz=305,slow=5.7
SNAA Sanae 150.67 150 P PKPbc 09 14 54.2 -1.6
SNAA Sanae 150.67 150 PKPbc PKPbc 09 14 54.4 -1.4
comp=Z,2.9nm,1.1s,baz=23,slow=3.3,SNR=3.8
BOSA Boshof 150.82 44 PKPbc PKPbc 09 14 57.0 -0.5
comp=Z,1.5nm,0.7s,baz=347,slow=7.8,SNR=5.6

*IDC **04** 09:01:05.7±1.8,52.28N×132.60W,h0km,mb3.7/3, mb1 3.7/7,mb1mx3.5/41,mbtmp3.5/7,ML3.4/4,Error ellipse: s-maj=31.9km s-min=11.1km az=73.0*
*ISCJB **04** 09:01:07.3±1.2,52.33N±0.07×132.4W±0.2,h18km, mb3.5/3,Error ellipse: s-maj=22.6km s-min=7.5km az=160.6*

ISC 04 09:01:08.8±1.3,52.34N±0.10×132.4W±0.2,h18km,n14, σ1s48/12,mb3.8/3,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H02S1	**DAWSON INLET T**	**0.87**	**357**	Pg	**Pb**	**09 01 23.2**	**-2.0**
H02N1	**VAN INLET T-PH**	**0.92**	**355**	Pg	**Pb**	**09 01 24.1**	**-2.1**
BBB	**Bella Bella**	**2.65**	**92**	Pn	**Pn**	**09 01 51.5**	**+1.0**
	1.9nm,0.3s,baz=249,slow=5.8,SNR=11						
DLBC	**Dease Lake**	**6.26**	**12**	Pn	**Pn**	**09 02 41.9**	**+1.7**
	0.5nm,0.3s,baz=179,slow=10,SNR=10						
DLBC				Sn	**Sn**	**09 03 52.1**	**+0.8**
	0.4nm,0.3s,baz=131,slow=15,SNR=2.3						
DLBC				Lg	Lg	09 04 20.1	
	0.2nm,0.3s,baz=287,slow=17,SNR=2.4						
ILAR	**Eielson Array**	**14.52**	**335**	Pn	**P**	**09 04 40.7**	**+1.1**
	0.1nm,0.3s,baz=149,slow=10,SNR=11						
INK	**Inuvik**	**16.03**	**359**	Pn	**P**	**09 04 56.0**	**-0.3**
	0.1nm,0.3s,baz=120,slow=9.0,SNR=3.6						
NVAR	**Mina Array Bea**	**17.03**	**139**	P	**Pn**	**09 05 05.1**	**-1.0**
	0.0nm,0.3s,baz=332,slow=11,SNR=2.9						
PDAR	**Pinedale Array**	**18.09**	**113**	P	**Pn**	**09 05 18.2**	**-0.9**
	0.1nm,0.3s,baz=316,slow=6.2,SNR=5.0						
ANMO	**Albuquerque**	**25.38**	**123**	P	**P**	**09 06 33.9**	**-1.2**
	0.3nm,0.5s,baz=282,slow=14,SNR=2.7						
TXAR	**Lajitas Array**	**31.28**	**126**	P	**P**	**09 07 29.0**	**+1.3**
	1.3nm,0.8s,baz=325,slow=6.3,SNR=7.9						
H11N2	**WAKE ISLAND Hy**	**56.77**	**259**	T	T	10 13 00.6	
	baz=39,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**56.78**	**259**	T	T	10 13 09.1	
	baz=39,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**56.79**	**259**	T	T	10 13 02.5	
	baz=39,slow=75,SNR=20						
MKAR	**Makanchi Array**	**76.87**	**336**	P	**P**	**09 12 59.3**	**-0.1**
	0.7nm,0.7s,baz=27,slow=8.2,SNR=3.9						

IDC 04 09:02:30.4±2.9,8.88S×69.36E,h0km,mb3.8/2,mb1 4.0/2, mb1mx3.3/48,mbtmp3.8/2,Error ellipse: s-maj=79.4km s-min=56.2km az=74.0,Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	**Diego Garcia H**	**2.99**	**33**	Pn	Pn	09 03 15.7	-3.2
H08N3				Sn	Sb	09 04 00.3	-1.2
H08N1	**Diego Carcia H**	**3.01**	**33**	Pn	Pn	09 03 16.5	-2.6
H08N2	**Diego Garcia H**	**3.01**	**33**	Pn	Pn	09 03 16.2	-2.9
H08S1	**Diego Carcia H**	**3.32**	**69**	Pn	Pb	09 03 30.0	-0.1
H08S3	**Diego Garcia H**	**3.33**	**68**	Pn	Pb	09 03 30.2	-0.1
H08S2	**Diego Garcia H**	**3.34**	**69**	Pn	Pb	09 03 30.4	+0.1
CMAR	**Chiang Mai Arr**	**39.88**	**47**	P	P	09 10 06.1	-0.2
	1.2nm,0.3s,baz=241,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**63.22**	**112**	P	P	09 13 01.1	0.0
	0.3nm,0.6s,baz=274,slow=6.1,SNR=5.5						
NVAR	**Mina Array Bea**	**149.78**	**12**	PKPbc	PKPbc	09 22 22.8	-0.4
	0.4nm,0.6s,baz=298,slow=1.9,SNR=5.0						

JMA 04 09:03:08.5±0.1,38.45N×142.13E,h32km±1km,M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.54**	**255**	P	Pb	09 03 19.2	-0.5
JIKH				S	Sb	09 03 26.5	-0.8
JIO	**Ouri**	**0.61**	**271**	P	Pb	09 03 20.6	-0.2
JIO				S	Sb	09 03 28.7	-0.6
JKMT	**Kesennumamotoy**	**0.63**	**305**	P	Pb	09 03 20.9	-0.2
JKMT				S	Sb	09 03 29.3	-0.4
OFUJ	**Ofunato**	**0.72**	**330**	P	Pn	09 03 22.2	-0.3
OFUJ				S	Sb	09 03 31.6	-0.8
JMK	**Ichinoseki**	**0.87**	**305**	P	Pn	09 03 24.5	0.0
JMK				S	Sn	09 03 35.7	-0.4
JOU	**Okura**	**1.16**	**266**	P	Pn	09 03 28.9	+0.5
JMM	**Marumori**	**1.20**	**241**	P	Pn	09 03 28.6	-0.5
JMM				*e*S	Sn	09 03 43.6	-0.7
JOM	**Ohasama**	**1.21**	**328**	P	Pn	09 03 29.7	+0.5
JOM				S	Sn	09 03 45.3	+0.7
JYK	**Kaneyama**	**1.46**	**289**	P	Pn	09 03 33.7	+1.0
JFK	**Kawauchi**	**1.47**	**223**	P	Pn	09 03 32.0	-0.8
JFK				S	Sn	09 03 49.2	-1.7
JRG	**Rokugo**	**1.50**	**309**	P	Pb	09 03 34.5	-1.3
JRG				S	Sb	09 03 54.4	-0.1

MEX 04 09:03:51.2±0.5,14.06N×92.04W,h23km±21km,MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.99**	**325**	*e*P	Pn	09 04 21.7	-1.8
PCIG				*e*S	Sn	09 04 44.1	-3.7
CCIG	**Comitan**	**2.21**	**358**	*e*P	Pn	09 04 24.3	-2.4
CCIG				*e*S	Sn	09 04 50.7	-2.7
TGIG		**2.90**	**339**	*e*P	Pn	09 04 33.5	-2.5
TGIG				*i* S	Sn	09 05 08.0	-2.1

PGC 04 09:14:17.4±7.1,52.77N×132.20W,h25km,mb4.0, ML3.8/14,59km southwest of Sandspit, Bc Haida Gwaii Region,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.33**	**125**	P	Pb	09 14 24.6	-0.3
BNB				S	Sb	09 14 29.4	-0.7
DIB	**Dawson Inlet,**	**0.47**	**339**	P	Pb	09 14 26.7	-0.3
DIB				S	Sb	09 14 33.4	-0.2
VIB	**Van Inlet**	**0.53**	**337**	P	Pb	09 14 27.8	-0.3
VIB				S	Sb	09 14 35.3	-0.2
BNAB	**Bonilla**	**1.19**	**52**	P	Pn	09 14 38.2	-0.2
BNAB				S	Sb	09 14 54.7	+0.5
MASB	**Masset**	**1.26**	**5**	P	Pb	09 14 40.0	-0.4
NDB	**Naden**	**1.27**	**340**	P	Pn	09 14 39.1	-0.5
NDB				S	Sn	09 14 55.9	0.0
RUBB	**Prince Rupert**	**1.95**	**36**	Pn	Pn	09 14 49.4	+0.6
RUBB				Sg	Sb	09 15 18.6	+2.7
BBB	**Bella Bella**	**2.57**	**101**	Pn	Pn	09 14 57.4	+0.1
BBB				Sn	Sn	09 15 26.4	-1.3
PHC	**Port Hardy**	**3.61**	**123**	Pn	Pn	09 15 10.8	-0.8
PHC				Sn	Sn	09 15 51.2	-2.2
MAYB	**Maynard**	**3.93**	**125**	Pn	Pn	09 15 16.2	0.0
TLCB	**Telegraph Cove**	**4.01**	**121**	Pn	Pn	09 15 17.5	+0.3
WOSB	**Woss**	**4.38**	**124**	Pn	Pn	09 15 23.5	+1.2
NCRB	**Newcastle Ridg**	**4.50**	**119**	Pg	Pn	09 15 27.1	+3.1
UBRB	**Upper Baezaeko**	**4.92**	**85**	Pn	Pn	09 15 32.4	+2.6
CBB	**Campbell River**	**5.08**	**120**	Pg	Pb	09 15 52.7	+7.2
DLBC	**Dease Lake**	**5.82**	**11**	Pn	Pn	09 15 45.3	+3.3
BMBC	**Bull Mountain**	**6.73**	**57**	Pn	Pn	09 15 56.6	+2.0
FNBB	**Fort Nelson**	**8.02**	**36**	Pn	Pn	09 16 14.6	+2.3
WHY	**Whitehorse**	**8.05**	**351**	Pn	Pn	09 16 14.8	+2.1

*IDC **04** 09:14:42.9±3.9,52.68N×131.72W,h0km,mb3.9/2, mb1 4.3/5,mb1mx3.7/44,mbtmp4.0/5,ML3.5/4,MS3.3/8, Ms1 3.4/8,ms1mx2.9/51,Error ellipse: s-maj=56.4km s-min=29.2km az=163.0*
*ISCJB **04** 09:14:47.2±0.3,52.27N±0.04×131.43W±0.08,h10km, mb4.1/27,MS3.5/5,Error ellipse: s-maj=8.1km s-min=3.7km az=144.0*
*NEIC **04** 09:14:49.5±0.4,52.35N×131.30W,h10km,mb4.0/63, ML3.8(OTT),Error ellipse: s-maj=13.7km s-min=3.5km az=52.0*

ISC 04 09:14:48.8±0.7,52.31N±0.09×131.32W±0.09,h10km, n178,σ1s27/168,mb4.1/26,MS3.5/5,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIB	**Dawson Inlet,**	**1.13**	**322**	*e*Pg	**Pb**	**09 15 09.3**	**-1.1**
BBB	**Bella Bella**	**1.98**	**92**	Pn	**Pn**	**09 15 21.3**	**-1.0**
	4.3nm,0.3s,baz=285,slow=19,SNR=5.4						
BBB				Sn	**Sb**	**09 15 49.3**	**-0.2**
	18nm,0.3s,baz=261,slow=14,SNR=4.6						
CRAG	**Craig**	**3.34**	**342**	*e*Pn	**Pn**	**09 15 42.2**	**+1.2**
DLBC	**Dease Lake**	**6.18**	**6**	*e*Pn	Pn	09 16 26.5	+6.4
PGC	**Sidney**	**6.22**	**123**	*e*Pn	**Pn**	**09 16 22.3**	**+1.7**
B05A	**Bryant**	**7.17**	**121**	P	**Pn**	**09 16 33.0**	**-0.6**
	baz=308						
LON	**Longmire**	**8.32**	**128**	*e*Pn	**Pn**	**09 16 50.5**	**+1.0**
LTY	**Liberty**	**8.55**	**122**	*e*Pn	**Pn**	**09 16 54.8**	**+2.2**
C09A	**Chrisman Ranch**	**9.53**	**113**	*e*Pn	**Pn**	**09 17 07.7**	**+1.7**
H04D	**Lebanon**	**9.65**	**140**	P	**Pn**	**09 17 08.2**	**+0.5**
	baz=327						
NEW	**Newport**	**9.95**	**108**	LR	LR	09 20 49.6	
	comp=Z,115nm,21.9s,baz=288,slow=36						
I03D	**Drain, OR**	**10.14**	**145**	P	**Pn**	**09 17 15.8**	**+1.5**
	baz=331						
E09A	**Wood Farm, Sta**	**10.36**	**119**	*e*Pn	**Pn**	**09 17 18.9**	**+1.6**
I04A	**Tendick Farm,**	**10.40**	**142**	P	**Pn**	**09 17 18.5**	**+0.5**
	baz=328						
J04D	**Umpqua Nationa**	**10.98**	**142**	P	**Pn**	**09 17 27.4**	**+1.3**
	baz=329,SNR=5.4						
HUMO	**Hull Mountain**	**11.23**	**147**	*e*Pn	**Pn**	**09 17 31.7**	**+2.3**
J05D	**Fort Rock, OR**	**11.29**	**139**	P	**Pn**	**09 17 31.8**	**+1.6**
	baz=327,SNR=7.9						
L02E	**Cave Junction**	**11.43**	**150**	P	**Pn**	**09 17 32.6**	**+0.6**
	baz=336						
L04D	**Klamath Falls**	**11.80**	**145**	P	**Pn**	**09 17 38.3**	**+1.0**
	baz=332						
K05A	**Sumner Lake**	**11.89**	**140**	*e*Pn	**Pn**	**09 17 40.3**	**+1.8**
YBH	**Yreka Blue Hor**	**12.10**	**148**	Pn	**Pn**	**09 17 43.7**	**+2.5**
	0.1nm,0.3s,baz=357,slow=7.8,SNR=12						
YBH	**Yreka Blue Hor**	**12.10**	**148**	*e*Pn	**Pn**	**09 17 44.2**	**+3.0**
M04C	**Macdoel**	**12.35**	**145**	P	**Pn**	**09 17 46.8**	**+2.1**
	baz=332,SNR=5.6						
MSO	**Missoula**	**12.53**	**109**	P	**Pn**	**09 17 49.0**	**+1.8**
	baz=303						
N02D	**Trinity Center**	**12.78**	**149**	P	**Pn**	**09 17 51.7**	**+1.1**
	baz=336						
MOD	**Modoc Plateau**	**12.82**	**140**	*e*Pn	**Pn**	**09 17 53.0**	**+1.9**
WDC	**Whiskeytown Da**	**13.19**	**149**	*e*Pn	**Pn**	**09 17 58.6**	**+2.5**
KDAK	**Kodiak Island**	**13.33**	**303**	LR	LR	09 21 22.9	
	comp=Z,77nm,18.9s,baz=130,slow=31						
O02D	**Mt. Diablo Mer**	**13.49**	**151**	P	**Pn**	**09 18 02.3**	**+2.1**
	baz=337						
O03E	**Paynes Creek**	**13.69**	**148**	P	**Pn**	**09 18 04.3**	**+1.4**
	baz=335						
HLID	**Hailey**	**14.29**	**121**	*e*P	**P**	**09 18 19.7**	**+1.1**
HLID	**Hailey**	**14.29**	**121**	P	**Pn**	**09 18 12.8**	**+1.5**
	baz=314						
MCMT	**McKenzie Canyo**	**14.31**	**114**	*e*P	**P**	**09 18 20.5**	**+1.6**
EGMT	**Eagleton**	**14.46**	**99**	P	**P**	**09 18 16.6**	**-3.6**
	baz=296						
BEKR	**Beckworth**	**14.56**	**144**	*e*Pn	**Pn**	**09 18 16.5**	**+1.4**
HDA	**Harding Lake**	**14.58**	**332**	P	**P**	**09 18 19.7**	**-1.7**
	baz=139						
IL1	**Eielson Array**	**14.84**	**333**	*e*Pn	**P**	**09 18 25.6**	**+1.3**
ILAR	**Eielson Array**	**14.84**	**333**	Pn	**Pn**	**09 18 13.9**	**-4.5**
	baz=172,slow=16,SNR=3.0						
ILAR				LR	LR	09 22 41.0	
	comp=Z,76nm,19.8s,baz=160,slow=33						
ILB	**Eielson Array**	**14.84**	**333**	*e*Pn	**P**	**09 18 25.7**	**+1.5**
WRH	**Wood River Hil**	**14.96**	**331**	*e*Pn	**Pn**	**09 18 20.9**	**+0.9**
WRH				*e*P	**P**	**09 18 27.1**	**+1.5**
TRF	**Thorofare Moun**	**14.96**	**326**	*e*Pn	**Pn**	**09 18 19.6**	**-0.7**
TRF				*e*P	**P**	**09 18 26.2**	**+0.3**
CCB	**Clear Creek Bu**	**15.00**	**332**	*e*Pn	**Pn**	**09 18 22.2**	**+1.6**
CCB				*e*P	**P**	**09 18 27.6**	**+1.5**
PAHR	**Pah Rah Range**	**15.06**	**142**	*e*Pn	**Pn**	**09 18 22.1**	**+0.4**
PAHR				*e*P	**P**	**09 18 26.7**	**-0.4**
QLMT	**Earthquake Lak**	**15.11**	**112**	*e*Pn	**Pn**	**09 18 23.9**	**+1.5**
AFDM	**Forest Hills D**	**15.18**	**148**	*e*Pn	**P**	**09 18 26.8**	**-1.5**
	6.1nm,1.0s						
COLA	**College**	**15.18**	**332**	*e*Pn	**Pn**	**09 18 22.2**	**-0.8**
	9.4nm,0.9s						
YHB	**Horse Butte**	**15.30**	**112**	*e*Pn	**P**	**09 18 31.8**	**+2.0**
	6.9nm,0.9s						
BMN	**Battle Mountai**	**15.32**	**135**	*e*Pn	**P**	**09 18 30.8**	**+0.8**
	12nm,1.1s						
VCNR	**Virginia City**	**15.33**	**144**	*e*Pn	**Pn**	**09 18 24.7**	**-0.6**
	4.1nm,0.9s						
MDM	**Murphy Dome**	**15.36**	**332**	*e*Pn	**Pn**	**09 18 26.8**	**+1.4**
	7.4nm,1.1s						
YMR	**Madison River**	**15.48**	**112**	*e*Pn	**P**	**09 18 34.4**	**+2.6**
	14nm,1.1s						
GCMT	**Greycliff**	**15.59**	**106**	*e*Pn	**P**	**09 18 35.7**	**+2.7**
BPAW	**Bear Paw Mtn.**	**15.62**	**327**	*e*Pn	**Pn**	**09 18 28.6**	**-0.2**
	9.5nm,0.9s						
H17A	**Grant Village**	**15.86**	**112**	P	**P**	**09 18 34.9**	**-1.2**
	baz=308						
SVW2	**Sparrevohn**	**15.87**	**313**	*e*Pn	**P**	**09 18 35.7**	**-0.1**
	19nm,1.2s						
FXWY	**Fox Creek**	**16.08**	**115**	*e*Pn	**P**	**09 18 40.9**	**+2.4**
	6.3nm,0.9s						
KVN	**Kaiserville**	**16.13**	**140**	*e*Pn	**P**	**09 18 39.5**	**+0.6**
	7.8nm,1.0s						
MLY	**Manley**	**16.16**	**330**	*e*Pn	**Pn**	**09 18 37.0**	**+1.2**
	9.5nm,1.0s						
MOOW	**Moose Ponds**	**16.17**	**114**	*e*Pn	**P**	**09 18 41.8**	**+2.4**
	5.2nm,0.9s						
RLMT	**Red Lodge**	**16.20**	**108**	P	**P**	**09 18 39.8**	**+0.1**
	baz=304						
TPAW	**Teton Pass**	**16.22**	**115**	*e*Pn	**P**	**09 18 43.6**	**+3.6**
	15nm,1.1s						
SNOW	**Snow King Moun**	**16.34**	**115**	*e*Pn	**P**	**09 18 43.7**	**+2.3**
	6.0nm,0.9s						
REDW	**Red Top Meadow**	**16.36**	**115**	*e*Pn	**P**	**09 18 44.4**	**+2.9**
	12nm,1.1s						
NV01	**Mina Array Sit**	**16.59**	**142**	*e*Pn	**P**	**09 18 43.9**	**-0.3**
NVAR	**Mina Array Bea**	**16.59**	**142**	P	**Pn**	**09 18 42.1**	**+0.5**
	0.1nm,0.3s,baz=313,slow=11,SNR=18						
NV11	**Mina Array Sit**	**16.64**	**141**	*e*Pn	**Pn**	**09 18 43.3**	**+1.1**
	0.3nm,1.1s						
BGU	**Big Grassy Mou**	**16.90**	**125**	*e*Pn	**P**	**09 18 48.6**	**+1.0**
	2.4nm,0.9s						
HWUT	**Hardware Ranch**	**17.16**	**121**	*e*Pn	**P**	**09 18 52.6**	**+2.2**
	3.4nm,1.0s						
BW06	**Boulder Array**	**17.46**	**115**	P	**P**	**09 18 54.0**	**+0.2**
	baz=311						
PDAR	**Pinedale Array**	**17.46**	**115**	P	**P**	**09 18 54.5**	**+0.6**
	0.1nm,0.3s,baz=310,slow=9.3,SNR=20						
PDAR	**Pinedale Array**	**17.46**	**115**	*e*P	**P**	**09 18 55.8**	**+2.0**
DUG	**Dugway, Tooele**	**17.56**	**126**	*e*Pn	**P**	**09 18 55.3**	**+0.5**
	6.9nm,1.1s						
DUG	**Dugway, Tooele**	**17.56**	**126**	P	**P**	**09 18 55.5**	**+0.7**
	baz=320						
DGMT	**Dagmar**	**17.67**	**92**	P	**P**	**09 18 55.4**	**-0.5**
	baz=293						
R11A	**Troy Canyon, C**	**17.76**	**136**	*e*Pn	**Pn**	**09 18 56.5**	**+0.3**
	5.7nm,1.1s						
R11A	**Troy Canyon, C**	**17.76**	**136**	P	**Pn**	**09 18 56.3**	**+0.1**
	baz=327,SNR=7.8						
NLU	**North Lily Min**	**18.11**	**125**	*e*Pn	**P**	**09 19 01.7**	**+0.7**
	4.1nm,1.0s						
PSUT	**Pine Spring**	**18.38**	**132**	*e*Pn	**P**	**09 19 06.3**	**+2.5**
	5.9nm,1.0s						
CWC	**Cottonwood Cre**	**18.43**	**144**	P	**Pn**	**09 19 04.8**	**+0.3**
	baz=334						
TPNV	**Topopah Spring**	**18.68**	**139**	*e*P	**Pn**	**09 19 07.8**	**+0.3**
	4.3nm,1.0s						
TPNV	**Topopah Spring**	**18.68**	**139**	P	**P**	**09 19 06.4**	**-0.7**
	baz=330,SNR=6.9						
FURC	**Furnace Creek,**	**18.86**	**141**	P	**P**	**09 19 08.9**	**0.0**
	baz=332						
MPMC	**Manual Prospec**	**18.98**	**143**	P	**P**	**09 19 10.7**	**+0.2**
	baz=333						
ISA	**Isabella, Lake**	**18.99**	**146**	P	**P**	**09 19 10.6**	**+0.2**
	baz=335						
P17A	**Butcher Ranch,**	**19.15**	**124**	*e*P	**Pn**	**09 19 13.9**	**+0.7**
	5.6nm,0.9s						
MSU	**Marysvale**	**19.18**	**128**	*e*P	**Pn**	**09 19 14.6**	**+1.0**
K22A	**Casper**	**19.26**	**110**	P	**Pn**	**09 19 14.1**	**-0.4**
	baz=309						
P18A	**Preston Nutter**	**19.29**	**123**	*e*P	**Pn**	**09 19 15.7**	**+0.7**
	4.6nm,1.1s						
CCUT	**Cedar City**	**19.40**	**132**	*e*P	**Pn**	**09 19 16.1**	**-0.2**
	13nm,1.2s						
SZCU	**Shurtz Canyon**	**19.49**	**132**	*e*P	**P**	**09 19 16.3**	**+0.2**
	10nm,0.9s						
SHPR	**Sheep Range**	**19.50**	**138**	*e*P	**Pn**	**09 19 17.5**	**+0.1**
	3.3nm,1.2s						
SRU	**San Rafael Swe**	**19.54**	**124**	*e*P	**Pn**	**09 19 17.7**	**-0.1**
	7.1nm,0.8s						
MTPU	**Mount Pierson**	**19.55**	**129**	*e*P	**Pn**	**09 19 17.7**	**-0.4**
LCMT	**Little Creek M**	**19.90**	**133**	*e*P	**P**	**09 19 20.6**	**+0.1**
	13nm,1.1s						
GSC	**Goldstone, Bar**	**19.91**	**143**	*e*P	**P**	**09 19 20.5**	**0.0**
	3.4nm,0.9s						
PKCU	**Pink Cliffs**	**19.97**	**131**	*e*P	**Pn**	**09 19 22.4**	**-0.7**
	16nm,1.0s						
O20A	**White River Ci**	**19.98**	**118**	*e*P	**Pn**	**09 19 22.6**	**-0.5**
	16nm,0.9s						
O20A	**White River Ci**	**19.98**	**118**	P	**Pn**	**09 19 25.5**	**+2.4**
	baz=315,SNR=11						
PV09	**Paradox Valley**	**20.71**	**123**	*e*P	Pn	09 19 30.9	-0.8
N23A	**Red Feather La**	**20.73**	**113**	*e*P	**P**	**09 19 30.0**	**+0.4**
	9.3nm,1.0s						
N23A	**Red Feather La**	**20.73**	**113**	P	**P**	**09 19 30.2**	**+0.6**
	baz=312						
PHWY	**Pilot Hill**	**20.73**	**112**	*e*P	**P**	**09 19 30.5**	**+0.8**
	7.2nm,0.8s						
PV23	**Carpenter Ridg**	**20.81**	**123**	*e*P	**P**	**09 19 31.1**	**+0.7**
	19nm,1.1s						
U15A	**North Rim**	**20.81**	**132**	*e*P	**P**	**09 19 30.8**	**+0.3**
	13nm,1.0s						
PV14	**Lion Creek, Pa**	**20.86**	**123**	*e*P	**P**	**09 19 31.4**	**+0.4**
	17nm,1.0s						
PV17	**East Wray Mesa**	**20.96**	**123**	*e*P	**P**	**09 19 32.2**	**+0.1**
	11nm,1.0s						
PV11	**David Mesa, Pa**	**20.99**	**123**	*e*P	**P**	**09 19 33.1**	**+0.7**
	17nm,1.1s						
PV18	**Skein Mesa, Pa**	**21.01**	**123**	*e*P	**P**	**09 19 34.4**	**+1.7**
	5.2nm,0.9s						
PV12	**Saucer Basin,**	**21.02**	**123**	*e*P	**P**	**09 19 33.1**	**+0.5**
	8.6nm,1.1s						
PV03	**Paradox Valley**	**21.04**	**123**	*e*P	**P**	**09 19 32.9**	**0.0**
PV05	**Paradox Valley**	**21.04**	**124**	*e*P	**P**	**09 19 34.3**	**+1.3**
PV13	**Radium Mtn., P**	**21.13**	**123**	*e*P	**P**	**09 19 34.0**	**+0.1**
	8.5nm,0.8s						
PV02	**Paradox Valley**	**21.13**	**123**	*e*P	**P**	**09 19 33.1**	**-0.8**
	12nm,1.0s						
W13A	**Hualapai Mount**	**21.24**	**137**	*e*P	**P**	**09 19 35.5**	**+0.4**
	5.8nm,0.9s						
PV01	**Paradox Valley**	**21.27**	**123**	*e*P	**P**	**09 19 35.8**	**+0.4**
SMCO	**Snowmass**	**21.35**	**118**	*e*P	**P**	**09 19 37.4**	**+1.0**
	11nm,0.8s						
BELC	**Belle Mtn. Jos**	**21.37**	**143**	P	**P**	**09 19 35.7**	**-0.7**
	baz=334						
IRM	**Iron Mountain**	**21.55**	**141**	P	**P**	**09 19 37.7**	**-0.6**
	baz=332,SNR=6.2						
WUAZ	**Wupatki**	**21.98**	**132**	*e*P	**P**	**09 19 42.7**	**-0.3**
	10nm,1.0s						
WUAZ	**Wupatki**	**21.98**	**132**	P	**P**	**09 19 43.1**	**+0.1**
	baz=326,SNR=8.2						
MVCO	**Mesa Verde**	**22.02**	**124**	*e*P	**P**	**09 19 43.1**	**-0.3**
	11nm,1.1s						
MVCO	**Mesa Verde**	**22.02**	**124**	P	**P**	**09 19 43.3**	**-0.2**
	baz=321,SNR=8.2						
ULM	**Lac du Bonnet**	**22.13**	**81**	LR	LR	09 28 23.5	
	comp=Z,190nm,19.3s,baz=322,slow=37						
Y12C	**Blythe**	**22.15**	**140**	*e*P	**P**	**09 19 43.8**	**-0.8**
	7.1nm,1.1s						
Y12C	**Blythe**	**22.15**	**140**	P	**P**	**09 19 44.4**	**-0.3**
	baz=332						
MONP2	**Monument Peak**	**22.21**	**145**	P	**P**	**09 19 43.9**	**-1.7**
	baz=336						
S22A	**4UR Ranch, Cre**	**22.47**	**121**	*e*P	**P**	**09 19 49.0**	**+0.6**
	3.9nm,0.9s						
S22A	**4UR Ranch, Cre**	**22.47**	**121**	P	**P**	**09 19 48.6**	**+0.2**
	baz=318,SNR=10						
IKP	**In-Ko-Pah, Jac**	**22.54**	**145**	P	**P**	**09 19 48.4**	**-0.6**
	baz=335						
X16A	**Lo Mia Camp, P**	**22.87**	**134**	*e*P	**P**	**09 19 53.0**	**+0.6**
	4.4nm,1.1s						
SDCO	**Great Sand Dun**	**23.18**	**119**	*e*P	**P**	**09 19 56.0**	**+0.2**
	4.6nm,1.0s						
SDCO	**Great Sand Dun**	**23.18**	**119**	P	**P**	**09 19 55.1**	**-0.8**
	baz=317,SNR=6.2						
X18A	**Snowflake**	**23.45**	**131**	*e*P	**P**	**09 19 57.8**	**-0.7**
	9.9nm,0.9s						
KSCO	**Kaye Shedlock'**	**23.88**	**112**	*e*P	**P**	**09 20 03.2**	**+0.7**
	11nm,1.1s						
214A	**Organ Pipe Nat**	**24.41**	**139**	P	**P**	**09 20 06.6**	**-0.8**
	baz=332						
ECSD	**EROS Data Cent**	**24.55**	**97**	P	**P**	**09 20 08.0**	**-0.5**
	baz=303						
ANMO	**Albuquerque**	**24.81**	**125**	P	**P**	**09 20 10.1**	**-1.1**
	1.3nm,0.9s,baz=320,slow=11,SNR=7.9						
**

*IDC **04** 09:30:55.4±0.9, 19.84N×109.58W, h0km, mb3.9/5, mb1 4.1/8, mb1mx3.8/26, mbtmp3.9/8, ML3.5/3, MS3.5/7, Ms1 3.5/7, ms1mx3.1/39, Error ellipse: s-maj=23.3km s-min=18.1km az=115.0*

*ISCJB **04** 09:30:58.3±0.6, 19.80N±0.07×109.53W±0.09, h33km, mb3.8/5, MS3.4/4, Error ellipse: s-maj=12.7km s-min=9.7km az=28.2*

ISC 04 09:31:00.2±0.8, 19.79N±0.09×109.6W±0.1, h35km, n18, σ1§24/13, mb3.9/5, MS3.5/4, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H06N1	**SOCORRO T-PHAS**	**1.63**	**236**	Pn	**Pn**	**09 31 25.2**	**-1.2**
H06S1	**SOCORRO T**	**1.69**	**232**	Pn	**Pn**	**09 31 26.2**	**-0.9**
LPIG	**La Paz**	**4.34**	**351**	Pn	**Pn**	**09 32 02.2**	**-1.5**
	3.1nm,0.3s,baz=201,slow=3.2,SNR=12						
LPIG				LR	LR	09 33 28.1	
	comp=Z,456nm,19.8s,baz=136,slow=36						
TXAR	**Lajitas Array**	**10.91**	**28**	Pn	**Pn**	**09 33 34.0**	**+0.2**
	0.1nm,0.3s,baz=198,slow=15,SNR=17						
CMIG	**Matias Romero**	**14.19**	**99**	Pn	**Pn**	**09 34 17.3**	**-1.4**
	0.2nm,0.3s,baz=283,slow=10,SNR=5.4						
CMIG				LR	LR	09 39 23.1	
	comp=Z,194nm,18.5s,baz=276,slow=36						
ANMO	**Albuquerque**	**15.34**	**10**	Pn	**Pn**	**09 34 35.9**	**+1.6**
	0.1nm,0.3s,baz=291,slow=8.6,SNR=3.4						
ANMO				LR	LR	09 40 20.8	
	comp=Z,160nm,18.9s,baz=232,slow=37						
NVAR	**Mina Array Bea**	**20.06**	**340**	P	**Pn**	**09 35 32.7**	**+0.2**
	9.5nm,1.1s,baz=160,slow=12,SNR=28						
PDAR	**Pinedale Array**	**22.90**	**0**	P	**P**	**09 35 59.5**	**-1.6**
	0.5nm,0.7s,baz=171,slow=10,SNR=5.6						
PDAR				LR	LR	09 44 24.4	
	comp=Z,67nm,18.2s,baz=212,slow=35						
ULM	**Lac du Bonnet**	**32.28**	**17**	LR	LR	09 49 56.8	
	comp=Z,83nm,18.3s,baz=341,slow=35						
RKT	**Rikitea**	**49.34**	**211**	*eT*	T	10 32 22.4	
	1.7nm,0.3s						
INK	**Inuvik**	**50.77**	**349**	LR	LR	10 03 31.1	
	comp=Z,76nm,18.8s,baz=119,slow=39						
ILAR	**Eielson Array**	**51.31**	**341**	P	**P**	**09 40 01.4**	**+0.8**
	0.4nm,0.5s,baz=140,slow=7.7,SNR=7.7						
PPT2	**Papeete2**	**54.07**	**229**	*eLR*	LR	09 55 37.2	
	59nm,25.2s						
LPAZ	**La Paz**	**54.26**	**128**	P	**P**	**09 40 24.5**	**+0.8**
	0.9nm,0.7s,baz=328,slow=6.5,SNR=6.2						
MDP	**Montagnes des**	**57.20**	**97**	LR	LR	10 06 55.0	
	comp=Z,31nm,19.3s,baz=229,slow=38						
BDFB	**Brasilia**	**70.00**	**116**	P	**P**	**09 42 09.8**	**+0.9**
	0.7nm,0.3s,baz=243,slow=6.8,SNR=3.0						
ARCES	**ARCESS Array B**	**85.37**	**14**	P	**P**	**09 43 33.3**	**-0.2**
	5.1nm,1.2s,baz=342,slow=5.1,SNR=4.0						
WRA	**Warramunga Arr**	**120.25**	**258**	PKP	**PKPdf**	**09 49 49.6**	**+1.2**
	0.1nm,0.4s,baz=78,slow=2.7,SNR=3.3						

TRN 04 09:51:50.0, 17.39N×61.16W, h2km, MD3.5, 1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANWB	**Willy Bob**	**0.66**	**295**	*eP*	Pn	09 52 06.8	+0.4
ANWB				*eS*	Sn	09 52 18.4	+1.0
BPA	**Boggy Peak**	**0.75**	**243**	*eP*	Pn	09 52 08.9	+1.3
BPA				*eS*	Sn	09 52 21.1	+1.5
ABD	**La Joyeuse, An**	**0.96**	**199**	*eP*	Pn	09 52 12.3	+1.8
SEG	**Port Louis**	**1.03**	**199**	*eP*	Pn	09 52 13.5	+1.9
DEG	**La Desirade**	**1.07**	**175**	*eP*	Pn	09 52 15.3	+3.2
MBWH		**1.18**	**237**	*iP*	Pn	09 52 16.2	+2.6
MBWH				*eS*	Sn	09 52 34.9	+4.6
MLYT	**Lee's Yard**	**1.19**	**236**	*eP*	Pn	09 52 17.0	+3.3
MLYT				*eS*	Sn	09 52 36.4	+5.9
NEV	**Hard Times**	**1.37**	**260**	*eP*	Pb	09 52 19.3	+2.9
NEV				*eS*	Sn	09 52 39.9	+4.9
CBE	**F"f", Capest**	**1.38**	**198**	*eP*	Pb	09 52 19.1	+2.5
CBE				*eS*	Sn	09 52 39.4	+4.2
SSG	**Sans Toucher**	**1.38**	**201**	*eP*	Pb	09 52 18.9	+2.2
FNG	**Fond-Bernard**	**1.41**	**201**	*eP*	Pb	09 52 19.7	+2.5
MAGL	**Barre de l'ile**	**1.43**	**185**	*eP*	Pg	09 52 19.4	+1.8
MAGL				*eS*	Sn	09 52 41.0	+4.5
MGG	**Marie-Galante**	**1.47**	**186**	*eP*	Pg	09 52 20.3	+2.1
MGG				*eS*	Sn	09 52 42.7	+5.3
SKI	**Saint Kitts**	**1.51**	**268**	*eP*	Pg	09 52 21.1	+2.1
SKI				*eS*	Sg	09 52 42.6	+4.0
TBG	**Guadaloupe-3**	**1.59**	**197**	*eP*	Pg	09 52 22.2	+1.6
TBG				*eS*	Sg	09 52 45.1	+3.8
TDBA	**Terre de Bas,**	**1.59**	**197**	*eP*	Pg	09 52 22.2	+1.5
TDBA				*eS*	Sg	09 52 45.2	+3.8
SEUS	**St. Eustatius**	**1.74**	**274**	*eP*	Pg	09 52 24.6	+1.1
SEUS				*eS*	Sg	09 52 48.1	+2.1
MDPV	**Dominica, Penn**	**1.77**	**188**	*eP*	Pg	09 52 24.8	+0.8
MDPV				*eS*	Sg	09 52 49.5	+2.7
MDVC	**Dominica, Viel**	**1.78**	**188**	*eP*	Pg	09 52 24.3	+0.2
MDVC				*eS*	Sg	09 52 50.4	+3.1
MDPO	**Dominica; Chan**	**1.82**	**189**	*eP*	Pg	09 52 25.3	+0.3
MDPO				*eS*	Sg	09 52 51.4	+2.8
BBL	**Barber's Block**	**1.87**	**189**	*eP*	Pg	09 52 26.2	+0.2
BBL				*eS*	Sg	09 52 52.2	+1.9
SMRT	**St. Maarten**	**1.94**	**290**	*eP*	Pg	09 52 27.1	-0.2
SMRT				*eS*	Sg	09 52 53.4	+1.0
SABA	**Saba**	**2.00**	**277**	*eP*	Pb	09 52 26.5	-0.7
SABA				*eS*	Sg	09 52 55.0	+0.7
PCM	**Pelee Case Pet**	**2.56**	**181**	*eP*	Pn	09 52 34.3	+1.7
CXM	**Morne La Croix**	**2.56**	**180**	*eP*	Pb	09 52 35.1	-1.7
GBMF	**Grand Be**	**2.57**	**180**	*eP*	Pn	09 52 34.5	+1.6
PML	**Morne Lenard**	**2.59**	**180**	*eP*	Pn	09 52 35.0	+1.9
LPMF	**Morne Lapointe**	**2.80**	**176**	*eP*	Pn	09 52 37.8	+1.9

IDC 04 09:51:50.4±1.6, 24.64N×109.98W, h0km, mb3.5/1, mb1 3.7/4, mb1mx3.4/55, mbtmp3.3/4, ML3.6/3, MS3.9/2, Ms1 3.9/2, ms1mx3.3/15, Error ellipse: s-maj=43.4km s-min=9.0km az=113.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**0.61**	**210**	Pg	Pg	09 52 02.2	+0.2
	113nm,0.3s,baz=1.2,slow=3.7,SNR=213						
LPIG				Lg	Lg	09 52 10.5	
	361nm,0.3s,baz=189,slow=19,SNR=69						
TXAR	**Lajitas Array**	**7.32**	**49**	Pn	Pn	09 53 39.0	+0.4
	0.2nm,0.3s,baz=229,slow=13,SNR=13						
NVAR	**Mina Array Bea**	**15.46**	**335**	Pn	P	09 55 32.6	-2.2
	0.1nm,0.3s,baz=164,slow=13,SNR=4.9						
PDAR	**Pinedale Array**	**18.09**	**1**	Pn	P	09 56 05.7	+1.9
	0.1nm,0.3s,baz=168,slow=9.2,SNR=4.2						
APG	**El Apazote**	**20.68**	**114**	LR	LR	10 04 57.6	
	comp=Z,654nm,20.5s,baz=288,slow=38						
ILAR	**Eielson Array**	**46.66**	**339**	P	P	10 00 20.7	+0.4
	0.5nm,0.7s,baz=152,slow=6.9,SNR=7.9						
MJAR	**Matsushiro Arr**	**91.52**	**312**	LR	LR	10 41 44.1	
	comp=Z,23nm,19.5s,baz=75,slow=33						

MEX 04 09:52:52.8±0.3, 18.15N×100.92W, h23km±7km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.56**	**76**	*eP*	Pb	09 53 02.0	-2.0
ARIG				*eS*	Sb	09 53 09.6	-2.1
ZIIG	**Zihuatanejo**	**0.74**	**224**	*eP*	Pb	09 53 04.7	-2.4
ZIIG				*eS*	Sb	09 53 14.1	-2.8
CAIG	**El Cayaco**	**1.26**	**150**	*eP*	Pn	09 53 12.2	-2.7
CAIG				*eS*	Sn	09 53 27.0	-4.2
MEIG	**Mezcala**	**1.26**	**100**	*eP*	Pn	09 53 11.8	-3.3
MEIG				*eS*	Sn	09 53 27.3	-4.0
TLIG	**Tlapa**	**2.32**	**104**	*eP*	Pn	09 53 27.5	-2.1
TLIG				*eS*	Sn	09 53 54.1	-3.4

*IDC **04** 09:53:05.8±0.5, 24.70N×110.15W, h0km, mb4.4/12, mb1 4.6/16, mb1mx4.3/53, mbtmp4.4/16, ML4.1/3, MS4.0/10, Ms1 4.0/10, ms1mx3.7/24, Error ellipse: s-maj=16.0km s-min=7.3km az=101.0*

*MEX **04** 09:53:06.6±0.3, 24.70N×110.21W, h8km±7km, MD4.5*

*ISCJB **04** 09:53:08.2±0.2, 24.56N±0.02×110.15W±0.02, h15km, mb4.4/80, MS4.1/7, Error ellipse: s-maj=3.4km s-min=2.0km az=35.8*

*NEIC **04** 09:53:08.6±0.2, 24.48N×110.13W, h10km, mb4.4/164, MD4.4(MEX), Error ellipse: s-maj=3.7km s-min=2.1km az=37.0*

NEIC Felt at La Paz, Baja California Sur.

*GCMT **04** 09:53:09.6±0.3, 24.83N±0.03×110.19W±0.02, h17km±1km, MW4.8/71, Moment Tensor Solution. s27,c28; s71,c112; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.87±.17; $M_{\theta\theta}$-0.12±.10; $M_{\phi\phi}$ 1.99±.11; $M_{r\theta}$ 0.55±.28; $M_{\theta\phi}$-1.23±.05; $M_{r\phi}$ 0.38±.22; Best double couple: M_o2.36100×10^{16} NP1:ϕ_s177.00000°, δ51.00000°, λ-59.00000°. NP2: ϕ_s313.00000°, δ48.00000°, λ-123.00000°. Principal axes: T 2.5590, Plg2.0000°, Azm246.0000°; N -0.3940, Plg24.0000°, Azm336.0000°; P -2.1630, Plg66.0000°, Azm152.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 09:53:09.4±0.4, 24.60N±0.04×110.10W±0.05, h15km, n528, σ1§54/513, mb4.5/79, MS4.4/7, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**0.53**	**201**	Pg	**Pg**	**09 53 17.4**	**-2.5**
	2µm,0.3s,baz=350,slow=2.0,SNR=51						
LPIG				Lg	Lg	09 53 26.5	
	6µm,0.3s,baz=180,slow=18,SNR=38						
LPIG	**La Paz**	**0.53**	**201**	*eP*g	**Pg**	**09 53 17.3**	**-2.5**
LPIG				*eS*g	**Sg**	**09 53 25.8**	**-1.0**
LPIG	**La Paz**	**0.53**	**201**	*eP*	**Pg**	**09 53 17.3**	**-2.5**
LPIG				*eS*	**Sg**	**09 53 25.8**	**-1.0**
SLBS	**Sierra La Lagu**	**0.92**	**171**	*eP*g	**Pb**	**09 53 25.9**	**-1.2**
SLBS				*eS*n	**Sn**	**09 53 42.0**	**+1.1**
SRIG	**Santa Rosalia**	**3.32**	**325**	*eP*n	**Pn**	**09 54 01.6**	**+0.8**
SRIG				*eS*n	**Sb**	**09 54 46.5**	**-1.8**
SRIG	**Santa Rosalia**	**3.32**	**325**	*i P*	Pn	09 53 54.7	-6.1
MAIG	**Mazatlaan**	**3.65**	**112**	*ePn*	**Pn**	**09 54 04.4**	**-0.9**
MAIG	**Mazatlaan**	**3.65**	**112**	*eP*	**Pn**	**09 54 04.4**	**-0.9**
HSIG		**4.47**	**350**	*ePn*	**Pn**	**09 54 16.9**	**+0.3**
HPIG		**4.63**	**59**	*ePn*	**Pn**	**09 54 16.9**	**-2.1**
319A	**Douglas**	**6.79**	**6**	*ePn*	**Pn**	**09 54 45.5**	**-3.1**
ZAIG	**Zacatecas**	**7.14**	**103**	*ePn*	**Pn**	**09 54 55.6**	**+2.0**
LTX	**Lajitas**	**7.43**	**49**	*ePn*	**Pn**	**09 54 54.3**	**-3.0**
LTX				*eSn*	**Sn**	**09 56 17.2**	**-4.2**
TX31	**Lajitas Ar. Si**	**7.43**	**49**	*ePn*	**Pn**	**09 55 00.9**	**+3.5**
TXAR	**Lajitas Array**	**7.43**	**49**	Pn	**Pn**	**09 54 54.3**	**-3.1**
	1.1nm,0.3s,baz=228,slow=14,SNR=25						
TXAR				Sn	**Sn**	**09 56 17.2**	**-4.2**
	0.7nm,0.3s,baz=220,slow=25,SNR=8.2						
TUC	**Tucson**	**7.71**	**356**	*ePn*	**Pn**	**09 54 58.5**	**-2.6**
TUC	**Tucson**	**7.71**	**356**	P	**Pn**	**09 55 02.1**	**+1.0**
	baz=176						
214A	**Organ Pipe Nat**	**7.71**	**343**	P	**Pn**	**09 55 02.4**	**+1.3**
	baz=162,SNR=6.4						
EPT	**El Paso**	**7.82**	**23**	*ePn*	**Pn**	**09 55 04.0**	**+1.3**
121A	**Cookes Peak, D**	**8.16**	**14**	P	**Pn**	**09 55 08.8**	**+1.3**
	baz=195,SNR=20						
MNTX	**Cornudas Mount**	**8.21**	**29**	*ePn*	**Pn**	**09 55 06.0**	**-2.0**
MNTX	**Cornudas Mount**	**8.21**	**29**	P	**Pn**	**09 55 09.7**	**+1.7**
	baz=211						
113A	**Mohawk Valley,**	**8.75**	**339**	*ePn*	**Pn**	**09 55 17.1**	**+1.7**
GDL2	**Guadalupe Moun**	**9.10**	**32**	*ePn*	**Pn**	**09 55 20.9**	**+0.5**
GLA	**Glamis**	**9.38**	**335**	*ePn*	**Pn**	**09 55 25.1**	**+1.0**
GLA	**Glamis**	**9.38**	**335**	P	**Pn**	**09 55 25.4**	**+1.3**
	baz=153,SNR=6.5						
IKP	**In-Ko-Pah, Jac**	**9.60**	**328**	P	**Pn**	**09 55 27.9**	**+0.8**
	baz=146,SNR=9.2						
Y14A	**Wickenburg**	**9.64**	**345**	*ePn*	**Pn**	**09 55 29.1**	**+1.4**
LNIG	**Linares**	**9.68**	**86**	*ePn*	**Pn**	**09 55 28.0**	**-0.1**
SWSC	**Sam W. Stewart**	**9.70**	**330**	P	**Pn**	**09 55 29.6**	**+1.2**
	baz=148,SNR=7.2						
Y22D	**IRIS PASSCAL I**	**9.84**	**16**	*ePn*	**Pn**	**09 55 32.0**	**+1.6**
X16A	**Lo Mia Camp, P**	**9.85**	**354**	*ePn*	**Pn**	**09 55 31.6**	**+0.9**
X18A	**Snowflake**	**9.90**	**1**	*ePn*	**Pn**	**09 55 32.1**	**+0.8**
BAR	**Barrett**	**9.90**	**326**	*ePn*	**Pn**	**09 55 31.2**	**0.0**
Y12C	**Blythe**	**9.90**	**338**	*ePn*	**Pn**	**09 55 32.0**	**+0.8**
Y12C	**Blythe**	**9.90**	**338**	P	**Pn**	**09 55 32.7**	**+1.6**
	baz=156,SNR=10						
LENM	**Lemitar**	**9.91**	**15**	*ePn*	**Pn**	**09 55 32.0**	**+0.5**
MONP2	**Monument Peak**	**9.95**	**328**	P	**Pn**	**09 55 32.8**	**+0.8**
	baz=145,SNR=8.4						
BNM	**Barren Site**	**9.99**	**17**	*ePn*	**Pn**	**09 55 33.0**	**+0.5**
LAZ	**Ladron**	**10.10**	**14**	*ePn*	**Pn**	**09 55 35.1**	**+1.0**
LPM	**Los Pinos Moun**	**10.14**	**17**	*ePn*	**Pn**	**09 55 36.4**	**+1.8**
BC3	**Big Chuckawall**	**10.16**	**334**	P	**Pn**	**09 55 36.5**	**+1.7**
	baz=152,SNR=17						
833A	**Chaparral WMA,**	**10.29**	**67**	*ePn*	**Pn**	**09 55 38.1**	**+1.6**
833A	**Chaparral WMA,**	**10.29**	**67**	P	**Pn**	**09 55 37.4**	**+1.0**
	baz=251						
CPE	**Camp Elliot**	**10.29**	**325**	*ePn*	**Pn**	**09 55 37.0**	**+0.5**
IRM	**Iron Mountain**	**10.49**	**336**	P	**Pn**	**09 55 40.3**	**+1.1**
	baz=154,SNR=12						
W18A	**Petrified Fore**	**10.49**	**2**	*ePn*	**Pn**	**09 55 41.5**	**+2.2**
W18A	**Petrified Fore**	**10.49**	**2**	P	**Pn**	**09 55 41.3**	**+1.9**
	baz=182,SNR=8.7						
FRD	**Ford Ranch, An**	**10.53**	**329**	P	**Pn**	**09 55 40.9**	**+1.1**
	baz=146,SNR=6.1						
XPFO	**Pæon Flat**	**10.55**	**330**	*ePn*	**Pn**	**09 55 40.8**	**+0.5**
PFO	**Pinyon Flats O**	**10.56**	**330**	*ePn*	**Pn**	**09 55 40.9**	**+0.6**
PFO	**Pinyon Flats O**	**10.56**	**330**	P	**Pn**	**09 55 41.7**	**+1.4**
	baz=147,SNR=7.5						
BELC	**Belle Mtn. Jos**	**10.69**	**333**	P	**Pn**	**09 55 44.0**	**+2.0**
	baz=150,SNR=10						
ANMO	**Albuquerque**	**10.79**	**16**	Pn	**Pn**	**09 55 44.3**	**+0.8**
	0.1nm,0.3s,baz=200,slow=13,SNR=17						
ANMO				LR	LR	09 59 07.8	
	comp=Z,232nm,19.4s,baz=190,slow=34						
ANMO	**Albuquerque**	**10.79**	**16**	*ePn*	**Pn**	**09 55 44.0**	**+0.5**
ANMO	**Albuquerque**	**10.79**	**16**	P	**Pn**	**09 55 45.3**	**+1.9**
	baz=198						
JCT	**Junction City**	**10.85**	**55**	*ePn*	**Pn**	**09 55 45.6**	**+1.3**
JCT	**Junction City**	**10.85**	**55**	P	**Pn**	**09 55 45.3**	**+1.1**
	baz=239,SNR=7.5						
WUAZ	**Wupatki**	**10.94**	**355**	*ePn*	**Pn**	**09 55 48.0**	**+2.5**
WUAZ	**Wupatki**	**10.94**	**355**	P	**Pn**	**09 55 47.1**	**+1.6**
	baz=174						
W13A	**Hualapai Mount**	**10.97**	**343**	*ePn*	**Pn**	**09 55 47.2**	**+1.3**
GMRC	**Granite Mounta**	**11.24**	**336**	P	**Pn**	**09 55 50.8**	**+1.2**
	baz=154						
LDFC	**Landfair**	**11.31**	**339**	*ePn*	**Pn**	**09 55 55.3**	**+4.7**
MSTX	**Muleshoe**	**11.31**	**33**	*ePn*	**Pn**	**09 55 52.4**	**+1.8**
MSTX	**Muleshoe**	**11.31**	**33**	P	**Pn**	**09 55 52.2**	**+1.6**
	baz=216						
HEC	**Hector,Ludlow**	**11.54**	**333**	P	**Pn**	**09 55 55.3**	**+1.6**
	baz=151						
BFSC	**Mount Baldy Ra**	**11.64**	**327**	P	**Pn**	**09 55 56.0**	**+0.9**
	baz=144						
MWC	**Mount Wilson**	**11.83**	**326**	*ePn*	**Pn**	**09 55 58.3**	**+0.5**
PASC	**Pasadena Art C**	**11.85**	**325**	*ePn*	**Pn**	**09 55 57.8**	**-0.1**
U15A	**North Rim**	**11.94**	**351**	*ePn*	**Pn**	**09 56 02.5**	**+3.1**
GSC	**Goldstone, Bar**	**12.14**	**333**	*ePn*	**Pn**	**09 56 03.6**	**+1.7**
GSC	**Goldstone, Bar**	**12.14**	**333**	P	**Pn**	**09 56 03.6**	**+1.7**
	baz=150,SNR=13						
ABTX	**Abilene, Hawle**	**12.17**	**47**	*ePn*	**Pn**	**09 56 05.1**	**+2.8**
ABTX	**Abilene, Hawle**	**12.17**	**47**	P	**Pn**	**09 56 04.5**	**+2.1**
	baz=231						
EDW2	**Edwards Air Fo**	**12.32**	**328**	P	**Pn**	**09 56 05.6**	**+1.2**
	baz=145,SNR=6.1						
SHOC	**Shoshone, Teco**	**12.46**	**336**	P	**Pn**	**09 56 08.0**	**+1.8**
	baz=154,SNR=16						
OSI	**Osito Audit: C**	**12.48**	**325**	*ePn*	**Pn**	**09 56 06.9**	**+0.5**
OSI	**Osito Audit: C**	**12.48**	**325**	P	**Pn**	**09 56 07.4**	**+0.9**
	baz=141						
SCZ2	**Santa Cruz Isl**	**12.52**	**321**	P	**Pn**	**09 56 07.3**	**+0.4**
	baz=136,SNR=7.5						
AMTX	**Amarillo**	**12.59**	**34**	*ePn*	**Pn**	**09 56 08.8**	**+0.8**
KNB	**Kanab**	**12.60**	**350**	*ePn*	**Pn**	**09 56 10.9**	**+2.7**
SHPR	**Sheep Range**	**12.64**	**341**	*ePn*	**Pn**	**09 56 10.3**	**+1.5**
MVCO	**Mesa Verde**	**12.65**	**6**	*ePn*	**Pn**	**09 56 11.0**	**+2.1**
MVCO	**Mesa Verde**	**12.65**	**6**	P	**Pn**	**09 56 10.7**	**+1.7**
	baz=187,SNR=5.8						
LCMT	**Little Creek M**	**12.66**	**348**	*ePn*	**Pn**	**09 56 11.8**	**+2.7**
LRMC	**Laurel Mtn Rad**	**12.67**	**331**	P	**Pn**	**09 56 11.0**	**+1.8**
	baz=147,SNR=7.9						
435B	**Jarrell**	**12.68**	**58**	*ePn*	**Pn**	**09 56 09.4**	**+0.2**
435B	**Jarrell**	**12.68**	**58**	P	**Pn**	**09 56 10.6**	**+1.4**
	baz=244,SNR=9.7						
TLIG	**Tlapa**	**12.84**	**121**	*ePn*	**Pn**	**09 56 13.1**	**+1.6**
ARVC	**Arvin**	**12.93**	**326**	P	**Pn**	**09 56 13.5**	**+0.9**
	baz=142						
PKCU	**Pink Cliffs**	**12.94**	**352**	*ePn*	**Pn**	**09 56 16.1**	**+3.0**
MPMC	**Manual Prospec**	**13.07**	**333**	P	**Pn**	**09 56 16.2**	**+1.5**
	baz=149,SNR=14						
FURC	**Furnace Creek,**	**13.18**	**335**	P	**Pn**	**09 56 18.4**	**+2.5**
	baz=152,SNR=16						
ISA	**Isabella, Lake**	**13.19**	**329**	*ePn*	**Pn**	**09 56 16.0**	**-0.1**
ISA	**Isabella, Lake**	**13.19**	**329**	P	**Pn**	**09 56 17.2**	**+1.0**
	baz=145,SNR=7.1						
SZCU	**Shurtz Canyon**	**13.20**	**350**	*ePn*	**Pn**	**09 56 19.8**	**+3.3**
CCUT	**Cedar City**	**13.21**	**349**	*ePn*	**Pn**	**09 56 19.4**	**+2.8**
PKM	**Mcpherson Peak**	**13.27**	**323**	P	**Pn**	**09 56 17.8**	**+0.4**
	baz=139,SNR=6.8						
DAC	**Darwin (Calif)**	**13.30**	**333**	*ePn*	**Pn**	**09 56 20.5**	**+2.6**
WHTX	**Lake Whitney,**	**13.35**	**54**	*ePn*	**Pn**	**09 56 20.5**	**+2.2**
WHTX	**Lake Whitney,**	**13.35**	**54**	P	**Pn**	**09 56 19.9**	**+1.5**
	baz=239						
TPNV	**Topopah Spring**	**13.39**	**338**	*ePn*	**Pn**	**09 56 21.5**	**+2.5**
TPNV	**Topopah Spring**	**13.39**	**338**	P	**Pn**	**09 56 21.3**	**+2.3**
	baz=156,SNR=9.6						
S22A	**4UR Ranch, Cre**	**13.40**	**11**	*ePn*	**Pn**	**09 56 21.8**	**+2.5**
T25A	**Trinidad**	**13.42**	**20**	*ePn*	**Pn**	**09 56 20.9**	**+1.5**
T25A	**Trinidad**	**13.42**	**20**	P	**Pn**	**09 56 22.6**	**+3.1**
	baz=203						
PV05	**Paradox Valley**	**13.46**	**3**	*ePn*	**Pn**	**09 56 23.9**	**+3.8**
MTPU	**Mount Pierson**	**13.52**	**353**	*ePn*	**Pn**	**09 56 22.5**	**+1.6**
PV13	**Radium Mtn., P**	**13.56**	**4**	*ePn*	**Pn**	**09 56 23.1**	**+1.7**
PV02	**Paradox Valley**	**13.62**	**5**	*ePn*	**Pn**	**09 56 24.8**	**+2.6**
VES	**Vestal, Richgr**	**13.62**	**327**	P	**Pn**	**09 56 23.4**	**+1.4**
	baz=143,SNR=6.4						
PV18	**Skein Mesa, Pa**	**13.64**	**4**	*ePn*	**Pn**	**09 56 25.1**	**+2.6**
CWC	**Cottonwood Cre**	**13.65**	**332**	P	**Pn**	**09 56 24.3**	**+1.7**
	baz=148						
PV03	**Paradox Valley**	**13.66**	**4**	*ePn*	**Pn**	**09 56 24.9**	**+2.2**
PV17	**East Wray Mesa**	**13.67**	**4**	*ePn*	**Pn**	**09 56 25.4**	**+2.4**
SDCO	**Great Sand Dun**	**13.68**	**16**	*ePn*	**Pn**	**09 56 25.3**	**+2.2**
SDCO	**Great Sand Dun**	**13.68**	**16**	P	**Pn**	**09 56 26.3**	**+3.1**
	baz=198,SNR=6.1						
SMMC	**Simmler**	**13.69**	**324**	P	**Pn**	**09 56 24.1**	**+1.2**
	baz=139						
PV11	**David Mesa, Pa**	**13.70**	**4**	*ePn*	**Pn**	**09 56 25.6**	**+2.3**
PV19	**Morning Glory**	**13.70**	**4**	*ePn*	**Pn**	**09 56 24.7**	**+1.3**
PV16	**Nyswonger Mesa**	**13.71**	**4**	*ePn*	**Pn**	**09 56 25.9**	**+2.5**
PV12	**Saucer Basin,**	**13.72**	**4**	*ePn*	**Pn**	**09 56 26.0**	**+2.4**
PV20	**West Nyswonger**	**13.73**	**4**	*ePn*	**Pn**	**09 56 25.8**	**+2.0**
HKT	**Hockley**	**13.76**	**64**	*ePn*	**Pn**	**09 56 25.4**	**+1.5**
PV14	**Lion Creek, Pa**	**13.76**	**4**	*ePn*	**Pn**	**09 56 26.4**	**+2.2**
PV10	**Paradox Valley**	**13.77**	**4**	*ePn*	**Pn**	**09 56 26.1**	**+1.9**
GRAC	**Grapevine Rang**	**13.84**	**335**	P	**Pn**	**09 56 27.8**	**+2.8**
	baz=152,SNR=10						
PV23	**Carpenter Ridg**	**13.84**	**4**	*ePn*	**Pn**	**09 56 27.7**	**+2.4**
PV09	**Paradox Valley**	**13.88**	**3**	*ePn*	**Pn**	**09 56 28.8**	**+2.9**
PV22	**Blue Mesa, Par**	**13.94**	**4**	*ePn*	**Pn**	**09 56 29.0**	**+2.4**
PV21	**Cone Mtn., Par**	**13.95**	**4**	*ePn*	**Pn**	**09 56 28.5**	**+1.7**
MSU	**Marysvale**	**13.98**	**353**	*ePn*	**Pn**	**09 56 29.7**	**+2.5**
WMOK	**Wichita Mounta**	**14.09**	**42**	*ePn*	**Pn**	**09 56 28.6**	**+0.1**
WMOK	**Wichita Mounta**	**14.09**	**42**	P	**Pn**	**09 56 30.0**	**+1.5**
	baz=227,SNR=7.4						
TCRU	**Three Creeks R**	**14.11**	**352**	*ePn*	**Pn**	**09 56 30.4**	**+1.5**
PSUT	**Pine Spring**	**14.25**	**348**	*ePn*	**Pn**	**09 56 34.0**	**+3.1**
SRU	**San Rafael Swe**	**14.47**	**359**	*ePn*	**Pn**	**09 56 35.8**	**+1.9**
R11A	**Tro

16nm,0.9s
MIAR Mount Ida 17.44 52 ePn Pn 09 57 11.6 -0.6
16nm,0.8s
MIAR Mount Ida 17.44 52 P P 09 57 13.3 -0.1
baz=239
242A Grayson 17.45 61 P P 09 57 13.2 -0.2
baz=249
BEKR Beckworth 17.50 333 ePn Pn 09 57 13.1 +0.1
15nm,1.2s
W39A Magazine 17.63 49 ePn Pn 09 57 15.0 +0.5
23nm,1.1s
W39A Magazine 17.63 49 P P 09 57 16.5 +1.1
baz=237,SNR=7.8
ORV Oroville 17.74 330 ePn P 09 57 16.9 +0.3
6.1nm,0.9s
Y41A Eaglette Beard 17.83 55 P P 09 57 19.1 +1.5
baz=243
X40A Basin Creek Fa 17.95 53 ePn Pn 09 57 16.0 -2.4
8.3nm,1.0s
BW06 Boulder Array 18.13 1 ePn Pn 09 57 21.2 +0.4
13nm,1.1s
BW06 Boulder Array 18.13 1 P P 09 57 22.2 +1.1
baz=182,SNR=14
PD31 Pinedale Array 18.13 1 ePn Pn 09 57 21.0 +0.2
PDAR Pinedale Array 18.13 1 P Pn 09 57 19.8 -1.1
0.1nm,0.3s,baz=177,slow=10.0,SNR=18
PDAR Pinedale Array 18.13 1 ePn Pn 09 57 20.4 -0.4
W40A Ferguson Farm, 18.13 50 ePn Pn 09 57 20.7 +0.1
31nm,1.0s
W40A Ferguson Farm, 18.13 50 P P 09 57 21.3 +0.4
baz=239,SNR=8.1
HHAR Hobbs 18.13 46 ePn Pn 09 57 19.4 -1.3
18nm,0.9s
AHID Auburn Hatcher 18.14 358 ePn P 09 57 21.9 +0.7
22nm,1.1s
X41A Kaden, Bauxite 18.18 53 P P 09 57 22.3 +0.8
baz=242,SNR=7.9
K22A Casper 18.25 8 ePn Pn 09 57 21.9 -0.3
34nm,1.1s
K22A Casper 18.25 8 P P 09 57 23.9 +1.5
baz=190,SNR=9.5
143A Socs Landing, 18.27 60 ePn Pn 09 57 22.5 +0.1
111nm,1.0s
143A Socs Landing, 18.27 60 P P 09 57 23.1 +0.5
baz=248,SNR=12
344A Westbrook Farm 18.40 64 eP Pn 09 57 25.0 +1.0
38nm,0.9s
344A Westbrook Farm 18.40 64 P Pn 09 57 26.0 +2.0
baz=253,SNR=5.4
KSU1 Kansas State U 18.42 35 eP P 09 57 24.3 +0.2
19nm,0.8s
UALR University of 18.44 53 eP Pn 09 57 25.5 +1.0
24nm,1.1s
O03E Paynes Creek 18.48 331 P Pn 09 57 26.8 +1.9
baz=145,SNR=20
V40A Witts Springs 18.62 49 eP P 09 57 26.7 +0.4
29nm,1.1s
V40A Witts Springs 18.62 49 P P 09 57 26.6 +0.2
baz=238,SNR=12
244A Avery, Jackson 18.62 62 P Pn 09 57 27.5 +0.9
baz=251
W41B Gary Mavity, V 18.70 52 eP Pn 09 57 28.0 +0.4
19nm,1.1s
W41B Gary Mavity, V 18.70 52 P Pn 09 57 27.9 +0.3
baz=240
REDW Red Top Meadow 18.73 358 eP Pn 09 57 28.7 +0.6
16nm,1.1s
WHAR Wooly Hollow 18.73 51 eP Pn 09 57 28.4 +0.4
17nm,1.2s
VBMS Vicksburg 18.81 62 eP Pn 09 57 29.4 +0.5
35nm,1.0s
SNOW Snow King Moun 18.82 359 eP Pn 09 57 29.6 +0.2
14nm,1.0s
O02D Mt. Diablo Mer 18.84 329 P Pn 09 57 30.7 +1.4
baz=142
TPAW Teton Pass 18.86 358 eP Pn 09 57 30.1 +0.4
17nm,1.0s
U40A Yellville 18.90 48 P P 09 57 29.8 +0.4
baz=236,SNR=14
LOHW Long Hollow 18.97 359 eP Pn 09 57 31.7 +0.7
13nm,1.0s
FXWY Fox Creek 19.01 358 eP Pn 09 57 32.1 +0.6
25nm,1.1s
V41A Mountainview 19.07 50 P Pn 09 57 32.1 0.0
baz=239,SNR=16
MOOW Moose Ponds 19.11 359 eP Pn 09 57 33.4 +0.7
10nm,1.0s
WVOR Wild Horse Val 19.14 340 eP Pn 09 57 32.9 -0.1
14nm,1.1s
MOD Modoc Plateau 19.22 336 eP Pn 09 57 34.3 +0.2
11nm,1.0s
HLID Hailey 19.25 350 eP Pn 09 57 35.2 +0.9
6.1nm,1.1s
HLID Hailey 19.25 350 P Pn 09 57 35.0 +0.7
baz=168,SNR=7.1
245A Little AP, Sta 19.25 63 P Pn 09 57 35.3 +1.0
baz=252
IMW Indian Meadow 19.26 358 eP Pn 09 57 34.8 +0.1
21nm,1.0s
X43A Marvell 19.40 55 eP Pn 09 57 36.8 +0.8
30nm,1.0s
346A Big Creek Wild 19.43 65 eP Pn 09 57 36.6 +0.3
27nm,1.0s
FLWY Flagg Ranch 19.44 359 eP Pn 09 57 37.6 +0.9
20nm,1.0s
BGNE Belgrade 19.50 28 eP Pn 09 57 40.3 +3.1
32nm,1.0s
BGNE Belgrade 19.50 28 P Pn 09 57 38.8 +1.6
baz=214
U41A Viola 19.52 49 P Pn 09 57 39.3 +1.7
baz=238
V42A Cord 19.62 51 P Pn 09 57 39.9 +1.3
baz=240,SNR=15
YPP Pitchstone Pla 19.63 359 eP Pn 09 57 38.8 -0.3
9.5nm,1.2s
M04C Macdoel 19.72 333 P Pn 09 57 41.9 +2.0
baz=147,SNR=12
H17A Grant Village 19.75 359 eP Pn 09 57 40.2 -0.3
8.6nm,1.1s
YFT Old Faithful 19.82 358 eP Pn 09 57 41.8 +0.6
15nm,1.2s
Z45A Winona 19.86 59 eP Pn 09 57 41.4 -0.1
44nm,0.9s
Z45A Winona 19.86 59 P Pn 09 57 41.1 -0.4
baz=249,SNR=5.8
J08A Circle Bar Ran 19.94 342 eP P 09 57 41.7 +0.9
15nm,0.8s
X44A Crenshaw 19.94 56 P P 09 57 41.7 +1.0
baz=245
U42A Revenden 20.00 50 P Pn 09 57 42.7 -0.5
baz=239,SNR=12
T41A Mountain View 20.01 47 P Pn 09 57 43.1 -0.2
baz=236
HBAR Harrisburg 20.02 52 eP Pn 09 57 42.9 -0.6
86nm,1.0s
YMR Madison River 20.04 358 eP Pn 09 57 43.7 0.0
19nm,1.1s
YBH Yreka Blue Hor 20.04 332 P P 09 57 40.5 -1.4
0.0nm,0.3s,baz=117,slow=9.0,SNR=2.6
YBH LR LR 10 05 05.9
comp=Z,140nm,21.3s,baz=140,slow=36
YNR Norris Junctio 20.07 359 eP Pn 09 57 44.5 +0.2
8.6nm,1.1s
RSSD Black Hills 20.10 13 eP Pn 09 57 44.4 -0.1
9.1nm,1.1s
146A Union 20.11 62 eP P 09 57 42.8 +0.1
54nm,1.1s
YHB Horse Butte 20.12 358 eP Pn 09 57 44.8 0.0
15nm,1.0s
Y45A Yeager Farm, C 20.15 58 P P 09 57 44.0 +0.9
baz=248
YHH Holmes Hill 20.15 358 eP P 09 57 43.7 +0.4
25nm,1.1s
K05A Summer Lake 20.16 336 eP P 09 57 44.1 +0.9
10nm,0.9s
347A Saraland 20.19 66 P P 09 57 44.3 +0.8
baz=255,SNR=5.8
QLMT Earthquake Lak 20.21 357 eP Pn 09 57 46.3 +0.4
MCMT McKenzie Canyo 20.30 354 eP Pn 09 57 46.9 -0.1
247A Quitman 20.31 64 P P 09 57 45.6 +0.8
baz=254
S41A Jillco Farms, 20.32 46 P P 09 57 45.7 +0.7
baz=235,SNR=40
T42A Van Buren 20.45 48 eP P 09 57 46.2 -0.1
20nm,1.1s
T42A Van Buren 20.45 48 P P 09 57 47.4 +1.1
baz=238,SNR=7.6
X45A UM Field Stati 20.48 57 P P 09 57 47.4 +0.8
baz=247
RLMT Red Lodge 20.49 2 eP P 09 57 48.0 +1.1
5.6nm,0.9s
OXF Oxford 20.50 56 eP P 09 57 47.5 +0.6
19nm,1.0s
OXF Oxford 20.50 56 P P 09 57 47.9 +1.0
baz=246
Y46A Houston 20.69 59 P Pn 09 57 51.5 +0.2
baz=249,SNR=19
348A Jackson 20.73 66 eP P 09 57 49.2 -0.1
41nm,0.8s
147A Livingston 20.76 62 eP P 09 57 50.0 +0.3
52nm,1.0s
147A Livingston 20.76 62 P P 09 57 50.4 +0.7
baz=252
J05D Fort Rock, OR 20.77 337 P P 09 57 50.8 +1.0
baz=151,SNR=11
APG El Apazote 20.77 114 P P 09 57 49.2 -1.1
5.0nm,1.0s,baz=338,slow=17,SNR=2.7
PBMO Poplar Bluff 20.78 50 eP Pn 09 57 56.0 +3.7
10nm,0.9s
DLMT Dillon 20.82 355 eP Pn 09 57 52.1 -0.8
10nm,1.1s
I07A Izee 20.90 341 eP P 09 57 51.9 +0.7
12nm,1.1s
CCM Cathedral Cave 20.91 46 eP P 09 57 51.5 +0.2
19nm,1.1s
CCM Cathedral Cave 20.91 46 P P 09 57 51.4 +0.1
baz=235
W45A Hickory Valley 20.93 55 P P 09 57 52.9 +1.4
baz=245,SNR=7.7
R41A Rosebud 20.96 45 P P 09 57 52.2 +0.3
baz=234,SNR=16
BOZ Bozeman (W) 20.99 357 eP P 09 57 53.5 +1.3
10nm,1.0s
BOZ Bozeman (W) 20.99 357 P Pn 09 57 54.6 -0.3
baz=176,SNR=9.4
248A Dixon Mills 21.03 64 P P 09 57 53.0 +0.3
baz=254
T43A Greenville 21.03 49 P P 09 57 53.7 +1.1
baz=239,SNR=11
BMO Blue Mountains 21.04 346 eP P 09 57 52.7 0.0
5.3nm,1.0s
S42A Caledonia 21.05 47 P P 09 57 53.6 +0.8
baz=237,SNR=8.7
Z47A Carrollton 21.08 61 P P 09 57 53.8 +0.7
baz=251,SNR=12
PINE Pine Mountain 21.10 338 eP P 09 57 54.4 +0.8
9.3nm,1.0s
HALT Halls 21.14 53 eP P 09 57 53.8 0.0
41nm,0.8s
X46A Booneville 21.15 57 P P 09 57 56.3 +2.5
baz=247
GCMT Grizcliff 21.15 1 eP P 09 57 54.2 +0.2
349A Repton 21.30 66 P P 09 57 58.1 +2.5
baz=257
148A Greensboro 21.32 63 P P 09 57 58.1 +2.4
baz=253
R42A Luebbering 21.33 46 P P 09 57 57.3 +1.4
baz=236,SNR=9.6
FVM French Village 21.41 47 eP P 09 57 56.2 -0.5
40nm,1.1s
S43A Fulton Ridge, 21.43 48 P P 09 57 58.4 +1.6
baz=238
Q41A Truxton 21.44 44 P P 09 57 58.0 +1.1
baz=233,SNR=23
Y47A UCPARC, Winfie 21.48 59 P P 09 58 00.0 +2.6
baz=250
249A Camden 21.50 65 P P 09 57 59.3 +1.6
baz=256,SNR=11
W46A Michie 21.52 56 P P 09 57 59.9 +1.9
baz=246,SNR=6.7
Z48A Northport 21.54 61 P P 09 57 59.9 +1.7
baz=252
X47A Russelville 21.69 58 P P 09 58 01.5 +1.8
baz=248,SNR=6.9
PLAL Pickwick Lake 21.70 56 eP P 09 57 60.0 +0.2
12nm,0.9s
I05D Terrebonne, OR 21.72 338 P P 09 58 02.6 +2.6
baz=152
U45A Rockin P Farm, 21.75 52 P P 09 58 02.6 +2.2
baz=243
SUSD Miller 21.78 22 P P 09 58 02.4 +1.8
baz=208,SNR=9.8
Q42A Golden Eagle 21.86 45 P P 09 58 03.8 +2.3
baz=235
LRAL Lakeview Retre 21.89 62 eP P 09 58 02.5 +0.6
20nm,1.1s
LRAL Lakeview Retre 21.89 62 P P 09 58 03.3 +1.5
baz=253
SLM Saint Louis 21.89 46 eP P 09 58 03.1 +1.2
37nm,1.0s
N39A Derby Farms, D 21.90 38 eP P 09 58 02.5 +0.5
15nm,0.8s
N39A Derby Farms, D 21.90 38 P P 09 58 03.8 +1.8
baz=227
149A Jones 21.93 63 P P 09 58 04.6 +2.3
baz=254,SNR=12
P41A Barry, Barry 21.98 42 P P 09 58 04.1 +1.4
baz=232,SNR=8.7
V46A Holladay 21.99 54 P P 09 58 04.7 +1.8
baz=245,SNR=12
Y48A Jasper 22.02 60 P P 09 58 04.9 +1.6
baz=251,SNR=7.4
S44A Carbondale 22.05 49 P P 09 58 05.1 +1.5
baz=239
ECSD EROS Data Cent 22.06 27 eP P 09 58 04.3 +0.7
16nm,1.0s
ECSD EROS Data Cent 22.06 27 P P 09 58 04.8 +1.2
baz=214,SNR=7.5
SIUC Southern Illin 22.08 49 eP P 09 58 05.1 +1.2
22nm,0.9s
F10A Beach Ranch, E 22.09 347 eP P 09 58 04.8 +0.9
11nm,1.1s
HRY Holter Researc 22.11 357 eP P 09 58 05.8 +1.6
T45A Paducah 22.14 51 eP P 09 58 06.4 +1.9
21nm,0.6s
W47A Westpoint 22.16 56 P P 09 58 06.2 +1.4
baz=247
U46A Springville 22.18 53 P P 09 58 07.3 +2.3
baz=244
250A Grady 22.21 65 eP P 09 58 07.2 +1.8
27nm,1.0s
250A Grady 22.21 65 P P 09 58 07.4 +2.0
baz=256
LAO LASA Array 22.26 7 eP P 09 58 06.2 +0.3
27nm,1.1s
LAO LASA Array 22.26 7 P P 09 58 06.8 +1.0
baz=189
X48A Hartselle 22.29 59 eP P 09 58 06.8 +0.6
17nm,1.1s
X48A Hartselle 22.29 59 P P 09 58 07.2 +1.0
baz=250
Z49A Columbiana 22.31 62 P P 09 58 07.4 +1.0
baz=253
WVT Waverly 22.34 54 eP P 09 58 08.2 +1.6
18nm,1.1s
WVT Waverly 22.34 54 P P 09 58 08.0 +1.4
baz=245
O41A Passleys Farm, 22.36 42 P P 09 58 08.3 +1.5
baz=232,SNR=7.5
P42A Winchester 22.37 43 eP P 09 58 07.6 +0.6
34nm,1.1s
P42A Winchester 22.37 43 P P 09 58 08.7 +1.8
baz=234
MSO Missoula 22.39 353 eP P 09 58 08.3 +1.0
9.6nm,1.1s
MSO Missoula 22.39 353 P P 09 58 08.4 +1.0
baz=171
Q43A New Douglas 22.41 45 P P 09 58 09.1 +1.7
baz=236,SNR=10
N40A Mertquake, Sal 22.43 39 P P 09 58 09.3 +1.7
baz=229
R44A Waltonville 22.45 48 P P 09 58 09.0 +1.2
baz=238
S45A Carrier Mills 22.50 50 P P 09 58 10.1 +1.7
baz=240
150A Eclectic 22.57 64 P P 09 58 10.7 +1.6
baz=255,SNR=8.9
Y49A Blount Mountai 22.60 60 eP P 09 58 10.0 +0.5
13nm,1.0s
Y49A Blount Mountai 22.60 60 P P 09 58 10.7 +1.2
baz=252
351A Pinckard 22.62 67 P P 09 58 10.3 +0.6
baz=259
F07A Phinny Hill Vi 22.68 342 eP P 09 58 10.1 -0.1
6.2nm,0.7s
T46A Princeton 22.69 52 P P 09 58 12.8 +2.4
baz=243,SNR=6.3
N41A Harden Midland 22.74 40 eP P 09 58 18.2 +7.3
46nm,1.0s
E09A Wood Farm, Sta 22.80 346 eP P 09 58 10.1 -1.3
8.2nm,1.1s
Z50A Ashland 22.82 62 eP P 09 58 12.1 +0.3
55nm,1.1s
Z50A Ashland 22.82 62 P P 09 58 12.6 +0.8
baz=254
Q44A Meyer Farm, Va 22.84 46 P P 09 58 13.6 +1.7
baz=237
U47A Clarksville 22.86 54 P P 09 58 14.0 +1.7
baz=245
X49A Woodville 22.87 59 P P 09 58 13.1 +0.8
baz=250
V48A Smith Brothers 22.93 56 P P 09 58 14.2 +1.2
baz=247
251A Midway 22.95 65 P P 09 58 14.3 +1.2
baz=257
R45A Skylar, Fairfi 23.01 48 P P 09 58 15.6 +1.9
baz=240
L39A Vinton 23.03 36 P P 09 58 17.0 +3.1
baz=226
S46A Don Dixon Farm 23.11 50 P P 09 58 16.9 +2.2
baz=242
151A Opelika 23.11 64 P P 09 58 15.3 +0.4
baz=256
W49A Belvidere 23.13 58 P P 09 58 17.7 +2.7
baz=249
352A Blakely 23.22 67 eP P 09 58 17.2 +1.3
33nm,1.1s
352A Blakely 23.22 67 P P 09 58 17.0 +1.1
baz=259
T47A Sharon Grove 23.23 52 eP P 09 58 16.8 +0.8
11nm,0.9s
T47A Sharon Grove 23.23 52 P P 09 58 17.4 +1.4
baz=244
USIN University of 23.28 50 eP P 09 58 18.3 +1.8
16nm,1.0s
N42A Yates City 23.30 41 P P 09 58 17.6 +0.9
baz=232,SNR=6.5
OLIL Olney 23.36 48 eP P 09 58 18.4 +1.1
16nm,0.9s
EGMT Eagleton 23.38 1 eP P 09 58 22.7 +5.2
20nm,1.1s
Q45A Warren Harvey, 23.40 47 P P 09 58 19.7 +2.0
baz=239
L40A Anamosa 23.41 37 eP P 09 58 17.2 -0.6
14nm,0.8s
SWET Sewanee 23.42 58 eP P 09 58 18.5 +0.5
9.7nm,0.9s
O43A Sugar Creek Fa 23.42 43 P P 09 58 19.4 +1.5
baz=234
U48A Cassie Pea, Po 23.44 54 P P 09 58 19.3 +1.2
baz=246
D08A Wollman Farm, 23.49 345 eP P 09 58 18.2 -0.3
3.7nm,0.9s
K39A Oelwein 23.49 35 P P 09 58 19.5 +0.9
baz=225
HDIL Hopedale 23.59 43 eP P 09 58 19.1 -0.5
15nm,0.8s
HDIL Hopedale 23.59 43 P P 09 58 20.0 +0.5
baz=234
453A Whigham 23.63 69 eP P 09 58 20.0 -0.1
453A Whigham 23.63 69 P P 09 58 21.5 +1.5
baz=261
V49A McMinnville 23.63 56 P P 09 58 21.2 +1.2
baz=248,SNR=6.3
152A Waverly Hall 23.65 64 eP P 09 58 19.9 -0.3
24nm,0.8s
S47A Hartford 23.66 51 P P 09 58 21.0 +0.8
baz=243
Y51A Rockmart 23.68 61 P P 09 58 21.1 +0.6
baz=253,SNR=7.1
T48A Bowling Green 23.80 53 P P 09 58 23.4 +1.8
baz=245
353A Camilla 23.80 68 P P 09 58 22.4 +0.8
baz=260
W50A Signal Mountai 23.89 58 eP P 09 58 23.1 +0.5
16nm,0.8s
W50A Signal Mountai 23.89 58 P P 09 58 24.0 +1.4
baz=250,SNR=8.5
P45A Graceland, Par 24.01 46 eP P 09 58 24.5 +0.9
12nm,0.8s
U49A Red Boiling Sp 24.01 55 P P 09 58 25.4 +1.8
baz=247
LON Longmire 24.01 340 eP P 09 58 24.5 +1.0
8.4nm,1.0s
Z52A Williamson 24.02 63 P P 09 58 25.2 +1.5
baz=256
J39A Decorah 24.03 34 P P 09 58 24.9 +1.1
baz=225
X51A Calhoun 24.04 60 eP P 09 58 23.3 -0.6
15nm,0.9s
X51A Calhoun 24.04 60 P P 09 58 25.0 +1.1
baz=252
554A Perry 24.07 71 P P 09 58 25.0 +0.8
baz=263,SNR=7.3
V50A Pikevile 24.21 57 P P 09 58 26.4 +0.9
baz=250
NEW Newport 24.26 349 P P 09 58 24.2 -1.7
9.7nm,0.8s,baz=163,slow=11,SNR=24
NEW Newport 24.26 349 eP P 09 58 26.4 +0.5
10nm,0.8s
NEW Newport 24.26 349 P P 09 58 26.1 +0.2
baz=164,SNR=12
S48A Wiedeman Farm, 24.27 52 P P 09 58 25.6 -0.4
baz=244,SNR=8.2
DGMT Dagmar 24.28 10 eP P 09 58 26.4 +0.4
15nm,1.0s
DGMT Dagmar 24.28 10 P P 09 58 26.8 +0.8
baz=193
K41A Shullsburg 24.28 37 P P 09 58 26.3 +0.3
baz=228
W51A Cleveland 24.30 58 P P 09 58 26.4 +0.1
baz=251,SNR=9.9
WCI Wyandotte Cave 24.36 50 P P 09 58 28.5 +1.7
baz=243
153A Fort Valley 24.37 65 P P 09 58 27.3 +0.3
baz=257
T49A Edmonton 24.42 54 eP P 09 58 27.8 +0.3
7.4nm,0.9s
T49A Edmonton 24.42 54 P P 09 58 29.7 +2.3
baz=246
N44A Piper City 24.45 43 P P 09 58 28.6 +1.0
baz=235
Y52A Lilburn 24.47 62 eP P 09 58 28.0 +0.1
10nm,1.0s
Y52A Lilburn 24.47 62 P P 09 58 28.5 +0.5
baz=254
JFWS Jewell Farm 24.52 37 P P 09 58 29.7 +1.5
baz=228
CPCT Cooper Cave 24.58 58 eP P 09 58 29.0 +0.1
8.7nm,0.9s
WALA Waterton Lakes 24.60 354 eP P 09 58 29.4 +0.4
12nm,0.9s
555A McAlpin 24.69 71 eP P 09 58 30.0 +0.1
32nm,0.8s
555A McAlpin 24.69 71 P P 09 58 30.2 +0.3
baz=263
455A Stateville 24.72 70 P P 09 58 31.1 +1.0
baz=262
B08A Colville Reser 24.81 345 eP P 09 58 30.6 -0.2
4.3nm,1.0s
X52A Dahlonega 24.81 60 P P 09 58 31.0 0.0
baz=253
V51A Loudon 24.83 57 eP P 09 58 31.0 -0.1
16nm,1.0s
V51A Loudon 24.83 57 P P 09 58 30.9 -0.2
baz=250
GOGA Godfrey 24.84 63 eP P 09 58 31.1 -0.1
8.6nm,0.9s
GOGA Godfrey 24.84 63 P P 09 58 31.9 +0.6
baz=256
Y53A Monroe 24.86 62 P P 09 58 31.6 +0.2
baz=255
SFIN Lafayette 24.88 45 eP P 09 58 31.5 +0.1
17nm,1.0s
SFIN Lafayette 24.88 45 P P 09 58 31.6 +0.1
baz=238
S49A Springfield 24.88 52 P P 09 58 31.7 +0.2
baz=245
W52A Murphy 24.93 59 eP P 09 58 32.4 +0.4
9.8nm,0.9s
W52A Murphy 24.93 59 P P 09 58 32.8 +0.7
baz=252
154A Montrose 24.96 65 P P 09 58 32.7 +0.4
baz=258

P47A Martinsville 24.97 48 P **P** **09 58 33.1 +0.8**
baz=240
556A Lake Butler 25.16 71 P **P** **09 58 35.5 +1.3**
baz=264
TKL Tuckaleechee C 25.23 58 P **P** **09 58 33.1 -1.6**
8.8nm,0.8s,baz=213,slow=11,SNR=11
TKL LR LR 10 09 15.9
comp=Z,1µm,19.2s,baz=242,slow=38
TKL Tuckaleechee C 25.23 58 *e*P **P** **09 58 34.2 -0.5**
13nm,0.9s
X53A Estanollee 25.25 61 P **P** **09 58 36.3 +1.4**
baz=254
G38A Ridgeland 25.29 31 P **P** **09 58 37.4 +2.2**
baz=222
Z54A Sparta 25.31 64 P **P** **09 58 36.7 +1.2**
baz=257
V52A Sevierville 25.42 58 *e*P **P** **09 58 37.3 +0.8**
11nm,1.0s
V52A Sevierville 25.42 58 P **P** **09 58 36.8 +0.3**
baz=251
K43A Burlington 25.46 39 *e*P **P** **09 58 37.6 +0.9**
29nm,1.0s
I41A Arkdale 25.49 35 *e*P **P** **09 58 39.4 +2.4**
14nm,0.9s
T51A Gray 25.54 55 P **P** **09 58 39.6 +2.1**
baz=248,SNR=5.5
W53A Cullowhee 25.55 59 P **P** **09 58 39.8 +2.0**
baz=253,SNR=7.2
H40A Chili 25.61 34 P **P** **09 58 40.7 +2.6**
baz=225,SNR=6.9
BG3 Lake Jocassee 25.68 60 *e*P **P** **09 58 39.7 +0.8**
12nm,0.9s
G39A Holcombe 25.70 32 P **P** **09 58 42.0 +3.1**
baz=223
S51A Beattyville 26.05 54 *e*P **P** **09 58 42.2 0.0**
9.9nm,0.9s
COWI Conover 27.28 33 *e*P **P** **09 58 54.4 +1.2**
3.7nm,0.9s
ULM Lac du Bonnet 27.89 20 *e*P **P** **09 58 59.4 +0.8**
1.2nm,0.8s
P53A Whipple 28.36 52 *e*P **P** **09 59 03.3 +0.4**
9.0nm,1.1s
SSPA Standing Stone 31.28 51 *e*P **P** **09 59 29.7 +0.9**
3.9nm,1.0s
DLBC Dease Lake 36.66 343 *e*P **P** **10 00 16.1 +0.8**
4.9nm,0.8s
ZARC Zaragoza, Cauc 37.74 111 *e*P **P** **10 00 24.6 -0.4**
POPC Popayan, Colom 38.99 119 *e*P **P** **10 00 36.7 +1.0**
OTAV Otavalo 39.05 124 *e*P **P** **10 00 35.8 -0.6**
12nm,1.1s
OTAV Otavalo 39.05 124 *e*P **P** **10 00 39.9 +3.5**
SOTA Rioblanco 39.29 119 *e*P **P** **10 00 40.4 +1.9**
MARP Paez Belalcaza 39.39 118 *e*P **P** **10 00 42.0 +2.9**
BARC Barichara 39.63 111 *e*P **P** **10 00 42.0 +1.0**
PAMC Pamplona, Colo 39.66 109 *e*P **P** **10 00 45.7 +4.1**
RUSC La Rusia 40.07 112 *e*P **P** **10 00 45.2 +0.2**
CHIC Chingaza 40.20 114 *e*P **P** **10 00 46.3 +0.3**
AGP Aguadilla 40.32 90 *e*P **P** **10 00 47.0 +0.5**
69nm,0.7s
BBSR BB Station 40.41 68 *e*P **P** **10 00 48.2 +1.1**
61nm,1.1s
SDV Santo Domingo 40.72 106 P **P** **10 00 50.0 -0.1**
5.5nm,0.5s,baz=342,slow=13,SNR=3.0
BATG Bathurst New B 41.52 46 *e*P **P** **10 00 57.4 +1.3**
8.8nm,0.9s
SCHQ Schefferville 43.85 35 LR LR 10 20 11.5
comp=Z,781nm,18.3s,baz=254,slow=37
DAWY Dawson 43.87 342 *e*P **P** **10 01 16.7 +1.7**
3.0nm,1.0s
ATAH Atahualpa 44.16 132 LR LR 10 17 15.1
comp=Z,81nm,20.3s,baz=317,slow=33
TAOE Nuku Hiva Isla 44.32 225 *e*S **S** **10 07 57.1 +4.0**
57nm,23.4s
TAOE *e*LR LR 10 13 41.5
649nm,25.9s
DOT Dot Lake 44.98 339 *e*P **P** **10 01 25.9 +2.1**
2.1nm,0.9s
SCRK Sand Creek 45.18 340 *e*P **P** **10 01 27.2 +1.7**
7.7nm,1.1s
IL1 Eielson Array 46.65 339 *e*P **P** **10 01 37.2 +0.3**
ILAR Eielson Array 46.65 339 P **P** **10 01 34.2 -2.7**
3.9nm,0.8s,baz=151,slow=6.7,SNR=39
ILAR PcP **PcP** **10 03 07.8 -2.7**
0.4nm,0.8s,baz=157,slow=4.9,SNR=2.6
ILB Eielson Array 46.65 339 *e*P **P** **10 01 37.1 +0.1**
WRH Wood River Hil 46.85 339 *e*P **P** **10 01 38.8 +0.4**
3.2nm,0.9s
TRF Thorofare Moun 46.98 337 *e*P **P** **10 01 39.6 -0.1**
14nm,1.2s
PPLA Purkeypile 47.36 335 *e*P **P** **10 01 43.8 +1.1**
13nm,1.1s
IM3 Indian Mountai 49.66 338 *e*P **P** **10 02 00.6 +0.4**
RKT Rikitea 53.22 209 *e*LQ LQ 10 15 36.2
334nm,29.5s
PTGA Pitinga 54.68 110 P **P** **10 02 37.7 -0.5**
7.7nm,0.9s,baz=308,slow=9.8,SNR=14
PTGA Pitinga 54.68 110 *e*P **P** **10 02 38.1 -0.1**
9.8nm,0.9s
PPT2 Papeete2 56.91 226 *e*S **S** **10 10 50.9 +3.1**
93nm,27.5s
PPT2 *e*LR LR 10 19 24.7
419nm,23.5s
CPUP Villa Florida 71.84 131 P **P** **10 04 31.0 -0.8**
6.2nm,0.9s,baz=327,slow=7.8,SNR=13
CPUP Villa Florida 71.84 131 *e*P **P** **10 04 31.6 -0.2**
7.6nm,1.0s
BDFB Brasilia 72.57 117 P **P** **10 04 36.2 -0.3**
3.2nm,0.8s,baz=31,slow=5.9,SNR=3.9
PLCA Paso Flores 74.67 150 P **P** **10 04 48.9 +0.6**
3.1nm,0.9s,baz=354,slow=8.1,SNR=6.3
PLCA Paso Flores 74.67 150 *e*P **P** **10 04 49.1 +0.8**
2.3nm,0.8s
ARA0 ARCESS Array S 80.87 14 *e*P **P** **10 05 21.0 -1.4**
ARCES ARCESS Array B 80.87 14 P **P** **10 05 21.0 -1.4**
6.2nm,1.0s,baz=329,slow=3.4,SNR=4.4
ARCES ARCESS Array B 80.87 14 *e*P **P** **10 05 23.8 +1.3**
NB2 NORSAR Subarra 82.45 25 P **P** **10 05 29.2 -1.8**
comp=Z,31nm,1.7s,baz=310,slow=5.3
NB2 NORSAR Subarra 82.45 25 *e*P **P** **10 05 29.2 -1.8**
baz=310,slow=5.3
NB200 NORSAR Array S 82.45 25 *e*P **P** **10 05 29.5 -1.5**
NOA NORSAR Array B 82.45 25 P **P** **10 05 29.5 -1.5**
comp=Z,2.6nm,0.9s,baz=310,slow=5.2,SNR=9.1
HFS Hagfors 83.98 25 P **P** **10 05 37.8 -1.0**
comp=Z,2.9nm,0.8s,baz=208,slow=8.1,SNR=4.5
NRIK Nori'sk 85.46 354 LR LR 10 46 34.2
comp=Z,51nm,19.0s,baz=29,slow=38
GERES GERESS Array B 91.36 33 LR LR 10 45 50.8
comp=Z,138nm,21.9s,baz=300,slow=35
DZM Mont Dzumac 93.35 247 *e*LR LR 10 36 21.3
comp=Z,216nm,24.9s
KEST Kesra 97.09 46 LR LR 10 49 39.2
comp=Z,124nm,19.0s,baz=272,slow=35
LZH Lanzhou 111.65 331 *e*PKP **PKiKP** **10 11 39.7 -4.3**
LZH pPKP pPKP 10 11 49.3
LZH sPKP sPKP 10 11 57.0
WRAB Tennant Creek 120.64 261 *e*PKPdf **PKPdf** **10 12 02.1 +0.7**
WB2 Warramunga Arr 120.64 261 *e*PKPdf **PKPdf** **10 12 02.0 +0.7**
WR1 Warramunga Arr 120.65 261 *e*PKPdf **PKPdf** **10 11 58.1 -3.2**
WRA Warramunga Arr 120.65 261 PKP **PKPdf** **10 11 58.1 -3.2**
comp=Z,0.8nm,0.8s,baz=68,slow=2.4,SNR=4.9
AS01 Alice Springs 122.03 257 *e*PKPdf **PKPdf** **10 12 02.5 -1.5**
ASAR Alice Springs 122.07 257 PKP **PKPdf** **10 12 01.0 -3.0**
comp=Z,1.3nm,1.1s,baz=69,slow=3.1,SNR=6.0
CM31 Chiang Mai Arr 128.69 324 *e*PKPdf **PKPdf** **10 12 17.1 +0.2**
CMAR Chiang Mai Arr 128.69 324 PKP **PKPdf** **10 12 17.1 +0.2**
comp=Z,0.8nm,0.3s,baz=328,slow=2.3,SNR=6.8

*ISCJB **04** 09:59:52.0±0.8, 9.°64S±0.°06×74.°62W±0.°05, h132km±8km, mb4.0/76, Error ellipse: s-maj=10.0km s-min=8.1km az=37.2*
*NEIC **04** 09:59:53.5±0.5, 9.°67S×74.°56W, h131km±5km, mb4.1/70, Error ellipse: s-maj=7.4km s-min=4.4km az=53.0*
*IDC **04** 09:59:53.2±1.8, 9.°73S×74.°68W, h134km±20km, mb3.6/11, mb1 3.8/15, mb1mx3.6/48, mbtmp4.0/15, MS4.1/1, Ms1 4.1/1, ms1mx2.6/23, Error ellipse: s-maj=21.5km s-min=15.1km az=27.0*

ISC 04 09:59:53.4±0.9, 9.°73S±0.°06×74.°65W±0.°08, h134km±9km, n128, σ0♯95/135, mb4.1/76, Central Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.11**	**224**	P		**Pn**		**10 00 41.5**	**-0.2**
	72nm,0.3s,baz=40,slow=6.5,SNR=152								
NNA				S		**Sn**		**10 01 18.3**	**-0.7**
	161nm,0.3s,baz=298,slow=11,SNR=19								
NNA	**Nana**	**3.11**	**224**	*e*Pn		**Pn**		**10 00 41.4**	**-0.3**
NNA				*e*Sn		**Sn**		**10 01 17.8**	**-1.2**
ATAH	**Atahualpa**	**4.52**	**305**	P		**Pn**		**10 00 59.7**	**-0.9**
	3.9nm,0.3s,baz=110,slow=1.6,SNR=52								
ATAH				S		Sn		10 01 42.6	-10
	6.4nm,0.3s,baz=100,slow=7.3,SNR=5.3								
LPAZ	**La Paz**	**9.10**	**136**	P		**Pn**		**10 02 04.2**	**+1.9**
	0.1nm,0.3s,baz=1.8,slow=6.8,SNR=6.7								
LPAZ	**La Paz**	**9.10**	**136**	*e*Pn		**Pn**		**10 02 03.6**	**+1.3**
MNMC	**Minye Minye**	**10.55**	**153**	*e*Pn		**Pn**		**10 02 22.4**	**+1.1**
OTAV	**Otavalo**	**10.60**	**339**	*e*Pn		**Pn**		**10 02 24.5**	**+2.3**
PB11	**IPOC Station P**	**11.08**	**155**	*e*Pn		**Pn**		**10 02 29.6**	**+1.3**
SAML	**Samuel**	**11.34**	**87**	*e*Pn		**Pn**		**10 02 28.6**	**-3.0**
RUSC	**La Rusia**	**15.60**	**6**	*e*P		**P**		**10 03 30.0**	**+2.1**
ZARC	**Zaragoza, Cauc**	**17.11**	**359**	*e*P		**Pn**		**10 03 45.1**	**+0.5**
PTGA	**Pitinga**	**17.12**	**59**	P		**Pn**		**10 03 44.7**	**-0.1**
	3.8nm,0.3s,baz=238,slow=18,SNR=24								
PTGA	**Pitinga**	**17.12**	**59**	*e*P		**Pn**		**10 03 44.3**	**-0.5**
	14nm,1.0s								
MOTC	**Monteria, Cord**	**18.41**	**357**	*e*P		**Pn**		**10 04 00.1**	**-0.1**
SMLC	**San Mart`n de**	**18.42**	**2**	*e*P		**P**		**10 03 57.9**	**-0.6**
CODC	**Agust`n Codaz**	**19.57**	**4**	*e*P		**P**		**10 04 06.8**	**-4.2**
HDC	**Heredia**	**21.75**	**334**	*e*P		**P**		**10 04 35.6**	**+1.0**
	23nm,0.6s								
BDFB	**Brasilia**	**26.62**	**105**	P		**P**		**10 05 18.6**	**-1.2**
	1.3nm,0.5s,baz=252,slow=6.4,SNR=3.4								
BDFB	**Brasilia**	**26.62**	**105**	*e*P		**P**		**10 05 20.4**	**+0.6**
	2.0nm,0.7s								
TEIG	**Tepich**	**32.65**	**336**	*e*P		**P**		**10 06 13.5**	**+0.7**
	12nm,1.0s								
RPN	**Rapa Nui**	**37.01**	**237**	LR		LR		10 19 24.7	
	comp=Z,300nm,20.1s,baz=337,slow=32								
555A	**McAlpin**	**40.42**	**349**	*e*P		**P**		**10 07 19.6**	**+1.0**
	11nm,1.1s								
LNIG	**Linares**	**42.08**	**325**	*e*P		**P**		**10 07 33.0**	**+0.8**
	3.0nm,1.0s								
CPCT	**Cooper Cave**	**45.89**	**349**	*e*P		**P**		**10 08 02.4**	**-0.2**
	2.6nm,0.9s								
V51A	**Loudon**	**46.20**	**349**	*e*P		**P**		**10 08 04.6**	**-0.3**
	0.8nm,0.8s								
V48A	**Smith Brothers**	**46.66**	**346**	*e*P		**P**		**10 08 07.9**	**-0.6**
	3.4nm,0.7s								
TZTN	**Tazewell**	**46.78**	**350**	*e*P		**P**		**10 08 08.9**	**-0.6**
	5.5nm,1.0s								
WVT	**Waverly**	**47.27**	**345**	*e*P		**P**		**10 08 12.2**	**-1.0**
W41B	**Gary Mavity, V**	**47.66**	**340**	*e*P		**P**		**10 08 15.6**	**-0.7**
	1.2nm,0.9s								
WHAR	**Wooly Hollow**	**47.78**	**340**	*e*P		**P**		**10 08 16.8**	**-0.4**
	0.3nm,0.5s								
LTX	**Lajitas**	**47.87**	**325**	*e*P		**P**		**10 08 18.6**	**+0.5**
LTX				*e*PcP		**PcP**		**10 09 44.4**	**-0.3**
TX31	**Lajitas Ar. Si**	**47.87**	**325**	*e*P		**P**		**10 08 18.6**	**+0.5**
TX31				*e*PcP		**PcP**		**10 09 45.4**	**+0.7**
TXAR	**Lajitas Array**	**47.87**	**325**	P		**P**		**10 08 18.6**	**+0.5**
	2.0nm,0.4s,baz=150,slow=8.7,SNR=27								
TXAR				PcP		**PcP**		**10 09 44.4**	**-0.3**
	0.2nm,0.6s,baz=161,slow=5.7,SNR=2.7								
W39A	**Magazine**	**48.21**	**339**	*e*P		**P**		**10 08 21.1**	**+0.6**
	1.5nm,1.0s								
X37A	**Clayton**	**48.26**	**337**	*e*P		**P**		**10 08 21.8**	**+0.9**
	1.1nm,0.8s								
ABTX	**Abilene, Hawle**	**48.40**	**332**	*e*P		**P**		**10 08 22.6**	**+0.6**
	5.1nm,0.7s								
PBMO	**Poplar Bluff**	**48.58**	**343**	*e*P		**P**		**10 08 22.4**	**-0.9**
	2.6nm,0.3s								
T42A	**Van Buren**	**49.01**	**343**	*e*P		**P**		**10 08 25.4**	**-1.1**
	4.7nm,0.7s								
FVM	**French Village**	**49.71**	**344**	*e*P		**P**		**10 08 31.1**	**-0.8**
	1.2nm,0.4s								
CCM	**Cadral Cave**	**50.01**	**343**	*e*P		**P**		**10 08 33.4**	**-0.7**
N59A	**State Game Lan**	**50.40**	**359**	*e*P		**P**		**10 08 38.3**	**+1.2**
	5.2nm,1.0s								
KSPA	**Keystone Colle**	**51.04**	**359**	*e*P		**P**		**10 08 42.4**	**+0.6**
	10nm,1.1s								
SFIN	**Lafayette**	**51.17**	**348**	*e*P		**P**		**10 08 41.4**	**-1.4**
	1.9nm,0.4s								
P42A	**Winchester**	**51.18**	**344**	*e*P		**P**		**10 08 41.9**	**-1.0**
	9.7nm,0.5s								
BINY	**Binghamton**	**51.69**	**359**	*e*P		**P**		**10 08 47.1**	**+0.4**
	9.4nm,1.1s								
N39A	**Derby Farms, D**	**52.98**	**343**	*e*P		**P**		**10 08 55.5**	**-0.7**
	4.0nm,1.0s								
ANMO	**Albuquerque**	**53.67**	**327**	P		**P**		**10 09 01.5**	**-0.1**
	0.6nm,0.3s,baz=161,slow=4.0,SNR=4.2								
ANMO	**Albuquerque**	**53.67**	**327**	*e*P		**P**		**10 09 02.2**	**+0.6**
	0.3nm,0.3s								
FRNY	**Flat Rock**	**54.32**	**1**	*e*P		**P**		**10 09 06.8**	**+0.9**
	6.8nm,1.0s								
SADO	**Sadowa**	**54.40**	**356**	*e*P		**P**		**10 09 05.5**	**-0.9**
	6.0nm,0.9s								
GGN	**Saint George**	**55.04**	**7**	*e*P		**P**		**10 09 09.8**	**-1.2**
	14nm,1.1s								
SDCO	**Great Sand Dun**	**55.35**	**330**	*e*P		**P**		**10 09 14.5**	**+0.7**
H41A	**Junction City**	**55.77**	**347**	*e*P		**P**		**10 09 15.8**	**-0.5**
	0.9nm,0.3s								
X16A	**Lo Mia Camp, P**	**56.07**	**323**	*e*P		**P**		**10 09 20.2**	**+1.3**
	2.2nm,1.0s								
E43A	**Lone Tree Farm**	**56.94**	**350**	*e*P		**P**		**10 09 23.7**	**-0.8**
	12nm,1.1s								
PV01	**Paradox Valley**	**57.19**	**328**	*e*P		**P**		**10 09 27.6**	**+0.7**
PV02	**Paradox Valley**	**57.34**	**328**	*e*P		**P**		**10 09 28.4**	**+0.5**
	1.8nm,0.7s								
PV13	**Radium Mtn., P**	**57.34**	**328**	*e*P		**P**		**10 09 28.2**	**+0.3**
	2.6nm,0.6s								
PV12	**Saucer Basin,**	**57.45**	**328**	*e*P		**P**		**10 09 28.6**	**0.0**
	2.5nm,1.1s								
KNB	**Kanab**	**58.69**	**325**	*e*P		**P**		**10 09 38.8**	**+1.5**
	5.5nm,1.1s								
MTPU	**Mount Pierson**	**59.06**	**326**	*e*P		**P**		**10 09 40.8**	**+0.9**
	0.8nm,0.7s								
P17A	**Butcher Ranch,**	**59.32**	**328**	*e*P		**P**		**10 09 41.7**	**+0.2**
TMUT	**Trail Mountain**	**59.44**	**328**	*e*P		**P**		**10 09 43.8**	**+1.3**
	0.4nm,0.3s								
PSUT	**Pine Spring**	**60.34**	**325**	*e*P		**P**		**10 09 49.7**	**+1.1**
	3.0nm,1.0s								
JLU	**Jordanelle**	**60.52**	**328**	*e*P		**P**		**10 09 50.6**	**+0.9**
	1.4nm,0.6s								
TPNV	**Topaph Spring**	**60.66**	**322**	*e*P		**P**		**10 09 52.1**	**+1.5**
	2.2nm,0.9s								
AGMN	**Agassiz Nation**	**60.75**	**344**	*e*P		**P**		**10 09 50.6**	**-0.2**
DUG	**Dugway, Tooele**	**60.94**	**327**	*e*P		**P**		**10 09 53.4**	**+0.9**
	4.3nm,1.0s								
R11A	**Troy Canyon, C**	**61.20**	**324**	*e*P		**P**		**10 09 55.4**	**+1.1**
	1.6nm,0.6s								
PD31	**Pinedale Array**	**61.20**	**331**	*e*P		**P**		**10 09 54.6**	**+0.2**
PD31				*e*PcP		**PcP**		**10 10 35.0**	**-0.8**
PDAR	**Pinedale Array**	**61.20**	**331**	P		**P**		**10 09 53.6**	**-0.7**
	0.3nm,0.4s,baz=125,slow=9.8,SNR=5.2								
PDAR				PcP		**PcP**		**10 10 34.6**	**-1.2**
	0.2nm,0.5s,baz=128,slow=7.0,SNR=2.5								
PDAR	**Pinedale Array**	**61.20**	**331**	*e*P		**P**		**10 09 54.4**	**0.0**
PDAR				PcP		**PcP**		**10 10 34.5**	**-1.2**
BW06	**Boulder Array**	**61.20**	**331**	*e*P		**P**		**10 09 53.0**	**-1.3**
	0.3nm,0.9s								
ISA	**Isabella, Lake**	**61.21**	**320**	*e*P		**P**		**10 09 55.6**	**+1.3**
	1.6nm,1.1s								
HWUT	**Hardware Ranch**	**61.32**	**329**	*e*P		**P**		**10 09 54.8**	**-0.2**
	4.1nm,0.7s								
SPUT	**South Promonto**	**61.55**	**328**	*e*P		**P**		**10 09 57.1**	**+0.4**
	1.4nm,0.9s								
BGU	**Big Grassy Mou**	**61.58**	**328**	*e*P		**P**		**10 09 56.9**	**+0.1**
	1.9nm,1.2s								
AHID	**Auburn Hatcher**	**61.95**	**330**	*e*P		**P**		**10 09 59.8**	**+0.5**
	3.9nm,0.8s								
HVU	**Hansel Valley**	**62.06**	**328**	*e*P		**P**		**10 10 01.0**	**+1.0**
REDW	**Red Top Meadow**	**62.27**	**331**	*e*P		**P**		**10 10 01.7**	**+0.2**
	0.7nm,0.8s								
SNOW	**Snow King Moun**	**62.30**	**331**	*e*P		**P**		**10 10 01.7**	**0.0**
	1.2nm,1.1s								
TPAW	**Teton Pass**	**62.42**	**331**	*e*P		**P**		**10 10 02.8**	**+0.3**
	1.4nm,1.1s								
ULM	**Lac du Bonnet**	**62.54**	**345**	P		**P**		**10 10 01.4**	**-1.3**
	2.9nm,0.4s,baz=168,slow=6.8,SNR=7.6								
ULM	**Lac du Bonnet**	**62.54**	**345**	*e*P		**P**		**10 10 02.0**	**-0.8**
	4.7nm,0.8s								
FXWY	**Fox Creek**	**62.56**	**331**	*e*P		**P**		**10 10 03.7**	**+0.3**
FLWY	**Flagg Ranch**	**62.74**	**332**	*e*P		**P**		**10 10 05.5**	**+0.9**
	4.6nm,0.9s								
OMMB	**Old Mammoth Mi**	**62.76**	**321**	*e*P		**P**		**10 10 05.9**	**+0.9**
	2.7nm,0.8s								
NV11	**Mina Array Sit**	**62.77**	**323**	*e*P		**P**		**10 10 05.6**	**+0.8**
MDPB	**Devils Postpil**	**62.82**	**321**	*e*P		**P**		**10 10 06.2**	**+1.0**
	1.5nm,0.6s								
NV01	**Mina Array Sit**	**62.86**	**322**	*e*P		**P**		**10 10 06.5**	**+1.0**
NVAR	**Mina Array Bea**	**62.86**	**322**	P		**P**		**10 10 05.6**	**+0.1**
	0.9nm,0.8s,baz=147,slow=7.1,SNR=8.2								
RLMT	**Red Lodge**	**62.89**	**333**	*e*P		**P**		**10 10 05.7**	**+0.2**
YHH	**Holmes Hill**	**63.35**	**332**	*e*P		**P**		**10 10 10.0**	**+1.3**
	1.2nm,0.7s								
YHB	**Horse Butte**	**63.48**	**332**	*e*P		**P**		**10 10 10.2**	**+0.7**
	3.3nm,1.1s								
WAKR	**Walker**	**63.59**	**322**	*e*P		**P**		**10 10 11.8**	**+1.6**
	0.9nm,1.1s								
PNTR	**Pine Nut**	**64.06**	**322**	*e*P		**P**		**10 10 14.7**	**+1.4**
	2.3nm,0.7s								
HLID	**Hailey**	**64.18**	**329**	*e*P		**P**		**10 10 14.3**	**+0.3**
	0.9nm,0.6s								
VCNR	**Virginia City**	**64.22**	**322**	*e*P		**P**		**10 10 15.5**	**+1.1**
	3.3nm,0.8s								
PAHR	**Pah Rah Range**	**64.32**	**323**	*e*P		**P**		**10 10 16.3**	**+1.3**
	5.1nm,1.0s								
BOZ	**Bozeman (W)**	**64.32**	**332**	*e*P		**P**		**10 10 15.4**	**+0.5**
	2.2nm,0.8s								
MCMT	**McKenzie Canyo**	**64.32**	**331**	*e*P		**P**		**10 10 15.6**	**+0.6**
BEKR	**Beckworth**	**65.00**	**323**	*e*P		**P**		**10 10 20.2**	**+0.8**
	1.9nm,0.8s								
MOD	**Modoc Plateau**	**66.26**	**324**	*e*P		**P**		**10 10 28.2**	**+0.8**
	2.5nm,0.6s								
MSO	**Missoula**	**66.31**	**332**	*e*P		**P**		**10 10 28.6**	**+1.0**
	2.2nm,0.9s								
K05A	**Summer Lake**	**67.12**	**325**	*e*P		**P**		**10 10 33.4**	**+0.5**
	2.7nm,0.8s								
YBH	**Yreka Blue Hor**	**67.56**	**323**	P		**P**		**10 10 34.7**	**-0.8**
	0.6nm,0.5s,baz=315,slow=7.7,SNR=3.9								
G06A	**Carlson Farm,**	**68.58**	**327**	*e*P		**P**		**10 10 43.1**	**+1.2**
NEW	**Newport**	**68.84**	**331**	P		**P**		**10 10 43.4**	**0.0**
	0.8nm,0.6s,baz=225,slow=4.3,SNR=2.4								
NEW	**Newport**	**68.84**	**331**	*e*P		**P**		**10 10 43.7**	**+0.3**
	1.6nm,1.1s								
B08A	**Colville Reser**	**69.98**	**330**	*e*P		**P**		**10 10 50.3**	**0.0**
	0.8nm,0.6s								
SNAA	**Sanae**	**75.13**	**162**	*e*P		**P**		**10 11 21.4**	**+0.9**
	0.9nm,1.0s								
YKA	**Yellowknife Ar**	**78.34**	**342**	P		**P**		**10 11 37.7**	**-0.8**
	0.7nm,0.6s,baz=148,slow=6.2,SNR=3.0								
TOA1	**Torodi Ar. Sit**	**79.11**	**75**	*e*P		**P**		**10 11 44.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**79.11**	**75**	P		**P**		**10 11 44.0**	**+0.3**
	0.4nm,0.2s,baz=267,slow=4.6								
ILAR	**Eielson Array**	**91.31**	**336**	P		**P**		**10 12 43.1**	**-0.3**
	0.4nm,0.7s,baz=142,slow=2.1,SNR=7.0								
ASAR	**Alice Springs**	**136.63**	**220**	PKP		**PKPdf**		**10 19 00.3**	**-0.3**
	0.7nm,0.6s,baz=128,slow=1.8,SNR=9.0								
MK32	**Wakanchi Array**	**138.17**	**24**	*e*PKPdf		**PKPdf**		**10 19 02.6**	**-0.2**
MKAR	**Makanchi Array**	**138.17**	**24**	PKP		**PKPdf**		**10 19 02.6**	**-0.2**
	0.2nm,0.5s,baz=5.7,slow=1.4,SNR=2.6								
WR1	**Warramunga Arr**	**138.97**	**224**	*e*PKPdf		**PKPdf**		**10 19 04.5**	**-0.5**
WRA	**Warramunga Arr**	**138.97**	**224**	PKP		**PKPdf**		**10 19 04.5**	**-0.5**
	0.7nm,0.4s,baz=119,slow=2.1,SNR=23								
KS01	**Wonju Array Si**	**145.70**	**327**	*e*PKPdf		**PKPab**		**10 19 17.8**	**+0.3**
KSRS	**Korea Array**	**145.70**	**327**	PKPbc		**PKPdf**		**10 19 16.7**	**+0.3**
	1.3nm,0.7s,baz=48,slow=4.7,SNR=4.4								
KSAR	**Wonju Array Be**	**145.73**	**327**	PKPbc		**PKPdf**		**10 19 16.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**145.86**	**216**	*e*PKPdf		**PKPab**		**10 19 18.6**	**0.0**
MTN	**Manton Dam**	**145.97**	**229**	*e*PKPdf		**PKPbc**		**10 19 18.5**	**0.0**
MBWA	**Marble Bar**	**146.21**	**205**	*e*PKPdf		**PKPbc**		**10 19 18.8**	**-0.2**
BJT	**Baijiatuau**	**148.34**	**344**	*e*PKPbc		**PKPbc**		**10 19 24.2**	**-0.1**
SOEI	**Soe**	**153.00**	**225**	*e*PKPbc		**PKPbc**		**10 19 36.2**	**-0.1**

*IDC **04** 10:03:44.8±1.1, 24.°69N×110.°01W, h0km, mb3.5/2, mb1 3.7/5, mb1mx3.5/37, mbtmp3.2/5, ML3.8/3, Error ellipse: s-maj=29.5km s-min=7.9km az=113.0*
*MEX **04** 10:03:46.6±0.3, 24.°73N×110.°14W, h14km±7km, MD3.9*

ISC 04 10:03:45.9±0.9, 24.°69N±0.°06×110.°16W±0.°10, h15km, n8, σ1♯44/10, Baja California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**0.60**	**193**	Pg		**Pg**		**10 03 57.4**	**-0.3**
	487nm,0.3s,baz=2.9,slow=7.1,SNR=189								
LPIG				Lg		Lg		10 04 06.1	
	570nm,0.3s,baz=37,slow=20,SNR=53								
LPIG	**La Paz**	**0.60**	**193**	*e*P		**Pg**		**10 03 57.3**	**-0.3**
LPIG				*e*S		**Sg**		**10 04 05.6**	**-0.1**
SRIG	**Santa Rosalia**	**3.22**	**325**	*e*P		**Pn**		**10 04 33.9**	**-2.0**
TXAR	**Lajitas Array**	**7.41**	**50**	Pn		**Pn**		**10 05 32.9**	**-0.7**
	0.3nm,0.3s,baz=229,slow=13,SNR=17								
TXAR				Sn		**Sn**		**10 06 56.3**	**-1.3**
	0.1nm,0.3s,baz=232,slow=18,SNR=4.2								
TXAR				Lg		Lg		10 07 35.5	
	0.1nm,0.3s,baz=234,slow=29,SNR=3.3								
NVAR	**Mina Array Bea**	**15.34**	**335**	Pn		**P**		**10 07 27.1**	**+0.3**
	0.1nm,0.3s,baz=160,slow=12,SNR=5.3								
PDAR	**Pinedale Array**	**18.04**	**1**	P		**Pn**		**10 07 55.9**	**-0.3**
	0.1nm,0.3s,baz=181,slow=11,SNR=2.6

ANMO	Albuquerque	43.98	19	*e*P	P	10 15 24.6	+1.0
LCMT	Little Creek M	44.24	10	*e*P	P	10 15 26.9	+1.4
	4.5nm,0.9s						
MSTX	Muleshoe	44.42	23	*e*P	P	10 15 27.3	+0.3
	7.6nm,0.9s						
ABTX	Abilene, Hawle	44.61	28	*e*P	P	10 15 28.8	+0.4
	8.7nm,1.1s						
CCUT	Cedar City	44.74	10	*e*P	P	10 15 31.7	+2.1
	2.0nm,1.2s						
NV01	Mina Array Sit	44.98	4	*e*P	P	10 15 33.5	+2.0
NV01				*e*PcP	PcP	10 17 12.6	-0.1
NVAR	Mina Array Bea	44.98	4	P	P	10 15 32.7	+1.1
	1.6nm,0.7s,baz=189,slow=11,SNR=14						
NVAR				PcP	PcP	10 17 12.6	-0.1
	0.5nm,0.6s,baz=190,slow=3.7,SNR=5.8						
NV11	Mina Array Sit	45.00	5	*e*P	P	10 15 33.2	+1.6
	0.3nm,0.8s						
RYN	Ryan	45.17	4	*e*P	P	10 15 34.9	+2.0
	2.2nm,0.9s						
R11A	Troy Canyon, C	45.19	7	*e*P	P	10 15 34.5	+1.3
	0.7nm,0.8s						
YERR	Yerington	45.47	3	*e*P	P	10 15 37.1	+1.7
	4.7nm,0.9s						
MVCO	Mesa Verde	45.49	16	*e*P	P	10 15 36.3	+0.7
	4.1nm,0.8s						
MVCO				*e*PcP	PcP	10 17 14.3	-0.3
PNTR	Pine Nut	45.56	3	*e*P	P	10 15 37.7	+1.6
	3.9nm,0.7s						
PSUT	Pine Spring	45.62	9	*e*P	P	10 15 37.9	+1.4
	4.8nm,0.8s						
VCNR	Virginia City	45.76	3	*e*P	P	10 15 39.6	+1.9
	1.9nm,1.0s						
MSU	Marysvale	45.89	11	*e*P	P	10 15 40.5	+1.8
PAHR	Pah Rah Range	46.18	3	*e*P	P	10 15 42.6	+1.7
	2.2nm,0.9s						
BEKR	Beckworth	46.30	2	*e*P	P	10 15 43.4	+1.5
	2.6nm,1.1s						
PV13	Radium Mtn., P	46.30	15	*e*P	P	10 15 43.2	+1.2
	2.7nm,0.9s						
PV18	Skein Mesa, Pa	46.36	15	*e*P	P	10 15 43.4	+1.0
	3.8nm,0.7s						
PV17	East Wray Mesa	46.38	15	*e*P	P	10 15 43.0	+0.5
	7.4nm,0.9s						
PV03	Paradox Valley	46.38	15	*e*P	P	10 15 43.6	+0.9
PV11	David Mesa, Pa	46.42	15	*e*P	P	10 15 44.0	+1.1
	4.5nm,0.7s						
PV16	Nysw onger Mesa	46.42	15	*e*P	P	10 15 43.7	+0.8
	3.2nm,0.6s						
PV14	Lion Creek, Pa	46.45	14	*e*P	P	10 15 44.5	+1.3
	10nm,1.2s						
PV12	Saucer Basin,	46.45	15	*e*P	P	10 15 44.4	+1.2
	5.8nm,0.9s						
PV12				*e*PcP	PcP	10 17 17.7	-0.2
PV21	Cone Mtn., Par	46.64	14	*e*P	P	10 15 45.7	+1.0
	6.8nm,1.1s						
T25A	Trinidad	46.66	20	*e*P	P	10 15 45.5	+0.7
	5.5nm,0.9s						
PV22	Blue Mesa, Par	46.66	15	*e*P	P	10 15 45.8	+1.0
	3.2nm,1.1s						
SDCO	Great Sand Dun	46.85	18	*e*P	P	10 15 47.0	+0.6
	0.1nm,0.8s						
WDC	Whiskeytown Da	46.98	360	*e*P	P	10 15 48.0	+1.0
	1.9nm,0.9s						
P17A	Butcher Ranch,	47.11	12	*e*P	P	10 15 49.1	+0.9
	3.2nm,1.2s						
P18A	Preston Nutter	47.36	13	*e*P	P	10 15 51.6	+1.3
	3.5nm,1.1s						
DUG	Dugway, Tooele	47.41	10	*e*P	P	10 15 52.3	+1.7
	4.1nm,1.1s						
MPU	Maple Canyon	47.45	11	*e*P	P	10 15 52.4	+1.5
JLU	Jordanelle	48.05	11	*e*P	P	10 15 57.0	+1.3
	4.7nm,1.0s						
CTU	Camp Tracy	48.09	11	*e*P	P	10 15 57.4	+1.6
	2.3nm,0.9s						
BGU	Big Grassy Mou	48.09	9	*e*P	P	10 15 56.8	+1.0
	1.6nm,0.8s						
YBH	Yreka Blue Hor	48.13	360	P	P	10 15 56.9	+0.9
	2.8nm,1.0s,baz=198,slow=3.2,SNR=4.7						
O20A	White River Ci	48.31	14	*e*P	P	10 15 58.6	+1.0
	2.3nm,0.8s						
MOD	Modoc Plateau	48.33	2	*e*P	P	10 15 58.6	+0.9
	4.9nm,1.0s						
ISCO	Idaho Springs	48.71	17	*e*P	P	10 16 01.4	+0.5
	2.5nm,0.8s						
WVOR	Wild Horse Val	48.95	4	*e*P	P	10 16 03.7	+1.4
	3.9nm,0.9s						
KSCO	Kaye Shedlock'	48.95	20	*e*P	P	10 16 03.5	+1.0
	7.2nm,0.8s						
HVU	Hansel Valley	48.96	9	*e*P	P	10 16 02.9	+0.4
	1.8nm,0.8s						
HUMO	Hull Mountain	49.01	359	*e*P	P	10 16 04.7	+2.0
	4.6nm,1.1s						
HWUT	Hardware Ranch	49.01	11	*e*P	P	10 16 03.6	+0.7
	6.3nm,1.1s						
K05A	Summer Lake	49.14	1	*e*P	P	10 16 05.2	+1.3
	6.0nm,1.0s						
ROSC	El Rosal	49.26	78	LR	LR	10 33 14.4	
	comp=Z,80nm,18.2s,baz=249,slow=32						
CCAR	Cane Creek	49.63	34	*e*P	P	10 16 10.4	+2.8
	22nm,1.2s						
J08A	Circle Bar Ran	49.88	4	*e*P	P	10 16 11.0	+1.6
	4.7nm,0.8s						
PINE	Pine Mountain	50.20	1	*e*P	P	10 16 14.9	+2.9
	3.7nm,1.0s						
HHAR	Hobbs	50.31	30	*e*P	P	10 16 12.4	-0.3
HLID	Hailey	50.47	7	*e*P	P	10 16 15.7	+1.7
	0.6nm,0.6s						
PDAR	Pinedale Array	50.52	12	P	P	10 16 14.3	-0.1
	0.9nm,0.8s,baz=179,slow=6.8,SNR=6.1						
PDAR				PcP	PcP	10 17 31.3	-1.1
	0.3nm,0.6s,baz=178,slow=5.4,SNR=2.8						
PDAR				LR	LR	10 34 06.9	
	comp=Z,77nm,18.4s,baz=250,slow=32						
PDAR	Pinedale Array	50.52	12	*e*P	P	10 16 15.4	+1.0
PDAR				PcP	PcP	10 17 31.3	-1.1
REDW	Red Top Meadow	50.84	11	*e*P	P	10 16 17.5	+0.7
	0.5nm,0.4s						
TPAW	Teton Pass	50.94	11	*e*P	P	10 16 18.1	+0.4
	3.0nm,0.8s						
SNOW	Snow King Moun	50.95	11	*e*P	P	10 16 18.4	+0.7
	0.9nm,0.4s						
FXWY	Fox Creek	51.07	11	*e*P	P	10 16 19.1	+0.6
	0.8nm,0.8s						
K22A	Casper	51.12	15	*e*P	P	10 16 19.2	+0.3
MOOW	Moose Ponds	51.23	11	*e*P	P	10 16 19.6	-0.2
	3.4nm,1.1s						
IMW	Indian Meadow	51.34	11	*e*P	P	10 16 20.9	+0.2
	5.8nm,0.8s						
FLWY	Flagg Ranch	51.56	11	*e*P	P	10 16 23.3	+1.0
	7.4nm,0.8s						
G08A	Pilot Rock	51.77	3	*e*P	P	10 16 25.3	+1.6
	3.1nm,0.8s						
MCMT	McKenzie Canyo	51.93	9	*e*P	P	10 16 26.8	+1.8
YHH	Holmes Hill	52.22	10	*e*P	P	10 16 28.8	+1.5
	3.3nm,0.7s						
F10A	Beach Ranch, E	52.57	4	*e*P	P	10 16 30.0	+0.4
	3.0nm,0.9s						
RLMT	Red Lodge	52.84	12	*e*P	P	10 16 32.1	+0.3
HAWA	Hanford	52.85	2	*e*P	P	10 16 32.3	+0.8
	0.6nm,0.3s						
LTY	Liberty	53.67	1	*e*P	P	10 16 38.1	+0.4
MSO	Missoula	53.74	7	*e*P	P	10 16 39.4	+1.1
	5.8nm,0.9s						
LPAZ	La Paz	53.84	105	P	P	10 16 40.4	+0.4
	1.8nm,0.7s,baz=325,slow=6.3,SNR=8.5						
LPAZ				LR	LR	10 36 01.2	
	comp=Z,70nm,18.3s,baz=302,slow=32						
B08A	Colville Reser	54.82	2	*e*P	P	10 16 46.6	+0.6
	6.3nm,0.7s						
NEW	Newport	54.85	4	P	P	10 16 46.3	+0.1
	1.2nm,0.7s,baz=162,slow=8.2,SNR=5.6						
NEW	Newport	54.85	4	*e*P	P	10 16 46.9	+0.7
	1.6nm,0.7s						
ECSD	EROS Data Cent	55.27	22	*e*P	P	10 16 50.2	+0.9
	1.0nm,0.7s						
T49A	Edmonton	55.45	36	*e*P	P	10 16 50.3	-0.4
	1.6nm,0.5s						
TKL	Tuckaleechee C	55.52	38	P	P	10 16 50.6	-0.6
	1.9nm,0.9s,baz=292,slow=5.4,SNR=2.8						
HDIL	Hopedale	55.93	30	*e*P	P	10 16 52.8	-1.2
	6.6nm,0.8s						
PLCA	Paso Flores	57.20	135	P	P	10 17 05.5	+2.2
	1.9nm,0.8s,baz=356,slow=10,SNR=4.4						
PLCA				LR	LR	10 35 27.4	
	comp=Z,85nm,20.6s,baz=286,slow=30						
SAML	Samuel	58.59	96	*e*P	P	10 17 12.5	-0.9
	3.4nm,1.0s						
I42A	Draeger Farm,	58.65	28	*e*P	P	10 17 13.5	+0.3
	11nm,1.1s						
G42A	Mountain	59.91	27	*e*P	P	10 17 21.4	-0.5
	4.8nm,0.9s						
F41A	Three Lakes	59.99	26	*e*P	P	10 17 21.8	-0.7
	5.9nm,0.7s						
CBYP	Canovanas	60.94	65	*e*P	P	10 17 27.9	-1.7
	8.7nm,1.0s						
ULM	Lac du Bonnet	61.12	19	P	P	10 17 29.0	-1.0
	4.1nm,0.5s,baz=206,slow=5.8,SNR=14						
ULM	Lac du Bonnet	61.12	19	*e*P	P	10 17 29.3	-0.7
	1.4nm,0.6s						
M54A	Oil Creek Stat	61.77	35	*e*P	P	10 17 34.4	-0.3
	7.1nm,0.8s						
SSPA	Standing Stone	62.27	37	*e*P	P	10 17 38.5	+0.5
	3.3nm,0.8s						
SADO	Sadowa	64.19	33	*e*P	P	10 17 49.7	-1.0
	8.9nm,1.1s						
BINY	Binghamton	64.35	37	*e*P	P	10 17 52.4	+0.5
	8.0nm,1.1s						
CPUP	Villa Florida	64.70	116	P	P	10 17 54.5	+0.1
	2.2nm,0.8s,baz=271,slow=10.0,SNR=6.2						
CPUP				LR	LR	10 40 22.6	
	comp=Z,45nm,21.9s,baz=290,slow=31						
DLBC	Dease Lake	65.15	356	*e*P	P	10 17 58.1	+1.3
PLVO	Plevna	65.48	34	*e*P	P	10 17 58.9	-0.2
	10.0nm,1.1s						
NCB	Newcomb	66.45	36	*e*P	P	10 18 05.0	-0.4
	11nm,1.1s						
WHY	Whitehorse	67.81	353	*e*P	P	10 18 14.8	+1.0
	3.8nm,0.7s						
HYT	Haines Junctio	68.30	352	*e*P	P	10 18 18.1	+1.2
YKA	Yellowknife Ar	69.18	4	P	P	10 18 22.1	0.0
	2.7nm,0.6s,baz=183,slow=6.3,SNR=12						
YKB5	Yellowknife Ar	69.18	4	*e*P	P	10 18 22.1	0.0
BALM	Baldy	69.26	350	*e*P	P	10 18 23.4	+0.6
	8.9nm,1.0s						
CHGN	Chignik	69.38	339	*e*P	P	10 18 23.3	-0.2
	93nm,0.6s						
CHGN				*e*PcP	PcP	10 18 45.3	-1.6
BMRM	Bremner River	69.62	349	*e*P	P	10 18 25.9	+0.9
	13nm,1.2s						
BRLK	Bradley Lake	69.96	345	*e*P	P	10 18 27.5	+0.4
	20nm,1.2s						
KLU	Klutina	70.36	348	*e*P	P	10 18 30.3	+0.7
	13nm,1.2s						
DAWY	Dawson	71.67	352	*e*P	P	10 18 38.0	+0.5
	2.1nm,0.8s						
DOT	Dot Lake	71.99	350	*e*P	P	10 18 39.3	-0.1
	4.3nm,1.0s						
RIDG	Independ'e Rid	72.21	350	*e*P	P	10 18 41.1	+0.4
	8.8nm,0.8s						
SCRK	Sand Creek	72.28	350	*e*P	P	10 18 41.4	+0.2
EGAK	Eagle	72.59	352	*e*P	P	10 18 42.7	-0.2
	7.6nm,1.0s						
PPLA	Purkeypile	72.98	346	*e*P	P	10 18 45.1	-0.3
	9.3nm,1.2s						
TRF	Thorofare Moun	73.03	347	*e*P	P	10 18 45.7	-0.1
	8.4nm,1.0s						
BDFB	Brasilia	73.17	104	LR	LR	10 47 02.6	
	comp=Z,55nm,18.4s,baz=217,slow=33						
WRH	Wood River Hil	73.48	349	*e*P	P	10 18 48.2	0.0
	6.8nm,1.0s						
ILAR	Eielson Array	73.53	349	P	P	10 18 47.9	-0.6
	0.9nm,0.8s,baz=182,slow=6.5,SNR=9.4						
ILAR				LR	LR	10 46 28.4	
	comp=Z,62nm,18.3s,baz=164,slow=32						
CCB	Clear Creek Bu	73.59	349	*e*P	P	10 18 48.7	-0.1
	7.7nm,0.8s						
BPAW	Bear Paw Mtn.	73.75	347	*e*P	P	10 18 49.3	-0.5
	5.1nm,0.9s						
MDM	Murphy Dome	73.95	349	*e*P	P	10 18 51.0	0.0
	10nm,1.1s						
H11S2	WAKE ISLAND Hy	74.26	291	T	T	11 40 11.6	
	baz=103,slow=74,SNR=16						
H11S1	WAKE ISLAND Hy	74.27	291	T	T	11 40 12.3	
	baz=103,slow=74,SNR=18						
H11S3	WAKE ISLAND Hy	74.28	291	T	T	11 40 10.0	
	baz=103,slow=74,SNR=19						
H11N3	WAKE ISLAND Hy	74.34	293	T	T	11 40 17.7	
	baz=103,slow=74						
H11N2	WAKE ISLAND Hy	74.36	293	T	T	11 40 23.7	
	baz=103,slow=74						
H11N1	WAKE ISLAND Hy	74.36	293	T	T	11 40 32.8	
	baz=103						
MLY	Manley	74.51	348	*e*P	P	10 18 54.2	-0.1
	5.6nm,0.8s						
INK	Inuvik	75.18	356	*e*P	P	10 18 57.9	0.0
	3.7nm,0.8s						
SCHQ	Schefferville	76.58	29	P	P	10 19 05.3	-1.0
	5.8nm,0.7s,baz=236,slow=6.1,SNR=5.3						
SCHQ	Schefferville	76.58	29	*e*P	P	10 19 05.4	-0.9
	3.0nm,0.6s						
TOLK	Tok Lake Re	77.48	350	*e*P	P	10 19 12.0	+0.9
	5.0nm,1.1s						
DRLN	Deer Lake	79.03	37	*e*P	P	10 19 19.6	-0.4
	21nm,1.1s						
VNDA	Vanda	80.51	192	P	P	10 19 29.5	+1.9
	1.3nm,0.8s,baz=40,slow=3.0,SNR=3.9						
VNDA				LR	LR	10 47 09.4	
	comp=Z,36nm,21.6s,baz=128,slow=30						
PETK	Petropavlovsk-	89.27	324	P	P	10 20 12.4	+0.4
	2.0nm,0.8s,baz=94,slow=7.7,SNR=4.2						
PETK				LR	LR	10 51 22.7	
	comp=Z,22nm,21.9s,baz=101,slow=30						
PEA1	Petropavlovsk-	89.27	324	*e*P	P	10 20 12.4	+0.4
STKA	Stephens Creek	91.67	238	LR	LR	10 55 37.1	
	comp=Z,31nm,18.9s,baz=27,slow=32						
SONA0	Songino Array	121.76	323	*e*PKPdf	PKPdf	10 26 09.0	-1.3
SONM	Songino Array	121.76	323	PKP	PKPdf	10 26 09.0	-1.3
	0.5nm,0.8s,baz=350,slow=1.6,SNR=3.0						
TOA1	Torodi Ar. Sit	124.56	79	*e*PKPdf	PKPdf	10 26 14.9	-1.6
TOA0	Torodi Ar. Sit	124.57	79	*e*PKPdf	PKPdf	10 26 15.1	-1.3
TORD	Torodi Ar. Bea	124.57	79	PKP	PKPdf	10 26 14.9	-1.6
	0.8nm,0.9s,baz=270,slow=1.5,SNR=5.2						
AKASG	Malin Array Be	130.09	23	PKP	PKPdf	10 26 25.5	-0.5
	0.2nm,0.3s,baz=278,slow=2.7,SNR=2.8						
AKBB	Malin Array Si	130.09	23	*e*PKPdf	PKPdf	10 26 25.5	-0.5
MK32	Makanchi Array	134.74	336	*e*PKPdf	PKPdf	10 26 35.4	+0.4
MKAR	Makanchi Array	134.74	336	PKP	PKPdf	10 26 35.4	+0.4
	0.4nm,0.6s,baz=53,slow=2.1,SNR=4.9						
MK01	Makanchi Array	134.75	336	*e*PKPdf	PKPdf	10 26 35.1	+0.1
CMAR	Chiang Mai Arr	138.14	290	PKP	PKPdf	10 26 40.3	-1.7
	0.3nm,0.3s,baz=74,slow=1.1,SNR=3.1						
BR101	Keskin Array S	140.60	30	*e*PKPdf	PKPdf	10 26 45.1	-1.0
BRTR	Keskin Array B	140.60	30	PKP	PKPdf	10 26 45.1	-1.0
	0.9nm,0.7s,baz=263,slow=1.0,SNR=6.9						

NEIC ***04*** *10:18:56.4±0.0, 18°.22N×103°.36W, h14km, MD4.0(MEX), After MEX.*

MEX 04 10:18:56.4±0.7, 18°.22N×103°.36W, h14km±2km, MD4.0, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	Aquila	0.07	12	*e*Pg	Pg	10 18 57.8	-1.5
MMIG				*e*Sg	Sg	10 19 00.8	-0.4
MMIG	Aquila	0.07	12	*e*P	Pg	10 18 57.8	-1.5
MMIG				*e*S	Sg	10 19 00.8	-0.4
R15V		1.12	328	*e*P	Pb	10 19 13.7	-3.9
R15V				*e*S	Sb	10 19 27.6	-4.4
EZ5V		1.28	350	*e*P	Pn	10 19 16.8	-3.3
EZ5V				*e*S	Sb	10 19 31.7	-5.1
ZIIG	Zihuatanejo	1.90	108	*e*Pn	Pn	10 19 25.4	-3.1
ZIIG				*e*Sn	Sn	10 19 47.5	-4.7
ZIIG	Zihuatanejo	1.90	108	*e*P	Pn	10 19 25.4	-3.1
ZIIG				*e*S	Sn	10 19 47.5	-4.7
CJM	Chamela	2.04	309	*e*Pn	Pn	10 19 27.4	-2.9
CJM				*e*Sn	Sn	10 19 51.2	-4.4
CJM	Chamela	2.04	309	*e*P	Pn	10 19 27.4	-2.9
CJM				*e*S	Sn	10 19 51.2	-4.4
MOIG	Morelia	2.52	54	*e*Pn	Pn	10 19 34.9	-2.2
MOIG				*e*Sn	Sn	10 20 06.5	-1.3
MOIG	Morelia	2.52	54	*e*P	Pn	10 19 34.0	-3.1
MOIG				*e*S	Sn	10 20 03.2	-4.5
ARIG	Puente Sto Nin	2.87	88	*i*P	Pn	10 19 37.9	-3.8
ARIG				*i*S	Sn	10 20 11.5	-4.6
ARIG	Puente Sto Nin	2.87	88	*i*P	Pn	10 19 37.9	-3.8
ARIG				*i*S	Sn	10 20 11.5	-4.6
JRQG	Juriquilla Cam	3.70	48	*e*Pn	Pb	10 19 59.1	-2.6
UNM	Universidad Na	4.12	74	*e*Pg	Pb	10 20 09.7	+0.8
ZAIG	Zacatecas	4.59	9	*e*Pg	Pb	10 20 16.3	-0.6
ZAIG				*e*Sg	Sb	10 21 14.1	+1.8
TLIG	Tlapa	4.61	97	*e*Pn	Pn	10 20 08.4	+2.6
TLIG				*e*Sg	Sb	10 21 16.1	+3.4

MEX 04 10:32:45.6±0.5, 18°.13N×103°.37W, h12km±58km, MD3.6, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	Aquila	0.15	9	*e*P	Pg	10 32 48.6	-0.7
MMIG				*e*S	Sg	10 32 51.5	-0.4
EZ5V		1.36	351	*e*P	Pn	10 33 07.2	-3.4
EZ5V				*e*S	Sb	10 33 23.2	-5.3

ISCJB ***04*** *10:32:50.0±1.3, 52°.4N±0°.3×131°.6W±0°.6, h10km, mb3.4/1, Error ellipse: s-maj=67.4km s-min=8.9km az=137.7*
IDC ***04*** *10:32:50.1±2.4, 52°.44N×131°.58W, h0km, mb3.5/1, mb1 3.5/4, mb1mx3.3/31, mbtmp3.0/4, ML3.4/3, Error ellipse: s-maj=136.9km s-min=9.6km az=51.0*

ISC 04 10:32:51.6±1.6, 52°.4N±0°.3×131°.6W±0°.4, h10km, n6, σ1s51/6, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H02S1	DAWSON INLET T	0.94	325	Pg	**Pg**	**10 33 08.5**	**-1.1**
H02S1				Lg	Lg	10 33 20.8	
H02N1	VAN INLET T-PH	1.00	325	Pg	**Pg**	**10 33 09.5**	**-1.3**
H02N1				Lg	Lg	10 33 22.6	
ILAR	Eielson Array	14.65	333	Pn	**Pn**	**10 36 20.5**	**+1.9**
	0.0nm,0.3s,baz=154,slow=11,SNR=2.8						
NVAR	Mina Array Bea	16.79	141	Pn	**Pn**	**10 36 47.2**	**+0.3**
	0.0nm,0.3s,baz=305,slow=16,SNR=3.2						
PDAR	Pinedale Array	17.66	114	P	**Pn**	**10 36 57.1**	**-0.6**
	0.1nm,0.3s,baz=309,slow=11,SNR=2.6						
TXAR	Lajitas Array	30.94	127	P	**P**	**10 39 08.4**	**-0.2**
	0.5nm,0.7s,baz=328,slow=8.5,SNR=4.8						

IDC ***04*** *10:34:01.4±1.4, 5°.26S×151°.09E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.6/25, mbtmp3.7/5, ML1.9/1, Error ellipse: s-maj=91.1km s-min=24.3km az=128.0*
ISCJB ***04*** *10:34:09.2±1.9, 5°.4S±0°.5×150°.8E±0°.7, h65km, mb3.3/4, Error ellipse: s-maj=124.0km s-min=14.1km az=37.9*

ISC 04 10:34:10.5±1.7, 5°.4S±0°.6×150°.9E±0°.7, h65km, n6, σ0s98/9, mb3.4/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	5.42	222	Pn	**Pn**	**10 35 29.2**	**+0.4**
	2.0nm,0.3s,baz=50,slow=11,SNR=5.1						
PMG				Sn	**Sn**	**10 36 28.4**	**-1.5**
	3.8nm,0.3s,baz=101,slow=19,SNR=4.6						
WRA	Warramunga Arr	21.62	227	P	**P**	**10 38 55.5**	**0.0**
	0.9nm,0.7s,baz=53,slow=11,SNR=12						
WRA				PcP	**PcP**	**10 42 55.9**	**+0.7**
	0.3nm,0.7s,baz=43,slow=2.0,SNR=3.7						
ASAR	Alice Springs	24.43	220	P	**P**	**10 39 23.8**	**+0.4**
	0.3nm,0.6s,baz=55,slow=9.7,SNR=14						
ASAR				PcP	**PcP**	**10 43 01.6**	**+0.5**
	0.2nm,0.8s,baz=46,slow=2.7,SNR=3.1						
FITZ	Fitzroy Crossi	27.68	241	P	**P**	**10 39 53.7**	**+1.1**
	2.0nm,0.8s,baz=63,slow=7.4,SNR=5.5						
ILAR	Eielson Array	83.43	22	P	**P**	**10 46 29.5**	**-1.1**
	0.3nm,0.5s,baz=239,slow=5.7,SNR=6.7						
TORD	Torodi Ar. Bea	148.62	286	PKPbc	**PKPbc**	**10 53 51.3**	**-0.1**
	0.8nm,0.3s,baz=98,slow=2.2,SNR=14						

DJA 04 10:51:21.8±0.4, 7°S±5°×113°0E±°, h10km, M4.5/7, mb4.5/6, mB5.0/5, MLv4.5/7, Mw(mB)4.3/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	Saumlaki	1.90	114	P	Pg	10 52 00.6	+2.4
FAKI	Fak Fak	5.04	32	P	Pn	10 52 36.2	-1.3
KMPI	Kaimana, Papua	5.43	50	P	Pn	10 52 43.5	+0.6
KMPI				S	Sn	10 53 41.0	-4.6
SOEI	Soe	5.80	244	P	Pn	10 52 47.9	-0.3
SOEI				S	Sn	10 53 50.7	-4.2
BATI	Baumata	6.54	242	P	Pn	10 52 57.4	-0.7
BATI				S	Sn	10 54 07.1	-5.7
RKPI	Ransiki, Papua	7.30	39	P	Pn	10 53 07.9	-0.7
EDFI	Ende, Flores	7.93	258	P	Pn	10 53 16.6	-0.8
WBSI	Waikabubak, Su	10.34	256	P	Pn	10 53 48.1	-2.2

ISN ***04*** *11:18:54.5±0.8, 37°.44N×42°.73E, h0km±3km, ML2.9*
DDA ***04*** *11:18:57.8, 37°.45N×42°.67E, h10km, Ml3.0*
ISK ***04*** *11:18:57.4, 37°.47N×42°.66E, h6km, ML3.0/3*

ISC 04 11:18:58.1±1.2, 37°.51N±0°.05×42°.68E±0°.03, h2km±11km, n15, σ1s09/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIRT	Sirnak	0.19	268	PG	**Pg**	**11 19 01.3**	**-0.4**
SIRT				SG	**Sg**	**11 19 04.5**	**+0.3**
SIRN	S¯¯rnak	0.21	267	*i*P	**Pg**	**11 19 01.8**	**-0.3**
SIRN				*i*S	**Sg**	**11 19 05.4**	**+0.5**
SRTM	Siirt_Merkez	0.77	309	*i*P	**Pg**	**11 19 13.1**	**+0.3**
SRTM				*i*S	**Sb**	**11 19 25.0**	**-0.3**
CUKT	Cukurca	0.79	109	PG	**Pg**	**11 19 13.1**	**0.0**
CUKT				SG	**Sb**	**11 19 24.3**	**-1.4**
HAKT	HAKKARI	0.82	86	*i*P	**Pg**	**11 19 13.9**	**+0.1**
HAKT				*i*S	**Sb**	**11 19 26.0**	**-0.8**

ISC 04 11:45:49.8±2.1, 36°57'S±0'05×73°4'W±0'1, h27km, n10, σ2§11/17, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.37**	**137**	*eP*	**Pn**	**11 45 59.8**	**+0.4**
CCSP				*eS*	**Sn**	**11 46 05.8**	**0.0**
CCSP				IAML		11 46 07.1	
	comp=N,11μm,0.5s						
CCHI	**Chillan**	**1.09**	**92**	*eP*	**Pn**	**11 46 08.6**	**-0.6**
CCHI				*eS*	**Sn**	**11 46 23.0**	**-0.3**
CCHI				IAML		11 46 30.3	
	comp=N,1μm,0.6s						
GO05	**HualaæØ**	**1.98**	**38**	*eP*	**Pn**	**11 46 20.2**	**-1.3**
GO05				*eS*	**Sn**	**11 46 45.5**	**+0.1**
GO05				IAML		11 46 49.8	
	comp=N,432nm,0.3s						
TMU	**Temuco**	**2.26**	**163**	*eP*	**Pb**	**11 46 29.5**	**-0.3**
TMU				IAML		11 47 06.3	
	comp=N,245nm,0.4s						
AAGR	**Agrelo**	**5.14**	**49**	*eP*	**Pn**	**11 47 05.6**	**+0.6**
ARCO	**CERRO ARCO**	**5.25**	**46**	*eP*	**Pn**	**11 47 07.9**	**+1.3**
ARCO				IAML		11 47 28.1	
	comp=Z,12nm,0.4s						
ARCO				*eS*	**Sb**	**11 48 23.4**	**-0.1**
AUSP	**Uspallata**	**5.47**	**39**	*eP*	**Pn**	**11 47 10.7**	**+0.8**
AUSP				*eS*	**Sb**	**11 48 30.7**	**+0.6**
ASAL	**Salagasta**	**5.49**	**45**	*eP*	**Pn**	**11 47 11.0**	**+1.2**
ASAL				*eS*	**Sb**	**11 48 34.4**	**+4.0**
RTLS	**Leoncito**	**5.86**	**37**	*eP*	**Pn**	**11 47 15.6**	**+0.4**
RTLS				*eS*	**Sb**	**11 48 43.0**	**+1.6**
RTLS				IAML		11 48 49.7	
	comp=Z,13nm,0.5s						
RTLL	**Cerro Villicun**	**6.65**	**40**	*eS*	**Sb**	**11 48 57.8**	**-6.0**

*SJA **04** 11:49:46.1±1.2, 31°.85S×72°.28W, h25km±30km, ML3.6, MW3.7*

*GUC **04** 11:49:49.0±0.6, 31°.71S×71°.83W, h56km±7km, ML3.4*

ISC 04 11:49:45.7±1.9, 31°.71S±0°.03×71°.91W±0°.07, h2km±13km, n23, σ1§31/37, 4C-11D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**0.95**	**56**	↑*iP*	**Pn**	**11 50 06.9**	**+0.7**
CMCH				*i* S	**Sn**	**11 50 19.9**	**-0.4**
ROCH	**El Roble**	**1.47**	**149**	↑*iP*	**Pg**	**11 50 14.3**	**+0.4**
ROCH				IAML		11 50 38.6	
	comp=E,861nm,0.7s						
ROC1	**El Roble**	**1.47**	**149**	↓*eP*	**Pg**	**11 50 14.4**	**+0.5**
ROC1				↓*eS*	**Sg**	**11 50 33.4**	**+0.3**
PEL	**Peldehue**	**1.76**	**144**	↓*iP*	**Pb**	**11 50 18.7**	**-0.2**
PEL				*i* S	**Sb**	**11 50 40.5**	**-1.0**
PEL				IAML		11 50 45.5	
	comp=E,599nm,0.2s						
GO04	**Tololo Observa**	**1.81**	**32**	↑*iP*	**Pb**	**11 50 19.7**	**0.0**
GO04				*eS*	**Sb**	**11 50 43.0**	**0.0**
LSCH	**La Serena**	**1.89**	**18**	*i* S	**Sb**	**11 50 43.9**	**-1.2**
LSCH				IAML		11 50 52.8	
	comp=N,232nm,0.4s						
CLCH	**Cerro Calan**	**2.04**	**146**	↑*iP*	**Pb**	**11 50 22.8**	**-0.8**
CLCH				*eS*	**Sb**	**11 50 48.2**	**-1.3**
CLCH				IAML		11 50 54.0	
	comp=E,774nm,0.7s						
FCH	**Farellones**	**2.11**	**140**	*eP*	**Pb**	**11 50 24.2**	**-0.8**
FCH				*i* S	**Sb**	**11 50 50.6**	**-1.2**
FCH				IAML		11 50 55.5	
	comp=E,253nm,0.2s						
AUSP	**Uspallata**	**2.21**	**104**	↓*eP*	**Pg**	**11 50 28.0**	**0.0**
AUSP				*eS*	**Sg**	**11 50 57.0**	**+0.3**
RTLS	**Leoncito**	**2.23**	**93**	↓*eP*	**Pg**	**11 50 28.6**	**+0.1**
RTLS				*eS*	**Sg**	**11 50 57.7**	**+0.2**
RTLS				IAML		11 51 02.5	
	comp=Z,210nm,0.6s						
LMEL	**Las Melosas**	**2.57**	**146**	IAML		11 51 09.1	
	comp=N,289nm,0.1s						
AROD	**Rodeo**	**2.60**	**54**	*eP*	**Pb**	**11 50 34.3**	**+0.9**
AROD				*eS*	**Sg**	**11 51 10.1**	**+0.7**
ACCO	**Cerro Coronel**	**2.69**	**66**	*eP*	**Pg**	**11 50 36.6**	**-0.6**
ACCO				↓*eS*	**Sg**	**11 51 13.1**	**+0.9**
ASAL	**Salagasta**	**2.75**	**109**	*eP*	**Pb**	**11 50 35.9**	**+0.2**
ARCO	**CERRO ARCO**	**2.77**	**115**	*eP*	**Pb**	**11 50 36.7**	**+0.7**
ARCO				↓*eS*	**Sg**	**11 51 14.5**	**-0.1**
ARCO				IAML		11 51 24.7	
	comp=Z,107nm,0.3s						
ACDV	**Cuesta del Vie**	**2.85**	**58**	↓*eP*	**Pb**	**11 50 38.4**	**+0.9**
ACDV				*eS*	**Sg**	**11 51 16.9**	**-0.4**
RTCV	**Cerro Valdivia**	**2.88**	**94**	↓*eP*	**Pb**	**11 50 37.6**	**-0.2**
LCO	**Las Campanas**	**2.89**	**22**	*eP*	**Pn**	**11 50 34.5**	**+1.5**
LCO				*i* S	**Sn**	**11 51 09.2**	**+0.6**
LCO				IAML		11 51 20.4	
	comp=E,151nm,0.3s						
AAGR	**Agrelo**	**2.95**	**118**	*eP*	**Pb**	**11 50 39.1**	**0.0**
AAGR				↓*eS*	**Sg**	**11 51 21.3**	**+0.9**
RTLL	**Cerro Villicun**	**2.96**	**83**	*eP*	**Pb**	**11 50 38.5**	**-0.8**
RTLL				IAML		11 51 30.2	
	comp=Z,99nm,0.4s						
AMOG	**MOGNA**	**3.03**	**76**	↓*eP*	**Pb**	**11 50 40.3**	**-0.1**
ACAN	**Cantantal**	**4.05**	**99**	*eP*	**Pb**	**11 50 53.6**	**-4.3**
ACAN				*eS*	**Sb**	**11 51 49.6**	**+2.2**
VCA	**Vinchina**	**4.37**	**48**	*eP*	**Pb**	**11 50 59.2**	**-4.1**
VCA				IAML		11 52 09.8	
	comp=Z,106nm,0.5s						

DJA 04 11:58:11.8±0.5, 0°S±3°×12°3E±°, h79km±8km, M4.0/8, mb4.3/1, MLv3.9/8, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.92**	**194**	P	Pn	11 58 29.6	-0.2
LUWI				S	Sn	11 58 44.9	+1.7
KMSI	**Cibinong**	**1.22**	**54**	P	Pn	11 58 33.3	-0.2
MRSI	**Marisa**	**1.23**	**300**	P	Pn	11 58 33.3	-0.3
MRSI				S	Sn	11 58 49.5	-0.5
APSI	**Ampana**	**1.55**	**241**	P	Pn	11 58 37.7	0.0
SANI	**Sanana**	**3.53**	**122**	P	Pn	11 59 02.8	-1.6
TTSI	**Tana Toraja**	**4.29**	**228**	P	Pn	11 59 14.9	+0.2
NLAI	**Namlea**	**5.12**	**127**	P	Pn	11 59 26.8	+0.8

IDC 04 12:03:58.4±1.6, 7°.12S×121°.18E, h486km±18km, mb2.5/2, mb1 2.6/5, mb1mx2.5/42, mbtmp3.4/5, Error ellipse: s-maj=116.7km s-min=21.8km az=58.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**3.93**	**141**	P	P	12 05 15.9	+0.6
	6.9nm,0.3s,baz=315,slow=14,SNR=8.3						
BATI				S	S	12 06 18.1	+0.1
	2.5nm,0.3s,baz=346,slow=19,SNR=4.7						
FITZ	**Fitzroy Crossi**	**11.75**	**159**	P	P	12 06 34.5	+0.2
	0.2nm,0.3s,baz=343,slow=11,SNR=11						
WRA	**Warramunga Arr**	**18.04**	**136**	P	P	12 07 40.0	+0.1
	0.1nm,0.3s,baz=318,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**20.50**	**145**	P	P	12 08 02.2	-0.2
	0.2nm,0.5s,baz=318,slow=8.4,SNR=7.2						
MKAR	**Makanchi Array**	**63.81**	**331**	P	P	12 13 42.1	-0.1
	0.2nm,0.4s,baz=118,slow=8.4,SNR=5.6						

*NEIC **04** 12:05:12.0±0.0, 51°.70N×132°.73W, h1km, ML4.2(OTT), After OTT.*

PGC 04 12:05:28.7±5.0, 52°.63N×132°.97W, h27km, ML4.2, ML3.6/6, 103km Wsw of Sandspit, Bc Haida Gwaii Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DIB	**Dawson Inlet,**	**0.65**	**27**	*e*Pn	Pb	12 05 41.2	-0.2
DIB	**Dawson Inlet,**	**0.65**	**27**	P	Pb	12 05 41.2	-0.2
DIB				S	Sb	12 05 49.6	-0.5
VIB	**Van Inlet**	**0.68**	**22**	P	Pb	12 05 41.7	-0.3
VIB				S	Sb	12 05 51.1	0.0
BNB	**Barry Inlet**	**0.74**	**93**	P	Pb	12 05 42.2	-0.8
BNB				S	Sb	12 05 53.2	+0.5
NDB	**Naden**	**1.33**	**1**	P	Pn	12 05 51.4	-0.2
MASB	**Masset**	**1.50**	**22**	P	Pb	12 05 54.9	-0.9
RUBB	**Prince Rupert**	**2.35**	**42**	Pn	Pn	12 06 06.4	+0.9
CRAG	**Craig**	**2.85**	**358**	*e*Pn	Pn	12 06 13.1	+0.7
BBB	**Bella Bella**	**3.00**	**97**	Pn	Pn	12 06 15.8	+1.4
WRAK	**Wrangell Islan**	**3.82**	**5**	*e*Pn	Pn	12 06 27.5	+1.9
SIT	**Sitka**	**4.65**	**344**	*e*Pn	Pn	12 06 37.4	+0.4
JIS	**Juneau Island**	**5.72**	**352**	*e*Pn	Pn	12 06 53.1	+1.4
DLBC	**Dease Lake**	**6.06**	**15**	*e*Pn	Pn	12 07 00.3	+3.9
DLBC	**Dease Lake**	**6.06**	**15**	Pn	Pn	12 06 59.0	+2.6
SKAG	**Skagway**	**6.98**	**350**	*e*Pn	Pn	12 07 11.2	+2.3
BMBC	**Bull Mountain**	**7.20**	**57**	Pn	Pn	12 07 14.9	+2.7
WHY	**Whitehorse**	**8.12**	**353**	*e*Pn	Pn	12 07 27.9	+3.0

*ISCJB **04** 12:08:22.3±0.7, 4°.50S±0°.05×134°.10E±0°.07, h21km, mb3.7/3, MS2.9/1, Error ellipse: s-maj=10.1km s-min=6.4km az=171.1*

*IDC **04** 12:08:22.1±1.5, 4°.47S×133°.98E, h0km, mb3.8/3, mb1 4.1/8, mb1mx3.8/37, mbtmp3.9/8, ML3.8/5, MS3.3/4, Ms1 3.3/4, ms1mx2.8/32, Error ellipse: s-maj=58.9km s-min=20.4km az=68.0*

*DJA **04** 12:08:23.9±0.8, 4°.5S×13°.4E±°, h10km, M4.4/7, mb4.9/6, mB4.9/4, MLv4.2/7, Mw(mB)4.2/4*

ISC 04 12:08:23.0±0.9, 4°.45S±0°.05×134°.16E±0°.09, h21km, n18, σ3§15/23, mb3.9/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMPI	**Kaimana, Papua**	**0.91**	**330**	P	**Pb**	**12 08 38.5**	**-1.5**
KMPI				S	**Sb**	**12 08 46.7**	**-4.9**
FAKI	**Fak Fak**	**2.44**	**308**	P	**Pn**	**12 09 01.7**	**+0.1**
FAKI				S	**Pb**	**12 09 09.7**	**+3.5**
RKPI	**Ransiki, Papua**	**2.92**	**0**	P	**Pn**	**12 09 09.0**	**+0.8**
BNDI	**Bandanaira**	**4.24**	**269**	P	**Pn**	**12 09 29.1**	**+2.7**
SIJI	**Sorong**	**4.58**	**321**	Pn	**Pn**	**12 09 30.9**	**-0.2**
	4.7nm,0.3s,baz=214,slow=22,SNR=15						
SIJI				Sn	**Sn**	**12 10 20.0**	**-3.8**
	3.7nm,0.3s,baz=135,slow=23,SNR=5.6						
MSAI	**Masohi**	**5.33**	**282**	P	**Pn**	**12 09 43.5**	**+2.1**
	51nm,0.7s,405nm						
AAI	**Ambon**	**6.00**	**277**	P	**Pn**	**12 09 53.0**	**+2.4**
	112nm,0.7s,2μm0.4nm						
SANI	**Sanana**	**8.50**	**286**	P	**Pn**	**12 10 24.5**	**-0.4**
	59nm,0.7s,545nm						
BATI	**Baumata**	**11.88**	**241**	Pn	**Pn**	**12 11 13.1**	**+1.9**
	1.9nm,0.3s,baz=289,slow=18,SNR=3.5						
BATI				Sn	**Sn**	**12 13 24.1**	**+0.8**
	1.5nm,0.3s,baz=63,slow=18,SNR=2.2						
DAV	**Davao City (W)**	**14.29**	**323**	LR	LR	12 18 09.0	
	comp=Z,70nm,19.5s,baz=133,slow=41						
WRA	**Warramunga Arr**	**15.40**	**179**	Pn	**Pn**	**12 11 58.6**	**-0.6**
	0.3nm,0.3s,baz=357,slow=13,SNR=19						
WRA				Sn	**Sn**	**12 14 44.1**	**-5.1**
	0.4nm,0.3s,baz=3.7,slow=23,SNR=6.6						
WRA				LR	LR	12 19 03.2	
	comp=Z,78nm,18.1s,baz=350,slow=42						
FITZ	**Fitzroy Crossi**	**15.92**	**211**	Pn	**Pn**	**12 12 05.8**	**-0.1**
	0.3nm,0.3s,baz=34,slow=13,SNR=9.9						
FITZ				Sn	**Sn**	**12 14 56.4**	**-5.5**
	0.8nm,0.3s,baz=190,slow=11,SNR=9.0						
ASAR	**Alice Springs**	**19.11**	**181**	P	**Pn**	**12 12 47.4**	**+1.9**
	0.3nm,0.3s,baz=6.9,slow=11,SNR=46						
ASAR				S	**Sn**	**12 16 12.2**	**-7.0**
	0.1nm,0.3s,baz=356,slow=27,SNR=3.9						
CTA	**Charters Tower**	**19.50**	**144**	P	**Pn**	**12 12 52.2**	**+2.0**
	0.3nm,0.3s,baz=330,slow=10.0,SNR=4.5						
CTA				LR	LR	12 21 32.3	
	comp=Z,272nm,18.9s,baz=134,slow=40						
TGY	**Tagaytay City**	**22.62**	**325**	LR	LR	12 22 35.7	
	comp=Z,45nm,19.2s,baz=293,slow=38						
CMAR	**Chiang Mai Arr**	**41.51**	**304**	P	**P**	**12 16 10.6**	**+1.6**
	0.4nm,0.4s,baz=139,slow=6.8,SNR=4.8						
MKAR	**Makanchi Array**	**68.47**	**324**	P	**P**	**12 19 25.4**	**+1.8**
	1.1nm,0.7s,baz=110,slow=7.3,SNR=4.1						
ZALV	**Zalesovo Beam**	**71.23**	**332**	P	**P**	**12 19 42.4**	**+2.0**
	0.5nm,0.5s,baz=130,slow=5.8,SNR=3.1						

*BJI **04** 12:12:58.8, 21°.71S×171°.59E, h80km, mb5.0/42, mB5.1/29, Ms5.0/7, Ms7 4.7/5*

*ISCJB **04** 12:13:00.3±1.0, 22°.29S±0°.04×171°.35E±0°.03, h99km±9km, mb4.9/146, Error ellipse: s-maj=5.8km s-min=4.7km az=7.5*

*IDC **04** 12:13:00.9±1.8, 22°.26S×171°.41E, h95km±14km, mb4.6/28, mb1 4.7/31, mb1mx4.6/42, mbtmp5.0/31, MS3.7/14, Ms1 3.7/14, ms1mx3.5/28, Error ellipse: s-maj=11.3km s-min=10.8km az=19.0*

*GCMT **04** 12:13:02.6±0.2, 22°.32S±0°.02×171°.42E±0°.02, h107km±2km, MW5.1/92, Moment Tensor Solution. s45,c56; s92,c138; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.07±.15; $M_{\theta\theta}$-1.57±.19; $M_{\phi\phi}$-0.49±.17; $M_{r\theta}$3.29±.10; $M_{r\phi}$4.13±.14; $M_{\theta\phi}$1.03±.10; Best double couple: $M_0$5.69600×10^{16} NP1:φ93.00000°, δ74.00000°, λ42.00000°. NP2: φ349.00000°, δ50.00000°, λ158.00000°. Principal axes: T 5.7170, Plg41.0000°, Azm320.0000°; N -0.0420, Plg45.0000°, Azm111.0000°; P -5.6740, Plg15.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **04** 12:13:03.6±0.9, 22°.27S×171°.39E, h119km±7km, mb5.0/112 Error ellipse: s-maj=4.4km s-min=3.7km az=207.0*

*MOS **04** 12:13:04.4±1.4, 22°.24S×171°.33E, h132km, mb4.9/33, Error ellipse: s-maj=9.8km s-min=8.5km az=-36.1*

ISC 04 12:13:01.7±0.9, 22°.32S±0°.05×171°.39E±0°.06, h102km±6km, n571, σ1§14/563, mb5.0/145, 46C-49D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.59**	**272**	P	**Pn**	**12 14 09.2**	**+0.2**
	24nm,0.3s,baz=128,slow=14,SNR=816						
DZM				S	**Sn**	**12 14 59.9**	**-1.4**
	574nm,0.3s,baz=24,slow=20,SNR=9.1						
DZM				LR	LR	12 15 28.5	
	comp=Z,734nm,21.1s,baz=68,slow=32						
DZM	**Mont Dzumac**	**4.59**	**272**	*e*Pn	**Pn**	**12 14 09.3**	**+0.3**
	142nm,0.3s						
DZM				*e*Sn	**Sn**	**12 14 55.0**	**-6.3**
	3μm,0.3s						
DZM				*e*LR	LR	12 15 03.0	
	2μm,30.1s						
DZM	**Mont Dzumac**	**4.59**	**272**	*e*Pn	**Pn**	**12 14 09.1**	**+0.2**
DZM				*e*Sn	**Sn**	**12 14 59.5**	**-1.8**
NFK	**Norfolk Island**	**7.38**	**204**	P	**Pn**	**12 14 46.9**	**+0.1**
	baz=7.5,SNR=30						
URZ	**Urewera**	**16.63**	**164**	P	**P**	**12 16 49.5**	**+0.3**
	1.1nm,0.3s,baz=186,slow=20,SNR=7.2						
URZ	**Urewera**	**16.63**	**164**	*e*Pn	**P**	**12 16 50.2**	**+1.0**
	82nm,1.0s						
HNR	**Honiara**	**16.88**	**318**	P	**Pn**	**12 16 51.3**	**-0.5**
	11nm,0.3s,baz=8.2,slow=5.6,SNR=7.9						
HNR				LR	LR	12 22 29.8	
	comp=Z,180nm,21.3s,baz=203,slow=34						
HNR	**Honiara**	**16.88**	**318**	*e*P	**P**	**12 16 53.0**	**+0.9**
HNR	**Honiara**	**16.88**	**318**	*e*Pn	**P**	**12 16 53.0**	**+0.9**
	263nm,0.9s						
HNR	**Honiara**	**16.88**	**318**	*e*P	**P**	**12 16 53.1**	**+0.9**
HNR				pmax	pmax		
	comp=Z,263nm,0.9s						
BKZ	**Black Stump Fm**	**17.35**	**167**	*e*P	**Pn**	**12 16 58.5**	**+1.1**
	comp=Z,77nm,1.1s						
AFI	**Afiamalu**	**18.04**	**65**	LR	LR	12 22 15.8	
	comp=Z,210nm,19.3s,baz=228,slow=31						
BFZ	**Birch Farm**	**18.76**	**168**	*e*P	**P**	**12 17 12.7**	**0.0**
	comp=Z,165nm,1.7s						
EIDS	**Eidsvold**	**18.83**	**257**	P	**P**	**12 17 13.3**	**-0.2**
	baz=19,SNR=17						
EIDS	**Eidsvold**	**18.83**	**257**	*e*P	**Pn**	**12 17 16.5**	**+1.3**
	comp=Z,44nm,0.8s						
SNZO	**South Karori**	**19.14**	**172**	*e*P	**Pn**	**12 17 17.8**	**-0.9**
	comp=Z,142nm,1.3s						
THZ	**Tophouse**	**19.43**	**177**	*e*P	**Pn**	**12 17 21.8**	**-0.4**
	comp=Z,42nm,0.9s						
ARMA	**Armidale**	**19.44**	**241**	P	**P**	**12 17 20.0**	**-0.3**
	baz=20,SNR=13						
ARMA	**Armidale**	**19.44**	**241**	*e*P	**Pn**	**12 17 23.6**	**+1.1**
	comp=Z,95nm,1.2s						
KHZ	**Kahutara**	**20.12**	**175**	*e*P	**P**	**12 17 27.4**	**0.0**
	comp=Z,69nm,1.0s						
LTZ	**Lake Taylor**	**20.42**	**178**	*e*P	**P**	**12 17 31.4**	**+0.8**
	comp=Z,90nm,0.8s						
MGCD	**Mangrove Creek**	**20.94**	**234**	P	**P**	**12 17 35.9**	**-0.4**
	baz=21,SNR=5.9						
OXZ	**Oxford**	**20.96**	**179**	*e*P	**P**	**12 17 36.5**	**+0.1**
	comp=Z,69nm,1.0s						
RMQ	**Roma**	**21.02**	**254**	P	**P**	**12 17 36.8**	**-0.5**
	baz=21,SNR=16						
FOZ	**Fox Glacier**	**21.20**	**183**	*e*P	**P**	**12 17 39.8**	**+0.9**
	comp=Z,166nm,1.2s						
RPZ	**Rata Peaks**	**21.34**	**181**	P	**P**	**12 17 41.7**	**+1.2**
	comp=Z,56nm,1.0s,baz=12,slow=5.3,SNR=8.0						
RPZ				LR	LR	12 24 40.2	
	comp=Z,384nm,21.9s,baz=11,slow=33						
LBZ	**Lake Benmore**	**22.03**	**182**	*e*P	**P**	**12 17 50.1**	**+2.3**
	comp=Z,183nm,1.8s						
WKZ	**Wanaka**	**22.54**	**184**	*e*P	**P**	**12 17 56.5**	**+3.4**
	comp=Z,120nm,1.2s						
MLZ	**Mavora Lakes**	**23.15**	**186**	*e*P	**P**	**12 18 00.3**	**+1.2**
	comp=Z,67nm,1.2s						
CNB	**Canberra Magne**	**23.18**	**231**	P	**P**	**12 18 00.3**	**+0.7**
	baz=23,SNR=25						
YNG	**Young**	**23.44**	**234**	P	**P**	**12 18 02.2**	**+0.2**
	baz=24,SNR=8.4						
CAN	**Canberra**	**23.45**	**232**	*e*P	**P**	**12 18 04.9**	**+2.8**
	comp=Z,37nm,1.0s						
CAN	**Canberra**	**23.45**	**232**	P	**P**	**12 18 05.0**	**+3.0**
CAN				pmax	pmax		
	comp=Z,42nm,1.4s						
CTA	**Charters Tower**	**23.54**	**271**	P	**P**	**12 18 03.9**	**+1.0**
	comp=Z,10nm,0.6s,baz=92,slow=11,SNR=19						
CTAO	**Charters Tower**	**23.54**	**271**	*e*P	**P**	**12 18 04.0**	**+1.0**
	comp=Z,111nm,1.5s						
CTAO	**Charters Tower**	**23.54**	**271**	*e*P	**P**	**12 18 04.0**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,111nm,1.5s						
WHZ	**Wether Hill Ro**	**23.68**	**186**	*e*P	**P**	**12 18 04.8**	**+0.8**
	comp=Z,68nm,1.3s						
MILA	**Mila**	**24.18**	**228**	P	**P**	**12 18 09.1**	**+0.4**
	baz=24,SNR=7.3						
CMSA	**Cobar Meteorol**	**24.64**	**243**	P	**P**	**12 18 14.1**	**+1.3**
	baz=25,SNR=32						
QLP	**Quilpie**	**25.07**	**255**	P	**P**	**12 18 17.5**	**+0.7**
	baz=25,SNR=9.7						
PMG	**Port Moresby**	**26.56**	**295**	P	**P**	**12 18 30.5**	**+0.2**
	comp=Z,30nm,0.8s,baz=110,slow=7.3,SNR=6.2						
TOO	**Toolangi**	**26.99**	**230**	P	**P**	**12 18 34.9**	**+0.9**
	baz=27,SNR=4.5						
COEN	**Coen**	**28.04**	**282**	P	**P**	**12 18 44.7**	**+1.2**
	baz=28,SNR=6.8						
COEN	**Coen**	**28.04**	**282**	*e*P	**P**	**12 18 44.8**	**+1.3**
	comp=Z,48nm,1.1s						
STKA	**Stephens Creek**	**28.11**	**244**	P	**P**	**12 18 45.3**	**+1.3**
	comp=Z,6.7nm,1.0s,baz=93,slow=11,SNR=11						
STKA				PcP	**PcP**	**12 21 56.2**	**+0.2**
	comp=Z,3.2nm,0.7s,baz=70,slow=3.9,SNR=4.0						
STKA				LR	LR	12 30 24.1	
	comp=Z,59nm,18.1s,baz=59,slow=37						
STKA	**Stephens Creek**	**28.11**	**244**	P	**P**	**12 18 45.3**	**+1.3**
	baz=28,SNR=6.1						
STKA	**Stephens Creek**	**28.11**	**244**	*e*P	**P**	**12 18 45.4**	**+1.4**
	comp=Z,4.5nm,1.3s						
STKA				*e*PcP	**PcP**	**12 21 56.2**	**+0.2**
STKA	**Stephens Creek**	**28.11**	**244**	*e*P	**P**	**12 18 45.4**	**+1.4**
STKA				*e*		12 21 56.2	
STKA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
HTT	**Hallett**	**30.65**	**242**	P	**P**	**12 19 07.7**	**+1.1**
	baz=31,SNR=6.8						
MANU	**Manus Island**	**30.84**	**307**	*e*P	**P**	**12 19 08.6**	**+0.2**
	comp=Z,58nm,0.9s						
BBOO	**Buckleboo**	**32.88**	**244**	P	**P**	**12 19 27.6**	**+1.5**
	baz=33,SNR=6.6						
BBOO	**Buckleboo**	**32.88**	**244**	*e*P	**P**	**12 19 27.2**	**+1.1**
	comp=Z,26nm,1.1s						
AS01	**Alice Springs**	**34.43**	**260**	*e*P	**P**	**12 19 39.2**	**-0.5**
AS01				*e*PcP	**PcP**	**12 22 12.4**	**-0.7**
AS31	**Alice Springs**	**34.47**	**260**	*e*P	**P**	**12 19 39.9**	**-0.1**
	comp=Z,11nm,0.8s						
AS31				*e*PcP	**PcP**	**12 22 12.7**	**-0.5**
AS31				*e*S	**S**	**12 25 01.9**	**+0.6**
AS31				*e*ScP	**ScP**	**12 25 51.0**	**+1.7**
ASAR	**Alice Springs**	**34.48**	**260**	P	**P**	**12 19 40.0**	**0.0**
	comp=Z,29nm,0.8s,baz=86,slow=9.0,SNR=26						
ASAR				PcP	**PcP**	**12 22 12.7**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=99,slow=3.1,SNR=5.8						
ASAR				S	**S**	**12 25 01.9**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=94,slow=15,SNR=4.4						
ASAR				ScP	**ScP**	**12 25 51.0**	**+1.7**
	comp=Z,0.9nm,0.8s,baz=101,slow=4.3,SNR=6.7						
ASAR				LR	LR	12 33 20.5	
	comp=Z,80nm,22.0s,baz=100,slow=35						
WC3	**Warramunga Arr**	**34.56**	**267**	*e*P	**P**	**12 19 39.6**	**-1.2**
	comp=Z,10nm,0.8s						
WB2	**Warramunga Arr**	**34.58**	**267**	*e*P	**P**	**12 19 39.8**	**-1.2**
	comp=Z,18nm,1.1s						
WB2				*e*S	**S**	**12 25 06.8**	**+3.9**
WRAB	**Tennant Creek**	**34.58**	**267**	*e*P	**P**	**12 19 39.7**	**-1.3**
	comp=Z,15nm,1.0s						
WRAB	**Tennant Creek**	**34.58**	**267**	*e*P	**P**	**12 19 39.7**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,15nm,1.0s						
WR1	**Warramunga Arr**	**34.59**	**267**	*e*P	**P**	**12 19 40.0**	**-1.1**
	comp=Z,13nm,1.0s						
WR1				*e*PcP	**PcP**	**12 22 13.3**	**-0.2**
WR1				*e*S	**S**	**12 24 58.3**	**-4.8**
WRA	**Warramunga Arr**	**34.59**	**267**	P	**P**	**12 19 40.0**	**-1.1**
	comp=Z,4.0nm,0.5s,baz=98,slow=8.6,SNR=35						
WRA				PcP	**PcP**	**12 22 13.3**	**-0.2**
	comp=

comp=Z,54nm,0.8s
MEEK Meekatharra 47.96 254 P P 12 21 30.0 -0.3
baz=48,SNR=11
KLBR Kellerberrin 48.29 247 P P 12 21 32.6 -0.2
baz=48,SNR=5.3
TAOE Nuku Hiva Isla 48.35 82 eLR LR 12 35 33.2
comp=Z,226nm,27.2s
SANI Sanana 48.46 288 P P 12 21 34.0 -0.3
comp=Z,96nm,0.9s,comp=Z,893nm
SANI Sanana 48.46 288 P P 12 21 34.0 -0.3
comp=Z,96nm,0.9s,comp=Z,893nm
NWAO Narrogin (SRO) 48.68 245 P P 12 21 35.5 -0.2
comp=Z,41nm,1.0s,baz=300,slow=7.8,SNR=5.8
NWAO Narrogin (SRO) 48.68 245 P P 12 21 36.2 +0.4
baz=49,SNR=4.0
NWAO Narrogin (SRO) 48.68 245 eP P 12 21 35.7 -0.1
comp=Z,71nm,1.2s
NWAO Narrogin (SRO) 48.68 245 eP P 12 21 35.7 -0.1
NWAO pmax pmax
comp=Z,71nm,1.2s
MMRI Maumere 49.07 278 eP P 12 21 38.9 -0.1
comp=Z,73nm,0.8s
MMRI Maumere 49.07 278 P P 12 21 39.2 +0.2
comp=Z,108nm,0.8s
MMRI Maumere 49.07 278 P P 12 21 39.2 +0.2
comp=Z,108nm,0.8s
EDFI Ende, Flores 49.53 278 P P 12 21 42.1 -0.5
comp=Z,18nm,1.0s
EDFI Ende, Flores 49.53 278 P P 12 21 42.1 -0.5
comp=Z,18nm,1.0s
MORW Morawa 49.96 250 P P 12 21 45.2 -0.4
baz=50,SNR=3.5
LUWI Luwuk 51.77 287 eP P 12 22 00.2 +0.9
comp=Z,102nm,0.9s
VNDA Vanda 55.45 183 P P 12 22 25.5 +0.3
comp=Z,1.8nm,0.8s,baz=354,slow=7.9,SNR=14
VNDA LR LR 12 42 48.9
comp=Z,43nm,18.9s,baz=23,slow=32
SBA Scott Base 55.63 181 eP P 12 22 28.0 +1.5
comp=Z,20nm,0.8s
SBA Scott Base 55.63 181 eP P 12 22 28.0 +1.5
SBA pmax pmax
comp=Z,20nm,0.8s
JAGI Jajag, Banyuwa 56.57 275 eP P 12 22 33.6 -0.6
comp=Z,104nm,1.4s
CBIJ Chichi jima 56.67 329 P P 12 22 33.6 -0.9
JCJ Chichijima 56.67 329 P P 12 22 33.6 -0.9
comp=Z,65nm,0.8s,baz=98,slow=23,SNR=5.2
CASY Casey 58.15 205 eP P 12 22 44.1 -0.3
UGM Wanagama 60.12 274 eP P 12 22 59.5 +0.6
comp=Z,129nm,0.9s
KKM Kota Kinabalu 60.90 291 eP P 12 23 04.8 +0.5
comp=Z,248nm,1.7s
SBUM Sibu 62.74 285 eP P 12 23 17.3 +0.8
comp=Z,18nm,1.3s
CISI Cisompet, Garu 62.75 273 eP P 12 23 16.3 -0.4
comp=Z,82nm,1.0s
LEM Lembang 63.20 274 P P 12 23 19.8 0.0
comp=Z,121nm,0.8s,baz=98,slow=5.4,SNR=24
LEM LR LR 12 50 11.8
comp=Z,68nm,21.0s,baz=106,slow=35
KSM Kuching 64.03 283 eP P 12 23 25.4 +0.3
comp=Z,67nm,0.8s
INU Inuyama 65.97 330 eP P 12 23 36.8 -0.3
comp=Z,35nm,1.2s
MJAR Matsushiro Arr 66.41 331 P P 12 23 39.0 -0.9
comp=Z,14nm,0.9s,baz=170,slow=6.9,SNR=41
MAJO Matsushiro 66.41 331 eP P 12 23 39.1 -0.9
comp=Z,22nm,1.0s
MAJO Matsushiro 66.41 331 c iP P 12 23 39.0 -0.9
MAJO pmax pmax
comp=Z,21nm,1.0s
MAT Matsushiro 66.41 331 P P 12 23 38.9 -1.0
MJB9 Matsu-Tunnel 66.41 331 eP P 12 23 39.3 -0.7
comp=Z,24nm,1.0s
QSPA South Pole Qui 67.75 180 P P 12 23 48.1 -0.1
comp=Z,8.4nm,0.6s,baz=37,slow=1.6,SNR=29
QSPA South Pole Qui 67.75 180 eP P 12 23 48.2 0.0
comp=Z,9.8nm,0.7s
MYKOM Kota Tinggi 70.01 281 eP P 12 24 03.1 +0.2
comp=Z,33nm,1.0s
KSRS Korea Array 72.17 325 P P 12 24 15.7 +0.3
comp=Z,6.3nm,0.9s,baz=144,slow=6.8,SNR=11
KSAR Wonju Array Be 72.19 325 P P 12 24 15.7 +0.2
KSAR Wonju Array Be 72.19 325 P P 12 24 15.7 +0.2
KS01 Wonju Array Si 72.20 325 eP P 12 24 15.8 +0.1
YSS Yuzh-Sakhalins 73.64 340 eP P 12 24 25.7 +1.9
YSS pmax pmax
comp=Z,20nm,1.0s
IPM Ipoh 73.69 282 eP P 12 24 25.0 +0.1
comp=Z,30nm,0.9s
NJ2 Nanjing 73.81 315 eP P 12 24 26.9 +1.7
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
KULM Kulim 74.36 283 eP P 12 24 28.8 0.0
comp=Z,30nm,1.0s
PSI Prapat 74.92 279 LR LR 12 57 27.7
comp=Z,36nm,21.5s,baz=269,slow=36
PSI Prapat 74.92 279 eP P 12 24 31.1 -1.1
comp=Z,26nm,1.0s
PSI Prapat 74.92 279 eP P 12 24 31.1 -1.1
PSI pmax pmax
comp=Z,26nm,1.0s
SKLT Songkhla 75.18 284 P P 12 24 34.5 +0.9
USA0B Ussuriysk Arra 75.39 332 eP P 12 24 33.6 -0.4
comp=Z,20nm,0.9s
USRK Ussuriysk Ar. 75.39 332 P P 12 24 34.0 0.0
comp=Z,9.3nm,0.8s,baz=122,slow=3.3,SNR=20
GSI Gunungsitoli 75.56 277 eP P 12 24 35.2 -0.5
comp=Z,33nm,0.8s
PETK Petropavlovsk- 76.05 352 P P 12 24 37.1 -0.5
comp=Z,9.0nm,0.8s,baz=142,slow=7.5,SNR=8.4
PETK Petropavlovsk- 76.05 352 eP P 12 24 37.6 0.0
PETK Petropavlovsk- 76.05 352 eP P 12 24 37.6 0.0
PEA1 Petropavlovsk- 76.05 352 eP P 12 24 37.1 -0.5
TRTT Trang 76.30 284 P P 12 24 40.9 +1.0
MAW Mawson 76.35 202 P P 12 24 39.8 +0.5
comp=Z,5.0nm,0.8s,baz=127,slow=6.3,SNR=14
MAW Mawson 76.35 202 P P 12 24 40.0 +0.8
baz=76,SNR=8.6
MAW Mawson 76.35 202 eP P 12 24 39.7 +0.5
comp=Z,1.2nm,0.9s
SKNT Sakolnakorn 76.66 295 P P 12 24 42.5 +0.7
MDJ Mudanjiang 76.78 331 P P 12 24 41.1 -0.8
MDJ pmax pmax
comp=Z,18nm,1.0s
MDJ pmax pmax
comp=Z,220nm,4.4s
MDJ Mudanjiang 76.78 331 eP P 12 24 41.4 -0.5
comp=Z,13nm,0.9s
SRAK Srakaew 76.93 291 P P 12 24 48.8 +5.4
NONG Nongkai 77.87 295 P P 12 24 49.6 +1.0
CN2 Changchun 78.12 328 eP P 12 24 48.7 -0.8
CN2 pmax pmax
comp=Z,40nm,0.8s
PHET Kaeng Krachan 78.54 289 P P 12 24 54.2 +1.8
PBKT Sadao Pong 79.02 293 P P 12 24 56.0 +1.1
GRNR Gornyy 79.04 338 eP P 12 24 56.0 +1.7
GRNR pmax pmax
comp=Z,14nm,1.0s
ENH Enshi 79.17 309 eP P 12 24 55.2 -0.4
comp=Z,23nm,0.9s
GYA Guiyang 79.22 304 eP P 12 24 58.0 +2.0
GYA pP pP 12 25 23.2 +1.0
GYA PP PP 12 28 00.6 +3.4
GYA S S 12 34 49.4 +1.2
GYA SKS SKSac 12 35 00.0 -3.2
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.4s
KLR Kul'dur 79.50 335 ‖ iP P 12 24 57.4 +0.6
SRDT SRDT 79.61 290 P P 12 25 01.0 +2.8
UTHA Uthaitani 79.87 291 P P 12 25 01.1 +1.5
NANT Nan 80.27 295 P P 12 25 03.6 +1.9
SUKH Sukhothai 80.57 293 P P 12 25 05.6 +2.3
BJT Baijiatuau 80.58 320 eP P 12 25 03.2 +0.3
comp=Z,21nm,1.0s
BJT Baijiatuau 80.58 320 eP P 12 25 03.2 +0.3
BJT pmax pmax
comp=Z,21nm,1.0s
BJI Beijing 80.59 320 P P 12 25 02.6 -0.3
BJI pmax pmax
comp=Z,9.0nm,1.1s
UMPA Umpang Tak 80.66 292 P P 12 25 05.0 +1.1
LAMP Lampang 81.04 294 P P 12 25 08.1 +2.3
CM01 Chiang Mai Arr 81.56 294 eP P 12 25 09.7 +1.1
CM31 Chiang Mai Arr 81.59 294 eP P 12 25 10.2 +1.5
CMAR Chiang Mai Arr 81.59 294 P P 12 25 09.9 +1.2
comp=Z,7.3nm,0.8s,baz=135,slow=4.0,SNR=47
CMAR Chiang Mai Arr 81.59 294 P P 12 25 10.0 +1.2
KMI Kunming 81.60 301 P P 12 25 07.2 -1.7
KMI pP pP 12 25 35.8 +0.5
KMI pmax pmax
comp=Z,20nm,1.7s
KMI pmax pmax
comp=Z,89nm,5.2s
XAN Xi'an 81.66 312 P P 12 25 08.8 0.0
XAN pmax pmax
comp=Z,13nm,1.1s
CMMT Chiang Mai 81.75 294 P P 12 25 10.6 +1.0
CHTO Chiang Mai 81.75 294 eP P 12 25 10.5 +0.9
comp=Z,30nm,1.4s
CHTO Chiang Mai 81.75 294 eP P 12 25 10.5 +0.9
CHTO pmax pmax
comp=Z,31nm,1.4s
CHTO Chiang Mai 81.75 294 P P 12 25 10.7 +1.1
comp=Z,72nm,1.1s,comp=Z,1µm
SYO Syowa Base 82.54 196 ⇑ eP P 12 25 11.8 -1.0
SYO Syowa Base 82.54 196 ⇑ ePcP PcP 12 25 16.2 -1.4
CD2 Chengdu 83.69 307 eP P 12 25 21.0 +1.5
CD2 pmax pmax
comp=Z,10.0nm,0.5s
HHC Hu-ho-hao-te 83.86 319 eP P 12 25 20.5 +0.4
HHC S S 12 35 39.2 +3.9
HHC pmax pmax
comp=Z,30nm,1.3s
HHC pmax pmax
comp=Z,190nm,7.1s
HHC LR LR
comp=Z,140nm,15.4s
HHC LR LR
comp=Z,260nm,15.2s
HHC LR LR
comp=Z,220nm,15.7s
OHAK Old Harbor 84.60 18 eP P 12 25 23.8 +0.5
comp=Z,131nm,1.8s
HIA Hailar 84.78 329 ⇑ eP P 12 25 23.6 -0.9
HIA pmax pmax
comp=Z,4.0nm,0.9s
ZEA Zeya 84.78 335 eP P 12 25 24.0 -0.3
ZEA pmax pmax
comp=Z,23nm,1.0s
ZEA MLR MLR
comp=Z,400nm,12.0s
NVL N'lazarevskaya 86.06 187 eP P 12 25 30.3 -0.3
NVL eS S 12 35 52.2 -3.9
NVL pmax pmax
comp=Z,13nm,0.9s
SNAA Sanae 86.18 182 P P 12 25 29.9 -1.4
SNAA Sanae 86.18 182 eP P 12 25 29.9 -1.4
comp=Z,9.0nm,0.8s
SNAA Sanae 86.18 182 deP P 12 25 30.1 -1.2
SNAA pmax pmax
comp=Z,599nm,1.0s
LZH Lanzhou 86.27 311 eP P 12 25 33.7 +1.3
LZH pP pP 12 25 57.1 -1.9
LZH sP sP 12 26 08.3 -1.5
LZH ePP PP 12 28 53.7 -1.2
LZH pmax pmax
comp=Z,31nm,1.1s
LZH pmax pmax
comp=Z,150nm,5.4s
LZH LR LR
comp=Z,440nm,16.0s
LZH LR LR
comp=Z,460nm,15.9s
LZH LR LR
comp=Z,570nm,17.3s
SEY Seymchan 86.29 351 ⇑ eP P 12 25 31.1 -0.5
KCPM Cahto Peak 86.47 44 eP P 12 25 33.9 +0.7
comp=Z,38nm,1.0s
KMRM Mail Ridge 86.68 44 eP P 12 25 34.5 +0.4
comp=Z,16nm,0.8s
VNA3 Neumayer Olymp 86.69 180 P P 12 25 32.2 -1.5
VNA2 Neumayer--Watz 87.01 180 P P 12 25 34.0 -1.3
baz=182,slow=4.3
KHMM Horse Mountain 87.02 43 eP P 12 25 36.4 +0.5
comp=Z,34nm,1.1s
O02D Mt. Diablo Mer 87.25 44 P P 12 25 38.0 +1.1
baz=238
VNA1 Neumayer--Stat 87.29 180 P P 12 25 35.5 -1.0
ARVC Arvin 87.36 50 P P 12 25 36.6 -0.8
baz=240
MWC Mount Wilson 87.47 51 eP P 12 25 37.9 -0.4
comp=Z,5.0nm,0.8s
MWC Mount Wilson 87.47 51 eP P 12 25 37.9 -0.4
MWC pmax pmax
comp=Z,5.0nm,0.8s
VES Vestal, Richgr 87.53 50 P P 12 25 37.9 -0.3
baz=240
WDC Whiskeytown Da 87.62 44 eP P 12 25 38.6 0.0
comp=Z,18nm,1.3s
WDC Whiskeytown Da 87.62 44 eP P 12 25 38.6 0.0
WDC pmax pmax
comp=Z,19nm,1.3s
CMB Columbia Colle 87.73 47 eP P 12 25 39.4 +0.2
comp=Z,9.6nm,1.1s
N02D Trinity Center 87.73 44 P P 12 25 39.5 +0.3
baz=238,SNR=8.0
ORV Oroville 87.76 45 eP P 12 25 39.4 +0.1
comp=Z,6.6nm,0.9s
ORV Oroville 87.76 45 eP P 12 25 39.4 +0.1
ORV pmax pmax
comp=Z,7.0nm,0.9s
BFSC Mount Baldy Ra 87.77 52 P P 12 25 39.6 -0.1
baz=241
L02E Cave Junction 87.80 42 P P 12 25 40.0 +0.5
baz=237
AFDM Forest Hills D 87.80 46 eP P 12 25 39.4 -0.1
comp=Z,13nm,1.2s
EDW2 Edwards Air Fo 87.84 51 P P 12 25 40.2 +0.4
baz=241,SNR=7.5
M02C Callahan 87.86 43 P P 12 25 40.2 +0.4
baz=238,SNR=8.5
ISA Isabella, Lake 87.87 50 eP P 12 25 40.3 +0.3
comp=Z,12nm,0.9s
ISA Isabella, Lake 87.87 50 eP P 12 25 40.3 +0.3
ISA pmax pmax
comp=Z,12nm,0.9s
ISA Isabella, Lake 87.87 50 P P 12 25 40.2 +0.2
baz=241,SNR=12
O03E Paynes Creek 87.95 45 P P 12 25 40.2 -0.1
baz=238,SNR=9.8
MONP2 Monument Peak 88.03 53 P P 12 25 40.8 -0.2
baz=242
YBH Yreka Blue Hor 88.13 43 P P 12 25 41.4 +0.3
comp=Z,5.6nm,0.8s,baz=208,slow=4.7,SNR=9.2
YBH Yreka Blue Hor 88.13 43 eP P 12 25 41.1 +0.1
comp=Z,6.9nm,0.8s
YBH Yreka Blue Hor 88.13 43 eP P 12 25 41.2 +0.1
YBH pmax pmax
comp=Z,7.0nm,0.8s
PFO Pinyon Flats O 88.35 53 P P 12 25 42.4 0.0
baz=242
LRMC Laurel Mtn Rad 88.35 51 P P 12 25 42.2 -0.1
baz=241
MDPB Devils Postpil 88.42 48 eP P 12 25 43.0 +0.2
comp=Z,12nm,1.2s
OMMB Old Mammoth Mi 88.47 48 eP P 12 25 43.2 +0.2
comp=Z,16nm,1.4s
CWC Cottonwood Cre 88.53 50 P P 12 25 43.5 +0.3
baz=241
WAKR Walker 88.61 47 eP P 12 25 44.1 +0.5
comp=Z,15nm,1.1s
L04D Klamath Falls 88.64 43 P P 12 25 43.6 0.0
baz=238
BEKR Beckworth 88.68 46 eP P 12 25 43.5 -0.3
comp=Z,13nm,1.2s
M04C Macdoel 88.71 43 P P 12 25 44.3 +0.4
baz=238,SNR=5.5
TIN Tinemaha, Big 88.72 49 P P 12 25 44.2 +0.2
baz=241
MPMC Manual Prospec 88.77 50 P P 12 25 44.4 0.0
baz=241,SNR=6.4
PNTR Pine Nut 88.79 47 eP P 12 25 44.9 +0.5
comp=Z,17nm,0.9s
VCNR Virginia City 88.86 46 eP P 12 25 44.9 +0.1
comp=Z,6.3nm,1.1s
BELC Belle Mtn. Jos 88.87 52 P P 12 25 45.0 +0.2
baz=242,SNR=8.1
GSC Goldstone, Bar 88.89 51 eP P 12 25 45.0 +0.1
comp=Z,14nm,1.5s
GSC pmax pmax
comp=Z,14nm,1.5s
GSC Goldstone, Bar 88.89 51 P P 12 25 44.6 -0.2
baz=242
YERR Yerington 88.98 47 eP P 12 25 45.6 +0.3
comp=Z,14nm,1.1s
BC3 Big Chuckawall 89.11 53 P P 12 25 46.5 +0.6
baz=242
PAHR Pah Rah Range 89.25 46 eP P 12 25 46.3 -0.2
comp=Z,19nm,1.1s
RYN Ryan 89.29 47 eP P 12 25 46.2 -0.5
comp=Z,8.5nm,0.9s
GLA Glamis 89.30 54 P P 12 25 47.6 +0.8
baz=243
GRAC Grapevine Rang 89.30 49 P P 12 25 47.2 +0.6
baz=241
J04D Umpqua Nationa 89.31 42 P P 12 25 47.7 +1.0
baz=238
NV01 Mina Array Sit 89.35 48 eP P 12 25 46.8 -0.3
NVAR Mina Array Bea 89.35 48 P P 12 25 47.3 +0.2
comp=Z,7.5nm,0.8s,baz=226,slow=8.7,SNR=66
NVAR LR LR 13 02 43.6
comp=Z,40nm,19.1s,baz=284,slow=33
FURC Furnace Creek, 89.40 50 P P 12 25 47.5 +0.4
baz=242,SNR=7.0
NV11 Mina Array Sit 89.45 48 eP P 12 25 47.3 -0.2
comp=Z,0.9nm,0.9s
GMRC Granite Mounta 89.48 52 P P 12 25 47.5 -0.2
baz=242
SHOC Shoshone, Teco 89.56 51 P P 12 25 47.6 -0.2
baz=242,SNR=5.2
IRM Iron Mountain 89.57 53 P P 12 25 48.2 +0.2
baz=242,SNR=7.0
TUQ Turquoise Moun 89.59 51 P P 12 25 48.5 +0.4
baz=242,SNR=7.1
MOD Modoc Plateau 89.75 44 eP P 12 25 48.6 -0.2
comp=Z,10nm,1.0s
KVN Kaiserville 89.79 47 eP P 12 25 48.9 -0.2
comp=Z,14nm,1.0s
KVN Kaiserville 89.79 47 eP P 12 25 48.9 -0.2
KVN pmax pmax
comp=Z,14nm,1.0s
K05A Summer Lake 89.80 43 eP P 12 25 48.8 -0.3
comp=Z,12nm,0.9s
Y12C Blythe 89.84 53 eP P 12 25 49.1 -0.1
comp=Z,12nm,1.2s
Y12C Blythe 89.84 53 P P 12 25 49.7 +0.5
baz=243,SNR=5.3
J05D Fort Rock, OR 89.87 42 P P 12 25 49.8 +0.5
baz=239
TPNV Topopah Spring 90.07 50 eP P 12 25 50.2 -0.2
comp=Z,9.7nm,0.9s
TPNV Topopah Spring 90.07 50 eP P 12 25 50.2 -0.2
TPNV pmax pmax
comp=Z,10.0nm,0.9s
TPNV Topopah Spring 90.07 50 P P 12 25 50.3 -0.1
baz=242,SNR=12
BILL Bilibino 90.17 358 c iP P 12 25 48.8 -1.1
BILL pmax pmax
comp=Z,5.0nm,0.9s
PINE Pine Mountain 90.32 42 eP P 12 25 51.4 0.0
comp=Z,14nm,0.9s
I05D Terrebonne, OR 90.36 41 P P 12 25 51.9 +0.5
baz=239
PDMCI Parker Dam,Lak 90.37 53 P P 12 25 51.9 +0.3
baz=243
ULN Ulaanbaatar 90.53 323 eP P 12 25 52.2 -0.1
comp=Z,26nm,1.2s
ULN Ulaanbaatar 90.53 323 c iP P 12 25 51.8 -0.5
ULN pmax pmax
comp=Z,20nm,1.2s
SHL Shillong 90.56 297 eP P 12 25 52.6 -0.4
comp=Z,12nm,1.1s
SHL Shillong 90.56 297 eP P 12 25 52.6 -0.4
SHL pmax pmax
comp=Z,13nm,1.1s
SHPR Sheep Range 90.64 51 eP P 12 25 53.4 +0.3
comp=Z,6.9nm,1.2s
GTA Gaotai 90.69 313 ⇑ P P 12 25 53.3 +0.1
GTA pP pP 12 26 18.9 -1.1
GTA sP sP 12 26 29.7 -1.0
GTA SKS SKSac 12 36 14.2 -1.5
GTA S S 12 36 41.0 0.0
GTA pmax pmax
comp=Z,7.0nm,1.5s
GTA pmax pmax
comp=Z,54nm,6.7s
GTA LR LR
comp=Z,200nm,18.4s
GTA LR LR
comp=Z,170nm,18.7s
SONA0 Songino Array 90.88 322 eP P 12 25 53.8 -0.1
SONM Songino Array 90.88 322 P P 12 25 53.8 -0.1
comp=Z,19nm,1.1s,baz=138,slow=4.5,SNR=61
SONA1 Songino Array 90.88 322 eP P 12 25 53.5 -0.4
W13A Hualapai Mount 90.92 52 eP P 12 25 54.6 +0.1
comp=Z,9.3nm,1.4s
BMN Battle Mountai 91.05 46 eP P 12 25 55.0 +0.1
comp=Z,14nm,1.1s
WVOR Wild Horse Val 91.09 44 eP P 12 25 54.8 -0.2
comp=Z,7.1nm,1.0s
WVOR Wild Horse Val 91.09 44 eP P 12 25 54.8 -0.2
WVOR pmax pmax
comp=Z,7.0nm,1.0s
R11A Troy Canyon, C 91.19 49 eP P 12 25 55.3 -0.3
comp=Z,4.4nm,1.0s
R11A Troy Canyon, C 91.19 49 P P 12 25 55.3 -0.3
baz=242,SNR=7.4
J08A Circle Bar Ran 91.65 43 eP P 12 25 57.5 -0.1
comp=Z,8.1nm,0.9s
TUC Tucson 92.03 56 P P 12 25 59.3 -0.2
baz=245
CCB Clear Creek Bu 92.23 16 eP P 12 25 57.9 -1.6
comp=Z,5.8nm,1.1s
LCMT Little Creek M 92.24 51 eP P 12 26 00.8 +0.4
comp=Z,4.9nm,0.8s
HDA Harding Lake 92.27 17 eP P 12 25 58.4 -1.4
comp=Z,6.7nm,1.0s
G08A Pilot Rock 92.30 41 eP P 12 25 59.8 -0.7
comp=Z,4.1nm,0.8s
CCUT Cedar City 92.39 50 eP P 12 26 01.6 +0.4
comp=Z,7.4nm,1.5s
COLA College 92.40 16 eP P 12 25 58.8 -1.5
comp=Z,13nm,1.1s
COLA College 92.40 16 eP P 12 25 58.8 -1.5
COLA pmax pmax
comp=Z,13nm,1.1s
X16A Lo Mia Camp, P 92.43 54 eP P 12 26 01.6 +0.1
comp=Z,5.1nm,0.9s
PSUT Pine Spring 92.48 49 eP P 12 26 01.5 -0.2
comp=Z,24nm,1.9s
HAWA Hanford 92.50 40 eP P 12 26 01.0 -0.2
comp=Z,10nm,1.0s
KNB Kanab 92.54 51 eP P 12 26 02.1 +0.2
comp=Z,5.2nm,0.9s
IL1 Eielson Array 92.58 17 eP P 12 25 58.7 -2.4
ILAR Eielson Array 92.58 17 P P 12 25 59.0 -2.2
comp=Z,2.7nm,0.9s,baz=238,slow=5.7,SNR=19
ILAR LR LR 13 00 09.5
comp=Z,79nm,21.7s,baz=214,slow=31
ILAR Eielson Array 92.58 17 P P 12 25 59.0 -2.2
SZCU Shurtz Canyon 92.61 50 eP P 12 26 02.0 -0.2
comp=Z,4.9nm,1.1s
U15A North Rim 92.67 52 eP P 12 26 03.2 +0.6
comp=Z,9.4nm,0.9s
E08A Dider Farm, El 92.83 40 eP P 12 26 02.3 -0.4
comp=Z,9.3nm,1.1s
WUAZ Wupatki 92.95 53 eP P 12 26 03.6 -0.2
comp=Z,14nm,1.6s
WUAZ Wupatki 92.95 53 P P 12 26 03.0 -0.8
baz=245
PKCU Pink Cliffs 93.09 51 eP P 12 26 04.8 +0.1
comp=Z,1.1nm,1.2s
F10A Beach Ranch, E 93.69 41 eP P 12 26 06.4 -0.4
comp=Z,7.8nm,1.6s
ZAK Zakamensk 93.96 323 eP P 12 26 06.9 -1.1
ZAK pmax pmax
comp=Z,9.0nm,1.3s
HLID Hailey 94.35 45 eP P 12 26 10.0 -0.1
comp=Z,2.5nm,0.9s
HLID Hailey 94.35 45 P P 12 26 10.0 -0.1
baz=243
HVU Hansel Valley 94.65 47 eP P 12 26 11.2 -0.3
comp=Z,3.9nm,1.1s
HVU Hansel Valley 94.65 47 eP P 12 26 11.2 -0.3
HVU pmax pmax

	comp=Z,4.0nm,1.1s								
TMUT	**Trail Mountain**	**94.67**	**49**	*e*P		**P**	**12 26 12.4**	**+0.6**	
	comp=Z,7.7nm,1.5s								
PLCA	**Paso Flores**	**94.91**	**138**	P		**P**	**12 26 12.3**	**-0.4**	
	comp=Z,3.2nm,0.9s,baz=224,slow=2.9,SNR=5.7								
PLCA	**Paso Flores**	**94.91**	**138**	*e*P		**P**	**12 26 12.4**	**-0.3**	
	comp=Z,27nm,1.8s								
PLCA	**Paso Flores**	**94.91**	**138**	*e*P		**P**	**12 26 12.5**	**-0.3**	
PLCA				pmax		pmax			
	comp=Z,27nm,1.8s								
ANMO	**Albuquerque**	**96.40**	**55**	LR		LR	13 01 25.1		
	comp=Z,55nm,21.5s,baz=206,slow=30								
ANMO	**Albuquerque**	**96.40**	**55**	*e*P		**P**	**12 26 20.4**	**+0.8**	
ANMO				pmax		pmax			
	comp=Z,1.0nm,1.0s								
LTX	**Lajitas**	**96.47**	**61**	*e*P		**P**	**12 26 20.0**	**0.0**	
LTX	**Lajitas**	**96.47**	**61**	*e*P		**P**	**12 26 20.0**	**0.0**	
TXAR	**Lajitas Array**	**96.47**	**61**	P		**P**	**12 26 20.0**	**0.0**	
	comp=Z,0.1nm,0.5s,baz=220,slow=5.2,SNR=5.5								
TXAR				LR		LR	13 02 00.3		
	comp=Z,37nm,20.5s,baz=0.0,slow=30								
TXAR	**Lajitas Array**	**96.47**	**61**	P		**P**	**12 26 20.0**	**0.0**	
PD31	**Pinedale Array**	**97.23**	**47**	*e*P		Pdif	12 26 24.0	+0.7	
PDAR	**Pinedale Array**	**97.23**	**47**	P		Pdif	12 26 23.3	0.0	
	comp=Z,0.8nm,1.0s,baz=232,slow=3.6,SNR=3.6								
TIXI	**Tiksi**	**98.16**	**348**	*e*P		Pdif	12 26 26.8	+0.3	
TIXI				pmax		pmax			
	comp=Z,1.0nm,1.0s								
HVS	**Khovu-Aksy**	**99.72**	**321**	*e*P		**Pdif**	**12 26 34.5**	**+0.5**	
HVS				pmax		pmax			
	comp=Z,5.0nm,0.8s								
WMQ	**Urumqi**	**100.78**	**313**	P		**Pdif**	**12 26 40.0**	**+1.1**	
WMQ				pmax		pmax			
	comp=Z,170nm,4.5s								
WMQ				LR		LR			
	comp=Z,270nm,27.9s								
WMQ				LR		LR			
	comp=Z,270nm,30.7s								
WMQ				LR		LR			
	comp=Z,230nm,25.1s								
MK32	**Makanchi Array**	**105.33**	**315**	*e*Pdif		**Pdif**	**12 27 00.7**	**+1.7**	
MKAR	**Makanchi Array**	**105.33**	**315**	Pdiff		**Pdif**	**12 27 00.7**	**+1.7**	
	comp=Z,1.0nm,0.8s,baz=111,slow=5.3,SNR=5.8								
ZALV	**Zalesovo Beam**	**105.78**	**322**	Pdiff		**Pdif**	**12 27 00.3**	**-0.5**	
	comp=Z,0.8nm,0.5s,baz=114,slow=3.6,SNR=4.1								
ZAA1	**Zalesovo Array**	**105.78**	**322**	*e*Pdif		**Pdif**	**12 27 00.3**	**-0.5**	
BRVK	**Borovoye**	**114.13**	**320**	*i* PKIKP		PKPdf	12 31 29.2	+0.5	
SUR	**Sutherland**	**118.77**	**208**	*e*PKPdf		**PKPdf**	**12 31 39.0**	**+0.2**	
BOSA	**Boshof**	**119.75**	**214**	PKP		**PKPdf**	**12 31 40.5**	**-0.1**	
	comp=Z,4.7nm,0.8s,baz=142,slow=1.4,SNR=16								
BOSA	**Boshof**	**119.75**	**214**	*e*PKPdf		**PKPdf**	**12 31 40.6**	**0.0**	
BOSA	**Boshof**	**119.75**	**214**	PKIKP		**PKPdf**	**12 31 40.5**	**-0.1**	
BOSA				pmax		pmax			
	comp=Z,3.0nm,0.5s								
GEYT	**Alibeck**	**121.36**	**302**	PKP		**PKPdf**	**12 31 42.9**	**-0.4**	
	comp=Z,2.0nm,0.7s,baz=273,slow=13,SNR=6.0								
LBTB	**Lobatse**	**122.42**	**217**	*e*PKPdf		**PKPdf**	**12 31 45.6**	**-0.2**	
LBTB	**Lobatse**	**122.42**	**217**	*e*PKIKP		**PKPdf**	**12 31 45.6**	**-0.2**	
ARA0	**ARCESS Array S**	**128.54**	**345**	*e*PKPdf		**PKPdf**	**12 31 54.7**	**-1.3**	
ARCES	**ARCESS Array B**	**128.54**	**345**	PKP		**PKPdf**	**12 31 54.7**	**-1.3**	
	comp=Z,2.5nm,0.9s,baz=340,slow=1.4,SNR=5.8								
RAYN	**Ar Rayn**	**130.40**	**282**	*e*PKPdf		**PKPdf**	**12 32 01.2**	**+0.3**	
RAYN	**Ar Rayn**	**130.40**	**282**	*e*PKIKP		**PKPdf**	**12 32 01.3**	**+0.3**	
TSUM	**Tsumeb**	**131.44**	**214**	*e*PKPdf		**PKPdf**	**12 32 04.0**	**+0.8**	
GNI	**Garni**	**131.77**	**304**	⇑*i*PKIKP		**PKPdf**	**12 32 04.9**	**+1.7**	
NEY	**Neytrino**	**132.89**	**309**	⇑*i*PKIKP		**PKPdf**	**12 32 05.7**	**+0.5**	
AKASG	**Malin Array Be**	**139.16**	**323**	PKhKP		PKPpre	12 32 07.2		
	comp=Z,0.2nm,0.3s,baz=64,slow=3.2,SNR=3.1								
AKBB	**Malin Array Si**	**139.16**	**323**	*e*PKPpre		PKPpre	12 32 07.2		
AKBB	**Malin Array Si**	**139.16**	**323**	*e*PKhKP		PKPpre	12 32 07.2		
BR101	**Keskin Array S**	**140.26**	**306**	*e*PKPpre		PKPpre	12 32 11.2		
BRTR	**Keskin Array B**	**140.26**	**306**	PKhKP		PKPpre	12 32 11.2		
	comp=Z,0.5nm,0.8s,baz=90,slow=4.3,SNR=2.4								
IAS	**Iasi**	**141.81**	**319**	⇑*i*P		pPKPdf	12 32 43.5	-5.7	
TLCR		**141.91**	**316**	⇓*i*P		**PKPdf**	**12 32 24.0**	**+2.5**	
TLCR		**141.91**	**316**	⇓PKIKP		**PKPdf**	**12 32 24.0**	**+2.5**	
TIRR	**Tirgusor**	**142.47**	**315**	⇑*i*P		**PKPdf**	**12 32 22.1**	**-0.4**	
TIRR	**Tirgusor**	**142.47**	**315**	⇑PKIKP		**PKPdf**	**12 32 22.1**	**-0.4**	
TLB	**Topalu**	**142.66**	**315**	⇓*i*P		**PKPdf**	**12 32 19.9**	**-3.0**	
TLB	**Topalu**	**142.66**	**315**	⇓PKIKP		**PKPdf**	**12 32 19.9**	**-3.0**	
BIZ	**Bicaz**	**142.81**	**320**	⇑*i*P		**PKPdf**	**12 32 20.3**	**-2.8**	
VRI	**Vrincioaia**	**142.93**	**318**	⇓*i*P		**PKPdf**	**12 32 20.0**	**-3.4**	
VRI	**Vrincioaia**	**142.93**	**318**	⇓PKIKP		**PKPdf**	**12 32 20.0**	**-3.4**	
BUR08	**Bucovina Ar. S**	**142.98**	**321**	*e*PKPdf		**PKPdf**	**12 32 21.5**	**-2.1**	
BURAR	**Bucovina Array**	**142.99**	**321**	⇑*i*P		**PKPdf**	**12 32 22.1**	**-1.4**	
BURAR	**Bucovina Array**	**142.99**	**321**	⇑PKIKP		**PKPdf**	**12 32 22.1**	**-1.4**	
BUR04	**Bucovina Ar. S**	**142.99**	**321**	*e*PKPdf		**PKPdf**	**12 32 21.8**	**-1.7**	
PLOR	**Plostina**	**142.99**	**318**	⇓*i*P		**PKPdf**	**12 32 20.2**	**-3.3**	
PLOR	**Plostina**	**142.99**	**318**	⇓PKIKP		**PKPdf**	**12 32 20.2**	**-3.3**	
ISR	**Istrita**	**143.39**	**317**	⇑*i*P		PKPbc	12 32 22.0	+0.3	
ISR	**Istrita**	**143.39**	**317**	⇑PKIKP		PKPbc	12 32 22.0	+0.3	
MLR	**Muntele Rosu**	**143.59**	**318**	*e*PKPdf		PKPbc	12 32 22.6	+0.2	
MLR	**Muntele Rosu**	**143.59**	**318**	⇓*i*P		PKPbc	12 32 21.9	-0.5	
MLR	**Muntele Rosu**	**143.59**	**318**	*e*PKIKP		PKPbc	12 32 22.6	+0.2	
DOPR	**Dopca**	**143.71**	**319**	⇑*i*P		PKPbc	12 32 22.7	+0.1	
SECR		**143.73**	**317**	⇓*i*P		PKPbc	12 32 22.7	+0.1	
ARCR	**ARCALIA**	**143.76**	**321**	⇓*i*P		PKPbc	12 32 23.3	+0.7	
SULR		**143.77**	**316**	⇓*i*P		PKPbc	12 32 22.4	-0.3	
BMR	**Baia Mare**	**143.94**	**322**	⇑*i*P		PKPbc	12 32 23.2	+0.1	
BMR	**Baia Mare**	**143.94**	**322**	⇑PKIKP		PKPbc	12 32 23.2	+0.1	
UZH	**Uzhgorod**	**144.06**	**325**	*e*PKIKP		**PKPab**	**12 32 21.6**	**-1.3**	
VOIR		**144.18**	**318**	⇓*i*P		**PKPab**	**12 32 23.2**	**-0.4**	
VOIR		**144.18**	**318**	⇓PKIKP		**PKPab**	**12 32 23.2**	**-0.4**	
TRPA	**Tarpa**	**144.22**	**324**	⇓*i*P		PKPbc	12 32 23.9	0.0	
TRPA	**Tarpa**	**144.22**	**324**	⇓*e*PKPdf		PKPbc	12 32 24.0	+0.1	
MDB	**Medias**	**144.23**	**320**	⇑*i*P		**PKPdf**	**12 32 24.9**	**-0.7**	
MDB	**Medias**	**144.23**	**320**	⇑PKIKP		**PKPdf**	**12 32 24.9**	**-0.7**	
MTUR	**Matau**	**144.27**	**318**	⇓*i*P		**PKPab**	**12 32 23.7**	**-0.3**	
MTUR	**Matau**	**144.27**	**318**	⇓PKIKP		**PKPab**	**12 32 23.7**	**-0.3**	
OJC	**Ojcow**	**144.35**	**328**	*e*PKP		**PKPab**	**12 32 23.0**	**-1.0**	
OJC	**Ojcow**	**144.35**	**328**	*e*PKIKP		**PKPab**	**12 32 23.0**	**-1.0**	
CJR	**Cluj-Napoca**	**144.40**	**321**	⇓*i*P		PKPbc	12 32 25.1	+0.4	
CJR	**Cluj-Napoca**	**144.40**	**321**	⇓PKIKP		PKPbc	12 32 25.1	+0.4	
ARR	**Arges**	**144.47**	**318**	⇓*i*P		PKPbc	12 32 25.4	+0.5	
NIE	**Niedzica**	**144.62**	**327**	*e*PKP		**PKPab**	**12 32 24.0**	**-1.1**	
NIE	**Niedzica**	**144.62**	**327**	*e*PKIKP		**PKPab**	**12 32 24.0**	**-1.1**	
HUMR	**Humele**	**144.65**	**317**	⇓*i*P		**PKPab**	**12 32 25.0**	**-0.3**	
ZIMR		**144.80**	**315**	⇑*i*P		PKPbc	12 32 26.2	+0.3	
ZIMR		**144.80**	**315**	⇑PKIKP		PKPbc	12 32 26.2	+0.3	
DRGR		**144.87**	**322**	⇓*i*P		**PKPab**	**12 32 25.8**	**-0.4**	
DRGR		**144.87**	**322**	⇓PKIKP		**PKPab**	**12 32 25.8**	**-0.4**	
LOT	**Lotru**	**144.95**	**319**	⇓*i*P		PKPbc	12 32 11.8	-15	
LTVH	**L˜tav˜rtes,**	**145.00**	**323**	⇓*e*PKPbc		**PKPdf**	**12 32 27.3**	**+0.4**	
LANS	**Liptovska Anna**	**145.21**	**327**	*e*PKIKP		**PKPab**	**12 32 27.5**	**+0.2**	
LANS	**Liptovska Anna**	**145.21**	**327**	*e*PKP		**PKPab**	**12 32 27.5**	**+0.2**	
OKC	**Ostrava-Krasne**	**145.40**	**329**	*e*PKP		**PKPdf**	**12 32 27.3**	**-0.2**	
OKC	**Ostrava-Krasne**	**145.40**	**329**	*e*PKP2		**PKPdf**	**12 32 27.3**	**-0.2**	
OKC				*e*			12 39 25.0		
OKC				MLR		MLR			
	comp=Z,400nm,17.7s								
ALN	**Alexandroupoli**	**145.46**	**311**	*e*PKPdf		**PKPdf**	**12 32 26.8**	**-1.1**	
ALN	**Alexandroupoli**	**145.46**	**311**	P		**PKPdf**	**12 32 26.9**	**-1.0**	
ALN	**Alexandroupoli**	**145.46**	**311**	*e*PKIKP		**PKPdf**	**12 32 26.8**	**-1.1**	
KSP	**Ksiaz**	**145.54**	**332**	*e*PKP		**PKPdf**	**12 32 27.5**	**-0.2**	
KSP	**Ksiaz**	**145.54**	**332**	*e*PKP2		**PKPdf**	**12 32 27.5**	**-0.2**	
GZR	**Gura Zlata**	**145.58**	**320**	⇑*i*P		**PKPdf**	**12 32 27.9**	**-0.2**	
GZR	**Gura Zlata**	**145.58**	**320**	⇑PKIKP		**PKPdf**	**12 32 27.9**	**-0.2**	
SRE	**Strehaia**	**145.69**	**318**	⇓*i*P		**PKPab**	**12 32 29.3**	**+0.1**	
SRE	**Strehaia**	**145.69**	**318**	⇓PKP2		**PKPab**	**12 32 29.3**	**+0.1**	
RDO	**Rodhopi**	**145.72**	**311**	P		**PKPdf**	**12 32 27.9**	**-0.4**	
MORC	**Moravsky Berou**	**145.73**	**330**	*e*PKPdf		**PKPdf**	**12 32 28.3**	**+0.1**	
MORC	**Moravsky Berou**	**145.73**	**330**	⇓*i*P		**PKPbc**	**12 32 28.5**	**-0.2**	
MORC	**Moravsky Berou**	**145.73**	**330**	⇓PKP2		**PKPbc**	**12 32 28.5**	**-0.2**	
MORC	**Moravsky Berou**	**145.73**	**330**	*e*PKP		**PKPdf**	**12 32 28.0**	**-0.1**	
SIRR	**Siria**	**145.77**	**322**	⇓*i*P		**PKPbc**	**12 32 28.9**	**0.0**	
PSZ	**Piszkesteto**	**145.77**	**325**	*e*PKPdf		**PKPdf**	**12 32 28.1**	**-0.2**	
PSZ	**Piszkesteto**	**145.77**	**325**	⇑*i*P		**PKPdf**	**12 32 28.0**	**-0.3**	
PSZ	**Piszkesteto**	**145.77**	**325**	⇓*e*PKPdf		**PKPbc**	**12 32 28.9**	**0.0**	
PSZ	**Piszkesteto**	**145.77**	**325**	*e*PKP2		**PKPdf**	**12 32 28.1**	**-0.2**	
VYHS	**Vyhne**	**145.95**	**327**	*e*PKP2		**PKPdf**	**12 32 28.9**	**+0.4**	
VYHS	**Vyhne**	**145.95**	**327**	*e*PKP		**PKPdf**	**12 32 28.9**	**+0.4**	
SMTH	**Samothraki Isl**	**145.98**	**310**	P		**PKPdf**	**12 32 28.4**	**-0.4**	
HERR	**Herculane**	**146.07**	**319**	⇑*i*P		**PKPdf**	**12 32 29.2**	**+0.4**	
KOLL	**Kolacno**	**146.12**	**327**	*e*PKP2		**PKPbc**	**12 32 29.9**	**0.0**	
KOLL	**Kolacno**	**146.12**	**327**	*e*PKP		**PKPbc**	**12 32 29.9**	**0.0**	
BZS	**Buzias**	**146.15**	**321**	⇑*i*P		**PKPdf**	**12 32 29.1**	**+0.2**	
BZS	**Buzias**	**146.15**	**321**	⇑PKP2		**PKPdf**	**12 32 29.1**	**+0.2**	
SIGR	**SIGRI**	**146.19**	**308**	P		**PKPdf**	**12 32 29.1**	**-0.1**	
KARP	**Karpathos**	**146.23**	**301**	*e*PKPdf		**PKPbc**	**12 32 30.2**	**-0.5**	
KARP	**Karpathos**	**146.23**	**301**	P		**PKPdf**	**12 32 29.9**	**+0.5**	
JAVC	**Velka Javorina**	**146.29**	**328**	*e*PKP		**PKPab**	**12 32 31.2**	**-0.2**	
CHOS	**Chios island**	**146.31**	**306**	P		**PKPdf**	**12 32 29.8**	**+0.3**	
TIM	**Timisoara**	**146.32**	**321**	⇓*i*P		**PKPdf**	**12 32 22.9**	**-6.3**	
TIM	**Timisoara**	**146.32**	**321**	⇓PKHKP		PKPpre	12 32 22.9		
LIA	**Limnos Island**	**146.44**	**309**	P		**PKPdf**	**12 32 29.7**	**+0.1**	
VRAC	**Vranov**	**146.50**	**330**	⇓*i*P		**PKPbc**	**12 32 31.1**	**+0.1**	
VRAC	**Vranov**	**146.50**	**330**	⇓PKP2		**PKPbc**	**12 32 31.1**	**+0.1**	
VRAC	**Vranov**	**146.50**	**330**	*e*PKP		**PKPbc**	**12 32 30.5**	**-0.5**	
BUD	**Budapest**	**146.50**	**325**	⇓*e*PKPdf		**PKPbc**	**12 32 30.6**	**-0.4**	
BRG	**Berggiesshubel**	**146.51**	**334**	*e*P		**PKPdf**	**12 32 30.0**	**+0.7**	
	comp=Z,31nm,1.4s								
BRG	**Berggiesshubel**	**146.51**	**334**	*e*PKP2		**PKPdf**	**12 32 30.0**	**+0.6**	
BRG				pmax		pmax			
	comp=Z,31nm,1.4s								
PVCC	**Panska Ves**	**146.51**	**333**	*e*PKP		**PKPbc**	**12 32 30.6**	**-0.4**	
PVCC	**Panska Ves**	**146.51**	**333**	*e*PKP2		**PKPbc**	**12 32 30.6**	**-0.4**	
CLL	**Collm**	**146.54**	**335**	*e*PKPdf		**PKPbc**	**12 32 30.4**	**-0.6**	
CLL	**Collm**	**146.54**	**335**	*i* PKPbc		**PKPdf**	**12 32 29.2**	**-0.2**	
	comp=Z,17nm,1.2s								
CLL				*e*pPKPdf		**pPKPdf**	**12 32 58.0**	**+0.7**	
CLL				*e*			12 35 39.0		
CLL	**Collm**	**146.54**	**335**	*i* PKIKP		**PKPdf**	**12 32 29.2**	**-0.2**	
CLL				pmax		pmax			
	comp=Z,17nm,1.2s								
MDVR	**Moldovita**	**146.54**	**319**	⇑*i*P		**PKPbc**	**12 32 30.8**	**-0.5**	
SMOL	**Smolenice**	**146.64**	**328**	*e*PKP2		**PKPbc**	**12 32 32.0**	**+0.6**	
SMOL	**Smolenice**	**146.64**	**328**	*e*PKP		**PKPbc**	**12 32 32.0**	**+0.6**	
VTS	**Vitosha**	**146.69**	**315**	*e*PKPdf		**PKPdf**	**12 32 31.0**	**+0.9**	
VTS	**Vitosha**	**146.69**	**315**	⇓*i*P		**PKPbc**	**12 32 31.8**	**-0.1**	
VTS	**Vitosha**	**146.69**	**315**	⇓PKP2		**PKPbc**	**12 32 31.8**	**-0.1**	
KRUC	**Moravsky**	**146.76**	**330**	*e*PKP		**PKPbc**	**12 32 31.1**	**-0.6**	
NVR	**Nevrokopi**	**146.79**	**312**	P		**PKPdf**	**12 32 31.1**	**+0.9**	
MODS	**Modra-Piesok**	**146.81**	**328**	*e*PKP2		**PKPdf**	**12 32 30.7**	**+0.7**	
MODS	**Modra-Piesok**	**146.81**	**328**	*e*PKP		**PKPdf**	**12 32 30.7**	**+0.7**	
GOPC	**GO Pecny, Ondr**	**146.88**	**332**	*e*PKP		**PKPbc**	**12 32 31.7**	**-0.4**	
GOPC	**GO Pecny, Ondr**	**146.88**	**332**	*e*PKP2		**PKPbc**	**12 32 31.7**	**-0.4**	
AMGA	**Amorgos Island**	**146.89**	**304**	P		**PKPdf**	**12 32 30.5**	**0.0**	
TREC	**Trest**	**147.02**	**331**	*e*PKP		**PKPbc**	**12 32 32.0**	**-0.5**	
TREC	**Trest**	**147.02**	**331**	*e*PKP2		**PKPbc**	**12 32 32.0**	**-0.5**	
ZKR	**Zakros**	**147.08**	**301**	P		**PKPbc**	**12 32 32.5**	**-0.6**	
APE	**Apeiranthos**	**147.10**	**304**	⇓*i*P		**PKPdf**	**12 32 31.2**	**+0.3**	
APE	**Apeiranthos**	**147.10**	**304**	⇓PKIKP		**PKPdf**	**12 32 31.2**	**+0.3**	
ANAF	**Anafi Island**	**147.12**	**303**	P		**PKPdf**	**12 32 31.4**	**+0.5**	
SANT	**Santorini**	**147.36**	**303**	*e*PKPdf		**PKPdf**	**12 32 32.1**	**+0.8**	
SANT	**Santorini**	**147.36**	**303**	⇑*i*P		**PKPdf**	**12 32 32.4**	**+1.1**	
IOSP	**Ios island**	**147.39**	**304**	P		**PKPdf**	**12 32 31.9**	**+0.6**	
FRGS	**Fruska Gora**	**147.46**	**321**	⇑*i*P		**PKPbc**	**12 32 33.1**	**-0.8**	
MORH	**M˜ár˜igy, Hung**	**147.49**	**324**	⇑*e*PKPdf		**PKPbc**	**12 32 32.8**	**-1.0**	
MORH	**M˜ár˜igy, Hung**	**147.49**	**324**	⇑*i*P		**PKPbc**	**12 32 32.7**	**-1.1**	
SOP	**Sopron**	**147.63**	**328**	⇓*e*PKPdf		**PKPbc**	**12 32 33.8**	**-0.4**	
AOS	**Alonnisos**	**147.64**	**309**	P		**PKPdf**	**12 32 31.4**	**-0.2**	
LAST	**Lasithi**	**147.65**	**301**	P		**PKPbc**	**12 32 34.2**	**-0.6**	
VAY	**Valandovo**	**147.68**	**313**	P		**PKPbc**	**12 32 35.5**	**+1.0**	
VAY	**Valandovo**	**147.68**	**313**	*i* PKP		**PKPdf**	**12 32 32.9**	**+1.3**	
CONA	**Conrad Observa**	**147.81**	**328**	*e*PKPbc		**PKPbc**	**12 32 34.2**	**-0.5**	
	comp=Z,20nm,1.3s,SNR=7.6								
DIVS	**Divibare**	**147.95**	**319**	*e*PKPbc		**PKPbc**	**12 32 34.5**	**-0.7**	
DIVS	**Divibare**	**147.95**	**319**	⇑*i*P		**PKPbc**	**12 32 34.5**	**-0.8**	
KHC	**Kasperske Hory**	**147.98**	**332**	*e*PKPbc		**PKPbc**	**12 32 34.6**	**-0.6**	
KHC	**Kasperske Hory**	**147.98**	**332**	*e*PKP		**PKPbc**	**12 32 34.6**	**-0.6**	
KHC	**Kasperske Hory**	**147.98**	**332**	*e*PKP2		**PKPbc**	**12 32 34.6**	**-0.6**	
PTL	**Penteli**	**148.05**	**307**	P		**PKPdf**	**12 32 33.8**	**+1.4**	
XOR	**Xorichti**	**148.06**	**309**	P		**PKPdf**	**12 32 33.8**	**+1.4**	
IDI	**Anoyia**	**148.09**	**301**	*e*PKPbc		**PKPbc**	**12 32 35.3**	**-0.6**	
IDI	**Anoyia**	**148.09**	**301**	⇑*i*P		**PKPbc**	**12 32 35.5**	**-0.4**	
SKO	**Skopje**	**148.13**	**315**	*i* PKP		**PKPbc**	**12 32 35.1**	**-0.6**	
ATHU	**Athens Univers**	**148.14**	**307**	P		**PKPdf**	**12 32 33.9**	**+1.4**	
GEC2	**GERESS Array S**	**148.15**	**332**	*e*PKPbc		**PKPbc**	**12 32 35.0**	**-0.6**	
GERES	**GERESS Array B**	**148.15**	**332**	PKPbc		**PKPbc**	**12 32 34.9**	**-0.7**	
	comp=Z,9.2nm,1.0s,baz=48,slow=2.0,SNR=40								
GEA0	**GERESS Array S**	**148.15**	**332**	*e*PKPbc		**PKPbc**	**12 32 34.5**	**-1.1**	
VLY	**Voula,Athens**	**148.17**	**306**	P		**PKPdf**	**12 32 34.0**	**+1.4**	
LIT	**Litokhoron**	**148.26**	**311**	*e*PKPbc		**PKPbc**	**12 32 34.5**	**-1.6**	
LIT	**Litokhoron**	**148.26**	**311**	P		**PKPdf**	**12 32 33.5**	**+0.8**	
LIT	**Litokhoron**	**148.26**	**311**	*e*PKIKP		**PKPbc**	**12 32 34.5**	**-1.6**	
BBLS	**Lazići**	**148.43**	**320**	⇑*i*P		**PKPbc**	**12 32 35.9**	**-0.6**	
ARSA	**Arzberg**	**148.44**	**328**	*e*PKPbc		**PKPbc**	**12 32 35.0**	**-1.4**	
	comp=Z,4.7nm,1.1s								
KRUS	**Krusevo**	**148.55**	**314**	*i* PKP		**PKPbc**	**12 32 35.7**	**-1.2**	
HAPS	**Han Pijesak,BI**	**148.58**	**320**	*e*P		**PKPbc**	**12 32 35.6**	**-1.4**	
MOA	**Molln**	**148.62**	**330**	*e*PKPbc		**PKPbc**	**12 32 35.0**	**-1.8**	
	comp=Z,14nm,1.3s								
BIA	**Bitola**	**148.66**	**313**	*e*PKP		**PKPbc**	**12 32 36.2**	**-1.0**	
DID	**Didima**	**148.70**	**306**	P		**PKPdf**	**12 32 34.9**	**+1.4**	
FNA	**Florina**	**148.73**	**313**	*e*PKPbc		**PKPbc**	**12 32 35.9**	**-1.5**	
IMMV	**Iera Moni Meta**	**148.76**	**302**	P		**PKPbc**	**12 32 37.0**	**-0.5**	
AGG	**Agios Georgios**	**148.81**	**309**	*e*PKPbc		**PKPbc**	**12 32 35.8**	**-1.8**	
AGG	**Agios Georgios**	**148.81**	**309**	*e*PKIKP		**PKPbc**	**12 32 35.8**	**-1.8**	
DSF	**Desfina**	**148.90**	**308**	P		**PKPbc**	**12 32 36.1**	**-1.8**	
OHR	**Ohrid**	**148.97**	**314**	*i* PKP		**PKPbc**	**12 32 36.8**	**-1.2**	
PERS	**Pernice**	**149.07**	**327**	*e*PKPbc		**PKPbc**	**12 32 36.8**	**-1.2**	
PERS	**Pernice**	**149.07**	**327**	*e*PKPbc		**PKPbc**	**12 32 36.8**	**-1.2**	
SOKA	**Soboth**	**149.08**	**328**	*e*PKPbc		**PKPbc**	**12 32 37.0**	**-1.1**	
	comp=Z,22nm,1.2s,SNR=7.1								
ANKY	**Antikythira Is**	**149.17**	**303**	P		**PKPbc**	**12 32 37.6**	**-0.9**	
VLI	**Veliai**	**149.19**	**305**	P		**PKPdf**	**12 32 33.4**	**-0.8**	
BLY	**Banja Luka**	**149.21**	**323**	*e*PKPbc		**PKPbc**	**12 32 38.4**	**0.0**	
BLY	**Banja Luka**	**149.21**	**323**	⇑*i*P		**PKPbc**	**12 32 37.2**	**-1.1**	
BLY	**Banja Luka**	**149.21**	**323**	⇑*i*P		**PKPbc**	**12 32 37.5**	**-0.8**	
ANX	**Ano Chora**	**149.27**	**309**	P		**PKPbc**	**12 32 38.1**	**-0.8**	
PDG	**Podgorica**	**149.31**	**317**	⇑*i*P		**PKPbc**	**12 32 37.8**	**-0.8**	
TTG	**Podgorica**	**149.31**	**317**	*e*PKPbc		**PKPbc**	**12 32 37.9**	**-0.7**	
TTG	**Podgorica**	**149.31**	**317**	*e*PKP2		**PKPbc**	**12 32 37.9**	**-0.7**	
KLV	**Kalavryta, Ach**	**149.31**	**308**	P		**PKPbc**	**12 32 37.6**	**-1.3**	
EFP	**Efpalio**	**149.35**	**309**	P		**PKPbc**	**12 32 38.3**	**-0.6**	
CRES	**Cresnjev**	**149.44**	**326**	⇑*i*P		**PKPbc**	**12 32 37.9**	**-1.0**	
TIR	**Tirane**	**149.47**	**315**	*e*PKPbc		**PKPbc**	**12 32 38.7**	**-0.4**	
TIR	**Tirane**	**149.47**	**315**	*e*PKP2		**PKPbc**	**12 32 38.7**	**-0.4**	
DRME	**Dracevica, Mon**	**149.48**	**317**	*e*P		**PKPbc**	**12 32 37.2**	**-1.9**	
BRY	**Bratogost**	**149.49**	**319**	*e*P		**PKPbc**	**12 32 37.1**	**-2.2**	
MEM	**Membach**	**149.53**	**342**	⇓PKP		**PKPbc**	**12 32 38.0**	**-1.0**	
KBA	**Koelnbreinsper**	**149.61**	**330**	*e*PKPbc		**PKPbc**	**12 32 37.8**	**-1.8**	
	comp=Z,16nm,1.0s,SNR=5.1								
DYR	**Agios Nikonas**	**149.63**	**305**	P		**PKPbc**	**12 32 37.6**	**-2.1**	
BOJS	**Bojanci**	**149.77**	**326**	*e*PKPbc		**PKPbc**	**12 32 39.1**	**-0.6**	
BOJS	**Bojanci**	**149.77**	**326**	*e*PKPbc		**PKPbc**	**12 32 39.1**	**-0.6**	
LJU	**Ljubljana**	**149.77**	**327**	⇑*i*P		**PKPbc**	**12 32 38.6**	**-1.1**	
VISS	**Visnje**	**149.78**	**326**	*i* PKPbc		**PKPbc**	**12 32 38.8**	**-0.9**	
VISS	**Visnje**	**149.78**	**326**	*i* PKPbc		**PKPbc**	**12 32 38.8**	**-0.9**	
ITM	**Ithomi**	**149.79**	**306**	*e*PKPbc		**PKPbc**	**12 32 38.9**	**-1.2**	
MYKA	**Terra Mystica**	**149.79**	**329**	*e*PKPbc		**PKPbc**	**12 32 38.1**	**-1.7**	
	comp=Z,13nm,1.0s								
CEY	**Cerknica**	**150.03**	**327**	⇑*i*P		**PKPbc**	**12 32 39.1**	**-1.3**	
PYL	**PYLOS**	**150.03**	**306**	P		**PKPbc**	**12 32 39.1**	**-1.5**	
LKD2	**Lefkada island**	**150.10**	**310**	P		**PKPbc**	**12 32 39.9**	**-0.9**	
JAVS	**Javornik**	**150.11**	**327**	*i* PKPbc		**PKPbc**	**12 32 39.1**	**-1.6**	
JAVS	**Javornik**	**150.11**	**327**	*i* PKPbc		**PKPbc**	**12 32 39.1**	**-1.6**	
WATA	**Walderalm**	**150.22**

baz=327,SNR=6.0
KLU Klutina 11.91 326 ePn Pn 12 30 23.2 -2.0
GLI Glacier Island 11.92 322 ePn Pn 12 30 22.1 -3.2
WALA Waterton Lakes 11.94 99 ePn Pn 12 30 27.2 +1.5
L04D Klamath Falls 12.04 143 P Pn 12 30 30.2 +3.0
baz=329,SNR=8.0
KRMB Red Mountain 12.11 150 ePn Pn 12 30 33.3 +5.1
K05A Summer Lake 12.17 137 ePn Pn 12 30 32.2 +3.3
BMO Blue Mountains 12.26 122 ePn Pn 12 30 31.0 +0.9
BMO Blue Mountains 12.26 122 eP Pn 12 30 31.0 +0.9
JTMT Jette 12.28 105 ePn Pn 12 30 31.9 +1.5
YBH Yreka Blue Hor 12.32 145 Pn Pn 12 30 34.6 +3.6
0.4nm,0.3s,baz=340,slow=6.9,SNR=46
YBH LR LR 12 34 27.2
comp=Z,2µm,21.6s,baz=330,slow=34
YBH Yreka Blue Hor 12.32 145 ePn Pn 12 30 35.3 +4.3
HARP HAARP 12.34 330 ePn Pn 12 30 32.6 +1.6
M02C Callahan 12.57 147 P Pn 12 30 37.8 +3.4
baz=332,SNR=19
M04C Macdoel 12.59 143 P Pn 12 30 37.8 +3.1
baz=329,SNR=20
SCM Sheep Creek Mo 12.63 325 ePn Pn 12 30 36.1 +1.1
SCM Sheep Creek Mo 12.63 325 eP Pn 12 30 36.2 +1.1
J08A Circle Bar Ran 12.75 129 ePn Pn 12 30 38.2 +1.4
KHMM Horse Mountain 12.76 150 ePn Pn 12 30 38.0 +1.0
PAX Paxson 12.86 332 ePn Pn 12 30 38.7 +0.5
PAX Paxson 12.86 332 eP Pn 12 30 38.7 +0.5
MSO Missoula 12.95 108 ePn Pn 12 30 41.1 +1.6
MSO Missoula 12.95 108 P Pn 12 30 41.5 +2.0
baz=301,SNR=14
KDAK Kodiak Island 12.98 303 Pn Pn 12 30 37.5 -2.2
0.1nm,0.3s,baz=150,slow=20,SNR=2.0
KDAK Sn Sn 12 32 58.7 -4.6
0.1nm,0.3s,baz=322,slow=17,SNR=2.1
KDAK LR LR 12 33 54.2
comp=Z,391nm,21.2s,baz=65,slow=30
SML Sawmill 12.98 324 ePn Pn 12 30 40.8 +1.0
SML Sawmill 12.98 324 eP Pn 12 30 40.8 +1.0
N02D Trinity Center 13.00 147 P Pn 12 30 43.7 +3.5
baz=332,SNR=27
DOT Dot Lake 13.02 336 ePn Pn 12 30 40.9 +0.7
RC01 Rabbit Creek A 13.08 319 ePn Pn 12 30 41.0 -0.1
MOD Modoc Plateau 13.09 138 ePn Pn 12 30 44.5 +3.0
GHO Glory Hole Cre 13.17 323 ePn Pn 12 30 43.6 +1.2
SCRK Sand Creek 13.27 337 ePn Pn 12 30 45.8 +2.0
RIDG Independe'e Rid 13.29 335 ePn P 12 30 49.6 -4.1
KMRM Mail Ridge 13.37 151 ePn Pn 12 30 49.5 +4.3
EGAK Eagle 13.37 343 ePn Pn 12 30 46.9 +1.8
WVOR Wild Horse Val 13.39 132 ePn Pn 12 30 49.0 +3.5
WVOR Wild Horse Val 13.39 132 eP Pn 12 30 49.0 +3.5
WDC Whiskeytown Da 13.41 147 ePn Pn 12 30 49.0 +3.4
DHY Denali Highway 13.52 329 ePn Pn 12 30 49.0 +1.7
O02D Mt. Diablo Mer 13.69 149 P Pn 12 30 53.5 +3.8
baz=334
YKA Yellowknife Ar 13.83 36 Pn Pn 12 30 50.2 -1.1
0.6nm,0.3s,baz=228,slow=12,SNR=20
YKA Sn Sn 12 33 17.1 -6.9
0.2nm,0.3s,baz=222,slow=22,SNR=4.0
YKA Lg Lg 12 34 53.0
0.1nm,0.3s,baz=213,slow=26,SNR=3.6
YKB5 Yellowknife Ar 13.83 36 ePn Pn 12 30 52.1 +0.8
YKW3 Yellowknife Ar 13.87 35 ePn Pn 12 30 52.4 +0.6
KCPM Cahto Peak 13.90 152 ePn Pn 12 30 55.0 +2.5
O03E Paynes Creek 13.91 146 P Pn 12 30 55.2 +2.5
baz=332
RND Reindeer 14.23 328 ePn Pn 12 30 58.9 +2.1
RND Reindeer 14.23 328 eP Pn 12 30 58.9 +2.1
HRY Holter Researc 14.25 105 ePn Pn 12 30 59.1 +1.8
EPYK Eagle Plains 14.31 352 P P 12 31 06.9 +1.9
baz=170
HDA Harding Lake 14.39 333 eP P 12 31 07.5 +1.7
HDA Harding Lake 14.39 333 P P 12 31 07.9 +2.0
baz=142,SNR=8.9
MCK McKinley 14.48 329 eP P 12 31 06.2 -0.6
DLMT Dillon 14.54 111 ePn Pn 12 31 02.7 +1.4
IL1 Eielson Array 14.66 334 ePn P 12 31 10.2 +1.4
ILAR Eielson Array 14.66 334 Pn Pn 12 31 04.7 +2.1
0.2nm,0.3s,baz=160,slow=13,SNR=11
ILAR Lg Lg 12 35 27.1
0.0nm,0.3s,baz=316,slow=32,SNR=2.5
ILAR LR LR 12 36 47.8
comp=Z,1µm,19.5s,baz=147,slow=38
ILB Eielson Array 14.66 334 ePn Pn 12 31 02.9 +0.3
ILB esP P 12 31 10.3 +1.5
HLID Hailey 14.66 120 ePn Pn 12 31 04.2 +1.2
HLID esP P 12 31 10.8 +1.7
HLID Hailey 14.66 120 P Pn 12 31 04.8 +1.9
baz=312,SNR=16
ORV Oroville 14.68 146 ePn Pn 12 31 05.1 +2.0
ORV esP P 12 31 09.7 +0.5
ORV Oroville 14.68 146 eP Pn 12 31 05.1 +2.0
HOPS Hopland Field 14.69 151 ePn P 12 31 06.6 -2.7
MCMT McKenzie Canyo 14.71 113 ePn Pn 12 31 04.5 +0.9
MCMT esP P 12 31 11.6 +1.8
TRF Thorofare Moun 14.73 326 ePn Pn 12 31 04.9 +1.0
TRF esP P 12 31 11.1 +1.3
WRH Wood River Hil 14.76 332 ePn Pn 12 31 05.7 +1.7
WRH esP P 12 31 11.8 +1.9
BEKR Beckworth 14.81 142 ePn Pn 12 31 07.8 +2.8
BEKR esP P 12 31 12.4 +1.6
CCB Clear Creek Bu 14.81 333 ePn Pn 12 31 06.8 +2.1
CCB esP P 12 31 11.6 +1.1
EGMT Eagleton 14.89 98 ePn Pn 12 31 07.2 +1.3
EGMT esP P 12 31 12.1 +0.6
EGMT Eagleton 14.89 98 P P 12 31 08.9 -2.6
baz=295,SNR=5.7
BWN Browne 14.96 329 eP P 12 31 13.0 +0.9
BOZ Bozeman (W) 14.96 109 ePn Pn 12 31 07.2 +0.2
BOZ esP P 12 31 11.9 -0.5
BOZ Bozeman (W) 14.96 109 eP Pn 12 31 07.2 +0.2
COLA College 15.00 333 ePn P 12 31 12.9 +0.4
TCOL CIGO, UAF Yank 15.00 333 P P 12 31 14.1 +1.6
baz=141,SNR=9.7
PPLA Purkeypile 15.07 323 ePn Pn 12 31 09.5 +1.2
57nm,1.2s
POKR Poker Plat Res 15.07 334 P P 12 31 13.0 -0.4
baz=142,SNR=6.5
MDM Murphy Dome 15.17 333 ePn P 12 31 16.2 +1.7
PAHR Pah Rah Range 15.32 140 ePn Pn 12 31 13.2 +1.4
PAHR esP P 12 31 18.2 +1.8
BPAW Bear Paw Mtn. 15.40 328 ePn Pn 12 31 12.6 +0.1
BPAW esP P 12 31 18.2 +1.2
AFDM Forest Hills D 15.40 146 ePn Pn 12 31 14.1 +1.4
AFDM esP P 12 31 18.2 +1.0
QLMT Earthquake Lak 15.52 111 ePn Pn 12 31 15.5 +1.1
QLMT esP P 12 31 20.1 +1.5
SVW2 Sparrevohn 15.57 314 ePn Pn 12 31 14.9 +0.2
SVW2 esP P 12 31 19.5 +0.6
VCNR Virginia City 15.58 142 ePn P 12 31 17.3 -2.1
81nm,1.1s
RUBR Rubicon Trail 15.60 143 ePn Pn 12 31 16.2 +0.7
83nm,1.2s
BMN Battle Mountai 15.62 134 ePn P 12 31 21.8 +2.0
89nm,1.0s
BMN Battle Mountai 15.62 134 eP P 12 31 21.8 +2.0
BMN pmax pmax
comp=Z,89nm,1.0s
YHB Horse Butte 15.70 110 ePn Pn 12 31 18.1 +1.3
comp=Z,39nm,1.2s
FYU Fort Yukon 15.75 340 ePn P 12 31 22.4 +1.6
comp=Z,61nm,0.9s
PNTR Pine Nut 15.78 142 ePn P 12 31 21.3 -0.3
comp=Z,66nm,1.1s
YHH Holmes Hill 15.88 110 ePn Pn 12 31 20.5 +1.4
comp=Z,39nm,1.1s
YMR Madison River 15.88 110 ePn Pn 12 31 20.5 +1.4
comp=Z,69nm,1.0s
MLY Manley 15.95 330 ePn P 12 31 24.9 +1.7
comp=Z,79nm,1.0s
YERR Yerington 16.00 141 ePn P 12 31 22.8 -1.3
comp=Z,57nm,1.1s
GCMT Greycliff 16.01 105 ePn P 12 31 23.0 -1.1
YNR Norris Junctio 16.02 110 ePn P 12 31 25.4 +1.1
comp=Z,23nm,1.0s
INK Inuvik 16.08 358 Pn P 12 31 24.1 -0.4
comp=Z,0.3nm,0.3s,baz=169,slow=11,SNR=16
INK LR LR 12 37 35.5
comp=Z,1µm,20.4s,baz=176,slow=37
INK Inuvik 16.08 358 ePn P 12 31 26.9 +2.5
comp=Z,31nm,0.9s
YPP Pitchstone Pla 16.21 111 ePn P 12 31 26.3 -0.1
comp=Z,15nm,1.0s
H17A Grant Village 16.27 111 ePn P 12 31 27.5 +0.5
comp=Z,88nm,1.4s
H17A Grant Village 16.27 111 P P 12 31 26.9 -0.1
baz=306,SNR=16
LKWY Lake 16.27 110 ePn P 12 31 26.8 -0.2
comp=Z,37nm,1.0s
LKWY Lake 16.27 110 eP P 12 31 26.8 -0.2
LKWY pmax pmax
comp=Z,37nm,1.0s
WAKR Walker 16.35 143 ePn P 12 31 29.0 +1.1
comp=Z,97nm,1.4s
IMW Indian Meadow 16.36 113 ePn P 12 31 27.2 -1.0
comp=Z,28nm,1.0s
FLWY Flagg Ranch 16.38 112 ePn P 12 31 27.4 -0.8
comp=Z,39nm,1.2s
KVN Kaiserville 16.40 138 ePn P 12 31 27.7 -0.8
comp=Z,80nm,1.0s
KVN Kaiserville 16.40 138 eP P 12 31 27.7 -0.8
KVN pmax pmax
comp=Z,80nm,1.0s
CMB Columbia Colle 16.42 146 ePn Pn 12 31 27.0 +1.1
comp=Z,65nm,1.3s
CMB Columbia Colle 16.42 146 eP Pn 12 31 27.0 +1.1
CMB pmax pmax
comp=Z,65nm,1.3s
FXWY Fox Creek 16.47 113 ePn P 12 31 31.6 +2.3
comp=Z,38nm,1.0s
MOOW Moose Ponds 16.56 113 ePn P 12 31 30.9 +0.6
comp=Z,28nm,1.0s
RYN Ryan 16.59 140 ePn P 12 31 30.3 -0.2
comp=Z,77nm,1.2s
RLMT Red Lodge 16.61 107 ePn Pn 12 31 29.1 +0.8
comp=Z,39nm,1.1s
RLMT Red Lodge 16.61 107 P Pn 12 31 29.5 +1.1
baz=303,SNR=17
TPAW Teton Pass 16.61 114 ePn P 12 31 31.6 +0.8
comp=Z,54nm,0.9s
LOHW Long Hollow 16.73 113 ePn P 12 31 33.6 +1.5
comp=Z,29nm,1.2s
SNOW Snow King Moun 16.74 113 ePn P 12 31 33.8 +1.5
comp=Z,35nm,1.0s
REDW Red Top Meadow 16.75 114 ePn P 12 31 35.1 +2.8
comp=Z,70nm,1.2s
HVU Hansel Valley 16.77 121 ePn Pn 12 31 31.4 +1.0
comp=Z,16nm,1.1s
HVU Hansel Valley 16.77 121 eP Pn 12 31 31.4 +1.0
HVU pmax pmax
comp=Z,16nm,1.1s
NV01 Mina Array Sit 16.85 140 ePn P 12 31 33.4 -0.1
NV01 ePcP PcP 12 36 19.1 +0.8
NVAR Mina Array Bea 16.85 140 Pn P 12 31 32.7 -0.7
comp=Z,0.3nm,0.3s,baz=315,slow=11,SNR=61
NVAR LR LR 12 37 23.2
comp=Z,976nm,21.6s,baz=324,slow=35
NV11 Mina Array Sit 16.91 140 ePn P 12 31 34.5 +0.4
comp=Z,4.4nm,1.1s
AHID Auburn Hatcher 17.00 116 ePn P 12 31 35.7 +0.7
comp=Z,33nm,1.1s
MDPB Devils Postpil 17.25 143 ePn P 12 31 38.6 +0.7
comp=Z,34nm,1.1s
BGU Big Grassy Mou 17.26 124 ePn P 12 31 37.5 -0.4
comp=Z,41nm,1.3s
SPUT South Promonto 17.28 122 eP P 12 31 39.3 +1.2
comp=Z,20nm,1.1s
OMMB Old Mammoth Mi 17.30 143 ePn P 12 31 39.1 +0.6
comp=Z,23nm,1.0s
MLAC Mammoth, Mammo 17.34 143 P P 12 31 39.0 +0.1
baz=331
IM3 Indian Mountai 17.52 330 ePn Pn 12 31 39.8 +0.3
IM3 ePcP PcP 12 36 19.4 +0.8
HWUT Hardware Ranch 17.53 119 ePn P 12 31 41.5 +0.6
comp=Z,17nm,1.0s
LAO LASA Array 17.63 98 P P 12 31 43.6 +1.7
baz=298
BW06 Boulder Array 17.86 113 ePn P 12 31 46.6 +2.1
comp=Z,36nm,1.1s
BW06 Boulder Array 17.86 113 P P 12 31 47.1 +2.5
baz=310,SNR=22
PD31 Pinedale Array 17.86 113 ePn P 12 31 46.0 +1.4
PDAR Pinedale Array 17.86 113 P P 12 31 46.0 +1.4
comp=Z,0.3nm,0.3s,baz=306,slow=8.4,SNR=45
PDAR Pinedale Array 17.86 113 ePn P 12 31 47.1 +2.5
DUG Dugway, Tooele 17.91 125 ePn P 12 31 46.8 +1.7
comp=Z,33nm,0.9s
DUG Dugway, Tooele 17.91 125 eP P 12 31 46.8 +1.7
DUG pmax pmax
comp=Z,33nm,0.9s
DUG Dugway, Tooele 17.91 125 P P 12 31 46.8 +1.7
baz=318,SNR=31
PMPB Monarch Peak 17.94 149 eP P 12 31 46.8 +1.4
comp=Z,78nm,1.1s
TCUT Toone Canyon 17.96 120 ePn P 12 31 46.5 +0.7
comp=Z,29nm,1.0s
FFC Flin Flon 17.98 70 ePn P 12 31 47.0 +1.4
comp=Z,42nm,1.0s
FFC Flin Flon 17.98 70 eP P 12 31 47.0 +1.4
FFC pmax pmax
comp=Z,42nm,1.0s
R11A Troy Canyon, C 18.06 134 ePn P 12 31 47.0 +0.3
comp=Z,48nm,1.1s
R11A ePcP PcP 12 36 21.5 +1.3
R11A Troy Canyon, C 18.06 134 P P 12 31 48.1 +1.4
baz=325,SNR=39
TIN Tinemaha, Big 18.08 142 P P 12 31 49.6 +2.7
baz=331
CTU Camp Tracy 18.09 122 ePn P 12 31 48.9 +1.8
comp=Z,20nm,1.3s
DGMT Dagmar 18.11 91 ePn P 12 31 48.4 +1.3
comp=Z,89nm,1.1s
DGMT Dagmar 18.11 91 P P 12 31 48.7 +1.6
baz=292
JLU Jordanelle 18.31 122 eP P 12 31 51.4 +1.8
comp=Z,15nm,1.2s
TOLK Toolik Lake Re 18.40 340 eP Pn 12 31 51.7 +1.4
comp=Z,79nm,1.5s
TOLK ePcP PcP 12 36 21.3 +1.2
TOLK Toolik Lake Re 18.40 340 P Pn 12 31 51.9 +1.6
baz=145
GRAC Grapevine Rang 18.46 140 P Pn 12 31 53.7 +2.4
baz=330,SNR=6.8
NLU North Lily Min 18.46 124 eP Pn 12 31 53.0 +1.5
comp=Z,22nm,1.0s
PAGB Antelope Grade 18.56 149 eP Pn 12 31 53.9 +1.5
comp=Z,64nm,1.1s
MPU Maple Canyon 18.64 123 eP Pn 12 31 54.8 +1.2
comp=Z,25nm,1.5s
CWC Cottonwood Cre 18.68 143 P Pn 12 31 56.1 +2.1
baz=332
PSUT Pine Spring 18.69 130 eP Pn 12 31 55.1 +0.9
comp=Z,51nm,1.2s
VES Vestal, Richgr 18.85 146 P Pn 12 31 57.6 +1.7
baz=334
TPNV Topopah Spring 18.95 138 eP Pn 12 31 58.2 +0.9
comp=Z,102nm,1.3s
TPNV Topopah Spring 18.95 138 eP Pn 12 31 58.2 +0.9
TPNV pmax pmax
comp=Z,102nm,1.3s
TPNV Topopah Spring 18.95 138 P Pn 12 31 58.3 +0.9
baz=328,SNR=33
DAC Darwin (Calif) 19.00 142 eP Pn 12 32 00.4 +2.5
comp=Z,32nm,1.2s
DAC Darwin (Calif) 19.00 142 eP Pn 12 32 00.4 +2.5
DAC pmax pmax
comp=Z,31nm,1.2s
SMMC Simmler 19.02 148 P Pn 12 31 59.4 +1.4
baz=336
FURC Furnace Creek, 19.12 140 P Pn 12 32 00.0 +1.0
baz=330,SNR=14
ISA Isabella, Lake 19.22 145 eP Pn 12 32 01.1 +0.6
comp=Z,75nm,1.3s
ISA Isabella, Lake 19.22 145 eP Pn 12 32 01.1 +0.6
ISA pmax pmax
comp=Z,75nm,1.3s
ISA Isabella, Lake 19.22 145 P Pn 12 32 01.4 +0.9
baz=333,SNR=27
MPMC Manual Prospec 19.23 142 P Pn 12 32 01.5 +0.7
baz=331,SNR=33
TCRU Three Creeks R 19.31 127 eP Pn 12 32 02.3 +0.6
comp=Z,42nm,1.3s
TMUT Trail Mountain 19.40 124 eP Pn 12 32 03.0 +0.2
comp=Z,38nm,1.2s
PKM Mcpherson Peak 19.47 149 P Pn 12 32 04.6 +1.0
baz=336,SNR=10
P17A Butcher Ranch, 19.51 123 eP Pn 12 32 03.9 0.0
comp=Z,28nm,0.9s
MSU Marysvale 19.52 127 eP Pn 12 32 04.9 +0.8
MSU Marysvale 19.52 127 eP Pn 12 32 04.9 +0.8
ARVC Arvin 19.58 146 P P 12 32 03.5 +0.2
baz=334,SNR=7.3
P18A Preston Nutter 19.65 122 eP Pn 12 32 06.0 +0.2
comp=Z,51nm,1.3s
K22A Casper 19.67 109 eP P 12 32 05.0 +0.7
comp=Z,49nm,1.2s
K22A Casper 19.67 109 P Pn 12 32 05.2 -0.6
baz=308,SNR=18
LRMC Laurel Mtn Rad 19.68 143 P Pn 12 32 06.5 +0.5
baz=332
CCUT Cedar City 19.72 131 eP Pn 12 32 06.6 +0.1
comp=Z,96nm,1.2s
SHPR Sheep Range 19.79 136 eP P 12 32 06.4 +0.7
comp=Z,97nm,1.4s
SHOC Shoshone, Teco 19.85 139 P Pn 12 32 08.2 +0.3
baz=330,SNR=16
MTPU Mount Pierson 19.88 128 eP Pn 12 32 08.6 0.0
comp=Z,28nm,1.1s
RWWY Rawlins 19.88 112 eP Pn 12 32 08.6 +0.1
comp=Z,16nm,0.8s
SRU San Rafael Swe 19.89 123 eP Pn 12 32 08.4 -0.1
comp=Z,45nm,0.8s
SRU San Rafael Swe 19.89 123 eP Pn 12 32 08.4 -0.1
SRU pmax pmax
comp=Z,45nm,0.8s
OSI Osito Audit: C 20.08 146 eP P 12 32 09.6 +0.8
comp=Z,121nm,1.4s
OSI Osito Audit: C 20.08 146 P Pn 12 32 09.8 -0.9
baz=335
EDW2 Edwards Air Fo 20.10 145 P Pn 12 32 12.4 +1.5
baz=334,SNR=11
GSC Goldstone, Bar 20.16 141 eP Pn 12 32 11.2 -0.4
comp=Z,83nm,1.4s
GSC Goldstone, Bar 20.16 141 eP Pn 12 32 11.2 -0.5
GSC pmax pmax
comp=Z,83nm,1.4s
GSC Goldstone, Bar 20.16 141 P Pn 12 32 11.9 +0.2
baz=331,SNR=28
LCMT Little Creek M 20.21 132 eP Pn 12 32 11.8 -0.5
comp=Z,99nm,1.3s
RSSD Black Hills 20.27 103 eP Pn 12 32 12.8 -0.2
comp=Z,30nm,1.0s
RSSD Black Hills 20.27 103 eP Pn 12 32 12.8 -0.2
RSSD pmax pmax
comp=Z,30nm,1.0s
RSSD Black Hills 20.27 103 P Pn 12 32 13.6 +0.5
baz=303
PKCU Pink Cliffs 20.30 129 eP Pn 12 32 12.9 -0.5
comp=Z,107nm,1.1s
SCZ2 Santa Cruz Isl 20.35 149 P Pn 12 32 18.7 +4.9
baz=337,SNR=7.8
O20A White River Ci 20.36 117 eP Pn 12 32 13.7 -0.4
comp=Z,132nm,1.1s
O20A White River Ci 20.36 117 P Pn 12 32 13.6 -0.4
baz=314,SNR=56
TUQ Turquoise Moun 20.39 139 P Pn 12 32 14.0 -0.3
baz=330,SNR=19
KNB Kanab 20.40 131 eP Pn 12 32 13.7 -0.8
comp=Z,100nm,1.3s
KNB Kanab 20.40 131 eP Pn 12 32 13.7 -0.8
KNB pmax pmax
comp=Z,100nm,1.3s
BLG Laguna Peak, P 20.43 148 P Pn 12 32 15.4 +0.7
baz=336
RRX Edison Barstow 20.47 142 P Pn 12 32 15.2 0.0
baz=332
DECC Green Verdugo 20.55 146 P Pn 12 32 15.2 -0.9
baz=335
MWC Mount Wilson 20.67 145 eP Pn 12 32 16.7 -1.0
comp=Z,92nm,1.1s
MWC Mount Wilson 20.67 145 eP Pn 12 32 16.7 -1.0
MWC pmax pmax
comp=Z,92nm,1.1s
PASC Pasadena Art C 20.67 146 eP P 12 32 16.3 +1.1
comp=Z,51nm,1.0s
PAS Pasadena 20.70 146 P P 12 32 16.2 +0.8
PAS pmax pmax
comp=Z,51nm,1.1s
HEC Hector,Ludlow 20.76 141 P Pn 12 32 17.6 -1.1
baz=331,SNR=22
BFSC Mount Baldy Ra 20.80 145 P Pn 12 32 18.3 -0.8
baz=334,SNR=55
LDFC Landfair 21.03 138 eP P 12 32 19.6 +0.5
comp=Z,129nm,1.1s
BBRC Big Bear Solar 21.04 143 P P 12 32 20.9 +1.5
baz=333,SNR=20
FMP Fort Macarthur 21.05 147 P P 12 32 20.5 +1.3
baz=335
GMRC Granite Mounta 21.06 140 P P 12 32 21.1 +1.6
baz=330,SNR=28
PV09 Paradox Valley 21.07 122 eP P 12 32 21.2 +1.5
SNCC San Nicolas Is 21.08 150 P P 12 32 23.9 +4.4
baz=338
PV21 Cone Mtn., Par 21.10 121 eP P 12 32 21.2 +1.1
comp=Z,53nm,1.0s
N23A Red Feather La 21.12 112 eP P 12 32 21.1 +0.8
comp=Z,51nm,1.0s
N23A Red Feather La 21.12 112 P P 12 32 20.7 +0.4
baz=311,SNR=37
U15A North Rim 21.13 131 eP P 12 32 21.6 +1.3
comp=Z,79nm,1.0s
PHWY Pilot Hill 21.14 111 eP P 12 32 21.1 +0.7
comp=Z,44nm,1.1s
PV23 Carpenter Ridg 21.17 122 eP P 12 32 21.6 +0.8
comp=Z,70nm,1.0s
MDND Maddock 21.18 89 eP P 12 32 22.4 +1.9
comp=Z,140nm,1.1s
MDND Maddock 21.18 89 P P 12 32 23.1 +2.5
baz=294,SNR=9.9
PV10 Paradox Valley 21.21 122 eP P 12 32 23.0 +1.8
PV14 Lion Creek, Pa 21.22 122 eP P 12 32 22.1 +0.8
comp=Z,83nm,1.0s
PV22 Blue Mesa, Par 21.22 121 eP P 12 32 21.9 +0.7
comp=Z,63nm,1.0s
PV20 West Nyswnger 21.27 122 eP P 12 32 22.9 +1.1
comp=Z,56nm,1.0s
PV19 Morning Glory 21.29 122 eP P 12 32 22.7 +0.6
comp=Z,54nm,1.0s
CIS Catalina Islan 21.29 147 P P 12 32 26.0 +4.1
baz=336
PV16 Nyswonger Mesa 21.32 122 eP P 12 32 23.0 +0.6
comp=Z,66nm,1.2s
PV17 East Wray Mesa 21.32 122 eP P 12 32 23.1 +0.7
comp=Z,90nm,1.1s
PV11 David Mesa, Pa 21.35 122 eP P 12 32 23.4 +0.7
comp=Z,80nm,0.9s
PV18 Skein Mesa, Pa 21.37 122 eP P 12 32 23.8 +0.8
comp=Z,34nm,0.9s
PV12 Saucer Basin, 21.38 122 eP P 12 32 23.8 +0.8
comp=Z,58nm,1.0s
PV03 Paradox Valley 21.40 122 eP P 12 32 23.9 +0.6
PV05 Paradox Valley 21.40 123 eP P 12 32 24.2 +1.0
PV13 Radium Mtn., P 21.48 122 eP P 12 32 24.9 +0.8
comp=Z,76nm,1.0s
PV02 Paradox Valley 21.49 122 eP P 12 32 24.8 +0.5
comp=Z,78nm,1.0s
W13A Hualapai Mount 21.52 136 eP P 12 32 25.6 +1.0
comp=Z,65nm,1.3s
MURC Murrieta 21.54 144 P P 12 32 23.4 -1.1
baz=334
BELC Belle Mtn. Jos 21.62 141 P P 12 32 26.5 +1.0
baz=332,SNR=34
PV01 Paradox Valley 21.63 122 eP P 12 32 26.7 +0.9
SCI2 San Clemente I 21.64 148 P P 12 32 26.6 +1.1
baz=336
RDOG Red Dog Mine 21.65 328 eP P 12 32 26.3 +0.9
comp=Z,66nm,1.2s
SMCO Snowmass 21.73 117 eP P 12 32 28.1 +1.1
comp=Z,58nm,1.0s
PFO Pinyon Flats O 21.79 143 eP P 12 32 27.9 +0.6
comp=Z,41nm,1.3s
PFO Pinyon Flats O 21.79 143 eP P 12 32 27.9 +0.6
PFO pmax pmax
comp=Z,41nm,1.3s
PFO Pinyon Flats O 21.79 143 P P 12 32 28.4 +1.0
baz=333,SNR=11
XPFO Piæon Flat 21.80 143 eP P 12 32 27.9 +0.5
comp=Z,41nm,1.3s
TPFO Pinon Flats 21.80 143 P P 12 32 28.3 +0.9
baz=333,SNR=16
IRM Iron Mountain 21.82 140 P P 12 32 28.5 +1.0
baz=331,SNR=30
FRD Ford Ranch, An 21.84 143 P P 12 32 28.8 +0.9
baz=333,SNR=13
ISCO Idaho Springs 22.05 114 eP P 12 32 31.4 +1.2
comp=Z,11nm,0.9s
ISCO Idaho Springs 22.05 114 eP P 12 32 31.4 +1.2
ISCO pmax pmax
comp=Z,11nm,0.9s
ISCO Idaho Springs 22.05 114 P P 12 32 31.5 +1.2

baz=313,SNR=7.5
PDMCI **Parker Dam,Lak** 22.10 137 P P 12 32 31.8 +1.3
baz=329,SNR=15
BC3 **Big Chuckawall** 22.14 141 P P 12 32 31.9 +0.8
baz=332
FCC **Fort Churchill** 22.19 58 eP P 12 32 33.2 +1.9
comp=Z,78nm,1.1s
FCC **Fort Churchill** 22.19 58 eP P 12 32 33.2 +1.9
FCC pmax pmax
comp=Z,78nm,1.1s
109C **Camp Elliot, M** 22.21 145 P P 12 32 32.6 +0.9
baz=335
CPE **Camp Elliot** 22.21 145 eP P 12 32 32.0 +0.3
comp=Z,71nm,1.3s
WUAZ **Wupatki** 22.30 131 eP P 12 32 34.1 +1.3
comp=Z,83nm,1.0s
WUAZ **Wupatki** 22.30 131 P P 12 32 34.1 +1.3
baz=325,SNR=53
MVCO **Mesa Verde** 22.37 123 eP P 12 32 34.1 +0.4
comp=Z,132nm,1.3s
MVCO **Mesa Verde** 22.37 123 P P 12 32 34.3 +0.7
baz=319,SNR=41
Y12C **Blythe** 22.42 139 eP P 12 32 34.8 +0.9
comp=Z,89nm,1.3s
Y12C **Blythe** 22.42 139 P P 12 32 35.0 +1.0
baz=330,SNR=32
MONP2 **Monument Peak** 22.45 144 P P 12 32 35.8 +1.3
baz=334,SNR=26
BAR **Barrett** 22.55 144 eP P 12 32 36.0 +0.6
comp=Z,22nm,1.0s
ULM **Lac du Bonnet** 22.57 81 P P 12 32 37.2 +1.8
baz=294,slow=12,SNR=15
ULM LR LR 12 41 48.2
comp=Z,2μm,19.6s,baz=290,slow=38
ULM **Lac du Bonnet** 22.57 81 eP P 12 32 37.6 +2.2
comp=Z,68nm,1.0s
ULM **Lac du Bonnet** 22.57 81 eP P 12 32 37.6 +2.2
ULM pmax pmax
comp=Z,68nm,1.0s
SWSC **Sam W. Stewart** 22.63 142 P P 12 32 37.1 +0.9
baz=333,SNR=6.2
IKP **In-Ko-Pah, Jac** 22.78 143 P P 12 32 38.7 +0.8
baz=334,SNR=29
S22A **4UR Ranch, Cre** 22.84 120 eP P 12 32 39.7 +0.9
comp=Z,32nm,1.0s
S22A **4UR Ranch, Cre** 22.84 120 P P 12 32 39.7 +0.9
baz=317,SNR=36
Q24A **Divide** 22.89 115 eP P 12 32 40.5 +1.3
comp=Z,56nm,1.5s
Q24A **Divide** 22.89 115 P P 12 32 40.6 +1.4
baz=314,SNR=8.3
Y14A **Wickenburg** 22.89 136 eP P 12 32 39.7 +0.7
comp=Z,52nm,0.9s
GLA **Glamis** 22.91 140 eP P 12 32 39.8 +0.6
comp=Z,70nm,1.0s
GLA **Glamis** 22.91 140 eP P 12 32 39.8 +0.6
GLA pmax pmax
comp=Z,70nm,1.0s
GLA **Glamis** 22.91 140 P P 12 32 40.0 +0.8
baz=332,SNR=16
X16A **Lo Mia Camp, P** 23.18 132 eP P 12 32 42.8 +0.7
comp=Z,26nm,1.1s
SUSD **Miller** 23.18 97 P P 12 32 43.5 +1.7
baz=301
AGMN **Agassiz Nation** 23.29 85 eP P 12 32 43.7 +0.8
comp=Z,37nm,1.3s
OGNE **Ogallala** 23.35 107 eP P 12 32 44.7 +1.0
comp=Z,45nm,1.0s
OGNE **Ogallala** 23.35 107 P P 12 32 45.0 +1.3
baz=309
W18A **Petrified Fore** 23.40 128 eP P 12 32 45.1 +0.8
comp=Z,143nm,1.4s
W18A **Petrified Fore** 23.40 128 P P 12 32 45.4 +1.1
baz=324,SNR=9.9
SDCO **Great Sand Dun** 23.56 118 eP P 12 32 46.5 +0.5
comp=Z,41nm,1.1s
SDCO **Great Sand Dun** 23.56 118 P P 12 32 47.0 +1.1
baz=316,SNR=44
113A **Mohawk Valley,** 23.59 139 eP P 12 32 46.7 +0.8
comp=Z,27nm,1.2s
X18A **Snowflake** 23.77 130 eP P 12 32 48.9 +1.0
comp=Z,83nm,0.9s
KSCO **Kaye Shedlock'** 24.28 111 eP P 12 32 53.3 +0.7
comp=Z,80nm,1.1s
KSCO **Kaye Shedlock'** 24.28 111 P P 12 32 53.5 +0.9
baz=312,SNR=16
T25A **Trinidad** 24.59 117 eP P 12 32 55.7 +0.1
comp=Z,29nm,1.0s
T25A **Trinidad** 24.59 117 P P 12 32 56.1 +0.5
baz=316,SNR=14
214A **Organ Pipe Nat** 24.68 138 P P 12 32 57.1 +0.9
baz=330,SNR=31
ECSD **EROS Data Cent** 24.98 96 eP P 12 32 59.4 +0.7
comp=Z,56nm,1.3s
ECSD ePcP PcP 12 36 33.6 +0.2
ECSD **EROS Data Cent** 24.98 96 P P 12 32 59.3 +0.5
baz=302,SNR=16
ANMO **Albuquerque** 25.16 123 P P 12 33 01.2 +0.5
comp=Z,10.0nm,1.0s,baz=317,slow=9.9,SNR=42
ANMO LR LR 12 42 47.7
comp=Z,135nm,21.2s,baz=316,slow=36
ANMO **Albuquerque** 25.16 123 eP P 12 33 01.0 +0.3
comp=Z,10nm,0.9s
ANMO **Albuquerque** 25.16 123 eP P 12 33 01.0 +0.3
ANMO pmax pmax
comp=Z,10.0nm,0.9s
ANMO **Albuquerque** 25.16 123 P P 12 33 01.2 +0.5
baz=321
TUC **Tucson** 25.25 134 eP P 12 33 02.4 +1.1
comp=Z,43nm,1.4s
TUC **Tucson** 25.25 134 eP P 12 33 02.4 +1.1
TUC pmax pmax
comp=Z,43nm,1.4s
TUC **Tucson** 25.25 134 P P 12 33 02.4 +1.1
baz=328
LAZ **Ladron** 25.25 125 eP P 12 33 02.6 +1.1
BGNE **Belgrade** 25.38 102 eP P 12 33 03.2 +0.8
comp=Z,70nm,1.1s
BGNE **Belgrade** 25.38 102 P P 12 33 03.1 +0.8
baz=307,SNR=6.2
LENM **Lemitar** 25.52 125 eP P 12 33 04.6 +0.7
LPM **Los Pinos Moun** 25.57 125 eP P 12 33 05.0 +0.6
Y22D **IRIS PASSCAL I** 25.62 125 eP P 12 33 05.9 +1.2
comp=Z,94nm,1.4s
Y22D **IRIS PASSCAL I** 25.62 125 P P 12 33 06.3 +1.6
baz=322
BNM **Barren Site** 25.70 125 eP P 12 33 06.3 +0.6
CBKS **Cedar Bluff** 26.08 108 eP P 12 33 09.4 +0.6
comp=Z,26nm,1.0s
CBKS **Cedar Bluff** 26.08 108 eP P 12 33 09.4 +0.6
CBKS pmax pmax
comp=Z,26nm,1.0s
CBKS **Cedar Bluff** 26.08 108 P P 12 33 09.6 +0.8
baz=311
EYMN **Ely** 26.11 83 eP P 12 33 09.8 +1.0
comp=Z,64nm,1.0s
EYMN **Ely** 26.11 83 P P 12 33 09.9 +1.0
baz=295,SNR=17
F37A **Hinrichs Farm,** 26.41 89 P P 12 33 12.6 +0.9
baz=299
121A **Cookes Peak, D** 26.44 129 P P 12 33 13.3 +1.0
baz=325,SNR=23
SPMN **Marine on St.** 26.55 90 eP P 12 33 14.2 +1.2
comp=Z,37nm,1.4s
SPMN **Marine on St.** 26.55 90 P P 12 33 13.8 +0.8
baz=300,SNR=5.8
E38A **The Farm, Brul** 26.66 86 eP P 12 33 15.1 +1.2
comp=Z,40nm,1.3s
319A **Douglas** 26.71 133 eP P 12 33 15.7 +1.0
comp=Z,52nm,1.1s
F38A **Pierce - Schro** 26.76 88 P P 12 33 16.5 +1.7
baz=298,SNR=8.1
RES **Resolute Bay** 27.01 21 P P 12 33 18.2 +1.4
comp=Z,11nm,0.7s,baz=240,slow=13,SNR=9.2
RES LR LR 12 44 18.7
comp=Z,2μm,21.2s,baz=236,slow=37
RES **Resolute Bay** 27.01 21 eP P 12 33 16.9 +0.2
comp=Z,16nm,0.8s
RES **Resolute Bay** 27.01 21 eP P 12 33 17.0 +0.2
RES pmax pmax
comp=Z,16nm,0.8s
G39A **Holcombe** 27.52 88 P P 12 33 22.3 +0.6
baz=300,SNR=6.7
EPT **El Paso** 27.68 128 eP P 12 33 24.3 +0.9
comp=Z,23nm,1.1s
KSU1 **Kansas State U** 27.73 104 eP P 12 33 24.6 +0.9
comp=Z,16nm,0.9s
E40A **Wakefield** 27.75 85 P P 12 33 24.5 +0.8
baz=298
AMTX **Amarillo** 27.75 117 eP P 12 33 24.4 +0.5
comp=Z,26nm,0.9s
AMTX **Amarillo** 27.75 117 P P 12 33 24.9 +1.0
baz=318
MSTX **Muleshoe** 27.85 120 eP P 12 33 25.5 +0.6
comp=Z,18nm,1.0s
MSTX **Muleshoe** 27.85 120 P P 12 33 25.4 +0.6
baz=320,SNR=9.6
CPRX **Cap Rock** 28.00 122 eP P 12 33 27.0 +0.8
HSIG **** 28.02 138 eP P 12 33 27.4 +1.1
comp=Z,21nm,1.1s
I39A **Houston** 28.04 91 eP P 12 33 27.1 +0.7
comp=Z,47nm,1.4s
I39A **Houston** 28.04 91 P P 12 33 27.0 +0.7
baz=302,SNR=5.5
SCIA **State Center** 28.08 96 eP P 12 33 27.2 +0.5
comp=Z,27nm,1.2s
U32A **Winter Ranch,** 28.17 111 eP P 12 33 28.8 +1.2
comp=Z,23nm,0.9s
J39A **Decorah** 28.20 92 P P 12 33 28.5 +0.7
baz=303,SNR=8.9
D41A **Chassel** 28.28 83 P P 12 33 29.3 +0.9
baz=297
MNTX **Cornudas Mount** 28.29 126 eP P 12 33 29.2 +0.6
comp=Z,23nm,1.0s
MNTX **Cornudas Mount** 28.29 126 P P 12 33 29.7 +1.0
baz=324,SNR=35
GDL2 **Guadalupe Moun** 28.40 124 eP P 12 33 30.6 +0.9
I40A **Norwalk** 28.57 90 P P 12 33 31.8 +0.7
baz=302
L39A **Vinton** 28.70 95 P P 12 33 33.0 +0.8
baz=304
J40A **Soldiers Grove** 28.76 91 P P 12 33 33.5 +0.7
baz=302
K40A **Colesburg** 28.90 93 P P 12 33 34.7 +0.7
baz=304
I41A **Arkdale** 28.95 90 eP P 12 33 35.2 +0.8
comp=Z,15nm,1.0s
I41A **Arkdale** 28.95 90 P P 12 33 35.0 +0.7
baz=302
M39A **Webster** 28.96 96 P P 12 33 35.6 +1.1
baz=306,SNR=9.8
E42A **Champion** 28.97 84 P P 12 33 35.0 +0.5
baz=298
N39A **Derby Farms, D** 29.11 97 eP P 12 33 37.8 +1.9
comp=Z,24nm,1.3s
N39A **Derby Farms, D** 29.11 97 P P 12 33 36.7 +0.8
baz=306
F42A **Maple Grove Fa** 29.15 85 P P 12 33 37.2 +1.0
baz=299
L40A **Anamosa** 29.21 94 eP P 12 33 37.2 +0.6
comp=Z,40nm,1.3s
L40A **Anamosa** 29.21 94 P P 12 33 37.5 +0.8
baz=304
JFWS **Jewell Farm** 29.33 92 P P 12 33 37.2 -0.6
baz=303
M40A **Post Highland** 29.41 95 P P 12 33 39.5 +1.0
baz=306,SNR=7.0
K41A **Shullsburg** 29.46 92 P P 12 33 39.5 +0.5
baz=304
WMOK **Wichita Mounta** 29.47 113 eP P 12 33 39.5 +0.4
comp=Z,16nm,0.9s
WMOK **Wichita Mounta** 29.47 113 eP P 12 33 39.5 +0.4
WMOK pmax pmax
comp=Z,16nm,0.9s
WMOK **Wichita Mounta** 29.47 113 P P 12 33 40.3 +1.2
baz=316,SNR=17
I42A **Draeger Farm,** 29.62 89 eP P 12 33 41.0 +0.6
comp=Z,36nm,1.3s
I42A **Draeger Farm,** 29.62 89 P P 12 33 41.2 +0.9
baz=302
N40A **Mertquake, Sal** 29.67 96 P P 12 33 42.2 +1.4
baz=306
K42A **Prairie Point,** 29.96 91 P P 12 33 42.3 -1.0
baz=303
M41A **Milan** 30.02 95 P P 12 33 45.1 +1.2
baz=306,SNR=5.8
I43A **Langenfeld Bro** 30.10 89 P P 12 33 45.1 +0.5
baz=302
J43A **Natural Harves** 30.20 90 P P 12 33 45.1 -0.4
baz=303
N41A **Harden Midland** 30.22 96 eP P 12 33 46.9 +1.2
comp=Z,67nm,1.2s
N41A **Harden Midland** 30.22 96 P P 12 33 47.0 +1.4
baz=306,SNR=6.8
TUL1 **Leonard** 30.35 108 eP P 12 33 47.6 +0.7
comp=Z,17nm,1.1s
TUL1 **Leonard** 30.35 108 P P 12 33 47.8 +0.9
baz=314,SNR=5.4
M42A **Sheffield** 30.45 94 P P 12 33 48.2 +0.5
baz=305
O41A **Passleys Farm,** 30.56 97 P P 12 33 49.4 +0.8
baz=307,SNR=13
ABTX **Abilene, Hawle** 30.56 117 eP P 12 33 49.1 +0.3
comp=Z,7.3nm,0.9s
ABTX ePcP PcP 12 36 47.6 +0.4
ABTX **Abilene, Hawle** 30.56 117 P P 12 33 48.4 -0.4
baz=319
N42A **Yates City** 30.65 95 P P 12 33 49.4 -0.1
baz=306,SNR=13
O42A **Bath** 31.00 96 P P 12 33 53.0 +0.5
baz=307
Q41A **Truxton** 31.06 99 P P 12 33 53.7 +0.6
baz=309,SNR=12
LTX **Lajitas** 31.07 126 eP P 12 33 54.4 +1.0
LTX ePcP PcP 12 36 48.6 0.0
LTX **Lajitas** 31.07 126 eP P 12 33 54.4 +1.0
LTX e 12 36 48.6
TX31 **Lajitas Ar. Si** 31.07 126 eP P 12 33 54.3 +0.9
TX31 ePcP PcP 12 36 49.0 +0.4
TXAR **Lajitas Array** 31.07 126 P P 12 33 54.4 +1.0
comp=Z,20nm,0.9s,baz=326,slow=7.4,SNR=144
TXAR PcP PcP 12 36 48.6 0.0
comp=Z,1.4nm,0.9s,baz=333,slow=1.4,SNR=5.3
TXAR LR LR 12 47 10.2
comp=Z,275nm,18.2s,baz=0.0,slow=38
HHAR **Hobbs** 31.18 106 eP P 12 33 54.3 0.0
comp=Z,15nm,1.1s
P42A **Winchester** 31.21 97 eP P 12 33 55.2 +0.7
comp=Z,22nm,1.2s
P42A ePcP PcP 12 36 48.6 -0.1
P42A **Winchester** 31.21 97 P P 12 33 55.1 +0.7
baz=308
HDIL **Hopedale** 31.26 95 eP P 12 33 55.7 +0.8
comp=Z,88nm,1.3s
HDIL **Hopedale** 31.26 95 P P 12 33 55.5 +0.6
baz=306,SNR=8.6
R41A **Rosebud** 31.39 100 P P 12 33 55.9 -0.1
baz=310,SNR=24
O43A **Sugar Creek Fa** 31.41 95 P P 12 33 56.9 +0.7
baz=307
Q42A **Golden Eagle** 31.51 98 P P 12 33 57.5 +0.5
baz=309,SNR=8.8
X37A **Clayton** 31.52 110 eP P 12 33 58.5 +1.2
comp=Z,22nm,1.0s
CCM **Cathedral Cave** 31.62 100 eP P 12 33 58.0 -0.1
comp=Z,25nm,1.0s
CCM **Cathedral Cave** 31.62 100 eP P 12 33 58.0 -0.1
CCM pmax pmax
comp=Z,25nm,1.0s
CCM **Cathedral Cave** 31.62 100 P P 12 33 58.3 +0.2
baz=310
S41A **Jillco Farms,** 31.62 102 P P 12 33 58.1 0.0
baz=311
P43A **Skaggs, Pawnee** 31.68 96 P P 12 33 58.7 +0.2
baz=308,SNR=8.2
R42A **Luebbering** 31.75 100 P P 12 33 59.3 +0.1
baz=310,SNR=8.8
U40A **Yellville** 31.78 104 P P 12 33 59.9 +0.4
baz=304,SNR=36
N44A **Piper City** 31.83 93 P P 12 33 59.7 -0.2
baz=306
SLM **Saint Louis** 31.86 99 eP P 12 34 00.5 +0.3
comp=Z,28nm,1.1s
SLM **Saint Louis** 31.86 99 eP P 12 34 00.5 +0.3
SLM pmax pmax
comp=Z,28nm,1.1s
T41A **Mountain View** 31.97 102 P P 12 34 01.4 +0.2
baz=311,SNR=5.8
Q43A **New Douglas** 32.00 98 P P 12 34 02.1 +0.8
baz=309,SNR=9.7
O44A **Mansfield** 32.01 95 P P 12 34 02.0 +0.5
baz=307,SNR=5.5
W39A **Magazine** 32.02 107 eP P 12 34 02.1 +0.5
comp=Z,22nm,1.0s
W39A **Magazine** 32.02 107 P P 12 34 02.5 +0.9
baz=314,SNR=11
S42A **Caledonia** 32.08 100 P P 12 34 01.7 -0.4
baz=310,SNR=11
HPIG **** 32.13 132 eP P 12 34 03.6 +0.7
comp=Z,15nm,1.2s
HPIG ePcP PcP 12 36 52.4 +0.8
JCT **Junction City** 32.14 120 eP P 12 34 02.2 -0.5
comp=Z,22nm,0.9s
JCT **Junction City** 32.14 120 eP P 12 34 02.2 -0.5
JCT pmax pmax
comp=Z,22nm,0.9s
JCT **Junction City** 32.14 120 P P 12 34 02.8 +0.1
baz=322,SNR=14
FVM **French Village** 32.16 100 eP P 12 34 02.7 -0.1
comp=Z,20nm,1.1s
FVM **French Village** 32.16 100 eP P 12 34 02.7 -0.1
FVM pmax pmax
comp=Z,20nm,1.1s
V40A **Witts Springs** 32.17 105 eP P 12 34 03.0 0.0
comp=Z,18nm,0.9s
V40A **Witts Springs** 32.17 105 P P 12 34 02.9 0.0
baz=313,SNR=11
K46A **Dorr** 32.20 89 P P 12 34 03.1 +0.1
baz=304
WHTX **Lake Whitney,** 32.25 115 P P 12 34 03.9 +0.3
baz=319
R43A **Red Bud** 32.28 99 P P 12 34 04.0 +0.1
baz=309
X39A **Fountain Ranch** 32.31 108 P P 12 34 05.3 +1.1
baz=315,SNR=5.5
P44A **Sand Creek, Wi** 32.33 96 P P 12 34 05.3 +1.0
baz=308,SNR=5.7
U41A **Viola** 32.34 103 P P 12 34 04.6 +0.1
baz=312
T42A **Van Buren** 32.38 102 eP P 12 34 04.3 -0.5
comp=Z,16nm,1.3s
T42A ePcP PcP 12 36 51.8 -0.1
T42A **Van Buren** 32.38 102 P P 12 34 04.7 -0.1
baz=311,SNR=7.2
O45A **Potomac** 32.41 94 P P 12 34 05.4 +0.5
baz=307,SNR=6.7
Q44A **Meyer Farm, Va** 32.44 97 P P 12 34 05.4 +0.2
baz=308
V41A **Mountainview** 32.58 105 P P 12 34 06.3 -0.2
baz=313,SNR=47
MIAR **Mount Ida** 32.60 108 eP P 12 34 07.6 +0.9
comp=Z,39nm,1.1s
MIAR **Mount Ida** 32.60 108 eP P 12 34 07.6 +0.9
MIAR pmax pmax
comp=Z,39nm,1.1s
MIAR **Mount Ida** 32.60 108 P P 12 34 07.6 +0.9
baz=315,SNR=26
S43A **Fulton Ridge,** 32.64 100 P P 12 34 07.2 +0.2
baz=310,SNR=24
SFIN **Lafayette** 32.72 93 eP P 12 34 07.7 +0.1
comp=Z,26nm,1.1s
SFIN **Lafayette** 32.72 93 P P 12 34 08.3 +0.7
baz=306,SNR=5.2
U42A **Revenden** 32.75 103 P P 12 34 07.3 -0.6
baz=312,SNR=5.4
BILL **Bilibino** 32.78 322 eP P 12 34 09.0 +1.1
comp=Z,24nm,1.2s
BILL **Bilibino** 32.78 322 *d i* P P 12 34 08.4 +0.5
BILL *i* 12 34 18.8
BILL *eS* S 12 39 20.7 -2.7
BILL pmax pmax
comp=Z,15nm,1.1s
BILL MLR MLR
comp=Z,187nm,16.0s
P45A **Graceland, Par** 32.83 95 eP P 12 34 09.1 +0.5
comp=Z,134nm,1.3s
P45A **Graceland, Par** 32.83 95 P P 12 34 09.2 +0.5
baz=308,SNR=19
T43A **Greenville** 32.83 101 P P 12 34 08.3 -0.4
baz=311,SNR=13
WHAR **Wooly Hollow** 32.84 105 eP P 12 34 08.7 -0.1
comp=Z,14nm,1.0s
W41B **Gary Mavity, V** 32.95 105 eP P 12 34 09.9 +0.2
comp=Z,34nm,1.4s
W41B **Gary Mavity, V** 32.95 105 P P 12 34 09.7 0.0
baz=314
PBMO **Poplar Bluff** 32.95 101 eP P 12 34 08.9 -0.8
comp=Z,16nm,1.1s
Q45A **Warren Harvey,** 32.97 96 P P 12 34 10.7 +0.8
baz=308,SNR=6.1
S44A **Carbondale** 33.06 99 P P 12 34 10.6 -0.1
baz=310
SIUC **Southern Illin** 33.07 99 eP P 12 34 10.6 -0.1
comp=Z,16nm,0.8s
X40A **Basin Creek Fa** 33.08 107 eP P 12 34 11.2 +0.4
comp=Z,11nm,1.0s
X40A **Basin Creek Fa** 33.08 107 P P 12 34 11.3 +0.4
baz=314,SNR=6.9
435B **Jarrell** 33.10 117 eP P 12 34 11.8 +0.8
comp=Z,11nm,0.8s
OLIL **Olney** 33.10 96 eP P 12 34 11.8 +0.7
comp=Z,80nm,1.3s
P46A **Rosedale** 33.11 94 P P 12 34 12.1 +1.0
baz=308,SNR=11
UALR **University of** 33.16 106 eP P 12 34 12.1 +0.5
comp=Z,23nm,1.0s
R45A **Skylar, Fairfi** 33.27 97 P P 12 34 13.1 +0.6
baz=309,SNR=8.6
S45A **Carrier Mills** 33.48 98 P P 12 34 14.3 0.0
baz=310,SNR=8.8
MATQ **Matagami** 33.63 72 P P 12 34 17.6 +2.1
baz=296
TULEG **Thule** 33.69 22 eP P 12 34 15.8 0.0
comp=Z,129nm,1.2s
N48A **Decatur** 33.70 91 P P 12 34 16.1 -0.2
baz=306
P47A **Martinsville** 33.76 94 P P 12 34 16.7 0.0
baz=308,SNR=13
R46A **Gibson Southern** 33.79 97 P P 12 34 17.6 +0.6
baz=309,SNR=6.0
BLO **Bloomington** 33.80 94 eP P 12 34 17.6 +0.6
comp=Z,55nm,0.9s
BLO **Bloomington** 33.80 94 eP P 12 34 17.7 +0.6
BLO pmax pmax
comp=Z,55nm,0.9s
USIN **University of** 33.85 97 eP P 12 34 17.6 0.0
comp=Z,25nm,0.8s
T45A **Paducah** 33.87 99 eP P 12 34 17.9 +0.2
comp=Z,91nm,1.3s
140A **Cam and Jess,** 33.97 110 eP P 12 34 19.8 +1.2
comp=Z,54nm,1.0s
Z41A **Richland Creek** 33.97 108 eP P 12 34 19.5 +0.9
comp=Z,41nm,1.4s
O48A **Farmland** 33.98 92 P P 12 34 18.1 -0.6
baz=307
Q47A **Bedord North L** 34.00 95 P P 12 34 19.4 +0.5
baz=308,SNR=26
S46A **Don Dixon Farm** 34.00 98 P P 12 34 18.8 -0.1
baz=310,SNR=6.4
833A **Chaparral WMA,** 34.06 122 eP P 12 34 20.3 +0.8
comp=Z,33nm,1.0s
833A **Chaparral WMA,** 34.06 122 P P 12 34 20.0 +0.5
baz=324,SNR=12
CCAR **Cane Creek** 34.10 107 eP P 12 34 21.3 +1.5
comp=Z,44nm,0.7s
UTMT **University of** 34.18 100 eP P 12 34 20.6 +0.1
comp=Z,95nm,1.3s
X43A **Marvell** 34.21 105 eP P 12 34 21.6 +0.9
comp=Z,27nm,1.0s
P48A **Milroy** 34.29 93 P P 12 34 21.3 -0.1
baz=308,SNR=9.5
T46A **Princeton** 34.31 99 P P 12 34 21.7 +0.1
baz=310,SNR=8.1
LSQQ **Lebel-sur-Quev** 34.33 73 P P 12 34 22.6 +0.9
baz=297
R47A **Wooly Knot Far** 34.34 96 P P 12 34 22.1 +0.3
baz=309,SNR=15
MET **Memphis--Engin** 34.36 103 eP P 12 34 23.3 +1.3
comp=Z,50nm,0.6s
Q48A **North Vernon** 34.43 94 P P 12 34 23.1 +0.5
baz=308,SNR=9.5
VLDQ **Val d'Or** 34.48 75 eP P 12 34 22.7 -0.2
comp=Z,24nm,1.0s
WCI **Wyandotte Cave** 34.52 96 eP P 12 34 23.5 +0.1
comp=Z,28nm,0.9s
WCI **Wyandotte Cave** 34.52 96 eP P 12 34 23.5 +0.1
WCI pmax pmax
comp=Z,28nm,0.9s
WCI **Wyandotte Cave** 34.52 96 P P 12 34 23.8 +0.4
baz=309
S47A **Hartford** 34.57 97 P P 12 34 23.9 +0.1
baz=310
CLWO **Collingwood** 34.60 82 P P 12 34 24.1 +0.1
baz=302

BUKO	**Buck Lake**	34.63	80	P		P		12 34 24.8	+0.5			
	baz=301											
R48A	**Northridge Ran**	34.67	95	P		P		12 34 25.3	+0.6			
	baz=309,SNR=7.3											
HKT	**Hockley**	34.70	116	*e*P		P		12 34 25.8	+0.9			
	comp=Z,16nm,1.4s											
HKT	**Hockley**	34.70	116	*e*P		P		12 34 25.8	+0.9			
HKT				pmax		pmax						
	comp=Z,16nm,1.4s											
W45A	**Hickory Valley**	34.78	102	P		P		12 34 25.9	+0.2			
	baz=313											
241A	**Mo Tay, Goldon**	34.79	110	*e*P		P		12 34 27.0	+1.2			
	comp=Z,29nm,0.9s											
241A	**Mo Tay, Goldon**	34.79	110	P		P		12 34 26.2	+0.4			
	baz=317											
T47A	**Sharon Grove**	34.82	98	*e*P		P		12 34 25.6	-0.4			
	comp=Z,18nm,1.1s											
T47A	**Sharon Grove**	34.82	98	P		P		12 34 25.8	-0.2			
	baz=310,SNR=6.5											
N50A	**Nevada**	34.91	89	P		P		12 34 26.8	+0.1			
	baz=306											
WVT	**Waverly**	34.95	100	*e*P		P		12 34 27.2	+0.1			
	comp=Z,21nm,1.2s											
WVT	**Waverly**	34.95	100	*e*P		P		12 34 27.2	+0.1			
WVT				pmax		pmax						
	comp=Z,21nm,1.2s											
WVT	**Waverly**	34.95	100	P		P		12 34 26.9	-0.2			
	baz=312											
O50A	**Cable**	34.99	91	P		P		12 34 27.2	-0.2			
	baz=307,SNR=5.5											
V46A	**Holladay**	34.99	100	P		P		12 34 27.2	-0.2			
	baz=312,SNR=8.8											
Y44A	**Strider, Charl**	34.99	105	P		P		12 34 27.9	+0.4			
	baz=314,SNR=5.0											
S48A	**Wiedeman Farm,**	35.03	96	P		P		12 34 27.9	+0.1			
	baz=310,SNR=26											
U47A	**Clarksville**	35.07	99	P		P		12 34 28.2	+0.1			
	baz=311,SNR=6.0											
OXF	**Oxford**	35.09	103	*e*P		P		12 34 28.3	0.0			
	comp=Z,137nm,1.1s											
OXF	**Oxford**	35.09	103	*e*P		P		12 34 28.3	0.0			
OXF				pmax		pmax						
	comp=Z,137nm,1.1s											
OXF	**Oxford**	35.09	103	P		P		12 34 28.3	0.0			
	baz=314,SNR=20											
X45A	**UM Field Stati**	35.16	103	P		P		12 34 29.2	+0.3			
	baz=314,SNR=6.5											
R49A	**Shelbyville**	35.17	95	P		P		12 34 29.3	+0.3			
	baz=309											
T48A	**Bowling Green**	35.18	97	P		P		12 34 29.3	+0.2			
	baz=310,SNR=12											
ALGO	**Algonquin Park**	35.18	78	P		P		12 34 28.8	-0.2			
	baz=300											
143A	**Socs Landing,**	35.18	108	*e*P		P		12 34 30.1	+1.1			
	comp=Z,75nm,1.0s											
143A	**Socs Landing,**	35.18	108	P		P		12 34 29.9	+0.8			
	baz=316,SNR=11											
ACTO	**Acton**	35.19	83	P		P		12 34 29.4	+0.3			
	baz=303											
P50A	**Jamestown**	35.20	92	P		P		12 34 29.2	0.0			
	baz=307,SNR=7.4											
242A	**Grayson**	35.21	109	P		P		12 34 30.3	+0.9			
	baz=317,SNR=5.1											
N51A	**Ashland**	35.30	89	*e*P		P		12 34 30.7	+0.7			
	comp=Z,38nm,1.1s											
N51A	**Ashland**	35.30	89	P		P		12 34 30.6	+0.5			
	baz=306											
ACSO	**Alum Creek Sta**	35.33	90	*e*P		P		12 34 30.6	+0.3			
	comp=Z,18nm,1.2s											
ACSO	**Alum Creek Sta**	35.33	90	P		P		12 34 30.7	+0.3			
	baz=307											
V47A	**Nunnelly**	35.33	100	P		P		12 34 30.3	-0.1			
	baz=312,SNR=9.4											
S49A	**Springfield**	35.42	95	P		P		12 34 31.1	0.0			
	baz=309,SNR=9.4											
E54A	**Lac Daplat, Po**	35.46	77	P		P		12 34 31.0	-0.4			
	baz=300											
Y45A	**Yeager Farm, C**	35.46	104	P		P		12 34 31.7	+0.2			
	baz=314,SNR=5.2											
X46A	**Booneville**	35.55	103	P		P		12 34 32.3	0.0			
	baz=313,SNR=6.9											
Q50A	**Georgetown**	35.56	93	P		P		12 34 32.0	-0.4			
	baz=308											
PLAL	**Pickwick Lake**	35.57	101	*e*P		P		12 34 31.9	-0.5			
	comp=Z,25nm,0.9s											
342A	**Flagon Creek P**	35.61	110	*e*P		P		12 34 34.3	+1.5			
	comp=Z,52nm,1.0s											
342A	**Flagon Creek P**	35.61	110	P		P		12 34 34.2	+1.4			
	baz=318,SNR=9.1											
W47A	**Westpoint**	35.68	101	P		P		12 34 33.1	-0.3			
	baz=312,SNR=6.2											
R50A	**Paris**	35.70	94	P		P		12 34 33.4	0.0			
	baz=309,SNR=15											
T49A	**Edmonton**	35.70	96	*e*P		P		12 34 34.0	+0.4			
	comp=Z,22nm,1.4s											
T49A				*e*PcP		PcP		12 37 01.8	+0.4			
Z45A	**Winona**	35.72	105	*e*P		P		12 34 34.1	+0.4			
	comp=Z,48nm,0.9s											
Z45A	**Winona**	35.72	105	P		P		12 34 34.4	+0.7			
	baz=315											
P51A	**Williamsport**	35.73	91	*e*P		P		12 34 33.0	-0.8			
	comp=Z,44nm,1.3s											
V48A	**Smith Brothers**	35.82	99	*e*P		P		12 34 34.4	-0.1			
	comp=Z,16nm,1.3s											
V48A	**Smith Brothers**	35.82	99	P		P		12 34 34.4	-0.1			
	baz=312											
Q51A	**Peebles**	35.84	92	*e*P		P		12 34 34.6	-0.1			
	comp=Z,24nm,1.0s											
Q51A	**Peebles**	35.84	92	P		P		12 34 34.5	-0.2			
	baz=308,SNR=6.8											
Y46A	**Houston**	35.85	104	P		P		12 34 34.7	-0.1			
	baz=314,SNR=11											
U49A	**Red Boiling Sp**	35.94	97	P		P		12 34 35.7	+0.1			
	baz=311,SNR=7.0											
S50A	**Richmond**	36.03	95	P		P		12 34 36.3	-0.1			
	baz=309,SNR=8.7											
VBMS	**Vicksburg**	36.05	107	*e*P		P		12 34 37.7	+1.2			
	comp=Z,65nm,1.0s											
244A	**Avery, Jackson**	36.08	108	P		P		12 34 37.9	+1.1			
	baz=316,SNR=13											
R51A	**Hillsboro**	36.14	93	P		P		12 34 37.4	+0.1			
	baz=309,SNR=15											
W48A	**Pulaski**	36.15	100	P		P		12 34 37.2	-0.3			
	baz=312											
T50A	**Nancy**	36.18	96	P		P		12 34 38.2	+0.5			
	baz=310,SNR=7.7											
PLVO	**Plevna**	36.24	79	*e*P		P		12 34 39.4	+1.3			
	comp=Z,16nm,1.2s											
PLVO	**Plevna**	36.24	79	P		P		12 34 37.7	-0.4			
	baz=302											
V49A	**McMinnville**	36.36	98	P		P		12 34 39.3	+0.1			
	baz=312,SNR=6.3											
Y47A	**UCPARC, Winfie**	36.44	103	P		P		12 34 39.7	-0.2			
	baz=314,SNR=10											
344A	**Westbrook Farm**	36.48	108	*e*P		P		12 34 41.3	+1.1			
	comp=Z,50nm,1.1s											
344A	**Westbrook Farm**	36.48	108	P		P		12 34 41.8	+1.6			
	baz=317,SNR=6.7											
Q52A	**Bidwell**	36.54	91	P		P		12 34 40.6	-0.1			
	baz=308											
245A	**Little AP, Sta**	36.55	107	P		P		12 34 41.3	+0.5			
	baz=316,SNR=7.8											
S51A	**Beattyville**	36.55	94	*e*P		P		12 34 40.4	-0.5			
	comp=Z,15nm,0.9s											
S51A	**Beattyville**	36.55	94	P		P		12 34 40.9	+0.1			
	baz=309,SNR=6.2											
X48A	**Hartselle**	36.55	101	*e*P		P		12 34 40.2	-0.6			
	comp=Z,14nm,0.8s											
X48A	**Hartselle**	36.55	101	P		P		12 34 40.3	-0.5			
	baz=313,SNR=9.1											
W49A	**Belvidere**	36.57	100	P		P		12 34 40.9	-0.1			
	baz=312,SNR=6.7											
U50A	**Jamestown**	36.57	97	P		P		12 34 41.2	+0.2			
	baz=311,SNR=18											
146A	**Union**	36.61	105	*e*P		P		12 34 41.7	+0.4			
	comp=Z,41nm,1.0s											
146A	**Union**	36.61	105	P		P		12 34 41.8	+0.4			
	baz=315,SNR=6.7											
SWET	**Sewanee**	36.70	99	*e*P		P		12 34 41.8	-0.4			
	comp=Z,8.3nm,1.0s											
N54A	**Moraine State**	36.73	87	P		P		12 34 42.2	-0.1			
	baz=306											
T51A	**Gray**	36.77	95	P		P		12 34 42.8	+0.1			
	baz=310,SNR=20											
Z47A	**Carrollton**	36.80	104	P		P		12 34 43.1	+0.1			
	baz=314											
LNIG	**Linares**	36.83	125	*e*P		P		12 34 43.1	-0.2			
	comp=Z,31nm,1.1s											
S52A	**Salyersville**	36.84	94	P		P		12 34 43.4	+0.1			
	baz=309											
Y48A	**Jasper**	36.84	102	P		P		12 34 42.9	-0.4			
	baz=314,SNR=7.9											
X49A	**Woodville**	36.94	100	P		P		12 34 44.1	-0.1			
	baz=313											
ORIO	**Orleans, Innes**	36.97	78	P		P		12 34 44.2	0.0			
	baz=302											
Z48A	**Northport**	36.98	103	P		P		12 34 44.2	-0.3			
	baz=314,SNR=7.3											
147A	**Livingston**	37.05	104	*e*P		P		12 34 45.1	0.0			
	comp=Z,24nm,0.9s											
W50A	**Signal Mountai**	37.09	99	*e*P		P		12 34 45.4	-0.1			
	comp=Z,10nm,0.8s											
W50A	**Signal Mountai**	37.09	99	P		P		12 34 45.5	-0.1			
	baz=312,SNR=6.1											
U51A	**La Follette**	37.10	96	P		P		12 34 45.9	+0.4			
	baz=311,SNR=8.6											
ZAIG	**Zacatecas**	37.13	131	*e*P		P		12 34 47.8	+1.5			
	comp=Z,31nm,1.2s											
ALFO	**Alfred**	37.25	77	P		P		12 34 47.1	+0.4			
	baz=302											
T52A	**Hallie**	37.26	94	P		P		12 34 47.4	+0.5			
	baz=310,SNR=16											
346A	**Big Creek Wild**	37.27	107	*e*P		P		12 34 48.2	+1.2			
	comp=Z,46nm,1.0s											
V51A	**Loudon**	37.28	97	*e*P		P		12 34 46.7	-0.3			
	comp=Z,28nm,1.0s											
V51A	**Loudon**	37.28	97	P		P		12 34 47.1	+0.1			
	baz=311,SNR=11											
TZTN	**Tazewell**	37.28	95	*e*P		P		12 34 47.3	+0.2			
	comp=Z,27nm,1.0s											
TZTN				*e*PcP		PcP		12 37 06.5	+0.3			
TZTN	**Tazewell**	37.28	95	P		P		12 34 46.8	-0.2			
	baz=310,SNR=13											
Y49A	**Blount Mountai**	37.34	101	*e*P		P		12 34 47.2	-0.4			
	comp=Z,20nm,1.1s											
Y49A				*e*PcP		PcP		12 37 06.0	-0.4			
Y49A	**Blount Mountai**	37.34	101	P		P		12 34 47.3	-0.3			
	baz=314,SNR=7.0											
X50B	**Fort Payne**	37.39	100	P		P		12 34 48.0	0.0			
	baz=313,SNR=12											
CPCT	**Cooper Cave**	37.41	98	*e*P		P		12 34 48.1	0.0			
	comp=Z,20nm,1.0s											
U52A	**Thorn Hill**	37.49	95	P		P		12 34 49.3	+0.5			
	baz=311,SNR=8.4											
LRAL	**Lakeview Retre**	37.56	103	*e*P		P		12 34 49.1	-0.3			
	comp=Z,15nm,1.0s											
LRAL	**Lakeview Retre**	37.56	103	P		P		12 34 49.1	-0.3			
	baz=314,SNR=9.0											
SCHQ	**Schefferville**	37.56	59	LR		LR		12 50 47.0				
	comp=Z,2µm,18.6s,baz=299,slow=37											
V52A	**Sevierville**	37.71	96	*e*P		P		12 34 51.0	+0.3			
	comp=Z,86nm,1.0s											
V52A	**Sevierville**	37.71	96	P		P		12 34 51.3	+0.6			
	baz=311,SNR=29											
TKL	**Tuckaleechee C**	37.72	97	*e*P		P		12 34 51.0	+0.2			
	comp=Z,28nm,0.9s											
TKL	**Tuckaleechee C**	37.72	97	*e*P		P		12 34 51.0	+0.2			
TKL				pmax		pmax						
	comp=Z,28nm,0.9s											
Y50A	**Piedmont**	37.72	101	P		P		12 34 50.9	+0.1			
	baz=313,SNR=11											
Z49A	**Columbiana**	37.73	102	P		P		12 34 50.6	-0.2			
	baz=314,SNR=6.7											
446A	**Poplarville**	37.76	108	P		P		12 34 52.2	+1.0			
	baz=317											
248A	**Dixon Mills**	37.78	105	P		P		12 34 51.6	+0.3			
	baz=315,SNR=5.6											
X51A	**Calhoun**	37.80	99	*e*P		P		12 34 51.7	+0.3			
	comp=Z,44nm,0.8s											
X51A	**Calhoun**	37.80	99	P		P		12 34 51.5	+0.1			
	baz=313,SNR=14											
347A	**Saraland**	37.80	106	P		P		12 34 52.3	+0.9			
	baz=316,SNR=11											
149A	**Jones**	37.99	103	P		P		12 34 53.0	0.0			
	baz=315,SNR=20											
U53A	**Fall Branch**	37.99	95	P		P		12 34 53.5	+0.4			
	baz=311,SNR=8.2											
W52A	**Murphy**	38.01	98	*e*P		P		12 34 53.4	+0.2			
	comp=Z,60nm,1.0s											
W52A	**Murphy**	38.01	98	P		P		12 34 53.6	+0.4			
	baz=312,SNR=17											
Z50A	**Ashland**	38.05	102	*e*P		P		12 34 53.3	-0.3			
	comp=Z,16nm,0.8s											
Z50A				*e*PcP		PcP		12 37 08.6	0.0			
Z50A	**Ashland**	38.05	102	P		P		12 34 53.8	+0.2			
	baz=314,SNR=9.9											
Y51A	**Rockmart**	38.12	100	P		P		12 34 54.2	0.0			
	baz=313,SNR=5.4											
348A	**Jackson**	38.17	106	*e*P		P		12 34 55.2	+0.7			
	comp=Z,40nm,1.0s											
447A	**Ludlow**	38.17	107	*e*P		P		12 34 55.7	+1.1			
	comp=Z,84nm,1.3s											
447A	**Lucedale**	38.17	107	P		P		12 34 55.8	+1.2			
	baz=317											
249A	**Camden**	38.23	104	P		P		12 34 55.4	+0.3			
	baz=315,SNR=14											
V53A	**Saluda**	38.30	96	*e*P		P		12 34 56.1	+0.4			
	comp=Z,46nm,0.8s											
V53A				*e*PcP		PcP		12 37 10.0	+0.6			
V53A	**Saluda**	38.30	96	P		P		12 34 56.2	+0.4			
	baz=311,SNR=23											
X52A	**Dahlonega**	38.35	98	P		P		12 34 56.2	0.0			
	baz=312,SNR=8.1											
W53A	**Cullowhee**	38.42	97	P		P		12 34 57.3	+0.4			
	baz=312,SNR=37											
150A	**Eclectic**	38.44	102	P		P		12 34 57.0	+0.2			
	baz=315,SNR=11											
FRNY	**Flat Rock**	38.45	77	*e*P		P		12 34 57.7	+0.9			
	comp=Z,22nm,1.0s											
Z51A	**Franklin**	38.46	101	P		P		12 34 57.0	0.0			
	baz=314											
349A	**Repton**	38.63	105	P		P		12 34 59.3	+0.8			
	baz=316,SNR=6.2											
BG3	**Lake Jocassee**	38.68	97	*e*P		P		12 34 59.4	+0.5			
	comp=Z,46nm,0.9s											
250A	**Grady**	38.74	103	*e*P		P		12 34 59.2	-0.1			
	comp=Z,111nm,1.5s											
250A	**Grady**	38.74	103	P		P		12 34 59.6	+0.2			
	baz=315,SNR=12											
Y52A	**Lilburn**	38.75	99	*e*P		P		12 34 59.5	+0.1			
	comp=Z,30nm,1.1s											
Y52A	**Lilburn**	38.75	99	P		P		12 34 59.9	+0.4			
	baz=313,SNR=8.7											
BLA	**Blacksburg**	38.77	92	*e*P		P		12 35 00.2	+0.5			
	comp=Z,54nm,1.0s											
BLA	**Blacksburg**	38.77	92	*e*P		P		12 35 00.2	+0.5			
BLA				pmax		pmax						
	comp=Z,54nm,1.0s											
BLA	**Blacksburg**	38.77	92	P		P		12 35 00.2	+0.5			
	baz=310,SNR=12											
X53A	**Estanollee**	38.78	98	P		P		12 35 00.2	+0.5			
	baz=312,SNR=9.0											
BRAL	**Brewton**	38.85	105	P		P		12 35 01.0	+0.7			
	baz=316											
151A	**Opelika**	38.92	102	P		P		12 35 01.4	+0.5			
	baz=314											
MOQ	**Mont Orford**	38.98	76	*e*P		P		12 35 02.3	+0.9			
Z52A	**Williamson**	39.00	100	P		P		12 35 01.7	+0.1			
	baz=314,SNR=7.3											
251A	**Midway**	39.17	102	P		P		12 35 02.8	-0.1			
	baz=315,SNR=9.3											
PAGS	**Pennsylvania G**	39.17	85	*e*P		P		12 35 02.5	-0.4			
	comp=Z,40nm,1.3s											
152A	**Waverly Hall**	39.18	101	*e*P		P		12 35 02.6	-0.4			
	comp=Z,20nm,0.9s											
152A	**Waverly Hall**	39.18	101	P		P		12 35 02.9	-0.2			
	baz=314,SNR=7.6											
GOGA	**Godfrey**	39.43	99	*e*P		P		12 35 05.0	-0.1			
	comp=Z,32nm,1.3s											
GOGA	**Godfrey**	39.43	99	*e*P		P		12 35 05.0	-0.1			
GOGA				pmax		pmax						
	comp=Z,32nm,1.3s											
GOGA	**Godfrey**	39.43	99	P		P		12 35 05.1	0.0			
	baz=314,SNR=11											
Z53A	**Monticello**	39.45	99	P		P		12 35 05.2	-0.1			
	baz=314,SNR=7.1											
PAULI	**Pauline**	39.48	96	*e*P		P		12 35 05.8	+0.3			
	comp=Z,15nm,0.7s											
SEY	**Seymchan**	39.49	316⇑	*e*P		P		12 35 06.4	+1.1			
MVL	**Millersville**	39.54	85	*e*P		P		12 35 05.7	-0.3			
	comp=Z,21nm,1.3s											
KMSC	**Kings Mountain**	39.56	95	*e*P		P		12 35 06.2	0.0			
	comp=Z,48nm,1.4s											
KMSC	**Kings Mountain**	39.56	95	P		P		12 35 06.2	0.0			
	baz=312,SNR=9.5											
Y54A	**Tignall**	39.59	98	P		P		12 35 06.6	+0.1			
	baz=313,SNR=14											
HODGE	**Hodges**	39.60	97	*e*P		P		12 35 06.8	+0.3			
	comp=Z,24nm,0.9s											
351A	**Pinckard**	39.63	103	P		P		12 35 07.0	+0.1			
	baz=316											
R58B	**Mineral**	39.85	89	P		P		12 35 09.1	+0.5			
	baz=309,SNR=10											
352A	**Blakely**	39.89	103	*e*P		P		12 35 08.6	-0.4			
	comp=Z,23nm,0.9s											
JRQG	**Juriquilla Cam**	39.90	130	*e*P		P		12 35 10.8	+1.4			
	comp=Z,75nm,1.2s											
Z54A	**Sparta**	39.92	99	P		P		12 35 08.8	-0.4			
	baz=314,SNR=7.4											
ODNJ	**Ogdensburg**	39.95	83	*e*P		P		12 35 09.0	-0.4			
	comp=Z,35nm,1.2s											
253A	**Americus**	39.96	101	P		P		12 35 09.9	+0.3			
	baz=315											
JSC	**Jenkinsville**	40.18	96	*e*P		P		12 35 10.9	-0.3			
	comp=Z,47nm,1.2s											
JSC	**Jenkinsville**	40.18	96	*e*P		P		12 35 11.0	-0.3			
JSC				pmax		pmax						
	comp=Z,47nm,1.2s											
154A	**Montrose**	40.20	100	*e*P		P		12 35 11.7	+0.2			
353A	**Camilla**	40.41	102	P		P		12 35 12.9	-0.4			
	baz=315											
PET	**Petropavlovsk**	40.54	300⇓	*i*P		P		12 35 12.7	-1.4			
PET				pmax		pmax						
	comp=Z,65nm,1.3s											
155A	**Kite**	40.58	99	P		P		12 35 14.2	-0.5			
	baz=314,SNR=6.1											
PEA1	**Petropavlovsk-**	41.00	300	*e*P		P		12 35 18.3	+0.4			
PETK	**Petropavlovsk-**	41.01	300	P		P		12 35 18.3	+0.4			
	comp=Z,12nm,0.9s,baz=88,slow=10,SNR=9.0											
PETK				LR		LR		12 51 39.6				
	comp=Z,134nm,20.7s,baz=95,slow=35											
553A	**Crawfordville**	41.12	103	P		P		12 35 19.3	+0.2			
	baz=316,SNR=6.5											
MA2	**Magadan**	41.53	312⇑	*e*P		P		12 35 21.9	-0.3			
MA2				pmax		pmax						
	comp=Z,25nm,1.2s											
NHSC	**New Hope**	41.63	97	*e*P		P		12 35 24.0	+0.7			
	comp=Z,126nm,1.1s											
NHSC	**New Hope**	41.63	97	P		P		12 35 24.0	+0.7			
	baz=313,SNR=7.0											
554A	**Perry**	41.64	103	P		P		12 35 23.5	+0.1			
	baz=316											
SUMG	**Summit**	42.19	27	*i*P		P		12 35 29.9	+2.0			
	comp=Z,201nm,1.1s											
SUMG	**Summit**	42.19	27	*i*P		P		12 35 29.9	+2.0			
SUMG				pmax		pmax						
	comp=Z,200nm,1.1s											
655A	**Horseshoe Beac**	42.31	103	P		P		12 35 28.6	-0.3			
	baz=317,SNR=5.7											
757A	**Oxford**	43.43	103	P		P		12 35 38.1	+0.1			
	baz=317											
TLIG	**Tlapa**	43.50	130	*e*P		P		12 35 38.9	+0.2			
	comp=Z,11nm,1.0s											
TIXI	**Tiksi**	44.13	333	P		P		12 35 43.3	+0.2			
	comp=Z,1.4nm,0.6s,baz=45,slow=5.3,SNR=5.2											
TIXI				PcP		PcP		12 37 27.0	-0.7			
	comp=Z,3.5nm,0.9s,baz=2.2,slow=3.6,SNR=5.3											
DAG	**Danmarks Havn**	44.62	18	*i*P		P		12 35 47.9	+1.0			
	comp=Z,24nm,1.0s											
DAG	**Danmarks Havn**	44.62	18	*i*P		P		12 35 47.9	+1.0			
DAG				pmax		pmax						
	comp=Z,24nm,1.0s											
TEIG	**Tepich**	46.55	117	*e*P		P		12 36 03.4	+0.6			
	comp=Z,17nm,1.0s											
YAK	**Yakutsk**	49.14	322	P		P		12 36 22.9	+0.5			
	comp=Z,32nm,0.7s,baz=328,slow=2.0,SNR=18											
YAK	**Yakutsk**	49.14	322	*e*P		P		12 36 22.9	+0.5			
	comp=Z,44nm,0.7s											
YAK	**Yakutsk**	49.14	322	*e*P		P		12 36 22.2	-0.2			
YAK				*e*PP		pP

NB2 NORSAR Subarra 63.26 19 P **P 12 38 03.9 +0.6**
baz=339,slow=6.5
NB200 NORSAR Array S 63.26 19 *e*P **P 12 38 04.4 +1.0**
NOA NORSAR Array B 63.26 19 P **P 12 38 04.4 +1.0**
comp=Z,5.9nm,1.0s,baz=337,slow=6.6,SNR=10
NOA LR LR 13 06 46.1
comp=Z,635nm,19.5s,baz=335,slow=37
NC405 NORSAR Array S 63.30 19 *e*P **P 12 38 04.4 +0.9**
CN2 Changchun 63.39 308 *e*P **P 12 38 05.9 +1.6**
KONO Kongsberg 64.19 20 *e*P **P 12 38 11.0 +1.6**
comp=Z,17nm,0.9s
KONO Kongsberg 64.19 20 *e*P **P 12 38 11.0 +1.6**
KONO pmax pmax
comp=Z,17nm,0.9s
KS01 Wonju Array Si 66.88 302 *e*P **P 12 38 26.3 -0.8**
KSRS Korea Array 66.88 302 P **P 12 38 27.0 -0.1**
comp=Z,4.6nm,0.9s,baz=54,slow=6.4,SNR=8.1
KS15 Wonju Array Si 66.91 302 *e*P **P 12 38 27.6 +0.3**
KSAR Wonju Array Be 66.91 302 P **P 12 38 27.0 -0.3**
KSAR Wonju Array Be 66.91 302 P **P 12 38 27.0 -0.3**
MOY Mondy 67.21 327 *e*P **P 12 38 30.4 +1.3**
MOY pmax pmax
comp=Z,35nm,1.7s
ZAK Zakamensk 67.51 325 *e*P **P 12 38 30.8 -0.3**
ZAK pmax pmax
comp=Z,7.0nm,1.2s
ULN Ulaanbaatar 68.22 322*d i*P **P 12 38 35.6 0.0**
ULN pmax pmax
comp=Z,17nm,2.5s
VSU Vasula 68.26 12 *e*P **P 12 38 36.3 +0.9**
VSU IAmb IAmb 12 38 43.6
comp=Z,53nm,0.8s
VSU Vasula 68.26 12⇓*i*P **P 12 38 36.5 +1.1**
VSU pmax pmax
comp=Z,37nm,1.2s
PMOR Pomariorio Ree 68.41 196 *e*T T 13 53 09.6
comp=Z,30nm,0.2s
SONA1 Songino Array 68.48 322 *e*P **P 12 38 37.5 +0.2**
SONA0 Songino Array 68.50 322 *e*P **P 12 38 37.6 +0.2**
SONM Songino Array 68.50 322 P **P 12 38 37.6 +0.2**
comp=Z,4.7nm,1.1s,baz=52,slow=5.8,SNR=20
NVS Novosibirsk 69.29 339 *e*P **P 12 38 41.4 -0.5**
NVS pmax pmax
comp=N,11nm,1.6s
NVS pmax pmax
comp=Z,30nm,1.6s
NVS pmax pmax
comp=E,14nm,1.5s
ZAA1 Zalesovo Array 69.75 338 *e*P **P 12 38 44.7 -0.1**
ZAA0 Zalesovo Array 69.75 338 *e*P **P 12 38 44.5 -0.3**
comp=E,22nm,1.4s
ZALV Zalesovo Beam 69.75 338 P **P 12 38 44.7 -0.1**
comp=E,5.2nm,0.8s,baz=17,slow=5.6,SNR=21
ZALV LR LR 13 12 47.2
comp=E,135nm,19.3s,baz=70,slow=39
ZALV Zalesovo Beam 69.75 338 *e*P **P 12 38 44.5 -0.3**
HVS Khovu-Aksy 69.95 331⇑*i*P **P 12 38 46.6 +0.4**
HVS pmax pmax
comp=Z,37nm,1.3s
SVE Sverdlovsk 70.74 353⇓*i*P **P 12 38 51.3 +0.5**
SVE pmax pmax
comp=Z,35nm,1.3s
ISAL Salakas 70.99 13 *e*P **P 12 38 53.1 +0.8**
ISAL IAmb IAmb 12 39 01.6
comp=Z,11nm,0.9s
TIAR Tiarei 71.17 197 *e*T T 13 56 36.7
comp=Z,7.2nm,0.2s
IIGN Ignalina 71.22 13 *e*P **P 12 38 54.7 +0.9**
IIGN IAmb IAmb 12 39 03.0
comp=Z,7.1nm,0.8s
PPT Papeete 71.22 198 LR LR 13 02 59.1
comp=Z,284nm,19.1s,baz=6.5,slow=30
PPT Papeete 71.22 198 *e*P **P 12 38 55.6 +1.5**
PPT2 Papeete2 71.24 198 *e*S **S 12 48 08.4 -2.1**
comp=Z,672nm,28.2s
PPT2 Papeete2 71.24 198 *e*LR LR 13 00 20.1
comp=Z,930nm,30.2s,baz=7.0
PPT2 Papeete2 71.24 198 *e*T T 13 56 42.2
comp=Z,3.4nm,0.2s
ARU Arti 71.29 354 *e*P **P 12 38 53.6 -0.6**
comp=Z,33nm,1.0s
ARU Arti 71.29 354*d i*P **P 12 38 53.7 -0.4**
ARU 12 39 09.1
ARU S **S** **12 48 12.3 +2.1**
ARU pmax pmax
comp=Z,26nm,1.2s
PAE Paea 71.32 198 *e*T T 13 56 47.6
comp=Z,1.6nm,0.3s
IDID Didziasalis 71.32 13 *e*P **P 12 38 55.0 +0.7**
IDID IAmb IAmb 12 39 03.5
comp=Z,7.0nm,0.8s
TVO Taravao 71.37 197 *e*T T 13 56 52.0
comp=Z,1.1nm,0.3s
BCLA Clavier 71.48 27⇑P **P 12 38 58.2 +2.8**
MEM Membach 71.50 27⇑P **P 12 38 58.7 +3.1**
MOS Moscow 71.99 6 *e*P **P 12 38 57.6 -0.8**
MOS *e* 12 41 36.2
MOS pmax pmax
comp=Z,16nm,0.6s
HHC Hu-ho-hao-te 72.12 314 *e*P **P 12 38 59.2 -0.4**
HHC PP **PP** **12 41 37.3 -2.0**
HHC S **S** **12 48 15.8 -4.8**
HHC pmax pmax
comp=Z,21nm,1.3s
HHC pmax pmax
comp=Z,190nm,7.1s
HHC LR LR
comp=Z,230nm,15.8s
HHC LR LR
comp=Z,270nm,15.7s
HHC LR LR
comp=Z,580nm,17.9s
OBN Obninsk 72.54 7⇓*e*P **P 12 39 02.4 +0.8**
OBN *i* 12 39 09.0
OBN *i* 12 41 45.6
OBN *e*S **SKiKP** **12 48 32.1 -2.6**
OBN pmax pmax
comp=Z,33nm,1.3s
OBN MLR MLR
comp=Z,260nm,18.0s
CLL Collm 72.64 22 *e*P **P 12 39 03.0 +0.7**
CLL *e* 12 39 10.0
CLL *e*PP **PP** **12 41 43.0 -0.2**
CLL *e*S **S** **12 48 28.0 +2.1**
CLL *e*SS SS 12 53 18.0 +14
CLL *e*SSS SSS 12 56 30.0
CLL *e* 12 57 18.0
CLL Lm MLR 13 10 00.0
comp=N,300nm,21.0s
CLL Lm MLR 13 10 00.0
comp=E,200nm,18.3s
CLL Lm MLR 13 10 00.0
comp=Z,400nm,20.0s
CLL Collm 72.64 22 *e*P **P 12 39 03.0 +0.7**
CLL *e*S **S** **12 48 28.0 +2.1**
CLL MLR MLR
comp=Z,400nm,20.0s
BTO Baotou 72.99 315 *e*P **P 12 39 02.5 -2.3**
BRG Berggiesshubel 73.26 22 *e*P **P 12 39 07.0 +1.0**
comp=Z,15nm,1.5s
BRG *e* 12 39 13.7
comp=Z,14nm,1.1s
comp=N,314nm,10.7s
comp=E,230nm,15.3s
comp=Z,533nm,17.8s
BRG Berggiesshubel 73.26 22 *e*P **P 12 39 07.0 +1.0**
BRG *e* 12 39 13.6
BRG pmax pmax
comp=Z,15nm,1.5s
BRG MLR MLR
comp=N,314nm,10.7s
BRG MLR MLR
comp=E,230nm,15.3s
BRG MLR MLR
comp=Z,533nm,17.8s
BRVK Borovoye 73.36 346 *e*P **P 12 39 06.5 -0.2**
comp=Z,16nm,0.9s
BRVK Borovoye 73.36 346*d i*P **P 12 39 06.3 -0.3**
BRVK pmax pmax
comp=Z,64nm,1.7s
PVCC Panska Ves 73.72 21 *e*P **P 12 39 10.3 +1.5**
PVCC *ex* x 12 39 17.4
PVCC AMS AMS 13 11 00.0
comp=Z,500nm,21.6s
PVCC Panska Ves 73.72 21 *e*P **P 12 39 10.3 +1.5**
PVCC *e* 12 39 17.4
PVCC MLR MLR
comp=Z,500nm,21.6s
KSP Ksiaz 73.81 20 *e*P **P 12 39 10.8 +1.6**
KSP Ksiaz 73.81 20 *e*P **P 12 39 10.8 +1.6**
KURK Kurchatov 74.14 340⇓*i*P **P 12 39 10.9 -0.3**
KURK pmax pmax
comp=Z,258nm,2.5s
BFO Black Forest 74.21 26 *e*P **P 12 39 12.8 +1.1**
comp=Z,15nm,1.0s
BFO Black Forest 74.21 26*c i*P **P 12 39 13.6 +1.9**
BFO pmax pmax
comp=Z,2.0nm,1.3s
GOPC GO Pecny, Ondr 74.35 22 AMS AMS 13 12 10.0
comp=Z,500nm,21.2s
KHC Kasperske Hory 74.80 23 *e*P **P 12 39 16.5 +1.4**
KHC *ex* x 12 39 23.6
KHC AMS AMS 13 14 40.0
comp=Z,600nm,18.8s
KHC Kasperske Hory 74.80 23 *e*P **P 12 39 16.5 +1.4**
KHC *e* 12 39 23.6
KHC MLR MLR
comp=Z,600nm,18.8s
MORC Moravsky Berou 75.08 20 *e*P **P 12 39 17.8 +1.1**
MORC *e* 12 39 24.1
TREC Trest 75.09 21 AMS AMS 13 12 00.0
comp=Z,600nm,22.2s
GEC2 GERESS Array S 75.10 23 *e*P **P 12 39 17.9 +1.0**
comp=Z,5.9nm,0.8s
GEC2 GERESS Array S 75.10 23 *e*P **P 12 39 18.0 +1.0**
GEC2 pmax pmax
comp=Z,6.0nm,0.8s
GERES GERESS Array B 75.10 23 P **P 12 39 17.9 +1.0**
comp=Z,1.6nm,0.7s,baz=333,slow=5.0,SNR=13
GERES LR LR 13 14 01.5
comp=Z,348nm,18.7s,baz=348,slow=37
GEA0 GERESS Array S 75.11 23 *e*P **P 12 39 17.7 +0.8**
OJC Ojcow 75.11 18 *e*P **P 12 39 17.9 +1.1**
OJC Ojcow 75.11 18 *e*P **P 12 39 17.9 +1.1**
RKT Rikitea 75.13 183 *e*LR LR 13 02 09.5
comp=Z,672nm,31.2s
RKT Rikitea 75.13 183 *e*T T 14 01 25.5
comp=Z,3.3nm,0.3s
OKC Ostrava-Krasne 75.14 19 AMS AMS 13 14 00.0
comp=Z,400nm,17.7s
LPSR Galich'ya Gora 75.20 6 *e*P **P 12 39 16.9 -0.4**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VRAC Vranov 75.32 21⇑*i*P **P 12 39 19.6 +1.5**
VRAC Vranov 75.32 21⇑P **P 12 39 19.6 +1.5**
VRAC Vranov 75.32 21 *e*P **P 12 39 19.3 +1.2**
VRAC *e* 12 39 26.0
CAF Calviac 75.42 32 *e*P P 12 39 23.8 +5.1
CAF pmax pmax
comp=Z,38nm,1.7s
KRUC Moravsky 75.51 21 *e*P **P 12 39 20.1 +1.0**
KRUC *e* 12 39 26.5
DAVA Damuels 75.58 26 *es*P **P 12 39 19.4 -0.4**
comp=Z,4.8nm,0.9s
RETA Reutte 75.63 25 *es*P **P 12 39 20.5 +0.5**
comp=Z,2.9nm,0.8s
SENIN Lac Senin/Sane 75.72 28 *e*P **P 12 39 22.1 +1.4**
comp=Z,9.6nm,0.8s
NJ2 Nanjing 75.76 304 *e*P **P 12 39 22.0 +1.2**
NJ2 pmax pmax
comp=Z,22nm,0.5s
MOTA Moosalm 75.85 25 *es*P **P 12 39 20.7 -0.7**
comp=Z,4.6nm,0.9s
MOTA *i* sP **P 12 39 23.4 +2.1**
comp=Z,4.6nm,0.9s
WATA Walderalm 75.98 25 *ep*P **P 12 39 20.4 -1.7**
comp=Z,2.9nm,0.7s
SQTA Sankt Quirin 75.99 25 *es*P **P 12 39 23.4 +1.3**
comp=Z,12nm,1.0s
FETA Feichten 76.05 25 *es*P **P 12 39 23.9 +1.4**
comp=Z,7.0nm,0.8s
AKASG Malin Array Be 76.16 12 P **P 12 39 22.5 -0.3**
comp=Z,3.8nm,0.9s,baz=352,slow=5.6,SNR=15
AKASG LR LR 13 15 18.4
comp=Z,314nm,19.2s,baz=350,slow=38
AKBB Malin Array Si 76.16 12 *e*P **P 12 39 22.5 -0.3**
AKBB Malin Array Si 76.16 12 *e*P **P 12 39 22.5 -0.3**
KIEV Kiev 76.17 12 *e*P **P 12 39 23.2 +0.4**
comp=Z,12nm,1.0s
KIEV Kiev 76.17 12⇑*i*P **P 12 39 22.9 +0.1**
KIEV pmax pmax
comp=Z,13nm,1.3s
FUORN Ofenpass-Fuorn 76.30 26 *e*P **P 12 39 25.0 +0.9**
comp=Z,15nm,1.1s
MODS Modra-Piesok 76.35 20 *e*P **P 12 39 24.6 +0.6**
MODS *e* 12 39 31.7
MODS pmax pmax
comp=Z,20nm,1.1s
MODS Modra-Piesok 76.35 20 *e*P **P 12 39 24.6 +0.6**
MODS *e*PCP **sP** **12 39 31.7 -1.1**
CONA Conrad Observa 76.46 22 *es*P **P 12 39 26.3 +1.6**
comp=Z,12nm,1.0s
VYHS Vyhne 76.56 19 *e*P **P 12 39 26.5 +1.3**
VYHS *e* 12 39 33.4
VYHS pmax pmax
comp=Z,6.0nm,1.1s
VYHS Vyhne 76.56 19 *e*P **P 12 39 26.5 +1.3**
VYHS *e*PCP **sP** **12 39 33.4 -0.6**
VSR Storozhevoye 76.59 6 *e*P **P 12 39 23.1 -2.2**
VSR pmax pmax
comp=Z,9.0nm,0.7s
KBA Koelnbreinsper 76.66 24 *es*P **P 12 39 26.0 0.0**
comp=Z,18nm,1.2s
VRH Novokhopyorsk 76.74 4 *e*P **P 12 39 23.9 -2.2**
VRH pmax pmax
comp=Z,10.0nm,0.5s
ABTA Abfaltersbach 76.77 24 *es*P **P 12 39 26.0 -0.5**
comp=Z,5.8nm,0.9s
ABTA *e*PcP **sP** **12 39 35.3 0.0**
comp=Z,5.8nm,0.9s
TBI Tubuai 76.85 196 *e*S **S 12 49 11.8 -1.4**
comp=Z,317nm,33.0s
TBI Tubuai 76.85 196 *e*LR LR 13 03 02.7
comp=Z,524nm,30.5s,baz=7.7
TBI Tubuai 76.85 196 *e*T T 14 03 41.6
comp=Z,4.6nm,0.3s
VORD Divnogorie 76.85 6 *e*P **P 12 39 25.9 -0.8**
VORD pmax pmax
comp=Z,30nm,1.7s
MK31 Makanchi Array 77.00 337 *e*P **P 12 39 27.3 -0.4**
MK31 Makanchi Array 77.00 337 *e*P **P 12 39 27.3 -0.4**
MK32 Makanchi Array 77.00 337 *e*P **P 12 39 27.5 -0.2**
MKAR Makanchi Array 77.00 337 P **P 12 39 27.5 -0.2**
comp=Z,5.3nm,0.7s,baz=35,slow=5.1,SNR=43
MKAR LR LR 13 16 15.3
comp=Z,146nm,20.5s,baz=1.0,slow=38
MKAR Makanchi Array 77.00 337 *e*P **P 12 39 27.3 -0.4**
comp=Z,51nm,0.8s
ARSA Arzberg 77.02 22 *es*P **P 12 39 27.7 -0.1**
comp=Z,7.4nm,1.3s
ARSA *e*PcP **sP** **12 39 36.2 -0.5**
comp=Z,8.2nm,1.1s
MK01 Makanchi Array 77.02 337 *e*P **P 12 39 27.2 -0.6**
UZH Uzhgorod 77.10 17 *e*P **P 12 39 29.1 +1.0**
UZH *i* 12 39 35.5
PSZ Piszkesteto 77.33 19⇑*i*P **P 12 39 31.4 +1.8**
PSZ Piszkesteto 77.33 19 *e*P **P 12 39 31.1 +1.5**
PSZ Piszkesteto 77.33 19⇑P **P 12 39 31.4 +1.8**
SOKA Soboth 77.44 23 P **P 12 39 27.9 -2.4**
comp=Z,15nm,1.2s
OBKA Obir 77.49 23 *ep*P **P 12 39 29.2 -1.3**
comp=Z,9.5nm,1.5s
OBKA *i* PcP **sP** **12 39 38.2 -1.1**
comp=Z,17nm,1.0s
ESDC Sonseca Array 77.91 38 P **P 12 39 33.5 +0.5**
comp=Z,1.1nm,0.7s,baz=342,slow=5.0,SNR=7.8
ESDC LR LR 13 13 13.8
comp=Z,168nm,18.4s,baz=325,slow=35
ES19 SONSECA Array 77.91 38 *e*P **P 12 39 33.1 +0.1**
GTA Gaotai 78.16 322⇑P **P 12 39 34.3 -0.2**
GTA pP pP 12 39 39.0 -1.9
GTA sP sP 12 39 41.5 -1.8
GTA S **S** **12 49 26.5 -1.3**
GTA sS pS 12 49 35.2 -0.8
GTA SKS **SKSac** **12 49 42.4 -5.3**
GTA SS **SS** **12 54 31.3 +2.8**
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA pmax pmax
comp=Z,82nm,5.7s
GTA LR LR
comp=Z,200nm,19.0s
GTA LR LR
comp=Z,150nm,20.3s
GTA LR LR
comp=Z,150nm,20.0s
WMQ Urumqi 78.31 332 P **P 12 39 36.4 +1.3**
WMQ pP sP 12 39 43.3 -0.7
WMQ S **S** **12 49 35.8 +6.7**
WMQ pmax pmax
comp=Z,40nm,1.5s
WMQ pmax pmax
comp=Z,200nm,4.3s
WMQ LR LR
comp=Z,270nm,28.9s
WMQ LR LR
comp=Z,270nm,26.5s
WMQ LR LR
comp=Z,230nm,24.1s
ABKAR Akbulak array 78.31 352 *e*P **P 12 39 34.8 -0.1**
SORM Soroca 78.56 13⇑*i*P **P 12 39 36.4 +0.1**
SORM Soroca 78.56 13⇑P **P 12 39 36.4 +0.1**
BURAR Bucovina Array 78.58 15⇑*i*P **P 12 39 38.8 +2.2**
MORH M¯‡r¯igy, Hung 78.69 20 *e*SKKPdf **P 12 39 37.9 +0.8**
XAN Xi'an 78.92 312 P **P 12 39 38.0 -0.6**
XAN pP sP 12 39 46.5 -1.0
XAN pmax pmax
comp=Z,16nm,1.6s
DRGR 78.95 17⇑*i*P **P 12 39 39.6 +1.0**
DRGR 78.95 17⇑P **P 12 39 39.6 +1.0**
BIZ Bicaz 79.39 15⇓*i*P **P 12 39 41.9 +1.0**
LZH Lanzhou 79.41 317 *e*P **P 12 39 41.6 +0.2**
LZH pP pP 12 39 47.4 -0.5
LZH sP PcP 12 39 50.4 +0.9
LZH *e*PP **PP** **12 42 41.1 +0.2**
LZH pmax pmax
comp=Z,25nm,1.2s
LZH pmax pmax
comp=Z,200nm,4.3s
LZH LR LR
comp=Z,170nm,15.2s
LZH LR LR
comp=Z,180nm,15.5s
LZH LR LR
comp=Z,280nm,18.3s
PTGA Pitinga 79.69 105 *e*P **P 12 39 42.8 -0.2**
comp=Z,15nm,1.0s
BZS Buzias 79.87 18⇑*i*P **P 12 39 44.4 +0.9**
BZS Buzias 79.87 18⇑P **P 12 39 44.4 +0.9**
GZR Gura Zlata 80.31 18⇓*i*P **P 12 39 46.4 +0.4**
GZR Gura Zlata 80.31 18⇓P **P 12 39 46.4 +0.4**
LOT Lotru 80.44 17⇑*i*P **P 12 39 47.3 +0.6**
VRI Vrincioaia 80.53 15⇑*i*P **P 12 39 48.2 +1.1**
VRI Vrincioaia 80.53 15⇑P **P 12 39 48.2 +1.1**
PLOR Plostina 80.53 15⇓*i*P **P 12 39 47.6 +0.5**
PLOR Plostina 80.53 15⇓P **P 12 39 47.6 +0.5**
ARR Arges 80.67 16⇓*i*P **P 12 39 48.5 +0.6**
VOIR 80.67 16⇓*i*P **P 12 39 48.4 +0.5**
VOIR 80.67 16⇓P **P 12 39 48.4 +0.5**
ODBI Odobesti 80.68 15⇓*i*P **P 12 39 46.9 -1.0**
CFR Carcaliu 81.42 14⇓*i*P **P 12 39 50.8 -1.0**
CFR Carcaliu 81.42 14⇓P **P 12 39 50.8 -1.0**
ENH Enshi 81.81 310 *e*P **P 12 39 53.5 -0.7**
comp=Z,40nm,1.4s
TLB Topalu 81.98 14⇓*i*P **P 12 39 55.6 +0.8**
TLB Topalu 81.98 14⇓P **P 12 39 55.6 +0.8**
TKM2 Tokmak 2 82.20 340 P **P 12 39 56.9 +0.6**
SNR=12
CHMS Chumysh 82.30 341 P **P 12 39 56.9 +0.3**
SNR=6.8
FRU1 Bishkek 82.50 341 *e*P **P 12 39 58.4 +0.7**
comp=Z,52nm,1.4s
FRU1 Bishkek 82.50 341 *e*P **P 12 39 58.4 +0.7**
FRU1 pmax pmax
comp=Z,52nm,1.4s
KBK Karagaybulak 82.58 340 P **P 12 39 58.6 +0.4**
SNR=8.4
AAK Ala-Archa 82.70 341 P **P 12 39 58.8 0.0**
SNR=7.9
AAK Ala-Archa 82.70 341 *e*P **P 12 39 58.9 0.0**
comp=Z,11nm,1.1s
AAK Ala-Archa 82.70 341*d i*P **P 12 39 58.7 -0.1**
AAK pmax pmax
comp=Z,39nm,1.7s
ANN Anapa 82.86 8 *e*P **P 12 40 00.3 +1.0**
ANN pmax pmax
comp=Z,33nm,1.4s
ANN MLR MLR
comp=Z,313nm,17.0s
GOF Gofitskoye 82.93 4 *e*P **P 12 40 00.5 +0.7**
GOF pmax pmax
comp=Z,30nm,0.6s
KK31 Karatay Array 83.00 344 *e*P **P 12 40 00.0 -0.2**
KK31 Karatay Array 83.00 344 *e*P **P 12 40 00.0 -0.2**
KKAR Karatay Array 83.00 344 *e*P **P 12 40 00.0 -0.2**
KKAR Karatay Array 83.00 344 *e*P **P 12 40 00.0 -0.2**
VTS Vitosha 83.09 18 *e*P **P 12 40 01.1 +0.3**
comp=Z,5.6nm,0.9s
VTS Vitosha 83.09 18⇓*i*P **P 12 40 01.6 +0.8**
VTS Vitosha 83.09 18⇓P **P 12 40 01.6 +0.8**
AML Almayashu 83.34 341 P **P 12 40 02.7 +0.2**
SNR=6.3
MATE Matera 83.53 23⇑*i*P **P 12 40 03.6 +0.7**
NRN Naryn 83.53 339 *e*P **P 12 40 03.8 +0.5**
comp=Z,6.0nm,0.7s
NRN Naryn 83.53 339 *e*P **P 12 40 03.8 +0.5**
NRN pmax pmax
comp=Z,6.0nm,0.7s
KIV Kislovodsk 84.02 4 *e*P **P 12 40 06.2 +0.7**
comp=Z,34nm,1.1s
KIV Kislovodsk 84.02 4 *e*P **P 12 40 06.0 +0.5**
KIV pmax pmax
comp=Z,30nm,1.1s
KIV MLR MLR
comp=Z,174nm,19.0s
KBZ Khabaz 84.25 4 P **P 12 40 07.0 +0.5**
comp=Z,8.9nm,0.9s,baz=323,slow=4.5,SNR=12
KBZ LR LR 13 19 46.8
comp=Z,158nm,21.8s,baz=358,slow=37
KNT Kendrikon 84.41 19 P **P 12 40 09.7 +2.3**
SAML Samuel 84.44 112 *e*P **P 12 40 05.5 -2.3**
comp=Z,7.5nm,1.1s
SAML Samuel 84.44 112 *e*P **P 12 40 05.5 -2.3**
SAML pmax pmax
comp=Z,7.0nm,1.1s
FNA Florina 84.46 20 *e*P **P 12 40 07.7 -0.1**
comp=Z,18nm,0.9s
FNA Florina 84.46 20 P **P 12 40 08.3 +0.5**
FNA pmax pmax
comp=Z,18nm,0.9s
NCK Nalchik 84.51 3⇑*e*P **P 12 40 09.8 +1.9**
NCK pmax pmax
comp=Z,21nm,0.4s
NEY Neytrino 84.73 4*de*P **P 12 40 11.3 +2.1**
NEY pmax pmax
comp=Z,3.0nm,1.0s
SOH Sokhos 84.83 19 P **P 12 40 11.7 +2.1**
ZEI Tsey 85.23 3 *e*P **P 12 40 13.8 +2.0**
ZEI pmax pmax
comp=Z,13nm,1.5s
ALN Alexandroupoli 85.25 16 *e*P **P 12 40 12.2 +0.6**
comp=Z,16nm,1.5s
ALN Alexandroupoli 85.25 16 *e*P **P 12 40 12.2 +0.6**
ALN pmax pmax
comp=Z,16nm,1.5s
LIT Litokhoron 85.35 19 *e*P **P 12 40 12.5 +0.3**
comp=Z,14nm,0.8s
LIT Litokhoron 85.35 19 *e*P **P 12 40 12.5 +0.3**
LIT pmax pmax
comp=Z,14nm,0.8s
KSH Kashi 85.37 339 P **P 12 40 14.8 +2.4**
KSH sP sP 12 40 21.8 +0.5
KSH PP **PP** **12 43 34.6 +5.0**
KSH S **S** **12 50 44.1 +1.9**
KSH sS sS 12 50 52.1 -0.9
KSH pmax pmax
comp=Z,46nm,1.2s
KSH pmax pmax
comp=Z,250nm,4.9s
KEST Kesra 86.08 31 P **P 12 40 15.2 -0.7**
comp=Z,4.6nm,0.9s,baz=292,slow=2.6,SNR=4.1
KEST LR LR 13 19 28.1
comp=Z,510nm,18.1s,baz=286,slow=36
TBLG Delisi 86.31 2 *e*P **P 12 40 17.7 +0.8**
comp=Z,29nm,1.1s

TBLG	**Delisi**	**86.31**	**2**	*e*P		**P**		**12 40 17.7**	**+0.8**
TBLG				pmax	pmax				
	comp=Z,29nm,1.1s								
GYA	**Guiyang**	**86.35**	**310**	*e*P		**P**		**12 40 18.0**	**+0.5**
GYA				pmax	pmax				
	comp=Z,10.0nm,1.0s								
BR101	**Keskin Array S**	**87.51**	**11**	*e*P		**P**		**12 40 23.3**	**+0.3**
BR131	**Keskin Array S**	**87.51**	**11**	*e*P		**P**		**12 40 23.2**	**+0.2**
BRTR	**Keskin Array B**	**87.51**	**11**	P		**P**		**12 40 23.3**	**+0.3**
	comp=Z,2.8nm,0.9s,baz=349,slow=4.0,SNR=12								
BRTR				LR	LR			13 22 52.0	
	comp=Z,92nm,19.3s,baz=328,slow=38								
LPAZ	**La Paz**	**87.74**	**120**	P		**P**		**12 40 23.4**	**-1.3**
	comp=Z,13nm,0.9s,baz=329,slow=3.4,SNR=40								
LPAZ				LR	LR			13 25 28.7	
	comp=Z,49nm,18.4s,baz=326,slow=40								
LPAZ	**La Paz**	**87.74**	**120**	*e*P		**P**		**12 40 23.1**	**-1.6**
	comp=Z,15nm,0.9s								
LPAZ	**La Paz**	**87.74**	**120**	*e*P		**P**		**12 40 23.1**	**-1.6**
LPAZ				pmax	pmax				
	comp=Z,15nm,0.9s								
GNI	**Garni**	**87.89**	**2**	*c*eP		**P**		**12 40 26.3**	**+1.5**
GNI				pmax	pmax				
	comp=Z,56nm,1.3s								
KMI	**Kunming**	**89.31**	**312**	P		**P**		**12 40 30.4**	**-1.4**
KMI				pmax	pmax				
	comp=Z,19nm,1.0s								
GEYT	**Alibeck**	**89.71**	**352**	P		**P**		**12 40 32.8**	**-0.5**
	comp=Z,1.6nm,0.3s,baz=148,slow=20,SNR=5.4								
GEYT				LR	LR			13 24 09.2	
	comp=Z,128nm,21.5s,baz=305,slow=38								
GYA0B	**ALIBECK ARRAY**	**89.71**	**352**	*e*P		**P**		**12 40 34.6**	**+1.4**
	comp=Z,17nm,1.5s								
LSA	**Lhasa**	**90.03**	**323**	*e*P		**P**		**12 40 35.8**	**+0.3**
	comp=Z,20nm,1.5s								
LSA	**Lhasa**	**90.03**	**323**	*e*P		**P**		**12 40 35.8**	**+0.3**
LSA				pmax	pmax				
	comp=Z,20nm,1.5s								
DZM	**Mont Dzumac**	**91.33**	**235**	*e*LR		LR		13 09 47.8	
	comp=Z,486nm,23.1s								
CMAR	**Chiang Mai Arr**	**96.82**	**312**	P		**P**		**12 41 05.7**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=10,slow=4.7,SNR=14								
CM01	**Chiang Mai Arr**	**96.84**	**312**	*e*P		**P**		**12 41 05.8**	**-0.5**
BDFB	**Brasilia**	**98.62**	**104**	LR		LR		13 28 48.8	
	comp=Z,52nm,21.2s,baz=39,slow=37								
TOA1	**Torodi Ar. Sit**	**103.60**	**46**	*e*PKKPbc	PKKPbc			12 57 26.4	0.0
TORD	**Torodi Ar. Bea**	**103.60**	**46**	PKKPbc	PKKPbc			12 57 26.4	0.0
	comp=Z,0.4nm,0.6s,baz=132,slow=3.5,SNR=3.9								
WR1	**Warramunga Arr**	**107.70**	**260**	*e*PKIKP	**PKiKP**			**12 46 00.9**	**-1.4**
WRA	**Warramunga Arr**	**107.70**	**260**	PKIKP	**PKiKP**			**12 46 00.9**	**-1.4**
	comp=Z,0.5nm,1.1s,baz=30,slow=1.8,SNR=5.2								
ASAR	**Alice Springs**	**110.79**	**258**	PKiKP	**PKiKP**			**12 46 06.8**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=60,slow=2.3,SNR=4.2								
KMBO	**Kilima Mbogo**	**128.23**	**14**	PKP	**PKPdf**			**12 46 41.2**	**-0.9**
	comp=Z,5.7nm,1.1s,baz=14,slow=3.9,SNR=8.0								
KMBO	**Kilima Mbogo**	**128.23**	**14**	*e*PKPdf	**PKPdf**			**12 46 43.0**	**+1.0**
KMBO	**Kilima Mbogo**	**128.23**	**14**	*e*PKIKP	**PKPdf**			**12 46 43.0**	**+1.0**
VNDA	**Vanda**	**135.74**	**197**	PKHKP	PKPpre			12 46 50.4	
	comp=Z,1.2nm,1.0s,baz=287,slow=4.2,SNR=4.6								
VNDA	**Vanda**	**135.74**	**197**	PKPpre	PKPpre			12 46 50.4	
VNDA				*e*PKPdf	**PKiKP**			**12 46 57.8**	**+2.3**
VNDA	**Vanda**	**135.74**	**197**	PKIKP	**PKPdf**			**12 46 50.4**	**-3.5**
VNDA				*e*				12 46 57.8	
QSPA	**South Pole Qui**	**142.10**	**180**	*e*PKPpre	PKPpre			12 47 01.4	
CASY	**Casey**	**146.74**	**221**	*e*PKPdf	**PKPbc**			**12 47 15.0**	**-0.7**
ABPO	**Ambohimpanom**	**146.78**	**1**	*i* PKP2	**PKPab**			**12 47 18.3**	**-0.3**
LBTB	**Lobatse**	**147.90**	**41**	*e*PKPbc	**PKPbc**			**12 47 20.9**	**+0.6**
LBTB	**Lobatse**	**147.90**	**41**	*e*PKP2	**PKPbc**			**12 47 20.9**	**+0.6**
SNAA	**Sanae**	**150.63**	**150**	*e*PKPbc	**PKPbc**			**12 47 24.8**	**-0.8**
SNAA	**Sanae**	**150.63**	**150**	*e*PKIKP	**PKPbc**			**12 47 24.8**	**-0.8**
BOSA	**Boshof**	**150.94**	**44**	PKPbc	**PKPbc**			**12 47 27.4**	**-0.4**
	comp=Z,12nm,0.8s,baz=48,slow=1.2,SNR=18								
BOSA	**Boshof**	**150.94**	**44**	*e*PKIKP	**PKPbc**			**12 47 27.5**	**-0.3**
SUR	**Sutherland**	**152.01**	**55**	*e*PKPbc	**PKPbc**			**12 47 30.8**	**+0.6**
MIR	**Mirnyy**	**153.75**	**220**	*e*PKIKP	**PKPbc**			**12 47 31.0**	**-1.6**
MIR				*e*				12 47 45.0	
MIR				pmax	pmax				
	comp=Z,42nm,1.0s								
MAW	**Mawson**	**163.01**	**200**	PKP	**PKPdf**			**12 47 35.9**	**+0.1**
	comp=Z,1.9nm,0.9s,baz=232,slow=2.6,SNR=4.5								
MAW	**Mawson**	**163.01**	**200**	*e*PKPdf	**PKPdf**			**12 47 35.6**	**-0.3**
MAW	**Mawson**	**163.01**	**200**	*e*PKIKP	**PKPdf**			**12 47 35.6**	**-0.3**

*IDC **04** 12:36:20.0±1.0,52°.22N×132°.60W,h0km,mb3.7/8, mb1 3.9/11,mb1mx3.7/37,mbtmp3.6/11,ML3.6/3,Error ellipse: s-maj=26.6km s-min=8.7km az=84.0*
*ISCJB **04** 12:36:21.5±0.7,52°.26N±0°.07×132°.5W±0°.1,h18km, mb3.6/8,Error ellipse: s-maj=13.6km s-min=7.8km az=140.2*

ISC 04 12:36:23.1±0.9,52°.3N±0°.1×132°.11W±0°.10,h18km,n18, σ1s64/16,mb3.8/8,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H02S1	**DAWSON INLET T**	**0.96**	**347**	Pg	**Pb**	**12 36 39.3**	**-1.9**
H02S1				Lg	Lg	12 36 52.2	
H02N1	**VAN INLET T-PH**	**1.02**	**345**	Pg	**Pb**	**12 36 40.1**	**-2.1**
H02N1				Lg	Lg	12 36 53.6	
BBB	**Bella Bella**	**2.46**	**90**	Pn	**Pn**	**12 37 00.4**	**-1.9**
	2.5nm,0.3s,baz=275,slow=15,SNR=3.1						
BBB				Sn	**Sb**	**12 37 36.3**	**-0.4**
	20nm,0.3s,baz=174,slow=22,SNR=5.6						
DLBC	**Dease Lake**	**6.30**	**10**	Pn	**Pn**	**12 37 56.8**	**+1.7**
	1.2nm,0.3s,baz=193,slow=14,SNR=11						
DLBC				Lg	Lg	12 39 43.4	
	1.1nm,0.3s,baz=189,slow=8.5,SNR=4.1						
ILAR	**Eielson Array**	**14.66**	**334**	Pn	**P**	**12 39 56.5**	**+1.0**
	0.1nm,0.3s,baz=148,slow=11,SNR=16						
NVAR	**Mina Array Bea**	**16.86**	**140**	Pn	**P**	**12 40 20.2**	**-0.1**
	0.1nm,0.3s,baz=335,slow=10,SNR=4.3						
PDAR	**Pinedale Array**	**17.89**	**113**	P	**P**	**12 40 33.4**	**+1.8**
	0.0nm,0.3s,baz=316,slow=8.3,SNR=5.6						
ANMO	**Albuquerque**	**25.19**	**123**	P	**P**	**12 41 49.5**	**+1.9**
	0.2nm,0.3s,baz=343,slow=14,SNR=1.7						
TXAR	**Lajitas Array**	**31.09**	**126**	P	**P**	**12 42 42.1**	**+1.8**
	0.6nm,0.9s,baz=340,slow=6.8,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**56.94**	**259**	T	T	13 48 19.1	
	baz=39						
H11N3	**WAKE ISLAND Hy**	**56.94**	**259**	T	T	13 48 19.1	
	baz=39						
H11N1	**WAKE ISLAND Hy**	**56.96**	**259**	T	T	13 48 20.2	
	baz=39						
NOA	**NORSAR Array B**	**63.31**	**19**	P	**P**	**12 46 49.9**	**-0.4**
	0.5nm,0.8s,baz=322,slow=7.0,SNR=2.6						
KSRS	**Korea Array**	**66.85**	**302**	P	**P**	**12 47 11.5**	**-2.1**
	0.5nm,0.6s,baz=42,slow=5.0,SNR=3.3						
ZALV	**Zalesovo Beam**	**69.76**	**338**	P	**P**	**12 47 30.8**	**-0.8**
	0.4nm,0.5s,baz=2.9,slow=5.8,SNR=2.7						
GERES	**GERESS Array B**	**75.14**	**23**	P	**P**	**12 48 05.8**	**+1.9**
	0.2nm,0.3s,baz=336,slow=2.2,SNR=2.7						
MKAR	**Makanchi Array**	**77.01**	**337**	P	**P**	**12 48 15.1**	**+0.6**
	0.6nm,0.6s,baz=15,slow=5.0,SNR=5.0						
LPAZ	**La Paz**	**87.76**	**120**	P	**P**	**12 49 11.3**	**-0.2**
	0.5nm,0.5s,baz=331,slow=13,SNR=2.8						

*IDC **04** 12:37:39.6±1.0,52°.24N×132°.14W,h0km,mb3.7/7, mb1 3.9/12,mb1mx3.7/39,mbtmp3.6/12,ML4.0/3,MS2.7/1, Ms1 2.6/1,ms1mx2.5/40,Error ellipse: s-maj=20.5km s-min=9.9km az=65.0*
*ISCJB **04** 12:37:41.4±0.7,52°.35N±0°.06×131°.9W±0°.1,h18km, mb3.5/7,Error ellipse: s-maj=11.9km s-min=6.6km az=142.6*

ISC 04 12:37:42.4±0.9,52°.26N±0°.09×131°.90W±0°.10,h18km,n16, σ1s76/18,mb3.7/7,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H02S1	**DAWSON INLET T**	**1.01**	**340**	Pg	**Pb**	**12 37 57.8**	**-3.5**
H02N1	**VAN INLET T-PH**	**1.07**	**339**	Pg	**Pb**	**12 37 58.6**	**-3.8**
BBB	**Bella Bella**	**2.33**	**90**	Pn	**Pn**	**12 38 18.9**	**-0.8**
	baz=287,slow=17,SNR=2.5						
BBB				Sn	**Sn**	**12 38 46.9**	**-1.0**
	58nm,0.3s,baz=12,slow=23,SNR=13						
DLBC	**Dease Lake**	**6.28**	**9**	Pn	**Pn**	**12 39 16.1**	**+2.0**
	3.6nm,0.3s,baz=188,slow=12,SNR=20						
DLBC				Sn	**Sn**	**12 40 26.4**	**+1.1**
	2.1nm,0.3s,baz=336,slow=20,SNR=3.9						
YKA	**Yellowknife Ar**	**13.81**	**35**	Pn	**Pn**	**12 40 56.6**	**-0.3**
	0.2nm,0.3s,baz=230,slow=13,SNR=4.7						
YKA				LR	LR	12 46 30.5	
	comp=Z,28nm,19.0s,baz=244,slow=38						
ILAR	**Eielson Array**	**14.72**	**334**	Pn	**P**	**12 41 16.8**	**+1.2**
	0.1nm,0.3s,baz=152,slow=10,SNR=8.4						
INK	**Inuvik**	**16.12**	**358**	Pn	**P**	**12 41 32.7**	**+1.8**
	0.1nm,0.3s,baz=168,slow=9.3,SNR=3.3						
NVAR	**Mina Array Bea**	**16.77**	**140**	Pn	**P**	**12 41 38.6**	**0.0**
	0.0nm,0.3s,baz=322,slow=10,SNR=2.2						
PDAR	**Pinedale Array**	**17.77**	**113**	P	**P**	**12 41 50.0**	**+0.4**
	0.1nm,0.3s,baz=305,slow=13,SNR=2.9						
ANMO	**Albuquerque**	**25.08**	**124**	P	**P**	**12 43 08.0**	**+2.1**
	0.3nm,0.4s,baz=323,slow=15,SNR=2.7						
TXAR	**Lajitas Array**	**30.98**	**127**	P	**P**	**12 43 59.9**	**+1.3**
	1.3nm,0.7s,baz=329,slow=7.8,SNR=8.4						
SONM	**Songino Array**	**68.58**	**322**	P	**P**	**12 48 43.4**	**-0.5**
	0.2nm,0.5s,baz=14,slow=6.4,SNR=2.2						
ZALV	**Zalesovo Beam**	**69.82**	**338**	P	**P**	**12 48 51.4**	**+0.2**
	0.2nm,0.3s,baz=20,slow=4.6,SNR=2.0						
GERES	**GERESS Array B**	**75.10**	**23**	P	**P**	**12 49 24.2**	**+1.2**
	0.1nm,0.4s,baz=13,slow=23,SNR=3.7						
MKAR	**Makanchi Array**	**77.06**	**337**	P	**P**	**12 49 34.0**	**-0.1**
	0.5nm,0.7s,baz=32,slow=4.8,SNR=4.2						
LPAZ	**La Paz**	**87.65**	**120**	P	**P**	**12 50 29.6**	**-0.8**
	1.4nm,0.8s,baz=282,slow=3.3,SNR=5.7						

*SJA **04** 12:57:33.1±0.6,23°.76S×70°.62W,h70km,ML3.7,MW3.9*
*ISCJB **04** 12:57:43.3±0.7,24°.38S±0°.04×70°.0W±0°.1,h89km±12km, Error ellipse: s-maj=18.9km s-min=6.1km az=8.3*
*GUC **04** 12:57:44.0±0.6,24°.38S×69°.88W,h68km±9km,ML3.4*

ISC 04 12:57:45.8±1.5,24°.31S±0°.04×70°.0W±0°.1,h69km±20km, n14,σ2s35/21,4C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB14	**IPOC Station P**	**0.49**	**229**	||*i* P	**Pn**	**12 57 58.1**	**-0.6**
PB14				*e*S	**Sn**	**12 58 08.2**	**0.0**
PB10	**IPOC Station P**	**0.94**	**327**	*e*P	**Pn**	**12 58 03.5**	**0.0**
PB10				*e*S	**Sn**	**12 58 18.3**	**+1.8**
PB10				IAML		12 58 22.1	
	comp=E,948nm,0.6s						
PB15	**IPOC Station P**	**1.20**	**24**	||*i* P	**Pn**	**12 58 06.4**	**-0.5**
PB15				*e*S	**Sn**	**12 58 23.1**	**+0.4**
PB05	**IPOC Station P**	**1.46**	**353**	||*i* P	**Pn**	**12 58 09.6**	**-0.7**
PB05				*e*S	**Sn**	**12 58 31.9**	**+3.2**
PB05				IAML		12 58 33.5	
	comp=E,943nm,0.4s						
PB06	**IPOC Station P**	**1.64**	**14**	||*i* P	**Pn**	**12 58 11.8**	**-0.9**
PB06				*e*S	**Sn**	**12 58 33.7**	**+0.7**
PB06				IAML		12 58 35.8	
	comp=E,618nm,0.1s						
LVC	**Limon Verde**	**1.96**	**31**	*e*P	**Pn**	**12 58 16.1**	**-1.1**
PB04	**IPOC Station P**	**1.97**	**356**	||*i* P	**Pn**	**12 58 16.1**	**-1.0**
PB03	**IPOC Station P**	**2.26**	**6**	*e*P	**Pn**	**12 58 19.5**	**-1.6**
VCA	**Vinchina**	**4.70**	**160**	*e*P	**Pn**	**12 58 53.3**	**-1.0**
VCA				IAML		12 58 57.9	
	comp=Z,43nm,0.3s						
VCA				*e*S	**Sn**	**12 59 52.7**	**+5.1**
AGUA	**GUANDACOL**	**5.33**	**166**	*e*P	**Pn**	**12 59 01.6**	**-1.3**
AGUA				*e*S	**Sn**	**13 00 06.8**	**+3.7**
AROD	**Rodeo**	**5.86**	**176**	*e*P	**Pn**	**12 59 08.6**	**-1.7**
ACDV	**Cuesta del Vie**	**5.89**	**173**	*e*P	**Pn**	**12 59 08.8**	**-1.9**
ACDV				IAML		12 59 15.4	
	comp=Z,12nm,0.7s						
ACCO	**Cerro Coronel**	**6.31**	**173**	*e*P	**Pn**	**12 59 13.8**	**-2.7**
ACAN	**Cantantal**	**8.32**	**163**	*e*P	**Pn**	**12 59 39.5**	**-4.1**

*PGC **04** 13:17:07.7±5.9,52°.24N×132°.25W,h30km±1km,mb4.0, ML3.8/13,116km Ssw of Sandspit, Bc Haida Gwaii Region*
*IDC **04** 13:17:07.2±1.8,52°.28N×132°.13W,h0km,mb3.8/2, mb1 3.9/8,mb1mx3.6/50,mbtmp3.5/8,ML3.4/6,MS3.2/4, Ms1 3.2/4,ms1mx2.8/47,Error ellipse: s-maj=32.6km s-min=8.1km az=62.0*
*ISCJB **04** 13:17:08.7±0.5,52°.40N±0°.04×131°.77W±0°.08,h10km, mb3.9/5,MS3.5/2,Error ellipse: s-maj=9.3km s-min=2.9km az=139.4*
*NEIC **04** 13:17:11.7±0.5,52°.45N×131°.70W,h10km,mb4.0/14, Error ellipse: s-maj=14.2km s-min=3.8km az=55.0*

ISC 04 13:17:10.3±0.8,52°.37N±0°.06×131°.80W±0°.06,h10km,n58, σ1s71/55,mb3.9/5,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNB	**Barry Inlet**	**0.21**	**7**	P	**Pg**	**13 17 17.3**	**+2.7**
DIB	**Dawson Inlet,**	**0.93**	**334**	*e*Pg	Pg	13 17 24.7	-3.5
DIB	**Dawson Inlet,**	**0.93**	**334**	P	Pg	13 17 25.3	-2.9
DIB				S	**Sg**	**13 17 38.1**	**-2.2**
H02S1	**DAWSON INLET T**	**0.93**	**334**	Pg	Pg	13 17 25.1	-3.0
H02S1				Lg	Lg	13 17 37.5	
	SNR=386						
H02N1	**VAN INLET T-PH**	**0.99**	**333**	Pg	Pg	13 17 26.3	-3.1
H02N1				Lg	Lg	13 17 39.4	
	SNR=373						
VIB	**Van Inlet**	**0.99**	**333**	P	Pg	13 17 26.2	-3.1
VIB				S	**Sg**	**13 17 39.7**	**-2.6**
MASB	**Masset**	**1.66**	**355**	P	**Pn**	**13 17 38.2**	**-1.1**
NDB	**Naden**	**1.73**	**337**	Sn	**Sn**	**13 17 58.4**	**-4.2**
RUBB	**Prince Rupert**	**2.17**	**25**	Pn	**Pn**	**13 17 46.5**	**+0.1**
BBB	**Bella Bella**	**2.27**	**93**	Pn	**Pn**	**13 17 46.8**	**-0.9**
	3.2nm,0.3s,baz=283,slow=16,SNR=8.5						
BBB				Sn	**Sn**	**13 18 14.1**	**-1.7**
	11nm,0.3s,baz=319,slow=20,SNR=4.7						
BBB				LR	LR	13 18 48.3	
	comp=Z,208nm,18.9s,baz=29,slow=41						
BBB	**Bella Bella**	**2.27**	**93**	Pn	**Pn**	**13 17 46.9**	**-0.9**
BBB				Sn	**Sn**	**13 18 15.0**	**-0.7**
BCBC	**Bella Coola**	**3.09**	**88**	Pn	**Pn**	**13 17 58.3**	**-0.7**
PHC	**Port Hardy**	**3.19**	**120**	Pn	**Pn**	**13 17 57.6**	**-2.8**
PHC				Sn	**Sn**	**13 18 34.5**	**-4.0**
CRAG	**Craig**	**3.20**	**346**	*e*Pn	**Pn**	**13 18 02.2**	**+1.6**
PACB	**Port Alice, BC**	**3.32**	**124**	Sn	**Sn**	**13 18 39.5**	**-2.1**
MAYB	**Maynard**	**3.50**	**122**	Pn	**Pn**	**13 18 02.6**	**-2.2**
TLCB	**Telegraph Cove**	**3.60**	**119**	Pn	**Pn**	**13 18 04.5**	**-1.6**
TLCB				Sn	**Sn**	**13 18 47.8**	**-0.7**
WOSB	**Woss**	**3.96**	**122**	Pn	**Pn**	**13 18 09.4**	**-1.6**
WRAK	**Wrangell Islan**	**4.07**	**356**	*e*Pn	**Pn**	**13 18 12.2**	**-0.3**
NCRB	**Newcastle Ridg**	**4.10**	**116**	Pn	**Pn**	**13 18 11.8**	**-1.2**
UBRB	**Upper Baezaeko**	**4.73**	**81**	Pn	**Pn**	**13 18 23.1**	**+1.4**
UBRB				Sg	**Sg**	**13 19 40.1**	**-1.8**
FSB	**Fort Saint Jam**	**4.94**	**62**	Pn	**Pn**	**13 18 25.5**	**+1.0**
DLBC	**Dease Lake**	**6.17**	**9**	Pn	**Pn**	**13 18 43.1**	**+1.7**
	1.0nm,0.3s,baz=188,slow=14,SNR=17						
DLBC				Lg	Lg	13 20 31.2	
	0.2nm,0.3s,baz=101,slow=26,SNR=5.2						
DLBC				LR	LR	13 20 50.2	
	comp=Z,188nm,19.1s,baz=256,slow=36						
DLBC	**Dease Lake**	**6.17**	**9**	Pn	**Pn**	**13 18 42.6**	**+1.3**
BMBC	**Bull Mountain**	**6.76**	**53**	Pn	**Pn**	**13 18 49.7**	**+0.2**
WHY	**Whitehorse**	**8.48**	**350**	*e*Pn	**Pn**	**13 19 13.9**	**+0.7**
HUMO	**Hull Mountain**	**11.44**	**145**	*e*Pn	**Pn**	**13 19 56.2**	**+2.5**
DAWY	**Dawson**	**12.38**	**344**	*e*Pn	**Pn**	**13 20 07.6**	**+1.2**
YKA	**Yellowknife Ar**	**13.68**	**35**	Pn	**Pn**	**13 20 24.0**	**0.0**
	0.1nm,0.3s,baz=223,slow=12,SNR=3.4						
IL1	**Eielson Array**	**14.66**	**334**	*e*Pn	**Pn**	**13 20 38.0**	**+0.6**
ILAR	**Eielson Array**	**14.66**	**334**	Pn	**Pn**	**13 20 37.1**	**-0.3**
	0.0nm,0.3s,baz=147,slow=10,SNR=3.0						
ILB	**Eielson Array**	**14.66**	**334**	*e*Pn	**Pn**	**13 20 36.7**	**-0.7**
CCB	**Clear Creek Bu**	**14.82**	**332**	*e*Pn	**P**	**13 20 45.6**	**+0.2**
PPLA	**Purkeypile**	**15.10**	**322**	*e*Pn	**Pn**	**13 20 45.5**	**+2.0**
	36nm,1.6s						
MDM	**Murphy Dome**	**15.17**	**333**	*e*Pn	**P**	**13 20 49.5**	**+0.1**
	20nm,1.7s						
BPAW	**Bear Paw Mtn.**	**15.41**	**327**	*e*Pn	**Pn**	**13 20 49.4**	**+1.9**
	48nm,2.0s						
MLY	**Manley**	**15.96**	**330**	*e*Pn	**P**	**13 20 59.1**	**+0.8**
	28nm,1.9s						
FXWY	**Fox Creek**	**16.37**	**114**	*e*Pn	**P**	**13 21 05.5**	**+2.4**
	5.0nm,1.2s						
NVAR	**Mina Array Bea**	**16.81**	**141**	Pn	**Pn**	**13 21 04.1**	**-1.7**
	0.0nm,0.3s,baz=328,slow=10.0,SNR=2.2						
IM3	**Indian Mountai**	**17.54**	**329**	*e*Pn	**Pn**	**13 21 14.8**	**+0.3**
PDAR	**Pinedale Array**	**17.75**	**114**	P	**Pn**	**13 21 18.6**	**+1.1**
	0.1nm,0.3s,baz=303,slow=8.4,SNR=8.5						
DUG	**Dugway, Tooele**	**17.83**	**126**	*e*Pn	**P**	**13 21 20.9**	**+1.7**
	6.9nm,1.5s						
TOLK	**Toolik Lake Re**	**18.39**	**339**	*e*Pn	**P**	**13 21 26.1**	**+1.1**
	39nm,1.9s						
CCUT	**Cedar City**	**19.65**	**132**	*e*P	**P**	**13 21 41.1**	**+1.7**
	14nm,1.8s						
SZCU	**Shurtz Canyon**	**19.75**	**131**	*e*P	**P**	**13 21 42.0**	**+1.7**
	6.0nm,1.2s						
SRU	**San Rafael Swe**	**19.81**	**124**	*e*P	**Pn**	**13 21 43.2**	**+0.7**
	13nm,1.7s						
LCMT	**Little Creek M**	**20.15**	**132**	*e*P	**P**	**13 21 46.4**	**+1.8**
	7.7nm,1.6s						
U15A	**North Rim**	**21.06**	**131**	*e*P	**P**	**13 21 56.2**	**+1.5**
	5.7nm,1.0s						
PV13	**Radium Mtn., P**	**21.40**	**123**	*e*P	**P**	**13 21 59.7**	**+1.4**
	4.9nm,1.0s						
WUAZ	**Wupatki**	**22.23**	**131**	*e*P	**P**	**13 22 09.2**	**+2.0**
	14nm,1.4s						
RES	**Resolute Bay**	**26.89**	**21**	LR	LR	13 32 21.8	
	comp=Z,76nm,19.7s,baz=30,slow=34						
LTX	**Lajitas**	**31.00**	**127**	*e*P	**P**	**13 23 28.5**	**+0.7**
TXAR	**Lajitas Array**	**31.00**	**127**	P	**P**	**13 23 28.5**	**+0.7**
	0.8nm,0.7s,baz=325,slow=6.7,SNR=7.8						
H11N2	**WAKE ISLAND Hy**	**57.15**	**260**	T	T	14 28 57.9	
	baz=39,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hy**	**57.15**	**260**	T	T	14 28 56.7	
	baz=39,slow=75,SNR=36						
H11N1	**WAKE ISLAND Hy**	**57.17**	**260**	T	T	14 28 57.9	
	baz=39,slow=75,SNR=31						
AFI	**Afiamalu**	**74.48**	**220**	LR	LR	13 53 39.9	
	comp=Z,35nm,19.5s,baz=154,slow=30						
LPAZ	**La Paz**	**87.65**	**121**	P	**P**	**13 29 57.4**	**-2.2**
	0.5nm,0.6s,baz=342,slow=6.4,SNR=3.2						

*IDC **04** 13:36:43.8±1.4,10°.30N×126°.63E,h0km,mb3.9/4, mb1 4.0/4,mb1mx3.6/34,mbtmp3.9/4,MS2.5/1,Ms1 2.5/1, ms1mx2.1/35,Error ellipse: s-maj=140.9km s-min=22.4km az=69.0*
*ISCJB **04** 13:36:44.4±0.6,10°.44N±0°.06×127°.00E±0°.06,h20km, mb4.3/7,Error ellipse: s-maj=9.2km s-min=8.1km az=141.1*
*NEIC **04** 13:36:45.2±0.6,10°.36N×126°.97E,h10km,mb4.5/2,Error ellipse: s-maj=21.4km s-min=9.9km az=72.0*
*MAN **04** 13:36:45.7,10°.48N×126°.85E,h14km,mb4.8,ML3.7, MS3.6*

ISC 04 13:36:46.3±0.8,10°.45N±0°.07×126°.83E±0°.08,h20km,n18, σ1s15/19,mb4.5/7,1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.90**	**219**	*e*P	**Pn**	**13 37 18.2**	**+0.7**
BUTP				*e*S	**Sb**	**13 37 42.6**	**-0.9**
MSLP	**Maasin**	**1.97**	**261**	*e*P	**Pn**	**13 37 18.8**	**+0.4**
MSLP				*e*S	**Sb**	**13 37 45.1**	**-0.4**
BUKP	**Musuan**	**3.10**	**215**	*e*P	**Pn**	**13 37 36.8**	**+2.7**
DAV	**Davao City (W)**	**3.58**	**200**	LR	LR	13 39 12.9	
	comp=Z,84nm,21.5s,baz=318,slow=44						
RCP	**Roxas**	**4.16**	**286**	*e*P	**Pn**	**13 37 50.0**	**+1.3**
FAKI	**Fak Fak**	**14.34**	**158**	*e*Pn	**Pn**	**13 40 07.3**	**-0.9**
NACB	**Ninganchiao**	**14.53**	**341**	*e*Pn	**P**	**13 40 15.5**	**-1.8**
SBUM	**Sibu**	**16.54**	**242**	*e*Pn	**P**	**13 40 39.1**	**-0.6**
	3.0nm,0.9s						
WR1	**Warramunga Arr**	**31.09**	**166**	*e*P	**P**	**13 43 02.5**	**-1.0**
	9.3nm,1.4s						
WRA	**Warramunga Arr**	**31.09**	**166**	P	**P**	**13 43 02.5**	**-1.0**
	0.4nm,0.6s,baz=345,slow=9.2,SNR=6.5						
ASAR	**Alice Springs**	**34.61**	**169**	P	**P**	**13 43 33.9**	**-0.3**
	0.3nm,0.4s,baz=353,slow=6.5,SNR=21						
MK32	**Makanchi Array**	**52.22**	**322**	*e*P	**P**	**13 45 57.2

PB07	**IPOC Station P**	**3.51**	**283**	⇑*iP*	**Pn**	**13 41 46.1**	**+0.7**
PB07				*iS*	**S**	**13 42 29.7**	**-1.9**
FSA	**Cafayete**	**3.52**	**177**	*eP*	**Pn**	**13 41 46.1**	**+0.7**
PB04	**IPOC Station P**	**3.65**	**273**	*eP*	**Pn**	**13 41 47.6**	**+0.6**
PB04	**IPOC Station P**	**3.65**	**273**	⇑*iP*	**Pn**	**13 41 47.4**	**+0.4**
PB05	**IPOC Station P**	**3.69**	**265**	*eP*	**Pn**	**13 41 47.8**	**+0.4**
PB05	**IPOC Station P**	**3.69**	**265**	⇑*iP*	**Pn**	**13 41 47.5**	**+0.2**
PB05				*eS*	**S**	**13 42 33.2**	**-2.1**
PB10	**IPOC Station P**	**4.11**	**256**	*eP*	**Pn**	**13 41 52.3**	**+0.2**
PB10	**IPOC Station P**	**4.11**	**256**	⇑*iP*	**Pn**	**13 41 51.7**	**-0.3**
PB10				*eS*	**S**	**13 42 40.6**	**-3.2**
AHML	**Horco Molle**	**4.26**	**169**	*eP*	**Pn**	**13 41 54.3**	**+0.4**
PB11	**IPOC Station P**	**4.27**	**310**	*eP*	**Pn**	**13 41 54.4**	**+0.2**
PB11	**IPOC Station P**	**4.27**	**310**	*eP*	**Pn**	**13 41 54.3**	**+0.2**
PB14	**IPOC Station P**	**4.35**	**241**	*eP*	**Pn**	**13 41 55.4**	**+0.2**
PSGCX	**Pisagua**	**4.71**	**308**	*eP*	**Pn**	**13 41 59.8**	**+0.5**
VCA	**Vinchina**	**6.39**	**196**	*eP*	**Pn**	**13 42 20.4**	**+0.4**
VCA				IAML		13 42 21.4	
	comp=Z,109nm,0.4s						
LPAZ	**La Paz**	**6.52**	**344**	P	**Pn**	**13 42 23.1**	**+0.9**
	comp=Z,1.7nm,0.3s,baz=114,slow=5.1,SNR=28						
LPAZ				S	**S**	**13 43 37.2**	**-1.3**
	comp=Z,1.3nm,0.3s,baz=276,slow=20,SNR=12						
LPAZ	**La Paz**	**6.52**	**344**	*eP*	**Pn**	**13 42 23.1**	**+0.8**
AGUA	**GUANDACOL**	**7.17**	**196**	*eP*	**Pn**	**13 42 29.5**	**-0.4**
ACCO	**Cerro Coronel**	**8.18**	**197**	*eP*	**Pn**	**13 42 44.4**	**-0.8**
AMOG	**MOGNA**	**8.57**	**193**	*eP*	**Pn**	**13 42 45.2**	**-2.3**
CPUP	**Villa Florida**	**8.91**	**117**	P	**Pn**	**13 42 52.0**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=314,slow=17,SNR=2.9						
RTLL	**Cerro Villicun**	**8.94**	**193**	*eP*	**Pn**	**13 42 50.3**	**-1.9**
ACAN	**Cantantal**	**9.69**	**185**	*eP*	**Pn**	**13 42 59.2**	**-2.4**
ASAL	**Salagasta**	**10.24**	**193**	*eP*	**Pn**	**13 43 07.3**	**-1.3**
ARCO	**CERRO ARCO**	**10.50**	**193**	*eP*	**Pn**	**13 43 10.9**	**-1.0**
AAGR	**Agrelo**	**10.72**	**192**	*eP*	**Pn**	**13 43 14.2**	**-0.3**
NNA	**Nana**	**14.62**	**314**	P	**Pn**	**13 44 03.9**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=174,slow=9.9,SNR=4.9						
PLCA	**Paso Flores**	**18.46**	**190**	P	**Pn**	**13 44 47.2**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=28,slow=12,SNR=10.0						
BDFB	**Brasilia**	**18.52**	**71**	P	**P**	**13 44 44.0**	**-1.3**
	comp=Z,1.6nm,0.3s,baz=245,slow=12,SNR=21						
PTGA	**Pitinga**	**22.55**	**16**	P	**P**	**13 45 24.3**	**-1.7**
	comp=Z,7.0nm,0.6s,baz=197,slow=12,SNR=21						
TXAR	**Lajitas Array**	**62.97**	**323**	P	**P**	**13 50 47.4**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=148,slow=7.5,SNR=2.6						
DBIC	**Dimbokro**	**66.67**	**72**	P	**P**	**13 51 09.9**	**-1.4**
	comp=Z,2.3nm,0.5s,baz=211,slow=8.4,SNR=8.2						
TORD	**Torodi Ar. Bea**	**75.38**	**69**	P	**P**	**13 52 01.0**	**-2.5**
	comp=Z,4.2nm,0.4s,baz=251,slow=5.7,SNR=67						
TORD				pP	**pP**	**13 53 02.7**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=270,slow=5.4,SNR=7.3						
VNDA	**Vanda**	**76.21**	**190**	P	**P**	**13 52 10.0**	**+2.8**
	comp=Z,0.5nm,0.8s,baz=107,slow=5.3,SNR=3.6						
PDAR	**Pinedale Array**	**76.31**	**329**	P	**P**	**13 52 09.4**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=106,slow=7.3,SNR=3.9						
NVAR	**Mina Array Bea**	**77.90**	**321**	P	**P**	**13 52 19.5**	**+2.1**
	comp=Z,0.2nm,0.5s,baz=134,slow=5.2,SNR=3.6						
MAW	**Mawson**	**82.57**	**163**	P	**P**	**13 52 42.5**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=281,slow=5.2,SNR=3.3						
ESDC	**Sonseca Array**	**84.87**	**43**	P	**P**	**13 52 52.2**	**-1.5**
	comp=Z,1.5nm,0.8s,baz=246,slow=5.3,SNR=7.5						
ASAR	**Alice Springs**	**130.04**	**204**	PKP	**PKPdf**	**13 59 28.4**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=130,slow=1.6,SNR=12						
WRA	**Warramunga Arr**	**133.21**	**207**	PKP	**PKPdf**	**13 59 34.5**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=152,slow=1.9,SNR=15						
MKAR	**Makanchi Array**	**144.97**	**39**	PKP	**PKPab**	**13 59 55.4**	**+1.1**
	comp=Z,2.9nm,0.7s,baz=333,slow=3.2,SNR=14						

IDC 04 13:41:36.3±2.1, 3.73N×123.29E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/38, mbtmp3.5/3, Error ellipse: s-maj=285.7km s-min=26.0km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.91**	**156**	P		P	P	13 47 10.1	-0.2
	0.4nm,0.3s,baz=335,slow=9.8,SNR=21								
ASAR	**Alice Springs**	**29.12**	**160**	P		P	P	13 47 39.4	+0.2
	0.1nm,0.3s,baz=334,slow=7.4,SNR=9.1								
MKAR	**Makanchi Array**	**55.64**	**327**	P		P	P	13 51 14.2	-0.1
	0.3nm,0.4s,baz=125,slow=7.9,SNR=5.4								

MEX 04 14:00:10.8±0.8, 16.36N×98.25W, h14km±2km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.12**	**76**	*eP*		Pg	Pg	14 00 13.3	-0.9
PNIG				*eS*		Sg	Sg	14 00 16.1	-0.5
VHO	**Vista Hermosa**	**1.61**	**64**	*eP*		Pn	Pn	14 00 34.9	-4.2
VHO				*eS*		Sn	Sn	14 00 54.6	-5.2

MEX 04 14:12:21.5±0.6, 16.58N×98.38W, h10km±9km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.31**	**128**	*eP*		Pg	Pg	14 12 26.9	-0.8
PNIG				*eS*		Sg	Sg	14 12 32.1	+0.3

*GUC **04** 14:27:19.4±0.6, 31.71S×71.89W, h40km±4km, ML3.6*
*SJA **04** 14:27:20.1±1.0, 31.92S×72.01W, h25km±22km, ML3.5, MW3.9*
ISC 04 14:27:17.1±2.4, 31.71S±0.04×72.0W±0.1, h8km±14km, n22, σ1§49/32, 3C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.04**	**59**	*eP*		**Pg**	**Pg**	**14 27 37.5**	**+0.4**
CMCH				*eS*		**Sg**	**Sg**	**14 27 50.7**	**0.0**
ROCH	**El Roble**	**1.53**	**145**	⇑*eP*		**Pn**	**Pn**	**14 27 45.3**	**+0.3**
ROCH				*eS*		**Sb**	**Sb**	**14 28 05.4**	**-0.2**
ROCH				IAML				14 28 10.2	
	comp=E,1μm,0.4s								
ROC1	**El Roble**	**1.53**	**146**	*eP*		**Pb**	**Pb**	**14 27 45.8**	**-0.1**
ROC1				*eS*		**Sn**	**Sn**	**14 28 04.6**	**-0.6**
PEL	**Peldehue**	**1.83**	**141**	*eP*		**Pb**	**Pb**	**14 27 50.0**	**-0.9**
PEL				*eS*		**Sn**	**Sn**	**14 28 11.4**	**-1.0**
PEL	**Peldehue**	**1.83**	**141**	⇑*eP*		**Pn**	**Pn**	**14 27 49.7**	**+0.8**
PEL				*eS*		**Sb**	**Sb**	**14 28 13.1**	**-1.0**
PEL				IAML				14 28 19.9	
	comp=N,743nm,0.4s								
GO04	**Tololo Observa**	**1.87**	**35**	⇑*eP*		**Pb**	**Pb**	**14 27 50.7**	**-1.1**
GO04				*eS*		**Sb**	**Sb**	**14 28 14.9**	**-0.5**
CLCH	**Cerro Calan**	**2.11**	**143**	*eP*		**Pn**	**Pn**	**14 27 53.8**	**+1.0**
CLCH				*eS*		**Sn**	**Sn**	**14 28 19.8**	**+0.6**
CLCH				IAML				14 28 28.3	
	comp=E,1μm,0.4s								
FCH	**Farellones**	**2.19**	**138**	*eP*		**Pn**	**Pn**	**14 27 54.2**	**+0.1**
FCH				*eS*		**Sn**	**Sn**	**14 28 21.4**	**-0.1**
FCH				IAML				14 28 28.0	
	comp=E,398nm,0.4s								
AUSP	**Uspallata**	**2.31**	**103**	*eP*		**Pb**	**Pb**	**14 27 59.2**	**-0.1**
AUSP				*eS*		**Sb**	**Sb**	**14 28 28.2**	**0.0**
RTLS	**Leoncito**	**2.34**	**93**	*eP*		**Pb**	**Pb**	**14 27 59.5**	**-0.3**
RTLS				*eS*		**Sb**	**Sb**	**14 28 28.9**	**-0.1**
RTLS				IAML				14 28 30.8	
	comp=Z,325nm,0.6s								
AROD	**Rodeo**	**2.69**	**56**	*eP*		**Pb**	**Pb**	**14 28 07.2**	**+1.4**
ACCO	**Cerro Coronel**	**2.79**	**67**	*eP*		**Pb**	**Pb**	**14 28 07.0**	**-0.4**
ASAL	**Salagasta**	**2.86**	**109**	*eP*		**Pb**	**Pb**	**14 28 07.4**	**-1.1**
ARCO	**CERRO ARCO**	**2.87**	**114**	*eP*		**Pb**	**Pb**	**14 28 10.3**	**+1.6**
ARCO				IAML				14 28 12.9	
	comp=Z,139nm,0.4s								
ZON	**Zonda**	**2.88**	**88**	*eP*		**Pb**	**Pb**	**14 28 06.7**	**-2.1**
ACDV	**Cuesta del Vie**	**2.95**	**59**	*eP*		**Pb**	**Pb**	**14 28 08.4**	**-1.6**
RTCV	**Cerro Valdivia**	**2.99**	**94**	*eP*		**Pb**	**Pb**	**14 28 08.6**	**-2.1**
AAGR	**Agrelo**	**3.04**	**118**	*eP*		**Pb**	**Pb**	**14 28 09.4**	**-2.2**
RTLL	**Cerro Villicun**	**3.07**	**84**	*eP*		**Pb**	**Pb**	**14 28 09.5**	**-2.6**
RTLL				IAML				14 29 01.3	
	comp=Z,142nm,0.5s								
AMOG	**MOGNA**	**3.14**	**77**	*eP*		**Pb**	**Pb**	**14 28 10.7**	**-2.5**
AGUA	**GUANDACOL**	**3.78**	**55**	*eP*		**Pb**	**Pb**	**14 28 21.8**	**-2.4**
ACAN	**Cantantal**	**4.16**	**99**	*eP*		**Pn**	**Pb**	**14 28 24.8**	**+3.8**

SJA 04 14:27:57.3±0.9, 22.87S×68.81W, h103km±9km, ML3.6(GUC), Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.27**	**340**	*eP*		Pn	Pn	14 28 13.0	+0.4
LVC				*eS*		Sn	Sn	14 28 24.9	+0.9
PB15	**IPOC Station P**	**0.70**	**241**	*eP*		Pn	Pn	14 28 16.1	+0.8
PB06	**IPOC Station P**	**0.72**	**283**	*eP*		Pn	Pn	14 28 16.3	+0.9
PB09	**IPOC Station P**	**1.14**	**339**	*eP*		Pn	Pn	14 28 21.2	+1.5
PB03	**IPOC Station P**	**1.19**	**313**	*eP*		Pn	Pn	14 28 21.1	+0.9
PB05	**IPOC Station P**	**1.28**	**270**	*eP*		Pn	Pn	14 28 21.9	+0.7
PB04	**IPOC Station P**	**1.35**	**293**	*eP*		Pn	Pn	14 28 23.4	+1.3
PB07	**IPOC Station P**	**1.51**	**318**	*eP*		Pn	Pn	14 28 24.9	+0.9
PB02	**IPOC Station P**	**1.84**	**327**	*eP*		Pn	Pn	14 28 28.6	+0.5
PB01	**IPOC Station P**	**1.92**	**341**	*eP*		Pn	Pn	14 28 29.5	+0.4

*SOME **04** 14:31:30.6, 39.22N×75.55E, h10km*
*BJI **04** 14:31:41.3, 39.99N×75.22E, h8km, mb3.7/2, mB3.9/1, ML3.8/4, Ms3.5/2, Ms7 3.4/2*
*IDC **04** 14:31:42.6±1.0, 39.72N×75.21E, h0km, mb3.5/7, mb1 3.6/12, mb1mx3.5/58, mbtmp3.5/12, ML3.3/5, MS2.8/1, Ms1 2.8/1, ms1mx2.2/28, Error ellipse: s-maj=20.1km s-min=14.7km az=89.0*
*KRNET **04** 14:31:43.7±0.1, 39.83N×75.73E, mb4.2*
*NNC **04** 14:31:50.1±1.2, 40.09N×75.30E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=11.5km s-min=8.9km az=153.0*
ISC 04 14:31:43.1±1.3, 39.89N±0.03×75.52E±0.03, h8km±9km, n76, σ1§87/104, mb3.5/7, 33C-15D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.51**	**137**	Pg		**Pn**	**Pn**	**14 31 57.8**	**+0.9**
KSH				Sg		**Sb**	**Sb**	**14 32 08.1**	**+6.1**
KSH				smax		smax			
	comp=N,6μm,0.5s								
KSH				smax		smax			
	comp=E,4μm,0.6s								
NRN	**Naryn**	**1.58**	**13**	⇑*iP*		**Pg**		**14 32 13.4**	**-0.2**
	baz=6.0								
NRN				⇑*iS*		**Sg**		**14 32 35.8**	**+1.7**
	baz=6.0								
ARLS	**Aral**	**2.17**	**336**	⇑*eP*		**Pb**		**14 32 24.0**	**+1.2**
	baz=33								
ARLS				⇑*eS*		**Sg**		**14 32 55.1**	**+2.2**
	baz=33								
KZA	**Kyzart**	**2.20**	**355**	P		**Pg**		**14 32 25.1**	**-0.2**
	SNR=86								
KZA	**Kyzart**	**2.20**	**355**	⇑*iP*		**Pg**		**14 32 25.6**	**+0.3**
	baz=51								
KZA				⇑*iS*		**Sg**		**14 32 55.3**	**+1.5**
	baz=51								
ARSB	**Arslanbob**	**2.41**	**307**	⇑*iP*		**Pb**		**14 32 27.9**	**+1.1**
	baz=6.0								
ARSB				⇑*iS*		**Sg**		**14 33 02.3**	**+1.8**
	baz=6.0								
ULHL	**Ulahol**	**2.42**	**13**	P		**Pg**		**14 32 29.3**	**-0.2**
	SNR=22								
ULHL	**Ulahol**	**2.42**	**13**	⇓*iP*		**Pb**		**14 32 27.7**	**+0.7**
	baz=9.0								
ULHL				⇓*iS*		**Sb**		**14 32 58.8**	**+1.8**
	baz=9.0								
UCH	**Uchtor**	**2.46**	**342**	P		**Pb**		**14 32 28.8**	**+1.0**
	SNR=118								
UCH	**Uchtor**	**2.46**	**342**	⇓*eP*		**Pg**		**14 32 29.5**	**-0.8**
	baz=39								
UCH				⇓*iS*		**Sg**		**14 33 02.5**	**+0.4**
	baz=39								
KDJ	**Kajisay**	**2.57**	**29**	⇓*iP*		**Pb**		**14 32 28.4**	**-1.1**
	baz=25								
KDJ				⇓*iS*		**Sb**		**14 33 01.1**	**-0.2**
	baz=25								
BOOM	**Boomskoye usch**	**2.62**	**7**	⇑*iP*		**Pb**		**14 32 30.2**	**-0.2**
	baz=3.0								
BOOM				⇑*iS*		**Sb**		**14 33 03.9**	**+1.1**
	baz=3.0								
AML	**Almayashu**	**2.63**	**329**	P		**Pb**		**14 32 31.3**	**+0.5**
	SNR=24								
AML	**Almayashu**	**2.63**	**329**	⇑*iP*		**Pb**		**14 32 32.1**	**+1.3**
	baz=27								
AML				⇑*iS*		**Sg**		**14 33 06.7**	**-1.0**
	baz=27								
KBK	**Karagaybulak**	**2.80**	**351**	P		**Pb**		**14 32 34.6**	**+1.1**
	SNR=67								
KBK	**Karagaybulak**	**2.80**	**351**	⇓*iP*		**Pb**		**14 32 33.4**	**-0.1**
	baz=48								
KBK				⇓*iS*		**Sb**		**14 33 09.4**	**+1.4**
	baz=48								
AAK	**Ala-Archa**	**2.85**	**345**	Pn		**Pb**		**14 32 34.2**	**-0.2**
	26nm,0.3s,baz=157,slow=14,SNR=81								
AAK				Lg		Lg		14 33 15.0	
	24nm,0.3s,baz=327,slow=23,SNR=26								
AAK				LR		LR		14 33 53.0	
	comp=Z,141nm,19.7s,baz=150,slow=44								
AAK	**Ala-Archa**	**2.85**	**345**	⇓Pn		**Pb**		**14 32 34.5**	**+0.1**
	132nm,0.8s								
AAK				⇑Lg		Lg		14 33 14.4	
	789nm,1.3s								
AAK	**Ala-Archa**	**2.85**	**345**	P		**Pb**		**14 32 34.5**	**+0.1**
	SNR=84								
AAK	**Ala-Archa**	**2.85**	**345**	⇑*iP*		**Pb**		**14 32 34.4**	**+0.1**
	baz=42								
AAK				⇑*iS*		**Sb**		**14 33 11.0**	**+1.5**
	baz=42								
FRU1	**Bishkek**	**2.99**	**347**	⇑*iP*		**Pb**		**14 32 35.8**	**-1.0**
	baz=45								
FRU1				⇑*eS*		**Sb**		**14 33 13.8**	**+0.3**
	baz=45								
TKM2	**Tokmak 2**	**3.03**	**1**	⇓Pn		**Pb**		**14 32 37.5**	**0.0**
	51nm,0.5s								
TKM2				⇑Lg		Lg		14 33 19.5	
	483nm,1.2s								
TKM2	**Tokmak 2**	**3.03**	**1**	P		**Pb**		**14 32 37.3**	**-0.1**
	SNR=60								
TKM2	**Tokmak 2**	**3.03**	**1**	⇑*iP*		**Pb**		**14 32 36.3**	**-1.2**
	baz=58								
TKM2				⇑*iS*		**Sb**		**14 33 14.2**	**-0.5**
	baz=58								
EKS2	**Erkin-Say**	**3.07**	**335**	P		**Pb**		**14 32 37.7**	**-0.4**
	SNR=23								
EKS2	**Erkin-Say**	**3.07**	**335**	⇑*iP*		**Pb**		**14 32 37.6**	**-0.4**
	baz=33								
EKS2				⇑*iS*		**Sb**		**14 33 16.8**	**+1.2**
	baz=33								
CHMS	**Chumysh**	**3.16**	**350**	P		**Pb**		**14 32 38.8**	**-0.8**
	SNR=38								
CHMS	**Chumysh**	**3.16**	**350**	⇓*iP*		**Pb**		**14 32 38.3**	**-1.3**
	baz=47								
CHMS				⇓*iS*		**Sb**		**14 33 17.9**	**-0.4**
	baz=47								
KST	**Kastek**	**3.17**	**6**	*eP*		**Pb**		**14 32 40.0**	**+0.2**
	109nm,1.0s								
KST				*eS*		**Sg**		**14 33 27.0**	**+2.1**
	176nm,0.6s								
IZV	**Izvestkoviy**	**3.25**	**14**	*eP*		**Pb**		**14 32 41.4**	**+0.2**
	130nm,0.5s								
IZV				*eS*		**Sg**		**14 33 29.4**	**+1.9**
	450nm,0.7s								
MTBS	**Maitube**	**3.31**	**12**	*eP*		**Pb**		**14 32 41.8**	**-0.3**
	30nm,0.5s								
MTBS				*eS*		**Sg**		**14 33 30.6**	**+1.1**
	207nm,0.4s								
TNSS	**Tian-Shan**	**3.32**	**18**	*eP*		**Pb**		**14 32 42.4**	**-0.1**
	87nm,0.5s								
TNSS				*eS*		**Sg**		**14 33 31.4**	**+1.6**
	208nm,0.5s								
MRKS	**Merke**	**3.34**	**330**	*eP*		**Pb**		**14 32 41.0**	**-1.6**
	16nm,0.6s								
MRKS				*eS*		**Sg**		**14 33 29.1**	**-1.2**
	79nm,0.5s								
DGS	**Degeres**	**3.35**	**3**	*eP*		**Pb**		**14 32 42.5**	**-0.4**
	93nm,0.6s								
DGS				*eS*		**Sg**		**14 33 31.5**	**+0.6**
	196nm,0.5s								
USP	**Ospenovka**	**3.46**	**348**	P		**Pb**		**14 32 42.8**	**-1.9**
	SNR=14								
USP	**Ospenovka**	**3.46**	**348**	⇑*iP*		**Pb**		**14 32 42.7**	**-2.0**
	baz=45								
USP				⇑*iS*		**Sb**		**14 33 25.3**	**-1.6**
	baz=45								
MDOK	**Medeo**	**3.47**	**19**	⇑Pn		**Pb**		**14 32 43.4**	**-1.5**
	55nm,0.5s								
MDOK				⇑Lg		Lg		14 33 35.1	
	246nm,0.8s								
MDOK	**Medeo**	**3.47**	**19**	*eP*		**Pb**		**14 32 44.7**	**-0.1**
	70nm,0.6s								
MDOK				*eS*		**Sg**		**14 33 35.0**	**+0.5**
	213nm,1.1s								
KNDC	**Almaty**	**3.50**	**18**	⇑Pn		**Pb**		**14 32 44.7**	**-0.7**
	64nm,0.5s								
KNDC				⇓Lg		Lg		14 33 36.0	
	260nm,0.6s								
KOTS	**Kotyrbulak**	**3.55**	**19**	*eP*		**Pb**		**14 32 45.6**	**-0.6**
	47nm,0.5s								
KOTS				*eS*		**Sg**		**14 33 36.8**	**-0.3**
	459nm,0.4s								
BTK	**Batken**	**3.62**	**274**	⇑*iP*		**Pb**		**14 32 45.7**	**-1.7**
	baz=75								
BTK				⇑*iS*		**Sb**		**14 33 30.9**	**-0.6**
	baz=75								
SATY	**Saty**	**3.84**	**33**	*eP*		**Pb**		**14 32 51.8**	**+0.6**
	50nm,0.7s								
SATY				*eS*		**Sg**		**14 33 46.8**	**+0.4**
	92nm,0.5s								
KTBS	**Karatobe**	**3.92**	**12**	*eP*		**Pb**		**14 32 53.7**	**+1.2**
	39nm,0.4s								
KTBS				*eS*		**Sg**		**14 33 49.7**	**+0.8**
	184nm,0.6s								
CHKK	**Chushkaly**	**4.11**	**15**	*eP*		**Pb**		**14 32 56.7**	**+1.0**
	68nm,0.3s								
CHKK				*eS*		**Sg**		**14 33 55.4**	**+0.3**
	223nm,0.6s								
UZB	**Uzynbulak**	**4.18**	**38**	*eP*		**Pb**		**14 32 57.5**	**+0.5**
	10nm,0.3s								
UZB				*eS*		**Sg**		**14 33 56.3**	**-1.2**
	50nm,0.8s								
KPKS	**Kokpek**	**4.29**	**33**	*eP*		**Pb**		**14 32 58.8**	**0.0**
	45nm,0.8s								
KPKS				*eS*		**Sg**		**14 33 59.1**	**-1.7**
	303nm,0.6s								
SHLS	**Shalkode**	**4.41**	**41**	*eP*		**Pg**		**14 33 06.7**	**-0.8**
	27nm,0.4s								
SHLS				*eS*		**Sg**		**14 34 12.2**	**+7.6**
	94nm,1.0s								
KK31	**Karatay Array**	**4.95**	**312**	⇑Pn		**Pn**		**14 33 00.8**	**+3.0**
	0.7nm,0.3s,baz=124,slow=15,SNR=30								
KK31				⇑Pg		Pb		14 33 14.7	+4.7
	1.9nm,0.4s,baz=135,slow=16,SNR=8.5								
KK31				⇑Lg		Lg		14 34 19.7	
	19nm,0.8s,baz=124,slow=29,SNR=4.1								
BRLS	**Borolday**	**5.30**	**308**	*eP*		**Pb**		**14 33 18.0**	**+2.0**
	0.4nm,0.3s								
BRLS				*eS*		**Sg**		**14 34 30.9**	**-2.3**
	21nm,0.9s								
CHCP	**Chirah Chowk**	**6.48**	**197**	P		Pn		14 33 24.1	+5.3
CEP	**Cherat**	**6.71**	**207**	P		**Pn**		**14 33 26.0**	**+3.9**
CEP				S		**Sn**		**14 34 46.0**	**+7.2**
MK31	**Makanchi Array**	**8.48**	**33**	⇓Pn		Pn		14 33 52.0	+5.7
	6.4nm,1.1s,baz=209,slow=13,SNR=9.8								
MK31				⇑Lg		Lg		14 36 17.8	
	14nm,1.1s								
MKAR	**Makanchi Array**	**8.48**	**33**	Pn		Pn		14 33 51.6	+5.4
	0.4nm,0.3s,baz=206,slow=14,SNR=11								
WMQ	**Urumqi**	**9.89**	**63**	*eP*		Pn		14 34 09.8	+4.1
KURK	**Kurchatov**	**11.04**	**10**	⇓Lg		Lg		14 37 35.0	
	25nm,1.1s								
PYUN	**Piuthan**	**13.28**	**150**	*eP*		Pn		14 34 48.1	-4.1
	4.5nm,0.4s								
DANN	**Dangsing**	**13.37**	**147**	*eP*		**Pn**		**14 34 50.9**	**-2.6**
	6.4nm,0.4s								
BVAR	**Borovoye Array**	**13.60**	**347**	Pn		**Pn**		**14 34 55.9**	**-0.4**
	0.2nm,0.3s,baz=150,slow=12,SNR=2.5								
BVAR				Lg		Lg		14 38 55.2	
	0.1nm,0.3s,baz=149,slow=24,SNR=5.6								
GEYT	**Alibeck**	**13.70**	**267**	Pn		**Pn**		**14 34 55.2**	**-2.5**
	0.1nm,0.3s,baz=81,slow=12,SNR=2.8								
GEYT				Sn		**Sn**		**14 37 27.1**	**-2.9**
	0.2nm,0.3s,baz=48,slow=22,SNR=3.6								
KOLN	**Koldanda**	**13.82**	**149**	*eP*		Pn		14 34 55.5	-4.0
	3.7nm,0.4s								
GKN	**Gorkha**	**14.05**	**145**	*eP*		**Pn**		**14 35 00.7**	**-2.0**
	0.5nm,0.3s								
AB31	**Akbulak array**	**14.50**	**315**	Pn		**P**		**14 35 12.8**	**-2.5**
	1.0nm,0.7s,baz=126,slow=13,SNR=13								
KKN	**Kakani**	**14.53**	**143**	*eP*		Pn		**14 35 06.6**	**-2.6**
	8.2nm,0.6s								
DMN	**Daman**	**14.60**	**144**	*eP*		Pn		**14 35 07.1**	**-3.2**
	4.6nm,0.4s								
GUN	**Gumba**	**14.71**	**141**	*eP*		**Pn**		**14 35 10.3**	**-1.5**
	15nm,0.9s								
PKI	**Pulchoki**	**14.77**	**143**	*eP*

AGUA	**GUANDACOL**	**3.75**	**55**	*e*P	**Pb**	**14 34 06.9**	**-2.8**
ACAN	**Cantantal**	**4.13**	**99**	*e*P	**Pn**	**14 34 09.4**	**+2.9**
GO03	**Copiap**	**4.38**	**21**	*e*Pn	**Pn**	**14 34 10.7**	**+0.8**
GO06	**Curarrehue**	**7.87**	**177**	*e*Pn	**Pn**	**14 34 58.1**	**+0.2**
PLCA	**Paso Flores**	**9.09**	**173**	Pn	**Pn**	**14 35 15.2**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=357,slow=10,SNR=21						
PLCA				LR	LR	14 38 46.8	
	comp=Z,186nm,21.7s,baz=10,slow=38						
PLCA	**Paso Flores**	**9.09**	**173**	*e*Pn	**Pn**	**14 35 15.4**	**+0.9**
LVC	**Limon Verde**	**9.47**	**18**	*e*Pn	**Pn**	**14 35 16.9**	**-1.1**
TRQA	**Tornquist**	**10.39**	**130**	*e*Pn	**Pn**	**14 35 30.5**	**-1.8**
PB01	**IPOC Station P**	**10.86**	**13**	*e*Pn	**Pn**	**14 35 38.6**	**-0.2**
MNMC	**Minye Minye**	**12.71**	**10**	*e*Pn	**Pn**	**14 36 04.6**	**+0.2**
CPUP	**Villa Florida**	**13.91**	**71**	Pn	**Pn**	**14 36 19.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=247,slow=17,SNR=1.5						
CPUP	**Villa Florida**	**13.91**	**71**	*e*Pn	**Pn**	**14 36 20.4**	**-0.1**
LPAZ	**La Paz**	**15.75**	**14**	Pn	**Pn**	**14 36 46.5**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=207,slow=7.8,SNR=5.1						
LPAZ	**La Paz**	**15.75**	**14**	*e*Pn	**Pn**	**14 36 45.2**	**-0.6**
	comp=Z,2.6nm,0.8s						
NNA	**Nana**	**20.12**	**346**	LR	LR	14 43 34.8	
	comp=Z,54nm,19.1s,baz=174,slow=31						
SPB	**Sao Paulo**	**23.18**	**76**	*e*P	**P**	**14 38 10.3**	**+0.1**
	comp=Z,14nm,0.8s						
SAML	**Samuel**	**24.08**	**22**	*e*P	**P**	**14 38 18.5**	**-0.5**
	comp=Z,1.8nm,0.7s						
ATAH	**Atahualpa**	**25.16**	**345**	LR	LR	14 46 21.3	
	comp=Z,40nm,21.1s,baz=203,slow=32						
BDFB	**Brasilia**	**27.08**	**59**	P	**P**	**14 38 45.4**	**-1.0**
	comp=Z,4.6nm,0.5s,baz=225,slow=6.6,SNR=8.5						
BDFB				LR	LR	14 51 04.2	
	comp=Z,214nm,19.7s,baz=217,slow=40						
BDFB	**Brasilia**	**27.08**	**59**	*e*P	**P**	**14 38 45.4**	**-1.0**
	comp=Z,17nm,1.0s						
PTGA	**Pitinga**	**32.84**	**23**	P	**P**	**14 39 37.0**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=156,slow=19,SNR=4.2						
SNAA	**Sanae**	**53.70**	**158**	*e*P	**P**	**14 42 25.1**	**+0.2**
	comp=Z,3.7nm,0.8s						
LTX	**Lajitas**	**67.75**	**330**	*e*P	**P**	**14 44 02.0**	**+0.8**
TXAR	**Lajitas Array**	**67.75**	**330**	P	**P**	**14 44 02.0**	**+0.8**
	comp=Z,0.1nm,0.5s,baz=125,slow=12,SNR=2.5						
TXAR				LR	LR	15 10 13.6	
	comp=Z,36nm,18.0s,baz=0.0,slow=33						
DBIC	**Dimbokro**	**74.43**	**72**	P	**P**	**14 44 41.0**	**-0.9**
	comp=Z,3.9nm,0.8s,baz=209,slow=9.4,SNR=4.2						
MAW	**Mawson**	**75.37**	**164**	LR	LR	15 20 04.1	
	comp=Z,38nm,18.2s,baz=240,slow=38						
BOSA	**Boshof**	**81.12**	**118**	P	**P**	**14 45 19.4**	**+0.2**
	comp=Z,3.1nm,0.8s,baz=233,slow=6.8,SNR=5.7						
BOSA				LR	LR	15 15 40.2	
	comp=Z,25nm,19.9s,baz=207,slow=32						
NVAR	**Mina Array Bea**	**82.02**	**325**	P	**P**	**14 45 25.5**	**+1.8**
	comp=Z,0.2nm,0.6s,baz=165,slow=7.5,SNR=3.1						
TOA0	**Torodi Ar. Sit**	**83.41**	**70**	*e*P	**P**	**14 45 30.3**	**-0.9**
TORD	**Torodi Ar. Bea**	**83.41**	**70**	P	**P**	**14 45 30.1**	**-1.1**
	comp=Z,2.2nm,0.9s,baz=258,slow=4.7,SNR=12						
TORD				LR	LR	15 19 20.1	
	comp=Z,38nm,20.9s,baz=300,slow=33						
TOA1	**Torodi Ar. Sit**	**83.41**	**70**	*e*P	**P**	**14 45 30.1**	**-1.1**
WR1	**Warramunga Arr**	**122.77**	**210**	*e*PKPdf	**PKPdf**	**14 51 59.6**	**-0.4**
WRA	**Warramunga Arr**	**122.77**	**210**	PKP	**PKPdf**	**14 51 59.6**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=153,slow=1.8,SNR=5.9						
H11S2	**WAKE ISLAND Hy**	**125.80**	**271**	T	T	17 10 53.0	
	baz=117,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy**	**125.81**	**271**	T	T	17 10 55.2	
	baz=117,slow=75,SNR=32						
H11S3	**WAKE ISLAND Hy**	**125.82**	**271**	T	T	17 10 55.5	
	baz=117,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hy**	**126.16**	**272**	T	T	17 11 21.3	
	baz=116,slow=74						
H11N1	**WAKE ISLAND Hy**	**126.17**	**272**	T	T	17 11 25.6	
	baz=116						
H11N2	**WAKE ISLAND Hy**	**126.17**	**272**	T	T	17 11 21.8	
	baz=116,slow=74						
ZAA1	**Zalesovo Array**	**152.25**	**30**	*e*PKPbc	**PKPbc**	**14 52 59.5**	**+0.9**
ZALV	**Zalesovo Beam**	**152.25**	**30**	PKPbc	**PKPbc**	**14 52 59.5**	**+0.9**
	comp=Z,2.7nm,0.6s,baz=296,slow=4.6,SNR=10.0						

*ISCJB **04** 14:40:30.8±0.9,52˚.40N±0˚.07×132˚.0W±0˚.1,h10km, mb3.5/2,MS3.3/1,Error ellipse: s-maj=14.0km s-min=6.8km az=140.4*

*IDC **04** 14:40:30.5±1.7,52˚.39N×132˚.08W,h0km,mb3.5/2, mb1 3.8/8,mb1mx3.5/40,mbtmp3.5/8,ML3.4/5,MS3.2/3, Ms1 3.2/3,ms1mx2.7/27,Error ellipse: s-maj=28.4km s-min=7.8km az=57.0*

ISC 04 14:40:31.6±1.2,52.4N±0˚.1×131.9W±0˚.1,h10km,n11, σ2s36/12,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H02S1	**DAWSON INLET T**	**0.93**	**336**	Pg	**Pg**	**14 40 47.0**	**-2.5**
H02S1				Lg	Lg	14 40 58.1	
	SNR=3025						
H02N1	**VAN INLET T-PH**	**0.99**	**336**	Pg	**Pg**	**14 40 48.0**	**-2.7**
H02N1				Lg	Lg	14 40 59.3	
	SNR=1700						
BBB	**Bella Bella**	**2.31**	**93**	Pn	**Pn**	**14 41 09.9**	**+0.3**
	7.3nm,0.3s,baz=283,slow=14,SNR=26						
BBB				Sn	**Sn**	**14 41 38.3**	**+0.3**
	19nm,0.3s,baz=345,slow=22,SNR=6.5						
DLBC	**Dease Lake**	**6.18**	**9**	Pn	**Pn**	**14 42 05.8**	**+2.8**
	0.6nm,0.3s,baz=214,slow=11,SNR=11						
DLBC				Sn	**Sn**	**14 43 16.7**	**+3.0**
	0.4nm,0.3s,baz=342,slow=20,SNR=2.7						
DLBC				Lg	Lg	14 43 50.5	
	0.3nm,0.3s,baz=280,slow=27,SNR=4.0						
DLBC				LR	LR	14 44 34.4	
	comp=Z,198nm,18.1s,baz=128,slow=40						
YKA	**Yellowknife Ar**	**13.72**	**36**	Pn	**Pn**	**14 43 43.9**	**-2.0**
	0.1nm,0.3s,baz=228,slow=12,SNR=3.0						
ILAR	**Eielson Array**	**14.65**	**334**	Pn	**Pn**	**14 43 59.2**	**+0.5**
	baz=152,slow=12,SNR=2.2						
ILAR				LR	LR	14 48 36.2	
	comp=Z,36nm,18.2s,baz=216,slow=33						
NVAR	**Mina Array Bea**	**16.83**	**141**	Pn	**P**	**14 44 29.7**	**+0.2**
	0.1nm,0.3s,baz=318,slow=11,SNR=5.3						
PDAR	**Pinedale Array**	**17.78**	**114**	P	**P**	**14 44 43.2**	**+3.1**
	0.1nm,0.3s,baz=311,slow=5.7,SNR=13						
PFO	**Pinyon Flats O**	**21.78**	**143**	LR	LR	14 54 04.2	
	comp=Z,110nm,20.4s,baz=182,slow=37						
TXAR	**Lajitas Array**	**31.02**	**127**	P	**P**	**14 46 51.6**	**+2.1**
	0.3nm,0.6s,baz=346,slow=5.8,SNR=2.8						
MKAR	**Makanchi Array**	**76.99**	**337**	P	**P**	**14 52 22.8**	**-1.5**
	0.8nm,0.9s,baz=12,slow=7.5,SNR=2.5						

SJA 04 14:47:34.0±1.4,31˚.88S×72˚.24W,h42km±21km,ML2.9, MW3.6,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**1.51**	**137**	*e*P	Pn	14 48 00.3	+1.5
ROC1				*e*S	Sn	14 48 19.2	+1.8
AUSP	**Uspallata**	**2.45**	**99**	*e*P	Pn	14 48 14.1	+2.3
RTLS	**Leoncito**	**2.51**	**89**	*e*P	Pn	14 48 14.8	+2.2
RTLS				IAML		14 48 45.5	
	comp=Z,65nm,0.3s						
AROD	**Rodeo**	**2.93**	**55**	*e*P	Pn	14 48 20.0	+1.7
ARCO	**CERRO ARCO**	**2.96**	**110**	*e*P	Pn	14 48 22.2	+3.5
ARCO				IAML		14 48 26.1	
	comp=Z,26nm,0.3s						
ASAL	**Salagasta**	**2.98**	**105**	*e*P	Pn	14 48 23.5	+4.7
ACCO	**Cerro Coronel**	**3.01**	**66**	*e*P	Pn	14 48 22.4	+2.9
ZON	**Zonda**	**3.06**	**85**	*e*P	Pn	14 48 24.2	+4.4
AAGR	**Agrelo**	**3.13**	**114**	*e*P	Pn	14 48 24.8	+3.9
RTCV	**Cerro Valdivia**	**3.15**	**91**	*e*P	Pn	14 48 23.9	+2.7
ACDV	**Cuesta del Vie**	**3.18**	**58**	*e*P	Pn	14 48 26.5	+4.9
RTLL	**Cerro Villicun**	**3.26**	**81**	*e*P	Pn	14 48 25.5	+2.8
RTLL				IAML		14 49 16.0	
	comp=Z,27nm,0.4s						
AMOG	**MOGNA**	**3.34**	**75**	*e*P	Pn	14 48 26.3	+2.5
AGUA	**GUANDACOL**	**4.02**	**55**	*e*P	Pn	14 48 35.9	+2.8
ACAN	**Cantantal**	**4.31**	**97**	*e*P	Pn	14 48 40.5	+3.4
VCA	**Vinchina**	**4.69**	**49**	*e*P	Pn	14 48 48.7	+6.3

*ISCJB **04** 15:47:30.9±0.8,20˚.7S±0˚.2×178˚.7W±0˚.1,h587km, mb3.6/10,Error ellipse: s-maj=26.4km s-min=14.0km az=149.3*

*IDC **04** 15:47:33.8±2.7,20˚.69S×178˚.67W,h609km±33km, mb3.2/10,mb1 3.5/10,mb1mx3.3/21,mbtmp4.1/10,Error ellipse: s-maj=23.2km s-min=12.7km az=152.0*

ISC 04 15:47:31.9±0.9,20.7S±0˚.2×178.7W±0˚.2,h587km,n13, σ1s08/15,mb3.5/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.18**	**244**	P	**P**	**15 53 54.9**	**+0.4**
	1.6nm,0.6s,baz=75,slow=12,SNR=3.9						
ASAR	**Alice Springs**	**43.89**	**257**	P	**P**	**15 54 48.3**	**+0.4**
	8.3nm,0.6s,baz=90,slow=7.5,SNR=309						
ASAR				S	**S**	**16 00 36.0**	**-1.6**
	1.1nm,0.8s,baz=93,slow=16,SNR=7.2						
WRA	**Warramunga Arr**	**43.98**	**262**	P	**P**	**15 54 48.5**	**-0.1**
	5.2nm,0.3s,baz=97,slow=7.7,SNR=347						
WRA				S	**S**	**16 00 38.8**	**-0.1**
	0.2nm,0.9s,baz=100,slow=16,SNR=3.3						
VNDA	**Vanda**	**57.71**	**185**	P	**P**	**15 56 26.9**	**0.0**
	0.6nm,0.6s,baz=357,slow=6.6,SNR=8.3						
MJAR	**Matsushiro Arr**	**69.97**	**324**	P	**P**	**15 57 45.8**	**+0.4**
	0.6nm,0.6s,baz=170,slow=6.4,SNR=6.0						
PETK	**Petropavlovsk-**	**76.26**	**346**	P	**P**	**15 58 20.1**	**-0.7**
	1.4nm,0.8s,baz=125,slow=7.8,SNR=4.4						
NVAR	**Mina Array Bea**	**81.55**	**44**	P	**P**	**15 58 49.5**	**+0.1**
	0.2nm,0.5s,baz=224,slow=6.3,SNR=4.5						
ILAR	**Eielson Array**	**88.59**	**13**	P	**P**	**15 59 22.6**	**0.0**
	0.4nm,0.5s,baz=218,slow=5.3,SNR=11						
PDAR	**Pinedale Array**	**89.48**	**43**	P	**P**	**15 59 27.9**	**+0.4**
	0.4nm,0.6s,baz=208,slow=2.9,SNR=3.7						
CMAR	**Chiang Mai Arr**	**89.59**	**290**	P	**P**	**15 59 29.8**	**+1.5**
	1.3nm,0.9s,baz=128,slow=2.8,SNR=12						
AKASG	**Malin Array Be**	**142.84**	**331**	PKP	**PKPdf**	**16 05 56.3**	**-2.8**
	0.9nm,0.5s,baz=43,slow=4.2,SNR=14						
BRTR	**Keskin Array B**	**146.48**	**312**	PKPbc	**PKPbc**	**16 06 08.5**	**0.0**
	0.8nm,0.6s,baz=143,slow=4.0,SNR=5.9						
GERES	**GERESS Array B**	**150.17**	**343**	PKPbc	**PKPbc**	**16 06 17.6**	**+0.3**
	0.5nm,0.6s,baz=29,slow=3.0,SNR=6.6						

MAN 04 16:00:51.4,9.49N×122.08E,h35km,mb3.9,ML2.7,MS2.2, 1D,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**1.23**	**24**	*e*P	Pn	16 01 12.4	+0.3
GUIM				*e*S	Sn	16 01 27.8	+0.2
CUYO	**Cuyo Island**	**1.71**	**322**	*e*P	Pn	16 01 19.8	+1.0
CUYO				*e*S	Sn	16 01 40.1	+0.7
RCP	**Roxas**	**2.15**	**18**	*e*P	Pn	16 01 30.5	+5.6
RCP				*e*S	Sn	16 01 54.3	+3.9
ENPP	**El Nido**	**3.12**	**303**	*e*P	Pn	16 01 39.2	+1.0
ENPP				*e*S	Sn	16 02 12.7	-1.6

*IDC **04** 16:11:20.5±0.9,46˚.87N×154˚.44E,h0km,mb3.6/5, mb1 3.9/9,mb1mx3.5/51,mbtmp3.7/9,ML3.2/4,MS2.6/2, Ms1 2.6/2,ms1mx2.1/47,Error ellipse: s-maj=41.4km s-min=16.9km az=127.0*

*ISCJB **04** 16:11:22.6±0.7,46˚.94N±0˚.08×154˚.2E±0˚.1,h27km, mb3.5/5,Error ellipse: s-maj=15.3km s-min=4.6km az=140.4*

*MOS **04** 16:11:22.3±1.0,45˚.93N×154˚.39E,h25km,mb4.1/2,Error ellipse: s-maj=26.6km s-min=10.8km az=51.9*

*SKHL **04** 16:11:25.5±1.0,47˚.11N×154˚.21E,h59km±2km,mb4.2/5*

ISC 04 16:11:24.4±1.0,47.0N±0˚.1×154.3E±0˚.1,h27km,n27, σ1s82/27,mb3.6/5,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.89**	**17**	*e*P	**Pn**	**16 12 21.3**	**-1.0**
SKR				AMB	AMB	16 12 24.7	
	50nm,0.9s						
SKR				AMB	AMB	16 12 24.7	
	4μm,0.9s						
SKR				*e*S	**Sn**	**16 13 02.6**	**-4.5**
SKR				A	A	16 13 04.8	
	80nm,0.5s						
SKR				A	A	16 13 04.8	
	138nm,0.5s						
SKR	**Severo-Kuril's**	**3.89**	**17**	*e*PN	**Pn**	**16 12 22.4**	**+0.1**
KUR	**Kuril'sk**	**4.81**	**251**	*e*P	**Pn**	**16 12 37.0**	**+2.0**
KUR				AMB	AMB	16 12 38.1	
	30nm,0.8s						
KUR				AMB	AMB	16 12 38.1	
	40nm,0.8s						
KUR				AMB	AMB	16 12 38.1	
	20nm,0.8s						
KUR				*e*S	**Sn**	**16 13 30.4**	**+0.7**
KUR				A	A	16 13 35.5	
	150nm,0.7s						
KUR				A	A	16 13 35.5	
	29nm,0.7s						
KUR	**Kuril'sk**	**4.81**	**251**	*e*PN	**Pn**	**16 12 37.9**	**+2.9**
KUR				pmax	pmax		
	comp=E,22nm,0.3s						
KUR				pmax	pmax		
	comp=Z,62nm,0.3s						
KUR				pmax	pmax		
	comp=N,40nm,0.1s						
SHO	**Shikotan**	**6.11**	**242**	*e*P	**Pn**	**16 12 52.5**	**-0.4**
SHO				AMB	AMB	16 12 54.4	
	comp=N,20nm,1.0s						
SHO				AMB	AMB	16 12 54.4	
	comp=N,40nm,1.0s						
SHO				*e*S	**Sn**	**16 13 58.6**	**-3.3**
SHO				A	A	16 14 03.0	
	comp=N,20nm,0.5s						
SHO				A	A	16 14 03.0	
	comp=N,68nm,0.5s						
SHO	**Shikotan**	**6.11**	**242**	*e*PN	**Pn**	**16 12 52.5**	**-0.4**
SHO				pmax	pmax		
	comp=Z,30nm,0.5s						
SHO				pmax	pmax		
	comp=N,15nm,0.3s						
SHO				pmax	pmax		
	comp=E,17nm,0.2s						
PETK	**Petropavlovsk-**	**6.51**	**18**	Pn	**Pn**	**16 12 58.5**	**+0.2**
	comp=E,0.5nm,0.3s,baz=169,slow=13,SNR=15						
PETK				Sn	**Sn**	**16 14 15.8**	**+4.2**
	baz=164,slow=18						
PETK				LR	LR	16 16 15.4	
	comp=E,32nm,19.2s,baz=192,slow=45						
YUK	**Yuzh-Kuril'sk**	**6.62**	**247**	*e*P	**Pn**	**16 13 01.5**	**+1.6**
YUK				AMB	AMB	16 13 03.8	
	comp=E,80nm,0.4s						
YUK				AMB	AMB	16 13 03.8	
	comp=E,40nm,0.4s						
YUK				AMB	AMB	16 13 03.8	
	comp=E,10.0nm,0.4s						
YUK				*e*S	**Sn**	**16 14 13.2**	**-1.3**
YUK				A	A	16 14 24.7	
	comp=E,140nm,0.5s						
YUK				A	A	16 14 24.7	
	comp=E,60nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**6.62**	**247**	*e*PN	**Pn**	**16 13 01.3**	**+1.4**
YUK				pmax	pmax		
	comp=Z,95nm,0.5s						
YUK				pmax	pmax		
	comp=E,36nm,0.2s						
YUK				pmax	pmax		
	comp=N,75nm,0.6s						
GRPR	**Tuman**	**6.70**	**247**	*e*P	**Pn**	**16 13 02.0**	**+1.0**
GRPR				AMB	AMB	16 13 05.0	
	comp=N,40nm,0.6s						
GRPR				AMB	AMB	16 13 05.0	
	comp=N,20nm,0.6s						
GRPR				*e*S	**Sn**	**16 14 15.0**	**-1.4**
GRPR	**Tuman**	**6.70**	**247**	*e*PN	**Pn**	**16 13 02.1**	**+1.0**
GRPR				pmax	pmax		
	comp=Z,71nm,0.3s						
GRPR				pmax	pmax		
	comp=N,40nm,0.2s						
GRPR				pmax	pmax		
	comp=E,35nm,0.2s						
GLVR	**Golovnino**	**6.99**	**246**	*e*S	**Sn**	**16 14 22.8**	**-0.6**
JKA	**Kamikawa-asahi**	**8.70**	**255**	*e*P	**Pn**	**16 13 29.6**	**+1.2**
ASAJ	**Asahikawa**	**8.70**	**255**	Pn	**Pn**	**16 13 29.6**	**+1.2**
	comp=E,0.5nm,0.3s,baz=34,slow=10,SNR=6.7						
USRK	**Ussuriysk Ar.**	**15.86**	**268**	Pn	**Pn**	**16 15 05.0**	**-0.6**
	comp=E,0.3nm,0.3s,baz=69,slow=14,SNR=4.3						
USRK				LR	LR	16 20 51.7	
	comp=E,31nm,21.8s,baz=83,slow=36						
MJAR	**Matsushiro Arr**	**15.88**	**235**	Pn	**Pn**	**16 15 04.8**	**-1.1**
	comp=E,0.3nm,0.3s,baz=36,slow=8.0,SNR=5.8						
H11N2	**WAKE ISLAND Hy**	**29.07**	**155**	T	T	16 49 15.3	
	baz=341						
H11N1	**WAKE ISLAND Hy**	**29.08**	**155**	T	T	16 49 29.3	
	baz=341,slow=74						
H11N3	**WAKE ISLAND Hy**	**29.09**	**155**	T	T	16 49 16.6	
	baz=341,slow=74						
H11S1	**WAKE ISLAND Hy**	**30.17**	**156**	T	T	16 49 56.4	
	baz=343,slow=76,SNR=197						
H11S3	**WAKE ISLAND Hy**	**30.18**	**156**	T	T	16 50 02.3	
	baz=343,slow=76,SNR=186						
H11S2	**WAKE ISLAND Hy**	**30.19**	**156**	T	T	16 50 02.8	
	baz=343,slow=76,SNR=122						
ILAR	**Eielson Array**	**35.85**	**39**	P	**P**	**16 18 21.6**	**+0.1**
	comp=E,0.1nm,0.6s,baz=258,slow=6.1,SNR=5.4						
INK	**Inuvik**	**41.01**	**33**	P	**P**	**16 19 05.2**	**+0.5**
	comp=E,1.0nm,0.6s,baz=279,slow=7.6,SNR=6.3						
WRA	**Warramunga Arr**	**69.01**	**200**	P	**P**	**16 22 26.8**	**-0.6**
	comp=E,0.4nm,0.8s,baz=18,slow=7.1,SNR=3.6						
ASAR	**Alice Springs**	**72.70**	**200**	P	**P**	**16 22 50.1**	**+0.4**
	comp=E,0.4nm,0.7s,baz=5.7,slow=6.2,SNR=6.9						
TXAR	**Lajitas Array**	**76.66**	**61**	P	**P**	**16 23 13.4**	**+0.5**
	comp=E,0.9nm,0.6s,baz=296,slow=3.9,SNR=10						

*IDC **04** 16:18:25.7±1.5,21˚.96S×170˚.42E,h0km,mb4.0/7, mb1 4.2/8,mb1mx3.9/43,mbtmp4.0/8,ML3.7/1,MS3.5/12, Ms1 3.5/12,ms1mx3.2/35,Error ellipse: s-maj=46.0km s-min=30.0km az=149.0*

*NEIC **04** 16:18:27.4±0.6,22˚.01S×170˚.37E,h10km,mb4.3/8,Error ellipse: s-maj=15.0km s-min=11.4km az=212.0*

*ISCJB **04** 16:18:29.9±0.8,22˚.1S±0˚.1×170˚.27E±0˚.09,h35km, mb4.1/12,MS3.4/8,Error ellipse: s-maj=21.5km s-min=11.1km az=18.5*

ISC 04 16:18:31.7±0.9,22˚.1S±0˚.2×170˚.26E±0˚.09,h35km,n36, σ1s00/27,mb3.9/12,MS3.5/8,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.54**	**270**	Pn	**Pn**	**16 19 24.5**	**+0.2**
	5.4nm,0.3s,baz=106,slow=4.6,SNR=135						
DZM				Sn	**Sn**	**16 20 06.1**	**+1.2**
	4.7nm,0.3s,baz=310,slow=22,SNR=11						
DZM				LR	LR	16 20 28.3	
	comp=Z,212nm,18.8s,baz=30,slow=33						
DZM	**Mont Dzumac**	**3.54**	**270**	*e*Pn	**Pn**	**16 19 24.0**	**-0.3**
	29nm,0.2s						
DZM				*e*Sn	**Sn**	**16 20 02.4**	**-2.5**
	20nm,0.2s						
DZM	**Mont Dzumac**	**3.54**	**270**	*e*Pn	**Pn**	**16 19 23.9**	**-0.3**
DZM				Sn	**Sn**	**16 20 06.1**	**+1.2**
RAO	**Raoul Island**	**12.82**	**126**	LR	LR	16 25 17.8	
	comp=Z,339nm,20.9s,baz=285,slow=32						
HNR	**Honiara**	**16.01**	**320**	LR	LR	16 27 20.7	
	comp=Z,119nm,21.7s,baz=149,slow=33						
URZ	**Urewera**	**17.16**	**161**	LR	LR	16 27 31.0	
	comp=Z,249nm,20.6s,baz=344,slow=32						
RPZ	**Rata Peaks**	**21.58**	**178**	LR	LR	16 31 02.5	
	comp=Z,152nm,18.6s,baz=24,slow=35						
PMG	**Port Moresby**	**25.51**	**296**	LR	LR	16 32 31.4	
	comp=Z,171nm,19.0s,baz=171,slow=33						
STKA	**Stephens Creek**	**27.27**	**243**	P	**P**	**16 24 14.2**	**+1.4**
	2.3nm,0.8s,baz=61,slow=14,SNR=4.2						
RAR	**Rarotonga**	**27.85**	**94**	LR	LR	16 32 19.8	
	comp=Z,70nm,19.7s,baz=250,slow=30						
AS31	**Alice Springs**	**33.47**	**260**	*e*P	**P**	**16 25 08.0**	**+0.1**
	1.1nm,1.0s						
ASAR	**Alice Springs**	**33.47**	**260**	P	**P**	**16 25 08.1**	**+0.2**
	0.8nm,0.7s,baz=81,slow=9.7,SNR=14						
ASAR				LR	LR	16 39 27.5	
	comp=Z,50nm,18.7s,baz=99,slow=38						
WB2	**Warramunga Arr**	**33.54**	**267**	*e*P	**P**	**16 25 08.0**	**-0.5**
WR1	**Warramunga Arr**	**33.55**	**267**	*e*P	**P**	**16 25 08.0**	**-0.6**
	4.1nm,1.1s						
WRA	**Warramunga Arr**	**33.55**	**267**	P	**P**	**16 25 08.0**	**-0.6**
	1.2nm,0.8s,baz=99,slow=7.9,SNR=10						
TBI	**Tubuai**	**37.10**	**100**	*e*LR	LR	16 35 43.0	
	153nm,28.0s						
PPT2	**Papeete2**	**37.97**	**91**	*e*LR	LR	16 36 17.5	
	80nm,26.0s,baz=258						
FITZ	**Fitzroy Crossi**	**41.98**	**267**	P	**P**	**16 26 20.9**	**+1.1**
	4.7nm,1.0s,baz=80,slow=7.5,SNR=4.7						
FITZ				LR	LR	16 44 14.8	
	comp=Z,78nm,18.6s,baz=94,slow=37						
FITZ	**Fitzroy Crossi**	**41.98**	**267**	*e*P	**P**	**16 26 20.8**	**+1.1**
	25nm,1.6s						
VNDA	**Vanda**	**55.63**	**182**	LR	LR	16 49 41.9	
	comp=Z,47nm,18.8s,baz=62,slow=34						
VNDA	**Vanda**	**55.63**	**182**	*e*P	**P**	**16 28 03.3**	**-0.4**
SBA	**Scott Base**	**55.84**	**181**	*e*P	**P**	**16 28 06.4**	**+1.2**
	13nm,1.8s						
CASY	**Casey**	**57.92**	**204**	*e*P	**P**	**16 28 19.4**	**-0.6**
	6.8nm,1.3s						
QSPA	**South Pole Qui**	**67.98**	**180**	*e*P	**P**	**16 29 26.4**	**-0.7**
	4.8nm,1.0s						
KSRS	**Korea Array**	**71.38**	**326**	LR	LR	16 58 15.3	
	comp=Z,13nm,20.6s,baz=30,slow=34						
PETK	**Petropavlovsk-**	**75.67**	**352**	LR	LR	16 57 10.3	
	comp=Z,28nm,20.4s,baz=139,slow=31						
MAW	**Mawson**	**76.16**	**202**	P	**P**	**16 30 16.1**	**+0.2**
	2.1nm,1.1s,baz=96,slow=5.7,SNR=3.9						
MAW	**Mawson**	**76.16**	**202**	*e*P	**P**	**16 30 15.7**	**-0.1**
	1.0nm,1.2s						
CMAR	**Chiang Mai Arr**	**80.54**	**294**	P	**P**	**16 30 40.0**	**-0.8**
	1.1nm,0.9s,baz

ROC1	**El Roble**	**1.51**	**141**	*e*P		**Pn**	**16 21 34.4**	**+0.9**
ROC1				*e*S		**Sn**	**16 21 53.2**	**-0.2**
PEL	**Peldehue**	**1.82**	**138**	*e*P		**Pn**	**16 21 38.4**	**+0.9**
PEL				*e*S		**Sn**	**16 22 01.0**	**+0.3**
PEL	**Peldehue**	**1.82**	**138**	*e*P		**Pn**	**16 21 38.1**	**+0.6**
PEL				*e*S		**Sn**	**16 22 00.0**	**-0.7**
PEL				IAML			16 22 05.0	
	comp=E,2µm,0.3s							
GO04	**Tololo Observa**	**1.99**	**36**	*e*P		**Pn**	**16 21 39.9**	**0.0**
GO04				*e*S		**Sn**	**16 22 03.8**	**-1.2**
CLCH	**Cerro Calan**	**2.09**	**140**	*e*P		**Pn**	**16 21 43.3**	**+2.0**
ANTU	**Antumapu**	**2.18**	**145**	*e*P		**Pn**	**16 21 44.0**	**+1.6**
FCH	**Farellones**	**2.19**	**135**	*e*P		**Pn**	**16 21 43.5**	**+0.7**
FCH				*e*S		**Sn**	**16 22 09.7**	**-0.3**
FCH				IAML			16 22 12.2	
	comp=E,1µm,0.1s							
AUSP	**Uspallata**	**2.38**	**101**	*e*P		**Pn**	**16 21 47.7**	**+2.3**
RTLS	**Leoncito**	**2.42**	**91**	*e*P		**Pn**	**16 21 47.8**	**+1.8**
RTLS				IAML			16 22 19.1	
	comp=Z,712nm,0.4s							
LMEL	**Las Melosas**	**2.62**	**142**	*e*P		**Pn**	**16 21 49.7**	**+1.2**
LMEL				*e*S		**Sn**	**16 22 20.7**	**+0.2**
LMEL				IAML			16 22 32.3	
	comp=N,942nm,0.2s							
AROD	**Rodeo**	**2.81**	**55**	*e*P		**Pn**	**16 21 54.9**	**+3.6**
ACCO	**Cerro Coronel**	**2.90**	**66**	*e*P		**Pn**	**16 21 56.3**	**+3.7**
ARCO	**CERRO ARCO**	**2.91**	**112**	*e*P		**Pb**	**16 21 58.8**	**+0.6**
ASAL	**Salagasta**	**2.91**	**107**	*e*P		**Pb**	**16 21 57.2**	**-0.9**
ZON	**Zonda**	**2.96**	**86**	*e*P		**Pn**	**16 21 56.2**	**+2.9**
LCO	**Las Campanas**	**3.04**	**25**	*e*P		**Pn**	**16 21 57.7**	**+3.2**
LCO	**Las Campanas**	**3.04**	**25**	*e*P		**Pn**	**16 21 57.6**	**+3.1**
RTCV	**Cerro Valdivia**	**3.07**	**92**	*e*P		**Pn**	**16 21 58.2**	**+3.6**
AAGR	**Agrelo**	**3.08**	**116**	*e*P		**Pb**	**16 22 00.9**	**-0.1**
RTLL	**Cerro Villicun**	**3.17**	**82**	*e*P		**Pn**	**16 21 59.1**	**+3.1**
RTLL				IAML			16 22 47.2	
	comp=Z,212nm,0.3s							
AMOG	**MOGNA**	**3.24**	**76**	*e*P		**Pn**	**16 22 00.4**	**+3.4**
AGUA	**GUANDACOL**	**3.90**	**55**	*e*P		**Pn**	**16 22 10.3**	**+4.2**
ACAN	**Cantantal**	**4.23**	**98**	*e*P		**Pn**	**16 22 13.9**	**+3.2**
VCA	**Vinchina**	**4.57**	**49**	*e*P		Pn	**16 22 20.9**	**+5.5**
ACLC	**CERRO LA CRUZ**	**5.06**	**63**	*e*P		**Pn**	**16 22 25.6**	**+3.4**
CYA	**Choya**	**6.43**	**60**	*e*P		**Pn**	**16 22 41.1**	**+0.3**
CYA	**Choya**	**6.43**	**60**	*e*P		**Pn**	**16 22 41.1**	**+0.3**
FSA	**Cafayete**	**7.82**	**45**	*e*P		Pn	16 23 06.3	+6.2
FSA	**Cafayete**	**7.82**	**45**	*e*P		Pn	16 23 06.3	+6.2

IDC 04 16:22:48.7±1.1, 14°.52N×143°.63E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/62, mbtmp3.5/4, Error ellipse: s-maj=36.0km s-min=22.0km az=62.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**1.52**	**127**	Pn		Pn	16 23 17.3	+0.2
	5.1nm,0.3s,baz=338,slow=19,SNR=13							
GUMO				Sn		Sn	16 23 47.4	+10
	6.4nm,0.3s,baz=165,slow=20,SNR=3.8							
WRA	**Warramunga Arr**	**35.45**	**195**	P		P	16 29 46.7	-0.2
	0.1nm,0.6s,baz=26,slow=7.3,SNR=2.4							
ZALV	**Zalesovo Beam**	**60.17**	**324**	P		P	16 32 58.8	+0.6
	0.6nm,0.5s,baz=110,slow=7.8,SNR=2.4							
ILAR	**Eielson Array**	**68.25**	**26**	P		P	16 33 51.1	0.0
	0.2nm,0.7s,baz=252,slow=6.0,SNR=3.3							
BVAR	**Borovoye Array**	**68.45**	**322**	P		P	16 33 51.7	-0.9
	0.7nm,0.5s,baz=100,slow=6.8,SNR=3.6							

*BJI **04** 16:28:18.8, 5°.25N×125°.55E, h201km, mb4.5/33, mB4.7/25*
*MOS **04** 16:28:20.4±1.1, 5°.42N×125°.32E, h203km, mb4.5/16, Error ellipse: s-maj=13.2km s-min=6.6km az=112.2*
*ISCJB **04** 16:28:21.1±0.2, 5°.49N±0°.02×125°.58E±0°.03, h206km±2km, mb4.4/89, Error ellipse: s-maj=5.0km s-min=3.2km az=163.2*
*MAN **04** 16:28:21.0, 5°.31N×125°.39E, h193km, mb5.4, ML4.4, MS4.6*
*IDC **04** 16:28:22.7±0.9, 5°.44N×125°.41E, h204km±9km, mb4.1/37, mb1 4.1/40, mb1mx4.0/60, mbtmp4.6/40, Error ellipse: s-maj=9.4km s-min=5.9km az=79.0*
*NEIC **04** 16:28:22.3±0.5, 5°.47N×125°.48E, h204km±5km, mb4.7/32, Error ellipse: s-maj=5.9km s-min=4.0km az=70.0*
*DJA **04** 16:28:24.2±0.3, 5°N±2°×12°6E±°, h156km±4km, M4.7/18, mB5.2/14, mb4.8/18, MLv5.2/12, Mw(mB)4.5/14*

ISC 04 16:28:22.5±0.5, 5°.43N±0°.03×125°.50E±0°.05, h205km±4km, n210, σ1°75/239, mb4.4/89, 9C-10D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.70**	**17**	*e*P		**Pn**	**16 28 49.6**	**-1.4**
DDMP				*e*S		**S**	**16 29 10.2**	**-3.1**
GSPH	**General Santos**	**0.85**	**320**	*e*P		**Pn**	**16 28 51.2**	**-0.8**
GSPH				*e*S		**S**	**16 29 12.8**	**-2.0**
SKMP	**Bagumbayan, Su**	**1.44**	**319**	*e*P		**Pn**	**16 28 55.0**	**-1.1**
SKMP				*e*S		**S**	**16 29 20.2**	**-1.7**
DAV	**Davao City (W)**	**1.63**	**3**	P		**Pn**	**16 28 56.3**	**-1.4**
	72nm,0.3s,baz=68,slow=0.7,SNR=16							
DAV				S		**S**	**16 29 21.7**	**-3.3**
	212nm,0.3s,baz=102,slow=9.3,SNR=8.2							
SGSI	**Sangihe**	**1.74**	**179**	P		**Pn**	**16 28 57.0**	**-1.8**
SGSI				S		**S**	**16 29 23.4**	**-3.3**
BUKP	**Musuan**	**2.47**	**350**	*e*P		**Pn**	**16 29 05.6**	**-0.8**
BUKP				*e*S		**S**	**16 29 41.0**	**+0.8**
BIPH	**Bislig**	**2.86**	**17**⇑	*i*P		**Pn**	**16 29 11.0**	**+0.2**
BIPH				*i* S		**S**	**16 29 46.9**	**-1.2**
CGP	**Cagayan de Oro**	**3.11**	**345**⇓	*e*P		**Pn**	**16 29 14.7**	**+1.0**
PAGZ	**Pagadian**	**3.19**	**319**	*e*P		**Pn**	**16 29 13.2**	**-1.5**
PAGZ				*e*S		**S**	**16 29 53.2**	**-1.8**
BUTP	**Butuan**	**3.51**	**2**	*e*P		**Pn**	**16 29 19.0**	**+0.5**
BUTP				*e*S		**S**	**16 30 03.6**	**+1.6**
DCPH	**Dipolog City**	**3.79**	**326**⇓	*e*P		Pn	16 29 31.3	+9.5
TNTI	**Ternate**	**4.99**	**158**	*e*Pn		**Pn**	**16 29 34.9**	**-2.0**
TNTI	**Ternate**	**4.99**	**158**	P		**Pn**	**16 29 34.9**	**-2.0**
TNTI				S		**S**	**16 30 29.0**	**-6.3**
KMSI	**Cibinong**	**5.06**	**198**	P		**Pn**	**16 29 37.7**	**-0.1**
MRSI	**Marisa**	**6.07**	**216**	P		**Pn**	**16 29 51.3**	**+0.5**
	107nm,1.0s,917nm							
LBMI	**Labuha**	**6.35**	**162**	P		**Pn**	**16 29 53.2**	**-1.2**
	178nm,0.6s,8µm5.7nm							
LBMI				S		**S**	**16 31 02.3**	**-4.8**
	178nm,0.6s,8µm5.7nm							
MYLDM	**Lahad Datu**	**6.98**	**268**	*e*Pn		**Pn**	**16 30 02.4**	**-0.1**
LUWI	**Luwuk**	**6.99**	**203**	*e*Pn		**Pn**	**16 30 04.2**	**+1.5**
LUWI	**Luwuk**	**6.99**	**203**	P		**Pn**	**16 30 03.9**	**+1.3**
APSI	**Ampana**	**7.38**	**212**	P		**Pn**	**16 30 09.5**	**+1.7**
SANI	**Sanana**	**7.45**	**176**	P		**Pn**	**16 30 04.8**	**-3.8**
	292nm,0.6s,8µm							
SANI				S		S	16 31 20.6	-12
	292nm,0.6s,8µm							
MPSI	**Mapaga**	**7.55**	**228**	P		**Pn**	**16 30 12.4**	**+2.5**
SIJI	**Sorong**	**8.50**	**137**	P		**Pn**	**16 30 21.6**	**-0.7**
	11nm,0.3s,baz=326,slow=14,SNR=41							
SIJI				S		**S**	**16 31 53.3**	**-4.9**
	1.2nm,0.3s,baz=190,slow=19,SNR=2.8							
NLAI	**Namlea**	**8.76**	**169**	P		**Pn**	**16 30 23.2**	**-2.5**
KKM	**Kota Kinabalu**	**9.26**	**274**	*e*Pn		**Pn**	**16 30 33.5**	**+1.2**
MSAI	**Masohi**	**9.37**	**159**	P		**Pn**	**16 30 33.3**	**-0.3**
	30nm,0.6s,423nm							
AAI	**Ambon**	**9.45**	**163**	P		**Pn**	**16 30 33.3**	**-1.3**
AAI				pmax		pmax		
	comp=Z,170nm,0.7s							
AAI	**Ambon**	**9.45**	**163**	P		**Pn**	**16 30 33.7**	**-0.9**
SMKI	**Samarinda**	**10.14**	**235**	P		**P**	**16 30 47.9**	**-3.3**
	comp=Z,34nm,0.5s							
TTSI	**Tana Toraja**	**10.16**	**214**	P		**Pn**	**16 30 46.2**	**+2.4**
FAKI	**Fak Fak**	**10.69**	**141**	*e*Pn		**Pn**	**16 30 50.8**	**+0.2**
FAKI	**Fak Fak**	**10.69**	**141**	P		**Pn**	**16 30 51.9**	**+1.3**
BKB	**Balikpapan**	**10.87**	**233**	P		**P**	**16 30 58.1**	**-1.2**
SPSI	**Sidrap Palu**	**10.95**	**212**	P		**Pn**	**16 30 55.9**	**+1.9**
	comp=Z,9.3nm,0.9s							
RKPI	**Ransiki, Papua**	**11.07**	**128**	P		P	16 31 09.2	+7.6
BNSI	**Bone**	**11.16**	**209**	P		**Pn**	**16 30 59.3**	**+2.7**
	comp=Z,63nm,0.9s,comp=Z,746nm							
BKSI	**Bulukumba**	**11.96**	**207**	P		**Pn**	**16 31 08.5**	**+1.7**
	comp=Z,9.5nm,0.8s							
KBKI	**Kotabaru**	**12.74**	**227**	P		**P**	**16 31 24.3**	**+4.2**
SRPI	**Serui, Papua**	**12.95**	**124**	P		P	16 31 28.4	+6.0
SBUM	**Sibu**	**13.58**	**258**	*e*P		**P**	**16 31 30.8**	**+1.3**
SAUI	**Saumlaki**	**14.53**	**156**	*e*Pn		**Pn**	**16 31 38.9**	**+0.1**
EDFI	**Ende, Flores**	**14.59**	**195**	P		**P**	**16 31 44.4**	**+3.6**
STKI	**Sintang**	**14.99**	**250**	P		**P**	**16 31 47.7**	**+2.6**
SMPI	**Sarmi**	**15.11**	**119**	P		**P**	**16 31 48.8**	**+2.3**
	comp=Z,72nm,0.9s							
SOEI	**Soe**	**15.14**	**185**	*e*Pn		**P**	**16 31 47.6**	**+0.7**
	comp=Z,30nm,0.9s							
SOEI	**Soe**	**15.14**	**185**	P		**P**	**16 31 50.1**	**+3.2**
BATI	**Baumata**	**15.64**	**187**	P		**P**	**16 31 50.6**	**-1.8**
	comp=Z,4.2nm,0.3s,baz=260,slow=17,SNR=2.8							
BATI				S		**S**	**16 34 47.9**	**+1.8**
	comp=Z,3.6nm,0.3s,baz=194,slow=23,SNR=5.5							
BATI	**Baumata**	**15.64**	**187**	P		Pn	16 32 00.7	+8.2
KSM	**Kuching**	**15.67**	**256**	*e*P		**Pn**	**16 31 53.9**	**+1.2**
	comp=Z,25nm,0.9s							
GENI	**Genyem**	**16.68**	**118**	P		**Pn**	**16 32 06.2**	**+1.3**
	comp=Z,795nm,0.9s,comp=Z,7µm							
JAY	**Jayapura**	**17.11**	**117**	P		**Pn**	**16 32 10.2**	**+0.1**
	comp=Z,14nm,0.3s,baz=295,slow=5.6,SNR=79							
JAY	**Jayapura**	**17.11**	**117**	P		**Pn**	**16 32 10.1**	**0.0**
YULB	**Yu-li**	**18.31**	**348**	*e*P		**P**	**16 32 18.6**	**-2.9**
	comp=Z,52nm,1.6s							
TPUB	**Ta-pu**	**18.38**	**346**	*e*P		**P**	**16 32 20.7**	**-1.5**
	comp=Z,97nm,1.5s							
SSLB	**Suanglung**	**18.77**	**347**	*e*P		**P**	**16 32 24.5**	**-2.0**
	comp=Z,47nm,1.4s							
MTN	**Manton Dam**	**19.00**	**163**	*e*P		**P**	**16 32 29.1**	**+0.2**
	comp=Z,29nm,1.3s							
NACB	**Ninganchiao**	**19.01**	**349**	*e*P		**P**	**16 32 26.8**	**-2.2**
	comp=Z,23nm,1.0s							
YHNB	**Yeheng**	**19.53**	**349**	*e*P		**P**	**16 32 33.1**	**-1.6**
	comp=Z,39nm,1.2s							
GUMO	**Guam**	**20.73**	**66**	P		**P**	**16 32 49.4**	**+1.9**
	comp=Z,76nm,0.7s,baz=178,slow=3.6,SNR=7.6							
JOW	**Kunigami**	**21.44**	**7**	P		**P**	**16 32 55.8**	**+1.0**
	comp=Z,66nm,0.8s,baz=205,slow=6.9,SNR=11							
JOW	**Kunigami**	**21.44**	**7**	*e*P		**P**	**16 32 55.5**	**+0.7**
	comp=Z,55nm,0.7s							
LEM	**Lembang**	**21.61**	**236**	P		**P**	**16 32 58.3**	**+1.4**
	comp=Z,23nm,0.7s,baz=53,slow=6.2,SNR=9.3							
MYKOM	**Kota Tinggi**	**21.91**	**261**	*e*P		**P**	**16 33 00.3**	**+0.7**
	comp=Z,32nm,0.9s							
UBPT	**Khong Chiam**	**21.98**	**298**	P		**P**	**16 33 00.3**	**0.0**
	comp=Z,67nm,1.2s							
KLI	**Kotabumi**	**23.02**	**244**	P		**P**	**16 33 12.9**	**+3.1**
MANU	**Manus Island**	**23.07**	**108**	*e*P		**P**	**16 33 11.8**	**+1.5**
	comp=Z,73nm,0.8s							
FITZ	**Fitzroy Crossi**	**23.38**	**180**	P		**P**	**16 33 13.5**	**+0.5**
	comp=Z,7.8nm,0.4s,baz=1.6,slow=8.0,SNR=95							
FITZ	**Fitzroy Crossi**	**23.38**	**180**	*e*P		**P**	**16 33 13.3**	**+0.3**
	comp=Z,9.3nm,0.5s							
SKNT	**Sakolnakorn**	**23.99**	**300**	P		**P**	**16 33 19.5**	**+0.8**
	comp=Z,11nm,0.9s							
IPM	**Ipoh**	**24.41**	**269**	*e*P		**P**	**16 33 22.7**	**+0.2**
	comp=Z,18nm,0.8s							
SRAK	**Srakaew**	**24.62**	**292**	P		**P**	**16 33 20.1**	**-4.3**
KULM	**Kulim**	**24.75**	**271**	*e*P		**P**	**16 33 26.4**	**+0.8**
	comp=Z,17nm,0.8s							
SKLT	**Songkhla**	**24.79**	**275**	P		**P**	**16 33 28.2**	**+2.3**
	comp=Z,30nm,1.0s							
NONG	**Nongkai**	**25.19**	**302**	P		**P**	**16 33 31.3**	**+1.8**
	comp=Z,0.2nm,0.8s,comp=Z,109nm							
CHAI	**Chaiyaphum**	**25.31**	**296**	P		**P**	**16 33 31.9**	**+1.3**
	comp=Z,14nm,1.1s,comp=Z,132nm							
PATY	**Pattaya**	**25.42**	**289**	P		**P**	**16 33 34.6**	**+3.0**
	comp=Z,5.0nm,0.7s,comp=Z,661nm							
TRTT	**Trang**	**25.75**	**277**	P		**P**	**16 33 36.6**	**+2.0**
	comp=Z,6.8nm,1.3s							
PMG	**Port Moresby**	**26.14**	**124**	P		**P**	**16 33 38.2**	**+0.2**
	comp=Z,14nm,0.7s,baz=330,slow=4.1,SNR=6.4							
PBKT	**Sadao Pong**	**26.46**	**297**	P		**P**	**16 33 41.9**	**+1.0**
	comp=Z,25nm,0.9s							
PHET	**Kaeng Krachan**	**26.58**	**288**	P		**P**	**16 33 45.6**	**+3.6**
	comp=Z,6.7nm,0.9s							
PSI	**Prapat**	**26.64**	**265**	P		**P**	**16 33 42.9**	**+0.2**
	comp=Z,18nm,0.8s,baz=5.0,slow=0.7,SNR=13							
PSI	**Prapat**	**26.64**	**265**	*e*P		**P**	**16 33 42.4**	**-0.3**
	comp=Z,22nm,0.8s							
WRAB	**Tennant Creek**	**26.67**	**161**	*e*P		**P**	**16 33 41.8**	**-0.9**
	comp=Z,8.2nm,0.8s							
WRAB	**Tennant Creek**	**26.67**	**161**	*ce*P		**P**	**16 33 42.2**	**-0.5**
WRAB				*i* *PP		**pP**	**16 34 25.3**	**+1.4**
WRAB				pmax		pmax		
	comp=Z,8.0nm,0.8s							
WRA	**Warramunga Arr**	**26.67**	**161**	P		**P**	**16 33 42.1**	**-0.6**
	comp=Z,4.1nm,0.6s,baz=329,slow=11,SNR=48							
WRA				S		**S**	**16 37 58.8**	**-4.1**
	comp=Z,2.1nm,0.7s,baz=344,slow=15,SNR=4.7							
WRA				ScP		**ScP**	**16 40 21.5**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=337,slow=3.0,SNR=6.6							
WB2	**Warramunga Arr**	**26.68**	**161**	*e*P		**P**	**16 33 42.0**	**-0.8**
CBIJ	**Chichi jima**	**26.77**	**35**	P		**P**	**16 33 44.0**	**+0.5**
JCJ	**Chichijima**	**26.77**	**35**	P		**P**	**16 33 44.0**	**+0.5**
	comp=Z,46nm,0.6s,baz=112,slow=13,SNR=4.9							
MBWA	**Marble Bar**	**27.03**	**192**	*e*P		**P**	**16 33 45.6**	**-0.3**
NJ2	**Nanjing**	**27.20**	**348**	*e*P		**P**	**16 33 46.1**	**-1.2**
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.5s							
UTTA	**Uttaradit**	**27.28**	**299**	P		**P**	**16 33 51.2**	**+3.0**
	comp=Z,2.1nm,0.8s							
SRDT	**SRDT**	**27.43**	**291**	P		**P**	**16 33 51.0**	**+1.4**
	comp=Z,16nm,1.0s,comp=Z,761nm							
UTHA	**Uthaitani**	**27.49**	**293**	P		**P**	**16 33 51.5**	**+1.4**
	comp=Z,4.8nm,0.8s,comp=Z,51nm							
NANT	**Nan**	**27.60**	**301**	P		**P**	**16 33 52.9**	**+1.9**
	comp=Z,2.5nm,0.4s							
SUKH	**Sukhothai**	**27.99**	**297**	P		**P**	**16 34 00.9**	**+6.4**
	comp=Z,5.7nm,0.8s							
GSI	**Gunungsitoli**	**28.17**	**263**	*e*P		**P**	**16 33 55.6**	**-0.7**
	comp=Z,78nm,1.1s							
UMPA	**Umpang Tak**	**28.23**	**294**	P		**P**	**16 33 58.2**	**+1.5**
	comp=Z,11nm,1.0s,comp=Z,101nm							
CM01	**Chiang Mai Arr**	**28.94**	**299**	*e*P		**P**	**16 34 03.0**	**0.0**
ENH	**Enshi**	**28.95**	**330**	*e*P		**P**	**16 34 02.0**	**-0.9**
	comp=Z,9.2nm,0.7s							
CM31	**Chiang Mai Arr**	**28.97**	**299**	*e*P		**P**	**16 34 03.7**	**+0.5**
CMAR	**Chiang Mai Arr**	**28.97**	**299**	P		**P**	**16 34 04.1**	**+0.9**
	comp=Z,3.5nm,0.7s,baz=108,slow=7.0,SNR=31							
CMAR				ScP		**ScP**	**16 40 29.1**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=136,slow=1.5,SNR=15							
CMMT	**Chiang Mai**	**29.11**	**299**	P		**P**	**16 34 05.2**	**+0.7**
	comp=Z,6.6nm,0.8s							
CHTO	**Chiang Mai**	**29.11**	**299**	*e*P		**P**	**16 34 03.9**	**-0.6**
	comp=Z,4.7nm,0.6s							
CHTO	**Chiang Mai**	**29.11**	**299**	*e*P		**P**	**16 34 03.9**	**-0.6**
CHTO				pmax		pmax		
	comp=Z,5.0nm,0.6s							
CHTO	**Chiang Mai**	**29.11**	**299**	P		**P**	**16 34 05.3**	**+0.8**
	comp=Z,29nm,0.7s							
AS31	**Alice Springs**	**30.06**	**164**	*e*P		**P**	**16 34 12.6**	**-0.2**
	comp=Z,3.2nm,0.3s							
ASAR	**Alice Springs**	**30.06**	**164**	P		**P**	**16 34 12.8**	**0.0**
	comp=Z,3.0nm,0.4s,baz=341,slow=6.8,SNR=278							
ASAR				PcP		**PcP**	**16 37 09.8**	**+0.2**
	comp=Z,3.1nm,0.4s,baz=343,slow=2.6,SNR=12							
ASAR				S		**S**	**16 38 53.9**	**-2.2**
	comp=Z,1.5nm,0.8s,baz=1.2,slow=23,SNR=6.4							
ASAR				ScP		**ScP**	**16 40 32.5**	**+0.1**
	comp=Z,5.8nm,0.9s,baz=344,slow=2.9,SNR=22							
AS01	**Alice Springs**	**30.07**	**164**	*e*P		**P**	**16 34 12.5**	**-0.3**
KSAR	**Wonju Array Be**	**31.93**	**4**	P		**P**	**16 34 30.2**	**+1.2**
KSAR	**Wonju Array Be**	**31.93**	**4**	P		**P**	**16 34 30.2**	**+1.2**
KSRS	**Korea Array**	**31.95**	**4**	P		**P**	**16 34 30.2**	**+1.1**
	comp=Z,7.0nm,0.7s,baz=183,slow=9.9,SNR=19							
XAN	**Xi'an**	**32.36**	**334**	P		**P**	**16 34 32.1**	**-0.7**
XAN				pmax		pmax		
	comp=Z,21nm,1.2s							
CTA	**Charters Tower**	**32.55**	**142**	P		**P**	**16 34 35.8**	**+1.2**
	comp=Z,7.1nm,0.7s,baz=307,slow=10,SNR=10							
CD2	**Chengdu**	**32.56**	**324**	*e*P		**P**	**16 34 34.0**	**-0.6**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				pmax		pmax		
	comp=Z,120nm,4.8s							
MAJO	**Matsushiro**	**33.08**	**19**	*i* P		**P**	**16 34 41.8**	**+2.8**
MAJO				pmax		pmax		
	comp=Z,18nm,1.9s							
MJAR	**Matsushiro Arr**	**33.08**	**19**	P		**P**	**16 34 38.6**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=191,slow=9.4,SNR=8.0							
LZH	**Lanzhou**	**36.42**	**330**	‖P		**P**	**16 35 08.8**	**+1.0**
LZH				pP		pP	16 35 52.1	+1.7
LZH				sP		sP	16 36 15.1	+1.3
LZH				*e*PP		**PnPn**	**16 36 39.2**	**+1.4**
LZH				pmax		pmax		
	comp=Z,23nm,1.2s							
LZH				pmax		pmax		
	comp=Z,120nm,6.0s							
HHC	**Hu-ho-hao-te**	**37.41**	**342**	*e*P		**P**	**16 35 17.9**	**+1.9**
HHC				sP		sP	16 36 24.7	+2.5
HHC				S		**S**	**16 40 50.0**	**+1.1**
HHC				pmax		pmax		
	comp=Z,13nm,1.0s							
HHC				pmax		pmax		
	comp=Z,100nm,4.7s							
SHL	**Shillong**	**37.89**	**305**	*e*P		**P**	**16 35 19.7**	**-0.6**
	comp=Z,38nm,1.0s							
SHL	**Shillong**	**37.89**	**305**	*e*P		**P**	**16 35 19.7**	**-0.6**
SHL				pmax		pmax		
	comp=Z,38nm,1.0s							
NWAO	**Narrogin (SRO)**	**38.95**	**191**	P		**P**	**16 35 29.4**	**+0.6**
	comp=Z,11nm,0.3s,baz=255,slow=7.8,SNR=38							
USRK	**Ussuriysk Ar.**	**39.03**	**7**	P		**P**	**16 35 30.2**	**+0.9**
	comp=Z,4.5nm,0.6s,baz=191,slow=5.9,SNR=15							
MDJ	**Mudanjiang**	**39.19**	**5**	*e*P		**P**	**16 35 30.7**	**0.0**
	comp=Z,15nm,0.9s							
BBOO	**Buckleboo**	**39.33**	**166**	*e*P		**P**	**16 35 32.7**	**+0.8**
	comp=Z,33nm,0.5s							
STKA	**Stephens Creek**	**40.15**	**159**	P		**P**	**16 35 39.4**	**+0.7**
	comp=Z,7.7nm,0.7s,baz=346,slow=8.5,SNR=13							
STKA				PcP		**PcP**	**16 37 38.9**	**0.0**
	comp=Z,3.6nm,0.6s,baz=163,slow=0.7,SNR=3.3							
STKA	**Stephens Creek**	**40.15**	**159**	*e*P		**P**	**16 35 39.4**	**+0.7**
	comp=Z,2.2nm,0.9s							
STKA				PcP		**PcP**	**16 37 38.9**	**0.0**
STKA	**Stephens Creek**	**40.15**	**159**	*e*P		**P**	**16 35 39.4**	**+0.7**
STKA							16 37 38.9	
STKA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
GTA	**Gaotai**	**41.02**	**329**	⇑P		**P**	**16 35 45.7**	**-0.2**
GTA				pP		pP	16 36 30.2	+0.9
GTA				sP		sP	16 36 52.4	-0.1
GTA				PcP		**PcP**	**16 37 42.3**	**+0.5**
GTA				ScP		**ScP**	**16 41 12.2**	**0.0**
GTA				PcS		**PcS**	**16 41 33.1**	**-0.1**
GTA				S		**S**	**16 41 41.7**	**-1.1**
GTA				sS		sS	16 42 58.9	-0.5
GTA				SS		**SS**	**16 44 47.5**	**-6.3**
GTA				pmax		pmax		
	comp=Z,5.0nm,1.0s							
GTA				pmax		pmax		
	comp=Z,31nm,5.7s							
GTA				LR		LR		
	comp=Z,130nm,16.5s							
GTA				LR		LR		
	comp=Z,130nm,17.1s							
GTA				LR		LR		
	comp=Z,77nm,18.1s							
ASAJ	**Asahikawa**	**41.35**	**19**	P		**P**	**16 35 50.1**	**+1.8**
	comp=Z,2.6nm,0.3s,baz=252,slow=11,SNR=14							
ODAN	**Odare**	**42.10**	**305**	*e*P		**P**	**16 35 54.8**	**-0.2**
	comp=Z,28nm,0.6s							
RAMN	**Ramite**	**42.78**	**304**	*e*P		**P**	**16 36 00.5**	**0.0**
	comp=Z,23nm,0.6s							
JIRN	**Jiri**	**43.39**	**305**	*e*P		**P**	**16 36 05.4**	**-0.2**
	comp=Z,47nm,0.6s							
GUN	**Gumba**	**43.74**	**305**	*e*P		**P**	**16 36 08.2**	**-0.1**
	comp=Z,32nm,0.4s							
KLR	**Kul'dur**	**43.96**	**6**	P		**P**	**16 36 09.6**	**+0.3**
	comp=Z,3.1nm,0.4s,baz=181,slow=6.9,SNR=12							
KLR	**Kul'dur**	**43.96**	**6***d*	*i*P		**P**	**16 36 09.8**	**+0.5**
PKI	**Pul

ARU				pmax	pmax			
	comp=Z,3.0nm,0.6s							
ZEI	**Tsey**	**80.17**	**312**	*eP*	**P**	**16 40 09.4**	**-1.1**	
ZEI				pmax	pmax			
	comp=Z,3.0nm,0.6s							
AKH	**Akhalkalaki**	**80.44**	**311**	*eP*	**P**	**16 40 12.3**	**+0.4**	
	comp=Z,6.7nm,1.1s							
AKH	**Akhalkalaki**	**80.44**	**311**	*eP*	**P**	**16 40 12.3**	**+0.4**	
AKH				pmax	pmax			
	comp=Z,7.0nm,1.1s							
MLY	**Manley**	**82.47**	**25**	*eP*	**P**	**16 40 23.1**	**+1.2**	
	comp=Z,4.9nm,0.8s							
RND	**Reindeer**	**83.22**	**27**	*eP*	**P**	**16 40 25.9**	**+0.1**	
	comp=Z,29nm,0.9s							
RND	**Reindeer**	**83.22**	**27**	*eP*	**P**	**16 40 25.9**	**+0.1**	
RND				pmax	pmax			
	comp=Z,29nm,0.9s							
HDA	**Harding Lake**	**84.08**	**26**	*eP*	**P**	**16 40 29.9**	**-0.1**	
	comp=Z,4.8nm,0.8s							
ILAR	**Eielson Array**	**84.10**	**25**	P	**P**	**16 40 29.8**	**-0.3**	
	comp=Z,1.5nm,0.5s,baz=251,slow=5.1,SNR=39							
ILB	**Eielson Array**	**84.10**	**25**	*eP*	**P**	**16 40 29.9**	**-0.3**	
MAW	**Mawson**	**84.92**	**200**	P	**P**	**16 40 34.7**	**+0.7**	
	comp=Z,3.1nm,0.7s,baz=86,slow=5.1,SNR=15							
OBN	**Obninsk**	**84.97**	**325**	*iP*	**P**	**16 40 32.1**	**-2.5**	
OBN				pmax	pmax			
	comp=Z,11nm,0.6s							
VNDA	**Vanda**	**85.26**	**173**	P	**P**	**16 40 36.0**	**+0.4**	
	comp=Z,0.8nm,0.6s,baz=313,slow=6.8,SNR=12							
BRTR	**Keskin Array B**	**88.00**	**310**	P	**P**	**16 40 48.5**	**-1.5**	
	comp=Z,0.8nm,0.4s,baz=122,slow=3.7,SNR=10							
ARCES	**ARCESS Array B**	**88.44**	**340**	P	**P**	**16 40 49.8**	**-1.4**	
	comp=Z,3.9nm,0.7s,baz=86,slow=5.3,SNR=16							
INK	**Inuvik**	**89.03**	**21**	P	**P**	**16 40 53.1**	**-0.8**	
	comp=Z,3.5nm,1.2s,baz=297,slow=3.3,SNR=5.4							
AKASG	**Malin Array Be**	**89.81**	**321**	P	**P**	**16 40 56.1**	**-1.8**	
	comp=Z,0.8nm,0.7s,baz=73,slow=3.1,SNR=3.2							
KIEV	**Kiev**	**89.82**	**321**	*eP*	**P**	**16 40 56.4**	**-1.5**	
KIEV				pmax	pmax			
	comp=Z,12nm,2.9s							
SYO	**Syowa Base**	**93.56**	**201**	*iP*	**P**	**16 41 15.0**	**+0.2**	
SYO	**Syowa Base**	**93.56**	**201**	*eP*	P	16 41 24.0	+9.2	
HFS	**Hagfors**	**95.95**	**332**	P	**P**	**16 41 24.2**	**-1.7**	
	comp=Z,0.9nm,0.5s,baz=45,slow=4.6,SNR=9.3							
LANS	**Liptovska Anna**	**96.29**	**321**	*eP*	**P**	**16 41 31.9**	**+4.1**	
LANS	**Liptovska Anna**	**96.29**	**321**	*eP*	**P**	**16 41 31.9**	**+4.1**	
NB2	**NORSAR Subarra**	**96.73**	**333**	P	**P**	**16 41 26.7**	**-2.8**	
	comp=Z,0.6nm,0.5s,baz=65,slow=4.6							
NB2	**NORSAR Subarra**	**96.73**	**333**	P	**P**	**16 41 27.2**	**-2.3**	
NB2				pmax	pmax			
	comp=Z,1.0nm,0.5s							
NOA	**NORSAR Array B**	**96.73**	**333**	P	**P**	**16 41 27.3**	**-2.3**	
	comp=Z,0.9nm,0.6s,baz=66,slow=4.5,SNR=8.5							
TORD	**Torodi Ar. Bea**	**121.22**	**289**	PKP	**PKPdf**	**16 46 50.3**	**-1.8**	
	comp=Z,1.3nm,0.6s,baz=54,slow=2.4,SNR=9.8							
TXAR	**Lajitas Array**	**121.50**	**51**	PKP	**PKPdf**	**16 46 53.2**	**+0.7**	
	comp=Z,0.6nm,0.7s,baz=251,slow=0.4,SNR=7.9							

*ISCJB **04** 16:33:50.4±0.2, 45.°73N±0.°01×26.°63E±0.°02, h99km±2km, mb3.3/1, Error ellipse: s-maj=2.3km s-min=1.8km az=151.8*

*BEO **04** 16:33:50.9±2.0, 45.°74N×26.°71E, h60km±4km, ML3.3/10*

*SIGU **04** 16:33:50.8±1.2, 45.°8N±0.°9×26.°7E±0.°9, h96km±2km, mb3.4/14*

*IDC **04** 16:33:51.8±1.3, 45.°68N×26.°62E, h72km±22km, mb3.3/1, mb1 3.2/6, mb1mx3.0/47, mbtmp3.3/6, Error ellipse: s-maj=36.4km s-min=19.5km az=57.0*

*BUC **04** 16:33:52.1±0.3, 45.°73N×26.°62E, h83km±3km, MD4.0/6, Error ellipse: s-maj=3.4km s-min=2.9km az=83.0*

ISC 04 16:33:51.7±0.9, 45.°72N±0.°02×26.°62E±0.°02, h92km±5km, n207, σ1s31/285, 46C-55D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.13**	**9**	⇑*iP*			**Pn**	**16 34 03.8**	**-0.9**
PLOR	**Plostina**	**0.13**	**9**	⇑*iP*			**Pn**	**16 34 03.8**	**-0.9**
PLOR				*i* S			**Sn**	**16 34 11.5**	**-2.9**
VRI	**Vrincioaia**	**0.16**	**27**	⇑*iP*			**Pn**	**16 34 04.1**	**-0.7**
VRI	**Vrincioaia**	**0.16**	**27**	⇑*iP*			**Pn**	**16 34 04.1**	**-0.7**
VRI				*i* S			**Sn**	**16 34 12.8**	**-1.7**
ODBI	**Odobesti**	**0.31**	**82**	⇓*iP*			**Pn**	**16 34 05.8**	**+0.5**
ODBI	**Odobesti**	**0.31**	**82**	⇓*iP*			**Pn**	**16 34 05.8**	**+0.5**
ODBI				*i* S			**Sn**	**16 34 15.1**	**-0.3**
GRER		**0.42**	**144**	⇓*iP*			**Pn**	**16 34 06.9**	**+0.9**
GRER		**0.42**	**144**	⇓*iP*			**Pn**	**16 34 06.9**	**+0.9**
GRER				*i* S			**Sn**	**16 34 17.5**	**+0.8**
PETR	**Petresti**	**0.43**	**90**	⇓*iP*			**Pn**	**16 34 06.2**	**+0.2**
PETR	**Petresti**	**0.43**	**90**	⇓*iP*			**Pn**	**16 34 06.2**	**+0.2**
PETR				*i* S			**Sn**	**16 34 16.5**	**-0.2**
MLR	**Muntele Rosu**	**0.53**	**244**	P			**Pn**	**16 34 06.5**	**-0.5**
	135nm,0.3s,baz=83,slow=1.2,SNR=3274								
MLR				S			**Sn**	**16 34 16.7**	**-1.6**
	237nm,0.3s,baz=287,slow=19,SNR=88								
MLR	**Muntele Rosu**	**0.53**	**244**	⇑*iP*			**Pn**	**16 34 06.8**	**-0.1**
MLR	**Muntele Rosu**	**0.53**	**244**	⇑*iP*			**Pn**	**16 34 06.8**	**-0.1**
MLR				*i* S			**Sn**	**16 34 16.9**	**-1.4**
ISR	**Istrita**	**0.60**	**185**	⇓*iP*			**Pn**	**16 34 07.9**	**+0.4**
ISR	**Istrita**	**0.60**	**185**	⇓*iP*			**Pn**	**16 34 07.9**	**+0.4**
ISR				*i* S			**Sn**	**16 34 20.3**	**+1.0**
SECR		**0.79**	**210**	⇓*iP*			**Pn**	**16 34 10.1**	**+0.9**
SECR		**0.79**	**210**	⇓*iP*			**Pn**	**16 34 10.1**	**+0.9**
SECR				*i* S			**Sn**	**16 34 23.5**	**+1.2**
PGOR	**Pogoanele**	**0.85**	**162**	⇓*iP*			**Pn**	**16 34 10.5**	**+0.7**
PGOR	**Pogoanele**	**0.85**	**162**	⇓*iP*			**Pn**	**16 34 10.5**	**+0.7**
PGOR				*i* S			**Sn**	**16 34 24.7**	**+1.3**
DOPR	**Dopca**	**0.90**	**286**	⇑*iP*			**Pn**	**16 34 10.2**	**-0.1**
DOPR	**Dopca**	**0.90**	**286**	⇑*iP*			**Pn**	**16 34 10.2**	**-0.1**
DOPR				*i* S			**Sn**	**16 34 23.5**	**-0.8**
PLAR	**PLOIESTI**	**0.91**	**208**	⇓*iP*			**Pn**	**16 34 11.5**	**+1.1**
PLAR	**PLOIESTI**	**0.91**	**208**	⇓*iP*			**Pn**	**16 34 11.5**	**+1.1**
PLAR				*i* S			**Sn**	**16 34 26.4**	**+1.9**
SULR		**1.07**	**194**	⇓*iP*			**Pn**	**16 34 13.3**	**+1.0**
SULR		**1.07**	**194**	⇓*iP*			**Pn**	**16 34 13.3**	**+1.0**
SULR				*i* S			**Sn**	**16 34 29.1**	**+1.3**
GIUM	**Giurgiulesti**	**1.14**	**101**	⇑*iP*			**Pn**	**16 34 13.8**	**+0.7**
GIUM	**Giurgiulesti**	**1.14**	**101**	⇑*iP*			**Pn**	**16 34 13.8**	**+0.7**
GIUM				*i* S			**Sn**	**16 34 28.9**	**-0.2**
GIUM	**Giurgiulesti**	**1.14**	**101**	P			**Pn**	**16 34 13.7**	**+0.7**
GIUM				S			**Sn**	**16 34 28.9**	**-0.2**
VOIR		**1.14**	**256**	⇑*iP*			**Pn**	**16 34 13.2**	**0.0**
VOIR		**1.14**	**256**	⇑*iP*			**Pn**	**16 34 13.2**	**0.0**
VOIR				*i* S			**Sn**	**16 34 28.6**	**-0.7**
CFR	**Carcaliu**	**1.20**	**116**	⇓*iP*			**Pn**	**16 34 13.5**	**-0.2**
CFR	**Carcaliu**	**1.20**	**116**	⇓*iP*			**Pn**	**16 34 13.5**	**-0.2**
CFR				*i* S			**Sn**	**16 34 28.7**	**-1.6**
MTUR	**Matau**	**1.20**	**246**	⇓*iP*			**Pn**	**16 34 14.9**	**+1.0**
MTUR	**Matau**	**1.20**	**246**	⇓*iP*			**Pn**	**16 34 14.9**	**+1.0**
AMRR	**Amara**	**1.22**	**155**	⇓*iP*			**Pn**	**16 34 14.6**	**+0.6**
AMRR	**Amara**	**1.22**	**155**	⇓*iP*			**Pn**	**16 34 14.6**	**+0.6**
AMRR				*i* S			**Sn**	**16 34 30.8**	**0.0**
GIRR	**Girov**	**1.24**	**356**	⇑*iP*			**Pn**	**16 34 13.7**	**-0.5**
GIRR	**Girov**	**1.24**	**356**	⇑*iP*			**Pn**	**16 34 13.7**	**-0.5**
JOSR	**Joseni**	**1.25**	**322**	⇓*iP*			**Pn**	**16 34 14.2**	**-0.2**
JOSR	**Joseni**	**1.25**	**322**	⇓*iP*			**Pn**	**16 34 14.2**	**-0.2**
JOSR				*i* S			**Sn**	**16 34 30.3**	**-1.3**
BIZ	**Bicaz**	**1.27**	**344**	⇓*iP*			**Pn**	**16 34 15.5**	**+0.9**
BIZ	**Bicaz**	**1.27**	**344**	⇓*iP*			**Pn**	**16 34 15.5**	**+0.9**
BIZ				*i* S			**Sn**	**16 34 32.4**	**+0.4**
LEOM	**Leova**	**1.36**	**56**	⇓*iP*			**Pn**	**16 34 16.4**	**+0.7**
LEOM	**Leova**	**1.36**	**56**	⇓*iP*			**Pn**	**16 34 16.4**	**+0.7**
LEOM				*i* S			**Sn**	**16 34 33.3**	**-0.5**
LEOM	**Leova**	**1.36**	**56**	P			**Pn**	**16 34 16.3**	**+0.6**
LEOM				S			**Sn**	**16 34 33.3**	**-0.5**
CIOR	**Ciorogarla**	**1.38**	**203**	⇑*iP*			**Pn**	**16 34 16.5**	**+0.6**
CIOR	**Ciorogarla**	**1.38**	**203**	⇑*iP*			**Pn**	**16 34 16.5**	**+0.6**
CIOR				*i* S			**Sn**	**16 34 34.2**	**0.0**
HARR	**Harsova**	**1.39**	**138**	⇓*iP*			**Pn**	**16 34 16.4**	**+0.4**
HARR	**Harsova**	**1.39**	**138**	⇓*iP*			**Pn**	**16 34 16.4**	**+0.4**
BUC1	**Bucharest**	**1.44**	**197**	⇓*iP*			**Pn**	**16 34 17.2**	**+0.5**
BUC1	**Bucharest**	**1.44**	**197**	⇓*iP*			**Pn**	**16 34 17.2**	**+0.5**
BUC1				*i* S			**Sn**	**16 34 35.5**	**0.0**
ARR	**Arges**	**1.44**	**257**	⇑*iP*			**Pn**	**16 34 17.4**	**+0.6**
ARR	**Arges**	**1.44**	**257**	⇑*iP*			**Pn**	**16 34 17.4**	**+0.6**
ARR				*i* S			**Sn**	**16 34 35.9**	**+0.1**
GOLR		**1.47**	**234**	⇓*iP*			**Pn**	**16 34 17.6**	**+0.6**
GOLR		**1.47**	**234**	⇓*iP*			**Pn**	**16 34 17.6**	**+0.6**
GOLR				*i* S			**Sn**	**16 34 36.8**	**+0.6**
SGRR	**Singureni**	**1.57**	**197**	⇓*iP*			**Pn**	**16 34 18.7**	**+0.4**
SGRR	**Singureni**	**1.57**	**197**	⇓*iP*			**Pn**	**16 34 18.7**	**+0.4**
SGRR				*i* S			**Sn**	**16 34 37.9**	**-0.6**
IAS	**Iasi**	**1.61**	**23**	⇓*iP*			**Pn**	**16 34 19.1**	**+0.3**
IAS	**Iasi**	**1.61**	**23**	⇓*iP*			**Pn**	**16 34 19.1**	**+0.3**
IAS				*i* S			**Sn**	**16 34 38.9**	**-0.5**
MDB	**Medias**	**1.62**	**286**	⇑*iP*			**Pn**	**16 34 19.8**	**+0.8**
MDB	**Medias**	**1.62**	**286**	⇑*iP*			**Pn**	**16 34 19.8**	**+0.8**
TLCR		**1.63**	**108**	⇑*iP*			**Pn**	**16 34 19.7**	**+0.6**
TLCR		**1.63**	**108**	⇑*iP*			**Pn**	**16 34 19.7**	**+0.6**
TLCR				*i* S			**Sn**	**16 34 39.8**	**-0.2**
PRAR	**RASCA**	**1.66**	**351**	⇓*iP*			**Pn**	**16 34 20.3**	**+0.7**
PRAR	**RASCA**	**1.66**	**351**	⇓*iP*			**Pn**	**16 34 20.3**	**+0.7**
HUMR	**Humele**	**1.67**	**225**	⇓*iP*			**Pn**	**16 34 19.9**	**+0.3**
HUMR	**Humele**	**1.67**	**225**	⇓*iP*			**Pn**	**16 34 19.9**	**+0.3**
HUMR				*i* S			**Sn**	**16 34 40.1**	**-0.6**
CVDA	**Cernavoda**	**1.71**	**144**	⇓*iP*			**Pn**	**16 34 20.8**	**+0.6**
CVDA	**Cernavoda**	**1.71**	**144**	⇓*iP*			**Pn**	**16 34 20.8**	**+0.6**
CVDA				*i* S			**Sn**	**16 34 40.9**	**-0.9**
TIRR	**Tirgusor**	**1.79**	**134**	⇓*iP*			**Pn**	**16 34 21.7**	**+0.5**
TIRR	**Tirgusor**	**1.79**	**134**	⇓*iP*			**Pn**	**16 34 21.7**	**+0.5**
TIRR				*i* S			**Sn**	**16 34 42.3**	**-1.3**
ICOR	**Ion Corvin**	**1.81**	**152**	⇓*iP*			**Pn**	**16 34 22.3**	**+0.9**
ICOR	**Ion Corvin**	**1.81**	**152**	⇓*iP*			**Pn**	**16 34 22.3**	**+0.9**
ICOR				*i* S			**Sn**	**16 34 44.1**	**+0.1**
MILM	**Milestii Mici**	**1.93**	**51**	⇑*iP*			**Pn**	**16 34 23.6**	**+0.6**
MILM	**Milestii Mici**	**1.93**	**51**	⇑*iP*			**Pn**	**16 34 23.6**	**+0.6**
MILM				*i* S			**Sn**	**16 34 45.9**	**-1.0**
MILM	**Milestii Mici**	**1.93**	**51**	P			**Pn**	**16 34 23.6**	**+0.6**
MILM				S			**Sn**	**16 34 45.9**	**-1.0**
KIS	**Kishinev**	**1.99**	**49**	*eP*			**Pn**	**16 34 25.0**	**+1.3**
KIS				*i* S			**Sn**	**16 34 48.0**	**-0.1**
	600nm,0.4s								
KIS	**Kishinev**	**1.99**	**49**	*i* S			**Sn**	**16 34 47.3**	**-0.8**
KIS	**Kishinev**	**1.99**	**49**	P			**Pn**	**16 34 25.0**	**+1.3**
KIS					Pm			16 34 25.5	
KIS				S			**Sn**	**16 34 48.0**	**-0.1**
KIS					Sm			16 34 48.2	
LOT	**Lotru**	**2.02**	**263**	*eP*			**Pn**	**16 34 22.3**	**-2.0**
LOT	**Lotru**	**2.02**	**263**	⇑*iP*			**Pn**	**16 34 24.5**	**+0.2**
LOT	**Lotru**	**2.02**	**263**	⇑*iP*			**Pn**	**16 34 24.5**	**+0.2**
LOT				*i* S			**Sn**	**16 34 50.3**	**+1.1**
ARCR	**ARCALIA**	**2.08**	**312**	⇑*iP*			**Pn**	**16 34 25.0**	**+0.1**
ARCR	**ARCALIA**	**2.08**	**312**	⇑*iP*			**Pn**	**16 34 25.0**	**+0.1**
ARCR				*i* S			**Sn**	**16 34 49.5**	**-0.9**
BURAR	**Bucovina Array**	**2.13**	**333**	⇓*iP*			**Pn**	**16 34 27.1**	**+1.4**
BURAR	**Bucovina Array**	**2.13**	**333**	⇓*iP*			**Pn**	**16 34 27.1**	**+1.4**
ZIMR		**2.25**	**204**	⇑*iP*			**Pn**	**16 34 27.5**	**+0.3**
ZIMR		**2.25**	**204**	⇑*iP*			**Pn**	**16 34 27.5**	**+0.3**
CJR	**Cluj-Napoca**	**2.32**	**296**	⇑*iP*			**Pn**	**16 34 28.6**	**+0.4**
CJR	**Cluj-Napoca**	**2.32**	**296**	⇑*iP*			**Pn**	**16 34 28.6**	**+0.4**
CJR				*i* S			**Sn**	**16 34 56.5**	**+0.4**
PSN	**Preselentsi**	**2.32**	**151**	*eP*			**Pn**	**16 34 27.5**	**-0.7**
MANR	**Mangalia**	**2.36**	**143**	⇓*iP*			**Pn**	**16 34 29.4**	**+0.7**
MANR	**Mangalia**	**2.36**	**143**	⇓*iP*			**Pn**	**16 34 29.4**	**+0.7**
MANR				*i* S			**Sn**	**16 34 55.6**	**-1.4**
CRAR	**CRAIOVA**	**2.44**	**236**	*i* S			**Sn**	**16 34 58.5**	**-0.3**
DEV	**Deva**	**2.61**	**275**	⇑*iP*			**Pn**	**16 34 33.0**	**+1.1**
CHRU	**Chernivtsi**	**2.62**	**350**	⇑*iP*			**Pn**	**16 34 32.1**	**0.0**
CHRU					Pm			16 34 33.9	
CHRU				*i* S			**Sn**	**16 35 02.3**	**-0.9**
CHRU					Sm			16 35 07.0	
SRE	**Strehaia**	**2.64**	**248**	⇓*iP*			**Pn**	**16 34 32.3**	**0.0**
SRE				*i* S			**Sn**	**16 35 03.6**	**0.0**
SORM	**Soroca**	**2.69**	**26**	⇑*iP*			**Pn**	**16 34 32.9**	**-0.1**
SORM				*i* S			**Sn**	**16 35 02.5**	**-2.3**
GZR	**Gura Zlata**	**2.72**	**264**	⇑*iP*			**Pn**	**16 34 34.4**	**+0.9**
GZR				*i* S			**Sn**	**16 35 06.7**	**+1.0**
KSV	**Kosov**	**2.81**	**338**	⇑*iP*			**Pn**	**16 34 35.0**	**+0.4**
KSV					Pm			16 34 35.9	
KSV				*i* S			**Sn**	**16 35 07.1**	**-0.5**
KSV					Sm			16 35 12.1	
KMPD	**K-Podol'skiy**	**2.84**	**358**	⇑*iP*			**Pn**	**16 34 34.8**	**-0.3**
KMPD				*i* S			**Sn**	**16 35 05.8**	**-2.7**
NSLU	**Nyzhne Selyshc**	**2.89**	**330**	*i* P			Pn	16 34 41.8	+6.1
NSLU					Pm			16 34 43.7	
NSLU				*i* S			Sn	16 35 19.8	+10
NSLU					Sm			16 35 32.9	
BMR	**Baia Mare**	**2.91**	**313**	⇑*iP*			**Pn**	**16 34 35.3**	**-0.6**
BMR				*i* S			**Sn**	**16 35 09.4**	**-0.6**
DRGR		**2.92**	**293**	⇑*iP*			**Pn**	**16 34 36.5**	**+0.4**
DRGR				*i* S			**Sn**	**16 35 10.4**	**0.0**
NDNU	**Novodnistrovsk**	**2.92**	**10**	⇑*iP*			**Pn**	**16 34 36.1**	**0.0**
NDNU				*i* S			**Sn**	**16 35 07.8**	**-2.5**
HERR	**Herculane**	**3.08**	**256**	⇑*iP*			**Pn**	**16 34 38.8**	**+0.5**
HERR				*i* S			**Sn**	**16 35 13.8**	**-0.5**
KORU	**Korolevo**	**3.41**	**317**	*eP*			**Pn**	**16 34 43.9**	**+1.2**
KORU					Pm			16 34 47.3	
KORU				*i* S			**Sn**	**16 35 22.3**	**+0.1**
KORU					Sm			16 35 42.7	
HORU	**Horodok**	**3.50**	**358**	⇑*iP*			**Pn**	**16 34 44.1**	**+0.2**
HORU				*i* S			**Sn**	**16 35 23.6**	**-0.6**
SIRR	**Siria**	**3.50**	**281**	⇓*iP*			**Pn**	**16 34 45.0**	**+1.0**
MEZ	**Mezhgor'ye**	**3.51**	**324**	*i* P			**Pn**	**16 34 44.4**	**+0.4**
MEZ				*i* S			**Sn**	**16 35 24.5**	**0.0**
BZS	**Buzias**	**3.51**	**270**	*ePn*			**Pn**	**16 34 43.9**	**-0.2**
BZS	**Buzias**	**3.51**	**270**	⇓*iP*			**Pn**	**16 34 43.7**	**-0.4**
BZS				*i* S			**Sn**	**16 35 23.0**	**-1.6**
MDVR	**Moldovita**	**3.59**	**257**	⇑*iP*			**Pn**	**16 34 46.0**	**+0.8**
MDVR				*i* S			**Sn**	**16 35 25.0**	**-1.6**
BRIU	**Brid**	**3.59**	**318**	*eP*			**Pn**	**16 34 46.5**	**+1.3**
BRIU					Pm			16 35 06.3	
BRIU				*i* S			**Sn**	**16 35 26.4**	**-0.1**
BRIU					Sm			16 35 26.8	
BRIU					Sm			16 35 51.7	
ZAGS	**Zajecar**	**3.66**	**240**	*ePn*			**Pn**	**16 34 45.2**	**-0.9**
TRPA	**Tarpa**	**3.69**	**312**	⇑*iP*			**Pn**	**16 34 46.8**	**+0.3**
TRPA				*i* S			**Sn**	**16 35 27.1**	**-1.8**
KUBS	**Kucevo**	**3.74**	**251**	*ePn*			**Pn**	**16 34 45.8**	**-1.4**
KUBS				*eSn*			**Sn**	**16 35 25.5**	**-4.7**
ZAPS	**Zavoj**	**3.76**	**231**	*ePn*			**Pn**	**16 34 46.6**	**-0.9**
ZAPS				*eSn*			**Sn**	**16 35 26.5**	**-4.2**
MUKU	**Mukachevo**	**3.83**	**317**	P			**Pn**	**16 34 49.0**	**+0.6**
MUKU					Pm			16 34 52.2	
MUKU				*i* S			**Sn**	**16 35 31.6**	**-0.7**
MUKU					Sm			16 35 49.2	
PLD	**Plovdiv**	**3.87**	**202**	*ePn*			**Pn**	**16 34 47.4**	**-1.6**
PLD				*eSn*			**Sn**	**16 35 28.4**	**-4.9**
PLD	**Plovdiv**	**3.87**	**202**	*eP*			**Pn**	**16 34 46.3**	**-2.7**
EDRB	**Edirne**	**3.87**	**179**	*eP*			**Pn**	**16 34 49.3**	**+0.3**
MORS	**Morshin**	**3.88**	**333**	*eP*			**Pn**	**16 34 49.7**	**+0.6**
MORS				*i* S			**Sn**	**16 35 30.4**	**-0.2**
VTS	**Vitosha**	**3.98**	**219**	*ePn*			**Pn**	**16 34 49.3**	**-1.2**
VTS				*eSn*			**Sn**	**16 35 32.0**	**-4.1**
VTS	**Vitosha**	**3.98**	**219**	⇑*iP*			**Pn**	**16 34 50.7**	**+0.2**
VTS				*i* S			**Sn**	**16 35 33.0**	**-3.1**
VTS	**Vitosha**	**3.98**	**219**	P			**Pn**	**16 34 50.5**	**0.0**
BOVS	**Bovan**	**4.08**	**241**	*ePn*			**Pn**	**16 34 51.3**	**-0.5**
BOVS				*eSn*			**Sn**	**16 35 34.7**	**-3.7**
PHSR	**Pinarhisar**	**4.14**	**171**	*eP*			**Pn**	**16 34 53.3**	**+0.7**
SHIU	**Shidnytsya**	**4.14**	**329**	*eP*			**Pn**	**16 34 53.9**	**+1.3**
SHIU					Pm			16 35 00.5	
SHIU				*i* S			**Sn**	**16 35 39.8**	**-0.1**
SHIU					Sm			16 36 11.6	
STZU	**Stuzhytsa**	**4.27**	**322**	*i* P			**Pn**	**16 34 55.6**	**+1.3**
STZU					Pm			16 34 57.0	
STZU				*eS*			**Sn**	**16 35 44.0**	**+1.0**
STZU					Sm			16 35 49.6	
KIYI	**Yal'–koy-Catal**	**4.41**	**163**	*eP*			**Pn**	**16 34 55.6**	**-0.6**
CTYL	**Yalikoy Yolu**	**4.41**	**163**	*eP*			**Pn**	**16 34 57.2**	**+0.9**
LVV	**L'vov**	**4.46**	**338**	*i* P			**Pn**	**16 34 57.3**	**+0.5**
LVV					Pm			16 35 01.4	
LVV				*i* S			**Sn**	**16 35 47.9**	**+0.4**
LVV					Sm			16 35 49.8	
BARS	**Barje**	**4.51**	**232**	*ePn*			Pn	16 34 45.2	-12
BARS	**Barje**	**4.51**	**232**	*ePn*			**Pn**	**16 34 56.6**	**-1.0**
BARS				*eSn*			Sn	16 35 22.7	-26
BARS				*eSn*			Sn	16 35 43.6	-5.3
GRUS	**Gruza**	**4.58**	**249**	*ePn*			**Pn**	**16 34 57.6**	**-1.0**
GRUS				*eSn*			**Sn**	**16 35 46.1**	**-4.6**
RDO	**Rodhopi**	**4.64**	**190**	*eP*			**Pn**	**16 34 58.1**	**-1.3**
RDO	**Rodhopi**	**4.64**	**190**	P			**Pn**	**16 34 59.8**	**+0.4**
TRUS	**Trudelj**	**4.66**	**253**	*ePn*			**Pn**	**16 34 58.7**	**-0.9**
SELS	**Selova**	**4.67**	**240**	*ePn*			**Pn**	**16 34 59.3**	**-0.4**
KLYT	**Kilyos**	**4.80**	**158**	*eP*			**Pn**	**16 34 59.7**	**-1.8**
NVR	**Nevrokopi**	**4.81**	**206**	P			**Pn**	**16 35 02.7**	**+0.7**
ALN	**Alexandroupoli**	**4.84**	**185**	*eP*			**Pn**	**16 35 01.7**	**-0.4**
ALN	**Alexandroupoli**	**4.84**	**185**	P			**Pn**	**16 35 02.5**	**+0.4**
SBT4	**Kumbag-Tekirda**	**4.94**	**172**	*eP*			**Pn**	**16 35 03.5**	**+0.3**
DIVS	**Divibare**	**4.98**	**253**	*ePn*			**Pn**	**16 35 02.9**	**-1.2**
DIVS				*eSn*			**Sn**	**16 35 55.4**	**-5.0**
ISK	**Istanbul-Kandi**	**4.98**	**158**	*eP*			**Pn**	**16 35 04.5**	**+0.5**
KAVV	**Kandilli-Istan**	**4.98**	**158**	*eP*			**Pn**	**16 35 04.5**	**+0.5**
ENEZ	**Enez**	**5.00**	**184**	*eP*			**Pn**	**16 35 05.0**	**+0.8**
RKY	**Sarkoy-Tekirda**	**5.05**	**175**	*eP*			**Pn**	**16 35 05.3**	**+0.3**
ERIK	**Erikli-Kesan**	**5.05**	**181**	*eP*			**Pn**	**16 35 05.6**	**+0.7**
SILT	**Sile**	**5.07**	**153**	*eP*			**Pn**	**16 35 04.9**	**-0.3**
IVAS	**Ivanjica**	**5.09**	**247**	*ePn*			**Pn**	**16 35 04.5**	**-1.0**
SRS	**Serrai**	**5.10**	**207**	P			**Pn**	**16 35 06.4**	**+0.7**
SEV	**Sevastopol'**	**5.12**	**101**	P			**Pn**	**16 35 05.8**	**-0.1**
SEV					Pm			16 35 06.4	
SEV				S			**Sn**	**16 36 01.1**	**-2.6**
SEV					Sm			16 36 01.4	
MRMT	**Marmara Adasi**	**5.17**	**172**	*eP*			**Pn**	**16 35 06.1**	**-0.5**
BUY	**Buyukada**	**5.20**	**159**	*eP*			**Pn**	**16 35 06.9**	**0.0**
AKASG	**Malin Array Be**	**5.28**	**18**	P			**Pn**	**16 35 07.6**	**-0.4**
	6.2nm,0.3s,baz

	0.8nm,0.2s,SNR=7.9								
EPLA	**Plasencia**	**5.93**	**62**	P		**Pn**	**16 39 02.4**	**+1.7**
	0.2nm,0.1s,SNR=7.9								
EPLA				S		**Sn**	**16 40 09.9**	**+1.2**
	0.5nm,0.2s,SNR=7.9								
ECAB	**El Cabril**	**5.95**	**82**	P		**Pn**	**16 39 01.6**	**+0.6**
	0.1nm,0.1s,SNR=7.9								
ECAB				S		**Sn**	**16 40 08.1**	**-1.1**
	0.5nm,0.2s,SNR=7.9								
ECEU	**Ceuta**	**6.22**	**102**	S		**Sn**	**16 40 20.7**	**+4.8**
	32nm,0.2s,SNR=4.0								
EAGO	**Agolada(Pontev**	**6.50**	**33**	P		**Pn**	**16 39 08.7**	**+0.2**
	0.4nm,0.1s,SNR=7.9								
EAGO				S		**Sn**	**16 40 20.0**	**-2.7**
	0.7nm,0.1s,SNR=7.9								
ECAL	**Calabor**	**6.53**	**45**	S		**Sn**	**16 40 24.8**	**+1.2**
	0.9nm,0.2s,SNR=4.0								
EADA	**Adamuz**	**6.62**	**81**	S		**Sn**	**16 40 27.2**	**+1.6**
	0.7nm,0.1s,SNR=4.0								

*ISCJB **04** 16:41:15.1±0.6,42.°87N±0.°03×78.°56E±0.°05,h5km±4km,*
Error ellipse: s-maj=5.8km s-min=3.9km az=23.7
*SOME **04** 16:41:15.4,42.°90N×78.°52E,h15km*
*KRNET **04** 16:41:15.1±0.1,42.°87N×78.°53E,h21km,mb2.8*
ISC 04 16:41:15.0±1.0,**42.°89N**±0.°03×**78.°52E**±0.°03,**h16**km±9km,
n21,σ0°49/42,4C-4D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**0.19**	**334**	*e*P	**Pb**	**16 41 19.9**	**-0.3**
	13nm,0.1s						
SATY				*e*S	**Sb**	**16 41 23.3**	**-0.5**
	353nm,0.1s						
ZHN	**Zhinishke**	**0.29**	**348**	*e*P	**Pg**	**16 41 21.5**	**+0.3**
	baz=46						
ZHN				*e*S	**Sb**	**16 41 26.4**	**-0.1**
	baz=46						
ZHN	**Zhinishke**	**0.29**	**348**	*e*P	**Pg**	**16 41 21.5**	**+0.3**
	37nm,0.1s						
ZHN				*e*S	**Sb**	**16 41 26.4**	**-0.1**
	121nm,0.2s						
PRZ	**Przheval'sk**	**0.41**	**192**	⇑*i*P	**Pg**	**16 41 23.6**	**+0.2**
	baz=93						
PRZ				⇑*i*S	**Sg**	**16 41 28.9**	**-0.2**
	baz=93						
UZB	**Uzynbulak**	**0.45**	**55**	*e*P	**Pg**	**16 41 23.7**	**-0.4**
	baz=52						
UZB				*e*S	**Sg**	**16 41 29.9**	**-0.4**
	baz=52						
UZB	**Uzynbulak**	**0.45**	**55**	*e*P	**Pg**	**16 41 23.7**	**-0.4**
	2.6nm,0.1s						
UZB				*e*S	**Sg**	**16 41 29.9**	**-0.4**
	35nm,0.1s						
KPKS	**Kokpek**	**0.59**	**12**	*e*P	**Pg**	**16 41 26.5**	**-0.2**
	baz=10.0						
KPKS				*e*S	**Sg**	**16 41 34.9**	**+0.3**
	baz=10.0						
KPKS	**Kokpek**	**0.59**	**12**	*e*P	**Pg**	**16 41 26.5**	**-0.2**
	24nm,0.2s						
KPKS				*e*S	**Sg**	**16 41 34.9**	**+0.3**
	22nm,0.3s						
KOTS	**Kotyrbulak**	**1.09**	**289**	*e*P	**Pb**	**16 41 35.4**	**-0.1**
	0.8nm,0.2s						
KOTS				*e*S	**Sn**	**16 41 50.3**	**-0.2**
	5.0nm,0.2s						
KDJ	**Kajisay**	**1.25**	**233**	⇑*i*P	**Pb**	**16 41 38.2**	**0.0**
	baz=34						
KDJ				⇑*i*S	**Sb**	**16 41 54.3**	**+0.2**
	baz=34						
IZV	**Izvestkoviy**	**1.41**	**277**	*e*P	**Pb**	**16 41 41.0**	**0.0**
	baz=77						
IZV				*e*S	**Sg**	**16 42 00.0**	**-0.4**
	baz=77						
IZV	**Izvestkoviy**	**1.41**	**277**	*e*P	**Pb**	**16 41 41.0**	**0.0**
	1.4nm,0.1s						
IZV				*e*S	**Sg**	**16 41 60.0**	**-0.4**
	3.1nm,0.2s						
ARXS	**Arharly**	**1.42**	**339**	*e*P	**Pb**	**16 41 41.4**	**+0.3**
	1.6nm,0.2s						
ARXS				*e*S	**Sg**	**16 42 00.7**	**0.0**
	6.1nm,0.2s						
CHKK	**Chushkaly**	**1.48**	**311**	*e*P	**Pb**	**16 41 42.6**	**+0.6**
	baz=12						
CHKK				*e*S	**Sg**	**16 42 02.1**	**-0.4**
	baz=12						
CHKK	**Chushkaly**	**1.48**	**311**	*e*P	**Pb**	**16 41 42.6**	**+0.6**
	1.7nm,0.1s						
CHKK				*e*S	**Sg**	**16 42 02.1**	**-0.4**
	17nm,0.2s						
KTBS	**Karatobe**	**1.57**	**302**	*e*P	**Pb**	**16 41 44.4**	**+0.6**
	1.3nm,0.2s						
KTBS				*e*S	**Sg**	**16 42 05.5**	**-0.2**
	7.6nm,0.2s						
DJR	**Jarkent**	**1.71**	**32**	*e*P	**Pb**	**16 41 46.2**	**+0.1**
	0.7nm,0.2s						
DJR				*e*S	**Sb**	**16 42 08.5**	**+0.9**
	2.4nm,0.3s						
ULHL	**Ulahol**	**1.80**	**250**	⇓*i*P	**Pb**	**16 41 47.8**	**+0.1**
	baz=51						
ULHL				⇓*i*S	**Sb**	**16 42 11.0**	**+0.9**
	baz=51						
KUU	**Kurty**	**1.88**	**303**	*e*P	**Pb**	**16 41 49.5**	**+0.6**
	1.4nm,0.1s						
KUU				*e*S	**Sg**	**16 42 14.3**	**-1.2**
	7.4nm,0.3s						
DGS	**Degeres**	**2.04**	**281**	*e*P	**Pb**	**16 41 52.4**	**+0.6**
	1.4nm,0.4s						
DGS				*e*S	**Sg**	**16 42 19.5**	**-1.2**
	4.8nm,0.3s						
TKM2	**Tokmak 2**	**2.15**	**272**	⇓*i*P	**Pb**	**16 41 54.2**	**+0.6**
	baz=72						
TKM2				⇓*i*S	**Sb**	**16 42 20.3**	**+0.2**
	baz=72						

*BJI **04** 17:07:06.6,24.°08S×179.°19W,h353km,mb4.6/14,*
mB4.9/11
*IDC **04** 17:07:09.6±1.5,24.°32S×179.°27W,h378km±15km,*
mb3.7/20,mb1 3.9/21,mb1mx3.8/35,mbtmp4.4/21,Error
ellipse: s-maj=11.4km s-min=11.0km az=133.0
*ISCJB **04** 17:07:10.6±0.3,24.°48S±0.°03×179.°28W±0.°06,h400km,*
mb4.1/29,Error ellipse: s-maj=7.3km s-min=4.2km
az=179.8
*WEL **04** 17:07:11.6±1.3,25.°S±11.°×17.°7W±3.°0,h458km±10km*
*NEIC **04** 17:07:12.5±1.0,24.°69S×179.°21W,h412km±12km,*
mb4.8/11,Error ellipse: s-maj=11.2km s-min=9.8km
az=150.0
ISC 04 17:07:11.4±0.4,**24.°50S**±0.°05×**179.°18W**±0.°07,**h400**km,
n149,σ2°18/159,mb4.1/29,2D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**4.86**	**167**	P	**Pn**	**17 08 32.5**	**+0.6**
RIZ				S	**S**	**17 09 35.9**	**-1.5**
RAO	**Raoul Island**	**4.87**	**167**	P	**Pn**	**17 08 32.5**	**+0.5**
	583nm,0.3s,baz=141,slow=2.5,SNR=69						
RAO				S	**S**	**17 09 34.6**	**-2.8**
	316nm,0.3s,baz=36,slow=6.9,SNR=6.4						
RAO	**Raoul Island**	**4.87**	**167**	*e*Pn	**Pn**	**17 08 32.7**	**+0.8**
RAO				*e*S	S	17 09 25.1	-12
GLKZ	**Green Lake**	**4.88**	**167**	P	**Pn**	**17 08 32.8**	**+0.8**
GLKZ				S	**S**	**17 09 34.1**	**-3.5**
GRZ	**Great Barrier**	**12.59**	**200**	P	**Pn**	**17 10 00.1**	**+0.8**
AFI	**Afiamalu**	**12.64**	**35**	P	P	17 09 52.7	-5.6
	39nm,0.3s,baz=5.2,slow=2.5,SNR=15						
AFI				S	S	17 12 01.9	-14
	30nm,0.3s,baz=298,slow=23,SNR=7.9						
AFI	**Afiamalu**	**12.64**	**35**	*e*P	P	17 09 53.0	-5.4
WCZ	**Waipu Caves**	**12.70**	**205**	P	**Pn**	**17 10 02.4**	**+1.8**
KUZ	**Kuaotunu**	**12.97**	**199**	P	**Pn**	**17 10 04.5**	**+0.8**
ABAZ	**Army Bay**	**13.12**	**202**	P	**Pn**	**17 10 06.5**	**+1.2**
WIAZ	**Waiheke Island**	**13.19**	**200**	P	**Pn**	**17 10 07.0**	**+0.7**
MXZ	**Matakaoa Point**	**13.20**	**189**	*e*P	**P**	**17 10 03.3**	**-0.8**
MXZ	**Matakaoa Point**	**13.20**	**189**	P	**P**	**17 10 02.4**	**-1.8**
MXZ				P	**S**	**17 12 24.3**	**-2.8**
MYRZ	**Mayor Island**	**13.33**	**196**	P	**Pn**	**17 10 08.7**	**+0.8**
HBAZ	**Herne Bay Bore**	**13.38**	**202**	P	**Pn**	**17 10 09.3**	**+0.9**
EPAZ	**Eden Park BICE**	**13.39**	**201**	P	**Pn**	**17 10 09.2**	**+0.6**
ETAZ	**East Tamaki Re**	**13.41**	**201**	P	**Pn**	**17 10 09.5**	**+0.8**
DZM	**Mont Dzumac**	**13.43**	**277**	P	**P**	**17 10 08.1**	**+1.1**
	2.6nm,0.3s,baz=90,slow=16,SNR=22						
DZM	**Mont Dzumac**	**13.43**	**277**	*e*P	**Pn**	**17 10 08.8**	**-0.5**
WMGZ	**Waiomatatini S**	**13.44**	**188**	P	**P**	**17 10 04.9**	**-1.8**
WMGZ				P	**S**	**17 12 31.8**	**0.0**
WMGZ	**Waiomatatini S**	**13.44**	**188**	P	**S**	**17 12 31.8**	**0.0**
HAZ	**Te Kaha**	**13.47**	**190**	P	**P**	**17 10 06.0**	**-1.1**
HAZ				P	**S**	**17 12 34.5**	**+2.1**
HAZ	**Te Kaha**	**13.47**	**190**	P	**S**	**17 12 34.5**	**+2.1**
MKAZ	**Moumakai**	**13.47**	**200**	P	**Pn**	**17 10 09.9**	**+0.5**
WTAZ	**Waiatarua**	**13.50**	**202**	P	**Pn**	**17 10 10.5**	**+0.6**
KBAZ	**Karaka Road Bo**	**13.55**	**201**	P	**Pn**	**17 10 11.3**	**+1.0**
AWAZ	**Awhitu Peninsu**	**13.60**	**201**	P	**Pn**	**17 10 11.2**	**+0.2**
RUGZ	**Raukumara Rang**	**13.69**	**191**	P	**P**	**17 10 07.6**	**-2.1**
RUGZ	**Raukumara Rang**	**13.69**	**191**	P	**S**	**17 12 35.0**	**-2.1**
PUZ	**Puketiti**	**13.71**	**189**	P	**P**	**17 10 09.5**	**-0.2**
PUZ	**Puketiti**	**13.71**	**189**	P	**S**	**17 12 36.8**	**-0.4**
WHRZ	**Whale Island**	**13.72**	**193**	P	**Pn**	**17 10 12.1**	**-0.2**
WHRZ	**Whale Island**	**13.72**	**193**	P	**S**	**17 12 45.9**	**+8.5**
TGRZ	**Tauranga**	**13.75**	**195**	P	**Pn**	**17 10 12.9**	**+0.2**
OPRZ	**Ohinepanea**	**13.79**	**194**	P	**P**	**17 10 11.2**	**+0.6**
TWGZ	**Tauwhareparae**	**13.85**	**189**	P	**P**	**17 10 10.0**	**-1.3**
TWGZ	**Tauwhareparae**	**13.85**	**189**	P	**S**	**17 12 40.8**	**+0.7**
MARZ	**Manawahe**	**13.90**	**194**	P	**P**	**17 10 12.9**	**+1.1**
KMRZ	**Kaimai**	**13.94**	**196**	P	**Pn**	**17 10 15.2**	**+0.3**
TOZ	**Tahuroa Road**	**13.95**	**198**	P	**Pn**	**17 10 14.9**	**-0.1**
EDRZ	**Edgecumbe**	**14.01**	**193**	P	**P**	**17 10 14.4**	**+1.4**
KARZ	**Kaharoa**	**14.04**	**195**	P	**P**	**17 10 16.1**	**+2.9**
MWZ	**Matawai**	**14.08**	**191**	P	**P**	**17 10 12.2**	**-1.6**
MWZ	**Matawai**	**14.08**	**191**	P	**S**	**17 12 42.5**	**-2.2**
URZ	**Urewera**	**14.08**	**192**	P	**P**	**17 10 12.7**	**-1.0**
	79nm,0.3s,baz=59,slow=2.2,SNR=92						
URZ				S	**S**	**17 12 44.0**	**-0.6**
	5.4nm,0.3s,baz=72,slow=19,SNR=16						
URZ	**Urewera**	**14.08**	**192**	*e*P	**P**	**17 10 11.6**	**-2.2**
URZ	**Urewera**	**14.08**	**192**	P	**P**	**17 10 12.9**	**-0.8**
URZ	**Urewera**	**14.08**	**192**	P	**S**	**17 12 43.5**	**-1.1**
OMRZ	**Omania**	**14.09**	**195**	P	**P**	**17 10 15.9**	**+2.0**
CNGZ	**Carnagh Statio**	**14.12**	**188**	P	**P**	**17 10 11.6**	**-2.5**
CNGZ	**Carnagh Statio**	**14.12**	**188**	P	**S**	**17 12 43.0**	**-2.4**
NGRZ	**Ngongotaha**	**14.13**	**195**	P	**P**	**17 10 17.3**	**+3.0**
TKGZ	**Te Karaka**	**14.13**	**190**	P	**P**	**17 10 11.7**	**-2.5**
TKGZ	**Te Karaka**	**14.13**	**190**	P	**S**	**17 12 43.4**	**-2.2**
TARZ	**Mount Tarawera**	**14.18**	**194**	P	**P**	**17 10 16.6**	**+1.6**
UTU	**Utuhina**	**14.20**	**195**	P	**P**	**17 10 18.2**	**+3.2**
HLRZ	**Highlands Stat**	**14.23**	**194**	P	**P**	**17 10 18.4**	**+3.0**
RAGZ	**Rawiri**	**14.25**	**191**	P	**P**	**17 10 14.2**	**-1.5**
RAGZ	**Rawiri**	**14.25**	**191**	P	**S**	**17 12 50.8**	**+2.5**
RRRZ	**Republican Roa**	**14.28**	**194**	P	**P**	**17 10 18.4**	**+2.5**
MUGZ	**Murupara**	**14.36**	**193**	P	**P**	**17 10 16.0**	**-0.8**
MUGZ	**Murupara**	**14.36**	**193**	P	**S**	**17 12 53.4**	**+3.4**
RIGZ	**Rimuhau**	**14.40**	**190**	P	**P**	**17 10 14.4**	**-2.9**
RIGZ	**Rimuhau**	**14.40**	**190**	P	**S**	**17 12 50.5**	**-0.7**
SNGZ	**Shannon Statio**	**14.54**	**191**	P	**S**	**17 12 58.0**	**+4.0**
PRGZ	**Paritu Road**	**14.60**	**189**	P	**P**	**17 10 18.8**	**-0.6**
PRGZ	**Paritu Road**	**14.60**	**189**	P	**S**	**17 12 52.2**	**-2.7**
HIZ	**Hauiti**	**14.86**	**199**	*e*P	**P**	**17 10 24.6**	**+2.3**
ARHZ	**Aropaoanui**	**15.07**	**191**	P	**S**	**17 13 05.5**	**+1.1**
BKZ	**Black Stump Fm**	**15.08**	**193**	*e*P	**P**	**17 10 22.1**	**-2.5**
BKZ	**Black Stump Fm**	**15.08**	**193**	P	**S**	**17 13 08.6**	**+4.0**
MOVZ	**Moawhango**	**15.47**	**195**	P	**S**	**17 13 13.3**	**+0.9**
BHHZ	**Black Hill Sta**	**15.48**	**194**	P	**S**	**17 13 11.4**	**-1.1**
KRHZ	**Kereru**	**15.56**	**193**	P	S	17 13 00.9	-13
PNHZ	**Pukenui**	**15.86**	**193**	P	**S**	**17 13 14.8**	**-5.1**
WPHZ	**Waipukurau**	**15.95**	**192**	P	**S**	**17 13 13.7**	**-8.1**
TSZ	**Takapari Road**	**16.05**	**194**	P	**S**	**17 13 13.3**	**-10**
CAW	**Cannon Point**	**17.25**	**195**	P	**S**	**17 13 37.6**	**-9.4**
SNZO	**South Karori**	**17.53**	**195**	*e*P	**P**	**17 10 49.5**	**-1.2**
SNZO				*e*S	**S**	**17 13 52.3**	**0.0**
RAR	**Rarotonga**	**18.18**	**84**	P	**P**	**17 10 57.5**	**-0.4**
	0.9nm,0.3s,baz=231,slow=1.6,SNR=9.5						
RAR	**Rarotonga**	**18.18**	**84**	*e*P	**P**	**17 10 57.6**	**-0.4**
	83nm,1.5s						
THZ	**Tophouse**	**18.43**	**199**	*e*P	**P**	**17 11 00.4**	**-0.1**
	45nm,1.1s						
KHZ	**Kahutara**	**18.86**	**197**	*e*P	**P**	**17 11 02.1**	**-2.7**
	27nm,0.8s						
LTZ	**Lake Taylor**	**19.56**	**199**	*e*P	**P**	**17 11 09.1**	**-2.5**
	34nm,0.8s						
OXZ	**Oxford**	**20.12**	**199**	*e*P	**P**	**17 11 15.1**	**-1.7**
	45nm,0.4s						
MQZ	**McQueen's Vall**	**20.30**	**197**	*e*P	**P**	**17 11 16.9**	**-1.4**
	96nm,1.4s						
RPZ	**Rata Peaks**	**20.78**	**200**	P	**P**	**17 11 22.3**	**-0.5**
	32nm,0.5s,baz=300,slow=2.5,SNR=20						
RPZ	**Rata Peaks**	**20.78**	**200**	*e*P	**P**	**17 11 22.4**	**-0.3**
	38nm,0.6s						
FOZ	**Fox Glacier**	**21.03**	**203**	*e*P	**P**	**17 11 24.0**	**-1.0**
	104nm,1.4s						
LBZ	**Lake Benmore**	**21.66**	**201**	*e*P	**P**	**17 11 29.1**	**-1.7**
	37nm,1.3s						
WHZ	**Wether Hill Ro**	**23.74**	**203**	*e*P	**P**	**17 11 48.5**	**-1.1**
	23nm,0.9s						
CTA	**Charters Tower**	**32.23**	**271**	P	**P**	**17 13 04.9**	**+0.2**
	12nm,0.5s,baz=93,slow=10,SNR=38						
CTAO	**Charters Tower**	**32.23**	**271**	*e*P	**P**	**17 13 04.8**	**+0.2**
	17nm,0.6s						
STKA	**Stephens Creek**	**35.20**	**249**	P	**P**	**17 13 29.9**	**+0.1**
	1.1nm,0.4s,baz=102,slow=11,SNR=6.0						
AS01	**Alice Springs**	**42.64**	**261**	*e*P	**P**	**17 14 30.1**	**-0.7**
AS31	**Alice Springs**	**42.68**	**261**	*e*P	**P**	**17 14 30.6**	**-0.5**
	1.0nm,0.7s						
ASAR	**Alice Springs**	**42.68**	**261**	P	**P**	**17 14 30.4**	**-0.7**
	1.4nm,0.5s,baz=93,slow=7.2,SNR=56						
ASAR				ScP	**ScP**	**17 19 29.8**	**+3.1**
	0.8nm,0.8s,baz=101,slow=3.7,SNR=4.9						
ASAR				S	**S**	**17 20 23.0**	**-1.2**
	0.8nm,0.8s,baz=94,slow=15,SNR=5.2						
WB2	**Warramunga Arr**	**43.10**	**266**	*e*P	**P**	**17 14 33.5**	**-1.0**
WRAB	**Tennant Creek**	**43.11**	**267**	*e*P	**P**	**17 14 33.4**	**-1.1**
	1.4nm,0.5s						
WRA	**Warramunga Arr**	**43.12**	**266**	P	**P**	**17 14 33.4**	**-1.2**
	1.7nm,0.3s,baz=97,slow=8.4,SNR=90						
WRA				ScP	**ScP**	**17 19 31.8**	**+3.3**
	1.8nm,0.9s,baz=104,slow=4.2,SNR=7.7						
WRA				S	**S**	**17 20 27.9**	**-2.7**
	1.4nm,1.1s,baz=102,slow=14,SNR=4.7						
FITZ	**Fitzroy Crossi**	**51.53**	**266**	P	**P**	**17 15 37.8**	**-0.8**
	3.3nm,0.6s,baz=126,slow=7.6,SNR=17						
VNDA	**Vanda**	**53.85**	**185**	P	**P**	**17 15 56.8**	**+2.4**
	1.5nm,0.5s,baz=8.8,slow=8.6,SNR=17						
VNDA	**Vanda**	**53.85**	**185**	*e*P	**P**	**17 15 56.7**	**+2.3**
	3.0nm,1.0s						
QSPA	**South Pole Qui**	**65.59**	**180**	P	**P**	**17 17 15.5**	**+1.8**
	4.9nm,0.9s,baz=35,slow=1.8,SNR=12						
QSPA	**South Pole Qui**	**65.59**	**180**	P	**P**	**17 17 14.3**	**+0.6**
MJAR	**Matsushiro Arr**	**72.81**	**325**	P	**P**	**17 17 56.2**	**-1.5**
	5.2nm,0.9s,baz=169,slow=5.7,SNR=20						
MAW	**Mawson**	**77.45**	**200**	P	**P**	**17 18 24.1**	**+0.7**
	2.1nm,0.7s,baz=139,slow=8.4,SNR=11						
KSRS	**Korea Array**	**79.18**	**320**	P	**P**	**17 18 33.1**	**0.0**
	3.2nm,0.7s,baz=136,slow=5.7,SNR=8.1						
PETK	**Petropavlovsk-**	**79.85**	**346**	P	**P**	**17 18 35.7**	**-0.7**
	14nm,0.7s,baz=127,slow=7.3,SNR=25						
NJ2	**Nanjing**	**81.61**	**311**	*e*P	**P**	**17 18 46.4**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
USRK	**Ussuriysk Ar.**	**81.67**	**327**	P	**P**	**17 18 46.6**	**+0.5**
	2.9nm,0.5s,baz=152,slow=5.2,SNR=7.6						
SYO	**Syowa Base**	**82.61**	**193**	‖*e*P	**P**	**17 18 50.6**	**0.0**
SYO	**Syowa Base**	**82.61**	**193**	‖PcP	**PcP**	**17 18 55.1**	**+0.6**
SNAA	**Sanae**	**84.06**	**179**	P	**P**	**17 18 58.3**	**+0.3**
YBH	**Yreka Blue Hor**	**84.08**	**39**	P	**P**	**17 18 59.4**	**+0.9**
	1.8nm,0.8s,baz=20,slow=4.7,SNR=5.9						
VNA3	**Neumayer Olymp**	**84.24**	**177**	P	**P**	**17 18 59.4**	**+0.5**
NVAR	**Mina Array Bea**	**84.66**	**84**	P	**P**	**17 19 01.6**	**0.0**
	0.7nm,0.6s,baz=229,slow=8.5,SNR=8.0						
VNA2	**Neumayer--Watz**	**84.67**	**177**	P	**P**	**17 19 02.2**	**+1.3**
	baz=184,slow=4.1						
VNA1	**Neumayer--Stat**	**84.90**	**177**	P	**P**	**17 19 03.1**	**+1.1**
TUC	**Tucson**	**86.29**	**52**	*e*P	**P**	**17 19 10.3**	**+0.8**
	4.3nm,0.8s						
PLCA	**Paso Flores**	**87.31**	**134**	P	**P**	**17 19 16.1**	**+1.7**
	4.0nm,1.0s,baz=256,slow=4.9,SNR=7.1						
U15A	**North Rim**	**87.44**	**48**	*e*P	**P**	**17 19 16.4**	**+1.3**
SRU	**San Rafael Swe**	**90.06**	**46**	*e*P	**P**	**17 19 28.0**	**+0.8**
TXAR	**Lajitas Array**	**90.11**	**58**	P	**P**	**17 19 28.6**	**+1.0**
	2.3nm,0.8s,baz=213,slow=6.1,SNR=23						
KMI	**Kunming**	**90.20**	**298**	P	**P**	**17 19 29.3**	**+1.0**
KMI				pmax	pmax		
	comp=Z,12nm,1.3s						
CM01	**Chiang Mai Arr**	**90.41**	**290**	*e*P	**P**	**17 19 30.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**90.43**	**290**	P	**P**	**17 19 30.7**	**+1.5**
	0.8nm,0.8s,baz=135,slow=3.3,SNR=9.9						
HHC	**Hu-ho-hao-te**	**91.37**	**315**	*e*P	**P**	**17 19 32.5**	**-0.6**
HHC				pmax	pmax		
	comp=Z,14nm,1.5s						
HHC				pmax	pmax		
	comp=Z,110nm,7.4s						
ILAR	**Eielson Array**	**92.44**	**13**	P	**P**	**17 19 35.8**	**-1.5**
	1.0nm,0.9s,baz=223,slow=5.7,SNR=7.8						
PDAR	**Pinedale Array**	**92.60**	**44**	P	**P**	**17 19 38.6**	**-0.4**
	0.9nm,0.9s,baz=193,slow=4.6,SNR=6.2						
LZH	**Lanzhou**	**94.33**	**308**	*e*P	**P**	**17 19 47.6**	**+0.7**
LZH				pP	pP	17 21 08.7	-11
LZH				sP	sP	17 21 47.4	-13
LZH				*e*PP	**PP**	**17 23 37.4**	**-3.4**
LZH				pmax	pmax		
	comp=Z,23nm,1.2s						
LZH				pmax	pmax		
	comp=Z,91nm,4.3s						
ARCES	**ARCESS Array B**	**132.62**	**348**	PKP	**PKPdf**	**17 25 37.8**	**-0.7**
	1.5nm,0.8s,baz=108,slow=3.3,SNR=8.9						
NB2	**NORSAR Subarra**	**142.78**	**352**	PKP	PKPpre	17 25 52.9	
	comp=Z,0.5nm,0.6s,baz=19,slow=3.7						
NOA	**NORSAR Array B**	**142.78**	**352**	PKhKP	PKPpre	17 25 52.9	
	comp=Z,1.1nm,0.7s,baz=22,slow=3.9,SNR=6.9						
AKASG	**Malin Array Be**	**145.88**	**327**	PKPbc	**PKPdf**	**17 26 03.0**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=46,slow=4.1,SNR=6.5						
BRTR	**Keskin Array B**	**148.53**	**307**	PKPbc	**PKPbc**	**17 26 11.0**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=147,slow=5.5,SNR=4.4						
CLL	**Collm**	**151.64**	**344**	*e*PKPbc	**PKPbc**	**17 26 19.0**	**+0.1**
CLL				*e*PKPab	**PKPab**	**17 26 28.0**	**-1.3**
BRG	**Berggiesshubel**	**151.78**	**342**	*e*PKP	**PKPbc**	**17 26 18.7**	**-0.5**
	comp=Z,2.6nm,0.5s						
BRG				*i*		17 26 29.6	
	comp=Z,3.9nm,1.1s						
VYHS	**Vyhne**	**152.15**	**334**	*e*PKP	**PKPab**	**17 26 31.2**	**-0.4**
SMOL	**Smolenice**	**152.68**	**336**	*e*PKP	**PKPab**	**17 26 34.8**	**+1.0**
MODS	**Modra-Piesok**	**152.85**	**336**	*e*PKP	**PKPab**	**17 26 34.7**	**+0.1**
KHC	**Kasperske Hory**	**153.45**	**341**	*e*PKPAB	**PKPab**	**17 26 37.4**	**+0.3**
GERES	**GERESS Array B**	**153.67**	**341**	PKPab	**PKPab**	**17 26 37.2**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=35,slow=4.9,SNR=5.2						
CONA	**Conrad Observa**	**153.75**	**337**	*e*PKPab	**PKPab**	**17 26 39.1**	**+0.6**
	comp=Z,8.0nm,1.5s						
WATA	**Walderalm**	**155.65**	**342**	*e*PKPab	**PKPab**	**17 26 43.1**	**-3.6**
	comp=Z,3.0nm,0.8s						
RETA	**Reutte**	**155.73**	**343**	*e*PKPab	**PKPab**	**17 26 47.3**	**+0.4**
	comp=Z,3.5nm,0.9s						
MOTA	**Moosalm**	**155.77**	**343**	*e*PKPab	**PKPab**	**17 26 47.8**	**+0.6**
	comp=Z,5.1nm,1.0s						
DAVA	**Damuels**	**156.14**	**345**	*e*PKPab	**PKPab**	**17 26 49.5**	**+0.7**
	comp=Z,3.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**168.68**	**184**	PKP	**PKPdf**	**17 26 30.3**	**-1.6**
	comp=Z,0.8nm,0.7s,baz=65,slow=0.5,SNR=6.7						
TORD				PKPab	**PKPab**	**17 27 43.7**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=170,slow=4.4,SNR=9.7						

IDC 04 17:25:58.3±355.0,**32.°15N**×**131.°87E,h0**km,**Error ellipse:**
s-maj=179.9km s-min=115.7km az=87.0,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I30JP	**ISUMI INFRASON**	**7.71**	**64**	*i*		18 10 20.0	
	baz=247,slow=311,SNR=70						
I45RU	**USSURIYSK INFR**	**12.03**	**0**	*i*		18 39 10.0	
	baz=182,slow=320,SNR=2.3						
I39PW	**PALAU INFRASON**	**24.62**	**174**	*i*		19 57 10.5	
	baz=356,slow=307,SNR=19						
I44RU	**PETROPAVLOVSK**	**28.02**	**34**	*i*		20 19 50.0	
	baz=234,slow=325,SNR=0.6						

*JMA **04** 17:26:35.8±0.2,23.°16N×121.°58E,h3km±3km,M3.1*
*ISCJB **04** 17:26:38.2±0.3,23.°18N±0.°01×121.°47E±0.°02,h22km±

SMLT				S		Sg	17 27 05.4	-0.4
	baz=326							
SSD	**Sandimen**	**0.89**	**241**	*eP*		**Pb**	**17 26 53.7**	**-0.7**
	baz=236							
SSD				*eS*		**Sn**	**17 27 07.1**	**-0.7**
	baz=236							
TWD	**Chiawan**	**0.90**	**7**	*eS*		**Sn**	**17 27 08.7**	**+0.4**
	baz=12							
TWK	**Hsinying**	**0.91**	**276**	P		**Pg**	**17 26 55.3**	**+0.4**
	baz=274							
TWK				*i* S		**Sb**	**17 27 06.9**	**+0.1**
	baz=274							
CHGB	**Renai**	**0.92**	**343**	*eP*		**Pb**	**17 26 54.2**	**-0.8**
	baz=346							
CHGB				*eS*		**Sn**	**17 27 08.4**	**-0.5**
	baz=346							
WJS	**Zhushan**	**0.94**	**313**	P		**Pg**	**17 26 55.8**	**+0.5**
	baz=315							
WJS				*eS*		**Sg**	**17 27 08.1**	**+0.4**
	baz=315							
MASBT	**Mashibuluo**	**0.96**	**234**	*eP*		**Pb**	**17 26 55.0**	**-0.6**
	baz=229							
MASBT				*eS*		**Sg**	**17 27 08.9**	**+0.5**
	baz=229							
TAW	**Tawu**	**0.98**	**213**	*eP*		**Pn**	**17 26 57.1**	**+0.7**
	baz=208							
TAW				*eS*		**Sn**	**17 27 10.0**	**0.0**
	baz=208							
WGK	**Gukeng**	**0.98**	**301**	P		**Pn**	**17 26 56.6**	**+0.1**
	baz=302							
WGK				*i* S		**Sn**	**17 27 09.9**	**-0.1**
	baz=302							
WHF	**Hehuan Shan**	**0.98**	**349**	*eP*		**Pb**	**17 26 55.2**	**-1.0**
	baz=353							
WHF				*eS*		**Sb**	**17 27 08.6**	**-0.5**
	baz=353							
EAST	**Anshuo**	**0.98**	**216**	*eS*		**Sn**	**17 27 10.2**	**0.0**
	baz=211							
CHN2	**Minshiung**	**0.98**	**291**	*eP*		**Pg**	**17 26 56.3**	**+0.1**
	baz=291							
CHN2				*eS*		**Sb**	**17 27 09.0**	**+0.2**
	baz=291							
NACB	**Ninganchiao**	**1.00**	**6**	*eS*		**Sn**	**17 27 10.8**	**+0.3**
	baz=10.0							
WNT	**Mingjian**	**1.00**	**314**	*i* P		**Pn**	**17 26 57.0**	**+0.2**
	baz=316							
WNT				*eS*		**Sb**	**17 27 09.9**	**+0.5**
	baz=316							
CHY	**Chiayi**	**1.02**	**288**	*eP*		**Pg**	**17 26 56.9**	**+0.1**
	baz=288							
CHY				*eS*		**Sb**	**17 27 09.9**	**+0.2**
	baz=288							
TWM1	**Shoushan**	**1.03**	**250**	*eP*		**Pn**	**17 26 58.6**	**+1.4**
	baz=246							
TWT	**Tachien**	**1.10**	**346**	*eP*		**Pb**	**17 26 57.5**	**-0.6**
	baz=348							
TWT				*eS*		**Sb**	**17 27 13.0**	**+0.6**
	baz=348							
TDCB	**Techi**	**1.11**	**345**	*eP*		**Pb**	**17 26 57.7**	**-0.5**
	baz=348							
TDCB				*eS*		**Sb**	**17 27 13.0**	**+0.5**
	baz=348							
WLGB	**Puzi**	**1.12**	**286**	*eP*		**Pb**	**17 26 58.5**	**+0.2**
	baz=285							
WLGB				*eS*		**Sb**	**17 27 12.9**	**+0.2**
	baz=285							
SCZT	**Fangliau**	**1.13**	**225**	*eP*		**Pb**	**17 26 58.0**	**-0.4**
	baz=220							
SCZT				*eS*		**Sn**	**17 27 13.8**	**+0.1**
	baz=220							
TAI1	**Yung-k'ang**	**1.16**	**263**	*eP*		**Pn**	**17 26 59.0**	**+0.2**
	baz=261							
TAI1				*eS*		**Sb**	**17 27 14.1**	**+0.4**
	baz=261							
CHN8	**Yiju**	**1.17**	**278**	*eP*		**Pb**	**17 26 59.6**	**+0.4**
	baz=277							
CHN8				*eS*		**Sb**	**17 27 14.2**	**-0.1**
	baz=277							
TCU	**Taichung**	**1.21**	**323**	*eP*		**Pb**	**17 27 00.3**	**+0.5**
	baz=325							
WCHH	**Zhanghua**	**1.23**	**317**	*eP*		**Pb**	**17 27 00.7**	**+0.5**
	baz=318							
WCHH				*eS*		**Sb**	**17 27 15.9**	**+0.1**
	baz=318							
WSF	**Szhu**	**1.24**	**292**	P		**Pn**	**17 27 00.2**	**+0.2**
	baz=292							
WSF				*eS*		**Sb**	**17 27 15.8**	**-0.3**
	baz=292							
RLNB	**Erlin**	**1.25**	**305**	*eP*		**Pn**	**17 27 00.4**	**+0.3**
	baz=305							
RLNB				*eS*		**Sb**	**17 27 15.6**	**-0.7**
	baz=305							
NNSB	**Datong**	**1.25**	**356**	*eP*		**Pb**	**17 26 59.2**	**-1.1**
	baz=359							
NNSB				*eS*		**Sb**	**17 27 16.0**	**-0.5**
	baz=359							
NNS	**Nan Shan**	**1.26**	**356**	*eP*		**Pn**	**17 26 59.6**	**-0.8**
	baz=359							
NNS				*eS*		**Sb**	**17 27 17.1**	**+0.2**
	baz=359							
ENA	**Nanau**	**1.27**	**11**	*eP*		**Pb**	**17 27 01.2**	**+0.4**
	baz=15							
ENA				*eS*		**Sg**	**17 27 18.7**	**+0.6**
	baz=15							
WTCT	**Ta-ch'eng**	**1.29**	**302**	*eP*		**Pn**	**17 27 01.1**	**+0.4**
	baz=302							
WTCT				*eS*		**Sb**	**17 27 17.1**	**-0.5**
	baz=302							
HEN	**Hengchun**	**1.35**	**210**	*eP*		**Pg**	**17 27 02.9**	**-0.4**
	baz=206							
HEN				*eS*		**Sg**	**17 27 20.3**	**-0.5**
	baz=206							
TWKBT	**Hengchun**	**1.38**	**207**	*eP*		**Pb**	**17 27 03.2**	**+0.5**
	baz=203							
TWKBT				*eS*		**Sg**	**17 27 21.0**	**-0.6**
	baz=203							
TWK1	**Hengchun**	**1.38**	**207**	*eP*		**Sg**	**17 27 03.3**	**-0.4**
	baz=203							
TWK1				*eS*		**Sg**	**17 27 21.2**	**-0.5**
	baz=203							
TSEB	**Hengchuen, Pin**	**1.38**	**203**	*eP*		**Pg**	**17 27 03.5**	**-0.3**
	baz=200							
TSEB				*eS*		**Sg**	**17 27 21.1**	**-0.7**
	baz=200							
NSY	**Sanyi**	**1.39**	**332**	P		**Pb**	**17 27 03.6**	**+0.7**
	baz=334							
NSY				*eS*		**Sn**	**17 27 20.3**	**-0.1**
	baz=334							
PTSB	**Yuanli**	**1.45**	**331**	P		**Pb**	**17 27 04.0**	**+0.1**
	baz=333							
PTSB				*eS*		**Sn**	**17 27 21.4**	**-0.2**
	baz=333							
ENTT	**Nioudou**	**1.46**	**3**	*eP*		**Pn**	**17 27 02.8**	**-0.3**
	baz=6.0							
ENTT				*eS*		**Sb**	**17 27 22.9**	**+0.4**
	baz=6.0							
TWC	**Suao**	**1.46**	**13**	*eP*		**Pb**	**17 27 04.0**	**-0.2**
	baz=16							
TWC				*eS*		**Sb**	**17 27 23.6**	**+0.9**
	baz=16							
YHNB	**Yeheng**	**1.49**	**357**	*eP*		**Pn**	**17 27 03.6**	**+0.1**
	baz=359							
YHNB				*eS*		**Sb**	**17 27 23.6**	**+0.2**
	baz=359							
EOS1	**EOS1**	**1.49**	**24**	*eP*		**Pb**	**17 27 04.8**	**+0.2**
	baz=26							
EOS1				*eS*		**Sb**	**17 27 24.4**	**+1.1**
	baz=26							
NMLH	**Miaoli**	**1.49**	**335**	*eP*		**Pb**	**17 27 04.7**	**+0.1**
	baz=337							
NSK	**Sanguang**	**1.49**	**356**	*eP*		**Pn**	**17 27 03.6**	**0.0**
	baz=359							
NSK				*eS*		**Sb**	**17 27 23.8**	**+0.2**
	baz=359							
NSTT	**Nanjuang**	**1.51**	**343**	P		**Pb**	**17 27 04.7**	**-0.2**
	baz=346							
NSTT				*eS*		**Sn**	**17 27 23.5**	**+0.3**
	baz=346							
LIOB	**Emei**	**1.52**	**344**	*eP*		**Pb**	**17 27 05.0**	**-0.1**
	baz=346							
LIOB				*eS*		**Sn**	**17 27 23.7**	**+0.3**
	baz=346							
TWE	**Neicheng**	**1.54**	**7**	*eP*		**Pb**	**17 27 05.7**	**+0.2**
	baz=10.0							
TWE				*eS*		**Sb**	**17 27 25.3**	**+0.3**
	baz=10.0							
NWLT	**Wulai**	**1.59**	**1**	*eP*		**Pn**	**17 27 04.8**	**-0.1**
	baz=3.0							
NWLT				*eS*		**Sn**	**17 27 25.6**	**+0.3**
	baz=3.0							
WDGT	**Dungji**	**1.67**	**273**	*eP*		**Pn**	**17 27 05.2**	**-0.8**
	baz=271							
WDGT				*eS*		**Sn**	**17 27 25.9**	**-1.3**
	baz=271							
NTC	**Toucheng**	**1.70**	**11**	*eP*		**Pn**	**17 27 07.2**	**+0.9**
	baz=13							
NTC				*eS*		**Sb**	**17 27 29.3**	**-0.1**
	baz=13							
PHUB	**P'eng-hu**	**1.78**	**281**	*eP*		**Pn**	**17 27 07.4**	**-0.1**
	baz=280							
PHUB				*eS*		**Sn**	**17 27 28.4**	**-1.4**
	baz=280							
TATO	**Taipei**	**1.79**	**0**	*eP*		**Pb**	**17 27 09.0**	**-0.7**
	baz=3.0							
TATO				*eS*		**Sn**	**17 27 31.2**	**+1.2**
	baz=3.0							
PNG	**Penghu**	**1.81**	**283**	*eP*		**Pn**	**17 27 08.0**	**+0.2**
	baz=282							
PNG				*eS*		**Sn**	**17 27 29.6**	**-0.9**
	baz=282							
YOJ	**Yonaguni jima**	**1.90**	**47**	P		**Pb**	**17 27 10.7**	**-0.9**
YOJ				*eS*		**Sn**	**17 27 33.2**	**+0.4**
NWF	**Wu-fen Shan**	**1.90**	**8**	*eP*		**Pb**	**17 27 10.8**	**-0.9**
	baz=10.0							
NWF				*eS*		**Sn**	**17 27 33.8**	**+0.7**
	baz=10.0							
WFSB	**Wu-fen Shan**	**1.90**	**8**	*eP*		**Pb**	**17 27 10.9**	**-0.7**
	baz=10.0							
WFSB				*eS*		**Sn**	**17 27 33.6**	**+0.7**
	baz=10.0							
HATJ	**Hateruma jima**	**2.31**	**67**	P		**Pn**	**17 27 15.1**	**+0.4**
HATJ				*eS*		**Sn**	**17 27 42.0**	**-0.9**
IRIF	**Iriomote-Funau**	**2.37**	**60**	P		**Pn**	**17 27 15.9**	**+0.4**
IRIF				*eS*		**Sn**	**17 27 44.5**	**+0.2**
JKRS	**Kuro-shima**	**2.55**	**65**	P		**Pn**	**17 27 19.5**	**+1.4**
JKRS				S		**Sn**	**17 27 49.2**	**+0.3**
JIJ	**Ishigaki jima**	**2.71**	**64**	P		**Pn**	**17 27 20.9**	**+0.6**
JIJ				S		**Sn**	**17 27 51.7**	**-1.2**
JISG	**Ishigakijimahi**	**2.95**	**61**	P		**Pn**	**17 27 24.0**	**+0.4**
JISG				S		**Sn**	**17 27 57.3**	**-1.4**
JTJ	**Tarama**	**3.29**	**63**	*eS*		**Sn**	**17 28 06.3**	**-0.9**
JIRB	**Irabujima**	**3.76**	**63**	*eS*		**Sn**	**17 28 17.4**	**-1.3**

*IDC **04** 17:31:38.5±2.1, 1°.87N×98°.95E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.3/40, mbtmp3.4/3, ML3.7/1, MS3.0/3, Ms1 3.0/3, ms1mx2.6/30, Error ellipse: s-maj=45.5km s-min=10.8km az=76.0*
*DJA **04** 17:31:40.5±0.3, 2°.N±3°.×9°.9E±°, h10km, M3.5/6, MLv3.5/6*
*ISCJB **04** 17:31:43.0±0.7, 1°.87N±0°.06×99°.15E±0°.06, h33km, mb3.3/2, Error ellipse: s-maj=10.1km s-min=7.7km az=39.4*

ISC 04 17:31:45.2±1.0, 1°.79N±0°.06×99°.07E±0°.08, h35km, n13, σ2§07/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.02**	**352**	Pg		Pn	17 31 54.7	-8.4
	20nm,0.3s,baz=180,slow=11,SNR=66							
PSI				Lg		Lg	17 32 05.4	
	14nm,0.3s,baz=180,slow=17,SNR=17							
PSI				LR		LR	17 32 12.4	
	comp=Z,85nm,20.5s,baz=274,slow=41							
MNSI	**Mandailing Nat**	**1.11**	**153**	P		**Pn**	**17 32 03.5**	**-0.7**
GSI	**Gunungsitoli**	**1.57**	**252**	P		**Pn**	**17 32 09.1**	**-1.6**
GSI				S		**Sn**	**17 32 31.2**	**+1.4**
TSI	**Tuntungan**	**1.78**	**343**	P		**Pn**	**17 32 10.8**	**-2.7**
KCSI	**Kotacane, Aceh**	**2.16**	**323**	P		**Pn**	**17 32 17.8**	**-1.0**
KCSI				S		**Sn**	**17 32 47.3**	**+3.0**
TPTI		**2.39**	**308**	P		**Pn**	**17 32 21.0**	**-0.9**
TPTI				S		**Sn**	**17 32 49.4**	**-0.6**
BKNI	**Bangkinang**	**2.44**	**126**	P		Pn	17 32 27.4	+4.8
LEM	**Lembang**	**12.08**	**135**	LR		LR	17 40 11.3	
	comp=Z,99nm,18.0s,baz=262,slow=42							
PBKT	**Sadao Pong**	**14.81**	**7**	P		**P**	**17 35 20.7**	**+3.1**
CMAR	**Chiang Mai Arr**	**16.57**	**360**	Pn		**Pn**	**17 35 33.1**	**-1.8**
	0.1nm,0.3s,baz=197,slow=7.8,SNR=7.6							
CMAR				LR		LR	17 42 04.4	
	comp=Z,26nm,19.5s,baz=170,slow=38							
PALK	**Pallekele**	**19.10**	**287**	LR		LR	17 42 07.6	
	comp=Z,52nm,19.4s,baz=116,slow=33							
WRA	**Warramunga Arr**	**40.78**	**124**	P		**P**	**17 39 23.9**	**+0.4**
	1.0nm,0.8s,baz=302,slow=9.2,SNR=9.6							
ASAR	**Alice Springs**	**42.28**	**129**	P		**P**	**17 39 34.0**	**-1.7**
	0.4nm,0.9s,baz=294,slow=6.7,SNR=3.7							

RSNC 04 17:34:23.6±1.4, 4°.70N×74°.62W, h11km±5km, ML3.4, Mw3.5, 3C-1D, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**0.32**	**65**	⇑*iP*		Pb	17 34 31.7	0.0
ROSC				*eS*		Sb	17 34 39.0	+2.0
ROSC				*i*			17 34 41.0	
	comp=Z,4μm,0.3s							
TOLC	**Tolima**	**0.71**	**261**	*eP*		Pg	17 34 36.8	-0.7
TOLC				*eS*		Sg	17 34 46.5	-0.3
RREF	**El Recreo**	**0.76**	**285**	⇑*iP*		Pg	17 34 37.8	-0.6
RREF				*eS*		Sg	17 34 48.6	+0.3
RREF				*i*			17 34 50.3	
	comp=Z,2μm,0.2s							
ANIL	**Santa Ana**	**0.81**	**255**	*eP*		Pg	17 34 38.3	-1.1
ANIL				*eS*		Sg	17 34 49.6	-0.4
CHIC	**Chingaza**	**0.88**	**95**	⇑*iP*		Pg	17 34 39.4	-1.3
CHIC				*eS*		Sg	17 34 50.4	-2.0
CHIC				*i*			17 34 53.4	
	comp=E,568nm,0.6s							
GUYC	**Guyana, Colomb**	**0.93**	**304**	*eP*		Pg	17 34 40.5	-1.1
GUYC				*eS*		Sg	17 34 53.8	0.0
PRAC	**Prado**	**1.02**	**195**	⇑*iP*		Pg	17 34 41.2	-2.0
PRAC				*eS*		Sg	17 34 55.9	-0.7
PRAC				*i*			17 34 58.0	
	comp=N,1μm,0.2s							
PLMC	**San Jos⁻¹ del**	**1.67**	**277**	*eP*		Pn	17 34 53.7	+0.8
PLMC				*i*			17 35 20.8	
	comp=N,539nm,0.2s							
HELC	**Santa Helena**	**1.74**	**328**	*eP*		Pn	17 34 52.5	-1.6
HELC				*eS*		Sn	17 35 14.6	-1.9
HELC				*i*			17 35 23.3	
	comp=N,156nm,0.4s							
YOTC	**Yotoco, Valle**	**1.87**	**248**	*eP*		Pn	17 34 54.1	-1.5
YOTC				*eS*		Sn	17 35 19.2	-0.2
RUSC	**La Rusia**	**1.93**	**52**	*eP*		Pn	17 34 55.2	-1.6
RUSC				*eS*		Sn	17 35 21.6	+0.2
RUSC				*i*			17 35 24.0	
	comp=N,370nm,0.5s							
BETC	**Betania**	**2.17**	**202**	*eP*		Pn	17 34 58.4	-1.4
MARP	**Paez Belalcaza**	**2.28**	**216**	*eP*		Pn	17 34 58.9	-2.6
MARP				*i*			17 35 05.0	
	comp=Z,150nm,0.5s							
MARP				*eS*		Sn	17 35 29.3	-0.5
ZARC	**Zaragoza, Cauc**	**2.78**	**355**	*eP*		Pn	17 35 07.4	-0.8
ZARC				*eS*		Sn	17 35 41.5	-0.2
ZARC				*i*			17 35 49.4	
	comp=N,102nm,0.3s							
POPC	**Popayan, Colom**	**2.97**	**224**	*eP*		Pn	17 35 10.4	-0.6
SOTA	**Rioblanco**	**3.23**	**218**	*eP*		Pn	17 35 13.9	-1.0

*SJA **04** 17:35:46.1±1.0, 31°.94S×72°.10W, h18km±6km, ML4.4, MW4.6*
*GUC **04** 17:35:47.8±0.6, 31°.74S×71°.79W, h47km±8km, ML4.6*
*NEIC **04** 17:35:47.0±0.0, 31°.77S×71°.86W, h36km, ML4.6(GUC), After GUC.*
*IDC **04** 17:35:50.4±3.4, 31°.81S×71°.70W, h45km±30km, mb4.0/7, mb1 4.0/9, mb1mx3.8/36, mbtmp4.1/9, ML4.2/2, MS3.5/6, Ms1 3.5/6, ms1mx3.2/21, Error ellipse: s-maj=26.5km s-min=22.4km az=122.0*

ISC 04 17:35:44.3±1.5, 31°.73S±0°.03×71°.88W±0°.06, h5km±9km, n61, σ1§41/74, mb4.5/9, MS3.7/4, 6C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.93**	**54**	⇑*iP*		**Pn**	**17 36 05.0**	**+0.9**
CMCH				*eS*		**Sn**	**17 36 18.0**	**+0.1**
CMCH				IAML			17 36 20.1	
	comp=E,63μm,0.7s							
ROCH	**El Roble**	**1.44**	**150**	⇑*iP*		**Pg**	**17 36 12.4**	**+0.5**
ROCH				*eS*		**Sg**	**17 36 31.5**	**+0.9**
ROCH				IAML			17 36 37.2	
	comp=N,12μm,0.6s							
ROC1	**El Roble**	**1.44**	**150**	*eP*		**Pg**	**17 36 12.7**	**+0.7**
ROC1				*eSn*		**Sg**	**17 36 30.1**	**-0.6**
ROC1	**El Roble**	**1.44**	**150**	*eP*		**Pg**	**17 36 12.7**	**+0.7**
ROC1				*eS*		**Sg**	**17 36 31.3**	**+0.6**
PEL	**Peldehue**	**1.73**	**145**	*eP*		**Pb**	**17 36 16.9**	**+0.3**
PEL				*eSn*		**Sn**	**17 36 36.4**	**-1.3**
PEL	**Peldehue**	**1.73**	**145**	*eP*		**Pb**	**17 36 16.9**	**+0.3**
PEL				*eS*		**Sg**	**17 36 40.0**	**0.0**
PEL	**Peldehue**	**1.73**	**145**	⇑*iP*		**Pb**	**17 36 16.9**	**+0.3**
PEL				*eS*		**Sg**	**17 36 38.9**	**-1.2**
PEL				IAML			17 36 43.6	
	comp=E,8μm,0.1s							
GO04	**Tololo Observa**	**1.81**	**31**	*ePn*		**Pn**	**17 36 17.8**	**+1.5**
GO04				*eSn*		**Sn**	**17 36 39.2**	**-0.5**
GO04	**Tololo Observa**	**1.81**	**31**	⇑*iP*		**Pb**	**17 36 17.9**	**-0.1**
GO04				*eS*		**Sb**	**17 36 42.2**	**+1.2**
GO04				IAML			17 36 51.9	
	comp=N,18μm,0.3s							
CLCH	**Cerro Calan**	**2.01**	**146**	⇑*iP*		**Pb**	**17 36 20.9**	**-0.5**
CLCH				*eS*		**Sb**	**17 36 46.1**	**-0.6**
CLCH				IAML			17 36 51.9	
	comp=E,10μm,0.3s							
FCH	**Farellones**	**2.08**	**140**	⇑*iP*		**Pb**	**17 36 22.1**	**-0.7**
FCH				*eS*		**Sb**	**17 36 48.7**	**-0.3**
FCH				IAML			17 36 54.1	
	comp=N,3μm,0.5s							
ANTU	**Antumapu**	**2.11**	**151**	*eP*		**Pb**	**17 36 22.1**	**-1.1**
ANTU				*eS*		**Sb**	**17 36 47.9**	**-1.8**
AUSP	**Uspallata**	**2.17**	**104**	*eP*		**Pg**	**17 36 26.3**	**+0.3**
RTLS	**Leoncito**	**2.20**	**92**	*eP*		**Pg**	**17 36 27.1**	**+0.7**
RTLS				IAML			17 37 00.5	
	comp=Z,2μm,0.6s							
LMEL	**Las Melosas**	**2.54**	**147**	*eP*		**Pb**	**17 36 28.6**	**-1.8**
AROD	**Rodeo**	**2.59**	**54**	*eP*		**Pg**	**17 36 33.1**	**-0.8**
ACCO	**Cerro Coronel**	**2.67**	**65**	*eP*		**Pg**	**17 36 35.1**	**-0.3**
ASAL	**Salagasta**	**2.72**	**109**	*eP*		**Pg**	**17 36 35.4**	**-1.0**
ARCO	**CERRO ARCO**	**2.73**	**115**	*eP*		**Pg**	**17 36 37.1**	**+0.5**
ARCO				IAML			17 37 20.2	
	comp=Z,1μm,0.5s							
ZON	**Zonda**	**2.73**	**87**	*eP*		**Pg**	**17 36 35.5**	**-1.3**
ACDV	**Cuesta del Vie**	**2.83**	**57**	*eP*		**Pg**	**17 36 38.5**	**-0.1**
RTCV	**Cerro Valdivia**	**2.84**	**94**	*eP*		**Pg**	**17 36 36.9**	**-2.0**
LCO	**Las Campanas**	**2.90**	**21**	*ePn*		**Pn**	**17 36 32.4**	**+1.0**
LCO				*eSn*		**Sn**	**17 37 02.7**	**-3.9**
LCO				Sn		Sn	17 37 11.8	+5.1
LCO	**Las Campanas**	**2.90**	**21**	*eP*		**Pb**	**17 36 38.1**	**+1.5**
AAGR	**Agrelo**	**2.91**	**118**	*eP*		**Pg**	**17 36 40.3**	**+0.2**
RTLL	**Cerro Villicun**	**2.93**	**83**	*eP*		**Pb**	**17 36 38.2**	**+1.1**
RTLL				IAML			17 37 28.4	
	comp=Z,1μm,0.4s							
AMOG	**MOGNA**	**3.00**	**76**	*eP*		**Pb**	**17 36 38.9**	**+0.6**
GO05	**Hualaæø**	**3.27**	**181**	*ePn*		**Pn**	**17 36 36.2**	**-0.1**
AGUA	**GUANDACOL**	**3.68**	**53**	*eP*		**Pb**	**17 36 49.0**	**-0.8**
ACAN	**Cantantal**	**4.02**	**99**	*eP*		**Pn**	**17 36 50.5**	**+3.9**
VCA	**Vinchina**	**4.36**	**48**	*eP*		**Pb**	**17 36 58.9**	**-2.6**
GO03	**Copiap**	**4.36**	**20**	*ePn*		**Pn**	**17 36 52.6**	**+1.2**
APLL	**PUNTA DE LOS L**	**4.78**	**75**	*eP*		**Pb**	**17 37 04.2**	**-4.4**
GO06	**Curarrehue**	**7.84**	**178**	*ePn*		**Pn**	**17 37 40.9**	**+1.7**
PLCA	**Paso Flores**	**9.05**	**174**	P		**Pn**	**17 37 57.2**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=9.6,slow=13,SNR=25							
PLCA				LR		LR	17 41 37.3	
	comp=Z,267nm,20.8s,baz=8.0,slow=39							
LVC	**Limon Verde**	**9.46**	**17**	*ePn*		**Pn**	**17 37 59.5**	**-2.1**
TRQA	**Tornquist**	**10.29**	**131**	*ePn*		**Pn**	**17 38 14.8**	**+2.3**
PB01	**IPOC Station P**	**10.86**	**12**	*ePn*		**Pn**	**17 38 16.7**	**-3.8**
CPUP	**Villa Florida**	**13.81**	**71**	P		**Pn**	**17 39 03.4**	**+2.6**
	comp=Z,0.3nm,0.3s,baz=236,slow=12,SNR=5.8							
CPUP				S		**Sn**	**17 41 34.7**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=174,slow=12,SNR=3.1							
CPUP				LR		LR	17 44 16.4	
	comp=Z,95nm,21.3s,baz=238,slow=37							
SAML	**Samuel**	**24.07**	**21**	*eP*		**P**	**17 41 00.4**	**-0.2**
BDFB	**Brasilia**	**27.00**	**59**	P		**P**	**17 41 26.4**	**-1.0**
	comp=Z,9.0nm,0.9s,baz=221,slow=7.7,SNR=8.9							
BDFB				LR		LR	17 53 12.2	
	comp=Z,222nm,21.5s,baz=216,slow=39							
SNAA	**Sanae**	**53.63**	**158**	LR		LR	18 06 24.7	
	comp=Z,45nm,19.6s,baz=7.0,slow=34							
LTX	**Lajitas**	**67.83**	**330**	*eP*		**P**	**17 46 44.4**	**+0.9**
TXAR	**Lajitas Array**	**67.83**	**330**	P		**P**	**17 46 44.4**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=157,slow=7.8,SNR=3.6							
LIC	**Lamto**	**73.94**	**72**	*eP*		**P**	**17 47 20.8**	**-0.1**
	comp=Z,40nm,1.3s							
TIC	**Toumodi**	**74.19**	**72**	*eP*		**P**	**17 47 22.3**	**-0.1**
KIC	**Kosan Boka**	**74.25**	**72**	*eP*		**P**	**17 47 22.6**	**-0.2**
	comp=Z,20nm,0.9s							
DBIC	**Dimbokro**	**74.33**	**72**	P		**P**	**17 47 22.1**	**-1.1**
	comp=Z,3.9nm,0.6s,baz=194,slow=4.3,SNR=7.5							
MAW	**Mawson**	**75.31**	**164**	P		**P**	**17 47 27.2**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=227,slow=5.7,SNR=5.4							
MAW				LR		LR	18 20 30.1	
	comp=Z,49nm,18.9s,baz=238,slow=36							
BOSA	**Boshof**	**81.01**	**118**	P		**P**	**17 48 00.7**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=234,slow=7.0,SNR=6.2							
BOSA				LR		LR	18 20 31.7	
	comp=Z,26nm,18.4s,baz=260,slow=33							
NVAR	**Mina Array Bea**	**82.11**	**325**	P		**P**	**17 48 07.5**	**+1.4**
	comp=Z,0.1nm,0.5s,baz=182,slow=5.5,SNR=3.7							
TORD	**Torodi Ar. Bea**	**83.31**	**70**	P		**P**	**17 48 12.1**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=256,slow=4.1,SNR=17							
TOA1	**Torodi Ar. Sit**	**83.31**	**70**	*eP*		**P**	**17 48 12.1**	**-0.5**
ASAR	**Alice Springs**	**119.64**	**207**	PKP		**PKPdf**	**17 54 35.0**	**-0.9**
	comp=Z,0.3nm,0.

comp=E,229μm,0.6s
KSL AML AML 17 38 07.5
comp=N,160μm,0.5s
KSL Kastellorizon 1.57 274 P **Pb** **17 37 30.5 -0.7**
KSL S **Sb** **17 37 51.2 +0.6**
OREN Orenkoy-Mersin 1.57 84 PN **Pn** **17 37 30.2 +0.6**
TEVE Tevekalti-Mers 1.60 76 PN **Pn** **17 37 30.7 +0.7**
AKK1 Akkuyu-Mersin 1.64 87 PN **Pn** **17 37 31.1 +0.7**
AKK2 Akkuyu-Mersin 1.64 87 PN **Pn** **17 37 31.3 +0.8**
MAMC Mammari 1.64 122 P **Pb** **17 37 32.0 -0.4**
baz=304
AKKU Akkuyu-Mersin 1.65 86 PN **Pb** **17 37 31.5 -1.0**
YESI Yesilovacik-Me 1.72 85 PN **Pn** **17 37 32.6 +1.0**
IKL Isikli 1.76 84 PN **Pn** **17 37 32.9 +0.8**
KEBE Keben-Mersin 1.81 77 PN **Pn** **17 37 33.7 +0.8**
LFK Lefkose 1.81 115 PN **Pn** **17 37 33.9 +0.9**
CSS Mathiatis 1.84 126 PN **Pn** **17 37 32.0 -1.3**
CSS Mathiatis 1.84 126 P **Pn** **17 37 32.8 -0.5**
CSS S **Sn** **17 37 54.2 -1.7**
CSS Mathiatis 1.84 126 Pn **Pn** **17 37 33.0 -0.3**
AKIN Ak¯nc¯–lar- K 1.90 123 PN **Pn** **17 37 33.9 -0.2**
ISP Isparta 1.93 336 PN **Pn** **17 37 33.8 -0.8**
ISP Isparta 1.93 336 P **Pn** **17 37 34.7 +0.1**
ISP S **Sn** **17 37 57.8 -0.5**
GOLH Golhisar 1.96 307 *i* P **Pb** **17 37 37.4 -0.6**
KONT Konya--Tatoy 2.00 19 PN **Pn** **17 37 36.3 +0.9**
KONT Konya--Tatoy 2.00 19 *i* P **Pn** **17 37 36.1 +0.7**
BRDR BURDUR-Merkez 2.01 325 *i* P **Pn** **17 37 36.9 +1.3**
BRDR *i* S **Sn** **17 37 59.4 -0.7**
BAGO Egridir - ISPA 2.01 343 *i* P **Pn** **17 37 36.0 +0.3**
FETY Fethiye 2.05 287 PN **Pn** **17 37 37.1 +0.9**
FETY Fethiye 2.05 287 P **Pn** **17 37 37.2 +1.0**
FETY S **Sn** **17 38 02.0 +0.9**
KIZK Mersin 2.16 78 PN **Pn** **17 37 38.8 +1.2**
EREN Erenkoy 2.22 103 PN **Pn** **17 37 39.9 +1.5**
LADK Ladik-KONYA 2.24 17 PN **Pn** **17 37 39.4 +0.6**
DALY Dalyan (Mu¯la 2.43 289 PN **Pn** **17 37 42.1 +0.7**
DALY Dalyan (Mu¯la 2.43 289 *i* P **Pn** **17 37 42.0 +0.7**
TURN Turunc 2.49 290 PN **Pb** **17 37 46.5 -0.4**
TURN Turunc 2.49 290 *i* P **Pb** **17 37 46.4 -0.4**
KDHN Kadinhani 2.50 11 *i* P **Pn** **17 37 42.7 +0.2**
MERS Mersin 2.55 71 PN **Pn** **17 37 44.3 +1.2**
DENT Denizli 2.61 311 PN **Pn** **17 37 44.8 +0.9**
SULT Sultanhani-AKS 2.66 36 PN **Pn** **17 37 45.4 +0.8**
CHBY Cihanbeyli 2.74 23 PN **Pn** **17 37 46.6 +0.9**
ARG Arkhangelos 2.75 274 PN **Pn** **17 37 44.3 -1.5**
ARG Arkhangelos 2.75 274 P **Pn** **17 37 45.0 -0.8**
ARG S **Sn** **17 38 17.8 -0.6**
ARG Arkhangelos 2.75 274 P **Pn** **17 37 46.3 +0.5**
ARG S **Sn** **17 38 19.1 +0.7**
MRSB Marmaris-Mugla 2.76 285 PN **Pn** **17 37 46.2 +0.3**
KHL Karahalli 2.76 325 PN **Pn** **17 37 46.8 +0.8**
KHAL Karahalli 2.82 325 *i* P **Pn** **17 37 47.2 +0.4**
KIZT Kizilcal 2.83 6 PN **Pn** **17 37 46.9 0.0**
KRTS Karatas 3.15 80 PN **Pn** **17 37 52.5 +1.2**
KRTD Karatas-Adana 3.19 79 PN **Pn** **17 37 52.9 +1.1**
KULU Kulu 3.20 21 PN **Pn** **17 37 52.9 +0.9**
AYDN Tasoluk 3.33 300 *i* P **Pn** **17 37 53.8 0.0**
SVRH Sivrihisar-ESK 3.38 0 PN **Pn** **17 37 55.4 +0.9**
YAYX Yaylak 3.40 32 PN **Pn** **17 37 55.9 +1.1**
YURE YUREGIR 3.40 76 PN **Pn** **17 37 55.1 +0.4**
BODT Bodrum 3.53 288 P **Pn** **17 37 56.9 +0.3**
BODT S **Sn** **17 38 37.8 +0.1**
KARP Karpathos 3.58 263 P **Pn** **17 37 58.1 +0.8**
KARP AML AML 17 38 40.0
comp=N,683μm,0.3s
KARP AML AML 17 38 42.4
comp=E,495μm,0.2s
KARP Karpathos 3.58 263 P **Pn** **17 37 58.0 +0.8**
KARP S **Sn** **17 38 39.7 +0.7**
AFSR Af¯ar-Bala (A 3.59 20 PN **Pn** **17 37 58.5 +1.0**
KAMT Kaman 3.73 27 PN **Pn** **17 38 00.6 +1.3**
KOZT Kozan 3.73 66 PN **Pn** **17 37 58.0 -1.3**
TAHT Tahtakopru-Hat 3.78 84 PN **Pn** **17 38 00.9 +0.9**
HWQ Hawqa 4.04 115 *eP* **Pn** **17 38 05.6 +2.0**
DQRL Deir Qamar 4.08 124 *eP* **Pn** **17 38 06.0 +2.0**
SMG Samos 4.10 295 P **Pn** **17 38 04.8 +0.5**
HNTI Hanita 4.23 134 Pn **Pn** **17 38 07.9 +1.7**
HNTI Sn **Sn** **17 38 52.9 -2.1**
SHBL Chebaa 4.41 127 *eP* **Pn** **17 38 10.0 +1.3**
MMA0B Mount Meron ar 4.42 132 Pn **Pn** **17 38 10.1 +1.3**
MMA0B Sn **Sn** **17 38 57.9 -1.7**
ZKR Zakros 4.43 259 P **Pn** **17 38 10.0 +1.1**
ZKR AML AML 17 39 03.5
comp=E,157μm,0.4s
ZKR AML AML 17 39 04.0
comp=N,63μm,0.3s
ZKR Zakros 4.43 259 P **Pn** **17 38 09.7 +0.9**
ZKR S **Sn** **17 39 00.7 +1.0**
KSDI Kefar Szold 4.45 129 Pn **Pn** **17 38 10.5 +1.3**
KSDI Sn **Sn** **17 38 58.7 -1.7**
NATI Neve Ativ 4.46 128 Pn **Pn** **17 38 11.0 +1.8**
NATI Sn **Sn** **17 38 58.3 -2.2**
OFRI 'Ofer 4.47 139 Pn **Pn** **17 38 11.0 +1.5**
OFRI Sn **Sn** **17 38 58.2 -2.7**
KMRS Kahramanmaras 4.55 70 PN **Pn** **17 38 10.2 -0.4**
AMGA Amorgos Island 4.60 281 P **Pn** **17 38 08.7 -2.5**
ANAF Anafi Island 4.66 275 P **Pn** **17 38 11.1 -0.9**
ANAF AML AML 17 39 03.9
comp=E,411μm,0.3s
ANAF AML AML 17 39 04.3
comp=N,529μm,0.3s
ANAF Anafi Island 4.66 275 P **Pn** **17 38 12.4 +0.4**
ANAF S **Sn** **17 39 05.6 +0.1**
GAZ Gaziantep 4.71 75 PN **Pn** **17 38 12.1 -0.7**
MMLI Mount Malkishu 4.85 137 PN **Pn** **17 38 13.6 -1.1**
MMLI Mount Malkishu 4.85 137 Pn **Pn** **17 38 15.9 +1.2**
MMLI Sn **Sn** **17 39 08.4 -1.8**
NPS Neapolis 4.88 262 P **Pn** **17 38 16.2 +1.2**
CHOS Chios island 4.94 300 P **Pn** **17 38 16.1 +0.2**
CHOS S **Sn** **17 39 13.5 +1.0**
LAST Lasithi 5.00 261 P **Pn** **17 38 18.1 +1.3**
HMDT Nahal Hemdat 5.05 138 Pn **Pn** **17 38 18.9 +1.6**
HMDT Sn **Sn** **17 39 13.3 -1.7**
AMAZ Amatzia 5.33 147 Pn **Pn** **17 38 22.3 +1.0**
DSI Dead Sea 5.51 143 Pn **Pn** **17 38 25.1 +1.3**
YTIR Yattir 5.56 146 Pn **Pn** **17 38 26.0 +1.5**
GHAJ Ghor Haditha 5.82 143 Pn **Pn** **17 38 29.4 +1.4**
IMMV Iera Moni Meta 6.16 267 P **Pn** **17 38 33.9 +1.3**
PRNI Paran 6.40 152 Pn **Pn** **17 38 37.6 +1.6**
PRNI Sn **Sn** **17 39 46.0 -2.4**
HRFI Mount Harif 6.70 153 Pn **Pn** **17 38 41.5 +1.5**
HRFI Sn **Sn** **17 39 53.3 -2.4**
MBRI Mt Berech 6.87 155 Pn **Pn** **17 38 43.0 +0.5**
MBRI Sn **Sn** **17 39 57.9 -2.2**
EIL Elat 7.00 155 Pn **Pn** **17 38 44.9 +0.8**
EIL Sn **Sn** **17 40 00.2 -2.9**

*IDC **04** 17:56:21.2±1.4,31°.60S×71°.74W,h0km,mb4.1/4, mb1 3.8/7,mb1mx3.7/24,mbtmpb3.8/7,ML3.5/3,MS3.4/2, Ms1 3.4/2,ms1mx2.8/18,Error ellipse: s-maj=44.8km s-min=25.2km az=115.0*
*SJA **04** 17:56:24.5±0.8,31°.90S×72°.22W,h61km±17km,ML4.1, MW4.1*
*GUC **04** 17:56:25.5±0.5,31°.76S×71°.85W,h36km±3km,ML3.8*
ISC 04 17:56:24.0±2.0,**31°.63S**±0°.05×**71°.98W**±0°.09,**h26**km±13km, **n35**,σ1°**40**/40,**mb4.0**/4,**3C**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMCH	**Combarbala**	**0.96**	**62**	⇑*i*	*iP*	**Pb**	**17 56 42.6**	**+0.7**
CMCH				*eS*		**Sb**	**17 56 55.5**	**+1.2**
ROCH	**El Roble**	**1.57**	**149**	*eP*		**Pn**	**17 56 50.2**	**-0.2**
ROCH				*eS*		**Sn**	**17 57 09.4**	**-0.6**
ROCH				IAML			17 57 14.4	
	comp=E,2μm,0.4s							
ROC1	**El Roble**	**1.57**	**149**	*eP*		**Pn**	**17 56 50.4**	**0.0**
ROC1				*eS*		**Sn**	**17 57 10.3**	**+0.2**
GO04	**Tololo Observa**	**1.77**	**35**	⇑*i*	*iP*	**Pb**	**17 56 55.3**	**-0.7**
GO04				*eS*		**Sb**	**17 57 19.1**	**+1.2**
PEL	**Peldehue**	**1.87**	**144**	*eP*		**Pn**	**17 56 54.5**	**+0.1**
PEL				*eS*		**Sn**	**17 57 16.8**	**-0.3**
PEL				IAML			17 57 23.4	
	comp=E,2μm,0.6s							
CLCH	**Cerro Calan**	**2.14**	**146**	⇑*i*	*iP*	**Pn**	**17 56 58.6**	**+0.5**
CLCH				*eS*		**Sn**	**17 57 23.8**	**-0.1**
FCH	**Farellones**	**2.22**	**140**	*eP*		**Pn**	**17 56 59.9**	**+0.5**
FCH				*eS*		**Sn**	**17 57 26.2**	**+0.1**
ANTU	**Antumapu**	**2.24**	**150**	*eP*		**Pn**	**17 57 00.4**	**+0.9**
AUSP	**Uspallata**	**2.29**	**106**	*eP*		**Pb**	**17 57 04.9**	**+0.2**
AUSP				*eS*		**Sb**	**17 57 33.9**	**+1.2**
RTLS	**Leoncito**	**2.30**	**95**	*eP*		**Pb**	**17 57 04.7**	**-0.2**
RTLS				IAML			17 57 35.7	
	comp=Z,993nm,0.3s							
AROD	**Rodeo**	**2.60**	**57**	*eP*		**Pb**	**17 57 09.9**	**-0.3**
LMEL	**Las Melosas**	**2.67**	**146**	*eP*		**Pn**	**17 57 06.4**	**+0.9**
LMEL				IAML			17 57 51.7	
	comp=N,842nm,0.4s							
ACCO	**Cerro Coronel**	**2.71**	**68**	*eP*		**Pb**	**17 57 12.7**	**+0.7**
ZON	**Zonda**	**2.82**	**89**	*eP*		**Pb**	**17 57 13.0**	**-0.8**
ASAL	**Salagasta**	**2.84**	**111**	*eP*		**Pb**	**17 57 13.4**	**-0.6**
ARCO	**CERRO ARCO**	**2.85**	**116**	*eP*		**Pb**	**17 57 15.1**	**+0.7**
ARCO				IAML			17 58 00.6	
	comp=Z,441nm,0.4s							
RTCV	**Cerro Valdivia**	**2.94**	**95**	*eP*		**Pb**	**17 57 13.4**	**-2.4**
RTLL	**Cerro Villicun**	**3.01**	**85**	*eP*		**Pb**	**17 57 15.7**	**-1.3**
RTLL				IAML			17 58 01.9	
	comp=Z,308nm,0.4s							
AAGR	**Agrelo**	**3.04**	**119**	*eP*		**Pb**	**17 57 16.8**	**-0.7**
AMOG	**MOGNA**	**3.07**	**78**	*eP*		**Pb**	**17 57 16.6**	**-1.3**
AGUA	**GUANDACOL**	**3.69**	**56**	*eP*		**Pb**	**17 57 26.1**	**-2.5**
ACAN	**Cantantal**	**4.13**	**100**	*eP*		**Pn**	**17 57 29.8**	**+4.4**
VCA	**Vinchina**	**4.36**	**50**	*eP*		Pb	17 57 35.1	-4.9
VCA				IAML			17 58 45.5	
	comp=Z,304nm,0.4s							
APLL	**PUNTA DE LOS L**	**4.84**	**77**	*eP*		Pn	17 57 40.1	+4.8
ACLC	**CERRO LA CRUZ**	**4.87**	**64**	*eP*		Pn	17 57 41.6	+5.9
PLCA	**Paso Flores**	**9.16**	**173**	Pn		**Pn**	**17 58 34.6**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=352,slow=13,SNR=5.3							
CPUP	**Villa Florida**	**13.87**	**71**	Pn		**Pn**	**17 59 35.7**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=278,slow=13,SNR=1.8							
CPUP				Sn		**Sn**	**18 02 09.3**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=235,slow=15,SNR=2.5							
CPUP				LR		LR	18 05 25.9	
	comp=Z,115nm,21.4s,baz=216,slow=40							
LPAZ	**La Paz**	**15.67**	**14**	Pn		**Pn**	**18 00 03.5**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=180,slow=7.1,SNR=4.1							
BDFB	**Brasilia**	**27.03**	**59**	P		**P**	**18 02 04.5**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=216,slow=16,SNR=3.3							
SNAA	**Sanae**	**53.76**	**158**	P		**P**	**18 05 45.2**	**+1.5**
	comp=Z,0.8nm,0.7s,baz=291,slow=8.6,SNR=3.8							
VNDA	**Vanda**	**66.43**	**191**	LR		LR	18 33 12.4	
	comp=Z,35nm,18.2s,baz=152,slow=33							
DBIC	**Dimbokro**	**74.39**	**72**	P		**P**	**18 08 00.3**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=219,slow=6.9,SNR=3.7							
TORD	**Torodi Ar. Bea**	**83.36**	**70**	P		**P**	**18 08 48.4**	**-0.8**
	comp=Z,1.3nm,0.9s,baz=250,slow=4.3,SNR=6.9							
WRA	**Warramunga Arr**	**122.84**	**210**	PKP		**PKPdf**	**18 15 19.1**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=162,slow=1.4,SNR=3.1							
ZALV	**Zalesovo Beam**	**152.18**	**30**	PKPbc		**PKPbc**	**18 16 18.6**	**+2.0**
	comp=Z,1.9nm,0.5s,baz=312,slow=3.9,SNR=9.0							

*IDC **04** 18:24:24.2±1.5,40°.25N×50°.20E,h0km,mb3.9/6, mb1 3.9/13,mb1mx3.6/47,mbtmpb3.8/13,ML3.4/6,MS3.0/3, Ms1 3.0/3,ms1mx2.3/51,Error ellipse: s-maj=28.8km s-min=12.4km az=8.0*
*ISCJB **04** 18:24:31.4±0.4,40°.39N±0°.03×50°.54E±0°.03,h74km±4km, mb3.7/7,Error ellipse: s-maj=5.4km s-min=4.1km az=17.0*
*AZER **04** 18:24:33.1±1.7,40°.38N×50°.38E,h62km,ml3.2/25,Error ellipse: s-maj=2.7km s-min=1.5km az=260.0*
*NNC **04** 18:24:34.9±5.2,40°.64N×51°.14E,h23km±66km,mb3.8, mpv3.7,Error ellipse: s-maj=73.9km s-min=13.7km az=70.0*
ISC 04 18:24:32.2±0.7,**40°.45N**±0°.04×**50°.56E**±0°.05,**h66**km±7km, **n46**,σ1°**78**/**77**,**mb3.7**/6,**22C-27D**,**Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GALA	**Gala**	**0.31**	**264**	⇑P		**Pn**	**18 24 42.1**	**-1.0**
	SNR=14							
GALA				⇓S		**Sn**	**18 24 51.9**	**+0.9**
NDR	**Nardaran**	**0.46**	**287**	P		**Pn**	**18 24 43.8**	**-0.4**
	SNR=89							
NDR				⇑S		**Sn**	**18 24 53.9**	**+0.8**
GOBA	**Gobu**	**0.63**	**266**	⇓P		**Pn**	**18 24 47.3**	**+1.2**
	SNR=37							
GOBA				⇑S		**Sn**	**18 25 01.5**	**+5.3**
GBS	**Qobustan**	**1.24**	**275**	⇑P		**Pn**	**18 24 54.9**	**+1.3**
	SNR=56							
GBS				⇑S		**Sn**	**18 25 09.2**	**-0.5**
ALIB	**Äli-Bayra**	**1.28**	**248**	⇓P		**Pn**	**18 24 56.0**	**+1.8**
	SNR=9.0							
ALIB				⇓S		**Sn**	**18 25 10.6**	**-0.1**
ATGJ	**Altiaghaj**	**1.30**	**289**	⇑P		**Pn**	**18 24 55.4**	**+0.9**
	SNR=49							
ATGJ				⇓S		**Sn**	**18 25 11.9**	**+0.7**
SIZA	**Siyzn**	**1.41**	**297**	⇓P		**Pn**	**18 24 57.2**	**+1.3**
	SNR=68							
SIZA				⇑S		**Sn**	**18 25 14.8**	**+1.1**
PQL	**Pirkuli**	**1.54**	**284**	P		**Pn**	**18 24 58.1**	**+0.4**
	SNR=69							
PQL				⇓S		**Sn**	**18 25 18.1**	**+1.3**
QUBA	**Quba, Azerbaij**	**1.81**	**301**	⇓Pn		**Pn**	**18 25 02.1**	**+0.9**
	SNR=28							
QUBA				⇓Sn		**Sn**	**18 25 23.8**	**+0.5**
KDMR	**Kurdemir**	**1.81**	**269**	⇓Sn		**Sn**	**18 25 22.0**	**-1.3**
IML	**Ismayilli**	**1.84**	**282**	⇓Pn		**Pn**	**18 25 01.6**	**-0.1**
	SNR=8.9							
IML				⇓Sn		**Sn**	**18 25 24.3**	**+0.2**
XNQ	**Khinaliq**	**1.97**	**292**	Pn		**Pn**	**18 25 03.9**	**+0.3**
	SNR=100							
XNQ				⇓Sn		**Sn**	**18 25 27.4**	**-0.1**
QSAR	**Qusar**	**2.04**	**302**	Pn		**Pn**	**18 25 05.0**	**+0.7**
	SNR=74							
QSAR				⇓Sn		**Sn**	**18 25 29.5**	**+0.7**
GLBA	**Clilabad**	**2.06**	**235**	Pn		**Pn**	**18 25 04.0**	**-0.5**
	SNR=16							
GLBA				⇑Sn		**Sn**	**18 25 29.6**	**+0.5**
QBL	**Gabala**	**2.13**	**284**	⇓Pn		**Pn**	**18 25 06.6**	**+1.0**
QBL				⇓Sn		**Sn**	**18 25 29.9**	**-1.1**
ZRD	**Zardab**	**2.20**	**267**	⇓Pn		**Pn**	**18 25 06.3**	**-0.2**
ZRD				⇓Sn		**Sn**	**18 25 32.7**	**0.0**
LKRN	**Lenkeran, Azer**	**2.21**	**219**	⇑Pn		**Pn**	**18 25 05.9**	**-0.8**
	SNR=29							
LKRN				⇓Sn		**Sn**	**18 25 32.1**	**-0.8**
ASTR	**Astara**	**2.33**	**217**	⇓Pn		**Pn**	**18 25 07.7**	**-0.5**
	SNR=18							
ASTR				⇓Sn		**Sn**	**18 25 35.1**	**-0.6**
LRK	**Lerik**	**2.49**	**224**	⇑Pn		**Pn**	**18 25 09.6**	**-0.9**
	SNR=67							
LRK				⇓Sn		**Sn**	**18 25 38.1**	**-1.8**
SEKA	**Sheki**	**2.66**	**288**	⇑Pn		**Pn**	**18 25 13.0**	**+0.2**
	SNR=11							
SEKA				⇓Sn		**Sn**	**18 25 43.1**	**-0.9**
ZKTA	**Zakatala**	**3.21**	**293**	Pn		**Pn**	**18 25 20.3**	**+0.1**
	SNR=9.2							
ZKTA				⇑Sn		**Sn**	**18 25 58.4**	**+1.2**
GANJ	**Ganja**	**3.23**	**275**	⇓Pn		**Pn**	**18 25 19.3**	**-1.2**
	SNR=8.3							
GANJ				⇓Sn		**Sn**	**18 25 55.6**	**-2.4**
DDFL	**Dedoflistskaro**	**3.51**	**288**	P		**Pn**	**18 25 26.5**	**+2.2**
DDFL				S		**Sn**	**18 26 06.2**	**+1.5**
GDB	**GEDABAY**	**3.67**	**276**	⇑Pn		**Pn**	**18 25 25.4**	**-1.2**
	SNR=10							
GDB				⇑Sn		**Sn**	**18 26 05.8**	**-3.0**
ORD	**Ordubad**	**3.83**	**248**	⇑Pn		**Pn**	**18 25 27.7**	**-1.1**
ORD				⇓Sn		**Sn**	**18 26 12.1**	**-0.6**
QZX	**Qazax, Azerbai**	**3.99**	**281**	Pn		**Pn**	**18 25 30.0**	**-0.9**
	SNR=16							
QZX				⇑Sn		**Sn**	**18 26 15.5**	**-0.8**
DUS	**Dusheti**	**4.71**	**292**	P		**Pn**	**18 25 41.3**	**+0.6**
DUS				S		**Sn**	**18 26 33.9**	**-0.2**
GEYT	**Alibeck**	**6.39**	**111**	Pn		**Pn**	**18 26 03.1**	**-0.6**
	0.9nm,0.3s,baz=309,slow=16,SNR=22							
GEYT				⇑Sn		**Sn**	**18 27 16.8**	**+1.6**
	1.5nm,0.3s,baz=149,slow=6.2,SNR=6.1							
GYA0B	**ALIBECK ARRAY**	**6.39**	**111**	⇑Pn		**Pn**	**18 26 03.1**	**-0.6**
	2.9nm,0.4s							
GYA0B				⇑Sn		**Sn**	**18 27 12.1**	**-3.1**
	12nm,0.8s							
KBZ	**Khabaz**	**6.58**	**302**	Pn		**Pn**	**18 26 02.2**	**-3.9**
	0.1nm,0.3s,baz=100,slow=6.1,SNR=2.3							
KBZ				Sn		**Sn**	**18 27 15.9**	**-3.8**
	0.4nm,0.3s,baz=306,slow=14,SNR=4.5							
KVAR	**Kislovodsk Arr**	**6.81**	**304**	Pn		**Pn**	**18 26 07.0**	**-2.6**
	baz=269,slow=18,SNR=2.6							
KVAR				Sn		**Sn**	**18 27 19.8**	**-5.9**
	baz=168,slow=15,SNR=5.3							
AB31	**Akbulak array**	**11.04**	**34**	⇑Pn		**Pn**	**18 27 06.6**	**-0.5**
	0.3nm,0.3s,baz=206,slow=14,SNR=20							
AB31				Sn		**Sn**	**18 29 05.9**	**-2.9**
	3.3nm,0.5s,baz=320,slow=46,SNR=11							
AKTO	**Aktyubinsk**	**11.27**	**25**	Pn		**Pn**	**18 27 08.8**	**-1.6**
	0.9nm,0.3s,baz=208,slow=9.4,SNR=21							
AKTO				Sn		Sn	18 29 06.0	-8.5
	0.9nm,0.3s,baz=86,slow=19,SNR=8.1							
AKTO				LR		LR	18 32 34.9	
	comp=Z,31nm,21.3s,baz=255,slow=42							
AKTO	**Aktyubinsk**	**11.27**	**25**	⇑Pn		**Pn**	**18 27 08.2**	**-2.1**
	2.9nm,0.7s							
AKTO				⇑Sn		**Sn**	**18 29 11.0**	**-3.5**
	12nm,0.6s							
KK31	**Karatay Array**	**15.12**	**73**	⇑Pn		**Pn**	**18 28 00.3**	**-1.6**
	1.1nm,0.5s,baz=285,slow=11,SNR=16							
AAK	**Ala-Archa**	**18.04**	**75**	P		**Pn**	**18 28 40.5**	**+2.1**
	0.2nm,0.3s,baz=214,slow=3.6,SNR=2.6							
AAK				LR		LR	18 36 23.4	
	comp=Z,34nm,21.2s,baz=272,slow=39							
AKASG	**Malin Array Be**	**18.05**	**312**	P		**P**	**18 28 37.3**	**-0.6**
	4.1nm,0.3s,baz=103,slow=9.3,SNR=13							
BVAR	**Borovoye Array**	**18.44**	**40**	P		**Pn**	**18 28 45.8**	**+2.8**
	0.5nm,0.3s,baz=241,slow=10,SNR=9.2							
MK31	**Makanchi Array**	**23.72**	**64**	⇓P		**P**	**18 29 40.5**	**+2.4**
	2.1nm,0.7s,baz=262,slow=7.5,SNR=9.5							
MKAR	**Makanchi Array**	**23.72**	**64**	P		**P**	**18 29 39.6**	**+1.5**
	1.9nm,0.6s,baz=256,slow=7.7,SNR=11							
VRAC	**Vranov**	**25.47**	**302**	P		**P**	**18 29 54.0**	**+0.1**
	1.3nm,0.5s,baz=139,slow=19,SNR=3.3							
ZALV	**Zalesovo Beam**	**26.61**	**48**	P		**P**	**18 30 06.7**	**+2.6**
	0.9nm,0.5s,baz=256,slow=9.6,SNR=4.8							
NB2	**NORSAR Subarra**	**31.60**	**324**	P		**P**	**18 30 48.8**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=115,slow=8.6							
NOA	**NORSAR Array B**	**31.60**	**324**	P		**P**	**18 30 49.1**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=124,slow=9.0,SNR=10							
ARCES	**ARCESS Array B**	**32.00**	**344**	P		**P**	**18 30 53.4**	**+1.7**
	comp=Z,2.7nm,0.9s,baz=144,slow=11,SNR=6.2							
WRA	**Warramunga Arr**	**98.12**	**109**	P		Pdif	18 38 03.5	+1.6
	comp=Z,0.3nm,0.5s,baz=325,slow=3.7,SNR=6.7							
WRA				LR		LR	19 30 21.6	
	comp=Z,28nm,18.1s,baz=65,slow=40							

*IDC **04** 18:25:58.5±3.3,52°.49N×132°.97W,h0km,mb3.5/1, mb1 3.9/4,mb1mx3.4/52,mbtmpb3.5/4,ML3.7/3,Error ellipse: s-maj=43.7km s-min=9.3km az=89.0*
ISC 04 18:25:57.8±4.1,**52°.52N**±0°.10×**133°.2W**±0°.4,**h10**km,**n6**, σ0**49**/**6**,**Queen Charlotte Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H02S1	**DAWSON INLET T**	**0.81**	**33**	Pg		**Pg**	**18 26 13.5**	**0.0**
H02S1				Lg		Lg	18 26 24.3	
H02N1	**VAN INLET T-PH**	**0.83**	**29**	Pg		**Pb**	**18 26 14.4**	**0.0**
H02N1				Lg		Lg	18 26 25.2	
BBB	**Bella Bella**	**3.14**	**94**	Pn		**Pn**	**18 26 47.1**	**-0.2**
	7.7nm,0.3s,baz=280,slow=16,SNR=17							
NVAR	**Mina Array Bea**	**17.49**	**138**	P		**P**	**18 30 02.6**	**-0.5**
	0.1nm,0.3s,baz=311,slow=9.3,SNR=5.8							
PDAR	**Pinedale Array**	**18.61**	**112**	P		**Pn**	**18 30 16.2**	**+0.6**
	0.1nm,0.3s,baz=316,slow=8.3,SNR=6.7							
TXAR	**Lajitas Array**	**31.79**	**125**	P		**P**	**18 32 22.6**	**+0.2**
	0.7nm,1.1s,baz=345,slow=9.1,SNR=5.0							

*IDC **04** 18:27:14.8±0.5,52°.45N×132°.61W,h0km,mb4.1/21, mb1 4.3/29,mb1mx4.2/57,mbtmpb4.0/29,ML3.4/7,MS3.9/11, Ms1 3.9/11,ms1mx3.7/33,Error ellipse: s-maj=9.3km s-min=6.4km az=74.0*
*BJI **04** 18:27:14.4,52°.50N×132°.30W,h10km,mb4.8/23, mB5.0/16,Ms4.9/6,Ms7 4.5/5*
*PGC **04** 18:27:16.9±0.2,52°.46N×132°.42W,h9km±4km,mb4.6, ML4.5/12,Mw4.8,96km southwest of Sandspit, Bc Haida Gwaii Region*
*MOS **04** 18:27:16.4±1.0,52°.54N×132°.38W,h18km,mb4.9/31, Error ellipse: s-maj=12.5km s-min=6.2km az=113.6*
*NEIC **04** 18:27:17.1±0.3,52°.53N×132°.42W,h10km,mb4.6/51, MW4.8(OTT),Error ellipse: s-maj=9.0km s-min=2.9km az=48.0*
*ISCJB **04** 18:27:17.7±0.5,52°.57N±0°.02×132°.25W±0°.05,h23km±3km, mb4.5/79,MS4.1/8,Error ellipse: s-maj=5.9km s-min=2.3km az=144.5*
*GCMT **04** 18:27:19.1±0.3,52°.70N±0°.03×132°.73W±0°.03,h13km±1km, MW4.8/90,Moment Tensor Solution. s22,c23; s90,c130; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.00±.14; Mθθ0.10±.08; Mφφ1.90±.10; Mrθ1.37±.31; Mrφ-0.34±.05; Mθφ0.19±.19; Best double couple: M₀2.33000×10¹⁶ NP1:ϕs325.0000°,δ52.0000°,λ-125.00000°. NP2: ϕs193.00000°,δ50.00000°,λ-54.00000°. Principal axes: T 1.9630, Plg1.0000°, Azm79.0000°; N 0.7380, Plg27.0000°, Azm348.0000°; P -2.6970, Plg63.0000°, Azm171.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 04 18:27:17.7±0.7,**52°.54N**±0°.04×**132°.38W**±0°.04,**

baz=299
I03D **Drain, OR** 10.70 142 P Pn 18 29 51.3 +0.8
baz=329
I04A **Tendick Farm,** 10.98 139 P Pn 18 29 55.4 +0.9
baz=326
I05D **Terrebonne, OR** 10.99 134 P Pn 18 29 55.3 +0.7
baz=322
K02D **Willamette Mer** 11.46 146 P Pn 18 30 02.2 +1.3
baz=332
J04D **Umpqua Nationa** 11.57 139 P Pn 18 30 03.6 +1.1
baz=327
HUMO **Hull Mountain** 11.79 144 *e*Pn Pn 18 30 07.3 +1.9
J05D **Fort Rock, OR** 11.89 137 P Pn 18 30 08.0 +1.2
baz=325,SNR=10
L02E **Cave Junction** 11.96 147 P Pn 18 30 09.3 +1.5
baz=333
SCM **Sheep Creek Mo** 12.31 325 *e*Pn Pn 18 30 12.8 +0.2
SCM **Sheep Creek Mo** 12.31 325 *e*P Pn 18 30 12.8 +0.2
L04D **Klamath Falls** 12.36 143 P Pn 18 30 15.1 +1.7
baz=330
K05A **Summer Lake** 12.49 137 *e*Pn Pn 18 30 17.2 +2.1
PAX **Paxson** 12.54 332 *e*Sn Sn 18 32 33.3 -1.8
YBH **Yreka Blue Hor** 12.64 145 Pn Pn 18 30 18.5 +1.3
0.1nm,0.3s,baz=352,slow=9.6,SNR=9.1
YBH LR LR 18 34 17.3
comp=Z,608nm,18.7s,baz=328,slow=33
KDAK **Kodiak Island** 12.67 302 LR LR 18 34 03.8
comp=Z,1µm,20.3s,baz=143,slow=32
M02C **Callahan** 12.89 146 P Pn 18 30 22.5 +1.9
baz=333
M04C **Macdoel** 12.91 142 P Pn 18 30 22.8 +1.9
baz=330
RIDG **Independ'e Rid** 12.98 335 *e*Pn Pn 18 30 26.5 +4.9
EGAK **Eagle** 13.07 343 Pn Pn 18 30 24.1 +1.3
11nm,1.0s
DHY **Denali Highway** 13.20 329 *e*Pn Pn 18 30 26.4 +1.6
MSO **Missoula** 13.22 108 P Pn 18 30 25.7 +0.7
baz=302
N02D **Trinity Center** 13.32 146 P Pn 18 30 29.6 +3.3
baz=334
YKA **Yellowknife Ar** 13.75 37 Pn Pn 18 30 31.1 -0.9
0.2nm,0.3s,baz=230,slow=12,SNR=4.0
YKA LR LR 18 36 15.1
comp=Z,92nm,19.5s,baz=226,slow=39
O02D **Mt. Diablo Mer** 14.01 148 P Pn 18 30 38.2 +2.4
baz=335
EPYK **Eagle Plains** 14.04 353 P P 18 30 42.7 -1.2
baz=169
HDA **Harding Lake** 14.08 333 P P 18 30 40.6 -3.7
baz=141
O03E **Paynes Creek** 14.23 145 P P 18 30 46.2 0.0
baz=333
ILAR **Eielson Array** 14.35 334 Pn Pn 18 30 39.5 -0.7
0.1nm,0.3s,baz=158,slow=11,SNR=9.5
ILAR LR LR 18 35 51.6
comp=Z,624nm,18.8s,baz=148,slow=36
TRF **Thorofare Moun** 14.41 326 *e*Pn Pn 18 30 42.8 +1.4
COLA **College** 14.69 333 *e*Pn Pn 18 30 45.3 +0.5
14nm,0.9s
COLA **College** 14.69 333 *e*P Pn 18 30 45.3 +0.5
COLA pmax pmax
comp=Z,14nm,0.9s
PPLA **Purkeypile** 14.75 322 *e*Pn Pn 18 30 47.6 +1.8
POKR **Poker Flat Res** 14.76 334 P P 18 30 51.5 -0.4
baz=142
HLID **Hailey** 14.96 120 P Pn 18 30 49.2 +0.3
baz=313
EGMT **Eagleton** 15.13 98 P P 18 30 56.0 -0.1
baz=296
INK **Inuvik** 15.83 358 Pn P 18 31 01.8 -1.8
comp=Z,0.1nm,0.3s,baz=172,slow=10.0,SNR=4.8
INK LR LR 18 37 52.7
comp=Z,343nm,19.6s,baz=193,slow=40
BMN **Battle Mountai** 15.95 133 *e*Pn Pn 18 30 59.7 -2.0
comp=Z,24nm,1.1s
BMN **Battle Mountai** 15.95 133 *e*P Pn 18 30 59.7 -2.0
BMN pmax pmax
comp=Z,24nm,1.1s
YHH **Holmes Hill** 16.16 110 *e*Pn Pn 18 31 05.2 +0.6
comp=Z,26nm,1.3s
H17A **Grant Village** 16.55 111 P Pn 18 31 10.5 +1.0
baz=307
KVN **Kaiserville** 16.72 138 *e*Pn P 18 31 13.5 -0.5
comp=Z,18nm,1.1s
KVN **Kaiserville** 16.72 138 *e*P P 18 31 13.5 -0.5
KVN pmax pmax
comp=Z,18nm,1.1s
RLMT **Red Lodge** 16.88 107 *e*Pn Pn 18 31 13.1 -0.6
comp=Z,20nm,1.1s
RLMT **Red Lodge** 16.88 107 P P 18 31 15.5 -0.2
baz=304
NVAR **Mina Array Bea** 17.17 140 P Pn 18 31 17.6 +0.3
comp=Z,0.1nm,0.3s,baz=320,slow=11,SNR=9.6
IM3 **Indian Mountai** 17.21 330 *e*Pn P 18 31 19.9 +1.0
FFC **Flin Flon** 18.09 71 *e*Pn Pn 18 31 28.1 -0.3
comp=Z,14nm,1.0s
FFC **Flin Flon** 18.09 71 *e*P Pn 18 31 28.1 -0.3
FFC pmax pmax
comp=Z,14nm,1.0s
TOLK **Toolik Lake Re** 18.10 340 P P 18 31 30.1 +1.2
baz=145
BW06 **Boulder Array** 18.14 114 P P 18 31 31.4 +1.7
baz=310,SNR=6.6
PDAR **Pinedale Array** 18.15 114 P P 18 31 30.2 +0.5
comp=Z,0.4nm,0.3s,baz=310,slow=7.3,SNR=20
PDAR **Pinedale Array** 18.15 114 *e*Pn P 18 31 30.1 +0.4
DUG **Dugway, Tooele** 18.22 125 P Pn 18 31 29.9 -0.4
comp=Z,10nm,1.2s
DUG **Dugway, Tooele** 18.22 125 P Pn 18 31 29.9 -0.4
DUG pmax pmax
comp=Z,10.0nm,1.2s
DUG **Dugway, Tooele** 18.22 125 P P 18 31 31.1 +0.7
baz=319,SNR=5.9
R11A **Troy Canyon, C** 18.38 134 *e*P P 18 31 33.3 +1.1
comp=Z,18nm,1.3s
R11A **Troy Canyon, C** 18.38 134 P P 18 31 32.6 +0.4
baz=326,SNR=15
NLU **North Lily Min** 18.77 124 *e*P P 18 31 36.5 -0.1
comp=Z,12nm,1.3s
CWC **Cottonwood Cre** 19.00 142 P Pn 18 31 39.9 +0.1
baz=332
PSUT **Pine Spring** 19.01 130 *e*P Pn 18 31 40.2 +0.3
comp=Z,11nm,1.0s
TPNV **Topopah Spring** 19.27 138 P Pn 18 31 42.9 -0.2
baz=329,SNR=9.2
FURC **Furnace Creek,** 19.44 140 P Pn 18 31 45.8 +1.0
baz=331
ISA **Isabella, Lake** 19.55 144 P Pn 18 31 47.6 +1.4
baz=334,SNR=8.4
MPMC **Manual Prospec** 19.56 142 P Pn 18 31 46.2 -0.3
baz=332
PKM **Mcpherson Peak** 19.79 148 P Pn 18 31 50.4 +1.1
baz=337
ARVC **Arvin** 19.90 146 P Pn 18 31 53.8 +3.4
baz=335
K22A **Casper** 19.94 109 P P 18 31 48.7 -0.7
baz=309
LRMC **Laurel Mtn Rad** 20.00 143 P P 18 31 49.1 -0.8
baz=333
EDW2 **Edwards Air Fo** 20.42 144 P Pn 18 31 57.7 +1.1
baz=334
GSC **Goldstone, Bar** 20.48 141 P Pn 18 31 56.2 -1.2
baz=332,SNR=9.5
LCMT **Little Creek M** 20.53 132 *e*P Pn 18 31 56.7 -1.2
comp=Z,31nm,1.2s
RSSD **Black Hills** 20.53 103 *e*P P 18 31 55.3 -0.5
comp=Z,9.5nm,0.6s
RSSD **Black Hills** 20.53 103 *e*P P 18 31 55.3 -0.5
RSSD pmax pmax
comp=Z,10.0nm,0.6s
RSSD **Black Hills** 20.53 103 P P 18 31 56.2 +0.5
baz=304
O20A **White River Ci** 20.66 117 *e*P Pn 18 31 58.8 -0.7
comp=Z,30nm,1.4s
O20A **White River Ci** 20.66 117 P P 18 31 58.2 +1.0
baz=315
SCZ2 **Santa Cruz Isl** 20.67 149 P Pn 18 31 59.9 +0.5
baz=338
TUQ **Turquoise Moun** 20.71 139 P Pn 18 31 58.9 -1.2
baz=331
BLG **Laguna Peak, P** 20.75 147 P P 18 31 57.7 -0.3
baz=337
HEC **Hector,Ludlow** 21.08 141 P P 18 32 02.1 +0.5
baz=332,SNR=12
BFSC **Mount Baldy Ra** 21.12 144 P P 18 32 02.7 +0.7
baz=334
GMRC **Granite Mounta** 21.39 140 P P 18 32 05.0 +0.1
baz=331,SNR=7.5
MDND **Maddock** 21.39 90 P P 18 32 03.5 -1.2
baz=295
SNCC **San Nicolas Is** 21.40 149 P P 18 32 06.1 +1.2
baz=338
N23A **Red Feather La** 21.41 112 P P 18 32 05.1 -0.2
baz=312,SNR=8.1
U15A **North Rim** 21.44 131 *e*P P 18 32 06.3 +0.6
comp=Z,24nm,1.0s
PV03 **Paradox Valley** 21.71 122 *e*P P 18 32 08.7 +0.2
BELC **Belle Mtn. Jos** 21.94 141 P P 18 32 11.5 +0.5
baz=333
SCI2 **San Clemente I** 21.96 147 P P 18 32 11.0 0.0
baz=337
SMCO **Snowmass** 22.02 117 *e*P P 18 32 12.2 +0.1
comp=Z,24nm,1.0s
PFO **Pinyon Flats O** 22.11 143 P P 18 32 13.5 +0.8
baz=334
TPFO **Pinon Flats** 22.12 143 P P 18 32 13.8 +0.9
baz=334
IRM **Iron Mountain** 22.14 139 P P 18 32 13.4 +0.5
baz=331,SNR=9.1
FRD **Ford Ranch, An** 22.17 143 P P 18 32 13.9 +0.6
baz=334
ISCO **Idaho Springs** 22.34 114 P P 18 32 15.4 0.0
baz=314
PDMCI **Parker Dam,Lak** 22.42 137 P P 18 32 16.6 +0.7
baz=330
BC3 **Big Chuckawall** 22.46 141 P P 18 32 17.2 +0.7
baz=332
WUAZ **Wupatki** 22.62 131 P P 18 32 17.9 -0.3
comp=Z,17nm,1.3s
WUAZ **Wupatki** 22.62 131 P P 18 32 18.4 +0.2
baz=325
MVCO **Mesa Verde** 22.68 123 *e*P P 18 32 17.1 -1.8
comp=Z,22nm,1.2s
MVCO **Mesa Verde** 22.68 123 P P 18 32 19.4 +0.6
baz=320
ULM **Lac du Bonnet** 22.74 81 P P 18 32 18.4 -0.8
comp=Z,4.9nm,0.9s,baz=296,slow=9.2,SNR=5.6
Y12C **Blythe** 22.74 139 P P 18 32 20.2 +0.8
baz=331
MONP2 **Monument Peak** 22.77 143 P P 18 32 20.6 +0.7
baz=334
IKP **In-Ko-Pah, Jac** 23.11 143 P P 18 32 24.0 +0.8
baz=334
S22A **4UR Ranch, Cre** 23.14 120 P P 18 32 24.1 +0.3
baz=318,SNR=9.0
Q24A **Divide** 23.18 115 P P 18 32 23.7 -0.5
baz=315
AGMN **Agassiz Nation** 23.48 86 P P 18 32 26.0 -0.8
baz=294
OGNE **Ogallala** 23.62 107 P P 18 32 27.4 -1.0
baz=310
X18A **Snowflake** 24.09 130 *e*P P 18 32 33.8 +0.9
comp=Z,11nm,0.9s
KSCO **Kaye Shedlock'** 24.56 112 P P 18 32 38.2 +1.1
baz=313
T25A **Trinidad** 24.89 117 P P 18 32 41.3 +1.1
baz=317
214A **Organ Pipe Nat** 25.01 138 P P 18 32 41.4 +0.3
baz=331,SNR=7.1
ECSD **EROS Data Cent** 25.21 96 *e*P P 18 32 42.9 0.0
comp=Z,7.8nm,0.7s
ECSD **EROS Data Cent** 25.21 96 P P 18 32 42.7 -0.2
baz=303,SNR=6.6
ANMO **Albuquerque** 25.47 123 P P 18 32 45.5 0.0
comp=Z,1.1nm,0.6s,baz=334,slow=11,SNR=5.2
ANMO **Albuquerque** 25.47 123 P P 18 32 45.6 0.0
baz=322
TUC **Tucson** 25.57 134 *e*P P 18 32 47.7 +1.5
comp=Z,11nm,1.3s
TUC **Tucson** 25.57 134 *e*P P 18 32 47.7 +1.5
TUC pmax pmax
comp=Z,11nm,1.3s
TUC **Tucson** 25.57 134 P P 18 32 46.5 +0.3
baz=329
EYMN **Ely** 26.28 84 *e*P P 18 32 54.3 +1.8
comp=Z,17nm,0.8s
EYMN **Ely** 26.28 84 P P 18 32 53.8 +1.3
baz=296,SNR=7.3
RES **Resolute Bay** 26.86 21 P P 18 32 58.2 +0.8
comp=Z,2.3nm,0.7s,baz=202,slow=16,SNR=4.0
F38A **Pierce - Schro** 26.96 88 P P 18 33 02.3 +3.7
baz=299
E39A **Mellen** 27.57 86 P P 18 33 05.4 +1.3
baz=298
H39A **Augusta** 27.96 90 P P 18 33 06.7 -1.0
baz=301
AMTX **Amarillo** 28.05 117 *e*P P 18 33 08.9 +0.4
comp=Z,9.7nm,0.9s
AMTX **Amarillo** 28.05 117 P P 18 33 08.5 0.0
baz=318
J39A **Decorah** 28.42 92 P P 18 33 11.9 +0.2
baz=303
MNTX **Cornudas Mount** 28.61 126 *e*P P 18 33 13.7 +0.2
comp=Z,10nm,1.4s
MNTX **Cornudas Mount** 28.61 126 P P 18 33 13.6 +0.2
baz=325
WMOK **Wichita Mounta** 29.76 113 *e*P P 18 33 24.0 +0.3
comp=Z,6.4nm,0.9s
WMOK **Wichita Mounta** 29.76 113 *e*P P 18 33 24.0 +0.3
WMOK pmax pmax
comp=Z,6.0nm,0.9s
WMOK **Wichita Mounta** 29.76 113 P P 18 33 23.8 +0.1
baz=317,SNR=6.3
O41A **Passleys Farm,** 30.79 97 P P 18 33 32.7 -0.1
baz=308
N42A **Yates City** 30.88 95 P P 18 33 32.8 -0.7
baz=307
Q41A **Truxton** 31.31 99 P P 18 33 36.9 -0.4
baz=309,SNR=5.4
TX31 **Lajitas Ar. Si** 31.39 126 *e*P P 18 33 38.0 -0.2
TXAR **Lajitas Array** 31.39 126 P P 18 33 38.5 +0.3
comp=Z,1.7nm,0.8s,baz=331,slow=7.6,SNR=18
HHAR **Hobbs** 31.45 106 *e*P P 18 33 38.0 -0.7
comp=Z,11nm,1.5s
R41A **Rosebud** 31.64 100 P P 18 33 39.4 -0.8
baz=310,SNR=7.2
CCM **Cathedral Cave** 31.87 100 *e*P P 18 33 41.0 -1.3
CCM **Cathedral Cave** 31.87 100 *e*P P 18 33 41.0 -1.3
CCM **Cathedral Cave** 31.87 100 P P 18 33 41.3 -1.0
baz=310
S41A **Jillco Farms,** 31.88 102 P P 18 33 41.2 -1.2
baz=311
P43A **Skaggs, Pawnee** 31.91 97 P P 18 33 42.2 -0.4
baz=308
R42A **Luebbering** 32.00 100 P P 18 33 42.5 -0.9
baz=310
Q43A **New Douglas** 32.24 98 P P 18 33 46.0 +0.5
baz=309
W39A **Magazine** 32.30 107 P P 18 33 45.6 -0.4
baz=315
S42A **Caledonia** 32.33 100 P P 18 33 45.1 -1.2
baz=311
V40A **Witts Springs** 32.44 105 *e*P P 18 33 46.8 -0.5
comp=Z,6.9nm,0.9s
V40A **Witts Springs** 32.44 105 P P 18 33 46.6 -0.7
baz=314
BILL **Bilibino** 32.46 322 *e*P P 18 33 48.5 +1.4
comp=Z,14nm,1.2s
BILL **Bilibino** 32.46 322 *ce*P P 18 33 48.3 +1.2
BILL *e* 18 33 52.7
BILL pmax pmax
comp=Z,12nm,1.3s
BILL MLR MLR
comp=Z,170nm,15.0s
X39A **Fountain Ranch** 32.59 108 P P 18 33 48.5 -0.1
baz=316
U41A **Viola** 32.60 104 P P 18 33 47.9 -0.8
baz=313
Q44A **Meyer Farm, Va** 32.68 97 P P 18 33 48.9 -0.4
baz=309
V41A **Mountainview** 32.84 105 P P 18 33 49.8 -1.0
baz=313,SNR=14
MIAR **Mount Ida** 32.87 108 *e*P P 18 33 51.1 0.0
comp=Z,6.6nm,0.8s
MIAR **Mount Ida** 32.87 108 *e*P P 18 33 51.1 0.0
MIAR pmax pmax
comp=Z,7.0nm,0.8s
MIAR **Mount Ida** 32.87 108 P P 18 33 50.9 -0.2
baz=315,SNR=5.9
S43A **Fulton Ridge,** 32.89 100 P P 18 33 50.3 -0.9
baz=311
P45A **Graceland, Par** 33.06 95 *e*P P 18 33 52.7 0.0
comp=Z,19nm,0.8s
P45A **Graceland, Par** 33.06 95 P P 18 33 52.5 -0.2
baz=308,SNR=5.1
T43A **Greenville** 33.08 101 P P 18 33 52.1 -0.8
baz=312
Q45A **Warren Harvey,** 33.20 96 P P 18 33 53.3 -0.6
baz=309
S44A **Carbondale** 33.31 99 P P 18 33 53.9 -0.9
baz=311
R45A **Skylar, Fairfi** 33.51 97 P P 18 33 55.9 -0.7
baz=310
BLO **Bloomington** 34.02 95 *e*P P 18 34 01.1 0.0
comp=Z,11nm,0.6s
BLO **Bloomington** 34.02 95 *e*P P 18 34 01.1 0.0
BLO pmax pmax
comp=Z,11nm,0.6s
Q47A **Bedord North L** 34.23 95 P P 18 34 02.3 -0.5
baz=309
S46A **Don Dixon Farm** 34.24 98 P P 18 34 02.3 -0.7
baz=310
R47A **Wooly Knot Far** 34.57 96 P P 18 34 05.4 -0.4
baz=310
WCI **Wyandotte Cave** 34.76 96 *e*P P 18 34 06.8 -0.6
comp=Z,9.5nm,0.8s
WCI **Wyandotte Cave** 34.76 96 *e*P P 18 34 06.8 -0.6
WCI pmax pmax
comp=Z,9.0nm,0.8s
WCI **Wyandotte Cave** 34.76 96 P P 18 34 06.9 -0.6
baz=310
S48A **Wiedeman Farm,** 35.27 96 P P 18 34 11.1 -0.7
baz=310,SNR=11
OXF **Oxford** 35.35 103 *e*P P 18 34 11.8 -0.8
comp=Z,35nm,1.0s
OXF **Oxford** 35.35 103 *e*P P 18 34 11.8 -0.8
OXF pmax pmax
comp=Z,35nm,1.0s
OXF **Oxford** 35.35 103 P P 18 34 11.7 -0.9
baz=314
T48A **Bowling Green** 35.41 97 P P 18 34 12.3 -0.8
baz=311
PLAL **Pickwick Lake** 35.82 102 *e*P P 18 34 15.6 -1.0
comp=Z,12nm,1.1s
Y46A **Houston** 36.12 104 P P 18 34 18.2 -0.9
baz=315
U49A **Red Boiling Sp** 36.18 97 P P 18 34 19.0 -0.6
baz=311
244A **Avery, Jackson** 36.35 108 P P 18 34 21.5 +0.3
baz=317
T50A **Nancy** 36.42 96 P P 18 34 21.1 -0.6
baz=311
X48A **Hartselle** 36.80 101 *e*P P 18 34 23.8 -1.2
comp=Z,5.0nm,0.9s
X48A **Hartselle** 36.80 101 P P 18 34 23.8 -1.2
baz=314
U50A **Jamestown** 36.81 97 P P 18 34 24.5 -0.6
baz=311,SNR=7.3
T51A **Gray** 36.99 95 P P 18 34 26.0 -0.7
baz=311
W50A **Signal Mountai** 37.34 99 P P 18 34 28.7 -0.9
baz=313
TZTN **Tazewell** 37.51 95 P P 18 34 30.4 -0.7
baz=311
X50B **Fort Payne** 37.63 100 P P 18 34 31.1 -1.0
baz=313
CPCT **Cooper Cave** 37.65 98 *e*P P 18 34 31.6 -0.6
comp=Z,8.2nm,0.7s
V52A **Sevierville** 37.95 96 *e*P P 18 34 34.2 -0.5
comp=Z,5nm,0.6s
V52A **Sevierville** 37.95 96 P P 18 34 34.3 -0.4
baz=312,SNR=6.8
TKL **Tuckaleechee C** 37.96 97 *e*P P 18 34 34.3 -0.5
comp=Z,9.3nm,0.9s
TKL **Tuckaleechee C** 37.96 97 *e*P P 18 34 34.3 -0.5
TKL pmax pmax
comp=Z,9.0nm,0.9s
X51A **Calhoun** 38.04 99 *e*P P 18 34 35.2 -0.3
comp=Z,20nm,0.8s
X51A **Calhoun** 38.04 99 P P 18 34 34.9 -0.6
baz=313,SNR=5.3
W52A **Murphy** 38.24 98 *e*P P 18 34 36.6 -0.7
comp=Z,20nm,0.9s
W52A **Murphy** 38.24 98 P P 18 34 36.6 -0.7
baz=312,SNR=7.1
149A **Jones** 38.25 103 P P 18 34 36.6 -0.7
baz=315
V53A **Saluda** 38.54 96 *e*P P 18 34 39.7 0.0
comp=Z,11nm,1.0s
V53A **Saluda** 38.54 96 P P 18 34 39.0 -0.7
baz=312
X52A **Dahlonega** 38.60 98 P P 18 34 39.6 -0.6
baz=313
W53A **Cullowhee** 38.66 97 P P 18 34 40.1 -0.7
baz=312,SNR=7.1
150A **Eclectic** 38.70 102 P P 18 34 40.5 -0.5
baz=315
BG3 **Lake Jocassee** 38.91 97 *e*P P 18 34 43.0 +0.1
comp=Z,9.3nm,0.8s
250A **Grady** 39.00 103 *e*P P 18 34 43.2 -0.4
comp=Z,12nm,0.6s
Y52A **Lilburn** 39.00 99 P P 18 34 43.1 -0.4
baz=314
X53A **Estanollee** 39.02 98 P P 18 34 43.5 -0.3
baz=313
SEY **Seymchan** 39.17 316⇓ *e*P P 18 34 44.7 +0.1
Z52A **Williamson** 39.25 100 P P 18 34 45.0 -0.7
baz=314
GOGA **Godfrey** 39.67 99 P P 18 34 48.6 -0.6
baz=314
Y54A **Tignall** 39.83 98 P P 18 34 49.9 -0.6
baz=314,SNR=6.0
PETK **Petropavlovsk-** 40.70 300 P P 18 34 57.4 -0.1
comp=Z,3.7nm,0.7s,baz=67,slow=12,SNR=4.0
SUMG **Summit** 42.06 27 *i* P P 18 35 15.6 +6.7
comp=Z,24nm,0.9s
SUMG **Summit** 42.06 27 *i* P P 18 35 15.6 +6.7
SUMG pmax pmax
comp=Z,24nm,0.9s
TIXI **Tiksi** 43.81 333⇑ *e*P P 18 35 26.2 +3.6
TIXI pmax pmax
comp=Z,1.0nm,0.8s
DAG **Danmarks Havn** 44.44 18 *i* P P 18 35 27.9 +0.3
DAG **Danmarks Havn** 44.44 18 *i* P P 18 35 27.9 +0.3
KBS **Kingsbay** 47.08 9⇑ *e*P P 18 35 56.0 +7.6
YAK **Yakutsk** 48.81 322 *e*P P 18 36 02.1 +0.1
comp=Z,26nm,1.0s
YAK **Yakutsk** 48.81 322 *e*P P 18 36 01.0 -1.0
YAK *e**PP sP 18 36 07.4 -0.6
YAK *e* 18 37 30.3
YAK *e*S S 18 42 59.2 -5.1
YAK pmax pmax
comp=Z,4.0nm,0.7s
YAK pmax pmax
comp=Z,11nm,0.9s
YAK smax smax
comp=N,85nm,3.1s
YAK smax smax
comp=E,59nm,2.2s
YAK MLR MLR
comp=Z,203nm,18.0s
YAK MLR MLR
comp=E,93nm,16.0s
YAK MLR MLR
comp=N,180nm,18.0s
GRNR **Gornyy** 52.88 307 *e*P P 18 36 32.3 -0.5
NRIK **Noril'sk** 54.97 344 LR LR 19 03 02.9
comp=N,50nm,18.8s,baz=21,slow=39
KLR **Kul'dur** 56.15 308⇓ *e*P P 18 36 56.4 -0.2
H11N2 **WAKE ISLAND Hy** 56.83 259 T T 19 39 02.7
baz=39,slow=76,SNR=450
H11N3 **WAKE ISLAND Hy** 56.84 259 T T 19 39 02.9
baz=39,slow=76,SNR=401
H11N1 **WAKE ISLAND Hy** 56.85 259 T T 19 39 04.0
baz=39,slow=76,SNR=348
BOD **Bodaibo** 57.46 324 *e*P P 18 37 03.0 -2.7
BOD pmax pmax
comp=Z,9.0nm,1.6s
H11S1 **WAKE ISLAND Hy** 57.89 258 T T 19 40 20.2
baz=32
H11S2 **WAKE ISLAND Hy** 57.90 258 T T 19 40 22.8
baz=32,slow=74
H11S3 **WAKE ISLAND Hy** 57.91 258 T T 19 40 18.3
baz=32,slow=74
USRK **Ussuriysk Ar.** 59.54 304 P P 18 37 18.9 -1.5
comp=Z,3.1nm,0.8s,baz=45,slow=6.0,SNR=7.2
TAOE **Nuku Hiva Isla** 61.51 189 *e*LR LR 18 55 38.6
comp=Z,68nm,27.1s
MAJO **Matsushiro** 61.68 294⇑ *e*P P 18 37 33.7 -1.4
MAJO pmax pmax
comp=Z,11nm,1.9s
MJAR **Matsushiro Arr** 61.68 294 P P 18 37 33.1 -2.1
comp=Z,0.3nm,0.3s,baz=13,slow=4.8,SNR=3.3

NC204	**NORSAR Array S**	**62.79**	**19**	*e*P		**P**	**18 37 43.0**	**+0.7**
NC303	**NORSAR Array S**	**62.96**	**19**	*e*P		**P**	**18 37 44.2**	**+0.9**
NB2	**NORSAR Subarra**	**63.10**	**19**	P		**P**	**18 37 43.8**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=335,slow=6.9							
NOA	**NORSAR Array B**	**63.10**	**19**	P		**P**	**18 37 44.2**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=338,slow=6.6,SNR=12							
KSRS	**Korea Array**	**66.57**	**301**	P		**P**	**18 38 06.8**	**-0.4**
	comp=Z,1.8nm,0.9s,baz=72,slow=27,SNR=3.3							
KSAR	**Wonju Array Be**	**66.60**	**301**	P		**P**	**18 38 06.8**	**-0.6**
KSAR	**Wonju Array Be**	**66.60**	**301**	P		**P**	**18 38 06.8**	**-0.6**
ULN	**Ulaanbaatar**	**67.90**	**321**	*ce*P		**P**	**18 38 15.3**	**-0.4**
ULN				pmax	pmax			
	comp=Z,6.0nm,2.5s							
VSU	**Vasula**	**68.06**	**12**	*e*P		**P**	**18 38 16.5**	**+0.3**
VSU				IAmb	IAmb		18 38 23.3	
	comp=Z,31nm,0.8s							
VSU	**Vasula**	**68.06**	**12**⇑	*e*P		P	18 38 21.5	+5.3
VSU				pmax	pmax			
	comp=Z,28nm,0.9s							
SONA1	**Songino Array**	**68.16**	**322**	*e*P		**P**	**18 38 17.2**	**-0.1**
SONM	**Songino Array**	**68.17**	**322**	P		**P**	**18 38 16.7**	**-0.7**
	comp=Z,1.8nm,1.1s,baz=20,slow=4.7,SNR=7.0							
JNU	**Nakatsue**	**68.26**	**296**	LR		LR	19 05 29.4	
	comp=Z,104nm,19.7s,baz=115,slow=34							
PMOR	**Pomariorio Ree**	**68.59**	**196**	*e*T		T	19 53 17.0	
	comp=Z,9.7nm,0.3s							
OTAV	**Otavalo**	**68.72**	**120**	*e*P		**P**	**18 38 22.3**	**+0.8**
	comp=Z,6.0nm,1.3s							
OTAV	**Otavalo**	**68.72**	**120**	*ce*P		**P**	**18 38 22.9**	**+1.3**
OTAV				pmax	pmax			
	comp=Z,4.0nm,1.0s							
ZAA0	**Zalesovo Array**	**69.45**	**338**	*e*P		**P**	**18 38 24.1**	**-0.9**
	comp=Z,3.0nm,1.0s							
ZALV	**Zalesovo Beam**	**69.45**	**338**	P		**P**	**18 38 24.2**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=18,slow=5.5,SNR=7.5							
ZALV	**Zalesovo Beam**	**69.45**	**338**	*ce*P		P	18 38 30.3	+5.3
SVE	**Sverdlovsk**	**70.47**	**352**	*e*P		**P**	**18 38 31.5**	**+0.2**
SVE				pmax	pmax			
	comp=Z,10.0nm,1.0s							
ISAL	**Salakas**	**70.80**	**13**	*e*P		**P**	**18 38 33.9**	**+0.7**
ARU	**Arti**	**71.02**	**354**	*e*P		**P**	**18 38 32.1**	**-2.5**
	comp=Z,12nm,1.1s							
ARU	**Arti**	**71.02**	**354**	*c i*P		**P**	**18 38 34.8**	**+0.2**
ARU							18 38 53.2	
ARU							18 41 10.4	
ARU				S		**S**	**18 47 51.8**	**+2.0**
ARU				SS		**SS**	**18 52 20.4**	**-1.2**
ARU				pmax	pmax			
	comp=Z,9.0nm,1.7s							
IIGN	**Ignalina**	**71.02**	**13**	*e*P		**P**	**18 38 35.3**	**+0.7**
IIGN				IAmb	IAmb		18 38 41.0	
	comp=Z,4.3nm,0.8s							
IDID	**Didziasalis**	**71.13**	**12**	*e*P		**P**	**18 38 35.7**	**+0.4**
IDID				IAmb	IAmb		18 38 42.3	
	comp=Z,4.9nm,0.8s							
TIAR	**Tiarei**	**71.34**	**197**	*e*T		T	19 56 43.5	
	comp=Z,3.5nm,0.2s							
PPT2	**Papeete2**	**71.42**	**197**	*e*LR		LR	19 00 07.0	
	comp=Z,100nm,29.2s							
PPT2	**Papeete2**	**71.42**	**197**	*e*T		T	19 56 48.6	
	comp=Z,2.1nm,0.2s							
HHC	**Hu-ho-hao-te**	**71.80**	**314**	*e*P		**P**	**18 38 39.1**	**-0.6**
OBN	**Obninsk**	**72.32**	**7**⇓	*e*P		P	18 38 48.3	+5.9
OBN				pmax	pmax			
	comp=Z,18nm,1.3s							
OBN				MLR	MLR			
	comp=Z,63nm,15.0s							
CLL	**Collm**	**72.49**	**22**	*e*P		P	18 38 50.0	+6.5
CLL	**Collm**	**72.49**	**22**	*e*P		P	18 38 50.0	+6.5
BRVK	**Borovoye**	**73.08**	**346**⇓	*e*P		**P**	**18 38 51.2**	**+4.2**
BRVK				pmax	pmax			
	comp=Z,26nm,1.7s							
BRG	**Berggiesshubel**	**73.11**	**22**	*e*P		**P**	**18 38 48.0**	**+0.8**
	comp=Z,23nm,1.9s							
BRG	**Berggiesshubel**	**73.11**	**22**	*e*P		**P**	**18 38 48.0**	**+0.8**
BRG				pmax	pmax			
	comp=Z,23nm,1.9s							
KHC	**Kasperske Hory**	**74.66**	**22**	*e*P		**P**	**18 38 57.5**	**+1.1**
KHC				*ep*P		**sP**	**18 39 01.9**	**-0.6**
KHC	**Kasperske Hory**	**74.66**	**22**	*e*P		**P**	**18 38 57.5**	**+1.1**
KHC				*e*			18 39 01.9	
GEC2	**GERESS Array S**	**74.95**	**22**	*e*P		**P**	**18 38 59.3**	**+1.2**
	comp=Z,9.5nm,1.3s							
GEC2	**GERESS Array S**	**74.95**	**22**	*e*P		**P**	**18 38 59.3**	**+1.2**
GEC2				pmax	pmax			
	comp=Z,10.0nm,1.3s							
GERES	**GERESS Array B**	**74.95**	**22**	P		**P**	**18 38 58.8**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=335,slow=4.7,SNR=12							
GEA0	**GERESS Array S**	**74.96**	**22**	*e*P		**P**	**18 38 58.2**	**+0.1**
VRAC	**Vranov**	**75.16**	**20**	P		**P**	**18 38 59.4**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=37,slow=3.5,SNR=3.8							
VRAC	**Vranov**	**75.16**	**20**	*i*P		**P**	**18 38 59.5**	**+0.3**
RKT	**Rikitea**	**75.37**	**182**	*e*T		T	20 01 40.9	
	comp=Z,1.4nm,0.2s							
NJ2	**Nanjing**	**75.45**	**304**	*e*P		**P**	**18 39 02.8**	**+1.7**
NJ2				pmax	pmax			
	comp=Z,9.0nm,0.5s							
AKASG	**Malin Array Be**	**75.96**	**12**	P		**P**	**18 39 03.4**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=349,slow=5.3,SNR=7.1							
AKASG	**Malin Array Be**	**75.96**	**12**	*ce*P		P	18 39 10.3	+6.5
KIEV	**Kiev**	**75.97**	**12**	*e*P		**P**	**18 39 03.3**	**-0.5**
	comp=Z,9.9nm,1.1s							
KIEV	**Kiev**	**75.97**	**12**	*e*P		**P**	**18 39 03.3**	**-0.5**
KIEV				pmax	pmax			
	comp=Z,10.0nm,1.1s							
VYHS	**Vyhne**	**76.40**	**19**	*e*P		P	18 39 12.1	+5.8
VYHS				pmax	pmax			
	comp=Z,2.0nm,1.2s							
VYHS	**Vyhne**	**76.40**	**19**	*e*P		P	18 39 12.1	+5.8
MKAR	**Makanchi Array**	**76.69**	**336**	P		**P**	**18 39 06.9**	**-1.2**
	comp=Z,1.9nm,0.7s,baz=35,slow=5.8,SNR=9.7							
MKAR	**Makanchi Array**	**76.69**	**336**	*ce*P		**P**	**18 39 12.5**	**+4.4**
MK01	**Makanchi Array**	**76.71**	**336**	*e*P		**P**	**18 39 07.3**	**-0.9**
PSZ	**Piszkesteto**	**77.16**	**19**	P		P	18 39 18.2	+7.5
PSZ				pmax	pmax			
	comp=Z,9.0nm,1.2s							
ESDC	**Sonseca Array**	**77.84**	**38**	P		**P**	**18 39 14.2**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=320,slow=4.9,SNR=6.2							
GTA	**Gaotai**	**77.84**	**321**	*e*P		**P**	**18 39 14.2**	**-0.6**
GTA				pP		sP	18 39 19.3	-1.6
GTA				sP		PcP	18 39 22.2	-2.5
GTA				S		**S**	**18 49 03.1**	**-4.0**
GTA				sS		sS	18 49 15.0	+0.5
GTA				SKS		**SKSac**	**18 49 23.0**	**-5.2**
GTA				SS		**SS**	**18 54 08.0**	**+1.7**
GTA				pmax	pmax			
	comp=Z,2.0nm,1.2s							
GTA				pmax	pmax			
	comp=Z,62nm,6.2s							
GTA				LR	LR			
	comp=Z,280nm,18.7s							
GTA				LR	LR			
	comp=Z,210nm,18.7s							
GTA				LR	LR			
	comp=Z,170nm,17.1s							
ES19	**SONSECA Array**	**77.84**	**38**	*e*P		**P**	**18 39 15.2**	**+0.6**
WMQ	**Urumqi**	**77.99**	**332**	*e*P		**P**	**18 39 17.0**	**+1.6**
WMQ				pmax	pmax			
	comp=Z,27nm,0.8s							
WMQ				LR	LR			
	comp=Z,130nm,28.5s							
WMQ				LR	LR			
	comp=Z,130nm,14.3s							
WMQ				LR	LR			
	comp=Z,150nm,16.3s							
ABKAR	**Akbulak array**	**78.04**	**352**	*e*P		**P**	**18 39 15.2**	**-0.3**
SORM	**Soroca**	**78.36**	**13**⇓	*i*P		**P**	**18 39 17.1**	**-0.2**
BUR08	**Bucovina Ar. S**	**78.37**	**15**	*e*P		**P**	**18 39 18.6**	**+1.1**
BUR04	**Bucovina Ar. S**	**78.40**	**15**	*e*P		**P**	**18 39 17.9**	**+0.3**
BURAR	**Bucovina Array**	**78.40**	**15**⇑	*i*P		**P**	**18 39 18.3**	**+0.6**
DRGR		**78.77**	**17**⇑	*i*P		**P**	**18 39 21.8**	**+2.1**
ARCR	**ARCALIA**	**78.78**	**16**⇑	*i*P		**P**	**18 39 20.7**	**+1.1**
LZH	**Lanzhou**	**79.09**	**317**	*e*P		**P**	**18 39 22.4**	**+0.7**
LZH				pP		PcP	18 39 28.5	-1.7
LZH				sP		sP	18 39 31.5	+3.6
LZH				*e*PP		**PP**	**18 42 21.2**	**+0.9**
LZH				pmax	pmax			
	comp=Z,20nm,1.1s							
BIZ	**Bicaz**	**79.20**	**15**⇑	*i*P		**P**	**18 39 22.9**	**+0.9**
BZS	**Buzias**	**79.70**	**18**⇑	*i*P		P	18 39 19.7	-5.0
GZR	**Gura Zlata**	**80.14**	**17**⇑	*i*P		**P**	**18 39 27.4**	**+0.3**
VRI	**Vrincioaia**	**80.34**	**15**⇑	*i*P		**P**	**18 39 28.8**	**+0.6**
PLOR	**Plostina**	**80.35**	**15**⇑	*i*P		**P**	**18 39 29.0**	**+0.8**
ARR	**Arges**	**80.49**	**16**⇑	*i*P		**P**	**18 39 29.2**	**+0.2**
VOIR		**80.49**	**16**⇑	*i*P		**P**	**18 39 29.5**	**+0.4**
MLR	**Muntele Rosu**	**80.59**	**15**	P		**P**	**18 39 29.8**	**+0.1**
	comp=Z,1.8nm,1.0s,baz=209,slow=9.7,SNR=3.4							
CFR	**Carcaliu**	**81.23**	**14**⇑	*i*P		**P**	**18 39 33.1**	**+0.2**
TLB	**Topalu**	**81.79**	**14**⇑	*i*P		**P**	**18 39 36.0**	**+0.1**
AAK	**Ala-Archa**	**82.39**	**340**	*de*P		**P**	**18 39 40.0**	**+0.7**
AAK				pmax	pmax			
	comp=Z,9.0nm,0.8s							
KIV	**Kislovodsk**	**83.79**	**4**	*e*P		**P**	**18 39 49.1**	**+2.7**
KIV				pmax	pmax			
	comp=Z,8.0nm,1.1s							
KBZ	**Khabaz**	**84.02**	**3**	P		**P**	**18 39 46.9**	**-0.5**
	comp=Z,3.0nm,0.9s,baz=315,slow=9.3,SNR=5.2							
FNA	**Florina**	**84.30**	**20**	*e*P		**P**	**18 39 51.8**	**+2.7**
	comp=Z,7.4nm,1.0s							
FNA	**Florina**	**84.30**	**20**	*e*P		**P**	**18 39 51.8**	**+2.7**
FNA				pmax	pmax			
	comp=Z,7.0nm,1.0s							
NEY	**Neytrino**	**84.50**	**4**⇑	*e*P		**P**	**18 39 52.8**	**+2.7**
NEY				pmax	pmax			
	comp=Z,2.0nm,1.1s							
ALN	**Alexandroupoli**	**85.08**	**16**	*e*P		**P**	**18 39 53.7**	**+0.9**
	comp=Z,6.6nm,1.4s							
LIT	**Litokhoron**	**85.19**	**19**	*e*P		**P**	**18 39 53.4**	**-0.1**
	comp=Z,15nm,1.3s							
LIT	**Litokhoron**	**85.19**	**19**	*e*P		**P**	**18 39 53.4**	**-0.1**
LIT				pmax	pmax			
	comp=Z,15nm,1.3s							
KEST	**Kesra**	**85.97**	**30**	LR		LR	19 17 49.2	
	comp=Z,94nm,20.2s,baz=300,slow=35							
BRTR	**Keskin Array B**	**87.31**	**11**	P		**P**	**18 40 03.9**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=355,slow=8.7,SNR=3.1							
GNI	**Garni**	**87.65**	**2**⇑	*e*P		**P**	**18 40 09.6**	**+3.9**
GNI				pmax	pmax			
	comp=Z,9.0nm,0.9s							
LPAZ	**La Paz**	**88.04**	**120**	P		**P**	**18 40 06.5**	**-1.7**
	comp=Z,2.0nm,0.8s,baz=15,slow=19,SNR=6.8							
LPAZ	**La Paz**	**88.04**	**120**	*e*P		**P**	**18 40 06.5**	**-1.7**
	comp=Z,5.5nm,1.0s							
LPAZ	**La Paz**	**88.04**	**120**	*e*P		**P**	**18 40 06.6**	**-1.7**
LPAZ				pmax	pmax			
	comp=Z,6.0nm,1.0s							
ISP	**Isparta**	**88.78**	**13**⇓	*e*P		P	18 40 16.1	+5.0
ISP				pmax	pmax			
	comp=Z,8.0nm,1.7s							
KMI	**Kunming**	**88.99**	**312**	P		**P**	**18 40 14.4**	**+2.0**
KMI				pP		sP	18 40 19.3	+0.7
KMI				sP		pP	18 40 23.1	+6.2
KMI				pmax	pmax			
	comp=Z,9.0nm,1.2s							
KMI				pmax	pmax			
	comp=Z,130nm,3.1s							
DZM	**Mont Dzumac**	**91.30**	**234**	*e*LR		LR	19 09 35.2	
	comp=Z,218nm,23.2s							
CMAR	**Chiang Mai Arr**	**96.50**	**312**	P		**P**	**18 40 45.8**	**-1.1**
	comp=Z,0.8nm,0.9s,baz=8.9,slow=4.6,SNR=7.9							
CMAR	**Chiang Mai Arr**	**96.50**	**312**	*ce*P		**P**	**18 40 47.4**	**+0.6**
CM01	**Chiang Mai Arr**	**96.52**	**312**	*e*P		**P**	**18 40 45.9**	**-1.1**
BDFB	**Brasilia**	**98.88**	**104**	LR		LR	19 29 05.8	
	comp=Z,77nm,19.4s,baz=219,slow=38							
TSUM	**Tsumeb**	**139.34**	**47**	PKP		**PKPdf**	**18 46 44.3**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=340,slow=4.9,SNR=3.6							
MATP	**Matopo**	**144.68**	**32**	PKP		**PKPab**	**18 46 52.0**	**-0.8**
	comp=Z,2.5nm,0.8s,baz=9.6,slow=2.2,SNR=7.0							
VNA3	**Neumayer Olymp**	**148.87**	**148**	PKP		**PKPbc**	**18 47 01.4**	**-2.0**
VNA3				x	x		18 47 06.4	
BOSA	**Boshof**	**150.91**	**43**	PKPbc		**PKPbc**	**18 47 08.7**	**-1.1**
	comp=Z,2.4nm,0.7s,baz=6.2,slow=1.6,SNR=5.6							
SNAA	**Sanae**	**150.94**	**150**	PKP		**PKPbc**	**18 47 07.0**	**-1.5**
SNAA				x	x		18 47 12.4	
SNAA	**Sanae**	**150.94**	**150**	PKPbc		**PKPbc**	**18 47 06.8**	**-1.6**
	comp=Z,2.1nm,1.0s,baz=300,slow=7.6,SNR=5.7							
SUR	**Sutherland**	**152.04**	**54**	PKPbc		**PKPbc**	**18 47 11.9**	**-0.5**
	comp=Z,3.3nm,0.6s,baz=49,slow=1.7,SNR=6.4							

UPP 04 18:34:00.2±0.0, 67.85N×20.20E, h0km, ML2.1, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.12**	**26**	P	Pg	18 34 02.7	+0.3
KUA				S	Sg	18 34 04.4	+0.5
RATU	**Laukkuluspa**	**0.23**	**263**	P	Pg	18 34 04.8	+0.2
RATU				S	Sg	18 34 08.1	+0.5
NIKU	**Nikkaluokta**	**0.44**	**273**	P	Pg	18 34 08.7	+0.1
NIKU				S	Sg	18 34 14.9	+0.5
LANU	**Lannavaara**	**0.70**	**73**	P	Pg	18 34 13.4	-0.2
LANU				S	Sg	18 34 23.0	+0.3
MASU	**Masugnsbyn**	**0.79**	**119**	P	Pg	18 34 15.1	-0.2
SALU	**Saltoluokta**	**0.80**	**235**	P	Pg	18 34 15.2	-0.4
SALU				S	Sg	18 34 26.3	+0.4
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*P	Pg	18 34 21.0	-1.8
PAJU	**Pajala**	**1.40**	**125**	P	Pn	18 34 25.7	-1.2
HEF	**Hetta**	**1.41**	**65**	*e*P	Pn	18 34 26.2	-0.9
HARU	**Harads**	**1.72**	**169**	P	Pb	18 34 32.5	-0.2

*HEL **04** 18:34:25.2, 67.76N×20.47E, h0km, ML1.8, Explosion*

UPP 04 18:34:22.8±0.2, 67.83N×20.24E, h0km, ML1.5, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**16**	P	Pg	18 34 25.6	+0.2
KUA				S	Sg	18 34 27.8	+0.7
KUA	**Kurravaara**	**0.14**	**16**	*i* P	Pg	18 34 25.6	+0.2
KUA				*i* S	Sg	18 34 27.8	+0.7
RATU	**Laukkuluspa**	**0.24**	**270**	P	Pg	18 34 27.5	+0.1
RATU				S	Sg	18 34 30.9	+0.3
RATU	**Laukkuluspa**	**0.24**	**270**	*i* P	Pg	18 34 27.5	+0.1
RATU				*i* S	Sg	18 34 30.9	+0.3
NIKU	**Nikkaluokta**	**0.46**	**276**	P	Pg	18 34 31.8	+0.3
NIKU				S	Sg	18 34 37.8	+0.3
NIKU	**Nikkaluokta**	**0.46**	**276**	*i* P	Pg	18 34 31.8	+0.3
NIKU				*i* S	Sg	18 34 37.8	+0.3
LANU	**Lannavaara**	**0.70**	**70**	S	Sg	18 34 46.3	+1.1
LANU	**Lannavaara**	**0.70**	**70**	*e*S	Sg	18 34 46.2	+1.0
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*PN	Pn	18 34 49.2	+2.4
KIF				*e*SB	Sn	18 35 03.4	-0.4
KIF				MSG		18 35 04.3	
	comp=Z,14nm,0.2s						
HEF	**Hetta**	**1.41**	**64**	*e*P	Pn	18 34 48.8	-0.9
HEF				MSG		18 35 06.4	
	comp=Z,5.9nm,0.2s						
ERTU	**Ertsjaerv**	**1.49**	**148**	*e*P	Pn	18 34 48.9	-1.8
ERTU				*e*SN	Sn	18 35 11.1	+0.3
KALU	**Kalix**	**2.33**	**147**	*e*PB	Pn	18 35 03.7	+1.5
KALU				*e*SG	Sb	18 35 35.1	+0.3
TOF	**Tornio**	**2.38**	**136**	*e*PB	Pn	18 35 04.3	+1.3
TOF				MSG		18 35 32.3	
	comp=Z,3.1nm,0.2s						
TOF				*e*SG	Sb	18 35 36.4	+0.1
SGF	**Sodankyl**	**2.44**	**96**	*e*PG	Pb	18 35 06.9	-0.5
	baz=280						
ARE0	**ARCESS Array S**	**2.58**	**46**	*e*P	Pn	18 35 07.2	+1.4
	baz=230						
BURU	**Burvik**	**3.29**	**171**	*e*PB	Pn	18 35 18.3	+2.8
KU6	**Riekki**	**4.21**	**111**	*e*PG	Pb	18 35 40.0	+2.5

*IDC **04** 18:34:30.1±1.6, 31.75S×72.91W, h0km, mb1 3.7/3, mb1mx3.4/26, mbtmp3.4/3, ML3.7/3, Error ellipse: s-maj=66.0km s-min=36.5km az=102.0*
*GUC **04** 18:34:34.4±0.8, 31.80S×71.72W, h19km±22km, ML4.0*
*ISCJB **04** 18:34:35.5±1.1, 31.86S±0.04×72.1W±0.1, h58km±25km, Error ellipse: s-maj=15.1km s-min=6.6km az=179.2*
*SJA **04** 18:34:36.0±0.8, 31.95S×71.94W, h71km±8km, ML4.0, MW4.2*

ISC 04 18:34:36.8±1.5, 31.81S±0.04×71.97W±0.10, h52km±15km, n32, σ1.995/39, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**1.04**	**53**⇑	*i*P	Pn	18 34 51.6	-3.7
CMCH				*e*S	**Sn**	**18 35 04.3**	**-4.6**
ROCH	**El Roble**	**1.41**	**145**	*e*P	**Pn**	**18 34 59.2**	**-1.2**
ROCH				*e*S	**Sn**	**18 35 17.7**	**-0.3**
ROC1	**El Roble**	**1.41**	**145**	*e*P	**Pn**	**18 34 59.6**	**-0.9**
ROC1				*e*S	**Sn**	**18 35 17.2**	**-0.9**
PEL	**Peldehue**	**1.71**	**141**	*e*P	**Pn**	**18 35 03.7**	**-0.7**
PEL				*e*S	**Sn**	**18 35 25.7**	**+0.5**
PEL				IAML		18 35 32.0	
	comp=E,2μm,0.3s						
GO04	**Tololo Observa**	**1.92**	**32**	*e*P	Pn	18 35 04.7	-2.7
GO04				*e*S	**Sn**	**18 35 28.3**	**-2.1**
CLCH	**Cerro Calan**	**1.99**	**143**	*e*P	**Pn**	**18 35 07.9**	**-0.3**
CLCH				*e*S	**Sn**	**18 35 33.0**	**+1.0**
CLCH				IAML		18 35 38.8	
	comp=E,5μm,0.8s						
FCH	**Farellones**	**2.07**	**137**	*e*P	**Pn**	**18 35 09.0**	**-0.5**
FCH				IAML		18 35 40.7	
	comp=E,2μm,0.8s						
AUSP	**Uspallata**	**2.23**	**101**	*e*P	**Pn**	**18 35 12.9**	**+1.2**
AUSP				*e*S	**Sn**	**18 35 39.5**	**+1.3**
RTLS	**Leoncito**	**2.28**	**90**	*e*P	**Pn**	**18 35 13.3**	**+1.0**
RTLS				IAML		18 35 43.8	
	comp=Z,699nm,0.6s						
LMEL	**Las Melosas**	**2.52**	**144**	*e*P	**Pn**	**18 35 15.6**	**+0.1**
LMEL				*e*S	**Sn**	**18 35 45.1**	**+0.1**
LMEL				IAML		18 35 57.9	
	comp=N,898nm,0.2s						
AROD	**Rodeo**	**2.70**	**53**	*e*P	**Pn**	**18 35 20.6**	**+2.4**
ARCO	**CERRO ARCO**	**2.77**	**113**	*e*P	**Pn**	**18 35 21.6**	**+2.7**
ARCO				IAML		18 36 05.3	
	comp=Z,844nm,1.0s						
ASAL	**Salagasta**	**2.77**	**107**	*e*P	**Pn**	**18 35 21.5**	**+2.7**
ACCO	**Cerro Coronel**	**2.77**	**65**	*e*P	**Pn**	**18 35 21.8**	**+2.7**
ZON	**Zonda**	**2.82**	**85**	*e*P	**Pn**	**18 35 21.2**	**+1.7**
RTCV	**Cerro Valdivia**	**2.92**	**92**	*e*P	**Pn**	**18 35 22.3**	**+1.5**
AAGR	**Agrelo**	**2.94**	**116**	*e*P	**Pn**	**18 35 23.8**	**+2.6**
ACDV	**Cuesta del Vie**	**2.94**	**57**	*e*P	**Pn**	**18 35 23.9**	**+2.6**
LCO	**Las Campanas**	**3.00**	**22**	*e*P	**Pn**	**18 35 23.1**	**+1.0**
RTLL	**Cerro Villicun**	**3.02**	**82**	*e*P	**Pn**	**18 35 23.4**	**+1.1**
AMOG	**MOGNA**	**3.10**	**75**	*e*P	**Pn**	**18 35 24.5**	**+1.2**
AGUA	**GUANDACOL**	**3.79**	**53**	*e*P	**Pn**	**18 35 34.6**	**+1.8**
ACAN	**Cantantal**	**4.09**	**98**	*e*P	**Pn**	**18 35 37.5**	**+0.7**
VCA	**Vinchina**	**4.47**	**48**	*e*P	**Pn**	**18 35 44.5**	**+2.3**
APLL	**PUNTA DE LOS L**	**4.88**	**75**	*e*P	**Pn**	**18 35 48.0**	**+0.3**
ACLC	**CERRO LA CRUZ**	**4.94**	**62**	*e*P	**Pn**	**18 35 49.6**	**+0.9**
TCA	**Tanti**	**6.31**	**88**	*e*P	**Pn**	**18 36 07.7**	**+0.3**
PLCA	**Paso Flores**	**8.97**	**173**	Pn	**Pn**	**18 36 43.7**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=356,slow=13,SNR=12						
CPUP	**Villa Florida**	**13.92**	**71**	Pn	**P**	**18 37 58.9**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=240,slow=14,SNR=2.5						
CPUP				Sn	**S**	**18 40 37.8**	**-6.0**
	comp=Z,0.1nm,0.3s,baz=306,slow=19,SNR=2.2						
LPAZ	**La Paz**	**15.85**	**14**	Pn	**Pn**	**18 38 18.1**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=212,slow=9.9,SNR=3.0						
WRA	**Warramunga Arr**	**122.69**	**210**	PKP	**PKPdf**	**18 53 28.0**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=153,slow=1.7,SNR=7.6						
ZALV	**Zalesovo Beam**	**152.33**	**30**	PKPbc	**PKPbc**	**18 54 27.5**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=316,slow=2.6,SNR=4.2						

NNC 04 18:36:42.9±0.3, 48.03N×70.91E, h0km, mb3.6, mpv3.2, 13C-6D, Error ellipse: s-maj=3.6km s-min=2.7km az=73.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.94**	**183**	Pn	Pn	18 37 58.4	+0.1
	2.3nm,0.5s,baz=359,slow=14,SNR=23						
KK31				⇑Sn	Sn	18 38 56.6	+0.5
	1.2nm,0.3s,baz=4.4,slow=24,SNR=6.7						
KK31				⇑Lg	Lg	18 39 20.8	
	9.6nm,0.5s,baz=3.8,slow=29,SNR=9.9						
BRVK	**Borovoye**	**5.05**	**356**	⇑Pn	Pn	18 38 00.7	+0.9
	1.8nm,0.6s						
BRVK				⇓Sn	Sn	18 38 58.9	+0.1
	6.3nm,0.7s						
BRVK				⇑Lg	Lg	18 39 23.5	
	12nm,0.8s						
KURK	**Kurchatov**	**5.71**	**59**	⇑Pn	Pn	18 38 09.7	+0.9
	2.2nm,0.7s						
KURK				⇓Pg	Pb	18 38 26.9	+3.7
	1.5nm,0.6s						
KURK				⇑Sn	Sn	18 39 15.9	+0.9
	3.1nm,0.7s						
KURK				⇑Lg	Lg	18 39 44.1	
	17nm,0.7s						
KNDC	**Almaty**	**6.42**	**136**	⇑Sn	Sn	18 39 34.4	+1.7
	6.6nm,0.5

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.87**	**51**	⇑*iP*	**Pn**	**18 41 14.3**	**-1.6**
CMCH				*eS*	**Sn**	**18 41 27.2**	**-0.3**
ROCH	**El Roble**	**1.40**	**152**	*eP*	**Pn**	**18 41 22.0**	**-1.3**
ROCH				*eS*	**Sn**	**18 41 41.5**	**+0.9**
ROCH				IAML		18 41 46.0	
	comp=E,3μm,0.8s						
ROC1	**El Roble**	**1.40**	**152**	*eP*	**Pn**	**18 41 22.5**	**-0.8**
ROC1				*eS*	**Sn**	**18 41 41.0**	**+0.3**
PEL	**Peldehue**	**1.69**	**147**	*eP*	**Pn**	**18 41 26.4**	**-0.6**
PEL				*eS*	**Sn**	**18 41 48.6**	**+1.1**
PEL	**Peldehue**	**1.69**	**147**	*eP*	**Pn**	**18 41 26.0**	**-1.0**
PEL				*eS*	**Sn**	**18 41 47.9**	**+0.5**
PEL				IAML		18 41 53.5	
	comp=N,1μm,0.8s						
GO04	**Tololo Observa**	**1.77**	**29**	*eP*	**Pn**	**18 41 27.6**	**-0.8**
CLCH	**Cerro Calan**	**1.97**	**148**	*eP*	**Pn**	**18 41 30.3**	**-0.6**
CLCH				*eS*	**Sn**	**18 41 55.1**	**+0.8**
CLCH				IAML		18 42 05.7	
	comp=E,1μm,0.5s						
FCH	**Farellones**	**2.03**	**142**	*eP*	**Pn**	**18 41 31.6**	**-0.4**
ANTU	**Antumapu**	**2.07**	**152**	*eP*	**Pn**	**18 41 32.3**	**0.0**
AUSP	**Uspallata**	**2.10**	**104**	*eP*	Pn	18 41 36.0	+3.1
RTLS	**Leoncito**	**2.12**	**92**	*eP*	Pn	18 41 36.3	+3.1
RTLS				IAML		18 42 07.1	
	comp=Z,571nm,0.5s						
LMEL	**Las Melosas**	**2.50**	**148**	*eP*	**Pn**	**18 41 38.2**	**0.0**
LMEL				*eS*	**Sn**	**18 42 09.4**	**+1.9**
LMEL				IAML		18 42 23.9	
	comp=N,527nm,0.6s						
AROD	**Rodeo**	**2.53**	**52**	*eP*	Pn	18 41 43.2	+4.4
ACCO	**Cerro Coronel**	**2.60**	**65**	*eP*	Pn	18 41 44.6	+4.9
ASAL	**Salagasta**	**2.65**	**110**	*eP*	Pn	18 41 46.5	+6.3
ZON	**Zonda**	**2.66**	**87**	*eP*	Pn	18 41 43.9	+3.6
ARCO	**CERRO ARCO**	**2.66**	**115**	*eP*	Pn	18 41 47.0	+6.5
ARCO				IAML		18 42 26.2	
	comp=Z,335nm,0.9s						
RTCV	**Cerro Valdivia**	**2.77**	**94**	*eP*	Pn	18 41 45.1	+3.3
AAGR	**Agrelo**	**2.84**	**119**	*eP*	Pn	18 41 49.1	+6.2
RTLL	**Cerro Villicun**	**2.86**	**83**	*eP*	Pn	18 41 47.1	+4.0
RTLL				IAML		18 42 39.7	
	comp=Z,157nm,0.4s						
LCO	**Las Campanas**	**2.87**	**19**	*eP*	**Pn**	**18 41 43.1**	**-0.4**
AMOG	**MOGNA**	**2.93**	**75**	*eP*	Pn	18 41 48.8	+4.7
AGUA	**GUANDACOL**	**3.62**	**53**	*eP*	Pn	18 41 58.3	+4.8
ACAN	**Cantantal**	**3.94**	**99**	*eP*	Pn	18 42 01.9	+3.9
VCA	**Vinchina**	**4.30**	**47**	*eP*	Pn	18 42 06.8	+3.7
APLL	**PUNTA DE LOS L**	**4.71**	**75**	*eP*	Pn	18 42 11.2	+2.7
ACLC	**CERRO LA CRUZ**	**4.76**	**62**	*eP*	Pn	18 42 12.6	+3.3
PLCA	**Paso Flores**	**9.04**	**174**	P	**Pn**	**18 43 06.2**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=8.5,slow=12,SNR=4.5						
CPUP	**Villa Florida**	**13.74**	**71**	LR	LR	18 50 05.0	
	comp=Z,104nm,18.3s,baz=216,slow=39						
LPAZ	**La Paz**	**15.73**	**13**	P	**P**	**18 44 44.5**	**+1.8**
	comp=Z,0.0nm,0.3s,baz=202,slow=5.4,SNR=3.9						
TORD	**Torodi Ar. Bea**	**83.24**	**70**	P	**P**	**18 53 22.3**	**0.0**
	comp=Z,0.6nm,0.8s,baz=224,slow=4.0,SNR=3.9						
WRA	**Warramunga Arr**	**122.84**	**210**	PKP	**PKPdf**	**18 59 50.6**	**-1.5**
	comp=Z,0.3nm,0.9s,baz=153,slow=1.8,SNR=6.4						
ZALV	**Zalesovo Beam**	**152.18**	**30**	PKPbc	**PKPbc**	**19 00 50.2**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=310,slow=4.7,SNR=4.9						

*ISCJB **04** 18:58:07.7±0.7, 14°.6S±0°.1×170°.1E±0°.1, h614km, mb3.7/16, Error ellipse: s-maj=16.5km s-min=14.0km az=13.9*
*IDC **04** 18:58:07.7±1.9, 14°.52S×170°.19E, h597km±21km, mb3.2/16, mb1 3.3/16, mb1mx3.2/36, mbtmp4.1/16, Error ellipse: s-maj=16.3km s-min=13.6km az=77.0*

ISC 04 18:58:09.3±0.7, 14°.6S±0°.1×170°.0E±0°.1, h614km, n17, σ1s27/21, mb3.8/15, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**23.36**	**253**	P	**P**	**19 02 33.4**	**+1.0**
	1.3nm,0.5s,baz=108,slow=13,SNR=3.0						
URZ	**Urewera**	**24.43**	**166**	P	**P**	**19 02 41.4**	**-0.3**
	6.7nm,0.8s,baz=348,slow=9.3,SNR=3.2						
STKA	**Stephens Creek**	**31.18**	**232**	P	**P**	**19 03 41.5**	**+1.1**
	4.8nm,0.5s,baz=71,slow=9.2,SNR=23						
WRA	**Warramunga Arr**	**34.47**	**256**	P	**P**	**19 04 08.0**	**-0.3**
	1.4nm,0.4s,baz=83,slow=8.0,SNR=62						
WRA				S	**S**	**19 08 52.7**	**-2.2**
	2.6nm,1.0s,baz=89,slow=15,SNR=7.8						
WRA				ScP	**ScP**	**19 09 15.7**	**+2.4**
	1.6nm,0.7s,baz=90,slow=3.7,SNR=8.4						
ASAR	**Alice Springs**	**35.25**	**250**	P	**P**	**19 04 14.4**	**-0.2**
	3.0nm,0.4s,baz=77,slow=9.7,SNR=155						
ASAR				S	**S**	**19 09 04.1**	**-2.4**
	1.5nm,0.9s,baz=86,slow=16,SNR=7.8						
ASAR				ScP	**ScP**	**19 09 17.7**	**+1.7**
	2.3nm,0.7s,baz=92,slow=4.0,SNR=15						
SIJI	**Sorong**	**40.66**	**286**	P	**P**	**19 04 59.1**	**+0.6**
	3.3nm,0.4s,baz=360,slow=23,SNR=5.9						
FITZ	**Fitzroy Crossi**	**42.68**	**259**	P	**P**	**19 05 14.8**	**+0.6**
	1.3nm,0.4s,baz=86,slow=4.6,SNR=19						
MJAR	**Matsushiro Arr**	**59.04**	**330**	P	**P**	**19 07 11.6**	**-0.3**
	1.2nm,0.8s,baz=161,slow=7.6,SNR=5.2						
VNDA	**Vanda**	**63.11**	**182**	P	**P**	**19 07 37.4**	**-0.5**
	0.3nm,0.5s,baz=7.1,slow=7.4,SNR=8.7						
PETK	**Petropavlovsk-**	**68.22**	**352**	P	**P**	**19 08 10.0**	**+0.2**
	2.5nm,0.6s,baz=151,slow=9.0,SNR=9.1						
QSPA	**South Pole Qui**	**75.47**	**180**	P	**P**	**19 08 51.6**	**-0.2**
	2.3nm,0.7s,baz=297,slow=1.5,SNR=6.7						
CMAR	**Chiang Mai Arr**	**77.32**	**291**	P	**P**	**19 09 03.9**	**+1.2**
	2.4nm,0.8s,baz=124,slow=4.1,SNR=27						
SONM	**Songino Array**	**83.97**	**323**	P	**P**	**19 09 36.2**	**-0.2**
	0.6nm,0.8s,baz=123,slow=5.5,SNR=3.8						
NVAR	**Mina Array Bea**	**85.14**	**48**	P	**P**	**19 09 42.9**	**+0.5**
	0.6nm,0.7s,baz=232,slow=8.5,SNR=4.7						
ILAR	**Eielson Array**	**85.55**	**17**	P	**P**	**19 09 41.7**	**-1.8**
	0.2nm,0.6s,baz=243,slow=4.3,SNR=3.9						
MKAR	**Makanchi Array**	**98.94**	**316**	P	**Pdif**	**19 10 44.5**	**-0.7**
	0.7nm,0.8s,baz=97,slow=3.9,SNR=4.2						
ARCES	**ARCESS Array B**	**120.74**	**346**	PKP	**PKPdf**	**19 15 51.2**	**-1.0**
	1.8nm,0.8s,baz=51,slow=2.3,SNR=26						

*ISCJB **04** 19:00:23.4±0.6, 4°.55S±0°.07×152°.17E±0°.09, h100km, mb4.2/16, Error ellipse: s-maj=13.3km s-min=8.1km az=28.0*
*IDC **04** 19:00:30.6±1.8, 4°.82S×152°.12E, h159km±15km, mb3.8/12, mb1 3.9/15, mb1mx3.7/38, mbtmp4.2/15, Error ellipse: s-maj=18.1km s-min=10.5km az=126.0*

ISC 04 19:00:24.1±0.9, 4°.68S±0°.10×152°.3E±0°.1, h100km, n31, σ2s03/32, mb4.2/15, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.92**	**227**	P	**Pn**	**19 02 05.0**	**+1.9**
	0.9nm,0.3s,baz=85,slow=17,SNR=5.9						
PMG				S	**Sn**	**19 03 21.5**	**+1.2**
	11nm,0.3s,baz=173,slow=17,SNR=11						
JAY	**Jayapura**	**11.76**	**280**	P	**Pn**	**19 03 10.4**	**+1.7**
	1.4nm,0.3s,baz=73,slow=8.1,SNR=5.3						
CTA	**Charters Tower**	**16.40**	**200**	P	**P**	**19 04 10.9**	**+1.4**
	0.3nm,0.3s,baz=12,slow=13,SNR=5.8						
SIJI	**Sorong**	**21.33**	**280**	P	**P**	**19 05 05.1**	**+1.7**
	13nm,0.7s,baz=76,slow=3.7,SNR=9.8						
DZM	**Mont Dzumac**	**22.07**	**143**	P	**P**	**19 05 13.6**	**+2.5**
	17nm,0.9s,baz=127,slow=18,SNR=5.7						
WRA	**Warramunga Arr**	**23.14**	**228**	P	**P**	**19 05 21.5**	**-0.5**
	3.3nm,0.4s,baz=50,slow=10,SNR=28						
WRA				S	**S**	**19 09 19.2**	**-6.7**
	1.3nm,0.8s,baz=43,slow=17,SNR=6.7						
ASAR	**Alice Springs**	**25.90**	**221**	P	**P**	**19 05 47.2**	**+0.2**
	1.0nm,0.6s,baz=57,slow=8.4,SNR=8.2						
ASAR				S	**S**	**19 10 03.3**	**-6.6**
	0.4nm,0.7s,baz=48,slow=14,SNR=4.1						
FITZ	**Fitzroy Crossi**	**29.27**	**241**	P	**P**	**19 06 15.8**	**-1.2**
	1.7nm,0.3s,baz=54,slow=9.1,SNR=9.0						
SRDT	**SRDT**	**56.00**	**291**	P	**P**	**19 09 54.0**	**+1.2**
	8.1nm,1.1s						
UTHA	**Uthaitani**	**56.04**	**292**	P	**P**	**19 09 54.0**	**+0.9**
	3.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**57.37**	**295**	P	**P**	**19 10 03.2**	**+0.7**
	5.5nm,0.7s,baz=120,slow=5.5,SNR=51						
CMMT	**Chiang Mai**	**57.47**	**296**	P	**P**	**19 10 03.7**	**+0.5**
	4.3nm,0.9s						
CHTO	**Chiang Mai**	**57.48**	**296**	P	**P**	**19 10 03.8**	**+0.6**
	19nm,0.9s						
SONM	**Songino Array**	**65.95**	**328**	P	**P**	**19 10 59.8**	**0.0**
	0.6nm,0.6s,baz=123,slow=3.5,SNR=4.3						
ODAN	**Odare**	**70.05**	**301**	*eP*	**P**	**19 11 25.9**	**-0.1**
	23nm,0.8s						
JIRN	**Jiri**	**71.29**	**301**	*eP*	**P**	**19 11 33.5**	**-0.2**
	11nm,0.7s						
GUN	**Gumba**	**71.62**	**301**	*eP*	**P**	**19 11 35.7**	**0.0**
	20nm,0.7s						
PKI	**Pulchoki**	**71.94**	**301**	*eP*	**P**	**19 11 36.8**	**-0.7**
	7.2nm,0.6s						
PKIN	**Phulchoki**	**71.95**	**301**	*eP*	**P**	**19 11 36.6**	**-0.9**
	3.3nm,0.6s						
KKN	**Kakani**	**72.10**	**301**	*eP*	**P**	**19 11 37.9**	**-0.5**
	13nm,0.8s						
DMN	**Daman**	**72.20**	**301**	*eP*	**P**	**19 11 38.8**	**-0.2**
	19nm,0.8s						
KOLN	**Koldanda**	**73.54**	**301**	*eP*	**P**	**19 11 46.0**	**-0.9**
	14nm,0.8s						
DANN	**Dangsing**	**73.55**	**301**	*eP*	**P**	**19 11 46.4**	**-0.6**
	10nm,0.6s						
PYUN	**Piuthan**	**74.14**	**301**	*eP*	**P**	**19 11 49.3**	**-1.1**
	20nm,0.8s						
MKAR	**Makanchi Array**	**79.90**	**319**	P	**P**	**19 12 21.7**	**-0.4**
	1.2nm,0.9s,baz=101,slow=6.9,SNR=4.4						
ZALV	**Zalesovo Beam**	**80.77**	**326**	P	**P**	**19 12 25.2**	**-1.3**
	0.5nm,0.5s,baz=100,slow=7.7,SNR=3.9						
ILAR	**Eielson Array**	**82.24**	**22**	P	**P**	**19 12 33.3**	**-0.7**
	2.1nm,0.7s,baz=247,slow=5.4,SNR=20						
NVAR	**Mina Array Bea**	**92.41**	**52**	P	P	19 13 25.6	+1.4
	0.5nm,0.7s,baz=250,slow=7.6,SNR=4.9						
PDAR	**Pinedale Array**	**99.14**	**48**	P	Pdif	19 13 55.1	+0.3
	0.2nm,0.5s,baz=204,slow=2.0,SNR=3.2						
NOA	**NORSAR Array B**	**116.63**	**340**	PKP	**PKPdf**	**19 18 55.5**	**-0.9**
	0.5nm,0.7s,baz=23,slow=4.8,SNR=4.0						
GERES	**GERESS Array B**	**123.69**	**328**	PKP	**PKPdf**	**19 19 09.6**	**-0.8**
	0.8nm,0.6s,baz=86,slow=1.9,SNR=7.1						

*MOS **04** 19:08:22.8±1.1, 20°.28S×67°.85W, h158km, mb5.0/11, Error ellipse: s-maj=12.9km s-min=7.7km az=98.4*
*ISCJB **04** 19:08:23.9±0.2, 20°.46S±0°.02×67°.95W±0°.03, h176km±2km, mb4.8/71, Error ellipse: s-maj=4.2km s-min=2.7km az=1.2*
*NEIC **04** 19:08:24.0±0.5, 20°.35S×67°.80W, h158km±5km, mb4.9/45, ML5.0(GUC), Error ellipse: s-maj=8.9km s-min=5.4km az=81.0*
NEIC Felt [III] at Mamina and [II] at Cuya and La Tirana, Chile. Also felt at Iquique.
*GUC **04** 19:08:25.7±0.8, 20°.41S×68°.29W, h182km±6km, ML5.0*
*BJI **04** 19:08:25.4, 20°.40S×67°.90W, h159km, mB5.0/8*
*IDC **04** 19:08:25.8±1.1, 20°.26S×67°.76W, h173km±8km, mb4.3/26, mb1 4.4/30, mb1mx4.4/47, mbtmp4.8/30, MS3.8/3, Ms1 3.8/3, ms1mx3.1/33, Error ellipse: s-maj=10.2km s-min=8.3km az=57.0*
*SCB **04** 19:08:27.0±2.3, 20°.45S×67°.82W, h17?km±12km, ML5.0/3, Error ellipse: s-maj=5.3km s-min=3.3km az=2.0*
*GCMT **04** 19:08:30.0±0.2, 20°.40S±0°.01×68°.09W±0°.02, h188km±1km, MW5.2/92, Moment Tensor Solution. s47,c58; s92,c127; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr 0.14±.18; Mθθ 2.38±.19; Mϕϕ -2.51±.23; Mrθ 2.69±.12; Mrϕ -3.11±.18; Mθϕ -6.06±.16; Best double couple: M o 7.70900×10^16 NP1 ϕs 159.00000°, δ 90.00000°, λ 59.00000°. NP2 ϕs 69.00000°, δ 31.00000°, λ 179.00000°. Principal axes: T 7.9650, Plg 38.0000°, Azm 42.0000°; N -0.5060, Plg 31.0000°, Azm 159.0000°; P -7.4540, Plg 37.0000°, Azm 276.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 19:08:25.0±0.5, 20°.41S±0°.03×67°.96W±0°.04, h172km±4km, n265, σ1s91/319, mb4.8/70, 18C-8D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**1.15**	**283**	P	**Pn**	**19 08 50.7**	**-2.9**
PB08				S	**Sn**	**19 09 08.7**	**-6.8**
PB08	**IPOC Station P**	**1.15**	**283**	*eP*	**Pn**	**19 08 54.0**	**+0.4**
PB08	**IPOC Station P**	**1.15**	**283**	⇑*iP*	**Pn**	**19 08 54.0**	**+0.4**
PB08				*eS*	**Sn**	**19 09 15.3**	**-0.1**
PB08				IAML		19 09 16.2	
	comp=E,10μm,0.6s						
PB01	**IPOC Station P**	**1.56**	**246**	*ePn*	**Pn**	**19 08 56.9**	**-0.1**
PB01				*eSn*	**Sn**	**19 09 00.9**	**-1.3**
PB01	**IPOC Station P**	**1.56**	**246**	P	**Pn**	**19 08 55.7**	**-1.3**
PB01				S	**Sn**	**19 09 16.1**	**-5.6**
PB01	**IPOC Station P**	**1.56**	**246**	*eP*	**Pn**	**19 08 56.8**	**-0.3**
PB01	**IPOC Station P**	**1.56**	**246**	⇑*iP*	**Pn**	**19 08 56.7**	**-0.3**
PB01				*eS*	**Sn**	**19 09 20.5**	**-1.2**
PB01				IAML		19 09 22.4	
	comp=N,19μm,0.3s						
PB11	**IPOC Station P**	**1.72**	**292**	*ePn*	**Pn**	**19 08 58.6**	**-0.2**
PB11				*eSn*	**Sn**	**19 09 24.1**	**-0.6**
PB11	**IPOC Station P**	**1.72**	**292**	P	**Pn**	**19 08 58.1**	**-0.6**
PB11				S	**Sn**	**19 09 20.5**	**-4.2**
PB11	**IPOC Station P**	**1.72**	**292**	*eP*	**Pn**	**19 08 58.5**	**-0.2**
PB11	**IPOC Station P**	**1.72**	**292**	⇑*iP*	**Pn**	**19 08 58.5**	**-0.2**
PB11				*eS*	**Sn**	**19 09 23.3**	**-1.4**
PB11				IAML		19 09 26.4	
	comp=N,22μm,0.7s						
PB09	**IPOC Station P**	**1.83**	**221**	*eP*	**Pn**	**19 09 00.4**	**+0.6**
PB09	**IPOC Station P**	**1.83**	**221**	⇑*iP*	**Pn**	**19 09 00.4**	**+0.6**
PB09				*eS*	**Sn**	**19 09 27.1**	**+0.3**
PB09				IAML		19 09 32.5	
	comp=N,8μm,0.8s						
MNMC	**Minye Minye**	**2.00**	**309**	*ePn*	**Pn**	**19 09 02.5**	**+0.6**
MNMC				*eSn*	**Sn**	**19 09 31.5**	**+1.2**
MNMC	**Minye Minye**	**2.00**	**309**	P	**Pn**	**19 09 00.8**	**-1.0**
MNMC				S	**Sn**	**19 09 29.5**	**-0.8**
MNMC				AML	AML	19 09 31.4	
	comp=N,3μm,0.5s						
MNMC	**Minye Minye**	**2.00**	**309**	⇓*iP*	**Pn**	**19 09 02.3**	**+0.4**
MNMC				*eS*	**Sn**	**19 09 30.5**	**+0.2**
MNMCX	**Minye Minye**	**2.00**	**309**	*eP*	**Pn**	**19 09 02.3**	**+0.5**
PB02	**IPOC Station P**	**2.02**	**243**	P	**Pn**	**19 09 00.5**	**-1.4**
PB02				S	**Sn**	**19 09 28.3**	**-2.2**
PB02	**IPOC Station P**	**2.02**	**243**	*eP*	**Pn**	**19 09 01.6**	**-0.4**
PB02	**IPOC Station P**	**2.02**	**243**	⇑*iP*	**Pn**	**19 09 01.5**	**-0.4**
PB02				*eS*	**Sn**	**19 09 28.7**	**-1.8**
PSGC	**Pisagua**	**2.19**	**291**	P	**Pn**	**19 09 02.3**	**-1.5**
PSGC				S	**Sn**	**19 09 30.7**	**-3.1**
PSGC	**Pisagua**	**2.19**	**291**	⇑*iP*	**Pn**	**19 09 03.2**	**-0.6**
PSGC				*eS*	**Sn**	**19 09 31.1**	**-2.6**
PSGC				IAML		19 09 33.5	
	comp=E,9μm,0.5s						
PSGCX	**Pisagua**	**2.19**	**291**	*eP*	**Pn**	**19 09 03.3**	**-0.5**
PB07	**IPOC Station P**	**2.23**	**234**	*eP*	**Pn**	**19 09 04.0**	**-0.2**
PB07	**IPOC Station P**	**2.23**	**234**	⇑*iP*	**Pn**	**19 09 03.9**	**-0.4**
PB07				*eS*	**Sn**	**19 09 32.8**	**-1.9**
PB07				IAML		19 09 34.8	
	comp=E,9μm,0.5s						
PB03	**IPOC Station P**	**2.34**	**225**	*eP*	**Pn**	**19 09 05.3**	**-0.2**
PB03	**IPOC Station P**	**2.34**	**225**	⇑*iP*	**Pn**	**19 09 05.2**	**-0.2**
PB03				*eS*	**Sn**	**19 09 34.9**	**-2.1**
PB03				IAML		19 09 36.7	
	comp=E,8μm,0.2s						
LVC	**Limon Verde**	**2.36**	**202**	*ePn*	**Pn**	**19 09 06.7**	**+0.7**
LVC				*eSn*	**Sn**	**19 09 38.1**	**+0.2**
LVC	**Limon Verde**	**2.36**	**202**	*eP*	**Pn**	**19 09 06.6**	**+0.6**
LVC	**Limon Verde**	**2.36**	**202**	*eP*	**Pn**	**19 09 06.7**	**+0.7**
LVC				*e*		19 09 38.1	
PB16	**IPOC Station P**	**2.53**	**324**	*eP*	**Pn**	**19 09 09.4**	**+1.2**
PB16	**IPOC Station P**	**2.53**	**324**	⇓*iP*	**Pn**	**19 09 09.4**	**+1.2**
PB16				*eS*	**Sn**	**19 09 42.4**	**+0.7**
PB16				IAML		19 09 45.8	
	comp=E,3μm,0.8s						
BS07	**San Felipe**	**2.55**	**18**	P	**Pn**	**19 09 09.2**	**+0.8**
BS01	**CO. Balc¨‡n**	**2.61**	**98**	P	**Pn**	**19 09 07.3**	**-1.6**
PB06	**IPOC Station P**	**2.73**	**213**	P	**Pn**	**19 09 09.4**	**-0.8**
PB06				S	**Sn**	**19 09 43.8**	**-1.5**
PB06	**IPOC Station P**	**2.73**	**213**	*eP*	**Pn**	**19 09 10.3**	**+0.1**
PB06	**IPOC Station P**	**2.73**	**213**	⇑*iP*	**Pn**	**19 09 10.2**	**0.0**
PB06				*eS*	**Sn**	**19 09 43.9**	**-1.5**
PB04	**IPOC Station P**	**2.80**	**226**	*ePn*	**Pn**	**19 09 10.7**	**-0.3**
PB04				*eSn*	**Sn**	**19 09 45.0**	**-1.8**
PB04	**IPOC Station P**	**2.80**	**226**	P	**Pn**	**19 09 10.7**	**-0.3**
PB04				S	**Sn**	**19 09 44.1**	**-2.7**
PB04	**IPOC Station P**	**2.80**	**226**	*eP*	**Pn**	**19 09 10.6**	**-0.4**
PB04	**IPOC Station P**	**2.80**	**226**	⇑*iP*	**Pn**	**19 09 10.4**	**-0.6**
PB04				*eS*	**Sn**	**19 09 44.5**	**-2.2**
PB12	**IPOC Station P**	**2.86**	**308**	*eP*	**Pn**	**19 09 10.6**	**-1.2**
PB12	**IPOC Station P**	**2.86**	**308**	⇓*iP*	**Pn**	**19 09 10.5**	**-1.2**
PB12				*eS*	**Sn**	**19 09 44.7**	**-3.3**
YJA	**Yavi**	**2.88**	**128**	*eP*	**Pn**	**19 09 13.6**	**+1.3**
PB15	**IPOC Station P**	**3.12**	**206**	*eP*	**Pn**	**19 09 15.1**	**+0.2**
PB05	**IPOC Station P**	**3.20**	**220**	*eP*	**Pn**	**19 09 15.3**	**-0.6**
BBOJ	**La Paz, Jacaqu**	**3.42**	**356**	P	**Pn**	**19 09 21.1**	**+2.0**
BB01	**Montecillos**	**3.45**	**48**	P	**Pn**	**19 09 19.5**	**+0.3**
BB01				S	**Sn**	**19 09 58.7**	**-2.7**
BS05	**Cuyupaya**	**3.51**	**16**	P	**Pn**	**19 09 21.3**	**+1.1**
BS05				S	**Sn**	**19 10 03.6**	**+0.5**
BS10	**CO. Tuti**	**3.55**	**34**	P	**Pn**	**19 09 21.2**	**+0.5**
BBOE	**La Paz, Chanca**	**3.58**	**360**	P	**Pn**	**19 09 23.4**	**+2.3**
HJA	**Humahuaca**	**3.66**	**140**	*eP*	**Pn**	**19 09 23.4**	**+1.6**
HJA				IAML		19 09 24.5	
	comp=Z,1μm,0.7s						
BBOD	**La Paz, Gloria**	**3.80**	**351**	P	**Pn**	**19 09 25.7**	**+1.8**
PB10	**IPOC Station P**	**3.92**	**217**	*ePn*	**Pn**	**19 09 23.7**	**-1.2**
PB10				*eSn*	**Sn**	**19 10 06.9**	**-4.7**
PB10	**IPOC Station P**	**3.92**	**217**	P	**Pn**	**19 09 24.2**	**-0.6**
PB10	**IPOC Station P**	**3.92**	**217**	*eP*	**Pn**	**19 09 23.6**	**-1.2**
BS08	**Valle Grande**	**4.10**	**63**	P	**Pn**	**19 09 27.0**	**-0.4**
BS08				S	**Sn**	**19 10 13.9**	**-2.2**
BS08				AML	AML	19 10 17.4	
	comp=Z,3μm,0.9s						
LPAZ	**La Paz**	**4.10**	**358**	P	**Pn**	**19 09 28.9**	**+1.0**
	comp=Z,94nm,0.3s,baz=172,slow=8.6,SNR=288						
LPAZ				S	**Sn**	**19 10 15.3**	**-1.5**
	comp=Z,12nm,0.3s,baz=31,slow=18,SNR=8.0						
LPAZ	**La Paz**	**4.10**	**358**	*ePn*	**Pn**	**19 09 29.2**	**+1.3**
LPAZ				*eSn*	**Sn**	**19 10 17.9**	**+1.1**
LPAZ	**La Paz**	**4.10**	**358**	P	**Pn**	**19 09 29.2**	**+1.3**
LPAZ				S	**Sn**	**19 10 17.6**	**+0.8**
LPAZ				AML	AML	19 10 21.4	
	comp=Z,3μm,0.7s						
LPAZ	**La Paz**	**4.10**	**358**	*eP*	**Pn**	**19 09 29.2**	**+1.3**
LPAZ	**La Paz**	**4.10**	**358**	*eP*	**Pn**	**19 09 29.2**	**+1.3**
LPAZ				*e*		19 10 17.9	
BBOB	**La Paz, Bander**	**4.25**	**358**	P	**Pn**	**19 09 30.9**	**+1.3**
AZAP	**Zapla**	**4.64**	**145**	*eP*	**Pn**	**19 09 34.5**	**+0.1**
AZAP				IAML		19 09 35.8	
	comp=Z,479nm,0.3s						
PB14	**IPOC Station P**	**4.77**	**208**	*eP*	**Pn**	**19 09 34.4**	**-1.6**
SLA	**San Lorenzo**	**4.85**	**153**	*eP*	**Pn**	**19 09 38.2**	**+1.2**
ALOL	**LOMAS DE OLMED**	**5.01**	**133**	*eP*	**Pn**	**19 09 38.1**	**-0.8**
BB02	**La Guardia**	**5.04**	**61**	P	**Pn**	**19 09 38.2**	**-1.3**
FSA	**Cafayete**	**5.96**	**163**	*eP*	**Pn**	**19 09 52.5**	**+0.9**
AHML	**Horco Molle**	**6.79**	**160**	*eP*	**Pn**	**19 10 02.5**	**+0.2**
GO03	**Copiap**	**7.45**	**196**	*ePn*	**Pn**	**19 10 08.1**	**-3.0**
GO03				*eSn*	**Sn**	**19 11 31.0**	**-3.8**
CYA	**Choya**	**8.23**	**167**	*eP*	**Pn**	**19 10 20.5**	**-1.0**
VCA	**Vinchina**	**8.29**	**182**	*eP*	**Pn**	**19 10 20.9**	**-1.4**
LCO	**Las Campanas**	**8.92**	**196**	*ePn*	**Pn**	**19 10 26.5**	**-4.2**
LCO	**Las Campanas**	**8.92**	**196**	P	Pn	19 10 35.1	+4.4
LCO	**Las Campanas**	**8.92**	**196**	*eP*	**Pn**	**19 10 26.1**	**-4.6**
LCO	**Las Campanas**	**8.92**	**196**	*eP*	**Pn**	**19 10 26.5**	**-4.2**
ACLC	**CERRO LA CRUZ**	**9.02**	**174**	*eP*	**Pn**	**19 10 29.9**	**-2.1**
AGUA	**GUANDACOL**	**9.05**	**183**	*eP*	**Pn**	**19 10 29.8**	**-2.5**
AROD	**Rodeo**	**9.81**	**188**	*eP*	**Pn**	**19 10 40.7**	**-1.8**
APLL	**PUNTA DE LOS L**	**10.03**	**173**	*eP*	**Pn**	**19 10 42.1**	**-2.9**
GO04	**Tololo Observa**	**10.05**	**194**	*ePn*	**Pn**	**19 10 41.5**	**-4.1**
GO04				*eSn*	**Sn**	**19 12 29.9**	**-7.5**
ACCO	**Cerro Coronel**	**10.18**	**185**	*eP*	**

comp=Z,50nm,0.9s
RPN Rapa Nui 38.32 252 LR LR 19 28 34.2
comp=Z,139nm,18.2s,baz=80,slow=31
SJG San Juan 38.32 3 P **P** **19 15 27.4 -1.8**
comp=Z,72nm,0.8s,baz=151,slow=2.6,SNR=23
SJG S **S** **19 21 04.0 -6.8**
comp=Z,2.0nm,0.4s,baz=315,slow=20,SNR=4.9
SJG San Juan 38.32 3 *e*P **P** **19 15 27.3 -1.9**
comp=Z,120nm,1.0s
SJG San Juan 38.32 3 *e*P **P** **19 15 27.3 -1.9**
SJG pmax pmax
comp=Z,120nm,1.0s
MTP Monte Pirata 38.34 4 *e*P **P** **19 15 27.3 -2.1**
comp=Z,38nm,1.0s
HUMP Col San Antoni 38.37 3 *e*P **P** **19 15 27.7 -1.9**
comp=Z,17nm,0.9s
MPR Mayaguez 38.39 1 *e*P **P** **19 15 28.2 -1.5**
comp=Z,55nm,0.8s
CBYP Canovanas 38.50 3 *e*P **P** **19 15 28.8 -2.0**
comp=Z,146nm,1.3s
PMSA Palmer Station 44.42 178 P **P** **19 16 20.3 +2.0**
comp=Z,6.1nm,0.6s,baz=45,slow=9.8,SNR=5.3
LNIG Linares 54.47 324 *e*P **P** **19 17 35.4 +0.4**
comp=Z,11nm,0.6s
JSC Jenkinsville 55.84 347 *e*P **P** **19 17 45.7 +1.1**
comp=Z,15nm,0.6s
JSC Jenkinsville 55.84 347 *e*P **P** **19 17 45.7 +1.1**
JSC pmax pmax
comp=Z,15nm,0.6s
PAULI Pauline 56.48 346 *e*P **P** **19 17 49.6 +0.6**
comp=Z,91nm,2.0s
KMSC Kings Mountain 56.69 347 *e*P **P** **19 17 50.7 +0.2**
comp=Z,35nm,0.7s
HKT Hockley 56.81 331⇑ *e*P **P** **19 17 53.9 +2.5**
HKT pmax pmax
comp=Z,22nm,1.0s
TXAR Lajitas Array 60.26 324 P **P** **19 18 16.1 +0.6**
comp=Z,2.4nm,0.5s,baz=152,slow=8.6,SNR=11
WCI Wyandotte Cave 60.82 344 *e*P **P** **19 18 18.3 -0.6**
comp=Z,18nm,0.8s
WCI Wyandotte Cave 60.82 344 *e*P **P** **19 18 18.3 -0.6**
WCI pmax pmax
comp=Z,18nm,0.8s
VNA3 Neumayer Olymp 60.82 162 P **P** **19 18 20.9 +2.2**
Q51A Peebles 60.85 346 *e*P **P** **19 18 19.7 +0.5**
comp=Z,18nm,0.9s
P53A Whipple 60.89 348 *e*P **P** **19 18 20.1 +0.7**
comp=Z,67nm,1.3s
VNA1 Neumayer--Stat 61.01 161 P **P** **19 18 22.3 +2.5**
VNA2 Neumayer--Watz 61.38 161 P **P** **19 18 24.9 +2.5**
baz=288,slow=6.2
O52A Adamsville 61.59 348 *e*P **P** **19 18 24.0 -0.1**
comp=Z,14nm,0.6s
BLO Bloomington 61.77 344 *e*P **P** **19 18 24.9 -0.4**
comp=Z,19nm,0.6s
BLO Bloomington 61.77 344 *e*P **P** **19 18 24.9 -0.4**
BLO pmax pmax
comp=Z,19nm,0.6s
FVM French Village 61.81 340 *e*P **P** **19 18 25.9 +0.3**
comp=Z,28nm,0.5s
FVM French Village 61.81 340 *e*P **P** **19 18 25.9 +0.3**
FVM pmax pmax
comp=Z,28nm,0.5s
P45A Graceland, Par 62.43 343 *e*P **P** **19 18 28.8 -0.9**
comp=Z,17nm,0.8s
M54A Oil Creek Stat 62.55 350 *e*P **P** **19 18 30.6 +0.1**
comp=Z,92nm,1.8s
N49A Columbus Grove 62.85 346 *e*P **P** **19 18 32.4 -0.1**
comp=Z,29nm,0.8s
SNAA Sanae 63.02 161⇓ *e*P **P** **19 18 34.4 +1.1**
SNAA *i* *PP **pP** **19 19 17.0 +3.4**
SFIN Lafayette 63.05 344 *e*P **P** **19 18 33.0 -0.8**
comp=Z,14nm,0.7s
SADO Sadowa 65.66 351 P **P** **19 18 50.3 -0.4**
comp=Z,5.1nm,0.8s,baz=159,slow=6.9,SNR=4.9
ANMO Albuquerque 66.09 326 P **P** **19 18 54.6 +0.7**
comp=Z,3.0nm,0.8s,baz=129,slow=8.4,SNR=5.4
ANMO Albuquerque 66.09 326⇓ *e*P **P** **19 18 54.9 +1.0**
ANMO pmax pmax
comp=Z,8.0nm,1.1s
LIC Lamto 67.23 74 *e*P **P** **19 19 00.3 -1.0**
comp=Z,50nm,1.0s
BATG Bathurst New B 67.39 1 *e*P **P** **19 19 02.0 +0.4**
comp=Z,41nm,1.2s
TIC Toumodi 67.42 73 *e*P **P** **19 19 01.4 -1.1**
I39A Houston 67.50 342 *e*P **P** **19 19 01.9 -0.5**
comp=Z,15nm,0.9s
KIC Kosan Boka 67.55 74 *e*P **P** **19 19 02.5 -0.8**
comp=Z,71nm,0.9s
DBIC Dimbokro 67.57 73 P **P** **19 19 02.8 -0.7**
comp=Z,32nm,0.8s,baz=217,slow=6.4,SNR=38
DBIC LR LR 19 47 47.0
comp=Z,69nm,21.7s,baz=228,slow=35
X16A Lo Mia Camp, P 68.43 322 *e*P **P** **19 19 11.2 +2.5**
comp=Z,7.4nm,0.9s
QSPA South Pole Qui 69.78 180 *e*P **P** **19 19 18.7 +2.3**
comp=Z,17nm,1.3s
W13A Hualapai Mount 70.33 321 *e*P **P** **19 19 22.7 +2.4**
comp=Z,5.3nm,0.8s
U15A North Rim 70.36 323 *e*P **P** **19 19 23.2 +2.6**
comp=Z,9.1nm,0.7s
SRU San Rafael Swe 71.36 326 *e*P **P** **19 19 28.3 +1.9**
comp=Z,13nm,0.6s
SRU San Rafael Swe 71.36 326 *e*P **P** **19 19 28.3 +1.9**
SRU pmax pmax
comp=Z,13nm,0.6s
P18A Preston Nutter 71.60 327 *e*P **P** **19 19 30.3 +2.3**
comp=Z,12nm,0.7s
JLU Jordanelle 72.94 327 *e*P **P** **19 19 37.6 +1.8**
comp=Z,9.7nm,0.7s
PDAR Pinedale Array 73.62 329 P **P** **19 19 40.0 +0.2**
comp=Z,1.4nm,0.6s,baz=127,slow=8.2,SNR=8.6
PDAR Pinedale Array 73.62 329 *e*P **P** **19 19 40.6 +0.9**
SPUT South Promonto 73.97 327 *e*P **P** **19 19 43.3 +1.5**
comp=Z,11nm,0.7s
ULM Lac du Bonnet 74.56 342 P **P** **19 19 44.4 -0.3**
comp=Z,4.1nm,0.4s,baz=145,slow=7.5,SNR=12
ULM Lac du Bonnet 74.56 342 *e*P **P** **19 19 44.7 0.0**
comp=Z,37nm,1.5s
ULM Lac du Bonnet 74.56 342 *e*P **P** **19 19 44.7 0.0**
ULM pmax pmax
comp=Z,37nm,1.5s
SCHQ Schefferville 74.94 1 P **P** **19 19 46.4 -0.4**
comp=Z,5.1nm,0.6s,baz=240,slow=16,SNR=2.4
NV11 Mina Array Sit 75.11 321 *e*P **P** **19 19 50.0 +1.7**
comp=Z,1.0nm,0.8s
IMW Indian Meadow 75.14 329 *e*P **P** **19 19 50.5 +2.0**
comp=Z,8.3nm,0.6s
FLWY Flagg Ranch 75.16 330 *e*P **P** **19 19 50.8 +2.2**
comp=Z,14nm,0.7s
NVAR Mina Array Bea 75.19 321 P **P** **19 19 50.0 +1.1**
comp=Z,16nm,0.6s,baz=130,slow=7.5,SNR=53
YHH Holmes Hill 75.76 330 *e*P **P** **19 19 54.8 +2.7**
comp=Z,9.5nm,0.9s
TOA0 Torodi Ar. Sit 76.15 70 *e*P **P** **19 19 54.1 -0.5**
TORD Torodi Ar. Bea 76.15 70 P **P** **19 19 52.2 -2.4**
comp=Z,14nm,0.4s,baz=259,slow=4.9,SNR=134
TORD S **S** **19 29 18.9 -5.8**
comp=Z,1.8nm,0.9s,baz=256,slow=9.8,SNR=9.9
PAHR Pah Rah Range 76.67 322 *e*P **P** **19 19 59.8 +2.7**
comp=Z,12nm,0.9s
SYO Syowa Base 77.20 159⇑ *e*P **P** **19 20 01.1 +1.6**
SYO Syowa Base 77.20 159⇓ *e*pP pP 19 20 42.8 +1.4
VNDA Vanda 78.07 190 P **P** **19 20 06.8 +2.6**
comp=Z,1.6nm,0.9s,baz=124,slow=6.3,SNR=9.7
TSUM Tsumeb 79.50 107 *e*P **P** **19 20 14.4 +1.1**
comp=Z,8.8nm,0.8s
YBH Yreka Blue Hor 79.91 322 P **P** **19 20 15.0 +0.2**
comp=Z,1.6nm,0.5s,baz=72,slow=3.2,SNR=8.2
YBH Yreka Blue Hor 79.91 322 P **P** **19 20 15.0 +0.2**
G08A Pilot Rock 80.15 326 *e*P **P** **19 20 17.3 +1.3**
comp=Z,4.1nm,0.6s
NEW Newport 81.26 329 P **P** **19 20 23.0 +1.2**
comp=Z,2.0nm,0.6s,baz=135,slow=11,SNR=6.8
NEW Newport 81.26 329 P **P** **19 20 23.0 +1.2**
LTY Liberty 82.34 327 *e*P **P** **19 20 28.9 +1.3**
comp=Z,6.7nm,0.6s
BOSA Boshof 83.17 118 P **P** **19 20 31.7 -0.8**
comp=Z,4.5nm,0.7s,baz=261,slow=2.7,SNR=8.0
TAM Tamanrasset 83.54 63 P **P** **19 20 35.0 +0.7**
TAM pmax pmax
comp=Z,22nm,1.7s
ESDC Sonseca Array 84.44 44 P **P** **19 20 39.0 +0.6**
comp=Z,3.0nm,0.8s,baz=241,slow=4.7,SNR=12
MAW Mawson 85.11 163 P **P** **19 20 42.9 +1.7**
comp=Z,4.4nm,0.5s,baz=216,slow=6.8,SNR=30
YKA Yellowknife Ar 90.46 340 P **P** **19 21 06.7 +0.1**
comp=Z,1.5nm,0.4s,baz=134,slow=4.8,SNR=28
GERES GERESS Array B 99.81 42 P **Pdif** **19 21 49.5 -0.2**
comp=Z,0.4nm,0.7s,baz=224,slow=2.7,SNR=3.8
CLL Collm 100.22 39 *e*Pdif **Pdif** **19 21 51.0 -0.3**
CLL *e*PP **PP** **19 25 55.0 -4.7**
CLL Collm 100.22 39 *e*P **Pdif** **19 21 51.0 -0.3**
CLL *e* 19 25 55.0
BRTR Keskin Array B 111.48 54 Pdiff **Pdif** **19 22 40.5 -1.3**
comp=Z,0.3nm,0.6s,baz=245,slow=5.3,SNR=2.4
KBZ Khabaz 118.74 51 PKP **PKPdf** **19 26 53.3 +0.6**
comp=Z,2.4nm,0.8s,baz=262,slow=7.4,SNR=6.8
TIXI Tiksi 127.82 353 *i* PKIKP **PKPdf** **19 27 12.2 +2.9**
SEY Seymchan 129.44 337⇑ *i*PKIKP **PKPdf** **19 27 11.7 -1.0**
ABKAR Akbulak array 129.75 42 *e*PKPdf **PKPdf** **19 27 15.6 +1.9**
GEYT Alibeck 130.47 57 PKP **PKPdf** **19 27 15.9 +0.5**
comp=Z,0.7nm,0.6s,baz=117,slow=2.3,SNR=3.5
GEYT SKPbc **SKPbc** **19 30 22.3 -0.7**
comp=Z,0.9nm,0.8s,baz=262,slow=2.9,SNR=4.6
ASAR Alice Springs 131.28 207 PKP **PKPdf** **19 27 17.0 -0.5**
comp=Z,0.7nm,0.5s,baz=130,slow=1.6,SNR=14
ASAR SKPbc **SKPab** **19 30 27.1 +0.1**
comp=Z,1.8nm,0.8s,baz=141,slow=3.7,SNR=9.1
SKR Severo-Kuril's 134.12 322 *e*PKHKP PKPpre 19 27 10.5
WRA Warramunga Arr 134.34 210 PKhKP PKPpre 19 27 09.8
comp=Z,0.3nm,0.7s,baz=156,slow=2.1,SNR=4.9
WRA PKP **PKiKP** **19 27 24.2 -0.5**
comp=Z,1.1nm,0.8s,baz=158,slow=1.3,SNR=14
WRA SKPbc **SKPbc** **19 30 37.0 0.0**
comp=Z,2.2nm,0.9s,baz=152,slow=3.0,SNR=13
KURK Kurchatov 139.93 33⇓ *e*PKIKP **PKPdf** **19 27 32.3 -0.3**
ZALV Zalesovo Beam 140.59 25 PKhKP PKPpre 19 27 28.0
comp=Z,6.3nm,0.8s,baz=316,slow=4.1,SNR=7.3
ZALV PKP **PKPdf** **19 27 32.9 -0.8**
comp=Z,6.4nm,0.8s,baz=297,slow=2.7,SNR=15
ZALV SKPbc **SKPbc** **19 30 54.0 -0.1**
comp=Z,9.1nm,0.9s,baz=298,slow=3.9,SNR=14
AAK Ala-Archa 141.51 46⇓ *e*PKIKP **PKPdf** **19 27 35.1 -0.9**
NRN Naryn 143.02 47 *e*PKPdf PKPbc 19 27 37.4 +1.2
NRN Naryn 143.02 47 *e*PKIKP PKPbc 19 27 37.4 +1.2
KSH Kashi 143.73 50 PKP **PKPdf** **19 27 39.3 -0.6**
KSH PP **PP** **19 30 57.7 +3.2**
KSH PKS **PKSdf** **19 31 14.8 -0.9**
KSH AMB AMB
comp=Z,250nm,4.4s
KSH LR LR
comp=Z,250nm,6.2s
KSH LR LR
comp=Z,210nm,8.5s
KSH LR LR
comp=Z,200nm,15.3s
MK31 Makanchi Array 144.23 36 *e*PKPdf **PKPdf** **19 27 40.2 -0.3**
MK31 Makanchi Array 144.23 36 *e*PKIKP **PKPdf** **19 27 40.2 -0.3**
MKAR Makanchi Array 144.23 36 PKP **PKPdf** **19 27 40.2 -0.3**
comp=Z,6.9nm,0.7s,baz=344,slow=2.4,SNR=41
MKAR SKPbc **SKPbc** **19 31 02.9 -0.5**
comp=Z,2.3nm,0.9s,baz=317,slow=3.5,SNR=4.1
MK01 Makanchi Array 144.25 36 *e*PKPdf PKPbc 19 27 39.7 +0.5
ZEA Zeya 144.74 344 *e*PKIKP **PKPdf** **19 27 40.8 -0.3**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
HVS Khovu-Aksy 146.12 21⇓ *e*PKP2 **PKPbc** **19 27 44.3 -0.6**
KLR Kul'dur 147.21 336⇑ *e*PKIKP **PKPdf** **19 27 46.4 +1.0**
MOY Mondy 147.63 13 *e*PKP2 **PKPab** **19 27 50.8 -0.9**
MOY pmax pmax
comp=Z,37nm,1.8s
GUMO Guam 147.93 263 PKPbc **PKPdf** **19 27 48.9 +1.4**
comp=Z,33nm,0.4s,baz=342,slow=16,SNR=3.8
GUMO Guam 147.93 263 PKIKP **PKPdf** **19 27 49.0 +1.4**
HYB Hyderabad 148.21 90 *i* PKP **PKPbc** **19 27 52.0 +0.5**
WMQ Urumqi 149.07 35 *e*PKPbc **PKPdf** **19 27 50.6 +1.9**
WMQ PP **PP** **19 31 28.4 +3.1**
WMQ LR LR
comp=Z,250nm,28.3s
WMQ LR LR
comp=Z,230nm,21.3s
WMQ LR LR
comp=Z,180nm,21.3s
USRK Ussuriysk Ar. 151.05 330 PKPbc **PKPbc** **19 27 58.7 +1.0**
comp=Z,1.5nm,0.5s,baz=282,slow=0.7,SNR=6.5
MJAR Matsushiro Arr 152.07 311 PKPbc **PKPbc** **19 28 01.2 +1.0**
comp=Z,1.3nm,0.5s,baz=91,slow=0.8,SNR=7.1
SONA1 Songino Array 152.25 8 *e*PKPdf **PKPdf** **19 27 55.3 +1.7**
SONA1 *e*PKPbc **PKiKP** **19 28 01.6 +0.9**
SONM Songino Array 152.26 8 PKP **PKPdf** **19 27 54.3 +0.7**
comp=Z,1.5nm,0.8s,baz=310,slow=1.4,SNR=6.5
SONM PKPbc **PKiKP** **19 28 01.7 +0.9**
comp=Z,2.7nm,0.6s,baz=311,slow=1.0,SNR=13
ULN Ulaanbaatar 152.31 7⇓ *e*PKIKP **PKPdf** **19 27 54.1 +0.4**
LEM Lembang 152.59 170 PKPbc **PKPbc** **19 28 04.8 +2.5**
comp=Z,13nm,0.7s,baz=320,slow=9.4,SNR=4.3
GTA Gaotai 158.34 26⇑ PKP **PKPdf** **19 28 03.5 +1.4**
GTA PKPab **PKPab** **19 28 37.4 +0.2**
GTA pPKP pPKPdf 19 28 45.8 -1.6
GTA sPKP 19 29 03.3
GTA PP **PP** **19 32 22.2 +5.1**
GTA SKS **SKSdf** **19 34 51.1 -0.7**
GTA SKKS **SKKSac** **19 38 51.7 +1.5**
GTA SS **SS** **19 52 05.4 +2.3**
GTA AMB AMB
comp=Z,65nm,7.1s
GTA LR LR
comp=Z,220nm,21.3s
GTA LR LR
comp=Z,190nm,21.9s
GTA LR LR
comp=Z,50nm,20.3s
HHC Hu-ho-hao-te 159.62 1 *e*PKP **PKPdf** **19 28 02.4 -1.1**
HHC LR LR
comp=Z,140nm,15.1s
HHC LR LR
comp=Z,180nm,15.8s
HHC LR LR
comp=Z,140nm,16.7s
LZH Lanzhou 162.81 23 *e*PKP **PKPdf** **19 28 07.6 +0.5**
LZH pPKP pPKPdf 19 28 48.8 -3.6
LZH sPKP 19 29 05.0
LZH LR LR
comp=Z,310nm,17.8s
LZH LR LR
comp=Z,390nm,18.4s
LZH LR LR
comp=Z,460nm,19.9s
NJ2 Nanjing 166.90 334 *e*PKP **PKPdf** **19 28 11.5 +1.0**
CD2 Chengdu 167.16 34 PKP **PKPdf** **19 28 09.0 -1.8**
CMAR Chiang Mai Arr 167.49 97 PKP **PKPdf** **19 28 10.9 -0.4**
comp=Z,0.4nm,0.4s,baz=274,slow=1.9,SNR=4.8
CMAR PKPab **PKPab** **19 29 18.0 +0.1**
comp=Z,1.1nm,0.8s,baz=255,slow=6.9,SNR=12
GYA Guiyang 172.22 38 *e*PKP **PKPdf** **19 28 12.9 -1.1**
GYA pPKP pPKPdf 19 28 57.8 -1.6
GYA sPKP 19 29 15.0
GYA PKPab **PKPab** **19 29 39.2 +0.6**
GYA PKS **PKSdf** **19 31 44.0 -2.5**
GYA PP **PP** **19 33 31.6 +2.1**
GYA AMB AMB
comp=Z,120nm,8.2s

*ISCJB **04** 19:12:55.7±0.5, 13.˚90N±0.˚04×91.˚39W±0.˚03, h92km±4km, mb4.5/57, Error ellipse: s-maj=7.1km s-min=4.2km az=36.7*
*SNET **04** 19:12:56.0±0.0, 13.˚94N×91.˚42W, h35km*
*NEIC **04** 19:12:56.2±0.7, 13.˚98N×91.˚36W, h73km±5km, mb4.6/49, MD4.7(SNET), Error ellipse: s-maj=9.1km s-min=5.5km az=213.0*
NEIC Felt at Antigua Guatemala and San Marcos La Laguna. Felt [II] at San Salvador, El Salvador.
*UCR **04** 19:12:57.1±1.7, 13.˚44N×91.˚36W, h35km±999km, ML4.3, mb4.6(NEIC)*
*IDC **04** 19:13:01.9±1.1, 14.˚46N×90.˚81W, h109km±8km, mb4.0/19, mb1 4.1/22, mb1mx3.9/50, mbtmp4.4/22, MS3.5/14, Ms1 3.5/14, ms1mx3.3/40, Error ellipse: s-maj=24.1km s-min=10.9km az=47.0*
ISC 04 19:12:55.8±1.0, 13.˚92N±0.˚07×91.˚44W±0.˚05, h77km±8km, n322, σ1°29/323, mb4.5/57, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.27**	**321**	P	**Pn**	**19 13 16.3**	**-1.7**
THIG				S	**Sn**	**19 13 32.4**	**-2.2**
APG	**El Apazote**	**1.44**	**41**	P	**Pn**	**19 13 20.6**	**+0.2**
	385nm,0.3s,baz=315,slow=12,SNR=1529						
APG				S	**Sn**	**19 13 39.9**	**+1.0**
	764nm,0.3s,baz=239,slow=20,SNR=25						
APG				LR	LR	19 13 42.9	
	comp=Z,659nm,20.9s,baz=239,slow=64						
RTR	**El Retiro**	**1.75**	**90**	*e*P	**Pn**	**19 13 24.6**	**+0.2**
CEVE	**Cerro Verde**	**1.77**	**93**	*e*P	**Pn**	**19 13 24.5**	**-0.3**
CEVE				*e*S	**Sn**	**19 13 47.1**	**+0.3**
CEVE				IAML		19 13 50.5	
	comp=Z,15μm,0.3s						
SBLS	**San Blas**	**1.77**	**92**	*e*P	**Pn**	**19 13 24.4**	**-0.3**
SNJE	**San Jose**	**1.79**	**91**	*e*P	**Pn**	**19 13 24.9**	**-0.1**
COLS	**Colinas**	**2.10**	**97**	*e*P	**Pn**	**19 13 28.8**	**-0.3**
BOQS	**Boqueron**	**2.11**	**95**	*e*P	**Pn**	**19 13 29.4**	**+0.1**
BOQS				*e*S	**Sn**	**19 13 55.1**	**+0.3**
UEES	**San Salvador**	**2.15**	**95**	*e*P	**Pn**	**19 13 29.6**	**0.0**
UEES				*e*S	**Sn**	**19 13 55.3**	**-0.2**
SNET	**Serv Nac Est T**	**2.16**	**96**	*e*Pn	**Pn**	**19 13 28.5**	**-1.4**
SNET	**Serv Nac Est T**	**2.16**	**96**	*e*P	**Pn**	**19 13 29.7**	**-0.1**
SNET				*e*S	**Sn**	**19 13 55.9**	**0.0**
SNET				IAML		19 13 58.5	
	comp=Z,4μm,0.5s						
OPAM	**San Salvador**	**2.19**	**95**	*e*P	**Pn**	**19 13 30.8**	**+0.6**
OPAM				*e*S	**Sn**	**19 13 57.5**	**+1.0**
LFU	**La Fuente**	**2.27**	**94**	*e*P	**Pn**	**19 13 31.4**	**+0.1**
LFRS	**El Faro**	**2.33**	**97**	*e*P	**Pn**	**19 13 32.5**	**+0.3**
LBRS	**Las Brisas**	**2.34**	**94**	*e*P	**Pn**	**19 13 32.2**	**0.0**
PAVA	**Las Pavas**	**2.44**	**94**	*e*P	**Pn**	**19 13 33.6**	**0.0**
PAVA				*e*S	**Sn**	**19 14 03.8**	**+1.1**
CCIG	**Comitan**	**2.44**	**344**	*e*Pn	**Pn**	**19 13 35.4**	**+1.6**
PCIG		**2.47**	**316**	P	**Pn**	**19 13 32.4**	**-1.5**
SNVI	**San Vicente**	**2.55**	**97**	*e*P	**Pn**	**19 13 35.8**	**+0.6**
TECA	**Tecapa**	**2.89**	**98**	*e*P	**Pn**	**19 13 40.0**	**+0.3**
LCY	**Lacayo**	**3.10**	**99**	*e*P	**Pn**	**19 13 43.9**	**+1.3**
VSM	**San Miguel**	**3.12**	**99**	*e*P	**Pn**	**19 13 43.7**	**+0.8**
TGIG		**3.27**	**331**	P	**Pn**	**19 13 44.1**	**-0.7**
LCND	**La Ca˜–ada**	**3.51**	**100**	*e*P	**Pn**	**19 13 48.1**	**+0.2**
LCND				IAML		19 14 35.1	
	comp=Z,1μm,0.4s						
CRIN	**San Cristobal**	**4.44**	**105**	*e*S	**Sn**	**19 14 48.5**	**-2.9**
CRIN				IAML		19 14 54.1	
	comp=N,621nm,0.3s						
CMIG	**Matias Romero**	**4.58**	**314**	P	**Pn**	**19 14 02.0**	**-0.6**
	comp=N,25nm,0.3s,baz=125,slow=9.4,SNR=96						
CMIG				S	**Sn**	**19 14 53.3**	**-1.2**
	comp=N,62nm,0.3s,baz=338,slow=6.4,SNR=7.6						
CMIG				LR	LR	19 15 54.9	
	comp=N,224nm,19.1s,baz=140,slow=37						
HUIG	**Huatulco**	**4.87**	**293**	P	**Pn**	**19 14 04.2**	**-2.4**
ESTN	**Estel**	**5.00**	**99**	*e*Pn	**Pn**	**19 14 09.0**	**+0.6**
MOMN	**Momotombo**	**5.01**	**107**	*e*P	**Pn**	**19 14 07.5**	**-1.0**
MOMN				*e*S	**Sn**	**19 15 01.1**	**-4.0**
COPN	**Copaltepe**	**5.03**	**110**	*e*P	**Pn**	**19 14 07.0**	**-1.0**
COPN				IAML		19 15 05.5	
	comp=Z,285nm,0.3s						
MATN	**Matagalpa**	**5.46**	**100**	*e*P	**Pn**	**19 14 14.8**	**+0.1**
BOAB	**BOACO BROADBAN**	**5.81**	**104**	*e*Pn	**Pn**	**19 14 19.0**	**-0.4**
BOAB	**BOACO BROADBAN**	**5.81**	**104**	*e*P	**Pn**	**19 14 18.4**	**-1.1**
TEIG	**Tepich**	**6.96**	**25**	*e*Pn	**Pn**	**19 14 35.7**	**+0.5**
MYIG	**MØrida**	**7.19**	**13**	*e*Pn	**Pn**	**19 14 38.9**	**+0.7**
JTS	**JuntasAbangare**	**7.30**	**119**	P	**Pn**	**19 14 42.1**	**+2.3**
	comp=Z,2.4nm,0.3s,baz=10,slow=21,SNR=12						
JTS				S	**Sn**	**19 15 58.8**	**-2.5**
	comp=Z,2.7nm,0.3s,baz=22,slow=18,SNR=2.0						
JTS	**JuntasAbangare**	**7.30**	**119**	*e*Pn	**Pn**	**19 14 41.0**	**+1.1**
TLIG	**Tapa**	**7.76**	**299**	*e*Pn	**Pn**	**19 14 46.9**	**+0.8**
059Z	**Ave Maria**	**15.51**	**36**	P	**Pn**	**19 16 29.9**	**-0.1**
	baz=219						
058A	**Arcadia**	**15.88**	**33**	P	**Pn**	**19 16 33.6**	**-1.1**
	baz=216						
059A	**Moore Haven**	**16.16**	**35**	P	**P**	**19 16 39.6**	**-0.5**
	baz=218						
857A	**Zephyrhills**	**16.65**	**30**	P	**Pn**	**19 16 44.8**	**+0.5**
	baz=213,SNR=6.8						
DWPF	**Disney Wildern**	**16.92**	**32**	Pn	**Pn**	**19 16 47.1**	**-0.5**
	comp=Z,76nm,0.8s						
859A	**Kempfer Cattle**	**17.16**	**33**	P	**P**	**19 16 51.4**	**+0.4**
	baz=217						
655A	**Horseshoe Beac**	**17.27**	**25**	P	**P**	**19 16 52.6**	**+0.3**
	baz=208,SNR=6.6						
757A	**Oxford**	**17.30**	**29**	P	**Pn**	**19 16 52.2**	**0.0**
	baz=212						
341A	**Kurthwood**	**17.41**	**355**	P	**P**	**19 16 55.4**	**+1.6**
	baz=174						
553A	**Crawfordville**	**17.44**	**21**	P	**P**	**19 16 57.0**	**+2.9**
	baz=203,SNR=16						
656A	**Willston**	**17.45**	**27**	P	**P**	**19 16 54.5**	**+0.2**
	baz=210						
344A	**Westbrook Farm**	**17.46**	**2**	P	**P**	**19 16 55.9**	**+1.4**
	baz=182						
346A	**Big Creek Wild**	**17.48**	**6**	P	**P**	**19 17 00.7**	**+6.0**
	baz=186,SNR=5.6						
347A	**Saraland**	**17.61**	**8**	P	**Pn**	**19 16 59.4**	**+3.4**
	baz=189						
554A	**Perry**	**17.61**	**23**	P	**Pn**	**19 17 00.5**	**+4.4**
	baz=205,SNR=6.0						
349A	**Repton**	**17.79**	**12**	P	**Pn**	**19 17 00.9**	**+2.7**
	baz=193						
452A	**Marianna**	**17.81**	**18**	P	**Pn**	**19 17 00.8**	**+2.3**
	baz=200,SNR=5.1						
556A	**Lake Butler**	**18.05**	**26**	P	**Pn**	**19 17 02.9**	**+1.5**
	baz=209						
453A	**Whigham**	**18.09**	**20**	*e*P	**P**	**19 17 01.4**	**+0.1**
	comp=Z,36nm,1.0s						
453A	**Whigham**	**18.09**	**20**	P	**Pn**	**19 17 02.0**	**+0.1**
	baz=202						
JCT	**Junction City**	**18.20**	**336**	P	**Pn**	**19 17 04.8**	**+1.5**
	baz=153						
557A	**Orange Park**	**18.36**	**28**	P	**P**	**19 17 03.8**	**-0.5**
	baz=211						
249A	**Camden**	**18.40**	**12**	P	**Pn**	**19 17 06.7**	**+1.0**
	baz=193						
455A	**Stateville**	**18.45**	**23**	P	**P**	**19 17 05.0**	**-0.3**
	baz=206						
352A	**Blakely**	**18.47**	**18**	P	**Pn**	**19 17 07.7**	**+1.2**
	baz=200						
353A	**Camilla**	**18.57**	**20**	P	**Pn**	**19 17 08.6**	**+0.9**
	baz=202						
250A	**Grady**	**18.59**	**14**	P	**Pn**	**19 17 08.6**	**+0.7**
	baz=196						
OTAV	**Otavalo**	**18.71**	**136**	P	**P**	**19 17 09.3**	**+0.5**
146A	**Union**	**18.76**	**6**	P	**Pn**	**19 17 11.1**	**+1.1**
	baz=187						
WHTX	**Lake Whitney,**	**18.81**	**344**	P	**Pn**	**19 17 12.0**	**+1.4**
	baz=161						
TIGA	**Tifton**	**18.87**	**21**	*e*P	**Pn**	**19 17 11.6**	**+0.3**
	comp=Z,45nm,0.6s						
TIGA	**Tifton**	**18.87**	**21**	P	**Pn**	**19 17 11.5**	**+0.3**
	baz=204,SNR=5.8						
147A	**Livingston**	**18.89**	**8**	P	**Pn**	**19 17 12.0**	**+0.4**
	baz=189						
251A	**Midway**	**18.92**	**16**	P	**Pn**	**19 17 12.1**	**+0.3**
	baz=198						
148A	**Greensboro**	**18.98**	**10**	P	**Pn**	**19 17 12.9**	**+0.4**
	baz=191						
252A	**Lumpkin**	**19.01**	**18**	P	**Pn**	**19 17 13.4**	**+0.5**
	baz=200						
TXAR	**Lajitas Array**	**19.07**	**326**	P	**Pn**	**19 17 15.2**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=152,slow=12,SNR=40						
TXAR				PcP	**PcP**	**19 21 37.0**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=151,slow=3.5,SNR=5.2						
TX31	**Lajitas Ar. Si**	**19.07**	**326**	*e*P	**Pn**	**19 17 14.0**	**+0.3**
149A	**Jones**	**19.07**	**12**	P	**Pn**	**19 17 13.6**	**-0.1**
	baz=194,SNR=10						
ROSC	**El Rosal**	**19.14**	**116**	P	**Pn**	**19 17 15.8**	**+0.8**
	baz=98,slow=12,SNR=4.5						
150A	**Eclectic**	**19.25**	**14**	P	**Pn**	**19 17 16.0**	**+0.2**
	baz=196,SNR=10						
151A	**Opelika**	**19.35**	**16**	P	**Pn**	**19 17 17.2**	**+0.3**
	baz=198,SNR=15						
254A	**Abbeville**	**19.44**	**21**	P	**P**	**19 17 17.0**	**+0.9**
	baz=204						
Z47A	**Carrollton**	**19.44**	**9**	P	**Pn**	**19 17 18.2**	**+0.3**
	baz=190						
LRAL	**Lakeview Retre**	**19.46**	**11**	*e*P	**P**	**19 17 15.3**	**-1.0**
	comp=Z,8.0nm,0.5s						
LRAL	**Lakeview Retre**	**19.46**	**11**	P	**Pn**	**19 17 18.0**	**-0.2**
	baz=193						
152A	**Waverly Hall**	**19.65**	**17**	P	**Pn**	**19 17 19.5**	**-1.0**
	baz=200,SNR=13						
Z48A	**Northport**	**19.69**	**10**	P	**Pn**	**19 17 20.5**	**-0.4**
	baz=191						

Z50A	**Ashland** baz=196,SNR=13	19.89	14	P		Pn	19 17 22.3	-1.1
256A	**Glennville** baz=208	20.00	24	P		P	19 17 22.6	+0.5
Y46A	**Houston** baz=187	20.01	6	P		Pn	19 17 24.1	-0.6
ABTX	**Abilene, Hawle** comp=Z,11nm,0.8s	20.07	339	*e*P		P	19 17 23.9	+1.0
ABTX	**Abilene, Hawle** baz=156,SNR=8.2	20.07	339	P		P	19 17 24.1	+1.1
154A	**Montrose** baz=204	20.11	21	P		P	19 17 24.6	+1.2
Y47A	**UCPARC, Winfie** baz=190	20.16	9	P		P	19 17 24.6	+0.7
Z52A	**Williamson** baz=200,SNR=8.6	20.22	17	P		P	19 17 25.9	+1.3
Y48A	**Jasper** baz=192	20.28	10	P		Pn	19 17 26.6	-1.2
155A	**Kite** baz=206	20.34	22	P		P	19 17 26.7	+0.8
Y49A	**Blount Mountai** baz=194,SNR=7.4	20.37	12	P		Pn	19 17 27.6	-1.3
LPIG	**La Paz** comp=Z,67nm,19.5s,baz=218,slow=34	20.49	302	LR		LR	19 24 48.2	
X45A	**UM Field Stati** baz=185	20.50	5	P		P	19 17 26.7	-0.8
X41A	**Kaden, Bauxite** baz=177	20.51	357	P		Pn	19 17 30.2	-0.3
X40A	**Basin Creek Fa** baz=176	20.52	357	P		P	19 17 28.4	+0.6
Z53A	**Monticello** baz=202,SNR=8.9	20.56	19	P		P	19 17 29.0	+0.7
OXF	**Oxford** comp=Z,90nm,1.1s	20.59	5	*e*P		P	19 17 27.6	-0.9
OXF	**Oxford** baz=185	20.59	5	P		P	19 17 29.9	+1.4
MIAR	**Mount Ida** comp=Z,20nm,1.4s	20.63	355	*e*P		P	19 17 28.6	-0.4
MIAR	**Mount Ida** baz=174	20.63	355	P		P	19 17 28.8	-0.2
X39A	**Fountain Ranch** baz=172	20.64	354	P		P	19 17 29.3	+0.1
GOGA	**Godfrey** comp=Z,24nm,0.8s	20.72	19	*e*P		P	19 17 30.5	+0.5
GOGA	**Godfrey** baz=202,SNR=13	20.72	19	P		P	19 17 30.4	+0.5
Y51A	**Rockmart** baz=198	20.72	15	P		P	19 17 30.9	+0.9
156A	**Sylvania** baz=208	20.75	24	P		P	19 17 31.6	+1.4
X47A	**Russelville** baz=190	20.77	8	P		P	19 17 31.6	+1.2
Z54A	**Sparta** baz=204	20.77	21	P		P	19 17 30.9	+0.4
X48A	**Hartselle** baz=192	20.83	10	P		Pn	19 17 33.2	-1.1
X37A	**Clayton** comp=Z,19nm,1.0s	20.89	351	*e*P		P	19 17 32.5	+0.7
Y52A	**Lilburn** baz=200,SNR=10	20.96	17	P		P	19 17 33.4	+0.9
SDV	**Santo Domingo** comp=Z,10.0nm,0.7s,baz=291,slow=6.4,SNR=6.6	21.00	102	P		P	19 17 31.6	-1.8
SDV				LR		LR	19 26 51.0	
X49A	comp=Z,205nm,19.5s,baz=341,slow=40 **Woodville** baz=194	21.02	12	P		P	19 17 33.2	0.0
Y53A	**Monroe** baz=201,SNR=10	21.09	18	P		P	19 17 34.9	+1.0
X50B	**Fort Payne** baz=196,SNR=8.4	21.11	13	P		P	19 17 34.9	+0.7
W41B	**Gary Mavity, V** comp=Z,6.0nm,0.6s	21.18	358	*e*P		P	19 17 34.9	+0.1
W41B	**Gary Mavity, V** baz=178	21.18	358	P		P	19 17 35.8	+0.9
W42A	**Bald Knob** baz=180	21.26	360	P		P	19 17 37.7	+2.0
W39A	**Magazine** baz=174	21.29	355	P		P	19 17 35.9	-0.1
Y54A	**Tignall** baz=204,SNR=8.5	21.39	20	P		P	19 17 37.2	+0.1
W48A	**Pulaski** baz=192	21.52	10	P		P	19 17 38.4	-0.1
W47A	**Westpoint** baz=190	21.52	9	P		P	19 17 38.1	-0.4
W49A	**Belvidere** baz=194	21.62	12	P		P	19 17 39.2	-0.4
X52A	**Dahlonega** baz=200,SNR=12	21.70	17	P		P	19 17 40.5	0.0
WMOK	**Wichita Mounta** comp=Z,9.4nm,0.9s	21.77	344	*e*P		P	19 17 41.3	+0.1
WMOK	**Wichita Mounta** baz=160	21.77	344	P		P	19 17 42.1	+0.9
X53A	**Estanollee** baz=202,SNR=6.6	21.78	18	P		P	19 17 41.2	-0.1
V41A	**Mountainview** baz=178,SNR=7.7	21.78	358	P		P	19 17 40.8	-0.5
V42A	**Cord** baz=180,SNR=9.1	21.80	0	P		P	19 17 40.5	-0.9
MNTX	**Cornudas Mount** comp=Z,19nm,1.1s	21.83	326	*e*P		P	19 17 43.1	+1.2
MNTX	**Cornudas Mount** baz=141,SNR=24	21.83	326	P		P	19 17 43.1	+1.2
V40A	**Witts Springs** comp=Z,10nm,0.7s	21.83	357	*e*P		P	19 17 41.2	-0.6
V40A	**Witts Springs** baz=176,SNR=7.9	21.83	357	P		P	19 17 42.3	+0.5
W50A	**Signal Mountai** comp=Z,14nm,0.8s	21.90	14	*e*P		P	19 17 43.2	+0.6
W50A	**Signal Mountai** baz=196	21.90	14	P		P	19 17 43.2	+0.6
W51A	**Cleveland** baz=197	21.99	15	P		P	19 17 43.7	+0.1
V46A	**Holladay** baz=188,SNR=5.3	21.99	7	P		P	19 17 42.3	-1.2
V47A	**Nunnelly** baz=190	22.10	8	P		P	19 17 43.8	-0.9
V48A	**Smith Brothers** baz=192,SNR=5.1	22.12	10	P		P	19 17 45.4	+0.4
W52A	**Murphy** baz=199,SNR=7.4	22.15	17	P		P	19 17 46.3	+1.0
TUL1	**Leonard** baz=169	22.25	351	P		P	19 17 47.9	+1.6
V49A	**McMinnville** baz=194,SNR=7.7	22.32	12	P		P	19 17 47.1	0.0
CPCT	**Cooper Cave** comp=Z,22nm,1.3s	22.33	15	*e*P		P	19 17 47.5	+0.3
U41A	**Viola** baz=179,SNR=11	22.34	359	P		P	19 17 46.2	-1.0
U42A	**Revenden** baz=180,SNR=15	22.34	0	P		P	19 17 46.5	-0.8
WVT	**Waverly** comp=Z,7.0nm,0.6s	22.36	8	*e*P		P	19 17 47.0	-0.5
WVT	**Waverly** baz=189	22.36	8	P		P	19 17 46.9	-0.6
U43A	**Rector** baz=182	22.38	2	P		P	19 17 47.7	+0.1
U40A	**Yellville** baz=176,SNR=12	22.38	357	P		P	19 17 47.4	-0.3
V50A	**Pikevile** baz=196	22.40	14	P		P	19 17 46.9	-1.0
W53A	**Cullowhee** baz=201	22.44	18	P		P	19 17 48.8	+0.3
MSTX	**Muleshoe** baz=150	22.45	335	P		P	19 17 48.5	-0.2
U46A	**Springville** baz=188	22.54	7	P		P	19 17 48.4	-1.0
V51A	**Loudon** baz=198	22.71	15	P		P	19 17 50.7	-0.5
TKL	**Tuckaleechee C** comp=Z,25nm,0.7s,baz=180,slow=10,SNR=60	22.72	16	P		P	19 17 51.7	+0.3
TKL				LR		LR	19 27 32.0	
TKL	comp=Z,114nm,19.0s,baz=214,slow=40 **Tuckaleechee C** comp=Z,24nm,0.7s	22.72	16	*e*P		P	19 17 51.8	+0.5
U47A	**Clarksville** baz=190,SNR=6.1	22.74	9	P		P	19 17 51.1	-0.3
PBMO	**Poplar Bluff** comp=Z,24nm,0.7s	22.78	2	*e*P		P	19 17 50.8	-1.2
AMTX	**Amarillo** comp=Z,17nm,0.6s	22.83	338	*e*P		P	19 17 52.5	-0.1
AMTX	**Amarillo** baz=153	22.83	338	P		P	19 17 52.5	-0.1
U48A	**Cassie Pea, Po** baz=192	22.92	10	P		P	19 17 52.9	-0.5
V52A	**Sevierville** comp=Z,16nm,0.8s	22.94	17	*e*P		P	19 17 53.9	+0.3
V52A	**Sevierville** baz=200,SNR=7.2	22.94	17	P		P	19 17 53.4	-0.2
V53A	**Saluda** comp=Z,11nm,0.8s	23.01	18	*e*P		P	19 17 54.7	+0.4
V53A	**Saluda** baz=202,SNR=7.1	23.01	18	P		P	19 17 54.3	0.0
T42A	**Van Buren** comp=Z,12nm,0.7s	23.02	1	*e*P		P	19 17 52.6	-1.7
T42A	**Van Buren** baz=181,SNR=14	23.02	1	P		P	19 17 52.9	-1.4
T41A	**Mountain View** baz=179,SNR=14	23.03	359	P		P	19 17 53.4	-1.0
U49A	**Red Boiling Sp** baz=194,SNR=9.1	23.07	12	P		P	19 17 54.0	-0.8
T43A	**Greenville** baz=183,SNR=8.3	23.09	2	P		P	19 17 53.6	-1.5
T44A	**Benton** baz=184	23.13	4	P		P	19 17 54.5	-0.9
U50A	**Jamestown** baz=196,SNR=10	23.17	14	P		P	19 17 55.5	-0.3
T46A	**Princeton** baz=188	23.25	7	P		P	19 17 56.0	-0.5
T47A	**Sharon Grove** baz=190,SNR=6.2	23.30	9	P		P	19 17 56.5	-0.5
U51A	**La Follette** baz=198,SNR=9.5	23.34	15	P		P	19 17 57.2	-0.2
U52A	**Thorn Hill** baz=200	23.52	16	P		P	19 17 58.6	-0.5
S41A	**Jilco Farms,** baz=179,SNR=16	23.57	359	P		P	19 17 58.7	-0.8
S43A	**Fulton Ridge,** baz=183	23.59	3	P		P	19 17 58.4	-1.2
TZTN	**Tazewell** comp=Z,16nm,0.6s	23.61	16	*e*P		P	19 17 59.8	-0.2
TZTN	**Tazewell** baz=199,SNR=7.3	23.61	16	P		P	19 17 59.7	-0.2
T49A	**Edmonton** comp=Z,24nm,1.0s	23.69	12	*e*P		P	19 18 00.1	-0.5
T49A	**Edmonton** baz=194,SNR=6.1	23.69	12	P		P	19 18 00.4	-0.1
U53A	**Fall Branch** baz=202,SNR=12	23.72	18	P		P	19 18 00.8	-0.1
T50A	**Nancy** baz=196,SNR=7.8	23.75	13	P		P	19 18 00.2	-0.9
S44A	**Carbondale** baz=185	23.76	4	P		P	19 18 01.2	0.0
S42A	**Caledonia** baz=181,SNR=5.9	23.76	1	P		P	19 17 59.9	-1.3
SIUC	**Southern Illin** comp=Z,34nm,0.8s	23.78	4	*e*P		P	19 18 00.9	-0.4
121A	**Cookes Peak, D** baz=137	23.79	324	P		P	19 18 03.7	+2.0
T51A	**Gray** baz=198,SNR=11	23.91	15	P		P	19 18 02.2	-0.3
S47A	**Hartford** baz=195	23.93	9	P		P	19 18 03.0	+0.3
CCM	**Cathedral Cave** comp=Z,22nm,0.8s	24.04	0	*e*P		P	19 18 02.7	-0.9
CCM	**Cathedral Cave** baz=180	24.04	0	P		P	19 18 03.0	-0.6
S48A	**Wiedeman Farm,** baz=193	24.12	11	P		P	19 18 04.0	-0.4
R42A	**Luebbering** baz=181	24.27	1	P		P	19 18 05.9	+0.2
R41A	**Rosebud** baz=180,SNR=24	24.28	0	P		P	19 18 05.1	-0.7
R43A	**Red Bud** baz=183	24.30	3	P		P	19 18 05.9	-0.1
T52A	**Hallie** baz=200,SNR=5.4	24.30	17	P		P	19 18 05.8	-0.2
S49A	**Springfield** baz=194	24.39	12	P		P	19 18 06.3	-0.5
R45A	**Skylar, Fairfi** baz=187	24.44	6	P		P	19 18 07.5	+0.2
S50A	**Richmond** baz=196	24.48	14	P		P	19 18 07.6	0.0
LENM	**Lemitar**	24.59	328	*e*P		P	19 18 10.4	+1.5
ATAH	**Atahualpa** comp=Z,18nm,0.9s,baz=2.0,slow=7.3,SNR=5.0	24.60	147	P		P	19 18 13.4	+4.0
S51A	**Beattyville** comp=Z,22nm,1.1s	24.64	15	*e*P		P	19 18 09.0	-0.1
S51A	**Beattyville** baz=198,SNR=5.3	24.64	15	P		P	19 18 08.8	-0.3
WCI	**Wyandotte Cave** baz=192	24.64	10	P		P	19 18 08.8	-0.3
SJG	**San Juan** comp=Z,86nm,18.6s,baz=290,slow=37	24.66	77	LR		LR	19 27 52.7	
R47A	**Wooly Knot Far** baz=191	24.67	9	P		P	19 18 09.0	-0.4
S52A	**Salyersville** baz=199	24.81	16	P		P	19 18 09.9	-0.7
R49A	**Shelbyville** baz=194	24.91	12	P		P	19 18 11.0	-0.5
Q42A	**Golden Eagle** baz=182	24.91	2	P		P	19 18 11.9	+0.4
Q41A	**Truxton** baz=180,SNR=11	24.94	0	P		P	19 18 12.1	+0.3
ANMO	**Albuquerque** comp=Z,2.0nm,0.5s,baz=136,slow=11,SNR=11	24.94	330	P		P	19 18 14.0	+1.9
ANMO				PcP		PcP	19 21 48.0	+2.1
ANMO	comp=Z,1.5nm,0.8s,baz=106,slow=5.6,SNR=4.0 **Albuquerque** baz=143	24.94	330	P		P	19 18 14.1	+1.9
R50A	**Paris** baz=196	25.07	13	P		P	19 18 12.6	-0.5
R51A	**Hillsboro** baz=198	25.27	15	P		P	19 18 14.6	-0.2
P44A	**Sand Creek, Wi** baz=186	25.57	5	P		P	19 18 17.8	+0.3
P41A	**Barry, Barry** baz=181	25.66	1	P		P	19 18 17.9	-0.5
Q50A	**Georgetown** baz=197,SNR=9.3	25.69	14	P		P	19 18 17.8	-0.8
T25A	**Trinidad** baz=150	25.86	336	P		P	19 18 23.4	+3.0
Q51A	**Peebles** baz=198,SNR=5.2	26.01	14	P		P	19 18 21.4	-0.2
O41A	**Passleys Farm,** baz=181	26.10	1	P		P	19 18 22.2	-0.1
P49A	**Miami Univ. Ec** baz=195	26.20	12	P		P	19 18 22.7	-0.5
P50A	**Jamestown** baz=197,SNR=5.7	26.46	13	P		P	19 18 23.9	-1.7
O48A	**Farmland** baz=193	26.81	11	P		P	19 18 28.2	-0.5
N47A	**Urbana** baz=192	27.33	10	P		P	19 18 32.6	-0.8
N48A	**Decatur** baz=193	27.42	11	P		P	19 18 32.9	-1.3
L40A	**Ananasa** baz=180	28.04	0	P		P	19 18 39.4	-0.4
SSPA	**Standing Stone** comp=Z,12nm,0.8s	29.14	21	*e*P		P	19 18 49.0	-0.5
MVL	**Millersville** comp=Z,6.8nm,0.7s	29.17	24	*e*P		P	19 18 49.2	-0.5
LUPA	**Lehigh Univers** comp=Z,1.6nm,0.6s	30.07	25	*e*P		P	19 18 57.9	+0.1
N59A	**State Game Lan** comp=Z,20nm,1.4s	30.18	24	*e*P		P	19 18 58.3	-0.5
TYNO	**Tyneside** baz=202	30.74	17	P		P	19 19 03.3	-0.2
STCO	**Saint Catharin** baz=203	31.04	18	P		P	19 19 05.9	-0.3
BMRO	**Meriville Lake** baz=199	31.79	14	P		P	19 19 11.8	-1.1
CLWO	**Collingwood** baz=201	31.88	15	P		P	19 19 12.4	-1.2
F40A	**Park Falls** baz=182,SNR=9.7	31.92	2	P		P	19 19 12.0	-1.9
E39A	**Mellen** baz=181,SNR=6.4	32.37	1	P		P	19 19 15.6	-2.2
R11A	**Troy Canyon, C** baz=132	32.39	323	P		P	19 19 20.9	+2.5
SADO	**Sadowa** comp=Z,4.1nm,0.4s,baz=202,slow=8.6,SNR=8.5	32.48	16	P		P	19 19 17.1	-1.8
SADO				LR		LR	19 33 05.1	
DELO	comp=Z,86nm,19.8s,baz=196,slow=38 **Deloro Mine** baz=205	32.70	18	P		P	19 19 19.9	-0.9
PDAR	**Pinedale Array** comp=Z,0.6nm,0.6s,baz=123,slow=9.3,SNR=7.2	32.72	335	P		P	19 19 22.0	+0.7
PDAR				PcP		PcP	19 22 06.8	+1.5
PDAR	comp=Z,0.4nm,0.4s,baz=152,slow=4.7,SNR=4.2			LR		LR	19 34 24.3	
QUA2	comp=Z,41nm,20.2s,baz=148,slow=40 **Belchertown** comp=Z,16nm,1.1s	32.73	27	*e*P		P	19 19 20.0	-1.2
BGU	**Big Grassy Mou** comp=Z,5.8nm,0.8s	32.84	329	*e*P		P	19 19 24.9	+2.6
SPUT	**South Promonto**	32.85	330	*e*P		P	19 19 24.4	+2.0
BUKO	comp=Z,9.9nm,0.7s **Buck Lake** baz=202	33.04	16	P		P	19 19 22.7	-1.0
PLVO	**Plevna** baz=206	33.34	19	P		P	19 19 25.8	-0.6
HVU	**Hansel Valley** comp=Z,4.1nm,0.7s	33.37	330	*e*P		P	19 19 28.1	+1.2
D46A	**Sault St. Mari** baz=193,SNR=5.3	33.45	9	P		P	19 19 26.1	-1.2
LONY	**Lake Ozonia** comp=Z,13nm,1.1s	33.80	22	P		P	19 19 29.0	-1.4
ALGO	**Algonquin Park** baz=204	33.88	17	P		P	19 19 30.0	-1.0
NVAR	**Mina Array Bea** comp=Z,3.0nm,0.7s,baz=136,slow=7.6,SNR=19	34.08	321	P		P	19 19 36.5	+3.4
NVAR				PcP		PcP	19 22 11.4	+2.2
NVAR	comp=Z,3.0nm,0.7s,baz=134,slow=3.4,SNR=11			ScP		ScP	19 25 47.9	+0.4
PTGA	comp=Z,0.1nm,0.3s,baz=126,slow=4.6,SNR=1.9 **Pitinga** comp=Z,1.9nm,0.3s,baz=282,slow=8.1,SNR=6.0	34.41	112	P		P	19 19 35.8	-0.2
HLID	**Hailey** comp=Z,9.4nm,0.6s	35.51	331	*e*P		P	19 19 47.5	+2.1
HLID	**Hailey** baz=139	35.51	331	P		P	19 19 47.1	+1.7
MCMT	**McKenzie Canyo**	35.78	334	*e*P		P	19 19 50.6	+2.8
ULM	**Lac du Bonnet** comp=Z,92nm,19.6s,baz=152,slow=39	36.41	355	LR		LR	19 36 29.1	
WVOR	**Wild Horse Val** comp=Z,6.2nm,0.9s	36.86	326	*e*P		P	19 19 59.7	+2.8
LSQQ	**Lebel-sur-Quev** baz=204	37.01	16	P		P	19 19 56.6	-1.2
J08A	**Circle Bar Ran** comp=Z,18nm,0.6s	37.40	327	*e*P		P	19 20 03.8	+2.4
MATQ	**Matagami** baz=202,SNR=6.1	37.49	15	P		P	19 20 00.6	-1.3
BMO	**Blue Mountains** comp=Z,6.1nm,0.7s	37.86	330	P		P	19 20 06.5	+1.2
M04C	**Macdoel** baz=128	38.27	322	P		P	19 20 12.9	+4.1
N02D	**Trinity Center** baz=126	38.32	321	P		P	19 20 12.3	+3.2
J05D	**Fort Rock, OR** baz=130	38.86	325	P		P	19 20 15.5	+1.8
E09A	**Wood Farm, Sta** comp=Z,4.3nm,0.8s	39.47	331	*e*P		P	19 20 19.7	+1.1
I05D	**Terrebonne, OR** baz=130,SNR=5.8	39.60	326	P		P	19 20 21.8	+2.0
NEW	**Newport** comp=Z,2.0nm,0.6s,baz=140,slow=10,SNR=6.9	40.31	333	P		P	19 20 26.8	+1.3
NEW				PcP		PcP	19 22 28.0	+0.3
SCHQ	comp=Z,2.0nm,0.5s,baz=141,slow=6.5,SNR=3.7 **Schefferville** comp=Z,13nm,0.6s,baz=208,slow=6.2,SNR=5.8	45.11	20	P		P	19 21 02.6	-1.6
SCHQ				LR		LR	19 40 14.6	
YKA	comp=Z,154nm,20.3s,baz=12,slow=37 **Yellowknife Ar** comp=Z,4.9nm,0.7s,baz=150,slow=7.8,SNR=11	51.23	346	P		P	19 21 51.2	0.0
TAOE	**Nuku Hiva Isla** comp=Z,20nm,0.3s	53.37	248	*e*T		T	20 18 55.7	
RKT	**Rikitea** comp=Z,5.3nm,0.3s	56.30	230	*e*T		T	20 22 46.6	
INK	**Inuvik** comp=Z,3.8nm,0.6s,baz=121,slow=7.2,SNR=28	60.67	343	P		P	19 22 58.3	-0.2
RES	**Resolute Bay** comp=Z,3.3nm,0.7s,baz=171,slow=9.7,SNR=5.1	60.79	359	P		P	19 22 57.8	-1.5
GHO	**Glory Hole Cre** comp=Z,38nm,1.2s	62.71	333	*e*P		P	19 23 13.9	+1.4
KDAK	**Kodiak Island** comp=Z,12nm,0.6s,baz=164,slow=3.0,SNR=11	63.07	328	P		P	19 23 16.5	+1.7
IL1	**Eielson Array**	63.13	337	*e*P		P	19 23 15.2	+0.1
ILAR	**Eielson Array** comp=Z,3.4nm,0.8s,baz=166,slow=4.6,SNR=27	63.13	337	P		P	19 23 15.3	+0.2
BWN	**Browne** comp=Z,24nm,0.9s	63.89	336	*e*P		P	19 23 20.9	+0.8
TRF	**Thorofare Moun** comp=Z,8.9nm,0.7s	63.94	335	*e*P		P	19 23 22.1	+1.4
BPAW	**Bear Paw Mtn.** comp=Z,16nm,1.1s	64.47	335	*e*P		P	19 23 24.7	+0.7
PPT	**Papeete** comp=Z,79nm,22.0s,baz=255,slow=30	65.33	243	LR		LR	19 46 07.3	
PPT2	**Papeete2** comp=Z,59nm,24.2s	65.34	243	*e*LR		LR	19 42 55.4	
TOLK	**Toolik Lake Re** baz=115	65.78	340	P		P	19 23 33.3	+0.9
SUMG	**Summit** comp=Z,8.8nm,0.7s	66.17	15	*e*P		P	19 23 34.0	-1.2
SUMG	**Summit** comp=Z,18nm,0.5s	66.17	15	*i* P		P	19 23 34.0	-1.2
DAG	**Danmarks Havn** comp=Z,12nm,0.4s	72.62	13	⇑ *i*P		P	19 24 12.7	-1.7
JMIC	**Jan Mayen** comp=Z,35nm,18.8s,baz=238,slow=36	74.64	20	LR		LR	19 57 13.6	
EKA	**Eskdalemuir Ar** comp=Z,1.7nm,0.5s,baz=272,slow=6.0,SNR=14	77.72	36	P		P	19 24 41.5	-2.6
ESDC	**Sonseca Array** comp=Z,0.2nm,0.3s,baz=271,slow=4.3,SNR=3.1	79.34	52	P		P	19 24 51.1	-2.4
BILL	**Bilibino** comp=Z,3.1nm,0.6s	81.73	338	*e*P		P	19 25 06.3	+0.6
NB2	**NORSAR Subarra** comp=Z,0.4nm,0.6s,baz=288,slow=5.1	83.96	29	P		P	19 25 16.2	-1.2
NOA	**NORSAR Array B** comp=Z,0.6nm,0.7s,baz=289,slow=5.0,SNR=4.0	83.96	29	P		P	19 25 16.4	-1.0
NOA				LR		LR	20 01 29.1	
HFS	comp=Z,13nm,19.4s,baz=245,slow=35 **Hagfors** comp=Z,55nm,20.7s,baz=260,slow=36	85.41	29	LR		LR	20 03 33.0	
ARCES	**ARCESS Array B** comp=Z,2.8nm,1.0s,baz=261,slow=4.6,SNR=14	86.05	18	P		P	19 25 26.3	-1.3
TIXI	**Tiksi** comp=Z,1.6nm,0.6s,baz=47,slow=5.2,SNR=5.7	90.45	348	P		P	19 25 47.8	-0.6
NRIK	**Noril'sk** comp=Z,54nm,19.3s,baz=32,slow=38	96.96	0	LR		LR	20 14 12.7	
KSRS	**Korea Array** comp=Z,1.6nm,0.6s,baz=5.7,slow=2.2,SNR=5.1	116.92	326	PKP		PKPdf	19 31 33.5	+1.5
KSAR	**Wonju Array Be**	116.94	326	PKP		PKPdf	19 31 33.5	+1.4
BOSA	**Boshof** comp=Z,2.4nm,0.8s,baz=225,slow=1.7,SNR=4.9	119.83	115	PKP		PKPdf	19 31 38.5	+0.5
WMQ	**Urumqi**	122.54	1	*e*P		PKPdf	19 31 42.7	-0.1
WMQ	comp=N,110nm,16.9s			LR		LR		
WMQ				LR		LR		
MAW	comp=Z,89nm,20.1s **Mawson** comp=Z,1.1nm,0.5s,baz=287,slow=1.5,SNR=3.7	123.79	168	PKP		PKPdf	19 31 47.8	+3.7
KSH	**Kashi**	125.56	12	*e*PKP		PKPdf	19 31 47.2	-1.6
NJ2	**Nanjing** comp=Z,7.0nm,0.5s	125.85	328	*e*P pmax		PKPdf pmax	19 31 49.5	+0.2
NJ2								
GTA	**Gaotai**	125.92	349	*e*PKP		PKPdf	19 31 45.4	-4.1
GTA				sPKP			19 32 20.1	
LZH	**Lanzhou**	128.21	344	*e*PKP		PKPdf	19 31 51.5	-2.5
LZH				pPKP		pPKPdf	19 32 18.3	+2.4
LZH				sPKP			19 32 28.4	
WRA	**Warramunga Arr** comp=Z,0.3nm,0.7s,baz=87,slow=3.5,SNR=7.1	135.90	256	PKhKP		PKPpre	19 32 04.9	
WRA				PKP		PKiKP	19 32 12.0	+1.7
ASAR	comp=Z,0.8nm,0.9s,baz=29,slow=0.9,SNR=16 **Alice Springs** comp=Z,0.2nm,0.4s,baz=85,slow=2.1,SNR=6.7	136.15	250	PKhKP		PKPpre	19 32 10.0	
CHTO	**Chiang Mai** comp=Z,36nm,1.0s	145.90	342	P		PKPab	19 32 27.9	+0.1
CMMT	**Chiang Mai** comp=Z,8.3nm,1.3s	145.90	342	P		PKPab	19 32 27.8	0.0
CMAR	**Chiang Mai Arr** comp=Z,3.6nm,0.4s,baz=341,slow=4.0,SNR=35	146.24	342	PKPbc		PKPab	19 32 29.0	-0.1
SUKH	**Sukhothai** comp=Z,4.2nm,0.8s	146.94	340	P		PKPab	19 32 32.6	+0.8
PBKT	**Sadao Pong**	147.32	338	P		PKPab	19 32 32.9	-0.4
HYB	**Hyderabad**	147.34	18	*i* PKP		PKPbc	19 32 31.0	-0.5
UMPA	**Umpang Tak** comp=Z,2.9nm,1.0s	148.38	341	P		PKPab	19 32 37.9	+0.3

IDC ***04*** *19:19:20.7±1.6,52.4ºN×131.7ºW,h0km,mb3.7/1, mb1 3.8/4,mb1mx3.4/47,mbtmp3.4/4,ML3.5/4,MS3.2/4, Ms1 3.2/4,ms1mx2.7/64,Error ellipse: s-maj=22.0km s-min=6.3km az=40.0*

ISCJB ***04*** *19:19:21.0±1.1,52.5ºN±0.1ºx131.7ºW±0.2,h10km,mb3.5/1, MS3.4/2,Error ellipse: s-maj=19.7km s-min=7.3km az=40.2*

ISC 04 19:19:22.2±1.2,52.6ºN±0.2ºx131.7ºW±0.1,h10km,n9, σ1.9 **77/8,Queen Charlotte Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H02S1	**DAWSON INLET T**	0.78	323	Pg	**Pn**	**19 19 37.4**	**-1.8**

H02S1				Lg	Lg	19 19 50.3		
H02N1	**VAN INLET T-PH**	**0.84**	**323**	Pg	**Pn**	**19 19 38.4**	**-1.8**
H02N1				Lg	Lg	19 19 52.0		
	SNR=308							
BBB	**Bella Bella**	**2.23**	**99**	Pn	**Pn**	**19 19 58.4**	**-0.8**
	2.2nm,0.3s,baz=281,slow=10,SNR=6.4							
BBB				Sn	**Sn**	**19 20 25.6**	**-1.1**
	12nm,0.3s,baz=308,slow=15,SNR=5.0							
BBB				Lg	Lg	19 20 32.4		
	12nm,0.3s,baz=329,slow=22,SNR=6.4							
DLBC	**Dease Lake**	**5.95**	**9**	Pn	Pn	19 20 54.4	+4.1	
	0.8nm,0.3s,baz=191,slow=12,SNR=9.3							
DLBC				LR	LR	19 23 11.8		
	comp=Z,162nm,20.2s,baz=142,slow=38							
ILAR	**Eielson Array**	**14.49**	**333**	Pn	**P**	**19 22 56.5**	**+2.6**
	0.1nm,0.3s,baz=147,slow=11,SNR=11							
ILAR				LR	LR	19 27 50.6		
	comp=Z,56nm,19.8s,baz=166,slow=35							
NVAR	**Mina Array Bea**	**16.94**	**141**	Pn	**Pn**	**19 23 19.3**	**0.0**
	0.1nm,0.3s,baz=326,slow=11,SNR=2.4							
PDAR	**Pinedale Array**	**17.79**	**115**	P	**P**	**19 23 31.1**	**+0.4**
	0.1nm,0.3s,baz=317,slow=6.1,SNR=3.8							
TXAR	**Lajitas Array**	**31.08**	**127**	P	**P**	**19 25 40.2**	**-0.2**
	0.6nm,0.7s,baz=331,slow=7.3,SNR=6.9							
TXAR				LR	LR	19 40 02.8		
	comp=Z,59nm,18.2s,baz=0.0,slow=40							
MMAI	**Mount Meron Ar**	**94.02**	**11**	LR	LR	20 17 25.3		
	comp=Z,20nm,21.4s,baz=70,slow=37							

KRSC 04 19:26:18.1±1.3, 52.06N×160.20E, h17km±21km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.04**	**354**	*e*P	Pn	19 26 38.0	+0.2
SPN				*e*S	Sb	19 26 51.3	+0.4
RUS	**Russkaya**	**1.10**	**290**	*e*P	Pb	19 26 38.0	-0.6
RUS				*e*S	Sb	19 26 51.7	-0.9
NLC	**Nalytchevo**	**1.23**	**335**	*e*P	Pb	19 26 40.9	+0.2
NLC				*e*S	Sb	19 26 56.3	+0.1
DALK	**Dalny**	**1.31**	**318**	*e*P	Pb	19 26 42.0	-0.2
DALK				*e*S	Sn	19 26 58.5	-0.1
KDTR	**Khodutka, Kamc**	**1.34**	**260**	*e*P	Pn	19 26 42.1	+0.2
KDTR				*e*S	Sn	19 26 58.5	-0.8
PET	**Petropavlovsk**	**1.35**	**316**	*e*P	Pb	19 26 42.8	0.0
PET				*e*S	Sn	19 26 59.4	-0.1
UGLR	**Uglovaya**	**1.42**	**324**	*e*P	Pb	19 26 44.1	0.0
SDLR	**Sedlovina**	**1.46**	**327**	*e*P	Pb	19 26 44.8	0.0
SMAR	**Somma**	**1.47**	**325**	*e*P	Pb	19 26 44.7	-0.4
KRMR	**Karymshinskiy**	**1.48**	**302**	*e*P	Pn	19 26 44.3	+0.4
KRMR				*e*S	Sn	19 27 02.2	-0.6
AVH	**Avacha**	**1.50**	**324**	*e*P	Pb	19 26 45.4	0.0
KOK	**Koryaka**	**1.56**	**323**	*e*P	Pb	19 26 45.9	-0.5
KRX	**Arik**	**1.61**	**325**	*e*P	Pb	19 26 46.8	-0.5
KII	**Karymskiy**	**2.03**	**347**	*e*P	Pb	19 26 53.7	-0.7
APC	**Apacha**	**2.05**	**296**	*e*P	Pb	19 26 53.6	-1.2
APC				*e*S	Sb	19 27 19.1	-0.8
GNL	**Ganaly**	**2.13**	**321**	*e*P	Pb	19 26 54.9	-1.3
GNL				*e*S	Sb	19 27 21.7	-0.7
PAU	**Pauzhetka**	**2.19**	**256**	*e*P	Pb	19 26 56.8	-0.3
SKR	**Severo-Kuril's**	**2.91**	**243**	*e*P	Pn	19 27 05.8	+2.3
SKR				*e*S	Sb	19 27 41.3	-3.3
TUMR	**Tumrok**	**3.23**	**359**	*e*P	Pn	19 27 10.9	+3.0
KBTR	**Krutoberegovo**	**4.43**	**19**	*e*P	Pn	19 27 26.3	+2.0

*KRNET **04** 19:36:36.9±0.1, 41.26N×73.55E, h15km, mb3.6*
*SOME **04** 19:36:36.5, 41.23N×73.50E, h10km*
*NNC **04** 19:36:37.9±2.4, 41.40N×73.50E, h1km±14km, mb3.5, mpv3.2, Error ellipse: s-maj=24.8km s-min=6.6km az=0.0*
*KNET **04** 19:36:38.5±0.4, 41.34N×73.68E, h7km±1km, ml3.1, Error ellipse: s-maj=3.4km s-min=1.3km az=67.0*

ISC 04 19:36:36.0±1.2, 41.23N±0.05×73.59E±0.02, h13km±11km, n55, σ1§88/95, 34C-26D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.47**	**282**	⇑*i*P	**Pg**	**19 36 45.1**	**-0.2**
	baz=78						
ARSB				⇑*i*S	**Sg**	**19 36 51.3**	**-0.4**
	baz=78						
ARLS	**Aral**	**0.84**	**41**	⇓*i*P	**Pg**	**19 36 52.7**	**+0.5**
	baz=44						
ARLS				⇓*i*S	**Sg**	**19 37 03.8**	**+0.6**
	baz=44						
AML	**Almayashu**	**0.91**	**5**	⇓P	**Pg**	**19 36 53.7**	**+0.1**
	111nm,0.2s,SNR=444						
AML				⇑S	**Sb**	**19 37 05.9**	**-0.1**
	642nm,0.2s						
AML	**Almayashu**	**0.91**	**5**	⇓*i*P	**Pg**	**19 36 53.7**	**+0.1**
	baz=7.0						
AML				⇓*i*S	**Sb**	**19 37 05.7**	**-0.3**
	baz=7.0						
UCH	**Uchtor**	**1.21**	**34**	⇓P	**Pb**	**19 36 59.8**	**+0.7**
	42nm,0.1s,SNR=225						
UCH				⇓S	**Sg**	**19 37 16.3**	**+1.0**
	187nm,0.2s						
UCH	**Uchtor**	**1.21**	**34**	⇓*i*P	**Pb**	**19 36 59.7**	**+0.6**
	baz=36						
UCH				⇓*i*S	**Sg**	**19 37 16.2**	**+1.0**
	baz=36						
ARK	**Arkit**	**1.35**	**295**	⇓*i*P	**Pn**	**19 37 00.9**	**+0.2**
	baz=94						
ARK				⇓*i*S	**Sg**	**19 37 18.9**	**-0.7**
	baz=94						
EKS2	**Erkin-Say**	**1.44**	**5**	⇓P	**Pb**	**19 37 03.2**	**+0.4**
	96nm,0.1s,SNR=250						
EKS2	**Erkin-Say**	**1.44**	**5**	⇓*i*P	**Pb**	**19 37 03.2**	**+0.4**
	baz=7.0						
EKS2				⇓*i*S	**Sg**	**19 37 21.9**	**-0.5**
	baz=7.0						
KZA	**Kyzart**	**1.50**	**55**	⇑P	**Pb**	**19 37 05.0**	**+1.0**
	25nm,0.3s,SNR=43						
KZA	**Kyzart**	**1.50**	**55**	⇓*i*P	**Pb**	**19 37 05.0**	**+1.0**
	baz=57						
KZA				⇓*i*S	**Sg**	**19 37 25.4**	**+0.9**
	baz=57						
MRKS	**Merke**	**1.54**	**350**	*e*P	**Pb**	**19 37 04.6**	**+0.1**
	105nm,0.3s						
MRKS				*e*S	**Sg**	**19 37 24.7**	**-1.0**
	298nm,0.2s						
AAK	**Ala-Archa**	**1.56**	**25**	P	**Pb**	**19 37 05.8**	**+0.9**
	62nm,0.2s,SNR=182						
AAK				⇓S	**Sg**	**19 37 26.5**	**+0.2**
	212nm,0.2s						
AAK	**Ala-Archa**	**1.56**	**25**	⇑*i*P	**Pb**	**19 37 05.8**	**+0.9**
	baz=27						
AAK				⇑*i*S	**Sg**	**19 37 26.3**	**0.0**
	baz=27						
KBK	**Karagaybulak**	**1.75**	**35**	⇓P	**Pg**	**19 37 09.6**	**0.0**
	97nm,0.3s,SNR=91						
KBK	**Karagaybulak**	**1.75**	**35**	⇑*i*P	**Pb**	**19 37 09.4**	**+1.3**
	baz=36						
KBK				⇑*i*S	**Sg**	**19 37 32.4**	**+0.1**
	baz=36						
FRU1	**Bishkek**	**1.76**	**26**	⇑*i*P	**Pb**	**19 37 09.1**	**+0.9**
	baz=27						
FRU1				⇑*i*S	**Sg**	**19 37 32.5**	**-0.1**
	baz=27						
NRN	**Naryn**	**1.82**	**83**	⇑*i*P	**Pb**	**19 37 10.5**	**+1.1**
	baz=84						
NRN				⇑*i*S	**Sg**	**19 37 35.4**	**+0.7**
	baz=84						
CHMS	**Chumysh**	**1.97**	**26**	P	**Pb**	**19 37 13.2**	**+1.4**
	68nm,0.2s,SNR=57						
CHMS				⇓S	**Sg**	**19 37 39.0**	**-0.3**
	39nm,0.1s						
CHMS	**Chumysh**	**1.97**	**26**	⇑*i*P	**Pb**	**19 37 12.9**	**+1.2**
	baz=27						
CHMS				⇑*i*S	**Sg**	**19 37 38.0**	**-1.3**
	baz=27						
USP	**Ospenovka**	**2.15**	**18**	⇑P	**Pb**	**19 37 15.3**	**+0.5**
	55nm,0.2s,SNR=56						
USP	**Ospenovka**	**2.15**	**18**	⇓*i*P	**Pb**	**19 37 15.1**	**+0.3**
	baz=19						
USP				⇓*i*S	**Sb**	**19 37 42.4**	**+1.1**
	baz=19						
BOOM	**Boomskoye usch**	**2.16**	**53**	⇑*i*P	**Pb**	**19 37 15.7**	**+0.6**
	baz=55						
BOOM				⇑*i*S	**Sb**	**19 37 43.8**	**+2.0**
	baz=55						
ULHL	**Ulahol**	**2.23**	**62**	⇑P	**Pb**	**19 37 17.9**	**+1.7**
	35nm,0.5s,SNR=31						
ULHL	**Ulahol**	**2.23**	**62**	⇑*i*P	**Pb**	**19 37 15.6**	**-0.7**
	baz=63						
ULHL				⇑*i*S	**Sb**	**19 37 45.3**	**+1.5**
	baz=63						
TKM2	**Tokmak 2**	**2.25**	**41**	P	**Pb**	**19 37 17.5**	**+0.8**
	25nm,0.2s,SNR=62						
TKM2	**Tokmak 2**	**2.25**	**41**	⇑*i*P	**Pb**	**19 37 16.7**	**0.0**
	baz=42						
TKM2				⇑*i*S	**Sb**	**19 37 46.0**	**+1.4**
	baz=42						
DZA	**Taraz**	**2.37**	**315**	*e*P	**Pb**	**19 37 19.0**	**+0.4**
	97nm,0.4s						
DZA				*e*S	**Sg**	**19 37 49.8**	**-2.3**
	396nm,0.4s						
KST	**Kastek**	**2.53**	**43**	*e*P	**Pb**	**19 37 22.3**	**+1.0**
	21nm,0.4s						
KST				*e*S	**Sg**	**19 37 55.9**	**-1.4**
	140nm,0.4s						
DGS	**Degeres**	**2.58**	**38**	*e*P	**Pb**	**19 37 23.1**	**+0.9**
	64nm,0.5s						
DGS				*e*S	**Sg**	**19 37 57.3**	**-1.7**
	193nm,0.5s						
KDJ	**Kajisay**	**2.83**	**70**	⇑*i*P	**Pb**	**19 37 24.9**	**-1.7**
	baz=71						
KDJ				⇑*i*S	**Sb**	**19 38 00.5**	**-0.7**
	baz=71						
MTBS	**Maitube**	**2.84**	**47**	*e*P	**Pb**	**19 37 28.8**	**+2.2**
	8.3nm,0.5s						
MTBS				⇓*i*S	**Sg**	**19 38 06.6**	**-0.6**
	188nm,0.7s						
IZV	**Izvestkoviy**	**2.88**	**50**	*e*P	**Pb**	**19 37 29.1**	**+1.7**
	22nm,0.5s						
IZV				*e*S	**Sg**	**19 38 07.6**	**-1.0**
	133nm,0.4s						
KK31	**Karatay Array**	**2.96**	**310**	⇑Pn	**Pn**	**19 37 24.1**	**+1.4**
	0.4nm,0.3s,baz=121,slow=13,SNR=228						
KK31				⇑Pg	**Pb**	**19 37 28.4**	**-0.2**
	2.6nm,0.2s,baz=141,slow=16,SNR=10						
KK31				⇑Lg	Lg	19 38 07.6	
	28nm,0.3s,baz=133,slow=28,SNR=16						
TNSS	**Tian-Shan**	**3.08**	**53**	⇑*i*P	**Pb**	**19 37 33.8**	**+2.9**
	19nm,0.5s						
TNSS				*e*S	**Sg**	**19 38 14.8**	**-0.1**
	107nm,0.7s						
KNDC	**Almaty**	**3.20**	**50**	⇑Pg	**Pg**	**19 37 36.4**	**-0.9**
	22nm,0.6s						
KNDC				⇑Lg	Lg	19 38 18.5	
	97nm,0.5s						
MDOK	**Medeo**	**3.21**	**52**	⇑Pg	**Pb**	**19 37 35.4**	**+2.3**
	22nm,0.9s						
MDOK				⇓Lg	Lg	19 38 17.5	
	53nm,0.5s						
MDOK	**Medeo**	**3.21**	**52**	*e*P	**Pb**	**19 37 35.6**	**+2.6**
	8.4nm,0.4s						
MDOK				*e*S	**Sg**	**19 38 17.9**	**-1.3**
	61nm,0.6s						
KOTS	**Kotyrbulak**	**3.29**	**51**	*e*P	**Pg**	**19 37 37.9**	**-1.2**
	6.8nm,0.5s						
KOTS				*e*S	**Sg**	**19 38 22.1**	**+0.4**
	52nm,0.6s						
BRLS	**Borolday**	**3.33**	**304**	*e*P	**Pb**	**19 37 35.6**	**+0.8**
	0.9nm,0.7s						
BRLS				*e*S	**Sb**	**19 38 18.0**	**+2.8**
	92nm,0.5s						
KUU	**Kurty**	**3.35**	**36**	*e*P	**Pb**	**19 37 37.6**	**+2.3**
	23nm,0.4s						
KUU				⇑*i*S	**Sg**	**19 38 21.2**	**-2.3**
	95nm,0.7s						
KTBS	**Karatobe**	**3.37**	**42**	*e*P	**Pb**	**19 37 38.8**	**+3.1**
	6.0nm,0.2s						
KTBS				*e*S	**Sg**	**19 38 23.5**	**-0.8**
	88nm,0.4s						
CHKK	**Chushkaly**	**3.63**	**43**	*e*P	**Pb**	**19 37 42.6**	**+2.6**
	7.0nm,0.6s						
CHKK				*e*S	**Sg**	**19 38 29.9**	**-2.6**
	82nm,0.3s						
SATY	**Saty**	**4.02**	**61**	*e*P	**Pb**	**19 37 49.3**	**+2.6**
	15nm,0.7s						
SATY				⇑*i*S	**Sg**	**19 38 41.9**	**-3.1**
	49nm,0.4s						
ARXS	**Arharly**	**4.32**	**45**	*e*P	**Pb**	**19 37 55.9**	**+4.2**
	8.9nm,0.5s						
ARXS				*e*S	**Sg**	**19 38 52.1**	**-2.4**
	60nm,0.5s						
KPKS	**Kokpek**	**4.38**	**58**	*e*P	**Pb**	**19 37 57.1**	**+4.2**
	14nm,0.8s						
KPKS				*e*S	**Sg**	**19 38 54.8**	**-2.0**
	71nm,0.9s						
UZB	**Uzynbulak**	**4.47**	**63**	*e*P	**Pb**	**19 37 57.2**	**+2.9**
	8.1nm,0.6s						
UZB				⇓*i*S	**Sg**	**19 38 55.7**	**-3.7**
	17nm,0.7s						
MNBS	**Baschi**	**4.55**	**50**	*e*P	**Pb**	**19 37 58.8**	**+3.1**
	5.6nm,0.5s						
MNBS				*e*S	**Sg**	**19 38 58.1**	**-3.9**
	28nm,0.6s						
TDK	**Taldyqorghan**	**5.16**	**41**	*e*P	**Pg**	**19 38 11.5**	**-3.3**
	18nm,0.5s						
TDK				*e*S	**Sg**	**19 39 19.1**	**-2.5**
	61nm,0.8s						
DJR	**Jarkent**	**5.51**	**54**	*e*P	**Pg**	**19 38 18.4**	**-3.2**
	1.4nm,0.5s						
DJR				*e*S	**Sg**	**19 39 31.1**	**-1.8**
	14nm,0.7s						
KAPS	**Kapalarasan**	**5.84**	**44**	*e*P	**Pb**	**19 38 22.0**	**+4.2**
	3.6nm,0.6s						
KAPS				*e*S	**Sg**	**19 39 37.2**	**-6.3**
	8.1nm,0.4s						
MK31	**Makanchi Array**	**8.38**	**45**	⇓Lg	Lg	19 40 57.5	
	2.7nm,0.7s,baz=232,slow=29,SNR=2.6						
KURK	**Kurchatov**	**10.11**	**18**	⇓Lg	Lg	19 41 53.7	
	12nm,0.9s						
BRVK	**Borovoye**	**12.05**	**350**	⇑Lg	Lg	19 42 56.0	
	10nm,1.0s						
AB31	**Akbulak array**	**12.52**	**314**	Pn	**Pn**	**19 39 32.7**	**-1.0**
	0.3nm,0.4s,baz=121,slow=13,SNR=9.9						

*ISCJB **04** 19:37:37.8±0.5, 5.92S±0.05×127.92E±0.07, h400km, mb3.3/2, Error ellipse: s-maj=9.5km s-min=6.0km az=19.1*
*IDC **04** 19:37:37.8±1.1, 5.97S×128.00E, h374km±15km, mb3.1/2, mb1 3.7/6, mb1mx3.0/41, mbtmp4.4/6, Error ellipse: s-maj=17.8km s-min=12.4km az=97.0*
*DJA **04** 19:37:40.2±0.9, 5°S±9°×12°8E±°, h423km±6km, M3.6/6, MLv3.6/6*

ISC 04 19:37:38.0±0.8, 5.91S±0.07×127.87E±0.08, h400km, n13, σ1§73/20, 2C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**2.23**	**8**	P	**Pn**	**19 38 35.9**	**+0.3**
AAI				S	**S**	**19 39 22.7**	**+0.7**
BNDI	**Bandanaira**	**2.45**	**56**	P	**Pn**	**19 38 38.1**	**+1.0**
BNDI				S	**S**	**19 39 26.8**	**+2.1**
NLAI	**Namlea**	**2.76**	**344**	P	**Pn**	**19 38 40.3**	**+0.9**
NLAI				S	**S**	**19 39 28.1**	**-0.8**
SANI	**Sanana**	**4.26**	**334**	P	**Pn**	**19 38 51.3**	**-1.4**
FAKI	**Fak Fak**	**5.28**	**56**	P	**Pn**	**19 39 03.1**	**0.0**
FAKI				S	**S**	**19 40 09.0**	**-3.1**
BATI	**Baumata**	**5.96**	**224**	P	**Pn**	**19 39 10.4**	**+0.1**
	7.7nm,0.3s,baz=39,slow=1.9,SNR=13						
BATI				S	**S**	**19 40 23.9**	**-1.7**
	5.2nm,0.3s,baz=290,slow=17,SNR=12						
SIJI	**Sorong**	**6.04**	**34**	P	**Pn**	**19 39 11.1**	**-0.2**
	9.8nm,0.3s,baz=207,slow=11,SNR=54						
SIJI				S	**S**	**19 40 23.4**	**-3.8**
	7.4nm,0.3s,baz=269,slow=23,SNR=10						
WRA	**Warramunga Arr**	**15.31**	**156**	P	**P**	**19 40 54.5**	**+0.6**
	2.4nm,0.3s,baz=334,slow=11,SNR=153						
WRA				S	**S**	**19 43 34.9**	**-1.2**
	0.3nm,0.3s,baz=334,slow=21,SNR=14						
ASAR	**Alice Springs**	**18.59**	**162**	P	**P**	**19 41 29.4**	**+0.4**
	2.3nm,0.3s,baz=344,slow=11,SNR=136						
ASAR				S	**S**	**19 44 40.2**	**+1.1**
	0.1nm,0.3s,baz=352,slow=25,SNR=7.2						
STKA	**Stephens Creek**	**28.85**	**155**	P	**P**	**19 43 02.5**	**+0.7**
	2.1nm,0.6s,baz=332,slow=10,SNR=5.8						
CMAR	**Chiang Mai Arr**	**37.41**	**311**	P	**P**	**19 44 17.9**	**+2.7**
	0.5nm,0.6s,baz=137,slow=7.2,SNR=5.8						
SYO	**Syowa Base**	**83.91**	**201**	⇑*e*P	P	19 49 18.2	-5.7
SYO	**Syowa Base**	**83.91**	**201**	⇑*e*P	**P**	**19 49 22.2**	**-1.7**

*NIED **04** 19:49:00, 45.60N×151.50E, h47km, Mw4.3 Best double couple: M0 3.48000×10^15 NP1:φs 153.00000°, δ 8.00000°, λ -180.00000°. NP2:φs 62.00000°, δ 90.00000°, λ -82.00000°.*
*MOS **04** 19:49:04.9±0.9, 45.42N×151.55E, h31km, mb4.4/15, Error ellipse: s-maj=10.8km s-min=7.9km az=54.9*
*JMA **04** 19:49:05.1±0.5, 45.55N×151.52E, h30km, M4.6*
*ISCJB **04** 19:49:05.3±0.5, 45.32N±0.07×151.45E±0.07, h32km, mb3.9/28, MS2.8/1, Error ellipse: s-maj=12.3km s-min=3.3km az=146.2*
*SKHL **04** 19:49:06.6±1.0, 45.51N×151.47E, h55km±4km, mb4.5/6*
*IDC **04** 19:49:08.8±2.3, 45.43N×151.45E, h48km±20km, mb3.7/23, mb1 3.8/28, mb1mx3.7/67, mbtmp3.9/28, ML3.5/5, MS3.0/5, Ms1 3.0/5, ms1mx2.7/43, Error ellipse: s-maj=19.1km s-min=13.5km az=121.0*

ISC 04 19:49:06.5±0.6, 45.35N±0.08×151.40E±0.06, h32km, n130, σ2§05/136, mb4.0/30, 16C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.50**	**269**	*i* P	**Pn**	**19 49 47.2**	**+2.4**
KUR				AMB	AMB	19 49 49.0	
	70nm,0.2s						
KUR				AMB	AMB	19 49 49.0	
	80nm,0.2s						
KUR				AMB	AMB	19 49 49.0	
	20nm,0.2s						
KUR				*e*S	**Sn**	**19 50 16.4**	**+2.3**
KUR				A	A	19 50 24.0	
	480nm,0.5s						
KUR				A	A	19 50 24.0	
	279nm,0.5s						
KUR	**Kuril'sk**	**2.50**	**269**	*d i* PN	**Pn**	**19 49 47.4**	**+2.6**
KUR				*i* S	**Sb**	**19 50 17.7**	**-3.2**
KUR				pmax	pmax		
	comp=Z,217nm,0.4s						
KUR				pmax	pmax		
	comp=E,77nm,0.2s						
KUR				smax	smax		
	comp=N,781nm,0.5s						
KUR				smax	smax		
	comp=E,281nm,0.5s						
SHO	**Shikotan**	**3.58**	**247**	*i* P	**Pn**	**19 50 00.6**	**+0.9**
SHO				AMB	AMB	19 50 02.0	
	comp=E,20nm,0.4s						
SHO				AMB	AMB	19 50 02.0	
	comp=E,70nm,0.4s						
SHO				*i* S	**Sn**	**19 50 41.7**	**+0.8**
SHO				A	A	19 50 50.0	
	comp=E,230nm,0.5s						
SHO				A	A	19 50 50.0	
	comp=E,129nm,0.5s						
SHO	**Shikotan**	**3.58**	**247**	*d i* PN	**Pn**	**19 50 00.3**	**+0.6**
SHO				pmax	pmax		
	comp=Z,70nm,0.4s						
SHO				pmax	pmax		
	comp=E,23nm,0.2s						
SHO				pmax	pmax		
	comp=N,22nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.16**	**254**	*e*P	**Pn**	**19 50 10.0**	**+2.3**
YUK				AMB	AMB	19 50 12.1	
	comp=N,50nm,0.4s						
YUK				AMB	AMB	19 50 12.1	
	comp=N,4μm,0.4s						
YUK				*e*S	**Sn**	**19 50 57.2**	**+2.0**
YUK				A	A	19 51 00.2	
	comp=N,180nm,0.5s						
YUK				A	A	19 51 00.2	
	comp=N,199nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.16**	**254**	*e*PN	**Pn**	**19 50 09.9**	**+2.3**
YUK				pmax	pmax		
	comp=Z,136nm,0.4s						
LAGR	**Lagunnoye**	**4.21**	**254**	*e*P	**Pn**	**19 50 10.0**	**+1.7**
LAGR				AMB	AMB	19 50 13.0	
	comp=Z,30nm,0.4s						
LAGR				AMB	AMB	19 50 13.0	
	comp=Z,4μm,0.4s						
LAGR				*e*S	**Sn**	**19 50 58.0**	**+1.7**
LAGR				A	A	19 51 03.0	
	comp=Z,30nm,0.5s						
LAGR				A	A	19 51 03.0	
	comp=Z,290nm,0.5s						
LAGR	**Lagunnoye**	**4.21**	**254**	*e*PN	**Pn**	**19 50 10.3**	**+2.0**
LAGR				pmax	pmax		
	comp=Z,271nm,0.4s						
GRPR	**Tuman**	**4.24**	**253**	*e*P	**Pn**	**19 50 10.0**	**+1.3**
GRPR				AMB	AMB	19 50 15.0	
	comp=Z,80nm,0.2s						
GRPR				AMB	AMB	19 50 15.0	
	comp=Z,70nm,0.2s						
GRPR				AMB	AMB	19 50 15.0	
	comp=Z,20nm,0.2s						
GRPR				*e*S	**Sn**	**19 50 58.0**	**+0.9**
GRPR				A	A	19 51 04.0	
	comp=Z,20nm,0.4s						
GRPR				A	A	19 51 04.0	
	comp=Z,290nm,0.4s						
GRPR	**Tuman**	**4.24**	**253**	PN	**Pn**	**19 50 10.3**	**+1.6**
GRPR				pmax	pmax		
	comp=Z,158nm,0.2s						
GRPR				pmax	pmax		
	comp=N,87nm,0.1s						
GRPR				pmax	pmax		
	comp=E,73nm,0.1s						
GLVR	**Golovnino**	**4.50**	**251**	*e*P	**Pn**	**19 50 14.0**	**+1.7**
GLVR				AMB	AMB	19 50 15.0	
	comp=E,20nm,0.4s						
GLVR				AMB	AMB	19 50 15.0	
	comp=E,4μm,0.4s						
GLVR				*e*S	**Sn**	**19 51 05.0**	**+1.4**
GLVR				A	A	19 51 08.0	
	comp=E,180nm,0.5s						
GLVR				A	A	19 51 08.0	
	comp=E,59nm,0.5s						
GLVR	**Golovnino**	**4.50**	**251**	*e*PN	**Pn**	**19 50 14.0**	**+1.7**
GLVR				pmax	pmax		
	comp=Z,172nm,0.4s						
NEM2	**Nemuro 2**	**4.51**	**246**	P	**Pn**	**19 50 12.9**	**+0.4**
NEM2				*e*S	**Sn**	**19 51 03.3**	**-0.6**
JRA	**Rausu**	**4.70**	**255**	P	**Pn**	**19 50 17.9**	**+2.9**
JNK	**Nakash**	**5.10**	**252**	P	**Pn**	**19 50 22.2**	**+1.7**
JNK				*e*S	**Sn**	**19 51 19.1**	**+0.8**
JAK	**Akkeshi**	**5.36**	**246**	P	**Pn**	**19 50 24.3**	**+0.1**
JTKR	**Abashiri--Toko**	**5.52**	**258**	P	**Pn**	**19 50 29.3**	**+3.0**
JAR	**Ashorobuto**	**5.84**	**252**	P	**Pn**	**19 50 33.1**	**+2.3**
JAR				*e*S	**Sn**	**19 51 39.1**	**+2.4**
JMP	**Maruseppu**	**5.89**	**260**	P	**Pn**	**19 50 34.8**	**+3.3**
JOB	**Onbets**	**5.97**	**249**	P	**Pn**	**19 50 33.4**	**+0.9**
SKR	**Severo-Kuril's**	**6.21**	**29**	*e*P	**Pn**	**19 50 34.4**	**-1.3**
YSS	**Yuzh-Sakhalins**	**6.22**	**288**	*e*P	**Pn**	**19 50 36.0**	**+0.1**
JKK2	**Kamakawa 2**	**6.35**	**260**	P	**Pn**	**19 50 41.2**	**+3.4**
JKA	**Kamikawa-asahi**	**6.39**	**262**	*e*P	**Pn**	**19 50 41.9**	**+3.6**
ASAJ	**Asahikawa**	**6.39**	**262**	P	**Pn**	**19 50 41.9**	**+3.6**
	comp=Z,3.9nm,0.3s,baz=63,slow=21,SNR=33						
ASAJ				S	**Sb**	**19 52 07.0**	**-5.8**
	baz=66,slow=18,S

comp=Z,115nm,18.1s,baz=98,slow=39
EKMR Ekimchan 14.29 309 *e*P **Pn 19 52 22.2 -4.3**
KSRS Korea Array 19.25 254 P **Pn 19 53 29.0 -0.2**
comp=Z,0.2nm,0.3s,baz=59,slow=10,SNR=6.0
KSRS LR LR 20 01 49.7
comp=Z,40nm,19.2s,baz=16,slow=39
KSRS Korea Array 19.25 254 *e*P **Pn 19 53 30.8 +1.6**
KSRS Korea Array 19.25 254 *e*P **Pn 19 53 30.8 +1.6**
YAK Yakutsk 20.91 331 P **P 19 53 46.7 +0.8**
comp=Z,7.9nm,0.4s,baz=159,slow=2.0,SNR=3.7
YAK LR LR 20 01 48.7
comp=Z,39nm,18.3s,baz=80,slow=36
YAK Yakutsk 20.91 331⇑ *e*P **P 19 53 38.8 -7.1**
YAK pmax pmax
comp=Z,2.0nm,0.7s
BILL Bilibino 24.03 14 *e*P **P 19 54 17.6 -0.6**
BILL Bilibino 24.03 14‖ *e*P **P 19 54 17.6 -0.6**
BILL pmax pmax
comp=Z,2.0nm,1.4s
TIK Tiksi 28.49 345 *e*P **P 19 54 55.4 -2.8**
TIXI Tiksi 28.50 345 P **P 19 54 56.6 -1.8**
comp=Z,0.5nm,0.4s,baz=158,slow=5.8,SNR=5.9
TIXI Tiksi 28.50 345‖ *e*P **P 19 54 55.4 -3.0**
TIXI pmax pmax
comp=Z,1.0nm,1.2s
H11N2 WAKE ISLAND Hy 28.59 148 T T 20 25 45.9
baz=333
H11N1 WAKE ISLAND Hy 28.60 148 T T 20 25 47.2
baz=333
H11N3 WAKE ISLAND Hy 28.60 148 T T 20 25 47.0
baz=333
H11S1 WAKE ISLAND Hy 29.64 150 T T 20 27 04.3
baz=337
H11S3 WAKE ISLAND Hy 29.64 150 T T 20 27 03.5
baz=337
H11S2 WAKE ISLAND Hy 29.66 150 T T 20 27 03.7
baz=337
SONM Songino Array 30.70 291 P **P 19 55 19.8 +1.5**
comp=Z,0.5nm,0.5s,baz=76,slow=8.5,SNR=3.3
ILAR Eielson Array 38.39 37 P **P 19 56 24.0 -0.3**
comp=Z,0.4nm,0.8s,baz=258,slow=6.9,SNR=5.7
INK Inuvik 43.47 31 P **P 19 57 07.2 +1.1**
comp=Z,0.8nm,0.6s,baz=284,slow=5.8,SNR=4.8
MKAR Makanchi Array 46.53 298 P **P 19 57 31.2 +0.4**
comp=Z,0.4nm,0.4s,baz=68,slow=7.5,SNR=10
MKAR PcP **PcP 19 59 05.0 +0.4**
comp=Z,0.4nm,0.5s,baz=82,slow=2.7,SNR=3.8
BVAR Borovoye Array 50.83 310 P **P 19 58 03.3 -0.4**
comp=Z,0.3nm,0.2s,baz=56,slow=10,SNR=2.8
BVAR PcP **PcP 19 59 19.7 -0.3**
comp=Z,0.6nm,0.6s,baz=0.0,slow=1.9,SNR=4.2
CMAR Chiang Mai Arr 50.88 256 P **P 19 58 05.5 +1.1**
comp=Z,0.4nm,0.6s,baz=30,slow=8.5,SNR=4.5
CMAR Chiang Mai Arr 50.88 256 *e*P **P 19 58 08.3 +3.9**
CMAR Chiang Mai Arr 50.88 256 *e*P **P 19 58 08.3 +3.9**
RES Resolute Bay 52.54 18 P **P 19 58 16.5 +0.5**
comp=Z,0.6nm,0.2s,baz=323,slow=5.1,SNR=3.2
SPITS Spitsbergen Ar 53.78 350 P **P 19 58 24.1 -1.1**
comp=Z,4.7nm,0.9s,baz=53,slow=15,SNR=3.7
JIRN Jiri 53.87 274 *e*P **P 19 58 28.7 +1.8**
comp=Z,11nm,0.5s
GUN Gumba 53.93 275 *e*P **P 19 58 29.5 +2.1**
comp=Z,6.3nm,0.4s
RAMN Ramite 54.01 273 *e*P **P 19 58 29.3 +1.4**
comp=Z,11nm,0.6s
KKN Kakani 54.43 275 *e*P **P 19 58 32.2 +1.4**
comp=Z,7.8nm,0.8s
PKI Pulchoki 54.47 275 *e*P **P 19 58 32.5 +1.2**
comp=Z,3.4nm,0.5s
PKIN Phulchoki 54.47 275 *e*P **P 19 58 32.4 +1.1**
comp=Z,3.4nm,0.5s
DMN Daman 54.66 275 *e*P **P 19 58 34.3 +1.7**
comp=Z,5.3nm,0.5s
DANN Dangsing 55.15 277 *e*P **P 19 58 38.1 +1.9**
comp=Z,9.9nm,0.3s
ARU Arti 55.24 318 *c i*P **P 19 58 33.1 -3.0**
ARU pmax pmax
comp=Z,3.0nm,1.2s
KOLN Koldanda 55.62 276 *e*P **P 19 58 40.8 +1.4**
PYUN Piuthan 55.84 277 *e*P **P 19 58 43.1 +2.0**
comp=Z,7.1nm,0.6s
AKTO Aktyubinsk 58.77 312 P **P 19 59 01.3 +0.2**
comp=Z,0.9nm,0.5s,baz=68,slow=9.0,SNR=3.6
ARCES ARCESS Array B 58.78 341 P **P 19 59 01.0 +0.1**
comp=Z,3.0nm,0.9s,baz=54,slow=8.2,SNR=3.2
ARCES ARCESS Array B 58.78 341 *e*P **P 19 59 01.0 +0.1**
ARCES ARCESS Array B 58.78 341 P **P 19 59 01.0 +0.1**
ARCES pmax pmax
comp=Z,3.0nm,1.0s
NVAR Mina Array Bea 64.15 61 pP pP 19 59 53.3 +5.4
comp=Z,0.8nm,0.8s,baz=281,slow=6.1,SNR=3.5
GEYT Alibeck 66.29 300 P **P 19 59 53.3 +1.7**
comp=Z,1.2nm,0.7s,baz=34,slow=5.4,SNR=3.6
WRA Warramunga Arr 66.81 197 P **P 19 59 55.3 +0.4**
comp=Z,0.4nm,0.8s,baz=15,slow=6.7,SNR=3.8
NB2 NORSAR Subarra 69.16 341 P **P 20 00 09.4 +0.1**
comp=Z,2.6nm,0.6s,baz=29,slow=6.5
NOA NORSAR Array B 69.16 341 P **P 20 00 09.2 -0.1**
comp=Z,2.1nm,0.7s,baz=30,slow=6.6,SNR=10
NOA NORSAR Array B 69.16 341 *e*P **P 20 00 09.6 +0.3**
NOA NORSAR Array B 69.16 341 *e*P **P 20 00 09.6 +0.3**
NOA pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 70.51 197 P **P 20 00 19.7 +1.8**
comp=Z,0.4nm,0.8s,baz=12,slow=6.6,SNR=3.0
KIV Kislovodsk 70.91 314 *e*P **P 20 00 17.1 -3.3**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KBZ Khabaz 70.97 313 P **P 20 00 21.4 +0.8**
comp=Z,5.7nm,0.8s,baz=64,slow=3.6,SNR=12
ZEI Tsey 71.11 312 *e*P **P 20 00 21.7 -0.1**
ZEI pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 72.04 326 P **P 20 00 26.7 -0.2**
comp=Z,1.1nm,0.3s,baz=38,slow=6.4,SNR=6.8
AKASG Malin Array Be 72.04 326 *e*P **P 20 00 27.0 +0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKH Akhalkalaki 72.30 311⇑ *i*P **P 20 00 31.9 +3.0**
SORM Soroca 74.41 324⇑ *i*P **P 20 00 41.3 +0.4**
BURAR Bucovina Array 76.09 326⇑ *i*P **P 20 00 51.5 +0.7**
BIZ Bicaz 76.28 325⇑ *i*P **P 20 00 53.6 +1.8**
TRPA Tarpa 76.70 328⇑ *i*P **P 20 00 55.7 +1.6**
MORC Moravsky Berou 77.11 331⇑ *i*P **P 20 00 58.3 +1.8**
CLL Collm 77.24 335 *i* P **P 20 00 57.8 +0.8**
comp=Z,6.0nm,1.0s
CLL Collm 77.24 335 *i* P **P 20 00 57.8 +0.8**
CLL pmax pmax
comp=Z,6.0nm,1.0s
HARR Harsova 77.32 322⇑ *i*P **P 20 00 59.7 +2.1**
BRG Berggiesshubel 77.33 334 *e*P **P 20 00 56.9 -0.7**
comp=Z,6.0nm,1.3s
BRG Berggiesshubel 77.33 334 *e*P **P 20 00 56.9 -0.7**
BRG pmax pmax
comp=Z,6.0nm,1.3s
EKA Eskdalemuir Ar 77.41 345 P **P 20 00 58.1 +0.1**
comp=Z,0.4nm,0.4s,baz=22,slow=5.2,SNR=8.6
MLR Muntele Rosu 77.51 324 P **P 20 00 59.5 +0.6**
comp=Z,2.3nm,0.8s,baz=188,slow=5.3,SNR=7.1
MLR Muntele Rosu 77.51 324⇑ *i*P **P 20 01 00.6 +1.7**
VRAC Vranov 77.83 332 P **P 20 01 01.0 +0.6**
comp=Z,2.5nm,0.8s,baz=42,slow=2.8,SNR=3.9
VRAC Vranov 77.83 332⇑ *i*P **P 20 01 02.5 +2.1**
VOIR 77.93 325⇑ *i*P **P 20 01 02.8 +1.7**
ARR Arges 78.15 325⇑ *i*P **P 20 01 04.4 +2.0**
BRTR Keskin Array B 78.58 316 P **P 20 01 05.1 +0.2**
comp=Z,0.6nm,0.7s,baz=20,slow=3.9,SNR=5.0
BRTR Keskin Array B 78.58 316 *e*P **P 20 01 06.0 +1.1**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
KHC Kasperske Hory 78.97 333 *e*P **P 20 01 07.2 +0.4**
KHC *ex* x 20 01 15.6
KHC Kasperske Hory 78.97 333 *e*P **P 20 01 07.2 +0.4**
KHC *e* 20 01 15.6
GERES GERESS Array B 79.18 333 P **P 20 01 08.4 +0.4**
comp=Z,0.5nm,0.5s,baz=38,slow=6.8,SNR=6.1
TXAR Lajitas Array 79.23 59 pP pP 20 01 22.2 +3.5
comp=Z,0.3nm,0.5s,baz=314,slow=5.0,SNR=2.7
VTS Vitosha 81.02 324⇑ *i*P **P 20 01 19.5 +1.4**
BDFB Brasilia 146.18 35 PKPbc **PKPdf 20 08 40.6 -2.2**
comp=Z,2.8nm,0.4s,baz=44,slow=14,SNR=5.5
PLCA Paso Flores 149.25 96 PKPbc **PKPbc 20 08 51.5 0.0**
comp=Z,0.9nm,0.7s,baz=278,slow=15,SNR=2.6

MAN 04 19:50:28.2, 6.36N×125.80E, h116km, mb5.1, ML4.0,
MS4.1, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.26**	**199**	*e*P	Pn	19 50 42.8	-1.8
DDMP				*e*S	Sn	19 50 55.3	-1.6
GSPH	**General Santos**	**0.88**	**252**	*e*P	Pn	19 50 48.1	-0.8
BUKP	**Musuan**	**1.68**	**334**	*e*P	Pn	19 50 58.2	+0.6
BUKP				*e*S	Sn	19 51 21.1	+1.1

*IDC **04** 19:51:36.6±1.2, 26.39N×143.69E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.5/68, mbtmp3.6/7, ML3.4/1, Error ellipse: s-maj=27.0km s-min=20.3km az=64.0*
*ISCJB **04** 19:51:39.8±1.0, 26.4N±0.1×143.8E±0.1, h38km, mb3.6/6, Error ellipse: s-maj=22.5km s-min=12.1km az=38.8*
ISC 04 19:51:41.6±1.2, 26.5N±0.1×143.8E±0.1, h38km, n8, σ1s65/9, mb3.7/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.52**	**293**	LR	LR	19 51 57.8	
	comp=Z,44nm,20.5s,baz=142,slow=14						
JCJ				Pn	**Pn**	**19 52 05.7**	**-0.6**
	5.3nm,0.3s,baz=281,slow=18,SNR=12						
JCJ				Sn	**Sn**	**19 52 26.7**	**+1.8**
	55nm,0.3s,baz=293,slow=22,SNR=26						
MJAR	**Matsushiro Arr**	**11.06**	**336**	Pn	**Pn**	**19 54 14.8**	**-2.5**
	0.3nm,0.3s,baz=168,slow=12,SNR=4.3						
SONM	**Songino Array**	**36.11**	**316**	P	**P**	**19 58 40.4**	**+0.3**
	0.5nm,0.6s,baz=100,slow=8.1,SNR=3.4						
CMAR	**Chiang Mai Arr**	**42.01**	**269**	P	**P**	**19 59 29.5**	**0.0**
	0.2nm,0.4s,baz=50,slow=8.4,SNR=3.2						
WRA	**Warramunga Arr**	**47.07**	**192**	P	**P**	**20 00 08.5**	**-1.3**
	0.7nm,0.7s,baz=11,slow=8.2,SNR=7.5						
FITZ	**Fitzroy Crossi**	**47.70**	**204**	P	**P**	**20 00 14.7**	**0.0**
	2.0nm,0.7s,baz=11,slow=5.6,SNR=3.1						
MKAR	**Makanchi Array**	**51.93**	**310**	P	**P**	**20 00 47.4**	**+0.7**
	0.8nm,0.8s,baz=74,slow=5.1,SNR=3.0						
ILAR	**Eielson Array**	**57.56**	**28**	P	**P**	**20 01 29.0**	**+2.0**
	0.5nm,0.9s,baz=265,slow=7.2,SNR=3.8						

WEL 04 19:59:30.9±1.5, 45.5S±6.6×16.7E±, h17km±7km, ML4.2/5, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.41**	**141**	P	Pn	19 59 41.1	-0.9
DCZ				S	Sb	19 59 46.6	+1.0
MSZ	**Milford Sound**	**0.94**	**60**	P	Pb	19 59 48.9	+0.1
MSZ				S	Sb	20 00 00.5	-0.4
MLZ	**Mavora Lakes**	**0.96**	**103**	P	Pn	19 59 50.0	+0.3
MLZ				S	Sn	20 00 02.9	-0.2
PYZ	**Puysegur Point**	**1.02**	**184**	P	Pg	19 59 50.6	-0.1
PYZ				S	Sb	20 00 02.6	-0.6
WHZ	**Wether Hill Ro**	**1.10**	**133**	P	Pg	19 59 52.2	0.0
WHZ				S	Sn	20 00 06.5	0.0
WKZ	**Wanaka**	**1.61**	**79**	P	Pb	20 00 00.9	+0.6
EAZ	**Earnscleugh**	**1.78**	**93**	P	Pb	20 00 03.3	+0.2

*IDC **04** 20:02:42.8±0.6, 7.30N×35.84W, h0km, mb4.0/18, mb1 4.2/18, mb1mx3.9/54, mbtmp4.0/18, ML4.9/1, MS4.0/26, Ms1 4.0/26, ms1mx3.9/31, Error ellipse: s-maj=20.9km s-min=13.2km az=148.0*
*ISCJB **04** 20:02:43.4±0.5, 7.27N±0.09×35.81W±0.09, h15km, mb3.9/18, MS4.0/25, Error ellipse: s-maj=15.3km s-min=10.2km az=43.7*
*GCMT **04** 20:02:49.0±0.2, 7.41N±0.01×35.77W±0.01, h17km±1km, MW5.0/102, Moment Tensor Solution. s52,c69; s102,c160; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.70±.12; Mθθ0.07±.12; Mϕϕ0.63±.12; Mrθ0.37±.27; Mθϕ-4.48±.11; Mϕr0.24±.27; Best double couple: Mo4.51600×10^16 NP1:ϕs272.00000°, δ86.00000°, λ-174.00000°. NP2:ϕs182.00000°, δ84.00000°, λ-4.00000°. Principal axes: T 4.8430, Plg1.0000°, Azm47.0000°; N -0.6530, Plg83.0000°, Azm310.0000°; P -4.1890, Plg7.0000°, Azm137.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
ISC 04 20:02:45.2±0.6, 7.3N±0.1×35.8W±0.1, h15km, n41, σ0s98/20, mb4.1/18, MS4.0/25, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**13.04**	**180**	Pn	**Pn**	**20 05 50.5**	**+0.4**
	5.9nm,0.3s,baz=352,slow=1.5,SNR=26						
RCBR				Sn	Sn	20 08 05.0	-10
	3.8nm,0.3s,baz=28,slow=6.3,SNR=9.2						
MDP	**Montagnes des**	**16.85**	**264**	LR	LR	20 12 56.0	
	comp=Z,357nm,18.9s,baz=50,slow=36						
PTGA	**Pitinga**	**25.36**	**253**	P	**P**	**20 08 11.4**	**-0.6**
	1.2nm,0.3s,baz=77,slow=11,SNR=4.2						
H05S1	**Guadeloupe/Mar**	**25.54**	**288**	T	T	20 34 41.0	
	SNR=5.9						
BDFB	**Brasilia**	**25.79**	**208**	P	**P**	**20 08 15.0**	**-0.9**
	1.7nm,0.6s,baz=48,slow=12,SNR=2.1						
BDFB				LR	LR	20 17 58.3	
	comp=Z,441nm,18.5s,baz=36,slow=36						
H10N3	**ASCENSION HYDR**	**26.05**	**125**	T	T	20 35 15.6	
	baz=305,slow=75,SNR=34						
H10N2	**ASCENSION HYDR**	**26.06**	**125**	T	T	20 35 13.8	
	baz=305,slow=75,SNR=10						
H10N1	**ASCENSION HYDR**	**26.07**	**125**	T	T	20 35 15.0	
	baz=305,slow=75,SNR=12						
H10S3	**ASCENSION HYDR**	**26.57**	**127**	T	T	20 36 04.0	
	baz=307,slow=74,SNR=14						
H10S1	**ASCENSION HYDR**	**26.57**	**127**	T	T	20 35 59.4	
	baz=307,slow=74,SNR=30						
H10S2	**ASCENSION HYDR**	**26.59**	**127**	T	T	20 36 04.7	
	baz=307,slow=74,SNR=32						
DBIC	**Dimbokro**	**30.75**	**89**	P	**P**	**20 08 59.6**	**-0.7**
	3.8nm,0.8s,baz=255,slow=9.3,SNR=4.4						
TORD	**Torodi Ar. Bea**	**37.36**	**78**	P	**P**	**20 09 56.0**	**-1.7**
	3.3nm,0.9s,baz=271,slow=9.2,SNR=25						
TORD				LR	LR	20 22 54.6	
	comp=Z,344nm,21.2s,baz=290,slow=32						
ROSC	**El Rosal**	**38.34**	**269**	LR	LR	20 26 21.1	
	comp=Z,246nm,19.6s,baz=80,slow=37						
MDT	**Midelt**	**38.52**	**44**	P	**P**	**20 10 08.3**	**+1.0**
	2.2nm,0.8s,baz=239,slow=5.3,SNR=4.1						
CPUP	**Villa Florida**	**39.41**	**211**	LR	LR	20 26 32.4	
	comp=Z,313nm,19.5s,baz=34,slow=36						
LPAZ	**La Paz**	**39.63**	**234**	P	**P**	**20 10 18.6**	**+1.2**
	3.6nm,0.6s,baz=52,slow=4.9,SNR=18						
LPAZ				LR	LR	20 26 20.1	
	comp=Z,247nm,18.5s,baz=48,slow=36						
ESDC	**Sonseca Array**	**43.08**	**37**	LR	LR	20 25 06.5	
	comp=Z,160nm,20.8s,baz=245,slow=31						
ATAH	**Atahualpa**	**44.80**	**252**	LR	LR	20 31 01.9	
	comp=Z,422nm,18.4s,baz=72,slow=38						
NNA	**Nana**	**45.05**	**245**	LR	LR	20 29 02.3	
	comp=Z,267nm,21.1s,baz=66,slow=35						
KEST	**Kesra**	**50.04**	**49**	P	**P**	**20 11 40.5**	**+1.0**
	3.7nm,0.8s,baz=218,slow=9.4,SNR=5.6						
KEST				LR	LR	20 31 41.6	
	comp=Z,539nm,21.3s,baz=186,slow=35						
SCHQ	**Schefferville**	**53.49**	**338**	LR	LR	20 30 45.3	
	comp=Z,80nm,20.6s,baz=48,slow=32						
PLCA	**Paso Flores**	**57.48**	**211**	LR	LR	20 38 05.7	
	comp=Z,393nm,18.4s,baz=70,slow=37						
CMIG	**Matias Romero**	**58.34**	**286**	LR	LR	20 35 45.0	
	comp=Z,61nm,19.6s,baz=137,slow=34						
GERES	**GERESS Array B**	**58.67**	**36**	P	**P**	**20 12 41.5**	**-0.6**
	0.4nm,0.7s,baz=245,slow=6.4,SNR=3.1						
GERES				LR	LR	20 34 38.6	
	comp=Z,184nm,22.0s,baz=252,slow=33						
IDI	**Anoyia**	**62.00**	**54**	P	**P**	**20 13 06.3**	**+1.1**
	2.4nm,0.8s,baz=260,slow=20,SNR=4.8						
NB2	**NORSAR Subarra**	**63.95**	**23**	P	**P**	**20 13 17.9**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=233,slow=6.9						
NOA	**NORSAR Array B**	**63.95**	**23**	P	**P**	**20 13 17.7**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=236,slow=6.4,SNR=3.8						
NOA				LR	LR	20 36 16.8	
	comp=Z,154nm,21.9s,baz=230,slow=32						
MLR	**Muntele Rosu**	**65.19**	**43**	P	**P**	**20 13 26.7**	**+0.6**
	comp=Z,4.2nm,0.8s,baz=194,slow=2.1,SNR=15						
ULM	**Lac du Bonnet**	**65.49**	**322**	LR	LR	20 37 40.4	
	comp=Z,65nm,20.7s,baz=59,slow=32						
TXAR	**Lajitas Array**	**67.15**	**299**	P	**P**	**20 13 38.1**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=90,slow=6.3,SNR=3.8						
TXAR				LR	LR	20 42 18.1	
	comp=Z,40nm,21.0s,baz=0.0,slow=35						
AKASG	**Malin Array Be**	**68.39**	**38**	P	**P**	**20 13 47.9**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=260,slow=5.0,SNR=3.5						
AKASG				LR	LR	20 44 53.2	
	comp=Z,33nm,18.1s,baz=310,slow=37						
BOSA	**Boshof**	**68.81**	**124**	P	**P**	**20 13 49.5**	**0.0**
	comp=Z,3.2nm,1.0s,baz=254,slow=7.4,SNR=3.2						
BOSA				LR	LR	20 37 56.1	
	comp=Z,205nm,20.6s,baz=286,slow=31						
BRTR	**Keskin Array B**	**69.60**	**50**	P	**P**	**20 13 55.1**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=272,slow=4.8,SNR=5.4						
BRTR				LR	LR	20 44 36.7	
	comp=Z,77nm,21.8s,baz=255,slow=36						
PDAR	**Pinedale Array**	**73.13**	**312**	P	**P**	**20 14 14.2**	**-1.4**
	comp=Z,1.2nm,1.0s,baz=79,slow=9.2,SNR=4.9						
PDAR				LR	LR	20 42 07.8	
	comp=Z,109nm,21.6s,baz=110,slow=32						
KMBO	**Kilima Mbogo**	**73.38**	**93**	LR	LR	20 44 44.9	
	comp=Z,49nm,18.5s,baz=93,slow=34						
ARCES	**ARCESS Array B**	**73.41**	**19**	P	**P**	**20 14 16.0**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=247,slow=5.8,SNR=6.0						
KBZ	**Khabaz**	**76.85**	**47**	LR	LR	20 48 59.8	
	comp=Z,40nm,21.9s,baz=296,slow=36						
NVAR	**Mina Array Bea**	**79.62**	**308**	P	**P**	**20 14 54.2**	**+1.6**
	comp=Z,0.1nm,0.5s,baz=101,slow=7.4,SNR=2.1						
NVAR				LR	LR	20 49 06.5	
	comp=Z,46nm,19.3s,baz=92,slow=35						
ILAR	**Eielson Array**	**92.22**	**336**	LR	LR	20 55 21.5	
	comp=Z,113nm,19.4s,baz=77,slow=34						
NRIK	**Noril'sk**	**94.35**	**17**	LR	LR	20 59 17.4	
	comp=Z,19nm,18.1s,baz=14,slow=36						

*IDC **04** 20:04:55.7±1.0, 52.32N×132.01W, h0km, mb3.9/7, mb1 4.0/12, mb1mx3.7/51, mbtmp3.8/12, ML3.6/5, MS3.2/5, Ms1 3.2/5, ms1mx2.8/46, Error ellipse: s-maj=18.4km s-min=6.9km az=59.0*
*ISCJB **04** 20:04:57.1±0.7, 52.34N±0.06×131.9W±0.1, h18km, mb3.8/7, Error ellipse: s-maj=12.1km s-min=6.3km az=144.8*
ISC 04 20:04:58.0±0.9, 52.30N±0.09×132.0W±0.1, h18km, n19, σ1s58/17, mb4.0/7, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H02S1	**DAWSON INLET T**	**0.94**	**343**	Pg	**Pb**	**20 05 13.5**	**-2.3**
H02S1				Lg	Lg	20 05 25.9	
H02N1	**VAN INLET T-PH**	**1.00**	**342**	Pg	**Pb**	**20 05 14.3**	**-2.5**
H02N1				Lg	Lg	20 05 28.0	
	SNR=368						
BBB	**Bella Bella**	**2.41**	**91**	Pn	**Pn**	**20 05 34.9**	**-1.5**
	6.7nm,0.3s,baz=261,slow=5.3,SNR=11						
BBB				Sn	**Sn**	**20 06 04.1**	**-1.3**
	23nm,0.3s,baz=286,slow=14,SNR=5.6						
BBB				LR	LR	20 06 45.8	
	comp=Z,469nm,20.0s,baz=280,slow=46						
DLBC	**Dease Lake**	**6.25**	**10**	Pn	**Pn**	**20 06 31.4**	**+2.1**
	1.0nm,0.3s,baz=190,slow=8.8,SNR=12						
DLBC				Sn	**Sn**	**20 07 41.1**	**+0.9**
	0.5nm,0.3s,baz=205,slow=17,SNR=2.8						
DLBC				Lg	Lg	20 08 13.5	
	0.8nm,0.3s,baz=136,slow=9.0,SNR=4.4						
DLBC				LR	LR	20 09 04.8	
	comp=Z,236nm,18.4s,baz=165,slow=40						
YBH	**Yreka Blue Hor**	**12.32**	**145**	Pn	**Pn**	**20 07 52.9**	**+0.4**
	0.0nm,0.3s,baz=345,slow=16,SNR=2.3						
YBH				LR	LR	20 11 54.9	
	comp=Z,65nm,21.9s,baz=339,slow=34						
KDAK	**Kodiak Island**	**12.98**	**303**	LR	LR	20 11 52.4	
	comp=Z,143nm,20.8s,baz=144,slow=32						
ILAR	**Eielson Array**	**14.65**	**334**	Pn	**P**	**20 08 27.9**	**-2.4**
	0.0nm,0.3s,baz=162,slow=12,SNR=3.8						
ILAR				LR	LR	20 13 42.7	
	comp=Z,85nm,20.3s,baz=158,slow=36						
NVAR	**Mina Array Bea**	**16.85**	**140**	Pn	**P**	**20 08 55.6**	**+0.5**
	0.1nm,0.3s,baz=318,slow=12,SNR=8.0						
PDAR	**Pinedale Array**	**17.85**	**113**	P	**Pn**	**20 09 04.6**	**-0.9**
	0.1nm,0.3s,baz=304,slow=11,SNR=14						
TXAR	**Lajitas Array**	**31.07**	**127**	P	**P**	**20 11 16.3**	**+1.3**
	0.1nm,0.3s,baz=331,slow=7.2,SNR=4.8						
SCHQ	**Schefferville**	**37.55**	**60**	P	**P**	**20 12 11.9**	**+1.2**
	5.6nm,0.9s,baz=272,slow=4.7,SNR=3.1						
TKL	**Tuckaleechee C**	**37.72**	**97**	P	**P**	**20 12 13.5**	**+1.1**
	1.7nm,0.7s,baz=306,slow=16,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**57.00**	**259**	T	T	21 16 47.1	
	baz=39,slow=76,SNR=29						
H11N3	**WAKE ISLAND Hy**	**57.00**	**259**	T	T	21 16 47.4	
	baz=39,slow=76,SNR=22						
H11N1	**WAKE ISLAND Hy**	**57.02**	**259**	T	T	21 16 48.4	
	baz=39,slow=76,SNR=23						
NOA	**NORSAR Array B**	**63.25**	**19**	P	**P**	**20 15 26.4**	**+1.5**
	0.7nm,0.8s,baz=338,slow=6.3,SNR=3.2						
ZALV	**Zalesovo Beam**	**69.75**	**338**	P	**P**	**20 16 06.7**	**+0.3**
	0.5nm,0.4s,baz=354,slow=5.8,SNR=2.8						
MKAR	**Makanchi Array**	**77.00**	**337**	P	**P**	**20 16 49.5**	**+0.2**
	1.0nm,0.8s,baz=31,slow=7.2,SNR=2.9						
LPAZ	**La Paz**	**87.74**	**120**	P	**P**	**20 17 45.8**	**-0.6**
	0.6nm,0.7s,baz=356,slow=6.6,SNR=3.0						

MEX 04 20:14:48.2±0.3, 24.48N×111.00W, h10km, MD3.6, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**0.73**	**121**	*e*P	Pg	20 15 00.6	-1.8
	baz=301,slow=2.0						
LPIG				*e*S	Sg	20 15 10.2	-1.7

*ISCJB **04** 20:24:36.6±0.8, 6.71S±0.06×146.7E±0.1, h110km, mb3.8/7, Error ellipse: s-maj=15.6km s-min=8.1km az=175.2*
*IDC **04** 20:24:36.7±2.0, 6.67S×146.74E, h98km±20km, mb3.7/8, mb1 4.0/11, mb1mx3.7/32, mbtmp4.2/11, Error ellipse: s-maj=27.3km s-min=13.5km az=106.0*
ISC 04 20:24:38.2±0.9, 6.74S±0.07×146.6E±0.2, h110km, n12, σ2s17/16, mb3.7/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.71**	**168**	P	**Pn**	**20 25 20.5**	**+0.1**
	50nm,0.3s,baz=356,slow=5.5,SNR=112						
PMG				S	**Sn**	**20 25 51.7**	**-1.0**
	163nm,0.3s,baz=184,slow=21,SNR=49						
CTA	**Charters Tower**	**13.28**	**181**	P	**Pn**	**20 27 44.1**	**+1.7**
	1.7nm,0.3s,baz=1.8,slow=14,SNR=13						
CTA				S	**Sn**	**20 30 06.4**	**-2.3**
	0.6nm,0.3s,baz=60,slow=20,SNR=3.1						
WRA	**Warramunga Arr**	**17.72**	**221**	P	**P**	**20 28 38.6**	**+1.2**
	1.6nm,0.3s,baz=48,slow=12,SNR=88						
WRA				S	**S**	**20 31 50.2**	**-5.8**
	0

ISC 04 20:29:38.9±0.9, 13°46S±0.09×75°85W±0.08, h55km, n15, σ2944/21, mb3.5/4, Central Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.76**	**327**	P		**Pn**		**20 30 08.5**	**+1.4**
	24nm,0.3s,baz=146,slow=13,SNR=52								
NNA				S		**Sn**		**20 30 29.3**	**+0.9**
	117nm,0.3s,baz=248,slow=19,SNR=17								
NNA	**Nana**	**1.76**	**327**	*e*Pn		**Pn**		**20 30 08.5**	**+1.4**
NNA				*e*Sn		**Sn**		**20 30 29.6**	**+1.3**
ATAH	**Atahualpa**	**6.77**	**338**	P		**Pn**		**20 31 18.2**	**+2.2**
	0.4nm,0.3s,baz=215,slow=19,SNR=3.6								
ATAH				S		**Sn**		**20 32 33.2**	**+1.2**
	0.8nm,0.3s,baz=222,slow=17,SNR=2.3								
LPAZ	**La Paz**	**7.97**	**112**	P		**Pn**		**20 31 36.9**	**+4.2**
	1.7nm,0.3s,baz=296,slow=9.0,SNR=37								
LPAZ				S		**Sn**		**20 33 07.1**	**+5.2**
	baz=143,slow=18,SNR=1.9								
LPAZ	**La Paz**	**7.97**	**112**	*e*Pn		**Pn**		**20 31 36.9**	**+4.2**
LPAZ				*e*Sn		Sn		20 32 51.2	-11
MNMC	**Minye Minye**	**8.24**	**134**	*e*Pn		**Pn**		**20 31 36.4**	**+0.3**
PB11	**IPOC Station P**	**8.63**	**137**	*e*Pn		**Pn**		**20 31 41.4**	**+0.1**
LVC	**Limon Verde**	**11.24**	**145**	*e*Pn		**Pn**		**20 32 17.7**	**+0.5**
LVC				*e*Sn		**Sn**		**20 34 20.0**	**-1.5**
SAML	**Samuel**	**13.21**	**71**	*e*Pn		**Pn**		**20 32 42.0**	**-1.8**
SAML				*e*Sn		**Sn**		**20 35 05.4**	**-3.9**
PTGA	**Pitinga**	**20.19**	**52**	P		**P**		**20 34 08.1**	**-1.0**
	0.7nm,0.3s,baz=54,slow=18,SNR=2.9								
TXAR	**Lajitas Array**	**50.31**	**328**	P		**P**		**20 38 28.8**	**-1.5**
	0.3nm,0.5s,baz=153,slow=8.1,SNR=5.0								
PDAR	**Pinedale Array**	**63.93**	**333**	P		**P**		**20 40 05.3**	**-1.2**
	0.2nm,0.4s,baz=124,slow=7.7,SNR=3.4								
NVAR	**Mina Array Bea**	**65.13**	**324**	P		**P**		**20 40 14.2**	**-0.1**
	0.3nm,0.6s,baz=133,slow=5.0,SNR=3.4								
TORD	**Torodi Ar. Bea**	**81.25**	**74**	P		**P**		**20 41 47.7**	**-2.0**
	0.5nm,0.7s,baz=260,slow=4.4,SNR=4.2								
SONM	**Songino Array**	**145.68**	**357**	PKPbc		**PKPdf**		**20 49 09.7**	**-1.8**
	1.4nm,0.6s,baz=313,slow=1.8,SNR=4.8								

JMA 04 20:36:49.6±0.1, 25°64N×141°43E, h44km, M3.5, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**1.19**	**34**	P			Pn	20 37 10.4	+0.5
JHHJ				*e*S			Sn	20 37 25.0	+0.1
CBIJ	**Chichi jima**	**1.60**	**25**	P			Pn	20 37 16.1	+0.7
CBIJ				*e*S			Sn	20 37 35.5	+0.6

*IDC **04** 20:37:59.9±2.7, 35°92N×141°28E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.3/39, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=64.7km s-min=24.1km az=52.0*

*ISCJB **04** 20:38:06.4±0.9, 35°68N±0°07×140°9E±0°1, h48km±5km, mb3.3/2, Error ellipse: s-maj=15.8km s-min=8.0km az=145.2*

*JMA **04** 20:38:07.1±0.1, 35°67N×140°74E, h46km±1km, M2.8*

ISC 04 20:38:08.1±1.2, 35°58N±0°05×140°71E±0°05, h33km±3km, n15, σ1964/20, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.17**	**45**	P			**Pn**	**20 38 14.3**	**+1.3**
CHOJ				*e*S			**Sb**	**20 38 19.7**	**+1.0**
JSMT	**Sammumatsuo**	**0.22**	**285**	P			**Pb**	**20 38 15.7**	**+0.8**
JSMT				S			**Sb**	**20 38 21.4**	**+1.8**
JIHU	**Itakohorinouch**	**0.41**	**338**	P			**Pb**	**20 38 16.9**	**-0.4**
JCN	**Nagara**	**0.45**	**248**	P			**Pn**	**20 38 18.8**	**+0.6**
BSO4	**Boso 4**	**0.67**	**207**	P			**Pn**	**20 38 21.6**	**+0.6**
JYT	**Yasato**	**0.77**	**327**	P			**Pn**	**20 38 20.7**	**-1.9**
JYT				*e*S			**Sn**	**20 38 30.8**	**-2.2**
BSO3	**Boso 3**	**0.80**	**192**	P			**Pn**	**20 38 23.6**	**+0.9**
BSO1	**Boso 1**	**0.95**	**167**	P			**Pn**	**20 38 24.9**	**+0.3**
JAG	**Ashikaga**	**1.32**	**310**	P			**Pn**	**20 38 28.6**	**-1.6**
JOD2	**Odawara 2**	**1.36**	**257**	P			**Pn**	**20 38 30.3**	**-0.5**
MJAR	**Matsushiro Arr**	**2.24**	**296**	Pn			**Pn**	**20 38 43.3**	**+0.5**
	2.8nm,0.3s,baz=98,slow=14,SNR=40								
MJAR				S			**Sn**	**20 39 12.9**	**+3.5**
	3.1nm,0.3s,baz=144,slow=13,SNR=8.5								
MAT	**Matsushiro**	**2.24**	**296**	P			**Pn**	**20 38 43.0**	**+0.1**
MAT				*e*S			**Sn**	**20 39 11.0**	**+1.6**
JCJ	**Chichijima**	**8.55**	**171**	Pn			**Pn**	**20 40 07.3**	**-2.3**
	2.3nm,0.3s,baz=286,slow=20,SNR=2.9								
MKAR	**Makanchi Array**	**44.42**	**303**	P			**P**	**20 46 13.7**	**-1.9**
	0.3nm,0.6s,baz=90,slow=8.9,SNR=2.3								
WRA	**Warramunga Arr**	**55.55**	**187**	P			**P**	**20 47 40.2**	**0.0**
	0.2nm,0.5s,baz=2.0,slow=7.4,SNR=6.8								

NEIC 04 20:43:59.1±0.0, 59°07N×152°61W, h62km, ML3.6(AEIC), After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AUE	**Augustine Isla**	**0.49**	**306**	P			Pn	20 44 10.7	-0.4
AUP	**Augustine Pinn**	**0.51**	**305**	P			Pn	20 44 10.9	-0.5
AUL	**Augustine Lava**	**0.53**	**306**	P			Pn	20 44 11.0	-0.4
AUW	**Augustine West**	**0.54**	**304**	P			Pn	20 44 11.0	-0.5
FONW	**Fourpeaked Sta**	**0.72**	**251**	P			Pn	20 44 12.9	-0.8
HOM	**Homer**	**0.77**	**40**	P			Pn	20 44 13.7	-0.4
HOM				S			Sn	20 44 25.4	+0.1
CNPM	**China Poot**	**0.84**	**57**	P			Pn	20 44 14.5	-0.6
CNPM				S			Sn	20 44 26.3	-0.6
ILS	**Iliamna Low So**	**0.92**	**345**	P			Pn	20 44 15.2	-1.0
ILIM	**Iliamna**	**1.02**	**350**	P			Pn	20 44 16.7	-0.9
BRLK	**Bradley Lake**	**1.12**	**51**	P			Pn	20 44 17.6	-1.1
KARR	**Katmai Rainbow**	**1.24**	**243**	P			Pn	20 44 19.8	-0.5
KAWH	**Katmai**	**1.34**	**240**	P			Pn	20 44 21.0	-0.7
RED	**Redoubt Volcan**	**1.35**	**356**	P			Pn	20 44 21.1	-0.8
RED				S			Sn	20 44 38.0	-0.9
RDSO	**Redoubt South**	**1.39**	**357**	P			Pn	20 44 21.7	-0.7
RDSO				S			Sn	20 44 39.5	-0.4
RDWB	**Redoubt West**	**1.42**	**355**	P			Pn	20 44 22.1	-0.8
RDN	**Redoubt North**	**1.45**	**357**	P			Pn	20 44 22.7	-0.5
DFR	**Drift River**	**1.52**	**358**	P			Pn	20 44 23.6	-0.5
DFR				S			Sn	20 44 43.1	0.0
RDJH	**Redoubt Jeurge**	**1.52**	**356**	P			Pn	20 44 23.7	-0.5
KABR	**Katmai Barrier**	**1.56**	**234**	P			Pn	20 44 23.9	-0.7
CAHL	**Cahill**	**1.75**	**235**	P			Pn	20 44 26.9	-0.3
ANCK	**Angle Creek**	**1.75**	**241**	P			Pn	20 44 26.8	-0.4
KELA	**Mount Kelaz**	**1.75**	**250**	P			Pn	20 44 26.3	-0.9
NKA	**Nikishka**	**1.81**	**22**	P			Pn	20 44 29.3	+1.4
KJL	**Kejulik**	**1.86**	**238**	P			Pn	20 44 28.7	+0.1
OHAK	**Old Harbor**	**1.89**	**191**	P			Pn	20 44 27.8	-1.2
CNTC	**Contact Creek**	**1.90**	**246**	P			Pn	20 44 28.6	-0.6
SEW	**Seward**	**1.91**	**56**	P			Pn	20 44 27.7	-1.5
SPCR	**Spurr Chakacha**	**2.14**	**5**	P			Pn	20 44 32.5	0.0
SPCG	**Spurr Capps Gl**	**2.24**	**7**	P			Pn	20 44 34.2	+0.2
PLK3	**Peulik 3**	**2.38**	**236**	P			Pn	20 44 35.8	+0.1
PLK1	**Peulik 1**	**2.46**	**240**	P			Pn	20 44 36.8	0.0
RC01	**Rabbit Creek A**	**2.48**	**34**	P			Pn	20 44 36.6	-0.4
SUA	**Susitna One**	**2.57**	**20**	P			Pn	20 44 38.3	-0.1
PWL	**Port Wells**	**2.80**	**48**	P			Pn	20 44 40.1	-1.3
SKT	**Skwentna**	**2.96**	**10**	P			Pn	20 44 43.6	0.0
KNK	**Knik Glacier**	**3.13**	**40**	P			Pn	20 44 44.7	-1.2
GHO	**Glory Hole Cre**	**3.27**	**32**	P			Pn	20 44 47.0	-0.9
GLI	**Glacier Island**	**3.31**	**54**	P			Pn	20 44 46.0	-2.3
HIN	**Hinchinbrook I**	**3.36**	**64**	P			Pn	20 44 47.8	-1.3
FID	**Port Fidalgo**	**3.51**	**59**	P			Pn	20 44 48.5	-2.6
JPK	**Jack Peak**	**3.61**	**54**	P			Pn	20 44 50.8	-1.6
EYAK	**Cordova Ski Ar**	**3.77**	**64**	P			Pn	20 44 52.7	-1.8
SCM	**Sheep Creek Mo**	**3.81**	**41**	P			Pn	20 44 54.5	-0.7
PPLA	**Purkeypile**	**3.84**	**3**	P			Pn	20 44 56.5	+0.7
DIV	**Divide**	**3.99**	**56**	P			Pn	20 44 56.9	-0.9
KLU	**Klutina**	**4.12**	**51**	P			Pn	20 44 58.3	-1.1
HUR	**Hurricane**	**4.17**	**19**	P			Pn	20 45 00.3	+0.2
TT01	**Tatalina**	**4.19**	**338**	P			Pn	20 44 59.9	-0.4
BERG	**Berg Lake**	**4.70**	**70**	P			Pn	20 45 05.8	-1.5
RND	**Reindeer**	**4.71**	**21**	P			Pn	20 45 07.0	-0.5
DHY	**Denali Highway**	**4.75**	**30**	P			Pn	20 45 07.5	-0.7
GRIN	**Grindle Hills**	**4.86**	**72**	P			Pn	20 45 08.4	-1.2
KHIT	**Khitrov Hills**	**4.93**	**70**	P			Pn	20 45 09.0	-1.5
GLB	**Gilahina Butte**	**4.98**	**58**	P			Pn	20 45 09.9	-1.3
MCK	**McKinley**	**5.00**	**19**	P			Pn	20 45 11.2	-0.2
VRDI	**Verde Repeater**	**5.06**	**61**	P			Pn	20 45 10.5	-1.9
SNH	**Sunshine Point**	**5.08**	**73**	P			Pn	20 45 11.5	-1.1
BPAW	**Bear Paw Mtn.**	**5.10**	**8**	P			Pn	20 45 12.6	-0.3
WAX	**Waxell Ridge**	**5.12**	**70**	P			Pn	20 45 11.7	-1.4
TGL	**Tana Glacier**	**5.20**	**67**	P			Pn	20 45 12.7	-1.6
PAX	**Paxson**	**5.23**	**39**	P			Pn	20 45 13.7	-0.9
MCARA	**McCarthy VSAT**	**5.31**	**60**	P			Pn	20 45 14.5	-1.1
KIAG	**Kiagna River**	**5.47**	**66**	P			Pn	20 45 16.6	-1.3
PTPK	**Patty Peak**	**5.49**	**63**	P			Pn	20 45 16.9	-1.4
BALM	**Baldy**	**5.50**	**65**	P			Pn	20 45 16.6	-1.8
MESA	**MESA**	**5.52**	**74**	P			Pn	20 45 17.5	-1.2
YAH	**Yahtse**	**5.65**	**72**	P			Pn	20 45 19.3	-1.2
NEA	**Nenana**	**5.77**	**15**	P			Pn	20 45 21.1	-0.9
WRH	**Wood River Hil**	**5.82**	**20**	P			Pn	20 45 21.8	-0.9
BARN	**Barnard Glacie**	**5.83**	**65**	P			Pn	20 45 21.8	-1.2
CHX	**Chaix Hills**	**5.92**	**75**	P			Pn	20 45 23.6	-0.6
TABL	**Table Mountain**	**5.95**	**72**	P			Pn	20 45 23.9	-0.8
CTGM	**Chitina Glacie**	**5.96**	**67**	P			Pn	20 45 23.8	-0.9
RIDG	**Independ'e Rid**	**5.98**	**35**	P			Pn	20 45 24.1	-0.8
HDA	**Harding Lake**	**5.99**	**24**	P			Pn	20 45 24.4	-0.5
CCB	**Clear Creek Bu**	**6.04**	**20**	P			Pn	20 45 24.1	-1.5
GCSA	**Galena City Sc**	**6.04**	**342**	P			Pn	20 45 23.8	-1.8
SAMH	**Samovar Hills**	**6.10**	**75**	P			Pn	20 45 26.1	-0.4
COLA	**College**	**6.24**	**19**	P			Pn	20 45 27.4	-0.9
MDM	**Murphy Dome**	**6.25**	**17**	P			Pn	20 45 27.8	-0.8
ILB	**Eielson Array**	**6.32**	**23**	P			Pn	20 45 28.6	-0.8
SCRK	**Sand Creek**	**6.41**	**36**	P			Pn	20 45 29.8	-1.1
YUK3	**Moose Creek**	**6.59**	**61**	P			Pn	20 45 33.2	-0.3
BCA3	**Beaver Creek A**	**6.60**	**48**	P			Pn	20 45 32.6	-0.7
YUK1	**Sand Pete Hill**	**6.70**	**57**	P			Pn	20 45 34.2	-0.5
PNL	**Peninsula**	**6.78**	**79**	P			Pn	20 45 34.3	-1.5
IM3	**Indian Mountai**	**6.96**	**356**	P			Pn	20 45 37.7	-0.4
PRP	**Porcupine Dome**	**7.26**	**24**	P			Pn	20 45 41.4	-1.0
YUK6	**Outpost Mounta**	**7.38**	**69**	P			Pn	20 45 43.6	-0.6
DAWY	**Dawson**	**8.04**	**46**	*e*Pn			Pn	20 45 52.4	-0.7
	5.5nm,0.6s								

*NIED **04** 20:49:00, 36°30N×141°00E, h26km, Mw4.4 Best double couple: M0 4.15000×10^15 NP1:φ293.00000°, δ12.00000°, λ-173.00000°. NP2:φ196.00000°, δ88.00000°, λ-78.00000°.*

*BJI **04** 20:49:51.2, 36°00N×140°64E, h29km, mb4.8/30, mB4.8/17, Ms4.1/15, MS7 3.9/16*

*ISCJB **04** 20:49:51.3±0.6, 36°33N±0°03×141°01E±0°04, h33km±3km, mb4.5/66, MS3.7/22, Error ellipse: s-maj=6.0km s-min=4.3km az=12.4*

*JMA **04** 20:49:51.9±0.1, 36°33N×140°95E, h38km±1km, M4.3 Broadband fault plane solution: P waves. NP1: φ±192.00000°, δ49.00000°, λ-79.00000°. NP2: φ±355.00000°, δ43.00000°, λ-103.00000°. Principal axes: T Plg3.0000°, Azm274.0000°; N Plg8.0000°, Azm4.0000°; P Plg81.0000°, Azm164.0000°;*

JMA Felt III J1.

*MOS **04** 20:49:52.9±1.3, 36°41N×140°90E, h41km, mb4.9/30 Error ellipse: s-maj=8.9km s-min=5.3km az=115.8*

*NEIC **04** 20:49:53.3±0.3, 36°27N×140°85E, h35km, mb4.6/10, Error ellipse: s-maj=8.3km s-min=7.4km az=100.0*

NEIC Recorded [3 JMA] in Ibaraki.

*IDC **04** 20:49:54.8±1.8, 36°30N×140°77E, h43km±17km, mb4.1/24, mb1 4.2/27, mb1mx4.1/46, mbtmp4.3/27, ML4.1/3, MS3.7/21, Ms1 3.7/21, ms1mx3.5/46, Error ellipse: s-maj=14.8km s-min=10.1km az=87.0*

ISC 04 20:49:52.0±0.6, 36°31N±0°03×141°01E±0°04, h27km±3km, h27km:pP-P, n179, σ1940/183, mb4.5/66, MS3.8/22, 30C-22D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.34**	**275**	P			**Pb**	**20 49 59.9**	**+0.1**
JHYU				S			**Sb**	**20 50 05.1**	**+0.1**
JHO	**Hitachi**	**0.46**	**310**	⇑P			**Pb**	**20 50 01.2**	**-0.5**
JIHU	**Itakohorinouch**	**0.52**	**229**	P			**Pb**	**20 50 03.2**	**+0.6**
JIHU				S			**Sb**	**20 50 11.4**	**+1.6**
CHOJ	**Chosi**	**0.62**	**191**	⇓P			**Pb**	**20 50 04.0**	**-0.3**
CHOJ				S			**Sb**	**20 50 12.2**	**-0.4**
JYT	**Yasato**	**0.66**	**263**	⇑P			**Pb**	**20 50 04.1**	**-0.9**
JSMT	**Sammumatsuo**	**0.81**	**214**	P			**Pn**	**20 50 07.0**	**-0.6**
JSMT				S			**Sb**	**20 50 17.9**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.81**	**348**	⇓P			**Pb**	**20 50 06.1**	**-1.4**
JFK	**Kawauchi**	**1.06**	**354**	⇑P			**Pn**	**20 50 09.7**	**-1.5**
JAG	**Ashikaga**	**1.26**	**276**	⇑P			**Pn**	**20 50 12.7**	**-1.2**
JAG				S			**Sn**	**20 50 27.4**	**-2.6**
JFT	**Otama**	**1.32**	**336**	⇑P			**Pn**	**20 50 14.8**	**+0.1**
JFT				S			**Sn**	**20 50 30.9**	**-0.6**
MJAR	**Matsushiro Arr**	**2.27**	**277**	P			**Pn**	**20 50 27.4**	**-0.4**
	130nm,0.3s,baz=121,slow=7.9,SNR=1187								
MJAR				S			**Sn**	**20 50 56.0**	**+1.1**
	57nm,0.3s,baz=86,slow=14,SNR=7.0								
MAJO	**Matsushiro**	**2.27**	**277**	*e*Pn			**Pn**	**20 50 28.0**	**+0.2**
MAJO				*e*Sg			**Sb**	**20 51 07.1**	**+7.2**
MAJO	**Matsushiro**	**2.27**	**277**	*c i*P			**Pn**	**20 50 28.1**	**+0.3**
MAJO				pmax			pmax		
	comp=Z,529nm,1.0s								
MAT	**Matsushiro**	**2.27**	**277**	P			**Pn**	**20 50 27.8**	**0.0**
MAT				S			**Sb**	**20 50 58.1**	**-1.9**
JHJ	**Hachijo jima 2**	**3.34**	**198**	P			**Pn**	**20 50 43.4**	**+0.9**
	comp=Z,79nm,0.3s,baz=326,slow=15,SNR=23								
JHJ				S			**Sn**	**20 51 21.8**	**+0.5**
	comp=Z,307nm,0.3s,baz=275,slow=24,SNR=11								
ASAJ	**Asahikawa**	**7.89**	**8**	P			**Pn**	**20 51 44.2**	**-0.7**
	comp=Z,2.3nm,0.3s,baz=223,slow=10,SNR=13								
ASAJ				S			**Sn**	**20 53 08.9**	**-4.5**
	comp=Z,1.1nm,0.3s,baz=292,slow=12,SNR=1.7								
ASAJ				LR			LR	20 55 22.9	
	comp=Z,166nm,18.9s,baz=182,slow=41								
SHO	**Shikotan**	**8.77**	**29**	*e*P			**Pn**	**20 51 57.0**	**0.0**
SHO				pmax			pmax		
	comp=Z,24nm,0.7s								
JNU	**Nakatsue**	**8.92**	**252**	LR			LR	20 55 43.4	
	comp=Z,819nm,18.3s,baz=66,slow=40								
CBIJ	**Chichi jima**	**9.24**	**173**	P			**Pn**	**20 52 01.0**	**-2.6**
CBIJ				S			Sn	20 53 36.6	-10
JCJ	**Chichijima**	**9.24**	**173**	P			**Pn**	**20 52 01.0**	**-2.6**
	comp=Z,59nm,0.3s,baz=71,slow=7.0,SNR=80								
JCJ				S			Sn	20 53 36.6	-10
	comp=Z,23nm,0.3s,baz=276,slow=23,SNR=5.6								
TEY	**Ternei**	**9.33**	**340**	⇑*e*P			**Pn**	**20 52 04.0**	**-0.7**
TEY				*e*				20 53 58.7	
TEY				pmax			pmax		
	comp=Z,10.0nm,1.2s								
USRK	**Ussuriysk Ar.**	**10.46**	**322**	P			**Pn**	**20 52 23.6**	**+3.4**
	comp=Z,1.3nm,0.3s,baz=137,slow=12,SNR=26								
USRK				LR			LR	20 56 06.9	
	comp=Z,422nm,19.4s,baz=136,slow=36								
KSRS	**Korea Array**	**10.54**	**280**	P			**Pn**	**20 52 24.8**	**+3.5**
	comp=Z,0.5nm,0.3s,baz=94,slow=14,SNR=13								
KSRS				LR			LR	20 56 24.9	
	comp=Z,356nm,18.9s,baz=84,slow=38								
KSAR	**Wonju Array Be**	**10.57**	**280**	P			**Pn**	**20 52 24.8**	**+3.0**
KSAR	**Wonju Array Be**	**10.57**	**280**	P			**Pn**	**20 52 24.8**	**+3.0**
CN2	**Changchun**	**14.06**	**307**	*e*P			**Pn**	**20 53 11.3**	**+2.0**
CN2				pmax			pmax		
	comp=Z,10.0nm,0.6s								
CN2				pmax			pmax		
	comp=Z,200nm,3.0s								
CN2				LR			LR		
	comp=Z,150nm,14.0s								
CN2				LR			LR		
	comp=Z,240nm,14.0s								
CN2				LR			LR		
	comp=Z,360nm,14.0s								
JOW	**Kunigami**	**14.38**	**232**	P			**P**	**20 53 17.8**	**-2.7**
	comp=Z,0.9nm,0.3s,baz=285,slow=12,SNR=4.5								
JOW				LR			LR	20 57 25.8	
	comp=Z,52nm,21.6s,baz=74,slow=32								
KLR	**Kul'dur**	**14.57**	**335**	P			**Pn**	**20 53 15.4**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=138,slow=8.1,SNR=4.6								
KLR	**Kul'dur**	**14.57**	**335**	⇓*e*P			**Pn**	**20 53 15.3**	**-1.1**
TIA	**Tai'an**	**19.25**	**277**	P			**P**	**20 54 10.4**	**-4.0**
TIA				pmax			pmax		
	comp=Z,19nm,1.0s								
BJT	**Baijiatuau**	**19.86**	**288**	P			**P**	**20 54 17.8**	**-3.2**
	comp=Z,13nm,0.6s								
BJT	**Baijiatuau**	**19.86**	**288**	P			**P**	**20 54 20.3**	**-0.7**
BJT				pmax			pmax		
	comp=Z,22nm,0.6s								
ZEA	**Zeya**	**19.89**	**335**	*e*P			**P**	**20 54 21.2**	**0.0**
ZEA				pmax			pmax		
	comp=Z,26nm,0.8s								
ZEA				MLR			MLR		
	comp=N,200nm,15.0s								
PETK	**Petropavlovsk-**	**20.48**	**30**	LR			LR	21 02 51.9	
	comp=N,50nm,18.4s,baz=287,slow=38								
XAN	**Xi'an**	**26.26**	**275**	P			**P**	**20 55 24.0**	**-1.1**
XAN				pP			pP	20 55 30.4	-2.5
XAN				pmax			pmax		
	comp=N,10.0nm,1.1s								
YAK	**Yakutsk**	**26.71**	**348**	P			**P**	**20 55 28.1**	**-0.6**
	comp=N,14nm,0.5s,baz=190,slow=2.9,SNR=5.5								
YAK	**Yakutsk**	**26.71**	**348**	*e*P			**P**	**20 55 27.1**	**-1.6**
YAK				pmax			pmax		
	comp=Z,17nm,1.1s								
YAK				pmax			pmax		
	comp=N,6.0nm,1.1s								
YAK				pmax			pmax		
	comp=E,4.0nm,1.3s								
YAK				MLR			MLR		
	comp=Z,111nm,17.0s								
YAK				MLR			MLR		
	comp=N,401nm,25.0s								
YAK				MLR			MLR		
	comp=E,42nm,18.0s								
ENH	**Enshi**	**26.95**	**266**	*e*P			**P**	**20 55 29.3**	**-2.0**
	comp=E,33nm,0.8s								
ULN	**Ulaanbaatar**	**27.50**	**305**	*e*P			**P**	**20 55 35.4**	**-0.9**
	comp=E,5.4nm,0.7s								
ULN	**Ulaanbaatar**	**27.50**	**305**	*de*P			**P**	**20 55 35.8**	**-0.5**
ULN				pmax			pmax		
	comp=Z,5.0nm,1.0s								
SEY	**Seymchan**	**27.56**	**11**	⇓*e*P			**P**	**20 55 39.7**	**+3.3**
SONM	**Songino Array**	**27.93**	**305**	P			**P**	**20 55 39.3**	**-0.7**
	comp=Z,4.8nm,0.6s,baz=104,slow=9.1,SNR=16								
SONM				LR			LR	21 07 13.9	
	comp=Z,136nm,19.4s,baz=14,slow=37								
BOD	**Bodaibo**	**27.97**	**329**	*e*P			**P**	**20 55 39.1**	**-1.1**
BOD				pmax			pmax		
	comp=Z,14nm,1.2s								
H11N2	**WAKE ISLAND Hy**	**28.07**	**119**	T			T	21 25 02.9	
	baz=312,slow=75,SNR=383								
H11N1	**WAKE ISLAND Hy**	**28.08**	**119**	T			T	21 25 03.5	
	baz=312,slow=75,SNR=409								
H11N3	**WAKE ISLAND Hy**	**28.09**	**119**	T			T	21 25 04.3	
	baz=312,slow=75,SNR=269								
H11S1	**WAKE ISLAND Hy**	**28.75**	**121**	T			T	21 25 46.4	
	baz=314,slow=76,SNR=1719								
H11S3	**WAKE ISLAND Hy**	**28.75**	**121**	T			T	21 25 46.4	
	baz=314,slow=76,SNR=915								
H11S2	**WAKE ISLAND Hy**	**28.77**	**121**	T			T	21 25 50.6	
	baz=314,slow=76,SNR=1100								
ZAK	**Zakamensk**	**30.47**	**309**	*e*P			**P**	**20 56 00.8**	**-1.7**
ZAK				pmax			pmax		
	comp=Z,3.0nm,1.4s								
GYA	**Guiyang**	**30.78**	**261**	⇓*i*P			**P**	**20 56 04.1**	**-1.5**
GYA				pmax			pmax		
	comp=Z,20nm,0.8s								
GTA	**Gaotai**	**32.47**	**288**	⇓P			**P**	**20 56 20.0**	**-0.3**
GTA				pP			pP	20 56 28.2	0.0
GTA				sP			sP	20 56 32.9	+1.4
GTA				pmax			pmax		
	comp=Z,4.0nm,1.0s								
GTA				pmax			pmax		
	comp=Z,55nm,5.7s								
GTA				LR			LR		
	comp=Z,150nm,18.7s								
GTA				LR			LR		
	comp=Z,200nm,19.0s								
GTA				LR			LR		
	comp=Z,230nm,18.1s								
BILL	**Bilibino**	**34.81**	**16**	⇑*e*P			**P**	**20 56 40.7**	**+0.5**
BILL				*i*				20 56 48.8	
BILL				pmax			pmax		
	comp=Z,2.0nm,0.9s								
BILL				MLR			MLR		
	comp=Z,56nm,18.0s								
TIXI	**Tiksi**	**35.97**	**353**	P			**P**	**20 56 49.6**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=142,slow=6.6,SNR=11					

ARU	**Arti**	**56.69 319**	*e*P		**P**	**20 59 32.4**	**-0.5**
	comp=Z,24nm,0.8s						
ARU	**Arti**	**56.69 319**	*c i*P		**P**	**20 59 32.5**	**-0.3**
ARU			*PP		**pP**	**20 59 40.4**	**-0.7**
ARU						21 01 38.0	
ARU			S		**S**	**21 07 24.3**	**+0.9**
ARU			SS		**SS**	**21 11 07.7**	**-3.1**
ARU			pmax	pmax			
	comp=Z,23nm,0.7s						
HYB	**Hyderabad**	**57.86 269**	*i* P		**P**	**20 59 42.0**	**+0.3**
ASAR	**Alice Springs**	**60.03 188**	P		**P**	**20 59 56.7**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=11,slow=7.9,SNR=22						
RES	**Resolute Bay**	**63.38 14**	P		**P**	**21 00 19.1**	**+0.7**
	comp=Z,2.9nm,0.8s,baz=345,slow=6.9,SNR=3.7						
GEYT	**Alibeck**	**63.90 299**	P		**P**	**21 00 22.4**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=40,slow=4.8,SNR=5.7						
ARCES	**ARCESS Array B**	**64.56 339**	P		**P**	**21 00 26.4**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=57,slow=7.0,SNR=7.4						
YKA	**Yellowknife Ar**	**64.60 30**	P		**P**	**21 00 29.4**	**+2.7**
	comp=Z,0.8nm,0.8s,baz=305,slow=7.0,SNR=3.4						
JOF	**Joensuu**	**66.45 332**	P		**P**	**21 00 38.5**	**-0.1**
JOF			pmax	pmax			
	comp=Z,8.0nm,0.6s						
DAG	**Danmarks Havn**	**66.47 355**	P		**P**	**21 00 39.4**	**+0.9**
AFI	**Afiamalu**	**66.93 129**	LR		LR	21 26 05.8	
	comp=Z,20nm,20.0s,baz=56,slow=32						
STKA	**Stephens Creek**	**67.83 179**	P		**P**	**21 00 47.6**	**0.0**
	comp=Z,1.7nm,0.8s,baz=317,slow=19,SNR=2.6						
VRH	**Novokhopyorsk**	**67.90 318**	*e*P		**P**	**21 00 47.1**	**-0.8**
VRH			pmax	pmax			
	comp=Z,10.0nm,0.5s						
OBN	**Obninsk**	**68.48 323**⇑	*e*P		**P**	**21 00 51.0**	**-0.5**
OBN			*e*			21 00 59.1	
OBN			pmax	pmax			
	comp=Z,4.0nm,0.6s						
OBN			MLR	MLR			
	comp=Z,71nm,15.0s						
SUF	**Sumiainen**	**68.48 333**	P		**P**	**21 00 51.4**	**0.0**
SUF			pmax	pmax			
	comp=Z,9.0nm,0.8s						
LPSR	**Galich'ya Gora**	**68.65 320**	*e*P		**P**	**21 00 51.8**	**-0.8**
LPSR			pmax	pmax			
	comp=Z,10.0nm,0.8s						
VSR	**Storozhevoye**	**69.26 319**	*e*P		**P**	**21 00 54.2**	**-2.3**
VSR			pmax	pmax			
	comp=Z,10.0nm,1.2s						
VORD	**Divnogorie**	**69.33 319**	*e*P		**P**	**21 00 54.6**	**-2.3**
VORD			pmax	pmax			
	comp=Z,8.0nm,0.7s						
VSU	**Vasula**	**70.91 330**⇑	*e*P		**P**	**21 01 06.7**	**+0.3**
VSU			pmax	pmax			
	comp=Z,41nm,0.9s						
KBZ	**Khabaz**	**71.12 311**	P		**P**	**21 01 08.3**	**+0.3**
	comp=Z,5.9nm,0.9s,baz=44,slow=5.6,SNR=10						
KBZ			LR	LR		21 37 00.1	
	comp=Z,43nm,18.2s,baz=26,slow=40						
KIV	**Kislovodsk**	**71.13 311**	*e*P		**P**	**21 01 08.6**	**+0.4**
	comp=Z,17nm,1.1s						
KIV	**Kislovodsk**	**71.13 311**	*e*P		**P**	**21 01 09.0**	**+0.8**
KIV			pmax	pmax			
	comp=Z,18nm,1.0s						
KIV			MLR	MLR			
	comp=Z,50nm,18.0s						
NEY	**Neytrino**	**71.49 310**⇑	*e*P		**P**	**21 01 11.7**	**+1.2**
NEY			pmax	pmax			
	comp=Z,1.0nm,0.7s						
GNI	**Garni**	**71.88 307**⇓	*e*P		**P**	**21 01 13.8**	**+0.9**
GNI			pmax	pmax			
	comp=Z,16nm,1.0s						
AKASG	**Malin Array Be**	**74.67 322**	P		**P**	**21 01 28.6**	**-0.3**
	comp=Z,3.8nm,0.5s,baz=47,slow=6.1,SNR=20						
AKASG			LR	LR		21 37 16.3	
	comp=Z,89nm,18.4s,baz=60,slow=38						
KIEV	**Kiev**	**74.68 322**	*e*P		**P**	**21 01 27.1**	**-1.9**
	comp=Z,10nm,1.0s						
KIEV	**Kiev**	**74.68 322**	*ce*P		**P**	**21 01 28.5**	**-0.5**
KIEV			pmax	pmax			
	comp=Z,4.0nm,0.7s						
NB2	**NORSAR Subarra**	**74.72 337**	P		**P**	**21 01 28.9**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=41,slow=5.9						
NB2	**NORSAR Subarra**	**74.72 337**	P		**P**	**21 01 28.7**	**-0.4**
NB2			pmax	pmax			
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**74.72 337**	P		**P**	**21 01 29.2**	**0.0**
	comp=Z,3.2nm,0.8s,baz=39,slow=5.8,SNR=18						
NOA			LR	LR		21 37 19.6	
	comp=Z,78nm,18.9s,baz=40,slow=38						
NVAR	**Mina Array Bea**	**75.68 53**	P		**P**	**21 01 37.0**	**+1.7**
	comp=Z,1.6nm,0.7s,baz=282,slow=5.7,SNR=12						
KONO	**Kongsberg**	**76.31 337**⇓	*e*P		**P**	**21 01 36.4**	**-1.8**
KONO			pmax	pmax			
	comp=Z,29nm,2.5s						
SORM	**Soroca**	**76.74 321**⇑	*i*P		**P**	**21 01 40.5**	**-0.3**
SORM	**Soroca**	**76.74 321**	⇑P		**P**	**21 01 40.5**	**-0.3**
BURAR	**Bucovina Array**	**78.67 322**⇓	*i*P		**P**	**21 01 52.2**	**+0.4**
BURAR	**Bucovina Array**	**78.67 322**	⇓P		**P**	**21 01 52.2**	**+0.4**
BIZ	**Bicaz**	**78.68 321**⇑	*i*P		**P**	**21 01 52.2**	**+0.5**
VRI	**Vrincioaia**	**79.06 320**⇓	*i*P		**P**	**21 01 55.4**	**+1.6**
VRI	**Vrincioaia**	**79.06 320**	⇓P		**P**	**21 01 55.4**	**+1.6**
BRTR	**Keskin Array B**	**79.08 311**	*i* P		**P**	**21 01 54.4**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=107,slow=4.5,SNR=10						
BRTR	**Keskin Array B**	**79.08 311**	*i* P		**P**	**21 01 54.9**	**+0.7**
BRTR			pmax	pmax			
	comp=Z,2.0nm,0.8s						
PLOR	**Plostina**	**79.11 320**⇑	*i*P		**P**	**21 01 56.3**	**+2.2**
PLOR	**Plostina**	**79.11 320**	⇑P		**P**	**21 01 56.3**	**+2.2**
TRPA	**Tarpa**	**79.64 323**⇑	*i*P		**P**	**21 01 57.8**	**+0.9**
MLR	**Muntele Rosu**	**79.72 320**	LR		LR	21 40 26.2	
	comp=Z,127nm,18.1s,baz=36,slow=38						
RAR	**Rarotonga**	**80.00 126**	LR		LR	21 32 57.5	
	comp=Z,49nm,21.5s,baz=308,slow=32						
VOIR		**80.23 320**⇓	*i*P		**P**	**21 02 02.3**	**+2.1**
VOIR		**80.23 320**	⇓P		**P**	**21 02 02.3**	**+2.1**
LANS	**Liptovska Anna**	**80.37 325**	*e*P		**P**	**21 02 00.2**	**-0.7**
LANS	**Liptovska Anna**	**80.37 325**	*e*P		**P**	**21 02 00.2**	**-0.7**
KECS	**Kecovo**	**80.37 324**	*e*P		**P**	**21 02 02.0**	**+1.1**
KECS			pmax	pmax			
	comp=Z,4.0nm,0.9s						
KECS	**Kecovo**	**80.37 324**	*e*P		**P**	**21 02 02.0**	**+1.1**
ARR	**Arges**	**80.49 320**⇓	*i*P		**P**	**21 02 03.1**	**+1.5**
MORC	**Moravsky Berou**	**80.78 327**	P		**P**	**21 02 03.5**	**+0.4**
MORC			pmax	pmax			
	comp=Z,6.0nm,1.1s						
PSZ	**Piszkesteto**	**81.05 324**	P		**P**	**21 02 04.1**	**-0.5**
PSZ			pmax	pmax			
	comp=Z,10.0nm,1.6s						
VYHS	**Vyhne**	**81.13 325**	*e*P		**P**	**21 02 05.5**	**+0.6**
VYHS			*e*			21 02 15.5	
VYHS			pmax	pmax			
	comp=Z,5.0nm,1.3s						
VYHS	**Vyhne**	**81.13 325**	*e*P		**P**	**21 02 05.5**	**+0.6**
VYHS			*ep*P		**pP**	**21 02 15.5**	**+2.0**
BRG	**Berggiesshubel**	**81.51 329**	*e*P		**P**	**21 02 07.0**	**+0.1**
	comp=Z,5.4nm,1.1s						
BRG			*e*			21 02 16.4	
	comp=Z,9.0nm,1.2s						
BRG	**Berggiesshubel**	**81.51 329**	*e*P		**P**	**21 02 07.0**	**+0.1**
BRG			*e*			21 02 16.4	
BRG			pmax	pmax			
	comp=Z,5.0nm,1.1s						
PVCC	**Panska Ves**	**81.51 329**	*e*P		**P**	**21 02 06.2**	**-0.7**
PVCC			*ep*P		**sP**	**21 02 17.6**	**-0.9**
PVCC	**Panska Ves**	**81.51 329**	*e*P		**P**	**21 02 06.2**	**-0.7**
PVCC			*e*			21 02 17.6	
VRAC	**Vranov**	**81.55 327**	LR		LR	21 40 49.8	
	comp=Z,53nm,20.0s,baz=43,slow=38						
VRAC	**Vranov**	**81.55 327**⇑	*i*P		**P**	**21 02 08.4**	**+1.3**
VRAC	**Vranov**	**81.55 327**	⇑P		**P**	**21 02 08.4**	**+1.3**
CLL	**Collm**	**81.56 330**⇑	*i*P		**P**	**21 02 07.1**	**0.0**
	comp=Z,7.0nm,0.8s						
CLL			*e*PcP		**PcP**	**21 02 13.0**	**0.0**
CLL			*i* pP		**pP**	**21 02 16.4**	**+0.7**
	comp=Z,14nm,0.9s						
CLL	**Collm**	**81.56 330**⇑	*i*P		**P**	**21 02 07.1**	**0.0**
CLL			*i* *PP		**pP**	**21 02 16.4**	**+0.7**
CLL			pmax	pmax			
	comp=Z,7.0nm,0.8s						
GOPC	**GO Pecny, Ondr**	**81.88 328**	*e*P		**P**	**21 02 09.9**	**+1.0**
GOPC			*ep*P		**pP**	**21 02 18.2**	**+0.8**
GOPC	**GO Pecny, Ondr**	**81.88 328**	*e*P		**P**	**21 02 09.9**	**+1.0**
GOPC			*e*			21 02 18.2	
HERR	**Herculane**	**81.96 321**⇓	*i*P		P	21 02 19.1	+10
KHC	**Kasperske Hory**	**82.99 328**	*e*P		**P**	**21 02 15.2**	**+0.5**
KHC			*ep*P		**pP**	**21 02 23.2**	**-0.1**
KHC	**Kasperske Hory**	**82.99 328**	*e*P		**P**	**21 02 15.2**	**+0.5**
KHC			*e*			21 02 23.2	
VTS	**Vitosha**	**83.14 319**⇓	*i*P		**P**	**21 02 16.6**	**+0.8**
VTS	**Vitosha**	**83.14 319**	⇓P		**P**	**21 02 16.7**	**+0.9**
GERES	**GERESS Array B**	**83.15 328**	P		**P**	**21 02 15.8**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=38,slow=5.9,SNR=12						
WET	**Wettzell**	**83.27 329**	P		**P**	**21 02 16.9**	**+0.8**
WET			pmax	pmax			
	comp=Z,5.0nm,1.1s						
PMOR	**Pomariorio Ree**	**84.19 113**	*e*T		T	22 34 49.3	
	comp=Z,12nm,0.2s						
PPT	**Papeete**	**84.61 116**	LR		LR	21 31 35.6	
	comp=Z,40nm,21.8s,baz=343,slow=30						
PPT2	**Papeete2**	**84.62 116**	*e*LR		LR	21 28 28.3	
	comp=Z,62nm,22.8s						
STU	**Stuttgart**	**85.07 330**	P		**P**	**21 02 25.6**	**+0.3**
STU			pmax	pmax			
	comp=Z,15nm,1.0s						
ANMO	**Albuquerque**	**85.30 50**	P		**P**	**21 02 29.4**	**+2.5**
	comp=Z,0.3nm,0.3s,baz=339,slow=8.6,SNR=2.7						
ANMO	**Albuquerque**	**85.30 50**⇑	*e*P		**P**	**21 02 28.7**	**+1.7**
ANMO			pmax	pmax			
	comp=Z,8.0nm,2.5s						
BFO	**Black Forest**	**85.77 331**	*ce*P		**P**	**21 02 29.4**	**+0.6**
SANT	**Santorini**	**86.16 313**⇓	*i*P		**P**	**21 02 29.1**	**-1.9**
IDI	**Anoyia**	**87.24 313**	LR		LR	21 45 24.5	
	comp=Z,39nm,18.3s,baz=258,slow=38						
IDI	**Anoyia**	**87.24 313**⇑	*i*P		**P**	**21 02 35.9**	**-0.4**
TBI	**Tubuai**	**88.44 121**	*e*T		T	22 40 11.2	
	comp=Z,5.4nm,0.2s						
TXAR	**Lajitas Array**	**90.82 52**	P		**P**	**21 02 54.5**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=318,slow=1.7,SNR=4.8						
KEST	**Kesra**	**95.40 322**	LR		LR	21 49 48.7	
	comp=Z,70nm,18.7s,baz=281,slow=38						
TORD	**Torodi Ar. Bea**	**117.60 314**	PKP		**PKPdf**	**21 08 35.5**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=15,slow=1.3						

MEX 04 21:00:35.0±0.8, 15°.44N×92°.19W, h146km±7km, MD3.7, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**0.84**	**4**	*e*P	Pn	21 00 57.4	-0.9
CCIG				*e*S	Sn	21 01 13.6	-2.5
PCIG		**1.02**	**285**	*e*P	Pn	21 00 58.3	-1.3
PCIG				*e*S	Sn	21 01 16.3	-1.9
TGIG		**1.60**	**326**	*i* P	Pn	21 01 03.8	-1.6
TGIG				*e*S	Sn	21 01 26.9	-1.9

MEX 04 21:13:48.7±0.3, 24°.87N×110°.51W, h10km, MD3.5, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**0.79**	**166**	*e*P	Pg	21 14 01.9	-2.0
	baz=346,slow=5.3						
LPIG				*i* S	Sg	21 14 12.2	-2.0

*DHMR **04** 21:19:04.8±1.7, 12°.08N×43°.94E, h4km±10km, ML3.4*
*ARO **04** 21:19:06.3, 12°.N±6°.4°.4E±°, h11km±11km, Ml2.9*
ISC 04 21:19:03.0±1.9, 12°.01N±0°.08×43°.91E±0°.07, h8km±14km, n13, σ0°.85/20, 1C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OBO	**Obock**	**0.60**	**268**	*e*P	**Pb**	**21 19 16.4**	**+0.7**
MCAD	**Moucha**	**0.73**	**248**	*e*P	**Pn**	**21 19 18.9**	**-0.7**
ATA	**Atar**	**0.88**	**231**	*e*P	**Pn**	**21 19 21.2**	**-0.4**
TDD	**Tadjoura Ara**	**1.00**	**258**	*e*P	**Pn**	**21 19 23.0**	**-0.2**
ATD	**Arta Tunnel**	**1.14**	**246**	*e*P	**Pn**	**21 19 25.6**	**+0.4**
ATD				*e*S	**Sn**	**21 19 41.2**	**+0.1**
ATD	**Arta Tunnel**	**1.14**	**246**	*e*P	**Pn**	**21 19 25.6**	**+0.4**
TRBA	**At Turbah**	**1.23**	**10**⇑	*i*P	**Pg**	**21 19 27.3**	**+0.5**
TRBA				*i* S	**Sb**	**21 19 42.8**	**-0.1**
TRBA				AML	AML	21 19 43.7	
	comp=N,1μm,0.4s						
SGH	**Sud-Ghoubbet**	**1.37**	**246**	*e*P	**Pg**	**21 19 29.4**	**+0.1**
SGH				*e*S	**Sb**	**21 19 45.9**	**-0.7**
MAOD	**Malaho**	**1.65**	**273**	*e*P	**Pb**	**21 19 33.4**	**-0.2**
UDYN	**Al 'Udayn**	**1.95**	**2**	*i* P	**Pb**	**21 19 37.9**	**-0.9**
UDYN				*i* S	**Sg**	**21 20 05.6**	**-0.1**
UDYN				AML	AML	21 20 11.8	
	comp=E,238nm,0.4s						
LBOS		**2.27**	**35**	*i* P	**Pb**	**21 19 43.7**	**-0.7**
LBOS				*i* S	**Sb**	**21 20 13.8**	**+1.1**
BDHA	**Al Bayda'**	**2.54**	**39**	*i* P	**Pb**	**21 19 48.6**	**-0.4**
BDHA				*i* S	**Sb**	**21 20 21.9**	**+1.3**
BDHA				AML	AML	21 20 27.0	
	comp=N,195nm,0.5s						
DHBB	**Dhamar BB**	**2.59**	**10**	*i* P	**Pb**	**21 19 48.1**	**-1.8**
DHBB				*i* S	**Sb**	**21 20 23.4**	**+1.3**

*ISCJB **04** 21:38:04.2±0.7, 35°.55N±0°.04×140°.04E±0°.06, h77km±5km, mb3.5/2, Error ellipse: s-maj=8.7km s-min=5.6km az=139.5*
*JMA **04** 21:38:04.9±0.2, 35°.62N×140°.01E, h69km±2km, M2.9*
JMA Felt I J1.
*IDC **04** 21:38:07.9±3.5, 35°.17N×139°.51E, h78km±32km, mb3.2/2, mb1 3.4/2, mb1mx2.9/30, mbtmp3.5/2, Error ellipse: s-maj=72.4km s-min=28.7km az=61.0*
ISC 04 21:38:05.0±1.0, 35°.56N±0°.05×140°.03E±0°.05, h72km±8km, n15, σ0°.86/26, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.20**	**135**	P	**Pn**	**21 38 16.3**	**+0.4**
JCN				S	**Sn**	**21 38 24.8**	**+1.0**
TOK	**Tokyo**	**0.26**	**300**	S	**Sn**	**21 38 23.9**	**-0.4**
JSMT	**Sammumatsuo**	**0.35**	**76**	P	**Pn**	**21 38 16.8**	**0.0**
JSMT				S	**Sn**	**21 38 25.4**	**0.0**
JOD2	**Odawara 2**	**0.83**	**249**	P	**Pn**	**21 38 21.4**	**-0.2**
JOD2				S	**Sn**	**21 38 33.2**	**-0.6**
BSO3	**Boso 3**	**0.85**	**152**	P	**Pn**	**21 38 21.5**	**0.0**
BSO3				S	**Sn**	**21 38 35.0**	**+1.2**
JIM2	**Oshima 3**	**0.97**	**211**	P	**Pn**	**21 38 23.0**	**-0.3**
JIM2				S	**Sn**	**21 38 35.7**	**-1.2**
JAG	**Ashikaga**	**0.98**	**332**	P	**Pn**	**21 38 22.9**	**-0.6**
JAG				S	**Sn**	**21 38 35.7**	**-1.5**
JRY	**Ryogami san**	**1.03**	**297**	P	**Pn**	**21 38 24.2**	**+0.2**
JRY				S	**Sn**	**21 38 37.7**	**-0.5**
BSO1	**Boso 1**	**1.19**	**139**	P	**Pn**	**21 38 25.1**	**-0.4**
BSO1				X		21 38 41.3	
JYN	**Shimob**	**1.22**	**268**	P	**Pn**	**21 38 26.5**	**+0.1**
JYN				S	**Sn**	**21 38 42.6**	**+0.1**
JKT	**Katashina**	**1.36**	**332**	P	**Pn**	**21 38 27.9**	**-0.5**
JKT				S	**Sn**	**21 38 44.9**	**-1.0**
MJAR	**Matsushiro Arr**	**1.77**	**304**	P	**Pn**	**21 38 34.3**	**+0.6**
	10nm,0.3s,baz=150,slow=14,SNR=82						
MJAR				S	**Sn**	**21 38 57.3**	**+1.8**
	7.1nm,0.3s,baz=170,slow=14,SNR=11						
MAT	**Matsushiro**	**1.78**	**304**	P	**Pn**	**21 38 34.2**	**+0.4**
MAT				S	**Sn**	**21 38 57.3**	**+1.8**
MKAR	**Makanchi Array**	**43.98**	**303**	P	**P**	**21 46 05.4**	**+0.4**
	0.4nm,0.6s,baz=84,slow=10,SNR=3.9						
WRA	**Warramunga Arr**	**55.46**	**187**	P	**P**	**21 47 31.9**	**-0.4**
	0.3nm,0.3s,baz=8.8,slow=7.5,SNR=12						

MAN 04 21:38:39.5, 6°.39N×123°.44E, h33km, mb4.8, ML3.7, MS3.6, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKMP	**Bagumbayan, Su**	**1.10**	**83**	*e*P	Pn	21 38 55.6	-3.0
SKMP				*e*S	Sn	21 39 06.8	-5.9
PAGZ	**Pagadian**	**1.45**	**358**	*e*P	Pn	21 39 03.3	-0.2
PAGZ				*e*S	Sn	21 39 22.1	+0.7
GSPH	**General Santos**	**1.53**	**101**	*e*P	Pb	21 39 09.2	+1.8
GSPH				*e*S	Sb	21 39 29.8	+3.4
BUKP	**Musuan**	**2.18**	**47**	*e*P	Pn	21 39 13.9	+0.2
BUKP				*e*S	Sn	21 39 40.5	+0.9
DDMP	**Don Marcelino,**	**2.27**	**97**	*e*P	Pn	21 39 15.5	+0.7
DDMP				*e*S	Sn	21 39 44.0	+2.3
CGP	**Cagayan de Oro**	**2.40**	**31**⇓	*e*P	Pb	21 39 19.3	-2.7
CGP				*e*S	Sb	21 39 49.9	-1.3

MOS 04 21:47:42.7±0.0, 41°.87N×49°.25E, h15km, MPVA3.5, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRN	**Derbent**	**0.71**	**284**	*e*Pg	Pn	21 47 58.4	+0.2
DRN				*e*Sg	Sn	21 48 09.5	+0.7
AKT	**Akhty**	**1.20**	**252**	*e*Pg	Pg	21 48 06.6	+0.7
AKT				*e*Sg	Sg	21 48 24.4	+2.9
GNBR	**Gunib**	**1.78**	**288**	*e*Pg	Pg	21 48 16.5	-0.4
GNBR				*e*Sg	Sg	21 48 41.2	+1.3
LGD	**Lagodekhi**	**2.25**	**270**	P	Pg	21 48 26.1	+0.4
LGD				S	Sg	21 48 56.7	+1.7
BTLR	**Botlikh**	**2.38**	**291**	*e*Pn	Pb	21 48 26.0	+0.6
BTLR				*e*Sn	Sg	21 48 57.9	-1.5
DVE	**Vedeno**	**2.56**	**296**	*e*Pn	Pb	21 48 28.6	+0.2
DVE				*e*Sn	Sb	21 49 02.1	+2.5

MAN 04 21:51:59.8, 6°.24N×123°.49E, h12km, mb4.6, ML3.5, MS3.4, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKMP	**Bagumbayan, Su**	**1.08**	**75**	*e*P	Pb	21 52 19.3	-1.1
SKMP				*e*S	Sb	21 52 30.4	-4.1
PAGZ	**Pagadian**	**1.60**	**356**	*e*P	Pn	21 52 26.9	-0.9
PAGZ				*e*S	Sb	21 52 49.2	-0.2
DDMP	**Don Marcelino,**	**2.21**	**93**	*e*P	Pb	21 52 39.0	-0.7
DDMP				*e*S	Sb	21 53 06.6	-0.4
BUKP	**Musuan**	**2.25**	**44**	*e*P	Pn	21 52 37.5	+0.6
BUKP				*e*S	Sn	21 53 05.3	+0.7
CGP	**Cagayan de Oro**	**2.50**	**28**	*e*P	Pb	21 52 43.1	-1.5
CGP				*e*S	Sb	21 53 13.8	-1.6

*SOME **04** 21:57:00.9, 39°.98N×77°.40E, h0km*
*KRNET **04** 21:57:02.2±0.1, 39°.93N×77°.21E, mb3.0*
ISC 04 21:56:60.0±3.5, 39°.8N±0°.1×77°.39E±0°.09, h1km±27km, n21, σ0°.93/42, 9C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**1.98**	**328**	⇓*i*P	**Pn**	**21 57 34.8**	**-0.2**
	baz=28						
NRN				⇓*i*S	**Sn**	**21 57 59.3**	**-1.4**
	baz=28						
KDJ	**Kajisay**	**2.38**	**356**⇑	*e*P	**Pn**	**21 57 41.8**	**+1.5**
	baz=60						
KDJ				⇑*i*S	**Sn**	**21 58 10.8**	**+0.6**
	baz=60						
ULHL	**Ulahol**	**2.64**	**341**	⇑*i*P	**Pn**	**21 57 45.1**	**+1.2**
	baz=43						
ULHL				⇑*i*S	**Sn**	**21 58 16.7**	**+0.1**
	baz=43						
KZA	**Kyzart**	**2.83**	**326**	⇓*i*P	**Pn**	**21 57 48.1**	**+1.4**
	baz=26						
KZA				⇓*i*S	**Sn**	**21 58 21.1**	**-0.6**
	baz=26						
BOOM	**Boomskoye usch**	**2.94**	**339**⇑	*e*P	**Pn**	**21 57 49.4**	**+1.3**
	baz=40						
BOOM				⇑*i*S	**Sn**	**21 58 23.8**	**-0.4**
	baz=40						
ARLS	**Aral**	**3.14**	**313**	⇓*i*P	**Pn**	**21 57 51.9**	**+1.2**
	baz=13						
ARLS				⇓*i*S	**Sn**	**21 58 27.9**	**-1.0**
	baz=13						
UCH	**Uchtor**	**3.29**	**320**	⇓*i*P	**Pn**	**21 57 54.5**	**+1.4**
	baz=19						
UCH				⇓*i*S	**Sn**	**21 58 32.0**	**-1.2**
	baz=19						
TNSS	**Tian-Shan**	**3.30**	**354**	*e*P	**Pb**	**21 57 58.3**	**-1.2**
	6.0nm,0.5s						
TNSS				*e*S	**Sb**	**21 58 39.7**	**-0.6**
	16nm,0.8s						
IZV	**Izvestkoviy**	**3.33**	**350**	*e*P	**Pb**	**21 57 59.1**	**-0.8**
	4.8nm,0.6s						
IZV				*e*S	**Sb**	**21 58 41.3**	**+0.3**
	22nm,0.6s						
MDOK	**Medeo**	**3.42**	**356**	*e*P	**Pb**	**21 58 00.3**	**-1.1**
	2.0nm,0.2s						
MDOK				*e*S	**Sb**	**21 58 43.1**	**-0.4**
	13nm,0.7s						
KBK	**Karagaybulak**	**3.44**	**328**⇑	*i*P	**Pn**	**21 57 55.9**	**+1.1**
	baz=29						
KBK				⇑*i*S	**Sn**	**21 58 35.2**	**-1.1**
	baz=29						
MTBS	**Maitube**	**3.45**	**348**	*e*P	**Pb**	**21 58 01.1**	**-0.9**
	2.9nm,0.2s						
MTBS				*e*S	**Sb**	**21 58 44.3**	**-0.1**
	10nm,0.4s						
KST	**Kastek**	**3.46**	**342**	*e*P	**Pb**	**21 58 01.6**	**-0.5**
	1.1nm,0.1s						
KST				*e*S	**Sb**	**21 58 45.1**	**+0.5**
	5.6nm,0.5s						
KOTS	**Kotyrbulak**	**3.48**	**357**	*e*P	**Pb**	**21 58 01.4**	**-1.1**
	2.5nm,0.5s						
KOTS				*e*S	**Sb**	**21 58 45.3**	**-0.1**
	15nm,0.5s						
UZB	**Uzynbulak**	**3.60**	**19**	*e*P	**Pb**	**21 58 03.5**	**-1.2**
	1.9nm,0.5s						
UZB				*e*S	**Sb**	**21 58 48.4**	**-0.5**
	4.7nm,0.8s						
DGS	**Degeres**	**3.69**	**341**	*e*P	**Pb**	**21 58 05.5**	**-0.5**
	1.1nm,0.4s						
DGS				*e*S	**Sb**	**21 58 51.9**	**+0.6**
	9.5nm,0.6s						
KPKS	**Kokpek**	**3.83**	**14**	*e*P	**Pb**	**21 58 07.6**	**-0.9**
	3.0nm,0.6s						
KPKS				*e*S	**Sb**	**21 58 55.3**	**-0.2**
	14nm,0.6s						
KTBS	**Karatobe**	**3.99**	**353**	*e*P	**Pb**	**21 58 10.7**	**-0.5**
	1.6nm,0.8

USP	**Ospenovka**	**6.15**	**17**	P		**Pn**	**22 08 43.8**	**-0.5**
	SNR=7.8							
TKM2	**Tokmak 2**	**6.15**	**26**	P		**Pn**	**22 08 44.7**	**+0.2**
	SNR=10							
GEYT	**Alibeck**	**11.01**	**277**	P		**Pn**	**22 09 47.9**	**+0.4**
	0.2nm,0.3s,baz=115,slow=11,SNR=5.2							
GEYT				S		**Sn**	**22 11 47.1**	**-3.1**
	0.4nm,0.3s,baz=72,slow=33,SNR=5.9							
GYA0B	**ALIBECK ARRAY**	**11.01**	**277**	⇑Sn		**Sn**	**22 11 47.7**	**-2.6**
	3.9nm,0.5s							
MKAR	**Makanchi Array**	**12.08**	**36**	P		**Pn**	**22 10 01.3**	**+0.4**
	0.0nm,0.3s,baz=211,slow=12,SNR=2.7							
PYUN	**Piuthan**	**13.10**	**132**	*eP*		**Pn**	**22 10 12.2**	**-2.0**
	3.9nm,0.3s							
DANN	**Dangsing**	**13.39**	**129**	*eP*		**Pn**	**22 10 16.6**	**-1.2**
	5.8nm,0.3s							
KOLN	**Koldanda**	**13.71**	**131**	*eP*		**Pn**	**22 10 20.7**	**-1.0**
	3.0nm,0.3s							
AB31	**Akbulak array**	**14.70**	**327**	⇑Pn		**P**	**22 10 37.0**	**+2.4**
	0.9nm,0.6s,baz=140,slow=10.0,SNR=14							
AB31				⇑Sn		**S**	**22 13 15.7**	**-1.0**
	0.7nm,0.5s,baz=139,slow=23,SNR=3.5							
KKN	**Kakani**	**14.73**	**127**	*eP*		**Pn**	**22 10 33.3**	**-1.1**
	6.1nm,0.5s							
DMN	**Daman**	**14.75**	**128**	*eP*		**Pn**	**22 10 33.7**	**-0.9**
	5.4nm,0.5s							
PKIN	**Phulchoki**	**14.96**	**127**	*eP*		**Pn**	**22 10 36.5**	**-0.7**
	4.3nm,0.3s							
PKI	**Pulchoki**	**14.97**	**127**	*eP*		**Pn**	**22 10 36.9**	**-0.5**
	4.6nm,0.5s							
JIRN	**Jiri**	**15.41**	**125**	*eP*		**Pn**	**22 10 42.4**	**-0.4**
	8.4nm,0.3s							
BVAR	**Borovoye Array**	**15.65**	**356**	P		**Pn**	**22 10 44.5**	**-0.5**
	0.1nm,0.3s,baz=186,slow=4.3,SNR=4.5							
RAMN	**Ramite**	**16.16**	**126**	*eP*		**P**	**22 10 50.0**	**-1.2**
	4.5nm,0.3s							
AKTO	**Aktyubinsk**	**16.41**	**327**	P		**Pn**	**22 10 54.6**	**+0.4**
	0.3nm,0.3s,baz=124,slow=10,SNR=5.6							
AKTO	**Aktyubinsk**	**16.41**	**327**	⇓Pn		Pn	22 11 01.8	+7.6
	5.2nm,1.2s							
AKTO				⇓Sn		**Sn**	**22 13 59.5**	**+0.9**
	1.4nm,0.8s							
ZALV	**Zalesovo Beam**	**18.75**	**24**	P		**Pn**	**22 11 19.8**	**-1.9**
	0.3nm,0.3s,baz=217,slow=11,SNR=9.2							
SONM	**Songino Array**	**27.16**	**56**	P		**P**	**22 12 40.4**	**+0.4**
	0.4nm,0.4s,baz=265,slow=8.7,SNR=2.5							
SONM				PcP		**PcP**	**22 15 57.4**	**+2.5**
	0.4nm,0.7s,baz=264,slow=2.9,SNR=2.1							
NRIK	**Noril'sk**	**33.08**	**10**	LR		LR	22 27 32.7	
	comp=Z,44nm,19.2s,baz=131,slow=37							
ARCES	**ARCESS Array B**	**40.61**	**337**	P		**P**	**22 14 36.8**	**+1.8**
	2.1nm,0.8s,baz=108,slow=8.7,SNR=4.7							
YKA	**Yellowknife Ar**	**80.29**	**3**	P		**P**	**22 19 04.9**	**+1.6**
	0.6nm,0.6s,baz=349,slow=5.7,SNR=4.0							

*ISCJB **04** 23:05:43.1±0.4, 14°.79S±0°.06×167°.29E±0°.08, h129km, mb4.1/20, Error ellipse: s-maj=10.4km s-min=7.9km az=11.0*

*IDC **04** 23:05:45.9±2.7, 14°.81S×167°.36E, h143km±23km, mb3.9/12, mb1 4.0/13, mb1mx3.8/34, mbtmp4.3/13, MS2.6/1, Ms1 2.6/1, ms1mx2.3/33, Error ellipse: s-maj=23.2km s-min=17.5km az=106.0*

*NEIC **04** 23:05:46.7±0.9, 14°.81S×167°.35E, h151km±8km, mb4.3/12, Error ellipse: s-maj=7.4km s-min=6.9km az=161.0*

ISC 04 23:05:44.6±0.5, 14°.78S±0°.07×167°.36E±0°.08, h129km, n32, σ1§08/33, mb4.2/20, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.30**	**187**	P		P	**Pn**	**23 07 30.8**	**+2.0**
	2.8nm,0.3s,baz=133,slow=5.0,SNR=21								
DZM				S		S	**Sn**	**23 08 50.6**	**+0.3**
	1.8nm,0.3s,baz=190,slow=12,SNR=2.7								
HNR	**Honiara**	**8.99**	**305**	LR		LR	23 10 29.4		
	comp=Z,43nm,21.2s,baz=140,slow=32								
HNR	**Honiara**	**8.99**	**305**	Pn		**Pn**	**23 07 54.0**	**+2.5**
FUNA	**Funafuti**	**13.15**	**63**	Pn		**Pn**	**23 08 47.2**	**+0.6**
RAO	**Raoul Island**	**19.81**	**139**	P		**P**	**23 10 05.5**	**+0.3**
	9.1nm,0.3s								
AFI	**Afiamalu**	**20.23**	**90**	P		**P**	**23 10 11.1**	**+1.2**
	2.3nm,0.3s								
CTA	**Charters Tower**	**20.81**	**252**	P		**P**	**23 10 16.5**	**+0.5**
	5.0nm,0.8s,baz=68,slow=13,SNR=3.3								
CTAO	**Charters Tower**	**20.81**	**252**	P		**P**	**23 10 16.6**	**+0.5**
	12nm,0.7s								
STKA	**Stephens Creek**	**29.03**	**230**	P		**P**	**23 11 33.0**	**+0.3**
	6.3nm,0.4s,baz=54,slow=11,SNR=14								
WRAB	**Tennant Creek**	**31.89**	**256**	*eP*		**P**	**23 11 56.1**	**-1.9**
	2.5nm,0.8s								
WRA	**Warramunga Arr**	**31.90**	**256**	P		**P**	**23 11 56.6**	**-1.4**
	0.9nm,0.5s,baz=85,slow=8.7,SNR=21								
ASAR	**Alice Springs**	**32.74**	**249**	P		**P**	**23 12 04.7**	**-0.8**
	2.6nm,0.4s,baz=76,slow=9.2,SNR=44								
ASAR				ScP		**ScP**	**23 18 17.9**	**-2.3**
	0.9nm,1.0s,baz=77,slow=5.4,SNR=5.2								
TAU	**Tasmania Unive**	**32.90**	**208**	P		**P**	**23 12 06.0**	**-0.4**
	5.0nm,0.8s								
MBWA	**Marble Bar**	**45.62**	**255**	P		**P**	**23 13 52.3**	**-0.1**
	9.6nm,0.6s								
VNDA	**Vanda**	**62.81**	**181**	P		**P**	**23 15 55.8**	**-0.3**
	0.7nm,0.5s,baz=347,slow=8.3,SNR=8.0								
SBA	**Scott Base**	**63.09**	**180**	*eP*		**P**	**23 15 57.1**	**-0.8**
	1.7nm,0.7s								
CASY	**Casey**	**63.52**	**202**	P		**P**	**23 15 60.0**	**-0.9**
	1.1nm,0.6s								
PETK	**Petropavlovsk-**	**68.12**	**354**	P		**P**	**23 16 31.1**	**+0.6**
	5.2nm,0.9s,baz=116,slow=5.1,SNR=4.2								
KLR	**Kul'dur**	**71.09**	**336**	P		**P**	**23 16 49.6**	**+0.8**
	0.8nm,0.5s,baz=149,slow=12,SNR=3.6								
CMAR	**Chiang Mai Arr**	**75.05**	**294**	P		**P**	**23 17 13.2**	**+0.5**
	1.1nm,0.4s,baz=110,slow=3.9,SNR=4.2								
QSPA	**South Pole Qui**	**75.25**	**180**	*eP*		**P**	**23 17 12.5**	**-0.7**
	4.7nm,0.8s								
MA2	**Magadan**	**75.31**	**351**	P		**P**	**23 17 13.3**	**0.0**
	5.7nm,0.6s								
SONM	**Songino Array**	**82.59**	**324**	P		**P**	**23 17 53.3**	**-0.1**
	1.1nm,0.7s,baz=149,slow=8.3,SNR=6.2								
LSA	**Lhasa**	**85.66**	**302**	P		**P**	**23 18 09.9**	**0.0**
	0.8nm,0.3s								
ILAR	**Eielson Array**	**86.55**	**18**	P		**P**	**23 18 10.8**	**-2.0**
	0.9nm,0.7s,baz=241,slow=5.6,SNR=10								
PMSA	**Palmer Station**	**91.69**	**160**	P		**P**	**23 18 37.9**	**+0.8**
	3.3nm,0.4s								
MKAR	**Makanchi Array**	**97.30**	**316**	P		**P**	**23 19 03.1**	**0.0**
	1.3nm,0.8s,baz=99,slow=6.3,SNR=6.7								
ZALV	**Zalesovo Beam**	**97.48**	**324**	P		**P**	**23 19 02.6**	**-1.1**
	1.1nm,0.6s,baz=120,slow=3.8,SNR=4.9								
ARCES	**ARCESS Array B**	**120.32**	**345**	PKP		**PKPdf**	**23 24 18.9**	**-1.2**
	0.8nm,0.3s,baz=92,slow=2.3,SNR=26								
NOA	**NORSAR Array B**	**130.70**	**345**	PKP		**PKPdf**	**23 24 39.7**	**-0.5**
	0.3nm,0.7s,baz=25,slow=2.1,SNR=2.9								
KEST	**Kesra**	**151.31**	**321**	PKPbc		**PKPbc**	**23 25 23.5**	**-0.1**
	2.2nm,0.7s,baz=135,slow=1.4,SNR=8.0								
TORD	**Torodi Ar. Bea**	**165.99**	**265**	PKP		**PKPdf**	**23 25 34.8**	**-0.5**
	0.4nm,0.9s,baz=99,slow=0.9								

*ATH **04** 23:09:09.0, 36°.19N×21°.68E, h31km±1km, ML3.6/7, Error ellipse: s-maj=2.3km s-min=1.0km az=48.0*

*THE **04** 23:09:11.1, 36°.27N×21°.70E, h13km, ML3.5/10, Error ellipse: s-maj=1.1km s-min=0.5km az=46.0*

*IDC **04** 23:09:16.3±3.9, 36°.31N×21°.86E, h96km±41km, mb3.2/5, mb1 3.2/8, mb1mx3.1/34, mbtmp3.4/8, MS2.7/1, Ms1 2.7/1, ms1mx2.4/12, Error ellipse: s-maj=33.1km s-min=18.1km az=152.0*

*DDA **04** 23:09:43.9, 33°.60N×26°.24E, h14km, Ml3.2*

ISC 04 23:09:08.3±1.5, 36°.21N±0°.04×21°.53E±0°.04, h26km±11km, n116, σ1§61/144, mb3.7/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MES2	**Methoni**	**0.63**	**13**	P		P	**Pn**	**23 09 21.9**	**+0.4**
MES2				S		S	**Sn**	**23 09 32.0**	**+1.3**
PYL	**PYLOS**	**0.71**	**14**	P		P	**Pn**	**23 09 23.0**	**+0.4**
PYL				S		S	**Sn**	**23 09 33.6**	**+1.0**
PYL				AML		AML	AML	23 09 34.3	
	comp=N,5780μm,0.9s								
PYL				AML		AML	AML	23 09 40.1	
	comp=E,6960μm,0.6s								
PYL	**PYLOS**	**0.71**	**14**	P		P	**Pn**	**23 09 23.1**	**+0.5**
PYL				S		S	**Sn**	**23 09 33.0**	**+0.4**
DYR	**Agios Nikonas**	**0.85**	**50**	P		P	**Pn**	**23 09 24.8**	**+0.2**
DYR				S		S	**Sn**	**23 09 34.5**	**-1.1**
DYR				AML		AML	AML	23 09 41.6	
	comp=N,4932μm,0.8s								
DYR				AML		AML	AML	23 09 41.6	
	comp=E,6482μm,0.6s								
DYR	**Agios Nikonas**	**0.85**	**50**	P		P	**Pn**	**23 09 24.8**	**+0.2**
DYR				S		S	**Sb**	**23 09 34.5**	**-1.1**
ITM	**Ithomi**	**1.02**	**18**	P		P	**Pn**	**23 09 28.1**	**+1.3**
ITM				S		S	**Sn**	**23 09 42.1**	**+1.7**
ITM				AML		AML	AML	23 09 50.7	
	comp=N,4157μm,0.5s								
ITM				AML		AML	AML	23 09 52.5	
	comp=E,3834μm,0.4s								
ITM	**Ithomi**	**1.02**	**18**	P		P	**Pn**	**23 09 28.2**	**+1.3**
ITM				S		S	**Sn**	**23 09 41.7**	**+1.3**
MES3	**Kyparissia**	**1.04**	**6**	P		P	**Pn**	**23 09 28.5**	**+1.3**
MES3				S		S	**Sn**	**23 09 44.2**	**+3.3**
KTHR	**Kythira**	**1.20**	**87**	P		P	**Pb**	**23 09 30.4**	**+0.1**
KTHR				S		S	**Sn**	**23 09 45.8**	**+1.1**
KYTH	**Kithira**	**1.23**	**87**	P		P	**Pb**	**23 09 30.9**	**+0.1**
KYTH				S		S	**Sb**	**23 09 44.7**	**-1.7**
KYTH				AML		AML	AML	23 09 57.2	
	comp=N,6563μm,0.6s								
KYTH				AML		AML	AML	23 09 57.7	
	comp=E,5209μm,1.0s								
KYTH	**Kithira**	**1.23**	**87**	P		P	**Pb**	**23 09 31.3**	**+0.4**
KYTH				S		S	**Sn**	**23 09 46.9**	**+1.3**
VLI	**Veliai**	**1.25**	**66**	P		P	**Pb**	**23 09 31.1**	**0.0**
VLI				S		S	**Sn**	**23 09 46.3**	**+0.4**
VLI				AML		AML	AML	23 09 51.4	
	comp=N,4643μm,1.0s								
VLI				AML		AML	AML	23 09 52.7	
	comp=E,5328μm,1.0s								
VLI	**Veliai**	**1.25**	**66**	P		P	**Pb**	**23 09 31.2**	**+0.1**
VLI				S		S	**Sn**	**23 09 46.9**	**+1.0**
AMT	**Artemida-Makis**	**1.33**	**6**	P		P	**Pb**	**23 09 33.3**	**+0.8**
AMT				S		S	**Sb**	**23 09 52.2**	**+3.1**
AMT				AML		AML	AML	23 10 07.7	
	comp=N,5640μm,0.7s								
AMT				AML		AML	AML	23 10 10.2	
	comp=E,4042μm,0.7s								
AMT	**Artemida-Makis**	**1.33**	**6**	P		P	**Pb**	**23 09 33.3**	**+0.8**
AMT				S		S	**Sb**	**23 09 51.4**	**+2.2**
VLX	**Vlachokerasia**	**1.34**	**30**	P		P	**Pb**	**23 09 33.5**	**+0.6**
VLX				S		S	**Sb**	**23 09 49.8**	**+0.1**
VLX				AML		AML	AML	23 09 53.0	
	comp=E,6276μm,0.8s								
VLX				AML		AML	AML	23 09 59.8	
	comp=N,6377μm,0.5s								
VLX	**Vlachokerasia**	**1.34**	**30**	P		P	**Pb**	**23 09 33.1**	**+0.2**
VLX				S		S	**Sb**	**23 09 49.8**	**+0.1**
TRIP	**Tripoli**	**1.44**	**24**	P		P	**Pb**	**23 09 35.3**	**+0.8**
TRIP				S		S	**Sb**	**23 09 54.1**	**+1.6**
TRIP	**Tripoli**	**1.44**	**24**	P		P	**Pb**	**23 09 34.5**	**-0.1**
ANKY	**Antikythira Is**	**1.48**	**103**	P		P	**Pb**	**23 09 34.9**	**-0.2**
ANKY	**Antikythira Is**	**1.48**	**103**	P		P	**Pb**	**23 09 34.8**	**-0.3**
ANKY				S		S	**Sb**	**23 09 53.6**	**+0.2**
DRO	**Drossia**	**1.75**	**5**	P		P	**Pb**	**23 09 39.7**	**+0.1**
DRO	**Drossia**	**1.75**	**5**	P		P	**Pn**	**23 09 39.7**	**+0.1**
RLS	**Riolos of Patr**	**1.84**	**359**	P		P	**Pb**	**23 09 41.4**	**0.0**
RLS	**Riolos of Patr**	**1.84**	**359**	P		P	**Pn**	**23 09 41.3**	**0.0**
DID	**Didima**	**1.89**	**46**	P		P	**Pn**	**23 09 39.9**	**+1.0**
DID	**Didima**	**1.89**	**46**	P		P	**Pn**	**23 09 39.8**	**+1.0**
DID				S		S	**Sb**	**23 10 03.4**	**-1.8**
KLV	**Kalavryta, Ach**	**1.90**	**15**	P		P	**Pb**	**23 09 41.1**	**-1.1**
KLV	**Kalavryta, Ach**	**1.90**	**15**	P		P	**Pn**	**23 09 41.4**	**-0.9**
LAKA	**Lakka**	**2.06**	**10**	P		P	**Pn**	**23 09 44.4**	**-0.6**
VLS	**Valsamata**	**2.10**	**339**	P		P	**Pn**	**23 09 44.1**	**+2.3**
VLS	**Valsamata**	**2.10**	**339**	P		P	**Pn**	**23 09 45.0**	**-0.7**
IMMV	**Iera Moni Meta**	**2.13**	**110**	P		P	**Pn**	**23 09 43.3**	**+1.2**
IMMV	**Iera Moni Meta**	**2.13**	**110**	P		P	**Pn**	**23 09 43.3**	**+1.2**
LTK	**Loutraki**	**2.15**	**32**	P		P	**Pn**	**23 09 43.7**	**+1.3**
LTK	**Loutraki**	**2.15**	**32**	P		P	**Pn**	**23 09 43.5**	**+1.1**
TRIZ	**Trizonia**	**2.19**	**11**	P		P	**Pb**	**23 09 46.4**	**-0.9**
KALE	**Kalithea**	**2.23**	**12**	P		P	**Pb**	**23 09 46.4**	**-1.5**
EFP	**Efpalio**	**2.23**	**8**	P		P	**Pb**	**23 09 46.6**	**-1.4**
SERG	**Sergoula**	**2.24**	**11**	P		P	**Pb**	**23 09 46.9**	**-1.2**
VAM	**Vamos**	**2.32**	**109**	P		P	**Pn**	**23 09 45.7**	**+1.0**
VAM	**Vamos**	**2.32**	**109**	P		P	**Pn**	**23 09 45.8**	**+1.1**
VAM				S		S	**Sb**	**23 10 14.7**	**-2.8**
PROD	**Prodromos**	**2.32**	**28**	P		P	**Pn**	**23 09 46.3**	**+1.5**
DSF	**Desfina**	**2.34**	**20**	P		P	**Pn**	**23 09 46.4**	**+1.4**
FSK	**Fiskardo**	**2.37**	**341**	P		P	**Pn**	**23 09 49.0**	**-1.3**
MHLA	**Plaka, Milos I**	**2.40**	**76**	P		P	**Pn**	**23 09 46.1**	**+0.4**
ANX	**Ano Chora**	**2.40**	**7**	P		P	**Pb**	**23 09 49.8**	**-1.1**
PVO	**Paravola**	**2.40**	**0**	P		P	**Pb**	**23 09 50.0**	**-0.8**
VLY	**Voula,Athens**	**2.45**	**47**	P		P	**Pn**	**23 09 47.2**	**+0.7**
VLY	**Voula,Athens**	**2.45**	**47**	P		P	**Pn**	**23 09 47.6**	**+1.1**
EVGI	**Lefkada island**	**2.50**	**344**	P		P	**Pb**	**23 09 51.3**	**-1.3**
EVGI	**Lefkada island**	**2.50**	**344**	P		P	**Pb**	**23 09 50.5**	**-2.0**
SERI	**Serifos**	**2.56**	**67**	P		P	**Pn**	**23 09 47.9**	**-0.2**
PTL	**Penteli**	**2.62**	**45**	P		P	**Pn**	**23 09 49.9**	**+1.0**
LKD2	**Lefkada island**	**2.67**	**345**	P		P	**Pb**	**23 09 53.4**	**-1.9**
DION	**Dionisos Attik**	**2.68**	**45**	P		P	**Pn**	**23 09 50.2**	**+0.5**
TSLK	**Tsoukalades, L**	**2.70**	**345**	P		P	**Pb**	**23 09 53.4**	**-2.4**
EVR	**Evrytania**	**2.71**	**5**	P		P	**Pb**	**23 09 54.0**	**-2.2**
MAKR	**Makrakomi, Fth**	**2.84**	**10**	P		P	**Pb**	**23 09 55.7**	**-2.6**
AGG	**Agios Georgios**	**2.88**	**13**	P		P	**Pn**	**23 09 54.7**	**+2.2**
AGG	**Agios Georgios**	**2.88**	**13**	P		P	**Pn**	**23 09 54.7**	**+2.2**
IOSP	**Ios island**	**3.08**	**73**	P		P	**Pn**	**23 09 55.9**	**-0.2**
SAP3	**Santorini-Thir**	**3.09**	**85**	P		P	**Pn**	**23 09 55.4**	**0.0**
THR5	**Thira Island,**	**3.09**	**85**	P		P	**Pn**	**23 09 55.4**	**0.0**
THR6	**Thira Island,**	**3.13**	**86**	P		P	**Pn**	**23 09 56.2**	**+0.3**
THR3	**Thira Island,**	**3.14**	**85**	P		P	**Pn**	**23 09 55.9**	**0.0**
CMBO	**Columbo, Santo**	**3.14**	**84**	P		P	**Pn**	**23 09 56.2**	**+0.1**
APE	**Apeiranthos**	**3.33**	**74**	P		P	**Pn**	**23 09 58.5**	**-0.2**
NEO	**Neokhori**	**3.37**	**23**	P		P	**Pn**	**23 10 00.1**	**+0.8**
THL	**Klokotos Trika**	**3.37**	**6**	P		P	**Pn**	**23 10 01.5**	**+2.3**
LAST	**Lasithi**	**3.38**	**107**	P		P	**Pn**	**23 09 58.9**	**-0.5**
XOR	**Xorichti**	**3.42**	**22**	P		P	**Pn**	**23 10 00.9**	**+1.1**
ANAF	**Anafi Island**	**3.43**	**86**	P		P	**Pn**	**23 09 59.9**	**-0.2**
IGT	**Igoumenitsa**	**3.45**	**344**	P		P	**Pn**	**23 10 02.5**	**+2.2**
NPS	**Neapolis**	**3.46**	**105**	P		P	**Pn**	**23 10 00.4**	**0.0**
AOS	**Alonnisos**	**3.50**	**32**	P		P	**Pn**	**23 10 01.2**	**+0.3**
AMGA	**Amorgos Island**	**3.57**	**79**	P		P	**Pn**	**23 10 01.7**	**-0.3**
KEK	**Kerkira**	**3.75**	**339**	P		P	**Pn**	**23 10 06.4**	**+1.9**
LIT	**Litokhoron**	**3.96**	**11**	P		P	**Pn**	**23 10 09.1**	**+1.8**
PENT	**Pentalofos**	**3.99**	**356**	P		P	**Pn**	**23 10 11.5**	**+3.7**
NEST	**Nestorio**	**4.21**	**355**	P		P	**Pn**	**23 10 14.5**	**+3.6**
ZEY	**˙zmir**	**4.46**	**62**	*i*	P	P	**Pn**	**23 10 13.5**	**-0.6**
BIA	**Bitola**	**4.80**	**358**	*e*	Pn	P	**Pn**	**23 10 21.1**	**+2.2**
BIA				*e*	Sn		**Sn**	**23 11 11.6**	**-2.2**
DAT	**Datca**	**4.91**	**82**	*i*	P	P	**Pn**	**23 10 17.7**	**-2.7**
DAT				*i*	S		**Sn**	**23 11 19.5**	**+3.1**
KNT	**Kendrikon**	**5.06**	**12**	P		P	**Pn**	**23 10 24.3**	**+1.9**
KRUS	**Krusevo**	**5.16**	**358**	*i*	Pn	P	**Pn**	**23 10 25.3**	**+1.4**
KRUS				*e*	Sn		**Sn**	**23 11 19.9**	**-2.5**
VAY	**Valandovo**	**5.17**	**9**	*e*	Pn	P	**Pn**	**23 10 24.7**	**+0.9**
VAY				*e*	Sn		Sn	23 11 11.4	-11
MMB	**Musomiste**	**5.64**	**17**	P		P	**Pn**	**23 10 31.4**	**+1.0**
DALY	**Dalyan (Mu˘la**	**5.77**	**82**	*i*	P	P	**Pn**	**23 10 35.3**	**+3.1**
DALY				*i*	S		**Sn**	**23 11 37.3**	**-0.3**
KKB	**Krupnik**	**5.78**	**12**	P		P	**Pn**	**23 10 33.6**	**+1.3**
SG1	**Sgolgore (BA)**	**5.98**	**322**	*e*	Pg	P	**Pn**	**23 10 37.1**	**+2.0**
SG1					Sg		**Sn**	**23 11 39.2**	**-3.6**
RZN	**Rozhen**	**6.01**	**23**	P		P	**Pn**	**23 10 37.6**	**+2.0**
TAVA	**DENIZLI_Tavas**	**6.06**	**76**	*i*	P	P	**Pn**	**23 10 35.9**	**-0.3**
BAI	**Bari**	**6.09**	**325**	Pg		P	**Pn**	**23 10 37.9**	**+1.3**
BAI					Sg		**Sn**	**23 11 39.4**	**-6.0**
DRME	**Dracevica, Mon**	**6.24**	**344**	*e*	Pn	P	**Pn**	**23 10 39.2**	**+0.6**
PDG	**Podgorica**	**6.46**	**345**	*e*	Pn	P	**Pn**	**23 10 43.0**	**+1.5**
VTS	**Vitosha**	**6.50**	**11**	P		P	**Pn**	**23 10 45.0**	**+2.6**
AKAS	**Kas**	**6.53**	**87**	*i*	P	P	**Pn**	**23 10 41.6**	**-1.1**
AKAS				*i*	S		**Sn**	**23 11 54.0**	**-2.4**
GOLH	**Golhisar**	**6.54**	**79**	*i*	P	P	**Pn**	**23 10 44.5**	**+1.7**
GOLH				*i*	S		**Sn**	**23 11 56.8**	**+0.3**
TREB	**Trebinje**	**6.95**	**340**	*e*	Pn	P	**Pn**	**23 10 48.0**	**-0.3**
STON	**Ston**	**7.28**	**337**	*i*	Pn	P	**Pn**	**23 10 52.6**	**-0.2**
STON					Sn		**Sn**	**23 12 09.8**	**-4.7**
BBLS	**Lazići**	**7.82**	**349**	*e*	Pn	P	**Pn**	**23 11 00.3**	**0.0**
DIVS	**Divibare**	**7.97**	**352**	*e*	Pn	P	**Pn**	**23 11 00.6**	**-1.8**
HAPS	**Han Pijesak,BI**	**8.11**	**347**	*e*	Pn	P	**Pn**	**23 11 02.9**	**-1.5**
FRGS	**Fruska Gora**	**9.03**	**352**	*e*	Pn	P	**Pn**	**23 11 14.9**	**-2.0**
BRTR	**Keskin Array B**	**10.19**	**66**	P		P	**Pn**	**23 11 35.4**	**+2.5**
	comp=N,0.0nm,0.3s,baz=257,slow=10,SNR=3.9								
CRES	**Cresnjev**	**10.64**	**336**	*e*	Pn	P	**Pn**	**23 11 38.8**	**-0.1**
GERES	**GERESS Array B**	**13.87**	**338**	LR		LR	LR	23 19 01.8	
	comp=N,32nm,18.6s,baz=88,slow=42								
AKASG	**Malin Array Be**	**15.51**	**19**	P		P	**P**	**23 12 48.0**	**-1.3**
	comp=N,0.7nm,0.3s,baz=204,slow=10,SNR=3.0								
KBZ	**Khabaz**	**17.99**	**59**	P		P	**Pn**	**23 13 16.1**	**-0.3**
	comp=N,0.1nm,0.3s,baz=252,slow=19,SNR=2.7								
ESDC	**Sonseca Array**	**20.38**	**287**	P		P	Pn	23 13 48.6	+3.5
	comp=N,0.5nm,0.6s,baz=79,slow=9.9,SNR=3.6								
NB2	**NORSAR Subarra**	**25.70**	**348**	P		P	**P**	**23 14 36.2**	**+0.1**
	comp=Z,3.4nm,1.4s,baz=156,slow=9.3								
NOA	**NORSAR Array B**	**25.70**	**348**	P		P	**P**	**23 14 36.0**	**-0.1**
	comp=Z,0.6nm,1.0s,baz=156,slow=9.3,SNR=3.7								
TORD	**Torodi Ar. Bea**	**29.07**	**223**	P		P	**P**	**23 15 09.7**	**+3.1**
	comp=Z,0.3nm,0.7s,baz=24,slow=11								
MKAR	**Makanchi Array**	**45.67**	**57**	P		P	**P**	**23 17 25.4**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=275,slow=7.4,SNR=14								
ZALV	**Zalesovo Beam**	**46.43**	**47**	P		P	**P**	**23 17 31.0**	**-1.5**
	comp=Z,1.0nm,0.4s,baz=271,slow=9.9,SNR=5.1								

*IDC **04** 23:26:39.4±0.7, 3°.50S×99°.85E, h0km, mb4.3/17, mb1 4.5/18, mb1mx4.2/44, mbtmp4.3/18, ML3.7/2, MS3.5/1, Ms1 3.7/1, ms1mx2.9/46, Error ellipse: s-maj=23.8km s-min=13.3km az=51.0*

*BJI **04** 23:26:39.6, 3°.57S×100°.22E, h13km, mb4.6/15, mB4.9/8, Ms4.1/2, Ms7 4.0/1*

*NEIC **04** 23:26:40.7±0.3, 3°.51S×99°.88E, h10km, mb4.5/10, Error ellipse: s-maj=9.7km s-min=5.8km az=59.0*

*ISCJB **04** 23:26:42.1±0.4, 3°.62S±0°.04×99°.82E±0°.05, h33km, mb4.3/32, MS3.7/2, Error ellipse: s-maj=7.8km s-min=5.2km az=151.6*

*DJA **04** 23:26:43.3±0.9, 3°.5±4°×10°0E±°, h32km±9km, M4.7/9, mB5.2/3, mb5.0/5, MLv4.6/9, Mw(mB)4.6/3*

ISC 04 23:26:44.6±0.5, 3°.57S±0°.06×99°.84E±0°.08, h35km, n70, σ1§43/62, mb4.4/32, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.82**	**12**	P		P	**Pn**	**23 26 57.6**	**-2.1**
PPSI				S		S	**Sn**	**23 27 09.5**	**-1.1**
KRJI	**Kerinci**	**2.19**	**48**	P		P	**Pn**	**23 27 17.5**	**-1.1**
MASI	**Maura Aman, Be**	**2.44**	**80**	P		P	**Pn**	**23 27 21.6**	**-0.3**
PDSI	**Padang**	**2.72**	**13**	P		P	**Pn**	**23 27 23.1**	**-2.7**
SDSI	**Sungai Bareh**	**3.07**	**31**	P		P	**Pn**	**23 27 29.5**	**-1.1**
BKNI	**Bangkinang

1.2nm,0.7s,baz=97,slow=5.8,SNR=12
WMOK Wichita Mounta 144.50 27 *e*PKPdf **PKPab 23 46 16.6 +0.3**
WCI Wyandotte Cave 145.06 8 *e*PKPdf **PKPab 23 46 18.2 +0.1**
TXAR Lajitas Array 146.03 39 PKPbc **PKPab 23 46 22.9 +0.8**
3.9nm,0.8s,baz=288,slow=1.1,SNR=39
JCT Junction City 147.43 33 *e*PKPbc **PKPbc 23 46 26.3 +0.8**

ISCJB ***04*** *23:36:00.8±0.5, 41.°70N±0.°02×23.°79E±0.°03, h6km±3km, Error ellipse: s-maj=3.5km s-min=2.4km az=164.2*
THE ***04*** *23:36:01.8, 41.°66N×23.°78E, h6km, ML2.3/10, Error ellipse: s-maj=0.7km s-min=0.4km az=275.0*
ATH ***04*** *23:36:01.6, 41.°63N×23.°80E, h24km±1km, ML2.3/9, Error ellipse: s-maj=2.0km s-min=1.0km az=177.0*
BEO ***04*** *23:36:02.7±0.5, 41.°72N×23.°83E, h13km±3km, ML2.5/8*
SKO ***04*** *23:36:02.5, 41.°71N×23.°75E, h4km*
ISC 04 23:36:01.4±1.0, 41.°68N±0.°02×23.°79E±0.°02, h10km±8km, n46, σ0°59/82, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NVR	**Nevrokopi**	**0.33**	**171**	P		**Pg**	**23 36 08.0**	**-0.1**
NVR				S		**Sg**	**23 36 12.7**	**+0.2**
NVR				AML	AML		23 36 13.5	
	comp=E,1408μm,0.2s							
NVR				AML	AML		23 36 13.8	
	comp=N,1272μm,0.3s							
NVR	**Nevrokopi**	**0.33**	**171**	P		**Pg**	**23 36 08.0**	**-0.1**
NVR				S		**Sg**	**23 36 12.5**	**0.0**
SRS	**Serrai**	**0.58**	**195**	P		**Pg**	**23 36 12.9**	**+0.2**
SRS				S		**Sg**	**23 36 20.5**	**+0.2**
SRS	**Serrai**	**0.58**	**195**	P		**Pg**	**23 36 12.9**	**+0.2**
SRS				S		**Sg**	**23 36 21.1**	**+0.8**
PLD	**Plovdiv**	**0.80**	**58**	*e*Pg		**Pg**	**23 36 16.5**	**-0.4**
PLD				*e*Sg		**Sg**	**23 36 27.9**	**+0.5**
KNT	**Kendrikon**	**0.85**	**233**	P		**Pg**	**23 36 17.5**	**-0.3**
KNT				S		**Sg**	**23 36 28.7**	**0.0**
KNT				AML	AML		23 36 33.5	
	comp=E,650μm,0.2s							
KNT				AML	AML		23 36 33.5	
	comp=N,432μm,0.1s							
KNT	**Kendrikon**	**0.85**	**233**	P		**Pg**	**23 36 17.4**	**-0.3**
KNT				S		**Sb**	**23 36 29.4**	**-0.1**
KVLA	**Kavala**	**0.87**	**149**	P		**Pg**	**23 36 18.1**	**+0.1**
KVLA				S		**Sg**	**23 36 29.5**	**+0.1**
SOH	**Sokhos**	**0.92**	**201**	P		**Pg**	**23 36 18.7**	**-0.3**
SOH				S		**Sg**	**23 36 31.5**	**+0.5**
SOH				AML	AML		23 36 34.8	
	comp=E,438μm,0.3s							
SOH				AML	AML		23 36 35.8	
	comp=N,489μm,0.5s							
SOH	**Sokhos**	**0.92**	**201**	P		**Pg**	**23 36 18.7**	**-0.3**
SOH				S		**Sg**	**23 36 31.8**	**+0.8**
VAY	**Valandovo**	**0.98**	**249**	*e*Pg		**Pn**	**23 36 21.5**	**+0.3**
VAY				*e*Sg		**Sn**	**23 36 35.5**	**+0.4**
VAY	**Valandovo**	**0.98**	**249**	P		**Pb**	**23 36 19.6**	**-0.8**
VAY				S		**Sn**	**23 36 34.2**	**-0.9**
VAY	**Valandovo**	**0.98**	**249**	*i* Pg		**Pb**	**23 36 19.6**	**-0.8**
VAY				*i* Sg		**Sg**	**23 36 33.4**	**+0.3**
VTS	**Vitosha**	**1.01**	**335**	*e*Pg		**Pg**	**23 36 20.8**	**0.0**
VTS				*e*Sg		**Sn**	**23 36 34.5**	**-1.6**
VTS	**Vitosha**	**1.01**	**335**	P		**Pb**	**23 36 20.5**	**-0.5**
VTS				S		**Sn**	**23 36 36.0**	**-0.1**
HORT	**Hortiatis**	**1.20**	**206**	P		**Pn**	**23 36 24.0**	**-0.2**
HORT				S		**Sb**	**23 36 40.1**	**+0.3**
HORT	**Hortiatis**	**1.20**	**206**	P		**Pn**	**23 36 24.0**	**-0.2**
THE	**Thessaloniki**	**1.22**	**211**	P		**Pn**	**23 36 24.1**	**-0.3**
THE				S		**Sb**	**23 36 40.3**	**+0.2**
THE				AML	AML		23 36 43.2	
	comp=N,164μm,0.5s							
THE				AML	AML		23 36 43.4	
	comp=E,187μm,0.4s							
THE	**Thessaloniki**	**1.22**	**211**	P		**Pn**	**23 36 24.3**	**-0.1**
THE				S		**Sg**	**23 36 41.3**	**+0.8**
GRG	**Griva**	**1.27**	**236**	P		**Pn**	**23 36 25.1**	**-0.1**
GRG				S		**Sg**	**23 36 42.7**	**+0.4**
GRG				AML	AML		23 36 44.1	
	comp=N,163μm,0.2s							
GRG				AML	AML		23 36 44.6	
	comp=E,202μm,0.3s							
GRG	**Griva**	**1.27**	**236**	P		**Pn**	**23 36 25.2**	**0.0**
GRG				S		**Sg**	**23 36 43.4**	**+1.1**
THAS	**Thassos island**	**1.28**	**146**	P		**Pn**	**23 36 25.0**	**-0.3**
THAS				S		**Sb**	**23 36 41.5**	**-0.5**
THAS				AML	AML		23 36 45.1	
	comp=E,237μm,0.3s							
THAS				AML	AML		23 36 45.4	
	comp=N,372μm,0.2s							
THAS	**Thassos island**	**1.28**	**146**	P		**Pn**	**23 36 24.9**	**-0.4**
THAS				S		**Sn**	**23 36 43.0**	**+0.6**
PLG	**Polygyros**	**1.33**	**191**	P		**Pn**	**23 36 26.4**	**+0.4**
PLG				S		**Sb**	**23 36 43.7**	**+0.2**
PLG				AML	AML		23 36 47.1	
	comp=E,131μm,0.3s							
PLG				AML	AML		23 36 47.5	
	comp=N,183μm,0.4s							
PLG	**Polygyros**	**1.33**	**191**	P		**Pn**	**23 36 26.3**	**+0.3**
PLG				S		**Sg**	**23 36 44.5**	**+0.3**
OUR	**Ouranopolis**	**1.35**	**174**	P		**Pn**	**23 36 26.1**	**-0.1**
OUR				S		**Sn**	**23 36 44.1**	**0.0**
OUR				AML	AML		23 36 49.2	
	comp=E,226μm,0.5s							
OUR				AML	AML		23 36 49.8	
	comp=N,381μm,0.5s							
OUR	**Ouranopolis**	**1.35**	**174**	P		**Pn**	**23 36 26.2**	**0.0**
OUR				S		**Sb**	**23 36 45.1**	**+1.1**
RDO	**Rodhopi**	**1.42**	**111**	P		**Pn**	**23 36 27.5**	**+0.3**
RDO				S		**Sb**	**23 36 47.0**	**+1.0**
RDO	**Rodhopi**	**1.42**	**111**	P		**Pn**	**23 36 27.5**	**+0.3**
SMTH	**Samothraki Isl**	**1.79**	**132**	P		**Pn**	**23 36 32.2**	**0.0**
SMTH	**Samothraki Isl**	**1.79**	**132**	P		**Pn**	**23 36 32.1**	**-0.1**
ZAPS	**Zavoj**	**1.81**	**332**	*e*Pg		**Pg**	**23 36 35.1**	**-1.0**
ZAPS				*e*Sg		**Sg**	**23 36 58.6**	**-0.9**
BARS	**Barje**	**1.85**	**308**	*e*Pn		**Pn**	**23 36 33.8**	**+0.6**
ALN	**Alexandroupoli**	**1.87**	**114**	P		**Pn**	**23 36 33.9**	**+0.5**
ALN	**Alexandroupoli**	**1.87**	**114**	P		**Pn**	**23 36 34.0**	**+0.6**
ALN				S		**Sb**	**23 36 58.8**	**-0.2**
LIA	**Limnos Island**	**2.07**	**149**	P		**Pn**	**23 36 35.9**	**-0.2**
LIA	**Limnos Island**	**2.07**	**149**	P		**Pn**	**23 36 36.1**	**0.0**
XOR	**Xorichti**	**2.35**	**191**	P		**Pn**	**23 36 40.2**	**+0.1**
XOR				S		**Sn**	**23 37 08.2**	**-0.8**
XOR				AML	AML		23 37 09.2	
	comp=N,47μm,0.4s							
XOR				AML	AML		23 37 11.9	
	comp=E,25μm,0.4s							
FYTO	**Fytoko, Volos**	**2.36**	**196**	P		**Pn**	**23 36 40.4**	**+0.3**
FYTO				S		**Sn**	**23 37 08.5**	**-0.6**
NEO	**Neokhori**	**2.41**	**191**	P		**Pn**	**23 36 40.8**	**0.0**
ZAGS	**Zajecar**	**2.42**	**332**	*e*Pn		**Pn**	**23 36 41.7**	**+0.7**
ZAGS				*e*Sn		**Sn**	**23 37 10.8**	**+0.2**
BOVS	**Bovan**	**2.49**	**323**	*e*Pn		**Pn**	**23 36 42.6**	**+0.7**
BOVS				*e*Sn		**Sn**	**23 37 13.5**	**+1.2**
SELS	**Selova**	**2.50**	**309**	*e*Pn		**Pn**	**23 36 43.3**	**+1.1**
SELS				*e*Sn		**Sn**	**23 37 14.2**	**+1.4**
KUBS	**Kucevo**	**3.14**	**331**	*e*Pn		**Pn**	**23 36 50.3**	**-0.6**
KUBS				*e*Sn		**Sn**	**23 37 28.2**	**-0.2**
GRUS	**Gruza**	**3.16**	**315**	*e*Pn		**Pn**	**23 36 52.0**	**+0.8**
GRUS				*e*Sn		**Sn**	**23 37 29.9**	**+1.0**
BZS	**Buzias**	**4.24**	**339**	*e*Pn		**Pn**	**23 37 06.9**	**+0.9**

IDC ***04*** *23:46:32.5±0.3, 4.°60N×125.°12E, h0km, mb4.7/40, mb1 4.8/44, mb1mx4.7/55, mbtmp4.7/44, ML4.8/5, MS4.7/27, Ms1 4.7/27, ms1mx4.6/37, Error ellipse: s-maj=12.1km s-min=7.4km az=73.0*
BJI ***04*** *23:46:34.8, 4.°20N×125.°29E, h46km, mb4.9/60, mB5.2/61, Ms5.2/79, Ms7 5.0/73*
GCMT ***04*** *23:46:35.7±0.1, 4.°59N±0.°01×124.°99E±0.°01, h15km, MW5.4/126, Moment Tensor Solution. s103,c182; s126,c241; Duration: 1s2 Moment tensor: Scale 1017 Nm; Mrr0.33±.02; Mθθ0.49±.02; Mϕϕ-0.81±.02; Mrθ0.81±.06; Mθϕ1.45±.02; Mϕr-0.14±.06; Best double couple: Mo1.80500×1017 NP1:ϕs105.00000°, δ83.00000°, λ29.00000°. NP2:ϕs11.00000°, δ61.00000°, λ172.00000°. Principal axes: T 1.7100, Plg25.0000°, Azm331.0000°; N 0.1900, Plg60.0000°, Azm117.0000°; P -1.9000, Plg15.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MOS ***04*** *23:46:36.3±1.3, 4.°67N×125.°13E, h33km, mb5.2/53, MS4.9/13 Error ellipse: s-maj=9.3km s-min=4.9km az=109.1*
ISCJB ***04*** *23:46:36.0±0.8, 4.°63N±0.°02×125.°17E±0.°02, h28km±5km, mb5.0/179, MS4.8/62, Error ellipse: s-maj=4.1km s-min=2.6km az=166.5*
MAN ***04*** *23:46:36.4, 4.°74N×124.°57E, h15km, mb5.8, ML4.8, MS5.2*
DJA ***04*** *23:46:38.0±0.2, 5.°N±2.°×12.°5E±.°, h10km, M5.2/53, mB5.6/38, mb5.2/53, MLv5.4/14, Mw(mB)5.1/38, Mwp5.9/7*
NEIC ***04*** *23:46:38.7±0.6, 4.°60N×125.°08E, h37km±5km, mb5.3/93, Error ellipse: s-maj=5.0km s-min=3.2km az=75.0*
ISC 04 23:46:38.3±0.4, 4.°63N±0.°03×125.°06E±0.°04, h31km±2km, h32km:pP-P, n574, σ1s86/590, mb5.1/178, MS4.9/62, 29C-14D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.05**	**154**	P		**Pn**	**23 46 54.5**	**-2.3**
SGSI				S		**Sn**	**23 47 08.0**	**-2.4**
GSPH	**General Santos**	**1.45**	**356**	*e*P		**Pn**	**23 47 01.6**	**-0.8**
SKMP	**Bagumbayan, Su**	**1.94**	**345**	*e*P		**Pn**	**23 47 06.9**	**-2.3**
SKMP				*e*S		**Sn**	**23 47 30.1**	**-2.4**
DAV	**Davao City (W)**	**2.48**	**12**	Pn		**Pn**	**23 47 15.1**	**-1.4**
	344nm,0.3s,baz=164,slow=6.9,SNR=21							
DAV				Sn		**Sn**	**23 47 46.9**	**+1.3**
	791nm,0.3s,baz=254,slow=19,SNR=12							
DAV				LR	LR		23 48 34.4	
	comp=Z,54μm,18.3s,baz=345,slow=49							
DAV	**Davao City (W)**	**2.48**	**12**	*e*Pn		**Pn**	**23 47 18.6**	**+2.1**
DAV				Sn		**Sn**	**23 47 47.0**	**+1.3**
DAV	**Davao City (W)**	**2.48**	**12**	P		**Pn**	**23 47 18.4**	**+1.9**
	SNR=68							
BUKP	**Musuan**	**3.23**	**0**	*e*P		**Pn**	**23 47 26.8**	**-0.1**
BUKP				*e*S		**Sb**	**23 48 10.7**	**-3.2**
PAGZ	**Pagadian**	**3.60**	**333**	*e*P		**Pn**	**23 47 28.7**	**-3.4**
PAGZ				*e*S		**Sn**	**23 48 07.6**	**-5.9**
ZCP	**Zamboanga City**	**3.75**	**308**	⇓*i*P		**Pn**	**23 47 31.8**	**-2.1**
ZCP				*i* S		**Sn**	**23 48 11.3**	**-5.8**
BIPH	**Bislig**	**3.76**	**20**	⇑*i*P		**Pn**	**23 47 35.2**	**+1.1**
BIPH				*e*S		**Sn**	**23 48 17.0**	**-0.3**
CGP	**Cagayan de Oro**	**3.82**	**355**	⇓*e*P		**Pn**	**23 47 38.4**	**+3.5**
CGP				*e*S		Sb	23 48 40.3	+10
KMSI	**Cibinong**	**4.17**	**195**	P		Pb	23 47 45.5	-5.5
DCPH	**Dipolog City**	**4.28**	**337**	⇑*e*P		**Pn**	**23 47 43.0**	**+1.8**
BUTP	**Butuan**	**4.34**	**7**	*e*P		**Pn**	**23 47 42.6**	**+0.4**
TNTI	**Ternate**	**4.47**	**149**	*e*Pn		**Pn**	**23 47 44.0**	**0.0**
TNTI	**Ternate**	**4.47**	**149**	P		**Pn**	**23 47 43.1**	**-0.9**
MRSI	**Marisa**	**5.17**	**217**	P		**Pn**	**23 47 50.3**	**-3.3**
MSLP	**Maasin**	**5.47**	**358**	*e*P		**Pn**	**23 47 57.5**	**-0.1**
LLP	**Lapu-Lapu**	**5.75**	**349**	*e*P		**Pn**	**23 48 01.8**	**+0.2**
LBMI	**Labuha**	**5.77**	**155**	P		**Pn**	**23 48 03.0**	**+1.1**
	379nm,0.5s,8μm5.7nm							
LUWI	**Luwuk**	**6.08**	**202**	*e*Pn		**Pn**	**23 48 07.2**	**+1.1**
LUWI	**Luwuk**	**6.08**	**202**	P		**Pn**	**23 48 07.3**	**+1.2**
	1μm,1.3s,12μm20μm7.0nm							
GUIM	**Jordan**	**6.44**	**338**	*e*P		**Pn**	**23 48 09.1**	**-1.9**
GUIM				*e*S		**Sn**	**23 49 25.4**	**+1.9**
APSI	**Ampana**	**6.48**	**212**	P		**Pn**	**23 48 14.0**	**+2.5**
	493nm,0.8s,5μm2.0nm							
MPSI	**Mapaga**	**6.69**	**231**	P		**Pn**	**23 48 15.5**	**+1.0**
	52nm,0.8s,2μm14μm0.6nm							
SANI	**Sanana**	**6.70**	**172**	P		**Pn**	**23 48 13.0**	**-1.6**
	258nm,0.7s,3μm0.9nm							
RCP	**Roxas**	**7.25**	**342**	⇑*e*P		**Pn**	**23 48 24.8**	**+2.6**
NLAI	**Namlea**	**8.08**	**165**	P		**Pn**	**23 48 33.6**	**+0.1**
	326nm,0.7s,4μm1.1nm							
SWI	**Sorong**	**8.26**	**131**	P		Pn	23 48 45.9	+10
SIJI	**Sorong**	**8.26**	**131**	Pn		**Pn**	**23 48 33.8**	**-2.3**
	13nm,0.3s,baz=329,slow=15,SNR=20							
SIJI				Sn		**Sn**	**23 50 08.2**	**-0.3**
	3.4nm,0.3s,baz=17,slow=19,SNR=4.0							
BATP	**Bataraza**	**8.31**	**300**	*e*P		**Pn**	**23 48 32.3**	**-4.5**
BATP				*e*S		**Sn**	**23 50 06.2**	**-3.4**
ENPP	**El Nido**	**8.59**	**320**	*e*P		**Pn**	**23 48 37.6**	**-2.9**
ENPP				*e*S		Sn	23 50 06.7	-10
MSAI	**Masohi**	**8.82**	**154**	P		**Pn**	**23 48 46.0**	**+2.3**
	38nm,0.8s,0.3nm							
AAI	**Ambon**	**8.84**	**159**	P		**Pn**	**23 48 45.2**	**+1.3**
AAI				pmax	pmax			
	comp=Z,272nm,0.5s							
AAI	**Ambon**	**8.84**	**159**	P		**Pn**	**23 48 45.1**	**+1.2**
	comp=Z,270nm,0.7s,comp=Z,4μmcomp=Z,1.2nm							
TTSI	**Tana Toraja**	**9.25**	**215**	P		**Pn**	**23 48 50.4**	**+0.8**
	comp=Z,103nm,0.8s							
PALU	**Palau**	**9.74**	**73**	P		**Pn**	**23 48 56.9**	**+0.6**
	baz=9.8,SNR=7.3							
BKB	**Balikpapan**	**10.04**	**235**	P		**Pn**	**23 49 01.8**	**+1.4**
	comp=Z,272nm,0.8s,comp=Z,10μmcomp=Z,18μm							
SPSI	**Sidrap Palu**	**10.04**	**212**	P		**Pn**	**23 49 04.6**	**+4.1**
BNSI	**Bone**	**10.25**	**209**	P		Pn	23 49 07.8	+4.5
TGY	**Tagaytay City**	**10.25**	**337**	Pn		**Pn**	**23 49 01.7**	**-1.7**
	comp=Z,52nm,0.3s,baz=359,slow=11,SNR=1.6							
TGY				LR	LR		23 53 15.9	
	comp=Z,9μm,20.5s,baz=158,slow=39							
BNDI	**Bandanaira**	**10.30**	**152**	P		Pn	23 49 13.7	+10
BBSI	**Bau Bau**	**10.36**	**194**	P		Pn	23 49 16.3	+12
FAKI	**Fak Fak**	**10.38**	**136**	*e*Pn		**Pn**	**23 49 05.8**	**+0.6**
FAKI	**Fak Fak**	**10.38**	**136**	P		**Pn**	**23 49 08.2**	**+3.0**
	comp=Z,98nm,1.5s,comp=Z,2μm							
RKPI	**Ransiki, Papua**	**10.96**	**124**	P		Pn	23 49 20.1	+7.0
BKSI	**Bulukumba**	**11.05**	**207**	P		Pn	23 49 26.4	+12
SMPP	**San Manuel, Pa**	**12.23**	**340**	*e*P		**Pn**	**23 49 34.1**	**+3.7**
BOLP	**Bolinao**	**12.72**	**337**	*e*P		**Pn**	**23 49 49.7**	**+1.7**
MMRI	**Maumere**	**13.48**	**192**	*e*Pn		**Pn**	**23 49 49.0**	**+1.6**
EDFI	**Ende, Flores**	**13.71**	**194**	P		P	23 50 05.1	+6.0
STKI	**Sintang**	**14.31**	**252**	P		P	23 50 10.1	+4.5
SOEI	**Soe**	**14.31**	**183**	*e*Pn		**Pn**	**23 50 00.2**	**+1.2**
SOEI	**Soe**	**14.31**	**183**	P		P	**23 50 05.7**	**-0.1**
BATI	**Baumata**	**14.81**	**185**	Pn		**Pn**	**23 50 03.4**	**-2.3**
	comp=Z,3.1nm,0.3s,baz=304,slow=7.3,SNR=7.1							
BATI				LR	LR		23 56 15.5	
	comp=Z,6μm,20.9s,baz=13,slow=39							
BATI	**Baumata**	**14.81**	**185**	P		**P**	**23 50 12.4**	**+1.2**
SMPI	**Sarmi**	**15.14**	**115**	P		**Pn**	**23 50 10.2**	**+0.1**
PLAI	**Plampang**	**15.22**	**209**	P		**P**	**23 50 17.7**	**+2.0**
WBSI	**Waikabubak, Su**	**15.26**	**202**	P		**Pn**	**23 50 13.5**	**+1.8**
	comp=Z,229nm,1.7s,comp=Z,4μm							
TWSI	**Taliwang, Sumb**	**15.59**	**212**	P		**P**	**23 50 21.3**	**+1.5**
GENI	**Genyem**	**16.71**	**115**	P		**P**	**23 50 35.3**	**+3.0**
	comp=Z,238nm,1.5s,comp=Z,5μm							
JAGI	**Jajag, Banyuwa**	**16.96**	**220**	*e*Pn		**Pn**	**23 50 33.8**	**+0.4**
	comp=Z,210nm,1.4s							
JAY	**Jayapura**	**17.17**	**114**	P		**Pn**	**23 50 34.0**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=284,slow=3.6,SNR=2.4							
JAY	**Jayapura**	**17.17**	**114**	P		**P**	**23 50 42.3**	**+4.9**
GMJI	**Gumukmas**	**17.28**	**222**	P		**P**	**23 50 43.9**	**+5.3**
TBJI	**Tambak Boyo**	**17.41**	**229**	P		**P**	**23 50 44.8**	**+4.7**
NGJI	**Ngawi**	**18.06**	**229**	P		**P**	**23 50 51.0**	**+3.8**
	comp=Z,94nm,1.1s,comp=Z,8μm							
PWJI	**Pagerwojo**	**18.25**	**226**	P		**P**	**23 50 51.2**	**+2.0**
	comp=Z,134nm,1.0s,comp=Z,3μm							
MTN	**Manton Dam**	**18.38**	**161**	P		**P**	**23 50 48.8**	**-1.9**
	baz=18,SNR=3.4							
MTN	**Manton Dam**	**18.38**	**161**	*e*P		**P**	**23 50 49.0**	**-1.7**
	comp=Z,100nm,1.2s							
TWG	**Pinlang**	**18.49**	**348**	*e*P		**P**	**23 50 51.9**	**0.0**
	comp=Z,143nm,0.5s							
SMRI	**Semarang**	**18.64**	**232**	*e*P		**Pn**	**23 50 54.3**	**+0.2**
	comp=Z,276nm,1.2s							
WOJI	**Wonogiri, Jawa**	**18.77**	**229**	P		**Pn**	**23 50 57.7**	**+2.0**
	comp=Z,80nm,2.0s,comp=Z,2μm							
YULB	**Yu-li**	**19.00**	**349**	*e*P		**P**	**23 50 57.2**	**-0.4**
	comp=Z,49nm,0.9s							
TPUB	**Ta-pu**	**19.05**	**347**	*e*P		**P**	**23 50 57.8**	**-0.3**
	comp=Z,130nm,1.0s							
SSLB	**Suanglung**	**19.45**	**349**	*e*P		**P**	**23 51 02.6**	**+0.1**
	comp=Z,82nm,1.0s							
NACB	**Ninganchiao**	**19.71**	**351**	*e*P		**P**	**23 51 06.0**	**+0.7**
	comp=Z,232nm,1.9s							
KPJI	**Karang Pucung**	**20.01**	**234**	P		**Pn**	**23 51 11.9**	**+1.4**
	comp=Z,166nm,0.9s,comp=Z,3μm							
PPBI	**Pangkal Pinang**	**20.08**	**251**	P		Pn	23 51 11.8	+0.5
	comp=Z,67nm,1.3s,comp=Z,4μm							
YHNB	**Yeheng**	**20.24**	**350**	*e*P		**P**	**23 51 11.5**	**+0.4**
	comp=Z,55nm,0.8s							
KNRA	**Kununurra**	**20.51**	**170**	P		**P**	**23 51 13.0**	**-0.9**
	baz=21,SNR=14							
QIZ	**Qiongzhong**	**20.62**	**315**	P		Pn	23 51 16.5	-1.2
QIZ				S		Sn	23 55 09.2	-0.4
QIZ				pmax	pmax			
	comp=Z,40nm,1.1s							
QIZ				pmax	pmax			
	comp=Z,2μm,9.8s							
QIZ				LR	LR			
	comp=Z,3μm,17.2s							
QIZ				LR	LR			
	comp=Z,3μm,16.2s							
QIZ				LR	LR			
	comp=Z,3μm,25.0s							
QIZ	**Qiongzhong**	**20.62**	**315**	*e*P		**P**	**23 51 15.4**	**+0.1**
	comp=Z,295nm,1.7s							
MCO	**Taipa Grande**	**20.65**	**328**	P		Pn	23 51 17.0	-0.9
CMJI	**Cimerak**	**20.66**	**233**	P		Pn	23 51 31.3	+13
LEM	**Lembang**	**20.80**	**237**	P		**P**	**23 51 16.4**	**-1.0**
	comp=Z,62nm,0.4s,baz=207,slow=11,SNR=11							
LEM				LR	LR		00 00 12.2	
	comp=Z,6μm,20.1s,baz=34,slow=39							
TPRI	**Tanjung Pinang**	**20.84**	**260**	P		Pn	23 51 21.6	+1.4
	comp=Z,83nm,1.1s,comp=Z,16μm							
CISI	**Cisompet, Garu**	**21.04**	**235**	*e*P		**P**	**23 51 20.9**	**+1.0**
	comp=Z,317nm,1.2s							
CISI	**Cisompet, Garu**	**21.04**	**235**	P		**P**	**23 51 25.0**	**+5.2**
	comp=Z,227nm,1.2s,comp=Z,5μm							
QZH	**Quanzhou**	**21.13**	**344**	⇑*i*P		**P**	**23 51 19.9**	**-0.7**
QZH				S		**S**	**23 55 13.2**	**-1.0**
QZH				LR	LR			
	comp=Z,3μm,18.5s							
QZH				LR	LR			
	comp=Z,4μm,18.1s							
QZH				LR	LR			
	comp=Z,4μm,16.3s							
GUMO	**Guam**	**21.47**	**64**	LR	LR		23 58 23.2	
	comp=Z,3μm,21.8s,baz=230,slow=33							
GZH	**Guangzhou**	**21.56**	**329**	P		**P**	**23 51 28.9**	**+3.6**
GZH				LR	LR			
	comp=Z,5μm,16.2s							
GZH				LR	LR			
	comp=Z,6μm,16.8s							
UBPT	**Khong Chiam**	**21.98**	**300**	P		**P**	**23 51 31.0**	**+1.1**
	comp=Z,71nm,1.9s,comp=Z,2μm							
BLSI	**Bandar Lampung**	**22.14**	**244**	P		P	23 51 43.7	+12
KLI	**Kotabumi**	**22.28**	**245**	P		P	23 51 45.9	+13
JOW	**Kunigami**	**22.29**	**8**	P		**P**	**23 51 31.4**	**-1.6**
	comp=Z,105nm,0.9s,baz=212,slow=7.5,SNR=5.3							
JOW				LR	LR		00 02 49.4	
	comp=Z,1μm,18.1s,baz=160,slow=44							
JOW	**Kunigami**	**22.29**	**8**	*e*P		**P**	**23 51 33.7**	**+0.7**
	comp=Z,117nm,0.9s							
CGJI	**Cibinong**	**22.33**	**240**	P		**P**	**23 51 39.6**	**+6.0**
FITZ	**Fitzroy Crossi**	**22.59**	**179**	P		**P**	**23 51 34.4**	**-2.0**
	comp=Z,15nm,0.6s,baz=9.7,slow=10,SNR=27							
FITZ	**Fitzroy Crossi**	**22.59**	**179**	P		**P**	**23 51 35.2**	**-1.2**
	baz=23,SNR=20							
FITZ	**Fitzroy Crossi**	**22.59**	**179**	*e*P		**P**	**23 51 35.3**	**-1.2**
	comp=Z,55nm,0.9s							
MDSI	**Maura Dua**	**22.74**	**247**	P		**P**	**23 51 41.6**	**+3.6**
	comp=Z,64nm,1.4s,comp=Z,1μm							
KASI	**Kota Agung**	**22.88**	**244**	P		**P**	**23 51 43.8**	**+4.3**
	comp=Z,113nm,0.8s,comp=Z,2μm							
LWLI	**Liwa**	**23.06**	**246**	P		P	23 51 54.2	+13
MANU	**Manus Island**	**23.25**	**106**	*e*P		**P**	**23 51 42.6**	**-0.7**
	comp=Z,63nm,0.9s							
SKNT	**Sakolnakorn**	**24.03**	**302**	P		**P**	**23 51 52.2**	**+1.5**
	comp=Z,25nm,1.7s,comp=Z,1μm							
MASI	**Maura Aman, Be**	**24.07**	**252**	P		**P**	**23 51 55.4**	**+4.2**
	comp=Z,1μm,0.8s,comp=Z,26μmcomp=Z,775μm							
SDSI	**Sungai Dareh**	**24.25**	**257**	P		**P**	**23 51 56.9**	**+4.1**
	comp=Z,84nm,0.6s,comp=Z,11μm							
BKNI	**Bangkinang**	**24.37**	**261**	*e*P		**P**	**23 51 54.7**	**+0.8**
	comp=Z,126nm,0.8s							
BKNI	**Bangkinang**	**24.37**	**261**	P		**P**	**23 51 59.5**	**+5.6**
	comp=Z,173nm,0.6s							
PDSI	**Padang**	**25.19**	**258**	P		**P**	**23 52 03.1**	**+1.8**
	comp=Z,170nm,1.1s,comp=Z,1μm							
NONG	**Nongkai**	**25.25**	**304**	P		**P**	**23 52 04.3**	**+2.5**
	comp=Z,0.6nm,2.5s							
PATY	**Pattaya**	**25.27**	**291**	P		**P**	**23 52 05.6**	**+3.6**
	comp=Z

GYA pP sP 23 52 41.2 +2.1
GYA PP **PnPn** **23 53 20.8 +7.1**
GYA sS sS 23 57 30.0 +6.7
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,510nm,13.4s
GYA LR LR
comp=Z,4μm,20.2s
GYA LR LR
comp=Z,3μm,18.0s
GYA LR LR
comp=Z,3μm,20.2s
SUKH Sukhothai 27.98 299 P P 23 52 33.8 +7.4
comp=Z,6.9nm,0.9s
UMPA Umpang Tak 28.17 296 P P 23 52 34.0 +5.8
comp=Z,6.5nm,0.8s,comp=Z,858nm
LAMP Lampang 28.42 301 P P 23 52 38.7 +8.3
PAYA Payao 28.59 303 P P 23 52 37.1 +5.2
comp=Z,8.0nm,1.0s
QIS Mount Isa 28.82 151 P **P** **23 52 35.4 +1.6**
baz=29,SNR=10
JNU Nakatsue 28.86 10 P **P** **23 52 33.0 -1.1**
comp=Z,26nm,0.8s,baz=61,slow=4.1,SNR=8.9
JNU LR LR 00 05 42.5
comp=Z,722nm,18.3s,baz=192,slow=40
JNU Nakatsue 28.86 10 *eP* **P** **23 52 34.2 +0.1**
comp=Z,35nm,0.9s
CM01 Chiang Mai Arr 28.95 300 *eP* **P** **23 52 35.8 +0.7**
CM31 Chiang Mai Arr 28.98 300 P **P** **23 52 36.1 +0.7**
SNR=7.7
CMAR Chiang Mai Arr 28.98 300 P **P** **23 52 35.9 +0.5**
comp=Z,4.8nm,0.8s,baz=118,slow=7.2,SNR=12
CMAR LR LR 00 06 10.6
comp=Z,2μm,18.7s,baz=112,slow=41
CMMT Chiang Mai 29.13 301 P **P** **23 52 38.2 +1.5**
comp=Z,18nm,0.8s,comp=Z,596nm
CHTO Chiang Mai 29.13 301 *eP* **P** **23 52 37.5 +0.8**
comp=Z,16nm,0.9s
CHTO Chiang Mai 29.13 301 P **P** **23 52 37.3 +0.6**
SNR=13
CHTO Chiang Mai 29.13 301 *eP* **P** **23 52 37.5 +0.8**
CHTO pmax pmax
comp=Z,16nm,0.9s
CHTO Chiang Mai 29.13 301 P **P** **23 52 39.1 +2.4**
comp=Z,91nm,2.3s,comp=Z,2μm
AS31 Alice Springs 29.42 163 *eP* **P** **23 52 38.3 -0.9**
comp=Z,7.1nm,0.6s
ASAR Alice Springs 29.42 163 P **P** **23 52 37.8 -1.4**
comp=Z,5.5nm,0.6s,baz=345,slow=7.0,SNR=38
ASAR PcP **PcP** **23 55 44.1 -0.7**
comp=Z,2.1nm,0.5s,baz=336,slow=2.7,SNR=3.6
ASAR LR LR 00 06 58.8
comp=Z,730nm,18.1s,baz=5.5,slow=42
AS01 Alice Springs 29.43 163 *eP* **P** **23 52 37.9 -1.4**
ENH Enshi 29.44 332 *eP* **P** **23 52 39.7 +0.4**
comp=Z,79nm,1.2s
KMI Kunming 29.57 316 P **P** **23 52 44.3 +3.5**
KMI pP sP 23 52 55.0 +1.2
KMI sP pP 23 53 01.7 +12
KMI PP **PnPn** **23 53 39.9 +3.8**
KMI S **S** **23 57 35.9 +1.7**
KMI sS sS 23 57 57.9 +8.6
KMI SS **ScP** **23 59 16.6 -8.7**
KMI pmax pmax
comp=Z,14nm,1.4s
KMI pmax pmax
comp=Z,330nm,8.6s
KMI LR LR
comp=Z,2μm,23.0s
KMI LR LR
comp=Z,2μm,17.8s
KMI LR LR
comp=Z,3μm,21.3s
WRKA Warakurna 29.66 174 P **P** **23 52 40.5 -0.8**
baz=30,SNR=24
MEEK Meekatharra 31.70 191 P **P** **23 52 57.9 -1.5**
baz=32,SNR=12
CTA Charters Tower 32.21 140 P **P** **23 53 03.0 -0.8**
comp=Z,4.6nm,0.7s,baz=318,slow=13,SNR=4.8
CTA LR LR 00 09 09.6
comp=Z,545nm,18.2s,baz=311,slow=42
CTA Charters Tower 32.21 140 P **P** **23 53 03.0 -0.8**
CTAO Charters Tower 32.21 140 *eP* **P** **23 53 03.6 -0.2**
comp=Z,74nm,1.8s
CTAO Charters Tower 32.21 140 *eP* **P** **23 53 03.6 -0.2**
CTAO pmax pmax
comp=Z,74nm,1.8s
INU Inuyama 32.50 18 *eP* **P** **23 53 06.2 0.0**
comp=Z,58nm,0.7s
KSAR Wonju Array Be 32.76 4 P **P** **23 53 07.7 -0.7**
KSAR Wonju Array Be 32.76 4 P **P** **23 53 07.7 -0.7**
KSRS Korea Array 32.77 4 P **P** **23 53 07.7 -0.8**
comp=Z,5.2nm,0.8s,baz=182,slow=10,SNR=12
KS01 Wonju Array Si 32.79 4 *eP* **P** **23 53 08.6 -0.1**
XAN Xi'an 32.88 335 P **P** **23 53 08.8 -0.8**
XAN S **S** **23 58 23.3 -2.1**
XAN pmax pmax
comp=Z,16nm,1.4s
XAN pmax pmax
comp=Z,380nm,9.2s
XAN LR LR
comp=Z,3μm,13.7s
XAN LR LR
comp=Z,2μm,13.1s
XAN LR LR
comp=Z,3μm,14.3s
CD2 Chengdu 32.95 325 P **P** **23 53 11.0 +0.8**
CD2 pP sP 23 53 22.8 -0.4
CD2 sP pP 23 53 28.2 +8.8
CD2 PP **PP** **23 54 26.4 +1.3**
CD2 S **S** **23 58 27.8 +1.3**
CD2 sS sS 23 58 48.1 +6.5
CD2 pmax pmax
comp=Z,70nm,0.5s
CD2 pmax pmax
comp=Z,540nm,7.3s
CD2 LR LR
comp=Z,13μm,21.1s
CD2 LR LR
comp=Z,12μm,22.1s
CD2 LR LR
comp=Z,5μm,16.7s
MAJO Matsushiro 33.98 19 *eP* **P** **23 53 18.2 -0.9**
comp=Z,42nm,0.9s
MAJO Matsushiro 33.98 19*ce*P **P** **23 53 18.3 -0.8**
MAJO pmax pmax
comp=Z,40nm,0.8s
MAT Matsushiro 33.98 19 P **P** **23 53 18.0 -1.1**
MAT S **S** **23 58 48.2 +5.9**
MJAR Matsushiro Arr 33.98 19 P **P** **23 53 17.6 -1.5**
comp=Z,32nm,0.8s,baz=200,slow=10,SNR=74
MJAR ScP **ScP** **23 59 40.1 +0.5**
comp=Z,0.8nm,0.4s,baz=217,slow=6.0,SNR=5.3
MJAR LR LR 00 04 38.1
comp=Z,917nm,21.3s,baz=205,slow=32
MJB9 Matsu-Tunnel 33.98 19 *eP* **P** **23 53 18.2 -0.9**
comp=Z,42nm,0.9s
DL2 Dalian 34.26 355 *eP* **P** **23 53 18.3 -3.2**
DL2 pP **pP** **23 53 29.5 -1.2**
DL2 *eS* **S** **23 58 40.4 -6.1**
DL2 pmax pmax
comp=Z,73nm,1.5s
DL2 LR LR
comp=Z,2μm,19.9s
DL2 LR LR
comp=Z,2μm,16.8s
DL2 LR LR
comp=Z,3μm,19.1s
TIY Taiyuan 34.89 342 *eP* **P** **23 53 26.2 -0.9**
TIY sP sP 23 53 50.2 +10
TIY PP **PP** **23 54 47.3 +0.7**
TIY S **S** **23 58 56.8 +0.4**
TIY pmax pmax
comp=Z,150nm,6.1s
TIY LR LR
comp=Z,3μm,16.7s
TIY LR LR
comp=Z,570nm,13.3s
TIY LR LR
comp=Z,2μm,16.4s
BLDU Ballidu 35.95 192 P **P** **23 53 34.9 -1.2**
baz=36,SNR=5.6
BJT Baijiatuao 36.13 348 *eP* **P** **23 53 36.2 -1.4**
comp=Z,31nm,0.9s
BJT Baijiatuao 36.13 348 *eP* **P** **23 53 36.2 -1.4**

BJT pmax pmax
comp=Z,31nm,0.9s
BJI Beijing 36.15 348 P **P** **23 53 37.4 -0.3**
BJI pmax pmax
comp=Z,14nm,0.7s
BJI LR LR
comp=Z,880nm,16.7s
BJI LR LR
comp=Z,990nm,17.7s
BJI LR LR
comp=Z,590nm,17.6s
QLP Quilpie 36.16 150 P **P** **23 53 37.8 -0.2**
baz=36,SNR=4.1
LZH Lanzhou 36.90 331 ⇑P **P** **23 53 44.9 +0.5**
LZH pP sP 23 53 59.7 +2.2
LZH sP pP 23 54 04.4 +11
LZH PP **PnPn** **23 55 18.4 +9.3**
LZH S **S** **23 59 29.7 +2.3**
LZH pmax pmax
comp=Z,51nm,1.2s
LZH pmax pmax
comp=Z,280nm,5.4s
LZH LR LR
comp=Z,5μm,18.4s
LZH LR LR
comp=Z,4μm,15.2s
LZH LR LR
comp=Z,6μm,19.0s
BRDH Bariadhala 36.95 302 P **P** **23 53 42.6 -2.2**
comp=Z,89nm,0.4s,baz=104,slow=8.2,SNR=2.8
SNY Shenyang 37.06 358 ⇓P **P** **23 53 48.1 +2.6**
SNY S **S** **23 59 29.4 +0.1**
SNY pmax pmax
comp=Z,280nm,4.7s
SNY LR LR
comp=Z,1μm,13.5s
SNY LR LR
comp=Z,3μm,17.8s
SNY LR LR
comp=Z,2μm,20.0s
SHL Shillong 38.01 307 *eP* **P** **23 53 54.3 +0.3**
comp=Z,80nm,0.7s
SHL Shillong 38.01 307 *i* P **P** **23 53 55.0 +1.0**
SHL *eS* **S** **23 59 49.0 +4.4**
HHC Hu-ho-hao-te 38.04 343 *eP* **P** **23 53 53.8 -0.2**
HHC PP **PnPn** **23 55 26.8 +3.9**
HHC S **S** **23 59 44.2 -0.4**
HHC pmax pmax
comp=Z,10.0nm,1.1s
HHC pmax pmax
comp=Z,200nm,5.2s
HHC LR LR
comp=Z,3μm,14.3s
HHC LR LR
comp=Z,1μm,15.3s
HHC LR LR
comp=Z,2μm,16.5s
NWAO Narrogin (SRO) 38.08 191 P **P** **23 53 53.0 -1.3**
comp=Z,26nm,1.2s,baz=0.0,slow=20,SNR=4.9
BTO Baotou 38.29 341 *eP* P 23 54 03.1 +7.1
BBOO Buckleboo 38.67 165 P **P** **23 53 58.7 -0.5**
baz=39,SNR=26
BBOO Buckleboo 38.67 165 *eP* **P** **23 53 58.9 -0.3**
comp=Z,45nm,0.8s
VLA Vladivostok 38.80 8⇓*eP* **P** **23 54 00.5 +0.4**
VLA pmax pmax
comp=Z,42nm,1.2s
EIDS Eidsvold 39.09 141 P **P** **23 54 03.6 +0.8**
baz=39,SNR=4.4
EIDS Eidsvold 39.09 141 *eP* **P** **23 54 02.7 -0.1**
comp=Z,36nm,1.1s
STKA Stephens Creek 39.57 158 P **P** **23 54 06.1 -0.7**
comp=Z,30nm,0.8s,baz=322,slow=8.7,SNR=28
STKA LR LR 00 13 50.6
comp=Z,846nm,18.3s,baz=331,slow=41
STKA Stephens Creek 39.57 158 P **P** **23 54 06.9 +0.1**
baz=40,SNR=20
STKA Stephens Creek 39.57 158 *eP* **P** **23 54 05.7 -1.1**
comp=Z,9.0nm,0.8s
USA0B Ussuriysk Arra 39.88 8 *eP* **P** **23 54 09.6 +0.4**
comp=Z,23nm,0.8s
USRK Ussuriysk Ar. 39.88 8 P **P** **23 54 08.4 -0.7**
comp=Z,9.8nm,0.7s,baz=193,slow=7.0,SNR=24
USRK LR LR 00 11 52.5
comp=Z,892nm,20.2s,baz=180,slow=38
MDJ Mudanjiang 40.02 5 P **P** **23 54 10.8 +0.5**
MDJ PP **PnPn** **23 55 48.0 +1.7**
MDJ pmax pmax
comp=Z,26nm,0.9s
MDJ pmax pmax
comp=Z,290nm,4.3s
MDJ LR LR
comp=Z,2μm,18.9s
MDJ LR LR
comp=Z,940nm,19.7s
MDJ LR LR
comp=Z,3μm,21.3s
MDJ Mudanjiang 40.02 5 *eP* **P** **23 54 10.6 +0.3**
comp=Z,29nm,0.9s
HTT Hallett 40.07 162 P **P** **23 54 11.4 +0.5**
baz=40,SNR=14
LSA Lhasa 40.60 312 *eP* **P** **23 54 16.9 +1.0**
comp=Z,29nm,0.8s
LSA Lhasa 40.60 312 *eP* **P** **23 54 16.9 +1.0**
LSA pmax pmax
comp=Z,29nm,0.8s
GTA Gaotai 41.48 330 ⇑P **P** **23 54 22.3 -0.3**
GTA pP pP 23 54 32.0 0.0
GTA sP sP 23 54 36.0 +0.2
GTA PP **PP** **23 56 00.5 +1.7**
GTA pmax pmax
comp=Z,210nm,7.1s
GTA LR LR
comp=Z,2μm,18.1s
GTA LR LR
comp=Z,2μm,17.5s
GTA LR LR
comp=Z,4μm,17.5s
TEY Ternei 41.49 12⇑*eP* **P** **23 54 22.6 +0.2**
TEY *e* 00 00 32.0
TEY pmax pmax
comp=N,20nm,1.0s
TEY pmax pmax
comp=Z,30nm,1.0s
ASAJ Asahikawa 42.25 19 P **P** **23 54 28.6 0.0**
comp=Z,46nm,0.8s,baz=226,slow=9.7,SNR=15
ASAJ Asahikawa 42.25 19 *eP* **P** **23 54 29.0 +0.4**
comp=Z,47nm,0.8s
RAMN Ramite 42.87 305 *eP* **P** **23 54 35.1 +0.8**
comp=Z,92nm,0.9s
ARMA Armidale 43.14 146 *eP* **P** **23 54 35.6 -0.6**
comp=Z,34nm,0.9s
YUK Yuzh-Kuril'sk 43.31 22*d i*P **P** **23 54 34.8 -2.4**
YUK *e* 23 56 16.7
YUK *i* S **S** **00 00 58.8 -3.9**
YUK *e*SS **SS** **00 04 14.0 -3.0**
YUK pmax pmax
comp=N,242nm,1.1s
YUK pmax pmax
comp=Z,504nm,2.3s
H11N1 WAKE ISLAND Hy 43.40 66 T T 00 40 28.6
baz=254,slow=75,SNR=13
H11N2 WAKE ISLAND Hy 43.41 66 T T 00 40 28.9
baz=254,slow=75,SNR=10
H11N3 WAKE ISLAND Hy 43.41 66 T T 00 40 28.9
baz=254,slow=75,SNR=12
JIRN Jiri 43.50 306 *eP* **P** **23 54 40.1 +0.6**
comp=Z,87nm,0.7s
GUN Gumba 43.85 306 *eP* **P** **23 54 42.8 +0.5**
comp=Z,148nm,0.9s
ARPS Mount Arapiles 44.07 161 P **P** **23 54 43.8 +0.4**
baz=44,SNR=19
PKI Pulchoki 44.09 306 *eP* **P** **23 54 44.2 -0.1**
comp=Z,75nm,1.2s
PKIN Phulchoki 44.11 306 *eP* **P** **23 54 44.2 -0.1**
comp=Z,52nm,1.2s
PALK Pallekele 44.18 276 P **P** **23 54 44.8 0.0**
comp=Z,1.7nm,0.4s,baz=116,slow=14,SNR=1.7
KKN Kakani 44.29 306 *eP* **P** **23 54 45.8 +0.1**
DMN Daman 44.35 305 *eP* **P** **23 54 46.8 +0.5**
comp=Z,116nm,1.2s
YNG Young 44.54 152 P **P** **23 54 47.8 +0.5**
baz=45,SNR=5.4
HIA Hailar 44.70 355⇑*eP* **P** **23 54 47.8 -0.6**
HIA pmax pmax
comp=Z,10.0nm,1.0s
KLR Kul'dur 44.80 6 P **P** **23 54 48.1 -1.0**
comp=Z,5.9nm,0.7s,baz=244,slow=4.5,SNR=20
KLR Kul'dur 44.80 6*ce*P **P** **23 54 49.2 +0.1**
YSS Yuzh-Sakhalins 44.85 17⇑*eP* **P** **23 54 47.8 -1.7**
YSS *e* 23 54 58.7
YSS *e**SP **sP** **23 55 05.1 +2.4**
YSS *eS* **S** **00 01 18.1 -7.0**
YSS *e* 00 01 30.7
YSS pmax pmax
comp=Z,20nm,1.0s
YSS MLR MLR
comp=Z,300nm,15.0s
KOLN Koldanda 45.65 305 *eP* **P** **23 54 57.0 +0.5**
comp=Z,85nm,0.8s
CAN Canberra 45.67 152 *eP* **P** **23 54 55.7 -0.6**
comp=Z,41nm,1.2s
CAN Canberra 45.67 152 *eP* **P** **23 54 55.7 -0.6**
CAN pmax pmax
comp=Z,41nm,1.2s
DANN Dangsing 45.74 306 *eP* **P** **23 54 57.7 +0.4**
comp=Z,92nm,0.7s
ULN Ulaanbaatar 45.77 343 *eP* **P** **23 54 56.7 -0.3**
comp=Z,33nm,1.6s
ULN Ulaanbaatar 45.77 343 *eP* **P** **23 54 56.7 -0.3**
ULN pmax pmax
comp=Z,33nm,1.6s
SONM Songino Array 45.93 343 P **P** **23 54 57.0 -1.3**
comp=Z,2.5nm,0.9s,baz=165,slow=6.4,SNR=14
SONM LR LR 00 15 50.3
comp=Z,1μm,20.6s,baz=154,slow=38
SONM Songino Array 45.93 343 P **P** **23 54 57.0 -1.3**
SONM Songino Array 45.93 343 P **P** **23 54 57.0 -1.3**
SONA1 Songino Array 45.94 343 *eP* **P** **23 54 57.9 -0.5**
TOO Toolangi 46.09 157 P **P** **23 55 01.1 +1.5**
baz=46,SNR=11
PYUN Piuthan 46.27 305 *eP* **P** **23 55 02.0 +0.6**
comp=Z,244nm,1.0s
GRNR Gornyy 46.96 10 *eP* **P** **23 55 07.3 +1.1**
GRNR pmax pmax
comp=Z,17nm,1.0s
HYB Hyderabad 47.25 289 *i* P **P** **23 55 11.0 +2.0**
TYV Tymovskoe 48.38 15 *eP* **P** **23 55 17.6 +0.5**
TYV pmax pmax
comp=Z,19nm,1.5s
TYV pmax pmax
comp=Z,600nm,5.7s
DZM Mont Dzumac 48.41 125 P **P** **23 55 17.3 -0.7**
comp=Z,15nm,1.1s,baz=1.1,slow=14,SNR=2.2
DZM Mont Dzumac 48.41 125 *eP* **P** **23 55 20.5 +2.5**
comp=Z,135nm,1.1s
DZM Mont Dzumac 48.41 125 *e*LR LR 00 09 10.2
comp=Z,1μm,26.1s
DZM Mont Dzumac 48.41 125 *eP* **P** **23 55 18.3 +0.3**
DZM *ep*P **pP** **23 55 26.6 -0.8**
ZEA Zeya 48.99 2 *eP* **P** **23 55 21.6 -0.2**
ZEA *e* 23 57 22.0
ZEA pmax pmax
comp=Z,29nm,1.0s
ZAK Zakamensk 49.14 342 *eP* **P** **23 55 22.8 -0.4**
ZAK pmax pmax
comp=Z,4.0nm,1.5s
WMQ Urumqi 51.04 326 P **P** **23 55 36.8 -0.9**
WMQ pP pP 23 55 47.0 -0.2
WMQ pmax pmax
comp=Z,42nm,1.3s
WMQ pmax pmax
comp=Z,350nm,5.7s
WMQ LR LR
comp=Z,5μm,18.9s
WMQ LR LR
comp=Z,4μm,17.1s
WMQ LR LR
comp=Z,5μm,17.9s
BOM Bombay 52.87 290 *eP* **P** **23 55 47.2 -4.4**
BOM *eS* **S** **00 03 23.6 +4.8**
HVS Khovu-Aksy 53.23 336⇑*eP* **P** **23 55 53.1 -0.8**
HVS pmax pmax
comp=Z,25nm,1.2s
BOD Bodaibo 53.75 353 *eP* **P** **23 55 54.9 -2.5**
BOD *e* 23 56 08.0
BOD pmax pmax
comp=Z,8.0nm,1.3s
PEA0B Petropavlovsk- 55.25 23 *eP* **P** **23 56 09.2 +0.8**
comp=Z,306nm,1.9s
PETK Petropavlovsk- 55.25 23 P **P** **23 56 08.1 -0.3**
comp=Z,33nm,0.9s,baz=196,slow=6.0,SNR=24
PETK LR LR 00 19 55.9
comp=Z,540nm,20.5s,baz=218,slow=36
PETK Petropavlovsk- 55.25 23 *eP* **P** **23 56 08.7 +0.3**
PETK Petropavlovsk- 55.25 23 *eP* **P** **23 56 08.7 +0.3**
PET Petropavlovsk 55.56 24 *eP* P 23 56 16.7 +6.1
PET *eS* **S** **00 03 55.7 +1.6**
PET MLR MLR
comp=Z,500nm,21.0s
MK31 Makanchi Array 55.87 326 *eP* **P** **23 56 12.3 -0.7**
MK31 Makanchi Array 55.87 326 *eP* **P** **23 56 12.4 -0.7**
MKAR Makanchi Array 55.87 326 P **P** **23 56 12.1 -0.9**
comp=Z,4.2nm,0.5s,baz=122,slow=7.4,SNR=67
MKAR LR LR 00 20 47.5
comp=Z,1μm,21.8s,baz=122,slow=37
MKAR Makanchi Array 55.87 326 *eP* **P** **23 56 11.7 -1.3**
MKAR Makanchi Array 55.87 326*ce*P **P** **23 56 12.6 -0.4**
YAK Yakutsk 57.38 3 *eP* **P** **23 56 23.4 0.0**
comp=Z,100nm,0.9s
YAK Yakutsk 57.38 3 *eP* **P** **23 56 21.1 -2.2**
YAK *e**PP **pP** **23 56 31.3 -1.7**
YAK *e* 23 57 15.7
YAK *eS* **S** **00 04 13.3 -4.4**
YAK *e**SS **pS** **00 04 27.8 -1.5**
YAK *e* 00 06 05.0
YAK *eSS **SS** **00 08 09.5 +1.9**
YAK pmax pmax
comp=Z,89nm,0.9s
YAK pmax pmax
comp=N,19nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=Z,207nm,4.5s
YAK pmax pmax
comp=N,191nm,4.1s
YAK pmax pmax
comp=E,206nm,4.3s
YAK smax smax
comp=N,153nm,2.8s
YAK smax smax
comp=E,150nm,3.0s
YAK MLR MLR
comp=Z,1μm,20.0s
YAK MLR MLR
comp=N,2μm,21.0s
YAK MLR MLR
comp=E,426nm,16.0s
MA2 Magadan 58.26 15 *eP* **P** **23 56 29.9 +0.3**
comp=E,74nm,1.2s
MA2 Magadan 58.26 15*de*P **P** **23 56 30.1 +0.5**
MA2 pmax pmax
comp=Z,34nm,0.9s
AAK Ala-Archa 58.58 318 *eP* **P** **23 56 32.5 +0.1**
comp=Z,27nm,1.4s
AAK Ala-Archa 58.58 318⇑*eP* **P** **23 56 32.0 -0.4**
AAK pmax pmax
comp=Z,12nm,2.0s
FRU Bishkek 58.58 318 *eP* **P** **23 56 36.0 +3.7**
FRU pmax pmax
comp=Z,60nm,2.0s
ZAA0 Zalesovo Array 59.04 334 *eP* **P** **23 56 36.0 +0.8**
comp=Z,11nm,1.1s
ZALV Zalesovo Beam 59.04 334 P **P** **23 56 33.1 -2.1**
comp=Z,4.6nm,0.8s,baz=126,slow=7.7,SNR=11
ZALV LR LR 00 24 26.9
comp=Z,1μm,18.8s,baz=75,slow=38
ZALV Zalesovo Beam 59.04 334 *eP* **P** **23 56 33.3 -1.9**
ZALV Zalesovo Beam 59.04 334 *eP* **P** **23 56 33.3 -1.9**
KURK Kurchatov 60.09 328 *eP* **P** **23 56 41.7 -0.7**
comp=Z,28nm,1.0s
KURK Kurchatov 60.09 328*c i*P **P** **23 56 41.2 -1.3**
KURK pmax pmax
comp=Z,286nm,1.7s
NVS Novosibirsk 60.33 334 *eP* **P** **23 56 42.2 -1.8**
NVS pmax pmax
comp=Z,19nm,1.5s
NVS pmax pmax
comp=N,12nm,1.4s
NVS pmax pmax
comp=E,10.0nm,1.4s
KK31 Karatay Array 61.44 317 *eP* **P** **23 56 51.9 0.0**

KK31 **Karatay Array** 61.44 317 *e*P P 23 56 51.9 0.0
KKAR **Karatay Array** 61.44 317 *e*P P 23 56 51.7 -0.2
KKAR **Karatay Array** 61.44 317 *e*P P 23 56 51.7 -0.2
SEY **Seymchan** 61.55 14⇓*e*P P 23 56 52.2 +0.1
DCZ **Deep Cove** 62.38 148 *e*P P 23 56 57.4 -0.6
comp=E,74nm,1.4s
LBZ **Lake Benmore** 63.36 145 *e*P P 23 57 04.5 -0.1
comp=E,76nm,1.0s
RPZ **Rata Peaks** 63.45 144 *e*P P 23 57 05.3 +0.1
comp=E,44nm,1.0s
LTZ **Lake Taylor** 63.63 143 *e*P P 23 57 04.7 -1.7
comp=E,75nm,1.4s
OXZ **Oxford** 63.80 144 *e*P P 23 57 06.9 -0.7
comp=E,86nm,1.5s
URZ **Urewera** 64.33 136 P P 23 57 10.1 -1.1
comp=E,4.1nm,0.8s,baz=322,slow=16,SNR=5.0
BKZ **Black Stump Fm** 64.36 138 *e*P P 23 57 10.4 -1.0
comp=E,21nm,1.0s
BFZ **Birch Farm** 64.97 139 *e*P P 23 57 13.4 -1.8
comp=E,77nm,1.3s
BRVK **Borovoye** 65.74 327 *e*P P 23 57 19.1 -0.8
comp=E,37nm,1.3s
BRVK **Borovoye** 65.74 327 *d i*P P 23 57 19.2 -0.8
BRVK pmax pmax
comp=Z,48nm,1.3s
WSAR **Wadi Sarin** 66.54 293 P P 23 57 26.4 +0.7
comp=Z,3.0nm,0.7s,baz=159,slow=8.6,SNR=4.6
TIXI **Tiksi** 66.98 1 *e*P P 23 57 26.4 -1.1
comp=Z,30nm,1.4s
TIXI **Tiksi** 66.98 1⇓*e*P P 23 57 26.8 -0.8
TIXI pmax pmax
comp=Z,15nm,1.1s
UOSS **Minazif** 68.90 295 P P 23 57 42.5 +1.9
HATD **Hatta, Dubai** 68.95 295 P P 23 57 41.2 +0.2
GEYT **Alibeck** 69.03 309 P P 23 57 41.1 -0.1
comp=Z,4.4nm,0.8s,baz=177,slow=3.0,SNR=14
GYA0B **ALIBECK ARRAY** 69.03 309 *e*P P 23 57 42.1 +0.9
comp=Z,19nm,1.1s
BILL **Bilibino** 69.12 15 *e*P P 23 57 40.8 -0.3
comp=Z,12nm,0.9s
BILL **Bilibino** 69.12 15⇑*e*P P 23 57 40.8 -0.3
BILL *e* 00 00 15.3
BILL *e*SS SS 00 11 03.5 -7.2
BILL pmax pmax
comp=Z,12nm,1.2s
BILL MLR MLR
comp=Z,736nm,18.0s
NRIK **Noril'sk** 69.17 347 P P 23 57 41.1 -0.2
comp=Z,2.8nm,0.5s,baz=95,slow=7.1,SNR=5.9
NRIK LR LR 00 29 01.5
comp=Z,761nm,21.7s,baz=147,slow=37
FAQ **Al Faqa, Dubai** 69.44 295 P P 23 57 43.3 -0.6
ABKAR **Akbulak array** 70.40 321 *e*P P 23 57 49.1 -0.3
ABTO **Aybut** 71.24 287 P P 23 57 55.5 +0.4
CASY **Casey** 71.52 186 *e*P P 23 57 55.1 -0.6
comp=Z,11nm,1.0s
SVE **Sverdlovsk** 72.33 329 *e*P P 23 57 59.4 -1.4
SVE *e*S S 00 07 19.1 -2.9
SVE pmax pmax
comp=Z,28nm,1.6s
SVE MLR MLR
comp=Z,630nm,19.0s
ARU **Arti** 73.29 328 *e*P P 23 58 05.4 -1.2
comp=Z,11nm,0.9s
ARU **Arti** 73.29 328 *c i*P P 23 58 05.2 -1.4
ARU 23 58 23.1
ARU 00 00 44.4
ARU S S 00 07 33.2 +0.2
ARU SS SS 00 12 16.7 +1.6
ARU pmax pmax
comp=Z,5.0nm,0.8s
ARU MLR MLR
comp=Z,724nm,19.0s
MIR **Mirnyy** 74.66 193 *e*P P 23 58 13.0 -1.3
MIR *e* 23 58 31.0
MIR pmax pmax
comp=Z,42nm,1.0s
RAYN **Ar Rayn** 78.60 293 *e*P P 23 58 37.7 +0.1
comp=Z,35nm,1.2s
RAYN **Ar Rayn** 78.60 293 *e*P P 23 58 37.7 +0.1
RAYN pmax pmax
comp=Z,35nm,1.2s
GNI **Garni** 79.63 310 *d i*P P 23 58 43.7 +0.6
GNI pmax pmax
comp=Z,65nm,1.8s
TBLG **Delisi** 79.71 311 *e*P P 23 58 45.8 +2.5
comp=Z,43nm,1.5s
TBLG **Delisi** 79.71 311 *e*P P 23 58 45.8 +2.5
TBLG pmax pmax
comp=Z,43nm,1.5s
ZEI **Tsey** 80.38 312 *e*P P 23 58 45.9 -1.2
ZEI pmax pmax
comp=Z,11nm,0.9s
AKH **Akhalkalaki** 80.63 311 *e*P P 23 58 48.6 +0.1
comp=Z,20nm,1.2s
AKH **Akhalkalaki** 80.63 311 *e*P P 23 58 48.6 +0.1
AKH pmax pmax
comp=Z,20nm,1.2s
NCK **Nalchik** 80.64 313⇑*e*P P 23 58 50.3 +2.0
NCK pmax pmax
comp=Z,5.0nm,1.0s
KBZ **Khabaz** 81.15 313 P P 23 58 49.3 -1.6
comp=Z,3.4nm,1.1s,baz=172,slow=7.1,SNR=2.7
KBZ LR LR 00 39 28.9
comp=Z,804nm,20.3s,baz=81,slow=39
NEY **Neytrino** 81.27 313⇑*e*P P 23 58 55.0 +3.2
NEY pmax pmax
comp=Z,2.0nm,1.4s
KIV **Kislovodsk** 81.31 314 *e*P P 23 58 53.9 +1.9
KIV *e*S S 00 09 02.5 +1.7
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,810nm,19.0s
ATD **Arta Tunnel** 81.47 281 P P 23 58 50.2 -3.0
comp=Z,5.4nm,0.8s,baz=90,slow=6.1,SNR=2.9
IM3 **Indian Mountai** 82.20 24 *e*P P 23 58 56.4 +0.3
VRH **Novokhopyorsk** 82.24 321 *e*P P 23 58 56.1 -0.4
VRH pmax pmax
comp=Z,8.0nm,0.5s
PPLA **Purkeypile** 82.59 27 *e*P P 23 59 00.3 +1.9
PPLA *e*pP sP 23 59 09.9 -2.1
SKT **Skwentna** 82.83 28 *e*P P 23 59 00.9 +1.5
comp=Z,36nm,1.0s
SUA **Susitna One** 83.18 29 *e*P P 23 59 01.3 0.0
comp=Z,71nm,1.2s
BPAW **Bear Paw Mtn.** 83.21 26 *e*P P 23 59 01.9 +0.5
comp=Z,41nm,1.1s
MLY **Manley** 83.37 25 *e*P P 23 59 03.0 +0.7
comp=Z,47nm,1.2s
TRF **Thorofare Moun** 83.49 27 *e*P P 23 59 04.3 +1.4
comp=Z,46nm,1.2s
RC01 **Rabbit Creek A** 83.65 29 *e*P P 23 59 03.4 -0.3
comp=Z,40nm,0.9s
COLD **Coldfoot** 83.72 23 *e*P P 23 59 05.8 +2.0
comp=Z,17nm,1.1s
VSR **Storozhevoye** 83.84 321 *e*P P 23 59 04.1 -0.7
VSR pmax pmax
comp=Z,8.0nm,1.1s
LPSR **Galich'ya Gora** 84.00 322 *e*P P 23 59 04.8 -0.8
LPSR pmax pmax
comp=Z,5.0nm,0.8s
TOLK **Toolik Lake Re** 84.02 22 *e*P P 23 59 06.8 +1.4
comp=Z,129nm,1.8s
TOLK **Toolik Lake Re** 84.02 22 P P 23 59 06.3 +0.8
baz=267
MAW **Mawson** 84.02 200 P P 23 59 02.8 -2.5
comp=Z,4.5nm,1.1s,baz=356,slow=13,SNR=4.3
MAW **Mawson** 84.02 200 *e*P P 23 59 05.0 -0.3
MAW *e*pP pP 23 59 15.8 +0.5
MAW **Mawson** 84.02 200 *e*P P 23 59 05.0 -0.3
MAW *e**PP pP 23 59 15.8 +0.5
GHO **Glory Hole Cre** 84.06 28 *e*P P 23 59 07.6 +1.7
comp=Z,38nm,1.2s
SML **Sawmill** 84.34 28 *e*P P 23 59 08.9 +1.7
comp=Z,52nm,1.2s
MDM **Murphy Dome** 84.44 25 *e*P P 23 59 08.3 +0.7
comp=Z,28nm,1.3s
WRH **Wood River Hil** 84.49 26 *e*P P 23 59 08.9 +1.1
comp=Z,29nm,1.0s
VNDA **Vanda** 84.53 172 P P 23 59 05.2 -2.5
comp=Z,1.9nm,0.7s,baz=304,slow=7.0,SNR=9.1
VNDA **Vanda** 84.53 172 *e*P P 23 59 07.8 +0.1
comp=Z,10nm,1.1s
VNDA **Vanda** 84.53 172 *e*P P 23 59 07.8 +0.1
VNDA pmax pmax
comp=Z,11nm,1.1s
TCOL **CIGO, UAF Yank** 84.59 25 P P 23 59 09.5 +1.2
baz=269
COLA **College** 84.60 25 *e*P P 23 59 09.7 +1.4
comp=Z,17nm,1.0s
COLA **College** 84.60 25 P P 23 59 09.7 +1.4
CCB **Clear Creek Bu** 84.61 26 *e*P P 23 59 08.8 +0.3
comp=Z,118nm,2.0s
MOS **Moscow** 84.76 325 *e*P P 23 59 09.1 -0.2
MOS *e* 23 59 18.0
MOS *e*S S 00 09 32.7 -2.3
MOS pmax pmax
comp=Z,38nm,1.6s
MOS MLR MLR
comp=Z,1μm,22.0s
POKR **Poker Plat Res** 84.78 25 P P 23 59 09.8 +0.5
baz=270
DHY **Denali Highway** 84.80 27 *e*P P 23 59 11.1 +1.4
comp=Z,12nm,0.9s
SCM **Sheep Creek Mo** 84.82 28 *e*P P 23 59 09.1 -0.6
comp=Z,51nm,1.2s
HDA **Harding Lake** 84.98 26 *e*P P 23 59 09.5 -0.9
comp=Z,20nm,0.9s
HDA **Harding Lake** 84.98 26 P P 23 59 09.4 -1.0
baz=270
ILAR **Eielson Array** 85.01 25 P P 23 59 08.9 -1.5
comp=Z,9.8nm,1.0s,baz=320,slow=4.7,SNR=41
ILAR LR LR 00 39 02.6
comp=Z,77nm,20.0s,baz=228,slow=37
ILB **Eielson Array** 85.01 25 *e*P P 23 59 09.2 -1.3
IL1 **Eielson Array** 85.01 25 *e*P P 23 59 09.5 -1.0
ANN **Anapa** 85.08 314 *e*P P 23 59 19.8 +8.6
ANN pmax pmax
comp=Z,28nm,1.0s
ANN MLR MLR
comp=Z,467nm,20.0s
ANN MLR MLR
comp=N,432nm,20.0s
OBN **Obninsk** 85.37 325⇑*e*P P 23 59 12.6 +0.2
OBN *i* 00 02 33.0
OBN *e*S S 00 09 34.6 -6.5
OBN *e*SS SS 00 15 13.2 -2.9
OBN pmax pmax
comp=Z,46nm,1.7s
OBN MLR MLR
comp=Z,765nm,19.0s
SBA **Scott Base** 85.45 172 *e*P P 23 59 12.8 +0.4
comp=Z,15nm,1.8s
SBA **Scott Base** 85.45 172 *e*P P 23 59 12.8 +0.4
SBA pmax pmax
comp=Z,15nm,1.8s
DIV **Divide** 85.57 29 *e*P P 23 59 14.3 +0.9
comp=Z,28nm,1.0s
FYU **Fort Yukon** 85.67 24 *e*P P 23 59 14.8 +1.2
comp=Z,29nm,1.0s
RIDG **Independ'e Rid** 85.92 26 *e*P P 23 59 15.1 0.0
comp=Z,48nm,1.4s
ASF **Jabal al Asfar** 86.01 302 P P 23 59 17.3 +1.0
comp=Z,15nm,1.1s,baz=23,slow=1.2,SNR=14
SCRK **Sand Creek** 86.29 26 *e*P P 23 59 18.2 +1.2
comp=Z,42nm,1.9s
APA **Apatity** 86.39 337⇓*i*P P 23 59 24.0 +6.8
APA MLR MLR
comp=Z,1μm,16.0s
PPT **Papeete** 86.97 108 LR LR 00 31 33.0
comp=Z,109nm,19.8s,baz=270,slow=31
PPT2 **Papeete2** 86.97 108 *e*S S 00 10 00.3 +1.9
comp=Z,191nm,23.2s
PPT2 **Papeete2** 86.97 108 *e*LQ LQ 00 23 18.0
comp=Z,1μm,34.0s
PPT2 *e*LR LR 00 27 00.2
comp=Z,718nm,26.5s
MMAI **Mount Meron Ar** 87.22 303 P P 23 59 23.2 +1.0
comp=Z,12nm,1.1s,baz=84,slow=7.5,SNR=9.1
SIM **Simferopol'** 87.43 315 P P 23 59 28.2 +5.4
SIM *e* 00 02 55.0
SIM PPP PPP 00 04 43.0
SIM *e*S S 00 10 08.0 +6.3
SIM *e*PS PnS 00 10 57.0 -8.1
SIM pmax pmax
comp=Z,7.0nm,0.9s
SIM pmax pmax
comp=Z,60nm,8.8s
EGAK **Eagle** 87.46 25 *e*P P 23 59 23.1 +0.6
comp=Z,14nm,1.2s
TBI **Tubuai** 87.67 114 *e*S S 00 10 02.3 -2.4
comp=Z,457nm,29.0s
TBI **Tubuai** 87.67 114 *e*LQ LQ 00 23 31.2
comp=Z,585nm,31.0s
TBI *e*LR LR 00 27 22.6
comp=Z,701nm,33.5s
EIL **Elat** 87.83 299 P P 23 59 25.1 +0.1
comp=Z,6.4nm,1.0s,baz=197,slow=3.7,SNR=5.4
KMBO **Kilima Mbogo** 87.91 269 P P 23 59 26.6 +0.6
comp=Z,0.7nm,0.4s,baz=35,slow=10.0,SNR=4.0
KMBO **Kilima Mbogo** 87.91 269 *e*P P 23 59 25.0 -1.0
comp=Z,35nm,1.8s
BR131 **Keskin Array S** 88.17 310 *e*P P 23 59 26.6 0.0
BR131 **Keskin Array S** 88.17 310 P P 23 59 26.3 -0.4
BRTR **Keskin Array B** 88.17 310 P P 23 59 25.2 -1.4
comp=Z,2.4nm,1.0s,baz=116,slow=4.9,SNR=10
BRTR **Keskin Array B** 88.17 310 *ce*P P 23 59 27.0 +0.4
DAWY **Dawson** 88.30 26 *e*P P 23 59 26.1 -0.5
comp=Z,10nm,1.1s
CSS **Mathiatis** 88.80 305 *e*P P 23 59 28.9 -0.7
comp=Z,11nm,1.0s
ARCES **ARCESS Array B** 89.03 340 P P 23 59 27.6 -2.3
comp=Z,4.5nm,0.8s,baz=74,slow=6.7,SNR=6.3
ARCES LR LR 00 43 15.7
comp=Z,19nm,20.5s,baz=78,slow=38
EPYK **Eagle Plains** 89.08 24 P P 23 59 29.9 -0.4
baz=279
INK **Inuvik** 89.94 21 *e*P P 23 59 34.9 +0.8
comp=Z,17nm,1.4s
INK **Inuvik** 89.94 21 P P 23 59 34.9 +0.8
AKASG **Malin Array Be** 90.15 321 P P 23 59 33.8 -1.7
comp=Z,0.4nm,0.5s,baz=75,slow=4.4,SNR=2.3
AKASG LR LR 00 43 57.0
comp=Z,431nm,21.8s,baz=70,slow=38
KIEV **Kiev** 90.16 321⇓*e*P P 23 59 34.6 -0.9
KIEV pmax pmax
comp=Z,1.0nm,1.0s
VSU **Vasula** 90.44 329⇑*e*P P 23 59 37.6 +1.0
VSU pmax pmax
comp=Z,16nm,0.9s
ISP **Isparta** 90.77 308⇑*e*P P 23 59 38.4 -0.5
ISP pmax pmax
comp=Z,2.0nm,0.9s
WHY **Whitehorse** 90.91 29 *e*P P 23 59 39.8 +0.8
comp=Z,120nm,1.1s
SYO **Syowa Base** 92.66 201⇑*e*pP pP 00 00 00.4 +3.6
SYO **Syowa Base** 92.66 201⇑*e*sP sP 00 00 03.0 +2.6
MLR **Muntele Rosu** 93.10 316 *e*P P 23 59 48.8 -0.7
comp=Z,15nm,1.5s
MLR **Muntele Rosu** 93.10 316 *e*P P 23 59 48.8 -0.7
MLR pmax pmax
comp=Z,15nm,1.5s
BUR04 **Bucovina Ar. S** 93.23 318 *e*P P 23 59 48.7 -1.3
BUR08 **Bucovina Ar. S** 93.23 318 *e*P P 23 59 49.2 -0.8
QSPA **South Pole Qui** 94.53 180 *e*P P 23 59 55.8 +0.3
comp=Z,12nm,1.2s
TAOE **Nuku Hiva Isla** 95.42 98 *e*LR LR 00 30 55.6
comp=Z,1μm,28.2s
NB2 **NORSAR Subarra** 97.24 333 P P 00 00 06.1 -1.8
comp=Z,3.3nm,1.2s,baz=65,slow=4.6
NOA **NORSAR Array B** 97.24 333 P P 00 00 05.4 -2.6
comp=Z,0.4nm,0.7s,baz=67,slow=4.5,SNR=3.0
NOA LR LR 00 47 34.7
comp=Z,888nm,20.1s,baz=75,slow=38
OKC **Ostrava-Krasne** 97.28 321 AMS AMS 00 48 00.0
comp=Z,600nm,21.7s
TREC **Trest** 99.09 321 AMS AMS 00 54 20.0
comp=Z,700nm,16.0s
PVCC **Panska Ves** 99.26 323 AMS AMS 00 50 00.0
comp=Z,800nm,19.5s
GOPC **GO Pecny, Ondr** 99.33 322 AMS AMS 00 46 30.0
comp=Z,800nm,22.4s
YKA **Yellowknife Ar** 99.36 24 P Pdif 00 00 17.2 -0.1
comp=Z,1.7nm,0.9s,baz=299,slow=4.4,SNR=4.5
YKA LR LR 00 50 40.1
comp=Z,13nm,18.7s,baz=292,slow=39
PRA **Prague** 99.49 322 AMS AMS 00 46 40.0
comp=Z,600nm,18.3s
CLL **Collm** 99.94 324 *ep*PP PP 00 04 34.0 +9.0
CLL *e*PS PS 00 13 24.0 -0.3
CLL *e*PPS PPS 00 14 12.0
CLL *e*SSS SSS 00 23 06.0
CLL LmV 00 51 00.0
comp=Z,500nm,18.4s
NKC **Novy Kostel** 100.64 323 AMS AMS 00 47 20.0
comp=Z,800nm,20.5s
RKT **Rikitea** 100.96 113 *e*LR LR 00 33 30.3
comp=Z,402nm,27.5s
O02D **Mt. Diablo Mer** 103.67 47 P Pdif 00 00 36.2 -1.0
baz=288
NVAR **Mina Array Bea** 107.54 47 PKiKP PKiKP 00 05 01.6 -1.1
comp=Z,1.3nm,1.1s,baz=299,slow=4.0,SNR=3.5
MPMC **Manual Prospec** 108.98 50 P PKiKP 00 05 07.3 +1.8
baz=291
EDW2 **Edwards Air Fo** 109.01 51 P PKiKP 00 05 08.0 +2.5
baz=290
R11A **Troy Canyon, C** 109.55 47 P PKiKP 00 05 08.8 +2.3
baz=293
TPNV **Topopah Spring** 109.59 48 P PKiKP 00 05 08.9 +2.3
baz=292
WUAZ **Wupatki** 113.78 48 P PKiKP 00 05 16.5 +1.9
baz=295
O20A **White River Ci** 113.90 42 P PKiKP 00 05 16.1 +1.3
baz=299
ESDC **Sonseca Array** 115.68 318 PKP PKPdf 00 05 17.9 -0.1
comp=Z,0.1nm,0.3s,baz=45,slow=2.8,SNR=2.9
ANMO **Albuquerque** 117.63 47 ⇑*i*PKiKP PKPdf 00 05 23.9 +1.8
ANMO pmax pmax
comp=Z,5.0nm,1.0s
ANMO **Albuquerque** 117.63 47 P PKPdf 00 05 23.3 +1.2
baz=298
T25A **Trinidad** 118.00 43 P PKPdf 00 05 24.6 +1.9
baz=301
ECSD **EROS Data Cent** 118.97 33 P PKPdf 00 05 24.4 +0.2
baz=311
MNTX **Cornudas Mount** 119.94 49 P PKPdf 00 05 26.4 +0.1
baz=298
E39A **Mellen** 120.21 28 P PKPdf 00 05 26.0 -0.5
baz=318
F39A **Loretta** 120.38 28 P PKPdf 00 05 26.2 -0.6
baz=317
E40A **Wakefield** 120.46 27 P PKPdf 00 05 26.6 -0.3
baz=319
G38A **Ridgeland** 120.47 30 P PKPdf 00 05 27.3 +0.4
baz=316
D41A **Chassel** 120.59 26 P PKPdf 00 05 28.2 +1.1
baz=320
G39A **Holcombe** 120.72 29 P PKPdf 00 05 27.4 -0.1
baz=317
F40A **Park Falls** 120.75 28 P PKPdf 00 05 27.4 -0.1
baz=318
TORD **Torodi Ar. Bea** 121.06 288 PKP PKPdf 00 05 28.3 -0.5
comp=Z,1.4nm,1.0s,baz=90,slow=3.0,SNR=6.3
TORD PP PP 00 07 01.6 +3.0
comp=Z,1.6nm,1.0s,baz=67,slow=5.7,SNR=3.6
H39A **Augusta** 121.10 30 P PKPdf 00 05 28.2 0.0
baz=316
G40A **Rib Lake** 121.19 28 P PKPdf 00 05 28.4 0.0
baz=318
F41A **Three Lakes** 121.36 27 P PKPdf 00 05 29.3 +0.7
baz=319
E42A **Champion** 121.36 26 P PKPdf 00 05 29.8 +1.1
baz=321
I39A **Houston** 121.58 30 P PKPdf 00 05 29.3 +0.1
baz=316
H40A **Chili** 121.58 29 P PKPdf 00 05 30.0 +0.9
baz=317
I40A **Norwalk** 122.00 30 P PKPdf 00 05 30.0 0.0
baz=317
G42A **Mountain** 122.04 27 P PKPdf 00 05 30.8 +0.8
baz=320
F43A **Flat Rock, Esc** 122.15 26 P PKPdf 00 05 30.6 +0.4
baz=321
TXAR **Lajitas Array** 122.35 51 PKP PKPdf 00 05 31.3 +0.1
comp=Z,3.7nm,1.0s,baz=205,slow=1.2,SNR=17
G43A **Wallace** 122.37 27 P PKPdf 00 05 30.3 -0.2
baz=320
L39A **Vinton** 122.56 32 P PKPdf 00 05 31.1 +0.1
baz=315
D46A **Sault St. Mari** 122.61 23 P PKPdf 00 05 31.4 +0.4
baz=325
J41A **Loganville** 122.69 30 P PKPdf 00 05 31.0 -0.2
baz=317
I42A **Draeger Farm,** 122.83 29 P PKPdf 00 05 31.8 +0.3
baz=318
JFWS **Jewell Farm** 122.90 30 P PKPdf 00 05 30.9 -0.8
baz=317
L40A **Anamosa** 123.01 32 P PKPdf 00 05 31.6 -0.3
baz=315
WMOK **Wichita Mounta** 123.13 43 P PKPdf 00 05 32.2 -0.2
baz=305
L41A **Preston** 123.38 31 P PKPdf 00 05 33.4 +0.7
baz=316
K42A **Prairie Point,** 123.45 30 P PKPdf 00 05 32.9 +0.2
baz=318
L42A **Oliver, Polo** 123.86 31 P PKPdf 00 05 33.4 -0.1
baz=317
M41A **Milan** 123.86 32 P PKPdf 00 05 34.0 +0.5
baz=316
O41A **Passleys Farm,** 124.57 33 P PKPdf 00 05 34.6 -0.4
baz=315
M43A **Waltham Townsh** 124.63 31 P PKPdf 00 05 35.8 +0.7
baz=317
JCT **Junction City** 124.71 48 P PKPdf 00 05 35.7 +0.1
baz=301
D53A **Lac Vacive, Po** 124.72 19 P PKPdf 00 05 35.2 +0.1
baz=332
Q41A **Truxton** 125.18 34 P PKPdf 00 05 37.2 +1.0
baz=314
J47A **Sunmer** 125.23 26 P PKPdf 00 05 36.7 +0.6
baz=323
P42A **Winchester** 125.23 33 P PKPdf 00 05 36.8 +0.5
baz=315
F52A **Sundridge** 125.30 21 P PKPdf 00 05 36.9 +0.7
baz=330
R41A **Rosebud** 125.55 35 P PKPdf 00 05 37.6 +0.7
baz=313
WHTX **Lake Whitney,** 125.59 45 P PKPdf 00 05 39.1 +1.9
baz=304
K47A **Vermontville** 125.60 27 P PKPdf 00 05 36.8 -0.1
baz=322
P43A **Skaggs, Pawnee** 125.64 33 P PKPdf 00 05 37.8 +0.7
baz=316
CCM **Cathedral Cave** 125.79 35 P PKPdf 00 05 38.2 +0.9
baz=313
S41A **Jillco Farms,** 125.82 36 P PKPdf 00 05 38.6 +1.1
baz=313
K48A **Perry** 125.89 26 P PKPdf 00 05 38.2 +0.8
baz=323
U40A **Yellville** 125.98 38 P PKPdf 00 05 37.9 +0.1
baz=311
Q43A **New Douglas** 126.04 33 P PKPdf 00 05 38.8 +1.0
baz=315
BWLO **Walkerton** 126.05 23 P PKPdf 00 05 39.1 +1.4
baz=327
L47A **Sherwood** 126.05 28 P PKPdf 00 05 39.4 +1.6
baz=322
CLWO **Collingwood** 126.09 22 P PKPdf 00 05 38.8 +1.0
baz=328
833A **Chaparral WMA,** 126.11 50 P PKPdf 00 05 39.6 +1.3
baz=300
W39A **Magazine** 126.14 40 P PKPdf 00 05 38.6 +0.5
baz=309
T41A **Mountain View** 126.18 36 P PKPdf 00 05 38.2 0.0
baz=312
S42A **Caledonia** 126.25 35 P PKPdf 00 05 38.4 +0.1
baz=314
V40A **Witts Springs** 126.36 38 P PKPdf 00 05 39.3 +0.7
baz=311
X39A **Fountain Ranch** 126.36 40 P PKPdf 00 05 39.9 +1.3
baz=309
L48A **N Adams** 126.43 27 P PKPdf 00 05 39.6 +1.1
baz=322
U41A **Viola** 126.55 37 P PKPdf 00 05 40.0 +1.1
baz=312
T42A **Van Buren** 126.58 36 P PKPdf 00 05 39.4 +0.5
baz=313
L49A **Milan** 126.60 27 P PKPdf 00 05 40.2 +1.4
baz=323
P45A **Graceland, Par** 126.66 31 P PKPdf 00 05 40.1 +1.1
baz=318
N47A **Urbana** 126.67 29 P PKPdf 00 05 39.7 +0.7
baz=321
MIAR **Mount Ida** 126.69 40 P PKPdf 00 05 41.3 +2.1
baz=309
V41A **Mountainview** 126.78 38 P PKPdf 00 05 39.3 -0.1
baz=311
S43A **Fulton Ridge,** 126.80 35 P PKPdf 00 05 40.1 +0.7
baz=314
ORIO **Orleans, Innes** 126.86 18 P PKPdf 00 05 40.2 +1.0

baz=334
Q45A Warren Harvey, 126.91 32 P **PKPdf 00 05 40.3 +0.8**
baz=317
U42A Revenden 126.95 37 P **PKPdf 00 05 40.8 +1.2**
baz=312
N48A Decatur 127.01 28 P **PKPdf 00 05 40.1 +0.5**
baz=321
M49A Liberty Center 127.01 27 P **PKPdf 00 05 40.3 +0.7**
baz=323
T43A Greenville 127.01 35 P **PKPdf 00 05 40.7 +1.0**
baz=314
V42A Cord 127.23 37 P **PKPdf 00 05 40.1 -0.1**
baz=312
R45A Skylar, Fairfi 127.28 33 P **PKPdf 00 05 40.8 +0.6**
baz=317
N49A Columbus Grove 127.35 28 P **PKPdf 00 05 40.5 +0.2**
baz=322
O48A Farmland 127.41 29 P **PKPdf 00 05 41.1 +0.7**
baz=321
P47A Martinsville 127.45 30 P **PKPdf 00 05 40.4 -0.2**
baz=319
S45A Carrier Mills 127.56 34 P **PKPdf 00 05 42.4 +1.7**
baz=316
Y41A Eaglette Beard 127.72 40 P **PKPdf 00 05 42.9 +1.8**
baz=310
R46A Gibon Southern 127.75 32 P **PKPdf 00 05 43.2 +2.1**
baz=317
Q47A Bedord North L 127.79 31 P **PKPdf 00 05 42.3 +1.1**
baz=319
HKT Hockley 127.89 46↑*e*PKIKP **PKPdf 00 05 42.0 +0.5**
HKT pmax pmax
comp=Z,36nm,1.3s
P48A Milroy 127.89 30 P **PKPdf 00 05 41.9 +0.5**
baz=320
N50A Nevada 127.95 27 P **PKPdf 00 05 41.5 +0.1**
baz=323
Q48A North Vernon 128.15 31 P **PKPdf 00 05 42.6 +0.7**
baz=320
P49A Miami Univ. Ec 128.19 29 P **PKPdf 00 05 42.8 +0.9**
baz=321
ERPA Erie 128.19 24 P **PKPdf 00 05 42.8 +1.0**
baz=328
R47A Wooly Knot Far 128.21 32 P **PKPdf 00 05 42.6 +0.7**
baz=318
O50A Cable 128.23 28 P **PKPdf 00 05 43.2 +1.2**
baz=323
WCI Wyandotte Cave 128.38 32 P **PKPdf 00 05 43.1 +0.8**
baz=319
T46A Princeton 128.40 34 P **PKPdf 00 05 44.5 +2.1**
baz=316
ACSO Alum Creek Sta 128.46 27 P **PKPdf 00 05 43.7 +1.3**
baz=323
R48A Northridge Ran 128.47 31 P **PKPdf 00 05 43.7 +1.2**
baz=319
Q49A Aurora 128.51 30 P **PKPdf 00 05 43.3 +0.7**
baz=321
P50A Jamestown 128.57 28 P **PKPdf 00 05 43.4 +0.7**
baz=322
M54A Oil Creek Stat 128.83 24 P **PKPdf 00 05 43.2 +0.1**
baz=328
S48A Wiedeman Farm, 128.94 32 P **PKPdf 00 05 44.8 +1.4**
baz=319
O52A Adamsville 129.07 27 P **PKPdf 00 05 44.7 +1.1**
baz=325
WVT Waverly 129.09 34 P **PKPdf 00 05 44.7 +1.0**
baz=316
V46A Holladay 129.16 35 P **PKPdf 00 05 45.3 +1.4**
baz=315
T48A Bowling Green 129.17 33 P **PKPdf 00 05 45.4 +1.5**
baz=318
U47A Clarksville 129.17 34 P **PKPdf 00 05 45.4 +1.5**
baz=317
S49A Springfield 129.24 31 P **PKPdf 00 05 45.2 +1.2**
baz=320
Q51A Peebles 129.24 29 P **PKPdf 00 05 44.2 +0.3**
baz=322
OXF Oxford 129.30 37 P **PKPdf 00 05 46.0 +1.8**
baz=313
P52A Corning 129.32 27 P **PKPdf 00 05 45.1 +1.1**
baz=324
T49A Edmonton 129.63 32 P **PKPdf 00 05 45.7 +0.9**
baz=319
R51A Hillsboro 129.70 29 P **PKPdf 00 05 46.5 +1.6**
baz=322
S50A Richmond 129.78 31 P **PKPdf 00 05 46.4 +1.4**
baz=320
P53A Whipple 129.78 27 P **PKPdf 00 05 46.8 +1.8**
baz=325
Q52A Bidwell 129.80 28 P **PKPdf 00 05 46.3 +1.3**
baz=324
W47A Westpoint 129.85 35 P **PKPdf 00 05 46.3 +1.0**
baz=316
U49A Red Boiling Sp 129.94 33 P **PKPdf 00 05 46.7 +1.3**
baz=318
T50A Nancy 130.05 31 P **PKPdf 00 05 46.0 +0.4**
baz=320
Y46A Houston 130.06 37 P **PKPdf 00 05 46.4 +0.8**
baz=314
S51A Beattyville 130.21 30 P **PKPdf 00 05 47.3 +1.5**
baz=321
X47A Russelville 130.22 36 P **PKPdf 00 05 47.5 +1.6**
baz=315
SSPA Standing Stone 130.28 23 P **PKPdf 00 05 46.6 +0.7**
baz=329
O56A Blue Knob Stat 130.32 24 P **PKPdf 00 05 46.1 +0.1**
baz=328
V49A McMinnville 130.42 33 P **PKPdf 00 05 47.3 +1.0**
baz=318
U50A Jamestown 130.51 32 P **PKPdf 00 05 46.5 0.0**
baz=319
Y47A UCPARC, Winfie 130.65 37 P **PKPdf 00 05 48.4 +1.6**
baz=314
W49A Belvidere 130.70 34 P **PKPdf 00 05 48.3 +1.4**
baz=317
V53A Saluda 132.14 31 P **PKPdf 00 05 50.3 +0.7**
baz=321
149A Jones 132.20 37 P **PKPdf 00 05 51.2 +1.5**
baz=315
Z50A Ashland 132.24 36 P **PKPdf 00 05 50.5 +0.7**
baz=316
X52A Dahlonega 132.38 33 P **PKPdf 00 05 51.2 +1.1**
baz=319
PLCA Paso Flores 141.41 161 PKP **PKPdf 00 06 05.6 -1.0**
comp=Z,5.5nm,1.2s,baz=211,slow=3.4,SNR=3.1
PLCA Paso Flores 141.41 161 PKIKP **PKPdf 00 06 05.6 -1.0**
PLCA pmax pmax
comp=Z,3.0nm,0.9s
JTS Juntas Abangare 146.63 64*d*PKP2 **PKPab 00 06 19.6 +0.5**
MOTC Monteria, Cord 155.41 57 *e*P **PKPdf 00 06 31.4 +1.6**
OTAV Otavalo 156.02 79 *e*P **PKPab 00 07 03.3 +4.8**
ZARC Zaragoza, Cauc 156.76 59 *e*P **PKPdf 00 06 30.8 -0.8**
NORC Norcasia 157.67 63 *e*P **PKPab 00 07 06.0 +0.9**
BETC Betania 158.26 71 *e*P **PKPdf 00 06 34.7 +1.2**
CPUP Villa Florida 158.30 174 PKP **PKPdf 00 06 33.4 +0.2**
comp=Z,1.2nm,0.8s,baz=86,slow=3.4,SNR=2.9
CPUP PKPab **PKPab 00 07 06.7 -0.5**
comp=Z,3.4nm,0.9s,baz=116,slow=3.7,SNR=4.4
ROSC El Rosal 158.48 64 PKP **PKPdf 00 06 34.5 +0.3**
comp=Z,3.6nm,0.5s,baz=346,slow=22,SNR=4.4
BARC Barichara 158.65 59 *e*P PKPdf 00 06 46.7 +12
RUSC La Rusia 159.08 60 *e*P PKPab 00 07 01.3 -10
CHIC Chingaza 159.09 64 *e*P **PKPdf 00 06 34.7 -0.3**
LPAZ La Paz 162.62 133 PKP **PKPdf 00 06 39.4 +0.4**
comp=Z,5.4nm,1.1s,baz=4.9,slow=2.4,SNR=14

*MDD **04** 23:49:19.7±2.7,37.°23N×12.°82W,h8km±145km,mb3.6/7, mbLg2.9/1,Error ellipse: s-maj=187.0km s-min=21.2km az=68.0,PRXIMO*
*INMG **04** 23:49:19.1±1.2,37.°10N×13.°34W,h10km,ML2.3,Error ellipse: s-maj=8.9km s-min=5.5km az=93.0*
*IGIL **04** 23:49:19.6,37.°28N×12.°75W,h0km,ML1.9*
ISC 04 23:49:20.7±3.9,37°34N±0.1′0×12°56W±0.2′,h10km,n37, σ1§29/66,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.04**	**93**	*e*Pn	**Pn**	**23 50 08.6**	**-0.2**
PFVI				*e*Sn	**Sn**	**23 50 46.8**	**+1.6**
PMAFR	**Mafra**	**3.09**	**58**	*e*Pn	**Pn**	**23 50 10.4**	**+0.9**
PMAFR				*e*Sn	**Sn**	**23 50 47.8**	**+1.3**
PMAFR				A	A	23 50 54.9	
	8.2nm,0.3s						
PMAFR	**Mafra**	**3.09**	**58**	P	**Pn**	**23 50 10.0**	**+0.5**
	2.1nm,0.1s,SNR=7.7						
PMAFR				S	**Sn**	**23 50 46.9**	**+0.4**
	5.2nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**3.11**	**85**	*e*Pn	**Pn**	**23 50 10.0**	**+0.2**
PTEO				*e*Sn	**Sn**	**23 50 46.5**	**-0.5**
PTEO				A	A	23 50 54.5	
	5.7nm,0.7s						
PTEO	**Sao Teotonio**	**3.11**	**85**	Pn	**Pn**	**23 50 10.0**	**+0.2**
PTEO				Sn	**Sn**	**23 50 46.5**	**-0.5**
	2.8nm,0.7s						
MORF	**Marmelete**	**3.17**	**89**	*e*Pn	**Pn**	**23 50 12.2**	**+1.6**
MORF	**Marmelete**	**3.17**	**89**	Pn	**Pn**	**23 50 12.2**	**+1.6**
MESJ	**Messejana**	**3.54**	**81**	*e*P	**Pn**	**23 50 15.4**	**-0.2**
MESJ				*e*S	**Sn**	**23 50 56.2**	**-1.3**
MESJ				AML	AML	23 51 03.3	
	comp=N,3.4nm,0.1s						
MESJ	**Messejana**	**3.54**	**81**	*e*Pn	**Pn**	**23 50 16.7**	**+1.1**
MESJ				*e*Sn	**Sn**	**23 50 56.5**	**-1.0**
MESJ				A	A	23 51 03.0	
	comp=N,2.2nm,0.6s						
MESJ	**Messejana**	**3.54**	**81**	P	**Pn**	**23 50 15.4**	**-0.2**
MESJ				S	**Sn**	**23 50 56.2**	**-1.3**
	comp=N,3.4nm,0.1s						
ALMR	**Almeirim**	**3.67**	**59**	*e*Pn	**Pn**	**23 50 19.8**	**+2.4**
ALMR				*e*Sn	**Sn**	**23 51 03.1**	**+2.4**
ALMR	**Almeirim**	**3.67**	**59**	Pn	**Pn**	**23 50 19.8**	**+2.4**
ALMR				Sn	**Sn**	**23 51 03.1**	**+2.4**
PBDV	**Barranco-do-Ve**	**3.75**	**90**	*e*Pn	**Pn**	**23 50 18.9**	**+0.4**
PBDV				*e*Sn	**Sn**	**23 51 03.5**	**+0.8**
PBDV				A	A	23 51 11.7	
	comp=N,4.3nm,0.9s						
PBDV	**Barranco-do-Ve**	**3.75**	**90**	Pn	**Pn**	**23 50 18.9**	**+0.4**
PBDV				Sn	**Sn**	**23 51 03.5**	**+0.8**
	comp=N,4.3nm,0.9s						
PBEJ	**Beja**	**3.84**	**78**	*e*Pn	**Pn**	**23 50 20.7**	**+0.9**
PBEJ				*e*Sn	**Sn**	**23 51 06.5**	**+1.6**
PBEJ				A	A	23 51 10.4	
	comp=N,3.3nm,0.2s						
PBEJ	**Beja**	**3.84**	**78**	Pn	**Pn**	**23 50 20.7**	**+0.9**
PBEJ				Sn	**Sn**	**23 51 06.5**	**+1.6**
	comp=N,1.7nm,0.2s						
PVAQ	**Vaqueiros**	**3.91**	**88**	*e*Pn	**Pn**	**23 50 21.3**	**+0.5**
PVAQ				*e*Sn	**Sn**	**23 51 07.4**	**+0.7**
PVAQ				A	A	23 51 10.8	
	comp=N,4.7nm,0.8s						
PVAQ	**Vaqueiros**	**3.91**	**88**	Pn	**Pn**	**23 50 21.3**	**+0.5**
PVAQ				Sn	**Sn**	**23 51 07.4**	**+0.7**
	comp=N,4.7nm,0.8s						
PTOM	**Tomar**	**4.01**	**54**	*e*Pn	**Pn**	**23 50 23.7**	**+1.5**
PTOM				*e*Sn	**Sn**	**23 51 10.6**	**+1.3**
PTOM				A	A	23 51 17.8	
	comp=N,3.6nm,0.2s						
PTOM	**Tomar**	**4.01**	**54**	Pn	**Pn**	**23 50 23.7**	**+1.5**
PTOM				Sn	**Sn**	**23 51 10.6**	**+1.3**
	comp=N,1.8nm,0.2s						
EGRO	**El Granado**	**4.10**	**86**	P	**Pn**	**23 50 23.2**	**-0.1**
	comp=N,1.2nm,0.3s,SNR=7.9						
EGRO				S	**Sn**	**23 51 10.4**	**-1.0**
	comp=N,2.6nm,0.2s,SNR=7.9						
PCAS	**Casmilo, Conde**	**4.22**	**49**	*e*Pn	**Pn**	**23 50 25.9**	**+0.9**
PCAS				*e*Sn	**Sn**	**23 51 15.1**	**+0.8**
PMRV	**Marv??o**	**4.61**	**62**	*e*Pn	**Pn**	**23 50 31.3**	**+0.9**
PMRV				*e*Sn	**Sn**	**23 51 23.3**	**-0.7**
PMRV				A	A	23 51 29.5	
	comp=N,2.3nm,0.6s						
EBAD	**Badajoz**	**4.65**	**71**	P	**Pn**	**23 50 30.6**	**-0.3**
	comp=N,0.3nm,0.1s,SNR=8.9						
EBAD				S	**Sn**	**23 51 22.8**	**-2.2**
	comp=N,1.5nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**4.74**	**57**	*e*Pn	**Pn**	**23 50 33.1**	**+0.9**
PCBR				*e*Sn	**Sn**	**23 51 27.3**	**0.0**
EMIN	**Mina Concepcio**	**4.75**	**83**	P	**Pn**	**23 50 32.2**	**-0.1**
	comp=N,0.4nm,0.1s,SNR=7.0						
EMIN				S	**Sn**	**23 51 25.5**	**-2.0**
	comp=N,1.2nm,0.3s,SNR=7.9						
PVIS	**Viseu**	**4.99**	**46**	*e*Pn	**Pn**	**23 50 35.7**	**0.0**
PVIS				*e*Sn	**Sn**	**23 51 32.2**	**-1.3**
PVIS				A	A	23 51 32.3	
	comp=N,1.7nm,0.4s						
POLO	**Lamas de Olo**	**5.50**	**41**	*e*Sn	**Sn**	**23 51 45.4**	**-0.7**
PCAB	**Cabril**	**5.63**	**38**	*e*Sn	**Sn**	**23 51 47.4**	**-1.8**
PGAV	**Gavieira, Arco**	**5.71**	**35**	*e*Sn	**Sn**	**23 51 49.3**	**-2.0**
ELOB	**Lobios**	**5.73**	**37**	S	**Sn**	**23 51 49.1**	**-2.7**
	comp=N,0.5nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**5.76**	**80**	P	**Pn**	**23 50 46.1**	**-0.2**
	comp=N,0.4nm,0.1s,SNR=7.4						
ECAB				S	**Sn**	**23 51 50.3**	**-2.1**
	comp=N,0.4nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**5.78**	**47**	*e*Pn	**Pn**	**23 50 47.2**	**+0.6**
MVO				*e*Sn	**Sn**	**23 51 52.6**	**-0.4**
MVO	**Moncorvo**	**5.78**	**47**	S	**Sn**	**23 51 50.6**	**-2.5**
	comp=N,0.8nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.43**	**80**	P	**Pn**	**23 50 55.3**	**-0.1**
	comp=N,0.3nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**23 52 07.1**	**-1.9**
	comp=N,0.4nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**6.86**	**69**	P	**Pn**	**23 51 01.2**	**-0.2**
	comp=N,0.4nm,0.3s,SNR=7.9						
PAB				S	**Sn**	**23 52 17.7**	**-1.9**
	comp=N,0.2nm,0.3s,SNR=4.0						
ESDC	**Sonseca Array**	**7.18**	**68**	P	**Pn**	**23 51 05.6**	**-0.2**
	comp=N,1.2nm,0.1s,baz=255,slow=12,SNR=9.9						

*ATH **04** 23:49:44.5,39.°14N×19.°99E,h28km,ML3.2/11,Error ellipse: s-maj=1.5km s-min=0.7km az=73.0*
*THE **04** 23:49:45.4,39.°13N×19.°99E,h6km±1km,ML3.2/11,Error ellipse: s-maj=1.4km s-min=0.5km az=254.0*
*TIR **04** 23:49:46.1,39.°23N×20.°13E,h36km,Md3.2/7*
ISC 04 23:49:45.3±0.9,39°15N±0.′02×20°01E±0.′03,h30km±8km, n147,σ1§52/183,3C-4D,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.46**	**33**	P	**Pb**	**23 49 54.8**	**-0.3**
IGT				S	**Sb**	**23 50 01.8**	**+0.1**
IGT				AML	AML	23 50 02.5	
	comp=E,15450μm,0.5s						
IGT				AML	AML	23 50 02.6	
	comp=N,14092μm,0.7s						
IGT	**Igoumenitsa**	**0.46**	**33**	P	**Pb**	**23 49 54.8**	**-0.3**
IGT				S	**Sb**	**23 50 01.9**	**+0.2**
IGT	**Igoumenitsa**	**0.46**	**33**	*i* PG	**Pb**	**23 49 54.7**	**-0.3**
IGT				*i* SG	**Sb**	**23 50 01.5**	**-0.2**
SGD	**Sagiada**	**0.49**	**21**	P	**Pb**	**23 49 55.6**	**0.0**
SGD	**Sagiada**	**0.49**	**21**	P	**Pb**	**23 49 55.6**	**0.0**
KEK	**Kerkira**	**0.58**	**344**	P	**Pb**	**23 49 57.2**	**+0.1**
KEK				S	**Sb**	**23 50 05.0**	**-0.2**
KEK				AML	AML	23 50 08.3	
	comp=E,3005μm,0.2s						
KEK				AML	AML	23 50 10.0	
	comp=N,2806μm,0.3s						
KEK	**Kerkira**	**0.58**	**344**	P	**Pb**	**23 49 57.2**	**+0.1**
KEK				S	**Sb**	**23 50 05.7**	**+0.5**
KASA	**Kassiopi**	**0.59**	**355**	P	**Pb**	**23 49 57.9**	**+0.6**
KASA				S	**Sn**	**23 50 06.9**	**+0.5**
KASA				AML	AML	23 50 09.0	
	comp=E,6053μm,0.3s						
KASA				AML	AML	23 50 09.4	
	comp=N,8872μm,0.3s						
TSLK	**Tsoukalades, L**	**0.60**	**123**	P	**Pb**	**23 49 56.8**	**-0.6**
TSLK				S	**Sn**	**23 50 06.7**	**+0.3**
TSLK				AML	AML	23 50 09.2	
	comp=E,9704μm,0.6s						
TSLK				AML	AML	23 50 09.3	
	comp=N,9743μm,0.3s						
LKD2	**Lefkada island**	**0.62**	**125**	P	**Pb**	**23 49 56.3**	**-1.5**
LKD2				S	**Sb**	**23 50 06.7**	**+0.4**
LKD2				AML	AML	23 50 09.0	
	comp=N,5079μm,0.3s						
LKD2				AML	AML	23 50 09.7	
	comp=E,6695μm,0.2s						
LKD2	**Lefkada island**	**0.62**	**125**	P	**Pb**	**23 49 56.3**	**-1.5**
LKD2				S	**Sb**	**23 50 06.5**	**+0.2**
SRN	**Sarande**	**0.73**	**359**	P	**Pb**	**23 49 59.6**	**+0.1**
SRN				S	**Sn**	**23 50 10.1**	**+0.5**
SRN	**Sarande**	**0.73**	**359**	*i* PG	**Pb**	**23 49 59.4**	**-0.1**
SRN				*i* SG	**Sb**	**23 50 09.9**	**+0.8**
EVGI	**Lefkada island**	**0.73**	**136**	P	**Pb**	**23 49 57.9**	**-1.6**
EVGI	**Lefkada island**	**0.73**	**136**	P	**Pb**	**23 49 58.0**	**-1.6**
EVGI				S	**Sb**	**23 50 09.5**	**+0.2**
FSK	**Fiskardo**	**0.82**	**148**	P	**Pn**	**23 50 00.6**	**-0.2**
FSK				S	**Sn**	**23 50 12.6**	**+0.8**
FSK	**Fiskardo**	**0.82**	**148**	P	**Pn**	**23 50 00.5**	**-0.2**
FSK				S	**Sn**	**23 50 12.8**	**+1.0**
JAN	**Janina**	**0.82**	**52**	P	**Pn**	**23 50 01.2**	**+0.3**
JAN				S	**Sn**	**23 50 13.0**	**+0.9**
JAN				AML	AML	23 50 15.3	
	comp=E,5146μm,0.2s						
JAN				AML	AML	23 50 15.6	
	comp=N,4335μm,0.4s						
JAN	**Janina**	**0.82**	**52**	P	**Pn**	**23 50 01.2**	**+0.3**
JAN				S	**Sn**	**23 50 13.3**	**+1.3**
VLS	**Valsamata**	**1.07**	**155**	P	**Pb**	**23 50 04.9**	**-0.4**
VLS				S	**Sb**	**23 50 20.7**	**+1.7**
TPE	**Tepelena**	**1.14**	**0**	*i* PG	**Pb**	**23 50 06.7**	**+0.2**
TPE				*i* SG	**Sb**	**23 50 21.1**	**+0.2**
PVO	**Paravola**	**1.30**	**114**	P	**Pb**	**23 50 09.1**	**0.0**
PVO				S	**Sb**	**23 50 26.4**	**+1.0**
PVO				AML	AML	23 50 30.2	
	comp=E,2108μm,0.3s						
PVO				AML	AML	23 50 30.4	
	comp=N,1994μm,0.4s						
PVO	**Paravola**	**1.30**	**114**	P	**Pb**	**23 50 09.1**	**0.0**
PVO				S	**Sb**	**23 50 27.6**	**+2.2**
PENT	**Pentalofos**	**1.36**	**40**	P	**Pb**	**23 50 09.9**	**-0.3**
PENT				S	**Sb**	**23 50 28.7**	**+1.5**
PENT				AML	AML	23 50 33.9	
	comp=E,620μm,0.4s						
PENT				AML	AML	23 50 35.5	
	comp=N,899μm,0.5s						
PENT	**Pentalofos**	**1.36**	**40**	P	**Pb**	**23 50 09.8**	**-0.3**
PENT				S	**Sb**	**23 50 29.7**	**+2.5**
EVR	**Evrytania**	**1.42**	**99**	P	**Pb**	**23 50 11.5**	**+0.2**
EVR	**Evrytania**	**1.42**	**99**	P	**Pb**	**23 50 11.4**	**+0.2**
NEST	**Nestorio**	**1.49**	**32**	P	**Pb**	**23 50 12.1**	**-0.4**
NEST				S	**Sb**	**23 50 32.0**	**+0.9**
NEST				AML	AML	23 50 35.9	
	comp=N,528μm,0.6s						
NEST				AML	AML	23 50 37.7	
	comp=E,1061μm,0.5s						
NEST	**Nestorio**	**1.49**	**32**	P	**Pb**	**23 50 12.1**	**-0.4**
NEST				S	**Sb**	**23 50 33.7**	**+2.6**
SCTE	**Santa Cesarea**	**1.50**	**308**	P	**Pn**	**23 50 10.8**	**+0.7**
RLS	**Riolos of Patr**	**1.58**	**133**	P	**Pb**	**23 50 12.9**	**-0.9**
KBN	**Korca**	**1.59**	**22**	*i* PN	**Pn**	**23 50 12.4**	**+1.0**
KBN				*i* SN	**Sb**	**23 50 36.1**	**+2.4**
ANX	**Ano Chora**	**1.59**	**110**	P	**Pb**	**23 50 13.8**	**-0.4**
THL	**Klokotos Trika**	**1.61**	**75**	P	**Pb**	**23 50 13.5**	**-0.8**
THL				S	**Sb**	**23 50 33.5**	**-0.8**
THL				AML	AML	23 50 41.6	
	comp=E,500μm,0.4s						
THL				AML	AML	23 50 42.6	
	comp=N,528μm,0.7s						
THL	**Klokotos Trika**	**1.61**	**75**	P	**Pn**	**23 50 13.4**	**+1.8**
EFP	**Efpalio**	**1.65**	**115**	P	**Pb**	**23 50 14.5**	**-0.5**
EFP	**Efpalio**	**1.65**	**115**	P	**Pb**	**23 50 14.5**	**-0.5**
MAKR	**Makrakomi, Fth**	**1.66**	**94**	P	**Pb**	**23 50 15.0**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.66**	**94**	P	**Pb**	**23 50 15.0**	**-0.2**
KZN	**Kozani**	**1.78**	**49**	P	**Pn**	**23 50 15.3**	**+1.2**
KZN	**Kozani**	**1.78**	**49**	P	**Pn**	**23 50 15.8**	**+1.7**
LAKA	**Lakka**	**1.79**	**120**	P	**Pb**	**23 50 16.1**	**-1.3**
DRO	**Drossia**	**1.79**	**131**	P	**Pb**	**23 50 16.1**	**-1.4**
TRIZ	**Trizonia**	**1.79**	**115**	P	**Pb**	**23 50 16.3**	**-1.2**
TRIZ	**Trizonia**	**1.79**	**115**	P	**Pb**	**23 50 16.3**	**-1.2**
AGG	**Agios Georgios**	**1.81**	**93**	P	**Pn**	**23 50 15.3**	**+0.9**
AGG	**Agios Georgios**	**1.81**	**93**	P	**Pb**	**23 50 16.6**	**-1.2**
AGG	**Agios Georgios**	**1.81**	**93**	P	**Pb**	**23 50 16.9**	**-0.9**
KALE	**Kalithea**	**1.83**	**114**	P	**Pb**	**23 50 17.5**	**-0.7**
FNA	**Florina**	**1.94**	**32**	P	**Pn**	**23 50 15.5**	**-0.7**
FNA	**Florina**	**1.94**	**32**	P	**Pn**	**23 50 17.7**	**+1.5**
FNA	**Florina**	**1.94**	**32**	P	**Pn**	**23 50 17.8**	**+1.5**
FNA	**Florina**	**1.94**	**32**	*i* PN	**Pn**	**23 50 17.5**	**+1.3**
FNA				*i* SN	**Sb**	**23 50 45.4**	**+1.6**
KLV	**Kalavryta, Ach**	**2.01**	**123**	P	**Pn**	**23 50 19.3**	**+2.1**
OHR	**Ohrid**	**2.05**	**17**	*i* Pn	**Pn**	**23 50 19.4**	**+1.7**
OHR				*e*Sn	**Sn**	**23 50 44.3**	**+2.1**
AMT	**Artemida-Makis**	**2.10**	**140**	P	**Pn**	**23 50 20.3**	**+2.0**
DSF	**Desfina**	**2.10**	**110**	P	**Pn**	**23 50 20.8**	**+2.3**
BIA	**Bitola**	**2.12**	**28**	*i* Pn	**Pn**	**23 50 20.7**	**+2.0**
LIT	**Litokhoron**	**2.14**	**63**	P	**Pn**	**23 50 20.0**	**+1.1**
LIT	**Litokhoron**	**2.14**	**63**	P	**Pn**	**23 50 20.0**	**+1.1**
TIR	**Tirane**	**2.19**	**357**↑	*i* P	**Pn**	**23 50 20.7**	**+1.0**
TIR	**Tirane**	**2.19**	**357**	P	**Pn**	**23 50 20.8**	**+1.1**
TIR	**Tirane**	**2.19**	**357**	*i* SN	**Pn**	**23 50 18.7**	**-1.0**
TIR				*i* PN	**Sn**	**23 50 48.2**	**+2.4**
FYTO	**Fytoko, Volos**	**2.29**	**83**	P	**Pn**	**23 50 22.5**	**+1.5**
LKR	**Lokris**	**2.39**	**101**	P	**Pn**	**23 50 23.6**	**+1.2**
KRUS	**Krusevo**	**2.41**	**23**	*i* Pn	**Pn**	**23 50 23.9**	**+1.2**
PROD	**Prodromos**	**2.43**	**111**	P	**Pn**	**23 50 24.9**	**+1.9**
CGL1	**Ceglie Messapi**	**2.46**	**308**	*e*Pn	**Pn**	**23 50 25.5**	**+2.2**
XOR	**Xorichti**	**2.48**	**84**	P	**Pn**	**23 50 24.6**	**+1.0**
ITM	**Ithomi**	**2.48**	**142**	P	**Pn**	**23 50 25.9**	**+2.2**
ITM	**Ithomi**	**2.48**	**142**	P	**Pn**	**23 50 25.7**	**+2.0**
NEO	**Neokhori**	**2.50**	**85**	P	**Pn**	**23 50 24.8**	**+0.8**
TAR1	**Taranto**	**2.51**	**304**	*e*Pn	**Pn**	**23 50 24.5**	**+0.6**
TIP	**Timpagrande**	**2.53**	**272**	*i* P	**Pb**	**23 50 34.3**	**+4.3**
TIP	**Timpagrande**	**2.53**	**272**	P	**Pn**	**23 50 25.1**	**+0.7**
GRG	**Griva**	**2.57**	**45**	P	**Pn**	**23 50 25.5**	**+0.6**
GRG	**Griva**	**2.57**	**45**	P	**Pn**	**23 50 25.5**	**+0.6**
LTK	**Loutraki**	**2.58**	**115**	P	**Pn**	**23 50 26.3**	**+1.4**
PYL	**PYLOS**	**2.64**	**148**	P	**Pn**	**23 50 26.7**	**+0.9**
MASS	**Massafra**	**2.65**	**305**	*e*Pn	**Pn**	**23 50 26.5**	**+0.5**
MES2	**Methoni**	**2.68**	**149**	P	**Pn**	**23 50 27.1**	**+0.7**
SKIA	**Skiathos**	**2.69**	**89**	P	**Pn**	**23 50 29.4**	**+2.9**
THE	**Thessaloniki**	**2.71**	**56**	P	**Pn**	**23 50 28.0**	**+1.2**
HORT	**Hortiatis**	**2.78**	**58**	P	**Pn**	**23 50 26.3**	**-1.5**
NOCI	**Noci**	**2.79**	**307**	P	**Pn**	**23 50 28.4**	**+0.5**
PUK	**Puka**	**2.89**	**358**	*i* PN	**Pn**	**23 50 31.0**	**+1.7**
PLG	**Polygyros**	**2.92**	**64**	P	**Pn**	**23 50 30.1**	**+0.5**
VAY	**Valandovo**	**2.92**	**41**	*i* Pn	**Pn**	**23 50 30.8**	**+1.2**
KNT	**Kendrikon**	**2.99**	**47**	P	**Pn**	**23 50 30.4**	**-0.2**
AOS	**Alonnisos**	**3.01**	**88**	P	**Pn**	**23 50 30.9**	**0.0**
AOS	**Alonnisos**	**3.01**	**88**	P	**Pn**	**23 50 31.6**	**+0.8**
DYR	**Agios Nikonas**	**3.01**	**142**	P	**Pn**	**23 50 32.3**	**+1.3**
SKO	**Skopje**	**3.02**	**21**	*e*Pn	**Pn**	**23 50 31.7**	**+0.7**
DID	**Didima**	**3.02**	**122**	P	**Pn**	**23 50 32.2**	**+1.1**
SG1	**Sgolgore (BA)**	**3.06**	**304**	*e*Pn	**Pn**	**23 50 32.1**	**+0.5**
SG1					Sn	**23 51 06.5**	**-0.8**
SOH	**Sokhos**	**3.06**	**56**	P	**Pn**	**23 50 32.6**	**+0.9**
BAI	**Bari**	**3.09**	**310**	*e*Pn	**Pn**	**23 50 32.7**	**+0.7**
BAI					Sn	**23 51 07.2**	**-0.7**
DRME	**Dracevica, Mon**	**3.10**	**349**	*e*Pn	**Pn**	**23 50 31.7**	**-0.4**
PTL	**Penteli**	**3.22**	**109**	P	**Pn**	**23 50 35.3**	**+1.6**
VLY	**Voula,Athens**	**3.24**	**112**	P	**Pn**	**23 50 35.4**	**+1.3**
DION	**Dionisos Attik**	**3.26**	**108**	P	**Pn**	**23 50 35.8**	**+1.5**
OUR	**Ouranopolis**	**3.28**	**68**	P	**Pn**	**23 50

MORH	**M¨‡r¨ìgy, Hung**	**7.13**	**352**	*e*Pn		**Pn**	**23 51 25.3**	**-2.1**
VOIR		**7.31**	**29**	⇓*i*P		**Pn**	**23 51 31.0**	**+1.0**
CRES	**Cresnjev**	**7.47**	**335**	*e*Pn		**Pn**	**23 51 31.0**	**-1.1**
MLR	**Muntele Rosu**	**7.71**	**33**	⇑*i*P		**Pn**	**23 51 37.7**	**+2.2**
CEY	**Cerknica**	**7.77**	**330**	*e*Pn		**Pn**	**23 51 35.4**	**-0.8**
LJU	**Ljubljana**	**7.98**	**331**	*e*Pn		**Pn**	**23 51 38.4**	**-0.8**
PLOR	**Plostina**	**8.30**	**34**	⇓*i*P		**Pn**	**23 51 46.4**	**+2.9**
VRI	**Vrincioaia**	**8.34**	**34**	⇑*i*P		**Pn**	**23 51 46.7**	**+2.6**
SOKA	**Soboth**	**8.36**	**336**	*e*Pn		**Pn**	**23 51 43.5**	**-0.9**
	comp=N,1.2nm,0.3s							
SOKA				*e*Sn		**Sn**	**23 53 10.2**	**-7.5**
	comp=N,1.6nm,0.6s							
OBKA	**Obir**	**8.37**	**333**	Pn		**Pn**	**23 51 44.9**	**+0.3**
	comp=N,1.0nm,0.3s							
MOA	**Molln**	**9.64**	**336**	*e*Pn		**Pn**	**23 52 02.2**	**+0.3**
	comp=N,1.1nm,0.2s							
MOA				*e*Sn		**Sn**	**23 53 43.2**	**-5.8**
	comp=N,0.8nm,0.3s							
NB2	**NORSAR Subarra**	**22.59**	**349**	P		**P**	**23 54 42.5**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=155,slow=11							

MDD ***05*** *00:03:40.3±2.0, 37˚.18N×12˚.92W, h21km±112km, mb3.9/11, Error ellipse: s-maj=126.0km s-min=14.7km az=66.0, PRXIMO*

INMG ***05*** *00:03:40.6±1.1, 37˚.12N×13˚.27W, h10km, ML2.4, Error ellipse: s-maj=7.4km s-min=4.3km az=89.0*

IGIL ***05*** *00:03:41.0, 37˚.28N×12˚.70W, h0km, ML2.0*

ISC 05 00:03:40.6±2.9, 37˚.34N±0˚.08×12˚.5W±0˚.1, h10km, n47, σ2s91/89, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.90**	**93**	*e*Pn		**Pn**	**00 04 28.8**	**+2.0**
PFVI				*e*Sn		**Sb**	**00 05 05.0**	**-2.9**
PFVI				A		A	00 05 08.6	
	7.6nm,0.4s							
PFVI	**Vila Bisbo**	**2.90**	**93**	P		**Pn**	**00 04 28.7**	**+2.0**
	1.3nm,0.1s,SNR=7.9							
PFVI				S		**Sb**	**00 05 04.8**	**-3.1**
	2.3nm,0.1s,SNR=7.9							
PMST	**Lisbon--Monsan**	**2.94**	**61**	*e*Pn		**Pn**	**00 04 30.6**	**+3.3**
PMST				*e*Sn		**Sb**	**00 05 07.4**	**-1.5**
PMST				A		A	00 05 21.0	
	8.5nm,0.6s							
PTEO	**Sao Teotonio**	**2.98**	**85**	*e*Pn		**Pn**	**00 04 30.8**	**+3.0**
PTEO				*e*Sn		**Sb**	**00 05 07.3**	**-2.8**
PTEO				A		A	00 05 17.2	
	10nm,0.7s							
PTEO	**Sao Teotonio**	**2.98**	**85**	P		**Pn**	**00 04 30.8**	**+3.0**
PTEO				S		**Sb**	**00 05 07.3**	**-2.8**
	5.2nm,0.7s							
PMAFR	**Mafra**	**2.98**	**56**	*e*Pn		**Pn**	**00 04 31.2**	**+3.3**
PMAFR				*e*Sn		**Sb**	**00 05 08.5**	**-1.6**
PMAFR				A		A	00 05 09.5	
	13nm,1.1s							
PMAFR	**Mafra**	**2.98**	**56**	P		**Pn**	**00 04 30.7**	**+2.8**
	4.4nm,0.1s,SNR=10							
PMAFR				S		**Sb**	**00 05 08.1**	**-2.1**
	13nm,0.3s,SNR=6.5							
MORF	**Marmelete**	**3.03**	**89**	*e*Pn		**Pn**	**00 04 30.9**	**+2.2**
MORF	**Marmelete**	**3.03**	**89**	*e*Pn		**Pb**	**00 04 32.1**	**-2.5**
MORF				*e*Sn		**Sb**	**00 05 10.6**	**-1.1**
MORF				A		A	00 05 17.9	
	5.3nm,0.1s							
MORF	**Marmelete**	**3.03**	**89**	P		**Pn**	**00 04 30.9**	**+2.2**
MORF				S		**Sb**	**00 05 10.6**	**-1.1**
	5.3nm,0.1s							
MESJ	**Messejana**	**3.40**	**80**	*e*P		**Pn**	**00 04 36.1**	**+2.5**
MESJ				*e*S		**Sn**	**00 05 16.7**	**+2.6**
MESJ				AML		AML	00 05 23.7	
	comp=N,4.2nm,0.4s							
MESJ	**Messejana**	**3.40**	**80**	*e*Pn		**Pn**	**00 04 37.2**	**+3.5**
MESJ				*e*Sn		**Sb**	**00 05 19.8**	**-2.5**
MESJ				A		A	00 05 23.8	
	comp=N,3.2nm,0.4s							
MESJ	**Messejana**	**3.40**	**80**	P		**Pn**	**00 04 36.1**	**+2.5**
MESJ				S		**Sn**	**00 05 16.7**	**+2.6**
	comp=N,4.2nm,0.4s							
ALMR	**Almeirim**	**3.55**	**58**	*e*Pn		**Pb**	**00 04 40.6**	**-2.9**
ALMR				*e*Sn		**Sn**	**00 05 23.1**	**+5.3**
ALMR	**Almeirim**	**3.55**	**58**	P		**Pb**	**00 04 40.6**	**-2.9**
ALMR				S		**Sn**	**00 05 23.1**	**+5.3**
PBDV	**Barranco-do-Ve**	**3.61**	**90**	*e*Pn		**Pn**	**00 04 39.8**	**+3.3**
PBDV				*e*Sn		**Sb**	**00 05 23.9**	**-4.4**
PBDV				A		A	00 05 27.9	
	comp=N,4.1nm,0.6s							
PBDV	**Barranco-do-Ve**	**3.61**	**90**	P		**Pn**	**00 04 39.8**	**+3.3**
PBDV				S		**Sb**	**00 05 23.9**	**-4.4**
	comp=N,4.1nm,0.6s							
PBEJ	**Beja**	**3.70**	**78**	*e*Pn		**Pb**	**00 04 42.3**	**-3.8**
PBEJ				*e*Sn		**Sb**	**00 05 28.5**	**-2.5**
PBEJ				A		A	00 05 31.1	
	comp=N,3.9nm,0.2s							
PBEJ	**Beja**	**3.70**	**78**	P		**Pb**	**00 04 42.3**	**-3.8**
PBEJ				S		**Sb**	**00 05 28.5**	**-2.5**
	comp=N,1.9nm,0.2s							
PVAQ	**Vaqueiros**	**3.77**	**88**	*e*Pn		**Pn**	**00 04 42.0**	**+3.2**
PVAQ				*e*Sn		**Sn**	**00 05 26.6**	**+3.3**
PVAQ				A		A	00 05 32.2	
	comp=N,4.4nm,0.6s							
PVAQ	**Vaqueiros**	**3.77**	**88**	P		**Pn**	**00 04 42.0**	**+3.2**
PVAQ				S		**Sn**	**00 05 26.6**	**+3.3**
	comp=N,4.4nm,0.6s							
PTOM	**Tomar**	**3.91**	**53**	*e*Pn		**Pn**	**00 04 44.2**	**+3.6**
PTOM				*e*Sn		**Sn**	**00 05 31.0**	**+4.5**
PTOM				A		A	00 05 36.5	
	comp=N,8.1nm,0.4s							
PTOM	**Tomar**	**3.91**	**53**	P		**Pn**	**00 04 44.2**	**+3.6**
PTOM				S		**Sn**	**00 05 31.0**	**+4.5**
	comp=N,4.1nm,0.4s							
EGRO	**El Granado**	**3.96**	**86**	P		**Pn**	**00 04 44.2**	**+2.8**
	comp=N,1.2nm,0.2s,SNR=7.9							
EGRO				S		**Sn**	**00 05 31.5**	**+3.6**
	comp=N,2.0nm,0.2s,SNR=7.9							
PCAS	**Casmilo, Conde**	**4.12**	**48**	*e*Pn		**Pn**	**00 04 46.1**	**+2.6**
PCAS				*e*Sn		**Sn**	**00 05 35.5**	**+3.8**
PCAS				A		A	00 05 40.0	
	comp=N,3.1nm,0.5s							
PMRV	**Marv??o**	**4.49**	**61**	*e*Pn		**Pn**	**00 04 51.8**	**+3.1**
PMRV				*e*Sn		**Sn**	**00 05 43.9**	**+2.9**
PMRV				A		A	00 05 48.7	
	comp=N,2.4nm,0.2s							
PMRV	**Marv??o**	**4.49**	**61**	P		**Pn**	**00 04 51.8**	**+3.1**
PMRV				S		**Sn**	**00 05 43.9**	**+2.9**
	comp=N,2.4nm,0.2s							
EBAD	**Badajoz**	**4.52**	**70**	P		**Pn**	**00 04 51.6**	**+2.5**
	comp=N,0.9nm,0.1s,SNR=18							
EBAD				S		**Sn**	**00 05 43.3**	**+1.6**
	comp=N,4.2nm,0.2s,SNR=5.1							
EMIN	**Mina Concepcio**	**4.61**	**83**	P		**Pn**	**00 04 53.1**	**+2.7**
	comp=N,0.5nm,0.1s,SNR=10							
EMIN				S		**Sn**	**00 05 45.6**	**+1.6**
	comp=N,0.5nm,0.1s,SNR=7.9							
PCBR	**Castelo Branco**	**4.63**	**56**	*e*Pn		**Pn**	**00 04 53.5**	**+2.9**
PCBR				*e*Sn		**Sn**	**00 05 48.1**	**+3.7**
PCBR				A		A	00 05 53.9	
	comp=N,2.2nm,0.4s							
PCBR	**Castelo Branco**	**4.63**	**56**	P		**Pn**	**00 04 53.5**	**+2.9**
PCBR				S		**Sn**	**00 05 48.1**	**+3.7**
	comp=N,1.1nm,0.4s							
PVIS	**Viseu**	**4.90**	**45**	*e*Pn		**Pn**	**00 04 57.1**	**+2.8**
PVIS				*e*Sn		**Sn**	**00 05 54.1**	**+3.0**
PVIS				A		A	00 06 00.9	
	comp=N,3.1nm,0.1s							
PVIS	**Viseu**	**4.90**	**45**	P		**Pn**	**00 04 57.1**	**+2.8**
PVIS				S		**Sn**	**00 05 54.1**	**+3.0**
	comp=N,1.6nm,0.1s							
POLO	**Lamas de Olo**	**5.41**	**40**	*e*Pn		**Pn**	**00 05 03.2**	**+1.8**
POLO				*e*Sn		**Sn**	**00 06 06.0**	**+2.2**
PCAB	**Cabril**	**5.55**	**37**	*e*Pn		**Pn**	**00 05 05.3**	**+2.1**
PCAB				*e*Sn		**Sn**	**00 06 08.3**	**+1.2**
PCAB				A		A	00 06 14.3	
	comp=N,3.3nm,0.5s							
PCAB	**Cabril**	**5.55**	**37**	P		**Pn**	**00 05 05.3**	**+2.1**
PCAB				S		**Sn**	**00 06 08.3**	**+1.2**
	comp=N,1.7nm,0.5s							
ECAB	**El Cabril**	**5.63**	**80**	P		**Pn**	**00 05 06.9**	**+2.6**
	comp=N,0.8nm,0.1s,SNR=13							
ECAB				S		**Sn**	**00 06 10.9**	**+1.9**
	comp=N,0.7nm,0.3s,SNR=7.9							
ELOB	**Lobios**	**5.66**	**35**	P		**Pn**	**00 05 07.1**	**+2.4**
	comp=N,0.2nm,0.1s,SNR=4.0							
ELOB				S		**Sn**	**00 06 09.0**	**-0.8**
	comp=N,0.5nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**5.68**	**59**	P		**Pn**	**00 05 07.8**	**+2.8**
	comp=N,0.9nm,0.2s,SNR=6.1							
EPLA				S		**Sn**	**00 06 10.9**	**+0.6**
	comp=N,1.9nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**5.69**	**46**	*e*Pn		**Pn**	**00 05 07.4**	**+2.3**
MVO				*e*Sn		**Sn**	**00 06 12.2**	**+1.7**
MVO				A		A	00 06 21.8	
	comp=N,3.6nm,0.6s							
MVO	**Moncorvo**	**5.69**	**46**	P		**Pn**	**00 05 07.5**	**+2.3**
	comp=N,1.2nm,0.3s,SNR=7.9							
MVO				S		**Sn**	**00 06 10.8**	**+0.3**
	comp=N,0.6nm,0.2s,SNR=7.9							
PBRG	**Braganca**	**6.28**	**43**	*e*Pn		**Pn**	**00 05 15.7**	**+2.5**
PBRG	**Braganca**	**6.28**	**43**	P		**Pn**	**00 05 15.7**	**+2.5**
EADA	**Adamuz**	**6.30**	**80**	P		**Pn**	**00 05 16.1**	**+2.6**
	comp=N,0.6nm,0.1s,SNR=7.9							
EADA				S		**Sn**	**00 06 27.6**	**+2.1**
	comp=N,0.4nm,0.1s,SNR=7.9							
EAGO	**Agolada(Pontev**	**6.40**	**30**	S		**Sn**	**00 06 23.9**	**-4.2**
	comp=N,0.5nm,0.1s,SNR=7.9							
PAB	**San Pablo**	**6.73**	**68**	P		**Pn**	**00 05 22.0**	**+2.4**
	comp=N,0.3nm,0.1s,SNR=7.9							
PAB				S		**Sn**	**00 06 37.5**	**+1.2**
	comp=N,0.1nm,0.1s,SNR=7.9							
ESDC	**Sonseca Array**	**7.05**	**68**	P		**Pn**	**00 05 26.2**	**+2.3**
	comp=N,1.9nm,0.2s,baz=255,slow=12,SNR=12							

INMG ***05*** *00:14:17.4±1.6, 43˚.85N×6˚.28W, h16km±6km, ML2.8, Error ellipse: s-maj=5.2km s-min=4.2km az=124.0*

MDD ***05*** *00:14:18.5±0.6, 43˚.83N×6˚.34W, h21km±1km, mbLg2.9/24, Error ellipse: s-maj=7.4km s-min=3.3km az=160.0, PRXIMO*

MDD EMS: I-II INTENSIDAD MAXIMA.

LDG ***05*** *00:14:18.5±0.1, 43˚.82N×6˚.38W, h20km, Ml3.0/25, Error ellipse: s-maj=3.9km s-min=2.3km az=130.0*

ISC 05 00:14:14.2±1.4, 43˚.86N±0˚.04×6˚.28W±0˚.03, h14km±11km, n97, σ2s59/161, 1C, Spain

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
EPON	**Pontenova**	**0.83**	**230**	⇑Pg		**Pn**	**00 14 32.5**	**+1.1**
	131nm,0.2s,SNR=18							
EPON				Lg		Lg	00 14 42.4	
	183nm,0.1s							
EARI	**Arriondas**	**0.96**	**125**	Pg		**Pn**	**00 14 35.3**	**+1.9**
	5.5nm,0.1s,SNR=86							
EARI				Lg		Lg	00 14 47.8	
	92nm,0.2s							
EAGO	**Agolada(Pontev**	**1.69**	**232**	Pn		**Pn**	**00 14 44.3**	**+1.0**
	2.4nm,0.1s,SNR=7.9							
EAGO				Pg		**Pg**	**00 14 47.7**	**+1.0**
	4.2nm,0.1s,SNR=7.9							
EAGO				Lg		Lg	00 15 08.1	
	46nm,0.1s,SNR=7.9							
ECAL	**Calabor**	**1.95**	**190**	Pn		**Pn**	**00 14 48.6**	**+1.6**
	1.0nm,0.1s,SNR=12							
ECAL				Pg		**Pg**	**00 14 52.8**	**+1.1**
	3.9nm,0.1s,SNR=32							
ECAL				Lg		Lg	00 15 16.1	
	110nm,0.2s,SNR=13							
PBRG	**Braganca**	**2.09**	**189**	*e*Pn		**Pn**	**00 14 50.3**	**+1.5**
PBRG	**Braganca**	**2.09**	**189**	*e*Pg		**Pg**	**00 14 55.2**	**+1.0**
PBRG				*e*Sg		**Sg**	**00 15 20.9**	**-0.4**
PBRG				A		A	00 15 24.2	
	42nm,0.1s							
PBRG	**Braganca**	**2.09**	**189**	Pn		**Pn**	**00 14 50.3**	**+1.5**
PBRG				Pg		**Pg**	**00 14 55.2**	**+1.0**
PBRG				Lg		Lg	00 15 20.9	
	21nm,0.1s							
EMAZ	**Mazaricos**	**2.17**	**246**	Pn		**Pn**	**00 14 50.9**	**+1.0**
	2.5nm,0.2s,SNR=7.9							
EMAZ				Pg		**Pg**	**00 14 57.5**	**+1.8**
	8.7nm,0.1s,SNR=7.9							
EMAZ				Sn		**Sn**	**00 15 17.0**	**+0.5**
	8.6nm,0.1s,SNR=7.9							
EMAZ				Lg		Lg	00 15 23.6	
	56nm,0.1s,SNR=7.9							
ELAN	**Lanestosa**	**2.17**	**106**	Pn		**Pb**	**00 14 52.8**	**-0.4**
	0.9nm,0.2s,SNR=18							
ELAN				Sn		**Sn**	**00 15 18.4**	**+1.9**
	4.4nm,0.1s,SNR=6.5							
ELAN				Lg		Lg	00 15 27.6	
	24nm,0.2s,SNR=4.0							
ELOB	**Lobios**	**2.39**	**214**	Pn		**Pn**	**00 14 54.4**	**+1.4**
	0.4nm,0.1s,SNR=16							
ELOB				Pg		**Pg**	**00 15 01.2**	**+1.2**
	3.1nm,0.1s,SNR=21							
ELOB				Lg		Lg	00 15 29.4	
	43nm,0.2s,SNR=4.6							
PGAV	**Gavieira, Arco**	**2.39**	**218**	*e*Pn		**Pn**	**00 14 54.5**	**+1.4**
PGAV				*e*Sn		**Sn**	**00 15 17.6**	**-4.6**
PGAV				*e*Sg		**Sg**	**00 15 30.7**	**-0.5**
PGAV				A		A	00 15 32.8	
	60nm,0.3s							
PCAB	**Cabril**	**2.51**	**211**	*e*Pn		**Pn**	**00 14 56.4**	**+1.8**
PCAB	**Cabril**	**2.51**	**211**	*e*Pg		**Pg**	**00 15 03.5**	**+1.2**
PCAB				*e*Sg		**Sg**	**00 15 34.3**	**-0.5**
PCAB				A		A	00 15 34.9	
	57nm,0.4s							
PCAB	**Cabril**	**2.51**	**211**	Pn		**Pn**	**00 14 56.4**	**+1.8**
PCAB				Pg		**Pg**	**00 15 03.5**	**+1.2**
PCAB				Lg		Lg	00 15 34.3	
	28nm,0.4s							
POLO	**Lamas de Olo**	**2.73**	**205**	*e*Pn		**Pn**	**00 14 59.7**	**+2.0**
POLO	**Lamas de Olo**	**2.73**	**205**	*e*Pg		**Pg**	**00 15 07.4**	**+0.9**
POLO				*e*Sg		**Sg**	**00 15 40.3**	**-1.5**
POLO				A		A	00 15 42.7	
	20nm,0.3s							
MVO	**Moncorvo**	**2.75**	**192**	*e*Pn		**Pn**	**00 14 59.8**	**+1.8**
MVO	**Moncorvo**	**2.75**	**192**	*e*Pg		**Pg**	**00 15 08.1**	**+1.1**
MVO				*e*Sg		**Sg**	**00 15 40.8**	**-1.9**
MVO				A		A	00 15 45.0	
	50nm,0.3s							
MVO	**Moncorvo**	**2.75**	**192**	Pn		**Pn**	**00 14 58.8**	**+0.8**
	0.3nm,0.1s,SNR=7.9							
MVO				Pg		**Pg**	**00 15 07.8**	**+0.8**
	2.8nm,0.1s,SNR=13							
MVO				Lg		Lg	00 15 40.6	
	31nm,0.1s,SNR=12							
PVRL	**Vila Real**	**2.79**	**203**	*e*Sg		**Sg**	**00 15 44.1**	**+0.1**
PVRL	**Vila Real**	**2.79**	**203**	Lg		Lg	00 15 44.1	
PTO	**Porto**	**3.22**	**213**	*e*Sg		**Sg**	**00 15 56.3**	**-1.3**
PTO	**Porto**	**3.22**	**213**	Lg		Lg	00 15 56.3	
PVIS	**Viseu**	**3.37**	**201**	*e*Pn		**Pn**	**00 15 08.2**	**+1.8**
PVIS	**Viseu**	**3.37**	**201**	*e*Pg		**Pg**	**00 15 19.4**	**+0.7**
PVIS				*e*Sg		**Sg**	**00 16 00.4**	**-1.9**
PVIS				A		A	00 16 03.6	
	31nm,0.3s							
PVIS	**Viseu**	**3.37**	**201**	Pn		**Pn**	**00 15 08.2**	**+1.8**
PVIS				Pg		**Pg**	**00 15 19.4**	**+0.7**
PVIS				Lg		Lg	00 16 00.4	
	16nm,0.3s							
EALK	**Alkurruntz**	**3.53**	**99**	Pn		**Pn**	**00 15 11.7**	**+3.0**
	0.5nm,0.1s,SNR=14							
EALK				Sn		**Sn**	**00 15 50.1**	**-0.2**
	5.0nm,0.1s							
GUD	**Guadarrama**	**3.59**	**153**	Pg		**Pg**	**00 15 24.1**	**+1.1**
	1.3nm,0.2s,SNR=7.9							
GUD				Sn		**Sn**	**00 15 54.7**	**+3.0**
	1.4nm,0.2s,SNR=5.9							
GUD				Lg		Lg	00 16 08.3	
	7.5nm,0.3s,SNR=7.5							
MTE	**Manteigas**	**3.59**	**196**	*e*Pg		**Pg**	**00 15 21.6**	**-1.3**
MTE				*e*Sg		**Sg**	**00 16 06.7**	**-2.7**
MTE				A		A	00 16 12.2	
	21nm,0.5s							
MTE	**Manteigas**	**3.59**	**196**	Pg		**Pg**	**00 15 21.6**	**-1.3**
MTE				Lg		Lg	00 16 06.7	
	10nm,0.5s							
IUNC	**Unciti**	**3.66**	**106**	Pn		**Pb**	**00 15 16.0**	**-2.7**
	SNR=7.9							
IUNC				Sn		**Sn**	**00 15 56.9**	**+3.4**
	SNR=7.9							
SJPF	**Ste Jean**	**3.76**	**100**	*e*Pn		**Pn**	**00 15 14.9**	**+3.2**
SJPF				*e*Sn		**Sn**	**00 15 55.5**	**-0.2**
	3.3nm,0.2s							
EPLA	**Plasencia**	**3.80**	**178**	Pn		**Pn**	**00 15 14.9**	**+2.5**
	0.4nm,0.1s,SNR=4.0							
EPLA				Lg		Lg	00 16 13.3	
	8.7nm,0.2s,SNR=7.9							
IELO	**Elcoad**	**3.82**	**104**	Pn		**Pn**	**00 15 16.6**	**+4.0**
	0.7nm,0.2s,SNR=7.9							
IELO				Sn		**Sn**	**00 15 59.9**	**+2.6**
	3.7nm,0.2s,SNR=7.9							
YARA	**Arangoiti**	**3.91**	**106**	Pn		**Pn**	**00 15 18.5**	**+4.5**
	SNR=7.9							
YARA				Sn		**Sn**	**00 16 03.2**	**+3.5**
	SNR=7.9							
YUND	**Undues**	**3.98**	**107**	Pn		Pn	00 15 19.6	+4.8
	SNR=7.9							
YUND				Sn		**Sn**	**00 16 03.7**	**+2.4**
	SNR=7.9							
COI	**Coimbra**	**3.98**	**204**	Lg		Lg	00 16 19.6	
YSOS	**Sos del Rey Ca**	**4.01**	**109**	Pn		**Pn**	**00 15 19.0**	**+3.7**
	SNR=7.9							
YSOS				Sn		**Sn**	**00 16 03.8**	**+1.6**
	SNR=7.9							
PCBR	**Castelo Branco**	**4.12**	**193**	*e*Pn		**Pn**	**00 15 18.5**	**+1.8**
PCBR				*e*Sn		**Sn**	**00 16 04.5**	**-0.1**
PCBR				A		A	00 16 32.4	
	9.2nm,0.5s							
PCBR	**Castelo Branco**	**4.12**	**193**	Pn		**Pn**	**00 15 18.5**	**+1.8**
PCBR				Sn		**Sn**	**00 16 04.5**	**-0.1**
	4.6nm,0.5s							
ATE	**Arette**	**4.14**	**99**	Pn		**Pn**	**00 15 21.1**	**+4.2**
	0.2nm,0.1s,SNR=7.9							
ATE				Sn		**Sn**	**00 16 06.7**	**+1.6**
	1.7nm,0.1s,SNR=7.9							
PCAS	**Casmilo, Conde**	**4.15**	**204**	*e*Pn		**Pn**	**00 15 19.5**	**+2.4**
PCAS				*e*Sg		**Sg**	**00 16 24.5**	**-3.0**
PCAS				A		A	00 16 36.8	
	13nm,0.5s							
UCM	**Universidad Co**	**4.21**	**146**	*e*P		Pn	00 15 23.3	+5.2
UCM				*e*S		**Sg**	**00 16 27.6**	**-1.8**
ETSF	**Etsaut**	**4.28**	**101**	*e*Pn		**Pn**	**00 15 22.5**	**+3.5**
ETSF				*e*Sn		**Sn**	**00 16 08.2**	**-0.6**
	5.7nm,0.3s							
PMRV	**Marv??o**	**4.51**	**191**	*e*Pn		**Pn**	**00 15 23.7**	**+1.6**
PMRV				*e*Sg		**Sg**	**00 16 35.3**	**-3.7**
PMRV				A		A	00 16 46.4	
	11nm,0.5s							
PMRV	**Marv??o**	**4.51**	**191**	Pn		**Pn**	**00 15 23.7**	**+1.6**
PMRV				Lg		Lg	00 16 35.3	
	11nm,0.5s							
PTOM	**Tomar**	**4.53**	**201**	*e*Pn		**Pn**	**00 15 24.6**	**+2.2**
PTOM				*e*Sg		**Sg**	**00 16 35.8**	**-3.9**
PTOM				A		A	00 16 44.0	
	15nm,0.6s							
PTOM	**Tomar**	**4.53**	**201**	Pn		**Pn**	**00 15 24.6**	**+2.2**
PTOM				Lg		Lg	00 16 35.8	
	7.4nm,0.6s							
ESDC	**Sonseca Array**	**4.53**	**157**	Pn		**Pn**	**00 15 23.3**	**+0.9**
	0.6nm,0.2s,baz=334,slow=12,SNR=4.0							
ESDC				Pg		**Pg**	**00 15 42.2**	**+1.2**
	0.3nm,0.1s,baz=335,slow=16,SNR=5.9							
ESDC				Lg		Lg	00 16 36.5	
	2.2nm,0.2s,baz=331,slow=28,SNR=7.1							
PAB	**San Pablo**	**4.55**	**161**	Pn		**Pn**	**00 15 23.8**	**+1.1**
	0.2nm,0.2s,SNR=4.0							
PAB				Lg		Lg	00 16 37.7	
	4.8nm,0.2s,SNR=7.9							
QUIF	**Quistinic**	**4.60**	**27**	*e*Pn		**Pn**	**00 15 25.4**	**+2.1**
QUIF				*e*Sn		**Sn**	**00 16 13.3**	**-3.1**
EPF	**Esparros**	**4.89**	**98**	*e*Pn		**Pn**	**00 15 30.6**	**+3.2**
EPF	**Esparros**	**4.89**	**98**	*e*P		Pn	00 15 34.1	+6.7
EPF				*e*Sn		**Sn**	**00 16 23.5**	**-0.3**
	1.0nm,0.1s							
ROSF	**Rostrenen**	**4.94**	**24**	*e*Pn		**Pn**	**00 15 29.8**	**+1.9**
ROSF				*e*Sn		**Sn**	**00 16 21.6**	**-3.2**
	3.1nm,0.2s							
SGMF	**Saint Gilles**	**5.10**	**29**	*e*Pn		**Pn**	**00 15 32.1**	**+2.0**
SGMF				*e*Sn		**Sn**	**00 16 25.5**	**-3.2**
	2.5nm,0.2s							
MFF	**Saint Martin d**	**5.13**	**56**	*e*Pn		**Pn**	**00 15 33.3**	**+2.8**
MFF				*e*Sn		**Sn**	**00 16 27.0**	**-2.4**
	4.0nm,0.2s							
EBAD	**Badajoz**	**5.13**	**186**	Pn		**Pn**	**00 15 32.0**	**+1.4**
	0.1nm,0.1s,SNR=6.8							
EBAD				Sn		**Sn**	**00 16 27.3**	**-2.4**
	1.2nm,0.2s,SNR=7.9							
EBAD				Lg		Lg	00 16 55.1	
	7.3nm,0.2s							
LFF	**La Frestale**	**5.15**	**76**	*e*Pn		**Pn**	**00 15 34.4**	**+3.6**
LFF				*e*Sn		**Sn**	**00 16 28.6**	**-1.3**
	2.1nm,0.2s							
CSOR	**Sort**	**5.63**	**103**	Pn		**Pn**	**00 15 41.3**	**+3.8**
	0.1nm,0.1s,SNR=6.0							
CSOR				Sn		**Sn**	**00 16 43.3**	**+1.3**
	1.1nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**5.69**	**118**	Pn		**Pn**	**00 15 41.2**	**+2.9**
	0.5nm,0.2s,SNR=7.9							
ERTA				Sn		**Sn**	**00 16 43.9**	**+0.4**
	1.0nm,0.2s,SNR=7.9							
RJF	**Les Rejaudoux**	**5.75**	**73**	*e*Pn

1.5nm,0.2s
LASF Ste Croix 7.32 85 Pn **Pn 00 16 03.0 +2.3**
LASF Sn **Sn 00 17 18.8 -4.7**
0.8nm,0.2s
AVF Avril sur Loir 7.39 63 *e*Pn **Pn 00 16 04.7 +3.1**
AVF *e*Sn **Sn 00 17 19.9 -5.4**
0.8nm,0.2s
AVF Avril sur Loir 7.39 63 Pn **Pn 00 16 04.7 +3.1**
AVF Sn **Sn 00 17 19.9 -5.4**
0.4nm,0.2s
SSF Saint Saulge 7.59 62 *e*Pn **Pn 00 16 06.2 +1.9**
SSF *e*Sn **Sn 00 17 24.9 -5.1**
1.1nm,0.3s
SSF Saint Saulge 7.59 62 Pn **Pn 00 16 06.2 +1.9**
SSF Sn **Sn 00 17 24.9 -5.1**
0.6nm,0.3s
SMF Signal de Mont 7.67 65 *e*Pn **Pn 00 16 09.4 +4.0**
SMF *e*Sn **Sn 00 17 29.3 -2.7**
1.0nm,0.2s
SMF Signal de Mont 7.67 65 Pn **Pn 00 16 09.4 +4.0**
SMF Sn **Sn 00 17 29.3 -2.7**
0.5nm,0.2s
LOR Lormes 7.89 61 *e*Pn **Pn 00 16 11.2 +2.8**
baz=240
LOR *e*Sn **Sn 00 17 33.0 -4.5**
0.6nm,0.2s,baz=242
LOR Lormes 7.89 61 Pn **Pn 00 16 11.2 +2.8**
LOR Sn **Sn 00 17 33.0 -4.5**
0.3nm,0.2s
VIVF Saint-Julien-l 7.92 79 *e*Pn **Pn 00 16 11.2 +2.4**
VIVF *e*Sn **Sn 00 17 36.0 -2.2**
0.7nm,0.2s
VIVF Saint-Julien-l 7.92 79 Pn **Pn 00 16 11.2 +2.4**
VIVF Sn **Sn 00 17 36.0 -2.2**
0.3nm,0.2s

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*BJI **05** 00:24:40.5,28˚.80S×62˚.00E,h5km,mb5.2/50,mB5.2/31, Ms5.3/29,Ms7 5.0/29*
*IDC **05** 00:24:41.7±0.4,28˚.78S×61˚.94E,h0km,mb4.9/31, mb1 5.0/32,mb1mx4.9/51,mbtmp4.9/32,ML4.9/1,MS4.8/10, Ms1 4.8/10,ms1mx4.3/45,Error ellipse: s-maj=13.7km s-min=10.8km az=15.0*
*MOS **05** 00:24:42.1±0.9,28˚.76S×62˚.03E,h10km,mb5.4/56,Error ellipse: s-maj=10.5km s-min=5.5km az=106.6*
*ISCJB **05** 00:24:42.1±0.2,28˚.78S±0˚.04×62˚.05E±0˚.04,h10km, mb5.1/146,MS5.0/23,Error ellipse: s-maj=5.4km s-min=4.4km az=20.8*
*NEIC **05** 00:24:43.5±0.1,28˚.78S×61˚.98E,h10km,mb5.2/68,Error ellipse: s-maj=4.7km s-min=3.6km az=205.0*
*GCMT **05** 00:24:45.5±0.2,28˚.77S±0˚.01×61˚.86E±0˚.05,h12km, MW5.3/96,Moment Tensor Solution. s72,c95; s96,c176; Duration: 1ś1 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.00±.02; $M_{\theta\theta}$0.96±.02; $M_{\phi\phi}$0.03±.02; $M_{r\theta}$0.22±.05; $M_{\theta\phi}$0.24±.01; $M_{\phi r}$0.24±.06; Best double couple: M_o1.06200×10^{17} NP1:ϕ_s246.00000°,δ53.00000°, λ-102.00000°. NP2:ϕ_s86.00000°,δ38.00000°, λ-75.00000°. Principal axes: T 1.0600, Plg8.0000°, Azm345.0000°; N 0.0040, Plg9.0000°, Azm253.0000°; P -1.0640, Plg78.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 05 00:24:43.7±0.3,**28˚.75S**±0˚.06×**61˚.95E**±0˚.05,**h10**km,**n785,** σ0**s89**/781,**mb5.2**/146,**MS5.0**/23,**51C-36D,Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ABPO	**Ambohimpanom**	**16.57**	**303**		*e*Pn		**Pn**	**00 28 37.2**	**+0.8**
	156nm,1.8s								
ABPO					*e*Sn		**Sn**	**00 31 33.4**	**-7.1**
ABPO	**Ambohimpanom**	**16.57**	**303**		*e*P		**Pn**	**00 28 37.2**	**+0.8**
ABPO					*e*			00 31 33.4	
ABPO				pmax		pmax			
	comp=Z,156nm,1.8s								
OPO	**Ambohidratompo**	**16.88**	**304**	Pn			**Pn**	**00 28 40.8**	**+0.5**
	comp=Z,4.6nm,0.3s,baz=119,slow=12,SNR=27								
OPO				Sn			Sn	00 31 36.9	-11
	comp=Z,2.9nm,0.3s,baz=151,slow=19,SNR=6.9								
OPO				LR		LR	LR	00 33 48.8	
	comp=Z,2μm,18.3s,baz=126,slow=32								
H08S1	**Diego Garcia H**	**23.22**	**27**	T		T	T	00 54 04.8	
	baz=204,slow=76,SNR=6.6								
H08S2	**Diego Garcia H**	**23.23**	**27**	T		T	T	00 54 03.3	
	baz=204,slow=76,SNR=8.1								
H08S3	**Diego Garcia H**	**23.24**	**27**	T		T	T	00 54 06.4	
	baz=204,slow=76,SNR=36								
H08N3	**Diego Garcia H**	**23.87**	**23**	T		T	T	00 54 41.0	
	baz=199,slow=76,SNR=27								
H08N1	**Diego Garcia H**	**23.88**	**23**	T		T	T	00 54 36.9	
	baz=199,slow=76,SNR=32								
H08N2	**Diego Garcia H**	**23.89**	**23**	T		T	T	00 54 42.6	
	baz=199,slow=76,SNR=34								
BOSA	**Boshof**	**32.11**	**261**	P			**P**	**00 31 10.5**	**-0.9**
	comp=Z,8.3nm,0.8s,baz=100,slow=9.0,SNR=6.3								
BOSA				PcP			**PcP**	**00 34 00.2**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=270,slow=0.9,SNR=3.7								
BOSA				LR		LR	LR	00 42 32.1	
	comp=Z,1μm,18.9s,baz=94,slow=33								
BOSA	**Boshof**	**32.11**	**261**	*e*P			**P**	**00 31 11.2**	**-0.2**
	comp=Z,39nm,1.6s								
BOSA				PcP			**PcP**	**00 34 00.2**	**-0.4**
BOSA	**Boshof**	**32.11**	**261**	*e*P			**P**	**00 31 11.2**	**-0.2**
BOSA								00 34 00.3	
BOSA				pmax		pmax			
	comp=Z,39nm,1.6s								
LBTB	**Lobatse**	**32.55**	**268**	*e*P			**P**	**00 31 15.0**	**-0.3**
	comp=Z,27nm,1.6s								
LBTB	**Lobatse**	**32.55**	**268**	*e*P			**P**	**00 31 15.0**	**-0.3**
LBTB				pmax		pmax			
	comp=Z,27nm,1.6s								
LSZ	**Lusaka**	**33.91**	**286**	*e*P			**P**	**00 31 27.7**	**+0.4**
	comp=Z,36nm,1.0s								
LSZ	**Lusaka**	**33.91**	**286**	*e*P			**P**	**00 31 27.7**	**+0.4**
LSZ				pmax		pmax			
	comp=Z,36nm,1.0s								
SUR	**Sutherland**	**35.45**	**254**	P			**P**	**00 31 40.4**	**-0.1**
	comp=Z,6.0nm,0.8s,baz=94,slow=9.3,SNR=18								
SUR	**Sutherland**	**35.45**	**254**	*e*P			**P**	**00 31 40.5**	**0.0**
	comp=Z,82nm,1.8s								
KMBO	**Kilima Mbogo**	**36.20**	**315**	P			**P**	**00 31 47.0**	**0.0**
	comp=Z,3.2nm,0.9s,baz=75,slow=5.7,SNR=6.9								
KMBO				LR		LR	LR	00 43 25.5	
	comp=Z,1μm,21.1s,baz=118,slow=31								
KMBO	**Kilima Mbogo**	**36.20**	**315**	*e*P			**P**	**00 31 48.2**	**+1.2**
	comp=Z,15nm,1.5s								
KMBO	**Kilima Mbogo**	**36.20**	**315**	*ce*P			**P**	**00 31 49.4**	**+2.4**
MAW	**Mawson**	**38.89**	**179**	P			**P**	**00 32 09.0**	**+0.1**
	comp=Z,12nm,0.8s,baz=349,slow=9.1,SNR=29								
MAW				PcP			**PcP**	**00 34 19.8**	**+0.3**
	comp=Z,3.0nm,0.8s,baz=1.5,slow=5.6,SNR=3.6								
MAW				LR		LR	LR	00 43 49.6	
	comp=Z,1μm,21.8s,baz=22,slow=30								
MAW	**Mawson**	**38.89**	**179**	P			**P**	**00 32 10.0**	**+1.1**
	baz=39,SNR=16								
MAW	**Mawson**	**38.89**	**179**	*e*P			**P**	**00 32 09.9**	**+0.9**
	comp=Z,6.9nm,1.4s								
MAW				PcP			**PcP**	**00 34 19.8**	**+0.3**
MAW	**Mawson**	**38.89**	**179**	*e*P			**P**	**00 32 09.9**	**+0.9**
MAW								00 34 19.8	
MAW				pmax		pmax			
	comp=Z,7.0nm,1.4s								
PALK	**Pallekele**	**40.12**	**30**	P			**P**	**00 32 20.9**	**+1.0**
	comp=Z,5.5nm,0.7s,baz=289,slow=1.0,SNR=4.4								
PALK	**Pallekele**	**40.12**	**30**	*e*P			**P**	**00 32 20.3**	**+0.5**
	comp=Z,8.3nm,0.9s								
PALK	**Pallekele**	**40.12**	**30**	P			**P**	**00 32 20.0**	**+0.2**
PALK	**Pallekele**	**40.12**	**30**	*ce*P			**P**	**00 32 22.7**	**+2.9**
WIN	**Windhoek**	**40.71**	**268**	P			**P**	**00 32 24.9**	**0.0**
TSUM	**Tsumeb**	**41.43**	**273**	P			**P**	**00 32 31.0**	**+0.1**
	comp=Z,9.4nm,1.0s,baz=113,slow=8.2,SNR=12								
TSUM	**Tsumeb**	**41.43**	**273**	*e*P			**P**	**00 32 31.5**	**+0.6**
	comp=Z,18nm,1.3s								
MIR	**Mirnyy**	**42.31**	**162**	⇑*i*P			**P**	**00 32 39.0**	**+1.7**
MIR				pmax		pmax			
	comp=Z,42nm,1.0s								
SYO	**Syowa Base**	**42.36**	**192**	⇑*e*P			**P**	**00 32 37.0**	**-0.6**
SYO	**Syowa Base**	**42.36**	**192**	⇓*i*pP			pP	00 32 40.5	-0.2
ATD	**Arta Tunnel**	**44.09**	**333**	*e*P			**P**	**00 32 53.1**	**+0.9**
	comp=Z,31nm,1.1s								
H01W2	**Cape Leeuwin H**	**44.36**	**112**	T			T	01 20 45.8	
	baz=263,slow=74,SNR=31								
H01W3	**Cape Leeuwin H**	**44.36**	**112**	T			T	01 20 44.3	
	baz=263,slow=74,SNR=31								
H01W1	**Cape Leeuwin H**	**44.37**	**112**	T			T	01 20 43.4	
	baz=263,slow=74,SNR=28								
KCSI	**Kotacane, Aceh**	**47.04**	**53**	P			**P**	**00 33 16.6**	**+0.9**
BKNI	**Bangkinang**	**47.25**	**59**	*e*P			**P**	**00 33 18.1**	**+0.9**
	comp=Z,254nm,1.4s								
PSI	**Prapat**	**47.36**	**55**	P			**P**	**00 33 19.2**	**+1.0**
	comp=Z,4.1nm,0.3s,baz=180,slow=6.7,SNR=12								
PSI	**Prapat**	**47.36**	**55**	*e*P			**P**	**00 33 19.4**	**+1.1**
	comp=Z,50nm,1.3s								
PSI	**Prapat**	**47.36**	**55**	P			**P**	**00 33 19.2**	**+1.0**
PSI				pmax		pmax			
	comp=Z,12nm,0.8s								
CASY	**Casey**	**47.74**	**156**	*e*P			**P**	**00 33 21.5**	**+1.1**
	comp=Z,23nm,1.0s								
KLBR	**Kellerberrin**	**47.89**	**108**	P			**P**	**00 33 21.9**	**-0.2**
	baz=48,SNR=8.1								
CISI	**Cisompet, Garu**	**48.03**	**73**	P			**P**	**00 33 23.4**	**-0.1**
LEM	**Lembang**	**48.26**	**72**	P			**P**	**00 33 26.3**	**+1.0**
	comp=Z,68nm,0.7s,baz=156,slow=4.4,SNR=15								
LEM	**Lembang**	**48.26**	**72**	P			**P**	**00 33 26.3**	**+1.0**
POO	**Poona**	**48.39**	**15**	*e*P			**P**	**00 33 29.0**	**+3.0**
HYB	**Hyderabad**	**48.62**	**21**	*i* P			**P**	**00 33 29.0**	**+1.2**
PBA	**Port Blair**	**49.99**	**41**	*e*P			P	00 33 39.2	+0.8
	comp=Z,54nm,1.1s								
NVL	**N'lazarevskaya**	**50.35**	**199**	*e*P			**P**	**00 33 42.1**	**+1.7**
NVL				*e*S			**S**	**00 40 55.2**	**+2.1**
NVL				pmax		pmax			
	comp=Z,13nm,0.8s								
SMRI	**Semarang**	**50.51**	**74**	P			**P**	**00 33 43.2**	**+0.8**
WOJI	**Wonogiri, Jawa**	**50.52**	**76**	P			**P**	**00 33 42.8**	**+0.4**
PCJI	**Pacitan**	**50.55**	**76**	P			**P**	**00 33 40.0**	**-2.7**
PKDT	**Phuket**	**50.58**	**50**	P			**P**	**00 33 43.6**	**+0.8**
	comp=Z,5.6nm,0.9s								
TRTT	**Trang**	**51.45**	**51**	P			**P**	**00 33 49.0**	**-0.4**
	comp=Z,16nm,1.2s								
SKLT	**Songkhla**	**51.62**	**52**	P			**P**	**00 33 51.5**	**+0.9**
	comp=Z,26nm,1.1s								
BIDO	**Bidbid**	**52.09**	**356**	P			**P**	**00 33 57.9**	**+4.0**
	SNR=5.3								
GRJI	**Gresik**	**52.31**	**76**	P			**P**	**00 33 59.0**	**+3.1**
SOHO	**SOHO**	**52.83**	**354**	*i* P			**P**	**00 34 00.6**	**+1.2**
	SNR=11								
JAGI	**Jajag, Banyuwa**	**52.96**	**78**	*e*P			**P**	**00 34 00.9**	**+0.1**
	comp=Z,99nm,1.0s								
ASHO	**Ashiyiah**	**53.42**	**353**	P			**P**	**00 34 03.7**	**-0.1**
	SNR=11								
ASHO	**Ashiyiah**	**53.42**	**353**	*i* P			**P**	**00 34 04.4**	**+0.6**
	SNR=14								
ASUD	**Al Ashush, Dub**	**53.45**	**352**	P			**P**	**00 34 04.4**	**+0.5**
FAQ	**Al Faqa, Dubai**	**53.53**	**353**	*i* P			**P**	**00 34 04.2**	**-0.4**
	SNR=5.6								
HATD	**Hatta, Dubai**	**53.56**	**353**	P			**P**	**00 34 05.2**	**+0.4**
	SNR=6.5								
HATD	**Hatta, Dubai**	**53.56**	**353**	*i* P			**P**	**00 34 04.3**	**-0.5**
	SNR=8.3								
UOSS	**Minazif**	**53.67**	**354**	*e*P			**P**	**00 34 05.6**	**0.0**
	comp=Z,26nm,1.4s								
UOSS	**Minazif**	**53.67**	**354**	P			**P**	**00 34 05.3**	**-0.3**
NAZ	**Nazwa, Dubai**	**53.77**	**353**	P			**P**	**00 34 06.5**	**+0.2**
	SNR=8.5								
NAZ	**Nazwa, Dubai**	**53.77**	**353**	*i* P			**P**	**00 34 06.3**	**0.0**
	SNR=7.9								
MSFE	**Esma-Masafi**	**54.08**	**354**	*i* P			**P**	**00 34 08.0**	**-0.7**
	SNR=14								
RAYN	**Ar Rayn**	**54.33**	**341**	*e*P			**P**	**00 34 11.0**	**+0.5**
	comp=Z,23nm,1.0s								
RAYN	**Ar Rayn**	**54.33**	**341**	*e*P			**P**	**00 34 11.0**	**+0.5**
RAYN				pmax		pmax			
	comp=Z,23nm,1.0s								
SNAA	**Sanae**	**55.09**	**200**	P			**P**	**00 34 15.3**	**-0.3**
SNAA	**Sanae**	**55.09**	**200**	*e*P			**P**	**00 34 15.2**	**-0.3**
	comp=Z,11nm,0.8s								
SNAA	**Sanae**	**55.09**	**200**	*e*P			**P**	**00 34 15.2**	**-0.3**
SNAA				pmax		pmax			
	comp=Z,11nm,0.8s								
PHET	**Kaeng Krachan**	**55.15**	**47**	P			**P**	**00 34 17.9**	**+1.3**
	comp=Z,5.6nm,1.2s								
PATY	**Pattaya**	**55.96**	**48**	P			**P**	**00 34 23.6**	**+1.2**
	comp=Z,12nm,1.0s								
VNA2	**Neumayer--Watz**	**56.38**	**202**	P			**P**	**00 34 26.0**	**+1.3**
	baz=73,slow=4.5								
VNA1	**Neumayer--Stat**	**56.62**	**202**	P			**P**	**00 34 25.6**	**-0.8**
FORT	**Forrest**	**56.66**	**110**	*e*P			**P**	**00 34 26.7**	**-0.6**
	comp=Z,51nm,0.9s								
UTHA	**Uthaitani**	**57.05**	**44**	P			**P**	**00 34 30.0**	**-0.1**
	comp=Z,12nm,1.1s,comp=Z,106nm								
VNA3	**Neumayer Olymp**	**57.16**	**201**	P			**P**	**00 34 27.8**	**-2.4**
BRDH	**Bariadhala**	**58.59**	**32**	P			**P**	**00 34 41.4**	**+0.6**
	comp=Z,74nm,0.3s,baz=69,slow=7.5,SNR=6.5								
WRKA	**Warakurna**	**58.61**	**103**	P			**P**	**00 34 40.3**	**-0.9**
	baz=59,SNR=38								
SUKH	**Sukhothai**	**58.64**	**43**	P			**P**	**00 34 41.4**	**+0.1**
	comp=Z,19nm,1.1s								
PBKT	**Sadao Pong**	**58.76**	**45**	*e*P			**P**	**00 34 42.3**	**+0.2**
	comp=Z,44nm,0.9s								
PBKT	**Sadao Pong**	**58.76**	**45**	P			**P**	**00 34 41.9**	**-0.2**
	comp=Z,58nm,1.0s,comp=Z,616nm								
FITZ	**Fitzroy Crossi**	**58.81**	**95**	P			**P**	**00 34 41.8**	**-0.8**
	comp=Z,39nm,0.9s,baz=280,slow=4.7,SNR=8.8								
FITZ	**Fitzroy Crossi**	**58.81**	**95**	*e*P			**P**	**00 34 41.6**	**-1.0**
	comp=Z,40nm,0.9s								
CM01	**Chiang Mai Arr**	**58.98**	**42**	*e*P			**P**	**00 34 43.0**	**-0.6**
CM31	**Chiang Mai Arr**	**58.99**	**42**	*e*P			**P**	**00 34 43.8**	**0.0**
CM31	**Chiang Mai Arr**	**58.99**	**42**	P			**P**	**00 34 43.3**	**-0.5**
	SNR=35								
CMAR	**Chiang Mai Arr**	**58.99**	**42**	P			**P**	**00 34 43.4**	**-0.4**
	comp=Z,49nm,0.8s,baz=231,slow=7.1,SNR=125								
CHTO	**Chiang Mai**	**59.27**	**42**	*e*P			**P**	**00 34 45.4**	**-0.3**
	comp=Z,128nm,1.8s								
CHTO	**Chiang Mai**	**59.27**	**42**	P			**P**	**00 34 45.1**	**-0.6**
	SNR=14								
CHTO	**Chiang Mai**	**59.27**	**42**	*e*P			**P**	**00 34 45.4**	**-0.3**
CHTO				pmax		pmax			
	comp=Z,129nm,1.8s								
LAMP	**Lampang**	**59.45**	**42**	P			**P**	**00 34 47.7**	**+0.8**
	comp=Z,4.3nm,1.1s								
KOLN	**Kolbanda**	**59.91**	**22**	*e*P			**P**	**00 34 49.8**	**-0.3**
	comp=Z,135nm,1.3s								
PYUN	**Piuthan**	**60.01**	**21**	*e*P			**P**	**00 34 50.3**	**-0.5**
	comp=Z,141nm,1.1s								
PAYA	**Payao**	**60.24**	**42**	P			**P**	**00 34 52.7**	**+0.3**
	comp=Z,19nm,1.1s,comp=Z,152nm								
DMN	**Daman**	**60.27**	**24**	*e*P			**P**	**00 34 52.5**	**-0.2**
	comp=Z,93nm,1.1s								
PKI	**Pulchoki**	**60.34**	**24**	*e*P			**P**	**00 34 52.6**	**-0.7**
	comp=Z,32nm,1.0s								
PKIN	**Phulchoki**	**60.35**	**24**	*e*P			**P**	**00 34 52.6**	**-0.6**
	comp=Z,49nm,1.4s								
DANN	**Dangsing**	**60.49**	**22**	*e*P			**P**	**00 34 53.5**	**-0.7**
	comp=Z,110nm,1.0s								
KKN	**Kakani**	**60.50**	**24**	*e*P			**P**	**00 34 53.7**	**-0.5**
	comp=Z,82nm,1.2s								
JIRN	**Jiri**	**60.71**	**25**	*e*P			**P**	**00 34 55.5**	**-0.3**
	comp=Z,78nm,0.8s								
GUN	**Gumba**	**60.82**	**24**	*e*P			**P**	**00 34 56.3**	**-0.3**
	comp=Z,146nm,1.2s								
SKNT	**Sakolnakorn**	**60.97**	**47**	P			**P**	**00 34 57.5**	**+0.2**
	comp=Z,16nm,1.2s								
SHL	**Shillong**	**61.19**	**31**	*e*P			**P**	**00 34 58.9**	**0.0**
	comp=Z,181nm,1.4s								
SHL	**Shillong**	**61.19**	**31**	*e*P			**P**	**00 34 58.9**	**0.0**
SHL				pmax		pmax			
	comp=Z,181nm,1.4s								
QSPA	**South Pole Qui**	**61.41**	**180**	*e*P			**P**	**00 34 59.5**	**-0.4**
	comp=Z,130nm,0.8s								
KNRA	**Kunmurra**	**62.52**	**94**	P			**P**	**00 35 07.7**	**-0.2**
	baz=63,SNR=3.4								
BBOO	**Buckleboo**	**62.58**	**114**	P			**P**	**00 35 08.0**	**-0.2**
	baz=63,SNR=9.8								
ASAR	**Alice Springs**	**63.88**	**104**	P			**P**	**00 35 15.4**	**-1.5**
	comp=Z,21nm,0.7s,baz=246,slow=6.4,SNR=113								
AS31	**Alice Springs**	**63.88**	**104**	*e*P			**P**	**00 35 15.8**	**-1.2**
	comp=Z,8.1nm,0.8s								
AS01	**Alice Springs**	**63.91**	**104**	*e*P			**P**	**00 35 15.3**	**-1.9**
VNDA	**Vanda**	**64.27**	**166**	P			**P**	**00 35 18.3**	**-0.3**
	comp=Z,15nm,0.8s,baz=264,slow=6.9,SNR=56								
VNDA				LR			LR	01 00 49.3	
	comp=Z,872nm,19.5s,baz=266,slow=34								
VNDA	**Vanda**	**64.27**	**166**	*e*P			**P**	**00 35 18.3**	**-0.3**
	comp=Z,21nm,0.9s								
VNDA	**Vanda**	**64.27**	**166**	*e*P			**P**	**00 35 18.3**	**-0.3**
VNDA				pmax		pmax			
	comp=Z,21nm,0.9s								
LSA	**Lhasa**	**64.47**	**28**	*e*P			**P**	**00 35 21.3**	**+0.3**
	comp=Z,48nm,1.1s								
LSA	**Lhasa**	**64.47**	**28**	P			**P**	**00 35 21.4**	**+0.3**
LSA	**Lhasa**	**64.47**	**28**	*e*P			**P**	**00 35 21.3**	**+0.3**
LSA				pmax		pmax			
	comp=Z,48nm,1.1s								
SBA	**Scott Base**	**65.16**	**167**	*e*P			**P**	**00 35 25.5**	**+1.1**
	comp=Z,22nm,0.8s								
SBA	**Scott Base**	**65.16**	**167**	*e*P			**P**	**00 35 25.5**	**+1.1**
SBA				pmax		pmax			
	comp=Z,22nm,0.8s								
WRA	**Warramunga Arr**	**65.66**	**100**	P			**P**	**00 35 28.4**	**-0.2**
	comp=Z,38nm,0.9s,baz=250,slow=5.2,SNR=16								
KMI	**Kunming**	**66.38**	**40**	P			**P**	**00 35 33.1**	**-0.1**
KMI				pP		pP	pP	00 35 35.8	-0.7
KMI				pmax		pmax			
	comp=Z,44nm,1.0s								
KMI				pmax		pmax			
	comp=Z,190nm,3.4s								
GEYT	**Alibeck**	**66.42**	**357**	P			**P**	**00 35 33.8**	**+0.8**
	comp=Z,3.2nm,0.8s,baz=282,slow=7.0,SNR=11								
KDU	**Kakadu**	**67.04**	**92**	P			**P**	**00 35 36.5**	**-0.9**
	baz=67,SNR=4.5								
STKA	**Stephens Creek**	**67.31**	**115**	P			**P**	**00 35 37.8**	**-1.2**
	comp=Z,12nm,0.8s,baz=271,slow=10.0,SNR=15								
STKA	**Stephens Creek**	**67.31**	**115**	*e*P			**P**	**00 35 39.1**	**+0.1**
	comp=Z,5.7nm,0.8s								
STKA	**Stephens Creek**	**67.31**	**115**	*e*P			**P**	**00 35 39.1**	**+0.1**
STKA				pmax		pmax			
	comp=Z,6.0nm,0.8s								
CSS	**Mathiatis**	**68.89**	**335**	*e*P			**P**	**00 35 48.9**	**+0.4**
	comp=Z,24nm,1.0s								
KSH	**Kashi**	**69.16**	**12**	P			**P**	**00 35 47.5**	**-2.8**
KSH				sP		sP	sP	00 35 54.5	-0.3
KSH				S		S	S	00 44 47.1	-9.0
KSH				pmax		pmax			
	comp=Z,32nm,0.7s								
KSH				pmax		pmax			
	comp=Z,570nm,6.1s								
KSH				LR		LR			
	comp=Z,530nm,10.6s								
KSH				LR		LR			
	comp=Z,500nm,12.6s								
KSH				LR		LR			
	comp=Z,3μm,23.9s								
GYA	**Guiyang**	**69.68**	**42**	⇑*i*P			**P**	**00 35 53.2**	**-0.6**
GYA				pmax		pmax			
	comp=Z,30nm,1.0s								
GYA				pmax		pmax			
	comp=Z,140nm,5.4s								
GYA				LR		LR			
	comp=Z,620nm,19.8s								
GYA				LR		LR			
	comp=Z,690nm,20.0s								
GYA				LR		LR			
	comp=Z,650nm,20.2s								
GNI	**Garni**	**70.39**	**346**	*e*P			**P**	**00 35 58.4**	**+0.5**
	comp=Z,34nm,1.3s								
GNI	**Garni**	**70.39**	**346**	P			**P**	**00 35 57.7**	**-0.2**
GNI	**Garni**	**70.39**	**346**	⇓*e*P			**P**	**00 35 59.3**	**+1.4**
GNI				pmax		pmax			
	comp=Z,112nm,1.7s								
AKT	**Akhty**	**71.10**	**349**	*e*P			**P**	**00 36 02.4**	**+0.2**
AKT				*e*				00 36 21.8	
AKT				pmax		pmax			
	comp=Z,20nm,0.9s								
CD2	**Chengdu**	**71.46**	**37**	*e*P			**P**	**00 36 06.0**	**+1.5**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
SIJI	**Sorong**	**71.50**	**81**	P			**P**	**00 36 04.8**	**-0.4**
	comp=Z,44nm,0.7s,baz=311,slow=2.5,SNR=11								
TOA0	**Torodi Ar. Sit**	**71.56**	**297**	*e*P			**P**	**00 36 05.4**	**0.0**
TORD	**Torodi Ar. Bea**	**71.56**	**297**	P			**P**	**00 36 04.1**	**-1.3**
	comp=Z,5.2nm,1.0s,baz=272,slow=8.8,SNR=22								
TORD				LR		LR		01 06 19.1	
	comp=Z,1μm,21.4s,baz=65,slow=35								
YNG	**Young**	**71.74**	**120**	P			**P**	**00 36 08.0**	**+1.7**
	baz=72,SNR=6.5								
AKH	**Akhalkalaki**	**71.86**	**345**	*e*P			**P**	**00 36 06.7**	**-0.1**
	comp=Z,10nm,1.0s								
KARP	**Karpathos**	**71.87**	**331**	*e*P			**P**	**00 36 06.7**	**-0.1**
	comp=Z,47nm,1.1s								
TBLG	**Delisi**	**71.91**	**347**	*e*P			**P**	**00 36 06.5**	**-0.4**
	comp=Z,10nm,0.8s								
TBLG	**Delisi**	**71.91**	**347**	*e*P			**P**	**00 36 06.5**	**-0.4**
TBLG				pmax		pmax			
	comp=Z,11nm,0.8s								
KK31	**Karatay Array**	**71.93**	**7**	*e*P			**P**	**00 36 07.0**	**+0.1**
KK31	**Karatay Array**	**71.93**	**7**	*e*P			**P**	**00 36 07.1**	**+0.1**
KKAR	**Karatay Array**	**71.93**	**7**	*e*P			**P**	**00 36 07.0**	**+0.1**
KKAR	**Karatay Array**	**71.93**	**7**	*e*P			**P**	**00 36 07.1**	**+0.1**
AAK	**Ala-Archa**	**71.97**	**10**	*e*P			**P**	**00 36 08.2**

baz=76,SNR=5.2
CTA Charters Tower 75.81 105 P **P** 00 36 29.4 -1.0
comp=Z,17nm,1.1s,baz=274,slow=12,SNR=5.0
CTAO Charters Tower 75.81 105 *eP* **P** 00 36 28.9 -1.5
comp=Z,18nm,1.0s
CTAO Charters Tower 75.81 105 *eP* **P** 00 36 28.9 -1.5
CTAO pmax pmax
comp=Z,18nm,1.0s
WMQ Urumqi 75.97 19 P **P** 00 36 31.2 +0.5
WMQ pP sP 00 36 37.8 +2.6
WMQ pmax pmax
comp=Z,31nm,1.7s
WMQ pmax pmax
comp=Z,700nm,5.5s
WMQ LR LR
comp=Z,1µm,21.7s
WMQ LR LR
comp=Z,870nm,17.7s
WMQ LR LR
comp=Z,2µm,27.3s
GTA Gaotai 76.44 29 ⇑P **P** 00 36 33.5 -0.1
GTA pP sP 00 36 38.1 0.0
GTA sP pP 00 36 40.5 +3.6
GTA SKS **SKSac** **00 46 41.2 -3.9**
GTA pmax pmax
comp=Z,36nm,1.2s
GTA pmax pmax
comp=Z,230nm,6.5s
GTA LR LR
comp=Z,850nm,20.0s
GTA LR LR
comp=Z,510nm,20.0s
GTA LR LR
comp=Z,400nm,20.3s
ANN Anapa 76.54 342 *eP* **P** 00 36 34.8 +1.0
ANN pmax pmax
comp=Z,21nm,0.8s
ANN MLR MLR
comp=Z,312nm,18.0s
ALN Alexandroupoli 76.87 333 *eP* **P** 00 36 35.3 -0.5
comp=Z,10nm,1.3s
ALN Alexandroupoli 76.87 333 *eP* **P** 00 36 35.3 -0.5
ALN pmax pmax
comp=Z,10.0nm,1.3s
AGG Agios Georgios 76.89 329 *eP* **P** 00 36 35.6 -0.4
comp=Z,13nm,1.1s
AGG Agios Georgios 76.89 329 *eP* **P** 00 36 35.6 -0.4
AGG pmax pmax
comp=Z,13nm,1.1s
SSLB Suanglung 77.16 54 *eP* **P** 00 36 37.2 -0.6
comp=Z,48nm,1.1s
MK01 Makanchi Array 77.39 14 *eP* **P** 00 36 37.5 -1.1
MK31 Makanchi Array 77.41 14 *eP* **P** 00 36 38.8 +0.1
MK31 Makanchi Array 77.41 14 *eP* **P** 00 36 38.8 +0.1
MKAR Makanchi Array 77.41 14 P **P** 00 36 37.8 -0.9
comp=Z,8.4nm,1.0s,baz=215,slow=5.8,SNR=18
MKAR Makanchi Array 77.41 14 *eP* **P** 00 36 38.8 0.0
comp=Z,101nm,1.4s
MKAR Makanchi Array 77.41 14 *ceP* **P** 00 36 38.7 0.0
EIDS Eidsvold 77.53 112 *eP* **P** 00 36 39.2 -0.9
comp=Z,14nm,1.0s
SIM Simferopol' 77.61 340 *ceP* **P** 00 36 42.2 +2.4
SIM S **S** 00 46 35.0 +3.7
SIM pmax pmax
comp=Z,22nm,0.8s
ABKAR Akbulak array 77.67 359 *eP* **P** 00 36 39.5 -0.6
LIT Litokhoron 77.70 330 *eP* **P** 00 36 40.8 +0.3
comp=Z,9.7nm,1.0s
LIT Litokhoron 77.70 330 *eP* **P** 00 36 40.8 +0.3
LIT pmax pmax
comp=Z,10.0nm,1.0s
KDZ Kurdzhali 77.76 333 P P 00 36 46.0 +5.2
PRD Provadia 78.31 335 P **P** 00 36 44.0 +0.2
MMB Musomiste 78.40 332 P **P** 00 36 46.0 +1.6
VAY Valandovo 78.67 331 *i* P P 00 36 52.8 +7.0
FNA Florina 78.75 330 *eP* **P** 00 36 46.9 +0.6
comp=Z,9.5nm,1.0s
FNA Florina 78.75 330 *eP* **P** 00 36 46.9 +0.6
FNA pmax pmax
comp=Z,10.0nm,1.0s
JAY Jayapura 78.94 87 P **P** 00 36 46.5 -1.6
BIA Bitola 78.96 330 *i* P **P** 00 36 50.1 +2.6
TIRR Tirgusor 79.03 336 *eP* **P** 00 36 47.5 -0.3
comp=Z,25nm,0.9s
TIRR Tirgusor 79.03 336 ⇓*i*P **P** 00 36 47.8 +0.1
TIRR Tirgusor 79.03 336 ⇓P **P** 00 36 47.8 +0.1
KRUS Krusevo 79.28 330 *i* P **P** 00 36 51.0 +1.7
TLB Topalu 79.28 336 ⇑*i*P **P** 00 36 49.4 +0.4
TLB Topalu 79.28 336 ⇑P **P** 00 36 49.4 +0.4
HARR Harsova 79.41 336 ⇓*i*P **P** 00 36 50.8 +1.1
HARR Harsova 79.41 336 ⇓P **P** 00 36 50.8 +1.1
VTS Vitosha 79.44 332 *eP* **P** 00 36 50.5 +0.3
comp=Z,4.3nm,0.8s
VTS Vitosha 79.44 332 ⇓*i*P **P** 00 36 52.1 +1.9
VTS Vitosha 79.44 332 ⇓P **P** 00 36 52.1 +1.9
CFR Carcaliu 79.76 336 ⇑*i*P **P** 00 36 51.7 +0.1
CFR Carcaliu 79.76 336 ⇑P **P** 00 36 51.7 +0.1
TIR Tirane 79.87 329 ⇑*i*P **P** 00 36 53.5 +1.2
TIR Tirane 79.87 329 ⇑P **P** 00 36 53.6 +1.2
ISR Istrita 80.28 335 ⇓*i*P **P** 00 36 57.6 +3.0
ISR Istrita 80.28 335 ⇓P **P** 00 36 57.6 +3.0
HUMR Humele 80.36 334 ⇓*i*P **P** 00 36 54.9 0.0
KURK Kurchatov 80.48 11 *eP* **P** 00 36 56.1 +0.7
comp=Z,35nm,1.1s
KURK Kurchatov 80.48 11 P **P** 00 36 56.7 +1.3
SNR=8.9
KURK Kurchatov 80.48 11 *ceP* **P** 00 36 55.5 +0.1
KURK pmax pmax
comp=Z,267nm,1.3s
MLR Muntele Rosu 80.81 335 P **P** 00 36 57.1 -0.4
comp=Z,11nm,0.9s,baz=136,slow=4.7
MLR Muntele Rosu 80.81 335 *eP* **P** 00 36 57.2 -0.4
comp=Z,22nm,1.1s
MLR Muntele Rosu 80.81 335 ⇓*i*P **P** 00 36 57.8 +0.3
MLR Muntele Rosu 80.81 335 ⇓P **P** 00 36 57.8 +0.3
LEOM Leova 80.84 337 ⇑*i*P **P** 00 36 59.3 +1.8
LEOM Leova 80.84 337 ⇑P **P** 00 36 59.3 +1.8
VRI Vrincioaia 80.85 336 ⇓*i*P **P** 00 36 57.6 0.0
VRI Vrincioaia 80.85 336 ⇓P **P** 00 36 57.6 0.0
PLOR Plostina 80.87 336 ⇓*i*P **P** 00 36 57.5 -0.2
PLOR Plostina 80.87 336 ⇓P **P** 00 36 57.5 -0.2
KEST Kesra 81.04 319 P **P** 00 36 59.5 +0.5
comp=Z,5.3nm,0.9s,baz=264,slow=3.6,SNR=4.4
KEST LR LR 01 12 54.1
comp=Z,654nm,19.4s,baz=60,slow=36
KEST Kesra 81.04 319 *eP* **P** 00 36 58.5 -0.4
comp=Z,43nm,1.7s
VOIR 81.10 335 ⇑*i*P **P** 00 36 58.3 -0.7
VOIR 81.10 335 ⇑P **P** 00 36 58.3 -0.7
NJ2 Nanjing 81.12 46 *eP* **P** 00 36 58.7 -0.6
NJ2 pmax pmax
comp=Z,28nm,0.6s
NJ2 LR LR
comp=Z,1µm,17.9s
NJ2 LR LR
comp=Z,1µm,14.6s
NJ2 LR LR
comp=Z,1µm,19.0s
ARR Arges 81.20 334 ⇑*i*P **P** 00 36 58.7 -0.8
PMG Port Moresby 81.37 96 P **P** 00 37 00.6 -0.6
comp=Z,28nm,1.0s,baz=305,slow=14,SNR=3.6
DOPR Dopca 81.42 335 ⇑*i*P **P** 00 37 02.0 +1.4
VRH Novokhopyorsk 81.58 347 *eP* **P** 00 37 00.5 -0.7
VRH pmax pmax
comp=Z,30nm,0.6s
IAS Iasi 81.70 337 ⇑*i*P **P** 00 37 02.3 +0.3
IAS Iasi 81.70 337 ⇑P **P** 00 37 02.3 +0.3
BRVK Borovoye 81.78 5 *eP* **P** 00 37 02.2 -0.1
comp=Z,17nm,0.8s
BRVK Borovoye 81.78 5 P **P** 00 37 03.6 +1.3
SNR=8.5
BRVK Borovoye 81.78 5 *deP* **P** 00 37 01.8 -0.5
BRVK pmax pmax
comp=Z,69nm,1.3s
VORD Divnogorie 81.85 346 *eP* **P** 00 37 02.5 -0.2
VORD pmax pmax
comp=Z,40nm,1.2s
GZR Gura Zlata 81.94 333 ⇓*i*P **P** 00 37 03.7 +0.3
GZR Gura Zlata 81.94 333 ⇓P **P** 00 37 03.7 +0.3
BIZ Bicaz 81.99 336 ⇓*i*P **P** 00 37 01.9 -1.7
DIVS Divibare 82.03 331 *eP* **P** 00 37 04.3 +0.3
VSR Storozhevoye 82.11 346 *eP* **P** 00 37 02.8 -1.3
VSR pmax pmax
comp=Z,60nm,1.3s
BTO Baotou 82.15 35 *eP* **P** 00 37 03.4 -1.3

SORM Soroca 82.26 338 ⇑*i*P **P** 00 37 03.7 -1.2
SORM Soroca 82.26 338 ⇑P **P** 00 37 03.7 -1.2
PRAR RASCA 82.31 336 ⇓*i*P **P** 00 37 06.9 +1.6
BZS Buzias 82.59 333 ⇑*i*P **P** 00 37 08.0 +1.3
BZS Buzias 82.59 333 ⇑P **P** 00 37 08.0 +1.3
CJR Cluj-Napoca 82.72 335 ⇓*i*P **P** 00 37 09.8 +2.3
CJR Cluj-Napoca 82.72 335 ⇓P **P** 00 37 09.8 +2.3
ARCR ARCALIA 82.75 335 ⇑*i*P **P** 00 37 10.3 +2.7
TIM Timisoara 82.84 333 ⇓*i*P P 00 37 23.9 +16
TIM Timisoara 82.84 333 ⇓P P 00 37 23.9 +16
TIA Tai'an 82.87 42 P **P** 00 37 08.0 -0.4
TIA pmax pmax
comp=Z,20nm,1.0s
TIA LR LR
comp=Z,540nm,24.9s
TIA LR LR
comp=Z,340nm,14.2s
TIA LR LR
comp=Z,760nm,24.2s
BURAR Bucovina Array 82.89 336 ⇑*i*P **P** 00 37 08.9 +0.5
BURAR Bucovina Array 82.89 336 ⇑P **P** 00 37 08.9 +0.5
BUR04 Bucovina Ar. S 82.89 336 *eP* **P** 00 37 08.3 0.0
BUR08 Bucovina Ar. S 82.92 336 *eP* **P** 00 37 08.8 +0.3
HHC Hu-ho-hao-te 83.12 36 *eP* **P** 00 37 10.1 +0.4
HHC pP PcP 00 37 14.9 +0.6
HHC sP sP 00 37 17.1 +2.8
HHC S **S** **00 47 29.4 -0.2**
HHC sS SKKSac 00 47 37.4 +1.5
HHC pmax pmax
comp=Z,46nm,1.3s
HHC pmax pmax
comp=Z,93nm,5.5s
HHC LR LR
comp=Z,290nm,13.9s
HHC LR LR
comp=Z,490nm,14.9s
HHC LR LR
comp=Z,450nm,13.1s
DRGR 83.12 334 ⇓*i*P **P** 00 37 09.6 0.0
DRGR 83.12 334 ⇓P **P** 00 37 09.6 0.0
LPSR Galich'ya Gora 83.47 346 *eP* **P** 00 37 10.8 -0.3
LPSR pmax pmax
comp=Z,40nm,1.2s
LTVH L˜tav˜rtes, 83.93 334 ⇑*eP* **P** 00 37 15.0 +1.4
KIEV Kiev 84.23 340 *eP* **P** 00 37 14.5 -0.6
comp=Z,19nm,0.7s
KIEV Kiev 84.23 340 *i* P **P** 00 37 14.3 -0.7
SNR=17
KIEV Kiev 84.23 340 *ceP* **P** 00 37 14.4 -0.6
KIEV pmax pmax
comp=Z,36nm,1.3s
AKASG Malin Array Be 84.23 340 P **P** 00 37 14.5 -0.5
comp=Z,9.5nm,0.6s,baz=158,slow=4.3,SNR=30
MORH M˜ŧr¡gy, Hung 84.29 331 ⇓*eP* **P** 00 37 15.4 -0.1
TRPA Tarpa 84.30 335 ⇑*i*P **P** 00 37 17.5 +2.1
HVS Khovu-Aksy 84.33 19 ⇑*i*P **P** 00 37 16.3 +0.6
HVS pmax pmax
comp=Z,35nm,1.4s
ZALV Zalesovo Beam 84.70 13 P **P** 00 37 16.8 -0.5
comp=Z,21nm,0.8s,baz=211,slow=4.3,SNR=59
UZH Uzhgorod 84.81 335 *di*P **P** 00 37 17.0 -1.0
UZH *e* 00 37 25.9
ARU Arti 84.89 358 *ci*P **P** 00 37 18.3 +0.1
ARU 00 40 29.9
ARU S **S** **00 47 42.2 -4.2**
ARU pmax pmax
comp=Z,62nm,1.2s
PSZ Piszkesteto 85.15 333 *eP* **P** 00 37 19.6 -0.3
comp=Z,8.3nm,1.1s
PSZ Piszkesteto 85.15 333 ⇑*eP* **P** 00 37 20.4 +0.5
PSZ Piszkesteto 85.15 333 *eP* **P** 00 37 19.6 -0.3
PSZ pmax pmax
comp=Z,8.0nm,1.1s
LVV L'vov 85.17 336 *eP* **P** 00 37 20.3 +0.5
NVS Novosibirsk 85.24 12 *eP* **P** 00 37 19.7 -0.3
NVS pmax pmax
comp=Z,36nm,1.2s
NVS pmax pmax
comp=N,17nm,1.3s
NVS pmax pmax
comp=E,14nm,1.4s
SVE Sverdlovsk 85.24 359 *deP* **P** 00 37 21.0 +1.0
SVE pmax pmax
comp=Z,85nm,1.4s
KWP Kalwaria Pacla 85.48 336 *eP* **P** 00 37 23.2 +1.8
KWP Kalwaria Pacla 85.48 336 *eP* **P** 00 37 23.2 +1.8
VYHS Vyhne 86.03 333 *eP* **P** 00 37 24.4 +0.2
VYHS pmax pmax
comp=Z,7.0nm,1.1s
VYHS Vyhne 86.03 333 *eP* **P** 00 37 24.4 +0.2
SONM Songino Array 86.06 28 P **P** 00 37 24.0 -0.4
comp=Z,27nm,1.2s,baz=216,slow=4.8,SNR=48
SONA1 Songino Array 86.07 28 *eP* **P** 00 37 23.6 -1.0
NIE Niedzica 86.21 334 *eP* **P** 00 37 26.7 +1.7
NIE Niedzica 86.21 334 *eP* **P** 00 37 26.7 +1.7
OBKA Obir 86.30 329 *i* P **P** 00 37 27.2 +1.6
comp=Z,19nm,1.7s
LANS Liptovska Anna 86.31 334 *eP* **P** 00 37 26.3 +0.7
LANS Liptovska Anna 86.31 334 *eP* **P** 00 37 26.3 +0.7
OBN Obninsk 86.32 346 P **P** 00 37 25.4 +0.1
comp=Z,75nm,0.8s
OBN Obninsk 86.32 346 ⇑*eP* **P** 00 37 25.5 +0.1
OBN *i* 00 37 27.2
OBN *e* 00 37 34.0
OBN 00 40 52.0
OBN *e* 00 48 07.7
OBN pmax pmax
comp=Z,68nm,1.3s
OBN MLR MLR
comp=Z,280nm,19.0s
SOP Sopron 86.33 331 ⇑*eP* **P** 00 37 27.3 +1.6
SOP Sopron 86.33 331 P **P** 00 37 27.2 +1.6
ULN Ulaanbaatar 86.35 29 *eP* **P** 00 37 25.0 -1.0
comp=Z,21nm,1.0s
ULN Ulaanbaatar 86.35 29 P **P** 00 37 25.0 -1.0
SNR=13
ULN Ulaanbaatar 86.35 29 *ci*P **P** 00 37 25.2 -0.8
ULN pmax pmax
comp=Z,30nm,1.3s
ARSA Arzberg 86.44 330 *i* P **P** 00 37 28.2 +2.0
comp=Z,6.2nm,0.9s
MODS Modra-Piesok 86.57 332 *eP* **P** 00 37 26.5 -0.3
MODS pmax pmax
comp=Z,17nm,1.2s
MODS Modra-Piesok 86.57 332 *eP* **P** 00 37 26.5 -0.3
MOS Moscow 86.68 347 *eP* **P** 00 37 27.5 +0.4
MOS *e* 00 40 55.1
MOS pmax pmax
comp=Z,100nm,0.8s
MOS pmax pmax
comp=Z,58nm,0.8s
JAVC Velka Javorina 86.79 332 *eP* **P** 00 37 29.8 +1.8
MYKA Terra Mystica 86.80 329 *ePcP* **PcP** 00 37 31.8 +1.5
comp=Z,7.8nm,1.0s
CONA Conrad Observa 86.82 331 *i* P **P** 00 37 28.6 +0.5
comp=Z,30nm,1.2s,SNR=9.6
ZAK Zakamensk 86.87 25 *eP* **P** 00 37 27.1 -1.3
ZAK pmax pmax
comp=Z,4.0nm,1.5s
OJC Ojcow 87.05 334 *eP* **P** 00 37 28.3 -0.8
OJC Ojcow 87.05 334 *eP* **P** 00 37 29.4 +0.3
comp=Z,24nm,1.3s
OJC Ojcow 87.05 334 *eP* **P** 00 37 29.4 +0.3
OJC pmax pmax
comp=Z,24nm,1.3s
KBA Koelnbreinsper 87.27 329 *i* P **P** 00 37 31.6 +1.1
comp=Z,16nm,1.1s
OKC Ostrava-Krasne 87.38 333 *eP* **P** 00 37 30.9 +0.2
OKC Ostrava-Krasne 87.38 333 *eP* **P** 00 37 30.9 +0.2
ABTA Abfaltersbach 87.40 328 *i* P **P** 00 37 32.3 +1.2
comp=Z,32nm,1.2s,SNR=7.6
MOA Molln 87.45 330 *i* P **P** 00 37 32.0 +0.9
comp=Z,38nm,1.4s,SNR=10
KRUC Moravsky 87.47 332 *eP* **P** 00 37 31.3 +0.1
KRUC *e* 00 37 41.1
MORC Moravsky Berou 87.57 333 *eP* **P** 00 37 31.1 -0.6
comp=Z,13nm,1.1s
MORC Moravsky Berou 87.57 333 ⇓*i*P **P** 00 37 31.1 -0.6
MORC Moravsky Berou 87.57 333 *eP* **P** 00 37 31.1 -0.6
MORC pmax pmax
comp=Z,13nm,1.1s
MORC Moravsky Berou 87.57 333 *eP* **P** 00 37 31.8 +0.1
VRAC Vranov 87.58 332 ⇑*i*P **P** 00 37 31.1 -0.6
VRAC Vranov 87.58 332 ⇑P **P** 00 37 31.1 -0.6

VRAC Vranov 87.58 332 *eP* **P** 00 37 32.4 +0.7
VRAC *e* 00 37 42.8
KRLC Kraliky 88.11 333 *eP* **P** 00 37 35.0 +0.7
KRLC Kraliky 88.11 333 *eP* **P** 00 37 35.0 +0.7
WTTA Wattenberg 88.19 328 *i* P **P** 00 37 35.4 +0.5
comp=Z,22nm,0.9s
WATA Walderalm 88.27 328 *i* P **P** 00 37 36.0 +0.8
comp=Z,27nm,1.0s,SNR=14
SQTA Sankt Quirin 88.35 328 *i* P **P** 00 37 36.2 +0.7
comp=Z,37nm,1.0s,SNR=11
FUORN Ofenpass-Fuorn 88.36 327 *eP* **P** 00 37 35.8 0.0
comp=Z,22nm,1.1s
FETA Feichten 88.43 328 *i* P **P** 00 37 37.0 +1.0
comp=Z,49nm,1.1s,SNR=13
GEA0 GERESS Array S 88.44 330 *eP* **P** 00 37 34.8 -1.1
GEC2 GERESS Array S 88.45 330 *eP* **P** 00 37 35.9 0.0
comp=Z,6.0nm,0.9s
GEC2 GERESS Array S 88.45 330 *eP* **P** 00 37 35.9 0.0
GEC2 pmax pmax
comp=Z,6.0nm,0.9s
GERES GERESS Array B 88.45 330 P **P** 00 37 35.7 -0.3
comp=Z,3.1nm,0.8s,baz=146,slow=4.2,SNR=21
MOTA Moosalm 88.49 328 *i* P **P** 00 37 36.3 0.0
comp=Z,26nm,1.0s,SNR=17
NACGM Naroch 88.62 341 *e* P **P** 00 37 37.0 +0.5
TUE Stuetta 88.69 327 *eP* **P** 00 37 37.1 -0.2
comp=Z,16nm,0.8s
KHC Kasperske Hory 88.72 331 *eP* **P** 00 37 37.1 -0.1
comp=Z,6.9nm,1.2s
KHC Kasperske Hory 88.72 331 *eP* **P** 00 37 36.9 -0.2
KHC *ex* x 00 37 46.5
KHC Kasperske Hory 88.72 331 *eP* **P** 00 37 37.1 -0.1
KHC pmax pmax
comp=Z,7.0nm,1.2s
RETA Reutte 88.76 328 *i* P **P** 00 37 37.6 +0.2
comp=Z,29nm,0.9s,SNR=8.6
GOPC GO Pecny, Ondr 88.80 332 *eP* **P** 00 37 38.1 +0.6
GOPC GO Pecny, Ondr 88.80 332 *eP* **P** 00 37 38.1 +0.6
KSP Ksiaz 88.90 333 *eP* **P** 00 37 39.1 +1.2
KSP Ksiaz 88.90 333 *eP* **P** 00 37 39.1 +1.2
SUW Suwalki 88.98 338 *eP* **P** 00 37 38.0 -0.2
SUW Suwalki 88.98 338 *eP* **P** 00 37 38.7 +0.5
comp=Z,62nm,1.0s
SUW Suwalki 88.98 338 *eP* **P** 00 37 38.7 +0.5
SUW pmax pmax
comp=Z,62nm,1.0s
BNI Bardonecchia 89.02 324 *eP* **P** 00 37 39.5 +0.7
comp=Z,26nm,1.2s
BNI Bardonecchia 89.02 324 *eP* **P** 00 37 39.5 +0.7
BNI pmax pmax
comp=Z,26nm,1.2s
DAVA Damuels 89.02 328 *i* P **P** 00 37 38.5 -0.3
comp=Z,34nm,1.1s,SNR=6.1
PRA Prague 89.07 332 *eP* **P** 00 37 39.7 +1.0
PRA Prague 89.07 332 *eP* **P** 00 37 39.7 +1.0
PVCC Panska Ves 89.36 332 *eP* **P** 00 37 40.2 +0.1
PVCC *ex* x 00 37 50.9
PVCC Panska Ves 89.36 332 *eP* **P** 00 37 40.2 +0.1
BRG Berggiesshubel 89.88 332 *i* P **P** 00 37 43.6 +1.1
comp=Z,26nm,1.1s
BRG *e* 00 43 55.5
comp=Z,7.9nm,1.4s
comp=N,569nm,22.0s
comp=E,615nm,21.2s
comp=Z,796nm,24.5s
BRG Berggiesshubel 89.88 332 *i* P **P** 00 37 43.6 +1.1
BRG pmax pmax
comp=Z,26nm,1.1s
BRG MLR MLR
comp=N,569nm,22.0s
BRG MLR MLR
comp=E,615nm,21.2s
BRG MLR MLR
comp=Z,796nm,24.5s
NKC Novy Kostel 90.03 331 *eP* **P** 00 37 44.0 +0.8
NKC Novy Kostel 90.03 331 *eP* **P** 00 37 44.0 +0.8
GRF Grafenberg Arr 90.16 330 P **P** 00 37 45.5 +1.6
GRF pmax pmax
comp=Z,26nm,1.0s
GRFO Grafenberg 90.16 330 *eP* **P** 00 37 44.6 +0.7
KSAR Wonju Array Be 90.27 47 P **P** 00 37 43.8 -0.9
KSAR Wonju Array Be 90.27 47 P **P** 00 37 43.8 -0.9
KSRS Korea Array 90.30 47 P **P** 00 37 43.7 -1.0
comp=Z,4.7nm,0.7s,baz=245,slow=4.3,SNR=5.9
KSRS LR LR 01 18 42.6
comp=Z,648nm,18.9s,baz=195,slow=36
BFO Black Forest 90.50 328 *ceP* **P** 00 37 47.5 +2.0
BFO pmax pmax
comp=Z,2.0nm,1.7s
CLL Collm 90.60 332 *eP* **P** 00 37 47.0 +1.3
comp=Z,20nm,1.3s
CLL Collm 90.60 332 *i* P **P** 00 37 46.7 +0.9
comp=Z,24nm,1.4s
CLL *e* 00 37 55.0
CLL LmV 02 02 00.0
comp=Z,300nm,18.4s
CLL Collm 90.60 332 *eP* **P** 00 37 47.1 +1.3
CLL pmax pmax
comp=Z,20nm,1.3s
ES19 SONSECA Array 91.56 315 *eP* **P** 00 37 51.6 +0.9
ESDC Sonseca Array 91.58 315 P **P** 00 37 50.9 +0.1
comp=Z,6.9nm,1.1s,baz=115,slow=4.2,SNR=12
PAB San Pablo 91.74 315 *eP* **P** 00 37 51.4 -0.2
comp=Z,46nm,1.7s
PAB San Pablo 91.74 315 *eP* **P** 00 37 51.4 -0.2
PAB pmax pmax
comp=Z,47nm,1.7s
CN2 Changchun 92.66 40 *eP* **P** 00 37 57.2 +1.6
HIA Hailar 93.15 34 ⇑*eP* **P** 00 37 56.9 -0.9
HIA pmax pmax
comp=Z,17nm,1.6s
TRQA Tornquist 95.35 221 *ceP* **P** 00 38 08.7 +0.3
TRQA pmax pmax
comp=Z,8.0nm,1.3s
APA Apatity 98.38 349 ⇓*i*P **P** 00 38 20.7 -0.4
APA pmax pmax
comp=Z,8.0nm,1.0s
APA MLR MLR
comp=Z,600nm,16.0s
KLR Kul'dur 99.36 39 ⇑*eP* **Pdif** 00 38 25.1 -0.8
YSS Yuzh-Sakhalins 104.62 44 *eP* **Pdif** 00 38 51.9 +2.5
YSS pmax pmax
comp=Z,20nm,1.0s
YSS MLR MLR
comp=Z,300nm,12.0s
LPAZ La Paz 114.18 234 PKP PKPdf 00 43 24.5 -0.4
comp=Z,0.6nm,0.6s,baz=233,slow=5.1,SNR=3.4
PETK Petropavlovsk- 115.77 42 PKP **PKPdf** 00 43 24.7 -1.3
comp=Z,2.0nm,0.7s,baz=207,slow=5.8
BILL Bilibino 121.67 25 ⇓*i*PKIKP **PKPdf** 00 43 37.0 +0.1
BILL *e* 00 45 11.4
BILL 00 50 40.0
BILL *e*SS SS 01 01 48.6 +2.8
BILL SSS SSS 01 06 19.0
BILL pmax pmax
comp=Z,6.0nm,0.9s
BILL MLR MLR
comp=Z,269nm,22.0s
CRUC La Cruz 132.41 243 *eP* **PKPdf** 00 43 57.9 -1.6
OTAV Otavalo 132.73 240 *eP* **PKPdf** 00 43 57.9 -2.4
OTAV Otavalo 132.73 240 *ci*PKIKP **PKPdf** 00 44 01.7 +1.4
OTAV pmax pmax
comp=Z,16nm,1.3s
TOLC Tolima 132.92 247 *eP* **PKPdf** 00 44 01.9 +1.5
NORC Norcasia 133.11 249 *eP* **PKPdf** 00 43 59.1 -1.3
YOTC Yotoco, Valle 133.39 246 *eP* **PKPdf** 00 43 59.9 -1.2
SMLC San Mart˜›n de 134.21 253 *eP* **PKPdf** 00 43 60.0 -2.4
TOLK Toolik Lake Re 136.01 16 P **PKPdf** 00 44 03.5 -0.7
baz=319
PKME Peaks-Kenny Pk 138.38 307 P **PKPdf** 00 44 08.3 -0.9
baz=84
POKR Poker Plat Res 139.22 19 P **PKPdf** 00 44 09.1 -1.1
baz=319
TCOL CIGO, UAF Yank 139.28 19 P **PKPdf** 00 44 09.2 -1.0
baz=318
ILAR Eielson Array 139.64 19 PKhKP PKPpre 00 44 00.7
comp=Z,0.7nm,0.7s,baz=324,slow=3.4,SNR=5.2
ILAR PKP **PKPdf** 00 44 10.7 -0.2
comp=Z,5.1nm,0.9s,baz=295,slow=2.3,SNR=15
HDA Harding Lake 139.90 19 P **PKPdf** 00 44 10.7 -0.8
baz=319
LBNH Lisbon 140.36 306 P **PKPdf** 00 44 11.2 -1.6
baz=83
EPYK Eagle Plains 140.64 12 P **PKPdf** 00 44 11.8 -1.0
baz=334
ORIO Orleans, Innes 142.68 308 P **PKPdf** 00 44 17.1 +0.1

baz=78
LSQQ Lebel-sur-Quev 142.73 314 P PKPdf 00 44 17.0 +0.1
baz=72
MATQ Matagami 142.92 316 P PKPdf 00 44 17.2 -0.1
baz=71
N59A State Game Lan 143.56 301 P PKPab 00 44 15.6 +0.4
baz=84
BINY Binghamton 143.57 303 P PKPbc 00 44 16.9 +0.8
baz=82
E54A Lac Daplat, Po 143.59 310 P PKPbc 00 44 16.8 +0.9
baz=75
D53A Lac Vacive, Po 143.77 312 P PKPbc 00 44 16.8 +0.4
baz=74
PLVO Plevna 143.85 308 P PKPdf 00 44 18.5 -0.5
baz=77
E53A Dumoine, Ponti 143.93 310 P PKPbc 00 44 17.3 +0.3
baz=75
SSPA Standing Stone 145.19 301 ePKPbc PKPbc 00 44 20.7 -0.4
SSPA Standing Stone 145.19 301 P PKPbc 00 44 20.5 -0.6
baz=83
MEDO Medina 145.21 305 P PKPbc 00 44 20.8 -0.3
baz=79
DRCO St. Marys Ceme 145.24 306 P PKPbc 00 44 20.9 -0.2
baz=78
SADO Sadowa 145.34 308 ePKPbc PKPbc 00 44 20.8 -0.7
BUKO Buck Lake 145.34 309 P PKPbc 00 44 21.0 -0.5
baz=75
R58B Mineral 145.43 296 P PKPbc 00 44 20.9 -1.1
baz=87
PKRO Pickering 145.48 307 P PKPdf 00 44 21.3 -0.6
baz=77
O56A Blue Knob Stat 145.75 300 P PKPdf 00 44 21.7 -0.9
baz=83
KLBO Killbear Provi 145.92 309 P PKPdf 00 44 22.5 -0.1
baz=74
YKA Yellowknife Ar 146.17 357 PKPbc PKPdf 00 44 22.7 +0.2
comp=Z,20nm,0.8s,baz=354,slow=3.7,SNR=49
CLWO Collingwood 146.22 308 P PKPdf 00 44 23.1 -0.1
baz=75
TYNO Tyneside 146.23 305 P PKPdf 00 44 22.9 -0.4
baz=78
ACTO Acton 146.26 306 P PKPdf 00 44 22.9 -0.4
baz=77
M54A Oil Creek Stat 146.39 303 P PKPdf 00 44 23.0 -0.6
baz=80
D48A Paudash Townsh 146.40 313 P PKPdf 00 44 22.9 -0.5
baz=70
ERPA Erie 146.52 304 P PKPdf 00 44 23.4 -0.3
baz=79
N54A Moraine State 146.72 302 P PKPbc 00 44 25.1 -0.8
baz=81
060A Indiantown 146.73 276 P PKPdf 00 44 24.3 -0.2
baz=102
MCWV Mont Chateau 146.80 299 P PKPdf 00 44 24.5 +0.2
baz=83
BMRO Meriville Lake 146.81 309 P PKPdf 00 44 24.7 +0.5
baz=74
TOBO Tobermory, Bru 146.84 310 P PKPdf 00 44 23.9 -0.3
baz=73
BWLO Walkerton 146.88 308 P PKPdf 00 44 24.2 -0.1
baz=75
061Z Ochoppi 146.95 274 P PKPdf 00 44 25.0 0.0
baz=104
BRCO Bruce Peninsul 147.06 308 P PKPdf 00 44 24.7 +0.1
baz=74
ELFO Elginfield 147.24 306 P PKPdf 00 44 25.2 +0.3
baz=76
D47A Chapleau 147.27 314 P PKPdf 00 44 25.4 +0.6
baz=68
959A Okeechobee 147.28 277 P PKPbc 00 44 26.7 -1.1
baz=101
NHSC New Hope 147.34 287 P PKPbc 00 44 26.7 -1.1
baz=93
859A Kempfer Cattle 147.39 278 P PKPbc 00 44 27.4 -0.7
baz=100
BLA Blacksburg 147.49 295 P PKPbc 00 44 27.1 -1.1
baz=86
658A Bunnell 147.92 280 P PKPbc 00 44 28.3 -1.2
baz=98
D46A Sault St. Mari 147.93 314 P PKPbc 00 44 28.6 -0.4
baz=68
058A Arcadia 148.00 276 P PKPbc 00 44 29.5 -0.2
baz=102
P53A Whipple 148.01 299 P PKPdf 00 44 27.6 +1.3
baz=82
O52A Adamsville 148.25 301 P PKPdf 00 44 27.4 +0.7
baz=80
457A Yulee 148.32 282 P PKPdf 00 44 28.3 +1.2
baz=96
357A Townsend 148.34 284 P PKPbc 00 44 29.4 -1.1
baz=95
557A Orange Park 148.40 281 P PKPbc 00 44 29.8 -0.9
baz=97
156A Sylvania 148.42 286 P PKPbc 00 44 30.0 -0.7
baz=93
657A Interlachen 148.47 280 P PKPbc 00 44 30.3 -0.6
baz=98
J49A Marlette 148.49 307 P PKPbc 00 44 30.4 -0.2
baz=74
N51A Ashland 148.51 302 P PKPbc 00 44 30.4 -0.3
baz=79
757A Oxford 148.55 279 P PKPbc 00 44 30.5 -0.7
baz=99
P52A Corning 148.55 300 P PKPbc 00 44 30.5 -0.4
baz=81
857A Zephyrhills 148.59 278 P PKPbc 00 44 30.5 -0.8
baz=100
256A Glennville 148.72 285 P PKPbc 00 44 30.7 -0.8
baz=94
Q52A Bidwell 148.76 298 P PKPbc 00 44 30.8 -0.6
baz=82
K49A Clarkson 148.86 306 P PKPbc 00 44 31.1 -0.5
baz=75
356A Blackshear 148.88 284 P PKPbc 00 44 31.3 -0.6
baz=95
M50A Fremont 148.90 303 P PKPbc 00 44 31.3 -0.3
baz=77
Z55A Blythe 148.98 287 P PKPbc 00 44 31.7 -0.5
baz=92
556A Lake Butler 148.98 281 P PKPbc 00 44 31.7 -0.6
baz=97
656A Willston 149.02 280 P PKPbc 00 44 31.8 -0.5
baz=98
GLMI Grayling 149.05 310 P PKPbc 00 44 31.7 -0.3
baz=70
ACSO Alum Creek Sta 149.09 301 P PKPbc 00 44 32.3 0.0
baz=79
N50A Nevada 149.11 302 P PKPbc 00 44 32.2 -0.1
baz=78
R52A Catlettsburg 149.13 297 P PKPbc 00 44 32.4 0.0
baz=83
255A Hazlehurst 149.21 285 P PKPbc 00 44 32.8 +0.1
baz=94
155A Kite 149.24 286 P PKPbc 00 44 32.6 -0.2
baz=92
L49A Milan 149.26 305 P PKPbc 00 44 32.5 0.0
baz=75
U53A Fall Branch 149.28 294 P PKPbc 00 44 32.7 -0.2
baz=86
P51A Williamsport 149.29 300 P PKPbc 00 44 32.7 0.0
baz=80
K48A Perry 149.33 306 P PKPbc 00 44 32.5 -0.2
baz=74
F45A CMU Biological 149.33 312 P PKPbc 00 44 32.5 -0.1
baz=68
Y54A Tignall 149.45 289 P PKPbc 00 44 33.2 -0.1
baz=90
555A McAlpin 149.48 281 P PKPbc 00 44 32.9 -0.5
baz=96
355A Pearson 149.50 284 P PKPbc 00 44 33.0 -0.4
baz=94
V53A Saluda 149.51 292 P PKPbc 00 44 33.2 -0.3
baz=87
T52A Hallie 149.54 295 P PKPbc 00 44 33.2 -0.3
baz=84
S52A Salyersville 149.55 296 P PKPbc 00 44 33.5 0.0
baz=83
M49A Liberty Center 149.57 304 P PKPbc 00 44 33.3 0.0
baz=76
Z54A Sparta 149.57 287 P PKPbc 00 44 33.3 -0.3
baz=91
Q51A Peebles 149.58 299 P PKPbc 00 44 33.3 -0.2
baz=81,SNR=5.8
O50A Cable 149.59 301 P PKPbc 00 44 33.4 -0.1
baz=79
455A Stateville 149.59 282 P PKPbc 00 44 33.3 -0.5
baz=95
J47A Sunmer 149.70 307 P PKPbc 00 44 33.0 -0.6
baz=72
154A Montrose 149.78 286 P PKPbc 00 44 33.1 -1.0
baz=92
L48A N Adams 149.78 305 P PKPbc 00 44 33.0 -0.8
baz=75
W53A Cullowhee 149.82 291 P PKPbc 00 44 33.5 -0.8
baz=88
P50A Jamestown 149.83 300 P PKPbc 00 44 33.1 -1.0
baz=80
N49A Columbus Grove 149.85 303 P PKPbc 00 44 33.1 -0.9
baz=77
R51A Hillsboro 149.87 297 P PKPbc 00 44 33.5 -0.7
baz=82
254A Abbeville 149.91 285 P PKPbc 00 44 33.8 -0.6
baz=93
U52A Thorn Hill 149.91 294 P PKPbc 00 44 33.7 -0.8
baz=85
X53A Estanollee 149.95 290 P PKPbc 00 44 33.7 -0.8
baz=89
S51A Beattyville 149.97 296 P PKPbc 00 44 33.6 -0.8
baz=83
K47A Vermontville 149.99 306 P PKPbc 00 44 33.2 -1.2
baz=73
E43A Lone Tree Farm 150.00 314 P PKPbc 00 44 33.8 -0.4
baz=65
TZTN Tazewell 150.04 294 P PKPbc 00 44 34.6 -0.1
baz=85
Q50A Georgetown 150.09 299 P PKPbc 00 44 34.2 -0.5
baz=81,SNR=8.4
GOGA Godfrey 150.10 288 ePKPdf PKPdf 00 44 29.8 -0.1
GOGA Godfrey 150.10 288 ePKIKP PKPdf 00 44 29.8 -0.1
GOGA Godfrey 150.10 288 P PKPbc 00 44 34.7 -0.2
baz=90
M48A Edgerton 150.10 304 P PKPbc 00 44 34.5 -0.2
baz=76
O49A Covington 150.12 301 P PKPbc 00 44 34.0 -0.7
baz=84,SNR=5.3
TlGA Tifton 150.13 284 P PKPbc 00 44 34.6 -0.4
baz=94
V52A Sevierville 150.13 293 P PKPbc 00 44 34.6 -0.3
baz=86,SNR=5.2
Z53A Monticello 150.19 287 P PKPbc 00 44 34.4 -0.7
baz=91,SNR=9.5
Y53A Monroe 150.20 289 P PKPbc 00 44 34.9 -0.3
baz=90
J46A Howard City 150.24 308 P PKPbc 00 44 34.9 0.0
baz=71
T51A Gray 150.32 295 P PKPbc 00 44 34.9 -0.5
baz=84,SNR=7.5
L47A Sherwood 150.33 305 P PKPbc 00 44 35.0 -0.2
baz=74
F43A Flat Rock, Esc 150.34 314 P PKPbc 00 44 35.2 +0.2
baz=66
153A Fort Valley 150.39 286 P PKPbc 00 44 35.1 -0.5
baz=92
U51A La Follette 150.43 294 P PKPbc 00 44 35.0 -0.6
baz=85,SNR=6.4
X52A Dahlonega 150.44 290 P PKPbc 00 44 35.1 -0.6
baz=88
W52A Murphy 150.45 291 P PKPbc 00 44 35.2 -0.5
baz=87,SNR=7.6
R50A Paris 150.45 298 P PKPbc 00 44 35.2 -0.4
baz=81
N48A Statur 150.48 303 P PKPbc 00 44 35.3 -0.3
baz=76,SNR=9.0
K46A Dorr 150.54 307 P PKPbc 00 44 35.2 -0.4
baz=72
P49A Miami Univ. Ec 150.54 300 P PKPbc 00 44 35.1 -0.7
baz=79,SNR=9.7
S50A Richmond 150.59 296 P PKPbc 00 44 35.7 -0.2
baz=82,SNR=7.1
Y52A Lilburn 150.60 289 P PKPbc 00 44 35.5 -0.6
baz=89,SNR=12
253A Americus 150.62 285 P PKPbc 00 44 35.5 -0.6
baz=92,SNR=6.8
353A Camilla 150.66 284 P PKPbc 00 44 35.7 -0.6
baz=94,SNR=11
D41A Chassel 150.66 317 P PKPbc 00 44 35.9 +0.1
baz=62
453A Whigham 150.71 283 P PKPbc 00 44 35.7 -0.7
baz=95
O48A Farmland 150.72 302 P PKPbc 00 44 35.4 -0.8
baz=77
J45A Montague 150.72 309 P PKPbc 00 44 35.4 -0.6
baz=70
553A Crawfordville 150.75 281 P PKPbc 00 44 36.2 -0.3
baz=96
V51A Loudon 150.75 293 P PKPbc 00 44 35.9 -0.5
baz=86,SNR=9.8
Q49A Aurora 150.77 299 P PKPbc 00 44 35.5 -0.8
baz=80
M47A Cromwell 150.79 304 P PKPbc 00 44 35.7 -0.6
baz=75
Z52A Williamson 150.90 287 P PKPbc 00 44 36.4 -0.5
baz=90,SNR=24
G43A Wallace 150.91 313 P PKPbc 00 44 36.1 -0.3
baz=66
N47A Urbana 150.97 303 P PKPbc 00 44 36.3 -0.4
baz=76
F42A Maple Grove Fa 150.98 314 P PKPbc 00 44 35.9 -0.7
baz=64
T50A Nancy 151.02 295 P PKPbc 00 44 36.2 -0.8
baz=83,SNR=9.6
P48A Milroy 151.09 300 P PKPbc 00 44 36.0 -1.1
baz=78,SNR=6.7
U50A Jamestown 151.09 294 P PKPbc 00 44 36.2 -1.1
baz=84,SNR=7.0
L46A Eue Claire 151.10 306 P PKPbc 00 44 36.3 -0.7
baz=73
R49A Shelbyville 151.11 298 P PKPbc 00 44 35.7 -1.5
baz=81,SNR=6.8
W51A Cleveland 151.13 291 P PKPbc 00 44 36.0 -1.3
baz=87,SNR=5.2
252A Lumpkin 151.14 285 P PKPbc 00 44 36.6 -0.8
baz=92,SNR=7.4
152A Waverly Hall 151.14 286 P PKPbc 00 44 36.8 -0.6
baz=91,SNR=10
E41A Kenton 151.18 316 P PKPbc 00 44 36.8 -0.2
baz=77
X51A Calhoun 151.24 290 P PKPbc 00 44 37.2 -0.4
baz=88,SNR=9.5
352A Blakely 151.27 284 P PKPbc 00 44 37.2 -0.6
baz=93,SNR=7.4
H43A Windswept, Lux 151.28 311 P PKPbc 00 44 37.0 -0.4
baz=67
S49A Springfield 151.28 297 P PKPbc 00 44 36.9 -0.6
baz=81,SNR=7.0
M46A Old House Fiel 151.31 305 P PKPbc 00 44 37.0 -0.5
baz=74
V50A Pikevile 151.37 292 P PKPbc 00 44 37.7 -0.1
baz=85,SNR=7.8
G42A Mountain 151.39 313 P PKPbc 00 44 37.3 -0.2
baz=65
Q48A North Vernon 151.43 299 P PKPbc 00 44 37.2 -0.6
baz=79
Y51A Rockmart 151.43 289 P PKPbc 00 44 37.6 -0.4
baz=89,SNR=16
452A Mananna 151.45 282 P PKPbc 00 44 37.7 -0.5
baz=94,SNR=5.4
COWI Conover 151.46 315 ePKPdf PKPdf 00 44 31.5 -0.1
COWI ePKPbc PKPbc 00 44 37.2 -0.5
O47A Sheridan 151.48 302 P PKPbc 00 44 37.2 -0.8
baz=76
Z51A Franklin 151.53 288 P PKPbc 00 44 37.7 -0.6
baz=90
T49A Edmonton 151.56 295 P PKPbc 00 44 37.3 -1.0
baz=82
W50A Signal Mountai 151.57 291 P PKPbc 00 44 37.7 -0.7
baz=86,SNR=11
F41A Three Lakes 151.60 315 P PKPbc 00 44 37.7 -0.4
baz=63
R48A Northridge Ran 151.63 298 P PKPbc 00 44 38.0 -0.3
baz=80
151A Opelika 151.65 286 P PKPbc 00 44 38.1 -0.5
baz=91,SNR=10
251A Midway 151.71 285 P PKPbc 00 44 38.0 -0.7
baz=92,SNR=12
P47A Martinsville 151.72 301 P PKPbc 00 44 37.8 -0.8
baz=78
N46A Monticello 151.73 304 P PKPbc 00 44 37.8 -0.7
baz=74
I43A Langenfeld Bro 151.75 310 P PKPbc 00 44 37.9 -0.5
baz=68
H42A Shiocton 151.76 312 P PKPbc 00 44 38.5 +0.1
baz=66
E40A Wakefield 151.76 316 P PKPbc 00 44 38.3 -0.1
baz=61
U49A Red Boiling Sp 151.83 294 P PKPbc 00 44 38.0 -0.9
baz=83,SNR=14
351A Pinckard 151.84 283 P PKPbc 00 44 38.8 -0.3
baz=93
G41A Antigo 151.88 314 P PKPbc 00 44 38.3 -0.4
baz=64
X50B Fort Payne 151.90 290 P PKPbc 00 44 38.5 -0.6
baz=87,SNR=9.5
S48A Wiedeman Farm, 151.90 297 P PKPbc 00 44 37.3 -1.7
baz=81
EYMN Ely 151.91 320 ePKPdf PKPdf 00 44 32.2 -0.1
EYMN ePKPbc PKPbc 00 44 38.3 -0.4
EYMN Ely 151.91 320 P PKPbc 00 44 38.3 -0.4
baz=56
451A Vernon 151.92 282 P PKPbc 00 44 38.4 -0.9
baz=94
Q47A Bedord North L 151.96 300 P PKPbc 00 44 38.0 -1.1
baz=78
M45A Boilermakers S 151.97 305 P PKPbc 00 44 38.6 -0.4
baz=73
Y50A Piedmont 151.99 289 P PKPbc 00 44 38.8 -0.5
baz=88
WCI Wyandotte Cave 151.99 298 ePKPdf PKPdf 00 44 32.6 0.0
WCI ePKPbc sPKPdf 00 44 38.1 +0.9
WCI Wyandotte Cave 151.99 298 ePKIKP PKPdf 00 44 32.6 0.0
WCI e 00 44 38.2
WCI Wyandotte Cave 151.99 298 P PKPbc 00 44 38.4 -0.8
baz=80
V49A McMinnville 152.01 293 P PKPbc 00 44 38.9 -0.4
baz=85,SNR=9.5
J43A Natural Harves 152.12 310 P PKPbc 00 44 38.9 -0.4
baz=68
SFIN Lafayette 152.13 303 P PKPbc 00 44 38.9 -0.5
baz=75
F40A Park Falls 152.15 316 P PKPbc 00 44 39.1 -0.2
baz=62
Z50A Ashland 152.16 287 P PKPbc 00 44 39.4 -0.3
baz=89,SNR=10
R47A Wooly Knot Far 152.16 298 P PKPbc 00 44 38.4 -1.1
baz=79
E39A Mellen 152.19 317 P PKPbc 00 44 39.4 0.0
baz=60
150A Eclectic 152.24 286 P PKPbc 00 44 39.6 -0.3
baz=91,SNR=8.7
T48A Bowling Green 152.25 296 P PKPbc 00 44 39.3 -0.5
baz=82
I42A Draeger Farm, 152.26 311 P PKPbc 00 44 39.1 -0.5
baz=67
K43A Burlington 152.31 308 P PKPbc 00 44 39.3 -0.4
baz=70
N45A Kentland 152.31 304 P PKPbc 00 44 39.4 -0.4
baz=74
W49A Belvidere 152.36 291 P PKPbc 00 44 40.0 -0.1
baz=86,SNR=6.3
P46A Rosedale 152.40 301 P PKPbc 00 44 39.4 -0.7
baz=76
250A Grady 152.44 285 P PKPbc 00 44 40.0 -0.4
baz=92
U48A Cassie Pea, Po 152.44 294 P PKPbc 00 44 39.8 -0.5
baz=83
X49A Woodville 152.45 290 P PKPbc 00 44 39.8 -0.5
baz=87,SNR=8.0
350A Dozier 152.47 283 P PKPbc 00 44 39.9 -0.6
baz=93
G40A Rib Lake 152.50 314 P PKPbc 00 44 39.6 -0.5
baz=63
M44A Midewin, Midew 152.53 305 P PKPbc 00 44 39.8 -0.5
baz=72
Y49A Blount Mountai 152.55 289 P PKPbc 00 44 39.6 -1.0
baz=88
S47A Hartford 152.55 297 P PKPbc 00 44 39.5 -0.9
baz=80
J42A Columbus 152.62 310 P PKPbc 00 44 39.7 -0.7
baz=67
F39A Loretta 152.64 316 P PKPbc 00 44 39.7 -0.7
baz=60
Z49A Columbiana 152.67 287 P PKPbc 00 44 40.2 -0.6
baz=89
E38A The Farm, Brul 152.67 318 P PKPbc 00 44 40.0 -0.5
baz=58
ULM Lac du Bonnet 152.73 328 PKPbc PKPbc 00 44 39.0 -1.4
comp=Z,22nm,0.8s,baz=28,slow=2.8,SNR=21
V48A Smith Brothers 152.76 293 P PKPbc 00 44 40.2 -0.8
baz=84
N44A Piper City 152.78 304 P PKPbc 00 44 40.1 -0.7
baz=73
I41A Arkdale 152.82 312 P PKPbc 00 44 40.6 -0.2
baz=65
P45A Graceland, Par 152.82 301 P PKPbc 00 44 40.5 -0.5
baz=76
T47A Sharon Grove 152.83 296 P PKPbc 00 44 40.4 -0.7
baz=81
149A Jones 152.89 286 P PKPbc 00 44 40.9 -0.4
baz=90,SNR=9.3
W48A Pulaski 152.90 292 P PKPbc 00 44 40.8 -0.6
baz=85
H40A Chili 152.91 313 P PKPbc 00 44 40.8 -0.2
baz=64
R46A Gibon Southern 152.93 298 P PKPbc 00 44 40.5 -0.8
baz=79
K42A Prairie Point, 152.98 309 P PKPbc 00 44 40.6 -0.6
baz=68
X48A Hartselle 153.05 290 P PKPbc 00 44 41.2 -0.5
baz=86
U47A Clarksville 153.05 294 P PKPbc 00 44 40.9 -0.7
baz=82
LRAL Lakeview Retre 153.06 287 P PKPbc 00 44 41.4 -0.3
baz=89
BRAL Brewton 153.07 283 P PKPbc 00 44 41.6 -0.2
baz=93
G39A Holcombe 153.10 315 P PKPbc 00 44 41.3 -0.1
baz=61
249A Camden 153.16 285 P PKPbc 00 44 41.6 -0.3
baz=91
M43A Waltham Townsh 153.17 306 P PKPbc 00 44 41.4 -0.3
baz=71
Y48A Jasper 153.18 289 P PKPbc 00 44 41.7 -0.3
baz=87
S46A Don Dixon Farm 153.19 297 P PKPbc 00 44 41.6 -0.3
baz=80
J41A Loganville 153.20 311 P PKPbc 00 44 41.4 -0.3
baz=66
O44A Mansfield 153.20 303 P PKPbc 00 44 41.8 0.0
baz=74
349A Repton 153.20 283 P PKPbc 00 44 42.0 -0.1
baz=92
Q45A Warren Harvey, 153.28 300 P PKPbc 00 44 41.5 -0.5
baz=77
V47A Nunnelly 153.31 293 P PKPbc 00 44 41.5 -0.7
baz=83
I40A Norwalk 153.38 312 P PKPbc 00 44 41.6 -0.5
baz=64
W47A Westpoint 153.43 292 P PKPbc 00 44 41.7 -0.8
baz=84
T46A Princeton 153.44 296 P PKPbc 00 44 41.6 -0.8
baz=81
H39A Augusta 153.46 314 P PKPbc 00 44 41.6 -0.6
baz=62
L42A Oliver, Polo 153.48 307 P PKPbc 00 44 42.2 -0.2
baz=69
N43A Stutzman Famil 153.48 305 P PKPbc 00 44 42.4 0.0
baz=72
P44A Sand Creek, Wi 153.50 302 P PKPbc 00 44 42.3 -0.1
baz=75
R45A Skylar, Fairfi 153.51 299 P PKPbc 00 44 42.3 -0.2
baz=78
Z48A Northport 153.52 288 P PKPbc 00 44 42.6 -0.1
baz=88
WVT Waverly 153.52 294 P PKPbc 00 44 42.0 -0.7
baz=82
JFWS Jewell Farm 153.54 310 P PKPbc 00 44 42.5 0.0
baz=67
148A Greensboro 153.55 286 P PKPbc 00 44 42.6 -0.2
baz=90
G38A Ridgeland 153.58 315 P PKPbc 00 44 42.1 -0.4
baz=60
J40A Soldiers Grove 153.67 311 P PKPbc 00 44 41.8 -0.9
baz=65
248A Dixon Mills 153.69 285 P PKPbc 00 44 43.0 -0.1
baz=91
HDIL Hopedale 153.69 304 P PKPbc 00 44 42.7 -0.2
baz=72
K41A Shullsburg 153.69 309 P PKPbc 00 44 42.8 0.0
baz=67
X47A Russelville 153.71 290 P PKPbc 00 44 42.6 -0.5
baz=86
Y47A UCPARC, Winfie 153.74 289 P PKPbc 00 44 42.8 -0.4
baz=87
F37A Hinrichs Farm, 153.76 317 P PKPbc 00 44 42.6 -0.3

baz=58
U46A **Springville** 153.77 295 P PKPbc 00 44 42.9 -0.2
baz=82
O43A **Sugar Creek Fa** 153.78 304 P PKPbc 00 44 42.9 -0.1
baz=73
V46A **Holladay** 153.80 293 P PKPbc 00 44 42.7 -0.6
baz=83
348A **Jackson** 153.81 283 P PKPbc 00 44 43.3 -0.1
baz=92
S45A **Carrier Mills** 153.87 298 P PKPbc 00 44 42.8 -0.6
baz=79
Q44A **Meyer Farm, Va** 153.93 300 P PKPbc 00 44 42.8 -0.6
baz=76
Z47A **Carrollton** 153.96 287 P PKPbc 00 44 43.4 -0.3
baz=88
L41A **Preston** 154.03 308 P PKPbc 00 44 43.3 -0.3
baz=68
AGMN **Agassiz Nation** 154.04 325 P PKPbc 00 44 43.3 -0.1
baz=49
W46A **Michie** 154.08 292 P PKPbc 00 44 43.5 -0.4
baz=84
P43A **Skaggs, Pawnee** 154.12 302 P PKPbc 00 44 43.8 0.0
baz=74
SPMN **Marine on St.** 154.13 316 P PKPbc 00 44 43.8 +0.2
baz=59
R44A **Waltonville** 154.13 299 P PKPbc 00 44 43.9 0.0
baz=77
147A **Livingston** 154.14 286 P PKPbc 00 44 43.9 -0.2
baz=89
U45A **Rockin P Farm,** 154.24 295 P PKPbc 00 44 43.9 -0.3
baz=81
X46A **Booneville** 154.31 291 P PKPbc 00 44 44.0 -0.4
baz=85
M41A **Milan** 154.31 307 P PKPbc 00 44 44.0 -0.2
baz=69
J39A **Decorah** 154.33 312 P PKPbc 00 44 44.1 -0.1
baz=64
347A **Saraland** 154.36 283 P PKPbc 00 44 44.3 -0.3
baz=92
L40A **Anamosa** 154.53 309 P PKPbc 00 44 44.0 -0.6
baz=67
Y46A **Houston** 154.58 289 P PKPbc 00 44 44.7 -0.3
baz=86
K39A **Oelwein** 154.72 310 P PKPbc 00 44 45.0 0.0
baz=65
T44A **Benton** 154.77 297 P PKPbc 00 44 45.0 -0.2
baz=79
R43A **Red Bud** 154.78 299 P PKPbc 00 44 45.3 0.0
baz=76
X45A **UM Field Stati** 154.98 290 P PKPbc 00 44 45.1 -0.7
baz=85
OXF **Oxford** 154.99 291 P PKPbc 00 44 45.7 -0.1
baz=85
L39A **Vinton** 155.04 309 P PKPdf 00 44 45.7 +8.8
baz=66
S43A **Fulton Ridge,** 155.05 298 P PKPab 00 45 01.7 +0.1
baz=78
Q42A **Golden Eagle** 155.07 301 P PKPab 00 45 01.7 +0.1
baz=74
Y45A **Yeager Farm, C** 155.15 289 P PKPab 00 45 02.6 +0.6
baz=86
T43A **Greenville** 155.32 297 P PKPab 00 45 02.2 -0.4
baz=78
M39A **Webster** 155.41 308 P PKPab 00 45 02.9 -0.1
baz=67
S42A **Caledonia** 155.56 299 P PKPab 00 45 03.4 -0.3
baz=76
Q41A **Truxton** 155.59 302 P PKPab 00 45 03.7 0.0
baz=73
CCM **Cathedral Cave** 155.84 300 P PKPab 00 45 04.7 -0.2
baz=75
N39A **Derby Farms, D** 155.87 307 P PKPab 00 45 05.0 +0.1
baz=68
R41A **Rosebud** 155.88 300 P PKPab 00 45 04.6 -0.4
baz=75
T42A **Van Buren** 155.96 297 P PKPab 00 45 05.5 0.0
baz=78
MDND **Maddock** 156.16 328 P PKPab 00 45 05.8 -0.1
baz=43
U42A **Revenden** 156.21 295 P PKPab 00 45 06.4 -0.1
baz=79
S41A **Jillco Farms,** 156.34 299 P PKPab 00 45 06.8 -0.3
baz=76
T41A **Mountain View** 156.48 297 P PKPab 00 45 07.7 0.0
baz=77
U41A **Viola** 156.75 296 P PKPab 00 45 08.8 -0.1
baz=78
143A **Socs Landing,** 156.78 286 P PKPab 00 45 09.0 -0.1
baz=87
V41A **Mountainview** 157.04 294 P PKPab 00 45 09.6 -0.6
baz=80
W41B **Gary Mavity, V** 157.22 293 P PKPab 00 45 10.6 -0.3
baz=81
ECSD **EROS Data Cent** 157.23 317 P PKPab 00 45 10.5 -0.2
baz=56
242A **Grayson** 157.43 285 P PKPab 00 45 11.4 -0.5
baz=88
U40A **Yellville** 157.49 296 P PKPab 00 45 11.6 -0.5
baz=78
V40A **Witts Springs** 157.57 295 P PKPab 00 45 12.3 -0.2
baz=79
DGMT **Dagmar** 157.59 335 P PKPab 00 45 12.3 +0.2
baz=33
X40A **Basin Creek Fa** 157.80 291 P PKPab 00 45 13.4 0.0
baz=82
SUSD **Miller** 158.16 321 P PKPab 00 45 15.0 +0.3
baz=50
MIAR **Mount Ida** 158.40 292 P PKPab 00 45 16.4 +0.4
baz=81
A04D **Lummi Island** 159.74 9 P PKPab 00 45 21.5 +0.4
baz=348
LAO **LASA Array** 159.83 336 P PKPab 00 45 22.7 +0.9
baz=31
TUL1 **Leonard** 159.90 296 P PKPab 00 45 22.5 0.0
baz=76
B05A **Bryant** 160.26 8 P PKPab 00 45 23.6 +0.1
baz=349
NEW **Newport** 160.50 358 P PKPab 00 45 24.9 +0.3
baz=2.4
D03D **Eldon** 160.84 10 P PKPab 00 45 27.0 +1.0
baz=346
RSSD **Black Hills** 161.00 328 P PKPab 00 45 27.5 +0.3
baz=41
MSO **Missoula** 161.66 351 P PKPab 00 45 30.0 +0.1
baz=11
CBKS **Cedar Bluff** 161.79 308 P PKPab 00 45 31.3 +0.6
baz=62
E04D **Cinebar** 161.87 10 P PKPab 00 45 30.7 +0.1
baz=347
RLMT **Red Lodge** 162.23 339 P PKPab 00 45 32.5 0.0
baz=26
BOZ **Bozeman (W)** 162.43 345 P PKPab 00 45 33.3 0.0
baz=19
WMOK **Wichita Mounta** 162.56 295 P PKPab 00 45 34.3 0.0
baz=75
F05D **White Salmon** 162.68 8 P PKPab 00 45 34.3 +0.1
baz=350
G03D **McMinnville, O** 163.05 13 P PKPab 00 45 36.0 +0.2
baz=344
K22A **Casper** 163.29 329 P PKPab 00 45 37.5 +0.3
baz=38
JCT **Junction City** 164.03 281 *e*PKPdf PKPdf 00 44 48.0 +0.4
JCT **Junction City** 164.03 281 *e*PKIKP PKPdf 00 44 48.0 +0.4
N23A **Red Feather La** 164.34 324 P PKPab 00 45 41.9 -0.1
baz=43
BW06 **Boulder Array** 164.42 336 P PKPab 00 45 42.3 +0.1
baz=29
PDAR **Pinedale Array** 164.42 336 PKP PKPdf 00 44 47.0 -0.8
comp=Z,5.1nm,1.0s,baz=122,slow=1.9,SNR=27
I04A **Tendick Farm,** 164.58 12 P PKPab 00 45 42.7 +0.1
baz=345
HLID **Hailey** 164.93 350 P PKPab 00 45 44.5 +0.2
baz=12
ISCO **Idaho Springs** 164.94 320 P PKPab 00 45 45.0 +0.2
baz=47
J04D **Umpqua Nationa** 165.17 12 P PKPab 00 45 45.3 -0.1
baz=346
J05D **Fort Rock, OR** 165.27 9 P PKPab 00 45 45.9 +0.1
baz=349
L02E **Cave Junction** 165.88 17 P PKPab 00 45 48.0 -0.4
baz=340
O20A **White River Ci** 166.06 327 P PKPab 00 45 49.1 -0.5
baz=38
L04D **Klamath Falls** 166.12 13 P PKPab 00 45 49.4 -0.2
baz=344
SDCO **Great Sand Dun** 166.20 314 P PKPab 00 45 50.2 -0.3
baz=53
M02C **Callahan** 166.79 16 P PKPab 00 45 53.1 +0.6
baz=58
baz=341
S22A **4UR Ranch, Cre** 167.02 317 P PKPab 00 45 54.5 +0.5
baz=49
N02D **Trinity Center** 167.22 16 P PKPab 00 45 55.3 +0.9
baz=341
TXAR **Lajitas Array** 167.40 276 PKP PKPdf 00 44 50.8 +0.3
comp=Z,1.3nm,0.8s,baz=119,slow=1.6,SNR=15
DUG **Dugway, Tooele** 167.79 341 P PKPab 00 45 56.6 -0.4
baz=22
O02D **Mt. Diablo Mer** 167.95 18 P PKPab 00 45 57.5 -0.1
baz=340
MVCO **Mesa Verde** 168.36 319 P PKPab 00 45 59.7 -0.2
baz=46
MNTX **Cornudas Mount** 168.65 288 *e*PKPdf PKPdf 00 44 51.4 +0.2
R11A **Troy Canyon, C** 170.21 349 P PKPab 00 46 08.7 +0.9
baz=13
NVAR **Mina Array Bea** 170.34 1 PKP PKPdf 00 44 51.7 -0.5
comp=Z,1.7nm,0.8s,baz=147,slow=0.6,SNR=14
WUAZ **Wupatki** 171.19 322 P PKPab 00 46 12.5 +0.1
baz=42
TPNV **Topopah Spring** 171.68 350 P PKPab 00 46 14.5 +0.1
baz=11
CWC **Cottonwood Cre** 172.33 0 P PKPab 00 46 17.7 +0.5
baz=360
MPMC **Manual Prospec** 172.69 356 P PKPab 00 46 19.2 +0.3
baz=3.6
TUC **Tucson** 172.79 301 *e*PKPdf PKPdf 00 44 54.0 +0.6
TUC **Tucson** 172.79 301 *e*PKIKP PKPdf 00 44 54.0 +0.6
TUC **Tucson** 172.79 301 P PKPab 00 46 20.0 +0.4
baz=62
ISA **Isabella, Lake** 173.09 3 P PKPab 00 46 20.3 -0.2
baz=357
LRMC **Laurel Mtn Rad** 173.28 357 P PKPab 00 46 21.8 +0.4
baz=2.5
GSC **Goldstone, Bar** 173.38 351 P PKPab 00 46 22.8 +1.0
baz=9.3
PDMCI **Parker Dam,Lak** 173.53 330 P PKPab 00 46 23.4 +0.9
baz=32
GMRC **Granite Mounta** 173.65 342 P PKPab 00 46 23.9 +0.8
baz=19
EDW2 **Edwards Air Fo** 173.88 360 P PKPab 00 46 24.9 +0.9
baz=0.2
IRM **Iron Mountain** 174.06 336 P PKPab 00 46 25.5 +0.7
baz=25
Y12C **Blythe** 174.17 330 P PKPab 00 46 26.8 +1.5
baz=32
BELC **Belle Mtn. Jos** 174.47 342 P PKPab 00 46 27.5 +0.7
baz=19
PFO **Pinyon Flats O** 174.96 345 P PKPab 00 46 29.4 +0.5
baz=16
FRD **Ford Ranch, An** 175.11 346 P PKPab 00 46 29.7 +0.1
baz=15

DDA ***05*** *00:28:16.8, 38˚.66N×43˚.61E, h7km, Ml2.9*
ISK ***05*** *00:28:17.2, 38˚.65N×43˚.47E, h4km, ML2.2/10*
ISCJB ***05*** *00:28:18.1±0.5, 38˚.65N±0˚.02×43˚.53E±0˚.04, h11km±3km, Error ellipse: s-maj=5.7km s-min=3.7km az=12.4*
ISC 05 00:28:17.2±0.9,**38˚.66N**±0˚.02×**43˚.55E**±0˚.03,**h15**km±7km, **n25**,σ0**81**/**37**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.14**	**243**	PG	**Pb**	**00 28 21.4**	**-0.3**
TVAN	**Van**	**0.17**	**221**	*i* P	**Pg**	**00 28 21.3**	**-0.4**
TVAN				*i* S	**Sg**	**00 28 25.1**	**+0.4**
VMUR	**Van-Muradiye**	**0.33**	**3**	*i* P	**Pg**	**00 28 23.4**	**-0.8**
VMUR				*i* S	**Sn**	**00 28 32.5**	**-1.8**
ERCV	**ERCIS-VAN**	**0.40**	**335**	PG	**Pg**	**00 28 25.3**	**-0.1**
GEVA	**Gevas**	**0.52**	**228**	*i* P	**Pg**	**00 28 27.1**	**-0.5**
GEVA				*i* S	**Sb**	**00 28 37.4**	**+1.8**
CLDR	**Caldiran**	**0.56**	**30**	PG	**Pb**	**00 28 29.4**	**+0.5**
CLDR				SG	**Sn**	**00 28 38.8**	**-1.3**
CLDR	**Caldiran**	**0.56**	**30**	*i* P	**Pb**	**00 28 28.9**	**0.0**
CLDR				*i* S	**Sn**	**00 28 39.7**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.66**	**283**	*i* P	**Pg**	**00 28 30.3**	**0.0**
ADCV				*i* S	**Sn**	**00 28 41.6**	**-1.0**
TUTA	**Tutak**	**0.94**	**322**	*i* P	**Pg**	**00 28 34.7**	**-0.8**
TUTA				*i* S	**Sn**	**00 28 49.2**	**-0.2**
AGRB	**Hanur-Agry**	**1.01**	**335**	PG	**Pg**	**00 28 36.8**	**-0.1**
AGRB				SG	**Sn**	**00 28 52.2**	**+1.0**
HAKT	**HAKKARI**	**1.11**	**174**	*i* P	**Pb**	**00 28 37.6**	**-0.6**
HAKT				*i* S	**Sn**	**00 28 54.2**	**+0.7**
GURO	**Guroymak-BITLI**	**1.20**	**265**	PN	**Pn**	**00 28 39.3**	**-0.3**
GURO				SN	**Sg**	**00 28 55.5**	**-0.4**
YOVA	**Hakkari_Y˘...kse**	**1.22**	**151**	*i* P	**Pn**	**00 28 39.5**	**-0.5**
IGDI	**IGDIR**	**1.27**	**19**	*i* P	**Pn**	**00 28 40.3**	**-0.2**
CUKT	**Cukurca**	**1.41**	**178**	PN	**Pb**	**00 28 43.8**	**+0.5**
CUKT	**Cukurca**	**1.41**	**178**	*i* S	**Pg**	**00 28 43.2**	**-1.2**
CUKT				*i* S	**Sg**	**00 29 04.0**	**+1.2**
TASB	**TASBURUN-IGDIR**	**1.43**	**22**	PN	**Pg**	**00 28 45.2**	**+0.5**
SRTM	**Siirt_Merkez**	**1.45**	**243**	*i* P	**Pb**	**00 28 44.0**	**+0.1**
SIRT	**Sirnak**	**1.45**	**218**	PN	**Pg**	**00 28 44.7**	**-0.5**
EATA	**Eleskirt**	**1.46**	**326**	*i* P	**Pb**	**00 28 44.4**	**+0.1**
VRTB	**Varto-Mus**	**1.71**	**288**	PN	**Pb**	**00 28 47.7**	**-0.8**
GNI	**Garni**	**1.75**	**31**	PN	**Pg**	**00 28 50.1**	**-0.8**
DIGO	**Kars**	**1.76**	**356**	*i* P	**Pb**	**00 28 49.9**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.92**	**255**	PN	**Pn**	**00 28 50.6**	**+1.2**
BTMN	**Batman**	**1.95**	**248**	*i* P	**Pb**	**00 28 51.4**	**-1.1**
BTMN				*i* S	**Sg**	**00 29 20.4**	**+0.3**

BJI ***05*** *00:29:50.1, 0˚.95S×125˚.53E, h29km, mb5.0/53, mB5.4/37, Ms4.8/40, Ms7 4.6/38*
IDC ***05*** *00:29:54.0±0.5, 0˚.06S×125˚.07E, h0km, mb4.8/23, mb1 4.8/26, mb1mx4.7/40, mbtmp4.8/26, ML4.5/3, MS4.4/16, Ms1 4.4/16, ms1mx4.0/37, Error ellipse: s-maj=16.4km s-min=11.7km az=84.0*
MOS ***05*** *00:29:57.9±0.9, 0˚.01S×125˚.14E, h39km, mb5.4/41, Error ellipse: s-maj=10.9km s-min=5.6km az=117.3*
ISCJB ***05*** *00:29:58.7±0.1, 0˚.10S±0˚.02×125˚.31E±0˚.02, h49km, mb5.1/115, MS4.5/25, Error ellipse: s-maj=3.6km s-min=3.1km az=173.2*
NEIC ***05*** *00:29:59.2±0.8, 0˚.14S×125˚.24E, h40km±7km, mb5.2/53, Error ellipse: s-maj=6.0km s-min=5.2km az=81.0*
GCMT ***05*** *00:30:01.2±0.2, 0˚.27S±0˚.01×125˚.19E±0˚.02, h37km, MW5.3/95, Moment Tensor Solution. s94,c144; s95,c145; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr1.01±.03; Mθθ-0.65±.02; Mϕϕ-0.36±.02; Mrθ0.26±.02; Mθϕ-0.64±.02; Mϕr0.61±.03; Best double couple: Mo1.27800×10^17 NP1ϕs36.00000°, δ61.00000°, λ73.00000°. NP2ϕs248.00000°, δ33.00000°, λ117.00000°. Principal axes: T 1.2460, Plg69.0000°, Azm271.0000°; N 0.0640, Plg15.0000°, Azm44.0000°; P -1.3100, Plg15.0000°, Azm138.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***05*** *00:30:01.4±0.3, 0˚.S2×12˚.5E±˚, h39km±3km, M5.0/43, mB5.5/29, mb5.1/43, MLv5.3/20, Mw(mB)4.9/29*
ISC 05 00:30:00.3±0.3,**0˚.16S**±0˚.04×**125˚.31E**±0˚.05,**h49**km,**n352**, σ1°**78**/358,**mb5.1**/115,**MS4.5**/25,**29C-18D,Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.51**	**299**	P	**Pn**	**00 30 24.0**	**-1.0**
SANI	**Sanana**	**2.00**	**160**	P	**Pn**	**00 30 29.9**	**-1.8**
LBMI	**Labuha**	**2.25**	**102**	P	**Pn**	**00 30 35.7**	**+0.6**
TNTI	**Ternate**	**2.26**	**66**	*e*Pn	**Pb**	**00 30 36.3**	**+1.1**
TNTI	**Ternate**	**2.26**	**66**	P	**Pn**	**00 30 36.5**	**+1.3**
LUWI	**Luwuk**	**2.68**	**251**	*e*Pn	**Pn**	**00 30 41.0**	**0.0**
LUWI	**Luwuk**	**2.68**	**251**	P	**Pn**	**00 30 43.0**	**+2.0**
MRSI	**Marisa**	**3.42**	**281**	P	**Pn**	**00 30 49.9**	**-1.3**
NLAI	**Namlea**	**3.55**	**150**	P	**Pn**	**00 30 52.7**	**-0.2**
APSI	**Ampana**	**3.73**	**258**	P	**Pn**	**00 30 56.4**	**+0.9**
SGSI	**Sangihe**	**3.82**	**3**	P	**Pn**	**00 30 58.4**	**+1.7**
AAI	**Ambon**	**4.54**	**141**	P	**Pn**	**00 31 08.0**	**+1.4**
AAI	**Ambon**	**4.54**	**141**	P	**Pn**	**00 31 07.9**	**+1.4**
MSAI	**Masohi**	**4.81**	**131**	P	**Pn**	**00 31 11.8**	**+1.5**
MPSI	**Mapaga** 346nm,0.7s,4μm3.6nm	**5.43**	**275**	P	**Pn**	**00 31 19.7**	**+0.9**
BBSI	**Bau Bau** 52nm,1.1s,862nm0.2nm	**5.96**	**207**	P	**Pn**	**00 31 28.4**	**+2.4**
SIJI	**Sorong** 7.8nm,0.3s,baz=312,slow=9.0,SNR=14	**6.00**	**97**	Pn	**Pn**	**00 31 27.6**	**+1.0**
TTSI	**Tana Toraja** 959nm,0.9s,8μm7.6nm	**6.19**	**242**	P	**Pn**	**00 31 30.1**	**+0.9**
BNDI	**Bandanaira**	**6.32**	**133**	P	**Pn**	**00 31 31.5**	**+0.5**
BNSI	**Bone** 501nm,0.7s,4μm2.3nm	**6.69**	**231**	P	**Pn**	**00 31 37.0**	**+0.9**

SPSI **Sidrap Palu** **6.70** **236** P **Pn** **00 31 37.5** **+1.3**
349nm,0.8s,3μm1.6nm
DAV **Davao City (W)** **7.18** **2** LR LR 00 34 44.2
comp=Z,9μm,20.6s,baz=190,slow=41
BKSI **Bulukumba** **7.29** **225** P **Pn** **00 31 45.8** **+1.5**
105nm,0.6s,1μm0.7nm
FAKI **Fak Fak** **7.46** **112** *e*Pn **Pn** **00 31 47.1** **+0.4**
BUKP **Musuan** **7.99** **358** *e*P **Pn** **00 31 57.3** **+3.4**
SMKI **Samarinda** **8.10** **268** P Pn 00 32 04.8 +9.3
PAGZ **Pagadian** **8.18** **346** *e*P **Pn** **00 31 56.7** **+0.2**
BKB **Balikpapan** **8.48** **263** P **Pn** **00 32 04.3** **+3.7**
EDFI **Ende, Flores** **9.27** **203** P **Pn** **00 32 14.5** **+3.0**
SOEI **Soe** **9.59** **186** *e*Pn **Pn** **00 32 15.5** **-0.5**
SOEI **Soe** **9.59** **186** P Pn 00 32 22.0 +6.0
KBKI **Kotabaru** **9.65** **251** P **Pn** **00 32 19.7** **+3.0**
BATI **Baumata** **10.12** **189** Pn **Pn** **00 32 25.4** **+2.3**
5.4nm,0.3s,baz=164,slow=4.8,SNR=8.1
BATI LR LR 00 38 09.8
comp=Z,1μm,18.8s,baz=4.0,slow=49
BATI **Baumata** **10.12** **189** P Pn 00 32 31.5 +8.4
BATP **Bataraza** **11.62** **320** *e*P Pn 00 32 52.3 +8.7
RCP **Roxas** **11.91** **348** *e*P Pn 00 32 53.1 +5.5
MTN **Manton Dam** **13.87** **156** P **Pn** **00 33 14.4** **+0.1**
baz=14,SNR=7.7
MTN **Manton Dam** **13.87** **156** *e*Pn **Pn** **00 33 12.9** **-1.4**
BLJI **Banyuglugur** **13.90** **237** P P 00 33 30.3 +8.7
GMJI **Gumukmas** **14.31** **235** P P 00 33 34.5 +8.3
LUBP **Lubang** **14.68** **340** *e*P **P** **00 33 31.1** **+0.8**
TBJI **Tambak Boyo** **14.97** **243** P **P** **00 33 36.6** **+3.1**
NGJI **Ngawi** **15.55** **242** P **P** **00 33 43.9** **+3.9**
PWJI **Pagerwojo** **15.56** **240** P **P** **00 33 39.3** **-0.8**
KNRA **Kununurra** **15.79** **168** P **Pn** **00 33 39.6** **0.0**
baz=16,SNR=12
PCJI **Pacitan** **16.19** **240** P **Pn** **00 33 45.6** **+1.0**
328nm,1.8s,5μm
WOJI **Wonogiri, Jawa** **16.24** **242** P **Pn** **00 33 45.8** **+0.5**
119nm,1.7s,2μm
SMRI **Semarang** **16.33** **245** *e*Pn **Pn** **00 33 44.3** **-2.2**
587nm,1.6s
SMRI **Semarang** **16.33** **245** P **Pn** **00 33 44.8** **-1.7**
280nm,1.5s
SMPP **San Manuel, Pa** **16.83** **344** *e*P **P** **00 33 54.5** **+0.3**
KPJI **Karang Pucung** **17.82** **246** P **P** **00 34 06.8** **+1.6**
203nm,1.0s,3μm
KPJI **Karang Pucung** **17.82** **246** P **P** **00 34 06.7** **+1.6**
FITZ **Fitzroy Crossi** **17.83** **179** P **P** **00 34 05.7** **+0.4**
0.8nm,0.3s,baz=3.7,slow=7.5,SNR=21
FITZ LR LR 00 42 58.2
comp=Z,379nm,19.5s,baz=4.5,slow=44
FITZ **Fitzroy Crossi** **17.83** **179** P **P** **00 34 06.1** **+0.9**
baz=18,SNR=13
FITZ **Fitzroy Crossi** **17.83** **179** *e*Pn **Pn** **00 34 02.2** **-2.8**
40nm,0.9s
JCJI **Jatiwangi** **18.12** **249** P **Pn** **00 34 12.8** **+4.1**
431nm,1.3s,7μm
APYP **Conner** **18.35** **348** *e*P **P** **00 34 10.8** **-0.1**
LEM **Lembang** **18.85** **249** P **P** **00 34 15.7** **-1.0**
4.6nm,0.3s,baz=90,slow=11,SNR=12
LEM LR LR 00 42 02.4
comp=Z,3μm,21.6s,baz=55,slow=39
CISI **Cisompet, Garu** **18.92** **247** *e*P **P** **00 34 16.5** **-0.8**
115nm,0.8s
CISI **Cisompet, Garu** **18.92** **247** P **Pn** **00 34 20.9** **+2.5**
177nm,0.9s
PPBI **Pangkal Pinang** **19.27** **264** P **Pn** **00 34 21.9** **-0.6**
CGJI **Cibinong** **20.59** **251** P Pn 00 34 38.4 +0.3
140nm,0.6s
DSRI **Dabo** **20.73** **269** P Pn 00 34 44.7 +4.9
TPRI **Tanjung Pinang** **20.81** **273** P Pn 00 34 40.5 -0.2
87nm,0.9s
KLI **Kotabumi** **20.95** **257** P Pn 00 34 50.3 +7.9
KASI **Kota Agung** **21.45** **255** P **P** **00 34 46.6** **+1.9**
108nm,1.3s,1μm
MDSI **Maura Dua** **21.54** **258** P **P** **00 34 45.4** **-0.3**
22nm,1.1s,92nm
WRAB **Tennant Creek** **21.56** **156** *e*P **P** **00 34 45.1** **-0.8**
79nm,1.0s
WRAB **Tennant Creek** **21.56** **156** *d* *i*P **P** **00 34 44.6** **-1.2**
WRAB pmax pmax
comp=Z,32nm,1.3s
WRA **Warramunga Arr** **21.56** **156** P **P** **00 34 44.4** **-1.5**
comp=Z,11nm,0.7s,baz=335,slow=11,SNR=52
WRA LR LR 00 44 50.6
comp=Z,558nm,20.6s,baz=330,slow=41
WRA **Warramunga Arr** **21.56** **156** *i* P **P** **00 34 42.5** **-3.4**
WRA pmax pmax
comp=Z,11nm,0.9s
WB2 **Warramunga Arr** **21.57** **156** *e*P **P** **00 34 44.7** **-1.3**
MBWA **Marble Bar** **21.57** **194** *e*P **P** **00 34 45.3** **-0.6**
comp=Z,34nm,1.0s
COEN **Coen** **22.38** **129** *e*P **P** **00 34 53.3** **-1.4**
comp=Z,31nm,0.9s
MASI **Maura Aman, Be** **23.24** **262** P **P** **00 35 05.5** **+1.8**
comp=Z,185nm,1.6s
YULB **Yu-li** **23.73** **351** *e*P **P** **00 35 06.4** **-1.8**
comp=Z,52nm,1.3s
TPUB **Ta-pu** **23.76** **349** *e*P **P** **00 35 08.0** **-0.4**
comp=Z,56nm,0.7s
SDSI **Sungai Dareh** **23.89** **268** P **P** **00 35 09.9** **+0.2**
comp=Z,59nm,1.5s,comp=Z,2μm
KRJI **Kerinci** **23.91** **265** P **P** **00 35 10.6** **+0.5**
comp=Z,236nm,1.2s,comp=Z,9μm
SSLB **Suanglung** **24.17** **350** *e*P **P** **00 35 11.2** **-1.0**
comp=Z,28nm,0.8s
QIZ **Qiongzhong** **24.37** **322** P **P** **00 35 14.2** **+0.1**
QIZ S S 00 39 42.9 +12
QIZ pmax pmax
comp=Z,420nm,4.4s
QIZ LR LR
comp=Z,790nm,15.7s
QIZ LR LR
comp=Z,630nm,15.7s
QIZ LR LR
comp=Z,1μm,20.1s
QIS **Mount Isa** **24.63** **146** P **P** **00 35 17.3** **+0.8**
baz=25,SNR=33
ASAR **Alice Springs** **24.82** **161** P **P** **00 35 19.8** **+1.7**
comp=Z,18nm,1.1s,baz=342,slow=11,SNR=30
ASAR PcP **PcP** **00 38 55.8** **+2.1**
comp=Z,1.7nm,0.7s,baz=355,slow=2.2,SNR=4.1
PDSI **Padang** **24.85** **268** P **P** **00 35 18.6** **0.0**
comp=Z,33nm,0.9s
WRKA **Warakurna** **24.90** **174** P **P** **00 35 20.0** **+1.1**
baz=25,SNR=11
SKLT **Songkhla** **25.68** **287** P **P** **00 35 29.2** **+3.2**
comp=Z,36nm,1.0s,comp=Z,753nm
GZH **Guangzhou** **25.87** **334** *e*P **P** **00 35 31.6** **+4.0**
GZH LR LR
comp=Z,1μm,15.1s
GZH LR LR
comp=Z,900nm,15.9s
PSI **Prapat** **26.53** **277** P **P** **00 35 32.4** **-1.6**
comp=Z,15nm,0.9s,baz=179,slow=3.3,SNR=9.4
PSI LR LR 00 47 43.1
comp=Z,927nm,19.9s,baz=90,slow=41
PSI **Prapat** **26.53** **277** *e*P **P** **00 35 32.1** **-1.8**
comp=Z,35nm,1.1s
TRTT **Trang** **26.74** **288** P **P** **00 35 37.3** **+1.7**
comp=Z,9.7nm,1.6s,comp=Z,227nm
JOW **Kunigami** **26.98** **6** P **P** **00 35 38.9** **+1.3**
comp=Z,62nm,0.8s,baz=200,slow=8.5,SNR=11
JOW LR LR 00 46 24.3
comp=Z,733nm,20.5s,baz=136,slow=37
JOW **Kunigami** **26.98** **6** *e*P **P** **00 35 37.9** **+0.2**
comp=Z,127nm,1.0s
MEEK **Meekatharra** **27.11** **193** P **P** **00 35 39.3** **+0.6**
baz=27,SNR=4.7
UTHA **Uthaitani** **29.94** **303** P **P** **00 36 04.7** **+0.6**
comp=Z,6.3nm,1.0s
FORT **Forrest** **30.57** **175** *e*P **P** **00 36 08.8** **-0.7**
comp=Z,51nm,1.1s
NANT **Nan** **30.64** **309** P **P** **00 36 10.9** **+0.7**
comp=Z,15nm,0.7s
SUKH **Sukhothai** **30.76** **306** P **P** **00 36 11.5** **+0.2**
comp=Z,11nm,0.7s
LAMP **Lampang** **31.32** **308** P **P** **00 36 16.5** **+0.3**
comp=Z,8.1nm,0.8s,comp=Z,76nm
CBIJ **Chichi jima** **31.59** **30** P **P** **00 36 18.4** **-0.1**
JCJ **Chichijima** **31.59** **30** P **P** **00 36 18.4** **-0.1**
comp=Z,36nm,0.4s,baz=262,slow=15,SNR=6.0
CM01 **Chiang Mai Arr** **31.80** **307** *e*P **P** **00 36 19.8** **-0.7**
CMAR **Chiang Mai Arr** **31.83** **307** P **P** **00 36 19.3** **-1.5**
comp=Z,4.2nm,0.7s,baz=132,slow=7.2,SNR=16
CMAR PcP **PcP** **00 39 12.4** **+1.4**
comp=Z,3.9nm,0.8s,baz=163,slow=2.1,SNR=6.4
CMAR LR LR 00 48 57.1
comp=Z,580nm,21.4s,baz=160,slow=36

GYA Guiyang 31.98 327 eP P 00 36 23.3 +1.2
GYA pmax pmax
comp=Z,10.0nm,0.8s
CMMT Chiang Mai 32.02 308 P P 00 36 22.1 -0.3
comp=Z,43nm,1.5s,comp=Z,670nm
CHTO Chiang Mai 32.02 308 eP P 00 36 21.9 -0.5
comp=Z,128nm,1.8s
CHTO Chiang Mai 32.02 308 eP P 00 36 21.9 -0.5
CHTO pmax pmax
comp=Z,129nm,1.8s
CHTO Chiang Mai 32.02 308 P P 00 36 22.2 -0.3
comp=Z,192nm,1.5s,comp=Z,3µm
NJ2 Nanjing 32.61 350 eP P 00 36 28.2 +0.8
NJ2 pmax pmax
comp=Z,16nm,0.6s
KMI Kunming 33.29 321 P P 00 36 34.8 +1.1
KMI pP pP 00 36 39.7 -6.8
KMI sP sP 00 36 44.2 -8.1
KMI S **S 00 41 55.7 +4.7**
KMI sS sS 00 42 10.3 -2.3
KMI SS **SnSn 00 44 03.7 +8.6**
KMI pmax pmax
comp=Z,23nm,1.3s
KMI pmax pmax
comp=Z,160nm,5.7s
KMI LR LR
comp=Z,850nm,16.7s
KMI LR LR
comp=Z,600nm,18.9s
KMI LR LR
comp=Z,750nm,20.7s
JNU Nakatsue 33.52 8 P P 00 36 35.0 -0.3
comp=Z,20nm,0.8s,baz=160,slow=7.1,SNR=4.0
STKA Stephens Creek 35.11 155 P P 00 36 50.0 +0.8
comp=Z,14nm,1.0s,baz=332,slow=8.9,SNR=7.1
STKA LR LR 00 53 13.1
comp=Z,373nm,21.5s,baz=333,slow=40
STKA Stephens Creek 35.11 155 eP P 00 36 48.9 -0.3
comp=Z,5.7nm,0.8s
STKA Stephens Creek 35.11 155 P P 00 36 50.0 +0.8
STKA pmax pmax
comp=Z,15nm,1.0s
STKA MLR MLR
comp=Z,373nm,21.5s
HTT Hallett 35.49 160 P P 00 36 53.4 +1.0
baz=36,SNR=3.7
INU Inuyama 36.98 16 eP P 00 37 05.4 +0.4
comp=Z,30nm,0.9s
CD2 Chengdu 37.06 328 eP P 00 37 06.0 +0.1
CD2 S **S 00 42 51.8 +3.3**
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,2µm,18.6s
CD2 LR LR
comp=Z,2µm,20.6s
CD2 LR LR
comp=Z,2µm,15.5s
KSAR Wonju Array Be 37.49 3 P P 00 37 09.6 +0.2
KSAR Wonju Array Be 37.49 3 P P 00 37 09.6 +0.2
KSRS Korea Array 37.50 3 P P 00 37 09.6 +0.1
comp=Z,11nm,0.9s,baz=182,slow=9.5,SNR=18
KSRS LR LR 00 52 15.2
comp=Z,489nm,21.2s,baz=198,slow=36
KS01 Wonju Array Si 37.52 3 eP P 00 37 10.0 +0.4
MAJO Matsushiro 38.43 17 eP P 00 37 17.2 -0.1
comp=Z,17nm,0.8s
MAJO Matsushiro 38.43 17 eP P 00 37 17.2 -0.1
MAJO pmax pmax
comp=Z,17nm,0.8s
MAT Matsushiro 38.43 17 P P 00 37 16.5 -0.8
MJAR Matsushiro Arr 38.43 17 P P 00 37 17.6 +0.3
comp=Z,65nm,0.7s,baz=196,slow=9.8,SNR=17
MJAR LR LR 00 51 55.9
comp=Z,324nm,21.7s,baz=210,slow=34
MJB9 Matsu-Tunnel 38.43 17 eP P 00 37 17.2 -0.1
comp=Z,18nm,0.8s
BRDH Bariadhala 39.85 307 P P 00 37 28.1 -1.3
comp=Z,68nm,0.3s,baz=92,slow=10,SNR=4.0
SHL Shillong 41.18 311 eP P 00 37 39.5 -1.1
comp=Z,15nm,0.9s
SHL Shillong 41.18 311 eP P 00 37 39.5 -1.1
SHL pmax pmax
comp=Z,15nm,0.9s
LZH Lanzhou 41.22 333 eP P 00 37 42.0 +1.3
LZH pP pP 00 37 51.6 -2.2
LZH sP sP 00 37 56.0 -3.5
LZH pmax pmax
comp=Z,75nm,1.1s
LZH pmax pmax
comp=Z,460nm,4.9s
LZH LR LR
comp=Z,1µm,17.4s
LZH LR LR
comp=Z,2µm,16.3s
LZH LR LR
comp=Z,1µm,17.9s
HHC Hu-ho-hao-te 42.68 345 eP P 00 37 56.3 +3.8
HHC S **S 00 44 19.3 +6.7**
HHC pmax pmax
comp=Z,10.0nm,1.1s
HHC pmax pmax
comp=Z,140nm,5.7s
HHC LR LR
comp=Z,420nm,15.9s
HHC LR LR
comp=Z,530nm,15.7s
HHC LR LR
comp=Z,300nm,14.7s
USA0B Ussuriysk Arra 44.56 7 eP P 00 38 07.8 +0.3
comp=Z,38nm,1.1s
USRK Ussuriysk Ar. 44.56 7 P P 00 38 07.7 +0.3
comp=Z,6.8nm,0.5s,baz=194,slow=8.9,SNR=17
USRK LR LR 00 56 57.8
comp=Z,286nm,21.0s,baz=174,slow=36
MDJ Mudanjiang 44.74 4 P P 00 38 11.4 +2.5
MDJ pP pP 00 38 20.3 -1.8
MDJ S **S 00 44 50.3 +8.0**
MDJ pmax pmax
comp=Z,28nm,0.9s
MDJ pmax pmax
comp=Z,360nm,7.0s
MDJ LR LR
comp=Z,360nm,4.5s
MDJ LR LR
comp=Z,170nm,5.1s
MDJ LR LR
comp=Z,480nm,23.1s
MDJ Mudanjiang 44.74 4 P P 00 38 08.8 0.0
comp=Z,12nm,0.6s
DZM Mont Dzumac 45.60 121 eLR LR 00 51 05.0
comp=Z,1µm,29.6s
GTA Gaotai 45.77 332 ⇓P P 00 38 17.8 +0.5
GTA pP pP 00 38 25.4 -5.1
GTA sP sP 00 38 28.5 -7.7
GTA S **S 00 45 00.2 +2.6**
GTA SS **SS 00 48 18.3 -4.4**
GTA pmax pmax
comp=Z,20nm,1.1s
GTA pmax pmax
comp=Z,240nm,6.8s
GTA LR LR
comp=Z,400nm,20.0s
GTA LR LR
comp=Z,580nm,19.0s
GTA LR LR
comp=Z,950nm,20.0s
RAMN Ramite 45.95 309 eP P 00 38 17.8 -1.2
comp=Z,43nm,0.7s
TEY Ternei 46.10 11⇑eP P 00 38 20.3 +0.7
TEY eS **S 00 45 04.4 +2.6**
JIRN Jiri 46.61 310 eP P 00 38 22.7 -1.7
comp=Z,59nm,0.8s
GUN Gumba 46.97 310 eP P 00 38 25.5 -1.7
comp=Z,42nm,0.7s
PKI Pulchoki 47.17 309 eP P 00 38 26.6 -2.1
PKIN Phulchoki 47.19 309 eP P 00 38 27.2 -1.5
KKN Kakani 47.38 309 eP P 00 38 28.3 -1.9
DMN Daman 47.43 309 eP P 00 38 29.0 -1.6
KOLN Koldanda 48.68 308 eP P 00 38 38.6 -1.6
comp=Z,97nm,0.8s
DANN Dangsing 48.82 309 eP P 00 38 39.7 -1.7
comp=Z,82nm,0.7s
HYB Hyderabad 49.21 293 i P P 00 38 42.0 -2.2
PYUN Piuthan 49.31 308 eP P 00 38 43.5 -1.6
comp=Z,102nm,0.9s
HIA Hailar 49.47 355⇑eP P 00 38 45.8 +0.2
HIA pmax pmax
comp=Z,37nm,1.3s
KLR Kul'dur 49.51 6⇓eP P 00 38 46.0 +0.1
ULN Ulaanbaatar 50.40 344 eP P 00 38 52.1 -0.8
comp=Z,14nm,1.0s
ULN Ulaanbaatar 50.40 344 ceP P 00 38 51.8 -1.1
ULN pmax pmax
comp=Z,17nm,1.1s
SONM Songino Array 50.55 344 P P 00 38 52.8 -1.2
comp=Z,7.6nm,0.8s,baz=156,slow=7.9,SNR=11
SONM LR LR 01 01 38.7
comp=Z,479nm,20.2s,baz=154,slow=38
SONA1 Songino Array 50.56 344 eP P 00 38 53.9 -0.2
GRNR Gornyy 51.61 9 eP P 00 39 02.0 +0.2
GRNR pmax pmax
comp=Z,21nm,1.0s
ZEA Zeya 53.73 1 eP P 00 39 17.0 -0.4
ZEA pmax pmax
comp=Z,35nm,1.0s
ZAK Zakamensk 53.74 343 eP P 00 39 16.2 -1.5
ZAK pmax pmax
comp=Z,9.0nm,1.3s
WMQ Urumqi 55.14 327 P P 00 39 29.0 +1.1
WMQ pP pP 00 39 35.5 -6.0
WMQ sP sP 00 39 42.8 -4.3
WMQ pmax pmax
comp=Z,52nm,1.1s
WMQ pmax pmax
comp=Z,550nm,5.3s
WMQ LR LR
comp=Z,1µm,23.1s
WMQ LR LR
comp=Z,880nm,19.9s
WMQ LR LR
comp=Z,1µm,30.5s
HVS Khovu-Aksy 57.69 337⇑eP P 00 39 45.1 -0.8
HVS pmax pmax
comp=Z,17nm,0.6s
BOD Bodaibo 58.50 353 eP P 00 39 50.8 -0.5
BOD pmax pmax
comp=Z,45nm,1.7s
PETK Petropavlovsk- 59.54 22 P P 00 40 00.1 +1.5
comp=Z,13nm,0.8s,baz=185,slow=6.0,SNR=15
PETK Petropavlovsk- 59.54 22 eP P 00 39 58.6 0.0
KSH Kashi 59.84 317 P P 00 40 02.4 +1.2
KSH pP pP 00 40 09.2 -5.7
KSH PP **PP 00 42 13.3 -0.4**
KSH S **S 00 48 09.1 -0.4**
KSH pmax pmax
comp=Z,32nm,0.9s
KSH pmax pmax
comp=Z,400nm,4.7s
KSH LR LR
comp=Z,540nm,10.6s
KSH LR LR
comp=Z,500nm,12.6s
KSH LR LR
comp=Z,3µm,23.8s
MK01 Makanchi Array 59.95 327 eP P 00 40 00.4 -1.3
MK31 Makanchi Array 59.97 327 eP P 00 40 00.3 -1.4
MK31 Makanchi Array 59.97 327 eP P 00 40 00.4 -1.4
MKAR Makanchi Array 59.97 327 P P 00 40 00.3 -1.5
comp=Z,17nm,0.8s,baz=125,slow=8.0,SNR=28
MKAR LR LR 01 07 22.5
comp=Z,530nm,18.7s,baz=117,slow=38
MKAR Makanchi Array 59.97 327 eP P 00 40 00.3 -1.5
comp=Z,76nm,0.7s
MKAR Makanchi Array 59.97 327 eP P 00 40 00.4 -1.5
MKAR pmax pmax
comp=Z,76nm,0.7s
KZA Kyzart 61.56 320 P P 00 40 12.3 -0.9
SNR=8.6
TKM2 Tokmak 2 61.76 321 P P 00 40 15.3 +1.1
SNR=12
KBK Karagaybulak 62.04 320 P P 00 40 17.5 +1.4
SNR=12
UCH Uchtor 62.12 319 P P 00 40 18.1 +1.1
SNR=13
YAK Yakutsk 62.12 2 eP P 00 40 16.1 +0.1
YAK Yakutsk 62.12 2 eP P 00 40 15.9 -0.1
YAK e*PP **pP 00 40 22.6 -7.1**
YAK e 00 42 31.4
YAK ePPP PPP 00 44 07.4
YAK eS **S 00 48 37.2 -0.1**
YAK e*SS **sS 00 49 04.6 +4.3**
YAK e 00 49 59.6
YAK pmax pmax
comp=Z,67nm,1.1s
YAK pmax pmax
comp=N,18nm,1.4s
YAK pmax pmax
comp=E,17nm,1.4s
YAK pmax pmax
comp=Z,37nm,1.5s
YAK pmax pmax
comp=N,90nm,2.3s
YAK pmax pmax
comp=E,46nm,2.0s
YAK smax smax
comp=N,128nm,2.0s
YAK smax smax
comp=E,116nm,2.2s
YAK MLR MLR
comp=Z,327nm,22.0s
YAK MLR MLR
comp=N,578nm,22.0s
AAK Ala-Archa 62.33 320 P P 00 40 19.3 +1.3
SNR=8.0
AAK Ala-Archa 62.33 320 eP P 00 40 18.0 0.0
comp=N,19nm,1.0s
AAK Ala-Archa 62.33 320⇑eP P 00 40 18.7 +0.7
AAK pmax pmax
comp=Z,24nm,1.1s
CHMS Chumysh 62.34 320 P P 00 40 18.5 +0.5
SNR=5.9
AML Almayashu 62.61 319 P P 00 40 21.1 +0.9
SNR=14
USP Ospenovka 62.63 320 P P 00 40 20.3 +0.5
SNR=16
MA2 Magadan 62.80 14 eP P 00 40 21.6 +1.0
comp=Z,29nm,1.0s
MA2 Magadan 62.80 14⇑eP P 00 40 19.8 -0.8
MA2 pmax pmax
comp=Z,38nm,1.2s
EKS2 Erkin-Say 62.80 320 P P 00 40 21.8 +0.7
SNR=13
KNTN Kanton 63.00 93 eP P 00 40 21.9 -0.9
comp=Z,115nm,1.1s
ZAA0 Zalesovo Array 63.42 335 eP P 00 40 23.6 -1.2
ZALV Zalesovo Beam 63.42 335 P P 00 40 22.6 -2.2
comp=Z,8.6nm,0.8s,baz=123,slow=5.4,SNR=16
ZALV Zalesovo Beam 63.42 335 eP P 00 40 22.3 -2.5
AFI Afiamalu 63.72 105 LR LR 01 09 20.7
comp=Z,126nm,19.3s,baz=340,slow=37
KURK Kurchatov 64.28 329 eP P 00 40 29.0 -1.5
comp=Z,38nm,0.8s
KURK Kurchatov 64.28 329 c iP P 00 40 28.8 -1.7
KURK pmax pmax
comp=Z,50nm,1.0s
NVS Novosibirsk 64.71 335 eP P 00 40 31.4 -1.9
NVS eS **S 00 49 03.2 -6.7**
NVS e 00 50 13.1
NVS pmax pmax
comp=Z,22nm,1.0s
NVS pmax pmax
comp=N,9.0nm,0.7s
NVS pmax pmax
comp=E,12nm,0.9s
NVS smax smax
comp=E,15nm,1.9s
KK31 Karatay Array 65.14 319 eP P 00 40 35.0 -1.3
KK31 Karatay Array 65.14 319 eP P 00 40 35.1 -1.3
KKAR Karatay Array 65.14 319 eP P 00 40 35.0 -1.3
KKAR Karatay Array 65.14 319 eP P 00 40 35.1 -1.3
SEY Seymchan 66.11 13⇑eP P 00 40 41.3 -0.9
BRVK Borovoye 69.89 328 eP P 00 41 05.0 -1.1
comp=E,22nm,0.9s
BRVK Borovoye 69.89 328⇑eP P 00 41 04.5 -1.6
BRVK pmax pmax
comp=Z,36nm,1.3s
TIXI Tiksi 71.73 1 eP P 00 41 16.0 -0.8
comp=Z,19nm,1.1s
TIXI Tiksi 71.73 1⇑eP P 00 41 15.9 -1.0
TIXI pmax pmax
comp=Z,13nm,1.0s
GEYT Alibeck 72.25 310 P P 00 41 20.2 -0.5
comp=Z,5.9nm,0.8s,baz=120,slow=5.8,SNR=19
BILL Bilibino 73.65 15⇑eP P 00 41 28.6 +0.2
BILL *PP **pP 00 41 37.0 -5.5**
BILL e 00 41 42.8
BILL SS SS 00 55 36.0 -3.0
BILL SSS SSS 00 58 55.0
BILL pmax pmax
comp=Z,10.0nm,1.7s
BILL MLR MLR
comp=Z,170nm,20.0s
NRIK Noril'sk 73.86 347 P P 00 41 29.5 0.0
comp=Z,28nm,0.8s,baz=131,slow=6.0,SNR=40
AB31 Akbulak array 74.27 322 i P P 00 41 30.9 -1.5
AB31 pmax pmax
comp=Z,10.0nm,0.8s
ABKAR Akbulak array 74.27 322 eP P 00 41 31.0 -1.4
SVE Sverdlovsk 76.53 329 deP P 00 41 44.2 -1.0
SVE pmax pmax
comp=Z,38nm,0.9s
ARU Arti 77.46 328 c iP P 00 41 47.6 -2.8
ARU 00 44 40.9
ARU PPP PPP 00 46 31.0
ARU S **S 00 51 37.2 -0.3**
ARU SS **SS 00 56 29.0 -8.2**
ARU pmax pmax
comp=Z,49nm,1.7s
MAW Mawson 79.64 200 P P 00 42 03.0 +0.8
comp=Z,1.8nm,0.8s,baz=37,slow=9.2,SNR=5.3
VNDA Vanda 79.78 172 P P 00 42 04.3 +1.5
comp=Z,2.0nm,0.9s,baz=312,slow=2.5,SNR=3.6
RAYN Ar Rayn 80.71 294 eP P 00 42 07.3 -1.7
comp=Z,12nm,0.9s
RAYN Ar Rayn 80.71 294 eP P 00 42 07.3 -1.7
RAYN pmax pmax
comp=Z,13nm,0.9s
AKT Akhty 80.80 312 eP P 00 42 08.3 -0.9
AKT e 00 42 14.7
AKT pmax pmax
comp=Z,48nm,1.4s
DAMY Dhamar 81.24 285 eP P 00 42 13.3 +1.0
comp=Z,17nm,1.1s
GNI Garni 82.88 310 eP P 00 42 21.7 +1.4
comp=Z,19nm,0.8s
GNI Garni 82.88 310⇑eP P 00 42 20.2 0.0
GNI pmax pmax
comp=Z,118nm,1.8s
TBLG Delisi 83.06 312 eP P 00 42 21.4 +0.5
comp=Z,123nm,1.7s
TBLG Delisi 83.06 312 eP P 00 42 21.4 +0.5
TBLG pmax pmax
comp=Z,123nm,1.7s
RDOG Red Dog Mine 83.40 21 eP P 00 42 24.6 +2.5
comp=Z,36nm,1.2s
ZEI Tsey 83.79 313 eP P 00 42 24.6 -0.3
ZEI pmax pmax
comp=Z,21nm,0.7s
AKH Akhalkalaki 83.95 312 eP P 00 42 26.5 +0.8
comp=Z,106nm,1.7s
AKH Akhalkalaki 83.95 312 eP P 00 42 26.5 +0.8
AKH pmax pmax
comp=Z,106nm,1.7s
NCK Nalchik 84.08 314⇑eP P 00 42 26.0 -0.2
NCK pmax pmax
comp=Z,13nm,0.8s
KBZ Khabaz 84.61 314 P P 00 42 28.4 -0.3
comp=Z,11nm,1.0s,baz=109,slow=8.1,SNR=15
NEY Neytrino 84.69 313⇓eP P 00 42 27.8 -1.7
NEY pmax pmax
comp=Z,4.0nm,1.6s
KIV Kislovodsk 84.78 314 eP P 00 42 29.8 0.0
comp=Z,87nm,1.9s
KIV Kislovodsk 84.78 314 eP P 00 42 29.3 -0.5
KIV pmax pmax
comp=Z,15nm,1.0s
PPT2 Papeete2 85.30 108 eS S 00 53 00.2 -0.1
comp=Z,200nm,25.5s
PPT2 Papeete2 85.30 108 eLR LR 01 09 29.2
comp=Z,656nm,32.2s
TBI Tubuai 85.56 113 eS S 00 53 00.7 -1.8
comp=Z,207nm,26.2s
TBI Tubuai 85.56 113 eLR LR 01 09 34.6
comp=Z,308nm,30.2s
VRH Novokhopyorsk 86.09 321 eP P 00 42 33.8 -2.2
VRH pmax pmax
comp=Z,40nm,0.6s
IM3 Indian Mountai 86.45 24 eP P 00 42 38.0 +0.6
VORD Divnogorie 87.60 321 eP P 00 42 42.0 -1.3
VORD pmax pmax
comp=Z,40nm,1.1s
VSR Storozhevoye 87.69 321 eP P 00 42 41.3 -2.5
VSR pmax pmax
comp=Z,30nm,1.0s
LPSR Galich'ya Gora 87.92 322 eP P 00 42 43.6 -1.2
LPSR pmax pmax
comp=Z,70nm,1.1s
COLD Coldfoot 88.00 23 eP P 00 42 46.6 +1.7
comp=Z,9.7nm,1.3s
KMBO Kilima Mbogo 88.05 269 P P 00 42 46.7 +0.1
comp=Z,15nm,1.2s,baz=64,slow=5.4,SNR=23
KMBO Kilima Mbogo 88.05 269 eP P 00 42 47.6 +1.1
comp=Z,57nm,1.5s
KMBO Kilima Mbogo 88.05 269 i P P 00 42 47.7 +1.1
KMBO pmax pmax
comp=Z,15nm,1.2s
TOLK Toolik Lake Re 88.36 21 P P 00 42 47.1 +0.4
baz=266
NAI Nairobi 88.50 269 eP P 00 42 50.7 +2.0
comp=Z,106nm,1.6s
ANN Anapa 88.59 315 eP P 00 42 46.3 -1.9
ANN pmax pmax
comp=Z,98nm,0.9s
TCOL CIGO, UAF Yank 88.79 25 P P 00 42 49.8 +1.1
baz=267
CCB Clear Creek Bu 88.80 25 eP P 00 42 49.0 +0.3
comp=Z,12nm,1.4s
MOS Moscow 88.82 326 eP P 00 42 46.4 -2.6
MOS e 00 53 25.1
MOS pmax pmax
comp=Z,54nm,1.2s
POKR Poker Plat Res 88.98 25 P P 00 42 50.4 +0.8
baz=268
HDA Harding Lake 89.16 26 eP P 00 42 49.9 -0.6
comp=Z,9.2nm,1.1s
HDA Harding Lake 89.16 26 P P 00 42 49.9 -0.6
baz=268
IL1 Eielson Array 89.20 25 eP P 00 42 50.0 -0.6
ILAR Eielson Array 89.20 25 P P 00 42 50.3 -0.3
comp=Z,1.4nm,0.9s,baz=254,slow=4.7,SNR=8.4
OBN Obninsk 89.40 325 eP P 00 42 50.9 -0.8
comp=Z,70nm,0.9s
OBN Obninsk 89.40 325 c iP P 00 42 50.5 -1.2
OBN e*PP **pP 00 43 01.8 -4.3**
OBN *SP **sP 00 43 06.0 -5.6**
OBN S **SKSac 00 53 15.0 -2.8**
OBN SSS SSS 01 03 00.0
OBN pmax pmax
comp=Z,68nm,1.7s
OBN MLR MLR
comp=Z,247nm,21.0s
QSPA South Pole Qui 89.78 180 eP P 00 42 54.7 +1.2
comp=Z,24nm,1.7s
RIDG Independe'e Rid 90.07 26 eP P 00 42 55.7 +0.9
comp=Z,17nm,1.0s
SIM Simferopol' 90.95 315 ceP P 00 42 58.0 -1.2
SIM pmax pmax
comp=Z,17nm,0.7s
BR131 Keskin Array S 91.38 310 eP P 00 43 00.5 -1.1
BRTR Keskin Array B 91.38 310 P P 00 43 00.1 -1.5
comp=Z,3.0nm,0.8s,baz=132,slow=5.4,SNR=16
CSS Mathiatis 91.71 305 eP P 00 43 02.5 -0.5
comp=Z,24nm,0.9s
DAWY Dawson 92.47 26 eP P 00 43 07.8 +1.9
comp=Z,11nm,1.0s
EPYK Eagle Plains 93.35 24 P P 00 43 09.7 -0.2
baz=277
ARCES ARCESS Array B 93.58 340 P P 00 43 10.3 -0.6
comp=Z,2.6nm,0.6s,baz=91,slow=4.8,SNR=12
ISP Isparta 93.88 308 eP P 00 43 11.0 -2.1
ISP pmax pmax
comp=Z,19nm,1.7s
AKASG Malin Array Be 93.98 321 P P 00 43 11.4 -1.7
comp=Z,2.0nm,0.6s,baz=73,slow=4.2,SNR=11

KIEV	Kiev	93.99	321	*e*P		P	00 43 11.5	-1.6	
	comp=Z,11nm,1.3s								
KIEV	Kiev	93.99	321	*c e*P		P	00 43 11.4	-1.7	
KIEV					pmax	pmax			
	comp=Z,7.0nm,1.2s								
INK	Inuvik	94.28	21	*e*P		P	00 43 14.6	+0.6	
	comp=Z,11nm,1.1s								
INK	Inuvik	94.28	21	*e*P		P	00 43 14.6	+0.6	
INK					pmax	pmax			
	comp=Z,11nm,1.1s								
TAOE	Nuku Hiva Isla	94.47	99	*e*LR		LR	01 13 42.4		
	comp=Z,300nm,24.9s								
KIS	Kishinev	94.55	317	*e*P		P	00 43 15.0	-0.8	
KIS	Kishinev	94.55	317	*e*P		P	00 43 15.0	-0.8	
TLCR		94.69	315	⇓*i*P		P	00 43 15.6	-0.9	
SORM	Soroca	94.77	318	⇓*i*P		P	00 43 15.5	-1.2	
SORM	Soroca	94.77	318	P		P	00 43 15.5	-1.2	
LEOM	Leova	94.98	316	⇓*i*P		P	00 43 17.2	-0.6	
LEOM	Leova	94.98	316	P		P	00 43 17.2	-0.6	
TIRR	Tirgusor	95.04	314	⇓*i*P		P	00 43 16.9	-1.2	
TIRR	Tirgusor	95.04	314	P		P	00 43 16.8	-1.3	
TLB	Topalu	95.29	315	⇓*i*P		P	00 43 18.5	-0.7	
HARR	Harsova	95.36	315	⇓*i*P		P	00 43 18.8	-0.7	
HARR	Harsova	95.36	315	P		P	00 43 18.8	-0.7	
ODBI	Odobesti	95.88	316	⇓*i*P		P	00 43 22.1	+0.2	
VRI	Vrincioaia	96.09	316	⇑*i*P		P	00 43 22.1	-0.8	
VRI	Vrincioaia	96.09	316	P		P	00 43 22.1	-0.8	
PLOR	Plostina	96.15	316	⇓*i*P		P	00 43 22.6	-0.6	
PLOR	Plostina	96.15	316	P		P	00 43 22.5	-0.6	
PRAR	RASCA	96.27	318	⇑*i*P		P	00 43 23.2	-0.5	
BIZ	Bicaz	96.40	317	⇓*i*P		P	00 43 23.7	-0.6	
MLR	Muntele Rosu	96.68	316	*e*P		P	00 43 24.7	-1.0	
	comp=Z,14nm,1.1s								
MLR	Muntele Rosu	96.68	316	⇑*i*P		P	00 43 24.5	-1.2	
MLR	Muntele Rosu	96.68	316	*e*P		P	00 43 24.7	-1.0	
MLR					pmax	pmax			
	comp=Z,14nm,1.1s								
KARP	Karpathos	96.72	306	*e*P		P	00 43 25.3	-0.7	
	comp=Z,57nm,1.5s								
LSZ	Lusaka	96.83	255	*e*P		P	00 43 26.9	-0.1	
	comp=Z,5.8nm,0.9s								
LSZ	Lusaka	96.83	255	*e*P		P	00 43 26.9	-0.1	
LSZ					pmax	pmax			
	comp=Z,6.0nm,0.9s								
BURAR	Bucovina Array	96.92	318	⇓*i*P		P	00 43 26.8	0.0	
BURAR	Bucovina Array	96.92	318	P		P	00 43 26.7	0.0	
BUR04	Bucovina Ar. S	96.92	318	*e*P		P	00 43 26.1	-0.6	
BUR08	Bucovina Ar. S	96.93	318	*e*P		P	00 43 26.7	0.0	
DOPR	Dopca	97.01	316	⇑*i*P		P	00 43 26.9	-0.2	
SUW	Suwalki	97.25	324	*e*P		P	00 43 27.1	-0.8	
SUW	Suwalki	97.25	324	*e*P		P	00 43 27.1	-0.8	
VOIR		97.31	316	⇓*i*P		P	00 43 27.9	-0.6	
VOIR		97.31	316	P		P	00 43 27.8	-0.7	
HUMR	Humele	97.47	315	⇑*i*P		P	00 43 27.7	-1.4	
ARR	Arges	97.61	316	⇑*i*P		P	00 43 28.7	-1.2	
CJR	Cluj-Napoca	98.14	317	⇑*i*P		P	00 43 32.1	-0.1	
CJR	Cluj-Napoca	98.14	317	P		P	00 43 32.0	-0.1	
KWP	Kalwaria Pacla	98.27	320	*e*P		P	00 43 32.6	-0.1	
KWP	Kalwaria Pacla	98.27	320	*e*P		P	00 43 32.6	-0.1	
IDI	Anoyia	98.59	306	*e*P		P	00 43 33.0	-1.5	
	comp=Z,37nm,1.8s								
IDI	Anoyia	98.59	306	⇓*i*P		P	00 43 34.1	-0.4	
UZH	Uzhgorod	98.71	319	*c i*P		P	00 43 33.5	-1.1	
UZH				*e*			00 43 51.0		
DRGR		98.73	317	⇑*i*P		P	00 43 33.5	-1.5	
DRGR		98.73	317	P		P	00 43 33.3	-1.5	
BOSA	Boshof	98.75	241	LR		LR	01 22 20.6		
	comp=Z,313nm,21.4s,baz=74,slow=32								
GZR	Gura Zlata	98.90	316	⇓*i*P		P	00 43 35.5	-0.2	
GZR	Gura Zlata	98.90	316	P		P	00 43 35.4	-0.2	
VTS	Vitosha	99.01	313	*e*P		Pdif	00 43 35.2	-1.1	
	comp=Z,4.6nm,0.9s								
VTS	Vitosha	99.01	313	⇑*i*P		Pdif	00 43 35.2	-1.1	
VTS	Vitosha	99.01	313	*e*P		Pdif	00 43 35.2	-1.1	
VTS					pmax	pmax			
	comp=Z,5.0nm,0.9s								
BZS	Buzias	99.67	316	⇑*i*P		Pdif	00 43 37.7	-1.3	
BZS	Buzias	99.67	316	P		Pdif	00 43 37.7	-1.3	
NIE	Niedzica	99.85	320	*e*P		Pdif	00 43 40.1	+0.4	
NIE	Niedzica	99.85	320	*e*P		Pdif	00 43 40.1	+0.4	
OJC	Ojcow	100.01	321	*e*P		Pdif	00 43 40.3	-0.1	
OJC	Ojcow	100.01	321	*e*P		Pdif	00 43 40.3	-0.1	
NOA	NORSAR Array B	101.60	333	P		Pdiff	00 43 45.5	-1.8	
	comp=Z,0.5nm,0.8s,baz=78,slow=7.9,SNR=2.9								
GERES	GERESS Array B	104.20	321	Pdiff		Pdif	00 43 58.4	-0.8	
	comp=Z,0.4nm,0.7s,baz=54,slow=6.9,SNR=4.8								
I03D	Drain, OR	105.42	44	P		Pdif	00 44 04.6	+0.1	
	baz=285								
J05D	Fort Rock, OR	107.01	44	P		Pdif	00 44 13.7	+1.8	
	baz=286								
VES	Vestal, Richgr	110.66	52	P		Pdif	00 44 28.6	+0.5	
	baz=286								
ARVC	Arvin	111.05	52	P		Pdif	00 44 30.4	+0.5	
	baz=286								
PMSA	Palmer Station	114.86	176	*e*PKP		PKPdf	00 48 37.5	+2.3	
BW06	Boulder Array	115.19	42	*e*Pdif		Pdif	00 44 47.1	-1.3	
PD31	Pinedale Array	115.19	42	*e*Pdif		Pdif	00 44 47.0	-1.3	
PDAR	Pinedale Array	115.19	42	PKKPbc		PKKPbc	00 59 15.9	+2.5	
	comp=Z,0.3nm,0.8s,baz=134,slow=4.3,SNR=3.7								
PDAR	Pinedale Array	115.19	42	*e*Pdif		Pdif	00 44 46.5	-1.9	
PDAR				PKKPbc		PKKPab	00 59 15.9	-2.3	
SRU	San Rafael Swe	116.02	46	*e*Pdif		Pdif	00 44 51.4	-0.7	
WUAZ	Wupatki	116.72	50	*e*Pdif		Pdif	00 44 54.2	-1.0	
X16A	Lo Mia Camp, P	117.06	51	*e*Pdif		Pdif	00 44 54.8	-2.0	
PV09	Paradox Valley	117.26	46	*e*PKPdf		PKPdf	00 48 39.2	-1.9	
TORD	Torodi Ar. Bea	122.67	285	PKP		PKPdf	00 48 50.9	-0.9	
	comp=Z,1.8nm,0.6s,baz=116,slow=3.4,SNR=15								
TORD				PKKPbc		PKKPab	00 58 50.9	+5.3	
	comp=Z,1.0nm,1.1s,baz=204,slow=3.2,SNR=4.3								
ECSD	EROS Data Cent	122.77	35	*e*PKPdf		PKPdf	00 48 51.9	+0.6	
MNTX	Cornudas Mount	122.78	52	*e*PKPdf		PKPdf	00 48 53.5	+1.9	
TXAR	Lajitas Array	125.06	54	PKP		PKPdf	00 48 57.2	+1.0	
	comp=Z,1.0nm,0.8s,baz=217,slow=1.5,SNR=8.3								
PLCA	Paso Flores	136.82	162	PKP		PKPdf	00 49 20.5	+2.5	
	comp=Z,2.4nm,1.0s,baz=229,slow=6.0,SNR=2.4								
JTS	JuntasAbangare	148.27	71	*e*PKPdf		PKPdf	00 49 38.3	-0.6	
JTS				*e*PKPbc		PKiKP	00 49 43.5	-0.4	
JTS	JuntasAbangare	148.27	71	*e*PKIKP		PKPdf	00 49 38.3	-0.6	
JTS				*e*			00 49 43.5		
CPUP	Villa Florida	153.54	175	PKP		PKPdf	00 49 48.0	+1.4	
	comp=Z,2.0nm,1.0s,baz=286,slow=2.0,SNR=4.1								
CPUP				PKPbc		PKiKP	00 49 56.5	+2.1	
	comp=Z,4.7nm,1.0s,baz=176,slow=2.5,SNR=6.2								
LPAZ	La Paz	158.96	142	PKP		PKPdf	00 49 55.9	+1.2	
	comp=Z,1.2nm,0.9s,baz=49,slow=2.9,SNR=3.9								
SAML	Samuel	167.62	137	*e*PKPdf		PKPdf	00 50 03.3	+1.0	
SAML	Samuel	167.62	137	*e*PKIKP		PKPdf	00 50 03.3	+1.0	

IDC 05 00:34:37.6±18.0, 20.62S×177.40W, h515km±170km, mb3.4/7, mb1 3.5/7, mb1mx3.2/30, mbtmp4.3/7, Error ellipse: s-maj=112.0km s-min=62.3km az=97.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	34.03	264	P	P	00 40 38.5	-0.3
	4.2nm,0.6s,baz=76,slow=9.6,SNR=5.1						
STKA	Stephens Creek	38.24	244	P	P	00 41 14.2	+0.8
	1.2nm,0.4s,baz=125,slow=4.5,SNR=3.2						
ASAR	Alice Springs	45.03	257	P	P	00 42 07.3	0.0
	5.5nm,0.8s,baz=98,slow=7.7,SNR=29						
WRA	Warramunga Arr	45.14	262	P	P	00 42 07.0	-1.2
	1.5nm,0.5s,baz=96,slow=7.6,SNR=44						
FITZ	Fitzroy Crossi	53.56	262	P	P	00 43 10.1	-0.3
	1.4nm,0.6s,baz=127,slow=5.1,SNR=7.9						
USRK	Ussuriysk Ar.	79.38	326	P	P	00 45 50.2	+0.4
	2.0nm,0.7s,baz=149,slow=7.7,SNR=4.7						
CMAR	Chiang Mai Arr	90.68	289	P	P	00 46 47.2	+1.5
	0.8nm,0.3s,baz=130,slow=2.4,SNR=5.8						
AKASG	Malin Array Be	143.39	331	PKP	PKPab	00 53 10.2	-1.0
	0.9nm,0.6s,baz=41,slow=4.1,SNR=9.0						
BRTR	Keskin Array B	147.34	313	PKPbc	PKPbc	00 53 23.0	-0.6
	0.8nm,0.6s,baz=140,slow=4.2,SNR=6.9						
GERES	GERESS Array B	150.47	345	PKPbc	PKPbc	00 53 30.9	0.0
	0.6nm,0.8s,baz=343,slow=3.2,SNR=5.0						

MAN ***05*** *00:55:33.0, 4.58N×124.63E, h2km, mb5.7, ML4.7, MS5.1*
GCMT ***05*** *00:55:35.8±0.2, 4.64N±0.01×125.01E±0.01, h15km±1km, MW5.3/113, Moment Tensor Solution. s70,c91; s113,c197; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr0.29±.02; Mθθ0.42±.02; Mϕϕ-0.71±.02;*

Mrθ0.35±.04; Mθϕ0.69±.02; Mϕr-0.20±.04; Best double couple: M0 0.98400×10^17 NP1:Φ113.00000°, δ83.00000°, λ27.00000°, NP2:Φ19.00000°, δ63.00000°, λ172.00000°. Principal axes: T 0.8540, Plg24.0000°, Azm339.0000°; N 0.2600, Plg62.0000°, Azm127.0000°; P -1.1140, Plg13.0000°, Azm243.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

BJI ***05*** *00:55:35.1, 4.26N×125.25E, h39km, mb4.8/56, mbB5.2/47, Ms4.9/56, Ms7 4.7/52*

DJA ***05*** *00:55:37.8±0.2, 5°N±2°×12°5E±°, h10km, M5.0/48, mbB5.5/40, mb5.1/48, MLv5.5/12, Mw(mB)5.0/40, Mwp5.5/1*

MOS ***05*** *00:55:37.9±1.2, 4.71N×125.15E, h42km, mb5.1/35, MS4.7/9, Error ellipse: s-maj=10.3km s-min=5.8km az=110.9*

ISCJB ***05*** *00:55:38.2±0.4, 4.70N±0.02×125.22E±0.03, h42km±3km, mb4.8/115, MS4.6/46, Error ellipse: s-maj=4.3km s-min=2.7km az=169.0*

NEIC ***05*** *00:55:39.8±0.5, 4.68N×125.14E, h43km±5km, mb5.1/51, Error ellipse: s-maj=4.5km s-min=2.9km az=72.0*

IDC ***05*** *00:55:39.4±2.4, 4.70N×125.19E, h39km±21km, mb4.3/29, mb1 4.4/32, mb1mx4.3/45, mbtmp4.6/32, ML4.6/4, MS4.4/24, Ms1 4.4/24, ms1mx4.3/35, Error ellipse: s-maj=13.7km s-min=8.7km az=77.0*

ISC 05 00:55:39.9±0.4, 4.66N±0.03×125.12E±0.04, h40km±3km, h41km; pP-P, n326, σ1s82/348, mb4.8/115, MS4.7/47, 8C-11D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.05	157	P	Pn	00 55 55.6	-2.6
GSPH	General Santos	1.43	353	*e*P	Pn	00 56 01.6	-2.0
GSPH				*e*S	Sn	00 56 20.5	-0.6
DDMP	Don Marcelino,	1.55	22	*e*P	Pn	00 56 02.6	-2.5
DDMP				*e*S	Sn	00 56 23.5	-0.5
SKMP	Bagumbayan, Su	1.94	343	*e*P	Pn	00 56 06.2	-4.1
SKMP				*e*S	Sn	00 56 29.6	-3.8
DAV	Davao City (W)	2.44	11	Pn	Pn	00 56 16.2	-1.1
	148nm,0.3s,baz=248,slow=8.2,SNR=5.9						
DAV				Sn	Sn	00 56 48.6	+2.7
	180nm,0.3s,baz=18,slow=20,SNR=16						
DAV	Davao City (W)	2.44	11	*e*Pn	Pn	00 56 18.7	+1.4
DAV				Sn	Sn	00 56 48.6	+2.7
DAV	Davao City (W)	2.44	11	P	Pn	00 56 17.2	-0.1
	SNR=29						
CTBH	Cotabato--PC H	2.69	341	⇑*e*P	Pn	00 56 18.9	-1.8
CTBH				*i* S	Sn	00 56 50.6	-1.5
BUKP	Musuan	3.20	359	*e*P	Pn	00 56 27.2	-0.6
BUKP				*e*S	Sn	00 57 07.5	+2.8
PAGZ	Pagadian	3.61	331	*e*P	Pn	00 56 29.1	-4.3
PAGZ				*e*S	Sn	00 57 12.1	-2.6
CGP	Cagayan de Oro	3.79	354	⇓*e*P	Pn	00 56 39.2	+3.2
CGP				*e*S	Sn	00 57 24.6	+5.3
KMSI	Cibinong	4.21	196	P	Pn	00 56 44.3	+2.6
BUTP	Butuan	4.31	7	*e*P	Pn	00 56 43.3	+0.3
TNTI	Ternate	4.47	150	*e*Pn	Pn	00 56 45.6	+0.4
TNTI	Ternate	4.47	150	P	Pn	00 56 46.6	+1.4
MRSI	Marisa	5.23	217	P	Pn	00 56 53.1	-2.5
MSLP	Maasin	5.45	357	*e*P	Pn	00 57 01.1	+2.5
LBMI	Labuha	5.78	156	P	Pn	00 57 04.4	+1.2
LUWI	Luwuk	6.13	203	*e*Pn	Pn	00 57 08.8	+0.7
LUWI	Luwuk	6.13	203	P	Pn	00 57 09.0	+1.0
PLP	Palo	6.46	359	⇓*e*P	Pn	00 57 13.1	+0.4
APSI	Ampana	6.53	212	P	Pn	00 57 14.1	+0.6
MYLDM	Lahad Datu	6.62	275	*e*Pn	Pn	00 57 13.9	-0.8
SANI	Sanana	6.72	173	P	Pn	00 57 15.5	-0.6
MPSI	Mapaga	6.76	231	P	Pn	00 57 14.2	-2.4
RCP	Roxas	7.25	341	⇑*e*P	Pn	00 57 32.3	+9.0
NLAI	Namlea	8.09	166	P	Pn	00 57 35.0	0.0
	149nm,0.5s,3µm1.3nm						
SIJI	Sorong	8.24	132	Pn	Pn	00 57 36.0	-1.0
	11nm,0.3s,baz=327,slow=17,SNR=16						
SIJI				Sn	Sn	00 59 09.4	+0.5
	4.3nm,0.3s,baz=168,slow=19,SNR=6.6						
SIJI				LR	LR	01 01 24.0	
	comp=Z,2µm,19.1s,baz=288,slow=42						
ENPP	El Nido	8.61	319	*e*P	Pn	00 57 38.2	-3.9
MSAI	Masohi	8.82	154	P	Pn	00 57 46.4	+1.5
AAI	Ambon	8.84	160	P	Pn	00 57 46.5	+1.2
AAI				pmax	pmax		
	comp=Z,182nm,0.6s						
AAI	Ambon	8.84	160	P	Pn	00 57 45.0	-0.3
TTSI	Tana Toraja	9.31	215	P	Pn	00 57 52.1	+0.5
	comp=Z,82nm,0.7s,comp=Z,2µm						
SPSI	Siap Palu	10.10	212	P	Pn	00 58 05.3	+2.8
BKB	Balikpapan	10.10	235	P	Pn	00 58 11.1	+8.5
TGY	Tagaytay City	10.25	337	LR	LR	01 03 11.2	
	comp=Z,3µm,18.6s,baz=160,slow=44						
BNDI	Bandanaira	10.30	152	P	Pn	00 58 07.4	+2.2
BNSI	Bone	10.30	209	P	Pn	00 58 07.1	+1.9
FAKI	Fak Fak	10.36	136	*e*Pn	Pn	00 58 06.2	+0.1
FAKI	Fak Fak	10.36	136	P	Pn	00 58 07.9	+1.8
RKPI	Ransiki, Papua	10.93	124	P	Pn	00 58 15.4	+1.5
BKSI	Bulukumba	11.10	207	P	Pn	00 58 19.0	+2.8
MTKI	Muara Teweh, K	11.63	242	P	Pn	00 58 33.0	+10
KBKI	Kotabaru	11.94	229	P	Pn	00 58 31.2	+3.5
SOEI	Soe	14.35	183	P	Pn	00 59 03.2	+2.6
BATI	Baumata	14.84	186	Pn	Pn	00 59 07.2	0.0
	comp=Z,2.9nm,0.3s,baz=6.6,slow=18,SNR=3.5						
BATI				LR	LR	01 05 16.8	
	comp=Z,4µm,21.2s,baz=16,slow=39						
BATI	Baumata	14.84	186	P	Pn	00 59 09.2	+2.0
SMPI	Sarmi	15.10	116	P	Pn	00 59 12.4	+1.8
KSM	Kuching	15.12	258	*e*Pn	P	00 59 17.8	+2.3
	comp=Z,158nm,1.3s						
PLAI	Plampang	15.27	209	P	Pn	00 59 12.9	+0.1
WBSI	Waikabubak, Su	15.31	202	P	Pn	00 59 14.0	+0.6
TWSI	Taliwang, Sumb	15.64	212	P	P	00 59 22.0	+0.8
KMMI	Kalianget	16.10	224	P	P	00 59 41.2	+15
GENI	Genyem	16.67	115	P	P	00 59 31.5	-1.2
BLJI	Banyuglugur	16.85	223	P	P	00 59 46.9	+12
JAGI	Jajag, Banyuwa	17.02	220	*e*Pn	Pn	00 59 35.6	+0.5
	comp=Z,446nm,2.0s						
JAY	Jayapura	17.12	114	P	Pn	00 59 36.0	-0.5
	comp=Z,1.4nm,0.3s,baz=96,slow=22,SNR=7.7						
JAY				LR	LR	01 06 03.5	
	comp=Z,1µm,18.3s,slow=36						
JAY	Jayapura	17.12	114	P	Pn	00 59 36.0	-0.5
JAY	Jayapura	17.12	114	P	P	00 59 37.8	0.0
GMJI	Gumukmas	17.34	222	P	P	00 59 44.1	+4.0
TBJI	Tambak Boyo	17.48	229	P	P	00 59 42.5	+0.9
NGJI	Ngawi	18.12	229	P	Pn	00 59 52.0	+3.3
PWJI	Pagerwojo	18.31	227	P	Pn	00 59 53.2	+2.2
	comp=Z,82nm,0.9s,comp=Z,3µm						
MTN	Manton Dam	18.39	161	P	P	00 59 49.7	-1.9
	baz=18,SNR=19						
MTN	Manton Dam	18.39	161	*e*P	P	00 59 50.0	-1.6
	comp=Z,38nm,0.7s						
MTN				*e*Sn	S	01 03 35.8	+16
SMRI	Semarang	18.71	232	*e*P	P	00 59 55.7	+0.6
	comp=Z,268nm,1.3s						
SMRI	Semarang	18.71	232	P	Pn	01 00 01.5	+5.7
KDU	Kakadu	18.72	157	P	P	00 59 52.8	-2.4
	baz=19,SNR=9.5						
WOJI	Wonogiri, Jawa	18.83	229	P	Pn	01 00 00.7	+3.4
	comp=Z,64nm,1.1s						
YULB	Yu-li	18.99	349	*e*P	P	00 59 57.5	-0.7
	comp=Z,29nm,0.9s						
TPUB	Ta-pu	19.03	347	*e*P	P	00 59 58.0	-0.7
	comp=Z,355nm,1.9s						
SSLB	Suanglung	19.44	348	*e*P	P	01 00 02.1	-1.0
	comp=Z,64nm,1.2s						
KPJI	Karang Pucung	20.07	234	P	Pn	01 00 14.2	+2.1
	comp=Z,188nm,1.2s,comp=Z,3µm						
PPBI	Pangkal Pinang	20.14	251	P	Pn	01 00 13.4	+0.4
	comp=Z,65nm,1.4s,comp=Z,11µm						
KNRA	Kununurra	20.52	170	P	P	01 00 14.3	-0.6
	baz=20,SNR=12						
QIZ	Qiongzhong	20.65	315	P	P	01 00 17.4	+1.1
QIZ				S	Sn	01 04 08.8	-2.2
QIZ				pmax	pmax		
	comp=Z,51nm,2.0s						
QIZ				pmax	pmax		
	comp=Z,510nm,3.0s						
QIZ				LR	LR		
	comp=Z,1µm,12.3s						
QIZ				LR	LR		
	comp=Z,1µm,20.6s						
QIZ				LR	LR		
	comp=Z,2µm,15.7s						
QIZ	Qiongzhong	20.65	315	*e*P	P	01 00 14.6	-1.7
	comp=Z,239nm,1.9s						
LEM	Lembang	20.87	237	P	P	01 00 19.9	+1.1
	comp=Z,55nm,0.8s,baz=45,slow=13,SNR=6.1						
LEM				LR	LR	01 09 12.5	
	comp=Z,3µm,20.2s,baz=42,slow=39						
LEM	Lembang	20.87	237	P	P	01 00 20.0	+1.1
CISI	Cisompet, Garu	21.10	235	P	P	01 00 28.4	+7.1
QZH	Quanzhou	21.12	343	P	P	01 00 19.3	-2.0
QZH				S	S	01 04 13.8	-0.4
QZH				LR	LR		
	comp=Z,1µm,24.3s						
QZH				LR	LR		
	comp=Z,2µm,18.1s						
QZH				LR	LR		
	comp=Z,2µm,14.6s						
DSRI	Dabo	21.15	257	P	P	01 00 31.7	+10
GUMO	Guam	21.40	64	LR	LR	01 07 23.2	
	comp=Z,2µm,21.6s,baz=220,slow=33						
MYKOM	Kota Tinggi	21.43	263	*e*P	P	01 00 30.1	+5.3
	comp=Z,80nm,1.2s						
GZH	Guangzhou	21.57	329	P	P	01 00 29.9	+3.8
GZH				S	Sn	01 04 31.7	-1.2
GZH				LR	LR		
	comp=Z,2µm,18.2s						
GZH				LR	LR		
	comp=Z,2µm,18.2s						
UBPT	Khong Chiam	22.02	300	P	P	01 00 31.7	+0.6
	comp=Z,43nm,1.1s						
JOW	Kunigami	22.25	7	P	P	01 00 32.5	-1.0
	comp=Z,22nm,0.8s,baz=135,slow=20,SNR=3.1						
JOW	Kunigami	22.25	7	*e*P	P	01 00 32.9	-0.6
	comp=Z,339nm,1.7s						
CGJI	Cibinong	22.39	240	P	P	01 00 38.0	+2.9
FITZ	Fitzroy Crossi	22.62	179	P	P	01 00 37.0	-0.5
	comp=Z,7.9nm,0.6s,baz=6.9,slow=7.5,SNR=45						
FITZ	Fitzroy Crossi	22.62	179	P	P	01 00 36.9	-0.5
	baz=23,SNR=12						
FITZ	Fitzroy Crossi	22.62	179	*e*P	P	01 00 37.0	-0.5
	comp=Z,58nm,1.0s						
MDSI	Maura Dua	22.81	247	P	P	01 00 44.6	+5.1
	comp=Z,57nm,1.2s,comp=Z,1µm						
KASI	Kota Agung	22.95	244	P	P	01 00 43.8	+2.9
IPM	Ipoh	24.02	271	*e*P	P	01 00 51.5	+0.2
IPM				*e*pP	pP	01 00 59.9	-2.4
SKNT	Sakolnakorn	24.06	302	P	P	01 00 51.8	+0.1
	comp=Z,22nm,1.1s						
MASI	Maura Aman, Be	24.14	252	P	P	01 01 03.7	+11
SDSI	Sungai Dareh	24.31	257	P	P	01 01 05.9	+12
KULM	Kulim	24.39	273	*e*P	P	01 00 55.2	+0.5
KULM				*e*pP	pP	01 01 03.7	-2.0
BKNI	Bangkinang	24.43	261	P	P	01 00 58.9	+3.8
	comp=Z,130nm,1.0s,comp=Z,2µm						
SKLT	Songkhla	24.50	277	P	P	01 01 06.3	+11
PDSI	Padang	25.25	258	P	P	01 01 04.9	+2.4
	comp=Z,180nm,1.2s						
NONG	Nongkai	25.28	304	P	P	01 01 03.9	+1.1
	comp=Z,0.7nm,1.4s						
PATY	Pattaya	25.32	291	P	P	01 01 14.7	+12
CHAI	Chaiyaphum	25.32	298	P	P	01 01 04.0	+0.9
	comp=Z,17nm,0.9s,comp=Z,127nm						
TRTT	Trang	25.47	278	P	P	01 01 16.8	+12
COEN	Coen	25.75	136	*e*P	P	01 01 06.7	-0.3
	comp=Z,51nm,1.2s						
MNSI	Mandailing Nat	25.79	262	P	P	01 01 10.9	+3.4
	comp=Z,84nm,1.0s						
PMG	Port Moresby	26.03	122	P	P	01 01 09.2	-0.3
	comp=Z,27nm,1.0s,baz=280,slow=6.1,SNR=3.2						
PMG				LR	LR	01 12 58.6	
	comp=Z,417nm,19.1s,baz=282,slow=40						
WRAB	Tennant Creek	26.07	160	*e*P	P	01 01 08.9	-1.0
	comp=Z,204nm,1.1s						
WRAB	Tennant Creek	26.07	160	*c i*P	P	01 01 09.0	-0.9
WRAB				pmax	pmax		
	comp=Z,38nm,0.9s						
WRA	Warramunga Arr	26.07	160	P	P	01 01 08.4	-1.5
	comp=Z,35nm,0.9s,baz=342,slow=9.7,SNR=73						
WRA				S	S	01 05 43.6	+5.1
	comp=Z,10nm,1.0s,baz=322,slow=19,SNR=6.3						
WRA				LR	LR	01 12 40.2	
	comp=Z,308nm,21.3s,baz=340,slow=39						
WB2

KMI S **S** **01 06 34.4 0.0**
KMI sS sS 01 06 50.9 -2.0
KMI SS **SnSn** **01 08 14.7 +9.5**
KMI pmax pmax
comp=Z,11nm,1.2s
KMI pmax pmax
comp=Z,59nm,4.3s
KMI LR LR
comp=Z,1μm,25.0s
KMI LR LR
comp=Z,740nm,23.5s
KMI LR LR
comp=Z,1μm,24.2s
WRKA Warakurna 29.68 174 P **P** **01 01 42.6 +0.5**
baz=30,SNR=21
JHJ2 Mitsune 31.45 24 *e*P **P** **01 01 56.8 -0.9**
comp=Z,676nm,1.4s
MEEK Meekatharra 31.74 191 P **P** **01 01 59.4 -0.9**
baz=32,SNR=3.3
CTAO Charters Tower 32.19 140 *e*P **P** **01 02 03.3 -1.0**
comp=Z,55nm,1.6s
CTAO Charters Tower 32.19 140 *e*P **P** **01 02 03.3 -1.0**
CTAO pmax pmax
comp=Z,55nm,1.6s
INU Inuyama 32.46 18 *e*P **P** **01 02 04.6 -1.9**
comp=Z,24nm,0.6s
KSAR Wonju Array Be 32.73 4 P **P** **01 02 07.8 -0.9**
KSAR Wonju Array Be 32.73 4 P **P** **01 02 07.9 -0.9**
KSRS Korea Array 32.74 4 P **P** **01 02 07.8 -1.0**
comp=Z,2.8nm,0.7s,baz=183,slow=9.7,SNR=3.1
XAN Xi'an 32.88 335 P **P** **01 02 09.4 -0.9**
XAN pP pP 01 02 22.3 +0.9
XAN pmax pmax
comp=Z,19nm,1.6s
CD2 Chengdu 32.96 325 P **P** **01 02 11.5 +0.5**
CD2 S **S** **01 07 28.5 +1.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,4.8s
CD2 LR LR
comp=Z,2μm,11.8s
CD2 LR LR
comp=Z,2μm,14.7s
CD2 LR LR
comp=Z,3μm,15.7s
MAJO Matsushiro 33.93 19 *e*P **P** **01 02 18.6 -0.7**
comp=Z,15nm,0.9s
MAJO Matsushiro 33.93 19 *e*P **P** **01 02 18.6 -0.7**
MAJO pmax pmax
comp=Z,15nm,0.9s
MAT Matsushiro 33.93 19 P **P** **01 02 17.1 -2.3**
MAT S **S** **01 07 39.2 -2.3**
MJAR Matsushiro Arr 33.93 19 P **P** **01 02 17.1 -2.3**
comp=Z,163nm,1.1s,baz=203,slow=10.0,SNR=12
MJAR LR LR 01 16 00.0
comp=Z,435nm,19.6s,baz=210,slow=36
MJB9 Matsu-Tunnel 33.94 19 *e*P **P** **01 02 18.7 -0.7**
comp=Z,15nm,0.9s
TIY Taiyuan 34.88 342 *e*P **P** **01 02 30.6 +3.0**
TIY PP **PnPn** **01 03 45.7 +0.6**
TIY sS **sS** **01 08 15.1 +0.3**
TIY pmax pmax
comp=Z,240nm,11.3s
TIY LR LR
comp=Z,1μm,14.7s
TIY LR LR
comp=Z,440nm,13.4s
TIY LR LR
comp=Z,890nm,15.6s
FORT Forrest 35.35 176 *e*P **P** **01 02 30.6 -1.0**
comp=Z,42nm,0.8s
BJI Beijing 36.14 348 P **P** **01 02 37.5 -0.7**
BJI pmax pmax
comp=Z,11nm,1.0s
LZH Lanzhou 36.90 331 *e*P **P** **01 02 46.5 +1.4**
LZH pP pP 01 02 57.6 +1.3
LZH sP sP 01 03 01.2 +0.1
LZH S S 01 08 36.4 +9.0
LZH sS sS 01 08 46.8 +0.7
LZH SS **SnSn** **01 11 01.7 -0.6**
LZH pmax pmax
comp=Z,30nm,1.2s
LZH pmax pmax
comp=Z,140nm,5.4s
LZH LR LR
comp=Z,3μm,18.4s
LZH LR LR
comp=Z,2μm,16.1s
LZH LR LR
comp=Z,3μm,17.1s
BRDH Bariadhala 36.98 302 P **P** **01 02 46.0 +0.2**
comp=Z,73nm,0.4s,baz=81,slow=9.6,SNR=6.6
HHC Hu-ho-hao-te 38.03 343 *e*P **P** **01 02 57.3 +2.8**
HHC PP **PnPn** **01 04 28.5 +4.8**
HHC S **S** **01 08 48.3 +4.0**
HHC sS sS 01 09 04.4 +1.3
HHC SS **SnSn** **01 11 27.4 -2.0**
HHC pmax pmax
comp=Z,18nm,1.1s
HHC pmax pmax
comp=Z,48nm,5.2s
HHC LR LR
comp=Z,550nm,15.3s
HHC LR LR
comp=Z,1μm,17.5s
HHC LR LR
comp=Z,790nm,16.7s
SHL Shillong 38.04 307 *e*P **P** **01 02 54.8 -0.1**
comp=Z,83nm,1.1s
NWAO Narrogin (SRO) 38.12 191 *e*P **P** **01 02 54.7 -0.5**
comp=Z,70nm,1.3s
NWAO Narrogin (SRO) 38.12 191 *e*P **P** **01 02 54.7 -0.5**
NWAO pmax pmax
comp=Z,70nm,1.3s
BBOO Buckleboo 38.68 165 *e*P **P** **01 02 60.0 +0.1**
comp=Z,94nm,1.4s
CN2 Changchun 38.98 0 *e*P **P** **01 03 03.9 +1.6**
CN2 *e*S **S** **01 09 00.4 +2.1**
CN2 LR LR
comp=Z,690nm,20.0s
CN2 LR LR
comp=Z,470nm,20.0s
CN2 LR LR
comp=Z,1μm,20.0s
EIDS Eidsvold 39.07 141 *e*P **P** **01 03 02.9 -0.4**
comp=Z,19nm,0.9s
STKA Stephens Creek 39.58 158 P **P** **01 03 07.8 +0.4**
comp=Z,13nm,0.5s,baz=332,slow=8.6,SNR=28
STKA Stephens Creek 39.58 158 *e*P **P** **01 03 07.6 +0.2**
comp=Z,6.3nm,0.9s
USA0B Ussuriysk Arra 39.84 8 *e*P **P** **01 03 09.3 -0.1**
comp=Z,62nm,2.0s
USRK Ussuriysk Ar. 39.84 8 P **P** **01 03 09.3 -0.1**
comp=Z,2.9nm,0.5s,baz=187,slow=6.6,SNR=9.3
MDJ Mudanjiang 39.99 5 P **P** **01 03 12.2 +1.5**
MDJ pP pP 01 03 22.2 +0.2
MDJ S **S** **01 09 17.1 +3.7**
MDJ SS **SS** **01 12 11.3 -0.3**
MDJ pmax pmax
comp=Z,15nm,1.0s
MDJ LR LR
comp=Z,1μm,19.0s
MDJ LR LR
comp=Z,390nm,14.7s
MDJ LR LR
comp=Z,1μm,19.0s
LSA Lhasa 40.62 312 *e*P **P** **01 03 18.0 +1.2**
comp=Z,10nm,0.6s
LSA Lhasa 40.62 312 *e*P **P** **01 03 18.0 +1.2**
LSA pmax pmax
comp=Z,10.0nm,0.6s
TEY Ternei 41.45 12⇑ *e*P P 01 03 29.9 +7.2
TEY *e* 01 05 05.2
TEY pmax pmax
comp=Z,20nm,0.8s
TEY pmax pmax
comp=N,20nm,0.9s
GTA Gaotai 41.49 330 *e*P **P** **01 03 23.1 -0.2**
GTA pP pP 01 03 32.8 -1.9
GTA sP sP 01 03 36.7 -2.8
GTA PcP **PcP** **01 05 23.2 +2.7**
GTA ScP **ScP** **01 09 09.1 +1.5**
GTA S **S** **01 09 37.5 +1.3**
GTA sS sS 01 09 52.4 -2.7
GTA SS **SS** **01 12 37.4 -4.4**

GTA pmax pmax
comp=N,4.0nm,1.1s
GTA pmax pmax
comp=N,64nm,6.2s
GTA LR LR
comp=N,1μm,18.4s
GTA LR LR
comp=N,950nm,17.8s
GTA LR LR
comp=N,2μm,17.5s
ASAJ Asahikawa 42.20 19 P **P** **01 03 28.8 -0.1**
comp=N,22nm,0.9s,baz=186,slow=12,SNR=4.1
RAMN Ramite 42.91 305 *e*P **P** **01 03 35.4 +0.2**
comp=N,159nm,1.3s
ARMA Armidale 43.13 146 *e*P **P** **01 03 36.1 -0.6**
ARMA *e*pP **P** **01 03 39.1 +2.4**
YUK Yuzh-Kuril'sk 43.26 22 *d i*P **P** **01 03 35.3 -2.2**
YUK *e* 01 05 17.2
YUK *e*S **S** **01 10 00.0 -1.9**
YUK MLR MLR
comp=Z,579nm,17.0s
H11N1 WAKE ISLAND Hy 43.33 66 T T 01 49 40.1
baz=254,slow=75,SNR=12
H11N2 WAKE ISLAND Hy 43.34 66 T T 01 49 27.1
baz=254,slow=75,SNR=14
H11N3 WAKE ISLAND Hy 43.35 66 T T 01 49 41.2
baz=254,slow=75,SNR=16
JIRN Jiri 43.53 306 *e*P **P** **01 03 40.4 0.0**
comp=Z,98nm,0.9s
GUN Gumba 43.88 306 *e*P **P** **01 03 43.7 +0.5**
comp=Z,140nm,0.9s
PKI Pulchoki 44.12 305 *e*P **P** **01 03 44.8 -0.3**
comp=Z,78nm,1.2s
PKIN Phulchoki 44.14 305 *e*P **P** **01 03 44.6 -0.5**
comp=Z,53nm,1.3s
KKN Kakani 44.32 306 *e*P **P** **01 03 46.7 +0.2**
comp=Z,102nm,1.3s
DMN Daman 44.39 305 *e*P **P** **01 03 47.3 +0.2**
comp=Z,103nm,1.2s
KLR Kul'dur 44.77 6 P **P** **01 03 49.0 -0.4**
comp=Z,1.6nm,0.5s,baz=244,slow=7.1,SNR=7.2
KLR Kul'dur 44.77 6⇑ *e*P **P** **01 03 48.7 -0.8**
YSS Yuzh-Sakhalins 44.81 17 *e*P **P** **01 03 51.6 +1.8**
YSS MLR MLR
comp=Z,500nm,12.0s
CAN Canberra 45.66 152 *e*P **P** **01 03 58.6 +1.8**
comp=Z,123nm,1.9s
KOLN Koldanda 45.68 305 *e*P **P** **01 03 57.6 +0.3**
comp=Z,110nm,0.8s
ULN Ulaanbaatar 45.76 343 *e*P **P** **01 03 56.4 -1.1**
comp=Z,14nm,1.3s
ULN Ulaanbaatar 45.76 343⇓ *e*P **P** **01 03 56.3 -1.2**
ULN pmax pmax
comp=Z,9.0nm,1.7s
DANN Dangsing 45.77 306 *e*P **P** **01 03 58.4 +0.2**
comp=Z,93nm,0.7s
SONM Songino Array 45.92 342 P **P** **01 03 57.4 -1.4**
comp=Z,1.0nm,0.7s,baz=164,slow=6.8,SNR=7.7
SONM LR LR 01 24 49.7
comp=Z,793nm,20.5s,baz=154,slow=38
SONA1 Songino Array 45.93 342 *e*P **P** **01 03 58.1 -0.8**
PYUN Piuthan 46.30 305 *e*P **P** **01 04 02.6 +0.4**
comp=Z,213nm,1.1s
GRNR Gornyy 46.92 10 *e*P **P** **01 04 07.0 +0.5**
HYB Hyderabad 47.29 289 *i*P **P** **01 04 10.0 +0.1**
DZM Mont Dzumac 48.38 125 P **P** **01 04 17.6 -0.7**
comp=Z,14nm,0.9s,baz=280,slow=13,SNR=3.7
DZM Mont Dzumac 48.38 125 *e*P **P** **01 04 17.9 -0.5**
DZM *e*pP **P** **01 04 19.5 +1.2**
ZEA Zeya 48.96 2 *e*P P 01 04 32.0 +10
ZEA pmax pmax
comp=Z,18nm,1.4s
WMQ Urumqi 51.05 326 *e*P **P** **01 04 38.4 +0.1**
WMQ pP pP 01 04 51.0 +1.1
WMQ pmax pmax
comp=Z,32nm,1.7s
WMQ LR LR
comp=Z,3μm,17.7s
WMQ LR LR
comp=Z,3μm,18.3s
WMQ LR LR
comp=Z,2μm,19.5s
POO Poona 51.89 290 *e*P **P** **01 04 44.0 -1.0**
SKR Severo-Kuril's 52.71 24 *e*P P 01 04 57.5 +7.1
SKR *e*S **S** **01 12 20.1 +4.7**
HVS Khovu-Aksy 53.23 336⇓ *i*P **P** **01 04 54.4 0.0**
HVS pmax pmax
comp=Z,15nm,1.4s
PETK Petropavlovsk- 55.20 23 P **P** **01 05 07.7 -0.9**
comp=Z,6.1nm,0.8s,baz=193,slow=4.7,SNR=12
PETK Petropavlovsk- 55.20 23 *e*P **P** **01 05 08.2 -0.4**
MK01 Makanchi Array 55.87 326 *e*P **P** **01 05 12.8 -0.7**
MK31 Makanchi Array 55.88 326 *e*P **P** **01 05 13.1 -0.6**
MK31 Makanchi Array 55.88 326 *e*P **P** **01 05 12.6 -1.1**
MK31 pmax pmax
comp=Z,5.0nm,0.6s
MKAR Makanchi Array 55.88 326 P **P** **01 05 12.8 -0.9**
comp=Z,2.1nm,0.5s,baz=121,slow=7.7,SNR=32
MKAR LR LR 01 31 07.2
comp=Z,636nm,18.7s,baz=120,slow=38
MKAR Makanchi Array 55.88 326 *e*P **P** **01 05 13.2 -0.5**
MKAR Makanchi Array 55.88 326 *e*P **P** **01 05 13.2 -0.5**
KSH Kashi 56.26 315 P **P** **01 05 18.6 +2.0**
KSH pP pP 01 05 29.6 +1.2
KSH PcP **PcP** **01 06 15.7 +1.9**
KSH S **S** **01 13 03.4 -0.5**
KSH SS **SS** **01 16 51.4 +0.3**
KSH pmax pmax
comp=Z,70nm,1.5s
KSH pmax pmax
comp=Z,250nm,3.6s
KSH LR LR
comp=Z,1μm,13.5s
KSH LR LR
comp=Z,2μm,17.9s
KSH LR LR
comp=Z,1μm,16.6s
YAK Yakutsk 57.34 3 *e*P **P** **01 05 23.2 -0.5**
comp=Z,62nm,0.9s
YAK Yakutsk 57.34 3 *e*P **P** **01 05 21.6 -2.1**
YAK *e**PP **pP** **01 05 32.9 -2.6**
YAK *e* 01 07 25.5
YAK *e*S **S** **01 13 13.6 -3.5**
YAK *e**SS **sS** **01 13 35.0 -1.7**
YAK *e* 01 15 05.8
YAK pmax pmax
comp=Z,25nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.5s
YAK pmax pmax
comp=E,3.0nm,1.2s
YAK pmax pmax
comp=Z,8.0nm,0.6s
YAK pmax pmax
comp=N,108nm,2.0s
YAK pmax pmax
comp=E,179nm,3.4s
YAK smax smax
comp=N,112nm,3.0s
YAK smax smax
comp=E,120nm,4.2s
YAK MLR MLR
comp=Z,822nm,25.0s
YAK MLR MLR
comp=N,1μm,23.0s
YAK MLR MLR
comp=E,118nm,14.0s
MA2 Magadan 58.21 15 *e*P **P** **01 05 29.9 +0.1**
comp=E,38nm,1.3s
MA2 Magadan 58.21 15 *e*P **P** **01 05 29.9 +0.1**
MA2 pmax pmax
comp=Z,38nm,1.3s
AAK Ala-Archa 58.60 318 *e*P **P** **01 05 32.8 -0.3**
comp=Z,49nm,1.8s
AAK Ala-Archa 58.60 318 *e*P **P** **01 05 32.8 -0.3**
AAK pmax pmax
comp=Z,49nm,1.8s
ZAA0 Zalesovo Array 59.04 334 *e*P **P** **01 05 34.3 -1.4**
comp=Z,15nm,1.5s
ZALV Zalesovo Beam 59.04 334 P **P** **01 05 34.2 -1.5**
comp=Z,0.5nm,0.4s,baz=124,slow=7.7,SNR=6.6
ZALV LR LR 01 33 17.6
comp=Z,495nm,18.7s,baz=70,slow=38
ZALV Zalesovo Beam 59.04 334 *e*P **P** **01 05 33.8 -1.9**
KURK Kurchatov 60.10 328 *e*P **P** **01 05 41.9 -1.2**
comp=Z,14nm,0.8s

KURK Kurchatov 60.10 328 P **P** **01 05 41.3 -1.8**
SNR=7.0
KURK Kurchatov 60.10 328 *de*P **P** **01 05 42.1 -1.0**
KURK pmax pmax
comp=Z,16nm,1.0s
NVS Novosibirsk 60.33 334 *e*P **P** **01 05 42.9 -1.6**
KK31 Karatay Array 61.46 317 *e*P **P** **01 05 51.4 -1.2**
KK31 Karatay Array 61.46 317 *i*P **P** **01 05 52.2 -0.4**
KK31 pmax pmax
comp=Z,22nm,1.4s
KKAR Karatay Array 61.46 317 *e*P **P** **01 05 51.9 -0.7**
KKAR Karatay Array 61.46 317 *e*P **P** **01 05 51.9 -0.7**
SEY Seymchan 61.51 14⇓ *e*P **P** **01 05 52.4 0.0**
LBZ Lake Benmore 63.35 145 *e*P **P** **01 06 04.2 -0.9**
comp=Z,35nm,1.0s
THZ Tophouse 63.42 142 *e*P **P** **01 06 05.2 -0.4**
comp=Z,53nm,1.5s
RPZ Rata Peaks 63.44 144 P **P** **01 06 06.0 +0.3**
comp=Z,21nm,1.0s,baz=297,slow=6.8,SNR=3.5
BKZ Black Stump Fm 64.34 138 *e*P **P** **01 06 11.3 -0.5**
comp=Z,34nm,1.3s
BRVK Borovoye 65.74 327 *e*P **P** **01 06 19.7 -0.9**
comp=Z,15nm,0.9s
BRVK Borovoye 65.74 327 P **P** **01 06 19.6 -1.0**
SNR=8.5
BRVK Borovoye 65.74 327 *e*P **P** **01 06 19.7 -0.9**
BRVK pmax pmax
comp=Z,15nm,0.9s
TIXI Tiksi 66.95 1⇓ *e*P **P** **01 06 29.5 +1.6**
TIXI pmax pmax
comp=Z,13nm,1.5s
GEYT Alibeck 69.06 309 P **P** **01 06 41.7 -0.2**
comp=Z,6.6nm,0.9s,baz=147,slow=3.5,SNR=19
GYA0B ALIBECK ARRAY 69.06 309 *e*P **P** **01 06 42.9 +0.9**
BILL Bilibino 69.08 15⇓ *e*P **P** **01 06 41.8 +0.4**
BILL *SP **pP** **01 06 55.0 +1.6**
BILL 01 07 06.0
BILL S **S** **01 15 42.9 -0.6**
BILL pmax pmax
comp=Z,9.0nm,1.5s
BILL MLR MLR
comp=Z,363nm,18.0s
NRIK Noril'sk 69.16 347 P **P** **01 06 42.6 +0.8**
comp=Z,1.8nm,0.6s,baz=164,slow=20,SNR=3.4
NRIK LR LR 01 38 00.6
comp=Z,452nm,21.5s,baz=156,slow=37
AB31 Akbulak array 70.42 321 *i*P **P** **01 06 49.5 -0.5**
AB31 pmax pmax
comp=Z,3.0nm,0.8s
ABKAR Akbulak array 70.42 321 *e*P **P** **01 06 48.6 -1.4**
WHFO Wadi Hawf 70.84 287 P **P** **01 06 52.8 -0.5**
SVE Sverdlovsk 72.33 329 *e*P **P** **01 07 00.3 -1.1**
SVE pmax pmax
comp=Z,18nm,1.5s
RAYN Ar Rayn 78.64 293 *e*P **P** **01 07 37.3 -1.1**
comp=Z,12nm,1.0s
RAYN Ar Rayn 78.64 293 *e*P **P** **01 07 37.3 -1.1**
RAYN pmax pmax
comp=Z,12nm,1.0s
GNI Garni 79.66 310 *e*P **P** **01 07 42.4 -1.4**
comp=Z,36nm,1.4s
GNI Garni 79.66 310⇑ *e*P **P** **01 07 43.1 -0.6**
GNI pmax pmax
comp=Z,29nm,1.4s
ZEI Tsey 80.41 312 *e*P **P** **01 07 43.7 -4.1**
ZEI pmax pmax
comp=Z,17nm,1.6s
AKH Akhalkalaki 80.66 311 *e*P **P** **01 07 49.5 +0.5**
comp=Z,37nm,1.5s
AKH Akhalkalaki 80.66 311 *e*P **P** **01 07 49.6 +0.5**
AKH pmax pmax
comp=Z,37nm,1.5s
KBZ Khabaz 81.18 313 P **P** **01 07 52.5 +1.0**
comp=Z,2.6nm,1.0s,baz=141,slow=8.4,SNR=3.8
KBZ LR LR 01 48 28.7
comp=Z,374nm,20.1s,baz=78,slow=39
NEY Neytrino 81.29 313⇓ *e*P **P** **01 07 50.4 -2.0**
NEY pmax pmax
comp=Z,2.0nm,1.5s
KIV Kislovodsk 81.34 314 *e*P **P** **01 07 49.5 -3.1**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,364nm,19.0s
IM3 Indian Mountai 82.15 24 *e*P **P** **01 07 55.6 -0.6**
VRH Novokhopyorsk 82.25 321 *e*P **P** **01 07 55.7 -1.3**
VRH pmax pmax
comp=Z,6.0nm,0.6s
SUA Susitna One 83.13 29 *e*P **P** **01 08 02.0 +0.4**
BPAW Bear Paw Mtn. 83.16 26 *e*P **P** **01 08 01.7 +0.1**
MLY Manley 83.32 25 *e*P **P** **01 08 03.0 +0.6**
comp=Z,21nm,1.0s
TRF Thorofare Moun 83.44 27 *e*P **P** **01 08 03.4 +0.2**
comp=Z,29nm,1.2s
RC01 Rabbit Creek A 83.60 29 *e*P **P** **01 08 03.5 -0.4**
VORD Divnogorie 83.78 321 *e*P **P** **01 08 05.9 +0.9**
VORD pmax pmax
comp=Z,5.0nm,1.0s
VSR Storozhevoye 83.86 321 *e*P **P** **01 08 02.8 -2.6**
VSR pmax pmax
comp=Z,10.0nm,1.3s
TOLK Toolik Lake Re 83.97 22 *e*P **P** **01 08 06.2 +0.5**
comp=Z,36nm,1.3s
TOLK Toolik Lake Re 83.97 22 P **P** **01 08 05.9 +0.2**
baz=267
LPSR Galich'ya Gora 84.01 322 *e*P **P** **01 08 05.0 -1.1**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
MAW Mawson 84.07 200 P **P** **01 08 06.2 +0.2**
comp=Z,1.9nm,0.7s,baz=279,slow=6.3,SNR=3.2
MAW LR LR 01 46 00.3
comp=Z,120nm,18.7s,baz=61,slow=36
MDM Murphy Dome 84.39 25 *e*P **P** **01 08 07.8 0.0**
WRH Wood River Hil 84.44 26 *e*P **P** **01 08 07.6 -0.5**
TCOL CIGO, UAF Yank 84.54 25 P **P** **01 08 08.3 -0.2**
baz=269
VNDA Vanda 84.55 172 P **P** **01 08 07.7 -0.6**
comp=Z,1.4nm,0.8s,baz=324,slow=6.0,SNR=6.2
VNDA LR LR 01 43 25.3
comp=Z,84nm,21.8s,baz=324,slow=34
VNDA Vanda 84.55 172 *e*P **P** **01 08 10.6 +2.3**
comp=Z,7.2nm,1.0s
CCB Clear Creek Bu 84.56 26 *e*P **P** **01 08 07.9 -0.8**
POKR Poker Flat Res 84.73 25 P **P** **01 08 09.3 -0.3**
baz=270
MOS Moscow 84.77 325 *e*P **P** **01 08 06.9 -3.0**
MOS pmax pmax
comp=Z,25nm,0.9s
MOS MLR MLR
comp=Z,400nm,19.0s
HDA Harding Lake 84.93 26 *e*P **P** **01 08 09.9 -0.7**
HDA Harding Lake 84.93 26 P **P** **01 08 10.2 -0.4**
baz=270
IL1 Eielson Array 84.96 25 *e*P **P** **01 08 09.1 -1.6**
ILAR Eielson Array 84.96 25 P **P** **01 08 09.6 -1.1**
comp=Z,2.2nm,0.8s,baz=249,slow=4.6,SNR=24
ILAR LR LR 01 48 00.3
comp=Z,81nm,20.2s,baz=302,slow=37
ILB Eielson Array 84.96 25 *e*P **P** **01 08 10.6 -0.1**
OBN Obninsk 85.38 325⇓ *e*P **P** **01 08 13.7 +0.8**
OBN *e*SP **pP** **01 08 25.9 +0.6**
OBN *e*PPS PPS 01 20 10.6
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,414nm,19.0s
SBA Scott Base 85.47 172 *e*P **P** **01 08 14.2 +1.3**
comp=Z,8.7nm,1.2s
SBA Scott Base 85.47 172 *e*P **P** **01 08 14.2 +1.3**
SBA pmax pmax
comp=Z,9.0nm,1.2s
PPT Papeete 86.92 108 LR LR 01 40 10.0
comp=Z,114nm,21.8s,baz=200,slow=31
PPT2 Papeete2 86.93 108 *e*LR LR 01 35 57.4
comp=Z,421nm,27.2s
TBI Tubuai 87.63 114 *e*LR LR 01 36 16.9
comp=Z,403nm,28.0s
KMBO Kilima Mbogo 87.97 269 P **P** **01 08 25.3 -1.5**
comp=Z,0.5nm,0.3s,baz=198,slow=20,SNR=2.9
KMBO LR LR 01 43 07.9
comp=Z,203nm,21.1s,baz=96,slow=32
BR131 Keskin Array S 88.19 310 *e*P **P** **01 08 26.1 -1.2**
BRTR Keskin Array B 88.19 310 P **P** **01 08 25.8 -1.4**
comp=Z,1.4nm,0.8s,baz=128,slow=5.9,SNR=12
BRTR Keskin Array B 88.19 310 *i*P **P** **01 08 27.0 -0.2**
BRTR pmax pmax

	comp=Z,2.0nm,0.8s							
ARCES	**ARCESS Array B**	**89.03**	**340**	P		**P**	**01 08 30.7**	**+0.3**
	comp=Z,3.3nm,0.8s,baz=64,slow=5.5,SNR=5.9							
ARCES				LR		LR	01 53 37.0	
	comp=Z,11nm,18.1s,baz=114,slow=39							
EPYK	**Eagle Plains**	**89.04**	**24**	P		**P**	**01 08 30.3**	**-0.2**
	baz=279							
INK	**Inuvik**	**89.89**	**21**	P		**P**	**01 08 32.9**	**-1.5**
	comp=Z,1.0nm,0.5s,baz=289,slow=1.0,SNR=4.7							
AKASG	**Malin Array Be**	**90.16**	**321**	LR		LR	01 53 43.4	
	comp=Z,191nm,20.6s,baz=60,slow=39							
ISP	**Isparta**	**90.80**	**308**⇑	*eP*		**P**	**01 08 38.6**	**-0.9**
ISP				pmax		pmax		
	comp=Z,1.0nm,0.9s							
SYO	**Syowa Base**	**92.71**	**201**⇑	*es*	P	sP	01 09 05.0	+0.7
BUR04	**Bucovina Ar. S**	**93.25**	**318**	*eP*		**P**	**01 08 50.2**	**-0.4**
BUR04				*ep*	P	**pP**	**01 09 01.0**	**-2.0**
QSPA	**South Pole Qui**	**94.56**	**180**	*eP*		**P**	**01 08 55.9**	**-0.2**
	comp=Z,35nm,1.2s							
TAOE	**Nuku Hiva Isla**	**95.37**	**98**	*eS*		**S**	**01 20 14.1**	**-0.7**
	comp=Z,300nm,24.9s							
TAOE	**Nuku Hiva Isla**	**95.37**	**98**	*e*	LR	LR	01 39 53.4	
	comp=Z,684nm,25.3s							
NOA	**NORSAR Array B**	**97.24**	**333**	LR		LR	01 56 34.9	
	comp=Z,421nm,19.6s,baz=65,slow=38							
PVCC	**Panska Ves**	**99.28**	**323**	AMS		AMS	01 59 00.0	
	comp=Z,500nm,20.0s							
GOPC	**GO Pecny, Ondr**	**99.34**	**322**	AMS		AMS	01 57 10.0	
	comp=Z,400nm,15.7s							
PRA	**Prague**	**99.51**	**322**	AMS		AMS	01 57 20.0	
	comp=Z,500nm,22.0s							
KHC	**Kasperske Hory**	**100.34**	**322**	AMS		AMS	01 57 50.0	
	comp=Z,400nm,23.8s							
TORD	**Torodi Ar. Bea**	**121.11**	**288**	PKP		**PKPdf**	**01 14 28.4**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=98,slow=1.7,SNR=6.1							
TXAR	**Lajitas Array**	**122.28**	**51**	PKP		**PKPdf**	**01 14 30.9**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=322,slow=1.3,SNR=10							
JCT	**Junction City**	**124.65**	**48**	*e*	PKPdf	**PKPdf**	**01 14 36.0**	**+0.1**
JCT	**Junction City**	**124.65**	**48**	*e*	PKIKP	**PKPdf**	**01 14 36.0**	**+0.1**
PLCA	**Paso Flores**	**141.42**	**161**	PKP		**PKPdf**	**01 15 06.5**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=24,slow=21,SNR=3.6							
TRQA	**Tornquist**	**146.13**	**170**	*e*	PKPdf	**PKPbc**	**01 15 16.3**	**0.0**
TRQA	**Tornquist**	**146.13**	**170**	*e*	PKP2	**PKPbc**	**01 15 16.3**	**0.0**
JTS	**JuntasAbangare**	**146.57**	**64**	*e*	PKPbc	**PKPbc**	**01 15 18.2**	**0.0**
JTS	**JuntasAbangare**	**146.57**	**64**	*e*	PKP2	**PKPbc**	**01 15 18.2**	**0.0**
CPUP	**Villa Florida**	**158.32**	**174**	PKPab		**PKPab**	**01 16 07.1**	**-0.6**
	comp=Z,1.5nm,0.9s,baz=207,slow=7.0,SNR=3.0							
LPAZ	**La Paz**	**162.60**	**133**	PKP		**PKPdf**	**01 15 40.3**	**+1.0**
	comp=Z,1.4nm,0.9s,baz=35,slow=5.3,SNR=5.2							

ISCJB ***05*** *01:01:36.8±0.3, 4.°60N±0.°03×125.°21E±0.°06, h10km, mb4.2/15, MS4.4/1, Error ellipse: s-maj=8.6km s-min=4.7km az=168.4*

IDC ***05*** *01:01:37.9±0.6, 4.°65N×125.°42E, h0km, mb4.2/13, mb1 4.3/14, mb1mx4.1/38, mbtmp4.2/14, ML4.0/1, MS4.4/1, Ms1 4.4/1, ms1mx3.2/42, Error ellipse: s-maj=23.9km s-min=13.4km az=71.0*

NEIC ***05*** *01:01:41.9±0.5, 4.°57N×125.°31E, h35km, mb4.0/4, Error ellipse: s-maj=15.5km s-min=8.7km az=82.0*

MAN ***05*** *01:01:42.8, 4.°62N×124.°26E, h36km, mb5.5, ML4.5, MS4.8*

ISC 05 01:01:39.1±0.5, 4.°71N±0.°04×125.°28E±0.°08, h10km, n48, σ1°72/51, mb4.2/15, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.45**	**17**	*eP*		**Pg**		**01 02 05.9**	**-1.1**
DDMP				*eS*		**Sg**		**01 02 27.6**	**+1.8**
SKMP	**Bagumbayan, Su**	**1.94**	**338**	*eP*		**Pn**		**01 02 10.4**	**-1.8**
SKMP				*eS*		**Sn**		**01 02 34.4**	**-2.2**
DAV	**Davao City (W)**	**2.36**	**7**	Sn		**Sg**		**01 02 57.5**	**+2.5**
	113nm,0.3s,baz=290,slow=23,SNR=6.6								
DAV	**Davao City (W)**	**2.36**	**7**	*eP*	n	**Pn**		**01 02 18.1**	**+0.2**
CTBH	**Cotabato--PC H**	**2.69**	**338**	*eP*		**Pn**		**01 02 22.9**	**+0.3**
CTBH				*i*	S	**Sn**		**01 02 53.9**	**-1.4**
BUKP	**Musuan**	**3.15**	**356**	*eP*		**Pb**		**01 02 34.2**	**-1.2**
PAGZ	**Pagadian**	**3.64**	**329**	*eP*		**Pn**		**01 02 33.5**	**-2.0**
LUWI	**Luwuk**	**6.24**	**204**	*eP*	n	**Pn**		**01 03 08.8**	**-2.5**
LUWI				*e*	Sn	**Sn**		**01 04 26.2**	**+3.5**
MYLDM	**Lahad Datu**	**6.77**	**274**	*eP*	n	**Pn**		**01 03 16.4**	**-2.2**
SIJI	**Sorong**	**8.16**	**133**	Pn		**Pn**		**01 03 37.8**	**+0.1**
	2.1nm,0.3s,baz=229,slow=19,SNR=2.6								
ENPP	**El Nido**	**8.67**	**318**	*eP*		**Pn**		**01 03 41.2**	**-3.5**
MTN	**Manton Dam**	**18.39**	**162**	*eP*	n	**Pn**		**01 05 51.1**	**-3.2**
	8.6nm,0.8s								
FITZ	**Fitzroy Crossi**	**22.67**	**179**	P		**P**		**01 06 38.8**	**-2.0**
	3.4nm,0.8s,baz=330,slow=20,SNR=3.7								
FITZ	**Fitzroy Crossi**	**22.67**	**179**	*eP*		**P**		**01 06 37.4**	**-3.4**
	7.1nm,1.0s								
WRAB	**Tennant Creek**	**26.07**	**160**	*eP*		**P**		**01 07 10.8**	**-2.2**
	5.0nm,0.7s								
WR1	**Warramunga Arr**	**26.07**	**160**	*eP*		**P**		**01 07 11.2**	**-1.9**
WRA	**Warramunga Arr**	**26.07**	**160**	P		**P**		**01 07 11.2**	**-1.9**
	8.6nm,0.8s,baz=339,slow=10.0,SNR=9.2								
PSI	**Prapat**	**26.36**	**267**	P		**P**		**01 07 16.8**	**+0.9**
	5.5nm,0.7s,baz=359,slow=8.5,SNR=4.1								
CMAR	**Chiang Mai Arr**	**29.13**	**300**	P		**P**		**01 07 43.1**	**+2.6**
	0.8nm,0.4s,baz=118,slow=7.6,SNR=6.1								
ASAR	**Alice Springs**	**29.43**	**164**	P		**P**		**01 07 43.1**	**0.0**
	5.4nm,0.3s,baz=338,slow=7.2,SNR=15								
MJAR	**Matsushiro Arr**	**33.83**	**19**	P		**P**		**01 08 21.6**	**-0.2**
	105nm,0.8s,baz=201,slow=10,SNR=7.0								
MAJO	**Matsushiro**	**33.83**	**19**	*eP*		**P**		**01 08 21.6**	**-0.2**
STKA	**Stephens Creek**	**39.57**	**158**	P		**P**		**01 09 10.3**	**-0.3**
	11nm,0.8s,baz=343,slow=5.6,SNR=7.5								
STKA	**Stephens Creek**	**39.57**	**158**	*eP*		**P**		**01 09 10.3**	**-0.3**
	3.0nm,1.0s								
USRK	**Ussuriysk Ar.**	**39.77**	**8**	P		**P**		**01 09 12.6**	**+0.5**
	2.3nm,0.6s,baz=211,slow=13								
RAMN	**Ramite**	**43.00**	**305**	*eP*		**P**		**01 09 38.2**	**-1.1**
JIRN	**Jiri**	**43.62**	**306**	*eP*		**P**		**01 09 44.4**	**-0.1**
	28nm,0.9s								
GUN	**Gumba**	**43.98**	**306**	*eP*		**P**		**01 09 48.2**	**+0.9**
	46nm,1.2s								
PKI	**Pulchoki**	**44.22**	**305**	*eP*		**P**		**01 09 48.5**	**-0.7**
	34nm,1.4s								
PKIN	**Phulchoki**	**44.23**	**305**	*eP*		**P**		**01 09 48.7**	**-0.6**
KKN	**Kakani**	**44.41**	**306**	*eP*		**P**		**01 09 49.9**	**-0.7**
	4.8nm,0.3s								
KOLN	**Koldanda**	**45.78**	**305**	*eP*		**P**		**01 10 00.1**	**-1.4**
	28nm,0.7s								
DANN	**Dangsing**	**45.87**	**306**	*eP*		**P**		**01 10 02.3**	**0.0**
	38nm,0.7s								
PYUN	**Piuthan**	**46.40**	**305**	*eP*		**P**		**01 10 05.4**	**-1.0**
	48nm,0.9s								
PETK	**Petropavlovsk-**	**55.09**	**23**	P		**P**		**01 11 09.8**	**-1.4**
	1.1nm,0.4s,baz=206,slow=5.1,SNR=4.3								
PEA1	**Petropavlovsk-**	**55.09**	**23**	*eP*		**P**		**01 11 09.8**	**-1.4**
MK32	**Makanchi Array**	**55.93**	**326**	*eP*		**P**		**01 11 17.1**	**-0.3**
MKAR	**Makanchi Array**	**55.93**	**326**	P		**P**		**01 11 17.1**	**-0.3**
	1.1nm,0.6s,baz=115,slow=9.2,SNR=7.5								
MKAR	**Makanchi Array**	**55.93**	**326**	*eP*		**P**		**01 11 18.6**	**+1.1**
MA2	**Magadan**	**58.12**	**15**	LR		LR		01 34 34.5	
	comp=Z,323nm,19.9s,baz=222,slow=34								
ZALV	**Zalesovo Beam**	**59.06**	**333**	P		**P**		**01 11 41.1**	**+1.8**
	0.4nm,0.6s,baz=134,slow=8.3,SNR=2.5								
ZAA1	**Zalesovo Array**	**59.07**	**333**	*eP*		**P**		**01 11 41.1**	**+1.7**
KURK	**Kurchatov**	**60.14**	**328**	*eP*		**P**		**01 11 48.1**	**+1.3**
KKAR	**Karatay Array**	**61.53**	**317**	*eP*		**P**		**01 11 57.8**	**+1.3**
GEYT	**Alibeck**	**69.15**	**309**	P		**P**		**01 12 47.1**	**+1.0**
	1.4nm,0.7s,baz=95,slow=16,SNR=3.3								
ILAR	**Eielson Array**	**84.84**	**25**	P		**P**		**01 14 14.5**	**+0.7**
	0.5nm,0.7s,baz=244,slow=5.4,SNR=5.8								
BRTR	**Keskin Array B**	**88.28**	**310**	P		**P**		**01 14 34.4**	**+3.0**
	0.5nm,0.8s,baz=46,slow=6.2,SNR=3.4								
TXAR	**Lajitas Array**	**122.13**	**51**	PKP		**PKPdf**		**01 20 36.8**	**+1.8**
	0.7nm,0.9s,baz=188,slow=2.5,SNR=6.0								

IDC 05 01:24:01.7±1.1, 4.°39N×124.°71E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.6/43, mbtmp3.8/6, MS3.5/3, Ms1 3.5/3, ms1mx3.0/43, Error ellipse: s-maj=70.2km s-min=20.5km az=73.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.80**	**18**	Sn		Sn		01 25 20.1	-2.3
	78nm,0.3s,baz=112,slow=22,SNR=6.1								
SIJI	**Sorong**	**8.38**	**128**	LR		LR		01 29 14.3	
	comp=Z,293nm,18.2s,slow=37								
FITZ	**Fitzroy Crossi**	**22.36**	**178**	P		P		01 29 02.2	+0.7
	1.0nm,0.5s,baz=20,slow=6.2,SNR=8.5								
WRA	**Warramunga Arr**	**25.96**	**159**	P		P		01 29 36.0	-0.2
	3.4nm,0.7s,baz=335,slow=10,SNR=22								
JCJ	**Chichijima**	**28.08**	**35**	LR		LR		01 38 21.3	
	comp=Z,70nm,21.7s,baz=145,slow=31								
ASAR	**Alice Springs**	**29.29**	**163**	P		P		01 30 05.3	-0.7
	0.6nm,0.6s,baz=336,slow=7.1,SNR=6.5								
STKA	**Stephens Creek**	**39.48**	**157**	P		P		01 31 34.5	+0.5
	1.9nm,0.7s,baz=340,slow=6.7,SNR=4.7								
MKAR	**Makanchi Array**	**55.88**	**326**	P		P		01 33 41.5	+0.2
	0.5nm,0.7s,baz=117,slow=9.1,SNR=3.9								
TIXI	**Tiksi**	**67.23**	**1**	LR		LR		02 06 23.3	
	comp=Z,55nm,18.1s,baz=291,slow=38								
ILAR	**Eielson Array**	**85.38**	**25**	P		P		01 36 40.3	-0.5
	0.4nm,1.0s,baz=268,slow=5.2,SNR=4.3								

MEX 05 01:28:35.1±0.6, 19.°18N×103.°93W, h72km±3km, MD3.5, Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
R15V		**0.06**	**256**	*eP*		Pn		01 28 44.0	-1.5
R15V				*eS*		Sn		01 28 51.1	-2.1
EZ5V		**0.42**	**46**	*eP*		Pn		01 28 46.4	-1.3
EZ5V				*eS*		Sn		01 28 55.2	-1.7
MMIG	**Aquila**	**1.05**	**148**	*eP*		Pn		01 28 53.4	-0.9
MMIG				*eS*		Sn		01 29 06.3	-2.2
CJM	**Chamela**	**1.10**	**287**	*eP*		Pn		01 28 53.7	-1.3
CJM				*i*	S	Sn		01 29 07.6	-2.2
ZIIG	**Zihuatanejo**	**2.81**	**123**	*eP*		Pn		01 29 17.4	-0.5
ZIIG				*eS*		Sn		01 29 49.4	-1.2

IDC ***05*** *01:30:14.2±1.5, 37.°00N×142.°29E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.4/42, mbtmp3.5/4, ML2.9/1, Error ellipse: s-maj=33.6km s-min=28.2km az=154.0*

JMA ***05*** *01:30:17.9±0.1, 37.°26N×141.°83E, h41km±3km, M3.6*

ISC 05 01:30:14.9±2.0, 37.°29N±0.°05×141.°91E±0.°07, h5km±11km, n15, σ1°55/27, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.83**	**276**	P		**Pn**		**01 30 32.4**	**-0.8**
JFK				S		**Sg**		**01 30 42.3**	**+0.7**
ONAJ	**Iwakimizuishiy**	**0.91**	**258**	P		**Pb**		**01 30 33.3**	**+0.2**
ONAJ				S		**Sg**		**01 30 43.8**	**-0.3**
JMM	**Marumori**	**1.06**	**303**	P		**Pn**		**01 30 36.2**	**-0.1**
JMM				S		**Sg**		**01 30 49.1**	**+0.2**
JFFD	**Fukushimafurud**	**1.10**	**260**	P		**Pg**		**01 30 36.1**	**+0.2**
JFFD				S		**Sg**		**01 30 48.8**	**-1.3**
JIO	**Ouri**	**1.25**	**339**	P		**Pg**		**01 30 39.1**	**+0.3**
JIO				S		**Sb**		**01 30 53.7**	**-1.5**
JHO	**Hitachi**	**1.27**	**238**	P		**Pn**		**01 30 38.2**	**-1.1**
JHO				S		**Sb**		**01 30 52.8**	**-3.1**
JFT	**Otama**	**1.27**	**281**	P		**Pg**		**01 30 39.8**	**+0.5**
JFT				S		**Sb**		**01 30 54.9**	**-1.1**
JOU	**Okura**	**1.46**	**318**	P		**Pb**		**01 30 42.5**	**0.0**
JOU				S		**Sn**		**01 31 00.3**	**-1.1**
JYS	**Shirataka**	**1.73**	**303**	P		**Pb**		**01 30 46.6**	**-0.6**
JYS				S		**Sn**		**01 31 07.6**	**-0.5**
JMK	**Ichinoseki**	**1.75**	**342**	P		**Pb**		**01 30 46.8**	**-0.6**
JMK				S		**Sn**		**01 31 07.5**	**-0.9**
MJAR	**Matsushiro Arr**	**3.06**	**257**	Pn		**Pn**		**01 31 05.7**	**+1.8**
	1.3nm,0.3s,baz=84,slow=15,SNR=8.3								
MJAR				Sn		**Sb**		**01 31 46.2**	**-1.2**
	2.7nm,0.3s,baz=66,slow=11,SNR=5.9								
MAT	**Matsushiro**	**3.06**	**257**	P		**Pn**		**01 31 05.8**	**+1.9**
MAT				S		**Sn**		**01 31 42.5**	**+1.6**
SONM	**Songino Array**	**27.97**	**303**	P		**P**		**01 36 11.1**	**+4.7**
	0.5nm,0.8s,baz=114,slow=6.5,SNR=2.4								
ILAR	**Eielson Array**	**49.07**	**32**	P		**P**		**01 39 02.5**	**-0.1**
	0.5nm,0.9s,baz=268,slow=6.5,SNR=4.3								
WRA	**Warramunga Arr**	**57.37**	**188**	P		**P**		**01 40 02.9**	**-1.3**
	0.2nm,0.5s,baz=6.9,slow=7.3,SNR=4.9								

IDC ***05*** *01:34:46.8±0.9, 4.°72N×125.°27E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.7/38, mbtmp3.9/7, MS3.4/3, Ms1 3.4/3, ms1mx2.9/41, Error ellipse: s-maj=48.7km s-min=17.3km az=79.0*

ISC 05 01:34:52.0±2.7, 4.°7N±0.°1×12.°5E±.°, h35km, n13, σ0°53/6, mb3.8/8, MS3.2/3, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.35**	**5**	Pn		Pn		01 35 32.7	+4.5
	154nm,0.3s,baz=184,slow=2.0,SNR=4.2								
DAV				Sn		Sn		01 36 05.1	+9.2
	49nm,0.3s,baz=260,slow=23,SNR=5.8								
LEM	**Lembang**	**21.10**	**237**	LR		LR		01 47 53.2	
	comp=Z,82nm,20.8s,baz=32,slow=37								
GUMO	**Guam**	**21.16**	**64**	LR		LR		01 46 25.6	
	comp=Z,98nm,21.3s,baz=132,slow=33								
FITZ	**Fitzroy Crossi**	**22.67**	**179**	P		**P**		**01 39 50.2**	**-0.2**
	1.7nm,0.8s,baz=5.2,slow=8.7,SNR=4.1								
WRA	**Warramunga Arr**	**26.04**	**160**	P		**P**		**01 40 22.6**	**+0.4**
	8.4nm,0.9s,baz=338,slow=10,SNR=29								
PSI	**Prapat**	**26.45**	**267**	LR		LR		01 51 51.4	
	comp=Z,81nm,18.2s,baz=278,slow=39								
ASAR	**Alice Springs**	**29.41**	**164**	P		**P**		**01 40 52.2**	**-0.1**
	0.7nm,0.6s,baz=353,slow=7.9,SNR=8.0								
MJAR	**Matsushiro Arr**	**33.81**	**19**	P		**P**		**01 41 30.6**	**-0.3**
	1.0nm,0.6s,baz=197,slow=9.5,SNR=5.6								
STKA	**Stephens Creek**	**39.53**	**158**	P		**P**		**01 42 19.6**	**-0.1**
	3.4nm,0.8s,baz=340,slow=15,SNR=3.9								
MKAR	**Makanchi Array**	**55.98**	**326**	P		P		01 44 26.5	-0.6
	0.4nm,0.6s,baz=118,slow=8.8,SNR=4.0								
ILAR	**Eielson Array**	**84.81**	**25**	P		P		01 47 23.4	+0.8
	0.5nm,0.9s,baz=261,slow=4.4,SNR=3.4								
BRTR	**Keskin Array B**	**88.35**	**310**	P		P		01 47 40.7	0.0
	0.5nm,0.9s,baz=101,slow=4.6,SNR=3.5								
TXAR	**Lajitas Array**	**122.06**	**51**	PKP		**PKPdf**		**01 53 44.5**	**+0.7**
	0.2nm,0.8s,baz=227,slow=3.1,SNR=3.9								

MEX 05 01:56:05.0±0.6, 16.°42N×98.°41W, h4km±6km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.27**	**96**	*eP*		Pg		01 56 09.7	-0.6
PNIG				*eS*		Sg		01 56 14.2	+0.3
TLIG	**Tlapa**	**1.15**	**352**	*eP*		Pg		01 56 23.9	-3.1
TLIG				*eS*		Sg		01 56 38.2	-3.6
VHO	**Vista Hermosa**	**1.73**	**68**	*i*	P	Pn		01 56 32.8	-3.2
VHO				*i*	S	Sn		01 56 54.1	-4.6
CAIG	**El Cayaco**	**1.89**	**290**	*eP*		Pn		01 56 34.7	-3.4
CAIG				*i*	S	Sn		01 56 58.1	-4.3
HUIG	**Huatulco**	**2.30**	**106**	*i*	P	Pn		01 56 40.6	-3.2
HUIG				*i*	S	Sn		01 57 07.6	-5.0

ISCJB ***05*** *02:30:09.7±0.4, 8.°77N±0.°03×73.°07W±0.°04, h139km±4km, mb3.6/6, Error ellipse: s-maj=5.8km s-min=4.7km az=4.6*

RSNC ***05*** *02:30:11.9±1.1, 8.°72N×73.°13W, h131km±5km, ML4.3, Mw4.4*

IDC ***05*** *02:30:12.0±1.1, 8.°71N×72.°86W, h155km±12km, mb3.4/6, mb1 3.7/12, mb1mx3.4/32, mbtmp4.1/12, MS3.5/1, Ms1 3.5/1, ms1mx2.7/26, Error ellipse: s-maj=16.5km s-min=10.0km az=118.0*

ISC 05 02:30:10.0±0.7, 8.°79N±0.°04×73.°05W±0.°04, h135km±6km, n48, σ1°43/63, mb3.8/6, 6C-6D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OCAC	**Ocana**	**0.61**	**206**⇑	*iP*		**Pn**		**02 30 31.2**	**+0.8**
OCAC				*eS*		**Sn**		**02 30 46.0**	**0.0**
OCAC				*i*				02 30 46.9	
	comp=N,18μm,0.3s								
SMLC	**San Mart`›n de**	**1.01**	**271**⇑	*iP*		**Pn**		**02 30 34.0**	**+0.6**
CODC	**Agust`›n Codaz**	**1.20**	**341**⇓	*iP*		**Pn**		**02 30 37.0**	**+1.8**
CODC				*eS*		**Sn**		**02 30 56.0**	**+1.5**
CODC				*i*				02 30 57.3	
	comp=N,2μm,0.4s								
PAMC	**Pamplona, Colo**	**1.48**	**167**⇓	*iP*		**Pn**		**02 30 39.7**	**+0.9**
PAMC				*eS*		**Sn**		**02 31 00.5**	**-0.1**
PAMC				*i*				02 31 02.8	
	comp=N,2μm,0.4s								
GIRC	**Giron, Santand**	**1.71**	**185**⇑	*iP*		**Pn**		**02 30 41.6**	**+0.7**
GIRC				*eS*		**Sn**		**02 31 04.3**	**-0.2**
BRRC	**Barranca, Sant**	**1.80**	**202**⇑	*iP*		**Pn**		**02 30 42.2**	**+0.4**
BRRC				*eS*		**Sn**		**02 31 05.8**	**-0.4**
BRRC				*i*				02 31 08.8	
	comp=N,3μm,0.5s								
BARC	**Barichara**	**2.19**	**184**⇓	*iP*		**Pn**		**02 30 47.3**	**+0.5**
BARC				*eS*		**Sn**		**02 31 14.7**	**-0.3**
BARC				*i*				02 31 19.5	
	comp=Z,2μm,0.3s								
ZARC	**Zaragoza, Cauc**	**2.21**	**234**⇓	*iP*		**Pn**		**02 30 46.6**	**-0.2**
ZARC				*eS*		**Sn**		**02 31 12.7**	**-2.3**
ZARC				*i*				02 31 22.6	
	comp=N,2μm,0.2s								
SDV	**Santo Domingo**	**2.39**	**88**	P		**Pn**		**02 30 51.5**	**+2.3**
	comp=N,86nm,0.3s,baz=286,slow=9.0,SNR=222								
SDV				S		**Sn**		**02 31 19.6**	**+0.4**
	comp=N,724nm,0.3s,baz=2.2,slow=16,SNR=46								
SDV	**Santo Domingo**	**2.39**	**88**	*eP*		**Pn**		**02 30 51.2**	**+2.1**
MOTC	**Monteria, Cord**	**2.59**	**270**⇓	*iP*		**Pn**		**02 30 51.0**	**-0.5**
MOTC				*eS*		**Sn**		**02 31 22.0**	**-1.4**
SMRC	**Santa Marta, M**	**2.63**	**334**	*eP*		**Pn**		**02 30 53.1**	**+1.1**
TAMC	**Tame, Arauca**	**2.65**	**152**⇑	*iP*		**Pn**		**02 30 53.5**	**+1.1**
TAMC				*i*				02 30 54.0	
	comp=Z,1μm,0.2s								
TAMC				*eS*		**Sn**		**02 31 24.4**	**-0.5**
RUSC	**La Rusia**	**2.88**	**181**⇑	*iP*		**Pn**		**02 30 55.1**	**-0.6**
RUSC				*eS*		**Sn**		**02 31 29.9**	**-0.9**
RUSC				*i*				02 31 42.1	
	comp=N,437nm,0.4s								
HELC	**Santa Helena**	**3.57**	**224**	*eP*		**Pn**		**02 31 04.6**	**+0.1**
HELC				*i*				02 31 57.0	
	comp=N,648nm,0.5s								
DBBC	**Dabeiba**	**3.59**	**241**	*eP*		**Pn**		**02 31 03.7**	**-0.9**
DBBC				*i*				02 32 01.2	
	comp=Z,608nm,0.6s								
NORC	**Norcasia**	**3.68**	**210**⇓	*iP*		**Pn**		**02 31 05.5**	**-0.2**
NORC				*i*				02 31 58.1	
	comp=N,1μm,0.8s								
ROSC	**El Rosal**	**4.12**	**198**	P		**Pn**		**02 31 13.3**	**+1.5**
	comp=N,2.1nm,0.3s,baz=50,slow=7.5,SNR=7.2								
ROSC				S		**Sn**		**02 32 03.1**	**+3.2**
	comp=N,34nm,0.3s,baz=355,slow=20,SNR=6.1								
ROSC	**El Rosal**	**4.12**	**198**	*eP*		**Pn**		**02 31 13.4**	**+1.5**
ROSC				*i*				02 32 16.3	
	comp=Z,315nm,0.5s								
CHIC	**Chingaza**	**4.19**	**189**	*eP*		**Pn**		**02 31 13.0**	**+0.2**
CHIC				*eS*		**Sn**		**02 32 02.2**	**+0.7**
CHIC				*i*				02 32 07.1	
	comp=N,567nm,0.5s								
GUYC	**Guyana, Colomb**	**4.24**	**213**	*eP*		**Pn**		**02 31 13.9**	**+0.4**
TOLC	**Tolima**	**4.75**	**209**	*eP*		**Pn**		**02 31 21.1**	**+0.9**
TOLC				*i*				02 32 29.8	
	comp=Z,186nm,0.8s								
ANIL	**Santa Ana**	**4.87**	**209**	*eP*		**Pn**		**02 31 22.5**	**+0.8**
ANIL				*i*				02 32 33.9	
	comp=Z,524nm,0.6s								
PTAC	**Punta Ardita,**	**4.99**	**251**	*eP*		**Pn**		**02 31 22.6**	**-0.4**
PTAC				*i*				02 32 20.0	
	comp=N,196nm,0.2s								
PLMC	**San Jos`› del**	**5.02**	**220**	*eP*		**Pn**		**02 31 24.1**	**+0.6**
PLMC				*i*				02 31 27.6	
	comp=Z,176nm,0.1s								
PRAC	**Prado**	**5.36**	**200**	*eP*		**Pn**		**02 31 28.0**	**-0.1**
PRAC				*eS*		**Sn**		**02 32 28.5**	**-0.5**
PRAC				*i*				02 32 43.8	
	comp=N,154nm,0.5s								
SJAC	**San Ju

RSNC 05 03:00:57.8±1.1, 4°.76N×74°.90W, h30km±5km, ML1.4, Mw2.6, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLC	**Tolima**	**0.45**	**248**	*eP*	Pb	03 01 07.1	-0.6
TOLC	**Tolima**	**0.45**	**248**	*eP*	Pb	03 01 07.1	-0.6
ANIL	**Santa Ana**	**0.57**	**242**	*eP*	Pb	03 01 08.8	-0.8
ANIL				*eS*	Sb	03 01 17.2	-0.3
ANIL				*i*		03 01 17.9	
	comp=Z,29nm,0.1s						
ANIL	**Santa Ana**	**0.57**	**242**	*eP*	Pb	03 01 08.8	-0.8
ANIL				*eS*	Sb	03 01 17.2	-0.3
ANIL				*i*		03 01 17.9	
	comp=Z,29nm,0.1s						
ROSC	**El Rosal**	**0.58**	**82**	*eP*	Pb	03 01 09.4	-0.4
ROSC	**El Rosal**	**0.58**	**82**	*eP*	Pb	03 01 09.4	-0.4
GUYC	**Guyana, Colomb**	**0.67**	**313**	*eP*	Pb	03 01 11.5	+0.1
GUYC				*eS*	Sn	03 01 21.6	+0.1
GUYC	**Guyana, Colomb**	**0.67**	**313**	*eP*	Pb	03 01 11.5	+0.1
GUYC				*eS*	Sn	03 01 21.6	+0.1
NORC	**Norcasia**	**0.80**	**2**	*eP*	Pn	03 01 11.8	-1.4
NORC				*i*		03 01 13.1	
	comp=Z,5.9nm,0.1s						
NORC				*eS*	Sb	03 01 23.0	-0.9
NORC	**Norcasia**	**0.80**	**2**	*eP*	Pn	03 01 11.8	-1.4
NORC				*i*		03 01 13.1	
	comp=Z,5.9nm,0.1s						
NORC				*eS*	Sb	03 01 23.0	-0.9
PRAC	**Prado**	**1.04**	**179**	*eP*	Pn	03 01 15.5	-0.8
PRAC				*eS*	Sn	03 01 29.6	-0.3
PRAC				*i*		03 01 32.9	
	comp=N,6.4nm,0.4s						
PRAC	**Prado**	**1.04**	**179**	*eP*	Pn	03 01 15.5	-0.8
PRAC				*eS*	Sn	03 01 29.6	-0.3
PRAC				*i*		03 01 32.9	
	comp=N,6.4nm,0.4s						
HELC	**Santa Helena**	**1.56**	**336**	*eP*	Pb	03 01 25.7	-0.5

IDC 05 03:09:15.0±4.1, 10°.17S×154°.50E, h0km, mb3.0/2, mb1 3.4/2, mb1mx3.2/24, mbtmp3.1/2, Error ellipse: s-maj=276.2km s-min=49.5km az=138.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.74**	**241**	P	P	03 14 06.4	-1.8
	0.3nm,0.6s,baz=62,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**23.80**	**233**	P	P	03 14 30.8	+1.0
	0.4nm,0.6s,baz=62,slow=10,SNR=5.3						
TORD	**Torodi Ar. Bea**	**153.21**	**279**	PKPbc	PKPbc	03 29 16.3	+0.3
	baz=105,slow=3.2						

*IDC **05** 03:20:02.9±1.7, 3°.58S×99°.72E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.7/41, mbtmp3.9/8, Error ellipse: s-maj=63.1km s-min=20.1km az=56.0*
*DJA **05** 03:20:04.9±1.3, 4°.5S×10°.0E±°, h36km±35km, M4.2/11, mb4.5/1, MLv4.1/11*
*ISCJB **05** 03:20:05.8±0.9, 3°.52S±0°.09×99°.96E±0°.09, h33km, mb3.9/8, Error ellipse: s-maj=16.1km s-min=8.1km az=137.7*

ISC 05 03:20:08.2±1.2, 3°.5S±0°.1×100°.0E±0°.1, h35km, n25, σ1§47/19, mb3.9/8, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.74**	**4**	P	**Pn**	**03 20 21.0**	**-1.2**
KRJI	**Kerinci**	**2.05**	**47**	P	**Pn**	**03 20 39.5**	**-0.8**
MASI	**Maura Aman, Be**	**2.30**	**81**	P	**Pn**	**03 20 42.7**	**-1.0**
PDSI	**Padang**	**2.62**	**11**	P	**Pn**	**03 20 46.8**	**-1.3**
PPI	**Padang Panjang**	**3.06**	**8**	P	**Pn**	**03 20 53.0**	**-1.1**
MNAI	**Manna**	**3.10**	**106**	P	**Pn**	**03 20 53.0**	**-1.7**
PBSI	**Pulau Batu**	**3.82**	**334**	P	**Pn**	**03 21 02.0**	**-2.5**
MDSI	**Maura Dua**	**4.32**	**103**	P	**Pn**	**03 21 09.9**	**-1.5**
DSRI	**Dabo**	**5.50**	**57**	P	**Pn**	**03 21 26.9**	**-0.8**
CGJI	**Cibinong**	**6.49**	**119**	P	**Pn**	**03 21 38.9**	**-2.3**
CMAR	**Chiang Mai Arr**	**21.85**	**357**	P	**P**	**03 24 56.1**	**-1.7**
	1.7nm,0.3s,baz=181,slow=11,SNR=5.3						
H08S2	**Diego Garcia H**	**27.64**	**260**	T	T	03 55 16.7	
	baz=82,slow=75,SNR=57						
H08S3	**Diego Garcia H**	**27.65**	**260**	T	T	03 55 18.3	
	baz=82,slow=75,SNR=52						
H08S1	**Diego Carcia H**	**27.66**	**260**	T	T	03 55 16.7	
	baz=82,slow=75,SNR=29						
H01W3	**Cape Leeuwin H**	**33.88**	**159**	T	T	04 02 53.9	
	baz=336,slow=76,SNR=14						
H01W2	**Cape Leeuwin H**	**33.89**	**159**	T	T	04 02 56.1	
	baz=336,slow=76,SNR=16						
H01W1	**Cape Leeuwin H**	**33.90**	**159**	T	T	04 02 55.8	
	baz=336,slow=76,SNR=15						
WRA	**Warramunga Arr**	**37.28**	**119**	P	**P**	**03 27 17.7**	**+0.5**
	0.4nm,0.4s,baz=302,slow=8.8,SNR=7.6						
ASAR	**Alice Springs**	**38.42**	**125**	P	**P**	**03 27 27.8**	**+1.1**
	0.2nm,0.3s,baz=302,slow=8.0,SNR=3.4						
SONM	**Songino Array**	**51.44**	**6**	P	**P**	**03 29 11.6**	**+1.6**
	1.1nm,0.7s,baz=183,slow=7.4,SNR=4.6						
MKAR	**Makanchi Array**	**52.46**	**345**	P	**P**	**03 29 17.8**	**+0.2**
	0.8nm,0.5s,baz=158,slow=9.1,SNR=6.4						
USRK	**Ussuriysk Ar.**	**55.49**	**28**	P	**P**	**03 29 41.1**	**+1.4**
	1.7nm,0.6s,baz=224,slow=10.0						
ZALV	**Zalesovo Beam**	**58.63**	**350**	P	**P**	**03 30 01.2**	**-0.5**
	2.1nm,0.5s,baz=157,slow=6.5,SNR=8.3						
GERES	**GERESS Array B**	**90.15**	**319**	P	**P**	**03 33 04.3**	**-0.7**
	0.5nm,0.8s,baz=126,slow=1.7,SNR=3.8						
TXAR	**Lajitas Array**	**145.90**	**39**	PKPbc	**PKPab**	**03 39 46.3**	**+1.0**
	0.8nm,0.6s,baz=299,slow=1.1,SNR=17						

DJA 05 03:29:48.5±0.9, 1°N±5°×127°E±°, h27km±14km, M3.5/6, MLv3.5/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.47**	**55**	P	Pn	03 29 59.5	0.0
LBMI	**Labuha**	**1.24**	**155**	P	Pn	03 30 10.5	+0.3
SANI	**Sanana**	**2.72**	**201**	P	Pn	03 30 30.0	-0.5
SANI				S	Sn	03 31 03.5	+1.0
KMSI	**Cibinong**	**3.00**	**271**	P	Pn	03 30 34.3	0.0
SGSI	**Sangihe**	**3.48**	**335**	P	Pn	03 30 41.1	+0.2

*ISCJB **05** 04:03:15.7±0.3, 44°.49N±0°.02×7°.23E±0°.02, h12km±2km, Error ellipse: s-maj=3.3km s-min=2.1km az=143.8*
*ROM **05** 04:03:15.5±0.1, 44°.488N±0°.005×7°.25E±0°.01, h9km, ML2.4/17*
*GEN **05** 04:03:16.2, 44°.48N×7°.25E, h6km±1km, Ml2.2*
*LDG **05** 04:03:16.7±0.1, 44°.48N×7°.28E, h6km, Md2.6/2, Ml2.6/19, Error ellipse: s-maj=2.7km s-min=1.9km az=57.0*

ISC 05 04:03:16.0±0.8, 44°.50N±0°.02×7°.27E±0°.02, h9km±5km, n49, σ1§15/90, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOI	**San Damiano**	**0.02**	**293**	P	**Pg**	**04 03 17.6**	**-0.2**
DOI				S	**Sg**	**04 03 18.4**	**-0.6**
DOI				AML	AML		
	comp=E,47850μm,0.3s						
DOI				AML	AML		
	comp=N,54150μm,0.2s						
DOI				AML	AML		
	comp=E,47850μm,0.3s						
DOI				AML	AML		
	comp=N,54150μm,0.2s						
PZZ	**Stroppo**	**0.11**	**275**	P	**Pg**	**04 03 18.7**	**-0.1**
PZZ				S	**Sg**	**04 03 20.2**	**-0.5**
PZZ	**Stroppo**	**0.11**	**275**	P	**Pg**	**04 03 18.7**	**-0.1**
PZZ				S	**Sg**	**04 03 20.2**	**-0.5**
PZZ				AML	AML		
	comp=E,11950μm,0.4s						
PZZ				AML	AML		
	comp=N,7725μm,0.3s						
PZZ				AML	AML		
	comp=E,11950μm,0.4s						
PZZ				AML	AML		
	comp=N,7725μm,0.3s						
PZZ				AML	AML		
	comp=E,11950μm,0.4s						
PZZ				AML	AML		
	comp=N,7725μm,0.3s						
STV	**Sant Anna di V**	**0.26**	**171**	P	**Pg**	**04 03 21.1**	**0.0**
STV				S	**Sg**	**04 03 24.1**	**-0.6**
STV	**Sant Anna di V**	**0.26**	**171**	P	**Pg**	**04 03 21.2**	**0.0**
STV				S	**Sg**	**04 03 25.1**	**+0.4**
STV				AML	AML		
	comp=E,288μm,0.3s						
STV				AML	AML		
	comp=N,389μm,0.4s						
STV				AML	AML		
	comp=E,288μm,0.3s						
STV				AML	AML		
	comp=N,389μm,0.4s						
STV				AML	AML		
	comp=N,389μm,0.4s						
STV				AML	AML		
	comp=E,288μm,0.3s						
ENR	**Entracque**	**0.29**	**158**	P	**Pg**	**04 03 21.7**	**-0.1**
ENR				S	**Sg**	**04 03 25.5**	**-0.3**
ENR	**Entracque**	**0.29**	**158**	P	**Pg**	**04 03 21.7**	**-0.1**
ENR				S	**Sg**	**04 03 26.5**	**+0.7**
ENR				AML	AML		
	comp=E,1880μm,0.7s						
ENR				AML	AML		
	comp=N,1355μm,0.1s						
ENR				AML	AML		
	comp=E,1880μm,0.7s						
ENR				AML	AML		
	comp=N,1355μm,0.1s						
ENR				AML	AML		
	comp=E,1880μm,0.7s						
ENR				AML	AML		
	comp=N,1355μm,0.1s						
BHB	**Bricherasio**	**0.34**	**359**	P	**Pg**	**04 03 23.2**	**+0.4**
BHB				S	**Sg**	**04 03 28.0**	**+0.5**
BHB	**Bricherasio**	**0.34**	**359**	P	**Pg**	**04 03 23.2**	**+0.4**
BHB				S	**Sg**	**04 03 28.3**	**+0.9**
BHB				AML	AML		
	comp=E,626μm,0.1s						
BHB				AML	AML		
	comp=N,556μm,1.1s						
BHB				AML	AML		
	comp=E,626μm,0.1s						
BHB				AML	AML		
	comp=N,556μm,1.1s						
BHB				AML	AML		
	comp=E,626μm,0.1s						
BHB				AML	AML		
	comp=N,556μm,1.1s						
MBDF	**Montbardon**	**0.42**	**303**	*e*Pg	**Pg**	**04 03 24.6**	**+0.3**
MBDF				*e*Sg	**Sg**	**04 03 30.3**	**+0.4**
	comp=N,225nm,0.3s						
GBOS	**Grotte di Boss**	**0.48**	**122**	P	**Pg**	**04 03 25.6**	**+0.1**
GBOS				S	**Sg**	**04 03 32.1**	**+0.3**
RRL	**Rocca Remolon**	**0.54**	**321**	P	**Pg**	**04 03 26.6**	**0.0**
RRL				S	**Sg**	**04 03 34.3**	**+0.5**
RRL	**Rocca Remolon**	**0.54**	**321**	P	**Pg**	**04 03 26.7**	**0.0**
RRL				S	**Sg**	**04 03 34.5**	**+0.7**
RRL				AML	AML		
	comp=E,296μm,1.6s						
RRL				AML	AML		
	comp=N,259μm,1.0s						
RRL				AML	AML		
	comp=E,296μm,1.6s						
RRL				AML	AML		
	comp=N,259μm,1.0s						
RRL				AML	AML		
	comp=E,296μm,1.6s						
RRL				AML	AML		
	comp=N,259μm,1.0s						
SAOF	**Saorge**	**0.55**	**158**	P	**Pg**	**04 03 26.9**	**+0.2**
SAOF				S	**Sg**	**04 03 34.0**	**+0.1**
SAOF				AML	AML		
	comp=E,306μm,0.3s						
SAOF				AML	AML		
	comp=N,279μm,0.4s						
SAOF				AML	AML		
	comp=E,306μm,0.3s						
SAOF				AML	AML		
	comp=N,279μm,0.4s						
SAOF				AML	AML		
	comp=N,279μm,0.4s						
SAOF				AML	AML		
	comp=E,306μm,0.3s						
MGRO	**Montegrosso**	**0.60**	**139**	P	**Pg**	**04 03 27.3**	**-0.3**
MGRO				S	**Sg**	**04 03 35.9**	**+0.4**
SBF	**Sospel**	**0.65**	**169**	*e*Pg	**Pg**	**04 03 28.2**	**-0.3**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**04 03 36.3**	**-0.6**
	comp=E,39nm,0.2s						
RSP	**Reno Superiore**	**0.65**	**360**	P	**Pg**	**04 03 28.2**	**-0.4**
RSP				S	**Sg**	**04 03 36.9**	**-0.3**
RSP	**Reno Superiore**	**0.65**	**360**	P	**Pg**	**04 03 28.2**	**-0.4**
RSP				S	**Sg**	**04 03 37.5**	**+0.3**
RSP				AML	AML		
	comp=E,180μm,0.1s						
RSP				AML	AML		
	comp=N,226μm,0.3s						
RSP				AML	AML		
	comp=E,180μm,0.1s						
RSP				AML	AML		
	comp=N,226μm,0.3s						
RSP				AML	AML		
	comp=N,226μm,0.3s						
RSP				AML	AML		
	comp=E,180μm,0.1s						
RORO	**Rocca Rossa**	**0.69**	**124**	P	**Pg**	**04 03 29.3**	**-0.1**
RORO				S	**Sg**	**04 03 38.6**	**+0.3**
RORO	**Rocca Rossa**	**0.69**	**124**	P	**Pg**	**04 03 29.4**	**+0.1**
RORO				S	**Sg**	**04 03 38.8**	**+0.4**
RORO				AML	AML		
	comp=E,571μm,1.4s						
RORO				AML	AML		
	comp=N,552μm,0.1s						
RORO				AML	AML		
	comp=N,552μm,0.1s						
RORO				AML	AML		
	comp=E,571μm,1.4s						
BNI	**Bardonecchia**	**0.70**	**323**	P	**Pg**	**04 03 29.4**	**-0.1**
BNI				AML	AML		
	comp=E,108μm,1.1s						
BNI				AML	AML		
	comp=N,76μm,1.3s						
BNI				AML	AML		
	comp=E,108μm,1.1s						
BNI				AML	AML		
	comp=N,76μm,1.3s						
BNI				AML	AML		
	comp=E,108μm,1.1s						
BNI				AML	AML		
	comp=N,76μm,1.3s						
NEGI	**Seborga**	**0.72**	**154**	P	**Pg**	**04 03 30.2**	**+0.2**
NEGI				S	**Sg**	**04 03 39.5**	**+0.1**
NEGI	**Seborga**	**0.72**	**154**	P	**Pg**	**04 03 30.0**	**0.0**
NEGI				S	**Sg**	**04 03 39.5**	**+0.1**
NEGI				AML	AML		
	comp=E,506μm,1.3s						
NEGI				AML	AML		
	comp=N,591μm,0.5s						
NEGI				AML	AML		
	comp=N,591μm,0.5s						
NEGI				AML	AML		
	comp=E,506μm,1.3s						
IMI	**Imperia**	**0.74**	**142**	P	**Pg**	**04 03 30.3**	**0.0**
IMI				S	**Sg**	**04 03 40.2**	**+0.3**
IMI	**Imperia**	**0.74**	**142**	P	**Pg**	**04 03 30.3**	**0.0**
IMI				S	**Sg**	**04 03 40.2**	**+0.3**
IMI				AML	AML		
	comp=E,427μm,1.5s						
IMI				AML	AML		
	comp=N,553μm,1.6s						
IMI				AML	AML		
	comp=N,553μm,1.6s						
IMI				AML	AML		
	comp=E,427μm,1.5s						
QLNO	**Quiliano**	**0.79**	**102**	P	**Pg**	**04 03 31.1**	**-0.2**
QLNO				AML	AML		
	comp=E,378μm,0.1s						
QLNO				AML	AML		
	comp=N,405μm,1.6s						
QLNO				AML	AML		
	comp=E,378μm,0.1s						
QLNO				AML	AML		
	comp=N,405μm,1.6s						
FINB	**Finale Ligure**	**0.82**	**113**	P	**Pg**	**04 03 31.6**	**-0.3**
FINB				S	**Sg**	**04 03 42.8**	**+0.2**
FINB				AML	AML		
	comp=E,190μm,0.2s						
FINB				AML	AML		
	comp=N,247μm,1.2s						
FINB				AML	AML		
	comp=E,190μm,0.2s						
FINB				AML	AML		
	comp=N,247μm,1.2s						
ROTM	**Rocchetta Tana**	**0.85**	**65**	P	**Pb**	**04 03 33.4**	**+0.5**
ROTM				S	**Sb**	**04 03 46.0**	**+1.5**
ROTM	**Rocchetta Tana**	**0.85**	**65**	AML	AML		
	comp=N,974μm,1.5s						
ROTM				AML	AML		
	comp=E,1045μm,1.5s						
ROTM				AML	AML		
	comp=N,974μm,1.5s						
ROTM				AML	AML		
	comp=E,1045μm,1.5s						
PCP	**Piancastagn**	**0.92**	**87**	AML	AML		
	comp=E,448μm,0.8s						
PCP				AML	AML		
	comp=N,374μm,1.4s						
PCP				AML	AML		
	comp=N,374μm,1.4s						
PCP				AML	AML		
	comp=E,448μm,0.8s						
LSD	**Lago del Serru**	**0.97**	**354**	AML	AML		
	comp=N,124μm,0.2s						
LSD				AML	AML		
	comp=E,216μm,0.2s						
LSD				AML	AML		
	comp=N,124μm,0.2s						
LSD				AML	AML		
	comp=E,216μm,0.2s						
FRF	**La Foret Royal**	**1.04**	**206**	*e*Pg	**Pg**	**04 03 35.6**	**-0.3**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**04 03 48.9**	**-0.5**
	comp=E,66nm,0.2s,SNR=1.0						
LPG	**La Plagne**	**1.06**	**340**	*e*Pg	**Pg**	**04 03 36.6**	**+0.1**
LPG				*e*Sg	**Sg**	**04 03 50.4**	**0.0**
	comp=E,34nm,0.2s						
TRAV	**Traversella**	**1.07**	**18**	AML	AML		
	comp=E,58μm,0.4s						
TRAV				AML	AML		
	comp=N,57μm,1.5s						
TRAV				AML	AML		
	comp=E,58μm,0.4s						
TRAV				AML	AML		
	comp=N,57μm,1.5s						
LPL	**La Plagne**	**1.09**	**340**	*e*Pg	**Pg**	**04 03 36.9**	**0.0**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**04 03 51.0**	**-0.1**
	comp=N,34nm,0.2s						
SMRF	**Simiane la Rot**	**1.32**	**247**	*e*Pg	**Pg**	**04 03 42.1**	**+0.7**
	SNR=1.0						
SMRF				*e*Sg	**Sn**	**04 04 00.2**	**+1.7**
	comp=N,50nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.89**	**282**	*e*Pn	**Pn**	**04 03 49.8**	**+1.4**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**04 04 11.1**	**-1.2**
	comp=N,2.3nm,0.2s,SNR=1.0						
VIVF				*e*Sg	**Sg**	**04 04 17.1**	**+0.5**
	comp=N,6.0nm,0.3s						
PGF	**Pioggiola**	**2.32**	**147**	*e*Pn	**Pn**	**04 03 54.9**	**+0.5**
PGF				*e*Sn	**Sn**	**04 04 19.7**	**-3.4**
	comp=N,5.8nm,0.2s,SNR=1.0						
LASF	**Ste Croix**	**2.49**	**261**	*e*Pn	**Pn**	**04 03 57.3**	**+0.7**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**04 04 27.0**	**-0.1**
	comp=N,2.0nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**3.23**	**313**	*e*Pn	**Pn**	**04 04 09.0**	**+2.2**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**04 04 43.3**	**-2.0**
	comp=N,3.0nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**3.33**	**355**	*e*Pn	**Pn**	**04 04 09.0**	**+0.7**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**04 04 45.8**	**-2.2**
	comp=N,4.0nm,0.4s,SNR=1.0						
HINF				*e*Sg	**Sg**	**04 05 02.0**	**-1.0**
	comp=N,1.5nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**3.58**	**311**	*e*Pn	**Pn**	**04 04 13.6**	**+2.0**
	SNR=1.0						
LOR	**Lormes**	**3.65**	**321**	*e*Pn	**Pn**	**04 04 13.3**	**+0.6**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**04 04 53.4**	**-2.5**
	comp=N,2.3nm,0.3s						
SSF	**Saint Saulge**	**3.67**	**316**	*e*Pn	**Pn**	**04 04 14.8**	**+1.8**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**04 04 54.0**	**-2.4**
	comp=N,1.1nm,0.3s,SNR=1.0						
BGF	**Bois d'Agland**	**3.73**	**305**	*e*Pn	**Pn**	**04 04 15.7**	**+2.0**
	SNR=1.0						
CAF	**Calviac**	**3.73**	**278**	*e*Pn	**Pn**	**04 04 15.4**	**+1.6**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**04 04 55.2**	**-2.7**
	comp=N,0.7nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**3.83**	**254**	*e*Pn	**Pn**	**04 04 15.8**	**+0.7**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**04 04 57.2**	**-3.0**
	comp=N,1.2nm,0.3s,SNR=1.0						
MTLF				*e*Sg	**Sg**	**04 05 17.4**	**-1.5**
	comp=N,0.9nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**3.92**	**0**	*e*Pn	**Pn**	**04 04 16.5**	**+0.1**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**04 05 00.0**	**-2.5**
	comp=N,1.4nm,0.2s						
SFTF	**Sexfontaines**	**4.02**	**338**	*e*Pn	**Pn**	**04 04 20.3**	**+2.6**
SFTF				*e*Sn	**Sn**	**04 05 02.1**	**-2.7**
	comp=N,2.7nm,0.2s						
SFTF				*e*Sg	**Sg**	**04 05 23.0**	**-1.9**
	comp=N,1.4nm,0.2s						

*MAN **05** 04:05:58.0, 4°.66N×125°.29E, h16km, mb5.6, ML4.6, MS4.9*
*IDC **05** 04:05:59.3±0.6, 4°.71N×125°.28E, h0km, mb4.0/14, mb1 4.2/14, mb1mx4.0/41, mbtmp4.0/14, MS3.5/9, Ms1 3.5/9, ms1mx3.3/42, Error ellipse: s-maj=29.1km s-min=13.2km az=76.0*
*BJI **05** 04:06:01.5, 4°.60N×125°.10E, h20km, mb4.5/7, mB4.6/4, Ms4.4/2, Ms7 4.1/1*
*ISCJB **05** 04:06:02.2±1.6, 4°.70N±0°.03×125°.25E±0°.05, h31km±12km, mb4.2/26, MS3.4/5, Error ellipse: s-maj=8.5km s-min=4.3km az=156.2*
*NEIC **05** 04:06:05.1±0.8, 4°.67N×125°.20E, h42km±8km, mb4.1/7, Error ellipse: s-maj=9.7km s-min=5.9km az=70.0*
*DJA **05** 04:06:05.6±2.1, 4°N±25°×125°E±°, h27km±22km, M4.5/10, mb4.6/7, mB4.9/5, MLv4.6/10, Mw(mB)4.2/5, Mwp5.0/1*

ISC 05 04:06:01.9±1.4, 4.77N±0°.03×125°.29E±0°.07, h15km±9km, n83, σ1§84/76, mb4.1/26, MS3.4/5, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.11**	**168**	P	**Pb**	**04 06 21.3**	**-1.5**
GSPH	**General Santos**	**1.35**	**345**	*e*P	**Pn**	**04 06 22.8**	**-3.5**
DDMP	**Don Marcelino,**	**1.39**	**18**	*e*P	**Pg**	**04 06 29.2**	**+0.6**
DDMP				*e*S	**Sg**	**04 06 50.9**	**+4.2**
SKMP	**Bagumbayan, Su**	**1.89**	**337**	*e*P	**Pn**	**04 06 32.7**	**-1.0**
SKMP				*e*S	**Sn**	**04 06 57.0**	**-0.2**
DAV	**Davao City (W)**	**2.30**	**7**	Pn	**Pb**	**04 06 42.5**	**-0.6**
	77nm,0.3s,baz=114,slow=2.8,SNR=9.0						
DAV				Sn	**Sg**	**04 07 15.3**	**-0.7**
	62nm,0.3s,baz=183,slow=22,SNR=9.2						
DAV	**Davao City (W)**	**2.30**	**7**	Pn	**Pb**	**04 06 42.5**	**-0.6**
DAV				*e*Sn	**Sn**	**04 07 04.2**	**-3.2**
DAV				*e*Lg	Lg	04 07 06.0	
CTBH	**Cotabato--PC H**	**2.65**	**337⇑**	*e*P	**Pn**	**04 06 45.6**	**+1.6**
CTBH				*i*	S	**Sn**	**04 07 13.9**	**-1.9**
BUKP	**Musuan**	**3.09**	**356**	*e*P	**Pn**	**04 06 53.5**	**+3.2**
PAGZ	**Pagadian**	**3.60**	**328**	*e*P	**Pn**	**04 06 55.3**	**-1.9**
PAGZ				*e*S	**Sn**	**04 07 39.4**	**0.0**
CGP	**Cagayan de Oro**	**3.71**	**351⇓**	*e*P	**Pg**	**04 07 10.0**	**-3.0**
KMSI	**Cibinong**	**4.37**	**197**	P	Pn	04 07 01.2	-6.6
TNTI	**Ternate**	**4.48**	**152**	*e*Pn	**Pn**	**04 07 11.2**	**+1.9**
TNTI				*e*Sn	**Sn**	**04 08 02.2**	**+1.0**
TNTI	**Ternate**	**4.48**	**152**	P	**Pn**	**04 07 09.1**	**-0.3**
MRSI	**Marisa**	**5.42**	**218**	P	Pn	04 07 16.3	-6.0
LBMI	**Labuha**	**5.81**	**158**	P	**Pn**	**04 07 25.3**	**-2.3**
LUWI	**Luwuk**	**6.30**	**204**	*e*Pn	**Pn**	**04 07 34.6**	**+0.3**
LUWI	**Luwuk**	**6.30**	**204**	P	Pn	04 07 28.8	-5.6
APSI	**Ampana**	**6.72**	**213**	P	Pn	04 07 33.5	-6.6
MYLDM	**Lahad Datu**	**6.78**	**274**	*e*Pn	**Pn**	**04 07 40.4**	**-0.5**
MYLDM				*e*Sn	**Sn**	**04 08 59.7**	**+1.8**
SANI	**Sanana**	**6.81**	**174**	P	**Pn**	**04 07 37.4**	**-4.0**
MPSI	**Mapaga**	**6.96**	**231**	P	Pn	04 07 37.0	-6.4
SIJI	**Sorong**	**8.19**	**133**	LR	LR	04 11 38.8	
	comp=Z,251nm,19.0s,baz=352,slow=42						
TGY	**Tagaytay City**	**10.21**	**335**	LR	LR	04 12 42.1	

comp=Z,460nm,21.6s,baz=167,slow=39
FAKI Fak Fak 10.33 138 *e*Pn **Pn 04 08 32.0 +2.3**
SOEI Soe 14.47 184 *e*Pn **Pn 04 09 25.7 -0.7**
BATI Baumata 14.97 186 LR LR 04 15 19.6
comp=Z,323nm,20.8s,baz=19,slow=38
KSM Kuching 15.31 258 *e*Pn **Pn 04 09 36.2 -1.5**
7.3nm,0.9s
JAY Jayapura 17.02 115 LR LR 04 15 39.9
comp=Z,111nm,18.9s,baz=119,slow=34
MTN Manton Dam 18.44 162 *e*Pn **P 04 10 13.9 -3.2**
7.8nm,0.9s
LEM Lembang 21.07 237 LR LR 04 19 27.6
comp=Z,257nm,20.7s,baz=57,slow=38
GUMO Guam 21.20 64 LR LR 04 17 59.5
comp=Z,166nm,19.6s,baz=234,slow=34
UBPT Khong Chiam 22.11 300 P **P 04 11 03.6 +6.6**
13nm,0.9s
FITZ Fitzroy Crossi 22.73 179 P **P 04 11 01.9 -1.6**
3.1nm,0.8s,baz=1.2,slow=7.9,SNR=7.2
SKNT Sakolnakorn 24.15 302 P P 04 11 26.7 +9.0
5.4nm,1.3s,780nm
SRAK Srakaew 24.68 293 P **P 04 11 27.0 +4.5**
36nm,1.1s
WRAB Tennant Creek 26.12 160 *e*P **P 04 11 34.9 -0.6**
14nm,0.8s
WRA Warramunga Arr 26.12 160 P **P 04 11 33.9 -1.7**
8.9nm,0.9s,baz=343,slow=10.0,SNR=37
WB2 Warramunga Arr 26.13 160 *e*P **P 04 11 34.6 -1.0**
18nm,0.8s
PSI Prapat 26.38 267 LR LR 04 22 57.1
comp=Z,62nm,20.2s,baz=90,slow=39
PSI Prapat 26.38 267 *e*P **P 04 11 37.7 -0.4**
3.6nm,0.8s
PBKT Sadao Pong 26.58 298 P P 04 11 50.5 +11
PHET Kaeng Krachan 26.59 289 P **P 04 11 44.3 +4.4**
9.0nm,1.0s
CMAR Chiang Mai Arr 29.11 300 P **P 04 12 02.4 0.0**
1.0nm,0.3s,baz=104,slow=7.5,SNR=2.7
CMAR LR LR 04 25 47.1
comp=Z,79nm,18.3s,baz=104,slow=41
AS31 Alice Springs 29.49 164 *e*P **P 04 12 05.0 -0.7**
0.7nm,0.9s
ASAR Alice Springs 29.49 164 P **P 04 12 05.0 -0.7**
0.6nm,0.6s,baz=344,slow=6.7,SNR=7.0
AS01 Alice Springs 29.50 164 *e*P **P 04 12 02.6 -3.2**
XAN Xi'an 32.85 334 P **P 04 12 35.9 +0.7**
XAN pP sP 04 12 47.0 +5.2
XAN pmax pmax
comp=Z,7.0nm,1.4s
XAN Xi'an 32.85 334 P **P 04 12 36.0 +0.7**
XAN pP sP 04 12 46.9 +5.1
XAN pmax pmax
comp=Z,8.0nm,1.1s
MAJO Matsushiro 33.77 19 *e*P **P 04 12 43.2 0.0**
MJAR Matsushiro Arr 33.77 19 P **P 04 12 43.2 0.0**
comp=Z,68nm,0.7s,baz=202,slow=11,SNR=7.3
LZH Lanzhou 36.89 330 *e*P **P 04 13 08.8 -1.4**
LZH pP pP 04 13 14.1 -0.8
LZH sP sP 04 13 17.6 +0.8
LZH pmax pmax
comp=Z,20nm,1.0s
STKA Stephens Creek 39.62 158 P **P 04 13 32.9 -0.1**
comp=Z,2.9nm,0.6s,baz=318,slow=12,SNR=6.0
STKA LR LR 04 32 08.0
comp=Z,46nm,18.3s,baz=5.7,slow=40
USRK Ussuriysk Ar. 39.71 8 P **P 04 13 35.0 +1.4**
comp=Z,2.2nm,0.7s,baz=175,slow=8.8,SNR=5.5
TAPN Taplejung 42.25 306 *e*P **P 04 13 55.1 -0.1**
ODAN Odare 42.30 305 *e*P **P 04 13 56.2 +0.6**
comp=Z,31nm,0.9s
RAMN Ramite 42.98 305 *e*P **P 04 14 01.9 +0.8**
comp=Z,20nm,0.8s
JIRN Jiri 43.60 306 *e*P **P 04 14 06.0 -0.3**
comp=Z,41nm,0.9s
GUN Gumba 43.95 306 *e*P **P 04 14 09.7 +0.6**
comp=Z,38nm,0.8s
PKI Pulchoki 44.20 305 *e*P **P 04 14 11.3 +0.2**
comp=Z,17nm,0.9s
PKIN Phulchoki 44.21 305 *e*P **P 04 14 11.2 +0.1**
DMN Daman 44.46 305 *e*P **P 04 14 14.1 +1.0**
KOLN Koldanda 45.75 305 *e*P **P 04 14 23.8 +0.5**
comp=Z,48nm,0.9s
DANN Dangsing 45.85 305 *e*P **P 04 14 24.3 +0.2**
comp=Z,29nm,0.7s
SONA0 Songino Array 45.87 342 *e*P **P 04 14 23.4 -0.3**
SONM Songino Array 45.87 342 P **P 04 14 23.4 -0.3**
comp=Z,0.2nm,0.4s,baz=178,slow=11,SNR=2.4
PYUN Piuthan 46.38 305 *e*P **P 04 14 29.2 +1.0**
PETK Petropavlovsk- 55.02 23 P **P 04 15 32.2 -0.6**
comp=Z,5.5nm,1.1s,baz=170,slow=2.6
PEA1 Petropavlovsk- 55.03 23 *e*P **P 04 15 32.2 -0.6**
MK01 Makanchi Array 55.87 326 *e*P **P 04 15 36.9 -2.1**
MK32 Makanchi Array 55.89 326 *e*P **P 04 15 39.0 -0.2**
MKAR Makanchi Array 55.89 326 P **P 04 15 39.0 -0.2**
comp=Z,1.4nm,0.7s,baz=120,slow=8.4,SNR=5.7
ZALV Zalesovo Beam 59.02 333 P **P 04 16 00.4 -0.6**
comp=Z,0.3nm,0.4s,baz=106,slow=3.1,SNR=3.7
ZAA1 Zalesovo Array 59.02 333 *e*P **P 04 16 00.4 -0.6**
KURK Kurchatov 60.10 328 *e*P **P 04 16 07.9 -0.6**
GEYT Alibeck 69.13 309 P **P 04 17 07.4 -0.5**
comp=Z,1.1nm,0.3s,baz=220,slow=3.7,SNR=3.7
WRH Wood River Hil 84.26 26 *e*P **P 04 18 33.1 +0.3**
comp=Z,3.0nm,1.0s
VNDA Vanda 84.64 173 P **P 04 18 34.1 -0.3**
comp=Z,0.3nm,0.7s,baz=298,slow=5.7,SNR=4.0
ILAR Eielson Array 84.78 25 P **P 04 18 35.8 +0.3**
comp=Z,1.4nm,1.1s,baz=238,slow=4.6,SNR=7.7
BR101 Keskin Array S 88.25 310 *e*P **P 04 18 54.6 +1.4**
BRTR Keskin Array B 88.25 310 P **P 04 18 54.6 +1.4**
comp=Z,0.7nm,0.8s,baz=76,slow=6.5,SNR=4.7
VYHS Vyhne 97.24 320 *e*P Pdif 04 19 40.2 +5.8
LTX Lajitas 122.08 51 *e*PKPdf **PKPdf 04 24 57.4 +0.6**
TXAR Lajitas Array 122.08 51 PKP **PKPdf 04 24 57.4 +0.6**
comp=Z,0.6nm,0.9s,baz=192,slow=1.1,SNR=4.6

IDC 05 04:26:50.8±15.0, 17.31S×178.69W, h497km±179km, mb3.2/4, mb1 3.5/4, mb1mx3.1/36, mbtmp4.0/4, Error ellipse: s-maj=102.7km s-min=51.1km az=166.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.68**	**240**	P	P	04 33 31.1	-0.2
	4.6nm,0.8s,baz=104,slow=5.2,SNR=4.5						
WRA	**Warramunga Arr**	**44.48**	**259**	P	P	04 34 17.1	-0.3
	2.6nm,0.3s,baz=93,slow=6.8,SNR=159						
ASAR	**Alice Springs**	**44.69**	**254**	P	P	04 34 19.2	+0.1
	27nm,0.5s,baz=88,slow=8.3,SNR=432						
ILAR	**Eielson Array**	**85.37**	**13**	P	P	04 38 34.5	0.0
	0.2nm,0.5s,baz=218,slow=5.6,SNR=6.2						
TXAR	**Lajitas Array**	**85.91**	**58**	P	P	04 38 38.0	-0.1
	0.5nm,0.8s,baz=226,slow=6.9,SNR=5.0						
GERES	**GERESS Array B**	**146.97**	**345**	PKPbc	PKPbc	04 45 36.5	-0.7
	0.9nm,0.5s,baz=13,slow=3.3,SNR=4.7						

*NIED **05** 04:30:00,37.80N×143.70E,h11km,Mw5.5 Best double couple: M0 1.74000×10^17 NP1:φs29.00000°,δ34.00000°, λ-77.00000°. NP2:φs193.00000°,δ57.00000°, λ-99.00000°.*
*IDC **05** 04:30:23.3±0.4,37.80N×143.74E,h0km,mb5.2/32, mb1 5.3/41,mb1mx5.3/44,mbtmp5.2/41,ML5.0/8,MS4.9/35, Ms1 4.9/35,ms1mx4.9/39,Error ellipse: s-maj=11.8km s-min=9.8km az=108.0*
*ISCJB **05** 04:30:23.4±0.5,37.82N±0.02×143.64E±0.01,h7km±3km, mb5.6/564,MS5.2/193,Error ellipse: s-maj=2.8km s-min=1.6km az=171.4*
*BJI **05** 04:30:24.1,37.87N×143.37E,h10km,mb5.3/81,mB5.8/55, Ms5.5/95,Ms7 5.3/87*
*JMA **05** 04:30:25.9±0.1,37.85N×143.65E,h47km,M5.7*
JMA Felt II J1.
*NEIC **05** 04:30:26.7±1.1,37.79N×143.61E,h19km±6km,mb5.7/297, MS5.2/121,MW5.6,MW5.6,Error ellipse: s-maj=2.8km s-min=1.8km az=150.0,Moment Tensor Solution. s24 Moment tensor: Scale 10^17Nm; Mrr-0.74; Mθθ-2.46; Mφφ3.20; Mrθ0.08; Mθφ1.75; Mφr0.58; Best double couple: M0 3.40000×10^17 NP1:φs61.00000°,δ83.00000°, λ4.00000°. NP2:φs331.00000°,δ86.00000°,λ173.00000°. Principal axes: T 3.7800, Plg7.0000°, Azm286.0000°; N -0.8100, Plg82.0000°, Azm122.0000°; P -2.9600, Plg2.0000°, Azm16.0000°;*

NEIC Felt at Chiba, Tokyo and Tsukuba. Recorded [2 JMA] in Fukushima, Iwate and Miyagi.
*MOS **05** 04:30:26.5±1.2,38.00N×143.62E,h28km,mb5.9/130, MS5.2/65 Error ellipse: s-maj=5.9km s-min=3.9km az=98.0*
*NEIC **05** 04:30:26.0±0.0,37.78N×143.78E,h15km,Moment Tensor Solution. s24 Moment tensor: Scale 10^17Nm; Mrr-1.87; Mθθ-0.09; Mφφ1.96; Mrθ0.09; Mθφ1.15; Mφr-1.79; Best double couple: M0 2.90000×10^17 NP1:φs5.00000°, δ66.00000°,λ-109.00000°. NP2:φs227.00000°, δ31.00000°,λ-52.00000°. Principal axes: T 3.0200, Plg18.0000°, Azm109.0000°; N -0.3400, Plg18.0000°, Azm13.0000°; P -2.6800, Plg63.0000°, Azm242.0000°;*
*GCMT **05** 04:30:27.7±0.1,37.86N±0.01×143.69E±0.01,h17km, MW5.6/128,Moment Tensor Solution. s94,c172; s128,c317; Duration: 1!5 Moment tensor: Scale 10^17 Nm; Mrr-1.58±.04; Mθθ-1.09±.03; Mφφ2.67±.03; Mrθ0.30±.09; Mθφ1.32±.03; Mφr1.62±.09; Best double couple: M0 2.87800×10^17 NP1:φs184.00000°,δ64.00000°, λ-107.00000°. NP2:φs40.00000°,δ31.00000°, λ-58.00000°. Principal axes: T 3.6040, Plg18.0000°, Azm287.0000°; N -1.4520, Plg15.0000°, Azm192.0000°; P -2.1520, Plg66.0000°, Azm63.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 05 04:30:28.0±0.3, 37.82N±0.03×143.74E±0.03, h32km±1km, h32km:pP-P,n1863,σ1!48/1982, mb5.7/598, MS5.2/194, 94C-47D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**1.86**	**286**	P	**Pn**	**04 30 55.2**	**-2.4**
JIKH				S	**Sn**	**04 31 16.4**	**-3.5**
JIO	**Ouri**	**1.98**	**289**	↑P	**Pn**	**04 30 57.1**	**-2.2**
JIO				S	**Sn**	**04 31 20.1**	**-3.0**
JKMT	**Kesennumamotoy**	**2.04**	**300**	P	**Pn**	**04 30 57.8**	**-2.2**
JKMT				S	**Sn**	**04 31 21.3**	**-3.0**
OFUJ	**Ofunato**	**2.05**	**308**	↑P	**Pn**	**04 30 58.0**	**-2.3**
OFUJ				*e*S	**Sn**	**04 31 21.2**	**-3.6**
JMK	**Ichinoseki**	**2.28**	**300**	↑P	**Pn**	**04 31 01.4**	**-1.9**
JMK				S	**Sn**	**04 31 27.7**	**-2.6**
MIYJ	**Miyakonagasawa**	**2.31**	**320**	↑P	**Pn**	**04 31 01.1**	**-2.7**
JFK	**Kawauchi**	**2.32**	**260**	↑P	**Pn**	**04 31 01.0**	**-3.0**
JMM	**Marumori**	**2.33**	**272**	↑P	**Pn**	**04 31 01.7**	**-2.4**
ONAJ	**Iwakimizuishiy**	**2.45**	**254**	↑P	**Pn**	**04 31 02.9**	**-2.8**
JOU	**Okura**	**2.48**	**284**	↑P	**Pn**	**04 31 04.6**	**-1.6**
JOM	**Ohasama**	**2.52**	**311**	↑P	**Pn**	**04 31 05.1**	**-1.7**
JOM				S	**Sn**	**04 31 34.0**	**-2.4**
JFT	**Otama**	**2.71**	**265**	↑P	**Pn**	**04 31 07.7**	**-1.7**
JFT				*e*S	**Sn**	**04 31 38.2**	**-2.9**
JKZ	**Kuzumaki**	**2.86**	**320**	↑P	**Pn**	**04 31 09.7**	**-1.7**
JYK	**Kaneyama**	**2.87**	**293**	↑P	**Pn**	**04 31 10.1**	**-1.4**
JYK				S	**Sn**	**04 31 43.2**	**-1.8**
JRG	**Rokugo**	**2.89**	**304**	↑P	**Pn**	**04 31 10.0**	**-1.8**
JYS	**Shirataka**	**2.93**	**279**	↑P	**Pn**	**04 31 10.7**	**-1.6**
JANG	**Nango**	**3.08**	**327**	↑P	**Pn**	**04 31 12.3**	**-2.1**
JANG				S	**Sn**	**04 31 46.5**	**-3.6**
JYW	**Yuwa**	**3.25**	**303**	↑P	**Pn**	**04 31 15.7**	**-1.0**
JYA	**Atsumi**	**3.26**	**285**	↑P	**Pn**	**04 31 15.5**	**-1.4**
JAH	**Hinai**	**3.38**	**315**	↑P	**Pn**	**04 31 17.1**	**-1.4**
JNS	**Sasagawa**	**3.50**	**271**	↑P	**Pn**	**04 31 18.7**	**-1.5**
JNS				S	**Sn**	**04 31 58.6**	**-1.9**
JAW	**Awa shima**	**3.59**	**282**	P	**Pn**	**04 31 20.8**	**-0.7**
JTM	**Tenmabayashi**	**3.61**	**326**	↑P	**Pn**	**04 31 19.8**	**-1.9**
JAG	**Ashikaga**	**3.70**	**249**	↑P	**Pn**	**04 31 20.7**	**-2.2**
JAG				*e*S	**Sn**	**04 32 02.3**	**-3.0**
BSO1	**Boso 1**	**3.87**	**216**	P	**Pn**	**04 31 22.1**	**-2.7**
JOT	**Ohata**	**4.12**	**331**	P	**Pn**	**04 31 27.3**	**-1.3**
JRY	**Ryogami san**	**4.27**	**247**	↑P	**Pn**	**04 31 28.7**	**-2.1**
JRY				S	**Sn**	**04 32 14.3**	**-5.3**
JOD2	**Odawara 2**	**4.53**	**237**	P	**Pn**	**04 31 32.1**	**-2.3**
JOD2				S	**Sn**	**04 32 21.3**	**-4.7**
JKB	**Kayabe**	**4.56**	**334**	P	**Pn**	**04 31 33.9**	**-0.8**
JKB				S	**Sn**	**04 32 22.4**	**-4.2**
MJAR	**Matsushiro Arr**	**4.59**	**256**	Pn	**Pn**	**04 31 34.1**	**-1.2**
	182nm,0.3s,baz=83,slow=14,SNR=831						
MJAR				Sn	**Sn**	**04 32 26.9**	**-0.6**
	102nm,0.3s,baz=139,slow=29,SNR=4.6						
MAJO	**Matsushiro**	**4.60**	**256**	*e*Pn	**Pn**	**04 31 34.6**	**-0.7**
MAJO				*e*S	**Sn**	**04 32 22.4**	**-5.1**
MAJO	**Matsushiro**	**4.60**	**256**	*c i*P	**Pn**	**04 31 34.8**	**-0.5**
MAT	**Matsushiro**	**4.60**	**256**	P	**Pn**	**04 31 34.3**	**-1.0**
MAT				S	**Sn**	**04 32 26.4**	**-1.2**
MJB9	**Matsu-Tunnel**	**4.60**	**256**	*e*Pn	**Pn**	**04 31 34.7**	**-0.6**
JCH	**Churui**	**4.79**	**357**	||P	**Pn**	**04 31 35.9**	**-2.1**
JCH				S	**Sn**	**04 32 27.2**	**-5.2**
JOSM	**Okushiri--Mats**	**5.37**	**324**	P	**Pn**	**04 31 44.9**	**-0.9**
JOSM				*e*S	**Sn**	**04 32 43.2**	**-3.3**
JHJ2	**Mitsune**	**5.68**	**215**	*e*Pn	**Pn**	**04 31 46.7**	**-3.5**
JHJ2				*e*Sn	**Sn**	**04 32 46.6**	**-7.8**
JHJ	**Hachijo jima 2**	**5.69**	**216**	Pn	**Pn**	**04 31 46.9**	**-3.5**
	495nm,0.3s,baz=72,slow=7.1,SNR=50						
JHJ				Sn	**Sn**	**04 32 47.7**	**-6.9**
	1μm,0.3s,baz=240,slow=23,SNR=8.2						
JHJ				LR	LR	04 34 11.8	
	comp=Z,9μm,20.2s,baz=64,slow=40						
INU	**Inuyama**	**5.94**	**247**	*e*Pn	**Pn**	**04 31 52.7**	**-1.0**
GLVR	**Golovnino**	**6.06**	**12**	*e*P	**Pn**	**04 31 52.4**	**-2.9**
GLVR				*i* S	**Sn**	**04 32 58.0**	**-5.6**
GLVR				pmax	pmax		
	comp=Z,2μm,0.6s						
GLVR				pmax	pmax		
	comp=N,3μm,0.3s						
GLVR				pmax	pmax		
	comp=E,2μm,0.3s						
GLVR				smax	smax		
	comp=N,14μm,0.6s						
GLVR				smax	smax		
	comp=E,9μm,0.6s						
JKG	**Kaga**	**6.12**	**258**	P	**Pn**	**04 31 56.9**	**+0.7**
ASAJ	**Asahikawa**	**6.35**	**353**	Pn	**Pn**	**04 31 58.0**	**-1.2**
	comp=E,156nm,0.3s,baz=202,slow=9.1,SNR=240						
ASAJ				Sn	**Sn**	**04 33 05.3**	**-5.3**
	comp=E,77nm,0.3s,baz=46,slow=18,SNR=7.5						
ASAJ	**Asahikawa**	**6.35**	**353**	*e*Pn	**Pn**	**04 31 57.7**	**-1.5**
ASAJ				*e*Sn	**Sn**	**04 33 06.5**	**-4.1**
GRPR	**Tuman**	**6.35**	**13**	*c i*P	Pn	04 31 55.0	-4.4
GRPR				*i* S	Sn	04 33 01.9	-8.9
GRPR				pmax	pmax		
	comp=N,1μm,0.4s						
GRPR				pmax	pmax		
	comp=Z,4μm,0.4s						
GRPR				pmax	pmax		
	comp=E,1μm,0.2s						
GRPR				smax	smax		
	comp=N,13nm,0.5s						
GRPR				smax	smax		
	comp=E,14nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**6.41**	**14**	*e*P	**Pn**	**04 31 56.4**	**-3.7**
YUK				*i* S	**Sn**	**04 33 05.0**	**-7.2**
YUK				pmax	pmax		
	comp=E,828nm,0.6s						
YUK				pmax	pmax		
	comp=Z,1μm,0.6s						
YUK				pmax	pmax		
	comp=N,833nm,0.5s						
YUK				smax	smax		
	comp=E,2μm,0.5s						
YUK				smax	smax		
	comp=N,578nm,0.6s						
YUK				MLR	MLR		
	comp=Z,6μm,12.0s						
YUK				MLR	MLR		
	comp=E,8μm,10.0s						
YUK				MLR	MLR		
	comp=N,3μm,8.0s						
LAGR	**Lagunnoye**	**6.42**	**13**	*d i*P	**Pn**	**04 31 56.9**	**-3.3**
LAGR				*i* S	**Sn**	**04 33 06.0**	**-6.3**
LAGR				pmax	pmax		
	comp=N,3μm,0.4s						
LAGR				pmax	pmax		
	comp=Z,3μm,0.4s						
LAGR				pmax	pmax		
	comp=E,1μm,0.2s						
LAGR				smax	smax		
	comp=N,19μm,0.4s						
SHO	**Shikotan**	**6.48**	**20**	*d i*P	**Pn**	**04 31 58.0**	**-3.1**
SHO				*i* S	**Sn**	**04 33 07.8**	**-6.1**
SHO				pmax	pmax		
	comp=Z,686nm,0.4s						
SHO				pmax	pmax		
	comp=N,285nm,0.2s						
SHO				pmax	pmax		
	comp=E,558nm,0.5s						
SHO				smax	smax		
	comp=N,6μm,0.4s						
SHO				smax	smax		
	comp=E,3μm,0.3s						
SHO				MLR	MLR		
	comp=N,7μm,10.0s						
SHO				MLR	MLR		
	comp=Z,12μm,10.0s						
SHO				MLR	MLR		
	comp=E,15μm,11.0s						
JKSM	**Kasumi**	**7.62**	**256**	P	**Pn**	**04 32 16.4**	**-0.4**
KUR	**Kuril'sk**	**8.03**	**21**	*e*P	**Pn**	**04 32 19.9**	**-2.4**
KUR				*i* S	**Sn**	**04 33 44.1**	**-7.8**
KUR				pmax	pmax		
	comp=Z,3μm,3.2s						
KUR				pmax	pmax		
	comp=Z,633nm,0.9s						
KUR				pmax	pmax		
	comp=N,311nm,0.6s						
KUR				pmax	pmax		
	comp=E,180nm,0.5s						
KUR				smax	smax		
	comp=E,2μm,0.5s						
KUR				smax	smax		
	comp=N,1μm,0.3s						
KUR				smax	smax		
	comp=N,5μm,1.2s						
KUR				smax	smax		
	comp=E,1μm,1.2s						
KUR				MLR	MLR		
	comp=Z,10μm,14.0s						
KUR				MLR	MLR		
	comp=N,9μm,13.0s						
KUR				MLR	MLR		
	comp=E,7μm,10.0s						
JAD	**Aida**	**8.23**	**252**	P	**Pn**	**04 32 24.2**	**-1.0**
JKR	**Kurayoshi**	**8.34**	**256**	P	**Pn**	**04 32 26.9**	**+0.3**
TEY	**Ternei**	**8.98**	**326**	↑*e*P	**Pn**	**04 32 35.7**	**+0.4**
TEY				*e*S	**Sn**	**04 34 16.4**	**+1.2**
TEY				pmax	pmax		
	comp=Z,2μm,1.1s						
TEY				pmax	pmax		
	comp=E,1μm,1.2s						
TEY				pmax	pmax		
	comp=N,1μm,1.1s						
TEY				pmax	pmax		
	comp=Z,800nm,0.9s						
TEY				smax	smax		
	comp=N,300nm,1.5s						
TEY				MLR	MLR		
	comp=E,11μm,12.4s						
TEY				MLR	MLR		
	comp=Z,10μm,14.3s						
YSS	**Yuzh-Sakhalins**	**9.15**	**356**	*e*Pn	**Pn**	**04 32 35.7**	**-2.0**
YSS				*e*S	**Sn**	**04 34 19.0**	**-0.6**
YSS	**Yuzh-Sakhalins**	**9.15**	**356**	↑*e*P	**Pn**	**04 32 36.2**	**-1.5**
YSS				*e*S	**Sn**	**04 34 18.0**	**-1.6**
YSS				pmax	pmax		
	comp=N,1μm,6.9s						
YSS				pmax	pmax		
	comp=Z,1μm,6.9s						
YSS				pmax	pmax		
	comp=E,300nm,2.5s						
YSS				pmax	pmax		
	comp=Z,310nm,1.0s						
YSS				pmax	pmax		
	comp=N,230nm,1.1s						
YSS				pmax	pmax		
	comp=E,190nm,0.8s						
YSS				smax	smax		
	comp=N,1μm,1.2s						
YSS				smax	smax		
	comp=E,980nm,1.0s						
YSS				smax	smax		
	comp=E,5μm,2.0s						
YSS				MLR	MLR		
	comp=Z,9μm,16.0s						
YSS				MLR	MLR		
	comp=N,11μm,15.0s						
YSS				MLR	MLR		
	comp=E,9μm,13.0s						
VLA	**Vladivostok**	**10.46**	**304**	*c i*P	**Pn**	**04 32 55.6**	**-0.1**
VLA				pmax	pmax		
	comp=Z,301nm,1.0s						
CBIJ	**Chichi jima**	**10.78**	**187**	*e*Pn	Pn	04 32 54.2	-5.8
CBIJ				Sn	Sn	04 34 49.9	-10
JCJ	**Chichijima**	**10.78**	**187**	Pn	Pn	04 32 54.0	-6.1
	comp=Z,122nm,0.3s,baz=324,slow=7.8,SNR=83						
JCJ				Sn	Sn	04 34 49.9	-10
	comp=Z,185nm,0.3s,baz=298,slow=22,SNR=8.8						
JCJ				LR	LR	04 38 32.2	
	comp=Z,2μm,20.3s,baz=4.0,slow=46						
USA0B	**Ussuriysk Arra**	**10.92**	**309**	*e*Pn	**Pn**	**04 33 01.6**	**-0.4**
USRK	**Ussuriysk Ar.**	**10.92**	**309**	Pn	**Pn**	**04 33 01.9**	**-0.1**
	comp=Z,7.7nm,0.3s,baz=120,slow=6.8,SNR=152						
USRK				LR	LR	04 37 17.5	
	comp=Z,5μm,20.2s,baz=115,slow=38						
UGL	**Uglegorsk**	**11.32**	**354**	*e*P	**Pn**	**04 33 06.0**	**-1.3**
UGL				*i* S	**Sn**	**04 35 09.9**	**-2.7**
UGL				pmax	pmax		
	comp=Z,305nm,1.1s						
UGL				pmax	pmax		
	comp=E,274nm,0.7s						
UGL				pmax	pmax		
	comp=Z,900nm,2.6s						
UGL				smax	smax		
	comp=E,3μm,4.0s						
UGL				smax	smax		
	comp=N,2μm,2.3s						
UGL				smax	smax		
	comp=E,425nm,1.2s						
UGL				smax	smax		
	comp=N,422nm,1.3s						
UGL				MLR	MLR		
	comp=N,15μm,16.0s						
UGL				MLR	MLR		
	comp=E,14μm,16.0s						
UGL				MLR	MLR		
	comp=Z,10μm,16.0s						
JNU	**Nakatsue**	**11.48**	**250**	Pn	**Pn**	**04 33 08.8**	**-0.9**
	comp=Z,8.1nm,0.3s,baz=61,slow=5.3,SNR=67						
JNU				LR	LR	04 37 48.7	
	comp=Z,12μm,20.1s,baz=62,slow=39						
JNU	**Nakatsue**	**11.48**	**250**	*e*Pn	**Pn**	**04 33 06.4**	**-3.3**
JNU	**Nakatsue**	**11.48**	**250**	P	**Pn**	**04 33 08.9**	**-0.9**
KSRS	**Korea Array**	**12.54**	**273**	Pn	**Pn**	**04 33 24.1**	**-0.1**
	comp=Z,6.3nm,0.3s,baz=84,slow=13,SNR=89						
KSRS				LR	LR	04 38 04.0	
	comp=Z,5μm,19.3s,baz=76,slow=37						
KS01	**Wonju Array Si**	**12.56**	**273**	*e*Pn	**Pn**	**04 33 23.7**	**-0.7**
KS15	**Wonju Array Si**	**12.58**	**273**	*e*Pn	**Pn**	**04 33 24.3**	**-0.3**
KSAR	**Wonju Array Be**	**12.58**	**273**	Pn	**Pn**	**04 33 24.1**	**-0.5**
KSAR	**Wonju Array Be**	**12.58**	**273**	P	**Pn**	**04 33 24.1**	**-0.5**
MDJ	**Mudanjiang**	**12.62**	**307**	P	**Pn**	**04 33 24.2**	**-1.0**
MDJ				pP	P	04 33 28.5	-7.7
MDJ				S	**Sn**	**04 35 47.2**	**+2.7**
MDJ				SS	**SnSn**	**04 35 57.7**	**+1.1**
MDJ				pmax	pmax		
	comp=Z,260nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,2μm,3.3s						
MDJ				LR	LR		
	comp=Z,14μm,16.0s						
MDJ				LR	LR		
	comp=Z,12μm,16.1s						
MDJ				LR	LR		
	comp=Z,10μm,22.0s						
MDJ	**Mudanjiang**	**12.62**	**307**	*e*Pn	**Pn**	**04 33 24.8**	**-0.4**
TYV	**Tymovskoe**	**13.06**	**357**	*e*P	**Pn**	**04 33 30.7**	**-0.5**
TYV				*e*S	**Sn**	**04 35 51.4**	**-3.8**
TYV				pmax	pmax		
	comp=Z,600nm,2.6s						
TYV				pmax	pmax		
	comp=Z,82nm,1.1s						
TYV				smax	smax		
	comp=E,44nm,0.9s						
TYV				smax	smax		
	comp=E,1μm,3.9s						
TYV				MLR	MLR		
	comp=N,11μm,16.0s						
TYV				MLR	MLR		
	comp=Z,12μm,16.0s						
TJN	**Taejon**	**13.15**	**269**	||*e*P	**Pn**	**04 33 31.7**	**-0.8**

GRNR **Gornyy** 13.95 340⇓ *i*P **Pn** **04 33 41.7 -1.7**
GRNR pmax pmax
comp=N,80nm,1.0s
GRNR pmax pmax
comp=Z,110nm,1.0s
KLR **Kul'dur** 14.32 327 Pn **Pn** **04 33 46.0 -2.3**
comp=Z,4.5nm,0.3s,baz=133,slow=12,SNR=153
KLR LR LR 04 39 30.8
comp=Z,7μm,20.2s,baz=144,slow=38
KLR **Kul'dur** 14.32 327 *c i*P **Pn** **04 33 45.3 -3.0**
CN2 **Changchun** 15.07 299⇑ *i*P **Pn** **04 33 55.3 -3.2**
CN2 *es*P P 04 34 02.2 -1.2
CN2 *e*S **Sn** **04 36 42.2 -2.1**
CN2 pmax pmax
comp=Z,90nm,1.2s
CN2 pmax pmax
comp=Z,3μm,10.0s
CN2 LR LR
comp=Z,8μm,16.0s
CN2 LR LR
comp=Z,5μm,16.0s
CN2 LR LR
comp=Z,5μm,12.0s
NKL **Nikolayevsk** 15.47 353 *e*P **Pn** **04 34 00.5 -3.2**
NKL *e*S **Sn** **04 36 47.5 -6.5**
NKL pmax pmax
comp=N,100nm,1.1s
NKL pmax pmax
comp=E,43nm,1.1s
NKL pmax pmax
comp=Z,160nm,1.1s
NKL pmax pmax
comp=N,500nm,10.0s
NKL pmax pmax
comp=Z,1μm,12.0s
NKL smax smax
comp=E,800nm,10.0s
NKL MLR MLR
comp=N,2μm,15.0s
NKL MLR MLR
comp=E,3μm,15.0s
NKL MLR MLR
comp=Z,2μm,14.0s
SKR **Severo-Kuril's** 15.59 30 *e*P **P** **04 34 07.4 -1.7**
SKR *e*S **Sn** **04 36 46.3 -10**
SKR pmax pmax
comp=Z,3μm,3.5s
SKR pmax pmax
comp=Z,878nm,1.1s
SKR MLR MLR
comp=Z,8μm,17.0s
SKR MLR MLR
comp=Z,8μm,17.0s
OKH **Okha** 15.74 358⇑ *i*P **Pn** **04 34 01.7 -5.4**
OKH *i* S **Sn** **04 36 53.4 -7.0**
OKH pmax pmax
comp=Z,400nm,12.5s
OKH smax smax
comp=N,1μm,8.0s
OKH smax smax
comp=Z,10μm,16.0s
SNY **Shenyang** 15.99 291 ⇑P **Pn** **04 34 07.7 -2.7**
SNY S **Sn** **04 37 07.7 +1.1**
SNY pmax pmax
comp=Z,75nm,1.8s
SNY LR LR
comp=Z,11μm,12.8s
SNY LR LR
comp=Z,9μm,19.2s
SNY LR LR
comp=Z,16μm,17.4s
JOW **Kunigami** 17.03 234 P **Pn** **04 34 22.9 -0.8**
comp=Z,3.6nm,0.3s,baz=39,slow=7.7,SNR=7.9
JOW LR LR 04 40 59.1
comp=Z,3μm,21.6s,baz=76,slow=37
JOW **Kunigami** 17.03 234 *e*Pn **Pn** **04 34 23.6 -0.1**
comp=Z,189nm,1.1s
DL2 **Dalian** 17.37 280⇑ *i*P **Pn** **04 34 26.0 -1.9**
DL2 S **Sn** **04 37 40.0 -0.2**
DL2 pmax pmax
comp=Z,330nm,1.1s
DL2 pmax pmax
comp=Z,1μm,3.5s
DL2 LR LR
comp=Z,3μm,17.7s
DL2 LR LR
comp=Z,6μm,20.4s
DL2 LR LR
comp=Z,8μm,20.0s
PEA0B **Petropavlovsk-** 18.10 28 *e*Pn **Pn** **04 34 36.1 -0.7**
comp=Z,594nm,1.4s
PETK **Petropavlovsk-** 18.10 28 P **Pn** **04 34 35.5 -1.3**
comp=Z,3.3nm,0.3s,baz=215,slow=9.4,SNR=54
PETK LR LR 04 42 32.2
comp=Z,3μm,19.8s,baz=212,slow=40
PETK **Petropavlovsk-** 18.10 28 *e*Pn **P** **04 34 36.5 -0.4**
PETK **Petropavlovsk-** 18.10 28 *e*P **P** **04 34 36.5 -0.4**
PET **Petropavlovsk** 18.40 30 *e*P **Pn** **04 34 40.7 +0.3**
comp=Z,429nm,1.5s
PET **Petropavlovsk** 18.40 30 *d i*P **P** **04 34 38.1 -2.1**
PET *e*S **Sn** **04 38 00.2 -4.6**
PET pmax pmax
comp=Z,3μm,3.8s
PET pmax pmax
comp=Z,184nm,1.4s
PET pmax pmax
comp=Z,2μm,6.3s
PET MLR MLR
comp=Z,6μm,19.0s
ZEA **Zeya** 19.56 330 *e*P **P** **04 34 50.4 -2.5**
ZEA *e*S **S** **04 38 26.0 -5.8**
ZEA pmax pmax
comp=N,420nm,1.2s
ZEA pmax pmax
comp=E,370nm,1.2s
ZEA pmax pmax
comp=Z,890nm,1.2s
ZEA pmax pmax
comp=E,900nm,3.0s
ZEA pmax pmax
comp=Z,2μm,3.0s
ZEA smax smax
comp=E,500nm,6.0s
ZEA MLR MLR
comp=N,7μm,15.0s
ZEA MLR MLR
comp=Z,9μm,15.0s
ZEA MLR MLR
comp=E,4μm,13.0s
SSE **Sheshan** 19.74 257 P **P** **04 34 54.4 -0.7**
SSE S **Sn** **04 38 36.4 -1.2**
SSE pmax pmax
comp=E,49nm,1.3s
SSE pmax pmax
comp=E,610nm,3.0s
SSE LR LR
comp=E,8μm,18.2s
SSE LR LR
comp=E,4μm,19.7s
HIA **Hailar** 20.72 311 *e*P **P** **04 35 03.1 -2.5**
comp=E,303nm,1.1s
HIA LR LR
comp=Z,6μm,19.0s
HIA **Hailar** 20.72 311 *e*P **P** **04 35 03.1 -2.5**
HIA pmax pmax
comp=Z,303nm,1.1s
HIA MLR MLR
comp=Z,6μm,19.0s
NJ2 **Nanjing** 21.17 262 *e*P **P** **04 35 08.1 -2.4**
NJ2 pmax pmax
comp=Z,56nm,1.2s
NJ2 LR LR
comp=Z,3μm,18.2s
NJ2 LR LR
comp=Z,8μm,15.2s
NJ2 LR LR
comp=Z,8μm,14.9s
TIA **Tai'an** 21.29 274 P **P** **04 35 09.3 -2.5**
TIA sP **pP** **04 35 20.3 -0.1**
TIA S **S** **04 39 00.9 -5.7**
TIA sS Sn 04 39 12.0 -2.8
TIA pmax pmax
comp=Z,760nm,2.0s
TIA LR LR
comp=Z,4μm,14.2s
TIA LR LR
comp=Z,7μm,15.7s
TIA LR LR
comp=Z,10μm,15.7s
ANA2 **Anatahan** 21.47 175 PFAKE 04 35 30.0 +16
ANA2 LR LR
comp=Z,2μm,18.0s
BJI **Beijing** 21.52 284 P **P** **04 35 10.5 -3.8**
BJI S **S** **04 39 12.0 +0.8**
BJI pmax pmax
comp=Z,110nm,1.6s
BJI LR LR
comp=Z,5μm,13.5s
BJI LR LR
comp=Z,4μm,14.3s
BJI LR LR
comp=Z,5μm,13.7s
BJI **Beijing** 21.52 284 P **P** **04 35 11.3 -3.0**
BJT **Baijiatuau** 21.53 284 *e*P **P** **04 35 11.3 -3.1**
comp=Z,767nm,1.3s
BJT LR LR
comp=Z,4μm,20.0s
BJT **Baijiatuau** 21.53 284 *e*P **P** **04 35 11.3 -3.1**
BJT pmax pmax
comp=Z,767nm,1.3s
BJT MLR MLR
comp=Z,4μm,20.0s
YOJ **Yonaguni jima** 22.12 239 PFAKE 04 35 30.0 +9.2
YOJ LR LR
comp=Z,3μm,18.0s
MA2 **Magadan** 22.23 9 P **P** **04 35 21.2 -0.5**
comp=Z,59nm,0.7s,baz=195,slow=9.9,SNR=16
MA2 LR LR 04 46 05.8
comp=Z,2μm,18.1s,baz=202,slow=42
MA2 **Magadan** 22.23 9 *e*P **P** **04 35 22.1 +0.4**
comp=Z,228nm,1.2s
MA2 **Magadan** 22.23 9 *d i*P **P** **04 35 21.6 -0.1**
MA2 pmax pmax
comp=Z,306nm,2.5s
TATO **Taipei** 22.84 242 *e*P **P** **04 35 28.2 -0.3**
TATO LR LR
comp=Z,3μm,19.0s
YHNB **Yeheng** 23.11 242 *e*P **P** **04 35 29.2 -2.1**
comp=Z,102nm,1.0s
YHNB LR LR
comp=Z,4μm,19.0s
NACB **Ninganchiao** 23.28 241 *e*P **P** **04 35 30.6 -2.3**
comp=Z,104nm,0.8s
NACB LR LR
comp=Z,4μm,19.0s
SSLB **Suanglung** 23.97 241 *e*P **P** **04 35 37.8 -1.9**
comp=Z,154nm,1.3s
SSLB LR LR
comp=Z,3μm,18.0s
YULB **Yu-li** 24.00 240 *e*P **P** **04 35 39.2 -0.7**
comp=Z,84nm,0.9s
GUMO **Guam** 24.16 177 LR LR 04 42 43.6
comp=Z,2μm,20.7s,baz=4.0,slow=31
TPUB **Ta-pu** 24.52 240 *e*P **P** **04 35 42.7 -1.9**
comp=Z,226nm,0.8s
TPUB LR LR
comp=Z,4μm,20.0s
TWG **Pinlang** 24.53 239 *e*P **P** **04 35 44.1 -0.6**
comp=Z,609nm,1.1s
TIY **Taiyuan** 24.69 279 *e*P **P** **04 35 46.0 -0.1**
TIY PP **PnPn** **04 36 22.4 +3.9**
TIY S **S** **04 40 08.4 +2.5**
TIY SS **SnSn** **04 40 57.2 +4.1**
TIY pmax pmax
comp=Z,120nm,0.6s
TIY LR LR
comp=Z,2μm,11.8s
TIY LR LR
comp=Z,4μm,11.3s
TIY LR LR
comp=Z,5μm,12.3s
QZH **Quanzhou** 24.92 246⇑ *i*P **P** **04 35 47.0 -1.2**
QZH S **S** **04 40 08.0 -1.6**
QZH pmax pmax
comp=Z,78nm,0.8s
QZH LR LR
comp=Z,4μm,15.7s
QZH LR LR
comp=Z,4μm,13.5s
QZH LR LR
comp=Z,4μm,14.5s
HHC **Hu-ho-hao-te** 24.99 287 *e*P **P** **04 35 46.7 -2.2**
HHC pP pP 04 35 50.9 -7.1
HHC sP sP 04 35 53.7 -8.3
HHC PP **PnPn** **04 36 23.9 +1.3**
HHC S **S** **04 40 06.7 -4.1**
HHC sS pS 04 40 13.8 -6.7
HHC SS **SnSn** **04 41 04.7 +4.2**
HHC pmax pmax
comp=Z,48nm,1.5s
HHC pmax pmax
comp=Z,1μm,5.5s
HHC LR LR
comp=Z,3μm,12.0s
HHC LR LR
comp=Z,6μm,14.9s
HHC LR LR
comp=Z,7μm,15.5s
WHN **Wuhan** 25.30 262 ⇓P **P** **04 35 51.7 +0.1**
WHN S **S** **04 40 17.9 +2.3**
WHN LR LR
comp=Z,26μm,15.9s
WHN LR LR
comp=Z,4μm,10.1s
WHN LR LR
comp=Z,13μm,17.5s
CIT **Chita** 25.43 314 *e*P **P** **04 35 53.1 +0.4**
CIT *e* 04 36 33.5
CIT *e* 04 36 38.8
CIT pmax pmax
comp=Z,1μm,1.4s
SEY **Seymchan** 25.69 9 P **P** **04 35 54.6 -0.2**
comp=Z,126nm,0.8s,baz=188,slow=6.5,SNR=164
SEY LR LR 04 48 24.8
comp=Z,2μm,18.4s,baz=172,slow=42
SEY **Seymchan** 25.69 9⇑ *e*P **P** **04 35 55.9 +1.1**
YAK **Yakutsk** 25.75 345 P **P** **04 35 54.9 -0.5**
comp=Z,163nm,0.7s,baz=58,slow=0.4,SNR=38
YAK S **S** **04 40 29.8 +7.8**
comp=Z,70nm,0.8s,baz=210,slow=22,SNR=11
YAK LR LR 04 46 45.2
comp=Z,5μm,20.3s,baz=123,slow=38
YAK **Yakutsk** 25.75 345 *e*P **P** **04 35 55.7 +0.3**
comp=Z,730nm,0.8s
YAK *e*S **S** **04 40 29.7 +7.6**
YAK **Yakutsk** 25.75 345 *d i*P **P** **04 35 54.5 -0.9**
YAK *e**PP **pP** **04 36 03.7 -0.9**
YAK *e* 04 36 34.6
YAK *e* 04 39 23.0
YAK *e*S **S** **04 40 24.5 +2.4**
YAK *e**SS **sS** **04 40 41.1 +3.8**
YAK pmax pmax
comp=Z,186nm,0.9s
YAK pmax pmax
comp=N,65nm,1.3s
YAK pmax pmax
comp=E,28nm,1.2s
YAK pmax pmax
comp=Z,295nm,1.4s
YAK pmax pmax
comp=E,220nm,1.6s
YAK pmax pmax
comp=N,202nm,1.4s
YAK smax smax
comp=N,2μm,2.3s
YAK smax smax
comp=E,1μm,1.6s
YAK MLR MLR
comp=Z,6μm,15.0s
YAK MLR MLR
comp=E,3μm,14.0s
YAK MLR MLR
comp=N,7μm,15.0s
SMY **Shemya** 25.80 45 *e*P **P** **04 35 57.2 +1.2**
comp=N,418nm,1.1s
SMY **Shemya** 25.80 45 *e*P **P** **04 35 57.2 +1.2**
SMY pmax pmax
comp=Z,418nm,1.1s
BTO **Baotou** 26.18 287 *e*P **P** **04 35 58.3 -1.4**
H11N2 **WAKE ISLAND Hy** 27.03 125 T T 05 04 34.1
baz=317,slow=74,SNR=225
H11N1 **WAKE ISLAND Hy** 27.04 125 T T 05 04 30.3
baz=317,slow=74,SNR=140
H11N3 **WAKE ISLAND Hy** 27.05 125 T T 05 04 33.1
baz=317,slow=74,SNR=181
WAKE **Wake Island** 27.20 126 PFAKE 04 36 20.0 +11
WAKE LR LR
comp=Z,3μm,20.0s
H11S1 **WAKE ISLAND Hy** 27.80 127 T T 05 05 29.7
baz=319,slow=76,SNR=43
H11S3 **WAKE ISLAND Hy** 27.80 127 T T 05 05 26.9
baz=319,slow=76,SNR=46
H11S2 **WAKE ISLAND Hy** 27.82 127 T T 05 05 26.0
baz=319,slow=76,SNR=42
BOD **Bodaibo** 27.89 325 *e*P **P** **04 36 14.3 -0.4**
BOD *e* 04 40 57.3
BOD pmax pmax
comp=Z,277nm,1.3s
XAN **Xi'an** 28.34 273 P **P** **04 36 18.5 -0.6**
XAN pP pP 04 36 26.6 -1.7
XAN S **S** **04 41 02.5 -1.2**
XAN sS pS 04 41 14.2 +0.4
XAN pmax pmax
comp=Z,130nm,1.7s
XAN pmax pmax
comp=Z,2μm,7.8s
XAN LR LR
comp=Z,8μm,14.4s
XAN LR LR
comp=Z,3μm,17.2s
XAN LR LR
comp=Z,4μm,11.7s
ULN **Ulaanbaatar** 28.47 302 *e*P **P** **04 36 20.8 +0.6**
comp=Z,354nm,1.3s
ULN LR LR
comp=Z,3μm,18.0s
ULN **Ulaanbaatar** 28.47 302 P **P** **04 36 21.2 +1.1**
SNR=84
ULN **Ulaanbaatar** 28.47 302 *c i*P **P** **04 36 21.6 +1.4**
ULN pmax pmax
comp=Z,283nm,1.3s
ULN MLR MLR
comp=Z,2μm,16.0s
SONA1 **Songino Array** 28.90 302 *e*P **P** **04 36 24.6 +0.6**
SONM **Songino Array** 28.90 302 P **P** **04 36 24.1 +0.1**
comp=Z,24nm,0.5s,baz=103,slow=6.8,SNR=78
SONM LR LR 04 48 34.6
comp=Z,3μm,19.2s,baz=101,slow=38
ENH **Enshi** 29.24 265 *e*P **P** **04 36 26.6 -0.5**
comp=Z,421nm,1.3s
ENH *e*PcP **PcP** **04 39 34.1 +0.6**
ENH LR LR
comp=Z,5μm,21.0s
GZH **Guangzhou** 29.88 249 P **P** **04 36 28.7 -3.9**
GZH S **S** **04 41 20.8 -6.9**
GZH LR LR
comp=Z,9μm,19.8s
GZH LR LR
comp=Z,8μm,19.2s
ADK **Adak** 30.96 50 *e*P **P** **04 36 42.6 +0.6**
comp=Z,245nm,1.6s
ADK LR LR
comp=Z,3μm,20.0s
ADK **Adak** 30.96 50 *e*P **P** **04 36 42.6 +0.6**
ADK pmax pmax
comp=Z,245nm,1.6s
ADK MLR MLR
comp=Z,3μm,20.0s
IRK **Irkutsk** 30.96 311 *e*P **P** **04 36 44.9 +2.9**
IRK pmax pmax
comp=Z,324nm,2.4s
ZAK **Zakamensk** 31.25 307 *e*P **P** **04 36 44.3 -0.4**
ZAK pmax pmax
comp=Z,160nm,1.3s
LZH **Lanzhou** 31.76 279 *e*P **P** **04 36 49.5 +0.1**
LZH pP pP 04 36 59.2 +0.5
LZH S **S** **04 41 54.4 -3.1**
LZH sS pS 04 42 04.2 -3.5
LZH pmax pmax
comp=Z,210nm,1.4s
LZH pmax pmax
comp=Z,1μm,4.9s
LZH LR LR
comp=Z,7μm,13.6s
LZH LR LR
comp=Z,9μm,16.3s
LZH LR LR
comp=Z,11μm,16.4s
ATKA **Atka Island** 32.53 50 PFAKE 04 37 10.0 +14
ATKA LR LR
comp=Z,4μm,18.0s
BILL **Bilibino** 32.76 15 *e*P **P** **04 36 58.0 +0.4**
comp=Z,143nm,1.1s
BILL **Bilibino** 32.76 15 *d i*P **P** **04 36 57.5 -0.1**
BILL *i* 04 37 10.9
BILL *e* 04 39 43.0
BILL *i* S **S** **04 42 07.4 -4.6**
BILL *e*SSS SSS 04 44 33.1
BILL pmax pmax
comp=Z,239nm,1.7s
MOY **Mondy** 32.86 309 *e*P **P** **04 36 59.1 +0.2**
MOY pmax pmax
comp=Z,167nm,2.3s
GYA **Guiyang** 33.17 261⇑ *i*P **P** **04 37 00.5 -1.3**
GYA pP pP 04 37 07.4 -3.7
GYA PP **PnPn** **04 38 13.0 +0.8**
GYA S **S** **04 42 17.6 -1.9**
GYA sS pS 04 42 28.4 -1.6
GYA SS **SnSn** **04 44 20.8 +0.6**
GYA pmax pmax
comp=Z,110nm,0.8s
GYA pmax pmax
comp=Z,360nm,7.4s
GYA LR LR
comp=Z,3μm,17.4s
GYA LR LR
comp=Z,3μm,17.1s
GYA LR LR
comp=Z,4μm,16.8s
CD2 **Chengdu** 33.52 270 ⇑P **P** **04 37 04.0 -0.7**
CD2 pP pP 04 37 08.9 -5.1
CD2 sP sP 04 37 11.0 -6.9
CD2 PP **PP** **04 38 19.6 -1.2**
CD2 S **S** **04 42 25.3 +0.6**
CD2 sS pS 04 42 33.7 -1.4
CD2 pmax pmax
comp=Z,200nm,0.8s
CD2 pmax pmax
comp=Z,2μm,4.7s
CD2 LR LR
comp=Z,22μm,17.6s
CD2 LR LR
comp=Z,14μm,19.6s
CD2 LR LR
comp=Z,16μm,18.1s
PATS **Pohnpei** 33.57 153 PFAKE 04 37 20.0 +15
PATS LR LR
comp=Z,2μm,18.0s
GTA **Gaotai** 34.10 287 ⇑P **P** **04 37 10.3 +0.5**
GTA pP pP 04 37 14.7 -4.4
GTA sP sP 04 37 17.2 -5.8
GTA PP **PP** **04 38 25.5 -1.7**
GTA PcP **PcP** **04 39 47.9 +1.2**
GTA S **S** **04 42 34.8 +1.1**
GTA sS pS 04 42 42.1 -1.9
GTA ScP **ScP** **04 43 30.5 +1.3**
GTA ScS **ScS** **04 47 32.9 +1.5**
GTA pmax pmax
comp=Z,57nm,1.7s
GTA pmax pmax
comp=Z,1μm,8.4s
GTA LR LR
comp=Z,4μm,17.8s
GTA LR LR
comp=Z,5μm,19.4s
GTA LR LR
comp=Z,8μm,19.4s
TIXI **Tiksi** 34.75 352 P **P** **04 37 14.5 -0.3**
comp=Z,15nm,1.0s,baz=147,slow=8.8,SNR=28
TIXI ScS ScS 04 47 35.0 +1.6
comp=Z,2.2nm,0.3s,baz=185,slow=1.1,SNR=5.9
TIXI **Tiksi** 34.75 352 *e*P **P** **04 37 14.5 -0.3**
comp=Z,38nm,1.0s
TIXI ScS ScS 04 47 35.0 +1.6
TIXI LR LR
comp=Z,4μm,18.0s
TIXI **Tiksi** 34.75 352 *de*P **P** **04 37 14.2 -0.6**
TIXI pmax pmax
comp=Z,51nm,1.7s

TIXI MLR MLR
comp=Z,4µm,18.0s
DAV Davao City (W) 34.77 213 PFAKE 04 37 30.0 +14
DAV LR LR
comp=Z,2µm,19.0s
QIZ Qiongzhong 34.94 247 P **P** **04 37 17.0 0.0**
QIZ S **S** **04 42 50.2 +3.6**
QIZ pmax pmax
comp=Z,22nm,1.8s
QIZ pmax pmax
comp=Z,690nm,9.8s
QIZ LR LR
comp=Z,4µm,25.5s
QIZ LR LR
comp=Z,3µm,23.0s
QIZ LR LR
comp=Z,3µm,14.7s
QIZ Qiongzhong 34.94 247 PFAKE 04 37 30.0 +13
QIZ LR LR
comp=Z,3µm,20.0s
NIKH Nikolski High 35.86 49 PFAKE 04 37 40.0 +15
NIKH LR LR
comp=Z,4µm,20.0s
KWAJ Kwajalein Atol 36.05 137 PFAKE 04 37 40.0 +13
KWAJ LR LR
comp=Z,4µm,19.0s
KMI Kunming 36.91 262 P **P** **04 37 33.7 -0.4**
KMI pP pP 04 37 39.0 -4.5
KMI sP sP 04 37 43.1 -4.2
KMI PP **PP** **04 38 52.3 -6.1**
KMI S **S** **04 43 16.0 -1.1**
KMI sS pS 04 43 26.7 -1.1
KMI pmax pmax
comp=Z,29nm,1.3s
KMI pmax pmax
comp=Z,160nm,3.9s
KMI LR LR
comp=Z,6µm,18.2s
KMI LR LR
comp=Z,3µm,19.7s
KMI LR LR
comp=Z,3µm,25.1s
HVS Khovu-Aksy 37.37 307 *eP* **P** **04 37 37.8 +0.1**
HVS pmax pmax
comp=Z,9.0nm,0.3s
TNTI Ternate 39.83 206 PFAKE 04 38 10.0 +12
TNTI LR LR
comp=Z,1µm,22.0s
TNTI Ternate 39.83 206 P **P** **04 38 00.0 +1.5**
ANM Nome 39.96 31 *eP* **P** **04 38 01.5 +2.5**
comp=Z,268nm,1.2s
ANM LR LR
comp=Z,1µm,18.0s
SWI Sorong 40.18 200 P **P** **04 38 02.0 +0.6**
comp=Z,47nm,0.6s
JAY Jayapura 40.23 185 P **P** **04 38 01.4 -0.4**
comp=Z,56nm,0.8s,baz=323,slow=4.1,SNR=16
JAY Jayapura 40.23 185 P **P** **04 38 00.0 -1.8**
comp=Z,926nm,1.2s,comp=Z,12µm
GENI Genyem 40.35 186 P **P** **04 38 04.7 +2.0**
comp=Z,267nm,1.5s,comp=Z,11µm
NONG Nongkai 40.51 252 P **P** **04 38 05.1 +1.0**
comp=Z,1.3nm,0.8s
UBPT Khong Chiam 40.54 247 P **P** **04 38 06.2 +1.8**
comp=Z,57nm,1.6s
SKNT Sakolnakorn 40.55 250 P **P** **04 38 05.7 +1.2**
comp=Z,20nm,1.1s
LBMI Labuha 41.10 205 P P 04 38 03.5 -5.5
comp=Z,95nm,0.9s,comp=Z,4µm
KMSI Cibinong 41.29 211 P **P** **04 38 10.9 +0.4**
comp=Z,329nm,0.9s
LKP Lekhapani 41.30 270 *eP* **P** **04 38 10.8 +0.3**
LKP IAmb IAmb 04 38 17.0
comp=Z,222nm,1.0s
FAKI Fak Fak 41.91 197 *eP* **P** **04 38 16.3 +0.6**
comp=Z,54nm,0.9s
FAKI LR LR
comp=Z,1µm,20.0s
FAKI Fak Fak 41.91 197 P **P** **04 38 14.8 -0.8**
comp=Z,51nm,0.7s,comp=Z,1µm
RDOG Red Dog Mine 41.97 27 *eP* **P** **04 38 17.5 +1.9**
comp=Z,272nm,1.1s
RDOG LR LR
comp=Z,2µm,20.0s
DIBR DIBRUGARH 41.98 271 *eP* **P** **04 38 14.3 -1.8**
WMQ Urumqi 42.14 297 P **P** **04 38 19.0 +1.7**
WMQ pP pP 04 38 23.2 -3.6
WMQ sP sP 04 38 29.8 -0.8
WMQ S **S** **04 44 37.8 +2.8**
WMQ SS **SS** **04 47 39.6 -3.5**
WMQ pmax pmax
comp=Z,310nm,1.3s
WMQ pmax pmax
comp=Z,2µm,7.1s
WMQ LR LR
comp=Z,6µm,18.1s
WMQ LR LR
comp=Z,4µm,16.1s
WMQ LR LR
comp=Z,3µm,22.9s
MRSI Marisa 42.24 214 P **P** **04 38 18.7 +0.4**
comp=Z,74nm,1.2s,comp=Z,1µm
PAYA Payao 42.25 257 P **P** **04 38 21.5 +3.1**
comp=Z,14nm,0.9s,comp=Z,127nm
CHAI Chaiyaphum 42.71 251 P **P** **04 38 22.8 +0.6**
comp=Z,27nm,1.1s,comp=Z,238nm
ZAA0 Zalesovo Array 42.76 312 *eP* **P** **04 38 22.6 +0.4**
comp=Z,249nm,1.3s
ZAA0 LR LR
comp=Z,2µm,20.0s
ZALV Zalesovo Beam 42.76 312 P **P** **04 38 22.8 +0.7**
comp=Z,18nm,0.7s,baz=86,slow=6.7,SNR=43
ZALV PcP **PcP** **04 40 14.3 +1.2**
comp=Z,5.3nm,0.3s,baz=87,slow=3.5,SNR=5.7
ZALV LR LR 04 56 35.1
comp=Z,2µm,18.9s,baz=74,slow=37
ZALV Zalesovo Beam 42.76 312 *eP* **P** **04 38 22.0 -0.1**
ZALV PcP **PcP** **04 40 14.3 +1.2**
ZIRO ZIRO 42.79 271 *eP* **P** **04 38 23.7 +0.7**
ZIRO IAmb IAmb 04 38 29.9
MOKO MOKOCHONG 42.82 269 *eP* **P** **04 38 24.1 +0.9**
MOKO IAmb IAmb 04 38 29.2
comp=Z,211nm,0.7s
JORH JORHAT 42.83 270 *eP* **P** **04 38 23.7 +0.6**
LAMP Lampang 42.91 256 P **P** **04 38 24.9 +1.1**
comp=Z,20nm,0.8s,comp=Z,198nm
SANI Sanana 42.94 207 P **P** **04 38 23.1 -0.9**
comp=Z,232nm,0.7s,comp=Z,2µm
PBKT Sadao Pong 43.06 252 *eP* **P** **04 38 25.9 +0.9**
comp=Z,54nm,1.0s
PBKT Sadao Pong 43.06 252 P **P** **04 38 25.5 +0.5**
comp=Z,59nm,1.3s
ITAN ITANAGAR 43.06 271 *eP* **P** **04 38 25.4 +0.4**
ITAN IAmb IAmb 04 38 31.6
comp=Z,430nm,0.2s
MSAI Masohi 43.20 202 P **P** **04 38 27.3 +1.2**
CMMT Chiang Mai 43.27 257 P **P** **04 38 27.3 +0.6**
comp=Z,61nm,1.0s,comp=Z,1µm
CHTO Chiang Mai 43.27 257 *eP* **P** **04 38 27.1 +0.4**
comp=Z,79nm,1.2s
CHTO LR LR
comp=Z,3µm,18.0s
CHTO Chiang Mai 43.27 257 P **P** **04 38 26.9 +0.2**
SNR=30
CHTO Chiang Mai 43.27 257 *eP* **P** **04 38 27.2 +0.4**
CHTO pmax pmax
comp=Z,79nm,1.2s
CHTO MLR MLR
comp=Z,3µm,18.0s
CHTO Chiang Mai 43.27 257 P **P** **04 38 27.4 +0.7**
comp=Z,275nm,1.1s,comp=Z,5µm
MPSI Mapaga 43.29 216 P **P** **04 38 27.8 +1.0**
comp=Z,20nm,1.1s,comp=Z,576nm
NRIK Noril'sk 43.34 335 P **P** **04 38 26.6 0.0**
comp=Z,12nm,1.0s,baz=109,slow=10,SNR=13
NRIK LR LR 04 58 00.9
comp=Z,6µm,18.3s,baz=106,slow=38
ZSN Zaisan 43.42 302 *eP* **P** **04 38 29.6 +1.9**
comp=Z,33nm,1.4s
ZSN *i* S **S** **04 44 55.8 +2.2**
KOHI KOHIMA 43.42 269 *eP* **P** **04 38 26.8 -1.3**
KOHI IAmb IAmb 04 38 34.6
comp=Z,109nm,1.0s
CMAR Chiang Mai Arr 43.48 256 P **P** **04 38 28.5 +0.1**
comp=Z,15nm,0.8s,baz=46,slow=6.8,SNR=40
CMAR LR LR 04 57 36.0
comp=Z,2µm,18.4s,baz=52,slow=38

CM01 Chiang Mai Arr 43.49 256 *eP* **P** **04 38 28.9 +0.4**
SUKH Sukhothai 43.53 255 P **P** **04 38 29.6 +0.8**
comp=Z,19nm,0.8s
APSI Ampana 43.61 213 P **P** **04 38 29.7 +0.3**
comp=Z,124nm,1.1s,comp=Z,994nm
NVS Novosibirsk 43.64 313 *eP* **P** **04 38 29.8 +0.6**
NVS *eS* **S** **04 45 02.4 +5.8**
NVS pmax pmax
comp=Z,141nm,1.3s
NVS pmax pmax
comp=E,119nm,1.2s
NVS smax smax
comp=N,54nm,1.9s
NVS smax smax
comp=E,100nm,1.6s
AAI Ambon 43.75 203 P **P** **04 38 30.4 -0.1**
comp=E,254nm,0.8s,comp=E,3µm
SRAK Srakaew 43.87 249 P **P** **04 38 29.1 -2.5**
comp=E,134nm,0.9s,comp=E,1µm
LSA Lhasa 43.98 276 *eP* **P** **04 38 34.1 +1.2**
comp=E,132nm,1.5s
LSA LR LR
comp=Z,3µm,19.0s
LSA Lhasa 43.98 276 P **P** **04 38 34.0 +1.2**
LSA Lhasa 43.98 276 *eP* **P** **04 38 34.1 +1.2**
LSA pmax pmax
comp=Z,132nm,1.5s
LSA MLR MLR
comp=Z,3µm,19.0s
IMP Imphal 43.98 268 *eP* **P** **04 38 33.5 +1.0**
IMP IAmb IAmb 04 38 38.7
comp=Z,26nm,0.7s
TEZP TEZPUR 44.04 271 *eP* **P** **04 38 34.2 +1.4**
TEZP IAmb IAmb 04 38 41.8
comp=Z,59nm,0.8s
BNDI Bandanaira 44.05 200 P **P** **04 38 32.5 -0.4**
TAWA Tawang 44.33 272 *eP* **P** **04 38 35.3 -0.3**
TAWA IAMs_20 IAMs_20 05 00 00.6
comp=Z,3µm,12.4s
UTHA Uthaitani 44.84 253 P **P** **04 38 40.3 +1.0**
comp=Z,15nm,0.7s
UMPA Umpang Tak 44.88 254 P **P** **04 38 41.7 +2.0**
comp=Z,32nm,1.2s,comp=Z,2µm
SILR SILCHAR 44.91 268 *eP* **P** **04 38 40.4 +0.7**
OHAK Old Harbor 44.92 43 *eP* **P** **04 38 39.7 +0.3**
comp=Z,126nm,1.0s
GUWA GUWAHATI 45.11 271 *eP* **P** **04 38 41.0 -0.4**
GUWA IAmb IAmb 04 38 49.5
comp=Z,69nm,0.9s
TARA Tarawa 45.13 137 PFAKE 04 38 50.0 +8.4
TARA LR LR
comp=Z,6µm,19.0s
SHL Shillong 45.26 270 *eP* **P** **04 38 42.6 -0.2**
comp=Z,83nm,0.9s
SHL LR LR
comp=Z,3µm,18.0s
SHL Shillong 45.26 270 *eP* **P** **04 38 42.6 -0.2**
SHL pmax pmax
comp=Z,83nm,0.9s
SHL MLR MLR
comp=Z,3µm,18.0s
SHL Shillong 45.26 270 *eP* **P** **04 38 42.4 -0.4**
SHL *eP* **P** **04 38 43.0 +0.2**
SHL IAmb IAmb 04 38 51.7
comp=Z,52nm,0.7s
SHL *ex* x 04 45 29.0
MK01 Makanchi Array 45.27 302 *eP* **P** **04 38 42.3 -0.1**
MK31 Makanchi Array 45.27 302 *eP* **P** **04 38 42.8 +0.4**
MK31 Makanchi Array 45.27 302 *i P* **P** **04 38 42.4 0.0**
MK31 pmax pmax
comp=Z,148nm,1.1s
MKAR Makanchi Array 45.27 302 P **P** **04 38 42.7 +0.3**
comp=Z,15nm,0.7s,baz=87,slow=10,SNR=67
MKAR LR LR 04 58 00.7
comp=Z,2µm,20.1s,baz=73,slow=37
MKAR Makanchi Array 45.27 302 *eP* **P** **04 38 42.8 +0.3**
comp=Z,430nm,0.9s
MKAR Makanchi Array 45.27 302 P **P** **04 38 42.7 +0.3**
MKAR pmax pmax
comp=Z,14nm,0.7s
MKAR MLR MLR
comp=Z,2µm,20.1s
KDAK Kodiak Island 45.27 43 P **P** **04 38 43.1 +0.9**
comp=Z,230nm,1.0s,baz=267,slow=4.9,SNR=60
KDAK Kodiak Island 45.27 43 P **P** **04 38 43.1 +0.9**
KDAK LR LR
comp=Z,3µm,21.0s
KDAK Kodiak Island 45.27 43 P **P** **04 38 43.1 +0.9**
KDAK MLR MLR
comp=Z,3µm,21.0s
PATY Pattaya 45.45 249 P **P** **04 38 45.7 +1.6**
comp=Z,29nm,1.0s
PPLA Purkeypile 45.46 35 *eP* **P** **04 38 46.4 +2.6**
comp=Z,453nm,1.4s
SKT Skwentna 45.74 37 PFAKE 04 39 00.0 +14
SKT LR LR
comp=Z,1µm,21.0s
SRDT SRDT 45.83 252 P **P** **04 38 48.9 +1.7**
comp=Z,73nm,1.2s,comp=Z,3µmcomp=Z,533µm
SAIH SAIHA 45.92 266 *eP* **P** **04 38 47.1 -0.9**
BPAW Bear Paw Mtn. 46.05 34 *eP* **P** **04 38 50.1 +1.8**
comp=Z,247nm,1.6s
BRLK Bradley Lake 46.08 40 *eP* **P** **04 38 50.4 +1.8**
comp=Z,80nm,0.9s
BRLK *epP* **sP** **04 39 03.7 +1.6**
SUA Susitna One 46.12 37 *eP* **P** **04 38 50.0 +1.0**
comp=Z,133nm,1.0s
MLY Manley 46.20 32 *eP* **P** **04 38 51.2 +1.6**
comp=Z,245nm,1.2s
MLY LR LR
comp=Z,1µm,20.0s
TTSI Tana Toraja 46.32 214 P **P** **04 38 49.7 -1.2**
TRF Thorofare Moun 46.34 35 *eP* **P** **04 38 52.2 +1.4**
comp=Z,138nm,1.2s
PHET Kaeng Krachan 46.37 250 P **P** **04 38 52.7 +1.3**
comp=Z,55nm,0.7s,comp=Z,508nm
COLD Coldfoot 46.56 29 *eP* **P** **04 38 54.1 +1.8**
comp=Z,37nm,1.2s
AGT Agartala 46.59 268 *eP* **P** **04 38 54.5 +1.5**
RC01 Rabbit Creek A 46.61 38 *eP* **P** **04 38 53.7 +0.9**
comp=Z,268nm,1.1s
BWN Browne 46.72 34 *eP* **P** **04 38 55.2 +1.7**
comp=Z,786nm,1.2s
BELO BELONIA 46.75 267 *eP* **P** **04 38 54.7 +0.4**
MTKI Muara Teweh, K 46.87 221 P **P** **04 38 56.5 +1.2**
comp=Z,175nm,0.8s
BRDH Bariadhala 46.89 267 P **P** **04 38 55.6 +0.2**
comp=Z,173nm,0.3s,baz=67,slow=24,SNR=4.8
KURK Kurchatov 46.91 308 *eP* **P** **04 38 54.9 -0.3**
comp=Z,271nm,1.0s
KURK LR LR
comp=Z,2µm,19.0s
KURK Kurchatov 46.91 308 P **P** **04 38 55.3 +0.1**
SNR=99
KURK Kurchatov 46.91 308 *eP* **P** **04 38 54.9 -0.3**
KURK pmax pmax
comp=Z,271nm,1.0s
KURK MLR MLR
comp=Z,2µm,19.0s
TOLK Toolik Lake Re 46.92 27 *eP* **P** **04 38 57.0 +1.9**
comp=Z,123nm,0.9s
TOLK Toolik Lake Re 46.92 27 P **P** **04 38 56.4 +1.2**
baz=265
GHO Glory Hole Cre 46.98 37 *eP* **P** **04 38 56.7 +1.0**
comp=Z,486nm,1.3s
RND Reindeer 46.98 35 *eP* **P** **04 38 56.9 +1.2**
comp=Z,337nm,1.2s
RND Reindeer 46.98 35 *eP* **P** **04 38 56.9 +1.2**
RND pmax pmax
comp=Z,337nm,1.2s
GTK Tadong 47.04 274 *eP* **P** **04 38 57.0 +0.3**
GTK IAmb IAmb 04 39 12.4
SPSI Sidrap Palu 47.16 214 P **P** **04 38 58.2 +0.7**
comp=Z,23nm,0.8s,comp=Z,444nm
SML Sawmill 47.26 37 *eP* **P** **04 38 58.9 +1.1**
comp=Z,391nm,1.2s
SML LR LR
comp=Z,2µm,19.0s
SML Sawmill 47.26 37 *eP* **P** **04 38 58.9 +1.1**
SML pmax pmax
comp=Z,391nm,1.2s
SML MLR MLR
comp=Z,2µm,19.0s
MDM Murphy Dome 47.26 33 *eP* **P** **04 38 59.1 +1.3**
comp=Z,365nm,1.2s
WRH Wood River Hil 47.32 33 *eP* **P** **04 38 59.6 +1.4**
comp=Z,74nm,1.0s

WRH LR LR
comp=Z,2µm,19.0s
BNSI Bone 47.40 213 P **P** **04 38 59.8 +0.4**
TCOL CIGO, UAF Yank 47.42 33 P **P** **04 39 00.3 +1.3**
baz=270
COLA College 47.42 33 *eP* **P** **04 39 00.4 +1.4**
comp=Z,133nm,1.1s
COLA College 47.42 33 *eP* **P** **04 39 00.4 +1.4**
COLA pmax pmax
comp=Z,133nm,1.1s
CCB Clear Creek Bu 47.44 33 *eP* **P** **04 38 59.5 +0.3**
comp=Z,42nm,1.0s
POKR Poker Plat Res 47.60 32 P **P** **04 39 02.2 +1.8**
baz=270
DHY Denali Highway 47.66 35 *eP* **P** **04 39 01.9 +0.8**
comp=Z,229nm,1.4s
TAPN Taplejung 47.73 275 *eP* **P** **04 39 03.0 +0.7**
comp=Z,250nm,1.0s
SCM Sheep Creek Mo 47.73 37 *eP* **P** **04 39 03.3 +1.7**
comp=Z,341nm,1.1s
HDA Harding Lake 47.81 33 *eP* **P** **04 39 02.5 +0.4**
comp=Z,207nm,1.2s
HDA Harding Lake 47.81 33 P **P** **04 39 02.5 +0.4**
baz=271
ILAR Eielson Array 47.84 33 *eP* **P** **04 39 02.6 +0.4**
comp=Z,76nm,0.9s,baz=264,slow=6.0,SNR=514
ILB Eielson Array 47.84 33 *eP* **P** **04 39 02.8 +0.4**
STKI Sintang 47.91 226 P **P** **04 39 05.0 +1.7**
comp=Z,72nm,0.8s
GLI Glacier Island 47.91 38 *eP* **P** **04 39 04.4 +1.5**
comp=Z,408nm,1.6s
SHLS Shalkode 48.11 298 *eP* **P** **04 39 03.3 -1.5**
comp=Z,156nm,3.9s
SHLS *eS* **S** **04 45 58.2 -3.2**
SHLS LR LR 05 00 11.7
comp=Z,627nm,15.7s
ODAN Odare 48.20 274 *eP* **P** **04 39 06.1 +0.2**
comp=Z,152nm,0.7s
FID Port Fidalgo 48.22 38 *eP* **P** **04 39 06.5 +1.2**
comp=Z,378nm,1.4s
BKSI Bulukumba 48.22 212 P **P** **04 39 03.4 -2.3**
comp=Z,22nm,1.0s,comp=Z,472nm
TDK Taldyqorghan 48.33 300 *eP* **P** **04 39 08.1 +1.7**
comp=Z,157nm,2.3s
TDK *eS* **S** **04 46 06.1 +1.8**
TDK LR LR 05 00 03.4
comp=Z,2µm,16.2s
UZB Uzynbulak 48.42 298 *eP* **P** **04 39 09.1 +1.8**
comp=Z,13nm,1.2s
UZB *i* S **S** **04 46 07.9 +2.0**
UZB LR LR 05 00 01.5
comp=Z,287nm,12.0s
KLU Klutina 48.43 37 *eP* **P** **04 39 08.9 +1.9**
comp=Z,361nm,1.2s
FYU Fort Yukon 48.50 30 *eP* **P** **04 39 10.0 +2.7**
comp=Z,591nm,1.4s
DIV Divide 48.53 38 *eP* **P** **04 39 09.7 +1.9**
comp=Z,513nm,1.2s
PAX Paxson 48.53 35 *eP* **P** **04 39 09.8 +2.0**
comp=Z,157nm,1.4s
PAX LR LR
comp=Z,1µm,18.0s
PAX Paxson 48.53 35 *eP* **P** **04 39 09.8 +2.0**
PAX pmax pmax
comp=Z,157nm,1.4s
PAX MLR MLR
comp=Z,1µm,18.0s
KPKS Kokpek 48.56 298 *eP* **P** **04 39 10.2 +1.9**
comp=Z,15nm,1.0s
KPKS *eS* **S** **04 46 10.0 +2.2**
EYAK Cordova Ski Ar 48.59 38 *eP* **P** **04 39 09.6 +1.4**
comp=Z,258nm,1.2s
HARP HAARP 48.72 36 *eP* **P** **04 39 11.3 +2.2**
comp=Z,412nm,1.4s
RIDG Independ'e Rid 48.77 34 *eP* **P** **04 39 10.4 +0.8**
comp=Z,128nm,1.1s
RIDG LR LR
comp=Z,2µm,20.0s
JIRN Jiri 48.78 276 *eP* **P** **04 39 10.9 +0.4**
comp=Z,293nm,0.6s
RAMN Ramite 48.79 275 *eP* **P** **04 39 10.5 +0.1**
comp=Z,274nm,0.7s
ZHN Zhinishke 48.82 298 *eP* **P** **04 39 11.4 +1.0**
comp=Z,15nm,1.4s
ZHN *eS* **S** **04 46 12.7 +1.2**
SATY Saty 48.88 298 *eP* **P** **04 39 11.5 +0.7**
comp=Z,29nm,1.7s
SATY *i* S **S** **04 46 13.1 +0.8**
GUN Gumba 48.91 276 *eP* **P** **04 39 11.6 +0.1**
comp=Z,528nm,0.8s
BMRM Bremner River 49.11 38 *eP* **P** **04 39 12.7 +0.5**
comp=Z,300nm,1.2s
BMRM LR LR
comp=Z,2µm,19.0s
RAGM Ragged Mountai 49.14 39 *eP* **P** **04 39 13.5 +1.1**
comp=Z,431nm,1.3s
HNR Honiara 49.39 159 PFAKE 04 39 30.0 +15
HNR LR LR
comp=Z,2µm,19.0s
PKI Pulchoki 49.44 276 *eP* **P** **04 39 15.6 +0.1**
comp=Z,70nm,0.5s
KKN Kakani 49.44 276 *eP* **P** **04 39 15.9 +0.5**
comp=Z,293nm,0.6s
PKIN Phulchoki 49.45 276 *eP* **P** **04 39 15.5 0.0**
comp=Z,77nm,0.6s
SKLT Songkhla 49.51 243 P **P** **04 39 17.2 +1.5**
comp=Z,60nm,1.1s,comp=Z,1µm
DMN Daman 49.66 276 *eP* **P** **04 39 17.5 +0.4**
comp=Z,69nm,0.5s
TRTT Trang 49.71 245 P **P** **04 39 18.6 +1.4**
comp=Z,24nm,1.0s,comp=Z,620nm
MDOK Medeo 49.79 298 *i P* **P** **04 39 19.1 +1.3**
comp=Z,542nm,1.4s
MDOK *i* S **S** **04 46 26.6 +1.4**
MDOK LR LR 05 01 31.7
comp=Z,713nm,12.6s
AAA Alma-Ata 49.87 298 *eP* P 04 39 24.0 +5.7
AAA *eS* **S** **04 46 34.4 +8.3**
AAA pmax pmax
comp=Z,400nm,2.1s
AAA smax smax
comp=N,900nm,8.7s
AAA MLR MLR
comp=Z,900nm,15.0s
TGL Tana Glacier 50.00 38 *eP* **P** **04 39 20.9 +1.9**
comp=Z,362nm,1.3s
KDJ Kajisay 50.02 297 *eP* **P** **04 39 19.9 +0.3**
comp=Z,54nm,1.0s
KDJ Kajisay 50.02 297 *eP* **P** **04 39 19.9 +0.3**
KDJ pmax pmax
comp=Z,55nm,1.0s
BALM Baldy 50.19 38 *eP* **P** **04 39 22.3 +1.8**
comp=Z,188nm,1.2s
BALM LR LR
comp=Z,2µm,21.0s
BALM Baldy 50.19 38 *eP* **P** **04 39 22.3 +1.8**
BALM pmax pmax
comp=Z,188nm,1.2s
BALM MLR MLR
comp=Z,2µm,21.0s
EGAK Eagle 50.28 33 *eP* **P** **04 39 21.7 +0.7**
comp=Z,214nm,1.6s
DANN Dangsing 50.38 278 *eP* **P** **04 39 23.0 +0.4**
comp=Z,865nm,0.8s
PKDT Phuket 50.65 246 P **P** **04 39 25.9 +1.6**
comp=Z,58nm,1.0s,comp=Z,2µm
EDFI Ende, Flores 50.71 209 P **P** **04 39 24.9 +0.1**
comp=Z,61nm,0.9s,comp=Z,941nm
SOEI Soe 50.72 205 *eP* **P** **04 39 25.0 +0.1**
comp=Z,90nm,1.0s
SOEI LR LR
comp=Z,1µm,22.0s
SOEI Soe 50.72 205 P **P** **04 39 25.8 +0.9**
comp=Z,99nm,1.0s,comp=Z,1µm
KOLN Koldanda 50.77 277 *eP* **P** **04 39 25.9 +0.5**
comp=Z,574nm,1.2s
BRZS Berezniki 50.78 308 *i P* **P** **04 39 25.5 +0.5**
comp=Z,35nm,1.7s
BRZS *eS* **S** **04 46 39.0 +0.6**
BRZS LR LR 05 01 37.8
comp=Z,524nm,13.1s
BOK Bokaro 50.88 271 *eP* **P** **04 39 26.3 +0.3**
BOK IAmb IAmb 04 39 41.5
comp=Z,247nm,1.6s
TKM2 Tokmak 2 50.88 299 P **P** **04 39 26.4 +0.3**
SNR=65
NRN Naryn 51.09 297 *eP* **P** **04 39 29.5 +1.7**

comp=Z,107nm,1.6s
NRN Naryn 51.09 297 *e*P **P 04 39 29.5 +1.7**
NRN pmax pmax
comp=Z,107nm,1.6s
PYUN Piuthan 51.10 278 *e*P **P 04 39 28.6 +0.7**
comp=Z,430nm,0.9s
DAWY Dawson 51.13 33 *e*P **P 04 39 28.5 +1.0**
comp=Z,147nm,1.6s
DAWY *e*PcP **PcP 04 40 39.1 -3.5**
BTLS Baital 51.28 302 *e*P **P 04 39 29.8 +1.1**
comp=Z,14nm,1.4s
BTLS *e*S **S 04 46 46.9 +1.5**
BTLS LR LR 05 03 44.4
comp=Z,427nm,12.5s
PCA Pinnacle 51.36 38 *e*P **P 04 39 31.1 +1.9**
comp=Z,151nm,1.3s
KZA Kyzart 51.40 298 P **P 04 39 32.0 +1.7**
SNR=16
BVAR Borovoye Array 51.41 312 P **P 04 39 30.1 +0.5**
comp=Z,17nm,0.8s,baz=81,slow=9.2,SNR=52
BVAR S S 04 46 59.4 +12
comp=Z,3.1nm,0.8s,baz=62,slow=16,SNR=4.1
KBK Karagaybulak 51.42 298 P **P 04 39 31.7 +1.6**
SNR=48
CHMS Chumysh 51.44 299 P **P 04 39 30.2 +0.1**
SNR=9.0
BRVK Borovoye 51.47 312 *e*P **P 04 39 30.6 +0.6**
comp=Z,112nm,1.1s
BRVK LR LR
comp=Z,2μm,19.0s
BRVK Borovoye 51.47 312 P **P 04 39 30.6 +0.6**
SNR=50
BRVK Borovoye 51.47 312 *e*P **P 04 39 30.6 +0.6**
BRVK pmax pmax
comp=Z,112nm,1.1s
BRVK MLR MLR
comp=Z,2μm,19.0s
COEN Coen 51.51 181 *e*P **P 04 39 31.6 +0.9**
comp=Z,74nm,1.0s
COEN LR LR
comp=Z,800nm,19.0s
USP Ospenovka 51.53 299 P **P 04 39 31.5 +0.8**
SNR=16
FRU Bishkek 51.59 299 *e*P **P 04 39 30.0 -1.2**
FRU *e* 04 39 42.0
FRU *e* 04 41 28.0
FRU *e*S **S 04 46 48.0 -1.9**
FRU pmax pmax
comp=Z,225nm,2.0s
AAK Ala-Archa 51.74 299 P **P 04 39 33.2 +0.6**
SNR=15
AAK Ala-Archa 51.74 299 *e*P **P 04 39 33.1 +0.6**
comp=Z,42nm,0.8s
AAK LR LR
comp=Z,2μm,18.0s
AAK Ala-Archa 51.74 299 P **P 04 39 33.3 +0.9**
SNR=25
AAK Ala-Archa 51.74 299 P **P 04 39 33.0 +0.5**
AAK Ala-Archa 51.74 299 *e*P **P 04 39 33.1 +0.6**
AAK pmax pmax
comp=Z,42nm,0.8s
AAK MLR MLR
comp=Z,2μm,18.0s
MTN Manton Dam 51.77 196 *e*P **P 04 39 32.0 -0.6**
comp=Z,129nm,0.7s
KSH Kashi 51.77 294 P P 04 39 37.8 +5.1
KSH pP pP 04 39 41.7 -0.6
KSH PP **PP 04 41 36.8 +6.4**
KSH PcS **PcS 04 44 44.1 +0.4**
KSH S **S 04 46 59.9 +7.3**
KSH SS **SS 04 50 30.9 +1.9**
KSH pmax pmax
comp=Z,27nm,0.7s
KSH LR LR
comp=Z,4μm,13.4s
KSH LR LR
comp=Z,4μm,13.6s
KSH LR LR
comp=Z,4μm,18.4s
UCH Uchtor 51.86 298 P **P 04 39 35.0 +1.3**
SNR=14
EPYK Eagle Plains 51.92 30 P **P 04 39 34.9 +1.6**
baz=278
EKS2 Erkin-Say 52.23 299 P **P 04 39 36.4 +0.4**
SNR=15
PBA Port Blair 52.35 254 PFAKE 04 39 50.0 +13
PBA LR LR
comp=Z,3μm,19.0s
PLAI Plampang 52.37 213 P **P 04 39 38.4 +1.3**
comp=Z,84nm,0.9s,comp=Z,922nm
KIP Kipapa 52.41 91⇓ *e*P **P 04 39 38.9 +1.4**
KIP pmax pmax
comp=Z,2μm,2.5s
AML Almayashu 52.47 298 P **P 04 39 39.5 +1.3**
SNR=49
HYT Haines Junctio 52.56 37 *e*P **P 04 39 40.9 +2.7**
comp=Z,426nm,1.2s
TWSI Taliwang, Sumb 52.68 214 P **P 04 39 39.4 0.0**
comp=Z,75nm,0.8s,comp=Z,699nm
BWNR Bhubaneshwar 52.75 268 *e*P P 04 39 51.8 +12
PPBI Pangkal Pinang 52.84 230 P **P 04 39 42.8 +2.2**
comp=Z,28nm,1.3s,comp=Z,18μm
INK Inuvik 52.84 28 *e*P **P 04 39 40.8 +0.8**
comp=Z,157nm,1.4s
INK Inuvik 52.84 28 *e*P **P 04 39 40.8 +0.8**
INK pmax pmax
comp=Z,157nm,1.4s
SRBI Singaraja 52.87 216 P **P 04 39 41.3 +0.5**
comp=Z,136nm,0.9s,comp=Z,1μm
GRJI Gresik 53.20 220 P **P 04 39 42.8 -0.4**
LHMI Lhok Sumawe 53.47 245 PFAKE 04 40 00.0 +15
LHMI LR LR
comp=Z,2μm,20.0s
PSI Prapat 53.79 241 *e*P **P 04 39 47.7 -0.1**
comp=Z,25nm,0.7s
PSI LR LR
comp=Z,2μm,18.0s
PSI Prapat 53.79 241 *e*P **P 04 39 47.7 -0.1**
PSI pmax pmax
comp=Z,25nm,0.7s
PSI MLR MLR
comp=Z,2μm,18.0s
DZA Taraz 53.84 300 *e*P **P 04 39 48.2 +0.4**
comp=Z,82nm,1.8s
WHY Whitehorse 53.85 37 *e*P **P 04 39 50.0 +2.3**
comp=Z,87nm,1.0s
DDI Dehra Dun 53.93 283 *e*P **P 04 39 48.6 -0.1**
DDI IAmb IAmb 04 40 00.3
comp=Z,681nm,0.1s
SKAG Skagway 53.93 39 *e*P **P 04 39 50.7 +2.6**
comp=Z,291nm,1.8s
NGJI Ngawi 54.10 221 P P 04 40 04.5 +15
BKNI Bangkinang 54.16 237 PFAKE 04 40 00.0 +10
BKNI LR LR
comp=Z,800nm,18.0s
BKNI Bangkinang 54.16 237 P **P 04 39 53.4 +3.0**
comp=Z,165nm,1.0s,comp=Z,2μm
SMLA Simla 54.26 284 *e*P **P 04 39 50.8 -0.2**
SMLA IAmb IAmb 04 39 58.5
comp=Z,306nm,1.3s
KK31 Karatay Array 54.33 300 *e*P **P 04 39 51.4 +0.1**
KK31 Karatay Array 54.33 300 *e*P **P 04 39 51.4 +0.1**
KKAR Karatay Array 54.33 300 *e*P **P 04 39 51.4 +0.1**
KKAR Karatay Array 54.33 300 *e*P **P 04 39 51.4 +0.1**
SMRI Semarang 54.37 222 *e*P **P 04 39 53.2 +1.3**
comp=Z,106nm,0.9s
SMRI Semarang 54.37 222 P **P 04 39 53.6 +1.7**
comp=Z,103nm,0.8s
BESE Bessie Mountai 54.40 40 *e*P **P 04 39 54.2 +2.5**
comp=Z,124nm,1.2s
DHRM DHARAMSHALA 54.42 286 *e*P **P 04 39 53.3 +0.9**
JIS Juneau Island 54.72 40 *e*P **P 04 39 56.8 +2.9**
comp=Z,94nm,1.2s
MNSI Mandailing Nat 54.79 238 P **P 04 39 55.6 +0.6**
comp=Z,51nm,0.6s,comp=Z,12μm
SDSI Sungai Dareh 54.85 235 P **P 04 39 56.5 +1.1**
comp=Z,78nm,1.4s,comp=Z,3μm
POHA Pohakuloa 55.26 91 *e*P **P 04 40 00.3 +1.7**
comp=Z,206nm,0.9s
NDI New Delhi 55.33 282 *e*P **P 04 39 59.0 +0.2**
MWH Moku'aweowe 55.36 91 PFAKE 04 40 10.0 +10
MWH LR LR
comp=Z,4μm,19.0s
HMH Humu'ula Sheep 55.38 91 *e*P **P 04 40 00.0 +0.4**
comp=Z,319nm,1.4s
NPH North Pit 55.65 91 PFAKE 04 40 10.0 +8.7
NPH LR LR
comp=Z,3μm,20.0s
KKO Keanakako'i 55.67 91 PFAKE 04 40 10.0 +8.6
KKO LR LR
comp=Z,2μm,20.0s
LEM Lembang 55.73 225 P **P 04 40 02.0 +0.1**
comp=Z,1μm,0.9s,comp=Z,17μm
SVE Sverdlovsk 55.78 319*c i*P **P 04 40 02.7 +1.1**
SVE *e* 04 42 09.9
SVE *e*S **S 04 47 47.7 +1.6**
SVE pmax pmax
comp=Z,183nm,1.3s
SVE MLR MLR
comp=Z,3μm,16.0s
STCH Steam Cracks 55.78 91 PFAKE 04 40 20.0 +18
STCH LR LR
comp=Z,4μm,21.0s
GSI Gunungsitoli 55.79 241 *e*P **P 04 40 02.5 +0.2**
comp=Z,132nm,0.8s
GSI Gunungsitoli 55.79 241 P **P 04 40 03.5 +1.3**
comp=Z,182nm,1.4s,comp=Z,3μm
MDSI Maura Dua 55.86 230 P **P 04 40 02.7 +0.1**
comp=Z,85nm,1.4s,comp=Z,1μm
MASI Maura Aman, Be 56.01 233 P **P 04 40 05.3 +1.5**
comp=Z,1μm,1.8s,comp=Z,22μm
CHCP Chirah Chowk 56.11 289 P **P 04 40 06.1 +1.8**
CISI Cisompet, Garu 56.22 224 PFAKE 04 40 20.0 +15
CISI LR LR
comp=Z,1μm,22.0s
DLBC Dease Lake 56.86 39 *e*P **P 04 40 12.0 +2.6**
comp=Z,111nm,1.1s
ARU Arti 56.99 319 P **P 04 40 10.7 +0.5**
ARU Arti 56.99 319 *e*P **P 04 40 10.5 +0.3**
comp=Z,49nm,1.0s
ARU Arti 56.99 319*d i*P **P 04 40 10.7 +0.5**
ARU *e**PP **sP 04 40 22.4 -1.3**
ARU 04 41 06.9
ARU 04 42 16.7
ARU PPP PPP 04 43 31.8
ARU S **S 04 48 04.3 +2.1**
ARU 04 49 54.4
ARU pmax pmax
comp=Z,56nm,1.0s
ARU MLR MLR
comp=Z,3μm,18.0s
CEP Cherat 57.05 290 P **P 04 40 14.1 +2.9**
SARP Sargodha 57.33 287 P **P 04 40 13.5 +0.5**
THW Thamme Wali 57.63 288 P **P 04 40 17.7 +2.5**
CTAO Charters Tower 57.65 177 *e*P **P 04 40 15.1 -0.1**
comp=Z,256nm,1.2s
CTAO LR LR
comp=Z,700nm,19.0s
CTAO Charters Tower 57.65 177 *e*P **P 04 40 15.1 -0.1**
CTAO pmax pmax
comp=Z,256nm,1.2s
CTAO MLR MLR
comp=Z,700nm,19.0s
NGP Nagpur 57.65 273 *e*P **P 04 40 14.8 -0.6**
BHPL Bhopal 57.84 276 *e*P **P 04 40 18.6 +1.8**
BHPL IAmb IAmb 04 40 30.5
comp=Z,159nm,1.6s
WRAB Tennant Creek 58.12 190 *e*P **P 04 40 17.4 -1.1**
comp=Z,114nm,0.8s
WRAB Tennant Creek 58.12 190*d i*P **P 04 40 17.2 -1.3**
WRAB pmax pmax
comp=Z,206nm,1.7s
WRA Warramunga Arr 58.13 190 P **P 04 40 18.1 -0.5**
comp=Z,52nm,0.6s,baz=12,slow=7.3,SNR=260
WRA LR LR 05 03 25.9
comp=Z,428nm,21.8s,baz=15,slow=34
WRA PKP2bc 05 10 09.7
comp=Z,4.9nm,1.3s,baz=204,slow=1.6,SNR=7.5
FITZ Fitzroy Crossi 58.17 200 *e*P **P 04 40 19.8 +0.9**
comp=Z,37nm,0.8s
AB31 Akbulak array 58.84 310 P **P 04 40 23.2 -0.1**
AB31 pmax pmax
comp=Z,32nm,0.6s
ABKAR Akbulak array 58.84 310 *e*P **P 04 40 23.2 -0.1**
AKTO Aktyubinsk 59.52 312 P **P 04 40 28.2 +0.2**
comp=Z,18nm,0.8s,baz=71,slow=10,SNR=23
HYB Hyderabad 60.07 269 *i* P **P 04 40 32.5 +0.3**
HYB *e* 04 40 44.5
HYB *e*S **S 04 48 44.0 +0.7**
SPA0 Spitsbergen Ar 60.10 349 *e*P **P 04 40 32.4 +0.8**
SPA0 Spitsbergen Ar 60.10 349 *e*P **P 04 40 32.0 +0.4**
SPITS Spitsbergen Ar 60.10 349 P **P 04 40 32.1 +0.4**
comp=Z,10nm,0.6s,baz=67,slow=13,SNR=8.6
KBS Kingsbay 60.19 350 *e*P **P 04 40 32.8 +0.6**
comp=Z,86nm,1.0s
KBS LR LR
comp=Z,2μm,19.0s
KBS Kingsbay 60.19 350*c i*P **P 04 40 33.6 +1.4**
KBS pmax pmax
comp=Z,737nm,2.5s
KBS Kingsbay 60.19 350 *e*P **P 04 40 33.2 +1.0**
HSPB Hornsund (broa 61.06 348 *e*P **P 04 40 39.1 +1.1**
RES Resolute Bay 61.37 15 *e*P **P 04 40 40.1 -0.1**
comp=Z,101nm,1.1s
RES Resolute Bay 61.37 15 *e*P **P 04 40 40.1 -0.1**
RES pmax pmax
comp=Z,101nm,1.1s
AS01 Alice Springs 61.85 190 *e*P **P 04 40 43.8 -0.2**
AS31 Alice Springs 61.85 190 *e*P **P 04 40 44.1 +0.1**
comp=Z,22nm,0.6s
ASAR Alice Springs 61.86 190 P **P 04 40 44.1 0.0**
comp=Z,9.6nm,0.5s,baz=9.3,slow=5.4,SNR=77
ASAR LR LR 05 07 22.5
comp=Z,300nm,21.9s,baz=13,slow=36
ASAR PKP2bc 05 10 00.8
comp=Z,1.3nm,1.0s,baz=194,slow=4.6,SNR=4.5
YKA Yellowknife Ar 62.19 31 P **P 04 40 46.6 +0.7**
comp=Z,18nm,0.8s,baz=298,slow=6.7,SNR=24
YKA LR LR 05 12 20.9
comp=Z,57nm,18.2s,baz=293,slow=40
APA Apatity 62.72 336⇓ *i*P **P 04 40 48.7 -0.7**
APA *i* 04 41 02.7
APA *i* PPP PPP 04 44 37.5
APA *i* S **S 04 49 09.0 -6.5**
APA *i* SSS SSS 04 56 06.0
APA pmax pmax
comp=Z,40nm,0.9s
APA MLR MLR
comp=Z,200nm,16.0s
MBWA Marble Bar 62.86 205 *e*P **P 04 40 51.0 +0.1**
comp=Z,34nm,0.8s
POO Poona 63.17 273 *e*P **P 04 40 54.0 +0.8**
EIDS Eidsvold 63.23 173 PFAKE 04 41 10.0 +17
EIDS LR LR
comp=Z,700nm,20.0s
DZM Mont Dzumac 63.29 156 *e*P **P 04 40 54.8 +1.1**
comp=Z,294nm,1.4s
DZM *e*S **S 04 49 23.3 -0.4**
comp=Z,2μm,31.4s
DZM *e*LQ LQ 04 56 42.0
comp=Z,6μm,33.2s
DZM *e*LR LR 04 59 43.2
comp=Z,2μm,23.7s
DZM Mont Dzumac 63.29 156 *e*P **P 04 40 55.8 +2.0**
comp=Z,167nm,1.3s
KEV Kevo 63.35 340 *e*P **P 04 40 53.9 +0.3**
comp=Z,97nm,1.0s
KEV LR LR
comp=Z,2μm,20.0s
KEV Kevo 63.35 340 *e*P **P 04 40 53.9 +0.3**
KEV pmax pmax
comp=Z,97nm,1.0s
KEV MLR MLR
comp=Z,2μm,20.0s
HAMF Hammerfest 63.67 341 *e*P **P 04 40 56.0 +0.4**
HAMF *e*S **S 04 49 29.1 +1.8**
BOM Bombay 63.79 274 *e*P **P 04 40 53.9 -3.3**
BOM *e*S **S 04 49 25.8 -4.4**
ARCES ARCESS Array B 63.90 340 P **P 04 40 57.8 +0.6**
comp=Z,24nm,0.8s,baz=57,slow=8.2,SNR=46
ARCES LR LR 05 13 08.3
comp=Z,81nm,18.9s,baz=48,slow=40
ARE0 ARCESS Array S 63.90 340 *e*P **P 04 40 57.9 +0.7**
comp=Z,2.1nm,0.9s
ARE0 *e*pP **sP 04 41 09.7 -1.1**
ARE0 LR LR
comp=Z,100nm,21.0s
ARE0 ARCESS Array S 63.90 340 *e*P **P 04 40 57.6 +0.4**
BHJ Bhuj 63.93 280 *e*P **P 04 40 58.5 +0.4**
BHJ IAmb IAmb 04 41 11.9
comp=Z,74nm,0.9s
PALK Pallekele 64.34 259 *e*P **P 04 41 01.6 +0.7**
comp=Z,30nm,0.9s
PALK LR LR
comp=Z,1μm,21.0s
PALK Pallekele 64.34 259 *i* P **P 04 41 01.4 +0.5**
SNR=5.4
PALK Pallekele 64.34 259 *e*P **P 04 41 01.6 +0.7**
PALK pmax pmax
comp=Z,31nm,0.9s
PALK MLR MLR
comp=Z,1μm,21.0s
XMAS Kiritimati 64.44 109 PFAKE 04 41 10.0 +8.5
XMAS LR LR
comp=Z,4μm,18.0s
A04D Lummi Island 64.85 47 P **P 04 41 05.3 +1.6**
baz=299
KTK1 Kautokeino 64.86 340 *e*P **P 04 41 04.3 +0.8**
GEYT Alibeck 65.06 300 P **P 04 41 05.4 0.0**
comp=Z,17nm,1.0s,baz=345,slow=1.7,SNR=20
GEYT LR LR 05 11 31.6
comp=Z,1μm,18.5s,baz=340,slow=38
GYA0B ALIBECK ARRAY 65.06 300 *e*P **P 04 41 06.3 +1.0**
comp=Z,86nm,0.9s
GYA0B LR LR
comp=Z,2μm,18.0s
A05A Maple Falls 65.07 46 *e*P **P 04 41 06.8 +1.7**
comp=Z,20nm,1.8s
DAG Danmarks Havn 65.14 356 *i* P **P 04 41 05.0 -0.1**
comp=Z,74nm,1.1s
DAG *i* 04 41 18.9
DAG Danmarks Havn 65.14 356 *i* P **P 04 41 05.0 -0.1**
DAG *i* 04 41 18.9
DAG pmax pmax
comp=Z,93nm,1.1s
D03D Eldon 65.20 48 P **P 04 41 08.5 +2.4**
baz=300,SNR=17
E03A Lebam 65.41 49 *e*P **P 04 41 09.3 +1.9**
comp=Z,94nm,1.0s
B05A Bryant 65.43 47 P **P 04 41 09.2 +1.8**
baz=300,SNR=9.6
TRO Tromso 65.56 342 *e*P **P 04 41 08.3 +0.3**
TRO *e*S **S 04 49 53.4 +2.9**
D04E Lakebay 65.57 48 P **P 04 41 10.9 +2.5**
baz=300
B06A Marblemount 65.65 47 *e*P **P 04 41 10.4 +1.5**
comp=Z,109nm,1.4s
F04D Rainier, OR 65.97 50 P **P 04 41 12.9 +1.9**
baz=300
E04D Cinebar 66.00 49 P **P 04 41 13.4 +2.2**
baz=300,SNR=13
D05A Enumclaw 66.03 48 *e*P **P 04 41 14.2 +2.8**
comp=Z,419nm,1.9s
AFI Afiamalu 66.25 132 PFAKE 04 41 30.0 +17
AFI LR LR
comp=Z,1μm,19.0s
G03D McMinnville, O 66.26 50 P **P 04 41 14.9 +2.0**
baz=300,SNR=5.5
C06D Leavenworth 66.30 47 P **P 04 41 14.5 +1.4**
baz=301
LON Longmire 66.35 48 *e*P **P 04 41 14.5 +1.0**
comp=Z,60nm,1.5s
LON Longmire 66.35 48 *e*P **P 04 41 14.5 +1.0**
LON pmax pmax
comp=Z,60nm,1.5s
I02D Swisshome 66.45 52 P **P 04 41 16.1 +1.9**
baz=300
COR Corvallis 66.55 51 *e*P **P 04 41 16.1 +1.4**
comp=Z,284nm,1.5s
COR Corvallis 66.55 51 *e*P **P 04 41 16.1 +1.4**
COR pmax pmax
comp=Z,284nm,1.5s
LTY Liberty 66.77 48 *e*P **P 04 41 17.4 +1.2**
comp=Z,184nm,1.8s
KEBM Edson Butte 66.77 53 *e*P **P 04 41 19.1 +2.8**
comp=Z,293nm,1.3s
J01E Myrtle Point 66.88 53 P **P 04 41 19.0 +2.1**
baz=301,SNR=9.5
H04D Lebanon 66.93 51 P **P 04 41 19.4 +2.2**
baz=301,SNR=7.9
I03D Drain, OR 66.97 52 P **P 04 41 19.8 +2.3**
baz=301,SNR=14
F05D White Salmon 67.00 49 P **P 04 41 19.5 +1.8**
baz=301,SNR=10
H04A Detroit Lake 67.18 51 *e*P **P 04 41 20.8 +1.9**
comp=Z,212nm,1.5s
K02D Willamette Mer 67.29 53 P **P 04 41 21.2 +1.6**
baz=301,SNR=13
G05D Wamic, OR 67.42 50 P **P 04 41 22.1 +1.7**
baz=301,SNR=9.7
I04A Tendick Farm, 67.50 51 P **P 04 41 22.4 +1.5**
baz=301,SNR=18
L02E Cave Junction 67.61 53 P **P 04 41 23.8 +2.3**
baz=301,SNR=7.1
MOS Moscow 67.71 324 *e*P **P 04 41 20.2 -1.7**
MOS *e* 04 41 33.7
MOS *e* 04 41 48.3
MOS *e* 04 43 50.4
MOS *e*S **S 04 50 16.1 -0.9**
MOS *e* 04 50 55.3
MOS pmax pmax
comp=Z,400nm,2.5s
MOS pmax pmax
comp=Z,141nm,1.8s
MOS smax smax
comp=N,2μm,4.3s
MOS smax smax
comp=E,1μm,4.5s
MOS MLR MLR
comp=Z,2μm,17.0s
STEI Steigen 67.72 341 *e*P **P 04 41 22.1 +0.4**
KRMB Red Mountain 67.74 54 *e*P **P 04 41 25.2 +2.7**
comp=Z,160nm,1.6s
HUMO Hull Mountain 67.78 53 *e*P **P 04 41 24.4 +1.8**
comp=Z,103nm,1.6s
G06A Carlson Farm, 67.84 49 *e*P **P 04 41 24.7 +1.7**
comp=Z,106nm,1.5s
C09A Chrisman Ranch 67.86 46 *e*P **P 04 41 24.0 +0.9**
comp=Z,138nm,1.4s
I05D Terrebonne, OR 67.88 51 P **P 04 41 24.9 +1.6**
baz=302,SNR=16
HAWA Hanford 67.88 48 *e*P **P 04 41 24.8 +1.6**
comp=Z,177nm,1.9s
D08A Wollman Farm, 67.89 47 *e*P **P 04 41 24.1 +0.9**
comp=Z,28nm,0.8s
F07A Phinny Hill Vi 67.91 49 *e*P **P 04 41 25.4 +2.0**
comp=Z,243nm,1.9s
F07A *e*pP **pP 04 41 34.0 +0.8**
J04D Umpqua Nationa 67.98 52 P **P 04 41 26.2 +2.0**
baz=302,SNR=15
LOF Lofoten 67.99 342 *e*P **P 04 41 24.1 +0.6**
JCC Jacoby Creek, 68.03 55 *e*P **P 04 41 25.5 +1.4**
comp=Z,284nm,1.4s
E08A Dider Farm, El 68.11 48 *e*P **P 04 41 25.7 +1.1**
comp=Z,24nm,0.8s
KHMM Horse Mountain 68.19 55 *e*P **P 04 41 27.1 +1.7**
comp=Z,82nm,1.1s
VRH Novokhopyorsk 68.23 318 *e*P **P 04 41 24.0 -1.2**
VRH *e* 04 43 55.8
VRH *e*S **S 04 50 22.6 -0.7**
VRH pmax pmax
comp=Z,50nm,1.0s
VRH smax smax
comp=N,200nm,2.1s
VRH MLR MLR
comp=Z,5μm,23.8s
NEW Newport 68.27 45 *e*P **P 04 41 26.9 +1.3**
comp=Z,77nm,1.3s
NEW Newport 68.27 45 *e*P **P 04 41 26.9 +1.3**
NEW pmax pmax
comp=Z,77nm,1.3s
NEW Newport 68.27 45 P **P 04 41 26.9 +1.3**
baz=303,SNR=24
ARMA Armidale 68.29 173 *e*P **P 04 41 27.0 +1.2**
comp=Z,126nm,1.4s
YBH Yreka Blue Hor 68.39 53 *e*P **P 04 41 28.4 +1.8**
comp=Z,130nm,1.5s
YBH Yreka Blue Hor 68.39 53 *e*P **P 04 41 28.4 +1.8**
YBH pmax pmax
comp=Z,130nm,1.5s
L04D Klamath Falls 68.40 53 P **P 04 41 28.2 +1.6**
baz=302,SNR=24
PINE Pine Mountain 68.41 51 *e*P **P 04 41 28.7 +1.9**
comp=Z,276nm,1.5s
PUL Pulkovo 68.44 330⇓ *e*P **P 04 41 27.2 +0.8**
PUL pmax pmax
comp=Z,246nm,1.7s
M02C Callahan 68.48 54 P **P 04 41 29.1 +2.0**
baz=302,SNR=19

J05D	**Fort Rock, OR**	**68.50**	**51**	P		**P**	**04 41 29.3**	**+2.0**
	baz=302,SNR=30								
K04D	**Chiloquin, OR**	**68.53**	**52**	P		**P**	**04 41 29.1**	**+1.6**
	baz=302								
OBN	**Obninsk**	**68.56**	**324**	*d*	*i*P	**P**	**04 41 27.5**	**+0.3**
OBN					*SP	pP	04 41 32.0	-5.1
OBN					*i*		04 41 39.4	
OBN					*e*		04 41 53.5	
OBN							04 43 57.0	
OBN					*i* S	**S**	**04 50 27.9**	**+0.8**
OBN					*e*		04 51 14.4	
OBN					*e*SS	**SS**	**04 54 47.1**	**-3.6**
OBN					pmax	pmax		
	comp=Z,107nm,1.7s								
OBN					MLR	MLR			
	comp=Z,2µm,16.0s								
E09A	**Wood Farm, Sta**	**68.63**	**47**	*e*P		**P**	**04 41 29.4**	**+1.5**
	comp=Z,174nm,1.6s								
N02D	**Trinity Center**	**68.80**	**54**	P		**P**	**04 41 31.2**	**+2.1**
	baz=302,SNR=17								
G08A	**Pilot Rock**	**68.81**	**49**	*e*P		**P**	**04 41 30.7**	**+1.5**
	comp=Z,115nm,1.9s								
LPSR	**Galich'ya Gora**	**68.87**	**321**	*e*P		**P**	**04 41 29.6**	**+0.4**
LPSR				*e*			04 44 02.6	
LPSR				*e*S		**S**	**04 50 30.2**	**-0.7**
LPSR				pmax	pmax			
	comp=Z,60nm,1.1s								
LPSR				smax	smax				
	comp=E,360nm,2.8s								
LPSR				MLR	MLR				
	comp=Z,5µm,19.0s								
M04C	**Macdoel**	**68.92**	**53**	P		**P**	**04 41 31.1**	**+1.2**
	baz=302,SNR=23								
K05A	**Summer Lake**	**69.01**	**52**	*e*P		**P**	**04 41 32.8**	**+2.2**
	comp=Z,393nm,1.7s								
WDC	**Whiskeytown Da**	**69.11**	**54**	*e*P		**P**	**04 41 32.7**	**+1.8**
	comp=Z,100nm,1.5s								
I07A	**Izee**	**69.14**	**50**	*e*P		**P**	**04 41 33.3**	**+2.1**
	comp=Z,20nm,1.1s								
I07A				LR	LR				
	comp=Z,1µm,18.0s								
O02D	**Mt. Diablo Mer**	**69.17**	**55**	P		**P**	**04 41 33.6**	**+2.2**
	baz=302,SNR=16								
MOR8	**Moi Rana**	**69.25**	**340**	*e*P		**P**	**04 41 30.5**	**-0.9**
MOR8				*e*S		**S**	**04 50 35.7**	**+0.6**
VORR	**Voronezh**	**69.26**	**320**	*e*P		**P**	**04 41 30.0**	**-1.7**
VORR				pmax	pmax				
	comp=Z,250nm,2.0s								
STKA	**Stephens Creek**	**69.37**	**182**	P		**P**	**04 41 32.9**	**+0.5**
	comp=Z,8.4nm,0.6s,baz=357,slow=6.0,SNR=13								
STKA				LR	LR		05 12 42.5		
	comp=Z,397nm,20.6s,baz=2.2,slow=37								
STKA	**Stephens Creek**	**69.37**	**182**	*e*P		**P**	**04 41 32.6**	**+0.3**
	comp=Z,6.8nm,0.8s								
MAK	**Makhachkala**	**69.42**	**309**	*e*P		**P**	**04 41 31.6**	**-1.2**
MAK				*e*			04 44 11.7		
MAK				*e*S		**S**	**04 50 36.8**	**-0.9**
MAK				pmax	pmax				
	comp=Z,131nm,1.1s								
F10A	**Beach Ranch, E**	**69.46**	**47**	*e*P		**P**	**04 41 34.2**	**+1.1**
	comp=Z,44nm,1.4s								
VSR	**Storozhevoye**	**69.55**	**319**	*e*P		**P**	**04 41 32.1**	**-1.3**
VSR				*e*			04 44 01.9		
VSR				*e*S		**S**	**04 50 36.6**	**-2.3**
VSR				pmax	pmax				
	comp=Z,40nm,1.1s								
VSR				smax	smax				
	comp=N,400nm,3.5s								
WALA	**Waterton Lakes**	**69.60**	**43**	*e*P		**P**	**04 41 34.9**	**+0.9**
	comp=N,119nm,1.4s								
WALA				*e*PP		**PP**	**04 44 09.0**	**+1.4**
VORD	**Divnogorie**	**69.62**	**319**	*e*P		**P**	**04 41 34.3**	**+0.4**
VORD				pmax	pmax				
	comp=Z,40nm,1.3s								
O03E	**Paynes Creek**	**69.74**	**54**	P		**P**	**04 41 36.0**	**+1.0**
	baz=303,SNR=21								
FORT	**Forrest**	**69.80**	**194**	*e*P		**P**	**04 41 35.6**	**+0.5**
	comp=Z,86nm,0.7s								
MOD	**Modoc Plateau**	**69.82**	**52**	*e*P		**P**	**04 41 37.1**	**+1.5**
	comp=Z,95nm,1.6s								
SUMG	**Summit**	**69.89**	**1**	*e*P		**P**	**04 41 35.9**	**+0.2**
	comp=Z,140nm,1.2s								
SUMG	**Summit**	**69.89**	**1⇓**	*i*P		**P**	**04 41 37.0**	**+1.3**
	comp=Z,191nm,0.9s								
SUMG	**Summit**	**69.89**	**1**	*e*P		**P**	**04 41 35.9**	**+0.2**
SUMG				pmax	pmax				
	comp=Z,140nm,1.2s								
BMO	**Blue Mountains**	**70.03**	**48**	*e*P		**P**	**04 41 37.6**	**+0.9**
	comp=Z,65nm,1.4s								
BMO	**Blue Mountains**	**70.03**	**48**	*e*P		**P**	**04 41 37.6**	**+0.9**
BMO				pmax	pmax				
	comp=Z,65nm,1.4s								
AKT	**Akhty**	**70.08**	**307**	*e*P		**P**	**04 41 37.2**	**+0.1**
AKT				*e*			04 41 57.7		
AKT				*e*			04 44 13.1		
AKT				pmax	pmax				
	comp=Z,89nm,0.8s								
JTMT	**Jette**	**70.14**	**45**	*e*P		**P**	**04 41 38.9**	**+1.5**
	comp=Z,153nm,1.8s								
J08A	**Circle Bar Ran**	**70.16**	**50**	*e*P		**P**	**04 41 39.3**	**+1.8**
	comp=Z,73nm,1.1s								
GROC	**Groznyy**	**70.33**	**310**	*e*P		**P**	**04 41 38.7**	**+0.3**
GROC				*e*			04 42 00.4		
GROC				*e*			04 44 16.9		
GROC				*e*S		**S**	**04 50 45.6**	**-2.9**
GROC				pmax	pmax				
	comp=Z,108nm,1.4s								
ORV	**Oroville**	**70.34**	**55**	*e*P		**P**	**04 41 39.5**	**+0.9**
	comp=Z,110nm,1.6s								
ORV	**Oroville**	**70.34**	**55**	*e*P		**P**	**04 41 39.5**	**+0.9**
ORV				pmax	pmax				
	comp=Z,110nm,1.6s								
WVOR	**Wild Horse Val**	**70.57**	**51**	*e*P		**P**	**04 41 41.4**	**+1.3**
	comp=Z,178nm,1.8s								
WVOR	**Wild Horse Val**	**70.57**	**51**	*e*P		**P**	**04 41 41.4**	**+1.3**
WVOR				pmax	pmax				
	comp=Z,178nm,1.8s								
BBOO	**Buckleboo**	**70.64**	**187**	*e*P		**P**	**04 41 40.6**	**+0.4**
	comp=Z,146nm,1.5s								
BBOO				*e*pP		**sP**	**04 41 53.5**	**-0.3**
VSU	**Vasula**	**70.70**	**330**	*e*P		**P**	**04 41 40.6**	**+0.3**
VSU				IAmb	IAmb		04 41 56.6		
	comp=Z,400nm,0.9s								
VSU	**Vasula**	**70.70**	**330**	*d*	*i*P	**P**	**04 41 40.5**	**+0.2**
VSU				pmax	pmax				
	comp=Z,412nm,1.7s								
LGD	**Lagodekhi**	**70.82**	**308**	*e*P		**P**	**04 41 41.9**	**+0.5**
MSO	**Missoula**	**70.86**	**45**	*e*P		**P**	**04 41 42.7**	**+0.9**
	comp=Z,82nm,1.5s								
MSO	**Missoula**	**70.86**	**45**	P		**P**	**04 41 42.3**	**+0.6**
	baz=305,SNR=14								
BEKR	**Beckworth**	**70.90**	**54**	*e*P		**P**	**04 41 43.5**	**+1.3**
	comp=Z,216nm,2.0s								
GOF	**Gofitskoye**	**70.94**	**313**	*e*P		**P**	**04 41 43.3**	**+1.2**
GOF				pmax	pmax				
	comp=Z,90nm,0.9s								
DDFL	**Dedoflistskaro**	**71.11**	**308**	P		**P**	**04 41 39.2**	**-4.1**
NSS	**Namsos**	**71.19**	**340**	*e*P		**P**	**04 41 43.6**	**+0.4**
NCK	**Nalchik**	**71.50**	**311⇑**	*e*P		**P**	**04 41 46.7**	**+1.2**
NCK				pmax	pmax				
	comp=Z,85nm,1.6s								
SCO	**Scoresbysund**	**71.50**	**355**	*e*P		**P**	**04 41 46.3**	**+1.3**
	comp=Z,65nm,1.2s								
SCO	**Scoresbysund**	**71.50**	**355⇓**	*i*P		**P**	**04 41 46.2**	**+1.2**
	comp=Z,67nm,1.2s								
SCO	**Scoresbysund**	**71.50**	**355⇓**	*i*P		**P**	**04 41 46.2**	**+1.2**
SCO				pmax	pmax				
	comp=Z,67nm,1.2s								
GUDG	**Gudauri**	**71.55**	**310**	P		**P**	**04 41 47.0**	**+0.8**
DGRG	**David-gareji**	**71.57**	**308**	*e*P		**P**	**04 41 48.1**	**+2.1**
PAHR	**Pah Rah Range**	**71.62**	**54**	*e*P		**P**	**04 41 47.9**	**+1.4**
	comp=Z,94nm,1.6s								
DUS	**Dusheti**	**71.62**	**309**	P		**P**	**04 41 48.1**	**+1.7**
VCNR	**Virginia City**	**71.67**	**54**	*e*P		**P**	**04 41 48.7**	**+1.8**
	comp=Z,112nm,1.9s								
ZEI	**Tsey**	**71.72**	**310**	*e*P		**P**	**04 41 44.8**	**-2.3**
ZEI				pmax	pmax				
	comp=Z,62nm,1.0s								
KIV	**Kislovodsk**	**71.78**	**312**	*e*P		**P**	**04 41 48.3**	**+1.0**
	comp=Z,376nm,1.3s								
KIV				LR	LR				
	comp=Z,2µm,18.0s								
KIV	**Kislovodsk**	**71.78**	**312**	P		**P**	**04 41 48.5**	**+1.2**
	SNR=55								
KIV	**Kislovodsk**	**71.78**	**312**	*i* P		**P**	**04 41 48.3**	**+1.0**
	SNR=44								
KIV	**Kislovodsk**	**71.78**	**312**	*e*P		**P**	**04 41 48.4**	**+1.2**
KIV				*e*			04 42 01.6		
KIV				*e*			04 44 28.1		
KIV				*e*S		**S**	**04 51 07.0**	**+1.6**
KIV				*e*SS		**SS**	**04 55 44.4**	**+3.5**
KIV				pmax	pmax				
	comp=Z,144nm,4.9s								
KIV				pmax	pmax				
	comp=Z,127nm,1.1s								
KBZ	**Khabaz**	**71.78**	**311**	P		**P**	**04 41 48.4**	**+1.2**
	comp=Z,39nm,0.9s,baz=38,slow=3.0,SNR=65								
KBZ				LR		LR	05 18 28.9		
	comp=Z,1µm,18.2s,baz=39,slow=40								
TBLG	**Delisi**	**71.81**	**309**	P		**P**	**04 41 48.4**	**+0.9**
TBLG	**Delisi**	**71.81**	**309**	*e*P		**P**	**04 41 48.9**	**+1.5**
	comp=Z,107nm,1.1s								
TBLG	**Delisi**	**71.81**	**309**	*e*P		**P**	**04 41 48.3**	**+0.9**
PNTR	**Pine Nut**	**71.82**	**54**	*e*P		**P**	**04 41 49.7**	**+1.9**
	comp=Z,145nm,1.8s								
CMB	**Columbia Colle**	**71.90**	**56**	*e*P		**P**	**04 41 49.1**	**+1.0**
	comp=Z,194nm,2.0s								
CMB	**Columbia Colle**	**71.90**	**56**	*e*P		**P**	**04 41 49.1**	**+1.0**
CMB				pmax	pmax				
	comp=Z,195nm,2.0s								
SAO	**San Andreas Ge**	**71.91**	**57**	*e*P		**P**	**04 41 49.8**	**+1.7**
	comp=Z,105nm,1.8s								
FFC	**Flin Flon**	**72.03**	**34**	*e*P		**P**	**04 41 49.1**	**+0.6**
	comp=Z,172nm,1.2s								
FFC	**Flin Flon**	**72.03**	**34**	*e*P		**P**	**04 41 49.1**	**+0.6**
FFC				pmax	pmax				
	comp=Z,172nm,1.2s								
HRY	**Holter Researc**	**72.11**	**44**	*e*P		**P**	**04 41 50.3**	**+1.0**
YERR	**Yerington**	**72.11**	**54**	*e*P		**P**	**04 41 51.2**	**+1.7**
	comp=Z,216nm,2.0s								
NEY	**Neytrino**	**72.16**	**311**	*c*	*e*P	**P**	**04 41 51.5**	**+1.8**
NEY				pmax	pmax				
	comp=Z,8.0nm,1.1s								
WAKR	**Walker**	**72.26**	**55**	*e*P		**P**	**04 41 52.2**	**+1.8**
	comp=Z,123nm,1.8s								
WSAR	**Wadi Sarin**	**72.44**	**286**	LR		LR	05 17 09.0		
	comp=Z,886nm,19.4s,baz=94,slow=39								
EGMT	**Eagleton**	**72.45**	**42**	*e*P		**P**	**04 41 52.0**	**+0.8**
	comp=Z,74nm,1.3s								
EGMT	**Eagleton**	**72.45**	**42**	P		**P**	**04 41 51.8**	**+0.6**
	baz=307,SNR=13								
FCC	**Fort Churchill**	**72.46**	**28**	*e*P		**P**	**04 41 51.8**	**+0.9**
	comp=Z,124nm,1.2s								
FCC	**Fort Churchill**	**72.46**	**28**	*e*P		**P**	**04 41 51.8**	**+0.9**
FCC				pmax	pmax				
	comp=Z,124nm,1.2s								
DLMT	**Dillon**	**72.47**	**46**	*e*P		**P**	**04 41 52.4**	**+0.9**
	comp=Z,116nm,1.4s								
HLID	**Hailey**	**72.47**	**48**	*e*P		**P**	**04 41 53.2**	**+1.5**
	comp=Z,31nm,1.1s								
HLID	**Hailey**	**72.47**	**48**	P		**P**	**04 41 53.1**	**+1.5**
	baz=306,SNR=32								
BMN	**Battle Mountai**	**72.57**	**52**	*e*P		**P**	**04 41 53.5**	**+1.4**
	comp=Z,68nm,1.3s								
BMN	**Battle Mountai**	**72.57**	**52**	*e*P		**P**	**04 41 53.6**	**+1.4**
BMN				pmax	pmax				
	comp=Z,68nm,1.3s								
MCMT	**McKenzie Canyo**	**72.64**	**46**	*e*P		**P**	**04 41 53.1**	**+0.5**
PMPB	**Monarch Peak**	**72.65**	**58**	*e*P		**P**	**04 41 54.6**	**+2.0**
	comp=Z,57nm,1.3s								
TBLU	**Trondheim**	**72.66**	**340**	*e*P		**P**	**04 41 51.7**	**-0.4**
TBLU				*e*S		**S**	**04 51 15.9**	**+1.3**
BANOM	**Banah**	**72.70**	**290**	P		**P**	**04 41 53.3**	**+0.2**
GNI	**Garni**	**72.70**	**308**	*e*P		**P**	**04 41 55.0**	**+2.0**
GNI	**Garni**	**72.70**	**308**	*e*P		**P**	**04 41 55.0**	**+2.0**
GNI	**Garni**	**72.70**	**308**	*e*P		**P**	**04 41 54.2**	**+1.2**
	comp=Z,165nm,1.1s								
GNI				LR		LR			
	comp=Z,1µm,21.0s								
GNI	**Garni**	**72.70**	**308**	P		**P**	**04 41 54.7**	**+1.6**
	SNR=12								
GNI	**Garni**	**72.70**	**308**	*i* P		**P**	**04 41 54.6**	**+1.6**
	SNR=7.5								
GNI	**Garni**	**72.70**	**308**	*d*	*i*P	**P**	**04 41 54.6**	**+1.6**
GNI				pmax	pmax				
	comp=Z,260nm,1.7s								
SHME	**Shamm**	**72.75**	**290**	*i* P		**P**	**04 41 54.5**	**+1.2**
	SNR=13								
AKH	**Akhalkalaki**	**72.75**	**309**	*e*P		**P**	**04 41 55.3**	**+2.0**
	comp=Z,81nm,1.1s								
AKH				LR		LR			
	comp=Z,1µm,19.0s								
AKH	**Akhalkalaki**	**72.75**	**309⇑**	*i*P		**P**	**04 41 55.3**	**+2.0**
RYN	**Ryan**	**72.78**	**54**	*e*P		**P**	**04 41 55.0**	**+1.5**
	comp=Z,110nm,1.9s								
KVN	**Kaiserville**	**72.81**	**54**	*e*P		**P**	**04 41 55.2**	**+1.6**
	comp=Z,162nm,1.8s								
IDID	**Didziasalis**	**72.81**	**328**	*e*P		**P**	**04 41 54.5**	**+1.4**
IDID				IAmb	IAmb		04 42 09.5		
	comp=Z,49nm,0.9s								
MICGM	**Minsk**	**72.87**	**327⇑**	*e*P		**P**	**04 41 53.0**	**-0.5**
MICGM				PM			04 41 55.0		
	comp=Z,0.2nm,1.5s								
MICGM				*e*S		**S**	**04 51 18.0**	**+0.7**
MICGM				*e*LR		LR	05 13 01.0		
MNK	**Minsk**	**72.87**	**327⇑**	*e*P		**P**	**04 41 53.0**	**-0.5**
MNK				*e*S		**S**	**04 51 18.0**	**+0.7**
MNK				pmax	pmax				
	comp=Z,170nm,1.5s								
BOZ	**Bozeman (W)**	**72.88**	**45**	*e*P		**P**	**04 41 54.7**	**+0.8**
	comp=Z,89nm,1.4s								
BOZ	**Bozeman (W)**	**72.88**	**45**	*e*P		**P**	**04 41 54.7**	**+0.8**
BOZ				pmax	pmax				
	comp=Z,89nm,1.4s								
BOZ	**Bozeman (W)**	**72.88**	**45**	P		**P**	**04 41 55.2**	**+1.2**
	baz=307,SNR=48								
ISAL	**Salakas**	**72.89**	**328**	*e*P		**P**	**04 41 55.1**	**+1.5**
ISAL				IAmb	IAmb		04 42 10.2		
	comp=Z,107nm,1.1s								
CAN	**Canberra**	**72.94**	**176**	*e*P		**P**	**04 41 55.1**	**+1.1**
	comp=Z,68nm,1.3s								
CAN				LR		LR			
	comp=Z,500nm,18.0s								
MDPB	**Devils Postpil**	**72.98**	**55**	*e*P		**P**	**04 41 56.4**	**+1.6**
	comp=Z,19nm,1.0s								
SLIT	**Slitere, Latvi**	**72.99**	**331**	*e*P		**P**	**04 41 53.8**	**-0.3**
SLIT				IAmb	IAmb		04 42 09.0		
	comp=Z,570nm,1.0s								
IIGN	**Ignalina**	**73.00**	**328**	*e*P		**P**	**04 41 55.7**	**+1.4**
IIGN				IAmb	IAmb		04 42 10.8		
	comp=Z,70nm,1.1s								
NV01	**Mina Array Sit**	**73.03**	**54**	*e*P		**P**	**04 41 55.4**	**+0.4**
NVAR	**Mina Array Bea**	**73.03**	**54**	P		**P**	**04 41 56.0**	**+1.0**
	comp=Z,18nm,0.9s,baz=290,slow=6.2,SNR=87								
OMMB	**Old Mammoth Mi**	**73.05**	**55**	*e*P		**P**	**04 41 57.1**	**+1.9**
	comp=Z,96nm,1.9s								
NACGM	**Naroch**	**73.07**	**327**	*e*P		**P**	**04 41 54.0**	**-0.6**
NACGM				PM			04 42 11.0		
	comp=Z,0.4nm,0.9s								
NACGM				*e*LQ		LQ	05 09 26.0		
NACGM				*e*LR		LR	05 14 02.0		
MSFE	**Esma-Masafi**	**73.12**	**289**	*i* P		**P**	**04 41 56.4**	**+0.9**
	SNR=5.6								
NV11	**Mina Array Sit**	**73.12**	**54**	*e*P		**P**	**04 41 56.7**	**+1.2**
	comp=Z,12nm,2.0s								
MLAC	**Mammoth, Mammo**	**73.14**	**55**	P		**P**	**04 41 57.6**	**+1.9**
	baz=305,SNR=5.8								
PAGB	**Antelope Grade**	**73.29**	**58**	*e*P		**P**	**04 41 58.5**	**+2.1**
	comp=Z,118nm,1.4s								
UOSS	**Minazif**	**73.32**	**289**	*e*P		**P**	**04 41 57.3**	**+0.6**
	comp=Z,53nm,0.9s								
UOSS				LR		LR			
	comp=Z,900nm,21.0s								
UOSS	**Minazif**	**73.32**	**289**	P		**P**	**04 41 56.7**	**+0.1**
UOSS	**Minazif**	**73.32**	**289**	*i* P		**P**	**04 41 57.3**	**+0.6**
	SNR=5.5								
HATD	**Hatta, Dubai**	**73.44**	**289**	*i* P		**P**	**04 41 58.2**	**+0.8**
	SNR=14								
QLMT	**Earthquake Lak**	**73.45**	**46**	*e*P		**P**	**04 41 58.7**	**+1.3**
QLMT				*e*pP		**sP**	**04 42 11.3**	**+0.2**
SOHO	**SOHO**	**73.53**	**288**	P		**P**	**04 41 57.9**	**0.0**
ASHO	**Ashiyiah**	**73.57**	**289**	P		**P**	**04 41 58.6**	**+0.4**
YHB	**Horse Butte**	**73.64**	**46**	*e*P		**P**	**04 41 59.9**	**+1.4**
	comp=Z,76nm,1.3s								
SMMC	**Simmler**	**73.70**	**58**	P		**P**	**04 42 00.0**	**+1.3**
	baz=305								
NAZ	**Nazwa, Dubai**	**73.70**	**289**	P		**P**	**04 41 59.5**	**+0.6**
	SNR=9.8								
NAZ	**Nazwa, Dubai**	**73.70**	**289**	*i* P		**P**	**04 41 59.6**	**+0.6**
	SNR=13								
YHH	**Holmes Hill**	**73.81**	**46**	*e*P		**P**	**04 42 01.1**	**+1.5**
	comp=Z,44nm,1.2s								
YMR	**Madison River**	**73.81**	**46**	*e*P		**P**	**04 42 01.4**	**+1.8**
	comp=Z,161nm,1.7s								
GCMT	**Greycliff**	**73.86**	**44**	*e*P		**P**	**04 42 01.5**	**+1.8**
TIN	**Tinemaha, Big**	**73.87**	**56**	P		**P**	**04 42 01.2**	**+1.3**
	baz=305								
FAQ	**Al Faqa, Dubai**	**73.89**	**289**	*i* P		**P**	**04 42 00.3**	**+0.3**
	SNR=12								
YNR	**Norris Junctio**	**73.95**	**46**	*e*P		**P**	**04 42 02.9**	**+2.5**
	comp=Z,75nm,1.4s								
NC405	**NORSAR Array S**	**73.95**	**338**	*e*P		**P**	**04 42 00.4**	**+0.6**
DOMB	**Dombas**	**73.97**	**340**	*e*P		**P**	**04 42 00.4**	**+0.5**
NC303	**NORSAR Array S**	**73.97**	**338**	*e*P		**P**	**04 42 00.4**	**+0.5**
VES	**Vestal, Richgr**	**74.00**	**57**	P		**P**	**04 42 00.9**	**+0.4**
	baz=305,SNR=13								
YFT	**Old Faithful**	**74.02**	**46**	*e*P		**P**	**04 42 04.2**	**+3.4**
	comp=Z,52nm,1.0s								
PKM	**Mcpherson Peak**	**74.06**	**58**	P		**P**	**04 42 02.7**	**+1.6**
	baz=305,SNR=9.6								
NC204	**NORSAR Array S**	**74.10**	**338**	*e*P		**P**	**04 42 00.1**	**-0.6**
NB201	**NORSAR Array S**	**74.13**	**338**	*e*P		**P**	**04 42 01.4**	**+0.6**
YPP	**Pitchstone Pla**	**74.15**	**46**	*e*P		**P**	**04 42 04.3**	**+2.7**
	comp=Z,143nm,1.9s								
ASUD	**Al Ashsh, Dub**	**74.15**	**289**	P		**P**	**04 42 02.1**	**+0.5**
	SNR=8.7								
ASUD	**Al Ashsh, Dub**	**74.15**	**289**	*i* P		**P**	**04 42 02.6**	**+1.0**
	SNR=9.1								
ALNE	**Al Ain**	**74.16**	**288**	*i* P		**P**	**04 42 02.5**	**+0.9**
	SNR=17								
NB2	**NORSAR Subarra**	**74.16**	**338**	P		**P**	**04 42 00.8**	**-0.2**
	comp=Z,136nm,1.4s,baz=37,slow=6.2								
NB2	**NORSAR Subarra**	**74.16**	**338**	P		**P**	**04 42 00.8**	**-0.2**
	baz=37,slow=6.2								
NOA	**NORSAR Array B**	**74.16**	**338**	P		**P**	**04 42 00.9**	**-0.1**
	comp=Z,24nm,0.9s,baz=38,slow=5.8,SNR=63								
NOA				PP		PP	04 44 57.2	+11	
	comp=Z,8.7nm,1.0s,baz=45,slow=8.7,SNR=4.0								
NOA				LR		LR	05 19 48.1		
	comp=Z,3µm,19.9s,baz=35,slow=40								
LKWY	**Lake**	**74.20**	**46**	*e*P		**P**	**04 42 04.6**	**+2.8**
	comp=Z,68nm,1.2s								
H17A	**Grant Village**	**74.20**	**46**	*e*P		**P**	**04 42 05.2**	**+3.3**
	comp=Z,126nm,1.1s								
H17A	**Grant Village**	**74.20**	**46**	P		**P**	**04 42 04.6**	**+2.8**
	baz=308,SNR=48								
EATA	**Eleskirt**	**74.28**	**308**	*i* P		**P**	**04 42 04.3**	**+1.9**
NBO00	**NORSAR Array S**	**74.30**	**338**	*e*P		**P**	**04 42 02.6**	**+0.8**
NBO00	**NORSAR Array S**	**74.30**	**338**	*e*P		**P**	**04 42 02.5**	**+0.8**
IMW	**Indian Meadow**	**74.30**	**46**	*e*P		**P**	**04 42 04.5**	**+2.1**
	comp=Z,107nm,1.3s								
ANN	**Anapa**	**74.30**	**315**	*e*P		**P**	**04 42 02.2**	**+0.1**
ANN				*e*S		**S**	**04 51 33.4**	**-0.4**
ANN				pmax	pmax				
	comp=Z,86nm,1.6s								
ANN				MLR	MLR				
	comp=N,2µm,16.0s								
ANN				MLR	MLR				
	comp=Z,1µm,16.0s								
NC602	**NORSAR Array S**	**74.31**	**338**	*e*P		**P**	**04 42 01.9**	**+0.1**
CWC	**Cottonwood Cre**	**74.32**	**56**	P		**P**	**04 42 03.6**	**+1.0**
	baz=306								
FLWY	**Flagg Ranch**	**74.32**	**46**	*e*P		**P**	**04 42 01.0**	**-1.5**
	comp=Z,138nm,1.4s								
SBC	**Santa Barbara**	**74.39**	**58**	P		**P**	**04 42 04.2**	**+1.5**
	baz=305								
FXWY	**Fox Creek**	**74.41**	**47**	*e*P		**P**	**04 42 04.6**	**+1.6**
	comp=Z,65nm,1.1s								
AKN	**Aaknes**	**74.41**	**340**	*e*P		**P**	**04 42 04.4**	**+2.0**
AKN				*e*S		**S**	**04 51 38.0**	**+3.4**
NAO01	**NORSAR Array S**	**74.41**	**338**	*e*P		**P**	**04 42 03.1**	**+0.6**
NAO01	**NORSAR Array S**	**74.41**	**338**	*e*P		**P**	**04 42 03.0**	**+0.6**
GRAC	**Grapevine Rang**	**74.47**	**55**	P		**P**	**04 42 04.6**	**+1.4**
	baz=306,SNR=19								
RLMT	**Red Lodge**	**74.49**	**45**	*e*P		**P**	**04 42 05.0**	**+1.5**
	comp=Z,95nm,1.4s								
RLMT				*e*PP		**PP**	**04 44 47.0**	**-2.6**
RLMT	**Red Lodge**	**74.49**	**45**	P		**P**	**04 42 05.0**	**+1.5**
	baz=308,SNR=22								
MOOW	**Moose Ponds**	**74.50**	**46**	*e*P		**P**	**04 42 05.6**	**+2.0**
	comp=Z,96nm,1.4s								
HVU	**Hansel Valley**	**74.50**	**49**	*e*P		**P**	**04 42 05.3**	**+1.8**
	comp=Z,57nm,1.0s								
ISA	**Isabella, Lake**	**74.51**	**57**	*e*P		**P**	**04 42 04.0**	**+0.4**
	comp=Z,22nm,1.2s								
ISA	**Isabella, Lake**	**74.51**	**57**	*e*P		**P**	**04 42 04.0**	**+0.4**
ISA				pmax	pmax				
	comp=Z,22nm,1.2s								
ISA	**Isabella, Lake**	**74.51**	**57**	P		**P**	**04 42 03.9**	**+0.3**
	baz=306,SNR=11								
HOMI	**Horasan**	**74.53**	**

| | | |

baz=312,SNR=11
GULT Gulveren 81.02 315 *e*P P 04 42 36.3 -3.4
GULT Gulveren 81.02 315 *e*P P 04 42 36.3 -3.4
LOT Lotru 81.07 322⇑*i*P P 04 42 41.0 +1.1
PSZ Piszkesteto 81.07 326 *e*P P 04 42 41.2 +1.3
comp=Z,96nm,1.3s
PSZ LR LR
comp=Z,2µm,20.0s
PSZ Piszkesteto 81.07 326⇑*i*P P 04 42 41.7 +1.8
PSZ Piszkesteto 81.07 326⇓*e*P P 04 42 40.7 +0.8
PSZ Piszkesteto 81.07 326 *e*P P 04 42 41.2 +1.3
PSZ pmax pmax
comp=Z,96nm,1.3s
PSZ MLR MLR
comp=Z,2µm,20.0s
VYHS Vyhne 81.11 326 *e*P P 04 42 41.1 +1.1
VYHS *e* 04 42 54.4
VYHS *e* 04 45 47.1
VYHS pmax pmax
comp=Z,41nm,1.5s
VYHS Vyhne 81.11 326 *e*P P 04 42 41.1 +1.1
VYHS *es*P **sP 04 42 54.4 +0.6**
VYHS *e*PP **PP 04 45 47.1 +2.6**
OGNE Ogallala 81.23 44 *e*P P 04 42 41.9 +1.0
comp=Z,198nm,1.3s
OGNE Ogallala 81.23 44 P P 04 42 41.4 +0.6
baz=313,SNR=8.1
KOLL Kolacno 81.23 327 *es*P sP 04 42 55.2 +0.8
BRG Berggiesshubel 81.30 330 *i* P P 04 42 41.7 +0.8
comp=Z,50nm,1.3s
BRG *e*PP **PP 04 45 45.9 -0.1**
comp=Z,27nm,1.4s
BRG S **S 04 52 49.0 -0.1**
BRG SS SS 04 57 37.0 -27
comp=N,2µm,16.8s
comp=E,2µm,13.9s
comp=Z,2µm,18.1s
BRG Berggiesshubel 81.30 330 *i* P P 04 42 41.7 +0.8
BRG *e* 04 45 45.9
BRG S **S 04 52 49.0 -0.1**
BRG pmax pmax
comp=Z,50nm,1.3s
BRG MLR MLR
comp=N,2µm,16.8s
BRG MLR MLR
comp=E,2µm,13.9s
BRG MLR MLR
comp=Z,2µm,18.1s
CLL Collm 81.31 331 *e*P P 04 42 41.2 +0.2
comp=Z,75nm,1.2s
CLL LR LR
comp=Z,2µm,18.0s
CLL Collm 81.31 331⇓*i*P P 04 42 41.5 +0.5
comp=Z,73nm,1.2s
CLL *e* 04 42 55.0
CLL *e* 04 43 18.0
CLL *e*PP **PP 04 45 46.0 -0.1**
CLL *e*(PPP) 04 47 31.0
CLL *e*S **S 04 52 48.0 -1.3**
CLL *e*PS **PnS 04 53 42.0 +3.3**
CLL *e*PPS PPS 04 54 06.0
CLL *e*(SS) 04 57 48.0
CLL *e*SSS SSS 05 01 36.0
CLL *e*SSSS 05 04 24.0
CLL LmV 05 23 00.0
comp=Z,2µm,18.4s
CLL LmV 13 43 00.0
comp=Z,100nm,21.1s
CLL Collm 81.31 331 *e*P P 04 42 41.2 +0.2
CLL pmax pmax
comp=Z,75nm,1.2s
CLL MLR MLR
comp=Z,2µm,18.0s
PVCC Panska Ves 81.32 330 *e*P P 04 42 42.1 +1.1
PVCC *e*P **PcP 04 42 47.9 +0.8**
PVCC *ex* x 04 42 55.9
PVCC AMS AMS 05 22 40.0
comp=Z,2µm,17.2s
PVCC Panska Ves 81.32 330 *e*P P 04 42 42.1 +1.1
PVCC *e* 04 42 47.9
PVCC *e* 04 42 55.9
PVCC MLR MLR
comp=Z,2µm,17.2s
JAVC Velka Javorina 81.34 327 *e*P P 04 42 43.2 +2.0
SDCO Great Sand Dun 81.39 49 *e*P P 04 42 43.2 +1.1
comp=Z,60nm,1.4s
SDCO Great Sand Dun 81.39 49 P P 04 42 42.9 +0.9
baz=312,SNR=34
VRAC Vranov 81.45 328⇑*i*P P 04 42 43.5 +1.7
VRAC Vranov 81.45 328 ⇑P P 04 42 43.5 +1.7
VRAC Vranov 81.45 328 *e*P P 04 42 43.0 +1.2
VRAC *e* 04 42 56.0
LADK Ladik-KONYA 81.45 312 *e*P P 04 42 42.7 +0.6
LADK Ladik-KONYA 81.45 312 *e*P P 04 42 42.7 +0.6
EYMN Ely 81.46 34 *e*P P 04 42 41.7 -0.1
comp=Z,95nm,1.2s
EYMN Ely 81.46 34 P P 04 42 41.8 -0.1
baz=319,SNR=21
KAC Achnashellach 81.52 344 *e*P P 04 42 43.0 +1.0
SZH Strazhica 81.53 319 P P 04 42 42.5 +0.2
GZR Gura Zlata 81.59 322⇓*i*P P 04 42 43.6 +0.9
GZR Gura Zlata 81.59 322 ⇓P P 04 42 43.6 +0.9
TUC Tucson 81.61 56 *e*P P 04 42 44.2 +1.1
comp=Z,71nm,1.8s
TUC Tucson 81.61 56 *e*P P 04 42 44.2 +1.1
TUC pmax pmax
comp=Z,71nm,1.8s
TUC Tucson 81.61 56 P P 04 42 43.8 +0.7
baz=310
GOPC GO Pecny, Ondr 81.72 329 *e*P P 04 42 44.1 +0.9
GOPC *e*S S **04 52 52.1 -1.5**
GOPC AMS AMS 05 21 30.0
comp=Z,2µm,20.5s
GOPC GO Pecny, Ondr 81.72 329 *e*P P 04 42 44.1 +0.9
GOPC *e*S S **04 52 52.1 -1.5**
GOPC MLR MLR
comp=Z,2µm,20.5s
KRUC Moravsky 81.72 328 *e*P P 04 42 44.2 +1.0
KRUC *e* 04 42 56.6
PRA Prague 81.74 330 *e*S S 04 52 48.8 -4.9
PRA AMS AMS 05 21 30.0
comp=Z,2µm,17.9s
SLVT Silivri 81.75 317 *e*P P 04 42 43.6 +0.1
KPL Plockton 81.75 344 *e*P P 04 42 43.7 +0.6
KPL lAmb lAmb 04 42 45.3
comp=Z,151nm,1.1s
BUD Budapest 81.79 326⇓*e*P P 04 42 44.9 +1.4
ARMT Armutlu 81.85 316 P P 04 42 45.7 +1.7
EDU Dundee 81.86 342 *e*P P 04 42 44.1 +0.4
MODS Modra-Piesok 81.88 327 *e*P P 04 42 44.9 +0.9
MODS *e* 04 42 57.9
MODS pmax pmax
comp=Z,87nm,1.4s
MODS MLR MLR
comp=Z,3µm,19.3s
MODS Modra-Piesok 81.88 327 *e*P P 04 42 44.9 +0.9
MODS *es*P **sP 04 42 57.9 0.0**
MODS *e*L L 05 21 40.2
TREC Trest 81.92 329 AMS AMS 05 20 40.0
comp=Z,2µm,20.8s
IKL Isikli 81.96 310 *e*P P 04 42 44.8 +0.1
IKL Isikli 81.96 310 *e*P P 04 42 44.8 +0.1
BZS Buzias 81.98 323⇑*i*P P 04 42 45.1 +0.5
BZS Buzias 81.98 323 ⇑P P 04 42 45.1 +0.5
RAYN Ar Rayn 82.05 293 *e*P P 04 42 45.6 +0.2
comp=Z,37nm,0.9s
RAYN Ar Rayn 82.05 293 *e*P P 04 42 45.6 +0.2
RAYN pmax pmax
comp=Z,37nm,0.9s
TIM Timisoara 82.08 323⇑*i*P P 04 42 47.7 +2.6
TIM Timisoara 82.08 323 ⇑P P 04 42 47.7 +2.6
EDRB Edirne 82.11 318 *e*P P 04 42 46.6 +1.3
ECSD EROS Data Cent 82.14 39 *e*P P 04 42 46.0 +0.4
comp=Z,67nm,1.1s
ECSD EROS Data Cent 82.14 39 P P 04 42 45.7 +0.2
baz=316,SNR=32
INVG Invergeldie, C 82.21 343 *e*P P 04 42 45.4 -0.2
INVG lAmb lAmb 04 42 47.8
comp=Z,44nm,1.1s
KSCO Kaye Shedlock' 82.22 46 *e*P P 04 42 47.1 +1.0
comp=Z,111nm,1.3s
KSCO Kaye Shedlock' 82.22 46 P P 04 42 46.5 +0.4
baz=313,SNR=13
BHL Bhannes 82.26 307 *e*P P 04 42 46.9 +0.4
TVSB Tavsanli 82.28 315 *e*P P 04 42 46.2 -0.2
TVSB Tavsanli 82.28 315 *e*P P 04 42 46.2 -0.2
ESY Stoneypath 82.32 342 *e*P P 04 42 46.3 +0.1
MOX Moxa 82.37 332 P P 04 42 47.4 +0.8
NKC Novy Kostel 82.39 331 *e*P P 04 42 47.7 +1.0
NKC *ex* x 04 43 01.3
NKC *e*S **S 04 53 00.7 +0.3**
NKC AMS AMS 05 26 10.0
comp=Z,2µm,16.0s
NKC Novy Kostel 82.39 331 *e*P P 04 42 47.7 +1.0
NKC *e* 04 43 01.3
NKC *e*S **S 04 53 00.7 +0.3**
NKC MLR MLR
comp=Z,2µm,16.0s
T25A Trinidad 82.44 48 *e*P P 04 42 48.9 +1.4
comp=Z,72nm,1.1s
T25A Trinidad 82.44 48 P P 04 42 48.3 +0.9
baz=312,SNR=33
E38A The Farm, Brul 82.45 35 *e*P P 04 42 47.1 0.0
comp=Z,71nm,0.9s
E38A The Farm, Brul 82.45 35 P P 04 42 46.6 -0.5
baz=312,SNR=12
MRMT Marmara Adasi 82.52 316 *e*P P 04 42 45.8 -1.8
MDVR Moldovita 82.55 322⇑*i*P P 04 42 48.6 +0.9
SHBL Chebaa 82.57 307 *e*P P 04 42 49.1 +1.0
ASF Jabal al Asfar 82.59 305 LR LR 05 24 03.1
comp=Z,457nm,18.4s,baz=355,slow=39
LAZ Ladron 82.59 52 *e*P P 04 42 49.8 +1.5
F37A Hinrichs Farm, 82.62 36 P P 04 42 48.0 +0.1
baz=318,SNR=7.7
ANMO Albuquerque 82.66 51 *e*P P 04 42 49.8 +1.1
comp=Z,72nm,1.3s
ANMO Albuquerque 82.66 51*d i*P P 04 42 49.4 +0.8
ANMO pmax pmax
comp=Z,83nm,1.7s
ANMO Albuquerque 82.66 51 P P 04 42 49.7 +1.0
baz=312
LAWE Loch Awe, Argy 82.68 343 *e*P P 04 42 49.0 +1.0
LAWE lAmb lAmb 04 42 50.2
comp=Z,108nm,1.4s
SOP Sopron 82.72 327⇓*e*P P 04 42 49.3 +0.9
SOP Sopron 82.72 327 P P 04 42 49.9 +1.5
ISP Isparta 82.78 313 P P 04 42 49.0 -0.1
ISP LR LR
comp=Z,500nm,18.0s
ISP Isparta 82.78 313 P P 04 42 49.0 -0.1
ISP Isparta 82.78 313 P P 04 42 49.0 -0.1
ISP MLR MLR
comp=Z,500nm,18.0s
F38A Pierce - Schro 82.79 35 P P 04 42 49.2 +0.4
baz=319,SNR=35
KHC Kasperske Hory 82.82 330 *e*P P 04 42 49.4 +0.4
comp=Z,32nm,1.4s
KHC LR LR
comp=Z,900nm,20.0s
KHC Kasperske Hory 82.82 330 *e*P P 04 42 49.6 +0.6
KHC *ep*P **PcP 04 42 55.1 +1.3**
KHC *ex* x 04 43 03.5
KHC *e*S **S 04 53 01.2 -3.8**
KHC AMS AMS 05 24 00.0
comp=Z,2µm,16.9s
KHC Kasperske Hory 82.82 330 *e*P P 04 42 49.4 +0.4
KHC pmax pmax
comp=Z,32nm,1.4s
KHC MLR MLR
comp=Z,900nm,20.0s
PMOR Pomariorio Ree 82.82 115 *e*P P 04 42 48.9 -0.4
comp=Z,87nm,1.1s
PMOR Pomariorio Ree 82.82 115 *e*T T 06 13 52.7
comp=Z,11nm,0.2s
CONA Conrad Observa 82.82 328 *i* PcP P 04 42 50.5 +1.4
comp=Z,69nm,1.4s,SNR=18
LENM Lemitar 82.85 52 *e*P P 04 42 50.6 +1.0
SPMN Marine on St. 82.91 36 *e*P P 04 42 49.7 +0.2
comp=Z,78nm,1.4s
SPMN Marine on St. 82.91 36 P P 04 42 49.7 +0.2
baz=319,SNR=8.5
MORH M˜ţr˙igy, Hung 82.92 325⇓*e*P P 04 42 49.3 -0.2
MORH M˜ţr˙igy, Hung 82.92 325⇓*i*P P 04 42 49.4 -0.1
Y22D IRIS PASSCAL I 82.94 52 P P 04 42 51.4 +1.3
baz=311
PGB Panagyurishte 82.95 320 P P 04 42 51.0 +1.2
LPM Los Pinos Moun 82.97 52 *e*P P 04 42 51.5 +1.3
GEC2 GERESS Array S 83.00 329 *e*P P 04 42 50.9 +0.9
GEC2 LR LR
comp=Z,3µm,19.0s
GEC2 GERESS Array S 83.00 329 *e*P P 04 42 50.9 +0.9
GEC2 MLR MLR
comp=Z,3µm,19.0s
GERES GERESS Array B 83.00 329 P P 04 42 50.5 +0.5
comp=Z,4.7nm,0.8s,baz=36,slow=5.0,SNR=37
GERES PP **PP 04 46 03.8 +3.6**
comp=Z,3.1nm,0.9s,baz=40,slow=6.9,SNR=5.2
GERES PKKPbc PKKPbc 05 01 23.7 +12
comp=Z,1.4nm,1.0s,baz=164,slow=5.3,SNR=4.6
GERES LR LR 05 22 50.1
comp=Z,2µm,18.5s,baz=28,slow=38
PLD Plovdiv 83.00 319 *e*P P 04 42 51.3 +1.3
PLD Plovdiv 83.00 319 P P 04 42 51.0 +1.0
MMAI Mount Meron Ar 83.00 307 LR LR 05 23 51.3
comp=Z,789nm,19.6s,baz=45,slow=39
GEA0 GERESS Array S 83.00 329 *e*P P 04 42 50.4 +0.4
WTSB Winterswijk 83.00 335 *e*P P 04 42 50.3 +0.5
comp=Z,90nm,1.3s
BGNE Belgrade 83.01 42 *e*P P 04 42 50.4 +0.3
comp=Z,310nm,1.3s
BGNE Belgrade 83.01 42 P P 04 42 49.8 -0.3
baz=315,SNR=13
CSS Mathiatis 83.02 309 *e*P P 04 42 50.7 +0.5
CSS Mathiatis 83.02 309 *e*P P 04 42 50.7 +0.5
CSS Mathiatis 83.02 309 *e*P P 04 42 50.3 +0.1
comp=Z,65nm,1.0s
CSS LR LR
comp=Z,800nm,21.0s
CSS Mathiatis 83.02 309 P P 04 42 48.7 -1.6
CSS Mathiatis 83.02 309 P P 04 43 04.0 +14
ERIK Erikli-Kesan 83.06 317 *e*P P 04 42 51.5 +1.2
E39A Mellen 83.07 34 P P 04 42 50.3 0.0
baz=320,SNR=10
BNM Barren Site 83.08 52 *e*P P 04 42 52.1 +1.3
WET Wettzell 83.09 330 P P 04 42 51.3 +0.9
ALN Alexandroupoli 83.15 317 *e*P P 04 42 52.5 +1.8
comp=Z,25nm,1.1s
ALN LR LR
comp=Z,1µm,19.0s
ALN Alexandroupoli 83.15 317 P P 04 42 51.2 +0.4
VAH Vaihoa 83.17 115 *e*P P 04 42 50.5 -0.6
comp=Z,42nm,1.2s
FRGS Fruska Gora 83.18 324⇓*i*P P 04 42 51.3 +0.4
LEF Lefka 83.18 310 *e*P P 04 42 49.0 -2.1
LEF Lefka 83.18 310 *e*P P 04 42 49.0 -2.1
319A Douglas 83.19 55 *e*P P 04 42 52.4 +1.0
comp=Z,49nm,1.1s
RDO Rodhopi 83.24 318 P P 04 42 51.2 0.0
RDO Rodhopi 83.24 318 P P 04 42 51.2 0.0
F39A Loretta 83.26 35 P P 04 42 51.3 0.0
baz=320,SNR=12
GELI Tayfur-Gelibol 83.27 317 *e*P P 04 42 52.5 +1.1
RZN Rozhen 83.29 319 P P 04 42 52.0 +0.3
GRF Grafenberg Arr 83.29 331 P P 04 42 52.7 +1.3
GRFO Grafenberg 83.29 331 *e*P P 04 42 52.1 +0.7
comp=Z,89nm,1.2s
GRFO LR LR
comp=Z,2µm,18.0s
GRFO Grafenberg 83.29 331 *e*P P 04 42 52.1 +0.7
GRFO pmax pmax
comp=Z,89nm,1.2s
GRFO MLR MLR
comp=Z,2µm,18.0s
E40A Wakefield 83.31 34 P P 04 42 51.6 0.0
baz=320,SNR=21
ALFC Alefka 83.34 310 P P 04 42 51.9 0.0
PPT Papeete 83.35 118 LR LR 05 18 29.8
comp=Z,390nm,19.0s,baz=304,slow=35
MMLI Mount Malkishu 83.36 306 *e*P P 04 42 51.5 -0.6
MMLI Mount Malkishu 83.36 306 *e*P P 04 42 51.5 -0.6
PPT2 Papeete2 83.37 118 *e*P P 04 42 51.7 -0.5
comp=Z,50nm,1.3s
PPT2 Papeete2 83.37 118 *e*S S 04 53 07.9 -3.3
comp=Z,2µm,32.0s
PPT2 Papeete2 83.37 118 *e*LR LR 05 08 46.8
comp=Z,2µm,25.0s,baz=317
KULA Kula-Manisa 83.37 314 *e*P P 04 42 47.4 -4.7
G38A Ridgeland 83.39 36 P P 04 42 51.7 -0.3
baz=319,SNR=7.6
121A Cookes Peak, D 83.41 54 P P 04 42 53.8 +1.3
baz=311,SNR=20
PAE Paea 83.41 118 *e*P P 04 42 51.8 -0.5
comp=Z,5.0nm,1.1s
VTS Vitosha 83.41 320 *e*P P 04 42 53.4 +1.1
comp=Z,32nm,1.0s
VTS LR LR
comp=Z,2µm,20.0s
VTS Vitosha 83.41 320⇑*i*P P 04 42 53.9 +1.6
VTS Vitosha 83.41 320 P P 04 42 53.0 +0.7
VTS Vitosha 83.41 320 P P 04 42 53.0 +0.7
VTS Vitosha 83.41 320 ⇑P P 04 42 53.9 +1.6
D41A Chassel 83.42 33 *e*P P 04 42 53.0 +0.9
comp=Z,193nm,1.5s
D41A *ep*P **sP 04 43 06.1 +0.2**
D41A Chassel 83.42 33 P P 04 42 52.5 +0.5
baz=321,SNR=7.5
ARSA Arzberg 83.49 327 *i* P P 04 42 53.5 +1.1
comp=Z,35nm,1.4s,SNR=8.6
TIAR Tiarei 83.51 118 *e*P P 04 42 52.3 -0.5
comp=Z,16nm,1.1s
MOA Molln 83.55 328 *i* PcP P 04 42 54.0 +1.2
comp=Z,47nm,1.4s,SNR=12
THZ Tophouse 83.56 158 *e*P P 04 42 53.0 +0.4
comp=Z,194nm,1.6s
H38A Maiden Rock 83.56 37 P P 04 42 53.2 +0.4
baz=319,SNR=6.3
HSIG 83.60 58 *e*P P 04 42 54.2 +0.8
comp=Z,73nm,1.7s
F40A Park Falls 83.62 35 P P 04 42 53.0 -0.1
baz=320,SNR=10.0
G39A Holcombe 83.62 36 P P 04 42 52.6 -0.5
baz=320,SNR=7.9
PPCY Paphos 83.67 310 P P 04 42 54.3 +0.7
E41A Kenton 83.71 34 P P 04 42 53.7 +0.1
baz=321,SNR=16
SMTH Samothraki Isl 83.73 317 P P 04 42 53.8 0.0
SMTH Samothraki Isl 83.73 317 P P 04 42 53.8 0.0
SRIG Santa Rosalia 83.80 60 PFAKE 04 43 10.0 +16
SRIG LR LR
comp=Z,800nm,18.0s
MMB Musomiste 83.87 319 P P 04 42 55.0 +0.4
DIVS Divibare 83.88 323 *e*P P 04 42 55.5 +0.9
comp=Z,63nm,1.3s
DIVS LR LR
comp=Z,1µm,21.0s
DIVS Divibare 83.88 323⇓*i*P P 04 42 55.0 +0.4
COWI Conover 83.92 34 *e*P P 04 42 55.0 +0.4
comp=Z,53nm,1.3s
CLGH Cloghs, Cushen 83.92 343 *e*P P 04 42 54.8 +0.3
CLGH lAmb lAmb 04 42 56.5
comp=Z,157nm,1.3s
NVR Nevrokopi 83.98 319 P P 04 42 55.4 +0.3
NVR Nevrokopi 83.98 319 P P 04 42 55.4 +0.3
CBKS Cedar Bluff 83.98 45 *e*P P 04 42 55.1 -0.1
comp=Z,69nm,1.1s
CBKS LR LR
comp=Z,900nm,18.0s
CBKS Cedar Bluff 83.98 45 *e*P P 04 42 55.1 -0.1
CBKS pmax pmax
comp=Z,69nm,1.1s
CBKS MLR MLR
comp=Z,900nm,18.0s
CBKS Cedar Bluff 83.98 45 P P 04 42 55.0 -0.1
baz=315,SNR=12
H39A Augusta 84.03 36 P P 04 42 55.4 +0.1
baz=319,SNR=11
SCHQ Schefferville 84.06 17 LR LR 05 22 08.8
comp=Z,798nm,20.9s,baz=349,slow=37
THAS Thassos island 84.06 318 P P 04 42 55.9 +0.4
G40A Rib Lake 84.08 35 *e*P P 04 42 55.8 +0.3
comp=Z,57nm,1.1s
G40A Rib Lake 84.08 35 P P 04 42 55.5 0.0
baz=320,SNR=14
GROS Grobnik 84.12 327 *e*P P 04 42 56.1 +0.4
GROS Grobnik 84.12 327 *e*P P 04 42 56.1 +0.4
PERS Pernice 84.15 327 *i* P P 04 42 56.5 +0.6
PERS Pernice 84.15 327 *i* P P 04 42 56.5 +0.6
SOKA Soboth 84.15 327 *i* PcP P 04 42 56.8 +0.8
comp=Z,75nm,1.2s,SNR=13
E42A Champion 84.19 33 P P 04 42 56.4 +0.3
baz=322,SNR=9.4
F41A Three Lakes 84.21 34 *e*P P 04 42 56.7 +0.5
comp=Z,121nm,1.4s
F41A Three Lakes 84.21 34 P P 04 42 56.4 +0.2
baz=321,SNR=14
SRS Serrai 84.29 319 P P 04 42 56.9 +0.3
SRS Serrai 84.29 319 P P 04 42 56.9 +0.3
SRS Serrai 84.29 319 P P 04 42 56.9 +0.3
HGN Heimansgroeve 84.31 335 *e*P P 04 42 56.8 +0.3
comp=Z,106nm,1.4s
LIA Limnos Island 84.32 317 P P 04 42 57.2 +0.4
LIA Limnos Island 84.32 317 P P 04 42 57.2 +0.4
BBLS Lazići P 84.34 323⇓*i*P P 04 42 57.8 +0.9
LBWR Ladybower, Pea 84.35 340 *e*P P 04 42 57.7 +1.0
LBWR lAmb lAmb 04 42 58.8
comp=Z,131nm,1.1s
BEBN Eben Emael 84.37 335 ⇑P P 04 42 57.7 +0.9
DOBS Dobrina 84.38 327 *e*P P 04 42 57.0 +0.1
DOBS Dobrina 84.38 327 *e*P P 04 42 57.0 +0.1
HAPS Han Pijesak,Bl 84.39 324 *e*P P 04 42 56.9 -0.3
MEM Membach 84.42 334 ⇑P P 04 42 57.8 +0.7
FETY Fethiye 84.43 313 *e*P P 04 42 57.9 +0.5
FETY Fethiye 84.43 313 P P 04 42 57.6 +0.2
FETY Fethiye 84.43 313 P P 04 42 57.6 +0.2
SIGR SIGRI 84.45 316 P P 04 42 57.8 +0.4
SIGR SIGRI 84.45 316 P P 04 42 57.8 +0.4
KSL Kastellorizon 84.47 312 P P 04 42 57.6 0.0
KSL Kastellorizon 84.47 312 P P 04 42 57.6 0.0
H40A Chili 84.49 36 P P 04 42 57.7 +0.1
baz=320,SNR=11
OBKA Obir 84.49 327 *i* P P 04 42 56.9 -0.8
comp=Z,13nm,1.0s
FUR Furstenfeldbru 84.51 330 P P 04 42 59.0 +1.4
I39A Houston 84.54 37 *e*P P 04 42 57.9 +0.1
comp=Z,157nm,1.4s
I39A Houston 84.54 37 P P 04 42 57.8 -0.1
baz=319,SNR=16
KBA Koelnbreinsper 84.55 328 *i* PcP P 04 42 59.9 +1.8
comp=Z,62nm,1.2s
KBA Koelnbreinsper 84.55 328 P P 04 42 59.1 +1.1
G41A Antigo 84.58 35 P P 04 42 58.0 -0.1
baz=321,SNR=5.9
TAOE Nuku Hiva Isla 84.58 105 *e*S S 04 53 19.7 -4.0
comp=Z,1µm,32.2s
TAOE Nuku Hiva Isla 84.58 105 *e*LR LR 05 09 14.0
comp=Z,2µm,33.0s,baz=317
KNT Kendrikon 84.61 319 P P 04 42 58.9 +0.6
KNT Kendrikon 84.61 319 P P 04 42 58.9 +0.6
F42A Maple Grove Fa 84.62 34 P P 04 42 58.3 0.0
baz=321
SOH Sokhos 84.62 319 P P 04 42 58.7 +0.3
SOH Sokhos 84.62 319 P P 04 42 58.7 +0.3
SOH Sokhos 84.62 319 P P 04 42 58.7 +0.3
E43A Lone Tree Farm 84.63 33 *e*P P 04 42 58.8 +0.6
comp=Z,90nm,1.4s
E43A Lone Tree Farm 84.63 33 P P 04 42 58.4 +0.1
baz=322,SNR=8.5
CRES Cresnjev 84.64 327 *e*P P 04 42 57.9 -0.4
VAY Valandovo 84.67 320 P P 04 42 59.2 +0.7
VAY Valandovo 84.67 320 P P 04 42 59.2 +0.7
VAY Valandovo 84.67 320 *i* P P 04 42 59.3 +0.7
VAY Valandovo 84.67 320 P P 04 42 59.2 +0.7
BLY Banja Luka 84.70 325 *e*P P 04 42 59.5 +0.9
comp=Z,63nm,1.4s
BLY *ep*P **sP 04 43 11.8 -0.7**
BLY LR LR
comp=Z,1µm,18.0s
BLY Banja Luka 84.70 325⇑*i*P P 04 42 59.6 +0.9
BLY Banja Luka 84.70 325 *e*P P 04 42 59.0 +0.4
MLSB Milas 84.72 314 *e*P P 04 42 50.0 -8.9
EPT El Paso 84.72 54 *e*P P 04 42 59.9 +0.8
comp=Z,93nm,1.6s
EPT *ep*P **sP 04 43 13.6 +0.6**
GCAM G?zelcaml? 84.75 315 *e*P P 04 43 00.2 +1.2
SKO Skopje 84.76 321 P P 04 43 00.2 +1.2
SKO Skopje 84.76 321 P P 04 43 00.2 +1.2
SKO Skopje 84.76 321 *i* P P 04 43 00.6 +1.6
MYKA Terra Mystica 84.78 328 *i* P P 04 42 59.0 -0.1
comp=Z,46nm,1.2s,SNR=8.0
UCC Uccle 84.81 335 PFAKE 04 43 10.0 +11
UCC LR LR
comp=Z,4µm,19.0s
UCC Uccle 84.81 335 ⇓P P 04 42 58.9 -0.2
STU Stuttgart 84.81 332 *e*P P 04 43 00.1 +1.0

comp=Z,116nm,1.3s
STU LR LR
comp=Z,1µm,19.0s
STU Stuttgart 84.81 332 eP P 04 43 00.1 +1.0
STU pmax pmax
comp=Z,116nm,1.3s
STU MLR MLR
comp=Z,1µm,19.0s
BCLA Clavier 84.82 335 ⇓P P 04 42 59.3 +0.2
CWF Charnwood Fore 84.83 340 eP P 04 42 58.9 -0.2
CWF IAmb IAmb 04 43 00.9
comp=Z,108nm,1.3s
H41A Junction City 84.83 35 eP P 04 42 59.9 +0.6
comp=Z,78nm,1.4s
H41A LR LR
comp=Z,1µm,18.0s
H41A Junction City 84.83 35 P P 04 42 59.5 +0.2
baz=320,SNR=10.0
J39A Decorah 84.85 37 P P 04 42 59.1 -0.3
baz=319,SNR=27
E44A Grand Marais A 84.89 32 P P 04 42 59.6 +0.1
baz=323
G42A Mountain 84.89 34 eP P 04 43 00.1 +0.5
comp=Z,96nm,1.4s
G42A epP **sP 04 43 12.9 -0.5**
G42A Mountain 84.89 34 P P 04 42 60.0 +0.3
baz=321,SNR=7.7
PLG Polygyros 84.90 319 P P 04 43 00.2 +0.4
PLG Polygyros 84.90 319 P P 04 43 00.2 +0.4
PLG Polygyros 84.90 319 P P 04 43 00.2 +0.4
CHOS Chios island 84.92 316 P P 04 43 00.5 +0.5
CHOS Chios island 84.92 316 P P 04 43 00.5 +0.5
I40A Norwalk 84.94 36 P P 04 42 59.7 -0.2
baz=320,SNR=9.1
F43A Flat Rock, Esc 84.98 33 P P 04 43 00.4 +0.4
baz=322,SNR=9.8
GRG Griva 85.02 320 P P 04 43 00.6 +0.2
GRG Griva 85.02 320 P P 04 43 00.6 +0.2
GRG Griva 85.02 320 P P 04 43 00.6 +0.2
WPM1 Penmaenmawr 85.05 341 eP P 04 43 01.4 +1.1
WATA Walderalm 85.06 330 i PcP P 04 43 01.2 +0.6
comp=Z,42nm,1.4s
SNF Seneffe 85.08 335 ⇑P P 04 43 00.2 -0.2
WTTA Wattenberg 85.09 330 i PcP P 04 43 01.5 +0.7
comp=Z,47nm,1.8s,SNR=6.1
CEY Cerknica 85.15 327 eP P 04 43 00.8 -0.1
BODT Bodrum 85.15 314 P P 04 43 01.5 +0.4
BODT Bodrum 85.15 314 P P 04 43 01.5 +0.4
ABTA Abfaltersbach 85.15 329 i P P 04 43 00.8 -0.2
comp=Z,31nm,1.1s,SNR=5.1
I41A Arkdale 85.16 36 eP P 04 43 01.3 +0.4
comp=Z,108nm,1.4s
I41A Arkdale 85.16 36 P P 04 43 01.1 +0.2
baz=320,SNR=11
WLF Walferdange 85.17 334 eP P 04 43 02.7 +1.9
comp=Z,112nm,1.5s
WLF LR LR
comp=Z,3µm,20.0s
WLF Walferdange 85.17 334 ⇓P P 04 43 02.0 +1.2
comp=Z,45nm,1.7s
F44A Big Bay de Noc 85.19 33 P P 04 43 01.4 +0.4
baz=323,SNR=11
FOEL Foel Wylfa 85.20 341 eP P 04 43 02.1 +1.1
FOEL IAmb IAmb 04 43 03.1
comp=Z,169nm,1.2s
G43A Wallace 85.21 34 eP P 04 43 02.0 +0.9
comp=Z,97nm,1.2s
G43A epP **sP 04 43 15.2 +0.2**
G43A Wallace 85.21 34 P P 04 43 01.6 +0.4
baz=322,SNR=8.9
YLL Llanberis 85.23 341 eP P 04 43 01.3 +0.3
DAT Datca 85.23 314 eP P 04 43 01.6 0.0
K39A Oelwein 85.23 38 P P 04 43 01.2 -0.2
baz=319,SNR=22
MOTA Moosalm 85.24 330 i PcP P 04 43 02.2 +0.7
comp=Z,41nm,1.0s,SNR=15
GIVF Givet 85.25 335 eP P 04 43 01.3 0.0
GIVF pmax pmax
comp=Z,117nm,1.7s
J40A Soldiers Grove 85.26 37 P P 04 43 01.3 -0.2
baz=320,SNR=9.8
RETA Reutte 85.26 330 i PcP P 04 43 02.4 +0.9
comp=Z,84nm,1.2s,SNR=17
SQTA Sankt Quirin 85.30 330 i PcP P 04 43 02.3 +0.6
comp=Z,36nm,1.2s,SNR=7.0
KRUS Krusevo 85.30 320 i P P 04 43 02.5 +0.6
DOU Dourbes 85.33 335 ⇓P P 04 43 02.0 +0.4
E45A Wooded Hills, 85.41 32 P P 04 43 02.4 +0.2
baz=323,SNR=6.2
H42A Shiocton 85.42 35 eP P 04 43 02.4 +0.2
comp=Z,59nm,1.1s
H42A Shiocton 85.42 35 P P 04 43 02.7 +0.5
baz=321,SNR=7.2
MATQ Matagami 85.44 25 P P 04 43 02.2 -0.1
baz=328
D46A Sault St. Mari 85.45 31 P P 04 43 02.1 -0.2
baz=324
TRI Trieste 85.46 327 PFAKE 04 43 10.0 +7.6
TRI LR LR
comp=Z,2µm,18.0s
PHP Peshkopia 85.47 321 P P 04 43 02.9 +0.3
PHP Peshkopia 85.47 321 P P 04 43 02.9 +0.3
EIL Elat 85.48 304 eP P 04 43 03.9 +1.1
MNTX Cornudas Mount 85.49 53 eP P 04 43 03.7 +0.9
comp=Z,88nm,1.6s
MNTX Cornudas Mount 85.49 53 P P 04 43 03.4 +0.6
baz=312,SNR=31
BAIF Baives 85.49 335 eP P 04 43 02.6 +0.1
BAIF pmax pmax
comp=Z,34nm,1.3s
PDG Podgorica 85.49 322 ⇓i P P 04 43 02.9 +0.3
TTG Podgorica 85.49 322 eP P 04 43 03.5 +0.9
comp=Z,107nm,1.1s
TTG LR LR
comp=Z,2µm,19.0s
BFO Black Forest 85.50 332 eP P 04 43 02.1 -0.5
comp=Z,103nm,1.2s
BFO LR LR
comp=Z,1µm,18.0s
BFO Black Forest 85.50 332 eP P 04 43 02.1 -0.5
BFO pmax pmax
comp=Z,103nm,1.2s
BFO MLR MLR
comp=Z,1µm,18.0s
BIA Bitola 85.52 320 i P P 04 43 03.6 +0.7
AOS Alonnisos 85.54 317 P P 04 43 02.5 -0.5
AOS Alonnisos 85.54 317 P P 04 43 02.5 -0.5
MSTX Muleshoe 85.57 50 eP P 04 43 04.2 +0.8
comp=Z,85nm,1.5s
MSTX Muleshoe 85.57 50 P P 04 43 03.6 +0.2
baz=313,SNR=15
AMTX Amarillo 85.59 49 eP P 04 43 04.8 +1.3
comp=Z,73nm,0.8s
AMTX Amarillo 85.59 49 P P 04 43 04.5 +1.0
baz=314
K40A Colesburg 85.60 37 P P 04 43 03.0 -0.2
baz=320,SNR=20
LIT Litokhoron 85.60 319 eP P 04 43 03.5 +0.2
comp=Z,77nm,1.0s
LIT LR LR
comp=Z,1µm,20.0s
LIT Litokhoron 85.60 319 P P 04 43 03.2 -0.1
LIT Litokhoron 85.60 319 eP P 04 43 03.5 +0.2
LIT pmax pmax
comp=Z,77nm,1.0s
LIT MLR MLR
comp=Z,1µm,20.0s
L39A Vinton 85.62 38 P P 04 43 03.4 +0.1
baz=319,SNR=26
J41A Loganville 85.62 36 P P 04 43 03.3 0.0
baz=320,SNR=13
FETA Feichten 85.65 330 i PcP P 04 43 04.4 +0.8
comp=Z,45nm,1.1s,SNR=11
FNA Florina 85.67 320 eP P 04 43 04.1 +0.4
comp=Z,47nm,1.0s
FNA LR LR
comp=Z,2µm,21.0s
FNA Florina 85.67 320 P P 04 43 03.6 0.0
FNA Florina 85.67 320 eP P 04 43 04.1 +0.4
FNA pmax pmax
comp=Z,47nm,1.0s
FNA MLR MLR
comp=Z,2µm,21.0s
D47A Chapleau 85.69 30 P P 04 43 03.5 -0.1
baz=325,SNR=14
DRME Dracevica, Mon 85.71 322 eP P 04 43 04.6 +0.8

OHR Ohrid 85.72 321 i P P 04 43 04.3 +0.4
I42A Draeger Farm, 85.73 35 eP P 04 43 04.2 +0.5
comp=Z,90nm,1.4s
I42A epP **sP 04 43 17.6 0.0**
I42A Draeger Farm, 85.73 35 P P 04 43 04.1 +0.3
baz=321,SNR=9.4
XOR Xorichti 85.77 318 P P 04 43 03.6 -0.5
XOR Xorichti 85.77 318 P P 04 43 03.6 -0.5
DAVA Damuels 85.77 331 i PcP P 04 43 05.0 +0.8
comp=Z,76nm,1.1s,SNR=13
GDL2 Guadalupe Moun 85.79 52 eP P 04 43 05.5 +1.0
H43A Windswept, Lux 85.79 34 eP P 04 43 05.1 +1.0
comp=Z,135nm,1.4s
H43A epP **sP 04 43 18.1 +0.2**
H43A Windswept, Lux 85.79 34 P P 04 43 04.4 +0.3
baz=322,SNR=5.1
F45A CMU Biological 85.81 32 P P 04 43 04.4 +0.3
baz=323
KZN Kozani 85.82 319 P P 04 43 04.4 0.0
KZN Kozani 85.82 319 P P 04 43 04.4 0.0
JFWS Jewell Farm 85.86 37 eP P 04 43 04.4 -0.1
comp=Z,31nm,0.9s
JFWS epP **sP 04 43 17.9 -0.4**
JFWS Jewell Farm 85.86 37 eP P 04 43 04.4 -0.1
JFWS e*PP **sP 04 43 17.9 -0.4**
JFWS pmax pmax
comp=Z,31nm,0.9s
JFWS Jewell Farm 85.86 37 P P 04 43 04.3 -0.2
baz=320,SNR=7.9
SLE Schleitheim 85.91 332 P P 04 43 05.3 +0.6
MCH1 Michaelchurch 85.95 340 eP P 04 43 05.3 +0.6
MCH1 IAmb IAmb 04 43 06.6
comp=Z,37nm,1.0s
TIR Tirane 86.01 321 PFAKE 04 43 20.0 +15
TIR LR LR
comp=Z,2µm,19.0s
M39A Webster 86.02 39 P P 04 43 05.5 +0.2
baz=319,SNR=19
ECH Echery 86.03 333 eP P 04 43 05.5 +0.3
comp=Z,53nm,1.1s
ECH LR LR
comp=Z,1µm,18.0s
ECH Echery 86.03 333 eP P 04 43 05.5 +0.3
ECH pmax pmax
comp=Z,53nm,1.1s
ECH MLR MLR
comp=Z,1µm,18.0s
MONM Monmouth 86.04 340 eP P 04 43 06.2 +1.1
L40A Anamosa 86.04 38 eP P 04 43 05.8 +0.5
comp=Z,89nm,1.1s
L40A Anamosa 86.04 38 P P 04 43 05.4 +0.1
baz=320,SNR=16
F46A Maclnaw City C 86.05 32 P P 04 43 05.5 +0.2
baz=324
K41A Shullsburg 86.07 37 P P 04 43 05.6 0.0
baz=320,SNR=12
J42A Columbus 86.07 36 P P 04 43 05.4 -0.1
baz=321,SNR=10
I43A Langenfeld Bro 86.08 35 P P 04 43 05.8 +0.2
baz=322
KBN Korca 86.09 320 P P 04 43 06.1 +0.4
KBN Korca 86.09 320 P P 04 43 06.1 +0.4
KBN Korca 86.09 320 P P 04 43 06.1 +0.4
D48A Paudash Townsh 86.10 29 P P 04 43 05.1 -0.5
baz=326
U32A Winter Ranch, 86.11 46 eP P 04 43 07.1 +1.3
comp=Z,83nm,1.4s
NEST Nestorio 86.11 320 P P 04 43 06.0 +0.1
FUORN Ofenpass-Fuorn 86.17 330 eP P 04 43 07.2 +1.0
comp=Z,91nm,1.0s
FUORN LR LR
comp=Z,2µm,21.0s
LSQQ Lebel-sur-Quev 86.27 25 P P 04 43 06.3 -0.1
baz=329
KARP Karpathos 86.30 313 eP P 04 43 06.8 0.0
KARP Karpathos 86.30 313 eP P 04 43 06.9 +0.1
comp=Z,49nm,0.9s
KARP LR LR
comp=Z,800nm,19.0s
N39A Derby Farms, D 86.31 39 eP P 04 43 07.4 +0.7
comp=Z,107nm,1.1s
N39A Derby Farms, D 86.31 39 P P 04 43 07.1 +0.4
baz=319,SNR=18
J43A Natural Harves 86.35 35 P P 04 43 06.8 -0.1
baz=321,SNR=10
L41A Preston 86.38 37 P P 04 43 06.9 -0.1
baz=320,SNR=14
CHGQ Chibougamau 86.39 24 P P 04 43 07.0 +0.1
baz=331
K42A Prairie Point, 86.39 36 P P 04 43 07.1 0.0
baz=321,SNR=9.4
M40A Post Highland 86.40 38 P P 04 43 07.4 +0.2
baz=320,SNR=18
HINF Hinteralfeld 86.47 333 eP P 04 43 07.2 -0.3
HINF pmax pmax
comp=Z,105nm,1.9s
AGG Agios Georgios 86.48 318 eP P 04 43 06.9 -0.7
comp=Z,88nm,1.9s
AGG LR LR
comp=Z,2µm,18.0s
AGG Agios Georgios 86.48 318 eP P 04 43 06.9 -0.7
AGG pmax pmax
comp=Z,88nm,1.9s
AGG MLR MLR
comp=Z,2µm,18.0s
ANAF Anafi Island 86.52 314 P P 04 43 06.3 -1.6
IOSP Ios island 86.53 315 P P 04 43 06.2 -1.7
TUE Stuetta 86.65 330 eP P 04 43 09.4 +0.8
comp=Z,66nm,1.3s
TUE LR LR
comp=Z,2µm,18.0s
SANT Santorini 86.69 315 PFAKE 04 43 20.0 +11
SANT LR LR
comp=Z,900nm,18.0s
N40A Mertquake, Sal 86.76 39 P P 04 43 09.5 +0.6
baz=320,SNR=15
L42A Oliver, Polo 86.83 37 eP P 04 43 09.2 -0.1
comp=Z,77nm,1.3s
L42A epP **sP 04 43 22.6 -0.6**
L42A Oliver, Polo 86.83 37 P P 04 43 09.2 -0.1
baz=321,SNR=8.4
GLMI Grayling 86.88 32 eP P 04 43 10.1 +0.7
comp=Z,176nm,1.1s
GLMI Grayling 86.88 32 P P 04 43 10.0 +0.6
baz=324,SNR=8.7
M41A Milan 86.90 38 P P 04 43 09.8 +0.2
baz=320,SNR=6.9
VLDQ Val d'Or 86.91 26 eP P 04 43 08.7 -0.8
comp=Z,77nm,1.3s
VLDQ epP **sP 04 43 22.1 -1.3**
K43A Burlington 86.92 36 eP P 04 43 10.0 +0.4
comp=Z,105nm,1.6s
K43A epP **sP 04 43 21.8 -1.8**
K43A Burlington 86.92 36 P P 04 43 09.4 -0.3
baz=321
DID Didima 87.10 317 P P 04 43 08.1 -2.6
DID Didima 87.10 317 P P 04 43 08.1 -2.6
L43A Garden Prairie 87.13 36 P P 04 43 10.6 -0.1
baz=321,SNR=6.5
IGT Igoumenitsa 87.14 320 P P 04 43 10.4 -0.4
IGT Igoumenitsa 87.14 320 P P 04 43 10.4 -0.4
IGT Igoumenitsa 87.14 320 P P 04 43 10.4 -0.4
EFP Efpalio 87.14 318 P P 04 43 11.2 +0.4
ZKR Zakros 87.15 313 P P 04 43 11.6 +0.6
ZKR Zakros 87.15 313 P P 04 43 11.6 +0.6
M42A Sheffield 87.21 37 P P 04 43 11.0 -0.1
baz=321,SNR=8.5
J45A Montague 87.22 34 P P 04 43 10.8 -0.3
baz=323
N41A Harden Midland 87.25 38 eP P 04 43 11.8 +0.5
comp=Z,147nm,1.4s
N41A Harden Midland 87.25 38 P P 04 43 11.7 +0.4
baz=320,SNR=13
KEK Kerkira 87.27 320 P P 04 43 11.4 -0.1
KEK Kerkira 87.27 320 P P 04 43 11.4 -0.1
TBI Tubuai 87.36 122 eP P 04 43 11.6 -0.3
comp=Z,93nm,1.1s
TBI Tubuai 87.36 122 eS S 04 53 46.0 -4.3
comp=Z,898nm,37.8s
TBI Tubuai 87.36 122 eLQ LQ 05 06 47.3
comp=Z,776nm,34.0s
TBI eLR LR 05 10 09.1
comp=Z,1µm,36.0s,baz=313
TBI Tubuai 87.36 122 eT T 06 19 34.5
comp=Z,12nm,0.3s
WMOK Wichita Mounta 87.40 47 eP P 04 43 12.6 +0.4

comp=Z,56nm,1.2s
WMOK Wichita Mounta 87.40 47 eP P 04 43 12.6 +0.4
WMOK pmax pmax
comp=Z,56nm,1.2s
WMOK Wichita Mounta 87.40 47 P P 04 43 12.8 +0.6
baz=316,SNR=31
L44A Lake County Fo 87.52 36 P P 04 43 12.7 +0.1
baz=322
SENIN Lac Senin/Sane 87.53 331 eP P 04 43 13.7 +0.8
comp=Z,36nm,1.2s
SENIN LR LR
comp=Z,2µm,18.0s
LAST Lasithi 87.54 314 P P 04 43 12.9 0.0
LAST Lasithi 87.54 314 P P 04 43 12.9 0.0
N42A Yates City 87.56 38 P P 04 43 13.1 +0.3
baz=320,SNR=6.1
DRO Drossia 87.59 318 P P 04 43 13.1 0.0
M43A Waltham Townsh 87.61 37 P P 04 43 13.3 +0.3
baz=321,SNR=23
J46A Howard City 87.62 34 P P 04 43 13.7 +0.7
baz=323,SNR=7.1
O41A Passleys Farm, 87.69 39 P P 04 43 14.0 +0.5
baz=320,SNR=17
D53A Lac Vacive, Po 87.71 27 P P 04 43 13.2 -0.2
baz=328
SLBS Sierra La Lagu 87.71 62 eP P 04 43 16.4 +2.4
comp=Z,42nm,1.3s
VAL Valentia 87.76 344 eS S 04 53 56.9 +3.4
IDI Anoyia 87.79 314 eP P 04 43 13.3 -0.8
comp=Z,30nm,0.8s
IDI LR LR
comp=Z,500nm,21.0s
IDI Anoyia 87.79 314 ⇑i P P 04 43 13.5 -0.6
IDI Anoyia 87.79 314 P P 04 43 12.9 -1.2
N43A Stutzman Famil 87.89 37 P P 04 43 14.7 +0.3
baz=321
P41A Barry, Barry 87.94 39 P P 04 43 15.2 +0.6
baz=320,SNR=31
D54A Lac Fusil, La 88.01 26 P P 04 43 14.6 -0.3
baz=329,SNR=7.3
O42A Bath 88.03 38 P P 04 43 15.0 -0.1
baz=320,SNR=5.4
ITM Ithomi 88.05 317 eP P 04 43 15.0 -0.2
comp=Z,28nm,0.8s
ITM LR LR
comp=Z,700nm,21.0s
J47A Sunmer 88.06 33 P P 04 43 15.9 +0.7
baz=324,SNR=7.4
M44A Midewin, Midew 88.08 36 eP P 04 43 15.8 +0.6
comp=Z,164nm,1.3s
M44A epP **sP 04 43 29.2 +0.1**
M44A Midewin, Midew 88.08 36 P P 04 43 15.6 +0.4
baz=322,SNR=8.7
K46A Dorr 88.08 34 P P 04 43 15.5 +0.2
baz=323
MATE Matera 88.09 323 ⇑i P P 04 43 15.8 +0.5
VLC Villacollemand 88.13 328 PFAKE 04 43 30.0 +15
VLC LR LR
comp=Z,2µm,19.0s
HDIL Hopedale 88.13 38 eP P 04 43 15.6 +0.1
comp=Z,175nm,1.3s
HDIL ePP **PP 04 46 42.2 +0.3**
HDIL Hopedale 88.13 38 P P 04 43 16.1 +0.6
baz=321,SNR=15
DYR Agios Nikonas 88.14 317 P P 04 43 15.0 -0.7
TX31 Lajitas Ar. Si 88.17 54 eP P 04 43 16.9 +0.8
TXAR Lajitas Array 88.17 54 P P 04 43 16.7 +0.6
comp=Z,4.3nm,0.6s,baz=302,slow=3.0,SNR=61
TXAR LR LR 05 16 38.7
comp=Z,551nm,21.8s,baz=0.0,slow=32
KLBO Killbear Provi 88.22 29 P P 04 43 15.0 -0.9
baz=327
TUL1 Leonard 88.25 44 eP P 04 43 16.9 +0.7
comp=Z,49nm,1.1s
TUL1 epP **sP 04 43 30.3 +0.2**
TUL1 Leonard 88.25 44 P P 04 43 16.7 +0.5
baz=317,SNR=11
AQU L'Aquila 88.28 326 PFAKE 04 43 30.0 +14
AQU LR LR
comp=Z,2µm,19.0s
E53A Dumoine, Ponti 88.32 27 P P 04 43 16.2 -0.1
baz=329
O43A Sugar Creek Fa 88.33 38 P P 04 43 16.8 +0.4
baz=321,SNR=12
I49A Point Hope 88.34 32 P P 04 43 17.0 +0.5
baz=325
P42A Winchester 88.36 39 eP P 04 43 16.7 0.0
comp=Z,196nm,1.3s
P42A Winchester 88.36 39 P P 04 43 17.0 +0.3
baz=320,SNR=35
ABTX Abilene, Hawle 88.38 49 eP P 04 43 17.2 +0.2
comp=Z,156nm,1.8s
ABTX Abilene, Hawle 88.38 49 P P 04 43 17.4 +0.4
baz=315,SNR=14
DAMY Dhamar 88.39 287 PFAKE 04 43 30.0 +12
DAMY LR LR
comp=Z,600nm,20.0s
L46A Eue Claire 88.39 35 P P 04 43 17.0 +0.3
baz=323,SNR=5.4
Q41A Truxton 88.40 40 P P 04 43 17.5 +0.6
baz=320,SNR=22
E54A Lac Daplat, Po 88.44 27 P P 04 43 16.1 -0.8
baz=329
K47A Vermontville 88.44 34 P P 04 43 17.0 +0.1
baz=324
M45A Boilermakers S 88.45 36 P P 04 43 16.7 -0.3
baz=322
BMRO Meriville Lake 88.46 30 P P 04 43 17.4 +0.4
baz=326
J48A Bridge Port 88.46 33 P P 04 43 18.0 +1.0
baz=324,SNR=8.8
HPIG 88.49 57 eP P 04 43 18.8 +1.1
comp=Z,40nm,1.4s
N44A Piper City 88.50 37 P P 04 43 17.4 +0.2
baz=322,SNR=11
ALGO Algonquin Park 88.53 28 P P 04 43 16.4 -0.9
baz=328
BRCO Bruce Peninsul 88.66 31 P P 04 43 18.1 +0.1
baz=326
J49A Marlette 88.69 32 P P 04 43 18.5 +0.4
baz=325,SNR=7.7
K48A Perry 88.72 33 P P 04 43 19.0 +0.8
baz=324,SNR=7.0
P43A Skaggs, Pawnee 88.73 38 P P 04 43 18.3 0.0
baz=321
N45A Kentland 88.75 36 P P 04 43 18.8 +0.4
baz=322,SNR=11
BASO Ashfield 88.76 31 P P 04 43 18.4 -0.1
baz=326
Q42A Golden Eagle 88.78 39 P P 04 43 19.2 +0.6
baz=320,SNR=15
R41A Rosebud 88.82 40 P P 04 43 19.3 +0.4
baz=320,SNR=28
O44A Mansfield 88.84 37 P P 04 43 19.1 +0.2
baz=321
M46A Old House Fiel 88.84 35 eP P 04 43 19.8 +0.9
comp=Z,45nm,1.0s
M46A Old House Fiel 88.84 35 P P 04 43 19.0 +0.2
baz=323
BNI Bardonecchia 88.86 331 PFAKE 04 43 30.0 +11
BNI LR LR
comp=Z,3µm,20.0s
BWLO Walkerton 88.89 31 P P 04 43 18.8 -0.3
baz=326
L47A Sherwood 88.91 34 P P 04 43 19.5 +0.3
baz=324,SNR=10.0
CLWO Collingwood 88.94 30 P P 04 43 19.0 -0.3
baz=327
HHAR Hobbs 88.99 43 eP P 04 43 20.1 +0.4
comp=Z,28nm,1.0s
K49A Clarkson 89.02 33 P P 04 43 20.3 +0.6
baz=325,SNR=6.2
CUC Castrocucco 89.02 323 PFAKE 04 43 30.0 +10
CUC LR LR
comp=Z,1µm,20.0s
N46A Monticello 89.08 36 P P 04 43 20.3 +0.3
baz=322,SNR=5.2
CCM Cathedral Cave 89.08 40 eP P 04 43 20.0 0.0
comp=Z,114nm,1.1s
CCM Cathedral Cave 89.08 40 eP P 04 43 20.0 0.0
CCM pmax pmax
comp=Z,114nm,1.1s
CCM Cathedral Cave 89.08 40 P P 04 43 20.0 0.0
baz=320
O45A Potomac 89.12 37 P P 04 43 20.9 +0.7
baz=322,SNR=20
R42A Luebbering 89.14 40 P P 04 43 20.6 +0.2

baz=320,SNR=18
SLM Saint Louis 89.14 39 *e*P P 04 43 21.2 +0.8
comp=Z,74nm,0.9s
SLM *ep*P **sP** 04 43 34.4 +0.2
SLM Saint Louis 89.14 39 *e*P P 04 43 21.2 +0.8
SLM *e**PP **sP** 04 43 34.4 +0.2
SLM pmax pmax
comp=Z,74nm,0.9s
S41A Jillco Farms, 89.17 41 P P 04 43 20.3 -0.2
baz=319,SNR=12
Q43A New Douglas 89.18 39 P P 04 43 20.5 0.0
baz=321
TIP Timpagrande 89.20 322 *e*P P 04 43 21.2 +0.5
comp=Z,66nm,1.4s
TIP LR LR
comp=Z,1µm,22.0s
TIP Timpagrande 89.20 322 ⇑*i*P P 04 43 21.6 +0.9
M47A Cromwell 89.22 35 P P 04 43 21.2 +0.5
baz=323,SNR=8.2
L48A N Adams 89.28 34 P P 04 43 21.6 +0.6
baz=324,SNR=16
P44A Sand Creek, Wi 89.30 38 P P 04 43 21.5 +0.5
baz=321,SNR=10
SFIN Lafayette 89.31 36 *e*P P 04 43 21.8 +0.7
comp=Z,41nm,0.8s
SFIN Lafayette 89.31 36 P P 04 43 21.3 +0.2
baz=322,SNR=11
AAM Ann Arbor 89.33 33 P P 04 43 21.4 +0.3
baz=324
K50A Casco 89.38 32 P P 04 43 21.9 +0.5
baz=325
TCF Toulx Ste Croi 89.42 334 *e*P P 04 43 22.1 +0.5
TCF pmax pmax
comp=Z,100nm,1.6s
L49A Milan 89.43 33 P P 04 43 22.2 +0.5
baz=324,SNR=10
X37A Clayton 89.45 45 *e*P P 04 43 22.5 +0.7
comp=Z,92nm,1.5s
SSB Saint Sauveur 89.47 333 PFAKE 04 43 30.0 +8.2
SSB LR LR
comp=Z,2µm,20.0s
U40A Yellville 89.52 42 P P 04 43 22.5 +0.3
baz=319,SNR=47
M48A Edgerton 89.52 34 *e*P P 04 43 23.0 +0.9
comp=Z,66nm,1.2s
M48A Edgerton 89.52 34 P P 04 43 22.5 +0.4
baz=324,SNR=6.1
S42A Caledonia 89.53 40 P P 04 43 22.5 +0.4
baz=320,SNR=31
Q44A Meyer Farm, Va 89.55 38 P P 04 43 22.5 +0.3
baz=321,SNR=13
FVM French Village 89.55 40 *e*P P 04 43 22.9 +0.6
comp=Z,75nm,1.3s
FVM *ep*P **sP** 04 43 36.4 +0.2
FVM French Village 89.55 40 *e*P P 04 43 22.9 +0.6
FVM *e**PP **sP** 04 43 36.4 +0.2
FVM pmax pmax
comp=Z,75nm,1.3s
N47A Urbana 89.56 35 P P 04 43 22.2 -0.1
baz=323,SNR=13
R43A Red Bud 89.58 39 P P 04 43 22.5 +0.2
baz=320,SNR=13
T41A Mountain View 89.58 41 P P 04 43 22.5 0.0
baz=319,SNR=25
ELFO Elginfield 89.58 31 P P 04 43 22.2 -0.1
baz=326
PLVO Plevna 89.67 28 *e*P P 04 43 23.3 +0.6
comp=Z,34nm,1.0s
PLVO *ep*P **sP** 04 43 36.4 -0.2
PLVO Plevna 89.67 28 P P 04 43 22.4 -0.3
baz=329
P45A Graceland, Par 89.68 37 *e*P P 04 43 23.5 +0.7
comp=Z,34nm,0.9s
P45A *ep*P **sP** 04 43 36.9 +0.2
P45A Graceland, Par 89.68 37 P P 04 43 23.1 +0.3
baz=322,SNR=7.9
ACTO Acton 89.74 30 P P 04 43 23.4 +0.3
baz=327
JCT Junction City 89.80 51 *e*P P 04 43 23.9 +0.2
comp=Z,30nm,1.1s
JCT Junction City 89.80 51 *e*P P 04 43 23.9 +0.2
JCT pmax pmax
comp=Z,30nm,1.1s
JCT Junction City 89.80 51 P P 04 43 23.8 +0.2
baz=315,SNR=9.5
PKRO Pickering 89.83 29 P P 04 43 24.0 +0.5
baz=328
O47A Sheridan 89.86 36 P P 04 43 23.7 0.0
baz=323
M49A Liberty Center 89.86 34 P P 04 43 24.2 +0.6
baz=324,SNR=6.9
P46A Rosedale 89.86 37 P P 04 43 24.2 +0.5
baz=322,SNR=10.0
W39A Magazine 89.88 44 *e*P P 04 43 24.1 +0.2
comp=Z,25nm,1.1s
W39A Magazine 89.88 44 P P 04 43 23.9 +0.1
baz=318,SNR=9.7
ORIO Orleans, Innes 89.88 26 P P 04 43 23.8 +0.1
baz=330
N48A Decatur 89.89 35 P P 04 43 24.2 +0.4
baz=324,SNR=12
DELO Deloro Mine 89.92 28 P P 04 43 23.8 -0.1
baz=329
T42A Van Buren 89.94 41 *e*P P 04 43 24.0 -0.1
comp=Z,85nm,1.3s
T42A Van Buren 89.94 41 P P 04 43 24.4 +0.3
baz=320,SNR=29
V40A Witts Springs 89.95 43 *e*P P 04 43 24.2 0.0
comp=Z,18nm,0.9s
V40A Witts Springs 89.95 43 P P 04 43 24.1 -0.1
baz=319,SNR=8.9
ALFO Alfred 89.95 26 P P 04 43 23.2 -0.7
baz=330
Q45A Warren Harvey, 89.97 38 P P 04 43 24.8 +0.5
baz=322,SNR=9.5
R44A Waltonville 90.02 39 P P 04 43 24.9 +0.5
baz=321,SNR=12
U41A Viola 90.02 42 P P 04 43 24.3 -0.2
baz=319,SNR=16
DRWO Darlington Wes 90.04 29 P P 04 43 24.4 -0.1
baz=328
S43A Fulton Ridge, 90.04 40 P P 04 43 24.5 -0.1
baz=320,SNR=8.7
DRCO St. Marys Ceme 90.05 29 P P 04 43 24.8 +0.4
baz=326
OLIL Olney 90.13 38 *e*P P 04 43 25.8 +0.9
comp=Z,103nm,1.2s
OLIL *ep*P **sP** 04 43 39.2 +0.4
WHTX Lake Whitney, 90.13 48 *e*P P 04 43 26.1 +1.1
comp=Z,94nm,1.1s
WHTX Lake Whitney, 90.13 48 P P 04 43 25.5 +0.4
baz=316,SNR=12
X39A Fountain Ranch 90.21 44 P P 04 43 26.0 +0.6
baz=318,SNR=19
N49A Columbus Grove 90.21 34 *e*P P 04 43 26.2 +0.9
comp=Z,69nm,1.1s
N49A Columbus Grove 90.21 34 P P 04 43 25.4 +0.1
baz=324,SNR=9.2
TYNO Tyneside 90.25 30 P P 04 43 24.3 -1.1
baz=327
Q46A CEJHS Indians, 90.26 37 P P 04 43 26.1 +0.5
baz=322
W40A Fergusson Farm, 90.27 43 *e*P P 04 43 26.2 +0.5
comp=Z,115nm,1.3s
W40A Ferguson Farm, 90.27 43 P P 04 43 26.0 +0.3
baz=319,SNR=14
O48A Farmland 90.31 35 P P 04 43 25.9 +0.2
baz=324,SNR=11
T43A Greenville 90.31 40 P P 04 43 26.1 +0.3
baz=320,SNR=14
V41A Mountainview 90.32 42 P P 04 43 25.9 0.0
baz=319,SNR=24
M50A Fremont 90.32 33 P P 04 43 25.8 0.0
baz=325
CEL Celeste 90.34 322 *e*P P 04 43 26.2 +0.1
comp=Z,41nm,0.9s
CEL LR LR
comp=Z,2µm,20.0s
S44A Carbondale 90.36 39 P P 04 43 26.7 +0.6
baz=321,SNR=9.4
SIUC Southern Illin 90.36 39 *e*P P 04 43 26.7 +0.6
comp=Z,74nm,1.1s
U42A Revenden 90.38 41 P P 04 43 26.1 0.0
baz=320,SNR=8.2
R45A Skylar, Fairfi 90.38 38 P P 04 43 26.4 +0.2
baz=322
P47A Martinsville 90.41 36 P P 04 43 26.8 +0.5
baz=323,SNR=13

STCO Saint Catharin 90.43 30 P P 04 43 26.2 -0.1
baz=328
PBMO Poplar Bluff 90.47 41 *e*P P 04 43 27.1 +0.5
comp=Z,94nm,1.2s
MIAR Mount Ida 90.48 44 *e*P P 04 43 27.3 +0.6
comp=Z,122nm,1.3s
MIAR Mount Ida 90.48 44 *e*P P 04 43 27.3 +0.6
MIAR pmax pmax
comp=Z,122nm,1.3s
MIAR Mount Ida 90.48 44 P P 04 43 27.0 +0.3
baz=318,SNR=32
RJF Les Rejaudoux 90.52 334 *e*P P 04 43 27.2 +0.5
RJF pmax pmax
comp=Z,47nm,1.3s
BLO Bloomington 90.54 37 *e*P P 04 43 27.8 +0.9
comp=Z,48nm,1.3s
BLO *ep*P **sP** 04 43 40.9 +0.2
BLO Bloomington 90.54 37 *e*P P 04 43 27.8 +0.9
BLO *e**PP **sP** 04 43 40.9 +0.2
BLO pmax pmax
comp=Z,49nm,1.3s
WHAR Wooly Hollow 90.62 43 *e*P P 04 43 27.9 +0.6
comp=Z,74nm,1.0s
CAF Calviac 90.66 334 *e*P P 04 43 28.3 +0.9
CAF pmax pmax
comp=Z,49nm,1.3s
T44A Benton 90.66 40 P P 04 43 27.8 +0.3
baz=321
V42A Cord 90.71 42 P P 04 43 27.6 -0.1
baz=320,SNR=12
S45A Carrier Mills 90.71 39 P P 04 43 28.0 +0.4
baz=321,SNR=6.9
W41B Gary Mavity, V 90.73 43 *e*P P 04 43 28.0 +0.1
comp=Z,84nm,1.4s
W41B Gary Mavity, V 90.73 43 P P 04 43 27.9 +0.1
baz=319,SNR=14
O49A Covington 90.74 35 *e*P P 04 43 28.6 +0.8
comp=Z,38nm,1.0s
O49A *ep*P **sP** 04 43 41.8 +0.1
O49A Covington 90.74 35 P P 04 43 27.9 +0.1
baz=324
MEDO Medina 90.75 29 P P 04 43 27.8 +0.1
baz=328
M51A Elyria 90.75 33 P P 04 43 27.6 -0.3
baz=326
Q47A Bedord North L 90.77 37 P P 04 43 28.6 +0.6
baz=323,SNR=8.8
N50A Nevada 90.79 34 P P 04 43 28.3 +0.3
baz=325
U43A Rector 90.80 41 P P 04 43 28.5 +0.4
baz=320,SNR=13
R46A Gibon Southern 90.82 38 P P 04 43 28.5 +0.3
baz=322,SNR=5.6
P48A Milroy 90.82 36 P P 04 43 28.3 +0.1
baz=323
435B Jarrell 90.92 49 *e*P P 04 43 29.7 +0.9
comp=Z,115nm,1.9s
435B *ep*P **sP** 04 43 43.0 +0.3
435B Jarrell 90.92 49 P P 04 43 29.1 +0.3
baz=316
X40A Basin Creek Fa 90.93 44 *e*P P 04 43 29.4 +0.6
comp=Z,82nm,1.5s
X40A Basin Creek Fa 90.93 44 P P 04 43 29.1 +0.3
baz=319,SNR=15
LONY Lake Ozonia 90.93 26 P P 04 43 28.5 0.0
baz=331
UALR University of 90.98 43 *e*P P 04 43 29.8 +0.8
comp=Z,21nm,0.9s
UALR *ep*P **sP** 04 43 43.0 +0.2
N51A Ashland 91.01 33 P P 04 43 29.2 +0.2
baz=325
ERPA Erie 91.02 31 *e*P P 04 43 30.1 +1.0
comp=Z,62nm,1.1s
ERPA Erie 91.02 31 P P 04 43 29.4 +0.4
baz=327
Y40A Okolona 91.04 44 P P 04 43 29.8 +0.5
baz=319,SNR=9.3
W42A Bald Knob 91.04 42 P P 04 43 29.5 +0.3
baz=320
U44A Portageville 91.06 40 P P 04 43 29.6 +0.3
baz=321
P49A Miami Univ. Ec 91.09 35 P P 04 43 29.5 0.0
baz=324,SNR=9.1
O50A Cable 91.09 34 P P 04 43 29.9 +0.5
baz=324,SNR=14
X41A Ken, Bauxite 91.10 43 P P 04 43 29.9 +0.3
baz=319,SNR=11
Q48A North Vernon 91.10 36 P P 04 43 29.7 +0.3
baz=323,SNR=6.5
MOQ Mont Orford 91.11 25 *e*P P 04 43 30.4 +0.9
S46A Don Dixon Farm 91.13 38 P P 04 43 29.9 +0.2
baz=322
V43A Jonesboro 91.17 41 P P 04 43 30.5 +0.7
baz=320,SNR=6.9
T45A Paducah 91.19 39 P P 04 43 30.2 +0.2
baz=321
PQI Presque Isle 91.20 21 *e*P P 04 43 30.1 +0.4
comp=Z,158nm,1.8s
R47A Wooly Knot Far 91.23 37 P P 04 43 30.5 +0.4
baz=323,SNR=5.3
ACSO Alum Creek Sta 91.31 34 *e*P P 04 43 31.2 +0.8
comp=Z,42nm,1.0s
ACSO *ep*P **sP** 04 43 44.5 +0.2
ACSO Alum Creek Sta 91.31 34 P P 04 43 30.8 +0.4
baz=325,SNR=6.5
ALLY Alegheny Colle 91.35 31 PFAKE 04 43 40.0 +9.4
ALLY LR LR
comp=Z,16µm,21.0s
U44B Burton Farm, H 91.36 40 P P 04 43 31.4 +0.7
baz=321,SNR=7.8
WLAR White Oak Lake 91.37 44 *e*P P 04 43 31.8 +1.0
comp=Z,113nm,1.0s
WCI Wyandotte Cave 91.39 37 *e*P P 04 43 31.4 +0.6
comp=Z,52nm,1.2s
WCI Wyandotte Cave 91.39 37 *e*P P 04 43 31.4 +0.6
WCI pmax pmax
comp=Z,52nm,1.2s
WCI Wyandotte Cave 91.39 37 P P 04 43 30.7 -0.2
baz=323
Q49A Aurora 91.43 36 P P 04 43 31.7 +0.7
baz=324,SNR=6.1
P50A Jamestown 91.45 35 P P 04 43 31.6 +0.5
baz=324,SNR=7.3
ATD Arta Tunnel 91.45 286 PFAKE 04 43 40.0 +8.4
ATD LR LR
comp=Z,600nm,18.0s
R48A Northridge Ran 91.46 37 P P 04 43 31.8 +0.6
baz=323
V44A Blytheville 91.47 41 P P 04 43 31.1 -0.2
baz=321
Y41A Eaglette Beard 91.50 44 P P 04 43 32.1 +0.7
baz=319,SNR=9.0
X42A Stuttgart 91.53 43 P P 04 43 31.6 +0.1
baz=320
Z40A Long Farm, Mag 91.53 45 P P 04 43 32.0 +0.4
baz=318
O51A Pataskala 91.54 34 P P 04 43 31.7 +0.1
baz=325
T46A Princeton 91.55 39 P P 04 43 32.2 +0.7
baz=322,SNR=15
833A Chaparral WMA, 91.57 52 P P 04 43 32.4 +0.6
baz=315
S47A Hartford 91.61 38 P P 04 43 31.8 -0.1
baz=322
NCB Newcomb 91.62 26 *e*P P 04 43 32.6 +0.8
comp=Z,47nm,1.3s
NCB *ep*P **sP** 04 43 45.7 0.0
U45A Rockin P Farm, 91.65 40 P P 04 43 32.3 +0.2
baz=321
M54A Oil Creek Stat 91.66 31 *e*P P 04 43 32.9 +0.8
comp=Z,72nm,1.5s
M54A Oil Creek Stat 91.66 31 P P 04 43 32.5 +0.5
baz=327
VT1 Waterbury 91.81 25 *e*P P 04 43 33.7 +1.0
comp=Z,52nm,1.3s
Z41A Richland Creek 91.86 44 *e*P P 04 43 31.2 -1.9
comp=Z,51nm,1.1s
Z41A Richland Creek 91.86 44 P P 04 43 33.7 +0.6
baz=319
R49A Shelbyville 91.88 36 P P 04 43 33.6 +0.5
baz=324
P51A Williamsport 91.88 34 *e*P P 04 43 33.5 +0.4
comp=Z,24nm,0.9s
P51A Williamsport 91.88 34 P P 04 43 33.0 0.0
baz=325
140A Cam and Jess, 91.89 45 *e*P P 04 43 34.7 +1.5
comp=Z,78nm,1.3s
140A Cam and Jess, 91.89 45 P P 04 43 34.0 +0.8
baz=318
O52A Adamsville 91.90 33 P P 04 43 33.5 +0.4
baz=326
NATX Nacogdoches 91.93 47 *e*P P 04 43 34.6 +1.2
comp=Z,82nm,1.4s
NATX Nacogdoches 91.93 47 P P 04 43 33.9 +0.5
baz=318
CCAR Cane Creek 91.94 43 *e*P P 04 43 35.0 +1.6
comp=Z,124nm,1.1s
U46A Springville 91.94 39 P P 04 43 33.8 +0.4
baz=322
X43A Marvell 91.96 42 *e*P P 04 43 34.6 +1.1
comp=Z,108nm,1.3s
X43A Marvell 91.96 42 P P 04 43 33.9 +0.4
baz=320,SNR=6.2
S48A Wiedeman Farm, 91.96 37 P P 04 43 33.9 +0.4
baz=323,SNR=7.0
T47A Sharon Grove 91.98 38 *e*P P 04 43 34.3 +0.7
comp=Z,34nm,0.9s
T47A Sharon Grove 91.98 38 P P 04 43 34.0 +0.4
baz=322,SNR=14
N54A Moraine State 91.98 32 *e*P P 04 43 34.4 +0.8
comp=Z,25nm,1.0s
N54A Moraine State 91.98 32 P P 04 43 33.8 +0.3
baz=327
Q50A Georgetown 91.98 35 P P 04 43 33.9 +0.3
baz=324,SNR=6.7
Y42A Garnett, Star 91.99 43 P P 04 43 34.4 +0.8
baz=319,SNR=12
V45A Humboldt 92.03 40 P P 04 43 33.7 -0.1
baz=321
W44A Shelby Farms P 92.05 41 P P 04 43 34.3 +0.4
baz=321
PKME Peaks-Kenny Pk 92.09 23 *e*P P 04 43 35.4 +1.4
comp=Z,71nm,1.5s
PKME Peaks-Kenny Pk 92.09 23 P P 04 43 34.2 +0.3
baz=335
Q51A Peebles 92.13 35 *e*P P 04 43 34.9 +0.6
comp=Z,68nm,1.3s
Q51A Peebles 92.13 35 P P 04 43 34.7 +0.5
baz=325,SNR=8.3
P52A Corning 92.17 34 P P 04 43 34.1 -0.4
baz=326
CLTB Caltabellotta 92.17 323 PFAKE 04 43 50.0 +15
CLTB LR LR
comp=Z,2µm,18.0s
S49A Springfield 92.23 37 P P 04 43 35.2 +0.5
baz=323,SNR=6.2
T48A Bowling Green 92.23 38 P P 04 43 33.8 -1.0
baz=323
240A Hunter Patters 92.23 46 P P 04 43 35.5 +0.6
baz=318
R50A Paris 92.28 36 P P 04 43 35.4 +0.5
baz=324,SNR=6.1
WVT Waverly 92.30 39 *e*P P 04 43 35.5 +0.4
comp=Z,14nm,0.8s
WVT Waverly 92.30 39 *e*P P 04 43 35.5 +0.4
WVT pmax pmax
comp=Z,14nm,0.8s
WVT Waverly 92.30 39 P P 04 43 35.3 +0.3
baz=322
141A Papa Simpson, 92.30 45 P P 04 43 35.8 +0.7
baz=319
U47A Clarksville 92.32 39 P P 04 43 35.6 +0.4
baz=322
Z42A Norrel Spur, H 92.32 44 P P 04 43 35.9 +0.7
baz=319,SNR=8.2
ACCN Adirondack Com 92.33 26 *e*P P 04 43 35.7 +0.6
comp=Z,71nm,1.4s
W45A Hickory Valley 92.36 41 P P 04 43 35.6 +0.3
baz=321,SNR=9.0
Y43A Makayla and Ka 92.39 43 P P 04 43 36.4 +0.9
baz=320
V46A Holladay 92.41 40 P P 04 43 35.7 +0.1
baz=322,SNR=7.6
BINY Binghamton 92.52 28 P P 04 43 36.2 +0.2
baz=330
HKT Hockley 92.57 49 *e*P P 04 43 37.2 +0.9
comp=Z,61nm,1.6s
HKT *e*PP **PP** 04 47 13.3 -4.0
HKT Hockley 92.57 49 *e*P P 04 43 37.2 +0.9
HKT *e* 04 47 13.3
HKT pmax pmax
comp=Z,61nm,1.6s
R51A Hillsboro 92.61 35 P P 04 43 36.5 +0.1
baz=324
P53A Whipple 92.61 33 P P 04 43 36.4 -0.1
baz=326
U48A Cassie Pea, Po 92.64 38 P P 04 43 36.7 +0.1
baz=323
T49A Edmonton 92.65 37 *e*P P 04 43 37.5 +0.8
comp=Z,25nm,1.1s
T49A *ep*P **sP** 04 43 50.8 +0.2
T49A Edmonton 92.65 37 P P 04 43 37.1 +0.4
baz=323,SNR=7.1
V47A Nunnelly 92.69 39 P P 04 43 36.9 0.0
baz=322,SNR=8.3
241A Mo Tay, Goldon 92.72 45 P P 04 43 37.9 +0.8
baz=319,SNR=8.2
S50A Richmond 92.73 36 P P 04 43 37.2 +0.1
baz=324,SNR=8.0
Y44A Strider, Charl 92.74 42 P P 04 43 37.9 +0.8
baz=320,SNR=11
OXF Oxford 92.74 41 *e*P P 04 43 37.8 +0.7
comp=Z,83nm,1.0s
OXF Oxford 92.74 41 *e*P P 04 43 37.8 +0.7
OXF pmax pmax
comp=Z,83nm,1.0s
OXF Oxford 92.74 41 P P 04 43 37.3 +0.2
baz=321,SNR=16
Z43A Armstrong Fami 92.76 43 P P 04 43 36.7 -0.5
baz=320
W46A Michie 92.79 40 P P 04 43 36.9 -0.4
baz=321
X45A UM Field Stati 92.82 41 P P 04 43 37.6 +0.1
baz=321,SNR=9.6
142A Monroe 92.87 44 P P 04 43 38.7 +0.9
baz=319
WDD Wied Dalam 92.91 321 PFAKE 04 43 50.0 +12
WDD LR LR
comp=Z,800nm,19.0s
R52A Catlettsburg 93.00 35 P P 04 43 38.1 -0.2
baz=325
U49A Red Boiling Sp 93.01 38 P P 04 43 38.7 +0.4
baz=323,SNR=10
T50A Nancy 93.05 37 P P 04 43 38.7 +0.2
baz=324,SNR=8.7
143A Socs Landing, 93.05 44 *e*P P 04 43 39.7 +1.1
comp=Z,76nm,1.4s
143A Socs Landing, 93.05 44 P P 04 43 39.0 +0.4
baz=320
PLAL Pickwick Lake 93.07 40 *e*P P 04 43 38.8 +0.1
comp=Z,18nm,1.1s
PLAL *ep*P **sP** 04 43 52.0 -0.5
341A Kurthwood 93.10 46 *e*P P 04 43 38.3 -0.5
comp=Z,63nm,1.3s
341A Kurthwood 93.10 46 P P 04 43 38.7 -0.2
baz=319
W47A Westpoint 93.10 40 P P 04 43 38.9 +0.1
baz=323,SNR=7.6
V48A Smith Brothers 93.11 39 *e*P P 04 43 39.1 +0.3
comp=Z,16nm,0.9s
V48A *ep*P **sP** 04 43 52.4 -0.3
V48A Smith Brothers 93.11 39 P P 04 43 39.0 +0.2
baz=322,SNR=7.2
SSPA Standing Stone 93.12 30 P P 04 43 39.1 +0.3
baz=328
242A Grayson 93.12 45 P P 04 43 39.6 +0.7
baz=319
MCWV Mont Chateau 93.13 32 P P 04 43 39.1 +0.3
baz=327
X46A Booneville 93.14 41 P P 04 43 38.9 -0.1
baz=321,SNR=5.6
S51A Beattyville 93.14 36 *e*P P 04 43 39.4 +0.5
comp=Z,24nm,1.1s
S51A Beattyville 93.14 36 P P 04 43 38.8 -0.1
baz=324
Z44A Pea Ridge, Bel 93.14 43 P P 04 43 39.6 +0.6
baz=320,SNR=9.5
EMMW East Machias 93.15 22 *e*P P 04 43 40.3 +1.5
comp=Z,73nm,1.4s
O56A Blue Knob Stat 93.15 31 P P 04 43 39.0 0.0
baz=328
Y45A Yeager Farm, C 93.17 42 P P 04 43 39.8 +0.7
baz=321,SNR=10
S52A Salyersville 93.34 35 P P 04 43 40.3 +0.4
baz=325
ZAIG Zacatecas 93.37 58 *e*P P 04 43 41.5 +0.9

comp=Z,44nm,1.4s
Z45A Winona 93.47 42 P P 04 43 40.8 +0.3
baz=321
Y46A Houston 93.52 41 P P 04 43 41.0 +0.3
baz=321,SNR=10
T51A Gray 93.52 36 P P 04 43 40.5 -0.2
baz=324
W48A Pulaski 93.52 39 P P 04 43 40.7 0.0
baz=322,SNR=14
U50A Jamestown 93.54 37 P P 04 43 41.0 +0.2
baz=324,SNR=5.5
V49A McMinnville 93.54 38 P P 04 43 40.8 0.0
baz=323,SNR=5.1
X47A Russelville 93.54 40 P P 04 43 40.4 -0.4
baz=322,SNR=6.6
342A Flagon Creek P 93.54 45 *e*P P 04 43 42.5 +1.6
comp=Z,65nm,1.5s
342A Flagon Creek P 93.54 45 P P 04 43 41.9 +1.1
baz=319
243A Waterproof 93.63 44 P P 04 43 41.5 +0.3
baz=320
144A Alexander Plac 93.64 43 P P 04 43 41.7 +0.4
baz=320
N59A State Game Lan 93.70 29 *e*P P 04 43 42.3 +0.8
comp=Z,43nm,1.4s
N59A State Game Lan 93.70 29 P P 04 43 41.7 +0.2
baz=330
HRV Adam Dziewonsk 93.83 25 P P 04 43 41.8 -0.2
baz=333
T52A Hallie 93.85 36 P P 04 43 42.3 +0.1
baz=325
W49A Belvidere 93.87 39 P P 04 43 42.2 -0.1
baz=323,SNR=10
VBMS Vicksburg 93.91 44 P P 04 43 42.7 +0.2
baz=320
LNIG Linares 93.93 54 *e*P P 04 43 43.0 +0.2
comp=Z,47nm,1.5s
LNIG *e*pP **sP** 04 43 55.7 -1.0
145A Houston Renfro 93.93 43 P P 04 43 42.0 -0.6
baz=320
244A Avery, Jackson 93.95 44 P P 04 43 43.2 +0.5
baz=320,SNR=5.9
U51A La Follette 93.96 37 P P 04 43 42.3 -0.5
baz=324
SWET Sewanee 93.96 39 *e*P P 04 43 43.0 +0.2
comp=Z,48nm,1.3s
Z46A Louisville 94.01 42 P P 04 43 43.8 +0.8
baz=321
V50A Pikevile 94.01 38 P P 04 43 41.7 -1.2
baz=324
X48A Hartselle 94.01 40 *e*P P 04 43 42.5 -0.5
comp=Z,25nm,1.5s
X48A *e*pP **sP** 04 43 56.1 -0.8
X48A Hartselle 94.01 40 P P 04 43 42.4 -0.5
baz=322
343A Vidalia 94.01 45 P P 04 43 43.8 +0.8
baz=319
Y47A UCPARC, Winfie 94.03 41 P P 04 43 42.5 -0.6
baz=322
TZTN Tazewell 94.05 36 *e*P P 04 43 43.6 +0.4
U52A Thorn Hill 94.25 36 P P 04 43 44.2 +0.1
baz=325,SNR=5.5
V51A Loudon 94.26 37 *e*P P 04 43 44.7 +0.6
comp=Z,44nm,1.3s
V51A *e*pP **sP** 04 43 58.2 +0.1
V51A Loudon 94.26 37 P P 04 43 44.1 -0.1
baz=324
W50A Signal Mountai 94.28 38 *e*P P 04 43 44.2 -0.1
comp=Z,17nm,0.9s
W50A Signal Mountai 94.28 38 P P 04 43 43.5 -0.8
baz=323
X49A Woodville 94.32 39 P P 04 43 44.2 -0.2
baz=323,SNR=5.7
Y48A Jasper 94.37 40 P P 04 43 44.0 -0.6
baz=322
344A Westbrook Farm 94.37 44 *e*P P 04 43 46.2 +1.6
comp=Z,32nm,1.1s
344A Westbrook Farm 94.37 44 P P 04 43 44.6 -0.1
baz=320
146A Union 94.37 42 *e*P P 04 43 46.1 +1.5
comp=Z,123nm,1.5s
146A Union 94.37 42 P P 04 43 45.6 +0.9
baz=321,SNR=5.7
245A Little AP, Sta 94.39 43 P P 04 43 45.2 +0.4
baz=320
Z47A Carrollton 94.46 41 P P 04 43 44.5 -0.5
baz=322
CPCT Cooper Cave 94.47 38 *e*P P 04 43 45.6 +0.5
comp=Z,25nm,1.1s
CPCT *e*pP **sP** 04 43 58.8 -0.2
W51A Cleveland 94.58 38 P P 04 43 45.7 0.0
baz=324,SNR=6.5
V52A Sevierville 94.59 37 *e*P P 04 43 46.4 +0.7
comp=Z,31nm,1.3s
V52A Sevierville 94.59 37 P P 04 43 45.6 0.0
baz=324
U53A Fall Branch 94.65 36 P P 04 43 45.7 -0.2
baz=325
TKL Tuckaleechee C 94.66 37 *e*P P 04 43 46.5 +0.6
comp=Z,26nm,1.1s
TKL *e*pP **sP** 04 43 59.7 -0.2
TKL Tuckaleechee C 94.66 37 *e*P P 04 43 46.5 +0.6
TKL *e*'PP **sP** 04 43 59.7 -0.2
TKL pmax pmax
comp=Z,26nm,1.1s
X50B Fort Payne 94.70 39 P P 04 43 45.9 -0.3
baz=323
147A Livingston 94.76 42 *e*P P 04 43 47.0 +0.5
comp=Z,110nm,1.6s
147A Livingston 94.76 42 P P 04 43 46.5 +0.1
baz=321
Y49A Blount Mountai 94.80 40 P P 04 43 46.3 -0.3
baz=323
247A Quitman 95.06 42 P P 04 43 48.5 +0.7
baz=321
V53A Saluda 95.10 36 P P 04 43 47.4 -0.7
baz=325
Y50A Piedmont 95.11 39 P P 04 43 47.5 -0.6
baz=323
Z49A Columbiana 95.26 40 P P 04 43 48.2 -0.6
baz=322
W53A Cullowhee 95.34 37 P P 04 43 49.3 +0.1
baz=325,SNR=5.1
Y51A Rockmart 95.44 39 P P 04 43 49.4 -0.2
baz=323,SNR=6.3
X52A Dahlonega 95.45 38 P P 04 43 50.0 +0.3
baz=324
KEST Kesra 95.49 324 P P 04 43 50.3 +0.5
comp=Z,7.2nm,1.0s,baz=286,slow=11,SNR=4.8
KEST LR LR 05 31 05.2
comp=Z,674nm,18.2s,baz=344,slow=38
KEST Kesra 95.49 324 *e*P P 04 43 50.8 +0.9
comp=Z,22nm,1.2s
248A Dixon Mills 95.50 42 P P 04 43 50.3 +0.5
baz=322
Z50A Ashland 95.53 40 *e*P P 04 43 50.0 0.0
comp=Z,19nm,0.9s
Z50A Ashland 95.53 40 P P 04 43 49.9 -0.1
baz=323,SNR=8.3
149A Jones 95.60 41 P P 04 43 50.3 +0.1
baz=322,SNR=8.6
BG3 Lake Jocassee 95.60 37 *e*P P 04 43 51.2 +0.9
comp=Z,25nm,1.0s
BG3 *e*pP **sP** 04 44 04.7 +0.5
347A Saraland 95.61 43 P P 04 43 51.0 +0.7
baz=321,SNR=5.7
X53A Estanollee 95.82 37 P P 04 43 51.7 +0.4
baz=325,SNR=5.8
Z51A Franklin 95.85 39 P P 04 43 51.3 -0.2
baz=323
546A Slidell 95.86 44 P P 04 43 52.0 +0.5
baz=320
249A Camden 95.91 42 P P 04 43 52.2 +0.5
baz=322,SNR=5.4
348A Jackson 95.94 42 *e*P P 04 43 53.0 +1.2
comp=Z,39nm,1.1s
348A Jackson 95.94 42 P P 04 43 52.4 +0.5
baz=322
Y52A Lilburn 95.97 38 P P 04 43 52.0 0.0
baz=324
150A Eclectic 95.99 40 P P 04 43 51.7 -0.3
baz=323
Y53A Monroe 96.21 38 P P 04 43 53.1 +0.1
baz=324
KMSC Kings Mountain 96.23 36 P P 04 43 53.2 +0.1
baz=326
FURI Furi 96.28 286 PFAKE 04 44 10.0 +16
FURI LR LR
comp=Z,700nm,21.0s
Z52A Williamson 96.33 39 P P 04 43 53.5 -0.1
baz=324
250A Grady 96.36 41 *e*P P 04 43 54.5 +0.7
comp=Z,66nm,1.4s
250A *e*pP **sP** 04 44 07.7 0.0
250A Grady 96.36 41 P P 04 43 54.1 +0.4
baz=323,SNR=6.6
349A Repton 96.37 42 P P 04 43 54.3 +0.5
baz=322
GOGA Godfrey 96.62 38 P P 04 43 54.5 -0.4
baz=324
Y54A Tignall 96.64 37 P P 04 43 55.3 +0.3
baz=325,SNR=6.1
Z53A Monticello 96.68 38 P P 04 43 54.5 -0.6
baz=324
251A Midway 96.71 40 P P 04 43 55.0 -0.3
baz=323
Z54A Sparta 97.07 38 P Pdif 04 43 57.1 0.0
baz=325
351A Pinckard 97.26 41 P Pdif 04 43 57.9 0.0
baz=323
ES19 SONSECA Array 97.33 335 *e*P Pdif 04 43 58.6 +0.5
RKT Rikitea 97.36 113 *e*SKSac **SKSac** 04 54 29.7 -3.5
comp=Z,174nm,28.2s
RKT Rikitea 97.36 113 *e*PS PS 04 56 46.2 -0.2
comp=Z,646nm,27.2s
RKT Rikitea 97.36 113 *e*LR LR 05 15 07.8
comp=Z,597nm,28.8s,baz=306
ESDC Sonseca Array 97.37 335 P Pdif 04 43 58.8 +0.4
comp=Z,2.2nm,0.9s,baz=34,slow=3.4,SNR=8.2
ESDC PP **PP** 04 47 58.1 +3.9
comp=Z,2.2nm,0.8s,baz=18,slow=7.6,SNR=4.2
ESDC LR LR 05 32 53.5
comp=Z,1μm,18.1s,baz=50,slow=38
ESLA Sonseca Array 97.37 335 PFAKE 04 44 10.0 +12
ESLA LR LR
comp=Z,2μm,20.0s
253A Americus 97.38 39 P Pdif 04 43 58.4 -0.1
baz=324
Z55A Blythe 97.42 37 P Pdif 04 43 58.4 -0.2
baz=325
352A Blakely 97.44 40 P Pdif 04 43 58.4 -0.3
baz=323
154A Montrose 97.45 38 P Pdif 04 43 58.9 +0.1
baz=325
PAB San Pablo 97.61 336 PFAKE 04 44 10.0 +11
PAB LR LR
comp=Z,2μm,20.0s
155A Kite 97.75 38 P Pdif 04 44 00.3 +0.2
baz=325
254A Abbeville 97.90 39 P Pdif 04 44 01.1 +0.4
baz=324
353A Camilla 97.91 40 P Pdif 04 44 00.8 0.0
baz=324
TIGA Tifton 98.16 39 P Pdif 04 44 01.8 -0.1
baz=324
255A Hazlehurst 98.31 38 P Pdif 04 44 02.7 +0.1
baz=325
554A Perry 99.20 40 P **Pdif** 04 44 06.9 +0.3
baz=324
555A McAlpin 99.53 40 P **Pdif** 04 44 08.3 +0.3
baz=324
VNDA Vanda 115.61 176 PKP **PKPdf** 04 49 06.2 +0.7
comp=Z,0.5nm,0.6s,baz=327,slow=4.2,SNR=9.1
VNDA Vanda 115.61 176 *e*PKPdf **PKPdf** 04 49 05.6 +0.1
VNDA Vanda 115.61 176 *e*PKIKP **PKPdf** 04 49 05.6 +0.1
TOA0 Torodi Ar. Sit 118.05 317 *e*PKPdf **PKPdf** 04 49 11.3 -0.8
TORD Torodi Ar. Bea 118.05 317 PKP **PKPdf** 04 49 11.2 -0.9
comp=Z,0.4nm,0.4s,baz=35,slow=2.9,SNR=6.5
TORD PP **PP** 04 50 21.8 -4.2
comp=Z,5.7nm,1.0s,baz=64,slow=3.4,SNR=8.3
TORD PKKPbc **PKKPab** 04 59 33.5 -3.2
comp=Z,1.2nm,1.1s,baz=186,slow=6.7,SNR=4.0
LSZ Lusaka 119.31 273 *e*PKPdf **PKPdf** 04 49 12.9 -1.7
LSZ Lusaka 119.31 273 *e*PKIKP **PKPdf** 04 49 12.9 -1.7
MAW Mawson 121.06 206 PKP **PKPdf** 04 49 16.1 0.0
comp=Z,1.6nm,0.6s,baz=106,slow=5.7,SNR=12
MAW Mawson 121.06 206 *e*PKPdf **PKPdf** 04 49 16.7 +0.6
ZARC Zaragoza, Cauc 122.32 47 *e*P **PKPdf** 04 49 18.2 -2.2
OCAC Ocana 122.59 45 *e*P **PKPdf** 04 49 21.7 +0.7
SDV Santo Domingo 123.52 42 *e*PKPdf **PKPdf** 04 49 23.3 +0.5
GIRC Giron, Santand 123.61 46 *e*P **PKPdf** 04 49 23.9 +0.9
YOTC Yotoco, Valle 124.22 51 *e*P **PKPdf** 04 49 22.5 -1.7
RUSC La Rusia 124.64 46 *e*P **PKPdf** 04 49 21.7 -3.7
ROSC El Rosal 124.76 48 PKP **PKPdf** 04 49 26.0 +0.5
comp=Z,4.4nm,0.7s,baz=160,slow=5.2,SNR=7.5
ROSC El Rosal 124.76 48 *e*PKPdf **PKPdf** 04 49 26.7 +1.1
POPC Popayan, Colom 125.13 52 *e*P **PKPdf** 04 49 24.6 -1.5
CHIC Chingaza 125.28 48 *e*P **PKPdf** 04 49 26.0 -0.5
GCUF Volcan Galeras 125.72 54 *e*P **PKPdf** 04 49 28.2 +0.7
OTAV Otavalo 125.75 56 *e*PKPdf **PKPdf** 04 49 27.4 0.0
OTAV *e*PP **PP** 04 51 20.9 +1.5
OTAV Otavalo 125.75 56 *e*PKIKP **PKPdf** 04 49 27.5 0.0
OTAV *e* 04 51 20.9
LBTB Lobatse 126.56 265 *e*PKPdf **PKPdf** 04 49 28.9 +0.7
LBTB Lobatse 126.56 265 *e*PKIKP **PKPdf** 04 49 28.9 +0.7
DBIC Dimbokro 126.93 320 PKP **PKPdf** 04 49 30.1 +0.9
comp=Z,2.0nm,0.6s,baz=131,slow=2.1,SNR=4.2
DBIC PP **PP** 04 51 24.7 -1.5
comp=Z,9.7nm,1.0s,baz=17,slow=8.1,SNR=4.5
TIC Toumodi 127.04 320 *e*PKP1 **PKPdf** 04 49 28.9 -0.5
KIC Kosan Boka 127.14 319 *e*PKP1 **PKPdf** 04 49 28.7 -0.9
comp=Z,80nm,1.5s
LIC Lamto 127.40 320 *e*PKP1 **PKPdf** 04 49 29.8 -0.3
comp=Z,52nm,1.3s
QSPA South Pole Qui 127.56 180 *e*PKPdf **PKPdf** 04 49 28.4 -0.4
QSPA *e*PP **PP** 04 51 28.4 -2.1
BOSA Boshof 128.53 261 PKP **PKPdf** 04 49 32.9 +1.0
comp=Z,3.2nm,0.9s,baz=211,slow=3.5,SNR=4.1
SYO Syowa Base 129.74 207 *e*PKPdf **PKPdf** 04 49 32.0 -0.7
TSUM Tsumeb 129.88 276 *e*PKPdf **PKPdf** 04 49 35.6 +0.9
NVL N'lazarevskaya 138.71 202 *e*PKIKP PKPdf 04 50 05.8 +16
NVL pmax pmax
comp=Z,28nm,1.1s
SNAA Sanae 142.03 196 PKP **PKPdf** 04 49 54.3 -1.3
SAML Samuel 142.37 47 *e*PKPpre PKPpre 04 49 53.1
SAML Samuel 142.37 47 *e*PKHKP PKPpre 04 49 53.1
VNA2 Neumayer--Watz 143.58 196 PKP PKPbc 04 49 56.4 +0.6
baz=116,slow=2.4
VNA3 Neumayer Olymp 143.79 194 PKP PKPbc 04 49 56.4 0.0
VNA1 Neumayer--Stat 143.98 195 PKP PKPbc 04 49 57.2 +0.3
LPAZ La Paz 144.70 61 PKP **PKPdf** 04 50 01.7 -1.0
comp=Z,7.8nm,0.9s,baz=346,slow=5.4,SNR=29
MNMC Minye Minye 145.54 67 *e*PKPdf **PKPab** 04 50 04.6 +0.6
PB11 IPOC Station P 145.89 68 *e*PKPdf **PKPab** 04 50 04.7 -0.4
PB01 IPOC Station P 146.80 69 *e*PKPdf **PKPbc** 04 50 06.9 -0.4
PB04 IPOC Station P 147.08 72 *e*PKPdf **PKPbc** 04 50 07.6 -0.5
RCBR Riachuelo 148.15 359 *e*PKPbc **PKPbc** 04 50 11.7 +0.6
LVC Limon Verde 148.17 71 *e*PKPbc **PKPbc** 04 50 10.0 -1.3
LVC Limon Verde 148.17 71 *e*PKP2 **PKPbc** 04 50 10.0 -1.3
PMSA Palmer Station 148.43 158 *e*PKPbc **PKPbc** 04 50 10.7 +0.5
LCO Las Campanas 150.08 83 *e*PKPbc **PKPbc** 04 50 16.3 +0.4
GO04 Tololo Observa 150.49 85 *e*PKPbc **PKPbc** 04 50 17.3 +0.5
GO05 Hualaæø 151.27 95 *e*PKPbc **PKPbc** 04 50 18.8 +0.6
ROC1 El Roble 151.37 91 *e*PKPbc **PKPbc** 04 50 19.1 +0.3
PEL Peldehue 151.69 91 *e*PKPbc **PKPbc** 04 50 19.6 +0.4
PEL Peldehue 151.69 91 PKIKP **PKPbc** 04 50 19.6 +0.4
CHRN Cochrane 151.84 121 *e*PKPbc **PKPbc** 04 50 20.4 +1.3
GO06 Curarrehue 152.57 105 *e*PKPdf **PKPdf** 04 50 16.0 +1.9
PLCA Paso Flores 153.40 107 PKP **PKPdf** 04 50 15.1 -0.2
comp=Z,1.3nm,0.9s,baz=6.0,slow=13,SNR=3.2
PLCA PKPbc **PKiKP** 04 50 23.3 +0.4
comp=Z,8.2nm,0.9s,baz=296,slow=3.2,SNR=3.3
PLCA Paso Flores 153.40 107 *e*PKPdf **PKPdf** 04 50 15.5 +0.3
PLCA PKPbc **PKiKP** 04 50 23.3 +0.4
BDFB Brasilia 155.59 28 PKP **PKPdf** 04 50 19.4 +0.4
comp=Z,3.4nm,1.1s,baz=344,slow=9.2,SNR=4.6
BDFB PKPab **PKPab** 04 50 42.7 -2.2
comp=Z,8.7nm,1.0s,baz=201,slow=10,SNR=4.1
BDFB Brasilia 155.59 28 *e*PKPdf **PKPdf** 04 50 20.2 +1.2
BDFB PKPab **PKPab** 04 50 42.7 -2.2
CPUP Villa Florida 158.84 63 PKP **PKPdf** 04 50 22.6 -0.1
comp=Z,2.9nm,0.9s,baz=280,slow=3.5,SNR=7.1
CPUP Villa Florida 158.84 63 *e*PKPdf **PKPdf** 04 50 23.2 +0.5
CPUP *e*PKPdif **sPKPdf** 04 50 37.0 +0.2
TRQA Tornquist 159.73 99 *e*PKPab **PKPab** 04 51 02.6 +0.3
TRQA Tornquist 159.73 99 *e*PKP2 **PKPab** 04 51 02.7 +0.3

MEX 05 04:42:43.8±0.8, 18°.14N×100°.83W, h64km±11km, MD3.5, Guerrero

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

ARIG Puente Sto Nin 0.48 72 *e*P Pn 04 42 54.2 -1.8
ARIG *i* S Sn 04 43 03.0 -1.8
ZIIG Zihuatanejo 0.80 229 *e*P Pn 04 42 57.8 -1.7
ZIIG *e*S Sn 04 43 10.2 -1.0
MEIG Mezcala 1.17 100 *e*P Pn 04 43 03.4 -0.9
MEIG *e*S Sn 04 43 18.1 -1.5
CAIG El Cayaco 1.21 154 *e*P Pn 04 43 02.8 -1.9
CAIG *i* S Sn 04 43 18.0 -2.4
PLIG Platanillo 1.28 78 *e*P Pn 04 43 05.0 -0.8
PLIG *i* S Sn 04 43 19.9 -2.5

IDC ***05*** *05:11:30.4±5.8, 35°.63N×71°.19E, h74km±47km, mb3.6/5, mb1 3.8/9, mb1mx3.4/56, mbtmp4.0/9, ML4.0/4, Error ellipse: s-maj=51.5km s-min=32.7km az=143.0*
ISCJB ***05*** *05:11:38.8±1.2, 36°.47N±0°.09×70°.87E±0°.08, h100km, mb3.8/4, Error ellipse: s-maj=12.7km s-min=9.5km az=9.7*
NNC ***05*** *05:11:38.5±7.1, 36°.72N×70°.47E, h0km, mb4.6, mpv4.3, Error ellipse: s-maj=59.6km s-min=46.1km az=170.0*

ISC 05 05:11:38.0±1.4, 36°.4N±0°.1×70°.8E±0°.1, h100km, n26, σ1§70/31, mb3.9/4, 4C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.20**	**21**	P	**Pn**	**05 13 08.2**	**+0.9**
	SNR=52						
UCH	**Uchtor**	**6.54**	**25**	P	**Pn**	**05 13 12.3**	**+0.3**
	SNR=18						
KZA	**Kyzart**	**6.69**	**30**	P	**Pn**	**05 13 14.1**	**+0.1**
	SNR=17						
EKS2	**Erkin-Say**	**6.71**	**19**	P	**Pn**	**05 13 15.1**	**+1.1**
	SNR=12						
KK31	**Karatay Array**	**6.74**	**358**	⇓P	**Pn**	**05 13 15.6**	**+1.3**
	17nm,0.3s,baz=177,slow=12,SNR=334						
KK31				⇓S	**Sn**	**05 14 29.8**	**+0.3**
	30nm,0.7s,baz=186,slow=23						
AAK	**Ala-Archa**	**6.90**	**24**	P	**Pn**	**05 13 17.3**	**+0.7**
	8.5nm,0.3s,baz=176,slow=6.5,SNR=95						
AAK				S	**Sn**	**05 14 32.2**	**-1.5**
	3.9nm,0.3s,baz=122,slow=22,SNR=15						
AAK	**Ala-Archa**	**6.90**	**24**	⇓P	**Pn**	**05 13 17.5**	**+0.9**
	12nm,0.4s						
AAK				⇑S	**Sn**	**05 14 33.8**	**+0.1**
	19nm,0.5s						
AAK	**Ala-Archa**	**6.90**	**24**	P	**Pn**	**05 13 17.8**	**+1.2**
	SNR=28						
KBK	**Karagaybulak**	**7.07**	**26**	P	**Pn**	**05 13 20.2**	**+1.2**
	SNR=6.8						
ULHL	**Ulahol**	**7.25**	**34**	P	**Pn**	**05 13 21.2**	**-0.3**
	SNR=9.2						
CHMS	**Chumysh**	**7.31**	**24**	P	**Pn**	**05 13 23.5**	**+1.4**
	SNR=8.1						
USP	**Ospenovka**	**7.48**	**21**	P	**Pn**	**05 13 25.4**	**+1.1**
	SNR=10						
TKM2	**Tokmak 2**	**7.54**	**28**	⇑P	**Pn**	**05 13 25.3**	**-0.1**
	7.2nm,0.8s						
TKM2	**Tokmak 2**	**7.54**	**28**	P	**Pn**	**05 13 25.5**	**+0.1**
	SNR=6.7						
MKAR	**Makanchi Array**	**13.52**	**36**	P	**Pn**	**05 14 43.9**	**-1.6**
	0.1nm,0.3s,baz=222,slow=12,SNR=3.4						
AB31	**Akbulak array**	**15.12**	**332**	⇑P	**P**	**05 15 08.0**	**-0.9**
	2.6nm,0.4s,baz=144,slow=12,SNR=118						
AB31				⇓S	**Sn**	**05 17 50.4**	**-2.4**
	3.1nm,0.6s						
BVAR	**Borovoye Array**	**16.67**	**359**	P	**P**	**05 15 26.2**	**+0.2**
	0.5nm,0.3s,baz=175,slow=11,SNR=10						
AKTO	**Aktyubinsk**	**16.81**	**331**	P	**P**	**05 15 30.4**	**+2.8**
	0.7nm,0.3s,baz=140,slow=10,SNR=25						
AKTO				S	**Sn**	**05 18 29.0**	**-4.6**
	0.3nm,0.3s,baz=54,slow=23,SNR=3.9						
AKTO	**Aktyubinsk**	**16.81**	**331**	⇑P	**P**	**05 15 30.0**	**+2.4**
	10nm,0.8s						
ZALV	**Zalesovo Beam**	**20.12**	**25**	P	**P**	**05 16 03.1**	**-0.6**
	1.4nm,0.3s,baz=213,slow=11,SNR=8.2						
ARU	**Arti**	**21.71**	**341**	P	**P**	**05 16 23.6**	**+2.9**
ARCES	**ARCESS Array B**	**41.20**	**338**	P	**P**	**05 19 14.4**	**+2.0**
	2.7nm,0.9s,baz=119,slow=8.3,SNR=7.7						
NB2	**NORSAR Subarra**	**44.38**	**323**	P	**P**	**05 19 38.8**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.38**	**323**	P	**P**	**05 19 39.5**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=96,slow=7.7,SNR=5.5						
TORD	**Torodi Ar. Bea**	**65.52**	**269**	P	**P**	**05 22 08.2**	**-2.9**
	comp=Z,1.1nm,0.6s,baz=48,slow=5.6,SNR=16						
INK	**Inuvik**	**74.08**	**9**	P	**P**	**05 23 02.4**	**-0.2**
	comp=Z,1.5nm,1.1s,baz=303,slow=4.1,SNR=4.3						

IDC 05 05:14:56.7±4.2, 30°.29S×138°.57E, h0km, mb1 3.0/3, mb1mx3.0/37, mbtmp2.7/3, ML2.3/3, Error ellipse: s-maj=127.3km s-min=17.6km az=43.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.04**	**122**	Pn	Pn	05 15 45.5	-0.4
	0.1nm,0.3s,baz=295,slow=9.4,SNR=2.0						
STKA				Pg	Pb	05 15 52.9	+1.2
	0.6nm,0.3s,baz=300,slow=16,SNR=4.8						
STKA				Sn	Sn	05 16 23.5	+0.5
	1.6nm,0.3s,baz=304,slow=11,SNR=5.3						
STKA				Lg	Lg	05 16 32.8	
	1.1nm,0.3s,baz=206,slow=20,SNR=4.1						
ASAR	**Alice Springs**	**7.80**	**327**	Pn	Pn	05 16 51.8	+0.2
	0.1nm,0.3s,baz=151,slow=12,SNR=3.9						
ASAR				Sn	Sn	05 18 17.3	-3.5
	0.1nm,0.3s,baz=154,slow=22,SNR=3.5						
WRA	**Warramunga Arr**	**10.99**	**339**	Pn	Pn	05 17 35.1	-0.3
	0.0nm,0.3s,baz=159,slow=12,SNR=3.1						

IDC 05 05:19:33.8±3.2, 32°.82S×178°.32W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.7/25, mbtmp3.9/3, ML3.8/1, Error ellipse: s-maj=70.7km s-min=51.9km az=112.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.58**	**213**	Pn	Pn	05 21 11.1	-0.7
	1.9nm,0.3s,baz=260,slow=3.4,SNR=13						
URZ				Sn	Sn	05 22 22.5	-5.0
	2.7nm,0.3s,baz=12,slow=22,SNR=8.2						
ASAR	**Alice Springs**	**42.77**	**270**	P	P	05 27 33.4	+0.1
	0.5nm,0.5s,baz=109,slow=7.6,SNR=7.6						
WRA	**Warramunga Arr**	**43.97**	**275**	P	P	05 27 42.8	-0.2
	1.0nm,0.4s,baz=115,slow=7.8,SNR=31						
BRTR	**Keskin Array B**	**153.43**	**294**	PKPbc	PKPbc	05 39 34.2	0.0
	0.3nm,0.5s,baz=70,slow=2.2,SNR=2.3						

CNRM ***05*** *05:25:40.4, 34°.79N×8°.94W, h10km, ML3.5*
MDD ***05*** *05:25:41.6±1.5, 35°.48N×8°.78W, h0km, mbLg2.2/22, Error ellipse: s-maj=13.4km s-min=8.9km az=40.0, PRXIMO*
INMG ***05*** *05:25:41.1±1.5, 35°.20N×8°.93W, h31km±17km, ML2.2, Error ellipse: s-maj=11.8km s-min=6.9km az=57.0*
ISCJB ***05*** *05:25:42.4±1.0, 35°.58N±0°.05×8°.57W±0°.05, h10km, Error ellipse: s-maj=7.7km s-min=4.7km az=37.8*
IGIL ***05*** *05:25:42.3, 35°.50N×8°.77W, h0km, ML2.2*

ISC 05 05:25:40.1±2.3, 35°.43N±0°.10×8°.74W±0°.08, h10km, n50, σ1§46/84, 1C-2D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.70**	**358**	*e*Sn	**Sn**	**05 26 31.1**	**-0.5**
PFVI				A	A	05 26 35.8	
	13nm,0.1s						
PFVI	**Vila Bisbo**	**1.70**	**358**	P	**Pn**	**05 26 10.1**	**+0.3**
	22nm,0.8s,SNR=7.8						
PFVI				S	**Sn**	**05 26 31.1**	**-0.5**
	21nm,0.1s,SNR=7.9						
MORF	**Marmelete**	**1.87**	**2**	*e*P	**Pn**	**05 26 12.6**	**+0.4**
MORF				*e*S	**Sn**	**05 26 34.9**	**-1.0**
MORF				AML	AML	05 26 39.8	
	comp=N,30nm,0.3s						
MORF	**Marmelete**	**1.87**	**2**	*e*Pn	**Pn**	**05 26 12.6**	**+0.4**
MORF				*e*Sn	**Sn**	**05 26 36.0**	**+0.1**
MORF				A	A	05 26 39.7	
	comp=N,12nm,0.3s						
MORF	**Marmelete**	**1.87**	**2**	P	**Pn**	**05 26 12.6**	**+0.4**
MORF				S	**Sn**	**05 26 36.0**	**+0.1**
	comp=N,12nm,0.3s						
PBDV	**Barranco-do-Ve**	**1.92**	**20**	*e*Pn	**Pn**	**05 26 13.9**	**+1.0**
PBDV				*e*Sn	**Sn**	**05 26 37.8**	**+0.7**
PBDV				A	A	05 26 44.9	
	comp=N,12nm,0.4s						
PBDV	**Barranco-do-Ve**	**1.92**	**20**	P	**Pn**	**05 26 13.9**	**+1.0**
PBDV				S	**Sn**	**05 26 37.8**	**+0.7**

	comp=N,12nm,0.4s							
PTEO	**Sao Teotonio**	**2.11**	**0**	*e*Pn		**Pn**	**05 26 15.8**	**+0.4**
PTEO				*e*Sn		**Sn**	**05 26 41.5**	**-0.2**
PTEO				A		A	05 26 47.8	
	comp=N,7.3nm,0.4s							
PTEO	**Sao Teotonio**	**2.11**	**0**	P		**Pn**	**05 26 15.8**	**+0.4**
PTEO				S		**Sn**	**05 26 41.5**	**-0.2**
	comp=N,3.7nm,0.4s							
PVAQ	**Vaqueiros**	**2.13**	**22**	*e*Pn		**Pn**	**05 26 16.7**	**+1.0**
PVAQ				*e*Sn		**Sn**	**05 26 44.0**	**+1.7**
PVAQ				A		A	05 26 50.8	
	comp=N,5.3nm,0.5s							
PVAQ	**Vaqueiros**	**2.13**	**22**	P		**Pn**	**05 26 16.7**	**+1.0**
PVAQ				S		**Sn**	**05 26 44.0**	**+1.7**
	comp=N,5.3nm,0.5s							
EGRO	**El Granado**	**2.33**	**25**	⇓P		**Pn**	**05 26 19.8**	**+1.4**
	comp=N,2.0nm,0.1s,SNR=18							
EGRO				S		**Sn**	**05 26 46.8**	**-0.4**
	comp=N,5.1nm,0.1s							
MESJ	**Messejana**	**2.44**	**10**	*e*P		**Pn**	**05 26 20.7**	**+0.8**
MESJ				*e*S		**Sn**	**05 26 48.9**	**-0.9**
MESJ				AML		AML	05 26 52.3	
	comp=N,7.4nm,0.2s							
MESJ	**Messejana**	**2.44**	**10**	*e*Pn		**Pn**	**05 26 21.0**	**+1.1**
MESJ				*e*Sn		**Sn**	**05 26 50.5**	**+0.7**
MESJ				A		A	05 26 51.4	
	comp=N,4.3nm,0.2s							
MESJ	**Messejana**	**2.44**	**10**	P		**Pn**	**05 26 21.0**	**+1.1**
MESJ				S		**Sn**	**05 26 50.5**	**+0.7**
	comp=N,4.3nm,0.2s							
PBEJ	**Beja**	**2.68**	**15**	*e*Pn		**Pn**	**05 26 25.0**	**+1.7**
PBEJ				*e*Sn		**Sn**	**05 26 56.3**	**+0.5**
PBEJ				A		A	05 26 57.9	
	comp=N,3.4nm,0.2s							
PBEJ	**Beja**	**2.68**	**15**	P		**Pn**	**05 26 25.0**	**+1.7**
PBEJ				S		**Sn**	**05 26 56.3**	**+0.5**
	comp=N,1.7nm,0.2s							
EJIF	**Jimena Fronter**	**2.84**	**68**	P		**Pn**	**05 26 27.4**	**+1.9**
	comp=N,1.0nm,0.2s,SNR=4.0							
EJIF				S		**Sn**	**05 27 02.1**	**+2.3**
	comp=N,3.3nm,0.3s,SNR=4.0							
EMIN	**Mina Concepcio**	**2.86**	**35**	⇑P		**Pn**	**05 26 26.6**	**+0.8**
	comp=N,1.7nm,0.1s,SNR=18							
EMIN				S		**Sn**	**05 27 00.0**	**-0.3**
	comp=N,1.3nm,0.1s							
PMAFR	**Mafra**	**3.54**	**353**	*e*Pn		**Pn**	**05 26 35.9**	**+0.8**
PMAFR				*e*Sn		**Sn**	**05 27 16.0**	**-1.1**
PMAFR				A		A	05 27 19.3	
	comp=N,12nm,0.2s							
PMAFR	**Mafra**	**3.54**	**353**	P		**Pn**	**05 26 35.5**	**+0.4**
	comp=N,4.2nm,0.3s,SNR=7.9							
PMAFR				S		**Sn**	**05 27 15.9**	**-1.1**
	comp=N,31nm,0.3s,SNR=11							
EBAD	**Badajoz**	**3.59**	**22**	P		**Pn**	**05 26 36.7**	**+0.9**
	comp=N,2.3nm,0.1s,SNR=20							
EBAD				S		**Sn**	**05 27 17.9**	**-0.3**
	comp=N,5.6nm,0.2s,SNR=7.9							
ALMR	**Almeirim**	**3.72**	**2**	*e*Sn		**Sn**	**05 27 23.1**	**+1.7**
ALMR	**Almeirim**	**3.72**	**2**	S		**Sn**	**05 27 23.1**	**+1.7**
ECAB	**El Cabril**	**3.75**	**44**	P		**Pn**	**05 26 39.0**	**+1.0**
	comp=N,0.2nm,0.1s,SNR=12							
ECAB				S		**Sn**	**05 27 21.2**	**-1.1**
	comp=N,1.5nm,0.3s,SNR=7.9							
EGOR	**Sierra Gorda,**	**4.10**	**65**	P		**Pn**	**05 26 45.4**	**+2.5**
	SNR=7.9							
EGOR				S		**Sn**	**05 27 30.9**	**-0.1**
	comp=N,2.1nm,0.2s,SNR=7.9							
PMRV	**Marv??o**	**4.13**	**15**	*e*Pn		**Pn**	**05 26 43.9**	**+0.7**
PMRV				*e*Sn		**Sn**	**05 27 30.8**	**-0.8**
PMRV				A		A	05 27 37.4	
	comp=N,1.4nm,0.3s							
PMRV	**Marv??o**	**4.13**	**15**	P		**Pn**	**05 26 43.9**	**+0.7**
PMRV				S		**Sn**	**05 27 30.8**	**-0.8**
	comp=N,1.4nm,0.3s							
PTOM	**Tomar**	**4.19**	**3**	*e*Pn		**Pn**	**05 26 45.0**	**+1.0**
PTOM				*e*Sn		**Sn**	**05 27 31.9**	**-1.0**
PTOM				A		A	05 27 32.9	
	comp=N,4.4nm,0.6s							
PTOM	**Tomar**	**4.19**	**3**	P		**Pn**	**05 26 45.0**	**+1.0**
PTOM				S		**Sn**	**05 27 31.9**	**-1.0**
	comp=N,2.2nm,0.6s							
MDT	**Midelt**	**4.30**	**126**	P		Pn	05 26 43.1	-2.6
MDT	**Midelt**	**4.30**	**126**	S		**Sn**	**05 27 31.5**	**-4.5**
EADA	**Adamuz**	**4.31**	**50**	⇓P		**Pn**	**05 26 46.7**	**+1.0**
	comp=N,7.4nm,0.2s,SNR=18							
EADA				S		**Sn**	**05 27 33.9**	**-2.2**
	comp=N,1.6nm,0.1s							
ELGU	**Los Guajares,**	**4.38**	**69**	S		**Sn**	**05 27 36.6**	**-1.2**
	comp=N,2.4nm,0.4s,SNR=7.9							
PCBR	**Castelo Branco**	**4.51**	**12**	*e*Sn		**Sn**	**05 27 40.0**	**-1.0**
PCBR				A		A	05 27 41.9	
	comp=N,2.7nm,0.3s							
PCBR	**Castelo Branco**	**4.51**	**12**	S		**Sn**	**05 27 40.0**	**-1.0**
	comp=N,1.4nm,0.3s							
PCAS	**Casmilo, Conde**	**4.62**	**2**	*e*Sn		**Sn**	**05 27 42.9**	**-0.6**
EQUE	**Quentar**	**4.63**	**66**	P		**Pn**	**05 26 51.8**	**+1.7**
	comp=N,0.8nm,0.2s,SNR=7.9							
EQUE				S		**Sn**	**05 27 43.5**	**-0.6**
	comp=N,0.8nm,0.2s,SNR=7.9							
TTIG	**Tnine Tigouga,**	**4.88**	**177**	P		Pn	05 26 44.7	-9.0
TTIG	**Tnine Tigouga,**	**4.88**	**177**	S		Sn	05 27 33.8	-16
MTE	**Manteigas**	**5.05**	**10**	*e*Pn		**Pn**	**05 26 57.1**	**+1.2**
MTE				*e*Sn		**Sn**	**05 27 53.2**	**-1.1**
MTE				A		A	05 27 54.1	
	comp=N,1.5nm,0.2s							
MTE	**Manteigas**	**5.05**	**10**	P		**Pn**	**05 26 57.1**	**+1.2**
MTE				S		**Sn**	**05 27 53.2**	**-1.1**
	comp=N,0.8nm,0.2s							
EPLA	**Plasencia**	**5.08**	**24**	P		**Pn**	**05 26 57.7**	**+1.4**
	comp=N,3.1nm,0.2s,SNR=7.9							
EPLA				S		**Sn**	**05 27 52.3**	**-2.8**
	comp=N,0.4nm,0.1s,SNR=4.0							
EQES	**Quesada**	**5.14**	**61**	P		**Pn**	**05 26 58.6**	**+1.5**
	comp=N,0.6nm,0.2s,SNR=7.9							
EQES				S		**Sn**	**05 27 54.7**	**-1.8**
	comp=N,1.0nm,0.1s,SNR=7.9							
PAB	**San Pablo**	**5.39**	**39**	P		**Pn**	**05 27 01.9**	**+1.3**
	comp=N,0.9nm,0.2s,SNR=7.9							
PAB				S		**Sn**	**05 28 00.6**	**-2.1**
	comp=N,0.1nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**5.88**	**13**	*e*Pn		**Pn**	**05 27 08.2**	**+0.9**
MVO				*e*Sn		**Sn**	**05 28 12.4**	**-2.3**
MVO	**Moncorvo**	**5.88**	**13**	P		**Pn**	**05 27 07.1**	**-0.2**
	comp=N,0.3nm,0.1s,SNR=7.9							
MVO				S		**Sn**	**05 28 11.7**	**-3.0**
	comp=N,1.1nm,0.2s,SNR=7.9							
POLO	**Lamas de Olo**	**5.98**	**7**	*e*Sn		**Sn**	**05 28 15.8**	**-1.4**
ELOB	**Lobios**	**6.45**	**5**	S		**Sn**	**05 28 25.3**	**-3.5**
	comp=N,2.7nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	**6.58**	**59**	P		**Pn**	**05 27 16.7**	**-0.3**
	comp=N,0.5nm,0.1s,SNR=7.9							
ETOB				S		**Sn**	**05 28 27.4**	**-4.8**
	comp=N,0.9nm,0.1s,SNR=7.9							
TEIG	**Tepich**	**6.25**	**24**	*e*Pn		Pn	05 34 10.9	+7.4
ESPN	**Las Esperanzas**	**6.84**	**109**	*e*Pn		Pn	05 34 10.6	-0.7
JTS	**JuntasAbangare**	**7.17**	**125**	*e*Pn		Pn	05 34 15.1	-0.5
JTS				*e*Sn		Sn	05 35 35.0	-1.8
TLIG	**Tlapa**	**7.96**	**294**	*e*Pn		Pn	05 34 27.2	+1.2
TLIG				*e*Sn		Sn	05 35 55.4	-0.1

*NEIC **05** 05:32:33.1±0.0, 14°.48N×90°.93W, h188km, MD4.1(MEX), After MEX.*

MEX 05 05:32:33.1±0.5, **14°.48N×90°.93W, h188**km±8km, **MD4.1, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**1.83**	**115**	*e*Pn	Pn	05 33 05.8	-3.3
SNET				*e*Sn	Sn	05 33 29.5	-7.4
CCIG	**Comitan**	**2.13**	**327**	*e*Pn	Pn	05 33 11.6	-0.8
CCIG				*e*Sn	Sn	05 33 41.2	-1.7
CCIG	**Comitan**	**2.13**	**327**	*i* P	Pn	05 33 11.5	-0.9
CCIG				*i* S	Sn	05 33 40.4	-2.5
PCIG		**2.52**	**299**	*e*Pn	Pn	05 33 15.4	-1.0
PCIG				*e*Sn	Sn	05 33 48.1	-2.2
PCIG		**2.52**	**299**	*e*P	Pn	05 33 15.4	-1.0
PCIG				*i* S	Sn	05 33 48.1	-2.2
TGIG		**3.11**	**318**	*e*Pn	Pn	05 33 22.0	-1.5
TGIG				*e*Sn	Sn	05 34 01.0	-1.9
TGIG		**3.11**	**318**	*e*P	Pn	05 33 22.0	-1.5
TGIG				*i* S	Sn	05 34 01.0	-1.9
TEIG	**Tepich**	**6.25**	**24**	*e*Pn	Pn	05 34 10.9	+7.4
ESPN	**Las Esperanzas**	**6.84**	**109**	*e*Pn	Pn	05 34 10.6	-0.7
JTS	**JuntasAbangare**	**7.17**	**125**	*e*Pn	Pn	05 34 15.1	-0.5
JTS				*e*Sn	Sn	05 35 35.0	-1.8
TLIG	**Tlapa**	**7.96**	**294**	*e*Pn	Pn	05 34 27.2	+1.2
TLIG				*e*Sn	Sn	05 35 55.4	-0.1

*ISCJB **05** 05:37:07.9±0.5, 33°.02N±0°.04×85°.2E±0°.1, h33km, mb3.7/8, Error ellipse: s-maj=15.8km s-min=5.9km az=178.6*
*IDC **05** 05:37:12.2±5.0, 32°.98N×85°.08E, h63km±46km, mb3.4/9, mb1 3.7/11, mb1mx3.5/41, mbtmp3.7/11, ML4.5/1, Error ellipse: s-maj=31.5km s-min=17.6km az=52.0*

ISC 05 05:37:09.7±0.7, **32°.99N**±0°.08×**85°.2E**±0°.1, **h35**km, **n22,** σ0^{s}**97/22, mb3.8/8, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**4.78**	**195**	*e*P	Pn	**05 38 20.4**	**+0.8**
	63nm,0.3s						
GUN	**Gumba**	**5.10**	**173**	*e*P	Pn	05 38 25.4	+1.4
	41nm,0.7s						
PYUN	**Piuthan**	**5.23**	**202**	*e*P	Pn	05 38 25.9	+0.3
	91nm,0.9s						
DMN	**Daman**	**5.37**	**181**	*e*P	Pn	05 38 28.2	+0.6
	13nm,0.5s						
KOLN	**Koldanda**	**5.38**	**195**	*e*P	Pn	05 38 27.9	+0.2
	96nm,0.7s						
JIRN	**Jiri**	**5.39**	**170**	*e*P	Pn	05 38 29.4	+1.4
	42nm,0.4s						
PKIN	**Phulchoki**	**5.40**	**178**	*e*P	Pn	05 38 29.3	+1.2
	15nm,0.4s						
PKI	**Pulchoki**	**5.41**	**178**	*e*P	Pn	05 38 29.4	+1.2
	14nm,0.3s						
RAMN	**Ramite**	**6.15**	**168**	*e*P	Pn	05 38 38.1	-0.2
	25nm,0.5s						
ODAN	**Odara**	**6.41**	**162**	*e*P	Pn	05 38 42.0	+0.1
	24nm,0.5s						
WMQ	**Urumqi**	**10.99**	**10**	*e*P	Pn	05 39 43.7	-0.7
MKAR	**Makanchi Array**	**13.96**	**352**	P	Pn	05 40 26.9	+2.0
	baz=166,slow=14,SNR=3.0						
CMAR	**Chiang Mai Arr**	**19.04**	**136**	P	Pn	05 41 29.6	-0.3
	0.5nm,0.3s,baz=318,slow=14,SNR=8.1						
ZALV	**Zalesovo Beam**	**20.95**	**359**	P	**P**	05 41 50.2	+0.9
	2.4nm,0.8s,baz=186,slow=12,SNR=7.6						
SONM	**Songino Array**	**21.83**	**41**	P	**P**	05 41 59.7	+0.6
	3.6nm,0.7s,baz=228,slow=11,SNR=11						
BVAR	**Borovoye Array**	**22.66**	**336**	P	**P**	05 42 08.1	+0.3
	0.4nm,0.4s,baz=143,slow=11,SNR=2.8						
GERES	**GERESS Array B**	**54.31**	**310**	P	**P**	05 46 32.3	-0.2
	1.6nm,0.9s,baz=68,slow=7.7,SNR=5.1						
WRA	**Warramunga Arr**	**70.54**	**131**	P	**P**	05 48 20.8	-0.5
	0.4nm,0.5s,baz=325,slow=6.4,SNR=8.7						
ASAR	**Alice Springs**	**73.03**	**134**	P	**P**	05 48 36.6	+0.4
	0.5nm,0.7s,baz=317,slow=5.6,SNR=5.6						
ILAR	**Eielson Array**	**74.44**	**21**	P	**P**	05 48 43.9	**0.0**
	0.4nm,0.7s,baz=296,slow=5.2,SNR=5.1						
TORD	**Torodi Ar. Bea**	**77.55**	**278**	P	**P**	05 49 00.9	-1.5
	0.8nm,0.8s,baz=26,slow=5.4,SNR=5.1						
YKA	**Yellowknife Ar**	**83.52**	**9**	P	**P**	05 49 32.6	-1.0
	0.7nm,0.5s,baz=327,slow=5.5,SNR=3.8						

*ISCJB **05** 05:39:20.0±0.5, 26°.92S±0°.06×177°.5W±0°.1, h100km, mb4.1/15, Error ellipse: s-maj=13.7km s-min=8.6km az=178.5*
*NEIC **05** 05:39:21.7±1.9, 26°.95S×177°.43W, h104km±16km, mb4.2/8, Error ellipse: s-maj=16.9km s-min=14.0km az=214.0*
*IDC **05** 05:39:22.5±2.6, 26°.99S×177°.42W, h109km±21km, mb3.8/10, mb1 4.0/12, mb1mx3.9/21, mbtmp4.1/12, Error ellipse: s-maj=24.4km s-min=18.3km az=47.0*

ISC 05 05:39:21.1±0.6, **26°.93S**±0°.08×**177°.4W**±0°.1, **h100**km, **n37,** σ1^{s}**09/40, mb4.1/15, 1C, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.37**	**192**	P	**Pn**	**05 39 58.7**	**+0.2**
	80nm,0.3s,baz=238,slow=23,SNR=4.5						
RAO				S	**Sn**	**05 40 28.1**	**+1.1**
	268nm,0.3s,baz=80,slow=21,SNR=7.5						
URZ	**Urewera**	**12.22**	**201**	P	**Pn**	**05 42 11.0**	**-0.6**
	0.3nm,0.3s,baz=357,slow=19,SNR=2.1						
URZ				S	Sn	05 44 12.5	-13
	0.9nm,0.3s,baz=358,slow=21,SNR=5.6						
CTA	**Charters Tower**	**33.97**	**274**	P	**P**	**05 45 56.3**	**+1.0**
	3.4nm,0.7s,baz=114,slow=10.0,SNR=3.0						
ASAR	**Alice Springs**	**43.97**	**263**	P	**P**	05 47 17.9	-0.8
	1.4nm,0.8s,baz=100,slow=7.5,SNR=11						
WB2	**Warramunga Arr**	**44.64**	**268**	*e*P	**P**	**05 47 22.9**	**-1.1**
WRAB	**Tennant Creek**	**44.64**	**268**	*e*P	**P**	**05 47 22.8**	**-1.2**
	3.0nm,0.8s						
WR1	**Warramunga Arr**	**44.65**	**268**	*e*P	**P**	05 47 23.2	-0.9
	3.2nm,0.7s						
WRA	**Warramunga Arr**	**44.65**	**268**	P	**P**	05 47 23.2	-0.9
	2.2nm,0.7s,baz=107,slow=7.6,SNR=19						
SBA	**Scott Base**	**51.53**	**184**	*e*P	**P**	**05 48 18.2**	**+2.1**
	4.3nm,0.8s						
VNDA	**Vanda**	**51.59**	**186**	P	**P**	05 48 17.1	+0.5
	0.6nm,0.5s,baz=2.6,slow=8.1,SNR=11						
VNDA	**Vanda**	**51.59**	**186**	*e*P	**P**	05 48 17.9	+1.2
	1.3nm,0.8s						
CASY	**Casey**	**58.47**	**207**	*e*P	**P**	05 49 04.5	-1.8
	0.8nm,0.8s						
QSPA	**South Pole Qui**	**63.17**	**180**	*e*P	**P**	05 49 38.6	+0.3
	3.8nm,0.8s						
MJAR	**Matsushiro Arr**	**75.74**	**324**	P	**P**	05 50 57.2	+1.4
	1.6nm,0.5s,baz=168,slow=6.1,SNR=6.3						
MAJO	**Matsushiro**	**75.74**	**324**	*e*P	**P**	05 50 57.2	+1.4
MAW	**Mawson**	**75.75**	**200**	P	**P**	05 50 55.6	+0.2
	3.7nm,0.6s,baz=130,slow=6.9,SNR=23						
MAW	**Mawson**	**75.75**	**200**	*e*P	**P**	05 50 55.9	+0.4
	0.9nm,0.7s						
SYO	**Syowa Base**	**80.61**	**193**⇑	*e*P	**P**	05 51 20.9	-1.4
SNAA	**Sanae**	**81.59**	**178**	P	**P**	05 51 27.3	-0.3
VNA3	**Neumayer Olymp**	**81.72**	**176**	P	**P**	05 51 27.7	-0.4
KSRS	**Korea Array**	**82.09**	**319**	P	**P**	05 51 32.7	+2.3
	1.5nm,0.6s,baz=134,slow=5.8,SNR=4.1						
KSAR	**Wonju Array Be**	**82.11**	**319**	P	**P**	05 51 32.8	+2.2
VNA2	**Neumayer--Watz**	**82.16**	**177**	P	**P**	05 51 30.4	**0.0**
	baz=228,slow=2.5						
VNA1	**Neumayer--Stat**	**82.39**	**176**	P	**P**	05 51 31.3	-0.3
PLCA	**Paso Flores**	**84.45**	**133**	P	**P**	05 51 44.3	+1.4
	1.6nm,0.8s,baz=255,slow=6.8,SNR=6.4						
PLCA	**Paso Flores**	**84.45**	**133**	*e*P	**P**	05 51 44.1	+1.2
	1.8nm,1.1s						
LTX	**Lajitas**	**90.04**	**57**	*e*P	**P**	05 52 10.0	+0.1
TXAR	**Lajitas Array**	**90.04**	**57**	P	**P**	05 52 10.0	+0.1
	0.5nm,0.9s,baz=206,slow=5.7,SNR=4.5						
TXAR	**Lajitas Array**	**90.04**	**57**	P	**P**	05 52 10.0	+0.1
PDAR	**Pinedale Array**	**93.23**	**43**	P	**P**	05 52 23.8	-0.8
	0.5nm,0.8s,baz=242,slow=1.9,SNR=4.4						
NB2	**NORSAR Subarra**	**145.41**	**353**	PKP	**PKPdf**	05 58 46.6	-0.2
	comp=Z,0.8nm,0.6s,baz=11,slow=3.0						
NB200	**NORSAR Array S**	**145.41**	**353**	*e*PKPdf	**PKPdf**	05 58 46.8	0.0
NOA	**NORSAR Array B**	**145.41**	**353**	PKPbc	**PKPdf**	05 58 46.8	0.0
	comp=Z,1.0nm,0.6s,baz=13,slow=4.5,SNR=4.1						
AKASG	**Malin Array Be**	**148.80**	**327**	PKPbc	**PKPbc**	05 58 56.0	-0.7
	comp=Z,0.4nm,0.3s,baz=44,slow=3.8,SNR=3.5						
AKBB	**Malin Array Si**	**148.80**	**327**	*e*PKPbc	**PKPbc**	05 58 56.0	-0.7
TORD	**Torodi Ar. Bea**	**166.26**	**176**	PKP	**PKPdf**	05 59 13.8	-1.4
	comp=Z,0.9nm,0.9s,baz=332,slow=1.4,SNR=5.2						
TORD				PKPab	**PKPab**	**06 00 15.5**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=184,slow=3.5,SNR=9.3						
TOA1	**Torodi Ar. Sit**	**166.26**	**176**	*e*PKPdf	**PKPdf**	05 59 13.8	-1.5
TOA1				*e*PKPab	**PKPab**	**06 00 15.5**	**-1.1**

*ISCJB **05** 05:58:20.4±0.5, 28°.87N±0°.04×139°.28E±0°.09, h423km, mb3.2/8, Error ellipse: s-maj=11.0km s-min=5.1km az=163.6*
*JMA **05** 05:58:21.1±0.2, 28°.97N×139°.71E, h443km, M3.6*
*IDC **05** 05:58:21.2±0.8, 28°.88N×139°.50E, h426km±9km, mb2.9/8, mb1 3.1/12, mb1mx3.0/35, mbtmp3.7/12, Error ellipse: s-maj=19.8km s-min=11.2km az=72.0*

ISC 05 05:58:21.3±0.7, **28°.92N**±0°.07×**139°.5E**±0°.1, **h423**km, **n19,** σ1^{s}**14/24, mb3.2/8, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.99**	**127**	P	**P**	**05 59 27.2**	**+1.0**
CBIJ				*e*S	**S**	**06 00 18.9**	**0.0**
JCJ	**Chichijima**	**2.99**	**127**	P	**P**	**05 59 27.2**	**+1.0**
	32nm,0.3s,baz=26,slow=9.6,SNR=22						
JCJ				S	**S**	**06 00 18.9**	**0.0**
	97nm,0.3s,baz=295,slow=23,SNR=31						
JHHJ	**Haha-jima-NKT**	**3.29**	**133**	P	**P**	**05 59 29.7**	**+1.0**
JHHJ				*e*S	**S**	**06 00 23.9**	**+0.6**
BSO1	**Boso 1**	**5.86**	**12**	*e*S	**S**	**06 01 07.1**	**+0.1**
BSO2	**Boso 2**	**5.91**	**10**	*e*S	**S**	**06 01 09.2**	**+0.6**
BSO3	**Boso 3**	**5.93**	**8**	*e*S	**S**	**06 01 09.1**	**+0.2**
JAG	**Ashikaga**	**7.49**	**360**	P	**P**	**06 00 11.2**	**+0.3**
JAG				*e*S	**S**	**06 01 37.4**	**-2.9**
MJAR	**Matsushiro Arr**	**7.68**	**352**	P	**P**	**06 00 14.2**	**+1.2**
	0.5nm,0.3s,baz=180,slow=12,SNR=2.7						
MJAR				S	**S**	**06 01 44.4**	**+0.1**
	0.5nm,0.3s,baz=152,slow=18,SNR=3.1						
JHO	**Hitachi**	**7.72**	**6**	*e*S	**S**	**06 01 42.7**	**-2.4**
KSRS	**Korea Array**	**12.89**	**314**	P	**P**	**06 01 10.7**	**+0.6**
	0.5nm,0.3s,baz=118,slow=9.7,SNR=6.4						
USRK	**Ussuriysk Ar.**	**16.39**	**341**	P	**P**	**06 01 49.6**	**+1.9**
	0.7nm,0.3s,baz=148,slow=11,SNR=9.3						
SONM	**Songino Array**	**31.75**	**316**	P	**P**	**06 04 08.6**	**0.0**
	1.0nm,0.5s,baz=134,slow=11,SNR=3.6						
ZALV	**Zalesovo Beam**	**46.55**	**318**	P	**P**	**06 06 07.8**	**-1.0**
	0.5nm,0.4s,baz=116,slow=6.6,SNR=2.5						
MKAR	**Makanchi Array**	**47.48**	**308**	P	**P**	**06 06 15.8**	**-0.2**
	0.4nm,0.3s,baz=96,slow=10,SNR=5.8						
WRA	**Warramunga Arr**	**48.83**	**186**	P	**P**	**06 06 25.6**	**-0.9**
	0.3nm,0.3s,baz=4.1,slow=7.6,SNR=12						
ASAR	**Alice Springs**	**52.56**	**186**	P	**P**	**06 06 53.3**	**-0.5**
	0.2nm,0.6s,baz=7.0,slow=8.4,SNR=3.5						
ILAR	**Eielson Array**	**57.28**	**29**	P	**P**	**06 07 25.4**	**-1.2**
	0.4nm,0.4s,baz=248,slow=5.7,SNR=9.0						
NVAR	**Mina Array Bea**	**81.24**	**51**	P	**P**	**06 09 52.6**	**+0.4**
	0.6nm,0.6s,baz=294,slow=5.9,SNR=7.0						
TXAR	**Lajitas Array**	**96.38**	**52**	P	**P**	**06 11 04.5**	**+0.4**
	0.2nm,0.7s,baz=299,slow=1.9,SNR=2.8						

UCR 05 06:10:08.4±2.8, **11°.49N×87°.29W, h98**km±40km, **ML3.5, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.97**	**45**	*e*P	Pn	06 10 27.5	-0.9
COPN				*e*S	Sn	06 10 45.6	+2.3
COPN				IAML		06 10 50.9	
	comp=Z,1μm,0.5s						
CNGN	**Cerro Negro**	**1.16**	**30**	*e*P	Pn	06 10 29.7	-0.8
MOMN	**Momotombo**	**1.17**	**39**	*e*P	Pn	06 10 30.1	-0.5
MGAN	**Managua**	**1.21**	**57**	*e*P	Pn	06 10 30.4	-0.6
CRIN	**San Cristobal**	**1.23**	**11**	*e*P	Pn	06 10 31.4	0.0
CRIN				IAML		06 11 05.7	
	comp=N,610nm,0.3s						
CONN	**Concepcion**	**1.63**	**87**	*e*P	Pn	06 10 35.0	-1.2
ESTN	**Estel**	**1.83**	**29**	*e*P	Pn	06 10 39.8	+0.9
BOAB	**BOACO BROADBAN**	**1.85**	**59**	*e*P	Pn	06 10 38.8	-0.2
MATN	**Matagalpa**	**1.95**	**43**	*e*P	Pn	06 10 40.9	+0.5
ACON	**Acoyapa**	**2.12**	**77**	*e*P	Pn	06 10 41.7	-0.8
ACON				*e*S	Sn	06 11 10.1	+1.5
LCR2	**La Lucha 2**	**3.67**	**118**	*e*P	Pn	06 11 04.2	+1.0
LCR2				*e*S	Sn	06 11 46.5	+0.8
URSC	**Urasca**	**3.82**	**115**	*e*P	Pn	06 11 08.5	+3.2
DRK0	**Durika**	**4.55**	**119**	*e*P	Pn	06 11 17.7	+2.5
DRK0				*e*S	Sn	06 12 06.2	-0.9

*IDC **05** 06:14:12.3±2.0, 51°.70N×96°.03E, h0km, mb3.5/1, mb1 3.4/4, mb1mx3.2/50, mbtmp3.3/4, ML3.0/3, MS3.3/2, Ms1 3.3/2, ms1mx2.6/40, Error ellipse: s-maj=44.1km s-min=18.0km az=12.0*
*MOS **05** 06:14:12.6±2.7, 51°.99N×95°.92E, h10km, mb4.0/3, Error ellipse: s-maj=18.7km s-min=13.0km az=177.5*

ISC 05 06:14:13.2±0.8, **51°.8N**±0°.1×**95°.94E**±0°.06, **h10**km, **n18,** σ1^{s}**25/15, mb3.7/3, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HVS	**Khovu-Aksy**	**1.54**	**246**	*e*PN	**Pg**	**06 14 42.0**	**-0.8**
ORL	**Orlik**	**2.50**	**71**	*e*PN	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**1.29**	**290**	*eP*	Pn	06 36 17.1	-0.3
GQP	**Guinayangan**	**1.44**	**195**	⇓*iP*	Pn	06 36 19.0	-0.5
GQP				*i* S	Sn	06 36 36.1	-1.3
PCPH	**Palayan**	**1.70**	**279**	*eP*	Pn	06 36 24.0	+1.0
PCPH				*eS*	Sn	06 36 43.1	-0.6
BOAC	**Boac**	**2.07**	**208**	*eP*	Pn	06 36 28.2	+0.1
BOAC				*eS*	Sn	06 36 53.8	+0.9
PVCP	**Virac**	**2.13**	**143**	*eP*	Pn	06 36 28.0	-0.9
PVCP				*eS*	Sb	06 37 00.1	+0.7
SMPP	**San Manuel, Pa**	**2.24**	**292**	*eP*	Pn	06 36 31.0	+0.5
SMPP				*eS*	Sn	06 36 57.6	+0.5
LUBP	**Lubang**	**2.96**	**238**	*eP*	Pn	06 36 41.2	+0.9
OTRP	**Odiongan**	**3.03**	**195**	*eP*	Pn	06 36 41.5	+0.1
SJMP	**San Jose**	**3.28**	**211**	*eP*	Pn	06 36 46.0	+1.2

KRSC 05 06:37:29.4±1.3, 49°.58N×156°.84E, *h*46km±21km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.20**	**338**	*eP*	Pn	06 37 50.9	+1.3
SKR				*eS*	Sn	06 38 05.8	+1.1
PAU	**Pauzhetka**	**1.89**	**360**	*eP*	Pn	06 38 01.2	+2.1
PAU				*eS*	Sn	06 38 24.2	+2.5
KDTR	**Khodutka, Kamc**	**2.37**	**19**	*eP*	Pn	06 38 08.5	+2.9
KDTR				*eS*	Sn	06 38 37.5	+4.1
RUS	**Russkaya**	**3.05**	**20**	*eP*	Pn	06 38 18.5	+3.5
RUS				*eS*	Sn	06 38 53.7	+3.6
KRMR	**Karymshinskiy**	**3.35**	**14**	P	Pn	06 38 22.9	+3.7
KRMR				*eS*	Sn	06 39 03.0	+5.3
APC	**Apacha**	**3.36**	**3**	P	Pn	06 38 21.9	+2.7
DALK	**Dalny**	**3.66**	**18**	*eP*	Pn	06 38 26.7	+3.3
DALK				*eS*	Sn	06 39 10.1	+4.9
UGLR	**Uglovaya**	**3.84**	**18**	*eP*	Pn	06 38 28.4	+2.4
AVH	**Avacha**	**3.88**	**17**	*eP*	Pn	06 38 31.1	+4.7
AVH				S	Sn	06 39 15.5	+4.8
KOK	**Koryaka**	**3.88**	**16**	P	Pn	06 38 31.2	+4.6
SMAR	**Somma**	**3.89**	**18**	*eP*	Pn	06 38 30.8	+4.1
KRX	**Arik**	**3.95**	**16**	P	Pn	06 38 31.9	+4.4
SPN	**Mys Shipunski**	**4.05**	**28**	*eP*	Pn	06 38 33.1	+4.4
SPN				*eS*	Sn	06 39 19.2	+4.4
GNL	**Ganaly**	**4.18**	**9**	*eP*	Pn	06 38 35.0	+4.4
KBTR	**Krutoberegovo**	**7.56**	**26**	P	Pn	06 39 21.0	+4.2

IDC 05 06:45:52.2±2.1, 15°.15S×173°.25W, *h*0km, mb3.4/3, mb1 3.8/3, mb1mx3.6/35, mbtmp3.4/3, MS3.8/2, Ms1 3.8/2, ms1mx3.0/18, Error ellipse: s-maj=139.7km s-min=22.7km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.89**	**49**	Pn	Pn	06 46 23.9	-1.9
	16nm,0.3s,baz=223,slow=18,SNR=18						
AFI				Sn	Sn	06 46 43.8	-6.5
	58nm,0.3s,baz=218,slow=22,SNR=10						
WRA	**Warramunga Arr**	**50.04**	**257**	P	P	06 54 48.3	-0.9
	0.1nm,0.4s,baz=93,slow=7.3,SNR=6.2						
WRA				LR	LR	07 15 26.4	
	comp=Z,75nm,18.3s,baz=115,slow=36						
ASAR	**Alice Springs**	**50.33**	**252**	P	P	06 54 50.7	-0.5
	0.4nm,0.4s,baz=90,slow=7.8,SNR=8.7						
ASAR				LR	LR	07 14 21.5	
	comp=Z,100nm,20.7s,baz=169,slow=34						
TXAR	**Lajitas Array**	**80.35**	**56**	P	P	06 58 06.8	+0.9
	0.3nm,0.8s,baz=213,slow=6.0,SNR=3.9						
BRTR	**Keskin Array B**	**146.06**	**321**	PKPbc	PKPab	07 05 35.5	+0.3
	0.3nm,0.4s,baz=46,slow=3.0,SNR=3.5						

*JMA **05** 06:55:09.3±0.2, 33°.56N×137°.37E, *h*370km, M3.1*
*ISCJB **05** 06:55:10.1±0.7, 33°.49N±0°.07×137°.37E±0°.06, h354km±8km, mb2.9/2, Error ellipse: s-maj=10.8km s-min=8.5km az=174.0*
*IDC **05** 06:55:11.6±0.8, 33°.74N×137°.23E, h364km±14km, mb2.8/2, mb1 3.0/6, mb1mx2.8/44, mbtmp3.6/6, Error ellipse: s-maj=29.4km s-min=14.2km az=55.0*
ISC 05 06:55:10.1±0.9, 33°.60N±0°.08×137°.30E±0°.06, *h*362km±9km, n19, σ1s95/29, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.93**	**328**	P	Pn	06 55 57.8	+1.1
JTNC	**Tanabenakahech**	**1.42**	**279**	P	Pn	06 55 59.6	+0.6
JTNC				*eS*	S	06 56 37.6	-0.7
JWY	**Kouya**	**1.54**	**294**	P	Pn	06 56 00.6	+0.9
JHJ	**Hachijo jima 2**	**2.14**	**102**	P	Pn	06 56 06.1	+2.7
	9.5nm,0.3s,baz=252,slow=20,SNR=3.1						
JHJ				S	S	06 56 50.2	+3.9
	3.5nm,0.3s,baz=90,slow=21,SNR=2.3						
JWT	**Wachi**	**2.29**	**318**	P	Pn	06 56 05.1	+0.6
JWT				*eS*	S	06 56 46.1	-2.2
JAI	**Aioi**	**2.38**	**275**	P	Pn	06 56 05.6	+0.4
JRY	**Ryogami san**	**2.75**	**28**	P	Pn	06 56 09.1	+1.0
JRY				*eS*	S	06 56 55.5	+0.6
JMN	**Monobe**	**2.85**	**274**	P	Pn	06 56 09.7	+0.6
MAT	**Matsushiro**	**3.03**	**14**	P	Pn	06 56 11.2	+0.7
MAT				S	S	06 57 00.5	+1.2
MAT	**Matsushiro**	**3.03**	**14**	P	Pn	06 56 11.2	+0.7
MAT				*eS*	S	06 56 59.9	+0.6
MJAR	**Matsushiro Arr**	**3.03**	**14**	P	Pn	06 56 11.4	+0.9
	2.4nm,0.3s,baz=192,slow=9.5,SNR=24						
MJAR				S	S	06 56 59.1	-0.2
	0.1nm,0.3s,baz=189,slow=17,SNR=3.0						
BSO1	**Boso 1**	**3.23**	**70**	P	Pn	06 56 11.7	0.0
BSO1				*eS*	S	06 57 00.6	-0.9
JAG	**Ashikaga**	**3.33**	**32**	P	Pn	06 56 13.1	-0.1
JAG				*eS*	S	06 57 02.0	-2.1
JHS	**Saijyo**	**3.73**	**293**	P	Pn	06 56 17.9	+0.8
JNU	**Nakatsue**	**5.39**	**267**	P	Pn	06 56 35.2	+0.6
	0.9nm,0.3s,baz=56,slow=7.3,SNR=5.2						
JCJ	**Chichijima**	**7.74**	**146**	P	Pn	06 57 00.6	-0.8
	1.9nm,0.3s,baz=295,slow=23,SNR=5.8						
JCJ				S	S	06 58 25.7	-6.5
	4.0nm,0.3s,baz=10,slow=22,SNR=7.2						
KSRS	**Korea Array**	**8.55**	**299**	P	P	06 57 12.1	-0.7
	0.3nm,0.3s,baz=113,slow=12,SNR=5.6						
WRA	**Warramunga Arr**	**53.32**	**183**	P	P	07 03 55.5	+2.2
	0.2nm,0.3s,baz=0.0,slow=7.7,SNR=8.8						
ASAR	**Alice Springs**	**57.04**	**184**	P	P	07 04 21.9	+2.2
	0.5nm,0.9s,baz=358,slow=4.6,SNR=4.2						

*DDA **05** 07:13:33.9, 37°.35N×37°.14E, *h*7km, Ml2.8*
*ISK **05** 07:13:33.1, 37°.35N×37°.13E, h5km, ML2.8/5*
ISC 05 07:13:33.9±1.1, 37°.34N±0°.03×37°.14E±0°.02, *h*7km±9km, n20, σ0s77/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.18**	**161**	PG	Pg	07 13 37.6	0.0
KMRS	**Kahramanmaras**	**0.25**	**311**	PG	Pg	07 13 39.2	+0.3
KMRS				SG	Sg	07 13 43.0	+0.7
KUZU	**Kuzuini**	**0.57**	**185**	*iP*	Pg	07 13 45.2	+0.3
KUZU				*iS*	Sn	07 13 57.4	-0.7
ANDN	**Andirin**	**0.68**	**291**	*iP*	Pg	07 13 46.9	-0.1
ANDN				*iS*	Sb	07 13 56.7	-1.0
ATAB	**Bozova**	**0.93**	**82**	*iP*	Pg	07 13 52.2	-0.2
ATAB				*iS*	Sb	07 14 06.4	+0.5
KOZT	**Kozan**	**1.05**	**278**	PG	Pb	07 13 53.9	-0.6
KOZT				SG	Sn	07 14 10.2	+0.1
AKCD	**Akcadag**	**1.14**	**33**	*iP*	Pb	07 13 55.7	-0.3
AKCD				*iS*	Sn	07 14 12.9	+0.6
TAHT	**Tahtakopru-Hat**	**1.23**	**219**	PN	Pn	07 13 57.8	+0.3
DARE	**Darende-Malaya**	**1.26**	**12**	PN	Pn	07 13 58.5	+0.5
SURC	**SANLIURFA_SURC**	**1.26**	**111**	*iP*	Pg	07 13 58.1	-0.1
SURC				*iS*	Sn	07 14 15.5	+0.2
YURE	**YUREGIR**	**1.31**	**247**	PN	Pg	07 13 59.2	+0.1
YURE	**YUREGIR**	**1.31**	**247**	*iP*	Pg	07 13 59.2	+0.1
YURE				*iS*	Sn	07 14 18.9	+2.5
URFA	**Urfa**	**1.34**	**85**	PN	Pg	07 13 59.8	+0.1
SANL	**SANLIURFA_Merk**	**1.48**	**96**	*iP*	Pn	07 14 01.2	+0.1
SANL				*iS*	Sg	07 14 21.6	-0.1
ELZG	**Elazig**	**1.86**	**51**	*iP*	Pn	07 14 06.9	+0.5
GULE	**Gulek**	**1.89**	**269**	*iP*	Pn	07 14 05.9	-0.8
CUKAN	**kangal_SIVAS**	**1.99**	**7**	*iP*	Pg	07 14 11.9	0.1
SVRC	**Sivrice-ELAZID**	**2.00**	**58**	PN	Pb	07 14 10.3	-0.5
KEMA	**Kemaliye**	**2.20**	**29**	*iP*	Pb	07 14 13.6	-0.5
PTK	**Pertek**	**2.36**	**48**	PN	Pb	07 14 14.9	-1.9

*ISK **05** 07:17:51.9, 38°.39N×27°.48E, h14km, ML2.3/7*
*ISCJB **05** 07:17:52.8±0.6, 38°.38N±0°.04×27°.48E±0°.04, h5km±11km, Error ellipse: s-maj=6.7km s-min=4.8km az=14.7*
*DDA **05** 07:17:53.1, 38°.39N×27°.46E, h7km, Ml2.5*
ISC 05 07:17:52.8±1.0, 38°.38N±0°.03×27°.47E±0°.03, h14km±10km, n15, σ0s38/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.34**	**271**	PG	Pg	07 17 59.5	-0.2
BLCB				SG	Sg	07 18 04.9	+0.5
GMLD	**Gumuldur**	**0.53**	**235**	PG	Pg	07 18 03.2	-0.1
GMLD				SG	Sb	07 18 11.2	-0.1
AYDB	**Zeytinkoy-Aydi**	**0.55**	**143**	PG	Pg	07 18 03.6	0.0
AYDB				SG	Sg	07 18 11.0	+0.1
AKHS	**Akhisar**	**0.56**	**28**	*i* P	Pb	07 18 04.2	-0.3
DGB	**˜zmir**	**0.57**	**235**	*i* P	Pb	07 18 04.6	+0.1
DGB				*i* S	Sb	07 18 12.3	0.0
FOCM	**Fo˘şa**	**0.67**	**300**	PG	Pg	07 18 05.6	-0.2
URLA	**Izmir**	**0.69**	**269**	PG	Pg	07 18 06.1	-0.1
URLA	**Izmir**	**0.69**	**269**	*i* P	Pb	07 18 06.7	+0.1
GCAM	**G?zelcaml?**	**0.70**	**195**	PG	Pg	07 18 06.0	-0.5
AYDN	**Tasoluk**	**0.79**	**156**	*i* P	Pn	07 18 09.6	+0.1
AYDN				*i* S	Sb	07 18 19.1	+0.3
KULA	**Kula-Manisa**	**0.94**	**82**	PG	Pg	07 18 10.2	-0.9
STEP	**BALIKESIR_Sava**	**1.01**	**11**	*i* P	Pn	07 18 12.4	-0.2
STEP				*i* S	Sn	07 18 27.0	+0.4
CHOS	**Chios island**	**1.11**	**271**	PN	Pb	07 18 13.1	-0.7
DEMI	**Demirci**	**1.18**	**55**	*i* P	Pg	07 18 15.7	+0.3
DURS	**Dursunbey**	**1.45**	**32**	*i* P	Pb	07 18 19.8	+0.3

SJA 05 07:39:03.2±1.1, 27°.54S×66°.06W, *h*12km±10km, ML3.2, MW3.5, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYA	**Choya**	**0.93**	**166**	*i* P	Pb	07 39 21.6	+0.3
CYA				*eS*	Sb	07 39 33.7	+0.1
CYA				IAML		07 39 34.8	
	comp=Z,516nm,0.4s						
AHML	**Horco Molle**	**0.99**	**41**	*i* P	Pn	07 39 23.0	-0.1
AHML				IAML		07 39 23.3	
	comp=Z,514nm,0.2s						
AHML				*i* S	Sb	07 39 36.0	+0.4
FSA	**Cafayete**	**1.43**	**3**	*eP*	Pg	07 39 30.3	-0.4
FSA				*eS*	Sg	07 39 48.7	-0.5
FSA				IAML		07 39 49.3	
	comp=Z,208nm,0.4s						
ACLC	**CERRO LA CRUZ**	**2.03**	**202**	*eP*	Pn	07 39 38.2	+0.7
ACLC				*eS*	Sb	07 40 07.0	+1.4
VCA	**Vinchina**	**2.23**	**237**	*i* P	Pb	07 39 42.4	-1.3
VCA				*eS*	Sb	07 40 11.4	0.0
VCA				IAML		07 40 16.6	
	comp=Z,172nm,0.2s						
SLA	**San Lorenzo**	**2.85**	**10**	*eP*	Pb	07 39 55.2	+1.0
SLA				*eS*	Sg	07 40 33.4	-1.6
APLL	**PUNTA DE LOS L**	**2.87**	**188**	*eP*	Pn	07 39 49.1	+0.2
APLL				*eS*	Sb	07 40 32.1	+2.5
APLL				IAML		07 40 34.6	
	comp=Z,84nm,0.2s						
AZAP	**Zapla**	**3.42**	**15**	*eP*	Pb	07 40 01.6	-2.4
AZAP				*eS*	Sg	07 40 49.9	-3.4
AZAP				IAML		07 40 51.3	
	comp=Z,62nm,0.4s						
HJA	**Humahuaca**	**4.36**	**8**	*i* P	Pn	07 40 09.7	+0.1

*ISCJB **05** 08:04:09.2±0.6, 21°.90S±0°.05×68°.49W±0°.09, h120km±7km, mb3.5/6, Error ellipse: s-maj=13.5km s-min=7.8km az=4.1*
*GUC **05** 08:04:10.3±0.5, 21°.89S×68°.62W, h121km±6km, ML3.8*
*IDC **05** 08:04:11.1±2.7, 21°.91S×68°.42W, h122km±24km, mb3.3/7, mb1 3.4/10, mb1mx3.4/31, mbtmp3.7/10, Error ellipse: s-maj=23.4km s-min=17.3km az=51.0*
ISC 05 08:04:09.7±0.8, 21°.87S±0°.05×68°.43W±0°.08, *h*112km±9km, n21, σ1s39/30, mb3.6/6, 5C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB03	**IPOC Station P**	**1.24**	**261**	*iP*	Pn	08 04 38.8	0.0
PB03				*iS*	Sn	08 04 51.6	-0.5
PB03				IAML		08 04 53.9	
	comp=E,2μm,0.2s						
PB01	**IPOC Station P**	**1.28**	**310**	*eP*	Pn	08 04 34.8	+0.6
PB01				*eS*	Sn	08 04 53.1	+0.4
PB01				IAML		08 04 54.9	
	comp=N,2μm,0.4s						
PB06	**IPOC Station P**	**1.34**	**232**	⇑*iP*	Pn	08 04 35.3	+0.3
PB06				*iS*	Sn	08 04 54.0	-0.1
PB06				IAML		08 04 54.9	
	comp=N,3μm,0.4s						
PB07	**IPOC Station P**	**1.36**	**276**	⇑*iP*	Pn	08 04 35.3	+0.1
PB07				*iS*	Sn	08 04 54.1	-0.4
PB07				IAML		08 05 01.4	
	comp=E,2μm,0.3s						
PB02	**IPOC Station P**	**1.47**	**292**	⇑*iP*	Pn	08 04 36.5	+0.1
PB02				*eS*	Sn	08 04 56.2	-0.4
PB02				IAML		08 04 59.7	
	comp=E,2μm,0.3s						
PB04	**IPOC Station P**	**1.66**	**254**	⇑*iP*	Pn	08 04 38.4	-0.3
PB04				*eS*	Sn	08 05 00.0	-0.8
PB04				IAML		08 05 03.4	
	comp=N,1μm,0.3s						
PB05	**IPOC Station P**	**1.91**	**239**	⇑*iP*	Pn	08 04 41.3	-0.5
PB05				*eS*	Sn	08 05 05.5	-0.8
PB05				IAML		08 05 11.9	
	comp=N,917nm,0.4s						
PB11	**IPOC Station P**	**2.39**	**331**	*eP*	Pn	08 04 48.4	+0.5
PB11				*eS*	Sn	08 05 17.4	+0.2
PB11				IAML		08 05 24.1	
	comp=N,548nm,0.2s						
LPAZ	**La Paz**	**5.56**	**3**	P	Pn	08 05 32.8	+2.1
LPAZ	comp=N,1.3nm,0.3s,baz=142,slow=6.0,SNR=35				Sn	08 06 27.4	-6.4
	comp=N,0.3nm,0.3s,baz=182,slow=13,SNR=3.6						
CPUP	**Villa Florida**	**11.07**	**116**	P	Pn	08 06 44.9	+0.2
	comp=N,0.1nm,0.3s,baz=298,slow=11,SNR=4.7						
PLCA	**Paso Flores**	**18.89**	**185**	P	Pn	08 08 22.4	-0.9
	comp=N,0.1nm,0.3s,baz=14,slow=9.4,SNR=6.6						
BDFB	**Brasilia**	**20.29**	**76**	P	P	08 08 37.6	+0.7
	comp=N,1.2nm,0.4s,baz=229,slow=11,SNR=2.9						
TXAR	**Lajitas Array**	**61.19**	**325**	P	P	08 14 13.1	+0.3
	comp=N,0.1nm,0.6s,baz=153,slow=8.7,SNR=2.1						
DBIC	**Dimbokro**	**68.41**	**73**	P	P	08 15 00.1	+0.2
	comp=N,0.9nm,0.4s,baz=243,slow=9.0,SNR=3.6						
PDAR	**Pinedale Array**	**74.65**	**330**	P	P	08 15 37.6	+0.6
	comp=N,0.2nm,0.7s,baz=106,slow=8.5,SNR=2.9						
NVAR	**Mina Array Bea**	**76.06**	**322**	P	P	08 15 45.4	+0.3
	comp=N,0.5nm,0.8s,baz=170,slow=7.9,SNR=5.0						
TORD	**Torodi Ar. Bea**	**77.06**	**70**	P	P	08 15 51.4	+0.4
	comp=N,1.4nm,0.7s,baz=248,slow=5.3,SNR=12						
MAW	**Mawson**	**83.85**	**163**	P	P	08 16 25.9	-0.5
	comp=N,1.1nm,0.9s,baz=202,slow=5.4,SNR=4.7						
ASAR	**Alice Springs**	**129.79**	**207**	PKP	PKPdf	08 23 06.0	-0.7
	comp=N,0.6nm,0.9s,baz=134,slow=2.7,SNR=4.6						
WRA	**Warramunga Arr**	**132.86**	**210**	PKP	PKPdf	08 23 12.5	0.0
	comp=N,0.4nm,0.7s,baz=152,slow=1.8,SNR=5.6						
MKAR	**Makanchi Array**	**145.67**	**37**	PKPbc	PKPbc	08 23 35.6	+0.2
	comp=N,0.5nm,0.6s,baz=323,slow=5.2,SNR=3.9						

*PGC **05** 08:12:51.8, 51°.52N×130°.90W, h1km, 202km Sse of Sandspit, Bc Haida Gwaii Region*
*IDC **05** 08:13:09.5±0.9, 52°.43N×132°.06W, h0km, mb4.0/8, mb1 4.2/13, mb1mx4.0/45, mbtmp4.0/13, ML4.0/4, MS3.6/10, Ms1 3.6/10, ms1mx3.2/49, Error ellipse: s-maj=16.4km s-min=6.8km az=53.0*
*ISCJB **05** 08:13:10.5±0.6, 52°.57N±0°.07×132°.0W±0°.1, h10km, mb3.9/8, MS3.5/6, Error ellipse: s-maj=12.3km s-min=5.7km az=40.7*
ISC 05 08:13:12.0±0.8, 52°.7N±0°.1×131°.79W±0°.09, *h*10km, n30, σ1s76/19, mb4.0/8, MS3.5/6, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H02S1	**DAWSON INLET T**	**0.66**	**321**	Pg	Pg	08 13 25.7	+1.0
H02S1				Lg	Lg	08 13 37.0	
H02N1	**VAN INLET T-PH**	**0.72**	**321**	Pg	Pg	08 13 26.8	+0.8
H02N1				Lg	Lg	08 13 38.8	
BBB	**Bella Bella**	**2.31**	**101**	Pn	Pn	08 13 49.9	-0.2
	9.5nm,0.3s,baz=285,slow=15,SNR=16						
BBB				Sn	Sb	08 14 19.2	-3.1
	62nm,0.3s,baz=323,slow=20,SNR=6.6						
DLBC	**Dease Lake**	**5.84**	**9**	Pn	Pn	08 14 42.1	+3.4
	5.0nm,0.3s,baz=198,slow=11,SNR=52						
DLBC				Lg	Lg	08 16 16.7	
	6.8nm,0.3s,baz=311,slow=16,SNR=6.9						
DLBC				LR	LR	08 16 46.0	
	comp=Z,388nm,20.8s,baz=129,slow=35						
NEW	**Newport**	**10.34**	**110**	Pn	Pn	08 15 44.5	+4.1
	0.2nm,0.3s,baz=279,slow=13,SNR=5.2						
NEW				Lg	Lg	08 18 33.9	
	0.1nm,0.3s,baz=72,slow=20,SNR=4.3						
YBH	**Yreka Blue Hor**	**12.57**	**147**	Pn	Pn	08 16 13.7	+2.7
	0.0nm,0.3s,baz=39,slow=10,SNR=4.3						
YBH				LR	LR	08 20 16.2	
	comp=Z,159nm,18.8s,baz=334,slow=34						
KDAK	**Kodiak Island**	**12.89**	**302**	Pn	Pn	08 16 14.9	-0.1
	0.2nm,0.3s,baz=117,slow=5.4,SNR=6.0						
KDAK				LR	LR	08 19 59.9	
	comp=Z,296nm,18.8s,baz=114,slow=32						
YKA	**Yellowknife Ar**	**13.41**	**36**	Pn	Pn	08 16 23.2	+1.1
	0.2nm,0.3s,baz=236,slow=12,SNR=9.0						
ILAR	**Eielson Array**	**14.36**	**333**	Pn	P	08 16 41.0	-1.2
	0.1nm,0.3s,baz=153,slow=10,SNR=14						
ILAR				Lg	Lg	08 21 04.6	
	0.0nm,0.3s,baz=119,slow=27,SNR=7.9						
ILAR				LR	LR	08 22 08.1	
	comp=Z,231nm,18.8s,baz=148,slow=37						
INK	**Inuvik**	**15.69**	**358**	Pn	P	08 16 56.7	-0.2
	0.3nm,0.3s,baz=157,slow=12,SNR=10						
NVAR	**Mina Array Bea**	**17.07**	**141**	Pn	Pn	08 17 11.1	+0.3
	0.0nm,0.3s,baz=316,slow=12,SNR=3.3						
PDAR	**Pinedale Array**	**17.88**	**115**	P	P	08 17 22.1	+0.5
	0.1nm,0.3s,baz=309,slow=9.4,SNR=26						
ULM	**Lac du Bonnet**	**22.36**	**82**	P	P	08 18 10.7	+0.7
	6.7nm,1.0s,baz=302,slow=6.7,SNR=5.8						
ANMO	**Albuquerque**	**25.27**	**125**	P	P	08 18 39.3	+0.8
	1.3nm,0.8s,baz=324,slow=10,SNR=6.4						
RES	**Resolute Bay**	**26.58**	**21**	P	P	08 18 52.3	+2.5
	3.0nm,0.9s,baz=229,slow=11,SNR=5.7						
TXAR	**Lajitas Array**	**31.19**	**127**	P	P	08 19 29.8	-1.5
	0.9nm,0.8s,baz=328,slow=6.8,SNR=6.8						
TXAR				LR	LR	08 32 03.4	
	comp=Z,75nm,21.0s,baz=0.0,slow=36						
LPIG	**La Paz**	**32.89**	**142**	LR	LR	08 32 29.7	
	comp=Z,64nm,20.3s,baz=340,slow=35						
SADO	**Sadowa**	**34.92**	**82**	LR	LR	08 35 01.0	
	comp=Z,232nm,18.9s,baz=326,slow=37						
SEY	**Seymchan**	**39.31**	**316**	P	P	08 20 40.4	-0.3
	1.7nm,0.7s,baz=44,slow=4.7,SNR=4.7						
SFJD	**Kangerlussuaq**	**39.97**	**37**	LR	LR	08 38 02.0	
	comp=Z,162nm,18.3s,baz=286,slow=37						
PETK	**Petropavlovsk-**	**40.93**	**300**	P	P	08 20 53.3	-1.0
	3.1nm,0.8s,baz=76,slow=12,SNR=4.4						
KLR	**Kul'dur**	**56.34**	**308**	LR	LR	08 49 45.0	
	comp=Z,19nm,19.0s,baz=62,slow=39						
H11N2	**WAKE ISLAND Hy**	**57.22**	**259**	T	T	09 24 55.1	
	baz=39,slow=76,SNR=1366						
H11N3	**WAKE ISLAND Hy**	**57.22**	**259**	T	T	09 24 55.2	
	baz=39,slow=76,SNR=1267						
H11N1	**WAKE ISLAND Hy**	**57.23**	**259**	T	T	09 24 57.0	
	baz=39,slow=76,SNR=914						
H11S1	**WAKE ISLAND Hy**	**58.27**	**259**	T	T	09 26 17.1	
	baz=40,slow=76,SNR=119						
H11S2	**WAKE ISLAND Hy**	**58.29**	**259**	T	T	09 26 17.7	
	baz=40,slow=76,SNR=75						
H11S3	**WAKE ISLAND Hy**	**58.29**	**259**	T	T	09 26 19.6	
	baz=40,slow=76,SNR=111						
ZALV	**Zalesovo Beam**	**69.44**	**338**	P	P	08 24 19.1	-0.7
	1.6nm,0.6s,baz=34,slow=5.6,SNR=7.3						
ZALV				LR	LR	08 57 10.7	
	comp=Z,32nm,19.6s,baz=64,slow=38						
MKAR	**Makanchi Array**	**76.69**	**337**	P	P	08 25 01.8	-1.2
	1.4nm,0.7s,baz=38,slow=5.4,SNR=12						

*IDC **05** 08:16:11.6±1.1, 31°.76S×72°.01W, h0km, mb3.6/3, mb1 3.8/6, mb1mx3.6/37, mbtmp3.5/6, ML3.6/3, Error ellipse: s-maj=31.1km s-min=30.6km az=161.0*
*SJA **05** 08:16:14.8±0.9, 31°.86S×72°.19W, h39km±16km, ML4.1, MW4.0*
*GUC **05** 08:16:15.7±0.6, 31°.71S×71°.75W, h45km±7km, ML3.8*
ISC 05 08:16:12.4±1.9, 31°.70S±0°.03×71°.89W±0°.07, *h*3km±11km, n34, σ1s04/40, mb3.7/3, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.92**	**55**	⇑*iP*	Pn	08 16 32.5	+0.1
CMCH				*i* S	Sn	08 16 45.0	-1.3
ROCH	**El Roble**	**1.47**	**150**	*eP*	Pn	08 16 40.4	+0.3
ROCH				*i* S	Sg	08 16 59.5	-0.2
ROCH				IAML		08 17 05.7	
	comp=N,2μm,0.4s						
ROC1	**El Roble**	**1.47**	**150**	*eP*	Pn	08 16 40.7	+0.5
ROC1				*eS*	Sg	08 17 00.4	+0.7
PEL	**Peldeh

comp=E,1.1nm,0.4s,baz=320,slow=4.5,SNR=4.7

*IDC **05** 08:23:39.5±10.0, 28.08S×178.84W, h388km±83km, mb3.0/6, mb1 3.2/7, mb1mx3.0/30, mbtmp3.9/7, Error ellipse: s-maj=100.4km s-min=25.5km az=49.0*

ISC 05 08:23:35.8±3.9, **28.1S**±0.5×**178.7W**±0.5, **h350**km, **n7, σ0s73/8, mb3.2/6, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.71**	**291**	P	**Pn**	**08 26 50.3**	**+0.9**
	0.7nm,0.3s,baz=132,slow=15,SNR=6.2						
CTA	**Charters Tower**	**32.85**	**276**	P	**P**	**08 29 37.3**	**-1.0**
	1.3nm,0.5s,baz=117,slow=6.8,SNR=2.8						
STKA	**Stephens Creek**	**34.43**	**254**	P	**P**	**08 29 52.1**	**+0.5**
	1.2nm,0.8s,baz=67,slow=7.7,SNR=4.0						
ASAR	**Alice Springs**	**42.63**	**265**	P	**P**	**08 30 58.8**	**-0.5**
	0.4nm,0.4s,baz=100,slow=6.6,SNR=11						
ASAR				PcP	**PcP**	**08 32 44.3**	**+0.1**
	0.4nm,0.8s,baz=105,slow=2.2,SNR=3.1						
WRA	**Warramunga Arr**	**43.41**	**270**	P	**P**	**08 31 04.8**	**-0.7**
	0.6nm,0.4s,baz=107,slow=7.8,SNR=10						
VNDA	**Vanda**	**50.30**	**185**	P	**P**	**08 31 57.5**	**+0.1**
	0.4nm,0.5s,baz=0.0,slow=3.0,SNR=4.3						
MAW	**Mawson**	**74.22**	**201**	P	**P**	**08 34 34.7**	**+0.1**
	1.0nm,1.0s,baz=127,slow=5.1,SNR=3.4						

*ISCJB **05** 08:33:12.4±0.7, 38.39N±0.05×39.03E±0.05, h7km±7km, Error ellipse: s-maj=8.8km s-min=6.3km az=19.2*
*ISK **05** 08:33:12.8, 38.39N×39.12E, h4km, ML2.0/6*
*DDA **05** 08:33:13.1, 38.55N×38.90E, h7km, Ml2.5*

ISC 05 08:33:12.7±1.0, **38.45N**±0.05×**39.06E**±0.04, **h10**km±7km, **n9, σ1s43/13, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.07**	**306**	*i* P	**Pg**	**08 33 15.1**	**0.0**
ELZG				*i* S	**Sg**	**08 33 17.5**	**+0.5**
SVRC	**Sivrice-ELAZID**	**0.21**	**111**	PG	**Pg**	**08 33 16.2**	**-0.9**
SVRC				SG	**Sg**	**08 33 19.2**	**-0.9**
PTK	**Pertek**	**0.51**	**30**	PG	**Pb**	**08 33 24.1**	**+0.3**
PTK				SG	**Sb**	**08 33 32.1**	**+0.7**
AKCD	**Akcadag**	**0.91**	**260**	*i* P	**Pg**	**08 33 28.3**	**-1.9**
AKCD				*i* S	**Sg**	**08 33 40.7**	**-1.3**
KEMA	**Kemaliye**	**0.93**	**332**	*i* P	**Pg**	**08 33 28.4**	**-2.2**
URFA	**Urfa**	**1.03**	**191**	PG	**Pg**	**08 33 32.0**	**-0.5**
DARE	**Darende-Malaty**	**1.24**	**276**	PN	**Pn**	**08 33 38.4**	**+2.2**
MAZI	**Mazidag**	**1.48**	**132**	PN	**Pn**	**08 33 39.9**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.71**	**100**	PN	**Pn**	**08 33 43.3**	**+0.7**

UCR 05 08:36:20.8±1.8, **9.64N×83.03W, h7**km±10km, **MD3.5, 2C-2D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK0	**Durika**	**0.42**	**209**	⇓*e*P		08 36 29.3	+0.2
DRK0				*e*S	Sb	08 36 36.6	-0.8
EDBA	**Buenos Aires**	**0.53**	**207**	⇓*e*P	Pg	08 36 31.6	+0.6
EDBA				*e*S	Sb	08 36 40.6	+0.4
EDLM	**Las Mercedes**	**0.65**	**237**	*e*P	Pg	08 36 33.2	-0.2
EDLM				*e*S	Sb	08 36 43.3	-0.6
URSC	**Urasca**	**0.76**	**285**	⇑*e*P	Pg	08 36 34.9	-0.5
URSC				*e*S	Sg	08 36 45.9	+0.5
EDPN	**Palmar Norte**	**0.79**	**212**	*e*P	Pb	08 36 37.0	+0.2
CVTR	**Volcan Turrial**	**0.81**	**298**	*e*P	Pg	08 36 36.8	+0.3
BRU2	**Volcan**	**0.90**	**158**	⇑*e*P	Pg	08 36 36.9	-1.3
BRU2				*e*S	Sg	08 36 50.3	+0.4
LCR2	**La Lucha 2**	**0.96**	**276**	*e*P	Pg	08 36 38.6	-0.7
HDC	**Heredia**	**1.12**	**289**	*e*P	Pg	08 36 41.4	-1.0
HDC				*e*S	Sg	08 36 57.0	-0.1
ARE1	**Arenal 1**	**1.85**	**296**	*e*P	Pn	08 36 53.9	+0.9
JTS	**JuntasAbangare**	**2.00**	**289**	*e*P	Pn	08 36 55.7	+0.6

*NIED **05** 08:39:00, 35.60N×142.60E, h8km, Mw3.7 Best double couple: M0=4.67000×10^14 NP1:φs=9.00000°, δ38.00000°, λ-80.00000°. NP2:φs=176.00000°, δ53.00000°, λ-97.00000°.*
*IDC **05** 08:39:07.4±1.2, 35.48N×142.74E, h0km, mb3.8/5, mb1 4.1/9, mb1mx3.7/48, mbtmp4.0/9, ML3.6/4, MS2.6/1, Ms1 2.6/1, ms1mx2.1/48, Error ellipse: s-maj=34.3km s-min=22.1km az=121.0*
*JMA **05** 08:39:10.6±0.2, 35.58N×142.61E, h76km, M3.7*

ISC 05 08:39:07.1±2.0, **35.61N**±0.05×**142.66E**±0.05, **h2**km±12km, **n26, σ1s77/44, mb3.7/5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.47**	**274**	P	**Pg**	**08 39 35.5**	**+0.3**
CHOJ				*e*S	**Sg**	**08 39 53.8**	**-0.4**
BSO1	**Boso 1**	**1.67**	**236**	P	**Pn**	**08 39 37.3**	**+0.4**
BSO1				*e*S	**Sn**	**08 39 57.5**	**-1.2**
JIHU	**Itakohorinouch**	**1.77**	**282**	P	**Pb**	**08 39 40.2**	**-0.1**
JIHU				*e*S	**Sb**	**08 40 02.0**	**-0.9**
JHYU	**Hitachinakayam**	**1.83**	**294**	P	**Pn**	**08 39 40.2**	**+0.6**
JHYU				S	**Sn**	**08 40 02.3**	**-1.1**
BSO3	**Boso 3**	**1.93**	**246**	P	**Pb**	**08 39 42.1**	**-0.8**
BSO3				*e*S	**Sn**	**08 40 05.0**	**-0.5**
JFT	**Otama**	**2.67**	**316**	P	**Pn**	**08 39 52.4**	**+1.2**
JFT				*e*S	**Sn**	**08 40 23.2**	**-0.9**
JAG	**Ashikaga**	**2.72**	**288**	P	**Pn**	**08 39 52.6**	**+0.7**
JAG				*e*S	**Sn**	**08 40 22.5**	**-2.9**
JOD2	**Odawara 2**	**2.93**	**264**	P	**Pn**	**08 39 55.5**	**+0.7**
JOD2				S	**Sn**	**08 40 28.9**	**-1.7**
JRY	**Ryogami san**	**3.08**	**279**	P	**Pn**	**08 39 58.3**	**+1.5**
JRY				*e*S	**Sn**	**08 40 33.8**	**-0.4**
JYN	**Shimob**	**3.35**	**269**	P	**Pn**	**08 40 01.6**	**+1.0**
JYN				*e*S	**Sn**	**08 40 39.6**	**-1.5**
JHJ2	**Mitsune**	**3.42**	**224**	P	**Pn**	**08 40 02.0**	**+0.5**
JHJ2				*e*S	**Sn**	**08 40 39.6**	**-3.0**
JHJ	**Hachijo jima 2**	**3.44**	**225**	Pn	**Pn**	**08 40 02.1**	**+0.4**
	11nm,0.3s,baz=338,slow=19,SNR=9.1						
JHJ				Sn	**Sn**	**08 40 39.7**	**-3.3**
	34nm,0.3s,baz=254,slow=22,SNR=9.7						
JHJ				LR	LR	08 41 18.7	
	comp=Z,106nm,21.8s,baz=336,slow=39						
JNS	**Sasagawa**	**3.47**	**310**	P	**Pn**	**08 40 03.3**	**+1.1**
JNS				*e*S	**Sn**	**08 40 43.1**	**-0.8**
JMK	**Ichinoseki**	**3.53**	**342**	P	**Pn**	**08 40 03.4**	**+0.4**
JMK				*e*S	**Sn**	**08 40 43.3**	**-2.0**
MJAR	**Matsushiro Arr**	**3.72**	**286**	Pn	**Pn**	**08 40 07.4**	**+1.8**
	2.7nm,0.3s,baz=96,slow=8.3,SNR=17						
MAT	**Matsushiro**	**3.72**	**286**	P	**Pn**	**08 40 08.1**	**+2.4**
MAT				S	**Sn**	**08 40 50.4**	**+0.3**
MAT	**Matsushiro**	**3.72**	**286**	P	**Pn**	**08 40 08.0**	**+2.4**
JYK	**Kaneyama**	**3.78**	**332**	P	**Pn**	**08 40 07.6**	**+1.2**
JYK				*e*S	**Sn**	**08 40 50.6**	**-0.9**
JOM	**Ohasama**	**4.01**	**345**	P	**Pn**	**08 40 10.0**	**+0.4**
JOM				*e*S	**Sn**	**08 40 54.6**	**-2.5**
JCJ	**Chichijima**	**8.49**	**183**	Pn	**Pn**	**08 41 08.4**	**-2.8**
	1.5nm,0.3s,baz=276,slow=22,SNR=8.7						
JCJ				Sn	Sn	08 42 36.3	-11
	3.8nm,0.3s,baz=287,slow=20,SNR=4.3						
ASAJ	**Asahikawa**	**8.50**	**360**	Pn	**Pn**	**08 41 11.4**	**+0.2**
	0.9nm,0.3s,baz=162,slow=3.2,SNR=5.6						
ASAJ				Sn	**Sn**	**08 42 41.8**	**-5.9**
	0.4nm,0.3s,baz=279,slow=19,SNR=2.7						
SEY	**Seymchan**	**28.01**	**9**	P	**P**	**08 45 00.9**	**+1.7**
	1.7nm,0.8s,baz=38,slow=19,SNR=3.3						
ILAR	**Eielson Array**	**50.17**	**32**	P	**P**	**08 48 04.7**	**+0.9**
	0.7nm,0.8s,baz=262,slow=6.2,SNR=8.8						
INK	**Inuvik**	**55.20**	**27**	P	**P**	**08 48 42.0**	**+1.1**
	1.0nm,0.8s,baz=284,slow=6.7,SNR=4.3						
NVAR	**Mina Array Bea**	**75.04**	**53**	P	**P**	**08 50 51.9**	**+1.3**
	0.5nm,0.7s,baz=290,slow=5.1,SNR=6.3						
TXAR	**Lajitas Array**	**90.19**	**53**	P	**P**	**08 52 10.3**	**+0.8**
	0.2nm,0.6s,baz=307,slow=3.3,SNR=3.6						

*IDC **05** 08:40:02.2±2.0, 16.60N×121.34E, h0km, mb3.8/3, mb1 4.2/4, mb1mx3.6/46, mbtmp4.0/4, ML4.8/1, Error ellipse: s-maj=37.5km s-min=23.5km az=79.0*
*MAN **05** 08:40:06.2, 16.19N×120.81E, h25km, mb5.0, ML3.9, MS4.0*

ISC 05 08:40:05.5±1.1, **16.26N**±0.03×**120.83E**±0.04, **h7**km±9km, **n16, σ1s32/25, mb3.6/3, 1C-3D, Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPP	**San Manuel, Pa**	**0.18**	**235**	*e*P	**Pg**	**08 40 08.7**	**-0.5**
SMPP				*e*S	**Sg**	**08 40 11.4**	**-0.3**
PCPH	**Palayan**	**0.73**	**160**	⇑*e*P	**Pb**	**08 40 20.0**	**-0.6**
PCPH				*i* S	**Sb**	**08 40 30.5**	**-0.3**
BALP	**Baler**	**0.88**	**125**	*e*P	**Pg**	**08 40 21.8**	**-0.6**
BALP				*e*S	**Sn**	**08 40 35.1**	**-2.0**
BOLP	**Bolinao**	**0.89**	**278**	*e*P	**Pg**	**08 40 21.9**	**-0.7**
BOLP				*e*S	**Sg**	**08 40 35.6**	**+1.3**
SCZP	**Santa Cruz**	**1.01**	**242**	*e*P	**Pg**	**08 40 24.3**	**-0.5**
CAUP	**Cauayan**	**1.17**	**54**	*e*P	**Pg**	**08 40 27.4**	**-0.6**
ABRA	**Dolores**	**1.39**	**355**	*e*P	**Pn**	**08 40 29.8**	**-1.5**
ABRA				*e*S	**Sb**	**08 40 49.8**	**0.0**
APYP	**Conner**	**1.65**	**14**	*e*P	**Pn**	**08 40 34.6**	**-0.2**
APYP				*e*S	**Sn**	**08 40 57.8**	**+1.7**
CVP	**Callao Caves**	**1.72**	**33**	⇓*i*P	**Pn**	**08 40 36.2**	**+0.4**
CVP				*i* S	**Sg**	**08 41 01.9**	**+1.0**
TGY	**Tagaytay City**	**2.14**	**177**	Pn	**Pb**	**08 40 44.4**	**-0.2**
	186nm,0.3s,baz=301,slow=2.6,SNR=9.5						
TGY				Lg	Lg	08 41 22.2	
	243nm,0.3s,baz=311,slow=22,SNR=6.7						
TGY	**Tagaytay City**	**2.14**	**177**	⇓*e*P	**Pb**	**08 40 44.5**	**-0.2**
TGY				*i* S	**Sg**	**08 41 17.3**	**+3.0**
GQP	**Guinayangan**	**2.81**	**146**	⇓*e*P	**Pn**	**08 40 52.8**	**+2.0**
GQP				*e*S	**Sb**	**08 41 29.5**	**-1.1**
BUSP	**Coron**	**4.27**	**188**	*e*P	**Pn**	**08 41 10.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**21.01**	**279**	P	**P**	**08 44 52.2**	**+2.4**
	1.1nm,0.3s,baz=91,slow=9.9,SNR=4.2						
WRA	**Warramunga Arr**	**38.34**	**159**	P	**P**	**08 47 25.9**	**-1.3**
	0.8nm,0.7s,baz=340,slow=9.1,SNR=9.9						
ASAR	**Alice Springs**	**41.68**	**162**	P	**P**	**08 47 54.4**	**-0.6**
	0.7nm,0.6s,baz=339,slow=6.4,SNR=9.3						

*ISCJB **05** 08:43:03.3±0.6, 4.65N±0.05×125.00E±0.10, h10km, mb3.8/7, Error ellipse: s-maj=14.1km s-min=6.0km az=167.9*
*MAN **05** 08:43:03.9, 4.59N×124.62E, h7km, mb5.3, ML4.3, MS4.5*
*IDC **05** 08:43:17.4±2.4, 4.65N×125.17E, h125km±24km, mb3.5/6, mb1 3.7/7, mb1mx3.3/42, mbtmp3.9/7, Error ellipse: s-maj=47.5km s-min=14.2km az=81.0*

ISC 05 08:43:04.6±0.8, **4.69N**±0.06×**124.94E**±0.10, **h10**km, **n13, σ1s21/17, mb3.7/7, 1D, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.39**	**1**	*e*P	**Pg**	**08 43 33.1**	**+1.9**
DDMP	**Don Marcelino,**	**1.60**	**29**	*e*P	**Pn**	**08 43 32.5**	**-0.4**
DDMP				*e*S	**Sn**	**08 43 53.0**	**-0.8**
SKMP	**Bagumbayan, Su**	**1.86**	**348**	*e*P	**Pn**	**08 43 36.4**	**-0.1**
SKMP				*e*S	**Sn**	**08 43 60.0**	**-0.1**
DAV	**Davao City (W)**	**2.45**	**15**	P	Pg	08 43 57.1	+5.5
	53nm,0.3s,baz=66,slow=20,SNR=4.0						
DAV				S	**Sb**	**08 44 21.3**	**+2.3**
	78nm,0.3s,baz=98,slow=18,SNR=6.4						
CTBH	**Cotabato--PC H**	**2.60**	**345**	⇓*i*P	**Pb**	**08 43 49.6**	**-1.8**
CTBH				*i* S	**Sb**	**08 44 21.7**	**-1.8**
PAGZ	**Pagadian**	**3.50**	**334**	*e*P	**Pn**	**08 43 59.4**	**+0.4**
PAGZ				*e*S	**Sn**	**08 44 41.4**	**+0.9**
FITZ	**Fitzroy Crossi**	**22.66**	**178**	P	**P**	**08 48 07.0**	**+0.9**
	2.0nm,0.8s,baz=3.6,slow=13,SNR=2.3						
WRA	**Warramunga Arr**	**26.17**	**160**	P	**P**	**08 48 38.9**	**-0.5**
	7.8nm,0.9s,baz=339,slow=10,SNR=18						
ASAR	**Alice Springs**	**29.51**	**163**	P	**P**	**08 49 09.4**	**0.0**
	0.6nm,0.6s,baz=340,slow=7.1,SNR=4.8						
MJAR	**Matsushiro Arr**	**33.96**	**19**	P	**P**	**08 49 47.5**	**-0.8**
	2.6nm,0.7s,baz=201,slow=9.5,SNR=7.1						
STKA	**Stephens Creek**	**39.68**	**158**	P	**P**	**08 50 37.1**	**+0.1**
	3.9nm,0.8s,baz=325,slow=9.0,SNR=5.7						
MKAR	**Makanchi Array**	**55.75**	**326**	P	**P**	**08 52 42.5**	**+0.8**
	0.3nm,0.5s,baz=123,slow=9.1,SNR=3.5						
ILAR	**Eielson Array**	**85.01**	**25**	P	**P**	**08 55 39.1**	**-1.0**
	0.2nm,0.7s,baz=247,slow=4.8,SNR=4.4						

*ISCJB **05** 08:48:08.2±1.3, 4.62N±0.03×125.21E±0.03, h31km±10km, mb4.5/46, MS3.7/25, Error ellipse: s-maj=5.9km s-min=4.4km az=160.4*
*MAN **05** 08:48:09.3, 4.78N×124.70E, h14km, mb5.7, ML4.7, MS5.0*
*DJA **05** 08:48:11.2±0.5, 4.1N±5.1×12.5E±.1, h10km, M4.6/8, mb4.6/7, mB5.1/5, MLv4.7/8, Mw(mB)4.4/5*
*NEIC **05** 08:48:11.1±0.8, 4.62N×125.25E, h40km±7km, mb4.6/26, Error ellipse: s-maj=8.4km s-min=4.9km az=59.0*
*IDC **05** 08:48:17.0±1.3, 4.58N×125.31E, h95km±12km, mb4.0/15, mb1 4.1/18, mb1mx3.9/45, mbtmp4.4/18, MS3.6/23, Ms1 3.6/23, ms1mx3.5/40, Error ellipse: s-maj=16.9km s-min=8.9km az=83.0*

ISC 05 08:48:10.1±1.2, **4.60N**±0.03×**125.23E**±0.06, **h31**km±9km, **n129, σ1s83/116, mb4.5/46, MS3.6/25, 1C-1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**0.96**	**162**	P	**Pn**	**08 48 27.4**	**0.0**
GSPH	**General Santos**	**1.50**	**349**	*e*P	**Sn**	**08 48 50.0**	**-3.6**
DDMP	**Don Marcelino,**	**1.57**	**18**	*e*P	**Pn**	**08 48 38.3**	**-2.1**
DDMP				*e*S	**Sb**	**08 48 56.1**	**-1.4**
SKMP	**Bagumbayan, Su**	**2.02**	**340**	*e*P	**Pn**	**08 48 37.6**	**-4.4**
SKMP				*e*S	**Sn**	**08 49 01.7**	**-4.6**
DAV	**Davao City (W)**	**2.48**	**8**	P	**Pb**	**08 48 54.4**	**+0.4**
	82nm,0.3s,baz=190,slow=8.8,SNR=5.2						
DAV				S	**Sb**	**08 49 27.2**	**+3.2**
	150nm,0.3s,baz=16,slow=22,SNR=8.7						
DAV	**Davao City (W)**	**2.48**	**8**	*e*Pn	**Pn**	**08 48 49.4**	**+1.1**
DAV				*e*Sn	**Sb**	**08 49 25.9**	**+1.8**
CTBH	**Cotabato--PC H**	**2.78**	**340**	⇑*e*P	**Pn**	**08 48 51.0**	**-1.4**
CTBH				*i* S	**Sn**	**08 49 23.7**	**-1.2**
BUKP	**Musuan**	**3.26**	**357**	*e*P	**Pn**	**08 48 58.4**	**-0.7**
PAGZ	**Pagadian**	**3.71**	**330**	*e*P	**Pn**	**08 49 01.4**	**-3.9**
CGP	**Cagayan de Oro**	**3.86**	**352**	⇓*e*P	**Pn**	08 49 22.9	+5.4
CGP				*e*S	Sb	08 50 17.1	+13
KMSI	**Cibinong**	**4.19**	**197**	P	**Pb**	**08 49 19.2**	**-3.9**
TNTI	**Ternate**	**4.36**	**151**	*e*Pn	**Pn**	**08 49 16.0**	**+1.7**
MRSI	**Marisa**	**5.25**	**219**	P	**Pn**	**08 49 25.3**	**-1.1**
LBMI	**Labuha**	**5.68**	**156**	P	**Pn**	**08 49 35.1**	**+2.7**
LUWI	**Luwuk**	**6.12**	**204**	*e*Pn	**Pn**	**08 49 39.7**	**+1.3**
LUWI				*e*Sn	**Sn**	**08 50 39.2**	**-8.1**
LUWI	**Luwuk**	**6.12**	**204**	P	**Pn**	**08 49 38.1**	**-0.3**
	308nm,1.0s,5μm1.4nm						
APSI	**Ampana**	**6.54**	**213**	P	**Pn**	**08 49 43.8**	**-0.4**
	52nm,0.9s,815nm0.5nm						
SANI	**Sanana**	**6.65**	**173**	P	**Pn**	**08 49 45.3**	**-0.4**
	33nm,0.8s,0.2nm						
MYLDM	**Lahad Datu**	**6.72**	**275**	*e*Pn	**Pn**	**08 49 47.8**	**+1.1**
MYLDM				*e*Sn	**Sn**	**08 51 04.0**	**+1.6**
MPSI	**Mapaga**	**6.80**	**232**	P	**Pn**	**08 49 46.8**	**-1.0**
SIJI	**Sorong**	**8.12**	**132**	P	**Pn**	**08 50 09.2**	**+3.3**
	1.2nm,0.3s,baz=33,slow=9.7,SNR=4.0						
SIJI				LR	LR	08 53 24.2	
	comp=Z,422nm,20.9s,baz=252,slow=38						
KKM	**Kota Kinabalu**	**9.09**	**279**	*e*Pn	**Pn**	**08 50 20.4**	**+1.1**
TGY	**Tagaytay City**	**10.34**	**336**	LR	LR	08 54 57.6	
	comp=Z,360nm,19.3s,baz=144,slow=38						
SBUM	**Sibu**	**13.15**	**261**	*e*Pn	**Pn**	**08 51 14.4**	**-0.5**
SBUM				*e*Sn	**Sn**	**08 53 40.2**	**-0.1**
SOEI	**Soe**	**14.29**	**184**	*e*Pn	**Pn**	**08 51 30.7**	**+0.1**
BATI	**Baumata**	**14.79**	**186**	P	**P**	**08 51 41.4**	**-1.4**
	2.3nm,0.3s,baz=118,slow=15,SNR=2.4						
MTN	**Manton Dam**	**18.30**	**161**	*e*P	**P**	**08 52 20.9**	**-0.7**
	8.2nm,0.6s						
QIZ	**Qiongzhong**	**20.76**	**315**	P	Pn	08 52 53.9	+2.8
QIZ				S	Sn	08 56 42.7	-2.0
QIZ				LR	LR		
	comp=N,330nm,15.2s						
QIZ				LR	LR		
	comp=E,230nm,14.8s						
QIZ				LR	LR		
	comp=Z,350nm,24.3s						
LEM	**Lembang**	**20.92**	**237**	P	Pn	08 52 53.5	+0.3
	comp=Z,28nm,0.7s,baz=127,slow=9.6,SNR=3.7						
LEM				LR	LR	09 02 04.1	
	comp=Z,255nm,19.1s,baz=38,slow=39						
GUMO	**Guam**	**21.34**	**64**	LR	LR	08 59 54.1	
	comp=Z,119nm,20.4s,baz=220,slow=33						
MYKOM	**Kota Tinggi**	**21.52**	**263**	*e*P	**P**	**08 52 56.6**	**-0.2**
	comp=Z,23nm,1.0s						
UBPT	**Khong Chiam**	**22.14**	**300**	P	**P**	**08 53 07.2**	**+3.8**
	comp=Z,25nm,1.6s						
JOW	**Kunigami**	**22.30**	**7**	LR	LR	09 02 25.3	
	comp=Z,167nm,20.3s,baz=100,slow=38						
FITZ	**Fitzroy Crossi**	**22.56**	**179**	P	**P**	**08 53 09.1**	**+1.3**
	comp=Z,5.5nm,0.8s,baz=21,slow=8.1,SNR=8.8						
FITZ				LR	LR	09 02 08.5	
	comp=Z,65nm,21.0s,baz=7.5,slow=37						
FITZ	**Fitzroy Crossi**	**22.56**	**179**	*e*P	**P**	**08 53 07.1**	**-0.7**
	comp=Z,4.4nm,0.7s						
IPM	**Ipoh**	**24.12**	**271**	*e*P	**P**	**08 53 23.1**	**-0.4**
	comp=Z,25nm,1.1s						
SKNT	**Sakolnakorn**	**24.18**	**302**	P	**P**	**08 53 25.8**	**+1.9**
	comp=Z,7.5nm,1.4s,comp=Z,935nm						
KULM	**Kulim**	**24.49**	**273**	*e*P	**P**	**08 53 27.1**	**+0.3**
	comp=Z,29nm,1.1s						
SKLT	**Songkhla**	**24.61**	**277**	P	**P**	**08 53 31.1**	**+3.3**
	comp=Z,21nm,1.3s						
SRAK	**Srakaew**	**24.69**	**294**	P	**P**	**08 53 25.4**	**-3.1**
	comp=Z,27nm,1.2s,comp=Z,963nm						
CHAI	**Chaiyaphum**	**25.44**	**298**	P	**P**	**08 53 38.2**	**+2.8**
WRAB	**Tennant Creek**	**25.98**	**160**	*e*P	**P**	**08 53 40.3**	**+0.1**
	comp=Z,31nm,0.8s						
WR1	**Warramunga Arr**	**25.98**	**160**	*e*P	**P**	**08 53 40.4**	**+0.2**
	comp=Z,34nm,0.8s						
WRA	**Warramunga Arr**	**25.98**	**160**	P	**P**	**08 53 40.4**	**+0.2**
	comp=Z,23nm,0.9s,baz=339,slow=9.9,SNR=39						
WB2	**Warramunga Arr**	**25.99**	**160**	*e*P	**P**	**08 53 40.4**	**+0.1**
PSI	**Prapat**	**26.30**	**267**	P	**P**	**08 53 44.5**	**+1.1**
	comp=Z,10nm,0.8s,baz=1.8,slow=1.2,SNR=8.2						
PSI				LR	LR	09 06 27.6	
	comp=Z,168nm,19.1s,baz=90,slow=41						
PSI	**Prapat**	**26.30**	**267**	*e*P	**P**	**08 53 43.8**	**+0.4**
	comp=Z,19nm,1.0s						
PHET	**Kaeng Krachan**	**26.59**	**290**	P	**P**	**08 53 48.8**	**+3.0**
	comp=Z,14nm,0.9s						
PBKT	**Sadao Pong**	**26.60**	**298**	*e*P	**P**	**08 53 47.7**	**+1.9**
	comp=Z,4.4nm,0.8s						
PBKT	**Sadao Pong**	**26.60**	**298**	P	**P**	**08 53 49.2**	**+3.4**
	comp=Z,8.3nm,1.0s,comp=Z,1μm						
JCJ	**Chichijima**	**27.61**	**34**	LR	LR	09 05 32.3	
	comp=Z,64nm,19.5s,baz=116,slow=38						
JNU	**Nakatsue**	**28.86**	**10**	LR	LR	09 07 58.9	
	comp=Z,14nm,18.1s,baz=182,slow=41						
CM01	**Chiang Mai Arr**	**29.11**	**300**	*e*P	**P**	**08 54 10.3**	**+2.0**
CMAR	**Chiang Mai Arr**	**29.14**	**300**	P	**P**	**08 54 10.2**	**+1.6**
	comp=Z,1.2nm,0.4s,baz=119,slow=8.8,SNR=5.2						
CMAR				LR	LR	09 07 23.2	
	comp=Z,180nm,18.2s,baz=104,slow=39						
CHTO	**Chiang Mai**	**29.29**	**301**	*e*P	**P**	**08 54 09.5**	**-0.4**
	comp=Z,3.9nm,0.8s						
AS31	**Alice Springs**	**29.34**	**164**	*e*P	**P**	**08 54 10.7**	**+0.3**
	comp=Z,1.7nm,0.9s						
ASAR	**Alice Springs**	**29.34**	**164**	P	**P**	**08 54 10.9**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=336,slow=5.9,SNR=18						
AS01	**Alice Springs**	**29.36**	**164**	*e*P	**P**	**08 54 09.6**	**-0.8**
ENH	**Enshi**	**29.54**	**332**	*e*P	**P**	**08 54 11.0**	**-1.0**
	comp=Z,13nm,1.1s						
KMI	**Kunming**	**29.71**	**316**	P	P	08 54 18.2	+4.4
KMI				S	**S**	**08 59 10.1**	**+2.0**
KMI				pmax	pmax		
	comp=Z,12nm,1.1s						
KMI				pmax	pmax		
	comp=Z,42nm,3.5s						
KMI				LR	LR		
	comp=N,140nm,18.6s						
KMI				LR	LR		
	comp=E,280nm,15.4s						
KMI				LR	LR		
	comp=Z,210nm,16.9s						
JHJ	**Hachijo jima 2**	**31.46**	**24**	LR	LR	09 07 43.2	
	comp=Z,108nm,20.2s,baz=275,slow=37						
CTA	**Charters Tower**	**32.08**	**141**	P	**P**	**08 54 34.2**	**-0.3**
	comp=Z,4.0nm,0.8s,baz=12,slow=14,SNR=2.8						
KSRS	**Korea Array**	**32.79**	**4**	LR	LR	09 08 05.2	
	comp=Z,89nm,21.1s,baz=200,slow=36						
XAN	**Xi'an**	**32.98**	**335**	P	**P**	**08 54 40.9**	**-1.4**
XAN				pP	sP	08 54 50.4	-4.9
XAN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
CD2	**Chengdu**	**33.06**	**325**	*e*P	**P**	**08 54 45.5**	**+2.4**
CD2				S	**S**	**08 59 57.0**	**-3.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
CD2				LR

comp=Z,14nm,0.7s
AAK Ala-Archa 58.71 318 *e*P **P** 08 58 02.5 -2.7
comp=Z,1.6nm,0.9s
ZALV Zalesovo Beam 59.14 333 LR LR 09 24 27.4
comp=Z,92nm,20.8s,baz=70,slow=37
ZALV Zalesovo Beam 59.14 333 *e*P **P** 08 58 05.4 -2.2
KBL Kabul 59.80 307 *e*P **P** 08 58 13.6 +0.7
comp=Z,18nm,0.8s
KURK Kurchatov 60.21 328 *e*P **P** 08 58 15.2 +0.2
comp=Z,3.9nm,0.8s
KK31 Karatay Array 61.58 317 *e*P **P** 08 58 24.3 -0.3
KKAR Karatay Array 61.58 317 *e*P **P** 08 58 25.0 +0.4
GEYT Alibeck 69.18 309 P **P** 08 59 14.9 +0.9
comp=Z,1.1nm,0.3s,baz=234,slow=14,SNR=5.2
GYA0B ALIBECK ARRAY 69.18 309 *e*P **P** 08 59 15.0 +1.0
comp=Z,7.2nm,0.9s
NRIK Noril'sk 69.23 347 LR LR 09 33 09.4
comp=Z,84nm,18.7s,baz=164,slow=39
ABKAR Akbulak array 70.53 321 *e*P **P** 08 59 23.3 +1.3
RAYN Ar Rayn 78.76 293 *e*P **P** 09 00 10.7 +0.4
comp=Z,3.7nm,0.9s
KBZ Khabaz 81.29 313 LR LR 09 44 15.5
comp=Z,32nm,18.1s,baz=75,slow=41
BPAW Bear Paw Mtn. 83.17 26 *e*P **P** 09 00 33.5 +0.5
comp=Z,7.2nm,1.2s
VNDA Vanda 84.48 173 P **P** 09 00 38.6 -0.7
comp=Z,0.6nm,0.8s,baz=38,slow=14,SNR=3.1
VNDA Vanda 84.48 173 *e*P **P** 09 00 39.5 +0.2
HDA Harding Lake 84.94 26 *e*P **P** 09 00 41.9 -0.1
comp=Z,3.0nm,0.8s
ILAR Eielson Array 84.97 25 P **P** 09 00 42.1 0.0
comp=Z,0.9nm,0.7s,baz=245,slow=4.8,SNR=14
ILB Eielson Array 84.97 25 *e*P **P** 09 00 41.4 -0.6
PPT2 Papeete2 86.81 108 *e*LR LR 09 28 39.3
comp=Z,92nm,27.8s
TBI Tubuai 87.51 114 *e*LR LR 09 28 57.7
comp=Z,105nm,30.2s
BRTR Keskin Array B 88.31 310 LR LR 09 49 46.0
comp=Z,18nm,18.1s,baz=70,slow=42
NOA NORSAR Array B 97.34 333 LR LR 09 49 56.9
comp=Z,67nm,19.7s,baz=65,slow=38
TORD Torodi Ar. Bea 121.22 288 PKP **PKPdf** 09 07 00.9 -0.1
comp=Z,0.4nm,0.6s,baz=48,slow=2.1
TOA1 Torodi Ar. Sit 121.22 288 *e*PKPdf **PKPdf** 09 07 00.9 -0.1
LTX Lajitas 122.24 51 *e*PKPdf **PKPdf** 09 07 03.1 +0.3
TXAR Lajitas Array 122.24 51 PKP **PKPdf** 09 07 03.1 +0.3
comp=Z,0.4nm,0.7s,baz=189,slow=1.1,SNR=7.1
LPAZ La Paz 162.49 133 PKP **PKPdf** 09 08 10.4 -0.3
comp=Z,2.7nm,1.2s,baz=222,slow=5.9,SNR=5.3

MEX 05 08:48:18.9±0.5, 16°31'N×98°25'W, h17km±10km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.14**	**57**	*e*P	Pg	08 48 22.1	-0.9
PNIG				*i* S	Sg	08 48 25.1	-0.7
TLIG	**Tlapa**	**1.28**	**346**	*e*P	Pn	08 48 38.8	-3.3
TLIG				*e*S	Sb	08 48 53.5	-5.3

*ISCJB **05** 09:10:57.4±1.8, 15°3S±0°1×167°5E±0°2, h124km, mb3.9/5, Error ellipse: s-maj=30.8km s-min=15.3km az=163.7*
*IDC **05** 09:10:59.1±6.7, 15°26S×167°53E, h124km±50km, mb3.7/5, mb1 3.8/6, mb1mx3.5/31, mbtmp4.1/6, Error ellipse: s-maj=50.4km s-min=24.0km az=30.0*
ISC 05 09:10:59.1±1.7, 15°3S±0°1×167°5E±0°2, h124km, n7, σ0s77/8, mb3.8/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.86**	**189**	P	**Pn**	**09 12 38.1**	**+0.8**
	4.6nm,0.3s,baz=37,slow=20,SNR=40						
DZM				S	**Sn**	**09 13 53.1**	**-0.9**
	3.4nm,0.3s,baz=305,slow=22,SNR=10.0						
URZ	**Urewera**	**24.43**	**162**	P	**P**	**09 16 06.1**	**-0.1**
	26nm,1.2s,baz=344,slow=18,SNR=4.4						
STKA	**Stephens Creek**	**28.86**	**230**	P	**P**	**09 16 46.9**	**+0.8**
	1.1nm,0.5s,baz=71,slow=7.6,SNR=4.3						
WRA	**Warramunga Arr**	**31.96**	**257**	P	**P**	**09 17 12.8**	**-0.7**
	0.6nm,0.6s,baz=84,slow=8.5,SNR=11						
ASAR	**Alice Springs**	**32.73**	**250**	P	**P**	**09 17 20.1**	**-0.3**
	1.9nm,0.5s,baz=79,slow=8.9,SNR=33						
VNDA	**Vanda**	**62.35**	**181**	P	**P**	**09 21 07.6**	**-0.3**
	0.4nm,0.7s,baz=16,slow=7.4,SNR=5.3						
ARCES	**ARCESS Array B**	**120.82**	**345**	PKP	**PKPdf**	**09 29 35.9**	**-0.2**
	0.6nm,0.5s,baz=72,slow=2.9,SNR=5.2						

*IDC **05** 09:26:33.8±1.6, 17°82S×168°99E, h0km, mb4.2/7, mb1 4.5/9, mb1mx4.0/37, mbtmp4.3/9, ML4.5/2, MS3.6/12, Ms1 3.6/12, ms1mx3.4/31, Error ellipse: s-maj=36.9km s-min=26.5km az=136.0*
*NEIC **05** 09:26:35.4±0.7, 17°81S×168°97E, h10km, mb4.3/3, Error ellipse: s-maj=13.7km s-min=10.7km az=120.0*
*ISCJB **05** 09:26:37.6±0.9, 17°85S±0°07×168°8E±0°1, h33km, mb4.2/9, MS3.7/9, Error ellipse: s-maj=18.6km s-min=9.6km az=17.7*
ISC 05 09:26:39.1±1.3, 17°86S±0°09×168°9E±0°2, h35km, n32, σ0s89/21, mb4.4/9, MS3.8/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.79**	**208**	Pn	**Pn**	**09 27 47.6**	**-1.2**
	2.7nm,0.3s,baz=27,slow=17,SNR=34						
DZM				Sn	**Sn**	**09 28 42.5**	**-0.6**
	3.1nm,0.3s,baz=158,slow=24,SNR=1.6						
DZM				LR	LR	09 29 11.9	
	comp=Z,289nm,18.8s,baz=30,slow=33						
DZM	**Mont Dzumac**	**4.79**	**208**	*e*Pn	**Pn**	**09 27 47.7**	**-1.1**
	19nm,0.4s						
DZM				*e*Sn	**Sn**	**09 28 44.1**	**+1.0**
	15nm,0.3s						
DZM	**Mont Dzumac**	**4.79**	**208**	*e*Pn	**Pn**	**09 27 48.3**	**-0.5**
DZM				*e*Sn	**Sn**	**09 28 42.5**	**-0.6**
HNR	**Honiara**	**12.07**	**313**	Pn	**Pn**	**09 29 27.7**	**-1.1**
	21nm,0.3s,baz=135,slow=20,SNR=4.4						
HNR				LR	LR	09 33 53.6	
	comp=Z,156nm,20.5s,baz=148,slow=36						
AFI	**Afiamalu**	**18.99**	**81**	LR	LR	09 36 23.7	
	comp=Z,269nm,19.8s,baz=216,slow=31						
STKA	**Stephens Creek**	**28.34**	**235**	P	**P**	**09 32 30.9**	**+1.0**
	3.2nm,1.0s,baz=64,slow=10,SNR=5.2						
STKA				LR	LR	09 42 57.2	
	comp=Z,142nm,20.1s,baz=32,slow=35						
STKA	**Stephens Creek**	**28.34**	**235**	*e*P	**P**	**09 32 30.9**	**+1.0**
	1.9nm,1.0s						
JAY	**Jayapura**	**31.58**	**296**	P	**P**	**09 32 58.5**	**-0.2**
	7.5nm,0.7s,baz=127,slow=10,SNR=2.5						
WB2	**Warramunga Arr**	**32.72**	**261**	*e*P	**P**	**09 33 08.2**	**-0.5**
WR1	**Warramunga Arr**	**32.73**	**261**	*e*P	**P**	**09 33 08.8**	**0.0**
	5.2nm,1.0s						
WRA	**Warramunga Arr**	**32.73**	**261**	P	**P**	**09 33 08.8**	**0.0**
	1.0nm,0.7s,baz=92,slow=9.0,SNR=14						
AS01	**Alice Springs**	**33.13**	**254**	*e*P	**P**	**09 33 13.2**	**+0.9**
AS31	**Alice Springs**	**33.17**	**254**	*e*P	**P**	**09 33 13.3**	**+0.6**
	3.9nm,0.6s						
ASAR	**Alice Springs**	**33.17**	**254**	P	**P**	**09 33 13.1**	**+0.5**
	3.3nm,0.6s,baz=82,slow=8.8,SNR=44						
ASAR				LR	LR	09 46 27.9	
	comp=Z,194nm,18.7s,baz=87,slow=36						
H11S2	**WAKE ISLAND Hy**	**36.19**	**356**	T	T	10 12 09.4	
	baz=172,slow=74						
H11S3	**WAKE ISLAND Hy**	**36.19**	**356**	T	T	10 12 13.5	
	baz=172,slow=74						
H11S1	**WAKE ISLAND Hy**	**36.20**	**356**	T	T	10 12 18.2	
	baz=172						
H11N1	**WAKE ISLAND Hy**	**37.39**	**357**	T	T	10 13 38.3	
	baz=173						
H11N3	**WAKE ISLAND Hy**	**37.39**	**357**	T	T	10 13 36.1	
	baz=173						
H11N2	**WAKE ISLAND Hy**	**37.41**	**357**	T	T	10 13 40.8	
	baz=173						
PPT2	**Papeete2**	**39.49**	**96**	*e*LQ	LQ	09 43 06.5	
	272nm,27.5s						
PPT2				*e*LR	LR	09 44 45.7	
	94nm,26.5s						
FITZ	**Fitzroy Crossi**	**41.08**	**263**	P	**P**	**09 34 20.5**	**+0.7**
	5.7nm,0.8s,baz=107,slow=8.5,SNR=11						
FITZ				LR	LR	09 50 44.1	
	comp=Z,124nm,20.1s,baz=96,slow=35						
FITZ	**Fitzroy Crossi**	**41.08**	**263**	*e*P	**P**	**09 34 21.5**	**+1.7**
	15nm,0.8s						
TAOE	**Nuku Hiva Isla**	**50.24**	**87**	*e*LR	LR	09 49 37.5	
	165nm,26.4s						
JCJ	**Chichijima**	**51.66**	**329**	LR	LR	09 54 27.0	
	comp=Z,25nm,19.8s,baz=149,slow=32						
MJAR	**Matsushiro Arr**	**61.39**	**332**	LR	LR	09 59 55.4	
	comp=Z,15nm,21.6s,baz=295,slow=33						
ASAJ	**Asahikawa**	**66.20**	**340**	LR	LR	10 02 22.9	
	comp=Z,35nm,19.8s,baz=150,slow=32						
CMAR	**Chiang Mai Arr**	**77.65**	**294**	P	**P**	**09 38 33.4**	**+0.9**
	0.8nm,0.4s,baz=120,slow=5.3,SNR=2.5						
NV01	**Mina Array Sit**	**88.13**	**49**	*e*P	**P**	**09 39 26.4**	**-0.3**
NVAR	**Mina Array Bea**	**88.13**	**49**	P	**P**	**09 39 26.4**	**-0.3**
	0.5nm,1.0s,baz=224,slow=6.3,SNR=2.6						
NVAR				LR	LR	10 13 33.3	
	comp=Z,62nm,18.5s,baz=324,slow=32						
PDAR	**Pinedale Array**	**95.92**	**47**	LR	LR	10 18 38.1	
	comp=Z,48nm,18.4s,baz=312,slow=33						
TXAR	**Lajitas Array**	**96.39**	**61**	LR	LR	10 16 58.3	
	comp=Z,37nm,18.5s,baz=0.0,slow=31						

ISC 05 09:35:01.8±1.0, 49°12N±0°04×18°88E±0°04, h0km, n6, σ0s78/11, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANS	**Liptovska Anna**	**0.39**	**85**	*e*PG	**Pg**	**09 35 09.6**	**+0.4**
LANS				*e*SG	**Sg**	**09 35 15.3**	**+1.0**
KOLL	**Kolacno**	**0.62**	**210**	*e*PG	**Pg**	**09 35 13.9**	**+0.2**
KOLL				*e*SG	**Sg**	**09 35 22.6**	**+0.8**
VYHS	**Vyhne**	**0.62**	**183**	*e*PG	**Pb**	**09 35 15.0**	**-0.6**
VYHS				*e*SG	**Sg**	**09 35 22.9**	**+1.1**
VYHS				*e*LG	Lg	09 35 32.3	
MORC	**Moravsky Berou**	**1.09**	**308**	*e*PG	**Pg**	**09 35 22.6**	**-0.1**
MORC				*e*SG	**Sg**	**09 35 37.4**	**+0.5**
KECS	**Kecovo**	**1.24**	**120**	*e*PG	**Pg**	**09 35 24.7**	**-0.8**
KECS				*e*LG	Lg	09 35 46.9	
VRAC	**Vranov**	**1.51**	**278**	*e*PN	**Pn**	**09 35 29.6**	**-0.5**
VRAC				*e*SG	**Sn**	**09 35 51.0**	**+0.5**

*IDC **05** 09:37:54.5±2.2, 37°54S×178°21E, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.0/37, mbtmp4.2/6, MS3.3/4, Ms1 3.3/4, ms1mx3.0/20, Error ellipse: s-maj=58.0km s-min=21.8km az=132.0*
*ISCJB **05** 09:38:03.9±0.3, 37°87S±0°02×177°64E±0°04, h68km±3km, mb4.3/7, Error ellipse: s-maj=5.1km s-min=4.1km az=166.6*
*NEIC **05** 09:38:04.9±0.0, 37°83S×177°56E, h42km, ML4.1(WEL), After WEL.*
*WEL **05** 09:38:05.1, 38°S×177°8E, h37km, 2km, ML4.6/12*
ISC 05 09:38:03.8±0.8, 37°90S±0°04×177°56E±0°04, h52km, 6km, n179, σ2s35/193, mb4.1/7, MS3.2/3, 2C, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUGZ	**Raukumara Rang**	**0.12**	**127**	P	**Pn**	**09 38 11.9**	**-0.1**
RUGZ				S	**Sn**	**09 38 17.5**	**-0.4**
HAZ	**Te Kaha**	**0.22**	**51**	P	**Pn**	**09 38 12.2**	**-0.3**
HAZ				S	**Sn**	**09 38 17.7**	**-0.9**
TWGZ	**Tauwhareparae**	**0.43**	**131**	P	**Pn**	**09 38 16.4**	**+2.0**
MWZ	**Matawai**	**0.44**	**184**	P	**Pn**	**09 38 16.2**	**+1.7**
MWZ				S	**Sn**	**09 38 24.3**	**+2.1**
WHRZ	**Whale Island**	**0.47**	**275**	P	**Pn**	**09 38 16.3**	**+1.5**
WIZ	**White Island**	**0.47**	**321**	P	**Pn**	**09 38 15.2**	**+0.4**
URZ	**Urewera**	**0.51**	**224**	Pg	**Pn**	**09 38 16.8**	**+1.6**
	515nm,0.3s,baz=258,slow=2.5,SNR=3862						
URZ				Lg	Lg	09 38 25.7	
	1μm,0.3s,baz=220,slow=5.7,SNR=23						
URZ				LR	LR	09 38 50.2	
	comp=Z,588nm,19.2s,baz=343,slow=49						
URZ	**Urewera**	**0.51**	**224**	*e*Pn	**Pn**	**09 38 16.8**	**+1.6**
URZ				*e*Pn	Pn	09 38 17.0	+1.7
URZ				*e*Sn	**Sn**	**09 38 25.6**	**+2.1**
URZ				*e*Sn	Sn	09 38 25.7	+2.2
URZ				*e*		09 38 50.2	
URZ	**Urewera**	**0.51**	**224**	P	**Pn**	**09 38 16.8**	**+1.6**
URZ				S	**Sn**	**09 38 25.6**	**+2.1**
PUZ	**Puketiti**	**0.58**	**108**	P	**Pn**	**09 38 17.6**	**+1.6**
TKGZ	**Te Karaka**	**0.59**	**158**	P	**Pn**	**09 38 18.9**	**+2.7**
RAGZ	**Rawiri**	**0.61**	**191**	P	**Pn**	**09 38 18.9**	**+2.3**
MXZ	**Matakaoa Point**	**0.68**	**61**	*e*Pn	**Pn**	**09 38 17.8**	**+0.5**
MXZ				*e*Sn	**Sn**	**09 38 27.4**	**+0.3**
MXZ	**Matakaoa Point**	**0.68**	**61**	P	**Pn**	**09 38 17.8**	**+0.5**
WMGZ	**Waiomatatini S**	**0.68**	**84**	P	**Pn**	**09 38 19.7**	**+1.4**
EDRZ	**Edgecumbe**	**0.68**	**252**	P	**Pn**	**09 38 19.3**	**+1.9**
MARZ	**Manawahe**	**0.71**	**262**	P	**Pn**	**09 38 19.1**	**+1.4**
CNGZ	**Carnagh Statio**	**0.78**	**139**	P	**Pn**	**09 38 20.9**	**+2.3**
OPRZ	**Ohinepanea**	**0.80**	**273**	P	**Pn**	**09 38 19.9**	**+1.1**
RIGZ	**Rimuhau**	**0.82**	**169**	P	**Pn**	**09 38 21.7**	**+2.4**
MUGZ	**Murupara**	**0.85**	**227**	P	**Pn**	**09 38 21.5**	**+2.0**
RTZ	**Ruatahuna**	**0.85**	**212**	P	**Pn**	**09 38 21.5**	**+1.9**
MKRZ	**Makatiti**	**0.90**	**254**	P	**Pn**	**09 38 22.5**	**+2.2**
TARZ	**Mount Tarawera**	**0.90**	**248**	P	**Pn**	**09 38 22.4**	**+2.1**
SNGZ	**Shannon Statio**	**0.90**	**191**	P	**Pn**	**09 38 23.6**	**+3.3**
LIRZ	**Lichensteins R**	**0.94**	**263**	P	**Pn**	**09 38 22.6**	**+1.9**
RRRZ	**Republican Roa**	**0.94**	**241**	P	**Pn**	**09 38 22.7**	**+2.0**
RRRZ				P	**Pn**	**09 38 22.7**	**+2.0**
OMRZ	**Omania**	**0.96**	**257**	P	**Pn**	**09 38 22.9**	**+1.8**
HLRZ	**Highlands Stat**	**1.02**	**249**	P	**Pn**	**09 38 24.0**	**+2.2**
TGRZ	**Tauranga**	**1.04**	**279**	P	**Pn**	**09 38 23.2**	**+1.1**
KARZ	**Kaharoa**	**1.05**	**263**	P	**Pn**	**09 38 23.9**	**+1.7**
PRRZ	**Paritu Road**	**1.06**	**166**	P	**Pn**	**09 38 24.4**	**+1.8**
RAHZ	**Arahi**	**1.09**	**200**	P	**Pn**	**09 38 25.5**	**+2.8**
PRRZ	**Plateau Road**	**1.10**	**236**	P	**Pn**	**09 38 24.9**	**+2.0**
NGRZ	**Ngongotaha**	**1.11**	**259**	P	**Pn**	**09 38 25.1**	**+2.1**
MTHZ	**Maungataniwha**	**1.11**	**210**	P	**Pn**	**09 38 25.1**	**+2.1**
UTU	**Utuhina**	**1.12**	**255**	P	**Pn**	**09 38 25.8**	**+2.7**
HSRZ	**Hossack Road**	**1.12**	**248**	P	**Pn**	**09 38 25.6**	**+2.5**
HSRZ				P	**Pn**	**09 38 25.7**	**+2.5**
HRRZ	**Handcock Road**	**1.12**	**244**	P	**Pn**	**09 38 25.2**	**+2.0**
KNZ	**Kokohu**	**1.13**	**176**	P	**Pn**	**09 38 25.2**	**+2.0**
ALRZ	**Allen Road**	**1.17**	**235**	P	**Pn**	**09 38 25.8**	**+2.0**
WHHZ	**Waihua**	**1.21**	**192**	P	**Pn**	**09 38 27.4**	**+3.1**
MYRZ	**Mayor Island**	**1.22**	**300**	P	**Pn**	**09 38 25.2**	**+0.8**
GRRZ	**Galatos Road**	**1.23**	**248**	P	**Pn**	**09 38 27.1**	**+2.4**
WPRZ	**Whakapapataran**	**1.27**	**240**	P	**Pn**	**09 38 27.5**	**+2.4**
WPRZ				P	**Pn**	**09 38 27.5**	**+2.4**
KMRZ	**Kaimai**	**1.28**	**272**	P	**Pn**	**09 38 26.7**	**+1.3**
KMRZ				P	**Pn**	**09 38 26.8**	**+1.3**
MHGZ	**Mahia Peninsul**	**1.28**	**168**	P	**Pn**	**09 38 27.3**	**+2.0**
MRHZ	**Matea Rd**	**1.30**	**224**	P	**Pn**	**09 38 27.7**	**+2.1**
NMHZ	**Naumai**	**1.34**	**206**	P	**Pn**	**09 38 29.3**	**+3.1**
ARHZ	**Arapoaanui**	**1.44**	**198**	P	**Pn**	**09 38 30.4**	**+3.0**
WHTZ	**Whakaora**	**1.48**	**238**	P	**Pn**	**09 38 30.8**	**+2.7**
KUTZ	**Kaahu Road**	**1.49**	**246**	P	**Pn**	**09 38 30.5**	**+2.3**
BKZ	**Black Stump Fm**	**1.52**	**213**	*e*Pn	**Pn**	**09 38 30.8**	**+2.1**
BKZ				*e*Sn	**Sn**	**09 38 53.0**	**+5.7**
BKZ	**Black Stump Fm**	**1.52**	**213**	P	**Pn**	**09 38 30.7**	**+2.1**
HATZ	**Hinemaiaia**	**1.52**	**229**	P	**Pn**	**09 38 30.9**	**+2.3**
TOZ	**Tahuroa Road**	**1.64**	**275**	P	**Pn**	**09 38 31.3**	**+1.2**
WATZ	**Wairara**	**1.65**	**240**	P	**Pn**	**09 38 32.7**	**+2.3**
TLZ	**Tolley Road**	**1.66**	**254**	P	**Pn**	**09 38 32.3**	**+1.9**
MCHZ	**McNeill Hill**	**1.69**	**203**	P	**Pn**	**09 38 33.8**	**+3.0**
RATZ	**Rangitukua**	**1.71**	**235**	P	**Pn**	**09 38 33.8**	**+2.6**
RITZ	**Rihia Road**	**1.72**	**231**	P	**Pn**	**09 38 33.9**	**+2.6**
KWHZ	**Kaweka Forest**	**1.77**	**210**	P	**Pn**	**09 38 34.9**	**+2.9**
CKHZ	**Cape Kidnapper**	**1.80**	**192**	P	**Pn**	**09 38 34.1**	**+1.7**
KATZ	**Kakaramea**	**1.82**	**233**	P	**Pn**	**09 38 35.2**	**+2.4**
KUZ	**Kuaotunu**	**1.86**	**307**	P	**Pn**	**09 38 33.4**	**+0.1**
KRVZ	**Karewarewa**	**1.93**	**231**	P	**Pn**	**09 38 36.7**	**+2.5**
KAHZ	**Kahuranaki**	**1.97**	**196**	P	**Pn**	**09 38 36.5**	**+1.7**
WTVZ	**West Tongariro**	**1.97**	**231**	P	**Pn**	**09 38 37.4**	**+2.6**
BHHZ	**Black Hill Sta**	**1.98**	**216**	P	**Pn**	**09 38 37.1**	**+2.2**
KRHZ	**Kereru**	**1.98**	**208**	P	**Pn**	**09 38 37.1**	**+2.2**
NGZ	**Ngauruhoe**	**2.00**	**230**	P	**Pn**	**09 38 37.8**	**+2.5**
TUVZ	**Tukino**	**2.03**	**227**	P	**Pn**	**09 38 38.0**	**+2.4**
TWVZ	**Taurewa**	**2.04**	**234**	P	**Pn**	**09 38 38.2**	**+2.5**
COVZ	**Chateau Observ**	**2.05**	**230**	P	**Pn**	**09 38 38.5**	**+2.6**
COVZ				P	**Pn**	**09 38 39.5**	**+3.6**
MKAZ	**Moumakai**	**2.07**	**292**	P	**Pn**	**09 38 37.0**	**+1.0**
MOVZ	**Moawhango**	**2.07**	**223**	P	**Pn**	**09 38 38.2**	**+2.0**
WHVZ	**Whangaehu Hut**	**2.08**	**228**	P	**Pn**	**09 38 38.7**	**+2.4**
FWVZ	**Far West T-bar**	**2.08**	**229**	P	**Pn**	**09 38 39.7**	**+3.3**
TRVZ	**Turoa**	**2.11**	**228**	P	**Pn**	**09 38 40.2**	**+3.3**
PXZ	**Pawanui**	**2.20**	**194**	P	**Pn**	**09 38 35.5**	**+0.7**
MTVZ	**Mangateitei**	**2.21**	**227**	P	**Pn**	**09 38 40.8**	**+2.7**
HIZ	**Hauiti**	**2.22**	**253**	*e*Pn	**Pn**	**09 38 40.7**	**+2.6**
HIZ	**Hauiti**	**2.22**	**253**	P	**Pn**	**09 38 40.9**	**+2.8**
PKVZ	**Pokaka**	**2.23**	**231**	P	**Pn**	**09 38 41.9**	**+3.6**
WIAZ	**Waiheke Island**	**2.23**	**299**	P	**Pn**	**09 38 39.2**	**+1.0**
KBAZ	**Karaka Road Bo**	**2.27**	**290**	P	**Pn**	**09 38 40.7**	**+1.9**
PNHZ	**Pukenui**	**2.28**	**207**	P	**Pn**	**09 38 40.5**	**+1.6**
ETAZ	**East Tamaki Re**	**2.30**	**293**	P	**Pn**	**09 38 40.6**	**+1.4**
WPHZ	**Waipukurau**	**2.34**	**202**	P	**Pn**	**09 38 41.1**	**+1.4**
GRZ	**Great Barrier**	**2.35**	**314**	P	**Pn**	**09 38 40.3**	**+0.4**
EPAZ	**Eden Park BICE**	**2.46**	**294**	P	**Pn**	**09 38 43.4**	**+1.9**
AWAZ	**Awhitu Peninsu**	**2.47**	**289**	P	**Pn**	**09 38 43.3**	**+1.8**
PRHZ	**Porangahau**	**2.48**	**197**	P	**Pn**	**09 38 42.3**	**+0.6**
HBAZ	**Herne Bay Bore**	**2.49**	**294**	P	**Pn**	**09 38 43.6**	**+1.9**
TSZ	**Takapari Road**	**2.50**	**210**	P	**Pn**	**09 38 43.3**	**+1.4**
VRZ	**Vera Road**	**2.52**	**240**	P	**Pn**	**09 38 45.6**	**+3.4**
ABAZ	**Army Bay**	**2.53**	**300**	P	**Pn**	**09 38 44.0**	**+1.7**
WTAZ	**Waiatarua**	**2.57**	**291**	P	**Pn**	**09 38 44.8**	**+1.9**
RVAZ	**Riverhead Bore**	**2.63**	**294**	P	**Pn**	**09 38 45.4**	**+1.7**
DVHZ	**Dannevirke**	**2.63**	**204**	P	**Pn**	**09 38 44.4**	**+0.5**
ANWZ	**Angora Road**	**2.70**	**198**	P	**Pn**	**09 38 45.6**	**+0.9**
WAZ	**Wanganui**	**2.74**	**227**	P	**Pn**	**09 38 48.5**	**+3.3**
POWZ	**Post Office Ro**	**2.86**	**209**	P	**Pn**	**09 38 48.0**	**+1.1**
OHWZ	**Ohakea**	**2.90**	**216**	P	**Pn**	**09 38 50.0**	**+2.7**
LREZ	**Lake Rotokare**	**2.92**	**237**	P	**Pn**	**09 38 51.9**	**+4.2**
PRWZ	**Pori Road**	**2.93**	**204**	P	**Pn**	**09 38 48.7**	**+0.9**
DREZ	**Durham Road**	**2.94**	**243**	P	**Pn**	**09 38 52.4**	**+4.5**
BFZ	**Birch Farm**	**2.96**	**200**	*e*Pn	**Pn**	**09 38 48.8**	**+0.4**
BFZ				*e*Sn	**Sn**	**09 39 19.6**	**-3.0**
BFZ	**Birch Farm**	**2.96**	**200**	P	**Pn**	**09 38 48.4**	**+0.1**
PREZ	**Palmer Road**	**3.03**	**240**	P	Pn	09 38 54.3	+5.0
PKE	**Pukeiti**	**3.09**	**244**	P	**Pn**	**09 38 54.2**	**+4.2**
KHEZ	**Kahui Hut**	**3.11**	**242**	P	**Pn**	**09 38 54.8**	**+4.4**
TIWZ	**Tintock**	**3.16**	**204**	P	**Pn**	**09 38 51.7**	**+0.7**
MRZ	**Mangatainoka R**	**3.16**	**209**	P	Pn	**09 38 51.0**	**0.0**
CPWZ	**Castlepoint**	**3.19**	**199**	P	**Pn**	**09 38 52.1**	**+0.7**
NBEZ	**Newall Road No**	**3.20**	**244**	P	**Pn**	**09 38 55.7**	**+4.1**
WCZ	**Waipu Caves**	**3.23**	**306**	P	**Pn**	**09 38 53.3**	**+1.3**
NMEZ	**Namu Road**	**3.26**	**241**	P	Pn	09 38 57.7	+5.4
HOWZ	**Holdsworth Sta**	**3.39**	**207**	P	**Pn**	**09 38 53.7**	**-0.5**
OGWZ	**Otaki Gorge**	**3.46**	**212**	P	**Pn**	**09 38 55.6**	**+0.6**
TMWZ	**Te Maipa**	**3.46**	**201**	P	**Pn**	**09 38 54.7**	**-0.4**
KIW	**Kapiti Island**	**3.60**	**214**	P	**Pn**	**09 38 57.4**	**+0.3**
CAW	**Cannon Point**	**3.74**	**210**	P	**Pn**	**09 38 58.3**	**-0.6**
TRWZ	**Traveller**	**3.79**	**202**	P	**Pn**	**09 38 58.9**	**-0.6**
DUWZ	**D'Urville Isla**	**4.05**	**223**	P	**Pn**	**09 39 03.8**	**+0.6**
SNZO	**South Karori**	**4.06**	**212**	*e*Pn	**Pn**	**09 39 02.7**	**-0.6**
SNZO				*e*Sn	**Sn**	**09 39 48.6**	**-1.0**
BHW	**Baring Head**	**4.08**	**210**	P	**Pn**	**09 39 03.0**	**-0.5**
TCW	**Tory Channel**	**4.17**	**216**	P	**Pn**	**09 39 04.4**	**-0.4**
NNZ	**Nelson**	**4.63**	**223**	P	**Pn**	**09 39 11.0**	**-0.2**
QRZ	**Quartz Range**	**4.88**	**232**	P	**Pn**	**09 39 14.6**	**+0.1**
THZ	**Tophouse**	**5.27**	**221**	*e*Pn	**Pn**	**09 39 19.7**	**-0.3**
THZ				*e*Sn	**Sn**	**09 40 20.6**	**+1.2**
THZ	**Tophouse**	**5.27**	**221**	P	**Pn**	**09 39 19.6**	**-0.3**
KHZ	**Kahutara**	**5.47**	**213**	*e*Pn	**Pn**	**09 39 21.0**	**-1.6**
KHZ				*e*Sn	**Sn**	**09 40 20.8**	**-3.3**
LTZ	**Lake Taylor**	**6.34**	**218**	*e*Pn	Pn	09 39 29.3	-5.3
CRLZ	**Canterbury Las**	**6.80**	**212**	*e*Pn	**Pn**	**09 39 39.3**	**-1.5**
CRLZ				*e*Sn	**Sn**	**09 40 49.9**	**-6.9**
OXZ	**Oxford**	**6.86**	**216**	*e*Pn	**Pn**	**09 39 40.0**	**-1.7**
OXZ				*e*Sn	**Sn**	**09 40 52.5**	**-5.9**
MQZ	**McQueen's Vall**	**6.89**	**211**	*e*Pn	**Pn**	**09 39 40.1**	**-2.0**
MQZ				*e*Sn

STKA	Stephens Creek	28.54 204	P	P	09 50 27.7	+0.3
	1.2nm,0.6s,baz=26,slow=6.3,SNR=5.9					
FITZ	Fitzroy Crossi	30.85 244	P	P	09 50 46.5	-1.2
	6.1nm,0.5s,baz=57,slow=8.1,SNR=42					
JNU	Nakatsue	45.02 331	P	P	09 52 45.0	+0.2
	5.6nm,0.6s,baz=147,slow=17,SNR=4.3					
MJAR	Matsushiro Arr	45.06 341	P	P	09 52 45.3	+0.3
	92nm,0.8s,baz=106,slow=8.7,SNR=4.5					
KSRS	Korea Array	49.94 332	P	P	09 53 22.8	+0.7
	2.1nm,0.5s,baz=148,slow=7.4,SNR=8.6					
CMAR	Chiang Mai Arr	60.14 295	P	P	09 54 34.8	-0.1
	1.9nm,0.6s,baz=120,slow=5.6,SNR=7.8					
SONM	Songino Array	68.37 327	P	P	09 55 28.2	+0.8
	1.6nm,0.5s,baz=139,slow=6.8,SNR=5.3					
VNDA	Vanda	71.59 178	P	P	09 55 47.5	+1.4
	0.4nm,0.7s,baz=0.3,slow=9.6,SNR=3.6					
MKAR	Makanchi Array	82.50 319	P	P	09 56 46.5	-0.4
	1.1nm,0.6s,baz=105,slow=4.9,SNR=10					
ILAR	Eielson Array	82.53 22	P	P	09 56 46.3	-0.3
	0.5nm,0.7s,baz=261,slow=5.2,SNR=7.4					
ZALV	Zalesovo Beam	83.22 326	P	P	09 56 49.3	-1.0
	0.6nm,0.3s,baz=136,slow=5.2,SNR=3.1					
MAW	Mawson	85.23 203	P	P	09 56 59.8	-0.3
	1.1nm,0.7s,baz=104,slow=6.9,SNR=6.6					
TORD	Torodi Ar. Bea	152.52 287	PKPbc	PKPbc	10 04 17.6	-1.4
	0.6nm,0.3s,baz=102,slow=2.4,SNR=11					

*ISCJB **05** 09:59:02.8±0.3,23°.89S×0°.03×66°.93W±0°.04,h200km, mb3.9/4, Error ellipse: s-maj=5.8km s-min=3.4km az=136.7*
*SJA **05** 09:59:02.6±0.8,23°.86S×66°.87W,h212km±9km,ML3.5, MW3.5*
*IDC **05** 09:59:04.1±2.3,23°.80S×66°.69W,h192km±20km,mb3.8/4, mb1 3.8/8,mb1mx3.5/24, mbtmp4.3/8, Error ellipse: s-maj=24.0km s-min=17.8km az=79.0*
*GUC **05** 09:59:05.7±0.4,23°.67S×67°.35W,h227km±9km,ML4.4*

ISC 05 09:59:03.6±0.7,**23°.87S**±0°.05×**66°.93W**±0°.05,**h200**km,**n34, σ1§27/53, mb4.0/4,9C-2D,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	Humahuaca	1.54	65	eP	Pn	09 59 38.6	+0.4
AZAP	Zapla	1.73	102	eP	Pn	09 59 39.8	0.0
AZAP				IAML		09 59 40.1	
	comp=Z,221nm,0.6s						
LVC	Limon Verde	2.22	304	eP	Pn	09 59 46.1	+1.2
LVC				eS	Sn	10 00 17.3	+0.4
PB15	IPOC Station P	2.43	285	eP	Pn	09 59 48.1	+1.1
PB15	IPOC Station P	2.43	285	i P	Pn	09 59 48.0	+1.1
PB15				i S	Sn	10 00 20.2	-0.5
PB06	IPOC Station P	2.70	295	i P	Pn	09 59 51.0	+1.0
PB06				i S	Sn	10 00 25.3	-0.7
PB06				IAML		10 00 28.1	
	comp=N,1μm,0.1s						
PB03	IPOC Station P	3.18	304	i P	Pn	09 59 56.3	+0.7
PB03				i S	Sn	10 00 34.5	-1.7
PB03				IAML		10 00 37.0	
	comp=E,908nm,0.5s						
PB05	IPOC Station P	3.18	288	i P	Pn	09 59 55.9	+0.4
PB05				i S	Sn	10 00 34.0	-2.0
PB05				IAML		10 00 38.1	
	comp=E,391nm,0.4s						
AHML	Horco Molle	3.24	154	eP	Pn	09 59 55.6	-0.5
AHML				eS	Sn	10 00 36.0	-1.3
PB14	IPOC Station P	3.26	256	i P	Pn	09 59 56.8	+0.1
PB14				i S	Sn	10 00 36.2	-2.0
PB14				IAML		10 00 40.2	
	comp=N,349nm,0.4s						
PB04	IPOC Station P	3.34	297	eP	Pn	09 59 58.0	+0.5
PB04				eS	Sn	10 00 38.9	-0.8
PB04	IPOC Station P	3.34	297	i P	Pn	09 59 58.0	+0.5
PB04				i S	Sn	10 00 38.0	-1.7
PB04				IAML		10 00 40.4	
	comp=E,981nm,0.3s						
PB10	IPOC Station P	3.35	275	i P	Pn	09 59 58.0	+0.6
PB10				i S	Sn	10 00 38.1	-1.4
PB10				IAML		10 00 40.6	
	comp=N,421nm,0.4s						
PB07	IPOC Station P	3.47	307	eP	Pn	09 59 59.8	+0.6
PB07				eS	Sn	10 00 41.6	-0.9
PB07	IPOC Station P	3.47	307	i P	Pn	09 59 59.7	+0.6
PB07				i S	Sn	10 00 40.7	-1.8
PB01	IPOC Station P	3.68	319	i P	Pn	10 00 02.1	+0.5
PB01				eS	Sn	10 00 45.4	-1.7
PB02	IPOC Station P	3.74	312	eP	Pn	10 00 03.1	+0.8
PB02				eS	Sn	10 00 46.9	-1.5
PB02	IPOC Station P	3.74	312	i P	Pn	10 00 02.6	+0.2
PB02				i S	Sn	10 00 46.0	-2.4
CYA	Choya	4.66	168	eP	Pn	10 00 13.7	0.0
CYA				IAML		10 00 15.4	
	comp=Z,32nm,0.4s						
CYA				eS	Sn	10 01 06.4	-2.7
PB11	IPOC Station P	4.81	328	i P	Pn	10 00 15.6	-0.3
PB11				i S	Sn	10 01 10.2	-2.6
MNMC	Minye Minye	5.33	332	eP	Pn	10 00 22.9	+0.2
MNMC				i S	Sn	10 01 22.8	-2.1
AGUA	GUANDACOL	5.76	194	eP	Pn	10 00 27.9	0.0
LPAZ	La Paz	7.63	351	P	Pn	10 00 53.8	+1.0
	comp=Z,3.1nm,0.3s,baz=172,slow=8.1,SNR=63						
LPAZ				S	Sn	10 02 17.7	-1.7
	comp=Z,0.4nm,0.3s,baz=283,slow=21,SNR=4.0						
CPUP	Villa Florida	9.03 108		P	Pn	10 01 08.5	-1.8
	comp=Z,0.3nm,0.3s,baz=285,slow=11,SNR=16						
PLCA	Paso Flores	17.09 189		P	Pn	10 02 50.3	-0.6
	comp=Z,0.7nm,0.3s,baz=31,slow=11,SNR=34						
BDFB	Brasilia	19.58	69	P	P	10 03 16.7	0.0
	comp=Z,1.3nm,0.3s,baz=236,slow=11,SNR=29						
PTGA	Pitinga	23.97	17	P	P	10 04 00.1	+0.1
	comp=Z,1.1nm,0.3s,baz=60,slow=19,SNR=5.2						
DBIC	Dimbokro	67.70	72	P	P	10 09 39.5	-0.3
	comp=Z,6.0nm,1.0s,baz=217,slow=8.4,SNR=3.2						
SYO	Syowa Base	73.64	159	eP	P	10 10 16.3	+1.5
TORD	Torodi Ar. Bea	76.46	69	P	P	10 10 30.8	-1.0
	comp=Z,1.2nm,0.5s,baz=243,slow=5.8,SNR=20						
MAW	Mawson	81.54	163	P	P	10 11 00.5	+2.1
	comp=Z,1.9nm,0.8s,baz=221,slow=6.5,SNR=4.6						
ASAR	Alice Springs	128.60	205	PKP	PKPdf	10 17 48.9	+1.3
	comp=Z,0.4nm,0.6s,baz=129,slow=1.9,SNR=6.1						
WRA	Warramunga Arr	131.77	207	PKP	PKPdf	10 17 55.4	+1.7
	comp=Z,0.4nm,0.5s,baz=155,slow=1.7,SNR=15						
MKAR	Makanchi Array	146.38	39	PKPbc	PKPab	10 18 22.5	+0.3
	comp=Z,0.5nm,0.5s,baz=292,slow=4.4,SNR=5.5						

*ISK **05** 10:12:26.9,37°.76N×26°.91E,h6km,ML2.6/14*
*ISCJB **05** 10:12:27.4±0.4,37°.77N±0°.02×26°.96E±0°.03,h8km±4km, Error ellipse: s-maj=4.2km s-min=3.6km az=140.0*
*DDA **05** 10:12:28.0,37°.79N×26°.95E,h7km,Ml2.5*
*ATH **05** 10:12:28.4,37°.74N×26°.86E,h10km±2km,ML2.2/3, Error ellipse: s-maj=4.0km s-min=1.3km az=97.0*

ISC 05 10:12:27.7±0.9,**37°.75N**±0°.02×**26°.93E**±0°.03,**h12**km±6km, **n27,σ0§54/39, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	Samos	0.09	239	P	Pg	10 12 30.1	-0.3
SMG				S	Sg	10 12 32.1	-0.4
SMG				AML	AML	10 12 32.4	
	comp=E,8786μm,0.2s						
SMG				AML	AML	10 12 32.9	
	comp=N,11650μm,0.2s						
GCAM	G?zelcaml?	0.24	103	PG	Pg	10 12 32.6	-0.2
GCAM				SG	Sg	10 12 37.1	+0.8
GCAM	G?zelcaml?	0.24	103	i P	Pg	10 12 33.0	+0.1
GCAM				i S	Sg	10 12 37.2	+1.0
GMLD	Gumuldur	0.32	357	PG	Pg	10 12 33.5	-0.8
GMLD				SG	Sg	10 12 38.9	+0.3
ZEY	˜zmir	0.59	325	i P	Pg	10 12 39.7	+0.4
ZEY				i S	Sg	10 12 47.5	+0.4
BLCB	Balcova	0.64	8	PG	Pg	10 12 39.3	-0.8
BLCB				SG	Sg	10 12 48.8	+0.3
URLA	Izmir	0.66	336	PG	Pg	10 12 39.8	-0.8
URLA				SG	Sg	10 12 49.6	+0.2
URLA	Izmir	0.66	336	i P	Pg	10 12 40.1	-0.5
URLA				i S	Sg	10 12 49.5	+0.2
BODT	Bodrum	0.75	156	PG	Pg	10 12 41.7	-0.6
AYDN	Tasoluk	0.76	97	i P	Pg	10 12 41.9	-0.5
AYDN				i S	Sg	10 12 51.9	-0.4
AYDB	Zeytinkoy-Aydi	0.78	75	PG	Pg	10 12 42.5	-0.4
MLSB	Milas	0.81	124	PG	Pg	10 12 43.5	+0.1
KRBN	Karaburun	0.89	340	PG	Pg	10 12 44.1	-0.8
CHOS	Chios island	0.94	313	PG	Pg	10 12 45.2	-0.6
CHOS	Chios island	0.94	313	P	Pg	10 12 45.6	-0.3
CHOS				S	Sb	10 12 58.3	-0.1
CHOS				AML	AML	10 13 02.4	
	comp=E,268μm,0.3s						
CHOS				AML	AML	10 13 03.4	
	comp=N,176μm,0.3s						
FOCM	Fo˘ša	0.97	351	PG	Pg	10 12 45.6	-0.9
DAT	Datca	1.15	153	PN	Pg	10 12 49.8	0.0
DATC	Datca-Mugla	1.15	150	PN	Pg	10 12 49.5	-0.4
AMGA	Amorgos Island	1.24	222	P	Pb	10 12 50.7	-0.4
AMGA				S	Sg	10 13 07.5	-0.2
AMGA				AML	AML	10 13 11.4	
	comp=N,152μm,0.3s						
AMGA				AML	AML	10 13 12.7	
	comp=E,133μm,0.4s						
APE	Apeiranthos	1.31	239	PN	Pb	10 12 52.7	+0.4
APE	Apeiranthos	1.31	239	P	Pn	10 12 52.4	+0.5
APE				S	Sb	10 13 09.3	+0.2
DKL	Dikili	1.31	359	PN	Pn	10 12 52.2	+0.3
KULA	Kula-Manisa	1.56	60	PN	Pn	10 12 55.9	+0.5
TURN	Turunc	1.59	123	PN	Pn	10 12 54.7	-1.1
IOSP	Ios island	1.67	232	P	Pb	10 12 58.4	0.0
SIGR	SIGRI	1.68	330	PN	Pn	10 12 57.6	+0.6
SIGR	SIGRI	1.68	330	P	Pg	10 13 00.2	+0.2

*ISCJB **05** 10:20:39.7±0.5, 14°.8S±0°.1×175°.6W±0°.1,h250km, mb4.0/15, Error ellipse: s-maj=19.8km s-min=13.0km az=155.6*
*IDC **05** 10:20:44.1±1.2, 14°.84S×175°.56W,h280km±13km, mb3.8/14,mb1 4.1/15,mb1mx3.9/31,mbtmp4.5/15, Error ellipse: s-maj=18.3km s-min=10.1km az=152.0*

ISC 05 10:20:41.6±0.6,**14°.8S**±0°.2×**175°.74W**±0°.08,**h250**km,**n20, σ1§42/22, mb4.1/15, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.93	78	P	Pn	10 21 47.5	+2.8
	42nm,0.3s,baz=96,slow=2.1,SNR=26						
AFI				S	S	10 22 36.8	+1.9
	2.2nm,0.3s,baz=227,slow=22,SNR=1.8						
PPT	Papeete	25.28	100	P	P	10 25 43.7	-1.9
	11nm,0.6s,baz=290,slow=15,SNR=2.9						
STKA	Stephens Creek	42.42	239	P	P	10 28 12.9	+0.8
	6.4nm,0.4s,baz=94,slow=11,SNR=14						
WRA	Warramunga Arr	47.79	256	P	P	10 28 54.4	0.0
	2.2nm,0.7s,baz=92,slow=7.7,SNR=45						
WRA				PcP	sP	10 30 18.7	+2.9
	0.8nm,0.7s,baz=90,slow=3.5,SNR=5.3						
ASAR	Alice Springs	48.17	251	P	P	10 28 57.9	+0.5
	26nm,0.6s,baz=86,slow=8.0,SNR=405						
ASAR				PcP	sP	10 30 19.8	+1.1
	1.2nm,0.6s,baz=97,slow=3.8,SNR=4.6						
SIJI	Sorong	54.12	280	P	P	10 29 42.5	+1.0
	baz=223,slow=21,SNR=9.5						
FITZ	Fitzroy Crossi	56.13	258	P	P	10 29 56.8	+1.0
	1.4nm,0.6s,baz=66,slow=9.1,SNR=6.2						
VNDA	Vanda	63.79	185	P	P	10 30 45.9	-0.9
	1.5nm,1.0s,baz=337,slow=4.2,SNR=6.8						
MJAR	Matsushiro Arr	67.00	321	P	P	10 31 08.3	+0.4
	1.5nm,0.7s,baz=168,slow=7.4,SNR=4.6						
PETK	Petropavlovsk-	71.35	343	P	P	10 31 34.5	+0.3
	4.7nm,0.8s,baz=118,slow=8.0,SNR=8.5						
NVAR	Mina Array Bea	75.39	43	P	P	10 31 57.6	-0.7
	2.5nm,0.8s,baz=229,slow=9.3,SNR=18						
TXAR	Lajitas Array	82.15	57	P	P	10 32 34.5	-0.5
	0.7nm,0.8s,baz=214,slow=9.2,SNR=9.0						
ILAR	Eielson Array	82.27	12	P	P	10 32 33.6	-1.2
	3.1nm,0.5s,baz=219,slow=5.6,SNR=41						
PDAR	Pinedale Array	83.31	43	P	P	10 32 39.5	-1.4
	1.8nm,0.7s,baz=210,slow=3.7,SNR=20						
MAW	Mawson	87.67	199	P	P	10 33 00.5	-1.0
	2.4nm,0.8s,baz=89,slow=4.7,SNR=5.8						
CMAR	Chiang Mai Arr	90.27	289	P	P	10 33 14.7	0.0
	1.3nm,0.4s,baz=91,slow=2.5,SNR=8.6						
YKA	Yellowknife Ar	90.42	24	P	P	10 33 13.3	-1.1
	2.2nm,0.8s,baz=224,slow=6.0,SNR=3.4						
ARCES	ARCESS Array B	123.65	351	PKP	PKPdf	10 39 07.0	-1.9
	1.7nm,0.7s,baz=46,slow=3.5,SNR=7.3						
KMBO	Kilima Mbogo	143.74	247	PKP	PKPab	10 39 45.9	+0.2
	2.1nm,0.5s,baz=54,slow=5.3,SNR=7.1						
BRTR	Keskin Array B	144.22	320	PKP	PKPab	10 39 46.4	-0.3
	11nm,0.8s,baz=90,slow=2.9,SNR=57						

IDC 05 10:29:54.6±2.7,**6°.25S×130°.62E,h109**km±35km,**mb3.7/2, mb1 3.5/5,mb1mx3.2/40,mbtmp3.8/5, Error ellipse: s-maj=82.9km s-min=21.0km az=87.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	5.38	7	P	Pn	10 31 12.9	+0.3
	1.2nm,0.3s,baz=184,slow=13,SNR=14						
SIJI				S	Sn	10 32 07.7	-5.7
	4.1nm,0.3s,baz=334,slow=24,SNR=12						
FITZ	Fitzroy Crossi	12.74	202	P	Pn	10 32 51.0	-1.0
	0.2nm,0.3s,baz=36,slow=10,SNR=11						
FITZ				S	Sn	10 35 01.6	-11
	0.3nm,0.3s,baz=42,slow=13,SNR=2.5						
WRA	Warramunga Arr	14.09	165	P	Pn	10 33 08.5	-0.9
	0.3nm,0.3s,baz=355,slow=13,SNR=14						
WRA				S	Sn	10 35 37.3	-7.5
	0.5nm,0.3s,baz=329,slow=20,SNR=8.7						
ASAR	Alice Springs	17.61	170	P	Pn	10 33 54.3	+1.1
	0.3nm,0.3s,baz=350,slow=12,SNR=19						
ASAR				S	Sn	10 37 04.2	-5.5
	0.1nm,0.3s,baz=1.2,slow=29,SNR=5.0						
MKAR	Makanchi Array	67.94	326	P	P	10 40 42.0	+0.2
	0.3nm,0.4s,baz=134,slow=6.2,SNR=4.9						
KURBB	Kurchatov Arra	72.19	328	P	P	10 41 07.3	-0.3
	0.4nm,0.5s,baz=124,slow=4.7,SNR=4.3						

JMA 05 10:31:54.5±0.2,**38°.49N×144°.55E,h43**km,**M3.6, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.33	286	P	Pn	10 32 31.4	+1.1
OFUJ				eS	Sn	10 32 59.3	+1.6
MIYJ	Miyakonagasawa	2.39	298	P	Pn	10 32 32.4	+1.3
MIYJ				eS	Sn	10 33 00.4	+1.3
JIKH	Ishinomakikobu	2.43	267	S	Sn	10 33 01.9	+1.7
JKMT	Kesennumamotoy	2.43	279	P	Pn	10 32 33.0	+1.3
JKMT				S	Sn	10 33 01.8	+1.6
JMK	Ichinoseki	2.65	281	P	Pn	10 32 36.2	+1.6
JMK				eS	Sn	10 33 06.9	+1.4
JOM	Ohasama	2.72	292	eS	Sn	10 33 08.5	+1.1
JYK	Kaneyama	3.31	279	P	Pn	10 32 46.2	+2.5
JYK				S	Sn	10 33 25.3	+3.5
JFT	Otama	3.47	255	P	Pn	10 32 48.3	+2.4
JFT				S	Sn	10 33 28.2	+2.4
JOT	Ohata	3.95	318	eS	Sn	10 33 36.6	-0.9
JCH	Churui	4.22	348	P	Pn	10 32 55.2	-1.0
JCH				eS	Sn	10 33 40.9	-3.3
JKB	Kayabe	4.33	323	P	Pn	10 32 59.6	+1.8
JKB				S	Sn	10 33 47.1	+0.1
NEM2	Nemuro 2	4.95	10	P	Pn	10 33 02.6	-3.7
NEM2				eS	Sn	10 33 53.9	-8.4
JRY	Ryogami san	5.14	243	P	Pn	10 33 10.3	+1.4
JOD2	Odawara 2	5.43	235	eS	Sn	10 34 14.3	0.0
JTKR	Abashiri--Toko	5.50	355	P	Pn	10 33 11.4	-2.4
JTKR				eS	Sn	10 34 10.1	-5.6

*DJA **05** 10:36:12.9±1.5,3°.N±8°.×12°.9E±°,h16km±19km,M4.7/13, mb5.0/12,mB5.1/8,MLv4.8/13,Mw(mB)4.4/8*
*ISCJB **05** 10:36:13.9±0.7,2°.67N±0°.03×128°.81E±0°.04,h37km±7km, mb4.6/84,MS3.6/10, Error ellipse: s-maj=6.6km s-min=4.9km az=143.9*
*MOS **05** 10:36:13.6±0.8,2°.72N×128°.64E,h34km,mb5.0/25, Error ellipse: s-maj=13.9km s-min=6.7km az=107.3*
*IDC **05** 10:36:14.8±2.3,2°.64N×128°.74E,h33km±16km,mb4.2/23, mb1 4.3/23,mb1mx4.2/43,mbtmp4.4/23,ML4.1/1,MS3.3/7, Ms1 3.3/7,ms1mx3.0/34, Error ellipse: s-maj=21.1km s-min=9.8km az=79.0*
*BJI **05** 10:36:14.3,2°.44N×128°.82E,h45km,mb4.7/37,mB4.9/15, Ms4.3/7,Ms7 3.9/7*
*NEIC **05** 10:36:16.9±0.7,2°.65N×128°.74E,h52km±7km,mb4.7/33, Error ellipse: s-maj=6.4km s-min=3.8km az=72.0*

ISC 05 10:36:16.6±1.0,**2°.66N**±0°.05×**128°.85E**±0°.06,**h48**km±9km,

n196,σ1§06/212,mb4.6/84,MS3.6/10,6C-4D,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.39	218	ePn	Pn	10 36 51.9	-1.4
TNTI	Ternate	2.39	218	P	Pn	10 36 52.7	-0.6
TNTI				S	Sn	10 37 23.8	+2.5
SGSI	Sangihe	3.47	287	P	Pn	10 37 06.2	-1.9
LBMI	Labuha	3.54	202	P	Pn	10 37 09.6	+0.5
SWI	Sorong	4.25	145	P	Pn	10 37 17.5	-1.3
SIJI	Sorong	4.25	145	Pn	Pn	10 37 18.2	-0.7
	11nm,0.3s,baz=168,slow=23,SNR=29						
SIJI				Sn	Sn	10 38 05.6	-1.7
	8.1nm,0.3s,baz=60,slow=22,SNR=8.1						
SIJI				LR	LR	10 39 11.3	
	comp=Z,532nm,18.9s,slow=41						
KMSI	Cibinong	5.29	247	P	Pn	10 37 33.7	+0.6
	931nm,1.0s,8μm						
SANI	Sanana	5.48	211	P	Pn	10 37 34.8	-0.9
	64nm,1.0s,924nm						
MSAI	Masohi	5.96	179	P	Pn	10 37 42.5	+0.1
NLAI	Namlea	6.11	197	P	Pn	10 37 43.5	-0.9
NLAI				S	Sn	10 38 55.4	+2.3
FAKI	Fak Fak	6.50	148	ePn	Pn	10 37 49.8	+0.1
LUWI	Luwuk	7.10	239	ePn	Pn	10 37 57.5	-0.5
LUWI	Luwuk	7.10	239	P	Pn	10 37 57.7	-0.3
MRSI	Marisa	7.24	253	P	Pn	10 37 58.9	-0.9
APSI	Ampana	8.02	244	P	Pn	10 38 10.2	-0.4
MPSI	Mapaga	9.24	256	P	Pn	10 38 27.2	-0.1
	28nm,1.3s,395nm						
MYLDM	Lahad Datu	10.62	284	ePn	Pn	10 38 45.5	-0.8
TTSI	Tana Toraja	10.66	238	P	Pn	10 38 46.3	-0.4
BNSI	Bone	11.20	231	P	Pn	10 38 53.2	-1.0
SPSI	Sidrap Palu	11.21	234	P	Pn	10 38 53.2	-1.1
BKSI	Bulukumba	11.78	228	P	Pn	10 39 02.0	-0.1
BATI	Baumata	13.78	202	LR	LR	10 44 49.6	
	comp=Z,264nm,20.2s,baz=352,slow=38						
MTN	Manton Dam	15.56	172	ePn	Pn	10 39 53.5	+0.5
	15nm,0.8s						
SBUM	Sibu	16.61	270	ePn	Pn	10 40 06.2	-0.2
	14nm,0.9s						
JAGI	Jajag, Banyuwa	18.36	233	eP	P	10 40 26.2	-1.2
	48nm,0.8s						
KSM	Kuching	18.57	267	eP	Pn	10 40 30.3	-0.1
	14nm,0.9s						
FITZ	Fitzroy Crossi	20.86	189	P	P	10 40 54.1	-0.6
	4.0nm,0.5s,baz=27,slow=6.7,SNR=7.3						
FITZ				LR	LR	10 48 32.9	
	comp=Z,51nm,21.4s,baz=18,slow=35						
FITZ	Fitzroy Crossi	20.86	189	eP	P	10 40 54.8	+0.1
	6.3nm,0.8s						
TWG	Pinlang	21.42	340	eP	P	10 40 58.7	-1.9
	96nm,0.5s						
YULB	Yu-li	21.87	341	eP	P	10 41 04.1	-1.4
	16nm,1.0s						
TPUB	Ta-pu	22.01	339	eP	P	10 41 05.7	-1.3
	24nm,0.7s						
YHNB	Yeheng	23.04	342	eP	P	10 41 18.6	+0.7
	33nm,0.8s						
WRAB	Tennant Creek	23.09	167	eP	P	10 41 18.7	+0.3
	15nm,0.8s						
WRAB	Tennant Creek	23.09	167	eP	P	10 41 18.7	+0.3
WRAB				pmax	pmax		
	comp=Z,15nm,0.8s						
WR1	Warramunga Arr	23.10	167	eP	P	10 41 18.4	-0.1
	comp=Z,19nm,0.8s						
WRA	Warramunga Arr	23.10	167	P	P	10 41 18.4	-0.1
	comp=Z,12nm,0.8s,baz=342,slow=10,SNR=28						
WRA				ScP	ScP	10 48 42.1	+1.4
	comp=Z,0.5nm,0.7s,baz=338,slow=3.4,SNR=3.4						
WRA				LR	LR	10 51 38.8	
	comp=Z,76nm,19.5s,baz=320,slow=40						
WRA	Warramunga Arr	23.10	167	i P	P	10 41 19.2	+0.7
WRA				pmax	pmax		
	comp=Z,13nm,0.8s						
WB2	Warramunga Arr	23.10	167	eP	P	10 41 18.2	-0.3
WB2				eP	P	10 41 18.7	+0.1
LEM	Lembang	23.19	246	P	P	10 41 18.1	-1.6
	comp=Z,22nm,0.7s,baz=127,slow=23,SNR=1.7						
JOW	Kunigami	24.05	359	LR	LR	10 49 35.4	
	comp=Z,106nm,19.7s,baz=344,slow=33						
JOW	Kunigami	24.05	359	eP	P	10 41 28.1	+0.7
	comp=Z,36nm,1.0s						
MYKOM	Kota Tinggi	25.00	269	eP	P	10 41 36.9	+0.6
	comp=Z,18nm,0.9s						
UBPT	Khong Chiam	26.24	300	P	P	10 41 48.0	+0.6
	comp=Z,18nm,0.8s						
AS31	Alice Springs	26.62	170	eP	P	10 41 51.5	+0.7
	comp=Z,2.5nm,0.6s						
ASAR	Alice Springs	26.62	170	P	P	10 41 51.1	+0.2
	comp=Z,1.8nm,0.6s,baz=348,slow=7.7,SNR=24						
ASAR				PcP	PcP	10 45 13.6	-0.6
	comp=Z,0.5nm,0.5s,baz=347,slow=2.2,SNR=4.2						
ASAR				ScP	ScP	10 48 51.8	+1.3
	comp=Z,0.9nm,0.9s,baz=4.0,slow=3.0,SNR=4.1						
ASAR				LR	LR	10 53 49.3	
	comp=Z,62nm,18.5s,baz=318,slow=40						
AS01	Alice Springs	26.63	170	eP	P	10 41 50.7	-0.2
SKNT	Sakolnakorn	28.27	302	P	P	10 42 06.0	+0.3
	comp=Z,6.7nm,0.8s						
CHAI	Chaiyaphum	29.54	298	P	P	10 42 16.8	-0.2
	comp=Z,3.8nm,0.8s						
PSI	Prapat	29.89	271	PcP	PcP	10 45 22.1	-0.5
	comp=Z,4.3nm,0.7s,baz=180,slow=7.6,SNR=2.5						
JNU	Nakatsue	30.37	3	P	P	10 42 24.6	+0.4
	comp=Z,8.7nm,1.0s,baz=173,slow=8.1,SNR=3.4						
PBKT	Sadao Pong	30.70	299	P	P

BJT	**Baijiatuau**	**38.93**	**344**	*e*P		**P**	**10 43 37.9**	**+0.1**
	comp=Z,18nm,0.8s								
BJT	**Baijiatuau**	**38.93**	**344**	*e*P		**P**	**10 43 37.9**	**+0.1**
BJT				pmax	pmax				
	comp=Z,18nm,0.8s								
BJI	**Beijing**	**38.95**	**344**	P		**P**	**10 43 37.7**	**-0.2**
BJI				pmax	pmax				
	comp=Z,10.0nm,1.3s								
BJI	**Beijing**	**38.95**	**344**	P		**P**	**10 43 37.8**	**-0.2**
BJI				pmax	pmax				
	comp=Z,10.0nm,1.2s								
H11S3	**WAKE ISLAND Hy**	**40.25**	**64**	T		T	11 26 59.8		
	baz=252,slow=75,SNR=187								
H11S2	**WAKE ISLAND Hy**	**40.27**	**64**	T		T	11 27 00.2		
	baz=252,slow=75,SNR=140								
H11S1	**WAKE ISLAND Hy**	**40.27**	**64**	T		T	11 27 00.6		
	baz=252,slow=75,SNR=76								
LZH	**Lanzhou**	**40.51**	**328**	*e*P		**P**	**10 43 53.7**	**+2.4**
LZH				pP		pP	10 44 02.2	-1.9	
LZH				sP		sP	10 44 05.8	-3.8	
LZH				pmax	pmax				
	comp=Z,20nm,1.0s								
H11N1	**WAKE ISLAND Hy**	**40.83**	**63**	T		T	11 27 43.5		
	baz=250,slow=75,SNR=660								
H11N2	**WAKE ISLAND Hy**	**40.84**	**63**	T		T	11 27 45.3		
	baz=250,slow=75,SNR=247								
H11N3	**WAKE ISLAND Hy**	**40.85**	**63**	T		T	11 27 45.8		
	baz=250,slow=75,SNR=455								
CN2	**Changchun**	**41.08**	**356**	*e*P		**P**	**10 43 58.9**	**+3.3**
HHC	**Hu-ho-hao-te**	**41.10**	**340**	*e*P		**P**	**10 43 58.9**	**+2.9**
HHC				pmax	pmax				
	comp=Z,17nm,1.1s								
USRK	**Ussuriysk Ar.**	**41.46**	**3**	P		**P**	**10 43 59.0**	**+0.3**
	comp=Z,6.3nm,0.8s,baz=184,slow=7.1,SNR=11								
MDJ	**Mudanjiang**	**41.79**	**1**	P		**P**	**10 44 03.9**	**+2.5**
MDJ				pmax	pmax				
	comp=Z,16nm,1.4s								
SHL	**Shillong**	**42.21**	**306**	*e*P		**P**	**10 44 03.9**	**-1.5**
	comp=Z,18nm,0.7s								
SHL	**Shillong**	**42.21**	**306**	*e*P		**P**	**10 44 03.9**	**-1.5**
SHL				pmax	pmax				
	comp=Z,18nm,0.7s								
TEY	**Ternei**	**42.75**	**8**⇑	*e*P		**P**	**10 44 10.4**	**+1.1**
TEY				pmax	pmax				
	comp=Z,10.0nm,1.3s								
ASAJ	**Asahikawa**	**43.05**	**15**	P		**P**	**10 44 13.1**	**+1.4**
	comp=Z,5.8nm,0.8s,baz=187,slow=16,SNR=5.2								
GTA	**Gaotai**	**45.11**	**328**	⇑P		**P**	**10 44 29.2**	**+0.7**
GTA				pP		pP	10 44 42.1	+0.7	
GTA				sP		sP	10 44 46.6	-0.4	
GTA				PcP		**PcP**	**10 46 09.9**	**+1.4**
GTA				S		**S**	**10 51 05.8**	**+1.2**
GTA				sS		sS	10 51 26.7	+0.4	
GTA				SS		**ScS**	**10 54 19.8**	**-1.9**
GTA				pmax	pmax				
	comp=Z,6.0nm,0.8s								
GTA				pmax	pmax				
	comp=Z,37nm,6.5s								
GTA				LR		LR			
	comp=Z,510nm,20.0s								
GTA				LR		LR			
	comp=Z,290nm,19.4s								
GTA				LR		LR			
	comp=Z,140nm,20.9s								
YSS	**Yuzh-Sakhalins**	**45.75**	**13**	*e*P		P	10 44 39.0	+5.8	
YSS				pmax	pmax				
	comp=N,10.0nm,0.9s								
YSS				pmax	pmax				
	comp=Z,20nm,0.9s								
YSS				MLR		MLR			
	comp=Z,100nm,14.0s								
YSS				MLR		MLR			
	comp=N,200nm,12.0s								
YSS				MLR		MLR			
	comp=E,100nm,13.0s								
KLR	**Kul'dur**	**46.47**	**3**	*i* P		**P**	**10 44 40.0**	**+1.2**
RAMN	**Ramite**	**47.09**	**305**	*e*P		**P**	**10 44 44.7**	**+0.3**
	comp=E,37nm,0.7s								
JIRN	**Jiri**	**47.71**	**306**	*e*P		**P**	**10 44 49.3**	**-0.1**
	comp=E,48nm,0.6s								
GUN	**Gumba**	**48.06**	**306**	*e*P		**P**	**10 44 52.1**	**0.0**
	comp=E,49nm,0.6s								
PKI	**Pulchoki**	**48.31**	**305**	*e*P		**P**	**10 44 53.5**	**-0.5**
	comp=E,14nm,0.5s								
PKIN	**Phulchoki**	**48.33**	**305**	*e*P		**P**	**10 44 53.4**	**-0.6**
GRNR	**Gornyy**	**48.37**	**6**	*e*P		**P**	**10 44 54.3**	**+0.7**
KKN	**Kakani**	**48.50**	**305**	*e*P		**P**	**10 44 55.2**	**-0.1**
	comp=E,23nm,0.6s								
DMN	**Daman**	**48.58**	**305**	*e*P		**P**	**10 44 55.8**	**-0.1**
ULN	**Ulaanbaatar**	**48.81**	**341**	*e*P		**P**	**10 44 57.7**	**+0.4**
	comp=E,9.4nm,0.9s								
ULN	**Ulaanbaatar**	**48.81**	**341**	*d i*P		**P**	**10 44 57.4**	**+0.2**
ULN				pmax	pmax				
	comp=Z,9.0nm,0.8s								
SONA0	**Songino Array**	**49.00**	**340**	*e*P		**P**	**10 44 58.8**	**+0.1**
SONA0				*e*PcP		**PcP**	**10 46 21.6**	**-0.5**
SONM	**Songino Array**	**49.00**	**340**	P		**P**	**10 44 58.8**	**+0.1**
	comp=Z,4.2nm,0.8s,baz=155,slow=9.1,SNR=13								
SONM				PcP		**PcP**	**10 46 21.6**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=132,slow=2.1,SNR=2.3								
SONA1	**Songino Array**	**49.01**	**340**	*e*P		**P**	**10 44 58.6**	**-0.1**
TYV	**Tymovskoe**	**49.43**	**11**	*e*P		**P**	**10 45 00.9**	**-0.8**
TYV				pmax	pmax				
	comp=Z,9.0nm,1.4s								
TYV				pmax	pmax				
	comp=Z,300nm,4.2s								
KOLN	**Koldanda**	**49.87**	**305**	*e*P		**P**	**10 45 06.0**	**+0.2**
	comp=Z,64nm,0.6s								
DANN	**Dangsing**	**49.96**	**305**	*e*P		**P**	**10 45 06.4**	**-0.1**
	comp=Z,125nm,0.7s								
PYUN	**Piuthan**	**50.49**	**305**	*e*P		**P**	**10 45 10.8**	**+0.3**
	comp=Z,64nm,0.5s								
HYB	**Hyderabad**	**51.47**	**290**	*i* P		**P**	**10 45 18.0**	**+0.3**
WMQ	**Urumqi**	**54.82**	**324**	P		**P**	**10 45 42.6**	**+0.6**
WMQ				pP		sP	10 45 58.7	-2.0	
WMQ				sP		pP	10 46 03.7	+8.5	
WMQ				pmax	pmax				
	comp=Z,30nm,1.1s								
WMQ				LR		LR			
	comp=Z,140nm,20.9s								
WMQ				LR		LR			
	comp=Z,110nm,21.3s								
WMQ				LR		LR			
	comp=Z,120nm,18.5s								
PETK	**Petropavlovsk-**	**55.65**	**21**	P		**P**	**10 45 48.1**	**+0.4**
	comp=Z,4.3nm,0.9s,baz=76,slow=3.7,SNR=4.6								
PEA1	**Petropavlovsk-**	**55.66**	**21**	*e*P		**P**	**10 45 48.1**	**+0.3**
HVS	**Khovu-Aksy**	**56.61**	**334**	*i* P		**P**	**10 45 54.6**	**-0.1**
HVS				pmax	pmax				
	comp=Z,15nm,0.9s								
YAK	**Yakutsk**	**59.24**	**0**	*i* P		**P**	**10 46 13.8**	**+1.0**
YAK				pmax	pmax				
	comp=Z,24nm,0.9s								
MA2	**Magadan**	**59.25**	**13**	*ce*P		**P**	**10 46 15.4**	**+2.4**
MA2				pmax	pmax				
	comp=Z,15nm,1.7s								
MK01	**Makanchi Array**	**59.62**	**325**	*e*P		**P**	**10 46 15.3**	**-0.5**
MK31	**Makanchi Array**	**59.64**	**325**	*e*P		**P**	**10 46 16.1**	**+0.2**
MK31	**Makanchi Array**	**59.64**	**325**	*e*P		**P**	**10 46 16.2**	**+0.2**
MK32	**Makanchi Array**	**59.64**	**325**	*e*P		**P**	**10 46 15.8**	**-0.2**
MK32				*e*PcP		**PcP**	**10 47 02.5**	**-0.2**
MKAR	**Makanchi Array**	**59.64**	**325**	P		**P**	**10 46 15.8**	**-0.2**
	comp=Z,5.8nm,0.6s,baz=117,slow=8.1,SNR=49								
MKAR				PcP		**PcP**	**10 47 02.5**	**-0.2**
	comp=Z,6.6nm,0.8s,baz=120,slow=4.8,SNR=9.1								
MKAR	**Makanchi Array**	**59.64**	**325**	*e*P		**P**	**10 46 16.1**	**+0.2**
	comp=Z,62nm,0.5s								
MKAR				PcP		**PcP**	**10 47 02.5**	**-0.2**
MKAR	**Makanchi Array**	**59.64**	**325**	*i* P		**P**	**10 46 16.1**	**+0.2**
MKAR				pmax	pmax				
	comp=Z,6.0nm,0.6s								
MAKZ	**Makanchi**	**59.83**	**325**	*e*P		**P**	**10 46 17.4**	**+0.2**
	comp=Z,9.8nm,0.6s								
MAKZ	**Makanchi**	**59.83**	**325**	*e*P		**P**	**10 46 17.4**	**+0.2**
MAKZ				pmax	pmax				
	comp=Z,10.0nm,0.6s								
KSH	**Kashi**	**60.30**	**315**	*e*P		**P**	**10 46 24.1**	**+3.4**
KSH				S		**S**	**10 54 32.3**	**+0.4**
ZAA0	**Zalesovo Array**	**62.51**	**332**	*e*P		**P**	**10 46 34.4**	**-0.8**
	comp=Z,5.8nm,0.9s								
ZALV	**Zalesovo Beam**	**62.51**	**332**	P		**P**	**10 46 34.0**	**-1.1**
ZALV				PcP		**PcP**	**10 47 13.3**	**-0.8**
	comp=Z,3.1nm,0.9s,baz=113,slow=3.3,SNR=3.0								
ZALV	**Zalesovo Beam**	**62.51**	**332**	*i* P		**P**	**10 46 34.4**	**-0.8**
ZALV				pmax	pmax				
	comp=Z,5.0nm,0.8s								
ZAA1	**Zalesovo Array**	**62.51**	**332**	*e*P		**P**	**10 46 34.0**	**-1.2**
ZAA1				*e*PcP		**PcP**	**10 47 13.3**	**-0.8**
AAK	**Ala-Archa**	**62.57**	**317**	P		**P**	**10 46 36.0**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=150,slow=3.5,SNR=3.6								
AAK				PcP		**PcP**	**10 47 15.0**	**+0.2**
	comp=Z,3.0nm,0.6s,baz=123,slow=3.6,SNR=7.1								
AAK	**Ala-Archa**	**62.57**	**317**	*e*P		**P**	**10 46 36.0**	**-0.1**
AAK				*e*			10 47 15.0		
SEY	**Seymchan**	**62.62**	**12**	*i* P		**P**	**10 46 36.9**	**+1.2**
KURK	**Kurchatov**	**63.78**	**327**	*e*P		**P**	**10 46 43.3**	**-0.3**
KURK				*e*P		**P**	**10 46 43.6**	**-0.1**
KURK				*e*PcP		**PcP**	**10 47 19.2**	**-0.1**
KURK	**Kurchatov**	**63.78**	**327**	*d i*P		**P**	**10 46 43.0**	**-0.7**
KURK				pmax	pmax				
	comp=Z,16nm,0.7s								
KURBB	**Kurchatov Arra**	**63.78**	**327**	P		**P**	**10 46 43.3**	**-0.4**
	comp=Z,11nm,0.7s,baz=125,slow=5.9,SNR=120								
KURBB				PcP		**PcP**	**10 47 19.2**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=127,slow=5.1,SNR=3.0								
NVS	**Novosibirsk**	**63.78**	**333**	*e*P		**P**	**10 46 42.4**	**-1.2**
KK31	**Karatay Array**	**65.46**	**317**	*e*P		**P**	**10 46 53.5**	**-1.3**
KK31	**Karatay Array**	**65.46**	**317**	*i* P		**P**	**10 46 54.1**	**-0.7**
KK31				pmax	pmax				
	comp=Z,1.0nm,0.5s								
KKAR	**Karatay Array**	**65.46**	**317**	*e*P		**P**	**10 46 53.6**	**-1.2**
KKAR	**Karatay Array**	**65.46**	**317**	*e*P		**P**	**10 46 53.6**	**-1.2**
TIXI	**Tiksi**	**68.89**	**0**	*e*P		**P**	**10 47 16.4**	**+0.3**
	comp=Z,6.5nm,0.6s								
TIXI	**Tiksi**	**68.89**	**0**	*ce*P		**P**	**10 47 16.3**	**+0.3**
TIXI				pmax	pmax				
	comp=Z,7.0nm,1.3s								
BRVK	**Borovoye**	**69.44**	**327**	*e*P		**P**	**10 47 19.0**	**-0.8**
	comp=Z,9.7nm,0.7s								
BRVK	**Borovoye**	**69.44**	**327**	*ce*P		**P**	**10 47 18.1**	**-1.7**
BRVK				pmax	pmax				
	comp=Z,12nm,0.8s								
NRIK	**Noril'sk**	**71.98**	**346**	P		**P**	**10 47 35.2**	**+0.3**
	comp=Z,6.5nm,0.6s,baz=130,slow=5.4,SNR=4.1								
ABKAR	**Akbulak array**	**74.32**	**321**	*e*P		**P**	**10 47 48.6**	**-0.5**
SVE	**Sverdlovsk**	**75.98**	**328**	*i* P		**P**	**10 47 58.3**	**-0.2**
SVE				pmax	pmax				
	comp=Z,12nm,0.6s								
ARU	**Arti**	**76.97**	**328**	*d i*P		**P**	**10 48 02.8**	**-1.3**
ARU							10 50 50.5		
ARU				S		**S**	**10 57 47.4**	**-1.4**
ARU				pmax	pmax				
	comp=Z,8.0nm,0.6s								
VNDA	**Vanda**	**82.11**	**173**	P		**P**	**10 48 31.1**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=313,slow=5.8,SNR=9.3								
VNDA	**Vanda**	**82.11**	**173**	*e*P		**P**	**10 48 32.3**	**+0.7**
	comp=Z,2.3nm,1.0s								
VNDA	**Vanda**	**82.11**	**173**	*e*P		**P**	**10 48 32.3**	**+0.7**
VNDA				pmax	pmax				
	comp=Z,2.0nm,1.0s								
IM3	**Indian Mountai**	**82.46**	**24**	*e*P		**P**	**10 48 35.4**	**+1.7**
RAYN	**Ar Rayn**	**82.85**	**293**	*e*P		**P**	**10 48 35.6**	**-1.0**
	comp=Z,4.9nm,1.0s								
RAYN	**Ar Rayn**	**82.85**	**293**	*e*P		**P**	**10 48 35.7**	**-1.0**
RAYN				pmax	pmax				
	comp=Z,5.0nm,1.0s								
MAW	**Mawson**	**83.49**	**201**	P		**P**	**10 48 38.5**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=16,slow=8.1,SNR=7.0								
MAW	**Mawson**	**83.49**	**201**	*e*P		**P**	**10 48 38.4**	**-0.5**
	comp=Z,1.0nm,1.0s								
MAW	**Mawson**	**83.49**	**201**	*e*P		**P**	**10 48 38.4**	**-0.5**
MAW				pmax	pmax				
	comp=Z,1.0nm,1.0s								
MLY	**Manley**	**83.55**	**25**	*e*P		**P**	**10 48 40.7**	**+1.3**
	comp=Z,5.5nm,0.7s								
COLD	**Coldfoot**	**84.06**	**23**	*e*P		**P**	**10 48 43.6**	**+1.7**
	comp=Z,5.9nm,0.8s								
SML	**Sawmill**	**84.27**	**28**	*e*P		**P**	**10 48 44.3**	**+1.1**
	comp=Z,19nm,0.8s								
SML	**Sawmill**	**84.27**	**28**	*e*P		**P**	**10 48 44.3**	**+1.1**
SML				pmax	pmax				
	comp=Z,19nm,0.8s								
TOLK	**Toolik Lake Re**	**84.47**	**21**	*e*P		**P**	**10 48 45.7**	**+1.7**
	comp=Z,7.1nm,0.8s								
WRH	**Wood River Hil**	**84.62**	**26**	*e*P		**P**	**10 48 45.4**	**+0.6**
	comp=Z,5.5nm,1.0s								
ILAR	**Eielson Array**	**85.16**	**25**	P		**P**	**10 48 47.6**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=247,slow=5.5,SNR=19								
ILB	**Eielson Array**	**85.16**	**25**	*e*P		**P**	**10 48 47.9**	**+0.3**
NEY	**Neytrino**	**85.37**	**313**	*i* P		**P**	**10 48 48.9**	**-0.4**
NEY				pmax	pmax				
	comp=Z,1.0nm,0.9s								
DIV	**Divide**	**85.45**	**29**	*e*P		**P**	**10 48 50.5**	**+1.3**
	comp=Z,17nm,0.8s								
VRH	**Novokhopyorsk**	**86.14**	**321**	*e*P		**P**	**10 48 51.5**	**-1.1**
VRH				pmax	pmax				
	comp=Z,20nm,0.7s								
VSR	**Storozhevoye**	**87.75**	**321**	*e*P		**P**	**10 48 58.7**	**-1.8**
VSR				pmax	pmax				
	comp=Z,8.0nm,0.9s								
LPSR	**Galich'ya Gora**	**87.86**	**322**	*e*P		**P**	**10 48 59.6**	**-1.4**
LPSR				pmax	pmax				
	comp=Z,20nm,1.1s								
OBN	**Obninsk**	**89.15**	**325**⇑	*e*P		**P**	**10 49 05.9**	**-1.1**
OBN				*e*SSS	SSS		11 09 25.1		
OBN				pmax	pmax				
	comp=Z,7.0nm,0.4s								
OBN				MLR	MLR				
	comp=Z,47nm,16.0s								
ARA0	**ARCESS Array S**	**92.18**	**340**	*e*P		**P**	**10 49 20.1**	**-0.7**
ARCES	**ARCESS Array B**	**92.18**	**340**	P		**P**	**10 49 20.1**	**-0.7**
	comp=Z,4.9nm,1.0s,baz=79,slow=6.3,SNR=6.6								
BR101	**Keskin Array S**	**92.33**	**310**	*e*P		**P**	**10 49 21.1**	**-1.2**
BRTR	**Keskin Array B**	**92.33**	**310**	P		**P**	**10 49 21.1**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=117,slow=4.7,SNR=3.1								
BRTR				LR		LR	11 36 00.2		
	comp=Z,10nm,19.7s,baz=276,slow=39								
QSPA	**South Pole Qui**	**92.57**	**180**	P		**P**	**10 49 22.3**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=332,slow=2.6,SNR=5.5								
AKASG	**Malin Array Be**	**94.05**	**321**	P		**P**	**10 49 27.5**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=63,slow=5.1,SNR=3.6								
AKBB	**Malin Array Si**	**94.05**	**321**	*e*P		**P**	**10 49 27.4**	**-2.4**
AKBB	**Malin Array Si**	**94.05**	**321**	*e*P		**P**	**10 49 27.5**	**-2.4**
KLNR	**Kaliningrad**	**98.53**	**326**	*i* P		**P**	**10 49 49.5**	**-0.5**
NB2	**NORSAR Subarra**	**100.68**	**334**	P		**Pdif**	**10 49 57.7**	**-1.9**
	comp=Z,0.6nm,0.7s,baz=66,slow=4.6								
NB200	**NORSAR Array S**	**100.68**	**334**	*e*Pdif		**Pdif**	**10 49 57.8**	**-1.9**
NOA	**NORSAR Array B**	**100.68**	**334**	P		**Pdif**	**10 49 57.8**	**-1.9**
	comp=Z,1.2nm,0.8s,baz=66,slow=4.5,SNR=3.7								
LTX	**Lajitas**	**120.55**	**54**	*e*PKPdf		**PKPdf**	**10 55 04.1**	**+0.2**
LTX	**Lajitas**	**120.55**	**54**	*e*PKIKP		**PKPdf**	**10 55 04.1**	**+0.2**
TXAR	**Lajitas Array**	**120.55**	**54**	PKP		**PKPdf**	**10 55 04.1**	**+0.2**
	comp=Z,0.2nm,0.8s,baz=270,slow=0.8,SNR=3.0								
TOA0	**Torodi Ar. Sit**	**125.26**	**288**	*e*PKPdf		**PKPdf**	**10 55 12.2**	**-0.9**
TORD	**Torodi Ar. Bea**	**125.26**	**288**	PKP		**PKPdf**	**10 55 11.5**	**-1.6**
	comp=Z,0.6nm,0.4s,baz=106,slow=1.6,SNR=12								
TOA1	**Torodi Ar. Sit**	**125.26**	**288**	*e*PKPdf		**PKPdf**	**10 55 11.5**	**-1.6**
CPUP	**Villa Florida**	**155.72**	**166**	PKPab		**PKPab**	**10 56 32.8**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=198,slow=3.2,SNR=2.8								

IDC 05 10:36:16.4±5.0, 6°55S×152°03E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/41, mbtmp3.4/3, Error ellipse: s-maj=158.6km s-min=35.8km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.74**	**231**	P		P	10 41 08.8	-0.7
	0.2nm,0.3s,baz=57,slow=11,SNR=2.5							
ASAR	**Alice Springs**	**24.36**	**224**	P		P	10 41 36.9	+0.6
	0.2nm,0.5s,baz=55,slow=8.0,SNR=4.8							
ZALV	**Zalesovo Beam**	**82.18**	**327**	P		P	10 48 39.2	0.0
	0.6nm,0.4s,baz=123,slow=5.3,SNR=2.4							

*MAN **05** 10:45:51.5, 4°37N×124°58E, h9km, mb5.5, ML4.4, MS4.7*
*IDC **05** 10:45:53.5±0.8, 4°40N×124°69E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/39, mbtmp3.9/8, ML4.4/1, MS3.3/12, Ms1 3.3/12, ms1mx3.1/32, Error ellipse: s-maj=37.8km s-min=16.3km az=73.0*
*ISCJB **05** 10:45:55.8±0.6, 4°47N±0°04×124°7E±0°1, h33km, mb3.7/7, MS3.1/8, Error ellipse: s-maj=16.0km s-min=5.8km az=177.9*

ISC 05 10:45:58.0±0.9, 4°50N±0°07×124°8E±0°1, h35km, n24, σ2s 18/18, mb3.6/7, MS3.1/8, 1C, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.58**	**4**	*e*P		**Pn**	**10 46 23.0**	**-0.6**
DDMP	**Don Marcelino,**	**1.82**	**29**	*e*P		**Pn**	**10 46 24.5**	**-2.4**
DDMP				*e*S		**Sn**	**10 46 44.7**	**-4.0**
SKMP	**Bagumbayan, Su**	**2.02**	**352**	*e*P		**Pn**	**10 46 26.9**	**-2.7**
SKMP				*e*S		**Sn**	**10 46 51.0**	**-2.7**
DAV	**Davao City (W)**	**2.66**	**16**	Pn		**Pn**	**10 46 39.0**	**+0.6**
	58nm,0.3s,baz=198,slow=20,SNR=2.3							
DAV				Sn		**Sn**	**10 47 11.2**	**+1.8**
	71nm,0.3s,baz=297,slow=23,SNR=10							
DAV				LR		LR	10 47 53.7	
	comp=Z,927nm,21.9s,baz=218,slow=43							
CTBH	**Cotabato--PC H**	**2.76**	**348**⇑	*e*P		**Pn**	**10 46 39.5**	**-0.3**
CTBH				*i* S		**Sn**	**10 47 12.5**	**+0.5**
BUKP	**Musuan**	**3.36**	**4**	*e*P		**Pn**	**10 46 47.9**	**-0.2**
BUKP				*e*S		**Sn**	**10 47 30.9**	**+4.0**
PAGZ	**Pagadian**	**3.62**	**337**	*e*P		**Pn**	**10 46 49.7**	**-1.9**
SIJI	**Sorong**	**8.36**	**130**	LR		LR	10 50 55.7	
	comp=Z,164nm,19.3s,slow=36							
TGY	**Tagaytay City**	**10.28**	**338**	LR		LR	10 53 56.2	
	comp=Z,244nm,18.3s,baz=134,slow=47							
BATI	**Baumata**	**14.66**	**185**	LR		LR	10 54 53.3	
	comp=Z,121nm,21.9s,baz=9,slow=37							
LEM	**Lembang**	**20.54**	**237**	LR		LR	10 59 32.2	
	comp=Z,89nm,21.4s,baz=54,slow=40							
JOW	**Kunigami**	**22.45**	**8**	LR		LR	10 58 48.4	
	comp=Z,96nm,22.0s,baz=305,slow=34							
FITZ	**Fitzroy Crossi**	**22.47**	**178**	P		**P**	**10 50 52.9**	**-1.5**
	2.0nm,0.9s,baz=343,slow=17,SNR=2.1							
WRA	**Warramunga Arr**	**26.03**	**159**	P		**P**	**10 51 28.0**	**-0.1**
	4.4nm,0.7s,baz=335,slow=11,SNR=29							
JCJ	**Chichijima**	**27.92**	**35**	LR		LR	11 05 07.1	
	comp=Z,46nm,19.1s,baz=159,slow=41							
CMAR	**Chiang Mai Arr**	**28.85**	**301**	P		P	10 51 53.2	-0.2
	0.5nm,0.3s,baz=112,slow=7.2,SNR=2.7							
CMAR				LR		LR	11 05 49.1	
	comp=Z,32nm,18.0s,baz=110,slow=42							
JNU	**Nakatsue**	**29.03**	**11**	LR		LR	11 02 31.9	
	comp=Z,66nm,21.7s,baz=124,slow=34							
ASAR	**Alice Springs**	**29.36**	**163**	P		**P**	**10 51 57.8**	**-0.2**
	0.3nm,0.5s,baz=341,slow=6.9,SNR=11							
KSRS	**Korea Array**	**32.92**	**5**	LR		LR	11 08 30.6	
	comp=Z,31nm,18.0s,baz=186,slow=41							
MJAR	**Matsushiro Arr**	**34.18**	**19**	LR		LR	11 06 03.8	
	comp=Z,19nm,21.1s,baz=200,slow=35							
STKA	**Stephens Creek**	**39.55**	**157**	P		**P**	**10 53 26.3**	**+0.5**
	1.6nm,0.5s,baz=338,slow=9.5,SNR=5.6							
MKAR	**Makanchi Array**	**55.85**	**326**	P		P	10 55 32.8	+0.7
	0.4nm,0.6s,baz=118,slow=8.3,SNR=3.2							
MKAR				LR		LR	11 20 08.4	
	comp=Z,58nm,20.1s,baz=80,slow=37							
ILAR	**Eielson Array**	**85.22**	**25**	P		**P**	**10 58 31.6**	**+0.9**
	0.3nm,0.7s,baz=267,slow=5.3,SNR=4.5							
TXAR	**Lajitas Array**	**122.61**	**51**	PKP		**PKPdf**	**11 04 53.6**	**+2.8**
	0.3nm,0.9s,baz=225,slow=2.3,SNR=3.3							

IDC 05 11:04:29.1±4.5, 4.79S×133.25E, h0km, mb3.9/1, mb1 3.5/3, mb1mx3.3/19, mbtmp3.3/3, ML3.1/2, Error ellipse: s-maj=333.2km s-min=33.2km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.10**	**176**	Pn		Pn	11 08 02.2	-1.8
	0.1nm,0.3s,baz=353,slow=13,SNR=6.8							
WRA				Sn		Sn	11 10 45.9	-6.2
	0.0nm,0.3s,baz=1.5,slow=24,SNR=2.9							
ASAR	**Alice Springs**	**18.78**	**178**	P		Pn	11 08 50.8	+0.3
	0.1nm,0.3s,baz=3.7,slow=11,SNR=8.3							
ZALV	**Zalesovo Beam**	**71.09**	**332**	P		P	11 15 49.1	0.0
	0.5nm,0.5s,baz=114,slow=6.5,SNR=2.0							

*ISCJB **05** 11:23:30.6±0.6, 21°.26S±0°.04×67°.67W±0°.08, h180km±7km, mb3.3/5, Error ellipse: s-maj=11.9km s-min=6.8km az=3.0*
*SJA **05** 11:23:30.9±0.6, 21°.26S×67°.91W, h211km±11km, MD3.2*
*GUC **05** 11:23:31.8±0.5, 21°.325×68°.04W, h204km±6km, ML4.0*
*IDC **05** 11:23:32.7±2.1, 21°.19S×67°.38W, h186km

GUC 05 11:28:38.6±0.5, 21°.96S×67°.60W, h214km±13km, ML3.5, 4C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**1.53**	**276**	⇑*i*	P	11 29 15.4	+1.4
PB06	**IPOC Station P**	**1.97**	**248**	IAML		11 29 52.5	
	comp=E,209nm,0.2s						
PB01	**IPOC Station P**	**1.98**	**297**	⇑*i*	P	11 29 19.2	+1.1
PB01				*e*	S	11 29 50.2	+1.7
PB01				IAML		11 29 52.0	
	comp=N,116nm,0.3s						
PB03	**IPOC Station P**	**2.00**	**267**	*e*P	P	11 29 19.6	+1.3
PB03				*i* S	S	11 29 50.8	+1.9
PB03				IAML		11 29 52.6	
	comp=E,115nm,0.3s						
PB15	**IPOC Station P**	**2.12**	**234**	*e*P	P	11 29 20.7	+1.0
PB15				*i* S	S	11 29 53.6	+2.3
PB07	**IPOC Station P**	**2.13**	**276**	⇑*i*P	P	11 29 21.5	+1.8
PB07				*i* S	S	11 29 53.6	+2.2
PB07				IAML		11 29 55.5	
	comp=E,142nm,0.3s						
PB02	**IPOC Station P**	**2.23**	**286**	⇑*i*P	P	11 29 22.0	+1.4
PB02				*e*S	S	11 29 55.0	+2.0
PB02				IAML		11 29 58.0	
	comp=E,139nm,0.2s						
PB04	**IPOC Station P**	**2.39**	**261**	*i* S	S	11 29 58.2	+2.0
PB04				IAML		11 29 59.6	
	comp=N,120nm,0.4s						
PB05	**IPOC Station P**	**2.56**	**249**	⇓*i*P	P	11 29 25.8	+1.6
PB05				*i* S	S	11 30 01.0	+1.6
PB05				IAML		11 30 01.7	
	comp=N,75nm,0.3s						
PB11	**IPOC Station P**	**2.91**	**318**	⇓*i*P	P	11 29 29.0	+0.8
PB11				*i* S	S	11 30 07.8	+1.2
PB11				IAML		11 30 10.9	
	comp=E,159nm,0.2s						

*ISK **05** 11:30:02.7, 38°.95N×33°.71E, h6km, ML1.8/7*
*ISCJB **05** 11:30:03.2±0.5, 38°.95N±0°.03×33°.72E±0°.03, h0km, Error ellipse: s-maj=4.6km s-min=3.9km az=5.5*
*DDA **05** 11:30:04.2, 38°.89N×33°.67E, h7km, Ml2.6, Suspected Mining explosion.*

ISC 05 11:30:03.0±0.9, 38°.95N±0°.03×33°.70E±0°.03, h0km, n12, σ0§66/18, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YAYX	**Yaylak**	**0.09**	**99**	PG	**Pg**	**11 30 04.9**	**+0.2**
YAYX				SG	**Sg**	**11 30 06.6**	**+0.8**
SERE	**Sereflikochisa**	**0.11**	**266**	PG	**Pg**	**11 30 05.5**	**+0.5**
SERE				SG	**Sg**	**11 30 07.6**	**+1.2**
AKSY	**AKSARAY - Alti**	**0.31**	**171**	*i* P	**Pg**	**11 30 09.4**	**+0.5**
AKSY				*i* S	**Sg**	**11 30 13.7**	**+0.9**
KAMT	**Kaman**	**0.41**	**1**	PG	**Pg**	**11 30 11.4**	**+0.4**
KAMT				SG	**Sg**	**11 30 17.6**	**+1.2**
KULU	**Kulu**	**0.55**	**280**	PG	**Pg**	**11 30 13.9**	**+0.3**
KKUL	**Konya-Kulu**	**0.65**	**290**	*i* P	**Pb**	**11 30 16.6**	**-0.7**
KKUL				*i* S	**Sb**	**11 30 26.4**	**-0.4**
CHBY	**Cihanbeyli**	**0.73**	**240**	PG	**Pg**	**11 30 17.1**	**0.0**
SULT	**Sultanhani-AKS**	**0.77**	**191**	PG	**Pg**	**11 30 17.9**	**+0.2**
KDHN	**Kadinhani**	**1.31**	**251**	*i* P	**Pb**	**11 30 28.5**	**-0.1**
KDHN				*i* S	**Sn**	**11 30 46.4**	**-0.5**
CORM	**Corum**	**1.42**	**30**	PN	**Pn**	**11 30 29.9**	**-0.3**
KIZT	**Kizilcal**	**1.42**	**268**	PN	**Pn**	**11 30 29.9**	**-0.3**
YOZ	**Yozgat**	**1.43**	**61**	PN	**Pn**	**11 30 29.8**	**-0.6**

MAN 05 11:50:21.3, 8°.87N×125°.63E, h13km, mb4.9, ML3.8, MS3.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.10**	**357**	*e*P	Pg	11 50 25.4	+1.1
BUTP				*e*S	Sg	11 50 33.0	+6.6
CGP	**Cagayan de Oro**	**1.01**	**246**	⇑*e*P	Pb	11 50 39.9	-0.8
CGP				*e*S	Sn	11 50 54.9	-0.4
BUKP	**Musuan**	**1.13**	**210**	*e*P	Pb	11 50 40.2	-2.5
BUKP				*e*S	Sn	11 50 59.0	+0.7
MSLP	**Maasin**	**1.47**	**329**	*e*P	Pn	11 50 47.5	+0.1
PAGZ	**Pagadian**	**2.44**	**246**	*e*P	Pn	11 51 01.9	+1.0
DDMP	**Don Marcelino,**	**2.75**	**178**	*e*P	Pb	11 51 08.7	-1.7

IDC 05 11:58:17.9±1.7, 2°.47S×145°.78E, h0km, mb3.3/3, mb1 3.7/3, mb1mx3.5/34, mbtmp3.4/3, Error ellipse: s-maj=121.9km s-min=28.8km az=117.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.65**	**212**	P	P	12 03 00.0	+0.6
	1.3nm,0.8s,baz=31,slow=11,SNR=14						
ASAR	**Alice Springs**	**24.00**	**208**	P	P	12 03 34.0	-0.6
	0.2nm,0.4s,baz=55,slow=8.9,SNR=18						
ILAR	**Eielson Array**	**82.75**	**23**	P	P	12 10 43.6	+0.2
	0.4nm,0.8s,baz=251,slow=5.5,SNR=4.7						

*BJI **05** 11:59:23.9, 1°.26N×128°.57E, h70km, mb4.7/40, mB4.8/24, Ms4.5/7, Ms7 4.2/3*
*ISCJB **05** 11:59:27.5±0.4, 1°.51N±0°.02×128°.32E±0°.03, h90km±4km, mb4.6/81, Error ellipse: s-maj=4.3km s-min=3.8km az=160.9*
*NEIC **05** 11:59:28.6±0.2, 1°.49N×128°.32E, mb4.7/34, Error ellipse: s-maj=4.5km s-min=3.2km az=84.0*
NEIC Felt [III] at Tobelo.
*MOS **05** 11:59:28.0±0.9, 1°.55N×128°.31E, h96km, mb4.4/16, Error ellipse: s-maj=11.8km s-min=6.7km az=110.8*
*DJA **05** 11:59:29.1±0.3, 2°.N±3°×12°.8E±°, h72km±3km, Km4.7/43, mb5.0/43, mB5.3/24, MLv4.7/18, Mw(mB)4.7/24*
*IDC **05** 11:59:29.0±0.4, 1°.51N×128°.26E, h91km±3km, mb4.1/24, mb1 4.2/26, mb1mx4.1/37, mbtmp4.5/26, MS3.3/12, Ms1 3.3/12, ms1mx3.0/36, Error ellipse: s-maj=13.2km s-min=7.7km az=81.0*

ISC 05 11:59:28.9±0.3, 1°.48N±0°.04×128°.25E±0°.05, h90km±2km, h90km:pP-P, n246, σ1§42/295, mb4.7/81, 10C-2D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.13**	**231**	*e*Pn	**Pn**	**11 59 48.8**	**-1.3**
TNTI	**Ternate**	**1.13**	**231**	P	**Pn**	**11 59 48.4**	**-1.7**
TNTI				S	**Sn**	**12 00 04.4**	**-1.6**
LBMI	**Labuha**	**2.24**	**200**	P	**Pn**	**12 00 03.5**	**-0.7**
SGSI	**Sangihe**	**3.49**	**309**	P	**Pn**	**12 00 20.9**	**-0.1**
SWI	**Sorong**	**3.81**	**128**	P	**Pn**	**12 00 25.2**	**-0.1**
SWI	**Sorong**	**3.81**	**128**	P	**Pn**	**12 00 25.1**	**-0.2**
SIJI	**Sorong**	**3.82**	**128**	P	**Pn**	**12 00 25.4**	**-0.1**
	baz=332,slow=17						
SIJI				S	**Sn**	**12 01 08.8**	**-0.5**
	33nm,0.3s,baz=32,slow=23,SNR=14						
SANI	**Sanana**	**4.17**	**213**	P	**Pn**	**12 00 29.4**	**-0.9**
KMSI	**Cibinong**	**4.36**	**258**	P	**Pn**	**12 00 33.5**	**+0.7**
NLAI	**Namlea**	**4.83**	**194**	P	**Pn**	**12 00 40.2**	**+1.0**
MSAI	**Masohi**	**4.84**	**172**	P	**Pn**	**12 00 41.4**	**+2.0**
AAI	**Ambon**	**5.14**	**181**	P	**Pn**	**12 00 44.3**	**+0.9**
AAI				pmax	pmax		
	comp=Z,70nm,0.8s						
AAI	**Ambon**	**5.14**	**181**	P	**Pn**	**12 00 45.4**	**+2.0**
	comp=Z,66nm,1.4s,comp=Z,3μmcomp=Z,0.4nm						
FAKI	**Fak Fak**	**5.93**	**138**	*e*Pn	**Pn**	**12 00 53.9**	**-0.2**
LUWI	**Luwuk**	**6.02**	**245**	*e*Pn	**Pn**	**12 00 55.6**	**+0.2**
LUWI	**Luwuk**	**6.02**	**245**	P	**Pn**	**12 00 56.5**	**+1.0**
	comp=Z,218nm,1.2s,comp=Z,3μmcomp=Z,1.0nm						
MRSI	**Marisa**	**6.38**	**261**	P	**Pn**	**12 01 01.2**	**+0.8**
	comp=Z,89nm,0.6s,comp=Z,1μmcomp=Z,0.3nm						
RKPI	**Ransiki, Papua**	**6.63**	**117**	P	**Pn**	**12 01 04.4**	**+0.6**
APSI	**Ampana**	**7.01**	**250**	P	**Pn**	**12 01 08.6**	**-0.4**
	comp=Z,235nm,1.0s,comp=Z,2μmcomp=Z,0.9nm						
MPSI	**Mapaga**	**8.43**	**262**	P	**Pn**	**12 01 29.7**	**+1.5**
	comp=Z,42nm,0.8s,comp=Z,373nmcomp=Z,0.1nm						
PALU	**Palau**	**8.51**	**47**	P	**Pn**	**12 01 30.1**	**+0.8**
	baz=8.6,SNR=4.4						
BBSI	**Bau Bau**	**8.95**	**219**	P	Pn	12 01 49.2	+14
TTSI	**Tana Toraja**	**9.55**	**242**	P	**Pn**	**12 01 43.3**	**-0.3**
	comp=Z,188nm,0.9s,comp=Z,2μm						
BNSI	**Bone**	**10.02**	**234**	P	**Pn**	**12 01 50.4**	**+0.5**
	comp=Z,168nm,1.2s,comp=Z,2μm						
SPSI	**Sidrap Palu**	**10.05**	**237**	P	**Pn**	**12 01 51.2**	**+0.8**
	comp=Z,111nm,0.7s,comp=Z,1μm						
MYLDM	**Lahad Datu**	**10.40**	**291**	*e*Pn	**Pn**	**12 01 56.5**	**+1.3**
BKSI	**Bulukumba**	**10.56**	**230**	P	**Pn**	**12 01 58.7**	**+1.3**
	comp=Z,58nm,0.6s,comp=Z,634nm						
SOEI	**Soe**	**11.85**	**199**	*e*Pn	**Pn**	**12 02 14.1**	**-0.8**
SOEI	**Soe**	**11.85**	**199**	P	**Pn**	**12 02 16.8**	**+1.9**
EDFI	**Ende, Flores**	**12.09**	**213**	P	**Pn**	**12 02 20.0**	**+1.9**
	comp=Z,19nm,0.9s						
BATI	**Baumata**	**12.48**	**201**	P	**Pn**	**12 02 25.4**	**+2.2**
	comp=Z,4.4nm,0.3s,baz=165,slow=1.9,SNR=11						
BATI				LR	LR	12 07 35.4	
	comp=Z,138nm,19.8s,baz=7.0,slow=39						
BATI	**Baumata**	**12.48**	**201**	P	**Pn**	**12 02 26.7**	**+3.4**
	comp=Z,43nm,1.0s						
KKM	**Kota Kinabalu**	**12.83**	**291**	*e*Pn	**Pn**	**12 02 29.1**	**+1.1**
KBKI	**Kotabaru**	**12.98**	**249**	P	**Pn**	**12 02 30.1**	**+0.2**
	comp=Z,7.8nm,1.2s						
JAY	**Jayapura**	**13.07**	**108**	LR	LR	12 07 29.9	
	comp=Z,78nm,19.3s,baz=271,slow=37						
WBSI	**Waikabubak, Su**	**14.14**	**218**	P	**Pn**	**12 02 46.6**	**+1.5**
TGY	**Tagaytay City**	**14.47**	**330**	P	**Pn**	**12 02 49.9**	**+0.5**
	comp=Z,47nm,0.3s,baz=135,slow=16,SNR=2.2						
MTN	**Manton Dam**	**14.52**	**169**	*e*Pn	**Pn**	**12 02 49.6**	**-0.4**
PLAI	**Plampang**	**14.62**	**225**	P	**P**	**12 02 53.9**	**-1.3**
	comp=Z,148nm,1.1s,comp=Z,2μm						
TWSI	**Taliwang, Sumb**	**15.21**	**228**	P	**Pn**	**12 02 59.1**	**+0.2**
	comp=Z,104nm,1.2s,comp=Z,1μm						
SBUM	**Sibu**	**16.05**	**274**	*e*Pn	**P**	**12 03 12.0**	**+0.9**
	comp=Z,16nm,0.9s						
KMMI	**Kalianget**	**16.58**	**239**	P	**P**	**12 03 18.5**	**+1.5**
	comp=Z,81nm,0.8s,comp=Z,743nm						
STKI	**Sintang**	**16.83**	**265**	P	**Pn**	**12 03 19.3**	**+0.2**
	comp=Z,42nm,1.2s						
KNRA	**Kununurra**	**17.06**	**178**	P	**P**	**12 03 22.4**	**+0.2**
	baz=17,SNR=6.6						
JAGI	**Jajag, Banyuwa**	**17.18**	**235**	*e*Pn	**P**	**12 03 24.5**	**+0.9**
	comp=Z,76nm,0.9s						
JAGI	**Jajag, Banyuwa**	**17.18**	**235**	P	**P**	**12 03 24.7**	**+1.1**
	comp=Z,104nm,1.0s,comp=Z,1μm						
BLJI	**Banyuglugur**	**17.25**	**238**	P	**P**	**12 03 25.6**	**+1.2**
	comp=Z,134nm,1.2s						
GMJI	**Gumukmas**	**17.66**	**236**	P	**P**	**12 03 27.9**	**-1.0**
GRJI	**Gresik**	**17.81**	**242**	P	**Pn**	**12 03 33.9**	**+2.9**
	comp=Z,101nm,0.7s						
KSM	**Kuching**	**17.93**	**270**	*e*P	**Pn**	**12 03 33.0**	**+0.5**
	comp=Z,80nm,0.9s						
NGJI	**Ngawi**	**18.92**	**242**	P	**Pn**	**12 03 43.8**	**-0.5**
PWJI	**Pagerwojo**	**18.92**	**240**	P	**Pn**	**12 03 44.6**	**+0.3**
	comp=Z,118nm,1.1s						
PCJI	**Pacitan**	**19.55**	**240**	P	**Pn**	**12 03 50.8**	**-0.9**
	comp=Z,134nm,1.5s						
WOJI	**Wonogiri, Jawa**	**19.60**	**242**	P	**Pn**	**12 03 52.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**19.63**	**187**	P	**P**	**12 03 50.4**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=17,slow=9.4,SNR=24						
FITZ				S	**S**	**12 07 23.1**	**-4.1**
	comp=Z,0.1nm,0.3s,baz=239,slow=8.3,SNR=1.9						
FITZ	**Fitzroy Crossi**	**19.63**	**187**	P	**P**	**12 03 50.3**	**0.0**
	baz=20,SNR=16						
FITZ	**Fitzroy Crossi**	**19.63**	**187**	*e*P	**P**	**12 03 50.5**	**+0.1**
	comp=Z,11nm,0.9s						
FITZ				*e*S	**S**	**12 07 23.1**	**-4.1**
SMRI	**Semarang**	**19.69**	**244**	*e*P	**Pn**	**12 03 52.8**	**-0.6**
	comp=Z,283nm,1.1s						
SMRI	**Semarang**	**19.69**	**244**	P	**Pn**	**12 03 53.6**	**+0.2**
	comp=Z,245nm,1.1s,comp=Z,6μm						
UGM	**Wanagama**	**19.99**	**242**	P	**Pn**	**12 04 03.9**	**+7.0**
GUMO	**Guam**	**20.38**	**53**	P	**P**	**12 03 58.5**	**0.0**
	comp=Z,44nm,0.5s,baz=188,slow=20,SNR=6.2						
KPJI	**Karang Pucung**	**21.17**	**245**	P	**P**	**12 04 08.9**	**+1.8**
	comp=Z,264nm,1.1s,comp=Z,2μm						
WRAB	**Tennant Creek**	**22.11**	**165**	*e*P	**P**	**12 04 17.0**	**0.0**
	comp=Z,14nm,0.6s						
WRAB	**Tennant Creek**	**22.11**	**165**	*ce*P	**P**	**12 04 17.2**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,19nm,1.0s						
WR1	**Warramunga Arr**	**22.12**	**165**	*e*P	**P**	**12 04 17.3**	**+0.2**
	comp=Z,18nm,0.6s						
WR1				*e*pP	**pP**	**12 04 35.7**	**+0.7**
WR1				*e*PcP	**PcP**	**12 08 11.4**	**0.0**
WRA	**Warramunga Arr**	**22.12**	**165**	P	**P**	**12 04 17.3**	**+0.2**
	comp=Z,14nm,0.7s,baz=342,slow=10,SNR=65						
WRA				pP	**pP**	**12 04 35.7**	**+0.7**
	comp=Z,8.6nm,0.8s,baz=344,slow=11,SNR=5.1						
WRA				PcP	**PcP**	**12 08 11.5**	**0.0**
	comp=Z,0.2nm,0.4s,baz=333,slow=2.1,SNR=3.7						
WRA				ScP	**ScP**	**12 11 40.1**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=343,slow=3.4,SNR=5.0						
WRA	**Warramunga Arr**	**22.12**	**165**	*i* P	**P**	**12 04 17.2**	**+0.1**
WRA				pmax	pmax		
	comp=Z,16nm,0.7s						
WB2	**Warramunga Arr**	**22.12**	**165**	*e*P	**P**	**12 04 15.3**	**-1.9**
WB2				*e*P	**P**	**12 04 17.2**	**+0.1**
WC3	**Warramunga Arr**	**22.14**	**165**	*e*P	**P**	**12 04 17.4**	**+0.1**
	comp=Z,21nm,0.6s						
LEM	**Lembang**	**22.18**	**248**	P	**P**	**12 04 18.6**	**+0.5**
	comp=Z,27nm,0.5s,baz=343,slow=17,SNR=6.3						
LEM				LR	LR	12 14 22.5	
	comp=Z,53nm,18.6s,baz=28,slow=40						
CISI	**Cisompet, Garu**	**22.27**	**246**	*e*P	**P**	**12 04 18.4**	**-0.5**
	comp=Z,70nm,0.9s						
CISI	**Cisompet, Garu**	**22.27**	**246**	P	**P**	**12 04 19.4**	**+0.5**
	comp=Z,84nm,1.0s,comp=Z,6μm						
PPBI	**Pangkal Pinang**	**22.40**	**261**	P	**P**	**12 04 20.7**	**+0.5**
	comp=Z,22nm,0.7s,comp=Z,12μm						
TPUB	**Ta-pu**	**22.91**	**342**	*e*P	**P**	**12 04 24.9**	**-0.5**
	comp=Z,22nm,0.8s						
SSLB	**Suanglung**	**23.27**	**343**	*e*P	**P**	**12 04 29.3**	**+0.5**
	comp=Z,22nm,0.8s						
SBJI	**Serang**	**23.34**	**251**	P	**P**	**12 04 31.9**	**+2.4**
	comp=Z,331nm,1.5s						
TPRI	**Tanjung Pinang**	**23.72**	**269**	P	**P**	**12 04 34.2**	**+1.2**
	comp=Z,60nm,1.0s						
CGJI	**Cibinong**	**23.91**	**250**	P	**P**	**12 04 35.6**	**+1.0**
	comp=Z,132nm,1.0s,comp=Z,1μm						
BLSI	**Bandar Lampung**	**23.96**	**253**	P	**P**	**12 04 37.1**	**+2.0**
	comp=Z,205nm,0.9s						
YHNB	**Yeheng**	**23.99**	**344**	*e*P	**P**	**12 04 35.9**	**+0.6**
	comp=Z,26nm,0.7s						
MYKOM	**Kota Tinggi**	**24.39**	**271**	*e*P	**P**	**12 04 40.2**	**+1.2**
	comp=Z,63nm,0.9s						
QIS	**Mount Isa**	**24.57**	**154**	P	**P**	**12 04 41.7**	**+1.2**
	baz=25,SNR=18						
KASI	**Kota Agung**	**24.72**	**253**	P	**P**	**12 04 45.2**	**+3.2**
	comp=Z,95nm,1.2s						
MDSI	**Maura Dua**	**24.77**	**256**	P	**P**	**12 04 43.7**	**+1.2**
	comp=Z,75nm,1.2s,comp=Z,837nm						
LWLI	**Liwa**	**25.01**	**255**	P	**P**	**12 04 46.6**	**+1.8**
	comp=Z,44nm,0.8s						
AS31	**Alice Springs**	**25.60**	**168**	*e*P	**P**	**12 04 50.3**	**+0.4**
	comp=Z,2.1nm,0.8s						
AS31				*e*pP	**pP**	**12 05 10.9**	**+0.7**
AS31				*e*PcP	**PcP**	**12 08 18.1**	**-0.8**
ASAR	**Alice Springs**	**25.60**	**168**	P	**P**	**12 04 50.4**	**+0.5**
	comp=Z,3.3nm,0.6s,baz=345,slow=7.5,SNR=36						
ASAR				pP	**pP**	**12 05 10.9**	**+0.7**
	comp=Z,20nm,0.9s,baz=347,slow=10.0,SNR=16						
ASAR				PcP	**PcP**	**12 08 18.1**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=359,slow=1.5,SNR=5.2						
ASAR				ScP	**ScP**	**12 11 49.6**	**-0.8**
	comp=Z,1.4nm,1.0s,baz=339,slow=3.1,SNR=6.1						
AS01	**Alice Springs**	**25.61**	**168**	*e*P	**P**	**12 04 49.5**	**-0.4**
UBPT	**Khong Chiam**	**26.33**	**303**	P	**P**	**12 04 59.6**	**+3.1**
	comp=Z,33nm,0.8s						
MASI	**Maura Aman, Be**	**26.40**	**260**	P	**P**	**12 05 00.1**	**+2.8**
	comp=Z,170nm,0.9s						
KRJI	**Kerinci**	**27.02**	**263**	P	**P**	**12 05 05.5**	**+2.6**
	comp=Z,52nm,1.0s,comp=Z,3μm						
IPM	**Ipoh**	**27.34**	**277**	*e*P	**P**	**12 05 06.9**	**+1.2**
	comp=Z,12nm,0.8s						
GIRL	**Giralia**	**27.60**	**209**	P	**P**	**12 05 08.3**	**+0.5**
	baz=28,SNR=3.6						
SKNT	**Sakolnakorn**	**28.41**	**304**	P	**P**	12 05 21.0	+5.9
SRAK	**Srakaew**	**28.75**	**297**	P	**P**	**12 05 17.7**	**-0.5**
	comp=Z,45nm,0.9s,comp=Z,402nm						
JCJ	**Chichijima**	**28.76**	**26**	P	**P**	**12 05 17.4**	**-0.7**
	comp=Z,60nm,0.8s,baz=289,slow=23,SNR=6.2						
CBIJ	**Chichi jima**	**28.77**	**26**	*e*P	**P**	**12 05 17.4**	**-0.7**
	comp=Z,92nm,0.9s						
PSI	**Prapat**	**29.33**	**273**	P	**P**	**12 05 23.8**	**+0.3**
	comp=Z,32nm,0.8s,baz=7.3,slow=0.3,SNR=26						
PSI				PcP	**PcP**	**12 08 27.8**	**-0.5**
	comp=Z,3.1nm,0.4s,baz=180,slow=1.0,SNR=3.4						
PSI	**Prapat**	**29.33**	**273**	*e*P	**P**	**12 05 23.8**	**+0.3**
	comp=Z,40nm,0.9s						
PSI				PcP	**PcP**	**12 08 27.8**	**-0.5**
PSI	**Prapat**	**29.33**	**273**	*e*P	**P**	**12 05 23.8**	**+0.3**
PSI						12 08 27.8	
PSI				pmax	pmax		
	comp=Z,40nm,0.9s						
MEEK	**Meekatharra**	**29.46**	**198**	P	**P**	**12 05 24.6**	**+0.2**
	baz=30,SNR=3.6						
CHAI	**Chaiyaphum**	**29.59**	**300**	P	**P**	**12 05 27.5**	**+1.9**
	comp=Z,6.1nm,0.8s						
KCSI	**Kotacane, Aceh**	**30.51**	**274**	P	**P**	**12 05 34.3**	**+0.4**
	comp=Z,22nm,1.1s						
GSI	**Gunungsitoli**	**30.66**	**270**	*e*P	**P**	**12 05 34.8**	**-0.4**
	comp=Z,76nm,0.9s						
GSI	**Gunungsitoli**	**30.66**	**270**	P	**P**	**12 05 35.2**	**0.0**
	comp=Z,95nm,1.1s						
PBKT	**Sadao Pong**	**30.76**	**301**	*e*P	**P**	**12 05 37.5**	**+1.6**
PBKT	**Sadao Pong**	**30.76**	**301**	P	**P**	12 05 42.8	+6.9
JNU	**Nakatsue**	**31.57**	**4**	P	**P**	**12 05 42.6**	**-0.3**
	comp=Z,7.5nm,0.9s,baz=181,slow=5.9,SNR=4.2						
NJ2	**Nanjing**	**31.67**	**345**	*e*P	**P**	**12 05 45.4**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
WHN	**Wuhan**	**31.77**	**337**	⇓P	**P**	**12 05 47.7**	**+3.1**
NANT	**Nan**	**32.02**	**304**	P	**P**	**12 05 50.5**	**+3.5**
	comp=Z,3.3nm,0.7s						
FORT	**Forrest**	**32.08**	**180**	P	**P**	**12 05 48.0**	**+0.6**
	baz=32,SNR=17						
GYA	**Guiyang**	**32.36**	**322**	*e*P	**P**	**12 05 53.2**	**+3.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CM01	**Chiang Mai Arr**	**33.30**	**302**	*e*P	**P**	**12 05 58.4**	**+0.2**
CM01				*e*pP	**pP**	**12 06 22.9**	**+4.0**
CMAR	**Chiang Mai Arr**	**33.33**	**302**	P	**P**	**12 05 58.7**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=120,slow=6.9,SNR=16						
CMAR				pP	**pP**	**12 06 18.0**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=120,slow=7.7,SNR=1.8						
CMAR				PcP	**PcP**	**12 08 39.5**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=133,slow=3.8,SNR=4.0						
CMAR				ScP	**ScP**	**12 12 15.1**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=154,slow=2.8,SNR=5.1						
CMAR				LR	LR	12 19 58.2	
	comp=Z,16nm,19.6s,baz=125,slow=37						
CMAR	**Chiang Mai Arr**	**33.33**	**302**	*ce*P	**P**	**12 06 00.1**	**+1.6**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
HNR	**Honiara**	**33.38**	**110**	LR	LR	12 19 37.4	
	comp=Z,28nm,18.1s,baz=255,slow=36						
CMMT	**Chiang Mai**	**33.49**	**303**	P	**P**	**12 06 02.0**	**+2.1**
	comp=Z,5.3nm,1.3s						
CHTO	**Chiang Mai**	**33.49**	**303**	*e*P	**P**	**12 05 59.6**	**-0.3**
	comp=Z,2.9nm,0.7s						
CHTO				*e*pP	**sP**	**12 06 26.0**	**-5.0**
CHTO	**Chiang Mai**	**33.49**	**303**	*e*P	**P**	**12 05 59.6**	**-0.3**
CHTO				*e**PP	**sP**	**12 06 26.0**	**-5.0**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CHTO	**Chiang Mai**	**33.49**	**303**	P	**P**	**12 06 02.0**	**+2.1**
	comp=Z,24nm,1.3s						
BLDU	**Ballidu**	**33.76**	**198**	P	**P**	**12 06 01.7**	**-0.4**
	baz=34,SNR=5.6						
KMI	**Kunming**	**34.03**	**316**	P	**P**	**12 06 04.6**	**-0.2**
KMI				pmax	pmax		
	comp=Z,14nm,0.5s						
TJN	**Taejon**	**34.73**	**359**	*ce*P	**P**	**12 06 10.7**	**+0.4**
BBOO	**Buckleboo**	**34.90**	**168**	P	**P**	**12 06 12.3**	**+0.5**
	baz=35,SNR=16						
MUN	**Mundaring**	**35.18**	**198**	P	**P**	**12 06 14.0**	**-0.3**
	baz=35,SNR=4.5						
STKA	**Stephens Creek**	**35.51**	**160**	P	**P**	**12 06 17.4**	**+0.3**
	comp=Z,4.7nm,0.4s,baz=349,slow=8.2,SNR=26						
STKA				pP	**pP**	**12 06 37.8**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=341,slow=16,SNR=2.4						
STKA				ScP	**ScP**	**12 12 21.4**	**-1.4**
	comp=Z,1.4nm,0.8s,baz=11,slow=5.2,SNR=1.9						
STKA	**Stephens Creek**	**35.51**	**160**	P	**P**	**12 06 17.9**	**+0.7**
	baz=36,SNR=13						
STKA	**Stephens Creek**	**35.51**	**160**	*e*P	**P**	**12 06 17.5**	**+0.3**
	comp=Z,2.2nm,0.9s						
STKA				*e*pP	**pP**	**12 06 37.8**	**-0.2**
STKA	**Stephens Creek**	**35.51**	**160**	*e*P	**P**	**12 06 17.5**	**+0.3**
STKA				*e**PP	**pP**	**12 06 37.8**	**-0.2**
STKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KS15	**Wonju Array Si**	**35.78**	**360**	*e*P	**P**	**12 06 19.9**	**+0

GTA					ScP	**ScP**	**12 13 04.0**	**+0.9**
GTA					S	**S**	**12 14 20.9**	**+1.9**
GTA					ScS	**ScS**	**12 17 28.6**	**-0.6**
GTA					SS	**SS**	**12 17 38.4**	**-6.4**
GTA					pmax	pmax		
	comp=Z,2.0nm,1.0s							
GTA					pmax	pmax		
	comp=Z,33nm,6.4s							
GTA					LR	LR		
	comp=Z,250nm,18.1s							
GTA					LR	LR		
	comp=Z,190nm,17.5s							
ODAN	**Odare**	**46.61**	**306**	*e*P	**P**		**12 07 49.7**	**+1.2**
	comp=Z,40nm,0.9s							
YSS	**Yuzh-Sakhalins**	**47.02**	**14**⇓	*e*P	P		12 07 57.7	+6.6
YSS				pmax	pmax			
	comp=Z,10.0nm,1.2s							
YSS				MLR	MLR			
	comp=E,300nm,14.0s							
YSS				MLR	MLR			
	comp=Z,200nm,14.0s							
YSS				MLR	MLR			
	comp=N,200nm,16.0s							
RAMN	**Ramite**	**47.28**	**306**	*e*P	**P**		**12 07 55.2**	**+1.4**
	comp=N,43nm,0.9s							
KLR	**Kul'dur**	**47.66**	**3**	*i* P	**P**		**12 07 54.9**	**-1.1**
PALK	**Pallekele**	**47.73**	**278**	*i* P	**P**		**12 07 58.9**	**+1.7**
JIRN	**Jiri**	**47.92**	**307**	*e*P	**P**		**12 07 59.9**	**+1.0**
	comp=N,44nm,0.8s							
GUN	**Gumba**	**48.27**	**307**	*e*P	**P**		**12 08 02.6**	**+1.0**
	comp=N,42nm,0.7s							
PKI	**Pulchoki**	**48.51**	**306**	*e*P	**P**		**12 08 04.0**	**+0.6**
PKIN	**Phulchoki**	**48.52**	**306**	*e*P	**P**		**12 08 04.0**	**+0.6**
KKN	**Kakani**	**48.70**	**307**	*e*P	**P**		**12 08 05.4**	**+0.7**
DMN	**Daman**	**48.77**	**306**	*e*P	**P**		**12 08 06.2**	**+0.9**
ULN	**Ulaanbaatar**	**49.71**	**341**	*e*P	**P**		**12 08 12.3**	**+0.3**
	comp=N,5.5nm,0.8s							
ULN				*e*pP	**pP**		**12 08 37.1**	**+3.2**
ULN	**Ulaanbaatar**	**49.71**	**341**	*c e*P	**P**		**12 08 11.6**	**-0.4**
ULN				pmax	pmax			
	comp=Z,9.0nm,1.3s							
SONA0	**Songino Array**	**49.90**	**341**	*e*P	**P**		**12 08 13.3**	**-0.1**
SONA0				*e*pP	**pP**		**12 08 36.2**	**+1.0**
SONM	**Songino Array**	**49.90**	**341**	P	**P**		**12 08 13.3**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=153,slow=8.3,SNR=5.7							
SONM				pP	**pP**		**12 08 36.2**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=160,slow=9.1,SNR=3.0							
SONA1	**Songino Array**	**49.91**	**341**	*e*P	**P**		**12 08 14.3**	**+0.8**
KOLN	**Koldanda**	**50.05**	**306**	*e*P	**P**		**12 08 16.3**	**+1.3**
	comp=Z,55nm,0.8s							
DANN	**Dangsing**	**50.16**	**306**	*e*P	**P**		**12 08 16.9**	**+1.0**
	comp=Z,48nm,0.8s							
PYUN	**Piuthan**	**50.68**	**306**	*e*P	**P**		**12 08 20.9**	**+1.2**
	comp=Z,63nm,0.9s							
HYB	**Hyderabad**	**51.32**	**291**	*i* P	**P**		**12 08 24.0**	**-0.4**
WMQ	**Urumqi**	**55.42**	**325**	*e*P	**P**		**12 08 57.8**	**+3.7**
WMQ				LR	LR			
	comp=Z,110nm,21.5s							
WMQ				LR	LR			
	comp=Z,95nm,25.3s							
PETK	**Petropavlovsk-**	**56.95**	**21**	P	**P**		**12 09 05.3**	**+0.5**
	comp=Z,3.6nm,0.6s,baz=202,slow=5.4,SNR=12							
PETK				pP	**pP**		**12 09 27.7**	**+0.6**
	comp=Z,9.5nm,0.8s,baz=193,slow=5.9,SNR=9.9							
PETK				LR	LR		12 38 28.2	
	comp=Z,11nm,18.0s,baz=192,slow=41							
PEA1	**Petropavlovsk-**	**56.96**	**21**	*e*P	**P**		**12 09 05.3**	**+0.5**
PEA1				*e*pP	**pP**		**12 09 27.7**	**+0.5**
HVS	**Khovu-Aksy**	**57.40**	**335**	*i* P	**P**		**12 09 10.3**	**+2.2**
HVS				pmax	pmax			
	comp=Z,8.0nm,1.0s							
MK01	**Makanchi Array**	**60.23**	**325**	*e*P	**P**		**12 09 28.1**	**+0.4**
MK31	**Makanchi Array**	**60.25**	**325**	*e*P	**P**		**12 09 28.4**	**+0.5**
MK31	**Makanchi Array**	**60.25**	**325**	*e*P	**P**		**12 09 28.4**	**+0.5**
MK32	**Makanchi Array**	**60.25**	**325**	*e*P	**P**		**12 09 28.3**	**+0.5**
MK32				*e*pP	**pP**		**12 09 50.5**	**+0.1**
MKAR	**Makanchi Array**	**60.25**	**325**	P	**P**		**12 09 28.3**	**+0.4**
	comp=Z,3.1nm,0.4s,baz=112,slow=7.9,SNR=55							
MKAR				pP	**pP**		**12 09 50.5**	**+0.1**
	comp=Z,5.1nm,0.7s,baz=122,slow=8.0,SNR=6.9							
MKAR	**Makanchi Array**	**60.25**	**325**	*e*P	**P**		**12 09 28.2**	**+0.4**
	comp=Z,28nm,0.6s							
MKAR				pP	**pP**		**12 09 50.5**	**+0.1**
MKAR	**Makanchi Array**	**60.25**	**325**	*e*P	**P**		**12 09 28.2**	**+0.4**
MKAR				*PP	**pP**		**12 09 50.5**	**+0.1**
MKAR				pmax	pmax			
	comp=Z,28nm,0.6s							
YAK	**Yakutsk**	**60.41**	**1**	*i* P	**P**		**12 09 28.4**	**-0.1**
YAK				pmax	pmax			
	comp=Z,19nm,0.8s							
MAKZ	**Makanchi**	**60.44**	**325**	*e*P	**P**		**12 09 29.6**	**+0.5**
	comp=Z,3.2nm,0.6s							
MAKZ	**Makanchi**	**60.44**	**325**	*e*P	**P**		**12 09 29.6**	**+0.5**
MAKZ				pmax	pmax			
	comp=Z,3.0nm,0.6s							
KSH	**Kashi**	**60.70**	**315**	P	**P**		**12 09 32.9**	**+1.8**
KSH				S	**S**		**12 17 38.9**	**-2.3**
KSH				pmax	pmax			
	comp=Z,140nm,4.4s							
AAK	**Ala-Archa**	**63.03**	**318**	P	**P**		**12 09 46.5**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=172,slow=7.1,SNR=3.3							
AAK	**Ala-Archa**	**63.03**	**318**	*i* P	**P**		**12 09 46.9**	**+0.1**
AAK				pmax	pmax			
	comp=Z,2.0nm,1.0s							
ZAA0	**Zalesovo Array**	**63.27**	**333**	*e*P	**P**		**12 09 48.0**	**+0.2**
	comp=Z,3.3nm,1.1s							
ZAA0				*e*pP	**pP**		**12 10 10.7**	**+0.1**
ZALV	**Zalesovo Beam**	**63.27**	**333**	P	**P**		**12 09 47.1**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=130,slow=5.8,SNR=4.2							
ZALV				pP	**pP**		**12 10 10.5**	**-0.1**
	comp=Z,3.8nm,0.8s,baz=116,slow=6.9,SNR=5.6							
ZALV				LR	LR		12 39 03.2	
	comp=Z,35nm,18.7s,baz=70,slow=38							
ZALV	**Zalesovo Beam**	**63.27**	**333**	*e*P	**P**		**12 09 47.8**	**-0.1**
ZALV				*e*pP	**pP**		**12 10 10.1**	**-0.5**
ZALV	**Zalesovo Beam**	**63.27**	**333**	*e*P	**P**		**12 09 47.8**	**-0.1**
ZALV				*e*PP	**pP**		**12 10 10.1**	**-0.5**
ZAA1	**Zalesovo Array**	**63.27**	**333**	*e*P	**P**		**12 09 47.1**	**-0.7**
ZAA1				*e*pP	**pP**		**12 10 10.5**	**-0.1**
SEY	**Seymchan**	**63.88**	**12**	*i* P	**P**		**12 09 52.3**	**+0.6**
KURBB	**Kurchatov Arra**	**64.44**	**327**	P	**P**		**12 09 55.5**	**-0.1**
	comp=Z,3.9nm,0.6s,baz=128,slow=5.9,SNR=4.6							
KURBB				pP	**pP**		**12 10 18.8**	**+0.4**
	comp=Z,13nm,0.9s,baz=128,slow=5.9,SNR=4.8							
KURK	**Kurchatov**	**64.44**	**328**	*e*P	**P**		**12 09 55.5**	**-0.1**
KURK				*e*P	**P**		**12 09 55.7**	**+0.1**
KURK				*e*pP	**pP**		**12 10 18.8**	**+0.4**
KURK	**Kurchatov**	**64.44**	**328**	*c e*P	**P**		**12 09 55.7**	**+0.1**
KURK				pmax	pmax			
	comp=Z,5.0nm,0.7s							
NVS	**Novosibirsk**	**64.55**	**333**	*e*P	**P**		**12 09 55.8**	**-0.4**
KK31	**Karatay Array**	**65.90**	**317**	*e*P	**P**		**12 10 05.2**	**0.0**
KK31	**Karatay Array**	**65.90**	**317**	*e*P	**P**		**12 10 05.3**	**0.0**
KKAR	**Karatay Array**	**65.90**	**317**	*e*P	**P**		**12 10 05.6**	**+0.3**
KKAR	**Karatay Array**	**65.90**	**317**	*e*P	**P**		**12 10 05.6**	**+0.3**
TIXI	**Tiksi**	**70.06**	**0**	*e*P	**P**		**12 10 30.2**	**-0.5**
	comp=Z,5.0nm,0.8s							
TIXI	**Tiksi**	**70.06**	**0**	*c e*P	**P**		**12 10 30.1**	**-0.6**
TIXI				pmax	pmax			
	comp=Z,6.0nm,1.7s							
BRVK	**Borovoye**	**70.09**	**327**	*e*P	**P**		**12 10 31.7**	**+0.4**
	comp=Z,3.2nm,0.9s							
BRVK				*e*pP	**pP**		**12 10 55.8**	**+1.4**
BRVK	**Borovoye**	**70.09**	**327**	*c e*P	**P**		**12 10 29.7**	**-1.6**
BRVK				pmax	pmax			
	comp=Z,9.0nm,1.7s							
GEYT	**Alibeck**	**73.48**	**309**	P	**P**		**12 10 52.1**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=260,slow=8.4,SNR=5.2							
AKTO	**Aktyubinsk**	**76.35**	**322**	pP	pP		12 11 32.5	+0.8
	baz=105,slow=7.6							
ARU	**Arti**	**77.63**	**328**	*c i*P	**P**		**12 11 14.5**	**-0.8**
ARU				S	**S**		**12 20 59.4**	**-0.3**
ARU				SS	**SS**		**12 25 58.5**	**-2.6**
ARU				pmax	pmax			
	comp=Z,6.0nm,1.7s							
VNDA	**Vanda**	**81.02**	**173**	P	**P**		**12 11 33.3**	**0.0**
	comp=Z,3.7nm,0.9s,baz=316,slow=6.9,SNR=25							
VNDA	**Vanda**	**81.02**	**173**	*e*P	**P**		**12 11 33.1**	**-0.2**
	comp=Z,3.9nm,0.9s							
VNDA	**Vanda**	**81.02**	**173**	*e*P	**P**		**12 11 33.1**	**-0.2**
VNDA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
SBA	**Scott Base**	**81.92**	**172**	*e*P	**P**		**12 11 38.8**	**+0.8**
	comp=Z,1.6nm,0.8s							
SBA	**Scott Base**	**81.92**	**172**	*e*P	**P**		**12 11 38.8**	**+0.8**
SBA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
MAW	**Mawson**	**82.19**	**201**	P	**P**		**12 11 39.8**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=58,slow=7.3,SNR=6.0							
MAW	**Mawson**	**82.19**	**201**	*e*P	**P**		**12 11 39.8**	**+0.2**
	comp=Z,0.2nm,0.8s							
RAYN	**Ar Rayn**	**82.76**	**293**	*e*P	**P**		**12 11 42.9**	**-0.7**
	comp=Z,4.8nm,1.0s							
RAYN				*e*S	**S**		**12 21 51.0**	**-3.8**
RAYN	**Ar Rayn**	**82.76**	**293**	*e*P	**P**		**12 11 42.9**	**-0.7**
RAYN				*e*S	**S**		**12 21 51.0**	**-3.8**
RAYN				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KDAK	**Kodiak Island**	**82.97**	**32**	LR	LR		12 41 38.5	
	comp=Z,99nm,21.1s,baz=255,slow=30							
KBZ	**Khabaz**	**85.61**	**314**	P	**P**		**12 11 57.7**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=90,slow=13,SNR=2.7							
ILAR	**Eielson Array**	**86.47**	**25**	P	**P**		**12 12 01.0**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=243,slow=5.2,SNR=5.2							
ILAR				pP	**pP**		**12 12 25.4**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=243,slow=4.9,SNR=2.8							
ILAR				LR	LR		12 50 49.8	
	comp=Z,58nm,18.1s,baz=158,slow=36							
DHAK	**Deception Hill**	**90.56**	**31**	*e*P	**P**		**12 12 20.3**	**-0.5**
	comp=Z,79nm,0.7s							
DHAK				*e*pP	**pP**		**12 12 42.2**	**-2.7**
SYO	**Syowa Base**	**90.89**	**201**⇑	*e*P	**P**		**12 12 21.9**	**-0.2**
BR101	**Keskin Array S**	**92.61**	**310**	*e*P	**P**		**12 12 29.1**	**-1.9**
BRTR	**Keskin Array B**	**92.61**	**310**	P	**P**		**12 12 29.1**	**-1.9**
	comp=Z,0.6nm,0.8s,baz=70,slow=4.7,SNR=3.1							
ARA0	**ARCESS Array S**	**93.06**	**340**	*e*P	**P**		**12 12 30.9**	**-1.3**
ARCES	**ARCESS Array B**	**93.06**	**340**	P	**P**		**12 12 30.9**	**-1.2**
	comp=Z,3.3nm,0.9s,baz=94,slow=7.7,SNR=4.8							
ARCES	**ARCESS Array B**	**93.06**	**340**	P	**P**		**12 12 31.0**	**-1.2**
MLR	**Muntele Rosu**	**97.56**	**316**	LR	LR		13 02 19.2	
	comp=Z,25nm,18.7s,baz=70,slow=39							
LTX	**Lajitas**	**121.73**	**54**	*e*PKPdf	**PKPdf**		**12 18 13.6**	**+0.4**
LTX	**Lajitas**	**121.73**	**54**	*e*PKIKP	**PKPdf**		**12 18 13.6**	**+0.4**
TXAR	**Lajitas Array**	**121.73**	**54**	PKP	**PKPdf**		**12 18 13.6**	**+0.4**
	comp=Z,0.1nm,0.6s,baz=242,slow=1.9,SNR=3.4							
TXAR				pPKP	**pPKPdf**		**12 18 37.6**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=236,slow=1.0,SNR=3.4							
TORD	**Torodi Ar. Bea**	**125.04**	**287**	PKP	**PKPdf**		**12 18 18.6**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=47,slow=2.3,SNR=8.0							
TOA1	**Torodi Ar. Sit**	**125.04**	**287**	*e*PKPdf	**PKPdf**		**12 18 18.6**	**-1.2**
CPUP	**Villa Florida**	**154.72**	**168**	PKPbc	**PKPbc**		**12 19 19.8**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=199,slow=9.0,SNR=2.9							

IDC 05 12:05:03.4±3.4, 0.42S×91.74E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/40, mbtmp3.7/5, Error ellipse: s-maj=102.2km s-min=24.6km az=65.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.05**	**20**	P		Pn	12 09 39.4	-0.7
	1.4nm,0.7s,baz=214,slow=11,SNR=17							
WRA	**Warramunga Arr**	**45.98**	**118**	P		P	12 13 28.4	-0.4
	1.6nm,0.7s,baz=295,slow=8.6,SNR=15							
ASAR	**Alice Springs**	**46.96**	**123**	P		P	12 13 36.5	0.0
	0.4nm,0.6s,baz=300,slow=8.0,SNR=6.9							
MKAR	**Makanchi Array**	**47.74**	**351**	P		P	12 13 41.7	-0.5
	0.6nm,0.7s,baz=145,slow=9.2,SNR=4.2							
SONM	**Songino Array**	**49.73**	**13**	P		P	12 13 57.4	-0.2
	1.0nm,0.5s,baz=185,slow=9.8,SNR=2.4							

MEX 05 12:09:40.5±0.7, 16.24N×98.06W, h7km±4km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.17**	**337**	*e*P		Pg	12 09 43.5	-0.5
PNIG				*e*S		Sg	12 09 46.0	-0.2
TLIG	**Tlapa**	**1.40**	**340**	*e*P		Pn	12 10 03.1	-3.5
TLIG				*e*S		Sb	12 10 20.3	-5.1
VHO	**Vista Hermosa**	**1.52**	**57**	*e*P		Pn	12 10 04.9	-3.4
VHO				*e*S		Sn	12 10 24.0	-4.4
CAIG	**El Cayaco**	**2.27**	**291**	*e*P		Pn	12 10 15.3	-3.0
CAIG				*i* S		Sn	12 10 42.0	-4.6
CAIG				*i* S		Sb	12 10 43.3	-6.7

WEL 05 12:13:44.3, 45°S±8°×16°7E±°, h5km, ML3.9/6, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.37**	**112**	P		Pb	12 13 53.4	0.0
MSZ				S		Sb	12 13 59.2	-0.4
DCZ	**Deep Cove**	**0.95**	**192**	P		Pb	12 14 03.6	+0.3
DCZ				S		Sb	12 14 17.0	+0.8
MLZ	**Mavora Lakes**	**0.96**	**150**	P		Pn	12 14 04.2	-0.4
JCZ	**Jackson Bay**	**1.07**	**65**	P		Pb	12 14 05.4	0.0
JCZ				S		Sb	12 14 19.5	-0.2
WKZ	**Wanaka**	**1.16**	**105**	P		Pn	12 14 07.6	+0.3
WHZ	**Wether Hill Ro**	**1.41**	**165**	P		Pg	12 14 11.8	+0.6
EAZ	**Earnscleugh**	**1.50**	**118**	P		Pg	12 14 13.3	+0.2
PYZ	**Puysegur Point**	**1.72**	**198**	P		Pn	12 14 15.1	+0.2
LBZ	**Lake Benmore**	**1.97**	**87**	P		Pb	12 14 20.6	-0.1
FOZ	**Fox Glacier**	**1.98**	**60**	P		Pn	12 14 17.1	-1.4
TUZ	**Tuapeka**	**2.10**	**133**	P		Pb	12 14 22.7	-0.2
APZ	**The Paps**	**2.33**	**171**	P		Pb	12 14 25.6	-1.2
SYZ	**Scrubby Hill**	**2.33**	**150**	P		Pb	12 14 25.7	-1.1
ODZ	**Otahua Downs**	**2.34**	**104**	P		Pb	12 14 25.4	-1.5
HHSZ	**Highcliff Hill**	**2.61**	**122**	P		Pb	12 14 30.0	-1.6
RPZ	**Rata Peaks**	**2.73**	**74**	P		Pn	12 14 28.9	+0.1
WVZ	**Waitaha Valley**	**2.80**	**60**	P		Pn	12 14 28.2	-1.4
INZ	**Inchbonnie**	**3.42**	**59**	P		Pn	12 14 37.4	-0.9
OXZ	**Oxford**	**3.53**	**72**	P		Pn	12 14 38.4	-1.5
CRLZ	**Canterbury Las**	**3.86**	**77**	P		Pn	12 14 43.0	-1.3
LTZ	**Lake Taylor**	**3.92**	**65**	P		Pn	12 14 42.5	-2.7
OKCZ	**Okains Bay**	**4.13**	**81**	P		Pn	12 14 48.4	+0.4
DSZ	**Denniston Nort**	**4.24**	**50**	P		Pn	12 14 47.9	-1.6
THZ	**Tophouse**	**4.86**	**57**	P		Pn	12 14 57.6	-0.6
QRZ	**Quartz Range**	**5.27**	**47**	P		Pn	12 15 02.2	-1.5
NNZ	**Nelson**	**5.48**	**55**	P		Pn	12 15 06.2	-0.4
BSWZ	**Blackbirch Sta**	**5.49**	**61**	P		Pn	12 15 09.6	+2.9
TUWZ	**Tuamarina**	**5.69**	**59**	P		Pn	12 15 10.0	+0.6
TCW	**Tory Channel**	**6.02**	**59**	P		Pn	12 15 15.6	+1.6
DUWZ	**D'Urville Isla**	**6.06**	**54**	P		Pn	12 15 15.4	+0.8
CAW	**Cannon Point**	**6.57**	**61**	P		Pn	12 15 19.3	-2.3
KHEZ	**Kahui Hut**	**7.17**	**45**	P		Pn	12 15 28.6	-1.3
PKE	**Pukeiti**	**7.23**	**45**	P		Pn	12 15 29.6	-1.1
VRZ	**Vera Road**	**7.68**	**48**	P		Pn	12 15 36.5	-0.3
TLZ	**Tolley Road**	**8.68**	**47**	P		Pn	12 15 49.8	-0.7
RVAZ	**Riverhead Bore**	**9.46**	**37**	P		Pn	12 15 59.3	-1.9
WCZ	**Waipu Caves**	**10.07**	**34**	P		Pn	12 16 08.6	-1.0

NNC 05 12:14:44.8±8.4, 37.50N×71.02E, h0km, mb3.8, mpv3.5, 3C-4D, Error ellipse: s-maj=65.5km s-min=45.7km az=172.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.61**	**356**	⇑P		Pn	12 16 11.2	+1.7
	3.3nm,0.3s,baz=180,slow=13,SNR=77							
KK31				⇑S		Sn	12 17 17.7	+3.2
	2.3nm,0.3s,baz=184,slow=23,SNR=8.7							
AAK	**Ala-Archa**	**5.78**	**26**	⇓P		Pn	12 16 11.9	+0.1
	2.3nm,0.4s							
AAK				⇑S		Sn	12 17 18.8	-0.2
	5.1nm,0.8s							
TKM2	**Tokmak 2**	**6.44**	**31**	⇓P		Pn	12 16 20.7	-0.3
	2.2nm,0.7s							
TKM2				⇓S		Sn	12 17 34.6	-0.8
	1.4nm,0.5s							
AB31	**Akbulak array**	**14.22**	**329**	⇓P		Pn	12 18 07.0	-0.4
	0.3nm,0.3s,baz=222,slow=22,SNR=17							
AB31				S		Sn	12 20 44.6	-1.2
	0.4nm,0.3s,baz=147,slow=23,SNR=4.4							

*IDC **05** 12:21:24.9±1.8, 13.67N×90.76W, h69km±15km, mb3.8/10, mb1 4.0/13, mb1mx3.8/39, mbtmp4.0/13, MS3.3/8, Ms1 3.3/8, ms1mx3.0/32, Error ellipse: s-maj=19.9km s-min=9.9km az=43.0*

*ISCJB **05** 12:21:25.3±0.4, 13.76N±0.04×90.65W±0.03, h85km±3km, mb4.1/44, Error ellipse: s-maj=6.7km s-min=4.2km az=31.7*

*UCR **05** 12:21:25.2±0.8, 13.66N×90.69W, h23km±4km, ML4.3, mb4.3(NEIC)*

*NEIC **05** 12:21:26.0±0.5, 13.77N×90.63W, h74km±5km, mb4.3/46, Error ellipse: s-maj=7.3km s-min=4.0km az=215.0*

ISC 05 12:21:26.0±0.9, 13.80N±0.07×90.64W±0.06, h76km±8km, n253, n0s95/257, mb4.2/44, 6D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.97**	**84**⇓	*i* P		Pn	**12 21 44.7**	**0.0**
CEVE	**Cerro Verde**	**0.99**	**88**⇓	*e*P		Pn	**12 21 44.6**	**-0.4**
CEVE				*e*S		Sn	**12 21 59.9**	**+0.8**
CEVE				IAML			12 22 02.2	
	comp=Z,23μm,0.4s							
SBLS	**San Blas**	**0.99**	**88**⇓	*i* P		Pn	**12 21 44.5**	**-0.4**
SNJE	**San Jose**	**1.01**	**86**⇓	*i* P		Pn	**12 21 45.0**	**-0.2**
APG	**El Apazote**	**1.21**	**8**	P		Pn	**12 21 47.7**	**-0.1**
	comp=Z,364nm,0.3s,baz=161,slow=9.1,SNR=677							
APG				S		Sn	**12 22 05.6**	**+1.7**
	comp=Z,294nm,0.3s,baz=228,slow=18,SNR=18							
APG				LR	LR		12 22 34.6	
	comp=Z,582nm,21.1s,baz=116,slow=51							
COLS	**Colinas**	**1.31**	**96**	*e*P		Pn	**12 21 48.7**	**-0.2**
BOQS	**Boqueron**	**1.32**	**93**	*e*P		Pn	**12 21 49.2**	**0.0**
BOQS				*e*S		Sn	**12 22 07.7**	**+1.2**
UEES	**San Salvador**	**1.36**	**93**	*e*P		Pn	**12 21 49.5**	**0.0**
UEES				IAML			12 22 13.8	
	comp=Z,6μm,0.3s							
SNET	**Serv Nac Est T**	**1.37**	**95**	*e*Sn		Sn	**12 22 08.4**	**+1.0**
SNET	**Serv Nac Est T**	**1.37**	**95**	*e*P		Pn	**12 21 49.5**	**-0.1**
SNET				*e*S		Sn	**12 22 08.7**	**+1.3**
SNET				IAML			12 22 11.8	
	comp=Z,7μm,0.3s							
OPAM	**San Salvador**	**1.40**	**93**	*e*P		Pn	**12 21 50.3**	**+0.3**
OPAM				IAML			12 22 14.8	
	comp=Z,5μm,0.2s							
LFU	**La Fuente**	**1.48**	**92**⇓	*e*P		Pn	**12 21 51.3**	**+0.2**
LFRS	**El Faro**	**1.54**	**96**	*e*P		Pn	**12 21 51.7**	**-0.2**
LBRS	**Las Brisas**	**1.55**	**92**	*e*P		Pn	**12 21 52.1**	**+0.1**
PAVA	**Las Pavas**	**1.66**	**93**⇓	*e*P		Pn	**12 21 53.6**	**+0.2**
PAVA				IAML			12 22 12.6	
	comp=Z,3μm,0.4s							
TECA	**Tecapa**	**2.10**	**98**	*e*P		Pn	**12 21 59.9**	**+0.6**
LCND	**La Ca˜–ada**	**2.72**	**100**	*e*P		Pn	**12 22 07.9**	**+0.4**
CCIG	**Comitan**	**2.86**	**330**	*e*Pn		Pn	**12 22 09.7**	**+0.1**
TGUH	**Tegucigalpa,Un**	**3.28**	**85**	*e*Pn		Pn	**12 22 15.3**	**+0.2**
CRIN	**San Cristobal**	**3.66**	**107**	*e*P		Pn	**12 22 21.8**	**+1.4**
CRIN				*e*S		Sn	**12 23 04.4**	**+1.9**
CRIN				IAML			12 23 18.0	
	comp=E,1μm,0.4s							
ESTN	**Estel**	**4.21**	**99**	*e*Pn		Pn	**12 22 28.1**	**+0.2**
MOMN	**Momotombo**	**4.23**	**109**	*e*P		Pn	**12 22 28.6**	**+0.5**
COPN	**Copaltepe**	**4.26**	**112**	*e*P		Pn	**12 22 28.2**	**-0.3**
COPN				*e*S		Sn	**12 23 14.3**	**-2.8**
COPN				IAML			12 23 33.9	
	comp=Z,532nm,0.5s							
BOAB	**BOACO BROADBAN**	**5.03**	**105**	*e*Pn		Pn	**12 22 38.9**	**-0.1**
BOAB	**BOACO BROADBAN**	**5.03**	**105**	*e*P		Pn	**12 22 39.1**	**+0.2**
CMIG	**Matias Romero**	**5.24**	**309**	P		Pn	**12 22 40.4**	**-1.5**
	comp=Z,8.7nm,0.3s,baz=108,slow=9.4,SNR=69							
CMIG				S		Sn	**12 23 38.4**	**-2.6**
	comp=Z,16nm,0.3s,baz=358,slow=19,SNR=6.0							
ESPN	**Las Esperanzas**	**6.38**	**104**	*e*Pn		Pn	**12 22 58.0**	**+0.5**
ESPN	**Las Esperanzas**	**6.38**	**104**	*e*P		Pn	**12 22 58.5**	**+1.1**
JTS	**JuntasAbangare**	**6.56**	**121**	P		Pn	**12 22 58.1**	**-1.9**
	comp=Z,1.0nm,0.3s,baz=357,slow=16,SNR=3.7							
JTS				S		Sn	**12 24 16.5**	**+3.0**
	comp=Z,3.7nm,0.3s,baz=166,slow=24,SNR=5.6							
JTS	**JuntasAbangare**	**6.56**	**121**	*e*Pn		Pn	**12 22 59.4**	**-0.7**
JTS				*e*			12 22 60.0	
JTS				*e*Sn		Sn	**12 24 16.5**	**+3.0**
TEIG	**Tepich**

comp=Z,8.3nm,1.1s
ABTX **Abilene, Hawle** 20.46 338 P P 12 25 58.3 +0.7
baz=154
Y50A **Piedmont** 20.49 12 P Pn 12 25 59.8 -0.9
baz=194
X45A **UM Field Stati** 20.56 3 P P 12 26 00.1 +1.5
baz=183
GOGA **Godfrey** 20.59 17 P Pn 12 26 00.6 -1.1
baz=200
X47A **Russelville** 20.78 6 P P 12 26 00.8 -0.1
baz=188
X48A **Hartselle** 20.82 8 P P 12 26 01.9 +0.5
baz=190
MIAR **Mount Ida** 20.82 353 eP P 12 26 01.1 -0.3
comp=Z,4.9nm,0.6s
Y52A **Lilburn** 20.85 16 eP P 12 26 02.6 +0.9
comp=Z,15nm,0.8s
Y52A **Lilburn** 20.85 16 P P 12 26 03.3 +1.6
baz=198
X39A **Fountain Ranch** 20.86 352 P P 12 26 03.1 +1.3
baz=170
Y53A **Monroe** 20.97 17 P Pn 12 26 05.1 -1.2
baz=199
X49A **Woodville** 20.99 10 P P 12 26 04.1 +0.9
baz=192
X50B **Fort Payne** 21.06 12 P P 12 26 05.5 +1.5
baz=194
X37A **Clayton** 21.14 349 eP P 12 26 05.2 +0.4
comp=Z,5.2nm,0.6s
LPIG **La Paz** 21.21 302 P P 12 26 04.4 -1.2
comp=Z,18nm,0.3s,baz=43,slow=4.0,SNR=4.0
PLAL **Pickwick Lake** 21.22 6 eP P 12 26 07.1 +1.5
comp=Z,7.0nm,0.8s
W41B **Gary Mavity, V** 21.33 356 eP P 12 26 07.5 +0.6
comp=Z,5.9nm,0.9s
W41B **Gary Mavity, V** 21.33 356 P P 12 26 07.4 +0.6
baz=176
W40A **Ferguson Farm,** 21.41 355 P P 12 26 07.7 0.0
baz=174
W39A **Magazine** 21.49 353 P P 12 26 08.2 -0.3
baz=172
W48A **Pulaski** 21.51 8 P P 12 26 09.2 +0.5
baz=190
W47A **Westpoint** 21.53 7 P P 12 26 08.6 -0.4
baz=188
W49A **Belvidere** 21.59 10 P P 12 26 10.4 +0.8
baz=192
X52A **Dahlonega** 21.59 15 P P 12 26 10.7 +1.1
baz=198
X53A **Estanollee** 21.66 17 P P 12 26 11.3 +1.0
baz=200
SWET **Sewanee** 21.74 10 eP P 12 26 11.6 +0.3
comp=Z,8.2nm,0.6s
W50A **Signal Mountai** 21.84 12 P P 12 26 13.2 +0.9
baz=194
W51A **Cleveland** 21.92 13 P P 12 26 13.3 +0.2
baz=195
V42A **Cord** 21.92 358 P P 12 26 12.0 -1.2
baz=178
V41A **Mountainview** 21.93 357 P P 12 26 12.1 -1.2
baz=176
V40A **Witts Springs** 22.00 355 P P 12 26 13.1 -0.9
baz=174
V46A **Holladay** 22.02 5 P P 12 26 13.7 -0.5
baz=186
W52A **Murphy** 22.05 15 P P 12 26 16.7 +2.1
baz=198
WMOK **Wichita Mounta** 22.11 342 P P 12 26 15.7 +0.5
baz=159
V47A **Nunnelly** 22.11 7 P P 12 26 15.4 +0.2
baz=188
V48A **Smith Brothers** 22.11 8 eP P 12 26 15.3 +0.1
comp=Z,6.1nm,0.8s
V48A **Smith Brothers** 22.11 8 P P 12 26 15.4 +0.1
baz=190
CPCT **Cooper Cave** 22.25 13 eP P 12 26 17.3 +0.6
comp=Z,6.3nm,0.7s
V49A **McMinnville** 22.28 10 P P 12 26 17.2 +0.1
baz=192,SNR=6.3
V50A **Pikeville** 22.34 12 P P 12 26 17.7 +0.1
baz=194
MNTX **Cornudas Mount** 22.36 325 eP P 12 26 17.8 -0.2
comp=Z,12nm,0.6s
MNTX **Cornudas Mount** 22.36 325 P P 12 26 17.5 -0.5
baz=140,SNR=23
WVT **Waverly** 22.38 6 P P 12 26 17.9 -0.1
baz=187
U42A **Revenden** 22.46 359 P P 12 26 17.7 -1.3
baz=178
U43A **Rector** 22.48 0 P P 12 26 19.0 -0.1
baz=181
U40A **Yellville** 22.55 355 P P 12 26 19.2 -0.7
baz=174
HHAR **Hobbs** 22.58 353 eP P 12 26 19.1 -1.1
comp=Z,5.2nm,0.8s
TKL **Tuckaleechee C** 22.62 15 P P 12 26 20.7 0.0
comp=Z,4.6nm,0.7s,baz=188,slow=12,SNR=8.6
TKL LR LR 12 35 42.2
comp=Z,113nm,19.4s,baz=177,slow=38
V51A **Loudon** 22.63 13 P P 12 26 21.4 +0.7
baz=196
U47A **Clarksville** 22.75 7 P P 12 26 21.2 -0.7
baz=188
V52A **Sevierville** 22.84 15 P P 12 26 22.7 -0.2
baz=198
KMSC **Kings Mountain** 22.85 20 P P 12 26 23.3 +0.3
baz=204
V53A **Saluda** 22.89 17 P P 12 26 23.4 0.0
baz=200
MSTX **Muleshoe** 22.90 333 P P 12 26 23.1 -0.6
baz=148
U48A **Cassie Pea, Po** 22.91 9 P P 12 26 23.5 -0.1
baz=190
U49A **Red Boiling Sp** 23.03 10 P P 12 26 24.9 +0.1
baz=192
U50A **Jamestown** 23.11 12 P P 12 26 25.3 -0.3
baz=194
T42A **Van Buren** 23.14 359 P P 12 26 24.8 -1.0
baz=179
T41A **Mountain View** 23.17 358 P P 12 26 25.8 -0.4
baz=177
T43A **Greenville** 23.19 1 P P 12 26 25.8 -0.5
baz=181
AMTX **Amarillo** 23.24 336 eP P 12 26 27.6 +0.6
comp=Z,4.8nm,0.5s
AMTX **Amarillo** 23.24 336 P P 12 26 26.7 -0.3
baz=152
U51A **La Follette** 23.25 14 P P 12 26 26.9 -0.1
baz=196
T46A **Princeton** 23.27 6 P P 12 26 26.9 -0.2
baz=187
T47A **Sharon Grove** 23.31 7 eP P 12 26 26.6 -0.9
comp=Z,11nm,0.6s
T47A epP pP 12 26 44.4 +0.6
T47A **Sharon Grove** 23.31 7 P P 12 26 27.2 -0.3
baz=189
U52A **Thorn Hill** 23.42 15 P P 12 26 29.0 +0.5
baz=198
TZTN **Tazewell** 23.52 14 P P 12 26 29.8 +0.4
baz=197
U53A **Fall Branch** 23.60 16 P P 12 26 30.4 +0.2
baz=200
T49A **Edmonton** 23.65 10 eP P 12 26 30.7 +0.1
comp=Z,14nm,0.8s
T49A **Edmonton** 23.65 10 P P 12 26 30.6 0.0
baz=192,SNR=6.4
T50A **Nancy** 23.70 12 P P 12 26 30.4 -0.6
baz=194
S41A **Jillco Farms,** 23.71 358 P P 12 26 30.8 -0.3
baz=177
S44A **Carbondale** 23.83 3 P P 12 26 32.3 +0.2
baz=183
T51A **Gray** 23.83 13 P P 12 26 32.2 0.0
baz=196
S42A **Caledonia** 23.87 360 P P 12 26 33.3 +0.7
baz=180
S47A **Hartford** 23.93 7 P P 12 26 33.4 +0.4
baz=189
ATAH **Atahualpa** 24.09 149 LR LR 12 34 12.4
comp=Z,53nm,21.1s,baz=6.1,slow=32
S48A **Wiedeman Farm,** 24.11 9 P P 12 26 34.5 -0.1
baz=191
CCM **Cathedral Cave** 24.16 359 P P 12 26 35.4 +0.2
baz=178
121A **Cookes Peak, D** 24.35 323 P P 12 26 37.8 +0.7
baz=136,SNR=7.8
S49A **Springfield** 24.36 10 P P 12 26 36.2 -0.7
baz=193

R41A **Rosebud** 24.41 359 P P 12 26 37.2 -0.2
baz=178
S50A **Richmond** 24.42 12 P P 12 26 37.6 +0.1
baz=195
R46A **Gibon Southern** 24.47 6 P P 12 26 37.3 -0.6
baz=187
R45A **Skylar, Fairfi** 24.48 4 P P 12 26 37.3 -0.7
baz=186
WCI **Wyandotte Cave** 24.64 8 eP P 12 26 39.2 -0.2
comp=Z,15nm,0.6s
WCI **Wyandotte Cave** 24.64 8 P P 12 26 39.6 +0.2
baz=190
R47A **Wooly Knot Far** 24.67 8 P P 12 26 40.2 +0.5
baz=190
R49A **Shelbyville** 24.87 10 P P 12 26 41.1 -0.5
baz=193
BNM **Barren Site** 24.91 327 eP P 12 26 43.2 +0.9
R50A **Paris** 25.02 12 P P 12 26 42.5 -0.5
baz=194
Q43A **New Douglas** 25.05 2 P P 12 26 42.6 -0.6
baz=182
Q41A **Truxton** 25.06 359 P P 12 26 43.8 +0.5
baz=179
LENM **Lemitar** 25.11 327 eP P 12 26 44.5 +0.5
R51A **Hillsboro** 25.19 13 P P 12 26 44.0 -0.5
baz=196
LAZ **Laron** 25.38 327 eP P 12 26 46.2 -0.2
ANMO **Albuquerque** 25.44 329 P P 12 26 48.2 +1.2
comp=Z,0.5nm,0.4s,baz=152,slow=16,SNR=3.6
ANMO **Albuquerque** 25.44 329 eP P 12 26 47.8 +0.8
comp=Z,0.9nm,0.8s
Q51A **Peebles** 25.94 13 eP P 12 26 50.9 -0.4
comp=Z,12nm,0.6s
Q51A **Peebles** 25.94 13 P P 12 26 50.5 -0.8
baz=196
TUC **Tucson** 26.05 318 eP P 12 26 53.5 +1.0
comp=Z,2.5nm,0.9s
TUC **Tucson** 26.05 318 P P 12 26 53.4 +1.0
baz=130
O50A **Cable** 26.96 12 P P 12 26 59.4 -1.1
baz=195
X16A **Lo Mia Camp, P** 27.85 321 eP P 12 27 09.8 +1.0
comp=Z,2.7nm,0.6s
S22A **4UR Ranch, Cre** 27.86 332 P P 12 27 09.5 +0.6
baz=145
MVCO **Mesa Verde** 28.24 329 P P 12 27 12.1 -0.1
baz=141
WUAZ **Wupatki** 28.56 323 eP P 12 27 15.8 +0.8
comp=Z,4.0nm,0.9s
WUAZ **Wupatki** 28.56 323 P P 12 27 16.3 +1.2
baz=134
NNA **Nana** 29.04 151 LR LR 12 37 38.6
comp=Z,34nm,18.2s,baz=281,slow=34
J41A **Loganville** 29.47 1 P P 12 27 21.2 -1.5
baz=181
U15A **North Rim** 29.73 323 eP P 12 27 26.6 +1.1
comp=Z,2.4nm,0.8s
KNB **Kanab** 30.44 323 eP P 12 27 32.9 +1.2
comp=Z,3.9nm,0.7s
H40A **Chili** 30.72 0 P P 12 27 33.1 -0.7
baz=180
GMRC **Granite Mounta** 30.77 317 P P 12 27 35.4 +0.8
baz=127
MTPU **Mount Pierson** 30.80 326 eP P 12 27 36.5 +1.4
comp=Z,7.1nm,0.8s
SZCU **Shurtz Canyon** 31.00 324 eP P 12 27 38.1 +1.5
comp=Z,3.3nm,0.8s
CCUT **Cedar City** 31.12 324 eP P 12 27 39.4 +1.7
comp=Z,2.0nm,0.8s
SPMN **Marine on St.** 31.38 357 P P 12 27 38.6 -0.9
baz=176
G39A **Holcombe** 31.39 359 P P 12 27 37.8 -1.8
baz=179
CLWO **Collingwood** 31.80 14 P P 12 27 42.0 -1.3
baz=199
BFSC **Mount Baldy Ra** 31.82 314 P P 12 27 43.7 -0.1
baz=123
F38A **Pierce - Schro** 32.07 358 P P 12 27 42.7 -3.0
baz=178
PSUT **Pine Spring** 32.08 324 eP P 12 27 47.4 +1.2
comp=Z,3.0nm,0.9s
EDW2 **Edwards Air Fo** 32.40 315 P P 12 27 49.3 +0.5
baz=124
FURC **Furnace Creek,** 32.56 319 P P 12 27 50.5 +0.4
baz=127
MPMC **Manual Prospec** 32.73 317 P P 12 27 51.9 +0.1
baz=126
R11A **Troy Canyon, C** 32.96 322 eP P 12 27 55.1 +1.3
comp=Z,0.7nm,0.8s
R11A **Troy Canyon, C** 32.96 322 P P 12 27 55.2 +1.3
baz=131
HRV **Adam Dziewonsk** 33.02 26 P P 12 27 54.6 +0.6
baz=216
PDAR **Pinedale Array** 33.16 334 P P 12 27 55.6 +0.1
comp=Z,0.3nm,0.5s,baz=127,slow=11,SNR=3.8
PDAR PcP PcP 12 30 36.2 -0.7
comp=Z,0.3nm,0.5s,baz=99,slow=5.8,SNR=3.6
GRAC **Grapevine Rang** 33.20 319 P P 12 27 56.9 +1.2
baz=127
PTGA **Pitinga** 33.64 113 P P 12 27 59.5 -0.3
comp=Z,1.4nm,0.3s,baz=300,slow=12,SNR=8.6
VES **Vestal, Richgr** 33.67 316 P P 12 27 59.5 -0.3
baz=124
D47A **Chapleau** 33.75 9 P P 12 27 59.0 -1.3
baz=193
ALGO **Algonquin Park** 33.77 16 P P 12 27 59.5 -0.9
baz=202
REDW **Red Top Meadow** 34.20 333 eP P 12 28 05.1 +0.6
comp=Z,3.3nm,0.6s
SNOW **Snow King Moun** 34.24 334 eP P 12 28 05.4 +0.5
comp=Z,1.7nm,0.4s
E54A **Lac Daplat, Po** 34.44 17 P P 12 28 05.0 -1.3
baz=203
NV01 **Mina Array Sit** 34.66 320 eP P 12 28 10.0 +1.4
NV01 ePcP PcP 12 30 41.6 +0.3
NVAR **Mina Array Bea** 34.66 320 P P 12 28 10.0 +1.5
comp=Z,5.6nm,0.6s,baz=131,slow=8.5,SNR=71
NVAR PcP PcP 12 30 42.0 +0.7
comp=Z,1.4nm,0.7s,baz=136,slow=3.9,SNR=8.6
MDPB **Devils Postpil** 34.68 318 eP P 12 28 09.7 +0.9
comp=Z,3.2nm,0.9s
D53A **Lac Vacive, Po** 34.90 16 P P 12 28 08.8 -1.4
baz=202
KVN **Kaiserville** 34.92 321 eP P 12 28 11.9 +1.2
comp=Z,2.2nm,0.8s
YERR **Yerington** 35.58 320 eP P 12 28 17.7 +1.2
comp=Z,3.3nm,0.7s
PNTR **Pine Nut** 35.87 320 eP P 12 28 19.8 +0.8
comp=Z,4.1nm,0.7s
HLID **Hailey** 36.00 330 P P 12 28 20.5 +0.6
baz=138
MCMT **McKenzie Canyo** 36.24 333 eP P 12 28 22.8 +0.7
ULM **Lac du Bonnet** 36.60 354 LR LR 12 43 58.1
comp=Z,56nm,18.1s,baz=40,slow=37
BEKR **Beckworth** 36.80 320 eP P 12 28 27.2 +0.3
comp=Z,3.8nm,0.8s
LSQQ **Lebel-sur-Quev** 36.92 15 P P 12 28 26.0 -1.4
baz=202
LPAZ **La Paz** 37.26 143 P P 12 28 30.1 -1.4
comp=Z,0.8nm,0.6s,baz=342,slow=13,SNR=3.5
LPAZ LR LR 12 43 52.0
comp=Z,36nm,19.8s,baz=232,slow=36
MATQ **Matagami** 37.41 14 P P 12 28 30.2 -1.4
baz=201
J08A **Circle Bar Ran** 37.93 326 eP P 12 28 36.8 +0.5
comp=Z,6.3nm,0.7s
O03E **Paynes Creek** 37.95 320 P P 12 28 36.0 -0.4
baz=125
M04C **Idodel** 38.85 322 P P 12 28 44.3 +0.3
baz=127
F10A **Beach Ranch, E** 39.13 330 eP P 12 28 46.1 -0.1
comp=Z,1.9nm,0.6s
M02C **Callahan** 39.23 321 P P 12 28 46.2 -1.0
baz=125
L04D **Klamath Falls** 39.38 322 P P 12 28 48.0 -0.5
baz=127
J05D **Fort Rock, OR** 39.41 324 P P 12 28 49.6 +0.9
baz=129
PINE **Pine Mountain** 39.57 325 eP P 12 28 50.2 +0.2
comp=Z,4.2nm,0.8s
J04D **Umpqua Nationa** 39.89 323 P P 12 28 53.7 +1.0
baz=128
I04A **Tendick Farm,** 40.40 324 P P 12 28 57.0 +0.3
baz=128
G05D **Wamic, OR** 40.71 326 P P 12 28 59.0 -0.3
baz=131
NEW **Newport** 40.77 333 LR LR 12 48 24.1
comp=Z,67nm,18.2s,baz=250,slow=40

NEW **Newport** 40.77 333 P P 12 28 59.8 +0.1
baz=138
J01E **Myrtle Point** 40.91 322 P P 12 29 01.2 +0.3
baz=126
C09A **Chrisman Ranch** 40.95 331 eP P 12 29 00.9 -0.2
comp=Z,5.8nm,0.6s
YKA **Yellowknife Ar** 51.53 346 P P 12 30 23.5 -0.3
comp=Z,2.1nm,0.8s,baz=151,slow=7.9,SNR=3.0
ILAR **Eielson Array** 63.55 337 P P 12 31 46.6 -1.6
comp=Z,0.5nm,0.6s,baz=167,slow=5.4,SNR=8.1
COLD **Coldfoot** 65.80 338 eP P 12 32 05.3 +2.4
comp=Z,4.2nm,0.5s
TORD **Torodi Ar. Bea** 89.14 77 LR LR 13 11 12.4
comp=Z,16nm,19.7s,baz=305,slow=34
FITZ **Fitzroy Crossi** 144.90 258 PKP PKPab 12 40 54.5 0.0
comp=Z,5.0nm,1.1s,baz=141,slow=6.5,SNR=3.2
CM31 **Chiang Mai Arr** 146.58 343 ePKPdf PKPdf 12 40 58.7 +0.5
CMAR **Chiang Mai Arr** 146.58 343 PKPbc PKPdf 12 40 58.9 +0.6
comp=Z,3.2nm,0.6s,baz=342,slow=3.4,SNR=26

MAN 05 12:25:29.2, 12°.17N×121°.87E, h17km, mb4.1, ML2.9, MS2.6, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTRP	**Odiongan**	**0.24**	**38**	*eP*		Pg	12 25 34.6	-0.1
OTRP				*eS*		Sb	12 25 39.2	0.0
SJMP	**San Jose**	**0.79**	**292**	*eP*		Pg	12 25 44.8	+0.2
SJMP				*eS*		Sn	12 25 56.5	-0.4
RCP	**Roxas**	**1.05**	**125**	*eP*		Pb	12 25 48.2	-0.7
RCP				*eS*		Sn	12 26 03.4	+0.1
BOAC	**Boac**	**1.28**	**359**	*eP*		Pn	12 25 52.1	-0.2
BOAC				*eS*		Sn	12 26 09.8	+0.6

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*ISCJB **05** 12:40:16.7±1.1, 52°.5N±0°.1×131°.3W±0°.1, h10km, mb3.2/1, Error ellipse: s-maj=22.5km s-min=7.2km az=31.0*
*IDC **05** 12:40:16.5±1.5, 52°.30N×131°.39W, h0km, mb3.3/1, mb1 3.9/6, mb1mx3.5/52, mbtmp3.6/6, ML3.6/5, Error ellipse: s-maj=19.7km s-min=6.0km az=32.0*
*PGC **05** 12:40:16.8, 52°.18N×131°.66W, h20km, 119km south of Sandspit, Bc Haida Gwaii Region*

ISC 05 12:40:18.3±1.4, 52°.4N±0°.2×131°.2W±0°.1, h10km, n11, σ2s06/9, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H02S1	**DAWSON INLET T**	**1.14**	**319**	Pg	**Pb**	**12 40 37.6**	**-2.4**
H02S1				Lg	Lg	12 40 52.4	
H02N1	**VAN INLET T-PH**	**1.20**	**319**	Pg	**Pb**	**12 40 38.5**	**-2.7**
H02N1				Lg	Lg	12 40 53.1	
BBB	**Bella Bella**	**1.93**	**94**	Pn	**Pn**	**12 40 50.1**	**-1.0**
	15nm,0.3s,baz=275,slow=8.9,SNR=60						
BBB				Sn	**Sn**	**12 41 15.8**	**+0.4**
	54nm,0.3s,baz=161,slow=22,SNR=12						
BBB				Lg	Lg	12 41 19.4	
	226nm,0.3s,baz=178,slow=20,SNR=17						
DLBC	**Dease Lake**	**6.14**	**6**	Pn	**Pn**	**12 41 52.0**	**+2.9**
	0.8nm,0.3s,baz=216,slow=5.0,SNR=22						
DLBC				Lg	Lg	12 43 31.6	
	1.3nm,0.3s,baz=301,slow=21,SNR=6.2						
NEW	**Newport**	**9.91**	**109**	Pn	**Pn**	**12 42 40.9**	**+0.1**
	0.1nm,0.3s,baz=288,slow=18,SNR=2.3						
YKA	**Yellowknife Ar**	**13.50**	**35**	Pn	**Pn**	**12 43 29.4**	**-0.2**
	0.1nm,0.3s,baz=233,slow=15,SNR=2.8						
PDAR	**Pinedale Array**	**17.43**	**115**	P	**P**	**12 44 23.9**	**+1.0**
	0.1nm,0.3s,baz=327,slow=9.9,SNR=14						
TXAR	**Lajitas Array**	**30.72**	**128**	P	**P**	**12 46 34.8**	**+1.4**
	0.3nm,0.8s,baz=321,slow=7.0,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**57.48**	**260**	T	T	13 52 15.3	
	baz=40,slow=76,SNR=252						
H11N3	**WAKE ISLAND Hy**	**57.48**	**260**	T	T	13 52 15.5	
	baz=40,slow=76,SNR=348						
H11N1	**WAKE ISLAND Hy**	**57.50**	**260**	T	T	13 52 16.6	
	baz=40,slow=76,SNR=280						

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*IDC **05** 12:41:12.0±1.5, 60°.83N×152°.87W, h108km±17km, mb3.6/11, mb1 3.8/15, mb1mx3.5/52, mbtmp4.0/15, Error ellipse: s-maj=17.0km s-min=13.0km az=119.0*
*NEIC **05** 12:41:14.8±0.0, 60°.86N×152°.53W, h125km, mb4.1/1, ML3.9(AEIC), After AEIC.*

ISC 05 12:41:13.7±0.6, 60°.87N±0°.03×152°.46W±0°.04, h131km±5km, n164, σ1s35/192, mb3.8/14, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RDJH	**Redoubt Jeurge**	**0.33**	**211**	P	**Pn**	**12 41 31.8**	**-0.5**
RDJH				S	**Sn**	**12 41 45.1**	**-1.0**
SPCR	**Spurr Chakacha**	**0.35**	**20**	P	**Pn**	**12 41 32.0**	**-0.2**
SPCR				S	**Sn**	**12 41 46.1**	**-0.1**
RDW	**Redoubt North**	**0.39**	**203**	*ePn*	**Pn**	**12 41 32.2**	**-0.5**
RDWB	**Redoubt West**	**0.43**	**206**	P	**Pn**	**12 41 32.2**	**-0.4**
RDWB				S	**Sn**	**12 41 45.9**	**-1.0**
RDSO	**Redoubt South**	**0.44**	**199**	*ePn*	**Pn**	**12 41 32.0**	**-0.8**
SPCG	**Spurr Capps Gl**	**0.47**	**27**	P	**Pn**	**12 41 32.9**	**+0.1**
RED	**Redoubt Volcan**	**0.48**	**199**	P	**Pn**	**12 41 32.1**	**-0.8**
SPNN	**North Nagishla**	**0.51**	**347**	*ePn*	**Pn**	**12 41 33.0**	**-0.1**
SPNN				*eSn*	**Sn**	**12 41 47.5**	**-0.3**
NKA	**Nikishka**	**0.61**	**102**	*ePn*	**Pn**	**12 41 35.3**	**+1.9**
ILIM	**Iliamna**	**0.83**	**198**	*ePn*	**Pn**	**12 41 34.7**	**-0.5**
ILW	**Iliamna West**	**0.88**	**203**	*ePn*	**Pn**	**12 41 35.2**	**-0.5**
ILS	**Iliamna Low So**	**0.97**	**199**	P	**Pn**	**12 41 36.0**	**-0.5**
SUA	**Susitna One**	**1.02**	**54**	*ePn*	**Pn**	**12 41 37.7**	**+0.7**
SUA				*e*		12 41 48.2	
SUA				*eSn*	**Sn**	**12 41 55.6**	**+0.9**
FIB	**Fire Island**	**1.15**	**74**	*ePn*	**Pn**	**12 41 39.6**	**+1.6**
SKT	**Skwentna**	**1.20**	**21**	*ePn*	**Pn**	**12 41 39.2**	**+0.6**
SKT				*eSn*	**Sn**	**12 41 53.5**	**-4.0**
SKT				*eSn*	Sn	12 41 58.3	+0.8
HOM	**Homer**	**1.28**	**161**	*ePn*	**Pn**	**12 41 39.7**	**+0.3**
HOM				*ePn*	Pn	12 41 39.9	+0.4
HOM				*eSn*	**Sn**	**12 41 56.3**	**-2.7**
HOM				*eSn*	Sn	12 41 59.2	+0.2
RC01	**Rabbit Creek A**	**1.34**	**79**	*ePn*	**Pn**	**12 41 40.5**	**+0.5**
BRLK	**Bradley Lake**	**1.36**	**144**	*ePn*	**Pn**	**12 41 40.2**	**-0.1**
BRLK				*eSn*	**Sn**	**12 41 57.0**	**-3.5**
BRLK				*eSn*	Sn	12 41 59.9	-0.6
PDB	**Pedro Bay**	**1.39**	**219**	*ePn*	**Pn**	**12 41 40.0**	**-0.6**
CNPM	**China Poot**	**1.48**	**155**	*ePn*	**Pn**	**12 41 41.5**	**-0.1**
CNPM				*eSn*	**Sn**	**12 42 01.5**	**-1.4**
AUL	**Augustine Lava**	**1.57**	**199**	P	**Pn**	**12 41 42.4**	**-0.2**
AUE	**Augustine Isla**	**1.58**	**197**	*ePn*	**Pn**	**12 41 42.3**	**-0.5**
AUW	**Augustine West**	**1.59**	**199**	P	**Pn**	**12 41 42.6**	**-0.2**
AUI	**Augustine Isla**	**1.62**	**198**	P	**Pn**	**12 41 42.9**	**-0.2**
SEW	**Seward**	**1.68**	**116**	*ePn*	**Pn**	**12 41 43.6**	**-0.1**
SEW				*eSn*	**Sn**	**12 42 06.0**	**-0.7**
PTE	**Portage**	**1.68**	**89**	*ePn*	**Pn**	**12 41 43.6**	**-0.2**
GHO	**Glory Hole Cre**	**1.93**	**61**	*ePn*	**Pn**	**12 41 47.0**	**+0.1**
GHO				*ePn*	Pn	12 41 47.2	+0.3
GHO				*eSn*	**Sn**	**12 42 08.0**	**-4.2**
GHO				*eSn*	Sn	12 42 12.2	0.0
KNK	**Knik Glacier**	**2.02**	**73**	*ePn*	**Pn**	**12 41 47.9**	**0.0**
PWL	**Port Wells**	**2.02**	**89**	*ePn*	**Pn**	**12 41 47.5**	**-0.4**
PPLA	**Purkeypile**	**2.04**	**3**	*ePn*	**Pn**	**12 41 48.8**	**+0.6**
PPLA				*eSn*	**Sn**	**12 42 13.8**	**-0.9**
FONW	**Fourpeaked Sta**	**2.17**	**200**	P	**Pn**	**12 41 49.2**	**-0.6**
SML	**Sawmill**	**2.20**	**63**	*ePn*	**Pn**	**12 41 50.4**	**+0.3**
SML				*eSn*	**Sn**	**12 42 11.4**	**-6.7**
HUR	**Hurricane**	**2.50**	**31**	*ePn*	**Pn**	**12 41 54.4**	**+0.6**
CAST	**Castle Rocks**	**2.56**	**4**	*ePn*	**Pn**	**12 41 55.1**	**+0.4**
CAST				*eSn*	**Sn**	**12 42 25.5**	**-0.7**
KAHG	**Katmai Hook Gl**	**2.61**	**205**	P	**Pn**	**12 41 55.1**	**-0.2**
GLI	**Glacier Island**	**2.62**	**87**	*ePn*	**Pn**	**12 41 54.2**	**-1.2**
GLI				*eSn*	**Sn**	**12 42 24.6**	**-2.9**
KARR	**Katmai Rainbow**	**2.64**	**207**	P	**Pn**	**12 41 55.4**	**-0.3**
TT01	**Tatalina**	**2.65**	**322**	*ePn*	**Pn**	**12 41 55.4**	**-0.4**
SCM	**Sheep Creek Mo**	**2.65**	**66**	*ePn*	**Pn**	**12 41 55.9**	**+0.1**
KAWH	**Katmai**	**2.77**	**207**	P	**Pn**	**12 41 56.6**	**-0.7**
TRF	**Thorofare Moun**	**2.78**	**21**	*ePn*	**Pn**	**12 41 57.7**	**+0.1**
TRF				*eSn*	**Sn**	**12 42 28.1**	**-3.4**
JPK	**Jack Peak**	**2.86**	**84**	*ePn*	**Pn**	**12 41 58.0**	**-0.6**
FID	**Port Fidalgo**	**2.93**	**90**	*ePn*	**Pn**	**12 41 58.2**	**-1.2**
HIN	**Hinchinbrook I**	**2.97**	**97**	*ePn*	**Pn**	**12 41 59.2**	**-0.7**
RND	**Reindeer**	**3.06**	**32**	*ePn*	**Pn**	**12 42 01.1**	**0.0**
RND				*eSn*	**Sn**	**12 42 35.1**	**-2.5**
ANCK	**Angle Creek**	**3.10**	**211**	P	**Pn**	**12 42 01.1**	**-0.5**
KDAK	**Kodiak Island**	**3.10**	**181**	P	**Pn**	**12 41 59.5**	**-2.0**
	34nm,0.3s,baz=42,slow=8.5,SNR=374						
KDAK				S	**Sn**	**12 42 35.0**	**-3.5**
	30nm,0.3s,baz=184,slow=17,SNR=20						

CNTC	**Contact Creek**	**3.14**	**215**	P		**Pn**	12 42 01.6	-0.6
CAHL	**Cahill**	**3.18**	**208**	P		**Pn**	12 42 02.5	-0.1
KLU	**Klutina**	**3.23**	**76**	*e*Pn		**Pn**	12 42 03.1	-0.1
KLU				*e*Sn		**Sn**	12 42 40.7	-0.9
KJL	**Kejulik**	**3.24**	**211**	P		**Pn**	12 42 03.6	+0.1
DHY	**Denali Highway**	**3.26**	**45**	*e*Pn		**Pn**	12 42 04.2	+0.3
DHY				*e*Sn		**Sn**	12 42 42.3	-0.3
DIV	**Divide**	**3.27**	**83**	*e*Pn		**Pn**	12 42 03.5	-0.3
DIV				*e*Sn		**Sn**	12 42 41.4	-1.1
MCK	**McKinley**	**3.31**	**28**	*e*Pn		**Pn**	12 42 04.6	+0.3
MCK				*e*Sn		**Sn**	12 42 39.2	-4.2
BPAW	**Bear Paw Mtn.**	**3.31**	**11**	*e*Pn		**Pn**	12 42 03.6	-0.8
EYAK	**Cordova Ski Ar**	**3.31**	**93**	*e*Pn		**Pn**	12 42 03.6	-0.7
EYAK				*e*Sn		**Sn**	12 42 41.4	-2.0
MID	**Middleton Isla**	**3.38**	**113**	*e*Pn		**Pn**	12 42 05.4	+0.2
PS11	**TAPS Pump St11**	**3.56**	**67**	*e*Pn		**Pn**	12 42 08.7	+1.1
BWN	**Browne**	**3.59**	**21**	*e*Pn		**Pn**	12 42 08.2	+0.3
OHAK	**Old Harbor**	**3.69**	**187**	*e*Pn		**Pn**	12 42 06.9	-2.4
PLK3	**Peulik 3**	**3.74**	**213**	P		**Pn**	12 42 10.0	0.0
HARP	**HAARP**	**3.81**	**63**	*e*Pn		**Pn**	12 42 12.2	+1.3
BMRM	**Bremner River**	**3.84**	**85**	*e*Pn		**Pn**	12 42 10.6	-0.7
RAGM	**Ragged Mountai**	**3.87**	**94**	*e*Pn		**Pn**	12 42 10.8	-0.9
PAX	**Paxson**	**3.92**	**54**	*e*Pn		**Pn**	12 42 13.3	+0.9
NEA	**Nenana**	**4.03**	**21**	*e*Pn		**Pn**	12 42 13.2	-0.6
PS10	**TAPS Pump St10**	**4.05**	**48**	*e*Pn		**Pn**	12 42 15.8	+1.7
KAIM	**Kayak Island**	**4.10**	**100**	*e*Pn		**Pn**	12 42 15.4	+0.7
WRH	**Wood River Hil**	**4.13**	**27**	*e*Pn		**Pn**	12 42 14.5	-0.7
GLB	**Gilahina Butte**	**4.23**	**78**	*e*Pn		**Pn**	12 42 16.5	0.0
NICHA	**Nichawak Mount**	**4.24**	**95**	P		**Pn**	12 42 16.7	+0.1
MLY	**Manley**	**4.25**	**10**	*e*Pn		**Pn**	12 42 15.9	-0.8
CCB	**Clear Creek Bu**	**4.35**	**27**	*e*Pn		**Pn**	12 42 17.4	-0.6
CCB				*e*Pn			12 42 17.5	-0.5
HDA	**Harding Lake**	**4.37**	**33**	*e*Pn		**Pn**	12 42 18.4	+0.2
HDA				*e*Pn		Pn	12 42 18.6	+0.4
GCSA	**Galena City Sc**	**4.39**	**334**	*e*Pn		**Pn**	12 42 16.5	-2.0
VRDI	**Verde Repeater**	**4.39**	**81**	P		**Pn**	12 42 18.7	-0.1
PS08	**TAPS Pump Stn8**	**4.51**	**33**	*e*Pn		**Pn**	12 42 20.5	+0.4
MDM	**Murphy Dome**	**4.53**	**23**	*e*Pn		**Pn**	12 42 19.9	-0.6
COLA	**College**	**4.54**	**26**	*e*Pn		**Pn**	12 42 20.4	0.0
GRIN	**Grindle Hills**	**4.55**	**93**	P		**Pn**	12 42 21.3	+0.6
KHIT	**Khitrov Hills**	**4.55**	**91**	P		**Pn**	12 42 21.5	+0.7
CRQM	**Cirque**	**4.56**	**87**	*e*Pn		**Pn**	12 42 22.4	+1.3
CRQM				*e*Sn		**Sn**	12 43 12.4	-1.0
RIDG	**Independ'e Rid**	**4.57**	**48**	*e*Pn		**Pn**	12 42 22.2	+1.1
MCARA	**McCarthy VSAT**	**4.60**	**79**	P		**Pn**	12 42 21.7	+0.2
IL1	**Eielson Array**	**4.67**	**31**	*e*Pn		**Pn**	12 42 21.9	-0.4
ILAR	**Eielson Array**	**4.67**	**31**	P		**Pn**	12 42 22.5	+0.2
	41nm,0.3s,baz=217,slow=12,SNR=1080							
ILAR				S		**Sn**	12 43 11.8	-3.9
	22nm,0.3s,baz=222,slow=18,SNR=10.0							
ILB	**Eielson Array**	**4.67**	**31**	*e*Pn		**Pn**	12 42 22.1	-0.2
ILB				*e*Sn		**Sn**	12 43 11.8	-3.9
TGL	**Tana Glacier**	**4.72**	**87**	*e*Pn		**Pn**	12 42 23.5	+0.5
TGL				*e*Pn		Pn	12 42 23.8	+0.8
GLM	**Gilmore Dome**	**4.74**	**27**	*e*Pn		**Pn**	12 42 23.5	+0.3
DOT	**Dot Lake**	**4.81**	**51**	*e*Pn		**Pn**	12 42 24.7	+0.5
KULT	**Kultieth River**	**4.85**	**93**	P		**Pn**	12 42 24.0	-0.7
PTPK	**Patty Peak**	**4.87**	**82**	P		**Pn**	12 42 25.7	+0.6
ANNE	**Aniakchak Nort**	**4.92**	**219**	P		**Pn**	12 42 25.0	-0.7
KIAG	**Kiagna River**	**4.93**	**85**	P		**Pn**	12 42 25.8	-0.1
BALM	**Baldy**	**4.93**	**84**	*e*Pn		**Pn**	12 42 25.8	-0.1
ISLE	**Juniper Island**	**4.97**	**89**	P		**Pn**	12 42 26.4	-0.1
SCRK	**Sand Creek**	**5.02**	**48**	*e*Pn		**Pn**	12 42 27.1	0.0
PS06	**TAPS Pump Stn6**	**5.15**	**13**	*e*Pn		**Pn**	12 42 29.2	+0.6
IM03	**Indian Mountai**	**5.17**	**354**	*e*Pn		**Pn**	12 42 28.6	-0.3
MESA	**MESA**	**5.24**	**93**	P		**Pn**	12 42 30.8	+0.7
BARN	**Barnard Glacie**	**5.26**	**83**	*e*Pn		**Pn**	12 42 31.1	+0.6
YAH	**Yahtse**	**5.30**	**91**	*e*Pn		**Pn**	12 42 31.7	+0.8
CTGM	**Chitina Glacie**	**5.43**	**84**	*e*Pn		**Pn**	12 42 33.6	+1.1
BCA3	**Beaver Creek A**	**5.49**	**62**	*e*Pn		**Pn**	12 42 34.3	+1.0
CHGN	**Chignik**	**5.54**	**217**	*e*Pn		**Pn**	12 42 32.7	-1.2
TABL	**Table Mountain**	**5.58**	**90**	P		**Pn**	12 42 35.1	+0.4
PRP	**Porcupine Dome**	**5.62**	**31**	*e*Pn		**Pn**	12 42 35.6	+0.5
YUK2	**White River**	**5.67**	**76**	P		**Pn**	12 42 36.5	+0.7
CHX	**Chaix Hills**	**5.67**	**93**	*e*Pn		**Pn**	12 42 37.6	+1.8
BVCY	**Beaver Creek**	**5.74**	**69**	P		**Pn**	12 42 38.4	+1.7
SAMH	**Samovar Hills**	**5.82**	**92**	P		**Pn**	12 42 38.9	+1.1
YUK3	**Moose Creek**	**5.85**	**76**	P		**Pn**	12 42 39.1	+0.9
YUK1	**Sand Pete Hill**	**5.85**	**72**	P		**Pn**	12 42 39.9	+1.6
PS05	**TAPS Pump Stn5**	**6.02**	**7**	*e*Pn		**Pn**	12 42 40.6	+0.3
PCA	**Pinnacle**	**6.08**	**92**	*e*Pn		**Pn**	12 42 42.3	+1.0
BCPM	**Bancas Point**	**6.42**	**93**	*e*Pn		**Pn**	12 42 47.0	+1.3
COLD	**Coldfoot**	**6.46**	**8**	*e*Pn		**Pn**	12 42 47.2	+1.0
EGAK	**Eagle**	**6.49**	**48**	*e*Pn		**Pn**	12 42 46.6	0.0
FYU	**Fort Yukon**	**6.55**	**26**	*e*Pn		**Pn**	12 42 47.1	-0.3
PNL	**Peninsula**	**6.61**	**95**	*e*Pn		**Pn**	12 42 48.8	+0.5
YUK4	**Talbot Arm**	**6.71**	**80**	*e*Pn		**Pn**	12 42 50.6	+0.7
DAWY	**Dawson**	**6.85**	**56**	*e*Pn		**Pn**	12 42 52.5	+1.0
YUK6	**Outpost Mounta**	**6.88**	**83**	P		**Pn**	12 42 52.8	+0.7
SDPT	**Sand Point**	**6.97**	**221**	*e*Pn		**Pn**	12 42 53.8	+0.6
YUK7	**Dusty Glacier**	**7.04**	**87**	*e*Pn		**Pn**	12 42 54.4	+0.1
YUK5	**Granite Creek**	**7.10**	**82**	P		**Pn**	12 42 55.2	+0.1
HYT	**Haines Junctio**	**7.31**	**84**	*e*Pn		**Pn**	12 42 59.0	+1.2
DHAK	**Deception Hill**	**7.37**	**98**	*e*Pn		**Pn**	12 42 59.6	+1.1
BM3	**Burnt Mountain**	**7.41**	**24**	*e*Pn		**Pn**	12 42 57.9	-1.1
TOLK	**Toolik Lake Re**	**7.90**	**8**	P		**Pn**	12 43 06.1	+0.5
RDOG	**Red Dog Mine**	**8.49**	**333**	*e*Pn		**Pn**	12 43 14.0	+0.4
WHY	**Whitehorse**	**8.61**	**84**	*e*Pn		**Pn**	12 43 15.7	+0.5
WHY				*e*Sn		**Sn**	12 44 49.6	-1.0
SKAG	**Skagway**	**8.65**	**92**	*e*Pn		**Pn**	12 43 17.0	+1.3
JIS	**Juneau Island**	**9.53**	**98**	*e*Pn		**Pn**	12 43 29.6	+2.1
INK	**Inuvik**	**10.99**	**39**	P		**Pn**	12 43 47.1	+0.2
	1.9nm,0.3s,baz=238,slow=15,SNR=40							
INK				S		**Sn**	12 45 44.8	-2.9
	0.3nm,0.3s,baz=144,slow=19,SNR=2.2							
DLBC	**Dease Lake**	**11.59**	**92**	S		**Sn**	12 46 03.5	+1.0
	0.2nm,0.3s,baz=125,slow=19,SNR=1.7							
YKA	**Yellowknife Ar**	**17.86**	**68**	P		**Pn**	12 45 14.3	+0.7
	0.3nm,0.3s,baz=284,slow=10,SNR=5.8							
YKA				PcP		**PcP**	12 49 42.5	+0.5
	0.0nm,0.3s,baz=281,slow=1.1,SNR=4.5							
NEW	**Newport**	**23.71**	**106**	P		**P**	12 46 10.9	-2.5
	3.2nm,0.8s,baz=50,slow=15,SNR=3.6							
RES	**Resolute Bay**	**24.42**	**33**	P		**P**	12 46 19.8	+0.3
	1.6nm,0.6s,baz=62,slow=8.0,SNR=4.8							
SEY	**Seymchan**	**25.39**	**299**	P		**P**	12 46 27.9	-0.6
	1.0nm,0.5s,baz=355,slow=22,SNR=4.6							
PEA1	**Petropavlovsk-**	**27.62**	**276**	*e*P		**P**	12 46 47.6	-0.9
PETK	**Petropavlovsk-**	**27.62**	**276**	P		**P**	12 46 47.6	-1.0
	1.1nm,0.7s,baz=77,slow=11,SNR=5.6							
NV01	**Mina Array Sit**	**30.93**	**121**	*e*P		**P**	12 47 16.9	-1.3
NVAR	**Mina Array Bea**	**30.93**	**121**	P		**P**	12 47 16.9	-1.3
	0.3nm,0.6s,baz=311,slow=8.2,SNR=3.2							
WUAZ	**Wupatki**	**36.37**	**115**	*e*pP		pP	12 48 38.9	+5.1
LTX	**Lajitas**	**45.05**	**112**	*e*P		**P**	12 49 18.6	+2.3
TXAR	**Lajitas Array**	**45.05**	**112**	P		**P**	12 49 18.6	+2.3
	0.6nm,0.9s,baz=317,slow=6.4,SNR=5.0							
ARA0	**ARCESS Array S**	**49.88**	**1**	*e*P		**P**	12 49 53.8	+0.8
ARCES	**ARCESS Array B**	**49.88**	**1**	P		**P**	12 49 53.8	+0.8
	1.3nm,0.7s,baz=6.3,slow=9.1,SNR=3.3							
PAULI	**Pauline**	**51.01**	**87**	*e*PcP		**PcP**	12 51 18.6	+2.5
KSRS	**Korea Array**	**53.25**	**282**	P		**P**	12 50 17.4	-1.1
	1.6nm,0.7s,baz=35,slow=5.9,SNR=5.1							
KS15	**Wonju Array Si**	**53.28**	**282**	*e*P		**P**	12 50 17.4	-1.3
KSAR	**Wonju Array Be**	**53.28**	**282**	P		**P**	12 50 17.4	-1.3
SONA0	**Songino Array**	**54.50**	**306**	*e*P		**P**	12 50 28.6	+1.0
SONM	**Songino Array**	**54.50**	**306**	P		**P**	12 50 28.6	+1.0
	2.1nm,0.5s,baz=43,slow=6.5,SNR=5.6							
ZAA1	**Zalesovo Array**	**56.83**	**324**	*e*P		**P**	12 50 43.7	-0.2
ZALV	**Zalesovo Beam**	**56.83**	**324**	P		**P**	12 50 43.7	-0.2
	1.4nm,0.5s,baz=41,slow=6.3,SNR=5.8							
ZALV	**Zalesovo Beam**	**56.83**	**324**	*e*P		**P**	12 50 44.2	+0.2
KURK	**Kurchatov**	**61.46**	**326**	*e*P		**P**	12 51 15.9	+0.1
	2.2nm,0.9s							
MK32	**Makanchi Array**	**63.92**	**321**	*e*P		**P**	12 51 31.6	-0.7
MKAR	**Makanchi Array**	**63.92**	**321**	P		**P**	12 51 31.6	-0.7
	0.7nm,0.6s,baz=43,slow=7.5,SNR=5.8							
ESDC	**Sonseca Array**	**76.55**	**25**	P		**P**	12 52 52.2	+3.0
	0.2nm,0.3s,baz=335,slow=8.1,SNR=3.2							
CM31	**Chiang Mai Arr**	**82.74**	**295**	*e*P		**P**	12 53 21.7	-1.2
CMAR	**Chiang Mai Arr**	**82.74**	**295**	P		**P**	12 53 21.7	-1.2
	1.0nm,0.7s,baz=11,slow=5.6,SNR=8.9							

*ISCJB **05** 12:52:29.2±0.6,38°.49N×0°.03×39°.27E±0°.04,h5km±4km, Error ellipse: s-maj=5.8km s-min=4.2km az=137.0*
*DDA **05** 12:52:29.0,38°.48N×39°.22E,h7km,Ml2.6*
*ISK **05** 12:52:29.2,38°.44N×39°.35E,h6km,ML2.2/5*
ISC 05 12:52:28.3±1.1,38°.52N±0°.03×39°.31E±0°.04,h8km±9km, n14,σ0°83/24,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.14**	**182**	PG	**Pg**	**12 52 31.3**	**-0.1**
SVRC				SG	**Sg**	**12 52 33.0**	**-0.5**
ELZG	**Elazig**	**0.26**	**266**	*i* P	**Pg**	**12 52 33.5**	**0.0**
ELZG				*i* S	**Sg**	**12 52 36.9**	**-0.1**
PTK	**Pertek**	**0.38**	**9**	PG	**Pb**	**12 52 38.5**	**+1.0**
TNCL	**Tunceli-Merkez**	**0.62**	**17**	*i* P	**Pn**	**12 52 42.7**	**-0.9**
DIYA	**Diyarbakir**	**0.87**	**133**	*i* P	**Pn**	**12 52 46.7**	**-0.3**
DIYA				*i* S	**Sn**	**12 52 59.0**	**-0.8**
KEMA	**Kemaliye**	**0.99**	**320**	*i* P	**Pg**	**12 52 47.1**	**-0.2**
KEMA				*i* S	**Sn**	**12 53 01.6**	**-1.2**
ILIC	**ilic-Erzincan**	**1.10**	**328**	PN	**Pn**	**12 52 52.1**	**+1.9**
AKCD	**Akcadag**	**1.11**	**259**	*i* P	**Pg**	**12 52 48.1**	**-1.6**
AKCD				*i* S	**Sg**	**12 53 04.1**	**-0.1**
URFA	**Urfa**	**1.14**	**200**	PN	**Pb**	**12 52 50.2**	**-0.2**
URFA				SN	**Sb**	**12 53 05.7**	**+0.3**
SANL	**SANLIURFA_Merk**	**1.37**	**191**	*i* P	**Pg**	**12 52 55.9**	**+1.4**
SANL				*i* S	**Sg**	**12 53 12.7**	**+0.4**
MAZI	**Mazidag**	**1.39**	**139**	PN	**Pb**	**12 52 54.6**	**+0.1**
MAZI				SN	**Sg**	**12 53 12.9**	**0.0**
SVAN	**Silvan-Diyarba**	**1.53**	**103**	PN	**Pb**	**12 52 57.1**	**+0.2**
MARD	**Mardin**	**1.67**	**136**	*i* P	**Pb**	**12 52 59.1**	**-0.3**
MARD				*i* S	**Sg**	**12 53 21.7**	**-0.3**
SURC	**SANLIURFA_SURC**	**1.73**	**199**	*i* P	**Pg**	**12 53 02.3**	**+0.9**
SURC				*i* S	**Sg**	**12 53 23.7**	**-0.1**

*ISCJB **05** 12:56:45.8±0.8,27°.46S±0°.03×71°.6W±0°.1,h18km,mb3.9/4, MS3.1/1,Error ellipse: s-maj=18.3km s-min=4.9km az=179.6*
*GUC **05** 12:56:48.5±0.5,27°.46S×71°.32W,h64km±40km,ML4.2*
*IDC **05** 12:56:53.5±5.1,27°.35S×71°.43W,h64km±41km,mb3.7/4, mb1 3.8/6,mb1mx3.5/24,mbtmp3.9/6,ML3.7/2,MS3.2/3, Ms1 3.2/3,ms1mx2.9/19,Error ellipse: s-maj=45.9km s-min=29.4km az=57.0*
ISC 05 12:56:47.4±0.9,27°.48S±0°.05×71°.7W±0°.1,h18km,n16, σ1°69/18,mb4.2/4,1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**1.74**	**151**	*e*P	**Pn**	**12 57 16.5**	**-0.5**
LCO				*e*S	**Sn**	**12 57 37.3**	**-1.7**
LCO				IAML		12 57 40.0	
	comp=E,3μm,0.7s						
LSCH	**La Serena**	**2.45**	**172**	*e*P	**Pn**	**12 57 26.2**	**-0.2**
LSCH				*e*S	**Sn**	**12 57 53.5**	**-2.5**
GO04	**Tololo Observa**	**2.79**	**165**	*e*P	**Pn**	**12 57 30.9**	**-0.4**
GO04				*i* S	**Sn**	**12 58 03.2**	**-1.5**
GO04				IAML		12 58 16.6	
	comp=N,2μm,0.4s						
PB14	**IPOC Station P**	**3.06**	**22**	*e*P	**Pn**	**12 57 34.2**	**-0.9**
PB14				*i* S	**Sn**	**12 58 08.7**	**-2.7**
PB14				IAML		12 58 10.1	
	comp=E,362nm,0.5s						
CMCH	**Combarbala**	**3.73**	**171**	*e*P	**Pn**	**12 57 44.1**	**-0.1**
PB10	**IPOC Station P**	**4.07**	**14**	*e*P	**Pn**	**12 57 47.3**	**-1.5**
LPAZ	**La Paz**	**11.61**	**17**	P	**Pn**	**12 59 32.5**	**-0.2**
	comp=E,0.2nm,0.3s,baz=227,slow=8.8,SNR=4.8						
CPUP	**Villa Florida**	**12.84**	**88**	P	**Pn**	**12 59 51.5**	**+2.5**
	comp=E,0.1nm,0.3s,baz=259,slow=16,SNR=1.4						
CPUP				LR	LR	13 05 32.1	
	comp=E,71nm,19.3s,baz=233,slow=41						
PLCA	**Paso Flores**	**13.25**	**176**	LR	LR	13 05 03.4	
	comp=E,165nm,19.0s,baz=298,slow=37						
BDFB	**Brasilia**	**24.89**	**67**	LR	LR	13 13 09.9	
	comp=E,69nm,21.2s,baz=210,slow=40						
TXAR	**Lajitas Array**	**64.27**	**329**	P	**P**	**13 07 23.6**	**+1.8**
	comp=E,0.5nm,0.8s,baz=142,slow=7.5,SNR=4.9						
DBIC	**Dimbokro**	**72.86**	**73**	P	**P**	**13 08 15.8**	**+0.2**
	comp=E,1.2nm,0.5s,baz=253,slow=11,SNR=3.4						
MAW	**Mawson**	**79.33**	**164**	P	**P**	**13 08 52.2**	**+0.7**
	comp=E,1.5nm,0.5s,baz=180,slow=9.1,SNR=7.9						
TORD	**Torodi Ar. Bea**	**81.71**	**71**	P	**P**	**13 09 04.6**	**-0.6**
	comp=E,1.5nm,0.8s,baz=254,slow=4.5,SNR=8.0						
ZALV	**Zalesovo Beam**	**148.40**	**27**	PKPbc	**PKPdf**	**13 16 30.4**	**+1.5**
	comp=E,0.2nm,0.3s,baz=308,slow=3.1,SNR=1.1						
MKAR	**Makanchi Array**	**151.87**	**40**	PKPbc	**PKPbc**	**13 16 38.3**	**-2.8**
	comp=E,0.7nm,0.8s,baz=297,slow=2.0,SNR=2.5						

*JMA **05** 13:02:48.3±0.2,43°.29N×146°.41E,h51km±1km,M2.9*
*SKHL **05** 13:02:48.0±1.1,43°.25N×146°.44E,h36km±2km,mb3.5/3*
ISC 05 13:02:46.9±2.5,43°.29N±0°.10×146°.48E±0°.07,h25km±15km, n15,σ0°58/26,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.54**	**278**	P	**Pn**	**13 02 59.5**	**+0.5**
NEM2				*e*S	**Sn**	**13 03 07.7**	**+0.4**
SHO	**Shikotan**	**0.63**	**23**	*i* P	**Pn**	**13 03 00.7**	**+0.5**
SHO				AMB	AMB	13 03 02.3	
	30nm,0.5s						
SHO				AMB	AMB	13 03 02.3	
	3μm,0.5s						
SHO				*i* S	**Sn**	**13 03 09.5**	**0.0**
SHO				A	A	13 03 11.2	
	70nm,0.1s						
SHO				A	A	13 03 11.2	
	147nm,0.1s						
GLVR	**Golovnino**	**0.83**	**303**	*i* P	**Pn**	**13 03 03.0**	**0.0**
GLVR				AMB	AMB	13 03 03.0	
	80nm,0.2s						
GLVR				AMB	AMB	13 03 03.0	
	70nm,0.2s						
GLVR				AMB	AMB	13 03 03.0	
	30nm,0.2s						
GLVR				*e*S	**Sn**	**13 03 15.0**	**+0.6**
GLVR				A	A	13 03 20.0	
	250nm,0.4s						
GLVR				A	A	13 03 20.0	
	568nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**0.87**	**329**	*i* P	**Pb**	**13 03 03.3**	**0.0**
YUK				AMB	AMB	13 03 04.0	
	50nm,0.1s						
YUK				AMB	AMB	13 03 04.0	
	60nm,0.1s						
YUK				AMB	AMB	13 03 04.0	
	10.0nm,0.1s						
YUK				*i* S	**Sb**	**13 03 15.0**	**+0.5**
YUK				A	A	13 03 17.0	
	110nm,0.2s						
YUK				A	A	13 03 17.0	
	288nm,0.2s						
GRPR	**Tuman**	**0.87**	**324**	*i* P	**Pb**	**13 03 03.0**	**-0.3**
GRPR				*e*S	**Sb**	**13 03 15.0**	**+0.4**
GRPR				A	A	13 03 15.0	
	190nm,0.2s						
GRPR				A	A	13 03 15.0	
	228nm,0.2s						
LAGR	**Lagunnoye**	**0.92**	**327**	*i* P	**Pb**	**13 03 04.1**	**0.0**
LAGR				*e*S	**Sb**	**13 03 15.2**	**-0.7**
LAGR				A	A	13 03 19.8	
	196nm,0.3s						
JKHN	**Kushirohamanak**	**0.99**	**258**	P	**Pn**	**13 03 05.9**	**+0.8**
JKHN				*e*S	**Sn**	**13 03 18.7**	**+0.5**
JRA	**Rausu**	**1.18**	**304**	P	**Pb**	**13 03 08.3**	**-0.3**
JRA				*e*S	**Sb**	**13 03 23.0**	**-0.4**
JNK	**Nakash**	**1.32**	**284**	P	**Pn**	**13 03 09.7**	**0.0**
JNK				*e*S	**Sn**	**13 03 25.7**	**-0.7**
JAK	**Akkeshi**	**1.34**	**258**	P	**Pn**	**13 03 10.1**	**+0.2**
JAK				*e*S	**Sn**	**13 03 26.3**	**-0.6**
JOB	**Onbets**	**1.98**	**260**	P	**Pn**	**13 03 19.3**	**+0.6**
JAR	**Ashorobuto**	**1.98**	**271**	P	**Pn**	**13 03 19.7**	**+0.9**
JAR				*e*S	**Sn**	**13 03 43.0**	**+0.2**
JTKR	**Abashiri--Toko**	**1.99**	**291**	P	**Pn**	**13 03 20.1**	**+1.2**
KUR	**Kuril'sk**	**2.18**	**27**	*e*S	**Sn**	**13 03 48.0**	**+0.3**
UCH	**Uchtor**	**51.29**	**295**	P	**P**	**13 11 48.5**	**-0.7**
	SNR=50						

*MOS **05** 13:07:55.0±0.8,28°.31N×86°.09E,h46km,mb4.7/28,Error ellipse: s-maj=8.3km s-min=4.8km az=114.1*
*BJI **05** 13:07:55.8,28°.48N×86°.17E,h60km,mb4.7/40,mB4.6/29, Ms4.0/33,Ms7 3.9/22*
*ISCJB **05** 13:07:56.6±0.3,28°.43N±0°.02×86°.25E±0°.02,h58km±4km, mb4.4/68,MS3.5/18,Error ellipse: s-maj=4.3km s-min=2.7km az=21.8*
*NDI **05** 13:07:56.6±2.7,28°.44N×86°.20E,h20km±12km,ML4.5, mb4.5(NEIC)*
*DMN **05** 13:07:58.1±0.3,28°.59N×86°.26E,h50km,Ml5.6/7,Error ellipse: s-maj=7.6km s-min=4.0km az=32.0*
*NEIC **05** 13:08:00.0±0.2,28°.45N×86°.19E,mb4.5/26,Error ellipse: s-maj=7.0km s-min=4.2km az=46.0*
NEIC Felt at Chongdui. Felt [III] at Kathmandu, Nepal. Also felt at Bhaktapur, Patan and Pokhara.
*IDC **05** 13:08:00.2±0.3,28°.34N×86°.15E,h77km±3km,mb4.0/27, mb1 4.1/29,mb1mx4.0/44,mbtmp4.3/29,MS3.3/14, Ms1 3.3/14,ms1mx3.2/37,Error ellipse: s-maj=9.2km s-min=7.2km az=57.0*
ISC 05 13:07:59.7±0.3,28°.35N±0°.03×86°.21E±0°.03,h75km±2km, h75km:pP-P,n239,σ2°11/311,mb4.5/69,12C-8D,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUN	**Gumba**	**0.53**	**213**	*e*Pg	**Pn**	**13 08 13.9**	**+0.3**
GUN				*e*Sg	**Sn**	**13 08 24.9**	**+1.1**
	72μm,0.3s						
JIRN	**Jiri**	**0.69**	**181**	*e*Pg	**Pn**	**13 08 16.2**	**+0.9**
KKN	**Kakani**	**0.99**	**236**	*e*Pg	**Pn**	**13 08 19.3**	**+0.7**
PKI	**Pulchoki**	**1.05**	**222**	*e*Pg	**Pn**	**13 08 20.7**	**+1.3**
PKI				*e*Sg	**Sn**	**13 08 36.2**	**+2.1**
	5μm,0.3s						
PKIN	**Phulchoki**	**1.05**	**223**	*e*Pg	**Pn**	**13 08 20.6**	**+1.2**
PKIN				*e*Sg	**Sn**	**13 08 36.0**	**+2.0**
	20μm,0.3s						
DMN	**Daman**	**1.22**	**233**	*e*Pn	**Pn**	**13 08 22.6**	**+1.1**
DMN				*e*Sn	**Sn**	**13 08 40.1**	**+2.3**
	13μm,0.3s						
GKN	**Gorkha**	**1.43**	**256**	*e*Pn	**Pn**	**13 08 23.9**	**-0.1**
GKN				*e*Sn	**Sn**	**13 08 42.1**	**-0.3**
	8μm,0.2s						
RAMN	**Ramite**	**1.44**	**166**	*e*Pg	**Pn**	**13 08 25.0**	**+0.7**
RAMN				*e*Sg	**Sn**	**13 08 44.4**	**+1.6**
	6μm,0.2s						
DANN	**Dangsing**	**2.15**	**271**	*e*Pn	**Pn**	**13 08 32.6**	**-1.2**
DANN				*e*Sn	**Sn**	**13 08 57.2**	**-2.6**
	5μm,0.2s						
GTK	**Tadong**	**2.36**	**115**	*e*P	**Pn**	**13 08 36.3**	**-0.1**
GTK				*e*S	**Sn**	**13 09 04.2**	**-0.3**
KOLN	**Koldanda**	**2.37**	**256**	*e*Pn	**Pn**	**13 08 35.6**	**-1.1**
KOLN				*e*Sg	**Sn**	**13 09 04.6**	**-0.4**
	5μm,0.2s						
DHUB	**DHUBRI**	**4.10**	**124**	*e*P	**Pn**	**13 08 59.4**	**-0.5**
DHUB				*e*S	**Sn**	**13 09 44.9**	**-1.8**
DHUB				IAML		13 09 52.2	
	comp=E,1μm,0.3s						
DHUB				IAML		13 09 52.8	
	comp=N,1μm,0.6s						
LSA	**Lhasa**	**4.53**	**72**	*e*Pn	**Pn**	**13 09 06.3**	**0.0**
LSA	**Lhasa**	**4.53**	**72**	*e*P	**Pn**	**13 09 06.3**	**0.0**
BOK	**Bokaro**	**4.55**	**184**	*e

KMI PP **P** **13 11 37.5 +4.7**
KMI S **Sn** **13 14 17.0 +1.0**
KMI SS **S** **13 14 34.1 +5.3**
KMI pmax pmax
comp=E,37nm,0.9s
KMI pmax pmax
comp=E,110nm,3.4s
KMI LR LR
comp=E,110nm,18.2s
KMI LR LR
comp=E,250nm,17.6s
CM31 Chiang Mai Arr 15.28 127 *e*Pn **Pn** **13 11 30.0 -1.2**
CMAR Chiang Mai Arr 15.28 127 P **Pn** **13 11 31.1 0.0**
comp=E,0.6nm,0.3s,baz=313,slow=13,SNR=32
CMAR LR LR 13 19 21.4
comp=E,91nm,18.1s,baz=326,slow=44
CMAR Chiang Mai Arr 15.28 127 *i* P **Pn** **13 11 30.3 -0.8**
CMAR pmax pmax
comp=Z,7.0nm,0.8s
CM01 Chiang Mai Arr 15.31 127 *e*P **P** **13 11 34.7 -0.1**
PAYA Payao 15.36 123 P **Pn** **13 11 30.7 -1.6**
comp=Z,51nm,0.7s,comp=Z,518nm
PRZ Przheval'sk 15.46 338 *e*Pn **Pn** **13 11 30.5 -3.0**
comp=Z,14nm,0.8s
PRZ Przheval'sk 15.46 338 *e*P **Pn** **13 11 30.5 -3.0**
PRZ pmax pmax
comp=Z,14nm,0.8s
CD2 Chengdu 15.48 76 P **P** **13 11 36.7 +0.1**
CD2 S **Sn** **13 14 29.3 +5.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.6s
CD2 LR LR
comp=Z,1μm,9.3s
CD2 LR LR
comp=Z,580nm,11.8s
WMQ Urumqi 15.48 4 *e*P **Pn** **13 11 32.4 -1.3**
WMQ LR LR
comp=Z,250nm,6.5s
NRN Naryn 15.49 330 *e*Pn **Pn** **13 11 31.4 -2.6**
comp=Z,24nm,0.9s
NRN Naryn 15.49 330 *e*P **Pn** **13 11 31.4 -2.6**
NRN pmax pmax
comp=Z,24nm,0.9s
KDJ Kajisay 15.58 334 *e*Pn **Pn** **13 11 32.4 -2.7**
comp=Z,20nm,0.6s
KDJ Kajisay 15.58 334 *e*P **Pn** **13 11 32.4 -2.7**
KDJ pmax pmax
comp=Z,20nm,0.6s
LAMP Lampang 15.72 126 P **Pn** **13 11 35.3 -1.5**
comp=Z,36nm,0.9s,comp=Z,264nm
BHJ Bhuj 15.74 255 *ex* **Pn** **13 11 33.5 -3.5**
BHJ *ex* x 13 14 14.5
GTA Gaotai 15.77 42 ⇓P **Pn** **13 11 33.6 -3.8**
GTA pP P 13 11 39.1 -0.8
GTA sP pP 13 11 42.0 -13
GTA S **Sn** **13 14 25.7 -5.8**
GTA sS S 13 14 29.8 -12
GTA SS 13 14 42.8
GTA pmax pmax
comp=Z,4.0nm,1.3s
GTA pmax pmax
comp=Z,58nm,6.2s
GTA LR LR
comp=N,290nm,12.1s
GTA LR LR
comp=E,260nm,14.0s
GTA LR LR
comp=Z,260nm,12.7s
GTA Gaotai 15.77 42 ⇑P **Pn** **13 11 39.3 +1.9**
GTA pP P 13 11 47.5 +7.6
GTA sP pP 13 11 51.7 -3.1
GTA pmax pmax
comp=Z,19nm,0.8s
MDRS Chennai 16.19 201 *ex* x 13 07 59.8
MDRS *e*P **Pn** **13 11 43.5 +0.9**
NANT Nan 16.32 122 P **Pn** **13 11 42.0 -2.4**
comp=Z,75nm,0.8s,comp=Z,545nm
KZA Kyzart 16.34 330 P **P** **13 11 48.2 +1.7**
SNR=8.1
SUKH Sukhothai 16.42 128 P **Pn** **13 11 46.0 +0.5**
comp=Z,39nm,0.9s
LZH Lanzhou 16.79 58 *e*P **Pn** **13 11 48.0 -2.1**
LZH S **Sn** **13 14 50.1 -6.0**
LZH sS S 13 15 09.8 +7.1
LZH SS 13 15 16.1
LZH pmax pmax
comp=Z,51nm,1.0s
LZH pmax pmax
comp=Z,200nm,4.1s
LZH LR LR
comp=Z,670nm,7.2s
LZH LR LR
comp=Z,500nm,8.0s
LZH LR LR
comp=Z,680nm,9.3s
UMPA Umpang Tak 16.81 133 P **Pn** **13 11 50.8 +0.3**
comp=Z,28nm,1.1s,comp=Z,586nm
TKM2 Tokmak 2 16.88 332 P **Pn** **13 11 48.9 -2.4**
SNR=10
TKM2 Tokmak 2 16.88 332 *i* P **Pn** **13 11 48.9 -2.4**
TKM2 pmax pmax
comp=Z,6.0nm,0.6s
UTTA Uttaradit 16.89 126 P **Pn** **13 11 50.8 -0.6**
comp=Z,53nm,0.9s,comp=Z,371nm
KBK Karagaybulak 16.94 330 P **P** **13 11 55.4 +2.5**
SNR=18
AML Almayashu 17.10 327 P **Pn** **13 11 50.6 -3.6**
SNR=16
AAK Ala-Archa 17.12 329 P **Pn** **13 11 53.0 -1.3**
comp=Z,1.1nm,0.3s,baz=135,slow=11,SNR=18
AAK S **Sn** **13 15 02.4 -1.7**
comp=Z,0.1nm,0.3s,baz=0,0,slow=20,SNR=4.3
AAK Ala-Archa 17.12 329 P **P** **13 11 58.1 +3.3**
SNR=7.3
AAK Ala-Archa 17.12 329 *e*Pn **Pn** **13 11 51.6 -2.6**
comp=Z,12nm,0.9s
AAK S **Sn** **13 15 02.4 -1.7**
AAK Ala-Archa 17.12 329 P **P** **13 11 54.9 +0.1**
SNR=13
AAK Ala-Archa 17.12 329 P **Pn** **13 11 54.1 -0.1**
AAK pmax pmax
comp=Z,45nm,1.2s
GOA Goa 17.18 224 *e*P **P** **13 11 55.9 +0.5**
FRU1 Bishkek 17.20 330 *e*Pn **Pn** **13 11 53.0 -2.1**
comp=Z,19nm,1.0s
FRU1 Bishkek 17.20 330 *e*P **Pn** **13 11 53.0 -2.1**
FRU1 pmax pmax
comp=Z,19nm,1.0s
FRU Bishkek 17.23 330 *e*P **Pn** **13 11 51.0 -4.4**
FRU *e* 13 15 10.0
EKS2 Erkin-Say 17.47 328 P **Pn** **13 11 58.4 -0.1**
SNR=17
UTHA Uthaitani 17.67 133 P **P** **13 12 00.2 -0.6**
comp=Z,38nm,0.8s,comp=Z,268nm
PBA Port Blair 17.70 158 *e*Pn P 13 11 59.2 -2.0
comp=Z,23nm,0.7s
PBKT Sadao Pong 17.97 128 *e*P **P** **13 12 03.8 -0.4**
comp=Z,88nm,0.9s
PBKT Sadao Pong 17.97 128 P **P** **13 12 04.4 +0.2**
comp=Z,110nm,1.0s,comp=Z,1μm
NONG Nongkai 18.61 120 P **P** **13 12 12.0 +0.7**
comp=Z,2.9nm,1.2s
MK01 Makanchi Array 18.64 352 *e*P **P** **13 12 10.6 -0.8**
MK31 Makanchi Array 18.66 352 *e*P **P** **13 12 10.9 -0.7**
MK31 Makanchi Array 18.66 352 *i* P **P** **13 12 11.1 -0.5**
MK31 pmax pmax
comp=Z,16nm,0.9s
MKAR Makanchi Array 18.66 352 P **P** **13 12 11.4 -0.2**
comp=Z,0.9nm,0.3s,baz=170,slow=13,SNR=64
MKAR LR LR 13 21 04.0
comp=Z,77nm,21.5s,baz=168,slow=42
MKAR Makanchi Array 18.66 352 *e*P **P** **13 12 11.1 -0.5**
comp=Z,68nm,0.8s
CHAI Chaiyaphum 19.14 127 P **Pn** **13 12 19.2 +0.6**
comp=Z,25nm,1.2s,comp=Z,248nm
KK31 Karatay Array 19.42 323 *e*P **P** **13 12 18.7 -1.2**
KK31 Karatay Array 19.42 323 *i* P **P** **13 12 19.0 -0.9**
KK31 pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 19.42 323 *e*P **P** **13 12 18.8 -1.1**
KKAR Karatay Array 19.42 323 *e*P **P** **13 12 18.8 -1.1**
PHET Kaeng Krachan 19.82 138 P **Pn** **13 12 26.7 +0.1**
comp=Z,18nm,0.9s
SKNT Sakolnakorn 19.91 121 P **P** **13 12 25.5 +0.2**
comp=Z,60nm,0.9s,comp=Z,600nm
XAN Xi'an 20.23 68 P **P** **13 12 27.9 -0.9**
XAN pP Pn 13 12 36.2 +4.9
XAN pmax pmax
comp=Z,23nm,1.0s
XAN pmax pmax
comp=Z,180nm,3.9s
XAN LR LR
comp=Z,210nm,8.3s
XAN LR LR
comp=Z,360nm,20.9s
ENH Enshi 20.39 79 *e*P **P** **13 12 29.9 -0.6**
comp=Z,62nm,0.8s
SRAK Srakaew 20.50 131 P Pn 13 12 37.9 +3.3
comp=Z,164nm,0.9s,comp=Z,1μm
PATY Pattaya 20.55 135 P Pn 13 12 34.5 -0.7
comp=Z,34nm,0.8s,comp=Z,2μm
PALK Pallekele 21.60 195 P **P** **13 12 45.5 +1.9**
comp=Z,20nm,0.9s,baz=299,slow=4.9,SNR=5.6
PALK S **S** **13 16 39.0 0.0**
comp=Z,3.6nm,0.5s,baz=112,slow=7.2,SNR=4.1
PALK Pallekele 21.60 195 *e*P **P** **13 12 45.8 +2.2**
comp=Z,34nm,1.1s
PALK S **S** **13 16 39.0 0.0**
PALK Pallekele 21.60 195 P **P** **13 12 46.1 +2.5**
SNR=9.5
PALK Pallekele 21.60 195 *i* P **P** **13 12 46.1 +2.5**
UBPT Khong Chiam 22.07 122 P **P** **13 12 48.6 0.0**
comp=Z,84nm,0.9s
KURBB Kurchatov Arra 22.99 347 P **P** **13 12 57.9 -0.1**
comp=Z,9.4nm,0.9s,baz=170,slow=9.9,SNR=69
KURBB pP **pP** **13 13 15.1 +1.4**
comp=Z,6.2nm,0.8s,baz=168,slow=9.6,SNR=5.9
KURBB sP **sP** **13 13 24.0 +0.9**
comp=Z,22nm,1.2s,baz=170,slow=9.4,SNR=5.9
KURBB S **S** **13 17 05.7 +3.3**
comp=Z,0.2nm,0.3s,baz=165,slow=18,SNR=4.2
BTO Baotou 23.05 52 *e*P **P** **13 12 55.4 -3.4**
KURK Kurchatov 23.06 348 *e*P **P** **13 12 57.1 -1.6**
comp=Z,24nm,0.9s
KURK pP **pP** **13 13 15.1 +0.6**
KURK sP **sP** **13 13 24.0 +0.2**
KURK S **S** **13 17 05.7 +2.1**
KURK Kurchatov 23.06 348 P **P** **13 12 59.1 +0.4**
SNR=11
KURK Kurchatov 23.06 348 *d* *i* P **P** **13 12 58.8 +0.1**
KURK pmax pmax
comp=Z,20nm,0.7s
PKDT Phuket 23.35 148 P **P** **13 13 04.4 +2.7**
comp=Z,12nm,0.9s
HVS Khovu-Aksy 23.45 12 *i* P **P** **13 13 02.2 -0.2**
HVS pmax pmax
comp=Z,22nm,1.1s
QIZ Qiongzhong 23.52 108 P **P** **13 13 03.7 +0.5**
QIZ S **S** **13 17 12.8 +1.3**
QIZ pmax pmax
comp=Z,18nm,0.7s
TRTT Trang 24.05 145 P **P** **13 13 11.8 +3.8**
comp=Z,7.2nm,1.4s,comp=Z,162nm
HHC Hu-ho-hao-te 24.22 52 *e*P **P** **13 13 09.9 +0.4**
HHC PP **PnPn** **13 13 46.8 +3.6**
HHC S **S** **13 17 21.1 -1.6**
HHC sS sS 13 17 45.5 -7.1
HHC SS **SnSn** **13 18 17.4 +5.2**
HHC pmax pmax
comp=Z,23nm,1.1s
HHC pmax pmax
comp=Z,100nm,5.6s
HHC LR LR
comp=Z,190nm,12.0s
HHC LR LR
comp=Z,400nm,11.6s
WHN Wuhan 24.58 78 ⇓P **P** **13 13 12.3 -0.4**
WHN LR LR
comp=Z,460nm,20.4s
SONM Songino Array 24.98 33 P **P** **13 13 17.8 +1.4**
comp=Z,13nm,0.6s,baz=219,slow=9.6,SNR=31
SONM pP **pP** **13 13 35.1 +1.3**
comp=Z,14nm,0.8s,baz=220,slow=9.0,SNR=7.3
SONA1 Songino Array 25.00 33 *e*P **P** **13 13 16.7 +0.1**
GEYT Alibeck 25.30 299 P **P** **13 13 21.1 +1.7**
comp=Z,2.7nm,0.8s,baz=126,slow=11,SNR=7.9
GYA0B ALIBECK ARRAY 25.30 299 *e*P **P** **13 13 19.4 0.0**
comp=Z,8.9nm,0.8s
ULN Ulaanbaatar 25.33 34 *e*P **P** **13 13 18.8 -0.7**
comp=Z,18nm,0.8s
ULN Ulaanbaatar 25.33 34 *ce*P **P** **13 13 20.4 +0.9**
ULN pmax pmax
comp=Z,33nm,1.3s
ZAK Zakamensk 25.54 26 *e*P **P** **13 13 22.1 +0.7**
ZAK *e* 13 13 40.3
ZAK pmax pmax
comp=Z,6.0nm,1.0s
ZAA0 Zalesovo Array 25.59 358 *e*P **P** **13 13 20.6 -1.1**
comp=Z,7.7nm,0.8s
ZALV Zalesovo Beam 25.59 358 P **P** **13 13 21.8 +0.1**
comp=Z,6.8nm,0.7s,baz=186,slow=10,SNR=23
ZALV pP **pP** **13 13 40.0 +0.9**
comp=Z,4.4nm,0.7s,baz=179,slow=8.9,SNR=4.8
ZALV Zalesovo Beam 25.59 358 *e*P **P** **13 13 21.0 -0.6**
ZALV pP **pP** **13 13 40.0 +0.9**
ZALV ePcP **PcP** **13 16 47.2 -3.5**
ZALV Zalesovo Beam 25.59 358 *i* P **P** **13 13 22.1 +0.4**
ZALV pmax pmax
comp=Z,7.0nm,0.7s
NVS Novosibirsk 26.56 356 *e*P **P** **13 13 31.0 +0.7**
BJI Beijing 27.27 57 P **P** **13 13 36.1 -0.8**
BJI pmax pmax
comp=Z,6μm,3.2s
BRVK Borovoye 27.35 339 *e*P **P** **13 13 37.7 +0.2**
comp=Z,20nm,1.0s
BRVK Borovoye 27.35 339 *ce*P **P** **13 13 38.0 +0.5**
BRVK pmax pmax
comp=Z,7.0nm,2.5s
NJ2 Nanjing 28.40 74 *e*P **P** **13 13 48.7 +1.6**
NJ2 pmax pmax
comp=Z,14nm,0.5s
AB31 Akbulak array 28.98 323 *i* P **P** **13 13 52.9 +0.8**
AB31 pmax pmax
comp=Z,3.0nm,0.7s
ABKAR Akbulak array 28.98 323 *e*P **P** **13 13 52.4 +0.3**
GSI Gunungsitoli 29.01 156 *e*P **P** **13 13 52.6 0.0**
comp=Z,23nm,1.1s
SVE Sverdlovsk 33.73 335 *e*P **P** **13 14 34.9 +1.2**
ARU Arti 34.25 333 *d* *i* P **P** **13 14 38.9 +0.7**
ARU *PP **pP** **13 14 55.3 -0.7**
ARU 13 15 54.6
ARU 13 17 13.9
ARU S **S** **13 20 02.7 +3.1**
ARU SS **SnSn** **13 22 14.3 -1.1**
ARU pmax pmax
comp=Z,9.0nm,0.8s
CN2 Changchun 34.91 53 *e*P **P** **13 14 46.6 +2.5**
BOD Bodaibo 35.28 26 *e*P **P** **13 14 48.1 +1.0**
BOD pmax pmax
comp=Z,8.0nm,1.7s
KSAR Wonju Array Be 35.91 64 P **P** **13 14 52.5 -0.2**
KSAR pP **pP** **13 15 11.1 +0.4**
KSAR Wonju Array Be 35.91 64 P **P** **13 14 52.6 -0.2**
KSAR *PP **pP** **13 15 11.1 +0.4**
KSRS Korea Array 35.94 64 P **P** **13 14 52.5 -0.4**
comp=Z,2.5nm,0.7s,baz=276,slow=8.6,SNR=7.0
KSRS pP **pP** **13 15 11.1 +0.2**
comp=Z,1.6nm,0.6s,baz=258,slow=7.8,SNR=3.2
KSRS LR LR 13 31 39.2
comp=Z,58nm,18.4s,baz=266,slow=40
ZEI Tsey 36.91 304 *e*P **P** **13 15 01.0 -0.4**
ZEI pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 37.78 306 P **P** **13 15 07.3 -1.2**
comp=Z,1.5nm,0.8s,baz=110,slow=13,SNR=4.6
KBZ LR LR 13 32 39.9
comp=Z,50nm,19.2s,baz=88,slow=39
NEY Neytrino 37.83 305 *i* P **P** **13 15 09.4 +0.2**
NEY pmax pmax
comp=Z,1.0nm,0.9s
KIV Kislovodsk 37.97 306 *e*P **P** **13 15 09.9 -0.3**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,44nm,16.0s
JNU Nakatsue 38.47 72 P **P** **13 15 15.5 +1.0**
comp=Z,5.8nm,0.7s,baz=285,slow=5.2,SNR=4.1
USRK Ussuriysk Ar. 39.62 54 P **P** **13 15 23.9 -0.1**
comp=Z,1.6nm,0.6s,baz=245,slow=9.4,SNR=4.3
VRH Novokhopyorsk 40.29 317 *e*P **P** **13 15 28.5 -0.8**
VRH pmax pmax
comp=Z,9.0nm,0.6s
KLR Kul'dur 40.41 46 *i* P **P** **13 15 29.7 -0.7**
NRIK Noril'sk 41.03 1 P **P** **13 15 36.2 +1.0**
comp=Z,5.4nm,0.9s,baz=186,slow=7.6,SNR=3.0
NRIK LR LR 13 34 12.4
comp=Z,54nm,19.7s,baz=358,slow=38
VORD Divnogorie 41.69 316 *e*P **P** **13 15 41.7 +0.8**
VORD pmax pmax
comp=Z,10.0nm,1.1s
VSR Storozhevoye 41.84 316 *e*P **P** **13 15 41.0 -1.0**
VSR pmax pmax
comp=Z,9.0nm,1.0s
LPSR Galich'ya Gora 42.34 318 *e*P **P** **13 15 45.7 -0.5**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
GRNR Gornyy 43.69 45 *e*P **P** **13 15 57.5 +0.4**
MJAR Matsushiro Ar 44.19 66 P **P** **13 16 01.4 0.0**
comp=Z,119nm,0.9s,baz=269,slow=10,0,SNR=5.3
MJAR pP **pP** **13 16 21.0 +1.3**
comp=Z,2.6nm,1.0s,baz=287,slow=10,SNR=3.7
MJAR LR LR 13 37 14.0
comp=Z,17nm,21.0s,baz=235,slow=40
OBN Obninsk 44.39 321 ⇓*e*P **P** **13 16 01.4 -1.1**
OBN *e* 13 16 23.4
OBN pmax pmax
comp=Z,13nm,0.5s
OBN MLR MLR
comp=Z,73nm,24.0s
BRTR Keskin Array B 44.45 299 P **P** **13 16 03.8 +0.3**
comp=Z,1.1nm,0.7s,baz=97,slow=6.1,SNR=5.0
BRTR pP **pP** **13 16 22.9 +1.0**
comp=Z,5.5nm,1.1s,baz=134,slow=7.1,SNR=5.2
TTSI Tana Toraja 44.92 128 P **P** **13 16 10.5 +3.2**
comp=Z,17nm,0.9s
ASAJ Asahikawa 47.23 55 P **P** **13 16 26.2 +1.1**
comp=Z,1.1nm,1.2s,baz=248,slow=11,SNR=3.7
YSS Yuzh-Sakhalins 47.39 51 *e*P **P** **13 16 27.0 +0.7**
YSS MLR MLR
comp=Z,100nm,16.0s
AKASG Malin Array Be 47.93 314 P **P** **13 16 30.0 -0.4**
comp=Z,0.3nm,0.3s,baz=77,slow=8.7,SNR=4.4
AKASG pP **pP** **13 16 49.4 +0.3**
comp=Z,1.4nm,0.5s,baz=82,slow=7.0,SNR=3.6
AKASG LR LR 13 38 39.7
comp=Z,40nm,20.6s,baz=295,slow=38
AKASG Malin Array Be 47.93 314 *ce*P **P** **13 16 30.2 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
KIEV Kiev 47.94 314 *i* P **P** **13 16 30.3 -0.2**
KIEV pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 49.20 16 *e*P **P** **13 16 39.5 -0.4**
comp=Z,2.9nm,0.8s
TIXI *e*pP **pP** **13 16 58.5 -0.1**
TIXI Tiksi 49.20 16 *ce*P **P** **13 16 39.9 0.0**
TIXI pmax pmax
comp=Z,9.0nm,2.5s
VRI Vrincioaia 49.40 308 ⇓*i*P **P** **13 16 43.3 +1.4**
PLOR Plostina 49.46 308 ⇑*i*P **P** **13 16 44.0 +1.7**
BIZ Bicaz 49.83 309 ⇓*i*P **P** **13 16 46.0 +1.0**
MLR Muntele Rosu 49.96 307 ⇑*i*P **P** **13 16 47.9 +1.7**
VSU Vasula 50.41 324 *ce*P **P** **13 16 48.9 -0.3**
VSU pmax pmax
comp=Z,49nm,1.7s
BURAR Bucovina Array 50.42 310 ⇑*i*P **P** **13 16 49.9 +0.2**
BUR04 Bucovina Ar. S 50.43 310 *e*P **P** **13 16 49.6 -0.1**
SUF Sumiainen 51.54 329 P **P** **13 16 58.3 +0.7**
SUF pmax pmax
comp=Z,24nm,0.9s
SOEI Soe 52.81 130 P P 13 17 13.7 +5.9
VAF Ylistaro 53.16 329 P **P** **13 17 10.3 +0.7**
VAF pmax pmax
comp=Z,27nm,1.0s
ARCES ARCESS Array B 53.56 338 P **P** **13 17 12.9 +0.5**
comp=Z,2.2nm,0.7s,baz=99,slow=7.7,SNR=12
ARCES ARCESS Array B 53.56 338 P **P** **13 17 13.0 +0.5**
SEY Seymchan 54.34 31 *i* P **P** **13 17 19.9 +1.6**
KMBO Kilima Mbogo 55.29 247 P **P** **13 17 26.0 -0.1**
comp=Z,1.4nm,0.4s,baz=58,slow=10,SNR=7.2
KMBO pP **pP** **13 17 45.9 +0.8**
comp=Z,1.0nm,0.3s,baz=42,slow=11,SNR=1.5
KMBO LR LR 13 39 33.1
comp=Z,22nm,19.4s,baz=96,slow=34
KMBO Kilima Mbogo 55.29 247 *e*P **P** **13 17 25.9 -0.2**
comp=Z,5.5nm,1.0s
KMBO pP **pP** **13 17 45.9 +0.8**
KMBO Kilima Mbogo 55.29 247 *ce*P **P** **13 17 25.7 -0.4**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
GUMO Guam 56.22 92 LR LR 13 42 37.3
comp=Z,20nm,18.6s,baz=264,slow=37
PETK Petropavlovsk- 56.94 43 LR LR 13 42 56.4
comp=Z,41nm,18.5s,baz=300,slow=37
BRG Berggiesshubel 57.61 314 *e*P **P** **13 17 42.4 +0.5**
comp=Z,5.7nm,0.9s
BRG *e* 13 18 03.3
comp=Z,7.1nm,1.0s
BRG Berggiesshubel 57.61 314 *e*P **P** **13 17 42.3 +0.5**
BRG *e* 13 18 03.3
BRG pmax pmax
comp=Z,6.0nm,0.9s
GERES GERESS Array B 58.01 312 P **P** **13 17 45.0 +0.2**
comp=Z,1.7nm,0.8s,baz=59,slow=6.4,SNR=7.0
GERES pP **pP** **13 18 05.1 +1.2**
comp=Z,0.6nm,0.3s,baz=64,slow=6.1,SNR=3.1
GERES LR LR 13 44 55.7
comp=Z,63nm,20.8s,baz=70,slow=38
GEA0 GERESS Array S 58.02 312 *e*P **P** **13 17 43.3 -1.5**
KHC Kasperske Hory 58.06 312 *e*P **P** **13 17 44.5 -0.5**
KHC Kasperske Hory 58.06 312 *e*P **P** **13 17 44.5 -0.5**
NB2 NORSAR Subarra 58.41 327 P **P** **13 17 46.5 -0.8**
comp=Z,3.6nm,1.0s,baz=87,slow=6.9
NB2 NORSAR Subarra 58.41 327 P **P** **13 17 46.4 -0.8**
NB2 pmax pmax
comp=Z,4.0nm,1.0s
NOA NORSAR Array B 58.41 327 P **P** **13 17 47.0 -0.3**
comp=Z,5.5nm,0.9s,baz=88,slow=6.7,SNR=12
NOA pP **pP** **13 18 07.2 +0.7**
comp=Z,1.9nm,0.6s,baz=87,slow=7.0,SNR=4.0
NOA LR LR 13 45 58.7
comp=Z,22nm,18.8s,baz=90,slow=39
NC204 NORSAR Array S 58.62 327 *e*P **P** **13 17 47.6 -1.2**
KONO Kongsberg 59.29 325 *ce*P **P** **13 17 53.2 -0.1**
KONO pmax pmax
comp=Z,36nm,2.5s
FITZ Fitzroy Crossi 59.90 136 P **P** **13 17 59.0 +1.0**
comp=Z,0.8nm,0.4s,baz=326,slow=7.3,SNR=6.2
ABPO Ambohimpanom 60.32 223 *i* P **P** **13 18 03.1 +2.0**
BILL Bilibino 60.34 25 *e*P **P** **13 17 58.3 -2.1**
comp=Z,1.7nm,0.5s
BILL *e*pP **pP** **13 18 19.9 +0.3**
BILL Bilibino 60.34 25 ⇓*e*P **P** **13 18 01.1 +0.7**
BILL *e* 13 18 21.5
BILL 13 18 46.0
BILL S **S** **13 26 13.0 +4.1**
BILL pmax pmax
comp=Z,3.0nm,1.3s
BILL MLR MLR
comp=Z,62nm,17.0s
KEST Kesra 64.04 298 P **P** **13 18 27.0 +1.2**
comp=Z,16nm,1.0s,baz=323,slow=7.8,SNR=7.9
KEST pP **pP** **13 18 46.1 +0.8**
comp=Z,18nm,0.9s,baz=334,slow=7.2,SNR=6.6
KEST Kesra 64.04 298 *e*P **P** **13 18 24.7 -1.1**
comp=Z,22nm,1.0s
KEST pP **pP** **13 18 46.1 +0.8**
WRA Warramunga Arr 66.85 130 P **P** **13 18 45.4 +1.5**
comp=Z,3.3nm,0.4s,baz=325,slow=6.5,SNR=322
WRA pP **pP** **13 19 05.3 +1.8**
comp=Z,7.8nm,0.9s,baz=324,slow=6.5,SNR=6.2
WRAB Tennant Creek 66.85 130 *e*P **P** **13 18 45.1 +1.2**
comp=Z,10nm,1.1s
WRAB Tennant Creek 66.85 130 *e*P **P** **13 18 45.1 +1.2**
WRAB pmax pmax
comp=Z,10.0nm,1.1s
WB2 Warramunga Arr 66.86 130 *e*P **P** **13 18 44.6 +0.6**
AS31 Alice Springs 69.19 133 *e*P **P** **13 18 59.5 +1.0**
comp=Z,1.1nm,0.8s
AS31 *e*pP **pP** **13 19 20.5 +2.2**
ASAR Alice Springs 69.19 133 P **P** **13 19 00.1 +1.6**
comp=Z,2.7nm,0.7s,baz=320,slow=6.2,SNR=38
ASAR pP **pP** **13 19 20.0 +1.7**
comp=Z,2.7nm,0.6s,baz=316,slow=6.1,SNR=6.3
AS01 Alice Springs 69.22 133 *e*P **P** **13 18 59.2 +0.5**
LSZ Lusaka 70.92 240 *e*P **P** **13 19 09.2 -0.2**

	comp=Z,4.7nm,0.8s							
LSZ	**Lusaka**	**70.92**	**240**	*e*P		**P**	**13 19 09.2**	**-0.2**
LSZ				pmax		pmax		
	comp=Z,5.0nm,0.8s							
TAM	**Tamanrasset**	**71.72**	**286**	*e*P		**P**	**13 19 13.7**	**-0.6**
	comp=Z,6.9nm,1.1s							
TAM	**Tamanrasset**	**71.72**	**286**	*e*P		**P**	**13 19 13.7**	**-0.6**
TAM				pmax		pmax		
	comp=Z,7.0nm,1.1s							
SUMG	**Summit**	**72.57**	**345**	*e*P		**P**	**13 19 18.9**	**+0.1**
	comp=Z,11nm,1.1s							
SUMG	**Summit**	**72.57**	**345**	*i* P		**P**	**13 19 19.6**	**+0.7**
	comp=Z,12nm,1.0s							
SUMG				*e*			13 19 40.7	
SUMG	**Summit**	**72.57**	**345**	*e*P		**P**	**13 19 19.6**	**+0.7**
SUMG				*e*			13 19 40.7	
SUMG				pmax		pmax		
	comp=Z,12nm,1.0s							
ES19	**SONSECA Array**	**72.58**	**306**	*e*P		**P**	**13 19 19.1**	**+0.1**
ESDC	**Sonseca Array**	**72.64**	**306**	P		**P**	**13 19 19.4**	**0.0**
	comp=Z,1.5nm,0.7s,baz=53,slow=6.2,SNR=8.0							
ESDC				pP		**pP**	**13 19 39.5**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=59,slow=6.4,SNR=4.0							
TOLK	**Toolik Lake Re**	**75.05**	**18**	*e*P		**P**	**13 19 34.1**	**+1.2**
	comp=Z,4.2nm,0.9s							
TOLK				*e*pP		**pP**	**13 19 53.5**	**+0.6**
ILAR	**Eielson Array**	**78.46**	**20**	P		**P**	**13 19 52.8**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=297,slow=4.6,SNR=4.6							
ILAR				pP		**pP**	**13 20 12.5**	**+0.3**
	comp=Z,3.8nm,0.7s,baz=303,slow=4.5,SNR=20							
TOA0	**Torodi Ar. Sit**	**79.11**	**279**	*e*P		**P**	**13 19 56.5**	**-0.1**
TOA0				*e*pP		**pP**	**13 20 16.0**	**-0.7**
TORD	**Torodi Ar. Bea**	**79.11**	**279**	P		**P**	**13 19 55.2**	**-1.4**
	comp=Z,7.1nm,0.8s,baz=46,slow=3.8,SNR=38							
TORD				pP		**pP**	**13 20 16.8**	**+0.1**
	comp=Z,3.5nm,0.8s,baz=46,slow=4.7,SNR=9.5							
STKA	**Stephens Creek**	**79.77**	**135**	P		**P**	**13 20 00.3**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=316,slow=4.7,SNR=9.9							
STKA				pP		**pP**	**13 20 20.4**	**+0.6**
	comp=Z,17nm,1.3s,baz=112,slow=0.6,SNR=4.5							
STKA				LR		LR	14 00 51.2	
	comp=Z,24nm,20.6s,baz=26,slow=40							
BOSA	**Boshof**	**81.30**	**231**	P		**P**	**13 20 08.2**	**+0.1**
	comp=Z,3.8nm,0.8s,baz=14,slow=7.0,SNR=2.9							
BOSA				pP		**pP**	**13 20 28.1**	**-0.2**
	comp=Z,3.4nm,0.8s,baz=56,slow=7.3,SNR=2.2							
DBIC	**Dimbokro**	**87.81**	**276**	P		**P**	**13 20 41.0**	**-0.2**
	comp=Z,4.6nm,0.6s,baz=53,slow=6.2,SNR=7.4							
DBIC				pP		**pP**	**13 21 02.6**	**+1.1**
	comp=Z,6.3nm,0.9s,baz=48,slow=6.8,SNR=4.0							
YKA	**Yellowknife Ar**	**87.94**	**10**	pP		pP	13 21 01.5	+0.1
	comp=Z,4.9nm,0.8s,baz=336,slow=4.9,SNR=5.4							
CPUP	**Villa Florida**	**147.62**	**265**	PKPbc		**PKPdf**	**13 27 33.8**	**+0.7**
	comp=Z,6.5nm,1.0s,baz=69,slow=3.2,SNR=13							
CPUP	**Villa Florida**	**147.62**	**265**	*e*PKPdf		**PKPdf**	**13 27 34.1**	**+1.0**
OTAV	**Otavalo**	**148.00**	**330**	*e*PKPbc		**PKPbc**	**13 27 36.9**	**-1.0**
OTAV	**Otavalo**	**148.00**	**330**	*e*PKP2		**PKPbc**	**13 27 36.9**	**-1.0**
LPAZ	**La Paz**	**153.46**	**291**	PKPbc		**PKPbc**	**13 27 52.0**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=23,slow=7.7,SNR=3.6							
LPAZ				PKPab		**PKPab**	**13 28 02.5**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=98,slow=2.7,SNR=5.7							
LPAZ	**La Paz**	**153.46**	**291**	PKPbc		**PKPbc**	**13 27 52.0**	**+1.1**
LPAZ				*e*PKPab		**PKPab**	**13 28 03.8**	**+0.3**
LPAZ	**La Paz**	**153.46**	**291**	PKIKP		**PKPbc**	**13 27 52.0**	**+1.1**
LPAZ				*e*			13 28 03.8	

MEX 05 13:23:17.2±0.3, 18.21N×100.70W, h60km±4km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.34**	**78**	*e*P		Pn	13 23 26.4	-1.3
ARIG				*e*S		Sn	13 23 33.5	-1.9
ZIIG	**Zihuatanejo**	**0.94**	**231**	*e*P		Pn	13 23 33.0	-1.5
ZIIG				*e*S		Sn	13 23 45.5	-1.7
MEIG	**Mezcala**	**1.07**	**105**	*i* P		Pn	13 23 33.9	-2.4
MEIG				*e*S		Sn	13 23 48.0	-2.4
PLIG	**Platanillo**	**1.16**	**81**	*e*P		Pn	13 23 36.1	-1.3
PLIG				*e*S		Sn	13 23 50.7	-1.7

IDC 05 13:30:41.6±1.9, 8.54S×157.40E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/28, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=51.9km s-min=32.1km az=178.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.66**	**110**	Pn	Pn	13 31 26.3	+0.4
	8.5nm,0.3s,baz=207,slow=4.5,SNR=2.3						
HNR				Sn	Sb	13 32 04.9	+1.4
	21nm,0.3s,baz=72,slow=20,SNR=2.2						
HNR	**Honiara**	**2.66**	**110**	*e*P	Pb	13 31 30.0	-0.2
HNR				*e*S	Sg	13 32 08.0	+0.7
WRA	**Warramunga Arr**	**25.02**	**241**	P	P	13 36 07.0	-0.7
	0.6nm,0.9s,baz=68,slow=10.0,SNR=5.1						
ASAR	**Alice Springs**	**27.06**	**233**	P	P	13 36 26.4	+0.3
	0.5nm,1.0s,baz=64,slow=10,SNR=1.9						
MKAR	**Makanchi Array**	**86.14**	**318**	P	P	13 43 25.0	+0.2
	0.4nm,0.6s,baz=117,slow=5.8,SNR=2.9						

*BJI **05** 13:40:26.7, 23.82N×121.51E, h5km, mb4.4/38, mB4.5/28, ML4.5/9, Ms4.3/45, Ms7 4.2/39*

*IDC **05** 13:40:26.4±0.6, 23.63N×121.76E, h0km, mb4.2/17, mb1 4.3/20, mb1mx4.2/41, mbtmp4.2/20, ML3.7/3, MS3.5/13, Ms1 3.5/13, ms1mx3.3/46, Error ellipse: s-maj=18.2km s-min=14.5km az=70.0*

*JMA **05** 13:40:27.9±0.2, 23.72N×121.63E, h0km, M4.3*

*ISCJB **05** 13:40:29.5±0.3, 23.754N±0.010×121.53E±0.01, h15km±2km, mb4.2/38, MS3.7/13, Error ellipse: s-maj=2.0km s-min=1.3km az=40.1*

*NEIC **05** 13:40:29.0±0.8, 23.72N×121.53E, h13km±4km, mb4.6/15, MW4.3, ML4.7(TAP), Error ellipse: s-maj=7.6km s-min=5.3km az=128.0, Moment Tensor Solution. s19 Moment tensor: Scale 10¹⁵Nm; Mrr 2.79; Mθθ-1.81; Mφφ-0.98; Mrθ 0.50; Mθφ -2.15; Mφr-1.07; Best double couple: Ms 3.50000×10¹⁵ NP1:φs 208.00000°, δ52.00000°, λ59.00000°. NP2:φs 73.00000°, δ47.00000°, λ124.00000°. Principal axes: T 3.3200, Plg66.0000°, Azm56.0000°; N 0.2800, Plg24.0000°, Azm228.0000°; P -3.6000, Plg3.0000°, Azm320.0000°;*

NEIC Felt at Taipei. Recorded [5 TAP] in Hualien, [3 TAP] in Yilan, [2 TAP] in Nantou and [1 TAP] in Changhua, Chiayi, Hsinchu, Miaoli, Taitung, Taoyuan and Yunlin.

*TAP **05** 13:40:29.7, 23.78N×121.44E, h14km, ML4.9, B*

*ASIES **05** 13:40:30.3, 23.80N×121.50E, h20km, MW4.1*

ISC 05 13:40:29.6±0.7, 23.77N±0.01×121.52E±0.02, h13km±4km, n208, σ1s56/299, mb4.3/38, MS3.8/13, 12C-24D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESL	**Shilin**	**0.09**	**300**	⇑*i*P	**Pg**	**13 40 32.5**	**0.0**
	baz=9.0						
ESL				*i* S	**Sg**	**13 40 34.1**	**-0.5**
	baz=9.0						
EGFH	**Guangfu**	**0.13**	**222**	⇑*i*P	**Pb**	**13 40 33.1**	**-0.8**
	baz=184						
EGFH				S	**Sg**	**13 40 35.4**	**+0.1**
	baz=184						
HWA	**Hwalien**	**0.22**	**20**	P	**Pb**	**13 40 35.9**	**+0.4**
	baz=36						
HWA				S	**Sb**	**13 40 40.0**	**+0.5**
	baz=36						
HGSD	**Ruisui**	**0.29**	**198**	⇑P	**Pb**	**13 40 36.3**	**-0.3**
	baz=186						
HGSD				*e*S	**Sb**	**13 40 41.5**	**+0.2**
	baz=186						
EHY	**Hungye**	**0.32**	**215**	⇑*i*P	**Pg**	**13 40 35.8**	**-0.3**
	baz=200						
EHY				S	**Sg**	**13 40 39.7**	**-0.7**
	baz=200						
NACB	**Ninganchiao**	**0.41**	**9**	⇑P	**Pb**	**13 40 37.9**	**-0.9**
	baz=21						
NACB				S	**Sb**	**13 40 43.8**	**-1.1**
	baz=21						
NACB	**Ninganchiao**	**0.41**	**9**	*e*Pg	**Pb**	**13 40 38.0**	**-0.7**
NACB				*e*Sg	**Sb**	**13 40 43.5**	**-1.5**
YULB	**Yu-li**	**0.43**	**209**	⇓P	**Pg**	**13 40 37.4**	**-0.6**
	baz=190						
YULB				*e*S	**Sg**	**13 40 43.8**	**+0.1**
	baz=190						
YULB	**Yu-li**	**0.43**	**209**	*e*Pg	**Pg**	**13 40 37.5**	**-0.5**
CHGB	**Renai**	**0.43**	**313**	⇓P	**Pg**	**13 40 37.8**	**-0.4**
	baz=327						
CHGB				S	**Sg**	**13 40 42.9**	**-1.1**
	baz=327						
WHF	**Hehuan Shan**	**0.44**	**328**	⇓*i*P	**Pg**	**13 40 38.0**	**-0.5**
	baz=338						
WHF				S	**Sg**	**13 40 43.6**	**-0.9**
	baz=338						
TWF1	**Yuli**	**0.46**	**207**	⇓*i*P	**Pg**	**13 40 38.0**	**-0.6**
	baz=201						
TWF1				*e*S	**Sg**	**13 40 45.2**	**+0.4**
	baz=201						
SSLB	**Suanglung**	**0.52**	**272**	⇓P	**Pg**	**13 40 38.9**	**-1.0**
	baz=271						
SSLB				S	**Sg**	**13 40 44.5**	**-2.3**
	baz=271						
SSLB	**Suanglung**	**0.52**	**272**	*e*Pg	**Pg**	**13 40 38.8**	**-1.0**
SSLB				*e*Sg	**Sg**	**13 40 44.6**	**-2.1**
SMLT	**Sun Moon Lake**	**0.58**	**282**	⇓*i*P	**Pg**	**13 40 40.2**	**-0.8**
	baz=282						
SMLT				S	**Sg**	**13 40 47.3**	**-1.4**
	baz=282						
TDCB	**Techi**	**0.59**	**326**	⇓P	**Pb**	**13 40 40.9**	**-0.9**
	baz=332						
TDCB				S	**Sg**	**13 40 47.5**	**-1.4**
	baz=332						
YUS	**Yu-Shan**	**0.59**	**242**	⇑*i*P	**Pg**	**13 40 41.0**	**-0.3**
	baz=235						
YUS				S	**Sg**	**13 40 48.0**	**-1.2**
	baz=235						
FULB	**Fuli**	**0.60**	**200**	*e*P	**Pg**	**13 40 41.3**	**0.0**
	baz=204						
FULB				*e*S	**Sb**	**13 40 50.9**	**+0.5**
	baz=204						
TYC	**Yuchr**	**0.62**	**283**	⇓*i*P	**Pg**	**13 40 40.7**	**-1.0**
	baz=291						
TYC				S	**Sg**	**13 40 47.8**	**-2.2**
	baz=291						
NNSB	**Datong**	**0.67**	**349**	⇓P	**Pb**	**13 40 42.5**	**-0.8**
	baz=3.0						
NNSB				S	**Sb**	**13 40 51.2**	**-1.4**
	baz=3.0						
CHKT	**Chengkung**	**0.68**	**192**	*e*P	**Pg**	**13 40 42.7**	**-0.1**
	baz=184						
CHKT				*e*S	**Sb**	**13 40 53.4**	**+0.8**
	baz=184						
NNS	**Nan Shan**	**0.68**	**349**	⇓*i*P	**Pb**	**13 40 42.9**	**-0.6**
	baz=3.0						
NNS				S	**Sg**	**13 40 51.5**	**-0.4**
	baz=3.0						
ENA	**Nanau**	**0.69**	**17**	⇑P	**Pb**	**13 40 42.6**	**-0.8**
	baz=25						
ENA				*e*S	**Sb**	**13 40 52.6**	**-0.3**
	baz=25						
WJS	**Zhushan**	**0.73**	**274**	*e*P	**Pb**	**13 40 43.8**	**-0.3**
	baz=276						
WJS				*e*S	**Sb**	**13 40 53.9**	**-0.2**
	baz=276						
ELDTW	**Lidau**	**0.74**	**219**	*e*P	**Pg**	**13 40 42.5**	**-1.4**
	baz=205						
ELDTW				*e*S	**Sg**	**13 40 52.5**	**-1.1**
	baz=205						
WNT	**Mingjian**	**0.78**	**278**	⇓P	**Pb**	**13 40 44.9**	**0.0**
	baz=280						
WNT				*e*S	**Sb**	**13 40 55.5**	**+0.1**
	baz=280						
CHN5	**Tsauling**	**0.79**	**258**	⇓P	**Pb**	**13 40 44.8**	**-0.5**
	baz=244						
CHN5				S	**Sg**	**13 40 55.1**	**-0.2**
	baz=244						
TCU	**Taichung**	**0.86**	**296**	*e*P	**Pb**	**13 40 46.3**	**-0.1**
	baz=302						
TCU				*e*S	**Sb**	**13 40 58.2**	**+0.3**
	baz=302						
ENTT	**Nioudou**	**0.87**	**3**	⇑P	**Pg**	**13 40 45.7**	**-0.8**
	baz=9.0						
ENTT				*e*S	**Sb**	**13 40 57.7**	**-0.5**
	baz=9.0						
WGK	**Gukeng**	**0.88**	**265**	⇓P	**Pb**	**13 40 46.6**	**-0.1**
	baz=263						
WGK				S	**Sb**	**13 40 58.9**	**+0.4**
	baz=263						
TWC	**Suao**	**0.89**	**20**	*e*P	**Pb**	**13 40 46.1**	**-0.8**
	baz=19						
TWC				*e*S	**Sn**	**13 40 58.8**	**-1.8**
	baz=19						
TWQ1	**Liyutan**	**0.90**	**310**	⇓P	**Pb**	**13 40 46.8**	**-0.2**
	baz=321						
TWQ1				*e*S	**Sb**	**13 40 59.0**	**+0.1**
	baz=321						
WDLH	**Douliu**	**0.91**	**265**	*e*P	**Pb**	**13 40 46.9**	**-0.2**
	baz=263						
WDLH				*e*S	**Sb**	**13 40 59.4**	**+0.3**
	baz=263						
YHNB	**Yeheng**	**0.91**	**352**	⇑P	**Pb**	**13 40 46.8**	**-0.5**
	baz=357						
YHNB				S	**Sb**	**13 40 58.4**	**-0.9**
	baz=357						
YHNB	**Yeheng**	**0.91**	**352**	*e*Pg	**Pb**	**13 40 46.9**	**-0.5**
NSK	**Sanguang**	**0.92**	**351**	⇓P	**Pn**	**13 40 47.2**	**-1.1**
	baz=357						
NSK				*e*S	**Sg**	**13 40 57.7**	**-1.6**
	baz=357						
STYT	**Tauyuan**	**0.92**	**230**	⇓P	**Pg**	**13 40 46.6**	**-0.8**
	baz=224						
STYT				S	**Sg**	**13 40 59.2**	**-0.4**
	baz=224						
WCHH	**Zhanghua**	**0.94**	**290**	*e*P	**Pn**	**13 40 47.7**	**-0.7**
	baz=290						
TPUB	**Ta-pu**	**0.94**	**241**	⇑P	**Pg**	**13 40 47.5**	**-0.2**
	baz=236						
TPUB				S	**Sg**	**13 40 59.5**	**-0.6**
	baz=236						
TPUB	**Ta-pu**	**0.94**	**241**	*e*Pn	**Pg**	**13 40 47.7**	**-0.1**
CHN4	**Tsaushan**	**0.95**	**244**	⇑*i*P	**Pg**	**13 40 47.8**	**0.0**
	baz=235						
CHN4				S	**Sb**	**13 41 00.1**	**-0.2**
	baz=235						
EOS1	**EOS1**	**0.96**	**35**	*e*P	**Pn**	**13 40 49.0**	**+0.3**
	baz=55						
EOS1				*e*S	**Sn**	**13 41 03.9**	**+1.7**
	baz=55						
WTP	**Ta-pu**	**0.98**	**238**	⇓P	**Pg**	**13 40 48.2**	**-0.3**
	baz=234						
WTP				S	**Sb**	**13 41 00.5**	**-0.9**
	baz=234						
NSTT	**Nanjuang**	**0.98**	**331**	⇓*i*P	**Pn**	**13 40 48.3**	**-0.8**
	baz=336						
NSTT				S	**Sb**	**13 41 00.6**	**-0.8**
	baz=336						
CHN2	**Minshiung**	**0.99**	**257**	*e*P	**Pg**	**13 40 48.5**	**-0.1**
	baz=254						
CHN2				*e*S	**Sn**	**13 41 02.0**	**-1.0**
	baz=254						
SLBB	**Yuanshan**	**0.99**	**6**	P	**Pb**	**13 40 47.6**	**-1.0**
	baz=12						
SLBB				*e*S	**Sb**	**13 41 00.9**	**-0.7**
	baz=12						
LIOB	**Emei**	**0.99**	**332**	⇓*i*P	**Pn**	**13 40 48.6**	**-0.6**
	baz=337						
LIOB				S	**Sb**	**13 41 00.2**	**-1.4**
	baz=337						
PTSB	**Yuanli**	**1.01**	**312**	⇓*i*P	**Pn**	**13 40 49.6**	**+0.1**
	baz=315						
PTSB				S	**Sn**	**13 41 02.8**	**-0.8**
	baz=315						
ILA	**Ilan**	**1.02**	**12**	*e*P	**Pn**	**13 40 49.5**	**0.0**
	baz=18						
ILA				*e*S	**Sn**	**13 41 03.5**	**-0.2**
	baz=18						
NMLH	**Miaoli**	**1.02**	**319**	*e*P	**Pn**	**13 40 49.7**	**+0.2**
	baz=330						
NMLH				*e*S	**Sn**	**13 41 02.8**	**-1.0**
	baz=330						
TWG	**Pinlang**	**1.03**	**204**	*e*P	**Pb**	**13 40 46.4**	**-2.9**
	baz=183						
TWG				*e*S	**Sn**	**13 41 03.3**	**-0.7**
	baz=183						
TWG	**Pinlang**	**1.03**	**204**	*e*Pg	**Pb**	**13 40 48.7**	**-0.6**
TWGBT	**Beinan**	**1.03**	**203**	*e*P	**Pb**	**13 40 46.3**	**-3.0**
	baz=184						
CHY	**Chiayi**	**1.04**	**255**	*e*P	**Pg**	**13 40 49.3**	**-0.3**
	baz=252						
CHY				*e*S	**Sn**	**13 41 03.7**	**-0.6**
	baz=252						
TTN	**Taitung**	**1.06**	**199**	*e*P	**Pb**	**13 40 49.3**	**-0.5**
	baz=175						
RLNB	**Erlin**	**1.07**	**277**	⇓P	**Pb**	**13 40 49.6**	**-0.4**
	baz=276						
RLNB				*e*S	**Sb**	**13 41 03.4**	**-0.5**
	baz=276						
TWK	**Hsinying**	**1.07**	**243**	P	**Pn**	**13 40 50.0**	**-0.4**
	baz=238						
TWK				S	**Sg**	**13 41 04.2**	**0.0**
	baz=238						
CHN1	**Nanshi**	**1.08**	**238**	P	**Pg**	**13 40 50.6**	**+0.2**
	baz=234						
CHN1				S	**Sg**	**13 41 04.4**	**-0.1**
	baz=234						
SGST	**Jiashian**	**1.10**	**232**	P	**Pg**	**13 40 50.6**	**-0.2**
	baz=227						
SGST				S	**Sg**	**13 41 05.2**	**+0.1**
	baz=227						
SLGT	**Liugui**	**1.11**	**226**	*e*P	**Pb**	**13 40 50.2**	**-0.5**
	baz=210						
NTC	**Toucheng**	**1.12**	**14**	*e*P	**Pg**	**13 40 51.3**	**+0.2**
	baz=19						
SBCB	**Hsinchu**	**1.13**	**335**	⇓P	**Pg**	**13 40 52.0**	**+0.6**
	baz=339						
SBCB				*e*S	**Sn**	**13 41 06.7**	**+0.1**
	baz=339						
EGS		**1.14**	**19**	*e*P	**Pg**	**13 40 50.9**	**-0.6**
	baz=24						
WTCT	**Ta-ch'eng**	**1.14**	**275**	P	**Pb**	**13 40 50.5**	**-0.6**
	baz=274						
WTCT				*e*S	**Sb**	**13 41 05.4**	**-0.5**
	baz=274						
HSN	**Hsinchu**	**1.15**	**334**	P	**Pg**	**13 40 52.3**	**+0.6**
	baz=341						
HSN				S	**Sn**	**13 41 07.6**	**+0.6**
	baz=341						
WLGB	**Puzi**	**1.16**	**256**	*e*P	**Pg**	**13 40 51.3**	**-0.5**
	baz=253						
WLGB				*e*S	**Sn**	**13 41 07.2**	**0.0**
	baz=253						
WMLT	**Mailiao**	**1.19**	**272**	*e*P	**Pb**	**13 40 51.5**	**-0.5**
	baz=271						
TATO	**Taipei**	**1.20**	**359**	⇑P	**Pg**	**13 40 51.8**	**-1.0**
	baz=11						
TATO				S	**Sg**	**13 41 08.1**	**-0.3**
	baz=11						
TATO	**Taipei**	**1.20**	**359**	*e*Pn	**Pb**	**13 40 51.6**	**-0.6**
TWA	**Mucha**	**1.21**	**3**	P	**Pb**	**13 40 51.7**	**-0.7**
	baz=8.0						
TWA				*e*S	**Sg**	**13 41 08.2**	**-0.4**
	baz=8.0						
TIPB	**Shuangxi**	**1.23**	**13**	*e*P	**Pn**	**13 40 51.7**	**-0.9**
	baz=18						
TIPB				*e*S	**Sg**	**13 41 08.7**	**-0.7**
	baz=18						
NCUH	**Zhongli**	**1.23**	**346**	*e*P	**Pg**	**13 40 53.0**	**-0.3**
	baz=350						
NCUH				*e*S	**Sg**	**13 41 10.4**	**+1.0**
	baz=350						
NCU	**National Centr**	**1.24**	**346**	*e*P	**Pg**	**13 40 53.0**	**-0.4**
	baz=351						
NCU				*e*S	**Sg**	**13 41 10.7**	**+1.2**
	baz=351						
CHN8	**Yiju**	**1.27**	**251**	*e*P	**Pb**	**13 40 53.1**	**-0.3**
	baz=248						
CHN8				*e*S	**Sg**	**13 41 10.2**	**-0.4**
	baz=248						
ECL	**Taimali**	**1.28**	**204**	*e*P	**Pn**	**13 40 51.1**	**-2.0**
	baz=184						
TWB1	**Santiao Chiao**	**1.31**	**19**	*e*P	**Pb**	**13 40 53.0**	**-1.0**
	baz=23						
NWF	**Wu-fen Shan**	**1.32**	**10**	*e*P	**Pb**	**13 40 53.4**	**-0.9**
	baz=15						
NWF				*e*S	**Sn**	**13 41 10.6**	**-0.8**
	baz=15						
WFSB	**Wu-fen Shan**	**1.32**	**10**	*e*P	**Pn**	**13 40 53.1**	**-0.6**
	baz=15						
WFSB				*e*S	**Sg**	**13 41 10.9**	**-1.3**
	baz=15						
TWS1	**Kuangyinshan**	**1.33**	**356**	*e*P	**Pb**	**13 40 54.0**	**-0.4**
	baz=13						
TWS1				S	**Sg**	**13 41 13.9**	**+1.3**
	baz=13						
SCLT	**Jiali**	**1.35**	**244**	*e*P	**Pb**	**13 40 54.6**	**-0.2**
	baz=242						
SCLT				*e*S	**Sg**	**13 41 13.3**	**+0.1**
	baz=242						
YM01	**YM01**	**1.37**	**2**	*e*P	**Pg**	**13 40 55.0**	**-1.0**
	baz=7.0						
YM01				*e*S	**Sg**	**13 41 14.3**	**+0.4**
	baz=7.0						
TWM1	**Shoushan**	**1.38**	**227**	*e*P	**Pg**	**13 40 55.6**	**-0.5**
	baz=221						
YM04	**YM04**	**1.38**	**1**	*e*P	**Pn**	**13 40 53.8**	**-0.9**
	baz=21						
YM04				*e*S	**Sg**	**13 41 14.8**	**+0.7**
	baz=21						
YM10	**YM10**	**1.38**	**1**	*e*P	**Pb**	**13 40 54.6**	**-0.7**
	baz=26						
YM05	**YM05**	**1.39**	**2**	*e*P	**Pn**	**13 40 54.4**	**-0.5**
	baz=26						
NTST	**Danshui**	**1.39**	**357**	*e*P	**Pb**	**13 40 55.1**	**-0.4**
	baz=22						
YM11	**YM11**	**1.39**	**2**	*e*P	**Pn**	**13 40 54.2**	**-0.7**
	baz=6.0						
YM07	**YM07**	**1.41**	**4**	*e*P	**Pb**	**13 40 54.7**	**-1.0**
	baz=14						
YM03	**YM03**	**1.41**	**1**	*e*P	**Pn**	**13 40 54.6**	**-0.4**
	baz=21						
YM03				*e*S	**Sg**	**13 41 14.3**	**-0.6**
	baz=21						
YM12	**YM12**	**1.41**	**2**	*e*P	**Pn**	**13 40 54.5**	**-0.6**
	baz=7.0						
YM12				*e*S	**Sg**	**13 41 15.4**	**+0.4**
	baz=7.0						
MASBT	**Mashibuluo**	**1.41**	**216**	*e*P	**Pn**	**13 40 54.7**	**-0.3**
	baz=205						
YM08	**YM08**	**1.42**	**2**	*e*P	**Pn**	**13 40 53.9**	**-1.2**
	baz=25						
JYNG	**Yonagunijimaku**	**1.47**	**62**	P	**Pb**	**13 40 56.1**	**-0.7**
JYNG				S	**Sg**	**13 41 16.2**	**-0.7**
TWY	**Chenhua**	**1.50**	**3**	*e*P	**Pb**	**13 40 57.1**	**-0.3**
	baz=26						
EAST	**Anshuo**	**1.51**	**204**	*e*P	**Pn**	**13 40 56.0**	**-0.4**
	baz=186						
TAW	**Tawu**	**1.52**	**202**	*e*P	**Pn**	**13 40 55.9**	**-0.5**
	baz=186						
YOJ	**Yonaguni jima**	**1.53**	**63**	*e*P	**Pb**	**13 40 56.5**	**-1.3**
	baz=63						
YOJ				S	**Sg**	**13 41 17.6**	**-1.2**
	baz=63						
YOJ	**Yonaguni jima**	**1.53**	**63**	*e*Pn	**Pb**	**13 40 56.7**	**-1.0**
YOJ	**Yonaguni jima**	**1.53**	**63**	P	**Pb**	**13 40 56.9**	**-0.9**
YOJ				*e*S	**Sg**	**13 41 18.3**	**-0.5**
SCZT	**Fangliau**	**1.62**	**211**	*e*P	**Pb**	**13 40 58.6**	**-0.7**
	baz=199						
TWP	**Hsiaoliuchiu**	**1.77**	**217**	*e*P	**Pg**	**13 41 03.0**	**-0.6**
	baz=230						
WDGT	**Dungji**	**1.78**	**254**	*e*P	**Pn**	**13 40 59.2**	**-0.9**
	baz=252						
WDGT				*e*S	**Sb**	**13 41 23.2**	**-1.1**
	baz=252						
PHUB	**P'eng-hu**	**1.81**	**262**	*e*P	**Pn**	**13 41

JISG	**Ishigakijimahi**	**2.67**	**72**	P		**Pn**	**13 41 12.3**	**-0.1**
JISG				*e*S		**Sn**	**13 41 45.4**	**+0.7**
MATB	**Ma-tsu**	**2.77**	**329**	*e*P		**Pn**	**13 41 12.7**	**-1.0**
	baz=332							
KNM	**Kinmen**	**2.90**	**284**	*e*P		**Pn**	**13 41 16.5**	**+1.1**
	baz=268							
QZH	**Quanzhou**	**2.92**	**294**	Pn		**Pn**	**13 41 14.5**	**-1.2**
QZH				Sn		**Sn**	**13 41 47.6**	**-3.1**
QZH				smax	smax			
	comp=N,1μm,0.7s							
QZH				smax	smax			
	comp=E,920nm,0.4s							
KNMB	**Chin-men Tao**	**2.95**	**284**	*e*P		**Pn**	**13 41 15.2**	**-0.9**
	baz=270							
JTJ	**Tarama**	**3.03**	**73**	P		**Pn**	**13 41 17.9**	**+0.6**
JTJ				*e*S		**Sn**	**13 41 54.4**	**+0.9**
JIRB	**Irabujima**	**3.50**	**72**	P		**Pn**	**13 41 24.2**	**+0.5**
JIRB				*e*S		**Sn**	**13 42 05.2**	**+0.3**
JIKM	**Ikemajima**	**3.59**	**71**	P		**Pn**	**13 41 25.4**	**+0.5**
JIKM				*e*S		**Sn**	**13 42 08.0**	**+0.8**
JMJ	**Miyako jima 2**	**3.60**	**72**	*e*P		**Pn**	**13 41 26.3**	**+1.2**
	baz=76							
JMJ	**Miyako jima 2**	**3.60**	**72**	*e*S		**Sn**	**13 42 08.4**	**+1.0**
JOGS	**Gusukube**	**3.68**	**74**	P		**Pn**	**13 41 28.0**	**+1.8**
JOGS				*e*S		**Sn**	**13 42 09.9**	**+0.4**
VDOS	**Pratas Island**	**5.39**	**236**	*e*P		**Pn**	**13 41 49.9**	**+0.2**
	baz=231							
JOW	**Kunigami**	**6.83**	**62**	Pn		**Pn**	**13 42 08.0**	**-1.6**
	8.6nm,0.3s,baz=88,slow=16,SNR=44							
JOW				Sn		**Sn**	**13 43 22.8**	**-4.5**
	baz=279,slow=17,SNR=1.6							
JOW	**Kunigami**	**6.83**	**62**	*e*P		**Pn**	**13 42 09.2**	**-0.4**
	baz=64							
JOW	**Kunigami**	**6.83**	**62**	*e*Pn		**Pn**	**13 42 08.5**	**-1.0**
JOW				Sn		**Sn**	**13 43 22.8**	**-4.5**
GZH	**Guangzhou**	**7.54**	**266**	P		**Pn**	**13 42 15.1**	**-4.2**
GZH				smax	smax			
	comp=N,260nm,0.8s							
GZH				smax	smax			
	comp=E,210nm,0.8s							
NJ2	**Nanjing**	**8.58**	**345**	*e*P		**Pn**	**13 42 32.5**	**-1.1**
NJ2				S		**Sn**	**13 44 12.6**	**+2.3**
NJ2				pmax	pmax			
	comp=Z,18nm,0.8s							
NJ2				smax	smax			
	comp=N,290nm,1.0s							
NJ2				smax	smax			
	comp=E,85nm,0.8s							
NJ2				LR	LR			
	comp=N,2μm,10.0s							
NJ2				LR	LR			
	comp=E,850nm,6.8s							
NJ2				LR	LR			
	comp=Z,2μm,10.8s							
WHN	**Wuhan**	**9.29**	**318**	⇓P		**Pn**	**13 42 43.2**	**-0.1**
WHN				S		**Sn**	**13 44 20.4**	**-7.3**
WHN				LR	LR			
	comp=N,3μm,13.5s							
WHN				LR	LR			
	comp=E,2μm,8.9s							
WHN				LR	LR			
	comp=Z,3μm,11.8s							
TGY	**Tagaytay City**	**9.63**	**183**	LR		LR	13 47 19.9	
	comp=Z,78nm,18.5s,baz=26,slow=44							
QIZ	**Qiongzhong**	**11.85**	**249**	P		**Pn**	**13 43 17.5**	**-0.9**
QIZ				S		**Sn**	**13 45 29.7**	**-1.0**
QIZ				LR	LR			
	comp=N,350nm,14.5s							
QIZ				LR	LR			
	comp=E,330nm,15.3s							
QIZ				LR	LR			
	comp=Z,310nm,16.2s							
JNU	**Nakatsue**	**12.43**	**39**	Pn		**Pn**	**13 43 25.4**	**-0.9**
	0.3nm,0.3s,baz=196,slow=9.3,SNR=3.6							
ENH	**Enshi**	**12.53**	**304**	*e*Pn		**Pn**	**13 43 26.4**	**-1.3**
GYA	**Guiyang**	**13.72**	**284**	*e*P		**Pn**	**13 43 45.0**	**+0.9**
GYA				PP		**P**	**13 43 55.4**	**+2.6**
GYA				S		**Sn**	**13 46 18.2**	**+1.6**
GYA				SS		**S**	**13 46 34.8**	**-4.5**
GYA				pmax	pmax			
	comp=Z,10.0nm,0.7s							
GYA				LR	LR			
	comp=N,410nm,12.4s							
GYA				LR	LR			
	comp=E,330nm,13.1s							
GYA				LR	LR			
	comp=Z,390nm,12.8s							
KSAR	**Wonju Array Be**	**14.68**	**20**	Pn		**Pn**	**13 43 58.2**	**+1.2**
KSRS	**Korea Array**	**14.71**	**20**	Pn		**Pn**	**13 43 58.2**	**+0.9**
	0.1nm,0.3s,baz=198,slow=11,SNR=3.5							
KSRS				LR	LR		13 50 26.7	
	comp=Z,160nm,18.4s,baz=203,slow=41							
XAN	**Xi'an**	**15.04**	**316**	P		**P**	**13 44 08.9**	**+1.7**
XAN				pP		sP	13 44 18.4	+5.9
XAN				S		**Sn**	**13 46 53.1**	**+4.7**
XAN				pmax	pmax			
	comp=Z,17nm,1.3s							
XAN				pmax	pmax			
	comp=Z,130nm,4.8s							
XAN				LR	LR			
	comp=N,400nm,7.2s							
XAN				LR	LR			
	comp=E,620nm,11.7s							
XAN				LR	LR			
	comp=Z,680nm,14.8s							
KMI	**Kunming**	**17.16**	**278**	P		**Pn**	**13 44 28.9**	**-0.5**
KMI				pP		pP	13 44 32.9	-1.7
KMI				sP		sP	13 44 34.6	-1.7
KMI				S		**Sn**	**13 47 36.4**	**-3.9**
KMI				SS		**SnSn**	**13 47 59.5**	**+5.9**
KMI				pmax	pmax			
	comp=Z,12nm,1.0s							
KMI				pmax	pmax			
	comp=Z,75nm,5.0s							
KMI				LR	LR			
	comp=Z,220nm,8.7s							
KMI				LR	LR			
	comp=Z,880nm,10.9s							
KMI				LR	LR			
	comp=Z,850nm,12.3s							
CD2	**Chengdu**	**17.30**	**298**	P		**Pn**	**13 44 30.2**	**-0.8**
CD2				pP		pP	13 44 34.1	-1.9
CD2				S		**Sn**	**13 47 43.7**	**+0.3**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,120nm,4.6s							
HHC	**Hu-ho-hao-te**	**18.98**	**336**	*e*P		**Pn**	**13 44 52.7**	**+1.2**
HHC				S		**Sn**	**13 48 21.0**	**-2.9**
HHC				SS		**SnSn**	**13 48 46.3**	**+8.2**
HHC				pmax	pmax			
	comp=Z,12nm,1.1s							
HHC				pmax	pmax			
	comp=Z,130nm,5.3s							
HHC				LR	LR			
	comp=Z,420nm,9.8s							
HHC				LR	LR			
	comp=Z,190nm,8.1s							
HHC				LR	LR			
	comp=Z,250nm,7.8s							
MJAR	**Matsushiro Arr**	**19.21**	**45**	P		**Pn**	**13 44 55.9**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=225,slow=9.7,SNR=3.6							
MJAR				LR	LR		13 53 00.2	
	comp=Z,82nm,18.7s,baz=225,slow=39							
LZH	**Lanzhou**	**19.60**	**313**	*e*P		**Pn**	**13 44 59.8**	**+0.7**
LZH				pP		sP	13 45 04.0	+1.0
LZH				sP		pP	13 45 07.0	+5.7
LZH				pmax	pmax			
	comp=Z,34nm,1.1s							
LZH				pmax	pmax			
	comp=Z,130nm,4.3s							
LZH				LR	LR			
	comp=Z,790nm,10.3s							
LZH				LR	LR			
	comp=Z,1μm,10.3s							
LZH				LR	LR			
	comp=Z,1μm,11.4s							
CHAI	**Chaiyaphum**	**19.96**	**250**	P		**Pn**	**13 45 08.7**	**+5.4**
	comp=Z,27nm,1.1s							
CN2	**Changchun**	**20.24**	**8**	*e*P		Pn	13 45 06.6	+0.1
CN2				*e*S		**S**	**13 48 47.7**	**-3.6**
CN2				LR	LR			
	comp=Z,500nm,16.0s							
CN2				LR	LR			
	comp=Z,610nm,16.0s							
CN2				LR	LR			
	comp=Z,620nm,16.0s							
LAMP	**Lampang**	**21.06**	**260**	P		**P**	**13 45 20.3**	**+6.7**
	comp=Z,4.2nm,1.0s							
CMMT	**Chiang Mai**	**21.59**	**261**	P		**P**	**13 45 21.8**	**+2.4**
	comp=Z,10nm,1.0s							
CHTO	**Chiang Mai**	**21.60**	**261**	*e*P		**P**	**13 45 19.1**	**-0.3**
	comp=Z,14nm,1.1s							
CHTO	**Chiang Mai**	**21.60**	**261**	P		**P**	**13 45 21.8**	**+2.4**
	comp=Z,45nm,1.1s							
CM01	**Chiang Mai Arr**	**21.70**	**260**	*e*P		**P**	**13 45 20.5**	**0.0**
CMAR	**Chiang Mai Arr**	**21.70**	**260**	P		**P**	**13 45 22.0**	**+1.5**
	comp=Z,5.4nm,1.0s,baz=63,slow=8.8,SNR=20							
CMAR				LR		LR	13 53 13.7	
	comp=Z,62nm,20.9s,baz=78,slow=35							
MDJ	**Mudanjiang**	**21.82**	**16**	P		**P**	**13 45 19.9**	**-1.6**
MDJ				pP		pP	13 45 24.3	-0.9
MDJ				S		**S**	**13 49 20.9**	**-1.6**
MDJ				pmax	pmax			
	comp=Z,30nm,2.3s							
MDJ				LR		LR		
	comp=Z,450nm,4.4s							
USRK	**Ussuriysk Ar.**	**22.12**	**20**	P		**P**	**13 45 26.7**	**+2.0**
	comp=Z,2.4nm,0.7s,baz=198,slow=9.1							
USRK				LR		LR	13 54 48.2	
	comp=Z,100nm,18.6s,baz=175,slow=39							
UTHA	**Uthaitani**	**22.31**	**253**	P		**P**	**13 45 32.3**	**+5.2**
	comp=Z,2.0nm,1.2s							
UMPA	**Umpang Tak**	**22.57**	**255**	P		**P**	**13 45 35.0**	**+5.2**
GTA	**Gaotai**	**24.10**	**315**	⇓P		**P**	**13 45 45.9**	**+0.8**
GTA				pP		sP	13 45 50.5	-0.1
GTA				sP		pP	13 45 53.0	+4.0
GTA				S		**S**	**13 50 05.0**	**+2.5**
GTA				sS		sS	13 50 11.7	+2.8
GTA				pmax	pmax			
	comp=Z,10.0nm,1.4s							
GTA				pmax	pmax			
	comp=Z,78nm,6.5s							
GTA				LR	LR			
	comp=Z,250nm,14.3s							
GTA				LR	LR			
	comp=Z,440nm,14.3s							
GTA				LR	LR			
	comp=Z,620nm,14.0s							
ASAJ	**Asahikawa**	**26.65**	**35**	LR		LR	13 57 05.3	
	comp=Z,98nm,19.2s,baz=194,slow=38							
KLR	**Kul'dur**	**26.66**	**15**	P		**P**	**13 46 07.8**	**-0.2**
	comp=Z,3.7nm,0.9s,baz=244,slow=7.7,SNR=4.6							
ULN	**Ulaanbaatar**	**26.67**	**338**	*e*P		**P**	**13 46 08.2**	**-0.1**
	comp=Z,6.0nm,0.9s							
SONM	**Songino Array**	**26.87**	**337**	P		**P**	**13 46 12.1**	**+1.9**
	comp=Z,4.6nm,0.7s,baz=155,slow=9.0,SNR=12							
SONM				LR		LR	13 58 02.4	
	comp=Z,250nm,18.5s,baz=185,slow=39							
SONA1	**Songino Array**	**26.88**	**337**	*e*P		**P**	**13 46 09.9**	**-0.3**
SHL	**Shillong**	**26.97**	**280**	*e*P		**P**	**13 46 10.9**	**-0.4**
	comp=Z,23nm,1.0s							
LSA	**Lhasa**	**27.71**	**289**	P		**P**	**13 46 17.2**	**-1.1**
	comp=Z,6.9nm,0.7s							
WMQ	**Urumqi**	**34.17**	**314**	*e*P		**P**	**13 47 16.1**	**+1.5**
WMQ				LR		LR		
	comp=Z,670nm,13.5s							
WMQ				LR		LR		
	comp=Z,750nm,13.1s							
WMQ				LR		LR		
	comp=Z,270nm,13.5s							
MK01	**Makanchi Array**	**38.84**	**316**	*e*P		**P**	**13 47 54.2**	**-0.2**
MK31	**Makanchi Array**	**38.85**	**316**	*e*P		**P**	**13 47 54.0**	**-0.5**
MKAR	**Makanchi Array**	**38.85**	**316**	P		**P**	**13 47 54.8**	**+0.2**
	comp=Z,9.2nm,0.9s,baz=107,slow=8.6,SNR=39							
MKAR	**Makanchi Array**	**38.85**	**316**	*e*P		**P**	**13 47 54.1**	**-0.5**
	comp=Z,48nm,0.9s							
PETK	**Petropavlovsk-**	**40.04**	**34**	LR		LR	14 04 18.5	
	comp=Z,58nm,21.2s,baz=224,slow=36							
ZAA0	**Zalesovo Array**	**40.76**	**327**	*e*P		**P**	**13 48 08.3**	**-2.0**
	comp=Z,8.4nm,1.0s							
ZALV	**Zalesovo Beam**	**40.76**	**327**	P		**P**	**13 48 10.7**	**+0.5**
	comp=Z,4.4nm,0.6s,baz=115,slow=6.8,SNR=19							
ZALV				LR		LR	14 05 11.8	
	comp=Z,27nm,21.5s,baz=70,slow=36							
ZALV	**Zalesovo Beam**	**40.76**	**327**	*e*P		**P**	**13 48 09.0**	**-1.2**
KSH	**Kashi**	**41.38**	**303**	*e*P		**P**	**13 48 18.1**	**+2.3**
NRN	**Naryn**	**41.68**	**306**	*e*P		**P**	**13 48 18.2**	**-0.2**
	comp=Z,8.1nm,1.1s							
H11N1	**WAKE ISLAND Hy**	**42.20**	**86**	T		T	14 33 22.0	
	baz=283,slow=75,SNR=91							
H11N2	**WAKE ISLAND Hy**	**42.20**	**86**	T		T	14 33 21.4	
	baz=283,slow=75,SNR=109							
H11N3	**WAKE ISLAND Hy**	**42.22**	**86**	T		T	14 33 23.2	
	baz=283,slow=75,SNR=65							
H11S3	**WAKE ISLAND Hy**	**42.32**	**88**	T		T	14 33 30.3	
	baz=284,slow=74,SNR=164							
H11S1	**WAKE ISLAND Hy**	**42.33**	**88**	T		T	14 33 32.0	
	baz=284,slow=74,SNR=118							
H11S2	**WAKE ISLAND Hy**	**42.34**	**88**	T		T	14 33 32.9	
	baz=284,slow=74,SNR=104							
KURK	**Kurchatov**	**42.61**	**320**	*e*P		**P**	**13 48 25.3**	**-0.1**
	comp=Z,6.6nm,0.8s							
WRA	**Warramunga Arr**	**45.21**	**163**	P		**P**	**13 48 43.5**	**-3.1**
	comp=Z,1.2nm,0.7s,baz=346,slow=8.6,SNR=15							
TIXI	**Tiksi**	**48.09**	**3**	LR		LR	14 11 12.5	
	comp=Z,95nm,18.7s,baz=217,slow=38							
TIXI	**Tiksi**	**48.09**	**3**	*e*P		**P**	**13 49 06.6**	**-2.0**
	comp=Z,8.2nm,1.4s							
BRVK	**Borovoye**	**48.26**	**321**	*e*P		**P**	**13 49 08.7**	**-1.5**
	comp=Z,5.5nm,0.9s							
ASAR	**Alice Springs**	**48.66**	**165**	P		**P**	**13 49 11.6**	**-2.0**
	comp=Z,0.9nm,0.5s,baz=340,slow=6.8,SNR=25							
NRIK	**Noril'sk**	**49.88**	**345**	LR		LR	14 11 18.9	
	comp=Z,53nm,19.5s,baz=149,slow=37							
ABKAR	**Akbulak array**	**53.95**	**315**	*e*P		**P**	**13 49 51.6**	**-1.4**
GEYT	**Alibeck**	**55.27**	**301**	P		**P**	**13 50 02.3**	**-0.6**
	comp=Z,2.9nm,0.8s,baz=53,slow=5.6,SNR=8.3							
GEYT				LR		LR	14 17 18.2	
	comp=Z,69nm,18.3s,baz=5.0,slow=40							
GYA0B	**ALIBECK ARRAY**	**55.27**	**301**	*e*P		**P**	**13 50 03.2**	**+0.3**
	comp=Z,7.4nm,0.8s							
STKA	**Stephens Creek**	**58.57**	**160**	P		**P**	**13 50 23.4**	**-2.6**
	comp=Z,1.4nm,0.5s,baz=341,slow=8.0,SNR=6.0							
KBZ	**Khabaz**	**65.98**	**309**	P		**P**	**13 51 17.4**	**+1.6**
	comp=Z,3.7nm,0.8s,baz=94,slow=5.5,SNR=8.0							
IM3	**Indian Mountai**	**66.42**	**26**	*e*P		**P**	**13 51 17.7**	**-0.5**
MLY	**Manley**	**67.78**	**27**	*e*P		**P**	**13 51 26.3**	**-0.6**
	comp=Z,5.3nm,0.9s							
MDM	**Murphy Dome**	**68.84**	**27**	*e*P		**P**	**13 51 33.3**	**-0.2**
	comp=Z,12nm,1.0s							
ILAR	**Eielson Array**	**69.44**	**27**	P		**P**	**13 51 35.1**	**-2.1**
	comp=Z,0.5nm,0.6s,baz=290,slow=7.1,SNR=8.2							
ARCES	**ARCESS Array B**	**70.04**	**338**	P		**P**	**13 51 41.5**	**+0.6**
	comp=Z,3.5nm,1.0s,baz=66,slow=10.0,SNR=3.6							
DAWY	**Dawson**	**72.77**	**27**	*e*P		**P**	**13 51 56.1**	**-1.4**
	comp=Z,7.7nm,0.9s							
AKASG	**Malin Array Be**	**73.39**	**318**	P		**P**	**13 52 01.5**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=61,slow=5.9,SNR=3.4							
INK	**Inuvik**	**73.50**	**22**	P		**P**	**13 52 00.0**	**-1.6**
	comp=Z,3.4nm,0.8s,baz=308,slow=7.1,SNR=5.8							
INK	**Inuvik**	**73.50**	**22**	*e*P		**P**	**13 52 00.8**	**-0.7**
BRTR	**Keskin Array B**	**73.67**	**307**	P		**P**	**13 52 03.5**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=68,slow=5.1,SNR=7.9							
HYT	**Haines Junctio**	**74.70**	**30**	*e*P		**P**	**13 52 08.9**	**-0.1**
	comp=Z,14nm,1.3s							
NOA	**NORSAR Array B**	**78.74**	**332**	P		**P**	**13 52 32.1**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=58,slow=5.8,SNR=3.3							
NOA				LR		LR	14 31 14.9	
	comp=Z,84nm,18.7s,baz=60,slow=39							
GERES	**GERESS Array B**	**83.36**	**321**	P		**P**	**13 52 57.2**	**+0.6**
	comp=Z,0.3nm,0.2s,baz=87,slow=4.0,SNR=4.0							
NVAR	**Mina Array Bea**	**96.52**	**43**	P		**P**	**13 54 01.6**	**+2.1**
	comp=Z,0.4nm,0.7s,baz=316,slow=10,SNR=3.6							
H02S1				Lg		Lg	14 09 02.7	
H02N1	**VAN INLET T-PH**	**0.94**	**338**	Pg		**Pb**	**14 08 51.4**	**-1.9**
H02N1				Lg		Lg	14 09 04.4	
BBB	**Bella Bella**	**2.37**	**93**	Pn		**Pn**	**14 09 12.2**	**-1.2**
	13nm,0.3s,baz=280,slow=12,SNR=37							
BBB				Sn		**Sn**	**14 09 40.3**	**-1.6**
	43nm,0.3s,baz=76,slow=23,SNR=7.3							
BBB				LR		LR	14 10 24.6	
	comp=Z,807nm,20.4s,baz=296,slow=46							
DLBC	**Dease Lake**	**6.17**	**9**	Pn		**Pn**	**14 10 09.3**	**+3.7**
	1.5nm,0.3s,baz=187,slow=9.4,SNR=23							
DLBC				Sn		**Sn**	**14 11 19.2**	**+3.5**
	0.7nm,0.3s,baz=189,slow=13,SNR=3.0							
DLBC				Lg		Lg	14 11 55.4	
	0.8nm,0.3s,baz=34,slow=6.7,SNR=5.0							
NEW	**Newport**	**10.34**	**108**	Pn		**Pn**	**14 11 01.6**	**-1.2**
	0.1nm,0.3s,baz=274,slow=13,SNR=1.8							
NEW				LR		LR	14 14 10.8	
	comp=Z,160nm,20.2s,baz=275,slow=32							
YBH	**Yreka Blue Hor**	**12.37**	**146**	Pn		**Pn**	**14 11 31.5**	**+0.9**
	0.1nm,0.3s,baz=339,slow=12,SNR=2.4							
KDAK	**Kodiak Island**	**12.97**	**303**	LR		LR	14 15 28.6	
	comp=Z,179nm,18.6s,baz=82,slow=32							
YKA	**Yellowknife Ar**	**13.73**	**36**	Pn		**Pn**	**14 11 48.3**	**-0.6**
	0.1nm,0.3s,baz=220,slow=16,SNR=3.1							
ILAR	**Eielson Array**	**14.60**	**334**	Pn		**P**	**14 12 04.7**	**-2.5**
	0.1nm,0.3s,baz=151,slow=11,SNR=3.6							
ILAR				LR		LR	14 16 20.9	
	comp=Z,101nm,18.8s,baz=152,slow=32							
INK	**Inuvik**	**16.00**	**358**	Pn		**P**	**14 12 23.1**	**+0.5**
	0.1nm,0.3s,baz=186,slow=10,SNR=3.3							
NVAR	**Mina Array Bea**	**16.88**	**140**	Pn		**P**	**14 12 33.3**	**+0.4**
	0.0nm,0.3s,baz=318,slow=11,SNR=12							
PDAR	**Pinedale Array**	**17.84**	**114**	P		**P**	**14 12 45.6**	**+2.1**
	0.2nm,0.3s,baz=310,slow=9.3,SNR=26							
ULM	**Lac du Bonnet**	**22.51**	**81**	P		**P**	**14 13 34.4**	**+0.6**
	3.4nm,0.7s,baz=293,slow=10,SNR=4.6							
ULM				LR		LR	14 22 55.0	
	comp=Z,185nm,20.2s,baz=302,slow=38							
TXAR	**Lajitas Array**	**31.08**	**127**	P		**P**	**14 14 54.2**	**+1.6**
	0.6nm,0.7s,baz=337,slow=8.8,SNR=4.8							
SADO	**Sadowa**	**35.07**	**81**	LR		LR	14 31 40.5	
	comp=Z,34nm,20.7s,baz=312,slow=39							
SEY	**Seymchan**	**39.47**	**316**	P		**P**	**14 16 04.7**	**+0.5**
	2.5nm,0.8s,baz=96,slow=4.2,SNR=6.0							
PETK	**Petropavlovsk-**	**41.01**	**300**	LR		LR	14 31 25.3	
	comp=Z,37nm,20.9s,baz=85,slow=34							
H11N2	**WAKE ISLAND Hy**	**57.06**	**259**	T		T	15 20 23.4	
	baz=39,slow=76,SNR=57							
H11N3	**WAKE ISLAND Hy**	**57.06**	**259**	T		T	15 20 24.4	
	baz=39,slow=76,SNR=118							
H11N1	**WAKE ISLAND Hy**	**57.08**	**259**	T		T	15 20 26.3	
	baz=39,slow=76,SNR=55							
ROSC	**El Rosal**	**66.85**	**114**	LR		LR	14 53 43.8	
	comp=Z,25nm,18.1s,baz=137,slow=40							
MKAR	**Makanchi Array**	**76.94**	**337**	P		**P**	**14 20 25.3**	**-1.1**
	0.7nm,0.6s,baz=39,slow=5.8,SNR=6.0							
LPAZ	**La Paz**	**87.74**	**120**	P		**P**	**14 21 23.1**	**-0.8**
	0.5nm,0.7s,baz=310,slow=7.9,SNR=2.1							
BOSA	**Boshof**	**150.84**	**44**	PKPbc		**PKPbc**	**14 28 26.6**	**0.0**
	0.7nm,0.5s,baz=33,slow=2.7,SNR=3.9							

*PGC **05** 14:08:32.9, 52°.26N × 132°.32W, h25km, 115km Ssw of Sandspit, Bc Haida Gwaii Region*
*IDC **05** 14:08:32.3±1.1, 52°.28N × 132°.12W, h0km, mb3.9/5, mb1 4.0/10, mb1mx3.7/45, mbtmp3.8/10, ML3.4/5, MS3.4/8, Ms1 3.4/8, ms1mx3.0/44, Error ellipse: s-maj=19.4km s-min=7.3km az=62.0*
*ISCJB **05** 14:08:34.6±0.7, 52°.37N±0°.06 × 131°.9W±0°.1, h18km, mb3.8/5, MS3.3/4, Error ellipse: s-maj=11.4km s-min=6.0km az=142.7*

ISC 05 14:08:35.4±0.8, 52°.38N±0°.08×131°.96W±0°.09, h18km, n24, σ1§87/19, mb3.9/5, MS3.4/4, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H02S1	**DAWSON INLET T**	**0.88**	**339**	Pg		**Pb**	**14 08 50.4**	**-1.8**

IDC 05 14:09:32.7±13.0, 6°.01S × 150°.09E, h62km±120km, mb3.6/6, mb1 3.9/6, mb1mx3.5/33, mbtmp3.9/6, Error ellipse: s-maj=59.8km s-min=46.0km az=142.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.65**	**226**	P		P	14 14 07.0	-0.3
	3.5nm,0.6s,baz=52,slow=11,SNR=18							
ASAR	**Alice Springs**	**23.47**	**220**	P		P	14 14 36.6	-0.4
	1.2nm,0.7s,baz=58,slow=9.4,SNR=14							
FITZ	**Fitzroy Crossi**	**26.72**	**241**	P		P	14 15 06.5	+0.1
	1.8nm,0.7s,baz=64,slow=9.0,SNR=11							
STKA	**Stephens Creek**	**26.93**	**196**	P		P	14 15 08.9	+0.7
	1.7nm,0.7s,baz=343,slow=13,SNR=4.6							
ILAR	**Eielson Array**	**84.30**	**23**	P		P	14 21 57.5	+0.1
	0.8nm,0.9s,baz=244,slow=5.6,SNR=5.6							
NVAR	**Mina Array Bea**	**94.95**	**52**	P		P	14 22 49.6	+0.7
	0.5nm,0.8s,baz=253,slow=5.6,SNR=3.9							
CMIG	**Matias Romero**	**115.64**	**74**	PKP		PKPdf	14 28 06.7	-2.1
	1.0nm,0.8s,baz=301,slow=5.9,SNR=2.2							
TORD	**Torodi Ar. Bea**	**148.07**	**285**	PKPbc		PKPbc	14 29 12.2	-0.2
	1.0nm,0.6s,baz=56,slow=3.5,SNR=6.2							

IDC 05 14:10:23.8±1.7, 5°.83S × 150°.07E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/32, mbtmp3.8/4, MS4.7/1, Ms1 4.7/1, ms1mx2.7/31, Error ellipse: s-maj=83.2km s-min=30.3km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.75**	**226**	P		P	14 15 05.7	-0.7
	3.2nm,0.6s,baz=51,slow=11,SNR=2.9							
ASAR	**Alice Springs**	**23.59**	**220**	P		P	14 15 36.8	+0.2
	1.6nm,0.9s,baz=58,slow=8.9,SNR=3.0							
STKA	**Stephens Creek**	**27.10**	**196**	P		P	14 16 08.3	-0.2
	2.1nm,0.6s,baz=14,slow=14,SNR=3.7							
RAO	**Raoul Island**	**38.16**	**131**	LR		LR	14 30 00.9	
	comp=Z,987nm,20.4s,baz=134,slow=31							
ILAR	**Eielson Array**	**84.14**	**23**	P		P	14 22 56.2	-0.3
	0.5nm,0.9s,baz=234,slow=7.5,SNR=2.5							
TORD	**Torodi Ar. Bea

GRPR			AMB	AMB	14 15 08.0
	60nm,0.4s				
GRPR			AMB	AMB	14 15 08.0
	80nm,0.4s				
GRPR			*e*S	**Sn**	**14 15 30.2 0.0**
GRPR			A	A	14 15 34.0
	230nm,0.4s				
GRPR			A	A	14 15 34.0
	340nm,0.4s				
GLVR	**Golovnino**	**2.35 242**	*e*P	**Pn**	**14 15 09.0 +1.3**
GLVR			AMB	AMB	14 15 10.0
	20nm,0.4s				
GLVR			AMB	AMB	14 15 10.0
	70nm,0.4s				
GLVR			*e*S	**Sn**	**14 15 38.0 +1.4**
GLVR			A	A	14 15 44.0
	540nm,0.4s				
GLVR			A	A	14 15 44.0
	260nm,0.4s				
NEM2	**Nemuro 2**	**2.43 232**	P	**Pn**	**14 15 09.0 +0.2**
NEM2			*e*S	**Sn**	**14 15 36.8 -1.6**
JNK	**Nakash**	**2.93 245**	P	**Pn**	**14 15 16.7 +1.4**
JKHN	**Kushirohamanak**	**2.94 233**	P	**Pn**	**14 15 15.9 +0.5**
JAK	**Akkeshi**	**3.26 236**	P	**Pn**	**14 15 20.3 +0.7**
JAK			*e*S	**Sn**	**14 15 56.4 -1.5**
JTKR	**Abashiri--Toko**	**3.33 256**	P	**Pn**	**14 15 21.4 +0.9**
JAR	**Ashorobuto**	**3.68 246**	P	**Pn**	**14 15 27.1 +1.9**
JKK2	**Kamakawa 2**	**4.16 258**	P	**Pn**	**14 15 33.0 +1.4**
JCH	**Churui**	**4.28 240**	P	**Pn**	**14 15 34.3 +1.0**
YSS	**Yuzh-Sakhalins**	**4.43 300**	*e*P	**Pn**	**14 15 36.0 +0.8**
YSS			AMB	AMB	14 15 37.9
	5.0nm,0.4s				
YSS			AMB	AMB	14 15 37.9
	3µm,0.4s				
YSS			*e*S	**Sn**	**14 16 23.9 -1.9**
YSS			A	A	14 16 28.5
	20nm,1.0s				
YSS			A	A	14 16 28.5
	30nm,1.0s				
JNBK	**Urakawa-nobuka**	**4.84 239**	P	**Pn**	**14 15 40.8 0.0**
JKB	**Kayabe**	**6.13 243**	P	**Pn**	**14 15 58.2 0.0**
JKB			*e*S	**Sn**	**14 17 02.4 -4.6**
EKMR	**Ekimchan**	**13.00 315**	*e*P	**Pn**	**14 17 31.2 +0.8**

MAN 05 14:14:52.7, 7.22N×123.16E, h14km, mb5.3, ML4.3, MS4.5, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKMP	**Bagumbayan, Su**	**1.54**	**117**	*e*P		Pn	14 15 16.9	-2.8
SKMP				*e*S		Sb	14 15 40.1	-0.3
GSPH	**General Santos**	**2.10**	**122**	*e*P		Pb	14 15 30.8	+0.1

*IDC **05** 14:15:09.5±1.5, 8.91S×127.17E, h0km, mb3.7/2, mb1 4.1/6, mb1mx3.7/35, mbtmp4.0/6, ML4.1/4, MS3.8/2, Ms1 3.8/2, ms1mx2.6/32, Error ellipse: s-maj=34.9km s-min=25.0km az=80.0*
*DJA **05** 14:15:15.1±2.1, 8.5±7.2×12.6E±.1, h19km±18km, M3.9/8, mb4.2/1, mB4.7/1, MLv3.8/8, Mw(mB)3.9/1*
ISC 05 14:15:08.9±1.0, 8.92S±0.07×127.38E±0.08, h10km, n16, σ2.9 87/14, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.18**	**255**	P		**Pn**	**14 15 59.6**	**+0.4**
BATI	**Baumata**	**3.88**	**251**	Pn		**Pn**	**14 16 09.3**	**+0.6**
	10nm,0.3s,baz=75,slow=2.9,SNR=18							
BATI				Sn		**Sn**	**14 16 51.8**	**-2.7**
	20nm,0.3s,baz=95,slow=17,SNR=8.2							
BATI	**Baumata**	**3.88**	**251**	P		**Pn**	**14 16 09.6**	**+0.9**
BATI				S		**Sn**	**14 16 52.8**	**-1.7**
MMRI	**Maumere**	**5.09**	**273**	P		Pn	14 16 18.8	-6.6
AAI	**Ambon**	**5.26**	**9**	P		Pn	14 16 22.3	-5.4
EDFI	**Ende, Flores**	**5.63**	**271**	P		Pn	14 16 26.2	-6.6
NLAI	**Namlea**	**5.65**	**357**	P		Pn	14 16 24.2	-8.9
MSAI	**Masohi**	**5.75**	**16**	P		**Pn**	**14 16 30.8**	**-3.6**
BBSI	**Bau Bau**	**5.87**	**305**	P		Pn	14 16 22.2	-14
FITZ	**Fitzroy Crossi**	**9.28**	**190**	Pn		**Pn**	**14 17 24.2**	**+1.4**
	1.3nm,0.3s,baz=5.4,slow=11,SNR=29							
FITZ				Sn		**Sn**	**14 19 02.9**	**-4.4**
	1.9nm,0.3s,baz=82,slow=22,SNR=6.1							
WRA	**Warramunga Arr**	**12.86**	**149**	Pn		**Pn**	**14 18 15.2**	**+3.3**
	1.3nm,0.3s,baz=320,slow=16,SNR=49							
WRA				Sn		**Sn**	**14 20 34.2**	**-0.9**
	1.2nm,0.3s,baz=323,slow=26,SNR=8.0							
ASAR	**Alice Springs**	**15.93**	**158**	Pn		**Pn**	**14 18 56.5**	**+3.0**
	0.6nm,0.3s,baz=322,slow=10.0,SNR=42							
ASAR				Sn		**Sn**	**14 21 45.8**	**-4.4**
	0.2nm,0.3s,baz=329,slow=23,SNR=5.8							
LEM	**Lembang**	**19.69**	**275**	LR		LR	14 29 06.5	
	comp=Z,63nm,18.2s,baz=184,slow=43							
MKAR	**Makanchi Array**	**68.45**	**328**	P		**P**	**14 26 12.4**	**+1.2**
	0.3nm,0.5s,baz=136,slow=6.8,SNR=4.0							
ZALV	**Zalesovo Beam**	**72.19**	**335**	P		**P**	**14 26 35.6**	**+1.8**
	0.4nm,0.4s,baz=110,slow=7.8,SNR=3.5							
QSPA	**South Pole Qui**	**81.07**	**180**	LR		LR	15 03 40.0	
	comp=Z,174nm,19.2s,baz=44,slow=36							

*IDC **05** 14:24:05.4±1.5, 25.03N×109.55W, h0km, mb3.5/2, mb1 3.9/6, mb1mx3.7/43, mbtmp3.5/6, ML3.9/3, MS3.1/5, Ms1 3.1/5, ms1mx2.9/26, Error ellipse: s-maj=32.4km s-min=13.5km az=126.0*
*ISCJB **05** 14:24:06.7±0.8, 25.02N±0.09×109.4W±0.1, h17km, mb3.5/2, MS2.9/2, Error ellipse: s-maj=18.6km s-min=6.6km az=40.1*
ISC 05 14:24:07.7±1.0, 25.0N±0.1×109.5W±0.1, h17km, n10, σ0.9 59/10, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.15**	**221**	Pn		**Pb**	**14 24 28.8**	**-0.3**
	39nm,0.3s,baz=14,slow=2.8,SNR=22							
LPIG				LR		LR	14 24 38.9	
	comp=Z,37nm,21.1s,baz=226,slow=29							
LPIG				Sn		**Sg**	**14 24 45.2**	**+0.2**
	113nm,0.3s,baz=285,slow=19,SNR=24							
TXAR	**Lajitas Array**	**6.76**	**49**	Pn		**Pn**	**14 25 47.4**	**+1.1**
	0.5nm,0.3s,baz=225,slow=16,SNR=5.5							
TXAR				Pg		**Pg**	**14 26 16.2**	**-0.9**
	0.3nm,0.3s,baz=221,slow=16,SNR=14							
TXAR				Sn		**Sn**	**14 27 03.1**	**+0.2**
	3.1nm,0.3s,baz=232,slow=23,SNR=12							
TXAR				Lg		Lg	14 27 35.8	
	0.2nm,0.3s,baz=235,slow=19,SNR=3.4							
TXAR				LR		LR	14 28 16.3	
	comp=Z,101nm,21.4s,baz=0.0,slow=37							
ANMO	**Albuquerque**	**10.28**	**14**	Pn		**Pn**	**14 26 34.9**	**+0.3**
	0.2nm,0.3s,baz=198,slow=13,SNR=5.7							
ANMO				Lg		Lg	14 29 24.7	
	0.1nm,0.3s,baz=310,slow=2.8,SNR=4.2							
ANMO				LR		LR	14 30 05.5	
	comp=Z,117nm,20.0s,baz=188,slow=35							
NVAR	**Mina Array Bea**	**15.35**	**333**	Pn		**Pn**	**14 27 44.1**	**+0.2**
	baz=157,slow=15,SNR=5.1							
CMIG	**Matias Romero**	**15.72**	**117**	LR		LR	14 33 55.2	
	comp=Z,88nm,19.8s,baz=282,slow=37							
PDAR	**Pinedale Array**	**17.74**	**360**	P		**P**	**14 28 14.8**	**-0.1**
	0.1nm,0.3s,baz=170,slow=7.3,SNR=18							
APG	**El Apazote**	**20.42**	**115**	LR		LR	14 35 59.9	
	comp=Z,108nm,21.8s,baz=286,slow=35							
NEW	**Newport**	**24.01**	**347**	P		**P**	**14 29 21.9**	**+0.3**
	2.1nm,0.7s,baz=159,slow=15,SNR=5.4							
JTS	**JuntasAbangare**	**27.50**	**118**	LR		LR	14 40 22.6	
	comp=Z,19nm,21.4s,baz=358,slow=35							
ILAR	**Eielson Array**	**46.49**	**339**	P		**P**	**14 32 33.6**	**-0.2**
	0.3nm,0.8s,baz=158,slow=5.8,SNR=4.7							

*IDC **05** 14:26:06.2±0.6, 23.99S×176.02W, h0km, mb4.0/12, mb1 4.3/13, mb1mx4.2/34, mbtmp4.0/13, ML3.8/1, MS4.0/20, Ms1 4.0/20, ms1mx3.9/33, Error ellipse: s-maj=27.8km s-min=17.1km az=138.0*
*NEIC **05** 14:26:10.7±4.3, 23.96S×176.01W, h29km±29km, mb4.7/11, Error ellipse: s-maj=13.7km s-min=11.6km az=193.0*
*GCMT **05** 14:26:11.7±0.3, 23.99S±0.03×175.40W±0.02, h23km, MW5.0/70, Moment Tensor Solution. s31,c40; s70,c92; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.07±.18; $M_{\theta\theta}$-0.23±.12; $M_{\phi\phi}$-2.84±.11; $M_{r\theta}$0.04±.23; $M_{\theta\phi}$-1.10±.07; $M_{\phi r}$1.45±.15; Best double couple: M_o3.47500×10^{16}*

NP1:ϕ_s12.00000°, δ57.00000°, λ81.00000°. NP2: ϕ_s208.00000°, δ34.00000°, λ103.00000°. Principal axes: T 3.4190, Plg76.0000°, Azm256.0000°; N 0.1130, Plg7.0000°, Azm17.0000°; P -3.5310, Plg12.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ISC 05 14:26:10.4±0.5, 23.99S±0.08×175.70W±0.09, h31km, n90, σ2.9 01/64, MS4.0/18, 2C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.60**	**200**	Pn		**Pn**	**14 27 33.3**	**+1.7**
	46nm,0.3s,baz=252,slow=19,SNR=4.3							
RAO				Sn		**Sn**	**14 28 34.2**	**-0.7**
	55nm,0.3s,baz=127,slow=20,SNR=3.1							
AFI	**Afiamalu**	**10.69**	**21**	Pn		Pn	14 28 35.3	-6.3
	11nm,0.3s,baz=230,slow=5.2,SNR=19							
AFI				Sn		Sn	14 30 23.9	-16
	3.4nm,0.3s,baz=210,slow=20,SNR=2.6							
AFI	**Afiamalu**	**10.69**	**21**	*e*Pn		Pn	14 28 36.6	-4.9
AFI				Sn		Sn	14 30 23.9	-16
MXZ	**Matakaoa Point**	**14.47**	**199**	*e*Pn		**Pn**	**14 29 34.0**	**+1.0**
RAR	**Rarotonga**	**14.97**	**82**	Pn		Pn	14 29 34.6	-5.2
	7.7nm,0.3s,baz=252,slow=7.1,SNR=39							
RAR				Sn		Sn	14 32 06.0	-19
	2.1nm,0.3s,baz=99,slow=19,SNR=5.2							
RAR				LR		LR	14 36 13.5	
	comp=Z,605nm,18.0s,baz=268,slow=40							
RAR	**Rarotonga**	**14.97**	**82**	*e*Pn		Pn	14 29 35.0	-4.8
	100nm,0.8s							
RAR				Sn		Sn	14 32 06.0	-19
URZ	**Urewera**	**15.49**	**202**	Pn		**Pn**	**14 29 44.2**	**-2.4**
	0.4nm,0.3s,baz=348,slow=14,SNR=3.8							
URZ				Sn		Sn	14 32 24.4	-13
	0.8nm,0.3s,baz=79,slow=15,SNR=4.2							
URZ	**Urewera**	**15.49**	**202**	*e*Pn		**Pn**	**14 29 45.8**	**-0.8**
URZ				*e*Sn		Sn	14 32 24.4	-13
BKZ	**Black Stump Fm**	**16.52**	**202**	*e*Pn		**Pn**	**14 29 57.7**	**-2.1**
	48nm,1.4s							
DZM	**Mont Dzumac**	**16.55**	**273**	LR		LR	14 35 08.9	
	comp=Z,767nm,19.7s,baz=96,slow=33							
DZM	**Mont Dzumac**	**16.55**	**273**	*e*LQ		LQ	14 33 13.6	
	574nm,30.1s							
DZM				*e*LR		LR	14 33 57.0	
	1µm,24.5s							
DZM	**Mont Dzumac**	**16.55**	**273**	*e*Pn		**Pn**	**14 29 59.0**	**-1.3**
	63nm,1.5s							
BFZ	**Birch Farm**	**17.97**	**200**	*e*Pn		**Pn**	**14 30 16.3**	**-1.5**
	49nm,1.1s							
SNZO	**South Karori**	**19.05**	**203**	*e*P		**P**	**14 30 29.0**	**-0.9**
	114nm,1.2s							
TBI	**Tubuai**	**24.03**	**94**	*e*S		**S**	**14 35 31.8**	**-6.3**
	162nm,24.2s							
TBI				*e*LQ		LQ	14 36 01.0	
	403nm,27.8s							
TBI				*e*LR		LR	14 37 11.0	
	874nm,29.8s,baz=268							
TBI	**Tubuai**	**24.03**	**94**	*e*T		T	14 55 54.7	
	11nm,0.4s							
PAE	**Paea**	**25.19**	**80**	*e*T		T	14 57 23.0	
	5.0nm,0.3s							
PPT2	**Papeete2**	**25.22**	**80**	*e*S		**S**	**14 35 51.5**	**-5.9**
	206nm,29.0s							
PPT2				*e*LQ		LQ	14 36 25.3	
	649nm,25.0s							
PPT2				*e*LR		LR	14 37 44.9	
	955nm,25.5s,baz=251							
PPT2	**Papeete2**	**25.22**	**80**	*e*T		T	14 57 25.6	
	6.1nm,0.3s							
PPT	**Papeete**	**25.22**	**80**	LR		LR	14 40 49.4	
	comp=Z,374nm,18.6s,baz=244,slow=35							
TVO	**Taravao**	**25.45**	**81**	*e*T		T	14 57 41.9	
	1.1nm,0.4s							
HNR	**Honiara**	**27.38**	**298**	LR		LR	14 42 04.5	
	comp=Z,352nm,18.1s,baz=152,slow=35							
TAOE	**Nuku Hiva Isla**	**37.14**	**72**	*e*S		**S**	**14 39 02.0**	**-1.4**
	108nm,26.4s							
TAOE				*e*LR		LR	14 43 06.6	
	411nm,28.0s							
TAOE	**Nuku Hiva Isla**	**37.14**	**72**	*e*T		T	15 12 11.4	
	23nm,0.2s							
RKT	**Rikitea**	**37.26**	**97**	*e*LR		LR	14 43 22.4	
	550nm,27.8s							
RKT	**Rikitea**	**37.26**	**97**	*e*T		T	15 12 25.1	
	3.4nm,0.4s							
STKA	**Stephens Creek**	**38.34**	**248**	P		**P**	**14 33 24.6**	**-4.0**
	2.6nm,0.8s,baz=100,slow=11,SNR=3.5							
STKA				LR		LR	14 47 45.9	
	comp=Z,579nm,19.8s,baz=64,slow=34							
STKA	**Stephens Creek**	**38.34**	**248**	*e*P		**P**	**14 33 25.5**	**-3.1**
	6.0nm,1.7s							
H11S2	**WAKE ISLAND Hy**	**45.58**	**336**	T		T	15 21 26.3	
	baz=155,slow=8.3,SNR=3.6							
H11S3	**WAKE ISLAND Hy**	**45.59**	**336**	T		T	15 21 36.6	
	baz=155,slow=8.3,SNR=4.6							
H11S1	**WAKE ISLAND Hy**	**45.59**	**336**	T		T	15 21 23.3	
	baz=155,slow=8.3,SNR=6.3							
AS01	**Alice Springs**	**45.85**	**260**	*e*P		**P**	**14 34 28.3**	**-1.8**
AS31	**Alice Springs**	**45.89**	**260**	*e*P		**P**	**14 34 27.4**	**-2.9**
	1.4nm,0.8s							
ASAR	**Alice Springs**	**45.89**	**260**	P		**P**	**14 34 28.6**	**-1.7**
	2.2nm,0.8s,baz=93,slow=6.8,SNR=46							
WB2	**Warramunga Arr**	**46.31**	**265**	*e*P		**P**	**14 34 30.4**	**-3.2**
WRAB	**Tennant Creek**	**46.31**	**265**	*e*P		**P**	**14 34 30.6**	**-3.1**
	18nm,1.4s							
WR1	**Warramunga Arr**	**46.32**	**265**	*e*P		**P**	**14 34 31.4**	**-2.3**
	19nm,1.5s							
WRA	**Warramunga Arr**	**46.32**	**265**	P		**P**	**14 34 31.4**	**-2.3**
	3.4nm,0.6s,baz=95,slow=8.5,SNR=73							
WRA				LR		LR	14 52 48.7	
	comp=Z,444nm,19.9s,baz=100,slow=35							
SBA	**Scott Base**	**54.56**	**184**	*e*P		**P**	**14 35 35.9**	**+0.7**
	18nm,1.7s							
VNDA	**Vanda**	**54.66**	**186**	P		**P**	**14 35 35.4**	**-0.5**
	0.4nm,0.8s,baz=307,slow=9.6,SNR=2.0							
VNDA				LR		LR	14 56 33.7	
	comp=Z,63nm,19.7s,baz=13,slow=34							
VNDA	**Vanda**	**54.66**	**186**	*e*P		**P**	**14 35 36.3**	**+0.5**
DAV	**Davao City (W)**	**65.05**	**291**	LR		LR	15 02 14.4	
	comp=Z,71nm,19.1s,baz=123,slow=34							
QSPA	**South Pole Qui**	**66.10**	**180**	*e*P		**P**	**14 36 56.0**	**+1.6**
	30nm,1.8s							
TGY	**Tagaytay City**	**72.54**	**295**	LR		LR	15 07 17.9	
	comp=Z,79nm,19.0s,baz=220,slow=34							
MJAR	**Matsushiro Arr**	**74.27**	**323**	LR		LR	15 05 30.7	
	comp=Z,97nm,22.0s,baz=90,slow=32							
LEM	**Lembang**	**75.11**	**269**	LR		LR	15 09 26.0	
	comp=Z,152nm,21.5s,baz=150,slow=35							
MAW	**Mawson**	**79.01**	**199**	P		**P**	**14 38 12.6**	**+1.6**
	1.9nm,0.6s,baz=143,slow=8.2,SNR=12							
MAW				LR		LR	15 11 58.6	
	comp=Z,78nm,19.2s,baz=70,slow=35							
MAW	**Mawson**	**79.01**	**199**	*e*P		**P**	**14 38 12.2**	**+1.3**
KSRS	**Korea Array**	**80.89**	**318**	LR		LR	15 08 52.6	
	comp=Z,117nm,21.1s,baz=134,slow=32							
YBH	**Yreka Blue Hor**	**81.72**	**37**	P		**P**	**14 38 27.7**	**+1.7**
	1.0nm,0.7s,baz=90,slow=8.1,SNR=3.0							
NV01	**Mina Array Sit**	**82.14**	**42**	*e*P		**P**	**14 38 28.2**	**-0.2**
NVAR	**Mina Array Bea**	**82.14**	**42**	P		**P**	**14 38 29.7**	**+1.3**
	0.8nm,0.8s,baz=228,slow=8.5,SNR=5.5							
SYO	**Syowa Base**	**83.79**	**192**	*e*P		**P**	**14 38 36.6**	**+0.4**
SYO	**Syowa Base**	**83.79**	**192**	*e*P		P	14 38 42.8	+6.6
SNAA	**Sanae**	**84.47**	**178**	P		**P**	**14 38 41.9**	**+2.1**
SNAA	**Sanae**	**84.47**	**178**	*e*P		**P**	**14 38 40.5**	**+0.7**
	7.3nm,1.1s							
VNA3	**Neumayer Olymp**	**84.53**	**176**	P		**P**	**14 38 41.2**	**+1.2**
U15A	**North Rim**	**84.77**	**46**	*e*P		**P**	**14 38 43.3**	**+1.2**
	20nm,1.7s							
VNA2	**Neumayer--Watz**	**84.99**	**176**	P		**P**	**14 38 44.6**	**+2.2**
	baz=221,slow=2.5							
VNA1	**Neumayer--Stat**	**85.20**	**176**	P		**P**	**14 38 47.0**	**+3.6**
PLCA	**Paso Flores**	**85.35**	**133**	LR		LR	15 10 52.4	
	comp=Z,82nm,18.4s,baz=280,slow=31							
PSI	**Prapat**	**86.90**	**274**	LR		LR	15 20 43.6	
	comp=Z,55nm,18.5s,baz=91,slow=38							
LTX	**Lajitas**	**87.17**	**56**	*e*P		**P**	**14 38 55.4**	**+1.5**
TX31	**Lajitas Ar. Si**	**87.17**	**56**	*e*P		**P**	**14 38 53.7**	**-0.2**
TXAR	**Lajitas Array**	**87.17**	**56**	P		**P**	**14 38 55.4**	**+1.5**
	0.7nm,0.8s,baz=224,slow=7.0,SNR=5.6							
TXAR				LR		LR	15 13 06.6	
	comp=Z,117nm,18.7s,baz=0.0,slow=32							
ANMO	**Albuquerque**	**87.95**	**50**	P		**P**	**14 38 59.1**	**+1.5**
	0.8nm,0.6s,baz=213,slow=8.8,SNR=3.5							
SKNT	**Sakolnakorn**	**88.28**	**289**	P		**P**	**14 39 02.1**	**+2.8**
NONG	**Nongkai**	**89.47**	**290**	P		**P**	**14 39 07.7**	**+2.8**
PDAR	**Pinedale Array**	**90.06**	**42**	P		**P**	**14 39 09.3**	**+1.9**
	0.2nm,0.4s,baz=211,slow=6.2,SNR=2.7							
PDAR				LR		LR	15 14 42.4	
	comp=Z,92nm,18.7s,baz=268,slow=32							
ILAR	**Eielson Array**	**91.25**	**12**	P		**P**	**14 39 12.3**	**+0.2**
	0.4nm,0.8s,baz=224,slow=7.7,SNR=4.2							
CM01	**Chiang Mai Arr**	**93.23**	**289**	*e*P		**P**	**14 39 23.6**	**+1.2**
CM31	**Chiang Mai Arr**	**93.26**	**289**	*e*P		**P**	**14 39 22.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**93.26**	**289**	P		**P**	**14 39 23.9**	**+1.3**
	3.5nm,1.1s,baz=131,slow=2.7,SNR=18							
CMAR				LR		LR	15 23 49.2	
	comp=Z,21nm,18.1s,baz=156,slow=37							
CMMT	**Chiang Mai**	**93.40**	**289**	P		**P**	**14 39 25.1**	**+1.9**
	6.3nm,1.6s,282nm							
CHTO	**Chiang Mai**	**93.41**	**289**	*e*P		**P**	**14 39 23.1**	**0.0**
	14nm,1.5s							
CHTO	**Chiang Mai**	**93.41**	**289**	P		**P**	**14 39 25.2**	**+2.0**
	28nm,1.6s							
LPAZ	**La Paz**	**98.77**	**112**	LR		LR	15 17 50.4	
	comp=Z,70nm,18.5s,baz=281,slow=31							
SONM	**Songino Array**	**99.77**	**318**	LR		LR	15 19 07.3	
	comp=Z,55nm,21.8s,baz=237,slow=32							
MK32	**Makanchi Array**	**115.12**	**312**	*e*PKiKP		**PKiKP**	**14 44 49.4**	**+1.0**
MKAR	**Makanchi Array**	**115.12**	**312**	PKP		PKPdf	14 44 49.4	+1.0
	0.3nm,0.7s,baz=60,slow=3.5,SNR=4.2							
ARA0	**ARCESS Array S**	**132.72**	**350**	*e*PKPdf		**PKPdf**	**14 45 20.9**	**-0.5**
ARCES	**ARCESS Array B**	**132.72**	**350**	PKP		**PKPdf**	**14 45 20.9**	**-0.5**
	1.5nm,0.7s,baz=27,slow=2.2,SNR=3.0							
AKASG	**Malin Array Be**	**147.08**	**330**	PKPbc		**PKPbc**	**14 45 50.1**	**+0.1**
	2.3nm,0.6s,baz=43,slow=3.9,SNR=8.0							
AKBB	**Malin Array Si**	**147.08**	**330**	*e*PKPbc		**PKPbc**	**14 45 50.1**	**+0.1**
KIEV	**Kiev**	**147.09**	**330**	*e*PKPbc		**PKPbc**	**14 45 49.2**	**-0.7**
BR101	**Keskin Array S**	**150.72**	**309**	*e*PKPbc		**PKPbc**	**14 46 00.2**	**+0.3**
BRTR	**Keskin Array B**	**150.72**	**309**	PKPbc		**PKPbc**	**14 46 00.2**	**+0.3**
	1.1nm,0.7s,baz=126,slow=4.6,SNR=4.3							
GERES	**GERESS Array B**	**154.11**	**346**	PKPab		**PKPab**	**14 46 21.0**	**+0.3**
	0.7nm,0.7s,baz=29,slow=2.2,SNR=5.2							
TORD	**Torodi Ar. Bea**	**168.94**	**167**	PKP		PKPdf	**14 46 15.5**	**+0.3**
	0.2nm,0.6s,baz=341,slow=2.1							
TORD				PKPab		**PKPab**	**14 47 26.9**	**+1.0**
	baz=191,slow=4.4							
TOA1	**Torodi Ar. Sit**	**168.94**	**167**	*e*PKPdf		**PKPdf**	**14 46 15.5**	**+0.3**
TOA1				*e*PKPab		**PKPab**	**14 47 26.9**	**+0.9**

*IDC **05** 14:30:43.8±1.3, 21.69S×173.80W, h0km, mb4.0/6, mb1 4.3/7, mb1mx3.9/29, mbtmp4.1/7, ML3.8/1, Error ellipse: s-maj=50.2km s-min=22.1km az=151.0*
*NEIC **05** 14:30:47.7±0.7, 21.95S×173.64W, h35km, mb4.3/4, Error ellipse: s-maj=29.6km s-min=13.2km az=165.0*
ISC 05 14:30:48.1±1.9, 21.65S±0.4×173.9W±0.3, h25km, n19, σ0.6 65/14, mb4.0/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.96**	**15**	Pn		Pn	14 32 37.1	-5.3
	1.1nm,0.3s,baz=352,slow=19,SNR=3.1							
AFI				Sn		Sn	14 33 52.8	-19
	1.6nm,0.3s,baz=217,slow=20,SNR=3.4							
RAR	**Rarotonga**	**13.20**	**91**	Pn		Pn	14 33 49.5	-4.5
	5.4nm,0.3s,baz=262,slow=7.8,SNR=19							
RAR				Sn		Sn	14 35 59.9	-20
	1.7nm,0.3s,baz=94,slow=18,SNR=5.3							
RAR	**Rarotonga**	**13.20**	**91**	*e*Pn		Pn	14 33 48.7	-5.3
RAR				Sn		Sn	14 35 60.0	-20
URZ	**Urewera**	**18.27**	**203**	S		Sn	14 38 12.3	-11
	0.3nm,0.3s,baz=343,slow=19,SNR=4.7							
STKA	**Stephens Creek**	**40.75**	**246**	P		**P**	**14 38 28.1**	**+0.8**
	1.9nm,0.9s,baz=78,slow=14,SNR=2.8							
STKA	**Stephens Creek**	**40.75**	**246**	*e*P		**P**	**14 38 27.1**	**-0.1**
	3.0nm,1.4s							
AS31	**Alice Springs**	**47.96**	**257**	*e*P		**P**	**14 39 23.8**	**-1.3**
	1.3nm,1.1s							
ASAR	**Alice Springs**	**47.96**	**257**	P		**P**	**14 39 25.6**	**+0.5**
	3.5nm,0.8s,baz=93,slow=8.3,SNR=25							
WR1	**Warramunga Arr**	**48.20**	**262**	*e*P		**P**	**14 39 26.2**	**-0.7**
	12nm,1.5s							
WRA	**Warramunga Arr**	**48.20**	**262**	P		**P**	**14 39 26.2**	**-0.7**
	1.0nm,0.5s,baz=96,slow=8.3,SNR=23							
MJAR	**Matsushiro Arr**	**73.42**	**321**	P		**P**	**14 42 18.4**	**+0.1**
	0.8nm,0.5s,baz=150,slow=6.2,SNR=3.9							
MAJO	**Matsushiro**	**73.42**	**321**	*e*P		**P**	**14 42 18.4**	**+0.1**
PETK	**Petropavlovsk-**	**78.41**	**343**	P		**P**	**14 42 46.6**	**+0.3**
	2.2nm,0.7s,baz=147,slow=9.2							
PEA1	**Petropavlovsk-**	**78.41**	**343**	*e*P		**P**	**14 42 46.6**	**+0.2**
NVAR	**Mina Array Bea**	**79.31**	**41**	P		**P**	**14 42 51.

comp=Z,0.0nm,0.3s
NIAN Nian 1.21 119 *e*Pg **Pn** 15 59 44.9 +1.0
NIAN IAMB IAmb 16 00 07.8
comp=N,0.0nm,0.4s
NIAN IAMB IAmb 16 00 08.8
comp=Z,0.0nm,0.2s
NIAN IAMB IAmb 16 00 09.7
comp=E,0.0nm,0.2s
NGRK Negar Kerman 1.77 32 *e*Pn **Pn** 15 59 51.8 -0.2
NGRK IAMB IAmb 16 00 18.4
comp=N,0.0nm,0.3s
NGRK IAMB IAmb 16 00 19.4
comp=E,0.0nm,0.3s
NGRK IAMB IAmb 16 00 21.6
comp=Z,0.0nm,0.2s
JHRM Jahrom 1.85 282 *e*Pn **Pn** 15 59 56.7 +3.9
JHRM IAMB IAmb 16 00 29.7
comp=E,0.0nm,0.4s
JHRM IAMB IAmb 16 00 30.4
comp=Z,0.0nm,0.4s
JHRM IAMB IAmb 16 00 36.3
comp=N,0.0nm,0.4s
KRBR Kerman 2.08 28 *e*Pn **Pn** 15 59 57.0 +0.9
KRBR *e*Sg **Sb** 16 00 26.0 +1.1
KRBR IAML 16 00 28.1
comp=E,287nm,0.4s
KRBR IAML 16 00 34.2
comp=N,384nm,0.4s
KRBR Kerman 2.08 28 *e*Pn **Pn** 15 59 57.0 +0.9
TVBK TV Kerman 2.08 28 *e*Pn **Pn** 15 59 57.5 +1.3
TVBK IAMB IAmb 16 00 02.4
comp=Z,0.0nm,0.2s
TVBK IAMB IAmb 16 00 30.0
comp=N,0.0nm,0.2s
TVBK IAMB IAmb 16 00 30.3
comp=E,0.0nm,0.2s
SHME Shamm 2.14 168 P **Pn** 15 59 58.5 +1.8
SHME Shamm 2.14 168 *e*Pn **Pn** 15 59 59.2 +2.5
BANOM Banah 2.29 165 P **Pn** 16 00 01.5 +2.7
KHGB Koh Gabri 2.34 18 IAMB IAmb 16 00 07.9
comp=Z,0.0nm,0.4s
KHGB *e*Pn **Pn** 16 00 02.3 +2.6
KHGB IAMB IAmb 16 00 36.4
comp=E,0.0nm,0.5s
KHGB IAMB IAmb 16 00 38.4
comp=N,0.0nm,0.3s
GHIR Ghir-Karzin 2.34 274 *e*Pn **Pn** 16 00 02.5 +2.9
GHIR Ghir-Karzin 2.34 274 *e*Pn **Pn** 16 00 02.5 +2.9
CHMN Cheshme madani 2.38 44 *e*Pn **Pn** 16 00 03.6 +3.2
CHMN IAMB IAmb 16 00 37.3
comp=Z,0.0nm,0.7s
CHMN IAMB IAmb 16 00 37.3
comp=E,0.0nm,0.5s
CHMN IAMB IAmb 16 00 37.6
comp=N,0.0nm,0.4s
ISRV Sarvestan 2.54 300 *e*Pn **Pn** 16 00 04.9 +2.5
ISRV IAMB IAmb 16 00 52.8
comp=Z,3µm,0.4s
ISRV IAMB IAmb 16 00 53.1
comp=N,8µm,0.4s
MSFE Esma-Masafi 2.81 170 P **Pn** 16 00 08.0 +1.9
MSFE Esma-Masafi 2.81 170 *e*Pn **Pn** 16 00 08.1 +2.1
IPAR Pars 2.83 307 IAMB IAmb 16 00 57.9
comp=E,2µm,0.5s
IPAR IAMB IAmb 16 01 03.2
comp=N,4µm,0.6s
IPAR IAMB IAmb 16 01 06.2
comp=Z,2µm,0.5s
NAZ Nazwa, Dubai 3.15 180 *e*Pn **Pb** 16 00 16.0 -1.5
UOSS Minazif 3.23 171 P **Pn** 16 00 12.8 +1.1
UOSS Minazif 3.23 171 *e*Pn **Pn** 16 00 13.5 +1.8
HATD Hatta, Dubai 3.34 172 P **Pn** 16 00 14.9 +1.7
HATD Hatta, Dubai 3.34 172 *e*Pn **Pn** 16 00 15.2 +2.0
IMEH Mehriz 3.35 345 *e*Pn **Pn** 16 00 16.4 +2.8
IMEH IAMB IAmb 16 00 26.5
comp=Z,788nm,0.2s
IMEH IAMB IAmb 16 01 22.1
comp=N,654nm,0.6s
FAQ Al Faqa, Dubai 3.39 181 P **Pn** 16 00 14.3 +0.4
FAQ Al Faqa, Dubai 3.39 181 *e*Pn Pn 16 00 00.0 -14
ASHO Ashiyiah 3.47 174 P **Pn** 16 00 17.1 +2.1
ASHO S **Sn** 16 00 56.8 +1.3
ASHO Ashiyiah 3.47 174 *e*Pn **Pn** 16 00 17.3 +2.3
ASUD Al Ashush, Dub 3.52 185 P **Pn** 16 00 17.0 +1.3
ASUD Al Ashush, Dub 3.52 185 *e*Pn **Pn** 16 00 18.9 +3.2
IKAZ Kazeroun 3.71 297 *e*Pn **Pn** 16 00 20.4 +1.9
IKAZ IAMB IAmb 16 01 15.7
comp=Z,1µm,0.6s
SOHO SOHO 4.08 168 P **Pn** 16 00 25.8 +2.5
ISAD Sadrabad 4.12 336 *e*Pn **Pn** 16 00 27.0 +2.8
ISAD IAMB IAmb 16 00 39.5
comp=Z,622nm,0.6s
ISAD IAMB IAmb 16 01 35.6
comp=E,638nm,0.6s
ISAD IAMB IAmb 16 01 39.0
comp=N,635nm,0.6s
ICHK Chekchek 4.22 346 *e*Pn **Pn** 16 00 28.2 +2.7
ICHK IAMB IAmb 16 00 46.8
comp=N,332nm,0.3s
ICHK IAMB IAmb 16 01 48.7
comp=Z,357nm,0.4s
YZKH Yazd 4.33 348 *e*Pn **Pn** 16 00 29.0 +2.2
YZKH Yazd 4.33 348 *e*Pn **Pn** 16 00 29.0 +2.2
KLNJ Kolanjah 4.53 310 *e*Pn **Pn** 16 00 31.5 +1.6
KLNJ IAMB IAmb 16 01 34.0
comp=E,0.0nm,0.3s
KLNJ IAMB IAmb 16 02 00.5
comp=Z,0.0nm,0.6s
KLNJ IAMB IAmb 16 02 00.8
comp=N,0.0nm,0.6s
IRAM Rameshed 4.62 323 *e*Pn **Pn** 16 00 32.5 +1.5
IRAM IAMB IAmb 16 00 34.6
comp=Z,300nm,0.2s
IRAM IAMB IAmb 16 00 35.0
comp=E,373nm,0.1s
IRAM IAMB IAmb 16 01 34.3
comp=N,466nm,0.4s
TPRV Parvadeh(Tabas 4.95 10 *e*Pn **Pn** 16 00 38.0 +2.6
TPRV IAMB IAmb 16 02 06.4
comp=Z,0.0nm,0.9s
IKOO Kooshah 5.16 34 *e*Pn **Pn** 16 00 41.0 +2.5
IKOO IAMB IAmb 16 02 09.5
comp=Z,222nm,0.5s
IKOO IAMB IAmb 16 02 10.8
comp=N,396nm,0.5s
IKOO IAMB IAmb 16 02 15.8
comp=E,415nm,0.6s
IGAR Gharneh 5.26 325 *e*Pn **Pn** 16 00 42.2 +2.4
IGAR IAMB IAmb 16 00 42.6
comp=Z,431nm,0.2s
IGAR IAMB IAmb 16 00 42.8
comp=N,541nm,0.2s
ANAR Anarak 5.29 342 *e*Pn **Pn** 16 00 41.9 +1.8
ANAR IAMB IAmb 16 01 01.6
comp=N,0.0nm,0.3s
ANAR IAMB IAmb 16 02 19.2
comp=E,0.0nm,0.4s
ANAR IAMB IAmb 16 02 22.4
comp=Z,0.0nm,1.0s
IBRJ Brojen 5.33 316 *e*Pn **Pn** 16 00 43.2 +2.3
IBRJ IAMB IAmb 16 00 46.0
comp=Z,599nm,0.3s
MZR Muzera 5.48 201 P **Pn** 16 00 43.5 +0.9
IZEF Zefreh 5.53 330 *e*Pn **Pn** 16 00 44.5 +1.0
IZEF IAMB IAmb 16 00 46.6
comp=Z,97nm,0.3s
IZEF IAMB IAmb 16 01 04.6
comp=N,101nm,0.3s
IZEF IAMB IAmb 16 01 04.8
comp=E,94nm,0.4s
TKDS Koohdasht(Taba 5.60 13 *e*Pn **Pn** 16 00 46.6 +2.3
ZNGN Zangian 5.73 315 *e*Pn **Pn** 16 00 48.5 +2.2
ZNGN IAMB IAmb 16 00 52.1
comp=N,0.0nm,0.3s
ZNGN IAMB IAmb 16 01 59.8
comp=E,0.0nm,0.3s
ZNGN IAMB IAmb 16 02 38.3
comp=Z,0.0nm,0.6s
ROKH ROKH 5.78 318 *e*Pn **Pn** 16 00 48.6 +1.7
IDAH Dahanechah 5.85 38 IAMB IAmb 16 02 47.5
comp=E,343nm,0.8s
TNSJ Nastanj 5.86 8 *e*Pn **Pn** 16 00 50.0 +2.1
TNSJ IAMB IAmb 16 02 36.4
comp=Z,0.0nm,0.9s
BTHS 5.94 228 P **Pn** 16 00 48.7 -0.2
BTHS S **Sn** 16 01 54.6 -1.6

BOQSS 6.03 249 P **Pn** 16 00 50.0 -0.2
BOQSS 6.03 249 S **Sn** 16 01 58.1 -0.4
IKLH Kolahrood 6.23 327 *e*Pn **Pn** 16 00 55.4 +2.3
IKLH IAMB IAmb 16 00 59.3
comp=Z,146nm,0.2s
IKLH IAMB IAmb 16 01 03.4
comp=E,128nm,0.2s
IKLH IAMB IAmb 16 02 09.6
comp=N,185nm,0.4s
KRSH Karshahi 6.54 334 *e*Pn **Pn** 16 00 59.1 +1.8
KRSH IAMB IAmb 16 01 15.5
comp=Z,0.0nm,0.6s
KRSH IAMB IAmb 16 03 11.2
comp=E,0.0nm,0.7s
KRSH IAMB IAmb 16 03 22.1
comp=N,0.0nm,0.7s
KFJS 6.79 272 S **Sn** 16 02 13.9 -3.5
KFJS 6.79 272 P **Pn** 16 00 59.9 -0.8
BRTR Keskin Array B 21.54 308 P **P** 16 04 10.8 +0.7
comp=N,0.8nm,0.6s,baz=133,slow=13,SNR=5.3
MKAR Makanchi Array 27.97 41 P **P** 16 05 11.2 -0.1
comp=N,0.3nm,0.5s,baz=235,slow=9.8,SNR=5.1
KURBB Kurchatov Arra 28.36 31 P **P** 16 05 14.4 -0.3
comp=N,0.2nm,0.7s,baz=232,slow=7.9,SNR=2.2
ZALV Zalesovo Beam 33.46 32 P **P** 16 05 57.2 -2.4
comp=N,0.5nm,0.4s,baz=236,slow=10,SNR=2.6
TORD Torodi Ar. Bea 52.24 265 P P 16 08 29.2 -2.9
comp=N,0.4nm,0.6s,baz=63,slow=7.6,SNR=4.5
WRA Warramunga Arr 89.79 113 P **P** 16 12 18.3 -1.2
comp=N,0.5nm,1.0s,baz=320,slow=4.0,SNR=2.2
ASAR Alice Springs 91.30 116 P **P** 16 12 25.4 -1.1
comp=N,0.4nm,0.8s,baz=301,slow=4.7,SNR=4.7

*THE **05** 16:06:05.9, 37.78N±0.26E±0.99, h0km, ML2.4/3, Error ellipse: s-maj=0.8km s-min=0.4km az=60.0*
*ATH **05** 16:06:05.6, 37.75N±27.01E, h10km±2km, ML2.5/3, Error ellipse: s-maj=4.0km s-min=1.6km az=275.0*
*ISK **05** 16:06:05.8, 37.74N±26.87E, h8km, ML2.6/10*
*ISCJB **05** 16:06:06.4±0.4, 37.77N±0.02×26.98E±0.04, h7km±4km, Error ellipse: s-maj=4.9km s-min=3.7km az=170.3*
ISC 05 16:06:06.1±0.9, 37.77N±0.02×26.99E±0.03, h10km±7km, n27, σ0.54/41, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.14**	**244**	P		**Pg**		**16 06 09.4**	**+0.1**
SMG				S		**Sg**		**16 06 11.3**	**-0.2**
SMG				AML	AML			16 06 12.1	
	comp=E,8948µm,0.3s								
SMG				AML	AML			16 06 12.1	
	comp=N,13152µm,0.2s								
SMG	**Samos**	**0.14**	**244**	P		**Pg**		**16 06 09.3**	**+0.1**
SMG				S		**Sg**		**16 06 11.7**	**+0.3**
GMLD	**Gumuldur**	**0.31**	**349**	PG		**Pg**		**16 06 12.8**	**+0.4**
GMLD				SG		**Sb**		**16 06 18.7**	**-0.3**
DIDI	**Didim-Aydin**	**0.44**	**153**	PG		**Pb**		**16 06 15.7**	**-0.3**
BLCB	**Balcova**	**0.62**	**4**	PG		**Pb**		**16 06 18.9**	**-0.1**
BLCB				SG		**Sb**		**16 06 28.2**	**+0.4**
URLA	**Izmir**	**0.67**	**332**	PG		**Pg**		**16 06 19.1**	**0.0**
AYDE	**Zeytinkoy-Aydi**	**0.73**	**76**	PG		**Pn**		**16 06 22.2**	**-0.5**
BODT	**Bodrum**	**0.75**	**160**	PG		**Pb**		**16 06 20.9**	**-0.4**
BODT				SG		**Sb**		**16 06 32.2**	**+0.6**
BODT	**Bodrum**	**0.75**	**160**	P		**Pb**		**16 06 20.9**	**-0.4**
BODT				S		**Sb**		**16 06 32.4**	**+0.8**
MLSB	**Milas**	**0.78**	**127**	PG		**Pn**		**16 06 22.5**	**-0.8**
CHOS	**Chios island**	**0.96**	**310**	PG		**Pg**		**16 06 23.5**	**-1.2**
CHOS				SG		**Sg**		**16 06 36.8**	**-0.4**
CHOS	**Chios island**	**0.96**	**310**	P		**Pg**		**16 06 24.3**	**-0.3**
CHOS				S		**Sb**		**16 06 37.9**	**0.0**
CHOS				AML	AML			16 06 39.2	
	comp=E,505µm,0.4s								
CHOS				AML	AML			16 06 44.5	
	comp=N,257µm,0.4s								
CHOS	**Chios island**	**0.96**	**310**	P		**Pg**		**16 06 24.4**	**-0.3**
CHOS				S		**Sb**		**16 06 38.9**	**+1.1**
FOCM	**Foˆ§a**	**0.96**	**348**	PG		**Pb**		**16 06 25.0**	**0.0**
DAT	**Datca**	**1.14**	**156**	PN		**Pn**		**16 06 27.9**	**-0.4**
NIS1	**Nisyros Isl.**	**1.18**	**173**	PN		**Pn**		**16 06 28.8**	**+0.1**
AMGA	**Amorgos Island**	**1.28**	**223**	P		**Pn**		**16 06 29.4**	**-0.8**
AMGA				S		**Sn**		**16 06 47.8**	**+0.3**
AMGA				AML	AML			16 06 49.8	
	comp=E,222µm,0.3s								
AMGA				AML	AML			16 06 50.0	
	comp=N,252µm,0.5s								
AMGA	**Amorgos Island**	**1.28**	**223**	P		**Pn**		**16 06 29.7**	**-0.5**
AMGA				S		**Sn**		**16 06 48.5**	**+1.1**
DKL	**Dikili**	**1.30**	**357**	PN		**Pg**		**16 06 31.2**	**+0.1**
APEI	**Apeiranthos**	**1.36**	**239**	PN		**Pn**		**16 06 30.3**	**-0.3**
APE	**Apeiranthos**	**1.36**	**239**	P		**Pn**		**16 06 30.9**	**-0.3**
APE				S		**Sg**		**16 06 49.6**	**-0.2**
APE	**Apeiranthos**	**1.36**	**239**	P		**Pn**		**16 06 30.9**	**-0.3**
APE				S		**Sg**		**16 06 50.6**	**+0.8**
KULA	**Kula-Manisa**	**1.51**	**60**	PN		**Pg**		**16 06 35.4**	**+0.3**
TURN	**Turunc**	**1.56**	**124**	PN		**Pn**		**16 06 33.2**	**-0.8**
SIGR	**SIGRI**	**1.69**	**329**	PN		**Pn**		**16 06 35.9**	**+0.1**
SIGR	**SIGRI**	**1.69**	**329**	P		**Pn**		**16 06 35.5**	**-0.3**
IOSP	**Ios island**	**1.71**	**233**	P		**Pb**		**16 06 37.6**	**-0.2**
IOSP				S		**Sg**		**16 07 01.4**	**+0.2**

*DJA **05** 16:12:14.5±1.1, 4°S±4'×14°2E±1°0, h95km±6km, M4.8/7, mB5.2/3, mb4.5/7, MLv5.0/5, Mw(mB)4.5/3*
*ISCJB **05** 16:12:15.6±0.6, 4.18S±0.03×142.16E±0.05, h117km±5km, mb4.3/20, Error ellipse: s-maj=8.0km s-min=5.0km az=158.1*
*NEIC **05** 16:12:15.9±0.3, 4.12S×142.15E, mb4.5/16, Error ellipse: s-maj=7.6km s-min=6.4km az=78.0*
*IDC **05** 16:12:16.2±0.6, 4.11S×142.09E, h110km±6km, mb4.0/14, mb1 4.1/20, mb1mx4.0/37, mbtmp4.4/20, MS3.2/14, Ms1 3.2/14, ms1mx3.0/40, Error ellipse: s-maj=11.0km s-min=7.8km az=69.0*
ISC 05 16:12:16.2±0.5, 4.17S±0.04×142.20E±0.05, h106km±4km, h106km:pP-P, n79, σ1.30/97, mb4.3/20, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.22**	**318**	P		**Pn**		**16 12 50.6**	**-1.2**
	10nm,0.3s,baz=160,slow=12,SNR=50								
JAY				S		**Sn**		**16 13 16.9**	**-2.2**
	74nm,0.3s,baz=30,slow=20,SNR=16								
JAY				LR	LR			16 13 35.4	
	comp=Z,847nm,20.1s,baz=233,slow=38								
JAY	**Jayapura**	**2.22**	**318**	P		**Pn**		**16 12 50.9**	**-0.9**
JAY				S		**Sn**		**16 13 19.5**	**+0.4**
GENI	**Genyem**	**2.56**	**308**	P		**Pn**		**16 12 56.1**	**-0.1**
GENI				S		**Sn**		**16 13 28.3**	**+1.3**
SMPI	**Sarmi**	**4.10**	**302**	P		**Pn**		**16 13 17.3**	**+0.5**
SMPI				S		**Sn**		**16 14 06.7**	**+2.9**
MMPI	**Merauke**	**4.64**	**203**	P		**Pn**		**16 13 25.2**	**+1.1**
MMPI				S		**Sn**		**16 14 18.5**	**+1.7**
MANU	**Manus Island**	**5.58**	**68**	*e*Pn		**Pn**		**16 13 38.7**	**+1.9**
SRPI	**Serui, Papua**	**6.37**	**291**	P		**Pn**		**16 13 47.5**	**-0.1**
PMG	**Port Moresby**	**7.17**	**137**	P		**Pn**		**16 13 58.3**	**-0.1**
	1.2nm,0.3s,baz=294,slow=12,SNR=5.9								
PMG				S		**Sn**		**16 15 15.7**	**-2.5**
	1.4nm,0.3s,baz=315,slow=20,SNR=3.4								
PMG				LR	LR			16 17 14.3	
	comp=Z,258nm,19.1s,baz=316,slow=41								
RKPI	**Ransiki, Papua**	**8.43**	**288**	P		**Pn**		**16 14 17.4**	**+1.8**
	21nm,0.8s								
COEN	**Coen**	**9.78**	**174**	*e*Pn		**Pn**		**16 14 35.6**	**+1.7**
FAKI	**Fak Fak**	**10.01**	**277**	*e*Pn		**Pn**		**16 14 38.0**	**+1.0**
SIJI	**Sorong**	**11.40**	**286**	P		**Pn**		**16 14 54.8**	**-1.1**
	1.0nm,0.3s,baz=283,slow=13,SNR=6.1								
SIJI				LR	LR			16 20 35.1	
	comp=Z,92nm,18.5s,slow=44								
MTN	**Manton Dam**	**13.92**	**231**	*e*Pn		**Pn**		**16 15 27.2**	**-1.8**
TNTI	**Ternate**	**15.61**	**288**	*e*P		**Pn**		**16 15 50.6**	**+0.2**
	14nm,1.1s								
CTA	**Charters Tower**	**16.31**	**166**	P		**Pn**		**16 15 59.0**	**-0.1**
	0.1nm,0.3s,baz=354,slow=9.2,SNR=2.2								
SANI	**Sanana**	**16.32**	**277**	P		**Pn**		**16 15 58.9**	**-0.4**
	7.8nm,0.7s								
WRAB	**Tennant Creek**	**17.44**	**205**	*e*P		**P**		**16 16 11.5**	**-1.1**
	44nm,0.9s								
WB2	**Warramunga Arr**	**17.45**	**205**	*e*P		**P**		**16 16 11.0**	**-1.6**
	46nm,0.8s								
WRA	**Warramunga Arr**	**17.45**	**205**	P		**P**		**16 16 12.1**	**-0.6**
	5.6nm,0.3s,baz=31,slow=12,SNR=131								
WRA				S		**Sn**		**16 19 27.0**	**-0.6**
	0.3nm,0.3s,baz=24,slow=21,SNR=6.0								
WC3	**Warramunga Arr**	**17.45**	**205**	*e*P		**P**		**16 16 12.0**	**-0.8**
	28nm,0.8s								
GUMO	**Guam**	**17.84**	**9**	LR		LR		16 23 33.2	
	comp=Z,42nm,20.0s,baz=140,slow=38								
SOEI	**Soe**	**18.64**	**252**	*e*P		**Pn**		**16 16 27.6**	**+0.1**
	133nm,1.2s								
SOEI	**Soe**	**18.64**	**252**	P		**Pn**		**16 16 27.9**	**+0.4**
	92nm,0.9s,1µm								
KMSI	**Cibinong**	**18.80**	**284**	P		**P**		**16 16 27.5**	**-0.1**
	119nm,0.8s								
BATI	**Baumata**	**19.34**	**251**	P		**P**		**16 16 34.0**	**+0.5**
	11nm,0.3s,baz=115,slow=3.0,SNR=21								
BATI	**Baumata**	**19.34**	**251**	P		**Pn**		**16 16 35.7**	**+0.1**
LUWI	**Luwuk**	**19.65**	**279**	*e*P		**P**		**16 16 33.5**	**-3.3**
	29nm,0.9s								
DAV	**Davao City (W)**	**19.99**	**304**	LR		LR		16 25 43.3	
	comp=Z,16nm,19.1s,baz=128,slow=41								
MMRI	**Maumere**	**20.32**	**256**	*e*P		**P**		**16 16 44.1**	**+0.1**
	44nm,1.1s								
EDFI	**Ende, Flores**	**20.88**	**256**	P		**P**		**16 16 49.0**	**-1.1**
AS01	**Alice Springs**	**20.96**	**202**	*e*P		**P**		**16 16 50.0**	**-0.9**
AS01				*e*pP		**pP**		**16 17 11.8**	**+0.8**
AS31	**Alice Springs**	**20.97**	**202**	*e*P		**P**		**16 16 50.5**	**-0.5**
	5.2nm,0.8s								
ASAR	**Alice Springs**	**20.98**	**202**	P		**P**		**16 16 50.6**	**-0.4**
	10nm,0.8s,baz=30,slow=8.0,SNR=44								
ASAR				pP		**pP**		**16 17 12.3**	**+1.2**
	14nm,0.9s,baz=34,slow=11,SNR=6.8								
ASAR				S		**S**		**16 20 36.8**	**-2.2**
	3.2nm,0.9s,baz=23,slow=22,SNR=5.5								
ASAR				LR	LR			16 25 00.3	
	comp=Z,91nm,21.2s,baz=39,slow=36								
FITZ	**Fitzroy Crossi**	**21.31**	**228**	P		**P**		**16 16 54.0**	**-0.7**
	33nm,0.8s,baz=54,slow=9.6,SNR=37								
FITZ				S		**S**		**16 20 44.4**	**-1.2**
	8.3nm,0.8s,baz=116,slow=6.3,SNR=6.8								
FITZ				LR	LR			16 25 41.8	
	comp=Z,42nm,19.7s,baz=65,slow=38								
FITZ	**Fitzroy Crossi**	**21.31**	**228**	*e*P		**P**		**16 16 53.3**	**-1.4**
	26nm,0.8s								
FITZ				S		**S**		**16 20 44.4**	**-1.2**
EIDS	**Eidsvold**	**22.74**	**159**	*e*P		**P**		**16 17 10.2**	**+0.6**
	22nm,1.1s								
STKA	**Stephens Creek**	**27.57**	**181**	P		**P**		**16 17 52.6**	**-0.7**
	3.2nm,0.8s,baz=7.5,slow=11,SNR=5.8								
STKA				LR	LR			16 28 46.5	
	comp=Z,44nm,18.6s,baz=25,slow=36								
STKA	**Stephens Creek**	**27.57**	**181**	*e*P		**P**		**16 17 53.3**	**-0.1**
	5.1nm,1.7s								
DZM	**Mont Dzumac**	**29.48**	**129**	P		**P**		**16 18 11.3**	**+0.7**
	4.9nm,0.8s,baz=335,slow=12,SNR=3.6								
DZM				LR	LR			16 28 30.0	
	comp=Z,75nm,18.1s,baz=26,slow=33								
CAN	**Canberra**	**31.63**	**169**	*e*P		**P**		**16 18 30.8**	**+1.5**
	34nm,1.1s								
H11S3	**WAKE ISLAND Hy**	**33.01**	**46**	T		T		16 52 45.8	
	baz=228,slow=74,SNR=5.8								
H11S2	**WAKE ISLAND Hy**	**33.02**	**46**	T		T		16 52 34.1	
	baz=228,slow=74,SNR=3.0								
H11S1	**WAKE ISLAND Hy**	**33.02**	**46**	T		T		16 52 34.6	
	baz=228,slow=74,SNR=3.2								
NWAO	**Narrogin (SRO)**	**36.92**	**216**	P		**P**		**16 19 14.7**	**-0.2**
	10nm,0.9s,baz=112,slow=5.4,SNR=6.3								
MJAR	**Matsushiro Arr**	**40.67**	**355**	P		**P**		**16 19 43.0**	**-3.2**
	1.6nm,0.9s,baz=172,slow=9.8,SNR=4.5								
MJAR				LR		LR		16 35 41.2	
	comp=Z,16nm,18.8s,baz=180,slow=35								
AFI	**Afiamalu**	**46.39**	**105**	LR		LR		16 37 43.1	
	comp=Z,66nm,19.2s,baz=178,slow=33								
URZ	**Urewera**	**46.50**	**142**	P		**P**		**16 20 34.1**	**+1.2**
	2.8nm,0.3s,baz=326,slow=3.6,SNR=7.6								
RPZ	**Rata Peaks**	**46.91**	**151**	P		**P**		**16 20 37.3**	**+1.3**
	28nm,0.9s,baz=56,slow=13,SNR=4.7								
RPZ				LR		LR		16 42 39.1	
	comp=Z,46nm,18.3s,baz=86,slow=39								
KMI	**Kunming**	**48.12**	**309**	P		**P**		**16 20 45.4**	**-0.5**
KMI				pmax		pmax			
	comp=Z,9.0nm,0.9s								
CM01	**Chiang Mai Arr**	**48.15**	**299**	*e*P		**P**		**16 20 45.2**	**-0.8**
CM01				*e*pP		**pP**		**16 21 10.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**48.18**	**299**	P		**P**		**16 20 46.3**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=113,slow=6.4,SNR=9.2								
CMAR				pP		**pP**		**16 21 11.2**	**0.0**
	comp=Z,0.6nm,0.4s,baz=120,slow=6.0,SNR=3.2								
CMAR				LR		LR		16 42 05.6	
	comp=Z,14nm,19.1s,baz=139,slow=37								
CN2	**Changchun**	**50.08**	**344**	*e*P		**P**		**16 21 03.0**	**+2.7**
HHC	**Hu-ho-hao-te**	**52.84**	**331**	*e*P		**P**		**16 21 22.9**	**+1.8**
HHC				pmax		pmax			
	comp=Z,14nm,1.0s								
GTA	**Gaotai**	**58.32**	**322**	P		**P**		**16 22 02.2**	**+1.8**
GTA				pP		pP		16 22 27.7	+1.5
GTA				sP		sP		16 22 39.9	+2.0
GTA				S		**S**		**16 29 57.3**	**+2.4**
GTA				sS		sS		16 30 44.1	+4.9
GTA	**Gaotai**	**58.32**	**322**	SS		SS		16 33 53.0	+4.2
GTA				pmax		pmax			
	comp=Z,3.0nm,1.2s								
GTA				pmax		pmax			
	comp=Z,61nm,5.7s								
GTA				LR		LR			
	comp=N,220nm,20.0s								
GTA				LR		LR			
	comp=E,190nm,20.6s								
GTA				LR		LR			
	comp=Z,82nm,20.0s								
SONA1	**Songino Array**	**60.55**	**333**	*e*P		**P**		**16 22 12.7**	**-2.9**
SONA1				*e*pP		**pP**		**16 22 42.3**	**+0.8**
WMQ	**Urumqi**	**68.32**	**321**	*e*P		**P**		**16 23 07.5**	**+1.3**
MK01	**Makanchi Array**	**73.06**	**322**	*e*P		**P**		**16 23 34.8**	**-0.1**
MK01				*e*pP		**pP**		**16 24 02.7**	**+1.1**
MK31	**Makanchi Array**	**73.07**	**322**	*e*P		**P**		**16 23 34.0**	**-0.9**
MK31				*e*pP		**pP**		**16 24 01.6**	**-0.1**
MKAR	**Makanchi Array**	**73.07**	**322**	P		**P**		**16 23 34.7**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=120,slow=7.1,SNR=3.9								
MKAR				pP		**pP**		**16 24 01.8**	**+0.1**
	comp=Z,4.9nm,0.9s,baz=113,slow=8.3,SNR=13								
MKAR	**Makanchi Array**	**73.07**	**322**	*e*P		**P**		**16 23 34.4**	**-0.5**
MKAR				*e*pP		**pP**		**16 24 02.0**	**+0.3**
VNDA	**Vanda**	**74.05**	**176**	P		**P**		**16 23 40.5**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=326,slow=6.1,SNR=22								
VNDA				LR		LR		16 58 08.1	
	comp=Z,15nm,19.2s,baz=280,slow=37								
VNDA	**Vanda**	**74.05**	**176**	*e*P		**P**		**16 23 39.3**	**-0.7**
	comp=Z,12nm,1.7s								
SBA	**Scott Base**	**74.77**	**175**	*e*P		**P**		**16 23 44.6**	**+0.4**
	comp=Z,5.0nm,1.1s								
ZALV	**Zalesovo Beam**	**74.95**	**329**	P		**P**		**16 23 44.3**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=130,slow=8.0,SNR=3.6								
ZALV				pP		**pP**		**16 24 13.5**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=115,slow=6.7,SNR=3.3								
KURK	**Kurchatov**	**76.91**	**324**	*e*P		**P**		**16 23 57.3**	**+0.5**
KURK				*e*pP		**pP**		**16 24 24.1**	**+0.3**
MAW	**Mawson**	**82.10**	**202**	P		**P**		**16 24 25.2**	**+0.6**
	comp=Z,5.2nm,0.7s,baz=82,slow=7.1,SNR=16								
MAW	**Mawson**	**82.10**	**202**	*e*P		**P**		**16 24 25.4**	**+0.8**
	comp=Z,1.5nm,0.8s								
IM3	**Indian Mountai**	**83.53**	**22**	*e*pP		pP		16 25 00.5	+1.1
WRH	**Wood River Hil**	**85.13**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.23**	**1**	P	Pn	16 23 48.3	+0.9
	8.1nm,0.3s,baz=116,slow=23,SNR=19						
JCJ				S	S	16 24 50.5	-0.2
	10nm,0.3s,baz=234,slow=22,SNR=9.2						
MJAR	**Matsushiro Arr**	**15.02**	**348**	P	P	16 25 46.1	-1.1
	0.4nm,0.3s,baz=170,slow=11,SNR=5.6						
KLR	**Kul'dur**	**28.53**	**346**	P	P	16 27 59.4	+0.3
	0.9nm,0.5s,baz=174,slow=10,SNR=4.2						
PETK	**Petropavlovsk-**	**33.44**	**17**	P	P	16 28 42.0	0.0
	2.0nm,1.0s,baz=209,slow=7.6						
WRA	**Warramunga Arr**	**42.21**	**191**	P	P	16 29 55.2	-0.2
	1.2nm,0.7s,baz=13,slow=8.5,SNR=20						
ASAR	**Alice Springs**	**45.93**	**190**	P	P	16 30 24.5	-0.2
	0.2nm,0.5s,baz=16,slow=6.0,SNR=5.5						

*ISCJB **05** 16:45:33.5±0.8,52°.36N±0°.10×131°.7W±0°.1,h10km, mb3.7/6, Error ellipse: s-maj=17.2km s-min=6.9km az=37.9*

*IDC **05** 16:45:33.2±1.1,52°.31N×131°.79W,h0km,mb3.7/6, mb1 3.9/10,mb1mx3.6/60,mbtmp3.7/10,ML3.6/4, Error ellipse: s-maj=16.5km s-min=6.4km az=38.0*

ISC 05 16:45:35.0±1.1,52°.5N±0°.2×131°.7W±0°.1,h10km,n19, σ0§69/13,mb3.8/6,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H02S1	**DAWSON INLET T**	**0.88**	**326**	Pg	**Pn**	**16 45 52.9**	**-0.6**
H02S1				Lg	Lg	16 46 04.9	
	SNR=332						
H02N1	**VAN INLET T-PH**	**0.95**	**326**	Pg	**Pn**	**16 45 53.4**	**-1.0**
H02N1				Lg	Lg	16 46 07.6	
	SNR=264						
BBB	**Bella Bella**	**2.19**	**96**	Pn	**Pn**	**16 46 11.1**	**-0.4**
	9.6nm,0.3s,baz=271,slow=12,SNR=32						
BBB				Sn	**Sn**	**16 46 38.0**	**-0.6**
	15nm,0.3s,baz=358,slow=23,SNR=9.1						
BBB				Lg	Lg	16 46 44.8	
	44nm,0.3s,baz=165,slow=19,SNR=10						
DLBC	**Dease Lake**	**6.05**	**8**	Pn	Pn	16 47 09.0	+4.5
	0.7nm,0.3s,baz=174,slow=14,SNR=2.7						
DLBC				Lg	Lg	16 48 49.9	
	0.3nm,0.3s,baz=329,slow=6.9,SNR=3.4						
ILAR	**Eielson Array**	**14.60**	**333**	Pn	**P**	**16 49 08.6**	**+0.8**
	0.1nm,0.3s,baz=150,slow=10,SNR=15						
NVAR	**Mina Array Bea**	**16.84**	**141**	Pn	**Pn**	**16 49 30.0**	**-0.9**
	0.1nm,0.3s,baz=333,slow=12,SNR=4.7						
PDAR	**Pinedale Array**	**17.72**	**114**	P	**P**	**16 49 43.1**	**+0.4**
	0.1nm,0.3s,baz=304,slow=7.4,SNR=9.5						
ULM	**Lac du Bonnet**	**22.31**	**81**	P	**P**	**16 50 32.3**	**-0.1**
	2.1nm,0.6s,baz=290,slow=12,SNR=2.5						
TXAR	**Lajitas Array**	**30.99**	**127**	P	**P**	**16 51 53.0**	**+0.5**
	1.2nm,0.9s,baz=330,slow=7.6,SNR=8.0						
H11N2	**WAKE ISLAND Hy**	**57.26**	**260**	T	T	17 57 37.9	
	baz=39,slow=76,SNR=72						
H11N3	**WAKE ISLAND Hy**	**57.26**	**260**	T	T	17 57 37.1	
	baz=39,slow=76,SNR=52						
H11N1	**WAKE ISLAND Hy**	**57.27**	**260**	T	T	17 57 38.2	
	baz=39,slow=76,SNR=41						
H11S1	**WAKE ISLAND Hy**	**58.31**	**259**	T	T	17 58 58.9	
	baz=46						
H11S2	**WAKE ISLAND Hy**	**58.32**	**259**	T	T	17 59 06.6	
	baz=46						
H11S3	**WAKE ISLAND Hy**	**58.33**	**259**	T	T	17 59 00.9	
	baz=46						
ZALV	**Zalesovo Beam**	**69.67**	**338**	P	**P**	**16 56 44.0**	**-0.3**
	0.5nm,0.5s,baz=5.2,slow=6.4,SNR=1.8						
BVAR	**Borovoye Array**	**73.26**	**346**	P	**P**	**16 57 06.8**	**+0.9**
	0.2nm,0.3s,baz=44,slow=4.4,SNR=2.3						
KURBB	**Kurchatov Arra**	**74.15**	**341**	P	**P**	**16 57 11.4**	**+0.2**
	1.1nm,0.8s,baz=18,slow=5.9,SNR=5.1						
MKAR	**Makanchi Array**	**76.93**	**337**	P	**P**	**16 57 27.4**	**+0.2**
	0.7nm,0.8s,baz=34,slow=5.2,SNR=3.9						

*IDC **05** 16:45:32.1±0.9,26°.84N×143°.97E,h0km,mb3.7/9, mb1 3.9/11,mb1mx3.7/49,mbtmp3.7/11,ML4.0/1,MS2.6/1, Ms1 2.8/1,ms1mx2.1/36,Error ellipse: s-maj=24.6km s-min=17.2km az=76.0*

*ISCJB **05** 16:45:35.4±0.8,26°.9N±0°.1×143°.86E±0°.09,h33km, mb3.7/9,MS2.6/1,Error ellipse: s-maj=14.8km s-min=11.5km az=11.0*

ISC 05 16:45:37.8±1.0,26°.9N±0°.1×143°.8E±0°.1,h35km,n13, σ1§25/14,mb3.7/9,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.44**	**277**	Pn	**Pn**	**16 46 01.4**	**-0.1**
	19nm,0.3s,baz=55,slow=12,SNR=21						
JCJ				Sn	**Sn**	**16 46 19.3**	**+0.1**
	136nm,0.3s,baz=282,slow=20,SNR=27						
MJAR	**Matsushiro Arr**	**10.70**	**335**	Pn	**Pn**	**16 48 07.5**	**-1.1**
	1.1nm,0.3s,baz=165,slow=12,SNR=13						
USRK	**Ussuriysk Ar.**	**19.69**	**334**	P	**P**	**16 50 04.3**	**+0.3**
	baz=134,slow=10						
KLR	**Kul'dur**	**24.14**	**340**	P	**P**	**16 50 51.7**	**+1.3**
	1.1nm,0.5s,baz=178,slow=8.1,SNR=3.2						
CMAR	**Chiang Mai Arr**	**42.05**	**268**	P	**P**	**16 53 26.4**	**0.0**
	0.3nm,0.6s,baz=69,slow=5.9,SNR=4.2						
CMAR				LR	LR	17 10 00.2	
	comp=Z,9.0nm,21.5s,baz=65,slow=35						
TIXI	**Tiksi**	**45.54**	**353**	P	**P**	**16 53 51.6**	**-2.0**
	0.3nm,0.3s,baz=101,slow=5.4,SNR=2.2						
WRA	**Warramunga Arr**	**47.48**	**192**	P	**P**	**16 54 08.4**	**-1.1**
	2.5nm,0.7s,baz=13,slow=8.7,SNR=20						
ASAR	**Alice Springs**	**51.19**	**192**	P	**P**	**16 54 36.9**	**-0.9**
	0.4nm,0.6s,baz=360,slow=5.6,SNR=14						
MKAR	**Makanchi Array**	**51.69**	**310**	P	**P**	**16 54 42.7**	**+1.3**
	0.6nm,0.5s,baz=89,slow=9.9,SNR=12						
KURBB	**Kurchatov Arra**	**54.18**	**314**	P	**P**	**16 55 00.5**	**+0.8**
	0.9nm,0.6s,baz=90,slow=8.0,SNR=7.9						
BVAR	**Borovoye Array**	**59.13**	**318**	P	**P**	**16 55 36.4**	**+1.5**
	0.5nm,0.4s,baz=87,slow=5.6,SNR=7.6						
NVAR	**Mina Array Bea**	**79.50**	**52**	P	**P**	**16 57 41.9**	**+0.5**
	0.8nm,0.8s,baz=268,slow=4.2,SNR=4.2						
LPAZ	**La Paz**	**148.58**	**77**	PKPbc	**PKPdf**	**17 05 20.6**	**+1.7**
	0.4nm,0.3s,baz=315,slow=2.9,SNR=3.0						

*ISCJB **05** 16:45:58.9±0.2,6°.79N±0°.02×73°.02W±0°.03,h155km±1km, mb4.4/89,Error ellipse: s-maj=5.0km s-min=3.6km az=32.7*

*IDC **05** 16:45:59.4±0.6,6°.79N×72°.95W,h153km±6km,mb3.9/11, mb1 4.1/20,mb1mx3.8/41,mbtmp4.5/20,MS2.7/2, Ms1 2.8/2,ms1mx2.4/28,Error ellipse: s-maj=12.1km s-min=6.6km az=131.0*

*NEIC **05** 16:46:00.1±0.4,6°.73N×72°.90W,h161km±4km,mb4.5/85, Error ellipse: s-maj=4.4km s-min=4.0km az=86.0*

*RSNC **05** 16:46:01.3±1.1,6°.82N×73°.14W,h145km±5km,ML4.8, Mw4.5*

ISC 05 16:45:59.8±0.5,6°.80N±0°.03×73°.04W±0°.04,h153km±5km, n330,σ1§14/352,mb4.5/89,9C-4D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**215**	⇑*iP*	**Pn**	**16 46 21.0**	**+0.1**
BARC				*eS*	**Sn**	**16 46 35.7**	**-1.3**
BARC				*i*		16 46 36.6	
	comp=Z,13μm,0.3s						
GIRC	**Giron, Santand**	**0.32**	**331**	⇑*iP*	**Pn**	**16 46 21.1**	**+0.1**
GIRC				*eS*	**Sn**	**16 46 36.0**	**-1.2**
PAMC	**Pamplona, Colo**	**0.63**	**32**	⇓*iP*	**Pn**	**16 46 23.8**	**+1.0**
PAMC				*eS*	**Sn**	**16 46 40.5**	**+0.2**
PAMC				*i*		16 46 42.0	
	comp=N,12μm,0.4s						
BRRC	**Barranca, Sant**	**0.74**	**295**	⇑*iP*	**Pn**	**16 46 22.9**	**0.0**
BRRC				*eS*	**Sn**	**16 46 39.5**	**-1.0**
BRRC				*i*		16 46 44.0	
	comp=N,23μm,0.2s						
RUSC	**La Rusia**	**0.90**	**183**	⇓*iP*	**Pn**	**16 46 24.8**	**+0.2**
RUSC				*eS*	**Sn**	**16 46 43.0**	**-0.7**
RUSC				*i*		16 46 45.0	
	comp=N,8μm,0.3s						
TAMC	**Tame, Arauca**	**1.29**	**106**	⇓*iP*	**Pn**	**16 46 29.3**	**+1.8**
TAMC				*eS*	**Sn**	**16 46 50.6**	**+1.9**
TAMC				*i*		16 46 51.5	
	comp=N,7μm,0.3s						
OCAC	**Ocana**	**1.46**	**349**	⇑*iP*	**Pn**	**16 46 29.2**	**-0.1**
OCAC				*eS*	**Sn**	**16 46 50.7**	**-1.4**
ZARC	**Zaragoza, Cauc**	**1.93**	**291**	⇓*iP*	**Pn**	**16 46 33.6**	**-0.7**
ZARC				*eS*	**Sn**	**16 46 59.2**	**-1.7**
ZARC				*i*		16 47 05.2	
	comp=N,9μm,0.4s						
CHIC	**Chingaza**	**2.26**	**198**	⇑*iP*	**Pn**	**16 46 39.0**	**+0.4**
CHIC				*eS*	**Sn**	**16 47 08.0**	**-0.6**
CHIC				*i*		16 47 12.0	
	comp=N,5μm,0.3s						
ROSC	**El Rosal**	**2.33**	**213**	P	**Pn**	**16 46 40.9**	**+1.4**
	comp=N,393nm,0.3s,baz=63,slow=11,SNR=383						
ROSC				LR	LR	16 47 04.5	
	comp=N,37nm,20.7s,baz=214,slow=28						
ROSC				S	**Sn**	**16 47 10.5**	**+0.7**
	comp=N,659nm,0.3s,baz=231,slow=23,SNR=22						
ROSC	**El Rosal**	**2.33**	**213**	*e*Pn	**Pn**	**16 46 40.7**	**+1.3**
ROSC				*e*Sn	**Sn**	**16 47 08.7**	**-1.2**
ROSC	**El Rosal**	**2.33**	**213**	⇑*iP*	**Pn**	**16 46 40.8**	**+1.4**
ROSC				*eS*	**Sn**	**16 47 09.7**	**-0.2**
ROSC				*i*		16 47 15.8	
	comp=Z,3μm,0.4s						
HELC	**Santa Helena**	**2.55**	**256**	*e*P	**Pn**	**16 46 41.5**	**-0.5**
HELC				*eS*	**Sn**	**16 47 11.8**	**-2.7**
HELC				*i*		16 47 19.4	
	comp=N,2μm,0.4s						
GUYC	**Guyana, Colomb**	**2.81**	**236**	*e*P	**Pn**	**16 46 45.7**	**+0.2**
GUYC				*eS*	**Sn**	**16 47 19.8**	**-0.8**
GUYC				*i*		16 47 30.9	
	comp=N,10μm,0.5s						
RREF	**El Recreo**	**2.97**	**231**	*e*P	**Pn**	**16 46 47.6**	**+0.1**
RREF				*eS*	**Sn**	**16 47 24.9**	**+0.5**
RREF				*i*		16 47 29.1	
	comp=Z,3μm,0.8s						
CODC	**Agust´›n Codaz**	**3.14**	**353**	⇑*iP*	**Pn**	**16 46 48.6**	**-0.5**
CODC				*eS*	**Sn**	**16 47 26.3**	**-1.1**
CODC				*i*		16 47 36.5	
	comp=N,1μm,0.4s						
DBBC	**Dabeiba**	**3.16**	**274**	*i*P	**Pn**	**16 46 49.0**	**-0.4**
DBBC				*eS*	**Sn**	**16 47 25.3**	**-2.4**
DBBC				*i*		16 47 27.5	
	comp=Z,1μm,0.3s						
SDV	**Santo Domingo**	**3.16**	**49**	P	**Pn**	**16 46 50.2**	**+0.7**
	comp=Z,294nm,0.3s,baz=232,slow=14,SNR=493						
SDV				S	**Sn**	**16 47 26.6**	**-1.4**
	comp=Z,318nm,0.3s,baz=57,slow=21,SNR=16						
SDV	**Santo Domingo**	**3.16**	**49**	*e*Pn	**Pn**	**16 46 50.5**	**+1.1**
SDV				*e*Sn	**Sn**	**16 47 27.4**	**-0.5**
SDV	**Santo Domingo**	**3.16**	**49**	⇑*iP*	**Pn**	**16 46 50.6**	**+1.1**
PRAC	**Prado**	**3.58**	**211**	⇑*iP*	**Pn**	**16 46 54.0**	**-0.7**
PRAC				*eS*	**Sn**	**16 47 36.6**	**-0.7**
PRAC				*i*		16 47 41.9	
	comp=N,1μm,0.5s						
BCIP	**Isla Barro Col**	**7.13**	**290**	*e*Pn	**Pn**	**16 47 39.0**	**-2.7**
OTAV	**Otavalo**	**8.46**	**220**	*e*Pn	**Pn**	**16 47 56.9**	**-3.0**
PCRV	**Puerto La Cruz**	**8.96**	**67**	P	**Pn**	**16 48 05.8**	**-0.3**
	comp=N,8.8nm,0.3s,baz=282,slow=3.1,SNR=32						
PCRV				S	**Sn**	**16 49 43.3**	**-2.4**
	comp=N,3.7nm,0.3s,baz=196,slow=18,SNR=3.3						
MTDJ	**Mount Denham**	**12.18**	**339**	*e*Pn	**Pn**	**16 48 49.6**	**+1.2**
SDDR	**Presa de Saban**	**12.23**	**8**	*e*Pn	**Pn**	**16 48 49.5**	**+0.4**
JTS	**JuntasAbangare**	**12.28**	**287**	P	**Pn**	**16 48 51.1**	**+1.3**
	comp=N,0.8nm,0.3s,baz=149,slow=5.7,SNR=6.9						
JTS	**JuntasAbangare**	**12.28**	**287**	*e*Pn	**Pn**	**16 48 51.5**	**+1.7**
SJG	**San Juan**	**13.10**	**30**	P	**Pn**	**16 48 59.1**	**-1.1**
	comp=N,10nm,0.3s,baz=196,slow=9.7,SNR=16						
SJG	**San Juan**	**13.10**	**30**	*e*Pn	**Pn**	**16 48 58.8**	**-1.4**
GTBY	**Guantanamo Bay**	**13.20**	**351**	*e*Pn	**Pn**	**16 49 03.3**	**+1.8**
FDF	**Fort de France**	**14.08**	**55**	*e*Pn	**Pn**	**16 49 12.1**	**-0.6**
ATAH	**Atahualpa**	**14.84**	**201**	P	**Pn**	**16 49 21.5**	**-1.1**
	comp=N,0.8nm,0.3s,baz=14,slow=8.2,SNR=3.0						
PTGA	**Pitinga**	**15.04**	**119**	P	**Pn**	**16 49 23.0**	**-1.7**
	comp=N,1.2nm,0.3s,baz=295,slow=14,SNR=9.6						
PTGA	**Pitinga**	**15.04**	**119**	*e*Pn	**Pn**	**16 49 22.6**	**-2.1**
PAYG	**Puerto Ayora**	**18.75**	**247**	*e*P	**Pn**	**16 50 09.5**	**+0.1**
	comp=N,64nm,1.3s						
APG	**El Apazote**	**18.94**	**297**	P	**P**	**16 50 08.9**	**-0.6**
	comp=N,1.0nm,0.3s,baz=326,slow=20,SNR=4.7						
NNA	**Nana**	**19.04**	**191**	P	**P**	**16 50 09.3**	**-1.1**
	comp=N,1.9nm,0.3s,baz=343,slow=7.7,SNR=4.4						
NNA	**Nana**	**19.04**	**191**	*e*P	**P**	**16 50 09.7**	**-0.7**
	comp=N,59nm,1.6s						
TEIG	**Tepich**	**19.92**	**314**	*e*P	**P**	**16 50 21.0**	**+1.2**
	comp=N,33nm,0.9s						
MDP	**Montagnes des**	**20.36**	**94**	P	**P**	**16 50 22.2**	**-2.3**
	comp=N,4.0nm,0.9s,baz=234,slow=11,SNR=2.4						
CCIG	**Comitan**	**20.93**	**298**	*e*P	**P**	**16 50 31.9**	**+1.0**
	comp=N,13nm,0.7s						
LPAZ	**La Paz**	**23.45**	**168**	P	**P**	**16 50 55.5**	**-0.7**
	comp=N,4.4nm,0.8s,baz=347,slow=11,SNR=14						
LPAZ	**La Paz**	**23.45**	**168**	*e*P	**P**	**16 50 54.4**	**-1.8**
	comp=N,6.1nm,0.9s						
353A	**Camilla**	**26.57**	**338**	P	**P**	**16 51 25.6**	**+2.0**
	baz=154						
152A	**Waverly Hall**	**27.94**	**339**	P	**P**	**16 51 37.5**	**+1.6**
	baz=154						
347A	**Saraland**	**28.45**	**331**	P	**P**	**16 51 41.9**	**+1.5**
	baz=146						
Z51A	**Franklin**	**28.69**	**338**	P	**P**	**16 51 44.3**	**+1.8**
	baz=154						
Z50A	**Ashland**	**28.91**	**337**	*e*P	**P**	**16 51 45.3**	**+0.8**
	comp=N,11nm,0.6s						
Z50A	**Ashland**	**28.91**	**337**	P	**P**	**16 51 46.5**	**+2.0**
	baz=153,SNR=5.8						
Z49A	**Columbiana**	**29.10**	**336**	P	**P**	**16 51 48.2**	**+2.1**
	baz=151						
LRAL	**Lakeview Retre**	**29.15**	**335**	P	**P**	**16 51 48.3**	**+1.8**
	baz=150						
Y51A	**Rockmart**	**29.18**	**339**	P	**P**	**16 51 48.3**	**+1.5**
	baz=155						
Y49A	**Blount Mountai**	**29.64**	**337**	P	**P**	**16 51 52.4**	**+1.5**
	baz=152						
Z48A	**Northport**	**29.68**	**335**	P	**P**	**16 51 52.8**	**+1.6**
	baz=150						
X50B	**Fort Payne**	**29.89**	**339**	P	**P**	**16 51 54.6**	**+1.4**
	baz=154						
W52A	**Murphy**	**29.89**	**342**	P	**P**	**16 51 55.1**	**+2.0**
	baz=158						
Y48A	**Jasper**	**29.98**	**336**	P	**P**	**16 51 55.5**	**+1.5**
	baz=151						
V53A	**Saluda**	**30.10**	**344**	P	**P**	**16 51 57.0**	**+2.0**
	baz=160						
X49A	**Woodville**	**30.18**	**338**	P	**P**	**16 51 57.3**	**+1.6**
	baz=153						
W51A	**Cleveland**	**30.22**	**341**	P	**P**	**16 51 57.4**	**+1.5**
	baz=156						
Y47A	**UCPARC, Winfie**	**30.25**	**335**	P	**P**	**16 51 57.8**	**+1.5**
	baz=150						
X48A	**Hartselle**	**30.41**	**337**	*e*P	**P**	**16 51 58.2**	**+0.6**
	comp=N,10nm,0.7s						
W50A	**Signal Mountai**	**30.44**	**340**	P	**P**	**16 51 60.0**	**+2.0**
	baz=155						
Y46A	**Houston**	**30.67**	**334**	P	**P**	**16 52 01.7**	**+1.7**
	baz=148						
V51A	**Loudon**	**30.68**	**342**	P	**P**	**16 52 01.9**	**+1.9**
	baz=157						
U53A	**Fall Branch**	**30.70**	**345**	P	**P**	**16 52 01.9**	**+1.7**
	baz=161						
W49A	**Belvidere**	**30.70**	**338**	P	**P**	**16 52 01.6**	**+1.3**
	baz=154						
X47A	**Russelville**	**30.79**	**336**	P	**P**	**16 52 02.2**	**+1.2**
	baz=150						
V50A	**Pikeville**	**30.80**	**341**	P	**P**	**16 52 03.1**	**+2.0**
	baz=156						
W48A	**Pulaski**	**30.97**	**338**	P	**P**	**16 52 04.3**	**+1.8**
	baz=152						
TZTN	**Tazewell**	**31.13**	**343**	P	**P**	**16 52 05.7**	**+1.7**
	baz=159						
W47A	**Westpoint**	**31.32**	**337**	P	**P**	**16 52 07.3**	**+1.6**
	baz=151,SNR=5.5						
U50A	**Jamestown**	**31.39**	**342**	P	**P**	**16 52 08.6**	**+2.3**
	baz=157						
V48A	**Smith Brothers**	**31.46**	**338**	*e*P	**P**	**16 52 08.5**	**+1.6**
	comp=N,18nm,0.8s						
V48A	**Smith Brothers**	**31.46**	**338**	P	**P**	**16 52 08.9**	**+2.0**
	baz=153,SNR=7.7						
T52A	**Hallie**	**31.50**	**345**	P	**P**	**16 52 09.3**	**+2.0**
	baz=161						
T51A	**Gray**	**31.63**	**343**	P	**P**	**16 52 10.4**	**+2.0**
	baz=159						
V47A	**Nunnelly**	**31.80**	**337**	P	**P**	**16 52 11.4**	**+1.5**
	baz=152,SNR=12						
T50A	**Nancy**	**31.95**	**342**	P	**P**	**16 52 12.9**	**+1.7**
	baz=157						
U48A	**Cassie Pea, Po**	**32.05**	**339**	P	**P**	**16 52 13.7**	**+1.6**
	baz=154,SNR=5.1						
S51A	**Beattyville**	**32.16**	**344**	P	**P**	**16 52 14.8**	**+1.7**
	baz=160						
WVT	**Waverly**	**32.18**	**337**	*e*P	**P**	**16 52 14.1**	**+0.9**
	comp=N,18nm,1.0s						
WVT	**Waverly**	**32.18**	**337**	P	**P**	**16 52 14.4**	**+1.2**
	baz=152						
T49A	**Edmonton**	**32.25**	**341**	P	**P**	**16 52 15.5**	**+1.7**
	baz=156						
S50A	**Richmond**	**32.43**	**343**	P	**P**	**16 52 17.4**	**+2.0**
	baz=158						
T48A	**Bowling Green**	**32.53**	**340**	P	**P**	**16 52 17.4**	**+1.1**
	baz=155						
R51A	**Hillsboro**	**32.78**	**345**	P	**P**	**16 52 20.2**	**+1.8**
	baz=160						
S49A	**Springfield**	**32.79**	**342**	P	**P**	**16 52 19.9**	**+1.4**
	baz=157						
S48A	**Wiedeman Farm,**	**32.92**	**341**	P	**P**	**16 52 20.9**	**+1.3**
	baz=156						
R50A	**Paris**	**32.97**	**344**	P	**P**	**16 52 22.0**	**+2.0**
	baz=159						
T46A	**Princeton**	**33.01**	**338**	P	**P**	**16 52 22.4**	**+2.0**
	baz=152						
X40A	**Basin Creek Fa**	**33.06**	**329**	*e*P	**P**	**16 52 21.5**	**+0.6**
	comp=N,7.7nm,0.6s						
X40A	**Basin Creek Fa**	**33.06**	**329**	P	**P**	**16 52 21.6**	**+0.7**
	baz=142						
Q52A	**Bidwell**	**33.09**	**347**	P	**P**	**16 52 22.8**	**+1.8**
	baz=163						
S47A	**Hartford**	**33.14**	**340**	P	**P**	**16 52 22.6**	**+1.1**
	baz=154						
W41B	**Gary Mavity, V**	**33.31**	**331**	P	**P**	**16 52 23.9**	**+0.8**
	baz=143						
Q50A	**Georgetown**	**33.40**	**344**	P	**P**	**16 52 25.5**	**+1.7**
	baz=160						
Q51A	**Peebles**	**33.41**	**345**	*e*P	**P**	**16 52 22.6**	**-1.3**
	comp=N,47nm,2.0s						
V42A	**Cord**	**33.42**	**332**	P	**P**	**16 52 25.1**	**+1.1**
	baz=145						
WHAR	**Wooly Hollow**	**33.43**	**331**	*e*P	**P**	**16 52 24.5**	**+0.5**
	comp=N,11nm,0.9s						
MIAR	**Mount Ida**	**33.49**	**328**	P	**P**	**16 52 25.7**	**+1.1**
	baz=141						
WCI	**Wyandotte Cave**	**33.52**	**341**	P	**P**	**16 52 26.1**	**+1.3**
	baz=156						
R47A	**Wooly Knot Far**	**33.65**	**341**	P	**P**	**16 52 27.3**	**+1.3**
	baz=155						
P52A	**Corning**	**33.70**	**347**	P	**P**	**16 52 27.4**	**+1.1**
	baz=163						
T44A	**Benton**	**33.71**	**336**	P	**P**	**16 52 27.0**	**+0.6**
	baz=149						
W40A	**Ferguson Farm,**	**33.73**	**330**	*e*P	**P**	**16 52 27.8**	**+1.1**
	comp=N,19nm,0.8s						
W40A	**Ferguson Farm,**	**33.73**	**330**	P	**P**	**16 52 27.7**	**+1.1**
	baz=142,SNR=5.8						
X39A	**Fountain Ranch**	**33.74**	**328**	P	**P**	**16 52 27.9**	**+1.0**
	baz=140						
V41A	**Mountainview**	**33.76**	**331**	P	**P**	**16 52 27.7**	**+0.7**
	baz=144,SNR=12						
U42A	**Revenden**	**33.80**	**333**	P	**P**	**16 52 28.4**	**+1.1**
	baz=146						
PBMO	**Poplar Bluff**	**33.80**	**334**	*e*P	**P**	**16 52 28.3**	**+1.0**
	comp=N,16nm,0.7s						
S45A	**Carrier Mills**	**33.83**	**338**	P	**P**	**16 52 28.3**	**+0.8**
	baz=151						
R46A	**Gibon Southern**	**33.91**	**339**	P	**P**	**16 52 29.4**	**+1.2**
	baz=154						
T43A	**Greenville**	**34.00**	**335**	P	**P**	**16 52 30.0**	**+1.0**
	baz=148,SNR=7.8						
P50A	**Jamestown**	**34.07**	**345**	P	**P**	**16 52 31.1**	**+1.6**
	baz=160						
V40A	**Witts Springs**	**34.10**	**331**	*e*P	**P**	**16 52 30.7**	**+0.7**
	comp=N,15nm,0.5s						
V40A	**Witts Springs**	**34.10**	**331**	P	**P**	**16 52 30.6**	**+0.7**
	baz=143,SNR=10						
W39A	**Magazine**	**34.10**	**329**	*e*P	**P**	**16 52 30.7**	**+0.9**
	comp=N,13nm,0.7s						
W39A	**Magazine**	**34.10**	**329**	P	**P**	**16 52 30.8**	**+0.9**
	baz=141,SNR=6.3						
S44A	**Carbondale**	**34.10**	**337**	P	**P**	**16 52 30.9**	**+1.1**
	baz=150						
U41A	**Viola**	**34.10**	**332**	P	**P**	**16 52 30.5**	**+0.6**
	baz=145,SNR=11						
Q47A	**Bedord North L**	**34.20**	**341**	P	**P**	**16 52 32.1**	**+1.4**
	baz=156						
R45A	**Skylar, Fairfi**	**34.26**	**338**	P	**P**	**16 52 32.1**	**+0.9**
	baz=152,SNR=5.3						
O51A	**Pataskala**	**34.30**	**347**	P	**P**	**16 52 32.4**	**+0.9**
	baz=163						
T42A	**Van Buren**	**34.30**	**334**	*e*P	**P**	**16 52 32.1**	**+0.6**
	comp=N,11nm,0.6s						
T42A	**Van Buren**	**34.30**	**334**	P	**P**	**16 52 32.4**	**+0.8**
	baz=147,SNR=9.2						
S43A	**Fulton Ridge,**	**34.33**	**336**	P	**P**	**16 52 32.6**	**+0.8**
	baz=149						
R44A	**Waltonville**	**34.52**	**337**	P	**P**	**16 52 34.3**	**+0.9**
	baz=151,SNR=6.4						
O50A	**Cable**	**34.53**	**346**	P	**P**	**16 52 34.9**	**+1.4**
	baz=161						
U40A	**Yellville**	**34.55**	**331**	P	**P**	**16 52 34.7**	**+0.9**
	baz=144,SNR=22						
T41A	**Mountain View**	**34.61**	**333**	P	**P**	**16 52 34.9**	**+0.7**
	baz=146,SNR=10						
P47A	**Martinsville**	**34.66**	**342**	P	**P**	**16 52 35.4**	**+0.8**
	baz=156						
Q45A	**Warren Harvey,**	**34.75**	**339**	P	**P**	**16 52 36.3**	**+0.9**
	baz=153						
S42A	**Caledonia**	**34.80**	**335**	P	**P**	**16 52 36.3**	**+0.5**
	baz=

baz=149
L41A **Preston** 38.39 339 P P 16 53 06.1 -0.1
baz=151
AMTX **Amarillo** 38.42 321 eP P 16 53 07.2 +0.5
comp=N,12nm,0.7s
AMTX **Amarillo** 38.42 321 P P 16 53 07.2 +0.5
baz=130
M39A **Webster** 38.50 337 P P 16 53 07.0 -0.1
baz=148
L40A **Anamosa** 38.64 338 P P 16 53 08.2 -0.1
baz=150
L39A **Vinton** 38.99 337 P P 16 53 10.9 -0.3
baz=149
JFWS **Jewell Farm** 39.04 340 P P 16 53 12.0 +0.4
baz=152
MNTX **Cornudas Mount** 39.05 314 eP P 16 53 12.6 +0.7
comp=N,8.9nm,0.8s
MNTX **Cornudas Mount** 39.05 314 P P 16 53 12.5 +0.7
baz=122,SNR=17
K40A **Colesburg** 39.17 339 P P 16 53 12.8 +0.2
baz=151
SCIA **State Center** 39.28 336 eP P 16 53 13.7 0.0
comp=N,98nm,1.8s
SCIA **State Center** 39.28 336 P P 16 53 13.8 +0.2
baz=147
J41A **Loganville** 39.36 340 P P 16 53 14.6 +0.3
baz=153
K39A **Oelwein** 39.45 338 P P 16 53 14.9 -0.1
baz=150
I42A **Draeger Farm,** 39.48 342 P P 16 53 15.4 +0.1
baz=155
J40A **Soldiers Grove** 39.64 340 P P 16 53 16.5 -0.1
baz=152
J39A **Decorah** 39.92 339 P P 16 53 18.6 -0.3
baz=150
I39A **Houston** 40.31 339 P P 16 53 22.4 +0.3
baz=151
D54A **Lac Fusel, La** 40.33 356 P P 16 53 23.3 +1.2
baz=174
D53A **Lac Vacive, Po** 40.33 355 P P 16 53 24.0 +1.8
baz=173
G42A **Mountain** 40.56 343 P P 16 53 24.6 +0.4
baz=156
F44A **Big Bay de Noc** 40.71 346 P P 16 53 26.0 +0.7
baz=159
D48A **Paudash Townsh** 40.93 351 P P 16 53 28.1 +1.0
baz=166
H39A **Augusta** 40.95 340 P P 16 53 27.8 +0.4
baz=152
F42A **Maple Grove Fa** 40.96 344 P P 16 53 27.8 +0.4
baz=157
D47A **Chapleau** 41.03 350 P P 16 53 28.3 +0.3
baz=164
D46A **Sault St. Mari** 41.05 349 P P 16 53 28.5 +0.4
baz=163
F41A **Three Lakes** 41.21 343 eP P 16 53 29.9 +0.3
comp=N,7.4nm,0.8s
F41A **Three Lakes** 41.21 343 P P 16 53 30.2 +0.7
baz=155
121A **Cookes Peak, D** 41.22 313 P P 16 53 30.9 +0.9
baz=121
G39A **Holcombe** 41.45 341 P P 16 53 31.9 +0.5
baz=152,SNR=5.0
T25A **Trinidad** 41.56 321 P P 16 53 34.2 +1.5
baz=129
ANMO **Albuquerque** 41.59 317 P P 16 53 31.8 -1.1
comp=N,1.1nm,0.5s,baz=168,slow=9.3,SNR=2.9
ANMO **Albuquerque** 41.59 317 P P 16 53 34.0 +1.1
baz=124
F40A **Park Falls** 41.68 342 P P 16 53 34.6 +1.3
baz=154
LAZ **Ladron** 41.75 316 eP P 16 53 35.8 +1.5
F39A **Loretta** 41.93 341 P P 16 53 35.5 +0.2
baz=153
E40A **Wakefield** 42.09 343 P P 16 53 37.5 +0.9
baz=154,SNR=5.8
ECSD **EROS Data Cent** 42.20 334 eP P 16 53 37.5 -0.1
comp=N,5.5nm,0.5s
ECSD **EROS Data Cent** 42.20 334 P P 16 53 37.5 -0.1
baz=144,SNR=5.7
E39A **Mellen** 42.23 342 P P 16 53 38.5 +0.8
baz=154
F38A **Pierce - Schro** 42.28 340 P P 16 53 38.6 +0.5
baz=151
SDCO **Great Sand Dun** 42.62 321 eP P 16 53 42.7 +1.3
comp=N,5.1nm,0.8s
SDCO **Great Sand Dun** 42.62 321 P P 16 53 42.7 +1.3
baz=128,SNR=12
Q24A **Divide** 43.16 323 P P 16 53 47.3 +1.6
baz=130
TUC **Tucson** 43.32 311 eP P 16 53 47.8 +0.9
comp=N,4.3nm,0.7s
TUC **Tucson** 43.32 311 P P 16 53 47.3 +0.4
baz=118
S22A **4UR Ranch, Cre** 43.45 320 eP P 16 53 49.8 +1.7
comp=N,12nm,1.4s
S22A **4UR Ranch, Cre** 43.45 320 P P 16 53 49.7 +1.7
baz=127
SUSD **Miller** 43.79 333 P P 16 53 50.3 -0.1
baz=141,SNR=6.4
EYMN **Ely** 43.92 342 eP P 16 53 51.3 +0.1
comp=N,16nm,0.6s
EYMN **Ely** 43.92 342 P P 16 53 51.6 +0.3
baz=153,SNR=7.0
W18A **Petrified Fore** 43.94 315 eP P 16 53 53.4 +1.5
comp=N,11nm,0.9s
W18A **Petrified Fore** 43.94 315 P P 16 53 53.3 +1.5
baz=121,SNR=9.3
ISCO **Idaho Springs** 43.97 323 eP P 16 53 53.5 +1.3
comp=N,5.2nm,0.8s
ISCO **Idaho Springs** 43.97 323 P P 16 53 53.4 +1.1
baz=130,SNR=5.7
MVCO **Mesa Verde** 44.23 318 P P 16 53 55.2 +1.0
baz=124
214A **Organ Pipe Nat** 44.71 309 P P 16 53 59.1 +1.2
baz=116
X16A **Lo Mia Camp, P** 44.80 313 eP P 16 54 00.0 +1.2
comp=N,4.2nm,0.8s
N23A **Red Feather La** 44.87 324 eP P 16 54 00.6 +1.3
comp=N,6.7nm,1.0s
N23A **Red Feather La** 44.87 324 P P 16 54 00.5 +1.3
baz=130
PV02 **Paradox Valley** 44.95 319 eP P 16 54 01.1 +1.2
comp=N,9.2nm,0.7s
PV13 **Radium Mtn., P** 44.97 319 eP P 16 54 01.5 +1.4
comp=N,11nm,0.7s
PV03 **Paradox Valley** 45.05 319 eP P 16 54 02.0 +1.3
PV12 **Saucer Basin,** 45.05 319 eP P 16 54 02.2 +1.5
comp=N,8.9nm,0.7s
PV18 **Skein Mesa, Pa** 45.08 319 eP P 16 54 02.3 +1.3
comp=N,7.8nm,0.7s
PV05 **Paradox Valley** 45.11 319 eP P 16 54 02.0 +0.9
PV17 **East Wray Mesa** 45.13 319 eP P 16 54 00.9 -0.5
comp=N,25nm,1.6s
PV22 **Blue Mesa, Par** 45.17 320 eP P 16 54 02.6 +1.0
comp=N,4.9nm,0.7s
WUAZ **Wupatki** 45.30 315 eP P 16 54 04.2 +1.5
comp=N,16nm,0.9s
WUAZ **Wupatki** 45.30 315 P P 16 54 04.0 +1.4
baz=120,SNR=14
AGMN **Agassiz Nation** 45.67 339 eP P 16 54 05.2 0.0
comp=N,7.4nm,0.6s
AGMN **Agassiz Nation** 45.67 339 P P 16 54 05.5 +0.3
baz=147
Y14A **Wickenburg** 45.73 312 eP P 16 54 06.9 +1.0
comp=N,9.0nm,0.8s
U15A **North Rim** 46.39 315 eP P 16 54 12.7 +1.4
comp=N,10nm,1.1s
GLA **Glamis** 46.71 310 P P 16 54 14.8 +1.2
baz=115
P18A **Preston Nutter** 46.72 320 eP P 16 54 15.1 +1.3
comp=N,15nm,1.6s
MDND **Maddock** 46.75 336 eP P 16 54 14.1 +0.5
comp=N,23nm,0.8s
P17A **Butcher Ranch,** 46.95 320 eP P 16 54 16.2 +0.7
comp=N,8.8nm,0.9s
KNB **Kanab** 47.05 316 eP P 16 54 17.9 +1.6
comp=N,11nm,0.9s
MTPU **Mount Pierson** 47.14 317 eP P 16 54 18.5 +1.3
comp=N,3.3nm,0.6s
ULM **Lac du Bonnet** 47.33 340 P P 16 54 17.2 -0.8
comp=N,9.2nm,0.4s,baz=146,slow=7.4,SNR=24
ULM **Lac du Bonnet** 47.33 340 eP P 16 54 17.8 -0.2
comp=N,13nm,0.9s
LCMT **Little Creek M** 47.35 315 eP P 16 54 20.0 +1.4
comp=N,8.1nm,1.0s
MSU **Marysvale** 47.38 318 eP P 16 54 20.2 +1.3
IRM **Iron Mountain** 47.42 311 P P 16 54 20.1 +1.1
baz=115
SZCU **Shurtz Canyon** 47.53 316 eP P 16 54 21.0 +0.9
comp=N,5.2nm,0.5s
CCUT **Cedar City** 47.69 316 eP P 16 54 22.6 +1.2
comp=N,3.3nm,0.9s
BELC **Belle Mtn. Jos** 47.99 310 P P 16 54 23.9 +0.3
baz=114
GMRC **Granite Mounta** 48.07 311 P P 16 54 24.9 +0.7
baz=115
NLU **North Lily Min** 48.08 319 eP P 16 54 24.9 +0.7
comp=N,4.9nm,0.9s
BW06 **Boulder Array** 48.14 324 eP P 16 54 25.1 +0.4
comp=N,10nm,1.4s
BW06 **Boulder Array** 48.14 324 P P 16 54 24.9 +0.2
baz=128,SNR=5.3
PD31 **Pinedale Array** 48.14 324 eP P 16 54 25.0 +0.3
PDAR **Pinedale Array** 48.14 324 P P 16 54 25.1 +0.3
comp=N,2.0nm,0.5s,baz=121,slow=8.7,SNR=19
PDAR **Pinedale Array** 48.14 324 eP P 16 54 25.2 +0.5
TCUT **Toone Canyon** 48.30 321 eP P 16 54 26.8 +0.8
comp=N,23nm,0.6s
SHPR **Sheep Range** 48.46 314 eP P 16 54 27.9 +0.7
comp=N,8.8nm,1.4s
PSUT **Pine Spring** 48.52 317 eP P 16 54 28.7 +1.1
comp=N,3.7nm,0.7s
HEC **Hector,Ludlow** 48.59 311 P P 16 54 29.2 +1.1
baz=115
HWUT **Hardware Ranch** 48.67 322 eP P 16 54 29.3 +0.6
comp=N,4.3nm,0.6s
DUG **Dugway, Tooele** 48.68 319 P P 16 54 29.7 +0.9
baz=122,SNR=5.4
LAO **LASA Array** 48.90 330 P P 16 54 31.2 +1.0
baz=134
SHOC **Shoshone, Teco** 49.00 313 P P 16 54 32.4 +1.3
baz=116
DGMT **Dagmar** 49.21 333 eP P 16 54 33.6 +1.1
comp=N,36nm,0.6s
DGMT **Dagmar** 49.21 333 P P 16 54 33.4 +0.9
baz=137,SNR=5.8
BGU **Big Grassy Mou** 49.21 320 eP P 16 54 33.6 +0.8
comp=N,9.7nm,0.6s
REDW **Red Top Meadow** 49.26 324 eP P 16 54 33.9 +0.7
comp=N,9.5nm,0.6s
LOHW **Long Hollow** 49.27 324 eP P 16 54 34.0 +0.8
comp=N,4.7nm,0.6s
TPAW **Teton Pass** 49.39 324 eP P 16 54 35.0 +0.8
comp=N,5.5nm,0.6s
MOOW **Moose Ponds** 49.43 324 eP P 16 54 35.3 +0.8
comp=N,2.8nm,0.8s
TPNV **Topopah Spring** 49.44 314 eP P 16 54 35.5 +0.8
comp=N,6.0nm,1.0s
TPNV **Topopah Spring** 49.44 314 P P 16 54 35.4 +0.8
baz=116,SNR=6.7
RLMT **Red Lodge** 49.45 327 eP P 16 54 34.9 +0.3
comp=N,29nm,1.9s
RLMT **Red Lodge** 49.45 327 P P 16 54 35.3 +0.7
baz=129
HVU **Hansel Valley** 49.52 321 eP P 16 54 35.7 +0.5
comp=N,3.6nm,0.6s
FXWY **Fox Creek** 49.53 324 eP P 16 54 35.8 +0.6
comp=N,3.7nm,0.9s
R11A **Troy Canyon, C** 49.62 316 eP P 16 54 37.0 +1.1
comp=N,3.7nm,0.9s
R11A **Troy Canyon, C** 49.62 316 P P 16 54 37.1 +1.1
baz=118,SNR=6.9
IMW **Indian Meadow** 49.63 324 eP P 16 54 36.9 +0.8
comp=N,5.4nm,0.6s
EDW2 **Edwards Air Fo** 49.86 311 P P 16 54 38.6 +0.9
baz=113
YMR **Madison River** 50.11 325 eP P 16 54 40.9 +1.3
comp=N,4.7nm,0.6s
YHH **Holmes Hill** 50.12 325 eP P 16 54 41.5 +1.8
comp=N,3.1nm,0.8s
CWC **Cottonwood Cre** 50.55 312 P P 16 54 44.1 +1.1
baz=114
BOZ **Bozeman (W)** 51.05 326 eP P 16 54 47.1 +0.5
comp=N,19nm,1.3s
MCMT **McKenzie Canyo** 51.28 324 eP P 16 54 49.8 +1.3
HLID **Hailey** 51.51 322 eP P 16 54 50.7 +0.7
comp=N,9.0nm,1.3s
HLID **Hailey** 51.51 322 P P 16 54 50.8 +0.8
baz=123,SNR=5.2
NV01 **Mina Array Sit** 51.56 315 eP P 16 54 51.1 +0.6
NVAR **Mina Array Bea** 51.56 315 P P 16 54 51.7 +1.1
comp=N,2.1nm,0.7s,baz=124,slow=7.4,SNR=17
NVAR PcP PcP 16 56 03.2 +0.8
comp=N,0.3nm,0.5s,baz=108,slow=5.8,SNR=4.3
KVN **Kaiserville** 51.69 315 eP P 16 54 52.2 +0.8
comp=N,4.1nm,1.1s
YERR **Yerington** 52.46 315 eP P 16 54 57.5 +0.3
comp=N,18nm,1.5s
PNTR **Pine Nut** 52.76 315 eP P 16 55 00.3 +0.9
comp=N,5.4nm,0.8s
WVOR **Wild Horse Val** 53.60 319 eP P 16 55 05.2 -0.2
comp=N,7.2nm,1.0s
F10A **Beach Ranch, E** 54.49 323 eP P 16 55 11.9 +0.2
comp=N,6.0nm,0.5s
G08A **Pilot Rock** 55.18 322 eP P 16 55 17.4 +0.6
comp=N,7.4nm,0.6s
M04C **Macdoel** 55.44 317 P P 16 55 19.5 +0.8
baz=115
O02D **Mt. Diablo Mer** 55.45 315 P P 16 55 18.0 -0.7
baz=113
J05D **Fort Rock, OR** 55.69 319 P P 16 55 21.2 +0.8
baz=116,SNR=5.9
PINE **Pine Mountain** 55.72 319 eP P 16 55 22.0 +1.3
comp=N,13nm,0.8s
L04D **Klamath Falls** 55.94 317 P P 16 55 22.6 +0.4
baz=115
YBH **Yreka Blue Hor** 56.01 317 P P 16 55 21.2 -1.5
comp=N,3.0nm,0.5s,baz=132,slow=3.8,SNR=14
J04D **Umpqua Nationa** 56.24 318 P P 16 55 24.9 +0.4
baz=116
I04A **Tendick Farm,** 56.68 319 P P 16 55 27.4 +0.1
baz=116
B08A **Colville Reser** 56.96 325 eP P 16 55 29.6 +0.4
comp=N,9.8nm,1.6s
K02D **Willamette Mer** 57.05 317 P P 16 55 30.0 0.0
baz=114
G03D **McMinnville, O** 57.84 320 P P 16 55 36.7 +1.3
baz=116
YKA **Yellowknife Ar** 63.31 340 P P 16 56 12.3 +0.2
comp=N,5.5nm,0.5s,baz=132,slow=6.5,SNR=26
ESDC **Sonseca Array** 69.60 50 LR LR 17 25 05.9
comp=N,19nm,18.2s,baz=280,slow=34
INK **Inuvik** 73.08 340 P P 16 57 12.8 0.0
comp=N,2.2nm,0.6s,baz=109,slow=4.2,SNR=11
EPYK **Eagle Plains** 73.44 338 P P 16 57 16.0 +1.0
baz=112
HDA **Harding Lake** 76.97 335 P P 16 57 35.5 +0.3
baz=102
ILAR **Eielson Array** 77.02 335 P P 16 57 35.8 +0.2
comp=N,0.9nm,0.7s,baz=108,slow=4.3,SNR=9.9
VNA3 **Neumayer Olymp** 88.12 163 P P 16 58 32.0 -0.7
VNA1 **Neumayer--Stat** 88.27 162 P P 16 58 32.5 -0.9
VNA2 **Neumayer--Watz** 88.65 163 P P 16 58 31.6 -3.6
baz=298,slow=4.5
SNAA **Sanae** 90.29 163 P P 16 58 41.8 -1.2
MKAR **Makanchi Array** 122.31 20 PKP PKPdf 17 04 36.5 -0.5
comp=N,0.2nm,0.4s,baz=318,slow=2.5,SNR=6.5
KSH **Kashi** 125.73 29 ePKP PKPdf 17 04 42.3 -1.5
ASAR **Alice Springs** 149.16 234 PKPbc PKPbc 17 05 30.4 -0.7
comp=N,1.5nm,0.5s,baz=118,slow=3.3,SNR=22
WRA **Warramunga Arr** 150.40 241 PKPbc PKPbc 17 05 33.6 -0.5
comp=N,1.6nm,0.4s,baz=107,slow=2.8,SNR=65
CMAR **Chiang Mai Arr** 153.69 17 PKPbc PKPbc 17 05 41.9 +0.3
comp=N,0.8nm,0.6s,baz=331,slow=3.6,SNR=6.7

*IDC **05** 16:54:34.0±3.5,6°.23S×154°.38E,h445km±34km,mb2.8/5, mb1 3.0/6,mb1mx2.8/31,mbtmp3.6/6, Error ellipse: s-maj=44.9km s-min=20.6km az=112.0*

ISC 05 16:54:34.1±1.7,6°.2S±0°.2×154°.5E±0°.3,h450km,n7, σ0°44/10,mb3.1/5,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	15.90	209	P	P	16 57 54.8	-0.2
	0.2nm,0.3s,baz=26,slow=7.6,SNR=1.9						
WRA	**Warramunga Arr**	23.82	233	P	P	16 59 10.1	0.0
	0.6nm,1.0s,baz=58,slow=8.9,SNR=6.8						
WRA				PcP	PcP	17 02 39.3	+0.6
	0.3nm,0.8s,baz=58,slow=2.9,SNR=2.8						
ASAR	**Alice Springs**	26.28	227	P	P	16 59 31.4	-0.6
	0.2nm,0.5s,baz=56,slow=9.4,SNR=11						
ASAR				PcP	PcP	17 02 44.8	+0.4
	0.2nm,0.8s,baz=49,slow=2.6,SNR=4.0						
ASAR				S	S	17 03 32.3	+0.4
	0.2nm,0.6s,baz=56,slow=15,SNR=2.0						
CMAR	**Chiang Mai Arr**	59.97	295	P	P	17 03 56.4	+0.2
	0.3nm,0.7s,baz=131,slow=5.0,SNR=4.6						
MKAR	**Makanchi Array**	82.48	319	P	P	17 06 08.3	-0.1
	1.1nm,0.7s,baz=102,slow=6.7,SNR=8.1						
MAW	**Mawson**	84.88	203	P	P	17 06 20.1	+0.1
	0.5nm,0.5s,baz=16,slow=7.4,SNR=1.9						
TORD	**Torodi Ar. Bea**	152.30	286	PKPbc	PKPbc	17 13 38.6	-0.5
	0.4nm,0.8s,baz=73,slow=2.3,SNR=3.6						

*ISCJB **05** 17:32:50.2±0.2,27°.42S±0°.02×69°.27W±0°.03,h104km±2km, mb4.5/24, Error ellipse: s-maj=4.7km s-min=2.8km az=174.5*
*SJA **05** 17:32:50.3±0.8,27°.50S×69°.39W,h124km±7km,ML4.5, MW4.6*
*GUC **05** 17:32:51.5±0.5,27°.74S×69°.11W,h57km±29km,ML4.5*
*NEIC **05** 17:32:51.8±0.3,27°.54S×69°.12W,mb4.8/9,ML4.6(GUC), Error ellipse: s-maj=9.5km s-min=6.2km az=82.0*
NEIC Felt [IV] at Copiapo and Tierra Amarilla and [III] at Caldera and Diego de Almagro.
*IDC **05** 17:32:52.3±0.6,27°.49S×69°.15W,h109km±5km,mb4.1/15, mb1 4.1/19,mb1mx4.0/32,mbtmp4.4/19,MS3.2/3, Ms1 3.3/3,ms1mx3.0/19, Error ellipse: s-maj=16.9km s-min=12.7km az=66.0*

ISC 05 17:32:51.7±0.5,27°.49S±0°.04×69°.30W±0°.04,h108km±4km, h108km:pP-P,n260,σ1s56/291,mb4.4/24,6C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO03	**Copiap**	0.84	263	⇑iP	Pn	17 33 10.9	-0.3
GO03				*i* S	Sn	17 33 25.2	-0.6
GO03				IAML		17 33 26.2	
	comp=E,36μm,0.2s						
VCA	**Vinchina**	1.57	142	*e*P	Pn	17 33 20.9	+1.4
VCA				*e*S	Sn	17 33 42.6	+2.1
VCA				IAML		17 33 46.3	
	comp=Z,7μm,0.4s						
VACH	**Vallenar**	1.68	230	⇑*i*P	Pn	17 33 20.1	-0.5
VACH				*e*S	Sn	17 33 41.6	-1.1
LCO	**Las Campanas**	1.96	219	*e*Pn	Pn	17 33 23.6	-0.7
LCO	**Las Campanas**	1.96	219	*i* P	Pn	17 33 23.8	-0.5
LCO				*i* S	Sn	17 33 48.3	-0.8
LCO	**Las Campanas**	1.96	219	⇑*i*P	Pn	17 33 23.8	-0.5
LCO				*e*S	Sn	17 33 48.2	-0.9
LCO				IAML		17 33 49.8	
	comp=E,6μm,0.2s						
AGUA	**GUANDACOL**	2.11	161	*i* P	Pn	17 33 27.5	+1.4
AGUA				*i* S	Sn	17 33 53.6	+1.1
AROD	**Rodeo**	2.67	183	*i* P	Pn	17 33 35.0	+1.4
AROD				*i* S	Sn	17 34 08.1	+2.4
ACDV	**Cuesta del Vie**	2.68	177	*i* P	Pn	17 33 34.9	+1.4
ACDV				*e*S	Sn	17 34 07.8	+2.2
ACLC	**CERRO LA CRUZ**	2.83	134	*e*P	Pn	17 33 36.2	+0.7
LSCH	**La Serena**	2.96	215	⇑*i*P	Pn	17 33 35.9	-1.1
LSCH				IAML		17 34 28.8	
	comp=N,1μm,0.7s						
GO04	**Tololo Observa**	2.98	206	⇑*i*P	Pn	17 33 36.7	-0.9
GO04				*i* S	Sn	17 34 06.1	-6.8
PB14	**IPOC Station P**	3.02	341	*e*P	Pn	17 33 38.3	0.0
PB14				*e*S	Sn	17 34 04.4	-10
PB14	**IPOC Station P**	3.02	341	*e*P	Pn	17 33 38.2	0.0
ACCO	**Cerro Coronel**	3.09	176	*e*P	Pn	17 33 40.2	+1.0
ACCO				*e*S	Sn	17 34 17.0	+1.2
CYA	**Choya**	3.23	108	*i* P	Pn	17 33 41.1	+0.3
CYA				*e*S	Sn	17 34 16.7	-2.0
CYA				IAML		17 34 17.8	
	comp=Z,1μm,0.4s						
FSA	**Cafayete**	3.27	66	*e*P	Pn	17 33 42.8	+1.4
AMOG	**MOGNA**	3.51	169	*i* P	Pn	17 33 44.8	+0.3
AMOG				*i* S	Sn	17 34 24.0	-1.3
AHML	**Horco Molle**	3.60	80	*i* P	Pn	17 33 46.8	+1.1
AHML				IAML		17 33 47.3	
	comp=Z,245nm,0.3s						
AHML				*e*S	Sn	17 34 27.2	-0.2
APLL	**PUNTA DE LOS L**	3.78	141	*i* P	Pn	17 33 48.1	0.0
APLL				*e*S	Sn	17 34 25.4	-6.4
APLL				IAML		17 34 31.2	
	comp=Z,636nm,0.5s						
RTLL	**Cerro Villicun**	3.89	170	*i* P	Pn	17 33 50.0	+0.4
RTLL				*i* S	Sn	17 34 32.2	-2.3
RTLL				IAML		17 34 33.6	
	comp=Z,2μm,0.4s						
ZON	**Zonda**	4.08	173	*e*P	Pn	17 33 52.1	0.0
ZON				IAML		17 34 43.3	
	comp=Z,229nm,0.6s						
PB10	**IPOC Station P**	4.12	344	*i* P	Pn	17 33 51.7	-0.9
PB10				*e*S	Sn	17 34 21.1	-19
PB10	**IPOC Station P**	4.12	344	⇑*i*P	Pn	17 33 51.2	-1.4
PB10				*i* S	Sn	17 34 20.7	-19
PB15	**IPOC Station P**	4.26	358	*e*P	Pn	17 33 54.9	+0.1
PB15				*e*S	Sn	17 34 43.0	-0.7
RTLS	**Leoncito**	4.29	180	*i* P	Pn	17 33 55.6	+0.4
RTLS				*e*S	Sn	17 34 41.2	-3.3
RTLS				IAML		17 34 50.8	
	comp=Z,286nm,0.3s						
SLA	**San Lorenzo**	4.39	52	*i* P	Pn	17 33 58.3	+1.9
RTCV	**Cerro Valdivia**	4.41	172	*i* P	Pn	17 33 56.7	+0.2
RTCV				*i* S	Sn	17 34 44.4	-2.5
PB05	**IPOC Station P**	4.69	350	*i* P	Pn	17 33 58.6	-1.8
PB05				*e*S	Sn	17 35 00.8	+6.9
AUSP	**Uspallata**	4.72	181	*i* P	Pn	17 34 01.1	+0.2
AUSP				*e*S	Sn	17 34 49.8	-4.9
PB06	**IPOC Station P**	4.77	357	*e*P	Pn	17 34 00.6	-1.0
LVC	**Limon Verde**	4.87	4	*e*Pn	Pn	17 34 02.7	-0.4
LVC	**Limon Verde**	4.87	4	*i* P	Pn	17 34 02.7	-0.4
AZAP	**Zapla**	5.01	50	*i* P	Pn	17 34 06.0	+1.1
ASAL	**Salagasta**	5.10	176	*e*P	Pn	17 34 05.9	0.0
ACAN	**Cantantal**	5.11	159	*i* P	Pn	17 34 06.0	+0.1
ACAN				*e*S	Sn	17 34 59.2	-4.6
PB04	**IPOC Station P**	5.19	351	*i* P	Pn	17 34 05.0	-2.3
ARCO	**CERRO ARCO**	5.34	177	*e*P	Pn	17 34 08.9	-0.4
ARCO				IAML		17 35 19.5	
	comp=Z,163nm,0.3s						
PB03	**IPOC Station P**	5.43	356	*e*P	Pn	17 34 08.5	-2.0
HJA	**Humahuaca**	5.53	40	*i* P	Pn	17 34 13.6	+1.6
HJA				IAML		17 34 15.9	
	comp=Z,57nm,0.6s						
HJA				*i* S	Sn	17 34 49.1	-25
AAGR	**Agrelo**	5.59	176	*e*P	Pn	17 34 12.6	0.0
TCA	**Tanti**	5.62	134	*i* P	Pn	17 34 11.7	-1.2
TCA				*e*S	Sn	17 35 09.9	-6.3
TCA				IAML		17 35 35.1	
	comp=Z,221nm,0.5s						
ROC1	**El Roble**	5.67	195	*e*P	Pn	17 34 11.2	-2.5
PB09	**IPOC Station P**	5.67	1	*e*P	Pn	17 34 13.4	-0.3
PB07	**IPOC Station P**	5.76	355	*e*P	Pn	17 34 12.5	-2.5
PEL	**Peldehue**	5.76	192	*e*P	Pn	17 34 12.6	-2.3
ALOL	**LOMAS DE OLMED**	6.03	54	*i* P	Pn	17 34 18.8	+0.2
PB02	**IPOC Station P**	6.17	355	*e*P	Pn	17 34 17.7	-2.7
PB02				*e*S	Sn	17 35 26.1	-3.6
YJA	**Yavi**	6.31	34	*e*P	Pn	17 34 23.7	+1.1
PB01	**IPOC Station P**	6.42	358	*e*P	Pn	17 34 21.6	-2.2
PB01				*e*S	Sn	17 35 32.8	-3.0
SUCO	**SUCO**	6.97	148	*e*P	Pn	17 34 29.2	-2.1
SUCO				IAML		17 35 46.8	
	comp=Z,196nm,0.5s						
PB08	**IPOC Station P**	7.32	1	*e*P	Pn	17 34 34.1	-2.2
PB11	**IPOC Station P**	7.70	357	*i* P	Pn	17 34 37.5	-3.8
PSGCX	**Pisagua**	7.89	354	*e*P	Pn	17 34 39.5	-4.4
MNMCX	**Minye Minye**	8.32	358	*i* P	Pn	17 34 46.2	-3.7
MNMCX				*i* S	Sn	17 36 18.0	-4.4
PB12	**IPOC Station P**	8.88	354	*i* P	Pn	17 34 53.2	-4.1
PB12				*e*S	Sn	17 36 20.7	-15
PB16	**IPOC Station P**	9.11	359	*e*P	Pn	17 34 58.6	-2.3
CPUP	**Villa Florida**	10.75	87	P	Pn	17 35 19.4	-3.1
	comp=Z,0.8nm,0.3s,baz=267,slow=13,SNR=11						
LPAZ	**La Paz**	11.20	6	P	Pn	17 35 27.6	-1.5
	comp=Z,1.4nm,0.3s,baz=208,slow=4.6,SNR=18						
LPAZ				LR	LR	17 40 48.9	
	comp=Z,90nm,19.4s,baz=199,slow=43						
TRQA	**Tornquist**	12.20	152	*e*Pn	Pn	17 35 39.0	-2.8
	comp=Z,22nm,0.6s						
PLCA	**Paso Flores**	13.25	184	P	Pn	17 35 54.3	-1.3
	comp=Z,0.1nm,0.3s,baz=23,slow=13,SNR=2.4						
NNA	**Nana**	16.97	334	P	P	17 36 44.3	+1.5
	comp=Z,1.9nm,0.3s,baz=164,slow=15,SNR=3.0						
SAML	**Samuel**	19.33	19	*e*P	Pn	17 37 09.4	-1.3
	comp=Z,5.2nm,0.7s						
BDFB	**Brasilia**	23.00	64	P	P	17 37 46.1	-1.4

comp=Z,15nm,0.7s,baz=248,slow=8.2,SNR=15
PTGA Pitinga 28.07 20 P **P** 17 38 32.9 -0.3
comp=Z,1.5nm,0.3s,baz=228,slow=12,SNR=3.8
ROSC El Rosal 32.50 351 LR LR 17 52 06.3
comp=Z,43nm,20.7s,baz=236,slow=36
VNA3 Neumayer Olymp 54.57 160 P **P** 17 42 08.5 +0.1
VNA1 Neumayer--Stat 54.81 159 P **P** 17 42 10.7 +0.6
VNA2 Neumayer--Watz 55.17 159 P **P** 17 42 13.3 +0.6
baz=287,slow=8.8
SNAA Sanae 56.78 160 P **P** 17 42 24.2 -0.1
SNAA Sanae 56.78 160 P **P** 17 42 23.9 -0.4
comp=Z,4.6nm,0.6s,baz=265,slow=10,SNR=22
353A Camilla 60.22 345 P **P** 17 42 48.2 -0.2
baz=165
352A Blakely 60.51 345 P **P** 17 42 50.5 +0.1
baz=164
254A Abbeville 60.59 346 P **P** 17 42 51.1 +0.2
baz=166
252A Lumpkin 60.96 345 P **P** 17 42 52.8 -0.6
baz=164
155A Kite 61.08 347 P **P** 17 42 53.6 -0.6
baz=166
251A Midway 61.21 344 P **P** 17 42 54.4 -0.7
baz=164
152A Waverly Hall 61.60 345 P **P** 17 42 57.0 -0.7
baz=164
151A Opelika 61.60 345 P **P** 17 42 57.5 -0.3
baz=164
150A Eclectic 61.85 344 P **P** 17 42 58.9 -0.5
baz=163
Z53A Monticello 61.94 346 P **P** 17 42 59.4 -0.6
baz=166
149A Jones 62.03 343 P **P** 17 42 60.0 -0.6
baz=162
GOGA Godfrey 62.04 347 *e*P **P** 17 42 56.6 -4.1
comp=Z,7.5nm,0.6s
Z50A Ashland 62.44 344 P **P** 17 43 03.2 -0.1
baz=163
833A Chaparral WMA, 62.55 330 P **P** 17 43 05.4 +1.2
baz=150
QSPA South Pole Qui 62.73 180 *e*P **P** 17 43 06.1 +1.0
comp=Z,17nm,0.7s
Y51A Rockmart 62.86 345 P **P** 17 43 05.7 -0.5
baz=164
143A Socs Landing, 63.45 339 P **P** 17 43 10.9 +0.9
baz=158
X51A Calhoun 63.45 346 P **P** 17 43 10.3 +0.2
baz=164
X50B Fort Payne 63.53 345 P **P** 17 43 11.0 +0.4
baz=164
Y47A UCPARC, Winfie 63.54 343 P **P** 17 43 10.3 -0.4
baz=162
W53A Cullowhee 63.68 347 P **P** 17 43 11.6 -0.1
baz=166
W51A Cleveland 64.00 346 P **P** 17 43 14.1 +0.4
baz=165
W50A Signal Mountai 64.16 345 P **P** 17 43 14.8 0.0
baz=164
V52A Sevierville 64.42 347 P **P** 17 43 15.7 -0.6
baz=166
W48A Pulaski 64.48 344 P **P** 17 43 16.8 0.0
baz=163
OXF Oxford 64.54 342 P **P** 17 43 17.1 0.0
baz=160
V50A Pikevile 64.57 346 P **P** 17 43 17.3 0.0
baz=164
JCT Junction City 64.59 331 *e*P **P** 17 43 19.0 +1.4
comp=Z,13nm,0.7s
JCT Junction City 64.59 331 P **P** 17 43 18.8 +1.1
baz=150
LPIG La Paz 64.78 318 LR LR 18 05 38.1
comp=Z,30nm,20.4s,baz=98,slow=30
V49A McMinnville 64.84 345 P **P** 17 43 18.5 -0.6
baz=164
WHTX Lake Whitney, 64.95 334 P **P** 17 43 20.8 +0.9
baz=152
V48A Smith Brothers 65.03 344 P **P** 17 43 20.5 +0.2
baz=163
U50A Jamestown 65.23 346 P **P** 17 43 21.3 -0.3
baz=165
V47A Nunnelly 65.28 344 P **P** 17 43 22.1 +0.1
baz=162
TXAR Lajitas Array 65.39 327 P **P** 17 43 23.8 +0.9
comp=Z,1.9nm,0.7s,baz=148,slow=8.6,SNR=16
TXAR pP **pP** 17 43 49.2 -0.3
comp=Z,0.8nm,0.8s,baz=140,slow=9.9,SNR=2.8
T51A Gray 65.58 347 P **P** 17 43 23.8 0.0
baz=166
WVT Waverly 65.65 344 P **P** 17 43 24.5 +0.2
baz=162
U48A Cassie Pea, Po 65.70 345 P **P** 17 43 24.4 -0.2
baz=163
U47A Clarksville 65.81 344 P **P** 17 43 25.2 -0.1
baz=162
MIAR Mount Ida 65.84 338 *e*P **P** 17 43 26.3 +0.8
MIAR Mount Ida 65.84 338 P **P** 17 43 26.6 +1.0
baz=156
X39A Fountain Ranch 65.99 338 P **P** 17 43 27.3 +0.8
baz=156
W41B Gary Mavity, V 65.99 340 P **P** 17 43 26.1 -0.4
baz=158
T49A Edmonton 66.04 346 P **P** 17 43 26.8 0.0
baz=164
W40A Ferguson Farm, 66.27 339 P **P** 17 43 29.0 +0.7
baz=157
T47A Sharon Grove 66.29 344 P **P** 17 43 28.2 -0.2
baz=163
ABTX Abilene, Hawle 66.38 332 P **P** 17 43 29.7 +0.6
baz=151
W39A Magazine 66.50 338 P **P** 17 43 30.8 +1.0
baz=156
T46A Princeton 66.53 344 P **P** 17 43 30.1 +0.2
baz=162
V41A Mountainview 66.53 340 P **P** 17 43 30.2 +0.2
baz=158,SNR=6.0
U42A Revenden 66.78 341 P **P** 17 43 31.2 -0.3
baz=159,SNR=7.9
R51A Hillsboro 66.80 348 P **P** 17 43 31.3 -0.3
baz=166
U41A Viola 66.97 340 P **P** 17 43 33.0 +0.2
baz=158
T43A Greenville 67.19 342 P **P** 17 43 34.1 0.0
baz=160,SNR=8.2
U40A Yellville 67.27 340 P **P** 17 43 34.7 0.0
baz=157,SNR=7.7
T42A Van Buren 67.37 341 P **P** 17 43 35.3 0.0
baz=159
Q50A Georgetown 67.40 348 P **P** 17 43 34.5 -0.9
baz=166
S44A Carbondale 67.49 343 P **P** 17 43 36.0 +0.1
baz=161
T41A Mountain View 67.58 341 P **P** 17 43 36.8 +0.2
baz=158,SNR=10
S43A Fulton Ridge, 67.59 342 P **P** 17 43 36.3 -0.3
baz=160,SNR=6.2
R45A Skylar, Fairfi 67.81 344 P **P** 17 43 38.1 +0.1
baz=162
TUL1 Leonard 67.83 337 P **P** 17 43 38.7 +0.5
baz=155
WMOK Wichita Mounta 67.89 334 P **P** 17 43 38.8 +0.2
baz=152
S42A Caledonia 67.98 342 P **P** 17 43 38.7 -0.4
baz=159,SNR=5.7
S41A Jillco Farms, 68.08 341 P **P** 17 43 40.0 +0.3
baz=158,SNR=13
P50A Jamestown 68.11 348 P **P** 17 43 40.1 +0.3
baz=166
MNTX Cornudas Mount 68.17 327 P **P** 17 43 40.8 +0.4
baz=146,SNR=6.3
SSPA Standing Stone 68.25 353 P **P** 17 43 40.6 0.0
baz=172
Q45A Warren Harvey, 68.35 344 P **P** 17 43 41.6 +0.2
baz=162
CCM Cathedral Cave 68.37 341 *e*P **P** 17 43 41.7 +0.2
comp=Z,138nm,1.1s
CCM Cathedral Cave 68.37 341 P **P** 17 43 41.9 +0.4
baz=159
O51A Pataskala 68.42 349 P **P** 17 43 41.5 -0.3
baz=167
R42A Luebbering 68.45 342 P **P** 17 43 42.2 +0.2
baz=159,SNR=6.0
ACSO Alum Creek Sta 68.57 349 P **P** 17 43 42.6 -0.1
baz=167
R41A Rosebud 68.63 341 P **P** 17 43 43.4 +0.3
baz=159,SNR=9.0
MSTX Muleshoe 68.87 331 P **P** 17 43 45.5 +0.7
baz=148,SNR=9.3
Q42A Golden Eagle 68.97 342 P **P** 17 43 45.2 0.0
baz=160,SNR=5.9
AMTX Amarillo 69.18 332 P **P** 17 43 47.6 +0.8
baz=149
Q41A Truxton 69.20 342 P **P** 17 43 46.9 +0.2
baz=159,SNR=6.0
N49A Columbus Grove 69.45 348 P **P** 17 43 48.2 0.0
baz=166
O45A Potomac 69.54 345 P **P** 17 43 48.1 -0.6
baz=162
P42A Winchester 69.56 343 P **P** 17 43 48.6 -0.2
baz=160
P41A Barry, Barry 69.83 342 P **P** 17 43 50.3 -0.2
baz=159
N46A Monticello 69.94 346 P **P** 17 43 50.7 -0.3
baz=163
M49A Liberty Center 69.95 348 P **P** 17 43 51.0 -0.1
baz=166
121A Cookes Peak, D 70.02 326 P **P** 17 43 53.4 +1.4
baz=144
N45A Kentland 70.06 345 P **P** 17 43 51.2 -0.7
baz=163
O41A Passleys Farm, 70.19 343 P **P** 17 43 52.2 -0.5
baz=160
L48A N Adams 70.49 348 P **P** 17 43 54.4 -0.1
baz=166
LIC Lamb 70.49 72 *e*P **P** 17 43 55.2 +0.1
comp=Z,24nm,0.8s
N43A Stutzman Famil 70.54 344 P **P** 17 43 54.9 +0.1
baz=161
L47A Sherwood 70.66 347 P **P** 17 43 55.3 -0.2
baz=165
TIC Toumodi 70.72 71 *e*P **P** 17 43 56.7 +0.2
KIC Kosan Boka 70.81 72 *e*P **P** 17 43 57.6 +0.6
comp=Z,22nm,0.8s
DBIC Dimbokro 70.87 72 P **P** 17 43 57.6 +0.2
comp=Z,10nm,0.7s,baz=218,slow=5.7,SNR=15
VNDA Vanda 70.92 190 P **P** 17 43 57.6 +0.9
comp=Z,0.4nm,0.7s,baz=140,slow=3.7,SNR=3.9
N40A Mertquake, Sal 71.10 342 P **P** 17 43 58.3 +0.1
baz=159
ANMO Albuquerque 71.35 328 P **P** 17 44 01.9 +1.8
baz=146
N39A Derby Farms, D 71.35 342 P **P** 17 43 60.0 +0.3
baz=158
TUC Tucson 71.38 324 P **P** 17 44 01.8 +1.6
baz=142
M40A Post Highland 71.57 343 P **P** 17 44 01.1 +0.1
baz=159
L40A Anamosa 72.11 343 P **P** 17 44 04.7 +0.5
baz=160
214A Organ Pipe Nat 72.19 322 P **P** 17 44 07.1 +2.1
baz=140
T25A Trinidad 72.26 331 P **P** 17 44 06.8 +1.3
baz=148
K42A Prairie Point, 72.32 345 P **P** 17 44 05.6 +0.2
baz=161
L39A Vinton 72.37 342 P **P** 17 44 06.4 +0.7
baz=159
J43A Natural Harves 72.68 346 P **P** 17 44 07.9 +0.4
baz=162
K40A Colesburg 72.68 343 P **P** 17 44 07.8 +0.2
baz=160
K39A Oelwein 72.88 343 P **P** 17 44 09.0 +0.2
baz=159
W18A Petrified Fore 73.06 326 P **P** 17 44 12.1 +1.9
baz=143
I43A Langenfeld Bro 73.10 346 P **P** 17 44 10.0 0.0
baz=162
KSCO Kaye Shedlock' 73.12 333 P **P** 17 44 11.7 +1.2
baz=149
SDCO Great Sand Dun 73.24 331 P **P** 17 44 13.0 +1.6
baz=147
GLMI Gryling 73.31 349 P **P** 17 44 12.5 +1.2
baz=166
J39A Decorah 73.42 343 P **P** 17 44 12.3 +0.3
baz=159
BGNE Belgrade 73.58 338 P **P** 17 44 14.0 +1.1
baz=153
S22A 4UR Ranch, Cre 73.83 330 P **P** 17 44 16.5 +1.6
baz=146
E53A Dumoine, Ponti 73.91 354 P **P** 17 44 15.0 +0.2
baz=172
E54A Lac Daplat, Po 73.92 354 P **P** 17 44 15.1 +0.3
baz=173
Q24A Divide 74.11 332 P **P** 17 44 18.1 +1.6
baz=147
GLA Glamis 74.13 321 P **P** 17 44 18.9 +2.5
baz=147
MVCO Mesa Verde 74.15 328 P **P** 17 44 18.5 +1.9
baz=144
WUAZ Wupatki 74.19 325 *e*P **P** 17 44 18.9 +2.0
comp=Z,9.5nm,1.1s
WUAZ Wupatki 74.19 325 P **P** 17 44 18.9 +2.0
baz=142
G43A Wallace 74.31 347 P **P** 17 44 17.0 -0.1
baz=163
G42A Mountain 74.45 346 P **P** 17 44 18.0 +0.1
baz=162
Y12C Blythe 74.49 322 P **P** 17 44 20.6 +2.2
baz=139
IKP In-Ko-Pah, Jac 74.55 320 P **P** 17 44 21.0 +2.1
baz=138
OGNE Ogallala 74.55 335 P **P** 17 44 20.1 +1.4
baz=150
E45A Wooded Hills, 74.89 349 P **P** 17 44 20.9 +0.5
baz=165
BC3 Big Chuckawall 74.93 321 P **P** 17 44 23.1 +2.1
baz=138
ISCO Ido Springs 75.00 332 P **P** 17 44 23.4 +1.7
baz=147
IRM Iron Mountain 75.14 322 P **P** 17 44 23.7 +1.5
baz=139
ECSD EROS Data Cent 75.18 340 P **P** 17 44 22.5 +0.4
baz=155
FRD Ford Ranch, An 75.45 321 P **P** 17 44 26.5 +2.5
baz=138
PFO Pinyon Flats O 75.46 321 P **P** 17 44 26.5 +2.4
baz=138
F40A Park Falls 75.47 345 P **P** 17 44 24.1 +0.3
baz=161
BELC Belle Mtn. Jos 75.49 321 P **P** 17 44 26.5 +2.2
baz=138
F39A Loretta 75.65 345 P **P** 17 44 25.4 +0.6
baz=160
GMRC Granite Mounta 75.89 322 P **P** 17 44 28.8 +2.3
baz=138
F37A Hinrichs Farm, 75.89 343 P **P** 17 44 26.3 +0.1
baz=159
E40A Wakefield 75.92 345 P **P** 17 44 27.6 +1.3
baz=161
F38A Pierce - Schro 75.92 344 P **P** 17 44 27.6 +1.3
baz=159
E39A Mellen 76.00 345 P **P** 17 44 27.5 +0.7
baz=160
N23A Red Feather La 76.06 332 P **P** 17 44 28.7 +1.2
baz=147
D41A Tuassel 76.22 347 P **P** 17 44 28.9 +1.0
baz=162
HEC Hector,Ludlow 76.29 322 P **P** 17 44 30.9 +2.1
baz=138
O20A White River Ci 76.41 330 P **P** 17 44 31.2 +1.7
baz=145
SUSD Miller 76.55 339 P **P** 17 44 30.6 +0.7
baz=153
BFSC Mount Baldy Ra 76.59 320 P **P** 17 44 32.6 +2.0
baz=137
K22A Casper 77.77 333 P **P** 17 44 38.1 +1.1
baz=147
TPNV Topopah Spring 77.82 323 P **P** 17 44 39.7 +2.3
baz=138
PKM Mcpherson Peak 78.29 320 P **P** 17 44 42.3 +2.2
baz=136
CWC Cottonwood Cre 78.43 322 P **P** 17 44 42.2 +1.4
baz=137
R11A Troy Canyon, C 78.52 325 P **P** 17 44 43.3 +2.1
baz=139
DUG Dugway, Tooele 78.56 327 P **P** 17 44 42.7 +1.3
baz=141
TSUM Tsumeb 78.71 106 P **P** 17 44 43.1 +0.3
comp=Z,0.8nm,0.3s,baz=245,slow=4.6,SNR=8.1
MAW Mawson 78.72 163 P **P** 17 44 41.2 -0.6
comp=Z,2.2nm,0.7s,baz=218,slow=8.6,SNR=3.9
HWUT Hardware Ranch 79.09 329 *e*P **P** 17 44 45.8 +1.5
comp=Z,9.5nm,0.9s
BW06 Boulder Array 79.13 331 P **P** 17 44 46.0 +1.4
baz=144
PDAR Pinedale Array 79.13 331 P **P** 17 44 45.8 +1.2
comp=Z,2.6nm,0.8s,baz=123,slow=5.5,SNR=17
PDAR pP **pP** 17 45 12.5 +0.4
comp=Z,0.9nm,0.6s,baz=112,slow=6.6,SNR=3.0
TORD Torodi Ar. Bea 79.74 69 P **P** 17 44 47.5 -0.7
comp=Z,2.5nm,0.8s,baz=274,slow=5.6,SNR=16
TORD pP **pP** 17 45 17.3 +1.5
comp=Z,3.6nm,0.9s,baz=228,slow=3.4,SNR=6.6
MDND Maddock 79.79 340 P **P** 17 44 48.9 +1.2
baz=153
NVAR Mina Array Bea 80.01 323 P **P** 17 44 51.1 +1.7
comp=Z,1.8nm,0.8s,baz=158,slow=5.8,SNR=9.2
ULM Lac du Bonnet 80.91 343 P **P** 17 44 53.7 +0.1
comp=Z,8.7nm,0.9s,baz=198,slow=7.5,SNR=5.7
RLMT Red Lodge 80.92 333 P **P** 17 44 55.4 +1.3
baz=145
BOSA Boshof 80.98 117 P **P** 17 44 54.5 -0.4
comp=Z,3.7nm,0.8s,baz=276,slow=4.4,SNR=8.1
DGMT Dagmar 81.83 337 P **P** 17 44 59.9 +1.3
baz=149
HLID Hailey 81.93 329 *e*P **P** 17 45 01.0 +1.5
comp=Z,6.1nm,1.2s
HLID *ep*P **pP** 17 45 28.8 +1.6
HLID *es*P **sP** 17 45 40.3 +1.7
HLID Hailey 81.93 329 P **P** 17 45 01.3 +1.9
baz=140
BOZ Bozeman (W) 82.29 332 P **P** 17 45 02.5 +1.3
baz=143
O03E Paynes Creek 83.23 322 P **P** 17 45 07.6 +1.4
baz=153
J05D Fort Rock, OR 85.05 325 P **P** 17 45 16.0 +0.6
baz=135
J04D Umpqua Nationa 85.47 324 P **P** 17 45 19.0 +1.5
baz=135
I05D Terrebonne, OR 85.85 325 P **P** 17 45 21.1 +1.8
baz=135
K02D Willamette Mer 85.91 323 P **P** 17 45 22.1 +2.5
baz=134
G05D Wamic, OR 86.48 326 P **P** 17 45 23.8 +1.6
baz=135
NEW Newport 86.74 330 P **P** 17 45 24.1 +0.7
baz=139
MATP Matopo 87.35 112 P **P** 17 45 27.6 +0.3
comp=Z,2.0nm,0.7s,baz=291,slow=2.5,SNR=5.6
D03D Eldon 88.97 327 P **P** 17 45 35.3 +1.3
baz=134
LSZ Lusaka 89.51 107 P **P** 17 45 39.0 +1.5
comp=Z,0.9nm,0.4s,baz=180,slow=9.1,SNR=3.5
BRTR Keskin Array B 116.47 57 PKP **PKPdf** 17 51 22.6 -0.5
comp=Z,0.3nm,0.5s,baz=258,slow=4.8,SNR=2.7
ASAR Alice Springs 124.43 206 PKP **PKPdf** 17 51 38.4 -0.5
comp=Z,1.6nm,0.6s,baz=130,slow=1.6,SNR=34
ASAR pPKP **pPKPdf** 17 52 08.2 0.0
comp=Z,0.5nm,0.5s,baz=142,slow=1.6,SNR=3.1
WRA Warramunga Arr 127.58 208 PKP **PKPdf** 17 51 45.0 +0.1
comp=Z,2.3nm,0.6s,baz=155,slow=1.7,SNR=67
WRA pPKP **pPKPdf** 17 52 15.0 +0.8
comp=Z,1.0nm,0.8s,baz=152,slow=1.7,SNR=3.2
PETK Petropavlovsk- 137.02 320 PKP **PKPdf** 17 52 01.7 +0.2
comp=Z,1.1nm,0.5s,baz=248,slow=1.6,SNR=4.8
KURK Kurchatov 146.40 38 *e*P **PKPbc** 17 52 19.8 0.0
ZALV Zalesovo Beam 147.44 29 PKPbc **PKPbc** 17 52 21.1 -1.6
comp=Z,18nm,0.7s,baz=282,slow=2.9,SNR=49
ZALV pPKPbc **pPKPab** 17 52 53.5 +0.2
comp=Z,2.6nm,0.5s,baz=294,slow=2.9,SNR=2.7
MKAR Makanchi Array 150.51 42 PKPbc **PKPbc** 17 52 31.4 +0.7
comp=Z,7.8nm,0.6s,baz=307,slow=2.2,SNR=60
MKAR pPKPbc **pPKPbc** 17 53 01.2 +1.3
comp=Z,3.1nm,0.8s,baz=330,slow=1.5,SNR=3.1

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*ISCJB **05** 18:02:33.5±0.4, 32.2°22N±0.0°03×48.88E±0.0°04, h23km, mb3.8/10, MS2.9/1, Error ellipse: s-maj=5.5km s-min=3.7km az=148.1*
*IDC **05** 18:02:33.2±1.3, 32.2°58N×48.8°88E, h0km, mb3.9/11, mb1 3.9/13, mb1mx3.7/50, mbtmp3.9/13, ML2.9/2, MS2.9/1, Ms1 3.1/1, ms1mx2.3/35, Error ellipse: s-maj=32.3km s-min=16.3km az=2.0*
*THR **05** 18:02:34.8±0.4, 32.3°36N×48.9°99E, h34km±2km, ML3.6*
*TEH **05** 18:02:35.6, 32.4°42N×48.9°99E, h20km, ML3.7*
*DSN **05** 18:02:42.7±2.0, 31.8°89N×49.4°99E, h15km, ML3.4/6, Error ellipse: s-maj=32.9km s-min=16.4km az=25.0*

ISC 05 18:02:35.8±0.6, 32°41N±0.0°04×49°01E±0.0°04, h23km, n88, σ1°63/88, mb4.0/10, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**0.35**	**211**	*e*Pg	**Pb**	**18 02 42.5**	**-0.8**
SHGR	**Shooshtar-Gavs**	**0.35**	**211**	*e*Pg	**Pb**	**18 02 42.6**	**-0.8**
AHWZ	**Ahwaz**	**1.12**	**196**	*e*Pg	**Pb**	**18 02 58.0**	**+1.5**
AHWZ				IAMB	IAmb	18 03 17.1	
	comp=E,0.0nm,0.3s						
AHWZ				IAMB	IAmb	18 03 17.6	
	comp=N,0.0nm,0.4s						
AHWZ				IAMB	IAmb	18 03 18.3	
	comp=Z,0.0nm,0.4s						
IKMR	**Kamar-syah**	**1.23**	**335**	*e*Pg	**Pn**	**18 02 55.4**	**-2.1**
KHMZ	**Khomeyn**	**1.55**	**31**	*e*Pn	**Pb**	**18 03 03.1**	**-0.8**
KHMZ				*e*Sg	**Sb**	**18 03 25.1**	**+1.9**
KHMZ				IAML		18 03 28.0	
	comp=N,711nm,0.6s						
KHMZ				IAML		18 03 29.6	
	comp=E,647nm,0.5s						
KHMZ	**Khomeyn**	**1.55**	**31**	*e*Pn	**Pb**	**18 03 03.1**	**-0.8**
ZNGN	**Zangian**	**1.59**	**100**	IAMB	IAmb	18 03 30.0	
	comp=E,0.0nm,0.5s						
ZNGN				*e*Pn	**Pb**	**18 03 05.1**	**+0.4**
ZNGN				IAMB	IAmb	18 03 30.9	
	comp=N,0.0nm,0.6s						
ZNGN				IAMB	IAmb	18 03 36.9	
	comp=Z,0.0nm,0.4s						
IPIR	**Pirpir**	**1.61**	**80**	IAMB	IAmb	18 03 30.5	
	comp=Z,15μm,0.4s						
IPIR				*e*Pn	**Pb**	**18 03 05.5**	**+0.4**
IPIR				IAMB	IAmb	18 03 33.4	
	comp=E,14μm,0.4s						
IPIR				IAMB	IAmb	18 03 33.5	
	comp=N,14μm,0.4s						
ROKH	**ROKH**	**1.71**	**92**	IAMB	IAmb	18 03 36.2	
	comp=N,0.0nm,0.6s						
ROKH				*e*Pn	**Pb**	**18 03 06.6**	**-0.2**
ROKH				IAMB	IAmb	18 03 36.6	
	comp=Z,0.0nm,0.4s						
ROKH				IAMB	IAmb	18 03 40.4	
	comp=E,0.0nm,0.7s						
HSAM	**Samen**	**1.83**	**349**	IAMB	IAmb	18 03 36.0	
	comp=E,0.0nm,0.5s						
HSAM				*e*Pn	**Pb**	**18 03 07.5**	**-1.3**
HSAM				IAMB	IAmb	18 03 40.9	
	comp=N,0.0nm,0.6s						
IBRJ	**Brojen**	**1.97**	**104**	*e*Pn	**Pb**	**18 03 09.9**	**-1.3**
IKOM	**Komasi**	**2.16**	**325**	*e*Pn	**Pn**	**18 03 12.1**	**+1.5**
IKOM				IAMB	IAmb	18 03 50.4	
	comp=E,0.0nm,0.8s						
IKOM				IAMB	IAmb	18 03 51.1	
	comp=N,0.0nm,0.8s						
IKOM				IAMB	IAmb	18 03 58.4	
	comp=Z,0.0nm,0.7s						
IBZA	**Bozab**	**2.27**	**335**	*e*Pn	**Pn**	**18 03 13.4**	**+1.2**
IBZA				IAMB	IAmb	18 03 56.5	
	comp=Z,0.0nm,0.7s						
IBZA				IAMB	IAmb	18 03 57.1	
	comp=N,0.0nm,0.6s						
IKLH	**Kolahrood**	**2.34**	**67**	*e*Pn	**Pb**	**18 03 15.9**	**-1.6**
IKLH				IAMB	IAmb	18 03 25.8	
	comp=Z,3μm,0.5s						
IKLH				IAMB	IAmb	18 03 57.0	
	comp=E,6μm,0.4s						
IKLH				IAMB	IAmb	18 03 58.3	
	comp=N,7μm,0.5s						
HAGD	**Aghdareh**	**2.41**	**3**	*e*Pn	**Pn**	**18 03 16.0**	**+1.9**
HAGD				IAMB	IAmb	18 03 55.3	
	comp=E,0.0nm,0.4s						
HAGD				IAMB	IAmb	18 03 58.4	
	comp=Z,0.0nm,0.4s						
HAGD				IAMB	IAmb	18 04 00.4	
	comp=N,0.0nm,0.2s						
IGAR	**Gharneh**	**2.56**	**89**	*e*Pn	**Pn**	**18 03 18.4**	**+2.2**
IGAR				IAMB	IAmb	18 03 59.2	
	comp=Z,4μm,0.2s						
IGAR				IAMB	IAmb	18 03 59.3	
	comp=N,7μm,0.4s						
KLNJ	**Kolanjah**	**2.61**	**122**	*e*Pn	**Pn**	**18 03 18.9**	**+2.1**
KLNJ				IAMB	IAmb	18 03 58.0	
	comp=Z,0.0nm,0.3s						
KLNJ				IAMB	IAmb	18 04 01.2	
	comp=E,0.0nm,0.4s						

KLNJ					IAMB	IAmb	18 04 05.7		
	comp=N,0.0nm,0.7s								
IVIS	**Veis**	**2.78**	**320**	*e*Pn		**Pn**	**18 03 20.7**	**+1.7**	
IVIS					IAMB	IAmb	18 04 04.9		
	comp=Z,2µm,0.4s								
IVIS					IAMB	IAmb	18 04 07.2		
	comp=N,4µm,0.3s								
IVIS					IAMB	IAmb	18 04 21.3		
	comp=E,3µm,1.0s								
GHVR	**GHOM**	**2.81**	**42**	*e*Pn		**Pn**	**18 03 19.9**	**+0.5**	
GHVR	**GHOM**	**2.81**	**42**	*e*Pn		**Pn**	**18 03 20.0**	**+0.5**	
IZEF	**Zefreh**	**2.84**	**79**	*e*Pn		**Pn**	**18 03 22.0**	**+2.0**	
IZEF					IAMB	IAmb	18 03 32.3		
	comp=Z,2µm,0.5s								
IZEF					IAMB	IAmb	18 04 05.1		
	comp=N,2µm,0.4s								
IZEF					IAMB	IAmb	18 04 11.0		
	comp=E,2µm,0.5s								
IRAM	**Ramesheh**	**2.92**	**101**	*e*Pn		**Pn**	**18 03 22.5**	**+1.4**	
IRAM					IAMB	IAmb	18 04 11.2		
	comp=N,2µm,0.5s								
IRAM					IAMB	IAmb	18 04 12.8		
	comp=Z,2µm,0.5s								
IRAM					IAMB	IAmb	18 04 15.5		
	comp=E,2µm,0.4s								
HKZM	**Kohzaman**	**2.96**	**358**	*e*Pn		**Pn**	**18 03 23.5**	**+1.8**	
HKZM					IAMB	IAmb	18 04 10.9		
	comp=N,0.0nm,0.5s								
HKZM					IAMB	IAmb	18 04 14.1		
	comp=Z,0.0nm,0.8s								
HKZM					IAMB	IAmb	18 04 14.1		
	comp=E,0.0nm,0.7s								
SNGE	**Sanandaj**	**3.02**	**333**	*e*Pn		**Pn**	**18 03 23.2**	**+0.9**	
SNGE	**Sanandaj**	**3.02**	**333**	*e*Pn		**Pn**	**18 03 23.2**	**+0.9**	
ILIN	**Lien**	**3.03**	**326**	*e*Pn		**Pn**	**18 03 24.5**	**+1.9**	
ILIN					IAMB	IAmb	18 04 04.2		
	comp=Z,1µm,0.2s								
KRSH	**Karshahi**	**3.05**	**58**	*e*Pn		**Pn**	**18 03 25.0**	**+2.2**	
KRSH					IAMB	IAmb	18 03 45.4		
	comp=N,0.0nm,0.5s								
KRSH					IAMB	IAmb	18 04 17.8		
	comp=Z,0.0nm,1.2s								
KRSH					IAMB	IAmb	18 04 27.7		
	comp=E,0.0nm,0.5s								
IRAZ	**Razeghan**	**3.08**	**14**	*e*Pn		**Pn**	**18 03 25.7**	**+2.4**	
IRAZ					IAMB	IAmb	18 04 21.4		
	comp=N,2µm,0.5s								
IRAZ					IAMB	IAmb	18 04 22.2		
	comp=Z,2µm,0.5s								
IRAZ					IAMB	IAmb	18 04 23.8		
	comp=E,9µm,1.5s								
QABG	**Abgarm-Qazvin**	**3.33**	**8**	*e*Pn		**Pn**	**18 03 28.5**	**+1.8**	
QABG					IAMB	IAmb	18 04 26.9		
	comp=N,0.0nm,0.9s								
QABG					IAMB	IAmb	18 04 27.7		
	comp=E,0.0nm,0.7s								
IMHD	**Mahdasht**	**3.55**	**22**	*e*Pn		**Pn**	**18 03 31.1**	**+1.5**	
IMHD					IAMB	IAmb	18 03 46.2		
	comp=Z,1µm,0.4s								
IMHD					IAMB	IAmb	18 04 30.5		
	comp=N,3µm,0.9s								
IMHD					IAMB	IAmb	18 04 37.8		
	comp=E,2µm,0.5s								
IKAZ	**Kazeroun**	**3.57**	**136**	*e*Pn		**Pn**	**18 03 32.2**	**+2.1**	
IKAZ					IAMB	IAmb	18 04 39.5		
	comp=Z,2µm,0.4s								
CHTH	**Charan**	**3.91**	**26**	*e*Pn		**Pn**	**18 03 35.4**	**+0.8**	
CHTH	**Charan**	**3.91**	**26**	*e*Pn		**Pn**	**18 03 35.4**	**+0.8**	
ISAD	**Sadrabad**	**4.00**	**96**	IAMB		IAmb	18 04 55.5		
	comp=Z,546nm,0.6s								
ISAD					IAMB	IAmb	18 04 56.6		
	comp=E,1000nm,0.8s								
ISAD					IAMB	IAmb	18 05 01.4		
	comp=N,784nm,0.6s								
IDMV	**Damavand**	**4.04**	**38**	*e*Pn		**Pn**	**18 03 37.9**	**+1.4**	
IDMV					IAMB	IAmb	18 03 58.4		
	comp=Z,853nm,0.6s								
IDMV					IAMB	IAmb	18 04 00.0		
	comp=E,1µm,0.4s								
IDMV					IAMB	IAmb	18 04 51.6		
	comp=N,1µm,0.5s								
ANAR	**Anarak**	**4.05**	**78**	*e*Pn		**Pn**	**18 03 38.4**	**+1.9**	
ANAR					IAMB	IAmb	18 04 51.8		
	comp=Z,0.0nm,0.8s								
ANAR					IAMB	IAmb	18 04 56.8		
	comp=E,0.0nm,0.6s								
ANAR					IAMB	IAmb	18 04 56.9		
	comp=N,0.0nm,0.7s								
IGZV	**Ghazvin**	**4.09**	**14**	*e*Pn		**Pn**	**18 03 38.0**	**+0.8**	
IGZV					IAMB	IAmb	18 03 54.5		
	comp=Z,629nm,0.4s								
IGZV					IAMB	IAmb	18 04 28.2		
	comp=N,2µm,0.3s								
IGZV					IAMB	IAmb	18 04 56.9		
	comp=E,2µm,0.6s								
IAFJ	**Afjeh**	**4.11**	**32**	*e*Pn		**Pn**	**18 03 39.0**	**+1.6**	
IAFJ					IAMB	IAmb	18 03 55.1		
	comp=Z,872nm,0.5s								
IAFJ					IAMB	IAmb	18 04 58.4		
	comp=N,2µm,0.7s								
QALM	**Alamut, Qazvin**	**4.24**	**18**	*e*Pn		**Pn**	**18 03 40.5**	**+1.3**	
QALM					IAMB	IAmb	18 04 53.4		
	comp=E,0.0nm,0.7s								
QALM					IAMB	IAmb	18 04 59.4		
	comp=Z,0.0nm,1.5s								
QALM					IAMB	IAmb	18 05 02.6		
	comp=N,0.0nm,0.8s								
ZNJK	**Zanjan**	**4.26**	**356**	*e*Pn		**Pn**	**18 03 40.2**	**+0.7**	
ZNJK	**Zanjan**	**4.26**	**356**	*e*Pn		**Pn**	**18 03 40.2**	**+0.7**	
ILAS	**Lasjerd**	**4.42**	**47**	*e*Pn		**Pn**	**18 03 44.5**	**+2.7**	
ILAS					IAMB	IAmb	18 03 44.8		
	comp=Z,1µm,0.6s								
ILAS					IAMB	IAmb	18 03 45.2		
	comp=N,1µm,0.6s								
ILAS					IAMB	IAmb	18 04 12.4		
	comp=E,791nm,0.6s								
IFIR	**Firoozkooh**	**4.48**	**43**	*e*Pn		**Pn**	**18 03 44.2**	**+1.7**	
IFIR					IAMB	IAmb	18 03 45.5		
	comp=Z,666nm,0.2s								
IFIR					IAMB	IAmb	18 03 45.8		
	comp=N,628nm,0.2s								
IFIR					IAMB	IAmb	18 05 13.2		
	comp=E,1µm,0.8s								
ICHK	**Chekchek**	**4.57**	**91**	*e*Pn		**Pn**	**18 03 45.7**	**+1.9**	
ICHK					IAMB	IAmb	18 04 41.8		
	comp=N,534nm,0.5s								
ICHK					IAMB	IAmb	18 05 05.0		
	comp=E,588nm,0.6s								
ICHK					IAMB	IAmb	18 05 12.6		
	comp=Z,859nm,0.8s								
ISRV	**Sarvestan**	**4.64**	**129**	IAMB		IAmb	18 04 43.3		
	comp=Z,840nm,0.3s								
ISRV					IAMB	IAmb	18 04 46.9		
	comp=N,2µm,0.3s								
IALA	**Alasht**	**4.83**	**40**	*e*Pn		**Pn**	**18 03 50.0**	**+2.6**	
IALA					IAMB	IAmb	18 04 15.6		
	comp=Z,799nm,0.5s								
IMEH	**Mehriz**	**4.87**	**101**	*e*Pn		**Pn**	**18 03 49.1**	**+1.2**	
IMEH					IAMB	IAmb	18 04 47.2		
	comp=Z,264nm,0.5s								
IMEH					IAMB	IAmb	18 04 53.9		
	comp=N,515nm,0.6s								
ISHM	**Shahmirzad**	**4.91**	**45**	*e*Pn		**Pn**	**18 03 50.4**	**+1.9**	
ISHM					IAMB	IAmb	18 03 51.3		
	comp=Z,1µm,0.4s								
IANJ	**Anjilo**	**5.09**	**52**	*e*Pn		**Pn**	**18 03 52.0**	**+1.1**	
IANJ					IAMB	IAmb	18 04 15.0		
	comp=Z,420nm,0.6s								
IKIA	**Kiasar**	**5.41**	**44**	*e*Pn		**Pn**	**18 03 58.0**	**+2.6**	
IKIA					IAMB	IAmb	18 04 21.8		
	comp=E,336nm,0.6s								
IKIA					IAMB	IAmb	18 04 30.8		
	comp=Z,308nm,0.8s								
IKIA					IAMB	IAmb	18 05 41.9		
	comp=N,288nm,1.0s								
TPRV	**Parvadeh(Tabas**	**6.50**	**82**	*e*Pn		**Pn**	**18 04 11.8**	**+1.7**	
TNSJ	**Nastanj**	**6.56**	**74**	*e*Pn		**Pn**	**18 04 13.0**	**+2.1**	
TNSJ					IAMB	IAmb	18 06 17.9		
	comp=Z,0.0nm,1.0s								
TKDS	**Koohdasht(Taba**	**6.92**	**78**	*e*Pn		**Pn**	**18 04 17.3**	**+1.4**	
GENO	**Geno**	**7.97**	**127**	IAMB		IAmb	18 04 40.7		
	comp=Z,0.0nm,0.4s								
GENO					IAMB	IAmb	18 05 58.4		
	comp=N,0.0nm,0.9s								
GENO					IAMB	IAmb	18 06 07.7		
	comp=E,0.0nm,0.3s								

SHME	**Shamm**	**8.88**	**134**	P		**Pn**	**18 04 42.1**	**-0.8**	
SHME				S		**Sn**	**18 06 15.7**	**-6.5**	
BANOM	**Banah**	**9.07**	**134**	P		**Pn**	**18 04 44.8**	**-0.6**	
GEYT	**Alibeck**	**9.27**	**51**	Pn		**Pn**	**18 04 48.5**	**+0.5**	
	comp=E,0.2nm,0.3s,baz=253,slow=9.1,SNR=6.4								
MSFE	**Esma-Masafi**	**9.41**	**136**	P		**Pn**	**18 04 49.0**	**-1.1**	
MSFE	**Esma-Masafi**	**9.41**	**136**	*e*Pn		**Pn**	**18 04 49.9**	**-0.1**	
NAZ	**Nazwa, Dubai**	**9.42**	**140**	P		**Pn**	**18 04 50.3**	**+0.1**	
NAZ	**Nazwa, Dubai**	**9.42**	**140**	*e*Pn		**Pn**	**18 04 50.5**	**+0.4**	
ASUD	**Al Ashush, Dub**	**9.54**	**143**	P		**Pn**	**18 04 51.7**	**0.0**	
ASUD	**Al Ashush, Dub**	**9.54**	**143**	*e*Pn		**Pn**	**18 04 51.0**	**-0.7**	
FAQ	**Al Faqa, Dubai**	**9.58**	**141**	P		**Pn**	**18 04 51.9**	**-0.4**	
FAQ	**Al Faqa, Dubai**	**9.58**	**141**	*e*Pn		**Pn**	**18 04 52.5**	**+0.2**	
UOSS	**Minazif**	**9.75**	**138**	P		**Pn**	**18 04 53.5**	**-1.2**	
UOSS	**Minazif**	**9.75**	**138**	*e*Pn		**Pn**	**18 04 53.6**	**-1.2**	
HATD	**Hatta, Dubai**	**9.81**	**139**	P		**Pn**	**18 04 53.1**	**-2.4**	
HATD	**Hatta, Dubai**	**9.81**	**139**	*e*Pn		**Pn**	**18 04 53.2**	**-2.3**	
ASHO	**Ashiyiah**	**9.88**	**139**	P		**Pn**	**18 04 55.5**	**-0.9**	
ASHO	**Ashiyiah**	**9.88**	**139**	*e*Pn		**Pn**	**18 04 55.3**	**-1.2**	
MZR	**Muzera**	**10.17**	**156**	P		**Pn**	**18 04 59.2**	**-1.3**	
MZR				P		**Pn**	**18 05 00.3**	**-0.1**	
MZR	**Muzera**	**10.17**	**156**	*e*Pn		**Pn**	**18 05 00.5**	**+0.1**	
ALNE	**Al Ain**	**10.22**	**143**	*e*Pn		**Pn**	**18 04 57.9**	**-3.3**	
SOHO	**SOHO**	**10.57**	**139**	P		**Pn**	**18 05 03.1**	**-2.9**	
BRTR	**Keskin Array B**	**14.41**	**305**	Pn		**Pn**	**18 05 59.1**	**+0.7**	
	comp=E,0.0nm,0.3s,baz=132,slow=11,SNR=2.9								
IDI	**Anoyia**	**20.23**	**285**	P		**P**	**18 07 09.3**	**0.0**	
	comp=E,43nm,1.3s,baz=252,slow=24,SNR=3.8								
AKASG	**Malin Array Be**	**23.39**	**327**	P		**P**	**18 07 41.6**	**-1.2**	
	comp=E,0.2nm,0.4s,baz=136,slow=8.1,SNR=3.3								
KURBB	**Kurchatov Arra**	**28.35**	**41**	P		**P**	**18 08 28.6**	**+0.6**	
	comp=E,1.1nm,0.7s,baz=244,slow=9.5,SNR=5.3								
MKAR	**Makanchi Array**	**29.14**	**51**	P		**P**	**18 08 34.5**	**-0.5**	
	comp=E,0.5nm,0.7s,baz=251,slow=12,SNR=3.5								
ZALV	**Zalesovo Beam**	**33.31**	**39**	P		**P**	**18 09 11.2**	**-0.3**	
	comp=E,1.1nm,0.5s,baz=237,slow=10,SNR=6.4								
HFS	**Hagfors**	**36.17**	**331**	P		**P**	**18 09 36.1**	**-0.2**	
	comp=E,1.3nm,0.3s,baz=124,slow=7.9,SNR=8.3								
NB2	**NORSAR Subarra**	**37.70**	**331**	P		**P**	**18 09 48.3**	**-0.9**	
	comp=Z,0.8nm,0.7s,baz=123,slow=8.6								
NOA	**NORSAR Array B**	**37.70**	**331**	P		**P**	**18 09 47.6**	**-1.6**	
	comp=Z,0.9nm,0.8s,baz=130,slow=8.1,SNR=4.4								
CMAR	**Chiang Mai Arr**	**46.79**	**95**	P		**P**	**18 11 06.1**	**+2.3**	
	comp=Z,0.9nm,0.6s,baz=291,slow=8.3,SNR=9.0								
CMAR					LR	LR	18 33 49.7		
	comp=Z,11nm,18.1s,baz=140,slow=40								
TORD	**Torodi Ar. Bea**	**47.22**	**257**	P		**P**	**18 11 06.6**	**-0.6**	
	comp=Z,2.1nm,1.2s,baz=51,slow=5.8,SNR=5.9								
KSRS	**Korea Array**	**63.10**	**61**	P		**P**	**18 13 03.2**	**+1.7**	
	comp=Z,2.7nm,0.6s,baz=286,slow=6.7,SNR=10								
USRK	**Ussuriysk Ar.**	**63.58**	**53**	P		**P**	**18 13 05.3**	**+0.7**	
	comp=Z,0.8nm,0.5s,baz=288,slow=5.0,SNR=5.9								

*IDC **05** 18:04:35.6±0.7, 2.54S×77.65W, h0km, mb3.9/7, mb1 4.2/11, mb1mx4.0/29, mbtmp4.0/11, ML4.2/4, MS3.3/6, Ms1 3.3/6, ms1mx3.0/33, Error ellipse: s-maj=24.8km s-min=15.2km az=78.0*

*IGQ **05** 18:04:40.5±0.5, 3°S±3°×7°8W±°, h12km, M4.5/13, MLv4.5/13*

*ISCJB **05** 18:04:41.1±0.5, 2.74S±0.03×77.71W±0.04, h51km±7km, mb4.1/9, MS3.2/2, Error ellipse: s-maj=7.4km s-min=5.2km az=179.8*

*NEIC **05** 18:04:42.1±1.0, 2.67S×77.58W, h50km±11km, mb4.6/3, Error ellipse: s-maj=15.0km s-min=8.9km az=64.0*

NEIC Felt lightly at Macas, Ecuador.

ISC 05 18:04:40.5±1.2, 2.59S±0.04×77.86W±0.04, h33km±8km, n142, σ1§35/160, mb4.0/9, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res	
				Op	ISC	h	m	s	ISC
PUYO	**Puyo, Santa Ro**	**1.10**	**352**	P		**Pn**	**18 05 00.4**	**+0.6**	
PUYO				S		**Sb**	**18 05 16.6**	**+1.3**	
PUYO	**Puyo, Santa Ro**	**1.10**	**352**	P		**Pn**	**18 05 00.4**	**+0.6**	
PUYO				S		**Sb**	**18 05 16.6**	**+1.3**	
RIOE1	**Riobamba**	**1.14**	**318**	P		**Pn**	**18 05 00.4**	**0.0**	
RIOE1				S		**Sn**	**18 05 15.1**	**0.0**	
RIOE1	**Riobamba**	**1.14**	**318**	P		**Pn**	**18 05 00.4**	**0.0**	
RIOE1				S		**Sn**	**18 05 15.1**	**0.0**	
PAT1	**Patacocha**	**1.22**	**332**	P		**Pn**	**18 05 01.9**	**+0.1**	
PAT1	**Patacocha**	**1.22**	**332**	P		**Pn**	**18 05 01.9**	**+0.1**	
ARRY	**Arrayan**	**1.23**	**331**	P		**Pn**	**18 05 01.6**	**-0.2**	
ARRY	**Arrayan**	**1.23**	**331**	P		**Pn**	**18 05 01.6**	**-0.2**	
RETU	**Refugio**	**1.27**	**333**	P		**Pn**	**18 05 02.8**	**+0.2**	
RETU	**Refugio**	**1.27**	**333**	P		**Pn**	**18 05 02.8**	**+0.2**	
BIL2	**Estacion Bilba**	**1.30**	**331**	P		**Pn**	**18 05 03.0**	**+0.3**	
BIL2	**Estacion Bilba**	**1.30**	**331**	P		**Pn**	**18 05 03.0**	**+0.3**	
RUN5	**Runtun**	**1.30**	**334**	P		**Pn**	**18 05 01.9**	**-0.8**	
RUN5	**Runtun**	**1.30**	**334**	P		**Pn**	**18 05 01.9**	**-0.8**	
POND	**Pondoa**	**1.30**	**333**	P		**Pn**	**18 05 03.1**	**+0.3**	
POND	**Pondoa**	**1.30**	**333**	P		**Pn**	**18 05 03.1**	**+0.3**	
JUI6	**Juive**	**1.31**	**333**	P		**Pn**	**18 05 03.1**	**+0.3**	
JUI6	**Juive**	**1.31**	**333**	P		**Pn**	**18 05 03.1**	**+0.3**	
COHC	**Cochancay**	**1.40**	**275**	P		**Pb**	**18 05 04.8**	**-1.2**	
COHC	**Cochancay**	**1.40**	**275**	P		**Pb**	**18 05 04.8**	**-1.2**	
ARDO	**Archidona, Ten**	**1.59**	**2**	P		**Pn**	**18 05 07.2**	**+0.7**	
ARDO				S		**Sb**	**18 05 29.5**	**+0.4**	
ARDO	**Archidona, Ten**	**1.59**	**2**	P		**Pn**	**18 05 07.2**	**+0.7**	
ARDO				S		**Sb**	**18 05 29.5**	**+0.4**	
PIS1	**Pisayambo**	**1.61**	**341**	P		**Pb**	**18 05 08.7**	**-1.3**	
PIS1				S		**Sb**	**18 05 30.7**	**+0.5**	
PIS1	**Pisayambo**	**1.61**	**341**	P		**Pb**	**18 05 08.7**	**-1.3**	
PIS1				S		**Sb**	**18 05 30.7**	**+0.5**	
PISA	**Pisayambo**	**1.61**	**341**	P		**Pb**	**18 05 08.8**	**-1.2**	
PISA	**Pisayambo**	**1.61**	**341**	P		**Pb**	**18 05 08.8**	**-1.2**	
SAGO	**Sagoatoa**	**1.64**	**331**	P		**Pb**	**18 05 09.6**	**-0.9**	
SAGO	**Sagoatoa**	**1.64**	**331**	P		**Pb**	**18 05 09.6**	**-0.9**	
MILO	**Milagro-Astudi**	**1.72**	**280**	P		**Pb**	**18 05 11.4**	**-0.1**	
MILO				S		**Sb**	**18 05 35.7**	**+3.0**	
MILO	**Milagro-Astudi**	**1.72**	**280**	P		**Pb**	**18 05 11.4**	**-0.1**	
MILO				S		**Sb**	**18 05 35.7**	**+3.0**	
BMOR	**Cotopaxi Volca**	**1.94**	**342**	P		**Pb**	**18 05 14.4**	**-1.2**	
BMOR				S		**Sb**	**18 05 40.6**	**+0.9**	
BMOR	**Cotopaxi Volca**	**1.94**	**342**	P		**Pb**	**18 05 14.4**	**-1.2**	
BMOR				S		**Sb**	**18 05 40.6**	**+0.9**	
COV1	**Cotopaxi Volc**	**1.98**	**346**	P		**Pb**	**18 05 15.7**	**-0.6**	
COV1	**Cotopaxi Volc**	**1.98**	**346**	P		**Pb**	**18 05 15.7**	**-0.6**	
BTAM	**Cotopaxi Volca**	**1.98**	**344**	P		**Pb**	**18 05 15.0**	**-1.2**	
BTAM				S		**Sb**	**18 05 41.9**	**+1.2**	
BTAM	**Cotopaxi Volca**	**1.98**	**344**	P		**Pb**	**18 05 15.0**	**-1.2**	
BTAM				S		**Sb**	**18 05 41.9**	**+1.2**	
BREF	**Cotopaxi Volca**	**2.00**	**343**	P		**Pb**	**18 05 16.8**	**+0.2**	
BREF				S		**Sb**	**18 05 43.4**	**+2.1**	
BREF	**Cotopaxi Volca**	**2.00**	**343**	P		**Pb**	**18 05 16.8**	**+0.2**	
BREF				S		**Sb**	**18 05 43.4**	**+2.1**	
BVC2	**Cotopaxi Volca**	**2.00**	**344**	P		**Pb**	**18 05 15.3**	**-1.3**	
BVC2				S		**Sb**	**18 05 42.5**	**+1.2**	
BVC2	**Cotopaxi Volca**	**2.00**	**344**	P		**Pb**	**18 05 15.3**	**-1.3**	
BVC2				S		**Sb**	**18 05 42.5**	**+1.2**	
BNAS	**Cotopaxi Volca**	**2.01**	**342**	P		**Pb**	**18 05 15.7**	**-1.0**	
BNAS				S		**Sb**	**18 05 43.3**	**+1.9**	
BNAS	**Cotopaxi Volca**	**2.01**	**342**	P		**Pb**	**18 05 15.7**	**-1.0**	
BNAS				S		**Sb**	**18 05 43.3**	**+1.9**	
VC1	**Cotopaxi 1**	**2.01**	**344**	P		**Pb**	**18 05 16.2**	**-0.6**	
VC1	**Cotopaxi 1**	**2.01**	**344**	P		**Pb**	**18 05 16.2**	**-0.6**	
NAS2	**Nasa**	**2.03**	**343**	P		**Pb**	**18 05 16.4**	**-0.7**	
NAS2	**Nasa**	**2.03**	**343**	P		**Pb**	**18 05 16.4**	**-0.7**	
ILLI	**Illinizas Sur**	**2.06**	**335**	P		**Pb**	**18 05 16.4**	**-1.1**	
ILLI				S		**Sb**	**18 05 44.2**	**+1.3**	
ILLI	**Illinizas Sur**	**2.06**	**335**	P		**Pb**	**18 05 16.4**	**-1.1**	
ILLI				S		**Sb**	**18 05 44.2**	**+1.3**	
ANTM	**Antisana-La Mi**	**2.08**	**350**	P		**Pb**	**18 05 16.0**	**-1.9**	
ANTM				S		**Sb**	**18 05 43.1**	**-0.3**	
ANTM	**Antisana-La Mi**	**2.08**	**350**	P		**Pb**	**18 05 16.0**	**-1.9**	
ANTM				S		**Sb**	**18 05 43.1**	**-0.3**	
PITA	**Cotopaxi Volc**	**2.10**	**344**	P		**Pb**	**18 05 17.4**	**-0.8**	
PITA	**Cotopaxi Volc**	**2.10**	**344**	P		**Pb**	**18 05 17.4**	**-0.8**	
ANTS	**Antisana-Sarah**	**2.10**	**352**	P		**Pn**	**18 05 16.1**	**+2.1**	
ANTS				S		**Sb**	**18 05 44.3**	**-0.1**	
ANTS	**Antisana-Sarah**	**2.10**	**352**	P		**Pn**	**18 05 16.1**	**+2.1**	
ANTS				S		**Sb**	**18 05 44.3**	**-0.1**	
ANTG	**Antisana-Guama**	**2.11**	**349**	P		**Pn**	**18 05 15.9**	**+1.8**	
ANTG				S		**Sb**	**18 05 44.3**	**-0.3**	
ANTG	**Antisana-Guama**	**2.11**	**349**	P		**Pn**	**18 05 15.9**	**+1.8**	
ANTG				S		**Sb**	**18 05 44.3**	**-0.3**	
ANTI	**Antisana**	**2.15**	**352**	P		**Pb**	**18 05 17.0**	**-2.2**	
ANTI	**Antisana**	**2.15**	**352**	P		**Pb**	**18 05 17.0**	**-2.2**	
NINA	**Atacazo Ninahu**	**2.31**	**341**	P		**Pb**	**18 05 20.7**	**-1.2**	
NINA	**Atacazo Ninahu**	**2.31**	**341**	P		**Pb**	**18 05 20.7**	**-1.2**	
MORR	**Playas El Morr**	**2.47**	**269**	P		**Pb**	**18 05 22.0**	**-2.3**	
MORR				S		**Sn**	**18 06 42.6**	**+3.3**	
MORR	**Playas El Morr**	**2.47**	**269**	P		**Pb**	**18 05 22.0**	**-2.3**	
MORR				S		**Sb**	**18 05 54.5**	**+0.2**	
GGPC	**Guagua Pichinc**	**2.51**	**343**	P		**Pb**	**18 05 24.3**	**-0.9**	
GGPC	**Guagua Pichinc**	**2.51**	**343**	P		**Pb**	**18 05 24.3**	**-0.9**	
YANA	**Yana**	**2.56**	**344**	P		**Pb**	**18 05 25.2**	**-0.9**	
YANA	**Yana**	**2.56**	**344**	P		**Pb**	**18 05 25.2**	**-0.9**	
CAYA	**Cayambe**	**2.65**	**357**	P		**Pb**	**18 05 25.3**	**-2.3**	
CAYA	**Cayambe**	**2.65**	**357**	P		**Pb**	**18 05 25.3**	**-2.3**	
PULU	**Pululahua**	**2.67**	**346**	P		**Pb**	**18 05 27.0**	**-1.0**	
PULU	**Pululahua**	**2.67**	**346**	P		**Pb**	**18 05 27.0**	**-1.0**	
IMBA	**Imbabura, San**	**2.87**	**353**	P		**Pb**	**18 05 32.1**	**+0.7**	
IMBA	**Imbabura, San**	**2.87**	**353**	P		**Pb**	**18 05 32.1**	**+0.7**	
OTAV	**Otavalo**	**2.87**	**348**	*e*Pn		**Pb**	**18 05 29.4**	**-2.0**	
OTAV	**Otavalo**	**2.87**	**348**	*e*P		**Pb**	**18 05 30.0**	**-1.4**	
OTAV	**Otavalo**	**2.87**	**348**	P		**Pb**	**18 05 29.4**	**-2.0**	
OTAV	**Otavalo**	**2.87**	**348**	*e*P		**Pb**	**18 05 30.0**	**-1.4**	
OTAV	**Otavalo**	**2.87**	**348**	P		**Pb**	**18 05 29.4**	**-2.0**	
CUIC	**Cuicocha-Domo**	**2.92**	**350**	P		**Pb**	**18 05 30.8**	**-1.4**	
CUIC	**Cuicocha-Domo**	**2.92**	**350**	P		**Pb**	**18 05 30.8**	**-1.4**	
YAHU	**Yahuarcocha**	**2.95**	**356**	P		**Pb**	**18 05 32.7**	**0.0**	
YAHU	**Yahuarcocha**	**2.95**	**356**	P		**Pb**	**18 05 32.7**	**0.0**	
PAC1	**Pacto, Para`s**	**2.99**	**342**	P		**Pb**	**18 05 31.5**	**-1.7**	
PAC1	**Pacto, Para`s**	**2.99**	**342**	P		**Pb**	**18 05 31.5**	**-1.7**	
URCU	**Urcuqui**	**3.04**	**353**	P		**Pb**	**18 05 33.3**	**-0.9**	
URCU	**Urcuqui**	**3.04**	**353**	P		**Pb**	**18 05 33.3**	**-0.9**	
MAG1	**Magdalena**	**3.15**	**323**	P		**Pb**	**18 05 33.1**	**-2.7**	
MAG1	**Magdalena**	**3.15**	**323**	P		**Pb**	**18 05 33.1**	**-2.7**	
LITE1	**Lita**	**3.40**	**352**	P		**Pb**	**18 05 40.1**	**-0.2**	
LITE1	**Lita**	**3.40**	**352**	P		**Pb**	**18 05 40.1**	**-0.2**	
GCUF	**Volcan Galeras**	**3.83**	**8**	*e*P		**Pb**	**18 05 47.6**	**-0.2**	
GCUF	**Volcan Galeras**	**3.83**	**8**	*e*P		**Pb**	**18 05 47.6**	**-0.2**	
CPAS2	**Pasto**	**3.84**	**9**	*e*P		**Pb**	**18 05 48.9**	**+1.1**	
CPAS2	**Pasto**	**3.84**	**9**	*e*P		**Pb**	**18 05 48.9**	**+1.1**	
CRUC	**La Cruz**	**4.23**	**12**	*e*P		Pb	18 05 48.9	-5.6	
CRUC	**La Cruz**	**4.23**	**12**	*e*P		Pb	18 05 48.9	-5.6	
ATAH	**Atahualpa**	**4.54**	**187**	Pn		**Pn**	**18 05 48.3**	**+0.9**	
	23nm,0.3s,baz=15,slow=8.7,SNR=58								
ATAH					Sn	**Sn**	**18 06 42.6**	**+3.3**	
	11nm,0.3s,baz=125,slow=21,SNR=18								
ATAH					LR	LR	18 07 55.3		
	comp=Z,344nm,

0.2nm,0.5s,baz=119,slow=7.7,SNR=3.7

*ISK **05** 18:12:11.7, 37˚.75N×26˚.91E, h10km, ML2.7/7*
*ISCJB **05** 18:12:12.1±0.4, 37˚.77N±0˚.02×26˚.96E±0˚.04, h7km±4km, Error ellipse: s-maj=5.2km s-min=3.5km az=170.2*
*ATH **05** 18:12:12.6, 37˚.77N×26˚.90E, h10km±2km, ML2.4/3, Error ellipse: s-maj=2.9km s-min=1.2km az=209.0*

ISC 05 18:12:12.2±0.9, 37.75N±0˚.02×26.93E±0˚.03, h12km±6km, n25, σ0↟69/34, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMG	**Samos**	**0.08**	**242**	P	**Pg**	**18 12 14.9**	**+0.1**
SMG				S	**Sg**	**18 12 16.6**	**-0.1**
SMG				AML	AML	18 12 17.2	
	comp=N,25404μm,0.2s						
SMG				AML	AML	18 12 17.7	
	comp=E,14107μm,0.3s						
GMLD	**Gumuldur**	**0.33**	**358**	PG	**Pg**	**18 12 18.9**	**0.0**
GMLD				SG	**Sg**	**18 12 23.9**	**+0.6**
BLCB	**Balcova**	**0.64**	**8**	PG	**Pg**	**18 12 24.5**	**-0.3**
BLCB				SG	**Sg**	**18 12 33.5**	**+0.3**
URLA	**Izmir**	**0.67**	**337**	PG	**Pg**	**18 12 24.9**	**-0.3**
URLA				SG	**Sb**	**18 12 34.6**	**-0.5**
BODT	**Bodrum**	**0.75**	**156**	PG	**Pg**	**18 12 26.7**	**0.0**
BODT				SG	**Sb**	**18 12 37.5**	**0.0**
CESE	**˜e˜me**	**0.77**	**320**	PG	**Pg**	**18 12 26.8**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.79**	**75**	PG	**Pb**	**18 12 28.1**	**+0.1**
MLSB	**Milas**	**0.81**	**124**	PG	**Pg**	**18 12 28.1**	**+0.2**
KRBN	**Karaburun**	**0.90**	**341**	PG	**Pb**	**18 12 29.6**	**-0.2**
CHOS	**Chios island**	**0.94**	**313**	PG	**Pg**	**18 12 29.9**	**-0.5**
CHOS	**Chios island**	**0.94**	**313**	P	**Pg**	**18 12 29.9**	**-0.5**
CHOS				S	**Sb**	**18 12 42.8**	**-0.2**
CHOS				AML	AML	18 12 45.5	
	comp=N,378μm,0.4s						
CHOS				AML	AML	18 12 46.0	
	comp=E,468μm,0.3s						
FOCM	**Fo˜ša**	**0.98**	**351**	PG	**Pb**	**18 12 31.1**	**0.0**
DAT	**Datca**	**1.14**	**153**	PN	**Pb**	**18 12 33.6**	**-0.4**
DATC	**Datca-Mugla**	**1.15**	**149**	PN	**Pb**	**18 12 33.8**	**-0.2**
NIS1	**Nisyros Isl.**	**1.16**	**170**	PN	**Pg**	**18 12 34.6**	**+0.1**
NIS1	**Nisyros Isl.**	**1.16**	**170**	P	**Pg**	**18 12 34.7**	**+0.1**
NIS1				S	**Sn**	**18 12 51.7**	**+1.5**
AMGA	**Amorgos Island**	**1.23**	**222**	P	**Pb**	**18 12 35.4**	**-0.1**
AMGA				S	**Sn**	**18 12 53.3**	**+1.3**
APE	**Apeiranthos**	**1.30**	**239**	PN	**Pn**	**18 12 36.3**	**-0.1**
APE	**Apeiranthos**	**1.30**	**239**	P	**Pn**	**18 12 36.3**	**-0.1**
APE				S	**Sg**	**18 12 54.7**	**+0.5**
DKL	**Dikili**	**1.32**	**359**	PN	**Pb**	**18 12 36.7**	**-0.3**
KULA	**Kula-Manisa**	**1.57**	**60**	PN	**Pn**	**18 12 40.6**	**+0.6**
TURN	**Turunc**	**1.59**	**123**	PN	**Pn**	**18 12 37.8**	**-2.5**
IOSP	**Ios island**	**1.66**	**232**	P	**Pg**	**18 12 43.3**	**-0.8**
SIGR	**SIGRI**	**1.69**	**330**	PN	**Pn**	**18 12 42.1**	**+0.5**
SIGR	**SIGRI**	**1.69**	**330**	P	**Pg**	**18 12 43.8**	**-0.8**
SIGR				AML	AML	18 13 08.7	
	comp=N,133μm,0.5s						
SIGR				AML	AML	18 13 11.6	
	comp=E,174μm,0.5s						

*NNC **05** 18:33:04.6±9.1, 38˚.18N×76˚.15E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=65.5km s-min=46.4km az=148.0*
*ISCJB **05** 18:33:06.9±1.0, 37˚.4N±0˚.1×75˚.0E±0˚.2, h35km, Error ellipse: s-maj=30.4km s-min=5.7km az=150.4*

ISC 05 18:33:10.5±1.3, 37˚.5N±0˚.1×75˚.1E±0˚.2, h35km, n11, σ1↟96/13, 6C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**5.17**	**355**	⇓Pg	**Pn**	**18 34 29.1**	**+3.6**
	8.1nm,0.6s						
AAK				⇑Lg	Lg	18 35 29.0	
	30nm,0.9s						
TKM2	**Tokmak 2**	**5.44**	**4**	⇑Pg	**Pn**	**18 34 29.8**	**+0.5**
	11nm,0.7s						
TKM2				⇓Lg	Lg	18 35 32.7	
	13nm,0.8s						
MDOK	**Medeo**	**5.86**	**14**	Pg	**Pn**	**18 34 34.4**	**-0.5**
	14nm,0.9s						
MDOK				⇑Lg	Lg	18 35 41.6	
	16nm,0.8s						
KK31	**Karatay Array**	**6.63**	**329**	⇑Pn	**Pn**	**18 34 44.1**	**-1.4**
	0.2nm,0.3s,baz=143,slow=16						
KK31				⇑Sn	**Sn**	**18 35 59.3**	**-0.6**
	0.8nm,0.5s						
KK31				⇑Lg	Lg	18 36 32.8	
	2.0nm,0.6s,baz=143,slow=28						
PYUN	**Piuthan**	**11.45**	**143**	*eP*	**Pn**	**18 35 53.5**	**+1.8**
	4.9nm,0.4s						
PYUN				*eS*	**Sn**	**18 37 58.9**	**+0.5**
KOLN	**Koldanda**	**12.02**	**141**	*eP*	**Pn**	**18 36 01.8**	**+2.3**
DMN	**Daman**	**12.94**	**137**	*eP*	**Pn**	**18 36 11.5**	**-0.6**
	3.6nm,0.4s						
PKIN	**Phulchoki**	**13.12**	**136**	*eP*	**Pn**	**18 36 13.4**	**-1.2**
	4.1nm,0.4s						
PKI	**Pulchoki**	**13.13**	**136**	*eP*	**Pn**	**18 36 14.2**	**-0.6**
	5.0nm,0.5s						
JIRN	**Jiri**	**13.51**	**133**	*eP*	**Pn**	**18 36 18.0**	**-2.0**
	13nm,0.3s						
RAMN	**Ramite**	**14.28**	**134**	*eP*	**Pn**	**18 36 27.6**	**-2.9**
	13nm,0.7s						

*ISCJB **05** 18:43:44.2±0.3, 3˚.79N±0˚.02×125˚.97E±0˚.03, h100km±3km, mb4.3/23, Error ellipse: s-maj=5.7km s-min=3.2km az=165.9*
*MAN **05** 18:43:44.7, 3˚.76N×125˚.69E, h29km, mb5.3, ML4.3, MS4.5*
*IDC **05** 18:43:45.5±1.7, 3˚.69N×125˚.70E, h96km±15km, mb4.1/17, mb1 4.2/20, mb1mx4.0/48, mbtmp4.4/20, MS2.9/5, Ms1 2.9/5, ms1mx2.6/33, Error ellipse: s-maj=23.8km s-min=9.5km az=81.0*
*DJA **05** 18:43:46.5±0.3, 4˚N±3˚×12˚6E±˚, h83km±3km, M4.7/37, mB5.2/18, mb4.8/37, MLv5.0/17, Mw(mB)4.5/18*
*NEIC **05** 18:43:46.7±1.1, 3˚.73N×125˚.73E, h109km±11km, mb4.7/2, Error ellipse: s-maj=14.7km s-min=6.3km az=82.0*

ISC 05 18:43:45.5±0.7, 3.73N±0˚.03×125.86E±0˚.05, h96km±6km, n107, σ1↟50/117, mb4.4/23, 2C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**0.33**	**263**	P	**Pn**	**18 43 59.3**	**-0.4**
SGSI				S	**Sn**	**18 44 09.8**	**-0.6**
DDMP	**Don Marcelino,**	**2.37**	**356**	*eP*	**Pn**	**18 44 20.5**	**-2.2**
DDMP				*eS*	**Sn**	**18 44 49.6**	**-1.6**
GSPH	**General Santos**	**2.51**	**339**↑	*eP*	**Pn**	**18 44 24.8**	**0.0**
SKMP	**Bagumbayan, Su**	**3.07**	**335**	*eP*	**Pn**	**18 44 31.0**	**-1.1**
SKMP				*eS*	**Sn**	**18 45 06.0**	**-2.0**
TNTI	**Ternate**	**3.30**	**153**	P	**Pn**	**18 44 35.1**	**-0.1**
TNTI				S	**Sn**	**18 45 12.2**	**-1.4**
DAV	**Davao City (W)**	**3.33**	**355**	P	**Pn**	**18 44 36.3**	**+0.7**
	40nm,0.3s,baz=85,slow=0.3,SNR=2.2						
DAV				S	**Sn**	**18 45 12.5**	**-1.8**
	96nm,0.3s,baz=277,slow=16,SNR=3.5						
DAV				LR	LR	18 45 42.5	
	comp=Z,153nm,18.8s,baz=161,slow=35						
KMSI	**Cibinong**	**3.65**	**211**	P	**Pn**	**18 44 41.1**	**+1.1**
CTBH	**Cotabato--PC H**	**3.82**	**335**	*eP*	**Pn**	**18 44 42.5**	**+0.2**
CTBH				*i* S	**Sn**	**18 45 27.7**	**+1.5**
BUKP	**Musuan**	**4.20**	**349**	*eP*	**Pn**	**18 44 47.6**	**+0.2**
LBMI	**Labuha**	**4.64**	**159**	P	**Pn**	**18 44 54.3**	**+1.0**
LBMI				S	**Sn**	**18 45 44.0**	**-2.0**
PAGZ	**Pagadian**	**4.78**	**329**	*eP*	**Pn**	**18 44 54.9**	**-0.3**
CGP	**Cagayan de Oro**	**4.84**	**346**↑	*eP*	Pn	18 45 09.1	+13
CGP				*eS*	**Sn**	**18 45 55.6**	**+4.8**
MRSI	**Marisa**	**5.08**	**231**	P	**Pn**	**18 45 01.0**	**+1.8**
	1μm,0.5s,14μm4.6nm						
MRSI				S	**Sn**	**18 45 56.1**	**-0.6**
	1μm,0.5s,14μm4.6nm						
BUTP	**Butuan**	**5.21**	**357**	*eP*	**Pn**	**18 45 02.0**	**+0.9**
LUWI	**Luwuk**	**5.66**	**213**	P	Pn	18 45 10.7	+3.6
	654nm,1.0s,7μm2.5nm						
SANI	**Sanana**	**5.74**	**179**	P	**Pn**	**18 45 06.0**	**-2.3**
	227nm,0.6s,8μm1.6nm						
APSI	**Ampana**	**6.24**	**222**	P	Pn	18 45 19.3	+4.2
	152nm,0.5s,3μm0.9nm						
MSLP	**Maasin**	**6.44**	**351**	*eP*	**Pn**	**18 45 18.6**	**+0.8**
MPSI	**Mapaga**	**6.84**	**241**	P	**Pn**	**18 45 23.8**	**+0.5**
	57nm,0.5s,2μm0.4nm						
NLAI	**Namlea**	**7.03**	**170**	P	**Pn**	**18 45 24.6**	**-1.3**
SWI	**Sorong**	**7.07**	**130**	P	**Pn**	**18 45 26.4**	**+0.1**
	32nm,0.7s,0.2nm						
SIJI	**Sorong**	**7.07**	**130**	P	**Pn**	**18 45 26.3**	**-0.2**
	9.6nm,0.3s,baz=137,slow=23,SNR=43						
SIJI				S	**Sn**	**18 46 44.9**	**-0.5**
	3.9nm,0.3s,baz=187,slow=23,SNR=6.3						
MSAI	**Masohi**	**7.67**	**156**	P	**Pn**	**18 45 35.8**	**+1.3**
	20nm,0.7s,376nm0.1nm						
AAI	**Ambon**	**7.73**	**162**	P	**Pn**	**18 45 34.9**	**-0.4**
TTSI	**Tana Toraja**	**9.04**	**222**	P	**Pn**	**18 45 55.4**	**+2.2**
	65nm,0.8s,583nm						
FAKI	**Fak Fak**	**9.19**	**136**	P	**Pn**	**18 45 55.8**	**+0.6**
	34nm,0.4s,757nm						
SGKI	**Sangatta, Kali**	**9.27**	**243**	P	**Pn**	**18 45 58.0**	**+1.6**
	50nm,0.9s						
PALU	**Palau**	**9.29**	**67**	P	**Pn**	**18 45 54.9**	**-1.8**
	baz=9.4,SNR=20						
BBSI	**Bau Bau**	**9.73**	**200**	P	**Pn**	**18 46 05.2**	**+2.6**
	3.4nm,0.8s,724nm						
SPSI	**Sidrap Palu**	**9.77**	**219**	P	Pn	18 46 07.0	+3.8
	17nm,0.9s						
BNSI	**Bone**	**9.91**	**216**	P	Pn	18 46 08.9	+3.8
	37nm,0.8s						
BKSI	**Bulukumba**	**10.66**	**213**	P	Pn	18 46 18.8	+3.5
	7.0nm,1.0s						
MTKI	**Muara Teweh, K**	**11.90**	**247**	P	Pn	18 46 34.9	+2.9
	129nm,0.5s						
MMRI	**Maumere**	**12.80**	**196**	P	**Pn**	**18 46 40.7**	**-3.3**
	99nm,0.9s,1μm						
EDFI	**Ende, Flores**	**13.07**	**199**	P	**Pn**	**18 46 47.8**	**+0.1**
	70nm,0.8s,644nm						
SOEI	**Soe**	**13.49**	**187**	P	**Pn**	**18 46 49.6**	**-3.6**
BATI	**Baumata**	**14.02**	**189**	P	**P**	**18 47 02.1**	**-2.6**
	17nm,0.3s,baz=102,slow=2.3,SNR=22						
BATI					LR	LR	18 52 36.1
	comp=Z,81nm,20.1s,baz=66,slow=38						
BATI	**Baumata**	**14.02**	**189**	P	**Pn**	**18 47 01.4**	**+1.5**
	25nm,0.8s,469nm						
WBSI	**Waikubak, Su**	**14.76**	**206**	P	**P**	**18 47 11.7**	**-1.4**
	54nm,0.7s						
PLAI	**Plampang**	**14.85**	**213**	P	**P**	**18 47 14.7**	**+0.7**
	58nm,1.0s						
TWSI	**Taliwang, Sumb**	**15.28**	**216**	P	**P**	**18 47 19.8**	**+1.0**
	53nm,0.7s						
JAY	**Jayapura**	**16.08**	**112**	P	**Pn**	**18 47 27.8**	**+1.7**
	0.5nm,0.3s,baz=273,slow=5.6,SNR=6.5						
IGBI	**Denpasar**	**16.42**	**221**	P	**P**	**18 47 33.1**	**+1.7**
	107nm,0.5s						
JAGI	**Jajag, Banyuwa**	**16.83**	**224**	P	**P**	**18 47 38.2**	**+2.3**
	46nm,1.0s						
GMJI	**Gumukmas**	**17.19**	**226**	P	**P**	**18 47 42.9**	**+3.0**
	43nm,0.4s						
MTN	**Manton Dam**	**17.28**	**162**	P	**Pn**	**18 47 37.8**	**-3.0**
	baz=17,SNR=48						
KDU	**Kakadu**	**17.58**	**158**	P	**P**	**18 47 41.7**	**-2.5**
	baz=18,SNR=40						
PCJI	**Pacitan**	**18.84**	**231**	P	**Pn**	**18 47 57.4**	**-2.2**
	61nm,1.1s						
KNRA	**Kununurra**	**19.49**	**172**	P	**P**	**18 48 05.4**	**+0.3**
	baz=20,SNR=20						
GUMO	**Guam**	**21.17**	**61**	LR	LR	18 55 28.6	
	comp=Z,21nm,18.3s,baz=319,slow=33						
FITZ	**Fitzroy Crossi**	**21.69**	**181**	P	**P**	**18 48 28.1**	**-0.7**
	38nm,0.5s,baz=13,slow=9.2,SNR=116						
FITZ	**Fitzroy Crossi**	**21.69**	**181**	P	**P**	**18 48 27.6**	**-1.1**
	baz=22,SNR=159						
MDSI	**Maura Dua**	**23.15**	**250**	P	**P**	**18 48 44.4**	**+0.6**
	6.6nm,0.8s						
WRAB	**Tennant Creek**	**24.95**	**161**	*eP*	**P**	**18 48 59.5**	**-0.7**
	39nm,0.8s						
WRA	**Warramunga Arr**	**24.95**	**161**	P	**P**	**18 48 59.5**	**-0.7**
	30nm,0.6s,baz=341,slow=10,SNR=129						
WRA					PcP	**PcP**	**18 52 33.4**	**0.0**
	1.9nm,0.6s,baz=330,slow=2.2,SNR=5.4						
WRA					S	**S**	**18 53 19.9**	**+2.9**
	1.8nm,0.7s,baz=338,slow=19,SNR=4.9						
MBWA	**Marble Bar**	**25.45**	**193**	*eP*	**P**	**18 49 04.2**	**-0.5**
PPI	**Padang Panjang**	**25.79**	**261**	P	**P**	**18 49 10.1**	**+2.3**
	13nm,0.8s						
CHAI	**Chaiyaphum**	**26.41**	**299**	P	**P**	**18 49 15.2**	**+1.8**
	2.4nm,0.5s,76nm						
MNSI	**Mandailing Nat**	**26.42**	**264**	P	**P**	**18 49 18.0**	**+4.5**
	24nm,0.8s						
QIS	**Mount Isa**	**27.65**	**151**	P	**P**	**18 49 24.6**	**+0.1**
	baz=28,SNR=5.7						
ASAR	**Alice Springs**	**28.34**	**164**	P	**P**	**18 49 30.4**	**-0.2**
	5.9nm,0.5s,baz=341,slow=7.1,SNR=372						
ASAR					PcP	**PcP**	**18 52 41.5**	**+0.2**
	2.7nm,0.4s,baz=347,slow=2.3,SNR=12						
MTSU	**Mount Surprise**	**28.34**	**141**	P	**P**	**18 49 32.8**	**+2.2**
	baz=28,SNR=4.9						
CMAR	**Chiang Mai Arr**	**30.13**	**301**	P	**P**	**18 49 45.8**	**-0.7**
	0.8nm,0.8s,baz=107,slow=7.1,SNR=5.4						
CMAR					PcP	**PcP**	**18 52 47.0**	**+1.0**
	1.0nm,0.9s,baz=150,slow=1.7,SNR=8.8						
CMAR					ScP	**ScP**	**18 56 18.8**	**-1.0**
	0.6nm,0.8s,baz=141,slow=1.6,SNR=6.9						
MEEK	**Meekatharra**	**30.99**	**193**	P	**P**	**18 49 53.4**	**-0.6**
	baz=31,SNR=50						
KSAR	**Wonju Array Be**	**33.60**	**3**	P	**P**	**18 50 17.6**	**+0.9**
KSRS	**Korea Array**	**33.62**	**3**	P	**P**	**18 50 17.6**	**+0.8**
	1.0nm,0.5s,baz=180,slow=9.8,SNR=4.7						
MORW	**Morawa**	**33.95**	**196**	P	**P**	**18 50 19.4**	**-0.3**
	baz=33,SNR=7.0						
FORT	**Forrest**	**34.38**	**177**	P	**P**	**18 50 23.4**	**-0.1**
	baz=34,SNR=14						
MJAR	**Matsushiro Arr**	**34.58**	**18**	P	**P**	**18 50 25.8**	**+0.6**
	0.9nm,0.6s,baz=185,slow=9.2,SNR=4.9						
MJAR					LR	LR	19 04 35.8
	comp=Z,16nm,21.4s,baz=195,slow=36						
BLDU	**Ballidu**	**35.25**	**194**	P	**P**	**18 50 30.4**	**-0.6**
	baz=35,SNR=12						
KLBR	**Kellerberrin**	**35.96**	**192**	P	**P**	**18 50 36.7**	**-0.4**
	baz=36,SNR=20						
HNR	**Honiara**	**36.40**	**111**	LR	LR	19 05 03.3	
	comp=Z,26nm,18.5s,baz=296,slow=35						
MUN	**Mundaring**	**36.68**	**194**	P	**P**	**18 50 42.9**	**-0.3**
	baz=37,SNR=12						
NWAO	**Narrogin (SRO)**	**37.36**	**192**	P	**P**	**18 50 48.7**	**-0.2**
	6.1nm,0.3s,baz=260,slow=7.6,SNR=30						
NWAO	**Narrogin (SRO)**	**37.36**	**192**	P	**P**	**18 50 48.9**	**-0.1**
	baz=37,SNR=17						
BBOO	**Buckeboo**	**37.60**	**166**	P	**P**	**18 50 51.1**	**+0.1**
	baz=38,SNR=47						
EIDS	**Eidsvold**	**37.89**	**141**	P	**P**	**18 50 53.2**	**-0.3**
	baz=38,SNR=3.5						
STKA	**Stephens Creek**	**38.44**	**158**	P	**P**	**18 50 58.5**	**+0.4**
	18nm,0.7s,baz=333,slow=9.2,SNR=40						
STKA					PcP	**PcP**	**18 53 09.8**	**+0.3**
	3.2nm,0.6s,baz=266,slow=2.1,SNR=4.1						
STKA	**Stephens Creek**	**38.44**	**158**	P	**P**	**18 50 58.5**	**+0.4**
	baz=38,SNR=29						
HTT	**Hallett**	**38.97**	**163**	P	**P**	**18 51 03.3**	**+0.8**
	baz=39,SNR=9.8						
RKGY	**Rocky Gully**	**39.04**	**192**	P	**P**	**18 51 04.0**	**+1.0**
	baz=39,SNR=6.9						
USRK	**Ussuriysk Ar.**	**40.67**	**7**	P	**P**	**18 51 17.1**	**+0.7**
	2.3nm,0.5s,baz=193,slow=6.9,SNR=7.2						
ARMA	**Armidale**	**41.95**	**146**	P	**P**	**18 51 28.4**	**+1.2**
	baz=42,SNR=5.2						
ARPS	**Mount Arapiles**	**42.96**	**161**	P	**P**	**18 51 36.2**	**+1.0**
	baz=43,SNR=20						
JIRN	**Jiri**	**44.67**	**306**	*eP*	**P**	**18 51 48.2**	**-1.3**
	9.0nm,0.6s						
TOO	**Toolangi**	**44.96**	**158**	P	**P**	**18 51 52.9**	**+1.7**
	baz=45,SNR=5.6						
GUN	**Gumba**	**45.03**	**307**	*eP*	**P**	**18 51 51.3**	**-1.0**
PKI	**Pulchoki**	**45.26**	**306**	*eP*	**P**	**18 51 53.2**	**-1.0**
	2.4nm,0.4s						
PKIN	**Phulchoki**	**45.28**	**306**	*eP*	**P**	**18 51 53.2**	**-1.0**
KKN	**Kakani**	**45.46**	**306**	*eP*	**P**	**18 51 54.9**	**-0.7**
	4.8nm,0.6s						
KOLN	**Koldanda**	**46.81**	**305**	*eP*	**P**	**18 52 05.1**	**-1.1**
	12nm,0.6s						
DANN	**Dangsing**	**46.91**	**306**	*eP*	**P**	**18 52 05.7**	**-1.3**
	17nm,0.6s						
SONM	**Songino Array**	**47.03**	**342**	P	**P**	**18 52 07.6**	**+0.2**
	0.5nm,0.5s,baz=125,slow=9.3,SNR=3.7						
SONM					PcP	**PcP**	**18 53 36.7**	**-1.4**
	0.9nm,0.6s,baz=172,slow=2.9,SNR=3.5						
PYUN	**Piuthan**	**47.44**	**305**	*eP*	**P**	**18 52 10.0**	**-1.0**
	10nm,0.6s						
PETK	**Petropavlovsk-**	**55.76**	**23**	P	**P**	**18 53 14.7**	**+2.4**
	1.3nm,0.7s,baz=145,slow=1.3,SNR=4.9						
MKAR	**Makanchi Array**	**57.06**	**326**	P	**P**	**18 53 20.5**	**-1.3**
	0.5nm,0.3s,baz=118,slow=7.5,SNR=9.0						
MKAR					PcP	**PcP**	**18 54 15.0**	**-0.7**
	2.1nm,0.6s,baz=119,slow=4.1,SNR=7.9						
MKAR					ScP	**ScP**	**18 58 05.4**	**-1.4**
	0.3nm,0.5s,baz=106,slow=4.7,SNR=4.3						
KURK	**Kurchatov**	**61.28**	**328**	*eP*	**P**	**18 53 48.7**	**-2.0**
BRVK	**Borovoye**	**66.92**	**327**	*eP*	**P**	**18 54 26.5**	**-1.1**
TIXI	**Tiksi**	**67.86**	**1**	*eP*	**P**	**18 54 32.4**	**-0.7**
	2.7nm,0.5s						
MAW	**Mawson**	**83.45**	**200**	P	**P**	**18 56 01.7**	**-0.4**
	1.8nm,0.6s,baz=316,slow=5.1,SNR=5.0						
VNDA	**Vanda**	**83.53**	**173**	P	**P**	**18 56 02.8**	**+0.4**
	4.5nm,0.5s,baz=320,slow=6.4,SNR=26						
SBA	**Scott Base**	**84.45**	**172**	*eP*	**P**	**18 56 08.2**	**+1.2**
ILAR	**Eielson Array**	**85.48**	**25**	P	**P**	**18 56 11.3**	**-1.1**
	0.2nm,0.6s,baz=220,slow=5.5,SNR=4.4						
ARCES	**ARCESS Array B**	**90.15**	**340**	P	**P**	**18 56 33.2**	**-1.5**
	4.3nm,0.8s,baz=67,slow=6.7,SNR=5.2						
QSPA	**South Pole Qui**	**93.64**	**180**	P	**P**	**18 56 50.8**	**-0.2**
	3.0nm,0.6s,baz=330,slow=0.7,SNR=7.0						
TORD	**Torodi Ar. Bea**	**122.09**	**288**	PKP	**PKPdf**	**19 02 28.0**	**-2.1**
	1.0nm,0.6s,baz=90,slow=2.0,SNR=12						
GOGA	**Godfrey**	**133.81**	**35**	*eP*	**Pdif**	**18 59 50.1**	**-0.7**

IDC 05 18:44:10.9±3.6, 19˚.47S×169˚.69E, h272km±40km, mb3.5/4, mb1 3.6/5, mb1mx3.2/37, mbtmp4.1/5, Error ellipse: s-maj=108.9km s-min=38.3km az=154.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.99**	**229**	P	Pn	18 45 16.0	+0.3
	2.5nm,0.3s,baz=194,slow=20,SNR=21						
DZM				S		18 46 07.6	+0.1
	1.8nm,0.3s,baz=322,slow=19,SNR=2.8						
ASAR	**Alice Springs**	**33.49**	**256**	P	P	18 50 25.1	-0.1
	4.9nm,0.4s,baz=82,slow=8.8,SNR=16						
FITZ	**Fitzroy Crossi**	**41.64**	**264**	P	P	18 51 33.0	-0.3
	3.6nm,0.8s,baz=95,slow=9.4,SNR=3.1						
CMAR	**Chiang Mai Arr**	**78.99**	**294**	P	P	18 55 46.0	+0.7
	0.3nm,0.5s,baz=137,slow=4.6,SNR=4.6						
SONM	**Songino Array**	**87.66**	**323**	P	P	18 56 28.3	-0.5
	0.9nm,1.0s,baz=125,slow=2.3,SNR=2.8						
ARCES	**ARCESS Array B**	**125.40**	**345**	PKP	PKPdf	19 02 38.4	-0.4
	2.5nm,0.8s,baz=31,slow=3.7,SNR=3.1						

*ISCJB **05** 18:46:00.0±0.5, 53˚.26S±0˚.06×8˚.7E±0˚.2, h10km, mb4.3/13, MS3.9/15, Error ellipse: s-maj=16.4km s-min=8.8km az=9.9*
*IDC **05** 18:46:00.4±0.7, 53˚.20S×8˚.66E, h0km, mb4.3/11, mb1 4.4/12, mb1mx4.2/30, mbtmp4.3/12, ML4.6/1, MS3.9/16, Ms1 3.8/16, ms1mx3.7/24, Error ellipse: s-maj=23.4km s-min=14.8km az=97.0*
*NEIC **05** 18:46:02.1±0.5, 53˚.23S×8˚.72E, h10km, mb4.5/3, Error ellipse: s-maj=16.7km s-min=10.2km az=101.0*
*GCMT **05** 18:46:05.1±0.3, 53˚.33S±0˚.01×9˚.50E±0˚.03, h20km±1km, MW5.0/92, Moment Tensor Solution. s27,c34; s92,c129; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=-1.01±.16; Mθθ 3.88±.14; Mϕϕ -2.88±.12; Mrθ 1.05±.26; Mϕθ 1.08±.11; Mϕr 0.17±.24; Best double couple: Mo3.65600×10¹⁶ NP1:ϕs36.00000°, δ82.00000°, λ172.00000°. NP2: ϕs127.00000°, δ82.00000°, λ8.00000°. Principal axes: T 4.2630, Plg11.0000°, Azm351.0000°; N -1.2250, Plg79.0000°, Azm173.0000°; P -3.0480, Plg0.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 18:46:01.9±0.6, 53˚.26S±0˚.08×8˚.8E±0˚.1, h10km, n44, σ1↟09/24, mb4.3/13, MS3.9/15, 3D, Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**19.06**	**197**	P	**Pn**	**18 50 24.9**	**+0.2**
VNA1	**Neumayer--Stat**	**19.06**	**197**	S	Sn	18 53 47.7	-10
VNA2	**Neumayer--Watz**	**19.14**	**196**	P	**P**	**18 50 25.1**	**+0.2**
	baz=25,slow=15						
VNA2	**Neumayer--Watz**	**19.14**	**196**	S	Sn	18 53 42.4	-18
SNAA	**Sanae**	**19.17**	**191**	P	**Pn**	**18 50 26.0**	**-0.1**
SNAA	**Sanae**	**19.17**	**191**	S	Sn	18 53 43.3	-17
SNAA	**Sanae**	**19.17**	**191**	P	**P**	**18 50 25.1**	**-0.1**
	1.6nm,0.3s,baz=23,slow=12,SNR=102						
SNAA				S	Sn	18 53 42.9	-18
	0.3nm,0.3s,baz=198,slow=20,SNR=4.8						
SNAA				LR	LR	18 56 06.1	
	comp=Z,406nm,18.8s,baz=10.0,slow=32						
VNA3	**Neumayer Olymp**	**19.81**	**198**	P	**P**	**18 50 32.3**	**+0.1**
VNA3	**Neumayer Olymp**	**19.81**	**198**	S	S	18 53 57.7	-17
SYO	**Syowa

65nm,23.0s
YKA Yellowknife Ar 149.48 310 PKPbc **PKPbc 19 05 50.7 +0.8**
2.9nm,0.8s,baz=108,slow=2.2,SNR=4.8

IDC 05 19:11:25.1±3.5, 6°13S×149°11E, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.5/33, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=96.1km s-min=41.6km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.79**	**211**	Pn	Pn	19 12 26.3	+1.5
	9.8nm,0.3s,baz=26,slow=4.0,SNR=35						
PMG				Sn	Sn	19 13 05.8	-4.3
	13nm,0.3s,baz=106,slow=16,SNR=11						
WRA	**Warramunga Arr**	**19.86**	**225**	P	P	19 15 57.5	-0.5
	0.3nm,0.3s,baz=50,slow=11,SNR=14						
ASAR	**Alice Springs**	**22.76**	**218**	P	P	19 16 28.9	-0.4
	0.9nm,0.6s,baz=57,slow=9.2,SNR=30						
FITZ	**Fitzroy Crossi**	**25.81**	**240**	P	P	19 16 57.8	-0.5
	1.3nm,0.4s,baz=77,slow=6.7,SNR=13						
TORD	**Torodi Ar. Bea**	**147.16**	**285**	PKPbc	PKPbc	19 31 11.2	-0.1
	0.6nm,0.6s,baz=66,slow=3.0,SNR=6.0						

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*IDC **05** 19:31:42.7±0.6, 11°.23S×129°.16E, h0km, mb4.3/9, mb1 4.4/15, mb1mx4.3/30, mbtmp4.4/15, ML4.6/6, MS3.2/3, Ms1 3.2/3, ms1mx2.7/31, Error ellipse: s-maj=20.5km s-min=13.7km az=70.0*
*BJI **05** 19:31:45.0, 11°.30S×129°.20E, h40km, mb4.6/9, mB4.9/8, Ms4.5/2, Ms7 4.0/1*
*NEIC **05** 19:31:46.0±1.8, 11°.32S×129°.12E, h23km±14km, mb4.5/11, Error ellipse: s-maj=9.8km s-min=6.3km az=53.0*
NEIC Felt at Darwin, Australia.
*ISCJB **05** 19:31:45.0±0.2, 11°.38S±0°.03×129°.03E±0°.03, h33km, mb4.3/18, MS3.3/2, Error ellipse: s-maj=4.4km s-min=3.0km az=38.5*
*DJA **05** 19:31:47.5±0.3, 11°.5S×12°9E±°, h83km±14km, M5.2/2, mb5.1/2, mB5.3/1, MLv5.2/2, Mw(mB)4.8/1*
*AUST **05** 19:31:49.5±1.4, 11°.55S×129°.05E, h39km±12km, Error ellipse: s-maj=12.4km s-min=6.1km az=162.0*
ISC 05 19:31:47.0±0.4, 11°.45S±0°.04×129°.00E±0°.04, h35km, n107, σ2s25/122, mb4.4/18, 1C, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**2.50**	**124**	P	**Pn**	**19 32 27.7**	**+2.5**
	baz=2.4,SNR=699						
MTN				S	**Sn**	**19 32 55.4**	**+0.9**
	baz=2.4						
MTN	**Manton Dam**	**2.50**	**124**	*e*Pn	**Pn**	**19 32 28.8**	**+3.5**
MTN				*e*Pb	**Pn**	**19 32 29.0**	**+3.8**
KDU	**Kakadu**	**3.61**	**110**	P	**Pn**	**19 32 43.0**	**+2.5**
	baz=3.5,SNR=128						
KDU				S	**Sn**	**19 33 22.8**	**+0.9**
	baz=3.5						
KDU	**Kakadu**	**3.61**	**110**	P	**Pn**	**19 32 44.0**	**+3.5**
KDU				S	**Sn**	**19 33 23.0**	**+1.1**
SAUI	**Saumlaki**	**4.13**	**33**	*e*Pn	**Pn**	**19 32 46.2**	**-1.5**
SAUI	**Saumlaki**	**4.13**	**33**	P	**Pn**	**19 32 47.0**	**-0.6**
KNRA	**Kununurra**	**4.21**	**183**	P	**Pn**	**19 32 52.4**	**+3.7**
	baz=4.1,SNR=177						
KNRA				S	**Sn**	**19 33 38.2**	**+1.6**
	baz=4.1						
KNRA	**Kununurra**	**4.21**	**183**	P	**Pn**	**19 32 53.0**	**+4.3**
KNRA				S	**Sn**	**19 33 38.0**	**+1.4**
SOEI	**Soe**	**4.95**	**289**	*e*Pn	**Pn**	**19 33 01.3**	**+2.2**
SOEI	**Soe**	**4.95**	**289**	P	**Pn**	**19 32 58.8**	**-0.3**
SOEI				S	**Sn**	**19 33 54.7**	**-0.5**
BATI	**Baumata**	**5.39**	**283**	P	**Pn**	**19 33 07.0**	**+1.9**
	9.9nm,0.3s,baz=91,slow=1.1,SNR=32						
BATI				S	**Sn**	**19 34 04.8**	**-1.1**
	72nm,0.3s,baz=50,slow=3.0,SNR=5.3						
BATI	**Baumata**	**5.39**	**283**	P	**Pn**	**19 33 05.2**	**+0.2**
BATI				S	**Sn**	**19 34 05.4**	**-0.5**
MMRI	**Maumere**	**7.23**	**292**	*e*Pn	**Pn**	**19 33 32.1**	**+1.9**
MMRI	**Maumere**	**7.23**	**292**	P	**Pn**	**19 33 30.1**	**-0.1**
MMRI				S	**Sn**	**19 34 47.4**	**-3.7**
FITZ	**Fitzroy Crossi**	**7.36**	**206**	Pn	**Pn**	**19 33 34.4**	**+2.3**
	22nm,0.3s,baz=30,slow=11,SNR=2341						
FITZ				Sn	**Sn**	**19 34 52.6**	**-1.8**
	39nm,0.3s,baz=353,slow=16,SNR=8.4						
FITZ				LR	LR	19 36 55.6	
	comp=Z,153nm,18.1s,baz=35,slow=4.1						
FITZ	**Fitzroy Crossi**	**7.36**	**206**	P	**Pn**	**19 33 33.7**	**+1.6**
	baz=7.3,SNR=327						
EDFI	**Ende, Flores**	**7.68**	**290**	P	**Pn**	**19 33 36.1**	**-0.5**
EDFI				S	**Sn**	**19 34 59.3**	**-3.3**
BBSI	**Bau Bau**	**8.69**	**312**	P	**Pn**	**19 33 49.2**	**-1.2**
FAKI	**Fak Fak**	**9.07**	**21**	*e*Pn	Pn	19 33 50.1	-5.5
FAKI	**Fak Fak**	**9.07**	**21**	P	Pn	19 33 50.7	-4.9
FAKI				S	Sn	19 35 23.3	-13
WBSI	**Waikabubak, Su**	**9.62**	**280**	P	**Pn**	**19 34 02.8**	**-0.4**
WBSI				S	**Sn**	**19 35 43.6**	**-6.5**
WRAB	**Tennant Creek**	**9.88**	**149**	*e*Pn	**Pn**	**19 34 06.0**	**-0.6**
WRAB				*e*Sn	**Sn**	**19 35 50.8**	**-5.6**
WR1	**Warramunga Arr**	**9.88**	**149**	*e*Pn	**Pn**	**19 34 06.7**	**0.0**
WR1				*e*Sn	**Sn**	**19 35 50.4**	**-6.0**
WRA	**Warramunga Arr**	**9.88**	**149**	Pn	**Pn**	**19 34 06.7**	**0.0**
	7.0nm,0.3s,baz=335,slow=14,SNR=96						
WRA				Sn	**Sn**	**19 35 50.4**	**-6.0**
	20nm,0.3s,baz=322,slow=24,SNR=14						
WB2	**Warramunga Arr**	**9.89**	**149**	*e*Pn	**Pn**	**19 34 06.0**	**-0.8**
WB2				*e*Sn	**Sn**	**19 35 50.6**	**-6.0**
BKSI	**Bulukumba**	**10.69**	**304**	P	**Pn**	**19 34 17.0**	**-0.7**
SIJI	**Sorong**	**10.75**	**12**	Pn	Pn	19 34 12.7	-5.9
	5.3nm,0.3s,baz=204,slow=22,SNR=34						
SIJI				Sn	Sn	19 36 04.4	-14
	3.5nm,0.3s,baz=96,slow=22,SNR=7.3						
RKPI	**Ransiki, Papua**	**11.13**	**28**	P	**Pn**	**19 34 22.4**	**-1.5**
PLAI	**Plampang**	**11.36**	**282**	P	**Pn**	**19 34 26.4**	**-0.5**
PLAI				S	Sn	19 36 22.7	-10
SRPI	**Serui, Papua**	**11.93**	**38**	P	**Pn**	**19 34 33.6**	**-1.1**
LUWI	**Luwuk**	**12.05**	**329**	*e*Pn	**Pn**	**19 34 33.5**	**-3.0**
TWSI	**Taliwang, Sumb**	**12.23**	**282**	P	**Pn**	**19 34 38.6**	**-0.3**
AS31	**Alice Springs**	**13.01**	**160**	*e*Pn	**Pn**	**19 34 49.2**	**-0.3**
AS31				*e*Sn	**Sn**	**19 37 07.3**	**-5.8**
ASAR	**Alice Springs**	**13.01**	**160**	Pn	**Pn**	**19 34 49.5**	**-0.1**
	1.6nm,0.3s,baz=330,slow=8.8,SNR=151						
ASAR				Sn	**Sn**	**19 37 07.3**	**-5.9**
	6.3nm,0.3s,baz=328,slow=16,SNR=13						
AS01	**Alice Springs**	**13.03**	**159**	P	**Pn**	**19 34 49.3**	**-0.5**
	baz=13						
AS01	**Alice Springs**	**13.03**	**159**	*e*Pn	**Pn**	**19 34 50.4**	**+0.6**
MBWA	**Marble Bar**	**13.12**	**221**	*e*Pn	**Pn**	**19 34 51.2**	**+0.2**
MBWA				*e*Sn	**Sn**	**19 37 08.7**	**-7.1**
QIS	**Mount Isa**	**13.62**	**133**	P	**Pn**	**19 34 57.3**	**-0.6**
	baz=14,SNR=11						
COEN	**Coen**	**14.05**	**102**	*e*Pn	**Pn**	**19 35 01.8**	**-2.0**
COEN				*e*Sn	Sn	19 37 25.1	-13
GENI	**Genyem**	**14.14**	**52**	P	**Pn**	**19 35 03.3**	**-1.7**
JAY	**Jayapura**	**14.61**	**53**	Pn	**Pn**	**19 35 07.5**	**-3.9**
	2.0nm,0.3s,baz=123,slow=8.7,SNR=8.2						
GIRL	**Giralia**	**17.96**	**230**	P	**P**	**19 35 56.1**	**+1.7**
	baz=18,SNR=13						
PMG	**Port Moresby**	**17.97**	**85**	P	**Pn**	**19 35 53.5**	**-0.9**
	1.0nm,0.3s,baz=249,slow=14,SNR=3.3						
PMG				S	Sn	19 39 01.3	-13
	0.7nm,0.3s,baz=204,slow=20,SNR=4.1						
MEEK	**Meekatharra**	**18.00**	**211**	P	**P**	**19 35 55.5**	**+0.6**
	baz=18,SNR=31						
FORT	**Forrest**	**19.25**	**182**	P	**Pn**	**19 36 09.8**	**+0.1**
	baz=19						
FORT	**Forrest**	**19.25**	**182**	*e*P	**P**	**19 36 08.8**	**+0.3**
	36nm,0.8s						
MYLDM	**Lahad Datu**	**19.55**	**327**	*e*P	**P**	**19 36 12.5**	**+0.6**
	17nm,1.1s						
QLP	**Quilpie**	**20.80**	**138**	P	Pn	19 36 28.3	+0.3
	baz=21,SNR=17						
MORW	**Morawa**	**21.30**	**213**	P	**P**	**19 36 33.2**	**+2.4**
	baz=21,SNR=10.0						
LEM	**Lembang**	**21.60**	**280**	P	**P**	**19 36 37.2**	**+2.9**
	22nm,0.7s,baz=110,slow=21,SNR=7.5						
BLDU	**Ballidu**	**22.22**	**209**	P	**P**	**19 36 43.1**	**+2.5**
	baz=22,SNR=12						
BBOO	**Buckleboo**	**22.22**	**164**	P	**P**	**19 36 42.5**	**+1.8**
	baz=22						
CBJI	**Citeko**	**22.44**	**281**	P	**P**	**19 36 44.1**	**+0.9**
KLBR	**Kellerberrin**	**22.57**	**206**	P	**P**	**19 36 47.8**	**+3.4**
	baz=23						
STKA	**Stephens Creek**	**23.41**	**152**	P	**P**	**19 36 54.3**	**+1.3**
	4.5nm,0.5s,baz=324,slow=9.9,SNR=37						
STKA	**Stephens Creek**	**23.41**	**152**	P	**P**	**19 36 55.0**	**+2.0**
	baz=23,SNR=30						
STKA	**Stephens Creek**	**23.41**	**152**	*e*P	**P**	**19 36 54.2**	**+1.3**
	3.8nm,1.3s						
HTT	**Hallett**	**23.69**	**159**	P	**P**	**19 36 57.7**	**+2.0**
	baz=24,SNR=11						
NWAO	**Narrogin (SRO)**	**23.95**	**205**	P	**P**	**19 37 00.7**	**+2.6**
	8.1nm,0.7s,baz=33,slow=11,SNR=4.0						
CMSA	**Cobar Meteorol**	**25.24**	**145**	P	**P**	**19 37 11.3**	**+1.4**
	baz=25,SNR=6.5						
ARPS	**Mount Arapiles**	**27.74**	**157**	P	**P**	**19 37 34.5**	**+2.1**
	baz=28,SNR=8.4						
CMAR	**Chiang Mai Arr**	**41.99**	**315**	P	**P**	**19 39 35.1**	**0.0**
	1.2nm,0.5s,baz=142,slow=6.9,SNR=11						
CMMT	**Chiang Mai**	**42.22**	**315**	P	**P**	**19 39 38.3**	**+1.2**
	3.0nm,1.3s						
CHTO	**Chiang Mai**	**42.23**	**315**	*e*P	**P**	**19 39 36.8**	**-0.3**
	8.2nm,1.6s						
CHTO	**Chiang Mai**	**42.23**	**315**	P	**P**	**19 39 38.3**	**+1.2**
	14nm,1.3s						
ENH	**Enshi**	**45.54**	**336**	*e*P	**P**	**19 40 03.2**	**-0.3**
	2.6nm,0.5s						
MJAR	**Matsushiro Arr**	**48.52**	**10**	LR	LR	19 59 41.2	
	comp=Z,19nm,21.4s,baz=120,slow=35						
LSA	**Lhasa**	**54.81**	**319**	*e*P	**P**	**19 41 13.9**	**-0.5**
	4.7nm,0.7s						
ODAN	**Odare**	**55.52**	**314**	*e*P	**P**	**19 41 19.6**	**+0.3**
	11nm,0.6s						
RAMN	**Ramite**	**56.13**	**314**	*e*P	**P**	**19 41 24.8**	**+1.1**
JIRN	**Jiri**	**56.85**	**314**	*e*P	**P**	**19 41 29.7**	**+0.8**
	10nm,0.4s						
GUN	**Gumba**	**57.22**	**314**	*e*P	**P**	**19 41 32.3**	**+0.8**
	9.6nm,0.4s						
PKI	**Pulchoki**	**57.35**	**313**	*e*P	**P**	**19 41 32.8**	**+0.4**
	6.1nm,0.4s						
PKIN	**Phulchoki**	**57.37**	**313**	*e*P	**P**	**19 41 32.8**	**+0.3**
	5.4nm,0.4s						
GTA	**Gaotai**	**57.43**	**333**	⇑P	**P**	**19 41 33.1**	**+0.6**
GTA				pP	pP	19 41 44.3	+1.1
GTA				sP	sP	19 41 49.2	+1.9
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,45nm,5.1s						
GTA				LR	LR		
	comp=N,170nm,17.5s						
GTA				LR	LR		
	comp=E,110nm,18.4s						
KKN	**Kakani**	**57.58**	**313**	*e*P	**P**	**19 41 34.6**	**+0.7**
DMN	**Daman**	**57.59**	**313**	*e*P	**P**	**19 41 34.7**	**+0.7**
	16nm,0.9s						
GKN	**Gorkha**	**58.16**	**313**	*e*P	**P**	**19 41 39.0**	**+1.1**
	0.7nm,0.2s						
KOLN	**Koldanda**	**58.77**	**312**	*e*P	**P**	**19 41 43.0**	**+0.8**
	39nm,0.8s						
DANN	**Dangsing**	**58.99**	**313**	*e*P	**P**	**19 41 44.5**	**+0.7**
	23nm,0.7s						
PYUN	**Piuthan**	**59.40**	**312**	*e*P	**P**	**19 41 47.2**	**+0.6**
	36nm,0.8s						
SONA0	**Songino Array**	**62.36**	**343**	*e*P	**P**	**19 42 06.0**	**-0.2**
SONM	**Songino Array**	**62.36**	**343**	P	**P**	**19 42 06.0**	**-0.2**
	0.9nm,0.5s,baz=157,slow=7.6,SNR=7.7						
VNDA	**Vanda**	**68.18**	**173**	P	**P**	**19 42 45.4**	**+2.0**
	0.3nm,0.3s,baz=316,slow=6.6,SNR=9.7						
VNDA				LR	LR	20 10 23.2	
	comp=Z,26nm,19.2s,baz=260,slow=34						
VNDA	**Vanda**	**68.18**	**173**	*e*P	**P**	**19 42 44.7**	**+1.3**
MAW	**Mawson**	**70.47**	**202**	P	**P**	**19 43 00.8**	**+3.1**
	1.0nm,0.5s,baz=87,slow=7.1,SNR=6.2						
MAW	**Mawson**	**70.47**	**202**	*e*P	**P**	**19 43 00.8**	**+3.1**
	1.9nm,1.5s						
MK01	**Makanchi Array**	**71.41**	**328**	*e*P	**P**	**19 43 04.3**	**+0.6**
MK31	**Makanchi Array**	**71.43**	**328**	*e*P	**P**	**19 43 04.2**	**+0.3**
MK32	**Makanchi Array**	**71.43**	**328**	*e*P	**P**	**19 43 04.5**	**+0.7**
MKAR	**Makanchi Array**	**71.43**	**328**	P	**P**	**19 43 04.5**	**+0.7**
	8.5nm,0.8s,baz=129,slow=7.7,SNR=66						
MKAR	**Makanchi Array**	**71.43**	**328**	*e*P	**P**	**19 43 04.2**	**+0.3**
	36nm,0.8s						
AAK	**Ala-Archa**	**73.33**	**321**	*e*P	**P**	**19 43 17.2**	**+1.8**
	4.2nm,0.6s						
ZAA0	**Zalesovo Array**	**75.14**	**335**	*e*P	**P**	**19 43 24.5**	**-1.0**
	4.6nm,0.8s						
ZALV	**Zalesovo Beam**	**75.14**	**335**	P	**P**	**19 43 24.8**	**-0.7**
	4.6nm,0.5s,baz=143,slow=4.9,SNR=23						
ZALV	**Zalesovo Beam**	**75.14**	**335**	*e*P	**P**	**19 43 24.6**	**-0.9**
ZAA1	**Zalesovo Array**	**75.14**	**335**	*e*P	**P**	**19 43 24.8**	**-0.7**
KURK	**Kurchatov**	**75.81**	**330**	*e*P	**P**	**19 43 29.9**	**+0.5**
	3.9nm,0.8s						
TIXI	**Tiksi**	**82.91**	**360**	*e*P	**P**	**19 44 06.3**	**-1.4**
	1.6nm,0.3s						
PDAR	**Pinedale Array**	**120.67**	**47**	PKP	**PKPdf**	**19 50 35.7**	**-0.1**
	0.2nm,0.3s,baz=147,slow=3.0,SNR=3.5						
LTX	**Lajitas**	**127.97**	**62**	*e*PKPdf	**PKPdf**	**19 50 52.0**	**+2.0**
TXAR	**Lajitas Array**	**127.97**	**62**	PKP	**PKPdf**	**19 50 52.0**	**+2.0**
	0.2nm,0.3s,baz=225,slow=3.7,SNR=3.5						
TORD	**Torodi Ar. Bea**	**128.56**	**278**	PKP	**PKPdf**	**19 50 51.9**	**+0.5**
	0.3nm,0.5s,baz=103,slow=1.9						
TOA1	**Torodi Ar. Sit**	**128.57**	**278**	*e*PKPdf	**PKPdf**	**19 50 51.9**	**+0.5**
JTS	**JuntasAbangare**	**146.65**	**89**	PKPbc	**PKPab**	**19 51 27.6**	**+0.4**
	3.5nm,0.4s,baz=59,slow=2.7,SNR=4.0						
LPAZ	**La Paz**	**147.64**	**148**	PKPbc	**PKPab**	**19 51 31.5**	**-0.2**
	2.0nm,0.6s,baz=215,slow=2.1,SNR=9.7						
LPAZ	**La Paz**	**147.64**	**148**	*e*PKPbc	**PKPab**	**19 51 31.9**	**+0.1**

KRSC 05 19:40:42.0±0.6, 55°.39N×161°.79E, h82km±14km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TUMD	**Tumrok D**	**0.82**	**257**	*e*P	Pn	19 41 00.0	+0.9
TUMD				*e*S	Sn	19 41 12.5	+0.8
BZGR	**Bezymyannyi-Gr**	**0.83**	**312**	*e*P	Pn	19 41 00.1	+0.8
ZLN	**Zelenaya**	**0.84**	**319**	*e*P	Pn	19 41 00.6	+1.2
ZLN				*e*S	Sn	19 41 14.3	+2.0
KZV	**Kizimen**	**0.90**	**253**	*e*P	Pn	19 41 01.2	+1.1
KZV				*e*S	Sn	19 41 14.5	+0.9
BZMR	**Bezymyannaya**	**0.92**	**307**	*e*P	Pn	19 41 01.1	+0.8
BZWR	**Bezymyannyi-We**	**0.93**	**309**	*e*P	Pn	19 41 01.5	+1.0
LGNR	**Loginova**	**0.93**	**319**	*e*P	Pn	19 41 02.0	+1.4
CIRR	**Tsirk**	**0.94**	**321**	*e*P	Pn	19 41 01.7	+1.2
CIRR				*e*S	Sn	19 41 15.8	+1.5
TUMR	**Tumrok**	**0.95**	**264**	*i* P	Pn	19 41 02.2	+1.6
TUMR				*e*S	Sn	19 41 16.1	+1.6
KMNR	**Kamenistaya**	**0.95**	**293**	*i* P	Pn	19 41 01.9	+1.2
KMNR				*e*S	Sn	19 41 16.5	+1.9
KBTR	**Krutoberegovo**	**1.00**	**35**	*i* P	Pn	19 41 02.6	+1.5
KBTR				*e*S	Sn	19 41 18.1	+2.6
KBG	**Krutoberegovo**	**1.01**	**30**	*i* P	Pn	19 41 02.9	+1.7
KBG				*i* S	Sn	19 41 18.4	+2.9
KPT	**Kopyto**	**1.06**	**304**	*e*P	Pn	19 41 02.9	+1.0
KPT				*e*S	Sn	19 41 17.9	+1.1
KRSR	**Krestovskiy**	**1.08**	**321**	*i* P	Pn	19 41 03.0	+0.8
KRSR				*e*S	Sn	19 41 18.1	+0.8
KLY	**Klyuchi**	**1.12**	**326**	*i* P	Pn	19 41 02.8	+0.2
KLY				*e*S	Sn	19 41 18.2	+0.2
SMKR	**Semkarok**	**1.21**	**351**	*e*P	Pn	19 41 05.2	+1.5
SMKR				*e*S	Sn	19 41 22.3	+2.3
BDR	**Baidarnaya**	**1.23**	**345**	*e*P	Pn	19 41 05.5	+1.6
BDR				*e*S	Sn	19 41 22.4	+2.0
KOZ	**Kozyrevsk**	**1.27**	**302**	*e*P	Pn	19 41 05.9	+1.4
KOZ				*e*S	Sn	19 41 23.6	+2.2
SRKR	**Sorokina**	**1.31**	**345**	*e*P	Pn	19 41 06.4	+1.4
SRKR				*e*S	Sn	19 41 24.4	+2.0
ESO	**Esso**	**1.83**	**288**	*e*P	Pn	19 41 12.5	+0.8
ESO				*e*S	Sn	19 41 34.2	0.0
KII	**Karymskiy**	**1.92**	**226**	P	Pn	19 41 15.3	+2.4
BKI	**Bering**	**2.40**	**93**	*e*P	Pn	19 41 20.6	+1.4
BKI				*e*S	Sn	19 41 47.9	+0.2
SPN	**Mys Shipunski**	**2.52**	**205**	*e*P	Pn	19 41 22.2	+1.3
SPN				*e*S	Sn	19 41 50.0	-0.6
NLC	**Nalytchevo**	**2.65**	**214**	*e*P	Pn	19 41 24.9	+2.4
NLC				*e*S	Sn	19 41 55.4	+1.8
KRX	**Arik**	**2.74**	**223**	*e*P	Pn	19 41 27.4	+3.4
SMAR	**Somma**	**2.76**	**221**	*e*P	Pn	19 41 26.9	+2.6
AVH	**Avacha**	**2.78**	**221**	*e*P	Pn	19 41 27.3	+2.9
AVH				*e*S	Sn	19 42 00.6	+3.5
UGLR	**Uglovaya**	**2.79**	**220**	*e*P	Pn	19 41 27.3	+2.7
KOK	**Koryaka**	**2.80**	**223**	*e*P	Pn	19 41 27.6	+2.9
GNL	**Ganaly**	**2.81**	**234**	*e*P	Pn	19 41 27.3	+2.4
DALK	**Dalny**	**2.96**	**218**	*e*P	Pn	19 41 29.0	+2.2
DALK				*e*S	Sn	19 42 03.5	+2.2
PET	**Petropavlovsk**	**3.00**	**219**	*e*P	Pn	19 41 29.5	+2.2
KRMR	**Karymshinskiy**	**3.35**	**222**	*e*P	Pn	19 41 35.7	+3.7
KRMR				*e*S	Sn	19 42 13.6	+2.9
RUS	**Russkaya**	**3.54**	**215**	*e*P	Pn	19 41 37.0	+2.4
APC	**Apacha**	**3.68**	**230**	*e*P	Pn	19 41 39.2	+2.7
OSSR	**Ossora**	**3.93**	**10**	*e*P	Pn	19 41 42.7	+2.8
KDTR	**Khodutka, Kamc**	**4.21**	**213**	*e*S	Sn	19 42 33.4	+1.7

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*IDC **05** 19:45:09.3±2.4, 4°.58S×133°.85E, h0km, mb3.5/2, mb1 3.8/7, mb1mx3.5/39, mbtmp3.6/7, ML3.3/5, MS3.1/1, Ms1 3.0/1, ms1mx2.3/22, Error ellipse: s-maj=62.5km s-min=23.8km az=79.0*
*ISCJB **05** 19:45:10.2±1.3, 4°.61S±0°.07×133°.7E±0°.2, h21km, mb3.5/2, MS2.9/1, Error ellipse: s-maj=23.0km s-min=9.6km az=178.1*
ISC 05 19:45:11.2±1.6, 4°.60S±0°.08×133°.8E±0°.2, h21km, n8, σ2s68/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.49**	**326**	Pn	**Pn**	**19 46 16.8**	**-1.3**
	1.1nm,0.3s,baz=230,slow=22,SNR=11						
SIJI				Sn	**Sn**	**19 47 06.0**	**-3.7**
	0.8nm,0.3s,baz=127,slow=20,SNR=3.2						
BATI	**Baumata**	**11.49**	**240**	Pn	**Pn**	**19 47 55.6**	**+1.3**
	0.6nm,0.3s,baz=66,slow=19,SNR=2.0						
WRA	**Warramunga Arr**	**15.26**	**178**	Pn	**Pn**	**19 48 44.9**	**-0.7**
	0.1nm,0.3s,baz=360,slow=13,SNR=3.0						
WRA				Sn	**Sn**	**19 51 29.3**	**-4.8**
	0.1nm,0.3s,baz=10,slow=24,SNR=4.3						
FITZ	**Fitzroy Crossi**	**15.62**	**210**	Pn	**Pn**	**19 48 51.0**	**+0.8**
	0.1nm,0.3s,baz=36,slow=14,SNR=4.6						
FITZ				Sn	**Sn**	**19 51 42.0**	**-0.8**
	0.2nm,0.3s,baz=177,slow=9.4,SNR=8.1						
ASAR	**Alice Springs**	**18.96**	**180**	P	**Pn**	**19 49 32.7**	**+0.7**
	0.1nm,0.3s,baz=5.7,slow=10,SNR=14						
STKA	**Stephens Creek**	**28.10**	**166**	LR	LR	20 03 36.4	
	comp=Z,34nm,19.8s,baz=200,slow=39						
CMAR	**Chiang Mai Arr**	**41.30**	**305**	P	**P**	**19 52 57.5**	**+1.9**
	0.4nm,0.7s,baz=136,slow=6.8,SNR=4.3						
MKAR	**Makanchi Array**	**68.39**	**325**	P	**P**	**19 56 13.3**	**+1.9**
	0.8nm,0.9s,baz=115,slow=8.8,SNR=4.4						

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*IDC **05** 19:53:25.0±0.9, 29°.70N×66°.34E, h0km, mb3.6/11, mb1 3.8/14, mb1mx3.6/44, mbtmp3.6/14, ML3.4/3, MS3.3/10, Ms1 3.3/10, ms1mx2.9/49, Error ellipse: s-maj=22.0km s-min=19.1km az=108.0*
*ISCJB **05** 19:53:27.9±0.6, 29°.73N±0°.07×66°.33E±0°.06, h33km, mb3.5/11, MS3.2/9, Error ellipse: s-maj=9.7km s-min=6.9km az=2.5*
ISC 05 19:53:29.1±0.7, 29°.61N±0°.09×66°.29E±0°.07, h35km, n34, σ1s46/27, mb3.5/11, MS3.0/9, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THW	**Thamme Wali**	**5.65**	**54**	P	**Pn**	**19 54 50.2**	**-0.4**
THW				S	**Sn**	**19 55 53.0**	**-1.2**
CEP	**Cherat**	**6.37**	**47**	P	**Pn**	**19 55 00.2**	**-0.4**
CHCP	**Chirah Chowk**	**7.19**	**54**	P	**Pn**	**19 55 11.2**	**-0.5**
WSAR	**Wadi Sarin**	**9.34**	**229**	Pn	**Pn**	**19 55 42.3**	**+1.0**
	0.6nm,0.3s,baz=77,slow=10,SNR=7.7						
WSAR				Sn	**Sn**	**19 57 20.0**	**-5.2**
	0.2nm,0.3s,baz=327,slow=17,SNR=3.2						
GEYT	**Alibeck**	**10.73**	**323**	Pn	**Pn**	**19 56 00.4**	**+0.2**
	0.1nm,0.3s,baz=133,slow=23,SNR=3.3						
AAK	**Ala-Archa**	**14.58**	**25**	Pn	**Pn**	**19 56 50.8**	**-2.2**
	0.6nm,0.3s,baz=190,slow=8.3,SNR=12						
AAK				LR	LR	20 02 54.2	
	comp=Z,45nm,18.5s,baz=206,slow=39						
PYUN	**Piuthan**	**14.71**	**92**	*e*P	**Pn**	**19 56 54.9**	**0.0**
	14nm,0.6s						
KOLN	**Koldanda**	**15.30**	**93**	*e*P	**Pn**	**19 57 02.4**	**-0.3**
	22nm,0.8s						
DANN	**Dangsing**	**15.34**	**90**	*e*P	**Pn**	**19 57 03.2**	**-0.1**
	24nm,0.6s						
KKN	**Kakani**	**16.76**	**92**	*e*P	**

OSSR	**Ossora**	**2.96**	**15**	eS	Sn	20 04 38.3 +2.5
GNL	**Ganaly**	**3.43**	**219**	*e*P	Pn	20 04 09.7 +2.3
SPN	**Mys Shipunski**	**3.44**	**196**	*e*P	Pn	20 04 08.4 +1.0
SPN				eS	Sn	20 04 46.4 -0.9
KRX	**Arik**	**3.49**	**210**	*e*P	Pn	20 04 10.1 +1.8
NLC	**Nalytchevo**	**3.49**	**203**	*e*P	Pn	20 04 10.5 +2.4
NLC				eS	Sn	20 04 52.0 +3.4
SMAR	**Somma**	**3.54**	**208**	*e*P	Pn	20 04 12.6 +3.7
AVH	**Avacha**	**3.55**	**209**	*e*P	Pn	20 04 12.3 +3.3
KOK	**Koryaka**	**3.56**	**210**	*e*P	Pn	20 04 11.9 +2.8
UGLR	**Uglovaya**	**3.58**	**208**	*e*P	Pn	20 04 13.1 +3.7
DALK	**Dalny**	**3.76**	**207**	*e*P	Pn	20 04 14.4 +2.7
DALK				eS	Sn	20 04 58.4 +3.4
KRMR	**Karymshinskiy**	**4.11**	**211**	*e*P	Pn	20 04 18.6 +2.2
KRMR				eS	Sn	20 05 06.5 +3.1
APC	**Apacha**	**4.33**	**218**	*e*P	Pn	20 04 20.8 +1.4
RUS	**Russkaya**	**4.37**	**205**	*e*P	Pn	20 04 21.9 +2.1
KDTR	**Khodutka, Kamc**	**5.05**	**206**	S	Sn	20 05 28.9 +2.8

*ISCJB **05** 20:24:49.7±0.4,24°.69N±0°.01×122°.39E±0°.02,h5km±2km, Error ellipse: s-maj=2.8km s-min=2.2km az=135.1*
*TAP **05** 20:24:49.5,24°.69N×122°.31E,h3km,ML3.4,C*
*JMA **05** 20:24:50.7±0.1,24°.65N×122°.32E,h41km±4km,M3.1*

ISC 05 20:24:49.7±1.0,24°.75N±0°.02×122°.38E±0°.02,h13km±8km, n74,σ0s80/141,2C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.30**	**228**	⇑		*e*P	**Pg**	**20 24 55.9**	**0.0**
	baz=229								
EOS1						*e*S	**Sg**	**20 25 00.0**	**0.0**
	baz=229								
EGS		**0.41**	**283**	⇓	*i*	P	**Pg**	**20 24 58.0**	**0.0**
	baz=294								
EGS					*i*	S	**Sb**	**20 25 04.5**	**-0.6**
	baz=294								
TWB1	**Santiao Chiao**	**0.43**	**306**		*e*	P	**Pb**	**20 24 59.0**	**-0.3**
	baz=317								
TWB1					*i*	S	**Sb**	**20 25 04.7**	**-1.1**
	baz=317								
TWC	**Suao**	**0.50**	**254**	⇓	*i*	P	**Pg**	**20 24 58.4**	**-1.1**
	baz=258								
TWC						S	**Sg**	**20 25 06.4**	**+0.2**
	baz=258								
NTC	**Toucheng**	**0.51**	**282**		*e*	P	**Pg**	**20 24 59.9**	**+0.2**
	baz=290								
NTC						*e*S	**Sb**	**20 25 08.2**	**+0.4**
	baz=290								
ILA	**Ilan**	**0.57**	**272**		*i*	P	**Pg**	**20 25 00.7**	**-0.2**
	baz=278								
ILA						S	**Sg**	**20 25 09.2**	**+0.7**
	baz=278								
JYNG	**Yonagunijimaku**	**0.60**	**120**			P	**Pb**	**20 25 02.6**	**+0.5**
JYNG						*e*S	**Sn**	**20 25 12.4**	**-1.2**
NWF	**Wu-fen Shan**	**0.63**	**301**		*i*	P	**Pn**	**20 25 03.9**	**-0.6**
	baz=308								
NWF					*i*	S	**Sn**	**20 25 12.8**	**-1.7**
	baz=308								
WFSB	**Wu-fen Shan**	**0.63**	**301**		*e*	P	**Pn**	**20 25 03.8**	**-0.6**
	baz=308								
WFSB						*e*S	**Sn**	**20 25 12.5**	**-1.8**
	baz=308								
YOJ	**Yonaguni jima**	**0.65**	**116**		*e*	P	**Pb**	**20 25 03.4**	**+0.6**
	baz=109								
YOJ						*e*S	**Sn**	**20 25 13.7**	**-1.1**
	baz=109								
YOJ	**Yonaguni jima**	**0.65**	**116**			P	**Pb**	**20 25 03.5**	**+0.6**
YOJ						*e*S	**Sb**	**20 25 12.6**	**+0.8**
ENA	**Nanau**	**0.66**	**241**			P	**Pg**	**20 25 01.5**	**-1.1**
	baz=242								
ENA						*e*S	**Sg**	**20 25 10.9**	**-0.4**
	baz=242								
ENTT	**Nioudou**	**0.74**	**262**			P	**Pg**	**20 25 03.2**	**-1.0**
	baz=265								
ENTT					*i*	S	**Sg**	**20 25 13.8**	**-0.1**
	baz=265								
TWA	**Mucha**	**0.76**	**288**		*e*	P	**Pb**	**20 25 04.8**	**0.0**
	baz=293								
TWA					*i*	S	**Sb**	**20 25 15.8**	**+0.8**
	baz=293								
NWLT	**Wulai**	**0.79**	**272**		*e*	P	**Pg**	**20 25 05.2**	**0.0**
	baz=276								
NWLT						*e*S	**Sb**	**20 25 17.2**	**+1.0**
	baz=276								
YM07	**YM07**	**0.81**	**302**		*e*	P	**Pn**	**20 25 06.3**	**-0.6**
	baz=307								
YM07						*e*S	**Sn**	**20 25 17.4**	**-1.4**
	baz=307								
TAP1	**Taipei**	**0.83**	**290**		*e*	P	**Pn**	**20 25 06.8**	**-0.3**
	baz=295								
TAP1						*e*S	**Sn**	**20 25 18.3**	**-0.9**
	baz=295								
YM01	**YM01**	**0.83**	**298**		*e*	P	**Pn**	**20 25 07.7**	**+0.5**
	baz=303								
YM01						*e*S	**Sn**	**20 25 19.1**	**-0.3**
	baz=303								
YM08	**YM08**	**0.83**	**302**		*e*	P	**Pn**	**20 25 06.8**	**-0.5**
	baz=306								
YM08						*e*S	**Sn**	**20 25 18.1**	**-1.4**
	baz=306								
YM11	**YM11**	**0.84**	**300**		*e*	P	**Pn**	**20 25 07.0**	**-0.4**
	baz=305								
YM11						*e*S	**Sn**	**20 25 18.6**	**-1.0**
	baz=305								
TATO	**Taipei**	**0.84**	**286**		*e*	P	**Pb**	**20 25 06.2**	**0.0**
	baz=290								
TATO						*e*S	**Sb**	**20 25 17.7**	**+0.3**
	baz=290								
YM05	**YM05**	**0.84**	**299**	⇑	*e*	P	**Pn**	**20 25 07.1**	**-0.3**
	baz=304								
YM05						*e*S	**Sn**	**20 25 18.9**	**-0.8**
	baz=304								
YM10	**YM10**	**0.84**	**299**			P	**Pn**	**20 25 07.0**	**-0.4**
	baz=304								
YM10						S	**Sn**	**20 25 18.8**	**-0.9**
	baz=304								
YM12	**YM12**	**0.85**	**300**			P	**Pn**	**20 25 07.1**	**-0.4**
	baz=305								
YM12						*e*S	**Sn**	**20 25 19.0**	**-0.8**
	baz=305								
YM04	**YM04**	**0.86**	**298**			P	**Pn**	**20 25 07.3**	**-0.4**
	baz=303								
YM04						*e*S	**Sn**	**20 25 19.0**	**-1.1**
	baz=303								
YM03	**YM03**	**0.87**	**299**		*e*	P	**Pn**	**20 25 07.5**	**-0.3**
	baz=304								
YM03						*e*S	**Sn**	**20 25 20.7**	**+0.3**
	baz=304								
TWY	**Chenhua**	**0.88**	**307**		*e*	P	**Pn**	**20 25 07.8**	**0.0**
	baz=312								
TWY						*e*S	**Sn**	**20 25 20.0**	**-0.5**
	baz=312								
YHNB	**Yeheng**	**0.91**	**265**		*e*	P	**Pb**	**20 25 06.3**	**-1.2**
	baz=268								
YHNB						*e*S	**Sg**	**20 25 19.6**	**+0.2**
	baz=268								
NACB	**Ninganchiao**	**0.92**	**231**		*e*	P	**Pb**	**20 25 05.7**	**-1.8**
	baz=231								
NACB						*e*S	**Sb**	**20 25 16.9**	**-2.6**
	baz=231								
PCYT	**Pengchaiyu**	**0.92**	**343**		*e*	P	**Pn**	**20 25 08.3**	**-0.1**
	baz=347								
PCYT						*e*S	**Sn**	**20 25 23.5**	**+2.0**
	baz=347								
NSK	**Sanguang**	**0.93**	**266**			P	**Pb**	**20 25 06.6**	**-1.2**
	baz=268								
NSK						S	**Sb**	**20 25 20.2**	**+0.1**
	baz=268								
NTST	**Danshui**	**0.94**	**296**		*e*	P	**Pn**	**20 25 08.5**	**-0.2**
	baz=300								
NTST						*e*S	**Sn**	**20 25 21.9**	**0.0**
	baz=300								
TWS1	**Kuangyinshan**	**0.94**	**292**		*e*	P	**Pn**	**20 25 08.7**	**0.0**
	baz=296								
TWS1						S	**Sn**	**20 25 21.7**	**-0.2**
	baz=296								
NNSB	**Datong**	**0.96**	**251**		*e*	P	**Pb**	**20 25 06.8**	**-1.5**
	baz=252								
NNSB						*e*S	**Sb**	**20 25 19.9**	**-1.1**
	baz=252								
NNS	**Nan Shan**	**0.96**	**251**		*e*	P	**Pb**	**20 25 07.4**	**-1.0**
	baz=253								
NNS						S	**Sb**	**20 25 20.3**	**-0.8**
	baz=253								
TWD	**Chiawan**	**0.98**	**227**			P	**Pb**	**20 25 07.7**	**-0.8**
	baz=226								
TWD						*e*S	**Sb**	**20 25 20.9**	**-0.4**
	baz=226								
NCU	**National Centr**	**1.10**	**282**		*e*	P	**Pg**	**20 25 11.4**	**+0.4**
	baz=285								
NCU						S	**Sn**	**20 25 26.6**	**+0.6**
	baz=285								
NCUH	**Zhongli**	**1.10**	**282**		*e*	P	**Pg**	**20 25 11.6**	**+0.6**
	baz=285								
NCUH						*e*S	**Sn**	**20 25 26.9**	**+0.9**
	baz=285								
WHF	**Hehuan Shan**	**1.18**	**239**		*e*	P	**Pn**	**20 25 11.2**	**-1.2**
	baz=240								
WHF						*e*S	**Sb**	**20 25 26.6**	**-1.0**
	baz=240								
TWT	**Tachien**	**1.20**	**246**			P	**Pn**	**20 25 12.7**	**+0.3**
	baz=247								
TWT						*e*S	**Sb**	**20 25 27.8**	**-0.2**
	baz=247								
TDCB	**Techi**	**1.22**	**246**		*e*	P	**Pn**	**20 25 12.5**	**-0.1**
	baz=247								
TDCB						*e*S	**Sb**	**20 25 28.1**	**-0.3**
	baz=247								
LIOB	**Emei**	**1.24**	**265**			P	**Pb**	**20 25 13.7**	**+0.6**
	baz=267								
LIOB						S	**Sg**	**20 25 30.2**	**+0.4**
	baz=267								
NSTT	**Nanjuang**	**1.26**	**265**		*e*	P	**Pb**	**20 25 13.9**	**+0.6**
	baz=266								
NSTT						S	**Sn**	**20 25 30.2**	**+0.4**
	baz=266								
SBCB	**Hsinchu**	**1.27**	**272**		*e*	P	**Pg**	**20 25 15.2**	**+1.1**
	baz=274								
SBCB						*e*S	**Sg**	**20 25 31.4**	**+0.9**
	baz=274								
ESL	**Shilin**	**1.27**	**223**			P	**Pn**	**20 25 13.3**	**+0.1**
	baz=222								
ESL						*e*S	**Sb**	**20 25 29.9**	**+0.1**
	baz=222								
HSN	**Hsinchu**	**1.28**	**273**		*e*	S	**Sg**	**20 25 32.0**	**+1.0**
	baz=276								
CHGB	**Renai**	**1.29**	**238**		*e*	P	**Pn**	**20 25 13.4**	**-0.3**
	baz=238								
CHGB						*e*S	**Sb**	**20 25 31.0**	**+0.3**
	baz=238								
IRIF	**Iriomote-Funau**	**1.30**	**108**			P	**Pn**	**20 25 13.3**	**-0.3**
IRIF						*e*S	**Sb**	**20 25 29.7**	**-1.0**
EGFH	**Guangfu**	**1.38**	**219**		*e*	P	**Pn**	**20 25 15.4**	**+0.6**
	baz=218								
EGFH						*e*S	**Sn**	**20 25 33.7**	**+0.7**
	baz=218								
NMLH	**Miaoli**	**1.46**	**262**		*e*	P	**Pg**	**20 25 18.6**	**+0.8**
	baz=263								
NMLH						*e*S	**Sg**	**20 25 37.5**	**+0.8**
	baz=263								
HATJ	**Hateruma jima**	**1.48**	**118**			P	**Pn**	**20 25 16.1**	**+0.1**
NSY	**Sanyi**	**1.51**	**258**		*e*	P	**Pb**	**20 25 18.6**	**+1.0**
	baz=258								
NSY						*e*S	**Sg**	**20 25 39.0**	**+0.7**
	baz=258								
TWQ1	**Liyutan**	**1.51**	**255**		*e*	P	**Pg**	**20 25 19.0**	**+0.2**
	baz=256								
TWQ1						S	**Sg**	**20 25 39.7**	**+1.2**
	baz=256								
HGSD	**Ruisui**	**1.53**	**215**		*e*	P	**Pn**	**20 25 16.2**	**-0.6**
	baz=214								
HGSD						*e*S	**Sn**	**20 25 37.3**	**+0.8**
	baz=214								
PTSB	**Yuanli**	**1.55**	**259**		*e*	P	**Pn**	**20 25 17.0**	**-0.1**
	baz=260								
PTSB						*e*S	**Sn**	**20 25 37.6**	**+0.5**
	baz=260								
EHY	**Hungye**	**1.57**	**218**		*e*	P	**Pn**	**20 25 16.6**	**-0.7**
	baz=217								
EHY						*e*S	**Sn**	**20 25 38.3**	**+0.7**
	baz=217								
JKRS	**Kuro-shima**	**1.57**	**109**			P	**Pn**	**20 25 17.6**	**+0.2**
SMLT	**Sun Moon Lake**	**1.60**	**238**			P	**Pn**	**20 25 18.9**	**+1.0**
	baz=237								
SMLT						*e*S	**Sn**	**20 25 38.5**	**0.0**
	baz=237								
SSLB	**Suanglung**	**1.61**	**234**		*e*	P	**Pn**	**20 25 19.1**	**+1.1**
	baz=234								
SSLB						*e*S	**Sn**	**20 25 39.1**	**+0.4**
	baz=234								
TYC	**Yuchr**	**1.62**	**239**			P	**Pb**	**20 25 20.2**	**+0.7**
	baz=239								
JIJ	**Ishigaki jima**	**1.66**	**103**			P	**Pn**	**20 25 18.3**	**-0.2**
TCU	**Taichung**	**1.66**	**249**		*e*	P	**Pn**	**20 25 19.1**	**+0.5**
	baz=249								
TCU						*e*S	**Sn**	**20 25 40.5**	**+0.6**
	baz=249								
YULB	**Yu-li**	**1.67**	**216**		*e*	P	**Pn**	**20 25 17.9**	**-0.9**
	baz=215								
YULB						*e*S	**Sn**	**20 25 41.2**	**+1.0**
	baz=215								
TWF1	**Yuli**	**1.71**	**216**		*e*	P	**Pn**	**20 25 18.8**	**-0.5**
	baz=214								
TWF1						*e*S	**Sn**	**20 25 41.2**	**+0.3**
	baz=214								
JISG	**Ishigakijimahi**	**1.77**	**95**			P	**Pb**	**20 25 21.3**	**-0.7**
YUS	**Yu-Shan**	**1.81**	**226**		*e*	P	**Pn**	**20 25 21.9**	**+0.8**
	baz=225								
YUS						*e*S	**Sn**	**20 25 44.3**	**+0.1**
	baz=225								
FULB	**Fuli**	**1.83**	**213**		*e*	P	**Pn**	**20 25 20.5**	**-0.5**
	baz=212								
FULB						*e*S	**Sn**	**20 25 44.9**	**+0.7**
	baz=212								
CHKT	**Chengkung**	**1.89**	**210**		*e*	P	**Pn**	**20 25 20.5**	**-1.2**
	baz=208								
CHKT						*e*S	**Sn**	**20 25 45.2**	**-0.2**
	baz=208								
ALS	**Alishan**	**1.89**	**230**		*e*	P	**Pb**	**20 25 24.0**	**-0.3**
	baz=229								
ALS						*e*S	**Sn**	**20 25 47.6**	**+1.6**
	baz=229								
CHN5	**Tsauling**	**1.93**	**234**		*e*	P	**Pn**	**20 25 25.4**	**+0.6**
	baz=233								
ELDTW	**Lidau**	**1.99**	**219**		*e*	P	**Pn**	**20 25 22.8**	**-0.5**
	baz=218								
ELDTW						*e*S	**Sn**	**20 25 49.9**	**+1.8**
	baz=218								
STYT	**Tauyuan**	**2.17**	**223**		*e*	P	**Pn**	**20 25 26.7**	**+1.0**
	baz=222								
STYT						*e*S	**Sn**	**20 25 52.0**	**-0.4**
	baz=222								
TWGBT	**Beinan**	**2.26**	**212**		*e*	P	**Pn**	**20 25 26.7**	**-0.2**
	baz=211								
TWGBT						*e*S	**Sn**	**20 25 55.2**	**+0.5**
	baz=211								
TWG	**Pinlang**	**2.26**	**212**		*e*	P	**Pn**	**20 25 27.0**	**+0.1**
	baz=211								
TWG						*e*S	**Sn**	**20 25 55.2**	**+0.5**
	baz=211								

IDC 05 20:25:19.8±1.4,1°.65S×138°.90E,h0km,mb3.3/3, mb1 3.7/4,mb1mx3.4/30,mbtmp3.5/4,ML3.9/1,MS3.1/1, Ms1 3.1/1,ms1mx2.4/19,Error ellipse: s-maj=28.8km s-min=23.2km az=48.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.00**	**115**			Pn	Pn	20 25 55.4	+0.5
	1.6nm,0.3s,baz=55,slow=14,SNR=8.0								
JAY						Sn	Sn	20 26 20.4	-0.3
	6.2nm,0.3s,baz=343,slow=22,SNR=10								
WRA	**Warramunga Arr**	**18.72**	**193**			P	P	20 29 39.4	-0.8
	0.4nm,0.3s,baz=15,slow=12,SNR=19								
FITZ	**Fitzroy Crossi**	**20.89**	**219**			P	P	20 30 04.4	+0.5
	1.0nm,0.7s,baz=37,slow=10,SNR=2.8								
ASAR	**Alice Springs**	**22.41**	**192**			P	P	20 30 20.5	+0.3
	0.9nm,0.5s,baz=19,slow=10,SNR=24								
ASAR						LR	LR	20 39 11.0	
	comp=Z,45nm,18.2s,baz=64,slow=37								
H11S3	**WAKE ISLAND Hy**	**33.88**	**53**			T	T	21 07 57.9	
	baz=236,slow=75,SNR=13								
H11S2	**WAKE ISLAND Hy**	**33.90**	**53**			T	T	21 07 58.7	
	baz=236,slow=75,SNR=11								
H11S1	**WAKE ISLAND Hy**	**33.90**	**53**			T	T	21 07 58.6	
	baz=236,slow=75,SNR=9.7								
MKAR	**Makanchi Array**	**69.07**	**322**			P	P	20 36 27.5	-0.2
	0.2nm,0.7s,baz=105,slow=7.1,SNR=2.4								

*ISCJB **05** 20:45:30.0±0.5,50°.24N±0°.04×18°.73E±0°.03,h0km, Error ellipse: s-maj=5.2km s-min=2.7km az=2.0*

*IPEC **05** 20:45:31.0±0.1,50°.19N×18°.80E,h1km,ML1.9/3,Error ellipse: s-maj=1.7km s-min=0.6km az=176.0*
*WAR **05** 20:45:31.1,50°.23N×18°.82E,h1km,Mw2.6*
*PRU **05** 20:45:31.0±0.0,50°.26N×18°.74E,h0km*

ISC 05 20:45:30.2±0.8,50°.20N±0°.04×18°.74E±0°.02,h0km,n22, σ0s52/38,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.19**	**59**			*e*Pg	**Pg**	**20 45 33.9**	**+0.1**
CHZP						*e*Sg	**Sg**	**20 45 36.4**	**+0.2**
CHZP	**Chorzow**	**0.19**	**59**			*e*Pg	**Pg**	**20 45 33.9**	**+0.1**
CHZP						*e*Sg	**Sg**	**20 45 36.4**	**+0.2**
OKC	**Ostrava-Krasne**	**0.53**	**227**			*e*PG	**Pb**	**20 45 42.5**	**+0.2**
OJC	**Ojcow**	**0.68**	**88**			*e*Pg	**Pg**	**20 45 43.1**	**-0.1**
OJC						*e*Sg	**Sg**	**20 45 52.1**	**+0.1**
OJC	**Ojcow**	**0.68**	**88**			*e*Pg	**Pg**	**20 45 43.1**	**-0.1**
OJC						*e*Sg	**Sg**	**20 45 52.1**	**+0.1**
MORC	**Moravsky Berou**	**0.88**	**242**			*e*PG	**Pb**	**20 45 48.3**	**-0.2**
MORC						*e*SG	**Sb**	**20 46 00.3**	**-0.5**
MORC	**Moravsky Berou**	**0.88**	**242**			*e*Pg	**Pb**	**20 45 48.2**	**-0.2**
	baz=62								
MORC						*e*Sg	**Sb**	**20 46 00.2**	**-0.5**
	18nm,0.4s,baz=62								
ANAC	**Anensky vrch**	**0.89**	**263**			*e*Pg	**Pb**	**20 45 48.5**	**0.0**
	baz=82								
ANAC						*e*Sg	**Sb**	**20 46 00.6**	**-0.3**
	baz=82								
LANS	**Liptovska Anna**	**1.15**	**156**			*e*PG	**Pn**	**20 45 53.3**	**-0.3**
LANS						*e*SG	**Sn**	**20 46 10.0**	**0.0**
LIPC	**Lipinka**	**1.15**	**253**			*e*Pg	**Pn**	**20 45 53.4**	**-0.2**
	baz=72								
LIPC						*e*Sg	**Sb**	**20 46 08.9**	**+0.5**
	baz=72								
NIE	**Niedzica**	**1.27**	**127**			*e*Pg	**Pb**	**20 45 55.1**	**0.0**
NIE						*e*Sg	**Sn**	**20 46 13.5**	**+0.4**
NIE	**Niedzica**	**1.27**	**127**			*e*Pg	**Pb**	**20 45 55.1**	**0.0**
NIE						*e*Sg	**Sn**	**20 46 13.5**	**+0.4**
DPC	**Dobruska-Polom**	**1.56**	**277**			*e*PG	**Pb**	**20 45 59.6**	**-0.4**
DPC						*e*SG	**Sg**	**20 46 21.5**	**+1.1**
	comp=Z,24nm,0.8s								
VRAC	**Vranov**	**1.65**	**238**			*e*PN	**Pb**	**20 46 01.1**	**-0.5**
VRAC						*e*SG	**Sg**	**20 46 23.3**	**0.0**
VRAC	**Vranov**	**1.65**	**238**			*e*Pn	**Pb**	**20 46 01.1**	**-0.5**
	baz=57								
VRAC						*e*Sg	**Sg**	**20 46 23.3**	**0.0**
	10nm,0.3s,baz=57								
KSP	**Ksiaz**	**1.69**	**293**			*e*Pg	**Pg**	**20 46 03.0**	**+0.4**
KSP						*e*Sg	**Sg**	**20 46 25.6**	**+1.0**
KSP	**Ksiaz**	**1.69**	**293**			*e*Pg	**Pg**	**20 46 03.0**	**+0.4**
KSP						*e*Sg	**Sg**	**20 46 25.6**	**+1.0**
VYHS	**Vyhne**	**1.70**	**178**			*e*SN	**Sg**	**20 46 26.2**	**+1.3**
VYHS						*e*LG	Lg	20 46 34.1	
KRUC	**Moravsky**	**1.90**	**234**			*e*SG	**Sg**	**20 46 31.3**	**0.0**
KRUC	**Moravsky**	**1.90**	**234**			*e*Sg	**Sg**	**20 46 31.3**	**0.0**
	13nm,0.6s,baz=53								
BRG	**Berggiesshubel**	**3.14**	**284**			SG	**Sg**	**20 47 09.5**	**-1.5**
	4.4nm,0.4s								
KHC	**Kasperske Hory**	**3.52**	**254**			*e*SG	**Sg**	**20 47 23.3**	**0.0**
	comp=Z,11nm,0.8s								

*ISCJB **05** 20:46:29.4±1.0,5°.9S±0°.1×148°.5E±0°.3,h65km,mb3.6/6, Error ellipse: s-maj=37.9km s-min=10.1km az=18.7*
*IDC **05** 20:46:31.9±2.2,5°.98S×148°.51E,h74km±19km,mb3.5/6, mb1 3.8/8,mb1mx3.5/31,mbtmp3.9/8,MS2.7/1,Ms1 2.7/1, ms1mx2.4/19,Error ellipse: s-maj=41.9km s-min=12.8km az=115.0*

ISC 05 20:46:31.1±1.0,6°.0S±0°.1×148°.5E±0°.3,h65km,n9, σ0s79/11,mb3.7/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.68**	**201**			P	**Pn**	**20 47 25.3**	**-0.3**
	26nm,0.3s,baz=9.1,slow=4.7,SNR=48								
PMG						S	**Sn**	**20 48 08.7**	**+0.8**
	32nm,0.3s,baz=28,slow=13,SNR=12								
PMG						LR	LR	20 49 12.9	
	comp=Z,110nm,21.0s,baz=34,slow=44								
WRA	**Warramunga Arr**	**19.57**	**223**			P	**P**	**20 50 53.8**	**-0.2**
	0.7nm,0.3s,baz=50,slow=11,SNR=13								
ASAR	**Alice Springs**	**22.54**	**217**			P	**P**	**20 51 26.1**	**+0.2**
	1.5nm,0.5s,baz=47,slow=9.6,SNR=23								
ASAR						S	**S**	**20 55 28.6**	**-0.1**
	2.5nm,0.9s,baz=35,slow=22,SNR=12								
FITZ	**Fitzroy Crossi**	**25.38**	**240**			P	**P**	**20 51 53.1**	**+0.6**
	3.4nm,0.4s,baz=57,slow=11,SNR=22								
PETK	**Petropavlovsk-**	**59.35**	**6**			P	**P**	**20 56 27.8**	**+1.4**
	1.1nm,0.6s,baz=160,slow=6.9,SNR=4.5								
VNDA	**Vanda**	**71.88**	**177**			P	**P**	**20 57 46.3**	**-0.4**
	0.5nm,0.7s,baz=338,slow=5.5,SNR=4.0								
MKAR	**Makanchi Array**	**78.42**	**320**			P	**P**	**20 58 23.8**	**-1.2**
	0.2nm,0.6s,baz=101,slow=9.2,SNR=3.2								
ILAR	**Eielson Array**	**84.85**	**23**			P	**P**	**20 58 58.1**	**-0.2**
	0.6nm,0.8s,baz=260,slow=5.1,SNR=7.5								
TORD	**Torodi Ar. Bea**	**146.54**	**285**			PKPbc	**PKPdf**	**21 06 04.6**	**-0.1**
	0.2nm,0.4s,baz=84,slow=3.3,SNR=7.8								

*SOME **05** 21:03:05.5,40°.62N×78°.22E,h5km*
*KRNET **05** 21:03:06.8±0.1,40°.69N×78°.41E,mb3.3*
*NNC **05** 21:03:09.9±2.8,40°.81N×78°.18E,h0km,mb3.7,mpv3.3, Error ellipse: s-maj=21.4km s-min=15.4km az=166.0*

ISC 05 21:03:11.5±1.6,40°.86N±0°.07×78°.16E±0°.04,h10km,n48, σ1s55/82,22C-15D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.47**	**330**	⇓	*i*	P	**Pb**	**21 03 38.0**	**-1.0**
	baz=28								
KDJ				⇓	*i*	S	**Sg**	**21 04 00.7**	**+2.0**
	baz=28								
NRN	**Naryn**	**1.73**	**290**	⇑	*i*	P	**Pb**	**21 03 42.2**	**-1.2**
	baz=93								
NRN				⇑	*i*	S	**Sg**	**21 04 08.2**	**+1.2**
	baz=93								
ULHL	**Ulahol**	**2.00**	**315**			P	**Pb**	**21 03 46.4**	**-1.6**
	SNR=30								
ULHL	**

baz=1.0
KZA ⇑*iS* **Sb** **21 04 27.0 -0.7**
baz=1.0
KNDC Almaty **2.52 340** ⇓Pg **Pb** **21 03 55.9 -1.0**
11nm,0.3s
KNDC ⇑Lg Lg 21 04 34.1
113nm,0.7s
AAA Alma-Ata **2.52 339** *eP* **Pb** **21 03 57.3 +0.4**
54nm,0.4s
AAA *eS* **Sg** **21 04 34.6 +2.1**
96nm,0.4s
MTBS Maitube **2.61 331** *eP* **Pb** **21 03 58.0 -0.4**
10nm,0.2s
MTBS *eS* **Sg** **21 04 35.4 +0.1**
32nm,0.4s
KPKS Kokpek **2.64 8** *eP* **Pb** **21 03 58.8 0.0**
36nm,0.3s
KPKS *eS* **Sg** **21 04 36.8 +0.7**
115nm,0.5s
KST Kastek **2.73 324** *eP* **Pb** **21 03 59.2 -1.2**
30nm,0.3s
KST *eS* **Sg** **21 04 37.8 -1.3**
45nm,0.6s
TKM2 Tokmak 2 **2.81 318** ⇓Pn **Pb** **21 03 58.8 -3.1**
7.5nm,0.4s
TKM2 ⇑Lg Lg 21 04 41.8
21nm,0.7s
TKM2 Tokmak 2 **2.81 318** P **Pb** **21 04 01.2 -0.6**
SNR=17
TKM2 Tokmak 2 **2.81 318** ⇑*iP* **Pn** **21 03 57.3 +0.7**
baz=18
TKM2 ⇑*iS* **Sb** **21 04 34.2 -2.2**
baz=18
DGS Degeres **2.97 324** *eP* **Pb** **21 04 04.0 -0.5**
20nm,0.5s
DGS *eS* **Sg** **21 04 45.9 -0.9**
41nm,0.7s
KBK Karagaybulak **3.00 308** P **Pb** **21 04 04.8 -0.2**
SNR=13
KBK Karagaybulak **3.00 308** ⇑*eP* **Pn** **21 04 00.2 +1.0**
baz=8.0
KBK ⇑*iS* **Sb** **21 04 38.7 -3.1**
baz=8.0
ARLS Aral **3.05 290** ⇑*iP* **Pn** **21 04 00.3 +0.4**
baz=92
ARLS ⇑*iS* **Sn** **21 04 39.3 +2.7**
baz=92
KTBS Karatobe **3.05 340** *eP* **Pb** **21 04 05.6 -0.3**
24nm,0.4s
KTBS *eS* **Sg** **21 04 49.0 -0.5**
22nm,0.6s
UCH Uchtor **3.06 298** P **Pb** **21 04 05.6 -0.6**
SNR=6.9
UCH Uchtor **3.06 298** ⇓*iP* **Pn** **21 04 01.4 +1.1**
baz=99
UCH ⇓*iS* **Sb** **21 04 40.6 -3.1**
baz=99
KTMS Ketmen **3.06 32** *eP* **Pb** **21 04 05.3 -0.8**
4.5nm,0.3s
KTMS *eS* **Sg** **21 04 48.2 -1.5**
26nm,0.6s
CHKK Chushkaly **3.12 344** *eP* **Pb** **21 04 06.8 -0.1**
11nm,0.3s
CHKK *eS* **Sg** **21 04 51.0 -0.5**
32nm,0.3s
MNBS Baschi **3.22 3** *eP* **Pb** **21 04 08.7 -0.1**
7.9nm,0.4s
MNBS *eS* **Sg** **21 04 54.2 -0.8**
24nm,0.3s
AAK Ala-Archa **3.27 304** ⇓Pg **Pb** **21 04 08.6 -1.0**
7.2nm,0.7s
AAK ⇓Lg Lg 21 04 53.0
47nm,0.9s
AAK Ala-Archa **3.27 304** P **Pb** **21 04 08.8 -0.8**
SNR=11
KUU Kurty **3.32 337** ⇑*iP* **Pb** **21 04 10.1 -0.3**
6.8nm,0.4s
KUU *eS* **Sg** **21 04 56.6 -1.4**
16nm,0.4s
CHMS Chumysh **3.32 311** P **Pb** **21 04 10.2 -0.3**
SNR=12
CHMS Chumysh **3.32 311** ⇑*iP* **Pn** **21 04 04.7 +1.2**
baz=11
CHMS ⇑*iS* **Sn** **21 04 45.8 +2.8**
baz=11
ARXS Arharly **3.36 356** *eP* **Pb** **21 04 10.9 -0.3**
3.2nm,0.3s
ARXS *eS* **Sg** **21 04 58.1 -1.3**
20nm,0.6s
AML Almayashu **3.58 292** ⇓*eP* **Pn** **21 04 08.6 +1.2**
baz=94
AML ⇓*iS* **Sn** **21 04 52.2 +2.2**
baz=94
USP Ospenovka **3.63 313** P **Sb** **21 05 06.1 +6.1**
SNR=11
EKS2 Erkin-Say **3.74 300** P **Pb** **21 04 18.3 +0.7**
SNR=6.6
MRKS Merke **4.14 299** *eP* **Pb** **21 04 25.0 +0.6**
6.1nm,0.3s
MRKS *eS* **Sg** **21 05 22.2 -2.1**
5.1nm,0.6s
TDK Taldyqorghan **4.15 2** *eP* **Pb** **21 04 26.0 +1.5**
13nm,0.2s
TDK *eS* **Sg** **21 05 23.5 -1.1**
31nm,0.9s
KAPS Kapalarasan **4.51 11** *eP* **Pg** **21 04 33.9 -4.0**
2.4nm,0.4s
KAPS *eS* **Sg** **21 05 37.6 +1.4**
7.4nm,0.8s
KK31 Karatay Array **6.12 294** ⇑Pg **Pb** **21 05 01.4 +3.2**
1.0nm,0.7s,baz=110,slow=14,SNR=7.1
KK31 ⇓Lg Lg 21 06 25.0
1.6nm,0.5s,baz=102,slow=28,SNR=5.3
MK31 Makanchi Array **6.64 25** ⇑Pn **Pn** **21 04 50.8 +1.7**
0.8nm,0.8s,baz=204,slow=13,SNR=8.4
MK31 ⇑Sn **Sn** **21 06 05.8 +0.9**
3.5nm,0.8s
MK31 ⇑Lg Lg 21 06 41.7
3.9nm,0.9s

*ATH **05** 21:16:37.1,41.41N×19.37E,h21km±3km,ML2.5/2, Error ellipse: s-maj=4.9km s-min=1.8km az=345.0*
*ISCJB **05** 21:16:38.5±0.5,41.36N±0.02×19.38E±0.04,h10km±3km, Error ellipse: s-maj=4.7km s-min=2.7km az=158.3*
*SAR **05** 21:16:38.8±1.1,41.33N×19.50E,h10km±3km,ML2.6/4*
*TIR **05** 21:16:38.5,41.31N×19.38E,h7km,Md2.8/5*
*BEO **05** 21:16:39.4±0.7,41.34N×19.45E,h16km±3km,ML2.5/8*

ISC 05 21:16:38.4±1.0,41.33N±0.02×19.38E±0.03,h13km±9km, n29,σ0°73/54,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.37**	**87**	*eP*	**g**		**Pg**	**21 16 45.3**	**-0.4**
TIR				*eS*	**g**		**Sb**	**21 16 51.9**	**-0.6**
TIR	**Tirane**	**0.37**	**87**	P			**Pg**	**21 16 44.8**	**-1.0**
TIR	**Tirane**	**0.37**	**87**	*i*	PG		**Sg**	**21 16 45.3**	**-0.4**
TIR				*i*	SG		**Sb**	**21 16 51.8**	**-0.7**
PUK	**Puka**	**0.81**	**28**	*i*	PG		**Pb**	**21 16 54.4**	**0.0**
PUK				*i*	SG		**Sn**	**21 17 07.1**	**-0.6**
DRME	**Dracevica, Mon**	**0.87**	**351**	*eP*	**g**		**Pb**	**21 16 55.2**	**-0.2**
DRME				*eS*	**g**		**Sb**	**21 17 07.4**	**+0.4**
PHP	**Peshkopia**	**0.88**	**66**	*i*	SG		**Pg**	**21 16 54.9**	**-0.4**
PHP				*i*	PG		**Sg**	**21 17 09.2**	**+2.4**
PDG	**Podgorica**	**1.11**	**355**	*eP*	**g**		**Pb**	**21 16 59.3**	**-0.1**
PDG				*eS*	**g**		**Sn**	**21 17 15.1**	**+0.4**
PDG	**Podgorica**	**1.11**	**355**	*eP*	**g**		**Pb**	**21 16 58.9**	**-0.5**
PDG				*eS*	**g**		**Sn**	**21 17 14.5**	**-0.2**
TPE	**Tepelena**	**1.14**	**155**	*i*	PG		**Pn**	**21 17 00.8**	**+0.8**
TPE				*i*	SG		**Sn**	**21 17 17.0**	**+1.5**
BCI	**Bajram Curri**	**1.16**	**26**	*i*	PN		**Pn**	**21 17 01.5**	**+1.1**
HCY	**Herceg Novi**	**1.30**	**330**	*eP*	**g**		**Pg**	**21 17 03.0**	**-0.3**
HCY				*eS*	**g**		**Sg**	**21 17 21.6**	**+1.4**
SCTE	**Santa Cesarea**	**1.43**	**209**	P			**Pg**	**21 17 05.8**	**0.0**
SCTE				S			**Sg**	**21 17 24.2**	**-0.2**
NEST	**Nestorio**	**1.56**	**125**	P			**Pb**	**21 17 06.9**	**-0.3**
NEST				S			**Sg**	**21 17 28.6**	**0.0**
TREB	**Trebinje**	**1.59**	**331**	*eP*	**g**		**Pb**	**21 17 07.6**	**0.0**
TREB				*eS*	**g**		**Sg**	**21 17 30.6**	**+1.2**
TREB	**Trebinje**	**1.59**	**331**	*eP*	**n**		**Pb**	**21 17 07.1**	**-0.5**
TREB				*eS*	**n**		**Sg**	**21 17 28.7**	**-0.7**
FNA	**Florina**	**1.61**	**109**	P			**Pb**	**21 17 07.7**	**-0.3**
FNA				S			**Sb**	**21 17 28.4**	**+0.3**
FNA				AML		AML		21 17 30.4	
	comp=E,176μm,0.5s								
FNA				AML		AML		21 17 30.5	
	comp=N,191μm,0.4s								
KEK	**Kerkira**	**1.64**	**169**	P			**Pb**	**21 17 08.3**	**-0.2**
KEK				S			**Sg**	**21 17 31.1**	**-0.2**
BRY	**Bratogost**	**1.69**	**339**	*ePn*			**Pb**	**21 17 09.3**	**-0.2**
BRY				*eSn*			**Sb**	**21 17 31.3**	**+0.5**
PENT	**Pentalofos**	**1.75**	**130**	P			**Pb**	**21 17 09.6**	**-0.8**
NOCI	**Noci**	**1.83**	**254**	P			**Pn**	**21 17 09.8**	**+0.2**
NOCI				AML		AML		21 17 45.8	
	comp=E,170μm,0.3s								
NOCI				AML		AML		21 17 55.7	
	comp=N,289μm,1.1s								
IGT	**Igoumenitsa**	**1.94**	**158**	P			**Pn**	**21 17 11.4**	**+0.4**
IGT				S			**Sb**	**21 17 37.5**	**-0.1**
SJES	**Sjenica**	**1.98**	**13**	*ePn*			**Pb**	**21 17 13.1**	**-1.3**
SJES				*eSn*			**Sn**	**21 17 36.0**	**-0.6**
STON	**Ston**	**1.98**	**322**	*i* Pn			**Pn**	**21 17 11.4**	**-0.2**
STON				Sn			**Sn**	**21 17 35.4**	**-1.0**
SELS	**Selova**	**2.29**	**34**	*ePn*			**Pn**	**21 17 15.7**	**-0.2**
SELS				*eSn*			**Sn**	**21 17 42.8**	**-1.2**
GRG	**Griva**	**2.31**	**98**	P			**Pn**	**21 17 16.4**	**+0.1**
GRG				S			**Sn**	**21 17 45.3**	**+0.7**
IVAS	**Ivanjica**	**2.32**	**14**	*ePn*			**Pn**	**21 17 16.5**	**+0.1**
IVAS				*eSn*			**Sn**	**21 17 45.6**	**+0.8**
GRUS	**Gruza**	**2.74**	**21**	*ePn*			**Pn**	**21 17 22.9**	**+0.8**
GRUS				*eSn*			**Sn**	**21 17 54.8**	**-0.4**
DIVS	**Divibare**	**2.81**	**9**	*ePn*			**Pn**	**21 17 23.2**	**+0.1**
DIVS				*eSn*			**Sn**	**21 17 56.0**	**-0.8**
DIVS	**Divibare**	**2.81**	**9**	*ePn*			**Pn**	**21 17 23.6**	**+0.5**
DIVS				*eSn*			**Sn**	**21 17 57.3**	**+0.5**

IDC 05 21:18:11.3±2.4,4.57S×133.97E,h0km,mb3.6/2, mb1 3.6/6,mb1mx3.4/30,mbtmp3.5/6,ML3.4/4,Error ellipse: s-maj=95.6km s-min=24.4km az=79.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.56**	**324**	Pn		Pn	Pn	21 19 20.1	-1.6
	2.5nm,0.3s,baz=262,slow=21,SNR=8.4								
SIJI				Sn		Sn	Sn	21 20 04.5	-11
	baz=90,slow=20								
WRA	**Warramunga Arr**	**15.28**	**179**	Pn		Pn	Pn	21 21 46.9	-1.7
	0.2nm,0.3s,baz=0.1,slow=13,SNR=6.1								
FITZ	**Fitzroy Crossi**	**15.72**	**211**	Pn		Pn	Pn	21 21 53.5	-0.7
	0.1nm,0.3s,baz=32,slow=12,SNR=11								
ASAR	**Alice Springs**	**18.98**	**180**	P		Pn	Pn	21 22 35.2	0.0
	0.2nm,0.3s,baz=4.1,slow=12,SNR=6.3								
MKAR	**Makanchi Array**	**68.46**	**325**	P		P	P	21 29 15.8	+0.5
	0.4nm,0.5s,baz=112,slow=8.1,SNR=5.4								
KURBB	**Kurchatov Array**	**72.59**	**327**	P		P	P	21 29 40.5	+0.1
	0.3nm,0.7s,baz=116,slow=5.0,SNR=3.9								

*BJI **05** 21:28:21.0,23.35N×100.09E,h5km,ML3.4/5,Ms3.3/4, Ms7 3.3/3*

ISC 05 21:28:18.0±3.0,23.5N±0.2×99.7E±0.3,h10km,n5,σ0°81/7, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**3.20**	**59**	Pn			**Pn**	**21 29 09.8**	**+1.2**
KMI				Pg			**Pb**	**21 29 14.5**	**-0.6**
KMI				Sg			**Sb**	**21 29 53.6**	**-0.7**
KMI				LR		LR			
	comp=N,400nm,4.8s								
KMI				LR		LR			
	comp=E,250nm,5.3s								
KMI				LR		LR			
	comp=Z,250nm,8.9s								
CHTO	**Chiang Mai**	**4.72**	**189**	P			**Pg**	**21 29 48.1**	**-0.3**
CMMT	**Chiang Mai**	**4.72**	**189**	P			**Pg**	**21 29 48.0**	**-0.5**
LAMP	**Lampang**	**4.95**	**181**	P			**Pg**	**21 29 53.0**	**+0.1**
UTTA	**Uttaradit**	**5.78**	**172**	P			**Pg**	**21 30 09.0**	**+0.2**

RSNC 05 21:36:51.3±0.9,8.33N×76.56W,h32km±18km,ML3.5, Mw3.5,2C-1D,Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MOTC	**Monteria, Cord**	**0.99**	**63**	⇓*iP*			Pn	21 37 07.5	-1.4
MOTC				*eS*			Sn	21 37 20.8	-1.0
MOTC				*i*				21 37 22.2	
	comp=N,909nm,0.2s								
DBBC	**Dabeiba**	**1.34**	**165**	*eP*			Pn	21 37 12.8	-1.2
PTAC	**Punta Ardita,**	**1.71**	**227**	*eP*			Pn	21 37 18.2	-0.7
PTAC				*i*				21 37 45.4	
	comp=N,810nm,0.3s								
ZARC	**Zaragoza, Cauc**	**1.88**	**116**	⇑*iP*			Pn	21 37 20.4	-0.8
ZARC				*eS*			Sn	21 37 42.6	-1.1
ZARC				*i*				21 37 43.6	
	comp=N,639nm,0.1s								
HELC	**Santa Helena**	**2.35**	**154**	⇑*iP*			Pn	21 37 27.2	-0.9
HELC				*eS*			Sn	21 37 55.0	-1.1
HELC				*i*				21 38 04.8	
	comp=N,134nm,0.3s								
BRRC	**Barranca, Sant**	**3.07**	**113**	*eP*			Pn	21 37 37.7	+0.1
BRRC				*eS*			Sn	21 38 12.4	-0.9
CODC	**Agust´›n Codaz**	**3.46**	**62**	*eP*			Pn	21 37 41.7	-1.4
CODC				*i*				21 38 21.1	
	comp=N,56nm,0.3s								
GIRC	**Giron, Santand**	**3.56**	**110**	*eP*			Pn	21 37 44.7	+0.3
SMRC	**Santa Marta, M**	**3.64**	**39**	*eP*			Pn	21 37 46.7	+1.3
SMRC				*eS*			Sn	21 38 24.3	-2.9
PAMC	**Pamplona, Colo**	**3.94**	**104**	*eP*			Pn	21 37 50.1	0.0
PAMC				*eS*			Sn	21 38 35.0	-0.5
RUSC	**La Rusia**	**4.21**	**125**	*eP*			Pn	21 37 52.9	-0.9

IDC 05 21:37:01.7±3.0,4.37S×133.90E,h0km,mb3.5/1, mb1 3.8/5,mb1mx3.6/33,mbtmp3.7/5,ML3.5/4,MS3.0/2, Ms1 3.0/2,ms1mx2.5/31,Error ellipse: s-maj=111.6km s-min=25.1km az=78.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.36**	**323**	Pn		Pn	Pn	21 38 09.6	+0.3
	2.3nm,0.3s,baz=286,slow=23,SNR=7.3								
SIJI				Sn		Sn	Sn	21 38 58.4	-2.5
	2.2nm,0.3s,baz=269,slow=23,SNR=6.7								
WRA	**Warramunga Arr**	**15.48**	**178**	Pn		Pn	Pn	21 40 40.1	-1.5
	0.2nm,0.3s,baz=356,slow=12,SNR=5.3								
WRA				Sn		Sn	Sn	21 43 22.9	-11
	0.1nm,0.3s,baz=360,slow=23,SNR=4.1								
FITZ	**Fitzroy Crossi**	**15.85**	**210**	Pn		Pn	Pn	21 40 46.4	0.0
	0.2nm,0.3s,baz=20,slow=13,SNR=4.9								
FITZ				Sn		Sn	Sn	21 43 35.6	-7.3
	0.2nm,0.3s,baz=200,slow=13,SNR=8.7								
ASAR	**Alice Springs**	**19.18**	**180**	P		Pn	Pn	21 41 27.9	-0.1
	0.2nm,0.3s,baz=3.6,slow=12,SNR=15								
USRK	**Ussuriysk Ar.**	**48.38**	**358**	LR		LR	LR	22 05 41.3	
	comp=Z,19nm,19.6s,baz=82,slow=36								
MA2	**Magadan**	**65.14**	**9**	LR		LR	LR	22 13 13.1	
	comp=Z,10nm,20.0s,baz=14,slow=33								
MKAR	**Makanchi Array**	**68.26**	**325**	P		P	P	21 48 04.4	-0.1
	0.4nm,0.8s,baz=122,slow=5.2,SNR=2.3								

MAN 05 21:49:33.9,16.29N×120.69E,h19km,mb4.6,ML3.5, MS3.4,1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SMPP	**San Manuel, Pa**	**0.14**	**182**	*eP**			Pb	21 49 36.5	+0.3
SMPP				*eS*			Sg	21 49 39.7	-1.3
BOLP	**Bolinao**	**0.75**	**277**	*eP*			Pb	21 49 47.3	-1.0
PCPH	**Palayan**	**0.82**	**151**	⇑*eP*			Pg	21 49 49.8	-0.2
PCPH				*i*	S		Sn	21 50 01.9	-0.2
SCZP	**Santa Cruz**	**0.90**	**236**	*eP*			Pb	21 49 51.1	+0.1
SCZP				*eS*			Sn	21 50 04.9	+0.8
BALP	**Baler**	**1.01**	**122**	*eP*			Pb	21 49 52.0	-0.9
BALP				*eS*			Sg	21 50 07.5	+0.5
ABRA	**Dolores**	**1.35**	**1**	*eP*			Pn	21 49 55.4	-2.3
APYP	**Conner**	**1.65**	**19**	*eP*			Pn	21 50 01.4	-0.5
APYP				*eS*			Sb	21 50 23.6	-0.6
GQP	**Guinayangan**	**2.92**	**144**	⇓*eP*			Sb	21 51 01.5	+0.9

*ISCJB **05** 21:59:00.6±0.8,36.60N±0.03×141.30E±0.07,h46km±5km, mb3.8/6,MS2.8/1,Error ellipse: s-maj=9.3km s-min=5.3km az=10.3*
*NIED **05** 21:59:00,36.70N×141.20E,h50km,Mw4.0 Best double couple: M₀1.14000×10¹⁵ NP1:φs57.00000°,δ56.00000°, λ-170.00000°. NP2:φs321.00000°,δ82.00000°, λ-35.00000°.*
*JMA **05** 21:59:02.7±0.1,36.64N×141.13E,h48km±1km,M4.1*
JMA Felt II J1.
*IDC **05** 21:59:04.9±2.5,36.50N×141.14E,h71km±22km,mb3.6/6, mb1 3.9/11,mb1mx3.6/58,mbtmp4.0/11,MS2.8/5, Ms1 2.8/5,ms1mx2.5/44,Error ellipse: s-maj=23.5km s-min=10.9km az=67.0*

ISC 05 21:58:59.7±1.6,36.59N±0.04×141.37E±0.07,h27km±11km, n39,σ1°64/45,mb4.0/6,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.65**	**272**	P			**Pn**	**21 59 13.2**	**+0.1**
JHO				S			**Sb**	**21 59 20.1**	**-1.1**
JHYU	**Hitachinakayam**	**0.68**	**249**	P			**Pn**	**21 59 14.3**	**+0.8**
JHYU				S			**Sb**	**21 59 22.5**	**+0.4**
ONAJ	**Iwakimizuishiy**	**0.69**	**318**	P			**Pn**	**21 59 13.9**	**+0.2**
ONAJ				S			**Sb**	**21 59 22.0**	**-0.4**
JFFD	**Fukushimafurud**	**0.82**	**308**	P			**Pn**	**21 59 15.6**	**+0.1**
JFFD				S			**Sb**	**21 59 24.6**	**-1.5**
JFK	**Kawauchi**	**0.87**	**333**	P			**Pn**	**21 59 16.7**	**+0.5**
JFK				S			**Sb**	**21 59 26.7**	**-0.9**
JYT	**Yasato**	**1.02**	**250**	P			**Pn**	**21 59 18.5**	**+0.3**
JYT				S			**Sb**	**21 59 29.5**	**-2.2**
JFT	**Otama**	**1.24**	**318**	P			**Pb**	**21 59 22.5**	**0.0**
JFT				*eS*			**Sn**	**21 59 36.4**	**-0.8**
JMM	**Marumori**	**1.35**	**340**	P			**Pb**	**21 59 23.6**	**-0.8**
JMM				S			**Sn**	**21 59 39.6**	**-0.3**
JAG	**Ashikaga**	**1.56**	**264**	P			**Pn**	**21 59 25.7**	**+0.1**
JAG				S			**Sn**	**21 59 43.6**	**-1.3**
JFY	**Yanaizu**	**1.56**	**302**	P			**Pn**	**21 59 26.2**	**+0.5**
JFY				*eS*			**Sn**	**21 59 43.1**	**-2.0**
MJAR	**Matsushiro Arr**	**2.55**	**270**	P			**Pn**	**21 59 40.3**	**+1.1**
	68nm,0.3s,baz=88,slow=15,SNR=480								
MJAR				S			**Sn**	**22 00 09.3**	**-0.1**
	43nm,0.3s,baz=89,slow=18,SNR=12								
MJAR				LR		LR	LR	22 00 57.1	
	comp=Z,154nm,21.4s,baz=100,slow=48								
MAT	**Matsushiro**	**2.55**	**270**	P			**Pn**	**21 59 40.7**	**+1.4**
MAT				S			**Sn**	**22 00 10.2**	**+0.8**
JHJ	**Hachijo jima 2**	**3.70**	**201**	P			**Pn**	**21 59 57.8**	**+2.7**
	76nm,0.3s,baz=330,slow=22,SNR=24								
JHJ				S			**Sn**	**22 00 39.0**	**+1.1**
	79nm,0.3s,baz=61,slow=24,SNR=7.1								
JNU	**Nakatsue**	**9.29**	**251**	P			**Pn**	**22 01 15.1**	**+3.2**
	0.3nm,0.3s,baz=74,slow=8.1,SNR=2.8								
JNU				LR		LR	LR	22 04 38.3	
	comp=Z,51nm,19.9s,baz=113,slow=37								
JCJ	**Chichijima**	**9.49**	**176**	P			**Pn**	**22 01 14.6**	**0.0**
	15nm,0.3s,baz=80,slow=20,SNR=13								
JCJ				S			**Sn**	**22 02 54.1**	**-6.3**
	6.5nm,0.3s,baz=258,slow=19,SNR=3.6								
USRK	**Ussuriysk Ar.**	**10.43**	**320**	P			**Pn**	**22 01 30.7**	**+3.2**
	0.3nm,0.3s,baz=135,slow=12,SNR=6.6								
KSRS	**Korea Array**	**10.79**	**279**	P			**Pn**	**22 01 36.2**	**+3.9**
	baz=86,slow=14,SNR=7.8								
KSRS				LR		LR	LR	22 05 28.5	
	comp=Z,35nm,20.0s,baz=80,slow=36								
KLR	**Kul'dur**	**14.45**	**334**	LR		LR	LR	22 07 23.2	
	comp=Z,33nm,18.1s,baz=106,slow=34								
YAK	**Yakutsk**	**26.50**	**348**	LR		LR	LR	22 14 46.0	
	comp=Z,32nm,21.2s,baz=33,slow=36								
H11N2	**WAKE ISLAND Hy**	**27.95**	**120**	T			T	22 34 53.7	
	baz=313,slow=75,SNR=135								
H11N1	**WAKE ISLAND Hy**	**27.96**	**120**	T			T	22 34 26.7	
	baz=313,slow=75,SNR=99								
H11N3	**WAKE ISLAND Hy**	**27.97**	**120**	T			T	22 34 25.2	
	baz=313,slow=75,SNR=96								
SONM	**Songino Array**	**28.01**	**305**	P			**P**	**22 04 48.3**	**-0.1**
	1.8nm,0.6s,baz=107,slow=8.4,SNR=11								
H11S1	**WAKE ISLAND Hy**	**28.65**	**122**	T			T	22 35 41.9	
	baz=314,slow=76,SNR=247								
H11S3	**WAKE ISLAND Hy**	**28.65**	**122**	T			T	22 35 47.5	
	baz=314,slow=76,SNR=178								
H11S2	**WAKE ISLAND Hy**	**28.66**	**122**	T			T	22 35 47.7	
	baz=314,slow=76,SNR=140								
ZALV	**Zalesovo Beam**	**42.19**	**113**	P			**P**	**22 06 49.6**	**-0.3**
	2.5nm,0.6s,baz=96,slow=7.6,SNR=11								
MKAR	**Makanchi Array**	**44.33**	**302**	P			**P**	**22 07 06.9**	**-0.4**
	0.8nm,0.5s,baz=82,slow=10,SNR=16								
RAMN	**Ramite**	**47.01**	**274**	*eP*			**P**	**22 07 28.7**	**-0.3**
JIRN	**Jiri**	**47.03**	**276**	*eP*			**P**	**22 07 29.2**	**-0.1**
GUN	**Gumba**	**47.17**	**276**	*eP*			**P**	**22 07 30.1**	**-0.3**
PKI	**Pulchoki**	**47.69**	**276**	*eP*			**P**	**22 07 33.8**	**-0.6**
	3.6nm,0.5s								
PKIN	**Phulchoki**	**47.70**	**276**	*eP*			**P**	**22 07 33.8**	**-0.6**
KKN	**Kakani**	**47.70**	**276**	*eP*			**P**	**22 07 34.0**	**-0.3**
	3.6nm,0.4s								
DANN	**Dangsing**	**48.68**	**278**	*eP*			**P**	**22 07 41.9**	**-0.1**
	25nm,0.7s								
PYUN	**Piuthan**	**49.40**	**278**	*eP*			**P**	**22 07 47.1**	**-0.3**
	6.8nm,0.5s								
ILAR	**Eielson Array**	**49.89**	**32**	P			**P**	**22 07 51.9**	**+1.6**
	1.1nm,0.7s,baz=265,slow=6.5,SNR=13								
WRA	**Warramunga Arr**	**56.62**	**188**	P			**P**	**22 08 39.6**	**-0.7**
	0.5nm,0.3s,baz=8.3,slow=7.6,SNR=9.7								
ASAR	**Alice Springs**	**60.34**	**188**	P			**P**	**22 09 05.6**	**-0.7**
	0.3nm,0.7s,baz=8.3,slow=7.0,SNR=2.9								

*ISCJB **05** 22:00:00.0±0.3,36.26N±0.02×11.50W±0.03,h10km, mb3.8/4,MS2.8/2,Error ellipse: s-maj=3.1km s-min=3.1km az=40.8*
*IDC **05** 22:00:01.6±2.5,36.24N×11.62W,h0km,mb3.9/4, mb1 4.1/5,mb1mx3.6/49,mbtmp4.0/5,ML5.1/1,MS2.9/2, Ms1 2.9/2,ms1mx2.5/34,Error ellipse: s-maj=66.9km s-min=21.6km az=99.0*
*CNRM **05** 22:00:02.5,36.26N×11.69W,h89km,ML4.4*
*MDD **05** 22:00:05.1±0.7,36.42N×11.85W,h35km,mb4.7/37,Error ellipse: s-maj=7.4km s-min=5.8km az=144.0,PRXIMO*
*INMG **05** 22:00:06.2±2.5,36.43N×11.81W,h31km±14km,MD3.5, ML3.8,Error ellipse: s-maj=7.0km s-min=5.1km az=72.0*
*IGIL **05** 22:00:07.1,36.44N×11.72W,h31km,ML3.7*
*LDG **05** 22:00:07.0±0.2,36.53N×11.74W,h20km,Ml4.0/12,Error ellipse: s-maj=4.2km s-min=3.1km az=42.0*

ISC 05 22:00:00.3±0.5,36.40N±0.03×11.63W±0.03,h10km,n175, σ2°90/270,mb3.9/4,5C-8D,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.37**	**71**	⇓*iPn*			**Pb**	**22 00 43.1**	**0.0**
PFVI				*eSn*			**Sn**	**22 01 08.9**	**+0.5**
PFVI				A		A	A	22 01 12.8	
	208nm,0.5s								
PFVI	**Vila Bisbo**	**2.37**	**71**	⇓P			**Pb**	**22 00 43.1**	**0.0**
	66nm,0.2s,SNR=18								
PFVI				S			**Sn**	**22 01 09.3**	**+0.9**
	64nm,0.1s,SNR=8.1								
PFVI	**Vila Bisbo**	**2.37**	**71**	P			**Pn**	**22 00 40.2**	**+0.9**
PFVI	**Vila Bisbo**

	comp=E,273nm,0.2s								
LIS	**Lisbon**	**3.04**	**40**	P		**Pb**	**22 00 53.1**	**-1.5**	
LIS				S		**Sn**	**22 01 25.9**	**+0.9**	
	comp=E,273nm,0.2s								
MESJ	**Messejana**	**3.08**	**61**	*e*P		**Pb**	**22 00 52.9**	**-2.3**	
MESJ				*e*S		**Sn**	**22 01 26.7**	**+0.7**	
MESJ					AML	AML	22 01 34.5		
	comp=N,147nm,0.5s								
MESJ	**Messejana**	**3.08**	**61**	*e*Pn		**Pb**	**22 00 53.0**	**-2.3**	
MESJ				*e*Sn		**Sn**	**22 01 26.7**	**+0.7**	
MESJ				A		A	22 01 38.3		
	comp=N,82nm,0.4s								
MESJ	**Messejana**	**3.08**	**61**	P		**Pb**	**22 00 53.0**	**-2.3**	
MESJ				S		**Sn**	**22 01 26.7**	**+0.7**	
	comp=N,82nm,0.4s								
PBDV	**Barranco-do-Ve**	**3.09**	**73**	*e*Pn		**Pb**	**22 00 53.4**	**-2.0**	
PBDV				*e*Sn		**Sn**	**22 01 27.7**	**+1.5**	
PBDV				A		A	22 01 33.5		
	comp=N,59nm,0.2s								
PBDV	**Barranco-do-Ve**	**3.09**	**73**	P		**Pb**	**22 00 53.4**	**-2.0**	
PBDV				S		**Sn**	**22 01 27.7**	**+1.5**	
	comp=N,59nm,0.2s								
PMAFR	**Mafra**	**3.16**	**35**⇓	*e*Pn		**Pb**	**22 00 53.2**	**+3.0**	
PMAFR				*e*Sn		**Sn**	**22 01 27.5**	**-0.5**	
PMAFR				A		A	22 01 29.0		
	comp=N,692nm,0.7s								
PMAFR	**Mafra**	**3.16**	**35**	⇓P		**Pb**	**22 00 53.2**	**+3.0**	
	comp=N,32nm,0.2s,SNR=18								
PMAFR				S		**Sn**	**22 01 27.6**	**-0.5**	
	comp=N,339nm,0.3s								
PVAQ	**Vaqueiros**	**3.29**	**71**	*e*Pn		**Pb**	**22 00 56.1**	**-2.8**	
PVAQ				*e*Sn		**Sn**	**22 01 31.9**	**+0.7**	
PVAQ				A		A	22 01 38.1		
	comp=N,132nm,0.3s								
PVAQ	**Vaqueiros**	**3.29**	**71**	P		**Pb**	**22 00 56.1**	**-2.8**	
PVAQ				S		**Sn**	**22 01 31.9**	**+0.7**	
	comp=N,132nm,0.3s								
PVAQ	**Vaqueiros**	**3.29**	**71**	P		**Pn**	**22 00 52.8**	**+0.8**	
PVAQ	**Vaqueiros**	**3.29**	**71**	S		**Sn**	**22 01 32.5**	**+1.3**	
PBEJ	**Beja**	**3.42**	**60**	*e*Pn		**Pb**	**22 00 58.4**	**-2.6**	
PBEJ				*e*Sn		**Sn**	**22 01 36.1**	**+1.8**	
PBEJ				A		A	22 01 39.3		
	comp=N,64nm,0.3s								
PBEJ	**Beja**	**3.42**	**60**	P		**Pb**	**22 00 58.4**	**-2.6**	
PBEJ				S		**Sn**	**22 01 36.1**	**+1.8**	
	comp=N,32nm,0.3s								
EGRO	**El Granado**	**3.51**	**70**	P		**Pn**	**22 00 59.2**	**+4.2**	
	comp=N,2.9nm,0.2s,SNR=76								
EGRO				S		**Sn**	**22 01 37.2**	**+0.6**	
	comp=N,41nm,0.2s,SNR=8.8								
EVO	**Evora**	**3.58**	**52**	*e*Pn		**Pb**	**22 01 01.5**	**-2.3**	
EVO				*e*Sn		**Sn**	**22 01 40.5**	**+2.2**	
EVO				A		A	22 01 42.7		
	comp=N,85nm,0.1s								
EVO	**Evora**	**3.58**	**52**	P		**Pb**	**22 01 01.5**	**-2.3**	
EVO				S		**Sn**	**22 01 40.5**	**+2.2**	
	comp=N,85nm,0.1s								
EVO	**Evora**	**3.58**	**52**	*e*P		**Pb**	**22 01 01.4**	**-2.3**	
EVO				*e*S		**Sn**	**22 01 40.3**	**+2.0**	
ALMR	**Almeirim**	**3.67**	**40**	*e*P		**Pn**	**22 01 01.0**	**+3.9**	
ALMR				*e*S		**Sn**	**22 01 40.2**	**-0.2**	
ALMR					AML	AML	22 01 42.8		
	comp=N,206nm,0.3s								
ALMR	**Almeirim**	**3.67**	**40**	*e*Pn		**Pn**	**22 01 01.5**	**+4.4**	
ALMR				*e*Sn		**Sn**	**22 01 41.3**	**+0.9**	
ALMR				A		A	22 01 46.6		
	comp=N,343nm,0.7s								
ALMR	**Almeirim**	**3.67**	**40**	P		**Pn**	**22 01 01.5**	**+4.4**	
ALMR				S		**Sn**	**22 01 41.3**	**+0.9**	
	comp=N,171nm,0.7s								
PESTR	**Estremoz**	**4.05**	**51**	*e*Pn		**Pn**	**22 01 06.1**	**+3.7**	
PESTR				*e*Sn		**Sn**	**22 01 49.6**	**-0.2**	
PESTR				A		A	22 01 58.9		
	comp=N,37nm,0.4s								
PESTR	**Estremoz**	**4.05**	**51**	P		**Pn**	**22 01 03.9**	**+1.5**	
PESTR	**Estremoz**	**4.05**	**51**	Sn		**Sn**	**22 01 52.7**	**+2.9**	
PTOM	**Tomar**	**4.10**	**37**	*e*Pn		**Pn**	**22 01 06.6**	**+3.5**	
PTOM				*e*Sn		**Sn**	**22 01 50.4**	**-0.7**	
PTOM				A		A	22 01 53.4		
	comp=N,123nm,0.2s								
PTOM	**Tomar**	**4.10**	**37**	P		**Pn**	**22 01 06.6**	**+3.5**	
PTOM				S		**Sn**	**22 01 50.4**	**-0.7**	
	comp=N,62nm,0.2s								
EMIN	**Mina Concepcio**	**4.20**	**69**	P		**Pn**	**22 01 08.1**	**+3.7**	
	comp=N,3.2nm,0.2s,SNR=146								
EMIN				S		**Sn**	**22 01 53.9**	**+0.5**	
	comp=N,50nm,0.2s,SNR=12								
EBAD	**Badajoz**	**4.36**	**56**	P		**Pn**	**22 01 10.2**	**+3.6**	
	comp=N,9.2nm,0.2s,SNR=65								
EBAD				S		**Sn**	**22 01 57.8**	**+0.3**	
	comp=N,59nm,0.2s,SNR=51								
PCAS	**Casmilo, Conde**	**4.41**	**33**⇑	*e*Pn		**Pn**	**22 01 10.2**	**+2.9**	
PCAS				*e*Sn		**Sn**	**22 01 57.1**	**-1.6**	
PCAS				A		A	22 02 02.0		
	comp=N,123nm,0.2s								
CNIL	**Conil**	**4.50**	**89**	P		**Pb**	**22 01 15.8**	**-3.7**	
CNIL				S		**Sn**	**22 01 58.5**	**-2.4**	
CNIL	**Conil**	**4.50**	**89**	*e*P		**Pb**	**22 01 15.8**	**-3.7**	
CNIL				*e*S		**Sn**	**22 01 58.5**	**-2.4**	
PMRV	**Marv??o**	**4.52**	**47**	*e*Pn		**Pn**	**22 01 11.8**	**+3.0**	
PMRV				*e*Sn		**Sn**	**22 02 00.2**	**-1.2**	
PMRV				A		A	22 02 02.3		
	comp=N,89nm,0.4s								
PMRV	**Marv??o**	**4.52**	**47**	P		**Pn**	**22 01 11.8**	**+3.0**	
PMRV				S		**Sn**	**22 02 00.2**	**-1.2**	
	comp=N,89nm,0.4s								
COI	**Coimbra**	**4.57**	**33**	P		**Pn**	**22 01 12.6**	**+3.1**	
COI				S		**Sn**	**22 02 01.2**	**-1.5**	
	comp=N,127nm,0.4s								
GIBL	**Gibalbin**	**4.58**	**83**	P		Pn	22 01 15.0	+5.4	
GIBL				S		**Sn**	**22 02 03.0**	**+0.1**	
GIBL	**Gibalbin**	**4.58**	**83**	*i* P		Pn	22 01 15.0	+5.4	
GIBL				*e*S		**Sn**	**22 02 03.0**	**+0.1**	
AVE	**Averroes**	**4.64**	**130**	P		**Pn**	**22 01 09.2**	**-1.4**	
AVE	**Averroes**	**4.64**	**130**	Sn		**Sn**	**22 02 01.8**	**-2.7**	
AVE	**Averroes**	**4.64**	**130**⇑	*e*P		**Pn**	**22 01 13.8**	**+3.2**	
AVE				*e*S		**Sn**	**22 02 04.2**	**-0.4**	
PCBR	**Castelo Branco**	**4.75**	**42**	*e*Pn		**Pn**	**22 01 14.9**	**+2.9**	
PCBR				*e*Sn		**Sn**	**22 02 05.6**	**-1.5**	
PCBR				A		A	22 02 09.1		
	comp=N,43nm,0.3s								
PCBR	**Castelo Branco**	**4.75**	**42**	P		**Pn**	**22 01 14.9**	**+2.9**	
PCBR				S		**Sn**	**22 02 05.6**	**-1.5**	
	comp=N,22nm,0.3s								
ALJ	**Aljibe**	**4.82**	**87**	P		Pn	22 01 18.0	+5.0	
ALJ				S		**Sn**	**22 02 08.4**	**-0.6**	
ALJ	**Aljibe**	**4.82**	**87**	*i* P		Pn	22 01 18.0	+5.0	
ALJ				*e*S		**Sn**	**22 02 08.4**	**-0.6**	
EJIF	**Jimena Fronter**	**4.97**	**88**	⇑P		Pn	22 01 19.8	+4.8	
	comp=N,5.9nm,0.2s,SNR=18								
EJIF				S		**Sn**	**22 02 10.7**	**-1.9**	
	comp=N,8.5nm,0.3s,SNR=7.9								
LIJA	**Lijar**	**5.03**	**82**	P		**Pn**	**22 01 20.2**	**+4.3**	
LIJA				S		**Sn**	**22 02 13.2**	**-1.0**	
LIJA	**Lijar**	**5.03**	**82**	*i* P		**Pn**	**22 01 20.2**	**+4.3**	
LIJA				*e*S		**Sn**	**22 02 13.2**	**-1.0**	
ECEU	**Ceuta**	**5.09**	**94**	P		Pn	22 01 22.6	+5.9	
	comp=N,4.3nm,0.1s,SNR=18								
ECEU				S		**Sn**	**22 02 16.5**	**+1.0**	
	comp=N,4.8nm,0.2s,SNR=5.6								
CEU	**Ceuta**	**5.09**	**94**	*e*P		Pn	22 01 21.7	+5.0	
CEU				*e*S		**Sn**	**22 02 18.0**	**+2.5**	
PMPS	**Porto Santo**	**5.11**	**231**	*e*Pn		**Pn**	**22 01 16.1**	**-0.8**	
PMPS				*e*Sn		Sn	22 02 05.9	-10	
PMPS				A		A	22 02 12.1		
	comp=N,96nm,0.6s								
PMPS	**Porto Santo**	**5.11**	**231**	P		**Pn**	**22 01 16.1**	**-0.8**	
PMPS				S		Sn	22 02 05.9	-10	
	comp=N,48nm,0.6s								
MTE	**Manteigas**	**5.13**	**38**	*e*Pn		**Pn**	**22 01 20.4**	**+3.1**	
MTE				*e*Sn		**Sn**	**22 02 14.9**	**-1.6**	
MTE				A		A	22 02 20.3		
	comp=N,137nm,0.3s								
MTE	**Manteigas**	**5.13**	**38**	P		**Pn**	**22 01 20.4**	**+3.1**	
MTE				S		**Sn**	**22 02 14.9**	**-1.6**	
	comp=N,69nm,0.3s								
CEUT	**Ceuta**	**5.13**	**94**	P		**Pn**	**22 01 17.7**	**+0.5**	
CEUT	**Ceuta**	**5.13**	**94**	Sn		**Sn**	**22 02 18.4**	**+1.9**	
PVIS	**Viseu**	**5.21**	**33**	*e*Pn		**Pn**	**22 01 21.0**	**+2.6**	
PVIS				*e*Sn		**Sn**	**22 02 15.9**	**-2.7**	
PVIS				A		A	22 02 19.3		
	comp=N,134nm,0.3s								
PVIS	**Viseu**	**5.21**	**33**	P		**Pn**	**22 01 21.0**	**+2.6**	
PVIS				S		**Sn**	**22 02 15.9**	**-2.7**	

	comp=N,67nm,0.3s								
ECAB	**El Cabril**	**5.23**	**69**	P		**Pn**	**22 01 22.5**	**+3.8**	
	comp=N,14nm,0.2s,SNR=174								
ECAB				S		**Sn**	**22 02 18.1**	**-1.0**	
	comp=N,14nm,0.2s,SNR=6.3								
HORN	**Hornachuelos**	**5.29**	**72**	P		**Pn**	**22 01 20.2**	**+0.7**	
HORN				P		**Pn**	**22 01 23.1**	**+3.6**	
HORN	**Hornachuelos**	**5.29**	**72**	S		**Sn**	**22 02 22.3**	**+1.7**	
PTO	**Porto**	**5.29**	**26**	*e*Pn		**Pn**	**22 01 21.8**	**+2.3**	
PTO				*e*Sn		**Sn**	**22 02 17.9**	**-2.6**	
PTO				A		A	22 02 21.1		
	comp=N,156nm,0.1s								
PTO	**Porto**	**5.29**	**26**	P		**Pn**	**22 01 21.8**	**+2.3**	
PTO				S		**Sn**	**22 02 17.9**	**-2.6**	
	comp=N,78nm,0.1s								
PMAR	**Madeira**	**5.69**	**231**	*e*Pn		**Pn**	**22 01 28.0**	**+2.9**	
PMAR				*e*Sn		Sn	22 02 23.4	-7.2	
PMAR				A		A	22 02 28.6		
	comp=N,130nm,0.4s								
PMAR	**Madeira**	**5.69**	**231**	P		**Pn**	**22 01 28.0**	**+2.9**	
PMAR				S		Sn	22 02 23.4	-7.2	
	comp=N,65nm,0.4s								
PMAR	**Madeira**	**5.69**	**231**	P		Pn	22 01 23.4	-1.8	
PMAR	**Madeira**	**5.69**	**231**	S		**Sn**	**22 02 25.8**	**-4.8**	
EPLA	**Plasencia**	**5.70**	**48**	P		**Pn**	**22 01 28.6**	**+3.5**	
	comp=N,13nm,0.3s,SNR=53								
EPLA				S		**Sn**	**22 02 28.4**	**-2.2**	
	comp=N,11nm,0.1s,SNR=10								
FUL	**Funchal**	**5.73**	**231**⇓	*e*Pn		**Pn**	**22 01 25.9**	**+0.5**	
FUL				*e*Sn		Sn	22 02 20.7	-11	
FUL				A		A	22 02 28.6		
	comp=N,118nm,0.2s								
FUL	**Funchal**	**5.73**	**231**	P		**Pn**	**22 01 25.9**	**+0.5**	
FUL				S		Sn	22 02 20.7	-11	
	comp=N,59nm,0.2s								
PVRL	**Vila Real**	**5.75**	**31**	*e*Pn		**Pn**	**22 01 30.0**	**+4.2**	
PVRL				*e*Sn		**Sn**	**22 02 28.4**	**-3.5**	
PVRL	**Vila Real**	**5.75**	**31**	P		**Pn**	**22 01 30.0**	**+4.2**	
PVRL				S		**Sn**	**22 02 28.4**	**-3.5**	
POLO	**Lamas de Olo**	**5.80**	**30**	*e*Pn		**Pn**	**22 01 28.9**	**+2.3**	
POLO				*e*Sn		**Sn**	**22 02 28.8**	**-4.4**	
POLO				A		A	22 02 32.7		
	comp=N,58nm,0.3s								
EMAL	**Malaga-Limoner**	**5.81**	**84**	⇑P		**Pn**	**22 01 31.1**	**+4.6**	
EMAL				S		**Sn**	**22 02 32.8**	**-0.4**	
EMAL	**Malaga-Limoner**	**5.81**	**84**	⇑*i* P		**Pn**	**22 01 31.1**	**+4.6**	
EMAL				*e*S		**Sn**	**22 02 32.8**	**-0.4**	
PMOZ	**Porto Moniz, M**	**5.81**	**234**	*e*Pn		**Pn**	**22 01 27.4**	**+0.7**	
PMOZ				*e*Sn		Sn	22 02 25.4	-8.0	
PMOZ				A		A	22 02 29.4		
	comp=N,224nm,0.4s								
PMOZ	**Porto Moniz, M**	**5.81**	**234**	P		**Pn**	**22 01 26.2**	**-0.5**	
	comp=N,141nm,0.6s,SNR=7.9								
PMOZ				S		Sn	22 02 23.0	-10	
	comp=N,164nm,0.4s,SNR=7.9								
PMOZ	**Porto Moniz, M**	**5.81**	**234**	P		**Pn**	**22 01 25.0**	**-1.6**	
PMOZ	**Porto Moniz, M**	**5.81**	**234**	S		**Sn**	**22 02 30.3**	**-3.1**	
EADA	**Adamuz**	**5.90**	**70**	P		**Pn**	**22 01 31.8**	**+4.0**	
	comp=N,16nm,0.2s,SNR=128								
EADA				S		**Sn**	**22 02 34.2**	**-1.2**	
	comp=N,20nm,0.2s,SNR=9.1								
MVO	**Moncorvo**	**5.97**	**36**	*e*Pn		**Pn**	**22 01 31.2**	**+2.4**	
MVO				*e*Sn		**Sn**	**22 02 34.1**	**-3.1**	
MVO				A		A	22 02 47.5		
	comp=N,98nm,0.4s								
MVO	**Moncorvo**	**5.97**	**36**	P		**Pn**	**22 01 31.1**	**+2.4**	
	comp=N,9.0nm,0.2s,SNR=31								
MVO				S		**Sn**	**22 02 34.1**	**-3.1**	
	comp=N,25nm,0.2s,SNR=16								
PCAB	**Cabril**	**6.00**	**27**	*e*Pn		**Pn**	**22 01 31.5**	**+2.3**	
PCAB				*e*Sn		**Sn**	**22 02 34.6**	**-3.4**	
PCAB				A		A	22 02 38.7		
	comp=N,90nm,0.3s								
PCAB	**Cabril**	**6.00**	**27**	P		**Pn**	**22 01 31.5**	**+2.3**	
PCAB				S		**Sn**	**22 02 34.6**	**-3.4**	
	comp=N,45nm,0.3s								
OUK	**Oukaimeden**	**6.05**	**148**	P		**Pn**	**22 01 28.7**	**-1.5**	
OUK	**Oukaimeden**	**6.05**	**148**	S		**Sn**	**22 02 35.3**	**-4.2**	
IFR	**Ifrane**	**6.06**	**116**⇓	*i* P		**Pn**	**22 01 32.5**	**+2.3**	
IFR				*e*S		**Sn**	**22 02 36.5**	**-3.3**	
EGOR	**Sierra Gorda,**	**6.08**	**81**	P		**Pn**	**22 01 34.2**	**+3.7**	
	comp=N,6.3nm,0.3s,SNR=7.9								
EGOR				S		**Sn**	**22 02 39.7**	**-0.4**	
	comp=N,5.4nm,0.2s,SNR=7.9								
ELOB	**Lobios**	**6.13**	**26**	P		**Pn**	**22 01 33.2**	**+2.2**	
	comp=N,8.7nm,0.2s,SNR=53								
ELOB				S		**Sn**	**22 02 37.0**	**-4.2**	
	comp=N,32nm,0.1s,SNR=9.6								
PGAV	**Gavieira, Arco**	**6.14**	**24**	*e*Pn		**Pn**	**22 01 33.9**	**+2.6**	
PGAV				*e*Sn		**Sn**	**22 02 37.9**	**-3.7**	
PGAV				A		A	22 02 42.4		
	comp=N,78nm,0.2s								
MPAL	**Palemas**	**6.36**	**98**	P		**Pn**	**22 01 33.9**	**-0.2**	
MPAL	**Palemas**	**6.36**	**98**	S		**Sn**	**22 02 46.6**	**-0.2**	
TTIG	**Tnine Tigouga,**	**6.41**	**155**	P		**Pn**	**22 01 33.2**	**-1.8**	
TTIG	**Tnine Tigouga,**	**6.41**	**155**	S		**Sn**	**22 02 44.4**	**-3.9**	
ELGU	**Los Guajares,**	**6.45**	**83**	P		**Pn**	**22 01 39.7**	**+4.2**	
	comp=N,3.8nm,0.3s,SNR=7.9								
ELGU				S		**Sn**	**22 02 46.8**	**-2.5**	
	comp=N,4.3nm,0.2s,SNR=7.9								
PAB	**San Pablo**	**6.56**	**59**	P		**Pn**	**22 01 41.0**	**+4.1**	
	comp=N,6.8nm,0.3s,SNR=7.9								
PAB				S		**Sn**	**22 02 50.1**	**-1.7**	
	comp=N,1.9nm,0.1s,SNR=7.9								
PBRG	**Braganca**	**6.61**	**34**	*e*Pn		**Pn**	**22 01 40.0**	**+2.5**	
PBRG				*e*Sn		**Sn**	**22 02 49.3**	**-3.6**	
PBRG				A		A	22 02 51.9		
	comp=N,52nm,0.3s								
PBRG	**Braganca**	**6.61**	**34**	P		**Pn**	**22 01 40.0**	**+2.5**	
PBRG				S		**Sn**	**22 02 49.3**	**-3.6**	
	comp=N,26nm,0.3s								
EQUE	**Quentar**	**6.62**	**81**	P		**Pn**	**22 01 42.0**	**+4.2**	
	comp=N,5.2nm,0.3s,SNR=36								
EQUE				S		**Sn**	**22 02 53.3**	**-0.1**	
	comp=N,9.4nm,0.3s,SNR=4.8								
ECAL	**Calabor**	**6.72**	**33**	P		**Pn**	**22 01 41.6**	**+2.5**	
	comp=N,15nm,0.3s,SNR=47								
ECAL				S		**Sn**	**22 02 52.3**	**-3.4**	
	comp=N,75nm,0.5s,SNR=11								
MDT	**Midelt**	**6.80**	**120**	P		**Pn**	**22 01 39.6**	**-0.7**	
MDT	**Midelt**	**6.80**	**120**	S		**Sn**	**22 02 57.1**	**-0.7**	
EMAZ	**Mazaricos**	**6.86**	**17**	P		**Pn**	**22 01 42.9**	**+1.9**	
	comp=N,27nm,0.2s,SNR=7.9								
EMAZ				S		**Sn**	**22 02 51.1**	**-7.9**	
	comp=N,29nm,0.2s,SNR=7.9								
ESDC	**Sonseca Array**	**6.88**	**59**	Pn		**Pn**	**22 01 44.6**	**+3.3**	
	comp=N,11nm,0.3s,baz=246,slow=13,SNR=111								
ESDC				Sn		**Sn**	**22 02 57.9**	**-1.8**	
	comp=N,15nm,0.3s,baz=245,slow=23,SNR=19								
ESDC	**Sonseca Array**	**6.88**	**59**	P		**Pn**	**22 01 44.2**	**+2.9**	
	comp=N,7.9nm,0.3s,baz=246,slow=13,SNR=13								
ESDC				S		**Sn**	**22 02 58.4**	**-1.3**	
	comp=N,3.7nm,0.2s,baz=245,slow=23,SNR=17								
EAGO	**Agolada(Pontev**	**6.96**	**22**	P		**Pn**	**22 01 44.5**	**+2.1**	
	comp=N,8.1nm,0.1s,SNR=7.9								
EAGO				S		**Sn**	**22 02 56.4**	**-5.1**	
	comp=N,18nm,0.1s,SNR=7.9								
GORA	**Gorafe**	**6.96**	**79**	S		**Sn**	**22 03 00.9**	**-0.9**	
	comp=N,5.0nm,0.1s,SNR=7.9								
EALB	**Alboran**	**6.97**	**91**	S		**Sn**	**22 03 00.9**	**-0.9**	
	comp=N,15nm,0.4s,SNR=7.9								
EQES	**Quesada**	**6.98**	**76**	P		**Pn**	**22 01 46.2**	**+3.4**	
	comp=N,2.0nm,0.2s,SNR=28								
EQES				S		**Sn**	**22 03 00.5**	**-1.8**	
	comp=N,15nm,0.3s,SNR=6.5								
EBER	**Berja**	**7.05**	**83**	P		**Pn**	**22 01 47.5**	**+3.8**	
	comp=N,3.0nm,0.3s,SNR=11								
EBER				S		**Sn**	**22 03 04.7**	**+0.8**	
	comp=N,2.3nm,0.2s,SNR=4.7								
GUD	**Guadarrama**	**7.23**	**52**	P		**Pn**	**22 01 49.5**	**+3.2**	
	comp=N,3.2nm,0.2s,SNR=7.9								
GUD				S		**Sn**	**22 03 06.4**	**-2.1**	
	comp=N,16nm,0.4s,SNR=7.9								
SESP	**Santiago Espad**	**7.45**	**74**	P		**Pn**	**22 01 52.3**	**+3.1**	
	comp=N,5.5nm,0.2s,SNR=7.9								
SESP				S		**Sn**	**22 03 11.4**	**-2.4**	
	comp=N,4.0nm,0.2s,SNR=7.9								
SESP	**Santiago Espad**	**7.45**	**74**	P		**Pn**	**22 01 50.3**	**+1.1**	
SESP	**Santiago Espad**	**7.45**	**74**	S		**Sn**	**22 03 07.0**	**-6.8**	
ENIJ	**Nijar**	**7.59**	**83**	P		**Pn**	**22 01 53.6**	**+2.5**	
	comp=N,2.4nm,0.2s,SNR=7.9								
ENIJ				S		**Sn**	**22 03 16.1**	**-1.1**	
	comp=N,1.4nm,0.3s,SNR=7.9								
UCM	**Universidad Co**	**7.66**	**57**	*e*P		**Pn**	**22 01 56.1**	**+4.1**	
UCM				*e*S		**Sn**	**22 03 17.5**	**-1.3**	

EPON	**Pontenova**	**7.73**	**25**	P		**Pn**	**22 01 54.8**	**+1.8**	
	comp=N,16nm,0.3s,SNR=41								
EPON				S		**Sn**	**22 03 15.3**	**-5.2**	
	comp=N,23nm,0.3s,SNR=10								
CFUE	**Fuerteventura**	**7.97**	**195**	S		Sn	22 03 15.7	-11	
	comp=N,8.2nm,0.2s,SNR=7.9								
CFTV	**Fuerteventura**	**8.22**	**195**	S		Sn	22 03 20.9	-12	
	comp=N,1.0nm,0.2s,SNR=7.9								
ETOB	**Tobarra**	**8.32**	**71**	P		**Pn**	**22 02 04.4**	**+3.3**	
	comp=N,3.4nm,0.2s,SNR=18								
ETOB				S		**Sn**	**22 03 32.2**	**-3.0**	
	comp=N,1.4nm,0.2s								
EMUR	**La Murta**	**8.43**	**77**	P		**Pn**	**22 02 05.8**	**+3.3**	
	comp=N,2.4nm,0.3s,SNR=7.9								
EMUR				S		**Sn**	**22 03 35.4**	**-2.3**	
	comp=N,5.4nm,0.4s,SNR=5.1								
EARI	**Arriondas**	**8.48**	**34**	P		**Pn**	**22 02 05.8**	**+2.6**	
	comp=N,1.0nm,0.2s,SNR=13								
EARI				S		**Sn**	**22 03 33.4**	**-5.6**	
	comp=N,1.3nm,0.2s,SNR=6.4								
EBAJ	**Bajamar**	**8.78**	**208**	S		Sn	22 03 32.0	-15	
	comp=N,3.0nm,0.2s,SNR=7.9								
EOSO	**Osorio**	**8.94**	**203**	S		Sn	22 03 37.8	-13	
	comp=N,7.3nm,0.2s,SNR=8.2								
ECHE	**Chera**	**9.00**	**66**	P		**Pn**	**22 02 14.2**	**+3.8**	
	comp=N,2.0nm,0.2s,SNR=7.9								
ECHE				S		**Sn**	**22 03 49.9**	**-2.0**	
	comp=N,0.5nm,0.2s,SNR=7.9								
CCAN	**Las Canadas**	**9.17**	**209**	P		Pn	22 02 08.0	-4.9	
	comp=N,0.3nm,0.1s,SNR=4.0								
CCAN				S		Sn	22 03 40.2	-16	
	comp=N,0.7nm,0.1s,SNR=7.9								
ELAN	**Lanestosa**	**9.29**	**40**	P		**Pn**	**22 02 18.1**	**+3.8**	
	comp=N,0.7nm,0.2s,SNR=7.3								
ELAN				S		**Sn**	**22 03 56.1**	**-2.9**	
	comp=N,5.2nm,0.4s,SNR=5.5								
TBT	**Taburiente**	**9.34**	**216**	S		Sn	22 03 41.9	-18	
	comp=N,8.4nm,0.2s,SNR=7.9								
EBEN2	**Beniarda presa**	**9.37**	**73**	P		**Pn**	**22 02 19.1**	**+3.7**	
	comp=N,1.8nm,0.3s,SNR=7.9								
EBEN2				S		**Sn**	**22 03 57.0**	**-3.8**	
	comp=N,2.1nm,0.3s,SNR=7.9								
EHIG	**Higuera**	**9.39**	**215**	S		Sn	22 03 47.0	-15	
	comp=N,5.5nm,0.2s,SNR=7.9								
EGOM	**La Gomera**	**9.47**	**211**	S		Sn	22 03 49.5	-14	
	comp=N,20nm,0.2s,SNR=7.9								
EMOS	**Mosqueruela**	**9.62**	**62**	P		**Pn**	**22 02 23.5**	**+4.5**	
	comp=N,1.6nm,0.3s,SNR=8.4								
EMOS				S		**Sn**	**22 04 02.9**	**-4.2**	
	comp=N,1.1nm,0.3s,SNR=5.6								
CTIG	**El Hierro**	**10.10**	**214**	S		Sn	22 04 02.4	-16	
	comp=N,3.7nm,0.4s,SNR=7.9								
ESAC	**San Caprasio**	**10.18**	**55**	P		Pn	22 02 31.4	+4.9	
	comp=N,13nm,0.3s,SNR=5.6								
ESAC				S		**Sn**	**22 04 17.3**	**-3.4**	
	comp=N,9.5nm,0.3s,SNR=7.9								
EORO	**Oroz-Betelu**	**10.26**	**48**	P		Pn	22 02 33.3	+5.6	
	comp=N,2.

*ISCJB **05** 22:02:54.2±0.5,20°.3S×0°.1×177°.6W±0°.1, h450km, Error ellipse: s-maj=20.5km s-min=9.2km az=136.3*
*IDC **05** 22:02:55.8±2.0,20°.29S×177°.53W, h460km±24km, mb3.4/8, mb1 3.7/10, mb1mx3.3/48, mbtmp4.3/10, Error ellipse: s-maj=32.9km s-min=13.1km az=148.0*

ISC 05 22:02:55.0±0.7, 20°.4S±0°.2×177°.5W±0°.1, h450km, n15, σ1°.9 14/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.46**	**42**	P		**P**	**22 04 57.8**	**+2.2**
	3.3nm,0.3s,baz=184,slow=18,SNR=4.5							
AFI				S		**S**	**22 06 32.2**	**-2.2**
	6.4nm,0.3s,baz=8.7,slow=24,SNR=9.1							
URZ	**Urewera**	**18.43**	**193**	P		**P**	**22 06 41.8**	**0.0**
	1.6nm,0.3s,baz=256,slow=4.2,SNR=6.2							
CTA	**Charters Tower**	**33.93**	**264**	P		**P**	**22 08 59.5**	**+0.1**
	4.1nm,0.4s,baz=99,slow=9.9,SNR=8.0							
ASAR	**Alice Springs**	**44.97**	**257**	P		**P**	**22 10 29.1**	**+0.2**
	10.0nm,0.5s,baz=95,slow=7.6,SNR=138							
ASAR				PcP		**PcP**	**22 11 60.0**	**-1.1**
	0.7nm,0.5s,baz=90,slow=3.7,SNR=5.5							
WRA	**Warramunga Arr**	**45.05**	**262**	P		**P**	**22 10 29.4**	**-0.2**
	4.0nm,0.3s,baz=97,slow=7.8,SNR=45							
FITZ	**Fitzroy Crossi**	**53.47**	**262**	P		**P**	**22 11 32.8**	**+0.6**
	1.8nm,0.4s,baz=77,slow=3.7,SNR=21							
TXAR	**Lajitas Array**	**86.62**	**57**	P		**P**	**22 14 51.1**	**+1.0**
	0.2nm,0.6s,baz=270,slow=1.5,SNR=2.5							
ILAR	**Eielson Array**	**88.08**	**13**	P		**P**	**22 14 54.9**	**-1.0**
	0.2nm,0.5s,baz=219,slow=5.1,SNR=3.6							
SNAA	**Sanae**	**88.14**	**178**	P		**P**	**22 14 55.7**	**-0.7**
VNA3	**Neumayer Olymp**	**88.25**	**176**	P		**P**	**22 14 56.3**	**-0.6**
PDAR	**Pinedale Array**	**88.57**	**43**	P		**P**	**22 14 58.5**	**-0.6**
	0.3nm,0.6s,baz=184,slow=2.7,SNR=3.4							
VNA2	**Neumayer--Watz**	**88.70**	**177**	P		**P**	**22 14 58.6**	**-0.4**
	baz=192,slow=3.4							
VNA1	**Neumayer--Stat**	**88.92**	**176**	P		P	22 14 53.9	-6.1
CMAR	**Chiang Mai Arr**	**90.47**	**289**	P		**P**	**22 15 07.8**	**-0.4**
	0.5nm,0.3s,baz=113,slow=3.3,SNR=5.4							
BRTR	**Keskin Array B**	**147.06**	**313**	PKPbc		**PKPdf**	**22 21 45.3**	**+1.3**
	0.5nm,0.5s,baz=124,slow=5.6,SNR=3.3							

MEX 05 22:16:31.5±0.9, 15°.84N×95°.07W, h9km±17km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.00**	**266**	*e*P		Pg	22 16 48.1	-2.7
HUIG				*e*S		Sg	22 17 00.9	-3.0
CMIG	**Matias Romero**	**1.25**	**8**	*e*P		Pn	22 16 51.0	-4.2
CMIG				*i* S		Sb	22 17 07.6	-4.0
VHO	**Vista Hermosa**	**2.01**	**308**	*i* P		Pn	22 17 02.0	-3.9
VHO				*i* S		Sn	22 17 26.3	-5.0

*IDC **05** 22:21:19.1±0.8,31°.13S×179°.98W, h414km±11km, mb3.1/4, mb1 3.2/4, mb1mx3.0/32, mbtmp3.9/4, Error ellipse: s-maj=24.4km s-min=20.7km az=151.0*
*ISCJB **05** 22:21:20.2±0.5,31°.11S±0°.04×179°.10E±0°.10, h350km, mb3.3/4, Error ellipse: s-maj=11.7km s-min=4.5km az=17.4*
*WEL **05** 22:21:26.4±0.9,32°.5S×18°.0W±2°.2, h291km±16km*

ISC 05 22:21:19.0±0.8, 31°.12S±0°.08×179°.3E±0°.1, h350km, n71, σ2.8 10/79, mb3.4/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.01**	**53**	P		**Pn**	**22 22 20.5**	**+2.0**
GLKZ				S		**S**	**22 23 02.3**	**-4.1**
RIZ	**Raoul Island**	**3.02**	**52**	P		**Pn**	**22 22 20.9**	**+2.4**
RIZ				S		**S**	**22 23 01.5**	**-4.9**
RAO	**Raoul Island**	**3.02**	**53**	P		**Pn**	**22 22 21.0**	**+2.5**
	56nm,0.3s,baz=158,slow=16,SNR=5.2							
RAO				S		**S**	**22 23 09.9**	**+3.4**
	148nm,0.3s,baz=186,slow=23,SNR=6.9							
WCZ	**Waipu Caves**	**6.36**	**220**	P		Pn	22 23 01.4	+7.6
MXZ	**Matakaoa Point**	**6.48**	**187**	P		**Pn**	**22 22 58.8**	**+3.5**
MXZ				S		**S**	**22 24 12.5**	**-0.9**
WMGZ	**Waiomatatini S**	**6.72**	**186**	P		**Pn**	**22 23 00.1**	**+2.1**
WMGZ				S		**S**	**22 24 19.4**	**+0.9**
HAZ	**Te Kaha**	**6.74**	**191**	P		**Pn**	**22 23 00.9**	**+2.7**
HAZ				S		**S**	**22 24 19.0**	**+0.1**
RUGZ	**Raukumara Rang**	**6.96**	**191**	P		**Pn**	**22 23 03.7**	**+2.8**
RUGZ				S		**S**	**22 24 22.0**	**-1.9**
PUZ	**Puketiti**	**6.99**	**187**	P		**Pn**	**22 23 04.5**	**+3.4**
PUZ				S		**S**	**22 24 22.5**	**-1.8**
WHRZ	**Whale Island**	**7.00**	**196**	S		**S**	**22 24 27.9**	**+3.5**
OPRZ	**Ohinepanea**	**7.09**	**198**	P		Pn	22 23 08.2	+5.9
TWGZ	**Tauwhareparae**	**7.13**	**189**	P		**Pn**	**22 23 06.8**	**+4.0**
TWGZ				S		**S**	**22 24 27.9**	**+0.7**
TOZ	**Tahuroa Road**	**7.32**	**205**	P		Pn	22 23 12.0	+7.0
MWZ	**Matawai**	**7.35**	**191**	P		**Pn**	**22 23 07.2**	**+1.8**
MWZ				S		**S**	**22 24 30.4**	**-1.6**
URZ	**Urewera**	**7.35**	**194**	P		**Pn**	**22 23 07.7**	**+2.3**
	42nm,0.3s,baz=344,slow=1.7,SNR=127							
URZ				S		**S**	**22 24 29.7**	**-2.3**
	17nm,0.3s,baz=57,slow=21,SNR=17							
URZ	**Urewera**	**7.35**	**194**	P		**Pn**	**22 23 06.7**	**+1.3**
URZ				S		**S**	**22 24 31.4**	**-0.6**
OMRZ	**Omania**	**7.38**	**199**	P		Pn	22 23 11.2	+5.4
TKGZ	**Te Karaka**	**7.40**	**189**	P		**Pn**	**22 23 08.9**	**+2.9**
TKGZ				S		**S**	**22 24 31.5**	**-1.5**
TARZ	**Mount Tarawera**	**7.47**	**197**	P		Pn	22 23 12.0	+5.2
RAGZ	**Rawiri**	**7.53**	**192**	P		**Pn**	**22 23 10.8**	**+3.3**
RAGZ				S		**S**	**22 24 35.5**	**-0.4**
HRRZ	**Handcock Road**	**7.67**	**198**	P		**Pn**	**22 23 13.4**	**+4.2**
RTZ	**Ruatahuna**	**7.72**	**194**	P		**Pn**	**22 23 12.1**	**+2.3**
RTZ				S		**S**	**22 24 37.8**	**-2.3**
PRRZ	**Plateau Road**	**7.75**	**197**	P		**Pn**	**22 23 13.4**	**+3.3**
SNGZ	**Shannon Statio**	**7.82**	**192**	P		**Pn**	**22 23 13.0**	**+2.1**
SNGZ				S		**S**	**22 24 40.4**	**-1.6**
ALRZ	**Allen Road**	**7.82**	**198**	P		**Pn**	**22 23 13.6**	**+2.7**
TLZ	**Tolley Road**	**7.84**	**202**	P		Pn	22 23 16.3	+5.1
PRGZ	**Paritu Road**	**7.88**	**188**	P		**Pn**	**22 23 10.9**	**+3.7**
PRGZ				S		**S**	**22 24 40.9**	**-2.5**
MTHZ	**Maungataniwha**	**7.98**	**194**	P		**Pn**	**22 23 14.7**	**+1.9**
MTHZ				S		**S**	**22 24 44.1**	**-1.6**
RAHZ	**Arahi**	**7.99**	**193**	P		**Pn**	**22 23 15.0**	**+2.0**
RAHZ				S		**S**	**22 24 43.9**	**-2.0**
MHGZ	**Mahia Peninsul**	**8.10**	**188**	P		**Pn**	**22 23 17.0**	**+2.8**
MHGZ				S		**S**	**22 24 47.0**	**-1.2**
WHHZ	**Waihua**	**8.12**	**192**	P		**P**	**22 23 17.3**	**-0.2**
NMHZ	**Naumai**	**8.22**	**194**	P		**P**	**22 23 18.0**	**-0.7**
HIZ	**Hauiti**	**8.24**	**205**	P		**P**	**22 23 21.8**	**+3.0**
RATZ	**Rangitukua**	**8.26**	**200**	P		**P**	**22 23 19.3**	**+0.3**
ARHZ	**Aropaoanui**	**8.35**	**193**	P		**P**	**22 23 19.0**	**-0.9**
BKZ	**Black Stump Fm**	**8.36**	**195**	P		**Pn**	**22 23 17.7**	**+0.4**
KATZ	**Kakaramea**	**8.38**	**200**	P		**P**	**22 23 21.0**	**+0.5**
KRVZ	**Karewarewa**	**8.51**	**200**	P		**P**	**22 23 20.8**	**-1.0**
TWVZ	**Taurewa**	**8.55**	**201**	P		**P**	**22 23 21.8**	**-0.5**
MCHZ	**McNeill Hill**	**8.58**	**194**	P		**Pn**	**22 23 20.2**	**+0.3**
NGZ	**Ngauruhoe**	**8.60**	**200**	P		**P**	**22 23 21.9**	**-1.0**
KWHZ	**Kaweka Forest**	**8.62**	**195**	P		**Pn**	**22 23 21.3**	**+0.8**
COVZ	**Chateau Observ**	**8.64**	**200**	P		**P**	**22 23 22.8**	**-0.5**
FWVZ	**Far West T-bar**	**8.69**	**200**	P		**Pn**	**22 23 22.0**	**+0.6**
WHVZ	**Whangaehu Hut**	**8.70**	**200**	P		**Pn**	**22 23 22.0**	**+0.4**
CKHZ	**Cape Kidnapper**	**8.71**	**192**	P		**P**	**22 23 22.8**	**-1.2**
BHHZ	**Black Hill Sta**	**8.77**	**197**	P		**Pn**	**22 23 21.2**	**-1.0**
MOVZ	**Moawhango**	**8.77**	**199**	P		**Pn**	**22 23 21.7**	**-0.5**
VRZ	**Vera Road**	**8.82**	**204**	P		**P**	**22 23 25.6**	**+0.4**
KRHZ	**Kereru**	**8.84**	**195**	P		**Pn**	**22 23 22.6**	**-0.4**
KAHZ	**Kahuranaki**	**8.88**	**192**	P		**Pn**	**22 23 24.4**	**+0.8**
PXZ	**Pawanui**	**9.12**	**192**	P		**Pn**	**22 23 26.4**	**+0.1**
PNHZ	**Pukenui**	**9.14**	**195**	P		**Pn**	**22 23 25.2**	**-1.4**
PKE	**Pukeiti**	**9.17**	**207**	P		**P**	**22 23 30.6**	**+1.5**
TSZ	**Takapari Road**	**9.33**	**196**	P		**Pn**	**22 23 27.4**	**-1.4**
POWZ	**Post Office Ro**	**9.69**	**196**	P		**Pn**	**22 23 33.1**	**0.0**
BFZ	**Birch Farm**	**9.86**	**194**	P		**Pn**	**22 23 34.0**	**-1.1**
MRZ	**Mangatainoka R**	**9.99**	**197**	P		**Pn**	**22 23 34.6**	**-2.1**
KIW	**Kapiti Island**	**10.36**	**199**	P		**Pn**	**22 23 38.8**	**-2.3**
STKA	**Stephens Creek**	**32.09**	**259**	P		**P**	**22 27 16.0**	**+1.3**
	1.2nm,0.4s,baz=117,slow=11,SNR=4.7							
ASAR	**Alice Springs**	**40.79**	**269**	P		**P**	**22 28 27.1**	**-0.6**
	0.7nm,0.6s,baz=106,slow=7.4,SNR=12							
WRA	**Warramunga Arr**	**41.85**	**274**	P		**P**	**22 28 35.0**	**-1.2**
	1.3nm,0.7s,baz=111,slow=8.0,SNR=11							
SNAA	**Sanae**	**77.48**	**179**	P		P	22 32 30.2	-5.9
SNAA	**Sanae**	**77.48**	**179**	P		P	22 32 29.8	-6.3
	0.3nm,0.4s,baz=180,slow=14,SNR=12							
VNA3	**Neumayer Olymp**	**77.72**	**177**	P		P	22 32 31.5	-6.0
VNA2	**Neumayer--Watz**	**78.13**	**178**	P		P	22 32 34.0	-5.7
	baz=190,slow=3.1							
VNA1	**Neumayer--Stat**	**78.37**	**177**	P		P	22 32 34.7	-6.2
ARCES	**ARCESS Array B**	**138.78**	**346**	PKhKP	PKPpre		22 39 50.3	
	3.6nm,0.9s,baz=45,slow=1.4,SNR=5.2							
NB2	**NORSAR Subarra**	**149.06**	**349**	PKP		**PKPdf**	**22 40 19.3**	**-1.7**
	comp=Z,0.5nm,0.5s,baz=12,slow=2.5							
NOA	**NORSAR Array B**	**149.06**	**349**	PKPbc		**PKPdf**	**22 40 18.6**	**-2.4**
	comp=Z,0.8nm,0.6s,baz=14,slow=4.1,SNR=4.8							
BRTR	**Keskin Array B**	**150.90**	**297**	PKPbc		**PKPdf**	**22 40 25.1**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=118,slow=3.0,SNR=5.8							

IDC 05 22:26:42.5±1.1, 53°.18S×139°.70E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.7/26, mbtmp3.7/6, MS3.4/3, Ms1 3.3/3, ms1mx2.9/19, Error ellipse: s-maj=110.2km s-min=17.2km az=87.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.34**	**4**	P		P	22 31 31.5	+0.5
	3.2nm,0.9s,baz=197,slow=13,SNR=4.5							
RPZ	**Rata Peaks**	**22.69**	**78**	LR		LR	22 38 37.1	
	comp=Z,116nm,18.2s,baz=224,slow=32							
H01W1	**Cape Leeuwin H**	**25.69**	**305**	T		T	22 59 32.5	
	baz=142,slow=75,SNR=7.0							
H01W2	**Cape Leeuwin H**	**25.70**	**305**	T		T	22 59 32.8	
	baz=142,slow=75,SNR=6.3							
H01W3	**Cape Leeuwin H**	**25.71**	**305**	T		T	22 59 33.9	
	baz=142,slow=75,SNR=6.5							
VNDA	**Vanda**	**25.74**	**169**	P		P	22 32 13.8	-0.4
	0.7nm,0.8s,baz=306,slow=9.0,SNR=2.6							
NWAO	**Narrogin (SRO)**	**25.87**	**313**	LR		LR	22 40 12.8	
	comp=Z,49nm,18.2s,baz=150,slow=31							
ASAR	**Alice Springs**	**29.80**	**349**	P		P	22 32 50.3	-0.6
	0.4nm,0.7s,baz=167,slow=10.0,SNR=2.8							
WRA	**Warramunga Arr**	**33.44**	**351**	P		P	22 33 23.2	+0.2
	1.0nm,0.8s,baz=173,slow=7.3,SNR=6.3							
QSPA	**South Pole Qui**	**36.93**	**180**	P		P	22 33 53.3	+0.5
	1.0nm,0.6s,baz=342,slow=8.1,SNR=3.1							
MAW	**Mawson**	**37.80**	**218**	LR		LR	22 47 38.8	
	comp=Z,55nm,19.8s,baz=72,slow=33							
SNAA	**Sanae**	**52.67**	**194**	P		P	22 35 57.7	-0.2
	1.0nm,0.8s,baz=149,slow=12,SNR=9.4							

MEX 05 22:37:04.0±0.5, 16°.75N×96°.73W, h57km±13km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.15**	**148**	*e*P		Pn	22 37 22.4	-1.5
HUIG				*i* S		Sn	22 37 37.0	-1.7
CMIG	**Matias Romero**	**1.80**	**79**	*e*P		Pn	22 37 31.1	-1.7
CMIG				*i* S		Sn	22 37 52.6	-1.9

*IDC **05** 23:08:41.5±0.8,24°.75S×175°.65W, h0km, mb4.3/10, mb1 4.5/10, mb1mx4.2/24, mbtmp4.2/10, MS3.7/16, Ms1 3.7/16, ms1mx3.5/31, Error ellipse: s-maj=33.3km s-min=20.5km az=153.0*
*NEIC **05** 23:08:46.9±0.5,24°.72S×175°.71W, h35km, mb4.3/3, Error ellipse: s-maj=21.8km s-min=11.4km az=149.0*

ISC 05 23:08:44.2±0.6, 24°.8S±0°.1×175°.5W±0°.1, h19km, n54, σ1°.37/33, mb4.3/14, MS3.8/14, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.86**	**203**	*e*Pn		**P**	**23 12 19.9**	**+1.0**
RAR	**Rarotonga**	**14.88**	**79**	Pn		**Pn**	**23 12 11.1**	**-2.6**
	4.1nm,0.3s,baz=247,slow=6.8,SNR=15							
RAR				LR		LR	23 17 35.4	
	comp=Z,192nm,18.3s,baz=284,slow=36							
DZM	**Mont Dzumac**	**16.81**	**275**	LR		LR	23 17 56.3	
	comp=Z,274nm,21.0s,baz=100,slow=33							
DZM	**Mont Dzumac**	**16.81**	**275**	*e*LR		LR	23 16 26.8	
	462nm,24.6s							
RPZ	**Rata Peaks**	**21.89**	**207**	LR		LR	23 22 20.2	
	comp=Z,268nm,18.5s,baz=25,slow=38							
LBZ	**Lake Benmore**	**22.80**	**207**	*e*P		**P**	**23 13 46.0**	**+0.2**
	5.3nm,1.0s							
TBI	**Tubuai**	**23.79**	**92**	*e*LR		LR	23 19 47.7	
	328nm,29.8s,baz=271							
TBI	**Tubuai**	**23.79**	**92**	*e*T		T	23 38 42.9	
	7.8nm,0.4s							
PAE	**Paea**	**25.12**	**79**	*e*T		T	23 40 08.4	
	5.3nm,0.4s							
PPT2	**Papeete2**	**25.15**	**79**	*e*LR		LR	23 20 16.1	
	453nm,28.5s,baz=249							
PPT	**Papeete**	**25.16**	**79**	LR		LR	23 23 25.8	
	comp=Z,127nm,19.0s,baz=248,slow=35							
PMOR	**Pomorio Ree**	**27.64**	**75**	*e*T		T	23 43 13.9	
	2.9nm,0.2s							
HNR	**Honiara**	**27.93**	**299**	LR		LR	23 24 40.8	
	comp=Z,125nm,18.9s,baz=144,slow=34							
CTA	**Charters Tower**	**35.60**	**270**	P		**P**	**23 15 39.5**	**-1.3**
	5.5nm,0.4s,baz=89,slow=11,SNR=14							
RKT	**Rikitea**	**36.96**	**96**	*e*LR		LR	23 26 00.0	
	221nm,26.5s							
RKT	**Rikitea**	**36.96**	**96**	*e*T		T	23 55 13.4	
	2.7nm,0.4s							
STKA	**Stephens Creek**	**38.26**	**249**	P		**P**	**23 16 03.7**	**+0.4**
	1.3nm,0.4s,baz=124,slow=14,SNR=5.5							
STKA				LR		LR	23 29 40.7	
	comp=Z,236nm,21.1s,baz=40,slow=33							
ASAR	**Alice Springs**	**45.97**	**260**	P		**P**	**23 17 04.8**	**-1.6**
	1.6nm,0.4s,baz=91,slow=7.0,SNR=22							
ASAR				LR		LR	23 35 15.3	
	comp=Z,170nm,19.7s,baz=104,slow=35							
WB2	**Warramunga Arr**	**46.45**	**265**	*e*P		**P**	**23 17 08.5**	**-1.7**
WR1	**Warramunga Arr**	**46.46**	**265**	*e*P		**P**	**23 17 07.7**	**-2.6**
	7.3nm,1.1s							
WRA	**Warramunga Arr**	**46.46**	**265**	P		**P**	**23 17 07.7**	**-2.6**
	2.0nm,0.5s,baz=92,slow=8.3,SNR=45							
MJAR	**Matsushiro Arr**	**75.00**	**323**	LR		LR	23 47 25.1	
	comp=Z,36nm,21.7s,baz=250,slow=31							
MAW	**Mawson**	**78.36**	**199**	P		**P**	**23 20 44.3**	**+1.5**
	1.2nm,0.6s,baz=135,slow=7.7,SNR=1.6							
ASAJ	**Asahikawa**	**78.56**	**331**	LR		LR	23 50 53.2	
	comp=Z,38nm,20.9s,baz=175,slow=32							
PETK	**Petropavlovsk-**	**80.98**	**344**	P		**P**	**23 20 59.0**	**+1.9**
	2.2nm,0.8s,baz=151,slow=9.2							
PETK				LR		LR	23 50 53.8	
	comp=Z,48nm,22.0s,baz=159,slow=31							
PEA1	**Petropavlovsk-**	**80.98**	**344**	*e*P		**P**	**23 20 59.0**	**+1.8**
KSRS	**Korea Array**	**81.60**	**318**	LR		LR	23 52 11.0	
	comp=Z,46nm,19.0s,baz=127,slow=32							
NV01	**Mina Array Sit**	**82.57**	**42**	*e*P		**P**	**23 21 05.6**	**-0.6**
NVAR	**Mina Array Bea**	**82.57**	**42**	P		**P**	**23 21 06.7**	**+0.5**
	0.6nm,0.8s,baz=241,slow=7.8,SNR=3.8							
SNAA	**Sanae**	**83.70**	**178**	P		P	23 21 17.3	+5.9
VNA3	**Neumayer Olymp**	**83.75**	**175**	P		P	23 21 17.3	+5.7
VNA2	**Neumayer--Watz**	**84.21**	**176**	P		P	23 21 20.1	+6.1
	baz=198,slow=3.9							
VNA1	**Neumayer--Stat**	**84.43**	**176**	P		P	23 21 21.1	+6.1
PLCA	**Paso Flores**	**84.68**	**132**	LR		LR	23 51 56.6	
	comp=Z,22nm,20.8s,baz=328,slow=31							
MNTX	**Cornudas Mount**	**87.36**	**53**	*e*P		**P**	**23 21 30.6**	**+0.4**
	1.9nm,1.1s							
LTX	**Lajitas**	**87.43**	**56**	*e*P		**P**	**23 21 32.4**	**+1.8**
TX31	**Lajitas Ar. Si**	**87.43**	**56**	*e*P		**P**	**23 21 31.5**	**+0.8**
TXAR	**Lajitas Array**	**87.43**	**56**	P		**P**	**23 21 32.4**	**+1.7**
	1.8nm,1.1s,baz=216,slow=6.2,SNR=8.1							
TXAR				LR		LR	23 55 14.9	
	comp=Z,38nm,19.0s,baz=0.0,slow=32							
MA2	**Magadan**	**88.50**	**344**	LR		LR	23 56 31.7	
	comp=Z,36nm,19.5s,baz=127,slow=32							
PDAR	**Pinedale Array**	**90.49**	**42**	LR		LR	23 58 32.0	
	comp=Z,45nm,18.9s,baz=292,slow=33							
ILAR	**Eielson Array**	**91.96**	**12**	P		**P**	**23 21 50.5**	**-0.5**
	0.3nm,0.6s,baz=228,slow=5.9,SNR=4.2							
CMAR	**Chiang Mai Arr**	**93.70**	**288**	P		**P**	**23 22 01.1**	**+1.0**
	4.2nm,1.0s,baz=133,slow=3.4,SNR=19							
CMMT	**Chiang Mai**	**93.85**	**289**	P		**P**	**23 22 01.8**	**+1.0**
CHTO	**Chiang Mai**	**93.85**	**289**	*e*P		**P**	**23 21 59.2**	**-1.5**
CHTO	**Chiang Mai**	**93.85**	**289**	P		**P**	**23 22 01.9**	**+1.1**
	28nm,1.1s							
LPAZ	**La Paz**	**98.29**	**112**	LR		LR	23 59 40.5	
	comp=Z,22nm,18.2s,baz=206,slow=31							
AKASG	**Malin Array Be**	**147.85**	**330**	PKPbc		**PKPdf**	**23 28 25.8**	**+1.0**
	0.6nm,0.3s,baz=43,slow=4.0,SNR=5.1							
AKBB	**Malin Array Si**	**147.85**	**330**	*e*PKPdf		**PKPdf**	**23 28 25.8**	**+1.0**
BR101	**Keskin Array S**	**151.36**	**308**	*e*PKPbc		**PKPbc**	**23 28 36.5**	**-0.5**
BRTR	**Keskin Array B**	**151.36**	**308**	PKPbc		**PKPbc**	**23 28 36.5**	**-0.5**
	1.3nm,0.9s,baz=217,slow=1.2,SNR=7.0							
MMAI	**Mount Meron Ar**	**151.82**	**294**	PKPbc		**PKPbc**	**23 28 38.4**	**+0.3**
	1.8nm,0.5s,baz=84,slow=8.5,SNR=7.0							
BUR04	**Bucovina Ar. S**	**151.90**	**330**	*e*PKPbc		**PKPbc**	**23 28 38.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**168.15**	**166**	PKP		**PKPdf**	**23 28 50.0**	**-0.3**
	0.3nm,0.9s,baz=132,slow=2.1							
TORD				PKPab		**PKPab**	**23 29 56.9**	**-1.1**
	0.2nm,0.3s,baz=232,slow=1.6,SNR=5.1							
TOA1	**Torodi Ar. Sit**	**168.15**	**166**	*e*PKPdf		**PKPdf**	**23 28 50.0**	**-0.4**
TOA1				*e*PKPab		**PKPab**	**23 29 56.9**	**-1.2**

*MOS **05** 23:25:52.9±1.1,36°.14N×71°.07E, h96km, mb4.5/34, Error ellipse: s-maj=6.4km s-min=4.4km az=100.5*
*NNC **05** 23:25:52.4±3.2,36°.69N×70°.32E, h0km, mb5.0, mpv4.9, Error ellipse: s-maj=33.6km s-min=18.0km az=157.0*
*ISCJB **05** 23:25:52.6±0.4,36°.12N±0°.02×71°.05E±0°.03, h94km±4km, mb4.3/72, Error ellipse: s-maj=3.7km s-min=3.2km az=141.1*
*NEIC **05** 23:25:53.6±0.9,36°.12N×70°.98E, h93km±8km, mb4.5/26, Error ellipse: s-maj=7.2km s-min=4.8km az=200.0*
*IDC **05** 23:25:54.1±0.8,36°.09N×70°.97E, h102km±7km, mb4.0/23, mb1 4.2/27, mb1mx4.0/42, mbtmp4.4/27, MS3.0/11, Ms1 3.0/11, ms1mx2.8/46, Error ellipse: s-maj=10.4km s-min=9.8km az=13.0*
*BJI **05** 23:25:59.7,36°.34N×71°.48E, h126km, mb4.5/31, mB4.5/19*

ISC 05 23:25:54.9±0.4, 36°.14N±0°.03×71°.03E±0°.03, h108km±4km, h108km:pP-P, n236, σ1°.98/262, mb4.4/72, 23C-11D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.42**	**162**	P		**Pn**	**23 26 34.7**	**+1.3**
CEP				S		**Sn**	**23 27 05.0**	**+2.2**
CHCP	**Chirah Chowk**	**3.08**	**143**	P		**Pn**	**23 26 43.8**	**+1.8**
THW	**Thamme Wali**	**3.39**	**170**	P		**Pn**	**23 26 46.4**	**+0.3**
BTK	**Batken**	**3.92**	**358**	PN		**Pn**	**23 26 53.0**	**-0.2**
BTK				S		**Sn**	**23 27 37.7**	**-0.6**
SARP	**Sargodha**	**4.42**	**162**	P		**Pn**	**23 26 59.6**	**-0.3**
KSH	**Kashi**	**5.17**	**48**	P		**Pn**	**23 27 07.2**	**-2.8**
KSH				S		Sn	23 27 57.8	-11
KSH				smax		smax		
	comp=N,6μm,0.7s							
KSH				smax		smax		
	comp=E,3μm,0.6s							
AML	**Almayashu**	**6.33**	**18**	P		**Pn**	**23 27 25.1**	**-1.0**
	SNR=165							
NRN	**Naryn**	**6.56**	**35**	*e*Pn		**Pn**	**23 27 28.4**	**-0.7**
NRN	**Naryn**	**6.56**	**35**	*e*PN		**Pn**	**23 27 28.4**	**-0.7**
UCH	**Uchtor**	**6.66**	**23**	P		**Pn**	**23 27 30.1**	**-0.4**
	SNR=59							
KZA	**Kyzart**	**6.78**	**28**	P		**Pn**	**23 27 31.8**	**-0.3**
	SNR=27							
EKS2	**Erkin-Say**	**6.85**	**17**	P		**Pn**	**23 27 32.4**	**-0.5**
	SNR=78							
KK31	**Karatay Array**	**6.97**	**357**	⇓P		Pn	23 27 29.5	-4.8
	35nm,0.4s,baz=183,slow=13,SNR=1376							
KK31				S		**Sn**	**23 28 45.9**	**-6.1**
	57nm,0.3s,baz=189,slow=25,SNR=8.0							
KK31	**Karatay Array**	**6.97**	**357**	*e*Pn		**Pn**	**23 27 32.1**	**-2.2**
KK31	**Karatay Array**	**6.97**	**357**	*e*PN		**Pn**	**23 27 32.1**	**-2.2**
KKAR	**Karatay Array**	**6.97**	**357**	*e*Pn		**Pn**	**23 27 32.1**	**-2.2**
**KK

comp=Z,37nm,0.3s
GUN Gumba 15.02 119 *e*P **Pn 23 29 19.4 -2.4**
comp=Z,49nm,0.3s
JIRN Jiri 15.39 119 *e*P **Pn 23 29 24.3 -2.2**
comp=Z,352nm,0.4s
AB31 Akbulak array 15.41 332 ⇑P **Pn 23 29 22.1 -4.1**
comp=Z,6.6nm,0.3s
AB31 S Sn 23 32 02.5 -14
comp=Z,41nm,0.5s,baz=148,slow=24,SNR=16
AB31 Akbulak array 15.41 332 P **Pn 23 29 22.1 -4.1**
AB31 pmax pmax
comp=Z,7.0nm,0.4s
KURBB Kurchatov Arra 15.46 18 P **Pn 23 29 23.1 -3.7**
comp=Z,0.1nm,0.3s,baz=211,slow=13,SNR=8.8
KURBB Kurchatov Arra 15.46 18 ⇓P **Pn 23 29 27.4 +0.6**
comp=Z,8.3nm,0.6s
KURK Kurchatov 15.56 18 *e*Pn **Pn 23 29 27.5 -0.6**
comp=Z,13nm,0.9s
KURK Kurchatov 15.56 18 *ce*P **Pn 23 29 27.0 -1.1**
KURK pmax pmax
comp=Z,8.0nm,0.7s
RAMN Ramite 16.11 120 *e*P **Pn 23 29 32.6 -2.7**
comp=Z,29nm,0.3s
SHME Shamm 16.22 236 P **Pn 23 29 37.3 +0.7**
MSFE Esma-Masafi 16.68 234 P **Pn 23 29 41.4 -0.7**
ODAN Odare 16.72 119 *e*P **Pn 23 29 40.6 -2.3**
comp=Z,71nm,0.5s
WSAR Wadi Sarin 16.75 223 P **Pn 23 29 40.1 -3.0**
comp=Z,0.3nm,0.3s,baz=39,slow=6.5,SNR=2.0
WSAR Wadi Sarin 16.75 223 P **Pn 23 29 44.9 +1.9**
BVAR Borovoye Array 16.89 359 P **Pn 23 29 41.8 -2.7**
comp=Z,1.0nm,0.3s,baz=163,slow=12,SNR=18
BVAR S **Sn 23 32 43.1 -9.1**
comp=Z,1.5nm,0.3s,baz=164,slow=23,SNR=6.3
BRVK Borovoye 16.93 358 ⇑P **Pn 23 29 43.3 -1.6**
comp=Z,9.3nm,0.9s
BRVK Borovoye 16.93 358 *e*P **Pn 23 29 42.7 -2.2**
comp=Z,12nm,0.8s
BRVK Borovoye 16.93 358 *ce*P **Pn 23 29 44.1 -0.8**
BRVK pmax pmax
comp=Z,14nm,1.3s
UOSS Minazif 16.93 233 P **P 23 29 45.0 -0.5**
AKTO Aktyubinsk 17.11 331 P **P 23 29 45.1 -2.1**
comp=Z,3.4nm,0.3s,baz=138,slow=14,SNR=36
AKTO S Sn 23 32 45.5 -12
comp=Z,2.1nm,0.3s,baz=230,slow=23,SNR=5.7
AKTO LR LR 23 37 07.7
comp=Z,25nm,20.8s,baz=142,slow=39
AKTO Aktyubinsk 17.11 331 ⇓P **P 23 29 46.1 -1.1**
comp=Z,34nm,0.8s
AKTO ⇓S Sn 23 32 44.4 -13
comp=Z,77nm,1.2s
ASHO Ashiyiah 17.21 233 P **P 23 29 50.0 +1.4**
SNR=8.3
ASHO Ashiyiah 17.21 233 *i* P **P 23 29 49.0 +0.5**
SNR=8.3
SOHO SOHO 17.31 230 P **P 23 29 47.8 -1.7**
FAQ Al Faqa, Dubai 17.47 234 P **P 23 29 50.5 -0.9**
ASUD Al Ashush, Dub 17.73 234 P **P 23 29 55.4 +1.2**
SNR=7.0
ALNE Al Ain 17.86 232 *i* P **P 23 29 56.0 +0.4**
SNR=9.3
LSA Lhasa 18.06 105 *e*P **Pn 23 30 00.7 +1.5**
comp=Z,11nm,0.7s
LSA *e*S **S 23 33 10.3 -10**
LSA Lhasa 18.06 105 *e*P **Pn 23 30 00.7 +1.5**
LSA *e*S **S 23 33 10.3 -10**
LSA pmax pmax
comp=Z,11nm,0.7s
AKT Akhty 18.91 293 *e*P **P 23 30 08.6 +1.5**
AKT *e*S **S 23 33 30.6 -5.6**
AKT pmax pmax
comp=Z,10.0nm,0.5s
AKT smax smax
comp=N,17nm,1.0s
AKT smax smax
comp=E,16nm,0.7s
HYB Hyderabad 19.80 158 *i* P **P 23 30 19.0 +2.1**
HYB *e*S **S 23 33 49.0 -5.2**
ZAA0 Zalesovo Array 20.23 24 ⇓P Pn 23 30 23.8 -0.3
comp=E,12nm,0.5s
ZAA0 Zalesovo Array 20.23 24 *e*P **P 23 30 21.5 +0.3**
comp=E,19nm,0.5s
ZALV Zalesovo Beam 20.23 24 P **P 23 30 21.4 +0.2**
comp=E,20nm,0.4s,baz=208,slow=9,SNR=73
ZALV S **S 23 34 02.7 +0.7**
comp=E,1.6nm,0.6s,baz=215,slow=18,SNR=3.5
ZALV Zalesovo Beam 20.23 24 *i* P **P 23 30 21.3 +0.1**
ZALV pmax pmax
comp=Z,20nm,0.4s
NVS Novosibirsk 20.51 20 *e*P **P 23 30 24.1 -0.1**
NVS *e*S **S 23 34 05.7 -1.8**
NVS pmax pmax
comp=Z,15nm,1.1s
NVS pmax pmax
comp=N,10.0nm,0.9s
NVS smax smax
comp=E,13nm,1.8s
GROC Groznyy 20.62 298 *e*P **P 23 30 26.4 +0.9**
GROC *e**PP **pP 23 30 48.2 +2.4**
GROC *e*S **S 23 34 10.2 +0.3**
GROC *e**SS **sS 23 34 48.2 +4.5**
GROC pmax pmax
comp=Z,68nm,1.5s
SHL Shillong 20.73 115 *e*P **P 23 30 28.1 +1.1**
comp=Z,44nm,0.6s
SHL *e*S **S 23 34 12.3 -0.4**
SHL Shillong 20.73 115 *e*P **P 23 30 28.1 +1.1**
SHL *e*S **S 23 34 12.3 -0.4**
SHL pmax pmax
comp=Z,44nm,0.6s
SHL Shillong 20.73 115 *e*P Pn 23 30 31.0 +0.6
SHL *e*S **S 23 34 10.5 -2.1**
GNI Garni 21.03 289 P **P 23 30 29.1 -1.0**
comp=Z,50nm,0.8s,baz=97,slow=2.9,SNR=51
GNI Garni 21.03 289 *e*P **P 23 30 31.2 +1.0**
comp=Z,51nm,0.8s
GNI Garni 21.03 289 *i* P **P 23 30 32.0 +1.9**
SNR=34
GNI Garni 21.03 289 *ce*P **P 23 30 31.1 +1.0**
GNI pmax pmax
comp=Z,257nm,1.3s
TBLG Delisi 21.16 293 *e*P **P 23 30 33.3 +2.0**
comp=Z,28nm,0.7s
TBLG Delisi 21.16 293 *e*P **P 23 30 33.3 +2.0**
TBLG pmax pmax
comp=Z,28nm,0.7s
SVE Sverdlovsk 21.85 345 *e*P **P 23 30 39.8 +1.4**
SVE *e*S **S 23 34 35.4 +2.3**
SVE pmax pmax
comp=Z,14nm,0.9s
ZEI Tsey 21.92 296 *e*P **P 23 30 39.2 -0.4**
ZEI pmax pmax
comp=Z,10.0nm,0.6s
ARU Arti 21.98 341 P **P 23 30 40.0 +0.2**
ARU LR LR 23 39 39.6
comp=Z,42nm,19.9s,baz=272,slow=38
ARU Arti 21.98 341 *e*P **P 23 30 39.6 -0.2**
comp=Z,19nm,0.9s
ARU Arti 21.98 341 *d* /P **P 23 30 41.1 +1.3**
ARU 23 31 09.2
ARU S **S 23 34 35.5 0.0**
ARU SS **SnSn 23 35 21.1 +9.0**
ARU pmax pmax
comp=Z,16nm,1.7s
AKH Akhalkalaki 22.06 292 *e*P **P 23 30 43.3 +2.3**
comp=Z,24nm,0.9s
AKH Akhalkalaki 22.06 292 *e*P **P 23 30 43.3 +2.3**
AKH pmax pmax
comp=Z,24nm,0.9s
HVS Khovu-Aksy 22.10 40 *i* P **P 23 30 39.9 -1.3**
HVS pmax pmax
comp=Z,11nm,1.0s
NCK Nalchik 22.25 298 *i* P **P 23 30 43.1 +0.3**
NCK pmax pmax
comp=Z,18nm,1.0s
KARS Kars 22.32 290 P **P 23 30 44.5 +0.8**
KARS pmax pmax
comp=Z,56nm,1.3s
BRDH Bariadhala 22.35 121 LR LR 23 40 37.8
comp=Z,30nm,18.2s,baz=164,slow=40
KBZ Khabaz 22.79 298 P **P 23 30 47.7 -0.5**
comp=Z,4.2nm,0.8s,baz=120,slow=9.7,SNR=13
NEY Neytrino 22.84 297 *i* P **P 23 30 50.4 +1.4**
NEY pmax pmax
comp=Z,2.0nm,0.7s

GTA Gaotai 22.94 73 ⇑P **P 23 30 53.2 +3.3**
GTA pP sP 23 31 18.0 -6.6
GTA sP pP 23 31 33.5 +22
GTA S **S 23 34 52.3 +0.5**
GTA pmax pmax
comp=Z,6.0nm,0.9s
GTA pmax pmax
comp=Z,22nm,6.0s
GTA LR LR
comp=Z,200nm,16.8s
GTA LR LR
comp=Z,140nm,18.1s
GTA LR LR
comp=Z,65nm,17.8s
GOF Gofitskoye 22.95 301 *e*P **P 23 30 51.1 +1.3**
KVAR Kislovodsk Arr 22.98 299 P **P 23 30 49.6 -0.6**
comp=Z,2.0nm,0.6s,baz=90,slow=19,SNR=7.9
KVAR LR LR 23 41 02.2
comp=Z,44nm,21.1s,baz=60,slow=40
KIV Kislovodsk 22.98 299 *e*P **P 23 30 50.1 -0.1**
comp=Z,13nm,0.7s
KIV Kislovodsk 22.98 299 P **P 23 30 50.1 -0.1**
KIV Kislovodsk 22.98 299 *i* P **P 23 30 50.1 -0.1**
SNR=6.0
KIV Kislovodsk 22.98 299 *e*P **P 23 30 50.3 +0.1**
KIV *e*S **S 23 34 52.5 +0.3**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,23nm,15.0s
WHFO Wadi Hawf 23.72 225 P **P 23 30 57.0 -0.1**
RAYN Ar Rayn 25.38 247 *e*P **P 23 31 10.7 -1.5**
comp=Z,6.6nm,0.8s
RAYN *e*S **S 23 35 31.1 +0.3**
RAYN Ar Rayn 25.38 247 *e*P **P 23 31 10.7 -1.5**
RAYN *e*S **S 23 35 31.1 +0.3**
RAYN pmax pmax
comp=Z,7.0nm,0.8s
VRH Novokhopyorsk 25.78 315 *e*P **P 23 31 16.3 +0.9**
VRH pmax pmax
comp=Z,10.0nm,1.2s
LZH Lanzhou 26.44 80 *e*P **P 23 31 24.4 +2.6**
LZH pP pP 23 31 50.6 +5.1
LZH sP PnPn 23 32 04.7 -3.6
LZH pmax pmax
comp=Z,21nm,1.1s
VORD Divnogorie 27.10 313 *e*P **P 23 31 28.0 +0.7**
VORD pmax pmax
comp=Z,6.0nm,0.6s
VSR Storozhevoye 27.27 314 *e*P **P 23 31 28.5 -0.3**
VSR pmax pmax
comp=Z,10.0nm,0.6s
CD2 Chengdu 27.70 91 *e*P **P 23 31 33.0 +0.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
LPSR Galich'ya Gora 27.93 316 *e*P **P 23 31 35.9 +1.2**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
SONM Songino Array 28.52 55 P **P 23 31 41.0 +0.8**
comp=Z,1.3nm,0.8s,baz=252,slow=9.6,SNR=6.5
SONM LR LR 23 44 44.3
comp=Z,44nm,20.3s,baz=256,slow=40
SONA1 Songino Array 28.53 55 *e*P **P 23 31 40.9 +0.6**
ULN Ulaanbaatar 28.96 55 *e*P **P 23 31 44.3 +0.2**
comp=Z,4.3nm,1.2s
ULN Ulaanbaatar 28.96 55 *ce*P **P 23 31 44.1 0.0**
ULN pmax pmax
comp=Z,3.0nm,1.7s
KMI Kunming 29.29 103 P **P 23 31 47.8 +0.5**
KMI pmax pmax
comp=Z,8.0nm,0.8s
BR131 Keskin Array S 29.57 288 *e*P **P 23 31 50.2 +0.6**
BRTR Keskin Array B 29.57 288 P **P 23 31 49.3 -0.3**
comp=Z,1.3nm,0.6s,baz=98,slow=9.5,SNR=10
BRTR Keskin Array B 29.57 288 *ce*P **P 23 31 50.7 +1.1**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
CHTO Chiang Mai 30.03 118 *e*P **P 23 31 54.1 +0.5**
comp=Z,2.6nm,0.6s
CHTO Chiang Mai 30.03 118 *e*P **P 23 31 54.1 +0.5**
CHTO pmax pmax
comp=Z,3.0nm,0.6s
PALK Pallekele 30.06 161 P **P 23 31 53.3 -0.7**
comp=Z,4.8nm,0.7s,baz=296,slow=10,SNR=6.3
PALK Pallekele 30.06 161 *e*P **P 23 31 55.5 +1.5**
comp=Z,6.3nm,0.8s
PALK Pallekele 30.06 161 *e*P **P 23 31 55.5 +1.5**
PALK pmax pmax
comp=Z,6.0nm,0.8s
OBN Obninsk 30.23 320 ⇓*e*P **P 23 31 55.5 +0.5**
OBN *e* 23 33 18.7
OBN pmax pmax
comp=Z,6.0nm,1.0s
OBN MLR MLR
comp=Z,54nm,17.0s
CMAR Chiang Mai Arr 30.26 118 P **P 23 31 56.3 +0.6**
comp=Z,0.9nm,0.3s,baz=54,slow=32,SNR=4.3
CMAR LR LR 23 46 48.8
comp=Z,17nm,19.8s,baz=105,slow=41
CM01 Chiang Mai Arr 30.30 118 *e*P **P 23 31 57.6 +1.6**
PBA Port Blair 31.28 136 *e*P P 23 32 05.3 +0.6
comp=Z,19nm,0.7s
SUKH Sukhothai 31.39 119 P **P 23 32 08.6 +3.0**
comp=Z,4.9nm,0.7s
UMPA Umpang Tak 31.72 121 P P 23 32 13.1 +4.5
comp=Z,1.4nm,0.4s,comp=Z,1μm
HHC Hu-ho-hao-te 31.87 69 *e*P **P 23 32 11.7 +1.9**
HHC pmax pmax
comp=Z,8.0nm,1.2s
UTTA Uttaradit 31.88 117 P **P 23 32 12.6 +2.7**
comp=Z,5.2nm,0.7s,comp=Z,46nm
UTHA Uthaitani 32.57 122 P **P 23 32 19.2 +3.2**
comp=Z,5.5nm,0.8s
AKASG Malin Array Be 33.19 309 P **P 23 32 22.0 +1.0**
comp=Z,5.6nm,0.5s,baz=80,slow=7.4,SNR=19
AKASG PP **PP 23 33 38.9 +0.9**
comp=Z,2.2nm,0.7s,baz=89,slow=10,SNR=4.5
AKASG Malin Array Be 33.19 309 P **P 23 32 22.0 +1.0**
AKASG 23 33 38.9
AKASG pmax pmax
comp=Z,4.0nm,0.5s
KIEV Kiev 33.20 309 *e*P **P 23 32 21.1 +0.1**
comp=Z,8.2nm,0.6s
KIEV Kiev 33.20 309 *e*P **P 23 32 21.2 +0.1**
KIEV pmax pmax
comp=Z,8.0nm,0.6s
SRDT SRDT 33.20 124 P P **23 32 24.3 +2.8**
comp=Z,22nm,1.1s
SORM Soroca 33.43 304 ⇑P **P 23 32 23.5 +0.4**
NONG Nongkai 33.57 114 P **P 23 32 26.8 +2.1**
comp=Z,0.5nm,0.8s,comp=Z,93nm
NRIK Noril'sk 34.48 10 P **P 23 32 33.4 +1.5**
comp=Z,1.9nm,0.4s,baz=143,slow=5.1,SNR=7.5
NRIK LR LR 23 46 45.0
comp=Z,29nm,18.5s,baz=96,slow=36
PLOR Plostina 34.48 300 ⇑P **P 23 32 34.2 +1.8**
PHET Kaeng Krachan 34.58 125 P **P 23 32 36.9 +3.5**
comp=Z,9.1nm,0.8s
SKNT Sakolnakorn 34.87 114 P **P 23 32 38.0 +2.1**
comp=Z,13nm,0.8s,comp=Z,868nm
MLR Muntele Rosu 34.98 300 P **P 23 32 38.0 +1.3**
comp=Z,8.3nm,0.8s,baz=137,slow=2.0,SNR=12
MLR Muntele Rosu 34.98 300 *e*P **P 23 32 38.0 +1.3**
comp=Z,11nm,0.9s
MLR Muntele Rosu 34.98 300 *e*P **P 23 32 38.0 +1.3**
MLR pmax pmax
comp=Z,11nm,0.9s
KARP Karpathos 35.34 282 *e*P **P 23 32 40.2 +0.4**
comp=Z,16nm,0.9s
SRAK Srakaew 35.45 120 P P 23 32 48.0 +7.2
comp=Z,32nm,0.7s
BURAR Bucovina Array 35.50 303 ⇑P **P 23 32 42.6 +1.4**
BUR04 Bucovina Ar. S 35.51 303 *e*P **P 23 32 42.7 +1.5**
BUR08 Bucovina Ar. S 35.52 303 *e*P **P 23 32 42.5 +1.2**
VOIR 35.61 300 ⇑P **P 23 32 43.4 +1.3**
UBPT Khong Chiam 37.05 115 P **P 23 32 56.0 +1.5**
comp=Z,23nm,0.8s
DRGR 37.21 302 ⇑P **P 23 32 57.5 +1.9**
KWP Kalwaria Pacla 37.24 307 *e*P **P 23 32 56.4 +0.6**
comp=Z,112nm,0.8s
KWP Kalwaria Pacla 37.24 307 *e*P **P 23 32 56.4 +0.6**
SUW Suwalki 37.38 314 *e*P **P 23 32 58.0 +1.1**
comp=Z,22nm,1.2s
SUW Suwalki 37.38 314 *e*P **P 23 32 58.0 +1.1**
SUW pmax pmax
comp=Z,22nm,1.2s

BZS Buzias 38.01 300 ⇑P **P 23 33 03.9 +1.6**
OJC Ojcow 39.14 307 *e*P **P 23 33 12.6 +0.9**
comp=Z,12nm,1.3s
OJC Ojcow 39.14 307 *e*P **P 23 33 12.6 +0.9**
OJC pmax pmax
comp=Z,12nm,1.3s
NJ2 Nanjing 39.50 82 *e*P **P 23 33 16.9 +2.0**
NJ2 pmax pmax
comp=Z,14nm,0.6s
MORC Moravsky Berou 40.60 307 *e*P **P 23 33 24.2 +0.3**
comp=Z,5.0nm,0.7s
MORC Moravsky Berou 40.60 307 ⇑P **P 23 33 25.3 +1.5**
VRAC Vranov 41.23 306 ⇑P **P 23 33 30.8 +1.8**
DPC Dobruska-Polom 41.37 308 *e*P **P 23 33 32.5 +2.3**
DPC Dobruska-Polom 41.37 308 *e*P **P 23 33 32.5 +2.3**
ARCES ARCESS Array B 41.49 338 P **P 23 33 31.8 +1.0**
comp=Z,2.1nm,0.7s,baz=112,slow=9.3,SNR=16
ARCES pP **pP 23 33 53.8 -1.8**
comp=Z,3.9nm,0.6s,baz=111,slow=6.6,SNR=3.5
PSI Prapat 42.00 136 *e*P **P 23 33 36.1 +0.4**
comp=Z,8.3nm,0.8s
PSI Prapat 42.00 136 *e*P **P 23 33 36.1 +0.4**
PSI pmax pmax
comp=Z,8.0nm,0.8s
BRG Berggiesshubel 42.87 309 *i* P **P 23 33 44.0 +1.8**
comp=Z,6.0nm,0.6s
BRG Berggiesshubel 42.87 309 *i* P **P 23 33 44.0 +1.8**
BRG pmax pmax
comp=Z,6.0nm,0.6s
GEA0 GERESS Array S 43.16 306 *e*P **P 23 33 45.3 +0.6**
GERES GERESS Array B 43.16 306 P **P 23 33 45.4 +0.7**
comp=Z,0.5nm,0.4s,baz=58,slow=9.3,SNR=3.6
NC405 NORSAR Array S 44.45 323 *e*P **P 23 33 56.0 +1.2**
NC303 NORSAR Array S 44.63 324 *e*P **P 23 33 57.4 +1.2**
NB201 NORSAR Array S 44.65 323 *e*P **P 23 33 57.3 +1.0**
NB2 NORSAR Subarra 44.68 323 P **P 23 33 56.7 0.0**
comp=Z,5.2nm,0.5s,baz=97,slow=7.9
NOA NORSAR Array B 44.68 323 P **P 23 33 55.8 -0.8**
comp=Z,6.1nm,0.6s,baz=98,slow=7.8,SNR=32
NOA pP **pP 23 34 20.0 -1.8**
comp=Z,4.4nm,20.8s,baz=96,slow=8.0,SNR=5.3
NOA LR LR 23 56 01.0
comp=Z,14nm,20.3s,baz=350,slow=40
NAO01 NORSAR Array S 44.83 323 *e*P **P 23 33 58.6 +0.8**
NBO00 NORSAR Array S 44.90 323 *e*P **P 23 33 59.9 +1.5**
NC204 NORSAR Array S 44.93 324 *e*P **P 23 33 59.3 +0.7**
KS01 Wonju Array Si 44.95 71 *e*P **P 23 33 59.9 +0.8**
KSAR Wonju Array Be 44.95 71 P **P 23 33 59.9 +0.9**
KSAR Wonju Array Be 44.95 71 P **P 23 33 59.9 +0.9**
KSRS Korea Array 44.98 71 P **P 23 33 59.9 +0.7**
comp=Z,2.9nm,0.5s,baz=271,slow=7.1,SNR=12
KSRS Korea Array 44.98 71 P **P 23 33 59.9 +0.7**
KSRS pmax pmax
comp=Z,2.0nm,0.4s
KLR Kul'dur 45.34 54 LR LR 23 55 34.3
comp=Z,53nm,19.7s,baz=143,slow=39
TIXI Tiksi 46.10 22 *e*P **P 23 34 08.2 +0.6**
TIXI Tiksi 46.10 22 *i* P **P 23 34 07.6 0.0**
TIXI pmax pmax
comp=Z,3.0nm,0.9s
KEST Kesra 49.17 289 P **P 23 34 32.3 +0.3**
comp=Z,2.2nm,0.5s,baz=213,slow=2.3,SNR=9.0
ES19 SONSECA Array 57.59 298 *e*P **P 23 35 33.3 -0.2**
TAM Tamanrasset 57.60 276 *e*P **P 23 35 33.8 -0.1**
comp=Z,1.9nm,1.0s
TAM Tamanrasset 57.60 276 *e*P **P 23 35 33.8 -0.1**
TAM pmax pmax
comp=Z,2.0nm,1.0s
ESDC Sonseca Array 57.65 298 P **P 23 35 32.6 -1.3**
comp=Z,0.4nm,0.4s,baz=56,slow=7.3,SNR=8.0
BILL Bilibino 58.92 26 ⇓*e*P **pP 23 35 43.1 +0.9**
BILL *e**PP **pP 23 36 09.7 +1.2**
BILL *SP **sP 23 36 20.0 -0.5**
BILL 23 36 27.0
BILL 23 37 56.0
BILL pmax pmax
comp=Z,3.0nm,0.9s
TOA0 Torodi Ar. Sit 65.73 269 *e*P **P 23 36 25.9 -2.5**
comp=Z,3.6nm,0.6s
TORD Torodi Ar. Bea 65.73 269 P P 23 36 24.4 -4.0
comp=Z,1.8nm,0.5s,baz=40,slow=6.2,SNR=39
IM3 Indian Mountai 72.51 18 *e*P **P 23 37 08.4 -1.0**
INK Inuvik 74.26 9 *e*P **P 23 37 20.3 +0.7**
comp=Z,15nm,1.5s
INK Inuvik 74.26 9 *e*P **P 23 37 20.3 +0.7**
INK pmax pmax
comp=Z,15nm,1.5s
DBIC Dimbokro 74.70 267 P **P 23 37 20.9 -2.2**
comp=Z,2.1nm,0.7s,baz=105,slow=6.4,SNR=3.0
ILAR Eielson Array 75.12 16 P **P 23 37 24.5 -0.2**
comp=Z,0.9nm,0.9s,baz=294,slow=4.6,SNR=13
BOSA Boshof 77.49 220 P **P 23 37 38.0 -0.6**
comp=Z,6.8nm,0.8s,baz=23,slow=4.9,SNR=12
BOSA Boshof 77.49 220 *e*P **P 23 37 39.0 +0.4**
comp=Z,8.9nm,0.9s
BOSA Boshof 77.49 220 *e*P **P 23 37 39.0 +0.4**
BOSA pmax pmax
comp=Z,9.0nm,0.9s
YKA Yellowknife Ar 81.61 3 P **P 23 38 00.7 +0.3**
comp=Z,2.1nm,0.4s,baz=350,slow=5.3,SNR=19
WRA Warramunga Arr 81.78 122 P **P 23 38 01.9 +0.1**
comp=Z,3.0nm,0.5s,baz=326,slow=5.0,SNR=46
WRA Warramunga Arr 81.78 122 P **P 23 38 02.0 +0.1**
WRAB Tennant Creek 81.78 122 *ce*P **P 23 38 01.5 -0.4**
WRAB pmax pmax
comp=Z,7.0nm,1.3s
WB2 Warramunga Arr 81.79 122 *e*P **P 23 38 01.7 -0.3**
ASAR Alice Springs 84.03 125 P **P 23 38 13.7 +0.2**
comp=Z,4.1nm,0.8s,baz=310,slow=4.9,SNR=37
ASAR pP **pP 23 38 40.5 -1.0**
comp=Z,1.6nm,0.8s,baz=316,slow=5.3,SNR=3.0
AS01 Alice Springs 84.06 125 *e*P **P 23 38 13.5 -0.2**
PLCA Paso Flores 149.72 249 PKPbc **PKPbc 23 45 30.9 -1.1**
comp=Z,2.5nm,0.8s,baz=303,slow=0.7,SNR=4.6

ISCJB ***05*** *23:30:09.0±0.3, 9.29N±0.03×78.18W±0.02, h59km±5km, mb3.9/15, MS2.9/2, Error ellipse: s-maj=4.9km s-min=3.4km az=2.2*
UCR ***05*** *23:30:09.4±1.9, 9.29N×78.19W, h62km, mb4.3(NEIC)*
IDC ***05*** *23:30:10.0±1.6, 9.52N×78.10W, h46km±18km, mb3.4/7, mb1 4.1/12, mb1mx3.7/34, mbtmp4.1/12, ML4.0/5, MS3.0/3, Ms1 3.0/3, ms1mx2.6/22, Error ellipse: s-maj=27.5km s-min=12.7km az=16.0*
NEIC ***05*** *23:30:11.2±0.5, 9.29N×78.19W, h62km±5km, mb4.3/10, MD4.4(UPA), Error ellipse: s-maj=6.8km s-min=5.2km az=202.0*
NEIC Felt at Alcaldediaz, Panama and Saboga.
UPA ***05*** *23:30:11.0±0.0, 9.30N×78.20W, h65km*
ISC 05 23:30:10.0±0.8, 9.33N±0.05×78.16W±0.04, h54km±10km, n72, σ2=09/94, mb4.1/15, 2C-3D, Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPA	**Univ. de Panam**	**1.40**	**256**	*e*P		**23 30 31.2**	**-2.0**
UPA	**Univ. de Panam**	**1.40**	**256**	⇑*i*P		**Pn 23 30 31.8**	**-1.4**
UPA				*e*S		**Sn 23 30 49.7**	**-0.9**
FLAM	**Flamenco Islan**	**1.42**	**253**	⇓*i*P		**Pn 23 30 32.1**	**-1.4**
FLAM				*e*S		**Sn 23 30 48.1**	**-3.0**
FRIJ	**El Hiral**	**1.55**	**266**	*e*P		**Pn 23 30 35.2**	**0.0**
FRIJ				*e*S		**Sn 23 30 54.2**	**0.0**
BCIP	**Isla Barro Col**	**1.66**	**265**	*e*Pn		**Pn 23 30 36.6**	**-0.3**
BCIP				*e*S		**Sn 23 30 58.5**	**+1.4**
BCIP	**Isla Barro Col**	**1.66**	**265**	*e*P		**Pn 23 30 36.5**	**-0.3**
BCIP				*e*S		**Sn 23 30 56.7**	**-0.4**
BCIP	**Isla Barro Col**	**1.66**	**265**	⇑*e*P		**Pn 23 30 36.4**	**-0.4**
BCIP				*e*S		**Sn 23 30 56.6**	**-0.4**
ZANG	**Zanguenga, Cho**	**1.72**	**258**	*e*P		**Pn 23 30 36.6**	**-1.0**
ZANG				*e*S		**Sn 23 30 58.2**	**-0.3**
PINA	**Piqa, Costa Ab**	**1.88**	**268**	*e*P		**Pn 23 30 39.8**	**+0.1**
PINA				*e*S		**Sn 23 31 06.0**	**+3.6**
PTAC	**Punta Ardita,**	**2.19**	**171**	*e*P		**Pn 23 30 42.1**	**-2.0**
PTAC				*e*S		**Sn 23 31 11.0**	**+0.9**
PNME	**Penonome**	**2.30**	**249**	*e*P		**Pn 23 30 42.5**	**-2.9**
PNME	**Penonome**	**2.30**	**249**	⇓*i*P		**Pn 23 30 44.2**	**-1.3**
PNME				*e*S		**Sn 23 31 07.5**	**-5.1**
MOTC	**Monteria, Cord**	**2.52**	**102**	*e*P		**Pn 23 30 49.4**	**+0.8**
MOTC				*e*S		**Sn 23 31 17.0**	**-1.2**
AZU	**Azuero**	**2.59**	**234**	*e*P		**Pn 23 30 47.9**	**-1.6**
AZU	**Azuero**	**2.59**	**234**	⇓*i*P		**Pn 23 30 48.5**	**-0.9**
DBBC	**Dabeiba**	**3.00**	**140**	*e*P		**Pn 23 30 56.2**	**+1.1**
ZARC	**Zaragoza, Cauc**	**3.74**	**119**	*e*P		**Pn 23 31 05.8**	**+0.5**
HELC	**Santa Helena**	**4.06**	**140**	*e*P		**Pn 23 31 10.8**	**+0.8**

SMRC	**Santa Marta, M**	**4.28**	**64**	*e*P		**Pn**	**23 31 13.1**	**+0.4**
CODC	**Agust`n Codaz**	**4.69**	**82**	*e*P		**Pn**	**23 31 20.0**	**+1.7**
CODC				*e*S		**Sn**	**23 32 11.3**	**-0.1**
BRRC	**Barranca, Sant**	**4.93**	**116**	*e*P		**Pn**	**23 31 24.4**	**+2.9**
NORC	**Norcasia**	**4.96**	**139**	*e*P		Pn	23 31 28.4	+6.3
RREF	**El Recreo**	**5.21**	**147**	*e*P		**Pn**	**23 31 27.6**	**+1.6**
GIRC	**Giron, Santand**	**5.40**	**114**	*e*P		**Pn**	**23 31 27.7**	**-0.5**
BARC	**Barichara**	**5.63**	**119**	*e*P		**Pn**	**23 31 33.0**	**+1.6**
ROSC	**El Rosal**	**5.87**	**139**	P		**Pn**	**23 31 37.8**	**+3.0**
	18nm,0.3s,baz=313,slow=2.6,SNR=51							
ROSC				LR		LR	23 34 44.8	
	comp=Z,67nm,18.7s,baz=330,slow=46							
ROSC	**El Rosal**	**5.87**	**139**	*e*Pn		**Pn**	**23 31 37.4**	**+2.6**
URIC	**Uribia, Colomb**	**6.51**	**68**	*e*P		**Pn**	**23 31 43.0**	**-0.2**
URIC				*e*P		**Pn**	**23 31 43.7**	**+0.4**
ESPN	**Las Esperanzas**	**6.67**	**296**	*e*Pn		**Pn**	**23 31 45.9**	**+0.5**
JTS	**JuntasAbangare**	**6.76**	**279**	P		**Pn**	**23 31 46.6**	**-0.2**
	7.3nm,0.3s,baz=114,slow=13,SNR=29							
JTS				S		**Sn**	**23 33 03.7**	**+1.2**
	4.9nm,0.3s,baz=293,slow=14,SNR=4.6							
JTS	**JuntasAbangare**	**6.76**	**279**	*e*Pn		**Pn**	**23 31 47.8**	**+1.0**
JTS				*e*S		**Sn**	**23 33 02.5**	**0.0**
JTS	**JuntasAbangare**	**6.76**	**279**	*e*P		**Pn**	**23 31 47.4**	**+0.6**
JTS				*e*S		**Sn**	**23 33 04.5**	**+2.1**
SDV	**Santo Domingo**	**7.45**	**93**	P		**Pn**	**23 31 56.1**	**-0.2**
	3.5nm,0.3s,baz=273,slow=7.9,SNR=19							
SDV				S		**Sn**	**23 33 16.9**	**-2.6**
	87nm,0.3s,baz=22,slow=18,SNR=25							
SDV	**Santo Domingo**	**7.45**	**93**	*e*Pn		**Pn**	**23 31 56.9**	**+0.6**
SDV				*e*S		**Sn**	**23 33 16.7**	**-2.8**
BOAB	**BOACO BROADBAN**	**8.00**	**293**	*e*Pn		**Pn**	**23 32 04.9**	**+1.3**
PCJ	**Portland Cotta**	**8.42**	**7**	*i* P		**Pn**	**23 32 12.6**	**+3.2**
PCJ				*i* S		**Sn**	**23 33 34.7**	**-8.4**
MCJ	**Malvern**	**8.56**	**3**	*i* P		**Pn**	**23 32 12.9**	**+1.6**
MCJ				*i* S		**Sn**	**23 33 50.9**	**+4.3**
HOJ	**Hope**	**8.73**	**9**	*i* P		**Pn**	**23 32 16.3**	**+2.6**
HOJ				*i* S		**Sn**	**23 33 46.1**	**-4.7**
STH	**Stony Hill**	**8.79**	**8**	*i* P		**Pn**	**23 32 17.9**	**+3.3**
STH				*i* S		**Sn**	**23 33 46.1**	**-6.2**
GWJ	**Greenwich**	**8.80**	**9**	*i* P		Pn	23 32 22.2	+7.4
MTDJ	**Mount Denham**	**8.87**	**4**	*e*Pn		**Pn**	**23 32 18.1**	**+2.5**
MTDJ				*e*S		**Sn**	**23 33 50.5**	**-3.7**
ESTN	**Estel**	**8.88**	**296**	*e*Pn		**Pn**	**23 32 17.0**	**+1.1**
OTAV	**Otavalo**	**9.04**	**182**	*e*Pn		**Pn**	**23 32 19.1**	**+0.8**
OTAV				*e*S		**Sn**	**23 33 56.7**	**-2.2**
LGNH	**LØogne**	**10.60**	**30**	*e*Pn		**Pn**	**23 32 41.0**	**+1.7**
LGNH				*e*Sn		**Sn**	**23 34 40.5**	**+4.0**
GTBY	**Guantanamo Bay**	**10.94**	**15**	*e*Pn		**Pn**	**23 32 46.8**	**+2.9**
SDDR	**Presa de Saban**	**11.68**	**34**	*e*Pn		**Pn**	**23 32 56.3**	**+2.3**
SDDR				*e*Sn		**Sn**	**23 35 03.8**	**+0.8**
BANI	**BANI**	**11.77**	**39**	*e*Pn		**Pn**	**23 32 56.7**	**+1.4**
PCRV	**Puerto La Cruz**	**13.36**	**85**	P		**Pn**	**23 33 16.4**	**-0.6**
	3.4nm,0.3s,baz=267,slow=1.5,SNR=10							
SJG	**San Juan**	**14.57**	**52**	P		**Pn**	**23 33 30.6**	**-2.6**
	4.7nm,0.3s,baz=231,slow=16,SNR=8.3							
PTGA	**Pitinga**	**20.69**	**118**	P		Pn	23 34 47.9	-0.8
	1.2nm,0.3s,baz=288,slow=15,SNR=5.0							
PTGA				LR		LR	23 43 45.8	
	comp=Z,61nm,21.6s,baz=252,slow=39							
NNA	**Nana**	**21.22**	**176**	LR		LR	23 44 59.4	
	comp=Z,45nm,18.8s,baz=358,slow=42							
SAML	**Samuel**	**23.50**	**140**	*e*P		**P**	**23 35 13.6**	**-1.7**
	5.2nm,1.0s							
CCM	**Cathedral Cave**	**30.94**	**340**	*e*P		**P**	**23 36 22.3**	**+0.4**
	3.2nm,0.8s							
TXAR	**Lajitas Array**	**31.10**	**313**	P		**P**	**23 36 22.9**	**-0.6**
	0.4nm,0.7s,baz=150,slow=11,SNR=5.9							
TX31	**Lajitas Ar. Si**	**31.10**	**313**	*e*P		**P**	**23 36 24.0**	**+0.5**
ANMO	**Albuquerque**	**36.32**	**319**	P		**P**	**23 37 09.4**	**+0.5**
	1.8nm,0.7s,baz=129,slow=9.7,SNR=6.5							
ANMO	**Albuquerque**	**36.32**	**319**	*e*P		**P**	**23 37 09.3**	**+0.4**
	1.9nm,0.8s							
SDCO	**Great Sand Dun**	**37.52**	**323**	*e*P		**P**	**23 37 19.5**	**+0.3**
	13nm,1.9s							
SMCO	**Snowmass**	**39.33**	**324**	*e*P		**P**	**23 37 35.0**	**+0.4**
	5.1nm,1.3s							
PV02	**Paradox Valley**	**39.77**	**321**	*e*P		**P**	**23 37 37.7**	**-0.3**
	3.1nm,0.8s							
PV13	**Radium Mtn., P**	**39.79**	**321**	*e*P		**P**	**23 37 39.1**	**+0.9**
	2.8nm,0.7s							
PV03	**Paradox Valley**	**39.87**	**321**	*e*P		**P**	**23 37 39.3**	**+0.5**
PV12	**Saucer Basin,**	**39.88**	**321**	*e*P		**P**	**23 37 39.3**	**+0.3**
	4.3nm,0.9s							
WUAZ	**Wupatki**	**39.94**	**316**	*e*P		**P**	**23 37 39.4**	**0.0**
	12nm,1.8s							
PDAR	**Pinedale Array**	**43.17**	**326**	P		**P**	**23 38 06.2**	**+0.4**
	0.3nm,0.5s,baz=99,slow=9.2,SNR=4.0							
PDAR	**Pinedale Array**	**43.17**	**326**	*e*P		**P**	**23 38 06.0**	**+0.2**
REDW	**Red Top Meadow**	**44.28**	**326**	*e*P		**P**	**23 38 15.2**	**+0.5**
	17nm,1.9s							
NVAR	**Mina Array Bea**	**46.19**	**315**	P		**P**	**23 38 30.5**	**+0.6**
	0.2nm,0.5s,baz=124,slow=7.7,SNR=2.8							
YKA	**Yellowknife Ar**	**59.25**	**341**	P		**P**	**23 40 05.7**	**+0.1**
	0.8nm,0.6s,baz=132,slow=7.5,SNR=4.3							
ILAR	**Eielson Array**	**72.61**	**335**	P		**P**	**23 41 31.4**	**0.0**
	0.3nm,0.5s,baz=113,slow=3.8,SNR=7.9							
ASAR	**Alice Springs**	**146.22**	**241**	PKPbc		**PKPab**	**23 49 46.0**	**-0.2**
	0.4nm,0.7s,baz=123,slow=3.4,SNR=3.9							
WRA	**Warramunga Arr**	**146.90**	**248**	PKPbc		**PKPbc**	**23 49 46.7**	**-0.7**
	0.4nm,1.0s,baz=95,slow=3.9,SNR=2.7							

*ISCJB **05** 23:46:01.5±0.6, 35.°97N±0.°03×139.°98E±0.°06, h50km±6km, mb3.3/4, Error ellipse: s-maj=8.0km s-min=5.2km az=162.4*
*JMA **05** 23:46:02.5±0.1, 36.°00N×139.°95E, h43km±1km, M3.3*
JMA Felt II J1.
*IDC **05** 23:46:05.2±1.9, 35.°78N×139.°71E, h70km±17km, mb3.1/4, mb1 3.3/5, mb1mx3.1/32, mbtmp3.5/5, Error ellipse: s-maj=32.4km s-min=7.6km az=64.0*

ISC 05 23:46:02.3±1.0, 35.°97N±0.°04×139.°96E±0.°05, h42km±10km, n14, σ0s85/23, mb3.4/4, 5D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.32**	**36**	⇓P	**Pn**	**23 46 11.0**	**+0.1**
JYT				S	**Sn**	**23 46 16.9**	**0.0**
JAG	**Ashikaga**	**0.61**	**318**	⇓P	**Pn**	**23 46 14.5**	**-0.1**
JAG				S	**Sn**	**23 46 23.3**	**-0.1**
JRY	**Ryogami san**	**0.86**	**273**	⇓P	**Pn**	**23 46 18.0**	**-0.1**
JRY				S	**Sn**	**23 46 28.9**	**-0.6**
JKT	**Katashina**	**0.98**	**324**	⇓P	**Pn**	**23 46 19.4**	**-0.3**
JKT				S	**Sn**	**23 46 32.3**	**-0.2**
JOD2	**Odawara 2**	**1.00**	**225**	P	**Pn**	**23 46 20.8**	**+0.8**
JOD2				S	**Sn**	**23 46 33.3**	**+0.3**
JYN	**Shimob**	**1.25**	**248**	P	**Pn**	**23 46 24.7**	**+1.3**
BSO3	**Boso 3**	**1.25**	**159**	⇓P	**Pn**	**23 46 23.3**	**+0.2**
BSO3				*e*S	**Sn**	**23 46 39.0**	**+0.4**
JIM2	**Oshima 3**	**1.33**	**199**	P	**Pn**	**23 46 24.1**	**-0.3**
JIM2				*e*S	**Sn**	**23 46 40.4**	**-0.5**
MJAR	**Matsushiro Arr**	**1.53**	**292**	P	**Pn**	**23 46 27.1**	**0.0**
	7.6nm,0.3s,baz=93,slow=14,SNR=26						
MJAR				S	**Sn**	**23 46 46.7**	**+0.9**
	9.8nm,0.3s,baz=247,slow=16,SNR=12						
JHJ	**Hachijo jima 2**	**2.85**	**183**	P	**Pn**	**23 46 45.5**	**+0.2**
	43nm,0.3s,baz=76,slow=15,SNR=11						
JHJ				S	**Sn**	**23 47 17.9**	**-0.5**
	36nm,0.3s,baz=239,slow=23,SNR=6.6						
ZALV	**Zalesovo Beam**	**41.78**	**313**	P	**P**	**23 53 47.2**	**-0.2**
	0.5nm,0.5s,baz=102,slow=13,SNR=2.8						
MKAR	**Makanchi Array**	**43.70**	**303**	P	**P**	**23 54 02.5**	**-0.7**
	0.2nm,0.6s,baz=91,slow=8.9,SNR=3.2						
ILAR	**Eielson Array**	**51.01**	**32**	P	**P**	**23 55 02.0**	**+2.3**
	0.3nm,0.8s,baz=285,slow=7.2,SNR=2.9						
WRA	**Warramunga Arr**	**55.86**	**186**	P	**P**	**23 55 33.9**	**-1.9**
	0.4nm,0.8s,baz=3.2,slow=7.5,SNR=4.4						

*IDC **06** 00:07:12.6±0.5, 9.°31S×158.°89E, h0km, mb4.4/17, mb1 4.5/20, mb1mx4.4/33, mbtmp4.4/20, ML4.4/3, MS3.9/20, Ms1 3.8/20, ms1mx3.8/31, Error ellipse: s-maj=15.1km s-min=14.8km az=124.0*
*BJI **06** 00:07:12.1, 9.°13S×159.°06E, h8km, mb4.9/42, mB5.0/28, Ms4.6/6, Ms7 4.3/7*
*NEIC **06** 00:07:14.2±1.2, 9.°28S×158.°88E, h10km±8km, mb4.8/21, Error ellipse: s-maj=6.5km s-min=5.1km az=139.0*
*ISCJB **06** 00:07:15.3±0.3, 9.°31S±0.°05×158.°83E±0.°04, h27km, mb4.7/50, MS3.9/20, Error ellipse: s-maj=6.8km s-min=5.9km az=178.2*
*GCMT **06** 00:07:17.2±0.3, 9.°31S±0.°02×158.°79E±0.°02, h27km±1km,*

MW5.0/69, Moment Tensor Solution. s32,c41; s69,c88; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.00±.19; $M_{\theta\theta}$1.95±.16; $M_{\phi\phi}$-2.94±.17; $M_{r\theta}$0.92±.29; $M_{r\phi}$2.56±.12; $M_{\theta\phi}$1.03±.27; Best double couple: M_o3.87500×10^{16} NP1:ϕ_s114.00000°,δ67.00000°,λ156.00000°. NP2: ϕ_s114.00000°,δ67.00000°,λ14.00000°. Principal axes: T 3.6450, Plg26.0000°, Azm335.0000°; N 0.4680, Plg63.0000°, Azm172.0000°; P -4.1050, Plg7.0000°, Azm68.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 06 00:07:16.9±0.4, 9.°33S±0.°06×158.°85E±0.°05, h27km, n107, σ1s37/101, mb4.8/49, MS3.9/20, 1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.09**	**95**	Pn	**Pn**	**00 07 34.1**	**-2.3**
	2µm,0.3s,baz=254,slow=4.9,SNR=106						
HNR				Sn	**Sn**	**00 07 47.7**	**-2.9**
	11µm,0.3s,baz=0.0,slow=20,SNR=30						
HNR	**Honiara**	**1.09**	**95**	*i* P	**Pn**	**00 07 33.5**	**-2.9**
HNR				*i* S	**Sb**	**00 07 55.0**	**+4.0**
HNR	**Honiara**	**1.09**	**95**	*e*Pg	**Pn**	**00 07 34.1**	**-2.3**
HNR				*e*S	**Sn**	**00 07 49.6**	**-1.0**
PMG	**Port Moresby**	**11.54**	**269**	LR	LR	00 14 10.6	
	comp=Z,2µm,18.9s,baz=86,slow=36						
MANU	**Manus Island**	**13.52**	**302**	*e*Pn	**Pn**	**00 10 27.6**	**+0.4**
DZM	**Mont Dzumac**	**14.62**	**151**	Pn	**Pn**	**00 10 42.6**	**+0.4**
	0.5nm,0.3s,baz=318,slow=14,SNR=4.1						
DZM				LR	LR	00 15 02.5	
	comp=Z,1µm,21.0s,baz=319,slow=32						
DZM	**Mont Dzumac**	**14.62**	**151**	*e*P	**Pn**	**00 10 43.8**	**+1.6**
	84nm,1.3s						
DZM				*e*LQ	LQ	00 13 25.0	
	9µm,34.9s						
DZM				*e*LR	LR	00 14 04.8	
	1µm,26.9s						
DZM	**Mont Dzumac**	**14.62**	**151**	*e*Pn	**Pn**	**00 10 42.0**	**-0.2**
COEN	**Coen**	**16.02**	**252**	*e*Pn	**Pn**	**00 11 01.7**	**+1.2**
	98nm,1.6s						
PATS	**Pohnpei**	**16.07**	**358**	*e*Pn	**Pn**	**00 11 00.3**	**-0.9**
	140nm,1.2s						
CTA	**Charters Tower**	**16.20**	**227**	Pn	**Pn**	**00 11 02.5**	**-0.3**
	0.8nm,0.3s,baz=43,slow=15,SNR=6.1						
CTA				Sn	**Sn**	**00 13 55.3**	**-6.4**
	0.0nm,0.3s,baz=135,slow=20,SNR=2.6						
CTAO	**Charters Tower**	**16.20**	**227**	*e*Pn	**Pn**	**00 11 02.8**	**+0.1**
	45nm,1.2s						
EIDS	**Eidsvold**	**17.58**	**204**	*e*Pn	**Pn**	**00 11 20.0**	**-0.1**
	32nm,1.3s						
JAY	**Jayapura**	**19.27**	**289**	P	**P**	**00 11 40.0**	**+0.3**
	5.0nm,0.3s,baz=127,slow=3.1,SNR=16						
JAY				LR	LR	00 18 51.9	
	comp=Z,496nm,20.5s,baz=350,slow=36						
JAY	**Jayapura**	**19.27**	**289**	P	**Pn**	**00 11 41.8**	**+1.0**
	396nm,1.1s,9µm						
GENI	**Genyem**	**19.74**	**289**	P	**P**	**00 11 45.6**	**+0.8**
SMPI	**Sarmi**	**21.31**	**289**	P	**P**	**00 12 03.2**	**+1.3**
	180nm,1.3s,3µm						
WRAB	**Tennant Creek**	**25.90**	**243**	*e*P	**P**	**00 12 47.0**	**0.0**
	17nm,0.8s						
WB2	**Warramunga Arr**	**25.91**	**243**	*e*P	**P**	**00 12 47.2**	**+0.2**
WRA	**Warramunga Arr**	**25.91**	**243**	P	**P**	**00 12 47.1**	**0.0**
	7.5nm,0.6s,baz=70,slow=10.0,SNR=55						
GUMO	**Guam**	**26.67**	**328**	LR	LR	00 22 33.6	
	comp=Z,278nm,21.3s,baz=149,slow=34						
STKA	**Stephens Creek**	**27.56**	**213**	P	**P**	**00 13 01.7**	**0.0**
	3.2nm,0.5s,baz=15,slow=9.8,SNR=8.0						
STKA	**Stephens Creek**	**27.56**	**213**	*e*P	**P**	**00 13 02.4**	**+0.6**
	5.2nm,1.4s						
AS01	**Alice Springs**	**27.73**	**236**	*e*P	**P**	**00 13 02.9**	**-0.6**
AS31	**Alice Springs**	**27.77**	**236**	*e*P	**P**	**00 13 03.4**	**-0.4**
	6.6nm,1.4s						
ASAR	**Alice Springs**	**27.77**	**236**	P	**P**	**00 13 03.0**	**-0.8**
	2.2nm,0.7s,baz=64,slow=9.3,SNR=17						
ASAR				ScP	**ScP**	**00 20 02.2**	**+3.0**
	2.2nm,0.9s,baz=84,slow=2.7,SNR=11						
SIJI	**Sorong**	**28.70**	**285**	P	**P**	**00 13 12.3**	**+0.2**
	3.8nm,0.5s,baz=108,slow=8.3,SNR=4.4						
AFI	**Afiamalu**	**29.12**	**102**	LR	LR	00 22 58.7	
	comp=Z,472nm,18.6s,baz=282,slow=32						
FITZ	**Fitzroy Crossi**	**33.37**	**251**	*e*P	**P**	**00 13 54.0**	**+0.8**
	36nm,1.9s						
SANI	**Sanana**	**33.46**	**280**	P	**P**	**00 13 53.7**	**-0.4**
	21nm,1.4s						
BKZ	**Black Stump Fm**	**33.65**	**155**	*e*P	**P**	**00 13 56.1**	**+0.7**
	37nm,1.3s						
SOEI	**Soe**	**34.10**	**266**	*e*P	**P**	**00 13 59.8**	**+0.1**
	95nm,2.0s						
BNSI	**Bone**	**38.76**	**275**	P	**P**	**00 14 39.4**	**0.0**
	15nm,0.9s						
SPSI	**Sidrap Palu**	**39.16**	**275**	P	**P**	**00 14 41.7**	**-1.1**
	6.8nm,1.7s						
MPSI	**Mapaga**	**39.95**	**282**	P	**P**	**00 14 48.4**	**-1.0**
	5.3nm,1.1s						
MYLDM	**Lahad Datu**	**42.72**	**288**	*e*P	**P**	**00 15 11.3**	**-0.9**
	37nm,1.3s						
STKI	**Sintang**	**48.07**	**279**	P	**P**	**00 15 54.0**	**-0.6**
	37nm,0.4s,21µm						
MJAR	**Matsushiro Arr**	**49.59**	**338**	LR	LR	00 36 18.2	
	comp=Z,67nm,21.1s,baz=160,slow=35						
PPT2	**Papeete2**	**50.70**	**105**	*e*LR	LR	00 30 44.6	
	251nm,22.0s						
LEM	**Lembang**	**50.75**	**269**	LR	LR	00 41 11.7	
	comp=Z,87nm,18.2s,baz=105,slow=40						
TBI	**Tubuai**	**51.26**	**112**	*e*LQ	LQ	00 28 53.0	
	920nm,31.8s						
TBI				*e*LR	LR	00 31 01.8	
	360nm,29.0s						
KSRS	**Korea Array**	**54.81**	**330**	P	**P**	**00 16 44.5**	**-0.1**
	5.5nm,0.7s,baz=155,slow=7.8,SNR=14						
KSRS				LR	LR	00 38 44.2	
	comp=Z,35nm,20.2s,baz=136,slow=34						
KSAR	**Wonju Array Be**	**54.83**	**330**	P	**P**	**00 16 44.5**	**-0.2**
NJ2	**Nanjing**	**56.15**	**319**	*e*P	**P**	**00 16 53.3**	**-1.1**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
USRK	**Ussuriysk Ar.**	**58.58**	**338**	P	**P**	**00 17 12.4**	**+1.1**
	1.8nm,0.5s,baz=152,slow=6.5						
USRK				LR	LR	00 40 27.2	
	comp=Z,86nm,20.5s,baz=136,slow=34						
CN2	**Changchun**	**60.96**	**333**	*e*P	**P**	**00 17 28.3**	**+0.6**
CN2				pmax	pmax		
	comp=Z,20nm,1.7s						
GYA	**Guiyang**	**61.90**	**307**	*e*P	**P**	**00 17 36.4**	**+1.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PETK	**Petropavlovsk-**	**62.20**	**359**	P	**P**	**00 17 35.8**	**-0.1**
	5.0nm,0.7s,baz=179,slow=5.8						
PETK				LR	LR	00 43 01.6	
	comp=Z,77nm,20.7s,baz=166,slow=35						
PETK	**Petropavlovsk-**	**62.20**	**359**	*e*P	**P**	**00 17 33.0**	**-2.9**
KLR	**Kul'dur**	**62.98**	**340**	LR	LR	00 42 57.9	
	comp=Z,170nm,20.6s,baz=146,slow=34						
BJI	**Beijing**	**63.01**	**324**	P	**P**	**00 17 40.7**	**-0.8**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.3s						
UTHA	**Uthaitani**	**63.82**	**292**	P	**P**	**00 17 49.3**	**+2.0**
XAN	**Xi'an**	**64.03**	**315**	P	**P**	**00 17 48.5**	**0.0**
XAN				pmax	pmax		
	comp=Z,15nm,0.8s						
XAN				pmax	pmax		
	comp=Z,86nm,3.5s						
XAN				LR	LR		
	comp=E,170nm,19.5s						
XAN				LR	LR		
	comp=Z,180nm,22.6s						
KMI	**Kunming**	**64.48**	**304**	P	**P**	**00 17 53.5**	**+1.7**
KMI				pmax	pmax		
	comp=Z,15nm,0.7s						
KMI				pmax	pmax		
	comp=Z,130nm,3.9s						
LAMP	**Lampang**	**64.63**	**296**	P	**P**	**00 17 54.4**	**+1.7**
	3.6nm,0.7s						
CM01	**Chiang Mai Arr**	**65.20**	**295**	*e*P	**P**	**00 17 56.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**65.22**	**295**	P	**P**	**00 17 56.8**	**+0.3**
	3.1nm,0.6s,baz=115,slow=4.7,SNR=20						
CMAR				LR	LR	00 46 40.9	
	comp=Z,29nm,19.4s,baz=134,slow=36						
CMMT	**Chiang Mai**	**65.34**	**296**	P	**P**	**00 17 58.6**	**+1.3**
	8.2nm,1.6s						
CHTO	**Chiang Mai**	**65.34**	**296**	P	**P**	**00 17 58.7**	**+1.4**
	37nm,1.6s						
CHTO	**Chiang Mai**	**65.34**	**296**	P	**P**	**00 17 58.7**	**+1.4**
	37nm,1.6s						
CD2	**Chengdu**	**66.23**	**310**	*e*P	**P**	**00 18 02.0**	**-0.8**
HHC	**Hu-ho-hao-te**	**66.24**	**322**	*e*P	**P**	**00 18 03.0**	**+0.2**
HHC				sP	sP	00 18 13.3	-1.2
HHC				pmax	pmax		
	comp=Z,24nm,1.0s						
HHC				pmax	pmax		
	comp=Z,100nm,6.6s						
VNDA	**Vanda**	**68.18**	**179**	P	**P**	**00 18 15.2**	**+0.7**
	1.4nm,0.9s,baz=330,slow=5.7,SNR=5.1						
VNDA	**Vanda**	**68.18**	**179**	*e*P	**P**	**00 18 16.4**	**+2.0**
	3.0nm,1.0s						
LZH	**Lanzhou**	**68.65**	**315**	*e*P	**P**	**00 18 19.9**	**+1.7**
LZH				pP	pP	00 18 25.4	-1.4
LZH				sP	sP	00 18 28.5	-1.5
LZH				pmax	pmax		
	comp=Z,29nm,1.2s						
LZH				pmax	pmax		
	comp=Z,110nm,4.6s						
MA2	**Magadan**	**68.98**	**356**	LR	LR	00 45 33.5	
	comp=Z,76nm,21.2s,baz=168,slow=33						
ULN	**Ulaanbaatar**	**73.03**	**326**	*e*P	**P**	**00 18 44.9**	**+0.3**
	23nm,1.3s						
GTA	**Gaotai**	**73.05**	**316**	⇓P	**P**	**00 18 45.8**	**+0.9**
GTA				pP	pP	00 18 50.4	-3.1
GTA				sP	sP	00 18 52.9	-3.7
GTA				S	**SKiKP**	**00 28 13.3**	**-2.7**
GTA				sS	pS	00 28 22.6	+1.2
GTA				SKS	**SKSac**	**00 28 48.2**	**-0.9**
GTA				pmax	pmax		
	comp=Z,11nm,1.2s						
GTA				pmax	pmax		
	comp=Z,81nm,5.9s						
GTA				LR	LR		
	comp=N,180nm,20.9s						
GTA				LR	LR		
	comp=E,130nm,19.4s						
GTA				LR	LR		
	comp=Z,150nm,19.7s						
SONM	**Songino Array**	**73.37**	**326**	P	**P**	**00 18 46.8**	**+0.2**
	7.0nm,0.6s,baz=141,slow=5.5,SNR=37						
SONM				LR	LR	00 49 39.4	
	comp=Z,85nm,21.6s,baz=131,slow=35						
SONA1	**Songino Array**	**73.37**	**326**	*e*P	**P**	**00 18 46.8**	**+0.2**
YAK	**Yakutsk**	**74.68**	**346**	LR	LR	00 48 13.3	
	comp=Z,96nm,21.9s,baz=96,slow=33						
PALK	**Pallekele**	**79.58**	**279**	*e*P	**P**	**00 19 23.6**	**+1.2**
	2.9nm,0.6s						
QSPA	**South Pole Qui**	**80.66**	**180**	P	**P**	**00 19 27.4**	**+0.1**
	3.1nm,0.9s,baz=353,slow=2.5,SNR=4.9						
QSPA	**South Pole Qui**	**80.66**	**180**	*e*P	**P**	**00 19 28.2**	**+0.9**
	14nm,1.4s						
SKT	**Skwentna**	**80.80**	**21**	*e*P	**P**	**00 19 28.4**	**+0.5**
	14nm,0.4s						
IM3	**Indian Mountai**	**82.74**	**18**	*e*P	**P**	**00 19 38.4**	**+0.4**
WMQ	**Urumqi**	**83.13**	**316**	P	**P**	**00 19 41.3**	**+0.7**
WMQ				pP	PcP	00 19 43.6	-1.6
WMQ				sP	pP	00 19 49.2	-0.1
WMQ				pmax	pmax		
	comp=Z,27nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,170nm,5.3s						
WMQ				LR	LR		
	comp=N,170nm,25.7s						
WMQ				LR	LR		
	comp=E,150nm,25.7s						
WMQ				LR	LR		
	comp=Z,170nm,24.5s						
TIXI	**Tiksi**	**83.22**	**351**	LR	LR	00 59 49.9	
	comp=Z,47nm,18.0s,baz=172,slow=38						
MAW	**Mawson**	**83.72**	**203**	P	**P**	**00 19 43.4**	**+0.3**
	0.9nm,0.8s,baz=240,slow=14,SNR=1.7						
ILAR	**Eielson Array**	**84.17**	**20**	P	**P**	**00 19 44.5**	**-1.0**
	0.9nm,0.5s,baz=256,slow=5.0,SNR=20						
ILB	**Eielson Array**	**84.17**	**20**	*e*P	**P**	**00 19 44.3**	**-1.1**
IL1	**Eielson Array**	**84.18**	**20**	*e*P	**P**	**00 19 44.5**	**-0.9**
SCRK	**Sand Creek**	**84.75**	**22**	*e*P	**P**	**00 19 49.1**	**+0.6**
	4.7nm,0.9s						
MK01	**Makanchi Array**	**87.66**	**318**	*e*P	**P**	**00 20 02.2**	**-0.9**
MK31	**Makanchi Array**	**87.67**	**318**	*e*P	**P**	**00 20 02.3**	**-0.9**
MKAR	**Makanchi Array**	**87.67**	**318**	P	**P**	**00 20 02.6**	**-0.5**
	5.9nm,0.6s,baz=97,slow=6.7,SNR=94						
MKAR				LR	LR	00 59 12.2	
	comp=Z,44nm,21.4s,baz=76,slow=36						
ZAA0	**Zalesovo Array**	**88.25**	**325**	*e*P	**P**	**00 20 04.1**	**-1.6**
ZALV	**Zalesovo Beam**	**88.25**	**325**	P	**P**	**00 20 04.3**	**

baz=149
H08N1 Diego Garcia H 62.39 294 T T 01 28 19.1
baz=142,SNR=5.4
H08N3 Diego Garcia H 62.41 294 T T 01 28 24.2
baz=142
H08N2 Diego Garcia H 62.42 294 T T 01 28 21.5
baz=142
PALK Pallekele 68.33 311 LR LR 00 42 55.5
comp=Z,118nm,21.9s,baz=117,slow=28
CMAR Chiang Mai Arr 71.21 333 P P 00 22 00.4 +0.1
1.3nm,0.6s,baz=190,slow=5.6,SNR=7.8
YKA Yellowknife Ar 145.05 45 PKPbc **PKPbc 00 30 16.3 -0.6**
2.1nm,0.7s,baz=267,slow=3.3,SNR=7.0

*IDC **06** 00:25:35.2±1.2,56°.44S×143°.57W,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.6/17,mbtmp3.6/2,MS4.2/12, Ms1 4.2/12,ms1mx4.1/21,Error ellipse: s-maj=153.8km s-min=41.1km az=173.0*
*GCMT **06** 00:25:36.0±0.1,56°.98S±0°.01×141°.61W±0°.02,h25km, MW5.3/113,Moment Tensor Solution. s86,c125; s113,c180; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr-0.08±.02; Mθθ0.92±.02; Mφφ-0.83±.02; Mrθ0.07±.04; Mrφ0.62±.02; Mθφ0.02±.04; Best double couple: M0=1.07500×10^17 NP1:ϕs=117.00000°,δ88.00000°, λ-3.00000°. NP2:ϕs=27.00000°,δ87.00000°,λ178.00000°. Principal axes: T 1.1170, Plg4.0000°, Azm342.0000°; N -0.0840, Plg86.0000°, Azm160.0000°; P -1.0330, Plg0.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
ISC 06 00:25:35.1±1.4,57°.4S±0°.3×142°.8W±0°.3,h10km,n37,
σ1s33/10,MS4.4/12,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBI	**Tubuai**	**34.36**	**349**	*e*S	S	00 37 27.9	-22
TBI	273nm,29.2s			*e*LR	LR	00 40 52.2	
TBI	**Tubuai**	**34.36**	**349**	*e*T	T	01 07 53.4	
RKT	2µm,29.2s,baz=171			*e*LR	LR	00 40 51.2	
RKT	**Rikitea**	**34.72**	**13**	*e*LQ	LQ	00 39 26.9	
RKT	1µm,30.2s			*e*LR	LR	00 40 51.2	
RKT	**Rikitea**	**34.72**	**13**	*e*T	T	01 07 45.6	
PPT2	2.7nm,0.3s			*e*S	S	00 38 54.7	-22
PPT2	355nm,27.0s			*e*LR	LR	00 43 29.1	
PPT	2µm,28.8s **Papeete**	**40.09**	**350**	LR	LR	00 44 45.1	
VAH	comp=Z,460nm,18.9s,baz=180,slow=29 **Vaihoa**	**42.25**	**353**	*e*T	T	01 17 37.2	
VNA3	11nm,0.2s **Neumayer Olymp**	**47.47**	**161**	P	**P**	**00 34 09.0**	**-0.4**
VNA2	**Neumayer--Watz**	**48.13**	**162**	P	**P**	**00 34 14.5**	**0.0**
SNAA	baz=210,slow=7.3 **Sanae**	**48.20**	**164**	P	**P**	**00 34 15.3**	**+0.2**
VNA1	**Neumayer--Stat**	**48.22**	**161**	P	**P**	**00 34 15.2**	**0.0**
TAOE	**Nuku Hiva Isla**	**48.48**	**3**	*e*LR	LR	00 47 18.1	
DZM	1µm,28.6s **Mont Dzumac**	**50.83**	**292**	*e*LR	LR	00 49 14.2	
MAW	548nm,25.6s **Mawson**	**53.87**	**192**	LR	LR	00 55 27.4	
STKA	comp=Z,404nm,21.0s,baz=161,slow=33 **Stephens Creek**	**56.20**	**263**	LR	LR	00 55 00.2	
ASAR	comp=Z,306nm,21.2s,baz=146,slow=32 **Alice Springs**	**66.83**	**262**	P	**P**	**00 36 26.4**	**-0.7**
ASAR	0.4nm,0.7s,baz=136,slow=6.2,SNR=3.9			LR	LR	01 01 31.4	
H01W1	comp=Z,179nm,21.3s,baz=152,slow=32 **Cape Leeuwin H**	**67.77**	**240**	T	T	01 52 20.2	
H01W2	baz=144,slow=76,SNR=35 **Cape Leeuwin H**	**67.78**	**240**	T	T	01 52 22.5	
H01W3	baz=144,slow=76,SNR=44 **Cape Leeuwin H**	**67.79**	**240**	T	T	01 52 18.7	
LPAZ	baz=144,slow=76,SNR=36 **La Paz**	**68.17**	**86**	LR	LR	01 00 23.8	
WRA	comp=Z,51nm,21.9s,baz=198,slow=30 **Warramunga Arr**	**69.62**	**265**	P	**P**	**00 36 43.8**	**-0.7**
WRA	0.3nm,0.6s,baz=141,slow=5.4,SNR=5.1			LR	LR	01 03 36.8	
BDFB	comp=Z,237nm,20.8s,baz=140,slow=33 **Brasilia**	**79.52**	**102**	LR	LR	01 08 54.8	
JTS	comp=Z,289nm,19.9s,baz=217,slow=32 **JuntasAbangare**	**82.28**	**57**	LR	LR	01 06 00.0	
ROSC	comp=Z,297nm,20.8s,baz=292,slow=30 **El Rosal**	**82.67**	**69**	LR	LR	01 07 28.9	
APG	comp=Z,91nm,20.5s,baz=86,slow=30 **El Apazote**	**84.07**	**50**	LR	LR	01 06 30.5	
CMIG	comp=Z,171nm,20.3s,baz=244,slow=29 **Matias Romero**	**84.18**	**46**	LR	LR	01 07 07.9	
LPIG	comp=Z,57nm,20.9s,baz=200,slow=30 **La Paz**	**85.65**	**29**	LR	LR	01 09 10.5	
H10S3	comp=Z,60nm,19.2s,baz=210,slow=31 **ASCENSION HYDR**	**101.55**	**128**	T	T	02 33 03.0	
H10S2	baz=207 **ASCENSION HYDR**	**101.55**	**128**	T	T	02 33 02.4	
H10S1	baz=207 **ASCENSION HYDR**	**101.56**	**128**	T	T	02 33 01.8	
H10N3	baz=207 **ASCENSION HYDR**	**102.61**	**127**	T	T	02 34 25.2	
H10N1	baz=206,slow=75,SNR=7.6 **ASCENSION HYDR**	**102.61**	**127**	T	T	02 34 27.8	
H10N2	baz=206,slow=75,SNR=9.4 **ASCENSION HYDR**	**102.63**	**127**	T	T	02 34 33.0	
ILAR	baz=206,slow=75,SNR=5.3 **Eielson Array**	**121.89**	**358**	PKP	**PKPdf**	**00 44 27.6**	**-0.3**
ESDC	0.6nm,1.0s,baz=236,slow=1.8,SNR=3.9 **Sonseca Array**	**148.12**	**106**	PKPbc	**PKPab**	**00 45 22.5**	**-0.8**
MKAR	1.0nm,1.0s,baz=197,slow=3.6,SNR=2.8 **Makanchi Array**	**150.88**	**268**	PKPbc	**PKPbc**	**00 45 27.0**	**+0.1**
AAK	0.6nm,0.8s,baz=101,slow=1.5,SNR=5.1 **Ala-Archa**	**152.29**	**254**	PKPbc	**PKPbc**	**00 45 33.7**	**+3.3**
	1.0nm,0.8s,baz=101,slow=5.2,SNR=2.1						

*IDC **06** 00:41:50.6±3.0,8°.41S×118°.34E,h125km±27km,mb3.3/4, mb1 3.5/7,mb1mx3.3/40,mbtmp3.8/7,Error ellipse: s-maj=47.0km s-min=15.0km az=47.0*
*ISCJB **06** 00:41:51.4±0.5,8°.65S±0°.07×118°.31E±0°.04,h152km, mb3.5/4,Error ellipse: s-maj=10.4km s-min=4.8km az=10.1*
*DJA **06** 00:41:53.8±0.3,9°S±4°×11°8E±°,h111km±4km,M4.0/11, mb4.3/2,MLv3.8/11*
ISC 06 00:41:52.9±0.8,8°.65S±0°.08×118°.29E±0°.04,h152km,n17,
σ2s18/24,mb3.5/4,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.54**	**251**	P	**Pn**	**00 42 11.9**	**-2.8**
PLAI				S	**Sn**	**00 42 25.8**	**-5.5**
TWSI	**Taliwang, Sumb**	**1.40**	**266**	P	**Pn**	**00 42 19.9**	**-1.7**
WBSI	**Waikabubak, Su**	**1.47**	**132**	P	**Pn**	**00 42 20.6**	**-1.7**
WBSI				S	**Sn**	**00 42 41.3**	**-3.6**
DNP	**Denpasar**	**3.05**	**269**	P	**Pn**	**00 42 40.8**	**-0.2**
SRBI	**Singaraja**	**3.10**	**280**	P	**Pn**	**00 42 41.4**	**-0.2**
IGBI	**Denpasar**	**3.12**	**267**	P	**Pn**	**00 42 41.6**	**-0.2**
IGBI				S	**Sn**	**00 43 18.7**	**-1.0**
EDFI	**Ende, Flores**	**3.36**	**92**	P	**Pn**	**00 42 44.2**	**-0.9**
EDFI				S	**Sn**	**00 43 24.3**	**-1.1**
BKSI	**Bulukumba**	**3.77**	**29**	P	**Pn**	**00 42 49.6**	**-0.7**
BKSI				S	Sn	00 42 58.7	-36
BNSI	**Bone**	**4.59**	**23**	P	**Pn**	**00 43 00.7**	**-0.3**
BATI	**Baumata**	**5.52**	**107**	P	**Pn**	**00 43 12.4**	**-0.9**
BATI	5.4nm,0.3s,baz=297,slow=1.7,SNR=3.9			S	**Sn**	**00 44 14.2**	**-1.9**
PWJI	10nm,0.3s,baz=334,slow=22,SNR=5.8 **Pagerwojo**	**6.45**	**275**	P	**Pn**	**00 43 26.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**11.80**	**143**	P	**Pn**	**00 44 36.1**	**-0.4**
FITZ	0.2nm,0.3s,baz=334,slow=13,SNR=12			S	Sn	00 46 39.1	-8.0
WRA	1.5nm,0.3s,baz=184,slow=18,SNR=10 **Warramunga Arr**	**19.16**	**128**	P	**P**	**00 46 05.2**	**+0.4**
WRA	0.5nm,0.3s,baz=300,slow=12,SNR=26			S	**S**	**00 49 33.1**	**-0.9**
ASAR	0.1nm,0.3s,baz=302,slow=24,SNR=5.5 **Alice Springs**	**21.13**	**137**	P	**P**	**00 46 26.8**	**+0.9**
ASAR	1.6nm,0.6s,baz=314,slow=9.1,SNR=31			S	**S**	**00 50 17.3**	**+4.9**
STKA	0.2nm,0.3s,baz=312,slow=24,SNR=3.4 **Stephens Creek**	**31.67**	**140**	P	**P**	**00 48 03.6**	**+1.6**
	0.8nm,0.2s,baz=315,slow=13,SNR=2.4						
MKAR	**Makanchi Array**	**63.83**	**333**	P	**P**	**00 52 08.0**	**-1.0**
	0.1nm,0.3s,baz=142,slow=5.2,SNR=5.7						
VNDA	**Vanda**	**72.44**	**171**	P	**P**	**00 53 04.7**	**+2.5**
	0.3nm,0.4s,baz=314,slow=8.1,SNR=7.7						

IDC 06 01:08:23.9±42.0,0°.20N×123°.21E,h189km±137km, mb3.8/3,mb1 3.7/5,mb1mx3.2/36,mbtmp4.1/5,Error ellipse: s-maj=583.8km s-min=46.5km az=136.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**17.70**	**99**	P	P	01 12 17.4	0.0
	1.4nm,0.3s,baz=96,slow=19,SNR=4.7						
FITZ	**Fitzroy Crossi**	**18.34**	**173**	P	P	01 12 24.6	+0.4
	0.3nm,0.3s,baz=352,slow=10,SNR=13						
WRA	**Warramunga Arr**	**22.80**	**152**	P	P	01 13 09.6	-1.0
	3.8nm,0.7s,baz=332,slow=9.3,SNR=40						
ASAR	**Alice Springs**	**25.90**	**157**	P	P	01 13 38.9	+0.2
	3.2nm,0.4s,baz=342,slow=14,SNR=61						
STKA	**Stephens Creek**	**36.34**	**153**	P	P	01 15 10.4	+0.6
	1.3nm,0.3s,baz=333,slow=9.9,SNR=4.3						

IDC 06 01:14:44.3±8.5,14°.28S×166°.81E,h0km,mb3.5/3, mb1 3.8/3,mb1mx3.5/29,mbtmp3.5/3,Error ellipse: s-maj=423.3km s-min=35.1km az=143.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.50**	**255**	P	P	01 21 07.9	-0.3
	0.4nm,0.7s,baz=79,slow=7.8,SNR=3.3						
ASAR	**Alice Springs**	**32.41**	**248**	P	P	01 21 16.6	+0.3
	0.5nm,0.8s,baz=80,slow=9.6,SNR=5.0						
ILAR	**Eielson Array**	**86.24**	**18**	P	P	01 27 27.4	0.0
	0.2nm,0.3s,baz=233,slow=5.4,SNR=5.6						

IDC 06 01:18:36.3±1.1,27°.10N×99°.51E,h0km,mb3.4/4, mb1 3.7/5,mb1mx3.3/50,mbtmp3.5/5,ML4.4/1,Error ellipse: s-maj=64.3km s-min=19.1km az=65.0,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.62**	**184**	Pn	Pn	01 20 43.3	+0.9
	1.2nm,0.3s,baz=344,slow=16,SNR=3.6						
CMAR				Sn	Sn	01 22 22.2	+1.8
	0.8nm,0.3s,baz=341,slow=30,SNR=3.5						
MKAR	**Makanchi Array**	**23.90**	**330**	P	P	01 23 51.6	0.0
	0.6nm,0.5s,baz=145,slow=9.2,SNR=9.3						
KURBB	**Kurchatov Arra**	**28.42**	**331**	P	P	01 24 32.5	+0.1
	0.2nm,0.4s,baz=156,slow=7.0,SNR=3.3						
WRA	**Warramunga Arr**	**57.67**	**141**	P	P	01 28 28.4	-0.4
	0.3nm,0.6s,baz=320,slow=7.6,SNR=2.6						
ASAR	**Alice Springs**	**60.42**	**143**	P	P	01 28 47.9	0.0
	0.4nm,0.8s,baz=326,slow=6.9,SNR=4.5						

IDC 06 01:24:56.8±1.4,3°.57S×128°.42E,h0km,mb3.7/3, mb1 4.1/5,mb1mx3.7/39,mbtmp3.9/5,ML3.9/2,Error ellipse: s-maj=45.4km s-min=25.0km az=74.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.91**	**47**	Pn	Pn	01 25 57.6	-0.5
	2.1nm,0.3s,baz=252,slow=20,SNR=24						
SIJI				Sn	Sn	01 26 34.0	-11
	15nm,0.3s,baz=221,slow=23,SNR=14						
WRA	**Warramunga Arr**	**17.27**	**161**	P	Pn	01 28 59.4	-0.1
	0.8nm,0.3s,baz=341,slow=12,SNR=38						
ASAR	**Alice Springs**	**20.67**	**166**	P		01 29 38.5	0.0
	3.9nm,0.4s,baz=345,slow=11,SNR=34						
MKAR	**Makanchi Array**	**64.52**	**327**	P	P	01 35 35.5	-0.1
	0.3nm,0.5s,baz=118,slow=8.5,SNR=4.5						
KURBB	**Kurchatov Arra**	**68.78**	**328**	P	P	01 36 03.0	+0.3
	0.2nm,0.5s,baz=128,slow=6.2,SNR=4.1						

*ISCJB **06** 01:35:26.3±0.4,50°.29N±0°.03×18°.75E±0°.03,h0km,Error ellipse: s-maj=4.6km s-min=2.4km az=10.3*
*IPEC **06** 01:35:28.0±0.1,50°.25N×18°.81E,h1km±1km,ML2.0/3, Error ellipse: s-maj=1.6km s-min=0.6km az=179.0*
*WAR **06** 01:35:28.4,50°.25N×18°.84E,h1km,Mw2.5*
*PRU **06** 01:35:28.3±0.0,50°.27N×18°.79E,h0km*
ISC 06 01:35:26.9±0.8,50°.23N±0°.03×18°.78E±0°.02,h0km,n32,
σ1s01/54,3C-2D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.15**	**65**	*e*Pg	**Pg**	**01 35 30.5**	**+0.6**
CHZP				*e*Sg	**Sg**	**01 35 32.5**	**+0.6**
CHZP	**Chorzow**	**0.15**	**65**	*e*Pg	**Pg**	**01 35 30.5**	**+0.6**
CHZP				*e*Sg	**Sg**	**01 35 32.5**	**+0.6**
OKC	**Ostrava-Krasne**	**0.56**	**226**	*e*PG	**Pb**	**01 35 40.1**	**+0.5**
OKC	comp=Z,18nm,0.3s			*e*SG	**Sb**	**01 35 48.7**	**+0.5**
OJC	**Ojcow**	**0.66**	**90**	*e*Pg	**Pg**	**01 35 40.0**	**+0.4**
OJC				*e*Sg	**Sg**	**01 35 48.6**	**+0.5**
OJC	**Ojcow**	**0.66**	**90**	*e*Pg	**Pg**	**01 35 40.0**	**+0.4**
OJC				*e*Sg	**Sg**	**01 35 48.6**	**+0.5**
ANAC	**Anensky vrch**	**0.91**	**261**	*e*Pg	**Pg**	**01 35 46.0**	**+0.4**
	baz=79						
MORC	**Moravsky Berou**	**0.91**	**241**	*i*P	**Pb**	**01 35 46.5**	**+0.8**
MORC				S	**Sb**	**01 35 58.6**	**+0.2**
MORC	**Moravsky Berou**	**0.91**	**241**	*e*PG	**Pb**	**01 35 46.1**	**+0.4**
MORC				*e*SG	**Sb**	**01 35 58.4**	**0.0**
MORC	**Moravsky Berou**	**0.91**	**241**	*e*Pg	**Pb**	**01 35 46.1**	**+0.4**
	baz=60						
MORC				*e*Sg	**Sb**	**01 35 58.3**	**-0.1**
	28nm,0.3s,baz=60						
LANS	**Liptovska Anna**	**1.17**	**157**	*e*PG	**Pn**	**01 35 50.7**	**+0.1**
LANS				*e*SG	**Sn**	**01 36 07.7**	**+0.5**
LIPC	**Lipinka**	**1.18**	**252**	*e*Pg	**Pb**	**01 35 50.8**	**+0.7**
	baz=70						
NIE	**Niedzica**	**1.28**	**129**	*e*Pg	**Pb**	**01 35 52.2**	**+0.3**
NIE				*e*Sg	**Sn**	**01 36 09.8**	**-0.1**
NIE	**Niedzica**	**1.28**	**129**	*e*Pg	**Pb**	**01 35 52.2**	**+0.3**
NIE				*e*Sg	**Sn**	**01 36 09.8**	**-0.1**
DPC	**Dobruska-Polom**	**1.58**	**275**	*e*PG	**Pn**	**01 35 57.0**	**+0.8**
DPC	comp=Z,19nm,0.3s			*e*SG	**Sg**	**01 36 18.8**	**+1.2**
VRAC	**Vranov**	**1.69**	**238**	*i*P	**Pg**	**01 35 59.7**	**+0.5**
VRAC				S	**Sg**	**01 36 21.8**	**+0.7**
VRAC	**Vranov**	**1.69**	**238**	*e*PN	**Pb**	**01 35 59.2**	**+0.4**
VRAC				*e*SG	**Sg**	**01 36 21.4**	**+0.3**
VRAC	**Vranov**	**1.69**	**238**	*e*Pn	**Pb**	**01 35 59.1**	**+0.3**
	baz=56						
VRAC				*e*Sg	**Sg**	**01 36 21.3**	**+0.2**
	13nm,0.3s,baz=56						
KSP	**Ksiaz**	**1.70**	**292**	*e*Pg	**Pg**	**01 36 00.2**	**+0.7**
KSP				*e*Sg	**Sg**	**01 36 23.2**	**+1.7**
KSP	**Ksiaz**	**1.70**	**292**	*e*Pg	**Pg**	**01 36 00.2**	**+0.7**
KSP				*e*Sg	**Sg**	**01 36 23.2**	**+1.7**
VYHS	**Vyhne**	**1.73**	**179**	*e*PN	**Pn**	**01 35 58.7**	**+0.4**
VYHS				*e*SN	**Sn**	**01 36 21.4**	**+0.3**
VYHS				*e*LG	Lg	01 36 30.0	
KRUC	**Moravsky**	**1.94**	**234**	*e*PN	**Pb**	**01 36 02.7**	**-0.4**
KRUC				*e*SG	**Sg**	**01 36 29.0**	**-0.1**
KRUC	**Moravsky**	**1.94**	**234**	*e*Pn	**Pb**	**01 36 02.7**	**-0.4**
	baz=52						
KRUC				*e*Sg	**Sg**	**01 36 29.0**	**-0.1**
	8.0nm,0.3s,baz=52						
GOPC	**GO Pecny, Ondr**	**2.59**	**265**	*e*SG	**Sg**	**01 36 49.8**	**-0.2**
	comp=Z,19nm,0.9s						
PVCC	**Panska Ves**	**2.71**	**278**	*e*SG	**Sg**	**01 36 54.6**	**+0.7**
	comp=Z,14nm,0.3s						
BRG	**Berggiesshubel**	**3.15**	**284**	PG	**Pg**	**01 36 28.4**	**+1.1**
BRG				SG	**Sg**	**01 37 08.4**	**+0.4**
	5.8nm,0.5s						
KHC	**Kasperske Hory**	**3.55**	**254**	*e*PG	**Pg**	**01 36 34.0**	**-0.9**
KHC				*e*SG	**Sg**	**01 37 20.9**	**0.0**
	comp=Z,11nm,0.7s						
CLL	**Collm**	**3.82**	**289**	*e*Sg	**Sg**	**01 37 31.0**	**+1.4**
DRGR		**4.32**	**141**	*i*P	**Pn**	**01 36 32.6**	**-1.3**
DRGR		**4.32**	**141**	S	**Sn**	**01 37 22.2**	**-2.8**
BURAR	**Bucovina Array**	**4.99**	**119**	*i*P	**Pn**	**01 36 43.3**	**+0.2**
BZS	**Buzias**	**4.99**	**156**	*i*P	Pn	01 36 35.5	-7.6
BSD	**Bornholm Skovb**	**5.43**	**336**	*i* P	**Pn**	**01 36 48.5**	**-0.6**
BSD				*e*S	**Sn**	**01 37 47.5**	**-4.7**

*BJI **06** 01:36:14.4,1°.08N×122°.47E,h10km,mb5.2/78,mB5.4/72, Ms5.4/90,Ms7 5.3/82*
*NEIC **06** 01:36:20.0±0.0,1°.57N×122°.38E,h17km,Moment Tensor Solution. s23 Moment tensor: Scale 10^17Nm; Mrr2.49; Mθθ-2.40; Mφφ-0.08; Mrθ-3.43; Mθφ0.05; Mrφ-0.34; Best double couple: M0=4.20000×10^17 NP1:ϕs266.00000°, δ72.00000°,λ87.00000°. NP2:ϕs96.00000°,δ18.00000°, λ100.00000°. Principal axes: T 4.2800, Plg62.0000°, Azm170.0000°; N -0.1000, Plg3.0000°, Azm266.0000°; P -4.1700, Plg27.0000°, Azm358.0000°;*
*ISCJB **06** 01:36:21.2±0.6,1°.40N±0°.02×122°.26E±0°.02,h33km±4km, mb5.5/244,MS5.2/184 Error ellipse: s-maj=2.9km s-min=2.5km az=137.9*
*NEIC **06** 01:36:21.6±1.1,1°.37N×122°.20E,h25km±7km,mb5.7/118, MS5.2/128,MW5.7,Error ellipse: s-maj=4.2km s-min=3.0km az=57.0*
NEIC Felt [IV] at Bolaang, Buol and Gorontalo; [III] at Parigi.
*MOS **06** 01:36:22.4±0.9,1°.41N×122°.29E,h49km,mb5.7/52, MS5.0/25,Error ellipse: s-maj=6.8km s-min=4.4km az=114.7*
*GCMT **06** 01:36:22.6±0.1,1°.58N±0°.01×122°.15E±0°.01,h23km, MW5.6/126,Moment Tensor Solution. s118,c207; s126,c285; Duration: 1s6 Moment tensor: Scale 10^17 Nm; Mrr2.30±.05; Mθθ-2.25±.04; Mφφ-0.04±.04; Mrθ-2.73±.09; Mrφ0.24±.03; Mθφ-0.09±.07; Best double couple: M0=3.56300×10^17 NP1:ϕs270.00000°,δ70.00000°, λ86.00000°. NP2:ϕs102.00000°,δ20.00000°,λ101.00000°. Principal axes: T 3.5880, Plg65.0000°, Azm173.0000°; N -0.0480, Plg4.0000°, Azm272.0000°; P -3.5380, Plg25.0000°, Azm3.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*IDC **06** 01:36:24.4±1.6,1°.31N×122°.22E,h52km±13km,mb4.9/49, mb1 4.9/53,mb1mx4.9/55,mbtmp5.1/53,ML5.3/6,MS5.0/19, Ms1 5.0/19,ms1mx4.7/43 Error ellipse: s-maj=10.9km s-min=6.1km az=65.0*
*DJA **06** 01:36:25.0±0.2,1°N±2°×12°2E±°,h51km±2km,M5.7/91, mb5.8/91,mB6.0/77,MLv5.9/3,Mw(mB)5.7/77,Mwp5.7/6*
ISC 06 01:36:22.3±0.4,1°.30N±0°.02×122°.25E±0°.03,h32km±2km,
h32km:pP-P,n1144,σ1s64/1160,mb5.5/252,MS5.2/184,
36C-24D,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.87**	**201**	P	**Pb**	**01 36 39.7**	**+0.7**
KMSI	**Cibinong**	**1.88**	**113**	P	**Pb**	**01 36 54.9**	**-1.0**
APSI	**Ampana**	**2.28**	**195**	P	**Pn**	**01 37 00.2**	**+2.5**
LUWI	**Luwuk**	**2.38**	**167**	*e*Pn	**Pb**	**01 37 03.2**	**-1.3**
LUWI				*e*Sn	**Sn**	**01 37 27.7**	**+0.4**
LUWI	**Luwuk**	**2.38**	**167**	P	**Pb**	**01 37 02.3**	**-2.3**
MPSI	**Mapaga**	**2.54**	**248**	P	**Pn**	**01 37 03.4**	**+2.2**
MNI	**Manado**	**2.59**	**87**	P	**Pn**	**01 37 01.6**	**-0.5**
SGSI	**Sangihe**	**4.04**	**54**	P	**Pn**	**01 37 23.1**	**+1.1**
TTSI	**Tana Toraja**	**4.95**	**209**	P	**Pn**	**01 37 38.3**	**+3.8**
SGKI	**Sangatta, Kali**	**4.99**	**249**	P	**Pn**	**01 37 33.7**	**-1.3**
SANI	**Sanana**	**5.00**	**132**	P	**Pn**	**01 37 38.3**	**+3.1**
TNTI	**Ternate**	**5.14**	**96**	*e*Pn	**Pn**	**01 37 37.8**	**+0.7**
TNTI				*e*Sn	**Sn**	**01 38 34.9**	**-0.6**
TNTI	**Ternate**	**5.14**	**96**	P	**Pn**	**01 37 39.3**	**+2.2**
SMKI	**Samarinda**	**5.33**	**251**	P	**Pn**	**01 37 42.5**	**+2.8**
GSPH	**General Santos**	**5.47**	**29**	*e*P	**Pn**	**01 37 41.4**	**-0.3**
LBMI	**Labuha**	**5.59**	**110**	P	**Pn**	**01 37 46.7**	**+3.4**
SPSI	**Sidrap Palu**	**5.79**	**205**	P	**Pn**	**01 37 48.5**	**+2.5**
BKB	**Balikpapan**	**5.92**	**245**	P	**Pn**	**01 37 49.5**	**+1.6**
BNSI	**Bone**	**6.05**	**201**	P	**Pn**	**01 37 52.4**	**+2.8**
CTBH	**Cotabato--PC H**	**6.21**	**19**	*i*P	**Pn**	**01 37 48.6**	**-3.2**
CTBH				*i* S	Sn	01 38 52.3	-9.4
NLAI	**Namlea**	**6.62**	**133**	P	**Pn**	**01 37 59.8**	**+2.4**
DAV	**Davao City (W)**	**6.62**	**30**	P	**Pn**	**01 37 58.6**	**+1.2**
	193nm,0.3s,baz=248,slow=9.0,SNR=32						
DAV				S	**Sn**	**01 39 16.9**	**+4.9**
	112nm,0.3s,baz=76,slow=18,SNR=1.7						
DAV	**Davao City (W)**	**6.62**	**30**	*i*P	**Pn**	**01 37 56.9**	**-0.6**
DAV	**Davao City (W)**	**6.62**	**30**	*e*Pn	**Pn**	**01 37 57.4**	**-0.1**
DAV				*e*Sn	**Sn**	**01 39 16.9**	**+4.9**
DAV	**Davao City (W)**	**6.62**	**30**	P	**Pn**	**01 37 57.2**	**-0.3**
	SNR=46						
BBSI	**Bau Bau**	**6.75**	**177**	P	**Pn**	**01 38 02.9**	**+3.7**
BKSI	**Bulukumba**	**6.91**	**198**	P	**Pn**	**01 38 04.3**	**+2.9**
KBKI	**Kotabaru**	**7.60**	**233**	P	**Pn**	**01 38 12.8**	**+1.9**
KKM	**Kota Kinabalu**	**7.64**	**308**	*e*Pn	**Pn**	**01 38 10.3**	**-1.3**
MTKI	**Muara Teweh, K**	**7.68**	**253**	P	**Pn**	**01 38 14.6**	**+2.6**
AAI	**Ambon**	**7.74**	**130**	P	Pn	01 38 18.1	+5.3
AAI				pmax	pmax		
	comp=Z,1µm,1.0s						
AAI	**Ambon**	**7.74**	**130**	P	Pn	01 38 18.1	+5.3
	comp=Z,1µm,1.0s,comp=Z,13µmcomp=Z,19µmcomp=Z,5.0nm						
MSAI	**Masohi**	**8.12**	**125**	P	**Pn**	**01 38 21.2**	**+3.2**
	comp=Z,275nm,1.3s,comp=Z,4µmcomp=Z,1.2nm						
SWI	**Sorong**	**9.26**	**103**	P	Pn	01 38 44.0	+10
SIJI	**Sorong**	**9.27**	**103**	P	**Pn**	**01 38 36.7**	**+2.9**
	comp=Z,4.4nm,0.3s,baz=298,slow=12,SNR=21						
BNDI	**Bandanaira**	**9.59**	**127**	P	**Pn**	**01 38 41.1**	**+2.9**
	comp=Z,1µm,1.1s,comp=Z,20µm						
MMRI	**Maumere**	**9.87**	**180**	*e*Pn	**Pn**	**01 38 44.4**	**+2.4**
MMRI	**Maumere**	**9.87**	**180**	P	Pn	01 38 46.6	+4.6
	comp=Z,846nm,1.0s,comp=Z,11µmcomp=Z,29µm						
EDFI	**Ende, Flores**	**10.00**	**183**	P	**Pn**	**01 38 47.3**	**+3.4**
	comp=Z,299nm,0.9s,comp=Z,3µm						
SBUM	**Sibu**	**10.09**	**277**	*e*Pn	**Pn**	**01 38 45.2**	**+0.2**
PLP	**Palo**	**10.17**	**15**	*e*P	**Pn**	**01 38 46.2**	**+0.1**
RCP	**Roxas**	**10.21**	**3**	*e*P	**Pn**	**01 38 47.2**	**+0.6**
FAKI	**Fak Fak**	**10.84**	**113**	*e*Pn	**Pn**	**01 38 55.4**	**+0.1**
FAKI	**Fak Fak**	**10.84**	**113**	P	**Pn**	**01 38 58.0**	**+2.6**
	comp=Z,175nm,0.8s,comp=Z,2µm

WOJI Wonogiri, Jawa 14.49 231 P **P** **01 39 48.6 -2.9**
PCJI Pacitan 14.52 229 P **Pn** **01 39 47.6 +2.0**
comp=Z,508nm,1.2s,comp=Z,7µm
UGM Wanagama 14.85 232 *e*Pn **P** **01 39 53.1 -2.5**
UGM Wanagama 14.85 232 P **P** **01 39 58.9 +3.3**
KPJI Karang Pucung 15.81 237 P **P** **01 40 05.3 -0.9**
comp=Z,595nm,0.8s,comp=Z,6µm
JCJI Jatiwangi 15.96 241 P **P** **01 40 10.7 +2.9**
comp=Z,625nm,1.2s,comp=Z,14µm
CMJI Cimerak 16.46 237 P **P** **01 40 16.1 +2.7**
comp=Z,451nm,1.0s,comp=Z,5µm
PPBI Pangkal Pinang 16.47 258 P **Pn** **01 40 10.3 -0.9**
comp=Z,142nm,1.0s
MTN Manton Dam 16.59 148 P **P** **01 40 14.0 -0.8**
baz=17,SNR=41
MTN Manton Dam 16.59 148 *e*Pn **Pn** **01 40 12.2 -0.5**
comp=Z,382nm,1.1s
LEM Lembang 16.68 241 P **P** **01 40 16.3 +0.2**
comp=Z,5.2nm,0.3s,baz=50,slow=8.0,SNR=25
SMPI Sarmi 16.78 101 P **P** **01 40 17.2 +0.2**
comp=Z,162nm,1.2s,comp=Z,4µm
CISI Cisompet, Garu 16.87 238 *e*Pn **Pn** **01 40 15.7 -0.6**
comp=Z,678nm,0.9s
CISI Cisompet, Garu 16.87 238 P **P** **01 40 17.8 -0.3**
comp=Z,834nm,0.8s,comp=Z,11µm
CBJI Citeko 17.18 243 P **P** **01 40 22.9 +1.5**
comp=Z,902nm,0.9s,comp=Z,12µm
KDU Kakadu 17.21 144 P **Pn** **01 40 21.0 +0.6**
baz=17,SNR=74
SBJI Serang 17.70 245 P **P** **01 40 27.1 -0.1**
comp=Z,642nm,1.0s,comp=Z,13µm
TPRI Tanjung Pinang 17.72 269 P **P** **01 40 27.9 +0.5**
comp=Z,274nm,1.1s
PMBI Palembang 17.97 256 P **P** **01 40 33.6 +3.5**
comp=Z,709nm,1.2s,comp=Z,31µm
KNRA Kununurra 18.06 159 P **P** **01 40 31.8 +0.8**
baz=18,SNR=44
BLSI Bandar Lampung 18.23 249 P **Pn** **01 40 35.5 +2.5**
comp=Z,604nm,1.1s,comp=Z,7µm
CGJI Cibinong 18.30 244 P **Pn** **01 40 34.4 +0.5**
comp=Z,675nm,1.2s,comp=Z,9µm
GENI Genyem 18.33 102 P **Pn** **01 40 36.1 +1.9**
comp=Z,289nm,1.2s,comp=Z,6µm
MYKOM Kota Tinggi 18.40 272 *e*P **P** **01 40 34.4 -0.5**
comp=Z,147nm,1.0s
KLI Kotabumi 18.42 250 P **Pn** **01 40 37.4 +2.0**
KLI pmax pmax
comp=Z,533nm,0.9s
KLI Kotabumi 18.42 250 P **Pn** **01 40 37.4 +2.0**
comp=Z,533nm,0.9s,comp=Z,8µm
JAY Jayapura 18.84 102 P **Pn** **01 40 40.9 +0.4**
comp=Z,3.2nm,0.3s,baz=76,slow=14,SNR=8.5
JAY Jayapura 18.84 102 P **Pn** **01 40 43.0 +2.5**
comp=Z,721nm,1.1s,comp=Z,15µm
MDSI Maura Dua 18.95 252 P **Pn** **01 40 41.8 +0.1**
comp=Z,592nm,1.0s,comp=Z,5µm
KASI Kota Agung 18.98 249 P **Pn** **01 40 42.4 +0.3**
comp=Z,788nm,1.0s,comp=Z,9µm
LWLI Liwa 19.22 251 P **Pn** **01 40 46.2 +1.0**
comp=Z,663nm,1.2s,comp=Z,7µm
FITZ Fitzroy Crossi 19.56 170 P **P** **01 40 48.1 +0.5**
comp=Z,17nm,0.3s,baz=3.2,slow=7.5,SNR=413
FITZ S **S** **01 44 26.2 -0.7**
baz=194,slow=19,SNR=4.4
FITZ LR LR 01 48 29.8
comp=Z,4µm,21.5s,baz=349,slow=37
FITZ Fitzroy Crossi 19.56 170 P **P** **01 40 48.1 +0.5**
baz=20,SNR=300
FITZ Fitzroy Crossi 19.56 170 *e*P **P** **01 40 48.2 +0.5**
comp=Z,459nm,0.9s
FITZ *e*S **S** **01 44 26.2 -0.7**
RGRI Rengat 19.98 265 P **Pn** **01 40 56.0 +1.9**
comp=Z,340nm,0.9s
MNAI Manna 20.08 254 *e*P **P** **01 40 54.2 +0.8**
MNAI comp=Z,2µm,1.2s LR LR
comp=Z,7µm,20.0s
MNAI Manna 20.08 254 P Pn 01 40 55.1 -0.2
comp=Z,2µm,1.1s,comp=Z,20µm
MASI Maura Aman, Be 20.48 258 P Pn 01 40 59.3 -0.7
comp=Z,3µm,1.0s,comp=Z,21µm
SDSI Sungai Dareh 20.94 264 P **P** **01 41 03.0 +0.4**
comp=Z,832nm,0.9s,comp=Z,6µm
KRJI Kerinci 21.05 261 P **P** **01 41 05.8 +1.8**
comp=Z,3µm,1.2s,comp=Z,28µm
BKNI Bangkinang 21.23 268 *e*P **P** **01 41 05.6 -0.2**
BKNI comp=Z,3µm,1.4s LR LR
comp=Z,8µm,20.0s
BKNI Bangkinang 21.23 268 P **P** **01 41 06.7 +0.9**
comp=Z,1µm,0.9s,comp=Z,13µm
QIZ Qiongzhong 21.41 326 P **P** **01 41 06.5 -1.1**
QIZ sP **pP** **01 41 14.1 -2.1**
QIZ S **S** **01 45 04.6 +0.9**
QIZ SS **SnSn** **01 45 37.9 +10**
QIZ pmax pmax
comp=Z,79nm,1.6s
QIZ pmax pmax
comp=Z,760nm,3.5s
QIZ LR LR
comp=Z,3µm,14.2s
QIZ LR LR
comp=Z,4µm,13.7s
QIZ LR LR
comp=Z,4µm,15.7s
QIZ Qiongzhong 21.41 326 *e*P **P** **01 41 07.3 -0.3**
comp=Z,158nm,1.1s
QIZ LR LR
comp=Z,4µm,20.0s
TWG Pinlang 21.42 357 *e*P **P** **01 41 05.2 -2.5**
comp=Z,310nm,0.8s
TWG LR LR
comp=Z,44µm,20.0s
IPM Ipoh 21.43 279 *e*P **P** **01 41 07.6 -0.3**
comp=Z,743nm,1.0s
IPM LR LR
comp=Z,6µm,21.0s
UBPT Khong Chiam 21.61 311 P **P** **01 41 09.3 -0.5**
comp=Z,249nm,1.4s,comp=Z,4µm
PDSI Padang 21.90 264 P **P** **01 41 12.8 -0.1**
comp=Z,422nm,1.2s,comp=Z,5µm
KULM Kulim 21.92 281 *e*P **P** **01 41 12.6 -0.6**
comp=Z,610nm,1.0s
KULM LR LR
comp=Z,2µm,18.0s
TPUB Ta-pu 21.93 356 *e*P **P** **01 41 13.0 -0.1**
comp=Z,193nm,0.8s
TPUB LR LR
comp=Z,7µm,19.0s
YULB Yu-li 21.98 358 *e*P **P** **01 41 11.3 -2.5**
comp=Z,73nm,0.9s
YULB LR LR
comp=Z,4µm,21.0s
SKLT Songkhla 22.33 286 P **P** **01 41 19.0 +1.4**
comp=Z,543nm,1.0s,comp=Z,4µm
MCO Taipa Grande 22.36 338 P P 01 41 29.0 +11
SSLB Suanglung 22.39 357 *e*P **P** **01 41 16.3 -1.9**
comp=Z,164nm,1.1s
SSLB LR LR
comp=Z,8µm,20.0s
MBWA Marble Bar 22.46 186 *e*P **P** **01 41 17.4 -1.5**
comp=Z,346nm,1.1s
MBWA Marble Bar 22.46 186 P **P** **01 41 17.7 -1.2**
SNR=8.8
PPSI Pulau Pagai 22.60 260 P **P** **01 41 20.3 -0.1**
comp=Z,1µm,0.9s,comp=Z,9µm
MNSI Mandailing Nat 22.67 269 P **P** **01 41 20.7 -0.5**
comp=Z,368nm,0.8s,comp=Z,5µm
NACB Ninganchiao 22.75 358 *e*P **P** **01 41 17.8 -4.1**
NACB comp=Z,40nm,1.0s LR LR
comp=Z,5µm,20.0s
YOJ Yonaguni jima 23.04 2 *e*P **P** **01 41 22.3 -2.6**
comp=Z,442nm,1.0s
YOJ Yonaguni jima 23.04 2 *e*P **P** **01 41 22.3 -2.6**
YOJ pmax pmax
comp=Z,442nm,1.0s
YHNB Yeheng 23.25 358 *e*P **P** **01 41 24.2 -2.9**
comp=Z,303nm,1.5s
YHNB LR LR
comp=Z,8µm,20.0s
GZH Guangzhou 23.32 339 P **P** **01 41 30.5 +2.8**
GZH S **S** **01 45 46.7 +8.4**
GZH pmax pmax
comp=Z,1µm,5.4s
GZH LR LR
comp=Z,6µm,13.1s
GZH LR LR
comp=Z,5µm,13.9s
PSI Prapat 23.36 274 *e*P **P** **01 41 27.4 -1.0**
comp=Z,610nm,1.1s
PSI LR LR
comp=Z,5µm,20.0s
PSI Prapat 23.36 274 *e*P **P** **01 41 27.4 -1.0**
PSI pmax pmax
comp=Z,611nm,1.1s
PSI MLR MLR
comp=Z,5µm,20.0s
TRTT Trang 23.39 287 P **P** **01 41 29.3 +0.7**
comp=Z,127nm,1.1s,comp=Z,2µm
TATO Taipei 23.55 358 PFAKE 01 41 40.0 +10
TATO LR LR
comp=Z,11µm,20.0s
SRAK Srakaew 23.64 303 P **P** **01 41 25.9 -5.0**
TSI Tuntungan 23.76 276 P **P** **01 41 33.4 +1.3**
comp=Z,2µm,1.2s,comp=Z,18µm
QZH Quanzhou 23.77 352 ⇓ *i*P **P** **01 41 31.4 -0.6**
QZH S **S** **01 45 46.7 +1.2**
QZH pmax pmax
comp=Z,100nm,1.1s
QZH pmax pmax
comp=Z,2µm,2.8s
QZH LR LR
comp=Z,4µm,16.1s
QZH LR LR
comp=Z,4µm,19.0s
QZH LR LR
comp=Z,5µm,17.5s
SKNT Sakolnakorn 23.79 312 P **P** **01 41 31.0 -1.3**
comp=Z,72nm,1.0s,comp=Z,1µm
PBSI Pulau Batu 24.00 267 P **P** **01 41 38.2 +3.8**
comp=Z,220nm,1.0s,comp=Z,3µm
WB0 Warramunga Arr 24.09 151 PFAKE 01 41 50.0 +15
WB0 LR LR
comp=Z,4µm,22.0s
WB9 Warramunga Arr 24.11 151 PFAKE 01 41 50.0 +15
WB9 LR LR
comp=Z,7µm,20.0s
PATY Pattaya 24.12 300 P P 01 41 43.8 +8.3
WRAB Tennant Creek 24.21 151 *e*P **P** **01 41 35.7 -0.5**
comp=Z,472nm,1.3s
WRAB LR LR
comp=Z,5µm,21.0s
WRAB Tennant Creek 24.21 151 *e*P **P** **01 41 35.7 -0.5**
WRAB pmax pmax
comp=Z,472nm,1.3s
WRAB MLR MLR
comp=Z,5µm,21.0s
WC2 Warramunga Arr 24.21 151 PFAKE 01 41 50.0 +14
WC2 LR LR
comp=Z,4µm,22.0s
WR1 Warramunga Arr 24.21 151 *e*P **P** **01 41 36.4 +0.1**
WR1 *e*PcP **PcP** **01 45 16.1 -0.4**
WR1 *e*S **S** **01 45 53.9 +1.0**
WRA Warramunga Arr 24.21 151 P **P** **01 41 36.4 +0.1**
comp=Z,177nm,0.7s,baz=328,slow=10,SNR=199
WRA PcP **PcP** **01 45 16.1 -0.4**
comp=Z,5.9nm,0.8s,baz=356,slow=1.5,SNR=2.4
WRA S **S** **01 45 53.8 +1.0**
comp=Z,18nm,1.0s,baz=330,slow=16,SNR=2.8
WRA LR LR 01 52 07.6
comp=Z,4µm,21.2s,baz=335,slow=39
WB2 Warramunga Arr 24.22 151 *e*P **P** **01 41 35.7 -0.7**
WB2 LR LR
comp=Z,5µm,21.0s
WR2 Warramunga Arr 24.23 151 PFAKE 01 41 50.0 +14
WR2 LR LR
comp=Z,4µm,22.0s
WR3 Warramunga Arr 24.24 151 PFAKE 01 41 50.0 +13
WR3 LR LR
comp=Z,4µm,21.0s
WC3 Warramunga Arr 24.24 151 PFAKE 01 41 50.0 +13
WC3 LR LR
comp=Z,4µm,21.0s
WR4 Warramunga Arr 24.25 151 PFAKE 01 41 50.0 +13
WR4 LR LR
comp=Z,4µm,22.0s
WR5 Warramunga Arr 24.27 151 PFAKE 01 41 50.0 +13
WR5 LR LR
comp=Z,4µm,21.0s
WR8 Warramunga Arr 24.30 151 PFAKE 01 41 50.0 +13
WR8 LR LR
comp=Z,4µm,21.0s
WR9 Warramunga Arr 24.31 151 PFAKE 01 41 50.0 +13
WR9 LR LR
comp=Z,4µm,22.0s
WR0 Warramunga Arr 24.33 151 PFAKE 01 41 50.0 +13
WR0 LR LR
comp=Z,4µm,20.0s
KCSI Kotacane, Aceh 24.55 276 P **P** **01 41 38.4 -1.1**
comp=Z,1µm,1.1s,comp=Z,9µm
GSI Gunungsitoli 24.67 270 *e*P **P** **01 41 39.0 -1.5**
comp=Z,864nm,1.0s
GSI LR LR
comp=Z,7µm,20.0s
PKDT Phuket 24.71 286 P **P** **01 41 41.4 +0.6**
comp=Z,244nm,1.2s,comp=Z,3µm
GIRL Giralia 25.05 198 P **P** **01 41 43.5 -0.3**
baz=25,SNR=14
NONG Nongkai 25.09 313 P **P** **01 41 43.0 -1.2**
comp=Z,2.1nm,1.0s
TPTI 25.12 275 P **P** **01 41 44.2 -0.4**
comp=Z,427nm,1.0s,comp=Z,4µm
PHET Kaeng Krachan 25.20 298 P **P** **01 41 46.0 +0.7**
comp=Z,74nm,0.9s,comp=Z,555nm
MANU Manus Island 25.33 97 *e*P **P** **01 41 48.1 +1.6**
comp=Z,379nm,1.0s
LHMI Lhok Sumawe 25.55 279 *e*P **P** **01 41 48.4 -0.2**
comp=Z,1µm,1.0s
LHMI Lhok Sumawe 25.55 279 P **P** **01 41 49.6 +1.1**
comp=Z,1µm,1.0s,comp=Z,9µm
COEN Coen 25.69 127 P **P** **01 41 50.6 +0.9**
baz=26,SNR=28
COEN Coen 25.69 127 *e*P **P** **01 41 49.8 +0.1**
comp=Z,169nm,1.0s
PBKT Sadao Pong 25.87 307 P **P** **01 41 51.0 -0.3**
comp=Z,81nm,0.9s,comp=Z,3µm
SNSI Sinabang, Aceh 25.93 273 P **P** **01 41 52.2 +0.2**
comp=Z,423nm,1.1s,comp=Z,5µm
MLSI Meulaboh, Aceh 25.98 277 P **P** **01 41 51.6 -0.8**
comp=Z,1µm,0.9s,comp=Z,9µm
JOW Kunigami 26.04 12 P **P** **01 41 52.6 -0.2**
comp=Z,19nm,0.8s,baz=197,slow=17,SNR=5.0
JOW LR LR 01 52 42.0
comp=Z,3µm,20.2s,baz=146,slow=38
JOW Kunigami 26.04 12 *e*P **P** **01 41 52.6 -0.2**
comp=Z,93nm,0.9s
SRDT SRDT 26.28 301 P **P** **01 41 56.4 +1.3**
comp=Z,77nm,1.1s,comp=Z,2µm
UTHA Uthaitani 26.59 303 P **P** **01 41 57.7 -0.1**
comp=Z,23nm,1.1s,comp=Z,228nm
PMG Port Moresby 27.00 114 P **P** **01 42 01.9 +0.3**
comp=Z,101nm,0.9s,baz=298,slow=8.2,SNR=8.5
AS31 Alice Springs 27.28 156 *e*P **P** **01 42 03.8 -0.3**
comp=Z,26nm,0.8s
AS31 *e*PcP **PcP** **01 45 23.0 -0.5**
AS31 *e*S **S** **01 46 38.5 -3.1**
ASAR Alice Springs 27.28 156 P **P** **01 42 04.1 0.0**
comp=Z,52nm,0.8s,baz=345,slow=15,SNR=82
ASAR PcP **PcP** **01 45 23.0 -0.5**
comp=Z,20nm,1.1s,baz=350,slow=2.3,SNR=4.0
ASAR S **S** **01 46 38.5 -3.1**
comp=Z,6.0nm,0.8s,baz=334,slow=14,SNR=2.7
ASAR LR LR 01 53 45.3
comp=Z,5µm,21.2s,baz=338,slow=38
AS01 Alice Springs 27.30 156 *e*P **P** **01 42 02.9 -1.3**
UMPA Umpang Tak 27.39 304 P **P** **01 42 04.9 -0.3**
comp=Z,26nm,1.1s,comp=Z,1µm
SUKH Sukhothai 27.44 307 P **P** **01 42 06.0 +0.5**
comp=Z,29nm,1.0s
ANA2 Anatahan 27.53 56 PFAKE 01 42 20.0 +14
ANA2 LR LR
comp=Z,2µm,21.0s
QIS Mount Isa 27.59 143 P **P** **01 42 07.3 +0.5**
baz=28,SNR=67
LAMP Lampang 28.02 309 P **P** **01 42 15.1 +4.4**
comp=Z,13nm,1.0s,comp=Z,117nm
PAYA Payao 28.33 311 P P 01 42 19.6 +6.1
CM01 Chiang Mai Arr 28.49 308 *e*P **P** **01 42 14.2 -0.7**
CM31 Chiang Mai Arr 28.52 308 *e*P **P** **01 42 15.5 +0.3**
CM31 *e*PcP **PcP** **01 45 27.3 +0.8**
CM31 Chiang Mai Arr 28.52 308 P **P** **01 42 16.0 +0.7**
SNR=10
CMAR Chiang Mai Arr 28.52 308 P **P** **01 42 15.5 +0.3**
comp=Z,4.2nm,1.0s,baz=141,slow=8.1,SNR=12
CMAR PcP **PcP** **01 45 27.3 +0.8**
comp=Z,2.4nm,0.4s,baz=178,slow=2.5,SNR=3.6
CMAR LR LR 01 55 49.2
comp=Z,4µm,18.9s,baz=146,slow=41
COCO West Island 28.58 241 PFAKE 01 42 30.0 +14
COCO LR LR
comp=Z,7µm,21.0s
CMMT Chiang Mai 28.72 309 P **P** **01 42 17.1 +0.1**
comp=Z,68nm,1.3s,comp=Z,1µm
CHTO Chiang Mai 28.72 309 *e*P **P** **01 42 16.8 -0.2**
CHTO comp=Z,110nm,1.3s LR LR
comp=Z,4µm,20.0s
CHTO Chiang Mai 28.72 309 P **P** **01 42 16.8 -0.2**
SNR=36
CHTO Chiang Mai 28.72 309 *e*P **P** **01 42 16.8 -0.2**
CHTO pmax pmax
comp=Z,110nm,1.3s
CHTO MLR MLR
comp=Z,4µm,20.0s
CHTO Chiang Mai 28.72 309 P **P** **01 42 17.2 +0.2**
comp=Z,310nm,1.3s,comp=Z,5µm
MTSU Mount Surprise 29.06 133 P **P** **01 42 21.2 +1.2**
baz=29,SNR=41
GYA Guiyang 29.16 330 ⇑ *i*P **P** **01 42 20.3 -0.6**
GYA pP pP 01 42 27.0 -3.1
GYA PP **PnPn** **01 43 17.2 +2.9**
GYA PcP **PcP** **01 45 30.6 +2.5**
GYA S **S** **01 47 13.5 +2.2**
GYA sS pS 01 47 21.6 -0.2
GYA SS **SnSn** **01 48 43.8 +6.3**
GYA ScP **ScP** **01 49 09.0 +1.4**
GYA pmax pmax
comp=Z,40nm,1.1s
GYA pmax pmax
comp=Z,200nm,5.3s
GYA LR LR
comp=Z,2µm,14.6s
GYA LR LR
comp=Z,2µm,15.2s
GYA LR LR
comp=Z,3µm,15.4s
SSE Sheshan 29.65 358 P **P** **01 42 25.2 +0.2**
SSE S **S** **01 47 22.2 +3.6**
SSE pmax pmax
comp=Z,13nm,0.7s
SSE pmax pmax
comp=Z,280nm,4.0s
SSE LR LR
comp=Z,2µm,17.8s
SSE LR LR
comp=Z,2µm,16.8s
WHN Wuhan 30.03 346 ⇓ P P 01 42 15.7 -13
WHN S **S** **01 47 22.5 -2.2**
WHN pmax pmax
comp=Z,36nm,0.4s
WHN LR LR
comp=N,15µm,19.6s
WHN LR LR
comp=E,5µm,21.8s
WHN LR LR
comp=Z,11µm,16.8s
KMI Kunming 30.26 323 P **P** **01 42 31.8 +1.0**
KMI pP pP 01 42 36.9 -3.1
KMI sP sP 01 42 38.9 -5.0
KMI PP **PnPn** **01 43 27.0 -2.3**
KMI S **S** **01 47 30.1 +1.3**
KMI sS sS 01 47 44.4 +0.3
KMI SS **ScP** **01 49 11.1 -0.3**
KMI pmax pmax
comp=Z,31nm,0.6s
KMI pmax pmax
comp=Z,360nm,4.6s
KMI LR LR
comp=Z,3µm,21.8s
KMI LR LR
comp=Z,3µm,20.8s
KMI LR LR
comp=Z,2µm,21.8s
RABL Rabaul 30.39 100 *e*P **P** **01 42 33.5 +1.7**
comp=Z,373nm,0.9s
NJ2 Nanjing 30.75 354 *e*P **P** **01 42 35.4 +0.6**
NJ2 pP **pP** **01 42 38.7 -5.3**
NJ2 sP sP 01 42 40.9 -7.0
NJ2 S **S** **01 47 38.7 +2.8**
NJ2 pmax pmax
comp=Z,21nm,1.4s
NJ2 pmax pmax
comp=Z,580nm,4.3s
NJ2 LR LR
comp=Z,4µm,15.7s
NJ2 LR LR
comp=Z,2µm,14.9s
NJ2 LR LR
comp=Z,5µm,17.9s
ENH Enshi 31.26 338 *e*P **P** **01 42 38.8 -0.5**
comp=Z,51nm,1.0s
ENH LR LR
comp=Z,4µm,18.0s
CTA Charters Tower 31.71 133 P **P** **01 42 44.7 +1.4**
comp=Z,142nm,1.0s,baz=316,slow=12,SNR=52
CTAO Charters Tower 31.71 133 *e*P **P** **01 42 44.8 +1.4**
CTAO comp=Z,243nm,1.1s LR LR
comp=Z,2µm,20.0s
CTAO Charters Tower 31.71 133 *e*P **P** **01 42 44.8 +1.4**
CTAO pmax pmax
comp=Z,243nm,1.1s
CTAO MLR MLR
comp=Z,2µm,20.0s
CBIJ Chichi jima 32.00 35 *e*P **P** **01 42 46.2 +0.4**
comp=Z,495nm,1.0s
JCJ Chichijima 32.00 35 P **P** **01 42 44.9 -0.9**
comp=Z,193nm,0.8s,baz=183,slow=18,SNR=4.2
JCJ LR LR 01 55 05.1
comp=Z,2µm,21.1s,baz=216,slow=35
FORT Forrest 32.38 171 P **P** **01 42 48.1 -1.0**
baz=33,SNR=14
FORT Forrest 32.38 171 *e*P **P** **01 42 48.5 -0.5**
comp=Z,241nm,0.7s
FORT LR LR
comp=Z,4µm,20.0s
JNU Nakatsue 32.68 13 P **P** **01 42 51.3 -0.5**
comp=Z,13nm,0.9s,baz=152,slow=8.1,SNR=3.6
JNU LR LR 01 57 51.7
comp=Z,945nm,18.3s,baz=156,slow=39
JNU Nakatsue 32.68 13 *e*P **P** **01 42 50.9 -0.8**
comp=Z,50nm,1.0s
CD2 Chengdu 34.27 331 P **P** **01 43 05.4 -0.2**
CD2 pP pP 01 43 10.5 -4.4
CD2 PP **PP** **01 44 23.2 -0.4**
CD2 S **S** **01 48 30.1 -0.7**
CD2 sS pS 01 48 41.6 +0.2
CD2 pmax pmax
comp=Z,170nm,0.6s
CD2 pmax pmax
comp=Z,560nm,4.3s
CD2 LR LR
comp=Z,4µm,18.9s
CD2 LR LR
comp=Z,3µm,17.4s
CD2 LR LR
comp=Z,3µm,18.4s
NWAO Narrogin (SRO) 34.37 187 P **P** **01 43 05.4 -1.0**
comp=Z,110nm,0.8s,baz=240,slow=9.9,SNR=26
NWAO Narrogin (SRO) 34.37 187 P **P** **01 43 05.5 -1.0**
baz=35,SNR=19
NWAO Narrogin (SRO) 34.37 187 *e*P **P** **01 43 05.1 -1.3**
comp=Z,147nm,0.9s
NWAO LR LR
comp=Z,4µm,21.0s
NWAO Narrogin (SRO) 34.37 187 P **P** **01 43 05.6 -0.8**
SNR=5.7
XAN Xi'an 34.88 340 P **P** **01 43 09.8 -1.1**
XAN PP **PP** **01 44 34.2 +3.8**
XAN S **S** **01 48 39.1 -1.0**
XAN sS sS 01 48 57.9 +2.4
XAN pmax pmax
comp=Z,440nm,6.9s
XAN LR LR
comp=Z,4µm,18.1s
XAN LR LR
comp=Z,3µm,21.1s
XAN LR LR
comp=Z,6µm,17.6s
QLP Quilpie 34.90 144 P **P** **01 43 11.8 +0.7**

baz=35,SNR=30
TIA Tai'an 35.06 353 P **P** **01 43 11.1 -1.3**
TIA PP **PnPn** **01 44 28.0 -2.2**
TIA S **S** **01 48 41.8 -1.0**
TIA pmax pmax
comp=Z,33nm,1.1s
TIA LR LR
comp=Z,2µm,19.9s
TIA LR LR
comp=Z,2µm,18.6s
SAIH SAIHA 35.39 309 *e*P **P** **01 43 14.8 -0.8**
RKGY Rocky Gully 36.06 187 P **P** **01 43 21.1 +0.2**
baz=36,SNR=9.7
LKP Lekhapani 36.20 318 *e*P **P** **01 43 22.0 -0.3**
KS15 Wonju Array Si 36.34 8 *e*P **P** **01 43 23.2 0.0**
KSAR Wonju Array Be 36.34 8 P **P** **01 43 23.2 0.0**
KSAR Wonju Array Be 36.34 8 P **P** **01 43 23.3 0.0**
BBOO Buckleboo 36.35 160 P **P** **01 43 23.0 -0.5**
baz=36,SNR=25
BBOO Buckleboo 36.35 160 *e*P **P** **01 43 22.9 -0.5**
comp=Z,75nm,0.7s
BBOO LR LR
comp=Z,4µm,19.0s
KSRS Korea Array 36.36 8 P **P** **01 43 23.2 -0.2**
comp=Z,8.5nm,0.9s,baz=182,slow=11,SNR=18
KSRS LR LR 01 59 10.5
comp=Z,3µm,18.8s,baz=190,slow=38
KS01 Wonju Array Si 36.37 8 *e*P **P** **01 43 23.1 -0.5**
KOHI KOHIMA 36.39 314 *e*P **P** **01 43 21.6 -2.5**
MOKO MOKOCHONG 36.47 315 *e*P **P** **01 43 24.6 -0.2**
BRDH Bariadhala 36.55 308 P **P** **01 43 26.3 +1.0**
comp=Z,60nm,0.3s,baz=103,slow=8.3,SNR=7.8
INU Inuyama 36.56 20 *e*P **P** **01 43 24.5 -0.7**
comp=Z,62nm,1.0s
INU LR LR
comp=Z,3µm,19.0s
SILR SILCHAR 36.80 312 *e*P **P** **01 43 24.7 -2.7**
JORH JORHAT 36.92 316 *e*P **P** **01 43 28.4 0.0**
BELO BELONIA 37.00 308 *e*P **P** **01 43 29.5 +0.4**
BELO IAmb IAmb 01 43 44.6
comp=Z,6µm,3.0s
TIY Taiyuan 37.35 347 *e*P **P** **01 43 32.6 +0.6**
TIY PP **PnPn** **01 44 59.9 +1.6**
TIY S **S** **01 49 19.5 +1.6**
TIY SS **SnSn** **01 51 51.4 -4.4**
TIY pmax pmax
comp=Z,45nm,0.6s
TIY pmax pmax
comp=Z,410nm,4.2s
TIY LR LR
comp=Z,6µm,18.5s
TIY LR LR
comp=Z,710nm,14.5s
TIY LR LR
comp=Z,5µm,18.8s
DL2 Dalian 37.43 359 P **P** **01 43 32.1 -0.5**
DL2 pP **pP** **01 43 40.9 -1.0**
DL2 PP **PP** **01 44 56.5 -1.9**
DL2 S **S** **01 49 23.3 +4.4**
DL2 pmax pmax
comp=Z,150nm,0.9s
DL2 pmax pmax
comp=Z,530nm,4.9s
DL2 LR LR
comp=Z,3µm,16.5s
DL2 LR LR
comp=Z,3µm,15.4s
DL2 LR LR
comp=Z,4µm,17.0s
ITAN ITANAGAR 37.54 316 *e*P **P** **01 43 33.0 -0.7**
RMQ Roma 37.65 139 P **P** **01 43 35.4 +0.8**
baz=38,SNR=26
ZIRO ZIRO 37.69 316 *e*P **P** **01 43 34.8 -0.4**
STKA Stephens Creek 37.75 153 P **P** **01 43 35.8 +0.5**
comp=Z,188nm,0.9s,baz=324,slow=8.5,SNR=182
STKA LR LR 02 02 00.9
comp=Z,2µm,18.0s,baz=302,slow=41
STKA Stephens Creek 37.75 153 P **P** **01 43 35.9 +0.5**
baz=38,SNR=44
STKA Stephens Creek 37.75 153 *e*P **P** **01 43 35.9 +0.5**
comp=Z,50nm,0.9s
STKA Stephens Creek 37.75 153 *e*P **P** **01 43 35.9 +0.5**
STKA pmax pmax
comp=Z,50nm,0.9s
TEZP TEZPUR 37.87 314 *e*P **P** **01 43 35.8 -0.7**
TEZP IAmb IAmb 01 43 48.6
comp=Z,62nm,0.6s
SHL Shillong 37.93 312 *e*P **P** **01 43 37.0 -0.2**
comp=Z,159nm,1.0s
SHL Shillong 37.93 312 *e*P **P** **01 43 36.8 -0.5**
SHL IAmb IAmb 01 43 50.2
comp=Z,428nm,1.7s
HTT Hallett 37.95 157 P **P** **01 43 37.6 +0.5**
baz=38,SNR=64
MAJO Matsushiro 38.05 21 *e*P **P** **01 43 36.4 -1.5**
comp=Z,53nm,1.0s
MAJO Matsushiro 38.05 21 *e*P **P** **01 43 36.4 -1.5**
MAJO pmax pmax
comp=Z,53nm,1.0s
MAT Matsushiro 38.05 21 P **P** **01 43 35.7 -2.2**
MAT S S 01 49 18.4 -10
MJAR Matsushiro Arr 38.05 21 P **P** **01 43 37.1 -0.8**
comp=Z,26nm,1.0s,baz=200,slow=9.5,SNR=29
MJAR LR LR 02 00 42.0
comp=Z,2µm,18.1s,baz=200,slow=38
MJB9 Matsu-Tunnel 38.05 21 *e*P **P** **01 43 36.6 -1.4**
comp=Z,54nm,1.0s
MJB9 LR LR
comp=Z,4µm,20.0s
GUWA GUWAHATI 38.43 313 *e*P **P** **01 43 40.2 -0.9**
GUWA IAmb IAmb 01 43 54.0
comp=Z,163nm,1.6s
EIDS Eidsvold 38.49 135 P **P** **01 43 41.7 0.0**
baz=39,SNR=15
EIDS Eidsvold 38.49 135 *e*P **P** **01 43 41.7 0.0**
comp=Z,162nm,1.3s
EIDS LR LR
comp=Z,2µm,22.0s
LZH Lanzhou 38.59 336 *e*P **P** **01 43 43.2 +0.6**
LZH pP pP 01 43 48.8 -3.2
LZH sP sP 01 43 52.5 -3.4
LZH PP **PnPn** **01 45 17.1 +3.6**
LZH S **S** **01 49 35.2 -1.8**
LZH SS **SnSn** **01 52 18.2 -8.0**
LZH pmax pmax
comp=Z,57nm,1.0s
LZH pmax pmax
comp=Z,220nm,4.3s
LZH LR LR
comp=Z,5µm,14.1s
LZH LR LR
comp=Z,6µm,16.3s
LZH LR LR
comp=Z,8µm,16.7s
BJT Baijiatuau 38.93 353 *e*P **P** **01 43 44.9 -0.3**
comp=Z,45nm,0.9s
BJT LR LR
comp=Z,2µm,20.0s
BJT Baijiatuau 38.93 353 *e*P **P** **01 43 44.9 -0.3**
BJT pmax pmax
comp=Z,45nm,0.9s
BJT MLR MLR
comp=Z,2µm,20.0s
BJI Beijing 38.95 353 ⇓*i*P **P** **01 43 44.6 -0.8**
BJI sP **pP** **01 43 52.6 -2.2**
BJI PP **PnPn** **01 45 17.6 0.0**
BJI S **S** **01 49 42.8 +0.9**
BJI SS **SnSn** **01 52 33.0 -1.5**
BJI pmax pmax
comp=Z,26nm,1.5s
BJI pmax pmax
comp=Z,580nm,4.3s
HNR Honiara 39.03 107 P **P** **01 43 45.5 -0.9**
comp=Z,89nm,0.7s,baz=216,slow=8.7,SNR=3.3
HNR Honiara 39.03 107 *e*P **P** **01 43 46.1 -0.3**
HNR Honiara 39.03 107 *e*P **P** **01 43 46.1 -0.3**
TURI Tura 39.08 311 *e*P **P** **01 43 47.1 +0.4**
TURI IAmb IAmb 01 44 00.2
comp=Z,180nm,0.7s
TAWA Tawang 39.12 315 *e*P **P** **01 43 48.3 +0.9**
CMSA Cobar Meteorol 39.52 148 P **P** **01 43 51.3 +1.1**
baz=40,SNR=32
SNY Shenyang 40.36 2 ⇑P **P** **01 43 56.7 -0.4**
SNY pmax pmax
comp=Z,47nm,1.1s
SNY pmax pmax
comp=Z,640nm,3.9s
SNY LR LR
comp=Z,2µm,23.1s
SNY LR LR
comp=Z,710nm,17.5s
SNY LR LR
comp=Z,2µm,25.5s
HHC Hu-ho-hao-te 40.54 348 *e*P **P** **01 43 58.6 -0.1**
HHC sP pP 01 44 06.6 -1.6
HHC PP **PnPn** **01 45 38.4 +1.9**
HHC pmax pmax
comp=Z,57nm,0.9s
HHC pmax pmax
comp=Z,380nm,5.7s
HHC LR LR
comp=Z,4µm,17.8s
HHC LR LR
comp=Z,2µm,18.0s
HHC LR LR
comp=Z,4µm,18.2s
BTO Baotou 40.67 346 *e*P **P** **01 44 00.3 +0.5**
LSA Lhasa 40.89 317 P **P** **01 44 02.9 +0.7**
LSA pmax pmax
comp=Z,22nm,1.4s
LSA Lhasa 40.89 317 *e*P **P** **01 44 03.5 +1.3**
comp=Z,56nm,0.9s
GTK Tadong 41.34 312 *e*P **P** **01 44 05.7 +0.1**
GTK IAmb IAmb 01 44 19.3
comp=Z,82nm,1.1s
VIS Vishakhapatnam 41.56 296 *i*P **P** **01 44 08.1 +0.7**
VIS *i*x x 01 50 11.9
BOK Bokaro 41.71 305 *e*P **P** **01 44 10.5 +2.0**
BOK IAmb IAmb 01 44 23.2
comp=Z,5µm,4.3s
PALK Pallekele 41.83 279 P **P** **01 44 09.5 -0.2**
comp=Z,19nm,0.7s,baz=115,slow=8.9,SNR=12
PALK Pallekele 41.83 279 *e*P **P** **01 44 10.1 +0.4**
comp=Z,70nm,1.0s
PALK LR LR
comp=Z,2µm,19.0s
PALK Pallekele 41.83 279 P **P** **01 44 09.7 0.0**
SNR=5.4
ARPS Mount Arapiles 42.02 156 P **P** **01 44 11.4 +0.6**
baz=42,SNR=65
ARMA Armidale 42.17 141 P **P** **01 44 12.8 +0.5**
baz=42,SNR=28
ARMA Armidale 42.17 141 *e*P **P** **01 44 14.1 +1.9**
comp=Z,143nm,0.9s
CN2 Changchun 42.41 3 *e*P **P** **01 44 11.1 -2.8**
CN2 *e*S **S** **01 50 40.3 +6.9**
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,2µm,15.0s
CN2 LR LR
comp=Z,1µm,15.0s
CN2 LR LR
comp=Z,2µm,17.0s
RAMN Ramite 42.66 310 *e*P **P** **01 44 16.9 +0.4**
comp=Z,172nm,1.1s
YNG Young 43.09 148 P **P** **01 44 20.4 +0.8**
baz=43,SNR=27
GTA Gaotai 43.10 334 ⇓P **P** **01 44 19.9 +0.2**
GTA pP pP 01 44 24.5 -4.7
GTA sP sP 01 44 27.0 -6.0
GTA PP **PP** **01 46 01.0 +0.8**
GTA PcP **PcP** **01 46 09.8 +0.5**
GTA ScP **ScP** **01 50 00.0 +1.6**
GTA S **S** **01 50 46.6 +2.6**
GTA sS pS 01 50 53.2 -1.7
GTA SS **SS** **01 53 51.2 -6.1**
GTA ScS **ScS** **01 54 16.0 -2.2**
GTA pmax pmax
comp=Z,29nm,1.5s
GTA pmax pmax
comp=Z,340nm,7.3s
GTA LR LR
comp=Z,3µm,19.4s
GTA LR LR
comp=Z,3µm,18.4s
GTA LR LR
comp=Z,5µm,19.0s
JIRN Jiri 43.34 310 *e*P **P** **01 44 22.0 -0.1**
comp=Z,148nm,0.9s
USA0B Ussuriysk Arra 43.59 10 *e*P **P** **01 44 23.3 -0.1**
comp=Z,75nm,1.1s
USA0B LR LR
comp=Z,2µm,21.0s
USRK Ussuriysk Ar. 43.59 10 P **P** **01 44 22.7 -0.6**
comp=Z,20nm,0.9s,baz=202,slow=6.7,SNR=26
USRK LR LR 02 02 43.6
comp=Z,948nm,20.7s,baz=159,slow=36
MDJ Mudanjiang 43.62 8 P **P** **01 44 23.7 0.0**
MDJ S **S** **01 50 52.3 +1.2**
MDJ pmax pmax
comp=Z,79nm,1.0s
MDJ pmax pmax
comp=Z,960nm,4.0s
MDJ Mudanjiang 43.62 8 *e*P **P** **01 44 23.4 -0.3**
comp=Z,123nm,0.9s
MDJ LR LR
comp=Z,3µm,22.0s
GUN Gumba 43.70 311 *e*P **P** **01 44 24.9 -0.1**
comp=Z,96nm,0.8s
PKI Pulchoki 43.89 310 *e*P **P** **01 44 26.1 -0.4**
comp=Z,70nm,1.0s
PKIN Phulchoki 43.91 310 *e*P **P** **01 44 26.1 -0.5**
comp=Z,56nm,1.1s
KKN Kakani 44.10 310 *e*P **P** **01 44 27.8 -0.3**
comp=Z,79nm,1.1s
DMN Daman 44.14 310 *e*P **P** **01 44 28.4 -0.1**
comp=Z,153nm,1.2s
CAN Canberra 44.19 148 *e*P **P** **01 44 30.2 +1.7**
comp=Z,152nm,0.8s
TOO Toolangi 44.26 153 P **P** **01 44 30.5 +1.6**
baz=44,SNR=8.8
CNB Canberra Magne 44.38 148 P **P** **01 44 31.5 +1.5**
baz=44,SNR=13
ERM Erimo 44.69 22 PFAKE 01 44 40.0 +7.8
ERM LR LR
comp=Z,4µm,21.0s
KOLN Koldanda 45.39 309 *e*P **P** **01 44 38.4 +0.1**
comp=Z,146nm,1.0s
DANN Dangsing 45.54 310 *e*P **P** **01 44 39.5 -0.2**
comp=Z,155nm,1.0s
HYB Hyderabad 45.83 293 *i*P **P** **01 44 42.0 +0.2**
HYB e pP **pP** **01 44 50.0 -1.3**
HYB *e*S **S** **01 51 24.0 0.0**
PYUN Piuthan 46.02 309 *e*P **P** **01 44 43.6 +0.3**
comp=Z,324nm,1.0s
ASAJ Asahikawa 46.31 20 P **P** **01 44 44.8 -0.2**
comp=Z,47nm,1.0s,baz=247,slow=16,SNR=9.9
ASAJ LR LR 02 05 53.5
comp=Z,2µm,19.0s,baz=220,slow=38
ASAJ Asahikawa 46.31 20 *e*P **P** **01 44 44.7 -0.4**
comp=Z,117nm,1.1s
H11S3 WAKE ISLAND Hy 46.80 66 T T 02 35 08.4
baz=253
H11S2 WAKE ISLAND Hy 46.82 66 T T 02 35 07.8
baz=253
H11S1 WAKE ISLAND Hy 46.82 66 T T 02 35 08.4
baz=253
YUK Yuzh-Kuril'sk 47.45 23 *e*P P 01 44 44.5 -9.4
YUK *e*S **S** **01 51 45.8 -0.5**
YUK MLR MLR
comp=Z,737nm,18.0s
YUK MLR MLR
comp=E,859nm,16.0s
YUK MLR MLR
comp=N,1µm,18.0s
LHI Lord Howe Isla 47.79 136 *e*P **P** **01 44 59.1 +2.2**
comp=N,309nm,1.3s
HIA Hailar 47.83 358 *e*P **P** **01 44 56.1 -0.9**
comp=N,189nm,1.3s
HIA LR LR
comp=Z,4µm,20.0s
ULN Ulaanbaatar 48.22 346 *e*P **P** **01 44 59.6 -0.5**
comp=Z,173nm,1.3s
ULN LR LR
comp=Z,3µm,20.0s
ULN Ulaanbaatar 48.22 346 P **P** **01 45 00.3 +0.2**
SNR=40
SONA0 Songino Array 48.35 346 *e*P **P** **01 45 01.1 +0.1**
SONA0 *e*PKKPdf **PKKPdf** **02 07 47.6 -1.0**
SONM Songino Array 48.35 346 P **P** **01 45 01.1 +0.1**
comp=Z,70nm,1.1s,baz=166,slow=8.5,SNR=184
SONM LR LR 02 06 40.4
comp=Z,3µm,18.9s,baz=166,slow=38
SONM PKKP **PKKPdf** **02 07 47.6 -1.0**
comp=Z,0.5nm,0.4s,baz=239,slow=4.8,SNR=4.6
SONA1 Songino Array 48.36 346 *e*P **P** **01 45 00.2 -0.9**
KLR Kul'dur 48.44 8 P **P** **01 45 00.4 -1.2**
comp=Z,15nm,1.1s,baz=211,slow=6.3,SNR=19
KLR LR LR 02 06 36.5
comp=Z,880nm,19.6s,baz=196,slow=37
BHPL Bhopal 48.62 300 *e*P **P** **01 45 03.1 -0.3**
YSS Yuzh-Sakhalins 48.86 19 *e*P **P** **01 45 03.1 -1.7**
comp=Z,44nm,0.9s
DZM Mont Dzumac 48.97 121 P **P** **01 45 07.9 +1.7**
comp=Z,15nm,0.7s,baz=265,slow=9.1,SNR=8.5
DZM Mont Dzumac 48.97 121 *e*P **P** **01 45 07.2 +1.0**
comp=Z,153nm,1.2s
DZM Mont Dzumac 48.97 121 *e*LR LR 01 59 11.8
comp=Z,2µm,26.6s
DZM Mont Dzumac 48.97 121 *e*P **P** **01 45 05.8 -0.5**
comp=Z,52nm,1.0s
MOO Moorlands 49.02 156 P **P** **01 45 05.1 -1.0**
baz=49,SNR=5.0
HMDM Hanimaadhoo 49.22 278 PFAKE 01 45 20.0 +12
HMDM LR LR
comp=Z,2µm,21.0s
KUR Kuril'sk 49.24 24 *e*P **P** **01 45 07.5 -0.2**
KUR *e*S **S** **01 52 13.4 +1.8**
KUR SSS SSS 01 57 00.1
KUR pmax pmax
comp=Z,168nm,1.4s
KUR MLR MLR
comp=Z,720nm,16.0s
KUR MLR MLR
comp=E,117nm,10.0s
KUR MLR MLR
comp=N,334nm,12.0s
TAU Tasmania Unive 49.46 156 *e*P **P** **01 45 11.1 +1.7**
comp=N,106nm,1.1s
TAU LR LR
comp=Z,3µm,20.0s
TAU Tasmania Unive 49.46 156 *e*P **P** **01 45 11.1 +1.7**
TAU pmax pmax
comp=Z,106nm,1.1s
TAU MLR MLR
comp=Z,3µm,20.0s
MNCI Minicoy 49.47 280 *e*P **P** **01 45 08.1 -1.9**
comp=Z,268nm,1.2s
MNCI LR LR
comp=Z,3µm,21.0s
POO Poona 50.44 293 *e*P **P** **01 45 16.7 -0.7**
POO IAmb IAmb 01 45 27.5
comp=Z,50nm,0.6s
GRNR Gornyy 50.73 12 *e*P **P** **01 45 19.3 +0.3**
GRNR pmax pmax
comp=Z,21nm,1.0s
DDI Dehra Dun 50.87 309 *e*P **P** **01 45 20.8 +0.4**
DDI IAmb IAmb 01 45 32.7
comp=Z,81nm,0.6s
CIT Chita 51.07 353 *e*P **P** **01 45 19.0 -2.6**
CIT *e* 01 45 34.4
ZAK Zakamensk 51.49 345 *e*P **P** **01 45 24.1 -0.8**
ZAK pmax pmax
comp=Z,46nm,1.2s
SMLA Simla 51.91 310 *e*P **P** **01 45 28.7 +0.6**
WMQ Urumqi 52.30 329 P **P** **01 45 31.8 +0.8**
WMQ sP pP 01 45 42.1 +1.5
WMQ PP **PP** **01 47 30.4 +0.6**
WMQ PcS **PcS** **01 50 39.8 -0.5**
WMQ S **S** **01 52 54.7 +0.4**
WMQ ScS **ScS** **01 55 18.4 -0.3**
WMQ pmax pmax
comp=Z,160nm,1.1s
WMQ pmax pmax
comp=Z,1µm,3.9s
WMQ LR LR
comp=Z,4µm,19.5s
WMQ LR LR
comp=Z,5µm,19.5s
WMQ LR LR
comp=Z,2µm,20.9s
TYV Tymovskoe 52.32 16 *e*P **P** **01 45 30.8 -0.1**
TYV *e*S **S** **01 52 55.0 +0.9**
TYV pmax pmax
comp=Z,500nm,7.2s
TYV pmax pmax
comp=Z,28nm,1.4s
TYV smax smax
comp=N,700nm,9.9s
TYV MLR MLR
comp=Z,1µm,16.0s
ZEA Zeya 52.43 4 *e*P **P** **01 45 31.2 -0.4**
ZEA *e*S **S** **01 52 52.0 -3.5**
ZEA pmax pmax
comp=Z,46nm,1.0s
ZEA smax smax
comp=N,800nm,14.0s
ZEA MLR MLR
comp=N,2µm,16.0s
ZEA MLR MLR
comp=E,1µm,16.0s
ZEA MLR MLR
comp=Z,3µm,16.0s
IRK Irkutsk 52.95 346 *e*P **P** **01 45 35.2 -0.3**
IRK pmax pmax
comp=Z,222nm,2.3s
DHRM DHARAMSHALA 53.06 310 *e*P **P** **01 45 36.9 -0.1**
MOY Mondy 53.28 344 *e*P **P** **01 45 38.6 +0.5**
MOY pmax pmax
comp=Z,153nm,1.9s
NKL Nikolayevsk 53.90 14 *e*P **P** **01 45 41.0 -1.4**
NKL *e* 01 53 08.0
NKL pmax pmax
comp=Z,110nm,1.0s
HVS Khovu-Aksy 55.19 338 *d i*P **P** **01 45 51.1 -0.9**
HVS pmax pmax
comp=Z,77nm,1.1s
BHJ Bhuj 55.43 297 *e*P **P** **01 45 54.4 +0.3**
ZSN Zaisan 56.24 330 *e*P **P** **01 45 59.9 +0.4**
comp=Z,7.2nm,1.3s
ZSN *i*S **S** **01 53 49.1 +1.8**
ZSN LR LR 02 15 15.3
comp=Z,131nm,15.9s
SHLS Shalkode 56.48 323 ⇓*i*P **P** **01 46 00.6 -0.9**
comp=Z,30nm,1.1s
SHLS LR LR 02 14 28.1
comp=Z,519nm,21.2s
KSH Kashi 56.72 318 P **P** **01 46 03.7 +0.5**
KSH pP pP 01 46 09.1 -3.8
KSH PP **PP** **01 48 11.8 +2.2**
KSH S **S** **01 53 52.5 -1.5**
KSH ScS **ScS** **01 55 46.9 -3.6**
KSH pmax pmax
comp=Z,39nm,1.2s
KSH pmax pmax
comp=Z,1µm,4.7s
KSH LR LR
comp=Z,3µm,19.4s
KSH LR LR
comp=Z,3µm,21.7s
KSH LR LR
comp=Z,3µm,22.6s
BOD Bodaibo 56.73 355 *e*P **P** **01 46 02.8 0.0**
BOD pmax pmax
comp=Z,81nm,1.3s
UZB Uzynbulak 56.73 323 ⇓*i*P **P** **01 46 03.8 +0.5**
comp=Z,17nm,1.3s
UZB *e*S **S** **01 53 56.6 +2.4**
PRZ Przheval'sk 56.74 322 PFAKE 01 46 20.0 +17
PRZ LR LR
comp=Z,1µm,22.0s
SKR Severo-Kuril's 56.94 25 *e*P P 01 46 09.7 +5.3
SKR *e*S **S** **01 53 55.7 -0.6**
SKR *e*SS **SS** **01 57 38.4 -6.7**
SKR MLR MLR
comp=Z,700nm,18.0s
SKR MLR MLR
comp=Z,800nm,16.0s
SATY Saty 57.06 323 ⇓*i*P **P** **01 46 06.4 +0.8**
comp=Z,37nm,0.9s
SATY *e*S **S** **01 54 01.2 +2.8**
MK01 Makanchi Array 57.10 328 *e*P **P** **01 46 05.2 -0.5**
KPKS Kokpek 57.12 323 ⇓*e*P **P** **01 46 06.6 +0.6**
comp=Z,35nm,1.1s
KPKS *e*S **S** **01 54 01.7 +2.5**
MK31 Makanchi Array 57.12 328 *e*P **P** **01 46 05.9 +0.1**

MK31 **Makanchi Array** 57.12 328 *e*P P 01 46 05.9 +0.1
MK32 **Makanchi Array** 57.12 328 *e*P P 01 46 06.0 +0.2
MKAR **Makanchi Array** 57.12 328 P P 01 46 06.0 +0.2
comp=Z,8.9nm,0.5s,baz=122,slow=8.0,SNR=98
MKAR **Makanchi Array** 57.12 328 *e*P P 01 46 06.0 +0.2
comp=Z,400nm,0.9s
MKAR LR LR
comp=Z,400nm,18.0s
MKAR **Makanchi Array** 57.12 328 *e*P P 01 46 06.0 +0.2
MKAR pmax pmax
comp=Z,400nm,0.9s
MKAR MLR MLR
comp=Z,400nm,18.0s
KDJ **Kajisay** 57.30 321 *e*P P 01 46 09.7 +2.3
comp=Z,114nm,1.0s
KDJ **Kajisay** 57.30 321 *e*P P 01 46 09.7 +2.3
KDJ pmax pmax
comp=Z,114nm,1.0s
NRN **Naryn** 57.68 320 *e*P P 01 46 10.4 +0.2
comp=Z,40nm,1.1s
NRN **Naryn** 57.68 320 *e*P P 01 46 10.4 +0.2
NRN pmax pmax
comp=Z,40nm,1.1s
MDOK **Medeo** 57.94 322 *i* P P 01 46 12.7 +0.9
comp=Z,251nm,1.3s
MDOK *i* S S 01 54 12.8 +2.7
AAA **Alma-Ata** 58.05 322 *e*P P 01 46 23.5 +11
AAA *e*S S 01 54 15.0 +3.7
AAA pmax pmax
comp=Z,300nm,2.8s
AAA smax smax
comp=E,900nm,10.3s
AAA MLR MLR
comp=Z,500nm,13.0s
TDK **Taldyqorghan** 58.17 325 *e*P P 01 46 13.8 +0.6
TDK *e*S S 01 54 15.5 +2.8
TDK LR LR 02 16 13.8
comp=Z,974nm,17.7s
KZA **Kyzart** 58.49 320 P P 01 46 17.1 +1.1
SNR=13
TKM2 **Tokmak 2** 58.71 321 P P 01 46 17.7 +0.4
SNR=20
TKM2 **Tokmak 2** 58.71 321 P P 01 46 17.6 +0.4
TKM2 pmax pmax
comp=Z,185nm,1.4s
KUU **Kurty** 58.77 323 *i* P P 01 46 17.9 +0.5
comp=Z,78nm,1.2s
KUU *i* S S 01 54 23.1 +2.5
KUU LR LR 02 13 50.9
comp=Z,862nm,21.2s
KBK **Karagaybulak** 58.98 321 P P 01 46 20.2 +1.1
SNR=14
UCH **Uchtor** 59.04 320 P P 01 46 20.5 +0.7
SNR=12
AAK **Ala-Archa** 59.26 321 P P 01 46 21.7 +0.7
comp=Z,11nm,0.9s,baz=119,slow=6.0,SNR=22
AAK **Ala-Archa** 59.26 321 P P 01 46 21.2 +0.3
SNR=11
AAK **Ala-Archa** 59.26 321 P P 01 46 21.8 +0.7
SNR=54
AAK **Ala-Archa** 59.26 321 *i* P P 01 46 21.3 +0.3
SNR=54
AAK **Ala-Archa** 59.26 321*c* *i*P P 01 46 20.6 -0.4
AAK pmax pmax
comp=Z,11nm,1.0s
FRU **Bishkek** 59.28 321 *e*P P 01 46 20.0 -1.0
FRU *i* 01 46 30.0
FRU *e* 01 48 28.0
FRU *e*S S 01 54 28.0 +0.7
FRU pmax pmax
comp=Z,70nm,2.0s
FRU pmax pmax
comp=Z,415nm,2.3s
PEA0B **Petropavlovsk-** 59.41 24 *e*P P 01 46 24.3 +2.7
comp=Z,142nm,1.1s
PETK **Petropavlovsk-** 59.41 24 P P 01 46 22.0 +0.4
comp=Z,7.0nm,0.8s,baz=205,slow=5.2,SNR=8.1
PETK **Petropavlovsk-** 59.41 24 *e*P P 01 46 21.6 0.0
PETK **Petropavlovsk-** 59.41 24 P P 01 46 22.0 +0.4
PETK pmax pmax
comp=Z,7.0nm,0.8s
PEA1 **Petropavlovsk-** 59.41 24 *e*P P 01 46 22.0 +0.3
AML **Almayashu** 59.52 320 P P 01 46 24.0 +0.9
SNR=15
KBL **Kabul** 59.53 310 *e*P P 01 46 22.9 -0.3
comp=Z,321nm,1.0s
KBL **Kabul** 59.53 310 *e*P P 01 46 22.9 -0.3
KBL pmax pmax
comp=Z,321nm,1.0s
USP **Ospenovka** 59.58 321 P P 01 46 23.3 +0.3
SNR=13
EKS2 **Erkin-Say** 59.73 320 P P 01 46 24.8 +0.6
SNR=12
PET **Petropavlovsk** 59.73 25 *e*P P 01 46 23.4 -0.5
comp=Z,109nm,1.1s
PET **Petropavlovsk** 59.73 25 *e*P P 01 46 23.4 -0.5
PET *e*S S 01 54 33.0 +0.4
PET *e*SS SS 01 58 31.1 +2.2
PET pmax pmax
comp=Z,105nm,1.0s
PET pmax pmax
comp=Z,300nm,16.2s
PET MLR MLR
comp=Z,1μm,19.0s
PET MLR MLR
comp=Z,1μm,16.0s
SEM **Semipalatinsk** 60.48 331 *e*P P 01 46 29.0 -0.3
comp=Z,8.4nm,1.3s
SEM *e*S S 01 54 44.4 +1.6
ZAA0 **Zalesovo Array** 60.83 336 *e*P P 01 46 30.4 -0.9
comp=Z,139nm,1.1s
ZAA0 LR LR
comp=Z,1μm,20.0s
ZALV **Zalesovo Beam** 60.83 336 P P 01 46 30.8 -0.5
comp=Z,16nm,0.6s,baz=123,slow=5.5,SNR=50
ZALV LR LR 02 13 50.7
comp=Z,1μm,19.5s,baz=98,slow=37
ZALV PKP2bc 02 15 54.7
comp=Z,3.3nm,1.0s,baz=298,slow=3.2,SNR=8.8
ZALV **Zalesovo Beam** 60.83 336 *e*P P 01 46 29.8 -1.5
ZALV **Zalesovo Beam** 60.83 336 *e*P P 01 46 29.8 -1.5
ZAA1 **Zalesovo Array** 60.83 336 *e*P P 01 46 30.8 -0.6
ZAA1 ⇑*e* 02 15 54.7
YAK **Yakutsk** 60.84 4 *e*P P 01 46 30.7 -0.5
comp=Z,64nm,0.6s
YAK LR LR
comp=Z,2μm,19.0s
YAK **Yakutsk** 60.84 4*d* *i*P P 01 46 30.4 -0.8
YAK *e**PP pP 01 46 42.2 +1.2
YAK *e* 01 47 09.7
YAK *e*S S 01 54 46.7 +0.2
YAK *e**SS sS 01 55 05.0 +2.4
YAK *e* 01 56 15.1
YAK *e*SS SS 01 58 42.2 -3.7
YAK pmax pmax
comp=Z,50nm,1.1s
YAK pmax pmax
comp=N,22nm,1.3s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=Z,155nm,2.3s
YAK pmax pmax
comp=N,196nm,2.4s
YAK pmax pmax
comp=E,103nm,2.5s
YAK smax smax
comp=N,165nm,2.9s
YAK smax smax
comp=E,89nm,2.7s
YAK MLR MLR
comp=Z,2μm,18.0s
YAK MLR MLR
comp=N,2μm,18.0s
YAK MLR MLR
comp=E,847nm,17.0s
DCZ **Deep Cove** 61.16 145 *e*P P 01 46 34.9 +1.1
comp=E,183nm,1.3s
KURBB **Kurchatov Arra** 61.47 330 P P 01 46 35.6 -0.1
comp=E,43nm,1.0s,baz=125,slow=6.5,SNR=2.1
KURK **Kurchatov** 61.48 330 *e*P P 01 46 35.7 -0.1
KURK **Kurchatov** 61.48 330 P P 01 46 35.8 0.0
SNR=144
KURK **Kurchatov** 61.48 330*c* *i*P P 01 46 35.5 -0.3
KURK pmax pmax
comp=Z,80nm,1.0s

FOZ **Fox Glacier** 61.63 142 *e*P P 01 46 38.3 +1.4
comp=Z,104nm,1.2s
FOZ LR LR
comp=Z,2μm,20.0s
MLZ **Mavora Lakes** 61.66 145 *e*P P 01 46 38.4 +1.2
comp=Z,90nm,1.0s
WHZ **Wether Hill Ro** 61.87 145 *e*P P 01 46 39.5 +1.0
comp=Z,142nm,1.0s
WKZ **Wanaka** 61.87 144 *e*P P 01 46 39.7 +1.1
comp=Z,148nm,1.2s
KK31 **Karatay Array** 62.04 319 *e*P P 01 46 39.5 -0.3
KK31 **Karatay Array** 62.04 319 *i* P P 01 46 39.9 +0.1
KK31 pmax pmax
comp=Z,84nm,1.5s
KKAR **Karatay Array** 62.04 319 *e*P P 01 46 39.5 -0.3
KKAR **Karatay Array** 62.04 319 *e*P P 01 46 39.6 -0.3
NVS **Novosibirsk** 62.11 336 ⇓*i*P P 01 46 39.8 -0.2
NVS *e*S S 01 55 01.2 -1.7
NVS pmax pmax
comp=Z,261nm,1.7s
NVS pmax pmax
comp=N,119nm,1.6s
NVS pmax pmax
comp=E,70nm,1.6s
NVS smax smax
comp=N,34nm,2.0s
NVS smax smax
comp=E,30nm,2.0s
MA2 **Magadan** 62.20 16 *e*P P 01 46 42.9 +2.4
comp=E,92nm,1.0s
MA2 LR LR
comp=Z,1μm,20.0s
MA2 **Magadan** 62.20 16 *i* P P 01 46 40.1 -0.4
MA2 pmax pmax
comp=Z,26nm,0.9s
HIZ **Hauiti** 62.46 135 *e*P P 01 46 43.4 +0.7
comp=Z,239nm,1.1s
HIZ LR LR
comp=Z,2μm,18.0s
RPZ **Rata Peaks** 62.49 142 P P 01 46 43.9 +1.1
comp=Z,681nm,1.0s,baz=289,slow=2.9,SNR=93
RPZ **Rata Peaks** 62.49 142 *e*P P 01 46 43.9 +1.1
RPZ LR LR
comp=Z,3μm,20.0s
THZ **Tophouse** 62.66 139 *e*P P 01 46 45.4 +1.4
comp=Z,154nm,1.1s
LTZ **Lake Taylor** 62.77 141 *e*P P 01 46 46.2 +1.5
comp=Z,199nm,1.2s
OXZ **Oxford** 62.90 141 PFAKE 01 47 00.0 +15
OXZ LR LR
comp=Z,1μm,18.0s
ODZ **Otahua Downs** 62.95 143 *e*P P 01 46 47.0 +1.2
comp=Z,69nm,1.3s
MCQ **Macquarie Isla** 63.31 157 P P 01 46 49.5 +1.6
baz=64,SNR=13
MCQ **Macquarie Isla** 63.31 157 *e*P P 01 46 49.8 +1.9
comp=Z,376nm,1.1s
MCQ **Macquarie Isla** 63.31 157 *e*P P 01 46 49.8 +1.9
MCQ pmax pmax
comp=Z,376nm,1.1s
CRLZ **Canterbury Las** 63.39 141 *e*P P 01 46 51.2 +2.5
comp=Z,210nm,1.2s
KHZ **Kahutara** 63.40 140 *e*P P 01 46 49.9 +1.2
comp=Z,267nm,1.2s
MQZ **McQueen's Vall** 63.48 141 *e*P P 01 46 51.0 +1.8
comp=Z,377nm,1.3s
MQZ LR LR
comp=Z,2μm,18.0s
SNZO **South Karori** 63.63 138 *e*P P 01 46 50.4 +0.1
comp=Z,472nm,1.0s
SNZO LR LR
comp=Z,2μm,21.0s
BKZ **Black Stump Fm** 63.90 135 *e*P P 01 46 53.1 +0.8
comp=Z,180nm,0.9s
BKZ LR LR
comp=Z,2μm,20.0s
URZ **Urewera** 63.95 134 P P 01 46 52.6 +0.1
comp=Z,91nm,1.0s,baz=36,slow=3.6,SNR=17
URZ **Urewera** 63.95 134 *e*P P 01 46 53.0 +0.5
BRZS **Berezniki** 64.17 327 ⇓*i*P P 01 46 53.8 +0.1
comp=Z,35nm,1.1s
BRZS *e*S S 01 55 30.8 +1.9
BFZ **Birch Farm** 64.39 137 *e*P P 01 46 56.4 +1.0
comp=Z,326nm,1.2s
BFZ LR LR
comp=Z,2μm,20.0s
RAO **Raoul Island** 64.66 123 LR LR 02 15 14.9
comp=Z,447nm,20.4s,baz=146,slow=36
WSAR **Wadi Sarin** 65.33 295 P P 01 47 03.6 +1.8
SNR=5.7
SEY **Seymchan** 65.44 15 *i* P P 01 47 01.5 -0.3
BVAR **Borovoye Array** 66.99 329 P P 01 47 11.5 -0.4
comp=Z,28nm,1.0s,baz=134,slow=8.5,SNR=44
BRVK **Borovoye** 67.06 329 *e*P P 01 47 12.1 -0.2
comp=Z,103nm,1.0s
BRVK **Borovoye** 67.06 329 P P 01 47 12.1 -0.2
SNR=82
BRVK **Borovoye** 67.06 329*c* *i*P P 01 47 11.8 -0.6
BRVK pmax pmax
comp=Z,47nm,1.2s
SOHO **SOHO** 67.37 296 P P 01 47 11.8 -3.1
UOSS **Minazif** 67.79 296 P P 01 47 18.3 +0.8
UOSS **Minazif** 67.79 296 P P 01 47 15.4 -2.2
HATD **Hatta, Dubai** 67.84 296 P P 01 47 16.9 -1.0
ASHO **Ashiyiah** 67.88 296 P P 01 47 17.0 -1.2
SNR=5.5
CASY **Casey** 67.95 185 *e*P P 01 47 17.4 -0.3
comp=Z,41nm,1.0s
CASY LR LR
comp=Z,1μm,19.0s
ALNE **Al Ain** 68.06 295 *i* P P 01 47 17.2 -2.1
SNR=17
FAQ **Al Faqa, Dubai** 68.31 296 P P 01 47 20.6 -0.2
ASUD **Al Ashush, Dub** 68.53 296 P P 01 47 21.2 -1.0
GEYT **Alibeck** 68.98 310 P P 01 47 24.5 -0.3
comp=Z,14nm,1.0s,baz=108,slow=19,SNR=24
ABTO **Aybut** 69.54 288 P P 01 47 27.2 -1.5
SNR=5.5
TIXI **Tiksi** 70.37 2 *e*P P 01 47 31.3 -1.3
comp=Z,53nm,1.0s
TIXI LR LR
comp=Z,2μm,19.0s
TIXI **Tiksi** 70.37 2*c* *i*P P 01 47 31.4 -1.2
TIXI pmax pmax
comp=Z,11nm,1.0s
MIR **Mirnyy** 70.82 192 ⇑*i*P P 01 47 35.0 -0.4
MIR pmax pmax
comp=Z,42nm,1.0s
AB31 **Akbulak array** 71.25 322 *i* P P 01 47 37.5 -0.9
AB31 pmax pmax
comp=Z,28nm,0.9s
ABKAR **Akbulak array** 71.25 322 *e*P P 01 47 37.7 -0.7
NRIK **Noril'sk** 71.77 348 P P 01 47 40.6 -0.6
comp=Z,11nm,0.7s,baz=118,slow=5.2,SNR=12
NRIK LR LR 02 21 06.3
comp=Z,1μm,19.0s,baz=146,slow=37
NRIK **Noril'sk** 71.77 348 P P 01 47 40.6 -0.6
NRIK pmax pmax
comp=Z,15nm,0.9s
NRIK MLR MLR
comp=Z,1μm,19.0s
AKTO **Aktyubinsk** 72.83 323 P P 01 47 47.3 -0.6
comp=Z,4.6nm,0.6s,baz=120,slow=4.8,SNR=13
BILL **Bilibino** 73.06 16 *e*P P 01 47 48.4 -0.5
comp=Z,17nm,0.9s
BILL **Bilibino** 73.06 16 *e*P P 01 47 47.4 -1.5
BILL *e* 01 48 07.4
BILL *e* 01 50 31.2
BILL *e*PPP PPP 01 52 14.1
BILL pmax pmax
comp=Z,5.0nm,1.4s
BILL MLR MLR
comp=Z,1μm,21.0s
SVE **Sverdlovsk** 73.73 330 *e*P P 01 47 52.2 -0.8
SVE *e*S SKiKP 01 57 20.0 -0.5
SVE pmax pmax
comp=Z,106nm,1.0s
SVE MLR MLR
comp=Z,768nm,18.0s
ARU **Arti** 74.64 329 P P 01 47 57.5 -0.8
ARU **Arti** 74.64 329 P P 01 47 57.5 -0.8
ARU LR LR
comp=Z,700nm,20.0s
ARU **Arti** 74.64 329*d* *i*P P 01 47 57.3 -1.0
ARU 01 50 43.6
ARU PPP PPP 01 52 30.0

ARU S S 01 57 34.8 +2.9
ARU pmax pmax
comp=Z,11nm,1.0s
OPO **Ambohidratompo** 76.27 251 P P 01 48 08.0 -0.7
comp=Z,117nm,1.2s,baz=82,slow=5.7,SNR=38
ABPO **Ambohimpanom** 76.28 250 *e*P P 01 48 07.5 -1.3
comp=Z,53nm,1.1s
ABPO LR LR
comp=Z,1μm,20.0s
ABPO **Ambohimpanom** 76.28 250 *e*P P 01 48 07.5 -1.3
ABPO pmax pmax
comp=Z,53nm,1.1s
ABPO MLR MLR
comp=Z,1μm,20.0s
RAYN **Ar Rayn** 77.33 294 *e*P P 01 48 12.8 -1.7
comp=Z,34nm,0.9s
RAYN LR LR
comp=Z,1μm,22.0s
RAYN **Ar Rayn** 77.33 294 *e*P P 01 48 12.8 -1.7
RAYN pmax pmax
comp=Z,34nm,0.9s
RAYN MLR MLR
comp=Z,1μm,22.0s
AKT **Akhty** 77.56 312 *e*P P 01 48 15.5 0.0
AKT *e* 01 48 26.0
AKT *e* 01 51 07.2
AKT pmax pmax
comp=Z,41nm,1.1s
DAMY **Dhamar** 77.92 285 *e*P P 01 48 18.7 +0.5
comp=Z,28nm,1.0s
MAK **Makhachkala** 77.97 314 *e*P P 01 48 12.2 -5.3
MAK *e* 01 51 12.4
MAK *e*S S 01 58 04.3 -4.7
MAK pmax pmax
comp=Z,145nm,1.1s
GROC **Groznyy** 79.24 314 *e*P P 01 48 22.8 -1.8
GROC *e* 01 48 30.8
GROC *e*S S 01 58 22.6 -0.1
GROC pmax pmax
comp=Z,57nm,1.4s
ATD **Arta Tunnel** 79.36 281 P P 01 48 26.0 +0.2
comp=Z,13nm,0.8s,baz=49,slow=5.3,SNR=1.9
ATD **Arta Tunnel** 79.36 281 P P 01 48 26.0 +0.2
ATD LR LR
comp=Z,600nm,22.0s
GNI **Garni** 79.62 310 *e*P P 01 48 28.1 +1.2
comp=Z,53nm,1.2s
GNI **Garni** 79.62 310 *i* P P 01 48 26.7 -0.2
SNR=6.4
GNI **Garni** 79.62 310 *i* P P 01 48 25.3 -1.6
GNI pmax pmax
comp=Z,37nm,1.3s
TBLG **Delisi** 79.82 312 *e*P P 01 48 28.6 +0.8
comp=Z,51nm,1.1s
MAW **Mawson** 79.96 200 P P 01 48 27.2 -0.7
comp=Z,38nm,0.9s,baz=48,slow=7.8,SNR=56
MAW PKKPbc **PKKPbc** 02 07 15.0 -1.3
comp=Z,0.5nm,0.4s,baz=288,slow=7.0,SNR=2.6
MAW **Mawson** 79.96 200 P P 01 48 27.2 -0.7
baz=80,SNR=25
MAW **Mawson** 79.96 200 *e*P P 01 48 27.2 -0.7
comp=Z,10nm,1.0s
MAW *e*PKKPbc **PKKPbc** 02 07 15.0 -1.3
MAW LR LR
comp=Z,300nm,18.0s
MAW **Mawson** 79.96 200 *e*P P 01 48 27.2 -0.7
MAW pmax pmax
comp=Z,10.0nm,1.0s
MAW MLR MLR
comp=Z,300nm,18.0s
ZEI **Tsey** 80.57 313 *e*P P 01 48 28.1 -3.9
ZEI *e*S S 01 58 38.0 +0.9
ZEI pmax pmax
comp=Z,37nm,0.9s
AKH **Akhalkalaki** 80.71 312 *e*P P 01 48 33.5 +0.7
comp=Z,62nm,1.1s
AKH **Akhalkalaki** 80.71 312 ⇑*i*P P 01 48 33.8 +1.0
AKH **Akhalkalaki** 80.71 312 *e*P P 01 48 33.5 +0.7
AKH pmax pmax
comp=Z,62nm,1.1s
NCK **Nalchik** 80.87 314 *i* P P 01 48 34.4 +1.0
NCK pmax pmax
comp=Z,7.0nm,1.1s
KBZ **Khabaz** 81.41 314 P P 01 48 35.6 -0.5
comp=Z,6.8nm,1.0s,baz=178,slow=2.9,SNR=9.4
NEY **Neytrino** 81.48 313 *i* P P 01 48 35.1 -1.7
NEY pmax pmax
comp=Z,3.0nm,1.0s
KVAR **Kislovodsk Arr** 81.58 314 P P 01 48 40.1 +2.9
comp=Z,3.9nm,1.0s,baz=27,slow=4.5,SNR=3.2
KIV **Kislovodsk** 81.58 314 *i* P P 01 48 36.8 -0.4
SNR=6.5
KIV **Kislovodsk** 81.58 314 *e*P P 01 48 38.5 +1.2
KIV *e*S S 01 58 50.7 +3.3
KIV *e*SS SS 02 04 08.5 +3.7
KIV pmax pmax
comp=Z,11nm,1.1s
VNDA **Vanda** 81.63 172 P P 01 48 36.4 -0.3
comp=Z,43nm,0.8s,baz=315,slow=6.0,SNR=266
VNDA PKKPbc **PKKPbc** 02 07 13.4 +0.6
comp=Z,0.6nm,0.9s,baz=153,slow=4.5,SNR=3.3
VNDA **Vanda** 81.63 172 *e*P P 01 48 36.2 -0.5
comp=Z,57nm,0.8s
VNDA *e*PKKPbc **PKKPbc** 02 07 13.4 +0.6
MWH **Moku'aweowe** 82.17 71 PFAKE 01 48 50.0 +8.6
MWH LR LR
comp=Z,3μm,19.0s
SBA **Scott Base** 82.59 171 *e*P P 01 48 42.3 +0.6
comp=Z,70nm,1.0s
SBA LR LR
comp=Z,2μm,20.0s
SBA **Scott Base** 82.59 171 *e*P P 01 48 42.3 +0.6
SBA pmax pmax
comp=Z,70nm,1.0s
SBA MLR MLR
comp=Z,2μm,20.0s
STCH **Steam Cracks** 82.61 71 PFAKE 01 48 50.0 +6.9
STCH LR LR
comp=Z,3μm,22.0s
NPOC **North of Pu'u** 82.63 71 PFAKE 01 48 50.0 +6.8
NPOC LR LR
comp=Z,2μm,19.0s
VRH **Novokhopyorsk** 83.05 321 *e*P P 01 48 43.7 -0.9
VRH pmax pmax
comp=Z,10.0nm,0.8s
RDOG **Red Dog Mine** 83.16 21 *e*P P 01 48 48.4 +3.5
comp=Z,86nm,1.2s
FURI **Furi** 83.45 279 PFAKE 01 49 00.0 +12
FURI LR LR
comp=Z,1μm,19.0s
VORD **Divnogorie** 84.55 321 *e*P P 01 48 50.9 -1.4
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR **Storozhevoye** 84.65 321 *e*P P 01 48 51.9 -0.9
VSR pmax pmax
comp=Z,20nm,1.7s
VORR **Voronezh** 84.66 322 P P 01 48 55.0 +2.2
VORR pmax pmax
comp=Z,250nm,1.2s
LPSR **Galich'ya Gora** 84.91 323 *e*P P 01 48 52.8 -1.3
LPSR pmax pmax
comp=Z,10.0nm,0.5s
KMBO **Kilima Mbogo** 85.02 269 P P 01 48 55.5 -0.3
comp=Z,25nm,1.0s,baz=68,slow=7.1,SNR=39
KMBO **Kilima Mbogo** 85.02 269 *e*P P 01 48 55.6 -0.2
comp=Z,76nm,1.4s
KMBO LR LR
comp=Z,1μm,20.0s
KMBO **Kilima Mbogo** 85.02 269 P P 01 48 55.5 -0.3
SNR=29
KMBO **Kilima Mbogo** 85.02 269 *i* P P 01 48 54.5 -1.3
SNR=40
KMBO **Kilima Mbogo** 85.02 269 *i* P P 01 48 55.7 -0.1
KMBO pmax pmax
comp=Z,25nm,1.0s
ASF **Jabal al Asfar** 85.37 302 P P 01 48 56.3 -0.7
comp=Z,8.1nm,0.9s,baz=17,slow=1.1,SNR=12
ANN **Anapa** 85.40 315 *e*P P 01 48 54.5 -2.2
ANN pmax pmax
comp=Z,108nm,1.4s
NAI **Nairobi** 85.47 269 *e*P P 01 48 59.0 +0.9
comp=Z,91nm,1.0s
NAI LR LR
comp=Z,1μm,21.0s
NAI **Nairobi** 85.47 269 *e*P P 01 48 59.0 +0.9
NAI pmax pmax

comp=Z,91nm,1.0s
NAI MLR MLR
comp=Z,1µm,21.0s
MOS Moscow 85.90 326 *e*P **P 01 48 58.7 -0.2**
MOS *e* 01 52 23.5
MOS *e* 01 59 24.5
MOS pmax pmax
comp=Z,21nm,0.8s
IM3 Indian Mountai 86.37 24 *e*P **P 01 49 00.8 -0.2**
OBN Obninsk 86.46 325 P **P 01 49 01.3 -0.4**
comp=Z,1.6nm,0.4s,baz=108,slow=5.3,SNR=6.2
OBN Obninsk 86.46 325 *e*P **P 01 49 03.3 +1.6**
comp=Z,66nm,1.2s
OBN Obninsk 86.46 325 *e*P **P 01 49 01.0 -0.7**
OBN pmax pmax
comp=Z,25nm,1.3s
OBN MLR MLR
comp=Z,614nm,20.0s
MMAI Mount Meron Ar 86.65 303 P **P 01 49 02.7 -0.5**
comp=Z,9.5nm,1.0s,baz=80,slow=6.0,SNR=9.8
EIL Elat 87.01 299 P **P 01 49 04.8 -0.2**
comp=Z,12nm,1.1s,baz=123,slow=4.6,SNR=4.5
BPAW Bear Paw Mtn. 87.42 26 *e*P **P 01 49 08.2 +1.9**
comp=Z,17nm,1.0s
MLY Manley 87.56 25 *e*P **P 01 49 08.4 +1.5**
comp=Z,29nm,1.0s
SIM Simferopol' 87.77 315 P P 01 49 20.2 +12
SIM S **SKSac 01 59 31.8 -2.5**
SIM pmax pmax
comp=Z,28nm,0.9s
COLD Coldfoot 87.86 23 *e*P **P 01 49 11.7 +3.5**
comp=Z,9.5nm,0.9s
COLD LR LR
comp=Z,500nm,20.0s
BR101 Keskin Array S 88.11 310 *e*P **P 01 49 08.8 -1.5**
BR101 *e*PP **PP 01 52 36.9 -0.3**
BR131 Keskin Array S 88.11 310 *e*P **P 01 49 09.2 -1.0**
BRTR Keskin Array B 88.11 310 P **P 01 49 08.8 -1.5**
comp=Z,2.3nm,0.8s,baz=109,slow=5.7,SNR=15
BRTR PP **PP 01 52 36.9 -0.3**
comp=Z,3.2nm,1.0s,baz=111,slow=7.9,SNR=2.6
TOLK Toolik Lake Re 88.13 21 *e*P **P 01 49 13.6 +4.0**
comp=Z,39nm,1.0s
TOLK Toolik Lake Re 88.13 21 P **P 01 49 09.8 +0.2**
baz=269
APA Apatity 88.36 337⇑ *i*P **P 01 49 10.2 -0.4**
APA pmax pmax
comp=Z,11nm,1.1s
APA MLR MLR
comp=Z,2µm,16.0s
CSS Mathiatis 88.38 305 *e*P **P 01 49 10.4 -1.0**
comp=Z,52nm,1.0s
SYO Syowa Base 88.57 201⇓ *i*X **P 01 49 10.0 -1.5**
SYO Syowa Base 88.57 201⇓ *i*PcP **PcP 01 49 13.9 +0.8**
SYO Syowa Base 88.57 201⇓ *i*pP pP 01 49 18.8 -2.9
MDM Murphy Dome 88.63 25 *e*P **P 01 49 14.3 +2.3**
comp=Z,15nm,1.0s
PPT2 Papeete2 88.65 108 *e*P **P 01 49 14.2 +1.1**
comp=Z,61nm,1.4s
PPT2 Papeete2 88.65 108 *e*S **S 01 59 56.2 -2.1**
comp=Z,1µm,27.2s
WRH Wood River Hil 88.69 26 *e*P **P 01 49 12.6 +0.3**
comp=Z,29nm,1.1s
ANTO Ankara 88.76 310 PFAKE 01 49 20.0 +6.8
ANTO LR LR
comp=Z,500nm,22.0s
CCB Clear Creek Bu 88.81 26 *e*P **P 01 49 13.5 +0.7**
comp=Z,25nm,1.1s
TBI Tubuai 88.94 113 *e*S **S 01 59 58.7 -1.9**
comp=Z,1µm,28.2s
POKR Poker Flat Res 88.97 25 P **P 01 49 14.6 +1.1**
baz=271
HDA Harding Lake 89.19 26 *e*P **P 01 49 14.9 +0.3**
comp=Z,14nm,0.8s
HDA Harding Lake 89.19 26 P **P 01 49 14.5 -0.1**
baz=271
IL1 Eielson Array 89.20 25 *e*P **P 01 49 14.1 -0.6**
ILAR Eielson Array 89.20 25 P **P 01 49 12.9 -1.7**
comp=Z,0.6nm,0.6s,baz=246,slow=5.5,SNR=6.7
ILAR PKKPbc **PKKPdf 02 06 51.0 +1.9**
comp=Z,2.8nm,1.0s,baz=87,slow=1.6,SNR=11
ILAR Eielson Array 89.20 25 P **P 01 49 13.0 -1.7**
ILB Eielson Array 89.20 25 *e*P **P 01 49 15.2 +0.5**
ILB *e*PKKPdf **PKKPdf 02 06 51.0 +1.9**
DIV Divide 89.83 29 PFAKE 01 49 30.0 +12
DIV LR LR
comp=Z,1µm,20.0s
PAX Paxson 89.89 27 PFAKE 01 49 30.0 +12
PAX LR LR
comp=Z,200nm,18.0s
PMOR Pomariorio Ree 90.19 105 *e*P **P 01 49 21.2 +0.9**
comp=Z,58nm,1.0s
VAH Vaihoa 90.46 105 *e*P **P 01 49 22.3 +0.8**
comp=Z,42nm,1.1s
SCRK Sand Creek 90.50 26 *e*P **P 01 49 23.0 +2.1**
comp=Z,14nm,1.2s
ISP Isparta 90.58 308 *i*P **P 01 49 20.5 -1.3**
ISP pmax pmax
comp=Z,4.0nm,0.8s
KEV Kevo 90.61 340 PFAKE 01 49 30.0 +8.9
KEV LR LR
comp=Z,2µm,20.0s
AKASG Malin Array Be 90.92 321 P **P 01 49 21.2 -1.8**
comp=Z,1.8nm,0.9s,baz=80,slow=4.2,SNR=8.0
AKASG PP **PP 01 52 59.1 -0.1**
comp=Z,0.3nm,0.3s,baz=65,slow=9.3,SNR=3.0
AKBB Malin Array Si 90.92 321 *e*P **P 01 49 21.2 -1.8**
AKBB *e*PP **PP 01 52 59.1 -0.1**
AKBB Malin Array Si 90.92 321 *e*P **P 01 49 21.2 -1.8**
AKBB *e* 01 52 59.1
KIEV Kiev 90.94 321 *e*P **P 01 49 23.4 +0.3**
comp=Z,12nm,1.1s
KIEV LR LR
comp=Z,900nm,20.0s
KIEV Kiev 90.94 321*c i*P **P 01 49 23.6 +0.6**
KIEV pmax pmax
comp=Z,6.0nm,1.1s
ARA0 ARCESS Array S 91.16 340 *e*P **P 01 49 21.7 -2.0**
ARCES ARCESS Array B 91.16 340 P **P 01 49 21.7 -2.0**
comp=Z,6.8nm,1.0s,baz=354,slow=9.8,SNR=4.0
QSPA South Pole Qui 91.22 180 P **P 01 49 23.6 -0.6**
comp=Z,51nm,1.0s,baz=323,slow=1.9,SNR=92
QSPA South Pole Qui 91.22 180 *e*P **P 01 49 23.8 -0.4**
QSPA LR LR
comp=Z,1µm,21.0s
KIS Kishinev 91.41 317 *e*P **P 01 49 28.0 +2.7**
KIS LRM MLR 02 33 16.0
comp=Z,600nm,22.0s
KIS Kishinev 91.41 317 *e*P **P 01 49 28.0 +2.7**
KIS *e* 02 01 28.0
KIS *e* 02 02 04.0
KIS MLR MLR
comp=Z,600nm,16.0s
KIS MLR MLR
comp=Z,600nm,22.0s
MBAR Mbarara 91.52 269 PFAKE 01 49 40.0 +13
MBAR LR LR
comp=Z,300nm,20.0s
MBAR Mbarara 91.52 269 *i*P **P 01 49 26.3 -0.5**
SORM Soroca 91.65 318⇑ *i*P **P 01 49 25.9 -0.5**
SORM Soroca 91.65 318⇑P **P 01 49 25.9 -0.5**
EGAK Eagle 91.65 25 *e*P **P 01 49 26.4 +0.3**
comp=Z,22nm,1.2s
VSU Vasula 91.80 328 *i*P **P 01 49 27.0 +0.2**
VSU pmax pmax
comp=Z,50nm,1.2s
SPITS Spitsbergen Ar 91.97 349 P **P 01 49 25.4 -2.0**
comp=Z,3.8nm,0.6s,baz=87,slow=9.3,SNR=6.2
CFR Carcaliu 91.99 315⇑ *i*P P 01 49 34.8 +6.7
CFR Carcaliu 91.99 315⇑P P 01 49 34.8 +6.7
IDID Didziasalis 92.08 325 *e*P **P 01 49 28.0 -0.2**
IDID IAmb IAmb 01 49 53.5
comp=Z,12nm,0.5s
NACGM Naroch 92.10 325 *e* P 01 49 52.0 +24
NACGM eLQ LQ 02 35 38.0
IIGN Ignalina 92.38 325 *e*P **P 01 49 29.3 -0.3**
IIGN IAmb IAmb 01 49 54.6
comp=Z,11nm,1.1s
ISAL Salakas 92.41 326 *e*P **P 01 49 29.6 -0.1**
ISAL IAmb IAmb 01 49 44.3
comp=Z,12nm,1.1s
DAWY Dawson 92.50 26 *e*P **P 01 49 31.7 +1.6**
comp=Z,19nm,1.0s
VRI Vrincioaia 92.93 316⇓ *i*P **P 01 49 33.9 +1.5**
VRI Vrincioaia 92.93 316⇓P **P 01 49 33.9 +1.5**
PLOR Plostina 92.98 316⇑ *i*P **P 01 49 29.2 -3.5**
PLOR Plostina 92.98 316⇑P **P 01 49 29.2 -3.5**
EPYK Eagle Plains 93.24 23 P **P 01 49 32.2 -1.2**
baz=281
BIZ Bicaz 93.26 317⇓ *i*P **P 01 49 37.0 +3.1**
KARP Karpathos 93.40 306 *e*P **P 01 49 34.0 -0.9**
comp=Z,102nm,1.3s
MLR Muntele Rosu 93.51 316 P **P 01 49 35.2 -0.1**
comp=Z,3.6nm,0.8s,baz=94,slow=7.2,SNR=3.5
MLR PP **PP 01 53 19.9 +0.1**
comp=Z,4.9nm,0.8s,baz=28,slow=7.7,SNR=1.8
MLR Muntele Rosu 93.51 316 *e*P **P 01 49 35.2 -0.1**
comp=Z,41nm,1.5s
MLR *e*PP **PP 01 53 19.9 +0.1**
MLR Muntele Rosu 93.51 316⇑ *i*P P 01 49 46.2 +11
MLR Muntele Rosu 93.51 316 *e*P **P 01 49 35.2 -0.1**
MLR *e* 01 53 19.9
MLR pmax pmax
comp=Z,41nm,1.5s
BURAR Bucovina Array 93.80 318⇑ *i*P **P 01 49 35.7 -0.8**
BURAR Bucovina Array 93.80 318⇑P **P 01 49 35.7 -0.8**
BUR04 Bucovina Ar. S 93.80 318 *e*P **P 01 49 35.0 -1.5**
BUR08 Bucovina Ar. S 93.80 318 *e*P **P 01 49 35.4 -1.2**
DOPR Dopca 93.85 316⇑ *i*P P 01 49 49.2 +13
INK Inuvik 94.04 21 *e*P **P 01 49 39.8 +2.8**
comp=Z,20nm,1.1s
LSZ Lusaka 94.26 255 *e*P **P 01 49 37.8 -1.5**
comp=Z,113nm,1.1s
LSZ LR LR
comp=Z,1µm,20.0s
LSZ Lusaka 94.26 255 P **P 01 49 38.0 -1.2**
SNR=25
LSZ Lusaka 94.26 255 *e*P **P 01 49 37.8 -1.5**
LSZ pmax pmax
comp=Z,113nm,1.1s
LSZ MLR MLR
comp=Z,1µm,20.0s
SUW Suwalki 94.29 324 PFAKE 01 49 50.0 +12
SUW LR LR
comp=Z,700nm,21.0s
LVV L'vov 94.32 320 *e*P P 01 49 50.9 +12
ARR Arges 94.44 316⇑ *i*P **P 01 49 39.4 -0.1**
CJR Cluj-Napoca 95.00 317⇑ *i*P P 01 49 53.8 +12
CJR Cluj-Napoca 95.00 317⇑P P 01 49 53.8 +12
WHY Whitehorse 95.17 29 *e*P **P 01 49 43.7 +1.2**
comp=Z,42nm,1.1s
IDI Anoyia 95.27 305 P **P 01 49 43.9 +0.4**
comp=Z,8.0nm,0.9s,baz=291,slow=22,SNR=2.0
IDI Anoyia 95.27 305 *e*P **P 01 49 43.9 +0.4**
comp=Z,23nm,1.0s
IDI Anoyia 95.27 305⇑ *i*P P 01 49 51.7 +8.2
TRPA Tarpa 95.52 318⇑ *i*P **P 01 49 43.3 -0.9**
DRGR 95.59 317⇑ *i*P **P 01 49 43.7 -1.0**
DRGR 95.59 317⇑P **P 01 49 43.7 -1.0**
UZH Uzhgorod 95.61 319 *e*P **P 01 49 43.0 -1.6**
UZH *i* 01 50 01.9
GZR Gura Zlata 95.73 316⇑ *i*P P 01 49 56.1 +11
GZR Gura Zlata 95.73 316⇑P P 01 49 56.1 +11
VTS Vitosha 95.78 313⇓ *i*P P 01 49 54.7 +8.9
VTS Vitosha 95.78 313⇓P P 01 49 54.7 +8.9
SIRR Siria 96.39 317⇑ *i*P P 01 49 58.6 +10
MDVR Moldovita 96.57 315⇑ *i*P **P 01 49 48.1 -1.1**
LBTB Lobatse 96.58 245 *e*P **P 01 49 48.7 -1.0**
comp=Z,18nm,1.0s
LBTB pmax pmax
comp=Z,18nm,1.0s
BOSA Boshof 96.76 241 P **P 01 49 48.2 -2.2**
comp=Z,18nm,1.1s,baz=107,slow=5.0,SNR=11
BOSA Boshof 96.76 241 *e*P **P 01 49 49.7 -0.8**
BOSA Boshof 96.76 241 *e*P **P 01 49 49.7 -0.8**
PSZ Piszkesteto 97.31 319⇑ *i*P P 01 49 42.7 -10
PSZ Piszkesteto 97.31 319⇑P P 01 49 42.7 -10
FNA Florina 97.38 311 PFAKE 01 50 00.0 +7.0
FNA LR LR
comp=Z,400nm,21.0s
NVL N'lazarevskaya 97.86 198 *e*P **P 01 49 54.3 0.0**
NVL pmax pmax
comp=Z,9.0nm,0.7s
DIVS Divibare 97.89 315 PFAKE 01 50 10.0 +15
DIVS LR LR
comp=Z,600nm,19.0s
VYHS Vyhne 97.90 319 *e*P Pdif 01 49 55.2 +0.1
VYHS *e* 01 54 00.4
VYHS Vyhne 97.90 319 *e*P Pdif 01 49 55.2 +0.1
VYHS *e*PP **PP 01 54 00.4 +6.8**
HFS Hagfors 98.03 331 P **P 01 49 54.0 -1.4**
comp=Z,2.3nm,0.8s,baz=163,slow=11,SNR=2.4
HFS Hagfors 98.03 331 P **P 01 49 54.0 -1.4**
OKC Ostrava-Krasne 98.08 321 AMS AMS 02 49 00.0
comp=Z,700nm,16.7s
MORC Moravsky Berou 98.47 321 PFAKE 01 50 10.0 +12
MORC LR LR
comp=Z,700nm,20.0s
NB2 NORSAR Subarra 98.91 333 P Pdif 01 50 05.1 +5.8
comp=Z,11nm,1.2s,baz=74,slow=4.4
NB2 NORSAR Subarra 98.91 333 P Pdif 01 50 05.1 +5.8
baz=74,slow=4.4
NB200 NORSAR Array S 98.91 333 *e*P **P 01 49 58.9 -0.4**
NB200 *e*PP **PP 01 53 59.3 -1.7**
NOA NORSAR Array B 98.91 333 P **P 01 49 58.9 -0.4**
comp=Z,0.7nm,0.9s,baz=300,slow=9.7,SNR=2.5
NOA PP **PP 01 53 59.3 -1.7**
comp=Z,1.9nm,1.0s,baz=72,slow=8.2,SNR=4.0
DPC Dobruska-Polom 99.12 321 AMS AMS 02 42 50.0
comp=Z,1µm,16.9s
VRAC Vranov 99.18 320 P **Pdif 01 50 00.8 +0.1**
comp=Z,1.1nm,0.5s,baz=37,slow=3.9,SNR=3.1
VRAC Vranov 99.18 320⇑ *i*P **Pdif 01 50 02.5 +1.7**
VRAC Vranov 99.18 320 *e*PDIFF **Pdif 01 50 01.6 +0.8**
VRAC *e*PP **PP 01 54 00.5 -2.8**
TREC Trest 99.89 320 AMS AMS 02 41 50.0
comp=Z,900nm,24.7s
KONO Kongsberg 100.14 332 PFAKE 01 50 20.0 +15
KONO LR LR
comp=Z,1µm,21.0s
PVCC Panska Ves 100.16 322 AMS AMS 02 43 40.0
comp=Z,900nm,19.3s
GOPC GO Pecny, Ondr 100.18 321 AMS AMS 02 43 50.0
comp=Z,900nm,17.1s
SUR Sutherland 100.36 237 P **Pdif 01 50 06.1 -0.5**
comp=Z,24nm,1.1s,baz=127,slow=4.0,SNR=8.1
SUR Sutherland 100.36 237 *e*Pdif **Pdif 01 50 04.3 -2.3**
SUR LR LR
comp=Z,2µm,20.0s
PRA Prague 100.36 321 AMS AMS 02 44 00.0
comp=Z,1µm,20.0s
BRG Berggiesshubel 100.46 322 *e*P **PKiKP 01 54 29.6 -3.4**
comp=Z,6.0nm,0.9s
BRG *e* 01 54 35.9
comp=Z,18nm,1.2s
CLL Collm 100.91 323 PFAKE 01 50 20.0 +12
CLL LR LR
comp=Z,1µm,20.0s
CLL Collm 100.91 323 *e*PP PP 01 54 12.0 -4.4
CLL *e*PPk 01 54 26.0
CLL *e*SKSac **SKSac 02 00 42.0 -3.3**
CLL *e*Sdif **Sdif 02 01 46.0 +1.5**
CLL *e*PS PS 02 03 19.0 +0.2
CLL *e*PPS PPS 02 04 08.0
CLL *e* 02 06 07.0
CLL *e*SS **SS 02 08 36.0 -6.5**
CLL *e* 02 10 24.0
CLL *e*SSS SSS 02 12 36.0
CLL *e* 02 14 51.0
CLL Lm MLR 02 44 00.0
comp=N,700nm,20.8s
CLL Lm MLR 02 44 00.0
comp=E,1µm,22.0s
CLL Lm MLR 02 44 00.0
comp=Z,1µm,19.5s
GERES GERESS Array B 101.14 320 P **Pdif 01 50 08.3 -1.3**
comp=Z,0.8nm,0.9s,baz=108,slow=1.7,SNR=4.9
GERES PP **PP 01 54 17.9 -0.4**
comp=Z,0.6nm,0.8s,baz=69,slow=5.7,SNR=2.7
GERES PKKPbc **PKKPbc 02 06 20.4 -1.5**
comp=Z,0.7nm,0.8s,baz=264,slow=0.9,SNR=4.2
KHC Kasperske Hory 101.14 321 *e*PDIFF **Pdif 01 50 16.0 +6.5**
KHC *e*PP **PP 01 54 15.0 -3.2**
KHC *ex* x 01 54 32.0
KHC *e*SKS 02 00 39.3
KHC *e*SP SP 02 03 24.8 +7.9
KHC *e*SS **SS 02 08 43.2 -2.8**
KHC AMS AMS 02 42 20.0
comp=Z,900nm,17.4s
KHC Kasperske Hory 101.14 321 *i*P **Pdif 01 50 16.0 +6.5**
KHC *e* 01 54 15.0
KHC *e* 02 00 39.3
KHC *e*SP SP 02 03 24.8 +7.9
KHC *e*SS SS 02 08 43.2 -2.8
KHC MLR MLR
comp=Z,900nm,17.0s
NKC Novy Kostel 101.55 322 AMS AMS 02 43 10.0
comp=Z,800nm,18.4s
SNAA Sanae 101.72 195 Pdiff **Pdif 01 50 10.9 -0.8**
SNAA SKS 02 00 49.4
SNAA Sanae 101.72 195 P **PKKPdf 02 06 28.5 +1.6**
SNAA Sanae 101.72 195 P **Pdif 01 50 10.9 -0.8**
comp=Z,6.1nm,1.0s,baz=146,slow=4.7,SNR=17
SNAA Sanae 101.72 195 *e*Pdif **Pdif 01 50 10.8 -0.8**
SNAA LR LR
comp=Z,1µm,20.0s
RKT Rikitea 102.26 113 *e*S **Sdif 02 01 52.2 -4.6**
comp=Z,564nm,28.2s
MOTA Moosalm 103.22 319 *e*PKiKP **PKiKP 01 54 40.2 +1.9**
comp=Z,10nm,1.1s
VNA2 Neumayer--Watz 103.35 195 Pdiff **Pdif 01 50 18.5 -0.3**
baz=101,slow=4.1
VNA2 SKS 02 00 57.1
VNA2 Neumayer--Watz 103.35 195 P **PKKPdf 02 06 23.6 -0.3**
baz=47,slow=1.0
YKA Yellowknife Ar 103.52 24 PKKPbc PKKPbc 02 06 11.1 -4.1
comp=Z,4.2nm,0.9s,baz=105,slow=2.6,SNR=4.9
YKB5 Yellowknife Ar 103.52 24 *e*PKKPbc PKKPbc 02 06 11.1 -4.1
VNA3 Neumayer Olymp 103.73 194 Pdiff **Pdif 01 50 19.5 -1.0**
VNA3 SKS 02 00 58.3
VNA3 Neumayer Olymp 103.73 194 P **PKKPdf 02 06 22.7 -0.4**
VNA1 Neumayer--Stat 103.75 195 P **PKKPdf 02 06 22.9 -0.1**
FUORN Ofenpass-Fuorn 103.98 319 PFAKE 01 50 30.0 +7.5
FUORN LR LR
comp=Z,700nm,20.0s
DAVA Damuels 104.03 320 *e*PKiKP **PKiKP 01 54 42.5 +2.6**
comp=Z,34nm,1.2s
TSUM Tsumeb 104.27 251 PFAKE 01 50 40.0 +16
TSUM LR LR
comp=Z,2µm,21.0s
WLF Walferdange 105.58 323 PFAKE 01 54 50.0
WLF LR LR
comp=Z,1µm,20.0s
SENIN Lac Senin/Sane 106.01 319 PFAKE 01 55 00.0
SENIN LR LR
comp=Z,1µm,19.0s
UCC Uccle 106.22 324 PFAKE 01 55 00.0
UCC LR LR
comp=Z,1µm,20.0s
BNI Bardonecchia 106.86 318 PFAKE 01 55 00.0
BNI LR LR
comp=Z,1µm,20.0s
KEST Kesra 107.67 308 PP PP 01 55 06.5 -0.8
comp=Z,13nm,1.1s,baz=87,slow=20,SNR=4.2
KEST Kesra 107.67 308 *e*PP PP 01 55 06.6 -0.6
J05D Fort Rock, OR 108.09 43 P **PKiKP 01 54 46.2 -1.3**
baz=290
ESK Eskdalemuir 108.24 331 PFAKE 01 55 00.0
ESK LR LR
comp=Z,2µm,20.0s
E09A Wood Farm, Sta 108.95 39 PFAKE 01 55 00.0
E09A LR LR
comp=Z,700nm,18.0s
BMO Blue Mountains 110.15 41 PFAKE 01 55 00.0
BMO LR LR
comp=Z,800nm,21.0s
CMB Columbia Colle 110.43 48 PFAKE 01 55 00.0
CMB LR LR
comp=Z,600nm,20.0s
NV01 Mina Array Sit 111.84 47 *e*PKiKP **PKiKP 01 54 56.5 +1.6**
NV01 *e*PKKPbc **PKKPbc 02 05 48.3 -0.4**
NV01 *e*PKKPab **PKKPab 02 05 55.6 -1.6**
NVAR Mina Array Bea 111.84 47 PKiKP **PKiKP 01 54 54.4 -0.4**
comp=Z,0.6nm,0.7s,baz=255,slow=3.6,SNR=5.2
NVAR PKKPbc **PKKPbc 02 05 47.2 -1.4**
comp=Z,2.2nm,1.0s,baz=129,slow=4.0,SNR=8.8
NVAR PKKPab **PKKPab 02 05 55.6 -1.6**
comp=Z,3.5nm,0.9s,baz=133,slow=5.3,SNR=14
PKM Mcpherson Peak 111.85 51 P **PKiKP 01 54 54.3 -0.6**
baz=288
HLID Hailey 112.58 41 PFAKE 01 55 10.0
HLID LR LR
comp=Z,600nm,20.0s
HLID Hailey 112.58 41 P **PKiKP 01 54 55.4 -0.6**
baz=295
ISA Isabella, Lake 112.65 50 PFAKE 01 55 10.0
ISA LR LR
comp=Z,700nm,19.0s
CWC Cottonwood Cre 112.69 49 P **PKiKP 01 54 56.0 -0.4**
baz=290
MPMC Manual Prospec 113.27 50 P **PKiKP 01 54 57.4 -0.1**
baz=290
EDW2 Edwards Air Fo 113.27 51 P **PKiKP 01 54 56.8 -0.6**
baz=289
LRMC Laurel Mtn Rad 113.32 50 P **PKiKP 01 54 57.7 +0.1**
baz=290
EGMT Eagleton 113.36 35 P **PKiKP 01 54 56.0 -1.2**
baz=301
BOZ Bozeman (W) 113.44 38 P **PKiKP 01 54 56.8 -0.7**
baz=298
FURC Furnace Creek, 113.60 49 P **PKiKP 01 54 59.5 +1.6**
baz=291
BFSC Mount Baldy Ra 113.75 52 P **PKiKP 01 54 58.7 +0.2**
baz=289
R11A Troy Canyon, C 113.86 47 P **PKiKP 01 54 58.8 +0.2**
baz=292
TPNV Topopah Spring 113.89 48 PFAKE 01 55 10.0
TPNV LR LR
comp=Z,700nm,20.0s
TPNV Topopah Spring 113.89 48 P **PKiKP 01 54 59.4 +0.7**
baz=291
TAM Tamanrasset 113.97 296 PFAKE 01 55 10.0
TAM LR LR
comp=Z,500nm,18.0s
GSC Goldstone, Bar 114.05 50 P **PKiKP 01 54 59.7 +0.8**
baz=290
SHOC Shoshone, Teco 114.25 49 P PKPdf 01 54 59.6 +0.4
baz=291
HEC Hector,Ludlow 114.58 51 P PKPdf 01 54 59.8 -0.2
baz=290
TUQ Turquoise Moun 114.68 50 P PKPdf 01 55 00.9 +0.7
baz=291
FRD Ford Ranch, An 114.82 52 P PKPdf 01 54 59.6 -0.9
baz=290
PFO Pinyon Flats O 114.89 52 P PKPdf 01 55 00.2 -0.4
baz=290
TPFO Pinon Flats 114.90 52 P PKPdf 01 54 59.9 -0.7
baz=290
DUG Dugway, Tooele 115.09 44 P **PKPdf 01 54 59.7 -1.1**
baz=295
GMRC Granite Mounta 115.11 50 P **PKPdf 01 55 01.6 +0.5**
baz=291
BELC Belle Mtn. Jos 115.12 51 P **PKPdf 01 55 01.5 +0.4**
baz=290
MONP2 Monument Peak 115.16 53 P **PKPdf 01 55 01.9 +0.6**
baz=290
HWUT Hardware Ranch 115.33 42 *e*PKPdf **PKPdf 01 55 01.9 +0.6**
IKP In-Ko-Pah, Jac 115.49 53 P **PKPdf 01 55 02.0 +0.2**
baz=290
CTU Camp Tracy 115.61 43 PFAKE 01 55 10.0 +8.1
CTU LR LR
comp=Z,800nm,21.0s
SWSC Sam W. Stewart 115.64 52 P **PKPdf 01 55 02.4 +0.5**
baz=290
TCUT Toone Canyon 115.65 42 *e*PKPdf **PKPdf 01 55 03.5 +1.5**
BC3 Big Chuckawall 115.67 51 P **PKPdf 01 55 03.5 +1.3**
baz=290
IRM Iron Mountain 115.73 51 P **PKPdf 01 55 02.9 +0.8**
baz=291
CCUT Cedar City 115.79 47 *e*PKPdf **PKPdf 01 55 05.2 +2.8**
SZCU Shurtz Canyon 115.97 47 *e*PKPdf **PKPdf 01 55 04.2 +1.5**
MPU Maple Canyon 115.99 44 *e*PKPdf **PKPdf 01 55 03.8 +1.1**
LCMT Little Creek M 116.09 47 *e*PKPdf **PKPdf 01 55 04.5 +1.6**
LAO LASA Array 116.10 35 P **PKPdf 01 55 02.9 +0.4**
baz=304
PD31 Pinedale Array 116.10 40 *e*PKPdf **PKPdf 01 55 02.7 -0.2**
PD31 *e*PKKPbc **PKKPbc 02 05 36.2 +1.9**
PDAR Pinedale Array 116.10 40 PKP **PKPdf 01 55 02.7 -0.2**
comp=Z,1.7nm,1.1s,baz=333,slow=1.7,SNR=4.7
PDAR PKKPab **PKKPbc 02 05 36.1 +1.9**
comp=Z,7.0nm,0.8s,baz=125,slow=3.9,SNR=5.6
PDAR Pinedale Array 116.10 40 *e*PKPdf **PKPdf 01 55 02.3 -0.6**
ES19 SONSECA Array 116.14 316 *e*PKPdf **PKPdf 01 55 02.9 +0.1**
ESDC Sonseca Array 116.20 316 PKP **PKPdf 01 55 02.4 -0.5**
comp=Z,1.4nm,0.9s,baz=342,slow=14,SNR=4.1

ESDC PP **PP** **01 56 11.4 +3.3**
comp=Z,1.3nm,0.9s,baz=65,slow=6.8,SNR=3.3
ESDC PKKPab **PKKPbc** **02 05 35.6 +2.0**
comp=Z,3.0nm,1.1s,baz=255,slow=4.9,SNR=7.4
MSU **Marysvale** **116.25** **45** *e*PKPdf **PKPdf** **01 55 05.7 +2.4**
Y12C **Blythe** **116.36** **51** P **PKPdf** **01 55 04.5 +1.2**
baz=291
KNB **Kanab** **116.40** **47** *e*PKPdf **PKPdf** **01 55 05.8 +2.2**
PAB **San Pablo** **116.52** **316** *e*PKPdf **PKPdf** **01 55 03.2 -0.4**
PAB **San Pablo** **116.52** **316** *e*PKIKP **PKPdf** **01 55 03.2 -0.4**
TMUT **Trail Mountain** **116.60** **44** *e*PKPdf **PKPdf** **01 55 06.3 +2.3**
TMUT LR LR
comp=Z,600nm,18.0s
PKCU **Pink Cliffs** **116.60** **46** *e*PKPdf **PKPdf** **01 55 06.0 +1.9**
P17A **Butcher Ranch,** **116.84** **44** *e*PKPdf **PKPdf** **01 55 05.8 +1.5**
U15A **North Rim** **117.03** **48** *e*PKPdf **PKPdf** **01 55 06.0 +1.1**
P18A **Preston Nutter** **117.11** **43** *e*PKPdf **PKPdf** **01 55 05.5 +0.5**
SRU **San Rafael Swe** **117.16** **44** *e*PKPdf **PKPdf** **01 55 05.7 +0.8**
SRU **San Rafael Swe** **117.16** **44** *e*PKIKP **PKPdf** **01 55 05.7 +0.8**
POLO **Lamas de Olo** **117.98** **319** *e*PKPdf PKPdf 01 55 17.4 +11
WUAZ **Wupatki** **118.08** **48** *e*PKPdf **PKPdf** **01 55 07.5 +0.8**
WUAZ **Wupatki** **118.08** **48** P **PKPdf** **01 55 07.2 +0.5**
baz=294
K22A **Casper** **118.09** **39** P **PKPdf** **01 55 05.6 -1.0**
baz=302
O20A **White River Ci** **118.24** **42** P **PKPdf** **01 55 07.5 +0.5**
baz=299
MTE **Manteigas** **118.30** **318** *e*PKPdf **PKPdf** **01 55 12.0 +5.1**
PV09 **Paradox Valley** **118.40** **44** *e*PKPdf **PKPdf** **01 55 09.9 +2.4**
X16A **Lo Mia Camp, P** **118.47** **49** *e*PKPdf **PKPdf** **01 55 08.5 +0.9**
PV21 **Cone Mtn., Par** **118.48** **44** PFAKE 01 55 20.0 +12
PV21 LR LR
comp=Z,700nm,19.0s
PV23 **Carpenter Ridg** **118.51** **44** *e*PKPdf **PKPdf** **01 55 09.4 +1.8**
PV10 **Paradox Valley** **118.52** **44** *e*PKPdf **PKPdf** **01 55 09.1 +1.4**
PCBR **Castelo Branco** **118.53** **318** *e*PKPdf **PKPdf** **01 55 12.1 +4.8**
PV14 **Lion Creek, Pa** **118.53** **44** *e*PKPdf **PKPdf** **01 55 08.8 +1.1**
PV20 **West Nyswonger** **118.59** **44** *e*PKPdf **PKPdf** **01 55 10.2 +2.4**
PV19 **Morning Glory** **118.59** **44** *e*PKPdf **PKPdf** **01 55 09.0 +1.2**
PV17 **East Wray Mesa** **118.62** **44** *e*PKPdf **PKPdf** **01 55 08.9 +1.1**
PV22 **Blue Mesa, Par** **118.62** **44** *e*PKPdf **PKPdf** **01 55 09.6 +1.8**
PV22 LR LR
comp=Z,1µm,19.0s
PV16 **Nyswonger Mesa** **118.64** **44** *e*PKPdf **PKPdf** **01 55 08.3 +0.5**
PV16 LR LR
comp=Z,300nm,20.0s
PV18 **Skein Mesa, Pa** **118.67** **44** *e*PKPdf **PKPdf** **01 55 09.8 +1.9**
PV11 **David Mesa, Pa** **118.67** **44** *e*PKPdf **PKPdf** **01 55 09.7 +1.8**
PV11 LR LR
comp=Z,1µm,21.0s
PV03 **Paradox Valley** **118.71** **44** *e*PKPdf **PKPdf** **01 55 09.0 +1.0**
PV12 **Saucer Basin,** **118.72** **44** *e*PKPdf **PKPdf** **01 55 09.3 +1.3**
PV13 **Radium Mtn., P** **118.78** **44** *e*PKPdf **PKPdf** **01 55 09.1 +1.0**
PV02 **Paradox Valley** **118.81** **44** *e*PKPdf **PKPdf** **01 55 09.5 +1.3**
RSSD **Black Hills** **118.81** **36** *e*PKPdf **PKPdf** **01 55 07.7 -0.3**
RSSD **Black Hills** **118.81** **36** *e*PKIKP **PKPdf** **01 55 07.7 -0.3**
RSSD **Black Hills** **118.81** **36** P **PKPdf** **01 55 07.1 -0.9**
baz=305
PV01 **Paradox Valley** **118.96** **44** *e*PKPdf **PKPdf** **01 55 10.2 +1.8**
PESTR **Estremoz** **119.07** **317** *e*PKPdf **PKPdf** **01 55 11.9 +3.5**
ULM **Lac du Bonnet** **119.19** **27** PKP **PKPdf** **01 55 07.8 -0.4**
comp=Z,2.5nm,0.7s,baz=120,slow=9.5,SNR=2.3
PTOM **Tomar** **119.26** **318** *e*PKPdf PKPdf 01 55 19.8 +11
TOA2 **Torodi Ar. Sit** **119.33** **286** PFAKE 01 55 20.0 +11
TOA2 LR LR
comp=Z,500nm,21.0s
TOA0 **Torodi Ar. Sit** **119.34** **286** *e*PKPdf **PKPdf** **01 55 08.3 -1.2**
TORD **Torodi Ar. Bea** **119.34** **286** PKP **PKPdf** **01 55 08.0 -1.5**
comp=Z,8.3nm,0.8s,baz=350,slow=6.2,SNR=19
TORD PKKPab **PKKPab** **02 05 23.5 -0.6**
baz=289,slow=4.4
TOA1 **Torodi Ar. Sit** **119.34** **286** *e*PKPdf **PKPdf** **01 55 08.0 -1.5**
TOA1 *e*PKKPbc **PKKPab** **02 05 23.5 -0.6**
TOA3 **Torodi Ar. Sit** **119.34** **286** PFAKE 01 55 20.0 +11
TOA3 LR LR
comp=Z,600nm,19.0s
N23A **Red Feather La** **119.38** **40** P **PKPdf** **01 55 08.4 -0.9**
baz=301
MVCO **Mesa Verde** **119.44** **45** *e*PKPdf **PKPdf** **01 55 10.8 +1.3**
MVCO **Mesa Verde** **119.44** **45** P **PKPdf** **01 55 10.3 +0.8**
baz=298
W18A **Petrified Fore** **119.46** **48** *e*PKPdf **PKPdf** **01 55 10.9 +1.4**
W18A LR LR
comp=Z,600nm,19.0s
W18A **Petrified Fore** **119.46** **48** P **PKPdf** **01 55 10.5 +1.0**
baz=295
EVO **Evora** **119.52** **317** *e*PKPdf **PKPdf** **01 55 16.2 +7.0**
X18A **Snowflake** **119.55** **49** *e*PKPdf **PKPdf** **01 55 11.8 +2.2**
SMCO **Snowmass** **119.56** **43** PFAKE 01 55 20.0 +10
SMCO LR LR
comp=Z,1µm,21.0s
PBEJ **Beja** **119.66** **316** *e*PKPdf **PKPdf** **01 55 15.4 +5.9**
TUC **Tucson** **119.81** **51** *e*PKPdf **PKPdf** **01 55 11.3 +1.2**
TUC **Tucson** **119.81** **51** *e*PKIKP **PKPdf** **01 55 11.3 +1.2**
TUC **Tucson** **119.81** **51** P **PKPdf** **01 55 10.4 +0.3**
baz=293
MESJ **Messejana** **120.00** **316** *e*PKPdf **PKPdf** **01 55 14.8 +4.7**
PBDV **Barranco-do-Ve** **120.08** **315** *e*PKPdf **PKPdf** **01 55 14.9 +4.5**
ISCO **Idaho Springs** **120.16** **41** *e*PKPdf **PKPdf** **01 55 12.2 +1.4**
ISCO **Idaho Springs** **120.16** **41** *e*PKIKP **PKPdf** **01 55 12.2 +1.4**
ISCO **Idaho Springs** **120.16** **41** P **PKPdf** **01 55 09.4 -1.5**
baz=301
S22A **4UR Ranch, Cre** **120.36** **44** *e*PKPdf **PKPdf** **01 55 13.4 +2.1**
S22A **4UR Ranch, Cre** **120.36** **44** P **PKPdf** **01 55 11.7 +0.4**
baz=299
MORF **Marmelete** **120.55** **316** *e*PKPdf **PKPdf** **01 55 16.4 +5.1**
SDCO **Great Sand Dun** **121.27** **43** *e*PKPdf **PKPdf** **01 55 13.8 +0.8**
SDCO **Great Sand Dun** **121.27** **43** P **PKPdf** **01 55 13.0 -0.1**
baz=300
319A **Douglas** **121.35** **52** *e*PKPdf **PKPdf** **01 55 14.7 +1.5**
LENM **Lemitar** **121.92** **48** *e*PKPdf **PKPdf** **01 55 15.5 +1.3**
ANMO **Albuquerque** **121.95** **47** *e*PKPdf **PKPdf** **01 55 15.4 +1.1**
ANMO **Albuquerque** **121.95** **47** *e*PKIKP **PKPdf** **01 55 15.4 +1.1**
ANMO **Albuquerque** **121.95** **47** P **PKPdf** **01 55 15.1 +0.8**
baz=298
121A **Cookes Peak, D** **122.03** **50** P **PKPdf** **01 55 13.4 -1.1**
baz=296
BNM **Barren Site** **122.19** **48** *e*PKPdf **PKPdf** **01 55 15.5 +0.7**
T25A **Trinidad** **122.33** **43** *e*PKPdf **PKPdf** **01 55 16.2 +1.2**
T25A **Trinidad** **122.33** **43** P **PKPdf** **01 55 14.3 -0.6**
baz=301
EYMN **Ely** **122.83** **26** P **PKPdf** **01 55 15.2 -0.2**
baz=319
ECSD **EROS Data Cent** **123.28** **33** *e*PKPdf **PKPdf** **01 55 15.5 -0.8**
ECSD **EROS Data Cent** **123.28** **33** P **PKPdf** **01 55 15.8 -0.6**
baz=312
SCHQ **Schefferville** **123.56** **6** PKP **PKPdf** **01 55 16.4 -0.1**
comp=Z,4.3nm,0.8s,baz=307,slow=0.9,SNR=4.1
E38A **The Farm, Brul** **123.81** **27** P **PKPdf** **01 55 17.7 +0.4**
baz=318
BGNE **Belgrade** **123.91** **36** *e*PKPdf **PKPdf** **01 55 18.4 +0.8**
BGNE **Belgrade** **123.91** **36** P **PKPdf** **01 55 16.7 -1.0**
baz=309
F37A **Hinrichs Farm,** **123.95** **29** P **PKPdf** **01 55 17.0 -0.5**
baz=317
F38A **Pierce - Schro** **124.14** **28** P **PKPdf** **01 55 17.8 -0.1**
baz=318
SPMN **Marine on St.** **124.22** **29** *e*PKPdf **PKPdf** **01 55 18.0 -0.1**
SPMN **Marine on St.** **124.22** **29** P **PKPdf** **01 55 17.7 -0.4**
baz=316
MNTX **Cornudas Mount** **124.23** **50** *e*PKPdf **PKPdf** **01 55 17.5 -1.0**
MNTX **Cornudas Mount** **124.23** **50** P **PKPdf** **01 55 17.7 -0.8**
baz=297
E39A **Mellen** **124.44** **27** P **PKPdf** **01 55 17.6 -0.9**
baz=319
CBKS **Cedar Bluff** **124.51** **39** PFAKE 01 55 30.0 +11
CBKS LR LR
comp=Z,600nm,19.0s
F39A **Loretta** **124.62** **28** P **PKPdf** **01 55 16.0 -2.8**
baz=318
E40A **Wakefield** **124.68** **27** P **PKPdf** **01 55 18.7 -0.2**
baz=320
G38A **Ridgeland** **124.73** **29** P **PKPdf** **01 55 18.8 -0.3**
baz=317
D41A **Chassel** **124.79** **25** P **PKPdf** **01 55 18.7 -0.4**
baz=322
G39A **Holcombe** **124.97** **28** P **PKPdf** **01 55 18.1 -1.4**
baz=318
F40A **Park Falls** **124.98** **27** P **PKPdf** **01 55 17.8 -1.7**
baz=319
E41A **Kenton** **125.08** **26** P **PKPdf** **01 55 19.3 -0.4**
baz=321
MSTX **Muleshoe** **125.08** **46** *e*PKPdf **PKPdf** **01 55 21.5 +1.3**
MSTX **Muleshoe** **125.08** **46** P **PKPdf** **01 55 19.6 -0.6**
baz=300
H39A **Augusta** **125.36** **29** P **PKPdf** **01 55 20.6 +0.4**
baz=318
G40A **Rib Lake** **125.44** **28** *e*PKPdf **PKPdf** **01 55 20.4 -0.1**
G40A **Rib Lake** **125.44** **28** P **PKPdf** **01 55 20.3 -0.1**
baz=319
E42A **Champion** **125.56** **25** P **PKPdf** **01 55 20.4 -0.3**
baz=322
F41A **Three Lakes** **125.58** **27** *e*PKPdf **PKPdf** **01 55 20.7 0.0**
F41A **Three Lakes** **125.58** **27** P **PKPdf** **01 55 20.4 -0.3**
baz=320
H40A **Chili** **125.83** **28** P **PKPdf** **01 55 20.4 -0.8**
baz=318
I39A **Houston** **125.85** **30** P **PKPdf** **01 55 20.8 -0.5**
baz=317
E43A **Lone Tree Farm** **125.99** **25** P **PKPdf** **01 55 19.6 -1.9**
baz=323
J39A **Deborah** **126.13** **30** P **PKPdf** **01 55 20.8 -1.0**
baz=316
H41A **Junction City** **126.18** **28** P **PKPdf** **01 55 21.9 0.0**
baz=319
G42A **Mountain** **126.27** **27** P **PKPdf** **01 55 20.9 -1.1**
baz=321
I40A **Norwalk** **126.27** **29** P **PKPdf** **01 55 20.1 -1.9**
baz=318
KSU1 **Kansas State U** **126.27** **37** *e*PKPdf **PKPdf** **01 55 22.3 +0.1**
KSU1 **Kansas State U** **126.27** **37** P **PKPdf** **01 55 21.8 -0.4**
baz=309
MATQ **Matagami** **126.34** **16** P **PKPdf** **01 55 21.6 -0.4**
baz=335
F43A **Flat Rock, Esc** **126.35** **25** P **PKPdf** **01 55 22.5 +0.4**
baz=323
K39A **Oelwein** **126.49** **31** P **PKPdf** **01 55 21.0 -1.5**
baz=316
KIC **Kosan Boka** **126.54** **279** *e*PKIKP **PKPdf** **01 55 25.5 +2.1**
comp=Z,42nm,0.9s
J40A **Sandy Grove** **126.57** **30** P **PKPdf** **01 55 20.9 -1.8**
baz=318
TX31 **Lajitas Ar. Si** **126.61** **51** *e*PKPdf **PKPdf** **01 55 22.8 -0.5**
TX31 *e*PKPdf **PKiKP** **01 55 23.7 0.0**
LTX **Lajitas** **126.61** **51** *e*PKPdf **PKPdf** **01 55 23.2 -0.1**
LTX *e* 02 08 36.7
TXAR **Lajitas Array** **126.61** **51** PKP **PKPdf** **01 55 23.2 -0.1**
comp=Z,4.7nm,1.1s,baz=318,slow=1.7,SNR=16
TXAR SKKPbc SKKPbc 02 08 36.7 -6.9
comp=Z,1.1nm,0.9s,baz=122,slow=3.3,SNR=4.0
DBIC **Dimbokro** **126.62** **279** PKP **PKPdf** **01 55 22.9 -0.6**
comp=Z,16nm,0.8s,baz=134,slow=0.7,SNR=16
D46A **Sault St. Mari** **126.75** **22** P **PKPdf** **01 55 21.9 -0.9**
baz=327
TIC **Toumodi** **126.78** **279** *e*PKIKP **PKPdf** **01 55 25.9 +2.0**
LIC **Lamto** **126.84** **279** *e*PKIKP **PKPdf** **01 55 25.9 +2.0**
comp=Z,72nm,1.0s
L39A **Vinton** **126.85** **32** P **PKPdf** **01 55 22.4 -0.8**
baz=316
K40A **Colesburg** **126.88** **30** P **PKPdf** **01 55 22.7 -0.5**
baz=317
J41A **Loganville** **126.95** **29** P **PKPdf** **01 55 23.3 0.0**
baz=318
D47A **Chapleau** **126.96** **21** P **PKPdf** **01 55 22.8 -0.5**
baz=328
CHGQ **Chibougamau** **127.02** **13** P **PKPdf** **01 55 22.1 -1.2**
baz=339
I42A **Draeger Farm,** **127.08** **28** P **PKPdf** **01 55 21.7 -1.9**
baz=320
LSQQ **Lel-sur-Quev** **127.16** **16** P **PKPdf** **01 55 23.6 +0.1**
baz=336
JFWS **Jewell Farm** **127.17** **30** *e*PKPdf **PKPdf** **01 55 22.7 -1.1**
JFWS **Jewell Farm** **127.17** **30** *e*PKIKP **PKPdf** **01 55 22.7 -1.1**
JFWS **Jewell Farm** **127.17** **30** P **PKPdf** **01 55 22.3 -1.5**
baz=318
M39A **Webster** **127.22** **32** P **PKPdf** **01 55 22.9 -1.0**
baz=315
L40A **Anamosa** **127.30** **31** P **PKPdf** **01 55 22.6 -1.5**
baz=316
D48A **Paudash Townsh** **127.33** **20** P **PKPdf** **01 55 22.7 -1.3**
baz=329
N39A **Derby Farms, D** **127.46** **33** P **PKPdf** **01 55 23.8 -0.5**
baz=314
WMOK **Wichita Mounta** **127.47** **43** *e*PKPdf **PKPdf** **01 55 24.8 +0.2**
WMOK **Wichita Mounta** **127.47** **43** *e*PKIKP **PKPdf** **01 55 24.8 +0.2**
WMOK **Wichita Mounta** **127.47** **43** P **PKPdf** **01 55 24.0 -0.7**
baz=304
M40A **Post Highland** **127.62** **32** P **PKPdf** **01 55 24.1 -0.5**
baz=316
L41A **Preston** **127.66** **31** P **PKPdf** **01 55 23.9 -0.8**
baz=317
K42A **Prairie Point,** **127.71** **29** P **PKPdf** **01 55 23.8 -1.0**
baz=319
N40A **Mertquake, Sal** **127.95** **32** P **PKPdf** **01 55 24.0 -1.3**
baz=315
ABTX **Abilene, Hawle** **128.02** **46** P **PKPdf** **01 55 24.9 -0.9**
baz=302
L42A **Oliver, Polo** **128.13** **30** P **PKPdf** **01 55 24.8 -0.9**
baz=318
M41A **Milan** **128.15** **31** P **PKPdf** **01 55 24.5 -1.2**
baz=317
GLMI **Grayling** **128.23** **24** P **PKPdf** **01 55 26.2 +0.4**
baz=325
K43A **Burlington** **128.26** **29** P **PKPdf** **01 55 25.3 -0.5**
baz=320
E50A **Wahnapitae** **128.34** **20** P **PKPdf** **01 55 25.9 0.0**
baz=330
L43A **Garden Prairie** **128.46** **29** P **PKPdf** **01 55 25.9 -0.4**
baz=319
GO09 **Cerro Castillo** **128.71** **168** *e*PKPdf **PKPdf** **01 55 27.3 +0.9**
D53A **Lac Vacive, Po** **128.74** **17** P **PKPdf** **01 55 25.8 -0.8**
baz=334
TUL1 **Leonard** **128.76** **40** P **PKPdf** **01 55 26.8 -0.2**
baz=308
O41A **Passleys Farm,** **128.87** **33** P **PKPdf** **01 55 25.7 -1.4**
baz=316
M43A **Waltham Townsh** **128.91** **30** P **PKPdf** **01 55 27.0 -0.1**
baz=318
JCT **Junction City** **129.01** **48** *e*PKPdf **PKPdf** **01 55 28.4 +0.7**
JCT **Junction City** **129.01** **48** *e*PKIKP **PKPdf** **01 55 28.4 +0.7**
JCT **Junction City** **129.01** **48** P **PKPdf** **01 55 27.9 +0.2**
baz=301
P41A **Barry, Barry** **129.09** **33** P **PKPdf** **01 55 27.9 +0.4**
baz=315
F52A **Sundridge** **129.37** **19** P **PKPdf** **01 55 27.0 -0.9**
baz=332
E53A **Dumoine, Ponti** **129.38** **18** P **PKPdf** **01 55 26.3 -1.6**
baz=334
J47A **Sumner** **129.44** **26** P **PKPdf** **01 55 28.2 +0.1**
baz=324
KLBO **Killbear Provi** **129.45** **20** P **PKPdf** **01 55 27.0 -1.0**
baz=330
Q41A **Truxton** **129.50** **34** P **PKPdf** **01 55 28.0 -0.3**
baz=315
P42A **Winchester** **129.54** **33** P **PKPdf** **01 55 28.1 -0.3**
baz=316
ALGO **Algonquin Park** **129.64** **18** P **PKPdf** **01 55 29.0 +0.6**
baz=333
HHAR **Hobbs** **129.69** **38** *e*PKPdf **PKPdf** **01 55 28.0 -0.8**
BMRO **Meriville Lake** **129.75** **22** P **PKPdf** **01 55 27.0 -1.7**
baz=329
K47A **Vermontville** **129.81** **26** P **PKPdf** **01 55 27.9 -0.9**
baz=324
J48A **Bridge Port** **129.82** **25** P **PKPdf** **01 55 27.8 -1.0**
baz=325
R41A **Rosebud** **129.87** **35** P **PKPdf** **01 55 27.8 -1.3**
baz=314
Q42A **Golden Eagle** **129.91** **33** P **PKPdf** **01 55 28.8 -0.3**
baz=315
P43A **Skaggs, Pawnee** **129.94** **32** P **PKPdf** **01 55 27.9 -1.3**
baz=317
K48A **Perry** **130.09** **25** P **PKPdf** **01 55 29.9 +0.5**
baz=325
CCM **Cathedral Cave** **130.12** **35** *e*PKPdf **PKPdf** **01 55 29.7 +0.2**
CCM **Cathedral Cave** **130.12** **35** *e*PKIKP **PKPdf** **01 55 29.7 +0.2**
CCM **Cathedral Cave** **130.12** **35** P **PKPdf** **01 55 28.9 -0.7**
baz=314
PEMO **Pembroke** **130.14** **18** P **PKPdf** **01 55 29.4 +0.1**
baz=334
S41A **Jillco Farms,** **130.15** **36** P **PKPdf** **01 55 29.4 -0.2**
baz=313
BWLO **Walkerton** **130.19** **22** P **PKPdf** **01 55 29.1 -0.4**
baz=329
CLWO **Collingwood** **130.21** **21** P **PKPdf** **01 55 27.5 -2.0**
baz=330
ZAIG **Zacatecas** **130.24** **58** PFAKE 01 55 40.0 +9.4
ZAIG LR LR
comp=Z,1µm,20.0s
SLM **Saint Louis** **130.28** **33** PFAKE 01 55 40.0 +10
SLM LR LR
comp=Z,900nm,20.0s
L47A **Sherwood** **130.28** **27** P **PKPdf** **01 55 28.6 -1.1**
baz=323
U40A **Yellville** **130.31** **37** P **PKPdf** **01 55 28.8 -1.2**
baz=311
Q43A **New Douglas** **130.35** **33** P **PKPdf** **01 55 30.7 +0.8**
baz=316
833A **Chaparral WMA,** **130.39** **50** *e*PKPdf **PKPdf** **01 55 31.9 +1.6**
833A **Chaparral WMA,** **130.39** **50** P **PKPdf** **01 55 30.0 -0.3**
baz=300
W39A **Magazine** **130.48** **39** P **PKPdf** **01 55 31.0 +0.7**
baz=310
T41A **Mountain View** **130.51** **36** P **PKPdf** **01 55 29.6 -0.7**
baz=313
BANO **Bancroft** **130.52** **19** P **PKPdf** **01 55 30.8 +0.7**
baz=333
S42A **Caledonia** **130.57** **35** P **PKPdf** **01 55 29.6 -0.8**
baz=314
L48A **N Adams** **130.65** **26** P **PKPdf** **01 55 28.5 -1.9**
baz=324
X39A **Fountain Ranch** **130.70** **40** P **PKPdf** **01 55 30.0 -0.7**
baz=309
PLVO **Plevna** **130.77** **18** P **PKPdf** **01 55 30.1 -0.4**
baz=334
U41A **Viola** **130.88** **37** P **PKPdf** **01 55 29.9 -1.2**
baz=312
T42A **Van Buren** **130.91** **36** *e*PKPdf **PKPdf** **01 55 30.9 -0.2**
T42A **Van Buren** **130.91** **36** P **PKPdf** **01 55 29.9 -1.2**
baz=314
N47A **Urbana** **130.92** **28** P **PKPdf** **01 55 31.3 +0.3**
baz=322
W40A **Ferguson Farm,** **130.94** **39** P **PKPdf** **01 55 30.1 -1.0**
baz=310
ACTO **Acton** **131.02** **21** P **PKPdf** **01 55 30.2 -0.9**
baz=330
MIAR **Mount Ida** **131.03** **40** *e*PKPdf **PKPdf** **01 55 32.2 +0.8**
MIAR **Mount Ida** **131.03** **40** *e*PKIKP **PKPdf** **01 55 32.2 +0.8**
MIAR **Mount Ida** **131.03** **40** P **PKPdf** **01 55 31.1 -0.2**
baz=309
DELO **Deloro Mine** **131.06** **19** P **PKPdf** **01 55 29.9 -1.2**
baz=333
V41A **Mountainview** **131.11** **38** P **PKPdf** **01 55 31.9 +0.4**
baz=312
S43A **Fulton Ridge,** **131.12** **34** P **PKPdf** **01 55 32.0 +0.6**
baz=315
Q45A **Warren Harvey,** **131.21** **32** P **PKPdf** **01 55 30.7 -0.8**
baz=318
N48A **Decatur** **131.25** **28** P **PKPdf** **01 55 31.3 -0.3**
baz=323
U42A **Revenden** **131.29** **36** P **PKPdf** **01 55 31.1 -0.7**
baz=313
T43A **Greenville** **131.34** **35** P **PKPdf** **01 55 31.5 -0.4**
baz=314
W41B **Gary Mavity, V** **131.46** **38** P **PKPdf** **01 55 32.1 -0.1**
baz=311
X40A **Basin Creek Fa** **131.53** **39** P **PKPdf** **01 55 31.4 -0.9**
baz=310
V42A **Cord** **131.56** **37** P **PKPdf** **01 55 30.7 -1.7**
baz=312
N49A **Columbus Grove** **131.58** **27** P **PKPdf** **01 55 31.6 -0.7**
baz=324
R45A **Skylar, Fairfi** **131.58** **32** P **PKPdf** **01 55 30.7 -1.6**
baz=318
O48A **Farmland** **131.66** **28** P **PKPdf** **01 55 29.8 -2.6**
baz=322
T44A **Benton** **131.73** **34** P **PKPdf** **01 55 33.7 +1.1**
baz=315
X41A **Kaden, Bauxite** **131.73** **39** P **PKPdf** **01 55 33.9 +1.2**
baz=310
LONY **Lake Ozonia** **131.88** **16** P **PKPdf** **01 55 34.5 +1.7**
baz=337
O49A **Covington** **132.10** **28** P **PKPdf** **01 55 33.8 +0.6**
baz=323
P48A **Milroy** **132.16** **29** P **PKPdf** **01 55 34.4 +1.0**
baz=321
N51A **Ashland** **132.38** **25** P **PKPdf** **01 55 34.8 +1.1**
baz=326
Q48A **North Vernon** **132.42** **30** P **PKPdf** **01 55 34.6 +0.7**
baz=321
O50A **Cable** **132.46** **27** P **PKPdf** **01 55 33.4 -0.6**
baz=324
R47A **Wooly Knot Far** **132.50** **31** P **PKPdf** **01 55 34.9 +0.9**
baz=320
MOIG **Morelia** **132.57** **62** PFAKE 01 55 50.0 +15
MOIG LR LR
comp=Z,600nm,19.0s
WCI **Wyandotte Cave** **132.67** **31** P **PKPdf** **01 55 36.4 +2.0**
baz=320
ALLY **Alegheny Colle** **132.67** **23** PFAKE 01 55 50.0 +16
ALLY LR LR
comp=Z,10µm,22.0s
ACSO **Alum Creek Sta** **132.68** **26** P **PKPdf** **01 55 34.9 +0.6**
baz=325
T46A **Princeton** **132.71** **33** P **PKPdf** **01 55 36.4 +2.0**
baz=317
R48A **Northridge Ran** **132.75** **30** P **PKPdf** **01 55 37.0 +2.5**
baz=320
Z42A **Norrel Spur, H** **132.88** **40** P **PKPdf** **01 55 35.1 +0.2**
baz=310
M54A **Oil Creek Stat** **132.98** **23** P **PKPdf** **01 55 35.8 +0.9**
baz=330
241A **Mo Tay, Goldon** **133.03** **42** P **PKPdf** **01 55 35.0 -0.2**
baz=308
U46A **Springville** **133.04** **34** P **PKPdf** **01 55 36.1 +1.0**
baz=316
T47A **Sharon Grove** **133.17** **33** P **PKPdf** **01 55 35.1 -0.3**
baz=318
R49A **Shelbyville** **133.19** **30** P **PKPdf** **01 55 35.7 +0.4**
baz=321
S48A **Wiedeman Farm,** **133.23** **31** P **PKPdf** **01 55 35.5 0.0**
baz=320
P51A **Williamsport** **133.25** **27** P **PKPdf** **01 55 36.0 +0.6**
baz=324
341A **Kurthwood** **133.28** **43** P **PKPdf** **01 55 34.9 -0.8**
baz=308
W45A **Hickory Valley** **133.32** **36** P **PKPdf** **01 55 34.7 -0.9**
baz=314
WVT **Waverly** **133.40** **34** *e*PKPdf **PKPdf** **01 55 37.0 +1.2**
WVT **Waverly** **133.40** **34** *e*PKIKP **PKPdf** **01 55 37.0 +1.2**
WVT **Waverly** **133.40** **34** P **PKPdf** **01 55 34.7 -1.1**
baz=317
T48A **Bowling Green** **133.46** **32** P **PKPdf** **01 55 36.7 +0.8**
baz=319
U47A **Clarksville** **133.48** **33** P **PKPdf** **01 55 33.6 -2.4**
baz=317
V46A **Holladay** **133.48** **34** P **PKPdf** **01 55 35.3 -0.6**
baz=316
Q51A **Peebles** **133.49** **28** P **PKPdf** **01 55 36.7 +0.8**
baz=324
S49A **Springfield** **133.52** **30** P **PKPdf** **01 55 35.9 -0.1**
baz=321
P52A **Corning** **133.54** **26** P **PKPdf** **01 55 36.3 +0.4**
baz=326
R50A **Paris** **133.61** **29** P **PKPdf** **01 55 36.0 -0.1**
baz=322
OXF **Oxford** **133.63** **37** P **PKPdf** **01 55 37.4 +1.1**
baz=314
BINY **Binghamton** **133.67** **19** P **PKPdf** **01 55 35.9 -0.3**
baz=335
X45A **UM Field Stati** **133.70** **37** P **PKPdf** **01 55 36.9 +0.5**
baz=314
V47A **Nunnelly** **133.80** **34** P **PKPdf** **01 55 37.2 +0.6**
baz=317
W46A **Michie** **133.81** **35** P **PKPdf** **01 55 36.8 +0.2**
baz=315
U48A **Cassie Pea, Po** **133.83** **33** P **PKPdf** **01 55 36.9 +0.3**
baz=318
T49A **Edmonton** **133.92** **31** P **PKPdf** **01 55 36.4 -0.3**
baz=320
R51A **Hillsboro** **133.96** **28** P **PKPdf** **01 55 36.3 -0.4**
baz=323
P53A **Whipple** **133.99** **26** P **PKPdf** **01 55 37.5 +0.7**
baz=326
Y45A **Yeager Farm, C** **133.99** **38** P **PKPdf** **01 55 35.7 -1.3**
baz=313
Q52A **Bidwell** **134.03** **27** P **PKPdf** **01 55 35.5 -1.4**
baz=325
S50A **Richmond** **134.05** **30** P **PKPdf** **01 55 33.3 -3.7**
baz=322
PLAL **Pickwick Lake** **134.09** **35** *e*PKPdf **PKPdf** **01 55 37.4 +0.3**
W47A **Westpoint** **134.17** **35** P **PKPdf** **01 55 36.5 -0.8**
baz=316
U49A **Red Boiling Sp** **134.24** **32** P **PKPdf** **01 55 35.6 -1.8**
baz=319
V48A **Smith Brothers** **134.25** **33** *e*PKPdf **PKPdf** **01 55 37.9 +0.5**
V48A **Smith Brothers** **134.25** **33** P **PKPdf** **01 55 35.3 -2.1**
baz=318
T50A **Nancy** **134.34** **31** P **PKPdf** **01 55 35.3 -2.2**
baz=321

R52A	**Catlettsburg**	**134.37**	**28**	P		**PKPdf**	**01 55 36.6**	**-0.9**
	baz=324							
SSPA	**Standing Stone**	**134.40**	**22**	P		**PKPdf**	**01 55 36.5**	**-1.1**
	baz=331							
UNM	**Universidad Na**	**134.47**	**61**	PFAKE			01 55 50.0	+11
UNM				LR		LR		
	comp=Z,600nm,21.0s							
S51A	**Beattyville**	**134.47**	**29**	P		**PKPdf**	**01 55 35.2**	**-2.6**
	baz=323							
X47A	**Russelville**	**134.54**	**36**	P		**PKPdf**	**01 55 35.1**	**-2.9**
	baz=316							
W48A	**Pulaski**	**134.62**	**34**	P		**PKPdf**	**01 55 36.7**	**-1.5**
	baz=317							
HRV	**Adam Dziewonsk**	**134.65**	**14**	P		**PKPdf**	**01 55 35.8**	**-2.2**
	baz=341							
S52A	**Salyersville**	**134.69**	**29**	P		**PKPdf**	**01 55 37.9**	**-0.3**
	baz=323							
U50A	**Jamestown**	**134.80**	**31**	P		**PKPdf**	**01 55 37.1**	**-1.3**
	baz=320							
N59A	**State Game Lan**	**134.89**	**19**	P		**PKPdf**	**01 55 37.7**	**-0.8**
	baz=334							
Y47A	**UCPARC, Winfie**	**134.98**	**36**	P		**PKPdf**	**01 55 38.6**	**-0.2**
	baz=315							
V51A	**Loudon**	**135.52**	**31**	P		**PKPdf**	**01 55 37.0**	**-2.8**
	baz=320							
247A	**Quitman**	**135.80**	**39**	P		**PKPdf**	**01 55 37.9**	**-2.5**
	baz=313							
W51A	**Cleveland**	**135.80**	**32**	P		**PKPdf**	**01 55 38.3**	**-2.0**
	baz=320							
X50B	**Fort Payne**	**135.84**	**34**	P		**PKPdf**	**01 55 38.3**	**-2.2**
	baz=318							
V52A	**Sevierville**	**135.88**	**31**	*e*PKPdf		**PKPdf**	**01 55 39.2**	**-1.2**
V52A	**Sevierville**	**135.88**	**31**	P		**PKPdf**	**01 55 39.1**	**-1.4**
	baz=322							
TKL	**Tuckaleechee C**	**135.93**	**31**	*e*PKPdf		**PKPdf**	**01 55 39.3**	**-1.3**
TKL	**Tuckaleechee C**	**135.93**	**31**	*e*PKIKP		**PKPdf**	**01 55 39.3**	**-1.3**
U53A	**Fall Branch**	**135.98**	**29**	P		**PKPdf**	**01 55 38.8**	**-1.9**
	baz=323							
LRAL	**Lakeview Retre**	**136.10**	**36**	*e*PKPdf		**PKPdf**	**01 55 41.8**	**+0.8**
LRAL	**Lakeview Retre**	**136.10**	**36**	P		**PKPdf**	**01 55 38.8**	**-2.2**
	baz=316							
Z49A	**Columbiana**	**136.26**	**36**	P		**PKPdf**	**01 55 39.5**	**-1.7**
	baz=316							
347A	**Saraland**	**136.28**	**39**	P		**PKPdf**	**01 55 40.9**	**-0.4**
	baz=312							
BLA	**Blacksburg**	**136.30**	**26**	P		**PKPdf**	**01 55 40.8**	**-0.4**
	baz=326							
248A	**Dixon Mills**	**136.31**	**38**	P		**PKPdf**	**01 55 42.0**	**+0.7**
	baz=314							
V53A	**Saluda**	**136.41**	**30**	*e*PKPdf		**PKPdf**	**01 55 41.1**	**-0.4**
V53A	**Saluda**	**136.41**	**30**	P		**PKPdf**	**01 55 39.6**	**-1.9**
	baz=322							
149A	**Jones**	**136.53**	**37**	P		**PKPdf**	**01 55 41.6**	**-0.1**
	baz=315							
249A	**Camden**	**136.77**	**37**	P		**PKPdf**	**01 55 41.3**	**-0.9**
	baz=315							
BG3	**Lake Jocassee**	**136.88**	**31**	*e*PKPdf		**PKPdf**	**01 55 42.6**	**+0.2**
Z51A	**Franklin**	**136.95**	**34**	P		**PKPdf**	**01 55 41.1**	**-1.4**
	baz=318							
X53A	**Estanollee**	**137.07**	**32**	P		**PKPdf**	**01 55 41.3**	**-1.4**
	baz=321							
Y52A	**Lilburn**	**137.16**	**33**	*e*PKPdf		**PKPdf**	**01 55 44.8**	**+1.9**
Y52A	**Lilburn**	**137.16**	**33**	P		**PKPdf**	**01 55 43.1**	**+0.2**
	baz=320							
349A	**Repton**	**137.16**	**38**	P		**PKPdf**	**01 55 41.2**	**-1.7**
	baz=314							
BRAL	**Brewton**	**137.37**	**38**	P		**PKPdf**	**01 55 43.2**	**-0.1**
	baz=314							
Y53A	**Monroe**	**137.42**	**32**	P		**PKPdf**	**01 55 43.6**	**+0.2**
	baz=320							
151A	**Opelika**	**137.44**	**35**	P		**PKPdf**	**01 55 42.8**	**-0.6**
	baz=317							
KMSC	**Kings Mountain**	**137.56**	**29**	*e*PKPdf		**PKPdf**	**01 55 46.2**	**+2.7**
KMSC	**Kings Mountain**	**137.56**	**29**	P		**PKPdf**	**01 55 44.0**	**+0.4**
	baz=324							
152A	**Waverly Hall**	**137.68**	**35**	*e*PKPdf		**PKPdf**	**01 55 45.1**	**+1.2**
152A	**Waverly Hall**	**137.68**	**35**	P		**PKPdf**	**01 55 44.1**	**+0.2**
	baz=318							
251A	**Midway**	**137.71**	**36**	P		**PKPdf**	**01 55 43.5**	**-0.5**
	baz=317							
GOGA	**Godfrey**	**137.82**	**33**	P		**PKPdf**	**01 55 44.3**	**+0.2**
	baz=320							
Z53A	**Monticello**	**137.86**	**33**	P		**PKPdf**	**01 55 44.2**	**0.0**
	baz=320							
Y54A	**Tignall**	**137.89**	**32**	P		**PKPdf**	**01 55 44.9**	**+0.7**
	baz=321							
252A	**Lumpkin**	**138.17**	**35**	P		**PKPdf**	**01 55 44.3**	**-0.5**
	baz=317							
Z54A	**Sparta**	**138.29**	**32**	P		**PKPdf**	**01 55 44.8**	**-0.1**
	baz=321							
452A	**Marianna**	**138.73**	**37**	P		**PKPdf**	**01 55 47.3**	**+1.4**
	baz=316							
155A	**Kite**	**138.96**	**33**	P		**PKPdf**	**01 55 45.4**	**-0.8**
	baz=321							
254A	**Abbeville**	**139.03**	**34**	P		**PKPdf**	**01 55 47.8**	**+1.4**
	baz=319							
PLCA	**Paso Flores**	**139.07**	**165**	PKP		**PKPdf**	**01 55 46.1**	**-0.2**
	comp=Z,13nm,1.1s,baz=236,slow=5.3,SNR=10							
PLCA				SKPbc		**SKPbc**	**01 59 16.8**	**-2.5**
	comp=Z,3.8nm,0.9s,baz=238,slow=3.2,SNR=3.3							
PLCA	**Paso Flores**	**139.07**	**165**	*e*PKPdf		**PKPdf**	**01 55 47.3**	**+1.0**
PLCA				*e*SKPbc		**SKPbc**	**01 59 20.6**	**+1.4**
GO06	**Curarrehue**	**139.89**	**163**	*e*PKPdf		**PKPdf**	**01 55 48.8**	**+0.9**
957A	**Wimauma**	**142.80**	**37**	PFAKE			01 56 10.0	+17
957A				LR		LR		
	comp=Z,600nm,19.0s							
TRQA	**Tornquist**	**143.22**	**174**	*e*PKPpre		PKPab	01 55 49.9	+0.5
TRQA	**Tornquist**	**143.22**	**174**	*e*PKIKP		PKPab	01 55 49.9	+0.5
PEL	**Peldehue**	**146.07**	**160**	*e*PKPdf		**PKPdf**	**01 55 59.1**	**+0.2**
PEL	**Peldehue**	**146.07**	**160**	*e*PKP2		**PKPdf**	**01 55 59.1**	**+0.2**
ROC1	**El Roble**	**146.11**	**160**	*e*PKPdf		**PKPbc**	**01 56 00.2**	**+0.1**
ESTN	**Estel**	**148.21**	**62**	PFAKE			01 56 10.0	+0.8
ESTN				LR		LR		
	comp=Z,300nm,20.0s							
GO04	**Tololo Observa**	**148.72**	**158**	*e*PKPdf		**PKPdf**	**01 56 03.9**	**+0.2**
BOAB	**BOACO BROADBAND**	**149.10**	**63**	*e*PKPbc		**PKPbc**	**01 56 08.7**	**+0.2**
LCO	**Las Campanas**	**149.80**	**157**	*e*PKPdf		**PKPdf**	**01 56 06.3**	**+0.8**
LCO	**Las Campanas**	**149.80**	**157**	*e*PKHKP		PKPpre	01 56 06.3	
ESPN	**Las Esperanzas**	**150.42**	**62**	PFAKE			01 56 20.0	+1.9
ESPN				LR		LR		
	comp=Z,300nm,21.0s							
JTS	**JuntasAbangare**	**150.58**	**66**	*e*PKPbc		**PKPbc**	**01 56 12.0**	**-0.1**
JTS	**JuntasAbangare**	**150.58**	**66**	*e*PKIKP		**PKPbc**	**01 56 12.0**	**-0.1**
GO03	**Copiap**	**151.25**	**156**	*e*PKPbc		**PKPbc**	**01 56 13.9**	**+0.5**
GTBY	**Guantanamo Bay**	**152.89**	**38**	*e*PKPbc		**PKPbc**	**01 56 18.9**	**+1.7**
GTBY				*e*PKPab		**pPKPbc**	**01 56 28.6**	**+0.9**
CPUP	**Villa Florida**	**155.11**	**181**	PKP		**PKPdf**	**01 56 12.7**	**-0.3**
	comp=Z,20nm,1.0s,baz=141,slow=1.2,SNR=35							
CPUP				PKPbc		**pPKPdf**	**01 56 21.8**	**-1.7**
	comp=Z,18nm,1.0s,baz=158,slow=0.7,SNR=16							
CPUP	**Villa Florida**	**155.11**	**181**	*e*PKPdf		**PKPdf**	**01 56 13.2**	**+0.2**
CPUP				*e*PKPbc		**pPKPdf**	**01 56 21.8**	**-1.7**
SPB	**Sao Paulo**	**155.69**	**204**	*e*PKPdf		**PKPdf**	**01 56 14.1**	**+0.3**
SDDR	**Presa de Saban**	**155.85**	**33**	PFAKE			01 56 30.0	-11
SDDR				LR		LR		
	comp=Z,600nm,19.0s							
LVC	**Limon Verde**	**156.20**	**154**	*e*PKPdf		**PKPdf**	**01 56 16.7**	**+1.7**
LVC	**Limon Verde**	**156.20**	**154**	*e*PKIKP		**PKPdf**	**01 56 16.7**	**+1.7**
PB01	**IPOC Station P**	**157.28**	**151**	*e*PKPdf		**PKPdf**	**01 56 17.0**	**+0.9**
PB01				*e*PKPab		**PKPab**	**01 56 49.2**	**+2.2**
RCBR	**Riachuelo**	**157.74**	**258**	*e*PKPdf		**PKPdf**	**01 56 17.3**	**+0.5**
RCBR				*e*PKPab		**PKPab**	**01 56 50.3**	**+0.9**
RCBR				LR		LR		
	comp=Z,1μm,20.0s							
RCBR	**Riachuelo**	**157.74**	**258**	*e*PKIKP		**PKPdf**	**01 56 17.3**	**+0.5**
RCBR				*e*			01 56 50.3	
RCBR				MLR		MLR		
	comp=Z,1μm,20.0s							
PB11	**IPOC Station P**	**158.27**	**148**	*e*PKPdf		**PKPdf**	**01 56 18.1**	**+0.7**
PB11				LR		LR		
	comp=Z,900nm,21.0s							
ATAH	**Atahualpa**	**158.62**	**106**	PKP		**PKPdf**	**01 56 18.1**	**-0.3**
	comp=Z,6.7nm,0.9s,baz=300,slow=2.8,SNR=5.5							
MNMC	**Minye Minye**	**158.82**	**148**	*e*PKPdf		**PKPdf**	**01 56 19.0**	**+0.8**
SJG	**San Juan**	**159.01**	**23**	PKP		**PKPdf**	**01 56 18.7**	**+0.6**
	comp=Z,2.9nm,0.5s,baz=324,slow=6.3,SNR=1.7							
OTAV	**Otavalo**	**159.25**	**86**	*e*PKPdf		**PKPdf**	**01 56 19.6**	**+0.5**
OTAV				LR		LR		
	comp=Z,500nm,21.0s							
OTAV	**Otavalo**	**159.25**	**86**	*e*P		**PKPdf**	**01 56 19.1**	**-0.1**
OTAV	**Otavalo**	**159.25**	**86**	*e*PKIKP		**PKPdf**	**01 56 19.6**	**+0.5**
OTAV				MLR		MLR		
	comp=Z,500nm,21.0s							
MOTC	**Monteria, Cord**	**159.53**	**60**	*e*P		**PKPdf**	**01 56 18.5**	**-0.4**
GCUF	**Volcan Galeras**	**160.25**	**83**	*e*P		**PKPdf**	**01 56 20.6**	**+0.3**
PLMC	**San Jos˜ del**	**160.49**	**71**	*e*P		**PKPdf**	**01 56 20.8**	**+0.7**
CRUC	**La Cruz**	**160.59**	**82**	*e*P		**PKPdf**	**01 56 19.8**	**-0.7**
YOTC	**Yotoco, Valle**	**160.69**	**74**	*e*P		**PKPdf**	**01 56 19.2**	**-1.2**
POPC	**Popayan, Colom**	**160.70**	**79**	*e*P		**PKPdf**	**01 56 19.2**	**-1.3**
HELC	**Santa Helena**	**160.75**	**67**	*e*P		PKPdf	01 56 30.8	+10
CODC	**Agust˜n Codaz**	**160.80**	**54**	*e*P		**PKPdf**	**01 56 19.6**	**-0.7**
ZARC	**Zaragoza, Cauc**	**160.83**	**63**	*e*P		**PKPdf**	**01 56 19.5**	**-0.9**
URIC	**Uribia, Colomb**	**160.84**	**47**	*e*P		PKPdf	01 56 29.4	+9.1
SOTA	**Rioblanco**	**160.84**	**80**	*e*P		**PKPdf**	**01 56 20.1**	**-0.9**
SMLC	**San Mart˜n de**	**160.89**	**58**	*e*P		PKPdf	01 56 30.8	+10
PCON	**Cinco Dias**	**161.01**	**79**	*e*P		**PKPdf**	**01 56 22.3**	**+1.1**
GUYC	**Guyana, Colomb**	**161.23**	**70**	*e*P		**PKPdf**	**01 56 19.5**	**-1.9**
MARP	**Paez Belalcaza**	**161.34**	**77**	*e*P		**PKPdf**	**01 56 21.0**	**-0.3**
ANIL	**Santa Ana**	**161.45**	**72**	*e*P		**PKPdf**	**01 56 21.1**	**-0.3**
OCAC	**Ocana**	**161.81**	**58**	*e*P		PKPdf	01 56 31.6	+10
FLOC	**Florencia**	**161.87**	**81**	*e*P		**PKPdf**	**01 56 20.9**	**-0.6**
BETC	**Betania**	**161.88**	**77**	*e*P		**PKPdf**	**01 56 22.1**	**+0.6**
LPAZ	**La Paz**	**161.93**	**146**	PKP		**PKPdf**	**01 56 22.3**	**+0.1**
	comp=Z,27nm,1.2s,baz=28,slow=1.3,SNR=38							
LPAZ				PKPab		**PKPab**	**01 57 08.8**	**+0.8**
	comp=Z,12nm,0.9s,baz=170,slow=3.2,SNR=10							
LPAZ	**La Paz**	**161.93**	**146**	*e*PKPdf		**PKPdf**	**01 56 22.8**	**+0.6**
LPAZ				*e*PKPab		**PKPab**	**01 57 08.8**	**+0.8**
BRRC	**Barranca, Sant**	**162.02**	**62**	*e*P		**PKPdf**	**01 56 20.4**	**-1.1**
ROSC	**El Rosal**	**162.36**	**70**	PKP		**PKPdf**	**01 56 21.8**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=302,slow=11,SNR=7.9							
ROSC	**El Rosal**	**162.36**	**70**	*e*PKPdf		**PKPdf**	**01 56 22.2**	**-0.2**
ROSC	**El Rosal**	**162.36**	**70**	*e*P		**PKPdf**	**01 56 22.0**	**-0.4**
GIRC	**Giron, Santand**	**162.49**	**61**	*e*P		**PKPdf**	**01 56 22.1**	**-0.1**
BARC	**Barichara**	**162.72**	**63**	*e*P		**PKPdf**	**01 56 25.8**	**+3.2**
BDFB	**Brasilia**	**162.81**	**213**	PKP		**PKPdf**	**01 56 21.9**	**-0.5**
	comp=Z,13nm,1.0s,baz=87,slow=1.6,SNR=15							
BDFB				PKPab		**PKPab**	**01 57 10.8**	**-0.3**
	comp=Z,38nm,0.9s,baz=144,slow=2.5,SNR=22							
BDFB	**Brasilia**	**162.81**	**213**	*e*PKPdf		**PKPdf**	**01 56 21.9**	**-0.5**
BDFB				*e*PKPdf		**PKPdf**	**01 56 22.5**	**+0.1**
BDFB				*e*PKPab		**PKPab**	**01 57 10.8**	**-0.3**
BDFB				*e*PKPab		**PKPab**	**01 57 11.0**	**-0.2**
CHIC	**Chingaza**	**162.98**	**70**	*e*P		**PKPdf**	**01 56 22.2**	**-0.9**
RUSC	**La Rusia**	**163.11**	**65**	*e*P		**PKPdf**	**01 56 22.0**	**-1.2**
SJAC	**San Juan de Ar**	**163.18**	**74**	*e*P		**PKPdf**	**01 56 22.7**	**-0.2**
SDV	**Santo Domingo**	**163.66**	**52**	PKP		**PKPdf**	**01 56 22.6**	**-0.8**
	comp=Z,4.9nm,0.5s,baz=257,slow=5.0,SNR=5.5							
GUVC	**San Jose del G**	**164.65**	**76**	*e*P		**PKPdf**	**01 56 21.6**	**-2.5**
SAML	**Samuel**	**170.68**	**145**	*e*PKPdf		**PKPdf**	**01 56 27.2**	**-1.1**
SAML	**Samuel**	**170.68**	**145**	*e*PKIKP		**PKPdf**	**01 56 27.2**	**-1.1**
PTGA	**Pitinga**	**177.71**	**76**	PKP		**PKPdf**	**01 56 29.7**	**-1.1**
	comp=Z,1.1nm,0.3s,baz=300,slow=2.7,SNR=9.5							
PTGA				PKPab		PKPab	01 58 17.6	+0.2
	comp=Z,1.1nm,0.3s,baz=304,slow=11,SNR=2.3							

IDC ***06*** *01:38:17.6±0.5, 1°.25N×122°.03E, h0km, mb4.9/18, mb1 5.0/19, mb1mx4.6/54, mbtmp4.9/19, ML5.0/2, Error ellipse: s-maj=25.9km s-min=11.7km az=65.0*

ISCJB ***06*** *01:38:20.5±0.3, 1°.29N±0°.05×122°.11E±0°.07, h33km, mb4.9/29, Error ellipse: s-maj=10.8km s-min=6.0km az=149.9*

NEIC ***06*** *01:38:20.1±3.2, 1°.28N×122°.09E, h17km±20km, mb5.0/8, Error ellipse: s-maj=9.6km s-min=5.2km az=63.0*

GCMT ***06*** *01:38:23.1±0.2, 1°.82N±0°.02×122°.20E±0°.02, h39km, MW5.6/92, Moment Tensor Solution. s62,c84; s92,c152; Duration: 1s5 Moment tensor: Scale 10¹⁷Nm; Mrr2.50±.09; Mθθ-2.23±.06; Mφφ-0.26±.07; Mrθ-1.55±.05; Mθφ0.09±.05; Mrφ0.03±.07; Best double couple: Mw2.82900×10¹⁷ NP1:φ272.00000°, δ62.00000°, λ89.00000°. NP2:φ93.00000°, δ28.00000°, λ91.00000°. Principal axes: T 2.9630, Plg73.0000°, Azm180.0000°; N -0.2640, Plg1.0000°, Azm272.0000°; P -2.6960, Plg17.0000°, Azm2.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 01:38:22.6±0.4, 1°.30N±0°.08×122°.13E±0°.09, h35km, n57, σ1°12/58, mb5.0/29, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**5.26**	**96**	*e*Pn	**Pn**	**01 39 37.6**	**-1.2**
MYLDM	**Lahad Datu**	**5.29**	**317**	*e*Pn	**Pn**	**01 39 37.5**	**-1.8**
JAY	**Jayapura**	**18.95**	**102**	P	**Pn**	**01 42 41.6**	**-0.3**
	1.6nm,0.3s,baz=288,slow=20,SNR=3.0						
FITZ	**Fitzroy Crossi**	**19.58**	**170**	P	**P**	**01 42 47.4**	**-0.4**
	6.6nm,0.3s,baz=358,slow=10,SNR=9.9						
FITZ	**Fitzroy Crossi**	**19.58**	**170**	*e*P	**P**	**01 42 47.4**	**-0.4**
	208nm,1.4s						
IPM	**Ipoh**	**21.31**	**279**	*e*P	**P**	**01 43 06.4**	**-0.3**
	80nm,0.9s						
MBWA	**Marble Bar**	**22.44**	**186**	*e*P	**P**	**01 43 18.2**	**-0.4**
	110nm,1.3s						
YOJ	**Yonaguni jima**	**23.05**	**2**	*e*P	**P**	**01 43 24.9**	**0.0**
	706nm,1.8s						
WRA	**Warramunga Arr**	**24.27**	**151**	P	**P**	**01 43 36.7**	**0.0**
	27nm,0.7s,baz=325,slow=10,SNR=4.9						
WR1	**Warramunga Arr**	**24.27**	**151**	*e*P	**P**	**01 43 36.7**	**0.0**
	119nm,1.1s						
WB2	**Warramunga Arr**	**24.27**	**151**	*e*P	**P**	**01 43 35.3**	**-1.5**
	118nm,1.1s						
AS31	**Alice Springs**	**27.32**	**156**	*e*P	**P**	**01 44 04.5**	**+0.1**
	14nm,1.1s						
AS31				*e*PcP	**PcP**	**01 47 23.8**	**+0.3**
ASAR	**Alice Springs**	**27.33**	**156**	P	**P**	**01 44 04.5**	**+0.1**
	17nm,0.9s,baz=346,slow=14,SNR=2.6						
ASAR				PcP	**PcP**	**01 47 23.8**	**+0.3**
	2.3nm,0.4s,baz=342,slow=2.3,SNR=3.9						
ANA2	**Anatahan**	**27.62**	**56**	*e*P	**P**	**01 44 07.8**	**+0.6**
	344nm,1.4s						
CTA	**Charters Tower**	**31.79**	**133**	P	**P**	**01 44 45.1**	**+1.0**
	40nm,1.1s,baz=324,slow=8.7,SNR=3.1						
KS15	**Wonju Array Si**	**36.36**	**8**	*e*P	**P**	**01 45 25.0**	**+1.6**
KSAR	**Wonju Array Be**	**36.36**	**8**	P	**P**	**01 45 25.0**	**+1.6**
KSRS	**Korea Array**	**36.38**	**8**	P	**P**	**01 45 25.0**	**+1.5**
	3.2nm,0.9s,baz=176,slow=9.2,SNR=2.6						
STKA	**Stephens Creek**	**37.80**	**152**	P	**P**	**01 45 36.1**	**+0.3**
	34nm,0.7s,baz=338,slow=10.0,SNR=4.5						
STKA	**Stephens Creek**	**37.80**	**152**	*e*P	**P**	**01 45 36.1**	**+0.3**
	25nm,1.5s						
HYB	**Hyderabad**	**45.72**	**293**	*i* P	**P**	**01 46 42.0**	**+1.1**
SONA0	**Songino Array**	**48.32**	**346**	*e*P	**P**	**01 47 01.7**	**+0.9**
SONM	**Songino Array**	**48.32**	**346**	P	**P**	**01 47 01.7**	**+0.9**
	12nm,0.8s,baz=167,slow=8.1,SNR=4.4						
SONA1	**Songino Array**	**48.33**	**346**	*e*P	**P**	**01 46 59.7**	**-1.2**
MK32	**Makanchi Array**	**57.06**	**328**	*e*P	**P**	**01 48 05.9**	**+0.6**
MKAR	**Makanchi Array**	**57.06**	**328**	P	**P**	**01 48 05.9**	**+0.5**
	4.9nm,0.6s,baz=125,slow=8.6,SNR=3.8						
NRN	**Naryn**	**57.60**	**320**	*e*P	**P**	**01 48 07.9**	**-1.8**
	18nm,1.0s						
ZALV	**Zalesovo Beam**	**60.78**	**336**	P	**P**	**01 48 30.4**	**-0.6**
	6.9nm,0.7s,baz=132,slow=6.7,SNR=2.3						
ZAA1	**Zalesovo Array**	**60.79**	**336**	*e*P	**P**	**01 48 30.4**	**-0.6**
KURBB	**Kurchatov Arra**	**61.42**	**330**	P	**P**	**01 48 35.4**	**0.0**
	8.6nm,0.8s,baz=117,slow=5.6,SNR=4.9						
KURK	**Kurchatov**	**61.43**	**330**	*e*P	**P**	**01 48 35.4**	**0.0**
RPZ	**Rata Peaks**	**62.56**	**142**	P	**P**	**01 48 43.3**	**+0.2**
	116nm,1.1s,baz=329,slow=4.6,SNR=3.4						
BKZ	**Black Stump Fm**	**63.98**	**135**	*e*P	**P**	**01 48 53.0**	**+0.3**
	82nm,1.3s						
BVAR	**Borovoye Array**	**66.93**	**329**	P	**P**	**01 49 11.4**	**-0.1**
	3.7nm,0.7s,baz=142,slow=7.2,SNR=3.2						
GEYT	**Alibeck**	**68.89**	**310**	P	**P**	**01 49 24.9**	**+0.7**
	3.5nm,0.8s,baz=222,slow=5.4,SNR=2.3						
AKTO	**Aktyubinsk**	**72.76**	**323**	P	**P**	**01 49 50.6**	**+3.2**
	4.6nm,0.8s,baz=108,slow=9.6,SNR=2.1						
OPO	**Ambohidratompo**	**76.16**	**251**	P	**P**	**01 50 08.0**	**0.0**
	16nm,1.0s,baz=81,slow=4.3,SNR=3.4						
MAW	**Mawson**	**79.92**	**200**	P	**P**	**01 50 27.5**	**-0.1**
	13nm,1.0s,baz=60,slow=8.1,SNR=2.9						
MAW	**Mawson**	**79.92**	**200**	*e*P	**P**	**01 50 27.5**	**-0.1**
	3.5nm,1.0s						
VNDA	**Vanda**	**81.64**	**172**	P	**P**	**01 50 36.4**	**-0.3**
	4.2nm,0.5s,baz=310,slow=7.3,SNR=5.1						
MMAI	**Mount Meron Ar**	**86.56**	**303**	P	**P**	**01 51 02.9**	**+0.2**
	7.4nm,0.9s,baz=90,slow=4.6,SNR=3.3						
ILAR	**Eielson Array**	**89.26**	**25**	P	**P**	**01 51 13.9**	**-0.9**
	0.6nm,0.6s,baz=249,slow=5.4,SNR=2.5						
ILB	**Eielson Array**	**89.26**	**25**	*e*P	**P**	**01 51 13.9**	**-0.9**
QSPA	**South Pole Qui**	**91.22**	**180**	P	**P**	**01 51 23.6**	**-0.5**
	5.3nm,0.8s,baz=311,slow=2.2,SNR=5.1						
SPITS	**Spitsbergen Ar**	**91.95**	**349**	P	**P**	**01 51 25.3**	**-1.9**
	6.3nm,0.7s,baz=81,slow=8.9,SNR=4.1						
GCMT	**Greycliff**	**114.62**	**37**	*e*Pdif	**Pdif**	**01 53 10.4**	**+0.8**
PDAR	**Pinedale Array**	**116.18**	**40**	PKKPbc	PKKPbc	02 07 35.5	+1.5
	1.1nm,0.8s,baz=101,slow=6.2,SNR=4.2						
TORD	**Torodi Ar. Bea**	**119.23**	**286**	PKP	**PKPdf**	**01 57 08.5**	**-0.7**
	2.7nm,0.7s,baz=54,slow=1.9,SNR=8.1						
TOA1	**Torodi Ar. Sit**	**119.23**	**286**	*e*PKPdf	**PKPdf**	**01 57 08.5**	**-0.7**
DBIC	**Dimbokro**	**126.51**	**279**	PKP	**PKPdf**	**01 57 25.1**	**+2.0**
	3.9nm,0.7s,baz=96,slow=3.3,SNR=4.2						
LTX	**Lajitas**	**126.70**	**51**	*e*PKPdf	**PKPdf**	**01 57 24.4**	**+1.1**
TXAR	**Lajitas Array**	**126.70**	**51**	PKP	**PKPdf**	**01 57 24.4**	**+1.1**
	1.5nm,1.0s,baz=164,slow=0.7,SNR=2.8						
SWET	**Sewanee**	**135.19**	**33**	*e*PKPpre	PKPpre	01 57 26.8	
LPAZ	**La Paz**	**161.99**	**146**	PKPab	**PKPab**	**01 59 09.3**	**+1.2**
	3.1nm,0.6s,baz=221,slow=2.6,SNR=4.9						
LPAZ	**La Paz**	**161.99**	**146**	*e*PKPdf	**PKPdf**	**01 58 18.2**	**-3.9**
LPAZ				*e*PKPab	**PKPab**	**01 59 09.3**	**+1.2**
BDFB	**Brasilia**	**162.75**	**214**	PKPab	**PKPab**	**01 59 10.9**	**+0.1**
	5.3nm,0.8s,baz=99,slow=5.7,SNR=3.3						
PTGA	**Pitinga**	**177.83**	**75**	*e*PKPdf	**PKPdf**	**01 58 29.7**	**-0.9**

BJI ***06*** *01:42:20.5, 0°.88N×122°.60E, h34km, mb5.0/51, mB5.6/37, Ms5.3/37, Ms7 5.2/37*

MOS ***06*** *01:42:25.2±0.9, 1°.39N×122°.24E, h44km, mb5.4/41, Error ellipse: s-maj=11.1km s-min=6.2km az=106.6*

GCMT ***06*** *01:42:26.3±0.2, 1°.65N±0°.01×122°.09E±0°.01, h28km, MW5.7/132, Moment Tensor Solution. s85,c131; s132,c306; Duration: 1s6 Moment tensor: Scale 10¹⁷ Nm; Mrr2.69±.07; Mθθ-2.47±.05; Mφφ-0.21±.05; Mrθ-2.71±.09; Mθφ0.21±.03; Mrφ-0.08±.10; Best double couple: Mw3.74800×10¹⁷ NP1:φ270.00000°, δ68.00000°, λ87.00000°. NP2:φ99.00000°, δ22.00000°, λ98.00000°. Principal axes: T 3.8580, Plg67.0000°, Azm174.0000°; N -0.2150, Plg3.0000°, Azm272.0000°; P -3.6390, Plg23.0000°, Azm3.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISCJB ***06*** *01:42:27.0±0.4, 1°.38N±0°.02×122°.23E±0°.02, h58km±4km, mb5.1/133, MS5.1/13 Error ellipse: s-maj=3.4km s-min=3.0km az=34.8*

NEIC ***06*** *01:42:26.3±0.1, 1°.36N×122°.17E, h35km, mb5.4/79, MW5.6, Error ellipse: s-maj=4.1km s-min=2.7km az=67.0*

NEIC ***06*** *01:42:26.0±0.0, 1°.44N×122°.14E, h17km, Moment Tensor Solution. s11 Moment tensor: Scale 10¹⁷Nm; Mrr1.59; Mθθ-1.63; Mφφ0.04; Mrθ-2.11; Mθφ0.60; Mrφ-0.10; Best double couple: Mw2.70000×10

MDSI **Maura Dua** 18.96 252 P **P** 01 46 45.0 -0.5
KASI **Kota Agung** 18.99 249 P **P** 01 46 45.9 +0.1
LWLI **Liwa** 19.23 251 P **Pn** 01 46 50.3 +0.2
261nm,0.8s
FITZ **Fitzroy Crossi** 19.61 170 P **P** 01 46 52.2 -0.4
4.9nm,0.3s,baz=2.5,slow=7.8,SNR=40
FITZ **Fitzroy Crossi** 19.61 170 P **P** 01 46 52.2 -0.4
baz=20,SNR=21
FITZ **Fitzroy Crossi** 19.61 170 *e*P **P** 01 46 52.2 -0.4
284nm,1.4s
MNAI **Manna** 20.09 254 *e*P **P** 01 46 56.6 -1.3
1µm,1.5s
MNAI **Manna** 20.09 254 P **P** 01 46 57.4 -0.4
MASI **Maura Aman, Be** 20.48 257 P **P** 01 47 02.6 +0.4
SDSI **Sungai Dareh** 20.93 264 P **P** 01 47 05.1 -1.9
KRJI **Kerinci** 21.05 261 P **P** 01 47 08.5 +0.1
BKNI **Bangkinang** 21.22 267 *e*P **P** 01 47 08.8 -1.3
564nm,1.3s
BKNI **Bangkinang** 21.22 267 P **P** 01 47 09.0 -1.1
QIZ **Qiongzhong** 21.37 326 P **P** 01 47 10.5 -1.1
QIZ S Sn 01 51 11.7 -4.6
QIZ pmax pmax
comp=Z,48nm,1.4s
QIZ **Qiongzhong** 21.37 326 *e*P **P** 01 47 11.5 -0.1
120nm,1.1s
TWG **Pinlang** 21.38 357 *e*P **P** 01 47 11.4 -0.2
226nm,1.0s
IPM **Ipoh** 21.41 279 *e*P **P** 01 47 10.6 -1.6
251nm,1.5s
UBPT **Khong Chiam** 21.58 311 P P 01 47 23.5 +10
TPUB **Ta-pu** 21.88 356 *e*P **P** 01 47 17.3 +0.3
80nm,0.9s
PDSI **Padang** 21.89 264 P **P** 01 47 15.7 -1.6
KULM **Kulim** 21.90 281 *e*P **P** 01 47 15.5 -1.9
111nm,1.3s
PPI **Padang Panjang** 21.92 265 P **P** 01 47 16.0 -1.5
YULB **Yu-li** 21.93 358 *e*P **P** 01 47 16.9 -0.7
75nm,1.2s
SKLT **Songkhla** 22.32 286 P P 01 47 31.0 +9.2
120nm,0.9s,2µm
SSLB **Suanglung** 22.34 357 *e*P **P** 01 47 22.6 +0.5
63nm,1.0s
MBWA **Marble Bar** 22.50 186 *e*P **P** 01 47 21.5 -2.2
44nm,0.8s
PPSI **Pulau Pagai** 22.60 260 P **P** 01 47 23.0 -1.8
MNSI **Mandailing Nat** 22.66 269 P **P** 01 47 23.2 -2.4
NACB **Ninganchiao** 22.70 358 *e*P **P** 01 47 24.7 -1.1
82nm,1.4s
YOJ **Yonaguni jima** 22.99 2 *e*P **P** 01 47 28.3 -0.5
132nm,0.7s
YOJ **Yonaguni jima** 22.99 2 *e*P **P** 01 47 28.3 -0.5
YOJ pmax pmax
comp=Z,132nm,0.7s
YHNB **Yeheng** 23.20 358 *e*P **P** 01 47 30.7 -0.3
comp=Z,206nm,1.5s
GZH **Guangzhou** 23.27 339 *e*P **P** 01 47 33.9 +2.4
PSI **Prapat** 23.35 274 *e*P **P** 01 47 30.7 -1.8
comp=Z,293nm,1.4s
PSI **Prapat** 23.35 274 *e*P **P** 01 47 30.7 -1.8
PSI pmax pmax
comp=Z,293nm,1.4s
SRAK **Srakaew** 23.61 303 P P 01 47 42.1 +7.3
comp=Z,73nm,1.0s,comp=Z,790nm
TSI **Tuntungan** 23.75 276 P **P** 01 47 36.3 +0.2
WRAB **Tennant Creek** 24.25 151 *e*P **P** 01 47 40.4 -0.2
comp=Z,85nm,1.0s
WRAB **Tennant Creek** 24.25 151 *e*P **P** 01 47 40.4 -0.2
WRAB pmax pmax
comp=Z,85nm,1.0s
WR1 **Warramunga Arr** 24.26 151 *e*P **P** 01 47 40.2 -0.4
comp=Z,48nm,0.8s
WR1 *e*PcP **PcP** 01 51 19.3 -0.5
WRA **Warramunga Arr** 24.26 151 P **P** 01 47 40.2 -0.4
comp=Z,34nm,0.7s,baz=336,slow=9.5,SNR=19
WRA PcP **PcP** 01 51 19.3 -0.5
comp=Z,2.7nm,0.8s,baz=318,slow=2.4,SNR=3.5
WB2 **Warramunga Arr** 24.26 151 *e*P **P** 01 47 40.6 -0.1
WC3 **Warramunga Arr** 24.29 151 *e*P **P** 01 47 40.5 -0.5
comp=Z,88nm,0.9s
KCSI **Kotacane, Aceh** 24.54 276 P **P** 01 47 41.7 -1.6
GSI **Gunungsitoli** 24.66 270 *e*P **P** 01 47 42.5 -1.9
comp=Z,132nm,0.7s
TPTI 25.11 275 P **P** 01 47 47.5 -1.0
MANU **Manus Island** 25.34 98 *e*P **P** 01 47 52.7 +2.1
comp=Z,98nm,1.0s
LHMI **Lhok Sumawe** 25.54 279 P **P** 01 47 52.4 0.0
comp=Z,112nm,1.0s
COEN **Coen** 25.72 127 P **P** 01 47 55.8 +1.8
baz=26,SNR=17
COEN **Coen** 25.72 127 *e*P **P** 01 47 54.4 +0.4
comp=Z,74nm,0.9s
SNSI **Sinabang, Aceh** 25.92 273 P **P** 01 47 55.1 -0.8
MLSI **Meulaboh, Aceh** 25.97 277 P **P** 01 47 55.1 -1.2
JOW **Kunigami** 26.00 12 *e*P **P** 01 47 57.3 +1.0
comp=Z,53nm,0.9s
PMG **Port Moresby** 27.02 114 P **P** 01 48 06.3 +0.6
comp=Z,72nm,1.1s,baz=278,slow=5.2,SNR=5.4
AS31 **Alice Springs** 27.33 156 *e*P **P** 01 48 09.1 +0.7
comp=Z,6.0nm,0.8s
AS31 *e*PcP **PcP** 01 51 25.8 -0.9
AS31 *e*ScP **ScP** 01 55 03.4 +1.0
ASAR **Alice Springs** 27.33 156 P **P** 01 48 08.1 -0.3
comp=Z,13nm,0.8s,baz=331,slow=8.0,SNR=8.4
ASAR PcP **PcP** 01 51 25.8 -0.9
comp=Z,1.8nm,0.3s,baz=352,slow=2.0,SNR=4.2
ASAR ScP **ScP** 01 55 03.4 +1.0
comp=Z,4.1nm,1.0s,baz=328,slow=1.6,SNR=7.6
AS01 **Alice Springs** 27.34 156 *e*P **P** 01 48 08.3 -0.3
QIS **Mount Isa** 27.62 143 P **P** 01 48 11.8 +0.7
baz=28,SNR=11
MEEK **Meekatharra** 28.04 187 P **P** 01 48 12.9 -1.8
baz=28,SNR=7.4
CM31 **Chiang Mai Arr** 28.49 308 *e*P **P** 01 48 17.1 -1.7
CMAR **Chiang Mai Arr** 28.49 308 P **P** 01 48 23.0 +4.2
comp=Z,1.6nm,0.3s,baz=124,slow=4.9,SNR=3.8
MTSU **Mount Surprise** 29.10 133 P **P** 01 48 25.6 +1.3
baz=29,SNR=9.7
GYA **Guiyang** 29.12 330⇑ *i*P **P** 01 48 24.3 -0.2
GYA pP pP 01 48 34.6 -4.5
GYA PP **PnPn** 01 49 22.0 +2.4
GYA S **S** 01 53 16.4 +4.0
GYA sS sS 01 53 33.9 -3.5
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,160nm,5.1s
GYA LR LR
comp=Z,720nm,14.6s
GYA LR LR
comp=Z,610nm,15.2s
GYA LR LR
comp=Z,650nm,15.4s
WHN **Wuhan** 29.99 346 ⇓P P 01 48 42.6 +11
WHN S **S** **01 53 31.2 +5.5**
WHN LR LR
comp=N,11µm,16.0s
WHN LR LR
comp=E,3µm,16.8s
WHN LR LR
comp=Z,12µm,17.2s
KMI **Kunming** 30.22 323 P **P** 01 48 37.5 +3.1
KMI pP pP 01 48 47.3 -1.8
KMI sP sP 01 48 50.3 -5.7
KMI PP **PnPn** 01 49 34.5 +0.3
KMI S **S** 01 53 28.5 -1.5
KMI sS sS 01 53 56.4 +1.4
KMI pmax pmax
comp=Z,25nm,0.5s
KMI pmax pmax
comp=Z,470nm,4.4s
KMI LR LR
comp=Z,3µm,20.0s
KMI LR LR
comp=Z,3µm,17.5s
KMI LR LR
comp=Z,3µm,18.3s
NJ2 **Nanjing** 30.71 354 *e*P **P** 01 48 38.5 +0.2
NJ2 S **S** 01 53 44.7 +7.7
NJ2 pmax pmax
comp=Z,18nm,0.5s
NJ2 LR LR
comp=Z,3µm,16.9s
NJ2 LR LR
comp=Z,1µm,15.6s
NJ2 LR LR
comp=Z,4µm,17.6s

MORW **Morawa** 30.82 191 P **P** 01 48 37.5 -1.8
baz=31,SNR=5.3
ENH **Enshi** 31.21 338 *e*P **P** 01 48 42.1 -0.7
CTA **Charters Tower** 31.75 133 P **P** 01 48 47.4 -0.2
comp=Z,67nm,1.1s,baz=309,slow=8.8,SNR=8.7
CTAO **Charters Tower** 31.75 133 *e*P **P** 01 48 48.5 +0.8
comp=Z,125nm,1.3s
CTAO **Charters Tower** 31.75 133 *e*P **P** 01 48 48.5 +0.8
CTAO pmax pmax
comp=Z,125nm,1.3s
CBIJ **Chichi jima** 31.97 35 *e*P **P** 01 48 51.0 +1.6
comp=Z,250nm,1.0s
JCJ **Chichijima** 31.97 35 P **P** 01 48 51.0 +1.6
comp=Z,38nm,0.5s,baz=284,slow=19,SNR=3.3
FORT **Forrest** 32.42 171 P **P** 01 48 52.4 -0.9
baz=32,SNR=12
FORT **Forrest** 32.42 171 *e*P **P** 01 48 52.7 -0.7
comp=Z,80nm,0.8s
KLBR **Kellerberrin** 33.03 187 P **P** 01 48 57.0 -1.7
baz=33,SNR=11
CD2 **Chengdu** 34.22 331 *e*P **P** 01 49 09.0 -0.2
CD2 pmax pmax
comp=Z,10.0nm,0.5s
NWAO **Narrogin (SRO)** 34.41 187 P **P** 01 49 09.2 -1.5
comp=Z,16nm,0.7s,baz=228,slow=9.1,SNR=5.4
NWAO **Narrogin (SRO)** 34.41 187 P **P** 01 49 09.4 -1.3
baz=34,SNR=5.1
XAN **Xi'an** 34.83 340 P P 01 49 24.1 +10
XAN pP sP 01 49 34.3 -1.9
XAN sP pP 01 49 39.6 +10
XAN pmax pmax
comp=Z,15nm,1.5s
XAN pmax pmax
comp=Z,500nm,7.4s
XAN LR LR
comp=N,3µm,16.7s
XAN LR LR
comp=E,2µm,16.2s
XAN LR LR
comp=Z,4µm,16.2s
QLP **Quilpie** 34.94 144 P **P** 01 49 16.6 +1.3
baz=35,SNR=7.7
KS15 **Wonju Array Si** 36.30 8 *e*P **P** 01 49 26.4 -0.4
KSAR **Wonju Array Be** 36.30 8 P **P** 01 49 26.4 -0.4
KSAR **Wonju Array Be** 36.30 8 P **P** 01 49 26.4 -0.4
KSRS **Korea Array** 36.31 8 P **P** 01 49 26.4 -0.5
comp=Z,2.8nm,0.8s,baz=188,slow=9.8,SNR=5.3
KS01 **Wonju Array Si** 36.33 8 *e*P **P** 01 49 26.4 -0.7
BBOO **Buckleboo** 36.39 160 P **P** 01 49 27.1 -0.6
baz=36,SNR=4.8
BRDH **Bariadhala** 36.51 308 P **P** 01 49 31.0 +2.1
comp=Z,94nm,0.3s,baz=112,slow=8.2,SNR=3.1
DL2 **Dalian** 37.39 359 *e*P P 01 49 48.4 +12
DL2 pmax pmax
comp=Z,58nm,1.2s
RMQ **Roma** 37.68 139 P **P** 01 49 39.8 +1.0
baz=38,SNR=5.4
STKA **Stephens Creek** 37.79 153 P **P** 01 49 39.2 -0.4
comp=Z,70nm,0.9s,baz=327,slow=12,SNR=11
STKA **Stephens Creek** 37.79 153 P **P** 01 49 40.0 +0.4
baz=38,SNR=12
STKA **Stephens Creek** 37.79 153 *e*P **P** 01 49 37.8 -1.8
comp=Z,16nm,0.9s
HTT **Hallett** 38.00 157 P **P** 01 49 42.0 +0.6
baz=38,SNR=16
MAJO **Matsushiro** 38.01 21 *e*P **P** 01 49 39.3 -2.1
comp=Z,57nm,1.5s
MAJO **Matsushiro** 38.01 21 *e*P **P** 01 49 39.3 -2.1
MAJO pmax pmax
comp=Z,57nm,1.5s
MAT **Matsushiro** 38.01 21 P **P** 01 49 38.5 -2.9
MAT S S 01 55 43.6 +14
MJAR **Matsushiro Arr** 38.01 21 P **P** 01 49 39.5 -1.9
comp=Z,18nm,1.1s,baz=201,slow=8.1,SNR=8.2
MJB9 **Matsu-Tunnel** 38.01 21 *e*P **P** 01 49 39.9 -1.5
comp=Z,35nm,1.1s
EIDS **Eidsvold** 38.53 136 P **P** 01 49 46.0 +0.1
baz=39,SNR=3.7
EIDS **Eidsvold** 38.53 136 *e*P **P** 01 49 46.2 +0.3
comp=Z,39nm,1.4s
LZH **Lanzhou** 38.55 336 *e*P **P** 01 49 49.5 +3.4
LZH pP pP 01 49 59.7 -1.4
LZH sP sP 01 50 05.6 -2.4
LZH pmax pmax
comp=Z,29nm,1.0s
LZH pmax pmax
comp=Z,110nm,4.4s
LZH LR LR
comp=Z,960nm,10.3s
LZH LR LR
comp=Z,1µm,11.8s
LZH LR LR
comp=Z,1µm,12.4s
CMSA **Cobar Meteorol** 39.56 148 P **P** 01 49 55.3 +0.9
baz=40,SNR=6.1
HHC **Hu-ho-hao-te** 40.49 348 *e*P **P** 01 50 04.0 +1.8
HHC pP pP 01 50 13.9 -3.4
HHC S **S** **01 56 13.5 +6.6**
HHC pmax pmax
comp=Z,29nm,0.9s
HHC pmax pmax
comp=Z,230nm,4.3s
HHC LR LR
comp=Z,3µm,17.3s
HHC LR LR
comp=Z,2µm,16.3s
HHC LR LR
comp=Z,3µm,16.8s
LSA **Lhasa** 40.85 317 P **P** 01 50 04.5 -1.2
comp=Z,17nm,0.6s
LSA **Lhasa** 40.85 317 P **P** 01 50 04.5 -1.2
LSA pmax pmax
comp=Z,17nm,0.6s
PALK **Pallekele** 41.82 279 P **P** 01 50 15.8 +2.4
comp=Z,6.6nm,0.6s,baz=116,slow=8.2,SNR=7.9
PALK **Pallekele** 41.82 279 *e*P **P** 01 50 12.2 -1.2
comp=Z,29nm,1.1s
ARPS **Mount Arapiles** 42.07 156 P **P** 01 50 15.6 +0.6
baz=42,SNR=31
ARMA **Armidale** 42.21 141 P **P** 01 50 18.5 +2.1
baz=42,SNR=23
ARMA **Armidale** 42.21 141 *e*P **P** 01 50 17.6 +1.3
CN2 **Changchun** 42.37 3 *e*P **P** 01 50 21.0 +3.7
CN2 pmax pmax
comp=Z,10.0nm,1.0s
RAMN **Ramite** 42.63 310 *e*P **P** 01 50 21.0 +1.0
comp=Z,24nm,0.6s
GTA **Gaotai** 43.06 334 ⇑P **P** 01 50 20.5 -2.7
GTA pP pP 01 50 30.1 -8.3
GTA sP sP 01 50 34.2 -11
GTA PcP **PcP** **01 52 11.5 -0.9**
GTA ScP **ScP** **01 55 59.2 +0.5**
GTA S **S** **01 56 42.6 -2.3**
GTA pmax pmax
comp=Z,120nm,6.2s
GTA LR LR
comp=Z,2µm,16.2s
GTA LR LR
comp=Z,2µm,17.1s
GTA LR LR
comp=Z,3µm,16.8s
YNG **Young** 43.13 148 P **P** 01 50 25.1 +1.5
baz=43,SNR=6.2
JIRN **Jiri** 43.31 310 *e*P **P** 01 50 26.3 +0.7
comp=Z,44nm,0.6s
USA0B **Ussuriysk Arra** 43.54 10 *e*P **P** 01 50 26.9 +0.1
comp=Z,52nm,1.3s
USRK **Ussuriysk Ar.** 43.54 10 P **P** 01 50 26.2 -0.6
comp=Z,8.8nm,0.9s,baz=181,slow=10,SNR=6.3
MDJ **Mudanjiang** 43.58 8 *e*P **P** 01 50 27.2 +0.1
comp=Z,74nm,1.4s
GUN **Gumba** 43.67 311 *e*P **P** 01 50 29.1 +0.5
comp=Z,38nm,0.7s
MGCD **Mangrove Creek** 43.84 144 P **P** 01 50 29.5 +0.1
baz=44,SNR=8.4
PKI **Pulchoki** 43.86 310 *e*P **P** 01 50 30.5 +0.5
comp=Z,18nm,0.6s
PKIN **Phulchoki** 43.87 310 *e*P **P** 01 50 30.5 +0.4
KKN **Kakani** 44.07 310 *e*P **P** 01 50 32.0 +0.4
DMN **Daman** 44.11 310 *e*P **P** 01 50 32.5 +0.5
CAN **Canberra** 44.23 148 *e*P **P** 01 50 33.5 +1.0
comp=Z,45nm,0.6s
CAN **Canberra** 44.23 148 *e*P **P** 01 50 33.5 +1.0
CAN pmax pmax
comp=Z,45nm,0.6s
TOO **Toolangi** 44.30 153 P **P** 01 50 34.5 +1.5
baz=44,SNR=8.4

CNB **Canberra Magne** 44.42 148 P **P** 01 50 35.6 +1.5
baz=44,SNR=5.9
TEY **Ternei** 45.32 14⇑ *e*P **P** 01 50 37.4 -3.6
TEY MLR MLR
comp=Z,200nm,15.6s
KOLN **Koldanda** 45.35 309 *e*P **P** 01 50 41.9 +0.1
comp=Z,39nm,0.9s
DANN **Dangsing** 45.51 310 *e*P **P** 01 50 42.8 -0.3
comp=Z,41nm,0.6s
HYB **Hyderabad** 45.80 293 *i*P **P** 01 50 45.0 -0.3
HYB *e* 01 50 55.0
PYUN **Piuthan** 45.98 309 *e*P **P** 01 50 47.2 +0.4
comp=Z,73nm,0.8s
ASAJ **Asahikawa** 46.27 20 P **P** 01 50 47.3 -1.2
comp=Z,12nm,0.6s,baz=234,slow=6.3,SNR=4.4
ASAJ **Asahikawa** 46.27 20 *e*P **P** 01 50 47.9 -0.6
comp=Z,45nm,1.1s
HIA **Hailar** 47.79 358 *i*P **P** 01 50 59.6 -0.7
HIA pmax pmax
comp=Z,21nm,1.2s
ULN **Ulaanbaatar** 48.17 346 *e*P **P** 01 51 03.7 +0.3
comp=Z,62nm,1.5s
ULN **Ulaanbaatar** 48.17 346 P **P** 01 51 03.7 +0.3
SNR=5.8
ULN **Ulaanbaatar** 48.17 346 *d i*P **P** 01 51 03.1 -0.3
ULN pmax pmax
comp=Z,20nm,1.1s
SONA0 **Songino Array** 48.30 346 *e*P **P** 01 51 04.0 -0.4
SONM **Songino Array** 48.30 346 P **P** 01 51 04.0 -0.4
baz=158,slow=8.7,SNR=14
SONA1 **Songino Array** 48.31 346 *e*P **P** 01 51 03.7 -0.8
KLR **Kul'dur** 48.40 8 P **P** 01 51 04.2 -0.7
comp=Z,6.3nm,1.0s,baz=196,slow=5.4,SNR=5.5
KLR **Kul'dur** 48.40 8 *i*P **P** 01 51 02.8 -2.1
YSS **Yuzh-Sakhalins** 48.82 19 *e*P **P** 01 51 07.6 -0.6
DZM **Mont Dzumac** 49.00 121 *e*P **P** 01 51 11.2 +1.1
comp=Z,32nm,1.1s
GRNR **Gornyy** 50.69 12 *e*P **P** 01 51 23.1 +0.7
GRNR pmax pmax
comp=Z,21nm,1.0s
ZAK **Zakamensk** 51.45 345 *e*P **P** 01 51 26.9 -1.3
ZAK pmax pmax
comp=Z,18nm,1.3s
WMQ **Urumqi** 52.26 329 *e*P **P** 01 51 35.7 +1.4
WMQ pP pP 01 51 44.8 -5.1
WMQ sP sP 01 51 49.8 -6.9
WMQ pmax pmax
comp=Z,68nm,1.1s
WMQ LR LR
comp=Z,3µm,16.3s
WMQ LR LR
comp=Z,4µm,16.9s
WMQ LR LR
comp=Z,2µm,18.3s
MOY **Mondy** 53.23 344 *e*P P 01 51 54.2 +13
MOY pmax pmax
comp=Z,142nm,3.6s
HVS **Khovu-Aksy** 55.15 338 *i*P **P** 01 51 53.5 -1.9
HVS pmax pmax
comp=Z,37nm,1.2s
KSH **Kashi** 56.68 318 P **P** **01 52 09.1 +2.5**
KSH sP pP 01 52 23.2 +0.9
KSH PP **PP** **01 54 17.6 +4.4**
KSH S **S** **01 59 55.6 +0.7**
KSH pmax pmax
comp=Z,33nm,1.3s
KSH pmax pmax
comp=Z,580nm,5.4s
KSH LR LR
comp=Z,1µm,13.6s
KSH LR LR
comp=Z,1µm,13.9s
KSH LR LR
comp=Z,3µm,20.9s
BOD **Bodaibo** 56.69 355 *e*P **P** 01 52 06.2 +0.1
BOD pmax pmax
comp=Z,43nm,1.4s
MK01 **Makanchi Array** 57.06 328 *e*P **P** 01 52 08.9 -0.1
MK31 **Makanchi Array** 57.08 328 *e*P **P** 01 52 09.4 +0.3
MK31 **Makanchi Array** 57.08 328 *e*P **P** 01 52 09.4 +0.3
MK32 **Makanchi Array** 57.08 328 *e*P **P** 01 52 09.2 0.0
MKAR **Makanchi Array** 57.08 328 P **P** 01 52 09.2 0.0
comp=Z,3.8nm,0.5s,baz=128,slow=8.9,SNR=21
MKAR **Makanchi Array** 57.08 328 *e*P **P** 01 52 09.0 -0.2
comp=Z,7.0nm,0.6s
MKAR **Makanchi Array** 57.08 328 *i*P **P** 01 52 09.3 +0.2
MKAR pmax pmax
comp=Z,4.0nm,0.5s
KDJ **Kajisay** 57.26 321 *e*P **P** 01 52 10.8 +0.1
comp=Z,30nm,1.0s
KDJ **Kajisay** 57.26 321 *e*P **P** 01 52 10.8 +0.1
KDJ pmax pmax
comp=Z,30nm,1.0s
NRN **Naryn** 57.64 320 *e*P **P** 01 52 13.0 -0.6
comp=Z,16nm,1.1s
NRN **Naryn** 57.64 320 *e*P **P** 01 52 13.0 -0.6
NRN pmax pmax
comp=Z,16nm,1.1s
TKM2 **Tokmak 2** 58.67 321 P **P** 01 52 22.4 +1.9
SNR=5.2
KBK **Karagaybulak** 58.94 321 P **P** 01 52 24.4 +1.9
SNR=6.9
AAK **Ala-Archa** 59.22 321 P **P** 01 52 24.1 -0.2
comp=Z,2.6nm,0.6s,baz=169,slow=4.0,SNR=4.1
AAK **Ala-Archa** 59.22 321 *e*P **P** 01 52 25.3 +1.0
AAK **Ala-Archa** 59.22 321 *e*P **P** 01 52 25.3 +1.0
PEA0B **Petropavlovsk-** 59.37 24 *e*P **P** 01 52 25.8 +0.8
comp=Z,42nm,1.3s
PETK **Petropavlovsk-** 59.37 24 P **P** 01 52 25.8 +0.9
comp=Z,2.0nm,0.6s,baz=178,slow=7.2
PETK **Petropavlovsk-** 59.37 24 *e*P **P** 01 52 26.1 +1.1
PETK **Petropavlovsk-** 59.37 24 *e*P **P** 01 52 26.1 +1.1
PEA1 **Petropavlovsk-** 59.37 24 *e*P **P** 01 52 25.8 +0.8
AML **Almayashu** 59.48 320 P **P** 01 52 27.8 +1.4
SNR=5.3
KBL **Kabul** 59.50 310 *e*P **P** 01 52 26.6 +0.1
comp=Z,61nm,1.0s
KBL **Kabul** 59.50 310 *e*P **P** 01 52 26.6 +0.1
KBL pmax pmax
comp=Z,61nm,1.0s
USP **Ospenovka** 59.53 321 P **P** 01 52 27.9 +1.5
SNR=5.4
EKS2 **Erkin-Say** 59.69 320 P **P** 01 52 29.2 +1.7
SNR=5.8
PET **Petropavlovsk** 59.70 25 *i*P **P** 01 52 26.2 -1.0
PET pmax pmax
comp=Z,25nm,1.2s
ZAA0 **Zalesovo Array** 60.78 336 *e*P **P** 01 52 35.3 +0.7
comp=Z,69nm,1.4s
ZALV **Zalesovo Beam** 60.78 336 P **P** 01 52 34.5 -0.2
comp=Z,3.9nm,0.5s,baz=131,slow=6.0,SNR=7.9
ZAA1 **Zalesovo Array** 60.79 336 *e*P **P** 01 52 34.5 -0.2
YAK **Yakutsk** 60.80 4 P **P** 01 52 33.9 -0.6
comp=Z,24nm,0.7s,baz=107,slow=0.6,SNR=5.8
YAK **Yakutsk** 60.80 4 *e*P **P** 01 52 33.7 -0.8
comp=Z,70nm,1.0s
YAK **Yakutsk** 60.80 4 *e*P **P** 01 52 34.6 +0.1
YAK *e**PP pP 01 52 42.2 -8.3
YAK *e* 01 53 19.6
YAK *e* 01 54 44.1
YAK *e*S **S** **02 00 46.9 -0.3**
YAK *e**SS **sS** **02 01 19.8 +5.7**
YAK *e* 02 02 19.9
YAK *e*SS **SS** **02 04 40.8 -6.2**
YAK *e*SSS SSS 02 07 19.6
YAK pmax pmax
comp=Z,31nm,0.8s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=Z,152nm,3.0s
YAK pmax pmax
comp=N,551nm,3.5s
YAK pmax pmax
comp=E,97nm,3.0s
YAK smax smax
comp=E,148nm,2.8s
YAK smax smax
comp=N,254nm,3.3s
YAK MLR MLR
comp=Z,2µm,17.0s
YAK MLR MLR
comp=N,2µm,18.0s
YAK MLR MLR

comp=E,366nm,17.0s
DCZ Deep Cove 61.20 145 *e*P **P 01 52 38.4 +0.8**
comp=E,60nm,1.4s
PYZ Puysegur Point 61.36 146 *e*P **P 01 52 40.1 +1.4**
comp=E,77nm,1.3s
KURBB Kurchatov Arra 61.43 330 P **P 01 52 38.9 -0.1**
comp=E,6.6nm,0.8s,baz=118,slow=5.5,SNR=12
KURK Kurchatov 61.44 330 *e*P **P 01 52 38.5 -0.6**
comp=E,56nm,0.8s
KURK Kurchatov 61.44 330 P **P 01 52 39.4 +0.3**
SNR=10
KURK Kurchatov 61.44 330 *i* P **P 01 52 39.0 -0.1**
KURK pmax pmax
comp=Z,18nm,0.9s
FOZ Fox Glacier 61.67 142 *e*P **P 01 52 41.6 +0.8**
comp=Z,48nm,1.3s
MLZ Mavora Lakes 61.70 145 *e*P **P 01 52 42.1 +1.1**
comp=Z,36nm,1.0s
WHZ Wether Hill Ro 61.91 145 *e*P **P 01 52 42.8 +0.4**
comp=Z,31nm,1.0s
KK31 Karatay Array 62.01 319 *e*P **P 01 52 43.9 +0.8**
KK31 Karatay Array 62.01 319 *e*P **P 01 52 43.9 +0.8**
KKAR Karatay Array 62.01 319 *e*P **P 01 52 44.4 +1.3**
NVS Novosibirsk 62.07 336 *i* P **P 01 52 44.2 +0.9**
NVS *i* S **S 02 01 04.0 +0.4**
NVS *i* PS **PnS 02 01 28.6 +2.3**
NVS pmax pmax
comp=N,35nm,1.4s
NVS pmax pmax
comp=Z,44nm,1.4s
NVS pmax pmax
comp=E,28nm,1.3s
NVS smax smax
comp=N,22nm,2.0s
NVS smax smax
comp=E,19nm,2.0s
MA2 Magadan 62.15 16 P **P 01 52 43.7 0.0**
comp=E,8.1nm,0.4s,baz=196,slow=9.5,SNR=4.0
MA2 Magadan 62.15 16 *e*P **P 01 52 44.0 +0.2**
comp=E,34nm,0.9s
MA2 Magadan 62.15 16 *i* P **P 01 52 42.0 -1.8**
MA2 pmax pmax
comp=Z,50nm,2.0s
HIZ Hauiti 62.50 135 *e*P **P 01 52 47.3 +0.8**
comp=Z,74nm,1.0s
RPZ Rata Peaks 62.53 142 *e*P **P 01 52 47.4 +0.8**
comp=Z,143nm,1.0s
THZ Tophouse 62.70 139 *e*P **P 01 52 49.0 +1.1**
comp=Z,33nm,0.8s
LTZ Lake Taylor 62.80 141 *e*P **P 01 52 49.1 +0.7**
comp=Z,55nm,1.2s
OXZ Oxford 62.94 141 *e*P **P 01 52 49.9 +0.6**
comp=Z,26nm,0.9s
MCQ Macquarie Isla 63.35 157 P **P 01 52 53.5 +1.8**
baz=63,SNR=3.1
MCQ Macquarie Isla 63.35 157 *e*P **P 01 52 52.3 +0.5**
comp=Z,66nm,0.9s
MCQ Macquarie Isla 63.35 157 *e*P **P 01 52 52.3 +0.5**
MCQ pmax pmax
comp=Z,66nm,0.9s
KHZ Kahutara 63.43 140 *e*P **P 01 52 52.4 -0.2**
comp=Z,39nm,0.7s
SNZO South Karori 63.67 138 *e*P **P 01 52 55.4 +1.2**
comp=Z,112nm,0.8s
BKZ Black Stump Fm 63.94 135 *e*P **P 01 52 57.4 +1.3**
comp=Z,59nm,1.1s
URZ Urewera 63.99 134 *e*P **P 01 52 57.8 +1.5**
comp=Z,38nm,0.8s
MXZ Matakaoa Point 64.57 133 *e*P **P 01 53 01.1 +0.9**
comp=Z,50nm,0.8s
SEY Seymchan 65.40 15 P **P 01 53 04.7 -0.4**
comp=Z,1.9nm,0.6s,baz=201,slow=14,SNR=3.3
SEY Seymchan 65.40 15 *i* P **P 01 53 05.0 -0.1**
BVAR Borovoye Array 66.95 329 P **P 01 53 14.7 -0.4**
comp=Z,4.2nm,0.6s,baz=119,slow=9.4,SNR=8.3
BRVK Borovoye 67.02 329 *e*P **P 01 53 15.7 +0.2**
comp=Z,69nm,1.4s
BRVK Borovoye 67.02 329 P **P 01 53 15.8 +0.2**
BRVK Borovoye 67.02 329 *i* P **P 01 53 14.8 -0.8**
BRVK pmax pmax
comp=Z,14nm,1.0s
ASHO Ashiyiah 67.86 296 P **P 01 53 20.1 -1.4**
GEYT Alibeck 68.94 310 P **P 01 53 28.1 +0.1**
comp=Z,3.8nm,0.9s,baz=248,slow=7.8,SNR=5.0
GYA0B ALIBECK ARRAY 68.94 310 *e*P **P 01 53 28.7 +0.6**
comp=Z,32nm,1.3s
TIXI Tiksi 70.33 2 P **P 01 53 35.0 -0.8**
comp=Z,2.9nm,0.3s,baz=142,slow=2.2,SNR=6.3
TIXI Tiksi 70.33 2 *i* P **P 01 53 34.5 -1.3**
TIXI pmax pmax
comp=Z,10.0nm,1.0s
MIR Mirnyy 70.87 192 *e*P **P 01 53 37.0 -2.2**
MIR *e* 01 53 50.0
MIR pmax pmax
comp=Z,42nm,1.0s
ABKAR Akbulak array 71.21 322 *e*P **P 01 53 41.8 +0.1**
NRIK Noril'sk 71.73 348 P **P 01 53 46.4 +2.0**
comp=Z,3.7nm,0.5s,baz=133,slow=11,SNR=3.0
AKTO Aktyubinsk 72.79 323 P **P 01 53 50.8 -0.3**
comp=Z,6.0nm,0.9s,baz=161,slow=4.7,SNR=4.4
BILL Bilibino 73.02 16 *e*P **P 01 53 51.9 -0.2**
BILL *e* 01 54 05.9
BILL *e* 01 56 35.7
BILL *e*PPP PPP 01 58 14.9
BILL pmax pmax
comp=Z,3.0nm,1.1s
SVE Sverdlovsk 73.69 330 *e*P **P 01 53 56.1 -0.2**
SVE *e*S **S 02 03 23.4 +1.0**
SVE pmax pmax
comp=Z,59nm,1.4s
ARU Arti 74.59 329 *d i*P **P 01 54 00.1 -1.4**
ARU 01 56 49.2
ARU S **S 02 03 33.0 +0.5**
ARU pmax pmax
comp=Z,18nm,1.2s
ARU MLR MLR
comp=Z,1μm,21.0s
ABPO Ambohimpanom 76.29 250 *e*P **P 01 54 11.1 -1.2**
comp=Z,20nm,0.9s
ABPO Ambohimpanom 76.29 250 *e*P **P 01 54 11.1 -1.2**
ABPO pmax pmax
comp=Z,20nm,0.9s
RAYN Ar Rayn 77.31 294 *e*P **P 01 54 16.8 -1.0**
comp=Z,9.1nm,0.8s
RAYN Ar Rayn 77.31 294 *e*P **P 01 54 16.8 -1.0**
RAYN pmax pmax
comp=Z,9.0nm,0.8s
GNI Garni 79.58 310 *i* P **P 01 54 28.7 -1.4**
GNI pmax pmax
comp=Z,21nm,1.1s
MAW Mawson 80.00 200 P **P 01 54 31.1 -0.4**
comp=Z,6.9nm,0.9s,baz=47,slow=8.0,SNR=7.8
MAW Mawson 80.00 200 P **P 01 54 31.2 -0.3**
baz=80,SNR=6.2
MAW Mawson 80.00 200 *e*P **P 01 54 31.2 -0.4**
comp=Z,2.3nm,1.1s
MAW Mawson 80.00 200 *e*P **P 01 54 31.2 -0.3**
MAW pmax pmax
comp=Z,2.0nm,1.1s
ZEI Tsey 80.53 313 *e*P **P 01 54 34.0 -1.2**
ZEI pmax pmax
comp=Z,11nm,1.0s
AKH Akhalkalaki 80.67 312 *e*P **P 01 54 35.8 -0.2**
comp=Z,14nm,0.9s
AKH Akhalkalaki 80.67 312 *e*P **P 01 54 35.8 -0.2**
AKH pmax pmax
comp=Z,14nm,0.9s
KBZ Khabaz 81.37 314 P **P 01 54 39.4 +0.1**
comp=Z,2.5nm,0.9s,baz=72,slow=3.2,SNR=2.7
KIV Kislovodsk 81.55 314 *e*P P 01 54 56.4 +16
KIV pmax pmax
comp=Z,10.0nm,1.1s
VNDA Vanda 81.68 172 P **P 01 54 40.2 -0.2**
comp=Z,9.6nm,0.7s,baz=313,slow=6.1,SNR=20
VNDA Vanda 81.68 172 *e*P **P 01 54 40.4 +0.1**
comp=Z,12nm,0.8s
VNDA Vanda 81.68 172 *e*P **P 01 54 40.4 +0.1**
VNDA pmax pmax
comp=Z,13nm,0.8s
SBA Scott Base 82.63 171 *e*P **P 01 54 46.1 +0.8**
comp=Z,22nm,1.1s
SBA Scott Base 82.63 171 *e*P **P 01 54 46.2 +0.8**
SBA pmax pmax
comp=Z,22nm,1.1s
KMBO Kilima Mbogo 85.02 269 P **P 01 54 59.2 0.0**
comp=Z,5.8nm,1.1s,baz=74,slow=4.8,SNR=6.1
KMBO Kilima Mbogo 85.02 269 *e*P **P 01 54 59.5 +0.3**
comp=Z,20nm,1.1s
KMBO Kilima Mbogo 85.02 269 P **P 01 54 59.4 +0.3**
SNR=7.4
KMBO Kilima Mbogo 85.02 269 *e*P **P 01 54 59.5 +0.3**
KMBO pmax pmax
comp=Z,21nm,1.1s
ASF Jabal al Asfar 85.34 302 P **P 01 55 00.5 +0.3**
comp=Z,2.3nm,0.7s,baz=144,slow=3.5,SNR=4.3
OBN Obninsk 86.42 325 P **P 01 55 05.2 +0.3**
comp=Z,1.0nm,0.3s,baz=262,slow=14,SNR=1.8
OBN Obninsk 86.42 325 *e*P **P 01 55 05.2 +0.3**
comp=Z,18nm,0.8s
OBN Obninsk 86.42 325 *e*P **P 01 55 02.6 -2.3**
OBN *e* 01 58 25.3
OBN *e*PPP PPP 02 00 18.1
OBN pmax pmax
comp=Z,9.0nm,1.0s
MMAI Mount Meron Ar 86.62 303 P **P 01 55 06.4 -0.1**
comp=Z,6.2nm,0.9s,baz=88,slow=8.6,SNR=7.4
CAST Castle Rocks 86.86 27 *e*P **P 01 55 07.8 +0.8**
comp=Z,11nm,0.6s
BR101 Keskin Array S 88.07 310 *e*P **P 01 55 12.5 -0.9**
BR131 Keskin Array S 88.07 310 *e*P **P 01 55 13.0 -0.5**
BRTR Keskin Array B 88.07 310 *e*P **P 01 55 12.5 -0.9**
comp=Z,1.2nm,0.8s,baz=131,slow=4.6,SNR=2.9
TOLK Toolik Lake Re 88.09 21 P **P 01 55 09.0 -3.8**
baz=269
CSS Mathiatis 88.34 305 *e*P **P 01 55 13.5 -1.1**
comp=Z,19nm,0.9s
SYO Syowa Base 88.61 201 *j i*X **P 01 55 13.6 -1.5**
HDA Harding Lake 89.15 26 P **P 01 55 16.2 -1.6**
baz=271
ILAR Eielson Array 89.17 25 P **P 01 55 16.7 -1.1**
comp=Z,0.4nm,0.7s,baz=224,slow=5.9,SNR=5.2
ILAR PP **PP 01 58 49.1 +0.5**
comp=Z,0.3nm,0.8s,baz=292,slow=4.8,SNR=2.7
ILAR PKKPbc **PKKPdf 02 12 54.1 +1.8**
comp=Z,0.6nm,0.8s,baz=116,slow=2.4,SNR=4.8
ILB Eielson Array 89.17 25 *e*P **P 01 55 16.7 -1.1**
ILB *e*PP **PP 01 58 49.1 +0.5**
ARA0 ARCESS Array S 91.11 340 *e*P **P 01 55 26.8 -0.1**
ARCES ARCESS Array B 91.11 340 P **P 01 55 26.8 -0.1**
comp=Z,3.4nm,0.9s,baz=94,slow=6.6,SNR=3.8
QSPA South Pole Qui 91.27 180 P **P 01 55 27.4 -0.4**
comp=Z,11nm,0.7s,baz=281,slow=2.1,SNR=15
QSPA South Pole Qui 91.27 180 *e*P **P 01 55 27.8 0.0**
MBAR Mbarara 91.52 269 *i* P **P 01 55 28.5 -1.6**
SPITS Spitsbergen Ar 91.92 349 P **P 01 55 28.7 -1.7**
comp=Z,6.4nm,0.6s,baz=101,slow=11,SNR=6.0
KARP Karpathos 93.36 306 *e*P **P 01 55 37.1 -0.9**
comp=Z,25nm,0.9s
INK Inuvik 94.00 21 P **P 01 55 41.0 +0.9**
comp=Z,2.4nm,1.1s,baz=273,slow=7.1,SNR=3.1
INK Inuvik 94.00 21 *e*P **P 01 55 41.0 +0.9**
comp=Z,14nm,1.4s
INK Inuvik 94.00 21 *e*P **P 01 55 41.1 +0.9**
INK pmax pmax
comp=Z,14nm,1.4s
LSZ Lusaka 94.26 255 *e*P **P 01 55 41.5 -1.2**
comp=Z,15nm,0.9s
LSZ Lusaka 94.26 255 *e*P **P 01 55 41.5 -1.2**
LSZ pmax pmax
comp=Z,15nm,0.9s
UZH Uzhgorod 95.57 319 *e*P **P 01 55 50.2 +2.4**
BOSA Boshof 96.78 242 P **P 01 55 52.5 -1.5**
comp=Z,4.2nm,1.1s,baz=107,slow=3.5,SNR=3.8
CLL Collm 100.87 323 *e*PP PP 02 00 17.0 -2.8
CLL *e*SS SS 02 14 36.0 -7.4
NV01 Mina Array Sit 111.82 47 *e*PKiKP **PKiKP 02 00 58.4 +0.4**
NVAR Mina Array Bea 111.82 47 PKiKP **PKiKP 02 00 58.4 +0.4**
comp=Z,0.4nm,0.6s,baz=252,slow=2.7,SNR=3.5
NVAR PKKPbc **PKKPbc 02 11 50.9 -1.1**
comp=Z,0.7nm,0.8s,baz=119,slow=2.7,SNR=4.0
CWC Cottonwood Cre 112.67 49 P **PKiKP 02 00 59.3 -0.3**
baz=290
MPMC Manual Prospec 113.25 50 P **PKiKP 02 01 01.4 +0.7**
baz=290
EDW2 Edwards Air Fo 113.25 51 P **PKiKP 02 01 01.3 +0.7**
baz=289
FRD Ford Ranch, An 114.80 52 P PKPdf 02 01 04.1 +0.5
baz=290
PFO Pinyon Flats O 114.87 52 P PKPdf 02 01 03.9 +0.2
baz=290
TPFO Pinon Flats 114.88 52 P PKPdf 02 01 03.4 -0.4
baz=290
DUG Dugway, Tooele 115.06 44 P **PKPdf 02 01 04.3 +0.3**
baz=295
GMRC Granite Mounta 115.09 50 P **PKPdf 02 01 03.8 -0.4**
baz=291
BELC Belle Mtn. Jos 115.10 51 P **PKPdf 02 01 03.8 -0.4**
baz=290
MONP2 Monument Peak 115.14 53 P **PKPdf 02 01 03.7 -0.7**
baz=290
IKP In-Ko-Pah, Jac 115.47 53 P **PKPdf 02 01 06.3 +1.4**
baz=290
PD31 Pinedale Array 116.07 40 *e*PKKPbc PKKPbc 02 11 36.0 -1.8
PDAR Pinedale Array 116.07 40 PKKPbc PKKPbc 02 11 36.0 -1.8
comp=Z,1.3nm,0.8s,baz=115,slow=4.2,SNR=8.8
TOA0 Torodi Ar. Sit 119.32 286 *e*PKPdf **PKPdf 02 01 11.8 -0.9**
TOA0 *e*PKPdf **PKiKP 02 01 14.2 +1.5**
TORD Torodi Ar. Bea 119.32 286 PKP **PKPdf 02 01 11.5 -1.1**
comp=Z,2.0nm,0.8s,baz=52,slow=2.4,SNR=7.3
TOA1 Torodi Ar. Sit 119.32 286 *e*PKPdf **PKPdf 02 01 11.5 -1.1**
MVCO Mesa Verde 119.41 45 P **PKPdf 02 01 12.7 +0.2**
baz=298
SDCO Great Sand Dun 121.25 43 P **PKPdf 02 01 15.6 -0.5**
baz=300
ANMO Albuquerque 121.92 47 P **PKPdf 02 01 16.6 -0.8**
baz=298
121A Cookes Peak, D 122.01 50 P **PKPdf 02 01 17.0 -0.6**
baz=296
ECSD EROS Data Cent 123.25 33 P **PKPdf 02 01 18.9 -0.6**
baz=312
BGNE Belgrade 123.88 36 P **PKPdf 02 01 20.7 0.0**
baz=309
MNTX Cornudas Mount 124.20 50 *e*PKPdf **PKPdf 02 01 23.2 +1.5**
MNTX Cornudas Mount 124.20 50 P **PKPdf 02 01 21.8 +0.1**
baz=297
E39A Mellen 124.40 27 P **PKPdf 02 01 20.9 -0.7**
baz=319
F39A Loretta 124.58 28 P **PKPdf 02 01 21.5 -0.4**
baz=319
G38A Ridgeland 124.69 29 P **PKPdf 02 01 21.9 -0.2**
baz=317
D41A Chassel 124.75 25 P **PKPdf 02 01 22.4 +0.2**
baz=322
G39A Holcombe 124.93 28 P **PKPdf 02 01 21.0 -1.6**
baz=318
F40A Park Falls 124.94 27 P **PKPdf 02 01 22.7 0.0**
baz=319
H39A Augusta 125.33 29 P **PKPdf 02 01 23.9 +0.5**
baz=318
F41A Three Lakes 125.54 27 P **PKPdf 02 01 22.9 -0.9**
baz=320
I39A Houston 125.81 30 P **PKPdf 02 01 24.0 -0.3**
baz=317
J39A Decorah 126.10 30 P **PKPdf 02 01 24.3 -0.6**
baz=316
KSU1 Kansas State U 126.24 37 P **PKPdf 02 01 25.7 +0.4**
baz=309
KIC Kosan Boka 126.53 279 *e*P **PKPdf 02 01 25.3 -1.2**
comp=Z,67nm,1.7s
LTX Lajitas 126.59 51 *e*PKPdf **PKPdf 02 01 26.9 +0.6**
LTX Lajitas 126.59 51 *e*PKiKP **PKPdf 02 01 27.0 +0.6**
TXAR Lajitas Array 126.59 51 PKP **PKPdf 02 01 26.9 +0.6**
comp=Z,0.8nm,0.9s,baz=333,slow=1.0,SNR=2.6
TXAR Lajitas Array 126.59 51 PKiKP **PKPdf 02 01 27.0 +0.6**
DBIC Dimbokro 126.61 279 PKP **PKPdf 02 01 26.8 +0.1**
comp=Z,2.7nm,0.6s,baz=116,slow=3.4,SNR=5.8
E45A Wooded Hills, 126.71 23 P **PKPdf 02 01 25.9 -0.1**
baz=325
D46A Sault St. Mari 126.71 22 P **PKPdf 02 01 26.0 0.0**
baz=327
TIC Toumodi 126.77 279 *e*P **PKPdf 02 01 24.8 -2.2**
LIC Lamto 126.82 279 *e*P **PKPdf 02 01 22.3 -4.8**
comp=Z,55nm,1.6s
K40A Colesburg 126.84 30 P **PKPdf 02 01 26.3 0.0**
baz=317
D47A Chapleau 126.92 21 P **PKPdf 02 01 26.5 +0.1**
baz=328
JFWS Jewell Farm 127.13 30 P **PKPdf 02 01 26.9 -0.1**
baz=318
M39A Webster 127.18 32 P **PKPdf 02 01 26.2 -0.8**
baz=315
L40A Anamosa 127.26 31 P **PKPdf 02 01 26.8 -0.3**
baz=316
K41A Shullsburg 127.33 30 P **PKPdf 02 01 27.2 -0.1**
baz=318
TKL Tuckaleechee C 135.90 31 PKP **PKPdf 02 01 43.0 -0.7**
comp=Z,3.2nm,0.8s,baz=140,slow=7.9,SNR=3.5
TKL Tuckaleechee C 135.90 31 *e*PKiKP **PKPdf 02 01 43.0 -0.7**
PLCA Paso Flores 139.12 165 PKP **PKPdf 02 01 49.0 -0.6**
comp=Z,4.4nm,0.9s,baz=309,slow=0.7,SNR=5.9
PLCA Paso Flores 139.12 165 *e*PKiKP **PKPdf 02 01 49.0 -0.6**
APG El Apazote 143.79 62 PKP PKPbc 02 01 56.8 +0.3
comp=Z,5.8nm,0.8s,baz=322,slow=13,SNR=4.9
PEL Peldehue 146.12 160 *e*PKPdf **PKPab 02 02 03.7 -0.1**
PEL Peldehue 146.12 160 *e*PKP2 **PKPab 02 02 03.7 -0.1**
ROC1 El Roble 146.16 160 *e*PKPdf **PKPab 02 02 04.0 -0.2**
GO04 Tololo Observa 148.77 158 *e*PKPbc **PKPbc 02 02 11.2 +0.5**
LCO Las Campanas 149.84 157 *e*PKPbc **PKPbc 02 02 14.2 +0.7**
JTS JuntasAbangare 150.57 66 PKP **PKPdf 02 02 10.8 +1.0**
comp=Z,3.9nm,0.8s,baz=333,slow=9.0,SNR=2.0
GO03 Copiap 151.29 156 *e*PKPbc **PKPbc 02 02 17.9 +1.2**
CPUP Villa Florida 155.16 181 PKP **PKPdf 02 02 15.6 -0.6**
comp=Z,5.8nm,1.0s,baz=198,slow=2.0,SNR=4.9
CPUP PKPab **PKPab 02 02 40.7 -0.2**
comp=Z,9.9nm,0.9s,baz=186,slow=3.7,SNR=7.3
MNMC Minye Minye 158.86 147 *e*PKPdf **PKPdf 02 02 23.2 +1.8**
POPC Popayan, Colom 160.70 78 *e*P **PKPdf 02 02 20.9 -2.8**
ZARC Zaragoza, Cauc 160.81 63 *e*P **PKPdf 02 02 23.6 +0.1**
MARP Paez Belalcaza 161.34 77 *e*P **PKPdf 02 02 23.5 -0.9**
LPAZ La Paz 161.97 146 PKP **PKPdf 02 02 25.5 +0.1**
comp=Z,4.8nm,0.9s,baz=33,slow=1.4,SNR=4.6
LPAZ PKPab **PKPab 02 03 11.9 +0.5**
comp=Z,3.7nm,0.6s,baz=235,slow=3.2,SNR=7.0
ROSC El Rosal 162.35 70 PKP **PKPdf 02 02 25.2 -0.4**
comp=Z,1.6nm,0.5s,baz=222,slow=14,SNR=2.4
BARC Barichara 162.70 63 *e*P **PKPab 02 03 15.4 +0.9**
BDFB Brasilia 162.85 214 PKPab **PKPab 02 03 14.4 -0.3**
comp=Z,8.2nm,0.7s,baz=333,slow=0.8,SNR=6.6
CHIC Chingaza 162.97 70 *e*P **PKPdf 02 02 23.5 -2.7**
PCM Pelee Case Pet 163.58 12 *e*P PKPab 02 03 26.1 +8.4
BAMF Morne Balai 163.60 12 *e*P **PKPab 02 03 24.4 +6.6**
CXM Morne La Croix 163.60 12 *e*P **PKPab 02 03 24.2 +6.4**
GBMF Grand Be 163.61 12 *e*P **PKPab 02 03 25.6 +7.7**
PML Morne Lenard 163.62 12 *e*P PKPab 02 03 26.9 +9.0

MEX 06 01:47:15.6±0.5, 16°.51N×98°.45W, h14km±5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.33**	**111**	*i* P		Pg		01 47 21.8	-0.6
PNIG				*e*S		Sg		01 47 26.9	-0.1
TLIG	**Tlapa**	**1.05**	**354**	*e*P		Pb		01 47 32.2	-3.6
TLIG				*i* S		Sb		01 47 45.0	-4.5
VHO	**Vista Hermosa**	**1.74**	**71**	*e*P		Pn		01 47 42.2	-3.4
VHO				*e*S		Sn		01 48 03.5	-4.2
CAIG	**El Cayaco**	**1.82**	**287**	*e*P		Pn		01 47 43.4	-3.2
CAIG				*i* S		Sn		01 48 05.0	-4.6
HUIG	**Huatulco**	**2.37**	**108**	*e*P		Pn		01 47 50.8	-3.3
HUIG				*i* S		Sn		01 48 17.9	-5.1

*ISCJB **06** 02:24:32.7±1.8, 16°.5S±0°.1×173°.8W±0°.1, h51km±16km, mb4.5/33, Error ellipse: s-maj=24.5km s-min=8.1km az=139.0*
*NEIC **06** 02:24:34.2±1.4, 16°.57S×173°.70W, h52km±12km, mb4.5/25, Error ellipse: s-maj=16.2km s-min=5.6km az=138.0*
*IDC **06** 02:24:38.5±1.0, 16°.73S×173°.62W, h94km±7km, mb3.9/8, mb1 4.2/8, mb1mx3.8/40, mbtmp4.3/8, Error ellipse: s-maj=40.0km s-min=15.3km az=140.0*

ISC 06 02:24:36.2±0.9, 16°.5S±0°.2×173°.6W±0°.2, h74km±6km, h73km:pP-P, n51, σ1s61/55, mb4.3/33, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.09**	**34**	P		P	**Pn**	**02 25 22.4**	**-0.3**
	86nm,0.3s,baz=20,slow=4.3,SNR=31								
AFI				S			**Sn**	**02 25 54.6**	**-4.1**
	161nm,0.3s,baz=233,slow=20,SNR=11								
AFI	**Afiamalu**	**3.09**	**34**	*e*Pn		**Pn**		**02 25 22.5**	**-0.3**
AFI				*e*Sn		Sn		02 25 54.0	-4.7
RAR	**Rarotonga**	**13.87**	**112**	P		Pn		02 27 41.8	-7.7
	0.9nm,0.3s,baz=243,slow=6.8,SNR=3.4								
URZ	**Urewera**	**23.19**	**199**	P		**P**		**02 29 34.9**	**-1.8**
	22nm,0.5s,baz=339,slow=1.6,SNR=17								
URZ	**Urewera**	**23.19**	**199**	*e*P		**P**		**02 29 35.3**	**-1.4**
HIZ	**Hauiti**	**24.18**	**203**	*e*P		**P**		**02 29 46.0**	**+0.3**
	103nm,1.5s								
THZ	**Tophouse**	**27.75**	**202**	*e*P		**P**		**02 30 17.6**	**-0.3**
RPZ	**Rata Peaks**	**30.12**	**203**	P		P		02 30 43.5	+4.6
	8.6nm,0.4s,baz=24,slow=2.9,SNR=9.5								
FOZ	**Fox Glacier**	**30.44**	**204**	*e*P		**P**		**02 30 39.2**	**-2.5**
	32nm,1.3s								
ARMA	**Armidale**	**34.66**	**240**	*e*P		**P**		**02 31 18.8**	**-0.1**
	28nm,1.4s								
STKA	**Stephens Creek**	**43.37**	**241**	P		**P**		**02 32 29.9**	**-1.6**
	3.0nm,0.5s,baz=81,slow=16,SNR=6.8								
STKA	**Stephens Creek**	**43.37**	**241**	*e*P		**P**		**02 32 29.9**	**-1.6**
	1.4nm,1.1s								
BBOO	**Buckleboo**	**48.14**	**241**	*e*P		**P**		**02 33 08.0**	**-1.1**
	45nm,1.4s								
WB2	**Warramunga Arr**	**49.44**	**258**	*e*P		**P**		**02 33 17.9**	**-1.4**
WRAB	**Tennant Creek**	**49.44**	**258**	*e*P		**P**		**02 33 17.2**	**-2.0**
	3.6nm,0.9s								
WR1	**Warramunga Arr**	**49.45**	**258**	*e*P		**P**		**02 33 18.9**	**-0.5**
	3.3nm,1.0s								
WR1				*e*pP		**pP**		**02 33 39.4**	**+1.5**
WRA	**Warramunga Arr**	**49.45**	**258**	P		**P**		**02 33 18.9**	**-0.5**
	1.0nm,0.6s,baz=97,slow=7.2,SNR=25								
WRA				pP		**pP**		**02 33 39.4**	**+1.5**
	0.4nm,0.5s,baz=97,slow=6.9,SNR=2.5								
WRA				pPcP				02 35 05.3	
	0.5nm,0.6s,baz=91,slow=3.6,SNR=4.3								
AS01	**Alice Springs**	**49.59**	**253**	*e*P		**P**		**02 33 19.4**	**-0.9**
AS31	**Alice Springs**	**49.63**	**253**	*e*P		**P**		**02 33 20.4**	**-0.4**
	3.8nm,0.6s								
AS31				*e*pP		**pP**		**02 33 42.0**	**+2.8**
ASAR	**Alice Springs**	**49.63**	**253**	P		**P**		**02 33 20.2**	**-0.5**
	13nm,0.5s,baz=88,slow=8.5,SNR=168								
ASAR				pP		**pP**		**02 33 42.0**	**+2.7**
	3.2nm,0.7s,baz=86,slow=8.7,SNR=3.7								
ASAR				pPcP				02 35 05.8	
	0.8nm,0.7s,baz=96,slow=4.0,SNR=3.7								
MBWA	**Marble Bar**	**62.91**	**254**	*e*P		**P**		**02 34 54.9**	**-0.3**
	28nm,1.4s								
PMPB	**Monarch Peak**	**72.33**	**43**	*e*P		**P**		**02 35 55.0**	**+0.8**
	19nm,1.4s								
KCPM	**Cahto Peak**	**72.74**	**38**	*e*P		**P**		**02 35 56.6**	**-0.1**
	25nm,1.2s								
NV01	**Mina Array Sit**	**75.24**	**42**	*e*P		**P**		**02 36 12.7**	**+1.2**
NVAR	**Mina Array Bea**	**75.24**	**42**	P		**P**		**02 36 13.0**	**+1.5**
	2.2nm,1.0s,baz=226,slow=9.5,SNR=9.7								
Y14A	**Wickenburg**	**76.39**	**48**	*e*P		**P**		**02 36 19.8**	**+1.9**
	3.0nm,1.3s								
X16A	**Lo Mia Camp, P**	**77.75**	**48**	*e*P		**P**		**02 36 27.6**	**+1.9**
	1.7nm,0.8s								
U15A	**North Rim**	**78.16**	**46**	*e*P		**P**		**02 36 29.9**	**+1.9**
	2.7nm,1.0s								
PSUT	**Pine Spring**	**78.20**	**44**	*e*P		**P**		**02 36 29.7**	**+1.6**
	2.7nm,0.9s								
G08A	**Pilot Rock**	**78.90**	**36**	*e*P		**P**		**02 36 33.5**	**+1.8**
	2.7nm,0.9s								
MSU	**Marysvale**	**79.31**	**44**	*e*P		**P**		**02 36 36.3**	**+2.1**
TMUT	**Trail Mountain**	**80.36**	**44**	*e*P		**P**		**02 36 42.5**	**+2.5**
	4.4nm,1.0s								
HLID	**Hailey**	**80.56**	**39**	*e*P		**P**		**02 36 42.4**	**+1.5**
	3.9nm,1.0s								
HVU	**Hansel Valley**	**80.62**	**41**	*e*P		**P**		**02 36 42.6**	**+1.4**
	1.4nm,0.7s								
LTX	**Lajitas**	**81.34**	**56**	*e*P		**P**		**02 36 45.4**	**+0.2**
TXAR	**Lajitas Array**	**81.34**	**56**	P		**P**		**02 36 45.4**	**+0.2**
	0.4nm,0.7s,baz=216,slow=7.7,SNR=4.8								
S22A	**4UR Ranch, Cre**	**82.62**	**47**	*e*P		**P**		**02 36 53.9**	**+1.9**
	4.4nm,0.8s								
TPAW	**Teton Pass**	**82.66**	**41**	*e*P		**P**		**02 36 53.6**	**+1.6**
	2.2nm,0.8s								
YHB	**Horse Butte**	**83.16**	**39**	*e*P		**P**		**02 36 57.0**	**+2.6**
	6.3nm,1.0s								
PD31	**Pinedale Array**	**83.17**	**42**	*e*P		**P**		**02 36 55.5**	**+0.8**
PDAR	**Pinedale Array**	**83.17**	**42**	P		**P**		**02 36 55.5**	**+0.8**
	2.8nm,0.8s,baz=214,slow=3.5,SNR=22								
PDAR	**Pinedale Array**	**83.17**	**42**	*e*P		**P**		**02 36 54.9**	**+0.3**
BOZ	**Bozeman (W)**	**83.33**	**39**	*e*P		**P**		**02 36 56.9**	**+1.6**
	3.2nm,0.8s								
ILAR	**Eielson Array**	**83.53**	**11**	P		**P**		**02 36 56.4**	**+0.7**
	0.5nm,0.6s,baz=233,slow=6.3,SNR=11								
ILB	**Eielson Array**	**83.53**	**11**	*e*P		**P**		**02 36 56.4**	**+0.7**

COLD	**Coldfoot**	**85.23**	**9**	*eP*	**P**	**02 37 07.8**	**+3.6**
	5.2nm,0.6s							
ABTX	**Abilene, Hawle**	**85.82**	**54**	*eP*	**P**	**02 37 08.9**	**+0.9**
	8.8nm,1.0s							
KMBO	**Kilima Mbogo**	**144.91**	**243**	pPKP	pPKPdf	02 44 27.3	-0.1
	1.0nm,0.4s,baz=61,slow=9.0,SNR=3.7							
BR101	**Keskin Array S**	**146.89**	**320**	*e*PKPdf	**PKPbc**	**02 44 10.2**	**-0.5**
BR101				*ep*PKPdf	**sPKPdf**	**02 44 37.0**	**-0.6**
BRTR	**Keskin Array B**	**146.89**	**320**	PKPbc	**PKPbc**	**02 44 10.2**	**-0.5**
	1.2nm,0.9s,baz=85,slow=1.4,SNR=5.5							
BRTR				pPKPbc	**sPKPdf**	**02 44 37.0**	**-0.6**
	1.2nm,0.7s,baz=120,slow=2.4,SNR=5.4							
GERES	**GERESS Array B**	**147.19**	**351**	PKPbc	**PKPbc**	**02 44 10.7**	**-0.5**
	0.9nm,0.7s,baz=345,slow=2.3,SNR=2.7							

GUC 06 02:29:29.9±0.5, 37°.40S×71°.21W, h14km±5km, ML3.5, 2C, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**1.05**	**319**	*eP*	Pb	02 29 47.9	-1.9
CCHI				*i* S	Sb	02 30 01.1	-2.4
CCHI				IAML		02 30 01.6	
	comp=N,5μm,0.2s						
CCSP	**San Pedro de C**	**1.61**	**289**	*eP*	Pn	02 29 56.6	-1.3
CCSP				*eS*	Sn	02 30 17.4	-1.0
CCSP				IAML		02 30 19.7	
	comp=N,2μm,0.5s						
TMU	**Temuco**	**1.73**	**219**	*i* P	Pg	02 30 03.6	+0.5
TMU				*eS*	Sg	02 30 26.9	+1.4
GO06	**Curarrehue**	**2.19**	**185**	*i*P	Pg	02 30 12.3	+0.3
GO06				*i* S	Sg	02 30 44.4	+3.9
GO06				IAML		02 30 47.2	
	comp=E,62nm,0.6s						
GO05	**HualaæØ**	**2.45**	**346**	*i*P	Pn	02 30 09.7	+0.3
GO05				*eS*	Sn	02 30 40.3	+1.1
GO05				IAML		02 30 44.5	
	comp=E,355nm,0.3s						

IDC ***06*** *02:50:22.0±1.0, 48°.07N×154°.96E, h0km, mb3.5/6, mb1 3.8/9, mb1mx3.5/40, mbtmp3.6/9, ML3.2/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/40, Error ellipse: s-maj=30.9km s-min=15.9km az=136.0*

MOS ***06*** *02:50:24.3±1.3, 47°.97N×156°.07E, h29km, mb3.9/3, Error ellipse: s-maj=24.8km s-min=4.8km az=73.6*

ISCJB ***06*** *02:50:25.4±0.6, 48°.08N±0°.07×155°.0E±0°.1, h33km, mb3.5/6, Error ellipse: s-maj=16.5km s-min=4.2km az=37.9*

KRSC ***06*** *02:50:28.4±1.9, 48°.17N×156°.62E, h24km±31km, ML4.4*

SKHL ***06*** *02:50:29.7±0.4, 48°.28N×154°.45E, h60km±4km, mb3.9/1*

ISC 06 02:50:26.7±0.9, 48°.01N±0°.10×155°.2E±0°.1, h35km, n67, σ1s83/71, mb3.6/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.74**	**12**	*eP*	**Pn**	**02 51 09.5**	**+1.4**
SKR				AMB	AMB	02 51 10.0	
	20nm,0.4s						
SKR				AMB	AMB	02 51 10.0	
	3μm,0.4s						
SKR				*eS*	**Sn**	**02 51 39.1**	**-0.8**
SKR				A	A	02 51 55.1	
	230nm,0.6s						
SKR				A	A	02 51 55.1	
	359nm,0.6s						
SKR	**Severo-Kuril's**	**2.74**	**12**	*eP*	**Pn**	**02 51 08.5**	**+0.4**
SKR				*eS*	**Sn**	**02 51 39.2**	**-0.7**
SKR	**Severo-Kuril's**	**2.74**	**12**	*e*PN	**Pn**	**02 51 09.5**	**+1.4**
SKR				*eS*	**Sn**	**02 51 39.2**	**-0.7**
SKR				pmax	pmax		
	comp=Z,117nm,0.4s						
SKR				smax	smax		
	comp=N,226nm,0.4s						
SKR				smax	smax		
	comp=E,351nm,0.6s						
PAU	**Pauzhetka**	**3.61**	**16**	*eP*	**Pn**	**02 51 21.8**	**+1.7**
PAU	**Pauzhetka**	**3.61**	**16**	*eP*	**Pn**	**02 51 21.8**	**+1.7**
PAU				*eS*	**Sn**	**02 52 01.3**	**-0.1**
PAU	**Pauzhetka**	**3.61**	**16**	PN	**Pn**	**02 51 21.8**	**+1.7**
KDTR	**Khodutka, Kamc**	**4.22**	**25**	*eP*	**Pn**	**02 51 29.0**	**+0.5**
KDTR				*eS*	**Sn**	**02 52 14.6**	**-1.9**
MIPR	**Malaya Ipel'ka**	**4.38**	**12**	*eP*	**Pn**	**02 51 31.9**	**+1.2**
MIPR	**Malaya Ipel'ka**	**4.38**	**12**	PN	**Pn**	**02 51 31.9**	**+1.2**
RUS	**Russkaya**	**4.90**	**24**	*eP*	**Pn**	**02 51 37.8**	**0.0**
RUS	**Russkaya**	**4.90**	**24**	*eP*	**Pn**	**02 51 37.8**	**0.0**
RUS				*eS*	**Sn**	**02 52 30.7**	**-2.5**
RUS	**Russkaya**	**4.90**	**24**	PN	**Pn**	**02 51 37.8**	**0.0**
APC	**Apacha**	**5.07**	**13**	*eP*	**Pn**	**02 51 42.2**	**+2.0**
APC	**Apacha**	**5.07**	**13**	PN	**Pn**	**02 51 42.2**	**+2.0**
KRMR	**Karymshinskiy**	**5.17**	**20**	*eP*	**Pn**	**02 51 43.3**	**+1.8**
KRMR				*eS*	**Sn**	**02 52 39.8**	**0.0**
KRMR	**Karymshinskiy**	**5.17**	**20**	PN	**Pn**	**02 51 43.3**	**+1.8**
PETK	**Petropavlovsk-**	**5.34**	**16**	Pn	**Pn**	**02 51 44.3**	**+0.4**
	comp=E,2.0nm,0.3s,baz=180,slow=14,SNR=21						
PETK				Lg	Lg	02 53 10.0	
	baz=242,slow=34						
PET	**Petropavlovsk**	**5.47**	**22**	*eP*	**Pn**	**02 51 49.0**	**+3.4**
PET				*eS*	**Sn**	**02 52 48.8**	**+1.5**
PET				A	A	02 53 03.7	
	comp=E,60nm,0.8s						
PET				A	A	02 53 03.7	
	comp=E,68nm,0.8s						
PET	**Petropavlovsk**	**5.47**	**22**	*eP*	**Pn**	**02 51 47.9**	**+2.3**
PET	**Petropavlovsk**	**5.47**	**22**	*e*PN	**Pn**	**02 51 49.0**	**+3.4**
DALK	**Dalny**	**5.50**	**23**	*eP*	**Pn**	**02 51 47.0**	**+0.9**
DALK				*eS*	**Sn**	**02 52 45.6**	**-2.5**
DALK	**Dalny**	**5.50**	**23**	PN	**Pn**	**02 51 47.0**	**+0.9**
UGLR	**Uglovaya**	**5.68**	**22**	*eP*	**Pn**	**02 51 50.2**	**+1.5**
UGLR	**Uglovaya**	**5.68**	**22**	PN	**Pn**	**02 51 50.2**	**+1.5**
KOK	**Koryaka**	**5.71**	**21**	*eP*	**Pn**	**02 51 51.5**	**+2.4**
KOK	**Koryaka**	**5.71**	**21**	*eP*	**Pn**	**02 51 51.5**	**+2.4**
KOK	**Koryaka**	**5.71**	**21**	PN	**Pn**	**02 51 51.5**	**+2.4**
AVH	**Avacha**	**5.71**	**22**	*eP*	**Pn**	**02 51 50.8**	**+1.8**
AVH	**Avacha**	**5.71**	**22**	*eP*	**Pn**	**02 51 50.8**	**+1.8**
AVH				*eS*	**Sn**	**02 52 50.6**	**-2.8**
AVH	**Avacha**	**5.71**	**22**	PN	**Pn**	**02 51 50.8**	**+1.8**
SMAR	**Somma**	**5.73**	**22**	*eP*	**Pn**	**02 51 50.9**	**+1.5**
SMAR	**Somma**	**5.73**	**22**	PN	**Pn**	**02 51 50.9**	**+1.5**
SDLR	**Sedlovina**	**5.76**	**22**	*eP*	**Pn**	**02 51 50.5**	**+0.8**
SDLR	**Sedlovina**	**5.76**	**22**	PN	**Pn**	**02 51 50.5**	**+0.8**
KRX	**Arik**	**5.78**	**21**	*eP*	**Pn**	**02 51 50.9**	**+0.9**
KRX	**Arik**	**5.78**	**21**	PN	**Pn**	**02 51 50.9**	**+0.9**
NLC	**Nalytchevo**	**5.79**	**25**	*eP*	**Pn**	**02 51 49.4**	**-0.6**
NLC				*eS*	**Sn**	**02 52 51.1**	**-4.0**
NLC	**Nalytchevo**	**5.79**	**25**	PN	**Pn**	**02 51 49.4**	**-0.6**
SPN	**Mys Shipunski**	**5.94**	**29**	*eP*	**Pn**	**02 51 52.7**	**+0.7**
SPN				*eS*	**Sn**	**02 52 54.1**	**-4.6**
SPN	**Mys Shipunski**	**5.94**	**29**	PN	**Pn**	**02 51 52.7**	**+0.7**
GNL	**Ganaly**	**5.94**	**16**	*eP*	**Pn**	**02 51 54.0**	**+1.7**
GNL	**Ganaly**	**5.94**	**16**	PN	**Pn**	**02 51 54.0**	**+1.7**
SHO	**Shikotan**	**7.18**	**238**	*eP*	**Pn**	**02 52 09.1**	**0.0**
SHO	**Shikotan**	**7.18**	**238**	*e*PN	**Pn**	**02 52 10.0**	**+0.9**
SHO				pmax	pmax		
	comp=E,6.0nm,0.2s						
SHO				pmax	pmax		
	comp=Z,13nm,0.2s						
TUMR	**Tumrok**	**7.89**	**21**	*eP*	**Pn**	**02 52 21.3**	**+2.3**
TUMR	**Tumrok**	**7.89**	**21**	PN	**Pn**	**02 52 21.3**	**+2.3**
KMNR	**Kamenistaya**	**8.35**	**20**	*eP*	**Pn**	**02 52 28.9**	**+3.7**
KMNR	**Kamenistaya**	**8.35**	**20**	PN	**Pn**	**02 52 28.9**	**+3.7**
KBTR	**Krutoberegovo**	**9.44**	**27**	*eP*	**Pn**	**02 52 40.0**	**0.0**
KBTR	**Krutoberegovo**	**9.44**	**27**	PN	**Pn**	**02 52 40.0**	**0.0**
JKA	**Kamikawa-asahi**	**9.61**	**251**	*eP*	**Pn**	**02 52 41.2**	**-1.3**
ASAJ	**Asahikawa**	**9.61**	**251**	Pn	**Pn**	**02 52 41.2**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=108,slow=16,SNR=2.4						
BKI	**Bering**	**9.81**	**39**	*eS*	Sn	02 54 23.5	-10
MA2	**Magadan**	**11.88**	**349**	LR	LR	02 57 15.2	
	comp=Z,69nm,18.2s,baz=289,slow=35						
USRK	**Ussuriysk Ar.**	**16.55**	**265**	Pn	**Pn**	**02 54 14.9**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=71,slow=13,SNR=8.4						
KSRS	**Korea Array**	**22.56**	**252**	P	**P**	**02 55 22.0**	**-1.7**
	comp=Z,2.2nm,0.8s,baz=48,slow=11,SNR=5.4						
H11N2	**WAKE ISLAND Hy**	**29.75**	**157**	T	T	03 28 11.0	
	baz=344,slow=76,SNR=66						
H11N1	**WAKE ISLAND Hy**	**29.77**	**157**	T	T	03 28 11.2	
	baz=344,slow=76,SNR=181						
H11N3	**WAKE ISLAND Hy**	**29.77**	**157**	T	T	03 28 12.1	
	baz=344,slow=76,SNR=92						
H11S1	**WAKE ISLAND Hy**	**30.87**	**158**	T	T	03 29 37.2	
	baz=344,slow=76,SNR=271						
H11S3	**WAKE ISLAND Hy**	**30.88**	**158**	T	T	03 29 36.1	
	baz=344,slow=76,SNR=696						
H11S2	**WAKE ISLAND Hy**	**30.89**	**158**	T	T	03 29 36.1	
	baz=344,slow=76,SNR=130						
ILAR	**Eielson Array**	**34.66**	**40**	P	**P**	**02 57 14.2**	**+1.8**
	comp=Z,0.3nm,0.5s,baz=264,slow=5.8,SNR=5.0						
INK	**Inuvik**	**39.81**	**33**	P	**P**	**02 57 56.6**	**+0.7**
	comp=Z,1.1nm,0.9s,baz=243,slow=5.9,SNR=4.2						
MKAR	**Makanchi Array**	**47.65**	**297**	P	**P**	**02 58 57.3**	**-2.0**
	comp=Z,0.2nm,0.4s,baz=57,slow=6.1,SNR=2.5						
NVAR	**Mina Array Bea**	**60.57**	**64**	P	**P**	**03 00 35.4**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=294,slow=3.6,SNR=3.3						
WRA	**Warramunga Arr**	**70.19**	**201**	P	**P**	**03 01 36.0**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=20,slow=6.7,SNR=3.6						

MAN 06 03:11:50.6, 16°.24N×120°.58E, h23km, mb4.1, ML2.9, MS2.6, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPP	**San Manuel, Pa**	**0.13**	**131**	*eP*	Pb	03 11 55.5	+0.2
SMPP				*eS*	Sb	03 11 58.5	+0.1
PCPH	**Palayan**	**0.84**	**143**	*eP*	Pn	03 12 07.7	+0.7
PCPH				*eS*	Sn	03 12 19.4	+0.8
BALP	**Baler**	**1.08**	**117**	*eP*	Pn	03 12 09.6	-0.7
BALP				*eS*	Sn	03 12 24.8	+0.2
ABRA	**Dolores**	**1.41**	**5**	*eP*	Pn	03 12 13.3	-1.6
ABRA				*eS*	Sn	03 12 30.8	-1.9
APYP	**Conner**	**1.74**	**21**	*eP*	Pn	03 12 19.9	+0.6
APYP				*eS*	Sn	03 12 41.8	+1.0

KRSC 06 03:12:12.8±1.4, 55°.28N×166°.36E, h40km±7km, ML3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.23**	**253**	*i* P	Pn	03 12 20.7	+0.1
BKI				*i* S	Sn	03 12 26.3	-0.1
KBTR	**Krutoberegovo**	**2.21**	**296**	*eP*	Pn	03 12 47.9	+1.0
KBTR				*eS*	Sn	03 13 15.2	+2.2
SMKR	**Semkarok**	**3.05**	**297**	*eP*	Pn	03 13 01.5	+3.0
BDR	**Baidarnaya**	**3.18**	**296**	*eP*	Pn	03 13 03.5	+3.2
SRKR	**Sorokina**	**3.23**	**297**	*eP*	Pn	03 13 03.5	+2.5
ZLN	**Zelenaya**	**3.24**	**286**	*eP*	Pn	03 13 05.9	+4.8
BZMR	**Bezymyannaya**	**3.40**	**284**	*eP*	Pn	03 13 07.3	+3.9
BZWR	**Bezymyannyi-We**	**3.40**	**284**	*eP*	Pn	03 13 07.5	+4.1
KZV	**Kizimen**	**3.48**	**270**	*eP*	Pn	03 13 08.8	+4.2
KZV				*eS*	Sn	03 13 49.7	+5.1
KMNR	**Kamenistaya**	**3.52**	**280**	*eP*	Pn	03 13 09.3	+4.3
TUMR	**Tumrok**	**3.56**	**273**	*eP*	Pn	03 13 10.5	+5.0
TUMR				*eS*	Sn	03 13 52.5	+6.2
SPN	**Mys Shipunski**	**4.32**	**242**	*eP*	Pn	03 13 19.0	+3.2
SPN				*eS*	Sn	03 14 08.2	+3.4
OSSR	**Ossora**	**4.37**	**337**	S	Sn	03 14 12.2	+6.1
SDLR	**Sedlovina**	**4.82**	**249**	*eP*	Pn	03 13 27.4	+4.5
SMAR	**Somma**	**4.87**	**249**	*eP*	Pn	03 13 28.3	+4.7
UGLR	**Uglovaya**	**4.88**	**248**	*eP*	Pn	03 13 29.2	+5.5
AVH	**Avacha**	**4.90**	**249**	*eP*	Pn	03 13 28.9	+4.9
AVH				*eS*	Sn	03 14 24.7	+5.3
KRX	**Arik**	**4.91**	**250**	*eP*	Pn	03 13 28.0	+3.9
KOK	**Koryaka**	**4.94**	**249**	*eP*	Pn	03 13 29.0	+4.4
GNL	**Ganaly**	**5.16**	**256**	*eP*	Pn	03 13 32.7	+5.2
GNL				*eS*	Sn	03 14 31.1	+5.3
KRMR	**Karymshinskiy**	**5.43**	**247**	*eP*	Pn	03 13 35.6	+4.4
KRMR				*eS*	Sn	03 14 37.1	+4.7
RUS	**Russkaya**	**5.45**	**242**	*eP*	Pn	03 13 36.0	+4.6
KDTR	**Khodutka, Kamc**	**6.04**	**238**	P	Pn	03 13 45.0	+5.6
KDTR				*eS*	Sn	03 14 50.4	+3.2

IDC ***06*** *03:15:41.0±0.7, 53°.42S×118°.02W, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.9/20, mbtmp3.7/7, MS4.0/7, Ms1 4.0/7, ms1mx3.6/32, Error ellipse: s-maj=43.4km s-min=23.1km az=158.0*

ISCJB ***06*** *03:15:41.1±0.5, 53°.37S±0°.09×118°.1W±0°.2, h10km, mb4.2/12, MS4.1/7, Error ellipse: s-maj=15.4km s-min=13.5km az=17.4*

NEIC ***06*** *03:15:42.2±0.3, 53°.45S×118°.04W, h10km, mb4.7/5, Error ellipse: s-maj=13.5km s-min=9.1km az=148.0*

ISC 06 03:15:42.3±0.6, 53°.4S±0°.2×118°.2W±0°.1, h10km, n44, σ0s92/34, mb3.9/12, MS4.1/7, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**43.27**	**313**	LR	LR	03 37 10.3	
	comp=Z,134nm,19.8s,baz=133,slow=30						
RAR	**Rarotonga**	**45.08**	**299**	LR	LR	03 38 23.2	
	comp=Z,92nm,20.2s,baz=118,slow=30						
MXZ	**Matakaoa Point**	**45.72**	**264**	*eP*	**P**	**03 24 01.6**	**-1.8**
	68nm,1.1s						
VNA3	**Neumayer Olymp**	**45.91**	**155**	P	**P**	**03 24 05.5**	**+1.0**
RPZ	**Rata Peaks**	**46.04**	**252**	LR	LR	03 38 55.4	
	comp=Z,81nm,21.0s,baz=108,slow=30						
VNA1	**Neumayer--Stat**	**46.64**	**154**	P	**P**	**03 24 12.5**	**+2.3**
VNA2	**Neumayer--Watz**	**46.69**	**155**	P	**P**	**03 24 11.8**	**+1.3**
	baz=230,slow=5.7						
SNAA	**Sanae**	**47.30**	**157**	*eP*	**P**	**03 24 14.2**	**-1.2**
	7.0nm,1.5s						
CPUP	**Villa Florida**	**52.02**	**84**	P	**P**	**03 24 50.5**	**-1.3**
	1.1nm,0.8s,baz=203,slow=6.2,SNR=4.1						
CPUP				LR	LR	03 43 54.8	
	comp=Z,281nm,18.2s,baz=39,slow=33						
CPUP	**Villa Florida**	**52.02**	**84**	*eP*	**P**	**03 24 50.5**	**-1.3**
	2.8nm,1.2s						
LPAZ	**La Paz**	**53.63**	**66**	P	**P**	**03 25 05.1**	**+0.6**
	1.5nm,1.1s,baz=223,slow=19,SNR=2.8						
LPAZ	**La Paz**	**53.63**	**66**	*eP*	**P**	**03 25 04.2**	**-0.3**
CASY	**Casey**	**55.12**	**202**	*eP*	**P**	**03 25 13.9**	**-0.1**
	12nm,1.0s						
SAML	**Samuel**	**62.38**	**66**	*eP*	**P**	**03 26 04.5**	**-0.6**
DZM	**Mont Dzumac**	**63.95**	**268**	*eP*	**P**	**03 26 15.7**	**0.0**
	34nm,1.4s						
BDFB	**Brasilia**	**65.75**	**84**	LR	LR	03 52 08.4	
	comp=Z,155nm,19.8s,baz=219,slow=33						
ASAR	**Alice Springs**	**81.36**	**242**	P	**P**	**03 28 00.0**	**+0.8**
	0.4nm,0.8s,baz=158,slow=5.1,SNR=5.0						
TXAR	**Lajitas Array**	**83.30**	**13**	P	**P**	**03 28 09.9**	**+0.9**
	0.4nm,0.8s,baz=186,slow=7.3,SNR=3.2						
LTX	**Lajitas**	**83.30**	**13**	*eP*	**P**	**03 28 09.9**	**+0.9**
WR1	**Warramunga Arr**	**84.16**	**244**	*eP*	**P**	**03 28 14.2**	**+0.4**
	7.8nm,1.5s						
WRA	**Warramunga Arr**	**84.16**	**244**	P	**P**	**03 28 14.2**	**+0.4**
	0.6nm,0.8s,baz=139,slow=4.5,SNR=5.5						
PMG	**Port Moresby**	**85.32**	**261**	LR	LR	03 59 49.2	
	comp=Z,320nm,19.7s,baz=46,slow=31						
GDL2	**Guadalupe Moun**	**86.03**	**12**	*eP*	**P**	**03 28 23.4**	**+0.7**
NV01	**Mina Array Sit**	**91.41**	**360**	*eP*	**P**	**03 28 49.2**	**+1.0**
NVAR	**Mina Array Bea**	**91.41**	**360**	P	**P**	**03 28 49.2**	**+1.0**
	0.1nm,0.3s,baz=156,slow=4.6,SNR=2.6						
PD31	**Pinedale Array**	**96.03**	**6**	*eP*	**P**	**03 29 08.5**	**-0.8**
PDAR	**Pinedale Array**	**96.03**	**6**	P	**P**	**03 29 08.5**	**-0.8**
	0.1nm,0.3s,baz=192,slow=7.9,SNR=3.3						
H11S2	**WAKE ISLAND Hy**	**96.11**	**293**	T	T	05 16 15.1	
	baz=143,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**96.12**	**293**	T	T	05 16 16.2	
	baz=143,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy**	**96.12**	**293**	T	T	05 16 17.4	
	baz=143,slow=76,SNR=8.3						
H11N3	**WAKE ISLAND Hy**	**96.99**	**294**	T	T	05 17 18.7	
	baz=144,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**96.99**	**294**	T	T	05 17 16.2	
	baz=144,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hy**	**97.00**	**294**	T	T	05 17 18.2	
	baz=144,slow=75,SNR=7.4						
BATI	**Baumata**	**97.92**	**241**	LR	LR	04 09 08.9	
	comp=Z,61nm,18.1s,baz=164,slow=33						
GERES	**GERESS Array B**	**149.90**	**79**	PKPbc	**PKPbc**	**03 35 31.8**	**-0.1**
	1.4nm,0.7s,baz=222,slow=1.8,SNR=5.5						
CLL	**Collm**	**150.54**	**74**	*e*PKPbc	**PKPbc**	**03 35 34.0**	**+0.8**
SONA0	**Songino Array**	**151.56**	**277**	*e*PKPbc	**PKPbc**	**03 35 36.1**	**+0.3**
SONM	**Songino Array**	**151.56**	**277**	PKPbc	**PKPbc**	**03 35 36.1**	**+0.3**
	0.8nm,0.7s,baz=92,slow=4.5,SNR=4.0						
BRTR	**Keskin Array B**	**156.48**	**114**	PKP	**PKPdf**	**03 35 36.6**	**-0.3**
	0.2nm,0.4s,baz=288,slow=2.6,SNR=4.2						
BRTR				PKPab	**PKPab**	**03 36 05.3**	**-0.3**
	0.5nm,0.8s,baz=250,slow=2.5,SNR=3.7						
BR101	**Keskin Array S**	**156.48**	**114**	*e*PKPdf	**PKPdf**	**03 35 36.6**	**-0.3**
BR101				*ep*PKPab	**PKPab**	**03 36 05.3**	**-0.3**
MK32	**Makanchi Array**	**165.35**	**252**	*e*PKPab	**PKPab**	**03 36 43.8**	**-0.2**
MKAR	**Makanchi Array**	**165.35**	**252**	PKPab	**PKPab**	**03 36 43.8**	**-0.2**
	0.4nm,0.7s,baz=134,slow=6.2,SNR=3.5						
ZAA1	**Zalesovo Array**	**166.37**	**282**	*e*PKPab	**PKPab**	**03 36 49.0**	**+0.7**
ZALV	**Zalesovo Beam**	**166.37**	**282**	PKPab	**PKPab**	**03 36 49.0**	**+0.7**
	0.4nm,0.4s,baz=108,slow=1.8,SNR=2.7						

ISK 06 03:21:21.9, 39°.12N×29°.08E, h8km, ML3.5/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMAA	**Simav-Kutahya**	**0.08**	**256**	PG	Pg	03 21 24.5	+0.4
SMAA				SG	Sg	03 21 26.6	+0.9
SHAP	**Saphane-Kutahy**	**0.15**	**131**	PG	Pg	03 21 25.6	+0.5
SHAP				SG	Sg	03 21 27.9	+0.6
GEDZ	**Gediz**	**0.27**	**106**	PG	Pg	03 21 27.9	+0.6
GEDZ				SG	Sg	03 21 32.1	+1.2
TVSB	**Tavsanli**	**0.44**	**42**	PG	Pg	03 21 31.1	+0.5
DST	**Dursunbey**	**0.60**	**324**	PG	Pg	03 21 33.5	0.0
KULA	**Kula-Manisa**	**0.69**	**209**	PG	Pg	03 21 35.2	0.0
KHL	**Karahalli**	**0.87**	**156**	PG	Pg	03 21 38.9	+0.3
ORLT	**Orhaneli**	**0.94**	**351**	PG	Pb	03 21 40.3	-0.1
GOMA	**Golmarmara-Man**	**1.00**	**246**	PG	Pb	03 21 41.3	-0.1
BALB	**Balikesir**	**1.07**	**300**	PN	Pn	03 21 43.5	+0.4
CAVI	**Cavuskoy**	**1.23**	**28**	PN	Pg	03 21 45.7	+0.2
IZI	**Iznik**	**1.25**	**14**	PN	Pg	03 21 46.5	+0.6
MDNY	**Mudanya-Bursa**	**1.26**	**353**	PN	Pg	03 21 46.0	0.0
KCTX	**Karacabey (Bur**	**1.27**	**334**	PN	Pg	03 21 46.5	+0.2
GEMT	**Gemlik**	**1.32**	**4**	PN	Pg	03 21 47.2	0.0
DENT	**Denizli**	**1.36**	**182**	PN	Pg	03 21 48.0	-0.1
GONE	**Gonen-Balikesi**	**1.42**	**311**	PN	Pg	03 21 48.9	-0.3
ESKT	**Eskisehir**	**1.43**	**73**	PN	Pb	03 21 48.9	+0.1
ARMT	**Armutlu**	**1.45**	**353**	PN	Pn	03 21 48.8	+0.3
YLV	**Yalova**	**1.46**	**9**	PN	Pb	03 21 49.2	-0.2
AYDB	**Zeytinkoy-Aydi**	**1.50**	**219**	PN	Pn	03 21 49.0	-0.2
SBT5	**Esenkoy-Cinarc**	**1.52**	**354**	PN	Pb	03 21 49.9	-0.3
EDC	**Edincik**	**1.54**	**323**	PN	Pb	03 21 50.4	-0.3
DKL	**Dikili**	**1.69**	**269**	PN	Pn	03 21 52.4	+0.7
GULT	**Gulveren**	**1.71**	**40**	PN	Pb	03 21 53.1	-0.6
ISP	**Isparta**	**1.72**	**138**	PN	Pn	03 21 52.8	+0.6
HRT	**Hereke**	**1.76**	**15**	PN	Pn	03 21 52.8	+0.1
SPNC	**Sapanca-Adapaz**	**1.83**	**31**	PN	Pn	03 21 54.3	+0.7
MRMT	**Marmara Adasi**	**1.87**	**323**	PN	Pn	03 21 54.8	+0.6
KRBG	**Karabiga-Canak**	**1.87**	**313**	PN	Pn	03 21 54.9	+0.7
FOCM	**Fo˘ça**	**1.88**	**258**	PN	Pn	03 21 54.9	+0.7
SAUV	**Serdivan-Sakar**	**1.88**	**30**	PN	Pn	03 21 55.0	+0.7
SVRH	**Sivrihisar-ESK**	**1.92**	**79**	PN	Pn	03 21 55.6	+0.6
GMLD	**Gumuldur**	**1.99**	**239**	PN	Pn	03 21 56.9	+1.1
SILT	**Sile**	**2.08**	**12**	PN	Pn	03 21 58.1	+1.1
SBT4	**Kumbag-Tekirda**	**2.08**	**326**	PN	Pn	03 21 58.1	+1.2
URLA	**Izmir**	**2.09**	**249**	PN	Pn	03 21 58.2	+1.0
MLSB	**Milas**	**2.09**	**210**	PN	Pn	03 21 58.4	+1.2
MDUB	**Mudurnu**	**2.12**	**50**	PN	Pn	03 21 58.4	+0.7
KLYT	**Kilyos**	**2.13**	**359**	PN	Pn	03 21 58.3	+0.6
RKY	**Sarkoy-Tekirda**	**2.14**	**318**	PN	Pn	03 21 59.0	+1.0
CTKS	**Kestanelik-??a**	**2.16**	**348**	PN	Pn	03 21 59.2	+1.1
LPK	**Lapseki**	**2.18**	**306**	PN	Pn	03 21 59.6	+1.1
EZN	**Ezine**	**2.25**	**289**	PN	Pn	03 22 00.4	+1.1

DJA 06 03:32:34.4±1.1, 6°.S±3°×12°.6E±°, h18km±9km, M3.9/13, mb3.9/2, MLv4.0/13, Banda Sea

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

GRRZ Galatos Road 17.33 194 P P 03 39 56.9 +1.7
HRRZ Handcock Road 17.33 193 P P 03 39 55.8 +0.6
RTZ Ruatahuna 17.41 191 P P 03 39 54.5 -1.4
PRRZ Plateau Road 17.41 193 P P 03 39 55.5 -0.5
TLZ Tolley Road 17.44 195 P P 03 39 58.0 +1.7
ALRZ Allen Road 17.48 193 P P 03 39 57.6 +1.0
SNGZ Shannon Statio 17.50 190 P P 03 39 56.2 -0.6
SNGZ S S 03 42 53.4 +1.7
PRGZ Paritu Road 17.56 189 P P 03 39 58.2 +0.9
RAHZ Arahi 17.68 191 P P 03 39 57.2 -1.2
RAHZ S S 03 42 55.1 +0.5
KNZ Kokohu 17.69 189 P P 03 39 58.3 -0.1
WATZ Wairara 17.76 194 P P 03 40 00.2 +1.1
HIZ Hauiti 17.79 197 eP P 03 40 00.1 +0.7
418nm,1.3s
HIZ Hauiti 17.79 197 P P 03 40 01.7 +2.3
WHHZ Waihua 17.81 190 P P 03 40 00.1 +0.5
WHHZ S S 03 42 57.2 +0.6
HATZ Hinemaiaia 17.85 193 P P 03 39 59.3 -0.7
RATZ Rangitukua 17.90 194 P P 03 40 00.1 -0.3
NMHZ Naumai 17.91 192 P P 03 40 01.3 +0.8
RITZ Rihia Road 17.98 194 P P 03 40 00.5 -0.7
KATZ Kakaramea 18.02 194 P P 03 40 02.1 +0.4
ARHZ Aropaoanui 18.03 191 P P 03 40 01.3 -0.2
BKZ Black Stump Fm 18.03 192 eP P 03 40 00.4 -1.3
61nm,0.7s
BKZ eS S 03 43 03.0 +2.7
BKZ Black Stump Fm 18.03 192 P P 03 39 59.8 -1.9
KRVZ Karewarewa 18.15 194 P P 03 40 03.1 +0.3
TWVZ Taurewa 18.17 195 P P 03 40 00.5 -2.4
WTVZ West Tongariro 18.18 194 P P 03 40 02.4 -0.7
NGZ Ngauruhoe 18.23 194 P P 03 40 03.7 +0.1
MCHZ McNeill Hill 18.26 192 P P 03 40 02.7 -1.0
COVZ Chateau Observ 18.27 194 P P 03 40 03.5 -0.4
KWHZ Kaweka Forest 18.30 192 P P 03 40 02.0 -2.1
TUVZ Tukino 18.31 194 P P 03 40 03.7 -0.5
FWVZ Far West T-bar 18.32 194 P P 03 40 03.7 -0.8
WHVZ Whangaehu Hut 18.34 194 P P 03 40 03.0 -1.6
VRZ Vera Road 18.39 196 P P 03 40 08.0 +3.1
PKVZ Pokaka 18.40 195 P P 03 40 05.8 +0.8
CKHZ Cape Kidnapper 18.40 190 P P 03 40 05.0 0.0
MOVZ Moawhango 18.42 194 P P 03 40 03.9 -1.3
BHHZ Black Hill Sta 18.43 193 P P 03 40 02.9 -2.4
KRHZ Kereru 18.52 192 P P 03 40 04.4 -1.6
KAHZ Kahuranaki 18.57 191 P P 03 40 05.9 -0.6
KAHZ S S 03 43 12.1 +3.0
PKEZ Pukeiti 18.67 198 P P 03 40 11.1 +3.6
KHEZ Kahui Hut 18.75 198 P P 03 40 11.8 +3.5
NBEZ Newall Road No 18.77 198 P P 03 40 12.4 +4.1
LREZ Lake Rotokare 18.80 197 P P 03 40 09.9 +1.3
PXZ Pawanui 18.80 191 P P 03 40 08.0 -0.6
PNHZ Pukenui 18.81 192 P P 03 40 08.1 -0.6
NMEZ Namu Road 18.91 198 P P 03 40 13.8 +4.3
WPHZ Waipukurau 18.91 192 P P 03 40 09.2 -0.4
TSZ Takapari Road 19.00 193 P P 03 40 10.4 0.0
ANWZ Angora Road 19.29 191 P P 03 40 13.3 +0.3
POWZ Post Office Ro 19.36 193 P P 03 40 13.8 +0.2
PRWZ Pori Road 19.48 192 P P 03 40 14.5 -0.2
BFZ Birch Farm 19.55 192 eP P 03 40 14.0 -1.4
89nm,0.6s
BFZ Birch Farm 19.55 192 P P 03 40 14.0 -1.4
MRZ Mangatainoka R 19.66 193 P P 03 40 14.3 -2.1
TIWZ Tintock 19.71 192 P P 03 40 16.8 -0.1
KNTN Kanton 19.86 21 eP P 03 40 17.6 -0.9
70nm,0.6s
OGWZ Otaki Gorge 19.90 194 P P 03 40 17.9 -0.7
HOWZ Holdsworth Sta 19.90 193 P P 03 40 17.8 -0.8
KIW Kapiti Island 20.00 194 P P 03 40 18.9 -0.6
TMWZ Te Maipa 20.02 192 P P 03 40 18.1 -1.7
MTW Mount Morrison 20.15 193 P P 03 40 19.9 -0.9
DUWZ D'Urville Isla 20.19 196 P P 03 40 21.5 +0.3
CAW Cannon Point 20.20 194 P P 03 40 21.7 +0.4
TRWZ Traveller 20.35 192 P P 03 40 22.7 0.0
PAWZ Paruwai Farm 20.38 193 P P 03 40 22.0 -1.0
MSWZ Moikau Station 20.45 193 P P 03 40 23.2 -0.4
SNZO South Karori 20.47 194 eP P 03 40 23.3 -0.5
95nm,0.6s
TCW Tory Channel 20.48 195 P P 03 40 24.6 +0.7
BHW Baring Head 20.53 194 P P 03 40 24.8 +0.5
PLWZ Palliser 20.60 193 P P 03 40 24.1 -0.9
TUWZ Tuamarina 20.77 196 P P 03 40 27.7 +1.3
BSWZ Blackbirch Sta 21.06 196 P P 03 40 31.0 +1.9
THZ Tophouse 21.36 198 eP P 03 40 32.2 +0.4
45nm,0.6s
THZ eS S 03 43 57.4 +3.7
KHZ Kahutara 21.80 196 eP P 03 40 35.7 0.0
67nm,0.7s
LTZ Lake Taylor 22.48 198 eP P 03 40 40.9 -1.0
49nm,0.7s
OXZ Oxford 23.05 198 eP P 03 40 45.6 -1.3
109nm,0.4s
MQZ McQueen's Vall 23.23 196 eP P 03 40 47.7 -0.9
28nm,0.7s
RPZ Rata Peaks 23.69 199 P P 03 40 50.8 -1.8
16nm,0.5s,baz=12,slow=2.5,SNR=18
RPZ Rata Peaks 23.69 199 eP P 03 40 51.7 -0.9
FOZ Fox Glacier 23.92 201 eP P 03 40 54.7 +0.1
37nm,0.9s
ODZ Otahua Downs 25.02 198 eP P 03 41 03.2 -1.2
14nm,0.8s
WKZ Wanaka 25.33 201 eP P 03 41 05.6 -1.6
38nm,1.0s
MLZ Mavora Lakes 26.11 201 eP P 03 41 13.2 -0.9
34nm,1.1s
DCZ Deep Cove 26.53 203 eP P 03 41 17.5 -0.2
54nm,1.0s
WHZ Wether Hill Ro 26.63 201 eP P 03 41 18.7 +0.1
155nm,1.1s
EIDS Eidsvold 27.97 256 P P 03 41 31.6 +0.9
baz=28,SNR=28
EIDS Eidsvold 27.97 256 eP P 03 41 31.2 +0.6
49nm,0.5s
ARMA Armidale 28.05 246 P P 03 41 33.3 +1.9
baz=28,SNR=60
ARMA Armidale 28.05 246 eP P 03 41 33.3 +1.9
62nm,0.7s
MGCD Mangrove Creek 29.13 240 P P 03 41 42.7 +2.0
baz=29,SNR=15
RMQ Roma 30.10 254 P P 03 41 50.8 +1.6
baz=30,SNR=26
CNB Canberra Magne 31.12 237 P P 03 41 59.6 +1.7
baz=31,SNR=57
CAN Canberra 31.40 237 eP P 03 42 01.1 +0.8
49nm,0.9s
CAN Canberra 31.40 237 eP P 03 42 01.2 +0.8
CAN pmax pmax
comp=Z,49nm,0.9s
YNG Young 31.60 239 P P 03 42 03.5 +1.5
baz=32,SNR=8.2
CTA Charters Tower 32.77 266 P P 03 42 12.8 +0.6
comp=Z,38nm,0.4s,baz=93,slow=11,SNR=73
CTA PcP sP 03 44 42.2 +0.1
comp=Z,12nm,0.6s,baz=94,slow=5.4,SNR=5.7
CTAO Charters Tower 32.77 266 eP P 03 42 12.7 +0.6
comp=Z,98nm,1.2s
CTAO Charters Tower 32.77 266 eP P 03 42 12.7 +0.6
CTAO pmax pmax
comp=Z,97nm,1.2s
CMSA Cobar Meteorol 33.26 245 P P 03 42 17.1 +1.0
baz=33,SNR=21
QLP Quilpie 34.15 254 P P 03 42 24.1 +0.4
baz=34,SNR=59
TOO Toolangi 34.77 235 P P 03 42 29.9 +1.1
baz=35,SNR=27
TOO Toolangi 34.77 235 P P 03 42 29.9 +1.1
TOO pmax pmax
comp=Z,63nm,0.8s
MTSU Mount Surprise 34.93 269 P P 03 42 30.7 +0.4
baz=35,SNR=13
PMG Port Moresby 34.98 285 P P 03 42 31.1 +0.3
comp=Z,180nm,0.7s,baz=90,slow=5.8,SNR=32
STKA Stephens Creek 36.77 245 P P 03 42 46.5 +1.1
comp=Z,44nm,0.6s,baz=88,slow=9.9,SNR=65
STKA PcP PcP 03 44 54.1 +0.5
comp=Z,2.2nm,0.4s,baz=356,slow=3.4,SNR=3.4
STKA S S 03 47 50.0 -1.9
comp=Z,2.3nm,0.6s,baz=97,slow=8.4,SNR=4.4
STKA Stephens Creek 36.77 245 P P 03 42 46.5 +1.1
baz=37,SNR=21
STKA Stephens Creek 36.77 245 eP P 03 42 46.1 +0.7
comp=Z,10nm,0.7s
STKA ePcP PcP 03 44 54.1 +0.5
STKA eS S 03 47 50.0 -1.9
COEN Coen 37.04 275 P P 03 42 48.6 +0.8
baz=37,SNR=32
COEN Coen 37.04 275 eP P 03 42 48.0 +0.2
comp=Z,98nm,0.7s
ARPS Mount Arapiles 37.38 237 P P 03 42 51.1 +0.8
baz=38,SNR=7.6
QIS Mount Isa 38.87 264 P P 03 43 02.3 -0.3
baz=39,SNR=27
HTT Hallett 39.18 243 P P 03 43 05.7 +0.6
baz=39,SNR=34
BBOO Buckleboo 41.52 244 P P 03 43 24.0 +0.3
baz=42,SNR=108
BBOO Buckleboo 41.52 244 eP P 03 43 23.5 -0.2
comp=Z,83nm,0.8s
AS01 Alice Springs 43.63 258 eP P 03 43 40.3 -0.2
AS31 Alice Springs 43.67 258 eP P 03 43 41.0 +0.1
comp=Z,38nm,0.6s
AS31 ePcP PcP 03 45 16.8 +0.3
AS31 eS S 03 49 29.0 -3.6
AS31 e 04 21 28.9
ASAR Alice Springs 43.67 258 P P 03 43 40.9 +0.1
comp=Z,155nm,0.7s,baz=98,slow=8.0,SNR=1089
ASAR PcP PcP 03 45 16.8 +0.3
comp=Z,22nm,0.6s,baz=103,slow=3.6,SNR=14
ASAR S S 03 49 29.0 -3.6
comp=Z,6.7nm,1.0s,baz=94,slow=15,SNR=17
ASAR P4KPbc 04 21 28.9
comp=Z,0.2nm,0.5s,baz=102,slow=4.8,SNR=5.5
JAY Jayapura 43.80 290 P P 03 43 42.0 +0.2
comp=Z,244nm,0.6s,baz=210,slow=3.6,SNR=115
WB2 Warramunga Arr 43.83 263 eP P 03 43 41.6 -0.4
WB2 eS S 03 49 32.4 -2.5
WRAB Tennant Creek 43.83 263 eP P 03 43 41.5 -0.5
comp=Z,65nm,0.6s
WRAB eS S 03 49 32.2 -2.7
WRAB Tennant Creek 43.83 263 d iP S 03 43 41.4 -0.7
WRAB pmax pmax
comp=Z,69nm,0.9s
WR1 Warramunga Arr 43.84 263 eP P 03 43 41.7 -0.4
comp=Z,110nm,0.6s
WR1 ePcP pP 03 45 17.5 -0.3
WR1 eScP ScP 03 48 20.6 +1.8
WR1 eS S 03 49 30.9 -4.2
WRA Warramunga Arr 43.84 263 P P 03 43 41.7 -0.4
comp=Z,61nm,0.6s,baz=95,slow=7.7,SNR=960
WRA PcP pP 03 45 17.5 -0.3
comp=Z,11nm,0.9s,baz=94,slow=4.0,SNR=8.8
WRA ScP ScP 03 48 20.6 +1.8
comp=Z,5.5nm,1.1s,baz=102,slow=3.9,SNR=5.0
WRA S S 03 49 30.9 -4.2
comp=Z,5.3nm,0.9s,baz=99,slow=12,SNR=7.0
KDU Kakadu 47.35 272 P P 03 44 08.7 -0.3
baz=47,SNR=53
FORT Forrest 48.30 247 P P 03 44 15.8 -0.1
baz=48,SNR=89
FORT Forrest 48.30 247 eP P 03 44 15.8 -0.1
comp=Z,184nm,0.6s
MTN Manton Dam 48.55 272 P P 03 44 17.3 -0.7
baz=49,SNR=30
MTN Manton Dam 48.55 272 eP P 03 44 17.3 -0.7
comp=Z,102nm,0.6s
KNRA Kununurra 49.97 267 P P 03 44 27.9 -0.5
baz=50,SNR=67
GUMO Guam 50.01 311 P P 03 44 28.7 +0.1
comp=Z,106nm,0.6s,baz=163,slow=19,SNR=6.0
FAKI Fak Fak 51.14 284 eP P 03 44 36.8 -0.2
comp=Z,50nm,1.0s
FAKI Fak Fak 51.14 284 P P 03 44 37.9 +0.9
SARN Sarigan 51.57 315 eP P 03 44 39.2 -0.9
comp=Z,119nm,1.4s
FITZ Fitzroy Crossi 52.27 263 P P 03 44 45.4 +0.3
comp=Z,37nm,0.3s,baz=81,slow=5.3,SNR=366
FITZ S S 03 51 28.7 -2.4
comp=Z,3.8nm,0.9s,baz=180,slow=4.0,SNR=6.0
FITZ Fitzroy Crossi 52.27 263 P P 03 44 45.2 +0.1
baz=52,SNR=300
FITZ Fitzroy Crossi 52.27 263 eP P 03 44 45.4 +0.3
comp=Z,124nm,1.4s
FITZ eS S 03 51 28.7 -2.4
BNDI Bandanaira 52.60 281 P P 03 44 44.5 -3.0
SIJI Sorong 52.91 286 P P 03 44 49.9 +0.1
comp=Z,286nm,0.8s,baz=73,slow=6.3,SNR=66
SWI Sorong 52.92 286 P P 03 44 48.5 -1.3
PALU Palau 54.19 297 P P 03 44 59.9 +1.1
baz=54,SNR=3.2
AAI Ambon 54.50 281 P P 03 44 57.2 -3.8
NLAI Namlea 55.68 281 P P 03 45 09.3 +0.1
SOEI Soe 55.91 273 eP P 03 45 12.5 +1.5
comp=Z,246nm,0.7s
BATI Baumata 56.33 272 P P 03 45 14.6 +0.8
comp=Z,216nm,0.6s,baz=234,slow=1.3,SNR=18
LBMI Labuha 56.40 284 P P 03 45 14.6 +0.4
SBA Scott Base 56.78 184 eP P 03 45 18.6 +2.8
comp=Z,27nm,1.0s
SBA Scott Base 56.78 184 P P 03 45 18.9 +3.1
SBA pmax pmax
comp=Z,33nm,1.2s
VNDA Vanda 56.80 185 P P 03 45 18.4 +2.4
comp=Z,5.3nm,0.5s,baz=0.5,slow=8.1,SNR=123
VNDA ScP ScP 03 49 14.4 +1.1
comp=Z,1.7nm,0.8s,baz=303,slow=3.5,SNR=4.9
VNDA Vanda 56.80 185 eP P 03 45 18.4 +2.4
comp=Z,8.0nm,0.8s
VNDA eScP ScP 03 49 14.6 +1.2
VNDA Vanda 56.80 185 eP P 03 45 18.4 +2.4
VNDA pmax pmax
comp=Z,8.0nm,0.8s
MEEK Meekatharra 56.98 252 P P 03 45 17.6 -0.6
baz=57,SNR=15
MBWA Marble Bar 57.02 258 eP P 03 45 18.1 -0.3
comp=Z,122nm,0.7s
KLBR Kellerberrin 57.04 246 P P 03 45 18.4 0.0
baz=57,SNR=43
SANI Sanana 57.18 282 P P 03 45 19.3 -0.3
NWAO Narrogin (SRO) 57.34 244 P P 03 45 20.5 +0.1
baz=57,SNR=5.4
NWAO Narrogin (SRO) 57.34 244 eP P 03 45 20.4 +0.1
comp=Z,34nm,1.0s
NWAO Narrogin (SRO) 57.34 244 eP P 03 45 20.4 0.0
NWAO pmax pmax
comp=Z,34nm,1.0s
RKGY Rocky Gully 57.39 242 P P 03 45 21.3 +0.6
baz=57,SNR=6.1
BLDU Ballidu 58.05 247 P P 03 45 25.2 -0.1
baz=58,SNR=38
MMRI Maumere 58.17 273 eP P 03 45 25.6 -0.7
comp=Z,150nm,1.1s
MUN Mundaring 58.31 245 P P 03 45 27.3 +0.3
baz=58,SNR=5.0
MORW Morawa 58.85 248 P P 03 45 30.7 0.0
baz=59,SNR=10
LUWI Luwuk 60.52 282 eP P 03 45 41.7 -0.4
comp=Z,100nm,0.9s
GIRL Giralia 61.67 255 P P 03 45 50.6 +1.2
baz=62,SNR=14
CASY Casey 62.74 205 eP P 03 45 56.5 +0.9
comp=Z,20nm,0.7s
JAGI Jajag, Banyuwa 65.75 270 eP P 03 46 14.6 -1.1
comp=Z,140nm,1.0s
QSPA South Pole Qui 68.51 180 eP P 03 46 33.5 +1.6
comp=Z,28nm,0.8s
QSPA epP pP 03 48 25.8 +5.5
KKM Kota Kinabalu 69.43 286 eP P 03 46 38.7 +0.4
comp=Z,48nm,0.5s
SMRI Semarang 69.69 270 eP P 03 46 39.9 +0.1
comp=Z,89nm,0.7s
MJAR Matsushiro Arr 70.69 324 P P 03 46 45.0 -0.2
comp=Z,59nm,0.6s,baz=164,slow=5.7,SNR=20
MJAR Matsushiro Arr 70.69 324 P P 03 46 45.0 -0.2
MAJO Matsushiro 70.69 324 eP P 03 46 45.6 +0.3
comp=Z,19nm,0.9s
MAJO Matsushiro 70.69 324 i P P 03 46 45.1 -0.1
MAJO pmax pmax
comp=Z,19nm,1.1s
MAT Matsushiro 70.69 324 P P 03 46 44.9 -0.3
MJB9 Matsu-Tunnel 70.70 324 eP P 03 46 45.6 +0.3
comp=Z,21nm,1.0s
LEM Lembang 72.40 270 P P 03 46 56.2 +0.4
comp=Z,143nm,0.7s,baz=30,slow=4.8,SNR=19
JNU Nakatsue 72.62 317 P P 03 46 55.5 -1.0
comp=Z,13nm,0.6s,baz=241,slow=1.0,SNR=5.5
JNU Nakatsue 72.62 317 eP P 03 46 55.5 -1.0
comp=Z,42nm,1.2s
ADK Adak 73.14 1 eP P 03 46 58.7 -0.4
comp=Z,89nm,0.6s
ADK Adak 73.14 1 eP P 03 46 58.7 -0.4
ADK pmax pmax
comp=Z,89nm,0.6s
TWG Pinlang 73.43 303 eP P 03 47 00.1 -1.3
comp=Z,164nm,0.6s
ATKA Atka Island 73.55 3 eP P 03 47 01.1 -0.2
comp=Z,103nm,1.0s
YULB Yu-li 73.56 304 eP P 03 47 01.2 -1.0
comp=Z,18nm,0.6s
NACB Ninganchiao 73.75 305 eP P 03 47 03.0 -0.2
comp=Z,55nm,0.8s
NACB epP pP 03 48 55.0 +1.2
TPUB Ta-pu 74.03 303 eP P 03 47 03.7 -1.1
comp=Z,110nm,0.7s
SSLB Suanglung 74.04 304 eP P 03 47 03.1 -1.8
comp=Z,46nm,0.6s
YHNB Yeheng 74.19 305 eP P 03 47 05.7 -0.1
comp=Z,47nm,0.9s
ASAJ Asahikawa 74.36 332 P P 03 47 07.4 +1.2
comp=Z,20nm,0.8s,baz=202,slow=6.3,SNR=10
ASAJ Asahikawa 74.36 332 eP P 03 47 06.8 +0.6
comp=Z,31nm,1.0s
NIKH Nikolski High 74.71 6 eP P 03 47 07.9 0.0
comp=Z,165nm,0.8s
UNV Unalaska Valle 75.82 7 eP P 03 47 13.7 -0.4
comp=Z,54nm,0.8s
YSS Yuzh-Sakhalins 76.56 334 eP P 03 47 19.4 +1.1
YSS e 03 47 23.3
YSS pmax pmax
comp=Z,30nm,1.3s
PET Petropavlovsk 76.84 346 i P P 03 47 18.1 -1.6
PET pmax pmax
comp=Z,13nm,1.0s
PEA0B Petropavlovsk- 77.13 346 eP P 03 47 21.5 +0.2
comp=Z,24nm,0.7s
PETK Petropavlovsk- 77.13 346 P P 03 47 21.6 +0.2
comp=Z,25nm,0.6s,baz=148,slow=8.0,SNR=57
PETK Petropavlovsk- 77.13 346 eP P 03 47 21.4 0.0
PETK Petropavlovsk- 77.13 346 P P 03 47 21.6 +0.2
PETK pmax pmax
comp=Z,24nm,0.6s
PEA1 Petropavlovsk- 77.14 346 eP P 03 47 21.6 +0.2
KSRS Korea Array 77.27 319 P P 03 47 23.0 +0.6
comp=Z,3.4nm,0.7s,baz=133,slow=5.4,SNR=8.4
KSRS Korea Array 77.27 319 P P 03 47 23.0 +0.6
KSRS pmax pmax
comp=Z,4.0nm,0.7s
KSAR Wonju Array Be 77.28 319 P P 03 47 23.0 +0.5
KSAR Wonju Array Be 77.28 319 P P 03 47 23.0 +0.5
KS01 Wonju Array Si 77.30 319 eP P 03 47 21.8 -0.8
SNCC San Nicolas Is 78.42 47 P P 03 47 30.1 +1.3
baz=235
SCZ2 Santa Cruz Isl 78.78 47 P P 03 47 32.0 +1.3
baz=234
MYKOM Kota Tinggi 79.02 276 eP P 03 47 33.3 +0.8
comp=Z,29nm,1.0s
PKM Mcpherson Peak 79.18 46 P P 03 47 34.2 +1.1
baz=234
CIS Catalina Islan 79.27 48 P P 03 47 34.4 +1.1
baz=235
PAGB Antelope Grade 79.39 45 eP P 03 47 35.9 +2.0
comp=Z,5.7nm,0.8s
CHGN Chignik 79.43 11 eP P 03 47 33.7 +0.2
comp=Z,53nm,0.7s
USA0B Ussuriysk Arra 79.49 326 eP P 03 47 35.4 +1.2
comp=Z,46nm,1.0s
USRK Ussuriysk Ar. 79.49 326 P P 03 47 35.5 +1.4
comp=Z,24nm,0.9s,baz=115,slow=3.5,SNR=36
HOPS Hopland Field 79.58 41 eP P 03 47 36.7 +1.9
comp=Z,38nm,1.3s
TYV Tymovskoe 79.75 336 eP P 03 47 35.6 +0.2
TYV pmax pmax
comp=Z,200nm,1.9s
TYV pmax pmax
comp=Z,36nm,1.0s
109C Camp Elliot, M 79.89 49 P P 03 47 37.3 +0.7
baz=236
KMRM Mail Ridge 79.97 40 eP P 03 47 39.4 +2.4
comp=Z,66nm,0.8s
ARVC Arvin 79.98 46 P P 03 47 37.8 +0.8
baz=235
MWC Mount Wilson 79.98 47 eP P 03 47 38.6 +1.3
comp=Z,14nm,1.0s
MWC Mount Wilson 79.98 47 eP P 03 47 38.6 +1.3
MWC pmax pmax
comp=Z,14nm,1.0s
NJ2 Nanjing 80.07 310 eP P 03 47 38.0 +0.5
NJ2 pmax pmax
comp=Z,25nm,1.0s
BAR Barrett 80.08 49 eP P 03 47 38.8 +1.2
comp=Z,12nm,1.4s
VES Vestal, Richgr 80.22 45 P P 03 47 39.1 +0.9
baz=234,SNR=6.3
MURC Murrieta 80.23 48 P P 03 47 39.6 +1.2
baz=236
BFSC Mount Baldy Ra 80.26 47 P P 03 47 39.6 +0.9
baz=236,SNR=5.7
MAW Mawson 80.36 200 P P 03 47 39.7 +1.2
comp=Z,1.6nm,0.6s,baz=160,slow=4.8,SNR=5.7
KHMM Horse Mountain 80.37 39 eP P 03 47 39.4 +0.3
comp=Z,22nm,0.8s
MONP2 Monument Peak 80.38 49 P P 03 47 40.8 +1.4
baz=237,SNR=15
EDW2 Edwards Air Fo 80.40 47 P P 03 47 40.6 +1.3
baz=235,SNR=15
IKP In-Ko-Pah, Jac 80.46 49 P P 03 47 41.3 +1.6
baz=237,SNR=9.1
O02D Mt. Diablo Mer 80.49 40 P P 03 47 41.8 +2.1
baz=231,SNR=7.0
ISA Isabella, Lake 80.52 46 eP P 03 47 41.3 +1.4
comp=Z,13nm,1.0s
ISA Isabella, Lake 80.52 46 eP P 03 47 41.3 +1.4
ISA pmax pmax
comp=Z,13nm,1.0s
ISA Isabella, Lake 80.52 46 P P 03 47 41.2 +1.4
baz=235,SNR=17
FRD Ford Ranch, An 80.58 48 P P 03 47 41.7 +1.4
baz=236,SNR=14
CMB Columbia Colle 80.66 43 eP P 03 47 42.0 +1.4
comp=Z,31nm,1.5s
CMB Columbia Colle 80.66 43 eP P 03 47 42.0 +1.4
CMB pmax pmax
comp=Z,31nm,1.5s
PFO Pinyon Flats O 80.74 48 P P 03 47 41.8 +0.6
comp=Z,1.8nm,0.6s,baz=79,slow=2.2,SNR=4.6
PFO Pinyon Flats O 80.74 48 eP P 03 47 42.8 +1.6
comp=Z,7.7nm,1.0s
PFO Pinyon Flats O 80.74 48 P P 03 47 42.5 +1.3
baz=236,SNR=6.0
XPFO Piæon Flat 80.75 48 eP P 03 47 42.8 +1.6
comp=Z,7.0nm,1.0s
BBRC Big Bear Solar 80.78 48 P P 03 47 42.7 +1.2
baz=236
AFDM Forest Hills D 80.84 42 eP P 03 47 42.5 +1.1
comp=Z,13nm,1.1s
SWSC Sam W. Stewart 80.84 49 P P 03 47 42.9 +1.3
baz=237,SNR=8.4
ORV Oroville 80.88 41 eP P 03 47 42.9 +1.3
comp=Z,14nm,1.1s
ORV Oroville 80.88 41 eP P 03 47 42.9 +1.3
ORV pmax pmax
comp=Z,14nm,1.1s
WDC Whiskeytown Da 80.89 40 eP P 03 47 43.0 +1.4
comp=Z,26nm,1.1s
WDC Whiskeytown Da 80.89 40 eP P 03 47 43.0 +1.4
WDC pmax pmax
comp=Z,26nm,1.1s
LRMC Laurel Mtn Rad 80.95 46 P P 03 47 43.3 +1.1
baz=236,SNR=7.9
N02D Trinity Center 81.03 39 P P 03 47 44.4 +1.9
baz=231,SNR=9.8
O03E Paynes Creek 81.15 40 P P 03 47 44.2 +1.1
baz=232,SNR=8.7
M02C Callahan 81.21 39 P P 03 47 45.5 +2.1
baz=231,SNR=11
CWC Cottonwood Cre 81.23 45 P P 03 47 44.9 +1.2
baz=235
L02E Cave Junction 81.26 38 P P 03 47 45.0 +1.5
baz=230
MDPB Devils Postpil 81.26 44 eP P 03 47 45.3 +1.4
comp=Z,14nm,0.9s
BELC Belle Mtn. Jos 81.28 48 P P 03 47 45.4 +1.5
baz=237,SNR=11
OMMB Old Mammoth Mi 81.30 44 eP P 03 47 45.8 +1.6
comp=Z,12nm,1.1s
MPMC Manual Prospec 81.40 46 P P 03 47 45.8 +1.2
baz=236,SNR=17
MLAC Mammoth, Mammo 81.42 44 P P 03 47 46.0 +1.3
baz=234
GSC Goldstone, Bar 81.44 47 eP P 03 47 45.2 +0.5

comp=Z,11nm,1.1s
GSC Goldstone, Bar 81.44 47 *e*P P 03 47 45.2 +0.5
GSC pmax pmax
comp=Z,11nm,1.1s
GSC Goldstone, Bar 81.44 47 P P 03 47 45.9 +1.2
baz=236,SNR=13
DAC Darwin (Calif) 81.46 46 *e*P P 03 47 47.1 +2.2
DAC Darwin (Calif) 81.46 46 P P 03 47 47.1 +2.2
BC3 Big Chuckawall 81.47 49 P P 03 47 46.4 +1.5
baz=237,SNR=8.0
TIN Tinemaha, Big 81.48 45 P P 03 47 45.7 +0.8
baz=235
HEC Hector,Ludlow 81.50 47 P P 03 47 46.0 +1.0
baz=236
YBH Yreka Blue Hor 81.50 39 P P 03 47 46.7 +1.8
comp=Z,17nm,0.8s,baz=198,slow=0.1,SNR=35
YBH Yreka Blue Hor 81.50 39 *e*P P 03 47 46.6 +1.8
comp=Z,22nm,0.8s
WAKR Walker 81.54 43 *e*P P 03 47 46.8 +1.5
comp=Z,22nm,0.9s
K02D Willamette Mer 81.56 38 P P 03 47 46.5 +1.4
baz=230
GLA Glamis 81.59 50 *e*P P 03 47 47.6 +2.2
comp=Z,21nm,0.9s
GLA Glamis 81.59 50 P P 03 47 47.3 +1.8
baz=238,SNR=7.5
J01E Myrtle Point 81.71 37 P P 03 47 47.5 +1.8
baz=230
BEKR Beckworth 81.77 41 *e*P P 03 47 47.6 +1.2
comp=Z,38nm,1.5s
PNTR Pine Nut 81.78 42 *e*P P 03 47 48.0 +1.5
comp=Z,44nm,0.8s
VCNR Virginia City 81.87 42 *e*P P 03 47 48.4 +1.4
comp=Z,13nm,0.9s
HUMO Hull Mountain 81.91 38 *e*P P 03 47 48.9 +2.0
comp=Z,40nm,1.2s
GMRC Granite Mounta 81.94 48 P P 03 47 48.5 +1.2
baz=237,SNR=9.1
YERR Yerington 81.95 43 *e*P P 03 47 48.6 +1.3
comp=Z,21nm,0.6s
IRM Iron Mountain 81.96 49 P P 03 47 48.9 +1.6
baz=237,SNR=16
KDAK Kodiak Island 81.99 14 P P 03 47 47.2 +0.4
comp=Z,13nm,0.8s,baz=242,slow=2.9,SNR=8.5
GRAC Grapevine Rang 82.01 45 P P 03 47 48.9 +1.4
baz=236,SNR=21
L04D Klamath Falls 82.04 39 P P 03 47 49.2 +1.5
baz=232,SNR=7.6
M04C Macdoel 82.05 39 P P 03 47 49.1 +1.4
baz=232,SNR=7.2
FURC Furnace Creek, 82.05 46 P P 03 47 48.8 +1.1
baz=236,SNR=7.5
TUQ Turquoise Moun 82.11 47 P P 03 47 49.1 +0.9
baz=237
SHOC Shoshone, Teco 82.13 47 P P 03 47 49.2 +1.0
baz=236,SNR=5.5
GRNR Gornyy 82.16 333 *e*P P 03 47 49.8 +1.9
GRNR pmax pmax
comp=Z,32nm,1.0s
Y12C Blythe 82.17 49 *e*P P 03 47 50.1 +1.8
comp=Z,15nm,0.8s
Y12C Blythe 82.17 49 P P 03 47 49.9 +1.6
baz=238,SNR=8.3
RYN Ryan 82.20 43 *e*P P 03 47 49.7 +1.2
comp=Z,7.8nm,0.7s
NV01 Mina Array Sit 82.22 44 *e*P P 03 47 49.8 +1.0
NV01 *e*pP **pP** 03 49 46.6 +4.1
NVAR Mina Array Bea 82.22 44 P P 03 47 50.0 +1.2
comp=Z,12nm,0.7s,baz=223,slow=8.5,SNR=103
NVAR pP **pP** 03 49 44.1 +1.6
comp=Z,1.5nm,0.9s,baz=227,slow=9.4,SNR=4.9
PAHR Pah Rah Range 82.28 42 *e*P P 03 47 50.2 +1.3
comp=Z,20nm,1.0s
NV11 Mina Array Sit 82.32 44 *e*P P 03 47 50.2 +1.1
comp=Z,2.2nm,1.2s
I03D Drain, OR 82.38 37 P P 03 47 50.6 +1.5
baz=231,SNR=5.7
214A Organ Pipe Nat 82.46 51 P P 03 47 51.6 +1.7
baz=239
LDFC Landfair 82.48 48 *e*P P 03 47 51.6 +1.6
comp=Z,48nm,1.0s
K04D Chiloquin, OR 82.62 39 P P 03 47 52.0 +1.4
baz=232
IPM Ipoh 82.64 278 *e*P P 03 47 51.9 +0.6
comp=Z,78nm,0.7s
NEE2 Needles Airpor 82.65 48 P P 03 47 52.1 +1.4
baz=238
KVN Kaiserville 82.71 43 *e*P P 03 47 52.2 +1.0
comp=Z,16nm,0.8s
KVN Kaiserville 82.71 43 P P 03 47 52.2 +1.0
KVN pmax pmax
comp=Z,16nm,0.8s
TPNV Topopah Spring 82.73 46 *e*P P 03 47 52.0 +0.7
comp=Z,16nm,0.9s
TPNV Topopah Spring 82.73 46 *e*P P 03 47 52.0 +0.7
TPNV pmax pmax
comp=Z,16nm,0.9s
TPNV Topopah Spring 82.73 46 P P 03 47 52.5 +1.2
baz=236,SNR=24
PDMCI Parker Dam,Lak 82.74 49 P P 03 47 52.7 +1.5
baz=238,SNR=6.2
CN2 Changchun 82.75 323 *e*P P 03 47 51.8 +0.8
CN2 pmax pmax
comp=Z,30nm,1.2s
J04D Umpqua Nationa 82.79 38 P P 03 47 53.2 +1.7
baz=232,SNR=13
I04A Tendick Farm, 82.97 37 P P 03 47 53.3 +1.1
baz=231,SNR=8.3
MOD Modoc Plateau 83.03 40 *e*P P 03 47 53.8 +1.1
comp=Z,13nm,0.8s
KLR Kul'dur 83.12 330 P P 03 47 53.7 +1.0
comp=Z,11nm,0.8s,baz=112,slow=3.1,SNR=34
KLR Kul'dur 83.12 330 *d i*P P 03 47 53.5 +0.8
K05A Summer Lake 83.18 39 *e*P P 03 47 55.2 +1.7
comp=Z,37nm,0.9s
SHPR Sheep Range 83.22 47 *e*P P 03 47 55.1 +1.4
comp=Z,15nm,1.3s
H04D Lebanon 83.24 37 P P 03 47 55.2 +1.7
baz=231
J05D Fort Rock, OR 83.32 38 P P 03 47 55.8 +1.7
baz=232,SNR=39
W13A Hualapai Mount 83.34 48 *e*P P 03 47 55.8 +1.3
comp=Z,9.0nm,0.8s
Y14A Wickenburg 83.35 50 *e*P P 03 47 55.7 +1.3
comp=Z,12nm,1.0s
G03D McMinnville, O 83.39 36 P P 03 47 55.7 +1.6
baz=230
H04A Detroit Lake 83.65 37 *e*P P 03 47 56.6 +1.1
comp=Z,24nm,0.6s
PINE Pine Mountain 83.80 38 *e*P P 03 47 58.1 +1.6
comp=Z,42nm,0.9s
I05D Terrebonne, OR 83.91 37 P P 03 47 58.3 +1.4
baz=232
R11A Troy Canyon, C 83.94 45 *e*P P 03 47 58.3 +1.0
comp=Z,3.7nm,1.1s
R11A Troy Canyon, C 83.94 45 P P 03 47 57.9 +0.6
baz=237
PSI Prapat 83.96 275 *e*P P 03 47 57.1 -0.9
comp=Z,45nm,0.9s
PSI Prapat 83.96 275 *e*P P 03 47 57.1 -0.9
PSI pmax pmax
comp=Z,45nm,0.9s
SKLT Songkhla 84.04 280 P P 03 47 59.7 +1.6
comp=Z,90nm,1.0s,comp=Z,1µm
BMN Battle Mountai 84.06 42 *e*P P 03 47 58.7 +0.9
comp=Z,11nm,0.8s
BMN Battle Mountai 84.06 42 *e*P P 03 47 58.7 +0.9
BMN pmax pmax
comp=Z,11nm,0.8s
F04D Rainier, OR 84.08 35 P P 03 47 59.3 +1.7
baz=231
TUC Tucson 84.12 52 *e*P P 03 48 00.2 +1.9
comp=Z,15nm,0.9s
TUC Tucson 84.12 52 P P 03 47 59.9 +1.6
baz=240
BRLK Bradley Lake 84.16 14 *e*P P 03 47 58.1 +0.4
comp=Z,58nm,0.9s
WVOR Wild Horse Val 84.34 40 *e*P P 03 48 00.3 +1.1
comp=Z,9.9nm,0.9s
G05D Wamic, OR 84.48 37 P P 03 48 00.8 +1.1
baz=232
E04D Cinebar 84.62 35 P P 03 48 01.9 +1.8
baz=231
MA2 Magadan 84.64 345 P P 03 47 59.6 -0.4
comp=Z,16nm,0.8s,baz=148,slow=12,SNR=4.4
GSI Gunungsitoli 84.66 274 *e*P P 03 48 02.7 +1.5
comp=Z,114nm,0.7s
X16A Lo Mia Camp, P 84.71 50 *e*P P 03 48 02.9 +1.6
comp=Z,13nm,1.1s
X16A *e*pP **pP** 03 50 00.3 +4.6
319A Douglas 84.78 54 *e*P P 03 48 03.8 +2.2
comp=Z,27nm,0.9s
LCMT Little Creek M 84.79 47 *e*P P 03 48 02.8 +1.3
comp=Z,8.1nm,0.9s
F05D White Salmon 84.80 36 P P 03 48 02.1 +0.9
baz=232
I07A Izee 84.80 38 *e*P P 03 48 03.1 +1.7
comp=Z,13nm,1.0s
G06A Carlson Farm, 84.86 37 *e*P P 03 48 02.6 +1.1
comp=Z,11nm,0.9s
D03D Eldon 84.96 34 P P 03 48 03.3 +1.5
baz=230
J08A Circle Bar Ran 84.98 39 *e*P P 03 48 03.3 +1.1
comp=Z,24nm,1.4s
CCUT Cedar City 84.99 46 *e*P P 03 48 04.4 +1.8
comp=Z,5.6nm,0.8s
KNB Kanab 85.08 47 *e*P P 03 48 04.5 +1.5
comp=Z,6.8nm,0.8s
KNB Kanab 85.08 47 *e*P P 03 48 04.5 +1.5
KNB pmax pmax
comp=Z,7.0nm,0.8s
U15A North Rim 85.14 48 *e*P P 03 48 05.0 +1.6
comp=Z,20nm,0.8s
TRTT Trang 85.14 280 P P 03 48 05.1 +1.6
PSUT Pine Spring 85.18 45 *e*P P 03 48 04.7 +1.2
comp=Z,3.7nm,0.8s
SZCU Shurtz Canyon 85.20 47 *e*P P 03 48 05.3 +1.7
comp=Z,6.6nm,0.9s
WUAZ Wupatki 85.31 49 *e*P P 03 48 05.7 +1.6
comp=Z,17nm,1.4s
WUAZ Wupatki 85.31 49 P P 03 48 05.3 +1.2
baz=240
D05A Enumclaw 85.32 35 *e*P P 03 48 05.2 +1.6
comp=Z,44nm,1.2s
PGC Sidney 85.49 33 *e*P P 03 48 05.9 +1.5
comp=Z,14nm,0.8s
HPIG 85.51 59 *e*P P 03 48 05.8 +0.5
comp=Z,8.2nm,0.8s
SYO Syowa Base 85.56 193 *e*P P 03 48 04.8 +0.3
SYO Syowa Base 85.56 193 *e*PcP **PcP** 03 48 07.4 +0.9
RC01 Rabbit Creek A 85.61 14 *e*P P 03 48 05.0 +0.3
comp=Z,61nm,1.3s
PKCU Pink Cliffs 85.65 47 *e*P P 03 48 07.2 +1.3
comp=Z,21nm,0.9s
F07A Phinny Hill Vi 85.65 37 *e*P P 03 48 06.8 +1.6
comp=Z,12nm,0.8s
SUA Susitna One 85.73 13 *e*P P 03 48 05.4 0.0
comp=Z,43nm,0.7s
X18A Snowflake 85.83 50 *e*P P 03 48 07.5 +0.9
comp=Z,8.4nm,0.8s
G08A Pilot Rock 85.83 38 *e*P P 03 48 07.5 +1.1
comp=Z,25nm,1.0s
A04D Lummi Island 85.91 33 P P 03 48 07.6 +1.2
baz=231
B05A Bryant 85.94 34 P P 03 48 07.8 +1.2
baz=231
GLI Glacier Island 86.03 15 *e*P P 03 48 07.0 +0.3
comp=Z,64nm,0.8s
MTPU Mount Pierson 86.04 47 *e*P P 03 48 09.3 +1.5
comp=Z,12nm,0.9s
LTY Liberty 86.07 35 *e*P P 03 48 08.0 +0.7
comp=Z,13nm,0.8s
ENH Enshi 86.11 305 *e*P P 03 48 09.1 +1.2
comp=Z,53nm,0.9s
HAWA Hanford 86.17 37 *e*P P 03 48 09.1 +1.4
comp=Z,34nm,1.1s
BJT Baijiatuan 86.20 316 *e*P P 03 48 09.0 +1.0
comp=Z,18nm,0.9s
BJT Baijiatuan 86.20 316 *e*P P 03 48 09.0 +1.0
BJT pmax pmax
comp=Z,18nm,0.9s
BJI Beijing 86.20 316 *i*P P 03 48 08.9 +0.9
BJI pmax pmax
comp=Z,17nm,0.9s
ZAIG Zacatecas 86.23 64 *e*P P 03 48 10.1 +1.1
comp=Z,8.9nm,0.9s
W18A Petrified Fore 86.27 50 P P 03 48 09.5 +0.8
baz=240
MSU Marysvale 86.29 46 *e*P P 03 48 10.4 +1.7
GHO Glory Hole Cre 86.40 14 *e*P P 03 48 08.8 +0.2
comp=Z,82nm,0.7s
121A Cookes Peak, D 86.45 53 P P 03 48 11.1 +1.5
baz=242
E08A Dider Farm, El 86.49 37 *e*P P 03 48 10.8 +1.6
comp=Z,18nm,0.9s
BMO Blue Mountains 86.53 39 *e*P P 03 48 10.4 +0.8
comp=Z,9.2nm,0.8s
BMO Blue Mountains 86.53 39 *e*P P 03 48 10.4 +0.8
BMO pmax pmax
comp=Z,9.0nm,0.8s
DIV Divide 86.57 15 *e*P P 03 48 09.8 +0.4
comp=Z,45nm,1.0s
GYA Guiyang 86.63 300 *e*P P 03 48 11.6 +1.1
GYA pP pP 03 49 57.8 -7.9
GYA sP sP 03 50 46.3 -13
GYA PP **PP** **03 51 43.2 +0.7**
GYA SKS **SKSac** **03 57 51.0 +3.6**
GYA S **ScS** **03 58 07.6 -1.8**
GYA pmax pmax
comp=Z,10.0nm,1.0s
BMRM Bremner River 86.72 16 *e*P P 03 48 10.3 +0.3
comp=Z,42nm,0.9s
DUG Dugway, Tooele 86.75 44 *e*P P 03 48 11.9 +1.1
comp=Z,2.2nm,0.8s
DUG Dugway, Tooele 86.75 44 P P 03 48 15.3 +4.5
DUG pmax pmax
comp=Z,4.0nm,0.9s
DUG Dugway, Tooele 86.75 44 P P 03 48 11.6 +0.8
baz=238
SCM Sheep Creek Mo 86.81 14 *e*P P 03 48 10.7 +0.2
comp=Z,78nm,0.7s
SCM Sheep Creek Mo 86.81 14 *e*P P 03 48 10.7 +0.2
SCM pmax pmax
comp=Z,78nm,0.7s
KLU Llutina 86.84 15 *e*P P 03 48 10.8 +0.1
comp=Z,19nm,0.8s
D08A Wollman Farm, 86.90 36 *e*P P 03 48 12.6 +1.4
comp=Z,34nm,1.0s
SNAA Sanae 86.97 179 P P 03 48 11.4 +0.1
E09A Wood Farm, Sta 87.01 37 *e*P P 03 48 12.6 +0.9
comp=Z,30nm,1.1s
EPT El Paso 87.06 54 *e*P P 03 48 14.3 +1.9
comp=Z,27nm,1.1s
VNA3 Neumayer Olymp 87.13 176 P P 03 48 12.3 +0.4
VNA3 S **S** 03 58 05.8 -1.1
PHET Kaeng Krachan 87.14 285 P P 03 48 15.3 +2.3
F10A Beach Ranch, E 87.22 38 *e*P P 03 48 13.5 +0.7
CAST Castle Rocks 87.24 12 *e*P P 03 48 11.2 -1.2
comp=Z,47nm,0.7s
SEY Seymchan 87.26 347 P P 03 48 12.8 +0.4
comp=Z,36nm,0.8s,baz=153,slow=5.7,SNR=64
TMUT Trail Mountain 87.34 46 *e*P P 03 48 15.7 +1.9
comp=Z,12nm,0.8s
BALM Baldy 87.37 17 *e*P P 03 48 13.7 +0.5
comp=Z,35nm,0.8s
BALM Baldy 87.37 17 *e*P P 03 48 13.7 +0.5
BALM pmax pmax
comp=Z,35nm,0.8s
MPU Maple Canyon 87.43 45 *e*P P 03 48 15.5 +1.4
comp=Z,4.3nm,1.0s
B08A Colville Reser 87.45 35 *e*P P 03 48 14.4 +0.6
comp=Z,25nm,0.9s
HLID Hailey 87.53 41 *e*P P 03 48 15.8 +1.3
comp=Z,12nm,0.9s
HLID Hailey 87.53 41 P P 03 48 15.9 +1.5
baz=237
VNA2 Neumayer--Watz 87.56 177 P P 03 48 14.8 +0.8
baz=188,slow=3.9
VNA2 SKS **SKSac** 03 57 50.9 -0.5
VNA2 S **S** 03 58 11.9 +1.0
HVU Hansel Valley 87.60 43 *e*P P 03 48 16.1 +1.3
comp=Z,8.1nm,1.0s
HVU Hansel Valley 87.60 43 P P 03 48 16.1 +1.3
HVU pmax pmax
comp=Z,8.0nm,1.0s
TRF Thorofare Moun 87.61 12 *e*P P 03 48 13.8 -0.5
comp=Z,88nm,0.8s
C09A Chrisman Ranch 87.70 36 *e*P P 03 48 15.6 +0.7
comp=Z,21nm,0.9s
SRU San Rafael Swe 87.71 46 *e*P P 03 48 16.7 +1.3
comp=Z,12nm,0.8s
SRU San Rafael Swe 87.71 46 P P 03 48 16.7 +1.3
SRU pmax pmax
comp=Z,12nm,0.8s
P17A Butcher Ranch, 87.74 46 *e*P P 03 48 17.1 +1.6
comp=Z,10nm,1.1s
VNA1 Neumayer--Stat 87.80 177 P P 03 48 16.2 +1.2
HARP HAARP 87.82 15 *e*P P 03 48 15.5 +0.4
comp=Z,36nm,0.8s
JLU Jordanelle 87.85 45 *e*P P 03 48 17.4 +1.3
comp=Z,5.1nm,1.0s
RND Reindeer 87.86 13 *e*P P 03 48 15.3 -0.1
comp=Z,88nm,0.8s
RND Reindeer 87.86 13 *e*P P 03 48 15.3 -0.1
RND pmax pmax
comp=Z,88nm,0.8s
MNTX Cornudas Mount 87.87 55 *e*P P 03 48 17.5 +1.4
MNTX Cornudas Mount 87.87 55 P P 03 48 17.4 +1.3
baz=243
DHY Denali Highway 87.89 14 *e*P P 03 48 15.5 -0.1
comp=Z,17nm,1.1s
BPAW Bear Paw Mtn. 88.06 12 *e*P P 03 48 15.2 -1.0
comp=Z,7.3nm,0.8s
LPM Los Pinos Moun 88.13 52 *e*P P 03 48 18.6 +1.1
TCUT Toone Canyon 88.14 44 *e*P P 03 48 19.0 +1.6
comp=Z,25nm,1.1s
P18A Preston Nutter 88.15 46 *e*P P 03 48 18.9 +1.3
comp=Z,14nm,1.4s
TX31 Lajitas Ar. Si 88.15 58 *e*P P 03 48 18.9 +1.3
TX31 *e*pP **pP** 03 50 17.4 +4.1
LTX Lajitas 88.15 58 *e*P P 03 48 19.2 +1.7
LTX *e*pP **pP** 03 50 14.1 +0.8
LTX *e*PKKPdf **PKKPbc** 04 05 58.8 -0.4
LTX Lajitas 88.15 58 *e*P P 03 48 19.3 +1.7
LTX *e*'PP **pP** 03 50 14.1 +0.8
TXAR Lajitas Array 88.15 58 P P 03 48 19.2 +1.7
comp=Z,10nm,0.9s,baz=217,slow=5.9,SNR=64
TXAR pP **pP** 03 50 14.1 +0.8
comp=Z,1.7nm,1.0s,baz=218,slow=5.7,SNR=4.0
TXAR PKKPbc **PKKPbc** 04 05 58.8 -0.4
comp=Z,1.1nm,1.0s,baz=77,slow=5.4,SNR=4.3
ZEA Zeya 88.25 331 *e*P P 03 48 17.8 +0.5
ZEA pmax pmax
comp=Z,29nm,1.0s
XAN Xi'an 88.27 308 P P 03 48 18.9 +0.9
XAN pmax pmax
comp=Z,35nm,0.9s
XAN pmax pmax
comp=Z,97nm,3.9s
HWUT Hardware Ranch 88.29 44 *e*P P 03 48 18.9 +0.8
comp=Z,6.5nm,1.0s
UTHA Uthaitani 88.32 287 P P 03 48 20.2 +1.7
comp=Z,7.3nm,0.8s,comp=Z,526nm
PV09 Paradox Valley 88.35 47 *e*P P 03 48 19.8 +1.2
PV19 Morning Glory 88.36 48 *e*P P 03 48 20.1 +1.7
comp=Z,5.4nm,0.8s
PV17 East Wray Mesa 88.36 48 *e*P P 03 48 20.0 +1.5
comp=Z,14nm,1.5s
PV14 Lion Creek, Pa 88.36 47 *e*P P 03 48 19.6 +1.0
comp=Z,12nm,1.1s
BWN Browne 88.42 12 *e*P P 03 48 17.8 0.0
comp=Z,52nm,1.0s
PV03 Paradox Valley 88.42 48 *e*P P 03 48 19.8 +1.0
PV12 Saucer Basin, 88.49 48 *e*P P 03 48 20.1 +1.1
comp=Z,20nm,1.4s
PV21 Cone Mtn., Par 88.49 47 *e*P P 03 48 20.3 +1.2
comp=Z,5.2nm,0.9s
ANMO Albuquerque 88.55 51 *e*P P 03 48 20.4 +1.0
comp=Z,14nm,1.1s
ANMO Albuquerque 88.55 51 *i*P P 03 48 19.6 +0.1
ANMO pmax pmax
comp=Z,11nm,1.1s
ANMO Albuquerque 88.55 51 P P 03 48 20.4 +1.0
baz=242
PV01 Paradox Valley 88.56 48 *e*P P 03 48 20.3 +0.8
NEW Newport 88.59 36 *e*P P 03 48 19.7 +0.6
comp=Z,5.5nm,0.9s
NEW Newport 88.59 36 *e*P P 03 48 19.7 +0.6
NEW pmax pmax
comp=Z,6.0nm,0.9s
NEW Newport 88.59 36 P P 03 48 18.8 -0.3
baz=235
PV22 Blue Mesa, Par 88.60 47 *e*P P 03 48 20.8 +1.2
comp=Z,9.9nm,1.4s
GDL2 Guadalupe Moun 88.87 55 *e*P P 03 48 22.0 +1.1
SUKH Sukhothai 88.90 289 P P 03 48 23.0 +1.9
comp=Z,18nm,0.8s
MLY Manley 88.95 11 *e*P P 03 48 19.6 -0.8
comp=Z,18nm,0.6s
WRH Wood River Hil 88.97 13 *e*P P 03 48 20.0 -0.3
comp=Z,49nm,0.8s
PLCA Paso Flores 89.00 134 PKKPbc PKKPbc 04 05 55.6 -1.6
comp=Z,1.1nm,0.8s,baz=350,slow=2.3,SNR=3.7
RIDG Independ'e Rid 89.04 14 *e*P P 03 48 21.2 +0.4
comp=Z,8nm,1.0s
UMPA Umpang Tak 89.09 288 P P 03 48 24.1 +2.0
HDA Harding Lake 89.15 13 *e*P P 03 48 21.0 -0.3
comp=Z,30nm,0.7s
HDA Harding Lake 89.15 13 P P 03 48 20.9 -0.3
baz=209,SNR=31
MCMT McKenzie Canyo 89.16 40 *e*P P 03 48 23.3 +1.2
AHID Auburn Hatcher 89.18 43 *e*P P 03 48 23.3 +1.1
comp=Z,12nm,0.8s
AHID *e*pP **pP** 03 50 15.3 -2.8
CCB Clear Creek Bu 89.18 13 *e*P P 03 48 20.8 -0.6
comp=Z,38nm,0.8s
KMI Kunming 89.27 297 P P 03 48 25.1 +2.1
KMI pmax pmax
comp=Z,26nm,0.9s
KMI pmax pmax
comp=Z,85nm,4.2s
LAMP Lampang 89.30 290 P P 03 48 24.9 +1.9
comp=Z,20nm,0.9s,comp=Z,162nm
IM3 Indian Mountai 89.30 10 *e*P P 03 48 21.9 0.0
TCOL CIGO, UAF Yank 89.37 13 P P 03 48 21.6 -0.6
baz=209,SNR=7.6
MDM Murphy Dome 89.37 12 *e*P P 03 48 21.5 -0.8
comp=Z,38nm,0.9s
COLA College 89.37 13 *e*P P 03 48 21.6 -0.6
comp=Z,43nm,0.9s
COLA College 89.37 13 *e*P P 03 48 21.6 -0.6
COLA pmax pmax
comp=Z,43nm,0.9s
PAYA Payao 89.42 291 P P 03 48 24.9 +1.3
SCRK Sand Creek 89.44 15 *e*P P 03 48 22.9 +0.1
comp=Z,15nm,0.9s
ILAR Eielson Array 89.48 13 P P 03 48 22.1 -0.7
comp=Z,14nm,0.8s,baz=223,slow=5.4,SNR=120
ILAR pP **pP** 03 50 20.8 +1.9
comp=Z,1.3nm,0.9s,baz=240,slow=5.7,SNR=3.2
ILAR PKKPbc **PKKPdf** 04 05 54.0 +1.2
comp=Z,0.2nm,0.6s,baz=349,slow=1.9,SNR=5.2
ILB Eielson Array 89.48 13 *e*P P 03 48 22.1 -0.7
ILB *e*pP **pP** 03 50 20.8 +1.9
ILB *e*PKKPdf **PKKPdf** 04 05 54.0 +1.2
S22A 4UR Ranch, Cre 89.58 49 *e*P P 03 48 25.7 +1.4
comp=Z,10nm,1.1s
S22A 4UR Ranch, Cre 89.58 49 P P 03 48 25.2 +0.9
baz=242
DLMT Dillon 89.60 40 *e*P P 03 48 25.2 +1.2
comp=Z,10.0nm,1.0s
REDW Red Top Meadow 89.64 42 *e*P P 03 48 25.4 +1.1
comp=Z,21nm,1.0s
TPAW Teton Pass 89.64 42 *e*P P 03 48 25.5 +1.1
comp=Z,11nm,0.8s
HHC Hu-ho-hao-te 89.64 315 *e*P P 03 48 25.2 +1.0
HHC pmax pmax
comp=Z,36nm,0.9s
HHC pmax pmax
comp=Z,110nm,4.5s
FXWY Fox Creek 89.67 42 *e*P P 03 48 25.5 +1.0
comp=Z,6.8nm,0.9s
POKR Poker Plat Res 89.67 13 P P 03 48 22.9 -0.8
baz=209,SNR=10
O20A White River Ci 89.74 46 P P 03 48 25.4 +0.6
baz=241
SNOW Snow King Moun 89.75 42 *e*P P 03 48 26.2 +1.3
comp=Z,20nm,0.8s
CM01 Chiang Mai Arr 89.85 290 *e*P P 03 48 27.2 +1.6
IMW Indian Meadow 89.85 42 *e*P P 03 48 26.5 +1.1
comp=Z,15nm,0.8s
CM31 Chiang Mai Arr 89.88 290 *e*P P 03 48 27.6 +1.9
CM31 *e*PP **PP** 03 52 08.0 -0.1
CMAR Chiang Mai Arr 89.88 290 P P 03 48 27.7 +2.0
comp=Z,27nm,0.9s,baz=130,slow=3.2,SNR=102
CMAR PP **PP** 03 52 08.0 -0.1
comp=Z,1.2nm,0.3s,baz=123,slow=6.4,SNR=5.1
MOOW Moose Ponds 89.90 42 *e*P P 03 48 26.4 +0.9
comp=Z,4.4nm,0.8s
LOHW Long Hollow 89.92 42 *e*P P 03 48 26.6 +0.9
comp=Z,8.3nm,0.6s
CMMT Chiang Mai 90.01 290 P P 03 48 27.6 +1.3

comp=Z,47nm,1.0s,comp=Z,572nm
CHTO Chiang Mai 90.01 290 *e*P P 03 48 27.8 +1.5
comp=Z,27nm,0.8s
CHTO Chiang Mai 90.01 290 P P 03 48 27.7 +1.4
comp=Z,207nm,1.0s,comp=Z,2µm
BILL Bilibino 90.02 354 *e*P P 03 48 25.4 +0.2
comp=Z,29nm,1.0s
BILL Bilibino 90.02 354 *d* iP P 03 48 25.3 +0.1
BILL *e*PPP PPP 03 54 09.8
BILL pmax pmax
comp=Z,17nm,0.9s
QLMT Earthquake Lak 90.03 41 *e*P P 03 48 27.8 +1.7
FLWY Flagg Ranch 90.10 42 *e*P P 03 48 27.9 +1.5
comp=Z,17nm,0.9s
RDOG Red Dog Mine 90.10 6 *e*P P 03 48 26.3 +0.7
comp=Z,17nm,0.8s
YHB Horse Butte 90.13 41 *e*P P 03 48 28.5 +1.9
comp=Z,11nm,1.2s
BW06 Boulder Array 90.16 43 *e*P P 03 48 27.2 +0.4
comp=Z,11nm,0.8s
BW06 Boulder Array 90.16 43 P P 03 48 27.1 +0.4
baz=240
PD31 Pinedale Array 90.16 43 *e*P P 03 48 27.2 +0.4
PD31 *e*pP pP 03 50 25.4 +2.4
PDAR Pinedale Array 90.16 43 P P 03 48 27.2 +0.4
comp=Z,8.7nm,0.7s,baz=214,slow=3.4,SNR=96
PDAR pP pP 03 50 25.3 +2.4
comp=Z,0.2nm,0.7s,baz=238,slow=5.2,SNR=1.4
PDAR Pinedale Array 90.16 43 *e*P P 03 48 26.9 +0.2
YFT Old Faithful 90.20 42 *e*P P 03 48 29.2 +2.3
comp=Z,10nm,1.0s
YMR Madison River 90.23 41 *e*P P 03 48 29.0 +2.0
comp=Z,15nm,1.3s
BOZ Bozeman (W) 90.30 40 *e*P P 03 48 28.6 +1.4
comp=Z,6.9nm,0.8s
BOZ Bozeman (W) 90.30 40 *e*P P 03 48 28.6 +1.4
BOZ pmax pmax
comp=Z,7.0nm,0.8s
BOZ Bozeman (W) 90.30 40 P P 03 48 28.3 +1.0
baz=239
H17A Grant Village 90.33 42 *e*P P 03 48 30.1 +2.6
comp=Z,10nm,1.0s
H17A Grant Village 90.33 42 P P 03 48 29.4 +1.9
baz=240
YHH Holmes Hill 90.36 41 *e*P P 03 48 29.1 +1.4
comp=Z,3.7nm,0.8s
SDCO Great Sand Dun 90.52 49 *e*P P 03 48 29.5 +0.8
comp=Z,5.7nm,1.0s
SDCO Great Sand Dun 90.52 49 P P 03 48 29.2 +0.6
baz=243
DAWY Dawson 90.65 16 *e*P P 03 48 28.6 +0.4
comp=Z,21nm,0.9s
HRY Holter Researc 90.75 39 *e*P P 03 48 30.4 +1.2
EGAK Eagle 90.78 15 *e*P P 03 48 29.1 +0.3
comp=Z,19nm,0.7s
CD2 Chengdu 90.83 303 *e*P P 03 48 30.0 +0.1
MSTX Muleshoe 90.84 54 *e*P P 03 48 30.9 +0.9
comp=Z,12nm,0.9s
MSTX Muleshoe 90.84 54 P P 03 48 30.5 +0.5
baz=244
T25A Trinidad 91.02 50 P P 03 48 31.7 +0.9
baz=244
COLD Coldfoot 91.03 11 *e*pP pP 03 50 23.3 -2.8
Q24A Divide 91.32 48 P P 03 48 32.9 +0.6
baz=243
ISCO Idaho Springs 91.37 47 P P 03 48 33.0 +0.4
baz=243
RLMT Red Lodge 91.50 42 P P 03 48 34.1 +1.2
baz=241
N23A Red Feather La 91.65 46 *e*P P 03 48 34.9 +1.2
comp=Z,4.2nm,0.8s
N23A Red Feather La 91.65 46 P P 03 48 34.5 +0.7
baz=243
JCT Junction City 91.68 58 *e*P P 03 48 34.6 +0.8
comp=Z,7.3nm,0.8s
JCT Junction City 91.68 58 *e*P P 03 48 34.6 +0.8
JCT pmax pmax
comp=Z,7.0nm,0.8s
JCT Junction City 91.68 58 P P 03 48 34.0 +0.1
baz=246
AMTX Amarillo 92.05 53 P P 03 48 36.0 +0.5
baz=245
K22A Casper 92.07 45 *e*P P 03 48 36.3 +0.8
comp=Z,11nm,1.1s
K22A Casper 92.07 45 P P 03 48 35.9 +0.4
baz=242
TOLK Toolik Lake Re 92.40 10 P P 03 48 36.2 -0.1
baz=207
EGMT Eagleton 92.64 39 P P 03 48 38.5 +0.7
baz=240
ABTX Abilene, Hawle 92.67 56 *e*P P 03 48 38.7 +0.4
comp=Z,7.1nm,0.7s
ABTX Abilene, Hawle 92.67 56 P P 03 48 38.5 +0.2
baz=246
YAK Yakutsk 92.86 338 P P 03 48 38.0 -0.3
comp=Z,20nm,0.4s,baz=257,slow=1.8,SNR=5.1
YAK Yakutsk 92.86 338 *e*P P 03 48 38.0 -0.3
comp=Z,38nm,0.6s
YAK Yakutsk 92.86 338 *i* P P 03 48 37.4 -1.0
YAK pmax pmax
comp=Z,30nm,0.8s
LZH Lanzhou 92.91 308 *e*P P 03 48 40.9 +1.4
LZH pP pP 03 50 28.4 -7.5
LZH sP sP 03 51 16.6 -12
LZH pmax pmax
comp=Z,43nm,1.1s
LZH pmax pmax
comp=Z,120nm,4.2s
KSCO Kaye Shedlock' 93.10 49 *e*P P 03 48 41.4 +1.1
comp=Z,17nm,1.0s
KSCO Kaye Shedlock' 93.10 49 P P 03 48 40.7 +0.4
baz=245
EPYK Eagle Plains 93.17 16 P P 03 48 39.8 0.0
baz=219
LAO LASA Array 94.11 41 *e*P P 03 48 45.5 +0.9
comp=Z,8.2nm,0.8s
LAO LASA Array 94.11 41 P P 03 48 45.7 +1.1
baz=243
RSSD Black Hills 94.35 44 P P 03 48 45.9 0.0
baz=244
INK Inuvik 95.45 15 P P 03 48 49.5 -0.6
comp=Z,5.8nm,0.9s,baz=203,slow=4.1,SNR=15
ULN Ulaanbaatar 95.75 319 *ce*P P 03 48 50.9 -1.2
ULN pmax pmax
comp=Z,2.0nm,0.8s
DGMT Dagmar 96.14 40 P P 03 48 54.3 +0.7
baz=244
SONA0 Songino Array 96.14 319 *e*P P 03 48 53.6 -0.2
SONA0 *e*PP PP 03 52 52.5 -3.5
SONM Songino Array 96.14 319 P P 03 48 53.6 -0.2
comp=Z,1.2nm,0.8s,baz=111,slow=3.9,SNR=6.3
SONM PP PP 03 52 52.5 -3.5
comp=Z,1.4nm,1.0s,baz=120,slow=8.8,SNR=4.0
GTA Gaotai 97.16 309 *e*P Pdif 03 48 58.7 +0.1
GTA pP pP 03 50 49.0 -6.3
GTA sP sP 03 51 34.6 -14
GTA pmax pmax
comp=Z,4.0nm,0.9s
ECSD EROS Data Cent 99.12 47 P **Pdif 03 49 06.7 -0.3**
baz=249
LPAZ La Paz 102.23 113 PKKPbc PKKPbc 04 05 21.7 -0.6
comp=Z,1.0nm,0.5s,baz=23,slow=1.8,SNR=7.8
ZAA1 Zalesovo Array 110.92 321 *e*PKiKP **PKiKP 03 53 54.2 -1.2**
ZALV Zalesovo Beam 110.92 321 PKiKP **PKiKP 03 53 54.2 -1.2**
comp=Z,3.5nm,0.6s,baz=163,slow=1.0,SNR=13
MK32 Makanchi Array 111.46 313 *e*Pdif **Pdif 03 50 05.1 +3.2**
MK32 *e*PKiKP **PKiKP 03 53 55.6 -1.2**
MKAR Makanchi Array 111.46 313 Pdiff **Pdif 03 50 05.1 +3.2**
comp=Z,0.6nm,0.8s,baz=101,slow=6.3,SNR=5.2
MKAR PKiKP **PKiKP 03 53 55.6 -1.2**
comp=Z,2.2nm,0.6s,baz=214,slow=0.8,SNR=17
KURK Kurchatov 114.34 317 *e*PKiKP PKPdf 03 54 00.8 -1.3
KURK Kurchatov 114.34 317 *d* iPKIKP PKPdf 03 54 00.6 -1.5
KURBB Kurchatov Arra 114.39 317 PKP PKPdf 03 54 00.8 -1.4
comp=Z,5.2nm,0.8s,baz=100,slow=1.8,SNR=22
KSH Kashi 114.97 305 *e*PKP PKPdf 03 54 04.9 +1.0
KSH PP **PP 03 55 19.5 +6.5**
KSH AMB AMB
comp=Z,98nm,4.3s
NRN Naryn 115.20 307 *e*PKPdf **PKPdf 03 54 04.8 +0.3**
NRN Naryn 115.20 307 *e*PKiKP **PKiKP 03 54 04.8 +0.3**
AAK Ala-Archa 116.45 308 PKP **PKPdf 03 54 05.9 -0.7**
comp=Z,1.1nm,0.4s,baz=196,slow=3.0,SNR=4.2
AAK Ala-Archa 116.45 308 *i* PKIKP **PKPdf 03 54 05.4 -1.3**
FRB Frobisher Bay 118.01 28 PKP **PKPdf 03 54 07.0 -1.7**
comp=Z,30nm,1.3s,baz=247,slow=7.7,SNR=3.7
FRB Frobisher Bay 118.01 28 *e*PKiKP **PKPdf 03 54 07.0 -1.7**

KK31 Karatay Array 119.41 308 *e*PKPdf **PKPdf 03 54 11.5 -0.7**
KKAR Karatay Array 119.41 308 *e*PKPdf **PKPdf 03 54 11.5 -0.7**
BVAR Borovoye Array 119.48 320 PKP **PKPdf 03 54 11.3 -0.6**
comp=Z,7.3nm,0.4s,baz=94,slow=1.9,SNR=34
BRVK Borovoye 119.54 320 *e*PKPdf **PKPdf 03 54 11.5 -0.5**
BRVK Borovoye 119.54 320 *c* iPKIKP **PKPdf 03 54 10.7 -1.3**
BRVK pmax pmax
comp=Z,13nm,1.0s
KBL Kabul 119.84 298 *e*PKPdf **PKPdf 03 54 13.4 -0.1**
KBL Kabul 119.84 298 *e*PKIKP **PKPdf 03 54 13.4 -0.1**
SPA0 Spitsbergen Ar 122.88 356 *e*PKPdf **PKPdf 03 54 17.4 -0.4**
SPITS Spitsbergen Ar 122.88 356 PKP **PKPdf 03 54 17.5 -0.4**
comp=Z,21nm,0.7s,baz=74,slow=6.2,SNR=21
SUR Sutherland 123.22 200 *e*PKPdf **PKPdf 03 54 20.3 +0.2**
DAG Danmarks Havn 123.85 5 *i* P **PKPdf 03 54 18.2 -1.5**
comp=Z,6.9nm,0.8s
DAG Danmarks Havn 123.85 5 *i* PKIKP **PKPdf 03 54 18.2 -1.5**
DAG pmax pmax
comp=Z,5.0nm,0.8s
SFJD Kangerlussuaq 124.16 22 PKP **PKPdf 03 54 19.6 -0.8**
comp=Z,7.2nm,0.7s,baz=326,slow=3.6,SNR=3.9
SUMG Summit 124.32 13 *e*PKPdf **PKPdf 03 54 21.3 +0.1**
SUMG Summit 124.32 13 *i* P **PKPdf 03 54 21.1 -0.1**
comp=Z,22nm,0.8s
SUMG Summit 124.32 13 *e*PKIKP **PKPdf 03 54 21.3 +0.1**
BOSA Boshof 125.03 206 PKP **PKPdf 03 54 23.2 -0.4**
comp=Z,3.2nm,0.8s,baz=208,slow=6.2,SNR=5.1
ARU Arti 125.71 325 *i* PKIKP **PKPdf 03 54 23.7 0.0**
ARU 03 56 20.7
ARU 04 00 47.0
ABKAR Akbulak array 126.41 316 *e*PKPdf **PKPdf 03 54 24.5 -0.8**
AKTO Aktyubinsk 127.43 318 PKP **PKPdf 03 54 27.0 -0.3**
comp=Z,9.1nm,0.8s,baz=70,slow=2.1,SNR=24
AKTO Aktyubinsk 127.43 318 PKIKP **PKPdf 03 54 27.0 -0.3**
GEYT Alibeck 128.81 302 PKP **PKPdf 03 54 30.5 +0.1**
comp=Z,5.6nm,0.7s,baz=79,slow=3.7,SNR=12
GEYT SKPbc SKPbc 03 57 02.7
comp=Z,1.3nm,0.4s,baz=64,slow=3.4,SNR=6.5
GYA0B ALIBECK ARRAY 128.81 302 *e*PKPdf **PKPdf 03 54 31.2 +0.9**
HAMF Hammerfest 129.16 351 *e*PKPdf **PKPdf 03 54 29.1 -0.8**
SOHO SOHO 129.33 284 *i* PKPdf **PKPdf 03 54 31.3 -0.4**
SNR=15
UOSS Minazif 129.75 285 *e*PKPdf **PKPdf 03 54 32.3 -0.1**
HATD Hatta, Dubai 129.79 285 *i* PKPdf **PKPdf 03 54 32.8 +0.3**
SNR=7.9
ARA0 ARCESS Array S 129.84 349 *e*PKPdf **PKPdf 03 54 30.9 -0.4**
ARA0 *e*PP PP **03 56 47.0 -3.7**
ARCES ARCESS Array B 129.84 349 PKP **PKPdf 03 54 30.9 -0.4**
comp=Z,14nm,0.6s,baz=8.7,slow=1.3,SNR=54
ARCES PP PP **03 56 47.0 -3.7**
comp=Z,7.2nm,1.1s,baz=50,slow=8.4,SNR=2.5
ASHO Ashiyiah 129.84 285 PKPdf **PKPdf 03 54 32.9 +0.2**
MSFE Esma-Masafi 129.84 286 PKPdf **PKPdf 03 54 32.2 -0.4**
SHME Shamm 129.95 286 PKPdf **PKPdf 03 54 31.8 -1.0**
ALNE Al Ain 130.03 284 PKPdf **PKPdf 03 54 32.7 -0.4**
NAZ Nazwa, Dubai 130.24 285 PKPdf **PKPdf 03 54 33.0 -0.4**
ASUD Al Ashush, Dub 130.49 284 PKPdf **PKPdf 03 54 33.9 +0.1**
KTK1 Kautokeino 130.69 350 *e*PKPdf **PKPdf 03 54 33.0 +0.1**
TRO Tromso 130.76 352 *e*PKPdf **PKPdf 03 54 32.2 -0.7**
STEI Steigen 132.82 353 *e*PKPdf **PKPdf 03 54 36.6 -0.3**
VRH Novokhopyorsk 136.88 323 *e*PKIKP **PKPdf 03 54 43.8 -1.2**
VRH pmax pmax
comp=Z,30nm,0.7s
OBN Obninsk 137.38 331 *e*PKIKP **PKPdf 03 54 43.6 -2.1**
OBN *e*PPP PPP 04 00 43.0
OBN pmax pmax
comp=Z,13nm,1.0s
LPSR Galich'ya Gora 137.67 326 *e*PKIKP **PKPdf 03 54 46.1 -0.3**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 138.28 325 *e*PKIKP **PKPdf 03 54 45.4 -2.1**
VSR pmax pmax
comp=Z,10.0nm,0.5s
KMBO Kilima Mbogo 138.29 242 PKhKP PKPpre 03 54 27.9
comp=Z,2.1nm,0.3s,baz=65,slow=14,SNR=3.4
KMBO Kilima Mbogo 138.29 242 PKPpre PKPpre 03 54 27.9
KMBO *e*PKPpre PKPpre 03 54 31.5
VORD Divnogorie 138.34 324 *e*PKIKP **PKPdf 03 54 46.4 -1.2**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VSU Vasula 138.83 340 *i* PKIKP **PKPdf 03 54 48.0 -0.3**
GNI Garni 138.84 307 PKP **PKPdf 03 54 50.0 +0.9**
comp=Z,6.5nm,0.7s,baz=337,slow=13,SNR=5.2
GNI Garni 138.84 307 *e*PKPdf **PKPdf 03 54 50.0 +0.9**
GNI *e*PKPdf **PiKiKP 03 54 50.4 -1.2**
GNI Garni 138.84 307 *i* PKIKP **PKPdf 03 54 46.3 -2.9**
KBZ Khabaz 139.16 313 PKhKP PKPpre 03 54 41.2
comp=Z,1.4nm,0.6s,baz=125,slow=10,SNR=3.6
KIV Kislovodsk 139.23 313 *e*PKIKP **PKPdf 03 54 48.9 -0.8**
KIV pmax pmax
comp=Z,8.0nm,1.0s
RAYN Ar Rayn 139.27 281 *e*PKPpre PKPpre 03 54 44.0
NEY Neytrino 139.43 312 PKIKP **PKPdf 03 54 52.0 +1.8**
AKH Akhalkalaki 139.44 309 *e*PKPpre PKPpre 03 54 44.1
AKH *e*PKPdf **PiKiKP 03 54 53.6 +0.9**
NC303 NORSAR Array S 139.75 352 *e*PKPpre PKPpre 03 54 42.4
NB201 NORSAR Array S 139.93 352 *e*PKPpre PKPpre 03 54 43.2
NB2 NORSAR Subarra 139.95 353 PKP PKPpre 03 54 42.5
comp=Z,4.1nm,0.6s,baz=14,slow=3.5
NB200 NORSAR Array S 139.95 353 *e*PKPpre PKPpre 03 54 40.3
NB200 *e*PKPdf **PKiKP 03 54 52.3 -0.6**
NOA NORSAR Array B 139.95 353 PKhKP PKPpre 03 54 40.3
comp=Z,3.4nm,0.6s,baz=15,slow=4.1,SNR=27
NOA PKP **PKiKP 03 54 52.3 -0.6**
comp=Z,0.9nm,0.5s,baz=14,slow=3.8,SNR=3.4
NAO01 NORSAR Array S 140.18 353 *e*PKPpre PKPpre 03 54 45.1
NC602 NORSAR Array S 140.20 352 *e*PKPpre PKPpre 03 54 43.9
HFS Hagfors 140.48 350 PKhKP PKPpre 03 54 44.5
comp=Z,12nm,0.4s,baz=68,slow=4.0,SNR=118
IDID Didziasalis 141.30 337 *e*P **PKPdf 03 54 47.3 -5.6**
IDID IAmb IAmb 03 54 49.8
comp=Z,5.5nm,0.7s
ISAL Salakas 141.32 338 *e*P **PKPdf 03 54 48.0 -5.0**
ISAL IAmb IAmb 03 54 50.1
comp=Z,6.4nm,0.7s
IIGN Ignalina 141.46 337 *e*P **PKPdf 03 54 48.4 -4.7**
IIGN IAmb IAmb 03 54 49.7
comp=Z,13nm,0.7s
KONO Kongsberg 141.49 353 *e*PKPpre PKPpre 03 54 48.3
KONO Kongsberg 141.49 353 *e*PKHKP PKPpre 03 54 48.3
YEDI Yedisu-Bingol 142.15 307 *i* P **PKPdf 03 54 51.4 -3.8**
BNGB Bing¶l 142.17 306 *i* P **PKPdf 03 54 52.2 -2.9**
MAZI Mazidag 142.74 304 *i* P **PKPdf 03 54 53.2 -3.0**
PTK Pertek 143.16 307 *i* P PKPbc 03 54 55.5 +0.3
SVRC Sivrice-ELAZID 143.38 306 *i* P PKPbc 03 54 56.0 +0.2
SUW Suwalki 143.59 338 *e*PKP PKPab 03 54 55.4 -0.2
SUW Suwalki 143.59 338 *e*PKPdf PKPab 03 54 55.5 -0.1
SUW Suwalki 143.59 338 *e*PKIKP PKPab 03 54 55.4 -0.2
AKASG Malin Array Be 143.62 330 PKP PKPab 03 54 55.1 -0.7
comp=Z,115nm,0.6s,baz=43,slow=4.3,SNR=358
AKASG SKPbc **SKPbc 03 57 45.6 -0.6**
comp=Z,0.4nm,0.4s,baz=49,slow=3.1,SNR=4.2
AKASG Malin Array Be 143.62 330 PKIKP PKPab 03 54 55.2 -0.6
AKASG 03 57 45.6
AKASG pmax pmax
comp=Z,66nm,0.7s
AKBB Malin Array Si 143.62 330 *e*PKPdf PKPab 03 54 55.1 -0.7
AKBB *e*SKPbc **SKPbc 03 57 45.6 -0.6**
KIEV Kiev 143.63 330 *e*PKPdf PKPab 03 54 54.8 -1.1
KIEV Kiev 143.63 330 PKPbc PKPab 03 54 54.6 -1.3
KIEV Kiev 143.63 330 *d* iPKIKP PKPab 03 54 55.0 -0.8
MBAR Mbarara 143.81 236 *i* PKIKP PKPbc 03 54 58.1 +0.2
URFA Urfa 144.00 304 *i* P PKPab 03 54 57.9 +0.1
KLNR Kaliningrad 144.05 341 *i* PKIKP PKPbc 03 54 56.5 -0.6
SIM Simferopol' 144.38 319 *de*PKIKP **PKPab 03 54 59.0 +0.1**
SIM pmax pmax
comp=Z,102nm,1.0s
SVSK Karacayir 144.60 309 *i* P **PKPab 03 55 00.1 +0.2**
MUD Monsted U'grnd 144.67 352 *i* P **PKPdf 03 54 58.8 +0.1**
comp=Z,76nm,1.0s
MUD Monsted U'grnd 144.67 352 *i* PKIKP **PKPdf 03 54 58.8 +0.1**
MUD pmax pmax
comp=Z,76nm,1.0s
DARE Darende-Malaty 144.69 307 *i* P **PKPab 03 55 00.5 +0.1**
COP Copenhagen 144.93 349 *i* P PKPbc 03 54 59.5 -0.3
comp=Z,37nm,0.5s
COP Copenhagen 144.93 349 *i* PKIKP PKPbc 03 54 59.5 -0.3
COP pmax pmax
comp=Z,37nm,0.5s
BSD Bornholm Skovb 144.97 346 *i* P **PKPdf 03 54 59.5 +0.2**
comp=Z,72nm,0.6s
BSD Bornholm Skovb 144.97 346 *i* PKIKP **PKPdf 03 54 59.5 +0.2**
BSD pmax pmax
comp=Z,72nm,0.6s

SNOP Sinop 145.03 314 *i* P **PKPbc 03 55 00.6 0.0**
GAZ Gaziantep 145.31 305 *i* P **PKPbc 03 55 01.8 +0.1**
KMRS Kahramanmaras 145.45 305 *i* P **PKPbc 03 55 01.9 -0.1**
SORM Soroca 145.76 327⇑*i*P **PKPbc 03 55 02.1 -0.4**
SORM Soroca 145.76 327⇑PKIKP **PKPbc 03 55 02.1 -0.4**
BNN Bunyan 145.80 308 *i* P **PKPbc 03 55 02.9 -0.2**
YOZ Yozgat 145.90 310 *i* P **PKPbc 03 55 02.9 -0.5**
GKP Gorka Klasztor 146.08 343 *e*PKP **PKPbc 03 55 03.3 +0.1**
GKP Gorka Klasztor 146.08 343 *e*PKP2 **PKPbc 03 55 03.3 +0.1**
EKA Eskdalemuir Ar 146.11 5 PKPbc **PKPbc 03 55 02.8 -0.5**
comp=Z,27nm,0.7s,baz=340,slow=2.7,SNR=63
ESK Eskdalemuir 146.12 5 *e*PKPdf **PKPbc 03 55 03.1 -0.2**
ESK Eskdalemuir 146.12 5 *e*PKIKP **PKPbc 03 55 03.3 -0.9**
CORM Corum 146.19 311 *i* P **PKPbc 03 55 03.3 -0.9**
KIS Kishinev 146.26 325⇑*i*P **PKPdf 03 55 02.1 +0.3**
KIS Kishinev 146.26 325⇑PKIKP **PKPdf 03 55 02.1 +0.3**
KOZT Kozan 146.27 306 *i* P **PKPbc 03 55 03.9 -0.4**
TAHT Tahtakopru-Hat 146.32 304 *i* P **PKPbc 03 55 04.5 0.0**
ILGA Ilgaz 146.46 313 *e*PKPbc **PKPbc 03 55 05.7 +0.7**
LVV L'vov 146.57 333⇑*i*PKP2 **PKPbc 03 55 04.6 -0.1**
YURE YUREGIR 146.62 305 *i* P **PKPbc 03 55 06.1 +0.8**
ASF Jabal al Asfar 146.69 296 PKPbc **PKPbc 03 55 06.2 +0.5**
comp=Z,29nm,0.7s,baz=65,slow=1.6,SNR=46
CANT Cankiri 146.72 312 *i* P **PKPbc 03 55 05.4 -0.1**
IAS Iasi 146.79 327⇑*i*P **PKPbc 03 55 05.2 -0.2**
IAS Iasi 146.79 327⇑PKP2 **PKPbc 03 55 05.2 -0.2**
KRTS Karatas 146.89 304 *i* P **PKPbc 03 55 06.1 +0.1**
LEOM Leova 146.90 325⇓*i*P **PKPbc 03 55 05.8 +0.1**
LEOM Leova 146.90 325⇓PKP2 **PKPbc 03 55 05.8 +0.1**
BR101 Keskin Array S 147.07 311 *e*PKPbc **PKPbc 03 55 06.4 -0.2**
BR131 Keskin Array S 147.07 311 *e*PKPdf **PKPdf 03 55 03.2 -0.4**
BRTR Keskin Array B 147.07 311 PKPbc **PKPbc 03 55 06.4 -0.2**
comp=Z,32nm,0.7s,baz=138,slow=4.5,SNR=147
KAMT Kaman 147.16 310 *i* P **PKPbc 03 55 06.1 -0.7**
KWP Kalwaria Pacla 147.26 334 *e*PKP **PKPbc 03 55 06.8 +0.2**
KWP Kalwaria Pacla 147.26 334 *e*PKP2 **PKPbc 03 55 06.8 +0.2**
PRAR RASCA 147.34 328⇑*i*P **PKPbc 03 55 07.1 +0.2**
TLCR 147.38 323⇓*i*P **PKPbc 03 55 07.2 +0.2**
TLCR 147.38 323⇓PKP2 **PKPbc 03 55 07.2 +0.2**
MERS Mersin 147.45 305 *i* P **PKPbc 03 55 07.0 -0.6**
AFSR Af`ar-Bala (A 147.58 311 *i* P **PKPbc 03 55 07.5 -0.4**
ANTO Ankara 147.60 311 *e*PKPbc **PKPbc 03 55 08.0 +0.1**
ANTO Ankara 147.60 311 *e*PKP2 **PKPbc 03 55 08.0 +0.1**
LOD Lodumlu 147.61 311 *i* P **PKPbc 03 55 07.9 -0.3**
BR231 Neskin MP Arra 147.62 311 *e*PKPbc **PKPbc 03 55 07.9 -0.1**
BUR08 Bucovina Ar. S 147.65 329 *e*PKPdf **PKPbc 03 55 06.9 -0.9**
BUR04 Bucovina Ar. S 147.66 329 *e*PKPdf **PKPdf 03 55 05.0 +0.8**
BURAR Bucovina Array 147.66 329⇓*i*P **PKPbc 03 55 08.0 +0.2**
BURAR Bucovina Array 147.66 329⇓PKP2 **PKPbc 03 55 08.0 +0.2**
BIZ Bicaz 147.69 327⇓*i*P **PKPbc 03 55 08.4 +0.6**
CFR Carcaliu 147.77 323⇓*i*P **PKPbc 03 55 07.6 -0.4**
CFR Carcaliu 147.77 323⇓PKIKP **PKPbc 03 55 07.6 -0.4**
MMAI Mount Meron Ar 147.77 298 PKPbc **PKPbc 03 55 09.2 +0.6**
comp=Z,82nm,0.7s,baz=69,slow=5.4,SNR=135
KULU Kulu 147.79 310 *i* P **PKPbc 03 55 08.1 -0.3**
KIZK Mersin 147.86 305 *i* P **PKPbc 03 55 07.9 -0.6**
OJC Ojcow 147.90 337 *e*PKP **PKPbc 03 55 08.2 0.0**
OJC Ojcow 147.90 337 *e*PKPbc **PKPbc 03 55 08.3 0.0**
OJC Ojcow 147.90 337 *e*PKP2 **PKPbc 03 55 08.2 0.0**
PETR Petresti 147.92 325⇓*i*P **PKPbc 03 55 09.0 +0.7**
ODBI Odobesti 147.99 325⇑*i*P **PKPbc 03 55 09.7 +1.2**
TIRR Tirgusor 148.05 322 *e*PKPbc **PKPbc 03 55 08.6 -0.1**
TIRR Tirgusor 148.05 322⇑*i*P **PKPbc 03 55 08.7 0.0**
TIRR Tirgusor 148.05 322 *e*PKP2 **PKPbc 03 55 08.6 -0.1**
VRI Vrincioaia 148.09 325⇓*i*P **PKPbc 03 55 08.6 -0.3**
VRI Vrincioaia 148.09 325⇓PKHKP **PKPbc 03 55 08.6 -0.3**
EREN Erenkoy 148.13 303 *i* P **PKPbc 03 55 08.9 -0.3**
PLOR Plostina 148.14 325⇓*i*P **PKPbc 03 55 08.6 -0.4**
PLOR Plostina 148.14 325⇓PKHKP **PKPbc 03 55 08.6 -0.4**
HARR Harsova 148.18 323⇓*i*P **PKPbc 03 55 09.5 +0.4**
HARR Harsova 148.18 323⇓PKP2 **PKPbc 03 55 09.5 +0.4**
TLB Topalu 148.18 322⇓*i*P **PKPbc 03 55 09.2 +0.2**
TLB Topalu 148.18 322⇓PKP2 **PKPbc 03 55 09.2 +0.2**
KEBE Keben-Mersin 148.20 305 *i* P **PKPbc 03 55 09.1 -0.4**
UZH Uzhgorod 148.21 333 *c* iPKP2 **PKPbc 03 55 09.6 +0.6**
IKL Isikli 148.29 305 *i* P **PKPbc 03 55 08.9 -0.7**
CVDA Cernavoda 148.34 322⇑*i*P **PKPbc 03 55 09.5 +0.1**
NIE Niedzica 148.38 336 *e*PKP **PKPbc 03 55 10.2 +0.7**
NIE Niedzica 148.38 336 *e*PKP2 **PKPbc 03 55 10.2 +0.7**
BMR Baia Mare 148.41 331⇑*i*P **PKPbc 03 55 10.2 +0.6**
BMR Baia Mare 148.41 331⇑PKP2 **PKPbc 03 55 10.2 +0.6**
AKKU Akkuyu-Mersin 148.42 305 *i* P **PKPbc 03 55 08.9 -1.0**
MDUB Mudurnu 148.43 313 *i* P **PKPbc 03 55 09.5 -0.5**
OZUR 148.43 327⇓*i*P PKPab 03 55 25.2 +10
ARCR ARCALIA 148.45 329⇑*i*P **PKPbc 03 55 10.1 +0.4**
TRPA Tarpa 148.49 332⇓*i*P **PKPbc 03 55 09.7 0.0**
KSP Ksiaz 148.50 342 *e*PKP **PKPbc 03 55 10.1 +0.4**
KSP Ksiaz 148.50 342 *e*PKP2 **PKPbc 03 55 10.1 +0.4**
AMRR Amara 148.56 323⇑*i*P **PKPbc 03 55 09.4 -0.6**
AMRR Amara 148.56 323⇑PKHKP **PKPbc 03 55 09.4 -0.6**
PGOR Pogoanele 148.57 324⇑*i*P **PKPbc 03 55 10.9 +0.9**
LADK Ladik-KONYA 148.58 309 *i* P **PKPbc 03 55 09.4 -1.0**
BERE Bereket-Mersin 148.61 305 *i* P **PKPbc 03 55 10.1 -0.5**
KIZT Kizilcal 148.66 310 *i* P **PKPbc 03 55 10.1 -0.5**
ISTR Istrita 148.68 325⇑*i*P **PKPbc 03 55 10.8 +0.4**
ISTR Istrita 148.68 325⇑PKP2 **PKPbc 03 55 10.8 +0.4**
KONT Konya--Tatoy 148.68 308 *i* P **PKPbc 03 55 09.7 -0.9**
LFK Lefkose 148.70 303 *i* P **PKPbc 03 55 10.2 -0.6**
EIL Elat 148.71 292 PKPbc **PKPbc 03 55 11.2 +0.3**
comp=Z,37nm,0.7s,baz=346,slow=3.8,SNR=36
EIL PKPab **PKPab 03 55 17.4 +0.7**
comp=Z,31nm,0.9s,baz=47,slow=11,SNR=9.3
DOPR Dopca 148.72 327⇑*i*P **PKPbc 03 55 11.0 +0.6**
MLR Muntele Rosu 148.75 326 PKPbc **PKPbc 03 55 10.5 -0.1**
comp=Z,61nm,1.0s,baz=324,slow=5.0,SNR=35
MLR Muntele Rosu 148.75 326 *e*PKPbc **PKPbc 03 55 10.3 -0.3**
MLR Muntele Rosu 148.75 326⇓*i*P **PKPbc 03 55 10.3 -0.3**
TEKE Tekeli-Mersin 148.76 305 *i* P **PKPbc 03 55 09.9 -0.9**
OKC Ostrava-Krasne 148.80 339⇑*e*PKP **PKPbc 03 55 10.8 +0.4**
OKC *e*PKPAB **PKPab 03 55 16.8 +0.5**
LANS Liptovska Anna 148.91 337 *e*PKP2 **PKPbc 03 55 11.9 +1.1**
LANS Liptovska Anna 148.91 337 *e*PKP **PKPbc 03 55 11.9 +1.1**
LANS *e* 03 55 18.1
DPC Dobruska-Polom 148.93 341⇑*e*PKP **PKPbc 03 55 11.5 +0.7**
DPC *e*PKPAB **PKPab 03 55 17.9 +1.0**
DPC Dobruska-Polom 148.93 341 *e*PKP2 **PKPbc 03 55 11.5 +0.7**
CLL Collm 148.94 346 *e*PKPdf **PKPdf 03 55 06.0 0.0**
CLL ⇓*i*PKPbc **PKPbc 03 55 10.9 +0.2**
comp=Z,85nm,1.0s
CLL ⇑*e*PKPab **PKPab 03 55 17.0 +0.2**
comp=Z,43nm,0.7s
CLL Collm 148.94 346⇓*e*PKIKP **PKPdf 03 55 06.0 0.0**
CLL *e* 03 55 17.0
CLL pmax pmax
comp=Z,85nm,1.0s
CSS Mathiatis 148.95 302 *e*PKPbc **PKPbc 03 55 11.2 -0.1**
MAMC Mammari 148.98 303 P **PKPbc 03 55 11.1 -0.3**
SECR 148.99 325⇓*i*P **PKPbc 03 55 11.1 0.0**
KRLC Kraliky 149.03 341⇑*e*PKP **PKPbc 03 55 11.8 +0.7**
KRLC Kraliky 149.03 341 *e*PKP2 **PKPbc 03 55 11.8 +0.7**
MORC Moravsky Berou 149.05 339 *e*PKPbc **PKPbc 03 55 10.5 -0.6**
MORC Moravsky Berou 149.05 339⇓*i*P **PKPbc 03 55 11.4 +0.3**
MORC Moravsky Berou 149.05 339 *e*PKP **PKPbc 03 55 11.3 +0.2**
MORC *e* 03 55 18.0
CJR Cluj-Napoca 149.07 330⇓*i*P **PKPbc 03 55 11.6 +0.3**
CJR Cluj-Napoca 149.07 330⇓PKHKP **PKPbc 03 55 11.6 +0.3**
PLAR PLOIESTI 149.09 325⇓*i*P **PKPbc 03 55 11.6 +0.3**
MDB Medias 149.10 328⇓*i*P **PKPbc 03 55 12.1 +0.8**
MDB Medias 149.10 328⇓PKP2 **PKPbc 03 55 12.1 +0.8**
BRG Berggiesshubel 149.11 344 *i* PKP **PKPbc 03 55 11.5 +0.3**
comp=Z,49nm,1.0s
BRG *ep*PKP **pPKPdf 03 57 00.7 -10**
comp=Z,9.6nm,1.4s
**

VYHS			*e*		03 55 21.0	
PRA	**Prague**	**149.72 343**‖	*e*PKP	**PKPbc**	**03 55 13.2**	**+0.6**
PPCY	**Paphos**	**149.75 303**	P	**PKPbc**	**03 55 12.2**	**-1.0**
PSZ	**Piszkesteto**	**149.76 335**	*e*PKPbc	**PKPbc**	**03 55 12.9**	**-0.1**
PSZ	**Piszkesteto**	**149.76 335**‖	*i*P	**PKPbc**	**03 55 12.8**	**-0.1**
GOPC	**GO Pecny, Ondr**	**149.76 343**‖	*e*PKP	**PKPbc**	**03 55 13.3**	**+0.5**
GOPC			*e*PKPAB	**PKPab**	**03 55 21.4**	**+1.0**
VRAC	**Vranov**	**149.76 340**	PKPbc	**PKPbc**	**03 55 13.1**	**+0.3**
	comp=Z,19nm,0.8s,baz=11,slow=0.9,SNR=25					
VRAC			PKPab	**PKPab**	**03 55 19.6**	**-0.8**
	comp=Z,27nm,0.7s,baz=41,slow=3.3,SNR=21					
VRAC	**Vranov**	**149.76 340**‖	*i*P	**PKPbc**	**03 55 13.0**	**+0.2**
VRAC	**Vranov**	**149.76 340**	*e*PKP	**PKPbc**	**03 55 12.8**	**0.0**
VRAC			*e*		03 55 21.1	
KOLL	**Kolacno**	**149.78 337**	*e*PKP	**PKPbc**	**03 55 13.4**	**+0.6**
JAVC	**Velka Javorina**	**149.80 338**	*e*PKP	**PKPbc**	**03 55 14.3**	**+1.3**
JAVC			*e*		03 55 22.2	
SUTC	**Sutluce-Ispart**	**149.86 308**	*i*P	**PKPbc**	**03 55 11.7**	**-1.9**
LOT	**Lotru**	**149.90 328**⇑	*i*P	**PKPbc**	**03 55 13.1**	**-0.3**
HUMR	**Humele**	**149.90 325**⇑	*i*P	**PKPbc**	**03 55 12.6**	**-0.7**
DEV	**Deva**	**150.01 329**⇑	*i*P	**PKPbc**	**03 55 13.8**	**+0.3**
DEV	**Deva**	**150.01 329**	⇑PKHKP	**PKPbc**	**03 55 13.8**	**+0.3**
KRUC	**Moravsky**	**150.04 340**	*e*PKP	**PKPbc**	**03 55 13.4**	**0.0**
KRUC			*e*		03 55 22.1	
ISP	**Isparta**	**150.07 309**	*e*PKPbc	**PKPbc**	**03 55 13.3**	**-0.7**
ISP	**Isparta**	**150.07 309**‖	*i*P	**PKPbc**	**03 55 13.0**	**-1.0**
NKC	**Novy Kostel**	**150.07 346**‖	*e*PKP	**PKPbc**	**03 55 14.0**	**+0.5**
NKC			*e*PKPAB	**PKPab**	**03 55 21.7**	**+0.1**
TREC	**Trest**	**150.12 341**⇑	*e*PKP	**PKPbc**	**03 55 14.0**	**+0.3**
TREC			*e*PKPAB	**PKPab**	**03 55 22.3**	**+0.4**
SMOL	**Smolenice**	**150.18 338**	*e*PKP	**PKPbc**	**03 55 14.8**	**+1.0**
SMOL			*e*		03 55 23.5	
SZH	**Strazhica**	**150.19 322**	*i*P	**PKPbc**	**03 55 13.9**	**-0.1**
ZIMR		**150.27 323**⇑	*i*P	**PKPbc**	**03 55 13.6**	**-0.5**
ZIMR		**150.27 323**	⇑PKIKP	**PKPbc**	**03 55 13.6**	**-0.5**
SIRR	**Siria**	**150.30 331**‖	*i*P	**PKPbc**	**03 55 14.4**	**+0.2**
GZR	**Gura Zlata**	**150.43 329**⇑	*i*P	**PKPbc**	**03 55 14.2**	**-0.3**
GZR	**Gura Zlata**	**150.43 329**	⇑PKIKP	**PKPbc**	**03 55 14.2**	**-0.3**
BEBN	**Eben Emael**	**150.62 354**	⇑PKPbc	**PKPbc**	**03 55 14.9**	**+0.3**
BEBN			⇑PKPab	**PKPab**	**03 55 23.7**	**-0.1**
HGN	**Heimansgroeve**	**150.63 354**	*e*PKPbc	**PKPbc**	**03 55 14.6**	**-0.1**
HGN			*e*PKPab	**PKPab**	**03 55 23.1**	**-0.8**
CRAR	**CRAIOVA**	**150.66 326**⇑	*i*P	**PKPbc**	**03 55 15.9**	**+0.9**
CRAR	**CRAIOVA**	**150.66 326**	⇑PKIKP	**PKPbc**	**03 55 15.9**	**+0.9**
UCC	**Uccle**	**150.72 356**	*e*PKPbc	**PKPbc**	**03 55 15.3**	**+0.4**
UCC	**Uccle**	**150.72 356**‖	PKPbc	**PKPbc**	**03 55 14.7**	**-0.2**
SRE	**Strehaia**	**150.74 327**⇑	*i*P	**PKPbc**	**03 55 15.9**	**+0.7**
SRE	**Strehaia**	**150.74 327**	⇑PKIKP	**PKPbc**	**03 55 15.9**	**+0.7**
MEM	**Membach**	**150.77 354**	⇑PKPbc	**PKPbc**	**03 55 14.8**	**-0.3**
MEM			⇑PKPab	**PKPab**	**03 55 24.2**	**-0.3**
KHC	**Kasperske Hory**	**150.81 343**	*e*PKPdf	**PKPdf**	**03 55 09.2**	**+0.1**
KHC	**Kasperske Hory**	**150.81 343**	*e*PKPDF	**PKPdf**	**03 55 08.5**	**-0.6**
KHC			⇑*e*PKP	**PKiKP**	**03 55 15.7**	**0.0**
KHC			*e*PKPAB	**PKPab**	**03 55 25.5**	**+0.7**
KHC	**Kasperske Hory**	**150.81 343**	*e*PKIKP	**PKPdf**	**03 55 09.2**	**+0.1**
BZS	**Buzias**	**150.81 330**‖	*i*P	**PKPbc**	**03 55 15.1**	**-0.2**
BZS	**Buzias**	**150.81 330**‖	PKIKP	**PKPbc**	**03 55 15.1**	**-0.2**
GRFO	**Grafenberg**	**150.85 347**	*e*PKPbc	**PKPbc**	**03 55 15.6**	**+0.3**
HERR	**Herculane**	**150.97 328**‖	*i*P	**PKPbc**	**03 55 15.5**	**-0.2**
SNF	**Seneffe**	**151.01 356**	⇑PKPbc	**PKPbc**	**03 55 15.9**	**+0.3**
SNF			‖PKPab	**PKPab**	**03 55 25.7**	**+0.2**
BCLA	**Clavier**	**151.03 355**	⇑PKPbc	**PKPbc**	**03 55 15.1**	**-0.5**
BCLA			⇑PKPab	**PKPab**	**03 55 25.3**	**-0.3**
GEC2	**GERESS Array S**	**151.03 343**	*e*PKPdf	**PKPdf**	**03 55 11.1**	**+1.6**
GEC2	**GERESS Array S**	**151.03 343**	*e*PKIKP	**PKPdf**	**03 55 11.1**	**+1.6**
GERES	**GERESS Array B**	**151.03 343**	PKP	**PKPdf**	**03 55 09.7**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=7.1,slow=4.0,SNR=5.0					
GERES			PKPbc	**PKPbc**	**03 55 15.8**	**0.0**
	comp=Z,22nm,0.8s,baz=42,slow=2.2,SNR=50					
GEA0	**GERESS Array S**	**151.04 343**	*e*PKPdf	**PKPdf**	**03 55 09.3**	**-0.2**
CONA	**Conrad Observa**	**151.21 339**	*i* PKPbc	**PKPbc**	**03 55 16.5**	**+0.2**
	comp=Z,53nm,0.8s,SNR=17					
CONA			*i* PKPab	**PKPab**	**03 55 27.2**	**+0.6**
	comp=Z,37nm,0.8s					
BANR	**Banloc**	**151.21 330**‖	*i*P	**PKPbc**	**03 55 15.6**	**-0.6**
MDVR	**Moldovita**	**151.39 329**⇑	*i*P	**PKPbc**	**03 55 16.5**	**-0.2**
MORH	**M¨‡r¨igy, Hung**	**151.64 334**	*e*P	**PKPbc**	**03 55 16.6**	**-0.6**
WLF	**Walferdange**	**151.69 353**	*e*PKPbc	**PKPbc**	**03 55 17.7**	**+0.5**
WLF	**Walferdange**	**151.69 353**	*e*PKIKP	**PKPbc**	**03 55 17.7**	**+0.5**
WLF	**Walferdange**	**151.69 353**	⇑PKPbc	**PKPbc**	**03 55 17.6**	**+0.5**
WLF			‖PKPab	**PKPab**	**03 55 28.7**	**+0.3**
MOA	**Molln**	**151.78 341**	*e*PKPdf	**PKPdf**	**03 55 11.3**	**+0.8**
	comp=Z,8.4nm,1.3s					
MOA			*i* PKPbc	**PKPbc**	**03 55 17.2**	**-0.2**
	comp=Z,12nm,0.8s					
MOA			*i* PKPab	**PKPab**	**03 55 29.9**	**+1.1**
	comp=Z,17nm,1.1s					
RZN	**Rozhen**	**151.88 321**	*i* P	**PKPbc**	**03 55 17.7**	**-0.4**
ARSA	**Arzberg**	**151.91 339**	*i* PKPbc	**PKPbc**	**03 55 17.4**	**-0.4**
	comp=Z,8.7nm,1.0s					
FRGS	**Fruska Gora**	**151.98 331**	*e*P	**PKPbc**	**03 55 17.8**	**-0.2**
STU	**Stuttgart**	**152.13 349**	*e*PKPbc	**PKPbc**	**03 55 18.7**	**+0.5**
STU	**Stuttgart**	**152.13 349**	*e*PKIKP	**PKPbc**	**03 55 18.7**	**+0.5**
VTS	**Vitosha**	**152.16 324**	*e*PKPbc	**PKPbc**	**03 55 18.0**	**-0.7**
VTS	**Vitosha**	**152.16 324**‖	*i*P	**PKPbc**	**03 55 18.3**	**-0.4**
VTS	**Vitosha**	**152.16 324**	P	**PKPbc**	**03 55 17.9**	**-0.7**
VTS	**Vitosha**	**152.16 324**	*e*PKIKP	**PKPbc**	**03 55 18.0**	**-0.7**
MMB	**Musomiste**	**152.52 322**	*i* P	**PKPbc**	**03 55 19.0**	**-0.3**
SOKA	**Soboth**	**152.58 339**	*i* PKPbc	**PKPbc**	**03 55 18.6**	**-0.8**
	comp=Z,23nm,1.0s					
SOKA			*i* PKPab	**PKPab**	**03 55 31.9**	**-0.5**
	comp=Z,20nm,1.1s					
PERS	**Pernice**	**152.59 339**	*i* PKPbc	**PKPbc**	**03 55 18.5**	**-0.9**
PERS			*i* PKPab	**PKPab**	**03 55 32.7**	**+0.3**
PERS	**Pernice**	**152.59 339**	*i* PKPbc	**PKPbc**	**03 55 18.5**	**-0.9**
PERS			*i* PKPab	**PKPab**	**03 55 32.7**	**+0.3**
BFO	**Black Forest**	**152.70 350**	*e*PKPbc	**PKPbc**	**03 55 18.9**	**-0.6**
BFO	**Black Forest**	**152.70 350**	*e*PKIKP	**PKPbc**	**03 55 18.9**	**-0.6**
KKB	**Krupnik**	**152.71 323**	P	**PKPbc**	**03 55 19.3**	**-0.4**
DIVS	**Divibare**	**152.72 330**	*e*PKPbc	**PKPbc**	**03 55 19.7**	**-0.1**
DIVS	**Divibare**	**152.72 330**	*e*P	**PKPbc**	**03 55 19.5**	**-0.2**
KBA	**Koelnbreinsper**	**152.74 342**	*i* PKPbc	**PKPbc**	**03 55 19.1**	**-0.7**
	comp=Z,23nm,1.0s					
WATA	**Walderalm**	**152.98 345**	*i* PKPbc	**PKPbc**	**03 55 19.9**	**-0.4**
	comp=Z,7.4nm,0.5s					
WATA			*i* PKPab	**PKPab**	**03 55 34.2**	**+0.1**
	comp=Z,17nm,0.8s					
ECH	**Echery**	**152.99 351**	*e*PKPab	**PKPab**	**03 55 33.7**	**-0.3**
RETA	**Reutte**	**153.03 346**	*i* PKPbc	**PKPbc**	**03 55 19.9**	**-0.4**
	comp=Z,14nm,1.3s					
RETA			*e*PKPab	**PKPab**	**03 55 34.3**	**0.0**
	comp=Z,16nm,0.5s,SNR=9.6					
WTTA	**Wattenberg**	**153.03 344**	*i* PKPbc	**PKPbc**	**03 55 20.1**	**-0.4**
	comp=Z,7.4nm,0.4s					
WTTA			*i* PKPab	**PKPab**	**03 55 34.7**	**+0.2**
	comp=Z,22nm,0.7s					
MYKA	**Terra Mystica**	**153.06 341**	*i* PKPbc	**PKPbc**	**03 55 19.4**	**-1.0**
	comp=Z,7.4nm,0.5s					
MYKA			*i* PKPab	**PKPab**	**03 55 34.1**	**-0.3**
	comp=Z,13nm,0.6s					
MOTA	**Moosalm**	**153.09 345**	*i* PKPdf	**PKPdf**	**03 55 12.4**	**-0.2**
	comp=Z,3.2nm,0.7s					
MOTA			*i* PKPbc	**PKPbc**	**03 55 19.9**	**-0.6**
	comp=Z,22nm,1.1s,SNR=6.2					
MOTA			*i* PKPab	**PKPab**	**03 55 34.8**	**+0.1**
	comp=Z,15nm,0.6s,SNR=6.2					
BBLS	**Lazići**	**153.17 330**	*e*P	**PKPbc**	**03 55 20.3**	**-0.4**
CRES	**Cresnjev**	**153.17 338**	*e*P	**PKPbc**	**03 55 20.0**	**-0.6**
SQTA	**Sankt Quirin**	**153.18 345**	*i* PKPdf	**PKPdf**	**03 55 12.3**	**-0.4**
	comp=Z,7.0nm,0.9s					
SQTA			*i* PKPbc	**PKPbc**	**03 55 20.4**	**-0.3**
	comp=Z,17nm,0.8s,SNR=5.5					
SQTA			*e*PKPab	**PKPab**	**03 55 35.0**	**0.0**
	comp=Z,16nm,0.8s					
HAPS	**Han Pijesak,Bl**	**153.20 331**	*e*P	**PKPbc**	**03 55 20.0**	**-0.8**
ABTA	**Abfaltersbach**	**153.28 343**	*i* PKPdf	**PKPdf**	**03 55 12.0**	**-0.8**
	comp=Z,11nm,1.0s					
ABTA			*i* PKPbc	**PKPbc**	**03 55 20.0**	**-0.8**
	comp=Z,40nm,1.2s					
ABTA			*i* PKPab	**PKPab**	**03 55 35.0**	**-0.4**
	comp=Z,14nm,0.6s					
LJU	**Ljubljana**	**153.30 339**	*e*P	**PKPbc**	**03 55 20.5**	**-0.3**
VISS	**Visnje**	**153.41 339**	*e*PKPdf	**PKPdf**	**03 55 11.8**	**-1.1**
VISS			*i* PKPbc	**PKPbc**	**03 55 21.0**	**-0.1**
VISS			*i* PKPab	**PKPab**	**03 55 35.6**	**-0.2**
VISS	**Visnje**	**153.41 339**	*e*PKPdf	**PKPdf**	**03 55 11.8**	**-1.1**
VISS			*i* PKPbc	**PKPbc**	**03 55 21.0**	**-0.1**
VISS			*i* PKPab	**PKPab**	**03 55 35.6**	**-0.2**
DAVA	**Damuels**	**153.41 347**	*i* PKPbc	**PKPbc**	**03 55 20.9**	**-0.3**
	comp=Z,20nm,1.1s					
DAVA			*i* PKPab	**PKPab**	**03 55 36.1**	**+0.1**
	comp=Z,27nm,0.8s					
BLY	**Banja Luka**	**153.43 334**⇑	*i*P	**PKPbc**	**03 55 21.4**	**+0.3**
BLY	**Banja Luka**	**153.43 334**	*e*P	**PKPbc**	**03 55 21.2**	**+0.1**
FETA	**Feichten**	**153.48 346**	*i* PKPdf	**PKPdf**	**03 55 13.1**	**-0.1**
	comp=Z,12nm,1.0s,SNR=7.1					
FETA			*e*PKPbc	**PKPbc**	**03 55 21.1**	**-0.3**
	comp=Z,19nm,1.0s					
FETA			*i* PKPab	**PKPab**	**03 55 36.5**	**+0.1**
	comp=Z,14nm,1.1s					
BOJS	**Bojanci**	**153.52 338**	*i* PKPdf	**PKPdf**	**03 55 13.2**	**+0.1**
BOJS			*i* PKPbc	**PKiKP**	**03 55 21.5**	**+0.1**
BOJS			*i* PKPab	**PKPab**	**03 55 36.4**	**0.0**
BOJS			*e*pPKPbc	**pPKPab**	**03 57 37.3**	**+3.1**
BOJS	**Bojanci**	**153.52 338**	*i* PKPdf	**PKPdf**	**03 55 13.2**	**+0.1**
BOJS			*i* PKPbc	**PKiKP**	**03 55 21.5**	**+0.1**
BOJS			*i* PKPab	**PKPab**	**03 55 36.4**	**0.0**
BOJS			*e*pPKPbc	**pPKPab**	**03 57 37.3**	**+3.1**
JAVS	**Javornik**	**153.58 340**	*i* PKPbc	**PKPbc**	**03 55 21.3**	**-0.3**
JAVS			*i* PKPab	**PKPab**	**03 55 35.9**	**-0.8**
JAVS	**Javornik**	**153.58 340**	*i* PKPbc	**PKPbc**	**03 55 21.3**	**-0.3**
JAVS			*i* PKPab	**PKPab**	**03 55 35.9**	**-0.8**
CEY	**Cerknica**	**153.60 339**	*e*P	**PKPbc**	**03 55 20.5**	**-1.0**
DAVOX	**Davos/Dischmat**	**153.90 347**	PKP	**PKPdf**	**03 55 12.1**	**-1.8**
	comp=Z,5.3nm,0.8s,baz=48,slow=7.3,SNR=6.2					
DAVOX			PKPbc	**PKPbc**	**03 55 22.3**	**0.0**
	comp=Z,11nm,0.5s,baz=326,slow=3.6,SNR=18					
DAVOX			PKPab	**PKPab**	**03 55 38.5**	**+0.4**
	comp=Z,24nm,0.7s,baz=358,slow=4.7,SNR=15					
APE	**Apeiranthos**	**153.95 312**⇑	*i*P	**PKPdf**	**03 55 15.7**	**+1.6**
APE	**Apeiranthos**	**153.95 312**	⇑PKIKP	**PKPdf**	**03 55 15.7**	**+1.6**
FUORN	**Ofenpass-Fuorn**	**153.96 346**	*e*PKPdf	**PKPdf**	**03 55 14.4**	**+0.3**
TUE	**Stuetta**	**154.30 347**	*e*PKPbc	**PKPbc**	**03 55 23.1**	**-0.1**
TUE			*e*PKPab	**PKPab**	**03 55 40.1**	**+0.2**
BRY	**Bratogost**	**154.31 330**	*e*P	**PKPbc**	**03 55 22.5**	**-0.8**
FNA	**Florina**	**154.39 323**	*e*PKPbc	**PKPbc**	**03 55 22.6**	**-0.8**
FNA	**Florina**	**154.39 323**	*e*PKIKP	**PKPbc**	**03 55 22.6**	**-0.8**
TREB	**Trebinje**	**154.54 330**	*e*P	**PKPbc**	**03 55 22.2**	**-1.4**
SENIN	**Lac Senin/Sane**	**154.78 350**	*e*PKPab	**PKPab**	**03 55 42.3**	**+0.3**
IDI	**Anoyia**	**155.25 309**	PKPbc	**PKPbc**	03 55 25.5	
	comp=Z,6.3nm,0.6s,baz=9.5,slow=6.1,SNR=5.0					
BNI	**Bardonecchia**	**156.16 351**	*e*PKPab	**PKPab**	**03 55 48.5**	**+0.7**
ITM	**Ithomi**	**156.32 316**	*e*PKPab	**PKPab**	**03 55 48.6**	**-0.1**
PBRG	**Braganca**	**158.70 17**	*e*PKPab	**PKPab**	**03 55 59.4**	**+0.5**
MVO	**Moncorvo**	**159.21 18**	*e*PKPdf	**PKPdf**	**03 55 21.7**	**+1.1**
MVO	**Moncorvo**	**159.21 18**	*e*PKPab	**PKPab**	**03 56 02.1**	**+1.0**
PVIS	**Viseu**	**159.36 20**	*e*PKPab	**PKPab**	**03 56 02.3**	**+0.5**
PCAS	**Casmilo, Conde**	**159.75 22**	*e*PKPab	**PKPab**	**03 56 03.7**	**+0.2**
PTOM	**Tomar**	**160.17 23**	*e*PKPab	**PKPab**	**03 56 05.5**	**+0.2**
PCBR	**Castelo Branco**	**160.29 20**	*e*PKPdf	**PKPdf**	**03 55 22.3**	**+0.5**
PMAFR	**Mafra**	**160.41 25**	*e*PKPab	**PKPab**	**03 56 06.8**	**+0.4**
PMRV	**Marv??o**	**160.69 21**	*e*PKPab	**PKPab**	**03 56 07.5**	**-0.1**
PESTR	**Estremoz**	**161.12 22**	*e*PKPab	**PKPab**	**03 56 09.3**	**-0.2**
EVO	**Evora**	**161.27 23**	*e*PKPab	**PKPab**	**03 56 12.3**	**+2.2**
ES19	**SONSECA Array**	**161.37 13**	*e*PKPdf	**PKPdf**	**03 55 23.2**	**+0.2**
ES19			*e*PKPab	**PKPab**	**03 56 10.5**	**-0.1**
ESDC	**Sonseca Array**	**161.38 13**	PKP	**PKPdf**	**03 55 23.0**	**0.0**
	comp=Z,0.1nm,0.4s,baz=28,slow=6.7,SNR=4.2					
ESDC			PKPab	**PKPab**	**03 56 10.7**	**0.0**
	comp=Z,5.0nm,0.8s,baz=342,slow=4.2,SNR=18					
ESDC			PP	**PP**	**03 59 54.2**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=333,slow=12,SNR=4.2					
ESLA	**Sonseca Array**	**161.38 13**	*e*PKPab	**PKPab**	**03 56 11.1**	**+0.5**
MESJ	**Messejana**	**161.80 25**	*e*PKPdf	**PKPdf**	**03 55 24.6**	**+1.2**
PVAQ	**Vaqueiros**	**162.37 24**	*e*PKPab	**PKPab**	**03 56 15.7**	**+0.7**
LIC	**Lamto**	**163.56 157**	*e*PKIKP	**PKPdf**	**03 55 24.9**	**-0.9**
	comp=Z,27nm,1.0s					
KIC	**Kosan Boka**	**163.79 158**	*e*PKIKP	**PKPdf**	**03 55 25.3**	**-0.8**
	comp=Z,23nm,0.9s					
TIC	**Toumodi**	**163.95 157**	*e*PKIKP	**PKPdf**	**03 55 25.5**	**-0.7**
DBIC	**Dimbokro**	**164.04 157**	PKP	**PKPdf**	**03 55 24.9**	**-1.3**
	comp=Z,5.2nm,0.7s,baz=196,slow=3.7,SNR=7.9					
DBIC	**Dimbokro**	**164.04 157**	*e*PKIKP	**PKPdf**	**03 55 25.0**	**-1.3**
KEST	**Kesra**	**164.23 335**	PKPab	**PKPab**	**03 56 23.7**	**+0.3**
	comp=Z,18nm,0.8s,baz=340,slow=1.6,SNR=22					
KEST	**Kesra**	**164.23 335**	*e*PKPab	**PKPab**	**03 56 23.8**	**+0.5**
MDT	**Midelt**	**167.61 24**	PKP	**PKPdf**	**03 55 28.8**	**+0.1**
	comp=Z,5.2nm,1.1s,baz=323,slow=5.1,SNR=4.7					
MDT			PKPab	**PKPab**	**03 56 39.2**	**+0.9**
	comp=Z,2.9nm,0.8s,baz=351,slow=7.3,SNR=5.9					
TOA0	**Torodi Ar. Sit**	**171.63 182**	*e*PKPdf	**PKPdf**	**03 55 30.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**171.63 182**	PKP	**PKPdf**	**03 55 29.3**	**-2.1**
	comp=Z,3.6nm,0.9s,baz=180,slow=9.0,SNR=23					
TORD			PKPab	**PKPab**	**03 56 56.0**	**-0.3**
	baz=157,slow=6.2					
TORD			pPKPab	**pPKPab**	**03 58 55.4**	**+2.1**
	comp=Z,1.4nm,0.8s,baz=180,slow=2.3,SNR=5.8					
TOA1	**Torodi Ar. Sit**	**171.63 182**	*e*PKPdf	**PKPdf**	**03 55 29.3**	**-2.1**
TOA1			*e*PKPab	**PKPab**	**03 56 56.0**	**-0.3**
TOA1			*e*pPKPab	**pPKPab**	**03 58 55.4**	**+2.1**
TAM	**Tamanrasset**	**175.92 288**	*e*PKPdf	**PKPdf**	**03 55 33.8**	**+0.9**
TAM			*e*PKPab	**PKPab**	**03 57 16.1**	**+0.2**
TAM	**Tamanrasset**	**175.92 288**	*e*PKIKP	**PKPdf**	**03 55 33.8**	**+0.9**
TAM			*e*		03 57 16.1	

*SOME **06** 04:00:53.4,41.°90N×82.°30E,h20km*
*NNC **06** 04:01:04.5±7.1,42.°59N×82.°05E,h0km,mb3.1,mpv2.7,*
Error ellipse: s-maj=72.0km s-min=21.3km az=151.0
ISC 06 04:00:59.3±2.8,42.°2N±0.°1×82.°09E±0.°08,h6km±14km,n14,
σ1§68/24,2C,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**2.17**	**297**	*e*P	**Pn**	**04 01 33.4**	**-2.6**
	23nm,0.2s						
SHLS				*e*S	**Sn**	04 02 02.9	**-0.3**
	51nm,0.6s						
UZB	**Uzynbulak**	**2.46**	**294**	*e*P	**Pb**	**04 01 42.1**	**-1.8**
	2.9nm,0.3s						
UZB				*e*S	**Sg**	04 02 17.3	**-0.9**
	19nm,0.6s						
DJR	**Jarkent**	**2.72**	**323**	*e*P	**Pb**	**04 01 47.3**	**-1.1**
	1.3nm,0.6s						
DJR				*e*S	**Sg**	04 02 26.8	**0.0**
	5.1nm,0.6s						
KPKS	**Kokpek**	**2.81**	**298**	*e*P	**Pn**	**04 01 46.5**	**+1.7**
	8.1nm,0.3s						
KPKS				*e*S	**Sb**	04 02 24.6	**-0.1**
	42nm,0.5s						
SATY	**Saty**	**2.85**	**289**	*e*P	**Pn**	**04 01 47.9**	**+2.4**
	2.8nm,0.4s						
SATY				*e*S	**Sb**	**04 02 26.8**	**+0.9**
	27nm,0.5s						
MNBS	**Baschi**	**3.29**	**306**	*e*P	**Pb**	**04 01 59.0**	**+0.8**
	6.6nm,0.4s						
MNBS				*e*S	**Sg**	04 02 46.3	**+1.2**
	11nm,0.5s						
ARXS	**Arharly**	**3.71**	**304**	*e*P	**Pb**	**04 02 07.0**	**+1.7**
	2.4nm,0.5s						
ARXS				*e*S	**Sg**	**04 02 59.2**	**+0.6**
	8.6nm,0.7s						
MDOK	**Medeo**	**3.84**	**286**	Pg	**Pg**	**04 02 14.3**	**+1.3**
	1.9nm,0.5s						
MDOK				Lg	Lg	04 02 59.5	
	3.9nm,0.6s						
IZV	**Izvestkoviy**	**4.13**	**284**	*e*P	**Pb**	**04 02 11.9**	**-0.6**
	4.0nm,0.6s						
IZV				*e*S	**Sg**	**04 03 08.6**	**-3.3**
	15nm,0.5s						
KTBS	**Karatobe**	**4.25**	**293**	*e*P	**Pb**	**04 02 15.0**	**+0.5**
	3.2nm,0.4s						
KTBS				*e*S	**Sg**	**04 03 12.9**	**-2.9**
	5.1nm,0.7s						
MK31	**Makanchi Array**	**4.61**	**2**	⇑Pn	**Pn**	**04 02 08.4**	**-1.0**
	0.1nm,0.2s,baz=190,slow=13,SNR=16						
MK31				Pg	**Pb**	**04 02 20.4**	**-0.1**
	0.8nm,0.5s,baz=174,slow=15,SNR=7.7						
MK31				Lg	Lg	04 03 24.8	
	1.3nm,0.5s,baz=184,slow=30,SNR=3.8						
DGS	**Degeres**	**4.77**	**285**	*e*P	**Pb**	**04 02 24.2**	**+0.9**
	1.1nm,0.5s						
DGS				*e*S	**Sg**	**04 03 30.0**	**-2.5**
	5.1nm,0.6s						
TKM2	**Tokmak 2**	**4.85**	**281**	Pg	**Pg**	**04 02 33.0**	**+0.7**
	1.8nm,0.7s						
TKM2				⇑Lg	Lg	04 03 35.7	
	4.0nm,0.5s						
AAK	**Ala-Archa**	**5.64**	**277**	Lg	Lg	04 03 58.9	
	2.8nm,0.7s						

DJA 06 04:03:27.1±3.7,2.°N±29.°×12.°3E±1.°6,h10km,M4.1/5,
mb4.2/2,mB5.4/1,MLv4.0/5,Mw(mB)4.8/1,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**2.11**	**208**	P	Pn	04 04 02.6	+0.1
LUWI	**Luwuk**	**3.37**	**183**	P	Pn	04 04 20.5	+0.6
APSI	**Ampana**	**3.49**	**202**	P	Pn	04 04 21.9	+0.5
MPSI	**Mapaga**	**3.64**	**237**	P	Pn	04 04 24.3	+0.8
KBKI	**Kotabaru**	**8.79**	**230**	P	Pn	04 05 32.9	-1.5
	5.8nm,1.0s,0.1nm						
EDFI	**Ende, Flores**	**11.10**	**186**	P	Pn	04 06 06.2	+0.1
BATI	**Baumata**	**12.49**	**177**	P	Pn	04 06 25.9	+0.7

*IDC **06** 04:29:33.0±0.9,14.°16N×57.°78W,h0km,mb3.6/8,*
mb1 4.0/11,mb1mx3.8/31,mbtmp3.8/11,ML4.2/3,MS3.0/4,
Ms1 3.0/4,ms1mx2.6/28,Error ellipse: s-maj=26.4km
s-min=20.6km az=46.0
*TRN **06** 04:29:40.0,14.°16N×58.°46W,h78km,MD4.3*
*NEIC **06** 04:29:40.1±0.0,14.°18N×58.°47W,h85km,mb4.2/7,*
MD4.3(TRN),After TRN.
*ISCJB **06** 04:29:41.2±0.6,14.°19N±0.°02×58.°51W±0.°04,h67km±6km,*
mb3.9/14,Error ellipse: s-maj=6.2km s-min=3.4km
az=173.4
ISC 06 04:29:40.4±1.6,14.°20N±0.°03×58.°37W±0.°08,h66km±15km,
n134,σ1§46/166,mb3.8/14,1C-2D,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBSP	**Saint Philip**	**1.52**	**224**	*e*Pn	**Pn**	**04 30 06.1**	**+0.6**
BBSP				*e*Sn	**Sn**	04 30 24.3	-0.1
BBSP	**Saint Philip**	**1.52**	**224**	*e*P	**Pn**	**04 30 06.1**	**+0.6**
BBSP				*e*S	**Sn**	04 30 24.3	-0.1
BBGH	**Gun Hill**	**1.56**	**228**	*e*Pn	**Pn**	**04 30 07.1**	**+1.0**
BBGH				*e*Sn	**Sn**	04 30 25.9	+0.4
BBGH	**Gun Hill**	**1.56**	**228**	*e*P	**Pn**	**04 30 07.1**	**+1.0**
BBGH				*e*S	**Sn**	04 30 25.9	+0.4
H05S1	**Guadeloupe/Mar**	**2.40**	**276**	Pn	**Pn**	**04 30 17.6**	**+0.2**
H05S1				Sn	**Sn**	**04 30 44.8**	**-1.0**
	SNR=4749						
H05S1				T	T	04 33 05.0	
MVM	**

SEUS	**St. Eustatius**	**5.51 307**	*e*P		**Pn**	**04 31 00.3**	**+0.4**
SEUS	**St. Eustatius**	**5.51 307**	*e*S		**Sn**	**04 32 00.5**	**-1.5**
SABA	**Saba**	**5.79 307**	*e*Pn		**Pn**	**04 31 03.6**	**-0.1**
SABA			*e*Sn		**Sn**	**04 32 05.9**	**-2.9**
SABA	**Saba**	**5.79 307**	*e*P		**Pn**	**04 31 03.6**	**-0.1**
SABA	**Saba**	**5.79 307**	*e*S		**Sn**	**04 32 05.9**	**-2.9**
SMRT	**St. Maarten**	**5.92 311**	*e*Pn		**Pn**	**04 31 04.9**	**-0.7**
SMRT			*e*Sn		**Sn**	**04 32 08.4**	**-3.7**
SMRT	**St. Maarten**	**5.92 311**	*e*P		**Pn**	**04 31 05.9**	**+0.4**
SMRT	**St. Maarten**	**5.92 311**	*e*S		**Sn**	**04 32 08.4**	**-3.7**
PCRV	**Puerto La Cruz**	**7.32 238**	Pn		**Pn**	**04 31 26.1**	**+1.4**
	7.6nm,0.3s,baz=51,slow=4.4,SNR=24						
PCRV			Sn		**Sn**	**04 32 43.8**	**-2.6**
	1.3nm,0.3s,baz=29,slow=19,SNR=4.8						
SJG	**San Juan**	**8.42 299**	Pn		**Pn**	**04 31 41.9**	**+2.1**
	2.9nm,0.3s,baz=103,slow=16,SNR=10						
SJG			Sn		**Sn**	**04 33 13.9**	**+0.5**
	1.1nm,0.3s,baz=18,slow=20,SNR=2.3						
SJG	**San Juan**	**8.42 299**	*e*Pn		**Pn**	**04 31 39.5**	**-0.3**
SJG			*e*Sn		**Sn**	**04 33 13.9**	**+0.5**
MDP	**Montagnes des**	**10.66 147**	Pn		Pn	04 32 02.2	-8.2
	0.5nm,0.3s,baz=325,slow=16,SNR=17						
MDP			Sn		Sn	04 33 50.4	-18
	4.5nm,0.3s,baz=38,slow=18,SNR=13						
MDP			LR		LR	04 36 20.7	
	comp=Z,33nm,20.0s,baz=198,slow=40						
SDV	**Santo Domingo**	**13.12 248**	Sn		**Sn**	**04 35 03.7**	**-4.8**
	0.6nm,0.3s,baz=356,slow=19,SNR=2.3						
PTGA	**Pitinga**	**14.92 186**	Pn		Pn	04 33 02.4	-5.3
	0.6nm,0.3s,baz=19,slow=14,SNR=6.3						
PTGA			Sn		Sn	04 35 31.9	-20
	0.7nm,0.3s,baz=314,slow=19,SNR=2.2						
OCAC	**Ocana**	**15.81 250**	*e*P		**P**	**04 33 24.0**	**+2.2**
GIRC	**Giron, Santand**	**16.19 246**	*e*P		**P**	**04 33 30.7**	**+4.6**
SMLC	**San Mart`›n de**	**16.29 252**	*e*P		**P**	**04 33 26.7**	**-0.3**
BARC	**Barichara**	**16.41 244**	*e*P		P	04 33 34.6	+6.1
BRRC	**Barranca, Sant**	**16.64 247**	*e*P		**P**	**04 33 32.0**	**+1.1**
RUSC	**La Rusia**	**16.66 242**	*e*P		P	04 33 37.3	+5.6
ZARC	**Zaragoza, Cauc**	**17.50 249**	*e*P		**P**	**04 33 41.3**	**+0.8**
ROSC	**El Rosal**	**18.26 241**	LR		LR	04 42 26.5	
	comp=Z,45nm,20.4s,baz=143,slow=41						
HELC	**Santa Helena**	**18.66 246**	*e*P		**Pn**	**04 33 53.9**	**-0.6**
YOTC	**Yotoco, Valle**	**20.43 242**	*e*P		Pn	04 34 17.9	+2.6
SAML	**Samuel**	**23.49 192**	*e*P		**P**	**04 34 47.3**	**+2.8**
	4.9nm,1.3s						
NHSC	**New Hope**	**27.34 317**	*e*P		**P**	**04 35 20.9**	**+1.7**
	64nm,1.3s						
LUPA	**Lehigh Univers**	**30.20 334**	*e*P		**P**	**04 35 46.4**	**+1.8**
	2.6nm,1.3s						
V53A	**Saluda**	**30.63 319**	*e*P		**P**	**04 35 48.4**	**-0.2**
	8.8nm,1.4s						
LPAZ	**La Paz**	**31.79 198**	P		P	04 36 02.4	+2.9
	0.9nm,0.7s,baz=12,slow=5.9,SNR=5.0						
147A	**Livingston**	**32.85 309**	*e*P		**P**	**04 36 07.4**	**-0.6**
	16nm,1.0s						
LTX	**Lajitas**	**44.40 297**	*e*P		P	04 37 48.8	+4.0
TXAR	**Lajitas Array**	**44.40 297**	P		P	04 37 48.8	+3.9
	0.4nm,0.7s,baz=116,slow=8.1,SNR=2.8						
TXAR			LR		LR	05 03 38.8	
	comp=Z,14nm,18.0s,baz=0.0,slow=46						
MNTX	**Cornudas Mount**	**46.28 300**	*e*P		**P**	**04 38 00.4**	**+0.8**
	3.8nm,1.0s						
PDAR	**Pinedale Array**	**52.22 313**	P		P	04 38 50.5	+5.4
	0.5nm,0.8s,baz=97,slow=6.1,SNR=3.8						
NV01	**Mina Array Sit**	**57.82 307**	*e*P		P	04 39 30.6	+5.1
NVAR	**Mina Array Bea**	**57.82 307**	P		P	04 39 30.6	+5.1
	0.3nm,0.7s,baz=107,slow=5.8,SNR=4.2						
TOA1	**Torodi Ar. Sit**	**58.23 83**	*e*P		**P**	**04 39 25.0**	**-3.4**
TORD	**Torodi Ar. Bea**	**58.23 83**	P		**P**	**04 39 25.0**	**-3.4**
	0.2nm,0.8s,baz=268,slow=4.3						
TORD			LR		LR	05 00 32.1	
	comp=Z,30nm,19.7s,baz=305,slow=32						
TORD	**Torodi Ar. Bea**	**58.23 83**	P		**P**	**04 39 25.0**	**-3.4**
YKA	**Yellowknife Ar**	**62.21 334**	P		P	04 39 59.3	+4.5
	1.6nm,0.5s,baz=107,slow=7.3,SNR=5.6						
INK	**Inuvik**	**71.41 338**	P		**P**	**04 40 55.4**	**+2.1**
	1.9nm,1.0s,baz=104,slow=8.3,SNR=3.3						
INK	**Inuvik**	**71.41 338**	*e*P		**P**	**04 40 55.4**	**+2.1**
	3.7nm,1.1s						
ILAR	**Eielson Array**	**76.64 334**	P		P	04 41 27.9	+4.0
	0.4nm,0.9s,baz=111,slow=5.1,SNR=3.6						
ILB	**Eielson Array**	**76.64 334**	*e*P		P	04 41 27.9	+4.0

MEX 06 04:36:10.6±0.5, 16°.54N×98°.42W, h26km±9km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.31**	**117**	*e*P	Pb	04 36 16.5	-1.5
PNIG				*i* S	Sb	04 36 21.8	-1.2
TLIG	**Tlapa**	**1.03**	**352**	*e*P	Pn	04 36 26.4	-3.0
TLIG				*i* S	Sb	04 36 39.2	-3.9
VHO	**Vista Hermosa**	**1.70**	**72**	*e*P	Pn	04 36 36.9	-1.9
VHO				*e*S	Sn	04 36 55.8	-3.9
CAIG	**El Cayaco**	**1.84**	**286**	*e*P	Pn	04 36 38.4	-2.1
CAIG				*e*S	Sn	04 37 00.5	-2.5
HUIG	**Huatulco**	**2.35**	**109**	*e*P	Pn	04 36 45.2	-2.2
HUIG				*i* S	Sn	04 37 12.7	-2.8

*ISCJB **06** 05:07:03.6±0.6,28°.13S±0°.04×26°.84E±0°.05,h10km, Error ellipse: s-maj=7.6km s-min=4.1km az=32.8*
*PRE **06** 05:07:03.4±1.1,28°.10S×26°.81E,h2km,ML2.8*
*EAF **06** 05:07:08.2±0.6,27°.95S×26°.77E,h0km±607km,MD4.0*
*BUL **06** 05:07:08.3±0.7,27°.29S×24°.40E,h0km±621km,MD4.0*

ISC 06 05:07:03.6±0.9, 28°.07S±0°.04×26°.87E±0°.05, h10km, n17, σ2s 22/34, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOAB	**Moab Khotsong**	**1.08**	**357**	*e*P	**Pn**	**05 07 24.9**	**-0.1**
MOAB				*e*S	**Sb**	**05 07 39.6**	**+0.8**
MOAB				AML	AML	05 07 43.6	
	comp=Z,413nm,0.3s						
BOSA	**Boshof**	**1.52**	**249**	*i* P	**Pg**	**05 07 34.8**	**+2.0**
BOSA				*i* S	**Sg**	**05 07 54.7**	**+2.2**
BOSA	**Boshof**	**1.52**	**249**	*e*P	**Pg**	**05 07 31.3**	**-1.4**
BOSA				*e*S	**Sg**	**05 07 51.5**	**-1.0**
BOSA				AML	AML	05 07 57.2	
	comp=Z,76nm,0.6s						
BOSA	**Boshof**	**1.52**	**249**	*i* P	**Pg**	**05 07 34.8**	**+2.0**
BOSA				*i* S	**Sg**	**05 07 54.7**	**+2.2**
SWZ	**Schweizer**	**1.62**	**303**	*e*P	**Pg**	**05 07 33.8**	**-1.0**
SWZ				*e*S	**Sg**	**05 07 54.5**	**-1.4**
SWZ				AML	AML	05 07 57.0	
	comp=Z,168nm,0.7s						
ERPM	**east rand prop**	**2.11**	**36**	*e*P	**Pb**	**05 07 42.1**	**0.0**
ERPM				*e*S	**Sb**	**05 08 10.0**	**+1.5**
ERPM				AML	AML	05 08 28.0	
	comp=Z,45nm,0.3s						
SLR	**Silverton**	**2.65**	**29**	*e*P	**Pn**	**05 07 47.3**	**+0.8**
SLR				*e*S	**Sn**	**05 08 21.6**	**+2.8**
SLR				AML	AML	05 08 29.6	
	comp=Z,88nm,0.5s						
HVD	**Gariep Dam**	**2.79**	**205**	*e*P	**Pn**	**05 07 49.7**	**+1.2**
HVD				*e*S	**Sn**	**05 08 21.9**	**-0.5**
HVD				AML	AML	05 08 39.6	
	comp=Z,45nm,0.4s						
LBTB	**Lobatse**	**3.25**	**339**	*e*P	**Pn**	**05 07 56.8**	**+2.1**
LBTB				*e*S	**Sn**	**05 08 34.9**	**+1.3**
LBTB				AML	AML	05 08 52.0	
	comp=Z,172nm,0.5s						
PKA	**Prieska**	**3.94**	**245**	*e*P	**Pn**	**05 08 04.8**	**+0.6**
PKA				*e*S	**Sn**	**05 08 49.8**	**-0.8**
PKA				AML	AML	05 09 11.2	
	comp=Z,14nm,0.5s						
CNG	**Changalane**	**5.06**	**71**	*e*P	**Pn**	**05 08 19.8**	**+0.3**
CNG				*e*S	**Sn**	**05 09 15.3**	**-2.7**
CNG				AML	AML	05 09 49.6	
	comp=Z,47nm,0.7s						
CVNA	**Calvinia**	**7.05**	**239**	*e*P	**Pn**	**05 08 48.7**	**+1.7**
CVNA				*e*S	**Sn**	**05 10 03.9**	**-3.3**
CVNA				AML	AML	05 10 25.9	
	comp=Z,9.4nm,0.4s						
MATP	**Matopo**	**7.76**	**11**	*i* P	**Pn**	**05 08 59.2**	**+2.5**
MATP				*i* S	**Sn**	**05 10 22.0**	**-2.7**
MATP	**Matopo**	**7.76**	**11**	*i* P	**Pn**	**05 08 59.2**	**+2.5**
MATP				*i* S	**Sn**	**05 10 22.0**	**-2.7**
BLWY	**Bulawayo**	**8.05**	**12**	*i* P	**Pn**	**05 09 04.0**	**+3.2**
BLWY				*i* S	**Sn**	**05 10 28.8**	**-3.3**
BLWY	**Bulawayo**	**8.05**	**12**	*i* P	**Pn**	**05 09 04.0**	**+3.2**
BLWY				*i* S	**Sn**	**05 10 28.8**	**-3.3**
KOMG	**Komaggas**	**8.40**	**256**	*e*P	**Pn**	**05 09 06.6**	**+1.2**
KOMG				*e*S	**Sn**	**05 10 36.4**	**-4.0**
KOMG				AML	AML	05 11 38.1	
	comp=Z,9.5nm,0.8s						

IDC 06 05:14:54.4±2.4, 30°.13S×138°.61E, h0km, mb1 3.3/4, mb1mx3.3/29, mbtmp3.1/4, ML3.2/4, Error ellipse: s-maj=68.4km s-min=14.4km az=44.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.10**	**125**	Pn	Pn	05 15 43.2	-1.3
	0.7nm,0.3s,baz=301,slow=10.0,SNR=7.1						
STKA				Pg	Pb	05 15 51.6	+1.2
	2.9nm,0.3s,baz=304,slow=13,SNR=20						
STKA				Sn	Sn	05 16 19.5	-2.8
	2.9nm,0.3s,baz=290,slow=15,SNR=6.8						
STKA				Lg	Lg	05 16 33.0	
	5.7nm,0.3s,baz=328,slow=15,SNR=9.6						
ASAR	**Alice Springs**	**7.69**	**326**	Pn	Pn	05 16 48.4	+0.7
	0.3nm,0.3s,baz=150,slow=13,SNR=12						
ASAR				Sn	Sn	05 18 16.1	+0.5
	0.3nm,0.3s,baz=152,slow=22,SNR=5.7						
WRA	**Warramunga Arr**	**10.86**	**338**	Pn	Pn	05 17 31.7	+0.5
	0.2nm,0.3s,baz=154,slow=12,SNR=17						
WRA				Sn	Sn	05 19 32.9	-0.6
	0.1nm,0.3s,baz=159,slow=24,SNR=3.3						
FITZ	**Fitzroy Crossi**	**16.83**	**312**	Pn	Pn	05 18 51.5	0.0
	0.2nm,0.3s,baz=142,slow=9.6,SNR=5.2						

UCR 06 05:15:36.4±1.2, 11°.84N×86°.65W, h85km±6km, MD4.1, ML4.0,3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.34**	**9**	*e*P	Pn	05 15 49.8	+0.2
XAVN	**Gruta Xavier**	**0.44**	**46**	*e*P	Pn	05 15 50.7	+0.5
MGAN	**Managua**	**0.50**	**52**	*e*P	Pn	05 15 51.0	+0.4
MGAN				*e*S	Sn	05 16 02.5	+1.4
MASN	**Masaya**	**0.51**	**73**	*e*P	Pn	05 15 51.4	+0.6
MOMN	**Momotombo**	**0.58**	**11**	*e*P	Pn	05 15 51.3	-0.1
CNGN	**Cerro Negro**	**0.66**	**356**	*e*P	Pn	05 15 51.4	-0.7
CNGN				*e*S	Sn	05 16 03.8	0.0
CRIN	**San Cristobal**	**0.94**	**335**	*e*P	Pn	05 15 55.4	+0.2
CRIN				IAML		05 16 11.2	
	comp=N,4μm,0.7s						
CONN	**Concepcion**	**1.04**	**105**	*e*P	Pn	05 15 56.1	-0.1
BOAB	**BOACO BROADBAN**	**1.14**	**58**	*e*P	Pn	05 15 57.5	+0.1
BOAB				*e*S	Sn	05 16 13.7	+0.6
ESTN	**Estel**	**1.28**	**12**	*i*P	Pn	05 15 59.6	+0.3
MATN	**Matagalpa**	**1.29**	**33**	*e*P	Pn	05 15 59.4	0.0
ACON	**Acoyapa**	**1.45**	**85**	*e*P	Pn	05 16 01.2	-0.1
GBS3	**Finca Las Im`¡**	**1.57**	**132**	*i* P	Pn	05 16 02.8	-0.1
GB1A	**Borinquen Arri**	**1.59**	**129**	*e*P	Pn	05 16 03.0	-0.2
GB1A				*i* P		05 16 04.4	
GB1A				*e*S	Sn	05 16 24.0	+0.6
BUEV	**Buena Vista**	**1.60**	**130**	*i* P	Pn	05 16 03.4	+0.2
BUEV				*e*S	Sn	05 16 24.2	+0.6
LAPC	**Finca la Perla**	**1.60**	**132**	*i* P	Pn	05 16 03.0	-0.2
NY14	**Universidad de**	**1.61**	**137**	*i* P	Pn	05 16 04.0	+0.7
GPS1	**Guardaparques**	**1.66**	**130**	*i* P	Pn	05 16 04.4	+0.4
GPS2	**Hotel Rinc`‡n**	**1.67**	**130**	*i* P	Pn	05 16 04.6	+0.4
LIM1	**Limonal**	**1.78**	**129**	*i* P	Pn	05 16 05.7	+0.1
MESS	**Mesas**	**1.79**	**127**	*i* P	Pn	05 16 05.8	0.0
MESS				*e*P		05 16 05.9	
MESS				*e*S	Sn	05 16 29.3	+1.1
HORNC	**Hornillas**	**1.82**	**128**	*i* P	Pn	05 16 06.2	0.0
COLC	**Colonia**	**1.83**	**129**	*i* P	Pn	05 16 06.6	+0.3
CUI	**Cuipilapa**	**1.87**	**129**	*i* P	Pn	05 16 07.0	+0.2
PLVR	**Palo Verde**	**1.95**	**139**	*i*P	Pn	05 16 08.7	+0.7
PLVR				*e*S	Sn	05 16 31.7	-0.3
VCR	**Vista de Mar**	**1.97**	**149**	*i*P	Pn	05 16 08.6	+0.4
ACAL	**Aguas Claras**	**1.98**	**127**	*i* P	Pn	05 16 08.2	-0.1
AMAS	**Alto Masis**	**2.03**	**127**	*i* P	Pn	05 16 09.8	+0.9
JTS	**JuntasAbangare**	**2.27**	**133**	*e*P	Pn	05 16 12.0	-0.1
ESPN	**Las Esperanzas**	**2.32**	**81**	*i* P	Pn	05 16 13.1	+0.4
ARE1	**Arenal 1**	**2.34**	**126**	*e*P	Pn	05 16 13.8	+0.9
SRA1	**San Ram`‡n**	**2.75**	**129**	*e*P	Pn	05 16 19.2	+0.6
LCR2	**La Lucha 2**	**3.33**	**128**	*e*P	Pn	05 16 26.9	+0.4
URSC	**Urasca**	**3.45**	**125**	*e*P	Pn	05 16 30.3	+2.2
DRK0	**Durika**	**4.21**	**127**	*e*P	Pn	05 16 39.7	+1.2

*IDC **06** 05:22:53.7±2.2,9°.45S×112°.86E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.6/31, mbtmp3.6/6, ML3.1/1, MS2.8/2, Ms1 2.9/2, ms1mx2.4/39, Error ellipse: s-maj=109.5km s-min=20.1km az=52.0*
*ISCJB **06** 05:22:59.8±0.7,9°.57S±0°.06×113°.14E±0°.05, h36km, mb3.6/5, MS2.7/2, Error ellipse: s-maj=8.7km s-min=6.4km az=29.9*
*DJA **06** 05:23:00.2±0.8,9°.S±6°×11°.3E±°, h10km, M4.1/7, MLv4.1/7*

ISC 06 05:22:59.7±0.8, 9°.58S±0°.08×113°.16E±0°.06, h36km, n15, σ2s 38/18, mb3.8/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.48**	**42**	P	**Pn**	**05 23 24.2**	**+0.4**
JAGI				S	**Sn**	**05 23 43.5**	**+1.5**
BLJI	**Banyuglugur**	**1.88**	**13**	P	**Pn**	**05 23 30.0**	**+0.7**
BLJI				S	**Sn**	**05 23 51.9**	**+0.2**
PWJI	**Pagerwojo**	**2.05**	**319**	P	**Pn**	**05 23 30.1**	**-1.5**
PWJI				S	**Sn**	**05 23 53.2**	**-2.7**
PCJI	**Pacitan**	**2.39**	**305**	P	**Pn**	**05 23 36.9**	**+0.5**
PCJI				S	**Sn**	**05 24 05.9**	**+1.5**
SRBI	**Singaraja**	**2.52**	**54**	P	Pn	05 23 48.5	+10
NGJI	**Ngawi**	**2.77**	**323**	P	**Pn**	**05 23 43.8**	**+2.3**
WOJI	**Wonogiri, Jawa**	**2.81**	**308**	P	**Pn**	**05 23 43.5**	**+1.4**
SMRI	**Semarang**	**3.68**	**313**	P	**Pn**	**05 23 56.2**	**+2.1**
FITZ	**Fitzroy Crossi**	**14.78**	**126**	Pn	**Pn**	**05 26 28.1**	**+1.9**
	0.1nm,0.3s,baz=307,slow=5.1,SNR=2.1						
FITZ				Sn	**Sn**	**05 29 03.1**	**-5.7**
	0.0nm,0.3s,baz=255,slow=12,SNR=2.0						
WRA	**Warramunga Arr**	**22.90**	**119**	P	**P**	**05 28 04.0**	**+3.4**
	0.8nm,0.8s,baz=297,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**24.27**	**128**	P	**P**	**05 28 15.8**	**+2.0**
	1.0nm,0.7s,baz=302,slow=8.6,SNR=8.9						
CMAR	**Chiang Mai Arr**	**31.19**	**333**	LR	LR	05 42 15.5	
	comp=Z,12nm,18.2s,baz=245,slow=38						
STKA	**Stephens Creek**	**34.44**	**134**	P	**P**	**05 29 44.4**	**+0.3**
	1.3nm,0.7s,baz=294,slow=12,SNR=2.5						
STKA				LR	LR	05 44 43.3	
	comp=Z,20nm,19.6s,baz=16,slow=38						
SONM	**Songino Array**	**57.48**	**355**	P	**P**	**05 32 43.7**	**-1.5**
	0.6nm,0.5s,baz=176,slow=8.1,SNR=4.1						
MKAR	**Makanchi Array**	**62.52**	**337**	P	**P**	**05 33 17.7**	**-2.0**
	0.3nm,0.4s,baz=158,slow=7.6,SNR=7.1						

*ISK **06** 05:40:40.5,37°.72N×26°.85E,h8km, ML2.9/14*
*ISCJB **06** 05:40:41.2±0.4,37°.75N±0°.02×26°.97E±0°.04, h8km±4km, Error ellipse: s-maj=4.8km s-min=3.7km az=164.6*
*ATH **06** 05:40:41.4,37°.74N×26°.95E, h12km±2km, ML2.7/3, Error ellipse: s-maj=3.5km s-min=1.4km az=271.0*

ISC 06 05:40:41.5±0.9, 37°.74N±0°.02×26°.92E±0°.03, h12km±6km, n27, σ0s 77/34, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.07**	**249**	P	**Pg**	**05 40 44.2**	**+0.1**
SMG				S	**Sg**	**05 40 46.0**	**0.0**
SMG				AML	AML	05 40 46.5	
	comp=E,30222μm,0.3s						
SMG				AML	AML	05 40 46.5	
	comp=N,49181μm,0.3s						
GMLD	**Gumuldur**	**0.34**	**359**	PG	**Pg**	**05 40 48.1**	**-0.3**
GMLD				SG	**Sg**	**05 40 53.6**	**+0.6**
URLA	**Izmir**	**0.68**	**338**	PG	**Pg**	**05 40 54.1**	**-0.5**
URLA				SG	**Sb**	**05 41 03.6**	**-0.9**
BODT	**Bodrum**	**0.74**	**155**	PG	**Pg**	**05 40 55.4**	**-0.4**
BODT				SG	**Sb**	**05 41 06.4**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.80**	**74**	PG	**Pb**	**05 40 57.5**	**+0.2**
MLSB	**Milas**	**0.81**	**123**	PG	**Pb**	**05 40 57.3**	**-0.2**
KRBN	**Karaburun**	**0.91**	**341**	PG	**Pg**	**05 40 58.5**	**-0.4**
CHOS	**Chios island**	**0.94**	**314**	PG	**Pg**	**05 40 58.3**	**-1.4**
CHOS	**Chios island**	**0.94**	**314**	P	**Pb**	**05 40 59.6**	**-0.2**
CHOS				S	**Sb**	**05 41 12.6**	**+0.3**
CHOS				AML	AML	05 41 14.8	
	comp=N,687μm,0.5s						
CHOS				AML	AML	05 41 15.2	
	comp=E,1001μm,0.3s						
FOCM	**Fo`§a**	**0.99**	**351**	PG	**Pb**	**05 41 00.1**	**-0.4**
DAT	**Datca**	**1.13**	**152**	PN	**Pb**	**05 41 02.7**	**-0.3**
DATC	**Datca-Mugla**	**1.14**	**149**	PN	**Pg**	**05 41 02.9**	**-0.5**
NIS1	**Nisyros Isl.**	**1.15**	**170**	PN	**Pb**	**05 41 02.7**	**-0.5**
AMGA	**Amorgos Island**	**1.22**	**223**	P	**Pg**	**05 41 04.6**	**-0.3**
AMGA				S	**Sn**	**05 41 21.7**	**+1.0**
AMGA				AML	AML	05 41 26.3	
	comp=N,399μm,0.4s						
AMGA				AML	AML	05 41 27.5	
	comp=E,355μm,0.4s						
GOMA	**Golmarmara-Man**	**1.25**	**39**	PN	**Pn**	**05 41 04.5**	**-0.2**
APE	**Apeiranthos**	**1.29**	**239**	PN	**Pn**	**05 41 04.6**	**-0.7**
APE	**Apeiranthos**	**1.29**	**239**	P	**Pg**	**05 41 06.4**	**+0.1**
APE				S	**Sn**	**05 41 24.4**	**+1.8**
DKL	**Dikili**	**1.33**	**359**	PN	**Pg**	**05 41 06.4**	**-0.7**
KULA	**Kula-Manisa**	**1.58**	**60**	PN	**Pb**	**05 41 10.3**	**-0.3**
TURN	**Turunc**	**1.59**	**122**	PN	**Pn**	**05 41 07.4**	**-2.0**
IOSP	**Ios island**	**1.65**	**233**	P	**Pg**	**05 41 12.5**	**-0.7**
DALY	**Dalyan (Mu˘la**	**1.66**	**123**	PN	**Pb**	**05 41 11.1**	**-0.8**
SIGR	**SIGRI**	**1.69**	**331**	PN	**Pn**	**05 41 11.1**	**+0.3**
ARG	**Arkhangelos**	**1.80**	**147**	PN	**Pn**	**05 41 12.8**	**+0.6**
FETY	**Fethiye**	**2.05**	**122**	PN	**Pn**	**05 41 16.6**	**+0.9**
SIMA	**Simav-Kutahya**	**2.10**	**50**	PN	**Pn**	**05 41 17.6**	**+1.0**
EZN	**Ezine**	**2.14**	**348**	PN	**Pn**	**05 41 17.4**	**+0.5**

OTT 06 05:47:29.3±0.3, 74°.56N×94°.73W, h18km, MN3.8/2, 1C, 16km south from Resolute, Nu Boothia Ungava Seismic Zone., Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RES	**Resolute Bay**	**0.14**	**341**	⇑PG	Pg	05 47 33.2	-0.1
RES				SG	Sg	05 47 35.7	-0.4
RES				Trac		05 47 36.0	
	comp=Z,598nm,0.1s						
EUNU	**Eureka**	**5.81**	**14**	PN	Pn	05 48 54.8	+0.4
EUNU				SN	Sn	05 49 58.8	-1.8
CB09	**Cambridge Bay**	**6.25**	**216**	PN	Pn	05 48 59.0	-1.3
CB02	**Cambridge Bay**	**6.28**	**216**	PN	Pn	05 48 59.4	-1.4
CB31	**Cambridge Bay**	**6.33**	**216**	PN	Pn	05 49 00.7	-0.8
CB31				SN	Sn	05 50 09.4	-3.8
CB31				LG	Lg	05 50 39.0	
CB31				Trac		05 50 44.1	
	comp=Z,50nm,0.3s						
ILON	**Igloolik, Nuna**	**6.55**	**136**	PN	Pn	05 49 03.2	-1.4
ILON				SN	Sn	05 50 14.9	-3.8
ILON				LG	Lg	05 50 48.2	
ILON				Trac		05 50 49.0	
	comp=Z,49nm,0.5s						
TULEG	**Thule**	**6.74**	**61**	PN	Pn	05 49 05.7	-1.4
TULEG				SN	Sn	05 50 16.6	-6.6
CLRN	**Clyde River**	**8.80**	**105**	SN	Sn	05 51 06.7	-7.2
KUKN	**Kugluktuk,NWT**	**9.36**	**234**	PN	Pn	05 49 41.9	-1.2
KUKN				SN	Sn	05 51 22.9	-4.7
KUKN				LG	Lg	05 52 17.9	
INK	**Inuvik**	**13.58**	**263**	PN	Pn	05 50 37.9	-2.7
INK				SN	Sn	05 53 05.9	-4.9
YKW3	**Yellowknife Ar**	**13.94**	**221**	PN	Pn	05 50 41.6	-3.9
YKW3				SN	Sn	05 53 06.3	-13
FRB	**Frobisher Bay**	**14.11**	**126**	PN	Pn	05 50 43.2	-4.6
FRB				SN	Sn	05 53 11.8	-12

UCR 06 05:58:49.6±1.7, 10°.58N×83°.86W, h13km±8km, MD4.0, ML2.6, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVTR	**Volcan Turrial**	**0.56**	**170**	*e*P	Pg	05 59 01.0	+0.2
HDC	**Heredia**	**0.63**	**204**	*e*P	Pg	05 59 01.8	-0.1
URSC	**Urasca**	**0.74**	**174**	*e*P	Pg	05 59 03.8	-0.3
SRA1	**San Ram`‡n**	**0.78**	**231**	*e*P	Pg	05 59 04.8	-0.1
FORC	**Fortuna**	**0.81**	**262**	*i* P	Pg	05 59 04.9	-0.3
FORC				*i* S	Sg	05 59 15.8	0.0
CEDE	**Laguna Cede˘–o**	**0.83**	**264**	*i* P	Pg	05 59 05.2	-0.6
CEDE				*i* S	Sg	05 59 16.3	-0.5
LCR2	**La Lucha 2**	**0.84**	**190**	*e*P	Pg	05 59 05.3	-0.7
LCR2				*e*S	Sg	05 59 17.0	-0.1
ARE1	**Arenal 1**	**0.85**	**262**	*e*P	Pg	05 59 05.5	-0.7
ARE1				*e*S	Sb	05 59 17.6	-0.1
CASO

*DSN **06** 06:17:28.2±0.6, 10°.16N×57°.13E, h10km, mb6.0/11, Ms5.5/17 Error ellipse: s-maj=11.6km s-min=7.0km az=104.0*

ISC 06 06:17:28.6±0.5, **9°.97N**±0°.04×**57°.18E**±0°.03, **h15**km±2km, **h16**km:**pP-P, n1285**, σ1.56/1279, **mb5.6**/328, **MS5.3**/386, **38C-67D, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
BDHA	**Al Bayda'**	**12.04**	**290**	*e*P	**Pn**	**06 20 21.1**	**+1.2**
BDHA				AMb	AMB	06 20 23.2	
	comp=Z,142nm,1.6s						
LBOS		**12.30**	**290**	*e*P	**Pn**	**06 20 24.9**	**+1.3**
LBOS				*i* S	**Sn**	**06 22 43.6**	**+2.9**
JMDO	**Jabal Madar**	**12.37**	**4**	P	**Pn**	**06 20 23.8**	**-0.4**
	SNR=19						
WBK	**Wadi Bani Khal**	**12.69**	**8**	P	**Pn**	**06 20 30.6**	**+2.0**
	SNR=24						
BSY	**Bisya**	**12.71**	**0**	P	**Pn**	**06 20 31.5**	**+2.7**
	SNR=32						
SMDO	**Samad**	**13.04**	**4**	P	**Pn**	**06 20 33.1**	**-0.5**
	SNR=59						
TRBA	**At Turbah**	**13.21**	**285**	*e*P	**Pn**	**06 20 37.2**	**+1.3**
TRBA				AMb	AMB	06 20 39.5	
	comp=Z,216nm,1.3s						
WSAR	**Wadi Sarin**	**13.27**	**6**	P	**Pn**	**06 20 36.5**	**0.0**
	SNR=32						
DAMY	**Dhamar**	**13.31**	**291**	*e*Pn	**Pn**	**06 20 39.2**	**+1.8**
ARQ	**Araqi**	**13.31**	**357**	P	**Pn**	**06 20 39.3**	**+2.2**
	SNR=25						
DHBB	**Dhamar BB**	**13.31**	**291**	*e*P	**Pn**	**06 20 39.4**	**+2.0**
DHBB				AMb	AMB	06 20 43.5	
	comp=Z,1μm,1.4s						
MZR	**Muzera**	**13.44**	**345**	*i* P	**Pn**	**06 20 38.4**	**-0.5**
	SNR=40						
BIDO	**Bidbid**	**13.51**	**4**	P	**Pn**	**06 20 39.1**	**-0.7**
	SNR=58						
UDYN	**Al 'Udayn**	**13.53**	**288**	*e*P	**Pn**	**06 20 42.2**	**+2.0**
ALNE	**Al Ain**	**14.08**	**355**	*i* P	**Pn**	**06 20 46.5**	**-1.1**
	SNR=78						
SOHO	**SOHO**	**14.10**	**358**	*i* P	**Pn**	**06 20 46.5**	**-1.4**
	SNR=30						
ATD	**Arta Tunnel**	**14.17**	**278**	Pn	**Pn**	**06 20 48.2**	**-0.8**
	comp=Z,2.7nm,0.3s,baz=73,slow=8.8,SNR=7.2						
ATD				LR	LR	06 25 24.1	
	comp=Z,4μm,21.4s,baz=85,slow=34						
ATD	**Arta Tunnel**	**14.17**	**278**	*e*Pn	**Pn**	**06 20 48.5**	**-0.5**
AJN	**Ajban**	**14.67**	**352**	*i* P	**Pn**	**06 20 54.4**	**-1.2**
	SNR=7.8						
ASHO	**Ashiyiah**	**14.68**	**356**	P	**Pn**	**06 20 53.7**	**-2.1**
	SNR=122						
ASHO	**Ashiyiah**	**14.68**	**356**	*i* P	**Pn**	**06 20 53.8**	**-2.1**
	SNR=73						
ASUD	**Al Ashush, Dub**	**14.69**	**353**	P	**Pn**	**06 20 54.0**	**-1.8**
	SNR=21						
ASUD	**Al Ashush, Dub**	**14.69**	**353**	*i* P	**Pn**	**06 20 54.1**	**-1.8**
	SNR=23						
FAQ	**Al Faqa, Dubai**	**14.78**	**354**	*i* P	**Pn**	**06 20 54.9**	**-2.2**
	SNR=29						
HATD	**Hatta, Dubai**	**14.81**	**356**	P	**Pn**	**06 20 55.9**	**-1.7**
	SNR=68						
HATD	**Hatta, Dubai**	**14.81**	**356**	*i* P	**Pn**	**06 20 56.1**	**-1.6**
	SNR=75						
UOSS	**Minazif**	**14.93**	**357**	*e*Pn	**Pn**	**06 20 58.1**	**-1.1**
UOSS	**Minazif**	**14.93**	**357**	P	**Pn**	**06 20 57.0**	**-2.2**
	SNR=56						
UOSS	**Minazif**	**14.93**	**357**	*i* P	**Pn**	**06 20 56.9**	**-2.3**
	SNR=74						
MSFE	**Esma-Masafi**	**15.34**	**356**	*i* P	**Pn**	**06 21 02.6**	**-2.1**
	SNR=48						
UMQ	**Umm Al-Quwin**	**15.54**	**355**	*i* P	**Pn**	**06 21 06.3**	**-1.0**
	SNR=9.8						
MNCI	**Minicoy**	**15.77**	**95**	*e*Pn	**Pn**	**06 21 11.6**	**+1.4**
	comp=Z,860nm,1.6s						
BANOM	**Banah**	**15.89**	**357**	*i* P	**Pn**	**06 21 09.5**	**-2.3**
	SNR=36						
SHME	**Shamm**	**16.03**	**357**	*i* P	**Pn**	**06 21 11.2**	**-2.4**
	SNR=54						
HMDM	**Hanimaadhoo**	**16.14**	**100**	*e*Pn	**P**	**06 21 17.0**	**-1.3**
	comp=Z,448nm,1.5s						
ANKE	**Ethiopia-Afar**	**17.20**	**270**	*i* P	**Pn**	**06 21 29.5**	**+0.6**
ANKE				*e*S	S	06 25 52.5	+63
ANKE	**Ethiopia-Afar**	**17.20**	**270**	*i* P	**Pn**	**06 21 29.5**	**+0.6**
ANKE				*e*S	S	06 25 52.5	+63
DESE	**Dese**	**17.29**	**275**	*i* P	**P**	**06 21 32.7**	**+1.3**
DESE				*e*S	**S**	**06 24 47.7**	**-3.5**
DESE	**Dese**	**17.29**	**275**	*i* P	**P**	**06 21 32.7**	**+1.3**
DESE				*e*S	**S**	**06 24 47.7**	**-3.5**
RAYN	**Ar Rayn**	**17.50**	**322**	*e*Pn	**Pn**	**06 21 29.4**	**-2.8**
	comp=Z,671nm,1.4s						
RAYN	**Ar Rayn**	**17.50**	**322**	*e*P	**Pn**	**06 21 29.4**	**-2.8**
RAYN				pmax	pmax		
	comp=Z,671nm,1.4s						
BOM	**Bombay**	**17.54**	**58**	*e*P	**Pn**	**06 21 27.6**	**-5.1**
BOM				*e*x	x	06 24 59.9	
BHJ	**Bhuj**	**17.80**	**41**	*e*P	**P**	**06 21 37.1**	**+0.5**
BHJ				IAmb	IAmb	06 21 41.9	
	comp=Z,2μm,1.9s						
AAE	**Adis Abeba**	**18.19**	**269**	*i* P	**P**	**06 21 43.8**	**+2.5**
AAE				*e*S	S	06 25 50.1	+41
AAE	**Adis Abeba**	**18.19**	**269**	*i* P	**P**	**06 21 43.8**	**+2.5**
AAE				*e*S	S	06 25 50.1	+41
POO	**Poona**	**18.25**	**60**	*e*P	**Pn**	**06 21 41.5**	**0.0**
FURI	**Furi**	**18.29**	**268**	*e*Pn	**Pn**	**06 21 42.2**	**-0.1**
	comp=Z,618nm,1.3s						
H08N2	**Diego Garcia H**	**21.25**	**139**	T	T	06 43 52.7	
	baz=319,slow=76,SNR=570						
H08N3	**Diego Garcia H**	**21.26**	**139**	T	T	06 43 59.0	
	baz=319,slow=76,SNR=626						
H08N1	**Diego Carcia H**	**21.27**	**139**	T	T	06 43 54.4	
	baz=319,slow=76,SNR=680						
HYB	**Hyderabad**	**22.03**	**68**	⇑ *i*P	**P**	**06 22 23.0**	**+0.2**
	comp=Z,230nm,1.0s						
HYB				*e*S	**S**	**06 26 30.0**	**+4.4**
KMBO	**Kilima Mbogo**	**22.70**	**242**	P	**P**	**06 22 29.1**	**-1.1**
	comp=Z,159nm,1.2s,baz=49,slow=11,SNR=69						
KMBO				S	**S**	**06 26 37.2**	**-1.3**
	comp=Z,2.7nm,0.5s,baz=36,slow=17,SNR=3.3						
KMBO				LR	LR	06 32 10.4	
	comp=Z,4μm,18.9s,baz=43,slow=39						
KMBO	**Kilima Mbogo**	**22.70**	**242**	*e*P	**P**	**06 22 30.0**	**-0.2**
	comp=Z,243nm,1.2s						
KMBO				S	**S**	**06 26 37.2**	**-1.3**
KMBO	**Kilima Mbogo**	**22.70**	**242**	P	**P**	**06 22 30.2**	**+0.1**
	SNR=177						
KMBO	**Kilima Mbogo**	**22.70**	**242**	*i* P	**P**	**06 22 29.5**	**-0.7**
	SNR=108						
KMBO	**Kilima Mbogo**	**22.70**	**242**	*e*P	**P**	**06 22 30.0**	**-0.2**
KMBO				pmax	pmax		
	comp=Z,240nm,1.2s						
DGAR	**Diego Garcia**	**23.01**	**138**	*e*P	**P**	**06 22 34.2**	**+1.0**
	comp=Z,784nm,1.7s						
DGAR				LR	LR		
	comp=Z,12μm,19.0s						
DGAR	**Diego Garcia**	**23.01**	**138**	*e*P	**P**	**06 22 34.2**	**+1.0**
DGAR				pmax	pmax		
	comp=Z,784nm,1.7s						
DGAR				MLR	MLR		
	comp=Z,12μm,19.0s						
NAI	**Nairobi**	**23.16**	**242**	*e*P	**P**	**06 22 35.1**	**+0.1**
	comp=Z,347nm,1.1s						
NAI				LR	LR		
	comp=Z,5μm,18.0s						
NAI	**Nairobi**	**23.16**	**242**	*e*P	**P**	**06 22 35.1**	**+0.1**
NAI				pmax	pmax		
	comp=Z,350nm,1.1s						
PALK	**Pallekele**	**23.41**	**95**	P	**P**	**06 22 37.1**	**-0.2**
	comp=Z,3.7nm,0.4s,baz=296,slow=10,SNR=27						
PALK	**Pallekele**	**23.41**	**95**	*e*P	**P**	**06 22 37.9**	**+0.6**
	comp=Z,251nm,1.6s						
PALK	**Pallekele**	**23.41**	**95**	P	**P**	**06 22 38.1**	**+0.8**
	SNR=22						
PALK	**Pallekele**	**23.41**	**95**	*i* P	**P**	**06 22 38.1**	**+0.8**
	SNR=22						
PALK	**Pallekele**	**23.41**	**95**	*e*P	**P**	**06 22 37.9**	**+0.6**
PALK				pmax	pmax		
	comp=Z,251nm,1.6s						
BHPL	**Bhopal**	**23.42**	**53**	*e*P	**P**	**06 22 37.1**	**-0.2**
BHPL				IAmb	IAmb	06 22 42.7	
	comp=Z,9μm,4.1s						
NGP	**Nagpur**	**23.79**	**60**	*e*P	**P**	**06 22 42.1**	**+1.2**
BBAT	**Babati**	**25.57**	**238**	*i* S	S	06 27 11.8	-13
KBL	**Kabul**	**26.76**	**22**	*e*P	**P**	**06 23 10.4**	**+2.3**
	comp=Z,90nm,1.0s						
KBL	**Kabul**	**26.76**	**22**	*e*P	**P**	**06 23 10.4**	**+2.3**
KBL				pmax	pmax		
	comp=Z,90nm,1.0s						
GEYT	**Alibeck**	**27.85**	**2**	P	**P**	**06 23 18.6**	**+0.9**
	comp=Z,16nm,1.0s,baz=108,slow=22,SNR=33						
GEYT				LR	LR	06 35 48.6	
	comp=Z,3μm,19.4s,baz=285,slow=40						
GYA0B	**ALIBECK ARRAY**	**27.85**	**2**	*e*P	**P**	**06 23 18.9**	**+1.3**
GYA0B				LR	LR		
	comp=Z,4μm,20.0s						
SMLA	**Simla**	**28.07**	**39**	*e*P	**P**	**06 23 19.9**	**+0.3**
SMLA				IAmb	IAmb	06 23 24.7	
	comp=Z,328nm,1.9s						
DDI	**Dehra Dun**	**28.08**	**41**	*e*P	**P**	**06 23 20.4**	**+0.6**
MBAR	**Mbarara**	**28.34**	**250**	P	**P**	**06 23 24.2**	**+1.8**
	comp=Z,6.7nm,0.5s,baz=66,slow=10.0,SNR=56						
MBAR				LR	LR	06 34 45.2	
	comp=Z,8μm,19.9s,baz=68,slow=37						
MBAR	**Mbarara**	**28.34**	**250**	*e*P	**P**	**06 23 23.1**	**+0.8**
	comp=Z,222nm,1.7s						
MBAR	**Mbarara**	**28.34**	**250**	*de*P	**P**	**06 23 23.2**	**+0.8**
DHRM	**DHARAMSHALA**	**28.36**	**36**	*e*P	**P**	**06 23 23.5**	**+1.0**
DHRM				IAmb	IAmb	06 23 28.3	
	comp=Z,98nm,0.9s						
EIL	**Elat**	**28.56**	**316**	P	**P**	**06 23 25.8**	**+1.8**
	comp=Z,48nm,1.1s,baz=165,slow=8.4,SNR=25						
EIL				LR	LR	06 34 33.2	
	comp=Z,8μm,18.9s,baz=133,slow=36						
ASF	**Jabal al Asfar**	**28.99**	**323**	P	**P**	**06 23 29.6**	**+1.7**
	comp=Z,19nm,1.0s,baz=115,slow=1.8,SNR=38						
ASF				LR	LR	06 35 13.0	
	comp=Z,7μm,18.3s,baz=88,slow=37						
BWNR	**Bhubaneshwar**	**29.43**	**66**	*ex*	P	06 23 26.3	-5.5
LKRN	**Lenkeran, Azer**	**29.59**	**347**	P	**P**	**06 23 33.8**	**+0.7**
OPO	**Ambohidratompo**	**30.02**	**199**	P	**P**	**06 23 37.8**	**+0.5**
	comp=Z,19nm,1.2s,baz=16,slow=9.9,SNR=18						
OPO				LR	LR	06 32 59.7	
	comp=Z,12μm,20.0s,baz=18,slow=31						
PYUN	**Piuthan**	**30.23**	**50**	*e*P	**P**	**06 23 40.1**	**+1.0**
	comp=Z,193nm,1.2s						
ABPO	**Ambohimpanom**	**30.43**	**199**	*e*P	**P**	**06 23 41.6**	**+0.8**
	comp=Z,448nm,2.0s						
ABPO				LR	LR		
	comp=Z,9μm,19.0s						
ABPO	**Ambohimpanom**	**30.43**	**199**	*e*P	**P**	**06 23 41.6**	**+0.8**
ABPO				pmax	pmax		
	comp=Z,450nm,2.0s						
MMAI	**Mount Meron Ar**	**30.48**	**322**	P	**P**	**06 23 43.6**	**+2.6**
	comp=Z,15nm,0.8s,baz=126,slow=9.4,SNR=13						
KOLN	**Koldanda**	**30.52**	**51**	*e*P	**P**	**06 23 42.7**	**+1.0**
	comp=Z,138nm,1.0s						
BOK	**Bokaro**	**30.63**	**60**	*e*P	**P**	**06 23 41.5**	**-1.0**
NAX	**Nakhchivan**	**30.90**	**342**	P	**P**	**06 23 45.6**	**+0.8**
DANN	**Dangsing**	**30.94**	**50**	*e*P	**P**	**06 23 46.2**	**+0.7**
	comp=Z,119nm,1.0s						
RER	**Riviere de l'E**	**30.96**	**183**	PFAKE		06 24 00.0	+15
RER				LR	LR		
	comp=Z,10μm,21.0s						
DMN	**Daman**	**31.61**	**52**	*e*P	**P**	**06 23 52.3**	**+1.0**
	comp=Z,206nm,1.2s						
PKIN	**Phulchoki**	**31.82**	**53**	*e*P	**P**	**06 23 53.9**	**+0.7**
	comp=Z,333nm,1.6s						
PKI	**Pulchoki**	**31.82**	**53**	*e*P	**P**	**06 23 54.1**	**+0.8**
KKN	**Kakani**	**31.83**	**52**	*e*P	**P**	**06 23 54.2**	**+1.0**
	comp=Z,142nm,1.0s						
MNGR	**Mingechevir, A**	**31.96**	**345**	P	**P**	**06 23 54.8**	**+0.9**
GNI	**Garni**	**32.03**	**342**	*e*P	**P**	**06 23 56.7**	**+2.0**
	comp=Z,512nm,1.5s						
GNI				LR	LR		
	comp=Z,6μm,19.0s						
GNI	**Garni**	**32.03**	**342**	P	**P**	**06 23 56.6**	**+1.8**
	SNR=72						
GNI	**Garni**	**32.03**	**342**	*i* P	**P**	**06 23 55.3**	**+0.6**
	SNR=63						
GNI	**Garni**	**32.03**	**342**	*d i*P	**P**	**06 23 56.6**	**+1.8**
GNI				pmax	pmax		
	comp=Z,1μm,1.6s						
GNI				MLR	MLR		
	comp=Z,16μm,16.0s						
GANJ	**Ganja**	**32.03**	**344**	P	**P**	**06 23 55.6**	**+0.9**
SEKA	**Sheki**	**32.34**	**346**	P	**P**	**06 23 57.9**	**+0.5**
GUN	**Gumba**	**32.35**	**53**	*e*P	**P**	**06 23 59.1**	**+1.1**
	comp=Z,544nm,1.4s						
AKT	**Akhty**	**32.48**	**347**	*e*P	**P**	**06 23 59.8**	**+1.2**
AKT				*e*		06 25 05.3	
AKT				*e*		06 26 43.5	
AKT				pmax	pmax		
	comp=Z,180nm,1.5s						
JIRN	**Jiri**	**32.48**	**53**	*e*P	**P**	**06 23 59.9**	**+0.8**
	comp=Z,333nm,1.2s						
RAMN	**Ramite**	**32.49**	**55**	*e*P	**P**	**06 24 00.1**	**+1.0**
	comp=Z,246nm,1.3s						
ZKTA	**Zakatala**	**32.89**	**345**	P	**P**	**06 24 03.0**	**+0.9**
CSS	**Mathiatis**	**33.06**	**322**	*e*P	**P**	**06 24 05.5**	**+1.7**
	comp=Z,103nm,1.5s						
CSS				LR	LR		
	comp=Z,6μm,21.0s						
ODAN	**Odare**	**33.09**	**55**	*e*P	**P**	**06 24 05.2**	**+0.9**
TAPN	**Taplejung**	**33.56**	**55**	*e*P	**P**	**06 24 09.4**	**+0.9**
AKH	**Akhalkalaki**	**33.57**	**341**	*e*P	**P**	**06 24 09.8**	**+1.6**
	comp=Z,176nm,1.5s						
AKH				LR	LR		
	comp=Z,3μm,21.0s						
AKH	**Akhalkalaki**	**33.57**	**341**	⇓ *i*P	**P**	**06 24 09.8**	**+1.6**
AKH	**Akhalkalaki**	**33.57**	**341**	*e*P	**P**	**06 24 09.8**	**+1.6**
AKH				pmax	pmax		
	comp=Z,180nm,1.4s						
KSH	**Kashi**	**33.86**	**27**	P	**P**	**06 24 06.4**	**-4.4**
KSH				*e*P	*e*P	06 24 10.4	-5.1
KSH				PP	**PnPn**	**06 25 18.4**	**-5.1**
KSH				S	S	06 29 25.0	-10
KSH				pmax	pmax		
	comp=Z,76nm,1.1s						
KSH				LR	LR		
	comp=Z,13μm,20.1s						
KSH				LR	LR		
	comp=Z,10μm,16.7s						
KSH				LR	LR		
	comp=Z,25μm,22.4s						
MAK	**Makhachkala**	**33.94**	**347**	*e*P	**P**	**06 24 09.8**	**-1.4**
MAK				*e*		06 25 26.9	
MAK				*e*S	**S**	**06 29 36.6**	**+1.2**
MAK				*e*S	**S**	**06 29 36.6**	**+1.2**
MAK				pmax	pmax		
	comp=Z,874nm,1.6s						
MAK				smax	smax		
	comp=E,340nm,1.1s						
MAK				smax	smax		
	comp=N,4μm,3.8s						
GTK	**Tadong**	**34.26**	**55**	*e*P	**P**	**06 24 15.0**	**+0.6**
GTK				IAmb	IAmb	06 24 18.6	
	comp=Z,167nm,1.4s						
GROC	**Groznyy**	**34.57**	**345**	*e*P	**P**	**06 24 18.2**	**+1.5**
GROC				*e*		06 25 36.3	
GROC				*e*		06 26 57.3	
GROC				*e*S	**S**	**06 29 49.7**	**+4.5**
GROC				pmax	pmax		
	comp=Z,222nm,1.4s						
ZEI	**Tsey**	**34.70**	**343**	*e*P	**P**	**06 24 15.3**	**-2.8**
ZEI				*e*		06 25 32.5	
ZEI				*e*S	**S**	**06 29 51.8**	**+4.2**
ZEI				pmax	pmax		
	comp=Z,268nm,1.6s						
ZEI				pmax	pmax		
	comp=E,204nm,1.5s						
ZEI				pmax	pmax		
	comp=N,104nm,1.1s						
ZEI				MLR	MLR		
	comp=Z,3μm,13.0s						
DHUB	**DHUBRI**	**34.92**	**58**	*e*P	**P**	**06 24 19.4**	**-0.5**
PBA	**Port Blair**	**34.96**	**84**	*e*P	P	06 24 19.0	-1.4
	comp=Z,746nm,1.9s						
PBA				LR	LR		
	comp=Z,6μm,18.0s						
KK31	**Karatay Array**	**35.00**	**17**	*e*P	**P**	**06 24 21.6**	**+1.1**
KK31	**Karatay Array**	**35.00**	**17**	*e*P	**P**	**06 24 21.6**	**+1.1**
KKAR	**Karatay Array**	**35.00**	**17**	*e*P	**P**	**06 24 21.6**	**+1.1**
KKAR	**Karatay Array**	**35.00**	**17**	*e*P	**P**	**06 24 21.6**	**+1.1**
TURI	**Tura**	**35.04**	**59**	*e*P	**P**	**06 24 20.1**	**-0.9**
TURI				IAmb	IAmb	06 24 21.6	
	comp=Z,1μm,3.4s						
DZA	**Taraz**	**35.05**	**18**	*e*P	**P**	**06 24 21.9**	**+0.9**
	comp=Z,92nm,2.4s						
AML	**Almayashu**	**35.17**	**22**	P	**P**	**06 24 23.6**	**+1.2**
	SNR=24						
BELO	**BELONIA**	**35.28**	**64**	*e*P	**P**	**06 24 23.4**	**+0.3**
AGT	**Agartala**	**35.29**	**63**	*e*P	**P**	**06 24 23.1**	**-0.1**
AGT				IAmb	IAmb	06 24 32.2	
NCK	**Nalchik**	**35.44**	**343**	⇓ *e*P	**P**	**06 24 25.9**	**+1.7**
NCK				pmax	pmax		
	comp=Z,223nm,2.5s						
NCK				MLR	MLR		
	comp=Z,6μm,18.0s						
NRN	**Naryn**	**35.46**	**25**	*e*P	**P**	**06 24 24.6**	**-0.2**
	comp=Z,30nm,1.1s						
NRN				LR	LR		
	comp=Z,2μm,21.0s						
NRN	**Naryn**	**35.46**	**25**	*e*P	**P**	**06 24 25.9**	**+1.1**
NRN				pmax	pmax		
	comp=Z,30nm,1.1s						
NEY	**Neytrino**	**35.47**	**342**	*de*P	**P**	**06 24 26.2**	**+1.5**
NEY				pmax	pmax		
	comp=Z,42nm,1.4s						
NEY				MLR	MLR		
	comp=Z,2μm,16.0s						
UCH	**Uchtor**	**35.55**	**22**	P	**P**	**06 24 27.0**	**+1.3**
	SNR=22						
EKS2	**Erkin-Say**	**35.66**	**21**	P	**P**	**06 24 28.3**	**+2.0**
	SNR=78						
KZA	**Kyzart**	**35.70**	**23**	P	**P**	**06 24 28.5**	**+1.5**
	SNR=23						
KBZ	**Khabaz**	**35.85**	**342**	P	**P**	**06 24 28.8**	**+1.1**
	comp=Z,36nm,0.9s,baz=167,slow=7.6,SNR=42						
KBZ				PP	**PP**	**06 25 48.8**	**-0.6**
	comp=Z,129nm,1.3s,baz=140,slow=6.8,SNR=14						
KBZ				LR	LR	06 40 45.7	
	comp=Z,6μm,19.2s,baz=153,slow=39						
AAK	**Ala-Archa**	**35.90**	**22**	P	**P**	**06 24 29.6**	**+1.2**
	comp=Z,20nm,1.0s,baz=195,slow=8.9,SNR=55						
AAK				LR	LR	06 40 13.5	
	comp=Z,5μm,20.1s,baz=200,slow=38						
AAK	**Ala-Archa**	**35.90**	**22**	P	**P**	**06 24 30.5**	**+2.1**
	SNR=23						
AAK	**Ala-Archa**	**35.90**	**22**	*e*P	**P**	**06 24 29.6**	**+1.2**
AAK				*e*P	**P**	**06 24 30.4**	**+2.1**
AAK	**Ala-Archa**	**35.90**	**22**	P	**P**	**06 24 30.1**	**+1.7**
	SNR=83						
AAK	**Ala-Archa**	**35.90**	**22**	*i* P	**P**	**06 24 28.7**	**+0.3**
	SNR=41						
AAK	**Ala-Archa**	**35.90**	**22**	*ce*P	**P**	**06 24 29.9**	**+1.5**
AAK				pmax	pmax		
	comp=Z,187nm,2.2s						
AAK				MLR	MLR		
	comp=Z,6μm,20.0s						
KBK	**Karagaybulak**	**36.09**	**22**	P	**P**	**06 24 31.7**	**+1.8**
	SNR=21						
FRU1	**Bishkek**	**36.10**	**22**	*e*P	**P**	**06 24 31.4**	**+1.4**
FRU1				pmax	pmax		
	comp=Z,232nm,1.4s						
FRU1				LR	LR		
	comp=Z,6μm,20.0s						
FRU1	**Bishkek**	**36.10**	**22**	*e*P	**P**	**06 24 31.4**	**+1.4**
FRU1				pmax	pmax		
	comp=Z,232nm,1.4s						
FRU1				MLR	MLR		
	comp=Z,6μm,20.0s						
FRU	**Bishkek**	**36.11**	**22**	⇓ *i*P	**P**	**06 24 31.0**	**+0.9**
FRU				*e*		06 25 46.0	
FRU				*e*S	**S**	**06 30 15.0**	**+5.9**
FRU				pmax	pmax		
	comp=Z,560nm,2.1s						
KVAR	**Kislovodsk Arr**	**36.12**	**342**	P	**P**	**06 24 31.5**	**+1.3**
	comp=Z,5.0nm,0.5s,baz=90,slow=20,SNR=22						
KIV	**Kislovodsk**	**36.12**	**342**	*e*P	**P**	**06 24 31.4**	**+1.3**
	comp=Z,452nm,1.4s						
KIV				LR	LR		
	comp=Z,6μm,19.0s						
KIV	**Kislovodsk**	**36.12**	**342**	P	**P**	**06 24 31.6**	**+1.4**
	SNR=71						
KIV	**Kislovodsk**	**36.12**	**342**	*i* P	**P**	**06 24 31.1**	**+1.0**
	SNR=51						
KIV	**Kislovodsk**	**36.12**	**342**	*e*P	**P**	**06 24 31.2**	**+1.0**
KIV				*e*		06 25 49.9	
KIV				*e*		06 26 57.0	
KIV				*e*S	**S**	**06 30 11.3**	**+2.0**
KIV				*e*SS	**SnSn**	**06 32 38.3**	**+3.3**
KIV				pmax	pmax		
	comp=Z,435nm,4.6s						
KIV				pmax	pmax		
	comp=Z,248nm,1.1s						
KIV				MLR	MLR		
	comp=Z,5μm,16.0s						
KSL	**Kastellorizon**	**36.14**	**321**	P	**P**	**06 24 31.4**	**+1.1**
KSL	**Kastellorizon**	**36.14**	**321**	P	**P**	**06 24 31.4**	**+1.1**
ULHL	**Ulahol**	**36.24**	**24**	P	**P**	**06 24 32.7**	**+1.3**
	SNR=15						
BRTR	**Keskin Array B**	**36.30**	**329**	P	**P**	**06 24 32.5**	**+0.7**
	comp=Z,15nm,0.8s,baz=148,slow=8.3,SNR=56						
BRTR				PP	**PnPn**	**06 25 54.0**	**+0.2**
	comp=Z,27nm,1.1s,baz=140,slow=9.7,SNR=9.8						
BRTR				PcP	**PcP**	**06 26 56.9**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=146,slow=5.2,SNR=3.6						
BRTR				LR	LR	06 40 46.8	
	comp=Z,3μm,18.1s,baz=114,slow=38						
BR101	**Keskin Array S**	**36.30**	**329**	*e*P	**P**	**06 24 32.5**	**+0.7**
BR101				*e*PP	**PnPn**	**06 25 54.0**	**+0.2**
BR101				*e*PcP	**PcP**	**06 26 56.9**	**+0.3**
BR131	**Keskin Array S**	**36.30**	**329**	*e*P	**P**	**06 24 32.9**	**+1.1**
BR131	**Keskin Array S**	**36.30**	**329**	P	**P**	**06 24 32.3**	**+0.5**
	SNR=38						
CHMS	**Chumysh**	**36.31**	**22**	P	**P**	**06 24 33.0**	**+1.3**
	SNR=11						
SHL	**Shillong**	**36.36**	**60**	*e*P	**P**	**06 24 32.5**	**-0.1**
	comp=Z,90nm,1.2s						
SHL				LR	LR		
	comp=Z,4μm,18.0s						
SHL	**Shillong**	**36.36**	**60**	*e*P	**P**	**06 24 32.9**	**+0.4**
SHL				pmax	pmax		
	comp=Z,91nm,1.2s						
SHL	**Shillong**	**36.36**	**60**	*e*P	**P**	**06 24 32.5**	**-0.1**
SHL				*i* P	**P**	**06 24 33.0**	**+0.4**
SHL				IAmb	IAmb	06 24 38.6	
	comp=Z,88nm,1.4s						
SHL				*i* x	x	06 30 18.0	
GUWA	**GUWAHATI**	**36.41**	**59**	*e*P	**P**	**06 24 32.6**	**-0.1**
GUWA				IAmb	IAmb	06 24 39.1	
	comp=Z,50nm,0.6s						
USP	**Ospenovka**	**36.45**	**21**	P	**P**	**06 24 34.9**	**+2.0**
	SNR=6.4						

LSA pmax pmax
comp=Z,24nm,1.7s
LSA Lhasa 37.29 53 *e*P **P 06 24 40.5 -0.3**
comp=Z,137nm,1.9s
LSA LR LR
comp=Z,10μm,22.0s
LSA Lhasa 37.29 53 *e*P **P 06 24 40.5 -0.3**
LSA pmax pmax
comp=Z,137nm,1.9s
LSA MLR MLR
comp=Z,10μm,22.0s
AAA Alma-Ata 37.32 24 *e*P **P 06 24 41.0 +0.7**
comp=Z,546nm,2.7s
AAA *e*S **S 06 30 28.8 +1.2**
AAA LR LR 06 42 29.4
comp=Z,759nm,13.9s
AAA Alma-Ata 37.32 24 *e*P **P 06 24 43.2 +2.8**
AAA *e*S **S 06 30 30.9 +3.4**
AAA pmax pmax
comp=Z,1μm,2.8s
AAA smax smax
comp=N,1μm,11.0s
AAA MLR MLR
comp=Z,1μm,16.0s
MDOK Medeo 37.33 24 *i* P **P 06 24 41.2 +0.7**
comp=Z,3μm,2.6s
MDOK *e*S **S 06 30 29.1 +1.2**
MDOK LR LR 06 42 42.9
comp=Z,656nm,14.4s
KARP Karpathos 37.34 318 PFAKE 06 24 50.0 +9.4
KARP LR LR
comp=Z,2μm,21.0s
KARP Karpathos 37.34 318 P **P 06 24 40.9 +0.3**
PRZ Przheval'sk 37.34 26 *e*P **P 06 24 41.6 +0.9**
comp=Z,446nm,1.9s
PRZ LR LR
comp=Z,8μm,22.0s
PRZ Przheval'sk 37.34 26 *e*P **P 06 24 41.6 +0.9**
PRZ pmax pmax
comp=Z,446nm,1.9s
PRZ MLR MLR
comp=Z,8μm,22.0s
TEZP TEZPUR 37.48 59 *e*P **P 06 24 41.3 -0.6**
TEZP IAmb IAmb 06 24 48.7
comp=Z,113nm,0.9s
ZKR Zakros 37.72 316 P **P 06 24 45.2 +1.4**
ZKR Zakros 37.72 316 P **P 06 24 45.2 +1.4**
SATY Saty 37.81 26 *i* P **P 06 24 45.0 +0.4**
comp=Z,450nm,2.8s
SATY *i* S **S 06 30 36.1 +0.9**
SATY *e*S **S 06 30 36.1 +0.9**
SATY LR LR 06 42 11.8
comp=Z,545nm,13.4s
BTLS Baital 37.85 20⇑ *i*P **P 06 24 45.3 +0.6**
comp=Z,119nm,1.8s
BTLS *i* PP **PP 06 26 11.6 +0.4**
BTLS *e*S **S 06 30 36.6 +1.2**
BTLS LR LR 06 42 11.8
comp=Z,406nm,16.8s
ZHN Zhinishke 37.91 26 *e*P **P 06 24 45.9 +0.5**
comp=Z,234nm,2.4s
ZHN LR LR 06 42 21.0
comp=Z,560nm,15.2s
IMP Imphal 37.92 62 *e*P **P 06 24 46.8 +1.1**
NIS1 Nisyros Isl. 37.95 319 P **P 06 24 46.5 +0.8**
NIS1 Nisyros Isl. 37.95 319 P **P 06 24 46.5 +0.8**
LSZ Lusaka 38.13 229 *e*P **P 06 24 47.7 +0.1**
comp=Z,356nm,1.9s
LSZ LR LR
comp=Z,4μm,19.0s
LSZ Lusaka 38.13 229 P **P 06 24 48.5 +0.9**
SNR=21
LSZ Lusaka 38.13 229 *e*P **P 06 24 47.7 +0.1**
LSZ pmax pmax
comp=Z,360nm,1.9s
BODT Bodrum 38.14 320 P **P 06 24 44.8 -2.5**
BODT Bodrum 38.14 320 P **P 06 24 44.8 -2.5**
UZB Uzynbulak 38.15 26⇑ *i*P **P 06 24 47.9 +0.5**
comp=Z,214nm,2.4s
UZB *e*S **S 06 30 41.2 +0.9**
UZB LR LR 06 41 59.1
comp=Z,385nm,14.4s
NPS Neapolis 38.22 316 P **P 06 24 49.2 +1.2**
NPS Neapolis 38.22 316 P **P 06 24 49.2 +1.2**
NPS Neapolis 38.22 316 P **P 06 24 49.2 +1.2**
KPKS Kokpek 38.26 26⇑ *i*P **P 06 24 48.7 +0.4**
comp=Z,417nm,2.6s
KPKS *i* PP **PP 06 26 16.3 +0.4**
KPKS *e*S **S 06 30 42.7 +0.8**
KPKS LR LR 06 42 27.7
comp=Z,666nm,13.2s
KOHI KOHIMA 38.32 61 *e*P **P 06 24 49.0 -0.2**
KOHI IAmb IAmb 06 24 51.8
comp=Z,309nm,2.0s
SHLS Shalkode 38.35 27 *e*P **P 06 24 51.4 +2.2**
comp=Z,216nm,2.3s
SHLS *i* PP **PnPn 06 26 19.5 +0.8**
SHLS LR LR 06 43 00.5
comp=Z,462nm,15.6s
ITAN ITANAGAR 38.43 59 *e*P **P 06 24 50.2 +0.2**
ITAN IAmb IAmb 06 24 54.4
comp=Z,84nm,0.3s
SIVA Sivas 38.64 315 P **P 06 24 53.0 +1.5**
SIVA Sivas 38.64 315 P **P 06 24 53.0 +1.5**
ANN Anapa 38.66 337 *e*P **P 06 24 49.8 -1.7**
ANN *e**PP **pP 06 24 53.4 -2.9**
ANN *e* 06 26 20.7
ANN *e* 06 27 01.2
ANN *e*S **S 06 30 47.8 +0.2**
ANN pmax pmax
comp=Z,204nm,1.0s
ANN MLR MLR
comp=N,2μm,18.0s
ANN MLR MLR
comp=Z,3μm,18.0s
ZIRO ZIRO 38.67 58 *e*P **P 06 24 51.9 -0.2**
ANAF Anafi Island 38.72 318 P **P 06 24 52.4 +0.2**
IDI Anoyia 38.73 316 P **P 06 24 53.1 +0.8**
comp=Z,64nm,0.9s,baz=111,slow=8.2,SNR=18
IDI Anoyia 38.73 316 *e*P **P 06 24 52.9 +0.6**
comp=Z,487nm,1.8s
IDI LR LR
comp=Z,2μm,20.0s
IDI Anoyia 38.73 316⇓ *i*P **P 06 24 54.1 +1.8**
IDI Anoyia 38.73 316 P **P 06 24 53.0 +0.6**
JORH JORHAT 38.75 59 *e*P **P 06 24 50.9 -1.7**
MOKO MOKOCHONG 38.85 60 *e*P **P 06 24 53.1 -0.5**
MOKO IAmb IAmb 06 24 55.1
comp=Z,1μm,3.1s
SANT Santorini 38.94 318 *e*P **P 06 24 54.9 +0.8**
comp=Z,208nm,1.2s
SANT LR LR
comp=Z,1μm,20.0s
SANT Santorini 38.94 318 P **P 06 24 54.5 +0.4**
AB31 Akbulak array 39.23 3 *e*P **P 06 24 55.4 -0.9**
AB31 pmax pmax
comp=Z,67nm,1.2s
ABKAR Akbulak array 39.23 3 *e*P **P 06 24 56.4 +0.1**
IOSP Ios island 39.25 318 P **P 06 24 57.8 +1.2**
VAM Vamos 39.27 315 P **P 06 24 57.5 +0.7**
VAM Vamos 39.27 315 P **P 06 24 57.5 +0.7**
VAM Vamos 39.27 315 P **P 06 24 57.5 +0.7**
APE Apeiranthos 39.29 318 P **P 06 24 57.9 +0.9**
APE Apeiranthos 39.29 318⇓ *i*P **P 06 24 58.2 +1.2**
APE Apeiranthos 39.29 318 P **P 06 24 57.9 +0.9**
APE Apeiranthos 39.29 318 P **P 06 24 57.9 +0.9**
MLSI Meulaboh, Aceh 39.30 95 P P 06 25 05.7 +8.3
TDK Taldyqorghan 39.41 24 *i* P **P 06 24 58.9 +1.0**
comp=Z,750nm,2.5s
TDK *i* PP **PP 06 26 29.4 +1.0**
TDK *e*S **S 06 31 00.7 +1.8**
CHAN Chania 39.44 315 P **P 06 24 59.5 +1.3**
IMMV Iera Moni Meta 39.45 315 P **P 06 24 59.2 +0.9**
DIBR DIBRUGARH 39.54 59 *e*P **P 06 24 57.9 -1.3**
LHMI Lhok Sumawe 39.67 94 PFAKE 06 25 10.0 +10
LHMI LR LR
comp=Z,2μm,19.0s
CHOS Chios island 39.73 321 P **P 06 25 02.1 +1.4**
CHOS Chios island 39.73 321 P **P 06 25 02.1 +1.4**
SERI Serifos 40.03 318 P **P 06 25 03.2 0.0**
SIM Simferopol' 40.12 334 *de*P **P 06 25 04.5 +0.7**
SIM 06 26 34.2
SIM *e*S **S 06 31 11.7 +2.1**
SIM SS SS 06 33 55.2 -12

SIM pmax pmax
comp=Z,178nm,1.0s
TPTI 40.26 97 P P 06 25 13.6 +8.3
LKP Lekhapani 40.29 59 *e*P **P 06 25 04.8 -0.6**
AKTO Aktyubinsk 40.35 1 P **P 06 25 05.7 +0.1**
comp=Z,46nm,1.0s,baz=176,slow=8.5,SNR=35
SIGR SIGRI 40.36 321 P **P 06 25 07.4 +1.6**
SIGR SIGRI 40.36 321 P **P 06 25 07.4 +1.6**
EZN Ezine 40.45 322 P **P 06 25 07.5 +0.9**
EZN Ezine 40.45 322 P **P 06 25 07.5 +0.9**
EZN Ezine 40.45 322 P **P 06 25 07.5 +0.9**
KTHR Kythira 40.54 316 P **P 06 25 09.1 +1.7**
KCSI Kotacane, Aceh 40.78 96 P P 06 25 16.6 +6.9
PTL Penteli 40.94 319 P **P 06 25 10.9 +0.2**
PTL Penteli 40.94 319 P **P 06 25 10.9 +0.2**
ATHU Athens Univers 40.94 318 P **P 06 25 10.9 +0.2**
ATHU Athens Univers 40.94 318 P **P 06 25 10.9 +0.2**
SKY Skiros Island 40.97 320 P **P 06 25 12.0 +1.1**
SKY Skiros Island 40.97 320 P **P 06 25 12.0 +1.1**
UMPA Umpang Tak 41.01 77 P **P 06 25 12.8 +1.3**
comp=Z,21nm,1.1s
DID Didima 41.05 317 P **P 06 25 11.5 -0.1**
DID Didima 41.05 317 P **P 06 25 11.5 -0.1**
GSI Gunungsitoli 41.06 100 PFAKE 06 25 20.0 +8.0
GSI LR LR
comp=Z,2μm,18.0s
EREA Eretria 41.10 319 P **P 06 25 12.6 +0.6**
LIA Limnos Island 41.19 322 P **P 06 25 14.1 +1.5**
LIA Limnos Island 41.19 322 P **P 06 25 14.1 +1.5**
DYR Agios Nikonas 41.26 316 P **P 06 25 13.2 -0.2**
CM31 Chiang Mai Arr 41.27 73 *e*P **P 06 25 13.5 -0.1**
CM31 Chiang Mai Arr 41.27 73 P **P 06 25 14.2 +0.5**
SNR=42
CMAR Chiang Mai Arr 41.27 73 P **P 06 25 14.2 +0.6**
comp=Z,20nm,1.0s,baz=266,slow=8.1,SNR=59
CMAR LR LR 06 41 44.4
comp=Z,956nm,20.0s,baz=275,slow=35
CM01 Chiang Mai Arr 41.28 73 *e*P **P 06 25 13.5 -0.2**
ALN Alexandroupoli 41.29 324 *e*P **P 06 25 15.2 +1.7**
comp=Z,144nm,1.4s
ALN LR LR
comp=Z,700nm,21.0s
ALN Alexandroupoli 41.29 324 P **P 06 25 14.3 +0.8**
ALN Alexandroupoli 41.29 324 *e*P **P 06 25 15.2 +1.7**
ALN pmax pmax
comp=Z,140nm,1.4s
CHTO Chiang Mai 41.31 73 *e*P **P 06 25 14.6 +0.6**
comp=Z,141nm,1.6s
CHTO LR LR
comp=Z,900nm,18.0s
CHTO Chiang Mai 41.31 73 P **P 06 25 14.1 +0.1**
SNR=35
CHTO Chiang Mai 41.31 73 *e*P **P 06 25 14.6 +0.6**
CHTO pmax pmax
comp=Z,140nm,1.6s
CHTO Chiang Mai 41.31 73 P **P 06 25 14.4 +0.4**
comp=Z,215nm,2.0s,comp=Z,7μm
CMMT Chiang Mai 41.31 73 P **P 06 25 14.3 +0.3**
comp=Z,48nm,2.0s,comp=Z,2μm
MATP Matopo 41.33 223 P **P 06 25 14.6 +0.4**
comp=Z,35nm,0.9s,baz=34,slow=10,SNR=50
LTK Loutraki 41.51 318 P **P 06 25 14.8 -0.6**
LTK Loutraki 41.51 318 P **P 06 25 14.8 -0.6**
UTHA Uthaitani 41.54 78 P **P 06 25 17.8 +1.9**
comp=Z,10nm,1.4s,comp=Z,228nm
VLX Vlachokerasia 41.55 317 P **P 06 25 15.3 -0.5**
VLX Vlachokerasia 41.55 317 P **P 06 25 15.3 -0.5**
AOS Alonnisos 41.57 320 P **P 06 25 16.5 +0.7**
AOS Alonnisos 41.57 320 P **P 06 25 16.5 +0.7**
PHET Kaeng Krachan 41.67 82 P **P 06 25 18.9 +1.9**
comp=Z,14nm,1.1s
PROD Prodromos 41.68 318 P **P 06 25 16.6 -0.2**
TRIP Tripoli 41.71 317 P **P 06 25 17.5 +0.4**
PYL PYLOS 41.74 316 P **P 06 25 16.4 -0.8**
PYL PYLOS 41.74 316 P **P 06 25 16.4 -0.8**
ITM Ithomi 41.76 316 *e*P **P 06 25 18.9 +1.4**
comp=Z,177nm,1.3s
ITM LR LR
comp=Z,1μm,21.0s
SKIA Skiathos 41.83 320 P **P 06 25 18.1 +0.2**
SMIA Simia 41.83 319 P **P 06 25 18.3 +0.3**
SUKH Sukhothai 41.83 75 P **P 06 25 20.2 +2.0**
comp=Z,8.6nm,1.1s
LKR Lokris 41.84 319 P **P 06 25 17.5 -0.5**
LKR Lokris 41.84 319 P **P 06 25 17.5 -0.5**
THAS Thassos island 41.90 322 P **P 06 25 18.6 +0.1**
BRZS Berezniki 41.91 15 *i* P **P 06 25 19.6 +1.2**
comp=Z,653nm,4.5s
BRZS *e*S **S 06 31 38.1 +2.0**
BRZS LR LR 06 43 19.1
comp=Z,945nm,17.4s
LAMP Lampang 41.93 73 P **P 06 25 21.1 +2.1**
comp=Z,10nm,1.2s,comp=Z,147nm
PSN Preselentsi 41.98 328 *i* P **P 06 25 20.0 +1.0**
DSF Desfina 42.01 318 P **P 06 25 18.2 -1.3**
DSF Desfina 42.01 318 P **P 06 25 18.2 -1.3**
TRTT Trang 42.03 89 P **P 06 25 21.1 +1.2**
comp=Z,27nm,2.6s,comp=Z,923nm
PSI Prapat 42.05 97 LR LR 06 40 42.9
comp=Z,1μm,19.9s,baz=270,slow=33
PSI Prapat 42.05 97 *e*P **P 06 25 21.1 +0.9**
comp=Z,96nm,1.7s
PSI pmax pmax
comp=Z,96nm,1.7s
KLV Kalavryta, Ach 42.06 317 P **P 06 25 19.9 0.0**
KLV Kalavryta, Ach 42.06 317 P **P 06 25 19.9 0.0**
XOR Xorichti 42.12 320 P **P 06 25 19.9 -0.4**
XOR Xorichti 42.12 320 P **P 06 25 19.9 -0.4**
KDZ Kurdzhali 42.14 324 *i* P **P 06 25 25.1 +4.7**
OUR Ouranopolis 42.19 321 P **P 06 25 21.2 +0.4**
OUR Ouranopolis 42.19 321 P **P 06 25 21.2 +0.4**
OUR Ouranopolis 42.19 321 P **P 06 25 21.2 +0.4**
PAYA Payao 42.24 72 P **P 06 25 23.1 +1.5**
comp=Z,14nm,1.9s,comp=Z,203nm
KALE Kalithea 42.26 318 P **P 06 25 21.0 -0.5**
KALE Kalithea 42.26 318 P **P 06 25 21.0 -0.5**
LAKA Lakka 42.28 318 P **P 06 25 21.6 -0.1**
LAKA Lakka 42.28 318 P **P 06 25 21.6 -0.1**
TRIZ Trizonia 42.29 318 P **P 06 25 21.7 0.0**
FYTO Fytoko, Volos 42.30 320 P **P 06 25 21.2 -0.6**
FYTO Fytoko, Volos 42.30 320 P **P 06 25 21.2 -0.6**
DRO Drossia 42.31 317 P **P 06 25 22.7 +0.8**
TIRR Tirgusor 42.41 329 *e*P **P 06 25 22.8 +0.2**
comp=Z,118nm,1.1s
TIRR LR LR
comp=Z,2μm,21.0s
TIRR Tirgusor 42.41 329⇓ *i*P **P 06 25 22.7 +0.2**
TIRR Tirgusor 42.41 329 *e*P **P 06 25 22.8 +0.2**
TIRR pmax pmax
comp=Z,120nm,1.1s
EFP Efpalio 42.43 318 P **P 06 25 23.1 +0.3**
MK01 Makanchi Array 42.44 26 *e*P **P 06 25 22.8 -0.1**
MK32 Makanchi Array 42.45 26 *e*P **P 06 25 22.9 0.0**
MKAR Makanchi Array 42.45 26 P **P 06 25 22.9 -0.1**
comp=Z,8.9nm,0.6s,baz=212,slow=8.7,SNR=51
AGG Agios Georgios 42.48 319 *e*P **P 06 25 24.4 +1.1**
comp=Z,89nm,1.0s
AGG LR LR
comp=Z,2μm,20.0s
AGG Agios Georgios 42.48 319 P **P 06 25 21.8 -1.5**
AGG Agios Georgios 42.48 319 *e*P **P 06 25 24.4 +1.1**
AGG pmax pmax
comp=Z,89nm,1.0s
ANX Ano Chora 42.51 318 P **P 06 25 23.4 -0.2**
RLS Riolos of Patr 42.53 317 P **P 06 25 24.4 +0.8**
RLS Riolos of Patr 42.53 317 P **P 06 25 24.4 +0.8**
PLG Polygyros 42.54 321 P **P 06 25 23.1 -0.7**
PLG Polygyros 42.54 321 P **P 06 25 23.1 -0.7**
PLG Polygyros 42.54 321 P **P 06 25 23.1 -0.7**
RZN Rozhen 42.57 324 *i* P **P 06 25 25.2 +1.0**
MAKR Makrakomi, Fth 42.60 319 P **P 06 25 23.3 -1.0**
MAKR Makrakomi, Fth 42.60 319 P **P 06 25 23.3 -1.0**
TLB Topalu 42.68 329⇓ *i*P **P 06 25 25.4 +0.6**
EVR Evrytania 42.76 318 P **P 06 25 25.5 -0.1**
EVR Evrytania 42.76 318 P **P 06 25 25.5 -0.1**
PVO Paravola 42.78 318 P **P 06 25 26.3 +0.6**
HARR Harsova 42.81 329⇓ *i*P **P 06 25 26.1 +0.3**
HARR Harsova 42.81 329 P **P 06 25 26.1 +0.3**
PLD Plovdiv 42.84 324 P **P 06 25 26.9 +0.8**
SOH Sokhos 42.86 322 P **P 06 25 26.4 0.0**
SOH Sokhos 42.86 322 P **P 06 25 26.4 0.0**
WMQ Urumqi 42.87 33 P **P 06 25 26.8 +0.4**

WMQ pP sP 06 25 32.8 -0.3
WMQ sP pP 06 25 36.7 +5.5
WMQ PP **PP 06 27 09.6 +3.6**
WMQ S **S 06 31 51.5 +1.0**
WMQ SS **SS 06 34 59.6 -2.4**
WMQ pmax pmax
comp=Z,130nm,1.7s
WMQ pmax pmax
comp=Z,3μm,4.5s
WMQ LR LR
comp=Z,6μm,16.7s
WMQ LR LR
comp=Z,6μm,19.7s
WMQ LR LR
comp=Z,6μm,21.9s
NVR Nevrokopi 42.87 323 P **P 06 25 26.9 +0.5**
NVR Nevrokopi 42.87 323 P **P 06 25 26.9 +0.5**
HORT Hortiatis 42.88 321 P **P 06 25 26.0 -0.6**
HORT Hortiatis 42.88 321 P **P 06 25 26.0 -0.6**
SRS Serrai 42.89 322 P **P 06 25 26.6 0.0**
SRS Serrai 42.89 322 P **P 06 25 26.6 0.0**
SRS Serrai 42.89 322 P **P 06 25 28.1 +1.5**
LIT Litokhoron 42.98 320 *e*P **P 06 25 27.7 +0.4**
comp=Z,94nm,1.3s
LIT LR LR
comp=Z,2μm,20.0s
LIT Litokhoron 42.98 320 P **P 06 25 26.6 -0.7**
LIT Litokhoron 42.98 320 *e*P **P 06 25 27.7 +0.4**
LIT pmax pmax
comp=Z,94nm,1.2s
THE Thessaloniki 42.99 321 P **P 06 25 25.9 -1.4**
THE Thessaloniki 42.99 321 P **P 06 25 25.9 -1.4**
THE Thessaloniki 42.99 321 P **P 06 25 25.9 -1.4**
SKLT Songkhla 43.02 90 P P 06 25 40.2 +12
VRH Novokhopyorsk 43.03 346 *e*P **P 06 25 27.3 -0.2**
VRH *e* 06 27 07.2
VRH *e*S **S 06 31 52.6 +0.1**
VRH pmax pmax
comp=Z,80nm,0.8s
VRH smax smax
comp=N,670nm,4.9s
VRH MLR MLR
comp=Z,7μm,21.1s
PBKT Sadao Pong 43.05 76 P **P 06 25 28.7 +0.5**
comp=Z,50nm,2.1s,comp=Z,2μm
CFR Carcaliu 43.06 330⇑ *i*P **P 06 25 27.8 0.0**
CFR Carcaliu 43.06 330 P **P 06 25 27.7 0.0**
MMB Musomiste 43.09 323 *i* P **P 06 25 29.0 +0.8**
MNSI Mandailing Nat 43.13 100 P **P 06 25 32.0 +3.1**
comp=Z,31nm,0.5s,comp=Z,9μm
KULM Kulim 43.31 93 *e*P **P 06 25 29.5 -0.8**
comp=Z,28nm,1.2s
KULM LR LR
comp=Z,2μm,19.0s
KNT Kendrikon 43.34 322 P **P 06 25 30.1 -0.1**
KNT Kendrikon 43.34 322 P **P 06 25 30.1 -0.1**
KNT Kendrikon 43.34 322 P **P 06 25 30.1 -0.1**
PGB Panagyurishte 43.43 324 *i* P **P 06 25 30.7 -0.2**
VORD Divnogorie 43.45 344 *e*P **P 06 25 29.8 -1.0**
VORD *e* 06 27 10.0
VORD pmax pmax
comp=Z,50nm,1.4s
GRG Griva 43.52 321 P **P 06 25 31.3 -0.4**
GRG Griva 43.52 321 P **P 06 25 31.3 -0.4**
KZN Kozani 43.55 320 P **P 06 25 31.1 -0.9**
KZN Kozani 43.55 320 P **P 06 25 31.1 -0.9**
KZN Kozani 43.55 320 P **P 06 25 31.1 -0.9**
VAY Valandovo 43.63 322 P **P 06 25 31.2 -1.3**
VAY Valandovo 43.63 322 P **P 06 25 31.2 -1.3**
VAY Valandovo 43.63 322 *i* P **P 06 25 33.2 +0.7**
VAY Valandovo 43.63 322 P **P 06 25 31.2 -1.3**
KKB Krupnik 43.65 323 *i* P **P 06 25 32.8 +0.1**
VSR Storozhevoye 43.71 344 *e*P **P 06 25 31.2 -1.8**
VSR *e* 06 27 12.9
VSR *e*S **S 06 31 57.3 -5.1**
VSR pmax pmax
comp=Z,130nm,1.2s
VSR smax smax
comp=N,830nm,6.0s
IPM Ipoh 43.80 94 PFAKE 06 25 50.0 +16
IPM LR LR
comp=Z,1μm,20.0s
ISR Istrita 43.82 329⇓ *i*P **P 06 25 35.6 +1.6**
ISR Istrita 43.82 329 P **P 06 25 35.6 +1.6**
PENT Pentalofos 43.89 319 P **P 06 25 34.5 -0.3**
LEOM Leova 43.94 331⇑ *i*P **P 06 25 35.1 +0.2**
LEOM Leova 43.94 331 P **P 06 25 35.0 +0.2**
CHAI Chaiyaphum 44.00 77 P **P 06 25 37.8 +2.0**
comp=Z,11nm,1.1s,comp=Z,147nm
VTS Vitosha 44.01 324 *e*P **P 06 25 36.2 +0.5**
comp=Z,93nm,0.9s
VTS LR LR
comp=Z,2μm,18.0s
VTS Vitosha 44.01 324⇓ *i*P **P 06 25 36.2 +0.5**
VTS Vitosha 44.01 324 *i* P **P 06 25 36.7 +1.0**
VTS Vitosha 44.01 324 P **P 06 25 35.9 +0.2**
VTS Vitosha 44.01 324 *e*P **P 06 25 36.2 +0.5**
VTS pmax pmax
comp=Z,93nm,0.9s
SRAK Srakaew 44.02 80 P P 06 25 42.1 +6.1
KIS Kishinev 44.05 332 *i* P **P 06 25 36.0 +0.2**
comp=Z,800nm,2.3s
KIS Kishinev 44.05 332 *i* PP PP 06 27 14.0 -4.5
KIS Kishinev 44.05 332 *i* PcP **PcP 06 27 25.0 +3.9**
KIS *i* S **S 06 32 05.0 -2.6**
KIS *e*SS SS 06 36 10.0 -15
KIS *e*SSS SSS 06 36 06.0
KIS *e*L L 06 39 18.0
KIS *e*LR LR 06 44 48.0
comp=Z,2μm,16.0s
IGT Igoumenitsa 44.06 318 P **P 06 25 34.0 -2.0**
IGT Igoumenitsa 44.06 318 P **P 06 25 34.0 -2.0**
IGT Igoumenitsa 44.06 318 P **P 06 25 34.0 -2.0**
FNA Florina 44.06 320 *e*P **P 06 25 36.6 +0.5**
comp=Z,61nm,0.9s
FNA Florina 44.06 320 P **P 06 25 35.5 -0.6**
FNA Florina 44.06 320 *e*P **P 06 25 36.6 +0.5**
FNA pmax pmax
comp=Z,61nm,0.9s
NEST Nestorio 44.07 320 P **P 06 25 35.2 -1.0**
ZSN Zaisan 44.08 27 *e*P **P 06 25 36.6 +0.5**
comp=Z,102nm,4.5s
ZSN *i* PP **PP 06 27 19.4 +0.5**
ZSN *i* S **S 06 32 09.2 +1.1**
ZSN LR LR 06 44 01.1
comp=Z,273nm,16.1s
STIP Stip 44.08 322 *i* P **P 06 25 35.6 -0.6**
VORR Voronezh 44.11 344 *e*P **P 06 25 37.0 +0.9**
VORR pmax pmax
comp=Z,500nm,2.4s
SGD Sagiada 44.16 318 P **P 06 25 37.0 +0.2**
KURBB Kurchatov Arra 44.19 19 P **P 06 25 37.2 +0.3**
comp=Z,7.2nm,0.9s,baz=216,slow=8.2,SNR=54
KURBB PcP **PcP 06 27 20.9 -0.5**
comp=Z,6.6nm,1.2s,baz=220,slow=4.3,SNR=4.7
BIA Bitola 44.23 321 P **P 06 25 37.2 -0.2**
BIA Bitola 44.23 321 P **P 06 25 37.2 -0.2**
BIA Bitola 44.23 321 *i* P **P 06 25 38.3 +0.9**
HUMR Humele 44.24 327⇑ *i*P **P 06 25 37.3 -0.1**
VRI Vrincioaia 44.24 329⇓ *i*P **P 06 25 38.5 +1.1**
VRI Vrincioaia 44.24 329 P **P 06 25 38.5 +1.1**
BVAR Borovoye Array 44.25 11 P **P 06 25 37.3 0.0**
comp=Z,4.7nm,0.8s,baz=182,slow=5.6,SNR=14
BVAR PcP **PP 06 27 20.9 +0.3**
comp=Z,5.7nm,0.8s,baz=186,slow=3.0,SNR=5.0
BRVK Borovoye 44.26 11 *e*P **P 06 25 37.8 +0.4**
comp=Z,84nm,1.6s
BRVK LR LR
comp=Z,4μm,18.0s
BRVK Borovoye 44.26 11 P **P 06 25 37.7 +0.3**
SNR=30
BRVK Borovoye 44.26 11 *ce*P **P 06 25 36.5 -0.9**
BRVK pmax pmax
comp=Z,110nm,2.4s
BRVK MLR MLR
comp=Z,4μm,18.0s
PLOR Plostina 44.27 329⇓ *i*P **P 06 25 39.0 +1.3**
PLOR Plostina 44.27 329 P **P 06 25 38.9 +1.3**
KURK Kurchatov 44.30 19 *e*P **P 06 25 37.1 -0.6**
comp=Z,67nm,1.1s
KURK *e*PP **PP 06 27 20.9 -0.2**
KURK LR LR
comp=Z,10μm,21.0s
KURK Kurchatov 44.30 19 P **P 06 25 38.3 +0.5**

SNR=32
KURK Kurchatov 44.30 19 *d* iP **P** **06 25 37.9 +0.2**
KURK pmax pmax
comp=Z,98nm,2.2s
KURK MLR MLR
comp=Z,11μm,21.0s
KBN Korca 44.35 320 P **P** **06 25 37.4 -1.0**
KBN Korca 44.35 320 P **P** **06 25 37.4 -1.0**
KBN Korca 44.35 320 P **P** **06 25 37.4 -1.0**
MLR Muntele Rosu 44.38 329 P **P** **06 25 39.7 +1.1**
comp=Z,26nm,0.9s,baz=146,slow=2.5,SNR=22
MLR Muntele Rosu 44.38 329 *eP* **P** **06 25 39.8 +1.1**
comp=Z,237nm,1.5s
MLR LR LR
comp=Z,2μm,18.0s
MLR Muntele Rosu 44.38 329 ⇓ *iP* **P** **06 25 39.9 +1.2**
MLR Muntele Rosu 44.38 329 *eP* **P** **06 25 40.4 +1.7**
MLR pmax pmax
comp=Z,240nm,1.5s
SRN Sarande 44.46 318 P P 06 25 28.4 -11
KRUS Krusevo 44.47 321 *i* P **P** **06 25 39.6 +0.2**
SEM Semipalatinsk 44.60 21 *eP* **P** **06 25 40.7 +0.3**
comp=Z,462nm,4.3s
SEM *eS* **S** **06 32 16.7 +0.8**
SEM LR LR 06 44 22.8
comp=Z,2μm,18.8s
OHR Ohrid 44.61 320 *i* P **P** **06 25 40.7 +0.2**
BKNI Bangkinang 44.66 100 PFAKE 06 25 50.0 +8.8
BKNI LR LR
comp=Z,2μm,18.0s
SKO Skopje 44.70 322 P **P** **06 25 39.5 -1.6**
SKO Skopje 44.70 322 P **P** **06 25 39.5 -1.6**
SKO Skopje 44.70 322 *i* P **P** **06 25 41.6 +0.5**
SKO Skopje 44.70 322 P **P** **06 25 39.5 -1.6**
VOIR 44.81 328 ⇑ *iP* **P** **06 25 42.4 +0.4**
VOIR 44.81 328 P **P** **06 25 42.3 +0.3**
OZUR 44.88 329 ⇓ *iP* **P** **06 25 42.5 0.0**
ARR Arges 44.98 328 ⇓ *iP* **P** **06 25 43.4 0.0**
DOPR Dopca 44.99 329 ⇑ *iP* **P** **06 25 43.6 +0.2**
LPSR Galich'ya Gora 45.02 344 *eP* **P** **06 25 42.9 -0.5**
LPSR *e* 06 27 25.2
LPSR pmax pmax
comp=Z,70nm,1.5s
SORM Soroca 45.11 333 ⇑ *iP* **P** **06 25 43.2 -1.0**
SORM Soroca 45.11 333 P **P** **06 25 43.1 -1.1**
COCO West Island 45.13 118 PFAKE 06 26 00.0 +15
COCO LR LR
comp=Z,2μm,20.0s
PHP Peshkopia 45.15 321 P **P** **06 25 43.3 -1.5**
PHP Peshkopia 45.15 321 P **P** **06 25 43.3 -1.5**
PHP Peshkopia 45.15 321 P **P** **06 25 43.3 -1.5**
NONG Nongkai 45.22 74 P **P** **06 25 46.0 +0.5**
comp=Z,1.3nm,2.1s
BIZ Bicaz 45.30 330 ⇓ *iP* **P** **06 25 46.6 +0.8**
TIR Tirane 45.33 320 PFAKE 06 26 00.0 +14
TIR LR LR
comp=Z,2μm,20.0s
LOT Lotru 45.49 327 ⇓ *iP* **P** **06 25 46.9 -0.6**
PRAR RASCA 45.54 331 ⇓ *iP* **P** **06 25 48.0 +0.3**
MDB Medias 45.63 328 ⇓ *iP* **P** **06 25 50.8 +2.4**
KMI Kunming 45.74 65 P **P** **06 25 49.9 0.0**
KMI pP pP 06 25 54.2 -0.5
KMI sP sP 06 25 55.8 -0.8
KMI PP **PP** **06 27 38.4 +1.3**
KMI S **S** **06 32 33.5 +0.2**
KMI SS **ScS** **06 35 49.0 +2.6**
KMI pmax pmax
comp=Z,58nm,1.2s
KMI pmax pmax
comp=Z,760nm,3.8s
KMI LR LR
comp=Z,1μm,18.8s
KMI LR LR
comp=Z,1μm,20.7s
KMI LR LR
comp=Z,2μm,19.6s
HERR Herculane 45.87 326 ⇑ *iP* **P** **06 25 50.1 -0.2**
SKNT Sakolnakorn 45.95 76 P **P** **06 25 52.1 +0.7**
comp=Z,32nm,2.0s,comp=Z,1μm
GZR Gura Zlata 46.00 326 ⇓ *iP* **P** **06 25 51.7 +0.3**
GZR Gura Zlata 46.00 326 P **P** **06 25 51.6 +0.2**
MDVR Moldovita 46.20 325 ⇑ *iP* **P** **06 25 52.9 -0.1**
BURAR Bucovina Array 46.21 330 ⇓ *iP* **P** **06 25 53.6 +0.5**
BURAR Bucovina Array 46.21 330 P **P** **06 25 53.5 +0.5**
BUR04 Bucovina Ar. S 46.21 330 *eP* **P** **06 25 53.0 -0.1**
DRME Dracevica, Mon 46.21 321 *eP* **P** **06 25 52.5 -0.6**
BUR08 Bucovina Ar. S 46.23 330 *eP* **P** **06 25 53.4 +0.1**
ARCR ARCALIA 46.27 329 ⇓ *iP* **P** **06 25 53.9 +0.4**
TIP Timpagrande 46.28 316 *eP* **P** **06 25 53.6 -0.1**
comp=Z,110nm,1.6s
TIP Timpagrande 46.28 316 ⇓ *iP* **P** **06 25 54.3 +0.5**
PDG Podgorica 46.30 321 ⇓ *iP* **P** **06 25 53.2 -0.6**
PDG Podgorica 46.30 321 *eP* **P** **06 25 52.8 -0.9**
TTG Podgorica 46.30 321 *eP* **P** **06 25 53.1 -0.6**
comp=Z,236nm,2.0s
TTG LR LR
comp=Z,1μm,18.0s
TTG Podgorica 46.30 321 *eP* **P** **06 25 53.1 -0.6**
TTG pmax pmax
comp=Z,240nm,2.0s
ARU Arti 46.36 1 P **P** **06 25 54.3 +0.3**
comp=Z,8.7nm,0.7s,baz=185,slow=3.5,SNR=13
ARU Arti 46.36 1 P **P** **06 25 54.3 +0.3**
ARU LR LR
comp=Z,2μm,22.0s
ARU Arti 46.36 1 *d iP* **P** **06 25 53.3 -0.7**
ARU 06 27 28.3
ARU 06 27 42.4
ARU *eS* **S** **06 32 41.6 +0.9**
ARU SSS SSS 06 36 59.1
ARU pmax pmax
comp=Z,77nm,2.5s
ARU MLR MLR
comp=Z,2μm,24.0s
CJR Cluj-Napoca 46.41 328 ⇓ *iP* **P** **06 25 55.0 +0.3**
CJR Cluj-Napoca 46.41 328 P **P** **06 25 54.9 +0.3**
LBTB Lobatse 46.45 221 *eP* **P** **06 25 56.0 +0.8**
comp=Z,157nm,1.4s
LBTB Lobatse 46.45 221 *eP* **P** **06 25 56.0 +0.8**
LBTB pmax pmax
comp=Z,160nm,1.4s
WDD Wied Dalam 46.46 311 PFAKE 06 26 10.0 +15
WDD LR LR
comp=Z,2μm,22.0s
CEL Celeste 46.47 314 PFAKE 06 26 10.0 +15
CEL LR LR
comp=Z,700nm,21.0s
AKASG Malin Array Be 46.68 336 P **P** **06 25 55.6 -0.9**
comp=Z,17nm,0.9s,baz=137,slow=7.2,SNR=64
AKASG PcP **PcP** **06 27 30.2 +0.1**
comp=Z,4.1nm,0.7s,baz=125,slow=2.3,SNR=6.7
AKASG PP **PP** **06 27 44.8 -1.7**
comp=Z,30nm,1.1s,baz=138,slow=9.9,SNR=11
AKASG LR LR 06 47 47.0
comp=Z,2μm,21.7s,baz=115,slow=39
AKBB Malin Array Si 46.68 336 *eP* **P** **06 25 55.6 -0.9**
AKBB *ePcP* **PcP** **06 27 30.2 +0.1**
AKBB *ePP* **PP** **06 27 44.8 -1.7**
AKBB Malin Array Si 46.68 336 *eP* **P** **06 25 55.7 -0.9**
AKBB *e* 06 27 30.3
AKBB *e* 06 27 44.8
KIEV Kiev 46.68 336 *eP* **P** **06 25 55.9 -0.7**
comp=Z,124nm,1.1s
KIEV LR LR
comp=Z,2μm,22.0s
KIEV Kiev 46.68 336 *i* P **P** **06 25 55.9 -0.7**
SNR=37
KIEV Kiev 46.68 336 *d iP* **P** **06 25 56.0 -0.7**
KIEV pmax pmax
comp=Z,133nm,1.6s
KIEV MLR MLR
comp=Z,2μm,19.0s
BZS Buzias 46.77 326 ⇓ *iP* **P** **06 25 57.0 -0.4**
BZS Buzias 46.77 326 P **P** **06 25 57.0 -0.4**
HCY Herceg Novi 46.78 321 *eP* **P** **06 25 55.1 -2.5**
DIVS Divibare 46.79 323 *eP* **P** **06 25 57.3 -0.4**
comp=Z,39nm,1.0s
DIVS LR LR
comp=Z,1μm,21.0s
DIVS Divibare 46.79 323 *eP* **P** **06 25 56.8 -0.9**
SVE Sverdlovsk 46.83 3 *eP* **P** **06 25 57.5 -0.1**
SVE *e* 06 27 49.4
SVE *eS* **S** **06 32 45.6 -1.8**
SVE pmax pmax
comp=Z,45nm,1.5s
SVE MLR MLR
comp=Z,2μm,22.0s
DRGR 46.93 328 ⇑ *iP* **P** **06 25 58.8 +0.1**
DRGR 46.93 328 P **P** **06 25 58.7 +0.1**
UPM Unac-Piva 46.94 322 *eP* **P** **06 25 58.4 -0.6**
BRY Bratogost 47.00 321 *eP* **P** **06 25 57.7 -1.7**
BBLS Lazići 47.01 323 *eP* **P** **06 25 58.8 -0.6**
TREB Trebinje 47.02 321 *eP* **P** **06 25 59.5 +0.1**
MATE Matera 47.02 318 ⇓ *iP* **P** **06 26 00.9 +1.5**
MYKOM Kota Tinggi 47.08 97 *eP* **P** **06 25 59.8 -0.5**
comp=Z,222nm,1.8s
MYKOM LR LR
comp=Z,1μm,22.0s
BMR Baia Mare 47.10 329 ⇓ *iP* **P** **06 26 00.9 +1.0**
SIRR Siria 47.15 327 ⇓ *iP* **P** **06 26 00.7 +0.3**
CUC Castrocucco 47.31 316 *eP* **P** **06 26 02.2 +0.4**
comp=Z,51nm,1.0s
CUC LR LR
comp=Z,1μm,22.0s
UBPT Khong Chiam 47.34 78 P **P** **06 26 02.4 +0.1**
comp=Z,43nm,2.1s
STON Ston 47.51 321 *i* P **P** **06 26 02.8 -0.3**
FRGS Fruska Gora 47.51 324 *eP* **P** **06 26 02.7 -0.5**
LTVH L~tav~rtes, 47.73 328 ⇑ *eP* **P** **06 26 05.9 +1.1**
LTVH *ePcP* **PP** **06 27 57.6 +1.0**
TRPA Tarpa 47.89 329 ⇓ *iP* **P** **06 26 06.3 +0.3**
TRPA Tarpa 47.89 329 ⇑ *eP* **P** **06 26 07.0 +1.0**
TRPA *ePcP* **PP** **06 28 00.0 +2.0**
OBN Obninsk 47.90 344 P **P** **06 26 05.2 -0.7**
comp=Z,6.9nm,0.4s,baz=170,slow=3.8,SNR=23
OBN Obninsk 47.90 344 *eP* **P** **06 26 06.4 +0.5**
comp=Z,606nm,1.7s
OBN LR LR
comp=Z,5μm,21.0s
OBN Obninsk 47.90 344 *d iP* **P** **06 26 05.8 -0.1**
OBN *e* 06 27 34.6
OBN *e* 06 27 57.2
OBN *ePPP* PPP 06 28 45.8
OBN *eS* **S** **06 33 02.4 -0.2**
OBN *eSS* **SS** **06 36 30.2 -1.1**
OBN *eSSS* SSS 06 37 41.8
OBN pmax pmax
comp=Z,211nm,1.6s
OBN MLR MLR
comp=Z,5μm,21.0s
GTA Gaotai 47.92 45 ⇓ *iP* **P** **06 26 06.0 -0.6**
GTA pP pP 06 26 10.7 -0.7
GTA sP sP 06 26 13.2 -0.1
GTA PP **PP** **06 27 58.3 -0.3**
GTA ScP **ScP** **06 31 24.3 -4.8**
GTA PcS **PcS** **06 31 30.0 -0.7**
GTA S **S** **06 33 02.4 -1.4**
GTA SS **SS** **06 36 27.2 -5.4**
GTA pmax pmax
comp=Z,28nm,2.0s
GTA pmax pmax
comp=Z,520nm,7.5s
GTA LR LR
comp=Z,1μm,19.4s
GTA LR LR
comp=Z,2μm,20.0s
GTA LR LR
comp=Z,3μm,21.3s
CD2 Chengdu 47.94 57 P **P** **06 26 06.4 -0.4**
CD2 pP pP 06 26 09.5 -2.2
CD2 sP sP 06 26 10.9 -2.6
CD2 PP **PP** **06 27 58.4 -0.5**
CD2 S **S** **06 33 02.3 -1.9**
CD2 SS **SS** **06 36 35.0 +1.9**
CD2 pmax pmax
comp=Z,40nm,0.7s
CD2 pmax pmax
comp=Z,280nm,5.0s
CD2 LR LR
comp=Z,2μm,16.5s
CD2 LR LR
comp=Z,2μm,14.7s
CD2 LR LR
comp=Z,2μm,16.7s
MOS Moscow 48.18 345 *eP* **P** **06 26 07.5 -0.6**
MOS *e* 06 28 00.9
MOS *eS* **S** **06 33 13.0 +6.4**
MOS *eSS* **SS** **06 36 37.3 +1.4**
MOS pmax pmax
comp=Z,1μm,2.0s
MOS pmax pmax
comp=Z,606nm,1.7s
MOS MLR MLR
comp=Z,3μm,20.0s
LVV L'vov 48.30 332 *eP* **P** **06 26 09.2 0.0**
LVV *e* 06 28 00.8
LVV *eS* **S** **06 33 09.2 +0.6**
LVV MLR MLR
comp=Z,1μm,17.0s
LVV MLR MLR
comp=N,400nm,18.0s
LVV MLR MLR
comp=E,900nm,18.0s
UZH Uzhgorod 48.34 329 *eP* **P** **06 26 09.4 -0.1**
UZH *i* 06 27 59.5
UZH *eS* **S** **06 33 05.1 -4.0**
UZH *ePS* 06 33 19.4
UZH *i* SS **SS** **06 36 39.1 +0.3**
UZH MLR MLR
comp=N,200nm,16.0s
UZH MLR MLR
comp=E,300nm,16.0s
UZH MLR MLR
comp=Z,170nm,16.0s
TSUM Tsumeb 48.62 233 P **P** **06 26 12.8 +0.5**
comp=Z,14nm,1.0s,baz=50,slow=6.4,SNR=24
TSUM Tsumeb 48.62 233 *eP* **P** **06 26 12.3 +0.1**
comp=Z,202nm,1.8s
TSUM *eP* **P** **06 26 12.8 +0.5**
TSUM LR LR
comp=Z,4μm,21.0s
MORH M~‡r~igy, Hung 48.79 325 ⇓ *eP* **P** **06 26 12.1 -1.0**
MORH *ePP* **PP** **06 28 08.1 +1.8**
MORH M~‡r~igy, Hung 48.79 325 *eP* **P** **06 26 10.9 -2.2**
KWP Kalwaria Pacla 48.80 331 *eP* **P** **06 26 12.8 -0.3**
KWP *ePP* **PP** **06 28 07.7 +1.3**
KWP LMZ LR 06 51 24.4
comp=Z,2μm,20.7s
KWP Kalwaria Pacla 48.80 331 PFAKE 06 26 30.0 +17
KWP LR LR
comp=Z,14μm,21.0s
KWP Kalwaria Pacla 48.80 331 *eP* **P** **06 26 12.8 -0.3**
KWP *e* 06 28 07.7
KWP MLR MLR
comp=Z,2μm,20.7s
BLY Banja Luka 48.82 323 *eP* **P** **06 26 13.5 +0.2**
comp=Z,100nm,1.1s
BLY LR LR
comp=Z,2μm,22.0s
BLY Banja Luka 48.82 323 ⇓ *iP* **P** **06 26 14.2 +0.9**
BLY Banja Luka 48.82 323 *eP* **P** **06 26 13.5 +0.2**
MDSI Maura Dua 48.97 105 P **P** **06 26 15.5 +0.6**
comp=Z,47nm,2.1s,comp=Z,2μm
ZAA0 Zalesovo Array 49.11 21 *eP* **P** **06 26 14.3 -1.1**
comp=Z,111nm,1.0s
ZAA0 LR LR
comp=Z,2μm,21.0s
ZALV Zalesovo Beam 49.11 21 P **P** **06 26 14.7 -0.7**
comp=Z,27nm,0.6s,baz=225,slow=7.2,SNR=33
ZALV LR LR 06 48 07.6
comp=Z,2μm,20.1s,baz=242,slow=38
ZALV Zalesovo Beam 49.11 21 *eP* **P** **06 26 14.5 -0.9**
ZAA1 Zalesovo Array 49.12 21 *eP* **P** **06 26 14.7 -0.8**
PSZ Piszkesteto 49.12 327 *eP* **P** **06 26 16.0 +0.3**
comp=Z,119nm,1.6s
PSZ LR LR
comp=Z,2μm,19.0s
PSZ Piszkesteto 49.12 327 ⇓ *iP* **P** **06 26 15.1 -0.6**
PSZ Piszkesteto 49.12 327 ⇓ *eP* **P** **06 26 15.0 -0.6**
PSZ *ePP* **PP** **06 28 09.8 +0.4**
PSZ Piszkesteto 49.12 327 *eP* **P** **06 26 16.4 +0.7**
PSZ pmax pmax
comp=Z,120nm,1.6s
BOSA Boshof 49.22 218 P **P** **06 26 17.1 +0.4**
comp=Z,10nm,0.6s,baz=36,slow=8.0,SNR=23
BOSA LR LR 06 44 32.9
comp=Z,7μm,21.5s,baz=42,slow=33
BOSA Boshof 49.22 218 *eP* **P** **06 26 17.6 +0.9**
BOSA pmax pmax
comp=Z,220nm,1.8s
NVS Novosibirsk 49.29 20 ⇓ *iP* **P** **06 26 17.4 +0.7**
NVS *eS* **S** **06 33 24.4 +2.0**
NVS pmax pmax
comp=Z,295nm,1.6s
NVS pmax pmax
comp=N,157nm,1.7s
NVS pmax pmax
comp=E,34nm,1.5s
NVS smax smax
comp=N,50nm,2.2s
NVS smax smax
comp=E,43nm,2.3s
BUD Budapest 49.33 326 ⇑ *eP* **P** **06 26 17.6 +0.5**
BUD *ePP* **PP** **06 28 14.0 +2.8**
GYA Guiyang 49.46 64 ⇓ *iP* **P** **06 26 17.4 -1.3**
GYA PP **PP** **06 28 14.0 +1.1**
GYA S **S** **06 33 26.8 +0.9**
GYA SS **SS** **06 36 53.0 -4.9**
GYA pmax pmax
comp=E,40nm,1.2s
GYA pmax pmax
comp=E,490nm,4.4s
GYA LR LR
comp=E,980nm,19.8s
GYA LR LR
comp=E,1μm,23.8s
GYA LR LR
comp=E,2μm,25.1s
UDBI Udbina 49.57 322 *i* P **P** **06 26 18.8 -0.3**
LZH Lanzhou 49.57 51 *eP* **P** **06 26 19.8 +0.3**
LZH pP sP 06 26 25.3 -0.9
LZH sP pP 06 26 28.8 +4.5
LZH PP **PP** **06 28 16.4 +2.6**
LZH S **S** **06 33 26.1 -1.2**
LZH SS **SS** **06 37 05.6 +6.1**
LZH pmax pmax
comp=E,48nm,1.1s
LZH pmax pmax
comp=E,390nm,5.4s
LZH LR LR
comp=E,3μm,13.0s
LZH LR LR
comp=E,5μm,15.7s
LZH LR LR
comp=E,5μm,15.7s
KASI Kota Agung 49.58 106 P **P** **06 26 21.5 +1.9**
comp=E,107nm,2.9s,comp=E,3μm
NIE Niedzica 49.85 329 *eP* **P** **06 26 20.8 -0.4**
NIE *ePP* **PP** **06 28 19.5 +3.6**
NIE *eS* **S** **06 33 29.7 -0.8**
NIE LMZ LR 06 48 22.8
comp=E,2μm,23.1s
NIE Niedzica 49.85 329 *eP* **P** **06 26 20.8 -0.4**
NIE *e* 06 28 19.5
NIE *eS* **S** **06 33 29.7 -0.8**
NIE MLR MLR
comp=Z,2μm,23.1s
AQU L'Aquila 50.01 318 *eP* **P** **06 26 21.4 -1.1**
comp=Z,231nm,1.8s
AQU LR LR
comp=Z,1μm,20.0s
AQU L'Aquila 50.01 318 *eP* **P** **06 26 21.4 -1.1**
AQU pmax pmax
comp=Z,230nm,1.8s
VYHS Vyhne 50.03 327 *eP* **P** **06 26 21.8 -0.8**
VYHS pmax pmax
comp=Z,230nm,2.6s
VYHS Vyhne 50.03 327 *eP* **P** **06 26 21.8 -0.8**
VYHS *ePP* **PP** **06 28 23.9 +6.3**
LANS Liptovska Anna 50.11 328 *eP* **P** **06 26 23.3 +0.2**
LANS *e* 06 28 21.2
LANS Liptovska Anna 50.11 328 *eP* **P** **06 26 23.3 +0.2**
LANS *ePP* **PP** **06 28 21.2 +2.9**
NVLJ Novalja 50.13 321 *i* P **P** **06 26 22.6 -0.7**
MICGM Minsk 50.15 338 ⇑ *eP* **P** **06 26 23.0 -0.3**
MICGM PM 06 26 28.0
comp=Z,0.5nm,1.5s
MICGM *ePP* **PP** **06 28 19.0 +0.5**
MICGM *ePPP* PPP 06 29 20.0
MICGM *eS* **S** **06 33 32.0 -2.4**
MICGM *eSS* **SS** **06 37 14.0 +6.2**
MICGM *eSSS* SSS 06 38 26.0
MICGM *eLR* LR 06 46 16.0
MICGM LRM MLR 06 49 48.0
comp=Z,4.5nm,18.0s
MNK Minsk 50.15 338 ⇑ *eP* **P** **06 26 23.0 -0.3**
MNK *e* 06 28 19.0
MNK *ePPP* PPP 06 29 20.0
MNK *eS* **S** **06 33 32.0 -2.4**
MNK *eSSS* SSS 06 38 26.0
MNK pmax pmax
comp=Z,520nm,1.5s
MNK MLR MLR
comp=Z,5μm,16.0s
PPBI Pangkal Pinang 50.21 101 P P 06 26 36.1 +12
KEST Kesra 50.36 308 P **P** **06 26 26.1 +0.8**
comp=Z,46nm,1.3s,baz=99,slow=6.1,SNR=14
KEST LR LR 06 49 39.3
comp=Z,2μm,18.1s,baz=42,slow=38
KEST Kesra 50.36 308 *eP* **P** **06 26 25.7 +0.4**
comp=Z,142nm,1.4s
BOJS Bojanci 50.38 322 *i* P **P** **06 26 25.2 0.0**
BOJS Bojanci 50.38 322 *i* P **P** **06 26 25.2 0.0**
CRES Cresnjev 50.43 323 *eP* **P** **06 26 26.2 +0.6**
OJC Ojcow 50.61 330 *eP* **P** **06 26 25.6 -1.2**
OJC *ePP* **PP** **06 28 25.4 +2.6**
OJC *eS* **S** **06 33 38.6 -2.3**
OJC LMZ LR 06 47 44.7
comp=Z,2μm,27.8s
OJC Ojcow 50.61 330 *eP* **P** **06 26 25.6 -1.2**
comp=Z,131nm,1.5s
OJC Ojcow 50.61 330 *eP* **P** **06 26 25.6 -1.2**
OJC *e* 06 28 25.4
OJC *eS* **S** **06 33 38.6 -2.3**
HVS Khovu-Aksy 50.78 29 *cePP* **P** **06 26 28.7 +0.5**
HVS pmax pmax
comp=Z,119nm,1.2s
HVS MLR MLR
comp=Z,7μm,19.0s
VISS Visnje 50.79 323 *eP* **P** **06 26 28.1 -0.2**
VISS Visnje 50.79 323 *eP* **P** **06 26 28.1 -0.2**
SOP Sopron 50.80 325 ⇑ *eP* **P** **06 26 28.5 +0.1**
SOP *ePP* **PP** **06 28 29.3 +4.7**
SOP Sopron 50.80 325 P **P** **06 26 29.2 +0.8**
NACGM Naroch 50.87 338 *eP* **P** **06 26 27.0 -1.7**
NACGM PM 06 26 33.0
comp=Z,0.4nm,1.0s
NACGM *eLR* LR 06 46 28.0
NACGM LRM MLR 06 50 17.0
comp=Z,1.3nm,19.0s
JAVC Velka Javorina 50.87 327 *eP* **P** **06 26 29.5 +0.6**
JAVC *e* 06 28 32.4
TAM Tamanrasset 50.94 291 *eP* **P** **06 26 30.3 +0.3**
comp=Z,37nm,1.1s
TAM LR LR
comp=Z,2μm,19.0s
TAM Tamanrasset 50.94 291 *eP* **P** **06 26 30.3 +0.3**
TAM pmax pmax
comp=Z,37nm,1.1s
CEY Cerknica 51.00 322 *eP* **P** **06 26 29.2 -0.7**
PERS Pernice 51.06 324 *i* P **P** **06 26 30.6 +0.2**
PERS Pernice 51.06 324 *i* P **P** **06 26 30.6 +0.2**
LJU Ljubljana 51.10 323 *eP* **P** **06 26 30.2 -0.4**
SOKA Soboth 51.13 324 *eP* **P** **06 26 30.7 -0.2**
comp=Z,57nm,1.6s,SNR=9.3
SOKA *ePP* **PP** **06 28 33.0 +5.4**
comp=Z,21nm,1.5s
ARSA Arzberg 51.15 324 *eP* **P** **06 26 30.5 -0.5**
comp=Z,78nm,1.8s,SNR=16
ARSA *ePP* **PP** **06 28 33.5 +5.7**
comp=Z,682nm,3.1s
IDID Didziasalis 51.20 338 *eP* **P** **06 26 30.8 -0.3**
IDID IAmb IAmb 06 26 38.0
comp=Z,75nm,1.0s
OKC Ostrava-Krasne 51.21 328 *eP* **P** **06 26 30.9 -0.5**
OKC *ePP* **PP** **06 28 26.9 -1.3**
OKC *eS* **S** **06 33 46.8 -2.4**
OKC AMS AMS 06 50 40.0
comp=Z,2μm,20.2s
OKC Ostrava-Krasne 51.21 328 *eP* **P** **06 26 30.9 -0.5**
OKC *e* 06 28 26.9
OKC *eS* **S** **06 33 46.8 -2.4**
OKC MLR MLR

comp=Z,2µm,20.2s
JAVS Javornik 51.30 322 eP P 06 26 31.9 -0.4
JAVS Javornik 51.30 322 eP P 06 26 31.9 -0.4
OBKA Obir 51.32 323 *i* P **P 06 26 32.2 -0.2**
comp=Z,68nm,1.3s
OBKA ePP **PP 06 28 35.0 +5.5**
comp=Z,27nm,1.1s
CONA Conrad Observa 51.33 325 eP P 06 26 32.0 -0.4
comp=Z,119nm,1.3s,SNR=38
CONA ePP **PP 06 28 34.7 +5.2**
comp=Z,540nm,2.2s
RAC Raciborz 51.33 329 eP P 06 26 32.0 -0.3
RAC eS **S 06 33 52.7 +1.8**
RAC MLR MLR
comp=Z,3µm,19.0s
TRI Trieste 51.39 322 eP P 06 26 32.3 -0.5
comp=Z,141nm,1.1s
TRI LR LR
comp=Z,2µm,22.0s
TRI Trieste 51.39 322 eP P 06 26 32.3 -0.5
TRI pmax pmax
comp=Z,140nm,1.1s
IIGN Ignalina 51.42 338 eP P 06 26 32.9 0.0
IIGN IAmb IAmb 06 26 39.7
comp=Z,96nm,1.1s
MORC Moravsky Berou 51.48 328 eP P 06 26 32.7 -0.8
comp=Z,209nm,1.6s
MORC LR LR
comp=Z,2µm,20.0s
MORC Moravsky Berou 51.48 328 ||*i* P **P 06 26 32.8 -0.7**
MORC Moravsky Berou 51.48 328 *eP* **P 06 26 32.7 -0.8**
MORC pmax pmax
comp=Z,210nm,1.6s
MORC Moravsky Berou 51.48 328 eP P 06 26 32.6 -0.8
QIZ Qiongzhong 51.61 74 P **P 06 26 34.9 0.0**
QIZ PP **PP 06 28 37.2 +4.7**
QIZ S **S 06 33 56.5 +0.8**
QIZ pmax pmax
comp=Z,42nm,1.4s
QIZ pmax pmax
comp=Z,540nm,3.6s
QIZ LR LR
comp=Z,720nm,18.2s
QIZ LR LR
comp=Z,600nm,17.8s
QIZ LR LR
comp=Z,810nm,17.6s
QIZ Qiongzhong 51.61 74 PFAKE 06 26 50.0 +15
QIZ LR LR
comp=Z,1µm,22.0s
ISAL Salakas 51.62 338 eP P 06 26 33.8 -0.6
ISAL IAmb IAmb 06 26 41.1
comp=Z,62nm,1.1s
SUW Suwalki 51.62 335 eP P 06 26 34.7 +0.3
SUW eS **S 06 33 54.4 -0.4**
SUW LMZ LR 06 51 15.7
comp=Z,3µm,21.7s
SUW Suwalki 51.62 335 eP P 06 26 34.6 +0.2
comp=Z,392nm,1.1s
SUW LR LR
comp=Z,3µm,20.0s
SUW Suwalki 51.62 335 eP P 06 26 35.2 +0.8
SUW pmax pmax
comp=Z,390nm,1.1s
KRUC Moravsky 51.67 327 P **P 06 26 34.1 -0.8**
KRUC Moravsky 51.67 327 eP P 06 26 34.3 -0.6
KRUC *e* 06 28 36.2
VRAC Vranov 51.71 327 P **P 06 26 35.5 +0.4**
comp=Z,13nm,0.8s,baz=134,slow=7.7,SNR=22
VRAC Vranov 51.71 327 ||*i* P **P 06 26 35.0 -0.1**
VRAC Vranov 51.71 327 *eP* **P 06 26 35.1 -0.1**
MYKA Terra Mystica 51.92 323 *i* P **P 06 26 36.4 -0.5**
comp=Z,116nm,1.1s,SNR=21
MYKA *i* PP **PP 06 28 41.2 +6.4**
comp=Z,54nm,1.6s
KRLC Kraliky 52.06 328 eP P 06 26 33.6 -4.2
KRLC Kraliky 52.06 328 eP P 06 26 33.6 -4.2
MOA Molln 52.19 325 *i* P **P 06 26 38.3 -0.5**
comp=Z,75nm,1.1s,SNR=20
MOA ePP **PP 06 28 43.2 +5.9**
comp=Z,240nm,2.1s
TREC Trest 52.30 327 eP P 06 26 39.5 -0.1
TREC eS **S 06 34 02.0 -2.3**
TREC AMS AMS 06 54 20.0
comp=Z,2µm,17.4s
TREC Trest 52.30 327 eP P 06 26 39.5 -0.1
TREC eS **S 06 34 02.0 -2.3**
TREC MLR MLR
comp=Z,2µm,17.4s
KBA Koelnbreinsper 52.33 323 *i* P **P 06 26 39.0 -1.0**
comp=Z,62nm,1.4s,SNR=9.5
KBA ePP **PP 06 28 44.8 +6.2**
comp=Z,40nm,1.6s
KBA Koelnbreinsper 52.33 323 P **P 06 26 40.8 +0.8**
DPC Dobruska-Polom 52.46 328 eP P 06 26 41.6 +0.8
DPC ePP **PP 06 28 42.5 +2.9**
DPC eS **S 06 34 04.2 -2.3**
DPC AMS AMS 06 51 00.0
comp=Z,2µm,20.8s
DPC Dobruska-Polom 52.46 328 eP P 06 26 41.6 +0.8
DPC *e* 06 28 42.5
DPC eS **S 06 34 04.2 -2.3**
DPC MLR MLR
comp=Z,2µm,20.8s
ENH Enshi 52.60 60 eP P 06 26 41.5 -0.7
comp=Z,196nm,1.8s
ENH LR LR
comp=Z,2µm,20.0s
ABTA Abfaltersbach 52.66 323 eP P 06 26 41.8 -0.6
comp=Z,99nm,1.6s,SNR=15
KSP Ksiaz 52.76 329 eP P 06 26 42.8 -0.1
KSP eS **S 06 34 09.6 -1.0**
KSP LMZ LR 06 48 47.8
comp=Z,2µm,25.6s
KSP Ksiaz 52.76 329 eP P 06 26 42.8 -0.1
KSP eS **S 06 34 09.6 -1.0**
KSP MLR MLR
comp=Z,2µm,25.6s
VLC Villacollemand 52.79 319 eP P 06 26 43.0 -0.3
comp=Z,91nm,1.1s
VLC LR LR
comp=Z,1µm,21.0s
LEM Lembang 52.93 106 LR LR 06 44 53.5
comp=Z,956nm,21.8s,baz=293,slow=31
XAN Xi'an 52.96 55 P **P 06 26 43.3 -1.5**
XAN pP sP 06 26 51.2 -0.3
XAN sP pP 06 26 54.7 +5.1
XAN PcP **PcP 06 27 52.4 -1.2**
XAN S **S 06 34 07.5 -6.4**
XAN sS sS 06 34 25.2 +3.3
XAN ScS **ScS 06 36 29.8 -4.6**
XAN pmax pmax
comp=Z,41nm,1.4s
XAN pmax pmax
comp=Z,640nm,3.9s
XAN LR LR
comp=Z,1µm,18.1s
XAN LR LR
comp=Z,1µm,21.1s
XAN LR LR
comp=Z,2µm,24.0s
GOPC GO Pecny, Ondr 53.02 327 eP P 06 26 42.9 -2.0
GOPC ePP **PP 06 28 50.0 +5.3**
GOPC eS **S 06 34 09.3 -4.9**
GOPC AMS AMS 06 55 10.0
comp=Z,1µm,15.8s
GOPC GO Pecny, Ondr 53.02 327 eP P 06 26 42.9 -2.0
GOPC *e* 06 28 50.0
GOPC eS **S 06 34 09.3 -4.9**
GOPC MLR MLR
comp=Z,1µm,15.8s
GEA0 GERESS Array S 53.03 325 eP P 06 26 43.5 -1.6
GEC2 GERESS Array S 53.04 325 eP P 06 26 44.0 -1.2
comp=Z,112nm,1.8s
GEC2 LR LR
comp=Z,1µm,20.0s
GEC2 GERESS Array S 53.04 325 eP P 06 26 44.0 -1.2
GEC2 pmax pmax
comp=Z,110nm,1.8s
GERES GERESS Array B 53.04 325 P **P 06 26 44.0 -1.2**
comp=Z,3.6nm,0.7s,baz=108,slow=7.2,SNR=20
GERES PcP **PcP 06 27 53.1 -0.5**
comp=Z,2.6nm,0.8s,baz=126,slow=6.8,SNR=4.5
GERES PP **PP 06 28 49.5 +4.6**
comp=Z,7.1nm,1.1s,baz=133,slow=9.3,SNR=5.5
GERES LR LR 06 52 41.2
comp=Z,738nm,18.3s,baz=120,slow=40
KHC Kasperske Hory 53.26 326 eP P 06 26 45.5 -1.1
comp=Z,39nm,1.6s
KHC LR LR
comp=Z,600nm,20.0s
KHC Kasperske Hory 53.26 326 eP P 06 26 46.2 -0.5
KHC *ex* x 06 27 06.5
KHC ePP **PP 06 28 45.2 -1.7**
KHC eS **S 06 34 13.1 -4.4**
KHC AMS AMS 06 52 20.0
comp=Z,1µm,20.1s
KHC Kasperske Hory 53.26 326 eP P 06 26 46.2 -0.5
KHC *e* 06 28 45.2
KHC eS **S 06 34 13.1 -4.4**
KHC MLR MLR
comp=Z,1µm,20.1s
KLNR Kaliningrad 53.29 334 *deP* **P 06 26 46.3 -0.4**
KLNR pmax pmax
comp=Z,449nm,1.5s
KLNR MLR MLR
comp=Z,2µm,19.0s
PRA Prague 53.30 327 eP P 06 26 46.2 -0.7
PRA eS **S 06 34 15.8 -2.1**
PRA AMS AMS 06 54 10.0
comp=Z,2µm,18.6s
PRA Prague 53.30 327 eP P 06 26 46.2 -0.7
PRA eS **S 06 34 15.8 -2.1**
PRA MLR MLR
comp=Z,2µm,18.6s
CISI Cisompet, Garu 53.34 107 PFAKE 06 27 00.0 +12
CISI LR LR
comp=Z,600nm,21.0s
WTTA Wattenberg 53.43 323 *i* P **P 06 26 47.1 -1.1**
comp=Z,80nm,0.9s,SNR=19
KSM Kuching 53.47 96 eP P 06 26 47.7 -1.0
comp=Z,38nm,1.2s
KSM LR LR
comp=Z,800nm,19.0s
PVCC Panska Ves 53.48 327 eP P 06 26 49.0 +0.8
PVCC AMS AMS 06 45 30.0
comp=Z,2µm,24.5s
PVCC Panska Ves 53.48 327 eP P 06 26 49.0 +0.8
PVCC MLR MLR
comp=Z,2µm,24.5s
WATA Walderalm 53.50 323 *i* P **P 06 26 47.0 -1.7**
comp=Z,46nm,0.7s,SNR=12
PUL Pulkovo 53.63 344 ||*eP* **P 06 26 51.1 +2.0**
PUL pmax pmax
comp=Z,74nm,0.8s
PUL MLR MLR
comp=Z,4µm,21.0s
VSU Vasula 53.65 341 eP P 06 26 48.2 -1.1
VSU IAmb IAmb 06 26 54.2
comp=Z,387nm,1.2s
VSU Vasula 53.65 341 ||*eP* **P 06 26 49.8 +0.5**
VSU pmax pmax
comp=Z,109nm,1.0s
VSU MLR MLR
comp=Z,4µm,17.0s
WET Wettzell 53.66 325 P **P 06 26 49.0 -0.6**
SQTA Sankt Quirin 53.67 323 *i* P **P 06 26 48.3 -1.5**
comp=Z,62nm,0.6s,SNR=18
GKP Gorka Klasztor 53.77 331 eP P 06 26 49.8 -0.4
GKP eS **S 06 34 20.8 -3.3**
GKP LMZ LR 06 53 53.9
comp=Z,2µm,19.2s
GKP Gorka Klasztor 53.77 331 eP P 06 26 49.8 -0.4
GKP eS **S 06 34 20.8 -3.3**
GKP MLR MLR
comp=Z,2µm,19.2s
MOTA Moosalm 53.79 323 *i* P **P 06 26 49.0 -1.7**
comp=Z,89nm,0.9s,SNR=26
FETA Feichten 53.86 322 eP P 06 26 50.1 -1.2
comp=Z,104nm,1.7s,SNR=16
FUORN Ofenpass-Fuorn 53.96 321 eP P 06 26 52.4 +0.3
comp=Z,199nm,1.6s
FUORN LR LR
comp=Z,1µm,22.0s
BRG Berggiesshubel 54.00 328 eP P 06 26 51.8 -0.3
comp=Z,43nm,1.1s
BRG *i* 06 26 54.4
comp=Z,127nm,1.7s
BRG PP **PP 06 28 54.0 +0.5**
BRG S **S 06 34 27.0 -0.4**
comp=N,788nm,18.4s
comp=E,1µm,16.8s
comp=Z,1µm,17.7s
BRG Berggiesshubel 54.00 328 *eP* **P 06 26 51.8 -0.3**
BRG *i* 06 26 54.4
BRG 06 28 54.0
BRG S **S 06 34 27.0 -0.4**
BRG pmax pmax
comp=Z,43nm,1.1s
BRG MLR MLR
comp=N,788nm,18.4s
BRG MLR MLR
comp=E,1µm,16.8s
BRG MLR MLR
comp=Z,1µm,17.7s
RETA Reutte 54.06 323 *i* P **P 06 26 50.9 -1.7**
comp=Z,84nm,1.0s,SNR=24
DAVOX Davos/Dischmat 54.27 322 P **P 06 26 53.6 -0.7**
comp=Z,30nm,0.6s,baz=110,slow=6.6,SNR=26
KPJI Karang Pucung 54.33 106 P **P 06 26 54.7 -0.3**
comp=Z,84nm,2.1s,comp=Z,3µm
TOC2 Torodi Ar. Sit 54.34 279 PFAKE 06 27 10.0 +15
TOC2 LR LR
comp=Z,1µm,19.0s
TOC3 Torodi Ar. Sit 54.34 279 PFAKE 06 27 10.0 +15
TOC3 LR LR
comp=Z,1µm,20.0s
GRC1 Grafenberg Arr 54.35 325 P **P 06 26 53.8 -0.8**
TOB2 Torodi Ar. Sit 54.36 279 PFAKE 06 27 10.0 +15
TOB2 LR LR
comp=Z,1µm,20.0s
TOB3 Torodi Ar. Sit 54.36 279 PFAKE 06 27 10.0 +15
TOB3 LR LR
comp=Z,1µm,20.0s
TOC1 Torodi Ar. Sit 54.36 279 PFAKE 06 27 10.0 +15
TOC1 LR LR
comp=Z,2µm,20.0s
TOC4 Torodi Ar. Sit 54.37 279 PFAKE 06 27 10.0 +15
TOC4 LR LR
comp=Z,1µm,19.0s
TOA0 Torodi Ar. Sit 54.37 279 eP P 06 26 54.4 -0.9
TOA0 *eP* **P 06 26 55.4 +0.1**
TOA0 LR LR
comp=Z,1µm,19.0s
TOA0 Torodi Ar. Sit 54.37 279 P **P 06 26 55.8 +0.5**
SNR=48
TORD Torodi Ar. Bea 54.37 279 P **P 06 26 54.1 -1.2**
comp=Z,20nm,0.9s,baz=101,slow=7.7,SNR=33
TORD PcP **PcP 06 27 58.3 -0.9**
comp=Z,7.4nm,0.7s,baz=49,slow=4.2,SNR=9.3
TORD LR LR 06 49 07.3
comp=Z,1µm,20.4s,baz=30,slow=35
TOA1 Torodi Ar. Sit 54.37 279 eP P 06 26 54.1 -1.2
TOA1 *eP*cP **PcP 06 27 58.3 -0.9**
TOA3 Torodi Ar. Sit 54.37 279 PFAKE 06 27 10.0 +15
TOA3 LR LR
comp=Z,1µm,19.0s
TOB4 Torodi Ar. Sit 54.38 279 PFAKE 06 27 10.0 +15
TOB4 LR LR
comp=Z,1µm,19.0s
TOB5 Torodi Ar. Sit 54.38 279 PFAKE 06 27 10.0 +15
TOB5 LR LR
comp=Z,1µm,20.0s
TOC7 Torodi Ar. Sit 54.38 279 PFAKE 06 27 10.0 +15
TOC7 LR LR
comp=Z,1µm,20.0s
TOC5 Torodi Ar. Sit 54.39 279 PFAKE 06 27 10.0 +15
TOC5 LR LR
comp=Z,1µm,19.0s
TUE Stuetta 54.46 321 *eP* **P 06 26 54.6 -1.1**
comp=Z,173nm,2.0s
TUE LR LR
comp=Z,800nm,22.0s
NKC Novy Kostel 54.46 326 *eP* **P 06 26 55.9 +0.4**
NKC *eP* PP 06 29 08.4 +11
NKC *eS* **S 06 34 34.0 +0.3**
NKC AMS AMS 06 53 20.0
comp=Z,1µm,21.9s
NKC Novy Kostel 54.46 326 *eP* **P 06 26 55.9 +0.4**
NKC *eS* **S 06 34 34.0 +0.3**
NKC MLR MLR
comp=Z,1µm,21.9s
DAVA Damuels 54.50 322 *i* P **P 06 26 54.8 -1.1**
comp=Z,57nm,0.7s,SNR=20
SLIT Slitere, Latvi 54.58 338 *eP* **P 06 26 55.8 -0.3**
SLIT IAmb IAmb 06 27 01.9
comp=Z,2µm,1.2s
SUR Sutherland 54.58 218 P **P 06 26 56.8 +0.1**
comp=Z,27nm,1.1s,baz=46,slow=6.0,SNR=9.8
SUR Sutherland 54.58 218 *eP* **P 06 26 57.0 +0.3**
comp=Z,267nm,1.8s
SUR LR LR
comp=Z,6µm,22.0s
SBF Sospel 54.61 317 *eP* **P 06 26 56.8 +0.1**
SBF pmax pmax
comp=Z,144nm,1.2s
CLL Collm 54.74 328 *eP* **P 06 26 56.6 -0.8**
comp=Z,265nm,1.8s
CLL LR LR
comp=Z,1µm,20.0s
CLL Collm 54.74 328 *i* P **P 06 26 56.4 -1.0**
comp=Z,403nm,2.2s
CLL *i* sP **pP 06 27 01.5 -0.8**
comp=Z,265nm,1.8s
CLL *eP* **PP 06 28 59.0 -1.1**
CLL *ePPP* 06 30 23.0
CLL *eS* **S 06 34 37.0 -0.3**
CLL *eSS* **SKiKP 06 38 12.0 +6.5**
CLL *eSSS* SSS 06 40 24.0
CLL *e* 06 41 06.0
CLL LmV 06 52 00.0
comp=Z,1µm,20.5s
CLL Collm 54.74 328 *eP* **P 06 26 56.6 -0.8**
CLL pmax pmax
comp=Z,260nm,1.8s
GRFO Grafenberg 54.87 325 *eP* **P 06 26 58.5 +0.1**
comp=Z,145nm,1.4s
GRFO LR LR
comp=Z,900nm,22.0s
GRFO Grafenberg 54.87 325 *eP* **P 06 26 58.5 +0.1**
GRFO pmax pmax
comp=Z,150nm,1.4s
STKI Sintang 54.89 97 P **P 06 26 55.3 -3.8**
FRF La Foret Royal 55.02 317 *eP* **P 06 26 59.8 +0.2**
FRF pmax pmax
comp=Z,174nm,1.4s
GZH Guangzhou 55.10 69 P **P 06 27 03.6 +3.1**
GZH PP **PP 06 29 06.5 +2.7**
GZH S **S 06 34 48.0 +5.0**
GZH LR LR
comp=Z,880nm,18.3s
GZH LR LR
comp=Z,930nm,18.2s
MOX Moxa 55.13 326 P **P 06 27 00.2 -0.1**
SBUM Sibu 55.16 94 *eP* **P 06 27 00.8 -0.3**
comp=Z,30nm,1.3s
SBUM LR LR
comp=Z,600nm,20.0s
ZAK Zakamensk 55.29 34 *eP* **P 06 27 01.6 +0.1**
ZAK pmax pmax
comp=Z,26nm,1.8s
MBDF Montbardon 55.38 318 *eP* **P 06 27 02.1 -0.3**
MBDF pmax pmax
comp=Z,99nm,1.5s
MAHO Mahon 55.47 312 ⇑*iP* **P 06 27 04.7 +1.8**
MAHO *i* S **S 06 34 41.5 -5.9**
SLE Schleitheim 55.55 322 P **P 06 27 03.4 0.0**
BNI Bardonecchia 55.57 318 *eP* **P 06 27 03.4 -0.3**
comp=Z,88nm,1.4s
BNI LR LR
comp=Z,900nm,21.0s
BNI Bardonecchia 55.57 318 *eP* **P 06 27 03.4 -0.3**
BNI pmax pmax
comp=Z,88nm,1.4s
STU Stuttgart 55.59 323 PFAKE 06 27 20.0 +16
STU LR LR
comp=Z,1µm,20.0s
BTO Baotou 55.63 47 *eP* **P 06 27 02.5 -1.7**
SENIN Lac Senin/Sase 55.69 320 *eP* **P 06 27 04.2 -0.5**
comp=Z,495nm,1.9s
LPG La Plagne 55.70 319 *eP* **P 06 27 04.3 -0.5**
LPG pmax pmax
comp=Z,199nm,1.6s
LPL La Plagne 55.72 319 *eP* **P 06 27 04.4 -0.4**
LPL pmax pmax
comp=Z,192nm,1.3s
SONA0 Songino Array 55.90 38 *eP* **P 06 27 06.0 0.0**
SONM Songino Array 55.90 38 P **P 06 27 06.0 0.0**
comp=Z,23nm,1.1s,baz=238,slow=6.8,SNR=41
SONM LR LR 06 52 51.4
comp=Z,2µm,20.5s,baz=263,slow=38
BFO Black Forest 55.90 323 *eP* **P 06 27 04.8 -1.1**
comp=Z,104nm,1.3s
BFO LR LR
comp=Z,500nm,22.0s
BFO Black Forest 55.90 323 *i* P **P 06 27 05.4 -0.5**
SONA1 Songino Array 55.91 38 *eP* **P 06 27 05.8 -0.3**
ORIF Oris-en-Rattie 56.04 318 *eP* **P 06 27 07.0 0.0**
ORIF pmax pmax
comp=Z,28nm,1.0s
TLY Talaya 56.15 33 *eP* **P 06 27 08.2 +0.7**
comp=Z,115nm,1.6s
TLY LR LR
comp=Z,2µm,19.0s
TLY Talaya 56.15 33 P **P 06 27 08.3 +0.7**
SNR=16
TLY Talaya 56.15 33 *eP* **P 06 27 06.3 -1.3**
TLY eS **S 06 34 48.1 -8.1**
TLY *eSS* **SS 06 38 44.5 +1.8**
TLY pmax pmax
comp=Z,89nm,1.8s
TLY MLR MLR
comp=Z,2µm,17.0s
ULN Ulaanbaatar 56.31 38 *eP* **P 06 27 08.4 -0.6**
comp=Z,35nm,1.1s
ULN LR LR
comp=Z,2µm,22.0s
ULN Ulaanbaatar 56.31 38 P **P 06 27 08.8 -0.2**
SNR=15
ULN Ulaanbaatar 56.31 38 *cP* **P 06 27 08.1 -0.9**
ULN pmax pmax
comp=Z,62nm,1.9s
ULN MLR MLR
comp=Z,2µm,19.0s
CRZF Crozet Islands 56.34 184 PFAKE 06 27 20.0 +11
CRZF LR LR
comp=Z,4µm,22.0s
LOMF Lomont 56.40 321 P **P 06 27 10.0 +0.5**
LANF Langenberg 56.50 323 P **P 06 27 10.6 +0.5**
ECH Echery 56.56 322 *eP* **P 06 27 09.8 -0.7**
comp=Z,94nm,1.2s
ECH LR LR
comp=Z,700nm,20.0s
ECH Echery 56.56 322 *eP* **P 06 27 09.8 -0.7**
ECH pmax pmax
comp=Z,94nm,1.2s
CABF La Chapelle 56.56 320 *eP* **P 06 27 10.1 -0.6**
CABF pmax pmax
comp=Z,357nm,1.0s
CDF Champ du Feu 56.57 322 *eP* **P 06 27 09.6 -1.1**
CDF pmax pmax
comp=Z,363nm,1.6s
HINF Hinteralfeld 56.57 322 *eP* **P 06 27 10.2 -0.5**
HINF pmax pmax
comp=Z,242nm,1.7s
TNS Taunus Mts 56.69 325 P **P 06 27 11.2 -0.3**
PCJI Pacitan 56.71 107 P **P 06 27 13.3 +1.2**
comp=Z,188nm,1.7s,comp=Z,3µm
IRK Irkutsk 56.77 33 *eP* **P 06 27 10.6 -1.4**
IRK pmax pmax
comp=Z,254nm,2.7s
WHN Wuhan 56.79 60 ||*P* **P 06 27 11.4 -1.1**
VIVF Saint-Julien-l 56.82 318 *eP* **P 06 27 12.2 -0.3**
VIVF pmax pmax
comp=Z,106nm,1.8s
HHC Hu-ho-hao-te 56.82 47 *eP* **P 06 27 12.9 +0.2**
HHC pP sP 06 27 22.6 +3.1
HHC S **S 06 35 05.4 -0.3**
HHC SS **SS 06 38 55.9 +2.0**
HHC pmax pmax
comp=Z,68nm,1.7s
HHC pmax pmax
comp=Z,950nm,4.7s
HHC LR LR
comp=Z,2µm,18.2s
HHC LR LR
comp=Z,4µm,17.8s

HHC LR LR
comp=Z,4µm,17.7s
SSB Saint Sauveur 57.06 318 *e*P **P 06 27 13.6 -0.6**
comp=Z,381nm,2.0s
SSB LR LR
comp=Z,600nm,22.0s
SSB Saint Sauveur 57.06 318 *e*P **P 06 27 13.6 -0.6**
SSB pmax pmax
comp=Z,380nm,2.0s
WLF Walferdange 57.77 323 *e*P **P 06 27 18.6 -0.6**
comp=Z,177nm,1.3s
WLF LR LR
comp=Z,1µm,20.0s
WLF Walferdange 57.77 323 *e*P **P 06 27 20.1 +1.0**
WLF pmax pmax
comp=Z,180nm,1.3s
WLF Walferdange 57.77 323 ⇑P **P 06 27 18.5 -0.6**
comp=Z,61nm,1.1s
LOR Lormes 58.22 320 *e*P **P 06 27 21.2 -1.1**
LOR pmax pmax
comp=Z,151nm,1.2s
MEM Membach 58.26 324 P **P 06 27 23.2 +0.7**
MEM Membach 58.26 324 ⇑P **P 06 27 22.9 +0.4**
SSF Saint Saulge 58.37 320 *e*P **P 06 27 23.1 -0.3**
SSF pmax pmax
comp=Z,96nm,1.0s
AVF Avril sur Loir 58.37 319 *e*P **P 06 27 22.8 -0.5**
AVF pmax pmax
comp=Z,84nm,1.2s
HGN Heimansgroeve 58.37 324 *i*P **P 06 27 23.8 +0.6**
comp=Z,2µm,3.5s
HGN *e*S S 06 35 15.2 -10
WTSB Winterswijk 58.42 326 *i*P **P 06 27 23.9 +0.3**
comp=Z,1µm,2.8s
EBR Ebro Roquetas 58.50 312 P **P 06 27 26.0 +1.7**
KKM Kota Kinabalu 58.53 89 *e*P **P 06 27 25.9 +0.8**
comp=Z,179nm,1.7s
BEBN Eben Emael 58.53 324 ⇓P **P 06 27 24.1 -0.3**
CAF Calviac 58.59 317 *e*P **P 06 27 24.9 0.0**
CAF pmax pmax
comp=Z,130nm,2.0s
BCLA Clavier 58.59 324 ⇑P **P 06 27 25.1 +0.3**
comp=Z,94nm,2.3s
BGF Bois d'Agland 58.62 319 *e*P **P 06 27 25.2 +0.1**
BGF pmax pmax
comp=Z,257nm,1.2s
GIVF Givet 58.74 323 *e*P **P 06 27 26.0 +0.2**
GIVF pmax pmax
comp=Z,196nm,1.5s
CART Cartagena 58.87 308 PFAKE 06 27 40.0 +13
CART LR LR
comp=Z,900nm,21.0s
CART Cartagena 58.87 308 *e*P **P 06 27 23.5 -3.5**
CART *e*LR LR 06 45 38.6
DOU Dourbes 58.87 323 ⇓P **P 06 27 26.2 -0.6**
TCF Toulx Ste Croi 58.94 318 *e*P **P 06 27 27.3 0.0**
TCF pmax pmax
comp=Z,41nm,1.3s
RJF Les Rejaudoux 59.07 317 *e*P **P 06 27 30.7 +2.4**
RJF pmax pmax
comp=Z,169nm,1.7s
BAIF Baives 59.08 323 *e*P **P 06 27 28.5 +0.3**
BAIF pmax pmax
comp=Z,195nm,1.4s
EPF Esparros 59.20 314 *e*P **P 06 27 31.0 +1.7**
UCC Uccle 59.29 324 *e*P **P 06 27 29.6 0.0**
comp=Z,161nm,1.4s
UCC LR LR
comp=Z,1µm,21.0s
UCC Uccle 59.29 324 *e*P **P 06 27 29.6 0.0**
UCC pmax pmax
comp=Z,161nm,1.4s
UCC MLR MLR
comp=Z,1µm,21.0s
UCC Uccle 59.29 324 ⇓P **P 06 27 29.1 -0.5**
LFF La Frestale 59.48 317 *e*P **P 06 27 31.4 +0.3**
LFF pmax pmax
comp=Z,249nm,2.0s
HFS Hagfors 59.56 336 P **P 06 27 30.1 -1.3**
comp=Z,24nm,0.9s,baz=134,slow=6.4,SNR=13
HFS PP **PP 06 29 42.7 -0.1**
comp=Z,21nm,1.1s,baz=134,slow=8.5,SNR=5.0
APA Apatity 59.69 350 ⇓*i*P **P 06 27 35.4 +3.3**
APA pmax pmax
comp=Z,15nm,0.9s
APA MLR MLR
comp=Z,3µm,16.0s
KOWA Kowa 59.84 281 PFAKE 06 27 50.0 +16
KOWA LR LR
comp=Z,2µm,18.0s
MELI Melilla 59.97 305 *i*P **P 06 27 33.1 -1.5**
MELI *e*LR LR 06 46 23.6
TIA Tai'an 59.99 54 P **P 06 27 33.5 -1.3**
TIA S **S 06 35 46.4 -0.5**
TIA SS **SS 06 39 43.4 -0.2**
TIA pmax pmax
comp=Z,40nm,1.9s
TIA pmax pmax
comp=Z,560nm,3.2s
TIA LR LR
comp=Z,1µm,21.1s
TIA LR LR
comp=Z,920nm,18.1s
TIA LR LR
comp=Z,1µm,25.5s
QZH Quanzhou 59.99 67 P **P 06 27 34.3 -0.7**
QZH S **S 06 35 49.4 +2.1**
QZH pmax pmax
comp=Z,780nm,3.5s
QZH LR LR
comp=Z,1µm,19.9s
QZH LR LR
comp=Z,1µm,18.0s
BJT Baijiatuau 60.00 49 *e*P **P 06 27 34.6 -0.2**
comp=Z,80nm,1.0s
BJT LR LR
comp=Z,2µm,18.0s
BJT Baijiatuau 60.00 49 *e*P **P 06 27 34.6 -0.2**
BJT pmax pmax
comp=Z,80nm,1.0s
BJT MLR MLR
comp=Z,2µm,18.0s
BJI Beijing 60.01 49 ⇓*i*P **P 06 27 34.4 -0.4**
BJI sP **sP 06 27 40.9 -0.7**
BJI S **S 06 35 48.8 +1.7**
BJI SS **SS 06 39 45.7 +1.9**
BJI pmax pmax
comp=Z,34nm,1.8s
BJI LR LR
comp=Z,2µm,17.8s
BJI LR LR
comp=Z,1µm,30.4s
SJPF Ste Jean 60.33 314 *e*P **P 06 27 37.8 +0.8**
SJPF pmax pmax
comp=Z,213nm,1.5s
MFF Saint Martin d 60.58 318 *e*P **P 06 27 38.7 +0.1**
MFF pmax pmax
comp=Z,150nm,1.8s
NC602 NORSAR Array S 60.78 336 *e*P **P 06 27 39.4 -0.3**
NC602 NORSAR Array S 60.78 336 *e*P **P 06 27 38.1 -1.6**
NC602 *e*S **S 06 35 54.2 -2.0**
NJ2 Nanjing 60.81 59 *e*P **P 06 27 40.2 -0.2**
NJ2 pP **pP 06 27 43.6 -1.7**
NJ2 S **S 06 35 53.4 -4.1**
NJ2 SS **SS 06 40 04.4 +7.8**
NJ2 pmax pmax
comp=Z,54nm,1.4s
NJ2 pmax pmax
comp=Z,650nm,3.6s
NJ2 LR LR
comp=Z,1µm,17.5s
NJ2 LR LR
comp=Z,1µm,16.5s
NJ2 LR LR
comp=Z,2µm,17.3s
MYLDM Lahad Datu 60.90 90 PFAKE 06 27 50.0 +8.7
MYLDM LR LR
comp=Z,1µm,19.0s
NC405 NORSAR Array S 60.94 337 *e*P **P 06 27 40.5 -0.3**
KONO Kongsberg 60.95 335 *e*P **P 06 27 40.9 0.0**
comp=Z,140nm,1.5s
KONO LR LR
comp=Z,2µm,22.0s
KONO Kongsberg 60.95 335 *e*P **P 06 27 40.9 0.0**
KONO pmax pmax
comp=Z,140nm,1.5s

MDT Midelt 61.00 302 P **P 06 27 42.5 +0.6**
comp=Z,15nm,0.8s,baz=104,slow=8.4,SNR=25
PVLZ Peæn de 61.06 305 *i*P **P 06 27 39.0 -3.0**
PVLZ *e*LR LR 06 46 49.2
NB2 NORSAR Subarra 61.09 336 P **P 06 27 39.5 -2.4**
comp=Z,767nm,5.0s,baz=120,slow=7.4
NB2 NORSAR Subarra 61.09 336 P **P 06 27 39.5 -2.4**
baz=120,slow=7.4
NB200 NORSAR Array S 61.09 336 *e*P **P 06 27 40.0 -1.8**
NOA NORSAR Array B 61.09 336 P **P 06 27 40.0 -1.8**
comp=Z,5.0nm,0.8s,baz=121,slow=6.9,SNR=11
NOA LR LR 06 56 40.4
comp=Z,3µm,20.6s,baz=125,slow=38
NAO01 NORSAR Array S 61.10 336 *e*P **P 06 27 42.1 +0.2**
UCM Universidad Co 61.15 311 *i*P **P 06 27 43.8 +1.2**
UCM *i*S **S 06 36 01.9 +0.2**
LDF La Druitiere 61.19 320 *e*P **P 06 27 42.4 -0.3**
LDF pmax pmax
comp=Z,182nm,1.1s
KIC Kosan Boka 61.33 272 *e*P **P 06 27 44.7 +0.4**
comp=Z,852nm,2.3s
DBIC Dimbokro 61.40 272 P **P 06 27 43.6 -1.2**
comp=Z,14nm,0.8s,baz=65,slow=10.0,SNR=13
DBIC LR LR 06 53 27.4
comp=Z,830nm,21.2s,baz=66,slow=35
DBIC Dimbokro 61.40 272 *e*P **P 06 27 43.6 -1.2**
comp=Z,119nm,1.5s
DBIC Dimbokro 61.40 272 *e*P **P 06 27 43.6 -1.2**
DBIC pmax pmax
comp=Z,119nm,1.5s
NC204 NORSAR Array S 61.41 337 *e*P **P 06 27 43.6 -0.4**
EMAL Malaga-Limoner 61.41 306 *i*P **P 06 27 43.0 -1.4**
EMAL *e*S **S 06 35 59.0 -6.0**
FLN La Foliniere 61.47 320 *e*P **P 06 27 44.2 -0.4**
IFR Ifrane 61.51 303 *i*P **P 06 27 46.1 +0.7**
IFR *e*S **S 06 36 11.5 +4.6**
ES19 SONSECA Array 61.52 310 *e*P **P 06 27 45.0 -0.2**
ESDC Sonseca Array 61.56 310 P **P 06 27 45.1 -0.3**
comp=Z,11nm,0.7s,baz=87,slow=6.0,SNR=45
ESDC LR LR 06 56 30.2
comp=Z,465nm,18.6s,baz=100,slow=38
ESLA Sonseca Array 61.56 310 *e*P **P 06 27 45.7 +0.2**
comp=Z,224nm,1.5s
ESLA LR LR
comp=Z,700nm,20.0s
TIC Toumodi 61.57 272 *e*P **P 06 27 45.7 -0.2**
GRR Gorron 61.59 320 *e*P **P 06 27 44.9 -0.5**
GRR pmax pmax
comp=Z,225nm,1.7s
LIC Lamto 61.63 272 *e*P **P 06 27 46.2 -0.1**
comp=Z,641nm,2.4s
CIT Chita 61.81 36 *e*P **P 06 27 47.0 +0.1**
PAB San Pablo 61.83 310 *e*P **P 06 27 47.6 +0.3**
comp=Z,210nm,1.4s
PAB LR LR
comp=Z,800nm,20.0s
PAB San Pablo 61.83 310 *e*P **P 06 27 47.6 +0.3**
PAB pmax pmax
comp=Z,210nm,1.4s
CEUT Ceuta 61.99 305 P **P 06 27 49.1 +0.8**
CEUT P **P 06 27 49.1 +0.8**
CEU Ceuta 62.03 305 *i*P **P 06 27 48.1 -0.5**
CEU *i*S S 06 36 23.9 +11
SSLB Suanglung 62.11 68 PFAKE 06 28 00.0 +11
SSLB LR LR
comp=Z,1µm,20.0s
BLS5 Blasjo 62.19 333 *e*P **P 06 27 49.4 +0.1**
BLS5 *e*S **S 06 36 11.3 -2.9**
TWG Pinlang 62.20 69 PFAKE 06 28 00.0 +10
TWG LR LR
comp=Z,5µm,21.0s
TWSI Taliwang, Sumb 62.27 105 P **P 06 27 49.1 -1.4**
comp=Z,74nm,1.0s,comp=Z,2µm
ODD1 Odda 62.36 334 *e*P **P 06 27 50.2 -0.3**
YULB Yu-li 62.42 69 PFAKE 06 28 00.0 +8.5
YULB LR LR
comp=Z,1µm,20.0s
NRIK Noril'sk 62.46 12 P **P 06 27 49.4 -1.5**
comp=Z,4.4nm,0.7s,baz=208,slow=8.0,SNR=15
NRIK LR LR 06 58 23.9
comp=Z,3µm,19.4s,baz=212,slow=39
NRIK Noril'sk 62.46 12 P **P 06 27 49.4 -1.5**
NRIK pmax pmax
comp=Z,4.0nm,0.7s
NRIK MLR MLR
comp=Z,3µm,19.5s
YHNB Yeheng 62.51 67 *e*P **P 06 27 52.3 +0.1**
comp=Z,156nm,1.5s
YHNB LR LR
comp=Z,1µm,19.0s
SGMF Saint Gilles 62.63 319 *e*P **P 06 27 51.8 -0.6**
SGMF pmax pmax
comp=Z,389nm,2.1s
JSA Saint Aubin 62.66 321 *e*P **P 06 27 50.5 -2.1**
JSA IAMs_20 IAMs_20 06 51 18.6
comp=Z,2µm,35.2s
SSE Sheshan 62.69 60 P **P 06 27 52.4 -0.7**
SSE S **S 06 36 23.2 +1.8**
SSE pmax pmax
comp=Z,27nm,0.6s
SSE pmax pmax
comp=Z,190nm,3.3s
SSE LR LR
comp=Z,490nm,18.4s
SSE LR LR
comp=Z,510nm,18.4s
NACB Ninganchiao 62.70 68 PFAKE 06 28 10.0 +17
NACB LR LR
comp=Z,2µm,22.0s
WOL Wolverton 62.76 323 *e*P **P 06 27 51.0 -2.2**
KEV Kevo 62.77 349 PFAKE 06 28 10.0 +17
KEV LR LR
comp=Z,2µm,19.0s
SFS San Fernando 62.78 306 *i*P **P 06 27 51.7 -1.8**
ARA0 ARCESS Array S 62.88 348 *e*P **P 06 27 52.4 -1.3**
ARCES ARCESS Array B 62.88 348 P **P 06 27 52.4 -1.3**
comp=Z,12nm,0.8s,baz=146,slow=4.0,SNR=15
ARCES LR LR 06 58 29.1
comp=Z,111nm,20.5s,baz=140,slow=39
ARE0 ARCESS Array S 62.88 348 *e*P **P 06 27 53.9 +0.2**
comp=Z,6.0nm,1.4s
ARE0 LR LR
comp=Z,100nm,20.0s
RTC Rabat Centre 63.00 303 PFAKE 06 28 10.0 +15
RTC LR LR
comp=Z,4µm,21.0s
MPSI Mapaga 63.09 95 P **P 06 27 56.8 +0.7**
comp=Z,24nm,2.4s,comp=Z,5µm
ROSF Rostrenen 63.12 319 *e*P **P 06 27 54.9 -0.7**
PLAI Plampang 63.14 105 P **P 06 27 55.2 -1.2**
comp=Z,144nm,1.9s,comp=Z,3µm
SWN1 Swindon 63.16 323 *e*P **P 06 27 54.4 -1.5**
CWF Charnwood Fore 63.28 325 *e*P **P 06 27 54.5 -2.1**
CWF IAMs_20 IAMs_20 06 49 22.1
comp=Z,3µm,50.6s
AVE Averroes 63.39 302 *e*P P 06 28 11.9 +14
AVE *e*LR LR 06 47 31.4
AKN Aaknes 63.40 336 *e*P **P 06 27 59.3 +2.0**
GDLE Glaisdale, N Y 63.60 326 *e*P **P 06 27 57.1 -1.6**
TTSI Tana Toraja 63.70 98 P P 06 28 10.8 +11
LBWR Ladybower, Pea 63.75 325 *e*P **P 06 27 57.7 -2.0**
SPSI Sidrap Palu 63.85 99 P P 06 28 06.9 +5.8
DL2 Dalian 63.95 52 P **P 06 27 58.7 -2.6**
DL2 sP **sP 06 28 11.6 +3.4**
DL2 S **S 06 36 34.1 -2.8**
DL2 pmax pmax
comp=Z,69nm,1.0s
DL2 pmax pmax
comp=Z,890nm,3.6s
DL2 LR LR
comp=Z,890nm,21.1s
DL2 LR LR
comp=Z,2µm,18.5s
DL2 LR LR
comp=Z,3µm,23.0s
MCH1 Michaelchurch 64.02 323 *e*P **P 06 28 00.3 -1.3**
MCH1 IAMs_20 IAMs_20 06 49 45.9
comp=Z,2µm,40.2s
PBRG Braganca 64.03 312 *e*P **P 06 28 01.3 -0.6**
comp=Z,192nm,1.7s
KAPI Kappang 64.08 101 PFAKE 06 28 10.0 +7.4
KAPI LR LR
comp=Z,1µm,21.0s
PVAQ Vaqueiros 64.10 307 *e*P **P 06 28 02.1 -0.3**
comp=Z,77nm,2.0s

PVAQ *e*S S 06 36 49.2 +10
PVAQ *e*LQ LQ 06 43 53.1
PVAQ *e*LR LR 06 49 05.4
comp=Z,401nm,20.0s
HLM1 Long Mynd 64.12 324 *e*P **P 06 28 00.9 -1.3**
HLM1 IAMs_20 IAMs_20 06 49 28.5
comp=Z,672nm,32.4s
PMRV Marv??o 64.13 309 *e*P **P 06 28 02.3 -0.3**
comp=Z,172nm,1.7s
PMRV Marv??o 64.13 309 *e*LR LR 06 49 08.5
comp=Z,411nm,20.0s
MVO Moncorvo 64.13 311 *e*P **P 06 28 02.6 0.0**
comp=Z,214nm,1.8s
MVO Moncorvo 64.13 311 *e*LR LR 06 49 19.9
comp=Z,479nm,18.0s
PESTR Estremoz 64.20 308 *e*P **P 06 28 03.2 +0.2**
comp=Z,87nm,1.9s
PESTR Estremoz 64.20 308 *e*P **P 06 28 02.6 -0.4**
comp=Z,42nm,1.6s
PCBR Castelo Branco 64.26 309 *e*P **P 06 28 03.0 -0.3**
comp=Z,101nm,1.6s
BNSI Bone 64.28 100 P **P 06 28 04.0 +0.1**
comp=Z,247nm,2.5s,comp=Z,6µm
BOD Bodaibo 64.29 30 *e*P **P 06 28 03.0 -0.2**
BOD pmax pmax
comp=Z,43nm,2.0s
PBEJ Beja 64.30 307 *e*P **P 06 28 04.8 +1.1**
comp=Z,82nm,2.0s
EDMD Edmundbyers 64.37 327 *e*P **P 06 28 02.8 -1.0**
EDMD IAMs_20 IAMs_20 06 51 31.5
comp=Z,2µm,33.3s
MTE Manteigas 64.39 310 *e*P **P 06 28 05.0 +0.7**
comp=Z,91nm,1.9s
MTE *e*S **S 06 36 50.9 +8.4**
MTE *e*LQ LQ 06 45 00.2
MTE *e*LR LR 06 49 11.9
comp=Z,510nm,18.0s
MTE Manteigas 64.39 310 *e*P **P 06 28 04.3 0.0**
comp=Z,82nm,1.5s
FOEL Foel Wylfa 64.42 324 *e*P **P 06 28 03.4 -0.8**
FOEL IAMs_20 IAMs_20 06 49 53.1
comp=Z,3µm,54.2s
EVO Evora 64.48 308 *e*P **P 06 28 06.5 +1.7**
comp=Z,132nm,1.9s
BKSI Bulukumba 64.51 101 P **P 06 28 05.4 0.0**
comp=Z,33nm,2.5s,comp=Z,1µm
MESJ Messejana 64.55 307 *e*P **P 06 28 05.8 +0.5**
MESJ AMb AMB 06 28 11.8
comp=Z,107nm,1.7s
MESJ *e*S **S 06 36 46.0 +1.6**
MESJ Messejana 64.55 307 *e*P **P 06 28 04.7 -0.6**
comp=Z,107nm,1.8s
HIA Hailar 64.70 40 *e*P **P 06 28 06.5 +0.3**
comp=Z,303nm,2.0s
HIA LR LR
comp=Z,2µm,21.0s
HIA Hailar 64.70 40 *e*P **P 06 28 06.5 +0.3**
HIA pmax pmax
comp=Z,303nm,2.0s
HIA MLR MLR
comp=Z,2µm,21.0s
PVIS Viseu 64.70 310 *e*P **P 06 28 07.4 +1.1**
comp=Z,202nm,1.7s
POLO Lamas de Olo 64.73 311 *e*P **P 06 28 05.1 -1.5**
comp=Z,108nm,1.8s
MORF Marmelete 64.83 307 *e*P **P 06 28 07.6 +0.4**
MORF AMb AMB 06 28 16.6
comp=Z,128nm,2.1s
MORF Marmelete 64.83 307 *e*P **P 06 28 06.5 -0.7**
comp=Z,129nm,1.9s
WBSI Waikabubak, Su 64.89 106 P **P 06 28 07.2 -0.8**
comp=Z,198nm,2.5s,comp=Z,4µm
PTEO Sao Teotonio 64.91 307 *e*P **P 06 28 08.2 +0.5**
comp=Z,99nm,1.5s
PTOM Tomar 64.94 309 *e*P **P 06 28 08.5 +0.7**
comp=Z,146nm,2.0s
PFVI Vila Bisbo 64.95 306 *e*P **P 06 28 06.1 -1.8**
comp=Z,135nm,1.1s
PCAB Cabril 64.96 311 *e*P **P 06 28 09.1 +1.1**
comp=Z,191nm,1.6s
ALMR Almeirim 65.00 309 *e*P **P 06 28 10.0 +1.8**
comp=Z,197nm,1.9s
APSI Ampana 65.05 96 P P 06 28 15.1 +6.2
PCAS Casmilo, Conde 65.06 310 *e*P **P 06 28 09.8 +1.2**
comp=Z,172nm,1.7s
MRSI Marisa 65.07 94 P **P 06 28 08.5 -0.6**
comp=Z,5µm,0.9s,comp=Z,48µmcomp=Z,9µm
BHH Howats Hill 65.14 327 *e*P **P 06 28 07.5 -1.3**
PGAV Gavieira, Arco 65.18 312 *e*P **P 06 28 10.3 +0.8**
comp=Z,184nm,1.7s
ESK Eskdalemuir 65.21 327 PFAKE 06 28 20.0 +11
ESK LR LR
comp=Z,1µm,22.0s
ESK Eskdalemuir 65.21 327 *e*P **P 06 28 07.0 -2.3**
ESK IAMs_20 IAMs_20 06 53 59.4
comp=Z,2µm,31.2s
EDI Edinburgh 65.40 327 *e*P **P 06 28 09.0 -1.4**
EDI IAMs_20 IAMs_20 06 54 36.6
comp=Z,1µm,26.8s
PMAFR Mafra 65.52 308 *e*P **P 06 28 13.7 +2.1**
comp=Z,209nm,2.0s
SNY Shenyang 65.85 49 ⇑P **P 06 28 13.7 0.0**
SNY S **S 06 37 06.4 +6.2**
SNY pmax pmax
comp=Z,440nm,6.9s
SNY LR LR
comp=Z,1µm,18.6s
SNY LR LR
comp=Z,1µm,21.8s
SNY LR LR
comp=Z,2µm,20.6s
LUWI Luwuk 66.17 96 PFAKE 06 28 30.0 +14
LUWI LR LR
comp=Z,500nm,21.0s
DSB Dublin 66.36 324 *e*P **P 06 28 16.9 +0.2**
comp=Z,41nm,1.0s
EDFI Ende, Flores 66.85 104 P **P 06 28 17.7 -3.0**
comp=Z,36nm,0.7s,comp=Z,1µm
MMRI Maumere 67.35 104 *e*P **P 06 28 21.5 -2.2**
comp=Z,642nm,1.9s
MMRI LR LR
comp=Z,600nm,22.0s
MMRI Maumere 67.35 104 P **P 06 28 23.3 -0.4**
comp=Z,134nm,0.8s,comp=Z,5µm
CN2 Changchun 67.50 47 *e*P **P 06 28 23.0 -1.1**
CN2 *e*S **S 06 37 19.4 -0.7**
CN2 pmax pmax
comp=Z,40nm,1.8s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,1µm,22.0s
CN2 LR LR
comp=Z,2µm,22.0s
CN2 LR LR
comp=Z,3µm,22.0s
DAV Davao City (W) 67.60 86 ⇓*i*P **P 06 28 24.0 -1.3**
VAL Valentia 68.34 322 ⇓*i*P P 06 28 35.3 +6.1
VAL Valentia 68.34 322 ⇓*i*S **S 06 37 30.5 +0.7**
KS15 Wonju Array Si 68.70 54 *e*P **P 06 28 30.8 -1.0**
KSAR Wonju Array Be 68.70 54 P P 06 28 30.8 -1.0
KSAR Wonju Array Be 68.70 54 P P 06 28 30.8 -1.0
KS01 Wonju Array Si 68.71 54 *e*P **P 06 28 30.7 -1.2**
KSRS Korea Array 68.73 54 P **P 06 28 30.8 -1.2**
comp=Z,14nm,1.1s,baz=260,slow=6.4,SNR=16
KSRS LR LR 06 59 52.8
comp=Z,1µm,21.7s,baz=271,slow=37
KSRS Korea Array 68.73 54 P **P 06 28 30.8 -1.2**
KSRS pmax pmax
comp=Z,21nm,1.1s
KSRS MLR MLR
comp=Z,1µm,21.7s
JOW Kunigami 68.75 65 P **P 06 28 32.4 0.0**
comp=Z,17nm,0.3s,baz=105,slow=19,SNR=3.4
JOW Kunigami 68.75 65 *e*P **P 06 28 32.4 0.0**
comp=Z,67nm,1.1s
MBWA Marble Bar 68.77 117 *e*P **P 06 28 31.9 -0.6**
comp=Z,182nm,1.9s
MBWA LR LR
comp=Z,700nm,19.0s
MBWA Marble Bar 68.77 117 P **P 06 28 31.3 -1.2**
SNR=5.3
BATI Baumata 69.10 105 P **P 06 28 35.0 +0.3**
comp=Z,64nm,0.7s,baz=243,slow=23,SNR=3.8
SANI Sanana 69.52 96 P **P 06 28 36.7 -0.6**
comp=Z,54nm,2.0s,comp=Z,2µm
SOEI Soe 69.56 104 *e*P **P 06 28 37.2 -0.5**

comp=Z,317nm,1.3s
SOEI LR LR
comp=Z,600nm,20.0s
SOEI Soe 69.56 104 P P 06 28 37.9 +0.2
comp=Z,169nm,1.7s,comp=Z,3µm
H01W3 Cape Leeuwin H 69.89 133 T T 07 44 41.5
baz=299,slow=75,SNR=17
H01W2 Cape Leeuwin H 69.90 133 T T 07 44 42.0
baz=299,slow=75,SNR=17
H01W1 Cape Leeuwin H 69.91 133 T T 07 44 42.9
baz=299,slow=75,SNR=18
ZEA Zeya 70.25 36 *e*P **P 06 28 41.1 0.0**
ZEA *e*S **S 06 37 54.0 +1.6**
ZEA pmax pmax
comp=E,130nm,2.0s
ZEA pmax pmax
comp=N,80nm,1.8s
ZEA pmax pmax
comp=Z,130nm,1.8s
ZEA pmax pmax
comp=Z,700nm,4.0s
ZEA smax smax
comp=E,900nm,8.0s
ZEA MLR MLR
comp=N,800nm,16.0s
ZEA MLR MLR
comp=E,900nm,16.0s
ZEA MLR MLR
comp=Z,2µm,16.0s
TNTI Ternate 70.35 93 P P 06 28 45.7 +3.2
comp=Z,79nm,0.7s,comp=Z,4µm
MDJ Mudanjiang 70.55 46 P P 06 28 42.8 -0.3
MDJ pmax pmax
comp=Z,52nm,1.0s
MDJ pmax pmax
comp=Z,970nm,4.1s
MDJ Mudanjiang 70.55 46 *e*P **P 06 28 43.3 +0.2**
comp=Z,174nm,1.8s
MDJ LR LR
comp=Z,2µm,21.0s
JNU Nakatsue 71.00 58 *e*P **P 06 28 45.3 -0.8**
comp=Z,190nm,1.4s
JNU LR LR
comp=Z,1µm,21.0s
SPITS Spitsbergen Ar 71.22 352 P P 06 28 46.4 -0.2
comp=Z,33nm,1.1s,baz=96,slow=6.8,SNR=5.7
NWAO Narrogin (SRO) 71.30 130 P P 06 28 46.5 -1.3
comp=Z,15nm,0.7s,baz=151,slow=5.6,SNR=8.8
USA0B Ussuriysk Arra 72.23 47 PFAKE 06 29 10.0 +17
USA0B LR LR
comp=Z,2µm,20.0s
USRK Ussuriysk Ar. 72.23 47 P P 06 28 52.0 -1.3
comp=Z,3.1nm,0.7s,baz=254,slow=7.0,SNR=7.7
USRK LR LR 07 01 15.1
comp=Z,2µm,21.6s,baz=263,slow=36
KLR Kul'dur 72.44 42*d i*P **P 06 28 53.4 -1.0**
YAK Yakutsk 73.06 28 *e*P **P 06 28 57.0 -0.8**
comp=Z,139nm,1.0s
YAK LR LR
comp=Z,1µm,19.0s
YAK Yakutsk 73.06 28*c i*P **P 06 28 57.5 -0.3**
YAK *e**PP **PcP 06 29 10.8 -3.8**
YAK *e* 06 31 38.5
YAK *e*S **S 06 38 22.0 -2.5**
YAK *e* 06 39 06.9
YAK pmax pmax
comp=Z,69nm,1.0s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,50nm,1.1s
YAK pmax pmax
comp=Z,106nm,2.2s
YAK pmax pmax
comp=N,48nm,2.0s
YAK pmax pmax
comp=E,130nm,2.4s
YAK smax smax
comp=N,135nm,2.8s
YAK smax smax
comp=E,259nm,3.2s
YAK MLR MLR
comp=Z,1µm,20.0s
YAK MLR MLR
comp=N,1µm,19.0s
YAK MLR MLR
comp=E,717nm,20.0s
FITZ Fitzroy Crossi 73.08 112 P P 06 28 58.5 -0.3
comp=E,19nm,0.9s,baz=300,slow=5.5,SNR=23
FITZ Fitzroy Crossi 73.08 112 *e*P **P 06 28 57.5 -1.3**
comp=E,109nm,1.4s
FITZ LR LR
comp=Z,800nm,19.0s
SIJI Sorong 74.48 94 P P 06 29 06.5 -0.6
comp=Z,14nm,0.8s,baz=307,slow=6.5,SNR=24
TIXI Tiksi 74.86 18 *e*P **P 06 29 06.6 -1.6**
comp=Z,85nm,1.5s
TIXI LR LR
comp=Z,4µm,20.0s
TIXI Tiksi 74.86 18 *e*P **P 06 29 06.6 -1.6**
TIXI pmax pmax
comp=Z,85nm,1.5s
GRNR Gornyy 75.54 40 *e*P **P 06 29 13.0 +0.4**
GRNR pmax pmax
comp=Z,90nm,1.5s
TEY Ternei 75.55 46↓ *e*P **P 06 29 10.0 -2.7**
TEY pmax pmax
comp=Z,30nm,1.7s
FAKI Fak Fak 75.83 96 *e*P **P 06 29 13.7 -1.2**
comp=Z,223nm,1.8s
FAKI LR LR
comp=Z,400nm,20.0s
FAKI Fak Fak 75.83 96 P **P 06 29 17.9 +3.0**
comp=Z,65nm,2.4s,comp=Z,2µm
INU Inuyama 76.04 56 *e*P **P 06 29 14.7 -1.0**
comp=Z,58nm,1.4s
INU LR LR
comp=Z,1µm,21.0s
MTN Manton Dam 76.84 106 PFAKE 06 29 30.0 +9.4
MTN LR LR
comp=Z,500nm,21.0s
MJB9 Matsu-Tunnel 76.95 55 *e*P **P 06 29 20.1 -0.8**
comp=Z,130nm,1.8s
MJB9 LR LR
comp=Z,1µm,19.0s
MAJO Matsushiro 76.95 55 *e*P **P 06 29 20.0 -0.9**
comp=Z,122nm,1.8s
MAJO Matsushiro 76.95 55*de*P **P 06 29 19.6 -1.3**
MAJO pmax pmax
comp=Z,82nm,1.9s
MAJO MLR MLR
comp=Z,884nm,19.0s
MAT Matsushiro 76.95 55 P **P 06 29 18.8 -2.1**
MAT S **S 06 39 04.0 -4.9**
MJAR Matsushiro Arr 76.96 55 P **P 06 29 20.0 -0.9**
comp=Z,13nm,1.2s,baz=275,slow=8.6,SNR=11
MJAR LR LR 07 05 26.6
comp=Z,864nm,19.7s,baz=270,slow=37
SCO Scoresbysund 77.03 340 *e*P **P 06 29 21.3 +0.6**
comp=Z,52nm,1.4s
SCO Scoresbysund 77.03 340 *i* P **P 06 29 21.2 +0.6**
comp=Z,26nm,1.0s
SCO Scoresbysund 77.03 340 *e*P **P 06 29 21.3 +0.6**
SCO pmax pmax
comp=Z,52nm,1.4s
DAG Danmarks Havn 77.12 347 *i* P **P 06 29 20.2 -0.8**
comp=Z,56nm,1.1s
comp=Z,2µm,26.0s
DAG Danmarks Havn 77.12 347 *i* P **P 06 29 20.2 -0.8**
DAG pmax pmax
comp=Z,71nm,1.1s
DAG MLR MLR
comp=Z,2µm,26.0s
MAW Mawson 77.48 178 P **P 06 29 22.8 -0.2**
comp=Z,17nm,0.9s,baz=354,slow=6.8,SNR=28
MAW LR LR 06 56 32.4
comp=Z,3µm,19.3s,baz=352,slow=30
MAW Mawson 77.48 178 *e*P **P 06 29 23.4 +0.4**
comp=Z,60nm,2.0s
MAW Mawson 77.48 178 *e*P **P 06 29 23.4 +0.4**
MAW pmax pmax
comp=Z,60nm,2.0s
FORT Forrest 79.04 124 *e*P **P 06 29 31.9 -0.5**
comp=Z,98nm,1.4s
FORT LR LR
comp=Z,2µm,21.0s
TYV Tymovskoe 79.50 40 *e*P **P 06 29 31.9 -2.7**
TYV *e*S **S 06 39 33.4 -2.2**
TYV pmax pmax
comp=Z,900nm,3.6s
TYV pmax pmax
comp=Z,33nm,1.9s
TYV smax smax
comp=E,300nm,6.4s
TYV MLR MLR
comp=E,900nm,16.0s
TYV MLR MLR
comp=Z,700nm,16.0s
SYO Syowa Base 79.75 186↑ *e*P **P 06 29 34.0 -1.5**
SYO Syowa Base 79.75 186↑ *i*P **P 06 29 37.2 +1.7**
YSS Yuzh-Sakhalins 79.78 44 *e*P **P 06 29 36.0 -0.3**
comp=Z,112nm,1.4s
YSS LR LR
comp=Z,900nm,20.0s
YSS Yuzh-Sakhalins 79.78 44↑ *i*P **P 06 29 36.0 -0.3**
YSS *e*S **S 06 39 34.0 -4.8**
YSS *e*PS **PnS 06 40 28.0 +4.7**
YSS *e*SSS SSS 06 48 12.0
YSS pmax pmax
comp=Z,30nm,1.2s
YSS smax smax
comp=N,300nm,7.6s
YSS smax smax
comp=E,400nm,7.6s
YSS MLR MLR
comp=Z,900nm,16.0s
YSS MLR MLR
comp=N,800nm,16.0s
YSS MLR MLR
comp=E,1µm,16.0s
ASAJ Asahikawa 79.86 47 PFAKE 06 29 50.0 +13
ASAJ LR LR
comp=Z,1µm,21.0s
ERM Erimo 80.43 49 PFAKE 06 29 50.0 +10
ERM LR LR
comp=Z,2µm,18.0s
MIR Mirnyy 80.68 166↑ *i*P **P 06 29 42.0 +1.5**
MIR *i* 06 29 42.0
MIR *e* 06 32 40.0
MIR *e*PPP PPP 06 34 34.0
MIR *e*PS **PnS 06 40 30.0 -4.0**
MIR *e*SSS SSS 06 48 24.0
MIR pmax pmax
comp=Z,1µm,5.0s
MIR pmax pmax
comp=Z,319nm,2.0s
MIR MLR MLR
comp=N,1µm,16.0s
MIR MLR MLR
comp=E,1µm,16.0s
MIR MLR MLR
comp=Z,4µm,16.0s
WC1 Warramunga Arr 81.50 112 PFAKE 06 30 00.0 +14
WC1 LR LR
comp=Z,500nm,20.0s
WRA Warramunga Arr 81.51 112 P **P 06 29 44.1 -1.9**
comp=Z,12nm,1.0s,baz=297,slow=4.5,SNR=56
WRA LR LR 07 00 24.6
comp=Z,560nm,21.6s,baz=255,slow=32
WR1 Warramunga Arr 81.51 112 *e*P **P 06 29 44.1 -1.9**
comp=Z,167nm,1.6s
WB6 Warramunga Arr 81.51 112 PFAKE 06 30 00.0 +14
WB6 LR LR
comp=Z,700nm,20.0s
WB9 Warramunga Arr 81.51 112 PFAKE 06 30 00.0 +14
WB9 LR LR
comp=Z,1µm,19.0s
WC4 Warramunga Arr 81.51 112 PFAKE 06 30 00.0 +14
WC4 LR LR
comp=Z,800nm,20.0s
WRAB Tennant Creek 81.51 112 *e*P **P 06 29 44.7 -1.4**
comp=Z,156nm,1.6s
WRAB LR LR
comp=Z,800nm,19.0s
WRAB Tennant Creek 81.51 112*d i*P **P 06 29 44.2 -1.9**
WRAB pmax pmax
comp=Z,172nm,2.2s
WRAB MLR MLR
comp=Z,472nm,18.0s
WB5 Warramunga Arr 81.52 112 PFAKE 06 30 00.0 +14
WB5 LR LR
comp=Z,700nm,20.0s
WB2 Warramunga Arr 81.52 112 *e*P **P 06 29 44.3 -1.8**
WB2 *e*P **P 06 29 44.6 -1.5**
WB2 LR LR
comp=Z,800nm,20.0s
WC2 Warramunga Arr 81.53 112 PFAKE 06 30 00.0 +14
WC2 LR LR
comp=Z,800nm,18.0s
WR2 Warramunga Arr 81.53 112 PFAKE 06 30 00.0 +14
WR2 LR LR
comp=Z,800nm,19.0s
WC3 Warramunga Arr 81.54 112 PFAKE 06 30 00.0 +14
WC3 LR LR
comp=Z,800nm,19.0s
WR3 Warramunga Arr 81.55 112 PFAKE 06 30 00.0 +14
WR3 LR LR
comp=Z,800nm,20.0s
WR4 Warramunga Arr 81.57 112 PFAKE 06 30 00.0 +14
WR4 LR LR
comp=Z,800nm,19.0s
WR5 Warramunga Arr 81.59 112 PFAKE 06 30 00.0 +14
WR5 LR LR
comp=Z,800nm,20.0s
WR6 Warramunga Arr 81.61 112 PFAKE 06 30 00.0 +13
WR6 LR LR
comp=Z,800nm,19.0s
ASAR Alice Springs 82.02 116 P **P 06 29 47.0 -1.7**
comp=Z,5.7nm,0.7s,baz=281,slow=5.0,SNR=24
ASAR LR LR 07 00 44.6
comp=Z,621nm,21.5s,baz=280,slow=32
AS31 Alice Springs 82.02 116 *e*P **P 06 29 47.1 -1.7**
comp=Z,12nm,1.5s
AS01 Alice Springs 82.06 116 *e*P **P 06 29 46.7 -2.2**
SUMG Summit 82.25 342 *e*P **P 06 29 49.5 0.0**
comp=Z,186nm,1.6s
SUMG Summit 82.25 342 *i* P **P 06 29 49.6 +0.1**
comp=Z,353nm,1.4s
SUMG Summit 82.25 342 *i* P **P 06 29 49.6 +0.1**
SUMG pmax pmax
comp=Z,350nm,1.4s
MA2 Magadan 83.30 31 PFAKE 06 30 10.0 +15
MA2 LR LR
comp=Z,1µm,21.0s
MA2 Magadan 83.30 31*d i*P **P 06 29 53.3 -1.3**
MA2 pmax pmax
comp=Z,111nm,2.3s
MA2 MLR MLR
comp=Z,1µm,20.0s
KUR Kuril'sk 83.49 45*c i*P **P 06 29 57.0 +1.1**
KUR *e*PPP PPP 06 35 00.5
KUR *e*S **S 06 40 22.0 +4.9**
KUR pmax pmax
comp=Z,153nm,1.7s
KUR MLR MLR
comp=Z,679nm,17.0s
KUR MLR MLR
comp=N,454nm,13.0s
SEY Seymchan 83.56 27↑ *i*P **P 06 29 56.4 +0.5**
CASY Casey 85.38 161 PFAKE 06 30 20.0 +15
CASY LR LR
comp=Z,2µm,22.0s
GUMO Guam 85.48 77 LR LR 07 02 55.2
comp=Z,338nm,21.5s,baz=278,slow=32
BBOO Buckleboo 86.14 124 *e*P **P 06 30 09.1 -0.4**
comp=Z,34nm,1.3s
BBOO LR LR
comp=Z,1µm,21.0s
NVL N'lazarevskaya 86.15 194↓ *i*P **P 06 30 11.4 +2.8**
NVL *e*S S 06 40 32.3 -10
NVL pmax pmax
comp=Z,24nm,1.0s
BILL Bilibino 87.81 21 *e*P **P 06 30 17.5 +0.6**
comp=Z,96nm,1.9s
BILL LR LR
comp=Z,4µm,21.0s
BILL Bilibino 87.81 21*de*P **P 06 30 16.7 -0.3**
BILL *e* 06 33 45.1
BILL *e*SS SS 06 46 44.4 -0.7
BILL pmax pmax
comp=Z,18nm,1.0s
BILL MLR MLR
comp=Z,4µm,20.0s
SKR Severo-Kuril's 87.97 39 *e*P **P 06 30 15.4 -2.6**
SKR *e*S **S 06 41 01.1 +0.1**
SKR MLR MLR
comp=Z,1µm,20.0s
SKR MLR MLR
comp=Z,1µm,16.0s
PEA1 Petropavlovsk- 88.35 36 *e*P **P 06 30 19.4 -0.5**
PEA0B Petropavlovsk- 88.35 36 PFAKE 06 30 30.0 +10
PEA0B LR LR
comp=Z,2µm,20.0s
PETK Petropavlovsk- 88.35 36 P **P 06 30 19.4 -0.5**
comp=Z,4.1nm,1.0s,baz=190,slow=6.0,SNR=3.8
PETK LR LR 07 13 00.9
comp=Z,1µm,19.7s,baz=296,slow=38
COEN Coen 88.53 104 *e*P **P 06 30 21.5 +0.1**
comp=Z,175nm,2.0s
COEN LR LR
comp=Z,500nm,22.0s
PET Petropavlovsk 88.93 36 PFAKE 06 30 30.0 +7.5
PET LR LR
comp=Z,1µm,20.0s
PET Petropavlovsk 88.93 36 *e*P P 06 30 09.4 -13
PET *e*S S 06 40 52.8 -17
PET *e*PS **PS 06 42 17.4 +1.8**
PET pmax pmax
comp=Z,27nm,1.3s
PET pmax pmax
comp=Z,100nm,10.7s
PET MLR MLR
comp=Z,2µm,22.0s
SNAA Sanae 90.42 196 P **P 06 30 30.1 +1.0**
SNAA Sanae 90.42 196 P **P 06 30 29.8 +0.7**
comp=Z,5.6nm,1.1s,baz=48,slow=5.7,SNR=18
SNAA Sanae 90.42 196 *e*P **P 06 30 30.5 +1.4**
comp=Z,98nm,1.9s
SNAA LR LR
comp=Z,1µm,22.0s
SNAA Sanae 90.42 196*c i*P **P 06 30 30.1 +1.0**
STKA Stephens Creek 90.50 122 P **P 06 30 30.1 -0.2**
comp=Z,4.7nm,1.0s,baz=277,slow=6.0,SNR=8.1
STKA LR LR 07 08 06.9
comp=Z,1µm,18.3s,baz=261,slow=34
STKA Stephens Creek 90.50 122 *e*P **P 06 30 30.7 +0.4**
comp=Z,12nm,1.8s
STKA Stephens Creek 90.50 122 *e*P **P 06 30 30.7 +0.4**
VNA2 Neumayer--Watz 91.34 197 P **P 06 30 35.1 +1.8**
baz=50,slow=4.3
VNA1 Neumayer--Stat 91.47 198 P **P 06 30 35.9 +2.0**
VNA3 Neumayer Olymp 92.14 197 P **P 06 30 38.9 +1.8**
CTA Charters Tower 92.50 110 P **P 06 30 39.7 -0.2**
comp=Z,2.1nm,0.4s,baz=267,slow=6.9,SNR=4.6
CTAO Charters Tower 92.50 110 *e*P **P 06 30 40.0 +0.2**
comp=Z,55nm,1.5s
CTAO LR LR
comp=Z,1µm,19.0s
CTAO Charters Tower 92.50 110 *e*P **P 06 30 40.4 +0.6**
RCBR Riachuelo 94.02 265 PFAKE 06 31 00.0 +13
RCBR LR LR
comp=Z,73µm,20.0s
TAU Tasmania Unive 96.80 132 PFAKE 06 31 10.0 +11
TAU LR LR
comp=Z,1µm,19.0s
RDOG Red Dog Mine 97.12 14 PFAKE 06 31 10.0 +10
RDOG LR LR
comp=Z,1µm,21.0s
CAN Canberra 97.15 125 PFAKE 06 31 10.0 +9.0
CAN LR LR
comp=Z,1µm,18.0s
EIDS Eidsvold 97.69 114 PFAKE 06 31 10.0 +6.5
EIDS LR LR
comp=Z,800nm,18.0s
ARMA Armidale 98.78 119 PFAKE 06 31 20.0 +12
ARMA LR LR
comp=Z,900nm,20.0s
ANM Nome 99.11 17 PFAKE 06 31 20.0 +11
ANM LR LR
comp=Z,1µm,19.0s
TOLK Toolik Lake Re 99.34 10 PFAKE 06 31 20.0 +10
TOLK LR LR
comp=Z,800nm,19.0s
QSPA South Pole Qui 99.90 180 PFAKE 06 31 20.0 +7.5
QSPA LR LR
comp=Z,4µm,20.0s
INK Inuvik 101.55 4 PFAKE 06 31 30.0 +10
INK LR LR
comp=Z,2µm,22.0s
FYU Fort Yukon 101.92 9 PFAKE 06 31 30.0 +8.6
FYU LR LR
comp=Z,1µm,20.0s
MLY Manley 102.34 12 PFAKE 06 31 30.0 +6.5
MLY LR LR
comp=Z,1µm,18.0s
MDM Murphy Dome 102.89 11 PFAKE 06 31 40.0 +14
MDM LR LR
comp=Z,1µm,18.0s
COLA College 103.04 11 PFAKE 06 31 40.0 +14
COLA LR LR
comp=Z,1µm,19.0s
BPAW Bear Paw Mtn. 103.11 12 PFAKE 06 31 40.0 +13
BPAW LR LR
comp=Z,2µm,21.0s
WRH Wood River Hil 103.36 11 PFAKE 06 31 40.0 +12
WRH LR LR
comp=Z,1µm,21.0s
CAST Castle Rocks 103.47 13 PFAKE 06 31 40.0 +12
CAST LR LR
comp=Z,1µm,21.0s
SBA Scott Base 103.77 168 PFAKE 06 31 40.0 +11
SBA LR LR
comp=Z,3µm,19.0s
TRF Thorofare Moun 103.84 12 PFAKE 06 31 40.0 +10
TRF LR LR
comp=Z,1µm,20.0s
MCK McKinley 103.86 12 PFAKE 06 31 40.0 +10
MCK LR LR
comp=Z,1µm,18.0s
PPLA Purkeypile 103.91 13 PFAKE 06 31 40.0 +9.4
PPLA LR LR
comp=Z,2µm,20.0s
RND Reindeer 104.17 12 PFAKE 06 31 40.0 +8.4
RND LR LR
comp=Z,1µm,19.0s
SCRK Sand Creek 104.53 9 PFAKE 06 31 40.0 +6.7
SCRK LR LR
comp=Z,1µm,22.0s
RIDG Independ'e Rid 104.61 10 PFAKE 06 31 40.0 +6.4
RIDG LR LR
comp=Z,1µm,21.0s
DHY Denali Highway 104.76 11 PFAKE 06 31 50.0 +16
DHY LR LR
comp=Z,1µm,19.0s
SKT Skwentna 104.86 14 PFAKE 06 31 50.0 +15
SKT LR LR
comp=Z,2µm,20.0s
SUA Susitna One 105.49 13 PFAKE 06 36 00.0
SUA LR LR
comp=Z,1µm,20.0s
GHO Glory Hole Cre 105.62 13 PFAKE 06 36 00.0
GHO LR LR
comp=Z,1µm,20.0s
SML Sawmill 105.72 12 PFAKE 06 36 00.0
SML LR LR
comp=Z,1µm,22.0s
GLI Glacier Island 106.81 12 PFAKE 06 36 00.0
GLI LR LR
comp=Z,1µm,18.0s
BDFB Brasilia 107.15 257 PFAKE 06 36 10.0
BDFB LR LR
comp=Z,3µm,19.0s
SPB Sao Paulo 107.25 248 PFAKE 06 36 10.0
SPB LR LR
comp=Z,1µm,18.0s
FCC Fort Churchill 107.66 345 PFAKE 06 36 10.0
FCC LR LR
comp=Z,1µm,21.0s
DZM Mont Dzumac 111.45 110 *e*PS PS 06 46 16.2 -0.4
comp=Z,177nm,26.9s
DZM Mont Dzumac 111.45 110 *e*LR LR 07 09 09.6
comp=Z,1µm,21.6s
PMSA Palmer Station 111.98 203 PFAKE 06 36 10.0
PMSA LR LR
comp=Z,1µm,18.0s
EFI East Falkland 113.34 218 PFAKE 06 36 20.0
EFI LR LR
comp=Z,1µm,22.0s
SMRT St. Maarten 114.79 295 PFAKE 06 36 20.0 +10

SMRT LR LR
comp=Z,400nm,18.0s
SEUS St. Eustatius 114.90 295 PFAKE 06 36 20.0 +10
SEUS LR LR
comp=Z,300nm,18.0s
MQZ McQueen's Vall 115.19 134 PFAKE 06 36 20.0 +10
MQZ LR LR
comp=Z,1µm,22.0s
CPUP Villa Florida 116.27 246 PKP **PKPdf 06 36 12.6 +0.4**
comp=Z,1.5nm,0.8s,baz=46,slow=7.6,SNR=2.9
G43A Wallace 116.57 333 PFAKE 06 36 20.0 +7.7
G43A LR LR
comp=Z,1µm,19.0s
PTGA Pitinga 116.85 274 PFAKE 06 36 30.0 +16
PTGA LR LR
comp=Z,700nm,20.0s
H43A Windswept, Lux 117.22 332 PFAKE 06 36 20.0 +6.4
H43A LR LR
comp=Z,1µm,21.0s
SJG San Juan 117.50 296 PFAKE 06 36 30.0 +15
SJG LR LR
comp=Z,300nm,21.0s
HIZ Hauiti 117.75 128 PFAKE 06 36 30.0 +15
HIZ LR LR
comp=Z,900nm,18.0s
I42A Draeger Farm, 118.19 333 PFAKE 06 36 30.0 +15
I42A LR LR
comp=Z,1µm,21.0s
BFZ Birch Farm 118.40 131 PFAKE 06 36 30.0 +14
BFZ LR LR
comp=Z,1µm,22.0s
MDND Maddock 118.86 342 PFAKE 06 36 30.0 +13
MDND LR LR
comp=Z,2µm,20.0s
TRQA Tornquist 118.98 232 PFAKE 06 36 30.0 +13
TRQA LR LR
comp=Z,2µm,20.0s
URZ Urewera 119.53 128 PFAKE 06 36 30.0 +12
URZ LR LR
comp=Z,900nm,19.0s
SAML Samuel 121.24 266 PFAKE 06 36 30.0 +7.9
SAML LR LR
comp=Z,1µm,20.0s
SDDR Presa de Saban 121.62 300 PFAKE 06 36 30.0 +7.2
SDDR LR LR
comp=Z,600nm,21.0s
OLIL Olney 121.74 328 PFAKE 06 36 30.0 +7.6
OLIL LR LR
comp=Z,900nm,20.0s
NEW Newport 121.81 356 *e*PKPdf **PKPdf 06 36 22.4 +0.1**
NEW Newport 121.81 356 *e*PKIKP **PKPdf 06 36 22.5 +0.1**
N39A Derby Farms, D 122.19 333 PFAKE 06 36 30.0 +6.8
N39A LR LR
comp=Z,1µm,20.0s
C09A Chrisman Ranch 122.35 356 PFAKE 06 36 30.0 +6.6
C09A LR LR
comp=Z,2µm,22.0s
T47A Sharon Grove 122.51 326 PFAKE 06 36 40.0 +16
T47A LR LR
comp=Z,900nm,19.0s
MSO Missoula 122.91 353 *e*PKPdf **PKPdf 06 36 24.1 -0.5**
MSO LR LR
comp=Z,1µm,20.0s
X51A Calhoun 122.95 323 PFAKE 06 36 40.0 +15
X51A LR LR
comp=Z,700nm,22.0s
LTY Liberty 123.00 358 PFAKE 06 36 40.0 +15
LTY LR LR
comp=Z,800nm,19.0s
SWET Sewanee 123.12 324 PFAKE 06 36 40.0 +15
SWET LR LR
comp=Z,900nm,22.0s
D08A Wollman Farm, 123.13 357 *e*PKPdf **PKPdf 06 36 24.4 -0.5**
FVM French Village 123.50 329 *e*PKPdf **PKPdf 06 36 25.6 -0.2**
FVM French Village 123.50 329 *e*PKIKP **PKPdf 06 36 25.6 -0.2**
E09A Wood Farm, Sta 123.62 356 *e*PKPdf **PKPdf 06 36 25.9 +0.1**
BOZ Bozeman (W) 123.78 351 *e*PKPdf **PKPdf 06 36 27.8 +1.4**
BOZ LR LR
comp=Z,800nm,20.0s
BOZ Bozeman (W) 123.78 351 *e*PKIKP **PKPdf 06 36 27.8 +1.4**
BOZ MLR MLR
comp=Z,800nm,20.0s
HAWA Hanford 123.82 357 PFAKE 06 36 40.0 +14
HAWA LR LR
comp=Z,2µm,22.0s
F10A Beach Ranch, E 124.09 355 *e*PKPdf **PKPdf 06 36 26.5 -0.4**
152A Waverly Hall 124.16 321 *e*PKPdf **PKPdf 06 36 27.4 +0.1**
DLMT Dillon 124.16 351 *e*PKPdf **PKPdf 06 36 28.5 +1.4**
PBMO Poplar Bluff 124.43 329 *e*PKPdf **PKPdf 06 36 27.8 +0.2**
GTBY Guantanamo Bay 124.43 302 PFAKE 06 36 40.0 +12
GTBY LR LR
comp=Z,500nm,19.0s
Z50A Ashland 124.49 322 PFAKE 06 36 40.0 +12
Z50A LR LR
comp=Z,800nm,21.0s
LKWY Lake 124.57 349 PFAKE 06 36 40.0 +12
LKWY LR LR
comp=Z,1µm,20.0s
T42A Van Buren 124.57 329 *e*PKPdf **PKPdf 06 36 27.8 -0.1**
PLCA Paso Flores 124.74 227 PKP **PKPdf 06 36 28.6 +0.4**
comp=Z,9.9nm,0.8s,baz=348,slow=5.5,SNR=10
PLCA Paso Flores 124.74 227 *e*PKPdf **PKPdf 06 36 29.4 +1.2**
H17A Grant Village 124.77 349 PFAKE 06 36 40.0 +12
H17A LR LR
comp=Z,1µm,22.0s
SDV Santo Domingo 124.78 288 PFAKE 06 36 40.0 +11
SDV LR LR
comp=Z,400nm,20.0s
G08A Pilot Rock 124.89 357 *e*PKPdf **PKPdf 06 36 29.4 +0.9**
656A Willston 124.89 317 PFAKE 06 36 40.0 +11
656A LR LR
comp=Z,900nm,20.0s
BMO Blue Mountains 125.21 355 *e*PKPdf **PKPdf 06 36 29.6 +0.5**
BMO LR LR
comp=Z,1µm,20.0s
BMO Blue Mountains 125.21 355 *e*PKIKP **PKPdf 06 36 29.6 +0.5**
BMO MLR MLR
comp=Z,1µm,20.0s
LRAL Lakeview Retre 125.29 323 *e*PKPdf **PKPdf 06 36 29.8 +0.4**
IMW Indian Meadow 125.32 349 PFAKE 06 36 40.0 +10
IMW LR LR
comp=Z,1µm,20.0s
MOOW Moose Ponds 125.42 349 *e*PKPdf **PKPdf 06 36 30.6 +0.9**
MOOW LR LR
comp=Z,800nm,20.0s
MET Memphis--Engin 125.43 327 PFAKE 06 36 40.0 +10
MET LR LR
comp=Z,800nm,20.0s
LOHW Long Hollow 125.53 349 *e*PKPdf **PKPdf 06 36 31.0 +1.1**
K22A Casper 125.56 345 *e*PKPdf **PKPdf 06 36 30.0 +0.1**
K22A LR LR
comp=Z,800nm,19.0s
FXWY Fox Creek 125.58 349 *e*PKPdf **PKPdf 06 36 30.3 +0.3**
250A Grady 125.59 322 PFAKE 06 36 40.0 +10
250A LR LR
comp=Z,700nm,20.0s
SNOW Snow King Moun 125.70 349 *e*PKPdf **PKPdf 06 36 31.4 +1.2**
SNOW LR LR
comp=Z,1µm,22.0s
957A Wimauma 125.74 315 PFAKE 06 36 40.0 +10
957A LR LR
comp=Z,600nm,21.0s
GO06 Curarrehue 125.78 228 *e*PKPdf **PKPdf 06 36 30.9 +0.6**
REDW Red Top Meadow 125.82 349 *e*PKPdf **PKPdf 06 36 31.1 +0.7**
I07A Izee 126.12 357 PFAKE 06 36 40.0 +9.1
I07A LR LR
comp=Z,1µm,21.0s
BW06 Boulder Array 126.14 348 *e*PKPdf **PKPdf 06 36 31.0 -0.1**
PD31 Pinedale Array 126.14 348 *e*PKPdf **PKPdf 06 36 31.0 -0.1**
PDAR Pinedale Array 126.14 348 PKP **PKPdf 06 36 29.7 -1.4**
comp=Z,4.4nm,1.1s,baz=68,slow=2.6,SNR=16
HLID Hailey 126.18 352 *e*PKPdf **PKPdf 06 36 31.3 +0.2**
147A Livingston 126.30 324 PFAKE 06 36 40.0 +8.7
147A LR LR
comp=Z,900nm,18.0s
AHID Auburn Hatcher 126.44 349 PFAKE 06 36 40.0 +8.4
AHID LR LR
comp=Z,700nm,19.0s
LPAZ La Paz 126.50 257 PKP **PKPdf 06 36 32.9 0.0**
comp=Z,1.3nm,0.6s,baz=66,slow=2.1,SNR=11
LPAZ La Paz 126.50 257 *e*PKPdf **PKPdf 06 36 32.4 -0.5**
PHWY Pilot Hill 126.54 344 PFAKE 06 36 40.0 +8.0
PHWY LR LR
comp=Z,1µm,21.0s
RWWY Rawlins 126.63 345 PFAKE 06 36 40.0 +7.9
RWWY LR LR
comp=Z,1µm,20.0s
146A Union 126.78 324 PFAKE 06 36 40.0 +7.7
146A LR LR
comp=Z,800nm,20.0s
J08A Circle Bar Ran 126.78 356 *e*PKPdf **PKPdf 06 36 31.8 -0.3**
CBKS Cedar Bluff 126.92 337 PFAKE 06 36 40.0 +7.6
CBKS LR LR
comp=Z,1µm,20.0s
LVC Limon Verde 127.01 249 *e*PKPdf **PKPdf 06 36 34.2 +0.8**
LVC Limon Verde 127.01 249 *e*PKIKP **PKPdf 06 36 34.2 +0.8**
N23A Red Feather La 127.05 344 *e*PKPdf **PKPdf 06 36 32.8 -0.1**
N23A LR LR
comp=Z,900nm,21.0s
HWUT Hardware Ranch 127.65 349 *e*PKPdf **PKPdf 06 36 34.0 +0.1**
HWUT LR LR
comp=Z,1µm,21.0s
PB01 IPOC Station P 127.66 251 *e*PKPdf **PKPdf 06 36 35.4 +1.1**
HVU Hansel Valley 127.69 351 *e*PKPdf **PKPdf 06 36 34.2 +0.2**
HVU Hansel Valley 127.69 351 *e*PKIKP **PKPdf 06 36 34.2 +0.2**
WVOR Wild Horse Val 127.72 356 *e*PKPdf **PKPdf 06 36 34.4 +0.4**
WVOR LR LR
comp=Z,1µm,19.0s
TUL1 Leonard 127.73 332 *e*PKPdf **PKPdf 06 36 34.1 +0.1**
MIAR Mount Ida 127.77 329 *e*PKPdf **PKPdf 06 36 35.0 +0.9**
KSCO Kaye Shedlock' 127.77 340 *e*PKPdf **PKPdf 06 36 33.7 -0.5**
KSCO LR LR
comp=Z,900nm,22.0s
MNMC Minye Minye 127.85 254 *e*PKPdf **PKPdf 06 36 34.9 -0.1**
MNMC LR LR
comp=Z,2µm,20.0s
PB11 IPOC Station P 127.88 253 *e*PKPdf **PKPdf 06 36 34.8 0.0**
PB11 LR LR
comp=Z,1µm,21.0s
ISCO Idaho Springs 127.98 343 *e*PKPdf **PKPdf 06 36 34.3 -0.5**
ISCO LR LR
comp=Z,2µm,19.0s
ISCO Idaho Springs 127.98 343 *e*PKIKP **PKPdf 06 36 34.3 -0.5**
ISCO MLR MLR
comp=Z,2µm,19.0s
RUSC La Rusia 128.01 286 *e*P **PKPdf 06 36 35.1 -0.6**
SMLC San Mart`›n de 128.02 289 *e*P **PKPdf 06 36 33.4 -1.7**
TCUT Toone Canyon 128.09 349 *e*PKPdf **PKPdf 06 36 35.4 +0.5**
SPUT South Promonto 128.09 350 *e*PKPdf **PKPdf 06 36 35.6 +0.8**
BRRC Barranca, Sant 128.24 287 *e*P **PKPdf 06 36 34.7 -0.8**
Z41A Richland Creek 128.38 328 PFAKE 06 36 50.0 +15
Z41A LR LR
comp=Z,800nm,18.0s
BGU Big Grassy Mou 128.56 351 *e*PKPdf **PKPdf 06 36 36.6 +0.9**
JLU Jordanelle 128.60 349 *e*PKPdf **PKPdf 06 36 36.1 +0.3**
Q24A Divide 128.61 342 PFAKE 06 36 50.0 +14
Q24A LR LR
comp=Z,1µm,21.0s
U32A Winter Ranch, 128.74 335 PFAKE 06 36 50.0 +14
U32A LR LR
comp=Z,1µm,22.0s
SMCO Snowmass 128.93 344 *e*PKPdf **PKPdf 06 36 37.1 +0.3**
CHIC Chingaza 129.00 284 *e*P **PKPdf 06 36 34.7 -2.8**
ZARC Zaragoza, Cauc 129.19 288 *e*P **PKPdf 06 36 36.7 -0.6**
MPU Maple Canyon 129.20 349 *e*PKPdf **PKPdf 06 36 37.6 +0.6**
MPU LR LR
comp=Z,1µm,19.0s
DUG Dugway, Tooele 129.24 350 *e*PKPdf **PKPdf 06 36 37.9 +0.9**
DUG LR LR
comp=Z,900nm,20.0s
P18A Preston Nutter 129.30 347 *e*PKPdf **PKPdf 06 36 38.0 +0.7**
ROSC El Rosal 129.50 285 PKP **PKPdf 06 36 39.2 +0.7**
comp=Z,2.8nm,0.3s,baz=340,slow=0.7,SNR=7.1
ROSC El Rosal 129.50 285 *e*PKPdf **PKPdf 06 36 39.2 +0.7**
ROSC LR LR
comp=Z,700nm,20.0s
MOTC Monteria, Cord 129.50 290 *e*P **PKPdf 06 36 35.4 -2.5**
P17A Butcher Ranch, 129.55 348 *e*PKPdf **PKPdf 06 36 38.4 +0.7**
SJAC San Juan de Ar 129.59 283 *e*P **PKPdf 06 36 37.9 -0.4**
BMN Battle Mountai 129.59 354 *e*PKPdf **PKPdf 06 36 37.8 +0.1**
BMN LR LR
comp=Z,1µm,21.0s
BMN Battle Mountai 129.59 354 *e*PKIKP **PKPdf 06 36 37.8 +0.1**
BMN MLR MLR
comp=Z,1µm,21.0s
NORC Norcasia 129.81 286 *e*P **PKPdf 06 36 37.2 -1.4**
TMUT Trail Mountain 129.81 348 *e*PKPdf **PKPdf 06 36 39.3 +1.0**
SDCO Great Sand Dun 129.84 342 *e*PKPdf **PKPdf 06 36 38.9 +0.5**
SDCO LR LR
comp=Z,1µm,21.0s
SRU San Rafael Swe 129.85 348 *e*PKPdf **PKPdf 06 36 38.4 +0.2**
SRU San Rafael Swe 129.85 348 *e*PKIKP **PKPdf 06 36 38.4 +0.2**
PV22 Blue Mesa, Par 130.00 346 *e*PKPdf **PKPdf 06 36 38.9 +0.4**
PV22 LR LR
comp=Z,700nm,21.0s
PV21 Cone Mtn., Par 130.03 346 *e*PKPdf **PKPdf 06 36 38.4 -0.2**
WMOK Wichita Mounta 130.04 334 *e*PKPdf **PKPdf 06 36 39.0 +0.5**
WMOK Wichita Mounta 130.04 334 *e*PKIKP **PKPdf 06 36 39.0 +0.5**
T25A Trinidad 130.06 341 *e*PKPdf **PKPdf 06 36 39.0 +0.3**
PV09 Paradox Valley 130.12 346 *e*PKPdf **PKPdf 06 36 39.1 +0.2**
PV12 Saucer Basin, 130.21 346 *e*PKPdf **PKPdf 06 36 39.5 +0.5**
PV14 Lion Creek, Pa 130.22 346 *e*PKPdf **PKPdf 06 36 39.2 +0.2**
S22A 4UR Ranch, Cre 130.23 343 *e*PKPdf **PKPdf 06 36 39.8 +0.6**
S22A LR LR
comp=Z,1µm,20.0s
HELC Santa Helena 130.24 287 *e*P **PKPdf 06 36 38.7 -1.1**
PV16 Nyswonger Mesa 130.25 346 *e*PKPdf **PKPdf 06 36 39.2 +0.1**
PV16 LR LR
comp=Z,1µm,20.0s
PV11 David Mesa, Pa 130.25 346 *e*PKPdf **PKPdf 06 36 39.7 +0.7**
PV11 LR LR
comp=Z,1µm,19.0s
PV03 Paradox Valley 130.28 346 *e*PKPdf **PKPdf 06 36 39.5 +0.4**
PV18 Skein Mesa, Pa 130.31 346 PFAKE 06 36 50.0 +11
PV18 LR LR
comp=Z,1µm,20.0s
PV01 Paradox Valley 130.33 345 *e*PKPdf **PKPdf 06 36 39.0 -0.2**
PRAC Prado 130.36 284 *e*P **PKPdf 06 36 38.1 -1.6**
BEKR Beckworth 130.37 358 *e*PKPdf **PKPdf 06 36 39.7 +0.5**
BEKR LR LR
comp=Z,1µm,22.0s
PV13 Radium Mtn., P 130.37 346 *e*PKPdf **PKPdf 06 36 39.5 +0.2**
RREF El Recreo 130.46 285 *e*P **PKPdf 06 36 41.2 +0.7**
PAHR Pah Rah Range 130.48 357 *e*PKPdf **PKPdf 06 36 39.8 +0.5**
ANIL Santa Ana 130.63 285 *e*P **PKPdf 06 36 39.4 -1.1**
ORV Oroville 130.72 359 *e*PKPdf **PKPdf 06 36 40.4 +0.8**
ORV Oroville 130.72 359 *e*PKIKP **PKPdf 06 36 40.4 +0.8**
MSU Marysvale 130.76 349 *e*PKPdf **PKPdf 06 36 40.6 +0.6**
MSU Marysvale 130.76 349 *e*PKIKP **PKPdf 06 36 40.6 +0.6**
VCNR Virginia City 130.90 357 *e*PKPdf **PKPdf 06 36 40.4 +0.2**
PSUT Pine Spring 131.03 351 *e*PKPdf **PKPdf 06 36 42.0 +1.5**
KVN Kaiserville 131.04 355 *e*PKPdf **PKPdf 06 36 41.5 +1.1**
PNTR Pine Nut 131.11 357 PFAKE 06 36 50.0 +9.3
PNTR LR LR
comp=Z,800nm,18.0s
AMTX Amarillo 131.11 337 *e*PKPdf **PKPdf 06 36 40.9 +0.3**
AMTX LR LR
comp=Z,1µm,19.0s
MVCO Mesa Verde 131.19 345 PFAKE 06 36 50.0 +9.1
MVCO LR LR
comp=Z,1µm,21.0s
MTPU Mount Pierson 131.22 349 *e*PKPdf **PKPdf 06 36 41.8 +0.7**
AFDM Forest Hills D 131.31 358 *e*PKPdf **PKPdf 06 36 41.4 +0.6**
R11A Troy Canyon, C 131.46 352 *e*PKPdf **PKPdf 06 36 41.8 +0.5**
RYN Ryan 131.49 356 *e*PKPdf **PKPdf 06 36 43.2 +1.9**
RYN LR LR
comp=Z,800nm,20.0s
NV11 Mina Array Sit 131.66 355 *e*PKPdf **PKPdf 06 36 42.6 +1.0**
NV11 LR LR
comp=Z,100nm,18.0s
FLOC Florencia 131.67 281 *e*P **PKPdf 06 36 41.0 -1.1**
NV01 Mina Array Sit 131.67 355 *e*PKPdf **PKPdf 06 36 42.2 +0.5**
NVAR Mina Array Bea 131.67 355 PKP **PKPdf 06 36 41.6 -0.1**
comp=Z,1.7nm,0.7s,baz=51,slow=0.8,SNR=16
WAKR Walker 131.68 356 *e*PKPdf **PKPdf 06 36 42.6 +0.9**
WAKR LR LR
comp=Z,800nm,20.0s
YOTC Yotoco, Valle 131.68 284 *e*P **PKPdf 06 36 40.1 -2.2**
WHTX Lake Whitney, 131.74 331 *e*PKPdf **PKPdf 06 36 42.6 +0.8**
WHTX LR LR
comp=Z,800nm,20.0s
SZCU Shurtz Canyon 131.82 350 *e*PKPdf **PKPdf 06 36 42.6 +0.6**
PKCU Pink Cliffs 131.82 349 *e*PKPdf **PKPdf 06 36 42.3 +0.2**
CCUT Cedar City 131.91 350 *e*PKPdf **PKPdf 06 36 42.9 +0.6**
PCON Cinco Dias 132.19 282 *e*P **PKPdf 06 36 43.6 -0.2**
CMB Columbia Colle 132.20 357 *e*PKPdf **PKPdf 06 36 42.7 +0.2**
CMB LR LR
comp=Z,800nm,20.0s
ABTX Abilene, Hawle 132.22 333 *e*PKPdf **PKPdf 06 36 42.5 -0.2**
MSTX Muleshoe 132.33 337 PFAKE 06 36 50.0 +7.0
MSTX LR LR
comp=Z,1µm,20.0s
POPC Popayan, Colom 132.40 283 *e*P **PKPdf 06 36 41.6 -2.2**
LCMT Little Creek M 132.41 350 *e*PKPdf **PKPdf 06 36 43.7 +0.7**
SOTA Rioblanco 132.44 282 *e*P **PKPdf 06 36 44.7 +0.5**
MDPB Devils Postpil 132.52 356 PFAKE 06 37 00.0 +17
MDPB LR LR
comp=Z,800nm,18.0s
HKT Hockley 132.57 328 *e*PKIKP **PKPdf 06 36 45.3 +2.0**
ANMO Albuquerque 132.72 342 *e*PKPdf **PKPdf 06 36 43.7 -0.1**
ANMO LR LR
comp=Z,1µm,21.0s
ANMO Albuquerque 132.72 342 *i*PKIKP **PKPdf 06 36 44.4 +0.6**
435B Jarrell 132.79 330 PFAKE 06 37 00.0 +16
435B LR LR
comp=Z,900nm,21.0s
U15A North Rim 132.80 348 *e*PKPdf **PKPdf 06 36 44.9 +0.8**
LPM Los Pinos Moun 133.36 341 *e*PKPdf **PKPdf 06 36 45.1 +0.1**
GCUF Volcan Galeras 133.39 281 *e*P **PKPdf 06 36 45.4 -0.6**
LAZ Ladron 133.43 342 *e*PKPdf **PKPdf 06 36 45.9 +0.7**
W18A Petrified Fore 133.48 345 PFAKE 06 37 00.0 +15
W18A LR LR
comp=Z,1µm,19.0s
WUAZ Wupatki 133.49 347 *e*PKPdf **PKPdf 06 36 45.3 +0.1**
BNM Barren Site 133.51 341 *e*PKPdf **PKPdf 06 36 46.0 +0.6**
LENM Lemitar 133.60 342 *e*PKPdf **PKPdf 06 36 45.7 +0.3**
Y22D IRIS PASSCAL I 133.67 342 PFAKE 06 37 00.0 +14
Y22D LR LR
comp=Z,1µm,20.0s
DAC Darwin (Calif) 133.74 354 *e*PKPdf **PKPdf 06 36 45.6 -0.1**
X18A Snowflake 134.10 345 PFAKE 06 37 00.0 +14
X18A LR LR
comp=Z,1µm,21.0s
JCT Junction City 134.10 332 *e*PKPdf **PKPdf 06 36 46.5 +0.2**
JCT LR LR
comp=Z,800nm,20.0s
W13A Hualapai Mount 134.39 350 *e*PKPdf **PKPdf 06 36 47.5 +0.5**
X16A Lo Mia Camp, P 134.56 347 *e*PKPdf **PKPdf 06 36 48.0 +0.7**
X16A LR LR
comp=Z,800nm,22.0s
LDFC Landfair 134.61 351 PFAKE 06 37 00.0 +13
LDFC LR LR
comp=Z,1µm,19.0s
GSC Goldstone, Bar 134.62 353 *e*PKPdf **PKPdf 06 36 48.4 +1.2**
TEIG Tepich 134.66 312 PFAKE 06 37 00.0 +13
TEIG LR LR
comp=Z,500nm,20.0s
OTAV Otavalo 134.71 280 *e*PKPdf **PKPdf 06 36 49.1 +0.8**
OTAV LR LR
comp=Z,700nm,21.0s
OTAV Otavalo 134.71 280 *e*P **PKPdf 06 36 46.7 -1.7**
MNTX Cornudas Mount 135.33 339 *e*PKPdf **PKPdf 06 36 49.4 +0.9**
Y12C Blythe 135.81 350 *e*PKPdf **PKPdf 06 36 50.1 +0.7**
ESPN Las Esperanzas 135.85 299 PFAKE 06 37 00.0 +10
ESPN LR LR
comp=Z,200nm,20.0s
PFO Pinyon Flats O 136.24 352 *e*PKPdf **PKPdf 06 36 50.5 +0.2**
XPFO Piæon Flat 136.24 352 *e*PKPdf **PKPdf 06 36 50.9 +0.5**
TUC Tucson 136.42 345 *e*PKPdf **PKPdf 06 36 51.4 +0.8**
TUC LR LR
comp=Z,1µm,18.0s
SBLHI Steaming Bluff 136.69 48 PFAKE 06 37 00.0 +8.5
SBLHI LR LR
comp=Z,4µm,20.0s
KKO Keanakako'i 136.71 48 PFAKE 06 37 00.0 +8.5
KKO LR LR
comp=Z,3µm,21.0s
LTX Lajitas 136.78 335 *e*PKPpre PKPpre 06 36 41.5
LTX *e*PKPdf **PKPdf 06 36 50.7 -0.7**
LTX Lajitas 136.78 335 *e*PKHKP PKPpre 06 36 41.5
LTX e 06 36 50.7
TX31 Lajitas Ar. Si 136.78 335 *e*PKPdf **PKPdf 06 36 50.1 -1.3**
TX31 *e*PKPdf **PKiKP 06 36 51.1 -2.1**
TXAR Lajitas Array 136.78 335 PKhKP PKPpre 06 36 41.5
comp=Z,0.5nm,0.8s,baz=64,slow=2.9,SNR=4.8
TXAR PKP **PKPdf 06 36 50.7 -0.7**
comp=Z,3.1nm,0.9s,baz=68,slow=0.4,SNR=10
STCH Steam Cracks 136.82 48 PFAKE 06 37 00.0 +8.3
STCH LR LR
comp=Z,3µm,21.0s
NPOC North of Pu'u 136.83 47 PFAKE 06 37 00.0 +8.3
NPOC LR LR
comp=Z,5µm,21.0s
319A Douglas 136.89 343 PFAKE 06 37 00.0 +8.4
319A LR LR
comp=Z,1µm,22.0s
ESTN Estel 137.16 302 PFAKE 06 37 00.0 +7.6
ESTN LR LR
comp=Z,300nm,19.0s
JTS JuntasAbangare 137.29 297 PFAKE 06 37 00.0 +7.4
JTS LR LR
comp=Z,500nm,19.0s
TGUH Tegucigalpa,Un 137.42 304 PFAKE 06 37 00.0 +7.3
TGUH LR LR
comp=Z,300nm,20.0s
SNET Serv Nac Est T 139.22 305 PFAKE 06 37 10.0 +14
SNET LR LR
comp=Z,400nm,22.0s
HPIG 139.72 336 *e*PKPdf **PKPdf 06 36 56.4 -0.6**
CCIG Comitan 139.97 310 PFAKE 06 37 10.0 +12
CCIG LR LR
comp=Z,600nm,20.0s
SRIG Santa Rosalia 141.54 345 PFAKE 06 37 10.0 +10
SRIG LR LR
comp=Z,900nm,20.0s
ZAIG Zacatecas 141.89 329 *e*PKPdf **PKPdf 06 36 59.5 -1.7**
ZAIG LR LR
comp=Z,600nm,20.0s
UNM Universidad Na 142.71 321 PFAKE 06 37 10.0 +7.4
UNM LR LR
comp=Z,500nm,21.0s
MOIG Morelia 143.65 324 PFAKE 06 37 20.0 +16
MOIG LR LR
comp=Z,600nm,20.0s
TBI Tubuai 151.28 121 *e*SS SS 07 00 27.9 +3.3
comp=Z,367nm,33.8s
TBI Tubuai 151.28 121 *e*LR LR 07 27 36.5
comp=Z,733nm,26.2s
PPT2 Papeete2 152.95 109 *e*SS SS 07 00 50.3 +6.4
comp=Z,419nm,27.5s
PPT2 Papeete2 152.95 109 *e*LR LR 07 28 21.3
comp=Z,805nm,24.8s
RKT Rikitea 162.50 140 *e*LR LR 07 32 40.2
comp=Z,863nm,26.5s
TAOE Nuku Hiva Isla 162.87 88 *e*LR LR 07 33 06.9
comp=Z,734nm,23.9s

*ISCJB **06** 06:20:58.0±0.4,34.°61S±0.°06×54.°9E±0.°1,h10km, mb4.2/15, MS3.6/1, Error ellipse: s-maj=13.7km s-min=7.8km az=159.3*
*IDC **06** 06:20:58.0±0.6, 34.°51S×54.°88E, h0km, mb4.2/12, mb1 4.4/12, mb1mx4.0/62, mbtmp4.2/12, MS3.8/1, Ms1 3.8/1, ms1mx3.2/36, Error ellipse: s-maj=21.9km s-min=17.5km az=78.0*
*NEIC **06** 06:20:59.9±0.9, 34.°56S×54.°87E, h10km±5km, mb4.4/3, Error ellipse: s-maj=12.9km s-min=9.2km az=76.0*
ISC 06 06:20:59.8±0.5, 34.°53S±0.°08×54.°9E±0.°1, h10km, n40,
σ0.°95/34, mb4.4/15, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CRZF	**Crozet Islands**	**12.10**	**190**	*e*Pn		**Pn**	**06 23 51.8**	**-0.4**
OPO	**Ambohidratompo**	**17.31**	**335**	P		**P**	**06 25 04.4**	**+1.2**
	0.9nm,0.3s,baz=125,slow=12,SNR=4.4							
OPO				S		**Sn**	**06 28 14.0**	**-0.5**
	0.3nm,0.3s,baz=273,slow=15,SNR=2.5							
SUR	**Sutherland**	**28.43**	**265**	LR	LR	LR	06 36 14.3	
	comp=Z,162nm,18.7s,baz=90,slow=32							
H08S1	**Diego Carcia H**	**31.28**	**35**	T		T	06 59 59.1	
	baz=207,slow=76,SNR=22							
H08S2	**Diego Garcia H**	**31.29**	**35**	T		T	07 00 00.4	
	baz=207,slow=76,SNR=15							
H08S3	**Diego Garcia H**	**31.30**	**35**	T		T	07 00 00.7	
	baz=207,slow=76,SNR=25							
MAW	**Mawson**	**33.44**	**174**	P		**P**	**06 27 38.9**	**+0.5**
	1.1nm,0.4s,baz=331,slow=11,SNR=4.4							
TSUM	**Tsumeb**	**36.37**	**285**	P		**P**	**06 28 04.9**	**+0.4**
	6.8nm,0.9s,baz=66,slow=11,SNR=4.4							
SNAA	**Sanae**	**47.56**	**201**	P		**P**	**06 29 35.4**	**+0.3**
	1.2nm,0.7s,baz=88,slow=9.1,SNR=9.9							
H01W2	**Cape Leeuwin H**	**48.07**	**108**	T		T	07 20 41.0	

baz=253,slow=75,SNR=16
H01W3 Cape Leeuwin H 48.07 108 T T 07 20 41.4
baz=253,slow=75,SNR=14
H01W1 Cape Leeuwin H 48.08 108 T T 07 20 43.0
baz=253,slow=75,SNR=17
PALK Pallekele 48.22 35 *e*P **P 06 29 39.9 -0.9**
3.8nm,1.1s
QSPA South Pole Qui 55.65 180 P **P 06 30 35.3 -0.5**
4.3nm,0.8s,baz=270,slow=3.9,SNR=14
QSPA South Pole Qui 55.65 180 *e*P **P 06 30 35.3 -0.5**
QSPA *e*P **P 06 30 35.7 0.0**
VNDA Vanda 60.11 166 P **P 06 31 06.5 -0.3**
0.7nm,0.7s,baz=260,slow=7.2,SNR=7.8
CMAR Chiang Mai Arr 67.33 46 P **P 06 31 55.0 -0.1**
2.2nm,0.5s,baz=234,slow=7.4,SNR=8.3
ASAR Alice Springs 68.33 104 P **P 06 32 01.9 +0.3**
3.0nm,0.6s,baz=233,slow=5.9,SNR=21
AS31 Alice Springs 68.33 104 *e*P **P 06 32 01.9 +0.3**
1.4nm,0.6s
TOA0 Torodi Ar. Sit 69.24 303 *e*P **P 06 32 06.1 -1.1**
TORD Torodi Ar. Bea 69.24 303 P **P 06 32 06.7 -0.4**
2.7nm,0.9s,baz=95,slow=4.2,SNR=7.1
TOA1 Torodi Ar. Sit 69.25 303 *e*P **P 06 32 06.7 -0.5**
WR1 Warramunga Arr 70.53 101 *e*P **P 06 32 14.8 -0.3**
6.6nm,1.0s
WRA Warramunga Arr 70.53 101 P **P 06 32 14.8 -0.3**
7.2nm,0.7s,baz=238,slow=5.5,SNR=33
WB2 Warramunga Arr 70.54 101 *e*P **P 06 32 16.9 +1.6**
BR101 Keskin Array S 76.45 343 *e*P **P 06 32 49.5 -0.1**
BRTR Keskin Array B 76.45 343 P **P 06 32 49.4 -0.1**
1.1nm,0.7s,baz=180,slow=4.3,SNR=2.0
MK32 Makanchi Array 84.63 19 *e*P **P 06 33 33.9 +0.7**
MKAR Makanchi Array 84.63 19 P **P 06 33 33.9 +0.7**
0.7nm,0.8s,baz=180,slow=2.4,SNR=3.8
BVAR Borovoye Array 88.23 9 P **P 06 33 51.0 +0.3**
0.5nm,0.5s,baz=163,slow=11,SNR=2.9
BILL Bilibino 129.50 27 *e*PKPdf **PKPdf 06 40 10.7 +3.0**
COLD Coldfoot 144.18 16 *e*PKPdf **PKPdf 06 40 34.3 -0.6**
INK Inuvik 145.84 6 PKPbc **PKPdf 06 40 37.8 +0.1**
1.6nm,0.7s,baz=1.4,slow=4.9,SNR=7.6
IL1 Eielson Array 146.97 17 *e*PKPdf **PKPbc 06 40 40.7 -1.0**
ILAR Eielson Array 146.97 17 PKPbc **PKPbc 06 40 40.8 -0.9**
1.3nm,0.7s,baz=316,slow=3.7,SNR=13
ILB Eielson Array 146.97 17 *e*PKPdf **PKPbc 06 40 40.8 -0.9**
WVT Waverly 149.65 284 *e*PKPbc **PKPbc 06 40 50.1 +0.5**
YKA Yellowknife Ar 151.24 350 PKPbc **PKPbc 06 40 50.0 -2.5**
1.7nm,0.8s,baz=336,slow=7.3,SNR=3.9
YKB5 Yellowknife Ar 151.24 350 *e*pPKPdf pPKPdf 06 40 50.0 0.0
PBMO Poplar Bluff 151.81 285 *e*PKPbc **PKPbc 06 40 55.2 +0.5**

IDC 06 06:21:32.9±2.1, 9.96N×57.27E, h0km, mb4.1/7, mb1 4.2/7, mb1mx3.8/66, mbtmp4.1/7, Error ellipse: s-maj=56.1km s-min=23.1km az=174.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**21.19**	**139**	T	T	06 47 58.3	
	baz=322						
H08N3	**Diego Garcia H**	**21.20**	**139**	T	T	06 47 59.4	
	baz=322						
H08N1	**Diego Carcia H**	**21.21**	**139**	T	T	06 48 00.2	
	baz=322						
BRTR	**Keskin Array B**	**36.35**	**329**	P	P	06 28 38.2	-0.7
	1.1nm,0.8s,baz=147,slow=11,SNR=2.8						
CMAR	**Chiang Mai Arr**	**41.20**	**73**	P	P	06 29 18.8	-0.9
	2.0nm,0.3s,baz=262,slow=6.3,SNR=2.5						
MKAR	**Makanchi Array**	**42.43**	**26**	P	P	06 29 29.8	+0.4
	1.9nm,0.7s,baz=223,slow=7.5,SNR=4.5						
ZALV	**Zalesovo Beam**	**49.09**	**21**	P	P	06 30 22.7	+0.8
	6.4nm,0.8s,baz=225,slow=7.3,SNR=6.3						
TORD	**Torodi Ar. Bea**	**54.45**	**279**	P	P	06 31 03.6	+0.9
	0.8nm,0.9s,baz=94,slow=7.1						
SONM	**Songino Array**	**55.86**	**38**	P	P	06 31 12.6	+0.1
	1.1nm,0.8s,baz=241,slow=7.9,SNR=3.6						
ESDC	**Sonseca Array**	**61.63**	**310**	P	P	06 31 51.7	-1.0
	1.5nm,0.8s,baz=88,slow=5.8,SNR=5.2						

*IDC **06** 06:27:47.6±0.7, 1.30N×122.00E, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.0/44, mbtmp4.2/11, ML4.5/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/42, Error ellipse: s-maj=71.5km s-min=13.4km az=64.0*
*DJA **06** 06:27:48.7±0.6, 2.7N±5.5×12.2E±∗, h10km, M4.8/6, mb5.0/2, MLv4.7/6*
*ISCJB **06** 06:27:51.3±0.4, 1.57N±0.05×122.38E±0.06, h38km, mb4.4/14, Error ellipse: s-maj=8.4km s-min=6.3km az=162.6*
*NEIC **06** 06:27:52.3±3.5, 1.54N×122.41E, h30km±25km, mb4.4/4, Error ellipse: s-maj=27.2km s-min=6.2km az=61.0*

ISC 06 06:27:53.5±0.7, 1.58N±0.07×122.32E±0.06, h38km, n34, σ1s59/35, mb4.2/14, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.94**	**121**	P	**Pn**	**06 28 23.3**	**-0.7**
KMSI				S	**Sn**	**06 28 50.4**	**+3.2**
KMSI	**Cibinong**	**1.94**	**121**	P	Pn	06 28 29.0	+5.0
APSI	**Ampana**	**2.57**	**195**	P	**Pn**	**06 28 32.9**	**+0.3**
APSI				S	**Sn**	**06 29 06.6**	**+4.0**
LUWI	**Luwuk**	**2.65**	**170**	*e*Pn	**Pn**	**06 28 34.5**	**+0.8**
LUWI	**Luwuk**	**2.65**	**170**	P	**Pn**	**06 28 34.5**	**+0.8**
MPSI	**Mapaga**	**2.72**	**243**	P	**Pn**	**06 28 33.3**	**-1.3**
MPSI				S	**Sn**	**06 29 07.5**	**+1.2**
MYLDM	**Lahad Datu**	**5.22**	**313**	*e*Pn	**Pn**	**06 29 09.6**	**+0.5**
TTSI	**Tana Toraja**	**5.23**	**208**	P	**Pn**	**06 29 08.8**	**-0.5**
	188nm,0.7s,0.8nm						
SPSI	**Sidrap Palu**	**6.07**	**205**	P	**Pn**	**06 29 20.3**	**-0.5**
DAV	**Davao City (W)**	**6.35**	**31**	LR	LR	06 32 07.6	
	comp=Z,224nm,18.4s,baz=159,slow=38						
KKM	**Kota Kinabalu**	**7.53**	**306**	*e*Pn	**Pn**	**06 29 40.2**	**-0.7**
FITZ	**Fitzroy Crossi**	**19.83**	**171**	P	**P**	**06 32 17.2**	**-4.0**
	1.0nm,0.3s,baz=5.5,slow=7.4,SNR=26						
FITZ	**Fitzroy Crossi**	**19.83**	**171**	*e*P	**P**	**06 32 19.2**	**-2.0**
	11nm,0.9s						
WR1	**Warramunga Arr**	**24.43**	**152**	*e*P	**P**	**06 33 06.6**	**-2.2**
	40nm,1.8s						
WRA	**Warramunga Arr**	**24.43**	**152**	P	**P**	**06 33 06.6**	**-2.2**
	5.1nm,0.9s,baz=332,slow=12,SNR=20						
AS31	**Alice Springs**	**27.51**	**157**	*e*P	**P**	**06 33 35.7**	**-1.0**
	1.2nm,0.8s						
ASAR	**Alice Springs**	**27.51**	**157**	P	**P**	**06 33 35.7**	**-1.0**
	1.8nm,0.8s,baz=344,slow=14,SNR=14						
CTA	**Charters Tower**	**31.86**	**134**	P	**P**	**06 34 15.4**	**+0.2**
	7.9nm,0.9s,baz=336,slow=7.4,SNR=3.8						
STKA	**Stephens Creek**	**37.97**	**153**	P	**P**	**06 35 06.4**	**-1.4**
	5.7nm,0.8s,baz=317,slow=9.0,SNR=8.2						
SONA0	**Songino Array**	**48.09**	**346**	*e*P	**P**	**06 36 30.4**	**+0.9**
SONM	**Songino Array**	**48.09**	**346**	P	**P**	**06 36 30.4**	**+0.9**
	3.8nm,0.7s,baz=163,slow=9.0,SNR=19						
SONA1	**Songino Array**	**48.10**	**346**	*e*P	**P**	**06 36 30.8**	**+1.1**
MNCI	**Minicoy**	**49.48**	**279**	*e*P	**P**	**06 36 42.9**	**+2.2**
	458nm,0.5s						
MK01	**Makanchi Array**	**56.90**	**328**	*e*P	**P**	**06 37 35.5**	**+0.7**
MK32	**Makanchi Array**	**56.91**	**328**	*e*P	**P**	**06 37 35.4**	**+0.5**
MKAR	**Makanchi Array**	**56.91**	**328**	P	**P**	**06 37 35.4**	**+0.5**
	1.3nm,0.7s,baz=126,slow=9.0,SNR=14						
AAK	**Ala-Archa**	**59.08**	**320**	P	**P**	**06 37 50.7**	**+0.4**
	1.6nm,0.7s,baz=354,slow=19,SNR=4.5						
ZALV	**Zalesovo Beam**	**60.60**	**336**	P	**P**	**06 38 00.3**	**+0.1**
	1.0nm,0.5s,baz=132,slow=8.4,SNR=4.6						
ZAA1	**Zalesovo Array**	**60.60**	**336**	*e*P	**P**	**06 38 00.3**	**+0.1**
KURK	**Kurchatov**	**61.27**	**330**	*e*P	**P**	**06 38 05.8**	**+0.9**
	7.3nm,0.8s						
BVAR	**Borovoye Array**	**66.78**	**329**	P	**P**	**06 38 40.6**	**-0.5**
	1.0nm,0.5s,baz=136,slow=9.6,SNR=5.9						
VNDA	**Vanda**	**81.90**	**172**	P	**P**	**06 40 06.7**	**-1.9**
	1.3nm,0.8s,baz=310,slow=5.5,SNR=9.6						
TORD	**Torodi Ar. Bea**	**119.33**	**286**	PKP	**PKPdf**	**06 46 40.7**	**+0.8**
	0.3nm,0.6s,baz=68,slow=1.6						
TOA1	**Torodi Ar. Sit**	**119.33**	**286**	*e*PKPdf	**PKPdf**	**06 46 40.6**	**+0.8**

IDC 06 07:02:13.3±11.0, 10.29S×161.77E, h38km±74km, mb3.6/3, mb1 3.8/3, mb1mx3.4/42, mbtmp3.9/3, Error ellipse: s-maj=85.3km s-min=36.1km az=104.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.99**	**295**	Pn	Pn	07 02 44.4	+0.1
	151nm,0.3s,baz=90,slow=1.0,SNR=18						
HNR				Sn	Sn	07 03 08.1	+0.1
	379nm,0.3s,baz=183,slow=14,SNR=12						
HNR	**Honiara**	**1.99**	**295**	*e*P	Pn	07 02 44.0	-0.4
HNR				*e*S	Sn	07 03 07.0	-1.0
WRA	**Warramunga Arr**	**28.13**	**247**	P	P	07 08 02.4	+0.3
	1.1nm,0.8s,baz=76,slow=8.9,SNR=11						
ASAR	**Alice Springs**	**29.71**	**240**	P	P	07 08 15.7	-0.5
	0.3nm,0.8s,baz=63,slow=10,SNR=4.2						
SONM	**Songino Array**	**75.78**	**325**	P	P	07 13 55.5	+0.1
	1.4nm,0.7s,baz=140,slow=5.2,SNR=8.7						

*IDC **06** 07:16:11.4±1.1, 7.80S×124.37E, h0km, mb3.6/3, mb1 3.8/7, mb1mx3.6/46, mbtmp3.7/7, ML3.8/4, Error ellipse: s-maj=48.0km s-min=19.5km az=82.0*
*DJA **06** 07:16:16.0±0.2, 8.3S±2.2×12.4E±∗, h10km, M4.2/12, mb4.5/4, MLv4.1/12*

ISC 06 07:16:17.8±1.0, 8.20S±0.05×123.60E±0.07, h71km±14km, n17, σ3s29/26, mb3.7/3, Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**1.41**	**252**	P	**Pn**	**07 16 39.7**	**-1.9**
MMRI				S	**Sn**	**07 17 00.4**	**+0.8**
SOEI	**Soe**	**1.68**	**157**	P	**Pn**	**07 16 47.6**	**+2.3**
SOEI				S	**Sn**	**07 17 10.6**	**+4.5**
EDFI	**Ende, Flores**	**1.96**	**254**	P	**Pn**	**07 16 48.4**	**-0.7**
EDFI				S	**Sn**	**07 17 14.2**	**+1.3**
BATI	**Baumata**	**1.99**	**178**	Pn	**Pn**	**07 16 52.8**	**+3.4**
	66nm,0.3s,baz=18,slow=5.2,SNR=16						
BATI				Sn	Sn	07 17 23.3	+10
	17nm,0.3s,baz=282,slow=22,SNR=12						
BATI	**Baumata**	**1.99**	**178**	P	**Pn**	**07 16 51.2**	**+1.8**
BATI				S	**Sn**	**07 17 16.7**	**+3.3**
BBSI	**Bau Bau**	**2.88**	**339**	P	**Pn**	**07 17 00.9**	**-0.6**
BBSI				S	**Sn**	**07 17 35.9**	**+0.8**
WBSI	**Waikabubak, Su**	**4.39**	**251**	P	**Pn**	**07 17 21.2**	**-0.9**
BKSI	**Bulukumba**	**4.48**	**309**	P	**Pn**	**07 17 20.7**	**-2.6**
BNSI	**Bone**	**5.13**	**317**	P	**Pn**	**07 17 32.2**	**+0.1**
	52nm,0.8s,0.2nm						
BNSI				S	**Sn**	**07 18 30.3**	**+0.3**
	52nm,0.8s,0.2nm						
PLAI	**Plampang**	**5.79**	**263**	P	**Pn**	**07 17 40.5**	**-0.6**
	49nm,0.7s,0.2nm						
TTSI	**Tana Toraja**	**6.36**	**324**	P	**Pn**	**07 17 50.1**	**+1.2**
	25nm,1.0s,0.1nm						
FITZ	**Fitzroy Crossi**	**10.03**	**169**	Pn	**Pn**	**07 18 39.3**	**+0.2**
	1.0nm,0.3s,baz=354,slow=10,SNR=24						
FITZ				Sn	**Sn**	**07 20 27.6**	**-2.5**
	0.7nm,0.3s,baz=164,slow=2.9,SNR=7.2						
WRA	**Warramunga Arr**	**15.63**	**139**	Pn	**Pn**	**07 19 52.7**	**-1.3**
	0.3nm,0.3s,baz=313,slow=14,SNR=19						
WRA				Sn	**Sn**	**07 22 36.2**	**-10**
	0.1nm,0.3s,baz=322,slow=24,SNR=4.0						
ASAR	**Alice Springs**	**18.27**	**148**	P	**Pn**	**07 20 27.3**	**+0.7**
	0.1nm,0.3s,baz=321,slow=11,SNR=8.6						
ASAR				S	**Sn**	**07 23 44.4**	**-5.9**
	0.1nm,0.3s,baz=328,slow=15,SNR=3.8						
SONM	**Songino Array**	**57.84**	**346**	P	**P**	**07 26 04.5**	**+2.4**
	0.2nm,0.3s,baz=169,slow=8.4,SNR=2.6						
MKAR	**Makanchi Array**	**65.93**	**330**	P	**P**	**07 26 59.6**	**+3.3**
	0.2nm,0.5s,baz=128,slow=8.0,SNR=2.9						
PETK	**Petropavlovsk-**	**67.60**	**21**	P	**P**	**07 27 04.4**	**-2.3**
	1.6nm,0.9s,baz=232,slow=7.0						

RSNC 06 07:23:56.6±1.4, 6.98N×77.57W, h21km±5km, ML3.4, Mw3.9, 2C-1D, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTAC	**Punta Ardita,**	**0.29**	**306**	i/*i*P	Pb	07 24 02.4	-0.8
PTAC				*e*S	Sb	07 24 08.3	+0.7
PTAC				*i*		07 24 10.1	
	comp=N,24μm,0.2s						
SOLC	**Bahia Solano**	**0.76**	**168**	i/*i*P	Pb	07 24 09.1	-2.1
SOLC				*e*S	Sb	07 24 21.4	+0.2
SOLC				*i*		07 24 25.7	
	comp=N,9μm,0.6s						
HELC	**Santa Helena**	**2.18**	**111**	*e*P	Pn	07 24 30.6	-1.4
HELC				*e*S	Sn	07 24 58.6	+0.1
HELC				*i*		07 25 03.5	
	comp=N,212nm,0.6s						
PLMC	**San Jos del**	**2.43**	**148**	*e*P	Pn	07 24 33.6	-1.5
PLMC				*i*		07 24 42.2	
	comp=Z,74nm,0.6s						
MOTC	**Monteria, Cord**	**2.60**	**46**	i/*i*P	Pn	07 24 36.6	-0.9
MOTC				*e*S	Sn	07 25 07.3	-1.2
MOTC				*i*		07 25 16.4	
	comp=N,63nm,0.5s						
ZARC	**Zaragoza, Cauc**	**2.74**	**79**	*e*P	Pn	07 24 39.2	-0.2
ZARC				*e*S	Sn	07 25 11.4	-0.5
UPA	**Univ. de Panam**	**2.78**	**316**	*e*P	Pn	07 24 38.2	-1.7
GUYC	**Guyana, Colomb**	**2.78**	**129**	*e*P	Pn	07 24 41.2	+0.8
AZU	**Azuero**	**2.80**	**287**	*e*P	Pn	07 24 40.8	+0.6
AZU				*i*		07 24 41.8	
	comp=Z,121nm,0.5s						
AZU				*e*S	Sn	07 25 12.6	-0.7
RREF	**El Recreo**	**3.03**	**133**	*e*P	Pn	07 24 44.3	+0.5
RREF				*i*		07 24 52.1	
	comp=Z,55nm,0.7s						
NORC	**Norcasia**	**3.03**	**117**	*e*P	Pn	07 24 44.5	+1.1
BCIP	**Isla Barro Col**	**3.12**	**314**	*e*P	Pn	07 24 43.3	-1.3
YOTC	**Yotoco, Valle**	**3.22**	**158**	*e*P	Pn	07 24 45.9	-0.2
YOTC				*i*		07 24 53.2	
	comp=Z,18nm,0.3s						
YOTC				*e*S	Sn	07 25 24.0	+0.2
ANIL	**Santa Ana**	**3.28**	**139**	*e*P	Pn	07 24 48.4	+1.3
ANIL				*i*		07 25 40.3	
	comp=Z,114nm,0.4s						
BRRC	**Barranca, Sant**	**3.83**	**88**	*e*P	Pn	07 24 56.2	+1.8
BRRC				*i*		07 25 58.1	
	comp=N,87nm,0.6s						
SMLC	**San Mart`n de**	**3.91**	**62**	*e*P	Pn	07 24 56.0	+0.4
SMLC				*e*S	Sn	07 25 40.1	-0.8

MEX 06 07:32:34.3±0.5, 15.99N×98.15W, h5km±3km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.40**	**3**	*e*P	Pg	07 32 41.5	-0.6
PNIG				*e*S	Sg	07 32 47.5	+0.3
TLIG	**Tlapa**	**1.61**	**346**	*e*P	Pn	07 32 59.9	-3.6
TLIG				*e*S	Sn	07 33 19.8	-5.0
VHO	**Vista Hermosa**	**1.73**	**52**	*e*P	Pn	07 33 02.2	-3.1
HUIG	**Huatulco**	**1.98**	**96**	*i*P	Pn	07 33 05.1	-3.4
HUIG				*i*S	Sn	07 33 28.6	-5.1

MEX 06 08:06:06.2±0.7, 16.16N×98.33W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.30**	**41**	*e*P	Pg	08 06 10.9	-1.2
PNIG				*i*S	Sg	08 06 16.4	+0.2
TLIG	**Tlapa**	**1.41**	**351**	*e*P	Pn	08 06 28.6	-4.2
TLIG				*e*S	Sb	08 06 47.3	-4.3
VHO	**Vista Hermosa**	**1.78**	**59**	*e*P	Pn	08 06 34.3	-3.5
VHO				*i*S	Sn	08 06 57.1	-4.0
HUIG	**Huatulco**	**2.18**	**100**	*i*P	Pn	08 06 39.8	-3.3
HUIG				*i*S	Sn	08 07 06.5	-4.0

IDC 06 08:21:38.8±1.3, 38.33N×110.02E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.5/37, mbtmp3.5/6, ML2.6/1, Error ellipse: s-maj=49.3km s-min=20.0km az=56.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**9.86**	**346**	Pn	Pn	08 24 01.4	-0.4
	0.1nm,0.3s,baz=165,slow=12,SNR=3.7						
MKAR	**Makanchi Array**	**22.02**	**301**	P	P	08 26 33.9	-0.8
	0.6nm,0.6s,baz=98,slow=12,SNR=6.6						
CMAR	**Chiang Mai Arr**	**22.03**	**209**	P	P	08 26 34.7	-0.2
	0.9nm,0.3s,baz=16,slow=7.8,SNR=4.7						
KURBB	**Kurchatov Arra**	**25.41**	**309**	P	P	08 27 08.3	+0.6
	0.5nm,0.6s,baz=106,slow=11,SNR=3.4						
WRA	**Warramunga Arr**	**62.30**	**154**	P	P	08 32 02.7	-0.1
	0.7nm,0.7s,baz=345,slow=7.3,SNR=8.0						
ASAR	**Alice Springs**	**65.61**	**156**	P	P	08 32 24.8	+0.2
	0.6nm,0.6s,baz=344,slow=6.9,SNR=10						

*JMA **06** 08:25:10.2±0.4, 43.39N×147.16E, h23km, M3.6*
*ISCJB **06** 08:25:12.7±1.5, 43.39N±0.06×147.00E±0.07, h27km±7km, Error ellipse: s-maj=12.5km s-min=6.5km az=144.0*
*SKHL **06** 08:25:13.8±1.0, 43.36N×146.95E, h35km±5km, mb4.2/6*

ISC 06 08:25:11.3±2.0, 43.46N±0.08×147.00E±0.07, h13km±11km, n14, σ0s76/24, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.43**	**344**	*i*P	**Pn**	**08 25 24.0**	**+0.8**
SHO				AMB	AMB	08 25 25.0	
	240nm,0.2s						
SHO				AMB	AMB	08 25 25.0	
	90nm,0.2s						
SHO				AMB	AMB	08 25 25.0	
	60nm,0.2s						
SHO				*i*S	**Sn**	**08 25 31.0**	**+0.1**
SHO				A	A	08 25 34.0	
	2μm,0.4s						
SHO				A	A	08 25 34.0	
	3μm,0.4s						
NEM2	**Nemuro 2**	**0.92**	**265**	P	**Pg**	**08 25 29.1**	**0.0**
NEM2				*e*S	**Sn**	**08 25 42.9**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**1.00**	**305**	*i*P	**Pn**	**08 25 31.0**	**-0.1**
YUK				AMB	AMB	08 25 32.0	
	90nm,0.2s						
YUK				AMB	AMB	08 25 32.0	
	160nm,0.2s						
YUK				AMB	AMB	08 25 32.0	
	40nm,0.2s						
YUK				*i*S	**Sn**	**08 25 45.0**	**-0.1**
YUK				A	A	08 25 48.0	
	800nm,0.2s						
YUK				A	A	08 25 48.0	
	239nm,0.2s						
GRPR	**Tuman**	**1.04**	**301**	*e*P	**Pn**	**08 25 32.0**	**+0.5**
GRPR				AMB	AMB	08 25 33.0	
	190nm,0.2s						
GRPR				AMB	AMB	08 25 33.0	
	140nm,0.2s						
GRPR				AMB	AMB	08 25 33.0	
	50nm,0.2s						
GRPR				*e*S	**Sn**	**08 25 46.0**	**+0.1**
GRPR				A	A	08 25 51.0	
	1μm,0.3s						
GRPR				A	A	08 25 51.0	
	399nm,0.3s						
LAGR	**Lagunnoye**	**1.06**	**305**	*e*P	**Pg**	**08 25 32.0**	**+0.2**
LAGR				AMB	AMB	08 25 36.0	
	280nm,0.2s						
LAGR				AMB	AMB	08 25 36.0	
	270nm,0.2s						
LAGR				AMB	AMB	08 25 36.0	
	50nm,0.2s						
LAGR				*e*S	**Sn**	**08 25 47.0**	**+0.5**
LAGR				A	A	08 25 54.0	
	900nm,0.3s						
LAGR				A	A	08 25 54.0	
	249nm,0.3s						
GLVR	**Golovnino**	**1.11**	**285**	*i*P	**Pg**	**08 25 33.0**	**+0.3**
GLVR				AMB	AMB	08 25 34.0	
	140nm,0.6s						
GLVR				AMB	AMB	08 25 34.0	
	130nm,0.6s						
GLVR				AMB	AMB	08 25 34.0	
	330nm,0.6s						
GLVR				*e*S	**Sg**	**08 25 47.0**	**-0.1**
GLVR				A	A	08 25 52.0	
	780nm,0.3s						
GLVR				A	A	08 25 52.0	
	1μm,0.3s						
JKHN	**Kushirohamanak**	**1.39**	**255**	P	**Pb**	**08 25 36.7**	**-0.5**
JRA	**Rausu**	**1.44**	**290**	P	**Pb**	**08 25 38.1**	**+0.1**
JNK	**Nakash**	**1.66**	**275**	P	**Pn**	**08 25 40.0**	**-0.2**
JNK				*e*S	**Sb**	**08 26 01.9**	**-0.7**
JAK	**Akkeshi**	**1.75**	**255**	P	**Pn**	**08 25 41.4**	**+0.1**
KUR	**Kuril'sk**	**1.88**	**19**	*e*P	**Pb**	**08 25 45.0**	**-0.5**
KUR				AMB	AMB	08 25 46.0	
	30nm,0.3s						
KUR				AMB	AMB	08 25 46.0	
	20nm,0.3s						
KUR				AMB	AMB	08 25 46.0	
	60nm,0.3s						
KUR				*e*S	**Sb**	**08 26 08.0**	**-0.9**
KUR				A	A	08 26 13.0	
	130nm,0.2s						
KUR				A	A	08 26 13.0	
	68nm,0.2s						
JTKR	**Abashiri--Toko**	**2.30**	**284**	P	**Pn**	**08 25 50.4**	**+1.5**
JTKR				*e*S	**Sb**	**08 26 19.2**	**-1.7**
JAR	**Ashorobuto**	**2.36**	**267**	P	**Pn**	**08 25 50.2**	**+0.5**
JAR				*e*S	**Sn**	**08 26 19.2**	**+0.7**
HRK	**Horoka**	**2.82**	**271**	*e*P	**Pn**	**08 25 57.7**	**+1.6**

*MOS **06** 08:32:47.5±1.7, 51.50N×159.78E, h61km, mb4.4/1, Error ellipse: s-maj=14.7km s-min=4.5km az=95.1*
*KRSC **06** 08:32:47.5±1.6, 51.50N×159.78E, h61km±24km, ML4.3*

ISC 06 08:32:48.6±3.6, 51.52N±0.06×159.74E±0.05, h17km±25km, n63, σ1s17/87, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.07**	**286**	*i*P	**Pb**	**08 33 07.9**	**-0.8**
KDTR				*e*S	**Sb**	**08 33 22.5**	**+0.1**
RUS	**Russkaya**	**1.19**	**321**	*i*P	**Pn**	**08 33 09.4**	**-0.9**
RUS				*e*S	**Sb**	**08 33 25.5**	**-0.1**
RUS	**Russkaya**	**1.19**	**321**	PN	**Pn**	**08 33 09.5**	**-0.9**
RUS				S	**Sb**	**08 33 25.5**	**-0.1**
GRL	**Gorelyy**	**1.46**	**316**	*e*P	**Pn**	**08 33 14.7**	**+0.5**
GRL	**Gorelyy**	**1.46**	**316**	PN	**Pn**	**08 33 14.7**	**+0.5**
SPN	**Mys Shipunski**	**1.59**	**6**	*e*P	**Pn**	**08 33 16.9**	**+1.0**
SPN				*e*S	**Sn**	**08 33 37.4**	**+1.4**
SPN	**Mys Shipunski**	**1.59**	**6**	PN	**Pn**	**08 33 16.9**	**+1.0**
SPN				S	**Sn**	**08 33 37.4**	**+1.4**
DALK	**Dalny**	**1.63**	**339**	*e*P	**Pn**	**08 33 15.7**	**-0.7**
DALK				*e*S	**Sn**	**08 33 36.5**	**-0.4**
DALK	**Dalny**	**1.63**	**339**	PN	**Pn**	**08 33 15.7**	**-0.7**
DALK				S	**Sn**	**08 33 36.5**	**-0.4**
KRMR	**Karymshinskiy**	**1.64**	**323**	*i*P	**Pn**	**08 33 16.3**	**-0.3**
KRMR				*e*S	**Sn**	**08 33 37.0**	**-0.3**
KRMR

SKR				*e*S		**Sn**	**08 33 59.2**	**+2.4**
SKR				smax		smax			
	comp=E,432nm,0.4s								
SKR				smax		smax			
	comp=N,667nm,0.6s								
GNL	**Ganaly**	**2.44**	**334**	*e*P		**Pn**	**08 33 28.0**	**+0.4**
GNL	**Ganaly**	**2.44**	**334**	PN		**Pn**	**08 33 28.0**	**+0.4**
KZV	**Kizimen**	**3.61**	**5**	*e*P		**Pn**	**08 33 44.0**	**+0.2**
KZV	**Kizimen**	**3.61**	**5**	PN		**Pn**	**08 33 44.0**	**+0.2**
TUMR	**Tumrok**	**3.77**	**4**	*e*P		**Pn**	**08 33 46.6**	**+0.6**
TUMR	**Tumrok**	**3.77**	**4**	PN		**Pn**	**08 33 46.6**	**+0.6**
KMNR	**Kamenistaya**	**4.25**	**4**	*e*P		**Pn**	**08 33 54.4**	**+1.8**
KMNR	**Kamenistaya**	**4.25**	**4**	PN		**Pn**	**08 33 54.4**	**+1.8**
BZMR	**Bezymyannaya**	**4.44**	**5**	P		**Pn**	**08 33 57.3**	**+2.1**
BZMR	**Bezymyannaya**	**4.44**	**5**	PN		**Pn**	**08 33 57.3**	**+2.1**
ESO	**Esso**	**4.45**	**352**	*e*P		**Pn**	**08 33 56.5**	**+1.2**
ESO	**Esso**	**4.45**	**352**	PN		**Pn**	**08 33 56.5**	**+1.2**
BZWR	**Bezymyannyi-We**	**4.47**	**5**	P		**Pn**	**08 33 56.9**	**+1.2**
BZWR	**Bezymyannyi-We**	**4.47**	**5**	PN		**Pn**	**08 33 56.9**	**+1.2**
ZLN	**Zelenaya**	**4.55**	**8**	*e*P		**Pn**	**08 33 58.0**	**+1.4**
ZLN	**Zelenaya**	**4.55**	**8**	PN		**Pn**	**08 33 58.0**	**+1.4**
LGNR	**Loginova**	**4.60**	**7**	*e*P		**Pn**	**08 33 59.3**	**+1.7**
LGNR	**Loginova**	**4.60**	**7**	PN		**Pn**	**08 33 59.3**	**+1.7**
KBTR	**Krutoberegovo**	**5.04**	**20**	*e*P		**Pn**	**08 34 03.0**	**-0.2**
KBTR				*e*S		**Sn**	**08 35 01.4**	**+0.5**
KBTR	**Krutoberegovo**	**5.04**	**20**	PN		**Pn**	**08 34 03.0**	**-0.2**
KBTR				S		**Sn**	**08 35 01.4**	**+0.5**
BDR	**Baidarnaya**	**5.13**	**9**	*e*P		**Pn**	**08 34 06.3**	**+1.7**
BDR	**Baidarnaya**	**5.13**	**9**	PN		**Pn**	**08 34 06.3**	**+1.7**
SMKR	**Semkarok**	**5.17**	**11**	*e*P		**Pn**	**08 34 06.7**	**+1.6**
SMKR	**Semkarok**	**5.17**	**11**	PN		**Pn**	**08 34 06.7**	**+1.6**
SRKR	**Sorokina**	**5.21**	**9**	*e*P		**Pn**	**08 34 07.5**	**+1.8**
SRKR	**Sorokina**	**5.21**	**9**	PN		**Pn**	**08 34 07.5**	**+1.8**
BKI	**Bering**	**5.25**	**43**	*e*P		**Pn**	**08 34 07.1**	**+1.0**
BKI				*e*S		**Sn**	**08 35 00.7**	**-5.3**
BKI	**Bering**	**5.25**	**43**	PN		**Pn**	**08 34 07.1**	**+1.0**

*IDC **06** 08:32:54.8±0.7,5˚.18S×101˚.92E, h0km, mb4.4/20, mb1 4.5/22, mb1mx4.3/46, mbtmp4.4/22, ML3.8/2, MS3.6/8, Ms1 3.6/8, ms1mx3.2/44, Error ellipse: s-maj=23.0km s-min=11.7km az=61.0*

*DJA **06** 08:32:55.6±0.3,5˚S×3˚×10˚2E±˚, h10km, M4.8/18, mb4.9/12, mB5.2/5, MLv4.8/18, Mw(mB)4.6/5*

*BJI **06** 08:32:55.1,5˚.30S×101˚.80E, h12km, mb4.7/35, mB4.9/26, Ms4.4/12, Ms7 4.1/13*

*ISCJB **06** 08:32:56.7±0.3,5˚.30S±0˚.04×101˚.79E±0˚.04, h29km, mb4.6/64, MS3.9/16, Error ellipse: s-maj=6.6km s-min=3.6km az=135.4*

*NEIC **06** 08:32:56.3±1.5,5˚.25S×101˚.88E, h11km±8km, mb4.8/29, Error ellipse: s-maj=5.7km s-min=3.2km az=53.0*

*MOS **06** 08:32:57.6±0.9,5˚.24S×101˚.87E, h33km, mb4.9/21, Error ellipse: s-maj=11.0km s-min=6.8km az=104.1*

ISC 06 08:32:58.6±0.4,5˚.39S±0˚.04×101˚.83E±0˚.05, h29km, n349, σ1§18/343, mb4.7/64, MS3.9/16, 9C-5D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.52**	**48**	*e*Pn	**Pn**	**08 33 22.6**	**-1.3**
MNAI	**Manna**	**1.52**	**48**	P	**Pn**	**08 33 23.6**	**-0.3**
MNAI				S	**Sb**	**08 33 45.8**	**+0.7**
LWLI	**Liwa**	**2.25**	**81**	P	**Pn**	**08 33 35.2**	**+1.2**
LWLI				S	**Sb**	**08 34 04.7**	**-1.5**
MASI	**Maura Aman, Be**	**2.27**	**10**	P	**Pn**	**08 33 33.2**	**-1.1**
MASI				S	**Sn**	**08 34 02.9**	**+1.5**
MDSI	**Maura Dua**	**2.51**	**69**	P	**Pn**	**08 33 37.1**	**-0.4**
KASI	**Kota Agung**	**2.66**	**93**	P	**Pn**	**08 33 39.4**	**-0.1**
KLI	**Kotabumi**	**3.06**	**80**	P	**Pn**	**08 33 45.2**	**+0.1**
PPSI	**Pulau Pagai**	**3.18**	**325**	P	**Pn**	**08 33 45.3**	**-1.5**
KRJI	**Kerinci**	**3.30**	**354**	P	**Pn**	**08 33 47.7**	**-0.8**
CGJI	**Cibinong**	**4.03**	**108**	P	**Pn**	**08 33 58.1**	**-0.3**
SDSI	**Sungai Dareh**	**4.45**	**355**	P	**Pn**	**08 34 02.6**	**-1.6**
PDSI	**Padang**	**4.66**	**343**	P	**Pn**	**08 34 05.3**	**-1.8**
CBJI	**Citeko**	**5.09**	**102**	P	**Pn**	**08 34 15.6**	**+2.5**
	254nm,0.5s,1.4nm						
DSRI	**Dabo**	**5.60**	**29**	P	**Pn**	**08 34 20.1**	**+0.1**
	200nm,0.6s,3µm1.1nm						
BKNI	**Bangkinang**	**5.74**	**352**	*e*Pn	**Pn**	**08 34 20.6**	**-1.4**
LEM	**Lembang**	**5.93**	**104**	Pn	**Pn**	**08 34 24.7**	**0.0**
	5.3nm,0.3s,baz=343,slow=17,SNR=3.2						
LEM	**Lembang**	**5.93**	**104**	P	**Pn**	**08 34 26.2**	**+1.5**
	1µm,0.8s,4.7nm						
CISI	**Cisompet, Garu**	**6.32**	**110**	*e*Pn	**Pn**	**08 34 29.7**	**-0.3**
PBSI	**Pulau Batu**	**6.38**	**326**	P	**Pn**	**08 34 28.9**	**-1.9**
	80nm,0.7s,0.4nm						
MNSI	**Mandailing Nat**	**6.55**	**340**	P	**Pn**	**08 34 31.0**	**-2.1**
CMJI	**Cimerak**	**6.99**	**110**	P	**Pn**	**08 34 38.3**	**-0.8**
	168nm,0.6s,0.6nm						
KPJI	**Karang Pucung**	**7.31**	**106**	P	**Pn**	**08 34 44.8**	**+1.2**
	53nm,0.6s,0.2nm						
MYKOM	**Kota Tinggi**	**7.42**	**16**	*e*Pn	**Pn**	**08 34 43.0**	**-2.0**
GSI	**Gunungsitoli**	**7.89**	**327**	*e*Pn	**Pn**	**08 34 49.5**	**-2.1**
COCO	**West Island**	**8.36**	**216**	*e*Pn	**Pn**	**08 34 58.7**	**+0.7**
COCO	**West Island**	**8.36**	**216**	*e*P	**Pn**	**08 34 58.7**	**+0.7**
PSI	**Prapat**	**8.64**	**340**	Pn	**Pn**	**08 34 57.6**	**-4.4**
	0.6nm,0.3s,baz=180,slow=13,SNR=2.3						
PSI	**Prapat**	**8.64**	**340**	*e*Pn	**Pn**	**08 34 58.5**	**-3.4**
PSI	**Prapat**	**8.64**	**340**	*e*P	**Pn**	**08 34 58.5**	**-3.4**
TPTI		**9.77**	**332**	P	**Pn**	**08 35 15.6**	**-1.7**
	21nm,0.7s						
KULM	**Kulim**	**10.68**	**354**	*e*Pn	**Pn**	**08 35 27.3**	**-2.5**
MLSI	**Meulaboh, Aceh**	**11.02**	**330**	P	**Pn**	**08 35 31.0**	**-3.5**
	121nm,0.9s						
JAGI	**Jajag, Banyuwa**	**12.61**	**105**	*e*Pn	**Pn**	**08 35 54.6**	**-1.5**
SBUM	**Sibu**	**12.98**	**53**	*e*Pn	**Pn**	**08 35 58.8**	**-2.4**
TTSI	**Tana Toraja**	**18.09**	**83**	P	P	08 37 16.2	+8.0
KKM	**Kota Kinabalu**	**18.31**	**52**	*e*P	**P**	**08 37 09.7**	**-1.1**
	14nm,1.0s						
MPSI	**Mapaga**	**18.92**	**73**	P	**Pn**	**08 37 18.4**	**+0.3**
	7.7nm,0.9s,1µm						
SRAK	**Srakaew**	**19.28**	**1**	P	**Pn**	**08 37 21.4**	**-1.0**
	39nm,0.9s,377nm						
MYLDM	**Lahad Datu**	**19.68**	**58**	*e*P	**P**	**08 37 25.9**	**+0.2**
	22nm,0.8s						
UBPT	**Khong Chiam**	**20.86**	**10**	P	**P**	**08 37 36.0**	**-2.4**
	48nm,0.7s						
MRSI	**Marisa**	**20.91**	**74**	P	Pn	08 37 41.5	-0.2
	29nm,0.7s,504nm						
UTHA	**Uthaitani**	**20.95**	**354**	P	**P**	**08 37 39.4**	**0.0**
	3.3nm,0.7s,334nm						
CHAI	**Chaiyaphum**	**21.16**	**0**	P	**P**	**08 37 42.3**	**+0.6**
	5.1nm,0.6s						
SKNT	**Sakolnakorn**	**22.33**	**5**	P	P	08 38 02.6	+8.4
SOEI	**Soe**	**22.65**	**102**	*e*P	**P**	**08 37 56.3**	**-1.6**
	35nm,1.2s						
SUKH	**Sukhothai**	**22.83**	**355**	P	**P**	**08 38 02.4**	**+2.8**
	4.1nm,0.7s						
NONG	**Nongkai**	**23.34**	**3**	P	**P**	**08 38 02.8**	**-1.9**
	0.4nm,0.8s,88nm						
MBWA	**Marble Bar**	**23.39**	**134**	*e*P	**P**	**08 38 05.6**	**+0.4**
	36nm,1.5s						
CM01	**Chiang Mai Arr**	**23.83**	**353**	*e*P	**P**	**08 38 07.9**	**-1.5**
CM31	**Chiang Mai Arr**	**23.87**	**353**	*e*P	**P**	**08 38 07.8**	**-2.0**
CMAR	**Chiang Mai Arr**	**23.87**	**353**	P	**P**	**08 38 07.9**	**-1.9**
	6.5nm,0.6s,baz=186,slow=9.1,SNR=26						
CMAR				LR	LR	08 48 48.4	
	comp=Z,85nm,18.0s,baz=180,slow=40						
CHTO	**Chiang Mai**	**24.22**	**353**	*e*P	**P**	**08 38 11.7**	**-1.4**
	5.4nm,0.8s						
CHTO	**Chiang Mai**	**24.22**	**353**	*e*P	**P**	**08 38 11.7**	**-1.4**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CHTO	**Chiang Mai**	**24.22**	**353**	P	**P**	**08 38 12.6**	**-0.5**
	comp=Z,44nm,0.8s						
QIZ	**Qiongzhong**	**25.52**	**18**	P	**P**	**08 38 25.1**	**+0.2**
QIZ				S	**S**	**08 42 54.7**	**+4.0**
QIZ				LR	LR		
	comp=Z,210nm,13.7s						
FITZ	**Fitzroy Crossi**	**26.46**	**120**	P	**P**	**08 38 34.4**	**+0.9**
	comp=Z,9.3nm,0.7s,baz=308,slow=5.8,SNR=25						
FITZ				LR	LR	08 48 18.9	
	comp=Z,72nm,21.1s,baz=310,slow=35						
FITZ	**Fitzroy Crossi**	**26.46**	**120**	*e*P	**P**	**08 38 34.4**	**+0.9**
	comp=Z,9.7nm,0.8s						
DAV	**Davao City (W)**	**26.74**	**63**	LR	LR	08 49 53.8	
	comp=Z,78nm,18.9s,baz=90,slow=38						
H08S2	**Diego Garcia H**	**29.23**	**264**	T	T	09 09 40.0	
	baz=87,slow=76,SNR=308						
H08S3	**Diego Garcia H**	**29.24**	**264**	T	T	09 09 40.6	
	baz=87,slow=76,SNR=271						
H08S1	**Diego Carcia H**	**29.25**	**264**	T	T	09 09 41.4	
	baz=87,slow=76,SNR=282						
BRDH	**Bariadhala**	**29.63**	**341**	LR	LR	08 53 42.1	
	comp=Z,108nm,19.2s,baz=149,slow=42						
MTN	**Manton Dam**	**29.84**	**106**	*e*P	**P**	**08 39 04.5**	**+0.8**
	comp=Z,32nm,1.4s						
KMI	**Kunming**	**30.35**	**2**	P	**P**	**08 39 10.8**	**+2.5**
KMI				pmax	pmax		
	comp=Z,16nm,0.5s						
KMI				pmax	pmax		
	comp=Z,89nm,4.0s						
FAKI	**Fak Fak**	**30.43**	**87**	*e*P	**P**	**08 39 06.6**	**-2.3**
	comp=Z,14nm,1.2s						
NWAO	**Narrogin (SRO)**	**30.93**	**154**	LR	LR	08 51 43.3	
	comp=Z,121nm,19.5s,baz=279,slow=36						
H01W3	**Cape Leeuwin H**	**31.47**	**160**	T	T	09 12 30.4	
	baz=337,slow=76,SNR=44						
H01W2	**Cape Leeuwin H**	**31.49**	**160**	T	T	09 12 28.6	
	baz=337,slow=76,SNR=51						
H01W1	**Cape Leeuwin H**	**31.49**	**160**	T	T	09 12 30.3	
	baz=337,slow=76,SNR=46						
GYA	**Guiyang**	**32.01**	**8**	P	**P**	**08 39 24.8**	**+2.0**
GYA				PP	**PP**	**08 40 32.2**	**-3.3**
GYA				S	**S**	**08 44 36.0**	**+3.1**
GYA				SS	**SnSn**	**08 46 28.9**	**+5.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,4.9s						
GYA				LR	LR		
	comp=Z,200nm,13.7s						
GYA				LR	LR		
	comp=Z,180nm,14.0s						
GYA				LR	LR		
	comp=Z,240nm,13.1s						
SHL	**Shillong**	**32.26**	**343**	*e*P	**P**	**08 39 24.5**	**-0.5**
	comp=Z,23nm,0.5s						
SHL	**Shillong**	**32.26**	**343**	*e*P	**P**	**08 39 24.5**	**-0.5**
SHL				pmax	pmax		
	comp=Z,23nm,0.5s						
WR1	**Warramunga Arr**	**34.76**	**118**	*e*P	**P**	**08 39 47.2**	**+0.4**
	comp=Z,16nm,0.8s						
WRA	**Warramunga Arr**	**34.76**	**118**	P	**P**	**08 39 47.2**	**+0.3**
	comp=Z,10nm,0.7s,baz=288,slow=12,SNR=67						
WRA	**Warramunga Arr**	**34.76**	**118**	*e*P	**P**	**08 39 47.1**	**+0.3**
WRA				pmax	pmax		
	comp=Z,11nm,0.6s						
WRAB	**Tennant Creek**	**34.77**	**118**	*e*P	**P**	**08 39 47.4**	**+0.6**
	comp=Z,16nm,0.8s						
WRAB	**Tennant Creek**	**34.77**	**118**	*e*P	**P**	**08 39 47.4**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,16nm,0.8s						
WB2	**Warramunga Arr**	**34.77**	**118**	*e*P	**P**	**08 39 47.3**	**+0.5**
	comp=Z,16nm,0.8s						
ASAR	**Alice Springs**	**35.82**	**124**	P	**P**	**08 39 56.9**	**+1.0**
	comp=Z,4.1nm,0.6s,baz=298,slow=7.7,SNR=85						
AS31	**Alice Springs**	**35.82**	**124**	*e*P	**P**	**08 39 56.8**	**+0.9**
	comp=Z,2.2nm,0.4s						
CD2	**Chengdu**	**36.15**	**3**	*e*P	**P**	**08 39 59.5**	**+1.0**
CD2				S	**S**	**08 45 40.8**	**+4.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,4.8s						
CD2				LR	LR		
	comp=Z,370nm,15.9s						
CD2				LR	LR		
	comp=Z,310nm,11.3s						
CD2				LR	LR		
	comp=Z,430nm,13.7s						
JAY	**Jayapura**	**38.88**	**87**	P	P	08 40 29.9	+7.9
XAN	**Xi'an**	**39.79**	**9**	P	**P**	**08 40 27.7**	**-1.5**
XAN				pmax	pmax		
	comp=Z,14nm,0.9s						
XAN				pmax	pmax		
	comp=Z,88nm,4.1s						
XAN				LR	LR		
	comp=Z,220nm,14.2s						
XAN				LR	LR		
	comp=Z,200nm,13.2s						
XAN				LR	LR		
	comp=Z,240nm,13.7s						
NJ2	**Nanjing**	**40.62**	**22**	*e*P	**P**	**08 40 35.1**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
LZH	**Lanzhou**	**41.30**	**2**	*e*P	**P**	**08 40 45.5**	**+3.6**
LZH				pP	pP	08 40 50.9	+0.3
LZH				sP	sP	08 40 53.9	-0.2
LZH				pmax	pmax		
	comp=Z,20nm,1.2s						
COEN	**Coen**	**41.58**	**105**	*e*P	**P**	**08 40 44.6**	**+0.3**
	comp=Z,17nm,1.3s						
GTA	**Gaotai**	**44.62**	**358**	*e*P	**P**	**08 41 08.6**	**-0.1**
GTA				pP	pP	08 41 13.0	-4.4
GTA				sP	sP	08 41 16.3	-4.6
GTA				PcP	**PP**	**08 42 52.7**	**-0.5**
GTA				S	**S**	**08 47 46.7**	**+3.6**
GTA				sS	sS	08 47 56.2	-1.2
GTA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,45nm,6.7s						
GTA				LR	LR		
	comp=Z,190nm,17.5s						
GTA				LR	LR		
	comp=Z,160nm,17.5s						
GTA				LR	LR		
	comp=Z,160nm,16.8s						
CTA	**Charters Tower**	**45.55**	**113**	P	**P**	**08 41 17.0**	**+0.7**
	comp=Z,3.3nm,0.7s,baz=0.0,slow=4.0,SNR=3.2						
CTAO	**Charters Tower**	**45.55**	**113**	*e*P	**P**	**08 41 16.7**	**+0.4**
	comp=Z,16nm,1.1s						
CTAO	**Charters Tower**	**45.55**	**113**	*e*P	**P**	**08 41 16.7**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,16nm,1.1s						
STKA	**Stephens Creek**	**45.56**	**130**	P	**P**	**08 41 17.6**	**+1.4**
	comp=Z,2.3nm,0.6s,baz=310,slow=7.9,SNR=9.5						
STKA				LR	LR	09 02 33.2	
	comp=Z,73nm,18.4s,baz=9.2,slow=39						
HHC	**Hu-ho-hao-te**	**46.88**	**10**	*e*P	**P**	**08 41 27.6**	**+1.2**
HHC				S	**S**	**08 48 20.0**	**+4.5**
HHC				pmax	pmax		
	comp=Z,27nm,1.0s						
HHC				pmax	pmax		
	comp=Z,83nm,4.6s						
HHC				LR	LR		
	comp=Z,230nm,14.9s						
HHC				LR	LR		
	comp=Z,230nm,11.4s						
HHC				LR	LR		
	comp=Z,350nm,15.2s						
BJT	**Baijiatuan**	**47.08**	**15**	*e*P	**P**	**08 41 27.3**	**-0.6**
	comp=Z,11nm,0.6s						
BJT	**Baijiatuan**	**47.08**	**15**	*e*P	**P**	**08 41 27.3**	**-0.6**
BJT				pmax	pmax		
	comp=Z,11nm,0.6s						
BJI	**Beijing**	**47.10**	**15**	P	**P**	**08 41 27.3**	**-0.7**
BJI				pmax	pmax		
	comp=Z,11nm,0.6s						
JNU	**Nakatsue**	**47.18**	**34**	P	**P**	**08 41 26.9**	**-1.9**
	comp=Z,9.3nm,0.8s,baz=175,slow=3.4,SNR=4.8						
JNU	**Nakatsue**	**47.18**	**34**	*e*P	**P**	**08 41 27.5**	**-1.4**
	comp=Z,21nm,1.1s						
KSAR	**Wonju Array Be**	**49.05**	**28**	P	**P**	**08 41 42.5**	**-0.7**
KSAR	**Wonju Array Be**	**49.05**	**28**	P	**P**	**08 41 42.5**	**-0.7**
KSRS	**Korea Array**	**49.08**	**28**	P	**P**	**08 41 42.5**	**-0.9**
	comp=Z,2.7nm,0.6s,baz=228,slow=7.1,SNR=10						
KSRS	**Korea Array**	**49.08**	**28**	*e*P	**P**	**08 41 42.4**	**-0.9**
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KS01	**Wonju Array Si**	**49.08**	**28**	*e*P	**P**	**08 41 42.8**	**-0.7**
WMQ	**Urumqi**	**50.62**	**347**	P	**P**	**08 41 55.9**	**+0.8**
WMQ				pP	pP	08 41 59.6	-4.4
WMQ				sP	sP	08 42 03.9	-3.5
WMQ				pmax	pmax		
	comp=Z,51nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,260nm,3.9s						
WMQ				LR	LR		
	comp=Z,190nm,20.5s						
WMQ				LR	LR		
	comp=Z,160nm,23.3s						
WMQ				LR	LR		
	comp=Z,160nm,20.5s						
KSH	**Kashi**	**50.66**	**334**	*e*P	**P**	**08 41 54.3**	**-1.3**
KSH				S	**S**	**08 49 04.9**	**-4.1**
KSH				pmax	pmax		
	comp=Z,99nm,4.3s						
NRN	**Naryn**	**52.25**	**336**	*e*P	**P**	**08 42 07.4**	**-0.2**
	comp=Z,4.2nm,0.8s						
NRN	**Naryn**	**52.25**	**336**	*e*P	**P**	**08 42 07.4**	**-0.2**
NRN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
INU	**Inuyama**	**52.31**	**37**	*e*P	**P**	**08 42 07.1**	**-0.7**
	comp=Z,43nm,1.5s						
KDJ	**Kajisay**	**52.36**	**337**	*e*P	**P**	**08 42 10.0**	**+1.7**
	comp=Z,12nm,0.6s						
KDJ	**Kajisay**	**52.36**	**337**	*e*P	**P**	**08 42 10.0**	**+1.7**
KDJ				pmax	pmax		
	comp=Z,12nm,0.6s						
SONA0	**Songino Array**	**53.15**	**4**	*e*P	**P**	**08 42 14.0**	**0.0**
SONM	**Songino Array**	**53.15**	**4**	P	**P**	**08 42 14.0**	**0.0**
	comp=Z,7.6nm,0.7s,baz=185,slow=9.4,SNR=34						
SONA1	**Songino Array**	**53.17**	**4**	*e*P	**P**	**08 42 14.1**	**0.0**
ULN	**Ulaanbaatar**	**53.23**	**4**	*e*P	**P**	**08 42 14.5**	**-0.1**
	comp=Z,5.5nm,0.7s						
ULN	**Ulaanbaatar**	**53.23**	**4**	*ce*P	**P**	**08 42 14.3**	**-0.3**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.3s						
CN2	**Changchun**	**53.41**	**21**	*e*P	**P**	**08 42 13.9**	**-1.9**
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
BTK	**Batken**	**53.48**	**331**	P	**P**	**08 42 15.9**	**-0.6**
BTK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
MAJO	**Matsushiro**	**53.83**	**36**	*e*P	**P**	**08 42 16.2**	**-2.9**
MAJO	**Matsushiro**	**53.83**	**36**	*e*P	**P**	**08 42 16.5**	**-2.5**
MAJO				pmax	pmax		
	comp=Z,16nm,1.5s						
MJAR	**Matsushiro Arr**	**53.83**	**36**	P	**P**	**08 42 16.2**	**-2.9**
	comp=Z,1.9nm,0.5s,baz=227,slow=7.0,SNR=7.6						
AAK	**Ala-Archa**	**53.87**	**335**	P	**P**	**08 42 19.5**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=144,slow=20,SNR=4.7						
MK01	**Makanchi Array**	**54.75**	**344**	*e*P	**P**	**08 42 24.9**	**-0.6**
MK32	**Makanchi Array**	**54.77**	**344**	*e*P	**P**	**08 42 25.2**	**-0.5**
MKAR	**Makanchi Array**	**54.77**	**344**	P	**P**	**08 42 25.2**	**-0.5**
	comp=Z,6.7nm,0.7s,baz=152,slow=8.5,SNR=36						
KK31	**Karatay Array**	**55.99**	**333**	*e*P	**P**	**08 42 34.2**	**-0.4**
KK31	**Karatay Array**	**55.99**	**333**	*e*P	**P**	**08 42 34.2**	**-0.4**
KKAR	**Karatay Array**	**55.99**	**333**	*e*P	**P**	**08 42 34.1**	**-0.4**
KKAR	**Karatay Array**	**55.99**	**333**	*e*P	**P**	**08 42 34.1**	**-0.4**
DGZ	**Jazzator, Alta**	**56.28**	**349**	*c*P	**P**	**08 42 36.7**	**0.0**
DGZ				pmax	pmax		
	comp=Z,13nm,0.6s						
USA0B	**Ussuriysk Arra**	**56.34**	**26**	*e*P	**P**	**08 42 36.0**	**-1.0**
	comp=Z,19nm,0.8s						
USRK	**Ussuriysk Ar.**	**56.34**	**26**	P	**P**	**08 42 36.0**	**-0.9**
	comp=Z,14nm,0.7s,baz=221,slow=6.1,SNR=34						
TLY	**Talaya**	**56.87**	**1**	*e*P	P	08 42 33.2	-7.5
TLY				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TLY				MLR	MLR		
	comp=Z,79nm,14.0s						
KURK	**Kurchatov**	**59.36**	**343**	*e*P	**P**	**08 42 57.6**	**-0.5**
	comp=Z,7.6nm,0.9s						
KURK	**Kurchatov**	**59.36**	**343**	*c*P	**P**	**08 42 57.4**	**-0.7**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KLR	**Kul'dur**	**60.32**	**22**	*e*P	**P**	**08 43 03.5**	**-1.2**
ZAA0	**Zalesovo Array**	**60.83**	**349**	*e*P	**P**	**08 43 07.3**	**-0.7**
	comp=Z,13nm,0.8s						
ZALV	**Zalesovo Beam**	**60.83**	**349**	P	**P**	**08 43 07.3**	**-0.8**
	comp=Z,12nm,0.6s,baz=180,slow=4.9,SNR=48						
ZALV	**Zalesovo Beam**	**60.83**	**349**	*e*P	**P**	**08 43 07.3**	**-0.8**
ZALV				pmax	pmax		
	comp=Z,11nm,0.6s						
ZAA1	**Zalesovo Array**	**60.83**	**349**	*e*P	**P**	**08 43 07.3**	**-0.8**
YSS	**Yuzh-Sakhalins**	**63.43**	**30**	*i*P	**P**	**08 43 25.8**	**+0.2**
YSS				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BRVK	**Borovoye**	**64.05**	**339**	*e*P	**P**	**08 43 28.9**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.5s						
ABKAR	**Akbulak array**	**65.47**	**331**	*e*P	**P**	**08 43 38.4**	**-0.6**
MAW	**Mawson**	**67.48**	**195**	P	**P**	**08 43 53.8**	**+2.2**
	comp=Z,0.8nm,0.8s,baz=331,slow=12,SNR=2.3						
KBZ	**Khabaz**	**72.05**	**319**	P	**P**	**08 44 20.1**	**+0.1**
	comp=Z,2.2nm,0.9s,baz=69,slow=8.6,SNR=3.4						
BKZ	**Black Stump Fm**	**74.72**	**129**	*e*P	**P**	**08 44 37.0**	**+0.9**
	comp=Z,39nm,1.4s						
PETK	**Petropavlovsk-**	**74.79**	**31**	P	**P**	**08 44 35.1**	**-1.0**
	comp=Z,1.9nm,0.6s,baz=199,slow=4.1,SNR=3.9						
PEA1	**Petropavlovsk-**	**74.80**	**31**	*e*P	**P**	**08 44 35.1**	**-1.0**
URZ	**Urewera**	**75.12**	**128**	LR	LR	09 20 00.1	
	comp=Z,51nm,18.7s,baz=2.0,slow=38						
NRIK	**Noril'sk**	**75.22**	**355**	P	**P**	**08 44 37.6**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=189,slow=9.8,SNR=3.9						
NRIK	**Noril'sk**	**75.22**	**355**	*e*P	**P**	**08 44 38.6**	**+0.4**
NRIK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PET	**Petropavlovsk**	**75.24**	**32**	*e*P	**P**	**08 44 38.6**	**0.0**
	comp=Z,34nm,1.4s						
PET	**

O56A	Blue Knob Stat	145.28	1	ePKPbc	PKPdf	08 52 33.9	-0.2	
O56A	Blue Knob Stat	145.28	1	P	PKPbc	08 52 33.4	-0.4	
	baz=359							
P47A	Martinsville	145.28	11	P	PKPbc	08 52 32.9	-0.9	
	baz=346							
R42A	Luebbering	145.31	18	P	PKPbc	08 52 33.3	-0.6	
	baz=338							
CCM	Cathedral Cave	145.38	18	ePKPbc	PKPbc	08 52 33.6	-0.5	
CCM	Cathedral Cave	145.38	18	ePKIKP	PKPbc	08 52 33.6	-0.5	
CCM	Cathedral Cave	145.38	18	P	PKPbc	08 52 33.8	-0.3	
	baz=337							
Q45A	Warren Harvey,	145.44	14	P	PKPbc	08 52 33.9	-0.4	
	baz=342							
P48A	Milroy	145.46	10	P	PKPbc	08 52 33.5	-0.9	
	baz=347							
MVL	Millersville	145.51	358	ePKPbc	PKPab	08 52 35.3	+0.6	
P50A	Jamestown	145.56	8	P	PKPdf	08 52 34.0	-0.6	
	baz=350							
R43A	Red Bud	145.56	16	P	PKPdf	08 52 34.1	-0.5	
	baz=339							
OLIL	Olney	145.61	14	ePKPdf	PKPab	08 52 34.9	-0.2	
S41A	Jillco Farms,	145.64	19	P	PKPdf	08 52 34.6	-0.2	
	baz=336,SNR=21							
P52A	Corning	145.73	5	P	PKPdf	08 52 34.6	-0.2	
	baz=353							
S42A	Caledonia	145.78	18	P	PKPbc	08 52 35.1	-0.3	
	baz=337							
Q47A	Bedord North L	145.78	11	P	PKPdf	08 52 34.9	0.0	
	baz=345							
R44A	Waltonville	145.82	15	P	PKPbc	08 52 35.5	0.0	
	baz=340							
MCWV	Mont Chateau	145.86	2	ePKPdf	PKPbc	08 52 35.4	-0.2	
MCWV	Mont Chateau	145.86	2	P	PKPbc	08 52 35.6	0.0	
	baz=357							
Q48A	North Vernon	145.92	11	P	PKPbc	08 52 35.7	-0.1	
	baz=346							
P53A	Whipple	145.94	4	ePKPdf	PKPbc	08 52 35.6	-0.2	
P53A	Whipple	145.94	4	P	PKPbc	08 52 35.7	-0.2	
	baz=354							
Q49A	Aurora	145.99	9	P	PKPbc	08 52 35.8	-0.2	
	baz=348							
HHAR	Hobbs	146.02	23	ePKPdf	PKPdf	08 52 35.5	+0.1	
LTX	Lajitas	146.12	42	ePKPdf	PKPab	08 52 37.5	+0.1	
TX31	Lajitas Ar. Si	146.12	42	ePKPdf	PKPab	08 52 37.2	-0.3	
TXAR	Lajitas Array	146.12	42	PKPbc	PKPab	08 52 37.5	+0.1	
	comp=Z,3.8nm,0.7s,baz=294,slow=1.1,SNR=42							
T41A	Mountain View	146.13	20	P	PKPdf	08 52 35.9	+0.3	
	baz=335,SNR=8.7							
S43A	Fulton Ridge,	146.18	17	P	PKPbc	08 52 36.4	-0.2	
	baz=338							
Q51A	Peebles	146.19	7	ePKPdf	PKPbc	08 52 36.3	-0.4	
Q51A	Peebles	146.19	7	P	PKPbc	08 52 36.7	0.0	
	baz=351							
SIUC	Southern Illin	146.29	16	ePKPdf	PKPbc	08 52 36.6	-0.3	
Q50A	Georgetown	146.29	8	P	PKPbc	08 52 36.7	-0.2	
	baz=350							
S44A	Carbondale	146.30	16	P	PKPab	08 52 37.4	-0.3	
	baz=340							
ABTX	Abilene, Hawle	146.30	34	P	PKPab	08 52 37.5	-0.4	
	baz=319							
T42A	Van Buren	146.36	19	ePKPdf	PKPbc	08 52 36.9	-0.3	
T42A	Van Buren	146.36	19	P	PKPbc	08 52 36.6	-0.6	
	baz=336,SNR=11							
U40A	Yellville	146.37	22	P	PKPbc	08 52 36.5	-0.7	
	baz=333,SNR=11							
R47A	Wooly Knot Far	146.38	12	P	PKPbc	08 52 36.7	-0.5	
	baz=345							
R48A	Northridge Ran	146.41	11	P	PKPbc	08 52 36.8	-0.5	
	baz=346							
WCI	Wyandotte Cave	146.49	12	ePKPdf	PKPbc	08 52 37.4	-0.2	
WCI	Wyandotte Cave	146.49	12	PKP2	PKPdf	08 52 35.7	-0.5	
WCI	Wyandotte Cave	146.49	12	P	PKPbc	08 52 37.2	-0.3	
	baz=345							
S45A	Carrier Mills	146.49	15	P	PKPbc	08 52 37.2	-0.3	
	baz=341							
T43A	Greenville	146.57	18	P	PKPbc	08 52 37.3	-0.4	
	baz=338							
R49A	Shelbyville	146.64	10	P	PKPbc	08 52 37.5	-0.5	
	baz=347							
S46A	Don Dixon Farm	146.70	14	P	PKPbc	08 52 37.8	-0.3	
	baz=342							
U41A	Viola	146.71	20	P	PKPbc	08 52 37.6	-0.6	
	baz=335,SNR=8.4							
R50A	Paris	146.79	9	P	PKPbc	08 52 38.0	-0.5	
	baz=349							
PBMO	Poplar Bluff	146.80	18	ePKPdf	PKPbc	08 52 38.1	-0.4	
X37A	Clayton	146.87	27	ePKPdf	PKPbc	08 52 38.5	-0.3	
R51A	Hillsboro	146.88	8	P	PKPbc	08 52 38.1	-0.6	
	baz=350							
U42A	Revenden	146.94	20	P	PKPbc	08 52 38.4	-0.4	
	baz=336,SNR=7.7							
R52A	Catlettsburg	146.96	6	P	PKPbc	08 52 38.5	-0.3	
	baz=352							
S48A	Wiedeman Farm,	147.09	12	P	PKPbc	08 52 38.8	-0.5	
	baz=345							
S49A	Springfield	147.11	10	P	PKPbc	08 52 38.2	-1.1	
	baz=347							
V41A	Mountainview	147.13	21	P	PKPbc	08 52 38.8	-0.7	
	baz=334,SNR=7.7							
T46A	Princeton	147.27	14	P	PKPbc	08 52 39.4	-0.4	
	baz=342							
W40A	Ferguson Farm,	147.31	23	ePKPbc	PKPbc	08 52 40.0	+0.1	
W40A	Ferguson Farm,	147.31	23	P	PKPbc	08 52 39.7	-0.2	
	baz=332							
S50A	Richmond	147.37	9	P	PKPbc	08 52 39.6	-0.5	
	baz=348							
V42A	Cord	147.38	20	P	PKPbc	08 52 40.4	+0.3	
	baz=335							
X39A	Fountain Ranch	147.48	25	P	PKPbc	08 52 40.7	+0.2	
	baz=330							
T47A	Sharon Grove	147.51	13	P	PKPbc	08 52 40.0	-0.4	
	baz=343							
WHAR	Wooly Hollow	147.52	22	ePKPbc	PKPbc	08 52 39.8	-0.7	
S51A	Beattyville	147.53	8	ePKPbc	PKPbc	08 52 40.0	-0.5	
S51A	Beattyville	147.53	8	P	PKPbc	08 52 40.1	-0.5	
	baz=350							
U44B	Burton Farm, H	147.53	17	P	PKPbc	08 52 40.4	-0.2	
	baz=339							
T48A	Bowling Green	147.55	12	P	PKPbc	08 52 39.8	-0.8	
	baz=345							
S52A	Salyersville	147.55	7	P	PKPbc	08 52 39.8	-0.8	
	baz=351							
R58B	Mineral	147.58	360	P	PKPbc	08 52 40.4	-0.2	
	baz=0.4							
W41B	Gary Mavity, V	147.64	22	P	PKPbc	08 52 40.6	-0.3	
	baz=333							
MIAR	Mount Ida	147.67	24	ePKPbc	PKPbc	08 52 41.3	+0.3	
MIAR	Mount Ida	147.67	24	ePKP2	PKPbc	08 52 41.3	+0.3	
MIAR	Mount Ida	147.67	24	P	PKPbc	08 52 40.9	-0.1	
	baz=330							
T49A	Edmonton	147.73	11	P	PKPbc	08 52 40.5	-0.6	
	baz=346							
JCT	Junction City	147.79	37	ePKPbc	PKPbc	08 52 42.2	+0.7	
JCT	Junction City	147.79	37	ePKP2	PKPbc	08 52 42.2	+0.7	
JCT	Junction City	147.79	37	P	PKPbc	08 52 41.8	+0.3	
	baz=317							
W42A	Bald Knob	147.81	21	P	PKPab	08 52 42.6	-1.1	
	baz=334							
T50A	Nancy	147.94	10	P	PKPbc	08 52 40.8	-0.8	
	baz=347							
U47A	Clarksville	147.99	14	P	PKPbc	08 52 41.7	-0.1	
	baz=343							
U48A	Cassie Pea, Po	148.09	13	P	PKPbc	08 52 41.5	-0.5	
	baz=344,SNR=5.3							
T51A	Gray	148.13	9	P	PKPbc	08 52 41.7	-0.5	
	baz=349							
X41A	Kaden, Bauxite	148.14	23	P	PKPbc	08 52 41.8	-0.5	
	baz=332							
WVT	Waverly	148.15	15	ePKPbc	PKPbc	08 52 42.3	+0.1	
WVT	Waverly	148.15	15	ePKP2	PKPbc	08 52 42.3	+0.1	
WVT	Waverly	148.15	15	P	PKPbc	08 52 42.0	-0.3	
	baz=342							
U49A	Red Boiling Sp	148.25	12	P	PKPbc	08 52 41.9	-0.6	
	baz=346							
BLA	Blacksburg	148.26	3	ePKPbc	PKPbc	08 52 42.9	+0.3	
BLA	Blacksburg	148.26	3	ePKP2	PKPbc	08 52 42.9	+0.3	
V46A	Holladay	148.38	16	P	PKPbc	08 52 42.3	-0.6	
	baz=341							
V47A	Nunnelly	148.51	15	P	PKPbc	08 52 43.1	-0.1	
	baz=342							
U50A	Jamestown	148.52	10	P	PKPbc	08 52 42.8	-0.4	
	baz=347,SNR=15							
TZTN	Tazewell	148.61	8	ePKPbc	PKPbc	08 52 43.3	-0.2	
TZTN	Tazewell	148.61	8	P	PKPbc	08 52 43.2	-0.3	
	baz=350							
Y41A	Eaglette Beard	148.64	23	P	PKPbc	08 52 43.5	-0.1	
	baz=332							
V48A	Smith Brothers	148.77	14	ePKPbc	PKPbc	08 52 43.5	-0.3	
V48A	Smith Brothers	148.77	14	P	PKPbc	08 52 43.8	0.0	
	baz=343							
U53A	Fall Branch	148.91	7	P	PKPbc	08 52 43.7	-0.6	
	baz=351							
W46A	Michie	148.94	16	P	PKPbc	08 52 43.5	-0.8	
	baz=340							
V49A	McMinnville	148.95	12	P	PKPbc	08 52 43.7	-0.7	
	baz=345							
W47A	Westpoint	149.04	15	P	PKPbc	08 52 44.0	-0.5	
	baz=342,SNR=8.3							
Z41A	Richland Creek	149.11	24	P	PKPbc	08 52 45.2	+0.4	
	baz=331							
PLAL	Pickwick Lake	149.17	16	ePKPbc	PKPbc	08 52 44.2	-0.6	
V50A	Pikevile	149.20	11	P	PKPbc	08 52 44.5	-0.4	
	baz=346							
V51A	Loudon	149.21	10	ePKPbc	PKPbc	08 52 45.1	+0.1	
V51A	Loudon	149.21	10	P	PKPbc	08 52 44.6	-0.3	
	baz=348							
OXF	Oxford	149.21	18	P	PKPbc	08 52 44.6	-0.3	
	baz=338							
Y43A	Makayla and Ka	149.25	21	P	PKPbc	08 52 45.1	+0.1	
	baz=335							
V52A	Sevierville	149.29	9	ePKPbc	PKPbc	08 52 45.2	0.0	
V52A	Sevierville	149.29	9	P	PKPbc	08 52 44.8	-0.4	
	baz=349,SNR=5.4							
W48A	Pulaski	149.31	14	P	PKPbc	08 52 44.5	-0.7	
	baz=343,SNR=5.1							
TKL	Tuckaleechee C	149.44	9	PKP2	PKPbc	08 52 45.6	0.0	
W49A	Belvidere	149.49	13	P	PKPbc	08 52 45.5	-0.2	
	baz=344,SNR=9.3							
CPCT	Cooper Cave	149.52	10	ePKPbc	PKPbc	08 52 46.1	+0.3	
NATX	Nacogdoches	149.56	29	P	PKPbc	08 52 46.4	+0.5	
	baz=326							
V53A	Saluda	149.57	7	ePKPbc	PKPbc	08 52 45.9	0.0	
V53A	Saluda	149.57	7	P	PKPbc	08 52 45.7	-0.3	
	baz=351							
W50A	Signal Mountai	149.62	12	P	PKPbc	08 52 45.6	-0.4	
	baz=346							
W51A	Cleveland	149.76	11	P	PKPbc	08 52 46.2	-0.1	
	baz=347							
Y45A	Yeager Farm, C	149.76	19	P	PKPbc	08 52 46.3	-0.1	
	baz=337							
X48A	Hartselle	149.94	15	P	PKPbc	08 52 46.2	-0.6	
	baz=342							
Y46A	Houston	149.97	18	P	PKPbc	08 52 46.9	0.0	
	baz=338							
W52A	Murphy	149.97	9	ePKPbc	PKPbc	08 52 47.2	+0.3	
W52A	Murphy	149.97	9	P	PKPbc	08 52 46.9	0.0	
	baz=348,SNR=5.1							
Z44A	Pea Ridge, Bel	150.00	21	P	PKPbc	08 52 47.3	+0.3	
	baz=335							
W53A	Cullowhee	150.01	8	P	PKPbc	08 52 47.1	0.0	
	baz=350,SNR=6.6							
X49A	Woodville	150.06	14	P	PKPbc	08 52 46.5	-0.6	
	baz=344,SNR=8.2							
Y47A	UCPARC, Winfie	150.24	16	P	PKPbc	08 52 47.0	-0.5	
	baz=340							
KMSC	Kings Mountain	150.25	5	P	PKPbc	08 52 47.1	-0.4	
	baz=354							
Y48A	Jasper	150.42	15	P	PKPbc	08 52 47.2	-0.8	
	baz=342							
HKT	Hockley	150.43	32⇑	ePKIKP	PKPbc	08 52 49.5	+1.5	
HKT				pmax	pmax			
	comp=Z,57nm,1.7s							
X52A	Dahlonega	150.46	10	P	PKPbc	08 52 48.0	-0.1	
	baz=348							
Z46A	Louisville	150.58	19	P	PKPbc	08 52 48.6	+0.2	
	baz=338							
X53A	Estanollee	150.65	9	P	PKPbc	08 52 48.4	-0.1	
	baz=350							
Y49A	Blount Mountai	150.66	14	ePKPbc	PKPbc	08 52 48.5	-0.1	
Y49A	Blount Mountai	150.66	14	P	PKPbc	08 52 48.2	-0.4	
	baz=343							
LVC	Limon Verde	150.73	198	*c* iPKIKP	PKPab	08 52 53.4	-2.9	
LVC				pmax	pmax			
	comp=Z,19nm,2.5s							
Z48A	Northport	150.82	16	P	PKPbc	08 52 48.1	-0.8	
	baz=341							
Y51A	Rockmart	150.92	12	P	PKPbc	08 52 48.6	-0.6	
	baz=346							
244A	Avery, Jackson	151.02	22	P	PKPbc	08 52 50.0	+0.5	
	baz=334							
146A	Union	151.05	19	P	PKPbc	08 52 49.8	+0.3	
	baz=337							
Y52A	Lilburn	151.15	10	ePKPbc	PKPbc	08 52 50.2	+0.5	
Y52A	Lilburn	151.15	10	P	PKPbc	08 52 49.6	-0.1	
	baz=348							
Y53A	Monroe	151.24	9	P	PKPbc	08 52 49.7	-0.3	
	baz=349							
Z49A	Columbiana	151.26	15	P	PKPbc	08 52 49.2	-0.8	
	baz=342							
147A	Livingston	151.27	18	ePKPbc	PKPbc	08 52 50.5	+0.6	
147A	Livingston	151.27	18	P	PKPbc	08 52 49.8	-0.2	
	baz=339							
LRAL	Lakeview Retre	151.29	16	ePKPbc	PKPbc	08 52 49.9	-0.2	
LRAL	Lakeview Retre	151.29	16	P	PKPbc	08 52 49.8	-0.3	
	baz=342							
Z50A	Ashland	151.35	14	ePKPbc	PKPbc	08 52 50.2	0.0	
Z50A	Ashland	151.35	14	P	PKPbc	08 52 49.9	-0.3	
	baz=344							
Y54A	Tignall	151.37	8	P	PKPbc	08 52 50.0	-0.2	
	baz=351							
344A	Westbrook Farm	151.52	23	ePKPbc	PKPbc	08 52 51.9	+1.3	
344A	Westbrook Farm	151.52	23	P	PKPbc	08 52 51.3	+0.7	
	baz=333							
Z52A	Williamson	151.74	11	P	PKPbc	08 52 51.3	+0.3	
	baz=347							
Z53A	Monticello	151.80	10	P	PKPbc	08 52 51.3	0.0	
	baz=349							
Z54A	Sparta	151.96	8	P	PKPbc	08 52 51.4	-0.1	
	baz=350							
152A	Waverly Hall	152.18	12	P	PKPbc	08 52 52.3	+0.2	
	baz=346							
249A	Camden	152.26	17	P	PKPbc	08 52 52.4	+0.1	
	baz=341							
251A	Midway	152.59	13	P	PKPbc	08 52 53.4	+0.3	
	baz=344							

*NEIC **06** 08:36:46.0±0.6,5°.28S×101°.80E,h10km,mb4.2/6,Error ellipse: s-maj=17.7km s-min=6.7km az=54.0*
*IDC **06** 08:36:45.1±2.8,5°.15S×101°.96E,h0km,mb4.0/8, mb1 4.1/8,mb1mx3.8/48,mbtmp4.0/8,Error ellipse: s-maj=101.2km s-min=18.5km az=56.0*
ISC 06 08:36:50.6±1.3,**5°.2S**±0°.2×**102°.0E**±0°.2,**h35**km,**n30,**
σ1§**07**/24,**mb4.2**/13,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MNAI	Manna	1.27	47	ePn		P	Pn	08 37 12.9	+1.0
BKNI	Bangkinang	5.60	350	ePn		P	Pn	08 38 13.9	+2.4
CMAR	Chiang Mai Arr	23.73	353	P		P	P	08 41 58.7	-0.9
	0.8nm,0.4s,baz=185,slow=9.6,SNR=4.4								
FITZ	Fitzroy Crossi	26.39	121	P		P		08 42 24.2	+0.3
	2.7nm,0.9s,baz=297,slow=11,SNR=4.3								
FITZ	Fitzroy Crossi	26.39	121	eP		P		08 42 24.6	+0.6
	3.0nm,1.0s								
H08S2	Diego Garcia H	29.43	264	T		T		09 13 25.8	
	baz=87,slow=75,SNR=44								
H08S3	Diego Garcia H	29.44	264	T		T		09 13 25.7	
	baz=87,slow=75,SNR=50								
H08S1	Diego Garcia H	29.45	264	T		T		09 13 26.4	
	baz=87,slow=75,SNR=44								
H01W3	Cape Leeuwin H	31.57	161	T		T		09 16 11.1	
	baz=337,slow=76,SNR=11								
H01W2	Cape Leeuwin H	31.58	161	T		T		09 16 15.8	
	baz=337,slow=76,SNR=13								
H01W1	Cape Leeuwin H	31.58	161	T		T		09 16 15.9	
	baz=337,slow=76,SNR=10								
WRA	Warramunga Arr	34.67	118	P		P		08 43 37.0	-0.2
	2.1nm,0.7s,baz=292,slow=9.6,SNR=6.8								
WR1	Warramunga Arr	34.67	118	eP		P		08 43 37.0	-0.2
	4.1nm,0.8s								
WRAB	Tennant Creek	34.68	118	eP		P		08 43 37.4	+0.2
	3.3nm,0.8s								
WB2	Warramunga Arr	34.69	118	eP		P		08 43 37.3	0.0
	3.0nm,0.9s								
ASAR	Alice Springs	35.76	124	P		P		08 43 47.0	+0.4
	0.6nm,0.4s,baz=299,slow=7.6,SNR=7.7								
AS31	Alice Springs	35.77	124	eP		P		08 43 47.1	+0.5
	1.2nm,1.1s								
SONA0	Songino Array	52.98	4	eP		P		08 46 04.0	+0.2
SONM	Songino Array	52.98	4	P		P		08 46 04.0	+0.2
	1.3nm,0.7s,baz=181,slow=8.4,SNR=4.6								
SONA1	Songino Array	52.99	4	eP		P		08 46 04.2	+0.3
MK01	Makanchi Array	54.64	343	eP		P		08 46 14.9	-0.9
MK32	Makanchi Array	54.67	343	eP		P		08 46 14.8	-1.3
MKAR	Makanchi Array	54.67	343	P		P		08 46 14.8	-1.3
	0.9nm,0.7s,baz=152,slow=9.4,SNR=4.9								
USRK	Ussuriysk Ar.	56.11	26	P		P		08 46 25.1	-1.3
	2.0nm,0.6s,baz=188,slow=4.8,SNR=5.7								
ZAA0	Zalesovo Array	60.70	348	eP		P		08 46 57.3	-1.0
	1.9nm,0.7s								
ZALV	Zalesovo Beam	60.70	348	P		P		08 46 56.5	-1.8
	0.9nm,0.3s,baz=187,slow=7.2,SNR=4.5								
ZALV	Zalesovo Beam	60.70	348	eP		P		08 46 57.3	-1.0
ZAA1	Zalesovo Array	60.71	348	eP		P		08 46 56.5	-1.9
LTX	Lajitas	145.87	42	ePKPdf		PKPbc		08 56 27.7	+0.5
TXAR	Lajitas Array	145.88	42	PKPbc		PKPbc		08 56 27.7	+0.5
	0.8nm,0.8s,baz=335,slow=1.4,SNR=5.4								

*KRNET **06** 08:53:47.8±0.1,39°.09N×75°.61E,mb3.3*
*NNC **06** 08:53:49.5±8.8,39°.17N×74°.68E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=62.6km s-min=40.1km az=171.0*
ISC 06 08:53:53.9±3.3,**39°.6N**±0°.1×**75°.42E**±0°.07,**h9**km±15km,**n21,**
σ1§**58**/35,**23C-2D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NRN	Naryn	1.89	13	*i*P		P	Pn	08 54 27.2	+0.5
	baz=7.0								
NRN				⇑*i*S		Sg	Sg	08 54 55.9	+1.2
	baz=7.0								
ARLS	Aral	2.41	340	⇑*i*P		P	Pn	08 54 35.0	+1.2
	baz=41								
ARLS				⇑*i*S		Sg	Sg	08 55 10.3	-1.1
	baz=41								
KZA	Kyzart	2.48	357	P		P	Pn	08 54 36.7	+1.7
	SNR=5.7								
KZA	Kyzart	2.48	357	⇑*i*P		P	Pn	08 54 36.4	+1.4
	baz=55								
KZA				⇑*i*S		Sg	Sg	08 55 12.2	-1.6
	baz=55								
UCH	Uchtor	2.72	346	P		P	Pn	08 54 39.9	+1.6
	SNR=18								
UCH	Uchtor	2.72	346	⇑*i*P		P	Pn	08 54 39.9	+1.6
	baz=46								
UCH				⇑*i*S		Sb	Sb	08 55 18.2	+1.5
	baz=46								
ULHL	Ulahol	2.72	13	P		Pb	Pn	08 54 43.6	+0.7
	SNR=5.4								
ULHL	Ulahol	2.72	13	⇑*e*P		P	Pn	08 54 39.0	+0.9
	baz=9.0								
ULHL				⇑*i*S		Sb	Sb	08 55 16.0	-0.5
	baz=9.0								
AML	Almayashu	2.85	333	P		P	Pn	08 54 41.0	+0.9
	SNR=13								
AML	Almayashu	2.85	333	⇑*i*P		P	Pn	08 54 41.7	+1.7
	baz=35								
AML				⇑*i*S		Sb	Sb	08 55 21.1	+0.7
	baz=35								
KDJ	Kajisay	2.86	27	⇑*i*P		P	Pn	08 54 39.9	-0.1
	baz=21								
KDJ				⇑*i*S		Sb	Sb	08 55 18.2	-2.3
	baz=21								
BOOM	Boomskoye usch	2.92	8	⇑*i*P		P	Pn	08 54 41.8	+1.1
	baz=4.0								
BOOM				⇑*i*S		Sb	Sb	08 55 21.4	-0.8
	baz=4.0								
KBK	Karagaybulak	3.08	353	P		P	Pn	08 54 45.9	+3.0
	SNR=5.5								
KBK	Karagaybulak	3.08	353	⇑*i*P		P	Pn	08 54 44.8	+1.8
	baz=52								
KBK				⇑*i*S		Sb	Sb	08 55 26.1	-0.7
	baz=52								
AAK	Ala-Archa	3.12	347	⇑Pn		P	Pn	08 54 45.2	+1.7
	2.0nm,0.3s								
AAK				Sn		Sb	Sb	08 55 27.8	-0.1
	12nm,0.8s								
AAK	Ala-Archa	3.12	347	P		P	Pn	08 54 46.3	+2.8
	SNR=6.7								
AAK	Ala-Archa	3.12	347	⇑*i*P		P	Pn	08 54 45.2	+1.7
	baz=47								
AAK				⇑*i*S		Sb	Sb	08 55 27.1	-0.8
	baz=47								
TKM2	Tokmak 2	3.33	2	⇓Pn		P	Pn	08 54 48.7	+2.3
	8.9nm,0.3s								
TKM2				⇑Sn		Sb	Sb	08 55 33.7	-0.2
	22nm,0.7s								
TKM2	Tokmak 2	3.33	2	P		P	Pn	08 54 48.9	+2.5
	SNR=33								
MDOK	Medeo	3.77	18	Pg		Pg	Pg	08 55 05.7	-0.5
	4.6nm,0.7s								
MDOK				Sn		Sg	Sg	08 55 54.9	-0.1
	11nm,0.7s								
KK31	Karatay Array	5.09	315	Pn		P	Pn	08 55 09.6	-0.9
	0.3nm,0.3s,baz=125,slow=13,SNR=4.7								
KK31				⇓Sn		Sn	Sn	08 56 07.3	-2.2
	0.9nm,0.4s								
KK31				⇑Lg		Lg	Lg	08 56 26.7	
	1.9nm,0.5s,baz=139,slow=29,SNR=4.1								

*ISCJB **06** 09:05:24.6±0.1,45°.63N±0°.01×74°.69W±0°.01,h15km,Error ellipse: s-maj=1.7km s-min=1.2km az=155.6*
*NEIC **06** 09:05:27.9±0.0,45°.60N×74°.61W,h18km,MN4.2(OTT), After OTT.*
NEIC Felt [III] at Alexandria, Champlain, Hawkesbury and Rockland; [II] Clarence-Rockland, Cornwall and Ottawa, Ontario. Also felt [III] at Rigaud and Saint-Jerome; [II] at Chateauguay, Gatineau, Laval, Montreal, Point-Claire and Saint-Sauveur-des-Monts, Quebec. Felt [II] at Brasher Falls, Massena and Potsdam, New York. Felt widely in southeastern Ontario and southern Quebec and in parts of northern New York and northern Vermont.
*OTT **06** 09:05:27.9±0.1,45°.60N×74°.59W,h6km,MN4.2/66*
*OTT 2km east from Hawkesbury, Ontario Felt Western Quebec Seismic Zone. Felt in Hawkesbury, Buckingham, Valleyfield, Orleans, Ottawa, Metcalfe, Rockland, Osgoode, l''Orignal, Plantagenet, Kanata, Ontario Gatine

WBO SG Sb 09 05 52.0 +1.3
WBO Trac 09 05 53.5
comp=Z,1µm,0.1s
OTT Ottawa 0.82 254 ePg Pn 09 05 42.6 +0.8
OTT eSg Sb 09 05 53.5 +1.8
OTT Ottawa 0.82 254 ⇓PG Pn 09 05 42.6 +0.8
OTT SG Sb 09 05 53.5 +1.8
OTT Trac 09 05 54.2
comp=Z,1µm,0.1s
LONY Lake Ozonia 1.01 180 ePg Pn 09 05 45.3 +0.9
LONY eSg Sb 09 05 58.1 +1.0
LONY Lake Ozonia 1.01 180 ⇑PG Pn 09 05 45.3 +0.9
LONY SG Sb 09 05 58.1 +1.0
LONY Trac 09 05 58.9
comp=Z,2µm,0.1s
LONY Lake Ozonia 1.01 180 P Pn 09 05 45.3 +0.9
baz=356
LONY S Sb 09 05 58.1 +1.0
baz=356
FRNY Flat Rock 1.07 138 ePb Pn 09 05 46.2 +1.0
FRNY eSn Sg 09 06 00.4 +1.1
FRNY Flat Rock 1.07 138 ⇑PG Pn 09 05 46.2 +1.0
FRNY SG Sn 09 06 00.6 +0.8
FRNY Trac 09 06 01.4
comp=Z,654nm,0.1s
STUQ Sainte-Ursule 1.24 57 ⇓PG Pg 09 05 49.6 +0.9
STUQ SG Sg 09 06 06.8 +1.8
STUQ Trac 09 06 07.2
comp=Z,3µm,0.2s
BECQ Becancour 1.64 63 ⇓PN Pb 09 05 56.1 +1.5
BECQ SN Sg 09 06 17.5 +0.1
BECQ Trac 09 06 19.8
comp=Z,316nm,0.1s
BECQ LG Lg 09 06 20.1
DPQ Saint Jean 1.64 50 PN Pb 09 05 56.0 +1.3
DPQ SN Sg 09 06 17.6 -0.1
DPQ Trac 09 06 21.3
comp=Z,688nm,0.1s
MOQ Mont Orford 1.68 100 ePn Pg 09 05 57.3 +0.3
MOQ eSn Sg 09 06 19.7 +1.0
MOQ Mont Orford 1.68 100 PN Pb 09 05 57.0 +1.6
MOQ SN Sb 09 06 17.7 +1.3
MOQ Trac 09 06 24.8
comp=Z,466nm,0.1s
NCB Newcomb 1.68 171 ePn Pb 09 05 56.1 +0.7
NCB eSn Sb 09 06 17.4 +1.1
NCB Newcomb 1.68 171 ⇑PN Pb 09 05 56.0 +0.6
NCB SN Sb 09 06 17.1 +0.7
NCB LG Lg 09 06 20.0
VT1 Waterbury 1.84 134 ePn Pb 09 05 59.5 +1.3
VT1 eSn Sg 09 06 23.7 -0.3
PEMO Pembroke 1.86 272 ⇓PN Pb 09 05 59.0 +0.5
PEMO SN Sb 09 06 22.1 +0.6
PEMO LG Lg 09 06 26.1
PEMO Trac 09 06 27.9
comp=Z,474nm,0.1s
KGNO Kingston 1.95 225 ⇓PN Pb 09 06 00.2 +0.3
KGNO SN Sn 09 06 23.3 +1.9
KGNO Trac 09 06 27.6
comp=Z,271nm,0.1s
KGNO LG Lg 09 06 28.6
E54A Lac Daplat, Po 1.98 295 P Pb 09 06 00.8 +0.3
baz=116
E54A S Sb 09 06 26.1 +1.2
baz=116
CRLO Chalk River 1.99 283 ⇓PN Pb 09 06 00.6 -0.1
CRLO SN Sb 09 06 24.9 -0.4
CRLO Trac 09 06 29.5
comp=Z,1µm,0.2s
D54A Lac Fusel, La 2.09 318 P Pb 09 06 02.5 +0.2
baz=139
D54A S Sb 09 06 29.7 +1.6
baz=139
E53A Dumoine, Ponti 2.27 290 P Pb 09 06 04.6 -0.8
baz=110,SNR=560
E53A S Sb 09 06 32.3 -0.9
baz=110
ACCN Adirondack Com 2.34 163 ePn Pb 09 06 06.0 -0.6
ACCN eSn Sb 09 06 34.2 -1.1
LBNH Lisbon 2.35 125 ePn Pb 09 06 06.5 -0.3
LBNH eSn Sb 09 06 36.3 +0.7
LBNH Lisbon 2.35 125 ⇓PN Pb 09 06 06.5 -0.3
LBNH SN Sn 09 06 34.1 +2.7
LBNH Trac 09 06 41.3
comp=Z,428nm,0.2s
LBNH LG Lg 09 06 41.7
LBNH Lisbon 2.35 125 P Pb 09 06 06.5 -0.3
baz=305
LBNH S Sb 09 06 36.4 +0.7
baz=305
DELO Deloro Mine 2.42 244 PN Pn 09 06 06.1 +2.4
DELO SN Sn 09 06 34.9 +1.9
DELO LG Lg 09 06 43.0
DELO Trac 09 06 46.2
comp=Z,356nm,0.1s
BANO Bancroft 2.43 257 ⇓PN Pn 09 06 06.6 +2.6
BANO SN Sn 09 06 34.7 +1.3
BANO LG Lg 09 06 43.2
BANO Trac 09 06 48.7
comp=Z,224nm,0.1s
ALGO Algonquin Park 2.44 279 PN Pn 09 06 06.7 +2.7
ALGO SN Sn 09 06 35.7 +2.0
ALGO LG Lg 09 06 44.7
ALGO Trac 09 06 45.9
comp=Z,1µm,0.1s
HNH Hanover 2.53 139 ePn Pb 09 06 08.8 -1.1
QCQ Quebec 2.58 62 ⇑PN Pb 09 06 09.4 -1.2
QCQ SN Sn 09 06 39.9 +3.0
QCQ Trac 09 06 46.5
comp=Z,369nm,0.2s
D53A Lac Vacive, Po 2.59 305 P Pn 09 06 09.4 +3.2
baz=125
D53A S Sn 09 06 40.5 +3.1
baz=125
BCLQ Boischatel 2.70 60 PN Pn 09 06 11.1 +3.5
BCLQ SN Sn 09 06 42.4 +2.3
BCLQ LG Lg 09 06 52.0
BCLQ Trac 09 06 52.7
comp=Z,196nm,0.1s
TRY Troy 2.97 167 ePn Pn 09 06 15.2 +3.8
TRY eSn Sb 09 06 53.9 +0.3
FFD Franklin Falls 3.01 135 ePn Pn 09 06 15.4 +3.5
VLDQ Val d'Or 3.16 323 ePn Pb 09 06 19.9 -0.8
VLDQ ePb Pg 09 06 27.5 +2.1
VLDQ eSg Sg 09 07 09.9 +3.5
VLDQ Val d'Or 3.16 323 ⇓PN Pb 09 06 19.9 -0.8
VLDQ SN Sb 09 06 59.0 -0.1
VLDQ LG Lg 09 07 15.3
VLDQ Trac 09 07 15.8
comp=Z,288nm,0.2s
EEO Eldee 3.27 290 PN Pn 09 06 18.6 +3.1
EEO SN Sn 09 06 55.4 +1.2
EEO Trac 09 07 15.0
comp=Z,383nm,0.3s
DAQ Lac Daran 3.28 43 PN Pn 09 06 18.6 +3.0
DAQ SN Sn 09 06 57.4 +2.9
DAQ Trac 09 07 12.4
comp=Z,389nm,0.2s
F52A Sundridge 3.32 275 P Pn 09 06 18.9 +2.8
baz=92,SNR=39
SADO Sadowa 3.33 257 ePn Pn 09 06 18.3 +2.0
SADO ePb Pb 09 06 23.8 +0.3
SADO eSg Sb 09 07 07.7 +3.9
SADO Sadowa 3.33 257 PN Pn 09 06 18.2 +2.0
SADO SN Sn 09 06 57.1 +1.5
SADO Trac 09 07 11.4
comp=Z,186nm,0.1s
SADO LG Lg 09 07 12.2
A54 Misere 3.42 56 PN Pn 09 06 20.5 +3.0
A54 SN Sn 09 07 00.5 +2.8
A54 LG Lg 09 07 14.1
A54 Trac 09 07 18.3
comp=Z,165nm,0.2s
DRWO Darlington Wes 3.43 241 SN Sn 09 06 58.9 +0.9
DRWO LG Lg 09 07 16.1
LMQ La Malbaie 3.51 55 PN Pn 09 06 21.8 +3.0
LMQ SN Sn 09 07 01.9 +1.8
LMQ LG Lg 09 07 18.5
LMQ Trac 09 07 22.6
comp=Z,110nm,0.1s
BINY Binghamton 3.57 197 ePn Pn 09 06 23.2 +3.5
BINY eSg Sb 09 07 15.0 +4.2
BINY Binghamton 3.57 197 PN Pn 09 06 22.9 +3.2
BINY SN Sn 09 07 01.7 0.0
BINY LG Lg 09 07 17.9
BINY Binghamton 3.57 197 P Pn 09 06 22.5 +2.8
baz=15
BINY S Sn 09 07 03.6 +2.0
baz=15
PKRO Pickering 3.60 244 PN Pn 09 06 22.0 +2.1
PKRO SN Sn 09 07 03.0 +0.9
PKRO LG Lg 09 07 21.4
WVL Waterville 3.65 105 ePn Pn 09 06 24.8 +4.1
WVL eSg Sb 09 07 18.4 +5.2
A16 Riviere Ouelle 3.66 58 PN Pn 09 06 24.4 +3.5
A16 SN Sn 09 07 06.1 +2.4
A16 LG Lg 09 07 21.9
A16 Trac 09 07 26.0
comp=Z,117nm,0.2s
MEDO Medina 3.71 230 PN Pn 09 06 23.1 +1.7
MEDO SN Sn 09 07 04.7 -0.2
MEDO Trac 09 07 21.9
comp=Z,181nm,0.2s
MEDO LG Lg 09 07 23.2
QUA2 Belchertown 3.72 153 ePn Pn 09 06 24.9 +3.2
A61 Sainte Mathild 3.73 55 PN Pn 09 06 24.7 +3.0
A61 SN Sn 09 07 07.4 +2.1
A61 LG Lg 09 07 25.2
A61 Trac 09 07 28.5
comp=Z,84nm,0.1s
PKME Peaks-Kenny Pk 3.75 94 ePn Pn 09 06 25.8 +3.7
PKME Peaks-Kenny Pk 3.75 94 PN Pn 09 06 25.0 +2.9
PKME SN Sn 09 07 07.0 +1.1
PKME LG Lg 09 07 24.3
PKME Trac 09 07 28.6
comp=Z,436nm,0.3s
PKME Peaks-Kenny Pk 3.75 94 P Pn 09 06 25.0 +2.9
baz=276
DMCQ Dolbeau-Mistas 3.75 26 PN Pn 09 06 25.1 +3.0
DMCQ SN Sn 09 07 08.3 +2.3
DMCQ Trac 09 07 27.0
comp=Z,343nm,0.2s
DMCQ LG Lg 09 07 27.6
LSQQ Lebel-sur-Quev 3.79 336 PN Pn 09 06 25.3 +2.7
LSQQ SN Sn 09 07 08.3 +1.3
LSQQ Trac 09 07 25.1
comp=Z,19nm,0.0s
LSQQ LG Lg 09 07 26.8
HRV Adam Dziewonsk 3.81 144 ePn Pn 09 06 25.8 +2.8
HRV Adam Dziewonsk 3.81 144 P Pn 09 06 25.5 +2.5
baz=325
A64 Saint Simeon 3.91 54 PN Pn 09 06 27.1 +2.8
A64 SN Sn 09 07 11.6 +1.8
A64 LG Lg 09 07 29.6
A64 Trac 09 07 30.5
comp=Z,148nm,0.2s
TORO Toronto--Lesli 3.94 241 PN Pn 09 06 26.5 +1.8
TORO SN Sn 09 07 11.1 +0.4
TORO LG Lg 09 07 32.8
TORO Trac 09 07 38.6
comp=Z,601nm,0.1s
KLBO Killbear Provi 3.96 268 PN Pn 09 06 25.9 +0.9
KLBO SN Sn 09 07 10.0 -1.1
KLBO LG Lg 09 07 27.8
KLBO Trac 09 07 30.1
comp=Z,295nm,0.2s
A21 Saint Andre 3.96 57 PN Pn 09 06 28.1 +3.1
A21 SN Sn 09 07 12.9 +1.8
A21 LG Lg 09 07 34.4
A21 Trac 09 07 35.2
comp=Z,199nm,0.2s
WES Weston 4.01 143 ePn Pn 09 06 28.6 +3.0
STCO Saint Catharin 4.08 235 PN Pn 09 06 28.6 +2.1
STCO SN Sn 09 07 14.5 +0.5
STCO LG Lg 09 07 35.2
KSPA Keystone Colle 4.16 192 ePn Pn 09 06 31.5 +3.8
CLWO Collingwood 4.21 256 PN Pn 09 06 30.3 +1.8
CLWO SN Sn 09 07 17.5 +0.1
CLWO LG Lg 09 07 38.8
CLWO Trac 09 07 39.5
comp=Z,401nm,0.2s
CHGQ Chibougamau 4.29 2 PN Pn 09 06 32.8 +3.4
CHGQ SN Sn 09 07 21.9 +2.7
CHGQ Trac 09 07 41.8
comp=Z,102nm,0.1s
CHGQ LG Lg 09 07 41.8
BRYW Bryant College 4.32 148 ePn Pn 09 06 33.0 +3.1
E50A Wahnapitae 4.35 283 P Pn 09 06 33.3 +2.9
baz=99
E50A S Sn 09 07 22.6 +1.9
baz=99
ACTO Acton 4.40 245 PN Pn 09 06 32.7 +1.7
ACTO SN Sn 09 07 22.1 +0.3
ACTO LG Lg 09 07 44.2
KILO Kirkland Lake 4.53 311 PN Pn 09 06 35.7 +3.0
KILO SN Sn 09 07 26.0 +0.9
KILO LG Lg 09 07 48.7
KILO Trac 09 07 56.2
comp=Z,71nm,0.2s
ODNJ Ogdensburg 4.54 180 ePn Pn 09 06 36.4 +3.4
TYNO Tyneside 4.55 238 PN Pn 09 06 34.6 +1.5
TYNO SN Sn 09 07 26.0 +0.3
TYNO LG Lg 09 07 48.1
MATQ Matagami 4.61 335 PN Pn 09 06 36.7 +2.8
MATQ SN Sn 09 07 27.1 -0.1
MATQ LG Lg 09 07 49.5
MATQ Trac 09 08 00.0
comp=Z,97nm,0.3s
PAL Palisades 4.65 174 ePn Pn 09 06 38.4 +4.0
PAL Palisades 4.65 174 P Pn 09 06 37.7 +3.3
baz=353
PQI Presque Isle 4.69 75 ePn Pn 09 06 37.5 +2.6
N59A State Game Lan 4.79 191 ePn Pn 09 06 39.4 +3.0
N59A State Game Lan 4.79 191 P Pn 09 06 39.1 +2.7
baz=9.3
N59A S Sn 09 07 32.4 +0.8
baz=9.3
BMRO Meriville Lake 4.80 260 PN Pn 09 06 38.4 +1.9
BMRO SN Sn 09 07 30.9 -0.9
BMRO LG Lg 09 07 55.0
BMRO Trac 09 07 56.0
comp=Z,224nm,0.3s
SUNO Sudbury Onapin 4.80 285 PN Pn 09 06 38.6 +2.1
SUNO SN Sn 09 07 31.3 -0.6
SUNO Trac 09 07 57.6
comp=Z,132nm,0.2s
SUNO LG Lg 09 07 58.5
BWLO Walkerton 4.89 254 PN Pn 09 06 39.5 +1.7
BWLO SN Sn 09 07 34.4 +0.3
BWLO LG Lg 09 08 01.4
BWLO Trac 09 08 03.7
comp=Z,83nm,0.1s
TOBO Tobermory, Bru 4.89 268 PN Pn 09 06 39.8 +2.0
TOBO SN Sn 09 07 34.1 0.0
TOBO LG Lg 09 08 00.3
TOBO Trac 09 08 02.0
comp=Z,312nm,0.4s
BRCO Bruce Peninsul 5.06 257 PN Pn 09 06 42.5 +2.5
BRCO SN Sn 09 07 38.1 0.0
BRCO LG Lg 09 08 04.3
BRCO Trac 09 08 10.9
comp=Z,341nm,0.2s
LUPA Lehigh Univers 5.06 187 ePn Pn 09 06 41.8 +1.7
MCA4 McAdam 4 5.10 88 PN Pn 09 06 43.3 +2.7
MCA4 SN Sn 09 07 38.8 -0.4
MCA4 Trac 09 08 10.8
comp=Z,96nm,0.3s
EMMW East Machias 5.13 98 ePn Pn 09 06 43.6 +2.6
EMMW East Machias 5.13 98 PN Pn 09 06 43.5 +2.5
EMMW SN Sn 09 07 39.9 0.0
EMMW LG Lg 09 08 11.4
D48A Paudash Townsh 5.22 290 P Pn 09 06 44.4 +2.0
baz=106,SNR=13
D48A S Sn 09 07 42.1 -0.1
baz=106
ERPA Erie 5.25 230 ePn Pn 09 06 43.9 +1.2
ERPA Erie 5.25 230 PN Pn 09 06 45.1 +2.5
ERPA SN Sn 09 07 42.1 -0.7
ERPA LG Lg 09 08 12.2
ERPA Erie 5.25 230 S Sn 09 07 43.8 +0.9
baz=46
BASO Ashfield 5.28 255 PN Pn 09 06 45.3 +2.1
BASO SN Sn 09 07 43.1 -0.7
BASO Trac 09 08 13.0
comp=Z,294nm,0.3s
BASO LG Lg 09 08 13.2
ELFO Elginfield 5.40 246 PN Pn 09 06 46.0 +1.3
ELFO SN Sn 09 07 46.8 +0.2
ELFO LG Lg 09 08 18.9
ELFO Trac 09 08 19.1
comp=Z,240nm,0.2s
GGN Saint George 5.49 93 PN Pn 09 06 48.2 +2.3
GGN SN Sn 09 07 49.5 +0.9
GGN LG Lg 09 08 21.2
GGN Trac 09 08 24.3
comp=Z,64nm,0.2s
M54A Oil Creek Stat 5.53 224 ePn Pn 09 06 48.3 +1.8
M54A Oil Creek Stat 5.53 224 P Pn 09 06 48.4 +1.9
baz=40,SNR=28
SSPA Standing Stone 5.54 207 ePn Pn 09 06 49.8 +3.1
SSPA Standing Stone 5.54 207 P Pn 09 06 48.8 +2.1
baz=24
SSPA S Sn 09 07 49.8 -0.4
baz=24
MALO McAlpine Lake 5.61 323 PN Pn 09 06 49.7 +2.1
MALO SN Sn 09 07 51.2 -0.4
MALO Trac 09 08 23.9
comp=Z,42nm,0.3s
PAGS Pennsylvania G 5.62 197 ePn Pn 09 06 49.6 +1.8
ALLY Alegheny Colle 5.66 227 SN Sn 09 07 52.5 -0.6
ALLY LG Lg 09 08 24.2
CNQ Baie Comeau 5.75 48 PN Pn 09 06 52.0 +2.6
CNQ SN Sn 09 07 54.9 -0.2
CNQ Trac 09 08 36.2
comp=Z,78nm,0.2s
MVL Millersville 5.77 194 ePn Pn 09 06 53.1 +3.2
GSQ Grosses Roches 6.06 55 PN Pn 09 06 56.6 +2.8
GSQ SN Sn 09 08 04.5 +1.7
GSQ Trac 09 08 45.6
comp=Z,55nm,0.3s
D47A Chapleau 6.06 287 P Pn 09 06 55.3 +1.5
baz=101,SNR=8.9
D47A S Sn 09 08 03.1 +0.1
baz=101
I49A Point Hope 6.10 257 P Pn 09 06 56.1 +1.8
baz=72,SNR=27
I49A S Sn 09 08 02.4 -1.4
baz=72
O56A Blue Knob Stat 6.10 210 ePn Pn 09 06 58.4 +3.9
O56A Blue Knob Stat 6.10 210 P Pn 09 06 57.1 +2.7
baz=27
O56A S Sn 09 08 03.3 -0.6
baz=27
N54A Moraine State 6.10 222 ePn Pn 09 06 57.5 +3.0
N54A Moraine State 6.10 222 P Pn 09 06 56.0 +1.6
baz=38,SNR=34
N54A S Sn 09 08 02.9 -1.1
baz=38
BATG Bathurst New B 6.12 71 ePn Pn 09 06 56.8 +2.1
BATG Bathurst New B 6.12 71 PN Pn 09 06 56.6 +1.9
BATG SN Sn 09 08 02.0 -2.4
BATG Trac 09 08 11.9
comp=Z,15nm,0.1s
NMSQ Nemaska Statio 6.16 352 PN Pn 09 06 57.2 +2.1
NMSQ SN Sn 09 08 03.7 -1.6
NMSQ LG Lg 09 08 39.9
NMSQ Trac 09 08 42.6
comp=Z,96nm,0.3s
MNQ Manicouagan 6.26 36 PN Pn 09 06 58.4 +1.7
MNQ SN Sn 09 08 07.6 -0.3
MNQ Trac 09 08 44.2
comp=Z,174nm,0.4s
ICQ Pointe Anglais 6.30 49 PN Pn 09 06 59.3 +2.3
ICQ SN Sn 09 08 07.8 -0.9
ICQ LG Lg 09 08 46.3
ICQ Trac 09 08 47.0
comp=Z,105nm,0.3s
SDMD Soldier's Deli 6.43 196 ePn Pn 09 07 01.8 +2.9
J49A Marlette 6.52 253 S Sn 09 08 13.9 -0.3
baz=67
KAPO Kapuskasing 6.58 308 PN Pn 09 07 03.0 +2.1
KAPO SN Sn 09 08 12.6 -3.1
KAPO Trac 09 08 53.3
comp=Z,56nm,0.2s
ELNB Elgin, New Bru 6.61 85 SN Sn 09 08 15.2 -1.2
ELNB LG Lg 09 08 56.6
D46A Sault St. Mari 6.67 284 P Pn 09 07 04.0 +1.9
baz=98,SNR=15
LMN Caledonia Moun 6.85 85 ePn Pn 09 07 07.6 +2.9
LMN Caledonia Moun 6.85 85 PN Pn 09 07 06.9 +2.2
LMN SN Sn 09 08 21.4 -1.1
LMN LG Lg 09 09 07.3
LMN Trac 09 09 12.6
comp=Z,80nm,0.8s
K49A Clarkson 6.97 249 P Pn 09 07 07.0 +0.6
baz=63
SMQ Clarke City 7.01 46 PN Pn 09 07 09.3 +2.4
SMQ SN Sn 09 08 23.7 -2.6
SMQ Trac 09 09 13.2
comp=Z,55nm,0.3s
MCWV Mont Chateau 7.11 215 ePn Pn 09 07 10.0 +1.8
MCWV Mont Chateau 7.11 215 P Pn 09 07 09.6 +1.4
baz=31
N51A Ashland 7.38 233 ePn Pn 09 07 14.2 +2.3
K48A Perry 7.40 251 P Pn 09 07 13.4 +1.1
baz=65
O52A Adamsville 7.66 227 ePn Pn 09 07 16.7 +0.9
O52A Adamsville 7.66 227 P Pn 09 07 17.1 +1.4
baz=42,SNR=12
WEMQ Wemindji, Queb 7.75 345 PN Pn 09 07 18.4 +1.4
WEMQ SN Sn 09 08 42.5 -1.9
WEMQ LG Lg 09 09 29.1
WEMQ Trac 09 09 35.8
comp=Z,48nm,0.3s
P53A Whipple 7.92 222 ePn Pn 09 07 21.5 +2.1
P53A Whipple 7.92 222 P Pn 09 07 21.3 +1.9
baz=37
E44A Grand Marais A 7.93 281 ePn Pn 09 07 22.5 +3.0
L48A N Adams 8.02 246 P Pn 09 07 21.7 +1.1
baz=60,SNR=9.5
R58B Mineral 8.04 199 P Pn 09 07 22.8 +1.8
baz=16
K47A Vermontville 8.05 252 P Pn 09 07 22.0 +0.9
baz=65
P52A Corning 8.17 225 P Pn 09 07 23.9 +1.1
baz=40
ACSO Alum Creek Sta 8.18 232 ePn Pn 09 07 24.7 +1.8
ACSO eSn Sn 09 08 51.5 -3.6
N49A Columbus Grove 8.43 239 ePn Pn 09 07 27.1 +0.8
N49A eSn Sn 09 09 01.4 +0.2
PNPO Pukaskwa Natio 8.51 295 PN Pn 09 07 29.3 +2.0
PNPO SN Sn 09 09 00.4 -2.6
PNPO LG Lg 09 09 50.7
PNPO Trac 09 09 52.4
comp=Z,66nm,0.5s
O50A Cable 8.60 234 P Pn 09 07 28.8 +0.2
baz=48
E43A Lone Tree Farm 8.67 279 ePn Pn 09 07 31.3 +1.8
Q52A Bidwell 8.76 223 P Pn 09 07 31.9 +1.1
baz=38,SNR=9.3
WBHL Wabush 8.86 32 PN Pn 09 07 35.6 +3.5
WBHL SN Sn 09 09 08.7 -2.9
WBHL LG Lg 09 10 05.0
WBHL Trac 09 10 06.9
comp=Z,75nm,0.4s
O49A Covington 8.98 236 ePn Pn 09 07 33.9 0.0
NATG Natashquan Que 9.17 55 PN Pn 09 07 38.2 +1.8
NATG SN Sn 09 09 16.4 -2.9
NATG Trac 09 10 20.4
comp=Z,744nm,2.3s
GBN Guysborough 9.19 87 ePn Pn 09 07 38.0 +1.3
GBN Guysborough 9.19 87 PN Pn 09 07 38.6 +1.9
GBN SN Sn 09 09 16.3 -3.5
GBN Trac 09 09 51.0
comp=Z,982nm,2.9s
G43A Wallace 9.21 272 ePn Pn 09 07 38.9 +1.9
Q51A Peebles 9.24 228 ePn Pn 09 07 38.0 +0.4
Q51A Peebles 9.24 228 P Pn 09 07 38.1 +0.6
baz=42
GTO Geraldton 9.30 301 PN Pn 09 07 39.3 +1.0
GTO SN Sn 09 09 17.7 -4.8
GTO Trac 09 09 38.4
comp=Z,13nm,0.2s
VIMO Victor Mine 9.35 324 SN Sn 09 09 19.8 -3.9
VIMO LG Lg 09 10 21.8
BLA Blacksburg 9.48 209 P Pn 09 07 42.4 +1.6
baz=25
Q50A Georgetown 9.71 229 P Pn 09 07 45.1 +1.2
baz=43
CHEG Cheticamp, Nov 9.72 78 PN Pn 09 07 45.4 +1.3

CHEG				SN	Sn	09 09 28.9	-4.0
CHEG				Trac		09 10 20.5	
	comp=Z,1µm,3.1s						
G42A	Mountain	9.74	273	ePn	Pn	09 07 45.5	+1.3
G42A	Mountain	9.74	273	P	Pn	09 07 45.0	+0.8
	baz=83,SNR=5.7						
D41A	Chassel	9.77	283	ePn	Pn	09 07 46.3	+1.6
R51A	Hillsboro	9.92	226	P	Pn	09 07 48.4	+1.7
	baz=40						
O47A	Sheridan	10.05	242	P	Pn	09 07 49.6	+1.0
	baz=54						
Q49A	Aurora	10.10	233	P	Pn	09 07 49.2	0.0
	baz=46						
F41A	Three Lakes	10.16	276	ePn	Pn	09 07 51.0	+1.0
S52A	Salyersville	10.16	222	P	Pn	09 07 51.4	+1.3
	baz=36						
K43A	Burlington	10.29	258	ePn	Pn	09 07 52.4	+0.5
I42A	Draeger Farm,	10.33	265	ePn	Pn	09 07 54.2	+1.8
S51A	Beattyville	10.44	223	P	Pn	09 07 55.1	+1.2
	baz=37						
SCHQ	Schefferville	10.46	25	ePn	Pn	09 07 57.0	+2.9
SCHQ	Schefferville	10.46	25	PN	Pn	09 07 56.0	+1.9
SCHQ				SN	Sn	09 09 46.1	-4.8
SCHQ				LG	Lg	09 10 54.5	
SCHQ				Trac		09 10 56.2	
	comp=Z,96nm,0.7s						
TBO	Thunder Bay	10.54	292	PN	Pn	09 07 53.4	-1.8
TBO				SN	Sn	09 09 45.7	-7.2
TBO				Trac		09 10 59.5	
	comp=Z,17nm,0.3s						
P47A	Martinsville	10.57	239	P	Pn	09 07 56.3	+0.7
	baz=51						
T52A	Hallie	10.59	219	P	Pn	09 07 57.1	+1.1
	baz=34						
M44A	Midewin, Midew	10.65	251	ePn	Pn	09 07 57.6	+0.9
G40A	Rib Lake	10.97	274	ePn	Pn	09 08 01.6	+0.4
U53A	Fall Branch	11.04	216	P	Pn	09 08 03.0	+0.9
	baz=30						
T51A	Gray	11.15	222	P	Pn	09 08 04.7	+1.2
	baz=36						
S49A	Springfield	11.19	229	P	Pn	09 08 05.6	+1.5
	baz=42						
J41A	Loganville	11.25	264	P	Pn	09 08 06.5	+1.6
	baz=73						
TZTN	Tazewell	11.31	220	ePn	Pn	09 08 07.5	+1.7
TZTN	Tazewell	11.31	220	P	Pn	09 08 07.3	+1.5
	baz=34						
P45A	Graceland, Par	11.45	242	ePn	Pn	09 08 07.4	-0.2
L42A	Oliver, Polo	11.48	257	ePn	Pn	09 08 08.4	+0.4
T50A	Nancy	11.54	225	P	Pn	09 08 09.6	+0.7
	baz=38						
JFWS	Jewell Farm	11.55	262	ePn	Pn	09 08 10.1	+1.0
JFWS	Jewell Farm	11.55	262	PN	Pn	09 08 10.2	+1.1
U51A	La Follette	11.66	221	P	Pn	09 08 11.7	+1.1
	baz=34						
K41A	Shullsburg	11.69	261	P	Pn	09 08 12.1	+1.1
	baz=70						
S48A	Wiedeman Farm,	11.70	231	P	Pn	09 08 11.2	+0.2
	baz=43						
V53A	Saluda	11.74	215	ePn	Pn	09 08 11.6	-0.1
V53A	Saluda	11.74	215	P	Pn	09 08 12.2	+0.5
	baz=29						
J40A	Soldiers Grove	11.74	265	P	Pn	09 08 13.0	+1.3
	baz=74						
EYMN	Ely	11.82	287	ePn	Pn	09 08 12.7	0.0
EYMN	Ely	11.82	287	PN	Pn	09 08 13.4	+0.7
EYMN				SN	Sn	09 10 17.6	-6.6
EYMN				Trac		09 11 43.1	
	comp=Z,0.0nm,0.8s						
T49A	Edmonton	11.83	228	ePn	Pn	09 08 12.8	0.0
HDIL	Hopedale	11.88	250	ePn	Pn	09 08 13.9	+0.4
V52A	Sevierville	11.92	218	ePn	Pn	09 08 14.3	+0.2
V52A	Sevierville	11.92	218	P	Pn	09 08 15.2	+1.1
	baz=32						
PKLO	Pickle Lake	11.97	305	PN	Pn	09 08 14.3	-0.4
PKLO				SN	Sn	09 10 21.4	-6.4
PKLO				Trac		09 11 34.7	
	comp=Z,82nm,1.1s						
PKLO				LG	Lg	09 11 40.3	
ATKO	Atikokan Iron	11.99	292	PN	Pn	09 08 15.0	-0.1
ATKO				SN	Sn	09 10 20.6	-8.0
ATKO				LG	Lg	09 11 46.4	
ATKO				Trac		09 12 12.7	
	comp=Z,593nm,3.5s						
DRLN	Deer Lake	12.12	66	ePn	Pn	09 08 18.0	+1.2
DRLN	Deer Lake	12.12	66	PN	Pn	09 08 18.0	+1.2
DRLN				Trac		09 12 09.5	
	comp=Z,2µm,5.7s						
TKL	Tuckaleechee C	12.15	218	ePn	Pn	09 08 17.0	-0.3
I39A	Houston	12.17	268	ePn	Pn	09 08 18.0	+0.4
V51A	Loudon	12.28	220	ePn	Pn	09 08 18.9	-0.2
BG3	Lake Jocassee	12.38	214	ePn	Pn	09 08 19.7	-0.7
L40A	Anamosa	12.52	259	ePn	Pn	09 08 22.4	+0.1
SOLO	Sioux Lookout	12.54	297	SN	Sn	09 10 34.5	-7.4
SOLO				Trac		09 12 02.0	
	comp=Z,29nm,0.5s						
CPCT	Cooper Cave	12.65	220	ePn	Pn	09 08 24.8	+0.6
W52A	Murphy	12.69	217	ePn	Pn	09 08 25.4	+0.7
T47A	Sharon Grove	12.76	232	ePn	Pn	09 08 25.7	+0.2
V49A	McMinnville	13.05	225	P	Pn	09 08 29.7	+0.1
	baz=38						
P42A	Winchester	13.07	248	ePn	Pn	09 08 29.5	-0.4
W50A	Signal Mountai	13.22	222	ePn	Pn	09 08 32.1	+0.1
NANL	Nain	13.57	32	PN	Pn	09 08 36.5	-0.1
NANL				SN	Sn	09 11 00.4	-6.5
NANL				Trac		09 12 36.5	
	comp=Z,4.9nm,0.1s						
MKVL	Makkovik	13.62	40	PN	Pn	09 08 37.8	+0.5
WVT	Waverly	13.78	231	ePn	Pn	09 08 38.0	-1.5
N39A	Derby Farms, D	13.88	256	ePn	Pn	09 08 43.3	+2.3
GOGA	Godfrey	13.98	212	ePn	Pn	09 08 42.3	0.0
KAJQ	Kangiqsualujju	14.10	19	PN	Pn	09 08 44.0	+0.2
KAJQ				SN	Sn	09 11 11.5	-8.4
KAJQ				LG	Lg	09 12 51.2	
CCM	Cathedral Cave	14.52	244	ePn	Pn	09 08 48.8	-0.8
X48A	Hartselle	14.66	225	ePn	Pn	09 08 50.4	-1.2
PLAL	Pickwick Lake	14.77	225	ePn	Pn	09 08 50.8	-2.3
Y49A	Blount Mountai	14.84	222	ePn	Pn	09 08 55.4	+1.3
ULM	Lac du Bonnet	14.98	296	ePn	Pn	09 08 58.2	+2.4
ULM	Lac du Bonnet	14.98	296	PN	Pn	09 08 54.0	-1.7
ULM				Trac		09 13 15.4	
	comp=Z,75nm,1.1s						
255A	Hazlehurst	14.99	207	ePn	Pn	09 08 57.1	+1.1
T42A	Van Buren	15.06	241	ePn	Pn	09 08 56.4	-0.5
Z50A	Ashland	15.12	219	ePn	Pn	09 08 58.5	+0.6
	33nm,2.0s						

*IDC **06** 09:13:56.6±1.0, 41°.42N×112°.64W, h0km, mb1 3.3/3, mb1mx3.2/50, mbtmp2.7/3, ML3.6/3, Error ellipse: s-maj=28.6km s-min=6.9km az=148.0*
*NEIC **06** 09:13:57.7±0.0, 41°.29N×112°.72W, h9km, ML3.1(SLC), After SLC.*
NEIC Felt at Centerville, Clearfield and Corinne.
ISC 06 09:13:58.1±1.1, 41°27N±0°02×112°70W±0°03, h7km±9km, n102, σ1§22/113, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPUT	South Promonto	0.19	78	ePg	Pg	09 14 02.4	+0.4
SPUT				eSg	Sg	09 14 05.4	+0.6
BGU	Big Grassy Mou	0.42	216	ePg	Pg	09 14 06.3	-0.1
HVU	Hansel Valley	0.51	354	ePg	Pg	09 14 07.8	-0.3
HWUT	Hardware Ranch	0.92	68	ePg	Pg	09 14 15.2	-0.6
HWUT				eSg	Sg	09 14 26.6	-1.0
CTU	Camp Tracy	0.92	128	ePg	Pg	09 14 15.6	-0.2
TCUT	Toone Canyon	0.99	98	ePg	Pg	09 14 17.1	0.0
TCUT				eSg	Sg	09 14 30.2	+0.4
DUG	Dugway, Tooele	1.08	185	ePg	Pg	09 14 18.2	-0.6
DUG				eSg	Sg	09 14 32.1	-0.6
JLU	Jordanelle	1.16	125	ePg	Pg	09 14 19.5	-0.8
JLU				eSg	Sg	09 14 34.8	-0.5
NLU	North Lily Min	1.40	160	ePn	Pn	09 14 23.0	-1.2
NLU				eSn	Sb	09 14 40.9	-1.8
MPU	Maple Canyon	1.49	147	ePn	Pn	09 14 24.4	-1.1
AHID	Auburn Hatcher	1.91	38	ePn	Pn	09 14 30.6	-0.6
TMUT	Trail Mountain	2.28	149	ePn	Pn	09 14 36.1	-0.3
P17A	Butcher Ranch,	2.34	140	ePn	Pn	09 14 37.1	0.0
P18A	Preston Nutter	2.49	130	ePn	Pn	09 14 40.0	+0.7
REDW	Red Top Meadow	2.50	33	ePn	Pn	09 14 39.1	-0.3
TPAW	Teton Pass	2.57	30	ePn	Pn	09 14 40.1	-0.3
HLID	Hailey	2.62	332	ePn	Pn	09 14 41.0	0.0
HLID				eSn	Sn	09 15 10.8	-2.3
SNOW	Snow King Moun	2.62	33	ePn	Pn	09 14 41.1	0.0
TCRU	Three Creeks R	2.66	176	ePn	Pn	09 14 41.4	-0.2
FXWY	Fox Creek	2.67	27	ePn	Pn	09 14 41.8	+0.1
SRU	San Rafael Swe	2.73	142	ePn	Pn	09 14 42.5	+0.1
BW06	Boulder Array	2.78	56	ePn	Pn	09 14 43.6	+0.4
PD31	Pinedale Array	2.78	56	ePn	Pn	09 14 43.0	-0.2
PDAR	Pinedale Array	2.78	56	Pn	Pn	09 14 43.4	+0.1
	4.9nm,0.3s,baz=233,slow=14,SNR=42						
PDAR				Lg	Lg	09 15 19.0	
	6.2nm,0.3s,baz=215,slow=18,SNR=6.0						
PDAR	Pinedale Array	2.78	56	ePn	Pn	09 14 43.2	0.0
MSU	Marysvale	2.78	172	ePn	Pn	09 14 43.1	-0.1
LOHW	Long Hollow	2.81	33	ePn	Pn	09 14 43.3	-0.3
MOOW	Moose Ponds	2.87	30	ePn	Pn	09 14 44.2	-0.2
PSUT	Pine Spring	2.87	198	ePn	Pn	09 14 44.9	+0.4
IMW	Indian Meadow	2.93	26	ePn	Pn	09 14 44.9	-0.4
FLWY	Flagg Ranch	3.17	27	ePn	Pn	09 14 48.9	+0.2
MTPU	Mount Pierson	3.25	173	ePn	Pn	09 14 50.1	+0.4
YPP	Pitchstone Pla	3.31	24	ePn	Pn	09 14 51.4	+0.8
YFT	Old Faithful	3.46	23	ePn	Pn	09 14 53.2	+0.6
H17A	Grant Village	3.49	26	ePg	Pb	09 14 59.9	-0.5
BMN	Battle Mountai	3.53	258	ePn	Pn	09 14 52.9	-0.6
BMN				ePg	Pb	09 15 00.0	-0.9
MCMT	McKenzie Canyo	3.56	358	ePn	Pn	09 14 53.6	-0.3
MCMT				ePg	Pb	09 14 59.5	-2.0
O20A	White River Ci	3.58	107	ePn	Pn	09 14 53.7	-0.4
O20A				ePg	Pb	09 15 01.3	-0.4
YMR	Madison River	3.63	20	ePn	Pn	09 14 56.3	+1.5
YHB	Horse Butte	3.65	17	ePn	Pn	09 14 56.1	+0.9
R11A	Troy Canyon, C	3.67	218	ePn	Pn	09 14 56.5	+1.2
QLMT	Earthquake Lak	3.68	14	ePn	Pn	09 14 55.5	-0.1
SZCU	Shurtz Canyon	3.68	185	ePn	Pn	09 14 56.1	+0.5
CCUT	Cedar City	3.75	188	ePn	Pn	09 14 57.7	+1.1
YHH	Holmes Hill	3.77	20	ePn	Pn	09 14 58.1	+1.2
PKCU	Pink Cliffs	3.83	175	ePn	Pn	09 14 59.3	+1.6
PV09	Paradox Valley	3.90	134	ePn	Pn	09 14 59.3	+0.7
PV21	Cone Mtn., Par	3.94	132	ePn	Pn	09 15 01.0	+1.8
PV23	Carpenter Ridg	4.00	134	ePn	Pn	09 15 01.9	+1.9
PV10	Paradox Valley	4.04	135	ePn	Pn	09 15 02.0	+1.5
PV14	Lion Creek, Pa	4.05	134	ePn	Pn	09 15 01.9	+1.3
PV22	Blue Mesa, Par	4.06	131	ePn	Pn	09 15 02.4	+1.5
DLMT	Dillon	4.09	1	ePn	Pn	09 15 01.4	+0.2
PV20	West Nyswonger	4.10	134	ePn	Pn	09 15 03.5	+2.2
PV19	Morning Glory	4.12	135	ePn	Pn	09 15 03.8	+2.2
RWWY	Rawlins	4.15	82	ePn	Pn	09 15 03.5	+1.5
PV17	East Wray Mesa	4.15	135	ePn	Pn	09 15 02.6	+0.6
PV16	Nyswonger Mesa	4.15	134	ePn	Pn	09 15 03.8	+1.7
PV11	David Mesa, Pa	4.18	134	ePn	Pn	09 15 03.9	+1.4
PV18	Skein Mesa, Pa	4.20	135	ePn	Pn	09 15 03.7	+0.9
PV12	Saucer Basin,	4.21	133	ePn	Pn	09 15 04.2	+1.4
PV03	Paradox Valley	4.23	134	ePn	Pn	09 15 04.7	+1.6
PV05	Paradox Valley	4.23	138	ePn	Pn	09 15 04.2	+1.1
KNB	Kanab	4.25	181	ePn	Pn	09 15 05.2	+1.8
LCMT	Little Creek M	4.27	186	ePn	Pn	09 15 02.8	-0.9
PV13	Radium Mtn., P	4.31	135	ePn	Pn	09 15 04.0	-0.3
PV02	Paradox Valley	4.32	134	ePn	Pn	09 15 05.4	+0.9
BOZ	Bozeman (W)	4.40	10	ePn	Pn	09 15 07.3	+2.0
PV01	Paradox Valley	4.47	133	ePn	Pn	09 15 07.2	+0.8
WVOR	Wild Horse Val	4.58	287	ePn	Pn	09 15 09.5	+1.6
RLMT	Red Lodge	4.60	32	ePn	Pn	09 15 09.5	+1.3
KVN	Kaiserville	4.69	244	ePn	Pn	09 15 10.4	+1.0
J08A	Circle Bar Ran	4.76	298	ePn	Pn	09 15 11.9	+1.6
K22A	Casper	4.81	71	ePn	Pn	09 15 12.0	+0.9
U15A	North Rim	4.84	176	ePn	Pn	09 15 13.5	+1.9
SMOO	Snowmass	4.86	114	ePn	Pn	09 15 13.9	+2.0
BMO	Blue Mountains	4.92	318	ePn	Pn	09 15 14.9	+2.5
NV11	Mina Array Sit	5.06	238	ePn	Pn	09 15 13.5	-1.0
N23A	Red Feather La	5.12	92	ePn	Pn	09 15 16.7	+1.3
TPNV	Topopah Spring	5.12	214	ePn	Pn	09 15 16.8	+1.5
SHPR	Sheep Range	5.13	203	ePn	Pn	09 15 16.8	+1.3
NV01	Mina Array Sit	5.16	238	ePn	Pn	09 15 17.1	+1.2
NV01				eSn	Sn	09 16 15.3	-0.5
NVAR	Mina Array Bea	5.16	238	Pn	Pn	09 15 17.1	+1.2
	0.4nm,0.3s,baz=50,slow=11,SNR=8.4						
NVAR				Pg	Pb	09 15 30.6	+1.9
	0.8nm,0.3s,baz=58,slow=14,SNR=9.6						
NVAR				Sn	Sn	09 16 16.5	+0.7
	2.1nm,0.3s,baz=320,slow=19,SNR=6.5						
NVAR				Lg	Lg	09 16 40.8	
	2.8nm,0.3s,baz=127,slow=30,SNR=6.5						
RYN	Ryan	5.19	241	ePn	Pn	09 15 18.4	+2.0
MVCO	Mesa Verde	5.20	140	ePn	Pn	09 15 18.0	+1.5
PAHR	Pah Rah Range	5.33	255	ePn	Pn	09 15 18.4	+0.2
PHWY	Pilot Hill	5.46	87	ePn	Pn	09 15 22.1	+2.0
YERR	Yerington	5.51	248	ePn	Pn	09 15 21.6	+1.0
ISCO	Idaho Springs	5.60	103	ePn	Pn	09 15 22.5	+0.5
MSO	Missoula	5.63	351	ePn	Pn	09 15 22.3	+0.1
VCNR	Virginia City	5.67	252	ePn	Pn	09 15 23.1	+0.2
PNTR	Pine Nut	5.71	250	ePn	Pn	09 15 23.0	-0.5
F10A	Beach Ranch, E	5.74	327	ePn	Pn	09 15 24.8	+1.1
MOD	Modoc Plateau	5.74	279	ePn	Pn	09 15 23.6	-0.2
S22A	4UR Ranch, Cre	5.74	126	ePn	Pn	09 15 24.5	+0.5
WUAZ	Wupatki	5.84	169	ePg	Pg	09 15 45.2	-4.6
	6.1nm,0.6s						
WAKR	Walker	5.87	244	ePn	Pn	09 15 26.2	+0.5
BEKR	Beckworth	6.00	259	ePn	Pn	09 15 27.3	-0.1
G08A	Pilot Rock	6.08	313	ePn	Pn	09 15 28.3	-0.2
NEW	Newport	7.67	337	Lg	Lg	09 17 52.9	
	0.1nm,0.3s,baz=72,slow=16,SNR=2.7						
ANMO	Albuquerque	8.00	140	Pg	Pb	09 16 23.7	+6.6
	0.1nm,0.3s,baz=330,slow=18,SNR=2.3						
ANMO				Lg	Lg	09 18 05.0	
	0.1nm,0.3s,baz=93,slow=6.3,SNR=5.3						
TXAR	Lajitas Array	14.00	145	Pn	Pn	09 17 20.0	+3.1
	0.0nm,0.3s,baz=332,slow=13,SNR=2.2						

*BJI **06** 09:25:13.0, 1°.19N×94°.57E, h10km, mb4.7/24, mB4.9/14, Ms4.1/5, Ms7 4.0/4*
*IDC **06** 09:25:17.7±0.9, 1°.84N×94°.41E, h0km, mb3.9/10, mb1 4.0/12, mb1mx3.8/45, mbtmp4.0/12, ML4.6/3, MS3.3/15, Ms1 3.3/15, ms1mx3.1/43, Error ellipse: s-maj=27.3km s-min=18.1km az=42.0*
*ISCJB **06** 09:25:19.4±0.3, 1°.88N±0°.04×94°.48E±0°.03, h20km, mb4.3/28, MS3.4/13, Error ellipse: s-maj=5.6km s-min=4.1km az=37.3*
*NEIC **06** 09:25:19.7±0.4, 1°.92N×94°.44E, h10km, mb4.6/11, Error ellipse: s-maj=7.7km s-min=4.7km az=203.0*
*DJA **06** 09:25:21.4±0.3, 2°N±3°×9°5E±°, h10km, M4.9/17, mb5.0/17, mB5.4/10, MLv5.0/16, Mw(mB)4.9/10*
ISC 06 09:25:21.2±0.6, 1°90N±0°06×94°53E±0°06, h20km, n111, σ1§13/98, mb4.4/28, MS3.4/13, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	1.87	74	P	Pn	09 25 52.8	+0.8
TPTI		2.98	63	P	Pn	09 26 07.2	-0.1
MLSI	Meulaboh, Aceh	3.01	38	P	Pn	09 26 07.2	-0.6
GSI	Gunungsitoli	3.10	101	ePn	Pn	09 26 10.2	+1.2
GSI				eSn	Sn	09 26 44.3	-1.2
GSI	Gunungsitoli	3.10	101	P	Pn	09 26 10.5	+1.5
KCSI	Kotacane, Aceh	3.62	63	P	Pn	09 26 17.6	+1.4
LHMI	Lhok Sumawe	4.10	36	ePn	Pn	09 26 23.5	+0.8
LHMI				eSn	Sn	09 27 10.6	+0.4
LHMI	Lhok Sumawe	4.10	36	P	Pn	09 26 23.9	+1.2
PBSI	Pulau Batu	4.22	117	P	Pn	09 26 26.5	+2.1
TSI	Tuntungan	4.34	68	P	Pn	09 26 26.7	+0.7
PSI	Prapat	4.48	78	Pn	Pn	09 26 28.9	+0.7
	6.2nm,0.3s,baz=360,slow=4.6,SNR=15						
PSI				Sn	Sn	09 27 14.9	-4.9
	14nm,0.3s,baz=0.4,slow=15,SNR=9.9						
PSI				LR	LR	09 27 36.2	
	comp=Z,85nm,19.5s,baz=272,slow=30						
PSI	Prapat	4.48	78	ePn	Pn	09 26 29.2	+1.1
PSI				eSn	Sn	09 27 16.8	-3.1
MNSI	Mandailing Nat	5.17	102	P	Pn	09 26 39.0	+1.6
	361nm,0.5s,13µm2.5nm						
PPI	Padang Panjang	6.32	112	P	Pn	09 26 55.6	+2.4
	295nm,0.5s,4µm1.2nm						
PDSI	Padang	6.56	115	P	Pn	09 26 57.7	+1.1
	76nm,0.6s,3µm0.4nm						
BKNI	Bangkinang	6.70	103	ePn	Pn	09 26 59.4	+0.9
BKNI	Bangkinang	6.70	103	P	Pn	09 26 58.2	-0.2
	136nm,0.5s,0.7nm						
IPM	Ipoh	6.98	68	ePn	Pn	09 27 02.9	+0.6
KULM	Kulim	6.98	61	ePn	Pn	09 27 02.4	+0.1
PKDT	Phuket	7.06	32	P	Pn	09 27 02.8	-0.7
PPSI	Pulau Pagai	7.17	130	P	Pn	09 27 06.6	+1.6
	67nm,0.5s,0.4nm						

TRTT	Trang	7.83	41	P	Pn	09 27 13.5	-0.5
	29nm,0.8s,0.1nm						
SKLT	Songkhla	8.02	49	P	Pn	09 27 16.7	+0.1
	79nm,0.7s,980nm0.3nm						
MASI	Maura Aman, Be	9.19	123	P	Pn	09 27 34.4	+1.6
	159nm,0.7s						
MYKOM	Kota Tinggi	9.32	90	ePn	Pn	09 27 35.4	+0.9
PBA	Port Blair	9.86	350	ePn	Pn	09 27 38.4	-3.5
PBA				eSn	Sn	09 29 23.1	-9.0
MNAI	Manna	10.47	126	ePn	Pn	09 27 51.7	+1.4
MNAI	Manna	10.47	126	P	Pn	09 27 52.5	+2.3
	299nm,1.2s						
MDSI	Maura Dua	11.54	123	P	Pn	09 28 06.5	+1.6
	32nm,0.6s,968nm						
PHET	Kaeng Krachan	12.05	25	P	Pn	09 28 12.9	+1.0
	8.1nm,0.6s						
SRDT	SRDT	13.18	20	P	Pn	09 28 28.9	+1.5
	30nm,1.3s,1µm						
SRAK	Srakaew	14.15	31	P	P	09 28 46.3	-1.7
UTHA	Uthaitani	14.42	19	P	Pn	09 28 44.5	+0.2
	14nm,0.9s,131nm						
PALK	Pallekele	14.78	292	Pn	Pn	09 28 47.7	-1.6
	2.8nm,0.3s,baz=116,slow=12,SNR=14						
PALK				Sn	Sn	09 31 19.4	-13
	4.5nm,0.3s,baz=116,slow=17,SNR=8.6						
PALK				LR	LR	09 33 28.9	
	comp=Z,116nm,19.9s,baz=116,slow=34						
PALK	Pallekele	14.78	292	ePn	Pn	09 28 48.6	-0.6
UMPA	Umpang Tak	14.85	16	P	Pn	09 28 49.9	-0.2
	3.8nm,0.8s,2µm						
PBKT	Sadao Pong	15.90	23	P	P	09 29 06.0	-1.5
	65nm,0.9s,2µm						
SUKH	Sukhothai	16.28	18	P	P	09 29 12.2	+0.5
	32nm,0.8s						
CM01	Chiang Mai Arr	16.99	15	ePn	Pn	09 29 17.1	-0.7
CM31	Chiang Mai Arr	17.02	14	ePn	Pn	09 29 18.8	+0.6
CMAR	Chiang Mai Arr	17.02	14	P	Pn	09 29 18.0	-0.2
	1.6nm,0.3s,baz=209,slow=12,SNR=181						
CMAR				LR	LR	09 36 41.0	
	comp=Z,103nm,18.5s,baz=208,slow=40						
UBPT	Khong Chiam	17.13	38	P	P	09 29 22.6	+1.5
	28nm,0.8s						
LAMP	Lampang	17.27	17	P	P	09 29 24.2	+1.6
	16nm,0.8s,132nm						
CHTO	Chiang Mai	17.36	14	ePn	Pn	09 29 21.8	-0.7
	32nm,0.7s						
CHTO	Chiang Mai	17.36	14	P	P	09 29 24.3	+0.6
	245nm,0.9s,3µm						
CMMT	Chiang Mai	17.36	14	P	P	09 29 24.2	+0.5
	55nm,0.9s,668nm						
SKNT	Sakolnakorn	17.64	31	P	P	09 29 27.3	+0.6
	8.2nm,0.8s,871nm						
PAYA	Payao	18.13	16	P	P	09 29 33.2	+1.0
	11nm,0.7s						
NONG	Nongkai	18.16	27	P	Pn	09 29 31.6	-0.7
	0.4nm,1.0s,56nm						
SHL	Shillong	23.67	354	eP	P	09 30 31.4	-0.3
	46nm,1.2s						
SHL	Shillong	23.67	354	eP	P	09 30 32.5	+0.7
H08S2	Diego Garcia H	23.94	246	T	T	09 56 16.4	
	baz=65,slow=76,SNR=167						
H08S3	Diego Garcia H	23.94	246	T	T	09 56 34.2	
	baz=65,slow=76,SNR=170						
H08S1	Diego Garcia H	23.95	246	T	T	09 56 17.7	
	baz=65,slow=76,SNR=148						
LSA	Lhasa	27.84	354	eP	P	09 31 11.3	+1.4
	10nm,0.8s						
CD2	Chengdu	30.15	16	eP	P	09 31 30.6	+0.6
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
DAV	Davao City (W)	31.37	80	LR	LR	09 45 53.6	
	comp=Z,25nm,20.6s,baz=323,slow=39						
XAN	Xi'an	34.70	21	P	P	09 32 09.2	-0.6
XAN				pP	sP	09 32 21.6	+3.2
XAN				pmax	pmax		
	comp=Z,17nm,0.8s						
LZH	Lanzhou	35.10	13	eP	P	09 32 18.6	+5.2
LZH				pP	sP	09 32 23.7	+1.6
LZH				sP	pP	09 32 26.4	+6.8
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
GTA	Gaotai	37.65	7	eP	P	09 32 35.2	+0.1
GTA				pP	pP	09 32 38.8	-2.5
GTA				sP	sP	09 32 41.4	-2.4
GTA				S	S	09 38 26.5	+2.4
GTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,110nm,6.4s						
GTA				LR	LR		
	comp=N,110nm,17.8s						

BR101	**Keskin Array S**	**66.68**	**313**	*e*P	**P**	**09 36 10.2**	**-0.8**
BR131	**Keskin Array S**	**66.68**	**313**	*e*P	**P**	**09 36 10.2**	**-0.8**
BRTR	**Keskin Array B**	**66.68**	**313**	P	**P**	**09 36 10.2**	**-0.8**
	1.5nm,0.7s,baz=123,slow=6.7,SNR=9.1						
LBTB	**Lobatse**	**71.81**	**243**	*e*P	**P**	**09 36 41.9**	**-1.2**
	9.1nm,0.9s						
IDI	**Anoyia**	**72.34**	**306**	*e*P	**P**	**09 36 45.0**	**-1.0**
	17nm,1.1s						
PETK	**Petropavlovsk-**	**72.65**	**34**	LR	LR	10 13 05.4	
	comp=Z,18nm,18.5s,baz=318,slow=39						
PET	**Petropavlovsk**	**73.16**	**35**	*e*P	**P**	**09 36 50.0**	**-0.4**
	4.4nm,0.4s						
MLR	**Muntele Rosu**	**73.73**	**317**	LR	LR	10 13 59.2	
	comp=Z,18nm,18.2s,baz=196,slow=40						
MLR	**Muntele Rosu**	**73.73**	**317**	*e*P	**P**	**09 36 54.5**	**+0.3**
	9.1nm,1.1s						
BUR04	**Bucovina Ar. S**	**74.75**	**319**	*e*P	**P**	**09 36 58.9**	**-1.1**
GERES	**GERESS Array B**	**82.53**	**319**	P	**P**	**09 37 42.9**	**+0.1**
	1.0nm,0.6s,baz=103,slow=6.0,SNR=7.0						
CLL	**Collm**	**83.22**	**321**	*e*P	**P**	**09 37 46.0**	**-0.2**
NOA	**NORSAR Array B**	**85.10**	**331**	LR	LR	10 19 20.2	
	comp=Z,16nm,19.3s,baz=340,slow=38						
TORD	**Torodi Ar. Bea**	**92.33**	**283**	P	**P**	**09 38 29.7**	**-1.3**
	0.8nm,0.6s,baz=108,slow=6.3,SNR=6.4						
TXAR	**Lajitas Array**	**144.40**	**28**	PKP	**PKPab**	**09 44 55.1**	**+0.1**
	0.4nm,0.9s,baz=20,slow=2.3,SNR=3.8						

ISCJB ***06*** *09:32:57.1±0.4,37.°20N±0.°06×135.°23E±0.°08,h358km, mb3.1/7,Error ellipse: s-maj=9.0km s-min=8.1km az=41.7*
JMA ***06*** *09:32:57.9±0.3,37.°15N×135.°28E,h358km±4km,M2.8*
IDC ***06*** *09:32:58.0±1.0,37.°09N×135.°20E,h357km±12km,mb2.9/7, mb1 3.1/12,mb1mx2.9/42,mbtmp3.7/12,Error ellipse: s-maj=17.4km s-min=14.1km az=116.0*

ISC 06 09:32:57.9±0.7,37.°12N±0.°09×135.°26E±0.°07,h358km,n24, σ0$74/26,mb3.0/7,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOI	**OKI**	**1.81**	**244**	P	**Pn**	**09 33 49.1**	**+0.4**
JWT	**Wachi**	**1.83**	**176**	P	**Pn**	**09 33 49.0**	**+0.1**
JWT				*e*S	**S**	**09 34 28.6**	**-1.2**
JYTA	**Yamagatataniai**	**1.93**	**141**	P	**Pn**	**09 33 49.8**	**+0.3**
MAT	**Matsushiro**	**2.43**	**103**	P	**Pn**	**09 33 53.3**	**+0.2**
MAT				S	**S**	**09 34 38.2**	**+0.6**
MAT	**Matsushiro**	**2.43**	**103**	P	**Pn**	**09 33 53.6**	**+0.5**
MJAR	**Matsushiro Arr**	**2.44**	**103**	P	**Pn**	**09 33 53.7**	**+0.6**
	2.2nm,0.3s,baz=276,slow=9.4,SNR=28						
JSD	**Sado**	**2.56**	**68**	P	**Pn**	**09 33 54.0**	**0.0**
JHS	**Saijyo**	**2.73**	**220**	P	**Pn**	**09 33 56.0**	**+0.4**
JWY	**Kouya**	**2.90**	**175**	P	**Pn**	**09 33 57.4**	**+0.2**
JIE	**Ise**	**2.96**	**156**	P	**Pn**	**09 33 58.1**	**+0.5**
JGT2	**ShimaneMisato**	**3.03**	**228**	P	**Pn**	**09 33 58.7**	**+0.6**
JTO	**Tosashimizu**	**4.70**	**206**	P	**Pn**	**09 34 15.4**	**+0.7**
BSO1	**Boso 1**	**5.25**	**116**	P	**Pn**	**09 34 19.5**	**-0.5**
JNU	**Nakatsue**	**5.36**	**223**	P	**Pn**	**09 34 22.0**	**+0.1**
	0.4nm,0.3s,baz=99,slow=4.1,SNR=4.5						
KSRS	**Korea Array**	**5.86**	**276**	P	**Pn**	**09 34 28.6**	**+1.3**
	0.8nm,0.3s,baz=94,slow=12,SNR=20						
ASAJ	**Asahikawa**	**8.94**	**36**	P	**Pn**	**09 35 02.0**	**-1.0**
	1.2nm,0.3s,baz=253,slow=10,SNR=10						
KLR	**Kul'dur**	**12.37**	**349**	P	**P**	**09 35 42.2**	**-0.8**
	0.3nm,0.3s,baz=223,slow=1.6,SNR=5.1						
MKAR	**Makanchi Array**	**39.88**	**301**	P	**P**	**09 39 57.8**	**-0.3**
	0.2nm,0.6s,baz=97,slow=8.2,SNR=2.8						
ILAR	**Eielson Array**	**52.05**	**32**	P	**P**	**09 41 32.4**	**+0.7**
	0.4nm,0.5s,baz=263,slow=5.9,SNR=7.5						
INK	**Inuvik**	**56.53**	**26**	P	**P**	**09 42 04.5**	**+1.0**
	0.4nm,0.4s,baz=281,slow=5.9,SNR=5.4						
WRA	**Warramunga AR**	**56.76**	**181**	P	**P**	**09 42 04.9**	**-0.9**
	0.4nm,0.6s,baz=356,slow=7.6,SNR=5.8						
GEYT	**Alibeck**	**59.44**	**296**	P	**P**	**09 42 23.3**	**-0.8**
	1.8nm,0.3s,baz=66,slow=7.0,SNR=3.9						
ASAR	**Alice Springs**	**60.47**	**181**	P	**P**	**09 42 31.2**	**+0.2**
	0.2nm,0.6s,baz=15,slow=12,SNR=3.1						
NVAR	**Mina Array Bea**	**78.80**	**50**	P	**P**	**09 44 23.3**	**+1.2**
	0.3nm,0.6s,baz=284,slow=5.6,SNR=4.1						

SOME ***06*** *09:46:10.2,43.°75N×84.°05E,h20km*
NNC ***06*** *09:46:10.1±3.1,43.°89N×84.°19E,h0km,mb4.2,mpv3.9, Error ellipse: s-maj=22.8km s-min=10.5km az=131.0*
BJI ***06*** *09:46:12.7,43.°88N×84.°03E,h10km,mb3.7/2,ML3.7/8*
IDC ***06*** *09:46:13.8±1.2,44.°24N×84.°23E,h0km,mb3.3/2, mb1 3.5/5,mb1mx3.3/47,mbtmp3.3/5,ML2.9/3,MS3.2/1, Ms1 3.2/1,ms1mx2.3/26,Error ellipse: s-maj=40.3km s-min=12.0km az=58.0*

ISC 06 09:46:15.6±0.8,43.°98N±0.°05×83.°96E±0.°04,h20km,n28, σ3$00/40,5C-3D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.67**	**260**	*e*P	**Pn**	**09 46 58.2**	**+0.7**
	74nm,0.2s						
KTMS				*e*S	**Sb**	**09 47 32.6**	**-2.4**
	278nm,0.2s						
WMQ	**Urumqi**	**2.71**	**92**	*e*Pn	**Pn**	**09 46 58.0**	**0.0**
WMQ				Sg	**Sn**	**09 47 32.3**	**+2.1**
WMQ				smax	smax		
	comp=N,470nm,0.9s						
WMQ				smax	smax		
	comp=E,400nm,0.7s						
DJR	**Jarkent**	**3.02**	**278**	*e*P	**Pb**	**09 47 06.5**	**-2.1**
	25nm,0.3s						
DJR				*e*S	**Sb**	**09 47 47.2**	**+2.1**
	224nm,0.2s						
MK09	**Makanchi Array**	**3.04**	**338**	⇓Pg	**Pb**	**09 47 08.9**	**-0.1**
	13nm,0.4s,baz=152,slow=17						
MK09				⇑Lg	Lg	09 47 50.1	
	59nm,0.5s,baz=155,slow=27						
MKAR	**Makanchi Array**	**3.05**	**338**	Pn	**Pn**	**09 47 02.0**	**-0.7**
	1.2nm,0.3s,baz=150,slow=14,SNR=61						
MKAR				Pg	**Pb**	**09 47 08.9**	**-0.3**
	18nm,0.3s,baz=152,slow=18,SNR=208						
MKAR				Lg	Lg	09 47 48.2	
	46nm,0.3s,baz=152,slow=28,SNR=17						
SHLS	**Shalkode**	**3.37**	**257**	*e*P	**Pn**	**09 47 05.2**	**-1.9**
	164nm,0.7s						
SHLS				*e*S	**Sn**	**09 47 44.9**	**-1.6**
	344nm,0.5s						
ZSN	**Zaisan**	**3.53**	**10**	*e*P	**Pb**	**09 47 17.3**	**0.0**
	16nm,0.3s						
ZSN				*e*S	**Sb**	**09 48 05.7**	**+5.9**
	65nm,0.5s						
UZB	**Uzynbulak**	**3.68**	**259**	*e*P	**Pb**	**09 47 17.7**	**-2.3**
	34nm,0.4s						
UZB				*e*S	**Sb**	**09 48 06.8**	**+2.6**
	73nm,0.4s						
KPKS	**Kokpek**	**3.85**	**264**	*e*P	**Pb**	**09 47 21.6**	**-1.3**
	79nm,0.6s						
KPKS				*e*S	**Sb**	**09 48 13.0**	**+3.9**
	323nm,0.5s						
MNBS	**Baschi**	**4.01**	**273**	*e*P	**Pb**	**09 47 24.9**	**-0.6**
	61nm,0.6s						
MNBS				*e*S	**Sb**	**09 48 18.8**	**+5.3**
	147nm,0.5s						
ZHN	**Zhinishke**	**4.09**	**261**	*e*P	**Pb**	**09 47 25.7**	**-1.3**
	11nm,0.3s						
ZHN				*e*S	**Sb**	**09 48 19.8**	**+3.8**
	59nm,0.4s						
SATY	**Saty**	**4.14**	**259**	*e*P	**Pb**	**09 47 24.7**	**-3.1**
	15nm,0.2s						
SATY				*e*S	**Sb**	**09 48 18.5**	**+1.1**
	84nm,0.4s						
ARXS	**Arharly**	**4.42**	**275**	*e*P	**Pb**	**09 47 33.3**	**+0.7**
	35nm,0.6s						
ARXS				*e*S	**Sb**	**09 48 32.1**	**+6.7**
	120nm,0.4s						
KOTS	**Kotyrbulak**	**5.02**	**264**	*e*P	**Pb**	**09 47 42.4**	**-0.4**
	12nm,0.4s						
KOTS				*e*S	**Sb**	**09 48 49.1**	**+6.2**
	112nm,0.3s						
CHKK	**Chushkaly**	**5.04**	**271**	*e*P	**Pb**	**09 47 41.2**	**-1.8**
	5.5nm,0.5s						
CHKK				*e*S	**Sb**	**09 48 46.7**	**+3.7**
	52nm,0.3s						
MDOK	**Medeo**	**5.08**	**263**	Pg	**Pb**	**09 47 45.3**	**+1.4**
	7.5nm,0.5s						
MDOK				⇑Lg	Lg	09 48 59.1	
	44nm,0.8s						
KTBS	**Karatobe**	**5.27**	**270**	*e*P	**Pb**	**09 47 45.8**	**-1.2**
	7.6nm,0.5s						
KTBS				*e*S	**Sb**	**09 48 54.3**	**+4.6**
	28nm,0.7s						
IZV	**Izvestkoviy**	**5.42**	**263**	*e*P	**Pb**	**09 47 51.1**	**+1.5**
	21nm,0.6s						
IZV				*e*S	Sb	09 49 04.2	+10
	82nm,0.5s						
TKM2	**Tokmak 2**	**6.17**	**263**	⇓Pg	**Pb**	**09 48 05.0**	**+2.5**
	7.2nm,0.6s						
TKM2				⇓Lg	Lg	09 49 29.1	
	26nm,0.7s						
KURBB	**Kurchatov Arra**	**7.60**	**333**	⇑Lg	Lg	09 50 17.5	
	61nm,0.7s						
KURK	**Kurchatov**	**7.65**	**334**	⇑Lg	Lg	09 50 16.1	
	15nm,0.6s						
KK31	**Karatay Array**	**9.80**	**270**	⇑Lg	Lg	09 51 23.4	
	2.1nm,0.5s,baz=70,slow=29,SNR=5.0						
ZALV	**Zalesovo Beam**	**10.00**	**3**	Pn	**Pn**	**09 48 34.6**	**-3.3**
	0.7nm,0.3s,baz=187,slow=12,SNR=8.0						
ZALV				Sn	**Sn**	**09 50 24.6**	**-4.7**
	1.7nm,0.3s,baz=179,slow=26,SNR=10						
GTA	**Gaotai**	**12.70**	**106**	*e*P	**Pn**	**09 49 14.1**	**-1.0**
GTA				pP	P	09 49 18.3	-7.9
GTA				sP		09 49 21.2	
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SONM	**Songino Array**	**16.07**	**68**	Pn	**Pn**	**09 49 57.3**	**-3.1**
	0.1nm,0.3s,baz=266,slow=11,SNR=3.1						
AKASG	**Malin Array Be**	**36.95**	**300**	LR	LR	10 10 01.5	
	comp=Z,32nm,20.0s,baz=240,slow=39						
WRA	**Warramunga AR**	**78.55**	**132**	P	**P**	**09 58 17.2**	**+1.7**
	0.2nm,0.7s,baz=334,slow=5.8,SNR=2.9						
ASAR	**Alice Springs**	**81.39**	**135**	P	**P**	**09 58 33.5**	**+2.7**
	0.3nm,0.9s,baz=325,slow=4.5,SNR=2.9						

DDA ***06*** *10:22:27.7,39.°63N×38.°69E,h16km,Ml2.6*
ISK ***06*** *10:22:27.1,39.°57N×38.°67E,h23km,ML1.9/3*
ISCJB ***06*** *10:22:28.1±0.6,39.°61N±0.°04×38.°66E±0.°05,h24km±7km, Error ellipse: s-maj=7.1km s-min=6.4km az=145.5*

ISC 06 10:22:27.7±1.0,39.°64N±0.°04×38.°70E±0.°05,h16km±8km, n9,σ1$08/16,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILIC	**ilic-Erzincan**	**0.21**	**209**	PG	**Pg**	**10 22 32.2**	**-0.5**
ILIC				SG	**Sg**	**10 22 35.8**	**-0.2**
REFA	**Refahiye_ERZ˜**	**0.24**	**168**	*i* P	**Pb**	**10 22 34.1**	**+0.2**
REFA				*i* S	**Sg**	**10 22 38.5**	**+1.5**
KEMA	**Kemaliye**	**0.40**	**203**	*i* P	**Pg**	**10 22 35.9**	**0.0**
KEMA				*i* S	**Sb**	**10 22 42.2**	**-0.2**
KELT	**Kelkit**	**0.67**	**40**	*i* P	**Pb**	**10 22 41.0**	**-0.2**
KELT				*i* S	**Sb**	**10 22 50.9**	**+0.6**
CUZAR	**Zara_SIVAS**	**0.76**	**290**	*i* P	**Pg**	**10 22 42.2**	**-0.4**
CUZAR				*i* S	**Sb**	**10 22 53.3**	**+0.5**
ERZN	**Erzincan**	**0.79**	**93**	PG	**Pb**	**10 22 43.6**	**+0.3**
ERZN				SG	**Sn**	**10 22 55.4**	**-0.6**
ELZG	**Elazig**	**1.16**	**169**	*i* P	**Pb**	**10 22 49.5**	**-0.1**
ELZG				*i* S	**Sn**	**10 23 07.6**	**+2.5**
ESPY	**Espiye-Giresun**	**1.28**	**1**	PN	**Pn**	**10 22 50.9**	**-0.1**
SVRC	**Sivrice-ELAZID**	**1.34**	**159**	PN	**Pn**	**10 22 50.1**	**-1.9**

PGC ***06*** *10:26:59.0±16.0,52.°17N×131.°54W,h15km±2km,mb4.6, ML4.8/22,Mw4.7, 122km Sse of Sandspit, Bc Haida Gwaii Region*
ISCJB ***06*** *10:27:00.5±0.1,52.°32N±0.°02×131.°27W±0.°03,h10km, mb4.6/115,MS4.0/38,Error ellipse: s-maj=3.1km s-min=1.3km az=140.6*
IDC ***06*** *10:27:01.5±0.6,52.°44N×131.°31W,h0km,mb4.1/18, mb1 4.3/25,mb1mx4.2/55,mbtmp4.1/25,ML3.8/7,MS4.0/38, Ms1 4.0/38,ms1mx3.9/56,Error ellipse: s-maj=13.1km s-min=5.0km az=31.0*
MOS ***06*** *10:27:02.2±1.2,52.°29N×131.°35W,h24km,mb4.9/33, Error ellipse: s-maj=12.0km s-min=4.5km az=118.5*
NEIC ***06*** *10:27:02.2±0.6,52.°31N×131.°30W,h8km±4km,mb4.6/177, MW4.7(OTT),Error ellipse: s-maj=3.3km s-min=1.1km az=50.0*
GCMT ***06*** *10:27:05.2±0.3,52.°17N±0.°02×131.°69W±0.°02,h12km, MW4.8/89,Moment Tensor Solution. s13,c13; s89,c134; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.26±.09; Mθθ=1.85±.08; Mφφ=2.11±.06; Mrθ=0.61±.22; Mrφ=-0.97±.07; Mθφ=0.31±.20; Best double couple: Mo=2.32000×10^16 NP1:φs=211.00000°,δ80.00000°,λ-16.00000°. NP2: φs=303.00000°,δ75.00000°,λ-170.00000°. Principal axes: T 2.3460, Plg4.0000°, Azm257.0000°; N -0.0490, Plg71.0000°, Azm359.0000°; P -2.2940, Plg18.0000°, Azm166.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 10:27:02.1±0.8,52.°28N±0.°04×131.°37W±0.°03,h9km±4km, n711,σ1$43/675,mb4.7/117,MS4.1/38,12C-4D,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.38**	**321**	P	**Pg**	**10 27 07.2**	**-2.3**
BNB				S	**Sg**	**10 27 12.8**	**-1.7**
DIB	**Dawson Inlet,**	**1.14**	**324**	*e*Pg	**Pb**	**10 27 20.3**	**-3.7**
DIB				*e*Sg	**Sb**	**10 27 39.3**	**+0.3**
DIB	**Dawson Inlet,**	**1.14**	**324**	P	**Pb**	**10 27 19.9**	**-4.1**
DIB				S	**Sg**	**10 27 35.8**	**-3.1**
H02S1	**DAWSON INLET T**	**1.14**	**324**	Pg	**Pb**	**10 27 20.3**	**-3.5**
H02S1				Lg	Lg	10 27 36.0	
H02N1	**VAN INLET T-PH**	**1.20**	**324**	Pg	**Pb**	**10 27 20.9**	**-4.2**
H02N1				Lg	Lg	10 27 37.6	
VIB	**Van Inlet**	**1.20**	**324**	P	**Pb**	**10 27 20.9**	**-4.2**
VIB				S	**Sg**	**10 27 38.1**	**-2.8**
BNAB	**Bonilla**	**1.29**	**20**	P	**Pb**	**10 27 24.6**	**-2.0**
NDB	**Naden**	**1.92**	**331**	Pn	**Pn**	**10 27 32.0**	**-3.1**
BBB	**Bella Bella**	**2.00**	**92**	Pn	**Pn**	**10 27 33.9**	**-2.2**
	58nm,0.3s,baz=275,slow=15,SNR=122						
BBB				Lg	Lg	10 28 04.2	
	656nm,0.3s,baz=351,slow=22,SNR=14						
BBB				LR	LR	10 28 18.7	
	comp=Z,2μm,18.9s,baz=287,slow=39						
BBB	**Bella Bella**	**2.00**	**92**	*e*Pn	**Pn**	**10 27 34.1**	**-2.0**
BBB				*e*Sn	**Sn**	**10 28 00.9**	**-0.4**
BBB	**Bella Bella**	**2.00**	**92**	Pn	**Pn**	**10 27 33.7**	**-2.4**
BBB				Sg	**Sg**	**10 28 04.4**	**-2.1**
RUBB	**Prince Rupert**	**2.15**	**18**	Pn	**Pn**	**10 27 36.8**	**-1.3**
RUBB				Sg	**Sg**	**10 28 12.7**	**+1.5**
BCBC	**Bella Coola**	**2.83**	**86**	Pn	**Pn**	**10 27 45.9**	**-1.6**
BCBC				Sg	**Sg**	**10 28 36.2**	**+3.2**
PHC	**Port Hardy**	**2.92**	**121**	*e*Pn	**Pn**	**10 27 45.0**	**-3.7**
PHC	**Port Hardy**	**2.92**	**121**	Pn	**Pn**	**10 27 44.4**	**-4.4**
PHC				Sn	**Sn**	**10 28 19.7**	**-4.3**
PACB	**Port Alice, BC**	**3.05**	**126**	Pn	**Pn**	**10 27 46.8**	**-3.8**
PACB				Sn	**Sn**	**10 28 25.6**	**-1.6**
BPBC	**Brooks Peninsu**	**3.11**	**132**	Pn	**Pn**	**10 27 47.3**	**-4.0**
MAYB	**Maynard**	**3.24**	**124**	Pn	**Pn**	**10 27 48.9**	**-4.3**
TLCB	**Telegraph Cove**	**3.33**	**120**	Pn	**Pn**	**10 27 51.1**	**-3.2**
CRAG	**Craig**	**3.36**	**343**	*e*Pn	**Pn**	**10 27 52.9**	**-1.8**
EDB	**Eliza Dome**	**3.60**	**130**	Pn	**Pn**	**10 27 54.4**	**-3.8**
EDB				Sn	**Sn**	**10 28 44.0**	**+3.2**
WOSB	**Woss**	**3.69**	**123**	Pn	**Pn**	**10 27 56.1**	**-3.3**
NCRB	**Newcastle Ridg**	**3.83**	**117**	Pn	**Pn**	**10 27 58.6**	**-2.6**
WRAK	**Wrangell Islan**	**4.18**	**353**	*e*Pn	**Pn**	**10 28 06.1**	**+0.1**
WRAK				*e*Sn	**Sn**	**10 28 54.6**	**-0.4**
GDR	**Gold River**	**4.20**	**125**	Pn	**Pn**	**10 28 03.8**	**-2.4**
SPLB	**Strathcona Par**	**4.33**	**121**	Pn	**Pn**	**10 28 05.7**	**-2.3**
CBB	**Campbell River**	**4.40**	**118**	Pn	**Pn**	**10 28 06.3**	**-2.8**
CBB				Sg	**Sg**	**10 29 19.8**	**-3.5**
UBRB	**Upper Baezaeko**	**4.48**	**79**	Pn	**Pn**	**10 28 10.2**	**-0.1**
UBRB				Sg	**Sg**	**10 29 24.8**	**-1.2**
MWAB	**Mount Washingt**	**4.60**	**121**	Sn	**Sn**	**10 29 01.9**	**-3.5**
BTB	**Buttle Lake**	**4.65**	**125**	Pn	**Pn**	**10 28 09.9**	**-2.7**
TOFB	**Tofino**	**4.67**	**130**	Pn	**Pn**	**10 28 09.7**	**-3.1**
FSB	**Fort Saint Jam**	**4.75**	**60**	Pn	**Pn**	**10 28 13.4**	**-0.5**
TXB	**Texada**	**5.09**	**118**	Pn	**Pn**	**10 28 16.5**	**-2.0**
B927	**Port Alberni**	**5.17**	**124**	Pn	**Pn**	**10 28 18.6**	**-0.9**
SIT	**Sitka**	**5.30**	**336**	*e*Pn	**Pn**	**10 28 19.8**	**-1.6**
SIT	**Sitka**	**5.30**	**336**	*e*P	**Pn**	**10 28 19.8**	**-1.6**
MGB	**Mount Grey**	**5.37**	**125**	Pn	**Pn**	**10 28 20.0**	**-2.5**
GHNB	**Nanoose**	**5.42**	**121**	Pn	**Pn**	**10 28 21.1**	**-1.9**
SHB	**Sechelt**	**5.45**	**117**	Pn	**Pn**	**10 28 21.2**	**-2.4**
NLLB	**Nanaimo Lost L**	**5.59**	**120**	Pn	**Pn**	**10 28 23.8**	**-1.6**
YOUB	**Youbou, Lake C**	**5.65**	**124**	Pn	**Pn**	**10 28 24.4**	**-1.9**
B926	**Mesachie Lake**	**5.77**	**124**	Pn	**Pn**	**10 28 24.8**	**-3.0**
PFB	**Port Renfrew**	**5.78**	**127**	Pn	**Pn**	**10 28 25.9**	**-2.1**
WPB	**Watts Point**	**5.79**	**114**	Pn	**Pn**	**10 28 26.6**	**-1.5**
GOBB	**Galiano Island**	**6.01**	**121**	Pn	**Pn**	**10 28 29.5**	**-1.6**
LZB	**Mount Lazard**	**6.06**	**124**	Pn	**Pn**	**10 28 29.8**	**-2.1**
DLBC	**Dease Lake**	**6.21**	**7**	Pn	**Pn**	**10 28 32.7**	**-1.3**
	2.0nm,0.3s,baz=204,slow=7.1,SNR=70						
DLBC				Lg	Lg	10 30 14.1	
	3.7nm,0.3s,baz=311,slow=20,SNR=4.6						
DLBC				LR	LR	10 31 13.0	
	comp=Z,3μm,20.0s,baz=194,slow=42						
DLBC	**Dease Lake**	**6.21**	**7**	*e*Pn	**Pn**	**10 28 33.9**	**-0.1**
DLBC	**Dease Lake**	**6.21**	**7**	Pn	**Pn**	**10 28 34.0**	**-0.1**
DLBC				Sg	**Sg**	**10 30 17.5**	**-3.9**
B010	**North Saanich**	**6.23**	**123**	Pn	**Pn**	**10 28 32.6**	**-1.5**
PA02	**PA02 Ocean**	**6.23**	**123**	Pn	**Pn**	**10 28 33.0**	**-1.1**
PGC	**Sidney**	**6.23**	**123**	*e*Pn	**Pn**	**10 28 33.2**	**-0.9**
PGC	**Sidney**	**6.23**	**123**	Pn	**Pn**	**10 28 32.2**	**-1.9**
B009	**North Saanich**	**6.23**	**123**	Pn	**Pn**	**10 28 33.5**	**-0.6**
B011	**North Saanich**	**6.23**	**123**	Pn	**Pn**	**10 28 32.4**	**-1.7**
PA03	**PA03 Flamable**	**6.23**	**123**	Pn	**Pn**	**10 28 32.5**	**-1.6**
PA12	**PA12 Sannich**	**6.23**	**123**	Pn	**Pn**	**10 28 33.4**	**-0.8**
PA05	**PA05 Willingdo**	**6.23**	**123**	Pn	**Pn**	**10 28 32.9**	**-1.2**
JIS	**Juneau Island**	**6.25**	**345**	*e*Pn	**Pn**	**10 28 33.9**	**-0.5**
VGZ	**Gonzales**	**6.44**	**124**	Pn	**Pn**	**10 28 35.1**	**-1.9**
A04D	**Lummi Island**	**6.58**	**119**	P	**Pn**	**10 28 38.1**	**-0.8**
	baz=307						
BMBC	**Bull Mountain**	**6.60**	**52**	Pn	**Pn**	**10 28 41.2**	**+1.8**
BMBC				Sn	**Sn**	**10 30 00.8**	**+6.1**
BMBC				Sg	**Sg**	**10 30 29.5**	**-4.4**
BESE	**Bessie Mountai**	**6.61**	**344**	*e*Pn	**Pn**	**10 28 37.8**	**-1.6**
VDB	**Vedder Mountai**	**6.73**	**115**	Pn	**Pn**	**10 28 40.0**	**-1.1**
A05A	**Maple Falls**	**6.76**	**115**	*e*Pn	**Pn**	**10 28 41.9**	**+0.4**
D03D	**Eldon**	**7.15**	**128**	P	**Pn**	**10 28 46.5**	**-0.3**
	baz=315						
B05A	**Bryant**	**7.17**	**120**	P	**Pn**	**10 28 47.5**	**+0.4**
	baz=308,SNR=9.7						
B06A	**Marblemount**	**7.35**	**117**	*e*Pn	**Pn**	**10 28 50.1**	**+0.6**
SKAG	**Skagway**	**7.53**	**344**	*e*Pn	**Pn**	**10 28 52.5**	**+0.6**
D04E	**Lakebay**	**7.56**	**129**	P	**Pn**	**10 28 53.3**	**+0.9**
	baz=316						
E03A	**Lebam**	**7.67**	**135**	*e*Pn	**Pn**	**10 28 53.7**	**-0.2**
PLBC	**Pleasant Camp**	**7.72**	**341**	Pn	**Pn**	**10 28 52.3**	**-2.2**
D05A	**Enumclaw**	**7.93**	**126**	*e*Pn	**Pn**	**10 28 58.0**	**+0.4**
PNT	**Penticton**	**8.02**	**107**	Pn	**Pn**	**10 28 57.2**	**-1.5**
PNT				Sg	**Sg**	**10 31 10.4**	**-8.7**
E04D	**Cinebar**	**8.11**	**132**	P	**Pn**	**10 29 00.9**	**+0.9**
	baz=319						
FNBB	**Fort Nelson**	**8.13**	**32**	Pn	**Pn**	**10 29 00.1**	**-0.2**
FNBB				Sg	**Sg**	**10 31 16.5**	**-6.4**
SLEB	**Sale Mountain**	**8.30**	**93**	Pn	**Pn**	**10 29 01.6**	**-1.1**
LON	**Longmire**	**8.32**	**128**	*e*Pn	**Pn**	**10 29 03.2**	**+0.2**
LON	**Longmire**	**8.32**	**128**	*e*P	**Pn**	**10 29 03.2**	**+0.2**
FL2	**Flat Top 2**	**8.48**	**132**	*e*Pn	**Pn**	**10 29 06.3**	**+1.1**
LTY	**Liberty**	**8.55**	**122**	*e*Pn	**Pn**	**10 29 06.4**	**+0.3**
WHY	**Whitehorse**	**8.62**	**348**	*e*Pn	**Pn**	**10 29 07.1**	**+0.1**
WHY	**Whitehorse**	**8.62**	**348**	Pn	**Pn**	**10 29 05.0**	**-2.1**
B08A	**Colville Reser**	**8.64**	**112**	*e*Pn	**Pn**	**10 29 07.6**	**+0.3**
G03D	**McMinnville, O**	**8.87**	**140**	P	**Pn**	**10 29 12.3**	**+1.9**
	baz=326						
F05D	**White Salmon**	**9.12**	**131**	P	**Pn**	**10 29 14.3**	**+0.5**
	baz=319						
HYT	**Haines Junctio**	**9.20**	**341**	*e*Pn	**Pn**	**10 29 15.6**	**+0.5**
HYT	**Haines Junctio**	**9.20**	**341**	Pn	**Pn**	**10 29 14.0**	**-1.1**
PCA	**Pinnacle**	**9.26**	**331**	*e*Pn	**Pn**	**10 29 16.4**	**+0.6**
COR	**Corvallis**	**9.38**	**142**	*e*Pn	**Pn**	**10 29 18.3**	**+0.9**
COR	**Corvallis**	**9.38**	**142**	*e*P	**Pn**	**10 29 18.3**	**+0.9**
C09A	**Chrisman Ranch**	**9.54**	**113**	*e*Pn	**Pn**	**10 29 20.1**	**+0.5**
I02D	**Swisshome**	**9.60**	**146**	P	**Pn**	**10 29 21.4**	**+1.1**
	baz=332						
D08A	**Wollman Farm,**	**9.61**	**118**	*e*Pn	**Pn**	**10 29 20.3**	**-0.3**
H04D	**Lebanon**	**9.65**	**140**	P	**Pn**	**10 29 22.3**	**+1.2**
	baz=327						

comp=Z,994nm,19.9s,baz=119,slow=32
RC01 Rabbit Creek A 13.36 318 *e*Pn **Pn 10 30 11.9 +0.2**
SCRK Sand Creek 13.45 336 *e*Pn **Pn 10 30 14.0 +1.0**
O02D Mt. Diablo Mer 13.47 151 P **Pn 10 30 15.2 +1.8**
baz=337
RIDG Independ'e Rid 13.48 334 *e*Pn **Pn 10 30 14.7 +1.2**
EGAK Eagle 13.51 342 *e*Pn **Pn 10 30 14.2 +0.5**
YKA Yellowknife Ar 13.60 35 Pn **Pn 10 30 13.0 -1.9**
0.1nm,0.3s,baz=224,slow=12,SNR=5.5
YKA Lg Lg 10 34 14.6
0.2nm,0.3s,baz=228,slow=26,SNR=4.7
YKB5 Yellowknife Ar 13.60 35 *e*Pn **Pn 10 30 13.3 -1.7**
YKW1 Yellowknife Ar 13.63 35 Pn **Pn 10 30 14.2 -1.2**
YKW1 Sg 10 34 12.3
YKW3 Yellowknife Ar 13.64 34 *e*Pn **Pn 10 30 14.5 -1.1**
YKW3 Yellowknife Ar 13.64 34 Pn **Pn 10 30 13.9 -1.7**
O03E Paynes Creek 13.68 147 P **Pn 10 30 17.6 +1.3**
baz=335
KCPM Cahto Peak 13.70 154 *e*Pn **Pn 10 30 16.4 -0.1**
DHY Denali Highway 13.74 328 *e*Pn **Pn 10 30 17.2 +0.1**
HRY Holter Researc 13.85 106 *e*Pn **Pn 10 30 18.9 +0.4**
DLMT Dillon 14.15 112 *e*Pn **Pn 10 30 24.0 +1.2**
HLID Hailey 14.30 121 *e*Pn **Pn 10 30 25.6 +0.7**
HLID Hailey 14.30 121 P **Pn 10 30 25.8 +1.0**
baz=314,SNR=29
MCMT McKenzie Canyo 14.33 114 *e*Pn **Pn 10 30 25.0 -0.3**
EPYK Eagle Plains 14.38 351 P **Pn 10 30 26.5 +0.8**
baz=166,SNR=9.2
ORV Oroville 14.45 148 *e*Pn **Pn 10 30 26.9 +0.2**
ORV Oroville 14.45 148 *e*P **Pn 10 30 26.9 +0.2**
EGMT Eagleton 14.48 99 *e*Pn **Pn 10 30 27.6 +0.4**
EGMT Eagleton 14.48 99 P **Pn 10 30 29.3 +2.1**
baz=295,SNR=28
HOPS Hopland Field 14.49 153 *e*Pn **Pn 10 30 27.7 +0.5**
BEKR Beckworth 14.56 144 *e*Pn **Pn 10 30 29.7 +1.3**
SKT Skwentna 14.57 320 *e*Pn **Pn 10 30 27.6 -0.6**
BOZ Bozeman (W) 14.57 110 *e*Pn **Pn 10 30 27.1 -1.4**
BOZ Bozeman (W) 14.57 110 *e*P **Pn 10 30 27.1 -1.4**
BOZ Bozeman (W) 14.57 110 P **Pn 10 30 29.8 +1.4**
baz=304,SNR=7.9
HDA Harding Lake 14.59 332 *e*Pn **Pn 10 30 30.0 +1.5**
HDA Harding Lake 14.59 332 P **Pn 10 30 29.1 +0.6**
baz=139
MCK McKinley 14.71 328 *e*Pn **Pn 10 30 31.0 +0.9**
MCK McKinley 14.71 328 *e*P **Pn 10 30 31.0 +0.9**
IL1 Eielson Array 14.85 333 *e*Pn **Pn 10 30 33.0 +0.9**
ILAR Eielson Array 14.85 333 Pn **Pn 10 30 31.7 -0.4**
0.1nm,0.3s,baz=151,slow=11,SNR=11
ILAR Lg Lg 10 35 10.3
0.0nm,0.3s,baz=113,slow=19,SNR=6.6
ILAR LR LR 10 36 16.4
comp=Z,1µm,20.2s,baz=150,slow=38
ILB Eielson Array 14.85 333 *e*Pn **Pn 10 30 32.7 +0.7**
WRH Wood River Hil 14.97 331 *e*Pn **Pn 10 30 34.4 +0.8**
TRF Thorofare Moun 14.97 326 *e*Pn **Pn 10 30 33.9 +0.1**
CCB Clear Creek Bu 15.01 332 *e*Pn **Pn 10 30 34.9 +0.7**
19nm,1.1s
PAHR Pah Rah Range 15.06 142 *e*Pn **Pn 10 30 34.8 -0.3**
33nm,1.1s
QLMT Earthquake Lak 15.13 112 *e*Pn **Pn 10 30 36.4 +0.3**
AFDM Forest Hills D 15.17 147 *e*Pn **Pn 10 30 36.4 -0.1**
27nm,1.0s
COLA College 15.20 332 *e*Pn **Pn 10 30 38.4 +1.8**
42nm,1.4s
COLA College 15.20 332 *e*P **Pn 10 30 38.4 +1.8**
COLA pmax pmax
comp=Z,42nm,1.4s
POKR Poker Plat Res 15.27 334 P **Pn 10 30 35.5 -2.1**
baz=140
YHB Horse Butte 15.31 111 *e*Pn **Pn 10 30 38.7 +0.2**
comp=Z,52nm,1.1s
VCNR Virginia City 15.32 143 *e*Pn **Pn 10 30 38.7 +0.1**
comp=Z,26nm,1.0s
PPLA Purkeypile 15.33 322 *e*Pn **Pn 10 30 39.5 +0.9**
comp=Z,65nm,1.2s
RUBR Rubicon Trail 15.35 145 *e*Pn **Pn 10 30 39.1 0.0**
comp=Z,29nm,0.9s
MDM Murphy Dome 15.37 332 *e*Pn **Pn 10 30 39.8 +0.8**
comp=Z,25nm,1.1s
YHH Holmes Hill 15.49 111 *e*Pn **Pn 10 30 41.6 +0.8**
comp=Z,60nm,1.1s
YMR Madison River 15.49 111 *e*Pn **Pn 10 30 41.4 +0.5**
comp=Z,91nm,1.0s
PNTR Pine Nut 15.52 144 *e*Pn **Pn 10 30 41.9 +0.7**
comp=Z,28nm,1.0s
CAST Castle Rocks 15.59 324 *e*Pn **Pn 10 30 42.5 +0.6**
comp=Z,37nm,1.0s
GCMT Greycliff 15.61 106 *e*Pn **Pn 10 30 42.6 +0.3**
YNR Norris Junctio 15.63 111 *e*Pn **Pn 10 30 42.5 -0.2**
comp=Z,54nm,1.1s
BPAW Bear Paw Mtn. 15.63 327 *e*Pn **Pn 10 30 43.2 +0.9**
comp=Z,19nm,0.8s
YFT Old Faithful 15.70 112 *e*Pn **Pn 10 30 44.8 +1.2**
comp=Z,62nm,1.2s
YERR Yerington 15.74 143 *e*Pn **Pn 10 30 45.7 +1.6**
comp=Z,38nm,1.2s
YPP Pitchstone Pla 15.82 112 *e*Pn **Pn 10 30 45.5 +0.2**
comp=Z,26nm,1.1s
LKWY Lake 15.88 111 *e*Pn **Pn 10 30 46.5 +0.6**
comp=Z,50nm,1.1s
LKWY Lake 15.88 111 *e*P **Pn 10 30 46.5 +0.6**
LKWY pmax pmax
comp=Z,51nm,1.1s
H17A Grant Village 15.88 112 *e*Pn **Pn 10 30 45.2 -0.8**
comp=Z,125nm,1.4s
H17A Grant Village 15.88 112 P **Pn 10 30 46.6 +0.6**
baz=307,SNR=43
FYU Fort Yukon 15.90 340 *e*Pn **Pn 10 30 45.3 -0.5**
comp=Z,140nm,1.2s
IMW Indian Meadow 15.98 114 *e*Pn **Pn 10 30 47.1 -0.2**
comp=Z,72nm,1.1s
FLWY Flagg Ranch 16.00 113 *e*Pn **Pn 10 30 47.3 -0.1**
comp=Z,58nm,1.1s
FXWY Fox Creek 16.09 114 *e*Pn **Pn 10 30 48.0 -0.7**
comp=Z,51nm,1.1s
WAKR Walker 16.09 144 *e*Pn **Pn 10 30 49.2 +0.5**
comp=Z,46nm,1.3s
INK Inuvik 16.11 357 *e*Pn **Pn 10 30 49.0 +0.5**
comp=Z,10nm,0.9s
INK Inuvik 16.11 357 P **Pn 10 30 48.4 -0.1**
INK Sg 10 35 20.8
KVN Kaiserville 16.12 140 *e*Pn **Pn 10 30 49.0 0.0**
comp=Z,31nm,1.1s
KVN Kaiserville 16.12 140 *e*P **Pn 10 30 49.0 0.0**
KVN pmax pmax
comp=Z,31nm,1.1s
MLY Manley 16.17 330 *e*Pn **Pn 10 30 49.3 -0.1**
comp=Z,47nm,1.2s
MOOW Moose Ponds 16.18 114 *e*Pn **Pn 10 30 48.7 -1.1**
comp=Z,21nm,0.9s
CMB Columbia Colle 16.19 147 *e*Pn **Pn 10 30 49.8 +0.1**
comp=Z,33nm,1.3s
CMB Columbia Colle 16.19 147 *e*P **Pn 10 30 49.8 +0.1**
CMB pmax pmax
comp=Z,33nm,1.3s
RLMT Red Lodge 16.21 107 *e*Pn **Pn 10 30 49.5 -0.7**
comp=Z,66nm,1.1s
RLMT Red Lodge 16.21 107 P **Pn 10 30 51.5 +1.3**
baz=304,SNR=38
TPAW Teton Pass 16.23 115 *e*Pn **Pn 10 30 49.7 -0.8**
comp=Z,83nm,1.3s
RYN Ryan 16.32 142 *e*Pn **Pn 10 30 51.5 0.0**
comp=Z,21nm,1.1s
LOHW Long Hollow 16.35 114 *e*Pn **Pn 10 30 51.5 -0.4**
comp=Z,30nm,1.1s
SNOW Snow King Moun 16.36 114 *e*Pn **Pn 10 30 52.4 +0.2**
comp=Z,25nm,1.0s
REDW Red Top Meadow 16.37 115 *e*Pn **Pn 10 30 52.1 -0.2**
comp=Z,82nm,1.3s
HVU Hansel Valley 16.41 122 *e*Pn **Pn 10 30 52.9 +0.2**
comp=Z,40nm,1.5s
HVU Hansel Valley 16.41 122 *e*P **Pn 10 30 52.9 +0.2**
HVU pmax pmax
comp=Z,40nm,1.5s
NV01 Mina Array Sit 16.58 142 *e*Pn **Pn 10 30 55.1 +0.2**
NVAR Mina Array Bea 16.58 142 Pn **Pn 10 30 55.6 +0.7**
comp=Z,0.1nm,0.3s,baz=315,slow=9.6,SNR=23
NVAR LR LR 10 36 59.4
comp=Z,1µm,18.1s,baz=330,slow=36
AHID Auburn Hatcher 16.62 117 *e*Pn **Pn 10 30 56.4 +1.0**
comp=Z,42nm,1.1s
NV11 Mina Array Sit 16.64 141 *e*Pn **Pn 10 30 55.4 -0.2**
comp=Z,2.3nm,1.1s
BGU Big Grassy Mou 16.91 125 *e*Pn **Pn 10 30 58.6 -0.5**
comp=Z,33nm,1.3s
SPUT South Promonto 16.92 123 *e*Pn **Pn 10 30 58.7 -0.5**
comp=Z,21nm,1.2s
MDPB Devils Postpil 17.00 145 *e*Pn **Pn 10 31 00.3 +0.1**
comp=Z,18nm,1.1s
SAO San Andreas Ge 17.03 152 *e*Pn **Pn 10 31 01.0 +0.6**
comp=Z,13nm,0.9s
SAO San Andreas Ge 17.03 152 *e*P **Pn 10 31 01.0 +0.6**
SAO pmax pmax
comp=Z,13nm,0.9s
OMMB Old Mammoth Mi 17.04 145 *e*Pn **Pn 10 31 00.7 -0.2**
comp=Z,16nm,1.2s
MLAC Mammoth, Mammo 17.09 144 P **Pn 10 31 02.2 +0.8**
baz=333
HWUT Hardware Ranch 17.17 121 *e*Pn **Pn 10 31 01.9 -0.4**
comp=Z,32nm,1.3s
LAO LASA Array 17.23 99 *e*Pn **Pn 10 31 02.3 -0.6**
comp=Z,39nm,1.1s
LAO LASA Array 17.23 99 P **Pn 10 31 02.9 0.0**
baz=298,SNR=8.6
BW06 Boulder Array 17.48 114 *e*Pn **Pn 10 31 05.2 -0.9**
comp=Z,37nm,1.3s
BW06 Boulder Array 17.48 114 P **P 10 31 07.2 -0.2**
baz=311,SNR=17
PD31 Pinedale Array 17.48 114 *e*Pn **Pn 10 31 06.1 0.0**
PDAR Pinedale Array 17.48 114 P **P 10 31 07.6 +0.2**
comp=Z,0.2nm,0.3s,baz=299,slow=7.7,SNR=30
PDAR LR LR 10 37 53.6
comp=Z,279nm,18.1s,baz=318,slow=37
PDAR Pinedale Array 17.48 114 *e*Pn **Pn 10 31 04.4 -1.8**
DUG Dugway, Tooele 17.57 126 *e*Pn **Pn 10 31 05.5 -1.7**
comp=Z,39nm,1.1s
DUG Dugway, Tooele 17.57 126 *e*P **Pn 10 31 05.5 -1.7**
DUG pmax pmax
comp=Z,39nm,1.1s
DUG Dugway, Tooele 17.57 126 P **Pn 10 31 07.9 +0.6**
baz=320,SNR=19
FFC Flin Flon 17.59 70 *e*Pn **Pn 10 31 06.1 -1.2**
comp=Z,34nm,0.9s
FFC Flin Flon 17.59 70 *e*P **Pn 10 31 06.1 -1.2**
FFC pmax pmax
comp=Z,34nm,0.9s
TCUT Toone Canyon 17.60 121 *e*Pn **Pn 10 31 06.7 -1.1**
comp=Z,24nm,1.2s
COLD Coldfoot 17.61 335 *e*Pn **Pn 10 31 06.7 -0.6**
comp=Z,14nm,1.1s
DGMT Dagmar 17.70 92 *e*Pn **Pn 10 31 07.0 -1.7**
comp=Z,137nm,1.1s
DGMT Dagmar 17.70 92 P **Pn 10 31 08.3 -0.5**
baz=293,SNR=13
PMPB Monarch Peak 17.73 151 *e*Pn **Pn 10 31 07.8 -1.3**
comp=Z,49nm,1.2s
CTU Camp Tracy 17.73 123 *e*Pn **Pn 10 31 07.1 -2.2**
comp=Z,6.6nm,1.2s
IM3 Indian Mountai 17.74 329 *e*Pn **Pn 10 31 07.7 -1.3**
R11A Troy Canyon, C 17.76 135 *e*Pn **Pn 10 31 07.7 -1.9**
comp=Z,19nm,1.5s
R11A Troy Canyon, C 17.76 135 P **Pn 10 31 08.8 -0.8**
baz=327
JLU Jordanelle 17.96 123 *e*Pn **Pn 10 31 12.2 +0.1**
comp=Z,17nm,1.2s
NLU North Lily Min 18.12 125 *e*Pn **Pn 10 31 12.8 -1.3**
comp=Z,17nm,1.2s
MPU Maple Canyon 18.30 124 *e*P **P 10 31 16.8 +0.4**
comp=Z,5.4nm,1.2s
PAGB Antelope Grade 18.34 150 *e*Pn **Pn 10 31 15.8 -0.9**
comp=Z,29nm,1.0s
PSUT Pine Spring, 18.38 132 *e*Pn **Pn 10 31 15.9 -1.3**
comp=Z,30nm,1.3s
CWC Cottonwood Cre 18.42 144 P **P 10 31 17.3 -0.4**
baz=334
TOLK Toolik Lake Re 18.56 339 *e*P **P 10 31 18.2 -0.7**
comp=Z,24nm,1.2s
TOLK Toolik Lake Re 18.56 339 P **P 10 31 17.9 -1.0**
baz=143
VES Vestal, Richgr 18.61 147 P **P 10 31 19.4 -0.3**
baz=336
TPNV Topopah Spring 18.67 139 *e*P **P 10 31 19.7 -0.8**
comp=Z,36nm,1.3s
TPNV Topopah Spring 18.67 139 *e*P **P 10 31 19.7 -0.8**
TPNV pmax pmax
comp=Z,36nm,1.3s
TPNV Topopah Spring 18.67 139 P **Pn 10 31 21.6 +0.8**
baz=330,SNR=8.1
DAC Darwin (Calif) 18.74 143 *e*P **P 10 31 20.1 -1.2**
comp=Z,43nm,1.5s
DAC Darwin (Calif) 18.74 143 *e*P **P 10 31 20.2 -1.2**
DAC pmax pmax
comp=Z,43nm,1.5s
SMMC Simmler 18.80 150 P **P 10 31 20.5 -1.3**
baz=338
FURC Furnace Creek, 18.85 141 P **P 10 31 22.6 +0.4**
baz=332
MPMC Manual Prospec 18.98 143 P **Pn 10 31 25.1 +0.5**
baz=333,SNR=38
TCRU Three Creeks R 18.98 129 *e*P **P 10 31 24.0 0.0**
comp=Z,12nm,0.9s
ISA Isabella, Lake 18.98 146 *e*P **P 10 31 23.2 -0.6**
comp=Z,26nm,1.0s
ISA Isabella, Lake 18.98 146 *e*P **P 10 31 23.2 -0.6**
ISA pmax pmax
comp=Z,26nm,1.0s
ISA Isabella, Lake 18.98 146 P **Pn 10 31 25.1 +0.6**
baz=335,SNR=18
TMUT Trail Mountain 19.05 125 *e*P **P 10 31 25.0 +0.1**
comp=Z,10nm,1.0s
P17A Butcher Ranch, 19.16 124 *e*P **P 10 31 26.0 +0.1**
comp=Z,9.6nm,1.1s
MSU Marysvale 19.18 128 *e*P **P 10 31 26.4 +0.2**
MSU Marysvale 19.18 128 *e*P **P 10 31 26.4 +0.2**
PKM Mcpherson Peak 19.25 150 P **Pn 10 31 28.9 +1.0**
baz=338
K22A Casper 19.28 110 *e*P **P 10 31 26.4 -0.7**
comp=Z,57nm,1.0s
K22A Casper 19.28 110 P **P 10 31 27.4 +0.3**
baz=309,SNR=18
P18A Preston Nutter 19.30 123 *e*P **Pn 10 31 28.5 0.0**
comp=Z,25nm,1.1s
ARVC Arvin 19.35 148 P **P 10 31 28.0 +0.3**
baz=336
CCUT Cedar City 19.40 132 *e*P **P 10 31 28.4 -0.2**
comp=Z,12nm,1.1s
LRMC Laurel Mtn Rad 19.42 145 P **P 10 31 29.5 +0.8**
baz=334
SZCU Shurtz Canyon 19.49 132 *e*P **P 10 31 29.5 -0.1**
comp=Z,31nm,1.2s
SHPR Sheep Range 19.50 138 *e*P **P 10 31 30.3 +0.7**
comp=Z,13nm,1.0s
RWWY Rawlins 19.50 113 *e*P **P 10 31 29.9 +0.3**
comp=Z,36nm,0.9s
SRU San Rafael Swe 19.54 124 *e*P **P 10 31 30.5 +0.4**
comp=Z,28nm,1.1s
SRU San Rafael Swe 19.54 124 *e*P **P 10 31 30.5 +0.4**
SRU pmax pmax
comp=Z,28nm,1.1s
MTPU Mount Pierson 19.55 129 *e*P **P 10 31 30.0 -0.4**
SHOC Shoshone, Teco 19.57 141 P **P 10 31 31.4 +1.1**
baz=332
OSI Osito Audit: C 19.85 148 *e*P **P 10 31 33.3 0.0**
comp=Z,37nm,1.4s
OSI Osito Audit: C 19.85 148 P **P 10 31 34.4 +1.1**
baz=337
EDW2 Edwards Air Fo 19.85 146 P **Pn 10 31 34.9 -0.1**
baz=336,SNR=6.3
LCMT Little Creek M 19.90 133 *e*P **P 10 31 33.2 -0.7**
comp=Z,26nm,1.1s
GSC Goldstone, Bar 19.90 143 *e*P **P 10 31 33.8 -0.1**
comp=Z,24nm,1.1s
GSC Goldstone, Bar 19.90 143 *e*P **P 10 31 33.8 -0.1**
GSC pmax pmax
comp=Z,24nm,1.1s
GSC Goldstone, Bar 19.90 143 P **Pn 10 31 35.4 -0.1**
baz=333
PKCU Pink Cliffs 19.97 130 *e*P **P 10 31 34.3 -0.7**
comp=Z,49nm,1.2s
O20A White River Ci 19.99 118 *e*P **P 10 31 35.1 +0.2**
comp=Z,37nm,0.9s
O20A White River Ci 19.99 118 P **P 10 31 35.9 +0.9**
baz=315,SNR=6.8
KNB Kanab 20.09 132 *e*P **P 10 31 35.8 -0.2**
comp=Z,14nm,1.0s
KNB Kanab 20.09 132 *e*P **P 10 31 35.8 -0.2**
KNB pmax pmax
comp=Z,14nm,1.0s
TUQ Turquoise Moun 20.12 141 P **P 10 31 37.4 +1.1**
baz=332
SCZ2 Santa Cruz Isl 20.14 151 P **P 10 31 37.6 +1.2**
baz=339
BLG Laguna Peak, P 20.21 149 P **P 10 31 38.4 +1.2**
baz=338
DECC Green Verdugo 20.31 147 P **P 10 31 39.2 +0.9**
baz=337
MWC Mount Wilson 20.43 147 *e*P **P 10 31 39.3 -0.5**
comp=Z,50nm,1.2s
MWC Mount Wilson 20.43 147 *e*P **P 10 31 39.3 -0.5**
MWC pmax pmax
comp=Z,51nm,1.2s
PASC Pasadena Art C 20.43 147 *e*P **P 10 31 39.3 -0.3**
comp=Z,31nm,1.3s
HEC Hector,Ludlow 20.50 142 P **P 10 31 41.6 +1.2**
baz=333,SNR=39
BFSC Mount Baldy Ra 20.55 146 P **P 10 32 42.1 +1.1**
baz=336,SNR=28
PV09 Paradox Valley 20.71 123 *e*P **P 10 31 43.3 +0.3**
N23A Red Feather La 20.74 113 *e*P **P 10 31 43.0 -0.2**
comp=Z,38nm,0.9s
N23A Red Feather La 20.74 113 P **P 10 31 43.4 +0.2**
baz=312,SNR=8.2
PHWY Pilot Hill 20.75 112 *e*P **P 10 31 43.1 -0.2**
comp=Z,31nm,1.0s
PV21 Cone Mtn., Par 20.75 123 *e*P **P 10 31 43.0 -0.3**
comp=Z,16nm,0.8s
LDFC Landfair 20.75 140 *e*P **P 10 31 42.6 -0.5**
comp=Z,102nm,1.1s
MDND Maddock 20.77 90 *e*P **P 10 31 43.3 +0.1**
comp=Z,188nm,1.0s
MDND Maddock 20.77 90 P **P 10 31 43.3 +0.1**
baz=294,SNR=7.1
BBRC Big Bear Solar 20.79 144 P **P 10 31 44.7 +1.0**
baz=335,SNR=20
GMRC Granite Mounta 20.79 141 P **P 10 31 44.1 +0.5**
baz=332,SNR=31
U15A North Rim 20.81 132 *e*P **P 10 31 43.9 0.0**
comp=Z,23nm,1.0s
PV23 Carpenter Ridg 20.81 123 *e*P **P 10 31 43.6 -0.3**
comp=Z,24nm,1.0s
PV10 Paradox Valley 20.86 123 *e*P **P 10 31 44.4 0.0**
PV14 Lion Creek, Pa 20.87 123 *e*P **P 10 31 44.5 0.0**
comp=Z,43nm,1.5s
PV22 Blue Mesa, Par 20.87 122 *e*P **P 10 31 44.2 -0.3**
comp=Z,47nm,1.2s
PV20 West Nyswonger 20.92 123 *e*P **P 10 31 44.5 -0.5**
comp=Z,25nm,1.2s
PV19 Morning Glory 20.93 123 *e*P **P 10 31 45.0 -0.3**
comp=Z,31nm,1.4s
PV16 Nyswonger Mesa 20.97 123 *e*P **P 10 31 45.3 -0.3**
comp=Z,24nm,1.1s
PV17 East Wray Mesa 20.97 123 *e*P **P 10 31 44.2 -1.4**
comp=Z,28nm,1.2s
PV11 David Mesa, Pa 21.00 123 *e*P **P 10 31 45.4 -0.5**
comp=Z,30nm,1.1s
PV18 Skein Mesa, Pa 21.02 123 *e*P **P 10 31 45.3 -0.8**
comp=Z,15nm,1.0s
PV12 Saucer Basin, 21.02 123 *e*P **P 10 31 45.9 -0.3**
comp=Z,24nm,1.0s
PV03 Paradox Valley 21.05 123 *e*P **P 10 31 45.3 -1.1**
PV05 Paradox Valley 21.05 124 *e*P **P 10 31 46.2 -0.3**
CIS Catalina Islan 21.07 149 P **P 10 31 47.4 +0.9**
baz=338
PV13 Radium Mtn., P 21.13 123 *e*P **P 10 31 47.5 +0.1**
comp=Z,21nm,0.9s
PV02 Paradox Valley 21.14 123 *e*P **P 10 31 47.8 +0.3**
comp=Z,18nm,1.0s
NEE2 Needles Airpor 21.22 139 P **P 10 31 49.0 +1.0**
baz=331
W13A Hualapai Mount 21.23 137 *e*P **P 10 31 48.4 -0.1**
comp=Z,34nm,1.4s
PV01 Paradox Valley 21.28 123 *e*P **P 10 31 49.0 0.0**
MURC Murrieta 21.29 146 P **P 10 31 49.8 +0.9**
baz=336
SMCO Snowmass 21.36 118 *e*P **P 10 31 49.2 -0.8**
comp=Z,80nm,1.5s
BELC Belle Mtn. Jos 21.36 143 P **P 10 31 50.7 +0.9**
baz=334,SNR=40
SCI2 San Clemente I 21.41 149 P **P 10 31 50.8 +0.6**
baz=338
PFO Pinyon Flats O 21.54 144 *e*P **P 10 31 51.3 -0.4**
comp=Z,19nm,1.1s
PFO Pinyon Flats O 21.54 144 *e*P **P 10 31 51.3 -0.4**
PFO pmax pmax
comp=Z,19nm,1.1s
PFO Pinyon Flats O 21.54 144 P **P 10 31 51.3 -0.4**
baz=335,SNR=9.6
XPFO Piæon Flat 21.54 144 *e*P **P 10 31 51.6 -0.1**
comp=Z,17nm,1.0s
IRM Iron Mountain 21.55 141 P **P 10 31 51.9 +0.2**
baz=332,SNR=37
FRD Ford Ranch, An 21.59 145 P **P 10 31 52.5 +0.3**
baz=335,SNR=16
ISCO Idaho Springs 21.67 115 *e*P **P 10 31 53.1 -0.1**
comp=Z,29nm,1.4s
ISCO Idaho Springs 21.67 115 *e*P **P 10 31 53.1 -0.1**
ISCO pmax pmax
comp=Z,29nm,1.4s
ISCO Idaho Springs 21.67 115 P **P 10 31 53.0 -0.3**
baz=314
PDMCI Parker Dam,Lak 21.82 139 P **P 10 31 55.1 +0.6**
baz=331
BC3 Big Chuckawall 21.87 142 P **P 10 31 55.8 +0.6**
baz=333
RDOG Red Dog Mine 21.88 328 *e*P **P 10 31 54.8 0.0**
comp=Z,25nm,1.0s
CPE Camp Elliot 21.97 146 *e*P **P 10 31 56.1 0.0**
comp=Z,28nm,1.3s
WUAZ Wupatki 21.98 132 *e*P **P 10 31 56.5 +0.1**
WUAZ Wupatki 21.98 132 P **P 10 31 56.9 +0.4**
baz=326,SNR=24
MVCO Mesa Verde 22.02 124 *e*P **P 10 31 57.1 +0.1**
comp=Z,29nm,1.0s
MVCO Mesa Verde 22.02 124 P **P 10 31 57.7 +0.7**
baz=321
Y12C Blythe 22.15 140 *e*P **P 10 31 58.3 +0.3**
comp=Z,29nm,1.2s
Y12C Blythe 22.15 140 P **P 10 31 57.7 -0.3**
baz=332
ULM Lac du Bonnet 22.17 81 P **P 10 31 57.7 -0.5**
comp=Z,8.2nm,0.9s,baz=301,slow=9.3,SNR=7.0
ULM Lg Lg 10 38 42.8
comp=Z,7.8nm,1.1s,baz=208,slow=16,SNR=4.3
ULM LR LR 10 41 18.6
comp=Z,704nm,19.9s,baz=306,slow=39
ULM Lac du Bonnet 22.17 81 *e*P **P 10 31 57.6 -0.5**
comp=Z,54nm,1.2s
ULM Lac du Bonnet 22.17 81 P **P 10 31 58.6 +0.5**
ULM Lac du Bonnet 22.17 81 *e*P **P 10 31 57.7 -0.5**
ULM pmax pmax
comp=Z,55nm,1.2s
MONP2 Monument Peak 22.20 145 P **P 10 31 59.4 +0.5**
baz=335,SNR=25
BAR Barrett 22.31 146 *e*P **P 10 31 59.5 -0.3**
comp=Z,21nm,1.1s
SWSC Sam W. Stewart 22.38 144 P **P 10 32 01.4 +0.9**
baz=335,SNR=5.4
S22A 4UR Ranch, Cre 22.48 121 *e*P **P 10 32 02.0 +0.1**
comp=Z,23nm,1.1s
Q24A Divide 22.51 116 *e*P **P 10 32 03.0 +0.8**
comp=Z,15nm,1.1s
Q24A Divide 22.51 116 P **P 10 32 02.8 +0.5**
baz=315
IKP In-Ko-Pah, Jac 22.53 145 P **P 10 32 02.5 +0.3**
baz=335,SNR=7.6
GLA Glamis 22.65 142 *e*P **P 10 32 03.7 +0.3**
comp=Z,46nm,1.0s
GLA Glamis 22.65 142 *e*P **P 10 32 03.7 +0.3**
GLA pmax pmax
comp=Z,46nm,1.0s
GLA Glamis 22.65 142 P **P 10 32 04.5 +1.1**
baz=333,SNR=8.1
X16A Lo Mia Camp, P 22.87 134 *e*P **P 10 32 06.1 +0.2**
comp=Z,20nm,1.3s
AGMN Agassiz Nation 22.88 86 *e*P **P 10 32 06.0 +0.2**
comp=Z,25nm,0.9s
AGMN Agassiz Nation 22.88 86 P **P 10 32 05.1 -0.7**
baz=294
OGNE Ogallala 22.96 108 *e*P **P 10 32 06.8 0.0**
comp=Z,38nm,0.9s
OGNE Ogallala 22.96 108 P **P 10 32 05.7 -1.0**
baz=310
SDCO Great Sand Dun 23.19 119 *e*P **P 10 32 08.8 -0.5**
comp=Z,16nm,1.3s
SDCO Great Sand Dun 23.19 119 P **P 10 32 09.8 +0.4**
baz=317,SNR=8.1
113A Mohawk Valley, 23.31 140 *e*P **P 10 32 10.5 +0.3**
comp=Z,17nm,1.4s
X18A Snowflake 23.45 131 *e*P **P 10 32 12.3 +0.4**
comp=Z,56nm,1.4s
KSCO Kaye Shedlock' 23.89 112 *e*P **P 10 32 16.0 -0.1**
comp=Z,55nm,1.0s

KSCO	**Kaye Shedlock'** baz=313	23.89	112	P		P		10 32 15.9	-0.1
T25A	**Trinidad** comp=Z,15nm,1.0s	24.23	118	*e*P		P		10 32 19.8	+0.4
T25A	**Trinidad** baz=318,SNR=12	24.23	118	P		P		10 32 20.0	+0.6
214A	**Organ Pipe Nat** baz=332,SNR=6.2	24.40	139	P		P		10 32 21.8	+1.0
ECSD	**EROS Data Cent** comp=Z,19nm,0.9s	24.57	96	*e*P		P		10 32 22.5	+0.3
ECSD	**EROS Data Cent** baz=303,SNR=7.8	24.57	96	P		P		10 32 22.6	+0.4
ANMO	**Albuquerque** comp=Z,2.5nm,0.8s,baz=321,slow=10,SNR=16	24.82	124	P		P		10 32 25.6	+0.9
ANMO	comp=Z,262nm,19.1s,baz=320,slow=37			LR		LR		10 42 29.7	
ANMO	**Albuquerque** comp=Z,13nm,1.0s	24.82	124	*e*P		P		10 32 24.9	+0.2
ANMO	**Albuquerque**	24.82	124	⇓*e*P		P		10 32 25.6	+0.9
ANMO	comp=Z,4.0nm,0.8s			pmax		pmax			
ANMO	**Albuquerque** baz=322	24.82	124	P		P		10 32 25.0	+0.2
LAZ	**Ladron**	24.91	126	*e*P		P		10 32 26.7	+1.2
TUC	**Tucson** comp=Z,5.4nm,1.0s	24.94	135	*e*P		P		10 32 26.2	+0.5
TUC	**Tucson**	24.94	135	*e*P		P		10 32 26.2	+0.5
TUC	comp=Z,5.0nm,1.0s			pmax		pmax			
TUC	**Tucson** baz=329	24.94	135	P		P		10 32 26.4	+0.7
BGNE	**Belgrade** comp=Z,50nm,1.0s	24.97	103	*e*P		P		10 32 26.1	+0.3
BGNE	**Belgrade** baz=307	24.97	103	P		P		10 32 25.5	-0.3
LENM	**Lemitar**	25.18	126	*e*P		P		10 32 28.0	+0.1
LPM	**Los Pinos Moun**	25.23	126	*e*P		P		10 32 28.7	+0.3
Y22D	**IRIS PASSCAL I** comp=Z,105nm,1.5s	25.28	126	*e*P		P		10 32 28.8	0.0
BNM	**Barren Site**	25.36	126	*e*P		P		10 32 29.6	-0.1
EYMN	**Ely** comp=Z,87nm,1.1s	25.70	84	*e*P		P		10 32 32.1	-0.2
EYMN	**Ely** baz=295,SNR=16	25.70	84	P		P		10 32 32.6	+0.2
F37A	**Hinrichs Farm,** baz=299	26.00	89	P		P		10 32 35.1	0.0
121A	**Cookes Peak, D** baz=326,SNR=7.1	26.12	130	P		P		10 32 38.0	+1.5
SPMN	**Marine on St.** comp=Z,49nm,1.4s	26.14	90	*e*P		P		10 32 36.6	+0.3
SPMN	**Marine on St.** baz=300	26.14	90	P		P		10 32 36.6	+0.3
E38A	**The Farm, Brul** comp=Z,63nm,1.3s	26.25	86	*e*P		P		10 32 38.1	+0.8
E38A	**The Farm, Brul** baz=297,SNR=6.2	26.25	86	P		P		10 32 37.0	-0.4
F38A	**Pierce - Schro** baz=298	26.35	88	P		P		10 32 38.5	+0.2
319A	**Douglas** comp=Z,33nm,1.2s	26.40	134	*e*P		P		10 32 39.9	+0.9
H38A	**Maiden Rock** baz=301	26.74	91	P		P		10 32 42.4	+0.7
G38A	**Ridgeland** baz=300	26.75	90	P		P		10 32 42.4	+0.5
RES	**Resolute Bay** comp=Z,1.2nm,0.3s,baz=235,slow=19,SNR=18	26.88	20	P		P		10 32 49.2	+6.5
RES	comp=Z,518nm,19.6s,baz=245,slow=37			LR		LR		10 43 38.8	
RES	**Resolute Bay** comp=Z,7.2nm,1.1s	26.88	20	*e*P		P		10 32 43.0	+0.3
RES	**Resolute Bay**	26.88	20	P		P		10 32 49.6	+6.9
RES	**Resolute Bay**	26.88	20	*e*P		P		10 32 43.0	+0.3
RES	comp=Z,7.0nm,1.1s			pmax		pmax			
G39A	**Holcombe** baz=300	27.11	89	P		P		10 32 45.5	+0.4
H39A	**Augusta** baz=301	27.35	90	P		P		10 32 47.5	+0.3
AMTX	**Amarillo** comp=Z,19nm,0.9s	27.38	118	*e*P		P		10 32 47.5	-0.2
AMTX	**Amarillo** baz=319	27.38	118	P		P		10 32 48.9	+1.2
MSTX	**Muleshoe** comp=Z,19nm,1.5s	27.49	120	*e*P		P		10 32 48.9	+0.2
MSTX	**Muleshoe** baz=321	27.49	120	P		P		10 32 49.9	+1.2
I39A	**Houston** comp=Z,32nm,1.2s	27.63	92	*e*P		P		10 32 49.9	+0.1
I39A	**Houston** baz=302	27.63	92	P		P		10 32 49.4	-0.4
SCIA	**State Center** comp=Z,30nm,1.0s	27.67	97	*e*P		P		10 32 51.4	+1.2
SCIA				*es*P		**sP**		10 32 59.3	+5.4
G40A	**Rib Lake** baz=300	27.72	88	P		P		10 32 49.6	-1.0
J39A	**Decorah** baz=303	27.79	93	P		P		10 32 52.1	+0.8
MNTX	**Cornudas Mount** comp=Z,12nm,1.1s	27.96	127	*e*P		P		10 32 52.7	-0.1
MNTX	**Cornudas Mount** baz=325,SNR=11	27.96	127	P		P		10 32 53.3	+0.5
I40A	**Norwalk** baz=302	28.16	91	P		P		10 32 54.3	-0.3
J40A	**Soldiers Grove** baz=303	28.35	92	P		P		10 32 56.0	-0.2
K40A	**Colesburg** baz=304	28.49	93	P		P		10 32 57.4	-0.1
I41A	**Arkdale** baz=302	28.54	90	P		P		10 32 57.5	-0.4
M39A	**Webster** baz=306	28.55	97	P		P		10 32 58.3	+0.2
JFWS	**Jewell Farm** baz=304	28.92	92	P		P		10 33 01.3	0.0
M40A	**Post Highland** baz=306	29.00	96	P		P		10 33 01.7	-0.3
WMOK	**Wichita Mounta** comp=Z,18nm,1.3s	29.09	114	*e*P		P		10 33 02.5	-0.4
WMOK	**Wichita Mounta**	29.09	114	*e*P		P		10 33 02.5	-0.4
WMOK	comp=Z,18nm,1.3s			pmax		pmax			
WMOK	**Wichita Mounta** baz=317,SNR=12	29.09	114	P		P		10 33 03.6	+0.7
Q41A	**Truxton** baz=309	30.66	100	P		P		10 33 15.4	-1.3
LTX	**Lajitas**	30.74	127	*e*P		P		10 33 18.5	+0.9
LTX	**Lajitas**	30.74	127	*e*P		P		10 33 18.5	+0.9
TX31	**Lajitas Ar. Si**	30.74	127	*e*P		P		10 33 17.2	-0.4
TXAR	**Lajitas Array** comp=Z,6.3nm,0.9s,baz=326,slow=6.6,SNR=26	30.74	127	P		P		10 33 18.5	+0.9
TXAR	comp=Z,334nm,19.9s,baz=0.0,slow=37			LR		LR		10 46 14.2	
P42A	**Winchester** comp=Z,14nm,1.0s	30.80	98	*e*P		P		10 33 17.6	-0.4
HDIL	**Hopedale** baz=307	30.85	95	P		P		10 33 18.1	-0.3
R41A	**Rosebud** baz=310	30.98	101	P		P		10 33 19.2	-0.3
Q42A	**Golden Eagle** baz=309	31.10	99	P		P		10 33 19.6	-1.0
X37A	**Clayton** comp=Z,8.8nm,1.1s	31.14	110	*e*P		P		10 33 20.1	-0.9
CCM	**Cathedral Cave** comp=Z,16nm,1.1s	31.22	101	*e*P		P		10 33 22.0	+0.4
CCM	**Cathedral Cave**	31.22	101	*e*P		P		10 33 22.0	+0.4
CCM	comp=Z,16nm,1.1s			pmax		pmax			
CCM	**Cathedral Cave** baz=310	31.22	101	P		P		10 33 21.1	-0.6
P43A	**Skaggs, Pawnee** baz=308	31.27	97	P		P		10 33 20.7	-1.3
U40A	**Yellville** baz=313	31.38	105	P		P		10 33 22.1	-1.0
O44A	**Mansfield** baz=307	31.60	95	P		P		10 33 25.0	0.0
W39A	**Magazine** baz=315	31.63	108	P		P		10 33 24.8	-0.4
S42A	**Caledonia** baz=311	31.68	101	P		P		10 33 24.5	-1.1
JCT	**Junction City** comp=Z,9.2nm,0.8s	31.78	121	*e*P		P		10 33 25.8	-0.9
JCT	**Junction City**	31.78	121	*e*P		P		10 33 25.8	-0.9
JCT	comp=Z,9.0nm,0.8s			pmax		pmax			
JCT	**Junction City** baz=323	31.78	121	P		P		10 33 26.6	-0.1
K46A	**Dorr** baz=304	31.79	89	P		P		10 33 25.7	-0.9
X39A	**Fountain Ranch** baz=316	31.92	109	P		P		10 33 27.2	-0.7
V41A	**Mountainview** baz=313,SNR=8.3	32.18	105	P		P		10 33 29.6	-0.6
MIAR	**Mount Ida** comp=Z,15nm,1.4s	32.21	108	*e*P		P		10 33 30.5	+0.2
MIAR	**Mount Ida**	32.21	108	*e*P		P		10 33 30.5	+0.2
MIAR	comp=Z,15nm,1.4s			pmax		pmax			
MIAR	**Mount Ida** baz=315	32.21	108	P		P		10 33 30.6	+0.2
S43A	**Fulton Ridge,** baz=311	32.24	101	P		P		10 33 30.2	-0.4
SFIN	**Lafayette** baz=307	32.30	94	P		P		10 33 30.4	-0.8
U42A	**Revenden** baz=312	32.34	103	P		P		10 33 30.6	-0.9
P45A	**Graceland, Par** comp=Z,17nm,0.8s	32.42	96	*e*P		P		10 33 31.6	-0.7
P45A	**Graceland, Par** baz=308	32.42	96	P		P		10 33 31.9	-0.4
T43A	**Greenville** baz=311	32.43	101	P		P		10 33 31.9	-0.3
W41B	**Gary Mavity, V** comp=Z,12nm,1.3s	32.55	106	*e*P		P		10 33 33.0	-0.4
W41B	**Gary Mavity, V** baz=314	32.55	106	P		P		10 33 34.2	+0.8
J48A	**Bridge Port** baz=303	32.68	87	P		P		10 33 38.3	+3.9
OLIL	**Olney** comp=Z,18nm,1.0s	32.70	97	*e*P		P		10 33 35.7	+1.0
P46A	**Rosedale** baz=308	32.70	95	P		P		10 33 35.0	+0.4
BILL	**Bilibino** comp=Z,8.3nm,1.1s	33.04	322	*e*P		P		10 33 37.8	+0.5
BILL	**Bilibino**	33.04	322	⇓*e*P		P		10 33 42.7	+5.4
BILL				*e*PPP		PPP		10 35 04.8	
BILL	comp=Z,7.0nm,1.3s			pmax		pmax			
BILL	comp=Z,215nm,15.0s			MLR		MLR			
P47A	**Martinsville** baz=308	33.35	94	P		P		10 33 39.9	-0.4
BLO	**Bloomington** comp=Z,15nm,0.8s	33.39	95	*e*P		P		10 33 39.9	-0.8
BLO	**Bloomington**	33.39	95	*e*P		P		10 33 39.9	-0.8
BLO	comp=Z,15nm,0.8s			pmax		pmax			
T45A	**Paducah** comp=Z,18nm,0.8s	33.46	100	*e*P		P		10 33 41.5	+0.2
O48A	**Farmland** baz=307	33.57	92	P		P		10 33 38.2	-4.0
Q47A	**Bedord North L** baz=308	33.59	95	P		P		10 33 42.2	-0.3
833A	**Chaparral WMA,** comp=Z,30nm,1.3s	33.71	123	*e*P		P		10 33 43.1	-0.5
P48A	**Milroy** baz=308	33.88	94	P		P		10 33 45.2	+0.2
R47A	**Wooly Knot Far** baz=309,SNR=5.7	33.93	96	P		P		10 33 45.3	-0.1
Q48A	**North Vernon** baz=308	34.02	95	P		P		10 33 45.6	-0.6
VLDQ	**Val d'Or** comp=Z,22nm,1.1s	34.09	75	*e*P		P		10 33 44.6	-2.1
WCI	**Wyandotte Cave** comp=Z,10nm,0.8s	34.12	96	*e*P		P		10 33 46.6	-0.3
WCI	**Wyandotte Cave**	34.12	96	*e*P		P		10 33 46.7	-0.3
WCI	comp=Z,10.0nm,0.8s			pmax		pmax			
WCI	**Wyandotte Cave** baz=309	34.12	96	P		P		10 33 46.7	-0.3
HKT	**Hockley**	34.33	117	⇓*e*P		P		10 33 51.9	+3.1
WVT	**Waverly** baz=312	34.54	100	P		P		10 33 48.4	-2.2
O50A	**Cable** baz=307	34.58	91	P		P		10 33 49.5	-1.5
S48A	**Wiedeman Farm,** baz=310	34.62	97	P		P		10 33 51.0	-0.4
OXF	**Oxford** comp=Z,35nm,1.1s	34.69	104	*e*P		P		10 33 52.1	+0.1
OXF	**Oxford**	34.69	104	*e*P		P		10 33 52.1	+0.1
OXF	comp=Z,35nm,1.1s			pmax		pmax			
OXF	**Oxford** baz=314	34.69	104	P		P		10 33 51.5	-0.4
P50A	**Jamestown** baz=308	34.79	92	P		P		10 33 50.9	-1.9
Y45A	**Yeager Farm, C** baz=315	35.06	105	P		P		10 33 55.7	+0.5
E54A	**Lac Daplat, Po** baz=300	35.06	78	P		P		10 33 54.3	-0.8
PLAL	**Pickwick Lake** comp=Z,7.4nm,0.9s	35.16	102	*e*P		P		10 33 56.7	+0.6
342A	**Flagon Creek P** baz=318	35.22	111	P		P		10 33 56.8	+0.2
R50A	**Paris** baz=309	35.28	94	P		P		10 33 56.8	-0.3
P51A	**Williamsport** comp=Z,14nm,1.0s	35.32	92	*e*P		P		10 33 57.5	+0.1
Q51A	**Peebles** comp=Z,34nm,1.5s	35.42	93	*e*P		P		10 33 58.0	-0.3
Y46A	**Houston** baz=314	35.45	104	P		P		10 33 57.9	-0.7
S50A	**Richmond** baz=310	35.62	95	P		P		10 34 00.2	+0.2
R51A	**Hillsboro** baz=309	35.73	94	P		P		10 34 01.1	+0.2
T50A	**Nancy** baz=310	35.77	96	P		P		10 34 01.7	+0.4
U50A	**Jamestown** baz=311	36.16	97	P		P		10 34 04.9	+0.2
P53A	**Whipple** baz=308	36.34	90	P		P		10 34 03.8	-2.4
T51A	**Gray** baz=310	36.36	96	P		P		10 34 03.9	-2.4
W50A	**Signal Mountai** comp=Z,12nm,1.3s	36.69	99	*e*P		P		10 34 09.8	+0.6
ZAIG	**Zacatecas** comp=Z,22nm,1.3s	36.82	132	*e*P		P		10 34 11.0	+0.3
TZTN	**Tazewell** baz=311	36.87	96	P		P		10 34 10.3	-0.5
SCHQ	**Schefferville** comp=Z,253nm,20.3s,baz=308,slow=35	37.21	60	LR		LR		10 48 29.3	
V52A	**Sevierville** comp=Z,20nm,0.9s	37.30	97	*e*P		P		10 34 14.0	-0.3
V52A	**Sevierville** baz=312	37.30	97	P		P		10 34 14.1	-0.3
TKL	**Tuckaleechee C** comp=Z,10nm,1.1s	37.31	97	*e*P		P		10 34 14.2	-0.3
TKL	**Tuckaleechee C**	37.31	97	*e*P		P		10 34 14.2	-0.3
TKL	comp=Z,10.0nm,1.1s			pmax		pmax			
X51A	**Calhoun** comp=Z,18nm,0.9s	37.39	100	*e*P		P		10 34 15.2	+0.1
149A	**Jones** baz=315	37.59	104	P		P		10 34 16.7	-0.1
W52A	**Murphy** comp=Z,16nm,1.1s	37.60	98	*e*P		P		10 34 16.8	-0.1
W52A	**Murphy** baz=312	37.60	98	P		P		10 34 16.4	-0.6
Z50A	**Ashland** comp=Z,8.3nm,1.0s	37.65	102	*e*P		P		10 34 16.5	-0.8
447A	**Lucedale** baz=317	37.78	108	P		P		10 34 18.9	+0.4
V53A	**Saluda** comp=Z,21nm,1.0s	37.89	96	*e*P		P		10 34 18.9	-0.5
V53A	**Saluda** baz=312	37.89	96	P		P		10 34 19.1	-0.4
X52A	**Dahlonega** baz=313	37.95	99	P		P		10 34 19.6	-0.3
W53A	**Cullowhee** baz=312,SNR=7.2	38.01	97	P		P		10 34 20.7	+0.2
150A	**Eclectic** baz=315	38.04	103	P		P		10 34 20.2	-0.4
FRNY	**Flat Rock** comp=Z,26nm,1.3s	38.05	78	*e*P		P		10 34 20.2	-0.3
BINY	**Binghamton** baz=305	38.06	83	P		P		10 34 19.8	-0.9
BG3	**Lake Jocassee** comp=Z,20nm,1.2s	38.27	97	*e*P		P		10 34 22.5	-0.1
BLA	**Blacksburg**	38.36	92	*e*P		P		10 34 23.5	+0.2
BLA	**Blacksburg**	38.36	92	*e*P		P		10 34 23.5	+0.2
BLA	**Blacksburg** baz=310	38.36	92	P		P		10 34 22.6	-0.7
MOQ	**Mont Orford**	38.59	76	*e*P		P		10 34 25.2	-0.1
Z52A	**Williamson** baz=314	38.60	101	P		P		10 34 25.8	+0.5
Y53A	**Monroe** baz=313	38.64	99	P		P		10 34 26.5	+0.8
152A	**Waverly Hall** comp=Z,14nm,1.1s	38.78	102	*e*P		P		10 34 26.1	-0.7
Y54A	**Tignall** baz=313	39.18	98	P		P		10 34 29.3	-0.9
SEY	**Seymchan**	39.78	316	⇓*i*P		P		10 34 41.6	+6.7
PKME	**Peaks-Kenny Pk** comp=Z,38nm,1.1s	40.38	74	*e*P		P		10 34 39.9	-0.1
PET	**Petropavlovsk** comp=Z,42nm,1.3s	40.90	300	*e*P		P		10 34 45.0	+0.8
PET	**Petropavlovsk**	40.90	300	*e*P		P		10 34 45.9	+1.7
PET				*e*S		S		10 40 57.8	+2.3
PET	comp=Z,28nm,1.1s			pmax		pmax			
PEA1	**Petropavlovsk-**	41.36	300	*e*P		P		10 34 47.6	-0.5
PEA0B	**Petropavlovsk-** comp=Z,26nm,1.0s	41.37	300	*e*P		P		10 34 48.7	+0.6
PETK	**Petropavlovsk-** comp=Z,4.4nm,0.8s,baz=94,slow=10,SNR=8.3	41.37	300	P		P		10 34 47.6	-0.5
PETK	comp=Z,135nm,18.1s,baz=76,slow=35			LR		LR		10 51 25.8	
PETK	**Petropavlovsk-**	41.37	300	*e*P		P		10 34 48.4	+0.3
PETK	**Petropavlovsk-**	41.37	300	*e*P		P		10 34 48.4	+0.3
MA2	**Magadan** comp=Z,162nm,19.7s,baz=69,slow=35	41.84	312	LR		LR		10 51 35.0	
SUMG	**Summit** comp=Z,65nm,1.2s	42.01	27	*i* P		P		10 35 01.2	+7.6
SUMG	**Summit**	42.01	27	*i* P		P		10 35 01.2	+7.6
SUMG	comp=Z,65nm,1.2s			pmax		pmax			
TIXI	**Tiksi**	44.32	333	⇑*e*P		P		10 35 20.1	+8.3
TIXI	comp=Z,7.0nm,1.8s			pmax		pmax			
DAG	**Danmarks Havn** comp=Z,9.4nm,1.2s	44.50	18	*i* P		P		10 35 17.9	+4.7
DAG	**Danmarks Havn**	44.50	18	*e*P		P		10 35 17.9	+4.7
DAG	comp=Z,15nm,1.2s			pmax		pmax			
TEIG	**Tepich** comp=Z,24nm,1.4s	46.17	117	*e*P		P		10 35 27.1	0.0
YAK	**Yakutsk** comp=Z,212nm,18.5s,baz=86,slow=39	49.40	322	LR		LR		10 58 42.9	
YAK	**Yakutsk**	49.40	322	⇑*e*P		P		10 35 59.5	+7.9
YAK	comp=Z,20nm,1.3s			pmax		pmax			
YSS	**Yuzh-Sakhalins** comp=Z,23nm,1.1s	52.76	301	*e*P		P		10 36 14.6	-2.5
YSS	**Yuzh-Sakhalins**	52.76	301	⇑*i*P		P		10 36 23.0	+5.9
YSS	comp=Z,20nm,1.1s			pmax		pmax			
GRNR	**Gornyy**	53.52	308	*e*P		P		10 36 28.4	+5.7
GRNR	comp=Z,13nm,1.0s			pmax		pmax			
ASAJ	**Asahikawa** comp=Z,60nm,18.9s,baz=95,slow=35	54.69	298	LR		LR		10 58 57.4	
NRIK	**Noril'sk** comp=Z,157nm,20.6s,baz=27,slow=37	55.38	344	LR		LR		11 01 23.3	
KLR	**Kul'dur** comp=Z,1.5nm,1.0s,baz=38,slow=19,SNR=2.2	56.80	309	P		P		10 36 48.3	+2.0
KLR	**Kul'dur**	56.80	309	⇑*e*P		P		10 36 52.9	+6.6
ARCES	**ARCESS Array B** comp=Z,5.3nm,18.2s,baz=351,slow=38	57.32	9	LR		LR		11 03 43.1	
H11N2	**WAKE ISLAND Hy** baz=40,slow=76,SNR=9996	57.40	260	T		T		11 38 55.5	
H11N3	**WAKE ISLAND Hy** baz=40,slow=76,SNR=9084	57.40	260	T		T		11 38 55.5	
H11N1	**WAKE ISLAND Hy** baz=40,slow=76,SNR=5035	57.41	260	T		T		11 38 56.5	
BOD	**Bodaibo**	58.02	325	*e*P		P		10 36 52.8	-2.0
H11S1	**WAKE ISLAND Hy** baz=46	58.45	259	T		T		11 40 14.8	
H11S2	**WAKE ISLAND Hy** baz=46	58.46	259	T		T		11 40 22.3	
H11S3	**WAKE ISLAND Hy** baz=46	58.47	259	T		T		11 40 35.8	
USRK	**Ussuriysk Ar.** comp=Z,71nm,19.2s,baz=51,slow=36	60.19	305	LR		LR		11 02 52.6	
TAOE	**Nuku Hiva Isla** comp=Z,124nm,0.3s	61.36	190	*e*T		T		11 43 38.0	
MJAR	**Matsushiro Arr** comp=Z,50nm,21.1s,baz=50,slow=32	62.35	295	LR		LR		11 00 15.2	
NB200	**NORSAR Array S**	63.14	19	*e*P		P		10 37 29.8	+0.1
NOA	**NORSAR Array B** comp=Z,2.8nm,1.0s,baz=336,slow=6.7,SNR=4.7	63.14	19	P		P		10 37 29.8	+0.1
NOA	comp=Z,225nm,19.3s,baz=330,slow=37			LR		LR		11 05 47.7	
JHJ	**Hachijo jima 2** comp=Z,22nm,20.8s,baz=82,slow=32	63.93	291	LR		LR		11 01 26.4	
HFS	**Hagfors** comp=Z,222nm,21.2s,baz=318,slow=34	64.47	19	LR		LR		11 03 13.5	
FINES	**FINESS Array B** comp=Z,110nm,18.7s,baz=356,slow=37	65.20	12	LR		LR		11 07 09.5	
TLY	**Talaya**	66.54	326	*e*P		P		10 37 55.1	+3.1
TLY				*e*S		S		10 46 33.9	-8.7
TLY	comp=Z,10.0nm,1.0s			pmax		pmax			
TLY	comp=Z,166nm,19.0s			MLR		MLR			
KSRS	**Korea Array** comp=Z,0.6nm,0.5s,baz=46,slow=7.0,SNR=3.0	67.23	302	P		P		10 37 57.2	+0.6
KSRS	comp=Z,48nm,18.7s,baz=41,slow=36			LR		LR		11 07 20.0	
ZAK	**Zakamensk** comp=Z,3.0nm,1.5s	67.75	326	*e*P		P		10 38 04.9	+5.1
ZAK				pmax		pmax			
OTAV	**Otavalo** comp=Z,9.5nm,1.1s	68.06	121	*e*P		P		10 38 02.3	-0.3
OTAV	**Otavalo**	68.06	121	*ce*P		P		10 38 03.7	+1.1
OTAV	comp=Z,7.0nm,1.7s			pmax		pmax			
ULN	**Ulaanbaatar**	68.48	322	⇑*e*P		P		10 38 10.9	+6.4
ULN	comp=Z,6.0nm,1.8s			pmax		pmax			
PMOR	**Pomariorio Ree** comp=Z,217nm,0.2s	68.52	197	*e*T		T		11 52 35.0	
VAH	**Vaihoa** comp=Z,14nm,0.3s	68.70	197	*e*T		T		11 52 45.4	
SONA1	**Songino Array**	68.75	322	*e*P		P		10 38 06.2	+0.1
SONM	**Songino Array** comp=Z,218nm,20.0s,baz=31,slow=37	68.76	322	LR		LR		11 09 41.7	
ZAA1	**Zalesovo Array**	69.91	338	*e*P		P		10 38 13.1	0.0
ZAA0	**Zalesovo Array** comp=Z,12nm,1.4s	69.92	338	*e*P		P		10 38 14.4	+1.3
ZALV	**Zalesovo Beam** comp=Z,0.7nm,0.4s,baz=31,slow=3.4,SNR=5.5	69.92	338	P		P		10 38 13.1	0.0
ZALV	comp=Z,176nm,18.6s,baz=68,slow=39			LR		LR		11 12 45.4	
ZALV	**Zalesovo Beam**	69.92	338	*e*P		P		10 38 14.1	+1.0
ZALV	**Zalesovo Beam**	69.92	338	*e*P		P		10 38 14.1	+1.0
HVS	**Khovu-Aksy**	70.16	332	⇑*e*P		P		10 38 21.5	+6.8
HVS	comp=Z,17nm,1.2s			pmax		pmax			
TIAR	**Tiarei** comp=Z,47nm,0.2s	71.28	198	*e*T		T		11 56 02.5	
ARU	**Arti**	71.34	354	*c i*P		P		10 38 27.9	+6.2
ARU								10 41 01.2	
ARU	comp=Z,13nm,1.2s			pmax		pmax			
PPT2	**Papeete2** comp=Z,154nm,27.2s	71.36	198	*e*LR		LR		11 00 11.0	
PPT2	**Papeete2** comp=Z,21nm,0.3s	71.36	198	*e*T		T		11 56 07.2	
PAE	**Paea** comp=Z,8.6nm,0.2s	71.43	198	*e*T		T		11 56 10.9	
TVO	**Taravao** comp=Z,6.9nm,0.2s	71.49	198	*e*T		T		11 56 17.5	
HHC	**Hu-ho-hao-te**	72.42	315	*e*P		P		10 38 28.9	+0.3
HHC				sP		PcP		10 38 43.8	-2.7
HHC				S		S		10 47 52.2	-0.2
HHC				sS		SKiKP		10 48 03.2	-0.6
HHC	comp=Z,15nm,1.1s			pmax		pmax			
HHC	comp=Z,160nm,5.7s			pmax		pmax			
HHC	comp=Z,230nm,13.7s			LR		LR			
HHC	comp=Z,210nm,13.7s			LR		LR			
HHC	comp=Z,240nm,14.2s			LR		LR			
CLL	**Collm**	72.49	23	*e*P		P		10 38 29.0	+0.3
CLL	comp=Z,100nm,20.0s			LmV				11 11 00.0	
OBN	**Obninsk** comp=Z,32nm,19.4s,baz=355,slow=37	72.50	7	LR		LR		11 11 46.6	
OBN	**Obninsk**	72.50	7	*e*P		P		10 38 32.2	+3.5
OBN				*e*				10 41 16.4	

OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,124nm,19.0s
DGZ Jazzator, Alta 73.19 335⇑ *eP* P 10 38 39.0 +5.9
DGZ pmax pmax
comp=Z,8.0nm,1.7s
BRVK Borovoye 73.47 347⇑ *eP* P 10 38 41.5 +7.0
BRVK pmax pmax
comp=Z,4.0nm,0.9s
BVAR Borovoye Array 73.49 346 P **P 10 38 35.1 +0.5**
comp=Z,0.8nm,0.5s,baz=231,slow=40,SNR=3.6
BVAR LR LR 11 15 09.2
comp=Z,151nm,20.3s,baz=15,slow=39
KURK Kurchatov 74.29 341 *eP* **P 10 38 40.7 +1.4**
KURK Kurchatov 74.29 341 *eP* **P 10 38 40.7 +1.4**
KURBB Kurchatov Arra 74.39 341 P **P 10 38 40.7 +0.8**
comp=Z,2.4nm,0.8s,baz=16,slow=5.0,SNR=7.5
GERES GERESS Array B 74.95 23 P **P 10 38 44.1 +0.8**
comp=Z,0.8nm,0.7s,baz=357,slow=6.9,SNR=3.5
GERES LR LR 11 14 18.6
comp=Z,72nm,18.8s,baz=326,slow=38
GEA0 GERESS Array S 74.96 23 *eP* **P 10 38 41.3 -2.1**
RKT Rikitea 75.14 183 *eT* T 12 00 50.4
comp=Z,13nm,0.3s
VRAC Vranov 75.18 21 LR LR 11 13 23.3
comp=Z,150nm,19.2s,baz=325,slow=37
DAVOX Davos/Dischmat 75.88 26 LR LR 11 14 32.3
comp=Z,143nm,18.5s,baz=300,slow=38
AKASG Malin Array Be 76.08 13 P **P 10 38 49.0 -0.6**
AKASG comp=Z,0.2nm,0.3s,baz=351,slow=5.0,SNR=2.8
LR LR 11 13 39.0
comp=Z,127nm,18.6s,baz=0.0,slow=37
AKBB Malin Array Si 76.08 13 *eP* **P 10 38 49.0 -0.6**
AKBB Malin Array Si 76.08 13 *eP* **P 10 38 49.1 -0.6**
NJ2 Nanjing 76.10 305 *eP* **P 10 38 51.0 +1.0**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
TBI Tubuai 76.95 197 *e*LR LR 11 02 22.3
comp=Z,93nm,32.8s
TBI Tubuai 76.95 197 *eT* T 12 03 07.1
comp=Z,23nm,0.3s
MK32 Makanchi Array 77.17 337 *eP* **P 10 38 56.4 +0.5**
MKAR Makanchi Array 77.17 337 P **P 10 38 56.4 +0.5**
comp=Z,1.1nm,0.7s,baz=35,slow=5.4,SNR=6.9
MK01 Makanchi Array 77.19 337 *eP* **P 10 38 56.4 +0.4**
AKTO Aktyubinsk 77.35 354 P **P 10 38 57.6 +0.8**
comp=Z,1.2nm,0.3s,baz=25,slow=6.0,SNR=3.2
AKTO LR LR 11 15 10.7
comp=Z,68nm,20.4s,baz=5.2,slow=37
ESDC Sonseca Array 77.66 39 P **P 10 38 59.3 +0.5**
comp=Z,0.2nm,0.3s,baz=328,slow=7.9,SNR=2.9
ABKAR Akbulak array 78.38 352 *eP* **P 10 39 03.3 +0.8**
GTA Gaotai 78.43 322 *eP* P 10 39 12.9 +10
GTA pP PcP 10 39 17.3 +4.9
GTA sP sP 10 39 20.1 +13
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA Gaotai 78.43 322 *eP* **P 10 39 03.0 -0.2**
GTA pmax pmax
comp=Z,2.0nm,1.0s
BUR04 Bucovina Ar. S 78.48 16 *eP* **P 10 39 04.0 +0.7**
WMQ Urumqi 78.51 332 *eP* **P 10 39 06.0 +2.5**
WMQ pmax pmax
comp=Z,32nm,0.7s
WMQ LR LR
comp=Z,350nm,21.3s
WMQ LR LR
comp=Z,360nm,22.3s
WMQ LR LR
comp=Z,260nm,24.9s
XAN Xi'an 79.23 313 P **P 10 39 08.5 +0.9**
XAN pP PcP 10 39 15.3 -0.6
XAN pmax pmax
comp=Z,7.0nm,1.2s
XAN pmax pmax
comp=Z,110nm,5.7s
XAN LR LR
comp=Z,130nm,17.3s
XAN LR LR
comp=Z,220nm,18.6s
XAN LR LR
comp=Z,210nm,17.7s
PTGA Pitinga 79.28 105 *eP* **P 10 39 08.7 +0.7**
comp=Z,9.4nm,1.1s
MLR Muntele Rosu 80.67 16 LR LR 11 17 06.8
comp=Z,186nm,19.0s,baz=356,slow=37
FRU Bishkek 82.63 341 *eP* **P 10 39 29.0 +3.4**
AAK Ala-Archa 82.84 341 *eP* **P 10 39 27.3 +0.5**
comp=Z,4.9nm,1.4s
AAK Ala-Archa 82.84 341 *eP* **P 10 39 27.3 +0.5**
AAK pmax pmax
comp=Z,5.0nm,1.4s
KIV Kislovodsk 84.00 4 *eP* **P 10 39 36.8 +4.1**
KIV pmax pmax
comp=Z,7.0nm,0.9s
KIV MLR MLR
comp=Z,67nm,19.0s
SAML Samuel 84.05 113 *ce*P P 10 39 38.4 +5.3
SAML pmax pmax
comp=Z,2.0nm,1.3s
KBZ Khabaz 84.24 4 LR LR 11 21 40.6
comp=Z,50nm,19.3s,baz=352,slow=39
KSH Kashi 85.53 339 *eP* **P 10 39 43.4 +2.9**
KEST Kesra 85.88 31 LR LR 11 19 05.6
comp=Z,69nm,18.5s,baz=270,slow=36
LPAZ La Paz 87.38 121 P **P 10 39 49.5 -0.8**
comp=Z,5.2nm,1.0s,baz=360,slow=8.9,SNR=15
LPAZ La Paz 87.38 121 *eP* **P 10 39 49.1 -1.1**
comp=Z,7.7nm,0.9s
LPAZ La Paz 87.38 121 *eP* **P 10 39 49.2 -1.1**
LPAZ pmax pmax
comp=Z,8.0nm,0.9s
BR101 Keskin Array S 87.44 12 *eP* **P 10 39 50.2 +0.3**
BRTR Keskin Array B 87.44 12 P **P 10 39 50.2 +0.3**
comp=Z,0.8nm,0.8s,baz=318,slow=12,SNR=2.6
BRTR LR LR 11 20 43.3
comp=Z,53nm,21.4s,baz=314,slow=37
BRTR Keskin Array B 87.44 12 *ce*P P 10 39 58.2 +8.3
ITM Ithomi 87.91 21 *eP* **P 10 39 51.0 -1.1**
comp=Z,21nm,1.2s
JAY Jayapura 90.70 267 LR LR 11 11 21.7
comp=Z,66nm,21.7s,slow=29
DZM Mont Dzumac 91.66 235 *e*LR LR 11 09 27.5
comp=Z,174nm,24.1s
CMAR Chiang Mai Arr 97.13 313 P Pdif 10 40 35.8 +0.9
comp=Z,0.3nm,0.3s,baz=29,slow=2.1,SNR=3.8
CM01 Chiang Mai Arr 97.15 313 *eP* **P 10 40 34.4 -0.6**
QSPA South Pole Qui 142.09 180 PKP **PKPdf 10 46 35.6 +2.4**
comp=Z,5.0nm,1.0s,baz=29,slow=2.4,SNR=5.0
VNA3 Neumayer Olymp 148.33 149 PKP **PKPdf 10 46 45.7 +1.9**
VNA1 Neumayer--Stat 148.84 147 PKP **PKPbc 10 46 49.5 +1.1**
VNA2 Neumayer--Wätz 149.10 148 PKP **PKPdf 10 46 44.4 -0.5**
baz=264,slow=3.3
SNAA Sanae 150.41 150 PKP **PKPbc 10 46 53.8 +1.4**
SNAA Sanae 150.41 150 *e*PKPdf **PKPdf 10 46 47.7 +0.6**
SNAA Sanae 150.41 150 *e*PKIKP **PKPdf 10 46 47.7 +0.6**
BOSA Boshof 150.66 45 PKP **PKPdf 10 46 49.7 +0.8**
comp=Z,2.1nm,0.7s,baz=64,slow=6.6,SNR=2.8
BOSA Boshof 150.66 45 *e*PKPdf **PKPdf 10 46 49.6 +0.6**
MAW Mawson 163.14 199 PKP **PKPdf 10 47 06.0 +2.6**
comp=Z,1.4nm,0.7s,baz=187,slow=5.8,SNR=4.0

*ISCJB **06** 10:43:00.6±1.0, 52°.4N±0°.1×131°.6W±0°.1, h10km, mb3.6/2, Error ellipse: s-maj=18.9km s-min=7.5km az=38.9*
*IDC **06** 10:43:00.4±1.5, 52°.23N×131°.70W, h0km, mb3.6/2, mb1 3.9/5, mb1mx3.5/52, mbtmp3.5/5, ML3.3/3, MS3.0/3, Ms1 3.0/3, ms1mx2.7/48, Error ellipse: s-maj=24.4km s-min=7.6km az=51.0*
ISC 06 10:43:02.1±1.2, 52°.4N±0°.2×131°.6W±0°.1, h10km, n13, σ1§60/9, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H02S1	**DAWSON INLET T**	**0.98**	**326**	Pg	**Pn**	**10 43 20.0**	**-1.8**
H02S1				Lg	Lg	10 43 35.5	
	SNR=1929						
H02N1	**VAN INLET T-PH**	**1.04**	**326**	Pg	**Pn**	**10 43 21.0**	**-1.8**
H02N1				Lg	Lg	10 43 37.2	
BBB	**Bella Bella**	**2.14**	**94**	Pn	**Pn**	**10 43 36.8**	**-1.0**
	2.2nm,0.3s,baz=267,slow=11,SNR=44						
BBB				Sn	**Sn**	**10 44 03.8**	**-0.6**
	21nm,0.3s,baz=12,slow=23,SNR=12						
BBB				LR	LR	10 44 04.8	
	comp=Z,116nm,21.7s,baz=242,slow=29						
DLBC	**Dease Lake**	**6.12**	**8**	Pn	Pn	10 44 37.3	+4.7
	0.9nm,0.3s,baz=195,slow=11,SNR=35						
DLBC				Lg	Lg	10 46 20.9	
	0.6nm,0.3s,baz=322,slow=12,SNR=3.1						
DLBC				LR	LR	10 47 07.9	
	comp=Z,270nm,18.8s,baz=159,slow=39						
YBH	**Yreka Blue Hor**	**12.25**	**147**	LR	LR	10 49 37.2	
	comp=Z,107nm,18.3s,baz=330,slow=33						
ILAR	**Eielson Array**	**14.69**	**334**	Pn	**P**	**10 46 38.6**	**+2.6**
	0.1nm,0.3s,baz=148,slow=10.0,SNR=12						
NVAR	**Mina Array Bea**	**16.75**	**141**	Pn	**Pn**	**10 46 56.9**	**-0.1**
	0.0nm,0.3s,baz=324,slow=11,SNR=8.5						
PDAR	**Pinedale Array**	**17.64**	**114**	P	**P**	**10 47 09.5**	**+0.4**
	baz=310,slow=9.0,SNR=5.0						
ANMO	**Albuquerque**	**24.99**	**124**	P	**P**	**10 48 25.5**	**-0.5**
	0.3nm,0.2s,baz=323,slow=15,SNR=3.0						
TXAR	**Lajitas Array**	**30.91**	**127**	P	**P**	**10 49 18.7**	**-0.2**
	1.3nm,1.0s,baz=324,slow=7.5,SNR=9.2						
H11N2	**WAKE ISLAND Hy**	**57.29**	**260**	T	T	11 55 04.6	
	baz=39,slow=76,SNR=25						
H11N3	**WAKE ISLAND Hy**	**57.29**	**260**	T	T	11 55 01.1	
	baz=39,slow=76,SNR=30						
H11N1	**WAKE ISLAND Hy**	**57.30**	**260**	T	T	11 54 59.8	
	baz=39,slow=76,SNR=20						

*ISCJB **06** 11:00:34.4±0.6, 41°.93N±0°.08×134°.72E±0°.07, h450km, Error ellipse: s-maj=10.2km s-min=6.5km az=12.4*
*JMA **06** 11:00:36.9±0.3, 41°.79N×135°.15E, h480km, M3.4*
*IDC **06** 11:00:38.5±7.9, 42°.09N×133°.91E, h428km±26km, mb2.8/3, mb1 2.9/5, mb1mx2.6/62, mbtmp3.6/5, Error ellipse: s-maj=168.0km s-min=27.9km az=96.0*
ISC 06 11:00:35.0±0.9, 41°.92N±0°.09×134°.77E±0°.08, h450km, n14, σ1§78/19, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
USRK	**Ussuriysk Ar.**	**3.06**	**319**	P	**P**	**11 01 40.4**	**-1.9**
	2.8nm,0.3s,baz=133,slow=6.3,SNR=66						
JSK	**Shakotan**	**4.45**	**69**	P	**P**	**11 01 55.9**	**+1.9**
JRG	**Rokugo**	**5.12**	**117**	P	**P**	**11 02 02.5**	**+2.0**
JRG				S	**S**	**11 03 09.3**	**-1.0**
JMK	**Ichinoseki**	**5.74**	**119**	P	**P**	**11 02 07.7**	**+1.0**
JMK				S	**S**	**11 03 19.5**	**-2.0**
JMM	**Marumori**	**6.15**	**129**	P	**P**	**11 02 12.0**	**+1.2**
JMM				*e*S	**S**	**11 03 27.6**	**-1.5**
JCH	**Churui**	**6.41**	**81**	P	**P**	**11 02 14.9**	**+1.4**
JCH				S	**S**	**11 03 32.8**	**-1.2**
JFK	**Kawauchi**	**6.54**	**132**	*e*S	**S**	**11 03 34.6**	**-2.1**
JWT	**Wachi**	**6.64**	**176**	P	**P**	**11 02 18.3**	**+2.3**
KSRS	**Korea Array**	**6.91**	**232**	P	**P**	**11 02 17.7**	**-1.0**
	0.4nm,0.3s,baz=38,slow=11,SNR=6.6						
JTKR	**Abashiri--Toko**	**7.01**	**70**	P	**P**	**11 02 22.2**	**+2.5**
NEM2	**Nemuro 2**	**8.22**	**76**	P	**P**	**11 02 34.2**	**+1.6**
NEM2				*e*S	**S**	**11 04 06.9**	**-2.3**
MKAR	**Makanchi Array**	**37.26**	**296**	P	**P**	**11 07 06.5**	**-0.3**
	0.2nm,0.4s,baz=83,slow=12,SNR=4.6						
CMAR	**Chiang Mai Arr**	**38.39**	**243**	P	**P**	**11 07 17.3**	**+0.9**
	0.4nm,0.4s,baz=36,slow=6.8,SNR=3.8						
KURBB	**Kurchatov Arra**	**38.99**	**303**	P	**P**	**11 07 20.4**	**-0.4**
	0.8nm,0.3s,baz=79,slow=8.4,SNR=3.3						

*ISK **06** 11:00:45.2, 37°.28N×27°.86E, h26km, ML2.1/2*
*ISCJB **06** 11:00:46.4±0.6, 37°.13N±0°.04×27°.96E±0°.04, h0km, Error ellipse: s-maj=6.3km s-min=4.8km az=19.0*
*DDA **06** 11:00:47.4, 37°.16N×27°.86E, h7km, Ml2.5, Suspected Mining explosion.*
ISC 06 11:00:45.6±0.9, 37°.16N±0°.04×27°.98E±0°.03, h0km, n8, σ0§78/14, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSB	**Milas**	**0.21**	**310**	PG	**Pg**	**11 00 50.4**	**+0.7**
AYDN	**Tasoluk**	**0.51**	**351**	*i* P	**Pb**	**11 00 57.2**	**-0.2**
AYDN				*i* S	**Sb**	**11 01 04.2**	**-1.2**
DAT	**Datca**	**0.54**	**217**	PG	**Pb**	**11 00 57.3**	**-0.7**
DAT				SG	**Sb**	**11 01 07.2**	**+0.9**
DAT	**Datca**	**0.54**	**217**	*i* P	**Pb**	**11 00 57.6**	**-0.4**
DAT				*i* S	**Sb**	**11 01 07.4**	**+1.1**
BODT	**Bodrum**	**0.54**	**260**	PG	**Pg**	**11 00 55.8**	**-0.2**
BODT				SG	**Sg**	**11 01 03.6**	**+0.5**
TURN	**Turunc**	**0.58**	**120**	*i* P	**Pg**	**11 00 56.6**	**0.0**
TURN				*i* S	**Sg**	**11 01 04.5**	**+0.4**
DALY	**Dalyan (Mu¨la**	**0.64**	**122**	PG	**Pn**	**11 01 01.0**	**-0.9**
TAVA	**DENIZLI_Tavas**	**0.81**	**67**	*i* P	**Pb**	**11 01 02.9**	**+0.4**
TAVA				*i* S	**Sn**	**11 01 17.8**	**+0.8**

*BJI **06** 11:04:34.3, 0°.27S×127°.94E, h162km, mb4.5/25, mB4.8/19*
*ISCJB **06** 11:04:36.3±0.2, 0°.12N±0°.02×127°.55E±0°.03, h150km, mb4.5/57, Error ellipse: s-maj=4.6km s-min=3.5km az=175.6*
*DJA **06** 11:04:39.8±0.2, 0°N±3°×12°.7E±°, h140km±2km, M4.5/19, mb4.8/19, mB4.9/12, MLv4.9/19, Mw(mB)4.2/12*
*NEIC **06** 11:04:39.0±0.4, 0°.01N×127°.46E, h167km±4km, mb4.7/37, Error ellipse: s-maj=4.6km s-min=3.4km az=76.0*
*IDC **06** 11:04:40.2±1.4, 0°.02S×127°.46E, h180km±12km, mb4.0/19, mb1 4.0/20, mb1mx3.8/50, mbtmp4.5/20, Error ellipse: s-maj=15.6km s-min=7.9km az=74.0*
ISC 06 11:04:37.7±0.3, 0°.03N±0°.04×127°.41E±0°.04, h150km, n118, σ1§74/130, mb4.6/53, 2C, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**0.67**	**172**	P	**Pn**	**11 05 01.7**	**+1.6**
LBMI				S	**Sn**	**11 05 19.4**	**+2.3**
TNTI	**Ternate**	**0.74**	**357**	*e*Pn	**Pn**	**11 05 03.4**	**+2.8**
TNTI				*e*Sn	**Sn**	**11 05 21.6**	**+3.6**
TNTI	**Ternate**	**0.74**	**357**	P	**Pn**	**11 05 02.4**	**+1.9**
TNTI				S	**Sn**	**11 05 20.4**	**+2.4**
SANI	**Sanana**	**2.50**	**214**	P	**Pn**	**11 05 20.1**	**+1.2**
NLAI	**Namlea**	**3.26**	**185**	P	**Pn**	**11 05 29.8**	**+1.4**
NLAI				S	**Sn**	**11 06 09.6**	**+1.9**
KMSI	**Cibinong**	**3.47**	**279**	P	**Pn**	**11 05 32.4**	**+1.3**
KMSI				S	**Sn**	**11 06 13.9**	**+1.5**
MSAI	**Masohi**	**3.68**	**156**	P	**Pn**	**11 05 35.8**	**+1.9**
AAI	**Ambon**	**3.77**	**168**	P	**Pn**	**11 05 37.3**	**+2.2**
SWI	**Sorong**	**3.95**	**103**	P	**Pn**	**11 05 40.3**	**+2.9**
SIJI	**Sorong**	**3.96**	**103**	P	**Pn**	**11 05 39.9**	**+2.4**
	16nm,0.3s,baz=313,slow=11,SNR=64						
SIJI				S	**Sn**	**11 06 27.1**	**+3.2**
	baz=11,slow=22,SNR=1.9						
LUWI	**Luwuk**	**4.75**	**257**	*e*Pn	**Pn**	**11 05 48.9**	**+1.0**
LUWI				*e*Sn	**Sn**	**11 06 41.5**	**-1.1**
LUWI	**Luwuk**	**4.75**	**257**	P	**Pn**	**11 05 49.4**	**+1.5**
MRSI	**Marisa**	**5.48**	**275**	P	**Pn**	**11 05 58.7**	**+1.1**
	86nm,0.6s,1µm0.5nm						
FAKI	**Fak Fak**	**5.66**	**121**	*e*Pn	**Pn**	**11 06 00.8**	**+0.9**
FAKI	**Fak Fak**	**5.66**	**121**	P	**Pn**	**11 06 01.9**	**+2.0**
	65nm,0.7s,695nm0.2nm						
APSI	**Ampana**	**5.83**	**261**	P	**Pn**	**11 06 03.7**	**+1.5**
	1µm,0.6s,19µm5.4nm						
DAV	**Davao City (W)**	**7.23**	**345**	*e*Pn	**Pn**	**11 06 23.8**	**+2.8**
MPSI	**Mapaga**	**7.51**	**272**	P	**Pn**	**11 06 26.9**	**+2.2**
	25nm,0.6s,586nm0.1nm						
TTSI	**Tana Toraja**	**8.17**	**248**	P	**Pn**	**11 06 35.3**	**+1.8**
	158nm,0.8s,2µm0.6nm						
BNSI	**Bone**	**8.52**	**239**	P	**Pn**	**11 06 41.8**	**+3.7**
	38nm,0.6s,0.3nm						
SPSI	**Sidrap Palu**	**8.60**	**242**	P	**Pn**	**11 06 41.6**	**+2.4**
	37nm,0.4s,724nm0.2nm						
BKSI	**Bulukumba**	**9.01**	**234**	P	Pn	11 06 51.1	+6.5
SOEI	**Soe**	**10.21**	**198**	*e*Pn	**Pn**	**11 07 02.1**	**+1.4**
MYLDM	**Lahad Datu**	**10.26**	**300**	*e*Pn	**Pn**	**11 07 03.8**	**+2.5**
EDFI	**Ende, Flores**	**10.41**	**213**	P	Pn	11 07 11.8	+8.4
KKM	**Kota Kinabalu**	**12.67**	**298**	*e*Pn	**Pn**	**11 07 33.8**	**+0.9**
PLAI	**Plampang**	**13.01**	**227**	P	**Pn**	**11 07 41.4**	**+4.2**
	70nm,1.1s						
MTN	**Manton Dam**	**13.31**	**164**	*e*Pn	**Pn**	**11 07 40.0**	**-1.0**
SBUM	**Sibu**	**15.37**	**279**	*e*Pn	**Pn**	**11 08 08.0**	**+1.1**
	16nm,0.9s						
JAGI	**Jajag, Banyuwa**	**15.67**	**237**	*e*Pn	**Pn**	**11 08 12.1**	**+1.5**
	43nm,0.5s						
BLJI	**Banyuglugur**	**15.79**	**240**	P	P	11 08 20.5	+7.7
KSM	**Kuching**	**17.16**	**275**	*e*P	**P**	**11 08 29.1**	**+1.2**
	41nm,0.8s						
PWJI	**Pagerwojo**	**17.49**	**242**	P	**Pn**	**11 08 37.2**	**+4.6**
	56nm,1.3s						
FITZ	**Fitzroy Crossi**	**18.09**	**185**	P	**P**	**11 08 38.0**	**-0.1**
	0.3nm,0.3s,baz=16,slow=7.5,SNR=8.6						
FITZ	**Fitzroy Crossi**	**18.09**	**185**	*e*P	**P**	**11 08 37.7**	**-0.4**
	3.6nm,0.6s						
UGM	**Wanagama**	**18.59**	**245**	*e*P	**P**	**11 08 46.1**	**+2.5**
	93nm,0.9s						
KPJI	**Karang Pucung**	**19.82**	**248**	P	**Pn**	**11 09 00.8**	**+0.7**
	121nm,0.9s						
COEN	**Coen**	**20.90**	**132**	*e*P	**P**	**11 09 10.2**	**+1.8**
	15nm,1.1s						
CISI	**Cisompet, Garu**	**20.94**	**248**	*e*P	**P**	**11 09 09.8**	**+0.9**
	56nm,0.9s						
WRAB	**Tennant Creek**	**20.97**	**161**	*e*P	**P**	**11 09 08.6**	**-0.6**
	6.9nm,1.0s						
WR1	**Warramunga Arr**	**20.98**	**162**	*e*P	**P**	**11 09 08.8**	**-0.5**
	5.1nm,0.6s						
WR1				*e*S	**S**	**11 12 51.3**	**-3.4**
WRA	**Warramunga Arr**	**20.98**	**162**	P	**P**	**11 09 08.8**	**-0.5**
	2.4nm,0.4s,baz=335,slow=10,SNR=38						
WRA				S	**S**	**11 12 51.3**	**-3.4**
	1.1nm,0.8s,baz=334,slow=14,SNR=5.2						
WRA				ScP	**ScP**	**11 16 30.3**	**-3.4**
	0.2nm,0.5s,baz=332,slow=2.6,SNR=5.2						
WB2	**Warramunga Arr**	**20.98**	**161**	*e*P	**P**	**11 09 08.9**	**-0.4**
PPBI	**Pangkal Pinang**	**21.38**	**264**	P	**P**	**11 09 15.3**	**+1.7**
	20nm,0.8s						
GUMO	**Guam**	**21.93**	**51**	P	**P**	**11 09 20.2**	**+0.8**
	81nm,1.0s,baz=24,slow=20,SNR=2.5						
MBWA	**Marble Bar**	**22.35**	**199**	*e*P	**P**	**11 09 23.1**	**-0.4**
	10nm,1.0s						
TWG	**Pinlang**	**23.48**	**345**	*e*P	**P**	**11 09 32.8**	**-1.1**
	104nm,0.8s						
KASI	**Kota Agung**	**23.53**	**256**	P	**P**	**11 09 37.9**	**+3.4**
	192nm,0.9s,2µm						
MYKOM	**Kota Tinggi**	**23.62**	**274**	*e*P	**P**	**11 09 36.6**	**+1.3**
	26nm,0.8s						
MDSI	**Maura Dua**	**23.63**	**259**	P	**P**	**11 09 37.3**	**+1.8**
	81nm,0.8s,665nm						
YULB	**Yu-li**	**23.97**	**346**	*e*P	**P**	**11 09 38.5**	**0.0**
	12nm,0.8s						
TPUB	**Ta-pu**	**24.05**	**345**	*e*P	**P**	**11 09 39.3**	**+0.1**
	33nm,0.6s						
AS31	**Alice Springs**	**24.38**	**165**	*e*P	**P**	**11 09 42.0**	**-0.2**
	1.4nm,0.9s						
ASAR	**Alice Springs**	**24.38**	**165**	P	**P**	**11 09 42.0**	**-0.2**
	1.0nm,0.3s,baz=343,slow=8.1,SNR=21						
ASAR				ScP	**ScP**	**11 16 38.4**	**-4.1**
	0.9nm,1.0s,baz=5.7,slow=0.9,SNR=4.0						
AS01	**Alice Springs**	**24.39**	**165**	*e*P	**P**	**11 09 41.7**	**-0.6**
SSLB	**Suanglung**	**24.43**	**346**	*e*P	**P**	**11 09 43.1**	**+0.4**
	16nm,0.8s						
MNAI	**Manna**	**24.81**	**260**	*e*P	**P**	**11 09 46.7**	**+0.5**
	133nm,1.0s						
YHNB	**Yeheng**	**25.18**	**347**	*e*P	**P**	**11 09 50.6**	**+1.1**
	42nm,0.8s						
JOW	**Kunigami**	**26.66**	**2**	P	**P**	**11 10 03.4**	**+0.7**
	17nm,0.6s,baz=207,slow=11,SNR=4.5						
JOW	**Kunigami**	**26.66**	**2**	*e*P	**P**	**11 10 02.4**	**-0.4**
	35nm,1.1s						
IPM	**Ipoh**	**26.72**	**280**	*e*P	**P**	**11 10 03.0**	**-0.4**
	11nm,0.7s						
KULM	**Kulim**	**27.22**	**281**	*e*P	**P**	**11 10 09.0**	**+1.1**
	5.8nm,0.8s						
PSI	**Prapat**	**28.60**	**276**	P	**P**	**11 10 21.0**	**+0.6**
	9.8nm,0.7s,baz=180,slow=2.2,SNR=6.3						
PSI	**Prapat**	**28.60**	**276**	*e*P	**P**	**11 10 20.8**	**+0.4**
	12nm,0.8s						
GSI	**Gunungsitoli**	**29.85**	**273**	*e*P	**P**	**11 10 31.0**	**-0.3**
	26nm,0.7s						
NJ2	**Nanjing**	**32.86**	**347**	*e*P	**P**	**11 10 58.0**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BBOO	**Buckleboo**	**33.67**	**167**	*e*P	**P**	**11 11 03.1**	**-1.3**
	11nm,1.1s						
NWAO	**Narrogin (SRO)**	**34.15**	**195**	*e*P	**P**	**11 11 07.5**	**-1.0**
	19nm,1.1s						
STKA	**Stephens Creek**	**34.45**	**158**	P	**P**	**11 11 11.1**	**-0.1**
	2.2nm,0.4s,baz=329,slow=9.5,SNR=13						
STKA	**Stephens Creek**	**34.45**	**158**	*e*P	**P**	**11 11 10.2**	**-1.0**
	1.0nm,1.0s						
INU	**Inuyama**	**36.27**	**13**	*e*P	**P**	**11 11 25.6**	**-1.1**
	20nm,0.8s						
KSRS	**Korea Array**	**37.24**	**1**	P	**P**	**11 11 35.2**	**+0.4**
	5.3nm,0.8s,baz=178,slow=10,SNR=13						
KS01	**Wonju Array Si**	**37.27**	**1**	*e*P	**P**	**11 11 34.6**	**-0.4**
MAJO	**Matsushiro**	**37.69**	**14**	*e*P	**P**	**11 11 37.0**	**-1.6**
MJAR	**Matsushiro Arr**	**37.69**	**14**	P	**P**	**11 11 37.0**	**-1.6**
	5.1nm,0.5s,baz=194,slow=9.6,SNR=21						
MJB9	**Matsu-Tunnel**	**37.69**	**14**	*e*P	**P**	**11 11 37.2**	**-1.4**
	12nm,1.1s						
XAN	**Xi'an**	**38.02**	**335**	P	**P**	**11 11 41.8**	**+0.3**
XAN				pP	pP	11 12 15.1	+1.0
XAN				pmax	pmax		
	comp=Z,11nm,0.7s						
XAN				pmax	pmax		
	comp=Z,99nm,7.4s						
CD2	**Chengdu**	**38.04**	**326**	*e*P	**P**	**11 11 42.0**	**+0.3**
BJI	**Beijing**	**41.12**	**347**	*e*P	**P**	**11 12 07.9**	**+0.9**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.2s						
LZH	**Lanzhou**	**42.03**	**331**	*e*P	**P**	**11 12 16.0**	**+1.3**
LZH				pP	pP	11 12 51.2	+3.3
LZH				sP	sP	11 13 06.6	+1.8
LZH				pmax	pmax		
	comp=Z,26nm,1.0s						
LZH				pmax	pmax		
	comp=Z,99nm,4.6s						
HHC	**Hu-ho-hao-te**	**43.11**	**342**	*e*P	**P**	**11 12 25.2**	**+2.0**
HHC				pmax	pmax		
	comp=Z,20nm,1.1s						
HHC				pmax	pmax		
	comp=Z,310nm,9.9s						
USA0B	**Ussuriysk Arra**	**44.17**	**5**	*e*P	**P**	**11 12 30.8**	**-0.7**
	9.9nm,0.6s						
USRK	**Ussuriysk Ar.**	**44.17**	**5**	P	**P**	**11 12 31.5**	**0.0**
	8.1nm,0.6s,baz=176,slow=7.4,SNR=32						
ASAJ	**Asahikawa**	**45.94**	**15**	*e*P	**P**	**11 12 45.5**	**0.0**
	12nm,0.9s						
GTA	**Gaotai**	**46.62**	**330**	⇑P	**P**	**11 12 51.6**	**+0.6**
GTA				pP	pP	11 13 26.7	+1.9
GTA				sP	sP	11 13 45.8	+4.2
GTA				S	**S**	**11 19 26.9**	**-2.0**
GTA				ScS	**ScS**	**11 22 28.2**	**-2.4**
GTA				SS	**SS**	**11 22 51.6**	**-5.5**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,79nm,7.1s						
GTA				LR	LR		
	comp=N,170nm,16.8s						
GTA				LR	LR		
	comp=E,110nm,16.2s						
GTA				LR	LR		
	comp=Z,78nm,16.5s						
ULN	**Ulaanbaatar**	**50.83**	**342**	*e*P	**P**	**11 13 22.8**	**-0.3**
	4.9nm,0.7s						
SONA0	**Songino Array**	**51.00**	**342**	*e*P	**P**	**11 13 24.5**	**+0.1**
SONM	**Songino

BVAR	**Borovoye Array**	**70.78**	**328**	P		**P**	**11 15 37.2**	**-0.6**
	1.2nm,0.7s,baz=138,slow=9.2,SNR=5.4							
TIXI	**Tiksi**	**71.51**	**0**	P		**P**	**11 15 40.8**	**-0.9**
	11nm,0.4s,baz=168,slow=5.2,SNR=39							
TIXI	**Tiksi**	**71.51**	**0**	*eP*		**P**	**11 15 40.9**	**-0.9**
	1.3nm,0.6s							
IM3	**Indian Mountai**	**85.43**	**24**	*eP*		**P**	**11 16 58.0**	**-0.1**
BRLK	**Bradley Lake**	**85.79**	**30**	*eP*		**P**	**11 16 59.1**	**-1.0**
	12nm,1.0s							
TOLK	**Toolik Lake Re**	**87.42**	**21**	*eP*		**P**	**11 17 07.5**	**-0.3**
	1.9nm,0.8s							
ILAR	**Eielson Array**	**88.14**	**25**	P		**P**	**11 17 09.1**	**-2.2**
	0.5nm,0.6s,baz=248,slow=4.4,SNR=6.1							
SYO	**Syowa Base**	**89.24**	**201**‖	*eP*		**P**	**11 17 15.6**	**-0.7**
INK	**Inuvik**	**93.34**	**22**	P		**P**	**11 17 34.1**	**-1.2**
	1.5nm,0.9s,baz=271,slow=4.7,SNR=5.2							
ARCES	**ARCESS Array B**	**94.13**	**340**	P		**P**	**11 17 36.7**	**-2.3**
	3.4nm,0.9s,baz=82,slow=8.7,SNR=4.5							
TORD	**Torodi Ar. Bea**	**124.64**	**286**	PKP		**PKPdf**	**11 23 19.7**	**-0.8**
	0.3nm,0.7s,baz=108,slow=4.7							

MEX 06 11:09:33.3±0.6, 16°28N×98°01W, h5km±7km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.16**	**317**	*i* P		Pg 11 09 35.9	-0.6
PNIG				*i* S		Sg 11 09 38.7	0.0
TLIG	**Tlapa**	**1.39**	**338**	*eP*		Pn 11 09 55.6	-3.8
TLIG				*eS*		Sb 11 10 12.8	-5.0
VHO	**Vista Hermosa**	**1.46**	**57**	*eP*		Pn 11 09 56.7	-3.8
VHO				*i* S		Sb 11 10 14.8	-5.3
HUIG	**Huatulco**	**1.90**	**105**	*i* P		Pn 11 10 03.4	-3.0
HUIG				*i* S		Sn 11 10 25.8	-4.9

*IDC **06** 11:09:30.3±0.6, 35°.51S×104°.84W, h0km, mb4.4/19, mb1 4.5/20, mb1mx4.4/34, mbtmp4.4/20, ML4.8/1, MS4.7/14, Ms1 4.7/14, ms1mx4.6/17, Error ellipse: s-maj=19.5km s-min=14.7km az=82.0*

*ISCJB **06** 11:09:30.4±0.3, 35°.51S±0°.04×104°.89W±0°.06, h13km, mb4.5/110, MS4.9/116, Error ellipse: s-maj=7.4km s-min=5.7km az=141.0*

*NEIC **06** 11:09:32.0±0.2, 35°.47S×104°.80W, h10km, mb4.7/98, MS4.9/98, MW5.5, Error ellipse: s-maj=6.6km s-min=4.7km az=56.0, Moment Tensor Solution. s29 Moment tensor: Scale 10^{17}Nm; M_{rr}0.24; $M_{\theta\theta}$-0.70; $M_{\phi\phi}$0.46; $M_{r\theta}$0.13; $M_{\theta\phi}$-1.91; $M_{r\phi}$-0.28; Best double couple: M_o2.00000×10^{17} NP1:ϕ_s98.00000°, δ82.00000°, λ174.00000°. NP2: ϕ_s169.00000°, δ84.00000°, λ8.00000°. Principal axes: T 1.9300, Plg10.0000°, Azm54.0000°; N 0.1800, Plg80.0000°, Azm225.0000°; P -2.1200, Plg2.0000°, Azm323.0000°;*

*MOS **06** 11:09:31.6±1.6, 35°.31S×104°.73W, h10km, mb4.7/28 Error ellipse: s-maj=13.3km s-min=8.6km az=92.3*

*BJI **06** 11:09:34.2, 35°.50S×104°.70W, h10km, mB4.9/3, Ms5.1/1, Ms7 5.0/3*

*GCMT **06** 11:09:35.0±0.1, 35°.49S±0°.01×105°.00W±0°.01, h21km, MW5.6/138, Moment Tensor Solution. s110, c194; s138, c365; Duration: 1ŧ5 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.44±.03; $M_{\theta\theta}$-0.67±.03; $M_{\phi\phi}$1.10±.03; $M_{r\theta}$0.13±.06; $M_{\theta\phi}$-2.55±.03; $M_{r\phi}$-0.70±.06; Best double couple: M_o2.78200×10^{17} NP1:ϕ_s190.00000°, δ88.00000°, λ14.00000°. NP2:ϕ_s99.00000°, δ76.00000°, λ178.00000°. Principal axes: T 3.0370, Plg11.0000°, Azm55.0000°; N -0.5150, Plg76.0000°, Azm196.0000°; P -2.5270, Plg8.0000°, Azm324.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 06 11:09:33.0±0.3, 35°.42S±0°.07×104°.81W±0°.06, h13km, n333, σ1ŧ52/227, mb4.7/110, **MS4.9**/116, **14C-14D, Southeast of Easter Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**9.13**	**334**	Pn		**Pn**	**11 11 42.8**	**-1.6**
	8.6nm,0.3s,baz=153,slow=5.8,SNR=4.7							
RPN					LR	LR	11 14 17.4	
	comp=Z,9μm,21.2s,baz=128,slow=31							
RPN	**Rapa Nui**	**9.13**	**334**	*e*Pn		**Pn**	**11 11 43.5**	**-0.9**
RPN	**Rapa Nui**	**9.13**	**334**	*eP*		**Pn**	**11 11 43.5**	**-0.9**
PLCA	**Paso Flores**	**27.37**	**112**	P		**P**	**11 15 17.7**	**-0.3**
	12nm,1.0s,baz=288,slow=9.8,SNR=13							
PLCA					LR	LR	11 23 13.3	
	comp=Z,773nm,19.0s,baz=300,slow=30							
PLCA	**Paso Flores**	**27.37**	**112**	*eP*		**P**	**11 15 18.3**	**+0.2**
	15nm,0.9s							
PLCA	**Paso Flores**	**27.37**	**112**	*eP*		**P**	**11 15 19.6**	**+1.5**
GO09	**Cerro Castillo**	**28.14**	**134**	*eP*		**P**	**11 15 24.1**	**-0.6**
	22nm,1.0s							
RKT	**Rikitea**	**28.91**	**287**	*eS*		**S**	**11 20 17.7**	**-4.3**
	734nm,23.2s							
RKT					*e*LR	LR	11 21 34.0	
	5μm,31.0s							
RKT	**Rikitea**	**28.91**	**287**	*eT*		T	11 45 01.5	
	2.4nm,0.3s							
GO04	**Tololo Observa**	**28.98**	**89**	*eP*		**P**	**11 15 32.2**	**-0.4**
	49nm,1.1s							
LCO	**Las Campanas**	**29.46**	**87**	*ce*P		**P**	**11 15 38.8**	**+1.8**
LVC	**Limon Verde**	**33.70**	**78**	*eP*		**P**	**11 16 15.1**	**+0.7**
	19nm,1.1s							
LVC					LR	LR		
	comp=Z,3μm,22.0s							
LVC	**Limon Verde**	**33.70**	**78**	*ce*P		**P**	**11 16 14.7**	**+0.2**
LVC					pmax	pmax		
	comp=Z,31nm,1.7s							
PB01	**IPOC Station P**	**34.06**	**75**	*eP*		**P**	**11 16 17.3**	**+0.1**
	comp=Z,20nm,1.1s							
TRQA	**Tornquist**	**34.20**	**107**	*eP*		**P**	**11 16 18.3**	**0.0**
	comp=Z,11nm,1.1s							
TRQA					LR	LR		
	comp=Z,722nm,20.0s							
TRQA	**Tornquist**	**34.20**	**107**	*eP*		**P**	**11 16 18.3**	**0.0**
TRQA					pmax	pmax		
	comp=Z,11nm,1.1s							
TRQA					MLR	MLR		
	comp=Z,722nm,20.0s							
NNA	**Nana**	**34.42**	**54**		PFAKE		11 16 30.0	+10
NNA					LR	LR		
	comp=Z,2μm,20.0s							
NNA	**Nana**	**34.42**	**54**	*i* P		**P**	**11 16 19.5**	**-0.9**
PB11	**IPOC Station P**	**34.63**	**73**	*eP*		**P**	**11 16 21.3**	**-1.0**
	comp=Z,42nm,1.1s							
MNMC	**Minye Minye**	**35.03**	**72**	*eP*		**P**	**11 16 25.5**	**-0.4**
	comp=Z,44nm,1.1s							
EFI	**East Falkland**	**36.87**	**131**		PFAKE		11 16 50.0	+9.0
EFI					LR	LR		
	comp=Z,2μm,22.0s							
EFI	**East Falkland**	**36.87**	**131**‖	*eP*		**P**	**11 16 42.2**	**+1.2**
EFI					pmax	pmax		
	comp=Z,63nm,1.2s							
PAYG	**Puerto Ayora**	**37.12**	**25**		PFAKE		11 16 50.0	+6.5
PAYG					LR	LR		
	comp=Z,2μm,20.0s							
ATAH	**Atahualpa**	**37.15**	**47**	P		**P**	**11 16 44.9**	**+0.7**
	comp=Z,19nm,0.9s,baz=226,slow=4.6,SNR=14							
LPAZ	**La Paz**	**37.83**	**69**	P		**P**	**11 16 49.9**	**-0.2**
	comp=Z,8.3nm,0.8s,baz=231,slow=5.4,SNR=32							
LPAZ					LR	LR	11 29 16.3	
	comp=Z,894nm,19.1s,baz=250,slow=31							
LPAZ	**La Paz**	**37.83**	**69**	*eP*		**P**	**11 16 50.3**	**+0.2**
	comp=Z,21nm,1.0s							
LPAZ	**La Paz**	**37.83**	**69**	*eP*		**P**	**11 16 50.3**	**+0.2**
LPAZ					pmax	pmax		
	comp=Z,21nm,1.0s							
PMSA	**Palmer Station**	**38.15**	**153**		PFAKE		11 17 00.0	+8.4
PMSA					LR	LR		
	comp=Z,2μm,21.0s							
TBI	**Tubuai**	**40.41**	**275**	*eS*		**S**	**11 23 17.2**	**-1.9**
	comp=Z,417nm,23.1s							
TBI					*e*LQ	LQ	11 26 29.1	
	comp=Z,6μm,34.0s							
TBI					*e*LR	LR	11 28 10.4	
	comp=Z,2μm,25.8s							
TBI	**Tubuai**	**40.41**	**275**	*eT*		T	11 59 23.3	
	comp=Z,8.9nm,0.3s							
CPUP	**Villa Florida**	**41.42**	**91**	P		**P**	**11 17 17.3**	**-2.0**
	comp=Z,3.8nm,1.0s,baz=271,slow=7.1,SNR=5.4							
CPUP					LR	LR	11 32 15.2	
	comp=Z,441nm,19.5s,baz=252,slow=33							
CPUP	**Villa Florida**	**41.42**	**91**	*eP*		**P**	**11 17 17.4**	**-1.8**
	comp=Z,5.5nm,1.1s							
CPUP	**Villa Florida**	**41.42**	**91**	*eP*		**P**	**11 17 17.5**	**-1.8**
CPUP					pmax	pmax		
	comp=Z,6.0nm,1.1s							
TAOE	**Nuku Hiva Isla**	**41.70**	**301**	*e*S		**S**	**11 23 34.6**	**-3.9**
	comp=Z,647nm,25.0s							
TAOE					*e*LR	LR	11 28 56.2	
	comp=Z,3μm,25.9s							
TVO	**Taravao**	**43.05**	**282**	*eT*		T	12 02 47.4	
	comp=Z,1.0nm,0.3s							
OTAV	**Otavalo**	**43.16**	**40**	*eP*		**P**	**11 17 33.1**	**-1.0**
	comp=Z,20nm,1.1s							
OTAV					LR	LR		
	comp=Z,1μm,22.0s							
OTAV	**Otavalo**	**43.16**	**40**	*eP*		**P**	**11 17 32.6**	**-1.5**
OTAV	**Otavalo**	**43.16**	**40**	*ce*P		**P**	**11 17 33.5**	**-0.6**
OTAV					pmax	pmax		
	comp=Z,23nm,1.3s							
TIAR	**Tiarei**	**43.25**	**282**	*eT*		T	12 03 01.6	
	comp=Z,3.4nm,0.3s							
PPT2	**Papeete2**	**43.41**	**282**	*eS*		**S**	**11 24 00.4**	**-3.3**
	comp=Z,615nm,25.2s							
PPT2					*e*LQ	LQ	11 27 31.2	
	comp=Z,4μm,30.2s							
SOTA	**Rioblanco**	**45.74**	**41**	*eP*		**P**	**11 17 53.6**	**-1.1**
FLOC	**Florencia**	**45.80**	**43**	*eP*		P	11 17 49.2	-5.5
PCON	**Cinco Dias**	**46.01**	**41**	*eP*		**P**	**11 17 56.5**	**-0.5**
SAML	**Samuel**	**46.19**	**65**	*eP*		**P**	**11 17 55.5**	**-2.3**
	comp=Z,18nm,1.1s							
SAML					LR	LR		
	comp=Z,2μm,21.0s							
SAML	**Samuel**	**46.19**	**65**	*ce*P		**P**	**11 17 56.3**	**-1.4**
SAML					pmax	pmax		
	comp=Z,10.0nm,1.3s							
PRAC	**Prado**	**47.99**	**42**	*eP*		**P**	**11 18 09.8**	**-2.1**
RREF	**El Recreo**	**48.73**	**41**	*eP*		**P**	**11 18 18.3**	**+0.1**
JTS	**JuntasAbangare**	**49.19**	**26**	P		**P**	**11 18 21.9**	**+0.9**
	comp=Z,9.5nm,1.0s,baz=223,slow=8.7,SNR=5.7							
JTS	**JuntasAbangare**	**49.19**	**26**	*eP*		**P**	**11 18 20.8**	**-0.2**
	comp=Z,15nm,1.1s							
JTS					LR	LR		
	comp=Z,2μm,21.0s							
JTS	**JuntasAbangare**	**49.19**	**26**‖	*eP*		**P**	**11 18 24.2**	**+3.2**
ROSC	**El Rosal**	**49.23**	**42**	P		**P**	**11 18 21.8**	**0.0**
	comp=Z,20nm,0.8s,baz=157,slow=2.5,SNR=14							
ROSC					LR	LR	11 35 28.5	
	comp=Z,1μm,20.4s,baz=228,slow=32							
ROSC	**El Rosal**	**49.23**	**42**	*eP*		**P**	**11 18 22.1**	**+0.3**
	comp=Z,28nm,1.1s							
CHIC	**Chingaza**	**49.38**	**43**	*eP*		**P**	**11 18 22.4**	**-0.6**
HOPE	**Hope Point**	**49.89**	**135**		PFAKE		11 18 40.0	+14
HOPE					LR	LR		
	comp=Z,880nm,19.0s							
BCIP	**Isla Barro Col**	**50.23**	**33**		PFAKE		11 18 40.0	+11
BCIP					LR	LR		
	comp=Z,1μm,19.0s							
MOTC	**Monteria, Cord**	**51.86**	**38**	*eP*		**P**	**11 18 37.0**	**-4.1**
CMIG	**Matias Romero**	**53.06**	**12**	P		**P**	**11 18 50.9**	**+0.9**
	comp=Z,4.9nm,0.9s,baz=230,slow=8.2,SNR=4.6							
PTGA	**Pitinga**	**54.10**	**61**	*eP*		**P**	**11 18 55.0**	**-2.8**
	comp=Z,8.2nm,1.1s							
PTGA					LR	LR		
	comp=Z,14μm,20.0s							
BDFB	**Brasilia**	**54.16**	**84**	P		**P**	**11 18 56.9**	**-1.4**
	comp=Z,12nm,1.1s,baz=249,slow=7.4,SNR=8.5							
BDFB					LR	LR	11 40 32.3	
	comp=Z,785nm,18.4s,baz=223,slow=34							
BDFB	**Brasilia**	**54.16**	**84**	*eP*		**P**	**11 18 57.0**	**-1.4**
SDV	**Santo Domingo**	**54.61**	**43**	*eP*		**P**	**11 18 58.6**	**-3.1**
	comp=Z,20nm,0.9s							
SDV					LR	LR		
	comp=Z,737nm,22.0s							
QSPA	**South Pole Qui**	**54.79**	**180**	P		**P**	**11 19 00.9**	**-1.4**
	comp=Z,3.5nm,0.7s,baz=124,slow=3.4,SNR=12							
QSPA	**South Pole Qui**	**54.79**	**180**	*eP*		**P**	**11 19 00.9**	**-1.4**
	comp=Z,4.8nm,1.1s							
QSPA					LR	LR		
	comp=Z,399nm,21.0s							
SBA	**Scott Base**	**55.35**	**195**	*eP*		**P**	**11 19 05.3**	**-0.7**
	comp=Z,2.9nm,1.0s							
SBA					LR	LR		
	comp=Z,686nm,19.0s							
SBA	**Scott Base**	**55.35**	**195**	*eP*		**P**	**11 19 05.3**	**-0.7**
SBA					pmax	pmax		
	comp=Z,3.0nm,1.0s							
SBA					MLR	MLR		
	comp=Z,686nm,19.0s							
VNDA	**Vanda**	**56.44**	**195**	P		**P**	**11 19 13.4**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=108,slow=4.6,SNR=5.0							
VNDA					LR	LR	11 38 46.2	
	comp=Z,715nm,18.5s,baz=96,slow=31							
VNDA	**Vanda**	**56.44**	**195**	*eP*		**P**	**11 19 14.0**	**+0.2**
	comp=Z,2.2nm,1.0s							
VNDA	**Vanda**	**56.44**	**195**	*eP*		**P**	**11 19 14.0**	**+0.2**
VNDA					pmax	pmax		
	comp=Z,2.0nm,1.0s							
VNA3	**Neumayer Olymp**	**58.52**	**158**	P		**P**	**11 19 26.1**	**-2.5**
VNA1	**Neumayer--Stat**	**59.14**	**157**	P		**P**	**11 19 31.0**	**-1.9**
MTDJ	**Mount Denham**	**59.30**	**30**		PFAKE		11 19 50.0	+15
MTDJ					LR	LR		
	comp=Z,626nm,21.0s							
VNA2	**Neumayer--Stac**	**59.32**	**158**	P		**P**	**11 19 31.8**	**-2.3**
	baz=255,slow=5.7							
SNAA	**Sanae**	**60.41**	**159**	P		**P**	**11 19 38.7**	**-3.0**
SNAA	**Sanae**	**60.41**	**159**	*eP*		**P**	**11 19 38.9**	**-2.9**
	comp=Z,10.0nm,1.1s							
SNAA	**Sanae**	**60.41**	**159**‖	*eP*		**P**	**11 19 42.2**	**+0.5**
RAO	**Raoul Island**	**60.80**	**253**		PFAKE		11 20 00.0	+15
RAO					LR	LR		
	comp=Z,1μm,21.0s							
SNZO	**South Karori**	**61.24**	**238**		PFAKE		11 20 00.0	+12
SNZO					LR	LR		
	comp=Z,3μm,20.0s							
KHZ	**Kahutara**	**61.60**	**236**	*eP*		**P**	**11 19 49.8**	**-0.4**
	comp=Z,28nm,1.0s							
GTBY	**Guantanamo Bay**	**61.84**	**32**	*eP*		**P**	**11 19 51.5**	**-0.3**
	comp=Z,15nm,1.0s							
GTBY					LR	LR		
	comp=Z,789nm,21.0s							
SDDR	**Presa de Saban**	**62.76**	**36**		PFAKE		11 20 10.0	+12
SDDR					LR	LR		
	comp=Z,501nm,20.0s							
KVTX	**Kingsville**	**62.97**	**7**		PFAKE		11 20 10.0	+11
KVTX					LR	LR		
	comp=Z,546nm,20.0s							
LTX	**Lajitas**	**64.42**	**1**	*eP*		**P**	**11 20 08.6**	**-0.4**
LTX	**Lajitas**	**64.42**	**1**	*eP*		**P**	**11 20 08.6**	**-0.4**
TXAR	**Lajitas Array**	**64.42**	**1**	P		**P**	**11 20 08.6**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=185,slow=8.1,SNR=11							
TXAR					LR	LR	11 43 07.7	
	comp=Z,324nm,18.9s,baz=0.0,slow=31							
TX31	**Lajitas Ar. Si**	**64.42**	**1**	*eP*		**P**	**11 20 07.5**	**-1.4**
BBGH	**Gun Hill**	**64.55**	**50**		PFAKE		11 20 20.0	+10
BBGH					LR	LR		
	comp=Z,1μm,19.0s							
SJG	**San Juan**	**64.64**	**41**		PFAKE		11 20 20.0	+10
SJG					LR	LR		
	comp=Z,600nm,19.0s							
NVL	**N'lazarevskaya**	**64.98**	**161**	*eP*		**P**	**11 20 12.1**	**+0.1**
NVL					pmax	pmax		
	comp=Z,7.0nm,0.7s							
GRTK	**Grand Turk**	**65.00**	**35**		PFAKE		11 20 20.0	+7.2
GRTK					LR	LR		
	comp=Z,592nm,20.0s							
JCT	**Junction City**	**65.72**	**5**	*eP*		**P**	**11 20 17.2**	**-0.1**
	comp=Z,9.1nm,1.0s							
JCT	**Junction City**	**65.72**	**5**	*eP*		**P**	**11 20 17.2**	**-0.1**
JCT					pmax	pmax		
	comp=Z,9.0nm,1.0s							
ANWB	**Willy Bob**	**66.72**	**45**		PFAKE		11 20 40.0	+16
ANWB					LR	LR		
	comp=Z,537nm,21.0s							
MNTX	**Cornudas Mount**	**66.77**	**359**		PFAKE		11 20 40.0	+16
MNTX					LR	LR		
	comp=Z,293nm,19.0s							
WHTX	**Lake Whitney,**	**67.41**	**7**	*eP*		**P**	**11 20 28.7**	**+0.7**
	comp=Z,17nm,1.1s							
342A	**Flagon Creek P**	**67.47**	**12**	*eP*		**P**	**11 20 29.1**	**+0.7**
	comp=Z,16nm,0.9s							
NATX	**Nacogdoches**	**67.50**	**9**	*eP*		**P**	**11 20 28.3**	**-0.3**
	comp=Z,19nm,0.9s							
NATX					LR	LR		
	comp=Z,576nm,19.0s							
TUC	**Tucson**	**67.61**	**355**		PFAKE		11 20 40.0	+11
TUC					LR	LR		
	comp=Z,537nm,20.0s							
TUC	**Tucson**	**67.61**	**355**	P		P	11 20 35.8	+6.4
TUC					pmax	pmax		
	comp=Z,4.0nm,1.2s							
BRAL	**Brewton**	**68.31**	**16**		PFAKE		11 20 40.0	+6.3
BRAL					LR	LR		
	comp=Z,903nm,21.0s							
RCBR	**Riachuelo**	**69.48**	**82**		PFAKE		11 20 50.0	+8.5
RCBR					LR	LR		
	comp=Z,26μm,22.0s							
XPFO	**Piæon Flat**	**69.53**	**350**	*eP*		**P**	**11 20 39.7**	**-1.7**
	comp=Z,3.4nm,1.1s							
PFO	**Pinyon Flats O**	**69.53**	**350**	*eP*		**P**	**11 20 40.2**	**-1.3**
	comp=Z,3.5nm,1.1s							
PFO					LR	LR		
	comp=Z,737nm,20.0s							
PFO	**Pinyon Flats O**	**69.53**	**350**	*eP*		**P**	**11 20 40.2**	**-1.3**
PFO					pmax	pmax		
	comp=Z,4.0nm,1.1s							
PFO					MLR	MLR		
	comp=Z,737nm,20.0s							
X16A	**Lo Mia Camp, P**	**69.75**	**354**	*eP*		**P**	**11 20 43.1**	**+0.2**
	comp=Z,3.2nm,1.1s							
X18A	**Snowflake**	**69.75**	**355**	*eP*		**P**	**11 20 42.6**	**-0.2**
	comp=Z,9.0nm,1.1s							
AMTX	**Amarillo**	**70.00**	**3**	*eP*		**P**	**11 20 45.3**	**+1.0**
	comp=Z,7.8nm,0.9s							
ANMO	**Albuquerque**	**70.02**	**359**	P		**P**	**11 20 46.4**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=337,slow=7.7,SNR=2.2							
ANMO	**Albuquerque**	**70.02**	**359**	*eP*		**P**	**11 20 44.7**	**+0.2**
	comp=Z,1.3nm,0.9s							
ANMO					LR	LR		
	comp=Z,362nm,19.0s							
ANMO	**Albuquerque**	**70.02**	**359**‖	*eP*		**P**	**11 20 47.3**	**+2.8**
ANMO					pmax	pmax		
	comp=Z,3.0nm,1.7s							
W18A	**Petrified Fore**	**70.33**	**356**	*eP*		**P**	**11 20 46.6**	**+0.2**
	comp=Z,3.3nm,1.0s							
MIAR	**Mount Ida**	**70.39**	**10**		PFAKE		11 21 00.0	+13
MIAR					LR	LR		
	comp=Z,356nm,22.0s							
WUAZ	**Wupatki**	**70.84**	**354**	*eP*		**P**	**11 20 49.0**	**-0.5**
	comp=Z,6.0nm,1.1s							
WUAZ					LR	LR		
	comp=Z,521nm,20.0s							
W41B	**Gary Mavity, V**	**71.20**	**11**	*eP*		**P**	**11 20 51.1**	**-0.3**
	comp=Z,9.3nm,0.9s							
GSC	**Goldstone, Bar**	**71.24**	**350**	*eP*		**P**	**11 20 51.0**	**-0.8**
	comp=Z,4.1nm,1.1s							
GSC	**Goldstone, Bar**	**71.24**	**350**	*eP*		**P**	**11 20 51.0**	**-0.8**
GSC					pmax	pmax		
	comp=Z,4.0nm,1.1s							
WHAR	**Wooly Hollow**	**71.31**	**11**	*eP*		**P**	**11 20 52.8**	**+0.7**
	comp=Z,11nm,1.2s							
GOGA	**Godfrey**	**71.33**	**19**		PFAKE		11 21 00.0	+7.7
GOGA					LR	LR		
	comp=Z,426nm,20.0s							
TUL1	**Leonard**	**71.46**	**8**	*eP*		**P**	**11 20 53.1**	**+0.1**
	comp=Z,8.2nm,0.9s							
X48A	**Hartselle**	**71.47**	**15**	*eP*		**P**	**11 20 53.1**	**+0.1**
	comp=Z,3.0nm,0.9s							
U15A	**North Rim**	**71.82**	**354**	*eP*		**P**	**11 20 55.4**	**-0.2**
	comp=Z,6.0nm,1.0s							
ISA	**Isabella, Lake**	**71.86**	**348**	*eP*		**P**	**11 20 55.2**	**-0.3**
	comp=Z,5.8nm,1.1s							
ISA	**Isabella, Lake**	**71.86**	**348**	*eP*		**P**	**11 20 55.2**	**-0.3**
ISA					pmax	pmax		
	comp=Z,6.0nm,1.1s							
NHSC	**New Hope**	**71.97**	**22**		PFAKE		11 21 10.0	+14
NHSC					LR	LR		
	comp=Z,648nm,20.0s							
HHAR	**Hobbs**	**72.05**	**9**	*eP*		**P**	**11 20 56.4**	**-0.2**
	comp=Z,8.7nm,1.0s							
SHPR	**Sheep Range**	**72.21**	**351**	*eP*		**P**	**11 20 57.5**	**-0.2**
	comp=Z,3.1nm,1.0s							
PAGB	**Antelope Grade**	**72.24**	**347**	*eP*		**P**	**11 20 57.6**	**-0.1**
	comp=Z,12nm,1.1s							
DAC	**Darwin (Calif)**	**72.32**	**349**	*eP*		**P**	**11 20 59.0**	**+0.7**
	comp=Z,5.4nm,1.1s							
DAC	**Darwin (Calif)**	**72.32**	**349**	*eP*		**P**	**11 20 59.1**	**+0.7**
DAC					pmax	pmax		
	comp=Z,5.0nm,1.1s							
MVCO	**Mesa Verde**	**72.34**	**357**	*eP*		**P**	**11 20 58.6**	**0.0**
	comp=Z,6.2nm,0.9s							
MVCO					LR	LR		
	comp=Z,211nm,19.0s							
SWET	**Sewanee**	**72.45**	**16**	*eP*		**P**	**11 20 58.9**	**-0.2**
	comp=Z,17nm,1.1s							
SYO	**Syowa Base**	**72.61**	**167**‖	*eP*		**P**	**11 20 56.0**	**-3.6**
SYO	**Syowa Base**	**72.61**	**167**‖	*ep*	P	pP	11 21 01.8	-2.0
V48A	**Smith Brothers**	**72.76**	**15**	*eP*		**P**	**11 21 00.6**	**-0.2**
	comp=Z,9.9nm,1.0s							
TPNV	**Topopah Spring**	**72.78**	**350**	*eP*		**P**	**11 21 00.1**	**-1.0**
	comp=Z,4.9nm,1.1s							
TPNV	**Topopah Spring**	**72.78**	**350**	*eP*		**P**	**11 21 00.1**	**-1.0**
TPNV					pmax	pmax		
	comp=Z,5.0nm,1.1s							
SDCO	**Great Sand Dun**	**72.80**	**359**	*eP*		**P**	**11 21 01.1**	**-0.3**
	comp=Z,2.7nm,1.1s							
SDCO					LR	LR		
	comp=Z,650nm,19.0s							
S22A	**4UR Ranch, Cre**	**72.82**	**358**	*eP*		**P**	**11 21 01.7**	**+0.1**
	comp=Z,3.4nm,1.0s							
PBMO	**Poplar Bluff**	**73.07**	**12**	*eP*		**P**	**11 21 01.6**	**-0.9**
	comp=Z,9.8nm,1.1s							
PARMO	**Parma**	**73.07**	**13**	*eP*		**P**	**11 21 03.0**	**+0.3**
	comp=Z,13nm,0.6s							
PV01	**Paradox Valley**	**73.27**	**357**	*eP*		**P**	**11 21 03.5**	**-0.6**
PV02	**Paradox Valley**	**73.35**	**357**	*

ISCO **Idaho Springs** **74.85 359** PFAKE 11 21 20.0 +6.6
ISCO LR LR
comp=Z,410nm,20.0s
CASY **Casey** **75.04 194** PFAKE 11 21 20.0 +6.1
CASY LR LR
comp=Z,93nm,19.0s
KVN **Kaiserville** **75.11 349** *e*P **P** **11 21 13.8 -1.0**
comp=Z,8.8nm,1.0s
KVN **Kaiserville** **75.11 349** *e*P **P** **11 21 13.8 -1.0**
KVN pmax pmax
comp=Z,9.0nm,1.0s
YERR **Yerington** **75.23 348** *e*P **P** **11 21 15.6 +0.2**
comp=Z,4.9nm,1.1s
PNTR **Pine Nut** **75.39 348** *e*P **P** **11 21 16.5 +0.1**
comp=Z,7.1nm,1.1s
RUBR **Rubicon Trail** **75.45 348** *e*P **P** **11 21 16.6 -0.2**
comp=Z,13nm,0.8s
AFDM **Forest Hills D** **75.49 347** *e*P **P** **11 21 16.4 -0.3**
comp=Z,6.1nm,1.1s
VCNR **Virginia City** **75.60 348** *e*P **P** **11 21 17.4 -0.1**
comp=Z,3.7nm,1.1s
DUG **Dugway, Tooele** **75.61 354** PFAKE 11 21 30.0 +13
DUG LR LR
comp=Z,491nm,20.0s
BLA **Blacksburg** **75.73 20** PFAKE 11 21 30.0 +12
BLA LR LR
comp=Z,303nm,19.0s
OGNE **Ogallala** **76.04 2** PFAKE 11 21 30.0 +10
OGNE LR LR
comp=Z,452nm,21.0s
ORV **Oroville** **76.18 347** *e*P **P** **11 21 20.8 +0.2**
comp=Z,2.5nm,1.0s
ORV **Oroville** **76.18 347** *e*P **P** **11 21 20.8 +0.2**
ORV pmax pmax
comp=Z,3.0nm,1.0s
P45A **Graceland, Par** **76.22 14** *e*P **P** **11 21 20.6 -0.2**
comp=Z,11nm,0.9s
BEKR **Beckworth** **76.28 348** *e*P **P** **11 21 20.7 -0.7**
comp=Z,7.5nm,0.9s
DZM **Mont Dzumac** **76.58 252** *e*S **S** **11 31 09.5 -0.3**
comp=Z,491nm,26.2s
DZM **Mont Dzumac** **76.58 252** *e*LR LR 11 44 59.9
comp=Z,2µm,32.1s
Q51A **Peebles** **76.69 17** *e*P **P** **11 21 22.8 -0.7**
comp=Z,9.4nm,0.8s
MAW **Mawson** **76.87 175** P **P** **11 21 23.3 -1.0**
comp=Z,2.8nm,0.9s,baz=252,slow=3.1,SNR=3.9
MAW LR LR 11 52 08.7
comp=Z,270nm,21.1s,baz=190,slow=33
MAW **Mawson** **76.87 175** *e*P **P** **11 21 23.3 -1.0**
comp=Z,1.2nm,1.0s
MAW **Mawson** **76.87 175** *e*P **P** **11 21 23.3 -1.0**
MAW pmax pmax
comp=Z,1.0nm,1.0s
HWUT **Hardware Ranch** **76.91 355** PFAKE 11 21 40.0 +15
HWUT LR LR
comp=Z,617nm,21.0s
WDC **Whiskeytown Da** **77.37 346** *e*P **P** **11 21 28.1 +0.9**
comp=Z,4.6nm,0.9s
WDC **Whiskeytown Da** **77.37 346** *e*P **P** **11 21 28.2 +0.9**
WDC pmax pmax
comp=Z,5.0nm,0.9s
CBN **Corbin Frederi** **77.54 22** PFAKE 11 21 40.0 +12
CBN LR LR
comp=Z,1µm,19.0s
SCIA **State Center** **77.69 9** PFAKE 11 21 40.0 +11
SCIA LR LR
comp=Z,375nm,19.0s
K22A **Casper** **77.71 359** *e*P **P** **11 21 27.8 -1.6**
comp=Z,9.1nm,1.1s
ACSO **Alum Creek Sta** **77.92 17** PFAKE 11 21 40.0 +10
ACSO LR LR
comp=Z,610nm,19.0s
BW06 **Boulder Array** **77.93 356** *e*P **P** **11 21 29.8 -1.0**
comp=Z,4.8nm,0.8s
PD31 **Pinedale Array** **77.93 356** *e*P **P** **11 21 29.6 -1.1**
PDAR **Pinedale Array** **77.93 356** P **P** **11 21 30.4 -0.3**
comp=Z,2.4nm,1.0s,baz=155,slow=4.6,SNR=13
PDAR LR LR 11 50 02.0
comp=Z,168nm,19.9s,baz=182,slow=31
AHID **Auburn Hatcher** **78.02 355** PFAKE 11 21 40.0 +8.8
AHID LR LR
comp=Z,553nm,21.0s
TAU **Tasmania Unive** **78.04 226** PFAKE 11 21 40.0 +8.7
TAU LR LR
comp=Z,1µm,22.0s
O52A **Adamsville** **78.09 18** *e*P **P** **11 21 30.6 -0.8**
comp=Z,16nm,1.0s
MOD **Modoc Plateau** **78.25 348** *e*P **P** **11 21 31.8 -0.6**
comp=Z,5.4nm,0.8s
WVOR **Wild Horse Val** **78.51 350** P P 11 21 39.9 +6.2
YBH **Yreka Blue Hor** **78.52 346** P **P** **11 21 34.0 +0.3**
comp=Z,1.3nm,0.9s,baz=80,slow=11,SNR=3.1
REDW **Red Top Meadow** **78.60 356** *e*P **P** **11 21 33.9 -0.5**
comp=Z,5.6nm,1.0s
SNOW **Snow King Moun** **78.70 356** *e*P **P** **11 21 34.2 -0.7**
comp=Z,4.9nm,0.9s
TPAW **Teton Pass** **78.74 355** *e*P **P** **11 21 34.8 -0.4**
comp=Z,8.9nm,1.1s
LOHW **Long Hollow** **78.84 356** *e*P **P** **11 21 35.0 -0.6**
comp=Z,3.8nm,1.0s
FXWY **Fox Creek** **78.89 355** *e*P **P** **11 21 35.5 -0.5**
comp=Z,3.9nm,1.0s
MOOW **Moose Ponds** **78.98 356** *e*P **P** **11 21 36.4 0.0**
comp=Z,2.0nm,0.8s
HLID **Hailey** **79.09 353** *e*P **P** **11 21 35.8 -1.2**
comp=Z,13nm,1.1s
HLID LR LR
comp=Z,410nm,20.0s
ECSD **EROS Data Cent** **79.13 6** *e*P **P** **11 21 36.3 -0.7**
comp=Z,11nm,1.1s
IMW **Indian Meadow** **79.14 355** *e*P **P** **11 21 36.7 -0.7**
comp=Z,4.7nm,1.0s
FLWY **Flagg Ranch** **79.31 356** *e*P **P** **11 21 37.9 -0.3**
comp=Z,10nm,1.0s
J08A **Circle Bar Ran** **79.39 350** *e*P **P** **11 21 38.5 -0.1**
comp=Z,7.2nm,0.9s
LKWY **Lake** **79.77 356** PFAKE 11 21 50.0 +9.2
LKWY LR LR
comp=Z,571nm,22.0s
PINE **Pine Mountain** **80.19 348** *e*P **P** **11 21 43.0 -0.1**
comp=Z,10.0nm,0.9s
RLMT **Red Lodge** **80.27 357** PFAKE 11 21 50.0 +6.6
RLMT LR LR
comp=Z,515nm,19.0s
BMO **Blue Mountains** **80.70 351** PFAKE 11 22 00.0 +14
BMO LR LR
comp=Z,354nm,22.0s
BOZ **Bozeman (W)** **80.88 355** PFAKE 11 22 00.0 +13
BOZ LR LR
comp=Z,442nm,19.0s
G08A **Pilot Rock** **81.35 350** *e*P **P** **11 21 49.0 -0.1**
comp=Z,3.0nm,0.8s
BINY **Binghamton** **81.63 21** PFAKE 11 22 00.0 +10
BINY LR LR
comp=Z,1µm,20.0s
GLMI **Grayling** **81.94 14** PFAKE 11 22 00.0 +7.9
GLMI LR LR
comp=Z,741nm,20.0s
NEW **Newport** **84.03 352** P **P** **11 22 02.3 -0.5**
comp=Z,0.6nm,0.3s,baz=191,slow=5.2,SNR=2.8
NEW **Newport** **84.03 352** *e*P **P** **11 22 02.5 -0.4**
comp=Z,4.1nm,1.0s
NEW LR LR
comp=Z,501nm,22.0s
NEW **Newport** **84.03 352** *e*P **P** **11 22 02.5 -0.4**
NEW pmax pmax
comp=Z,4.0nm,1.0s
NEW MLR MLR
comp=Z,501nm,22.0s
LONY **Lake Ozonia** **84.26 21** PFAKE 11 22 10.0 +6.0
LONY LR LR
comp=Z,1µm,19.0s
ULM **Lac du Bonnet** **85.67 6** P **P** **11 22 10.3 -0.6**
comp=Z,3.8nm,0.8s,baz=301,slow=5.9,SNR=2.7
PKME **Peaks-Kenny Pk** **86.50 24** PFAKE 11 22 30.0 +15
PKME LR LR
comp=Z,763nm,22.0s
STKA **Stephens Creek** **88.56 231** LR LR 11 53 52.2
comp=Z,1µm,21.9s,baz=161,slow=30
HNR **Honiara** **88.84 259** PFAKE 11 22 40.0 +13
HNR LR LR
comp=Z,339nm,22.0s
CTAO **Charters Tower** **92.99 243** PFAKE 11 23 00.0 +13
CTAO LR LR
comp=Z,961nm,20.0s
SUR **Sutherland** **95.45 136** PFAKE 11 23 10.0 +12
SUR LR LR
comp=Z,660nm,20.0s
SCHQ **Schefferville** **95.63 21** LR LR 12 01 42.0
comp=Z,445nm,21.4s,baz=259,slow=33
ASAR **Alice Springs** **99.12 233** LR LR 12 01 55.6
comp=Z,1µm,19.8s,baz=142,slow=32
H11S2 **WAKE ISLAND Hy** **99.29 286** T T 13 13 21.1
baz=122
H11S1 **WAKE ISLAND Hy** **99.30 286** T T 13 13 20.7
baz=122
H11S3 **WAKE ISLAND Hy** **99.30 286** T T 13 13 21.9
baz=122
WAKE **Wake Island** **99.77 287** PFAKE 11 23 30.0 +13
WAKE LR LR
comp=Z,998nm,20.0s
H01W1 **Cape Leeuwin H** **101.16 212** T T 13 16 44.9
baz=146,slow=76,SNR=10
H01W2 **Cape Leeuwin H** **101.16 212** T T 13 16 45.5
baz=146,slow=76,SNR=9.3
H01W3 **Cape Leeuwin H** **101.17 212** T T 13 16 37.2
baz=146,slow=76,SNR=8.5
NWAO **Narrogin (SRO)** **101.42 215** PFAKE 11 23 30.0 +5.6
NWAO LR LR
comp=Z,904nm,21.0s
WR1 **Warramunga Arr** **101.44 235** *e*Pdif **Pdif** **11 23 27.8 +3.1**
WRAB **Tennant Creek** **101.44 236** PFAKE 11 23 40.0 +15
WRAB LR LR
comp=Z,612nm,20.0s
WRA **Warramunga Arr** **101.44 235** P **Pdif** **11 23 27.8 +3.0**
comp=Z,0.8nm,1.0s,baz=141,slow=4.4,SNR=5.0
TSUM **Tsumeb** **103.00 125** PFAKE 11 23 40.0 +8.2
TSUM LR LR
comp=Z,276nm,22.0s
EGAK **Eagle** **103.85 345** PFAKE 11 23 50.0 +16
EGAK LR LR
comp=Z,476nm,19.0s
COLA **College** **105.48 342** PFAKE 11 28 10.0
COLA LR LR
comp=Z,272nm,21.0s
MBWA **Marble Bar** **109.65 224** PFAKE 11 28 10.0
MBWA LR LR
comp=Z,490nm,20.0s
TORD **Torodi Ar. Bea** **110.88 88** PP PP 11 28 42.1 -2.1
comp=Z,1.5nm,1.0s,baz=272,slow=5.3,SNR=5.9
LSZ **Lusaka** **112.74 130** PFAKE 11 28 20.0
LSZ LR LR
comp=Z,227nm,20.0s
PAB **San Pablo** **118.72 60** PFAKE 11 28 30.0 +9.2
PAB LR LR
comp=Z,799nm,19.0s
ABPO **Ambohimpanom** **119.71 149** PFAKE 11 28 30.0 +6.4
ABPO LR LR
comp=Z,75nm,21.0s
PET **Petropavlovsk** **121.06 316** PFAKE 11 28 40.0 +15
PET LR LR
comp=Z,717nm,20.0s
BILL **Bilibino** **121.92 334** PFAKE 11 28 40.0 +14
BILL LR LR
comp=Z,309nm,22.0s
BILL **Bilibino** **121.92 334** *e*PKIKP **PKPdf** **11 28 29.5 +3.5**
BILL *e* 11 29 58.6
BILL pmax pmax
comp=Z,2.0nm,1.1s
KAPI **Kappang** **121.98 235** PFAKE 11 28 40.0 +12
KAPI LR LR
comp=Z,318nm,20.0s
MBAR **Mbarara** **125.24 121** PFAKE 11 28 50.0 +16
MBAR LR LR
comp=Z,733nm,22.0s
DAV **Davao City (W)** **125.97 251** PFAKE 11 28 50.0 +15
DAV LR LR
comp=Z,230nm,19.0s
MA2 **Magadan** **126.88 322** PFAKE 11 28 50.0 +14
MA2 LR LR
comp=Z,212nm,20.0s
KMBO **Kilima Mbogo** **129.25 127** PFAKE 11 28 50.0 +7.9
KMBO LR LR
comp=Z,224nm,21.0s
YSS **Yuzh-Sakhalins** **129.34 305** PFAKE 11 28 50.0 +9.2
YSS LR LR
comp=Z,113nm,20.0s
KHC **Kasperske Hory** **133.64 53** AMS AMS 12 28 00.0
comp=Z,200nm,17.4s
TIXI **Tiksi** **134.47 339** PFAKE 11 29 00.0 +10
TIXI LR LR
comp=Z,218nm,19.0s
TIXI **Tiksi** **134.47 339**↓ *e*PKIKP **PKPdf** **11 28 53.8 +4.1**
GOPC **GO Pecny, Ondr** **134.51 52** AMS AMS 12 25 10.0
comp=Z,200nm,14.2s
DPC **Dobruska-Polom** **135.53 52** AMS AMS 12 25 50.0
comp=Z,300nm,19.3s
YAK **Yakutsk** **137.09 326** PFAKE 11 29 10.0 +15
YAK LR LR
comp=Z,318nm,21.0s
YAK **Yakutsk** **137.09 326**↑ *e*PKIKP **PKPdf** **11 29 01.1 +6.2**
KLNR **Kaliningrad** **137.90 45**↓ *e*PKIKP **PKPdf** **11 28 59.6 +3.0**
MDJ **Mudanjiang** **138.02 300** PFAKE 11 29 10.0 +13
MDJ LR LR
comp=Z,416nm,21.0s
APE **Apeiranthos** **140.28 73**↑ *e*PKIKP **PKPdf** **11 29 01.4 -0.2**
VSU **Vasula** **140.86 39**↑ *e*PKIKP **PKPdf** **11 29 02.8 +0.9**
KIEV **Kiev** **143.73 51** PFAKE 11 29 20.0 +13
KIEV LR LR
comp=Z,328nm,22.0s
KIEV **Kiev** **143.73 51**↑ *e*PKIKP **PKPdf** **11 29 08.6 +1.4**
AKASG **Malin Array Be** **143.74 51** PKP PKPbc 11 29 06.0 +1.1
comp=Z,0.6nm,0.5s,baz=264,slow=5.6,SNR=8.3
AKASG **Malin Array Be** **143.74 51** PKIKP PKPbc 11 29 06.0 +1.1
AKBB **Malin Array Si** **143.74 51** *e*PKPdf PKPbc 11 29 06.0 +1.1
AKBB **Malin Array Si** **143.74 51** *e*PKIKP PKPbc 11 29 06.0 +1.1
NJ2 **Nanjing** **143.75 277** *e*PKP **PKPdf** **11 29 07.4 -0.5**
ISP **Isparta** **144.32 73**↓ *e*PKIKP **PKPdf** **11 29 12.2 +3.3**
HIA **Hailar** **144.81 307** PFAKE 11 29 20.0 +11
HIA LR LR
comp=Z,188nm,20.0s
HIA **Hailar** **144.81 307**↓ *e*PKIKP **PKPdf** **11 29 10.9 +1.6**
NRIK **Noril'sk** **145.34 352** PKPbc **PKPbc** **11 29 08.0 -1.4**
comp=Z,2.3nm,0.4s,baz=8.4,slow=15,SNR=3.3
NRIK **Noril'sk** **145.34 352** PKP2 **PKPbc** **11 29 08.0 -1.4**
NRIK pmax pmax
comp=Z,2.0nm,0.4s
QIZ **Qiongzhong** **145.35 251** PFAKE 11 29 20.0 +8.9
QIZ LR LR
comp=Z,219nm,19.0s
BOD **Bodaibo** **145.89 323** *e*PKIKP **PKPdf** **11 29 09.8 -1.0**
BOD pmax pmax
comp=Z,17nm,1.4s
ANTO **Ankara** **146.37 70** PFAKE 11 29 20.0 +5.5
ANTO LR LR
comp=Z,153nm,20.0s
BR101 **Keskin Array S** **147.00 70** *e*PKPdf **PKPdf** **11 29 13.4 0.0**
BRTR **Keskin Array B** **147.00 70** PKPbc **PKPdf** **11 29 13.4 0.0**
comp=Z,4.1nm,0.9s,baz=193,slow=5.1,SNR=8.8
BRTR **Keskin Array B** **147.00 70** *c i*PKP2 **PKPab** **11 29 17.2 +0.2**
OBN **Obninsk** **147.02 41** PFAKE 11 29 20.0 +3.7
OBN LR LR
comp=Z,163nm,20.0s
OBN **Obninsk** **147.02 41**↓ *e*PKP2 **PKPbc** **11 29 15.1 +0.3**
OBN pmax pmax
comp=Z,13nm,1.0s
MOS **Moscow** **147.35 40** *e*PKP2 **PKPab** **11 29 19.4 +1.8**
MOS pmax pmax
comp=Z,42nm,0.9s
BJT **Baijiatuau** **147.47 291** PFAKE 11 29 20.0 +1.4
BJT LR LR
comp=Z,303nm,22.0s
LPSR **Galich'ya Gora** **149.20 45** *e*PKP2 **PKPab** **11 29 24.2 -0.9**
LPSR pmax pmax
comp=Z,30nm,1.1s
VORD **Divnogorie** **149.92 48** *e*PKP2 **PKPab** **11 29 26.8 -1.4**
VORD pmax pmax
comp=Z,10.0nm,0.8s
PBKT **Sadao Pong** **150.32 237** *e*PKPdf **PKPdf** **11 29 19.4 +0.1**
ENH **Enshi** **150.82 270** PFAKE 11 29 30.0 -2.6
ENH LR LR
comp=Z,193nm,19.0s
HHC **Hu-ho-hao-te** **151.02 292** *e*PKPbc **PKPdf** **11 29 21.3 +1.4**
VRH **Novokhopyorsk** **151.30 46** *e*PKIKP **PKPbc** **11 29 28.9 +3.2**
VRH pmax pmax
comp=Z,30nm,1.2s
PALK **Pallekele** **151.53 192** PKP **PKPdf** **11 29 20.7 -0.7**
comp=Z,1.2nm,0.4s,baz=295,slow=18,SNR=2.1
RAYN **Ar Rayn** **151.68 107** PFAKE 11 29 30.0 +2.4
RAYN LR LR
comp=Z,206nm,21.0s
CMAR **Chiang Mai Arr** **153.02 237** PKP **PKPdf** **11 29 24.0 +0.6**
comp=Z,0.3nm,0.3s,baz=191,slow=0.9,SNR=4.6
CHTO **Chiang Mai** **153.26 238** PFAKE 11 29 30.0 -1.2
CHTO LR LR
comp=Z,253nm,21.0s
ULN **Ulaanbaatar** **153.34 308** PFAKE 11 29 30.0 -0.7
ULN LR LR
comp=Z,194nm,20.0s
ULN **Ulaanbaatar** **153.34 308**↓ *e*PKIKP **PKPbc** **11 29 33.3 +2.6**
KIV **Kislovodsk** **153.71 61** PFAKE 11 29 30.0 -1.6
KIV LR LR
comp=Z,129nm,20.0s
KIV **Kislovodsk** **153.71 61** *e*PKIKP **PKPdf** **11 29 24.1 +0.4**
KIV pmax pmax
comp=Z,7.0nm,1.0s
SONA0 **Songino Array** **153.77 308** *e*PKPbc **PKPbc** **11 29 29.6 -2.0**
SONM **Songino Array** **153.77 308** PKPbc **PKPbc** **11 29 29.6 -2.0**
comp=Z,2.5nm,0.8s,baz=129,slow=1.8,SNR=8.8
NEY **Neytrino** **153.82 63**↑ *e*PKIKP **PKPdf** **11 29 27.2 +3.2**
KBZ **Khabaz** **153.89 62** PKPbc **PKPbc** **11 29 32.5 +0.7**
comp=Z,3.8nm,0.9s,baz=222,slow=5.3,SNR=5.9
TLY **Talaya** **153.97 317** PFAKE 11 29 30.0 -1.8
TLY LR LR
comp=Z,193nm,20.0s
TLY **Talaya** **153.97 317**↑ *i*PKIKP **PKPbc** **11 29 34.5 +2.7**
ZAK **Zakamensk** **154.76 315** *e*PKIKP **PKPbc** **11 29 36.7 +3.1**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
GNI **Garni** **155.54 70** PFAKE 11 29 40.0 -12
GNI LR LR
comp=Z,164nm,20.0s
ARU **Arti** **156.14 23** PFAKE 11 29 40.0 +14
ARU LR LR
comp=Z,318nm,20.0s
ARU **Arti** **156.14 23**↓ *e*PKIKP **PKPdf** **11 29 31.8 +5.3**
KNGR **Kungurtug, Tuv** **157.84 320**↑ *e*PKIKP **PKPdf** **11 29 32.3 +3.3**
GTA **Gaotai** **160.06 289** *e*PKP **PKPdf** **11 29 32.9 +0.9**
GTA PKPab **pPKPab** **11 30 16.0 -0.3**
GTA PP **PP** **11 33 58.7 +4.2**
GTA SKS **SKSdf** **11 36 36.0 -1.1**
GTA SKKS **SKKSac** **11 40 44.4 +1.8**
GTA SS **SS** **11 54 08.3 +4.0**
GTA AMB AMB
comp=Z,28nm,5.9s
GTA LR LR
comp=Z,230nm,20.6s
ZAA1 **Zalesovo Array** **160.28 343** *e*PKPdf **PKPdf** **11 29 30.8 -0.8**
ZALV **Zalesovo Beam** **160.28 343** PKP **PKPdf** **11 29 30.8 -0.8**
comp=Z,1.6nm,0.9s,baz=336,slow=3.2,SNR=4.0
ZALV **Zalesovo Beam** **160.28 343** *e*PKPdf **PKPdf** **11 29 31.5 -0.1**
BRVK **Borovoye** **162.03 10** PFAKE 11 29 40.0 +6.5
BRVK LR LR
comp=Z,258nm,22.0s
BRVK **Borovoye** **162.03 10**↑ *e*PKIKP **PKPdf** **11 29 35.3 +1.8**
DGZ **Jazzator, Alta** **163.15 332**↓ *e*PKIKP **PKPdf** **11 29 36.2 +1.2**
KURK **Kurchatov** **164.51 352** PFAKE 11 29 50.0 +14
KURK LR LR
comp=Z,715nm,20.0s
LSA **Lhasa** **165.39 252** PFAKE 11 29 50.0 +12
LSA LR LR
comp=Z,187nm,20.0s
WMQ **Urumqi** **167.23 315** *e*PKP **PKPdf** **11 29 37.9 -0.6**
WMQ LR LR
comp=Z,600nm,27.3s
AAK **Ala-Archa** **172.77 4** PFAKE 11 29 50.0 +8.2
AAK LR LR
comp=Z,300nm,21.0s
AAK **Ala-Archa** **172.77 4**↓ *e*PKIKP **PKPdf** **11 29 43.7 +1.9**
KSH **Kashi** **175.86 352** *e*PKP **PKPdf** **11 29 44.8 +1.9**

ANF ***06*** *11:12:34.0±0.7,31.70N×115.50W,h9km±3km,ML3.3/21, Error ellipse: s-maj=4.5km s-min=2.6km az=32.0*
SCEDC ***06*** *11:12:34.4,31.54N×115.64W,h6km*
ECX ***06*** *11:12:35.0±0.7,31.57N×115.61W,h8km,MD3.4,ML3.6*
MEX ***06*** *11:12:36.3±0.7,31.46N×115.66W,h11km±8km,MD3.5*

ISC 06 11:12:32.3±1.3,31.56N±0.02×115.56W±0.03,h2km±11km, n38,σ1°11/59,4C-7D,Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ECBX	**El Chinero**	**0.45**	**101**	↑ *e*P		**Pb**		**11 12 43.9**	**+1.0**
ECBX				*e*S		**Sb**		**11 12 50.3**	**+0.3**
SPIG	**San Pedro Mart**	**0.52**	**171**	↓ *e*P		**Pb**		**11 12 44.9**	**+0.6**
SPIG				*e*S		**Sb**		**11 12 52.2**	**-0.1**
SPIG	**San Pedro Mart**	**0.52**	**171**	*e*P		**Pb**		**11 12 44.9**	**+0.6**
SPIG				*e*S		**Sb**		**11 12 51.5**	**-0.9**
SPX	**San Pedro Mart**	**0.52**	**170**	↓ *e*P		**Pb**		**11 12 43.9**	**-0.4**
SPX				*e*S		**Sb**		**11 12 51.5**	**-0.9**
ZAX	**El Zacaton**	**0.61**	**266**	↑ *e*P		**Pg**		**11 12 44.8**	**+0.9**
CPBX	**Cerro Prieto**	**0.89**	**14**	*e*P		**Pb**		**11 12 50.0**	**-0.4**
ECNX	**Esteban Cantu**	**0.89**	**277**	↑ *e*P		**Pg**		**11 12 49.4**	**+0.1**
ECNX				↑ *e*P		**Pn**		**11 12 51.9**	**0.0**
ECNX				*e*S		**Sg**		**11 13 01.1**	**+0.3**
ECNX				*e*S		**Sn**		**11 13 04.2**	**-1.3**
MBIG	**Mexicali**	**0.90**	**20**	*e*P		**Pn**		**11 12 52.0**	**0.0**
MBIG				*e*S		**Sn**		**11 13 06.0**	**+0.3**
YUH	**Yuha Desert**	**1.13**	**344**	↓ *i*P		**Pb**		**11 12 54.2**	**-0.3**
RMX	**La Rumorosa**	**1.13**	**337**	↓ *e*P		**Pg**		**11 12 53.6**	**-0.3**
RMX				*e*S		**Sg**		**11 13 07.2**	**-1.5**
RMX	comp=N,884nm,0.2s			IAML				11 13 09.2	
RMX				↓ *e*				11 13 09.2	
IKP	**In-Ko-Pah, Jac**	**1.18**	**337**	↓ *e*P		**Pb**		**11 12 55.5**	**-0.1**
IKP	**In-Ko-Pah, Jac** baz=160,SNR=374	**1.18**	**337**	P		**Pb**		**11 12 55.4**	**-0.1**
IKP	baz=160			S		**Sg**		**11 13 09.8**	**-0.6**
WESC	**Westside Schoo**	**1.21**	**353**	*e*P		**Pn**		**11 12 56.0**	**-0.1**
TJIG	**Tijuana**	**1.29**	**313**	*e*P		**Pg**		**11 12 56.9**	**0.0**
TJIG				*e*S		**Sg**		**11 13 12.3**	**-1.3**
YMD	**Yuma Desert**	**1.32**	**41**	↓ *i*P		**Pn**		**11 12 57.0**	**-0.7**
SWSC	**Sam W. Stewart** baz=174,SNR=171	**1.40**	**352**	P		**Pn**		**11 12 57.7**	**-1.2**
MONP2	**Monument Peak** baz=154,SNR=234	**1.52**	**332**	P		**Pn**		**11 13 00.6**	**-0.1**
MONP2	baz=154			S		**Sn**		**11 13 19.7**	**-1.5**
GLA	**Glamis** baz=205,SNR=13	**1.61**	**23**	P		**Pn**		**11 13 00.9**	**-1.0**
109C	**Camp Elliot, M** baz=137	**1.86**	**316**	P		**Pn**		**11 13 05.7**	**+0.5**
109C	baz=137			S		**Sn**		**11 13 29.2**	**-0.2**
BC3	**Big Chuckawall** baz=184,SNR=16	**2.09**	**3**	P		**Pn**		**11 13 07.9**	**-0.6**
FRD	**Ford Ranch, An** baz=157,SNR=111	**2.12**	**336**	P		**Pn**		**11 13 08.3**	**-0.6**
FRD	baz=157			Sb		**Sb**		**11 13 38.5**	**+0.1**
PFO	**Pinyon Flats O** baz=161,SNR=29	**2.18**	**340**	P		**Pn**		**11 13 09.0**	**-0.8**
PFO	baz=161			Sg		**Sg**		**11 13 42.7**	**+0.2**
Y12C	**Blythe** baz=203	**2.36**	**22**	Sg		**Sg**		**11 13 47.3**	**-0.7**
214A	**Organ Pipe Nat** baz=261,SNR=12	**2.38**	**80**	P		**Pn**		**11 13 12.1**	**-0.3**
214A	baz=261			S		**Sn**		**11 13 40.2**	**-2.0**
MURC	**Murrieta** baz=147	**2.46**	**326**	P		**Pn**		**11 13 13.6**	**+0.1**
MURC	baz=147			Sb		**Sb**		**11 13 47.6**	**-0.4**
BELC	**Belle Mtn. Jos** baz=173,SNR=11	**2.46**	**352**	P		**Pn**		**11 13 13.5**	**-0.2**
IRM	**Iron Mountain** baz=189,SNR=12	**2.62**	**8**	P		**Pn**		**11 13 14.9**	**-0.8**
BBRC	**Big Bear Solar** baz=158,SNR=30	**2.93**	**337**	P		**Pn**		**11 13 20.4**	**+0.3**
BBRC	baz=158			Sb		**Sb**		**11 14 03.6**	**+1.9**
CIS	**Catalina Islan** baz=128	**3.03**	**308**	P		**Pn**		**11 13 21.8**	**+0.5**
CIS	baz=128			S		**Sn**		**11 13 57.0**	**-1.2**
FMP	**Fort Macarthur** baz=133	**3.15**	**314**	Sb		**Sb**		**11 14 09.4**	**+1.5**
BFSC	**Mount Baldy Ra** baz=147	**3.20**	**327**	Pb		**Pb**		**11 13 29.0**	**-1.0**
BFSC	baz=147			Sb		**Sb**		**11 14 09.6**	**+0.1**
DECC	**Green Verdugo** baz=139	**3.56**	**320**	Sb		**Sb**		**11 14 21.3**	**+1.7**

EDW2	**Edwards Air Fo**	**3.89**	**329**	P		**Pn**	**11 13 33.4**	**+0.2**
	baz=149,SNR=8.5							
EDW2				Sb		**Sb**	**11 14 31.0**	**+1.7**
	baz=149							
TUC	**Tucson**	**4.13**	**78**	P		**Pn**	**11 13 37.2**	**+0.6**
	baz=261							
LRMC	**Laurel Mtn Rad**	**4.29**	**336**	Sb		**Sb**	**11 14 45.1**	**+4.2**
	baz=156							
ARVC	**Arvin**	**4.49**	**323**	Sb		**Sb**	**11 14 49.1**	**+2.7**
	baz=142							
W18A	**Petrified Fore**	**6.03**	**52**	P		**Pn**	**11 14 04.5**	**+1.8**
	baz=236							
121A	**Cookes Peak, D**	**6.67**	**80**	P		**Pn**	**11 14 13.3**	**+1.7**
	baz=264							

MEX 06 11:17:35.2±0.4, 18°25N×101°97W, h40km±61km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.80**	**143**	*e*P	Pn	11 17 48.4	-1.7
ZIIG				*e*S	Sn	11 17 58.6	-2.2
MMIG	**Aquila**	**1.30**	**272**	*e*P	Pn	11 17 55.5	-1.4
MMIG				*e*S	Sn	11 18 10.6	-2.6
ARIG	**Puente Sto Nin**	**1.54**	**89**	*e*P	Pn	11 17 58.7	-1.6
ARIG				*e*S	Sn	11 18 17.2	-1.9
MEIG	**Mezcala**	**2.26**	**98**	*e*P	Pn	11 18 08.6	-1.6
MEIG				*i* S	Sn	11 18 34.1	-2.8

*ANF **06** 11:25:27.4±0.1, 34°35N×116°91W, h12km±1km, ML2.1/22, Error ellipse: s-maj=1.0km s-min=0.8km az=77.0*
*SCEDC **06** 11:25:28.6, 34°36N×116°90W, h6km*
*PAS **06** 11:25:28.6, 34°36N×116°90W, h6km, ML2.2*
*NEIC **06** 11:25:28.6±0.0, 34°36N×116°90W, h6km, ML2.2(PAS), After PAS.*
NEIC Felt at Big Bear Lake.

ISC 06 11:25:28.2±0.9, 34°36N±0°02×116°91W±0°02, h8km±7km, n40, σ0s57/67, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBRC	**Big Bear Solar**	**0.09**	**187**	P	**Pg**	**11 25 30.5**	**-0.2**
	baz=11,SNR=512						
BBRC				S	**Sg**	**11 25 32.4**	**0.0**
	baz=11						
RRX	**Edison Barstow**	**0.52**	**352**	P	**Pg**	**11 25 38.4**	**0.0**
	baz=171						
RRX				S	**Sg**	**11 25 46.0**	**+0.7**
	baz=171						
BFSC	**Mount Baldy Ra**	**0.63**	**260**	P	**Pg**	**11 25 40.3**	**-0.1**
	baz=79,SNR=19						
BFSC				S	**Sg**	**11 25 49.1**	**+0.3**
	baz=79						
SSK	**Sunset Peak**	**0.67**	**258**	*e*Pg	**Pg**	**11 25 41.1**	**0.0**
HEC	**Hector,Ludlow**	**0.67**	**45**	P	**Pg**	**11 25 41.0**	**-0.2**
	baz=225,SNR=14						
HEC				S	**Sg**	**11 25 50.1**	**+0.3**
	baz=225						
MURC	**Murrieta**	**0.79**	**198**	P	**Pg**	**11 25 43.0**	**-0.5**
	baz=18						
MURC				S	**Sg**	**11 25 53.4**	**-0.3**
	baz=18						
PFO	**Pinyon Flats O**	**0.83**	**153**	*e*Pg	**Pg**	**11 25 43.7**	**-0.5**
PFO				*e*Sg	**Sg**	**11 25 54.4**	**-0.6**
PFO				*e*Sn	**Sn**	**11 25 59.0**	**+0.1**
PFO	**Pinyon Flats O**	**0.83**	**153**	P	**Pg**	**11 25 43.6**	**-0.5**
	baz=334,SNR=8.8						
PFO				S	**Sg**	**11 25 54.8**	**-0.2**
	baz=334						
BELC	**Belle Mtn. Jos**	**0.83**	**115**	P	**Pg**	**11 25 44.0**	**-0.3**
	baz=296,SNR=13						
BELC				S	**Sg**	**11 25 54.8**	**-0.3**
	baz=296						
XPFO	**Pæon Flat**	**0.83**	**153**	*e*Pg	**Pg**	**11 25 43.8**	**-0.5**
XPFO				*e*Sn	**Sg**	**11 25 54.8**	**-0.2**
FRD	**Ford Ranch, An**	**0.90**	**163**	P	**Pg**	**11 25 45.1**	**-0.4**
	baz=344,SNR=22						
FRD				S	**Sg**	**11 25 57.1**	**+0.1**
	baz=344						
GSC	**Goldstone, Bar**	**0.95**	**5**	*e*Pg	**Pg**	**11 25 46.0**	**-0.4**
GSC				*e*Sg	**Sg**	**11 25 59.0**	**+0.2**
GSC	**Goldstone, Bar**	**0.95**	**5**	P	**Pg**	**11 25 46.1**	**-0.4**
	baz=185,SNR=15						
GSC				S	**Sg**	**11 25 58.8**	**0.0**
	baz=185						
MWC	**Mount Wilson**	**0.96**	**262**	*e*Pg	**Pg**	**11 25 46.3**	**-0.4**
MWC				*e*Sg	**Sg**	**11 25 59.7**	**+0.4**
EDW2	**Edwards Air Fo**	**1.04**	**301**	P	**Pg**	**11 25 47.6**	**-0.6**
	baz=120						
EDW2				S	**Sg**	**11 26 01.2**	**-0.5**
	baz=120						
PASC	**Pasadena Art C**	**1.07**	**261**	*e*Pg	**Pg**	**11 25 48.6**	**-0.3**
PASC				*e*Sg	**Sg**	**11 26 02.5**	**-0.3**
GMRC	**Granite Mounta**	**1.11**	**67**	P	**Pg**	**11 25 48.6**	**-1.0**
	baz=248,SNR=22						
GMRC				S	**Sg**	**11 26 03.9**	**-0.2**
	baz=248						
LRMC	**Laurel Mtn Rad**	**1.29**	**331**	Pg	**Pn**	**11 25 52.6**	**-0.1**
	baz=150,SNR=9.5						
TUQ	**Turquoise Moun**	**1.35**	**37**	S	**Sb**	**11 26 10.9**	**-0.5**
	baz=217						
BC3	**Big Chuckawall**	**1.40**	**120**	Sb	**Sb**	**11 26 12.8**	**+0.2**
	baz=301						
109C	**Camp Elliot, M**	**1.47**	**186**	S	**Sn**	**11 26 13.2**	**-1.4**
	baz=6.6						
CPE	**Camp Elliot**	**1.47**	**186**	*e*Pn	**Pn**	**11 25 54.4**	**-0.7**
CPE				*e*Sn	**Sn**	**11 26 13.2**	**-1.4**
IRM	**Iron Mountain**	**1.47**	**97**	Pg	**Pn**	**11 25 55.4**	**+0.3**
	baz=278,SNR=16						
IRM				Sb	**Sn**	**11 26 14.5**	**-0.1**
	baz=278						
MONP2	**Monument Peak**	**1.51**	**164**	Pg	**Pn**	**11 25 56.2**	**+0.3**
	baz=345,SNR=5.4						
MONP2				Sb	**Sn**	**11 26 15.9**	**0.0**
	baz=345						
CIS	**Catalina Islan**	**1.57**	**233**	Pb	**Pn**	**11 25 56.8**	**+0.2**
	baz=52						
CIS				Sb	**Sn**	**11 26 17.5**	**+0.4**
	baz=52						
SHOC	**Shoshone, Teco**	**1.63**	**18**	Sb	**Sg**	**11 26 20.2**	**-0.3**
	baz=198						
BAR	**Barrett**	**1.68**	**173**	*e*Pn	**Pn**	**11 25 58.0**	**0.0**
BAR				*e*Sn	**Sn**	**11 26 19.8**	**0.0**
SWSC	**Sam W. Stewart**	**1.68**	**146**	Pg	**Pb**	**11 25 59.4**	**-0.1**
	baz=327,SNR=5.1						
SWSC				Sb	**Sb**	**11 26 21.1**	**+0.3**
	baz=327						
ARVC	**Arvin**	**1.76**	**296**	Sb	**Sb**	**11 26 23.6**	**+0.5**
	baz=115						
MPMC	**Manual Prospec**	**1.77**	**345**	Pg	**Pb**	**11 26 01.4**	**+0.4**
	baz=164,SNR=8.1						
IKP	**In-Ko-Pah, Jac**	**1.83**	**158**	Sb	**Sb**	**11 26 25.4**	**+0.4**
	baz=339						
ISA	**Isabella, Lake**	**1.83**	**316**	*e*Pn	**Pb**	**11 26 02.1**	**0.0**
ISA				*e*Sn	**Sb**	**11 26 25.2**	**0.0**
ISA	**Isabella, Lake**	**1.83**	**316**	Pg	**Pb**	**11 26 02.4**	**+0.4**
	baz=135						
ISA				Sb	**Sb**	**11 26 25.8**	**+0.6**
	baz=135						
DAC	**Darwin (Calif)**	**2.00**	**344**	*e*Pn	**Pn**	**11 25 60.0**	**-2.5**
Y12C	**Blythe**	**2.07**	**106**	*e*Pn	**Pn**	**11 26 03.6**	**+0.3**
Y12C				*e*Sn	**Sb**	**11 26 32.2**	**+0.3**
Y12C	**Blythe**	**2.07**	**106**	Pg	**Pb**	**11 26 06.5**	**+0.5**
	baz=288						
SHPR	**Sheep Range**	**2.58**	**33**	*e*Pn	**Pn**	**11 26 11.2**	**+0.7**
SHPR				*e*Sn	**Sn**	**11 26 41.9**	**-0.2**
TPNV	**Topopah Spring**	**2.64**	**12**	*e*Pn	**Pn**	**11 26 11.5**	**+0.1**
TPNV	**Topopah Spring**	**2.64**	**12**	Pg	**Pg**	**11 26 18.1**	**-0.8**
	baz=192						
HALT	**Halls**	**22.57**	**78**	*e*P	**P**	**11 30 30.2**	**+1.2**

*ISCJB **06** 11:34:27.9±0.3, 24°74N±0°02×122°04E±0°02, h72km±3km, Error ellipse: s-maj=3.0km s-min=2.2km az=152.9*
*JMA **06** 11:34:27.5±0.1, 24°66N×121°99E, h77km±2km, M3.3*
*TAP **06** 11:34:28.2, 24°72N×122°01E, h70km, ML4.0, C*

ISC 06 11:34:28.4±1.2, 24.73N±0°03×122.03E±0°02, h69km±5km, n107, σ0s95/200, 4C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.15**	**322**	⇓P	**Pn**	**11 34 38.5**	**-0.2**
	baz=333						
EGS				S	**Sn**	**11 34 46.0**	**-0.2**
	baz=333						
EOS1	**EOS1**	**0.20**	**154**	⇑P	**Pn**	**11 34 39.2**	**+0.4**
	baz=148						
EOS1				S	**Sn**	**11 34 47.2**	**+0.7**
	baz=148						
TWC	**Suao**	**0.20**	**235**	P	**Pn**	**11 34 38.7**	**-0.2**
	baz=230						
TWC				*e*S	**Sn**	**11 34 46.3**	**-0.3**
	baz=230						
NTC	**Toucheng**	**0.23**	**304**	P	**Pn**	**11 34 38.8**	**-0.2**
	baz=314						
NTC				S	**Sn**	**11 34 46.6**	**-0.1**
	baz=314						
ILA	**Ilan**	**0.26**	**278**	P	**Pn**	**11 34 39.0**	**-0.2**
	baz=285						
ILA				*e*S	**Sn**	**11 34 46.9**	**-0.2**
	baz=285						
TWB1	**Santiao Chiao**	**0.28**	**352**	P	**Pn**	**11 34 38.7**	**-0.7**
	baz=352						
TWB1				*e*S	**Sn**	**11 34 46.8**	**-0.6**
	baz=352						
TIPB	**Shuangxi**	**0.31**	**322**	⇑*i*P	**Pn**	**11 34 39.5**	**0.0**
	baz=316						
TIPB				S	**Sn**	**11 34 46.9**	**-0.8**
	baz=316						
TWE	**Neicheng**	**0.33**	**269**	⇑P	**Pn**	**11 34 39.9**	**+0.2**
	baz=274						
TWE				*e*S	**Sn**	**11 34 48.6**	**+0.6**
	baz=274						
ENA	**Nanau**	**0.40**	**222**	⇑*i*P	**Pn**	**11 34 40.3**	**+0.1**
	baz=219						
ENA				S	**Sn**	**11 34 49.5**	**+0.6**
	baz=219						
NWF	**Wu-fen Shan**	**0.41**	**326**	P	**Pn**	**11 34 40.3**	**-0.1**
	baz=323						
NWF				S	**Sn**	**11 34 48.9**	**-0.4**
	baz=323						
WFSB	**Wu-fen Shan**	**0.41**	**326**	P	**Pn**	**11 34 40.4**	**0.0**
	baz=322						
WFSB				*e*S	**Sn**	**11 34 48.9**	**-0.2**
	baz=322						
ENTT	**Nioudou**	**0.43**	**259**	P	**Pn**	**11 34 41.1**	**+0.6**
	baz=257						
ENTT				*e*S	**Sn**	**11 34 50.5**	**+1.0**
	baz=257						
NWLT	**Wulai**	**0.49**	**276**	P	**Pn**	**11 34 41.1**	**+0.1**
	baz=284						
NWLT				S	**Sn**	**11 34 50.6**	**+0.3**
	baz=284						
TATO	**Taipei**	**0.55**	**297**	P	**Pn**	**11 34 41.5**	**-0.1**
	baz=298						
TATO				S	**Sn**	**11 34 50.4**	**-1.0**
	baz=298						
YM07	**YM07**	**0.58**	**320**	P	**Pn**	**11 34 42.0**	**-0.1**
	baz=322						
YM07				*e*S	**Sn**	**11 34 51.7**	**-0.4**
	baz=322						
YHNB	**Yeheng**	**0.60**	**265**	P	**Pn**	**11 34 42.5**	**+0.3**
	baz=272						
YHNB				*e*S	**Sn**	**11 34 52.9**	**+0.4**
	baz=272						
YM11	**YM11**	**0.60**	**316**	P	**Pn**	**11 34 42.0**	**-0.3**
	baz=318						
YM11				S	**Sn**	**11 34 51.9**	**-0.6**
	baz=318						
YM10	**YM10**	**0.60**	**315**	P	**Pn**	**11 34 42.1**	**-0.2**
	baz=316						
YM10				S	**Sn**	**11 34 51.7**	**-0.7**
	baz=316						
YM05	**YM05**	**0.61**	**316**	P	**Pn**	**11 34 42.1**	**-0.2**
	baz=317						
YM05				S	**Sn**	**11 34 51.8**	**-0.8**
	baz=317						
YM08	**YM08**	**0.61**	**319**	P	**Pn**	**11 34 41.9**	**-0.4**
	baz=320						
YM08				S	**Sn**	**11 34 51.3**	**-1.2**
	baz=320						
NSK	**Sanguang**	**0.62**	**265**	P	**Pn**	**11 34 42.6**	**+0.2**
	baz=274						
NSK				*e*S	**Sn**	**11 34 53.0**	**+0.3**
	baz=274						
YM12	**YM12**	**0.62**	**317**	P	**Pn**	**11 34 42.2**	**-0.2**
	baz=319						
YM12				S	**Sn**	**11 34 51.5**	**-1.1**
	baz=319						
YM04	**YM04**	**0.62**	**313**	P	**Pn**	**11 34 42.1**	**-0.3**
	baz=315						
YM04				S	**Sn**	**11 34 51.9**	**-0.8**
	baz=315						
YM03	**YM03**	**0.64**	**315**	*e*P	**Pn**	**11 34 42.5**	**-0.1**
	baz=316						
YM03				S	**Sn**	**11 34 53.1**	**0.0**
	baz=316						
NNSB	**Datong**	**0.66**	**244**	P	**Pn**	**11 34 43.2**	**+0.3**
	baz=250						
NNSB				*e*S	**Sn**	**11 34 54.2**	**+0.5**
	baz=250						
NNS	**Nan Shan**	**0.67**	**245**	P	**Pn**	**11 34 43.3**	**+0.3**
	baz=252						
NNS				*e*S	**Sn**	**11 34 54.1**	**+0.4**
	baz=252						
TWS1	**Kuangyinshan**	**0.67**	**304**	P	**Pn**	**11 34 43.1**	**+0.2**
	baz=313						
TWS1				*e*S	**Sn**	**11 34 54.0**	**+0.3**
	baz=313						
TWY	**Chenhua**	**0.67**	**324**	*e*P	**Pn**	**11 34 42.9**	**0.0**
	baz=326						
TWY				*e*S	**Sn**	**11 34 54.0**	**+0.3**
	baz=326						
NACB	**Ninganchiao**	**0.68**	**216**	*e*P	**Pn**	**11 34 42.4**	**-0.6**
	baz=206						
NACB				S	**Sn**	**11 34 54.4**	**+0.7**
	baz=206						
NTST	**Danshui**	**0.69**	**309**	P	**Pn**	**11 34 43.4**	**+0.3**
	baz=318						
NTST				*e*S	**Sn**	**11 34 54.3**	**+0.4**
	baz=318						
WLTB	**Daxi**	**0.72**	**280**	P	**Pn**	**11 34 43.9**	**+0.4**
	baz=282						
WLTB				*e*S	**Sn**	**11 34 55.3**	**+0.7**
	baz=282						
TWD	**Chiawan**	**0.76**	**212**	P	**Pn**	**11 34 43.3**	**-0.6**
	baz=221						
TWD				*e*S	**Sn**	**11 34 55.9**	**+0.6**
	baz=221						
NCU	**National Centr**	**0.81**	**288**	P	**Pn**	**11 34 44.9**	**+0.5**
	baz=288						
NCU				*e*S	**Sn**	**11 34 56.9**	**+0.6**
	baz=288						
NCUH	**Zhongli**	**0.81**	**287**	P	**Pn**	**11 34 44.9**	**+0.4**
	baz=288						
NCUH				S	**Sn**	**11 34 56.7**	**+0.3**
	baz=288						
HWA	**Hwalien**	**0.84**	**208**	P	**Pn**	**11 34 45.3**	**+0.4**
	baz=197						
HWA				*e*S	**Sn**	**11 34 57.8**	**+0.7**
	baz=197						
JYNG	**Yonagunijimaku**	**0.87**	**108**	P	**Pn**	**11 34 45.3**	**0.0**
JYNG				S	**Sn**	**11 34 57.6**	**-0.2**
PCYT	**Pengchaiyu**	**0.90**	**2**	P	**Pn**	**11 34 45.9**	**+0.3**
	baz=3.0						
PCYT				S	**Sn**	**11 34 58.1**	**-0.3**
	baz=3.0						
WHF	**Hehuan Shan**	**0.91**	**231**	P	**Pn**	**11 34 46.0**	**-0.1**
	baz=224						
WHF				*e*S	**Sn**	**11 34 59.4**	**+0.1**
	baz=224						
TWT	**Tachien**	**0.91**	**239**	P	**Pn**	**11 34 46.3**	**+0.3**
	baz=229						
TWT				*e*S	**Sn**	**11 34 59.9**	**+1.0**
	baz=229						
TDCB	**Techi**	**0.93**	**240**	P	**Pn**	**11 34 46.6**	**+0.5**
	baz=230						
TDCB				*e*S	**Sn**	**11 34 59.9**	**+0.7**
	baz=230						
YOJ	**Yonaguni jima**	**0.93**	**106**	⇓P	**Pn**	**11 34 45.9**	**0.0**
	baz=100						
YOJ				S	**Sn**	**11 34 59.6**	**+0.7**
	baz=100						
YOJ	**Yonaguni jima**	**0.93**	**106**	P	**Pn**	**11 34 45.9**	**0.0**
YOJ				S	**Sn**	**11 34 58.8**	**-0.1**
LIOB	**Emei**	**0.93**	**265**	P	**Pn**	**11 34 46.1**	**+0.2**
	baz=264						
LIOB				S	**Sn**	**11 34 59.9**	**+0.9**
	baz=264						
NSTT	**Nanjuang**	**0.94**	**264**	P	**Pn**	**11 34 46.3**	**+0.1**
	baz=263						
NSTT				*e*S	**Sn**	**11 35 00.1**	**+0.8**
	baz=263						
SBCB	**Hsinchu**	**0.96**	**274**	P	**Pn**	**11 34 46.8**	**+0.5**
	baz=273						
SBCB				*e*S	**Sn**	**11 35 00.5**	**+0.9**
	baz=273						
HSN	**Hsinchu**	**0.97**	**275**	*e*P	**Pn**	**11 34 46.5**	**+0.1**
	baz=276						
HSN				S	**Sn**	**11 34 60.0**	**+0.1**
	baz=276						
CHGB	**Renai**	**1.03**	**230**	P	**Pn**	**11 34 47.5**	**+0.1**
	baz=227						
CHGB				*e*S	**Sn**	**11 35 02.2**	**+0.7**
	baz=227						
ESL	**Shilin**	**1.06**	**211**	*e*P	**Pn**	**11 34 46.2**	**-1.5**
	baz=217						
NMLH	**Miaoli**	**1.15**	**261**	P	**Pn**	**11 34 49.0**	**+0.3**
	baz=267						
NMLH				S	**Sn**	**11 35 04.0**	**+0.1**
	baz=267						
EGFH	**Guangfu**	**1.19**	**208**	*e*P	**Pn**	**11 34 48.8**	**-0.5**
	baz=216						
NSY	**Sanyi**	**1.20**	**255**	P	**Pn**	**11 34 49.7**	**+0.3**
	baz=252						
NSY				*e*S	**Sn**	**11 35 06.0**	**+0.9**
	baz=252						
PTSB	**Yuanli**	**1.24**	**257**	P	**Pn**	**11 34 50.1**	**+0.2**
	baz=264						
PTSB				S	**Sn**	**11 35 05.9**	**-0.1**
	baz=264						
SMLT	**Sun Moon Lake**	**1.33**	**231**	*e*P	**Pn**	**11 34 51.9**	**+0.7**
	baz=222						
SMLT				S	**Sn**	**11 35 09.5**	**+1.1**
	baz=222						
HGSD	**Ruisui**	**1.35**	**205**	P	**Pn**	**11 34 51.4**	**0.0**
	baz=205						
HGSD				S	**Sn**	**11 35 09.7**	**+1.1**
	baz=205						
TYC	**Yuchr**	**1.35**	**233**	P	**Pn**	**11 34 51.9**	**+0.6**
	baz=223						
TYC				*e*S	**Sn**	**11 35 09.4**	**+0.8**
	baz=223						
SSLB	**Suanglung**	**1.36**	**227**	P	**Pn**	**11 34 51.7**	**+0.2**
	baz=224						
SSLB				*e*S	**Sn**	**11 35 09.9**	**+1.0**
	baz=224						
TCU	**Taichung**	**1.37**	**245**	*e*P	**Pn**	**11 34 51.5**	**0.0**
	baz=241						
TCU				*e*S	**Sn**	**11 35 07.9**	**-1.0**
	baz=241						
EHY	**Hungye**	**1.38**	**208**	*e*P	**Pn**	**11 34 50.1**	**-1.6**
	baz=208						
EHY				*e*S	**Sn**	**11 35 07.4**	**-1.9**
	baz=208						
YULB	**Yu-li**	**1.49**	**207**	*e*P	**Pn**	**11 34 51.1**	**-2.1**
	baz=207						
YULB				*e*S	**Sn**	**11 35 10.5**	**-1.4**
	baz=207						
WCHH	**Zhanghua**	**1.49**	**245**	*e*P	**Pn**	**11 34 52.9**	**-0.3**
	baz=240						
WCHH				*e*S	**Sn**	**11 35 11.6**	**-0.3**
	baz=240						
WJS	**Zhushan**	**1.49**	**233**	P	**Pn**	**11 34 54.6**	**+1.4**
	baz=241						
WJS				*e*S	**Sn**	**11 35 13.1**	**+1.1**
	baz=241						
WNT	**Mingjian**	**1.49**	**236**	*e*P	**Pn**	**11 34 53.8**	**+0.6**
	baz=231						
WNT				*e*S	**Sn**	**11 35 12.9**	**+1.0**
	baz=231						
TWF1	**Yuli**	**1.52**	**206**	*e*P	**Pn**	**11 34 52.0**	**-1.7**
	baz=206						
TWF1				*e*S	**Sn**	**11 35 12.0**	**-0.8**
	baz=206						
YUS	**Yu-Shan**	**1.58**	**219**	P	**Pn**	**11 34 54.9**	**+0.1**
	baz=209						
YUS				*e*S	**Sn**	**11 35 14.4**	**-0.3**
	baz=209						
IRIF	**Iriomote-Funau**	**1.59**	**104**	P	**Pn**	**11 34 54.6**	**+0.1**
IRIF				S	**Sn**	**11 35 14.4**	**+0.1**
ALS	**Alishan**	**1.65**	**223**	P	**Pn**	**11 34 56.4**	**+0.7**
	baz=228						
ALS				S	**Sn**	**11 35 18.4**	**+2.2**
	baz=228						
FULB	**Fuli**	**1.67**	**204**	*e*P	**Pn**	**11 34 54.9**	**-0.6**
	baz=209						
FULB				S	**Sn**	**11 35 17.2**	**+1.1**
	baz=209						
CHN5	**Tsauling**	**1.67**	**228**	P	**Pn**	**11 34 56.3**	**+0.6**
	baz=233						
CHN5				S	**Sn**	**11 35 17.6**	**+1.2**
	baz=233						
WGK	**Gukeng**	**1.70**	**233**	P	**Pn**	**11 34 56.5**	**+0.6**
	baz=238						
WGK				*e*S	**Sn**	**11 35 18.0**	**+1.2**
	baz=238						
WDLH	**Douliu**	**1.71**	**233**	*e*P	**Pn**	**11 34 56.4**	**+0.3**
	baz=239						
WDLH				*e*S	**Sn**	**11 35 18.3**	**+1.2**
	baz=239						
CHKT	**Chengkung**	**1.73**	**201**	*e*P	**Pn**	**11 34 54.9**	**-1.6**
	baz=193						
CHKT				*e*S	**Sn**	**11 35 15.0**	**-2.7**
	baz=193						
RLNB	**Erlin**	**1.74**	**242**	*e*P	**Pn**	**11 34 56.7**	**+0.2**
	baz=237						
RLNB				*e*S	**Sn**	**11 35 17.4**	**-0.4**
	baz=237						
HATJ	**Hateruma jima**	**1.75**	**112**	P	**Pn**	**11 34 57.1**	**+0.5**
HATJ				S	**Sn**	**11 35 18.8**	**+0.8**
ELDTW	**Lidau**	**1.79**	**211**	*e*P	**Pn**	**11 34 56.5**	**-0.8**
	baz=204						
ELDTW				*e*S	**Sn**	**11 35 19.5**	**+0.2**
	baz=204						
JKRS	**Kuro-shima**	**1.86**	**105**	P	**Pn**	**11 34 58.5**	**+0.3**
JKRS				S	**Sn**	**11 35 20.8**	**0.0**
CHN4	**Tsaushan**	**1.90**	**224**	P	**Pn**	**11 34 59.7**	**+1.0**
	baz=220						
CHN4				*e*S	**Sn**	**11 35 23.6**	**+1.9**
	baz=220						
CHY	**Chiayi**	**1.91**	**231**	*e*P	**Pn**	**11 34 59.7**	**+0.9**
	baz=235						
CHY				*e*S	**Sn**	**11 35 22.5**	**+0.5**
	baz=235						
TPUB	**Ta-pu**	**1.91**	**222**	P	**Pn**	**11 34 59.7**	**+0.8**
	baz=228						
TPUB				*e*S	**Sn**	**11 35 23.6**	**+1.5**
	baz=228						
STYT	**Tauyuan**	**1.95**	**217**	*e*P	**Pn**	**11 35 00.5**	**+1.1**
	baz=207						
STYT				*e*S	**Sn**	**11 35 24.1**	**+1.2**
	baz=207						
JIJ	**Ishigaki jima**	**1.95**	**100**	P	**Pn**	**11 34 59.2**	**-0.2**
JIJ				S	**Sn**	**11 35 22.9**	**-0.1**
WTP	**Ta-pu**	**1.96**	**222**	P	**Pn**	**11 35 00.3**	**+0.7**
	baz=229						
WTP				*e*S	**Sn**	**11 35 23.7**	**+0.3**
	baz=229						
TWK	**Hsinying**	**2.03**	**225**	*e*P	**Pn**	**11 35 01.3**	**+0.9**
	baz=230						
TWK				*e*S	**Sn**	**11 35 25.6**	**+0.7**
	baz=230						
CHN1	**Nanshi**	**2.06**	**222**	*e*P	**Pn**	**11 35 01.5**	**+0.6**
	baz=228						
CHN1				*e*S	**Sn**	**11 35 27.8**	**+2.1**
	baz=228						
JISG	**Ishigakijimahi**	**2.08**	**93**	P	**Pn**	**11 35 01.3**	**+0.3**
JISG				S	**Sn**	**11 35 25.9**	**0.0**
TWG	**Pinlang**	**2.09**	**205**	*e*P	**Pn**	**11 35 01.6**	**+0.3**
	baz=198						
TWG				*e*S	**Sn**	**11 35 24.4**	**-2.0**
	baz=198						
TWGBT	**Beinan**	**2.09**	**205**	*e*P	**Pn**	**11 35 00.7**	**-0.6**
	baz=198						
TWGBT				*e*S	**Sn**	**11 35 24.8**	**-1.6**
	baz=198						
TTN	**Taitung**	**2.12**	**203**	*e*S	**Sn**	**11 35 27.4**	**+0.2**
	baz=203						
SLGT	**Liugui**	**2.14**	**217**	*e*P	**Pn**	**11 35 03.2**	**+1.2**
	baz=207						
SLGT				*e*S	**Sn**	**11 35 29.6**	**+2.0**
	baz=207						
CHN8	**Yiju**	**2.16**	**231**	*e*S	**Sn**	**11 35 29.9**	**+1.9**
	baz=224						
ECL	**Taimali**	**2.34**	**205**	*e*P	**Pn**	**11 35 03.5**	**-1.2**
	baz=200						
ECL				*e*S	**Sn**	**11 35 29.9**	**-2.4**
	baz=200						

SSD	**Sandimen**	**2.35**	**213**	*e*P		**Pn**	**11 35 06.8**	**+1.9**
	baz=205							
SSD				*e*S		**Sn**	**11 35 34.8**	**+2.1**
	baz=205							
JTJ	**Tarama**	**2.43**	**91**	P		**Pn**	**11 35 07.1**	**+1.3**
JTJ				S		**Sn**	**11 35 36.4**	**+1.9**
MASBT	**Mashibuluo**	**2.47**	**212**	*e*P		**Pn**	**11 35 06.8**	**+0.5**
	baz=209							
MASBT				*e*S		**Sn**	**11 35 35.4**	**-0.1**
	baz=209							
PNG	**Penghu**	**2.54**	**243**	*e*P		**Pn**	**11 35 05.8**	**-1.6**
	baz=237							
PNG				*e*S		**Sn**	**11 35 34.3**	**-2.9**
	baz=237							
PHUB	**P'eng-hu**	**2.55**	**242**	*e*P		**Pn**	**11 35 06.0**	**-1.5**
	baz=236							
PHUB				*e*S		**Sn**	**11 35 34.2**	**-3.3**
	baz=236							
EAST	**Anshuo**	**2.57**	**205**	*e*P		**Pn**	**11 35 07.0**	**-0.8**
	baz=200							
WDGT	**Dungji**	**2.62**	**237**	*e*S		**Sn**	**11 35 37.1**	**-2.0**
	baz=229							
SCZT	**Fangliau**	**2.68**	**209**	*e*P		**Pn**	**11 35 10.3**	**+1.1**
	baz=206							
SCZT				*e*S		**Sn**	**11 35 40.6**	**0.0**
	baz=206							
LAY	**Lan-yu**	**2.71**	**190**	*e*P		**Pn**	**11 35 08.9**	**-0.8**
	baz=187							
LAY				*e*S		**Sn**	**11 35 38.4**	**-3.1**
	baz=187							
XPSS	**Dashiqiu**	**2.75**	**323**	*e*P		**Pn**	**11 35 09.5**	**-0.7**
	baz=324							
JIRB	**Irabujima**	**2.85**	**87**	S		**Sn**	**11 35 45.4**	**+0.5**
HEN	**Hengchun**	**2.96**	**204**	*e*S		**Sn**	**11 35 46.8**	**-0.6**
	baz=205							
TWK1	**Hengchun**	**2.99**	**202**	*e*S		**Sn**	**11 35 47.0**	**-1.2**
	baz=204							
TWKBT	**Hengchun**	**2.99**	**202**	*e*S		**Sn**	**11 35 47.3**	**-0.9**
	baz=204							
TSEB	**Hengchuen, Pin**	**3.00**	**201**	*e*S		**Sn**	**11 35 48.5**	**+0.1**
	baz=203							
MHZQ	**Yeshan**	**3.04**	**297**	*e*P		**Pn**	**11 35 13.7**	**-0.5**
	baz=298							
KNM	**Kinmen**	**3.29**	**265**	*e*P		**Pn**	**11 35 19.0**	**+1.4**
	baz=263							

NIED ***06*** *12:13:00, 28.˝70N×142.˝60E, h5km, Mw4.3 Best double couple: M◎3.40000×10^15 NP1:φ◎183.00000°, δ34.00000°, λ116.00000°. NP2:φ◎333.00000°, δ60.00000°, λ74.00000°.*

IDC ***06*** *12:13:39.8±0.5, 28.˝71N×142.˝64E, h0km, mb4.2/27, mb1 4.3/32, mb1mx4.2/70, mbtmp4.2/32, ML4.0/4, MS3.6/6, Ms1 3.6/6, ms1mx3.1/51, Error ellipse: s-maj=16.7km s-min=11.2km az=88.0*

BJI ***06*** *12:13:40.7, 28.˝53N×142.˝87E, h35km, mb4.7/41, mB4.9/29, Ms4.4/16, Ms7 4.2/12*

ISCJB ***06*** *12:13:41.9±0.3, 28.˝78N±0.˝02×142.˝58E±0.˝05, h25km, mb4.4/69, MS3.6/2, Error ellipse: s-maj=5.9km s-min=2.9km az=174.9*

JMA ***06*** *12:13:41.7±0.1, 28.˝74N×142.˝56E, h45km, M4.6*

MOS ***06*** *12:13:43.3±1.1, 28.˝71N×142.˝62E, h36km, mb4.7/23, Error ellipse: s-maj=13.0km s-min=6.0km az=111.1*

NEIC ***06*** *12:13:43.6±1.5, 28.˝67N×142.˝68E, h27km±10km, mb4.6/30, Error ellipse: s-maj=5.8km s-min=4.0km az=98.0*

ISC 06 12:13:43.6±0.4, 28.73N±0.˝04×142.˝64E±0.˝07, h25km, n177, σ1§45/183, mb4.4/69, 5C-9D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res	
				Op		ISC	h	m	s	ISC
CBIJ	**Chichi jima**	**1.68**	**194**	*e*Pn		**Pn**	**12 14 10.7**			**-0.7**
CBIJ				*e*Sn		**Sn**	**12 14 30.5**			**-1.6**
CBIJ	**Chichi jima**	**1.68**	**194**	S		**Sn**	**12 14 29.5**			**-2.6**
JCJ	**Chichijima**	**1.68**	**194**	Pn		**Pn**	**12 14 09.7**			**-1.8**
	16nm,0.3s,baz=285,slow=20,SNR=6.8									
JCJ				Sn		**Sn**	**12 14 29.3**			**-2.8**
	104nm,0.3s,baz=140,slow=22,SNR=16									
JHHJ	**Haha-jima-NKT**	**2.13**	**191**	S		**Sn**	**12 14 41.0**			**-2.3**
JHJ2	**Mitsune**	**5.00**	**332**	*e*Pn		**Pn**	**12 14 57.4**			**+0.4**
JHJ2				*e*Sn		**Sn**	**12 15 51.9**			**-2.1**
JHJ2	**Mitsune**	**5.00**	**332**	S		**Sn**	**12 15 52.2**			**-1.8**
JHJ	**Hachijo jima 2**	**5.02**	**331**	Pn		**Pn**	**12 14 56.5**			**-0.8**
	11nm,0.3s,baz=4.4,slow=13,SNR=4.4									
JHJ				Sn		**Sn**	**12 15 52.2**			**-2.3**
	20nm,0.3s,baz=68,slow=18,SNR=3.3									
JMKN	**Mikurajimanish**	**5.77**	**334**	P		**Pn**	**12 15 06.7**			**-1.0**
JMKN				S		**Sn**	**12 16 11.5**			**-1.6**
BSO1	**Boso 1**	**6.08**	**347**	P		**Pn**	**12 15 09.3**			**-2.1**
BSO3	**Boso 3**	**6.32**	**344**	P		**Pn**	**12 15 14.1**			**-0.9**
BSO4	**Boso 4**	**6.54**	**343**	*e*S		**Sn**	**12 16 30.9**			**-1.0**
JOD2	**Odawara 2**	**7.18**	**336**	P		**Pn**	**12 15 26.5**			**-0.6**
JOD2				S		**Sn**	**12 16 45.8**			**-2.0**
JHU	**Hanno**	**7.65**	**339**	P		**Pn**	**12 15 32.4**			**-1.1**
JHU				S		**Sn**	**12 16 57.6**			**-1.8**
JYT	**Yasato**	**7.76**	**345**	P		**Pn**	**12 15 34.4**			**-0.5**
JYT				S		**Sn**	**12 17 01.0**			**-1.0**
JRY	**Ryogami san**	**7.92**	**337**	P		**Pn**	**12 15 37.0**			**-0.3**
JHO	**Hitachi**	**8.05**	**348**	P		**Pn**	**12 15 37.0**			**-2.0**
JHO				*e*S		**Sn**	**12 17 02.6**			**-6.6**
JAG	**Ashikaga**	**8.13**	**342**	P		**Pn**	**12 15 38.2**			**-1.9**
JAG				S		**Sn**	**12 17 05.9**			**-5.3**
INU	**Inuyama**	**8.14**	**326**	*e*Pn		**Pn**	**12 15 40.4**			**+0.1**
MJAR	**Matsushiro Arr**	**8.64**	**336**	Pn		**Pn**	**12 15 46.6**			**-0.5**
	4.7nm,0.3s,baz=152,slow=8.3,SNR=53									
MJAR				Sn		**Sn**	**12 17 20.4**			**-3.3**
	0.5nm,0.3s,baz=168,slow=17,SNR=3.3									
MAJO	**Matsushiro**	**8.64**	**336**	*e*Pn		**Pn**	**12 15 47.1**			**0.0**
MAJO				*e*Sn		**Sn**	**12 17 20.4**			**-3.4**
MAJO	**Matsushiro**	**8.64**	**336**	⇓*i*P		**Pn**	**12 15 47.3**			**+0.2**
MAJO				pmax		pmax				
	comp=Z,13nm,0.6s									
MAT	**Matsushiro**	**8.64**	**336**	P		**Pn**	**12 15 47.2**			**+0.1**
MAT				S		**Sn**	**12 17 22.4**			**-1.4**
MJB9	**Matsu-Tunnel**	**8.64**	**336**	*e*Pn		**Pn**	**12 15 47.2**			**+0.1**
JNU	**Nakatsue**	**11.01**	**296**	LR		LR	12 20 08.3			
	comp=Z,215nm,21.9s,baz=113,slow=35									
KSRS	**Korea Array**	**15.08**	**309**	Pn		**P**	**12 17 18.7**			**-1.4**
	comp=Z,0.9nm,0.3s,baz=112,slow=12,SNR=14									
KSRS				LR		LR	12 22 46.2			
	comp=Z,127nm,20.6s,baz=111,slow=36									
KS15	**Wonju Array Si**	**15.10**	**309**	*e*Pn		**Pn**	**12 17 17.6**			**+2.3**
KSAR	**Wonju Array Be**	**15.10**	**309**	P		**P**	**12 17 18.7**			**-1.7**
KSAR	**Wonju Array Be**	**15.10**	**309**	P		**P**	**12 17 18.7**			**-1.7**
KS01	**Wonju Array Si**	**15.11**	**309**	*e*Pn		**Pn**	**12 17 16.8**			**+1.3**
GUMO	**Guam**	**15.21**	**172**	Pn		**Pn**	**12 17 15.4**			**-1.4**
	comp=Z,4.5nm,0.3s,baz=221,slow=20,SNR=2.3									
ASAJ	**Asahikawa**	**15.36**	**360**	Pn		**Pn**	**12 17 16.9**			**-1.8**
	comp=Z,0.4nm,0.3s,baz=270,slow=17,SNR=3.8									
ASAJ	**Asahikawa**	**15.36**	**360**	*e*Pn		**Pn**	**12 17 19.8**			**+1.2**
	comp=Z,6.5nm,0.8s									
SHO	**Shikotan**	**15.48**	**11**	*e*P		**P**	**12 17 24.1**			**-0.4**
SHO				pmax		pmax				
	comp=E,4.0nm,0.8s									
SHO				pmax		pmax				
	comp=Z,9.0nm,0.8s									
SHO				pmax		pmax				
	comp=N,7.0nm,0.7s									
USA0B	**Ussuriysk Arra**	**17.63**	**334**	*e*Pn		**Pn**	**12 17 47.1**			**-0.4**
	comp=N,10nm,0.8s									
USRK	**Ussuriysk Ar.**	**17.63**	**334**	P		**Pn**	**12 17 46.4**			**-1.1**
	baz=149,slow=12									
YHNB	**Yeheng**	**19.42**	**263**	*e*P		**P**	**12 18 07.8**			**-0.4**
	comp=N,22nm,0.8s									
YULB	**Yu-li**	**19.89**	**259**	*e*P		**Pn**	**12 18 14.4**			**-0.6**
	comp=N,18nm,0.6s									
SSLB	**Suanglung**	**20.05**	**261**	*e*P		Pn	12 18 16.7			-0.3
	comp=N,26nm,0.7s									
CN2	**Changchun**	**20.39**	**322**	*e*P		Pn	12 18 21.5			+0.7
CN2				pmax		pmax				
	comp=N,10.0nm,0.5s									
TPUB	**Ta-pu**	**20.50**	**260**	*e*P		Pn	12 18 20.8			-1.4
	comp=N,11nm,0.8s									
NJ2	**Nanjing**	**20.78**	**285**	*e*P		Pn	12 18 24.8			-0.5
NJ2				pmax		pmax				
	comp=N,14nm,0.5s									
KLR	**Kul'dur**	**22.11**	**341**	P		**P**	**12 18 38.9**			**+1.9**
	comp=N,6.7nm,0.5s,baz=148,slow=8.9,SNR=20									
KLR	**Kul'dur**	**22.11**	**341**	⇓*i*P		**P**	**12 18 39.4**			**+2.4**
GRNR	**Gornyy**	**22.51**	**350**	*e*P		**P**	**12 18 46.1**			**+4.8**
GRNR				pmax		pmax				
	comp=Z,8.0nm,0.8s									
H11N2	**WAKE ISLAND Hy**	**23.83**	**107**	T		T	12 44 07.6			
	baz=291,slow=74									
H11N1	**WAKE ISLAND Hy**	**23.83**	**107**	T		T	12 44 07.8			
	baz=291									
H11N3	**WAKE ISLAND Hy**	**23.84**	**107**	T		T	12 44 09.4			
	baz=291,slow=74									
BJI	**Beijing**	**24.49**	**304**	*e*P		**P**	**12 18 59.5**			**-1.4**
DAV	**Davao City (W)**	**26.90**	**220**	LR		LR	12 31 00.9			
	comp=Z,63nm,18.5s,baz=118,slow=39									
HIA	**Hailar**	**26.97**	**326**	*e*P		**P**	**12 19 24.5**			**+1.3**
	comp=Z,15nm,1.1s									
HIA	**Hailar**	**26.97**	**326**	*e*P		**P**	**12 19 24.5**			**+1.3**
HIA				pmax		pmax				
	comp=Z,15nm,1.1s									
ZEA	**Zeya**	**27.42**	**340**	*e*P		**P**	**12 19 27.1**			**0.0**
ZEA				pmax		pmax				
	comp=Z,18nm,0.8s									
HHC	**Hu-ho-hao-te**	**28.09**	**304**	*e*P		**P**	**12 19 35.7**			**+2.2**
HHC				pP		sP	12 19 45.9			+1.9
HHC				S		**S**	**12 24 21.1**			**+4.1**
HHC				sS		sS	12 24 35.4			+6.1
HHC				pmax		pmax				
	comp=Z,39nm,1.0s									
HHC				pmax		pmax				
	comp=Z,93nm,7.3s									
HHC				LR		LR				
	comp=Z,160nm,11.6s									
HHC				LR		LR				
	comp=Z,190nm,10.6s									
XAN	**Xi'an**	**29.19**	**289**	P		**P**	**12 19 42.3**			**-0.9**
XAN				pP		sP	12 19 52.1			-1.6
XAN				pmax		pmax				
	comp=Z,6.0nm,0.8s									
XAN				pmax		pmax				
	comp=Z,110nm,5.5s									
XAN				LR		LR				
	comp=Z,150nm,20.6s									
GYA	**Guiyang**	**31.89**	**275**	P		**P**	**12 20 06.9**			**-0.4**
GYA				pmax		pmax				
	comp=Z,20nm,0.8s									
LZH	**Lanzhou**	**33.40**	**293**	*e*P		**P**	**12 20 23.9**			**+3.5**
LZH				pP		sP	12 20 34.1			+3.1
LZH				sP		pP	12 20 38.7			+11
LZH				pmax		pmax				
	comp=Z,23nm,1.0s									
LZH				pmax		pmax				
	comp=Z,150nm,4.3s									
LZH				LR		LR				
	comp=Z,300nm,11.0s									
LZH				LR		LR				
	comp=Z,310nm,10.8s									
LZH				LR		LR				
	comp=Z,480nm,11.8s									
ULN	**Ulaanbaatar**	**33.44**	**315**	*e*P		**P**	**12 20 20.6**			**0.0**
	comp=Z,4.9nm,1.0s									
ULN	**Ulaanbaatar**	**33.44**	**315**	*ce*P		**P**	**12 20 20.8**			**+0.2**
ULN				pmax		pmax				
	comp=Z,6.0nm,1.1s									
CD2	**Chengdu**	**33.69**	**283**	*e*P		**P**	**12 20 23.5**			**+0.6**
SONA1	**Songino Array**	**33.84**	**314**	*e*P		**P**	**12 20 24.4**			**+0.3**
SONA0	**Songino Array**	**33.84**	**314**	*e*P		**P**	**12 20 23.9**			**-0.2**
SONM	**Songino Array**	**33.84**	**314**	P		**P**	**12 20 23.9**			**-0.2**
	comp=Z,1.2nm,0.5s,baz=112,slow=8.2,SNR=8.5									
YAK	**Yakutsk**	**34.39**	**349**	⇓*e*P		**P**	**12 20 28.6**			**+0.2**
YAK				pmax		pmax				
	comp=Z,6.0nm,0.6s									
SEY	**Seymchan**	**34.80**	**8**	P		**P**	**12 20 32.1**			**+0.1**
	comp=Z,1.2nm,0.6s,baz=39,slow=6.5,SNR=4.3									
BOD	**Bodaibo**	**35.27**	**334**	*e*P		**P**	**12 20 36.3**			**+0.2**
BOD				pmax		pmax				
	comp=Z,4.0nm,1.5s									
KMI	**Kunming**	**35.64**	**274**	P		**P**	**12 20 41.6**			**+1.6**
KMI				pmax		pmax				
	comp=Z,10.0nm,0.6s									
KMI				pmax		pmax				
	comp=Z,110nm,5.0s									
ZAK	**Zakamensk**	**36.67**	**317**	*e*P		**P**	**12 20 48.5**			**+0.1**
ZAK				pmax		pmax				
	comp=Z,6.0nm,1.4s									
GTA	**Gaotai**	**36.74**	**298**	⇑P		**P**	**12 20 48.6**			**-0.5**
GTA				pP		sP	12 20 58.0			-1.7
GTA				sP		pP	12 21 02.0			+5.4
GTA				S		**S**	**12 26 31.9**			**+0.4**
GTA				sS		sS	12 26 47.3			+3.4
GTA				SS		**SnSn**	**12 28 59.8**			**-3.4**
GTA				pmax		pmax				
	comp=Z,2.0nm,0.8s									
GTA				pmax		pmax				
	comp=Z,76nm,6.2s									
GTA				LR		LR				
	comp=Z,280nm,16.2s									
GTA				LR		LR				
	comp=Z,250nm,18.1s									
GTA				LR		LR				
	comp=Z,210nm,19.0s									
TLY	**Talaya**	**36.95**	**319**	*e*P		**P**	**12 20 52.0**			**+1.3**
	comp=Z,4.1nm,0.7s									
TLY	**Talaya**	**36.95**	**319**	*e*P		**P**	**12 20 52.0**			**+1.3**
TLY				pmax		pmax				
	comp=Z,4.0nm,0.7s									
NONG	**Nongkai**	**37.62**	**262**	P		**P**	**12 20 57.0**			**+0.4**
	comp=Z,0.3nm,1.7s									
PBKT	**Sadao Pong**	**40.12**	**262**	*e*P		**P**	**12 21 17.9**			**+0.2**
	comp=Z,3.9nm,0.7s									
PBKT	**Sadao Pong**	**40.12**	**262**	P		**P**	**12 21 18.3**			**+0.7**
	comp=Z,7.1nm,1.2s									
SRAK	**Srakaew**	**40.33**	**257**	P		**P**	**12 21 15.5**			**-3.9**
	comp=Z,36nm,0.8s									
CHTO	**Chiang Mai**	**41.00**	**266**	*e*P		**P**	**12 21 23.8**			**-1.1**
	comp=Z,2.5nm,0.8s									
CHTO	**Chiang Mai**	**41.00**	**266**	*e*P		**P**	**12 21 23.8**			**-1.1**
CHTO				pmax		pmax				
	comp=Z,2.0nm,0.8s									
CM01	**Chiang Mai Arr**	**41.13**	**265**	*e*P		**P**	**12 21 25.1**			**-0.9**
CM31	**Chiang Mai Arr**	**41.13**	**265**	*e*P		**P**	**12 21 25.5**			**-0.5**
CMAR	**Chiang Mai Arr**	**41.13**	**265**	P		**P**	**12 21 25.9**			**-0.1**
	comp=Z,1.1nm,0.5s,baz=72,slow=5.7,SNR=8.3									
BILL	**Bilibino**	**41.78**	**13**	⇓*e*P		**P**	**12 21 31.4**			**+0.7**
BILL				pmax		pmax				
	comp=Z,4.0nm,1.6s									
SOEI	**Soe**	**42.18**	**208**	*e*P		**P**	**12 21 33.5**			**-1.0**
	comp=Z,35nm,0.5s									
HVS	**Khovu-Aksy**	**42.71**	**316**	⇓*e*P		**P**	**12 21 38.3**			**-0.3**
HVS				pmax		pmax				
	comp=Z,7.0nm,0.8s									
MTN	**Manton Dam**	**42.80**	**197**	*e*P		**P**	**12 21 38.2**			**-1.3**
	comp=Z,16nm,0.9s									
TIXI	**Tiksi**	**43.63**	**354**	P		**P**	**12 21 45.3**			**-0.3**
	comp=Z,1.2nm,0.2s,baz=113,slow=7.7,SNR=2.9									
TIXI	**Tiksi**	**43.63**	**354**	⇑*e*P		**P**	**12 21 45.8**			**+0.2**
TIXI				pmax		pmax				
	comp=Z,2.0nm,0.7s									
UNV	**Unalaska Valle**	**44.46**	**41**	*e*P		**P**	**12 21 52.5**			**-0.1**
	comp=Z,27nm,1.1s									
WMQ	**Urumqi**	**45.97**	**304**	*e*P		**P**	**12 22 06.5**			**+1.7**
WMQ				LR		LR				
	comp=Z,670nm,26.9s									
WMQ				LR		LR				
	comp=Z,470nm,25.1s									
WMQ				LR		LR				
	comp=Z,600nm,27.3s									
KULM	**Kulim**	**46.07**	**248**	*e*P		**P**	**12 22 06.1**			**+0.4**
	comp=Z,4.8nm,0.7s									
DGZ	**Jazzator, Alta**	**46.45**	**313**	*d i*P		**P**	**12 22 10.1**			**+1.6**
DGZ				pmax		pmax				
	comp=Z,5.0nm,0.7s									
ZAA0	**Zalesovo Array**	**48.53**	**318**	*e*P		**P**	**12 22 24.3**			**-0.2**
	comp=Z,3.4nm,0.5s									
ZALV	**Zalesovo Beam**	**48.53**	**318**	P		**P**	**12 22 24.7**			**+0.2**
	comp=Z,4.1nm,0.4s,baz=94,slow=8.1,SNR=20									
ZALV	**Zalesovo Beam**	**48.53**	**318**	*e*P		**P**	**12 22 23.9**			**-0.6**
ZAA1	**Zalesovo Array**	**48.54**	**318**	*e*P		**P**	**12 22 24.7**			**+0.2**
PSI	**Prapat**	**48.91**	**246**	*e*P		**P**	**12 22 27.1**			**-0.9**
	comp=Z,5.9nm,0.9s									
PSI	**Prapat**	**48.91**	**246**	*e*P		**P**	**12 22 27.1**			**-0.9**
PSI				pmax		pmax				
	comp=Z,6.0nm,0.9s									
WRAB	**Tennant Creek**	**49.04**	**190**	*e*P		**P**	**12 22 26.9**			**-1.7**
	comp=Z,11nm,0.8s									
WRAB	**Tennant Creek**	**49.04**	**190**	⇓*i*P		**P**	**12 22 27.6**			**-1.0**
WRAB				pmax		pmax				
	comp=Z,11nm,1.0s									
WB2	**Warramunga Arr**	**49.05**	**190**	*e*P		**P**	**12 22 27.1**			**-1.6**
WR1	**Warramunga Arr**	**49.05**	**190**	*e*P		**P**	**12 22 27.4**			**-1.4**
	comp=Z,9.9nm,0.7s									
WRA	**Warramunga Arr**	**49.05**	**190**	P		**P**	**12 22 27.4**			**-1.4**
	comp=Z,3.3nm,0.5s,baz=17,slow=9.0,SNR=73									
RAMN	**Ramite**	**49.20**	**282**	*e*P		**P**	**12 22 29.8**			**-0.5**
	comp=Z,25nm,0.8s									
JIRN	**Jiri**	**49.36**	**283**	*e*P		**P**	**12 22 31.5**			**-0.2**
	comp=Z,53nm,0.6s									
FITZ	**Fitzroy Crossi**	**49.37**	**201**	P		**P**	**12 22 30.8**			**-0.4**
	comp=Z,1.4nm,0.5s,baz=28,slow=6.8,SNR=12									
FITZ	**Fitzroy Crossi**	**49.37**	**201**	*e*P		**P**	**12 22 30.0**			**-1.2**
	comp=Z,5.9nm,1.0s									
GUN	**Gumba**	**49.56**	**283**	*e*P		**P**	**12 22 32.9**			**-0.3**
	comp=Z,39nm,0.7s									
MK01	**Makanchi Array**	**49.76**	**309**	*e*P		**P**	**12 22 33.8**			**-0.2**
MK32	**Makanchi Array**	**49.76**	**309**	*e*P		**P**	**12 22 34.0**			**-0.1**
MKAR	**Makanchi Array**	**49.76**	**309**	P		**P**	**12 22 34.0**			**-0.1**
	comp=Z,2.5nm,0.6s,baz=90,slow=9.7,SNR=19									
PKI	**Pulchoki**	**50.05**	**283**	*e*P		**P**	**12 22 36.2**			**-0.7**
KKN	**Kakani**	**50.10**	**283**	*e*P		**P**	**12 22 36.5**			**-0.6**
DMN	**Daman**	**50.30**	**283**	*e*P		**P**	**12 22 38.0**			**-0.7**
	comp=Z,12nm,0.6s									
DANN	**Dangsing**	**51.25**	**285**	*e*P		**P**	**12 22 45.7**			**-0.2**
	comp=Z,38nm,0.6s									
KOLN	**Koldanda**	**51.54**	**284**	*e*P		**P**	**12 22 47.6**			**-0.4**
	comp=Z,25nm,0.7s									
PYUN	**Piuthan**	**51.97**	**285**	*e*P		**P**	**12 22 50.9**			**-0.3**
	comp=Z,49nm,0.6s									
KURK	**Kurchatov**	**52.14**	**314**	*e*P		**P**	**12 22 51.8**			**-0.1**
	comp=Z,13nm,0.9s									
KURK	**Kurchatov**	**52.14**	**314**	*c i*P		**P**	**12 22 52.2**			**+0.4**
KURK				pmax		pmax				
	comp=Z,16nm,1.1s									
KURBB	**Kurchatov Arra**	**52.20**	**314**	P		**P**	**12 22 52.6**			**+0.3**
	comp=Z,9.5nm,0.5s,baz=91,slow=7.8,SNR=28									
ASAR	**Alice Springs**	**52.77**	**190**	P		**P**	**12 22 58.3**			**+1.6**
	comp=Z,0.4nm,0.5s,baz=4.2,slow=7.0,SNR=4.4									
KDAK	**Kodiak Island**	**52.82**	**37**	P		**P**	**12 22 56.5**			**-0.2**
	comp=Z,5.8nm,0.7s,baz=336,slow=2.1,SNR=4.5									
PRZ	**Przheval'sk**	**52.84**	**303**	*e*P		**P**	**12 22 57.5**			**+0.1**
	comp=Z,12nm,0.6s									
PRZ	**Przheval'sk**	**52.84**	**303**	*e*P		**P**	**12 22 57.5**			**+0.1**
PRZ				pmax		pmax				
	comp=Z,12nm,0.6s									
IM3	**Indian Mountai**	**53.41**	**27**	*e*P		**P**	**12 23 01.9**			**+0.9**
PPLA	**Purkeypile**	**53.56**	**31**	*e*P		**P**	**12 23 02.9**			**+0.6**
	comp=Z,9.7nm,1.2s									
COLD	**Coldfoot**	**55.03**	**26**	*e*P		**P**	**12 23 10.3**			**-2.4**
	comp=Z,8.1nm,0.5s									
KSH	**Kashi**	**55.10**	**300**	P		**P**	**12 23 18.1**			**+4.2**
KSH				S		**S**	**12 30 58.8**			**+3.5**
TOLK	**Toolik Lake Re**	**55.49**	**24**	*e*P		**P**	**12 23 17.2**			**+1.1**
	comp=Z,3.5nm,0.9s									
MDM	**Murphy Dome**	**55.54**	**29**	*e*P		**P**	**12 23 17.1**			**+0.6**
	comp=Z,2.9nm,0.6s									
AAK	**Ala-Archa**	**55.67**	**304**	P		**P**	**12 23 18.0**			**+0.1**
	comp=Z,1.6nm,0.3s,baz=117,slow=5.6,SNR=8.4									
AAK	**Ala-Archa**	**55.67**	**304**	⇓*e*P		**P**	**12 23 18.4**			**+0.4**
AAK				pmax		pmax				
	comp=Z,2.0nm,0.6s									
IL1	**Eielson Array**	**56.09**	**29**	*e*P		**P**	**12 23 20.7**			**+0.2**
ILAR	**Eielson Array**	**56.09**	**29**	P		**P**	**12 23 19.7**			**-0.7**
	comp=Z,0.7nm,0.6s,baz=260,slow=6.2,SNR=13									
ILB	**Eielson Array**	**56.09**	**29**	*e*P		**P**	**12 23 20.5**			**0.0**
BRVK	**Borovoye**	**57.19**	**317**	*e*P		**P**	**12 23 28.4**			**+0.1**
	comp=Z,5.0nm,0.7s									
BRVK	**Borovoye**	**57.19**	**317**	*de*P		**P**	**12 23 28.6**			**+0.2**
BRVK				pmax		pmax				
	comp=Z,5.0nm,0.6s									
SCRK	**Sand Creek**	**57.32**	**30**	*e*P		**P**	**12 23 29.2**			**-0.1**
	comp=Z,4.4nm,1.0s									
KK31	**Karatay Array**	**58.47**	**305**	*e*P		**P**	**12 23 37.7**			**+0.1**
KK31	**Karatay Array**	**58.47**	**305**	*e*P		**P**	**12 23 37.7**			**+0.1**
KKAR	**Karatay Array**	**58.47**	**305**	*e*P		**P**	**12 23 37.6**			**0.0**
KKAR	**Karatay Array**	**58.47**	**305**	*e*P		**P**	**12 23 37.6**			**0.0**

KKR	**Kurukshetra**	**2.44**	**169**	*e*S	**Sb**	**12 22 24.5**	**-0.6**
DDI	**Dehra Dun**	**2.54**	**143**	*e*P	**Pn**	**12 21 53.8**	**+1.5**
DDI				*e*S	**Sb**	**12 22 26.7**	**-1.3**
JOSI	**Joshimath**	**3.32**	**122**	*e*P	**Pn**	**12 22 05.6**	**+2.3**
JOSI				*e*S	**Sn**	**12 22 43.9**	**+1.2**
JOSI				IAML		12 23 09.5	
	comp=E,453nm,0.8s						
JOSI				IAML		12 23 10.3	
	comp=N,596nm,1.1s						
NDI	**New Delhi**	**3.76**	**168**	*e*P	**Pn**	**12 22 12.0**	**+2.9**
NDI				*ex*	x	12 23 04.0	
KUDL	**Kundal**	**4.21**	**178**	*e*P	**Pn**	**12 22 18.0**	**+2.6**
KUDL				*e*S	**Sn**	**12 23 05.4**	**+1.2**
KHET	**Khetri**	**4.30**	**186**	*ex*	**Pn**	**12 22 16.4**	**-0.2**
KHET				*e*S	**Sn**	**12 23 07.6**	**+1.2**
JASL	**Jaisalmer**	**7.17**	**222**	*e*P	**Pn**	**12 22 57.2**	**+1.2**
JASL				*e*S	**Sn**	**12 24 14.6**	**-2.6**
BHPL	**Bhopal**	**9.15**	**173**	*e*P	**Pn**	**12 23 23.2**	**0.0**
BHPL				*e*S	**Sn**	**12 25 01.4**	**-4.5**
AAK	**Ala-Archa**	**10.35**	**353**	Pn	**Pn**	**12 23 42.9**	**+3.1**
	comp=N,0.8nm,0.3s,baz=167,slow=0.7,SNR=4.1						
AAK				Sn	**Sn**	**12 25 36.1**	**+0.6**
	comp=N,0.3nm,0.3s,baz=360,slow=19,SNR=1.6						
POO	**Poona**	**13.95**	**190**	*e*P	**Pn**	**12 24 30.2**	**+1.2**
POO				*ex*	x	12 26 53.3	
HYB	**Hyderabad**	**15.03**	**172**	*e*P	Pn	12 24 36.0	-7.6
HYB				*e*		12 27 01.0	
MKAR	**Makanchi Array**	**15.12**	**16**	Pn	**Pn**	**12 24 44.5**	**-0.2**
	comp=N,0.9nm,0.3s,baz=202,slow=14,SNR=23						
MKAR				Sn	**Sn**	**12 27 23.7**	**-8.2**
	comp=N,0.1nm,0.3s,baz=329,slow=22,SNR=3.5						
KURBB	**Kurchatov Arra**	**18.32**	**5**	P	**Pn**	**12 25 23.2**	**-1.8**
	comp=N,0.1nm,0.3s,baz=191,slow=10,SNR=8.3						
ZALV	**Zalesovo Beam**	**22.42**	**13**	P	**P**	**12 26 09.4**	**-0.1**
	comp=N,1.1nm,0.4s,baz=198,slow=9.1,SNR=5.8						
CMAR	**Chiang Mai Arr**	**24.64**	**119**	P	**P**	**12 26 31.8**	**+0.1**
	comp=N,4.5nm,0.9s,baz=311,slow=9.2,SNR=28						
SONM	**Songino Array**	**27.51**	**47**	P	**P**	**12 26 57.4**	**-0.1**
	comp=N,0.3nm,0.3s,baz=236,slow=7.8,SNR=2.6						
KLR	**Kul'dur**	**44.20**	**51**	P	**P**	**12 29 19.6**	**-0.4**
	comp=N,0.6nm,0.3s,baz=297,slow=11,SNR=3.2						
ARCES	**ARCESS Array B**	**46.62**	**338**	P	**P**	**12 29 40.5**	**+1.7**
	comp=N,4.1nm,0.9s,baz=113,slow=8.9,SNR=3.5						
TORD	**Torodi Ar. Bea**	**70.16**	**273**	P	**P**	**12 32 23.6**	**-0.5**
	comp=N,0.3nm,0.6s,baz=46,slow=6.1						
WRA	**Warramunga Arr**	**76.07**	**125**	P	**P**	**12 32 58.8**	**0.0**
	comp=N,1.0nm,0.9s,baz=317,slow=6.6,SNR=4.5						
ILAR	**Eielson Array**	**77.47**	**17**	P	**P**	**12 33 06.0**	**-0.1**
	comp=N,0.3nm,0.8s,baz=316,slow=6.2,SNR=3.3						
YKA	**Yellowknife Ar**	**85.06**	**5**	P	**P**	**12 33 46.3**	**-0.1**
	comp=N,0.7nm,0.8s,baz=341,slow=5.7,SNR=2.7						

IDC 06 12:31:20.9±1.9, 7°60S×128°18E, h156km±24km, mb3.0/1, mb1 3.4/6, mb1mx3.1/38, mbtmp3.9/6, Error ellipse: s-maj=24.7km s-min=19.2km az=124.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.16**	**240**	P	Pn	12 32 37.4	+0.9
	18nm,0.3s,baz=143,slow=2.8,SNR=12						
BATI				S	Sn	12 33 36.1	+0.4
	12nm,0.3s,baz=356,slow=22,SNR=6.8						
SIJI	**Sorong**	**7.36**	**25**	P	Pn	12 33 05.6	-0.2
	1.6nm,0.3s,baz=229,slow=23,SNR=23						
FITZ	**Fitzroy Crossi**	**10.72**	**193**	P	Pn	12 33 49.2	-1.2
	0.6nm,0.3s,baz=20,slow=12,SNR=22						
WRA	**Warramunga Arr**	**13.65**	**155**	P	Pn	12 34 27.3	-0.9
	0.7nm,0.3s,baz=322,slow=15,SNR=37						
WRA				S	Sn	12 36 50.1	-9.5
	1.3nm,0.3s,baz=322,slow=24,SNR=9.9						
ASAR	**Alice Springs**	**16.90**	**162**	P	Pn	12 35 09.6	+1.3
	0.2nm,0.3s,baz=348,slow=12,SNR=4.2						
ASAR				S	S	12 38 08.5	-7.3
	0.2nm,0.3s,baz=347,slow=25,SNR=5.7						
MKAR	**Makanchi Array**	**67.75**	**328**	P	P	12 42 01.6	-0.1
	0.2nm,0.5s,baz=114,slow=7.0,SNR=3.4						

*NORS **06** 12:38:40.6±0.0, 40°.82N×46°.15E, h2km, MPVA3.6*
ISC 06 12:38:40.2±2.6, 40°.7N±0°.1×45°.98E±0°.05, h10km, n6, σ1°17/12, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDFL	**Dedoflistskaro**	**0.77**	**8**	P	**Pn**	**12 38 58.6**	**+1.4**
DDFL				S	**Sn**	**12 39 10.0**	**+1.0**
LGD	**Lagodekhi**	**1.17**	**10**	P	**Pn**	**12 39 02.8**	**+0.1**
LGD				S	**Sn**	**12 39 20.6**	**+1.8**
TBLG	**Delisi**	**1.41**	**319**	P	**Pg**	**12 39 06.5**	**-0.8**
TBLG				S	**Sg**	**12 39 26.0**	**+0.5**
AKT	**Akhty**	**1.55**	**58**	*e*Pg	**Pb**	**12 39 09.0**	**-0.1**
AKT				*e*Sg	**Sg**	**12 39 29.3**	**-0.7**
GNBR	**Gunib**	**1.86**	**23**	*e*Pg	**Pg**	**12 39 14.8**	**-1.2**
GNBR				*e*Sg	**Sg**	**12 39 39.6**	**-0.5**
ZEI	**Tsey**	**2.62**	**324**	*e*Pn	**Pb**	**12 39 27.2**	**-0.1**
ZEI				*e*Sn	**Sg**	**12 40 02.5**	**-1.8**

*ISK **06** 12:40:57.8, 37°.64N×29°.28E, h5km, ML2.2/7*
*ISCJB **06** 12:40:58.7±0.5, 37°.67N±0°.03×29°.34E±0.03, h2km±6km, Error ellipse: s-maj=4.7km s-min=4.2km az=44.9*
*DDA **06** 12:40:58.7, 37°.67N×29°.35E, h7km, Ml2.9*
ISC 06 12:40:59.1±1.0, 37°.67N±0°.03×29°.32E±0°.03, h12km±8km, n19, σ1°25/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.22**	**274**	*i* P	**Pg**	**12 41 04.3**	**+0.4**
DNZL				*i* S	**Sg**	**12 41 08.2**	**+1.1**
DENT	**Denizli**	**0.24**	**289**	PG	**Pg**	**12 41 03.4**	**-0.8**
DENT				SG	**Sg**	**12 41 07.6**	**-0.1**
TAVA	**DENIZLI_Tavas**	**0.39**	**238**	*i* P	**Pg**	**12 41 06.3**	**-0.5**
TAVA				*i* S	**Sb**	**12 41 12.9**	**-1.0**
GOLH	**Golhisar**	**0.47**	**156**	*i* P	**Pb**	**12 41 08.2**	**-1.3**
GOLH				*i* S	**Sb**	**12 41 16.8**	**+0.4**
BRDR	**BURDUR-Merkez**	**0.59**	**87**	*i* P	**Pg**	**12 41 10.2**	**-0.3**
BRDR				*i* S	**Sb**	**12 41 21.2**	**+1.6**
KHAL	**Karahalli**	**0.71**	**11**	*i* P	**Pg**	**12 41 11.8**	**-1.1**
KHAL				*i* S	**Sb**	**12 41 22.8**	**-0.5**
TURN	**Turunc**	**0.98**	**216**	PN	**Pn**	**12 41 21.7**	**+3.0**
TURN	**Turunc**	**0.98**	**216**	*i* P	**Pn**	**12 41 22.3**	**+3.6**
TURN				*i* S	Sn	12 41 43.2	+11
KULA	**Kula-Manisa**	**0.99**	**328**	PG	**Pb**	**12 41 18.2**	**0.0**
DALY	**Dalyan (Mu˘la**	**1.01**	**212**	PG	**Pg**	**12 41 17.3**	**-1.2**
DALY				SG	**Sb**	**12 41 31.7**	**0.0**
MANT	**Manisa**	**1.02**	**324**	*i* P	**Pg**	**12 41 17.7**	**-1.0**
MANT				*i* S	**Sn**	**12 41 33.6**	**-0.1**
ELL	**Elmali**	**1.03**	**153**	PG	**Pb**	**12 41 18.6**	**-0.4**
FETY	**Fethiye**	**1.05**	**191**	PG	**Pb**	**12 41 18.3**	**-1.0**
KORT	**Korkueli**	**1.06**	**129**	PG	**Pn**	**12 41 19.3**	**-0.6**
AYDN	**Tasoluk**	**1.15**	**270**	*i* P	**Pn**	**12 41 21.0**	**0.0**
AYDN				*i* S	**Sn**	**12 41 36.4**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.17**	**284**	PN	**Pb**	**12 41 20.8**	**-0.5**
SUTC	**Sutluce-Ispart**	**1.35**	**98**	PN	**Pg**	**12 41 25.2**	**+0.2**
AKAS	**Kas**	**1.46**	**171**	PN	**Pg**	**12 41 25.9**	**-1.1**
ARG	**Arkhangelos**	**1.74**	**214**	PN	**Pb**	**12 41 29.8**	**-1.2**

DJA 06 12:54:18.6±1.1, 8°S±5°×107°E±°, h16km±8km, M3.6/7, MLv3.6/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.71**	**38**	P	Pb	12 54 33.2	+0.6
CISI				S	Sb	12 54 42.8	+0.7
CMJI	**Cimerak**	**1.11**	**73**	P	Pb	12 54 39.0	-0.4
CMJI				S	Sb	12 54 53.4	-0.3
LEM	**Lembang**	**1.31**	**10**	P	Pn	12 54 42.3	-0.1
LEM				S	Sn	12 54 59.7	+0.1
SKJI	**Sukabumi**	**1.38**	**324**	P	Pn	12 54 42.8	-0.4
KPJI	**Karang Pucung**	**1.73**	**63**	P	Pn	12 54 48.7	+0.7
CGJI	**Cibinong**	**2.25**	**312**	P	Pn	12 54 53.9	-1.2

*NIED **06** 13:03:00, 44°.60N×149°.80E, h23km, Mw4.1 Best double couple: M₀1.71000×10¹⁵ NP1:φ₅229.00000°, δ32.00000°, λ96.00000°. NP2:φ₅42.00000°, δ59.00000°, λ86.00000°.*
*JMA **06** 13:03:38.0±0.8, 44°.61N×149°.80E, h30km, M4.1*
*SKHL **06** 13:03:39.0±1.2, 44°.37N×149°.92E, h60km±2km, mb4.4/6*
*ISCJB **06** 13:03:39.7±0.9, 44°.49N±0°.06×149°.68E±0°.08, h55km±7km, mb4.0/19, MS3.6/6, Error ellipse: s-maj=12.1km s-min=6.4km az=139.5*
*MOS **06** 13:03:41.9±0.9, 44°.60N×149°.47E, h68km, mb4.2/13, Error ellipse: s-maj=9.9km s-min=8.9km az=82.1*
*IDC **06** 13:03:42.3±2.9, 44°.53N×149°.61E, h58km±25km, mb3.7/14, mb1 3.9/17, mb1mx3.7/52, mbtmp3.9/17, ML3.2/2, MS3.5/6, Ms1 3.5/6, ms1mx3.0/49, Error ellipse: s-maj=21.2km s-min=15.1km az=136.0*
ISC 06 13:03:41.2±1.4, 44°.47N±0°.07×149°.66E±0°.08, h52km±12km, n75, σ1°66/81, mb4.0/19, MS3.5/6, 5C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.49**	**302**	*i* P	**Pn**	**13 04 04.8**	**-0.8**
KUR				AMB	AMB	13 04 05.0	
	40nm,0.3s						
KUR				AMB	AMB	13 04 05.0	
	20nm,0.3s						
KUR				AMB	AMB	13 04 05.0	
	170nm,0.3s						
KUR				*i* S	**Sn**	**13 04 25.0**	**+1.2**
KUR				A	A	13 04 25.0	
	820nm,0.5s						
KUR				A	A	13 04 25.0	
	869nm,0.5s						
KUR	**Kuril'sk**	**1.49**	**302**	*c i* PN	**Pn**	**13 04 04.7**	**-0.8**
KUR				*i* S	**Sn**	**13 04 24.3**	**+0.5**
KUR				pmax	pmax		
	comp=E,15nm,0.2s						
KUR				pmax	pmax		
	comp=Z,173nm,0.2s						
KUR				pmax	pmax		
	comp=N,39nm,0.3s						
KUR				smax	smax		
	comp=E,864nm,0.3s						
KUR				smax	smax		
	comp=N,821nm,0.2s						
SHO	**Shikotan**	**2.12**	**255**	*i* P	**Pn**	**13 04 13.3**	**-0.9**
SHO				AMB	AMB	13 04 14.4	
	comp=N,100nm,0.5s						
SHO				AMB	AMB	13 04 14.4	
	comp=N,4μm,0.5s						
SHO				*e*S	**Sn**	**13 04 39.6**	**+0.2**
SHO				A	A	13 04 46.6	
	comp=N,250nm,0.3s						
SHO				A	A	13 04 46.6	
	comp=N,269nm,0.3s						
SHO	**Shikotan**	**2.12**	**255**	⇓ *i* PN	**Pn**	**13 04 13.1**	**-1.1**
SHO				S	**Sn**	**13 04 38.8**	**-0.6**
SHO				pmax	pmax		
	comp=Z,11nm,0.4s						
SHO				smax	smax		
	comp=N,254nm,0.3s						
SHO				smax	smax		
	comp=E,258nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.76**	**262**	*e*P	**Pn**	**13 04 23.9**	**+0.9**
YUK				AMB	AMB	13 04 25.0	
	comp=E,40nm,0.3s						
YUK				AMB	AMB	13 04 25.0	
	comp=E,70nm,0.3s						
YUK				*e*S	**Sn**	**13 04 56.6**	**+1.5**
YUK				A	A	13 05 03.0	
	comp=E,360nm,0.5s						
YUK				A	A	13 05 03.0	
	comp=E,379nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.76**	**262**	*e*PN	**Pn**	**13 04 23.9**	**+0.9**
YUK				*e*S	**Sn**	**13 04 58.2**	**+3.1**
YUK				pmax	pmax		
	comp=Z,72nm,0.2s						
YUK				pmax	pmax		
	comp=N,40nm,0.3s						
YUK				smax	smax		
	comp=N,357nm,0.5s						
YUK				smax	smax		
	comp=E,369nm,0.5s						
LAGR	**Lagunmoye**	**2.81**	**263**	*e*S	**Sn**	**13 05 00.0**	**+3.7**
GRPR	**Tuman**	**2.83**	**262**	*e*P	**Pn**	**13 04 25.0**	**+1.0**
GRPR				AMB	AMB	13 04 25.0	
	comp=E,40nm,0.2s						
GRPR				AMB	AMB	13 04 25.0	
	comp=E,4μm,0.2s						
GRPR				*e*S	**Sn**	**13 05 01.0**	**+4.1**
GRPR				A	A	13 05 07.0	
	comp=E,290nm,0.4s						
GRPR				A	A	13 05 07.0	
	comp=E,289nm,0.4s						
GRPR	**Tuman**	**2.83**	**262**	*e*PN	**Pn**	**13 04 25.4**	**+1.4**
GRPR				pmax	pmax		
	comp=Z,41nm,0.2s						
NEM2	**Nemuro 2**	**3.04**	**250**	P	**Pn**	**13 04 24.9**	**-1.8**
NEM2				*e*S	**Sn**	**13 04 59.7**	**-2.1**
GLVR	**Golovnino**	**3.07**	**258**	*e*P	**Pn**	**13 04 29.0**	**+1.9**
GLVR				AMB	AMB	13 04 30.0	
	comp=Z,100nm,0.6s						
GLVR				AMB	AMB	13 04 30.0	
	comp=Z,4μm,0.6s						
GLVR				*e*S	**Sn**	**13 05 06.0**	**+3.4**
GLVR				A	A	13 05 10.0	
	comp=Z,410nm,0.8s						
GLVR				A	A	13 05 10.0	
	comp=Z,490nm,0.8s						
GLVR	**Golovnino**	**3.07**	**258**	*e*PN	**Pn**	**13 04 29.1**	**+1.9**
GLVR				*e*S	**Sn**	**13 05 06.1**	**+3.4**
GLVR				pmax	pmax		
	comp=Z,99nm,0.3s						
GLVR				smax	smax		
	comp=N,409nm,0.8s						
GLVR				smax	smax		
	comp=E,400nm,0.8s						
JRA	**Rausu**	**3.31**	**262**	P	**Pn**	**13 04 30.6**	**+0.2**
JNK	**Nakash**	**3.67**	**258**	*e*S	**Sn**	**13 05 20.8**	**+3.4**
JAK	**Akkeshi**	**3.88**	**249**	P	**Pn**	**13 04 37.1**	**-1.3**
JTKR	**Abashiri--Toko**	**4.16**	**265**	P	**Pn**	**13 04 43.3**	**+1.1**
JAR	**Ashorobuto**	**4.42**	**257**	P	**Pn**	**13 04 46.1**	**+0.4**
JMP	**Maruseppu**	**4.55**	**266**	P	**Pn**	**13 04 48.8**	**+1.3**
JCH	**Churui**	**4.94**	**250**	P	**Pn**	**13 04 51.8**	**-1.0**
JKA	**Kamikawa-asahi**	**5.08**	**268**	*e*P	**Pn**	**13 04 57.2**	**+2.4**
ASAJ	**Asahikawa**	**5.08**	**268**	P	**Pn**	**13 04 57.2**	**+2.4**
	comp=E,1.6nm,0.3s,baz=62,slow=12,SNR=12						
ASAJ				LR	LR	13 07 07.0	
	comp=E,355nm,19.7s,baz=126,slow=40						
MYR	**Moyori**	**5.13**	**247**	*e*P	**Pn**	**13 04 54.5**	**-1.0**
MYR				*e*S	**Sn**	**13 05 51.6**	**-1.7**
YSS	**Yuzh-Sakhalins**	**5.44**	**300**	*e*P	**Pn**	**13 05 00.8**	**+1.2**
YSS				AMB	AMB	13 05 02.7	
	comp=E,10.0nm,0.8s						
YSS				AMB	AMB	13 05 02.7	
	comp=E,3μm,0.8s						
YSS				*e*S	**Sn**	**13 05 59.1**	**-1.7**
YSS	**Yuzh-Sakhalins**	**5.44**	**300**	*e*PN	**Pn**	**13 05 00.3**	**+0.7**
YSS				*e*S	**Sn**	**13 05 58.0**	**-2.8**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YSS				MLR	MLR		
	comp=Z,500nm,11.0s						
YSS				MLR	MLR		
	comp=N,200nm,12.0s						
YSS				MLR	MLR		
	comp=E,500nm,14.0s						
JBT2	**Biratori 2**	**5.56**	**255**	P	**Pn**	**13 05 01.1**	**-0.2**
JKB	**Kayabe**	**6.81**	**251**	P	**Pn**	**13 05 17.3**	**-1.2**
JKB				*e*S	**Sn**	**13 06 30.9**	**-3.7**
SKR	**Severo-Kuril's**	**7.60**	**33**	*e*P	**Pn**	**13 05 29.6**	**+0.4**
SKR	**Severo-Kuril's**	**7.60**	**33**	⇑ *e*PN	**Pn**	**13 05 32.0**	**+2.8**
PETK	**Petropavlovsk-**	**10.14**	**29**	P	**Pn**	**13 06 02.9**	**-1.1**
	baz=309,slow=9.1						
PET	**Petropavlovsk**	**10.41**	**32**	*e*P	**Pn**	**13 06 06.5**	**-1.2**
PET	**Petropavlovsk**	**10.41**	**32**	⇓ *e*PN	**Pn**	**13 06 09.2**	**+1.5**
PET				pmax	pmax		
	comp=Z,43nm,1.7s						
USRK	**Ussuriysk Ar.**	**12.66**	**275**	P	**Pn**	**13 06 39.6**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=78,slow=13,SNR=6.3						
KLR	**Kul'dur**	**13.14**	**298**	*e*P	**Pn**	**13 06 43.1**	**-1.9**
KLR	**Kul'dur**	**13.14**	**298**	⇓ *e*PN	**Pn**	**13 06 43.1**	**-1.9**
EKMR	**Ekimchan**	**13.95**	**314**	*e*P	**Pn**	**13 06 52.2**	**-3.8**
SEY	**Seymchan**	**18.57**	**4**	*e*P	**P**	**13 07 52.9**	**-0.6**
SEY	**Seymchan**	**18.57**	**4**	⇑ *e*P	**P**	**13 07 52.9**	**-0.6**
HIA	**Hailar**	**20.93**	**294**	*e*P	**P**	**13 08 18.2**	**-1.2**
HIA	**Hailar**	**20.93**	**294**	⇑ *e*P	**P**	**13 08 18.2**	**-1.2**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
YAK	**Yakutsk**	**21.11**	**333**	*e*P	**P**	**13 08 21.1**	**0.0**
YAK	**Yakutsk**	**21.11**	**333**	⇑ *e*P	**P**	**13 08 21.1**	**0.0**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BILL	**Bilibino**	**25.19**	**15**	*e*P	**P**	**13 09 02.9**	**+1.5**
BILL	**Bilibino**	**25.19**	**15**	*e*P	**P**	**13 09 02.9**	**+1.5**
BILL				*e*		13 09 39.5	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**28.54**	**144**	T	T	13 40 29.8	
	baz=335,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.56**	**144**	T	T	13 40 29.0	
	baz=335,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.56**	**144**	T	T	13 40 33.4	
	baz=335,slow=75						
TIXI	**Tiksi**	**29.05**	**347**	*e*P	**P**	**13 09 35.7**	**-0.3**
TIXI	**Tiksi**	**29.05**	**347**	⇓ *e*P	**P**	**13 09 35.7**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**29.56**	**146**	T	T	13 41 49.2	
	baz=335,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.57**	**146**	T	T	13 41 48.4	
	baz=335,slow=76						
H11S2	**WAKE ISLAND Hy**	**29.58**	**146**	T	T	13 41 50.4	
	baz=335,slow=76						
SONM	**Songino Array**	**29.87**	**292**	P	**P**	**13 09 42.9**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=99,slow=8.9,SNR=3.8						
SONM				LR	LR	13 22 43.8	
	comp=Z,77nm,19.9s,baz=348,slow=38						
ILAR	**Eielson Array**	**39.84**	**37**	P	**P**	**13 11 09.3**	**+0.2**
	comp=Z,0.4nm,0.9s,baz=278,slow=6.8,SNR=5.6						
INK	**Inuvik**	**44.87**	**31**	P	**P**	**13 11 49.6**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=276,slow=9.0,SNR=4.3						
INK	**Inuvik**	**44.87**	**31**	P	**P**	**13 11 49.7**	**-0.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**45.85**	**298**	P	**P**	**13 11 58.5**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=70,slow=7.7,SNR=15						
CMAR	**Chiang Mai Arr**	**49.46**	**255**	P	**P**	**13 12 25.0**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=53,slow=8.0,SNR=3.8						
CMAR				LR	LR	13 35 50.5	
	comp=Z,35nm,18.1s,baz=52,slow=39						
CMAR	**Chiang Mai Arr**	**49.46**	**255**	P	**P**	**13 12 25.0**	**-1.3**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR				MLR	MLR		
	comp=Z,35nm,18.1s						
RES	**Resolute Bay**	**53.75**	**17**	P	**P**	**13 12 58.3**	**+0.8**
	comp=Z,4.7nm,0.8s,baz=315,slow=6.4,SNR=8.6						
FINES	**FINESS Array B**	**65.04**	**334**	LR	LR	13 45 55.7	
	comp=Z,35nm,18.1s,baz=88,slow=39						
WRA	**Warramunga Arr**	**65.61**	**196**	P	**P**	**13 14 19.9**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=14,slow=6.5,SNR=7.3						
WRA	**Warramunga Arr**	**65.61**	**196**	*e*P	**P**	**13 14 21.1**	**+1.4**
WRA	**Warramunga Arr**	**65.61**	**196**	*i* P	**P**	**13 14 21.1**	**+1.4**
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
OBN	**Obninsk**	**65.79**	**325**	*e*P	**P**	**13 14 20.4**	**-0.1**
OBN	**Obninsk**	**65.79**	**325**	*e*P	**P**	**13 14 20.4**	**-0.1**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ASAR	**Alice Springs**	**69.32**	**195**	P	**P**	**13 14 44.6**	**+1.5**
	comp=Z,0.7nm,0.8s,baz=353,slow=6.4,SNR=6.7						
NOA	**NORSAR Array B**	**69.57**	**340**	P	**P**	**13 14 42.9**	**-1.3**
	comp=Z,4.7nm,1.2s,baz=29,slow=6.4,SNR=3.3						
KIV	**Kislovodsk**	**70.61**	**313**	*e*P	**P**	**13 14 50.3**	**-0.7**
KIV				pmax	pmax		
	comp=Z,13nm,1.1s						
KIV				MLR	MLR		
	comp=Z,49nm,18.0s						
KBZ	**Khabaz**	**70.66**	**313**	P	**P**	**13 14 51.6**	**+0.5**
	comp=Z,4.6nm,0.9s,baz=2.3,slow=1.5,SNR=7.8						
KBZ				LR	LR	13 51 04.6	
	comp=Z,62nm,18.0s,baz=20,slow=40						
AKASG	**Malin Array Be**	**72.05**	**325**	P	**P**	**13 14 59.7**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=36,slow=6.2,SNR=8.5						
AKASG	**Malin Array Be**	**72.05**	**325**	*i* P	**P**	**13 14 59.7**	**+0.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRTR	**Keskin Array B**	**78.34**	**315**	P	**P**	**13 15 37.2**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=46,slow=4.2,SNR=3.1						
GERES	**GERESS Array B**	**79.39**	**332**	P	**P**	**13 15 41.6**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=22,slow=8.0,SNR=3.0						
TXAR	**Lajitas Array**	**80.74**	**58**	P	**P**	**13 15 49.9**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=302,slow=4.0,SNR=12						
IDI	**Anoyia**	**86.13**	**318**	LR	LR	13 57 25.6	
	comp=Z,18nm,18.9s,baz=208,slow=38						

*AZER **06** 13:13:03.9±0.1, 38°.44N×46°.61E, h10km, ml3.8/25, Error ellipse: s-maj=6.0km s-min=0.5km az=18.0*
*TEH **06** 13:13:05.4, 38°.40N×46°.61E, h4km, ML3.6*
*THR **06** 13:13:06.1±0.4, 38°.47N×46°.62E, h18km±6km, ML3.6*
ISC 06 13:13:04.6±1.1, 38°.37N±0°.03×46°.63E±0°.02, h15km±10km, n54, σ1°42/71, 14C-23D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHRS	**Heris**	**0.33**	**98**	*e*Pg	**Pb**	**13 13 12.5**	**+0.2**
IHRS				IAMB	IAmb	13 13 18.7	
	comp=E,100μm,0.3s						
IHRS				IAMB	IAmb	13 13 18.7	
	comp=Z,89μm,0.2s						
IHRS				IAMB	IAmb	13 13 19.0	
	comp=N,329nm,0.2s						
ITBZ	**Tabriz**	**0.41**	**251**	*e*Pg	**Pb**	**13 13 13.6**	**0.0**
ITBZ				IAMB	IAmb	13 13 24.0	
	comp=N,92μm,0.3s						
ITBZ				IAMB	IAmb	13 13 24.8	
	comp=E,74μm,0.4s						
ITBZ				IAMB	IAmb	13 13 28.2	
	comp=Z,80μm,0.7s						
IBST	**Bostanabad**

	SNR=70								
ASTR					⇑S		Sg	13 14 01.6	+2.1
ASTR	**Astara**	**1.71**	**83**	*e*Pn			**Pg**	**13 13 37.2**	**-0.2**
LKRN	**Lenkeran, Azer**	**1.72**	**78**	⇑P			**Pg**	**13 13 37.8**	**+0.1**
	SNR=50								
LKRN					⇑S		**Sg**	**13 14 01.6**	**+1.7**
LKRN	**Lenkeran, Azer**	**1.72**	**78**	*e*Pn			**Pg**	**13 13 37.7**	**+0.1**
MAKU	**Maku**	**1.81**	**304**	*e*Pn			**Pb**	**13 13 37.7**	**0.0**
MAKU				*e*Sg			**Sg**	**13 14 01.9**	**-1.2**
MAKU				IAML				13 14 03.8	
	comp=N,336nm,0.6s								
MAKU	**Maku**	**1.81**	**304**	*e*Pn			**Pb**	**13 13 37.7**	**0.0**
HYR	**Heyderabad**	**1.94**	**315**	⇓P			**Pb**	**13 13 39.9**	**+0.2**
HYR				⇓S			**Sg**	**13 14 06.2**	**-0.7**
HYR	**Heyderabad**	**1.94**	**315**	*e*Pn			**Pb**	**13 13 39.8**	**+0.2**
BRDA	**Brd**	**1.94**	**12**	⇑P			**Pg**	**13 13 40.7**	**-1.2**
BRDA				⇑S			**Sg**	**13 14 06.3**	**-0.8**
BRDA	**Brd**	**1.94**	**12**	*e*Pn			**Pg**	**13 13 41.1**	**-0.8**
SAAT	**Saatly**	**2.04**	**42**	P			**Pb**	**13 13 41.7**	**+0.3**
	SNR=3.4								
ZRD	**Zardab**	**2.08**	**23**	P			**Pg**	**13 13 43.9**	**-0.6**
	SNR=13								
GANJ	**Ganja**	**2.29**	**354**	⇓P			**Pb**	**13 13 44.4**	**-1.3**
GANJ				⇑S			**Sb**	**13 14 14.6**	**+0.8**
KDMR	**Kurdemir**	**2.34**	**30**	⇓S			**Sb**	**13 14 17.1**	**+1.9**
ZNJK	**Zanjan**	**2.35**	**135**	*e*Pn			**Pb**	**13 13 47.2**	**+0.4**
ZNJK	**Zanjan**	**2.35**	**135**	*e*Pn			**Pb**	**13 13 47.2**	**+0.4**
ALIB	**Äli-Bayra**	**2.44**	**49**	⇑P			**Pg**	**13 13 50.2**	**-1.1**
	SNR=12								
GDB	**GEDABAY**	**2.45**	**344**	⇓P			**Pb**	**13 13 46.9**	**-1.6**
GDB				⇑S			**Sb**	**13 14 19.9**	**+1.4**
IML	**Ismayilli**	**2.70**	**26**	⇓S			**Sb**	**13 14 24.0**	**-1.7**
QBL	**Gabala**	**2.74**	**19**	⇓S			**Sb**	**13 14 25.9**	**-0.8**
GBS	**Qobustan**	**2.81**	**39**	⇓P			**Pb**	**13 13 52.3**	**-2.3**
	SNR=5.6								
PQL	**Pirkuli**	**2.85**	**31**	⇓P			**Pb**	**13 13 53.0**	**-2.3**
	SNR=10								
PQL				⇓S			**Sb**	**13 14 28.1**	**-2.1**
QZX	**Qazax, Azerbai**	**2.86**	**340**	⇑P			**Pb**	**13 13 55.8**	**+0.4**
QZX				⇑S			**Sb**	**13 14 28.3**	**-1.9**
SEKA	**Sheki**	**2.87**	**9**	⇓P			**Pn**	**13 13 52.6**	**+2.7**
	SNR=9.7								
XNQ	**Khinaliq**	**3.03**	**22**	⇓P			**Pn**	**13 13 54.6**	**+2.3**
	SNR=12								
XNQ				⇓S			**Sb**	**13 14 32.8**	**-2.6**
ATGJ	**Altiaghaj**	**3.06**	**35**	⇓P			**Pb**	**13 13 58.2**	**-0.7**
ATGJ				⇑S			**Sg**	**13 14 40.3**	**-2.7**
ATGJ	**Altiaghaj**	**3.06**	**35**	*e*Pn			**Pb**	**13 13 58.1**	**-0.7**
DDFL	**Dedoflistskaro**	**3.10**	**353**	P			**Pg**	**13 14 04.2**	**+0.1**
DDFL				S			**Sg**	**13 14 46.6**	**+2.4**
ZKTA	**Zakatala**	**3.27**	**360**	⇓P			**Pb**	**13 14 00.7**	**-1.7**
	SNR=5.3								
ZKTA				⇓S			**Sb**	**13 14 44.1**	**+2.1**
QUBA	**Quba, Azerbaij**	**3.31**	**25**	P			**Pb**	**13 14 02.0**	**-1.1**
	SNR=3.3								
HKZM	**Kohzaman**	**3.50**	**148**	*e*Pn			**Pb**	**13 14 03.4**	**-3.0**
HKZM				IAMB		IAmb		13 14 50.3	
	comp=N,0.0nm,0.7s								
HKZM				IAMB		IAmb		13 15 03.3	
	comp=Z,0.0nm,0.6s								
HKZM				IAMB		IAmb		13 15 09.1	
	comp=E,0.0nm,0.8s								
QABG	**Abgarm-Qazvin**	**3.55**	**137**	*e*Pn			**Pb**	**13 14 04.2**	**-3.1**
QABG				IAMB		IAmb		13 15 10.9	
	comp=Z,0.0nm,1.4s								
QABG				IAMB		IAmb		13 15 13.1	
	comp=E,0.0nm,1.2s								
QABG				IAMB		IAmb		13 15 18.3	
	comp=N,0.0nm,1.2s								
QALM	**Alamut, Qazvin**	**3.73**	**120**	*e*Pn			**Pb**	**13 14 07.3**	**-3.1**
QALM				IAMB		IAmb		13 15 25.9	
	comp=N,0.0nm,0.8s								
QALM				IAMB		IAmb		13 15 29.5	
	comp=E,0.0nm,0.9s								
QALM				IAMB		IAmb		13 15 30.4	
	comp=Z,0.0nm,0.7s								
KRSH	**Karshahi**	**6.25**	**133**	IAMB		IAmb		13 16 36.2	
	comp=E,0.0nm,0.5s								
KRSH				IAMB		IAmb		13 16 37.1	
	comp=Z,0.0nm,0.6s								
KRSH				IAMB		IAmb		13 16 47.5	
	comp=N,0.0nm,0.9s								
YZKH	**Yazd**	**8.82**	**130**	IAML				13 14 13.3	
	comp=E,6.5nm,0.2s								
YZKH				IAML				13 14 14.2	
	comp=N,7.0nm,0.6s								

*IDC **06** 13:14:47.6±0.9, 22.°99S×171.°56E, h0km, mb3.9/11, mb1 4.1/13, mb1mx4.0/36, mbtmp4.0/13, ML3.5/2, MS3.8/2, Ms1 3.8/2, ms1mx3.0/36, Error ellipse: s-maj=24.0km s-min=21.2km az=32.0*

*NEIC **06** 13:14:51.0±4.2, 22.°88S×171.°61E, h23km±29km, mb4.6/14, Error ellipse: s-maj=14.9km s-min=8.8km az=216.0*

*ISCJB **06** 13:14:52.8±0.4, 23.°04S±0.°07×171.°47E±0.°06, h49km, mb4.2/20, MS3.7/2, Error ellipse: s-maj=10.3km s-min=7.6km az=31.5*

ISC 06 13:14:54.6±0.7, 23.°0S±0.°1×171.°45E±0.°09, h49km, n42, σ1§57/40, mb4.2/20, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.72**	**281**	Pn		**Pn**	**13 16 02.7**	**-0.7**
	2.0nm,0.3s,baz=112,slow=14,SNR=38							
DZM					Sn	**Sn**	**13 16 56.8**	**-0.2**
	2.4nm,0.3s,baz=102,slow=15,SNR=5.0							
OUZ	**Omahuta**	**12.29**	**172**	*e*Pn		**Pn**	**13 17 47.1**	**+0.1**
URZ	**Urewera**	**15.94**	**164**	Pn		**Pn**	**13 18 34.1**	**-1.5**
	0.2nm,0.3s,baz=335,slow=14,SNR=2.1							
URZ					Sn		13 21 15.7	-16
	0.3nm,0.3s,baz=120,slow=20,SNR=3.3							
EIDS	**Eidsvold**	**18.73**	**259**	*e*P		**Pn**	**13 19 11.0**	**+0.9**
	17nm,1.4s							
ARMA	**Armidale**	**19.16**	**243**	*e*P		**P**	**13 19 10.2**	**-3.9**
	47nm,1.7s							
LTZ	**Lake Taylor**	**19.71**	**178**	*e*P		**P**	**13 19 20.8**	**+0.9**
	19nm,0.8s							
FOZ	**Fox Glacier**	**20.50**	**183**	*e*P		Pn	13 19 30.2	-0.7
	42nm,1.2s							
RPZ	**Rata Peaks**	**20.64**	**181**	LR		LR	13 26 18.3	
	comp=Z,250nm,20.1s,baz=20,slow=33							
STKA	**Stephens Creek**	**27.85**	**245**	P		**P**	**13 20 40.1**	**+0.6**
	0.9nm,0.9s,baz=99,slow=14,SNR=1.7							
STKA	**Stephens Creek**	**27.85**	**245**	*e*P		**P**	**13 20 40.2**	**+0.6**
	5.3nm,1.8s							
ASAR	**Alice Springs**	**34.41**	**261**	P		**P**	**13 21 37.7**	**+0.2**
	0.6nm,0.9s,baz=92,slow=8.8,SNR=9.0							
WR1	**Warramunga Arr**	**34.61**	**268**	*e*P		**P**	**13 21 38.8**	**-0.4**
	9.0nm,1.4s							
WRA	**Warramunga Arr**	**34.61**	**268**	P		**P**	**13 21 38.8**	**-0.5**
	0.3nm,0.5s,baz=96,slow=8.6,SNR=15							
FITZ	**Fitzroy Crossi**	**43.04**	**268**	P		**P**	**13 22 50.8**	**+1.1**
	3.0nm,0.9s,baz=131,slow=6.0,SNR=4.7							
FITZ	**Fitzroy Crossi**	**43.04**	**268**	*e*P		**P**	**13 22 50.4**	**+0.6**
	6.6nm,0.9s							
SIJI	**Sorong**	**44.80**	**294**	P		**P**	**13 23 03.2**	**-0.7**
	4.1nm,0.9s,baz=89,slow=5.7,SNR=7.8							
VNDA	**Vanda**	**54.75**	**183**	P		**P**	**13 24 19.1**	**+0.4**
	0.7nm,1.0s,baz=330,slow=8.1,SNR=2.0							
VNDA	**Vanda**	**54.75**	**183**	*e*P		**P**	**13 24 20.4**	**+1.7**
SBA	**Scott Base**	**54.93**	**181**	*e*P		**P**	**13 24 19.7**	**-0.2**
	11nm,1.4s							
QSPA	**South Pole Qui**	**67.05**	**180**	P		**P**	**13 25 42.3**	**-0.2**
	2.1nm,1.0s,baz=334,slow=3.6,SNR=3.2							
QSPA	**South Pole Qui**	**67.05**	**180**	*e*P		**P**	**13 25 42.3**	**-0.2**
	3.0nm,0.9s							
PETK	**Petropavlovsk-**	**76.75**	**352**	LR		LR	13 56 25.5	
	comp=Z,46nm,19.0s,baz=182,slow=33							
PBKT	**Sadao Pong**	**79.34**	**293**	*e*P		**P**	**13 26 55.5**	**-0.1**
	5.2nm,1.1s							
SRDT	**SRDT**	**79.91**	**290**	P		**P**	**13 27 01.9**	**+3.2**
UTHA	**Uthaitani**	**80.17**	**292**	P		**P**	**13 27 03.8**	**+3.7**
	1.4nm,0.9s							
CM01	**Chiang Mai Arr**	**81.89**	**294**	*e*P		**P**	**13 27 09.6**	**+0.4**
CM31	**Chiang Mai Arr**	**81.92**	**294**	*e*P		**P**	**13 27 10.7**	**+1.3**
CMAR	**Chiang Mai Arr**	**81.92**	**294**	P		**P**	**13 27 11.3**	**+1.9**
	2.2nm,0.9s,baz=136,slow=4.0,SNR=17							
CMMT	**Chiang Mai**	**82.08**	**294**	P		**P**	**13 27 12.8**	**+2.5**
	5.8nm,1.2s							
CHTO	**Chiang Mai**	**82.09**	**294**	*e*P		**P**	**13 27 11.9**	**+1.6**
	6.2nm,1.0s							
CHTO	**Chiang Mai**	**82.09**	**294**	P		**P**	**13 27 12.9**	**+2.6**
	26nm,1.3s							
OMMB	**Old Mammoth Mi**	**88.90**	**48**	*e*P		**P**	**13 27 41.9**	**-2.3**
	6.7nm,1.4s							
NV01	**Mina Array Sit**	**89.78**	**48**	*e*P		**P**	**13 27 46.7**	**-1.4**
NVAR	**Mina Array Bea**	**89.78**	**48**	P		**P**	**13 27 47.1**	**-1.1**
	1.0nm,0.9s,baz=224,slow=7.2,SNR=5.1							
KVN	**Kaiserville**	**90.23**	**47**	*e*P		**P**	**13 27 48.5**	**-1.7**
	5.6nm,1.3s							
SONA0	**Songino Array**	**91.47**	**322**	*e*P		**P**	**13 27 55.0**	**-0.7**
SONM	**Songino Array**	**91.47**	**322**	P		**P**	**13 27 55.0**	**-0.7**
	1.8nm,1.1s,baz=107,slow=5.0,SNR=6.9							
SONA1	**Songino Array**	**91.47**	**322**	*e*P		**P**	**13 27 54.4**	**-1.3**
BMN	**Battle Mountai**	**91.50**	**46**	*e*P		**P**	**13 27 54.4**	**-1.6**
	8.8nm,1.4s							
ILAR	**Eielson Array**	**93.23**	**17**	P		**P**	**13 28 04.9**	**+1.6**
	0.2nm,0.5s,baz=212,slow=2.8,SNR=5.8							
CLL	**Collm**	**147.20**	**335**	*e*PKPbc		**PKPab**	**13 34 35.0**	**+1.1**
GERES	**GERESS Array B**	**148.79**	**331**	PKPbc		**PKPbc**	**13 34 36.0**	**-0.7**
	0.3nm,0.2s,baz=100,slow=2.2,SNR=5.0							

*IDC **06** 13:15:06.0±1.5, 23.°82S×176.°00W, h0km, mb4.0/9, mb1 4.3/9, mb1mx4.1/37, mbtmp4.0/9, MS3.7/9, Ms1 3.7/9, ms1mx3.4/39, Error ellipse: s-maj=79.5km s-min=20.3km az=157.0*

*NEIC **06** 13:15:11.2±0.4, 23.°85S×176.°07W, h35km, mb4.6/10, Error ellipse: s-maj=19.8km s-min=9.4km az=158.0*

ISC 06 13:15:10.4±0.7, 24.°1S±0.°1×176.°0W±0.°2, h31km, n41, σ1§33/28, mb4.3/17, MS3.8/8, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.88**	**22**	Pn		Pn	13 17 35.8	-8.4
	7.5nm,0.3s,baz=219,slow=1.6,SNR=14							
AFI					Sn	Sn	13 19 26.6	-18
	2.3nm,0.3s,baz=37,slow=20,SNR=3.2							
RAR	**Rarotonga**	**15.24**	**82**	Pn		Pn	13 18 33.8	-10
	2.2nm,0.3s,baz=250,slow=7.3,SNR=15							
RAR					Sn	Sn	13 21 05.9	-26
	0.7nm,0.3s,baz=84,slow=19,SNR=3.7							
RAR					LR	LR	13 24 44.0	
	comp=Z,110nm,19.1s,baz=280,slow=38							
URZ	**Urewera**	**15.30**	**201**	*e*Pn		**Pn**	**13 18 40.4**	**-3.7**
	36nm,1.3s							
TBI	**Tubuai**	**24.29**	**94**	*e*LR		LR	13 26 10.4	
	162nm,26.2s							
TBI	**Tubuai**	**24.29**	**94**	*e*T		T	13 44 48.6	
	5.3nm,0.4s							
PAE	**Paea**	**25.47**	**80**	*e*T		T	13 46 16.4	
	2.6nm,0.3s							
PPT2	**Papeete2**	**25.50**	**80**	*e*LR		LR	13 26 37.7	
	211nm,25.8s							
PPT2	**Papeete2**	**25.50**	**80**	*e*T		T	13 46 19.4	
	2.1nm,0.4s							
PPT	**Papeete**	**25.50**	**80**	LR		LR	13 27 56.3	
	comp=Z,74nm,21.2s,baz=275,slow=30							
CTA	**Charters Tower**	**35.14**	**269**	P		**P**	**13 22 03.1**	**+1.6**
	1.8nm,0.4s,baz=90,slow=8.8,SNR=6.3							
RKT	**Rikitea**	**37.51**	**97**	*e*T		T	14 01 18.5	
	2.0nm,0.4s							
STKA	**Stephens Creek**	**38.06**	**249**	LR		LR	13 36 38.9	
	comp=Z,116nm,20.2s,baz=35,slow=34							
AS31	**Alice Springs**	**45.61**	**260**	*e*P		**P**	**13 23 27.2**	**-0.9**
	1.3nm,1.2s							
ASAR	**Alice Springs**	**45.61**	**260**	P		**P**	**13 23 29.2**	**+1.1**
	0.8nm,0.5s,baz=100,slow=7.7,SNR=4.2							
ASAR					PcP	**PcP**	**13 25 07.1**	**+0.9**
	0.3nm,0.6s,baz=106,slow=4.7,SNR=2.3							
ASAR					LR	LR	13 41 31.0	
	comp=Z,96nm,19.5s,baz=104,slow=35							
WB2	**Warramunga Arr**	**46.03**	**265**	*e*P		**P**	**13 23 31.0**	**-0.5**
WR1	**Warramunga Arr**	**46.05**	**265**	*e*P		**P**	**13 23 30.9**	**-0.7**
	18nm,1.6s							
WRA	**Warramunga Arr**	**46.05**	**265**	P		**P**	**13 23 30.9**	**-0.7**
	1.4nm,0.6s,baz=94,slow=8.3,SNR=17							
FITZ	**Fitzroy Crossi**	**54.46**	**264**	P		**P**	**13 24 33.9**	**-1.5**
	1.2nm,0.8s,baz=121,slow=5.9,SNR=2.0							
FITZ					LR	LR	13 46 48.7	
	comp=Z,74nm,18.8s,baz=113,slow=35							
FITZ	**Fitzroy Crossi**	**54.46**	**264**	*e*P		**P**	**13 24 33.1**	**-2.2**
	12nm,1.5s							
QSPA	**South Pole Qui**	**66.00**	**180**	*e*P		**P**	**13 25 56.1**	**+2.3**
	5.5nm,0.9s							
LEM	**Lembang**	**74.84**	**269**	LR		LR	13 59 17.7	
	comp=Z,91nm,19.6s,baz=187,slow=35							
PETK	**Petropavlovsk-**	**80.21**	**344**	P		**P**	**13 27 16.1**	**-1.4**
	2.2nm,1.0s,baz=134,slow=4.2							
PEA1	**Petropavlovsk-**	**80.21**	**344**	*e*P		**P**	**13 27 16.1**	**-1.4**
NV01	**Mina Array Sit**	**82.39**	**42**	*e*P		**P**	**13 27 28.8**	**-0.9**
NVAR	**Mina Array Bea**	**82.39**	**42**	P		**P**	**13 27 29.1**	**-0.6**
	1.3nm,1.0s,baz=226,slow=8.6,SNR=7.6							
SNAA	**Sanae**	**84.38**	**178**	*e*P		**P**	**13 27 40.5**	**+1.1**
	6.0nm,1.0s							
X16A	**Lo Mia Camp, P**	**84.47**	**49**	*e*P		**P**	**13 27 40.5**	**0.0**
	5.2nm,1.3s							
LCMT	**Little Creek M**	**84.74**	**46**	*e*P		**P**	**13 27 41.8**	**+0.1**
	4.0nm,1.2s							
U15A	**North Rim**	**85.03**	**47**	*e*P		**P**	**13 27 43.3**	**-0.1**
	7.1nm,1.1s							
MNTX	**Cornudas Mount**	**87.34**	**54**	*e*P		**P**	**13 27 53.5**	**-1.0**
	3.3nm,1.1s							
LTX	**Lajitas**	**87.45**	**56**	*e*P		**P**	**13 27 54.8**	**-0.4**
TXAR	**Lajitas Array**	**87.45**	**56**	P		**P**	**13 27 54.8**	**-0.4**
	1.3nm,1.0s,baz=211,slow=7.0,SNR=9.3							
SEY	**Seynchan**	**90.28**	**346**	LR		LR	14 04 19.8	
	comp=Z,159nm,20.2s,baz=150,slow=33							
PDAR	**Pinedale Array**	**90.32**	**42**	P		**P**	**13 28 08.9**	**+0.3**
	0.3nm,0.8s,baz=272,slow=3.7,SNR=3.5							
CMAR	**Chiang Mai Arr**	**93.04**	**289**	P		**P**	**13 28 23.1**	**+1.6**
	0.7nm,0.7s,baz=131,slow=3.3,SNR=4.1							
NNA	**Nana**	**93.35**	**105**	LR		LR	14 01 18.8	
	comp=Z,34nm,19.9s,baz=252,slow=30							
ATAH	**Atahualpa**	**94.00**	**100**	LR		LR	14 01 50.8	
	comp=Z,137nm,19.8s,baz=312,slow=30							
AKASG	**Malin Array Be**	**147.04**	**330**	PKPbc		**PKPbc**	**13 34 49.6**	**-0.2**
	0.6nm,0.4s,baz=42,slow=3.5,SNR=4.3							
AKBB	**Malin Array Si**	**147.04**	**330**	*e*PKPbc		**PKPbc**	**13 34 49.6**	**-0.2**
BR101	**Keskin Array S**	**150.58**	**309**	*e*PKPbc		**PKPbc**	**13 34 58.9**	**-0.6**
BRTR	**Keskin Array B**	**150.58**	**309**	PKPbc		**PKPbc**	**13 34 58.9**	**-0.6**
	0.8nm,0.8s,baz=114,slow=3.6,SNR=2.5							

MEX 06 13:27:48.2±0.5, 16.°04N×98.°30W, h4km±2km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.39**	**25**	*e*P		Pg	13 27 55.3	-0.5
PNIG					*e*S	Sg	13 28 01.3	+0.4
TLIG	**Tlapa**	**1.54**	**350**	*e*P		Pn	13 28 12.9	-3.6
TLIG					*e*S	Sn	13 28 32.4	-4.7
VHO	**Vista Hermosa**	**1.82**	**55**	*i*P		Pn	13 28 16.9	-3.6
VHO					*i*S	Sn	13 28 39.1	-5.0
HUIG	**Huatulco**	**2.13**	**97**	*i*P		Pn	13 28 20.5	-4.0
HUIG					*i*S	Sn	13 28 47.1	-4.2
CAIG	**El Cayaco**	**2.14**	**298**	*i*P		Pn	13 28 20.9	-3.8

*ISCJB **06** 13:30:47.7±0.4, 5.°82N±0.°04×126.°02E±0.°06, h167km±4km, mb3.7/7, Error ellipse: s-maj=9.3km s-min=5.6km az=168.8*

*MAN **06** 13:30:48.6, 5.°74N×125.°62E, h183km, mb5.2, ML4.1, MS4.2*

*IDC **06** 13:30:49.1±0.6, 5.°82N×125.°92E, h168km±7km, mb3.4/7, mb1 3.6/9, mb1mx3.3/51, mbtmp4.0/9, Error ellipse: s-maj=37.7km s-min=10.3km az=64.0*

*DJA **06** 13:30:54.1±0.9, 5.°N±8.°×12.°6E±.°, h167km±5km, M4.4/12, mB5.1/3, mb4.3/12, MLv4.4/7, Mw(mB)4.4/3*

ISC 06 13:30:48.8±0.7, 5.°78N±0.°05×126.°0E±0.°07, h161km±6km, n33, σ1§46/44, mb3.7/7, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.43**	**318**	*e*P		**Pn**	**13 31 10.9**	**-0.3**
DDMP					*e*S	**Sn**	**13 31 28.4**	**+0.1**
GSPH	**General Santos**	**1.09**	**286**	⇑*i*P		**Pn**	**13 31 15.6**	**0.0**
GSPH					*i*S	**Sn**	**13 31 35.4**	**-0.6**
DAV	**Davao City (W)**	**1.35**	**342**	P		**Pn**	**13 31 17.3**	**-0.4**
	74nm,0.3s,baz=126,slow=3.5,SNR=5.4							
DAV					S	**Sn**	**13 31 40.6**	**+0.5**
	257nm,0.3s,baz=110,slow=23,SNR=18							
SKMP	**Bagumbayan, Su**	**1.62**	**297**	*e*P		**Pn**	**13 31 19.8**	**-0.8**
SKMP					*e*S	**Sn**	**13 31 43.7**	**-1.2**
SGSI	**Sangihe**	**2.13**	**193**	P		**Pn**	**13 31 27.0**	**+0.8**
SGSI					S	**Sn**	**13 31 55.2**	**0.0**
CTBH	**Cotabato--PC H**	**2.26**	**309**	⇓*i*P		**Pn**	**13 31 27.1**	**-0.5**
CTBH					*i*S	Sn	13 31 32.2	-25
BUKP	**Musuan**	**2.28**	**336**	*e*P		**Pn**	**13 31 28.2**	**+0.2**
BUKP					*e*S	**Sn**	**13 31 59.3**	**+1.0**
BIPH	**Bislig**	**2.41**	**8**	⇑*i*P		**Pn**	**13 31 29.6**	**+0.1**
BIPH					*i*S	**Sn**	**13 31 59.8**	**-1.2**
BUTP	**Butuan**	**3.19**	**353**	*e*P		**Pn**	**13 31 39.3**	**+0.3**
BUTP					*e*S	**Sn**	**13 32 21.4**	**+3.3**
PAGZ	**Pagadian**	**3.31**	**308**	*e*P		**Pn**	**13 31 38.8**	**-1.9**
TNTI	**Ternate**	**5.16**	**165**	P		**Pn**	**13 32 04.7**	**+0.1**
MRSI	**Marisa**	**6.65**	**218**	P		**Pn**	**13 32 26.2**	**+1.9**
SANI	**Sanana**	**7.78**	**180**	P		**Pn**	**13 32 36.8**	**-2.5**
SIJI	**Sorong**	**8.44**	**141**	P		**Pn**	**13 32 48.3**	**+0.1**
	3.2nm,0.3s,baz=329,slow=14,SNR=18							
SIJI					S	**Sn**	**13 34 21.1**	**-1.3**
	1.3nm,0.3s,baz=193,slow=20,SNR=6.0							
NLAI	**Namlea**	**9.03**	**173**	P		**Pn**	**13 32 55.1**	**-0.8**
TTSI	**Tana Toraja**	**10.72**	**215**	P		**Pn**	**13 33 20.5**	**+2.2**
BNSI	**Bone**	**11.70**	**210**	P		**Pn**	**13 33 33.5**	**+2.5**
	16nm,0.8s							
BATI	**Baumata**	**16.05**	**188**	P		**Pn**	**13 34 25.8**	**0.0**
	3.4nm,0.3s,baz=358,slow=5.9,SNR=3.6							
PLAI	**Plampang**	**16.67**	**210**	P		**Pn**	**13 34 34.3**	**+1.1**
	38nm,1.0s							
JAY	**Jayapura**	**16.84**	**119**	P		**Pn**	**13 34 35.9**	**+0.6**
	1.2nm,0.3s,baz=242,slow=6.1,SNR=6.1							
JAY	**Jayapura**	**16.84**	**119**	P		**Pn**	**13 34 35.8**	**+0.4**
	110nm,0.9s							
TWSI	**Taliwang, Sumb**	**17.05**	**212**	P		**Pn**	**13 34 38.1**	**+0.3**
	24nm,0.7s							
KMMI	**Kalianget**	**17.51**	**223**	P		**Pn**	**13 34 44.8**	**+1.5**
	28nm,0.8s,2μm							
FITZ	**Fitzroy Crossi**	**23.73**	**181**	P		**P**	**13 35 46.1**	**-0.3**
	1.6nm,0.5s,baz=13,slow=7.4,SNR=13							
RGRI	**Rengat**	**24.40**	**256**	P		P	13 36 06.0	+13
PDSI	**Padang**	**26.36**	**256**	P		**P**	**13 36 15.3**	**+5.1**
WRA	**Warramunga Arr**	**26.85**	**162**	P		**P**	**13 36 15.0**	**+0.5**
	0.7nm,0.4s,baz=343,slow=11,SNR=13							
WRA					ScP	**ScP**	**13 42 58.7**	**+0.5**
	0.2nm,0.7s,baz=338,slow=2.7,SNR=3.0							
CMAR	**Chiang Mai Arr**	**29.25**	**298**	P		**P**	**13 36 35.0**	**-0.9**
	0.7nm,0.7s,baz=116,slow=6.6,SNR=7.8							
CMAR					ScP	**ScP**	**13 43 05.3**	**-0.5**
	0.4nm,0.5s,baz=146,slow=2.0,SNR=4.9							
ASAR	**Alice Springs**	**30.27**	**166**	P		**P**	**13 36 45.2**	**+0.4**
	0.6nm,0.5s,baz=343,slow=6.9,SNR=30							
ASAR					ScP	**ScP**	**13 43 08.2**	**-0.7**
	0.6nm,1.0s,baz=345,slow=3.8,SNR=4.4							
STKA	**Stephens Creek**	**40.29**	**159**	P		**P**	**13 38 10.2**	**-0.1**
	0.8nm,0.5s,baz=328,slow=12,SNR=4.1							
MKAR	**Makanchi Array**	**55.47**	**325**	P		**P**	**13 40 05.8**	**-1.1**
	1.4nm,0.5s,baz=120,slow=7.5,SNR=15							
ZALV	**Zalesovo Beam**	**58.44**	**333**	P		**P**	**13 40 24.9**	**-2.6**
	1.6nm,0.3s,baz=115,slow=5.5,SNR=4.0							
TORD	**Torodi Ar. Bea**	**121.58**	**289**	PKP		**PKPdf**	**13 49 23.1**	**-1.3**
	0.5nm,0.7s,baz=21,slow=2.4,SNR=4.1							

*ISK **06** 13:33:02.5, 37.°71N×26.°83E, h12km, ML2.5/10*

*ISCJB **06** 13:33:04.3±0.4, 37.°78N±0.°03×26.°98E±0.°03, h11km±4km, Error ellipse: s-maj=4.7km s-min=4.0km az=139.1*

*DDA **06** 13:33:04.8, 37.°76N×26.°93E, h7km, Ml2.7*

*ATH **06** 13:33:06.1, 37.°75N×26.°85E, h9km±3km, ML2.3/2, Error ellipse: s-maj=5.0km s-min=1.4km az=96.0*

ISC 06 13:33:03.3±1.0, 37.80N±0.°02×26.95E±0.°02, h17km±2km, n21, σ1§28/32, Dodecanese Islands

| Code | Station Name |

CYA				*i* S		Sn	13 38 34.8	-7.0
ACLC	**CERRO LA CRUZ**	**1.34**	**219**	*e*P		Pn	13 38 46.5	+1.9
AHML	**Horco Molle**	**1.69**	**20**	*i* P		Pn	13 38 51.5	+2.1
AHML				*e*S		Sn	13 39 12.4	+2.7
AHML				IAML			13 39 14.8	
	comp=Z,280nm,0.7s							
APLL	**PUNTA DE LOS L**	**2.06**	**193**	*e*P		Pn	13 39 01.0	+6.5
APLL				*e*S		Sn	13 39 29.1	+10
APLL				IAML			13 39 33.7	
	comp=Z,326nm,0.2s							
FSA	**Cafayete**	**2.26**	**0**	*e*P		Pn	13 39 00.1	+2.9
FSA				*e*S		Sn	13 39 27.4	+3.4
AGUA	**GUANDACOL**	**2.46**	**243**	*e*P		Pn	13 39 04.8	+4.9
AGUA				*e*S		Sn	13 39 34.1	+5.4
TCA	**Tanti**	**3.19**	**158**	*e*P		Pn	13 39 14.2	+4.2
TCA				*e*S		Sn	13 40 04.2	+17
ACDV	**Cuesta del Vie**	**3.27**	**236**	*e*P		Pn	13 39 13.0	+1.9
ACDV				*i* S		Sn	13 40 01.9	+13
AMOG	**MOGNA**	**3.35**	**220**	*e*P		Pn	13 39 19.9	+7.7
AMOG				*e*S		Sn	13 40 03.6	+13
ACCO	**Cerro Coronel**	**3.47**	**230**	*e*P		Pn	13 39 18.9	+4.9
ACCO				*e*S		Sn	13 40 05.4	+11
AROD	**Rodeo**	**3.53**	**239**	*e*P		Pn	13 39 18.1	+3.3
AROD				*e*S		Sn	13 40 07.9	+12
RTLL	**Cerro Villicun**	**3.65**	**216**	*e*P		Pn	13 39 25.9	+10
RTLL				*e*S		Sn	13 40 12.7	+15
SLA	**San Lorenzo**	**3.67**	**7**	*i* P		Pn	13 39 24.3	+7.6
SLA				IAML			13 40 21.9	
	comp=Z,67nm,0.5s							
ACAN	**Cantantal**	**4.02**	**195**	*i* P		Pn	13 39 27.8	+6.5
ACAN				*i* S		Sn	13 40 30.5	+23
RTCV	**Cerro Valdivia**	**4.12**	**212**	*e*P		Pn	13 39 26.6	+3.9
RTCV				*i* S		Sn	13 40 27.9	+18
RTLS	**Leoncito**	**4.45**	**219**	*e*P		Pn	13 39 31.0	+3.4
RTLS				*e*S		Sn	13 40 36.4	+18
RTLS				IAML			13 40 40.9	
	comp=Z,30nm,0.5s							
AUSP	**Uspallata**	**4.83**	**217**	*e*P		Pn	13 39 36.4	+3.7
ASAL	**Salagasta**	**4.86**	**210**	*e*P		Pn	13 39 36.5	+3.5
HJA	**Humahuaca**	**5.17**	**6**	*e*P		Pn	13 39 39.1	+1.5

IDC ***06*** *13:43:24.8±1.2,3˚.02S×136˚.14E, h0km, mb3.7/3, mb1 3.9/7, mb1mx3.6/39, mbtmp3.7/7, ML3.6/4, Error ellipse: s-maj=24.7km s-min=23.4km az=20.0*

ISCJB ***06*** *13:43:27.2±0.7,3˚.20S±0˚.06×136˚.10E±0˚.05, h33km, mb3.7/2, Error ellipse: s-maj=9.3km s-min=7.4km az=7.6*

ISC 06 13:43:29.1±0.8,3˚27S±0˚.08×136˚10E±0˚.07, h33km, n7, σ2§41/11, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**4.66**	**81**	Pn	**Pn**	**13 44 37.6**	**+0.3**
	1.8nm,0.3s,baz=234,slow=14,SNR=11						
JAY				Sn	**Sn**	**13 45 29.8**	**-0.5**
	1.4nm,0.3s,baz=81,slow=13,SNR=2.5						
SIJI	**Sorong**	**5.39**	**296**	Pn	**Pn**	**13 44 47.7**	**+0.6**
	3.5nm,0.3s,baz=105,slow=19,SNR=11						
SIJI				Sn	**Sn**	**13 45 46.6**	**-1.5**
	4.5nm,0.3s,baz=291,slow=23,SNR=21						
WRA	**Warramunga Arr**	**16.66**	**186**	Pn	**Pn**	**13 47 21.3**	**+1.1**
	0.2nm,0.3s,baz=10.0,slow=13,SNR=12						
WRA				Sn	**Sn**	**13 50 21.3**	**-3.0**
	0.3nm,0.3s,baz=7.8,slow=23,SNR=6.6						
FITZ	**Fitzroy Crossi**	**17.95**	**214**	P	**P**	**13 47 38.5**	**+2.0**
	0.2nm,0.3s,baz=45,slow=11,SNR=7.0						
FITZ				S	Sn	13 50 47.8	-7.7
	0.1nm,0.3s,baz=355,slow=15,SNR=2.6						
ASAR	**Alice Springs**	**20.38**	**186**	P	**P**	**13 48 06.7**	**+3.4**
	1.3nm,0.4s,baz=10,slow=11,SNR=50						
ASAR				S	**S**	**13 51 46.1**	**-3.9**
	0.4nm,0.8s,baz=4.6,slow=28,SNR=2.9						
MKAR	**Makanchi Array**	**68.66**	**323**	P	**P**	**13 54 29.1**	**-0.1**
	0.4nm,0.5s,baz=115,slow=6.8,SNR=4.8						
ILAR	**Eielson Array**	**87.43**	**25**	P	**P**	**13 56 11.5**	**-1.4**
	0.4nm,0.7s,baz=272,slow=4.4,SNR=4.5						

NIED ***06*** *13:54:00,32˚.80N×141˚.90E, h5km, Mw4.2 Best double couple: M0 1.97000×10^15 NP1:ϕs2.00000°, δ36.00000°, λ100.00000°. NP2:ϕs169.00000°, δ55.00000°, λ83.00000°.*

IDC ***06*** *13:54:29.6±0.6,32˚.72N×141˚.83E, h0km, mb4.1/18, mb1 4.2/24, mb1mx4.1/51, mbtmp4.1/24, ML3.9/5, MS3.3/4, Ms1 3.4/4, ms1mx2.9/42, Error ellipse: s-maj=15.0km s-min=13.1km az=64.0*

NEIC ***06*** *13:54:30.0±2.5,32˚.69N×141˚.82E, h3km±15km, mb4.6/21, Error ellipse: s-maj=6.7km s-min=5.4km az=91.0*

BJI ***06*** *13:54:31.9,32˚.59N×141˚.91E, h36km, mb4.5/39, mB4.9/22, Ms4.2/21, MS7 4.0/19*

ISCJB ***06*** *13:54:34.0±0.3,32˚.75N±0˚.03×141˚.73E±0˚.04, h39km, mb4.4/48, MS3.8/7, Error ellipse: s-maj=5.5km s-min=3.7km az=42.0*

JMA ***06*** *13:54:33.5±0.3,32˚.84N×141˚.85E, h58km, M4.0*

ISC 06 13:54:34.9±0.5,32˚73N±0˚.05×141˚85E±0˚.06, h39km, n106, σ1§43/119, mb4.4/48, MS3.9/8, 1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.75**	**283**	*e*Pn	**Pn**	**13 55 01.9**	**-0.9**
JHJ2	**Mitsune**	**1.75**	**283**	P	**Pn**	**13 55 02.3**	**-0.5**
JHCJ	**Hachijojimakas**	**1.76**	**282**	P	**Pn**	**13 55 01.8**	**-1.1**
JHCJ				*e*S	**Sn**	**13 55 23.1**	**-1.0**
JAOM	**Aogashimamukai**	**1.78**	**262**	P	**Pn**	**13 55 02.8**	**-0.4**
JHJ	**Hachijo jima 2**	**1.78**	**283**	Pn	**Pn**	**13 55 02.3**	**-1.0**
	72nm,0.3s,baz=256,slow=22,SNR=28						
JHJ				Sn	**Sn**	**13 55 24.7**	**+0.1**
	125nm,0.3s,baz=64,slow=22,SNR=13						
BSO1	**Boso 1**	**2.06**	**339**	P	**Pn**	**13 55 05.2**	**-1.3**
JMKN	**Mikurajimanish**	**2.22**	**302**	P	**Pn**	**13 55 08.4**	**-0.9**
BSO3	**Boso 3**	**2.35**	**332**	P	**Pn**	**13 55 09.5**	**-1.3**
JIM2	**Oshima 3**	**2.83**	**315**	P	**Pn**	**13 55 16.3**	**-1.4**
JIM2				*e*S	**Sn**	**13 55 48.6**	**-1.9**
JOD2	**Odawara 2**	**3.42**	**319**	P	**Pn**	**13 55 24.3**	**-1.4**
JOD2				*e*S	**Sn**	**13 56 02.8**	**-2.2**
JYN	**Shimob**	**3.89**	**316**	P	**Pn**	**13 55 32.1**	**-0.2**
JRY	**Ryogami san**	**4.09**	**324**	P	**Pn**	**13 55 34.1**	**-0.9**
JRY				*e*S	**Sn**	**13 56 19.9**	**-1.7**
JAG	**Ashikaga**	**4.19**	**332**	P	**Pn**	**13 55 35.6**	**-0.7**
JAG				*e*S	**Sn**	**13 56 23.1**	**-0.8**
INU	**Inuyama**	**4.79**	**304**	*e*Pn	**Pn**	**13 55 44.1**	**-0.5**
MJAR	**Matsushiro Arr**	**4.85**	**323**	Pn	**Pn**	**13 55 44.2**	**-1.1**
	6.0nm,0.3s,baz=153,slow=11,SNR=94						
MJAR				Sn	**Sn**	**13 56 40.0**	**-0.2**
	1.5nm,0.3s,baz=158,slow=9.0,SNR=4.3						
MAJO	**Matsushiro**	**4.85**	**323**	*e*Pn	**Pn**	**13 55 45.3**	**-0.1**
MAT	**Matsushiro**	**4.85**	**323**	P	**Pn**	**13 55 45.4**	**0.0**
MAT				S	**Sn**	**13 56 39.5**	**-0.8**
MAT	**Matsushiro**	**4.85**	**323**	P	**Pn**	**13 55 45.1**	**-0.3**
MAT				*e*S	**Sn**	**13 56 39.5**	**-0.8**
MJB9	**Matsu-Tunnel**	**4.85**	**323**	*e*Pn	**Pn**	**13 55 45.2**	**-0.2**
JFT	**Otama**	**4.94**	**346**	P	**Pn**	**13 55 45.0**	**-1.6**
JFT				*e*S	**Sn**	**13 56 38.9**	**-3.6**
CBIJ	**Chichi jima**	**5.62**	**177**	Pn	**Pn**	**13 55 54.2**	**-1.8**
CBIJ				Sn	**Sn**	**13 56 54.9**	**-4.4**
JCJ	**Chichijima**	**5.62**	**177**	Pn	**Pn**	**13 55 54.2**	**-1.8**
	31nm,0.3s,baz=287,slow=23,SNR=14						
JCJ				Sn	**Sn**	**13 56 54.9**	**-4.4**
	27nm,0.3s,baz=294,slow=20,SNR=3.9						
JNU	**Nakatsue**	**9.23**	**275**	LR	LR	14 00 19.6	
	comp=Z,121nm,19.1s,baz=113,slow=38						
ASAJ	**Asahikawa**	**11.39**	**3**	Pn	**Pn**	**13 57 11.7**	**-3.2**
	1.0nm,0.3s,baz=240,slow=13,SNR=8.2						
ASAJ				Sn	Sn	13 59 09.6	-11
	0.4nm,0.3s,baz=358,slow=31,SNR=2.9						
KSRS	**Korea Array**	**12.34**	**296**	Pn	**Pn**	**13 57 28.3**	**+0.3**
	0.1nm,0.3s,baz=112,slow=13,SNR=3.2						
KSRS				LR	LR	14 02 36.7	
	comp=Z,215nm,18.3s,baz=105,slow=39						
KSAR	**Wonju Array Be**	**12.37**	**296**	Pn	**Pn**	**13 57 28.3**	**-0.1**
USRK	**Ussuriysk Ar.**	**13.80**	**329**	Pn	**Pn**	**13 57 45.0**	**-2.9**
	baz=132,slow=10						
USRK	**Ussuriysk Ar.**	**13.80**	**329**	Pn	**Pn**	**13 57 45.0**	**-2.9**
KLR	**Kul'dur**	**18.14**	**338**	P	**P**	**13 58 41.3**	**-2.4**
	0.6nm,0.3s,baz=142,slow=12,SNR=7.5						
NJ2	**Nanjing**	**19.43**	**274**	*e*P	**P**	**13 58 56.9**	**-1.1**
NJ2				pmax	pmax		
	comp=Z,14nm,0.6s						
BJI	**Beijing**	**21.88**	**297**	*e*P	**P**	**13 59 26.0**	**+1.7**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BJI				LR	LR		
	comp=N,110nm,12.3s						
BJI				LR	LR		
	comp=E,170nm,18.0s						
HHC	**Hu-ho-hao-te**	**25.48**	**297**	*e*P	**P**	**14 00 00.7**	**+1.2**
HHC				pP	pP	14 00 11.2	+0.9
HHC				PP	**PnPn**	**14 00 39.5**	**+3.5**
HHC				S	**S**	**14 04 25.2**	**+1.0**
HHC				pmax	pmax		
	comp=Z,15nm,0.9s						
HHC				pmax	pmax		
	comp=Z,89nm,5.2s						
HHC				LR	LR		
	comp=N,170nm,12.2s						
HHC				LR	LR		
	comp=E,230nm,12.2s						
HHC				LR	LR		
	comp=Z,170nm,13.8s						
H11N2	**WAKE ISLAND Hy**	**25.85**	**114**	T	T	14 26 57.7	
	baz=306,slow=74,SNR=3.8						
H11N1	**WAKE ISLAND Hy**	**25.86**	**114**	T	T	14 27 00.9	
	baz=306,slow=74,SNR=3.1						
H11N3	**WAKE ISLAND Hy**	**25.87**	**114**	T	T	14 26 54.5	
	baz=306,slow=74,SNR=4.3						
XAN	**Xi'an**	**27.47**	**282**	P	**P**	**14 00 15.9**	**-1.6**
XAN				pP	sP	14 00 30.8	-2.2
XAN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,70nm,4.7s						
XAN				LR	LR		
	comp=N,220nm,14.7s						
XAN				LR	LR		
	comp=Z,160nm,13.2s						
MA2	**Magadan**	**27.50**	**10**	LR	LR	14 13 15.8	
	comp=Z,34nm,18.0s,baz=108,slow=41						
ULN	**Ulaanbaatar**	**30.25**	**310**	*e*P	**P**	**14 00 42.8**	**+0.7**
	7.6nm,0.9s						
SONA1	**Songino Array**	**30.66**	**310**	*e*P	**P**	**14 00 46.4**	**+0.6**
SONM	**Songino Array**	**30.66**	**310**	P	**P**	**14 00 46.3**	**+0.6**
	3.8nm,0.7s,baz=114,slow=8.3,SNR=17						
SEY	**Seymchan**	**30.95**	**9**	P	**P**	**14 00 48.4**	**+0.4**
	1.4nm,0.6s,baz=268,slow=5.0,SNR=2.7						
LZH	**Lanzhou**	**31.41**	**287**	*e*P	**P**	**14 00 55.3**	**+2.8**
LZH				pP	sP	14 01 05.2	-2.9
LZH				sP	pP	14 01 09.4	+6.0
LZH				pmax	pmax		
	comp=Z,30nm,1.3s						
LZH				LR	LR		
	comp=N,440nm,10.3s						
LZH				LR	LR		
	comp=E,530nm,10.2s						
LZH				LR	LR		
	comp=Z,580nm,13.6s						
CD2	**Chengdu**	**32.31**	**277**	*e*P	**P**	**14 00 59.0**	**-1.3**
CD2				S	**S**	**14 06 10.2**	**-1.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
CD2				LR	LR		
	comp=N,360nm,10.4s						
CD2				LR	LR		
	comp=E,360nm,16.9s						
CD2				LR	LR		
	comp=Z,470nm,14.9s						
GTA	**Gaotai**	**34.39**	**293**	⇓P	**P**	**14 01 18.1**	**-0.4**
GTA				pP	pP	14 01 27.4	-2.0
GTA				sP	sP	14 01 31.5	-2.6
GTA				S	**S**	**14 06 42.2**	**-1.6**
GTA				sS	sS	14 06 58.4	-3.5
GTA				SS	**SnSn**	**14 08 53.5**	**-2.4**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,44nm,5.9s						
GTA				LR	LR		
	comp=N,150nm,15.6s						
GTA				LR	LR		
	comp=E,180nm,15.2s						
GTA				LR	LR		
	comp=Z,150nm,15.6s						
TIXI	**Tiksi**	**39.60**	**354**	*e*P	**P**	**14 02 04.0**	**+1.9**
	5.5nm,1.1s						
PBKT	**Sadao Pong**	**40.21**	**256**	*e*P	**P**	**14 02 06.7**	**-1.2**
	15nm,1.6s						
CMAR	**Chiang Mai Arr**	**40.95**	**260**	P	**P**	**14 02 12.3**	**-1.7**
	0.5nm,0.4s,baz=40,slow=8.1,SNR=7.8						
CMAR				PcP	**PcP**	**14 04 15.7**	**+1.8**
	0.8nm,0.9s,baz=48,slow=1.3,SNR=4.3						
CMAR				LR	LR	14 21 43.1	
	comp=Z,57nm,18.1s,baz=70,slow=40						
WMQ	**Urumqi**	**43.24**	**301**	*e*P	**P**	**14 02 34.4**	**+1.9**
WMQ				pP	pP	14 02 44.6	+1.0
WMQ				pmax	pmax		
	comp=Z,19nm,1.5s						
ZALV	**Zalesovo Beam**	**45.16**	**316**	P	**P**	**14 02 47.4**	**-0.2**
	2.3nm,0.8s,baz=99,slow=6.1,SNR=8.7						
ZALV	**Zalesovo Beam**	**45.16**	**316**	*e*P	**P**	**14 02 47.2**	**-0.4**
MTN	**Manton Dam**	**46.46**	**194**	*e*P	**P**	**14 02 57.4**	**-0.7**
	14nm,0.9s						
MK01	**Makanchi Array**	**46.81**	**306**	*e*P	**P**	**14 03 00.6**	**-0.1**
MKAR	**Makanchi Array**	**46.82**	**306**	P	**P**	**14 03 01.3**	**+0.5**
	5.9nm,0.6s,baz=86,slow=10,SNR=38						
RAMN	**Ramite**	**47.83**	**278**	*e*P	**P**	**14 03 09.1**	**-0.1**
	14nm,0.6s						
JIRN	**Jiri**	**47.92**	**279**	*e*P	**P**	**14 03 10.9**	**+0.9**
	29nm,0.7s						
GUN	**Gumba**	**48.09**	**280**	*e*P	**P**	**14 03 11.9**	**+0.6**
	15nm,0.7s						
PKI	**Pulchoki**	**48.60**	**280**	*e*P	**P**	**14 03 15.1**	**-0.1**
	9.2nm,0.7s						
PKIN	**Phulchoki**	**48.61**	**280**	*e*P	**P**	**14 03 15.1**	**-0.1**
	5.5nm,0.7s						
KKN	**Kakani**	**48.63**	**280**	*e*P	**P**	**14 03 15.9**	**+0.6**
	13nm,0.8s						
DMN	**Daman**	**48.84**	**280**	*e*P	**P**	**14 03 17.3**	**+0.3**
KURK	**Kurchatov**	**48.95**	**311**	*e*P	**P**	**14 03 17.2**	**0.0**
	9.0nm,0.8s						
KURBB	**Kurchatov Arra**	**49.02**	**311**	P	**P**	**14 03 17.9**	**+0.2**
	5.9nm,0.9s,baz=87,slow=7.8,SNR=17						
DANN	**Dangsing**	**49.70**	**281**	*e*P	**P**	**14 03 24.2**	**+0.6**
	15nm,0.7s						
KOLN	**Koldanda**	**50.03**	**281**	*e*P	**P**	**14 03 25.4**	**-0.6**
	22nm,1.3s						
PYUN	**Piuthan**	**50.42**	**281**	*e*P	**P**	**14 03 29.5**	**+0.5**
	31nm,1.0s						
KDJ	**Kajisay**	**51.11**	**300**	*e*P	**P**	**14 03 35.1**	**+1.2**
	4.1nm,0.9s						
NRN	**Naryn**	**52.12**	**300**	*e*P	**P**	**14 03 41.9**	**+0.2**
	2.5nm,0.8s						
KSH	**Kashi**	**52.59**	**297**	P	**P**	14 03 49.3	+4.3
KSH				S	**S**	**14 11 13.8**	**+4.3**
KSH				pmax	pmax		
	comp=Z,14nm,1.1s						
WRAB	**Tennant Creek**	**52.85**	**189**	*e*P	**P**	**14 03 47.0**	**+0.2**
	7.7nm,1.0s						
WB2	**Warramunga Arr**	**52.86**	**189**	*e*P	**P**	**14 03 46.6**	**-0.2**
WRA	**Warramunga Arr**	**52.86**	**189**	P	**P**	**14 03 46.5**	**-0.3**
	2.1nm,0.4s,baz=5.4,slow=7.6,SNR=24						
FITZ	**Fitzroy Crossi**	**52.87**	**199**	P	**P**	**14 03 46.9**	**0.0**
	2.1nm,0.8s,baz=28,slow=10,SNR=2.7						
AAK	**Ala-Archa**	**52.95**	**301**	*e*P	**P**	**14 03 47.5**	**-0.1**
	3.0nm,0.8s						
ILAR	**Eielson Array**	**52.97**	**31**	P	**P**	**14 03 47.7**	**+0.5**
	0.6nm,0.7s,baz=260,slow=6.9,SNR=7.8						
BVAR	**Borovoye Array**	**53.80**	**315**	P	**P**	**14 03 53.8**	**+0.3**
	2.3nm,0.8s,baz=89,slow=5.9,SNR=8.5						
KK31	**Karatay Array**	**55.68**	**303**	*e*P	**P**	**14 04 07.6**	**+0.3**
KKAR	**Karatay Array**	**55.68**	**303**	*e*P	**P**	**14 04 07.5**	**+0.3**
AS01	**Alice Springs**	**56.58**	**189**	*e*P	**P**	**14 04 14.4**	**+0.6**
ASAR	**Alice Springs**	**56.59**	**189**	P	**P**	**14 04 14.1**	**+0.3**
	1.1nm,0.7s,baz=17,slow=11,SNR=14						
INK	**Inuvik**	**58.07**	**26**	P	**P**	**14 04 24.1**	**+0.4**
	0.7nm,0.6s,baz=276,slow=8.4,SNR=5.0						
ABKAR	**Akbulak array**	**61.04**	**312**	*e*P	**P**	**14 04 44.2**	**-0.4**
KBZ	**Khabaz**	**74.01**	**312**	P	**P**	**14 06 08.3**	**+1.8**
	2.8nm,0.8s,baz=32,slow=1.9,SNR=5.3						
NV01	**Mina Array Sit**	**77.30**	**52**	*e*P	**P**	**14 06 26.5**	**+0.7**
NVAR	**Mina Array Bea**	**77.30**	**52**	P	**P**	**14 06 26.8**	**+1.1**
	0.7nm,0.6s,baz=287,slow=5.2,SNR=8.0						
AKASG	**Malin Array Be**	**77.93**	**323**	P	**P**	**14 06 28.2**	**-0.5**
	0.4nm,0.4s,baz=50,slow=6.0,SNR=3.9						
NOA	**NORSAR Array B**	**78.30**	**338**	P	**P**	**14 06 30.9**	**+0.2**
	1.5nm,0.8s,baz=71,slow=9.0,SNR=3.1						
IMW	**Indian Meadow**	**78.96**	**45**	*e*P	**P**	**14 06 37.0**	**+2.0**
	12nm,1.7s						
HVU	**Hansel Valley**	**79.05**	**47**	*e*P	**P**	**14 06 37.1**	**+1.8**
	2.8nm,0.8s						
DUG	**Dugway, Tooele**	**79.91**	**49**	*e*P	**P**	**14 06 41.5**	**+1.5**
	2.5nm,0.8s						
PDAR	**Pinedale Array**	**80.44**	**45**	P	**P**	**14 06 43.5**	**+0.6**
	0.7nm,0.7s,baz=271,slow=2.8,SNR=8.6						
LCMT	**Little Creek M**	**81.43**	**51**	*e*P	**P**	**14 06 50.3**	**+2.1**
	2.2nm,0.9s						
P17A	**Butcher Ranch,**	**81.63**	**48**	*e*P	**P**	**14 06 50.5**	**+1.3**
	16nm,0.7s						
KNB	**Kanab**	**81.71**	**51**	*e*P	**P**	**14 06 51.1**	**+1.4**
	4.1nm,1.0s						
SRU	**San Rafael Swe**	**81.98**	**48**	*e*P	**P**	**14 06 52.2**	**+1.1**
	8.0nm,0.7s						
PV21	**Cone Mtn., Par**	**83.28**	**48**	*e*P	**P**	**14 06 59.2**	**+1.3**
	5.1nm,0.8s						
PV23	**Carpenter Ridg**	**83.32**	**48**	*e*P	**P**	**14 06 58.8**	**+0.6**
	8.0nm,0.8s						
PV10	**Paradox Valley**	**83.35**	**48**	*e*P	**P**	**14 06 58.8**	**+0.4**
PV14	**Lion Creek, Pa**	**83.36**	**48**	*e*P	**P**	**14 06 59.4**	**+1.0**
	7.1nm,0.9s						
PV17	**East Wray Mesa**	**83.46**	**48**	*e*P	**P**	**14 06 59.3**	**+0.5**
	8.9nm,1.0s						
PV18	**Skein Mesa, Pa**	**83.51**	**48**	*e*P	**P**	**14 07 00.3**	**+1.2**
	7.1nm,1.0s						
PV13	**Radium Mtn., P**	**83.62**	**48**	*e*P	**P**	**14 07 00.6**	**+0.9**
	5.4nm,1.0s						
CLL	**Collm**	**85.01**	**331**	*e*P	**P**	**14 07 07.0**	**+0.8**
TX31	**Lajitas Ar. Si**	**92.45**	**53**	*e*P	**P**	**14 07 43.0**	**+0.9**
TXAR	**Lajitas Array**	**92.45**	**53**	P	**P**	**14 07 42.8**	**+0.7**
	0.7nm,0.8s,baz=288,slow=1.3,SNR=8.1						
TORD	**Torodi Ar. Bea**	**120.59**	**314**	PKP	**PKPdf**	**14 13 22.5**	**-0.6**
	0.4nm,0.8s,baz=349,slow=3.1						
LPAZ	**La Paz**	**148.34**	**66**	PKPbc	**PKPab**	**14 14 20.2**	**-1.3**
	1.3nm,0.6s,baz=3.4,slow=5.2,SNR=6.6						

IDC 06 13:55:06.7±1.8,4˚.01N×123˚.74E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/44, mbtmp3.8/4, Error ellipse: s-maj=139.8km s-min=23.0km az=66.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.05**	**175**	P	P	14 00 03.1	0.0
	1.0nm,0.7s,baz=11,slow=9.5,SNR=5.7						
WRA	**Warramunga Arr**	**25.98**	**157**	P	P	14 00 41.4	+0.1
	1.1nm,0.4s,baz=336,slow=9.6,SNR=37						
ASAR	**Alice Springs**	**29.24**	**161**	P	P	14 01 10.4	-0.1
	0.4nm,0.6s,baz=336,slow=7.4,SNR=14						
MKAR	**Makanchi Array**	**55.65**	**327**	P	P	14 04 44.6	-0.1
	0.6nm,0.3s,baz=124,slow=8.1,SNR=8.7						

ISK ***06*** *14:02:02.9,37˚.71N×26˚.91E, h7km, ML2.8/10*

ISCJB ***06*** *14:02:03.4±0.5,37˚.74N±0˚.03×26˚.98E±0˚.04, h6km±5km, Error ellipse: s-maj=5.2km s-min=4.7km az=142.5*

ATH ***06*** *14:02:04.5,37˚.73N×26˚.88E, h10km±2km, ML2.6/5, Error ellipse: s-maj=4.3km s-min=1.7km az=92.0*

ISC 06 14:02:03.8±0.9,37˚72N±0˚.03×26˚93E±0˚.03, h11km±6km, n19, σ0§54/25, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMG	**Samos**	**0.07**	**262**	P	**Pg**	**14 02 06.2**	**0.0**
SMG				S	**Sg**	**14 02 08.1**	**+0.2**
SMG				AML	AML	14 02 08.8	
	comp=N,39880μm,0.2s						
SMG				AML	AML	14 02 08.8	
	comp=E,25750μm,0.2s						
GMLD	**Gumuldur**	**0.36**	**359**	PG	**Pg**	**14 02 10.6**	**-0.3**
BLCB	**Balcova**	**0.67**	**8**	PG	**Pg**	**14 02 16.2**	**-0.6**
BODT	**Bodrum**	**0.72**	**155**	PG	**Pg**	**14 02 17.6**	**-0.2**
BODT				SG	**Sg**	**14 02 27.8**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**0.80**	**73**	PG	**Pg**	**14 02 19.3**	**+0.1**
MLSB	**Milas**	**0.80**	**122**	PG	**Pg**	**14 02 18.6**	**-0.6**
CHOS	**Chios island**	**0.96**	**314**	PG	**Pg**	**14 02 21.7**	**-0.6**
CHOS	**Chios island**	**0.96**	**314**	P	**Pb**	**14 02 22.3**	**-0.2**
CHOS				S	**Sb**	**14 02 35.1**	**-0.1**
CHOS				AML	AML	14 02 36.8	
	comp=N,752μm,0.4s						
CHOS				AML	AML	14 02 36.8	
	comp=E,924μm,0.4s						
FOCM	**Fo¯ša**	**1.00**	**351**	PG	**Pg**	**14 02 22.8**	**-0.4**
DAT	**Datca**	**1.12**	**152**	PN	**Pg**	**14 02 24.5**	**-0.8**
DATC	**Datca-Mugla**	**1.12**	**148**	PN	**Pg**	**14 02 24.7**	**-0.7**
NIS1	**Nisyros Isl.**	**1.13**	**170**	PN	**Pg**	**14 02 24.8**	**-0.8**
AMGA	**Amorgos Island**	**1.21**	**223**	P	**Pn**	**14 02 27.2**	**+0.6**
AMGA				S	**Sn**	**14 02 43.9**	**+0.9**
AMGA				AML	AML	14 02 45.9	
	comp=E,288μm,0.4s						
AMGA				AML	AML	14 02 47.0	
	comp=N,384μm,0.7s						
APE	**Apeiranthos**	**1.29**	**240**	PN	**Pn**	**14 02 27.5**	**-0.3**
APE	**Apeiranthos**	**1.29**	**240**	P	**Pb**

MTSU	**Mount Surprise**	**15.02 198**	P		**P**	**14 24 19.8**	**+4.8**
	baz=16,SNR=5.0							
RKPI	**Ransiki, Papua**	**15.10 278**	P		**P**	**14 24 19.1**	**+3.3**
CTA	**Charters Tower**	**16.45 190**	Pn		**Pn**	**14 24 25.4**	**-3.0**
	0.1nm,0.3s,baz=20,slow=14,SNR=2.3							
CTA			LR		LR	14 31 06.5		
	comp=Z,2μm,18.1s,baz=5.0,slow=39							
CTA	**Charters Tower**	**16.45 190**	P		**P**	**14 24 36.8**	**+6.1**
	baz=17							
CTAO	**Charters Tower**	**16.45 190**	*e*Pn		**Pn**	**14 24 27.0**	**-1.3**
	155nm,1.8s							
FAKI	**Fak Fak**	**16.87 272**	*e*Pn		**Pn**	**14 24 29.4**	**-4.3**
	84nm,1.1s							
FAKI	**Fak Fak**	**16.87 272**	P		**Pn**	**14 24 30.9**	**-2.8**
	86nm,1.3s,2μm							
GUMO	**Guam**	**17.77 346**	LR		LR	14 30 31.5		
	comp=Z,2μm,19.4s,baz=170,slow=34							
SIJI	**Sorong**	**18.07 279**	P		**Pn**	**14 24 46.8**	**-1.8**
	0.2nm,0.3s,baz=216,slow=1.5,SNR=9.3							
BNDI	**Bandanaira**	**19.18 267**	P		**Pn**	**14 25 01.0**	**-1.1**
	176nm,1.8s,3μm							
MTN	**Manton Dam**	**19.93 242**	P		**Pn**	**14 25 12.6**	**+1.6**
	baz=20,SNR=3.9							
AAI	**Ambon**	**20.88 270**	P		**P**	**14 25 19.1**	**-0.4**
	73nm,1.6s,2μm							
EIDS	**Eidsvold**	**21.55 175**	*e*P		**P**	**14 25 26.8**	**+0.3**
	74nm,1.4s							
WRAB	**Tennant Creek**	**21.57 221**	*e*P		**P**	**14 25 24.1**	**-2.7**
	89nm,1.1s							
WB2	**Warramunga Arr**	**21.57 221**	*e*P		**P**	**14 25 23.0**	**-3.9**
	93nm,1.2s							
WRA	**Warramunga Arr**	**21.58 221**	P		**P**	**14 25 23.4**	**-3.5**
	1.3nm,0.7s,baz=41,slow=11,SNR=12							
WRA			S		**S**	**14 29 27.9**	**+3.4**
	0.9nm,0.9s,baz=38,slow=19,SNR=2.2							
WRA			LR		LR	14 34 33.7		
	comp=Z,3μm,20.4s,baz=50,slow=39							
TNTI	**Ternate**	**22.21 281**	P		**P**	**14 25 32.1**	**-1.7**
RMQ	**Roma**	**22.58 181**	P		**P**	**14 25 43.4**	**+5.9**
	baz=23,SNR=9.9							
QLP	**Quilpie**	**23.15 191**	P		P	14 25 50.1	+6.6	
	baz=24,SNR=4.7							
SANI	**Sanana**	**23.17 274**	P		**P**	**14 25 42.4**	**-1.4**
	31nm,1.1s,877nm							
KNRA	**Kununurra**	**23.26 238**	P		**P**	**14 25 47.6**	**+3.0**
	baz=24,SNR=9.5							
AS01	**Alice Springs**	**24.61 215**	*e*P		**P**	**14 25 53.8**	**-3.5**
AS31	**Alice Springs**	**24.63 215**	*e*P		**P**	**14 25 54.0**	**-3.5**
	12nm,0.8s							
ASAR	**Alice Springs**	**24.63 215**	P		**P**	**14 25 54.2**	**-3.4**
	3.9nm,1.0s,baz=49,slow=8.5,SNR=15							
ASAR			S		**S**	**14 30 21.2**	**+4.3**
	0.7nm,1.1s,baz=38,slow=15,SNR=2.1							
ASAR			LR		LR	14 36 42.8		
	comp=Z,3μm,18.2s,baz=44,slow=39							
DZM	**Mont Dzumac**	**24.75 139**	P		**P**	**14 25 54.7**	**-4.0**
	9.0nm,1.0s,baz=326,slow=11,SNR=2.1							
DZM			LR		LR	14 34 40.0		
	comp=Z,7μm,19.7s,baz=318,slow=34							
DZM	**Mont Dzumac**	**24.75 139**	*e*P		**P**	**14 25 58.6**	**-0.1**
	115nm,1.5s							
DZM			*e*S		**S**	**14 30 19.0**	**+0.1**
	2μm,26.0s							
DZM			*e*LQ		LQ	14 31 09.9		
	6μm,31.4s							
DZM			*e*LR		LR	14 32 13.4		
	10μm,25.6s							
SOEI	**Soe**	**25.37 255**	P		**P**	**14 26 04.4**	**-0.1**
KMSI	**Cibinong**	**25.50 279**	P		**P**	**14 26 04.1**	**-1.3**
BATI	**Baumata**	**26.05 254**	P		**P**	**14 26 07.6**	**-2.9**
	12nm,0.9s,baz=78,slow=9.3,SNR=2.0							
BATI			LR		LR	14 38 57.6		
	comp=Z,4μm,18.9s,baz=96,slow=42							
BATI	**Baumata**	**26.05 254**	P		**P**	**14 26 11.4**	**+0.9**
	28nm,1.2s,533nm							
BBSI	**Bau Bau**	**26.52 265**	P		**P**	**14 26 14.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**27.04 236**	P		**P**	**14 26 16.4**	**-2.9**
	3.2nm,0.9s,baz=76,slow=9.6,SNR=5.5							
FITZ			LR		LR	14 38 04.5		
	comp=Z,5μm,18.6s,baz=57,slow=39							
FITZ	**Fitzroy Crossi**	**27.04 236**	P		**P**	**14 26 23.8**	**+4.5**
	baz=28,SNR=48							
FITZ	**Fitzroy Crossi**	**27.04 236**	*e*P		**P**	**14 26 16.2**	**-3.1**
	81nm,0.9s							
EDFI	**Ende, Flores**	**27.70 258**	P		**P**	**14 26 23.8**	**-1.7**
	16nm,1.4s,382nm							
H11S3	**WAKE ISLAND Hy**	**28.10 37**	T		T	14 55 39.9		
	baz=218,slow=76							
H11S2	**WAKE ISLAND Hy**	**28.11 37**	T		T	14 55 40.4		
	baz=218,slow=76							
H11S1	**WAKE ISLAND Hy**	**28.12 37**	T		T	14 55 40.5		
	baz=218,slow=76							
STKA	**Stephens Creek**	**28.83 193**	P		**P**	**14 26 32.8**	**-2.4**
	1.3nm,0.8s,baz=345,slow=16,SNR=1.9							
STKA			LR		LR	14 39 06.0		
	comp=Z,1μm,21.9s,baz=12,slow=39							
BKSI	**Bulukumba**	**28.95 266**	P		**P**	**14 26 36.3**	**-0.2**
BNSI	**Bone**	**28.95 268**	P		**P**	**14 26 36.1**	**-0.4**
H11N1	**WAKE ISLAND Hy**	**29.16 36**	T		T	14 56 58.4		
	baz=222,slow=76							
H11N3	**WAKE ISLAND Hy**	**29.17 36**	T		T	14 56 58.7		
	baz=222,slow=76							
H11N2	**WAKE ISLAND Hy**	**29.18 36**	T		T	14 56 59.2		
	baz=222,slow=76							
TTSI	**Tana Toraja**	**29.26 271**	P		**P**	**14 26 38.7**	**-0.5**
SPSI	**Sidrap Palu**	**29.29 269**	P		**P**	**14 26 39.2**	**-0.3**
RIV	**Riverview**	**29.95 177**	P		P	14 26 51.9	+6.8
	baz=31,SNR=4.3							
JCJ	**Chichijima**	**31.42 348**	LR		LR	14 38 01.8		
	comp=Z,2μm,21.8s,baz=126,slow=33							
JOW	**Kunigami**	**36.50 328**	LR		LR	14 39 13.2		
	comp=Z,2μm,21.8s,baz=126,slow=31							
SBUM	**Sibu**	**37.40 279**	*e*P		**P**	**14 27 47.1**	**-3.0**
	32nm,1.9s							
AFI	**Afiamalu**	**39.86 107**	LR		LR	14 40 23.6		
	comp=Z,471nm,21.7s,baz=276,slow=30							
RAO	**Raoul Island**	**40.23 133**	LR		LR	14 42 01.9		
	comp=Z,970nm,19.3s,baz=189,slow=32							
JNU	**Nakatsue**	**40.57 336**	P		**P**	**14 28 14.5**	**-1.9**
	14nm,1.1s,baz=160,slow=12,SNR=2.8							
JNU	**Nakatsue**	**40.57 336**	*e*P		**P**	**14 28 14.9**	**-1.5**
	41nm,1.1s							
QZH	**Quanzhou**	**41.17 316**	*e*P		**P**	**14 28 20.0**	**-1.4**
QZH			S		**S**	**14 34 34.7**	**+2.1**
QZH			LR		LR			
	comp=N,1μm,18.5s							
QZH			LR		LR			
	comp=E,1μm,20.4s							
QZH			LR		LR			
	comp=Z,1μm,18.9s							
LEM	**Lembang**	**41.43 264**	LR		LR	14 47 27.6		
	comp=Z,755nm,21.8s,baz=81,slow=39							
KSRS	**Korea Array**	**45.52 336**	P		**P**	**14 28 54.2**	**-2.1**
	1.2nm,0.9s,baz=156,slow=7.6,SNR=3.0							
KSRS			LR		LR	14 47 10.2		
	comp=Z,1μm,19.8s,baz=152,slow=35							
KSAR	**Wonju Array Be**	**45.52 336**	P		**P**	**14 28 54.2**	**-2.2**
NJ2	**Nanjing**	**45.80 323**	*e*P		**P**	**14 28 57.6**	**-1.0**
NJ2			S		**S**	**14 35 43.6**	**+3.4**
NJ2			pmax		pmax			
	comp=Z,14nm,0.6s							
NJ2			LR		LR			
	comp=N,2μm,18.4s							
NJ2			LR		LR			
	comp=E,1μm,19.5s							
NJ2			LR		LR			
	comp=Z,2μm,18.4s							
SKNT	**Sakolnakorn**	**49.11 296**	P		**P**	**14 29 26.5**	**+1.8**
	12nm,1.0s							
DL2	**Dalian**	**49.49 332**	*e*P		**P**	**14 29 23.7**	**-3.4**
DL2			S		**S**	**14 36 30.9**	**-1.5**
DL2			SS		SS	14 39 53.2	-12
DL2			pmax		pmax			
	comp=Z,31nm,1.0s							
DL2			pmax		pmax			
	comp=Z,160nm,8.6s							
DL2			LR		LR			
	comp=N,940nm,21.1s							
DL2			LR		LR			
	comp=E,670nm,22.2s							
DL2			LR		LR			
	comp=Z,2μm,22.7s							
USRK	**Ussuriysk Ar.**	**50.18 344**	P		**P**	**14 29 30.9**	**-1.4**
	2.3nm,0.8s,baz=184,slow=10,SNR=6.8							
NONG	**Nongkai**	**50.24 297**	P		**P**	**14 29 35.1**	**+1.8**
	0.5nm,0.9s							
CHAI	**Chaiyaphum**	**50.56 294**	P		**P**	**14 29 39.5**	**+3.8**
	4.6nm,1.2s							
TRTT	**Trang**	**50.65 283**	P		**P**	**14 29 38.2**	**+1.8**
	4.7nm,1.4s,242nm							
GYA	**Guiyang**	**50.88 309**	*e*P		**P**	**14 29 38.0**	**-0.1**
GYA			pmax		pmax			
	comp=Z,10.0nm,1.0s							
PBKT	**Sadao Pong**	**51.70 294**	*e*P		**P**	**14 29 43.3**	**-0.9**
	27nm,1.5s							
PBKT	**Sadao Pong**	**51.70 294**	P		**P**	**14 29 46.7**	**+2.5**
	9.4nm,1.3s							
PHET	**Kaeng Krachan**	**51.87 290**	P		**P**	**14 29 48.6**	**+3.0**
	4.8nm,1.1s							
UTTA	**Uttaradit**	**52.45 296**	P		P	14 29 57.5	+7.7	
	4.1nm,1.2s							
NANT	**Nan**	**52.68 297**	P		P	14 29 59.0	+7.5	
	2.7nm,0.8s							
SRDT	**SRDT**	**52.74 291**	P		P	14 30 00.2	+8.2	
	24nm,1.2s							
UTHA	**Uthaitani**	**52.78 293**	P		**P**	**14 29 54.5**	**+2.2**
	3.2nm,0.8s,46nm							
BJI	**Beijing**	**53.07 329**	*e*P		P	14 29 58.2	+4.2	
BJI			pmax		pmax			
	comp=Z,8.0nm,0.8s							
SUKH	**Sukhothai**	**53.20 295**	P		P	14 30 04.7	+9.4	
XAN	**Xi'an**	**53.39 318**	P		P	14 30 03.7	+7.1	
XAN			pP		sP	14 30 18.8	+7.6	
XAN			S		**S**	**14 37 25.6**	**-0.9**
XAN			ScS		**ScS**	**14 39 49.7**	**+6.0**
XAN	**Xi'an**	**53.39 318**	SS		**SS**	**14 41 03.4**	**-3.7**
XAN			pmax		pmax			
	comp=Z,10.0nm,1.4s							
XAN			pmax		pmax			
	comp=Z,130nm,5.1s							
XAN			LR		LR			
	comp=N,570nm,19.6s							
XAN			LR		LR			
	comp=E,750nm,18.6s							
XAN			LR		LR			
	comp=Z,1μm,19.6s							
UMPA	**Umpang Tak**	**53.51 293**	P		**P**	**14 30 00.3**	**+2.6**
	comp=Z,6.9nm,1.2s							
PAYA	**Payao**	**53.61 297**	P		P	14 30 06.2	+7.8	
	comp=Z,4.4nm,1.0s							
CM01	**Chiang Mai Arr**	**54.11 296**	*e*P		**P**	**14 30 01.1**	**-0.9**
CMAR	**Chiang Mai Arr**	**54.13 296**	P		**P**	**14 30 02.6**	**+0.4**
	comp=Z,3.7nm,1.1s,baz=114,slow=5.3,SNR=21							
CMAR			LR		LR	14 51 39.7		
	comp=Z,214nm,21.7s,baz=112,slow=34							
CMMT	**Chiang Mai**	**54.24 296**	P		**P**	**14 30 06.7**	**+3.7**
	comp=Z,6.8nm,1.3s,comp=Z,300nm							
CHTO	**Chiang Mai**	**54.25 296**	*e*P		**P**	**14 30 01.9**	**-1.2**
	comp=Z,12nm,1.4s							
CHTO	**Chiang Mai**	**54.25 296**	P		**P**	**14 30 06.7**	**+3.7**
	comp=Z,31nm,1.4s							
CD2	**Chengdu**	**55.31 312**	P		**P**	**14 30 09.0**	**-1.6**
CD2			pP		pP	14 30 12.2	-9.0	
CD2			PP		**PP**	**14 32 12.4**	**-2.2**
CD2			S		**S**	**14 37 54.5**	**+1.9**
CD2			sS		pS	14 37 58.2	-7.0	
CD2			pmax		pmax			
	comp=Z,20nm,0.5s							
CD2			pmax		pmax			
	comp=Z,140nm,5.0s							
CD2			LR		LR			
	comp=Z,2μm,18.9s							
CD2			LR		LR			
	comp=Z,2μm,22.9s							
CD2			LR		LR			
	comp=Z,2μm,19.4s							
HHC	**Hu-ho-hao-te**	**56.13 326**	*e*P		**P**	**14 30 17.2**	**+0.9**
HHC			pP		pP	14 30 27.2	+0.3	
HHC			S		**S**	**14 38 01.3**	**-1.9**
HHC			pmax		pmax			
	comp=Z,20nm,0.9s							
HHC			pmax		pmax			
	comp=Z,160nm,6.1s							
HHC			LR		LR			
	comp=Z,1μm,17.8s							
HHC			LR		LR			
	comp=Z,690nm,18.1s							
HHC			LR		LR			
	comp=Z,930nm,17.8s							
PETK	**Petropavlovsk-**	**57.14 6**	P		**P**	**14 30 20.1**	**-3.0**
	comp=Z,0.8nm,0.6s,baz=201,slow=7.4							
PETK			LR		LR	14 51 14.9		
	comp=Z,428nm,21.4s,baz=187,slow=32							
PETK	**Petropavlovsk-**	**57.14 6**	*e*P		**P**	**14 30 24.7**	**+1.5**
LZH	**Lanzhou**	**57.97 317**	*e*P		**P**	**14 30 31.2**	**+1.6**
LZH			pP		pP	14 30 35.7	-4.5	
LZH			sP		sP	14 30 38.8	-5.5	
LZH			S		**S**	**14 38 29.7**	**+1.9**
LZH			sS		pS	14 38 39.3	-1.3	
LZH			pmax		pmax			
	comp=Z,31nm,1.1s							
LZH			pmax		pmax			
	comp=Z,160nm,4.9s							
LZH			LR		LR			
	comp=Z,990nm,13.0s							
LZH			LR		LR			
	comp=Z,790nm,11.4s							
LZH			LR		LR			
	comp=Z,910nm,14.7s							
HATHI	**Halema'uma'u T**	**59.32 65**	*e*P		**P**	**14 30 41.7**	**+2.5**
	comp=Z,303nm,1.0s							
PPT	**Papeete**	**61.53 108**	LR		LR	14 53 41.6		
	comp=Z,256nm,21.2s,baz=276,slow=32							
PPT2	**Papeete2**	**61.53 108**	*e*S		**S**	**14 39 17.0**	**+3.0**
	comp=Z,1μm,26.5s							
PPT2			*e*LQ		LQ	14 46 34.6		
	comp=Z,3μm,31.5s							
PPT2			*e*LR		LR	14 49 13.5		
	comp=Z,1μm,27.5s,baz=282							
TBI	**Tubuai**	**62.31 114**	*e*S		**S**	**14 39 23.7**	**0.0**
	comp=Z,794nm,30.5s							
TBI			*e*LQ		LQ	14 47 02.5		
	comp=Z,2μm,39.8s							
TBI			*e*LR		LR	14 49 43.1		
	comp=Z,1μm,27.2s							
GTA	**Gaotai**	**62.45 319**	⇑P		**P**	**14 31 02.0**	**+1.9**
GTA			pP		pP	14 31 06.4	-4.4	
GTA			sP		sP	14 31 09.2	-5.7	
GTA			PcP		**PcP**	**14 31 41.2**	**+1.9**
GTA			pmax		pmax			
	comp=Z,6.0nm,1.0s							
GTA			pmax		pmax			
	comp=Z,130nm,5.9s							
GTA			LR		LR			
	comp=Z,320nm,19.0s							
GTA			LR		LR			
	comp=Z,540nm,20.0s							
GTA			LR		LR			
	comp=Z,840nm,19.7s							
SHL	**Shillong**	**62.64 301**	*e*P		**P**	**14 31 05.0**	**+3.3**
SONM	**Songino Array**	**63.55 329**	P		**P**	**14 31 06.2**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=116,slow=4.6,SNR=5.9							
SONM			LR		LR	14 57 57.4		
	comp=Z,1μm,20.9s,baz=121,slow=35							
SONA1	**Songino Array**	**63.55 329**	*e*P		**P**	**14 31 06.6**	**-0.7**
ODAN	**Odare**	**66.88 301**	*e*P		**P**	**14 31 31.4**	**+2.0**
RAMN	**Ramite**	**67.58 301**	*e*P		**P**	**14 31 35.7**	**+1.8**
JIRN	**Jiri**	**68.13 302**	*e*P		**P**	**14 31 38.6**	**+1.1**
GUN	**Gumba**	**68.47 302**	*e*P		**P**	**14 31 41.4**	**+1.8**
	comp=Z,29nm,0.9s							
PKI	**Pulchoki**	**68.77 301**	*e*P		**P**	**14 31 43.0**	**+1.6**
	comp=Z,39nm,1.3s							
PKIN	**Phulchoki**	**68.78 301**	*e*P		**P**	**14 31 42.8**	**+1.4**
	comp=Z,31nm,1.3s							
KKN	**Kakani**	**68.94 302**	*e*P		**P**	**14 31 44.1**	**+1.7**
DMN	**Daman**	**69.04 301**	*e*P		**P**	**14 31 44.6**	**+1.6**
KOLN	**Koldanda**	**70.37 301**	*e*P		**P**	**14 31 52.7**	**+1.5**
	comp=Z,44nm,1.2s							
DANN	**Dangsing**	**70.39 302**	*e*P		**P**	**14 31 52.7**	**+1.3**
	comp=Z,41nm,1.2s							
TAOE	**Nuku Hiva Isla**	**70.40 98**	*e*LR		LR	14 53 19.2		
	comp=Z,962nm,24.4s							
PYUN	**Piuthan**	**70.97 301**	*e*P		**P**	**14 31 56.2**	**+1.3**
	comp=Z,49nm,1.1s							
WMQ	**Urumqi**	**72.53 318**	*e*P		**P**	**14 32 04.7**	**+1.0**
WMQ			pP		pP	14 32 10.0	-4.6	
WMQ			S		**S**	**14 41 26.7**	**+0.8**
WMQ			pmax		pmax			
	comp=Z,27nm,1.3s							
WMQ			pmax		pmax			
	comp=Z,520nm,5.9s							
WMQ			LR		LR			
	comp=Z,1μm,18.1s							
WMQ			LR		LR			
	comp=Z,890nm,21.3s							
WMQ			LR		LR			
	comp=Z,1μm,21.3s							
BILL	**Bilibino**	**72.67 7**	*e*P		**P**	**14 32 06.0**	**+2.1**
	comp=Z,12nm,1.1s							
HYB	**Hyderabad**	**72.70 289**	*i* P		**P**	**14 32 06.0**	**+0.8**
VNDA	**Vanda**	**74.00 177**	P		**P**	**14 32 10.2**	**-1.5**
	comp=Z,0.4nm,0.8s,baz=345,slow=6.8,SNR=1.7							
VNDA			LR		LR	15 02 03.7		
	comp=Z,394nm,19.4s,baz=348,slow=34							
VNDA	**Vanda**	**74.00 177**	*e*P		**P**	**14 32 13.0**	**+1.4**
	comp=Z,10nm,1.8s							
RKT	**Rikitea**	**75.56 113**	*e*S		**S**	**14 42 00.7**	**+0.1**
	comp=Z,398nm,28.5s							
RKT	**Rikitea**	**75.56 113**	*e*LQ		LQ	14 52 34.6		
	comp=Z,2μm,36.0s							
RKT			*e*LR		LR	14 55 50.0		
	comp=Z,710nm,26.5s							
MK01	**Makanchi Array**	**77.15 320**	*e*P		**P**	**14 32 30.0**	**-0.3**
MKAR	**Makanchi Array**	**77.17 320**	P		**P**	**14 32 30.3**	**-0.1**
	comp=Z,4.8nm,1.0s,baz=112,slow=5.4,SNR=13							
ZAA0	**Zalesovo Array**	**78.29 327**	*e*P		**P**	**14 32 36.2**	**-0.3**
	comp=Z,7.1nm,1.0s							
ZALV	**Zalesovo Beam**	**78.29 327**	P		**P**	**14 32 35.8**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=110,slow=5.2,SNR=6.5							
ZALV			LR		LR	15 07 26.9		
	comp=Z,754nm,19.7s,baz=73,slow=36							
ZALV	**Zalesovo Beam**	**78.29 327**	*e*P		**P**	**14 32 36.6**	**+0.1**
KDJ	**Kajisay**	**79.26 314**	*e*P		**P**	**14 32 41.8**	**-0.6**
KSH	**Kashi**	**79.50 311**	*e*P		**P**	**14 32 46.5**	**+2.9**
KSH			S		**S**	**14 42 47.4**	**+4.5**
KSH			pmax		pmax			
	comp=Z,160nm,5.2s							
KSH			LR		LR			
	comp=Z,240nm,8.9s							
KSH			LR		LR			
	comp=Z,230nm,7.4s							
KSH			LR		LR			
	comp=Z,1μm,19.0s							
NRN	**Naryn**	**79.94 313**	*e*P		**P**	**14 32 46.3**	**+0.1**
	comp=Z,9.7nm,1.3s							
IM3	**Indian Mountai**	**80.68 20**	*e*P		**P**	**14 32 51.3**	**+2.1**
KURK	**Kurchatov**	**80.73 323**	*e*P		**P**	**14 32 49.8**	**0.0**
	comp=Z,9.2nm,0.9s							
AAK	**Ala-Archa**	**81.32 314**	*e*P		**P**	**14 32 51.4**	**-2.0**
	comp=Z,5.2nm,0.9s							
IL1	**Eielson Array**	**82.63 23**	*e*P		**P**	**14 32 59.1**	**-0.4**
ILAR	**Eielson Array**	**82.63 23**	P		**P**	**14 32 58.0**	**-1.5**
	comp=Z,1.5nm,0.8s,baz=247,slow=5.3,SNR=7.1							
NRIK	**Noril'sk**	**83.84 342**	P		**P**	**14 33 04.6**	**-1.1**
	comp=Z,1.1nm,0.3s,baz=108,slow=7.5,SNR=1.7							
KK31	**Karatay Array**	**84.28 314**	*e*P		**P**	**14 33 07.4**	**-1.1**
KKAR	**Karatay Array**	**84.28 314**	*e*P		**P**	**14 33 07.5**	**-1.1**
MAW	**Mawson**	**85.09 203**	P		**P**	**14 33 09.4**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=63,slow=5.5,SNR=1.8							
MAW			LR		LR	15 09 16.5		
	comp=Z,854nm,21.2s,baz=74,slow=34							
DAWY	**Dawson**	**85.39 25**	P		**P**	**14 33 15.3**	**+1.7**
YBH	**Yreka Blue Hor**	**91.12 48**	LR		LR	15 06 29.6		
	comp=Z,783nm,21.7s,baz=288,slow=30							
GEYT	**Alibeck**	**93.09 308**	LR		LR	15 16 25.8		
	comp=Z,285nm,21.5s,baz=40,slow=36							
SYO	**Syowa Base**	**93.39 200**	⇑*e*P		**P**	**14 33 51.3**	**-0.1**
NVAR	**Mina Array Bea**	**94.34 52**	LR		LR	15 08 19.5		
	comp=Z,730nm,21.8s,baz=268,slow=30							
NEW	**Newport**	**95.30 42**	LR		LR	15 09 50.7		
	comp=Z,398nm,20.7s,baz=294,slow=31							
YKA	**Yellowknife Ar**	**96.24 28**	P		**P**	**14 34 02.4**	**-2.1**
	comp=Z,0.5nm,0.6s,baz=272,slow=4.8,SNR=2.9							
CLL	**Collm**	**120.16 330**	*e*PP		PP	14 40 51.0	-1.3	
CLL			*e*PS		**PS**	**14 50 42.0**	**-1.2**
CLL			*e*PPS		PPS	14 52 00.0		
CLL			*e*SS		SS	14 57 18.0	+1.2	
CLL			*e*SSS		SSS	15 01 30.0		
CLL			LmV			15 34 00.0		
	comp=Z,600nm,21.8s							
TOA0	**Torodi Ar. Sit**	**146.51 288**	*e*PKPdf		**PKPdf**	**14 40 16.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**146.51 288**	PKPbc		**PKPdf**	**14 40 16.3**	**-1.1**
	baz=354,slow=2.9							
PTGA	**Pitinga**	**150.59 98**	PKPbc		**PKPbc**	**14 40 27.3**	**-2.3**
	comp=Z,1.2nm,0.3s,baz=305,slow=2.4,SNR=2.2							
PTGA	**Pitinga**	**150.59 98**	*e*PKPdf		**PKPdf**	**14 40 25.3**	**+1.2**

IDC ***06*** *14:27:52.2±0.4, 10.38N×126.76E, h0km, mb4.5/26, mb1 4.6/27, mb1mx4.5/41, mbtmp4.5/27, ML4.1/1, Error ellipse: s-maj=21.0km s-min=10.4km az=79.0*

NEIC ***06*** *14:27:53.6±0.2, 10.43N×126.90E, h10km, mb4.7/18, Error ellipse: s-maj=7.7km s-min=4.7km az=83.0*

DJA ***06*** *14:27:53.5±1.7, 11°N±6°×12°7E±°, h33km±14km, M4.8/24, mB5.4/6, mb4.8/24, Mw(mB)4.8/6*

MAN ***06*** *14:27:53.2, 10.49N×127.00E, h98km, mb5.4, ML4.3, MS4.5*

ISCJB ***06*** *14:27:54.6±1.3, 10.42N±0.02×126.90E±0.03, h28km±9km, mb4.7/80, MS4.6/8, Error ellipse: s-maj=5.3km s-min=3.9km az=167.5*

MOS ***06*** *14:27:55.3±0.8, 10.32N×126.75E, h33km, mb5.1/24, Error ellipse: s-maj=14.0km s-min=6.6km az=116.9*

BJI ***06*** *14:27:56.6, 10.26N×126.74E, h47km, mb4.8/47, mB5.0/39, Ms4.7/31, Ms7 4.5/27*

ISC 06 14:27:55.5±1.7, 10.44N±0.03×126.84E±0.06, h20km±7km, n179, σ1°38/202, mb4.7/80, MS4.5/8, 12C-7D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.89**	**219**	*e*P		**Pn**	**14 28 26.2**	**-0.6**
BUTP				*e*S		**Sn**	**14 28 50.9**	**+0.8**
PLP	**Palo**	**1.96**	**292**	⇓*e*P		**Pn**	**14 28 24.1**	**-3.6**
PLP				*e*S		**Sn**	**14 28 51.6**	**-0.2**
MSLP	**Maasin**	**1.97**	**261**	*e*P		**Pn**	**14 28 28.2**	**+0.4**
MSLP				*e*S		**Sb**	**14 28 55.6**	**+0.6**
OCLP	**Ormoc**	**2.27**	**286**	*e*P		**Pn**	**14 28 33.1**	**+1.1**
OCLP				*e*S		**Sn**	**14 29 01.0**	**+1.6**
BIPH	**Bislig**	**2.29**	**192**	⇑*e*P		**Pn**	**14

50nm,0.7s
MMRI Maumere 19.50 194 P Pn 14 32 32.4 +9.4
EDFI Ende, Flores 19.74 195 P **P** **14 32 23.3 -1.1**
27nm,0.8s
SOEI Soe 20.23 187 *eP* **P** **14 32 29.6 -0.2**
68nm,1.0s
SOEI Soe 20.23 187 P **P** **14 32 27.6 -2.1**
BATI Baumata 20.76 189 P **P** **14 32 35.2 -0.2**
134nm,0.8s,baz=15,slow=0.7,SNR=29
BATI Baumata 20.76 189 P **P** **14 32 33.5 -1.9**
NJ2 Nanjing 22.73 342 *eP* **P** **14 32 57.5 +1.1**
NJ2 pmax pmax
comp=Z,23nm,0.8s
NJ2 LR LR
comp=N,2μm,18.4s
NJ2 LR LR
comp=E,1μm,18.4s
NJ2 LR LR
comp=Z,2μm,20.6s
JNU Nakatsue 22.88 9 P **P** **14 32 59.4 +1.5**
17nm,0.9s,baz=244,slow=3.7,SNR=6.1
PPBI Pangkal Pinang 24.11 240 P **P** **14 33 10.8 +0.5**
61nm,1.0s,2μm
MYKOM Kota Tinggi 24.40 251 *eP* **P** **14 33 13.0 +0.1**
31nm,1.1s
SRAK Srakaew 24.48 281 P **P** **14 33 09.3 -4.4**
29nm,0.9s
CHAI Chaiyaphum 24.79 285 P **P** **14 33 16.2 -0.2**
8.9nm,0.8s,101nm
KPJI Karang Pucung 25.09 226 P **P** **14 33 18.1 -1.1**
34nm,1.0s
ENH Enshi 25.50 323 *eP* **P** **14 33 22.7 -0.1**
32nm,1.2s
PATY Pattaya 25.55 278 P **P** **14 33 25.1 +1.8**
PBKT Sadao Pong 25.86 286 *eP* **P** **14 33 25.7 -0.4**
8.0nm,0.7s
PBKT Sadao Pong 25.86 286 P **P** **14 33 27.5 +1.3**
11nm,0.7s
IPM Ipoh 26.26 259 *eP* **P** **14 33 29.1 -0.7**
35nm,0.8s
KULM Kulim 26.43 261 *eP* **P** **14 33 32.0 +0.6**
19nm,1.1s
NANT Nan 26.59 291 P **P** **14 33 32.2 -0.6**
3.9nm,0.7s
PHET Kaeng Krachan 26.75 278 P **P** **14 33 34.2 0.0**
12nm,1.1s
KSAR Wonju Array Be 26.90 2 P **P** **14 33 36.3 +1.0**
KSAR Wonju Array Be 26.90 2 P **P** **14 33 36.3 +1.0**
KSRS Korea Array 26.91 2 P **P** **14 33 36.3 +0.9**
4.9nm,0.9s,baz=175,slow=10.0,SNR=11
MDSI Maura Dua 27.00 238 P **P** **14 33 38.2 +1.7**
32nm,1.0s
UTHA Uthaitani 27.16 284 P **P** **14 33 39.1 +1.2**
3.3nm,0.7s
PAYA Payao 27.49 292 P **P** **14 33 40.5 -0.4**
5.0nm,0.7s,66nm
UMPA Umpang Tak 27.80 285 P **P** **14 33 49.5 +5.8**
MJAR Matsushiro Arr 27.95 20 P **P** **14 33 43.8 -0.9**
1.7nm,0.8s,baz=201,slow=9.8,SNR=3.0
CM01 Chiang Mai Arr 28.11 290 *eP* **P** **14 33 44.7 -1.7**
CM01 *e*PcP **PcP** **14 37 01.5 +0.9**
CMAR Chiang Mai Arr 28.13 290 P **P** **14 33 45.1 -1.6**
2.1nm,0.8s,baz=102,slow=7.0,SNR=14
CMAR PcP **PcP** **14 37 01.0 +0.3**
0.8nm,0.7s,baz=107,slow=1.2,SNR=7.0
CMAR Chiang Mai Arr 28.13 290 *eP* **P** **14 33 45.6 -1.0**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CHTO Chiang Mai 28.21 290 *eP* **P** **14 33 45.6 -1.6**
comp=Z,2.9nm,0.8s
CHTO Chiang Mai 28.21 290 *eP* **P** **14 33 45.7 -1.6**
CHTO pmax pmax
comp=Z,3.0nm,0.8s
FITZ Fitzroy Crossi 28.39 182 P **P** **14 33 47.2 -1.5**
comp=Z,7.4nm,0.9s,baz=11,slow=7.2,SNR=3.0
PDSI Padang 28.56 248 P **P** **14 33 50.9 +0.4**
comp=Z,27nm,0.9s
XAN Xi'an 28.65 328 P **P** **14 33 51.8 +0.7**
XAN pmax pmax
comp=Z,26nm,0.9s
XAN pmax pmax
comp=Z,170nm,5.4s
XAN LR LR
comp=Z,390nm,14.7s
XAN LR LR
comp=Z,390nm,12.7s
PSI Prapat 28.73 257 P **P** **14 33 51.0 -1.1**
comp=Z,3.3nm,0.3s,baz=186,slow=1.0,SNR=4.6
MNSI Mandailing Nat 28.74 252 P **P** **14 33 52.0 0.0**
comp=Z,20nm,0.6s
CD2 Chengdu 29.56 317 *eP* **P** **14 34 00.0 +0.8**
CD2 S **S** **14 38 53.4 0.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.8s
CD2 LR LR
comp=Z,980nm,15.9s
CD2 LR LR
comp=Z,800nm,18.9s
CD2 LR LR
comp=Z,1μm,21.9s
SISI Saibi 29.98 249 P **P** **14 34 01.8 -1.3**
BJI Beijing 30.96 344 *eP* **P** **14 34 12.6 +1.2**
BJI pmax pmax
comp=Z,8.0nm,0.7s
BJI LR LR
comp=Z,760nm,21.0s
BJI LR LR
comp=Z,640nm,20.8s
BJI LR LR
comp=Z,710nm,22.7s
WRAB Tennant Creek 31.08 166⇑ *e*P P 14 34 06.0 -6.7
WRA Warramunga Arr 31.09 166 P **P** **14 34 11.0 -1.7**
comp=Z,3.1nm,0.8s,baz=347,slow=9.0,SNR=17
WRA PcP **PcP** **14 37 07.8 -0.4**
comp=Z,1.1nm,0.6s,baz=340,slow=3.0,SNR=4.9
WB2 Warramunga Arr 31.09 166 *eP* **P** **14 34 11.1 -1.6**
MBWA Marble Bar 32.17 193 *eP* **P** **14 34 21.2 -1.1**
LZH Lanzhou 32.96 324 *eP* **P** **14 34 30.9 +1.7**
LZH pP sP 14 34 42.8 +5.1
LZH sP pP 14 34 47.8 +13
LZH PP **PP** **14 35 45.2 +1.3**
LZH pmax pmax
comp=Z,51nm,1.0s
LZH pmax pmax
comp=Z,170nm,4.3s
LZH LR LR
comp=Z,1μm,11.9s
LZH LR LR
comp=Z,1μm,15.2s
LZH LR LR
comp=Z,1μm,15.4s
HHC Hu-ho-hao-te 33.16 339 *eP* **P** **14 34 33.4 +2.6**
HHC pmax pmax
comp=Z,20nm,1.0s
HHC pmax pmax
comp=Z,88nm,5.5s
USRK Ussuriysk Ar. 33.93 7 P **P** **14 34 38.1 +0.7**
comp=Z,6.4nm,0.9s,baz=189,slow=8.7,SNR=8.2
AS31 Alice Springs 34.60 169 *eP* **P** **14 34 42.2 -1.2**
comp=Z,5.1nm,1.0s
ASAR Alice Springs 34.60 169 P **P** **14 34 42.3 -1.2**
comp=Z,2.7nm,0.6s,baz=352,slow=7.0,SNR=8.4
ASAR PcP **PcP** **14 37 18.1 +0.2**
comp=Z,1.3nm,0.6s,baz=341,slow=2.9,SNR=6.5
CTA Charters Tower 35.86 148 P **P** **14 34 54.2 -0.1**
comp=Z,4.3nm,0.9s,baz=319,slow=15,SNR=2.8
SHL Shillong 36.34 299 P **P** **14 34 57.9 -0.8**
SHL pmax pmax
comp=Z,15nm,0.9s
GTA Gaotai 37.56 325 ⇓P **P** **14 35 10.0 +1.2**
GTA pP sP 14 35 21.2 +3.9
GTA sP pP 14 35 26.1 +11
GTA PcP **PcP** **14 37 28.0 +1.4**
GTA S **S** **14 40 56.7 -0.6**
GTA sS ScP 14 41 16.8 +3.7
GTA SS **SnSn** **14 43 32.0 -4.0**
GTA pmax pmax
comp=Z,32nm,1.0s
GTA pmax pmax
comp=Z,75nm,6.0s
GTA LR LR
comp=Z,320nm,18.4s
GTA LR LR
comp=Z,540nm,18.1s
GTA LR LR
comp=Z,840nm,19.0s
KLR Kul'dur 38.88 5⇑ *e*P **P** **14 35 20.1 +0.5**
ODAN Odare 40.58 299 *e*P **P** **14 35 33.1 -1.3**
ULN Ulaanbaatar 40.85 340⇑ *e*P **P** **14 35 37.6 +1.4**
ULN pmax pmax
comp=Z,3.0nm,0.7s
GRNR Gornyy 40.97 9 *e*P **P** **14 35 39.0 +2.0**
GRNR pmax pmax
comp=Z,12nm,1.0s
SONM Songino Array 41.05 339 P **P** **14 35 38.2 +0.4**
comp=Z,2.5nm,0.8s,baz=161,slow=9.8,SNR=12
SONM PcP **PcP** **14 37 37.4 -0.1**
comp=Z,0.9nm,0.7s,baz=101,slow=2.0,SNR=3.2
SONM Songino Array 41.05 339 *e*P **P** **14 35 38.7 +0.8**
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONA1 Songino Array 41.06 339 *e*P **P** **14 35 38.1 +0.2**
RAMN Ramite 41.28 299 *e*P **P** **14 35 38.6 -1.6**
comp=Z,9.9nm,0.7s
JIRN Jiri 41.83 300 *e*P **P** **14 35 43.6 -1.2**
comp=Z,20nm,0.7s
GUN Gumba 42.16 300 *e*P **P** **14 35 46.5 -1.0**
comp=Z,15nm,0.7s
PKI Pulchoki 42.47 300 *e*P **P** **14 35 48.3 -1.7**
PKIN Phulchoki 42.48 300 *e*P **P** **14 35 48.2 -1.8**
comp=Z,7.0nm,0.7s
BBOO Buckleboo 43.90 169 *e*P **P** **14 36 00.8 -0.2**
comp=Z,33nm,0.6s
KOLN Koldanda 44.07 299 *e*P **P** **14 36 01.7 -1.1**
comp=Z,6.0nm,0.7s
DANN Dangsing 44.08 300 *e*P **P** **14 36 01.3 -1.7**
comp=Z,7.0nm,0.5s
STKA Stephens Creek 44.39 162 P **P** **14 36 03.8 -1.1**
comp=Z,3.5nm,0.8s,baz=343,slow=12,SNR=5.2
PYUN Piuthan 44.68 299 *e*P **P** **14 36 06.3 -1.3**
comp=Z,11nm,0.9s
TLY Talaya 45.26 340 *e*P **P** **14 36 11.5 -0.2**
comp=Z,3.3nm,0.7s
TLY Talaya 45.26 340 *e*P **P** **14 36 13.0 +1.3**
TLY pmax pmax
comp=Z,4.0nm,0.8s
TLY MLR MLR
comp=Z,1μm,20.0s
HYB Hyderabad 47.27 284 *i* P **P** **14 36 28.0 -0.1**
WMQ Urumqi 47.43 322 P **P** **14 36 30.6 +1.7**
WMQ pP sP 14 36 41.4 +3.9
WMQ sP pP 14 36 48.0 +13
WMQ pmax pmax
comp=Z,47nm,0.9s
WMQ pmax pmax
comp=Z,410nm,5.7s
WMQ LR LR
comp=Z,1μm,19.1s
WMQ LR LR
comp=Z,890nm,24.9s
WMQ LR LR
comp=Z,1μm,22.7s
HVS Khovu-Aksy 48.79 333⇑ *e*P **P** **14 36 40.5 +1.1**
HVS pmax pmax
comp=Z,6.0nm,0.8s
PETK Petropavlovsk- 49.25 24 P **P** **14 36 43.0 +0.3**
comp=Z,2.3nm,0.8s,baz=191,slow=2.7,SNR=6.7
PETK Petropavlovsk- 49.25 24 P **P** **14 36 43.0 +0.3**
DGZ Jazzator, Alta 50.92 328*d* *i*P **P** **14 36 56.8 +1.2**
DGZ pmax pmax
comp=Z,5.0nm,0.8s
YAK Yakutsk 51.54 2⇑ *e*P **P** **14 37 00.5 +0.7**
YAK pmax pmax
comp=Z,26nm,2.7s
MK01 Makanchi Array 52.21 322 *e*P **P** **14 37 05.5 +0.3**
MK01 *e*PcP **PcP** **14 38 16.8 +0.1**
MKAR Makanchi Array 52.23 322 P **P** **14 37 06.2 +0.8**
comp=Z,18nm,0.7s,baz=119,slow=8.4,SNR=105
MKAR PcP **PcP** **14 38 17.0 +0.3**
comp=Z,7.0nm,0.9s,baz=98,slow=4.8,SNR=6.0
PRZ Przheval'sk 52.85 316 *e*P **P** **14 37 10.6 +0.4**
comp=Z,19nm,0.8s
PRZ Przheval'sk 52.85 316 *e*P **P** **14 37 10.6 +0.4**
PRZ pmax pmax
comp=Z,19nm,0.8s
KSH Kashi 53.53 312 *e*P **P** **14 37 17.9 +2.7**
KSH S **S** **14 44 45.9 -1.6**
KSH pmax pmax
comp=Z,34nm,1.5s
KSH pmax pmax
comp=Z,170nm,6.6s
KDJ Kajisay 53.56 315 *e*P **P** **14 37 16.7 +1.3**
comp=Z,7.1nm,0.8s
KDJ Kajisay 53.56 315 *e*P **P** **14 37 16.7 +1.3**
KDJ pmax pmax
comp=Z,7.0nm,0.8s
NRN Naryn 54.14 314 *e*P **P** **14 37 19.9 0.0**
comp=Z,6.1nm,0.8s
NRN Naryn 54.14 314 *e*P **P** **14 37 19.9 0.0**
NRN pmax pmax
comp=Z,6.0nm,0.8s
ZAA0 Zalesovo Array 54.74 331 *e*P **P** **14 37 23.4 -0.2**
comp=Z,3.9nm,0.8s
ZALV Zalesovo Beam 54.74 331 P **P** **14 37 23.5 -0.2**
comp=Z,1.7nm,0.5s,baz=119,slow=6.5,SNR=9.6
ZALV Zalesovo Beam 54.74 331 *e*P **P** **14 37 23.1 -0.5**
ZALV Zalesovo Beam 54.74 331 *e*P **P** **14 37 23.9 +0.3**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
KZA Kyzart 54.88 315 P **P** **14 37 26.7 +1.3**
SNR=9.7
TKM2 Tokmak 2 54.93 316 P **P** **14 37 26.8 +1.3**
SNR=6.7
KBK Karagaybulak 55.29 315 P **P** **14 37 29.0 +1.0**
SNR=6.8
UCH Uchtor 55.45 314 P **P** **14 37 30.5 +0.9**
SNR=20
AAK Ala-Archa 55.60 315 *e*P **P** **14 37 30.0 -0.2**
comp=Z,19nm,1.9s
AAK Ala-Archa 55.60 315 *e*P **P** **14 37 30.0 -0.2**
AAK pmax pmax
comp=Z,19nm,1.9s
AML Almayashu 56.00 314 P **P** **14 37 34.1 +0.7**
SNR=12
EKS2 Erkin-Say 56.11 315 P **P** **14 37 33.9 +0.1**
SNR=8.1
KURK Kurchatov 56.24 325 *e*P **P** **14 37 34.8 +0.4**
comp=Z,48nm,0.9s
KURK Kurchatov 56.24 325*d* *i*P **P** **14 37 35.1 +0.6**
KURK pmax pmax
comp=Z,57nm,1.0s
KK31 Karatay Array 58.53 314 *e*P **P** **14 37 50.5 -0.3**
KK31 Karatay Array 58.53 314 *e*P **P** **14 37 50.5 -0.3**
KKAR Karatay Array 58.53 314 *e*P **P** **14 37 50.5 -0.3**
KKAR Karatay Array 58.53 314 *e*P **P** **14 37 50.5 -0.3**
TIXI Tiksi 61.17 1⇑ *e*P **P** **14 38 08.9 +0.5**
TIXI pmax pmax
comp=Z,7.0nm,1.1s
BRVK Borovoye 61.91 325 *e*P **P** **14 38 14.0 +0.2**
comp=Z,22nm,0.9s
BRVK Borovoye 61.91 325 *e*P **P** **14 38 14.0 +0.2**
BRVK pmax pmax
comp=Z,23nm,0.9s
BILL Bilibino 63.09 16 *e*P **P** **14 38 22.5 +1.2**
BILL pmax pmax
comp=Z,2.0nm,1.0s
NRIK Noril'sk 63.99 346 P **P** **14 38 26.3 -0.9**
comp=Z,3.0nm,0.5s,baz=154,slow=7.7,SNR=4.3
NRIK Noril'sk 63.99 346 *e*P **P** **14 38 28.8 +1.6**
NRIK pmax pmax
comp=Z,1.0nm,0.5s
ABKAR Akbulak array 67.11 319 *e*P **P** **14 38 47.5 -0.3**
SVE Sverdlovsk 68.37 327*ce*P **P** **14 38 56.1 +0.5**
SVE pmax pmax
comp=Z,24nm,1.0s
ARU Arti 69.39 327*d* *i*P **P** **14 39 01.7 -0.3**
ARU 14 39 24.5
ARU S **S** **14 48 08.3 +0.4**
ARU SS **SS** **14 52 32.5 -2.5**
ARU pmax pmax
comp=Z,31nm,1.7s
ZEI Tsey 77.82 312 *e*P **P** **14 39 51.3 -0.8**
ZEI pmax pmax
comp=Z,10.0nm,0.9s
NCK Nalchik 78.01 312⇓ *e*P **P** **14 39 53.6 +0.7**
NCK pmax pmax
comp=Z,6.0nm,0.6s
KBZ Khabaz 78.50 313 P **P** **14 39 55.6 0.0**
comp=Z,4.7nm,0.9s,baz=17,slow=1.5,SNR=5.4
VRH Novokhopyorsk 78.89 320 *e*P **P** **14 39 56.7 -0.8**
VRH pmax pmax
comp=Z,30nm,1.0s
ILAR Eielson Array 79.04 26 P **P** **14 39 57.4 -0.8**
comp=Z,0.8nm,0.8s,baz=241,slow=5.5,SNR=7.9
VORD Divnogorie 80.44 320 *e*P **P** **14 40 04.3 -1.6**
VORD pmax pmax
comp=Z,20nm,0.5s
VSR Storozhevoye 80.49 320 *e*P **P** **14 40 04.2 -2.0**
VSR pmax pmax
comp=Z,10.0nm,0.7s
LPSR Galich'ya Gora 80.53 322 *e*P **P** **14 40 05.8 -0.6**
LPSR pmax pmax
comp=Z,20nm,0.9s
OBN Obninsk 81.68 325 *e*P **P** **14 40 11.5 -0.9**
OBN pmax pmax
comp=Z,30nm,1.7s
ARCES ARCESS Array B 84.23 340 P **P** **14 40 25.4 -0.1**
comp=Z,6.1nm,0.7s,baz=80,slow=6.2,SNR=20
ARCES ARCESS Array B 84.23 340 *e*P **P** **14 40 25.7 +0.3**
ARCES pmax pmax
comp=Z,6.0nm,0.7s
BR131 Keskin Array S 85.85 309 *e*P **P** **14 40 33.5 -0.9**
BRTR Keskin Array B 85.85 309 P **P** **14 40 33.9 -0.6**
comp=Z,4.8nm,0.7s,baz=110,slow=4.2,SNR=22
FINES FINESS Array B 86.00 332 P **P** **14 40 34.7 +0.3**
comp=Z,8.7nm,0.9s,baz=52,slow=12,SNR=13
AKASG Malin Array Be 86.78 321 P **P** **14 40 37.9 -0.6**
comp=Z,4.1nm,0.7s,baz=70,slow=4.3,SNR=4.2
KIEV Kiev 86.79 321 *e*P **P** **14 40 38.0 -0.6**
comp=Z,17nm,1.2s
KIEV Kiev 86.79 321⇑ *i*P **P** **14 40 38.5 -0.1**
KIEV pmax pmax
comp=Z,41nm,2.7s
ISP Isparta 88.61 308⇑ *e*P **P** **14 40 46.2 -1.5**
ISP pmax pmax
comp=Z,11nm,0.7s
VNDA Vanda 90.03 173 P **P** **14 40 53.4 +0.1**
comp=Z,2.1nm,0.7s,baz=323,slow=6.2,SNR=28
VNDA Vanda 90.03 173 *e*P **P** **14 40 53.4 +0.1**
comp=Z,7.1nm,1.4s
VNDA Vanda 90.03 173 *e*P **P** **14 40 53.4 +0.1**
VNDA pmax pmax
comp=Z,7.0nm,1.4s
BUR04 Bucovina Ar. S 90.08 318 *e*P **P** **14 40 54.6 +0.2**
BUR08 Bucovina Ar. S 90.09 319 *e*P **P** **14 40 54.7 +0.2**
UZH Uzhgorod 91.67 320*c* *i*P **P** **14 41 02.0 +0.4**
UZH *i* 14 41 08.7
UZH *e* 14 41 17.3
NOA NORSAR Array B 92.85 334 P **P** **14 41 06.1 -0.8**
comp=Z,1.2nm,0.9s,baz=35,slow=4.6,SNR=2.1
YKA Yellowknife Ar 93.37 24 P **P** **14 41 09.4 +0.3**
comp=Z,1.1nm,0.8s,baz=302,slow=3.8,SNR=4.0
TOA0 Torodi Ar. Sit 120.72 292 *e*PKPdf **PKPdf** **14 46 46.3 -0.9**
TORD Torodi Ar. Bea 120.72 292 PKP **PKPdf** **14 46 45.5 -1.8**
comp=Z,0.7nm,0.7s,baz=116,slow=3.4,SNR=5.7
PLCA Paso Flores 146.14 156 PKPbc **PKPab** **14 47 35.5 +0.1**
comp=Z,5.3nm,0.7s,baz=279,slow=2.9,SNR=18
PLCA Paso Flores 146.14 156 *e*PKPdf **PKPdf** **14 47 34.5 +0.6**
TRQA Tornquist 151.39 165 *e*PKPbc **PKPbc** **14 47 48.3 -0.2**
TRQA Tornquist 151.39 165 *e*PKIKP **PKPbc** **14 47 48.3 -0.2**
RCBR Riachuelo 162.31 284 PKP **PKPdf** **14 47 54.7 -2.3**
comp=Z,118nm,0.9s,baz=63,slow=0.9,SNR=3.8

*ISCJB **06** 14:29:34.5±1.0,2°.93S±0°.05×148°.5E±0°.2,h18km,mb3.8/1, Error ellipse: s-maj=31.2km s-min=7.6km az=3.8*
*IDC **06** 14:29:34.1±1.5,2°.80S×148°.53E,h0km,mb4.0/7, mb1 4.3/8,mb1mx4.0/34,mbtmp4.1/8,ML1.6/1,Error ellipse: s-maj=47.8km s-min=19.8km az=106.0*
*NEIC **06** 14:29:34.7±0.9,2°.94S×148°.56E,h10km,mb4.7/4,Error ellipse: s-maj=28.8km s-min=9.8km az=99.0*

ISC 06 14:29:36.9±0.9,2°.88S±0°.08×148°.4E±0°.1,h18km,n21,
σ1§37/22,Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**6.59**	**190**	Pn		**Pn**	**14 31 14.7**	**+1.8**
	0.8nm,0.3s,baz=6.3,slow=9.2,SNR=3.1							
PMG				Sn		**Sn**	**14 32 27.0**	**-0.8**
	0.5nm,0.3s,baz=24,slow=22,SNR=3.5							
JAY	**Jayapura**	**7.64**	**273**	P		**Pb**	**14 31 47.8**	**-1.2**
GENI	**Genyem**	**8.18**	**272**	P		**Pb**	**14 31 57.6**	**-0.5**
GUMO	**Guam**	**16.72**	**348**	*e*Pn		**Pn**	**14 33 30.3**	**-0.1**
	149nm,1.0s							
CTAO	**Charters Tower**	**17.23**	**187**	*e*Pn		**Pn**	**14 33 34.7**	**-2.1**
	46nm,1.5s							
WRAB	**Tennant Creek**	**21.77**	**218**	*e*P		**P**	**14 34 27.3**	**-0.6**
	23nm,1.0s							
WR1	**Warramunga Arr**	**21.79**	**218**	*e*P		**P**	**14 34 27.8**	**-0.3**
	63nm,1.5s							
WRA	**Warramunga Arr**	**21.79**	**218**	P		**P**	**14 34 27.8**	**-0.3**
	9.3nm,0.9s,baz=42,slow=12,SNR=9.8							
ASAR	**Alice Springs**	**24.95**	**213**	P		**P**	**14 35 00.6**	**+1.2**
	15nm,1.0s,baz=46,slow=8.3,SNR=9.3							
FITZ	**Fitzroy Crossi**	**26.91**	**234**	P		**P**	**14 35 20.1**	**+2.9**
	18nm,0.9s,baz=74,slow=8.2,SNR=9.0							
FITZ	**Fitzroy Crossi**	**26.91**	**234**	*e*P		**P**	**14 35 17.0**	**-0.2**
	22nm,0.9s							
CM31	**Chiang Mai Arr**	**53.05**	**296**	*e*P		**P**	**14 38 54.6**	**+1.2**
CMAR	**Chiang Mai Arr**	**53.05**	**296**	P		**P**	**14 38 54.7**	**+1.3**
	0.3nm,0.6s,baz=120,slow=5.3,SNR=4.9							
SONA0	**Songino Array**	**62.38**	**329**	*e*P		**P**	**14 39 59.5**	**+0.8**
SONM	**Songino Array**	**62.38**	**329**	P		**P**	**14 39 59.5**	**+0.8**
	0.4nm,0.6s,baz=145,slow=5.3,SNR=2.6							
MK32	**Makanchi Array**	**75.98**	**320**	*e*P		**P**	**14 41 21.9**	**-1.1**
MKAR	**Makanchi Array**	**75.98**	**320**	P		**P**	**14 41 21.9**	**-1.1**
	0.7nm,0.8s,baz=101,slow=9.6,SNR=2.9							
ILAR	**Eielson Array**	**82.10**	**23**	P		**P**	**14 41 55.6**	**-0.5**
	0.5nm,0.8s,baz=264,slow=4.5,SNR=3.5							
TOA0	**Torodi Ar. Sit**	**145.49**	**289**	*e*PKPdf		**PKPdf**	**14 49 12.3**	**-2.7**
TORD	**Torodi Ar. Bea**	**145.49**	**289**	PKPbc		**PKPab**	**14 49 16.2**	**+0.9**
	0.9nm,0.8s,baz=49,slow=3.6,SNR=4.3							
TOA1	**Torodi Ar. Sit**	**145.49**	**289**	*e*PKPdf		**PKPab**	**14 49 16.2**	**+0.9**

GUC 06 14:37:56.4±0.5,23°.91S×67°.46W,h219km±10km,ML3.9,
8C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB15	**IPOC Station P**	**1.98**	**290**⇑	*i*P		Pn	14 38 37.7	+1.3
PB15				*i* S		S	14 39 09.4	+2.0
PB06	**IPOC Station P**	**2.29**	**301**⇑	*i*P		Pn	14 38 41.3	+1.8
PB06				*i* S		S	14 39 15.1	+2.3
PB06				IAML			14 39 17.6	
	comp=N,446nm,0.2s							
PB09	**IPOC Station P**	**2.68**	**322**	*e*P		Pn	14 38 46.0	+2.4
PB09				*i* S		S	14 39 22.4	+2.0
PB09				IAML			14 39 28.6	
	comp=E,79nm,0.4s							
PB05	**IPOC Station P**	**2.74**	**292**⇑	*i*P		Pn	14 38 46.2	+1.9
PB05				*i* S		S	14 39 23.6	+2.2
PB05				IAML			14 39 28.1	
	comp=E,140nm,0.2s							
PB14	**IPOC Station P**	**2.78**	**255**	IAML			14 39 27.1	
	comp=E,184nm,0.3s							
PB03	**IPOC Station P**	**2.82**	**311**⇑	*i*P		Pn	14 38 47.1	+1.9
PB03				*i* S		S	14 39 25.7	+2.6
PB03				IAML			14 39 28.0	
	comp=E,189nm,0.2s							
PB10	**IPOC Station P**	**2.87**	**277**	*e*P			14 38 47.2	+1.7
PB10				*i* S		S	14 39 25.7	+1.9
PB04	**IPOC Station P**	**2.94**	**302**⇑	*i*P		Pn	14 38 48.8	+2.3
PB04				*i* S		S	14 39 28.4	+2.9
PB04				IAML			14 39 30.7	
	comp=N,282nm,0.6s							
PB07	**IPOC Station P**	**3.13**	**314**⇑	*i*P		Pn	14 38 50.8	+2.1
PB07				*i* S		S	14 39 32.0	+2.5
PB01	**IPOC Station P**	**3.42**	**326**⇑	*i*P		Pn	14 38 53.6	+1.5
PB01				*i* S		S	14 39 38.3	+2.8
PB08	**IPOC Station P**	**4.07**	**337**⇑	*i*P		Pn	14 39 02.5	+2.3
PB08				*i* S		S	14 39 53.5	+3.3

*PRU **06** 14:58:36.0±0.0,50°.22N×19°.26E,h0km*

WAR 06 14:58:37.4,50°.16N×19°.34E,h1km,Mw2.1,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OJC	**Ojcow**	**0.30**	**79**	*e*Pg		Pg	14 58 43.0	-0.1
OJC				*e*Sg		Sg	14 58 47.4	+0.4
OJC	**Ojcow**	**0.30**	**79**	*e*Pg		Pg	14 58 43.0	-0.1
OJC				*e*Sg		Sg	14 58 47.4	+0.4
OKC	**Ostrava-Krasne**	**0.84**	**248**	*e*SG		Sg	14 59 03.8	-0.5
	comp=Z,10nm,0.7s							
LANS	**Liptovska Anna**	**1.02**	**175**	*e*PG		Pg	14 58 56.6	-0.3

LANS				*e*SG	Sb	14 59 11.1	-0.6
MORC	**Moravsky Berou**	**1.23**	**252**	*e*PG	Pg	14 58 59.6	-1.3
MORC				*e*SG	Sg	14 59 15.2	-1.5
KRLC	**Kraliky**	**1.65**	**268**	*e*SG	Sn	14 59 26.3	-3.2
	comp=Z,3.2nm,0.5s						
VYHS	**Vyhne**	**1.70**	**191**	*e*PG	Pn	14 59 06.8	-1.4
VYHS				*e*SN	Sn	14 59 28.7	-2.0
VYHS				*e*LG	Lg	14 59 32.4	
DPC	**Dobruska-Polom**	**1.95**	**277**	*e*PG	Pn	14 59 10.2	-1.5
DPC				*e*SG	Sn	14 59 35.6	-1.2
	comp=Z,4.1nm,0.3s						
KHC	**Kasperske Hory**	**3.89**	**257**	*e*SG	Sb	15 00 38.0	+3.7

KRSC 06 14:58:51.9±1.4, 54°51.1N×164°10.1E, h47km±24km, ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.28**	**56**	*e*P	Pn	14 59 15.2	+1.8
BKI				*e*S	Sn	14 59 29.6	+0.2
KBTR	**Krutoberegovo**	**1.85**	**337**	*e*P	Pn	14 59 22.8	+1.6
KBTR				*e*S	Sn	14 59 44.2	+0.8
KZV	**Kizimen**	**2.29**	**287**	*i* P	Pn	14 59 31.2	+3.9
TUMR	**Tumrok**	**2.41**	**290**	*e*P	Pn	14 59 33.3	+4.3
ZLN	**Zelenaya**	**2.42**	**310**	*e*P	Pn	14 59 32.9	+3.9
ZLN				*e*S	Sn	15 00 00.2	+2.8
KMNR	**Kamenistaya**	**2.55**	**301**	*e*P	Pn	14 59 34.3	+3.5
SPN	**Mys Shipunski**	**2.80**	**241**	*e*P	Pn	14 59 37.8	+3.6
SPN				*e*S	Sn	15 00 08.4	+1.7
NLC	**Nalytchevo**	**3.12**	**247**	*e*S	Sn	15 00 17.3	+2.8
SDLR	**Sedlovina**	**3.33**	**250**	*e*P	Pn	14 59 46.6	+5.1
SMAR	**Somma**	**3.38**	**250**	*e*P	Pn	14 59 47.2	+4.9
UGLR	**Uglovaya**	**3.39**	**250**	*e*P	Pn	14 59 46.6	+4.3
ESO	**Esso**	**3.41**	**297**	*e*P	Pn	14 59 46.0	+3.5
AVH	**Avacha**	**3.41**	**251**	*e*P	Pn	14 59 47.8	+5.2
AVH				*e*S	Sn	15 00 26.4	+4.6
KRX	**Arik**	**3.42**	**253**	*e*P	Pn	14 59 46.9	+4.1
DALK	**Dalny**	**3.50**	**247**	*e*P	Pn	14 59 47.6	+3.8
DALK				*e*S	Sn	15 00 26.3	+2.4
PET	**Petropavlovsk**	**3.56**	**248**	*e*P	Pn	14 59 49.3	+4.8
PET				*e*S	Sn	15 00 28.3	+3.0
GNL	**Ganaly**	**3.72**	**260**	*e*P	Pn	14 59 52.3	+5.5
GNL				*e*S	Sn	15 00 34.4	+5.0
KRMR	**Karymshinskiy**	**3.93**	**247**	*e*P	Pn	14 59 54.4	+4.8
KRMR				*e*S	Sn	15 00 37.5	+3.1
RUS	**Russkaya**	**3.94**	**240**	*e*P	Pn	14 59 54.3	+4.6
KDTR	**Khodutka, Kamc**	**4.52**	**236**	*e*S	Sn	15 00 50.1	+1.1

*NIED **06** 15:01:00, 35°.80N×141°.10E, h11km, Mw4.2 Best double couple: M₀2.19000×10¹⁵ NP1:φ₈170.00000°, δ37.00000°, λ-111.00000°. NP2:φ₈16.00000°, δ56.00000°, λ-75.00000°.*
*IDC **06** 15:01:41.8±0.7, 35°.71N×140°.98E, h0km, mb3.8/15, mb1 4.0/18, mb1mx3.9/52, mbtmp3.8/18, ML3.5/3, MS3.3/4, Ms1 3.3/4, ms1mx2.9/47, Error ellipse: s-maj=19.6km s-min=14.9km az=105.0*
*ISCJB **06** 15:01:42.4±0.7, 35°.75N±0°.03×141°.10E±0°.05, h18km±4km, mb4.0/19, MS3.4/1, Error ellipse: s-maj=6.8km s-min=4.5km az=175.0*
*JMA **06** 15:01:43.6±0.2, 35°.76N×140°.99E, h13km±1km, M4.3*
JMA Felt III J1.
*NEIC **06** 15:01:44.8±2.6, 35°.71N×140°.95E, h20km±19km, mb4.7/5, Error ellipse: s-maj=10.9km s-min=8.2km az=118.0*
NEIC Recorded [3 JMA] in Chiba.

ISC 06 15:01:42.9±1.2, 35°.76N±0°.03×141°.05E±0°.05, h10km±7km, n70, σ1°51/72, mb3.9/19, 3C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.17**	**249**	⇑P	**Pg**	**15 01 46.8**	**+0.3**
CHOJ				S	**Sg**	**15 01 49.2**	**+0.2**
JIHU	**Itakohorinouch**	**0.47**	**296**	P	**Pg**	**15 01 52.7**	**+0.6**
JSMT	**Sammumatsuo**	**0.50**	**256**	P	**Pb**	**15 01 53.0**	**-0.8**
JHYU	**Hitachinakayam**	**0.69**	**327**	P	**Pg**	**15 01 56.6**	**+0.4**
JHYU				S	**Sg**	**15 02 05.7**	**+0.5**
I30JP	**ISUMI INFRASON**	**0.75**	**233**	Pg	**Pb**	**15 01 57.8**	**-0.2**
	baz=61,slow=15,SNR=1.1						
I30JP				Lg	Lg	15 02 09.4	
	baz=120,slow=263						
JCN	**Nagara**	**0.77**	**244**	⇑P	**Pb**	**15 01 58.4**	**0.0**
JYT	**Yasato**	**0.83**	**304**	⇑P	**Pg**	**15 01 58.0**	**-1.0**
JYT				S	**Sg**	**15 02 09.3**	**-0.6**
JHO	**Hitachi**	**0.93**	**335**	P	**Pb**	**15 01 59.8**	**-1.3**
JHO				S	**Sg**	**15 02 12.9**	**-0.1**
BSO4	**Boso 4**	**0.97**	**217**	P	**Pn**	**15 02 01.9**	**-0.5**
BSO3	**Boso 3**	**1.06**	**205**	P	**Pg**	**15 02 02.6**	**-0.6**
BSO1	**Boso 1**	**1.11**	**183**	P	**Pb**	**15 02 02.8**	**-1.0**
MJAR	**Matsushiro Arr**	**2.43**	**289**	Pn	**Pn**	**15 02 21.8**	**-0.8**
	8.2nm,0.3s,baz=166,slow=1.6,SNR=152						
MJAR				Sn	**Sb**	**15 02 54.7**	**-1.9**
	12nm,0.3s,baz=92,slow=10.0,SNR=6.2						
MJAR				LR	LR	15 03 16.3	
	comp=Z,343nm,21.8s,baz=125,slow=40						
MAJO	**Matsushiro**	**2.43**	**290**	*e*Pn	**Pn**	**15 02 21.4**	**-1.2**
MAJO				*e*Sn	**Sb**	**15 02 54.7**	**-1.9**
MAT	**Matsushiro**	**2.43**	**290**	P	**Pn**	**15 02 21.8**	**-0.9**
MAT				*e*S	**Sn**	**15 02 49.9**	**-2.5**
MJB9	**Matsu-Tunnel**	**2.43**	**290**	*e*Pn	**Pn**	**15 02 21.3**	**-1.4**
JHJ2	**Mitsune**	**2.83**	**201**	*e*Pn	**Pn**	**15 02 28.9**	**+0.7**
JHJ	**Hachijo jima 2**	**2.84**	**202**	Pn	**Pn**	**15 02 28.4**	**+0.2**
	20nm,0.3s,baz=128,slow=23,SNR=11						
JHJ				Sn	**Sn**	**15 03 00.7**	**-1.8**
	42nm,0.3s,baz=224,slow=22,SNR=5.0						
INU	**Inuyama**	**3.31**	**264**	*e*Pn	**Pn**	**15 02 36.5**	**+1.7**
ERM	**Erimo**	**6.46**	**14**	*e*Pn	**Pn**	**15 03 18.3**	**+0.3**
ASAJ	**Asahikawa**	**8.43**	**8**	Pn	**Pn**	**15 03 44.2**	**-0.8**
	0.8nm,0.3s,baz=214,slow=9.2,SNR=8.5						
ASAJ				Sn	**Sn**	**15 05 17.9**	**-2.2**
	0.1nm,0.3s,baz=150,slow=20,SNR=2.5						
ASAJ	**Asahikawa**	**8.43**	**8**	*e*Pn	**Pn**	**15 03 43.4**	**-1.6**
ASAJ				Sn	**Sn**	**15 05 17.9**	**-2.2**
CBIJ	**Chichi jima**	**8.70**	**173**	*e*Pn	**Pn**	**15 03 45.5**	**-3.3**
KSRS	**Korea Array**	**10.69**	**283**	Pn	Pn	15 04 20.9	+4.9
	0.1nm,0.3s,baz=93,slow=14,SNR=3.8						
KSRS				LR	LR	15 08 19.6	
	comp=Z,108nm,18.8s,baz=145,slow=37						
KSAR	**Wonju Array Be**	**10.72**	**283**	Pn	**Pn**	**15 04 20.9**	**+4.5**
USRK	**Ussuriysk Ar.**	**10.92**	**323**	Pn	**Pn**	**15 04 22.3**	**+3.2**
	baz=131,slow=16						
YSS	**Yuzh-Sakhalins**	**11.25**	**6**	*e*Pn	**Pn**	**15 04 23.9**	**+0.2**
JOW	**Kunigami**	**14.08**	**234**	LR	LR	15 09 51.8	
	comp=Z,243nm,20.9s,baz=91,slow=35						
PETK	**Petropavlovsk-**	**20.93**	**29**	P	**P**	**15 06 27.7**	**+2.1**
	3.5nm,0.8s,baz=217,slow=9.3,SNR=6.2						
PEA1	**Petropavlovsk-**	**20.94**	**29**	*e*P	**P**	**15 06 27.7**	**+2.0**
YAK	**Yakutsk**	**27.25**	**348**	P	**P**	**15 07 26.0**	**-0.9**
	7.6nm,0.4s,baz=197,slow=5.2,SNR=4.7						
YAK	**Yakutsk**	**27.25**	**348**	*e*P	**P**	**15 07 25.3**	**-1.5**
	18nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**27.78**	**118**	T	T	15 36 29.2	
	baz=311,slow=75,SNR=572						
H11N1	**WAKE ISLAND Hy**	**27.79**	**118**	T	T	15 36 29.1	
	baz=311,slow=75,SNR=285						
H11N3	**WAKE ISLAND Hy**	**27.80**	**118**	T	T	15 36 33.4	
	baz=311,slow=75,SNR=454						
SEY	**Seymchan**	**28.09**	**11**	P	**P**	**15 07 31.1**	**-3.3**
	1.2nm,0.6s,baz=198,slow=20,SNR=3.2						
SONA0	**Songino Array**	**28.27**	**306**	*e*P	**P**	**15 07 37.9**	**+1.5**
SONM	**Songino Array**	**28.27**	**306**	P	**P**	**15 07 37.9**	**+1.5**
	1.0nm,0.7s,baz=123,slow=7.1,SNR=5.4						
H11S1	**WAKE ISLAND Hy**	**28.44**	**120**	T	T	15 37 18.1	
	baz=312,slow=75,SNR=938						
H11S3	**WAKE ISLAND Hy**	**28.44**	**120**	T	T	15 37 19.6	
	baz=312,slow=75,SNR=758						
H11S2	**WAKE ISLAND Hy**	**28.46**	**120**	T	T	15 37 18.5	
	baz=312,slow=75,SNR=544						
CMAR	**Chiang Mai Arr**	**40.90**	**256**	P	**P**	**15 09 26.8**	**+1.3**
	0.3nm,0.7s,baz=57,slow=6.6,SNR=3.4						
CMAR				LR	LR	15 28 52.7	
	comp=Z,45nm,18.4s,baz=0.0,slow=40						
ZAA1	**Zalesovo Array**	**42.56**	**313**	*e*P	**P**	**15 09 37.9**	**-0.8**
ZALV	**Zalesovo Beam**	**42.56**	**313**	P	**P**	**15 09 37.9**	**-0.8**
	0.7nm,0.3s,baz=78,slow=7.5,SNR=2.9						
ZALV	**Zalesovo Beam**	**42.56**	**313**	*e*P	**P**	**15 09 37.3**	**-1.3**
MK01	**Makanchi Array**	**44.55**	**303**	*e*P	**P**	**15 09 53.6**	**-1.2**
MK32	**Makanchi Array**	**44.55**	**303**	*e*P	**P**	**15 09 54.8**	**-0.1**
MKAR	**Makanchi Array**	**44.55**	**303**	P	**P**	**15 09 54.8**	**-0.1**
	2.7nm,0.8s,baz=88,slow=8.4,SNR=11						
KURK	**Kurchatov**	**46.49**	**309**	*e*P	**P**	**15 10 09.2**	**-0.9**
	4.8nm,0.8s						
ILAR	**Eielson Array**	**50.72**	**32**	P	**P**	**15 10 43.5**	**+1.0**
	2.7nm,0.9s,baz=271,slow=6.1,SNR=13						
IL1	**Eielson Array**	**50.73**	**32**	*e*P	**P**	**15 10 42.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**55.52**	**198**	P	**P**	**15 11 18.2**	**0.0**
	1.5nm,0.8s,baz=16,slow=7.4,SNR=1.8						
FITZ	**Fitzroy Crossi**	**55.52**	**198**	*e*P	**P**	**15 11 17.6**	**-0.7**
	10nm,1.4s						
INK	**Inuvik**	**55.65**	**27**	P	**P**	**15 11 19.2**	**+0.6**
	1.1nm,0.9s,baz=259,slow=5.2,SNR=2.3						
WB2	**Warramunga Arr**	**55.76**	**188**	*e*P	**P**	**15 11 18.4**	**-1.5**
WR1	**Warramunga Arr**	**55.77**	**188**	*e*P	**P**	**15 11 18.6**	**-1.4**
	14nm,1.4s						
WRA	**Warramunga Arr**	**55.77**	**188**	P	**P**	**15 11 18.6**	**-1.4**
	1.8nm,0.9s,baz=4.6,slow=7.5,SNR=6.6						
ABKAR	**Abkulak array**	**58.54**	**311**	*e*P	**P**	**15 11 37.6**	**-1.8**
ASAR	**Alice Springs**	**59.49**	**188**	P	**P**	**15 11 45.5**	**-0.7**
	0.5nm,0.8s,baz=24,slow=9.2,SNR=4.9						
RES	**Resolute Bay**	**63.90**	**14**	*e*P	**P**	**15 12 17.1**	**+1.7**
	14nm,1.5s						
AKASG	**Malin Array Be**	**75.12**	**322**	P	**P**	**15 13 24.2**	**-0.8**
	0.3nm,0.3s,baz=49,slow=6.5,SNR=2.6						
AKBB	**Malin Array Si**	**75.12**	**322**	*e*P	**P**	**15 13 24.2**	**-0.8**
NB200	**NORSAR Array S**	**75.24**	**337**	*e*P	**P**	**15 13 27.8**	**+2.2**
NOA	**NORSAR Array B**	**75.24**	**337**	P	**P**	**15 13 27.8**	**+2.2**
	2.5nm,0.9s,baz=40,slow=5.8,SNR=3.2						
NVAR	**Mina Array Bea**	**75.99**	**53**	P	**P**	**15 13 31.9**	**+1.4**
	0.3nm,0.6s,baz=294,slow=5.4,SNR=2.8						
BR101	**Keskin Array S**	**79.47**	**312**	*e*P	**P**	**15 13 50.4**	**+0.6**
BRTR	**Keskin Array B**	**79.47**	**312**	P	**P**	**15 13 50.4**	**+0.6**
	0.8nm,0.6s,baz=76,slow=7.0,SNR=3.3						
LTX	**Lajitas**	**91.13**	**52**	*e*P	**P**	**15 14 50.1**	**+1.8**
TXAR	**Lajitas Array**	**91.13**	**52**	P	**P**	**15 14 50.1**	**+1.8**
	0.1nm,0.5s,baz=322,slow=2.8,SNR=1.9						
LPAZ	**La Paz**	**147.58**	**61**	PKPbc	**PKPbc**	**15 21 29.4**	**+0.7**
	2.7nm,1.0s,baz=345,slow=3.6,SNR=6.8						
LPAZ	**La Paz**	**147.58**	**61**	*e*PKPbc	**PKPbc**	**15 21 29.2**	**+0.5**

*IDC **06** 15:03:45.1±1.3, 35°.64N×140°.97E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.5/53, mbtmp3.5/6, ML3.2/1, Error ellipse: s-maj=33.7km s-min=22.3km az=91.0*
*ISCJB **06** 15:03:46.6±0.9, 35°.75N±0°.04×140°.99E±0°.09, h24km±4km, mb3.6/4, Error ellipse: s-maj=12.0km s-min=5.8km az=169.2*
*JMA **06** 15:03:47.1±0.2, 35°.77N×140°.98E, h13km±1km, M4.1*
JMA Felt I J1.

ISC 06 15:03:47.0±1.2, 35°.77N±0°.03×140°.96E±0°.08, h16km±6km, n23, σ1°12/23, mb3.7/4, 1C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.10**	**233**	⇑P	**Pg**	**15 03 50.3**	**-0.1**
CHOJ				S	**Sg**	**15 03 52.6**	**0.0**
JIHU	**Itakohorinouch**	**0.41**	**300**	P	**Pb**	**15 03 56.1**	**+0.3**
JSMT	**Sammumatsuo**	**0.43**	**254**	P	**Pb**	**15 03 56.5**	**+0.2**
JHYU	**Hitachinakayam**	**0.65**	**332**	P	**Pg**	**15 04 00.0**	**+0.3**
JHYU				S	**Sg**	**15 04 09.0**	**+0.7**
I30JP	**ISUMI INFRASON**	**0.70**	**229**	Pg	**Pb**	**15 04 01.6**	**+0.8**
	baz=61,slow=14						
I30JP				Lg	Lg	15 04 12.5	
	baz=62,slow=213						
JCN	**Nagara**	**0.71**	**241**	P	**Pb**	**15 04 01.8**	**+0.8**
JYT	**Yasato**	**0.77**	**307**	P	**Pg**	**15 04 01.4**	**-0.7**
JYT				S	**Sg**	**15 04 12.2**	**-0.1**
JHO	**Hitachi**	**0.90**	**340**	P	**Pb**	**15 04 03.3**	**-1.0**
BSO4	**Boso 4**	**0.93**	**213**	P	**Pg**	**15 04 05.2**	**+0.3**
BSO3	**Boso 3**	**1.03**	**201**	P	**Pb**	**15 04 06.1**	**-0.2**
MJAR	**Matsushiro Arr**	**2.36**	**290**	Pn	**Pn**	**15 04 25.3**	**+0.2**
	5.7nm,0.3s,baz=89,slow=8.9,SNR=12						
MJAR				Sn	**Sn**	**15 04 53.0**	**-0.7**
	9.1nm,0.3s,baz=15,slow=7.1,SNR=3.8						
MAT	**Matsushiro**	**2.36**	**290**	P	**Pn**	**15 04 25.4**	**+0.3**
MAT				S	**Sn**	**15 04 50.5**	**-3.2**
JHJ	**Hachijo jima 2**	**2.81**	**201**	Pn	**Pn**	**15 04 29.0**	**-2.4**
	baz=30,slow=6.5,SNR=3.0						
JHJ				Sn	**Sn**	**15 05 04.8**	**-0.1**
	14nm,0.3s,baz=252,slow=20,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**27.84**	**118**	T	T	15 38 32.0	
	baz=311,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**27.85**	**118**	T	T	15 38 32.6	
	baz=311,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**27.86**	**118**	T	T	15 38 33.4	
	baz=311,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**28.51**	**120**	T	T	15 39 24.4	
	baz=312,slow=74						
H11S3	**WAKE ISLAND Hy**	**28.51**	**120**	T	T	15 39 20.8	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**28.52**	**120**	T	T	15 39 21.7	
	baz=312,slow=74						
MKAR	**Makanchi Array**	**44.49**	**303**	P	**P**	**15 11 58.8**	**+1.2**
	1.0nm,0.8s,baz=89,slow=9.9,SNR=4.3						
ILAR	**Eielson Array**	**50.76**	**32**	P	**P**	**15 12 47.2**	**+1.3**
	0.5nm,0.6s,baz=260,slow=6.4,SNR=4.4						
WRA	**Warramunga Arr**	**55.76**	**188**	P	**P**	**15 13 22.3**	**-0.8**
	1.6nm,1.1s,baz=359,slow=7.4,SNR=3.4						
ASAR	**Alice Springs**	**59.48**	**188**	P	**P**	**15 13 49.6**	**+0.3**
	0.2nm,0.7s,baz=20,slow=14,SNR=2.7						

MEX 06 15:09:47.9±0.5, 15°.98N×98°.36W, h2km±4km, MD3.6, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.47**	**28**	*e*P	Pg	15 09 56.4	-0.6
PNIG				*e*S	Sg	15 10 03.7	+0.6
HUIG	**Huatulco**	**2.18**	**95**	*i* P	Pn	15 10 21.6	-3.5
HUIG				*i* S	Sn	15 10 48.4	-4.3

*MOS **06** 15:15:14.9±0.0, 42°.96N×45°.78E, h13km, MPVA3.5*
*NORS **06** 15:15:15.8±0.0, 42°.93N×45°.74E, h5km*

ISC 06 15:15:16.4±1.0, 43°.01N±0°.04×45°.77E±0°.03, h15km±8km, n19, σ1°27/35, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.19**	**7**	*i* Pg	**Pg**	**15 15 21.2**	**+0.2**
GROC				*e*Sg	**Sb**	**15 15 25.7**	**+0.5**
DVE	**Vedeno**	**0.27**	**101**	*e*Pg	**Pg**	**15 15 21.4**	**-0.8**
DVE				*e*Sg	**Sb**	**15 15 26.4**	**-1.1**
BTLR	**Botlikh**	**0.48**	**136**	*i* Pg	**Pb**	**15 15 25.8**	**-0.8**
BTLR				*e*Sg	**Sb**	**15 15 32.8**	**-0.7**
XNZR	**Khunzakh**	**0.84**	**124**	*e*Pg	**Pb**	**15 15 31.9**	**-0.9**
XNZR				*e*Sg	**Sn**	**15 15 44.0**	**-1.9**
GNBR	**Gunib**	**1.08**	**125**	*e*Pg	**Pn**	**15 15 37.9**	**+0.8**
GNBR				*e*Sg	**Sn**	**15 15 52.2**	**+0.5**
LACR	**Lac**	**1.09**	**261**	*i* Pg	**Pn**	**15 15 37.2**	**-0.1**
LACR				*e*Sg	**Sn**	**15 15 52.5**	**+0.2**
GUDG	**Gudauri**	**1.09**	**241**	P	**Pn**	**15 15 37.1**	**-0.3**
GUDG				S	**Sn**	**15 15 52.4**	**0.0**
DUS	**Dusheti**	**1.21**	**221**	P	**Pn**	**15 15 40.4**	**+1.5**
DUS				S	Sn	15 16 03.2	+8.2
DUS	**Dusheti**	**1.21**	**221**	*e*Pg	**Pn**	**15 15 40.4**	**+1.5**
DUS				*e*Sg	Sn	15 16 03.2	+8.2
LGD	**Lagodekhi**	**1.23**	**163**	*e*Pg	**Pn**	**15 15 39.4**	**+0.4**
LGD				*e*Sg	**Sn**	**15 15 55.9**	**+0.6**
KORR	**Kora**	**1.25**	**274**	*e*Pg	**Pg**	**15 15 40.9**	**+0.5**
KORR				*e*Sg	**Sn**	**15 15 58.1**	**+2.2**
STDR	**Stavd-Durt**	**1.29**	**287**	*e*Pg	**Pg**	**15 15 41.6**	**+0.3**
STDR				*e*Sg	**Sg**	**15 16 00.2**	**+1.9**
ZEI	**Tsey**	**1.39**	**261**	*e*Pg	**Pg**	**15 15 41.5**	**-1.6**
ZEI				*e*Sg	**Sg**	**15 16 00.6**	**-0.6**
LSNR	**Lesken**	**1.44**	**281**	*e*Pg	**Pg**	**15 15 44.0**	**-0.2**
LSNR				*i* Sg	**Sg**	**15 16 05.3**	**+2.3**
DDFL	**Dedoflistskaro**	**1.59**	**170**	P	**Pg**	**15 15 49.2**	**+2.3**
DDFL				S	Sg	15 16 17.3	+10
DIGR	**Digorskoe uzhe**	**1.61**	**267**	*e*Pg	**Pg**	**15 15 46.0**	**-1.4**
DIGR				*e*Sg	**Sg**	**15 16 07.1**	**-1.2**
ONI	**Oni**	**1.75**	**257**	P	**Pg**	**15 15 48.3**	**-1.8**
ONI				S	**Sg**	**15 16 13.7**	**+0.8**
ONI	**Oni**	**1.75**	**257**	*e*Pg	**Pg**	**15 15 48.3**	**-1.8**
ONI				*e*Sg	**Sg**	**15 16 13.7**	**+0.8**
NEY	**Neytrino**	**2.24**	**277**	*e*Pn	**Pb**	**15 15 55.1**	**-1.6**
NEY				*e*Sn	**Sb**	**15 16 24.8**	**+0.5**

*IDC **06** 15:19:35.4±1.5, 41°.18N×49°.84E, h0km, mb3.7/5, mb1 3.8/10, mb1mx3.5/46, mbtmp3.7/10, ML3.4/3, Error ellipse: s-maj=30.0km s-min=14.0km az=1.0*

*MOS **06** 15:19:36.6±0.8, 40°.95N×50°.12E, h11km, mb4.0/4, Error ellipse: s-maj=8.8km s-min=4.9km az=34.0*
*THR **06** 15:19:37.7±0.4, 41°.01N×49°.88E, h15km, ML3.7*
*NORS **06** 15:19:41.4±0.0, 40°.92N×49°.51E, h13km*
*ISCJB **06** 15:19:42.3±0.3, 40°.90N±0°.02×49°.66E±0°.03, h112km±3km, mb3.6/7, Error ellipse: s-maj=4.5km s-min=2.9km az=141.9*
*DRS **06** 15:19:43.5±0.0, 40°.75N×50°.35E, h30km*
*AZER **06** 15:19:45.6±0.7, 41°.03N×49°.66E, h50km, ml3.8/28, Error ellipse: s-maj=1.9km s-min=1.0km az=34.0*
*NNC **06** 15:19:46.0±4.2, 41°.33N×50°.89E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=45.1km s-min=12.9km az=71.0*

ISC 06 15:19:41.7±0.7, 40°.94N±0°.03×49°.79E±0°.04, h108km±6km, n113, σ2°03/179, mb3.6/7, 35C-37D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDR	**Nardaran**	**0.39**	**158**	⇓P	**Pn**	**15 19 58.2**	**+0.6**
NDR				⇑S	**Sn**	**15 20 10.0**	**+0.5**
GOBA	**Gobu**	**0.54**	**185**	⇑P	**Pn**	**15 19 60.0**	**+1.4**
GOBA				⇑S	**Sn**	**15 20 13.4**	**+2.1**
GALA	**Gala**	**0.60**	**152**	⇓P	**Pn**	**15 20 00.6**	**+1.6**
GALA				⇑S	**Sn**	**15 20 15.2**	**+3.3**
ATGJ	**Altiaghaj**	**0.65**	**263**	⇑P	**Pn**	**15 19 59.4**	**-0.1**
	SNR=47						
ATGJ				⇑S	**Sn**	**15 20 11.4**	**-1.6**
SIZA	**Siyzn**	**0.69**	**282**	⇑P	**Pn**	**15 19 59.7**	**-0.1**
	SNR=45						
SIZA				⇓S	**Sn**	**15 20 12.6**	**-0.9**
GBS	**Qobustan**	**0.76**	**238**	⇑P	**Pn**	**15 20 01.5**	**+1.1**
GBS				⇑S	**Sn**	**15 20 16.4**	**+1.8**
PQL	**Pirkuli**	**0.92**	**261**	⇓P	**Pn**	**15 20 02.5**	**+0.4**
	SNR=31						
PQL				⇓S	**Sn**	**15 20 16.3**	**-1.1**
QUBA	**Quba, Azerbaij**	**1.07**	**293**	⇓P	**Pn**	**15 20 03.8**	**+0.4**
QUBA				⇑S	**Sn**	**15 20 18.9**	**-0.9**
ALIB	**Äli-Bayra**	**1.15**	**212**	⇑P	**Pn**	**15 20 06.7**	**+2.4**
	SNR=58						
IML	**Ismayilli**	**1.23**	**264**	⇓P	**Pn**	**15 20 05.5**	**+0.2**
	SNR=38						
IML				⇑S	**Sn**	**15 20 22.6**	**-0.5**
XNQ	**Khinaliq**	**1.27**	**281**	⇓P	**Pn**	**15 20 05.9**	**0.0**
	SNR=525						
XNQ				⇑S	**Sn**	**15 20 23.1**	**-1.1**
QSAR	**Qusar**	**1.29**	**297**	⇓P	**Pn**	**15 20 06.5**	**+0.6**
QSAR				⇑S	**Sn**	**15 20 23.8**	**-0.4**
KDMR	**Kurdemir**	**1.35**	**246**	⇓P	**Pn**	**15 20 06.9**	**+0.4**
KDMR				⇑S	**Sn**	**15 20 26.1**	**+0.8**
KSMR	**Kasumkent**	**1.42**	**298**	*e*PN	**Pn**	**15 20 08.0**	**+0.6**
KSMR				*e*S	**Sn**	**15 20 27.0**	**0.0**
KSMR				pmax	pmax		
	comp=Z,804nm,0.2s						
KSMR	**Kasumkent**	**1.42**	**298**	*e*Pg	**Pn**	**15 20 08.0**	**+0.6**
KSMR				*e*Sg	**Sn**	**15 20 27.0**	**0.0**
QBL	**Gabala**	**1.48**	**271**	⇓Pn	**Pn**	**15 20 08.1**	**-0.1**
QBL				⇓Sn	**Sn**	**15 20 27.1**	**-1.2**
DRN	**Derbent**	**1.55**	**315**	*i* PN	**Pn**	**15 20 09.3**	**+0.4**
DRN				*e*		15 20 29.6	
DRN				pmax	pmax		
	comp=Z,299nm,0.7s						
DRN				smax	smax		
	comp=N,930nm,0.6s						
DRN	**Derbent**	**1.55**	**315**	*i* Pg	**Pn**	**15 20 09.4**	**+0.6**
DRN				*e*Sg	**Sn**	**15 20 29.6**	**+0.1**
AKT	**Akhty**	**1.65**	**290**	*i* PN	**Pn**	**15 20 10.5**	**+0.3**
AKT				pmax	pmax		
	comp=Z,340nm,0.1s						
AKT	**Akhty**	**1.65**	**290**	*i* Pg	**Pn**	**15 20 10.6**	**+0.4**
AKT				*e*Sg	**Sn**	**15 20 30.8**	**-1.2**
ZRD	**Zardab**	**1.74**	**248**	⇑Pn	**Pn**	**15 20 12.1**	**+0.9**
	SNR=15						
ZRD				⇑Sn	**Sn**	**15 20 34.8**	**+1.1**
SEKA

ORD					⇑Sn		Sn	15 21 15.3	-0.8
GROC	Groznyy	3.74	309	*e*PN		Pn	15 20 39.8	+2.4
GROC				*e*S		Sn	15 21 22.4	+1.8
GROC	Groznyy	3.74	309	*e*Pn		Pn	15 20 39.8	+2.4
GROC				*e*Sn		Sn	15 21 22.4	+1.8
NAX	Nakhchivan	3.74	243	PN		Pn	15 20 39.0	+1.5
NAX	Nakhchivan	3.74	243	⇓Pn		Pn	15 20 40.1	+2.6
NAX				⇓Sn		Sn	15 21 21.8	+1.0
TBLG	Delisi	3.89	283	P		Pn	15 20 39.8	+0.3
TBLG				S		Sn	15 21 21.6	-2.6
TBLG	Delisi	3.89	283	*e*PN		Pn	15 20 39.7	+0.3
GNI	Garni	3.93	260	Pn		Pn	15 20 41.7	+1.6
comp=N,0.6nm,0.3s,baz=233,slow=20,SNR=2.8									
GNI				Sn		Sn	15 21 22.8	-2.7
comp=N,4.4nm,0.3s,baz=46,slow=11,SNR=5.5									
GNI	Garni	3.93	260	⇓*e*PN		Pn	15 20 41.5	+1.3
DUS	Dusheti	3.99	288	P		Pn	15 20 41.7	+0.8
DUS				S		Sn	15 21 26.0	-0.8
KZRT	Kazreti	4.10	278	P		Pn	15 20 41.9	-0.4
KZRT				S		Sn	15 21 26.2	-3.1
MAKU	Maku	4.22	250	*e*Pn		Pn	15 20 44.9	+0.8
GUDG	Gudauri	4.26	293	P		Pn	15 20 45.8	+1.2
GUDG				S		Sn	15 21 34.2	+0.7
ZNJK	Zanjan	4.35	192	*e*Pn		Pn	15 20 46.5	+0.5
ZNJK				IAML			15 21 38.0	
comp=E,198nm,0.5s									
ZNJK				IAML			15 21 38.1	
comp=N,136nm,0.4s									
VLKR	Vladikavkaz	4.36	301	⇓*e*PN		Pn	15 20 48.3	+2.6
LACR	Lac	4.52	296	*e*PN		Pn	15 20 48.7	+0.7
LACR	Lac	4.52	296	*e*Pn		Pn	15 20 48.7	+0.7
LACR				*e*Sn		Sn	15 21 38.6	-0.8
TRKR	Terskaya	4.67	308	⇓*e*PN		Pn	15 20 51.6	+1.7
ZEI	Tsey	4.77	295	*e*PN		Pn	15 20 52.4	+0.9
ZEI	Tsey	4.77	295	*e*Pn		Pn	15 20 52.4	+0.9
ZEI				*e*Sn		Sn	15 21 45.3	-0.5
KORR	Kora	4.77	299	*e*PN		Pn	15 20 52.3	+0.9
KORR	Kora	4.77	299	*e*Pn		Pn	15 20 52.3	+0.9
KORR				*e*Sn		Sn	15 21 44.3	-1.3
STDR	Stavd-Durt	4.90	302	*e*PN		Pn	15 20 53.5	+0.4
STDR	Stavd-Durt	4.90	302	*e*Pn		Pn	15 20 53.5	+0.4
STDR				*e*Sn		Sn	15 21 48.6	0.0
ONI	Oni	5.02	291	P		Pn	15 20 55.9	+1.2
ONI				S		Sn	15 21 30.6	-21
ONI	Oni	5.02	291	*e*PN		Pn	15 20 55.9	+1.2
DIGR	Digorskoe uzhe	5.03	295	*e*PN		Pn	15 20 56.0	+1.0
DIGR	Digorskoe uzhe	5.03	295	*e*Pn		Pn	15 20 56.0	+1.0
DIGR				*e*Sn		Sn	15 21 50.8	-1.3
THKV	Tehran--Karaj	5.09	170	*e*Pn		Pn	15 20 56.7	+0.8
CHTH	Charan	5.13	168	*e*Pn		Pn	15 20 57.2	+0.7
NEY	Neytrino	5.74	296	*e*P		Pn	15 21 06.0	+1.4
NEY				*e*S		Sn	15 22 08.6	-0.7
NEY	Neytrino	5.74	296	*e*Pn		Pn	15 21 06.0	+1.4
NEY				*e*Sn		Sn	15 22 08.6	-0.7
KBZ	Khabaz	5.82	301	Pn		Pn	15 21 04.7	-0.8
comp=N,0.6nm,0.3s,baz=97,slow=8.1,SNR=18									
KBZ				Sn		Sn	15 22 05.6	-5.3
comp=N,2.2nm,0.3s,baz=308,slow=17,SNR=5.1									
KVAR	Kislovodsk Arr	6.05	302	Pn		Pn	15 21 08.1	-0.7
baz=90,slow=20,SNR=9.7									
KVAR				Sn		Sn	15 22 11.2	-5.5
baz=63,slow=16,SNR=13									
KIV	Kislovodsk	6.06	302	*e*P		Pn	15 21 10.9	+2.1
KIV				*e*S		Sn	15 22 20.1	+3.3
KIV				pmax	pmax			
comp=Z,6.0nm,1.0s									
GEYT	Alibeck	7.11	112	Pn		Pn	15 21 21.9	-1.1
comp=Z,1.7nm,0.3s,baz=318,slow=8.0,SNR=24									
GEYT				Sn		Sn	15 22 36.6	-5.7
comp=Z,0.5nm,0.3s,baz=284,slow=12,SNR=2.7									
GYA0B	ALIBECK ARRAY	7.11	112	⇑Pn		Pn	15 21 22.0	-1.0
comp=Z,4.9nm,0.5s									
GYA0B				⇓Sn		Sn	15 22 39.8	-2.5
comp=Z,16nm,0.7s									
AB31	Akbulak array	10.97	37	⇑Pn		Pn	15 22 14.5	-0.8
comp=Z,0.8nm,0.4s,baz=219,slow=12,SNR=26									
AB31				⇓Sn		Sn	15 24 10.1	-5.8
comp=Z,1.3nm,0.3s,baz=216,slow=24,SNR=8.1									
AB31	Akbulak array	10.97	37	P		Pn	15 22 14.5	-0.8
AB31				S		Sn	15 24 10.5	-5.4
AB31				pmax	pmax			
comp=Z,1.0nm,0.4s									
AB31				smax	smax			
comp=N,1.0nm,0.4s									
AKTO	Aktyubinsk	11.09	28	Pn		Pn	15 22 15.0	-1.9
comp=N,1.4nm,0.3s,baz=220,slow=9.4,SNR=23									
AKTO				Sn		Sn	15 24 12.4	-6.4
comp=N,1.4nm,0.3s,baz=14,slow=21,SNR=8.3									
AKTO	Aktyubinsk	11.09	28	⇑Pn		Pn	15 22 15.1	-1.9
comp=N,1.3nm,0.3s									
AKTO				⇑Sn		Sn	15 24 12.6	-6.2
comp=N,3.1nm,0.3s									
AKTO	Aktyubinsk	11.09	28	P		Pn	15 22 15.9	-1.0
AKTO				S		Sn	15 24 12.6	-6.2
AKTO				pmax	pmax			
comp=Z,1.0nm,0.3s									
AKTO				smax	smax			
comp=N,3.0nm,0.4s									
ARU	Arti	16.52	17	Sn		Sn	15 26 17.5	-12
ARU	Arti	16.52	17	*d*iP		P	15 23 32.0	+4.6
ARU				S		S	15 26 38.7	+4.4
ARU				pmax	pmax			
comp=Z,15nm,2.5s									
BRVK	Borovoye	18.42	42	⇓*e*P		P	15 23 50.9	+2.6
BRVK				pmax	pmax			
comp=Z,2.0nm,0.8s									
BVAR	Borovoye Array	18.45	42	P		P	15 23 51.4	+2.7
comp=Z,0.8nm,0.3s,baz=218,slow=15,SNR=16									
BVAR				S		S	15 27 06.3	-7.3
comp=Z,0.1nm,0.3s,baz=230,slow=20,SNR=3.3									
MICGM	Minsk	19.92	320	*e*LR		LR	15 24 00.0	
KURBB	Kurchatov Array	22.13	54	P		P	15 24 32.0	+3.8
comp=Z,1.3nm,0.4s,baz=258,slow=13,SNR=3.6									
KURK	Kurchatov	22.21	54	P		P	15 24 32.0	+2.9
KURK				pmax	pmax			
comp=Z,1.0nm,0.6s									
MKAR	Makanchi Array	24.04	65	P		P	15 24 50.3	+3.8
comp=Z,0.8nm,0.9s,baz=251,slow=9.0,SNR=2.8									
FINES	FINESS Array B	25.08	333	P		P	15 24 58.1	+2.3
comp=Z,3.1nm,0.8s,baz=134,slow=8.0,SNR=7.2									
FINES	FINESS Array B	25.08	333	*e*P		P	15 24 59.5	+3.8
FINES				pmax	pmax			
comp=Z,3.0nm,0.9s									
HFS	Hagfors	29.37	323	P		P	15 25 36.7	+2.5
comp=Z,3.9nm,0.9s,baz=126,slow=11,SNR=2.6									
ARCES	ARCESS Array B	31.36	344	P		P	15 25 54.2	+2.5
comp=Z,0.6nm,0.7s,baz=143,slow=11,SNR=3.3									
WRA	Warramunga Arr	98.83	109	P		P	15 33 08.1	-1.5
comp=Z,0.5nm,1.0s,baz=304,slow=5.9,SNR=3.2									

*PGC **06** 15:47:10.5±11.0, 52°.54N×133°.02W, h20km±1km, mb4.0, ML4.0/12, Mw4.1, 113km Wsw of Sandspit, Bc Haida Gwaii Region*
*ISCJB **06** 15:47:12.7±0.6, 52°.60N±0°.04×132°.7W±0°.1, h18km, mb4.0/8, MS4.0/1, Error ellipse: s-maj=10.0km s-min=5.1km az=165.5*
*IDC **06** 15:47:13.1±0.9, 52°.75N×133°.12W, h0km, mb3.9/6, mb1 4.1/14, mb1mx3.8/53, mbtmp3.8/14, ML3.5/8, MS3.5/3, Ms1 3.5/3, ms1mx2.8/53, Error ellipse: s-maj=10.6km s-min=8.3km az=109.0*

ISC 06 15:47:15.1±0.8, 52.72N±0°.05×132.54W±0°.07, h18km, n41, σ1§90/40, mb4.0/8, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DIB	Dawson Inlet,	0.49	4	P	Pg	15 47 24.4	-0.6
DIB				S	Sn	15 47 33.9	-1.3
H02S1	DAWSON INLET T	0.49	4	Pg	Pg	15 47 24.3	-0.6
H02S1				Lg	Lg	15 47 32.5	
BNB	Barry Inlet	0.50	106	P	Pg	15 47 24.5	-0.7
BNB				S	Sn	15 47 37.2	+1.6
H02N1	VAN INLET T-PH	0.54	360	Pg	Pg	15 47 24.9	-1.0
H02N1				Lg	Lg	15 47 33.3	
VIB	Van Inlet	0.54	360	P	Pg	15 47 25.0	-0.9
VIB				S	Sn	15 47 35.5	-1.1
MOBC	Moresby Island	0.55	39	P	Pb	15 47 26.4	+0.1
NDB	Naden	1.26	349	P	Pn	15 47 35.3	-2.6
MASB	Masset	1.34	13	Pn	Pb	15 47 39.5	-0.1
RUBB	Prince Rupert	2.11	39	Pn	Pn	15 47 49.0	-0.5
BBB	Bella Bella	2.76	99	Pn	Pb	15 48 04.6	+0.7
11nm,0.3s,baz=286,slow=16,SNR=13							
BBB				Sn	Sg	15 48 40.1	-3.6
18nm,0.3s,baz=241,slow=19,SNR=3.7							
BBB				Lg	Lg	15 48 52.9	
62nm,0.3s,baz=221,slow=14,SNR=7.1							
BBB				LR	LR	15 49 12.2	
comp=Z,531nm,18.9s,baz=262,slow=38							
BBB	Bella Bella	2.76	99	Pn	Pn	15 47 56.8	-1.5
PHC	Port Hardy	3.76	120	Pn	Pn	15 48 10.0	-2.1
PACB	Port Alice, BC	3.89	124	Pn	Pn	15 48 11.7	-2.2
MAYB	Maynard	4.07	123	Pn	Pn	15 48 13.5	-3.1
WOSB	Woss	4.53	122	Pn	Pn	15 48 18.0	-4.7
NCRB	Newcastle Ridg	4.66	117	Pn	Pn	15 48 21.8	-2.8
FSB	Fort Saint Jam	5.20	67	Pn	Pn	15 48 30.1	-1.9
DLBC	Dease Lake	5.91	13	Pn	Pn	15 48 44.3	+2.6
0.7nm,0.3s,baz=224,slow=12,SNR=12							
DLBC				Lg	Lg	15 50 23.2	
1.5nm,0.3s,baz=288,slow=15,SNR=3.3							
DLBC				LR	LR	15 50 53.4	
comp=Z,309nm,21.2s,baz=143,slow=37							
DLBC	Dease Lake	5.91	13	Pn	Pn	15 48 40.0	-1.7
FNBB	Fort Nelson	8.18	37	Pn	Pn	15 49 12.8	-0.1
SLEB	Sale Mountain	9.04	94	Pn	Pn	15 49 22.7	-2.0
NEW	Newport	10.78	108	Pn	Pn	15 49 53.6	+5.2
0.4nm,0.3s,baz=306,slow=8.7,SNR=2.8							
NEW				Lg	Lg	15 52 55.4	
0.2nm,0.3s,baz=36,slow=19,SNR=2.9							
YBH	Yreka Blue Hor	12.84	145	Pn	Pn	15 50 18.1	+1.3
0.1nm,0.3s,baz=346,slow=4.2,SNR=2.2							
YKA	Yellowknife Ar	13.67	37	Pn	Pn	15 50 27.5	-0.3
0.1nm,0.3s,baz=225,slow=12,SNR=2.5							
YKA				Lg	Lg	15 54 32.0	
0.1nm,0.3s,baz=235,slow=30,SNR=3.5							
ILAR	Eielson Array	14.14	334	Pn	Pn	15 50 33.2	-1.1
0.1nm,0.3s,baz=154,slow=8.8,SNR=4.4							
INK	Inuvik	15.65	359	Pn	Pn	15 50 55.0	+0.7
0.0nm,0.3s,baz=174,slow=10,SNR=2.6							
INK				Lg	Lg	15 55 36.7	
0.0nm,0.3s,baz=90,slow=20,SNR=2.4							
NVAR	Mina Array Bea	17.37	140	P	P	15 51 19.4	+1.5
0.1nm,0.3s,baz=322,slow=11,SNR=4.5							
PDAR	Pinedale Array	18.31	114	P	P	15 51 31.2	+3.0
0.1nm,0.3s,baz=282,slow=8.9,SNR=8.3							
TXAR	Lajitas Array	31.57	126	P	P	15 53 38.2	+1.7
1.4nm,1.0s,baz=330,slow=7.2,SNR=6.8							
H11N2	WAKE ISLAND Hy	56.77	259	T	T	16 58 50.9	
baz=40							
H11N3	WAKE ISLAND Hy	56.77	259	T	T	16 58 50.7	
baz=40							
H11N1	WAKE ISLAND Hy	56.79	259	T	T	16 58 53.3	
baz=40							
NOA	NORSAR Array B	62.96	19	P	P	15 57 41.5	+1.4
1.5nm,1.1s,baz=340,slow=6.5,SNR=3.3							
HFS	Hagfors	64.28	18	LR	LR	16 23 29.6	
comp=Z,99nm,20.5s,baz=248,slow=34							
SONM	Songino Array	67.98	321	P	P	15 58 12.1	-0.7
0.3nm,0.5s,baz=11,slow=16,SNR=3.5							
HHC	Hu-ho-hao-te	71.61	314	*e*P	P	15 58 32.7	-2.5
HHC				pmax	pmax		
comp=Z,16nm,1.0s							
HHC				pmax	pmax		
comp=Z,110nm,5.8s							
GERES	GERESS Array B	74.83	22	P	P	15 58 55.0	+0.9
comp=Z,0.8nm,0.5s,baz=335,slow=5.9,SNR=4.7							
ESDC	Sonseca Array	77.76	38	P	P	15 59 11.7	+0.8
comp=Z,0.6nm,0.6s,baz=326,slow=7.1,SNR=4.2							
WMQ	Urumqi	77.79	331	*e*P	P	15 59 12.1	+1.1
KBZ	Khabaz	83.85	3	P	P	15 59 44.7	+1.5
comp=Z,1.3nm,0.8s,baz=333,slow=2.3,SNR=2.7							
LPAZ	La Paz	88.22	120	P	P	16 00 04.0	-1.7
comp=Z,0.9nm,0.8s,baz=0.0,slow=7.1,SNR=3.1							

*IDC **06** 15:47:54.5±1.4, 52°.70N×132°.99W, h0km, mb4.1/3, mb1 4.3/5, mb1mx3.7/48, mbtmp4.0/5, ML4.2/2, MS3.2/2, Ms1 3.2/2, ms1mx2.6/52, Error ellipse: s-maj=43.8km s-min=10.6km az=116.0*
*ISCJB **06** 15:47:55.9±1.1, 52°.75N±0°.08×133°.0W±0°.1, h18km, mb4.3/5, MS3.1/1, Error ellipse: s-maj=15.3km s-min=8.3km az=136.0*
*NEIC **06** 15:47:56.7±1.2, 52°.68N×132°.90W, h10km, mb4.3/2, MW4.1(OTT), Error ellipse: s-maj=21.6km s-min=11.0km az=52.0*

ISC 06 15:47:58.2±1.3, 52°.8N±0°.1×132°.8W±0°.1, h18km, n28, σ1§38/19, mb4.3/5, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DIB	Dawson Inlet,	0.45	28	*e*Pg	Pb	15 48 08.0	+0.4
H02S1	DAWSON INLET T	0.45	28	Pg	Pg	15 48 04.9	-2.4
H02S1				Lg	Lg	15 48 14.7	
H02N1	VAN INLET T-PH	0.48	21	Pg	Pg	15 48 06.7	-1.2
H02N1				Lg	Lg	15 48 14.6	
BBB	Bella Bella	2.95	100	Sn	Sn	15 49 21.3	+2.3
1nm,0.3s,baz=342,slow=20,SNR=2.9							
SIT	Sitka	4.50	342	*e*Pn	Pn	15 49 08.0	+2.7
DLBC	Dease Lake	5.86	15	Pn	Pn	15 49 26.0	+1.8
1.4nm,0.3s,baz=216,slow=20,SNR=4.1							
DLBC				Lg	Lg	15 51 12.1	
0.8nm,0.3s,baz=309,slow=12,SNR=3.3							
DLBC	Dease Lake	5.86	15	Pn	Pn	15 49 26.0	+1.8
DLBC				Lg	Lg	15 51 12.1	
LON	Longmire	9.35	126	*e*Pn	Pn	15 50 06.5	-5.6
BALM	Baldy	9.74	332	*e*Pn	Pn	15 50 17.8	+0.4
KDAK	Kodiak Island	12.29	302	LR	LR	15 53 44.7	
comp=Z,114nm,20.1s,baz=122,slow=28							
TPAW	Teton Pass	17.26	114	*e*Pn	P	15 51 60.0	+0.2
11nm,1.0s							
PDAR	Pinedale Array	18.50	114	P	Pn	15 52 13.7	0.0
0.2nm,0.3s,baz=304,slow=14,SNR=3.0							
PDAR	Pinedale Array	18.50	114	P	Pn	15 52 13.7	0.0
ULM	Lac du Bonnet	22.97	81	LR	LR	16 00 54.7	
comp=Z,70nm,19.0s,baz=333,slow=34							
ECSD	EROS Data Cent	25.52	96	*e*P	P	15 53 23.9	-1.5
16nm,1.1s							
MVL	Millersville	39.98	85	*e*P	P	15 55 30.6	-0.8
15nm,1.0s							
H11N2	WAKE ISLAND Hy	56.62	258	T	T	16 59 31.5	
baz=38,slow=76,SNR=168							
H11N3	WAKE ISLAND Hy	56.62	258	T	T	16 59 27.3	
baz=38,slow=76,SNR=253							
H11N1	WAKE ISLAND Hy	56.63	258	T	T	16 59 32.7	
baz=38,slow=76,SNR=115							
H11S1	WAKE ISLAND Hy	57.68	258	T	T	17 00 53.2	
baz=29,slow=78							
H11S2	WAKE ISLAND Hy	57.69	258	T	T	17 00 59.7	
baz=29,slow=78							
H11S3	WAKE ISLAND Hy	57.70	258	T	T	17 00 58.6	
baz=29,slow=78							
NB200	NORSAR Array S	62.94	19	*e*P	P	15 58 23.1	+0.1
NOA	NORSAR Array B	62.94	19	P	P	15 58 23.1	+0.1
1.6nm,0.7s,baz=341,slow=6.7,SNR=4.0							
NOA	NORSAR Array B	62.94	19	P	P	15 58 23.1	+0.1
GERES	GERESS Array B	74.81	22	P	P	15 59 37.2	+0.1
1.4nm,0.7s,baz=337,slow=5.8,SNR=5.2							
GERES	GERESS Array B	74.81	22	P	P	15 59 37.2	+0.1
ESDC	Sonseca Array	77.80	38	P	P	15 59 53.8	-0.4
1.1nm,0.7s,baz=322,slow=5.8,SNR=4.8							

*IPEC **06** 15:55:39.5±0.1, 50°.15N×19°.31E, h0km, ML1.6/3, Error ellipse: s-maj=1.3km s-min=0.7km az=174.0*
*PRU **06** 15:55:39.3±0.0, 50°.21N×19°.25E, h0km*

WAR 06 15:55:39.7, 50°.18N×19°.34E, h1km, Mw2.4, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	Ojcow	0.30	81	*e*Pg	Pg	15 55 45.3	-0.1
OJC				*e*Sg	Sg	15 55 49.8	+0.6
OJC	Ojcow	0.30	81	*e*Pg	Pg	15 55 45.3	-0.1
OJC				*e*Sg	Sg	15 55 49.8	+0.6
OKC	Ostrava-Krasne	0.84	247	*e*SG	Sg	15 56 06.2	-0.5
comp=Z,13nm,0.5s							
NIE	Niedzica	0.98	140	*e*Pg	Pb	15 55 59.7	+0.2
NIE				*e*Sg	Sn	15 56 14.2	-0.9
NIE	Niedzica	0.98	140	*e*Pg	Pb	15 55 59.7	+0.2
NIE				*e*Sg	Sn	15 56 14.2	-0.9
LANS	Liptovska Anna	1.03	175	*e*PG	Pg	15 55 59.2	-0.2
LANS				*e*SG	Sg	15 56 13.4	+0.7
MORC	Moravsky Berou	1.23	252	*e*PG	Pg	15 56 02.0	-1.2
MORC				*e*SG	Sg	15 56 18.1	-1.0
MORC	Moravsky Berou	1.23	252	*e*Pg	Pg	15 56 01.9	-1.3
baz=71							
MORC				*e*Sg	Sg	15 56 18.0	-1.1
11nm,0.2s,baz=71							
LIPC	Lipinka	1.52	258	*e*Pg	Pn	15 56 06.7	-1.3
baz=77							
KRLC	Kraliky	1.65	267	*e*PG	Pn	15 56 08.0	-1.9
KRLC				*e*SG	Sn	15 56 30.1	-1.6
comp=Z,3.9nm,0.6s							
VYHS	Vyhne	1.72	191	*e*PG	Pn	15 56 09.4	-1.3
VYHS				*e*SN	Sn	15 56 31.6	-1.7
VYHS				*e*LG	Lg	15 56 36.5	
VYHS	Vyhne	1.72	191	*e*PG	Pn	15 56 09.3	-1.4
VYHS				*e*SN	Sn	15 56 31.7	-1.6
VYHS				*e*LG	Lg	15 56 36.7	
DPC	Dobruska-Polom	1.95	276	*e*PG	Pn	15 56 14.0	+0.1
DPC				*e*SG	Sn	15 56 38.9	-0.1
comp=Z,9.9nm,0.6s							
VRAC	Vranov	1.98	245	*e*PN	Pn	15 56 14.3	-0.1
VRAC				*e*SG	Sn	15 56 40.8	+0.9
VRAC	Vranov	1.98	245	*e*Pn	Pn	15 56 14.3	-0.1
baz=63							
VRAC				*e*Sg	Sn	15 56 40.7	+0.8
4.9nm,0.4s,baz=63							
KRUC	Moravsky	2.22	241	*e*PN	Pn	15 56 17.4	-0.2
KRUC				*e*SG	Sb	15 56 47.6	-0.9
KRUC	Moravsky	2.22	241	*e*Pn	Pn	15 56 17.3	-0.3
baz=59							
KRUC				*e*Sg	Sb	15 56 47.5	-1.0
1.5nm,0.2s,baz=59							
KHC	Kasperske Hory	3.89	257	*e*SG	Sg	15 57 40.6	-3.9

*IDC **06** 15:57:53.9±0.6, 45°.72N×153°.95E, h0km, mb4.1/24, mb1 4.2/29, mb1mx4.2/42, mbtmp4.1/29, ML3.5/5, MS3.1/4, Ms1 3.1/4, ms1mx2.7/43, Error ellipse: s-maj=15.6km s-min=12.0km az=153.0*
*ISCJB **06** 15:57:55.0±0.3, 45°.65N±0°.04×153°.82E±0°.04, h19km, mb4.2/41, MS3.4/2, Error ellipse: s-maj=6.3km s-min=3.1km az=147.8*
*MOS **06** 15:57:57.9±1.1, 45°.68N×153°.82E, h41km, mb4.4/15, Error ellipse: s-maj=7.5km s-min=6.9km az=101.0*
*BJI **06** 15:57:57.0, 45°.70N×154°.00E, h33km, mb4.5/14, mB4.8/11, Ms4.5/2, Ms7 4.4/1*
*JMA **06** 15:57:57.5±1.0, 46°.08N×153°.63E, h30km, M5.0*
*SKHL **06** 15:57:58.3±0.6, 45°.36N×153°.86E, h60km±5km, mb4.9/8*
*NEIC **06** 15:57:59.2±0.7, 45°.77N×153°.89E, h36km±6km, mb4.4/13, Error ellipse: s-maj=7.5km s-min=4.2km az=148.0*

ISC 06 15:57:55.9±0.5, 45°.55N±0°.06×153°.93E±0°.05, h19km, n172, σ1§94/173, mb4.3/42, 10C-6D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	Kuril'sk	4.29	268	*i* P	Pn	15 59 01.0	+1.0
KUR				AMB	AMB	15 59 01.9	
20nm,0.3s							
KUR				AMB	AMB	15 59 01.9	
70nm,0.3s							
KUR				*i* S	Sn	15 59 48.2	-1.2
KUR				A	A	15 59 52.2	
600nm,0.7s							
KUR				A	A	15 59 52.2	
380nm,0.7s							
KUR	Kuril'sk	4.29	268	*c* iPN	Pn	15 59 01.0	+1.0
KUR				pmax	pmax		
comp=Z,698nm,0.3s							
KUR				pmax	pmax		
comp=N,218nm,0.2s							
KUR				pmax	pmax		
comp=E,71nm,0.2s							
SHO	Shikotan	5.33	254	*i* P	Pn	15 59 14.5	+0.1
SHO				AMB	AMB	15 59 15.1	
comp=E,20nm,0.4s							
SHO				AMB	AMB	15 59 15.1	
comp=E,30nm,0.4s							
SHO				AMB	AMB	15 59 15.1	
comp=E,60nm,0.4s							
SHO				*i* S	Sn	16 00 11.3	-4.0
SHO				A	A	16 00 15.2	
comp=E,180nm,0.4s							
SHO				A	A	16 00 15.2	
comp=E,230nm,0.4s							
SHO	Shikotan	5.33	254	*c i*PN	Pn	15 59 14.5	+0.1
SHO				pmax	pmax		
comp=N,19nm,0.4s							
SHO				pmax	pmax		
comp=E,56nm,0.4s							
SHO				pmax	pmax		
comp=E,26nm,0.3s							
SKR	Severo-Kuril's	5.34	15	*e*P	Pn	15 59 17.6	+3.1
SKR				*e*S	Sn	16 00 16.4	+1.0
SKR				A	A	16 00 18.6	
comp=E,160nm,0.4s							
SKR				A	A	16 00 18.6	
comp=E,9μm,0.4s							
SKR				A	A	16 00 18.6	
comp=E,10μm,0.4s							
SKR	Severo-Kuril's	5.34	15	*e*PN	Pn	15 59 17.4	+2.9
YUK	Yuzh-Kuril'sk	5.94	258	*e*P	Pn	15 59 23.5	+0.7
YUK				AMB	AMB	15 59 25.0	
comp=E,140nm,0.3s							
YUK				AMB	AMB	15 59 25.0	
comp=E,130nm,0.3s							
YUK				*e*S	Sn	16 00 27.3	-2.9
YUK				A	A	16 00 28.9	
comp=E,330nm,0.8s							
YUK				A	A	16 00 28.9	
comp=E,370nm,0.8s							
YUK	Yuzh-Kuril'sk	5.94	258	*e*PN	Pn	15 59 23.5	+0.7
YUK				pmax	pmax		
comp=N,31nm,0.3s							
YUK				pmax	pmax		
comp=E,55nm,0.3s							
YUK				pmax	pmax	

JMP	Maruseppu	7.68	262		P	Pn	15 59 48.1	+1.4
YSS	Yuzh-Sakhalins	7.88	284	*e*	Pn	Pn	15 59 51.1	+1.8
YSS	Yuzh-Sakhalins	7.88	284	*e*	P	Pn	15 59 51.5	+2.2
YSS	comp=E,20nm,0.7s				AMB	AMB	15 59 52.5	
YSS	comp=E,40nm,0.7s				AMB	AMB	15 59 52.5	
YSS				*e*	S	Sn	16 01 13.5	-4.3
YSS	Yuzh-Sakhalins	7.88	284	*e*	PN	Pn	15 59 51.5	+2.2
YSS				*e*	S	Sn	16 01 24.0	+6.2
YSS	comp=E,20nm,0.7s				pmax	pmax		
YSS	comp=Z,40nm,0.7s				pmax	pmax		
YSS	comp=N,20nm,0.9s				pmax	pmax		
YSS	comp=Z,200nm,13.0s				MLR	MLR		
YSS	comp=E,100nm,14.0s				MLR	MLR		
PEA0B	Petropavlovsk-	7.95	17	*e*	Pn	Pn	15 59 48.9	-1.5
PETK	Petropavlovsk-	7.95	17		Pn	Pn	15 59 48.8	-1.6
PETK	comp=E,1.4nm,0.3s,baz=182,slow=14,SNR=28				Sn	Sn	16 01 18.8	-1.0
PETK	baz=115,slow=21			*e*	PN	Pn	15 59 48.9	-1.5
PEA1	Petropavlovsk-	7.96	17	*e*	Pn	Pn	15 59 48.8	-1.7
PEA1				*e*	Sn	Sn	16 01 18.8	-1.1
PET	Petropavlovsk	8.09	21	*e*	Pn	Pn	15 59 50.3	-1.9
PET	Petropavlovsk	8.09	21⇑	*e*	PN	Pn	15 59 50.4	-1.8
JCH	Churui	8.16	253		P	Pn	15 59 53.9	+0.7
JCH				*e*	S	Sn	16 01 20.9	-3.9
ASAJ	Asahikawa	8.19	264		Pn	Pn	15 59 55.5	+2.0
ASAJ	comp=E,1.8nm,0.3s,baz=81,slow=16,SNR=18				LR	LR	16 03 31.0	
ASAJ	comp=E,62nm,20.5s,baz=145,slow=41							
ASAJ	Asahikawa	8.19	264	*e*	Pn	Pn	15 59 55.2	+1.7
ASAJ	Asahikawa	8.19	264		P	Pn	15 59 55.4	+1.8
MYR	Moyori	8.35	251	*e*	S	Sn	16 01 25.0	-4.5
ERM	Erimo	8.56	249	*e*	Pn	Pn	15 59 52.1	-6.6
ERM	Erimo	8.56	249	*e*	PN	Pn	15 59 52.1	-6.6
JNBK	Urakawa-nobuka	8.71	252	*e*	S	Sn	16 01 31.8	-6.5
JBT2	Biratori 2	8.77	256		P	Pn	16 00 02.0	+0.5
TYV	Tymovskoe	9.21	309	*e*	P	Pn	16 00 09.8	+2.2
TYV	comp=E,30nm,0.5s				AMB	AMB	16 00 11.0	
TYV	comp=E,4μm,0.5s				AMB	AMB	16 00 11.0	
TYV				*e*	S	Sn	16 01 46.5	-4.1
TYV	comp=E,40nm,0.8s				A	A	16 01 52.3	
TYV	comp=E,30nm,0.8s				A	A	16 01 52.3	
TYV	Tymovskoe	9.21	309	*e*	PN	Pn	16 00 09.9	+2.3
TYV	comp=Z,6.0nm,1.0s				pmax	pmax		
JKB	Kayabe	10.03	253	*e*	S	Sn	16 02 02.9	-7.9
JTH	Tanohata	10.49	242	*e*	S	Sn	16 02 11.4	-11
JTM	Tenmabayashi	10.53	248	*e*	S	Sn	16 02 15.0	-8.1
OKH	Okha	10.72	322	*e*	P	Pn	16 00 33.3	+5.1
JIO	Ouri	11.73	237	*e*	S	Sn	16 02 41.3	-11
GRNR	Gornyy	12.79	300	*e*	P	Pn	16 00 59.5	+2.9
GRNR	Gornyy	12.79	300	*e*	PN	P	16 01 03.3	-4.2
MA2	Magadan	14.18	353	*e*	Pn	P	16 01 16.7	-6.1
MA2	Magadan	14.18	353	*e*	P	P	16 01 16.7	-6.1
MA2	Magadan	14.18	353	*e*	P	P	16 01 16.7	-6.1
MAJO	Matsushiro	14.87	238	*e*	Pn	Pn	16 01 34.2	+3.5
MAJO	Matsushiro	14.87	238⇑	*e*	P	Pn	16 01 27.8	+2.8
MJAR	Matsushiro Arr	14.87	238		Pn	P	16 01 30.6	-0.1
MJB9	Matsu-Tunnel	14.87	238	*e*	Pn	P	16 01 34.4	+3.8
SMY	Shemya	14.99	54	*e*	Pn	P	16 01 28.6	-3.2
SMY	Shemya	14.99	54	*e*	P	P	16 01 28.7	-3.2
KLR	Kul'dur	15.45	292		Pn	Pn	16 01 33.4	+0.8
KLR	comp=Z,0.1nm,0.3s,baz=92,slow=13,SNR=7.5				LR	LR	16 07 07.3	
KLR	comp=Z,57nm,20.2s,baz=89,slow=36							
KLR	Kul'dur	15.45	292	*e*	P	Pn	16 01 32.7	0.0
KLR	Kul'dur	15.45	292⇓	*e*	P	Pn	16 01 32.7	0.0
EKMR	Ekimchan	15.58	306	*e*	P	P	16 01 35.0	-3.4
EKMR	comp=Z,7.0nm,0.7s				AMB	AMB	16 01 39.2	
EKMR	comp=Z,4μm,0.7s				AMB	AMB	16 01 39.2	
USA0B	Ussuriysk Arra	15.61	273	*e*	Pn	Pn	16 01 34.4	-0.4
USRK	comp=Z,36nm,1.4s Ussuriysk Ar.	15.61	273		Pn	Pn	16 01 33.5	-1.2
MDJ	comp=Z,0.5nm,0.3s,baz=83,slow=12,SNR=14 Mudanjiang	17.20	276	*e*	Pn	Pn	16 01 54.8	-0.2
SEY	comp=Z,94nm,1.9s Seymchan	17.44	358		P	P	16 01 56.9	-2.0
BMKR	comp=Z,0.2nm,0.3s,baz=185,slow=12,SNR=7.6 Bomnak	18.42	309	*e*	P	P	16 02 08.7	-1.2
BMKR	comp=Z,20nm,0.6s				AMB	AMB	16 02 11.6	
ZEA	Zeya	19.03	305	*e*	P	Pn	16 02 16.2	-1.1
ZEA	Zeya	19.03	305	*e*	P	Pn	16 02 15.9	-1.4
KSRS	Korea Array	21.03	257		P	P	16 02 41.1	+2.8
KS15	comp=Z,2.6nm,0.8s,baz=58,slow=11,SNR=6.5 Wonju Array Si	21.06	257	*e*	P	P	16 02 40.6	+1.9
KSAR	Wonju Array Be	21.06	257		P	P	16 02 41.1	+2.5
KSAR	Wonju Array Be	21.06	257		P	P	16 02 41.2	+2.5
YAK	Yakutsk	21.64	328		P	P	16 02 44.0	-0.7
YAK	comp=Z,5.1nm,0.4s,baz=192,slow=3.9,SNR=4.3 Yakutsk	21.64	328	*e*	P	P	16 02 42.4	-2.3
YAK	comp=Z,15nm,0.9s Yakutsk	21.64	328	*e*	P	P	16 02 44.1	-0.6
YAK	Yakutsk	21.64	328	*e*	P	P	16 02 44.3	-0.4
YAK				*e*	*PP	sP	16 02 55.1	+2.5
YAK				*e*			16 03 09.4	
YAK				*e*	S	S	16 06 42.0	-1.3
YAK				*e*	*SS	pS	16 06 57.7	+6.0
YAK				*e*	SS	SnSn	16 07 08.7	+1.3
YAK	comp=Z,11nm,0.9s				pmax	pmax		
YAK	comp=N,4.0nm,1.0s				pmax	pmax		
YAK	comp=E,4.0nm,1.1s				pmax	pmax		
YAK	comp=Z,42nm,2.5s				pmax	pmax		
YAK	comp=N,22nm,2.3s				pmax	pmax		
YAK	comp=E,59nm,2.7s				pmax	pmax		
YAK	comp=N,37nm,2.3s				smax	smax		
YAK	comp=E,26nm,2.0s				smax	smax		
HIA	Hailar	23.31	292	*e*	P	P	16 03 03.3	+0.7
HIA	Hailar	23.31	292⇓	*e*	P	P	16 03 03.3	+0.7
BILL	Bilibino	23.44	12	*e*	P	P	16 03 03.9	+0.3
BILL	comp=E,10nm,1.4s Bilibino	23.44	12	*e*	P	P	16 03 03.5	-0.1
BILL	Bilibino	23.44	12	*e*	P	P	16 03 03.5	-0.1
BILL				*e*	PPP	PPP	16 03 34.5	
BILL	comp=Z,8.0nm,1.5s				pmax	pmax		
BOD	Bodaibo	27.20	311	*e*	P	P	16 03 34.5	-3.6
BOD	comp=Z,5.0nm,2.1s				pmax	pmax		
H11N2	WAKE ISLAND Hy	27.89	153		T	T	16 32 59.5	
H11N1	baz=338 WAKE ISLAND Hy	27.91	153		T	T	16 33 00.8	
H11N3	baz=338 WAKE ISLAND Hy	27.91	153		T	T	16 33 01.2	
TIXI	baz=338 Tiksi	28.78	344		P	P	16 03 50.5	-1.5
H11S1	comp=Z,0.9nm,0.4s,baz=136,slow=8.8,SNR=5.4 WAKE ISLAND Hy	28.98	154		T	T	16 34 28.2	
H11S3	baz=342,slow=76,SNR=4.8 WAKE ISLAND Hy	28.99	154		T	T	16 34 31.7	
H11S2	baz=342,slow=76,SNR=5.7 WAKE ISLAND Hy	29.00	154		T	T	16 34 29.9	
ULN	baz=342,slow=76,SNR=4.3 Ulaanbaatar	31.85	291	*e*	P	P	16 04 19.4	-0.2
ULN	Ulaanbaatar	31.85	291⇑	*e*	P	P	16 04 19.4	-0.2
ULN	comp=Z,2.0nm,1.2s				pmax	pmax		
SONA0	Songino Array	32.28	291	*e*	P	P	16 04 24.2	+0.8
SONM	Songino Array	32.28	291		P	P	16 04 24.2	+0.8
SONM	comp=Z,0.6nm,0.4s,baz=60,slow=8.5,SNR=3.5				LR	LR	16 19 33.1	
ILAR	comp=Z,43nm,18.2s,baz=82,slow=40 Eielson Array	37.14	38		P	P	16 05 03.9	-1.1
ILB	comp=Z,0.3nm,0.6s,baz=252,slow=8.5,SNR=8.9 Eielson Array	37.14	38	*e*	P	P	16 05 03.7	-1.3
KNGR	Kungurtug, Tuv	37.25	299⇑	*e*	P	P	16 05 08.2	+2.0
GTA	Gaotai	39.74	281	⇑	P	P	16 05 33.9	+6.6
GTA					pP	sP	16 05 41.6	+6.1
GTA					sP	pP	16 05 45.0	+12
GTA	comp=Z,5.0nm,0.9s				pmax	pmax		
INK	Inuvik	42.37	32		P	P	16 05 49.2	+0.9
INK	comp=Z,2.0nm,1.0s,baz=270,slow=3.0,SNR=3.1 Inuvik	42.37	32	*e*	P	P	16 05 47.2	-1.1
DGZ	comp=Z,18nm,1.9s Jazzator, Alta	43.69	300⇓	*e*	P	P	16 06 01.4	+1.9
DGZ	comp=Z,1.0nm,0.7s				pmax	pmax		
ZAA1	Zalesovo Array	43.78	307	*e*	P	P	16 05 58.8	-1.1
ZALV	Zalesovo Beam	43.78	307		P	P	16 05 58.8	-1.1
MK32	comp=Z,1.0nm,0.6s,baz=68,slow=9.5,SNR=4.1 Makanchi Array	48.01	299	*e*	P	P	16 06 33.6	+0.2
MKAR	Makanchi Array	48.01	299		P	P	16 06 33.6	+0.2
MK01	comp=Z,2.3nm,0.7s,baz=68,slow=7.2,SNR=20 Makanchi Array	48.01	299	*e*	P	P	16 06 32.9	-0.5
KURK	Kurchatov	48.51	305	*e*	P	P	16 06 37.6	+0.4
KURK	Kurchatov	48.51	305⇓	*e*	P	P	16 06 37.6	+0.4
KURK	comp=Z,4.0nm,0.6s				pmax	pmax		
YKA	Yellowknife Ar	51.55	36		P	P	16 07 00.9	+0.8
BRVK	comp=Z,1.6nm,0.8s,baz=289,slow=6.7,SNR=3.4 Borovoye	52.11	311	*e*	P	P	16 07 04.6	+0.2
BRVK	Borovoye	52.11	311⇓	*e*	P	P	16 07 04.6	+0.2
BRVK	comp=Z,3.0nm,0.8s				pmax	pmax		
CMAR	Chiang Mai Arr	52.66	258		P	P	16 07 11.1	+2.2
AAK	comp=Z,0.9nm,0.7s,baz=36,slow=7.7,SNR=13 Ala-Archa	54.88	298	*e*	P	P	16 07 25.7	+0.6
AAK	comp=Z,3.3nm,0.8s Ala-Archa	54.88	298⇑	*e*	P	P	16 07 27.5	+2.3
AAK	comp=Z,2.0nm,0.8s				pmax	pmax		
JIRN	Jiri	55.62	276	*e*	P	P	16 07 32.3	+1.4
KKN	comp=Z,28nm,0.8s Kakani	56.18	277	*e*	P	P	16 07 36.5	+1.8
PKI	comp=Z,9.0nm,0.6s Pulchoki	56.22	276	*e*	P	P	16 07 36.5	+1.3
PKIN	Phulchoki	56.23	276	*e*	P	P	16 07 36.3	+1.2
ARU	comp=Z,4.4nm,0.6s Arti	56.28	318	*e*	P	P	16 07 35.2	+0.5
ARU	Arti	56.28	318	*c*	*P	P	16 07 35.3	+0.5
ARU							16 08 29.2	
ARU					S	S	16 15 24.2	+0.7
ARU	comp=Z,4.0nm,0.6s				pmax	pmax		
DMN	Daman	56.41	277	*e*	P	P	16 07 38.1	+1.7
DANN	comp=Z,20nm,0.9s Dangsing	56.89	278	*e*	P	P	16 07 45.4	+5.5
KOLN	comp=Z,19nm,0.6s Koldanda	57.36	278	*e*	P	P	16 07 46.7	+3.6
PYUN	comp=Z,12nm,0.8s Piuthan	57.58	278	*e*	P	P	16 07 49.1	+4.4
ARA0	comp=Z,11nm,0.8s ARCESS Array S	59.17	341	*e*	P	P	16 07 55.3	+0.4
ARCES	ARCESS Array B	59.17	341		P	P	16 07 55.3	+0.3
ABKAR	comp=Z,4.3nm,0.9s,baz=49,slow=4.1,SNR=2.8 Akbulak array	59.64	311	*e*	P	P	16 07 59.0	+0.6
AKTO	Aktyubinsk	59.95	313		LR	LR	16 36 45.6	
NVAR	comp=Z,41nm,18.6s,baz=295,slow=39 Mina Array Bea	62.49	62		P	P	16 08 18.9	+0.7
TPAW	comp=Z,1.4nm,0.7s,baz=292,slow=6.8,SNR=11 Teton Pass	63.75	54	*e*	P	P	16 08 26.8	+0.3
R11A	comp=Z,4.1nm,0.9s Troy Canyon, C	64.22	61	*e*	P	P	16 08 30.1	+0.4
PD31	comp=Z,1.9nm,1.0s Pinedale Array	64.99	54	*e*	P	P	16 08 34.8	+0.1
PDAR	Pinedale Array	64.99	54	*e*	P	P	16 08 35.2	+0.5
FIA0	comp=Z,1.0nm,0.8s,baz=289,slow=2.8,SNR=7.3 FINESS Array S	65.37	335	*e*	P	P	16 08 36.2	-0.2
FIA0	FINESS Array S	65.37	335	*e*	P	P	16 08 36.3	-0.2
FINES	FINESS Array B	65.37	335		P	P	16 08 36.2	-0.2
LCMT	comp=Z,2.4nm,0.8s,baz=58,slow=16,SNR=5.7 Little Creek M	66.50	61	*e*	P	P	16 08 45.2	+0.9
OBN	comp=Z,3.3nm,0.9s Obninsk	66.62	326	*e*	P	P	16 08 43.0	-1.6
OBN				*e*			16 09 12.1	
OBN				*e*			16 11 06.5	
OBN	comp=Z,43nm,2.5s				pmax	pmax		
SRU	San Rafael Swe	66.78	57	*e*	P	P	16 08 46.4	+0.2
SRU	comp=Z,3.6nm,0.9s San Rafael Swe	66.78	57	*e*	P	P	16 08 46.4	+0.2
SRU	comp=Z,4.0nm,0.9s				pmax	pmax		
ULM	Lac du Bonnet	67.06	41		P	P	16 08 47.5	0.0
VSU	comp=Z,2.2nm,0.6s,baz=288,slow=9.4,SNR=2.6 Vasula	67.54	333	*e*	P	P	16 08 51.9	+1.5
WRAB	Tennant Creek	67.56	200	*e*	P	P	16 08 52.6	+1.7
WRAB	comp=Z,7.1nm,0.8s Tennant Creek	67.56	200	⇑	*P	P	16 08 52.7	+1.8
WRAB	comp=Z,9.0nm,0.9s				pmax	pmax		
WB2	Warramunga Arr	67.57	200	*e*	P	P	16 08 52.5	+1.6
WR1	Warramunga Arr	67.57	200	*e*	P	P	16 08 52.2	+1.2
WRA	comp=Z,9.2nm,0.9s Warramunga Arr	67.57	200		P	P	16 08 52.2	+1.2
WRA	comp=Z,5.0nm,0.9s,baz=17,slow=6.8,SNR=25 Warramunga Arr	67.57	200	*e*	P	P	16 08 52.5	+1.5
WRA	Warramunga Arr	67.57	200	*i*	P	P	16 08 52.5	+1.5
WRA	comp=Z,5.0nm,0.9s				pmax	pmax		
GEYT	Alibeck	67.71	302		P	P	16 08 51.7	-0.3
NB2	comp=Z,0.5nm,0.3s,baz=49,slow=15,SNR=4.8 NORSAR Subarra	69.55	342		P	P	16 09 03.0	0.0
NB200	comp=Z,2.7nm,0.8s,baz=30,slow=6.5 NORSAR Array S	69.55	342	*e*	P	P	16 09 02.9	-0.1
NOA	NORSAR Array B	69.55	342		P	P	16 09 02.9	-0.1
AS01	comp=Z,1.1nm,0.6s,baz=27,slow=6.3,SNR=6.3 Alice Springs	71.25	199	*e*	P	P	16 09 15.7	+2.0
AS31	Alice Springs	71.26	199	*e*	P	P	16 09 16.1	+2.4
ASAR	comp=Z,1.6nm,0.9s Alice Springs	71.26	199		P	P	16 09 16.2	+2.5
KBZ	comp=Z,4.6nm,0.7s,baz=16,slow=5.7,SNR=50 Khabaz	72.11	315		P	P	16 09 20.5	+1.8
ZEI	comp=Z,2.6nm,0.7s,baz=18,slow=7.7,SNR=4.8 Tsey	72.28	313	*e*	P	P	16 09 17.9	-2.2
ZEI	comp=Z,3.0nm,0.8s				pmax	pmax		
AKASG	Malin Array Be	72.86	327		P	P	16 09 23.1	0.0
AKBB	comp=Z,4.2nm,0.6s,baz=33,slow=6.2,SNR=10 Malin Array Si	72.86	327	*e*	P	P	16 09 23.1	0.0
AKBB	Malin Array Si	72.86	327	*e*	P	P	16 09 23.1	0.0
LTX	Lajitas	77.58	61	*e*	P	P	16 09 51.2	+0.4
LTX	Lajitas	77.58	61	*e*	P	P	16 09 51.2	+0.4
TX31	Lajitas Ar. Si	77.58	61	*e*	P	P	16 09 51.2	+0.3
TXAR	Lajitas Array	77.58	61		P	P	16 09 51.2	+0.4
BR101	comp=Z,2.0nm,0.7s,baz=302,slow=4.4,SNR=17 Keskin Array S	79.66	317	*e*	P	P	16 10 02.9	+0.7
BRTR	Keskin Array B	79.66	317		P	P	16 10 02.9	+0.7
GERES	comp=Z,0.6nm,0.7s,baz=90,slow=5.8,SNR=3.7 GERESS Array B	79.78	335		P	P	16 10 02.8	+0.2
PLCA	comp=Z,0.5nm,0.6s,baz=36,slow=8.5,SNR=2.8 Paso Flores	147.51	98		PKPbc	PKPab	16 17 39.0	-1.4
PLCA	comp=Z,2.6nm,0.7s,baz=337,slow=5.1,SNR=6.2 Paso Flores	147.51	98	*e*	PKPbc	PKPab	16 17 39.0	-1.4
PLCA	Paso Flores	147.51	98	*e*	PKP2	PKPab	16 17 39.0	-1.4
CPUP	Villa Florida	148.53	63		PKPbc	PKPbc	16 17 41.1	-0.2
CPUP	comp=Z,1.9nm,0.8s,baz=341,slow=2.8,SNR=6.3 Villa Florida	148.53	63	*e*	PKPbc	PKPbc	16 17 41.4	0.0

WEL 06 16:05:54.4, 38.2S±0.7×178.2E±1.0, h14km±1km, ML3.6/10,
Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGZ	Tauwhareparae	0.16	294	P	Pb	16 05 58.9	-0.2
TWGZ				S	Sb	16 06 02.4	+0.1
PUZ	Puketiti	0.18	24	P	Pg	16 05 59.1	+0.4
PUZ				S	Sb	16 06 02.8	-0.2
CNGZ	Carnagh Statio	0.25	172	P	Pb	16 06 00.5	-0.2
TKGZ	Te Karaka	0.32	231	P	Pb	16 06 01.5	-0.3
TKGZ				S	Sb	16 06 07.7	+0.8
WMGZ	Waiomatatini S	0.47	26	P	Pb	16 06 04.7	+0.4
WMGZ				S	Sn	16 06 12.9	-1.8
RUGZ	Raukumara Rang	0.47	306	P	Pb	16 06 04.2	-0.4
RUGZ				S	Sb	16 06 11.5	+0.1
MWZ	Matawai	0.51	259	P	Pb	16 06 04.8	-0.4
MWZ				S	Sb	16 06 12.7	+0.2
RIGZ	Rimuhau	0.56	214	P	Pb	16 06 06.8	+0.8
HAZ	Te Kaha	0.57	328	P	Pb	16 06 05.9	-0.2
HAZ				S	Sb	16 06 14.6	+0.5
RAGZ	Rawiri	0.64	246	P	Pb	16 06 07.6	+0.2
RAGZ				S	Sn	16 06 17.8	-1.4
MXZ	Matakaoa Point	0.69	10	P	Pb	16 06 08.6	+0.5
MXZ				S	Sn	16 06 19.3	-0.9
PRGZ	Paritu Road	0.72	198	P	Pb	16 06 09.0	+0.3
URZ	Urewera	0.83	268	P	Pb	16 06 10.6	0.0
URZ				S	Sb	16 06 22.3	+0.7
SNGZ	Shannon Statio	0.84	230	P	Pb	16 06 11.3	+0.4
SNGZ				S	Sn	16 06 24.8	+0.6
KNZ	Kokohu	0.87	206	P	Pg	16 06 10.7	-0.5
MHGZ	Mahia Peninsul	0.93	192	P	Pb	16 06 11.9	-0.5
RTZ	Ruatahuna	1.00	248	P	Pn	16 06 13.9	-0.2
WHRZ	Whale Island	1.01	292	P	Pn	16 06 14.4	+0.2
RAHZ	Arahi	1.08	231	P	Pb	16 06 14.5	-0.3
WHHZ	Waihua	1.11	221	P	Pb	16 06 14.6	-0.7
MUGZ	Murupara	1.12	257	P	Pg	16 06 15.9	-0.1
EDRZ	Edgecumbe	1.13	276	P	Pg	16 06 16.7	+0.5
MARZ	Manawahe	1.20	282	P	Pg	16 06 17.9	+0.4
MTHZ	Maungataniwha	1.20	239	P	Pn	16 06 16.5	-0.4
RRRZ	Republican Roa	1.30	265	P	Pg	16 06 19.5	+0.1
TARZ	Mount Tarawera	1.30	270	P	Pg	16 06 19.4	-0.1
OPRZ	Ohinepanea	1.33	287	P	Pn	16 06 18.5	0.0
NMHZ	Naumai	1.36	231	P	Pn	16 06 18.6	-0.5
ARHZ	Aropaoanui	1.37	221	P	Pn	16 06 16.8	-2.3
PRRZ	Plateau Road	1.41	259	P	Pg	16 06 21.5	-0.1
ALRZ	Allen Road	1.47	257	P	Pg	16 06 22.1	-0.4
MRHZ	Matea Rd	1.49	246	P	Pn	16 06 20.1	-0.7
KARZ	Kaharoa	1.53	278	P	Pn	16 06 21.9	+0.5
TGRZ	Tauranga	1.59	288	P	Pn	16 06 22.0	-0.1
BKZ	Black Stump Fm	1.60	234	P	Pn	16 06 21.8	-0.6
CKHZ	Cape Kidnapper	1.65	210	P	Pn	16 06 21.2	-1.8
MCHZ	McNeill Hill	1.66	223	P	Pn	16 06 22.3	-0.8
KWHZ	Kaweka Forest	1.80	228	P	Pn	16 06 24.1	-1.0
KAHZ	Kahuranaki	1.85	212	P	Pn	16 06 23.9	-1.9
KRHZ	Kereru	1.98	224	P	Pn	16 06 26.4	-1.2
PXZ	Pawanui	2.05	209	P	Pn	16 06 25.8	-2.8
BHHZ	Black Hill Sta	2.06	232	P	Pn	16 06 27.7	-1.0
NGZ	Ngauruhoe	2.21	244	P	Pn	16 06 31.2	+0.3
MOVZ	Moawhango	2.21	237	P	Pn	16 06 30.6	-0.1
WPHZ	Waipukurau	2.26	216	P	Pn	16 06 29.2	-2.2
PNHZ	Pukenui	2.26	222	P	Pn	16 06 29.3	-2.2
PRHZ	Porangahau	2.34	210	P	Pn	16 06 30.3	-2.3
TSZ	Takapari Road	2.50	223	P	Pn	16 06 32.2	-2.4
ANWZ	Angora Road	2.57	210	P	Pn	16 06 32.8	-2.9
DVHZ	Dannevirke	2.57	216	P	Pn	16 06 32.8	-2.9
HIZ	Hauiti	2.61	263	P	Pn	16 06 37.4	+1.4
MKAZ	Moumakai	2.64	295	P	Pn	16 06 36.4	-0.2
VRZ	Vera Road	2.81	251	P	Pn	16 06 39.8	+0.9
POWZ	Post Office Ro	2.84	220	P	Pn	16 06 36.7	-2.6
BFZ	Birch Farm	2.85	211	P	Pn	16 06 36.2	-3.3
PRWZ	Pori Road	2.87	216	P	Pn	16 06 37.0	-2.7
WAZ	Wanganui	2.90	238	P	Pn	16 06 40.5	+0.3
MRZ	Mangatainoka R	3.14	219	P	Pn	16 06 40.1	-3.3
TMWZ	Te Maipa	3.36	211	P	Pn	16 06 42.7	-3.8
KHEZ	Kahui Hut	3.41	251	P	Pn	16 06 48.8	+1.6
OGWZ	Otaki Gorge	3.46	221	P	Pn	16 06 44.5	-3.4
KIW	Kapiti Island	3.63	223	P	Pn	16 06 46.9	-3.3

IDC ***06*** *16:27:24.8±4.6, 24.05N×94.41E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3. 1/49, mbtmp3.2/3, Error ellipse: s-maj=401.3km s-min=29.7km az=60.0*
ISCJB ***06*** *16:27:28.6±1.2, 24.8N±0.2×95.9E±0.1, h23km, mb3.3/3, Error ellipse: s-maj=36.3km s-min=12.5km az=22.3*
ISC 06 16:27:31.4±1.4, 24.9N±0.3×96.0E±0.1, h23km, n4, σ3.3 30/5, mb3.4/3, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	3.78	280	*e* PN	Pn	16 28 31.5	+3.1
SHL				*e* SN	Sn	16 29 09.0	-3.3
MKAR	Makanchi Array	24.41	337	P	P	16 32 47.4	-0.7
WRA	0.3nm,0.6s,baz=152,slow=10.0,SNR=4.3 Warramunga Arr	58.14	137	P	P	16 37 23.1	-0.4
ASAR	0.2nm,0.6s,baz=323,slow=7.4,SNR=7.0 Alice Springs	60.69	140	P	P	16 37 40.4	-0.8
	0.2nm,0.6s,baz=317,slow=6.8,SNR=4.7						

NIED ***06*** *16:36:00, 22.60N×120.90E, h5km, Mw3.8 Best double couple: M0 6.07000×10^14 NP1:φ=200.00000°, δ41.00000°, λ-48.00000°. NP2:φ=330.00000°, δ61.00000°, λ-120.00000°.*
IDC ***06*** *16:36:29.8±0.9, 22.71N×121.37E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.6/44, mbtmp3.7/8, ML3.2/1, MS3.0/6, Ms1 3.0/6, ms1mx2.7/54, Error ellipse: s-maj=33.0km s-min=16.9km az=67.0*
JMA ***06*** *16:36:30.1±0.1, 22.59N×120.85E, h15km±2km, M3.7*
TAP ***06*** *16:36:31.7, 22.64N×120.87E, h8km, ML3.9, B*
ASIES ***06*** *16:36:31.6, 22.62N×120.84E, h20km, MW3.6*
ISCJB ***06*** *16:36:32.2±0.3, 22.60N±0.02×120.90E±0.02, h8km±2km, mb3.6/6, MS2.7/1, Error ellipse: s-maj=2.8km s-min=2.3km az=44.8*
ISC 06 16:36:31.8±0.8, 22.62N±0.02×120.91E±0.02, h13km±5km, n134, σ0.9 91/165, mb3.7/6, 21C-14D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECL	Taimali	0.05	120⇑	*i* P	Pg	16 36 34.5	+0.2
ECL	baz=115			*i* S	Sg	16 36 36.0	0.0
EAST	baz=

HEN	**Hengchun**	0.63	194	*e*P		**Pb**	16 36 45.2	+0.4
	baz=189							
CHKT	**Chengkung**	0.64	42⇑	*i*P		**Pb**	16 36 45.0	+0.1
CHKT	baz=61			*e*S		**Sb**	16 36 53.9	+0.2
CHN1	**Nanshi**	0.66	328⇑	*e*P		**Pb**	16 36 45.5	+0.2
CHN1	baz=333			*e*S		**Sb**	16 36 55.4	+1.0
FULB	**Fuli**	0.68	32	⇑P		**Pb**	16 36 45.6	0.0
FULB	baz=26			*e*S		**Sb**	16 36 55.5	+0.6
WTP	**Ta-pu**	0.68	337	⇓P		**Pb**	16 36 45.4	-0.2
TWK1	**Hengchun**	0.68	188	*e*P		**Pb**	16 36 45.8	+0.2
TWKBT	baz=172 **Hengchun**	0.69	187	⇓P		**Pb**	16 36 45.8	+0.1
TPUB	baz=172 **Ta-pu**	0.72	339	⇓P		**Pb**	16 36 46.4	+0.1
TPUB	baz=341			*e*S		**Sb**	16 36 56.7	+0.6
TSEB	baz=341 **Hengchuen, Pin**	0.72	180	*e*P		**Pb**	16 36 46.8	+0.5
TWK	baz=180 **Hsinying**	0.75	329	*e*P		**Pn**	16 36 47.5	-0.7
TWK	baz=332			*e*S		**Sn**	16 36 58.4	-1.1
TAI1	baz=332 **Yung-k'ang**	0.75	304	*e*P		**Pn**	16 36 47.7	-0.5
TWF1	baz=305 **Yuli**	0.81	26	⇑P		**Pg**	16 36 47.5	-0.1
TWF1	baz=22			S		**Sg**	16 36 57.4	-0.8
YULB	baz=22 **Yu-li**	0.85	25	⇑P		**Pg**	16 36 47.4	-0.9
YULB	baz=28			*e*S		**Sg**	16 36 58.0	-1.3
SCLT	baz=28 **Jiali**	0.85	310	P		**Pn**	16 36 50.1	+0.5
SCLT	baz=311			*e*S		**Sn**	16 37 02.4	+0.3
YUS	baz=311 **Yu-Shan**	0.86	3	⇓*i*P		**Pg**	16 36 48.4	-0.3
YUS	baz=6.0			*e*S		**Sb**	16 37 00.5	-0.3
ALS	baz=6.0 **Alishan**	0.89	354	⇓P		**Pb**	16 36 49.1	-0.2
ALS	baz=10.0			*e*S		**Sn**	16 37 02.7	-0.6
EHY	**Hungye**	0.96	24	⇑P		**Pg**	16 36 50.1	-0.3
EHY	baz=27			*e*S		**Sg**	16 37 00.8	-2.1
CHN8	baz=27 **Yiju**	0.96	319	*e*P		**Pn**	16 36 51.3	+0.2
CHN8	baz=320			*e*S		**Sn**	16 37 05.2	+0.5
CHY	baz=320 **Chiayi**	0.98	333	*e*P		**Pn**	16 36 52.0	+0.7
HGSD	baz=335 **Ruisui**	0.99	29	*e*P		**Pg**	16 36 50.5	-0.4
CHN5	baz=25 **Tsauling**	0.99	348	⇓P		**Pn**	16 36 51.5	-0.1
CHN5	baz=3.0			*e*S		**Sn**	16 37 07.0	+1.4
WGK	baz=3.0 **Gukeng**	1.10	343	⇓P		**Pn**	16 36 54.2	+1.1
WGK	baz=346			*e*S		**Sn**	16 37 09.8	+1.5
WDLH	baz=346 **Douliu**	1.11	342	*e*P		**Pn**	16 36 54.5	+1.3
EGFH	baz=344 **Guangfu**	1.15	25	*e*P		**Pb**	16 36 53.5	-0.1
SSLB	baz=27 **Suanglung**	1.16	2	⇑P		**Pn**	16 36 53.7	-0.2
SSLB	baz=4.0			*e*S		**Sn**	16 37 11.3	+1.6
WSF	baz=4.0 **Szhu**	1.19	328	*e*P		**Pg**	16 36 54.6	-0.2
WSF	baz=329			*e*S		**Sn**	16 37 11.2	+0.9
WJS	baz=329 **Zhushan**	1.20	352	*e*P		**Pg**	16 36 55.8	+0.7
SMLT	baz=355 **Sun Moon Lake**	1.25	360	*e*P		**Pg**	16 36 55.8	-0.2
SMLT	baz=7.0			*e*S		**Sg**	16 37 14.1	+1.7
WNT	baz=7.0 **Mingjian**	1.27	351	*e*P		**Pg**	16 36 56.5	+0.3
TYC	baz=337 **Yuchr**	1.28	358	⇑P		**Pg**	16 36 57.4	+1.0
TYC	baz=6.0			*e*S		**Sg**	16 37 15.5	+2.5
ESL	baz=6.0 **Shilin**	1.28	22⇓	*e*P		**Pb**	16 36 55.8	-0.1
WDGT	baz=33 **Dungji**	1.31	299	⇓P		**Pb**	16 36 55.8	-0.6
WDGT	baz=298			*e*S		**Sn**	16 37 12.9	-0.4
RLNB	baz=298 **Erlin**	1.36	338	*e*P		**Pg**	16 36 57.8	-0.2
CHGB	baz=340 **Renai**	1.45	10	*e*P		**Pg**	16 36 59.2	-0.5
CHGB	baz=21			*e*S		**Sg**	16 37 20.6	+1.9
VCHM	baz=21 **Qimei**	1.48	293	⇑P		**Pn**	16 36 58.0	-0.2
VCHM	baz=292			*e*S		**Sn**	16 37 17.1	-0.4
WCHH	baz=292 **Zhanghua**	1.48	348	*e*P		**Pg**	16 37 00.8	+0.4
HWA	baz=335 **Hwalien**	1.49	25	*e*P		**Pg**	16 37 00.8	+0.2
PHUB	baz=27 **P'eng-hu**	1.51	306	⇑P		**Pn**	16 36 58.5	-0.2
PHUB	baz=305			*e*S		**Sn**	16 37 17.4	-0.9
TCU	baz=305 **Taichung**	1.53	352	*e*P		**Pg**	16 37 01.2	-0.1
WHF	baz=335 **Hehuan Shan**	1.55	12	*e*P		**Pg**	16 37 01.1	-0.6
PNG	baz=25 **Penghu**	1.56	307	⇓P		**Pn**	16 36 59.3	0.0
PNG	baz=306			*e*S		**Sn**	16 37 18.4	-1.0
TWD	baz=306 **Chiawan**	1.58	24	*e*P		**Pb**	16 37 00.3	-0.7
TDCB	baz=25 **Techi**	1.64	8	*e*P		**Pg**	16 37 02.9	-0.4
TWT	baz=5.0 **Tachien**	1.64	9	*e*P		**Pg**	16 37 03.9	+0.5
NACB	baz=5.0 **Ninganchiao**	1.67	22	*e*P		**Pb**	16 37 02.2	-0.2
TWQ1	baz=38 **Liyutan**	1.72	356⇑	*e*P		**Pb**	16 37 03.8	+0.4
NSY	baz=359 **Sanyi**	1.79	356	*e*P		**Pg**	16 37 07.0	+0.8
PTSB	baz=358 **Yuanli**	1.82	354	*e*P		**Pg**	16 37 05.9	-1.0
NNSB	baz=336 **Datong**	1.85	14	*e*P		**Pb**	16 37 05.7	0.0
NNS	baz=26 **Nan Shan**	1.86	13	*e*P		**Pb**	16 37 06.1	+0.3
NMLH	baz=26 **Miaoli**	1.91	357	*e*P		**Pg**	16 37 08.3	-0.2
ENA	baz=338 **Nanau**	1.95	23	*e*P		**Pb**	16 37 07.3	-0.1
NSTT	baz=24 **Nanjuang**	2.00	3	*e*P		**Pb**	16 37 08.1	0.0
LIOB	baz=345 **Emei**	2.02	3	*e*P		**Pb**	16 37 08.3	-0.1
YHNB	baz=345 **Yeheng**	2.08	12	*e*P		**Pb**	16 37 08.8	-0.8
NSK	baz=23 **Sanguang**	2.08	11	*e*P		**Pb**	16 37 09.8	+0.1
ENTT	baz=23 **Nioudou**	2.10	17	*e*P		**Pb**	16 37 10.7	+0.9
TWC	baz=32 **Suao**	2.16	23	*e*P		**Pb**	16 37 10.1	-0.7
TWE	baz=24 **Neicheng**	2.20	18	*e*P		**Pb**	16 37 11.9	+0.4
EOS1	baz=36 **EOS1**	2.22	30	*e*P		**Pb**	16 37 10.3	-1.6
WLTB	baz=43 **Daxi**	2.24	8	*e*P		**Pb**	16 37 12.9	+0.7
	baz=11							

TATO	**Taipei**	2.40	13	*e*P		**Pb**	16 37 14.1	-0.9
TATO	baz=16			*e*S		**Sg**	16 37 47.7	-1.4
EGS	baz=16	2.40	23	*e*P		**Pb**	16 37 14.2	-0.9
TWA	baz=24 **Mucha**	2.43	15	*e*P		**Pg**	16 37 17.1	-1.3
TWS1	baz=31 **Kuangyinshan**	2.51	11	*e*P		**Pb**	16 37 17.4	+0.6
NWF	baz=13 **Wu-fen Shan**	2.56	18	*e*P		**Pb**	16 37 15.9	-1.9
WFSB	baz=30 **Wu-fen Shan**	2.56	18	*e*P		**Pb**	16 37 16.2	-1.6
TWB1	baz=31 **Santiao Chiao**	2.57	22	*e*P		**Pb**	16 37 15.7	-2.2
NTST	baz=23 **Danshui**	2.58	11	*e*P		**Pb**	16 37 17.5	-0.5
YM01	baz=14 **YM01**	2.58	13	*e*P		**Pb**	16 37 17.7	-0.4
YM04	**YM04**	2.58	13	*e*P		**Pb**	16 37 16.6	-1.5
YM10	baz=360 **YM10**	2.59	13	*e*P		**Pb**	16 37 16.8	-1.5
YM05	baz=360 **YM05**	2.60	13	*e*P		**Pb**	16 37 16.9	-1.5
YM11	baz=360 **YM11**	2.60	13	*e*P		**Pb**	16 37 17.1	-1.4
YM03	**YM03**	2.61	13	*e*P		**Pb**	16 37 18.7	+0.2
JYNG	baz=360 **Yonagunijimaku**	2.61	45	P		**Pn**	16 37 14.6	+0.8
YM12	**YM12**	2.62	13	*e*P		**Pb**	16 37 18.2	-0.5
YM07	baz=1.0 **YM07**	2.62	14	*e*P		**Pb**	16 37 16.9	-1.9
YM08	baz=32 **YM08**	2.63	14	*e*P		**Pb**	16 37 17.5	-1.4
YOJ	baz=1.0 **Yonaguni jima**	2.66	46	*e*P		**Pn**	16 37 15.4	+0.9
YOJ	baz=60 **Yonaguni jima**	2.66	46	P		**Pn**	16 37 15.4	+0.9
YOJ				S		**Sn**	16 37 46.3	-0.4
VWUC	**VWUC**	2.71	331	*e*P		**Pn**	16 37 16.6	+1.5
TWY	baz=331 **Chenhua**	2.72	13	*e*P		**Pn**	16 37 17.1	+1.9
KNM	baz=29 **Kinmen**	2.89	309	*e*P		**Pn**	16 37 19.4	+1.8
PTMZ	baz=306 **Houxiangcun**	2.91	326	*e*P		**Pn**	16 37 18.7	+0.8
HATJ	baz=326 **Hateruma jima**	3.02	61	P		**Pn**	16 37 19.5	0.0
HATJ				S		**Sn**	16 37 54.2	-1.4
IRIF	**Iriomote-Funau**	3.10	56	P		**Pn**	16 37 21.0	+0.4
IRIF				S		**Sn**	16 37 56.6	-1.0
JKRS	**Kuro-shima**	3.27	60	P		**Pn**	16 37 23.1	+0.2
JIJ	**Ishigaki jima**	3.44	59	P		**Pn**	16 37 25.2	0.0
JIJ				S		**Sn**	16 38 04.5	-1.4
AXDP	**Jialang**	3.52	311	*e*P		**Pn**	16 37 26.5	+0.3
MATB	baz=310 **Ma-tsu**	3.62	346	*e*P		**Pn**	16 37 28.2	+0.5
JISG	baz=347 **Ishigakijimahi**	3.69	57	P		**Pn**	16 37 28.3	-0.3
JISG				*e*S		**Sn**	16 38 09.6	-2.3
MHZQ	**Yeshan**	3.86	334	*e*P		**Pn**	16 37 31.9	+0.9
JTJ	baz=335 **Tarama**	4.02	59	P		**Pn**	16 37 33.2	0.0
JTJ				*e*S		**Sn**	16 38 18.9	-1.3
LYJJ	**Jianjiangzhen**	4.05	345	*e*P		**Pn**	16 37 33.9	+0.4
VDOS	baz=346 **Pratas Island**	4.33	245	*e*P		**Pn**	16 37 38.7	+1.3
XPSS	baz=246 **Dashiqiu**	4.34	352	*e*P		**Pn**	16 37 38.2	+0.7
JIRB	baz=353 **Irabujima**	4.49	60	P		**Pn**	16 37 38.7	-0.9
JIRB				S		**Sn**	16 38 29.1	-2.6
JOW	**Kunigami**	7.90	56	Pn		Pn	16 38 21.6	-5.0
	0.8nm,0.3s,baz=290,slow=12,SNR=2.3							
JNU	**Nakatsue**	13.67	38	LR		LR	16 45 46.6	
	comp=Z,43nm,19.7s,baz=294,slow=42							
KSRS	**Korea Array**	15.97	21	LR		LR	16 46 51.5	
	comp=Z,20nm,21.4s,baz=330,slow=40							
MJAR	**Matsushiro Arr**	20.42	43	LR		LR	16 49 59.5	
	comp=Z,30nm,18.6s,baz=290,slow=40							
CMAR	**Chiang Mai Arr**	20.97	263	P		Pn	16 41 20.4	+2.8
	0.6nm,0.8s,baz=67,slow=7.9,SNR=4.9							
CMAR				LR		LR	16 49 42.3	
	comp=Z,30nm,19.2s,baz=53,slow=37							
SONM	**Songino Array**	27.71	339	P		**P**	16 42 20.5	+0.5
	0.4nm,0.4s,baz=168,slow=15,SNR=3.9							
MKAR	**Makanchi Array**	39.29	317	P		**P**	16 44 02.2	+1.7
	0.4nm,0.6s,baz=112,slow=11,SNR=3.2							
FITZ	**Fitzroy Crossi**	40.74	173	P		**P**	16 44 12.2	-0.5
	0.8nm,0.6s,baz=4.8,slow=12,SNR=2.5							
ZALV	**Zalesovo Beam**	41.42	328	P		**P**	16 44 18.3	+0.3
	1.0nm,0.6s,baz=108,slow=9.5,SNR=4.9							
H11N1	**WAKE ISLAND Hy**	42.85	85	T		T	17 30 09.8	
	baz=281							
H11N2	**WAKE ISLAND Hy**	42.86	85	T		T	17 30 11.5	
	baz=281							
H11N3	**WAKE ISLAND Hy**	42.87	85	T		T	17 30 11.2	
	baz=281							
H11S3	**WAKE ISLAND Hy**	42.94	87	T		T	17 30 17.3	
	baz=284,slow=75,SNR=93							
H11S1	**WAKE ISLAND Hy**	42.95	87	T		T	17 30 18.5	
	baz=284,slow=75,SNR=40							
H11S2	**WAKE ISLAND Hy**	42.96	87	T		T	17 30 17.9	
	baz=284,slow=75,SNR=40							
WRA	**Warramunga Arr**	44.29	162	P		**P**	16 44 40.9	-0.8
	0.8nm,0.7s,baz=344,slow=8.7,SNR=15							
ASAR	**Alice Springs**	47.72	164	P		**P**	16 45 08.5	-0.1
	0.5nm,0.3s,baz=342,slow=7.5,SNR=42							
MMAI	**Mount Meron Ar**	74.44	300	LR		LR	17 27 47.7	
	comp=Z,22nm,19.1s,baz=215,slow=41							
MLR	**Muntele Rosu**	77.55	314	LR		LR	17 24 55.8	
	comp=Z,29nm,19.6s,baz=37,slow=37							

*IDC **06** 17:12:14.3±3.7, 7.°00S×129.°74E, h49km±33km, mb3.8/9, mb1 4.0/12, mb1mx3.7/45, mbtmp4.1/12, ML4.4/3, Error ellipse: s-maj=47.8km s-min=16.8km az=69.0*
*ISCJB **06** 17:12:17.2±0.3, 7.°22S±0.°03×129.°69E±0.°04, h100km, mb4.2/15, Error ellipse: s-maj=5.3km s-min=3.5km az=165.2*
*NEIC **06** 17:12:18.6±0.8, 7.°18S×129.°71E, h95km±8km, mb4.3/13, Error ellipse: s-maj=9.6km s-min=6.1km az=57.0*
*DJA **06** 17:12:19.1±0.3, 7.°3S×13.°0E±.°, h162km±10km, M4.2/14, mB4.7/6, mb4.3/12, ML4.3/14, Mw(mB)3.9/6*
ISC 06 17:12:19.3±0.5, 7.°29S±0.°05×129.°64E±0.°05, h100km, n76, σ2°61/81, mb4.1/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.78**	**113**	*e*Pn		**Pn**	**17 12 53.3**	**+4.2**
SAUI				*e*Sn		**Sn**	**17 13 14.8**	**+3.0**
SAUI	**Saumlaki**	**1.78**	**113**	P		**Pn**	**17 12 52.5**	**+3.4**
BNDI	**Bandanaira**	**2.76**	**5**	P		**Pn**	**17 13 01.8**	**-0.1**
AAI	**Ambon**	**3.85**	**338**	P		**Pn**	**17 13 16.0**	**-0.6**
MSAI	**Masohi**	**3.98**	**350**	P		**Pn**	**17 13 18.5**	**+0.3**
NLAI	**Namlea**	**4.75**	**328**	P		**Pn**	**17 13 29.4**	**+0.7**
FAKI	**Fak Fak**	**5.05**	**31**	*e*Pn		Pn	17 13 30.5	-2.3
FAKI				*e*Sn		Sn	17 14 22.7	-7.3
FAKI	**Fak Fak**	**5.05**	**31**	P		Pn	17 13 30.6	-2.2
FAKI				S		Sn	17 14 23.9	-6.1
MTN	**Manton Dam**	**5.71**	**165**	*e*Pn		**Pn**	**17 13 44.8**	**+3.1**
MTN				*e*Sn		**Sn**	**17 14 47.3**	**+1.3**
SOEI	**Soe**	**5.86**	**245**	*e*Pn		**Pn**	**17 13 47.0**	**+3.2**
SOEI				*e*Sn		**Sn**	**17 14 49.9**	**+0.2**
SOEI	**Soe**	**5.86**	**245**	P		**Pn**	**17 13 47.3**	**+3.5**
	52nm,0.7s							
SANI	**Sanana**	**6.35**	**325**	P		**Pn**	**17 13 51.3**	**+0.9**
	14nm,1.1s							
SIJI	**Sorong**	**6.58**	**14**	P		Pn	17 13 51.5	-2.0
	8.4nm,0.3s,baz=107,slow=23,SNR=56							
SIJI				S		Sn	17 14 59.5	-7.5
	3.3nm,0.3s,baz=261,slow=24,SNR=8.3							
SWI	**Sorong**	**6.58**	**14**	P		Pn	17 13 51.3	-2.2
BATI	**Baumata**	**6.58**	**243**	P		**Pn**	**17 13 56.8**	**+3.1**
	18nm,0.3s,baz=110,slow=1.9,SNR=31							
BATI				S		**Sn**	**17 15 07.6**	**+0.3**
	23nm,0.3s,baz=93,slow=20,SNR=12							
BATI	**Baumata**	**6.58**	**243**	P		**Pn**	**17 13 56.9**	**+3.3**
BBSI	**Bau Bau**	**7.25**	**284**	P		**Pn**	**17 14 05.4**	**+2.7**
RKPI	**Ransiki, Papua**	**7.30**	**38**	P		Pn	17 14 00.8	-2.6
MMRI	**Maumere**	**7.46**	**259**	*e*Pn		**Pn**	**17 14 05.2**	**-0.2**
MMRI	**Maumere**	**7.46**	**259**	P		**Pn**	**17 14 09.1**	**+3.6**
	33nm,0.6s							
EDFI	**Ende, Flores**	**8.01**	**259**	P		**Pn**	**17 14 16.3**	**+3.2**
	13nm,0.8s							

TNTI	**Ternate**	8.32	344	*e*Pn		**Pn**	17 14 15.8	-1.4
BKSI	**Bulukumba**	9.66	281	P		**Pn**	17 14 37.7	+2.2
BNSI	**Bone**	9.91	286	P		**Pn**	17 14 40.7	+1.9
	15nm,1.1s							
FITZ	**Fitzroy Crossi**	11.43	200	P		**Pn**	17 14 58.9	-0.6
	1.8nm,0.3s,baz=32,slow=11,SNR=64							
FITZ				S		Sn	17 16 56.8	-8.4
	1.8nm,0.3s,baz=79,slow=17,SNR=7.5							
FITZ	**Fitzroy Crossi**	11.43	200	*e*Pn		**Pn**	17 14 58.5	-0.9
FITZ				*e*Sn		Sn	17 16 54.1	-11
WRAB	**Tennant Creek**	13.38	161	*e*Pn		**Pn**	17 15 24.3	-0.9
WRAB				*e*Sn		**Sn**	17 17 44.8	-7.7
WR1	**Warramunga Arr**	13.38	161	*e*Pn		**Pn**	17 15 24.1	-1.2
WR1				*e*Sn		**Sn**	17 17 45.4	-7.1
WRA	**Warramunga Arr**	13.38	161	P		**Pn**	17 15 24.1	-1.2
	2.2nm,0.3s,baz=333,slow=14,SNR=90							
WRA				S		**Sn**	17 17 45.4	-7.1
	2.3nm,0.3s,baz=333,slow=22,SNR=8.5							
WB2	**Warramunga Arr**	13.38	161	*e*Pn		**Pn**	17 15 22.9	-2.4
COEN	**Coen**	14.86	118	*e*Pn		**Pn**	17 15 44.2	-0.1
JAGI	**Jajag, Banyuwa**	15.39	265	*e*Pn		**Pn**	17 15 50.6	-0.5
	176nm,1.8s							
AS31	**Alice Springs**	16.79	166	*e*Pn		**Pn**	17 16 10.0	+1.5
	2.3nm,0.5s							
AS31				*e*Sn		**Sn**	17 19 07.8	-7.3
ASAR	**Alice Springs**	16.79	166	P		**Pn**	17 16 09.0	+0.5
	1.4nm,0.3s,baz=338,slow=9.7,SNR=56							
ASAR				S		**Sn**	17 19 07.3	-7.8
	0.8nm,0.3s,baz=338,slow=23,SNR=7.1							
MBWA	**Marble Bar**	16.80	214	*e*Pn		**Pn**	17 16 08.8	+0.4
	8.6nm,0.8s							
AS01	**Alice Springs**	16.80	166	*e*Pn		**Pn**	17 16 09.8	+1.2
AS01				*e*Sn		**Sn**	17 19 10.8	-4.5
KKM	**Kota Kinabalu**	18.84	314	*e*P		**P**	17 16 31.6	0.0
	17nm,1.0s							
UGM	**Wanagama**	18.96	267	*e*P		**P**	17 16 32.1	-0.8
	1μm,2.0s							
STKI	**Sintang**	19.53	291	P		**Pn**	17 16 44.6	+3.2
SBUM	**Sibu**	19.90	298	*e*P		**P**	17 16 43.6	+0.5
	8.0nm,0.9s							
CTAO	**Charters Tower**	20.52	130	*e*P		**P**	17 16 50.1	+0.3
	17nm,1.3s							
KSM	**Kuching**	21.16	294	*e*P		**P**	17 16 57.7	+1.0
	9.3nm,1.3s							
CISI	**Cisompet, Garu**	21.65	268	*e*P		**P**	17 17 00.0	-1.9
	99nm,1.3s							
FORT	**Forrest**	23.42	183	*e*P		**P**	17 17 20.4	+0.9
	25nm,0.9s							
BBOO	**Buckleboo**	26.09	168	*e*P		**P**	17 17 44.9	+1.2
	52nm,1.8s							
STKA	**Stephens Creek**	26.89	157	P		**P**	17 17 53.3	+2.4
	1.4nm,0.4s,baz=331,slow=11,SNR=4.5							
STKA	**Stephens Creek**	26.89	157	*e*P		**P**	17 17 52.6	+1.7
	8.5nm,1.9s							
NWAO	**Narrogin (SRO)**	28.00	203	P		**P**	17 18 03.1	+2.4
	13nm,1.1s,baz=47,slow=2.9,SNR=3.6							
PSI	**Prapat**	32.25	287	*e*P		**P**	17 18 37.2	-1.5
	6.9nm,0.8s							
QIZ	**Qiongzhong**	32.63	324	*e*P		**P**	17 18 40.2	-1.6
	93nm,1.6s							
CM01	**Chiang Mai Arr**	39.61	311	*e*P		**P**	17 19 40.5	-0.9
CMAR	**Chiang Mai Arr**	39.65	311	P		**P**	17 19 40.9	-0.8
	0.5nm,0.6s,baz=138,slow=7.4,SNR=9.9							
RAMN	**Ramite**	53.82	311	*e*P		**P**	17 21 31.0	-1.4
	13nm,0.5s							
JIRN	**Jiri**	54.51	311	*e*P		**P**	17 21 36.4	-1.1
	5.4nm,0.2s							
GUN	**Gumba**	54.88	312	*e*P		**P**	17 21 39.1	-1.0
	8.2nm,0.4s							
PKI	**Pulchoki**	55.04	311	*e*P		**P**	17 21 39.9	-1.4
	3.5nm,0.4s							
PKIN	**Phulchoki**	55.05	311	*e*P		**P**	17 21 39.8	-1.6
	2.3nm,0.3s							
KKN	**Kakani**	55.26	311	*e*P		**P**	17 21 41.1	-1.6
	2.5nm,0.4s							
GKN	**Gorkha**	55.85	311	*e*P		**P**	17 21 45.1	-1.8
KOLN	**Koldanda**	56.51	310	*e*P		**P**	17 21 50.6	-1.1
	3.0nm,0.3s							
DANN	**Dangsing**	56.69	311	*e*P		**P**	17 21 51.8	-1.3
PYUN	**Piuthan**	57.14	310	*e*P		**P**	17 21 54.6	-1.6
	12nm,0.7s							
SONA0	**Songino Array**	58.60	342	*e*P		**P**	17 22 05.5	-0.3
SONM	**Songino Array**	58.60	342	P		**P**	17 22 05.5	-0.3
	0.4nm,0.5s,baz=160,slow=6.0,SNR=4.2							
MK32	**Makanchi Array**	68.27	327	*e*P		**P**	17 23 08.9	-0.6
MKAR	**Makanchi Array**	68.27	327	P		**P**	17 23 08.9	-0.6
	1.6nm,0.5s,baz=115,slow=8.5,SNR=23							
ZALV	**Zalesovo Beam**	71.68	334	P		**P**	17 23 29.1	-1.1
	0.4nm,0.4s,baz=152,slow=6.5,SNR=2.7							
ZAA1	**Zalesovo Array**	71.69	334	*e*P		**P**	17 23 29.1	-1.1
KURBB	**Kurchatov Ara**	72.57	329	P		**P**	17 23 33.7	-1.8
	1.2nm,0.4s,baz=137,slow=5.4,SNR=4.9							
KURK	**Kurchatov**	72.58	329	*e*P		**P**	17 23 33.7	-1.9
MAW	**Mawson**	74.56	201	P		**P**	17 23 49.3	+2.5
	1.2nm,0.5s,baz=132,slow=2.8,SNR=6.2							
GEYT	**Alibeck**	80.13	310	P		**P**	17 24 20.3	+1.6
	0.7nm,0.6s,baz=170,slow=11,SNR=2.5							
TORD	**Torodi Ar. Bea**	128.52	281	PKP	**PKPdf**		17 31 15.5	-0.1
	0.2nm,0.6s,baz=64,slow=3.4							
TOA1	**Torodi Ar. Sit**	128.52	281	*e*PKPdf	**PKPdf**		17 31 15.5	-0.1
CPUP	**Villa Florida**	145.91	169	PKPbc	**PKPdf**		17 31 49.5	+2.2
	1.9nm,0.6s,baz=268,slow=1.3,SNR=6.3							
LPAZ	**La Paz**	150.71	143	PKPbc	**PKPbc**		17 32 02.9	+1.2
	1.3nm,0.4s,baz=103,slow=0.9,SNR=4.5							

*IDC **06** 17:13:21.4±1.9, 38.°64N×55.°40E, h0km, mb3.7/4, mb1 3.9/10, mb1mx3.6/52, mbtmp3.8/10, ML3.7/6, MS2.8/3, Ms1 2.8/3, ms1mx2.3/41, Error ellipse: s-maj=34.2km s-min=13.0km az=7.0*
*ISCJB **06** 17:13:27.6±0.5, 39.°36N±0.°06×55.°65E±0.°04, h33km, mb3.7/2, MS3.3/1, Error ellipse: s-maj=8.1km s-min=4.0km az=2.6*
*AZER **06** 17:13:30.5±1.2, 38.°94N×55.°17E, h2km, ml4.2/10, Error ellipse: s-maj=20.9km s-min=10.0km az=19.0*
*NNC **06** 17:13:40.3±5.1, 39.°96N×57.°05E, h0km, mb3.9, Error ellipse: s-maj=47.2km s-min=22.9km az=37.0*
**ISC 06 17:13:28.9±1.0, 39.°25N±0.°08×55.°68E±0.°05, h35km, n33

GANJ	**Ganja**	**7.32**	**284**	⇑P	**Pn**	**17 15 13.3**	**-0.1**	
	SNR=4.3							
GANJ				⇓S	**Sn**	**17 16 31.9**	**-3.4**	
GDB	**GEDABAY**	**7.76**	**284**	P	**Pn**	**17 15 19.5**	**0.0**	
	SNR=11							
GDB				⇑S	**Sn**	**17 16 42.3**	**-3.9**	
QZX	**Qazax, Azerbai**	**8.10**	**286**	P	**Pn**	**17 15 23.5**	**-0.5**	
	SNR=8.0							
QZX				⇓S	**Sn**	**17 16 51.8**	**-2.5**	
AB31	**Akbulak array**	**10.46**	**16**	Pn	**Pn**	**17 15 57.1**	**+0.8**	
	0.3nm,0.2s,baz=198,slow=14,SNR=44							
AB31				⇓Sn	**Sn**	**17 17 48.1**	**-4.0**	
	9.9nm,0.6s,baz=216,slow=32,SNR=3.7							
KBZ	**Khabaz**	**10.58**	**299**	Pn	**Pn**	**17 15 56.1**	**-1.8**	
	0.4nm,0.3s,baz=100,slow=11,SNR=6.6							
KBZ				Sn	**Sn**	**17 17 53.8**	**-1.3**	
	0.4nm,0.3s,baz=279,slow=19,SNR=2.9							
KVAR	**Kislovodsk Arr**	**10.80**	**300**	Pn	**Pn**	**17 15 59.0**	**-2.0**	
	baz=90,slow=20,SNR=5.3							
KVAR				Sn	**Sn**	**17 17 57.5**	**-3.2**	
	baz=163,slow=19,SNR=4.4							
AKTO	**Aktyubinsk**	**11.31**	**8**	Pn	**Pn**	**17 16 11.0**	**+3.1**	
	0.6nm,0.3s,baz=191,slow=14,SNR=5.3							
AKTO				Sn	**Sn**	**17 18 11.3**	**-1.7**	
	0.6nm,0.3s,baz=49,slow=23,SNR=7.4							
AKTO				LR	LR	17 21 44.5		
	comp=Z,23nm,18.1s,baz=42,slow=42							
AKTO	**Aktyubinsk**	**11.31**	**8**	⇑Pn	Pn	17 16 13.8	+5.9	
	2.9nm,0.6s							
AKTO				⇓Sn	**Sn**	**17 18 11.3**	**-1.7**	
	9.9nm,0.8s							
KK31	**Karatay Array**	**11.82**	**66**	Pn	**Pn**	**17 16 12.9**	**-2.1**	
	0.9nm,0.4s,baz=250,slow=15,SNR=19							
KK31				⇓Sn	Sn	17 18 13.7	-12	
	1.0nm,0.4s							
AAK	**Ala-Archa**	**14.62**	**71**	Pn	**Pn**	**17 16 51.4**	**-1.9**	
	0.8nm,0.3s,baz=204,slow=5.0,SNR=12							
AAK				LR	LR	17 23 59.1		
	comp=Z,19nm,19.4s,baz=270,slow=42							
BRTR	**Keskin Array B**	**17.02**	**279**	Pn	**P**	**17 17 26.4**	**+0.6**	
	0.1nm,0.3s,baz=118,slow=15,SNR=2.9							
BVAR	**Borovoye Array**	**17.09**	**31**	Pn	**Pn**	**17 17 25.2**	**+0.3**	
	0.4nm,0.3s,baz=221,slow=13,SNR=11							
BVAR				Sn	**Sn**	**17 20 24.9**	**-8.8**	
	0.4nm,0.3s,baz=233,slow=18,SNR=5.9							
KURBB	**Kurchatov Arra**	**19.69**	**47**	P	**P**	**17 17 57.0**	**+2.1**	
	0.3nm,0.2s,baz=246,slow=14,SNR=2.5							
MKAR	**Makanchi Array**	**20.80**	**60**	P	**P**	**17 18 09.4**	**+2.3**	
	0.5nm,0.5s,baz=238,slow=8.3,SNR=5.1							
AKASG	**Malin Array Be**	**21.82**	**310**	P	**P**	**17 18 19.2**	**+1.3**	
	3.2nm,0.4s,baz=105,slow=9.5,SNR=15							
ZALV	**Zalesovo Beam**	**24.61**	**44**	P	**P**	**17 18 49.2**	**+3.5**	
	0.4nm,0.3s,baz=263,slow=10.0,SNR=2.7							
FITZ	**Fitzroy Crossi**	**86.64**	**116**	LR	LR	18 11 55.6		
	comp=Z,11nm,18.1s,baz=13,slow=41							

*IDC **06** 17:29:57.6±0.8,5°.43S×141°.42E,h0km,mb4.1/8, mb1 4.3/13,mb1mx4.2/29,mbtmp4.2/13,ML4.0/3,MS3.3/18, Ms1 3.3/18,ms1mx3.2/32,Error ellipse: s-maj=23.9km s-min=17.8km az=82.0*

*ISCJB **06** 17:30:00.9±0.4,5°.67S±0°.03×141°.21E±0°.06,h33km, mb4.5/22,MS3.3/11,Error ellipse: s-maj=9.2km s-min=4.8km az=3.5*

*NEIC **06** 17:30:03.1±1.0,5°.58S×141°.26E,h41km±9km,mb4.5/14, Error ellipse: s-maj=10.5km s-min=7.3km az=85.0*

NEIC Felt at Kiunga.

*DJA **06** 17:30:05.3±0.5,6°S±4°×14°1E±°,h78km±10km,M4.8/9, mb4.5/9,MLv4.9/4*

ISC 06 17:30:02.7±0.5,5°.69S±0°.05×141°.15E±0°.06,h35km,n67, σ2s24/65,mb4.5/22,MS3.3/11,1C-1D,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MMPI	**Merauke**	**2.87**	**195**	P		Pn	Pn	17 30 51.2	+5.3
JAY	**Jayapura**	**3.18**	**352**	Pn		**Pn**	**Pn**	**17 30 51.1**	**+0.8**
	5.2nm,0.3s,baz=205,slow=24,SNR=22								
JAY				Sn		**Sn**	**Sn**	**17 31 26.7**	**-0.4**
	8.6nm,0.3s,baz=25,slow=21,SNR=4.3								
JAY				LR		LR	LR	17 32 24.6	
	comp=Z,398nm,18.9s,slow=49								
JAY	**Jayapura**	**3.18**	**352**	P		**Pn**	**Pn**	**17 30 51.0**	**+0.6**
GENI	**Genyem**	**3.23**	**342**	P		**Pn**	**Pn**	**17 30 53.0**	**+2.1**
SMPI	**Sarmi**	**4.41**	**326**	P		**Pn**	**Pn**	**17 31 09.6**	**+2.5**
PMG	**Port Moresby**	**7.01**	**122**	Pn		**Pn**	**Pn**	**17 31 42.6**	**-0.4**
	0.5nm,0.3s,baz=282,slow=19,SNR=3.4								
PMG				Sn		**Sn**	**Sn**	**17 32 56.4**	**-5.1**
	1.1nm,0.3s,baz=168,slow=14,SNR=2.3								
PMG				LR		LR	LR	17 35 31.6	
	comp=Z,236nm,18.1s,baz=332,slow=48								
FAKI	**Fak Fak**	**9.29**	**287**	*e*Pn		**Pn**	**Pn**	**17 32 15.5**	**+1.2**
FAKI	**Fak Fak**	**9.29**	**287**	P		**Pn**	**Pn**	**17 32 15.9**	**+1.6**
	33nm,0.8s								
SIJI	**Sorong**	**10.96**	**296**	Pn		**Pn**	**Pn**	**17 32 38.1**	**+0.9**
	1.0nm,0.3s,baz=66,slow=15,SNR=13								
SIJI				Sn		**Sn**	**Sn**	**17 34 33.1**	**-5.6**
	0.2nm,0.3s,baz=270,slow=20,SNR=2.0								
SIJI				LR		LR	LR	17 37 44.9	
	comp=Z,316nm,20.1s,baz=324,slow=42								
MTN	**Manton Dam**	**12.17**	**234**	*e*Pn		**Pn**	**Pn**	**17 32 56.3**	**+2.6**
CTA	**Charters Towe**	**15.15**	**161**	Lg		Lg	Lg	17 38 13.6	
	0.1nm,0.3s,baz=234,slow=19,SNR=3.3								
WRAB	**Tennant Creek**	**15.63**	**204**	*e*Pn		**Pn**	**Pn**	**17 33 40.8**	**+0.3**
	21nm,0.8s								
WB2	**Warramunga Arr**	**15.64**	**204**	*e*Pn		**Pn**	**Pn**	**17 33 40.8**	**+0.2**
	19nm,0.8s								
WRA	**Warramunga Arr**	**15.64**	**204**	Pn		**Pn**	**Pn**	**17 33 41.1**	**+0.4**
	0.2nm,0.3s,baz=24,slow=13,SNR=19								
WRA				Sn		**Sn**	**Sn**	**17 36 39.8**	**+6.9**
	0.5nm,0.3s,baz=21,slow=21,SNR=6.8								
WRA				Lg		Lg	Lg	17 38 24.8	
	0.3nm,0.3s,baz=33,slow=24,SNR=3.5								
WRA				LR		LR	LR	17 40 08.6	
	comp=Z,266nm,19.6s,baz=60,slow=38								
SOEI	**Soe**	**17.21**	**255**	*e*Pn		**Pn**	**Pn**	**17 33 58.1**	**-2.6**
	60nm,1.0s								
SOEI	**Soe**	**17.21**	**255**	P		**Pn**	**Pn**	**17 34 00.8**	**+0.1**
BATI	**Baumata**	**17.89**	**254**	P		**P**	**P**	**17 34 11.5**	**+2.2**
	1.4nm,0.3s,baz=70,slow=12,SNR=2.0								
BATI				S		**Sn**	**Sn**	**17 37 21.2**	**-6.4**
	baz=176,slow=13,SNR=2.3								
HNR	**Honiara**	**19.00**	**102**	LR		LR	LR	17 41 30.2	
	comp=Z,104nm,21.2s,baz=275,slow=37								
AS01	**Alice Springs**	**19.17**	**200**	*e*P		**Pn**	**Pn**	**17 34 26.6**	**+2.1**
AS31	**Alice Springs**	**19.19**	**201**	*e*P		**Pn**	**Pn**	**17 34 26.9**	**+2.1**
	8.4nm,0.9s								
ASAR	**Alice Springs**	**19.19**	**201**	P		**Pn**	**Pn**	**17 34 27.8**	**+3.0**
	0.4nm,0.3s,baz=29,slow=10,SNR=59								
ASAR				S		**S**	**S**	**17 37 53.4**	**-5.9**
	0.1nm,0.3s,baz=19,slow=26,SNR=3.0								
ASAR				Lg		Lg	Lg	17 40 21.5	
	0.2nm,0.3s,baz=20,slow=31,SNR=3.8								
ASAR				LR		LR	LR	17 42 37.4	
	comp=Z,165nm,18.2s,baz=26,slow=39								
GUMO	**Guam**	**19.50**	**11**	LR		LR	LR	17 41 31.5	
	comp=Z,68nm,19.9s,baz=180,slow=36								
FITZ	**Fitzroy Crossi**	**19.53**	**230**	P		**Pn**	**Pn**	**17 34 30.3**	**+1.5**
	0.3nm,0.3s,baz=52,slow=11,SNR=12								
FITZ				S		S	S	17 37 57.7	-8.6
	1.1nm,0.3s,baz=108,slow=11,SNR=5.7								
FITZ				Lg		Lg	Lg	17 40 29.9	
	baz=135,slow=11,SNR=2.1								
FITZ				LR		LR	LR	17 42 54.3	
	comp=Z,170nm,20.3s,baz=53,slow=39								
FITZ	**Fitzroy Crossi**	**19.53**	**230**	*e*P		**P**	**P**	**17 34 27.9**	**+0.5**
FITZ				*e*S		S	S	17 37 55.5	-11
FITZ				*e*PcP		**PcP**	**PcP**	**17 38 48.7**	**+1.5**
FITZ				Lg		Lg	Lg	17 40 29.9	
EDFI	**Ende, Flores**	**19.54**	**260**	P		**P**	**P**	**17 34 25.8**	**-1.8**
	11nm,0.7s								
DAV	**Davao City (W)**	**20.05**	**309**	LR		LR	LR	17 42 38.9	
	comp=Z,46nm,19.5s,baz=112,slow=38								
BKSI	**Bulukumba**	**20.93**	**270**	P		**P**	**P**	**17 34 43.9**	**+1.3**
	11nm,0.9s								
WBSI	**Waikabubak, Su**	**21.91**	**258**	P		**P**	**P**	**17 34 52.9**	**-0.3**
MYLDM	**Lahad Datu**	**25.06**	**295**	*e*P		**P**	**P**	**17 35 23.2**	**-0.9**
	28nm,1.0s								
STKA	**Stephens Creek**	**26.06**	**179**	Lg		Lg	Lg	17 43 47.8	
	3.3nm,1.1s,baz=12,slow=14,SNR=2.3								
STKA				LR		LR	LR	17 46 44.3	
	comp=Z,60nm,18.7s,baz=25,slow=38								
DZM	**Mont Dzumac**	**29.38**	**126**	LR		LR	LR	17 48 11.3	
	comp=Z,87nm,20.8s,baz=29,slow=37								
PSI	**Prapat**	**43.01**	**280**	LR		LR	LR	17 58 05.2	
	comp=Z,38nm,21.2s,baz=90,slow=39								
NJ2	**Nanjing**	**43.12**	**332**	*e*P		**P**	**P**	**17 38 01.5**	**+1.7**
NJ2					pmax		pmax		
	comp=Z,15nm,0.5s								
KSAR	**Wonju Array Be**	**44.66**	**345**	P		**P**	**P**	**17 38 11.2**	**-0.8**
KSRS	**Korea Array**	**44.66**	**345**	P		**P**	**P**	**17 38 11.2**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=153,slow=6.1,SNR=3.7								
KSRS				LR		LR	LR	17 54 33.6	
	comp=Z,22nm,21.1s,baz=160,slow=33								
RPZ	**Rata Peaks**	**46.11**	**150**	LR		LR	LR	17 55 14.8	
	comp=Z,50nm,20.2s,baz=8.0,slow=33								
CM01	**Chiang Mai Arr**	**48.00**	**301**	*e*P		**P**	**P**	**17 38 38.2**	**-0.5**
CM01				*e*PcP		**PcP**	**PcP**	**17 40 07.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**48.03**	**301**	P		**P**	**P**	**17 38 39.5**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=123,slow=6.3,SNR=14								
CMAR				LR		LR	LR	18 02 18.5	
	comp=Z,10nm,18.3s,baz=116,slow=40								
CHTO	**Chiang Mai**	**48.19**	**301**	*e*P		**P**	**P**	**17 38 39.9**	**-0.3**
	comp=Z,1.9nm,0.8s								
USRK	**Ussuriysk Ar.**	**50.34**	**351**	LR		LR	LR	17 57 24.3	
	comp=Z,32nm,21.4s,baz=335,slow=33								
BJI	**Beijing**	**50.99**	**335**	⇓*i*P		**P**	**P**	**17 39 01.5**	**+0.4**
BJI					pmax		pmax		
	comp=Z,9.0nm,0.5s								
HHC	**Hu-ho-hao-te**	**53.68**	**332**	*e*P		**P**	**P**	**17 39 24.9**	**+3.7**
HHC					pmax		pmax		
	comp=Z,16nm,1.0s								
HHC					pmax		pmax		
	comp=Z,63nm,7.0s								
GTA	**Gaotai**	**58.89**	**323**	⇑P		**P**	**P**	**17 40 00.5**	**+2.0**
GTA				pP		sP	sP	17 40 12.2	-1.1
GTA				sP		pP	pP	17 40 17.2	+8.1
GTA				S		**S**	**S**	**17 47 59.8**	**-2.4**
GTA					pmax		pmax		
	comp=Z,3.0nm,1.0s								
GTA					pmax		pmax		
	comp=Z,45nm,5.4s								
GTA				LR		LR	LR		
	comp=N,190nm,18.1s								
GTA				LR		LR	LR		
	comp=E,150nm,19.4s								
GTA				LR		LR	LR		
	comp=Z,71nm,17.5s								
LSA	**Lhasa**	**59.47**	**309**	*e*P		**P**	**P**	**17 40 03.4**	**+0.3**
	comp=Z,3.4nm,0.9s								
PETK	**Petropavlovsk-**	**60.23**	**11**	P		**P**	**P**	**17 40 05.3**	**-1.9**
	comp=Z,3.0nm,0.8s,baz=188,slow=7.1,SNR=4.1								
SONM	**Songino Array**	**61.44**	**334**	P		**P**	**P**	**17 40 16.2**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=144,slow=8.1,SNR=3.8								
SONM				LR		LR	LR	18 05 32.5	
	comp=Z,25nm,21.8s,baz=138,slow=35								
WMQ	**Urumqi**	**68.84**	**321**	*e*P		**P**	**P**	**17 41 05.6**	**+1.8**
VNDA	**Vanda**	**72.63**	**175**	P		**P**	**P**	**17 41 27.7**	**+1.5**
	comp=Z,1.0nm,0.7s,baz=325,slow=6.2,SNR=13								
MK01	**Makanchi Array**	**73.60**	**322**	*e*P		**P**	**P**	**17 41 33.0**	**+0.5**
MKAR	**Makanchi Array**	**73.62**	**322**	P		**P**	**P**	**17 41 33.5**	**+0.9**
	comp=Z,4.5nm,0.8s,baz=109,slow=7.9,SNR=24								
PRZ	**Przheval'sk**	**74.29**	**317**	*e*P		**P**	**P**	**17 41 37.0**	**+0.2**
	comp=Z,11nm,0.5s								
KSH	**Kashi**	**74.88**	**313**	*e*P		**P**	**P**	**17 41 43.1**	**+2.8**
KDJ	**Kajisay**	**74.99**	**316**	*e*P		**P**	**P**	**17 41 39.0**	**-1.9**
	comp=Z,6.0nm,1.2s								
ZAA0	**Zalesovo Array**	**75.72**	**329**	*e*P		**P**	**P**	**17 41 43.8**	**-0.8**
	comp=Z,2.6nm,1.0s								
ZALV	**Zalesovo Beam**	**75.72**	**329**	P		**P**	**P**	**17 41 43.9**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=108,slow=4.8,SNR=6.0								
ZALV	**Zalesovo Beam**	**75.72**	**329**	*e*P		**P**	**P**	**17 41 43.7**	**-0.8**
KURK	**Kurchatov**	**77.53**	**325**	*e*P		**P**	**P**	**17 41 53.4**	**-1.5**
	comp=Z,7.1nm,1.2s								
MAW	**Mawson**	**80.31**	**202**	LR		LR	LR	18 14 00.7	
	comp=Z,20nm,21.3s,baz=62,slow=33								
BRVK	**Bovoye**	**83.20**	**325**	*e*P		**P**	**P**	**17 42 25.8**	**+0.5**
	comp=Z,7.2nm,0.9s								
QSPA	**South Pole Qui**	**84.28**	**180**	*e*P		**P**	**P**	**17 42 31.7**	**+0.9**
	comp=Z,10nm,1.5s								
DHY	**Denali Highway**	**86.77**	**26**	*e*P		**P**	**P**	**17 42 41.8**	**-1.5**
	comp=Z,40nm,1.9s								
ILAR	**Eielson Array**	**87.53**	**24**	P		**P**	**P**	**17 42 44.3**	**-2.4**
	comp=Z,2.0nm,0.8s,baz=255,slow=5.0,SNR=18								
TORD	**Torodi Ar. Bea**	**139.37**	**284**	PKP		**PKPdf**	**PKPdf**	**17 49 27.2**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=48,slow=2.1,SNR=3.6								
LPAZ	**La Paz**	**143.72**	**127**	PKP		**PKPdf**	**PKPdf**	**17 49 35.2**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=257,slow=5.2,SNR=5.7								
ROSC	**El Rosal**	**144.67**	**90**	PKP		**PKPdf**	**PKPdf**	**17 49 36.4**	**-1.0**
	comp=Z,7.2nm,0.5s,baz=139,slow=19,SNR=3.7								
DBIC	**Dimbokro**	**146.19**	**273**	PKPbc		**PKPbc**	**PKPbc**	**17 49 41.1**	**+0.5**
	comp=Z,5.7nm,0.8s,baz=52,slow=5.5,SNR=6.2								
SAML	**Samuel**	**151.72**	**121**	*e*PKPbc		**PKPbc**	**PKPbc**	**17 49 54.4**	**-0.3**

*ISCJB **06** 17:32:03.4±0.9,16°.48N±0°.04×97°.84W±0°.02,h8km±6km, mb4.3/108,MS3.3/2,Error ellipse: s-maj=7.3km s-min=3.8km az=10.6*

*IDC **06** 17:32:05.5±1.3,16°.82N×97°.71W,h0km,mb4.0/6, mb1 4.2/10,mb1mx4.0/38,mbtmp3.9/10,ML3.3/4,MS3.3/6, Ms1 3.3/6,ms1mx3.0/23,Error ellipse: s-maj=41.2km s-min=15.3km az=37.0*

*MEX **06** 17:32:05.6±0.6,16°.27N×98°.00W,h5km,MD3.6*

*NEIC **06** 17:32:10.1±0.7,16°.60N×97°.86W,h41km±5km,mb4.3/116, Error ellipse: s-maj=8.3km s-min=4.2km az=201.0*

NEIC Felt at Tlaxiaco.

ISC 06 17:32:04.6±1.2,16°.54N±0°.04×97°.93W±0°.03,h3km±8km, n296,σ1s17/293,mb4.4/107,Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.24**	**233**	*e*P		**Pg**	**Pg**	**17 32 08.4**	**-0.7**
PNIG				*e*S		**Sg**	**Sg**	**17 32 11.4**	**-0.8**
TLIG	**Tlapa**	**1.19**	**329**	*e*Pn		**Pg**	**Pg**	**17 32 27.7**	**+0.3**
TLIG				*e*Sn		**Sn**	**Sn**	**17 32 45.9**	**+0.9**
VHO	**Vista Hermosa**	**1.27**	**65**	*e*P		**Pg**	**Pg**	**17 32 29.2**	**+0.4**
VHO				*e*S		**Sn**	**Sn**	**17 32 47.2**	**+0.2**
HUIG	**Huatulco**	**1.91**	**113**	*e*P		**Pn**	**Pn**	**17 32 35.1**	**-3.0**
HUIG				*i* S		**Sn**	**Sn**	**17 32 58.2**	**-4.4**
CMIG	**Matias Romero**	**2.97**	**79**	Pn		**Pn**	**Pn**	**17 32 52.0**	**-0.7**
	7.4nm,0.3s,baz=257,slow=10,SNR=60								
CMIG				Sn		**Sg**	**Sg**	**17 33 40.7**	**+0.6**
	91nm,0.3s,baz=174,slow=21,SNR=16								
UNM	**Universidad Na**	**3.02**	**337**	*e*Pn		**Pb**	**Pb**	**17 32 57.0**	**-2.2**
MOIG	**Morelia**	**4.40**	**316**	*e*Pn		**Pn**	**Pn**	**17 33 15.0**	**+2.5**
CCIG	**Comitan**	**5.57**	**92**	*e*Pn		Pb	Pb	17 33 35.0	-7.6
APG	**El Apazote**	**7.35**	**101**	Pn		**Pn**	**Pn**	**17 33 50.6**	**-2.5**
	0.4nm,0.3s,baz=294,slow=22,SNR=6.3								
APG				Sn		**Sn**	**Sn**	**17 35 22.1**	**+5.0**
	1.9nm,0.3s,baz=345,slow=21,SNR=4.0								
APG				Lg		Lg	Lg	17 35 56.6	
	1.9nm,0.3s,baz=304,slow=18,SNR=5.2								
ZAIG	**Zacatecas**	**7.58**	**326**	*e*Pn		**Pn**	**Pn**	**17 33 55.4**	**-1.0**
TEIG	**Tepich**	**9.87**	**67**	*e*Pn		**Pn**	**Pn**	**17 34 28.7**	**+1.2**
TEIG				*e*Sn		**Sn**	**Sn**	**17 36 16.2**	**-2.7**
833A	**Chaparral WMA,**	**11.81**	**354**	*e*Pn		**Pn**	**Pn**	**17 34 56.7**	**+2.7**
BOAB	**BOACO BROADBAN**	**12.55**	**107**	*e*Pn		**Pn**	**Pn**	**17 35 05.7**	**+1.5**
HPIG		**12.59**	**327**	*e*Pn		**Pn**	**Pn**	**17 35 08.3**	**+3.4**
TXAR	**Lajitas Array**	**13.79**	**339**	Pn		**Pn**	**Pn**	**17 35 23.8**	**+2.7**
	0.0nm,0.3s,baz=152,slow=14,SNR=6.3								
TXAR				Lg		Lg	Lg	17 39 30.8	
	baz=154,slow=27,SNR=3.4								
TX31	**Lajitas Ar. Si**	**13.79**	**339**	*e*Pn		**Pn**	**Pn**	**17 35 22.0**	**+0.9**
LPIG	**La Paz**	**13.83**	**305**	LR		LR	LR	17 40 10.4	
	comp=Z,36nm,19.5s,baz=34,slow=35								
JCT	**Junction City**	**13.98**	**353**	*e*Pn		**Pn**	**Pn**	**17 35 25.0**	**+1.2**
JCT	**Junction City**	**13.98**	**353**	P		**P**	**P**	**17 35 30.9**	**-1.1**
	baz=172								
JTS	**JuntasAbangare**	**14.06**	**115**	LR		LR	LR	17 39 33.4	
	comp=Z,42nm,19.8s,baz=342,slow=32								
JTS	**JuntasAbangare**	**14.06**	**115**	*e*Pn		**Pn**	**Pn**	**17 35 27.1**	**+2.2**
435B	**Jarrell**	**14.19**	**1**	*e*Pn		**Pn**	**Pn**	**17 35 26.0**	**-0.5**
WHTX	**Lake Whitney,**	**15.39**	**2**	*e*Pn		**Pn**	**Pn**	**17 35 38.5**	**-4.3**
	19nm,0.9s								
WHTX	**Lake Whitney,**	**15.39**	**2**	P		**P**	**P**	**17 35 48.4**	**+0.8**
	baz=182								
ABTX	**Abilene, Hawle**	**16.09**	**355**	*e*Pn		**P**	**P**	**17 35 54.8**	**-0.6**
	37nm,1.0s								
ABTX	**Abilene, Hawle**	**16.09**	**355**	P		**P**	**P**	**17 35 56.3**	**+0.9**
	baz=174,SNR=11								
344A	**Westbrook Farm**	**16.23**	**23**	*e*Pn		**P**	**P**	**17 35 55.4**	**-1.5**
	17nm,0.8s								
MNTX	**Cornudas Mount**	**16.55**	**337**	*e*Pn		**P**	**P**	**17 35 59.5**	**-0.9**
	7.5nm,1.4s								
MNTX	**Cornudas Mount**	**16.55**	**337**	P		**P**	**P**	**17 35 59.3**	**-1.1**
	baz=154,SNR=6.1								
Z40A	**Long Farm, Mag**	**17.15**	**13**	P		**P**	**P**	**17 36 06.9**	**-0.1**
	baz=195								
143A	**Socs Landing,**	**17.15**	**19**	*e*Pn		**P**	**P**	**17 36 06.5**	**-0.5**
	22nm,0.5s								
HSIG		**17.26**	**318**	*e*Pn		**P**	**P**	**17 36 06.6**	**-1.7**
	12nm,1.3s								
Z41A	**Richland Creek**	**17.28**	**15**	*e*Pn		**P**	**P**	**17 36 08.8**	**+0.3**
	17nm,0.8s								
MSTX	**Muleshoe**	**17.90**	**347**	*e*Pn		**P**	**P**	**17 36 14.9**	**-0.6**
	14nm,1.1s								
X37A	**Clayton**	**18.12**	**7**	*e*Pn		**P**	**P**	**17 36 18.5**	**+0.7**
	54nm,1.8s								
WMOK	**Wichita Mounta**	**18.14**	**358**	*e*Pn		**P**	**P**	**17 36 17.0**	**-1.1**
	6.3nm,1.0s								
WMOK	**Wichita Mounta**	**18.14**	**358**	P		**P**	**P**	**17 36 17.6**	**-0.4**
	baz=177								
X39A	**Fountain Ranch**	**18.22**	**10**	P		**P**	**P**	**17 36 18.7**	**-0.2**
	baz=192								
121A	**Cookes Peak, D**	**18.26**	**333**	P		**P**	**P**	**17 36 20.8**	**+1.3**
	baz=148								
MIAR	**Mount Ida**	**18.36**	**11**	*e*P		**P**	**P**	**17 36 20.6**	**+0.2**
	46nm,1.9s								
MIAR	**Mount Ida**	**18.36**	**11**	P		**P**	**P**	**17 36 21.2**	**+0.8**
	baz=193								
AMTX	**Amarillo**	**18.58**	**350**	*e*P		**Pn**	**Pn**	**17 36 22.2**	**-0.8**
	17nm,1.1s								
AMTX	**Amarillo**	**18.58**	**350**	P		**Pn**	**Pn**	**17 36 24.5**	**+1.4**
	baz=168								
Y46A	**Houston**	**19.11**	**24**	P		**Pn**	**Pn**	**17 36 29.8**	**+0.4**
	baz=207								
757A	**Oxford**	**19.12**	**47**	P		**Pn**	**Pn**	**17 36 29.9**	**+0.3**
	baz=233								
LRAL	**Lakeview Retre**	**19.17**	**29**	P		**Pn**	**Pn**	**17 36 29.7**	**-0.4**
	baz=213								
BNM	**Barren Site**	**19.20**	**338**	*e*P		**Pn**	**Pn**	**17 36 32.4**	**+1.6**
Z48A	**Northport**	**19.20**	**27**	P		**Pn**	**Pn**	**17 36 30.5**	**0.0**
	baz=212								
251A	**Midway**	**19.21**	**34**	P		**Pn**	**Pn**	**17 36 30.3**	**-0.4**
	baz=219								
LENM	**Lemitar**	**19.34**	**337**	*e*P		**Pn**	**Pn**	**17 36 33.0**	**+0.6**
LPM	**Los Pinos Moun**	**19.35**	**338**	*e*P		**P**	**P**	**17 36 30.6**	**-0.9**
TUL1	**Leonard**	**19.39**	**5**	*e*P		**Pn**	**Pn**	**17 36 31.4**	**-1.4**
	18nm,0.9s								
TUL1	**Leonard**	**19.39**	**5**	P		**Pn**	**Pn**	**17 36 32.6**	**-0.2**
	baz=186								
Y47A	**UCPARC, Winfie**	**19.53**	**26**	P		**Pn**	**Pn**	**17 36 33.5**	**-0.9**
	baz=210								
TUC	**Tucson**	**19.55**	**326**	Pn		**P**	**P**	**17 36 31.0**	**-2.7**
LAZ	**Ladron**	**19.62**	**337**	*e*P		**P**	**P**	**17 36 33.6**	**-0.8**
V41A	**Mountainview**	**19.85**	**14**	P		**Pn**	**Pn**	**17 36 38.0**	**-0.3**
	baz=196								
ANMO	**Albuquerque**	**19.86**	**339**	P		**Pn**	**Pn**	**17 36 37.9**	**-0.7**
	0.1nm,0.3s,baz

14nm,1.0s
KSU1 **Kansas State U** 22.51 3 *e*P P 17 37 05.3 -0.1
17nm,0.6s
T47A **Sharon Grove** 22.51 23 *e*P P 17 37 05.1 -0.4
15nm,1.0s
T47A **Sharon Grove** 22.51 23 P P 17 37 05.7 +0.2
baz=208
S22A **4UR Ranch, Cre** 22.54 341 *e*P P 17 37 07.3 +1.2
5.5nm,0.9s
S22A **4UR Ranch, Cre** 22.54 341 P P 17 37 07.0 +0.9
baz=157
MVCO **Mesa Verde** 22.61 338 *e*P P 17 37 07.7 +0.8
22nm,1.2s
MVCO **Mesa Verde** 22.61 338 P P 17 37 07.6 +0.8
baz=153,SNR=10.0
S45A **Carrier Mills** 22.62 20 P P 17 37 07.0 +0.5
baz=204
U49A **Red Boiling Sp** 22.63 26 P P 17 37 06.6 -0.2
baz=211
V51A **Loudon** 22.68 30 P P 17 37 06.8 -0.5
baz=216
BG3 **Lake Jocassee** 22.76 33 *e*P P 17 37 06.8 -1.3
31nm,1.5s
KSCO **Kaye Shedlock'** 22.77 351 *e*P P 17 37 06.5 -1.8
14nm,0.9s
R43A **Red Bud** 22.77 16 P P 17 37 08.5 +0.3
baz=200
W53A **Cullowhee** 22.77 33 P P 17 37 07.9 -0.5
baz=219
T48A **Bowling Green** 22.89 24 P P 17 37 09.4 -0.1
baz=209
PDMCI **Parker Dam,Lak** 22.91 324 P P 17 37 10.4 +0.7
baz=136
U50A **Jamestown** 22.96 28 P P 17 37 09.9 -0.4
baz=214
R44A **Waltonville** 22.99 18 P P 17 37 10.9 +0.4
baz=202
Q41A **Truxton** 23.09 13 P P 17 37 10.9 -0.6
baz=196
S47A **Hartford** 23.13 23 P P 17 37 11.6 -0.4
baz=208
Q42A **Golden Eagle** 23.21 15 P P 17 37 12.4 -0.4
baz=198
Q24A **Divide** 23.22 346 P P 17 37 13.2 0.0
baz=162
BC3 **Big Chuckawall** 23.23 320 P P 17 37 14.3 +1.2
baz=133
R45A **Skylar, Fairfi** 23.27 20 P P 17 37 13.8 +0.3
baz=204
MONP2 **Monument Peak** 23.33 318 P P 17 37 15.0 +0.7
baz=130
W13A **Hualapai Mount** 23.35 325 *e*P P 17 37 15.4 +0.9
5.2nm,1.3s
IRM **Iron Mountain** 23.39 322 P P 17 37 15.7 +1.0
baz=134
Q43A **New Douglas** 23.46 16 P P 17 37 15.3 0.0
baz=200
PV01 **Paradox Valley** 23.46 339 *e*P P 17 37 14.9 -0.7
S48A **Wiedeman Farm,** 23.50 24 P P 17 37 15.9 +0.1
baz=210
U15A **North Rim** 23.56 330 *e*P P 17 37 17.7 +1.1
24nm,1.6s
PV13 **Radium Mtn., P** 23.57 338 *e*P P 17 37 17.1 +0.4
7.8nm,1.0s
PV02 **Paradox Valley** 23.59 338 *e*P P 17 37 17.2 +0.4
6.0nm,1.0s
PV05 **Paradox Valley** 23.60 338 *e*P P 17 37 17.4 +0.4
PV03 **Paradox Valley** 23.67 338 *e*P P 17 37 18.1 +0.5
PV18 **Skein Mesa, Pa** 23.68 338 *e*P P 17 37 18.3 +0.5
6.8nm,0.9s
PV12 **Saucer Basin,** 23.71 338 *e*P P 17 37 19.2 +1.1
11nm,0.9s
PV11 **David Mesa, Pa** 23.72 338 *e*P P 17 37 18.4 +0.3
60nm,1.9s
PV17 **East Wray Mesa** 23.73 338 *e*P P 17 37 18.1 -0.1
12nm,1.2s
PV16 **Nyswonger Mesa** 23.74 338 *e*P P 17 37 18.7 +0.3
8.1nm,1.2s
PV19 **Morning Glory** 23.77 338 *e*P P 17 37 18.7 +0.1
17nm,1.6s
BELC **Belle Mtn. Jos** 23.79 320 P P 17 37 19.5 +0.6
baz=132
XPFO **Pigeon Flat** 23.82 319 *e*P P 17 37 17.3 -1.8
3.3nm,0.9s
P41A **Barry, Barry** 23.82 13 P P 17 37 18.9 +0.1
baz=196
T51A **Gray** 23.82 29 P P 17 37 18.7 -0.2
baz=215
PFO **Pinyon Flats O** 23.82 319 *e*P P 17 37 17.5 -1.6
3.3nm,0.9s
PV14 **Lion Creek, Pa** 23.84 338 *e*P P 17 37 19.5 +0.2
6.0nm,1.0s
PV10 **Paradox Valley** 23.85 338 *e*P P 17 37 18.8 -0.6
R47A **Wooly Knot Far** 23.88 23 P P 17 37 18.9 -0.6
baz=208
PV22 **Blue Mesa, Par** 23.90 339 *e*P P 17 37 19.4 -0.5
7.3nm,1.0s
P42A **Winchester** 23.90 15 *e*P P 17 37 19.1 -0.5
18nm,0.9s
P42A *e*S S 17 41 30.7 -5.9
P42A **Winchester** 23.90 15 P P 17 37 19.3 -0.3
baz=198
PV23 **Carpenter Ridg** 23.90 338 *e*P P 17 37 20.4 +0.4
10nm,1.0s
SMCO **Snowmass** 23.90 342 *e*P P 17 37 21.2 +1.1
24nm,1.5s
PV21 **Cone Mtn., Par** 23.99 338 *e*P P 17 37 21.3 +0.6
6.8nm,0.9s
PV09 **Paradox Valley** 23.99 338 *e*P P 17 37 21.7 +0.9
ISCO **Idaho Springs** 24.13 345 *e*P P 17 37 22.7 +0.6
12nm,0.8s
ISCO **Idaho Springs** 24.13 345 P P 17 37 22.1 0.0
baz=162,SNR=11
S50A **Richmond** 24.21 27 P P 17 37 22.9 +0.4
baz=213
P44A **Sand Creek, Wi** 24.25 18 P P 17 37 22.8 0.0
baz=202
O41A **Passleys Farm,** 24.28 13 P P 17 37 22.5 -0.7
baz=196
KNB **Kanab** 24.29 330 *e*P P 17 37 24.8 +1.3
9.4nm,1.3s
PKCU **Pink Cliffs** 24.39 331 *e*P P 17 37 25.0 +0.4
41nm,1.8s
LCMT **Little Creek M** 24.49 329 *e*P P 17 37 25.1 -0.1
2.7nm,0.9s
S51A **Beattyville** 24.53 28 *e*P P 17 37 25.4 -0.1
11nm,1.0s
HEC **Hector,Ludlow** 24.56 321 P P 17 37 26.4 +0.6
baz=133
P45A **Graceland, Par** 24.57 19 *e*P P 17 37 23.8 -2.0
42nm,1.6s
N39A **Derby Farms, D** 24.71 10 *e*P P 17 37 25.7 -1.3
10nm,0.8s
N39A **Derby Farms, D** 24.71 10 P P 17 37 26.7 -0.3
baz=192
TUQ **Turquoise Moun** 24.74 323 P P 17 37 28.3 +0.7
baz=135
MTPU **Mount Pierson** 24.82 332 *e*P P 17 37 29.8 +1.2
8.4nm,0.8s
SZCU **Shurtz Canyon** 24.88 330 *e*P P 17 37 30.3 +1.4
13nm,1.4s
CCUT **Cedar City** 24.97 330 *e*P P 17 37 30.5 +0.7
5.8nm,1.3s
SRU **San Rafael Swe** 25.04 336 *e*P P 17 37 31.6 +1.3
9.4nm,0.9s
R51A **Hillsboro** 25.08 27 P P 17 37 30.8 +0.4
baz=214
SHPR **Sheep Range** 25.09 326 *e*P P 17 37 31.3 +0.6
12nm,1.9s
Q49A **Aurora** 25.12 24 P P 17 37 30.8 0.0
baz=210
O20A **White River Ci** 25.16 341 *e*P P 17 37 32.6 +1.2
16nm,1.0s
O20A **White River Ci** 25.16 341 P P 17 37 30.1 -1.3
baz=156
GSC **Goldstone, Bar** 25.16 322 *e*P P 17 37 31.8 +0.5
4.4nm,1.0s
MSU **Marysvale** 25.21 333 *e*P P 17 37 32.9 +1.0
MWC **Mount Wilson** 25.23 318 *e*P P 17 37 32.1 0.0
8.8nm,1.1s
N23A **Red Feather La** 25.24 346 *e*P P 17 37 33.0 +0.8
20nm,1.1s
N23A **Red Feather La** 25.24 346 P P 17 37 32.9 +0.7
baz=162,SNR=12
Q50A **Georgetown** 25.36 26 P P 17 37 32.5 -0.4
baz=212
P18A **Preston Nutter** 25.39 337 *e*P P 17 37 34.1 +0.5
12nm,1.1s

P17A **Butcher Ranch,** 25.44 336 *e*P P 17 37 34.7 +0.8
6.1nm,1.1s
TMUT **Trail Mountain** 25.47 336 *e*P P 17 37 34.8 +0.5
3.3nm,0.8s
SDDR **Presa de Saban** 25.48 81 *e*P P 17 37 36.6 +2.3
21nm,1.3s
PHWY **Pilot Hill** 25.52 347 *e*P P 17 37 35.0 +0.2
6.9nm,0.8s
SCIA **State Center** 25.61 8 *e*P P 17 37 34.4 -0.8
35nm,1.1s
P49A **Miami Univ. Ec** 25.65 24 P P 17 37 35.0 -0.6
baz=210
O47A **Sheridan** 25.73 21 P P 17 37 36.0 -0.2
baz=207
BLA **Blacksburg** 25.76 34 *e*P P 17 37 35.9 -0.7
34nm,1.4s
BLA **Blacksburg** 25.76 34 P P 17 37 36.0 -0.7
baz=221
LRMC **Laurel Mtn Rad** 25.81 321 P P 17 37 38.0 +0.7
baz=132
M42A **Sheffield** 25.81 14 P P 17 37 37.1 +0.1
baz=198
PSUT **Pine Spring** 25.99 331 *e*P P 17 37 40.0 +1.0
TPNV **Topopah Spring** 26.00 325 *e*P P 17 37 40.2 +1.2
3.7nm,0.9s
TPNV **Topopah Spring** 26.00 325 P P 17 37 39.8 +0.8
baz=136
L40A **Anamosa** 26.09 11 P P 17 37 39.3 -0.1
baz=195
MPMC **Manual Prospec** 26.09 322 P P 17 37 38.6 -1.2
baz=133
SCZ2 **Santa Cruz Isl** 26.13 316 P P 17 37 40.9 +0.9
baz=126
M44A **Midewin, Midew** 26.19 17 P P 17 37 39.3 -1.2
baz=202
L41A **Preston** 26.24 13 P P 17 37 40.0 -0.9
baz=196
P51A **Williamsport** 26.29 27 *e*P P 17 37 43.0 +1.6
13nm,0.8s
DAC **Darwin (Calif)** 26.30 322 *e*P P 17 37 40.9 -0.9
3.3nm,1.0s
RWWY **Rawlins** 26.31 344 *e*P P 17 37 41.7 -0.2
6.6nm,1.0s
L42A **Oliver, Polo** 26.36 14 P P 17 37 41.7 -0.3
baz=198
O49A **Covington** 26.36 24 *e*P P 17 37 44.8 +2.7
16nm,0.8s
NLU **North Lily Min** 26.38 335 *e*P P 17 37 43.5 +1.0
9.3nm,1.2s
N47A **Urbana** 26.47 21 P P 17 37 43.3 +0.3
baz=207
K39A **Oelwein** 26.59 10 P P 17 37 43.7 -0.3
baz=193
R11A **Troy Canyon, C** 26.69 328 P P 17 37 45.3 +0.1
baz=140
CWC **Cottonwood Cre** 26.70 322 P P 17 37 45.9 +0.6
baz=133
L43A **Garden Prairie** 26.75 15 P P 17 37 45.9 +0.4
baz=200
DUG **Dugway, Tooele** 26.89 334 *e*P P 17 37 47.0 0.0
5.8nm,1.0s
DUG **Dugway, Tooele** 26.89 334 P P 17 37 48.0 +1.0
baz=147,SNR=5.3
P53A **Whipple** 27.04 29 P P 17 37 48.3 +0.2
baz=217
K22A **Casper** 27.05 346 *e*P P 17 37 48.1 -0.2
15nm,1.2s
K22A **Casper** 27.05 346 P P 17 37 48.5 +0.1
baz=162
TCUT **Toone Canyon** 27.12 337 *e*P P 17 37 49.2 0.0
9.9nm,1.0s
ECSD **EROS Data Cent** 27.13 2 P P 17 37 48.3 -0.7
baz=183
K43A **Burlington** 27.34 16 *e*P P 17 37 49.4 -1.5
92nm,1.6s
BGU **Big Grassy Mou** 27.59 335 *e*P P 17 37 53.6 +0.4
12nm,1.6s
SDV **Santo Domingo** 27.67 103 P P 17 37 54.0 -0.3
2.3nm,0.3s,baz=354,slow=9.2,SNR=2.1
BW06 **Boulder Array** 27.97 342 *e*P P 17 37 55.6 -1.2
13nm,1.6s
BW06 **Boulder Array** 27.97 342 P P 17 37 56.5 -0.2
baz=156
PD31 **Pinedale Array** 27.97 342 *e*P P 17 37 55.3 -1.5
PDAR **Pinedale Array** 27.97 342 P P 17 37 54.9 -1.8
0.7nm,0.8s,baz=116,slow=8.2,SNR=6.5
PDAR LR LR 17 49 51.7
comp=Z,75nm,19.2s,baz=177,slow=38
PDAR **Pinedale Array** 27.97 342 *e*P P 17 37 55.9 -0.8
MDPB **Devils Postpil** 28.09 323 *e*P P 17 37 57.1 -0.6
5.4nm,1.4s
NV11 **Mina Array Sit** 28.12 325 *e*P P 17 37 58.6 +0.6
0.5nm,1.0s
NV01 **Mina Array Sit** 28.20 325 *e*P P 17 37 59.5 +0.6
NVAR **Mina Array Bea** 28.20 325 P P 17 37 60.0 +1.1
3.9nm,1.1s,baz=147,slow=9.6,SNR=17
HVU **Hansel Valley** 28.21 336 *e*P P 17 37 59.4 +0.5
4.2nm,1.1s
KVN **Kaiserville** 28.53 326 *e*P P 17 38 02.0 +0.2
1.8nm,0.8s
BPOM **Post Ranch** 28.86 317 *e*PcP PcP 17 41 18.9 +4.8
REDW **Red Top Meadow** 28.91 340 *e*P P 17 38 04.8 -0.4
26nm,1.5s
SPMN **Marine on St.** 28.92 8 *e*P P 17 38 04.0 -0.9
40nm,1.8s
LOHW **Long Hollow** 29.06 341 *e*P P 17 38 06.7 +0.3
3.0nm,1.0s
TPAW **Teton Pass** 29.06 340 *e*P P 17 38 06.5 0.0
6.9nm,1.2s
BMN **Battle Mountai** 29.10 329 *e*P P 17 38 06.7 -0.1
8.9nm,1.4s
YERR **Yerington** 29.11 324 *e*P P 17 38 05.1 -1.8
8.2nm,1.5s
F40A **Park Falls** 30.01 11 P P 17 38 14.2 -0.4
baz=195
RLMT **Red Lodge** 30.05 344 P P 17 38 15.2 0.0
baz=158
E40A **Wakefield** 30.56 11 P P 17 38 19.1 -0.4
baz=195
WVOR **Wild Horse Val** 31.31 330 *e*P P 17 38 27.2 +1.0
9.9nm,1.1s
AGMN **Agassiz Nation** 31.72 3 *e*P P 17 38 28.4 -1.2
8.1nm,0.8s
J08A **Circle Bar Ran** 31.94 331 *e*P P 17 38 32.5 +0.8
8.6nm,0.8s
E50A **Wahnapitae** 33.06 22 P P 17 38 40.3 -1.0
baz=211
F10A **Beach Ranch, E** 33.48 335 *e*P P 17 38 44.8 -0.4
4.1nm,0.9s
G08A **Pilot Rock** 33.66 333 *e*P P 17 38 47.3 +0.5
5.5nm,1.1s
NCB **Newcomb** 33.92 31 *e*P P 17 38 50.2 +1.2
24nm,0.8s
I04A **Tendick Farm,** 34.19 328 P P 17 38 51.5 +0.2
baz=135
LONY **Lake Ozonia** 34.22 30 *e*P P 17 38 51.5 0.0
H04A **Detroit Lake** 34.71 329 *e*P P 17 38 56.6 +0.8
15nm,1.1s
FFD **Franklin Falls** 34.91 34 *e*P P 17 39 02.7 +5.2
265nm,0.3s
LBNH **Lisbon** 35.29 33 *e*P P 17 39 00.1 -0.6
26nm,1.0s
LBNH **Lisbon** 35.29 33 P P 17 38 60.0 -0.8
baz=227
C09A **Chrisman Ranch** 35.39 336 *e*P P 17 39 01.5 -0.1
17nm,1.7s
LON **Longmire** 36.05 332 *e*P P 17 39 06.0 -1.4
17nm,1.8s
D03D **Eldon** 37.22 332 P P 17 39 17.7 +0.5
baz=138
A04D **Lummi Island** 37.94 333 P P 17 39 23.5 +0.3
baz=139
LPAZ **La Paz** 43.91 137 P P 17 40 14.6 +1.0
0.7nm,0.6s,baz=296,slow=8.9,SNR=4.2
SCHQ **Schefferville** 45.10 25 LR LR 18 01 12.0
comp=Z,66nm,18.7s,baz=330,slow=39
YKA **Yellowknife Ar** 47.38 350 P P 17 40 37.9 -1.8
1.1nm,0.8s,baz=154,slow=8.0,SNR=4.1
INK **Inuvik** 56.46 345 *e*P P 17 41 46.4 -1.0
6.3nm,1.1s
HDA **Harding Lake** 58.13 337 P P 17 41 58.3 -1.0
baz=121
IL1 **Eielson Array** 58.30 338 *e*P P 17 42 00.1 -0.4
ILAR **Eielson Array** 58.30 338 P P 17 42 00.1 -0.4
1.9nm,1.1s,baz=133,slow=4.4,SNR=8.9
FYU **Fort Yukon** 58.71 340 *e*P P 17 42 03.6 +0.4
16nm,0.6s
TRF **Thorofare Moun** 58.94 335 *e*P P 17 42 05.1 -0.1

46nm,1.6s
PPT **Papeete** 61.12 239 LR LR 18 03 50.3
comp=Z,61nm,19.0s,baz=343,slow=31
ESDC **Sonseca Array** 82.61 51 LR LR 18 17 47.9
comp=Z,13nm,19.7s,baz=85,slow=33
WRA **Warramunga Arr** 130.40 258 PKP PKPdf 17 51 20.7 +3.3
0.6nm,0.8s,baz=79,slow=2.7,SNR=5.0
CMAR **Chiang Mai Arr** 141.46 334 PKhKP PKPpre 17 51 36.2
0.3nm,0.5s,baz=339,slow=2.3,SNR=2.9

*IDC **06** 17:37:06.5±7.5,35°.03N×70°.66E,h0km,mb3.6/3, mb1 3.8/4,mb1mx3.4/33,mbtmp3.5/4,ML3.0/1,MS3.6/1, Ms1 3.6/1,ms1mx2.4/36,Error ellipse: s-maj=235.7km s-min=31.8km az=95.0*
*ISCJB **06** 17:37:26.7±0.6,36°.49N±0°.05×70°.97E±0°.07,h188km, mb3.4/2,Error ellipse: s-maj=8.8km s-min=5.5km az=148.9*
*NNC **06** 17:37:33.0±4.3,36°.95N×71°.01E,h195km±63km,mb2.8, mpv3.8,Error ellipse: s-maj=41.9km s-min=32.7km az=0.0*
ISC 06 17:37:27.0±0.9,**36°.52N**±0°.08×**70°.92E**±0°.08,**h188**km,**n27,** σ1s**72**/28,**5C-2D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
				Op				
AML	**Almayashu**	**6.00**	**20**	P		**Pn**	**17 38 55.1**	**+0.7**
	SNR=66							
UCH	**Uchtor**	**6.34**	**25**	P		**Pn**	**17 38 59.9**	**+1.0**
	SNR=7.2							
EKS2	**Erkin-Say**	**6.51**	**19**	P		**Pn**	**17 39 01.8**	**+0.9**
	SNR=12							
KK31	**Karatay Array**	**6.58**	**357**	⇑P		**Pn**	**17 39 02.1**	**+0.5**
	1.6nm,0.2s,baz=182,slow=12,SNR=182							
KK31				⇑S		**Sn**	**17 40 12.2**	**-4.3**
	9.7nm,0.3s,baz=144,slow=28,SNR=5.4							
AAK	**Ala-Archa**	**6.70**	**23**	⇑P		**Pn**	**17 39 04.0**	**+0.6**
	1.9nm,0.4s							
AAK				⇓S		**Sn**	**17 40 17.7**	**-1.9**
	8.4nm,0.7s							
AAK	**Ala-Archa**	**6.70**	**23**	P		**Pn**	**17 39 04.6**	**+1.3**
	SNR=5.5							
KBK	**Karagaybulak**	**6.87**	**26**	P		**Pn**	**17 39 07.4**	**+1.9**
	SNR=5.9							
USP	**Ospenovka**	**7.28**	**21**	P		**Pn**	**17 39 11.4**	**+0.6**
	SNR=7.9							
TKM2	**Tokmak 2**	**7.33**	**28**	⇓P		**Pn**	**17 39 12.0**	**+0.4**
	7.6nm,0.6s							
TKM2				⇑S		**Sn**	**17 40 30.5**	**-4.1**
	1.9nm,0.6s							
TKM2	**Tokmak 2**	**7.33**	**28**	P		**Pn**	**17 39 12.6**	**+0.9**
	SNR=18							
GEYT	**Alibeck**	**10.31**	**282**	Sn		**S**	**17 41 45.0**	**-0.9**
	0.2nm,0.3s,baz=104,slow=17,SNR=2.7							
PYUN	**Piuthan**	**13.21**	**126**	*e*P		**Pn**	**17 40 26.8**	**-0.9**
	8.8nm,0.3s							
PYUN				*e*S		Sn	17 42 42.0	-13
MKAR	**Makanchi Array**	**13.31**	**36**	Pn		**P**	**17 40 35.7**	**+3.9**
	0.1nm,0.3s,baz=229,slow=13,SNR=2.8							
DANN	**Dangsing**	**13.55**	**123**	*e*P		**Pn**	**17 40 31.2**	**-1.0**
	6.1nm,0.3s							
DANN				*e*S		Sn	17 42 49.4	-14
KOLN	**Koldanda**	**13.83**	**126**	*e*P		**Pn**	**17 40 34.6**	**-0.9**
GKN	**Gorkha**	**14.37**	**122**	*e*P		**Pn**	**17 40 42.0**	**-0.2**
	1.2nm,0.2s							
KKN	**Kakani**	**14.94**	**122**	*e*P		**P**	**17 40 49.2**	**-1.1**
	12nm,0.6s							
AB31	**Akbulak array**	**15.03**	**331**	P		**P**	**17 40 52.7**	**+1.9**
	0.6nm,0.4s,baz=140,slow=13,SNR=17							
PKIN	**Phulchoki**	**15.16**	**122**	*e*P		**P**	**17 40 52.5**	**-0.2**
	6.3nm,0.3s							
PKI	**Pulchoki**	**15.17**	**122**	*e*P		**P**	**17 40 52.2**	**-0.7**
	6.5nm,0.2s							
GUN	**Gumba**	**15.28**	**120**	*e*P		**P**	**17 40 54.0**	**-0.2**
	7.7nm,0.4s							
JIRN	**Jiri**	**15.65**	**120**	*e*P		**P**	**17 40 58.7**	**+0.4**
	17nm,0.3s							
AKTO	**Aktyubinsk**	**16.73**	**330**	⇑P		**Pn**	**17 41 10.8**	**+0.4**
	1.7nm,0.5s							
ZALV	**Zalesovo Beam**	**19.92**	**25**	P		Pn	17 41 55.2	+7.1
	0.5nm,0.4s,baz=209,slow=11,SNR=3.3							
JHJ	**Hachijo jima 2**	**55.53**	**72**	LR		LR	18 13 03.1	
	comp=Z,48nm,19.0s,baz=43,slow=38							
WRA	**Warramunga Arr**	**82.06**	**122**	P		**P**	**17 49 25.3**	**-1.2**
	0.7nm,0.9s,baz=325,slow=5.0,SNR=7.8							
ASAR	**Alice Springs**	**84.32**	**125**	P		**P**	**17 49 37.6**	**-0.3**
	0.5nm,0.6s,baz=309,slow=4.9,SNR=11							

*ISCJB **06** 17:47:36.9±0.6,38°.36N±0°.03×38°.95E±0°.04,h2km±7km, Error ellipse: s-maj=5.7km s-min=4.8km az=167.1*
*ISK **06** 17:47:36.9,38°.35N×39°.04E,h5km,ML2.1/6*
*DDA **06** 17:47:36.7,38°.37N×38°.92E,h7km,Ml2.6*
ISC 06 17:47:37.1±1.0,**38°.36N**±0°.03×**38°.97E**±0°.03,**h7**km±10km, **n15,** σ0s**51**/20,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
				Op				
ELZG	**Elazig**	**0.13**	**4**	*i* P		**Pg**	**17 47 40.1**	**0.0**
ELZG				*i* S		**Sg**	**17 47 42.5**	**+0.4**
SVRC	**Sivrice-ELAZID**	**0.26**	**87**	PG		**Pg**	**17 47 41.7**	**-0.6**
AKCD	**Akcadag**	**0.83**	**266**	*i* P		**Pg**	**17 47 52.1**	**-0.9**
AKCD				*i* S		**Sg**	**17 48 03.9**	**+0.1**
TNCL	**Tunceli-Merkez**	**0.87**	**31**	*i* P		**Pb**	**17 47 55.0**	**+0.4**
URFA	**Urfa**	**0.93**	**187**	PG		**Pb**	**17 47 55.1**	**-0.5**
URFA				SG		**Sb**	**17 48 08.1**	**0.0**
KEMA	**Kemaliye**	**0.98**	**338**	*i* P		**Pg**	**17 47 55.0**	**-0.9**
KEMA				*i* S		**Sg**	**17 48 08.7**	**+0.1**
DIYA	**Diyarbakir**	**1.01**	**116**	*i* P		**Pb**	**17 47 56.8**	**-0.1**
DIYA				*i* S		**Sb**	**17 48 10.7**	**+0.3**
HANI	**Diyarbakir_Han**	**1.12**	**87**	*i* P		**Pn**	**17 47 58.9**	**-0.4**
ILIC	**ilic-Erzincan**	**1.13**	**344**	PN		**Pn**	**17 47 59.6**	**+0.1**
DARE	**Darende-Malaty**	**1.19**	**280**	PN		**Pn**	**17 48 01.0**	**+0.8**
ERZN	**Erzincan**	**1.35**	**25**	PN		**Pg**	**17 48 02.9**	**-0.1**
MAZI	**Mazidag**	**1.48**	**127**	PN		**Pn**	**17 48 04.2**	**0.0**
SURC	**SANLIURFA_SURC**	**1.51**	**191**	*i* P		**Pg**	**17 48 06.6**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.77**	**96**	PN		**Pn**	**17 48 08.3**	**+0.2**
KELT	**Kelkit**	**1.80**	**7**	*i* P		**Pb**	**17 48 10.2**	**-0.2**

MEX 06 18:12:55.0±0.6,**14°.40N**×**93°.01W,h16**km±66km,**MD3.6, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
				Op				
PCIG		**1.31**	**351**	*e*P		Pn	18 13 15.0	-3.7
PCIG				*i* S		Sn	18 13 29.7	-6.1
CCIG	**Comitan**	**2.05**	**24**	*e*P		Pn	18 13 26.0	-3.0
CCIG				*i* S		Sn	18 13 50.2	-4.2
TGIG		**2.37**	**357**	*i* P		Pn	18 13 29.5	-3.7
TGIG				*i* S		Sn	18 13 57.8	-4.2

*ISCJB **06** 18:24:15.4±0.6,13°.74S±0°.06×167°.1E±0°.1,h200km, mb4.0/17,Error ellipse: s-maj=16.8km s-min=8.5km az=1.9*
*IDC **06** 18:24:18.6±1.7,13°.88S×167°.09E,h217km±15km, mb3.7/15,mb1 3.8/16,mb1mx3.7/33,mbtmp4.2/16,Error ellipse: s-maj=16.4km s-min=11.3km az=116.0*
ISC 06 18:24:16.7±0.6,**13.79S**±0°.08×**167°.1E**±0°.1,**h200**km,**n27,** σ1s**17**/35,**mb4.1**/17,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
				Op				
DZM	**Mont Dzumac**	**8.26**	**184**	P		**Pn**	**18 26 15.5**	**+2.0**
	1.1nm,0.3s,baz=187,slow=23,SNR=9.8							
DZM				S		**Sn**	**18 27 47.2**	**+0.7**
	0.5nm,0.3s,baz=288,slow=20,SNR=2.7							
CTA	**Charters Tower**	**20.89**	**250**	P		**P**	**18 28 43.9**	**+0.1**
	1.7nm,0.5s,baz=75,slow=13,SNR=5.0							
STKA	**Stephens Creek**	**29.48**	**228**	P		**P**	**18 30 03.3**	**+1.0**
	12nm,0.6s,baz=52,slow=8.6,SNR=36							
WRA	**Warramunga Arr**	**31.91**	**254**	P		**P**	**18 30 23.1**	**-0.6**
	2.3nm,0.6s,baz=85,slow=9.3,SNR=41							
WRA				PcP		**PcP**	**18 33 09.2**	**-0.1**
	1.7nm,1.0s,baz=77,slow=3.0,SNR=7.4							
WRA				ScP		**ScP**	**18 36 32.3**	**-1.6**
	0.9nm,0.8s,baz=77,slow=3.6,SNR=6.6							
ASAR	**Alice Springs**	**32.87**	**248**	P		**P**	**18 30 31.4**	**-0.6**
	4.5nm,0.5s,baz=74,slow=9.3,SNR=117							
ASAR				PcP		**PcP**	**18 33 11.3**	**-0.6**
	0.9nm,0.6s,baz=79,slow=2.3,SNR=8.6							
ASAR				S		**S**	**18 35 31.9**	**-2.8**
	1.1nm,1.0s,baz=77,slow=18,SNR=6.6							
ASAR				ScP		**ScP**	**18 36 37.6**	**+0.5**

	0.7nm,0.9s,baz=99,slow=3.1,SNR=4.7							
ASAJ	**Asahikawa**	**61.81**	**340**	P	**P**	**18 34 15.6**	**+1.2**
	5.6nm,0.6s,baz=86,slow=13,SNR=5.4							
KSRS	**Korea Array**	**62.88**	**326**	P	**P**	**18 34 22.1**	**+0.6**
	1.1nm,0.8s,baz=150,slow=7.8,SNR=3.7							
VNDA	**Vanda**	**63.79**	**181**	P	**P**	**18 34 26.0**	**-1.0**
	1.2nm,0.7s,baz=354,slow=7.8,SNR=14							
PETK	**Petropavlovsk-**	**67.12**	**354**	P	**P**	**18 34 48.9**	**+0.3**
	1.8nm,0.7s,baz=178,slow=8.5,SNR=3.9							
LAMP	**Lampang**	**73.83**	**294**	P	**P**	**18 35 31.9**	**+2.0**
	4.5nm,0.8s							
CMAR	**Chiang Mai Arr**	**74.42**	**294**	P	**P**	**18 35 34.8**	**+1.4**
	2.7nm,0.7s,baz=128,slow=4.7,SNR=30							
CMMT	**Chiang Mai**	**74.54**	**294**	P	**P**	**18 35 35.2**	**+1.1**
	3.8nm,1.1s							
CHTO	**Chiang Mai**	**74.55**	**294**	P	**P**	**18 35 35.3**	**+1.2**
	17nm,1.1s							
SONM	**Songino Array**	**81.65**	**324**	P	**P**	**18 36 13.6**	**+0.9**
	0.6nm,0.5s,baz=158,slow=6.2,SNR=6.1							
MAW	**Mawson**	**82.69**	**202**	P	**P**	**18 36 17.6**	**0.0**
	3.3nm,0.6s,baz=108,slow=5.5,SNR=16							
ILAR	**Eielson Array**	**85.69**	**18**	P	**P**	**18 36 31.8**	**-0.8**
	0.5nm,0.6s,baz=235,slow=5.2,SNR=9.1							
NVAR	**Mina Array Bea**	**86.79**	**49**	P	**P**	**18 36 38.1**	**-0.7**
	0.2nm,0.6s,baz=243,slow=8.0,SNR=2.6							
VNA3	**Neumayer Olymp**	**95.14**	**181**	P	**P**	**18 37 14.9**	**-2.0**
VNA2	**Neumayer--Watz**	**95.41**	**182**	P	**P**	**18 37 16.7**	**-1.4**
	baz=192,slow=4.4							
MKAR	**Makanchi Array**	**96.42**	**316**	P	**P**	**18 37 22.9**	**-0.1**
	1.8nm,0.7s,baz=94,slow=6.4,SNR=12							
ZALV	**Zalesovo Beam**	**96.54**	**324**	P	**P**	**18 37 22.8**	**-0.5**
	0.4nm,0.3s,baz=133,slow=6.3,SNR=2.9							
ARCES	**ARCESS Array B**	**119.31**	**345**	PKP	**PKPdf**	**18 42 40.3**	**-1.2**
	1.6nm,0.6s,baz=92,slow=2.7,SNR=9.4							
NOA	**NORSAR Array B**	**129.68**	**345**	PKP	**PKPdf**	**18 43 01.8**	**+0.1**
	0.4nm,0.6s,baz=46,slow=3.1,SNR=2.3							
GERES	**GERESS Array B**	**138.74**	**333**	PKP	**PKPdf**	**18 43 19.6**	**+0.5**
	0.2nm,0.3s,baz=5.5,slow=3.1,SNR=4.7							
KEST	**Kesra**	**150.38**	**321**	PKP	**PKPdf**	**18 43 41.1**	**+1.6**
	8.5nm,0.9s,baz=104,slow=8.3,SNR=3.2							
KEST				PKPbc	**PKPbc**	**18 43 45.2**	**+0.3**
	8.5nm,0.9s,baz=126,slow=4.5,SNR=9.0							
ESDC	**Sonseca Array**	**153.04**	**345**	PKPbc	**PKPbc**	**18 43 50.7**	**-0.2**
	0.4nm,0.6s,baz=7.5,slow=2.5,SNR=3.4							
TORD	**Torodi Ar. Bea**	**165.79**	**269**	PKP	**PKPdf**	**18 43 57.3**	**-1.2**
	1.0nm,0.9s,baz=122,slow=1.9,SNR=5.7							
TORD				PKPab	**PKPab**	**18 44 58.4**	**-0.7**
	0.8nm,0.6s,baz=84,slow=4.8,SNR=7.0							

*ISCJB **06** 18:32:34.7±0.6,38°48N±0.04×39°16E±0.05,h10km±5km, Error ellipse: s-maj=7.5km s-min=5.5km az=38.9*
*DDA **06** 18:32:34.8,38°52N×39°16E,h7km,Ml2.8*
*ISK **06** 18:32:34.7,38°49N×39°23E,h11km,ML1.9/4*
ISC 06 18:32:34.5±0.9,38°49N±0°05×39°17E±0°04,h11km±8km, n10,σ0s63/14,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.14**	**274**	*i* P	**Pg**	**18 32 38.1**	**+0.1**
ELZG				*i* S	**Sg**	**18 32 40.6**	**0.0**
SVRC	**Sivrice-ELAZID**	**0.15**	**134**	PG	**Pg**	**18 32 37.8**	**-0.4**
SVRC				SG	**Sg**	**18 32 40.7**	**-0.1**
PTK	**Pertek**	**0.44**	**24**	PG	**Pg**	**18 32 43.6**	**+0.3**
PTK				SG	**Sb**	**18 32 49.9**	**-1.2**
DIYA	**Diyarbakir**	**0.94**	**126**	*i* P	**Pb**	**18 32 53.0**	**+0.1**
KEMA	**Kemaliye**	**0.94**	**326**	*i* P	**Pg**	**18 32 52.2**	**-0.4**
KEMA				*i* S	**Sb**	**18 33 05.7**	**+0.3**
HANI	**Diyarbakir_Han**	**0.97**	**94**	*i* P	**Pb**	**18 32 53.7**	**+0.3**
AKCD	**Akcadag**	**1.00**	**259**	*i* P	**Pg**	**18 32 52.8**	**-0.9**
URFA	**Urfa**	**1.08**	**195**	PN	**Pb**	**18 32 56.1**	**+0.9**
MAZI	**Mazidag**	**1.44**	**135**	PN	**Pn**	**18 33 00.8**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.63**	**101**	PN	**Pn**	**18 33 03.4**	**+0.2**

MAN 06 18:41:19.5,10°60N×122°29E,h47km,mb3.9,ML2.6, MS2.1,2C,Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.29**	**86**	*e*P	Pn	18 41 30.3	+1.9
GUIM				*e*S	Sn	18 41 37.6	+3.0
JAP	**San Jose, Anti**	**0.37**	**293**	*e*P	Pn	18 41 29.0	0.0
RCP	**Roxas**	**1.05**	**25**	*e*P	Pn	18 41 38.6	+0.7
RCP				*e*S	Sn	18 41 52.7	+1.2
CUYO	**Cuyo Island**	**1.27**	**281**	*e*P	Pn	18 41 41.5	+0.6
CUYO				*e*S	Sn	18 41 58.1	+1.2

*ISK **06** 18:46:04.7,37°84N×30°59E,h5km,ML1.9/7*
*ISCJB **06** 18:46:05.9±0.7,37°84N±0°04×30°61E±0°05,h1km±9km, Error ellipse: s-maj=7.4km s-min=5.8km az=43.8*
*DDA **06** 18:46:06.2,37°83N×30°60E,h7km,Ml2.5*
ISC 06 18:46:05.5±1.5,37°83N±0°04×30°58E±0°03,h1km±16km, n16,σ0s79/18,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISP	**Isparta**	**0.05**	**262**	PG	**Pg**	**18 46 05.9**	**-0.5**
BAGO	**Egridir - ISPA**	**0.23**	**45**	*i* P	**Pg**	**18 46 10.8**	**+0.9**
BRDR	**BURDUR-Merkez**	**0.43**	**252**	*i* P	**Pg**	**18 46 14.8**	**+1.1**
BRDR				*i* S	**Sb**	**18 46 22.3**	**-0.7**
SUTC	**Sutluce-Ispart**	**0.48**	**137**	PG	**Pg**	**18 46 15.3**	**+0.6**
KZIL	**AFYON_Kizioren**	**0.55**	**321**	*i* P	**Pb**	**18 46 17.0**	**-1.0**
KORT	**Korkueli**	**0.85**	**193**	PG	**Pb**	**18 46 22.4**	**-0.7**
KORT				SG	**Sb**	**18 46 35.3**	**+0.4**
KORT	**Korkueli**	**0.85**	**193**	*i* P	**Pb**	**18 46 22.4**	**-0.7**
BOLV	**Bolvadin**	**0.93**	**18**	*i* P	**Pb**	**18 46 24.3**	**-0.2**
GOLH	**Golhisar**	**1.00**	**234**	*i* P	**Pn**	**18 46 28.4**	**+1.7**
KHAL	**Karahalli**	**1.01**	**302**	*i* P	**Pb**	**18 46 25.7**	**-0.2**
ELL	**Elmali**	**1.21**	**207**	PN	**Pn**	**18 46 29.2**	**-0.3**
KEPZ	**Antalya-Kepez**	**1.23**	**138**	*i* P	**Pn**	**18 46 29.9**	**0.0**
KONT	**Konya--Tatoy**	**1.41**	**85**	PN	**Pg**	**18 46 32.4**	**-0.2**
LADK	**Ladik-KONYA**	**1.46**	**75**	PN	**Pb**	**18 46 33.0**	**-0.4**
KIZT	**Kizilcal**	**1.46**	**44**	PN	**Pg**	**18 46 33.2**	**-0.3**
FETY	**Fethiye**	**1.69**	**226**	PN	**Pb**	**18 46 36.7**	**-0.6**

*IDC **06** 18:48:39.4±0.9, 18°51N×121°14E,h0km,mb3.6/8, mb1 3.8/9,mb1mx3.6/53,mbtmp3.7/9,ML4.1/2,MS3.2/12, Ms1 3.2/12,ms1mx2.9/45,Error ellipse: s-maj=28.0km s-min=16.8km az=79.0*
*MAN **06** 18:48:44.7,18°68N×120°71E,h7km,mb5.0,ML4.0,MS4.0*
*NEIC **06** 18:48:44.5±0.7, 18°48N×121°03E,h36km±7km,mb4.3/9, Error ellipse: s-maj=8.1km s-min=5.7km az=99.0*
ISC 06 18:48:44.3±1.4,18°66N±0°04×120°81E±0°05,h28km±11km, n68,σ2s20/65,mb4.1/15,MS3.2/9,1C,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APYP	**Conner**	**0.89**	**152**	*e*P	**Pn**	**18 49 02.6**	**+1.6**
APYP				*e*S	**Sn**	**18 49 15.0**	**+2.0**
ABRA	**Dolores**	**1.01**	**185**	*e*P	**Pn**	**18 49 04.0**	**+1.4**
ABRA				*e*S	**Sn**	**18 49 19.7**	**+3.9**
CAUP	**Cauayan**	**1.96**	**150**	*e*P	**Pb**	**18 49 19.8**	**+0.5**
CAUP				*e*S	**Sb**	**18 49 47.6**	**+4.2**
PALP	**Palanan**	**2.21**	**136**	*e*P	**Pb**	**18 49 22.6**	**-1.0**
PALP				*e*S	Sb	18 49 56.3	+5.8
BOLP	**Bolinao**	**2.42**	**201**	*e*P	**Pb**	**18 49 26.5**	**-0.7**
BOLP				*e*S	**Sb**	**18 49 54.5**	**-2.1**
SMPP	**San Manuel, Pa**	**2.50**	**183**	*e*P	**Pb**	**18 49 26.8**	**-1.7**
SMPP				*e*S	**Sb**	**18 50 01.0**	**+2.1**
BALP	**Baler**	**2.99**	**166**	*e*P	**Pb**	**18 49 33.8**	**-3.2**
BALP				*e*S	**Sb**	**18 50 16.2**	**+3.1**
SCZP	**Santa Cruz**	**2.99**	**197**	*e*P	**Pb**	**18 49 33.3**	**-3.6**
SCZP				*e*S	**Sb**	**18 50 14.2**	**+1.2**
PCPH	**Palayan**	**3.09**	**175**	*e*P	**Pb**	**18 49 35.4**	**-3.2**
TWG	**Pinlang**	**4.15**	**3**	*e*Pn	**Pn**	**18 49 46.3**	**+0.4**
TWG				*e*Sn	**Sn**	**18 50 31.4**	**-2.1**
TGY	**Tagaytay City**	**4.53**	**178**	Pn	**Pn**	**18 49 46.6**	**-4.5**
	48nm,0.3s,baz=298,slow=14,SNR=1.6						
TGY				Sn	Sb	18 51 06.2	+8.8
	baz=336,slow=11,SNR=5.0						
TPUB	**Ta-pu**	**4.62**	**358**	*e*Pn	**Pn**	**18 49 53.2**	**+0.9**
TPUB				*e*Sn	**Sn**	**18 50 41.7**	**-3.5**
YULB	**Yu-li**	**4.73**	**5**	*e*Pn	**Pn**	**18 49 55.2**	**+1.3**
YULB				*e*Sn	**Sn**	**18 50 48.6**	**+0.7**
SSLB	**Suanglung**	**5.11**	**1**	*e*Pn	**Pn**	**18 50 00.8**	**+1.7**
NACB	**Ninganchiao**	**5.54**	**7**	*e*Pn	**Pn**	**18 50 05.9**	**+1.0**
NACB				*e*Sn	**Sn**	**18 51 09.3**	**+1.7**
YHNB	**Yeheng**	**6.01**	**5**	*e*Pn	**Pn**	**18 50 14.3**	**+2.8**
YHNB				*e*Sn	**Sn**	**18 51 19.6**	**+0.3**
YOJ	**Yonaguni jima**	**6.13**	**19**	*e*Pn	**Pn**	**18 50 15.6**	**+2.6**
TATO	**Taipei**	**6.32**	**6**	*e*Pn	**Pn**	**18 50 18.7**	**+3.1**
QIZ	**Qiongzhong**	**10.39**	**274**	*e*Pn	**Pn**	**18 51 12.2**	**+0.6**
JOW	**Kunigami**	**10.66**	**39**	Pn	**Pn**	**18 51 17.3**	**+2.1**
	1.5nm,0.3s,baz=222,slow=14,SNR=4.0						
JOW	**Kunigami**	**10.66**	**39**	*e*Pn	**Pn**	**18 51 16.8**	**+1.6**
DAV	**Davao City (W)**	**12.42**	**157**	LR	LR	18 57 09.0	
	comp=Z,198nm,21.0s,baz=344,slow=42						
KKM	**Kota Kinabalu**	**13.31**	**200**	*e*Pn	**Pn**	**18 51 50.9**	**-0.8**
JNU	**Nakatsue**	**17.00**	**30**	LR	LR	18 59 52.2	
	comp=Z,19nm,19.5s,baz=128,slow=40						
KSAR	**Wonju Array Be**	**19.71**	**17**	P	**Pn**	**18 53 12.2**	**-0.9**
KSRS	**Korea Array**	**19.74**	**17**	P	**Pn**	**18 53 12.2**	**-1.2**
	0.1nm,0.3s,baz=206,slow=10,SNR=3.3						
KSRS				LR	LR	19 02 07.4	
	comp=Z,25nm,18.2s,baz=213,slow=41						
CHTO	**Chiang Mai**	**20.71**	**274**	*e*P	**P**	**18 53 25.0**	**+2.3**
	2.2nm,0.8s						
CM01	**Chiang Mai Arr**	**20.72**	**273**	*e*P	**P**	**18 53 25.1**	**+2.3**
CM31	**Chiang Mai Arr**	**20.73**	**273**	*e*P	**P**	**18 53 24.8**	**+1.9**
CMAR	**Chiang Mai Arr**	**20.73**	**273**	P	**P**	**18 53 25.3**	**+2.4**
	1.5nm,0.7s,baz=77,slow=9.1,SNR=12						
CMAR				LR	LR	19 00 52.4	
	comp=Z,31nm,18.5s,baz=60,slow=35						
BJT	**Baijiatuau**	**21.66**	**350**	*e*P	**P**	**18 53 35.6**	**+2.9**
	8.0nm,0.6s						
INU	**Inuyama**	**21.97**	**38**	*e*P	**P**	**18 53 34.5**	**-1.5**
	15nm,1.0s						
GUMO	**Guam**	**23.64**	**99**	LR	LR	19 03 12.4	
	comp=Z,42nm,18.5s,baz=233,slow=37						
PSI	**Prapat**	**26.60**	**238**	LR	LR	19 03 52.2	
	comp=Z,39nm,21.0s,baz=89,slow=34						
SONA0	**Songino Array**	**31.39**	**341**	*e*P	**P**	**18 55 04.1**	**+1.1**
SONM	**Songino Array**	**31.39**	**341**	P	**P**	**18 55 04.1**	**+1.1**
	0.2nm,0.5s,baz=149,slow=17,SNR=2.9						
SONM				LR	LR	19 08 39.7	
	comp=Z,51nm,19.1s,baz=187,slow=38						
PMG	**Port Moresby**	**38.12**	**135**	LR	LR	19 12 19.0	
	comp=Z,28nm,19.3s,baz=136,slow=38						
PALK	**Pallekele**	**40.59**	**259**	*e*P	**P**	**18 56 24.2**	**+2.2**
	11nm,1.3s						
WR1	**Warramunga Arr**	**40.59**	**160**	*e*P	**P**	**18 56 19.2**	**-2.6**
	5.1nm,0.8s						
WRA	**Warramunga Arr**	**40.59**	**160**	P	**P**	**18 56 19.2**	**-2.6**
	0.6nm,0.5s,baz=346,slow=10,SNR=2.9						
MK01	**Makanchi Array**	**42.19**	**320**	*e*P	**P**	**18 56 36.2**	**+1.5**
MK32	**Makanchi Array**	**42.21**	**320**	*e*P	**P**	**18 56 36.3**	**+1.4**
MKAR	**Makanchi Array**	**42.21**	**320**	P	**P**	**18 56 36.3**	**+1.4**
	0.7nm,0.7s,baz=109,slow=11,SNR=5.3						
H11S3	**WAKE ISLAND Hy**	**43.39**	**83**	T	T	19 42 09.2	
	baz=276,slow=74,SNR=9.4						
H11S1	**WAKE ISLAND Hy**	**43.40**	**83**	T	T	19 42 13.3	
	baz=276,slow=74,SNR=3.9						
H11S2	**WAKE ISLAND Hy**	**43.41**	**83**	T	T	19 42 13.9	
	baz=276,slow=74,SNR=5.0						
H11N1	**WAKE ISLAND Hy**	**43.43**	**81**	T	T	19 42 57.6	
	baz=277						
H11N2	**WAKE ISLAND Hy**	**43.44**	**81**	T	T	19 42 45.7	
	baz=277						
H11N3	**WAKE ISLAND Hy**	**43.45**	**81**	T	T	19 42 58.9	
	baz=277						
AS31	**Alice Springs**	**43.96**	**163**	*e*P	**P**	**18 56 46.5**	**-2.8**
	2.6nm,1.5s						
ASAR	**Alice Springs**	**43.97**	**163**	P	**P**	**18 56 46.7**	**-2.5**
	0.7nm,0.6s,baz=346,slow=6.6,SNR=6.7						
AS01	**Alice Springs**	**43.98**	**163**	*e*P	**P**	**18 56 46.7**	**-2.6**
NRN	**Naryn**	**44.32**	**311**	*e*P	**P**	**18 56 54.6**	**+2.3**
	3.1nm,0.8s						
PETK	**Petropavlovsk-**	**44.70**	**31**	P	**P**	**18 56 54.2**	**-0.6**
	1.2nm,0.8s,baz=207,slow=11						
PETK	**Petropavlovsk-**	**44.70**	**31**	*e*P	**P**	**18 56 52.0**	**-2.8**
PEA1	**Petropavlovsk-**	**44.70**	**31**	*e*P	**P**	**18 56 54.2**	**-0.6**
ZALV	**Zalesovo Beam**	**44.77**	**330**	LR	LR	19 16 23.7	
	comp=Z,31nm,18.8s,baz=321,slow=37						
CTAO	**Charters Tower**	**45.88**	**146**	*e*P	**P**	**18 57 02.4**	**-2.1**
	25nm,1.4s						
KURK	**Kurchatov**	**46.21**	**324**	*e*P	**P**	**18 57 09.1**	**+2.3**
KURBB	**Kurchatov Arra**	**46.22**	**324**	P	**P**	**18 57 09.1**	**+2.3**
	0.7nm,0.3s,baz=120,slow=7.1,SNR=4.5						
HNR	**Honiara**	**47.60**	**123**	LR	LR	19 13 49.7	
	comp=Z,55nm,19.7s,baz=66,slow=32						
KK31	**Karatay Array**	**48.69**	**311**	*e*P	**P**	**18 57 25.9**	**-0.4**
KKAR	**Karatay Array**	**48.69**	**311**	*e*P	**P**	**18 57 25.8**	**-0.5**
RAYN	**Ar Rayn**	**69.70**	**289**	*e*P	**P**	**18 59 52.4**	**+0.3**
	1.6nm,0.9s						
IM3	**Indian Mountai**	**71.28**	**26**	*e*P	**P**	**18 59 59.5**	**-1.4**
ILAR	**Eielson Array**	**74.28**	**26**	P	**P**	**19 00 17.0**	**-1.7**
	0.4nm,0.6s,baz=264,slow=4.9,SNR=6.0						
NOA	**NORSAR Array B**	**82.93**	**332**	LR	LR	19 43 50.7	
	comp=Z,15nm,19.6s,baz=330,slow=40						
BORG	**Borgarnes**	**91.94**	**345**	LR	LR	19 48 39.9	
	comp=Z,37nm,18.1s,baz=36,slow=39						

MEX 06 18:53:07.4±0.6,16°50N×98°45W,h20km±30km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.33**	**110**	*e*P	Pg	18 53 13.3	-1.3
PNIG				*e*S	Sg	18 53 18.3	-1.2
TLIG	**Tlapa**	**1.06**	**354**	*e*P	Pb	18 53 23.5	-3.6
TLIG				*i* S	Sb	18 53 36.0	-4.7
HUIG	**Huatulco**	**2.37**	**108**	*e*P	Pn	18 53 42.3	-2.8
HUIG				*i* S	Sn	18 54 10.0	-3.7

IDC 06 18:59:57.1±1.2,18°71N×121°31E,h0km,mb3.3/5, mb1 3.6/5,mb1mx3.4/49,mbtmp3.4/5,MS2.6/4,Ms1 2.7/4, ms1mx2.4/27,Error ellipse: s-maj=54.0km s-min=21.6km az=58.0,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**4.59**	**185**	Lg	Lg	19 02 16.9	
	43nm,0.3s,baz=3.0,slow=19,SNR=4.4						
DAV	**Davao City (W)**	**12.29**	**160**	LR	LR	19 08 03.8	
	comp=Z,60nm,21.4s,baz=332,slow=40						
JNU	**Nakatsue**	**16.72**	**29**	LR	LR	19 10 18.8	
	comp=Z,26nm,18.6s,baz=291,slow=37						
KSRS	**Korea Array**	**19.56**	**16**	LR	LR	19 12 25.7	
	comp=Z,12nm,19.5s,baz=120,slow=38						
CMAR	**Chiang Mai Arr**	**21.20**	**273**	P	P	19 04 44.5	-0.1
	0.8nm,0.7s,baz=76,slow=9.2,SNR=7.8						
CMAR				LR	LR	19 13 54.3	
	comp=Z,12nm,18.4s,baz=65,slow=40						
SONM	**Songino Array**	**31.50**	**341**	P	P	19 06 20.6	-0.2
	0.3nm,0.4s,baz=134,slow=8.3,SNR=2.4						
WRA	**Warramunga Arr**	**40.48**	**161**	P	P	19 07 37.5	-0.4
	0.3nm,0.4s,baz=342,slow=9.2,SNR=6.4						
WRA				PcP	PcP	19 09 40.3	-0.4
	0.2nm,0.7s,baz=347,slow=3.3,SNR=4.7						
MKAR	**Makanchi Array**	**42.47**	**320**	P	P	19 07 54.0	-0.1
	0.4nm,0.8s,baz=111,slow=7.9,SNR=3.2						
H11S3	**WAKE ISLAND Hy**	**42.92**	**83**	T	T	19 53 27.1	
	baz=277,slow=74,SNR=9.6						
H11S1	**WAKE ISLAND Hy**	**42.93**	**83**	T	T	19 53 33.6	
	baz=277,slow=74,SNR=4.8						
H11S2	**WAKE ISLAND Hy**	**42.94**	**83**	T	T	19 53 29.1	
	baz=277,slow=74,SNR=4.6						
H11N1	**WAKE ISLAND Hy**	**42.96**	**81**	T	T	19 53 55.9	
	baz=276						
H11N2	**WAKE ISLAND Hy**	**42.96**	**81**	T	T	19 54 02.4	
	baz=276						
H11N3	**WAKE ISLAND Hy**	**42.98**	**81**	T	T	19 53 51.5	
	baz=276						
ASAR	**Alice Springs**	**43.87**	**163**	P	P	19 08 05.3	-0.2
	0.2nm,0.5s,baz=342,slow=6.9,SNR=6.9						
ASAR				PcP	PcP	19 09 52.5	+0.6
	0.4nm,1.0s,baz=341,slow=2.3,SNR=3.3						

*ISCJB **06** 19:03:50.0±0.8,52°30N±0°06×131°9W±0°1,h10km, mb3.7/3,MS3.3/5,Error ellipse: s-maj=12.5km s-min=6.3km az=142.0*
*IDC **06** 19:03:49.4±1.4,52°21N×132°18W,h0km,mb3.8/3, mb1 3.7/10,mb1mx3.6/48,mbtmp3.5/10,ML3.3/6,MS3.2/8, Ms1 3.2/8,ms1mx2.8/48,Error ellipse: s-maj=25.7km s-min=8.4km az=64.0*
ISC 06 19:03:50.6±1.1,52°22N±0°09×132°0W±0°1,h10km,n26, σ1s32/15,mb3.7/3,MS3.3/5,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H02S1	**DAWSON INLET T**	**1.03**	**342**	Pg	**Pb**	**19 04 09.1**	**-1.5**
	SNR=6557						
H02S1				Lg	Lg	19 04 21.3	
H02N1	**VAN INLET T-PH**	**1.09**	**341**	Pg	**Pg**	**19 04 09.8**	**-1.8**
H02N1				Lg	Lg	19 04 22.8	
BBB	**Bella Bella**	**2.36**	**89**	Pn	**Pn**	**19 04 30.3**	**+0.9**
	4.3nm,0.3s,baz=271,slow=5.9,SNR=97						
BBB				Sn	**Sn**	**19 04 57.5**	**-0.9**
	39nm,0.3s,baz=319,slow=15,SNR=4.1						
BBB				Lg	Lg	19 05 10.1	
	34nm,0.3s,baz=168,slow=21,SNR=5.1						
BBB				LR		19 05 43.0	
	comp=Z,358nm,19.9s,baz=343,slow=45						
DLBC	**Dease Lake**	**6.33**	**9**	Pn	**Pn**	**19 05 27.2**	**+3.3**
	1.2nm,0.3s,baz=202,slow=18,SNR=8.1						
DLBC				Sn	**Sn**	**19 06 37.4**	**+1.2**
	baz=160,slow=26,SNR=1.3						
DLBC				Lg	Lg	19 07 03.8	
	0.3nm,0.3s,baz=258,slow=17,SNR=2.1						
NEW	**Newport**	**10.29**	**107**	LR	LR	19 09 36.9	
	comp=Z,47nm,18.8s,baz=285,slow=33						
YBH	**Yreka Blue Hor**	**12.23**	**145**	LR	LR	19 10 32.9	
	comp=Z,41nm,19.4s,baz=314,slow=33						
YKA	**Yellowknife Ar**	**13.86**	**35**	Pn	**Pn**	**19 07 06.0**	**-0.8**
	0.1nm,0.3s,baz=227,slow=12,SNR=5.4						
YKA				Lg	Lg	19 10 56.5	
	0.1nm,0.3s,baz=235,slow=29,SNR=2.5						
ILAR	**Eielson Array**	**14.75**	**334**	Pn	**Pn**	**19 07 19.2**	**+0.1**
	0.0nm,0.3s,baz=146,slow=9.8,SNR=3.3						
INK	**Inuvik**	**16.16**	**358**	Pn	**Pn**	**19 07 37.3**	**-0.1**
	0.1nm,0.3s,baz=164,slow=7.4,SNR=2.7						
NVAR	**Mina Array Bea**	**16.76**	**140**	Pn	**P**	**19 07 47.9**	**+0.1**
	0.1nm,0.3s,baz=316,slow=9.0,SNR=2.2						
PDAR	**Pinedale Array**	**17.78**	**113**	P	**P**	**19 07 58.9**	**-0.2**
	0.0nm,0.3s,baz=311,slow=8.2,SNR=3.0						
ULM	**Lac du Bonnet**	**22.53**	**81**	LR	LR	19 18 05.3	
	comp=Z,98nm,18.3s,baz=338,slow=38						
RES	**Resolute Bay**	**27.06**	**21**	LR	LR	19 19 59.2	
	comp=Z,55nm,18.8s,baz=189,slow=36						
TXAR	**Lajitas Array**	**30.99**	**127**	P	**P**	**19 10 08.7**	**+0.6**
	0.6nm,0.7s,baz=331,slow=9.2,SNR=5.4						
SCHQ	**Schefferville**	**37.55**	**59**	LR	LR	19 26 58.1	
	comp=Z,80nm,18.8s,baz=299,slow=37						
H11N2	**WAKE ISLAND Hy**	**57.03**	**260**	T	T	20 15 42.1	
	baz=39,slow=76,SNR=101						
H11N3	**WAKE ISLAND Hy**	**57.03**	**260**	T	T	20 15 42.4	
	baz=39,slow=76,SNR=107						
H11N1	**WAKE ISLAND Hy**	**57.05**	**260**	T	T	20 15 43.3	
	baz=39,slow=76,SNR=62						
H11S1	**WAKE ISLAND Hy**	**58.09**	**259**	T	T	20 17 00.2	
	baz=41,slow=77						
H11S2	**WAKE ISLAND Hy**	**58.09**	**259**	T	T	20 17 05.7	
	baz=41,slow=77						
H11S3	**WAKE ISLAND Hy**	**58.10**	**259**	T	T	20 17 01.6	
	baz=41,slow=77						
DAVOX	**Davos/Dischmat**	**76.09**	**26**	LR	LR	19 50 18.1	
	comp=Z,27nm,18.9s,baz=10,0,slow=37						
MKAR	**Makanchi Array**	**77.09**	**337**	P	**P**	**19 15 44.1**	**+0.3**
	0.5nm,0.7s,baz=30,slow=9.3,SNR=3.2						
BRTR	**Keskin Array B**	**87.57**	**11**	LR	LR	20 02 09.5	
	comp=Z,7.3nm,18.7s,baz=288,slow=40						
LPAZ	**La Paz**	**87.66**	**120**	P	**P**	**19 16 40.2**	**+0.3**
	0.8nm,0.7s,baz=15,slow=12,SNR=3.7						
BOSA	**Boshof**	**150.96**	**45**	PKPab	**PKPab**	**19 23 51.0**	**+0.1**
	2.4nm,0.9s,baz=20,slow=3.9,SNR=3.6						

*IDC **06** 19:04:31.5±1.0, 12°20N×143°57E,h0km,mb3.7/8, mb1 3.9/8,mb1mx3.7/46,mbtmp3.7/8,Error ellipse: s-maj=32.4km s-min=19.2km az=118.0*
*ISCJB **06** 19:04:33.7±0.8, 12°2N±0°1×143°5E±0°1,h25km,mb3.7/8, Error ellipse: s-maj=22.0km s-min=9.4km az=43.0*
**ISC 06 19:04

SUDU					Pnm			19 28 10.6	
	baz=283								
SUDU					*e*Sn		**Sn**	**19 28 22.5**	**-0.6**
	baz=283								
SUDU					Snm			19 28 26.8	
	baz=283								
SUDU					Snm			19 28 26.8	
	baz=283								
SUDU	**Sudak**	**1.15**	**283**		*e*Pg		**Pn**	**19 28 07.9**	**-0.5**
SUDU					*e*Sg		**Sn**	**19 28 22.5**	**-0.6**
VOZR	**Vozrozhdenie**	**1.18**	**94**		*e*Pg		**Pb**	**19 28 10.8**	**+0.5**
VOZR					*e*Sg		**Sb**	**19 28 27.5**	**+2.2**
ALU	**Alushta**	**1.55**	**272**		*e*Pn		**Pn**	**19 28 14.2**	**+0.3**
	baz=272								
ALU					Pnm			19 28 16.4	
	baz=272								
ALU					*e*Sn		**Sn**	**19 28 33.4**	**+0.4**
	baz=272								
ALU					Snm			19 28 36.6	
	baz=272								
ALU	**Alushta**	**1.55**	**272**		*e*Pg		**Pn**	**19 28 14.2**	**+0.3**
ALU					*e*Sg		**Sn**	**19 28 33.4**	**+0.4**
YAL	**Yalta**	**1.73**	**266**	⇓	*i*Pn		**Pn**	**19 28 16.4**	**-0.1**
	baz=265								
YAL					Pnm			19 28 18.1	
	baz=265								
YAL					*e*Sn		**Sn**	**19 28 37.6**	**+0.1**
	baz=265								
YAL					Snm			19 28 39.7	
	baz=265								
YAL					Snm			19 28 39.9	
	baz=265								
YAL	**Yalta**	**1.73**	**266**		*e*Pg		**Pn**	**19 28 16.4**	**-0.1**
YAL					*e*Sg		**Sn**	**19 28 37.6**	**+0.1**
SIM	**Simferopol'**	**1.78**	**281**		*e*Sn		**Sn**	**19 28 38.0**	**-0.6**
	baz=281								
SIM					Snm			19 28 39.4	
	baz=281								
SIM					Snm			19 28 39.4	
	baz=281								
SIM	**Simferopol'**	**1.78**	**281**		*e*Pg		**Sn**	**19 28 38.0**	**-0.6**
SIM					*e*Sg		**Sn**	**19 28 38.0**	**-0.6**
SEV	**Sevastopol'**	**2.08**	**268**		*e*Pn		**Pn**	**19 28 20.9**	**-0.3**
	baz=268								
SEV					Pnm			19 28 21.2	
	baz=268								
SEV					*e*Sn		**Sn**	**19 28 45.5**	**-0.5**
	baz=268								
SEV					Snm			19 28 48.1	
	baz=268								
SEV					Snm			19 28 48.3	
	baz=268								
SEV	**Sevastopol'**	**2.08**	**268**		*e*Pg		**Pn**	**19 28 20.9**	**-0.3**
SEV					*e*Sg		**Sn**	**19 28 48.1**	**+2.1**
GUZR	**Guzeripl'**	**2.62**	**103**		*e*Pn		**Pn**	**19 28 30.4**	**+1.6**
GUZR					*e*Sn		**Sn**	**19 29 01.4**	**+1.7**
ERBR	**Yeremizino-Bor**	**2.97**	**67**		*e*Pn		**Pn**	**19 28 34.4**	**+0.9**
ERBR					*e*Sn		**Sn**	**19 29 09.4**	**+1.4**
KIV0	**Kislovodsk Arr**	**4.45**	**97**		*e*Pn		**Pn**	**19 28 51.8**	**-2.1**
KIV0					*e*Sn		**Sn**	**19 29 40.9**	**-3.8**
SHA1	**Shidzhatmaz**	**4.47**	**100**		*e*Pn		**Pn**	**19 28 58.4**	**+4.1**
SHA1					*e*Sn		**Sn**	**19 29 44.5**	**-0.8**
NEY	**Neytrino**	**4.65**	**105**		*e*Pn		**Pn**	**19 28 56.4**	**-0.4**
NEY					*e*Sn		**Sn**	**19 29 45.1**	**-4.7**

DRS ***06*** *19:27:49.9±0.0,41°.42N×46°.48E,h6km*
NSSP ***06*** *19:27:55.4,41°.48N×46°.63E,h15km,Ms3.1*
TIF ***06*** *19:27:56.9,41°.51N×46°.66E,h7km±3km*
MOS ***06*** *19:27:56.7±0.0,41°.52N×46°.69E,h10km,MPVA4.0*
NORS ***06*** *19:27:57.8±0.0,41°.61N×46°.83E,h5km*

ISC 06 19:27:57.2±1.0,41°.50N±0°.02×46°.65E±0°.02,h7km±8km, n77,σ1.928/122,15C-9D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZKTA	**Zakatala**	**0.14**	**353**			PG	**Pg**	**19 28 00.7**	**+0.5**
DDFL	**Dedoflistskaro**	**0.40**	**262**			P	**Pn**	**19 28 09.1**	**-0.4**
LGD	**Lagodekhi**	**0.45**	**318**	*i*	PG		**Pb**	**19 28 06.8**	**-0.7**
LGD					*e*S		**Sb**	**19 28 13.5**	**-0.9**
LGD	**Lagodekhi**	**0.45**	**318**		*e*Pg		**Pb**	**19 28 06.8**	**-0.7**
LGD					*e*Sg		**Sb**	**19 28 13.6**	**-0.9**
SEKA	**Sheki**	**0.51**	**125**		PG		**Pg**	**19 28 06.7**	**-0.3**
KMKR	**Kumukh**	**0.71**	**28**	⇑	*i*PG		**Pg**	**19 28 10.5**	**-0.5**
KMKR					*i* S		**Sb**	**19 28 21.0**	**-1.2**
KMKR					pmax	pmax			
	comp=Z,100nm,0.2s								
KMKR	**Kumukh**	**0.71**	**28**	*i*	Pg		**Pg**	**19 28 10.5**	**-0.5**
KMKR					*i* Sg		**Sb**	**19 28 21.0**	**-1.2**
MNGR	**Mingechevir, A**	**0.80**	**155**		PG		**Pb**	**19 28 12.8**	**-0.6**
AKT	**Akhty**	**0.81**	**91**	⇓	*i*PG		**Pg**	**19 28 12.1**	**-0.8**
AKT					*e*S		**Sb**	**19 28 25.3**	**+0.3**
AKT	**Akhty**	**0.81**	**91**	*i*	Pg		**Pg**	**19 28 12.1**	**-0.8**
AKT					*e*Sg		**Sb**	**19 28 25.3**	**+0.3**
GANJ	**Ganja**	**0.89**	**196**		PG		**Pb**	**19 28 14.4**	**-0.5**
GNBR	**Gunib**	**0.92**	**15**		*e*Pg		**Pb**	**19 28 15.2**	**-0.3**
GNBR					*e*S		**Sb**	**19 28 28.2**	**+0.3**
GNBR	**Gunib**	**0.92**	**15**		*e*Pg		**Pb**	**19 28 15.2**	**-0.3**
GNBR					*e*Sg		**Sb**	**19 28 28.2**	**+0.3**
DGRG	**David-gareji**	**0.96**	**267**		*e*PG		Pn	19 28 26.8	+10
URKR	**Urkarakh**	**0.99**	**48**	⇑	*e*PG		**Pg**	**19 28 15.8**	**-0.5**
URKR					*e*			19 28 30.9	
URKR	**Urkarakh**	**0.99**	**48**	*i*	Pg		**Pn**	**19 28 16.6**	**-1.1**
URKR					*e*Sg		**Sn**	**19 28 30.6**	**-1.4**
XNZR	**Khunzakh**	**1.04**	**2**	⇑	*e*PG		**Pn**	**19 28 18.1**	**-0.3**
XNZR					*e*			19 28 32.9	
XNZR	**Khunzakh**	**1.04**	**2**		*e*Pg		**Pn**	**19 28 18.0**	**-0.4**
XNZR					*e*Sg		**Sn**	**19 28 32.5**	**-0.7**
KSMR	**Kasumkent**	**1.12**	**84**		*e*PG		**Pn**	**19 28 19.5**	**+0.2**
KSMR					pmax	pmax			
	comp=Z,142nm,0.1s								
KSMR	**Kasumkent**	**1.12**	**84**		*e*Pg		**Pn**	**19 28 19.5**	**+0.2**
KSMR					*e*Sg		**Sg**	**19 28 31.5**	**-1.7**
ARKR	**Arakani**	**1.13**	**13**		*e*PG		**Pn**	**19 28 19.0**	**-0.5**
ARKR					*e*S		**Sg**	**19 28 33.0**	**-0.7**
ARKR	**Arakani**	**1.13**	**13**		*e*Pg		**Pn**	**19 28 19.0**	**-0.5**
ARKR					*e*Sg		**Sg**	**19 28 33.0**	**-0.7**
BTLR	**Botlikh**	**1.21**	**345**		*e*PG		**Pn**	**19 28 20.8**	**+0.3**
BTLR					*e*S		**Sn**	**19 28 37.6**	**+0.5**
BTLR					pmax	pmax			
	comp=Z,39nm,0.6s								
BTLR	**Botlikh**	**1.21**	**345**		*e*Pg		**Pn**	**19 28 20.9**	**+0.3**
BTLR					*e*Sg		**Sn**	**19 28 37.7**	**+0.5**
UNCR	**Uncukul**	**1.22**	**5**	⇓	*i*PG		**Pn**	**19 28 21.0**	**+0.3**
UNCR					*i* S		**Sn**	**19 28 38.5**	**+1.1**
UNCR					pmax	pmax			
	comp=Z,86nm,0.2s								
UNCR	**Uncukul**	**1.22**	**5**	*i*	Pg		**Pn**	**19 28 21.0**	**+0.3**
UNCR					*i* Sg		**Sn**	**19 28 38.5**	**+1.1**
MTKZ	**Martakert**	**1.31**	**174**	⇑	*i*P		**Pg**	**19 28 23.4**	**+1.2**
MTKZ				⇑	*i*S		**Sn**	**19 28 43.8**	**+4.3**
KRNR	**Karanay**	**1.34**	**8**		*e*PG		Pn	19 28 13.0	-9.4
KRNR	**Karanay**	**1.34**	**8**		*e*Pg		Pn	19 28 13.0	-9.4
KRNR					*e*Sg		**Sb**	**19 28 38.5**	**-1.6**
DRN	**Derbent**	**1.37**	**67**	⇑	*e*PG		**Pg**	**19 28 24.2**	**+0.8**
DRN					*e*			19 28 42.4	
DRN					pmax	pmax			
	comp=Z,86nm,0.9s								
DRN					smax	smax			
	comp=N,209nm,1.0s								
DRN	**Derbent**	**1.37**	**67**		*e*Pg		**Pg**	**19 28 24.6**	**+1.1**
DRN					*e*Sg		**Sg**	**19 28 42.2**	**+1.1**
BUJR	**Buynaksk**	**1.37**	**14**		*e*PG		**Pg**	**19 28 26.0**	**+2.5**
BUJR					*i* S		**Sn**	**19 28 43.5**	**+2.4**
BUJR	**Buynaksk**	**1.37**	**14**		*e*Pg		**Pg**	**19 28 26.0**	**+2.5**
BUJR					*i* Sg		**Sn**	**19 28 43.5**	**+2.4**
SEAG	**Tbilisi Sea**	**1.41**	**281**		P		**Pg**	**19 28 24.6**	**+0.5**
SEAG					S		**Sg**	**19 28 44.5**	**+2.1**
TBLG	**Delisi**	**1.45**	**280**		P		**Pg**	**19 28 24.9**	**-0.2**
TBLG					S		**Sg**	**19 28 45.4**	**+1.6**
TBLG	**Delisi**	**1.45**	**280**		*e*PG		**Pg**	**19 28 24.8**	**-0.2**
TBLG					*e*S		**Sg**	**19 28 45.4**	**+1.6**
TBLG	**Delisi**	**1.45**	**280**		*e*Pg		**Pg**	**19 28 24.9**	**-0.2**
TBLG					*e*Sg		**Sg**	**19 28 45.4**	**+1.6**
VADZ	**Vardenis**	**1.49**	**208**	⇑	*i*P		**Pg**	**19 28 25.3**	**-0.6**
VADZ				⇑	*i*S		**Sg**	**19 28 46.5**	**+1.3**
DVE	**Vedeno**	**1.51**	**345**		*e*PG		**Pg**	**19 28 26.3**	**+0.2**
DVE					pmax	pmax			
	comp=Z,36nm,0.3s								
DVE	**Vedeno**	**1.51**	**345**		*e*Pg		**Pg**	**19 28 25.9**	**-0.2**
DVE					*e*Sg		**Sg**	**19 28 47.9**	**+2.3**
DUS	**Dusheti**	**1.57**	**293**		P		**Pg**	**19 28 26.8**	**-0.5**
DUS					S		**Sg**	**19 28 49.1**	**+1.4**
DUS	**Dusheti**	**1.57**	**293**		*e*Pg		**Pg**	**19 28 26.8**	**-0.5**
DUS					*e*Sg		**Sg**	**19 28 49.1**	**+1.4**
MAK	**Makhachkala**	**1.59**	**23**		*e*PG		**Pg**	**19 28 31.1**	**+3.3**
MAK					*e*			19 28 57.1	
MAK					pmax	pmax			
	comp=Z,53nm,0.3s								
MAK					smax	smax			
	comp=N,155nm,0.6s								
MAK					smax	smax			
	comp=E,193nm,0.6s								
MAK	**Makhachkala**	**1.59**	**23**		*e*Pg		**Pg**	**19 28 31.1**	**+3.3**
MAK					*e*Sg		Sg	19 28 57.2	+8.8
KZRT	**Kazreti**	**1.69**	**267**		P		**Pb**	**19 28 28.2**	**-0.5**
KZRT					S		**Sg**	**19 28 51.5**	**-0.2**
STEZ	**Stepenevan**	**1.77**	**254**		*e*P		**Pb**	**19 28 29.0**	**-1.0**
STEZ					*e*S		**Sg**	**19 28 53.5**	**-0.5**
GROC	**Groznyy**	**1.81**	**340**		*e*PN		**Pg**	**19 28 31.8**	**-0.2**
GROC					*e*S		**Sg**	**19 28 58.3**	**+2.8**
GROC					pmax	pmax			
	comp=Z,46nm,0.7s								
GROC					smax	smax			
	comp=E,327nm,1.1s								
GROC					smax	smax			
	comp=E,146nm,1.1s								
GROC	**Groznyy**	**1.81**	**340**		*e*Pg		**Pg**	**19 28 32.0**	**0.0**
GROC					*e*Sg		**Sg**	**19 28 57.9**	**+2.4**
GUDG	**Gudauri**	**1.88**	**302**		P		**Pb**	**19 28 31.9**	**-0.2**
GUDG					S		**Sg**	**19 28 58.2**	**+0.5**
GNI	**Garni**	**1.98**	**228**	⇑	*i*P		**Pb**	**19 28 33.4**	**-0.2**
GNI				⇑	*i*S		**Sg**	**19 29 02.8**	**+2.0**
GNI	**Garni**	**1.98**	**228**	*d*	*i*PN		**Pb**	**19 28 33.9**	**+0.3**
GNI					pmax	pmax			
	comp=Z,207nm,0.5s								
GNI	**Garni**	**1.98**	**228**		*e*Pg		**Pb**	**19 28 33.9**	**+0.3**
GRS	**Goris**	**2.01**	**187**	⇑	*i*P		**Pg**	**19 28 35.0**	**-0.8**
GRS				⇑	*i*S		**Sg**	**19 29 02.0**	**+0.1**
VLKR	**Vladikavkaz**	**2.13**	**317**	⇓	*j*PN		**Pg**	**19 28 38.9**	**+0.9**
VLKR					pmax	pmax			
	comp=Z,16nm,0.5s								
LACR	**Lac**	**2.19**	**308**	*de*	PN		**Pb**	**19 28 36.8**	**-0.5**
LACR					pmax	pmax			
	comp=Z,30nm,0.3s								
LACR	**Lac**	**2.19**	**308**		*e*Pg		**Pb**	**19 28 37.2**	**0.0**
LACR					*e*Sg		**Sg**	**19 29 07.2**	**-0.5**
BGD	**Bogdanovka**	**2.31**	**265**		P		**Pb**	**19 28 37.8**	**-1.4**
BGD					S		**Sb**	**19 29 08.1**	**+0.1**
AKH	**Akhalkalaki**	**2.37**	**269**		P		**Pb**	**19 28 38.7**	**-1.7**
AKH					S		**Sb**	**19 29 09.4**	**-0.4**
AKH	**Akhalkalaki**	**2.37**	**269**		*e*PN		**Pb**	**19 28 38.6**	**-1.7**
AKH					*e*S		**Sb**	**19 29 09.4**	**-0.4**
AKH	**Akhalkalaki**	**2.37**	**269**		*e*Pn		**Pb**	**19 28 38.7**	**-1.7**
AKH					*e*Sn		**Sb**	**19 29 09.4**	**-0.4**
ZEI	**Tsey**	**2.41**	**303**		*e*PN		**Pb**	**19 28 40.4**	**-0.6**
ZEI					*e*S		**Sg**	**19 29 13.8**	**-1.0**
ZEI	**Tsey**	**2.41**	**303**		*e*Pn		**Pb**	**19 28 40.4**	**-0.6**
ZEI					*e*Sn		**Sg**	**19 29 13.8**	**-1.0**
ONI	**Oni**	**2.62**	**296**		P		**Pb**	**19 28 42.6**	**-1.9**
ONI					S		**Sb**	**19 29 16.1**	**-0.7**
ONI	**Oni**	**2.62**	**296**		*e*PN		**Pb**	**19 28 42.5**	**-1.9**
ONI					*e*S		**Sb**	**19 29 16.0**	**-0.7**
ONI	**Oni**	**2.62**	**296**		*e*Pn		**Pb**	**19 28 42.6**	**-1.9**
ONI					*e*Sn		**Sb**	**19 29 16.1**	**-0.7**
TRKR	**Terskaya**	**2.63**	**328**	⇓	*e*PN		**Pb**	**19 28 44.1**	**-0.6**
TRKR	**Terskaya**	**2.63**	**328**		*e*Pn		**Pb**	**19 28 44.1**	**-0.6**
DIGR	**Digorskoe uzhe**	**2.67**	**303**		*ce*PN		**Pb**	**19 28 44.5**	**-1.0**
DIGR	**Digorskoe uzhe**	**2.67**	**303**		*e*Pn		**Pb**	**19 28 44.2**	**-1.3**
NCK	**Nalchik**	**3.01**	**312**	⇑	*e*PN		**Pb**	**19 28 50.5**	**-0.6**
NCK	**Nalchik**	**3.01**	**312**		*e*Pn		**Pb**	**19 28 50.5**	**-0.6**
LKRN	**Lenkeran, Azer**	**3.23**	**149**		PN		**Pn**	**19 28 49.2**	**+0.9**
NEY	**Neytrino**	**3.39**	**302**	⇑	*e*PN		**Pb**	**19 28 55.7**	**-2.0**
NEY	**Neytrino**	**3.39**	**302**		*e*Pn		**Pb**	**19 28 54.2**	**-3.6**
OBN	**Obninsk**	**15.16**	**337**	⇓	*e*P		**P**	**19 31 35.0**	**-1.7**
OBN					pmax	pmax			
	comp=Z,4.0nm,1.0s								
ARU	**Arti**	**16.82**	**23**	⇓	*e*P		**P**	**19 31 56.4**	**+1.2**
ARU					pmax	pmax			
	comp=Z,7.0nm,1.5s								
BRVK	**Borovoye**	**19.67**	**46**	⇓	*e*P		**P**	**19 32 25.7**	**-0.8**
BRVK					pmax	pmax			
	comp=Z,3.0nm,2.1s								

IDC 06 19:37:15.8±6.9,7°.13S×118°.06E,h315km±54km,mb2.5/3, mb1 2.7/5,mb1mx2.6/44,mbtmp3.3/5,Error ellipse: s-maj=151.4km s-min=23.2km az=64.0,Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.33**	**119**			P	Pn	19 38 49.8	+0.3
	0.8nm,0.3s,baz=290,slow=18,SNR=1.1								
BATI						S	S	19 40 04.1	-1.1
	1.0nm,0.3s,baz=232,slow=20,SNR=2.2								
FITZ	**Fitzroy Crossi**	**13.17**	**147**			P	P	19 40 10.9	-1.0
	0.1nm,0.3s,baz=333,slow=11,SNR=5.7								
FITZ						S	S	19 42 39.8	+2.4
	0.0nm,0.3s,baz=12,slow=21,SNR=2.0								
WRA	**Warramunga Arr**	**20.29**	**130**			P	P	19 41 28.5	-0.3
	0.2nm,0.3s,baz=305,slow=10,SNR=9.1								
ASAR	**Alice Springs**	**22.41**	**139**			P	P	19 41 48.6	+0.2
	0.3nm,0.4s,baz=317,slow=8.8,SNR=7.5								
SONM	**Songino Array**	**55.69**	**351**			P	P	19 46 20.1	0.0
	0.2nm,0.4s,baz=168,slow=7.4,SNR=1.7								

NNC ***06*** *19:37:16.3±1.0,42°.25N×76°.00E,h0km,mb3.0,mpv3.3, Error ellipse: s-maj=6.4km s-min=3.0km az=171.0*
SOME ***06*** *19:37:17.5,42°.27N×76°.03E,h15km*
KRNET ***06*** *19:37:17.4±0.1,42°.26N×76°.00E,h19km,mb3.5*
KNET ***06*** *19:37:19.1±0.4,42°.32N×75°.84E,h11km±3km,ml2.6,Error ellipse: s-maj=3.1km s-min=1.7km az=99.0*

ISC 06 19:37:17.5±0.9,42°.27N±0°.02×75°.99E±0°.01,h12km±7km, n66,σ0.997/122,33C-25D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.19**	**97**	⇑	*i*P		**Pg**	**19 37 21.5**	**-0.3**
	baz=96								
ULHL				⇑	*i*S		**Sg**	**19 37 24.4**	**-0.5**
	baz=96								
BOOM	**Boomskoye usch**	**0.22**	**351**	⇑	*i*P		**Pg**	**19 37 22.5**	**+0.1**
	baz=50								
BOOM				⇑	*i*S		**Sg**	**19 37 26.2**	**+0.5**
	baz=50								
KZA	**Kyzart**	**0.58**	**251**			P	**Pg**	**19 37 29.1**	**+0.2**
	39nm,0.1s,SNR=146								
KZA				⇑	S		**Sb**	**19 37 37.6**	**-0.6**
	285nm,0.2s								
KZA	**Kyzart**	**0.58**	**251**	⇓	*i*P		**Pg**	**19 37 29.1**	**+0.2**
	baz=52								
KZA				⇓	*i*S		**Sg**	**19 37 37.4**	**+0.7**
	baz=52								
TKM2	**Tokmak 2**	**0.71**	**336**	⇑	P		**Pg**	**19 37 31.0**	**-0.3**
	54nm,0.2s								
TKM2				⇑	S		**Sg**	**19 37 41.0**	**+0.3**
	205nm,0.2s								
TKM2	**Tokmak 2**	**0.71**	**336**	⇓	P		**Pg**	**19 37 31.1**	**-0.3**
	200nm,0.1s,SNR=635								
TKM2				⇑	S		**Sg**	**19 37 41.2**	**+0.5**
	836nm,0.2s								
TKM2	**Tokmak 2**	**0.71**	**336**	⇓	*i*P		**Pg**	**19 37 31.1**	**-0.3**
	baz=36								
TKM2				⇓	*i*S		**Sg**	**19 37 41.2**	**+0.5**
	baz=36								
KST	**Kastek**	**0.77**	**359**		*e*P		**Pg**	**19 37 32.1**	**-0.4**
	baz=58								
KST					*e*S		**Sg**	**19 37 42.9**	**+0.3**
	baz=58								
KST	**Kastek**	**0.77**	**359**		*e*P		**Pg**	**19 37 32.1**	**-0.4**
	105nm,0.1s								
KST					*e*S		**Sg**	**19 37 42.9**	**+0.3**
	234nm,0.2s								
KBK	**Karagaybulak**	**0.86**	**297**	⇑	S		**Sb**	**19 37 46.0**	**0.0**
	366nm,0.2s								
KBK	**Karagaybulak**	**0.86**	**297**	⇑	*i*P		**Pg**	**19 37 34.0**	**-0.1**
	baz=97								
KBK				⇑	*i*S		**Sb**	**19 37 46.0**	**0.0**
	baz=97								
IZV	**Izvestkoviy**	**0.89**	**31**		*e*P		**Pb**	**19 37 34.4**	**-0.7**
	baz=30								
IZV					*e*S		**Sg**	**19 37 46.8**	**+0.3**
	baz=30								
IZV	**Izvestkoviy**	**0.89**	**31**		*e*P		**Pb**	**19 37 34.4**	**-0.7**
	73nm,0.1s								
IZV					*e*S		**Sg**	**19 37 46.9**	**+0.3**
	288nm,0.2s								
KDJ	**Kajisay**	**0.90**	**99**	⇓	*i*P		**Pb**	**19 37 34.6**	**-0.5**
	baz=98								
KDJ				⇓	*i*S		**Sb**	**19 37 46.9**	**-0.2**
	baz=98								
MTBS	**Maitube**	**0.92**	**21**		*e*P		**Pb**	**19 37 34.5**	**-0.9**
	baz=20								
MTBS					*e*S		**Sb**	**19 37 47.1**	**-0.6**
	baz=20								
MTBS	**Maitube**	**0.92**	**21**		*e*P		**Pb**	**19 37 34.5**	**-0.9**
	104nm,0.1s								
MTBS					*e*S		**Sb**	**19 37 47.1**	**-0.6**
	160nm,0.2s								
DGS	**Degeres**	**0.98**	**351**		*e*P		**Pb**	**19 37 36.0**	**-0.6**
	baz=50								
DGS					*e*S		**Sg**	**19 37 49.6**	**+0.2**
	baz=50								
DGS	**Degeres**	**0.98**	**351**		*e*P		**Pb**	**19 37 36.0**	**-0.6**
	74nm,0.1s								
DGS					*e*S		**Sg**	**19 37 49.6**	**+0.2**
	335nm,0.2s								
TNSS	**Tian-Shan**	**1.04**	**42**		*e*P		**Pb**	**19 37 36.8**	**-1.0**
	baz=42								
TNSS					*e*S		**Sb**	**19 37 50.8**	**-0.8**
	baz=42								
TNSS	**Tian-Shan**	**1.04**	**42**		*e*P		**Pb**	**19 37 36.8**	**-1.0**
	54nm,0.2s								
TNSS					*e*S		**Sb**	**19 37 50.8**	**-0.8**
	163nm,0.2s								
UCH	**Uchtor**	**1.09**	**268**	⇑	P		**Pb**	**19 37 37.0**	**-1.6**
	6.5nm,0.1s,SNR=34								
UCH				⇓	S		**Sg**	**19 37 53.1**	**+0.2**
	82nm,0.3s								
UCH	**Uchtor**	**1.09**	**268**	⇑	*i*P		**Pb**	**19 37 37.9**	**-0.7**
	baz=69								
UCH				⇑	*i*S		**Sb**	**19 37 52.8**	**-0.2**
	baz=69								
FRU1	**Bishkek**	**1.14**	**299**	⇑	*e*P		**Pb**	**19 37 38.7**	**-0.5**
	baz=99								
FRU1				⇑	*e*S		**Sn**	**19 37 54.6**	**-0.3**
	baz=99								
AAA	**Alma-Ata**	**1.16**	**36**		*e*P		**Pb**	**19 37 39.4**	**-0.2**
	baz=35								
AAA					*e*S		**Sg**	**19 37 55.1**	**+0.1**
	baz=35								
AAA	**Alma-Ata**	**1.16**	**36**		*e*P		**Pb**	**19 37 39.4**	**-0.2**
	53nm,0.1s								
AAA					*e*S		**Sg**	**19 37 55.1**	**+0.1**
	450nm,0.2s								
AAK	**Ala-Archa**	**1.16**	**289**	⇓	P		**Pn**	**19 37 38.9**	**-0.9**
	5.2nm,0.2s								
AAK				⇑	S		**Sb**	**19 37 54.4**	**-0.3**
	41nm,0.3s								
AAK	**Ala-Archa**	**1.16**	**289**	⇓	P		**Pn**	**19 37 39.1**	**-0.7**
	15nm,0.2s,SNR=47								
AAK				⇓	S		**Sb**	**19 37 55.0**	**+0.2**
	105nm,0.2s								
AAK	**Ala-Archa**	**1.16**	**289**	⇓	*i*P		**Pn**	**19 37 38.9**	**-0.9**
	baz=89								
AAK				⇓	*i*S		**Sb**	**19 37 54.8**	**0.0**
	baz=89								
CHMS	**Chumysh**	**1.17**	**309**	⇓	P		**Pn**	**19 37 39.1**	**-0.6**
	33nm,0.1s,SNR=46								
CHMS				⇓	S		**Sn**	**19 37 55.0**	**-0.5**
	94nm,0.3s								
CHMS	**Chumysh**	**1.17**	**309**	⇓	*i*P		**Pn**	**19 37 39.1**	**-0.6**
	baz=9.0								
CHMS				⇓	*i*S		**Sn**	**19 37 55.1**	**-0.5**
	baz=9.0								
MDOK	**Medeo**	**1.19**	**41**	⇓	P		**Pn**	**19 37 38.9**	**-1.2**
	8.1nm,0.4s								
MDOK				⇑	S		**Sb**	**19 37 54.7**	**-0.7**
	59nm,0.4s								
MDOK	**Medeo**	**1.19**	**41**		*e*P		**Pn**	**19 37 39.2**	**-0.9**
	baz=40								
MDOK					*e*S		**Sb**	**19 37 55.0**	**-0.5**
	baz=40								
MDOK	**Medeo**	**1.19**	**41**		*e*P		**Pn**	**19 37 39.1**	**-0.9**
	11nm,0.1s								
MDOK					*e*S		**Sb**	**19 37 55.0**	**-0.5**
	137nm,0.2s								
KNDC	**Almaty**	**1.19**	**37**	⇑	P		**Pn**	**19 37 39.7**	**-0.4**
	19nm,0.2s								
KNDC				⇑	S		**Sg**	**19 37 56.1**	**+0.2**
	253nm,0.4s								
KOTS	**Koty

ARSB				⇑*i*S		Sb	19 38 29.5	-1.9	
	baz=48								
MNBS	**Baschi**	**2.53**	**44**	*e*P		Pb	19 38 03.5	+0.6	
	15nm,0.3s								
MNBS				*e*S		Sg	19 38 36.1	-2.6	
	79nm,0.3s								
SHLS	**Shalkode**	**2.71**	**70**	*e*P		Pg	19 38 10.7	+1.3	
	8.8nm,0.2s								
SHLS				*e*S		Sg	19 38 48.9	+4.4	
	45nm,0.4s								
ARK	**Arkit**	**3.03**	**262**	⇑*i*P		Pn	19 38 07.1	+1.7	
	baz=62								
ARK				⇑*i*S		Sn	19 38 43.6	+1.8	
	baz=62								
BTLS	**Baital**	**3.11**	**334**	*e*P		Pb	19 38 13.8	+1.2	
	11nm,0.2s								
BTLS				*e*S		Sb	19 38 53.8	+3.3	
	25nm,0.4s								
DJR	**Jarkent**	**3.46**	**52**	*e*P		Pb	19 38 19.1	+0.4	
	1.6nm,0.5s								
DJR				*e*S		Sb	19 39 03.1	+2.4	
	10nm,0.5s								
KK31	**Karatay Array**	**4.12**	**283**	⇑Pg		Pb	19 38 32.4	+2.4	
	0.8nm,0.3s,baz=101,slow=16,SNR=39								
KK31				Lg		Lg	19 39 25.1		
	7.8nm,0.5s,baz=94,slow=29,SNR=24								
BRLS	**Borolday**	**4.60**	**282**	*e*P		Pg	19 38 43.4	-2.2	
	0.4nm,0.3s								
BRLS				*e*S		Sg	19 39 44.6	-0.6	
	7.3nm,0.4s								
MK09	**Makanchi Array**	**6.36**	**43**	⇓Lg		Lg	19 40 31.9		
	2.0nm,0.6s								
KURBB	**Kurchatov Arra**	**8.54**	**11**	⇑Lg		Lg	19 41 43.7		
	5.9nm,1.0s								

MEX 06 19:46:50.5±0.5, 19°46N×105°90W, *h*25km±9km, MD3.9, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.81**	**87**	*e*P	Pb	19 47 03.2	-2.8
CJM				*e*S	Sb	19 47 13.8	-2.7
R15V		**1.83**	**99**	*e*P	Pn	19 47 18.2	-2.2
R15V				*i* S	Sn	19 47 39.6	-3.3
EZ5V		**2.17**	**89**	*e*P	Pn	19 47 23.7	-1.6
EZ5V				*e*S	Sn	19 47 47.6	-3.9

IDC 06 20:20:30.3±138.0, 13°31S×166°94E, *h*0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/33, mbtmp3.5/3, Error ellipse: s-maj=2322.0km s-min=132.0km az=61.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.69**	**227**	P	P	20 26 38.1	+0.1
	0.6nm,0.4s,baz=54,slow=8.7,SNR=4.4						
WRA	**Warramunga Arr**	**31.89**	**254**	P	P	20 26 57.6	-0.1
	0.2nm,0.8s,baz=78,slow=7.2,SNR=1.6						
ASAR	**Alice Springs**	**32.90**	**247**	P	P	20 27 06.5	-0.1
	0.6nm,0.6s,baz=75,slow=9.4,SNR=11						

*ISCJB **06** 20:20:44.9±0.4, 24°56N±0°03×122°88E±0°02, h86km±4km, Error ellipse: s-maj=4.6km s-min=2.9km az=177.0*
*JMA **06** 20:20:44.7±0.1, 24°54N×122°88E, h90km±1km, M1.8*
*TAP **06** 20:20:44.6, 24°65N×122°88E, h89km±1km, ML2.8, C*

ISC 06 20:20:45.4±1.4, 24°56N±0°05×122°88E±0°03, h85km±8km, n78, σ0s75/124, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.12**	**152**	P	Pn	20 20 57.4	-0.1
JYNG				*e*S	Sn	20 21 06.6	+0.2
YOJ	**Yonaguni jima**	**0.15**	**130**	*e*S	Sn	20 21 06.9	+0.3
	baz=155						
YOJ	**Yonaguni jima**	**0.15**	**130**	P	Pn	20 20 57.4	-0.2
YOJ				*e*S	Sn	20 21 07.4	+0.8
EOS1	**EOS1**	**0.69**	**269**	*e*P	Pn	20 21 01.2	0.0
	baz=254						
EOS1				*e*S	Sn	20 21 13.7	+0.7
	baz=254						
IRIF	**Iriomote-Funau**	**0.81**	**106**	P	Pn	20 21 02.3	-0.2
IRIF				*e*S	Sn	20 21 15.6	+0.3
EGS		**0.91**	**288**	*e*P	Pn	20 21 03.1	-0.5
	baz=277						
EGS				*e*S	Sn	20 21 16.8	-0.5
	baz=277						
TWC	**Suao**	**0.94**	**273**	*i* P	Pn	20 21 03.4	-0.6
	baz=266						
TWC				*e*S	Sn	20 21 17.2	-0.7
	baz=266						
HATJ	**Hateruma jima**	**0.98**	**121**	*e*S	Sn	20 21 19.7	+0.9
NTC	**Toucheng**	**1.00**	**287**	*i* P	Pn	20 21 04.3	-0.3
	baz=281						
NTC				*e*S	Sn	20 21 19.2	+0.1
	baz=281						
ENA	**Nanau**	**1.05**	**263**	P	Pn	20 21 05.3	+0.1
	baz=251						
ENA				*e*S	Sn	20 21 20.6	+0.4
	baz=251						
JKRS	**Kuro-shima**	**1.08**	**107**	P	Pn	20 21 05.9	+0.3
JKRS				S	Sn	20 21 21.3	+0.5
TWE	**Neicheng**	**1.12**	**278**	P	Pn	20 21 05.7	-0.4
	baz=276						
TWE				*e*S	Sn	20 21 21.5	-0.1
	baz=276						
NWF	**Wu-fen Shan**	**1.12**	**297**	P	Pn	20 21 06.0	-0.2
	baz=292						
WFSB	**Wu-fen Shan**	**1.12**	**297**	P	Pn	20 21 06.1	0.0
	baz=284						
JIJ	**Ishigaki jima**	**1.17**	**100**	P	Pn	20 21 06.3	-0.4
JIJ				S	Sn	20 21 22.4	-0.3
ENTT	**Nioudou**	**1.20**	**274**	*e*P	Pn	20 21 07.6	+0.5
	baz=265						
NACB	**Ninganchiao**	**1.24**	**252**	P	Pn	20 21 07.1	-0.4
	baz=238						
NACB				S	Sn	20 21 23.6	-0.6
	baz=238						
TWA	**Mucha**	**1.25**	**290**	*e*P	Pn	20 21 07.5	-0.2
	baz=276						
TWD	**Chiawan**	**1.27**	**248**	*e*P	Pn	20 21 07.4	-0.5
	baz=235						
TWD				*e*S	Sn	20 21 24.4	-0.4
	baz=235						
NWLT	**Wulai**	**1.27**	**280**	P	Pn	20 21 07.9	-0.1
	baz=281						
YM07	**YM07**	**1.30**	**298**	P	Pn	20 21 08.1	-0.3
	baz=293						
YM07				*e*S	Sn	20 21 25.0	-0.6
	baz=293						
JISG	**Ishigakijimahi**	**1.30**	**89**	P	Pn	20 21 07.7	-0.6
JISG				S	Sn	20 21 25.1	-0.6
HWA	**Hwalien**	**1.30**	**244**	*e*S	Sn	20 21 25.7	0.0
	baz=239						
YM01	**YM01**	**1.33**	**296**	P	Pn	20 21 08.8	+0.1
	baz=291						
YM08	**YM08**	**1.33**	**298**	P	Pn	20 21 08.1	-0.6
	baz=293						
YM08				*e*S	Sn	20 21 25.5	-0.8
	baz=293						
YM11	**YM11**	**1.33**	**297**	P	Pn	20 21 09.5	+0.7
	baz=292						
TATO	**Taipei**	**1.33**	**288**	*e*P	Pn	20 21 08.6	-0.1
	baz=273						
YM05	**YM05**	**1.34**	**297**	*e*P	Pn	20 21 08.3	-0.5
	baz=292						
YM10	**YM10**	**1.34**	**296**	P	Pn	20 21 08.8	0.0
	baz=292						
YM04	**YM04**	**1.36**	**296**	P	Pn	20 21 08.8	-0.2
	baz=285						
NNSB	**Datong**	**1.37**	**265**	P	Pn	20 21 09.2	-0.2
	baz=251						
NNSB				*e*S	Sn	20 21 27.5	+0.1
	baz=251						
YHNB	**Yeheng**	**1.38**	**275**	P	Pn	20 21 09.5	+0.1
	baz=262						
YHNB				*e*S	Sn	20 21 27.7	+0.3
	baz=262						
NNS	**Nan Shan**	**1.38**	**265**	*e*P	Pn	20 21 09.5	0.0
	baz=251						
NNS				*e*S	Sn	20 21 28.6	+1.0
	baz=251						
NSK	**Sanguang**	**1.39**	**275**	*e*P	Pn	20 21 09.8	+0.3
	baz=262						
NSK				*e*S	Sn	20 21 28.2	+0.5
	baz=262						
TWS1	**Kuangyinshan**	**1.43**	**292**	*e*P	Pn	20 21 09.4	-0.6
	baz=288						
ESL	**Shilin**	**1.52**	**241**	P	Pn	20 21 10.2	-0.9
	baz=236						
ESL				S	Sn	20 21 29.9	-0.7
	baz=236						
EGFH	**Guangfu**	**1.60**	**236**	P	Pn	20 21 11.9	-0.2
	baz=227						
EGFH				*e*S	Sn	20 21 32.3	-0.1
	baz=227						
TDCB	**Techi**	**1.60**	**259**	*e*P	Pn	20 21 12.4	+0.1
	baz=249						
TDCB				*e*S	Sn	20 21 33.1	+0.4
	baz=249						
CHGB	**Renai**	**1.64**	**253**	*i* P	Pn	20 21 13.2	+0.3
	baz=240						
CHGB				S	Sn	20 21 33.2	-0.4
	baz=240						
JTJ	**Tarama**	**1.66**	**87**	P	Pn	20 21 12.9	0.0
JTJ				S	Sn	20 21 34.4	+0.6
LIOB	**Emei**	**1.70**	**273**	*e*P	Pn	20 21 13.5	0.0
	baz=268						
LIOB				*e*S	Sn	20 21 35.6	+0.8
	baz=268						
HGSD	**Ruisui**	**1.71**	**232**	*i* P	Pn	20 21 13.2	-0.3
	baz=224						
HGSD				S	Sn	20 21 34.8	-0.1
	baz=224						
NSTT	**Nanjuang**	**1.71**	**273**	*e*P	Pn	20 21 13.7	+0.1
	baz=268						
NSTT				*e*S	Sn	20 21 35.0	-0.1
	baz=268						
EHY	**Hungye**	**1.77**	**234**	*i* P	Pn	20 21 14.0	-0.4
	baz=239						
YULB	**Yu-li**	**1.86**	**232**	*i* P	Pn	20 21 15.2	-0.3
	baz=237						
YULB				S	Sn	20 21 38.1	-0.4
	baz=237						
TWF1	**Yuli**	**1.89**	**231**	*i* P	Pn	20 21 15.7	-0.2
	baz=223						
TWF1				*e*S	Sn	20 21 39.0	-0.1
	baz=223						
SSLB	**Suanglung**	**1.92**	**247**	*e*P	Pn	20 21 17.2	+0.8
	baz=238						
SSLB				*e*S	Sn	20 21 40.7	+0.7
	baz=238						
SMLT	**Sun Moon Lake**	**1.93**	**250**	*e*P	Pn	20 21 17.0	+0.4
	baz=241						
SMLT				*e*S	Sn	20 21 40.6	+0.3
	baz=241						
TYC	**Yuchr**	**1.96**	**251**	*e*P	Pn	20 21 17.3	+0.4
	baz=242						
TYC				*e*S	Sn	20 21 41.1	+0.2
	baz=242						
FULB	**Fuli**	**1.99**	**227**	*i* P	Pn	20 21 16.9	-0.4
	baz=218						
FULB				*e*S	Sn	20 21 40.1	-1.5
	baz=218						
CHKT	**Chengkung**	**2.01**	**224**	P	Pn	20 21 16.8	-0.8
	baz=217						
CHKT				*e*S	Sn	20 21 39.7	-2.3
	baz=217						
YUS	**Yu-Shan**	**2.06**	**239**	*e*P	Pn	20 21 19.1	+0.4
	baz=235						
YUS				*e*S	Sn	20 21 43.2	-0.9
	baz=235						
WNT	**Mingjian**	**2.12**	**252**	*e*P	Pn	20 21 20.1	+1.1
	baz=257						
WNT				*e*S	Sn	20 21 47.0	+2.4
	baz=257						
ALS	**Alishan**	**2.17**	**242**	*e*P	Pn	20 21 20.4	+0.5
	baz=231						
ALS				*e*S	Sn	20 21 46.8	+0.6
	baz=231						
ELDTW	**Lidau**	**2.19**	**232**	P	Pn	20 21 19.6	-0.4
	baz=223						
ELDTW				*e*S	Sn	20 21 45.6	-0.8
	baz=223						
CHN5	**Tsauling**	**2.23**	**245**	*e*P	Pn	20 21 21.9	+1.4
	baz=234						
CHN5				*e*S	Sn	20 21 49.1	+1.6
	baz=234						
TWH	**Lutao**	**2.25**	**215**	*e*S	Sn	20 21 46.6	-1.1
	baz=208						
WGK	**Gukeng**	**2.29**	**248**	*e*P	Pn	20 21 21.5	+0.2
	baz=245						
WDLH	**Douliu**	**2.31**	**248**	*e*P	Pn	20 21 22.1	+0.6
	baz=245						
STYT	**Tauyuan**	**2.39**	**235**	*e*P	Pn	20 21 23.4	+0.7
	baz=227						
STYT				*e*S	Sn	20 21 51.4	+0.1
	baz=227						
TWGBT	**Beinan**	**2.40**	**224**	P	Pn	20 21 22.2	-0.4
	baz=228						
TWGBT				*e*S	Sn	20 21 49.9	-1.4
	baz=228						
TWG	**Pinlang**	**2.40**	**224**	P	Pn	20 21 22.1	-0.6
	baz=228						
TWG				*e*S	Sn	20 21 50.2	-1.2
	baz=228						
TPUB	**Ta-pu**	**2.41**	**239**	*e*P	Pn	20 21 23.9	+1.0
	baz=228						
TPUB				*e*S	Sn	20 21 52.6	+0.9
	baz=228						
CHN4	**Tsaushan**	**2.42**	**241**	*e*P	Pn	20 21 24.5	+1.6
	baz=229						
CHN4				*e*S	Sn	20 21 53.9	+2.2
	baz=229						
WTP	**Ta-pu**	**2.45**	**238**	*e*P	Pn	20 21 25.0	+1.5
	baz=235						
TWK	**Hsinying**	**2.54**	**240**	*e*P	Pn	20 21 25.7	+1.0
	baz=237						
CHN1	**Nanshi**	**2.55**	**238**	*e*P	Pn	20 21 25.8	+1.0
	baz=236						
SGST	**Jiashian**	**2.57**	**235**	*e*P	Pn	20 21 26.4	+1.4
	baz=233						
SLGT	**Liugui**	**2.58**	**233**	*e*P	Pn	20 21 26.3	+1.2
	baz=231						
ECL	**Taimali**	**2.64**	**222**	*e*P	Pn	20 21 26.7	+0.8
	baz=219						
ECL				*e*S	Sn	20 21 55.7	-1.3
	baz=219						
SSD	**Sandimen**	**2.74**	**229**	*e*P	Pn	20 21 28.4	+1.1
	baz=227						
MASBT	**Mashibuluo**	**2.83**	**227**	*e*P	Pn	20 21 29.7	+1.1
	baz=223						
EAST	**Anshuo**	**2.86**	**221**	*e*P	Pn	20 21 29.5	+0.6
	baz=220						
SCZT	**Fangliau**	**3.01**	**224**	*e*P	Pn	20 21 31.5	+0.5
	baz=222						
VWUC	**VWUC**	**3.15**	**279**	*e*P	Pn	20 21 31.8	-1.0
	baz=267						
WDGT	**Dungji**	**3.22**	**247**	*e*P	Pn	20 21 34.0	+0.2
	baz=244						
VCHM	**Qimei**	**3.44**	**248**	*e*P	Pn	20 21 36.1	-0.5
	baz=236						
PTMZ	**Houxiangcun**	**3.45**	**279**	*e*P	Pn	20 21 36.4	-0.5
	baz=275						

*ISCJB **06** 20:50:55.8±0.6, 38°26N±0°05×82°10E±0°06, h10km, mb3.6/7, Error ellipse: s-maj=7.8km s-min=6.8km az=142.9*
*IDC **06** 20:50:56.5±0.9, 38°28N×82°07E, h0km, mb3.6/9, mb1 3.7/15, mb1mx3.6/49, mbtmp3.6/15, ML3.3/6, Error ellipse: s-maj=24.3km s-min=15.4km az=45.0*
*NNC **06** 20:50:58.5±3.3, 38°46N×82°06E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=31.8km s-min=25.8km az=140.0*
*BJI **06** 20:50:59.0, 38°32N×81°82E, h7km, mb3.9/3, ML3.7/9*

ISC 06 20:50:58.5±0.7, 38°27N±0°07×82°00E±0°06, h10km, n30, σ1s71/35, mb3.6/7, 6C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**5.93**	**314**	P	Pn	20 52 28.3	+1.7
	SNR=49						
MDOK	**Medeo**	**6.17**	**324**	⇑Pn	Pn	20 52 30.6	+0.8
	11nm,0.6s						
MDOK				Lg	Lg	20 54 11.5	
	32nm,0.6s						
KZA	**Kyzart**	**6.42**	**308**	P	Pn	20 52 34.7	+1.2
	SNR=6.1						
TKM2	**Tokmak 2**	**6.73**	**316**	⇑Pn	Pn	20 52 38.6	+1.1
	2.9nm,0.3s						
TKM2				⇓Lg	Lg	20 54 25.9	
	15nm,0.6s						
TKM2	**Tokmak 2**	**6.73**	**316**	P	Pn	20 52 38.7	+1.1
	SNR=14						
UCH	**Uchtor**	**6.96**	**307**	P	Pn	20 52 41.8	+0.9
	SNR=15						
WMQ	**Urumqi**	**7.02**	**36**	*e*Pn	Pn	20 52 44.5	+3.1
WMQ				Sn	Sn	20 54 01.7	+0.5
WMQ				smax	smax		
	comp=N,87nm,0.7s						
WMQ				smax	smax		
	comp=E,83nm,0.7s						
AAK	**Ala-Archa**	**7.19**	**310**	Pn	Pn	20 52 45.8	+1.9
	0.6nm,0.3s,baz=106,slow=6.3,SNR=13						
AAK				Pg	Pb	20 53 05.6	+2.0
	1.7nm,0.3s,baz=116,slow=15,SNR=11						
AAK				Sn	Sn	20 54 08.8	+3.1
	0.8nm,0.3s,baz=119,slow=2.6,SNR=3.6						
AAK				Lg	Lg	20 54 39.5	
	0.5nm,0.3s,baz=89,slow=22,SNR=1.7						
AAK	**Ala-Archa**	**7.19**	**310**	Pn	Pn	20 52 44.7	+0.8
	2.2nm,0.6s						
AAK				Pg	Pb	20 53 07.0	+3.4
	8.8nm,0.8s						
AAK				⇑Lg	Lg	20 54 43.6	
	15nm,0.7s						
EKS2	**Erkin-Say**	**7.65**	**308**	P	Pn	20 52 51.7	+1.6
	SNR=8.5						
CHCP	**Chirah Chowk**	**8.45**	**240**	P	Pn	20 53 01.1	+0.1
MK09	**Makanchi Array**	**8.50**	**1**	⇑Pn	Pn	20 53 02.1	+0.4
	2.2nm,0.5s,baz=181,slow=12						
MK09				⇑Sn	Sn	20 54 34.9	-2.7
	2.3nm,0.3s,baz=179,slow=25						
MKAR	**Makanchi Array**	**8.52**	**1**	Pn	Pn	20 53 02.6	+0.7
	1.9nm,0.3s,baz=179,slow=12,SNR=68						
MKAR				Sn	Sn	20 54 36.4	-1.7
	1.8nm,0.3s,baz=185,slow=26,SNR=8.2						
MKAR				Lg	Lg	20 55 26.0	
	0.3nm,0.3s,baz=180,slow=33,SNR=2.2						
THW	**Thamme Wali**	**9.98**	**240**	P	Pn	20 53 21.2	-0.9
KURBB	**Kurchatov Arra**	**12.59**	**350**	Pn	Pn	20 53 55.0	-2.6
	0.1nm,0.3s,baz=175,slow=12,SNR=4.9						
KURBB				Lg	Lg	20 57 40.9	
	0.1nm,0.3s,baz=173,slow=38,SNR=3.4						
GTA	**Gaotai**	**13.94**	**80**	*e*P	P	20 54 27.5	+3.1
GTA				pP	Pn	20 54 31.5	+15
GTA				sP		20 54 34.8	
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GTA				smax	smax		
	comp=N,4.0nm,1.2s						
GTA				smax	smax		
	comp=E,3.0nm,1.3s						
ZALV	**Zalesovo Beam**	**15.80**	**6**	Pn	Pn	20 54 38.5	-2.4
	comp=E,0.1nm,0.3s,baz=190,slow=13,SNR=2.6						
BVAR	**Borovoye Array**	**16.80**	**335**	Pn	Pn	20 54 51.1	-2.7
	comp=E,0.1nm,0.3s,baz=142,slow=11,SNR=8.2						
GEYT	**Alibeck**	**18.79**	**276**	P	Pn	20 55 17.5	-1.1
	comp=E,0.1nm,0.3s,baz=92,slow=16,SNR=2.4						
AB31	**Akbulak array**	**19.27**	**312**	P	Pn	20 55 22.9	-1.3
	comp=E,0.9nm,0.6s,baz=112,slow=11,SNR=15						
SONM	**Songino Array**	**20.15**	**54**	P	P	20 55 31.1	-1.9
	comp=E,0.6nm,1.0s,baz=243,slow=9.5,SNR=2.0						
AKTO	**Aktyubinsk**	**20.92**	**313**	P	P	20 55 40.3	-0.8
	comp=E,0.7nm,0.3s,baz=113,slow=13,SNR=3.6						
AKTO	**Aktyubinsk**	**20.92**	**313**	⇑P	P	20 55 39.6	-1.5
	comp=E,1.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**24.66**	**138**	P	P	20 56 18.6	-0.9
	comp=E,0.2nm,0.3s,baz=316,slow=9.4,SNR=3.9						
BRTR	**Keskin Array B**	**37.25**	**288**	P	P	20 58 10.6	+0.1
	comp=E,0.7nm,0.6s,baz=79,slow=6.7,SNR=3.8						
FINES	**FINESS Array B**	**41.16**	**323**	P	P	20 58 42.7	0.0
	comp=E,2.0nm,0.6s,baz=145,slow=7.0,SNR=4.4						
ARCES	**ARCESS Array B**	**43.09**	**335**	P	P	20 58 58.9	+0.6
	comp=E,3.1nm,0.8s,baz=102,slow=8.0,SNR=12						
GERES	**GERESS Array B**	**49.05**	**306**	P	P	20 59 46.2	+0.5
	comp=E,0.7nm,0.7s,baz=96,slow=9.0,SNR=2.6						
TORD	**Torodi Ar. Bea**	**74.42**	**275**	P	P	21 02 35.7	-1.4
	comp=E,0.3nm,0.4s,baz=43,slow=5.1,SNR=4.3						
WRA	**Warramunga Arr**	**75.92**	**130**	P	P	21 02 45.3	-0.2
	comp=E,0.3nm,0.8s,baz=331,slow=5.4,SNR=3.5						

*ATH **06** 20:54:13.8, 41°32N×19°38E, h15km±2km, ML2.1/4, Error ellipse: s-maj=4.0km s-min=2.2km az=342.0*
*TIR **06** 20:54:14.7, 41°32N×19°40E, h3km, Md2.7/6*
*SAR **06** 20:54:15.3±0.9, 41°24N×19°29E, h8km±3km, ML2.4/5*
*PDG **06** 20:54:16.2±0.2, 41°37N×19°45E, h11km, ML2.4/11, Error ellipse: s-maj=0.5km s-min=0.9km az=0.0*
*SIK **06** 20:54:21.3±8.2, 41°8N±0°5×19°6E±0°2, h0km, ML1.6, Error ellipse: s-maj=147.8km s-min=55.3km az=177.0*

ISC 06 20:54:15.4±1.1, 41°31N±0°02×19°36E±0°03, h6km±9km, n53, σ1s25/88, 12C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.38**	**85**	P	Pg	20 54 21.9	-0.9
TIR	**Tirane**	**0.38**	**85**	*i* PG	Pg	20 54 21.9	-0.9
TIR				*i* SG	Sg	20 54 27.8	+0.1
ULC	**Ulcinj**	**0.66**	**352**	⇓*i*Pg	Pg	20 54 28.0	-0.1
ULC				*e*Sg	Sb	20 54 37.6	-1.1
ULC	**Ulcinj**	**0.66**	**352**	⇓*i*Pg	Pg	20 54 25.7	-2.4
PUK	**Puka**	**0.83**	**28**	*i* PG	Pg	20 54 30.7	-0.7
PUK				*i* SG	Sb	20 54 44.0	+0.3
DRME	**Dracevica, Mon**	**0.88**	**351**	⇓*i*Pg	Pg	20 54 32.3	-0.1
DRME				*e*Sg	Sb	20 54 45.5	+0.2
DRME	**Dracevica, Mon**	**0.88**	**351**	⇑*i*Pg	Pb	20 54 32.8	-0.4
DRME				*e*Sg	Sb	20 54 45.4	+0.2
PHP	**Peshkopia**	**0.89**	**65**	*i* PG	Pg	20 54 31.2	-1.3
PHP				*i* SG	Sb	20 54 45.9	+0.5
BUM	**Brajici-Budva**	**1.05**	**341**	⇓*i*Pg	Pg	20 54 35.4	-0.2
BUM				*e*Sg	Sn	20 54 51.3	-0.4
PDG	**Podgorica**	**1.12**	**356**	⇑*i*Pg	Pg	20 54 36.7	-0.2
PDG				*e*Sg	Sn	20 54 53.1	-0.2
TTG	**Podgorica**	**1.12**	**356**	⇑*i*Pg	Pg	20 54 36.3	-0.6
TTG				*e*Sg	Sn	20 54 53.3	0.0
TPE	**Tepelena**	**1.13**	**154**	*i* PG	Pn	20 54 37.8	+0.1
TPE				*i* SG	Sn	20 54 54.8	+1.3
BCI	**Bajram Curri**	**1.18**	**26**	*i* PN	Pg	20 54 36.3	-1.7
BCI				*i* SN	Sn	20 54 56.6	+1.8
CEME	**Cevo**	**1.28**	**345**	⇑*i*Pg	Pn	20 54 38.9	-1.0
CEME				*e*Sg	Sn	20 54 58.8	+1.5
HCY	**Herceg Novi**	**1.31**	**330**	⇑*i*Pg	Pn	20 54 38.7	-1.5
HCY				*e*Sg	Sn	20 55 00.4	+2.4
HCY	**Herceg Novi**	**1.31**	**330**	*e*Pg	Pn	20 54 38.9	-1.3
HCY				*e*Sg	Sn	20 54 58.1	+0.1
PVY	**Plav**	**1.35**	**19**	⇑*i*Pg	Pn	20 54 40.1	-0.9
PVY				*e*Sg	Sn	20 55 00.4	+1.1
PRZK	**Prizren**	**1.38**	**49**	⇓*i*Pg	Pn	20 54 40.6	-0.6
PRZK				*i* Sg	Sb	20 54 56.3	-3.1
PRZK				*i* Sg	Sg	20 55 06.1	+6.5
SCTE	**Santa Cesarea**	**1.42**	**209**	P	Pn	20 54 39.8	-1.9
KRUS	**Krusevo**	**1.42**	**87**	*i* Pn	Pn	20 54 40.7	-1.2
KRUS				*e*Sn	Sb	20 54 59.7	-1.1
NKME	**Niksic**	**1.48**	**348**	⇓*i*Pg	Pn	20 54 42.4	-0.3
NKME				*e*Sg	Sg	20 55 04.7	+1.5
SRN	**Sarande**	**1.51**	**161**	*i* PN	Pg	20 54 44.9	+0.5
SRN				*i* SN	Sg	20 55 07.6	+3.6
NKY	**Niksic**	**1.52**	**350**	⇑*i*Pg	Pn	20 54 43.5	+0.2
NKY				*e*Sg	Sg	20 55 05.6	+1.2
KOME	**Kolasin**	**1.54**	**4**	⇑*i*Pg	Pn	20 54 43.6	+0.1
KOME				*e*Sg	Sg	20 55 05.7	+0.7
NEST	**Nestorio**	**1.56**

BRY	**Bratogost**	**1.70**	**339**	*e*Pn	**Pn**	**20 54 45.3**	**-0.5**
BRY				*e*Sn	**Sn**	**20 55 08.2**	**+0.3**
PENT	**Pentalofos**	**1.75**	**129**	P	**Pn**	**20 54 46.0**	**-0.4**
NOCI	**Noci**	**1.82**	**254**	P	**Pn**	**20 54 47.9**	**+0.7**
SGD	**Sagiada**	**1.82**	**158**	P	**Pn**	**20 54 47.3**	**+0.1**
UPM	**Unac-Piva**	**1.92**	**350** ⇑	*i*Pn	**Pn**	**20 54 49.6**	**+0.8**
UPM				*e*Sn	**Sb**	**20 55 15.4**	**+0.2**
UPM	**Unac-Piva**	**1.92**	**350** ⇓	*i*P	**Pb**	**20 54 50.3**	**-0.6**
UPM	**Unac-Piva**	**1.92**	**350**	*e*Pn	**Pn**	**20 54 49.3**	**+0.5**
UPM				*e*Sn	**Sb**	**20 55 14.4**	**-0.8**
IGT	**Igoumenitsa**	**1.93**	**157**	P	**Pn**	**20 54 48.0**	**-0.7**
IGT				S	**Sn**	**20 55 13.4**	**+0.2**
IGT	comp=N,77μm,0.4s			AML	AML	20 55 16.9	
IGT	comp=E,76μm,1.0s			AML	AML	20 55 22.4	
STON	**Ston**	**1.99**	**322**	*e*Pn	**Pn**	**20 54 48.1**	**-1.5**
STON				Sn	**Sn**	**20 55 13.4**	**-1.3**
PLE	**Pljevlja**	**2.02**	**1** ⇑	*i*Pn	**Pn**	**20 54 50.4**	**+0.3**
PLE				*e*Sn	**Sb**	**20 55 17.4**	**-0.5**
GRG	**Griva**	**2.32**	**98**	P	**Pn**	**20 54 53.1**	**-1.1**
BBLS	**Lazići**	**2.55**	**1**	*e*Pn	**Pn**	**20 54 57.8**	**+0.4**
BBLS				*e*Sn	**Sn**	**20 55 30.6**	**+1.8**
LIT	**Litokhoron**	**2.67**	**116**	P	**Pn**	**20 54 58.8**	**-0.1**
KNT	**Kendrikon**	**2.67**	**92**	P	**Pn**	**20 54 57.7**	**-1.2**
LKD2	**Lefkada island**	**2.71**	**158**	P	**Pn**	**20 54 58.7**	**-0.9**
HAPS	**Han Pijesak,Bl**	**2.79**	**354**	*e*Pn	**Pn**	**20 55 01.8**	**+1.1**
DIVS	**Divibare**	**2.82**	**9**	*e*Pn	**Pn**	**20 55 02.0**	**+0.9**
DIVS				*e*Sn	**Sn**	**20 55 36.1**	**+0.6**
EVR	**Evrytania**	**3.04**	**141**	P	**Pn**	**20 55 04.2**	**+0.1**
PVO	**Paravola**	**3.16**	**148**	P	**Pn**	**20 55 05.8**	**+0.1**
AGG	**Agios Georgios**	**3.23**	**134**	P	**Pn**	**20 55 06.8**	**+0.2**
AGG				S	**Sn**	**20 55 44.7**	**-0.6**
ANX	**Ano Chora**	**3.35**	**143**	P	**Pn**	**20 55 08.8**	**+0.4**
DRO	**Drossia**	**3.81**	**151**	P	**Pn**	**20 55 14.1**	**-0.6**

NEIC ***06*** *21:00:32.8±0.0, 17°.33N×94°.65W, h146km, MD4.2(MEX), After MEX.*

MEX 06 21:00:32.8±0.6**, 17°.33N×94°.65W, h146**km±4km**, MD4.2, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.33**	**224**	*e*P	Pn	21 00 51.6	-1.4
CMIG				*e*S	Sn	21 01 06.0	-2.2
CMIG	**Matias Romero**	**0.33**	**224**	*e*P	Pn	21 00 51.6	-1.4
CMIG				*e*S	Sn	21 01 06.0	-2.2
TGIG		**1.56**	**110**	*e*P	Pn	21 01 01.5	-1.3
TGIG				*e*S	Sn	21 01 23.6	-2.0
TGIG		**1.56**	**110**	*e*P	Pn	21 01 01.5	-1.3
TGIG				*e*S	Sn	21 01 23.6	-2.0
VHO	**Vista Hermosa**	**2.01**	**263**	*e*P	Pn	21 01 06.9	-1.1
VHO	**Vista Hermosa**	**2.01**	**263**	*e*P	Pn	21 01 06.9	-1.1
VHO				*i* S	Sn	21 01 33.9	-1.1
HUIG	**Huatulco**	**2.09**	**222**	*e*P	Pn	21 01 05.5	-3.2
HUIG	**Huatulco**	**2.09**	**222**	*e*P	Pn	21 01 05.5	-3.2
HUIG				*i* S	Sn	21 01 34.1	-2.3
PCIG		**2.11**	**139**	*e*P	Pn	21 01 08.2	-0.8
PCIG		**2.11**	**139**	*e*P	Pn	21 01 08.2	-0.8
PCIG				*e*S	Sn	21 01 34.7	-2.2
CCIG	**Comitan**	**2.62**	**113**	*e*Pn	Pn	21 01 09.5	-5.9
CCIG				*e*Sn	Sn	21 01 47.3	-0.9
TLIG	**Tlapa**	**3.75**	**274**	*e*Pn	Pn	21 01 28.2	-1.6

KRSC 06 21:07:17.0±0.9**, 53°.55N×160°.91E, h48**km±18km**, ML3.6, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.70**	**230**	*e*P	Pn	21 07 32.3	+1.7
SPN				*e*S	Sn	21 07 41.3	+0.9
KII	**Karymskiy**	**0.99**	**300**	*e*P	Pn	21 07 35.9	+1.2
KII				*e*S	Sn	21 07 47.9	+0.3
NLC	**Nalytchevo**	**1.01**	**249**	*e*P	Pn	21 07 36.3	+1.5
NLC				*e*S	Sn	21 07 48.8	+0.9
SDLR	**Sedlovina**	**1.24**	**258**	*e*P	Pn	21 07 39.9	+1.8
SDLR				*e*S	Sn	21 07 54.4	+0.7
SMAR	**Somma**	**1.29**	**258**	*e*P	Pn	21 07 40.6	+1.7
UGLR	**Uglovaya**	**1.29**	**256**	*e*P	Pn	21 07 41.0	+2.2
AVH	**Avacha**	**1.33**	**258**	*e*P	Pn	21 07 41.4	+2.2
KRX	**Arik**	**1.36**	**263**	*e*P	Pn	21 07 41.6	+1.8
KRX				*e*S	Sn	21 07 57.7	+1.0
KOK	**Koryaka**	**1.38**	**260**	*e*P	Pn	21 07 42.0	+2.0
DALK	**Dalny**	**1.39**	**249**	*e*P	Pn	21 07 41.9	+1.9
DALK				*e*S	Sn	21 07 58.2	+1.0
PET	**Petropavlovsk**	**1.45**	**250**	*e*P	Pn	21 07 43.1	+2.3
PET				*e*S	Sn	21 07 59.9	+1.3
KZV	**Kizimen**	**1.61**	**347**	*e*P	Pn	21 07 45.6	+2.5
KZV				*e*S	Sn	21 08 04.1	+1.4
GNL	**Ganaly**	**1.77**	**276**	*e*P	Pn	21 07 47.8	+2.5
TUMR	**Tumrok**	**1.79**	**346**	*e*P	Pn	21 07 48.5	+2.9
TUMR				*e*S	Sn	21 08 09.8	+2.6
KRMR	**Karymshinskiy**	**1.82**	**248**	*e*P	Pn	21 07 48.3	+2.5
KRMR				*e*S	Sn	21 08 09.4	+1.7
RUS	**Russkaya**	**1.83**	**233**	*e*P	Pn	21 07 48.2	+2.2
RUS				*e*S	Sn	21 08 09.1	+1.2
KMNR	**Kamenistaya**	**2.25**	**350**	*e*P	Pn	21 07 55.4	+3.6
APC	**Apacha**	**2.34**	**256**	*e*P	Pn	21 07 56.2	+3.3
BZMR	**Bezymyannaya**	**2.40**	**354**	P	Pn	21 07 56.1	+2.1
BZMR	**Bezymyannyi-We**	**2.43**	**355**	*e*Pn	Pn	21 07 57.4	+3.0
KDTR	**Khodutka, Kamc**	**2.45**	**226**	*e*P	Pn	21 07 58.3	+3.8
KDTR				*e*S	Sn	21 08 26.0	+2.8
KOZ	**Kozyrevsk**	**2.58**	**347**	*e*P	Pn	21 07 58.4	+2.1
ESO	**Esso**	**2.70**	**333**	*e*P	Pn	21 08 00.4	+2.4
KBTR	**Krutoberegovo**	**2.88**	**22**	*e*P	Pn	21 08 04.1	+3.7
KBTR				*e*S	Sn	21 08 37.5	+3.7
BDR	**Baidarnaya**	**3.03**	**3**	*e*P	Pn	21 08 06.4	+3.9
SMKR	**Semkarok**	**3.06**	**6**	*e*P	Pn	21 08 07.0	+4.1
SRKR	**Sorokina**	**3.12**	**3**	*e*P	Pn	21 08 08.1	+4.5
BKI	**Bering**	**3.39**	**59**	*e*P	Pn	21 08 10.9	+3.5
BKI				*e*S	Sn	21 08 47.2	+0.9

ISCJB ***06*** *21:08:30.8±0.6, 37°.31N±0°.04×37°.14E±0°.04, h6km±7km, Error ellipse: s-maj=6.5km s-min=5.7km az=6.6*
ISK ***06*** *21:08:30.3, 37°.31N×37°.15E, h8km, ML2.6/13*
DDA ***06*** *21:08:31.2, 37°.30N×37°.14E, h7km, Ml3.6*

ISC 06 21:08:31.0±1.0**, 37°.30N**±0°.04×**37°.15E**±0°.03**, h9**km±10km**, n22,** σ**0°.45**/24**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.13**	**160**	PG	**Pg**	**21 08 34.3**	**+0.2**
GAZ				SG	**Sg**	**21 08 36.3**	**+0.1**
KMRS	**Kahramanmaras**	**0.29**	**316**	PG	**Pg**	**21 08 36.2**	**-0.6**
KUZU	**Kuzuini**	**0.53**	**187**	*i* P	**Pb**	**21 08 41.8**	**-0.6**
ANDN	**Andirin**	**0.70**	**294**	*i* P	**Pg**	**21 08 44.0**	**-0.5**
ATAB	**Bozova**	**0.93**	**79**	*i* P	**Pb**	**21 08 49.5**	**+0.3**
ELBS	**KAHRAMANMARAS**	**1.02**	**359**	*i* P	**Pn**	**21 08 51.5**	**-0.1**
KOZT	**Kozan**	**1.07**	**280**	PG	**Pg**	**21 08 51.1**	**-0.5**
AKCD	**Akcadag**	**1.17**	**31**	*i* P	**Pg**	**21 08 53.2**	**-0.2**
AKCD				*i* S	**Sb**	**21 09 09.1**	**+0.4**
TAHT	**Tahtakopru-Hat**	**1.21**	**220**	PN	**Pb**	**21 08 53.9**	**0.0**
SURC	**SANLIURFA_SURC**	**1.24**	**109**	*i* P	**Pb**	**21 08 54.4**	**-0.1**
DARE	**Darende-Malaty**	**1.30**	**11**	PN	**Pb**	**21 08 55.1**	**-0.2**
YURE	**YUREGIR**	**1.30**	**249**	PN	**Pb**	**21 08 55.5**	**-0.2**
YURE	**YUREGIR**	**1.30**	**249**	*i* P	**Pg**	**21 08 56.1**	**+0.1**
URFA	**Urfa**	**1.34**	**83**	PN	**Pn**	**21 08 55.3**	**-0.6**
SANL	**SANLIURFA_Merk**	**1.47**	**94**	*i* P	**Pn**	**21 08 56.9**	**-0.7**
KRTS	**Karatas**	**1.60**	**244**	PN	**Pn**	**21 08 59.7**	**+0.3**
BNN	**Bunyan**	**1.86**	**327**	PN	**Pn**	**21 09 03.5**	**+0.3**
SVRC	**Sivrice-ELAZID**	**2.02**	**57**	PN	**Pn**	**21 09 05.5**	**+0.2**
MERS	**Mersin**	**2.15**	**259**	PN	**Pn**	**21 09 07.5**	**+0.5**
PTK	**Pertek**	**2.38**	**47**	PN	**Pn**	**21 09 10.8**	**+0.5**
SVSK	**Karacayir**	**2.62**	**357**	PN	**Pn**	**21 09 14.0**	**+0.6**
YOZ	**Yozgat**	**2.75**	**329**	PN	**Pn**	**21 09 15.8**	**+0.5**

IDC ***06*** *21:31:26.4±3.1, 27°.90N×55°.71E, h0km, mb3.3/4, mb1 3.3/4, mb1mx3.2/28, mbtmp3.3/4, MS4.3/1, Ms1 4.3/1, ms1mx2.8/19, Error ellipse: s-maj=85.3km s-min=30.0km az=157.0*
ISCJB ***06*** *21:31:31.5±0.3, 28°.17N±0°.03×55°.77E±0°.05, h16km, mb3.2/4, MS4.3/1, Error ellipse: s-maj=7.0km s-min=3.5km az=169.4*
TEH ***06*** *21:31:32.5, 28°.17N×55°.71E, h18km, ML3.4*
OMAN ***06*** *21:31:32.9±10.0, 28°.13N×56°.12E, h13km±312km, Error ellipse: s-maj=334.7km s-min=81.0km az=168.0*

ISC 06 21:31:31.0±0.8**, 28°.18N**±0°.04×**55°.76E**±0°.04**, h16**km**, n41,** σ**1°69**/40**, mb3.3**/4**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENO	**Geno**	**0.86**	**155**	*e*Pg	**Pn**	**21 31 49.7**	**+1.1**
NGRK	**Negar Kerman**	**1.69**	**30**	*e*Pn	**Pn**	**21 32 01.1**	**+1.0**
NGRK				IAMB	IAmb	21 32 28.4	
NGRK	comp=E,0.0nm,0.3s			IAMB	IAmb	21 32 28.7	
NGRK	comp=N,0.0nm,0.4s			IAMB	IAmb	21 32 30.7	
JHRM	**Jahrom**	**1.95**	**280**	IAMB	IAmb	21 32 39.5	
JHRM	comp=Z,0.0nm,0.3s			*e*Pn	**Pb**	**21 32 05.4**	**-0.8**
JHRM				IAMB	IAmb	21 32 45.7	
JHRM	comp=N,0.0nm,0.5s			IAMB	IAmb	21 32 49.9	
KRBR	**Kerman**	**2.00**	**26**	*e*Pn	**Pn**	**21 32 05.4**	**+1.1**
TVBK	**TV Kerman**	**2.00**	**26**	IAMB	IAmb	21 32 39.4	
TVBK	comp=E,0.0nm,0.3s			*e*Pn	**Pb**	**21 32 06.3**	**-0.9**
TVBK				IAMB	IAmb	21 32 40.4	
TVBK	comp=Z,0.0nm,0.3s			IAMB	IAmb	21 32 43.3	
SHME	**Shamm**	**2.15**	**171**	*e*Pn	**Pn**	**21 32 05.6**	**-0.7**
KHGB	**Koh Gabri**	**2.27**	**16**	*e*Pn	**Pb**	**21 32 10.6**	**-1.2**
KHGB	comp=N,0.0nm,0.2s			IAMB	IAmb	21 32 17.5	
KHGB	comp=Z,0.0nm,0.3s			IAMB	IAmb	21 32 46.0	
KHGB	comp=E,0.0nm,0.3s			IAMB	IAmb	21 32 47.5	
CHMN	**Cheshme madani**	**2.29**	**43**	*e*Pn	**Pb**	**21 32 12.2**	**+0.1**
CHMN	comp=N,0.0nm,0.4s			IAMB	IAmb	21 32 20.2	
CHMN	comp=Z,0.0nm,0.2s			IAMB	IAmb	21 32 46.4	
CHMN	comp=E,0.0nm,0.5s			IAMB	IAmb	21 32 46.7	
GHIR	**Ghir-Karzin**	**2.45**	**273**	*e*Pn	**Pn**	**21 32 12.4**	**+2.0**
ISRV	**Sarvestan**	**2.61**	**298**	*e*Pn	**Pn**	**21 32 14.4**	**+1.6**
ISRV	comp=N,0.0nm,0.5s			IAMB	IAmb	21 33 03.7	
ISRV	comp=N,5μm,0.4s			IAMB	IAmb	21 33 05.9	
MSFE	**Esma-Masafi**	**2.83**	**173**	*e*Pn	**Pn**	**21 32 17.5**	**+1.9**
IPAR	**Pars**	**2.89**	**305**	*e*Pn	**Pn**	**21 32 19.3**	**+2.6**
IPAR	comp=Z,2μm,0.8s			IAMB	IAmb	21 33 07.0	
IPAR	comp=E,1μm,0.6s			IAMB	IAmb	21 33 12.0	
IPAR	comp=N,2μm,1.0s			IAMB	IAmb	21 33 15.5	
NAZ	**Nazwa, Dubai**	**3.18**	**182**	*e*Pn	**Pn**	**21 32 22.3**	**+1.9**
UOSS	**Minazif** SNR=8.1	**3.25**	**173**	P	**Pn**	**21 32 22.3**	**+1.0**
UOSS	comp=Z,1μm,0.7s			S	**Sn**	**21 33 01.8**	**+2.2**
UOSS	**Minazif**	**3.25**	**173**	*e*Pn	**Pn**	**21 32 22.5**	**+1.2**
IMEH	**Mehriz**	**3.35**	**343**	*e*Pn	**Pn**	**21 32 25.1**	**+2.2**
IMEH	comp=Z,414nm,0.2s			IAMB	IAmb	21 32 32.7	
IMEH	comp=N,396nm,0.4s			IAMB	IAmb	21 33 27.4	
HATD	**Hatta, Dubai**	**3.36**	**174**	*e*Pn	**Pn**	**21 32 25.3**	**+2.4**
FAQ	**Al Faqa, Dubai** SNR=5.4	**3.43**	**183**	P	**Pn**	**21 32 25.9**	**+2.1**
FAQ	**Al Faqa, Dubai**	**3.43**	**183**	*e*Pn	**Pn**	**21 32 25.5**	**+1.7**
ASHO	**Ashiyiah** SNR=20	**3.50**	**176**	P	**Pn**	**21 32 26.1**	**+1.4**
ASHO				S	**Sn**	**21 33 07.7**	**+1.9**
ASHO	**Ashiyiah**	**3.50**	**176**	*e*Pn	**Pn**	**21 32 26.3**	**+1.6**
ASUD	**Al Ashush, Dub** SNR=10	**3.56**	**186**	P	**Pn**	**21 32 27.9**	**+2.3**
IKAZ	**Kazeroun**	**3.79**	**296**	*e*Pn	**Pn**	**21 32 30.2**	**+1.2**
IKAZ	comp=Z,699nm,0.2s			IAMB	IAmb	21 33 23.4	
ALNE	**Al Ain**	**4.11**	**180**	*e*Pn	**Pn**	**21 32 34.3**	**+1.1**
ISAD	**Sadrabad**	**4.13**	**335**	*e*Pn	**Pn**	**21 32 36.1**	**+2.4**
ISAD	comp=N,327nm,0.2s			IAMB	IAmb	21 32 38.6	
ISAD	comp=Z,297nm,0.4s			IAMB	IAmb	21 32 47.4	
ISAD	comp=E,342nm,0.6s			IAMB	IAmb	21 33 44.8	
ICHK	**Chekchek**	**4.21**	**344**	*e*Pn	**Pn**	**21 32 37.0**	**+2.2**
ICHK	comp=N,204nm,0.5s			IAMB	IAmb	21 32 55.9	
ICHK	comp=Z,275nm,0.3s			IAMB	IAmb	21 33 20.3	
YZKH	**Yazd**	**4.31**	**347**	*e*Pn	**Pn**	**21 32 38.1**	**+2.1**
KLNJ	**Kolanjah**	**4.59**	**309**	*e*Pn	**Pn**	**21 32 40.8**	**+0.7**
KLNJ	comp=Z,0.0nm,0.6s			IAMB	IAmb	21 34 09.7	
KLNJ	comp=E,0.0nm,0.8s			IAMB	IAmb	21 34 09.7	
IRAM	**Ramesheh**	**4.65**	**322**	*e*Pn	**Pn**	**21 32 41.4**	**+0.6**
IRAM	comp=E,182nm,0.2s			IAMB	IAmb	21 32 45.3	
IRAM	comp=Z,187nm,0.4s			IAMB	IAmb	21 33 40.4	
IRAM	comp=N,287nm,0.4s			IAMB	IAmb	21 33 43.0	
CHBR	**Chabahar**	**4.94**	**120**	*e*Pn	**Pn**	**21 32 44.5**	**-0.1**
IKOO	**Kooshah**	**5.07**	**33**	*e*Pn	**Pn**	**21 32 49.9**	**+3.3**
IKOO	comp=Z,140nm,0.7s			IAMB	IAmb	21 34 18.5	
IKOO	comp=N,182nm,0.4s			IAMB	IAmb	21 34 19.9	
IKOO	comp=E,237nm,0.7s			IAMB	IAmb	21 34 24.9	
ANAR	**Anarak**	**5.29**	**341**	*e*Pn	**Pn**	**21 32 50.7**	**+1.2**
ANAR	comp=N,0.0nm,0.4s			IAMB	IAmb	21 33 10.7	
ANAR	comp=Z,0.0nm,1.1s			IAMB	IAmb	21 34 31.4	
IGAR	**Gharneh**	**5.29**	**324**	IAMB	IAmb	21 35 12.7	
IGAR	comp=N,384nm,0.1s			IAMB	IAmb	21 35 20.4	
ITEG	comp=Z,209nm,0.3s **Tejag** comp=E,94nm,0.5s	**5.36**	**28**	IAMB	IAmb	21 34 27.7	
ITEG	comp=Z,72nm,0.5s			IAMB	IAmb	21 34 27.7	
ITEG	comp=N,136nm,0.4s			IAMB	IAmb	21 34 38.0	
IZEF	**Zefreh** comp=Z,56nm,0.3s	**5.55**	**329**	IAMB	IAmb	21 32 55.7	
IZEF	comp=E,47nm,0.2s			IAMB	IAmb	21 32 55.7	
IZEF	comp=N,46nm,0.3s			IAMB	IAmb	21 33 06.6	
WSAR	**Wadi Sarin** SNR=43	**5.56**	**152**	P	**Pn**	**21 32 53.9**	**+0.8**
WSAR				S	**Sn**	**21 33 55.8**	**-1.0**
BRTR	**Keskin Array B** comp=N,0.4nm,0.5s,baz=117,slow=12,SNR=2.9	**21.60**	**308**	P	**P**	**21 36 19.5**	**-0.9**
MKAR	**Makanchi Array** comp=N,0.2nm,0.5s,baz=229,slow=10.0,SNR=1.2	**27.87**	**41**	P	**P**	**21 37 19.6**	**-0.3**
ZALV	**Zalesovo Beam** comp=N,0.2nm,0.3s,baz=224,slow=8.1,SNR=1.5	**33.38**	**31**	P	**P**	**21 38 08.8**	**+0.5**
TORD	**Torodi Ar. Bea** comp=N,0.3nm,0.6s,baz=48,slow=8.0,SNR=4.1	**52.35**	**265**	P	**P**	**21 40 39.9**	**-2.6**
YAK	**Yakutsk** comp=N,265nm,21.4s,baz=253,slow=36	**58.02**	**32**	LR	LR	22 06 29.5	

IDC ***06*** *21:57:46.3±1.6, 52°.51N×131°.72W, h0km, mb3.7/1, mb1 3.8/5, mb1mx3.4/49, mbtmp3.4/5, ML3.1/4, MS2.8/6, Ms1 2.9/6, ms1mx2.7/45, Error ellipse: s-maj=33.0km s-min=7.4km az=47.0*

ISC 06 21:57:46.5±1.0**, 52°.98N**±0°.10×**131°.52W**±0°.08**, h10**km**, n13,** σ**1°09**/9**, Queen Charlotte Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H02S1	**DAWSON INLET T**	**0.62**	**291**	Pg	**Pn**	**21 58 01.9**	**+0.5**
H02S1				Lg	Lg	21 58 14.4	
H02N1	**VAN INLET T-PH**	**0.67**	**294**	Pg	**Pn**	**21 58 02.9**	**+0.7**
H02N1				Lg	Lg	21 58 16.0	
BBB	**Bella Bella** 1.1nm,0.3s,baz=275,slow=3.0,SNR=9.5	**2.23**	**110**	Pn	**Pn**	**21 58 24.1**	**+0.7**
BBB	9.0nm,0.3s,baz=237,slow=20,SNR=6.6			Sn	**Sn**	**21 58 52.0**	**+1.1**
BBB	comp=Z,76nm,19.1s,baz=344,slow=44			LR	LR	21 59 24.9	
DLBC	**Dease Lake** 0.1nm,0.3s,baz=196,slow=17,SNR=2.2	**5.53**	**8**	Pn	Pb	21 59 17.3	-5.9
DLBC	baz=153,slow=22,SNR=1.6			Sn	**Sb**	**22 00 28.7**	**-0.8**
DLBC	0.2nm,0.3s,baz=129,slow=14,SNR=2.3			Lg	Lg	22 00 56.4	
DLBC	comp=Z,176nm,19.8s,baz=158,slow=40			LR	LR	22 01 49.6	
KDAK	**Kodiak Island** comp=Z,39nm,21.0s,baz=94,slow=31	**12.88**	**300**	LR	LR	22 04 32.2	
ILAR	**Eielson Array** baz=148,slow=8.6,SNR=3.0	**14.18**	**332**	Pn	**P**	**22 01 15.1**	**+0.3**
ILAR	comp=Z,46nm,20.6s,baz=101,slow=35			LR	LR	22 06 09.1	
INK	**Inuvik** comp=Z,36nm,18.8s,baz=336,slow=40	**15.40**	**357**	LR	LR	22 08 26.1	
NVAR	**Mina Array Bea** 0.4nm,0.3s,baz=317,slow=7.4,SNR=4.3	**17.19**	**143**	Pn	**Pn**	**22 01 45.2**	**-1.7**
NVAR	comp=Z,60nm,20.2s,baz=296,slow=35			LR	LR	22 07 35.2	
PDAR	**Pinedale Array** 0.0nm,0.3s,baz=315,slow=8.2,SNR=8.0	**17.86**	**116**	P	**P**	**22 01 56.5**	**+0.7**
TXAR	**Lajitas Array** 0.7nm,0.7s,baz=315,slow=0.8,SNR=20	**31.24**	**128**	P	**P**	**22 04 05.6**	**-0.6**
H11N2	**WAKE ISLAND Hy** baz=39,slow=75,SNR=16	**57.43**	**259**	T	T	23 09 35.6	
H11N3	**WAKE ISLAND Hy** baz=39,slow=75,SNR=14	**57.43**	**259**	T	T	23 09 35.3	
H11N1	**WAKE ISLAND Hy** baz=39,slow=75,SNR=16	**57.45**	**259**	T	T	23 09 37.0	

IDC ***06*** *22:09:06.9±6.8, 38°.21N×74°.09E, h120km±50km, mb3.4/2, mb1 3.3/5, mb1mx3.0/56, mbtmp3.7/5, MS3.1/1, Ms1 3.1/1, ms1mx2.5/35, Error ellipse: s-maj=89.7km s-min=45.7km az=114.0*
NNC ***06*** *22:09:09.4±7.7, 38°.66N×73°.54E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=62.4km s-min=40.3km az=154.0*

ISC 06 22:09:06.0±1.8**, 38°.2N**±0°.1×**73°.7E**±0°.1**, h100**km**, n12,** σ**1°66**/15**, 2C-5D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa** 0.7nm,0.3s,baz=134,slow=6.5,SNR=13	**4.48**	**8**	P	**Pn**	**22 10 13.3**	**+1.5**
AAK	1.9nm,0.3s,baz=286,slow=22,SNR=13			S	**Sn**	**22 11 03.3**	**+0.5**
AAK	**Ala-Archa** 4.0nm,0.7s	**4.48**	**8** ⇑	Pn	**Pn**	**22 10 14.4**	**+2.6**
AAK	13nm,0.6s			⇑Sn	**Sn**	**22 11 03.9**	**+1.0**
TKM2	**Tokmak 2** 1.7nm,0.6s	**4.94**	**17** ⇓	Pn	**Pn**	**22 10 18.7**	**+0.6**
TKM2	5.5nm,0.7s			⇓Sn	**Sn**	**22 11 12.5**	**-1.5**
KK31	**Karatay Array** 0.9nm,0.3s,baz=144,slow=14	**5.46**	**335** ⇓	Pn	**Pn**	**22 10 27.2**	**+2.2**
KK31	14nm,0.5s,baz=149,slow=22			⇓Sn	**Sn**	**22 11 24.2**	**-2.2**
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=205,slow=10,SNR=6.1	**12.89**	**14**	P	**P**	**22 12 10.5**	**-1.7**
AB31	**Akbulak array** 0.7nm,0.7s,baz=137,slow=11,SNR=13	**14.83**	**323**	P	**Pn**	**22 12 29.6**	**-0.8**
BVAR	**Borovoye Array** 0.5nm,0.3s,baz=156,slow=9.8,SNR=16	**15.01**	**352**	P	**Pn**	**22 12 33.3**	**+0.7**
AKTO	**Aktyubinsk** 2.4nm,0.8s	**16.55**	**323** ⇓	P	**Pn**	**22 12 51.4**	**-0.5**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=218,slow=10,SNR=4.5	**17.51**	**22**	P	**P**	**22 13 00.8**	**-2.4**
BRDH	**Bariadhala** comp=Z,45nm,18.0s,baz=303,slow=43	**21.83**	**130**	LR	LR	22 24 42.2	
ARCES	**ARCESS Array B** 3.1nm,0.9s,baz=108,slow=8.0,SNR=4.9	**40.43**	**336**	P	**P**	**22 16 34.4**	**+0.3**
TORD	**Torodi Ar. Bea** 0.1nm,0.3s,baz=52,slow=5.2,SNR=4.8	**67.88**	**270**	P	**P**	**22 19 54.3**	**+0.3**

IDC ***06*** *22:12:44.7±0.8, 2°.79N×128°.90E, h0km, mb3.7/9, mb1 3.9/10, mb1mx3.7/35, mbtmp3.8/10, ML3.5/1, Error ellipse: s-maj=43.3km s-min=14.4km az=68.0*
ISCJB ***06*** *22:12:49.2±0.6, 2°.7N±0°.1×128°.8E±0°.2, h44km, mb3.9/9, Error ellipse: s-maj=28.7km s-min=8.0km az=149.9*

ISC 06 22:12:50.9±0.7**, 2°.7N**±0°.1×**128°.9E**±0°.2**, h44**km**, n18,** σ**0°72**/13**, mb3.8**/9**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong** 2.4nm,0.3s,baz=338,slow=18,SNR=6.6	**4.30**	**146**	Pn	**Pn**	**22 13 53.9**	**0.0**
SIJI	0.4nm,0.3s,baz=229,slow=19,SNR=2.4			Sn	**Sn**	**22 14 43.2**	**+0.4**
FITZ	**Fitzroy Crossi** 1.1nm,0.6s,baz=25,slow=14,SNR=3.5	**20.95**	**189**	P	**P**	**22 17 29.4**	**-0.7**
WRA	**Warramunga Arr** 2.5nm,0.7s,baz=348,slow=9.9,SNR=21	**23.16**	**167**	P	**P**	**22 17 53.3**	**-0.5**
ASAR	**Alice Springs** 0.4nm,0.6s,baz=353,slow=7.6,SNR=6.5	**26.69**	**170**	P	**P**	**22 18 25.9**	**-0.2**
CMAR	**Chiang Mai Arr** 0.6nm,0.3s,baz=110,slow=6.6,SNR=5.0	**33.22**	**300**	P	**P**	**22 19 25.3**	**+1.2**
STKA	**Stephens Creek** 0.6nm,0.5s,baz=335,slow=8.7,SNR=3.6	**36.48**	**162**	P	**P**	**22 19 52.6**	**+0.6**
H11S3	**WAKE ISLAND Hy** baz=252,slow=75,SNR=98	**40.19**	**64**	T	T	23 03 36.7	
H11S2	**WAKE ISLAND Hy** baz=252,slow=75,SNR=42	**40.21**	**64**	T	T	23 03 34.0	
H11S1	**WAKE ISLAND Hy** baz=252,slow=75,SNR=40	**40.21**	**64**	T	T	23 03 34.2	
H11N1	**WAKE ISLAND Hy** baz=250,slow=75,SNR=119	**40.77**	**63**	T	T	23 04 14.4	
H11N2	**WAKE ISLAND Hy** baz=250,slow=75,SNR=39	**40.78**	**63**	T	T	23 04 14.7	
**H

GEVA				*i* S		**Sb**	**22 41 35.5**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.40**	**300**	*i* P		**Pg**	**22 41 30.5**	**0.0**
ADCV				*i* S		**Sb**	**22 41 38.0**	**-0.1**
VMUR	**Van-Muradiye**	**0.49**	**39**	*i* P		**Pg**	**22 41 31.9**	**-0.2**
VMUR				*i* S		**Sb**	**22 41 41.1**	**+0.5**
CLDR	**Caldiran**	**0.79**	**47**	PG		**Pg**	**22 41 37.3**	**-0.4**
CLDR	**Caldiran**	**0.79**	**47**	*i* P		**Pg**	**22 41 36.4**	**-1.3**
TUTA	**Tutak**	**0.84**	**341**	*i* P		**Pg**	**22 41 37.9**	**-0.8**
GURO	**Guroymak-BITLI**	**0.90**	**267**	PG		**Pg**	**22 41 38.9**	**-0.8**
AGRB	**Hanur-Agry**	**0.98**	**352**	PG		**Pg**	**22 41 40.8**	**-0.5**
EKAR	**Karacoban**	**1.08**	**307**	*i* P		**Pn**	**22 41 44.3**	**+0.5**
SIRT	**Sirnak**	**1.25**	**208**	PN		**Pg**	**22 41 45.7**	**-0.7**
CUKT	**Cukurca**	**1.40**	**166**	PN		**Pn**	**22 41 48.2**	**+0.1**
VRTB	**Varto-Mus**	**1.45**	**293**	PN		**Pn**	**22 41 49.1**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.62**	**254**	PN		**Pn**	**22 41 51.3**	**+0.3**

SJA ***06*** *22:42:01.7±0.7, 34°.63S×72°.55W, h76km±13km, ML3.2, MW3.5*

GUC ***06*** *22:42:05.9±0.7, 34°.65S×71°.86W, h35km±4km, ML3.4*

ISC 06 22:42:04.3±2.0, 34°.54S±0°.05×72°.0W±0°.1, h10km±15km, **n19, σ2§01/34, 4C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO05	**HualaæØ**	**0.47**	**170**	⇑*i* P	**Pb**	**22 42 14.3**	**-0.4**
GO05				*i* S	**Sg**	**22 42 19.9**	**0.0**
GO05				IAML		22 42 21.4	
	comp=E,2μm,0.1s						
ANTU	**Antumapu**	**1.52**	**51**	*e*P	**Pn**	**22 42 30.8**	**-0.7**
ANTU				*i* S	**Sn**	**22 42 49.5**	**-1.7**
ANTU				IAML		22 42 56.0	
	comp=E,1μm,0.1s						
LMEL	**Las Melosas**	**1.67**	**66**	⇑*i* P	**Pn**	**22 42 32.7**	**-1.0**
LMEL				*i* S	**Sn**	**22 42 53.2**	**-1.9**
LMEL				IAML		22 42 57.2	
	comp=E,2μm,0.1s						
CLCH	**Cerro Calan**	**1.69**	**48**	*e*P	**Pn**	**22 42 34.1**	**+0.2**
CLCH				*i* S	**Sn**	**22 42 54.2**	**-1.4**
CLCH				IAML		22 43 01.9	
	comp=N,827nm,0.6s						
ROC1	**El Roble**	**1.78**	**29**	*e*P	**Pb**	**22 42 36.6**	**-0.5**
ROC1				*e*S	**Sg**	**22 43 02.4**	**+1.0**
ROCH	**El Roble**	**1.78**	**29**	*e*P	**Pb**	**22 42 36.2**	**-0.9**
ROCH				*e*S	**Sn**	**22 42 58.8**	**+0.6**
ROCH				IAML		22 43 04.3	
	comp=N,577nm,0.2s						
PEL	**Peldehue**	**1.79**	**39**	⇑*i* P	**Pn**	**22 42 33.7**	**-1.5**
PEL				*i* S	**Sn**	**22 42 57.7**	**-0.4**
PEL				IAML		22 43 10.1	
	comp=N,382nm,0.4s						
FCH	**Farellones**	**1.89**	**51**	⇑*i* P	**Pn**	**22 42 36.4**	**-0.4**
FCH				*i* S	**Sn**	**22 42 60.0**	**-0.9**
FCH				IAML		22 43 05.9	
	comp=N,624nm,0.2s						
AAGR	**Agrelo**	**3.04**	**62**	*e*P	**Pn**	**22 42 55.2**	**+2.7**
ARCO	**CERRO ARCO**	**3.09**	**58**	*e*P	**Pn**	**22 42 55.8**	**+2.5**
ARCO				IAML		22 43 19.3	
	comp=Z,32nm,0.4s						
ARCO				*e*S	**Sb**	**22 43 38.0**	**+0.7**
AUSP	**Uspallata**	**3.20**	**44**	*e*P	**Pn**	**22 42 57.5**	**+2.6**
AUSP				*e*S	**Sb**	**22 43 39.4**	**-1.1**
RTLS	**Leoncito**	**3.57**	**41**	*e*P	**Pn**	**22 43 02.4**	**+2.5**
RTLS				*e*S	**Sb**	**22 43 54.6**	**+3.4**
RTLS				IAML		22 44 00.2	
	comp=Z,37nm,0.7s						
RTCV	**Cerro Valdivia**	**3.96**	**49**	*e*P	**Pn**	**22 43 06.8**	**+1.6**
RTCV				*e*S	**Sb**	**22 44 01.3**	**-1.0**
ZON	**Zonda**	**4.11**	**44**	*e*P	**Pn**	**22 43 08.9**	**+1.8**
RTLL	**Cerro Villicun**	**4.38**	**44**	*e*P	**Pn**	**22 43 12.1**	**+1.2**
RTLL				*e*S	**Sb**	**22 44 12.2**	**-2.2**
RTLL				IAML		22 44 17.8	
	comp=Z,33nm,0.4s						
AMOG	**MOGNA**	**4.67**	**41**	*e*P	**Pn**	**22 43 15.6**	**+0.7**
ACCO	**Cerro Coronel**	**4.67**	**33**	*e*P	**Pn**	**22 43 16.3**	**+1.1**
ACCO				*e*S	**Sb**	**22 44 18.9**	**-4.0**
AGUA	**GUANDACOL**	**5.87**	**32**	*e*P	**Pn**	**22 43 32.2**	**+0.8**
APLL	**PUNTA DE LOS L**	**6.22**	**50**	*e*P	**Pn**	**22 43 34.8**	**-1.4**
APLL				*i* S	**Sn**	**22 44 53.0**	**+5.6**
APLL				IAML		22 44 56.5	
	comp=Z,5.3nm,0.6s						

IDC ***06*** *22:45:44.3±0.9, 49°.94N×85°.11E, h0km, mb3.7/5, mb1 3.8/10, mb1mx3.6/62, mbtmp3.6/10, ML3.2/5, MS3.6/1, Ms1 3.6/1, ms1mx2.7/51, Error ellipse: s-maj=16.2km s-min=12.3km az=103.0*

ISCJB ***06*** *22:45:45.9±0.5, 50°.02N±0°.04×84°.88E±0°.06, h10km, mb3.7/6, MS3.5/1, Error ellipse: s-maj=5.8km s-min=5.2km az=178.9*

NNC ***06*** *22:45:45.3±2.4, 49°.91N×84°.90E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=18.4km s-min=12.8km az=114.0*

MOS ***06*** *22:45:46.4±1.4, 49°.96N×84°.86E, h21km, mb4.1/4, Error ellipse: s-maj=15.8km s-min=12.5km az=104.5*

SOME ***06*** *22:45:55.7, 49°.35N×84°.60E, h20km*

ISC 06 22:45:46.3±0.6, 49°.93N±0°.04×84°.97E±0°.04, h10km, **n33, σ2§02/35, mb3.7/6, 6C-7D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DGZ	**Jazzator, Alta**	**1.61**	**97**	*i* PN	**Pn**	**22 46 16.0**	**+1.1**
ZSN	**Zaisan**	**2.49**	**182**	*e*P	**Pb**	**22 46 31.7**	**+0.7**
	27nm,0.4s						
ZSN				*e*S	**Sb**	**22 47 00.3**	**-1.3**
	110nm,0.6s						
SEM	**Semipalatinsk**	**3.07**	**281**	*e*P	Pg	22 46 51.4	+6.3
	17nm,0.1s						
SEM				*e*S	**Sg**	**22 47 29.5**	**+4.6**
	506nm,0.2s						
MKAR	**Makanchi Array**	**3.61**	**211**	Pn	**Pn**	**22 46 44.4**	**+2.0**
	1.9nm,0.3s,baz=39,slow=6.4,SNR=70						
MKAR				Lg	Lg	22 47 34.0	
	15nm,0.3s,baz=35,slow=28,SNR=14						
MK09	**Makanchi Array**	**3.64**	**211**	Pn	**Pn**	**22 46 44.8**	**+2.2**
	baz=31,slow=13						
MK09				Lg	Lg	22 47 35.3	
	baz=31,slow=34						
ZAA0	**Zalesovo Array**	**4.02**	**359**	⇓Pg	**Pg**	**22 47 00.9**	**-2.4**
	7.4nm,0.3s						
ZAA0				⇑Sn	**Sn**	**22 47 35.7**	**+0.7**
	7.8nm,0.4s						
ZAA0				⇓Lg	Lg	22 47 56.1	
	25nm,0.4s						
ZALV	**Zalesovo Beam**	**4.02**	**359**	Pn	**Pn**	**22 46 49.1**	**+1.3**
	2.2nm,0.3s,baz=184,slow=13,SNR=56						
ZALV				Sn	**Sn**	**22 47 35.7**	**+0.7**
	6.6nm,0.3s,baz=188,slow=19,SNR=5.4						
ZALV				Lg	Lg	22 47 50.8	
	21nm,0.3s,baz=173,slow=27,SNR=11						
ZALV	**Zalesovo Beam**	**4.02**	**359**	*e*PN	**Pn**	**22 46 49.5**	**+1.6**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KURK	**Kurchatov**	**4.14**	**283**	⇑Pg	**Pb**	**22 47 00.9**	**+1.6**
	comp=Z,16nm,0.6s						
KURK				⇓Sn	**Sn**	**22 47 38.3**	**+0.3**
	comp=Z,11nm,0.4s						
KURK				⇓Lg	Lg	22 47 55.3	
	comp=Z,222nm,0.6s						
KURK	**Kurchatov**	**4.14**	**283**	*de*PN	**Pn**	**22 46 49.6**	**+0.1**
KURBB	**Kurchatov Arra**	**4.19**	**282**	Pn	**Pn**	**22 46 50.7**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=92,slow=15,SNR=24						
KURBB				Lg	Lg	22 47 53.6	
	comp=Z,3.7nm,0.3s,baz=309,slow=12,SNR=6.8						
KURBB	**Kurchatov Arra**	**4.19**	**282**	⇓Pg	**Pg**	**22 47 02.1**	**-4.4**
	comp=Z,21nm,0.4s,baz=96,slow=12						
KURBB				⇓Sn	**Sn**	**22 47 39.3**	**+0.2**
	comp=Z,39nm,0.3s,baz=90,slow=20						
KURBB				⇑Lg	Lg	22 47 56.7	
	comp=Z,412nm,0.6s,baz=102,slow=27						
NVS	**Novosibirsk**	**5.03**	**348**	*i* PN	**Pg**	**22 47 20.0**	**-2.5**
NVS				*e*		22 48 02.0	
HVS	**Khovu-Aksy**	**5.70**	**74**	*i* PN	**Pn**	**22 47 12.4**	**+1.4**
KAPS	**Kapalarasan**	**6.00**	**221**	*e*P	**Pb**	**22 47 31.4**	**+0.5**
	comp=Z,3.9nm,0.5s						
KAPS				*e*S	**Sb**	**22 48 44.6**	**+1.7**
	comp=Z,15nm,0.5s						
MDOK	**Medeo**	**8.69**	**222**	Lg	Lg	22 50 18.4	
	comp=Z,13nm,0.8s						
TKM2	**Tokmak 2**	**9.54**	**226**	⇑Lg	Lg	22 50 45.4	
	comp=Z,12nm,1.1s						
BVAR	**Borovoye Array**	**9.61**	**294**	Pn	**Pn**	**22 48 03.9**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=111,slow=14,SNR=8.1						
BVAR				Sn	**Sn**	**22 49 47.0**	**-5.4**
	comp=Z,1.0nm,0.3s,baz=101,slow=22,SNR=7.3						
BRVK	**Borovoye**	**9.68**	**294**	*i* P	**Pn**	**22 48 06.0**	**+0.5**
AAK	**Ala-Archa**	**10.28**	**229**	Lg	Lg	22 51 03.7	
	comp=Z,0.2nm,0.3s,baz=311,slow=20,SNR=2.8						
AAK	**Ala-Archa**	**10.28**	**229**	⇑Lg	Lg	22 51 06.0	
	comp=Z,12nm,1.1s						
KK31	**Karatay Array**	**12.07**	**241**	⇑Lg	Lg	22 52 02.1	
	comp=Z,4.6nm,0.8s						
NRIK	**Noril'sk**	**19.51**	**3**	P	**Pn**	**22 50 14.0**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=145,slow=7.2,SNR=3.3						
NRIK	**Noril'sk**	**19.51**	**3**	P	**Pn**	**22 50 14.0**	**-0.5**
HIA	**Hailar**	**22.43**	**78**	*i* P	**P**	**22 50 47.3**	**+2.3**
HIA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
OBN	**Obninsk**	**29.41**	**299**	*e*P	**P**	**22 51 52.3**	**+2.8**
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GNI	**Garni**	**29.74**	**266**	LR	LR	23 04 50.8	
	comp=Z,109nm,19.3s,baz=328,slow=38						
ARCES	**ARCESS Array B**	**33.91**	**327**	P	**P**	**22 52 29.0**	**+0.1**
	comp=Z,4.8nm,1.0s,baz=84,slow=9.2,SNR=3.6						
ARCES				PcP	**PcP**	**22 55 05.5**	**-1.5**
	comp=Z,3.6nm,1.0s,baz=129,slow=1.7,SNR=5.5						
INK	**Inuvik**	**58.64**	**16**	P	**P**	**22 55 43.1**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=297,slow=6.8,SNR=3.2						
ILAR	**Eielson Array**	**58.77**	**23**	P	**P**	**22 55 43.5**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=325,slow=4.9,SNR=4.3						
ILAR	**Eielson Array**	**58.77**	**23**	*e*P	**P**	**22 55 42.7**	**-1.2**
TORD	**Torodi Ar. Bea**	**75.75**	**273**	P	**P**	**22 57 30.7**	**-1.6**
	comp=Z,0.2nm,0.6s,baz=22,slow=5.3						
WRA	**Warramunga Arr**	**82.12**	**134**	P	**P**	**22 58 05.6**	**-1.4**
	comp=Z,0.1nm,0.5s,baz=342,slow=6.3,SNR=3.3						

IDC ***06*** *22:58:41.5±1.6, 52°.77N×132°.32W, h0km, mb3.6/2, mb1 3.6/7, mb1mx3.5/41, mbtmp3.4/7, ML3.2/5, MS2.9/2, Ms1 2.9/2, ms1mx2.5/44, Error ellipse: s-maj=26.9km s-min=7.1km az=60.0*

ISCJB ***06*** *22:58:42.9±1.0, 53°.0N±0°.1×132°.1W±0°.2, h10km, mb3.5/2, Error ellipse: s-maj=20.6km s-min=8.3km az=39.4*

ISC 06 22:58:43.6±1.4, 52°.9N±0°.1×132°.1W±0°.2, h10km, **n17, σ1§62/10, Queen Charlotte Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H02S1	**DAWSON INLET T**	**0.39**	**326**	Pg	**Pg**	**22 58 50.5**	**-0.8**
H02S1				Lg	Lg	22 58 55.6	
H02N1	**VAN INLET T-PH**	**0.46**	**325**	Pg	**Pg**	**22 58 51.6**	**-1.0**
H02N1				Lg	Lg	22 58 57.3	
BBB	**Bella Bella**	**2.54**	**104**	Pn	**Pn**	**22 59 24.1**	**-0.7**
	3.7nm,0.3s,baz=290,slow=14,SNR=14						
DLBC	**Dease Lake**	**5.70**	**11**	Pn	**Pn**	**23 00 10.2**	**+2.0**
	0.9nm,0.3s,baz=207,slow=7.7,SNR=8.7						
DLBC				LR	LR	23 02 01.2	
	comp=Z,63nm,20.8s,baz=82,slow=34						
YKA	**Yellowknife Ar**	**13.38**	**37**	Pn	**Pn**	**23 01 52.9**	**-0.4**
	0.1nm,0.3s,baz=225,slow=13,SNR=3.3						
ILAR	**Eielson Array**	**14.12**	**333**	Pn	**Pn**	**23 02 03.5**	**+0.1**
	0.0nm,0.3s,baz=164,slow=13,SNR=2.6						
INK	**Inuvik**	**15.50**	**358**	Pn	**Pn**	**23 02 21.9**	**0.0**
	0.1nm,0.3s,baz=153,slow=6.8,SNR=2.2						
NVAR	**Mina Array Bea**	**17.33**	**141**	LR	LR	23 09 33.7	
	comp=Z,60nm,20.1s,baz=24,slow=38						
PDAR	**Pinedale Array**	**18.14**	**115**	P	**P**	**23 02 58.6**	**+2.7**
	0.1nm,0.3s,baz=267,slow=5.4,SNR=2.4						
TXAR	**Lajitas Array**	**31.46**	**127**	P	**P**	**23 05 06.8**	**+1.5**
	0.5nm,1.1s,baz=330,slow=5.2,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**57.06**	**259**	T	T	00 10 10.7	
	baz=39,slow=76,SNR=744						
H11N3	**WAKE ISLAND Hy**	**57.06**	**259**	T	T	00 10 10.9	
	baz=39,slow=76,SNR=891						
H11N1	**WAKE ISLAND Hy**	**57.08**	**259**	T	T	00 10 12.0	
	baz=39,slow=76,SNR=488						
H11S1	**WAKE ISLAND Hy**	**58.12**	**258**	T	T	00 11 31.5	
	baz=38,slow=76,SNR=34						
H11S2	**WAKE ISLAND Hy**	**58.13**	**258**	T	T	00 11 33.3	
	baz=38,slow=76,SNR=24						
H11S3	**WAKE ISLAND Hy**	**58.14**	**258**	T	T	00 11 32.4	
	baz=38,slow=76,SNR=50						
MKAR	**Makanchi Array**	**76.45**	**336**	P	**P**	**23 10 31.6**	**-1.6**
	1.0nm,0.7s,baz=30,slow=4.3,SNR=6.2						

ISCJB ***06*** *23:08:09.7±0.9, 43°.14N±0°.06×145°.99E±0°.06, h50km±10km, Error ellipse: s-maj=11.3km s-min=5.0km az=143.5*

JMA ***06*** *23:08:09.9±0.1, 43°.11N×145°.98E, h50km±1km, M3.7*

JMA Felt I J1.

SKHL ***06*** *23:08:10.0±1.3, 43°.16N×145°.86E, h56km±3km, mb4.2/4*

ISC 06 23:08:10.3±1.7, 43°.15N±0°.07×145°.99E±0°.06, h46km±13km, **n14, σ0§69/27, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.28**	**321**	P	**Pn**	**23 08 19.0**	**0.0**
NEM2				*e*S	**Sn**	**23 08 25.5**	**+0.4**
JKHN	**Kushirohamanak**	**0.61**	**264**	P	**Pn**	**23 08 22.7**	**0.0**
JKHN				*e*S	**Sn**	**23 08 32.0**	**+0.4**
GLVR	**Golovnino**	**0.68**	**330**	*e*P	**Pn**	**23 08 23.0**	**-0.7**
GLVR				*e*S	**Sn**	**23 08 34.0**	**+0.6**
GLVR				A	A	23 08 35.0	
	2μm,0.3s						
GLVR				A	A	23 08 35.0	
	329nm,0.3s						
GRPR	**Tuman**	**0.86**	**350**	*e*P	**Pn**	**23 08 25.0**	**-1.1**
GRPR				AMB	AMB	23 08 26.0	
	70nm,0.2s						
GRPR				AMB	AMB	23 08 26.0	
	4μm,0.2s						
GRPR				*e*S	**Sn**	**23 08 37.0**	**-0.6**
GRPR				A	A	23 08 37.0	
	1μm,0.4s						
GRPR				A	A	23 08 37.0	
	2μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**0.89**	**354**	*i* P	**Pn**	**23 08 26.7**	**+0.2**
YUK				AMB	AMB	23 08 27.0	
	30nm,0.1s						
YUK				AMB	AMB	23 08 27.0	
	4μm,0.1s						
YUK				*e*S	**Sn**	**23 08 38.4**	**+0.1**
YUK				A	A	23 08 38.8	
	770nm,0.4s						
YUK				A	A	23 08 38.8	
	1μm,0.4s						
LAGR	**Lagunnoye**	**0.92**	**351**	*e*P	**Pn**	**23 08 26.0**	**-0.9**
LAGR				*e*S	**Sn**	**23 08 38.0**	**-1.0**
LAGR				A	A	23 08 39.0	
	290nm,0.2s						
LAGR				A	A	23 08 39.0	
	438nm,0.2s						
SHO	**Shikotan**	**0.95**	**40**	*i* P	**Pn**	**23 08 27.0**	**-0.2**
SHO				AMB	AMB	23 08 28.0	
	110nm,0.1s						
SHO				AMB	AMB	23 08 28.0	
	4μm,0.1s						
SHO				*i* S	**Sn**	**23 08 39.0**	**-0.7**
SHO				A	A	23 08 40.0	
	600nm,0.2s						
SHO				A	A	23 08 40.0	
	449nm,0.2s						
JAK	**Akkeshi**	**0.96**	**261**	P	**Pn**	**23 08 26.9**	**-0.5**
JAK				*e*S	**Sn**	**23 08 39.5**	**-0.4**
JRA	**Rausu**	**1.01**	**322**	P	**Pn**	**23 08 28.4**	**+0.3**
JRA				*e*S	**Sn**	**23 08 42.0**	**+0.8**
JNK	**Nakash**	**1.02**	**296**	P	**Pn**	**23 08 27.9**	**-0.4**
JNK				S	**Sn**	**23 08 41.1**	**-0.4**
JOB	**Onbets**	**1.60**	**262**	P	**Pn**	**23 08 35.8**	**-0.3**
JOB				*e*S	**Sn**	**23 08 55.2**	**-0.3**
JAR	**Ashorobuto**	**1.63**	**276**	P	**Pn**	**23 08 36.6**	**+0.1**
JAR				*e*S	**Sn**	**23 08 56.8**	**+0.5**
JTKR	**Abashiri--Toko**	**1.72**	**299**	P	**Pn**	**23 08 38.7**	**+0.9**
KUR	**Kuril'sk**	**2.49**	**32**	*e*P	**Pn**	**23 08 48.4**	**+0.1**
KUR				AMB	AMB	23 08 49.4	
	10.0nm,0.2s						
KUR				AMB	AMB	23 08 49.4	
	20nm,0.2s						
KUR				*e*S	**Sn**	**23 09 19.1**	**+1.8**
KUR				A	A	23 09 20.0	
	60nm,0.2s						
KUR				A	A	23 09 20.0	
	88nm,0.2s						

SKO ***06*** *23:11:45.9, 42°.18N×20°.15E, h62km*

TIR ***06*** *23:11:47.8, 42°.09N×20°.19E, h6km, Md2.9/4*

THE ***06*** *23:11:47.6, 42°.17N×20°.23E, h0km±4km, ML2.3/3, Error ellipse: s-maj=4.1km s-min=1.4km az=335.0*

SAR ***06*** *23:11:47.1±0.8, 42°.00N×20°.20E, h6km±4km, ML2.6/6*

PDG ***06*** *23:11:48.4±0.3, 42°.10N×20°.14E, h5km, MD2.9/1, ML2.8/13, Error ellipse: s-maj=0.4km s-min=0.4km az=0.0*

SIK ***06*** *23:11:48.2±2.0, 42°.1N±0°.1×20°.12E±0°.08, h0km, ML2.6, Error ellipse: s-maj=39.3km s-min=22.8km az=170.0*

BEO ***06*** *23:11:49.5±0.3, 42°.10N×20°.16E, h4km±2km, ML2.2/15*

ISC 06 23:11:48.0±1.0, 42°.12N±0°.01×20°.15E±0°.01, h5km±9km, **n74, σ1§70/142, 21C-10D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUK	**Puka**	**0.21**	**250**	*i* PG	**Pg**	**23 11 52.8**	**+0.7**
PUK				*i* SG	**Sg**	**23 11 56.4**	**+1.5**
BCI	**Bajram Curri**	**0.26**	**346**	*i* PG	**Pb**	**23 11 54.0**	**-1.2**
BCI				*i* SG	**Sb**	**23 11 58.8**	**-1.2**
PRZK	**Prizren**	**0.46**	**78**	⇓Pg	**Pb**	**23 11 57.9**	**-0.7**
PRZK				*i* Sg	**Sg**	**23 12 01.4**	**-1.4**
PRZK				*i* Sg	**Sb**	**23 12 08.7**	**+3.0**
PRZK	**Prizren**	**0.46**	**78**	⇓Pg	**Pb**	**23 11 57.9**	**-0.7**
PRZK				*i* Sg	**Sg**	**23 12 02.5**	**-0.3**
PRZK				*i* Sg	**Sb**	**23 12 10.7**	**+5.0**
PHP	**Peshkopia**	**0.48**	**153**	P	**Pg**	**23 11 56.8**	**-0.4**
PHP				S	**Sg**	**23 12 04.3**	**+0.8**
PHP	**Peshkopia**	**0.48**	**153**	*i* PG	**Pg**	**23 11 56.8**	**-0.4**
PHP				*i* SG	**Sg**	**23 12 03.4**	**-0.1**
ZATK	**Zatriq**	**0.48**	**46**	⇑Pg	**Pb**	**23 11 58.2**	**-0.9**
ZATK				*i* Sg	**Sg**	**23 12 04.4**	**+0.8**
ZATK				*i* Sg	**Sb**	**23 12 14.6**	**+8.2**
ZATK	**Zatriq**	**0.48**	**46**	⇑Pg	**Pb**	**23 11 58.2**	**-0.9**
ZATK				*i* Sg	**Sg**	**23 12 03.8**	**+0.2**
ZATK				*i* Sg	**Sb**	**23 12 12.1**	**+5.7**
PVY	**Plav**	**0.50**	**343**	⇑*i* Pg	**Pg**	**23 11 58.3**	**+0.6**
PVY				*e*Sg	**Sb**	**23 12 06.3**	**-1.0**
ULC	**Ulcinj**	**0.69**	**258**	⇑*i* Pg	**Pg**	**23 12 01.4**	**+0.1**
ULC				*e*Sg	**Sb**	**23 12 11.4**	**-1.1**
ULC	**Ulcinj**	**0.69**	**258**	⇓Pg	**Pg**	**23 12 01.8**	**+0.5**
ULC	**Ulcinj**	**0.69**	**258**	⇓*i* Pg	**Pg**	**23 12 01.8**	**+0.5**
DRME	**Dracevica, Mon**	**0.72**	**276**	⇑*i* Pg	**Pg**	**23 12 01.4**	**-0.5**
DRME				*e*Sg	**Sb**	**23 12 12.3**	**-1.0**
DRME	**Dracevica, Mon**	**0.72**	**276**	⇑*i* Pg	**Pg**	**23 12 01.4**	**-0.5**
DRME				*e*Sg	**Sg**	**23 12 12.0**	**+0.7**
PDG	**Podgorica**	**0.74**	**296**	*e*Pg	**Pg**	**23 12 01.6**	**-0.7**
PDG				*e*Sg	**Sb**	**23 12 13.4**	**-0.2**
PDG	**Podgorica**	**0.74**	**296**	P	**Pg**	**23 12 01.5**	**-0.7**
PDG				S	**Sb**	**23 12 13.2**	**-0.5**
PDG	**Podgorica**	**0.74**	**296**	⇑*i* Pg	**Pg**	**23 12 01.4**	**-0.7**
PDG				*e*Sg	**Sb**	**23 12 13.2**	**-0.5**
TTG	**Podgorica**	**0.74**	**296**	⇑*i* Pg	**Pg**	**23 12 01.5**	**-0.7**
TTG				*e*Sg	**Sb**	**23 12 13.5**	**-0.2**
BEY	**Berane**	**0.78**	**346**	⇓Pg	**Pb**	**23 12 03.9**	**-0.2**
BEY	**Berane**	**0.78**	**346**	⇓Pg	**Pb**	**23 12 03.9**	**-0.2**
IVA	**Berane**	**0.78**	**346**	⇑*i* Pg	**Pb**	**23 12 03.4**	**+0.7**
IVA				*e*Sg	**Sn**	**23 12 15.6**	**-2.3**
TIR	**Tirane**	**0.80**	**196**	*e*Pg	**Pg**	**23 12 03.6**	**+0.3**
TIR				*e*Sg	**Sb**	**23 12 15.5**	**+0.1**
TIR	**Tirane**	**0.80**	**196**	P	**Pg**	**23 12 03.7**	**+0.4**
TIR				S	**Sn**	**23 12 16.5**	**-1.6**
TIR	**Tirane**	**0.80**	**196**	*i* PG	**Pg**	**23 12 03.2**	**0.0**
TIR				*i* SG	**Sb**	**23 12 15.3**	**-0.1**
KOME	**Kolasin**	**0.87**	**327**	⇑*i* Pg	**Pg**	**23 12 04.8**	**0.0**
KOME				*e*Sg	**Sn**	**23 12 19.1**	**-1.1**
SMRK	**Smrekonice**	**0.95**	**37**	⇓*i* P	**Pn**	**23 12 07.3**	**-0.8**
SMRK				*i* S	**Sg**	**23 12 12.9**	**-5.8**
SMRK				*i* S	**Sn**	**23 12 27.8**	**+5.8**
SMRK	**Smrekonice**	**0.95**	**37**	⇓*i* Pg	**Pn**	**23 12 07.6**	**-0.5**
SMRK				*i* Sg	**Sg**	**23 12 11.8**	**-6.9**
SMRK				*i* Sg	**Sn**	**23 12 24.4**	**+2.4**
BUM	**Brajici-Budva**	**0.95**	**282**	⇓*i* Pg	**Pg**	**23 12 06.3**	**0.0**
BUM				*e*Sg	**Sn**	**23 12 20.1**	**-1.4**
SKO	**Skopje**	**0.97**	**98**	*e*Pg	**Pg**	**23 12 06.0**	**-0.5**
SKO				*e*Sg	**Sn**	**23 12 20.7**	**-1.7**
SKO	**Skopje**	**0.97**	**98**	P	**Pg**	**23 12 05.3**	**-1.3**
SKO				S	**Sb**	**23 12 20.5**	**+0.2**
SKO	**Skopje**	**0.97**	**98**	*i* Pg	**Pg**	**23 12 06.1**	**-0.5**
SKO				*i* Sg	**Sg**	**23 12 17.8**	**-1.3**
CEME	**Cevo**	**1.01**	**296**	⇑*i* Pg	**Pg**	**23 12 06.5**	**-0.9**
CEME				*e*Sg	**Sn**	**23 12 22.7**	**-0.9**
NKME	**Niksic**	**1.10**	**307**	⇑*i* Pg	**Pg**	**23 12 08.3**	**-0.8**
NKME				*e*Sg	**Sn**	**23 12 25.8**	**+0.1**
NKY	**Niksic**	**1.11**	**309**	⇑*i* Pg	**Pg**	**23 12 08.6**	**-0.6**
N

NIED ***06*** *23:16:00,33˚10N×141˚90E,h5km,Mw4.1 Best double couple: M₀1.51000×10¹⁵ NP1:φ₀5.00000°,δ43.00000°, λ102.00000°. NP2:φ₀169.00000°,δ48.00000°,λ79.00000°.*
IDC ***06*** *23:16:27.7±0.7,33˚11N×141˚81E,h0km,mb4.1/14, mb1 4.3/16,mb1mx4.0/46,mbtmp4.1/16,ML4.3/2,MS3.3/4, Ms1 3.4/4,ms1mx3.0/43,Error ellipse: s-maj=16.6km s-min=15.5km az=50.0*
JMA ***06*** *23:16:30.2±0.4,33˚15N×141˚92E,h68km,M3.8*
BJI ***06*** *23:16:31.0,33˚16N×141˚76E,h37km,mb4.5/35,mB4.8/23, Ms4.3/14,Ms7 4.0/10*
ISCJB ***06*** *23:16:31.1±0.4,33˚09N±0˚04×141˚81E±0˚06,h40km, mb4.3/28,MS4.4/1,Error ellipse: s-maj=7.6km s-min=4.5km az=154.8*
NEIC ***06*** *23:16:33.0±0.8,33˚06N×141˚74E,h36km±6km,mb4.6/7, Error ellipse: s-maj=9.5km s-min=5.8km az=71.0*

ISC 06 23:16:32.7±0.6, 33˚04N±0˚05×141˚86E±0˚06, h40km, n64, σ1ˢ70/72, mb4.3/28, 1C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHJ2	**Mitsune**	**1.72**	**273**	*e*Pn		**Pn**	**23 16 59.3**	**-0.8**
JHJ2	**Mitsune**	**1.72**	**273**	P		**Pn**	**23 16 59.1**	**-1.0**
JHJ	**Hachijo jima 2**	**1.75**	**273**	Pn		**Pn**	**23 16 59.3**	**-1.2**
	58nm,0.3s,baz=334,slow=22,SNR=14							
JHJ				Sn		**Sn**	**23 17 21.1**	**-0.4**
	178nm,0.3s,baz=258,slow=21,SNR=12							
BSO1	**Boso 1**	**1.77**	**336**	P		**Pn**	**23 16 58.2**	**-2.2**
BSO1				S		**Sn**	**23 17 19.9**	**-1.5**
JAOM	**Aogashimamukai**	**1.86**	**253**	P		**Pn**	**23 17 01.8**	**-0.3**
BSO3	**Boso 3**	**2.09**	**328**	P		**Pn**	**23 17 03.0**	**-2.0**
JIZS	**Izushimoda**	**2.99**	**305**	P		**Pn**	**23 17 16.5**	**-1.2**
JOD2	**Odawara 2**	**3.19**	**315**	P		**Pn**	**23 17 18.1**	**-2.4**
JYN	**Shimob**	**3.68**	**313**	P		**Pn**	**23 17 26.0**	**-1.2**
JRY	**Ryogami san**	**3.84**	**321**	P		**Pn**	**23 17 27.9**	**-1.5**
JAG	**Ashikaga**	**3.92**	**330**	P		**Pn**	**23 17 28.3**	**-2.1**
JAG				S		**Sn**	**23 18 12.9**	**-2.2**
MJAR	**Matsushiro Arr**	**4.61**	**320**	Pn		**Pn**	**23 17 38.8**	**-1.1**
	5.1nm,0.3s,baz=155,slow=11,SNR=42							
MJAR				Sn		**Sn**	**23 18 31.4**	**-0.8**
	4.7nm,0.3s,baz=130,slow=23,SNR=6.6							
MAJO	**Matsushiro**	**4.61**	**320**	*e*Pn		**Pn**	**23 17 39.2**	**-0.7**
MAT	**Matsushiro**	**4.61**	**320**	P		**Pn**	**23 17 38.9**	**-1.0**
MAT				S		**Sn**	**23 18 30.7**	**-1.5**
MJB9	**Matsu-Tunnel**	**4.61**	**320**	*e*Pn		**Pn**	**23 17 39.6**	**-0.3**
INU	**Inuyama**	**4.63**	**301**	*e*Pn		**Pn**	**23 17 39.5**	**-0.7**
CBIJ	**Chichi jima**	**5.93**	**177**	*e*Pn		**Pn**	**23 17 58.6**	**+0.5**
CBIJ				Sn		**Sn**	**23 19 00.5**	**-4.2**
JCJ	**Chichijima**	**5.93**	**177**	Pn		**Pn**	**23 17 57.5**	**-0.5**
	19nm,0.3s,baz=109,slow=23,SNR=13							
JCJ				Sn		**Sn**	**23 19 00.5**	**-4.2**
	11nm,0.3s,baz=90,slow=20,SNR=4.4							
JNU	**Nakatsue**	**9.22**	**274**	LR		LR	23 22 24.7	
	comp=Z,176nm,18.5s,baz=110,slow=39							
KSRS	**Korea Array**	**12.21**	**295**	Pn		Pn	23 19 28.9	+4.8
	0.3nm,0.3s,baz=107,slow=13,SNR=6.5							
KSRS				LR		LR	23 24 19.2	
	comp=Z,126nm,18.7s,baz=68,slow=39							
KSAR	**Wonju Array Be**	**12.24**	**295**	Pn		**Pn**	**23 19 28.9**	**+4.4**
JOW	**Kunigami**	**13.30**	**246**	LR		LR	23 23 47.5	
	comp=Z,76nm,18.8s,baz=72,slow=33							
NJ2	**Nanjing**	**19.42**	**273**	*e*P		**P**	**23 20 55.2**	**-0.3**
NJ2				pmax		pmax		
	comp=Z,16nm,0.7s							
BJI	**Beijing**	**21.74**	**296**	P		**P**	**23 21 23.9**	**+3.3**
HHC	**Hu-ho-hao-te**	**25.35**	**297**	*e*P		**P**	**23 21 51.6**	**-4.4**
HHC				sP		pP	23 22 08.7	+1.8
HHC				S		**S**	**23 26 16.6**	**-3.1**
HHC				SS		**SnSn**	**23 27 14.8**	**+1.3**
HHC				pmax		pmax		
	comp=Z,9.0nm,1.0s							
HHC				pmax		pmax		
	comp=Z,100nm,6.4s							
HHC				LR		LR		
	comp=N,240nm,11.8s							
HHC				LR		LR		
	comp=E,210nm,12.7s							
XAN	**Xi'an**	**27.41**	**281**	P		**P**	**23 22 12.5**	**-2.1**
XAN				pP		pP	23 22 27.1	+1.5
XAN				sP		sP	23 22 33.8	+3.4
XAN				pmax		pmax		
	comp=Z,6.0nm,1.5s							
ENH	**Enshi**	**27.64**	**273**	*e*P		**P**	**23 22 14.8**	**-1.8**
	6.7nm,0.7s							
ULN	**Ulaanbaatar**	**30.05**	**310**	*e*P		**P**	**23 22 37.7**	**-0.4**
	16nm,1.4s							
SONA1	**Songino Array**	**30.47**	**310**	*e*P		**P**	**23 22 41.8**	**+0.1**
SONM	**Songino Array**	**30.47**	**310**	P		**P**	**23 22 42.3**	**+0.5**
	1.9nm,0.6s,baz=108,slow=9.2,SNR=17							
LZH	**Lanzhou**	**31.32**	**286**	*e*P		P	23 22 40.9	-8.6
LZH				pP		pP	23 22 51.4	-9.1
LZH				sP		sP	23 22 55.0	-10
LZH				pmax		pmax		
	comp=Z,23nm,1.0s							
CD2	**Chengdu**	**32.28**	**277**	*e*P		**P**	**23 22 56.0**	**-1.8**
CD2				S		**S**	**23 28 06.2**	**-2.5**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				pmax		pmax		
	comp=Z,120nm,5.0s							
CD2				LR		LR		
	comp=Z,790nm,13.4s							
CD2				LR		LR		
	comp=Z,660nm,15.4s							
GTA	**Gaotai**	**34.27**	**293**	⇑P		**P**	**23 23 14.2**	**-1.0**
GTA				pP		pP	23 23 24.4	-1.9
GTA				sP		sP	23 23 28.4	-2.7
GTA				S		**S**	**23 28 37.9**	**-1.7**
GTA				pmax		pmax		
	comp=Z,11nm,1.1s							
GTA				pmax		pmax		
	comp=Z,130nm,7.3s							
GTA				LR		LR		
	comp=Z,460nm,18.1s							
GTA				LR		LR		
	comp=Z,290nm,18.7s							
GTA				LR		LR		
	comp=Z,210nm,16.5s							
CHTO	**Chiang Mai**	**40.83**	**261**	*e*P		**P**	**23 24 10.7**	**0.0**
	comp=Z,2.3nm,0.6s							
CMAR	**Chiang Mai Arr**	**41.00**	**260**	P		**P**	**23 24 12.6**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=48,slow=6.6,SNR=4.1							
CMAR				LR		LR	23 43 32.1	
	comp=Z,67nm,18.1s,baz=340,slow=40							
WMQ	**Urumqi**	**43.08**	**301**	*e*P		**P**	**23 24 30.6**	**+1.7**
ZALV	**Zalesovo Beam**	**44.94**	**315**	P		**P**	**23 24 42.6**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=64,slow=6.8,SNR=5.7							
ZALV	**Zalesovo Beam**	**44.94**	**315**	*e*P		**P**	**23 24 43.1**	**-0.4**
MK01	**Makanchi Array**	**46.63**	**305**	*e*P		**P**	**23 24 56.9**	**-0.1**
MKAR	**Makanchi Array**	**46.64**	**305**	P		**P**	**23 24 57.3**	**+0.2**
	comp=Z,2.7nm,0.7s,baz=86,slow=8.9,SNR=19							
KURK	**Kurchatov**	**48.75**	**311**	*e*P		**P**	**23 25 13.4**	**+0.1**
	comp=Z,6.6nm,0.8s							
KSH	**Kashi**	**52.46**	**297**	P		**P**	**23 25 44.9**	**+3.2**
KSH				pP		pP	23 25 54.9	+1.7
KSH				PcP		**PcP**	**23 26 54.0**	**+2.1**
KSH				S		**S**	**23 33 08.1**	**+2.8**
KSH				sS		sS	23 33 24.1	-0.3
KSH				pmax		pmax		
	comp=Z,10.0nm,1.0s							
KSH				LR		LR		
	comp=Z,520nm,10.2s							
KSH				LR		LR		
	comp=Z,530nm,18.9s							
ILAR	**Eielson Array**	**52.70**	**31**	P		**P**	**23 25 41.9**	**-1.1**
	comp=Z,0.6nm,0.9s,baz=265,slow=6.5,SNR=5.6							
AAK	**Ala-Archa**	**52.79**	**301**	*e*P		**P**	**23 25 43.2**	**-0.9**
	comp=Z,12nm,1.8s							
FITZ	**Fitzroy Crossi**	**53.16**	**199**	*e*P		**P**	**23 25 47.8**	**+1.0**
	comp=Z,22nm,1.7s							
WRAB	**Tennant Creek**	**53.16**	**189**	*e*P		**P**	**23 25 47.2**	**+0.5**
	comp=Z,2.9nm,0.4s							
WB2	**Warramunga Arr**	**53.17**	**189**	*e*P		**P**	**23 25 47.1**	**+0.3**
WRA	**Warramunga Arr**	**53.17**	**189**	P		**P**	**23 25 47.4**	**+0.6**
	comp=Z,4.8nm,0.5s,baz=6.2,slow=7.6,SNR=99							
BRVK	**Borovoye**	**53.64**	**315**	*e*P		**P**	**23 25 49.8**	**-0.2**
KK31	**Karatay Array**	**55.51**	**303**	*e*P		**P**	**23 26 03.6**	**-0.1**
KKAR	**Karatay Array**	**55.51**	**303**	*e*P		**P**	**23 26 04.6**	**+0.8**
ASAR	**Alice Springs**	**56.90**	**189**	P		**P**	**23 26 14.8**	**+1.1**
	comp=Z,0.8nm,0.4s,baz=8.5,slow=8.3,SNR=14							
INK	**Inuvik**	**57.79**	**26**	P		**P**	**23 26 20.4**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=263,slow=16,SNR=5.6							
ABKAR	**Akbulak array**	**60.84**	**312**	*e*P		**P**	**23 26 40.7**	**-0.2**
FINES	**FINESS Array B**	**72.52**	**333**	P		**P**	**23 27 55.2**	**+0.1**
	comp=Z,5.4nm,0.9s,baz=151,slow=3.2,SNR=3.8							
RAO	**Raoul Island**	**72.74**	**144**	LR		LR	23 54 21.5	
	comp=Z,1μm,20.3s,baz=124,slow=31							
KBZ	**Khabaz**	**73.81**	**312**	P		**P**	**23 28 03.9**	**+0.9**
	comp=Z,3.6nm,1.0s,baz=148,slow=4.4,SNR=3.9							
KIV	**Kislovodsk**	**73.82**	**312**	*e*P		**P**	**23 28 04.7**	**+1.5**
	comp=Z,4.3nm,0.7s							
NVAR	**Mina Array Bea**	**77.11**	**53**	P		**P**	**23 28 23.6**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=286,slow=6.4,SNR=4.0							
NOA	**NORSAR Array B**	**78.01**	**338**	P		**P**	**23 28 27.1**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=59,slow=4.4,SNR=2.9							
BRTR	**Keskin Array B**	**81.79**	**312**	P		**P**	**23 28 47.0**	**-0.8**
	comp=Z,1.7nm,0.9s,baz=104,slow=5.2,SNR=10							
VYHS	**Vyhne**	**84.22**	**326**	*e*P		**P**	**23 29 00.3**	**+0.3**
TXAR	**Lajitas Array**	**92.26**	**53**	P		**P**	**23 29 40.7**	**+1.7**
	comp=Z,0.4nm,0.9s,baz=300,slow=6.1,SNR=3.7							
LPAZ	**La Paz**	**148.20**	**66**	PKPbc		**PKPab**	**23 36 18.6**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=315,slow=2.9,SNR=7.7							

KRNET ***06*** *23:37:06.3±0.1,41˚97N×72˚19E,h13km,mb2.3*
SOME ***06*** *23:37:06.3,41˚95N×72˚15E,h5km*
NNC ***06*** *23:37:09.9±2.1,42˚16N×72˚07E,h0km,mb2.6,mpv2.4, Error ellipse: s-maj=25.0km s-min=13.0km az=177.0*

ISC 06 23:37:06.2±1.2, 41˚98N±0˚03×72˚18E±0˚02, h1km±12km, n22, σ1ˢ32/44, 22C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ARK	**Arkit**	**0.24**	**222**	⇑*i*P		**Pg**	**23 37 11.0**	**+0.2**
	baz=19							
ARK				⇑*i*S		**Sg**	**23 37 14.7**	**+0.7**
	baz=19							
ARSB	**Arslanbob**	**0.89**	**137**	⇑*i*P		**Pg**	**23 37 22.8**	**-0.4**
	baz=37							
ARSB				⇑*i*S		**Sg**	**23 37 35.2**	**+0.5**
	baz=37							
MRKS	**Merke**	**1.09**	**45**	*e*P		**Pg**	**23 37 27.2**	**+0.2**
	3.1nm,0.2s							
MRKS				*e*S		**Sn**	**23 37 42.5**	**-1.9**
	14nm,0.2s							
AML	**Almayashu**	**1.14**	**82**	⇑*i*P		**Pg**	**23 37 28.0**	**0.0**
	baz=81							
AML				⇑*i*S		**Sg**	**23 37 43.3**	**+0.6**
	baz=81							
EKS2	**Erkin-Say**	**1.37**	**59**	⇑*i*P		**Pb**	**23 37 32.2**	**-0.4**
	baz=59							
EKS2				⇑*i*S		**Sg**	**23 37 50.3**	**+0.2**
	baz=59							
ARLS	**Aral**	**1.60**	**93**	⇑*i*P		**Pb**	**23 37 36.1**	**-0.6**
	baz=93							
ARLS				⇑*i*S		**Sg**	**23 37 57.9**	**+0.2**
	baz=93							
KK31	**Karatay Array**	**1.67**	**313**	P		**Pb**	**23 37 36.5**	**-1.2**
	0.5nm,0.2s,baz=132,slow=16,SNR=46							
KK31				⇓S		**Sg**	**23 37 59.2**	**-0.6**
	0.9nm,0.2s,baz=127,slow=29,SNR=7.7							
UCH	**Uchtor**	**1.75**	**81**	⇑*i*P		**Pb**	**23 37 39.0**	**-0.4**
	baz=81							
UCH				⇑*i*S		**Sg**	**23 38 02.8**	**+0.3**
	baz=81							
AAK	**Ala-Archa**	**1.84**	**68**	⇑Pn		**Pg**	**23 37 42.0**	**+0.6**
	0.8nm,0.2s							
AAK				⇑Sn		**Sg**	**23 38 07.7**	**+2.5**
	1.9nm,0.4s							
AAK	**Ala-Archa**	**1.84**	**68**	⇓*i*P		**Pb**	**23 37 40.5**	**-0.2**
	baz=68							
AAK				⇓*i*S		**Sg**	**23 38 05.1**	**-0.1**
	baz=68							
BRLS	**Borolday**	**2.03**	**302**	*e*P		**Pb**	**23 37 44.0**	**+0.2**
	0.5nm,0.7s							
BRLS				*e*S		**Sg**	**23 38 10.8**	**-0.6**
	9.9nm,0.3s							
USP	**Ospenovka**	**2.14**	**52**	⇓*i*P		**Pb**	**23 37 45.3**	**-0.5**
	baz=52							
USP				⇓*i*S		**Sb**	**23 38 13.4**	**+0.5**
	baz=52							
KBK	**Karagaybulak**	**2.16**	**71**	⇓*i*P		**Pb**	**23 37 45.7**	**-0.5**
	baz=71							
KBK				⇓*i*S		**Sb**	**23 38 14.1**	**+0.6**
	baz=71							
BTK	**Batken**	**2.18**	**209**	⇓*i*P		**Pb**	**23 37 45.5**	**-0.9**
	baz=9.0							
BTK				⇓*i*S		**Sb**	**23 38 14.2**	**+0.3**
	baz=9.0							
KZA	**Kyzart**	**2.29**	**86**	⇑*i*P		**Pb**	**23 37 47.8**	**-0.7**
	baz=86							
KZA				⇑*i*S		**Sb**	**23 38 17.3**	**-0.1**
	baz=86							
TKM2	**Tokmak 2**	**2.70**	**68**	⇑Pn		**Pb**	**23 37 55.4**	**0.0**
	1.8nm,0.5s							
TKM2				⇑Sn		**Sg**	**23 38 31.8**	**-1.0**
	5.6nm,0.5s							
TKM2	**Tokmak 2**	**2.70**	**68**	⇑*i*P		**Pb**	**23 37 53.3**	**-2.1**
	baz=68							
TKM2				⇑*i*S		**Sb**	**23 38 27.0**	**-2.0**
	baz=68							
BOOM	**Boomskoye usch**	**2.84**	**78**	⇓*i*P		**Pn**	**23 37 54.4**	**+1.6**
	baz=78							
BOOM				⇓*i*S		**Sn**	**23 38 29.2**	**+1.5**
	baz=78							
DGS	**Degeres**	**2.94**	**63**	*e*P		**Pb**	**23 38 00.8**	**+1.4**
	1.3nm,0.4s							
DGS				*e*S		**Sg**	**23 38 39.1**	**-1.4**
	3.4nm,0.5s							
KST	**Kastek**	**2.99**	**68**	*e*P		**Pb**	**23 38 00.2**	**-0.1**
	1.2nm,0.3s							
KST				*e*S		**Sb**	**23 38 38.8**	**+1.4**
	4.9nm,0.4s							
ULHL	**Ulahol**	**3.03**	**84**	⇑*i*P		**Pb**	**23 37 57.7**	**-3.4**
	baz=83							
ULHL				⇑*i*S		**Sb**	**23 38 35.1**	**-3.6**
	baz=83							
BTLS	**Baital**	**3.35**	**23**	*e*P		**Pb**	**23 38 07.9**	**+1.5**
	1.1nm,0.3s							
BTLS				*e*S		**Sg**	**23 38 51.3**	**-2.5**
	2.6nm,0.6s							

SFS ***06*** *23:54:37.0,32˚82N×5˚55W,ML3.5,KHENFRA MARRUECOS*
ISCJB ***06*** *23:54:38.0±0.5,33˚04N±0˚03×5˚30W±0˚04,h14km,Error ellipse: s-maj=5.4km s-min=3.9km az=179.5*
MDD ***06*** *23:54:39.2±1.2,32˚92N×5˚31W,h0km,mb3.6/10,Error ellipse: s-maj=17.5km s-min=8.7km az=103.0,PRXIMO*
CNRM ***06*** *23:54:39.7,32˚76N×5˚26W,h10km*
INMG ***06*** *23:54:39.7±1.6,32˚91N×5˚06W,h24km±38km,ML2.3, Error ellipse: s-maj=29.2km s-min=6.1km az=157.0*
IGIL ***06*** *23:54:40.1,32˚83N×5˚56W,h1km*

ISC 06 23:54:38.1±0.9, 32˚95N±0˚04×5˚25W±0˚03, h14km, n45, σ1ˢ57/67, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MDT	**Midelt**	**0.55**	**104**	P		**Pg**	**23 54 47.6**	**-1.4**
MDT	**Midelt**	**0.55**	**104**	S		**Sg**	**23 54 56.7**	**+0.3**
IFR	**Ifrane**	**0.57**	**10**	*e*P		**Pn**	**23 54 51.9**	**-0.2**
IFR				*e*S		**Sn**	**23 55 02.3**	**+0.9**
AVE	**Averroes**	**1.85**	**281**	P		**Pg**	**23 55 13.7**	**+0.1**
AVE	**Averroes**	**1.85**	**281**	S		**Sg**	**23 55 36.4**	**-1.2**
AVE	**Averroes**	**1.85**	**281**	*e*P		**Pb**	**23 55 10.7**	**-1.0**
AVE				*e*S		**Sg**	**23 55 37.7**	**+0.1**
RSA	**Sarsar**	**1.98**	**346**	P		**Pg**	**23 55 15.3**	**-0.8**
RSA	**Sarsar**	**1.98**	**346**	P		**Pg**	**23 55 15.4**	**-0.8**
RSA	**Sarsar**	**1.98**	**346**	S		**Sg**	**23 55 43.1**	**+1.3**
OUK	**Oukaimeden**	**2.82**	**233**	P		**Pn**	**23 55 24.2**	**+1.1**
OUK	**Oukaimeden**	**2.82**	**233**	S		**Sn**	**23 55 57.3**	**+0.3**
TTIG	**Tnine Tigouga,**	**3.62**	**229**	P		**Pn**	**23 55 35.2**	**+1.2**
TTIG	**Tnine Tigouga,**	**3.62**	**229**	S		**Sn**	**23 56 17.5**	**+0.9**
ELGU	**Los Guajares,**	**4.13**	**18**	P		**Pn**	**23 55 42.8**	**+2.0**
	1.2nm,0.2s,SNR=7.9							
PVAQ	**Vaqueiros**	**4.88**	**336**	*e*Pn		**Pn**	**23 55 52.4**	**+1.3**
PVAQ				*e*Sn		**Sn**	**23 56 46.6**	**-0.8**
PVAQ				A		A	23 56 49.0	
	2.6nm,0.9s							
PVAQ	**Vaqueiros**	**4.88**	**336**	P		**Pn**	**23 55 52.4**	**+1.3**
PVAQ				S		**Sn**	**23 56 46.6**	**-0.8**
	2.6nm,0.9s							
EGRO	**El Granado**	**4.92**	**339**	P		**Pn**	**23 55 53.3**	**+1.6**
	1.4nm,0.1s,SNR=4.0							
EGRO				S		**Sn**	**23 56 46.3**	**-2.1**
	0.8nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**4.94**	**347**	P		**Pn**	**23 55 53.8**	**+1.9**
	0.2nm,0.1s,SNR=7.3							
EMIN				S		**Sn**	**23 56 49.7**	**+0.7**
	0.1nm,0.2s,SNR=7.9							
PFVI	**Vila Bisbo**	**5.10**	**326**	*e*Pn		**Pn**	**23 55 55.7**	**+1.5**
PFVI				*e*Sn		**Sn**	**23 56 50.3**	**-2.5**
PFVI				A		A	23 56 57.6	
	7.4nm,0.7s							
PFVI	**Vila Bisbo**	**5.10**	**326**	P		**Pn**	**23 55 55.6**	**+1.5**
	0.2nm,0.1s,SNR=7.9							
PFVI				S		**Sn**	**23 56 50.2**	**-2.5**
	0.5nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**5.12**	**359**	P		**Pn**	**23 55 55.7**	**+1.3**
	0.1nm,0.1s,SNR=7.9							
ECAB				S		**Sn**	**23 56 53.0**	**-0.2**
	0.2nm,0.2s,SNR=7.9							
MORF	**Marmelete**	**5.16**	**328**	*e*P		**Pn**	**23 55 56.1**	**+1.1**
MORF	**Marmelete**	**5.16**	**328**	*e*Pn		**Pn**	**23 55 56.2**	**+1.1**
MORF				*e*Sn		**Sn**	**23 56 53.2**	**-1.2**
MORF				A		A	23 57 02.7	
	3.0nm,0.7s							
MORF	**Marmelete**	**5.16**	**328**	P		**Pn**	**23 55 56.1**	**+1.1**
MORF				S		**Sn**	**23 56 53.2**	**-1.2**
	3.0nm,0.7s							
EADA	**Adamuz**	**5.23**	**6**	P		**Pn**	**23 55 57.8**	**+1.8**
	0.4nm,0.1s,SNR=7.9							
EADA				S		**Sn**	**23 56 56.4**	**+0.3**
	0.1nm,0.1s,SNR=7.9							
PTEO	**Sao Teotonio**	**5.39**	**329**	*e*Pn		**Pn**	**23 55 59.8**	**+1.7**
PTEO				*e*Sn		**Sn**	**23 56 59.8**	**-0.2**
PTEO	**Sao Teotonio**	**5.39**	**329**	P		**Pn**	**23 55 59.8**	**+1.7**
PTEO				S		**Sn**	**23 56 59.8**	**-0.2**
MESJ	**Messejana**	**5.45**	**334**	*e*P		**Pn**	**23 56 00.3**	**+1.4**
MESJ	**Messejana**	**5.45**	**334**	*e*Pn		**Pn**	**23 56 00.7**	**+1.8**
MESJ				*e*Sn		**Sn**	**23 57 00.6**	**-0.7**
MESJ				A		A	23 57 06.4	
	2.4nm,0.5s							
MESJ	**Messejana**	**5.45**	**334**	P		**Pn**	**23 56 00.7**	**+1.8**
MESJ				S		**Sn**	**23 57 00.6**	**-0.7**
	2.4nm,0.5s							
PBEJ	**Beja**	**5.50**	**338**	*e*Sn		**Sn**	**23 57 03.0**	**+0.5**
PBEJ	**Beja**	**5.50**	**338**	S		**Sn**	**23 57 03.0**	**+0.5**
SESP	**Santiago Espad**	**5.61**	**22**	P		Pn	23 56 06.4	+5.1
	0.3nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**5.97**	**347**	P		**Pn**	**23 56 07.6**	**+1.6**
	1.0nm,0.1s,SNR=7.9							
EBAD				S		**Sn**	**23 57 11.9**	**-2.3**
	0.3nm,0.2s,SNR=7.9							
EVO	**Evora**	**6.00**	**339**	*e*Pn		**Pn**	**23 56 10.3**	**+3.8**
EVO				*e*Sn		**Sn**	**23 57 15.7**	**+0.6**
EVO				A		A	23 57 21.7	
	2.4nm,0.9s							
EVO	**Evora**	**6.00**	**339**	P		**Pn**	**23 56 10.3**	**+3.8**
EVO				S		**Sn**	**23 57 15.7**	**+0.6**
	2.4nm,0.9s							
PESTR	**Estremoz**	**6.20**	**343**	*e*Pn		**Pn**	**23 56 11.0**	**+1.7**
PESTR				*e*Sn		**Sn**	**23 57 17.7**	**-2.3**
PESTR				A		A	23 57 28.6	
	2.6nm,0.7s							
PAB	**San Pablo**	**6.62**	**6**	P		**Pn**	**23 56 16.7**	**+1.6**
	0.2nm,0.2s,SNR=7.9							
PAB				S		**Sn**	**23 57 29.1**	**-1.3**
	0.1nm,0.2s,SNR=7.9							
PMRV	**Marv??o**	**6.69**	**346**	*e*Pn		**Pn**	**23 56 17.8**	**+1.8**
PMRV				*e*Sn		**Sn**	**23 57 31.3**	**-0.7**
PMRV	**Marv??o**	**6.69**	**346**	P		**Pn**	**23 56 17.8**	**+1.8**
PMRV				S		**Sn**	**23 57 31.3**	**-0.7**
ESDC	**Sonseca Array**	**6.79**	**8**	P		**Pn**	**23 56 19.3**	**+1.9**
	0.2nm,0.2s,baz=192,slow=12,SNR=4.6							
PMAFR	**Mafra**	**6.83**	**333**	S		**Sn**	**23 57 32.4**	**-2.9**
	11nm,0.3s,SNR=7.9							
PCBR	**Castelo Branco**	**7.11**	**346**	*e*Pn		**Pn**	**23 56 23.7**	**+2.0**
PCBR	**Castelo Branco**	**7.11**	**346**	P		**Pn**	**23 56 23.7**	**+2.0**
MVO	**Moncorvo**	**8.32**	**351**	P		**Pn**	**23 56 40.3**	**+1.9**
	0.5nm,0.1s,SNR=7.9							

MEX 06 23:54:43.9±0.4, 16˚19N×98˚19W, h13km±2km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PNIG	**Pinotepa**	**0.21**	**16**	*i* P		Pg	23 54 48.0	-0.5
PNIG				*e*S		Sg	23 54 51.4	-0.2
TLIG	**Tlapa**	**1.41**	**345**	*i* P		Pn	23 55 06.4	-3.0
VHO	**Vista Hermosa**	**1.65**	**58**	*i* P		Pn	23 55 09.6	-3.1
VHO				*i* S		Sn	23 55 29.6	-4.3
HUIG	**Huatulco**	**2.04**	**102**	*i* P		Pn	23 55 14.8	-3.2
HUIG				*i* S		Sn	23 55 39.2	-4.2

IDC 06 23:54:47.6±6.6, 10˚18S×161˚51E, h62km±46km, mb3.6/3, mb1 3.7/3, mb1mx3.3/37, mbtmp3.9/3, Error ellipse: s-maj=51.2km s-min=39.9km az=85.0, Bougainville-Solomon Islands region

| Code | Station Name | Δ

WMGZ			S	Sn	00 11 53.7	+1.6		
HAZ	**Te Kaha**	**3.31 214**	P	Pn	00 11 19.0	-0.2		
PUZ	**Puketiti**	**3.38 206**	P	Pn	00 11 20.4	+0.2		
RUGZ	**Raukumara Rang**	**3.53 214**	P	Pn	00 11 21.6	-0.7		
RUGZ			S	Sn	00 12 04.1	+1.2		
TWGZ	**Tauwhareparae**	**3.58 208**	P	Pn	00 11 22.5	-0.4		
TWGZ			S	Sn	00 12 04.8	+0.9		
CNGZ	**Carnagh Statio**	**3.77 204**	P	Pn	00 11 24.7	-0.7		
WHRZ	**Whale Island**	**3.80 221**	P	Pn	00 11 25.8	0.0		
TKGZ	**Te Karaka**	**3.86 208**	P	Pn	00 11 26.1	-0.5		
TKGZ			S	Sn	00 12 10.0	-0.7		
MYRZ	**Mayor Island**	**3.87 234**	P	Pn	00 11 27.9	+1.1		
MWZ	**Matawai**	**3.90 212**	P	Pn	00 11 26.8	-0.5		
KUZ	**Kuaotunu**	**3.98 245**	P	Pn	00 11 28.4	+0.2		
GRZ	**Great Barrier**	**4.00 251**	P	Pn	00 11 29.1	+0.5		
URZ	**Urewera**	**4.03 216**	Pn	Pn	00 11 28.0	-1.0		
	12nm,0.3s,baz=318,slow=1.8,SNR=40							
URZ			Sn	Sn	00 12 15.2	+0.2		
	18nm,0.3s,baz=4.3,slow=20,SNR=6.4							
URZ	**Urewera**	**4.03 216**	P	Pn	00 11 28.1	-0.9		
RTZ	**Ruatahuna**	**4.38 215**	P	Pn	00 11 33.5	-0.4		
KNZ	**Kokohu**	**4.44 206**	P	Pn	00 11 32.7	-1.9		
TOZ	**Tahuroa Road**	**4.61 233**	P	Pn	00 11 37.5	+0.6		
WCZ	**Waipu Caves**	**4.82 258**	P	Pn	00 11 40.6	+0.8		
TLZ	**Tolley Road**	**4.95 227**	P	Pn	00 11 41.7	+0.1		
BKZ	**Black Stump Fm**	**5.05 214**	*e*Pn	Pn	00 11 41.2	-1.8		
BKZ	**Black Stump Fm**	**5.05 214**	P	Pn	00 11 42.2	-0.8		
OUZ	**Omahuta**	**5.37 266**	*e*Pn	Pn	00 11 47.1	-0.3		
OUZ	**Omahuta**	**5.37 266**	P	Pn	00 11 47.7	+0.3		
HIZ	**Hauiti**	**5.48 229**	*e*Pn	Pn	00 11 49.1	+0.1		
HIZ	**Hauiti**	**5.48 229**	P	Pn	00 11 49.9	+0.9		
BFZ	**Birch Farm**	**6.42 208**	*e*Pn	Pn	00 11 59.7	-2.1		
THZ	**Tophouse**	**8.79 218**	*e*Pn	Pn	00 12 31.6	-2.8		
OXZ	**Oxford**	**10.39 215**	*e*Pn	Pn	00 12 54.7	-1.5		
RPZ	**Rata Peaks**	**11.15 216**	Pn	Pn	00 13 05.8	-0.8		
	0.5nm,0.3s,baz=48,slow=14,SNR=2.5							
DZM	**Mont Dzumac**	**17.64 314**	LR	LR	00 20 02.3			
	comp=Z,444nm,19.5s,baz=260,slow=33							
DZM	**Mont Dzumac**	**17.64 314**	*e*LR	LR	00 18 30.9			
	621nm,23.6s							
RAR	**Rarotonga**	**22.38 57**	LR	LR	00 22 12.4			
	comp=Z,87nm,21.7s,baz=258,slow=32							
TBI	**Tubuai**	**28.86 74**	*e*LR	LR	00 23 36.5			
	333nm,27.8s,baz=227							
TBI	**Tubuai**	**28.86 74**	*e*T	T	00 45 53.9			
	8.8nm,0.4s							
PPT2	**Papeete2**	**32.05 65**	*e*LR	LR	00 24 59.4			
	303nm,25.8s,baz=226							
STKA	**Stephens Creek**	**32.19 265**	LR	LR	00 28 12.3			
	comp=Z,117nm,21.7s,baz=34,slow=33							
VAH	**Vaihoa**	**34.98 64**	*e*T	T	00 53 29.1			
	5.1nm,0.3s							
RKT	**Rikitea**	**40.67 85**	*e*LR	LR	00 29 04.5			
	344nm,35.2s,baz=243							
ASAR	**Alice Springs**	**41.54 273**	P	**P**	**00 18 12.3**	**-1.1**		
	7.1nm,0.7s,baz=113,slow=7.4,SNR=41							
ASAR			LR	LR	00 34 47.7			
	comp=Z,205nm,20.9s,baz=132,slow=35							
WB2	**Warramunga Arr**	**42.95 278**	*e*P	**P**	**00 18 23.6**	**-1.1**		
	4.5nm,0.6s							
WRAB	**Tennant Creek**	**42.95 278**	*e*P	**P**	**00 18 23.4**	**-1.4**		
	1.9nm,0.4s							
WR1	**Warramunga Arr**	**42.95 278**	*e*P	**P**	**00 18 22.9**	**-1.9**		
	5.0nm,0.6s							
WRA	**Warramunga Arr**	**42.95 278**	P	**P**	**00 18 22.9**	**-1.9**		
	3.6nm,0.6s,baz=121,slow=7.5,SNR=22							
WRA			LR	LR	00 36 54.5			
	comp=Z,159nm,18.1s,baz=115,slow=37							
VNDA	**Vanda**	**43.33 186**	P	**P**	**00 18 29.2**	**+2.1**		
	0.3nm,0.9s,baz=349,slow=5.2,SNR=2.8							
VNDA			LR	LR	00 34 09.2			
	comp=Z,43nm,18.7s,baz=14,slow=33							
VNDA	**Vanda**	**43.33 186**	*e*P	**P**	**00 18 27.8**	**+0.7**		
FITZ	**Fitzroy Crossi**	**50.98 275**	LR	LR	00 41 08.8			
	comp=Z,131nm,18.1s,baz=122,slow=36							
NWAO	**Narrogin (SRO)**	**51.43 253**	LR	LR	00 40 18.2			
	comp=Z,32nm,20.3s,baz=142,slow=35							
QSPA	**South Pole Qui**	**55.08 180**	P	**P**	**00 19 58.8**	**+1.6**		
	2.7nm,0.9s,baz=360,slow=5.9,SNR=7.1							
QSPA	**South Pole Qui**	**55.08 180**	*e*P	**P**	**00 19 54.7**	**-2.5**		
SIJI	**Sorong**	**56.76 296**	P	**P**	**00 20 08.8**	**-0.9**		
	4.9nm,0.5s,baz=128,slow=6.0,SNR=4.7							
SIJI			LR	LR	00 44 17.3			
	comp=Z,69nm,18.4s,baz=118,slow=36							
MAW	**Mawson**	**67.43 202**	P	**P**	**00 21 20.5**	**0.0**		
	1.2nm,0.7s,baz=13,slow=2.6,SNR=4.0							
MAW			LR	LR	00 50 35.1			
	comp=Z,52nm,18.3s,baz=56,slow=36							
MAW	**Mawson**	**67.43 202**	*e*P	**P**	**00 21 20.5**	**0.0**		
	1.6nm,1.3s							
SNAA	**Sanae**	**73.56 179**	P	P	00 21 45.6	-12		
VNA3	**Neumayer Olymp**	**73.78 177**	P	**P**	**00 21 58.8**	**-0.4**		
VNA2	**Neumayer--Watz**	**74.19 177**	P	**P**	**00 22 02.6**	**+1.0**		
	baz=178,slow=4.5							
VNA1	**Neumayer--Stat**	**74.43 177**	P	**P**	**00 22 03.6**	**+0.7**		
PLCA	**Paso Flores**	**80.48 133**	LR	LR	00 49 31.7			
	comp=Z,26nm,18.9s,baz=66,slow=29							
PETK	**Petropavlovsk-**	**89.93 347**	P	**P**	**00 23 23.5**	**-0.3**		
	1.2nm,0.6s,baz=155,slow=8.3							
PEA1	**Petropavlovsk-**	**89.94 347**	*e*P	**P**	**00 23 23.5**	**-0.4**		
NVAR	**Mina Array Bea**	**92.68 44**	P	**P**	**00 23 39.8**	**+2.4**		
	0.6nm,0.8s,baz=228,slow=7.3,SNR=5.2							
CMAR	**Chiang Mai Arr**	**93.48 290**	LR	LR	01 08 13.4			
	comp=Z,15nm,19.2s,baz=305,slow=37							
ANMO	**Albuquerque**	**97.66 53**	LR	LR	01 03 49.3			
	comp=Z,47nm,19.1s,baz=3.5,slow=33							
CPUP	**Villa Florida**	**98.27 130**	LR	LR	01 01 21.9			
	comp=Z,57nm,20.3s,baz=318,slow=31							
NEW	**Newport**	**100.02 37**	LR	LR	01 03 31.9			
	comp=Z,59nm,20.1s,baz=329,slow=32							
ZALV	**Zalesovo Beam**	**120.40 317**	PKP	**PKPdf**	**00 29 14.0**	**-1.8**		
	0.5nm,0.5s,baz=169,slow=1.5,SNR=2.8							
ZAA1	**Zalesovo Array**	**120.41 317**	*e*PKPdf	**PKPdf**	**00 29 14.0**	**-1.8**		
ARCES	**ARCESS Array B**	**142.74 346**	PKhKP	PKPpre	00 29 52.8			
	3.2nm,1.0s,baz=72,slow=2.9,SNR=4.6							
KBZ	**Khabaz**	**146.15 298**	PKPbc	**PKPdf**	**00 30 03.6**	**-0.4**		
	3.4nm,1.0s,baz=154,slow=3.8,SNR=3.7							
FIA0	**FINESS Array S**	**148.85 336**	*e*PKPbc	**PKPbc**	**00 30 10.1**	**-1.8**		
FINES	**FINESS Array B**	**148.85 336**	PKPbc	**PKPbc**	**00 30 10.1**	**-1.8**		
	8.3nm,0.9s,baz=64,slow=3.2,SNR=5.3							
LIC	**Lamto**	**150.93 169**	*e*PKP1	**PKPab**	**00 30 32.4**	**+6.7**		
	28nm,0.8s							
KIC	**Kosan Boka**	**151.10 170**	*e*PKP1	**PKPab**	**00 30 32.9**	**+6.5**		
	15nm,0.8s							
TIC	**Toumodi**	**151.34 169**	*e*PKP1	**PKPab**	**00 30 33.4**	**+6.0**		
DBIC	**Dimbokro**	**151.39 170**	PKPbc	**PKPbc**	**00 30 20.1**	**+0.6**		
	3.8nm,0.9s,baz=193,slow=2.6,SNR=4.0							
NB2	**NORSAR Subarra**	**153.03 348**	PKP	**PKPbc**	**00 30 20.3**	**-1.5**		
	comp=Z,1.1nm,0.6s,baz=18,slow=2.6							
NB200	**NORSAR Array S**	**153.03 348**	*e*PKPbc	**PKPbc**	**00 30 20.4**	**-1.5**		
NOA	**NORSAR Array B**	**153.03 348**	PKPbc	**PKPbc**	**00 30 20.3**	**-1.5**		
	comp=Z,2.2nm,0.8s,baz=29,slow=2.0,SNR=5.0							
BR101	**Keskin Array S**	**153.07 290**	*e*PKPbc	**PKPbc**	**00 30 20.6**	**-2.2**		
BR101			*e*PKPab	**PKPab**	**00 30 34.0**	**-0.4**		
BRTR	**Keskin Array B**	**153.07 290**	PKPbc	**PKPbc**	**00 30 20.6**	**-2.2**		
	comp=Z,1.2nm,0.8s,baz=151,slow=3.7,SNR=7.3							
BRTR			PKPab	**PKPab**	**00 30 34.0**	**-0.4**		
	comp=Z,0.9nm,0.5s,baz=101,slow=2.5,SNR=3.7							
TORD	**Torodi Ar. Bea**	**158.16 184**	PKPab	**PKPab**	**00 30 54.7**	**-1.6**		
	comp=Z,1.0nm,0.9s,baz=239,slow=0.9,SNR=5.6							
TOA1	**Torodi Ar. Sit**	**158.16 184**	*e*PKPab	**PKPab**	**00 30 54.7**	**-1.6**		

*IDC **07** 00:13:05.0±2.8,8˚.06S×118˚.02E,h163^{km}±25^{km}, mb3.3/3, mb1 3.4/6, mb1mx3.2/43, mbtmp3.9/6, Error ellipse: s-maj=65.5km s-min=12.4km az=50.0*

*ISCJB **07** 00:13:07.0±0.6,8˚.16S±0˚.09×118˚.28E±0˚.05, h200^{km}, mb3.5/3, Error ellipse: s-maj=12.8km s-min=6.4km az=17.2*

*DJA **07** 00:13:08.8±0.6,8˚S±10˚×11˚8E±˚, h186^{km}±6^{km}, M3.3/7, MLv3.3/7*

ISC 07 00:13:07.7±0.9,8˚22S±0˚.10×118˚.28E±0˚.05, h200^{km}, n12, σ3^{s}00/19, mb3.6/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
PLAI	**Plampang**	**0.78**	**219**	P	**Pn**	**00**	**13 36.6**	**+0.5**
PLAI				S	Sn	00	13 57.1	-1.1
TWSI	**Taliwang, Sumb**	**1.48**	**249**	P	**Pn**	00	13 41.7	**+0.5**
TWSI				S	Sn	00	14 06.0	-1.1
WBSI	**Waikabubak, Su**	**1.79**	**142**	P	**Pn**	00	13 44.1	**0.0**
WBSI				S	Sn	00	14 11.1	-1.5
SRBI	**Singaraja**	**3.04**	**272**	P	**Pn**	00	13 58.9	**+1.1**
IGBI	**Denpasar**	**3.16**	**259**	P	**Pn**	00	13 59.1	**-0.1**
EDFI	**Ende, Flores**	**3.42**	**99**	P	**Pn**	00	14 02.8	**+0.4**
EDFI				S	Sn	00	14 43.6	-1.6
BATI	**Baumata**	**5.67**	**111**	P	**Pn**	00	14 32.5	**+1.8**
	5.2nm,0.3s,baz=80,slow=6.1,SNR=2.3							
BATI				S	Sn	00	15 31.9	-4.5
	5.3nm,0.3s,baz=286,slow=19,SNR=2.9							
FITZ	**Fitzroy Crossi**	**12.15**	**145**	P	**P**	00	15 57.8	-1.2
	0.2nm,0.3s,baz=341,slow=12,SNR=13							
FITZ				S	Sn	00	18 07.0	-3.2
	0.3nm,0.3s,baz=178,slow=18,SNR=9.9							
WRA	**Warramunga Arr**	**19.43**	**129**	P	**Pn**	00	17 21.1	-1.7
	0.7nm,0.3s,baz=300,slow=12,SNR=88							
WRA				S	**S**	00	20 57.6	+10
	0.1nm,0.3s,baz=302,slow=24,SNR=4.3							
ASAR	**Alice Springs**	**21.45**	**138**	P	**P**	00	17 42.6	**+2.1**
	1.6nm,0.3s,baz=316,slow=9.2,SNR=19							
SONM	**Songino Array**	**56.79**	**350**	P	**P**	00	22 29.8	-1.3
	0.3nm,0.5s,baz=170,slow=8.8,SNR=3.7							
MKAR	**Makanchi Array**	**63.44**	**333**	P	**P**	00	23 16.8	**+0.7**
	0.6nm,0.6s,baz=154,slow=6.0,SNR=6.9							

*ISK **07** 00:16:51.5,38˚.95N×43˚.60E, h5^{km}, ML3.1/10*

*DDA **07** 00:16:52.2,38˚.94N×43˚.58E, h10^{km}, MI3.1*

ISC 07 00:16:52.9±0.8,38˚.95N±0˚.02×43˚.56E±0˚.02, h7^{km}±5^{km}, n60, σ0^{s}97/85, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
VMUR	**Van-Muradiye**	**0.04**	**15**	*i* P	**Pg**	00	**16 54.2**	**-0.4**
VMUR				*i* S	Sg	00	16 56.3	+0.4
VMUR	**Van-Muradiye**	**0.04**	**15**	*i* P	**Pg**	00	16 54.2	-0.4
VMUR				*i* S	Sg	00	16 56.2	+0.4
ERCV	**ERCIS-VAN**	**0.19**	**293**	PG	**Pg**	00	16 56.5	-0.2
ERCV				SG	Sg	00	17 01.1	+1.8
CLDR	**Caldiran**	**0.34**	**55**	PG	**Pg**	00	16 58.9	-0.7
CLDR	**Caldiran**	**0.34**	**55**	*i* P	**Pg**	00	16 59.0	-0.7
CLDR	**Caldiran**	**0.34**	**55**	*i* P	**Pg**	00	16 59.0	-0.7
CLDR				*i* S	Sb	00	17 06.0	-1.2
VANB	**Van**	**0.38**	**201**	PG	**Pb**	00	17 01.6	-0.3
TVAN	**Van**	**0.43**	**196**	*i* P	**Pg**	00	17 00.7	-0.6
TVAN				*i* S	Sb	00	17 09.9	+0.1
DYDN	**Diyadin**	**0.60**	**10**	*i* P	**Pg**	00	17 04.2	-0.4
DYDN	**Diyadin**	**0.60**	**10**	*i* P	**Pg**	00	17 04.3	-0.3
DYDN				*i* S	Sb	00	17 13.6	-1.2
ADCV	**BITLIS_Adilcev**	**0.67**	**258**	*i* P	**Pg**	00	17 05.4	-0.3
ADCV				*i* S	Sb	00	17 16.2	-0.2
ADCV	**BITLIS_Adilcev**	**0.67**	**258**	*i* P	**Pg**	00	17 05.3	-0.3
ADCV				*i* S	Sb	00	17 16.2	-0.2
TUTA	**Tutak**	**0.73**	**308**	*i* P	**Pg**	00	17 06.3	-0.8
TUTA	**Tutak**	**0.73**	**308**	*i* P	**Pg**	00	17 06.3	-0.8
TUTA				*i* S	Sg	00	17 16.8	+0.1
GEVA	**Gevas**	**0.74**	**212**	*i* P	**Pg**	00	17 06.2	-1.0
GEVA				*i* S	Sb	00	17 19.3	+0.6
AGRB	**Hanur-Agry**	**0.77**	**325**	PG	**Pg**	00	17 07.2	-0.4
AGRB				SG	Sb	00	17 19.3	-0.1
IGDI	**IGDIR**	**1.00**	**24**	*i* P	**Pg**	00	17 11.5	-0.7
IGDI	**IGDIR**	**1.00**	**24**	*i* P	**Pg**	00	17 11.5	-0.7
IGDI				*i* S	Sn	00	17 28.0	+0.1
TASB	**TASBURUN-IGDIR**	**1.16**	**27**	PN	**Pg**	00	17 14.4	-0.8
EKAR	**Karacoban**	**1.20**	**285**	*i* P	**Pg**	00	17 15.3	-0.6
EKAR				*i* S	Sn	00	17 34.0	+1.0
EATA	**Eleskirt**	**1.23**	**318**	*i* P	**Pg**	00	17 15.6	-1.0
EATA	**Eleskirt**	**1.23**	**318**	*i* P	**Pg**	00	17 15.5	-1.0
EATA				*i* S	Sn	00	17 34.4	+0.6
GURO	**Guroymak-BITLI**	**1.26**	**252**	PN	**Pn**	00	17 15.2	-1.8
HAKT	**HAKKARI**	**1.39**	**175**	*i* P	**Pn**	00	17 17.6	-1.4
HAKT	**HAKKARI**	**1.39**	**175**	*i* P	**Pn**	00	17 18.2	-0.7
HAKT				*i* S	Sg	00	17 41.0	+3.4
YOVA	**Hakkari_Y˙…kse**	**1.48**	**157**	*i* P	**Pb**	00	17 20.2	-0.6
YOVA	**Hakkari_Y˙…kse**	**1.48**	**157**	*i* P	**Pn**	00	17 19.9	-0.2
YOVA				*i* S	Sg	00	17 43.1	+2.8
GNI	**Garni**	**1.51**	**37**	PN	**Pn**	00	17 20.1	-0.4
SRTM	**Siirt_Merkez**	**1.60**	**234**	*i* P	**Pb**	00	17 22.3	-0.5
SRTM	**Siirt_Merkez**	**1.60**	**234**	*i* P	**Pb**	00	17 22.3	-0.5
SRTM				*i* S	Sg	00	17 43.9	-0.3
VRTB	**Varto-Mus**	**1.65**	**278**	PN	**Pb**	00	17 22.9	-0.8
VRTB	**Varto-Mus**	**1.65**	**278**	*i* P	**Pb**	00	17 23.5	-0.2
VRTB	**Varto-Mus**	**1.65**	**278**	*i* P	**Pb**	00	17 23.5	-0.2
VRTB				*i* S	Sn	00	17 42.7	-1.3
HOMI	**Horasan**	**1.68**	**311**	*i* P	**Pb**	00	17 24.0	-0.4
HOMI	**Horasan**	**1.68**	**311**	*i* P	**Pg**	00	17 24.5	-0.6
HOMI				*i* S	Sg	00	17 49.0	+2.0
SIRT	**Sirnak**	**1.69**	**212**	PN	**Pb**	00	17 23.4	-1.0
CUKT	**Cukurca**	**1.70**	**179**	PN	**Pn**	00	17 23.2	+0.2
CUKT	**Cukurca**	**1.70**	**179**	*i* P	**Pb**	00	17 24.4	-0.1
CUKT	**Cukurca**	**1.70**	**179**	*i* P	**Pb**	00	17 24.2	-0.3
CUKT				*i* S	Sg	00	17 49.1	+1.7
SIRN	**S˙¨–rnak**	**1.71**	**212**	*i* P	**Pb**	00	17 24.4	-0.2
SIRN	**S˙¨–rnak**	**1.71**	**212**	*i* P	**Pb**	00	17 24.1	-0.5
SIRN				*i* S	Sg	00	17 47.4	-0.3
KARS	**Kars**	**1.72**	**348**	PN	**Pn**	00	17 23.5	+0.1
EAK	**Akyaka**	**1.74**	**1**	*i* P	**Pg**	00	17 27.4	+1.2
SENK	**Senkaya-Erzuru**	**1.86**	**330**	PN	**Pn**	00	17 25.8	+0.4
BNGL	**BINGOL**	**1.88**	**271**	*i* P	**Pb**	00	17 26.8	-0.8
BNGL	**BINGOL**	**1.88**	**271**	*i* P	**Pb**	00	17 26.4	-1.3
BNGL				*i* S	Sg	00	17 53.9	+0.7
SVAN	**Silvan-Diyarba**	**2.01**	**247**	PN	**Pb**	00	17 29.0	-1.5
SVAN	**Silvan-Diyarba**	**2.01**	**247**	*i* P	**Pb**	00	17 29.0	-0.9
SVAN	**Silvan-Diyarba**	**2.01**	**247**	*i* P	**Pb**	00	17 28.6	-1.2
SVAN				*i* S	Sb	00	17 55.8	+0.7
BTMN	**Batman**	**2.08**	**240**	*i* P	**Pb**	00	17 30.4	-0.6
BTMN	**Batman**	**2.08**	**240**	*i* P	**Pb**	00	17 30.9	-0.1
BTMN				*i* S	Sg	00	17 59.9	+0.1
ECAT	**Cat-ERZURUM**	**2.11**	**289**	*i* P	**Pb**	00	17 30.9	-0.7
ECAT				*i* S	Sg	00	18 01.9	+1.2
BNGB	**Bing˙¶l**	**2.24**	**272**	PN	**Pn**	00	17 31.5	+1.0
BGOL	**Bingol**	**2.25**	**272**	*i* P	**Pb**	00	17 33.8	-0.1
YEDI	**Yedisu-Bingol**	**2.39**	**283**	PN	**Pn**	00	17 33.5	+0.9
DAGI	**Agillar**	**2.47**	**330**	*i* P	**Pg**	00	17 38.9	-1.4
DBAD	**Bademkaya**	**2.52**	**326**	*i* P	**Pb**	00	17 39.3	+0.8
HANI	**Diyarbakir_Han**	**2.53**	**259**	*i* P	**Pb**	00	17 37.2	-1.4
MAZI	**Mazidag**	**2.87**	**240**	PN	**Pn**	00	17 40.4	+1.3
BAYT	**Ayd˙¨–ntepe-Bay**	**3.01**	**300**	PN	**Pn**	00	17 42.3	+1.2

IDC 07 00:31:22.8±17.0, 23˚.02S×174˚.18W, h0^{km}, mb4.0/5, mb1 4.1/5, mb1mx3.8/33, mbtmp4.0/5, Error ellipse: s-maj=323.5km s-min=147.1km az=82.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
CTA	**Charters Tower**	**36.84**	**267**	P	P	00	38 33.7	+0.7
	1.6nm,0.4s,baz=95,slow=10,SNR=4.7							
STKA	**Stephens Creek**	**40.00**	**247**	P	P	00	38 58.6	-0.9
	1.1nm,0.5s,baz=99,slow=11,SNR=4.7							
ASAR	**Alice Springs**	**47.45**	**258**	P	P	00	39 59.3	-0.3
	0.5nm,0.3s,baz=91,slow=6.5,SNR=14							
WRA	**Warramunga Arr**	**47.81**	**263**	P	P	00	40 01.6	-0.8
	0.8nm,0.5s,baz=101,slow=8.4,SNR=7.1							
FITZ	**Fitzroy Crossi**	**56.23**	**263**	P	P	00	41 05.8	+0.5
	1.0nm,0.7s,baz=90,slow=8.1,SNR=3.3							

*ISK **07** 00:34:28.6, 40˚.40N×32˚.99E, h5^{km}, ML3.7/21*

*DDA **07** 00:34:29.2, 40˚.36N×33˚.00E, h16^{km}, MI3.6*

*ISCJB **07** 00:34:30.0±0.5, 40˚.44N±0˚.02×32˚.99E±0˚.03, h8^{km}±4^{km}, Error ellipse: s-maj=3.6km s-min=3.1km az=43.5*

ISC 07 00:34:29.6±1.2, 40˚43N±0˚.03×33˚.04E±0˚.02, h4^{km}±11^{km}, n70, σ0^{s}98/75, 4C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
ELDT	**Eldivan**	**0.30**	**79**	*i* P	**Pb**	00	**34 36.8**	**-0.9**
ELDT				*i* S	Sb	00	34 42.3	-0.8
CMDR	**Camlidere-ANKA**	**0.43**	**278**	*i* P	**Pg**	00	34 38.1	+0.1
CMDR				*i* S	Sg	00	34 44.4	+0.7
CANT	**Cankiri**	**0.48**	**69**	PG	**Pb**	00	34 40.1	-0.5
LOD	**Lodumlu**	**0.58**	**201**	PG	**Pg**	00	34 40.2	-0.6
LOD				SG	Sg	00	34 48.7	+0.3
ILGA	**Ilgaz**	**0.81**	**40**	*i* P	**Pb**	00	34 46.2	-0.1
BCAM	**Yenicaga**	**0.83**	**298**	*i* P	**Pg**	00	34 45.5	-0.1
BCAM				*i* S	Sb	00	34 57.3	-1.0
BBAL	**Bala**	**0.89**	**176**	*i* P	**Pg**	00	34 46.4	-0.4
BBAL				*i* S	Sb	00	35 01.2	+1.2
TOS	**Tosya**	**0.96**	**51**	PG	**Pb**	00	34 49.1	+0.2
AFSR	**Af˙ar-Bala (A**	**0.99**	**178**	PG	**Pg**	00	34 48.1	-0.4
KAMT	**Kaman**	**1.18**	**154**	PN	**Pg**	00	34 51.6	-0.7
CORM	**Corum**	**1.25**	**101**	PN	**Pb**	00	34 53.7	**0.0**
KAST	**KASTAMONU**	**1.25**	**32**	*i* P	**Pb**	00	34 53.6	-0.2
KKUL	**Konya-Kulu**	**1.26**	**184**	*i* P	**Pg**	00	**34 53.3**	**-0.6**
KKUL				*i* S	Sn	00	35 12.2	+0.6
BTIN	**Bart˙¨–n**	**1.34**	**334**	*i* P	**Pb**	00	34 55.5	+0.1
CTAK	**Corum_Osmancik**	**1.35**	**80**	*i* P	**Pn**	00	34 55.4	-0.1
KULU	**Kulu**	**1.39**	**181**	PN	**Pn**	00	34 55.9	**0.0**
MDUB	**Mudurnu**	**1.40**	**272**	PN	**Pn**	00	34 55.9	-0.2
COAL	**Corum-Alaca**	**1.50**	**96**	*i* P	**Pb**	00	34 58.0	**0.0**
SVRH	**Sivrihisar-ESK**	**1.52**	**230**	PN	**Pn**	00	34 57.3	-0.4
SERE	**Sereflikochisa**	**1.54**	**165**	PN	**Pn**	00	34 57.9	**0.0**
BTAS	**Taskesti**	**1.56**	**276**	*i* P	**Pb**	00	34 58.6	-0.4
BZK	**Bozkurt**	**1.69**	**25**	PN	**Pb**	00	35 01.1	-0.2
SAHE	**Sakarya_HENDEK**	**1.71**	**285**	*i* P	**Pb**	00	35 00.9	-0.8
KIZT	**Kizilcal**	**1.79**	**210**	PN	**Pn**	00	35 01.2	-0.2
CHBY	**Cihanbeyli**	**1.85**	**184**	PN	**Pn**	00	35 02.2	**0.0**
AKSY	**AKSARAY - Alti**	**1.87**	**162**	*i* P	**Pn**	00	35 02.6	+0.2
ESKT	**Eskisehir**	**1.91**	**242**	PN	**Pn**	00	35 03.0	-0.1
YOZ	**Yozgat**	**1.92**	**114**	PN	**Pn**	00	35 03.9	+0.7
GULT	**Gulveren**	**1.93**	**271**	PN	**Pn**	00	35 02.9	-0.3
KDHN	**Kadinhani**	**2.04**	**201**	*i* P	**Pn**	00	35 04.8	**0.0**
BORA	**Eskisehir**	**2.06**	**255**	PN	**Pn**	00	35 04.9	-0.1
BORA	**Eskisehir**	**2.06**	**255**	*i* P	**Pn**	00	35 04.8	-0.1
DIKM	**Dikmen**	**2.07**	**53**	PN	**Pb**	00	35 06.6	-1.2
SAUV	**Serdivan-Sakar**	**2.09**	**279**	PN	**Pn**	00	35 05.3	**0.0**
GEYV	**SAKARYA_Geyve**	**2.09**	**272**	*i* P	**Pn**	00	35 06.1	+0.7
SPNC	**Sapanca-Adapaz**	**2.09**	**278**	PN	**Pn**	00	35 05.9	+0.5
HAVZ	**Havza**	**

H02S1					Lg	Lg	00 55 11.1	
	SNR=3726							
H02N1	**VAN INLET T-PH**	**0.94**	**339**		Pg	**Pg**	**00 55 00.1**	**-1.9**
H02N1					Lg	Lg	00 55 12.5	
BBB	**Bella Bella**	**2.38**	**93**	Pn	Pn	**Pn**	**00 55 21.9**	**-0.9**
	2.1nm,0.3s,baz=273,slow=6.9,SNR=79							
BBB					Sn	**Sn**	**00 55 50.7**	**-1.2**
	26nm,0.3s,baz=191,slow=20,SNR=18							
BBB					Lg	Lg	00 55 58.1	
	22nm,0.3s,baz=335,slow=23,SNR=7.0							
BBB					LR	LR	00 56 17.2	
	comp=Z,90nm,20.1s,baz=332,slow=40							
DLBC	**Dease Lake**	**6.17**	**10**	Pn	**Pn**	**00 56 17.5**	**+2.5**	
	0.4nm,0.3s,baz=184,slow=14,SNR=4.0							
DLBC					Sn	**Sn**	**00 57 26.1**	**+0.5**
	0.2nm,0.3s,baz=180,slow=13,SNR=2.4							
DLBC					Lg	Lg	00 58 00.2	
	0.3nm,0.3s,baz=288,slow=17,SNR=4.2							
ILAR	**Eielson Array**	**14.60**	**334**	Pn	**P**	**00 58 15.8**	**-0.9**	
	0.0nm,0.3s,baz=148,slow=9.8,SNR=9.6							
NVAR	**Mina Array Bea**	**16.89**	**140**	Pn	**P**	**00 58 41.5**	**-0.9**	
	0.1nm,0.3s,baz=317,slow=10,SNR=5.9							
PDAR	**Pinedale Array**	**17.85**	**114**	P	**P**	**00 58 54.4**	**+1.3**	
	0.1nm,0.3s,baz=317,slow=8.1,SNR=14							
TXAR	**Lajitas Array**	**31.09**	**127**	P	**P**	**01 01 04.6**	**+2.4**	
	0.2nm,0.7s,baz=339,slow=6.7,SNR=3.7							
H11N2	**WAKE ISLAND Hy**	**57.05**	**259**		T	T	02 06 32.4	
	baz=39,slow=76,SNR=17							
H11N3	**WAKE ISLAND Hy**	**57.05**	**259**		T	T	02 06 32.4	
	baz=39,slow=76,SNR=17							
H11N1	**WAKE ISLAND Hy**	**57.06**	**259**		T	T	02 06 32.4	
	baz=39,slow=76,SNR=13							
H11S1	**WAKE ISLAND Hy**	**58.10**	**259**		T	T	02 08 02.2	
	baz=40							
H11S2	**WAKE ISLAND Hy**	**58.12**	**259**		T	T	02 07 58.9	
	baz=40							
H11S3	**WAKE ISLAND Hy**	**58.12**	**259**		T	T	02 07 56.1	
	baz=40							

NIED ***07*** *00:54:00,36˚.90N×141˚.40E,h11km,Mw4.2 Best double couple: M₀1.89000×10¹⁵ NP1:φ₅171.00000°,δ42.00000°, λ-112.00000°. NP2:φ₅20.00000°,δ52.00000°, λ-71.00000°.*

ISCJB ***07*** *00:54:48.8±0.8,36˚.93N±0˚.03×141˚.41E±0˚.05,h26km±5km, mb4.1/3,Error ellipse: s-maj=6.4km s-min=4.3km az=21.6*

JMA ***07*** *00:54:49.1±0.1,36˚.93N×141˚.38E,h40km±1km,M4.3*

JMA Felt II J1.

IDC ***07*** *00:54:51.8±4.4,36˚.92N×141˚.32E,h33km±33km,mb3.8/19, mb1 4.0/22,mb1mx3.9/43,mbtmp4.0/22,ML3.5/3,Error ellipse: s-maj=17.4km s-min=13.2km az=103.0*

NEIC ***07*** *00:54:51.8±0.7,36˚.90N×141˚.31E,h35km±6km,mb4.4/14, Error ellipse: s-maj=5.4km s-min=4.6km az=141.0*

NEIC Recorded [2 JMA] in Fukushima.

ISC 07 00:54:47.9±2.0,36˚.95N±0˚.04×141˚.33E±0˚.05,h9km±12km, n85,σ8˚87/90,mb4.2/33,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.45**	**290**	P		**Pn**	**00 54 59.5**	**-1.2**
ONAJ				S		**Sb**	**00 55 07.0**	**+2.0**
JFK	**Kawauchi**	**0.55**	**319**	P		**Pb**	**00 55 00.7**	**+0.8**
JFK				*e*S		**Sb**	**00 55 08.9**	**+1.0**
JFFD	**Fukushimafurud**	**0.63**	**283**	P		**Pn**	**00 55 02.0**	**-1.1**
JFFD				*e*S		**Sn**	**00 55 11.2**	**-2.2**
JHO	**Hitachi**	**0.70**	**241**	P		**Pb**	**00 55 02.6**	**+0.3**
JHO				*e*S		**Sb**	**00 55 12.8**	**+0.7**
JFT	**Otama**	**0.97**	**306**	P		**Pn**	**00 55 08.1**	**+0.2**
JFT				*e*S		**Sn**	**00 55 21.5**	**-0.4**
JMM	**Marumori**	**1.01**	**335**	P		**Pb**	**00 55 07.4**	**-0.2**
JMM				*e*S		**Sb**	**00 55 20.5**	**-0.5**
JFY	**Yanaizu**	**1.38**	**290**	P		**Pg**	**00 55 14.5**	**+0.2**
JFY				S		**Sn**	**00 55 33.4**	**+1.6**
JIO	**Ouri**	**1.50**	**1**	P		**Pn**	**00 55 14.2**	**-0.9**
JIO				S		**Sn**	**00 55 32.2**	**-2.6**
JOU	**Okura**	**1.51**	**340**	P		**Pn**	**00 55 15.2**	**0.0**
JOU				S		**Sn**	**00 55 34.9**	**-0.2**
JAG	**Ashikaga**	**1.60**	**251**	P		**Pb**	**00 55 16.8**	**-0.8**
JAG				S		**Sn**	**00 55 36.6**	**-0.6**
MJAR	**Matsushiro Arr**	**2.54**	**262**	Pn		**Pn**	**00 55 31.1**	**+1.7**
	4.9nm,0.3s,baz=90,slow=14,SNR=21							
MAJO	**Matsushiro**	**2.54**	**262**	*e*Pn		**Pb**	**00 55 31.3**	**-2.5**
MAT	**Matsushiro**	**2.54**	**262**	P		**Pb**	**00 55 31.3**	**-2.4**
MAT				S		**Sn**	**00 56 01.3**	**+0.8**
INU	**Inuyama**	**3.84**	**247**	*e*Pn		**Pn**	**00 55 46.9**	**-0.3**
JHJ	**Hachijo jima 2**	**4.03**	**199**	Pn		**Pn**	**00 55 50.8**	**+0.9**
	13nm,0.3s,baz=72,slow=20,SNR=5.0							
JHJ					Sn	**Sn**	**00 56 37.0**	**-0.1**
	20nm,0.3s,baz=53,slow=20,SNR=2.5							
ASAJ	**Asahikawa**	**7.22**	**7**	Pn		**Pn**	**00 56 35.2**	**+1.4**
	1.1nm,0.3s,baz=205,slow=11,SNR=3.6							
ASAJ					Sn	**Sn**	**00 57 56.1**	**+0.2**
	1.3nm,0.3s,baz=131,slow=20,SNR=3.0							
USRK	**Ussuriysk Ar.**	**10.14**	**318**	Pn		Pn	00 57 19.1	+5.4
	0.2nm,0.3s,baz=124,slow=13,SNR=4.1							
KSRS	**Korea Array**	**10.71**	**277**	Pn		Pn	00 57 27.7	+6.2
	baz=89,slow=14,SNR=3.6							
KS15	**Wonju Array Si**	**10.74**	**277**	*e*Pn		Pn	00 57 27.6	+5.7
KSAR	**Wonju Array Be**	**10.74**	**277**	Pn		Pn	00 57 27.6	+5.7
MA2	**Magadan**	**23.45**	**12**	P		**P**	**00 59 58.3**	**+0.9**
	4.6nm,0.5s,baz=210,slow=17,SNR=2.4							
SEY	**Seymchan**	**26.89**	**11**	P		**P**	**01 00 29.8**	**+0.9**
	1.0nm,0.5s,baz=180,slow=20,SNR=2.8							
SONA1	**Songino Array**	**27.77**	**304**	*e*P		**P**	**01 00 38.1**	**+0.9**
SONA0	**Songino Array**	**27.78**	**304**	*e*P		**P**	**01 00 36.6**	**-0.7**
SONM	**Songino Array**	**27.78**	**304**	P		**P**	**01 00 36.6**	**-0.7**
	0.9nm,0.6s,baz=111,slow=8.4,SNR=9.1							
H11N2	**WAKE ISLAND Hy**	**28.16**	**121**		T	T	01 30 17.8	
	baz=314,slow=75,SNR=338							
H11N1	**WAKE ISLAND Hy**	**28.17**	**121**		T	T	01 30 18.5	
	baz=314,slow=75,SNR=396							
H11N3	**WAKE ISLAND Hy**	**28.18**	**121**		T	T	01 30 19.1	
	baz=314,slow=75,SNR=479							
H11S1	**WAKE ISLAND Hy**	**28.87**	**123**		T	T	01 31 08.1	
	baz=316,slow=75,SNR=297							
H11S3	**WAKE ISLAND Hy**	**28.87**	**123**		T	T	01 30 57.8	
	baz=316,slow=75,SNR=228							
H11S2	**WAKE ISLAND Hy**	**28.89**	**123**		T	T	01 31 05.2	
	baz=316,slow=75,SNR=170							
ZAA0	**Zalesovo Array**	**41.92**	**312**	*e*P		**P**	**01 02 39.1**	**+0.4**
	6.6nm,0.8s							
ZAA1	**Zalesovo Array**	**41.92**	**312**	*e*P		**P**	**01 02 39.0**	**+0.4**
ZALV	**Zalesovo Beam**	**41.92**	**312**	P		**P**	**01 02 39.0**	**+0.4**
	7.7nm,0.8s,baz=93,slow=6.8,SNR=28							
ZALV	**Zalesovo Beam**	**41.92**	**312**	*e*P		**P**	**01 02 38.5**	**-0.1**
MK01	**Makanchi Array**	**44.10**	**302**	*e*P		**P**	**01 02 56.2**	**-0.3**
MK32	**Makanchi Array**	**44.11**	**302**	*e*P		**P**	**01 02 56.7**	**+0.1**
MKAR	**Makanchi Array**	**44.11**	**302**	P		**P**	**01 02 56.7**	**+0.1**
	2.2nm,0.7s,baz=87,slow=10,SNR=17							
KURK	**Kurchatov**	**45.93**	**308**	*e*P		**P**	**01 03 10.8**	**-0.1**
	9.0nm,0.9s							
MDM	**Murphy Dome**	**49.02**	**32**	*e*P		**P**	**01 03 36.2**	**+1.4**
	7.7nm,1.0s							
ILAR	**Eielson Array**	**49.60**	**32**	P		**P**	**01 03 39.4**	**+0.2**
	2.8nm,0.8s,baz=268,slow=6.4,SNR=33							
ILB	**Eielson Array**	**49.60**	**32**	*e*P		**P**	**01 03 39.8**	**+0.5**
IL1	**Eielson Array**	**49.60**	**32**	*e*P		**P**	**01 03 38.5**	**-0.7**
AAK	**Ala-Archa**	**50.47**	**298**	*e*P		**P**	**01 03 46.3**	**-0.1**
	0.8nm,0.6s							
BRVK	**Borovoye**	**50.63**	**312**	*e*P		**P**	**01 03 47.4**	**+0.2**
	3.2nm,0.9s							
EGAK	**Eagle**	**52.05**	**32**	*e*P		**P**	**01 03 58.4**	**+0.8**
	1.3nm,0.6s							
KK31	**Karatay Array**	**53.11**	**300**	*e*P		**P**	**01 04 05.8**	**0.0**
KKAR	**Karatay Array**	**53.11**	**300**	*e*P		**P**	**01 04 05.8**	**0.0**
INK	**Inuvik**	**54.49**	**27**	P		**P**	**01 04 15.8**	**+0.3**
	1.4nm,0.7s,baz=311,slow=7.7,SNR=6.4							
INK	**Inuvik**	**54.49**	**27**	*e*P		**P**	**01 04 15.8**	**+0.3**
	13nm,1.6s							
WRAB	**Tennant Creek**	**56.96**	**188**	*e*P		**P**	**01 04 32.9**	**-0.8**
	1.6nm,0.6s							
WB2	**Warramunga Arr**	**56.97**	**188**	*e*P		**P**	**01 04 33.1**	**-0.7**
WR1	**Warramunga Arr**	**56.97**	**188**	*e*P		**P**	**01 04 33.1**	**-0.7**
	14nm,1.5s							
WR1				*e*PcP		**PcP**	**01 05 29.4**	**+0.3**
WRA	**Warramunga Arr**	**56.97**	**188**	P		**P**	**01 04 33.1**	**-0.7**
	1.8nm,0.7s,baz=6.2,slow=7.5,SNR=21							
WRA				PcP		**PcP**	**01 05 29.4**	**+0.3**
	0.5nm,0.6s,baz=0.9,slow=4.3,SNR=4.9							
ABKAR	**Akbulak array**	**57.94**	**310**	*e*P		**P**	**01 04 40.0**	**-0.5**
AS01	**Alice Springs**	**60.69**	**188**	*e*P		**P**	**01 04 58.9**	**-0.8**
ASAR	**Alice Springs**	**60.70**	**188**	P		**P**	**01 04 59.5**	**-0.3**
	1.1nm,0.7s,baz=9.9,slow=6.8,SNR=13							
GEYT	**Alibeck**	**63.82**	**299**	P		**P**	**01 05 21.3**	**+0.6**
	1.5nm,0.8s,baz=180,slow=1.5,SNR=4.9							
FIA0	**FINESS Array S**	**68.86**	**332**	*e*P		**P**	**01 05 52.9**	**+0.4**
FINES	**FINESS Array B**	**68.86**	**332**	P		**P**	**01 05 52.9**	**+0.4**
	2.9nm,0.8s,baz=69,slow=7.6,SNR=4.1							
KBZ	**Khabaz**	**70.91**	**311**	P		**P**	**01 06 06.1**	**+0.7**
	1.9nm,0.8s,baz=44,slow=4.4,SNR=3.8							
KIV	**Kislovodsk**	**70.91**	**311**	*e*P		**P**	**01 06 05.2**	**-0.4**
	3.2nm,0.6s							
BMO	**Blue Mountains**	**72.04**	**47**	*e*P		**P**	**01 06 12.7**	**+0.2**
	0.8nm,0.5s							
AKASG	**Malin Array Be**	**74.32**	**322**	P		**P**	**01 06 25.1**	**-0.5**
	0.8nm,0.4s,baz=46,slow=6.0,SNR=4.6							
AKBB	**Malin Array Si**	**74.32**	**322**	*e*P		**P**	**01 06 25.1**	**-0.5**
KVN	**Kaiserville**	**74.86**	**52**	*e*P		**P**	**01 06 28.9**	**-0.3**
	3.3nm,1.1s							
NV01	**Mina Array Sit**	**75.09**	**53**	*e*P		**P**	**01 06 30.6**	**-0.1**
NVAR	**Mina Array Bea**	**75.09**	**53**	P		**P**	**01 06 31.0**	**+0.3**
	1.2nm,0.9s,baz=292,slow=7.0,SNR=7.6							
R11A	**Troy Canyon, C**	**76.87**	**52**	*e*P		**P**	**01 06 41.0**	**+0.3**
	7.2nm,1.4s							
PD31	**Pinedale Array**	**77.77**	**45**	*e*P		**P**	**01 06 45.5**	**-0.4**
PDAR	**Pinedale Array**	**77.77**	**45**	P		**P**	**01 06 45.5**	**-0.4**
	0.3nm,0.7s,baz=258,slow=4.4,SNR=4.0							
BR101	**Keskin Array S**	**78.86**	**312**	*e*P		**P**	**01 06 52.8**	**+1.1**
BRTR	**Keskin Array B**	**78.86**	**312**	P		**P**	**01 06 52.8**	**+1.1**
	0.9nm,0.9s,baz=86,slow=3.2,SNR=3.8							
RAYN	**Ar Rayn**	**80.62**	**292**	*e*P		**P**	**01 07 01.0**	**-0.5**
	2.1nm,0.8s							
PV10	**Paradox Valley**	**80.88**	**49**	*e*P		**P**	**01 07 03.3**	**+0.4**
CLL	**Collm**	**81.14**	**330**	*i* P		**P**	**01 07 03.6**	**0.0**
PV13	**Radium Mtn., P**	**81.15**	**49**	*e*P		**P**	**01 07 04.4**	**+0.1**
	6.9nm,1.2s							
GERES	**GERESS Array B**	**82.75**	**328**	P		**P**	**01 07 11.5**	**-0.8**
	0.2nm,0.4s,baz=5.7,slow=3.0,SNR=3.0							
ANMO	**Albuquerque**	**84.69**	**50**	P		**P**	**01 07 22.7**	**0.0**
	1.0nm,0.8s,baz=303,slow=3.4,SNR=3.7							
LTX	**Lajitas**	**90.23**	**52**	*e*P		**P**	**01 07 49.7**	**+0.3**
TXAR	**Lajitas Array**	**90.23**	**52**	P		**P**	**01 07 49.7**	**+0.3**
	0.6nm,0.7s,baz=312,slow=3.1,SNR=8.8							
SAML	**Samuel**	**144.35**	**45**	*e*PKPdf		PKPbc	01 14 24.5	+1.0
LPAZ	**La Paz**	**146.79**	**60**	PKPbc		**PKPbc**	**01 14 31.8**	**0.0**
	1.2nm,0.6s,baz=332,slow=7.0,SNR=6.1							
LPAZ	**La Paz**	**146.79**	**60**	*e*PKPdf		**PKPbc**	**01 14 31.4**	**-0.3**
LCO	**Las Campanas**	**152.09**	**83**	*e*PKPbc		**PKPbc**	**01 14 44.6**	**+0.3**
LCO				*e*PKPab		**PKPab**	**01 14 52.2**	**-1.7**

MEX 07 00:56:34.6±0.4,13˚.88N×91˚.48W,h20km±37km,MD3.7, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PCIG		**2.48**	**318**	*e*P		Pn	00 57 11.5	-2.3
PCIG				*e*S		Sn	00 57 40.0	-3.5
TGIG		**3.29**	**332**	*i* P		Pn	00 57 22.8	-2.3
TGIG				*i* S		Sn	00 58 00.4	-3.3

IDC 07 01:06:10.8±27.0,24˚.42S×69˚.21E,h0km,mb3.7/3, mb1 3.7/3,mb1mx3.4/34,mbtmp3.7/3,MS3.4/1,Ms1 3.6/1, ms1mx2.9/31,Error ellipse: s-maj=934.6km s-min=40.5km az=51.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**51.54**	**37**	LR		LR	01 34 20.4	
	comp=Z,35nm,18.6s,baz=330,slow=33							
ASAR	**Alice Springs**	**58.58**	**104**	P		P	01 16 09.8	0.0
	0.3nm,0.7s,baz=242,slow=7.3,SNR=3.1							
MKAR	**Makanchi Array**	**71.86**	**9**	P		P	01 17 34.8	-0.5
	0.7nm,0.8s,baz=208,slow=4.9,SNR=5.0							
ZALV	**Zalesovo Beam**	**79.20**	**9**	P		P	01 18 17.8	+0.5
	0.4nm,0.3s,baz=213,slow=4.8,SNR=3.3							

ISCJB ***07*** *01:17:38.7±0.3,41˚.39N±0˚.03×141˚.29E±0˚.05, h100km±2km,mb4.0/14,Error ellipse: s-maj=5.8km s-min=4.3km az=18.6*

NEIC ***07*** *01:17:39.9±1.0,41˚.34N×141˚.26E,h98km±8km,mb4.2/7, Error ellipse: s-maj=13.8km s-min=8.7km az=169.0*

JMA ***07*** *01:17:39.9,41˚.42N×141˚.34E,h88km±1km,M3.1*

JMA Felt I J1.

IDC ***07*** *01:17:40.7±2.8,41˚.35N×141˚.19E,h104km±24km,mb3.5/8, mb1 3.6/10,mb1mx3.3/44,mbtmp3.8/10,MS4.0/3, Ms1 4.1/3,ms1mx2.8/47,Error ellipse: s-maj=24.0km s-min=20.9km az=149.0*

ISC 07 01:17:39.6±0.8,41˚.40N±0˚.03×141˚.31E±0˚.04,h91km±5km, n54,σ8˚87/64,mb4.1/14,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JAHD	**Aomorihigashid**	**0.13**	**172**	P		**Pn**	**01 17 52.6**	**+0.1**
JAHD				*e*S		**Sn**	**01 18 02.3**	**+0.3**
JOT	**Ohata**	**0.20**	**266**	P		**Pn**	**01 17 52.7**	**+0.1**
JOT				*e*S		**Sn**	**01 18 02.7**	**+0.3**
JARK	**Aomorirokkasho**	**0.39**	**174**	P		**Pn**	**01 17 53.8**	**+0.2**
JARK				*e*S		**Sn**	**01 18 04.7**	**+0.6**
JKB	**Kayabe**	**0.53**	**337**	P		**Pn**	**01 17 54.8**	**+0.2**
JKB				*e*S		**Sn**	**01 18 06.2**	**+0.3**
JTM	**Tenmabayashi**	**0.64**	**197**	P		**Pn**	**01 17 56.0**	**+0.4**
JTM				*e*S		**Sn**	**01 18 07.8**	**+0.3**
JSR	**Shiriuchi**	**0.69**	**281**	P		**Pn**	**01 17 56.4**	**+0.4**
JSR				*e*S		**Sn**	**01 18 08.5**	**+0.3**
JYM2	**Yakumo 2**	**1.01**	**316**	P		**Pn**	**01 18 00.0**	**+0.6**
JYM2				*e*S		**Sn**	**01 18 15.0**	**+0.8**
JANG	**Nango**	**1.03**	**171**	P		**Pn**	**01 17 59.9**	**+0.2**
JANG				*e*S		**Sn**	**01 18 14.7**	**-0.1**
JNB	**Noboribetsu**	**1.09**	**349**	P		**Pn**	**01 18 00.5**	**+0.3**
JNB				*e*S		**Sn**	**01 18 15.6**	**-0.3**
JIW	**Iwasaki**	**1.27**	**231**	P		**Pn**	**01 18 03.4**	**+0.8**
JIW				*e*S		**Sn**	**01 18 20.9**	**+1.0**
JIAM	**Iburiatsuma**	**1.31**	**20**	P		**Pn**	**01 18 03.9**	**+1.0**
JIAM				*e*S		**Sn**	**01 18 21.6**	**+1.1**
JAH	**Hinai**	**1.31**	**203**	P		**Pn**	**01 18 04.2**	**+1.2**
JAH				*e*S		**Sn**	**01 18 22.7**	**+2.0**
JNBK	**Urakawa-nobuka**	**1.39**	**50**	P		**Pn**	**01 18 04.1**	**+0.1**
JEW	**Eniwo**	**1.45**	**4**	P		**Pn**	**01 18 05.2**	**+0.5**
JEW				*e*S		**Sn**	**01 18 23.8**	**+0.2**
ERM	**Erimo**	**1.51**	**65**	*e*Pn		**Pn**	**01 18 06.1**	**+0.6**
ERM				*e*Sn		**Sn**	**01 18 26.1**	**+1.0**
JEM	**Erimo**	**1.51**	**65**	P		**Pn**	**01 18 06.0**	**+0.5**
JOSM	**Okushiri--Mats**	**1.54**	**297**	P		**Pn**	**01 18 05.6**	**-0.2**
JOSM				*e*S		**Sn**	**01 18 25.7**	**+0.1**
JSH	**Shimam**	**1.56**	**323**	P		**Pn**	**01 18 06.7**	**+0.6**
JSH				*e*S		**Sn**	**01 18 26.4**	**+0.2**
JBT2	**Biratori 2**	**1.59**	**29**	P		**Pn**	**01 18 07.1**	**+0.7**
JBT2				*e*S		**Sn**	**01 18 27.8**	**+1.0**
ASAJ	**Asahikawa**	**2.88**	**19**	P		**Pn**	**01 18 24.6**	**+1.1**
	2.1nm,0.3s,baz=204,slow=20,SNR=6.8							
ASAJ					S	**Sn**	**01 18 57.9**	**+0.7**
	2.4nm,0.3s,baz=144,slow=29,SNR=3.9							
ASAJ	**Asahikawa**	**2.88**	**19**	*e*Pn		**Pn**	**01 18 24.3**	**+0.8**
ASAJ				*e*Sn		**Sn**	**01 18 57.6**	**+0.4**
USRK	**Ussuriysk Ar.**	**7.41**	**295**	P		Pn	01 19 27.1	+2.3
	0.4nm,0.3s,baz=96,slow=14,SNR=7.1							
H11N2	**WAKE ISLAND Hy**	**30.65**	**127**		T	T	01 56 17.4	
	baz=321,slow=76,SNR=4.4							
H11N1	**WAKE ISLAND Hy**	**30.66**	**127**		T	T	01 56 18.6	
	baz=321,slow=76,SNR=5.8							
H11N3	**WAKE ISLAND Hy**	**30.67**	**127**		T	T	01 56 19.2	
	baz=321,slow=76,SNR=4.6							
H11S1	**WAKE ISLAND Hy**	**31.48**	**129**		T	T	01 57 19.7	
	baz=323,slow=76,SNR=5.2							
H11S3	**WAKE ISLAND Hy**	**31.48**	**129**		T	T	01 57 19.9	
	baz=323,slow=76,SNR=3.2							
H11S2	**WAKE ISLAND Hy**	**31.50**	**129**		T	T	01 57 21.0	
	baz=323,slow=76,SNR=4.6							
ZAA1	**Zalesovo Array**	**39.02**	**308**	*e*P		**P**	**01 24 55.8**	**-1.2**
ZALV	**Zalesovo Beam**	**39.03**	**308**	P		**P**	**01 24 55.8**	**-1.2**
	0.8nm,0.3s,baz=89,slow=9.7,SNR=4.0							
MK01	**Makanchi Array**	**41.86**	**298**	*e*P		**P**	**01 25 19.7**	**-0.8**
MK32	**Makanchi Array**	**41.86**	**298**	*e*P		**P**	**01 25 20.1**	**-0.5**
MKAR	**Makanchi Array**	**41.86**	**298**	P		**P**	**01 25 20.1**	**-0.5**
	0.7nm,0.5s,baz=86,slow=11,SNR=12							
IM3	**Indian Mountai**	**42.99**	**33**	*e*P		**P**	**01 25 29.9**	**+0.5**
KURK	**Kurchatov**	**43.28**	**305**	*e*P		**P**	**01 25 31.3**	**-0.6**
KURBB	**Kurchatov Arra**	**43.36**	**304**	P		**P**	**01 25 31.3**	**-1.2**
	1.4nm,0.4s,baz=80,slow=8.4,SNR=5.5							
SKT	**Skwentna**	**44.06**	**39**	*e*P		**P**	**01 25 40.9**	**+2.9**
	10nm,0.8s							
MDM	**Murphy Dome**	**45.31**	**34**	*e*P		**P**	**01 25 48.1**	**+0.1**
	2.1nm,1.4s							
ILAR	**Eielson Array**	**45.90**	**35**	P		**P**	**01 25 53.4**	**+0.8**
	0.2nm,0.4s,baz=264,slow=5.3,SNR=4.0							
ILB	**Eielson Array**	**45.90**	**35**	*e*P		**P**	**01 25 53.4**	**+0.8**
HDA	**Harding Lake**	**45.91**	**35**	*e*P		**P**	**01 25 51.6**	**-1.1**
	4.7nm,1.5s							
PAX	**Paxson**	**46.75**	**37**	*e*P		**P**	**01 25 58.6**	**-0.7**
	4.6nm,1.4s							
SCRK	**Sand Creek**	**47.25**	**35**	*e*P		**P**	**01 26 03.6**	**+0.4**
	4.4nm,1.3s							
INK	**Inuvik**	**50.57**	**29**	P		**P**	**01 26 29.3**	**+0.9**
	0.3nm,0.3s,baz=280,slow=4.9,SNR=5.1							
INK	**Inuvik**	**50.57**	**29**	*e*P		**P**	**01 26 29.3**	**+0.9**
	6.0nm,1.4s							
RES	**Resolute Bay**	**58.41**	**15**	LR		LR	01 55 19.3	
	comp=Z,83nm,18.2s,baz=67,slow=39							
ARA0	**ARCESS Array S**	**59.90**	**339**	*e*P		**P**	**01 27 35.0**	**-0.4**
ARCES	**ARCESS Array B**	**59.90**	**339**	P		**P**	**01 27 35.0**	**-0.4**
	1.9nm,0.8s,baz=54,slow=6.2,SNR=4.2							
WR1	**Warramunga Arr**	**61.37**	**187**	*e*P		**P**	**01 27 45.0**	**-0.8**
	3.0nm,1.1s							
WRA	**Warramunga Arr**	**61.37**	**187**	P		**P**	**01 27 45.0**	**-0.8**
	0.2nm,0.6s,baz=6.1,slow=7.0,SNR=3.7							
FIA0	**FINESS Array S**	**64.94**	**331**	*e*P		**P**	**01 28 08.4**	**-0.5**
FINES	**FINESS Array B**	**64.94**	**331**	P		**P**	**01 28 08.4**	**-0.5**
	3.2nm,0.9s,baz=49,slow=13,SNR=3.6							
TXAR	**Lajitas Array**	**87.52**	**52**	LR		LR	02 09 13.5	
	comp=Z,72nm,19.8s,baz=0.0,slow=35							
ESDC	**Sonseca Array**	**93.34**	**334**	LR		LR	02 18 06.4	
	comp=Z,129nm,19.0s,baz=20,slow=39							

IDC 07 01:27:50.2±2.0,32˚.39S×178˚.59W,h0km,mb3.8/2, mb1 4.0/3,mb1mx3.7/27,mbtmp3.8/3,ML3.6/1,Error ellipse: s-maj=48.1km s-min=42.6km az=52.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**6.83**	**210**	Pn		Pn	01 29 32.7	+1.0
	1.1nm,0.3s,baz=348,slow=4.6,SNR=4.5							
URZ				Sn		Sn	01 30 45.4	-4.7
	0.2nm,0.3s,baz=233,slow=20,SNR=3.6							
ASAR	**Alice Springs**	**42.54**	**269**	P		P	01 35 47.3	-0.5
	0.6nm,0.7s,baz=108,slow=7.5,SNR=6.4							
WRA	**Warramunga Arr**	**43.71**	**275**	P		P	01 35 57.1	-0.2
	1.4nm,0.7s,baz=112,slow=8.0,SNR=19							
FINES	**FINESS Array B**	**146.82**	**339**	PKPbc		PKPbc	01 47 33.6	+0.1
	4.9nm,1.0s,baz=44,slow=4.2,SNR=4.1							
TORD	**Torodi Ar. Bea**	**160.85**	**181**	PKPab		PKPab	01 48 33.9	-1.1
	baz=168,slow=5.0							

ISC 07 01:35:57.5±1.2,45˚.08N±0˚.03×14˚.95E±0˚.05,h11km±15km, n7,σ9˚61/14,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
GBRS	**Gornja Briga**	**0.46**	**347**	*i* Pg		**Pg

PCON					*e*S		**Sn**	**02 00 36.6**	**-0.2**
PCON					*i*			02 00 40.6	
	comp=Z,215nm,0.6s								
RUN5	**Runtun**	**2.77**	**170**		P		**Pn**	**02 00 06.7**	**+0.6**
POND	**Pondoa**	**2.77**	**171**		P		**Pn**	**02 00 06.8**	**+0.7**
JUI6	**Juive**	**2.77**	**171**		P		**Pn**	**02 00 06.6**	**+0.6**
BRUN	**Tungurahua Vol**	**2.78**	**170**		P		**Pn**	**02 00 06.6**	**+0.4**
BBIL	**Ulba Tungurahu**	**2.79**	**172**		P		**Pn**	**02 00 07.7**	**+1.3**
BULB	**Ulba Tungurahu**	**2.79**	**170**		P		**Pn**	**02 00 07.0**	**+0.6**
BIL2	**Estacion Bilba**	**2.80**	**172**		P		**Pn**	**02 00 07.5**	**+1.1**
RETU	**Refugio**	**2.80**	**171**		P		**Pn**	**02 00 07.4**	**+0.7**
BMAS	**Trigal station**	**2.85**	**172**		P		**Pn**	**02 00 08.7**	**+1.5**
ARRY	**Arrayan**	**2.85**	**171**		P		**Pn**	**02 00 07.6**	**+0.4**
BPAT	**Tungurahua Vol**	**2.85**	**171**		P		**Pn**	**02 00 08.1**	**+0.7**
PUYO	**Puyo, Santa Ro**	**2.94**	**163**		P		**Pn**	**02 00 08.8**	**+0.6**
RIOE1	**Riobamba**	**3.07**	**175**		P		**Pn**	**02 00 11.0**	**+0.7**
FLOC	**Florencia**	**3.25**	**86**		*e*P		**Pn**	**02 00 12.7**	**+0.4**
MARP	**Paez Belalcaza**	**3.29**	**63**		*e*P		**Pn**	**02 00 14.5**	**+1.3**
MILO	**Milagro-Astudi**	**3.65**	**191**		P		**Pn**	**02 00 16.6**	**-1.2**
COHC	**Cochancay**	**3.79**	**186**		P		**Pn**	**02 00 20.0**	**+0.2**
SALI	**Salinas**	**4.08**	**211**		P		**Pn**	**02 00 23.8**	**0.0**
MORR	**Playas El Morr**	**4.21**	**200**		P		**Pn**	**02 00 26.8**	**+1.3**
PLMC	**San Jos¨ del**	**4.40**	**36**		*e*P		**Pn**	**02 00 27.4**	**-0.8**
RREF	**El Recreo**	**5.01**	**45**		*e*P		**Pn**	**02 00 38.1**	**+1.0**

IDC 07 02:10:47.4±1.9, 24°00S×69°92E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/36, mbtmp3.6/4, Error ellipse: s-maj=59.0km s-min=36.4km az=83.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**16.45**	**9**	T	T	02 31 40.7	
	baz=190,slow=76,SNR=16						
H08S2	**Diego Garcia H**	**16.45**	**9**	T	T	02 31 37.1	
	baz=190,slow=76,SNR=18						
H08S3	**Diego Garcia H**	**16.47**	**9**	T	T	02 31 41.0	
	baz=190,slow=76,SNR=14						
ASAR	**Alice Springs**	**58.05**	**104**	P	P	02 20 42.4	-0.3
	0.4nm,0.7s,baz=263,slow=5.5,SNR=5.2						
WRA	**Warramunga Arr**	**59.43**	**100**	P	P	02 20 52.5	+0.1
	0.5nm,0.7s,baz=252,slow=7.0,SNR=5.1						
VNDA	**Vanda**	**67.16**	**166**	P	P	02 21 42.8	+0.1
	0.6nm,0.9s,baz=275,slow=8.1,SNR=2.9						
MKAR	**Makanchi Array**	**71.35**	**9**	P	P	02 22 08.9	0.0
	0.6nm,0.9s,baz=144,slow=5.4,SNR=4.2						

*SAR **07** 02:11:45.1±0.8, 42°01N×20°18E, h5km±4km, ML2.5/7*
*SKO **07** 02:11:45.8, 42°16N×20°22E, h4km, M1.5, ML2.3*
*PDG **07** 02:11:45.9±0.2, 42°10N×20°14E, h16km, ML2.4/10, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
*SIK **07** 02:11:45.8±1.7, 42°1N±0°1×20°16E±0°07, h0km, ML2.7, Error ellipse: s-maj=36.8km s-min=18.3km az=172.0*
*TIR **07** 02:11:45.7, 42°09N×20°18E, h2km, Md2.7/5*
*BEO **07** 02:11:46.8±0.2, 42°12N×20°11E, h0km, ML2.0/14*

ISC 07 02:11:45.5±1.1, 42°12N±0°02×20°16E±0°01, h4km±9km, n63, σ1§70/119, 14C-11D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.21**	**250**	*i* PG	**Pg**	**02 11 50.3**	**+0.6**
PUK				*i* SG	**Sg**	**02 11 54.1**	**+1.5**
BCI	**Bajram Curri**	**0.26**	**344**	*i* PG	**Pg**	**02 11 51.7**	**+1.1**
BCI				*i* SG	**Sb**	**02 11 56.7**	**-1.0**
PRZK	**Prizren**	**0.45**	**78**	⇑Pg	**Pb**	**02 11 55.5**	**-0.6**
PRZK				*i* Sg	**Sb**	**02 12 02.2**	**-1.1**
PRZK				*i* Sg	Sg	02 12 10.7	+11
PRZK	**Prizren**	**0.45**	**78**	⇑Pg	**Pb**	**02 11 55.5**	**-0.6**
PRZK				*i* Sg	**Sg**	**02 12 00.7**	**+0.6**
PRZK				*i* Sg	**Sb**	**02 12 01.0**	**-2.2**
ZATK	**Zatriq**	**0.48**	**46**	⇑Pg	**Pb**	**02 11 55.6**	**-0.9**
ZATK				*i* Sg	**Sg**	**02 12 00.1**	**-0.8**
ZATK				*i* Sg	**Sb**	**02 12 09.2**	**+5.1**
ZATK	**Zatriq**	**0.48**	**46**	⇓Pg	**Pb**	**02 11 55.8**	**-0.8**
ZATK				*i* Sg	**Sb**	**02 12 02.9**	**-1.1**
ZATK				*i* Sg	Sg	02 12 13.1	+12
PHP	**Peshkopia**	**0.48**	**154**	*i* PG	**Pg**	**02 11 54.6**	**-0.1**
PHP				*i* SG	**Sb**	**02 12 02.6**	**-1.4**
PVY	**Plav**	**0.50**	**343**	⇓*i*Pg	**Pb**	**02 11 56.1**	**-1.0**
PVY				*e*Sg	**Sb**	**02 12 04.2**	**-0.6**
ULC	**Ulcinj**	**0.70**	**258**	⇓*i*Pg	**Pg**	**02 11 58.9**	**-0.1**
ULC				*e*Sg	**Sb**	**02 12 09.8**	**-0.6**
ULC	**Ulcinj**	**0.70**	**258**	⇑Pg	**Pg**	**02 11 59.4**	**+0.4**
ULC	**Ulcinj**	**0.70**	**258**	⇑Pg	**Pg**	**02 11 59.4**	**+0.4**
DRME	**Dracevica, Mon**	**0.73**	**276**	⇓*i*Pg	**Pg**	**02 11 59.2**	**-0.4**
DRME				*e*Sg	**Sb**	**02 12 11.1**	**-0.1**
DRME	**Dracevica, Mon**	**0.73**	**276**	⇑*i*Pg	**Pg**	**02 11 58.9**	**-0.7**
DRME				*e*Sg	**Sb**	**02 12 10.1**	**-1.1**
PDG	**Podgorica**	**0.74**	**295**	*e*Pg	**Pg**	**02 11 59.1**	**-0.8**
PDG				*e*Sg	**Sg**	**02 12 08.3**	**-1.2**
PDG	**Podgorica**	**0.74**	**295**	⇑*i*Pg	**Pg**	**02 11 59.0**	**-0.8**
PDG				*e*Sg	**Sb**	**02 12 10.8**	**-0.8**
TTG	**Podgorica**	**0.74**	**295**	⇓*i*Pg	**Pg**	**02 11 59.2**	**-0.6**
TTG				*e*Sg	**Sb**	**02 12 11.6**	**0.0**
BEY	**Berane**	**0.78**	**345**	⇓Pg	**Pb**	**02 12 01.5**	**-0.3**
BEY	**Berane**	**0.78**	**345**	⇓Pg	**Pb**	**02 12 01.5**	**-0.3**
IVA	**Berane**	**0.78**	**345**	⇓*i*Pg	**Pb**	**02 12 01.1**	**-0.7**
IVA				*e*Sg	**Sn**	**02 12 13.4**	**-2.3**
TIR	**Tirane**	**0.80**	**196**	*e*Pg	**Pg**	**02 12 01.2**	**+0.4**
TIR				*e*Sg	**Sg**	**02 12 11.6**	**+0.4**
TIR	**Tirane**	**0.80**	**196**	*i* PG	**Pg**	**02 12 01.2**	**+0.4**
TIR				*i* SG	**Sn**	**02 12 14.3**	**-1.6**
KOME	**Kolasin**	**0.88**	**327**	⇑*i*Pg	**Pg**	**02 12 02.4**	**0.0**
KOME				*e*Sg	**Sn**	**02 12 16.4**	**-1.7**
SMRK	**Smrekonice**	**0.95**	**37**	⇑Pg	**Pn**	**02 12 05.8**	**+0.1**
SMRK				*i* Sg	**Sg**	**02 12 09.7**	**-6.4**
SMRK				*i* Sg	**Sn**	**02 12 27.5**	**+7.7**
SMRK	**Smrekonice**	**0.95**	**37**	⇑Pg	**Pn**	**02 12 05.8**	**+0.1**
SMRK				*i* Sg	**Sg**	**02 12 11.9**	**-4.2**
SMRK				*i* Sg	**Sn**	**02 12 27.2**	**+7.4**
BUM	**Brajici-Budva**	**0.96**	**282**	⇓*i*Pg	**Pg**	**02 12 04.0**	**0.0**
BUM				*e*Sg	**Sn**	**02 12 18.8**	**-1.3**
SKO	**Skopje**	**0.96**	**98**	*e*Pg	**Pb**	**02 12 04.8**	**0.0**
SKO				*e*Sg	**Sb**	**02 12 17.8**	**-0.1**
SKO	**Skopje**	**0.96**	**98**	*i* Pg	**Pg**	**02 12 02.3**	**-1.7**
SKO				*i* Sg	**Sg**	**02 12 15.5**	**-1.0**
SKO				*e*Lg	Lg	02 12 18.6	
	comp=E,6.5nm,0.3s						
SKO				*e*Lg	Lg	02 12 18.9	
	comp=N,8.1nm,0.3s						
CEME	**Cevo**	**1.02**	**295**	⇑*i*Pg	**Pg**	**02 12 04.2**	**-0.9**
CEME				*e*Sg	**Sn**	**02 12 21.2**	**-0.3**
KRUS	**Krusevo**	**1.10**	**132**	⇑*i*Pg	**Pg**	**02 12 06.0**	**-0.7**
KRUS				*i* Sg	**Sg**	**02 12 21.3**	**+0.3**
KRUS				*e*Lg	Lg	02 12 23.2	
	comp=E,12nm,0.5s						
KRUS				*e*Lg	Lg	02 12 23.3	
	comp=N,14nm,0.3s						
NKME	**Niksic**	**1.11**	**306**	⇑*i*Pg	**Pb**	**02 12 06.1**	**-1.2**
NKME				*e*Sg	**Sn**	**02 12 24.0**	**+0.3**
NKY	**Niksic**	**1.11**	**309**	⇑*i*Pg	**Pg**	**02 12 06.5**	**-0.4**
NKY				*e*Sg	**Sn**	**02 12 24.0**	**+0.1**
OHR	**Ohrid**	**1.11**	**154**	⇑*i*Pg	**Pb**	**02 12 06.1**	**-1.3**
OHR				*i* Sg	**Sb**	**02 12 21.6**	**-0.6**
OHR				*e*Lg	Lg	02 12 24.5	
	comp=E,60nm,0.7s						
OHR				*e*Lg	Lg	02 12 24.6	
	comp=N,50nm,0.5s						
SJES	**Sjenica**	**1.15**	**353**	*e*Pg	**Pn**	**02 12 08.0**	**-0.6**
SJES				*e*Sg	**Sn**	**02 12 24.0**	**-0.9**
HCY	**Herceg Novi**	**1.28**	**286**	⇑*i*Pg	**Pn**	**02 12 09.2**	**-1.1**
HCY				*e*Sg	**Sg**	**02 12 29.7**	**+3.0**
HCY	**Herceg Novi**	**1.28**	**286**	⇓*i*Pg	**Pn**	**02 12 08.8**	**-1.5**
HCY				*e*Sg	**Sg**	**02 12 27.0**	**+0.3**
SELS	**Selova**	**1.31**	**32**	*e*Pg	**Pn**	**02 12 10.1**	**-0.6**
SELS				*e*Sg	**Sg**	**02 12 29.0**	**+1.4**
PLE	**Pljevlja**	**1.34**	**335**	⇑*i*Pg	**Pb**	**02 12 11.1**	**-0.2**
PLE				*e*Sg	**Sg**	**02 12 31.5**	**+2.8**
BIA	**Bitola**	**1.40**	**141**	*i* Pg	**Pb**	**02 12 11.7**	**-0.5**
BIA				*i* Sg	**Sg**	**02 12 30.7**	**+0.2**
BIA				*e*Lg	Lg	02 12 32.7	
	comp=N,12nm,0.4s						
BIA				*e*Lg	Lg	02 12 33.2	
	comp=E,21nm,0.6s						
BARS	**Barje**	**1.41**	**60**	*e*Pg	**Pg**	**02 12 12.4**	**-0.2**
BARS				*e*Sg	**Sg**	**02 12 32.2**	**+1.4**
UPM	**Unac-Piva**	**1.43**	**320**	⇑*i*Pg	**Pg**	**02 12 12.9**	**-0.1**
UPM				*e*Sg	**Sg**	**02 12 33.0**	**+1.5**
UPM	**Unac-Piva**	**1.43**	**320**	⇑Pg	**Pg**	**02 12 13.4**	**+0.5**
UPM	**Unac-Piva**	**1.43**	**320**	⇑P	**Pg**	**02 12 13.4**	**+0.5**
UPM	**Unac-Piva**	**1.43**	**320**	⇑*i*Pn	**Pb**	**02 12 12.3**	**-0.6**
UPM				*e*Sn	**Sg**	**02 12 33.2**	**+1.7**
BRY	**Bratogost**	**1.44**	**304**	⇓*i*Pg	**Pn**	**02 12 11.9**	**-0.6**
BRY				*e*Sg	**Sg**	**02 12 33.5**	**+1.8**
BRY	**Bratogost**	**1.44**	**304**	⇑*i*Pg	**Pn**	**02 12 12.1**	**-0.4**
BRY				*e*Sg	**Sg**	**02 12 32.4**	**+0.7**
TREB	**Trebinje**	**1.47**	**295**	*e*Pn	**Pb**	**02 12 13.5**	**0.0**
TREB				*e*Sn	**Sg**	**02 12 33.9**	**+1.1**
TREB	**Trebinje**	**1.47**	**295**	⇑*i*Pn	**Pn**	**02 12 12.4**	**-0.5**
TREB				*e*Sn	**Sg**	**02 12 33.4**	**+0.6**
KBN	**Korca**	**1.56**	**162**	*i* PN	**Pg**	**02 12 16.7**	**+1.2**
STIP	**Stip**	**1.57**	**105**	*i* Pn	**Pg**	**02 12 16.3**	**+0.7**
STIP				*i* Sg	**Sg**	**02 12 39.8**	**+3.8**
STIP				*e*Lg	Lg	02 12 42.0	
	comp=N,4.4nm,0.4s						
STIP				*e*Lg	Lg	02 12 42.2	
	comp=E,5.3nm,0.4s						
GRUS	**Gruza**	**1.82**	**13**	*e*Pn	**Pg**	**02 12 20.2**	**-0.2**
GRUS				*e*Sn	**Sg**	**02 12 43.4**	**-0.6**
BBLS	**Lazići**	**1.84**	**343**	*e*Pg	**Pb**	**02 12 19.4**	**-0.3**
BBLS				*e*Sg	**Sg**	**02 12 44.8**	**+0.3**
BBLS	**Lazići**	**1.84**	**343**	*e*Pn	**Pb**	**02 12 19.0**	**-0.7**
BBLS				*e*Sn	**Sb**	**02 12 43.4**	**+0.3**
BOVS	**Bovan**	**1.90**	**36**	*e*Pn	**Pb**	**02 12 20.7**	**0.0**
BOVS				*e*Sn	**Sg**	**02 12 45.4**	**-1.0**
STON	**Ston**	**1.97**	**293**	*e*Pn	**Pb**	**02 12 20.9**	**-1.1**
DIVS	**Divibare**	**1.99**	**356**	*e*Pn	**Pb**	**02 12 20.8**	**-1.5**
DIVS				*e*Sn	**Sb**	**02 12 47.0**	**-0.5**
DIVS	**Divibare**	**1.99**	**356**	*e*Pn	**Pn**	**02 12 20.6**	**+0.6**
DIVS				*e*Sn	**Sb**	**02 12 46.9**	**-0.5**
TRUS	**Trudelj**	**2.12**	**5**	*e*Pn	**Pb**	**02 12 23.6**	**-0.9**
TRUS				*e*Sn	**Sb**	**02 12 50.2**	**-0.9**
ZAPS	**Zavoj**	**2.16**	**57**	*e*Pn	**Pb**	**02 12 24.1**	**-1.1**
ZAPS				*e*Sn	**Sb**	**02 12 51.0**	**-1.4**
HAPS	**Han Pijesak,Bl**	**2.16**	**336**	*e*Pn	**Pn**	**02 12 23.2**	**+0.7**
HAPS				*e*Sn	**Sb**	**02 12 51.2**	**-1.3**
ZAGS	**Zajecar**	**2.28**	**41**	*e*Pn	**Pb**	**02 12 26.7**	**-0.5**
KUBS	**Kucevo**	**2.55**	**25**	*e*Pn	**Pb**	**02 12 29.7**	**-2.1**
BLY	**Banja Luka**	**3.41**	**322**	*e*Pn	**Pn**	**02 12 40.2**	**+0.7**
BLY				*e*Sn	**Sn**	**02 13 21.3**	**+0.9**
UDBI	**Udbina**	**4.01**	**308**	*e*Pn	**Pn**	**02 12 51.2**	**+3.3**

*ISCJB **07** 02:46:58.6±0.4, 30°55S±0°05×178°05W±0°07, h46km, mb4.6/22, MS3.4/5, Error ellipse: s-maj=9.6km s-min=6.6km az=28.0*
*NEIC **07** 02:47:00.0±1.2, 30°32S×177°97W, h50km±10km, mb4.5/21, Error ellipse: s-maj=11.2km s-min=8.1km az=127.0*
*IDC **07** 02:47:00.2±1.5, 30°24S×177°97W, h50km±12km, mb4.2/8, mb1 4.4/9, mb1mx4.1/29, mbtmp4.4/9, ML4.6/1, MS3.4/9, Ms1 3.4/9, ms1mx3.3/27, Error ellipse: s-maj=18.4km s-min=14.0km az=105.0*

ISC 07 02:46:59.1±0.5, 30°44S±0°06×178°0W±0°1, h46km, n92, σ1§73/89, mb4.7/22, MS3.5/5, 2C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.18**	**4**	P	**Pn**	**02 47 17.3**	**-1.9**
	299nm,0.3s,baz=49,slow=23,SNR=22						
RAO				LR	LR	02 47 19.6	
	comp=Z,315nm,19.8s,baz=140,slow=20						
RAO				S	**Sn**	**02 47 30.5**	**-3.6**
	2µm,0.3s,baz=323,slow=23,SNR=34						
RAO	**Raoul Island**	**1.18**	**4**	*e*Pn	**Pn**	**02 47 17.3**	**-1.9**
RAO				*e*Sn	**Sn**	**02 47 33.5**	**-0.6**
OUZ	**Omahuta**	**8.52**	**234**	*e*Pn	Pn	02 49 07.4	+7.5
URZ	**Urewera**	**8.78**	**206**	P	**Pn**	**02 49 00.4**	**-3.1**
	0.9nm,0.3s,baz=268,slow=3.2,SNR=6.7						
URZ				S	**Sn**	**02 50 39.3**	**-1.7**
	6.2nm,0.3s,baz=222,slow=23,SNR=14						
URZ	**Urewera**	**8.78**	**206**	*e*Pn	**Pn**	**02 49 00.7**	**-2.7**
URZ				*e*Sn	**Sn**	**02 50 40.6**	**-0.5**
BKZ	**Black Stump Fm**	**9.81**	**206**	*e*Pn	**Pn**	**02 49 16.6**	**-1.0**
BFZ	**Birch Farm**	**11.24**	**203**	*e*Pn	**Pn**	**02 49 35.9**	**-1.2**
THZ	**Tophouse**	**13.47**	**210**	*e*Sn	**Sn**	**02 52 27.6**	**-8.2**
OXZ	**Oxford**	**15.11**	**209**	*e*Pn	**P**	**02 50 31.8**	**-2.1**
	22nm,0.5s						
OXZ				*e*Sn	Sn	02 53 02.2	-14
RPZ	**Rata Peaks**	**15.85**	**210**	P	**P**	**02 50 40.6**	**-1.5**
	2.4nm,0.3s,baz=30,slow=5.3,SNR=10						
RPZ				S	Sn	02 53 17.9	-16
	0.5nm,0.3s,baz=206,slow=19,SNR=4.3						
RPZ				LR	LR	02 56 30.1	
	comp=Z,178nm,21.2s,baz=42,slow=36						
RPZ	**Rata Peaks**	**15.85**	**210**	*e*Pn	**P**	**02 50 40.6**	**-1.5**
	26nm,1.3s						
RPZ				*e*Sn	Sn	02 53 17.9	-16
DZM	**Mont Dzumac**	**16.23**	**297**	LR	LR	02 55 58.8	
	comp=Z,212nm,18.2s,baz=52,slow=33						
DZM	**Mont Dzumac**	**16.23**	**297**	*e*P	P	02 50 59.3	+13
	27nm,0.6s						
DZM				*e*LR	LR	02 54 59.2	
	385nm,24.0s						
FOZ	**Fox Glacier**	**16.27**	**213**	*e*Pn	**Pn**	**02 50 42.3**	**-2.0**
	9.1nm,0.9s						
AFI	**Afiamalu**	**17.42**	**21**	LR	LR	02 57 51.4	
	comp=Z,47nm,18.7s,baz=67,slow=38						
WKZ	**Wanaka**	**17.63**	**212**	*e*Pn	**Pn**	**02 50 57.5**	**-3.8**
	16nm,1.3s						
RAR	**Rarotonga**	**18.79**	**65**	LR	LR	02 56 41.3	
	comp=Z,105nm,21.9s,baz=240,slow=31						
TBI	**Tubuai**	**26.38**	**81**	*e*LR	LR	02 58 49.0	
	191nm,27.2s,baz=235						
TBI	**Tubuai**	**26.38**	**81**	*e*T	T	03 18 54.0	
	33nm,0.4s						
EIDS	**Eidsvold**	**27.73**	**273**	*e*P	**P**	**02 52 46.2**	**+2.8**
	6.9nm,0.8s						
PAE	**Paea**	**28.82**	**70**	*e*T	T	03 22 10.5	
	6.5nm,0.3s						
PPT2	**Papeete2**	**28.86**	**70**	*e*LR	LR	03 00 03.7	
	188nm,27.0s,baz=225						
PPT2	**Papeete2**	**28.86**	**70**	*e*T	T	03 22 15.6	
	5.8nm,0.3s						
PPT	**Papeete**	**28.87**	**70**	LR	LR	03 01 10.9	
	comp=Z,51nm,21.4s,baz=240,slow=30						
TVO	**Taravao**	**29.02**	**71**	*e*T	T	03 22 26.2	
	2.0nm,0.3s						
HNR	**Honiara**	**29.32**	**311**	LR	LR	03 03 09.6	
	comp=Z,42nm,20.4s,baz=69,slow=33						
VAH	**Vaihoa**	**31.70**	**68**	*e*T	T	03 25 48.6	
	24nm,0.3s						
CTAO	**Charters Tower**	**33.80**	**279**	*e*P	**P**	**02 53 40.1**	**+3.2**
	14nm,0.6s						
STKA	**Stephens Creek**	**34.46**	**257**	P	**P**	**02 53 45.6**	**+3.1**
	22nm,0.8s,baz=97,slow=9.8,SNR=40						
STKA				LR	LR	03 06 36.8	
	comp=Z,91nm,19.0s,baz=35,slow=34						
STKA	**Stephens Creek**	**34.46**	**257**	*e*P	**P**	**02 53 45.7**	**+3.1**
	4.7nm,0.8s						
RKT	**Rikitea**	**38.92**	**90**	*e*T	T	03 34 24.3	
	1.6nm,0.3s						
BBOO	**Buckleboo**	**38.95**	**254**	*e*P	**P**	**02 54 21.9**	**+1.1**
	14nm,0.9s						
AS01	**Alice Springs**	**43.06**	**267**	*e*P	**P**	**02 54 55.7**	**+1.0**
AS31	**Alice Springs**	**43.10**	**267**	*e*P	**P**	**02 54 55.3**	**+0.3**
	1.4nm,0.6s						
AS31				*e*ScP	**ScP**	**03 00 31.4**	**-0.4**
ASAR	**Alice Springs**	**43.10**	**267**	P	**P**	**02 54 56.0**	**+1.0**
	4.0nm,0.6s,baz=105,slow=7.3,SNR=40						
ASAR				ScP	**ScP**	**03 00 31.4**	**-0.4**
	0.7nm,0.9s,baz=108,slow=5.9,SNR=3.6						
WB2	**Warramunga Arr**	**44.08**	**272**	*e*P	**P**	**02 55 03.5**	**+0.6**
WRAB	**Tennant Creek**	**44.08**	**272**	*e*P	**P**	**02 55 04.0**	**+1.1**
	12nm,0.8s						
WR1	**Warramunga Arr**	**44.09**	**272**	*e*P	**P**	**02 55 03.5**	**+0.5**
	15nm,0.8s						
WR1				*e*S	**S**	**03 01 33.0**	**+0.4**
WRA	**Warramunga Arr**	**44.09**	**272**	P	**P**	**02 55 03.5**	**+0.5**
	12nm,0.6s,baz=112,slow=7.9,SNR=112						
WRA				S	**S**	**03 01 33.0**	**+0.4**
	1.3nm,0.9s,baz=112,slow=13,SNR=4.9						
WRA				PKiKP	**PKiKP**	**03 03 47.6**	**-1.1**
	0.3nm,0.7s,baz=63,slow=0.2,SNR=4.8						
WRA				LR	LR	03 13 32.0	
	comp=Z,71nm,18.7s,baz=70,slow=36						
SBA	**Scott Base**	**48.00**	**184**	*e*P	P	02 55 37.5	+4.5
	7.1nm,1.0s						
VNDA	**Vanda**	**48.06**	**186**	P	**P**	**02 55 36.5**	**+3.1**
	0.7nm,0.6s,baz=4.0,slow=6.6,SNR=13						
VNDA	**Vanda**	**48.06**	**186**	*e*P	**P**	**02 55 36.4**	**+2.9**
	3.6nm,1.3s						
MTN	**Manton Dam**	**49.98**	**279**	*e*P	**P**	**02 55 49.1**	**+0.2**
	4.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**52.35**	**270**	*e*P	**P**	**02 56 08.0**	**+1.2**
	5.2nm,0.8s						
CASY	**Casey**	**55.10**	**208**	*e*P	**P**	**02 56 26.3**	**+0.1**
	18nm,0.6s						
QSPA	**South Pole Qui**	**59.67**	**180**	*e*P	**P**	**02 57 00.9**	**+2.3**
	13nm,0.7s						
MAW	**Mawson**	**72.27**	**201**	P	**P**	**02 58 20.1**	**+0.9**
	3.6nm,0.8s,baz=162,slow=5.2,SNR=10						
MAW				LR	LR	03 28 49.9	
	comp=Z,62nm,19.0s,baz=66,slow=35						
MAW	**Mawson**	**72.27**	**201**	*e*P	**P**	**02 58 20.6**	**+1.4**
	0.9nm,0.8s						
SYO	**Syowa Base**	**77.08**	**193**	⇑*e*P	**P**	**02 58 46.0**	**-1.0**
SYO	**Syowa Base**	**77.08**	**193**	⇑*i*P	**P**	**02 58 47.6**	**+0.6**
SNAA	**Sanae**	**78.12**	**178**	P	**P**	**02 58 53.5**	**+0.6**
SNAA	**Sanae**	**78.12**	**178**	*e*P	**P**	**02 58 53.7**	**+0.8**
	6.1nm,1.1s						
VNA3	**Neumayer Olymp**	**78.27**	**176**	P	**P**	**02 58 54.3**	**+0.6**
VNA2	**Neumayer--Watz**	**78.70**	**177**	P	**P**	**02 58 56.8**	**+0.7**
	baz=177,slow=4.6						
VNA1	**Neumayer--Stat**	**78.93**	**177**	P	**P**	**02 58 57.9**	**+0.6**
PETK	**Petropavlovsk-**	**85.84**	**346**	P	**P**	**02 59 33.8**	**+0.5**
	6.5nm,0.8s,baz=148,slow=10,SNR=11						
PETK	**Petropavlovsk-**	**85.84**	**346**	*e*P	P	02 59 36.6	+3.2
PEA1	**Petropavlovsk-**	**85.85**	**346**	*e*P	**P**	**02 59 33.8**	**+0.5**
ISA	**Isabella, Lake**	**86.33**	**45**	*e*P	**P**	**02 59 37.9**	**+1.6**
ISA				*e*pP	**sP**	**02 59 53.8**	**-1.2**
CMB	**Columbia Colle**	**86.79**	**42**	*e*P	**P**	**02 59 39.6**	**+1.1**
	2.2nm,0.8s						
NV01	**Mina Array Sit**	**88.27**	**43**	*e*P	**P**	**02 59 46.8**	**+1.0**
NV01				*e*pP	**sP**	**03 00 02.3**	**-2.3**
NVAR	**Mina Array Bea**	**88.27**	**43**	P	**P**	**02 59 46.8**	**+1.0**
	1.2nm,0.7s,baz=223,slow=8.6,SNR=11						
X16A	**Lo Mia Camp, P**	**89.98**	**49**	*e*P	**P**	**02 59 56.1**	**+2.3**
X16A				*e*pP	**sP**	**03 00 12.0**	**-0.7**
U15A	**North Rim**	**90.66**	**47**	*e*P	**P**	**02 59 59.1**	**+2.0**
	3.3nm,0.9s						
LTX	**Lajitas**	**92.42**	**57**	*e*P	**P**	**03 00 05.0**	**-0.1**
LTX				*e*PKKPdf	**PKKPbc**	**03 17 20.4**	**+1.3**
TXAR	**Lajitas Array**	**92.42**	**57**	P	**P**	**03 00 05.0**	**-0.1**
	0.4nm,0.9s,baz=224,slow=3.5,SNR=3.5						
TXAR				PKKPbc	**PKKPbc**	**03 17 20.4**	**+1.3**
	0.2nm,0.7s,baz=39,slow=3.5,SNR=5.6						
MK32	**Makanchi Array**	**117.79**	**310**	*e*PKPdf	**PKPdf**	**03 05 39.0**	**-1.1**
MKAR	**Makanchi Array**	**117.79**	**310**	PKP	**PKPdf**	**03 05 39.0**	**-1.1**
	0.9nm,0.6s,baz=111,slow=0.7,SNR=7.9						
ZALV	**Zalesovo Beam**	**118.05**	**318**	PKP	**PKPdf**	**03 05 39.5**	**-0.9**
	0.8nm,0.5s,baz=343,slow=1.9,SNR=4.1						
ZAA1	**Zalesovo Array**	**118.05**	**318**	*e*PKPdf	**PKPdf**	**03 05 39.5**	**-0.9**
NRN	**Naryn**	**120.74**	**303**	*e*PKPdf	**PKPdf**	**03 05 46.8**	**+0.4**
KK31	**Karatay Array**	**125.09**	**304**	*e*PKPdf	**PKPdf**	**03 05 54.3**	**+0.1**
KKAR	**Karatay Array**	**125.09**	**304**	*e*PKPdf	**PKPdf**	**03 05 54.3**	**+0.1**
ARA0	**ARCESS Array S**	**138.62**	**348**	*e*PKPpre	PKPpre	03 06 13.8	
AR

JIH	**Iheya**	**1.64**	**24**	P	**Pb**	**03 38 16.8**	**-0.4**
JIH				*e*S	**Sn**	**03 38 34.9**	**-1.0**
JOGS	**Gusukube**	**1.82**	**245**	P	**Pn**	**03 38 19.0**	**+1.1**
JIKM	**Ikemajima**	**1.89**	**251**	P	**Pb**	**03 38 20.8**	**-0.7**
JIKM				*e*S	**Sn**	**03 38 43.2**	**+1.1**
JMJ	**Miyako jima 2**	**1.89**	**248**	P	**Pb**	**03 38 20.6**	**-0.9**
JMJ				*e*S	**Sn**	**03 38 42.9**	**+0.8**
JIRB	**Irabujima**	**1.98**	**250**	P	**Pb**	**03 38 22.1**	**-1.0**
KSRS	**Korea Array**	**11.89**	**3**	LR	LR	03 45 46.4	
	comp=Z,41nm,19.2s,baz=335,slow=40						
MA2	**Magadan**	**37.76**	**19**	LR	LR	04 01 05.8	
	comp=Z,23nm,18.2s,baz=326,slow=37						
MKAR	**Makanchi Array**	**41.32**	**313**	P	**P**	**03 45 31.2**	**-0.9**
	0.6nm,0.4s,baz=101,slow=11,SNR=11						
WRA	**Warramunga Arr**	**45.73**	**171**	P	**P**	**03 46 07.5**	**-0.4**
	1.4nm,0.7s,baz=353,slow=8.7,SNR=15						
ASAR	**Alice Springs**	**49.34**	**172**	P	**P**	**03 46 35.8**	**0.0**
	0.3nm,0.5s,baz=354,slow=14,SNR=4.5						
BRTR	**Keskin Array B**	**76.74**	**308**	P	**P**	**03 49 38.4**	**+0.3**
	0.8nm,0.9s,baz=57,slow=5.3,SNR=3.4						

MEX 07 03:50:36.9±0.9, 15°59'N×93°53'W, h89km±8km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.32**	**69**	*e*P	Pn	03 50 49.2	-1.2
PCIG				*e*S	Sn	03 50 59.3	-1.1
TGIG		**1.25**	**18**	*e*P	Pn	03 50 58.6	-0.9
TGIG				*e*S	Sn	03 51 14.2	-2.4
CCIG	**Comitan**	**1.51**	**63**	*e*P	Pn	03 51 01.9	-1.0
CCIG				*e*S	Sn	03 51 20.9	-1.6
CMIG	**Matias Romero**	**1.98**	**319**	*e*P	Pn	03 51 08.2	-0.6
CMIG				*i* S	Sn	03 51 31.5	-1.6
HUIG	**Huatulco**	**2.49**	**274**	*e*P	Pn	03 51 13.8	-1.8
HUIG				*e*S	Sn	03 51 43.5	-1.7

IDC 07 03:58:33.5±1.3, 8°23'N×127°95'E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/45, mbtmp3.6/4, MS2.9/1, Ms1 2.9/1, ms1mx2.1/39, Error ellipse: s-maj=77.8km s-min=27.9km az=81.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**18.81**	**193**	LR	LR	04 14 21.6	
	comp=Z,34nm,18.9s,baz=351,slow=50						
WRA	**Warramunga Arr**	**28.70**	**167**	P	P	04 04 33.4	+0.8
	0.6nm,0.7s,baz=349,slow=8.6,SNR=9.2						
ASAR	**Alice Springs**	**32.23**	**170**	P	P	04 05 02.9	-1.0
	0.4nm,0.8s,baz=357,slow=14,SNR=3.8						
ILAR	**Eielson Array**	**80.55**	**26**	P	P	04 10 47.7	+0.2
	0.3nm,1.0s,baz=264,slow=3.6,SNR=4.0						
BRTR	**Keskin Array B**	**88.10**	**310**	P	P	04 11 26.5	-0.1
	0.6nm,0.9s,baz=79,slow=6.4,SNR=3.6						

*IDC **07** 04:07:56.4±0.7, 25°50'N×127°07'E, h0km, mb3.9/12, mb1 4.0/13, mb1mx3.8/40, mbtmp3.9/13, ML4.2/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/46, Error ellipse: s-maj=24.7km s-min=15.2km az=80.0*

*ISCJB **07** 04:07:57.3±0.4, 25°44'N±0°04'×127°12'E±0°06, h19km, mb4.1/18, Error ellipse: s-maj=8.0km s-min=4.5km az=29.3*

*NEIC **07** 04:07:59.7±1.7, 25°48'N×127°08'E, h22km±12km, mb4.3/6, Error ellipse: s-maj=6.5km s-min=5.1km az=104.0*

*NIED **07** 04:08:00, 25°50'N×127°20'E, h26km, Mw3.9 Best double couple: M₀8.20000×10¹⁴ NP1:φ₀194.00000°, δ23.00000°, λ80.00000°. NP2:φ₀25.00000°, δ67.00000°, λ94.00000°.*

*JMA **07** 04:08:01.2±0.2, 25°52'N×127°25'E, h43km±4km, M3.7*

ISC 07 04:07:59.0±0.6, 25°48'N±0°06×127°18'E±0°05, h19km, n47, σ0°974/50, mb4.0/18, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**0.86**	**40**	P	**Pg**	**04 08 16.1**	**+0.3**
JKE	**Kume jima 2**	**0.91**	**337**	P	**Pn**	**04 08 17.9**	**+1.0**
JAGN	**Aguni-jima**	**1.10**	**3**	P	**Pg**	**04 08 20.2**	**-0.3**
JAGN				*e*S	**Sn**	**04 08 34.6**	**+0.4**
JNTH	**Nagotoyohara**	**1.28**	**36**	P	**Pn**	**04 08 21.8**	**-0.2**
JOW	**Kunigami**	**1.67**	**36**	Pn	**Pn**	**04 08 27.7**	**+0.4**
	50nm,0.3s,baz=132,slow=24,SNR=50						
JOW				LR	LR	04 09 08.9	
	comp=Z,110nm,20.9s,baz=318,slow=42						
JOW	**Kunigami**	**1.67**	**36**	*e*Pn	**Pb**	**04 08 28.6**	**-0.6**
JOW				*e*Sn	**Sn**	**04 08 46.5**	**-1.7**
JOW	**Kunigami**	**1.67**	**36**	P	**Pn**	**04 08 27.5**	**+0.2**
JIH	**Iheya**	**1.70**	**24**	P	**Pn**	**04 08 28.4**	**+0.7**
JIH				*e*S	**Sn**	**04 08 47.7**	**-1.3**
JMJ	**Miyako jima 2**	**1.83**	**249**	P	**Pb**	**04 08 31.9**	**0.0**
JMJ				*e*S	**Sb**	**04 08 54.7**	**+0.2**
JIKM	**Ikemajima**	**1.83**	**253**	P	**Pb**	**04 08 31.8**	**-0.2**
JYRO	**Yoronjima**	**1.92**	**36**	P	**Pn**	**04 08 31.0**	**+0.3**
JIRB	**Irabujima**	**1.93**	**251**	*e*S	**Sb**	**04 08 56.8**	**-0.5**
NACB	**Ninganchiao**	**5.24**	**257**	*e*Pn	**Pn**	**04 09 16.0**	**-0.3**
YULB	**Yu-li**	**5.75**	**250**	*e*Pn	**Pn**	**04 09 22.9**	**-0.5**
SSLB	**Suanglung**	**5.91**	**255**	*e*Pn	**Pn**	**04 09 25.8**	**+0.1**
TPUB	**Ta-pu**	**6.35**	**251**	*e*Pn	**Pn**	**04 09 28.8**	**-2.9**
JNU	**Nakatsue**	**8.27**	**22**	Pn	**Pn**	**04 09 59.5**	**+1.4**
	2.5nm,0.3s,baz=216,slow=12,SNR=13						
KSRS	**Korea Array**	**11.95**	**3**	LR	LR	04 15 29.6	
	comp=Z,54nm,20.8s,baz=310,slow=38						
SONA0	**Songino Array**	**27.68**	**329**	*e*P	**P**	**04 13 45.2**	**-0.8**
SONM	**Songino Array**	**27.68**	**329**	P	**P**	**04 13 45.3**	**-0.7**
	0.7nm,0.5s,baz=145,slow=10,SNR=5.4						
SAUI	**Saumlaki**	**33.50**	**173**	*e*P	**P**	**04 14 37.2**	**-0.3**
	187nm,0.5s						
MK01	**Makanchi Array**	**41.32**	**313**	*e*P	**P**	**04 15 43.1**	**-0.4**
MK32	**Makanchi Array**	**41.33**	**313**	*e*P	**P**	**04 15 43.2**	**-0.4**
MKAR	**Makanchi Array**	**41.33**	**313**	P	**P**	**04 15 43.2**	**-0.4**
	1.2nm,0.5s,baz=99,slow=10,SNR=20						
ZALV	**Zalesovo Beam**	**42.28**	**324**	P	**P**	**04 15 50.1**	**-1.0**
	0.5nm,0.4s,baz=98,slow=8.9,SNR=2.9						
ZAA1	**Zalesovo Array**	**42.28**	**324**	*e*P	**P**	**04 15 50.1**	**-1.0**
FITZ	**Fitzroy Crossi**	**43.34**	**182**	P	**P**	**04 16 00.4**	**+0.3**
	0.8nm,0.4s,baz=2.1,slow=6.4,SNR=5.8						
FITZ	**Fitzroy Crossi**	**43.34**	**182**	*e*P	**P**	**04 16 00.4**	**+0.3**
	2.3nm,0.9s						
KURK	**Kurchatov**	**44.72**	**317**	*e*P	**P**	**04 16 10.5**	**-0.4**
KURBB	**Kurchatov Arra**	**44.75**	**317**	P	**P**	**04 16 10.5**	**-0.6**
	0.7nm,0.5s,baz=106,slow=9.1,SNR=5.3						
WR1	**Warramunga Arr**	**45.69**	**171**	*e*P	**P**	**04 16 19.1**	**+0.3**
	3.0nm,0.8s						
WRA	**Warramunga Arr**	**45.69**	**171**	P	**P**	**04 16 19.1**	**+0.3**
	2.3nm,0.7s,baz=352,slow=8.7,SNR=28						
WB2	**Warramunga Arr**	**45.69**	**171**	*e*P	**P**	**04 16 18.6**	**-0.2**
	3.0nm,0.8s						
ASAR	**Alice Springs**	**49.29**	**172**	P	**P**	**04 16 47.5**	**+0.7**
	0.4nm,0.5s,baz=359,slow=13,SNR=8.1						
BVAR	**Borovoye Array**	**50.21**	**319**	P	**P**	**04 16 53.6**	**+0.1**
	1.0nm,0.6s,baz=90,slow=8.9,SNR=4.0						
BRVK	**Borovoye**	**50.27**	**319**	*e*P	**P**	**04 16 54.9**	**+0.8**
	3.3nm,0.9s						
ABKAR	**Akbulak array**	**56.47**	**314**	*e*P	**P**	**04 17 40.0**	**+0.4**
BBOO	**Buckleboo**	**58.58**	**171**	*e*P	**P**	**04 17 55.5**	**+0.9**
	13nm,1.2s						
PPLA	**Purkeypile**	**63.40**	**30**	*e*P	**P**	**04 18 27.1**	**-0.2**
	4.7nm,1.3s						
ILAR	**Eielson Array**	**65.54**	**28**	P	**P**	**04 18 41.1**	**0.0**
	0.2nm,0.6s,baz=272,slow=5.4,SNR=4.8						
ILB	**Eielson Array**	**65.54**	**28**	*e*P	**P**	**04 18 41.1**	**0.0**
FIA0	**FINESS Array S**	**73.04**	**330**	*e*P	**P**	**04 19 27.5**	**0.0**
FINES	**FINESS Array B**	**73.04**	**330**	P	**P**	**04 19 27.5**	**0.0**
	2.2nm,0.9s,baz=79,slow=10,SNR=3.7						
BR101	**Keskin Array S**	**76.74**	**308**	*e*P	**P**	**04 19 50.0**	**+0.5**
BRTR	**Keskin Array B**	**76.74**	**308**	P	**P**	**04 19 50.0**	**+0.5**
	0.3nm,0.6s,baz=79,slow=7.5,SNR=3.8						
YKA	**Yellowknife Ar**	**79.60**	**25**	P	**P**	**04 20 05.1**	**+0.5**
	0.7nm,0.4s,baz=305,slow=5.5,SNR=4.2						
YKB5	**Yellowknife Ar**	**79.60**	**25**	*e*P	**P**	**04 20 05.1**	**+0.4**

*ISCJB **07** 04:36:02.1±0.7, 48°06'N±0°07'×155°2'E±0°2, h35km, mb3.8/9, Error ellipse: s-maj=18.6km s-min=6.1km az=24.9*

*MOS **07** 04:36:02.5±2.5, 48°10'N×156°41'E, h16km, mb4.1/3, Error ellipse: s-maj=33.9km s-min=5.7km az=80.8*

*KRSC **07** 04:36:02.5±1.6, 48°10'N×156°41'E, h16km±33km, ML4.2*

*SKHL **07** 04:36:04.0±0.3, 48°03'N×156°22'E, h20km±3km, mb4.3/2*

*IDC **07** 04:36:05.3±5.0, 48°27'N×154°46'E, h55km±44km, mb3.4/8, mb1 3.6/9, mb1mx3.4/51, mbtmp3.7/9, ML2.9/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/33, Error ellipse: s-maj=29.4km s-min=20.5km az=154.0*

ISC 07 04:36:03.0±0.9, 48°02'N±0°09×155°2'E±0°1, h35km, n58, σ1°957/65, mb3.7/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.74**	**13**	*e*P	**Pn**	**04 36 45.4**	**+1.0**
SKR				AMB	AMB	04 36 47.6	
	180nm,0.9s						
SKR				AMB	AMB	04 36 47.6	
	4µm,0.9s						
SKR				*e*S	**Sn**	**04 37 16.7**	**+0.5**
SKR				A	A	04 37 18.3	
	160nm,0.5s						
SKR				A	A	04 37 18.3	
	329nm,0.5s						
SKR	**Severo-Kuril's**	**2.74**	**13**	*e*P	**Pn**	**04 36 45.0**	**+0.6**
SKR				*e*S	**Sn**	**04 37 17.0**	**+0.8**
SKR	**Severo-Kuril's**	**2.74**	**13**	*e*PN	**Pn**	**04 36 45.4**	**+1.0**
SKR				*e*S	**Sn**	**04 37 16.7**	**+0.5**
SKR				pmax	pmax		
	comp=Z,182nm,0.6s						
SKR				smax	smax		
	comp=N,230nm,0.6s						
SKR				smax	smax		
	comp=E,336nm,0.5s						
PAU	**Pauzhetka**	**3.61**	**17**	*e*P	**Pn**	**04 36 57.9**	**+1.5**
PAU				*e*S	**Sn**	**04 37 38.1**	**+0.3**
PAU				A	A	04 37 39.3	
	comp=E,140nm,0.7s						
PAU				A	A	04 37 39.3	
	comp=E,239nm,0.7s						
PAU	**Pauzhetka**	**3.61**	**17**	*e*P	**Pn**	**04 36 57.9**	**+1.5**
PAU				*e*S	**Sn**	**04 37 38.1**	**+0.3**
PAU	**Pauzhetka**	**3.61**	**17**	PN	**Pn**	**04 36 57.9**	**+1.5**
PAU				S	**Sn**	**04 37 38.1**	**+0.3**
KDTR	**Khodutka, Kamc**	**4.24**	**25**	*e*P	**Pn**	**04 37 04.8**	**-0.1**
KDTR				*e*S	**Sn**	**04 37 50.8**	**-2.3**
RUS	**Russkaya**	**4.91**	**25**	*e*P	**Pn**	**04 37 14.0**	**-0.2**
RUS				*e*S	**Sn**	**04 38 09.2**	**-0.6**
RUS	**Russkaya**	**4.91**	**25**	*e*P	**Pn**	**04 37 14.0**	**-0.2**
RUS				*e*S	**Sn**	**04 38 09.2**	**-0.6**
RUS	**Russkaya**	**4.91**	**25**	PN	**Pn**	**04 37 14.0**	**-0.2**
RUS				S	**Sn**	**04 38 09.2**	**-0.6**
APC	**Apacha**	**5.07**	**14**	*e*P	**Pn**	**04 37 18.3**	**+1.8**
APC	**Apacha**	**5.07**	**14**	PN	**Pn**	**04 37 18.3**	**+1.8**
PETK	**Petropavlovsk-**	**5.34**	**17**	P	**Pn**	**04 37 21.5**	**+1.3**
	comp=E,2.1nm,0.3s,baz=178,slow=13,SNR=35						
PET	**Petropavlovsk**	**5.48**	**23**	*e*P	**Pn**	**04 37 20.8**	**-1.2**
PET				AMB	AMB	04 37 21.2	
	comp=E,8.0nm,0.3s						
PET				AMB	AMB	04 37 21.2	
	comp=E,4µm,0.3s						
PET				*e*S	**Sn**	**04 38 20.7**	**-3.1**
PET				A	A	04 38 35.6	
	comp=E,30nm,0.4s						
PET				A	A	04 38 35.6	
	comp=E,38nm,0.4s						
PET	**Petropavlovsk**	**5.48**	**23**	*e*S	**Sn**	**04 38 22.1**	**-1.7**
DALK	**Dalny**	**5.51**	**23**	*e*P	**Pn**	**04 37 22.8**	**+0.3**
DALK				*e*S	**Sn**	**04 38 23.5**	**-1.1**
DALK	**Dalny**	**5.51**	**23**	PN	**Pn**	**04 37 22.8**	**+0.3**
DALK				S	**Sn**	**04 38 23.5**	**-1.1**
UGLR	**Uglovaya**	**5.69**	**23**	*e*P	**Pn**	**04 37 27.4**	**+2.3**
UGLR	**Uglovaya**	**5.69**	**23**	PN	**Pn**	**04 37 27.4**	**+2.3**
AVH	**Avacha**	**5.72**	**22**	*e*P	**Pn**	**04 37 27.3**	**+1.9**
AVH	**Avacha**	**5.72**	**22**	PN	**Pn**	**04 37 27.3**	**+1.9**
KOK	**Koryaka**	**5.72**	**21**	*e*P	**Pn**	**04 37 27.3**	**+1.8**
KOK	**Koryaka**	**5.72**	**21**	*e*P	**Pn**	**04 37 27.3**	**+1.8**
KOK	**Koryaka**	**5.72**	**21**	PN	**Pn**	**04 37 27.3**	**+1.8**
SMAR	**Somma**	**5.74**	**22**	*e*P	**Pn**	**04 37 27.3**	**+1.5**
SMAR	**Somma**	**5.74**	**22**	PN	**Pn**	**04 37 27.3**	**+1.5**
SDLR	**Sedlovina**	**5.77**	**23**	*e*P	**Pn**	**04 37 26.4**	**+0.2**
SDLR	**Sedlovina**	**5.77**	**23**	PN	**Pn**	**04 37 26.4**	**+0.2**
KRX	**Arik**	**5.79**	**21**	*e*P	**Pn**	**04 37 29.3**	**+2.9**
KRX	**Arik**	**5.79**	**21**	PN	**Pn**	**04 37 29.3**	**+2.9**
GNL	**Ganaly**	**5.95**	**16**	*e*P	**Pn**	**04 37 30.6**	**+2.0**
GNL	**Ganaly**	**5.95**	**16**	PN	**Pn**	**04 37 30.6**	**+2.0**
SPN	**Mys Shipunski**	**5.95**	**30**	*e*P	**Pn**	**04 37 28.5**	**0.0**
SPN	**Mys Shipunski**	**5.95**	**30**	*e*P	**Pn**	**04 37 28.5**	**0.0**
SPN				*e*S	**Sn**	**04 38 32.7**	**-2.7**
SPN	**Mys Shipunski**	**5.95**	**30**	PN	**Pn**	**04 37 28.5**	**0.0**
SPN				S	**Sn**	**04 38 32.7**	**-2.7**
MKZ	**Mys Kozlova**	**7.73**	**30**	*e*P	**Pn**	**04 37 52.3**	**-0.6**
MKZ	**Mys Kozlova**	**7.73**	**30**	*e*P	**Pn**	**04 37 52.3**	**-0.6**
MKZ	**Mys Kozlova**	**7.73**	**30**	PN	**Pn**	**04 37 52.3**	**-0.6**
KBTR	**Krutoberegovo**	**9.45**	**27**	*e*P	**Pn**	**04 38 16.9**	**+0.4**
KBTR	**Krutoberegovo**	**9.45**	**27**	PN	**Pn**	**04 38 16.9**	**+0.4**
ASAJ	**Asahikawa**	**9.57**	**251**	LR	LR	04 41 37.4	
	comp=E,75nm,19.9s,baz=10.0,slow=36						
USRK	**Ussuriysk Ar.**	**16.50**	**265**	P	**Pn**	**04 39 51.2**	**-0.3**
	comp=E,0.1nm,0.3s,baz=76,slow=11,SNR=5.8						
H11N2	**WAKE ISLAND Hy**	**29.78**	**157**	T	T	05 13 50.1	
	baz=343,slow=74,SNR=61						
H11N1	**WAKE ISLAND Hy**	**29.80**	**157**	T	T	05 13 48.7	
	baz=343,slow=74,SNR=132						
H11N3	**WAKE ISLAND Hy**	**29.80**	**157**	T	T	05 13 46.9	
	baz=343						
H11S1	**WAKE ISLAND Hy**	**30.90**	**158**	T	T	05 15 09.5	
	baz=344,slow=76,SNR=492						
H11S3	**WAKE ISLAND Hy**	**30.91**	**158**	T	T	05 15 12.7	
	baz=344,slow=76,SNR=579						
H11S2	**WAKE ISLAND Hy**	**30.92**	**158**	T	T	05 15 11.4	
	baz=344,slow=76,SNR=362						
ILAR	**Eielson Array**	**34.68**	**40**	P	**P**	**04 42 49.3**	**+0.4**
	comp=E,0.3nm,0.5s,baz=246,slow=8.6,SNR=4.5						
MKAR	**Makanchi Array**	**47.60**	**297**	P	**P**	**04 44 31.3**	**-3.9**
	comp=E,0.3nm,0.6s,baz=68,slow=5.7,SNR=3.3						
KURK	**Kurchatov**	**47.83**	**303**	P	**P**	**04 44 33.2**	**-3.6**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KURBB	**Kurchatov Arra**	**47.92**	**303**	P	P	04 44 33.1	-4.4
	comp=Z,1.6nm,0.5s,baz=68,slow=8.3,SNR=12						
RES	**Resolute Bay**	**49.18**	**19**	P	**P**	**04 44 47.0**	**+0.1**
	comp=Z,1.8nm,1.1s,baz=326,slow=3.2,SNR=6.8						
RES	**Resolute Bay**	**49.18**	**19**	P	**P**	**04 44 47.0**	**+0.1**
RES				pmax	pmax		
	comp=Z,2.0nm,1.1s						
NVAR	**Mina Array Bea**	**60.62**	**64**	P	**P**	**04 46 12.7**	**+2.3**
	comp=Z,0.3nm,0.5s,baz=296,slow=7.9,SNR=4.0						
WRA	**Warramunga Arr**	**70.18**	**201**	P	**P**	**04 47 12.2**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=16,slow=6.6,SNR=4.6						
ASAR	**Alice Springs**	**73.87**	**200**	P	**P**	**04 47 34.9**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=16,slow=5.7,SNR=4.0						
TXAR	**Lajitas Array**	**75.66**	**62**	P	**P**	**04 47 46.4**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=302,slow=5.2,SNR=10						

*ISCJB **07** 04:49:12.8±1.0, 16°8S±0°1×69°5'W±0°1, h189km, mb3.7/2, Error ellipse: s-maj=20.2km s-min=14.4km az=177.3*

*IDC **07** 04:49:13.5±1.3, 16°70S×69°43'W, h197km±7km, mb3.4/3, mb1 3.5/5, mb1mx3.2/40, mbtmp4.1/5, Error ellipse: s-maj=25.1km s-min=21.2km az=166.0*

ISC 07 04:49:13.4±1.2, 16°7S±0°2×69°5W±0°1, h189km, n6, σ1°946/7, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.34**	**73**	P	**Pn**	**04 49 46.1**	**+0.8**
	100nm,0.3s,baz=296,slow=3.9,SNR=4322						
LPAZ				S	**Sn**	**04 50 11.1**	**+1.0**
	baz=133,slow=20,SNR=2.4						
NNA	**Nana**	**8.54**	**302**	P	**Pn**	**04 51 14.6**	**+0.8**
	1.7nm,0.3s,baz=132,slow=14,SNR=3.1						
PTGA	**Pitinga**	**18.41**	**31**	P	**Pn**	**04 53 15.6**	**-1.3**
	0.8nm,0.3s,baz=213,slow=11,SNR=5.0						
BDFB	**Brasilia**	**20.63**	**90**	P	**P**	**04 53 39.7**	**+1.2**
	1.7nm,0.6s,baz=265,slow=11,SNR=4.3						
PLCA	**Pau Flores**	**23.98**	**182**	P	**P**	**04 54 10.2**	**-0.4**
	2.4nm,0.9s,baz=13,slow=8.2,SNR=5.4						
TORD	**Torodi Ar. Bea**	**76.29**	**72**	P	**P**	**05 00 40.2**	**-1.7**
	0.9nm,0.5s,baz=250,slow=5.2,SNR=18						

WEL 07 04:52:03.5±0.9, 39°S±5°×17°9E±°, h33km, ML3.7/19, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**0.61**	**265**	P	Pn	04 52 15.7	-0.1
MHGZ				S	Sn	04 52 25.5	+0.9
PRGZ	**Paritu Road**	**0.65**	**286**	P	Pn	04 52 16.5	0.0
CNGZ	**Carnagh Statio**	**0.73**	**329**	P	Pb	04 52 17.8	0.0
KNZ	**Kokohu**	**0.80**	**276**	P	Pn	04 52 18.2	-0.2
KNZ				S	Sb	04 52 30.2	+0.8
RIGZ	**Rimuhau**	**0.83**	**299**	P	Pn	04 52 19.1	+0.3
TKGZ	**Te Karaka**	**0.94**	**315**	P	Pn	04 52 20.6	+0.3
TWGZ	**Tauwhareparae**	**1.08**	**329**	P	Pn	04 52 22.7	+0.4
PUZ	**Puketiti**	**1.09**	**342**	P	Pn	04 52 22.1	-0.4
PUZ				S	Sn	04 52 35.6	-0.7
SNGZ	**Shannon Statio**	**1.10**	**287**	P	Pn	04 52 23.1	+0.5
SNGZ				P	Pn	04 52 23.1	+0.5
SNGZ				S	Sb	04 52 37.7	-0.3
WHHZ	**Waihua**	**1.13**	**271**	P	Pb	04 52 23.8	-0.8
WHHZ				S	Sn	04 52 37.8	+0.4
RAGZ	**Rawiri**	**1.17**	**301**	P	Pn	04 52 24.0	+0.4
RAGZ				S	Sn	04 52 39.0	+0.6
MWZ	**Matawai**	**1.19**	**310**	P	Pn	04 52 24.1	+0.2
MWZ				S	Sn	04 52 39.4	+0.5
RAHZ	**Arahi**	**1.26**	**278**	P	Pn	04 52 25.6	+0.8
WMGZ	**Waiomatatini S**	**1.30**	**350**	P	Pn	04 52 25.5	+0.1
WMGZ				S	Sn	04 52 42.2	+0.6
ARHZ	**Aropaoanui**	**1.33**	**263**	P	Pn	04 52 24.9	-0.8
RUGZ	**Raukumara Rang**	**1.39**	**325**	P	Pn	04 52 26.7	+0.1
RTZ	**Ruatahuna**	**1.42**	**290**	P	Pn	04 52 27.7	+0.7
MTHZ	**Maungataniwha**	**1.46**	**279**	P	Pn	04 52 28.2	+0.6
NMHZ	**Naumai**	**1.47**	**270**	P	Pn	04 52 28.5	+0.9
URZ	**Urewera**	**1.50**	**304**	P	Pn	04 52 28.6	+0.6
HAZ	**Te Kaha**	**1.52**	**332**	P	Pn	04 52 28.6	+0.2
KAHZ	**Kahuranaki**	**1.56**	**243**	P	Pn	04 52 28.6	-0.3
MXZ	**Matakaoa Point**	**1.57**	**349**	P	Pn	04 52 29.4	+0.4
MCHZ	**McNeill Hill**	**1.58**	**257**	P	Pn	04 52 29.7	+0.5
MUGZ	**Murupara**	**1.63**	**292**	P	Pn	04 52 30.6	+0.8
PXZ	**Pawanui**	**1.69**	**236**	P	Pn	04 52 29.8	-0.8
BKZ	**Black Stump Fm**	**1.71**	**267**	P	Pn	04 52 31.2	+0.2
KWHZ	**Kaweka Forest**	**1.79**	**259**	P	Pn	04 52 32.3	+0.2
MRHZ	**Matea Rd**	**1.79**	**278**	P	Pn	04 52 32.5	+0.4
EDRZ	**Edgecumbe**	**1.82**	**303**	P	Pn	04 52 33.7	+1.1
WHRZ	**Whale Island**	**1.83**	**312**	P	Pn	04 52 34.2	+1.5
KRHZ	**Kereru**	**1.88**	**253**	P	Pn	04 52 33.6	+0.3
ALRZ	**Allen Road**	**1.91**	**286**	P	Pn	04 52 34.8	+1.1
TARZ	**Mount Tarawera**	**1.92**	**296**	P	Pn	04 52 35.0	+1.1
MARZ	**Manawahe**	**1.94**	**305**	P	Pn	04 52 35.0	+0.9
PRHZ	**Porangahau**	**1.96**	**233**	P	Pn	04 52 33.2	-1.3
WPHZ	**Waipukurau**	**1.98**	**240**	P	Pn	04 52 33.9	-0.9
MKRZ	**Makatiti**	**1.99**	**298**	P	Pb	04 52 37.5	-1.6
HRRZ	**Handcock Road**	**2.01**	**290**	P	Pn	04 52 35.9	+0.8
HLRZ	**Highlands Stat**	**2.02**	**294**	P	Pn	04 52 37.0	+1.8
HSRZ	**Hossack Road**	**2.07**	**292**	P	Pn	04 52 37.5	+1.6
OMRZ	**Omania**	**2.07**	**298**	P	Pn	04 52 37.4	+1.5
BHHZ	**Black Hill Sta**	**2.07**	**259**	P	Pn	04 52 36.1	+0.1
PNHZ	**Pukenui**	**2.09**	**246**	P	Pn	04 52 36.1	-0.1
OPRZ	**Ohinepanea**	**2.10**	**306**	P	Pn	04 52 36.7	+0.5
GRRZ	**Galatos Road**	**2.15**	**290**	P	Pn	04 52 38.8	+1.7
KARZ	**Kaharoa**	**2.20**	**299**	P	Pn	04 52 38.5	+0.7
RITZ	**Rihia Road**	**2.21**	**272**	P	Pn	04 52 39.4	+1.6
MOVZ	**Moawhango**	**2.30**	**262**	P	Pn	04 52 40.2	+1.1
TSZ	**Takapari Road**	**2.31**	**245**	P	Pn	04 52 38.6	-0.7
KATZ	**Kakaramea**	**2.34**	**272**	P	Pn	04 52 40.8	+1.1
TGRZ	**Tauranga**	**2.35**	**305**	P	Pn	04 52 40.2	+0.4
TUVZ	**Tukino**	**2.36**	**265**	P	Pn	04 52 41.4	+1.3
KRVZ	**Karewarewa**	**2.37**	**269**	P	Pn	04 52 41.2	+1.1
NGZ	**Ngauruhoe**	**2.40**	**267**	P	Pn	04 52 41.9	+1.3
WTVZ	**West Tongariro**	**2.41**	**269**	P	Pn	04 52 42.1	+1.4
WHVZ	**Whangaehu Hut**	**2.42**	**265**	P	Pn	04 52 41.9	+1.0
**FW

IOSP	**Ios island**	**0.47**	**275**	P	**Pg**	**05 02 46.1**	**0.0**
IOSP				S	**Sb**	**05 02 53.1**	**-1.1**
THR3	**Thira Island,**	**0.47**	**234**	P	**Pb**	**05 02 46.4**	**-0.8**
SAP3	**Santorini-Thir**	**0.49**	**239**	P	**Pb**	**05 02 46.8**	**-0.8**
THR5	**Thira Island,**	**0.50**	**237**	P	**Pb**	**05 02 46.9**	**-0.9**
SAP1	**Santorini-Akro**	**0.50**	**229**	P	**Pb**	**05 02 47.2**	**-0.6**
SAP1				S	**Sb**	**05 02 54.6**	**-0.6**
THR6	**Thira Island,**	**0.50**	**229**	P	**Pb**	**05 02 47.2**	**-0.6**
NISR	**Nisiros**	**1.02**	**94**	P	**Pb**	**05 02 56.3**	**-0.3**
NISR				S	**Sn**	**05 03 11.1**	**-0.3**
NISR				AML	AML	05 03 12.8	
	comp=N,5662µm,0.4s						
NISR				AML	AML	05 03 14.4	
	comp=E,12719µm,0.4s						
NISR	**Nisiros**	**1.02**	**94**	P	**Pg**	**05 02 55.9**	**-0.6**
NISR				S	**Sn**	**05 03 11.0**	**-0.4**
TNSA	**Tinos**	**1.02**	**327**	P	**Pn**	**05 02 57.1**	**-0.1**
NIS1	**Nisyros Isl.**	**1.06**	**94**	PG	**Pg**	**05 02 55.5**	**-1.8**
NIS1	**Nisyros Isl.**	**1.06**	**94**	P	**Pb**	**05 02 57.2**	**-0.1**
NIS1	**Nisyros Isl.**	**1.06**	**94**	P	**Pb**	**05 02 57.0**	**-0.3**
NIS1				S	**Sn**	**05 03 11.7**	**-0.8**
MHLA	**Plaka, Milos I**	**1.16**	**273**	P	**Pb**	**05 02 58.1**	**-1.0**
MHLA				S	**Sb**	**05 03 13.9**	**-0.4**
MHLA				AML	AML	05 03 16.3	
	comp=N,6215µm,0.4s						
MHLA				AML	AML	05 03 17.6	
	comp=E,6698µm,0.4s						
MHLO	**Agia Marina, M**	**1.18**	**271**	P	**Pb**	**05 02 58.8**	**-0.6**
MHLO				S	**Sb**	**05 03 14.6**	**0.0**
MHLO				AML	AML	05 03 17.7	
	comp=N,10531µm,0.3s						
MHLO				AML	AML	05 03 18.1	
	comp=E,12347µm,0.3s						
MHLO	**Agia Marina, M**	**1.18**	**271**	P	**Pb**	**05 02 58.8**	**-0.6**
MHLO				S	**Sn**	**05 03 15.5**	**0.0**
SERI	**Serifos**	**1.21**	**293**	P	**Pb**	**05 02 58.7**	**-1.1**
SERI				S	**Sb**	**05 03 14.6**	**-0.9**
SERI				AML	AML	05 03 16.3	
	comp=N,3389µm,0.5s						
SERI				AML	AML	05 03 18.8	
	comp=E,1777µm,0.3s						
SERI	**Serifos**	**1.21**	**293**	P	**Pb**	**05 02 58.7**	**-1.1**
BODT	**Bodrum**	**1.22**	**72**	PN	**Pb**	**05 02 59.0**	**-1.0**
BODT	**Bodrum**	**1.22**	**72**	P	**Pb**	**05 02 58.9**	**-1.0**
SMG	**Samos**	**1.28**	**37**	P	**Pn**	**05 02 59.4**	**-1.4**
SMG				S	**Sb**	**05 03 16.1**	**-1.5**
SMG				AML	AML	05 03 21.3	
	comp=E,3244µm,0.3s						
SMG				AML	AML	05 03 27.1	
	comp=N,2362µm,0.5s						
SMG	**Samos**	**1.28**	**37**	P	**Pn**	**05 02 59.4**	**-1.4**
SMG				S	**Sb**	**05 03 17.7**	**+0.1**
DAT	**Datca**	**1.37**	**88**	PN	**Pn**	**05 03 01.4**	**-0.8**
DAT	**Datca**	**1.37**	**88**	*i* P	**Pn**	**05 03 01.8**	**-0.5**
DAT				*i* S	**Sg**	**05 03 22.9**	**+1.7**
NPS	**Neapolis**	**1.44**	**188**	P	**Pn**	**05 03 02.5**	**-0.5**
NPS				S	**Sn**	**05 03 20.4**	**-1.5**
NPS				AML	AML	05 03 26.5	
	comp=N,2514µm,0.5s						
NPS				AML	AML	05 03 26.7	
	comp=E,3313µm,0.6s						
NPS	**Neapolis**	**1.44**	**188**	P	**Pn**	**05 03 02.1**	**-0.9**
DATC	**Datca-Mugla**	**1.44**	**87**	PN	**Pn**	**05 03 02.5**	**-0.5**
GCAM	**G?zelcaml?**	**1.49**	**47**	PN	**Pn**	**05 03 02.9**	**-0.7**
GCAM	**G?zelcaml?**	**1.49**	**47**	*i* P	**Pn**	**05 03 02.9**	**-0.7**
GCAM				*i* S	**Sg**	**05 03 26.0**	**+1.2**
STIA	**Sitia Lasithi**	**1.49**	**173**	P	**Pn**	**05 03 03.3**	**-0.4**
IACM	**Heraklion**	**1.52**	**205**	P	**Pn**	**05 03 03.6**	**-0.6**
KARP	**Karpathos**	**1.55**	**137**	PN	**Pn**	**05 03 03.0**	**-1.5**
KARP	**Karpathos**	**1.55**	**137**	P	**Pn**	**05 03 04.0**	**-0.6**
KARP				S	**Sn**	**05 03 23.7**	**-0.9**
KARP				AML	AML	05 03 32.1	
	comp=N,1682µm,0.4s						
KARP				AML	AML	05 03 33.8	
	comp=E,1993µm,0.5s						
KARP	**Karpathos**	**1.55**	**137**	P	**Pn**	**05 03 03.9**	**-0.6**
KARP				S	**Sb**	**05 03 24.7**	**-0.6**
LAST	**Lasithi**	**1.56**	**192**	P	**Pn**	**05 03 04.2**	**-0.5**
LAST				S	**Sn**	**05 03 24.2**	**-0.7**
LAST				AML	AML	05 03 30.7	
	comp=E,835µm,0.4s						
LAST				AML	AML	05 03 32.0	
	comp=N,1292µm,0.6s						
LAST	**Lasithi**	**1.56**	**192**	P	**Pn**	**05 03 04.0**	**-0.7**
LAST				S	**Sb**	**05 03 24.9**	**-0.7**
DGB	**˜zmir**	**1.58**	**30**	*i* P	**Pn**	**05 03 04.6**	**-0.4**
DGB				*i* S	**Sg**	**05 03 27.3**	**-0.6**
ZKR	**Zakros**	**1.59**	**170**	P	**Pn**	**05 03 04.7**	**-0.4**
ZKR				S	**Sn**	**05 03 24.5**	**-1.2**
ZKR				AML	AML	05 03 31.8	
	comp=E,1602µm,0.6s						
ZKR				AML	AML	05 03 35.6	
	comp=N,770µm,0.3s						
ZKR	**Zakros**	**1.59**	**170**	P	**Pn**	**05 03 04.5**	**-0.7**
ZKR				S	**Sb**	**05 03 25.9**	**-0.7**
IDI	**Anoyia**	**1.61**	**210**	PN	**Pn**	**05 03 03.0**	**-2.4**
GMLD	**Gumuldur**	**1.62**	**31**	PN	**Pn**	**05 03 04.8**	**-0.6**
ZEY	**˜zmir**	**1.63**	**18**	*i* P	**Pn**	**05 03 04.0**	**-1.6**
ZEY				*i* S	**Sb**	**05 03 28.0**	**+0.4**
MLSB	**Milas**	**1.64**	**68**	PN	**Pn**	**05 03 05.6**	**-0.3**
CHOS	**Chios island**	**1.70**	**5**	PN	**Pn**	**05 03 05.5**	**-1.2**
CHOS	**Chios island**	**1.70**	**5**	P	**Pn**	**05 03 05.6**	**-1.2**
CHOS	**Chios island**	**1.70**	**5**	P	**Pn**	**05 03 05.5**	**-1.2**
URLA	**Izmir**	**1.77**	**19**	PN	**Pn**	**05 03 06.6**	**-1.0**
URLA	**Izmir**	**1.77**	**19**	*i* P	**Pn**	**05 03 06.3**	**-1.2**
URLA				*i* S	**Sg**	**05 03 34.2**	**+0.5**
VAM	**Vamos**	**1.86**	**227**	P	**Pn**	**05 03 09.1**	**+0.3**
SIVA	**Sivas**	**1.88**	**208**	P	**Pn**	**05 03 09.3**	**+0.3**
SIVA	**Sivas**	**1.88**	**208**	P	**Pn**	**05 03 08.5**	**-0.5**
AYDN	**Tasoluk**	**1.88**	**58**	*i* P	**Pn**	**05 03 08.6**	**-0.5**
AYDN				*i* S	**Sg**	**05 03 37.7**	**+0.4**
ARG	**Arkhangelos**	**1.88**	**104**	PN	**Pn**	**05 03 08.4**	**-0.7**
ARG	**Arkhangelos**	**1.88**	**104**	P	**Pn**	**05 03 08.9**	**-0.1**
ARG	**Arkhangelos**	**1.88**	**104**	P	**Pn**	**05 03 08.7**	**-0.4**
BLCB	**Balcova**	**1.93**	**28**	PN	**Pn**	**05 03 09.2**	**-0.6**
IMMV	**Iera Moni Meta**	**1.96**	**232**	P	**Pn**	**05 03 10.4**	**+0.3**
KRBN	**Karaburun**	**1.98**	**16**	PN	**Pn**	**05 03 10.0**	**-0.4**
VLY	**Voula,Athens**	**2.02**	**306**	P	**Pn**	**05 03 10.7**	**-0.3**
VLY	**Voula,Athens**	**2.02**	**306**	P	**Pn**	**05 03 10.6**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**2.04**	**51**	PN	**Pn**	**05 03 11.2**	**-0.3**
ATHU	**Athens Univers**	**2.10**	**308**	P	**Pn**	**05 03 11.9**	**-0.2**
ATHU	**Athens Univers**	**2.10**	**308**	P	**Pn**	**05 03 11.8**	**-0.2**
PTL	**Penteli**	**2.10**	**311**	P	**Pn**	**05 03 11.9**	**-0.2**
PTL	**Penteli**	**2.10**	**311**	P	**Pn**	**05 03 11.9**	**-0.2**
FOCM	**Fo˜ça**	**2.13**	**18**	PN	**Pn**	**05 03 12.2**	**-0.4**
ATH	**Athens Observa**	**2.14**	**307**	P	**Pn**	**05 03 12.6**	**-0.1**
DALY	**Dalyan (Mu˜la**	**2.24**	**86**	PN	**Pn**	**05 03 14.1**	**+0.1**
DALY	**Dalyan (Mu˜la**	**2.24**	**86**	*i* P	**Pb**	**05 03 16.4**	**-1.1**
DALY				*i* S	**Sg**	**05 03 51.2**	**+2.3**
DID	**Didima**	**2.26**	**292**	P	**Pn**	**05 03 13.8**	**-0.6**
DID	**Didima**	**2.26**	**292**	P	**Pn**	**05 03 13.7**	**-0.6**
EREA	**Eretria**	**2.31**	**319**	P	**Pn**	**05 03 15.1**	**+0.1**
EREA	**Eretria**	**2.31**	**319**	P	**Pn**	**05 03 15.2**	**+0.1**
VLI	**Veliai**	**2.36**	**272**	P	**Pn**	**05 03 15.3**	**-0.3**
DKL	**Dikili**	**2.52**	**19**	PN	**Pn**	**05 03 17.3**	**-0.5**
SIGR	**SIGRI**	**2.52**	**360**	PN	**Pn**	**05 03 15.3**	**-2.6**
SIGR	**SIGRI**	**2.52**	**360**	P	**Pn**	**05 03 17.0**	**-0.9**
SIGR	**SIGRI**	**2.52**	**360**	P	**Pn**	**05 03 16.9**	**-0.9**
TAVA	**DENIZLI_Tavas**	**2.56**	**71**	*i* P	**Pn**	**05 03 19.0**	**+0.5**
PRK	**Paraskevi**	**2.57**	**7**	P	**Pn**	**05 03 17.7**	**-0.9**
PRK	**Paraskevi**	**2.57**	**7**	P	**Pn**	**05 03 17.4**	**-1.2**
FETY	**Fethiye**	**2.58**	**90**	PN	**Pn**	**05 03 19.4**	**+0.6**
LTK	**Loutraki**	**2.67**	**301**	P	**Pn**	**05 03 20.1**	**+0.2**
LTK	**Loutraki**	**2.67**	**301**	P	**Pn**	**05 03 20.0**	**+0.1**
DNZL	**Cakiroluk**	**2.73**	**68**	*i* P	**Pn**	**05 03 23.0**	**+2.1**
MANT	**Manisa**	**2.79**	**49**	*i* P	**Pg**	**05 03 28.8**	**-1.7**
PROD	**Prodromos**	**2.83**	**304**	P	**Pn**	**05 03 22.4**	**+0.1**
KULA	**Kula-Manisa**	**2.87**	**50**	PN	**Pn**	**05 03 23.1**	**+0.3**
VLX	**Vlachokerasia**	**2.87**	**285**	P	**Pn**	**05 03 23.3**	**+0.5**
LKR	**Lokris**	**3.00**	**312**	P	**Pn**	**05 03 24.3**	**-0.2**
LKR	**Lokris**	**3.00**	**312**	P	**Pn**	**05 03 24.3**	**-0.2**
GOLH	**Golhisar**	**3.01**	**78**	*i* P	**Pn**	**05 03 27.2**	**+2.5**
SMIA	**Simia**	**3.04**	**317**	P	**Pn**	**05 03 25.4**	**+0.4**
SMIA	**Simia**	**3.04**	**317**	P	**Pn**	**05 03 24.8**	**-0.2**
AKAS	**Kas**	**3.05**	**97**	PN	**Pn**	**05 03 25.8**	**+0.6**
AKAS	**Kas**	**3.05**	**97**	*i* P	**Pn**	**05 03 26.9**	**+1.7**
SKIA	**Skiathos**	**3.12**	**323**	P	**Pn**	**05 03 26.2**	**+0.1**
BOZC	**Bozcaada**	**3.15**	**3**	PN	**Pn**	**05 03 25.9**	**-0.7**
DSF	**Desfina**	**3.16**	**304**	P	**Pn**	**05 03 27.1**	**+0.3**
ELL	**Elmali**	**3.25**	**88**	PN	**Pn**	**05 03 28.5**	**+0.5**
AXAR	**Agios Charalam**	**3.28**	**310**	P	**Pn**	**05 03 28.3**	**-0.1**
BALB	**Balikesir**	**3.35**	**28**	PN	**Pn**	**05 03 29.8**	**+0.6**
XOR	**Xorichti**	**3.41**	**322**	P	**Pn**	**05 03 30.2**	**+0.1**
XOR	**Xorichti**	**3.41**	**322**	P	**Pn**	**05 03 30.3**	**+0.2**
SIMA	**Simav-Kutahya**	**3.43**	**45**	PN	**Pn**	**05 03 30.7**	**+0.2**
TRIZ	**Trizonia**	**3.45**	**300**	P	**Pn**	**05 03 31.5**	**+0.8**
SERG	**Sergoula**	**3.48**	**301**	P	**Pn**	**05 03 32.1**	**+0.9**
ANX	**Ano Chora**	**3.67**	**302**	P	**Pn**	**05 03 34.5**	**+0.8**
ANX	**Ano Chora**	**3.67**	**302**	P	**Pn**	**05 03 34.8**	**+1.1**
TVSB	**Tavsanli**	**3.96**	**45**	PN	**Pn**	**05 03 38.0**	**+0.3**
BRTR	**Keskin Array B**	**6.83**	**61**	Pn	**Pn**	**05 04 18.9**	**+1.7**
	comp=N,0.3nm,0.3s,baz=240,slow=14,SNR=11						
TORD	**Torodi Ar. Bea**	**31.92**	**229**	P	**P**	**05 09 05.6**	**+2.9**
	comp=N,0.1nm,0.5s,baz=46,slow=8.4						
KURBB	**Kurchatov Arra**	**39.73**	**52**	P	**P**	**05 10 09.6**	**+0.3**
	comp=N,0.8nm,0.3s,baz=279,slow=8.7,SNR=6.8						
MKAR	**Makanchi Array**	**42.47**	**58**	P	**P**	**05 10 32.4**	**+0.4**
	comp=N,1.2nm,0.5s,baz=266,slow=7.8,SNR=9.5						

MEX 07 05:13:54.1±0.5, 14.15N×92.34W, h42km±21km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.76**	**331**	*e*P	Pn	05 14 21.0	-1.2
PCIG				*i* S	Sn	05 14 40.9	-2.5
CCIG	**Comitan**	**2.12**	**5**	*i* P	Pn	05 14 25.1	-2.2
CCIG				*i* S	Sn	05 14 50.5	-2.0

UCR 07 05:15:53.1±1.1, 13.26N×89.35W, h61km±5km, ML3.9, 1C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COLS	**Colinas**	**0.40**	**8**	*e*P	Pn	05 16 04.2	-0.2
COLS				*e*S	Sn	05 16 13.6	+1.0
SNET	**Serv Nac Est T**	**0.44**	**16**	*e*P	Pn	05 16 04.7	0.0
SNET				IAML		05 16 05.7	
	comp=Z,7µm,0.2s						
SNET				*e*S	Sn	05 16 13.0	0.0
CLUB	**San Salvador**	**0.45**	**12**	*e*P	Pn	05 16 05.0	+0.2
CLUB				*e*S	Sn	05 16 14.4	+1.2
CLUB				AML	AML	05 16 16.9	
	comp=Z,10µm,0.2s						
LFRS	**El Faro**	**0.46**	**38**	*e*P	Pn	05 16 05.0	+0.1
UTEC	**San Salvador**	**0.46**	**19**	*e*P	Pn	05 16 05.0	+0.1
UTEC				*e*S	Sn	05 16 14.0	+0.5
UESS	**San Salvador**	**0.47**	**19**	*e*P	Pn	05 16 05.3	+0.4
UESS				*e*S	Sn	05 16 14.8	+1.3
UEES	**San Salvador**	**0.47**	**13**	*e*P	Pn	05 16 05.1	+0.1
UEES				*e*S	Sn	05 16 14.1	+0.4
BOQS	**Boqueron**	**0.48**	**9**	*e*P	Pn	05 16 05.4	+0.2
BOQS				*e*S	Sn	05 16 14.9	+0.9
OPAM	**San Salvador**	**0.48**	**18**	*e*P	Pn	05 16 05.0	0.0
OPAM				*e*S	Sn	05 16 14.2	+0.5
OPAM				IAML		05 16 17.1	
	comp=Z,7µm,0.3s						
SOYA	**Soyapango**	**0.48**	**24**	*e*P	Pn	05 16 05.4	+0.3
SOYA				*e*S	Sn	05 16 14.3	+0.6
SOYA				IAML		05 16 27.8	
	comp=Z,3µm,0.5s						
UDBS	**Soyapango**	**0.50**	**22**	*e*P	Pn	05 16 05.2	0.0
UDBS				*e*S	Sn	05 16 14.8	+0.7
LFU	**La Fuente**	**0.54**	**26**	*e*P	Pn	05 16 06.2	+0.5
LFU				*e*S	Sn	05 16 15.7	+0.9
LBRS	**Las Brisas**	**0.56**	**33**	*e*P	Pn	05 16 06.5	+0.5
LBRS				*e*S	Sn	05 16 15.2	-0.1
UESV	**Ojushtada**	**0.56**	**78**	*e*P	Pn	05 16 07.3	+1.5
UESV				*e*S	Sn	05 16 17.8	+2.6
PAVA	**Las Pavas**	**0.60**	**42**	*e*P	Pn	05 16 07.0	+0.5
PAVA				*e*S	Sn	05 16 17.3	+1.1
SNVI	**San Vicente**	**0.61**	**55**	*e*P	Pn	05 16 06.6	0.0
SNVI				*e*S	Sn	05 16 16.9	+0.5
SBLS	**San Blas**	**0.63**	**336**	*e*P	Pn	05 16 07.0	+0.1
SNJE	**San Jose**	**0.65**	**338**	*e*P	Pn	05 16 07.2	+0.1
SNJE				*e*S	Sn	05 16 18.0	+0.8
RTR	**El Retiro**	**0.69**	**336**	*e*P	Pn	05 16 07.9	+0.4
RTR				*e*S	Sn	05 16 19.2	+1.1
UNIC	**Santa Ana**	**0.75**	**345**	*e*P	Pn	05 16 07.8	-0.3
UNIC				*e*S	Sn	05 16 19.7	+0.6
LLGN	**La Laguna**	**0.98**	**23**	*e*P	Pn	05 16 11.1	0.0
LLGN				*e*S	Sn	05 16 25.8	+1.4
PACA	**Pacayal**	**1.02**	**78**	*e*P	Pn	05 16 12.3	+0.7
PACA				*e*S	Sn	05 16 27.1	+1.7
PACA				IAML		05 16 29.8	
	comp=Z,14µm,0.3s						
LCY	**Lacayo**	**1.04**	**81**	*e*P	Pn	05 16 11.9	0.0
LCY				*e*S	Sn	05 16 27.3	+1.5
VSM	**San Miguel**	**1.06**	**81**	*e*P	Pn	05 16 12.7	+0.4
MTO3	**Montecristo**	**1.13**	**360**	*e*P	Pn	05 16 13.3	+0.1
MTO3				*e*S	Sn	05 16 29.3	+1.3
CRIN	**San Cristobal**	**2.31**	**104**	*e*P	Pn	05 16 29.6	+0.6
CRIN				*e*S	Sn	05 16 57.5	+1.2
MOMN	**Momotombo**	**2.87**	**107**	*e*P	Pn	05 16 36.3	-0.3
COPN	**Copaltepe**	**2.90**	**111**	*e*P	Pn	05 16 36.2	-0.7
MATN	**Matagalpa**	**3.36**	**95**	*e*P	Pn	05 16 43.2	0.0
MATN				*e*S	Sn	05 17 21.8	-0.2
MATN				IAML		05 17 23.4	
	comp=N,91nm,0.7s						
BOAB	**BOACO BROADBAN**	**3.69**	**102**	*e*P	Pn	05 16 47.4	-0.3

IDC 07 05:15:54.2±2.8, 4.55S×153.73E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/45, mbtmpb3.4/3, MS3.8/1, Ms1 3.8/1, ms1mx2.7/22, Error ellipse: s-maj=243.3km s-min=28.6km az=127.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.30**	**229**	P	P	05 21 12.0	-1.7
	0.9nm,0.8s,baz=54,slow=9.5,SNR=6.5						
ASAR	**Alice Springs**	**26.96**	**223**	P	P	05 21 39.2	+1.5
	0.3nm,0.7s,baz=63,slow=10,SNR=3.3						
JHJ	**Hachijo jima 2**	**39.73**	**342**	LR	LR	05 39 43.4	
	comp=Z,126nm,18.8s,baz=94,slow=36						
ILAR	**Eielson Array**	**81.58**	**22**	P	P	05 28 13.6	0.0
	0.4nm,0.8s,baz=234,slow=7.7,SNR=3.3						

*IDC **07** 05:26:32.3±0.9, 52.78N×133.10W, h0km, mb3.9/6, mb1 4.0/11, mb1mx3.8/47, mbtmpb3.7/11, ML4.0/3, MS3.4/9, Ms1 3.4/9, ms1mx3.2/44, Error ellipse: s-maj=14.6km s-min=8.1km az=126.0*

*ISCJB **07** 05:26:33.3±0.8, 52.80N±0.08×133.0W±0.2, h18km, mb3.8/6, MS3.5/4, Error ellipse: s-maj=15.3km s-min=9.7km az=155.1*

ISC 07 05:26:35.5±1.0, 52.85N±0.09×132.9W±0.1, h18km, n22, σ1s25/13, mb3.8/6, MS3.6/4, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H02S1	**DAWSON INLET T**	**0.42**	**34**	Pg	**Pg**	**05 26 42.9**	**-1.2**
H02S1				Lg	Lg	05 26 50.7	
H02N1	**VAN INLET T-PH**	**0.45**	**26**	Pg	**Pg**	**05 26 43.4**	**-1.2**
H02N1				Lg	Lg	05 26 51.7	
BBB	**Bella Bella**	**2.98**	**101**	Pn	**Pn**	**05 27 24.0**	**+2.3**
	19nm,0.3s,baz=290,slow=15,SNR=26						
BBB				LR	LR	05 28 43.7	
	comp=Z,579nm,19.1s,baz=322,slow=42						
DLBC	**Dease Lake**	**5.82**	**15**	Pn	**Pn**	**05 28 02.9**	**+2.0**
	0.7nm,0.3s,baz=210,slow=16,SNR=10						
NEW	**Newport**	**11.01**	**108**	LR	LR	05 33 18.0	
	comp=Z,182nm,18.4s,baz=294,slow=36						
KDAK	**Kodiak Island**	**12.25**	**302**	LR	LR	05 33 18.9	
	comp=Z,180nm,18.1s,baz=101,slow=33						
ILAR	**Eielson Array**	**13.94**	**334**	Pn	**Pn**	**05 29 52.1**	**+0.3**
	0.1nm,0.3s,baz=151,slow=12,SNR=18						
ILAR				LR	LR	05 34 47.7	
	comp=Z,66nm,19.0s,baz=138,slow=36						
INK	**Inuvik**	**15.51**	**359**	LR	LR	05 35 19.8	
	comp=Z,68nm,18.2s,baz=62,slow=34						
NVAR	**Mina Array Bea**	**17.60**	**139**	P	**Pn**	**05 30 39.0**	**-0.9**
	0.0nm,0.3s,baz=322,slow=12,SNR=3.7						
PDAR	**Pinedale Array**	**18.55**	**114**	P	**P**	**05 30 51.3**	**+0.1**
	0.1nm,0.3s,baz=316,slow=12,SNR=9.1						
ULM	**Lac du Bonnet**	**22.99**	**82**	LR	LR	05 41 04.7	
	comp=Z,286nm,19.5s,baz=289,slow=38						
TXAR	**Lajitas Array**	**31.81**	**126**	P	**P**	**05 32 58.2**	**-0.8**
	0.9nm,0.8s,baz=323,slow=8.4,SNR=5.6						
TXAR				LR	LR	05 45 53.6	
	comp=Z,56nm,18.2s,baz=0.0,slow=36						
PETK	**Petropavlovsk-**	**40.29**	**299**	LR	LR	05 49 16.3	
	comp=Z,69nm,18.1s,baz=39,slow=34						
H11N2	**WAKE ISLAND Hy**	**56.60**	**258**	T	T	06 38 10.7	
	baz=40						
H11N3	**WAKE ISLAND Hy**	**56.60**	**258**	T	T	06 38 06.8	
	baz=40						
H11N1	**WAKE ISLAND Hy**	**56.62**	**258**	T	T	06 38 12.1	
	baz=40						
MJAR	**Matsushiro Arr**	**61.28**	**293**	LR	LR	06 04 59.9	
	comp=Z,40nm,18.2s,baz=5.0,slow=38						
NOA	**NORSAR Array B**	**62.90**	**19**	P	**P**	**05 36 60.0**	**0.0**
	1.3nm,0.8s,baz=335,slow=7.2,SNR=2.9						
SONM	**Songino Array**	**67.74**	**321**	P	**P**	**05 37 32.5**	**+0.8**
	0.6nm,0.8s,baz=44,slow=6.4,SNR=3.7						
GERES	**GERESS Array B**	**74.78**	**22**	P	**P**	**05 38 14.3**	**+0.1**
	0.8nm,0.5s,baz=320,slow=4.4,SNR=3.1						
MKAR	**Makanchi Array**	**76.28**	**336**	P	**P**	**05 38 21.8**	**-1.0**
	0.8nm,0.8s,baz=32,slow=6.6,SNR=2.9						
ESDC	**Sonseca Array**	**77.78**	**38**	P	**P**	**05 38 30.9**	**-0.4**
	0.3nm,0.6s,baz=320,slow=5.8,SNR=5.8						

IDC 07 05:27:20.1±2.8, 4.11S×68.42E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/38, mbtmpb3.8/4, MS3.7/2, Ms1 3.7/2, ms1mx3.0/35, Error ellipse: s-maj=77.9km s-min=38.8km az=64.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**3.38**	**131**	Pn	Pn	05 28 10.6	-3.3
H08N2				T	T	05 31 43.3	
	baz=325,slow=73,SNR=166						
H08N3	**Diego Garcia H**	**3.39**	**131**	Pn	Pn	05 28 10.8	-3.3
H08N3				T	T	05 31 38.9	
	baz=325,slow=73,SNR=202						
H08N1	**Diego Garcia H**	**3.40**	**131**	Pn	Pn	05 28 10.9	-3.3
H08N1				T	T	05 31 43.0	
	baz=325,slow=73,SNR=177						
H08S3	**Diego Garcia H**	**5.34**	**131**	T	T	05 34 22.2	
	baz=310,slow=74,SNR=9.9						
H08S1	**Diego Garcia H**	**5.36**	**131**	T	T	05 34 21.7	
	baz=310,slow=74,SNR=9.8						
H08S2	**Diego Garcia H**	**5.36**	**131**	T	T	05 34 10.4	
	baz=310,slow=74,SNR=9.9						
CMAR	**Chiang Mai Arr**	**37.51**	**52**	P	P	05 34 36.6	+0.4
	0.5nm,0.3s,baz=236,slow=6.4,SNR=4.2						
GEYT	**Alibeck**	**42.91**	**348**	LR	LR	05 50 47.5	
	comp=Z,63nm,19.9s,baz=325,slow=33						
ZALV	**Zalesovo Beam**	**59.45**	**11**	P	P	05 37 23.3	-1.3
	0.4nm,0.3s,baz=217,slow=9.1,SNR=4.5						
SONM	**Songino Array**	**61.50**	**28**	P	P	05 37 39.2	+0.3
	1.1nm,0.9s,baz=231,slow=6.3,SNR=5.8						
SONM				LR	LR	06 04 08.7	
	comp=Z,102nm,18.6s,baz=7.5,slow=36						
WRA	**Warramunga Arr**	**65.98**	**110**	P	P	05 38 08.7	-0.3
	0.7nm,0.7s,baz=286,slow=6.0,SNR=9.1						
NVAR	**Mina Array Bea**	**145.29**	**9**	PKPbc	PKPbc	05 47 00.4	0.0
	0.8nm,0.7s,baz=14,slow=3.2,SNR=8.2						

*IDC **07** 05:27:19.6±1.1, 35.88N×142.43E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/41, mbtmpb3.7/7, ML3.3/1, Error ellipse: s-maj=34.2km s-min=21.9km az=58.0*

*ISCJB **07** 05:27:21.4±0.8, 36.12N±0.07×142.26E±0.07, h18km, mb3.7/6, Error ellipse: s-maj=10.2km s-min=7.4km az=14.1*

*JMA **07** 05:27:22.3±0.2, 36.19N×142.30E, h69km, M3.3*

ISC 07 05:27:22.6±1.1, 36.16N±0.07×142.28E±0.09, h18km, n24, σ1s37/22, mb3.8/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.24**	**249**	P	**Pn**	**05 27 44.6**	**-0.3**
JHYU	**Hitachinakayam**	**1.38**	**278**	P	**Pn**	**05 27 46.4**	**-0.5**
JHYU				eS	**Sn**	**05 28 03.9**

mb1 5.0/42,mb1mx5.0/55,mbtmp4.9/42,ML4.2/10, MS5.3/49,Ms1 5.3/49,ms1mx5.2/59,Error ellipse: s-maj=10.3km s-min=7.1km az=25.0

TEH ***07*** *06:26:31.2,38˚.46N×46˚.57E,h10km,ML5.4*

MOS ***07*** *06:26:31.5±1.5,38˚.41N×46˚.58E,h14km,mb5.4/95, MS5.3/36,Error ellipse: s-maj=3.8km s-min=2.5km az=123.7*

BJI ***07*** *06:26:31.0,38˚.50N×46˚.60E,h10km,mb5.2/71,mB5.5/64, Ms5.7/82,Ms7 5.4/75*

NEIC ***07*** *06:26:32.8±0.2,38˚.42N×46˚.62E,h10km,mb5.4/190, MS5.4/299,MW5.4,ML5.0(THR),MN5.1(TEH),Error ellipse: s-maj=4.5km s-min=2.5km az=184.0,Moment Tensor Solution. s25 Moment tensor: Scale 10¹⁷Nm; Mrr0.61; Mθθ-0.60; Mφφ-0.02; Mrθ0.37; Mrφ-1.32; Mθφ-0.57; Best double couple: M₀1.60000×10¹⁷ NP1:φ₁90.00000°, δ64.00000°,λ154.00000°. NP2:φ₂192.00000°,δ67.00000°, λ29.00000°. Principal axes: T 1.5400, Plg36.0000°, Azm52.0000°; N 0.1200, Plg54.0000°, Azm228.0000°; P -1.6600, Plg2.0000°, Azm321.0000°;*

NEIC Felt [IV] at Tabriz.

DDA ***07*** *06:26:32.1,38˚.48N×46˚.50E,h7km,Ml5.2*

GCMT ***07*** *06:26:32.8±0.1,38˚.40N±0˚.01×46˚.61E±0˚.01,h15km, MW5.6/139,Moment Tensor Solution. s103,c176; s139,c348; Duration: 1±5 Moment tensor: Scale 10¹⁷ Nm; Mrr0.47±.03; Mθθ-0.46±.03; Mφφ0.00±.03; Mrθ0.27±.09; Mθφ-2.73±.02; Mφr-0.25±.09; Best double couple: M₀2.77200×10¹⁷ NP1:φ₁92.00000°,δ83.00000°, λ173.00000°. NP2:φ₂183.00000°,δ83.00000°,λ7.00000°. Principal axes: T 2.5710, Plg10.0000°, Azm47.0000°; N 0.4030, Plg80.0000°, Azm230.0000°; P -2.9730, Plg0.0000°, Azm137.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

GII ***07*** *06:26:32.5±0.0,38˚.58N×46˚.67E,h10km*

DSN ***07*** *06:26:32.9±0.4,38˚.26N×46˚.56E,h10km,mb5.5/13, Ms5.7/10,Error ellipse: s-maj=11.1km s-min=5.1km az=57.0*

NNC ***07*** *06:26:33.7±3.4,38˚.89N×46˚.66E,h0km,mb5.5,Error ellipse: s-maj=48.6km s-min=28.2km az=40.0*

ISC 07 06:26:32.3±0.4,38˚.48N±0˚.02×46˚.62E±0˚.01,h6km±2km, h6km:pP-P,n1664,σ1§73/1519,mb5.3/317,MS5.5/544, 115C-111D,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
IHRS	**Heris**	**0.37**	**115**	*e*Pg		**Pg**	**06 26 37.8**	**-1.8**
IHRS					IAMB	IAmb	06 26 45.9	
	comp=Z,6866μm,0.4s							
IHRS					IAMB	IAmb	06 26 46.8	
	comp=E,6598μm,0.2s							
IHRS					IAMB	IAmb	06 26 46.9	
	comp=N,6μm,0.1s							
ITBZ	**Tabriz**	**0.44**	**237**	*e*Pg		**Pg**	**06 26 38.1**	**-2.8**
ITBZ					IAMB	IAmb	06 26 53.6	
	comp=N,2556μm,0.8s							
ITBZ					IAMB	IAmb	06 26 54.7	
	comp=Z,2367μm,0.5s							
ITBZ					IAMB	IAmb	06 26 57.6	
	comp=E,4837μm,0.8s							
ORD	**Ordubad**	**0.66**	**313**	⇓P		**Pg**	**06 26 43.1**	**-2.0**
ORD				⇓P		**Pg**	**06 26 43.1**	**-2.0**
ORD				⇑S		**Sg**	**06 26 53.2**	**-0.5**
ORD				⇑S		**Sg**	**06 26 53.2**	**-0.5**
IMRD	**Marand**	**0.75**	**289**	*e*Pg		**Pg**	**06 26 44.3**	**-2.5**
IMRD					IAMB	IAmb	06 26 58.0	
	comp=N,3μm,0.2s							
IMRD					IAMB	IAmb	06 26 59.0	
	comp=Z,2657μm,0.4s							
IMRD					IAMB	IAmb	06 27 02.2	
	comp=E,4475μm,0.4s							
ISHB	**Shabestar**	**0.81**	**256**	*e*Pg		**Pg**	**06 26 45.1**	**-2.8**
ISHB					IAMB	IAmb	06 27 01.4	
	comp=Z,37μm,0.4s							
ISHB					IAMB	IAmb	06 27 07.0	
	comp=E,2712μm,0.4s							
ISHB					IAMB	IAmb	06 27 08.4	
	comp=N,1968μm,0.4s							
IAZR	**Azarshahr**	**0.94**	**212**	*e*Pg		**Pg**	**06 26 47.2**	**-3.2**
IAZR					IAMB	IAmb	06 27 07.1	
	comp=E,4491μm,0.5s							
IAZR					IAMB	IAmb	06 27 08.2	
	comp=Z,38μm,0.3s							
IAZR					IAMB	IAmb	06 27 18.4	
	comp=N,3080μm,0.6s							
GRS	**Goris**	**1.04**	**348**	*i* PG		**Pn**	**06 26 55.0**	**+1.3**
GRS	**Goris**	**1.04**	**348**	*e*Pg		**Pn**	**06 26 55.0**	**+1.3**
GRMI	**Germi**	**1.05**	**71**	*e*Pg		**Pg**	**06 26 50.6**	**-2.0**
GRMI				*e*Sg		**Sg**	**06 27 06.1**	**-0.2**
GRMI					IAML		06 27 09.0	
	comp=N,26μm,0.4s							
GRMI					IAML		06 27 09.2	
	comp=E,37μm,0.3s							
GRMI	**Germi**	**1.05**	**71**	*e*Pg		**Pg**	**06 26 50.8**	**-1.8**
GRMI					IAML		06 27 09.2	
	comp=E,37μm,0.3s							
GRMI					IAML		06 27 11.9	
	comp=N,27μm,0.2s							
GRMI	**Germi**	**1.05**	**71**	*e*Pg		**Pg**	**06 26 50.6**	**-2.0**
ISRB	**Sarab**	**1.05**	**128**	*e*Pg		**Pg**	**06 26 49.8**	**-2.8**
ISRB					IAMB	IAmb	06 27 10.2	
	comp=Z,29μm,0.4s							
ISRB					IAMB	IAmb	06 27 12.2	
	comp=N,1601μm,0.3s							
ISRB					IAMB	IAmb	06 27 17.7	
	comp=E,1609μm,0.4s							
NAX	**Nakhchivan**	**1.12**	**309**	PG		**Pg**	**06 26 51.4**	**-2.4**
NAX	**Nakhchivan**	**1.12**	**309**	⇑P		**Pg**	**06 26 51.7**	**-2.1**
	SNR=1810							
NAX				⇑P		**Pg**	**06 26 51.7**	**-2.1**
	SNR=1810							
NAX				⇑S		**Sb**	**06 27 08.8**	**-0.2**
NAX				⇑S		**Sb**	**06 27 08.8**	**-0.2**
NAX	**Nakhchivan**	**1.12**	**309**	*e*Pg		**Pg**	**06 26 51.4**	**-2.4**
SBZ	**Shahbuz**	**1.24**	**318**	⇓P		**Pg**	**06 26 53.5**	**-2.6**
SBZ				⇓P		**Pg**	**06 26 53.5**	**-2.6**
SBZ				⇑S		**Sg**	**06 27 11.7**	**-0.4**
SBZ				⇑S		**Sg**	**06 27 11.7**	**-0.4**
SBZ	**Shahbuz**	**1.24**	**318**	*e*Pg		**Pg**	**06 26 53.3**	**-2.8**
STKZ		**1.34**	**5**	*e*Pg		**Pg**	**06 26 59.2**	**+1.2**
LRK	**Lerik**	**1.36**	**83**	⇑P		**Pn**	**06 26 55.8**	**-2.3**
	SNR=9838							
LRK				⇑P		**Pn**	**06 26 55.8**	**-2.3**
	SNR=9838							
LRK				⇑S		**Sn**	**06 27 16.5**	**0.0**
LRK				⇑S		**Sn**	**06 27 16.5**	**0.0**
LRK	**Lerik**	**1.36**	**83**	*e*Pn		**Pn**	**06 26 55.7**	**-2.3**
GLBA	**Clilabad**	**1.58**	**61**	P		**Pn**	**06 27 01.2**	**+0.2**
	SNR=2982							
GLBA				P		**Pn**	**06 27 01.2**	**+0.2**
	SNR=2982							
GLBA				⇑S		**Sg**	**06 27 25.1**	**+1.8**
GLBA				⇑S		**Sg**	**06 27 25.1**	**+1.8**
GLBA	**Clilabad**	**1.58**	**61**	*e*Pn		**Pn**	**06 27 01.1**	**+0.2**
ASTR	**Astara**	**1.71**	**87**	⇓P		**Pn**	**06 27 02.3**	**-0.3**
	SNR=2022							
ASTR				⇓P		**Pn**	**06 27 02.3**	**-0.3**
	SNR=2022							
ASTR				⇑S		**Sg**	**06 27 27.5**	**+0.2**
ASTR				⇑S		**Sg**	**06 27 27.5**	**+0.2**
ASTR	**Astara**	**1.71**	**87**	*e*Pn		**Pn**	**06 27 00.0**	**-2.7**
LKRN	**Lenkeran, Azer**	**1.71**	**82**	PN		**Pn**	**06 27 02.0**	**-0.7**
LKRN	**Lenkeran, Azer**	**1.71**	**82**	⇑P		**Pn**	**06 27 02.1**	**-0.7**
	SNR=2569							
LKRN				⇑P		**Pn**	**06 27 02.1**	**-0.7**
	SNR=2569							
LKRN				⇓S		**Sg**	**06 27 27.3**	**0.0**
LKRN				⇓S		**Sg**	**06 27 27.3**	**0.0**
LKRN	**Lenkeran, Azer**	**1.71**	**82**	*e*Pn		**Pn**	**06 27 02.0**	**-0.7**
MAKU	**Maku**	**1.74**	**301**	*e*Pg		**Pn**	**06 27 01.8**	**-1.5**
MAKU					IAML		06 27 28.4	
	comp=N,15μm,0.5s							
MAKU					IAML		06 27 31.0	
	comp=E,14μm,0.5s							
MAKU	**Maku**	**1.74**	**301**	*e*Pg		**Pn**	**06 27 02.0**	**-1.3**
MAKU				*e*Sg		**Sn**	**06 27 25.4**	**-0.5**
MAKU					IAML		06 27 28.1	
	comp=N,15μm,0.6s							
MAKU	**Maku**	**1.74**	**301**	*e*Pn		**Pn**	**06 27 01.8**	**-1.5**
BRDA	**Brd**	**1.84**	**14**	⇑P		**Pn**	**06 27 05.2**	**+0.8**
	SNR=142							
BRDA				⇑P		**Pn**	**06 27 05.2**	**+0.8**
	SNR=142							
BRDA				⇑S		**Sg**	**06 27 33.1**	**+1.7**
BRDA				⇑S		**Sg**	**06 27 33.1**	**+1.7**
HYR	**Heyderabad**	**1.85**	**313**	⇑P		**Pn**	**06 27 03.8**	**-0.8**
HYR				⇑P		**Pn**	**06 27 03.8**	**-0.8**
HYR				⇓S		**Sb**	**06 27 29.4**	**-0.6**
HYR				⇓S		**Sb**	**06 27 29.4**	**-0.6**
SAAT	**Saatly**	**1.97**	**45**	⇓P		**Pn**	**06 27 06.7**	**+0.4**
	SNR=19							
SAAT				⇓P		**Pn**	**06 27 06.7**	**+0.4**
	SNR=19							
SAAT				⇓S		**Sg**	**06 27 34.7**	**-0.9**
SAAT				⇓S		**Sg**	**06 27 34.7**	**-0.9**
SAAT	**Saatly**	**1.97**	**45**	*e*Pn		**Pn**	**06 27 05.6**	**-0.6**
ZRD	**Zardab**	**1.98**	**24**	⇑P		**Pb**	**06 27 07.8**	**-1.0**
	SNR=152							
ZRD				⇑P		**Pb**	**06 27 07.8**	**-1.0**
	SNR=152							
ZRD				⇓S		**Sg**	**06 27 35.0**	**-1.0**
ZRD				⇓S		**Sg**	**06 27 35.0**	**-1.0**
ZRD	**Zardab**	**1.98**	**24**	*e*Pn		**Pn**	**06 27 07.1**	**+0.7**
YOVA	**Hakkari_Y˜...kse**	**2.04**	**245**	*i* P		**Pn**	**06 27 08.0**	**+0.5**
YOVA				*i* S		**Sg**	**06 27 37.7**	**-0.2**
YOVA	**Hakkari_Y˜...kse**	**2.04**	**245**	*e*Pn		**Pn**	**06 27 07.9**	**+0.5**
GANJ	**Ganja**	**2.18**	**354**	PN		**Pn**	**06 27 09.7**	**+0.6**
GANJ	**Ganja**	**2.18**	**354**	P		**Pn**	**06 27 09.7**	**+0.6**
	SNR=1276							
GANJ				P		**Pn**	**06 27 09.7**	**+0.6**
	SNR=1276							
GANJ				⇑S		**Sb**	**06 27 39.0**	**-0.5**
GANJ				⇑S		**Sb**	**06 27 39.0**	**-0.5**
GANJ	**Ganja**	**2.18**	**354**	*e*Pn		**Pn**	**06 27 09.7**	**+0.6**
CLDR	**Caldiran**	**2.21**	**288**	*i* P		**Pn**	**06 27 10.1**	**+0.3**
CLDR	**Caldiran**	**2.21**	**288**	*e*Pn		**Pn**	**06 27 10.1**	**+0.3**
GNI	**Garni**	**2.21**	**320**	Pn		**Pn**	**06 27 10.7**	**+0.9**
	baz=157,slow=5.2							
GNI					Lg	Lg	06 27 42.6	
	comp=N,917nm,0.3s,baz=10.0,slow=22,SNR=7.5							
GNI	**Garni**		**2.21**	**320**	*e*Pn		**Pn**	**06 27 10.7**	**+0.9**
GNI					*e*Sn		**Sn**	**06 27 36.5**	**-1.1**
GNI					*e*Lg		Lg	06 27 42.6	
GNI	**Garni**		**2.21**	**320**	P		**Pn**	**06 27 11.0**	**+1.2**
	SNR=4477								
GNI	**Garni**		**2.21**	**320**	*e*P		**Pn**	**06 27 10.9**	**+1.2**
	SNR=2887								
GNI	**Garni**		**2.21**	**320**	*e*Pn		**Pn**	**06 27 10.3**	**+0.5**
KDMR	**Kurdemir**		**2.25**	**32**	⇓P		**Pn**	**06 27 11.3**	**+1.2**
	SNR=202								
KDMR					⇓P		**Pn**	**06 27 11.3**	**+1.2**
	SNR=202								
KDMR					⇓S		**Sb**	**06 27 41.6**	**+0.1**
KDMR					⇓S		**Sb**	**06 27 41.6**	**+0.1**
KDMR	**Kurdemir**		**2.25**	**32**	*e*Pn		**Pn**	**06 27 11.3**	**+1.2**
MNGR	**Mingechevir, A**		**2.32**	**9**	PN		**Pb**	**06 27 13.0**	**-1.6**
MNGR	**Mingechevir, A**		**2.32**	**9**	⇓P		**Pn**	**06 27 12.2**	**+1.1**
	SNR=437								
MNGR					⇓P		**Pn**	**06 27 12.2**	**+1.1**
	SNR=437								
MNGR					⇑S		**Sb**	**06 27 42.4**	**-1.1**
MNGR					⇑S		**Sb**	**06 27 42.4**	**-1.1**
MNGR	**Mingechevir, A**		**2.32**	**9**	*e*Pn		**Pb**	**06 27 13.0**	**-1.6**
GDB	**GEDABAY**		**2.34**	**344**	⇓P		**Pn**	**06 27 11.6**	**+0.1**
	SNR=3717								
GDB					⇓P		**Pn**	**06 27 11.6**	**+0.1**
	SNR=3717								
GDB					⇓S		**Sn**	**06 27 42.3**	**+1.7**
GDB					⇓S		**Sn**	**06 27 42.3**	**+1.7**
GDB	**GEDABAY**		**2.34**	**344**	*e*Pn		**Pn**	**06 27 12.0**	**+0.5**
ALIB	**Äli-Bayra**		**2.37**	**51**	⇓P		**Pn**	**06 27 13.1**	**+1.3**
	SNR=1620								
ALIB					⇓P		**Pn**	**06 27 13.1**	**+1.3**
	SNR=1620								
ALIB					⇓S		**Sb**	**06 27 46.0**	**+1.0**
ALIB					⇓S		**Sb**	**06 27 46.0**	**+1.0**
ALIB	**Äli-Bayra**		**2.37**	**51**	*e*Pn		**Pb**	**06 27 14.1**	**-1.4**
TASB	**TASBURUN-IGDIR**		**2.38**	**310**	*e*Pn		**Pn**	**06 27 12.3**	**+0.3**
IGDI	**IGDIR**		**2.41**	**306**	*i* P		**Pn**	**06 27 12.5**	**0.0**
IGDI	**IGDIR**		**2.41**	**306**	*e*Pn		**Pn**	**06 27 12.4**	**0.0**
VMUR	**Van-Muradiye**		**2.43**	**283**	*i* P		**Pn**	**06 27 14.0**	**+1.1**
VMUR					*i* S		**Sg**	**06 27 52.9**	**+2.3**
VMUR	**Van-Muradiye**		**2.43**	**283**	*e*Pn		**Pn**	**06 27 13.9**	**+1.1**
ZNJK	**Zanjan**		**2.44**	**137**	*e*Pn		**Pn**	**06 27 12.7**	**-0.3**
ZNJK					*e*Sg		**Sb**	**06 27 47.8**	**+0.5**
ZNJK	**Zanjan**		**2.44**	**137**	*e*Pn		**Pn**	**06 27 12.8**	**-0.1**
ZNJK					*e*Sg		**Sb**	**06 27 48.9**	**+1.7**
ZNJK	**Zanjan**		**2.44**	**137**	*e*Pn		**Pn**	**06 27 12.7**	**-0.3**
HAKT	**HAKKARI**		**2.47**	**249**	*i* P		**Pn**	**06 27 14.1**	**+0.7**
HAKT					*i* S		**Sg**	**06 27 56.8**	**+5.0**
HAKT	**HAKKARI**		**2.47**	**249**	*e*Pn		**Pn**	**06 27 14.1**	**+0.7**
DYDN	**Diyadin**		**2.52**	**296**	*i* P		**Pb**	**06 27 16.4**	**-1.6**
DYDN	**Diyadin**		**2.52**	**296**	*e*Pn		**Pb**	**06 27 16.4**	**-1.6**
TVAN	**Van**		**2.52**	**272**	*i* P		**Pb**	**06 27 16.1**	**-2.0**
TVAN	**Van**		**2.52**	**272**	*e*Pn		**Pb**	**06 27 16.0**	**-2.0**
VANB	**Van**		**2.53**	**274**	*e*Pn		**Pn**	**06 27 15.1**	**+1.0**
IML	**Ismayilli**		**2.61**	**27**	⇓P		**Pn**	**06 27 15.8**	**+0.7**
	SNR=149								
IML					⇓P		**Pn**	**06 27 15.8**	**+0.7**
	SNR=149								
IML					⇑S		**Sb**	**06 27 51.0**	**-0.9**
IML					⇑S		**Sb**	**06 27 51.0**	**-0.9**
IML	**Ismayilli**		**2.61**	**27**	*e*Pn		**Pn**	**06 27 15.8**	**+0.7**
QBL	**Gabala**		**2.64**	**21**	⇑P		**Pn**	**06 27 15.8**	**+0.3**
	SNR=63								
QBL					⇑P		**Pn**	**06 27 15.8**	**+0.3**
	SNR=63								
QBL					⇑S		**Sb**	**06 27 52.2**	**-0.5**
QBL					⇑S		**Sb**	**06 27 52.2**	**-0.5**
QBL	**Gabala**		**2.64**	**21**	*e*Pn		**Pn**	**06 27 15.8**	**+0.3**
CUKT	**Cukurca**		**2.68**	**244**	*i* P		**Pn**	**06 27 17.8**	**+1.7**
CUKT					*i* S		**Sg**	**06 28 01.7**	**+3.3**
GBS	**Qobustan**		**2.73**	**40**	⇑P		**Pn**	**06 27 17.8**	**+1.0**
	SNR=530								
GBS					⇑P		**Pn**	**06 27 17.8**	**+1.0**
	SNR=530								
GBS					⇓S		**Sb**	**06 27 55.4**	**0.0**
GBS					⇓S		**Sb**	**06 27 55.4**	**0.0**
GBS	**Qobustan**		**2.73**	**40**	*e*Pn		**Pn**	**06 27 18.3**	**+1.5**
QZX	**Qazax, Azerbai**		**2.75**	**340**	⇓P		**Pn**	**06 27 17.1**	**+0.1**
	SNR=771								
QZX					⇓P		**Pn**	**06 27 17.1**	**+0.1**
	SNR=771								
QZX					⇑S		**Sb**	**06 27 53.6**	**-2.3**
QZX					⇑S		**Sb**	**06 27 53.6**	**-2.3**
QZX	**Qazax, Azerbai**		**2.75**	**340**	*e*Pn		**Pn**	**06 27 18.5**	**+1.5**
SEKA	**Sheki**		**2.77**	**9**	PN		**Pn**	**06 27 17.8**	**+0.6**
SEKA	**Sheki**		**2.77**	**9**	P		**Pn**	**06 27 17.8**	**+0.6**
	SNR=140								
SEKA					P		**Pn**	**06 27 17.8**	**+0.6**
	SNR=140								
SEKA					⇑S		**Sb**	**06 27 56.5**	**+0.1**
SEKA					⇑S		**Sb**	**06 27 56.5**	**+0.1**
SEKA	**Sheki**		**2.77**	**9**	*e*Pn		**Pn**	**06 27 17.8**	**+0.6**
PQL	**Pirkuli**		**2.77**	**33**	⇓P		**Pn**	**06 27 18.1**	**+0.7**
	SNR=818								
PQL					⇓P		**Pn**	**06 27 18.1**	**+0.7**
	SNR=818								
PQL					⇓S		**Sb**	**06 27 57.2**	**+0.6**
PQL					⇓S		**Sb**	**06 27 57.2**	**+0.6**
PQL	**Pirkuli**		**2.77**	**33**	*e*Pn		**Pn**	**06 27 18.1**	**+0.7**
GEVA	**Gevas**		**2.80**	**268**	*i* P		**Pn**	**06 27 19.2**	**+1.3**
GEVA	**Gevas**		**2.80**	**268**	*e*Pn		**Pn**	**06 27 19.1**	**+1.3**
XNQ	**Khinaliq**		**2.94**	**23**	⇓P		**Pn**	**06 27 20.3**	**+0.6**
	SNR=674								
XNQ					⇓P		**Pn**	**06 27 20.3**	**+0.6**
	SNR=674								
XNQ	**Khinaliq**		**2.94**	**23**	*e*Pn		**Pn**	**06 27 20.0**	**+0.3**
ATGJ	**Altiaghaj**		**2.98**	**36**	⇓P		**Pn**	**06 27 21.0**	**+0.7**
	SNR=412								
ATGJ					⇓P		**Pn**	**06 27 21.0**	**+0.7**
	SNR=412								
ATGJ					⇓S		**Sb**	**06 28 01.8**	**-0.8**
ATGJ					⇓S		**Sb**	**06 28 01.8**	**-0.8**
ATGJ	**Altiaghaj**		**2.98**	**36**	*e*Pn		**Pn**	**06 27 22.7**	**+2.5**
DDFL	**Dedoflistskaro**		**2.99**	**353**	P		**Pb**	**06 27 26.5**	**+0.5**
DDFL					S		**Sg**	**06 28 10.9**	**+2.6**
AGRB	**Hanur-Agry**		**3.03**	**292**	*e*Pn		**Pn**	**06 27 21.9**	**+0.9**
ADCV	**BITLIS_Adilcev**		**3.06**	**277**	*i* P		**Pn**	**06 27 22.6**	**+1.1**
GOBA	**Gobu**		**3.08**	**51**	⇑P		**Pn**	**06 27 22.2**	**+0.6**
	SNR=12								
GOBA					⇑P		**Pn**	**06 27 22.2**	**+0.6**
	SNR=12								
GOBA	**Gobu**		**3.08**	**51**	*e*Pn		**Pn**	**06 27 24.0**	**+2.4**
TUTA	**Tutak**		**3.10**	**288**	*i* P		**Pn**	**06 27 24.7**	**+2.6**
AKT	**Akhty**		**3.12**	**16**	*e*PN		**Pn**	**06 27 20.1**	**-2.1**
AKT					*e*			06 27 27.9	
AKT					*e*			06 28 05.4	
AKT					*e*			06 28 12.8	
AKT					pmax		pmax		
	comp=Z,2μm,0.8s								
DGRG	**David-gareji**		**3.12**	**343**	*e*PN		**Pg**	**06 27 36.5**	**+4.4**
SIZA	**Siyzn**		**3.14**	**33**	⇓P		**Pn**	**06 27 22.6**	**+0.3**
	SNR=324								
SIZA					⇓P		**Pn**	**06 27 22.6**	**+0.3**
	SNR=324								
SIZA					⇑S		**Sb**	**06 28 05.8**	**-1.2**
SIZA					⇑S		**Sb**	**06 28 05.8**	**-1.2**
ZKTA	**Zakatala**		**3.16**	**0**	PN		**Pn**	**06 27 24.2**	**+1.6**
ZKTA	**Zakatala**		**3.16**	**0**	⇑P		**Pn**	**06 27 22.4**	**-0.2**
	SNR=597								
ZKTA					⇑P		**Pn**	**06 27 22.4**	**-0.2**
	SNR=597								
ZKTA					⇑S		**Sb**	**06 28 04.8**	**-2.8**
ZKTA					⇑S		**Sb**	**06 28 04.8**	**-2.8**
QUBA	**Quba, Azerbaij**		**3.22**	**26**	⇓P		**Pn**	**06 27 23.9**	**+0.4**
QUBA					⇓P		**Pn**	**06 27 23.9**	**+0.4**
QUBA					⇑S		**Sb**	**06 28 07.2**	**-2.1**
QUBA					⇑S		**Sb**	**06 28 07.2**	**-2.1**
QSAR	**Qusar**		**3.29**	**22**	⇑P		**Pn**	**06 27 24.7**	**+0.3**
QSAR					⇑P		**Pn**	**06 27 24.7**	**+0.3**
QSAR					⇓S		**Sb**	**06 28 08.9**	**-2.5**
QSAR					⇓S		**Sb**	**06 28 08.9**	**-2.5**
NDR	**Nardaran**		**3.35**	**50**	⇓P		**Pn**	**06 27 26.2**	**+1.0**
NDR					⇓P		**Pn**	**06 27 26.2**	**+1.0**
LGD	**Lagodekhi**		**3.37**	**355**	P		**Pn**	**06 27 28.7**	**+3.2**
LGD					S		**Sb**	**06 28 13.6**	**0.0**
LGD	**Lagodekhi**		**3.37**	**355**	*e*PN		**Pn**	**06 27 28.7**	**+3.2**
LGD					*e*S		**Sb**	**06 28 13.6**	**0.0**
KZRT	**Kazreti**		**3.37**	**330**	P		**Pn**	**06 27 32.0**	**-0.5**
KZRT					S		**Sb**	**06 28 16.1**	**+2.4**
SNGE	**Sanandaj**		**3.43**	**170**	*e*Pn		**Pn**	**06 27 26.4**	**-0.1**
SNGE	**Sanandaj**		**3.43**	**170**	*e*Pn		**Pn**	**06 27 27.0**	**+0.5**
SNGE	**Sanandaj**		**3.43**	**170**	*e*Pn		**Pn**	**06 27 26.4**	**-0.1**
SIRN	**S˜˜rnak**		**3.46**	**255**	*i* P		**Pb**	**06 27 32.1**	**-2.0**
KARS	**Kars**		**3.48**	**309**	PN		**Pn**	**06 27 28.6**	**+1.5**
EATA	**Eleskirt**		**3.49**	**295**	*i* P		**Pb**	**06 27 33.8**	**-0.9**
IGZV	**Ghazvin**		**3.55**	**125**	*e*Pn		**Pn**	**06 27 28.4**	**+0.2**
IGZV					IAMB		IAmb	06 28 37.0	
	comp=Z,10μm,1.2s								
TBLG	**Delisi**		**3.55**	**337**	P		**Pn**	**06 27 31.5**	**+3.4**
TBLG					S		**Sg**	**06 28 24.7**	**-1.8**
TBLG	**Delisi**		**3.55**	**337**	*e*Pn		**Pn**	**06 27 30.1**	**+2.0**
TBLG	**Delisi**		**3.55**	**337**	*e*PN		**Pn**	**06 27 31.4**	**+3.4**
TBLG					*e*S		**Sg**	**06 28 24.6**	**-1.8**
ILIN	**Lien**		**3.56**	**175**	*e*Pn		**Pn**	**06 27 30.0**	**+1.6**
ILIN					IAMB		IAmb	06 28 39.1	
	comp=Z,78μm,1.0s								
SEAG	**Tbilisi Sea**		**3.56**	**338**	P		**Pb**	**06 27 35.5**	**-0.3**
SEAG					S		**Sb**	**06 28 22.8**	**+3.4**
HKZM	**Kohzaman**		**3.60**	**149**	*e*Pn		**Pn**	**06 27 29.6**	**+0.7**
BGD	**Bogdanovka**		**3.62**	**321**	P		**Pb**	**06 27 36.9**	**-0.1**
EKAR	**Karacoban**		**3.64**	**284**	*i* P		**Pb**	**06 27 38.3**	**+1.2**
QABG	**Abgarm-Qazvin**		**3.64**	**138**	*e*Pn		**Pn**	**06 27 29.6**	**+0.1**
QABG					IAMB		IAmb	06 28 57.0	
	comp=E,0.0nm,5.4s								
QABG					IAMB		IAmb	06 29 15.2	
	comp=N,0.0nm,4.8s								
QABG					IAMB		IAmb	06 29 21.3	
	comp=Z,0.0nm,4.3s								
SRTM	**Siirt_Merkez**		**3.73**	**264**	*i* P		**Pn**	**06 27 31.8**	**+1.3**
IDHR	**Dehrash**		**3.77**	**183**	*e*Pn		**Pn**	**06 27 32.0**	**+0.7**
IDHR					IAMB		IAmb	06 28 50.7	
	comp=Z,77μm,1.2s								
DRN	**Derbent**		**3.78**	**20**	⇑*i*PN		**Pb**	**06 27 35.4**	**-4.1**
AKH	**Akhalkalaki**		**3.79**	**322**	P		**Pb**	**06 27 40.0**	**+0.3**
AKH	**Akhalkalaki**		**3.79**	**322**	*e*Pn		**Pn**	**06 27 34.3**	**+2.9**
**AKH

comp=Z,17µm,1.1s
IKIA Kiasar 6.07 110 *e*Pn **Pn 06 28 05.0 +2.1**
IKIA IAMB IAmb 06 29 31.6
comp=N,16µm,0.7s
IKIA IAMB IAmb 06 29 31.6
comp=E,14µm,0.8s
IKIA IAMB IAmb 06 29 31.7
comp=Z,12µm,1.0s
KVAR Kislovodsk Arr 6.22 333 Pn **Pn 06 28 08.8 +4.1**
baz=76,slow=22,SNR=19
KVAR Lg Lg 06 29 52.2
baz=144,slow=19,SNR=5.8
KVAR LR LR 06 30 41.9
comp=Z,28µm,18.8s,baz=78,slow=40
KIV Kislovodsk 6.22 333 *e*Pn Pn 06 28 09.6 +4.8
KIV *e*Lg Lg 06 29 52.2
KIV *e* 06 30 41.9
KIV Kislovodsk 6.22 333 P Pn 06 28 09.6 +4.9
SNR=38
KIV Kislovodsk 6.22 333 *i* P **Pn 06 28 08.6 +3.8**
SNR=29
KIV Kislovodsk 6.22 333 *e*P **Pn 06 28 04.9 +0.1**
KIV *e*S **Sn 06 29 15.8 -0.4**
KIV pmax pmax
comp=Z,256nm,1.0s
KIV MLR MLR
comp=Z,6µm,8.0s
IKLH Kolahrood 6.54 140 *e*Pn **Pn 06 28 11.4 +2.1**
IKLH IAMB IAmb 06 30 03.5
comp=E,26µm,1.1s
IKLH IAMB IAmb 06 30 03.6
comp=N,16µm,1.1s
IKLH IAMB IAmb 06 30 29.5
comp=Z,22µm,1.8s
SHGR Shooshtar-Gavs 6.60 164 *e*Pn **Pn 06 28 09.8 -0.1**
IPIR Pirpir 6.75 148 *e*Pn **Pn 06 28 14.9 +2.7**
IPIR IAMB IAmb 06 28 42.2
comp=Z,6µm,1.0s
IPIR IAMB IAmb 06 30 20.0
comp=N,10µm,1.2s
IPIR IAMB IAmb 06 30 42.3
comp=E,18µm,1.4s
GOF Gofitskoye 7.10 339 *e*P Pn 06 28 22.7 +6.0
GOF pmax pmax
comp=Z,100nm,0.9s
IZEF Zefreh 7.25 138 *e*Pn **Pn 06 28 20.8 +1.7**
IZEF IAMB IAmb 06 30 34.8
comp=Z,9µm,1.9s
IZEF IAMB IAmb 06 30 46.4
comp=E,15µm,1.7s
IZEF IAMB IAmb 06 31 36.0
comp=N,32µm,3.9s
MRVT Maraveh tapeh 7.52 93 *e*Pn **Pn 06 28 22.4 -0.2**
SHRO Shahrood 7.89 105 *e*Pn **Pn 06 28 28.7 +0.9**
IRAM Ramesheh 8.16 143 IAMB IAmb 00 00 00.0
comp=Z,0.0nm,0.0s
IRAM *e*Pn **Pn 06 28 32.7 +1.2**
IRAM IAMB IAmb 06 31 18.9
comp=E,6µm,1.3s
IRAM IAMB IAmb 06 31 25.3
comp=N,1µm,1.2s
BJRD Bojnurd 8.55 92 *e*Pn **Pn 06 28 37.0 +0.2**
BJRD Bojnurd 8.55 92 *e*Pn **Pn 06 28 37.1 +0.4**
YZKH Yazd 8.90 131 *e*Pn **Pn 06 28 41.8 +0.3**
GEYT Alibeck 9.07 90 Pn **Pn 06 28 41.3 -2.6**
comp=N,16nm,0.3s,baz=316,slow=8.3,SNR=72
GEYT Sn **Sn 06 30 29.8 +3.5**
comp=N,6.0nm,0.3s,baz=54,slow=13,SNR=3.6
GEYT LR LR 06 33 38.0
comp=N,19µm,18.3s,baz=275,slow=47
GYA0B ALIBECK ARRAY 9.07 90 ||Pn **Pn 06 28 42.8 -1.1**
GYA0B ⇑Sn **Sn 06 30 30.3 +4.0**
comp=N,678nm,1.2s
GYA0B ALIBECK ARRAY 9.07 90 *e*Pn **Pn 06 28 42.2 -1.6**
ISFR Sfrayin 9.13 95 *e*Pn **Pn 06 28 45.3 +0.5**
ISFR IAMB IAmb 06 28 52.1
comp=Z,17µm,0.4s
ISFR IAMB IAmb 06 28 53.0
comp=E,30µm,0.4s
ISFR IAMB IAmb 06 29 06.5
comp=N,12µm,0.5s
ASHT Ashkhabad 9.28 90 P **Pn 06 28 47.4 +0.7**
ASHT pmax pmax
comp=Z,1µm,1.0s
ANN Anapa 9.33 316 *e*P **Pn 06 28 51.4 +4.1**
ANN *e*S **Sn 06 30 40.6 +8.1**
ANN pmax pmax
comp=Z,112nm,0.7s
ANN MLR MLR
comp=Z,35µm,13.0s
IMEH Mehriz 9.64 135 *e*Pn **Pn 06 28 53.5 +1.6**
IMEH IAMB IAmb 06 32 14.7
comp=Z,8µm,2.2s
IMEH IAMB IAmb 06 32 18.6
comp=N,4µm,1.8s
IPAY Payeh 10.05 98 *e*Pn **Pn 06 28 57.7 +0.3**
IPAY IAMB IAmb 06 29 04.2
comp=E,9µm,0.5s
IPAY IAMB IAmb 06 29 06.1
comp=Z,9µm,1.1s
IPAY IAMB IAmb 06 29 06.8
comp=N,6µm,0.5s
IPAR Pars 10.13 146 *e*Pn **Pn 06 28 59.6 +1.0**
IPAR IAMB IAmb 06 29 52.6
comp=Z,1µm,1.0s
IPAR IAMB IAmb 06 30 24.2
comp=N,1µm,0.9s
IPAR IAMB IAmb 06 32 40.8
comp=E,2µm,1.1s
BR101 Keskin Array S 10.16 281 *e*Pn **Pn 06 29 02.5 +3.6**
BR131 Keskin Array S 10.16 281 *e*Pn **Pn 06 29 02.1 +3.2**
BR131 Keskin Array S 10.16 281 P **Pn 06 29 02.3 +3.4**
SNR=54
BRTR Keskin Array B 10.16 281 Pn **Pn 06 29 02.5 +3.5**
comp=E,1.2nm,0.3s,baz=104,slow=12,SNR=110
BRTR LR LR 06 33 00.5
comp=E,13µm,19.2s,baz=91,slow=38
NATI Neve Ativ 10.24 243 Pn **Pn 06 29 00.6 +0.8**
ILGA Ilgaz 10.26 289 *e*Pn **Pn 06 29 04.5 +4.2**
KSDI Kefar Szold 10.34 243 Pn **Pn 06 29 01.3 +0.2**
KSHT Keshet 10.35 241 Pn **Pn 06 29 02.3 +0.9**
ISRV Sarvestan 10.55 147 *e*Pn **Pn 06 29 05.0 +0.6**
ISRV IAMB IAmb 06 32 45.4
comp=N,50µm,2.7s
ISRV IAMB IAmb 06 33 18.0
comp=Z,12µm,2.1s
MMA0B Mount Meron ar 10.61 242 Pn **Pn 06 29 06.4 +1.4**
HNTI Hanita 10.74 243 Pn **Pn 06 29 07.9 +1.3**
ANTO Ankara 10.82 282 *e*Pn Pn 06 29 13.8 +6.0
ANTO Ankara 10.82 282 *e*P Pn 06 29 13.8 +6.0
BR231 Keskin MP Arra 10.83 282 *e*Pn **Pn 06 29 10.5 +2.4**
BLGI Bet Lehem HaGe 10.92 242 Pn **Pn 06 29 10.0 +0.9**
MMLI Mount Malkishu 10.93 240 Pn **Pn 06 29 10.7 +1.3**
IMYA Miami 10.94 97 IAMB IAmb 06 29 15.4
comp=Z,3µm,0.7s
IMYA *e*Pn **Pn 06 29 09.5 0.0**
IMYA IAMB IAmb 06 29 20.9
comp=E,5µm,0.8s
IMYA IAMB IAmb 06 29 34.3
comp=N,5µm,1.0s
HMDT Nahal Hemdat 10.97 239 Pn **Pn 06 29 11.3 +1.4**
OFRI 'Ofer 11.13 242 Pn **Pn 06 29 13.1 +1.1**
CSS Mathiatis 11.22 256 *e*Pn **Pn 06 29 15.9 +2.6**
SLTI Sal'it 11.31 240 Pn **Pn 06 29 15.4 +0.9**
SIM Simferopol' 11.35 309 *e*P Pn 06 29 20.3 +5.3
SIM *e*S Sn 06 31 31.5 +9.3
SIM pmax pmax
comp=Z,640nm,4.5s
SIM MLR MLR
comp=Z,13µm,14.3s
GHIR Ghir-Karzin 11.47 151 *e*Pn **Pn 06 29 17.0 +0.2**
DSI Dead Sea 11.50 237 Pn **Pn 06 29 17.8 +0.8**
GHAJ Ghor Haditha 11.55 235 Pn **Pn 06 29 18.0 +0.3**
KRBR Kerman 11.92 132 *e*Pn **Pn 06 29 24.2 +1.1**
ZFRI Zfri 12.30 233 Pn **Pn 06 29 29.1 +1.1**
RMNI Mount Ramon 12.53 235 Pn **Pn 06 29 32.9 +1.6**
PRNI Paran 12.54 233 Pn **Pn 06 29 32.4 +1.0**
KZIT Kziot 12.57 237 Pn **Pn 06 29 31.7 0.0**
ISP Isparta 12.69 272 *e*Pn **Pn 06 29 34.4 +1.0**
ISP Isparta 12.69 272 Pn **Pn 06 29 34.6 +1.2**
ISP Isparta 12.69 272 *e*P **Pn 06 29 34.4 +1.0**
HRFI Mount Harif 12.74 232 Pn **Pn 06 29 35.3 +1.2**
MBRI Mt Berech 12.99 232 Pn **Pn 06 29 38.6 +1.1**
EIL Elat 13.05 231 Pn **Pn 06 29 39.0 +0.7**
comp=Z,0.3nm,0.3s,baz=322,slow=3.7,SNR=14
EIL LR LR 06 35 15.4
comp=Z,20µm,18.6s,baz=48,slow=40
EIL Elat 13.05 231 Pn **Pn 06 29 39.2 +0.9**
VRH Novokhopyorsk 13.18 346 *e*P **Pn 06 29 40.7 +0.7**
VRH pmax pmax
comp=Z,220nm,0.8s
VRH MLR MLR
comp=Z,20µm,12.7s
VORD Divnogorie 13.52 340 *e*P **Pn 06 29 44.6 +0.1**
VORD pmax pmax
comp=Z,190nm,1.9s
VSR Storozhevoye 13.78 340 *e*P **Pn 06 29 46.5 -1.6**
VSR *e*S **Sn 06 32 21.1 -0.2**
VSR pmax pmax
comp=Z,330nm,1.8s
VSR smax smax
comp=N,2µm,9.9s
VSR MLR MLR
comp=Z,14µm,12.8s
MANT Manisa 14.15 276 *e*Pn **Pn 06 29 54.6 +1.1**
VORR Voronezh 14.18 341 *e*P **Pn 06 29 53.0 -0.6**
VORR pmax pmax
comp=Z,600nm,2.0s
AB31 Akbulak array 14.41 37 *i* P **Pn 06 29 52.7 -4.1**
AB31 pmax pmax
comp=Z,189nm,0.8s
ABKAR Akbulak array 14.41 37 *e*Pn **Pn 06 29 52.7 -4.1**
AKTO Aktyubinsk 14.44 30 ⇑Pn **Pn 06 29 53.4 -3.8**
comp=Z,280nm,0.8s
AKTO ⇑Sn **Sn 06 32 30.3 -7.3**
comp=Z,141nm,0.9s
AKTO Aktyubinsk 14.44 30 P **Pn 06 29 53.4 -3.8**
AKTO 06 32 30.2
AKTO pmax pmax
comp=Z,280nm,0.9s
AKTO smax smax
comp=Z,141nm,0.9s
ZHSF Zahedan 14.68 123 IVMs_BB IVMs_BB 06 36 10.4
comp=N,14µm,11.1s
ZHSF Zadan 14.68 123 IAmb IAmb 06 30 18.7
comp=Z,63nm,1.1s
SHME Shamm 14.77 144 *i* P **Pn 06 30 00.8 -1.0**
SNR=9.6
TLCR 14.85 302 ||*i* P **P 06 30 05.9 -2.8**
ARG Arkhangelos 14.88 267 P **P 06 30 09.9 +0.8**
ARG pmax pmax
comp=Z,118nm,1.1s
TIRR Tirgusor 14.88 299 *e*Pn **Pn 06 30 03.0 -0.2**
TIRR Tirgusor 14.88 299 ||*i*P **P 06 30 07.1 -2.0**
TIRR Tirgusor 14.88 299 *e*P **Pn 06 30 03.0 -0.2**
RAYN Ar Rayn 14.94 184 *e*Pn Pn 06 29 58.9 -5.2
RAYN Ar Rayn 14.94 184 *e*P Pn 06 29 58.9 -5.2
BANOM Banah 14.95 144 P **Pn 06 30 03.7 -0.6**
SNR=38
BANOM Banah 14.95 144 *i* P **Pn 06 30 02.1 -2.1**
SNR=43
UMQ Umm Al-Quwin 15.01 147 *i* P **Pn 06 30 04.1 -0.9**
SNR=8.4
LPSR Galich'ya Gora 15.10 342 *e*P **Pn 06 30 05.4 -0.7**
LPSR *e*S **Sn 06 33 02.0 +8.4**
LPSR pmax pmax
comp=Z,310nm,1.0s
LPSR smax smax
comp=N,680nm,5.6s
TLB Topalu 15.18 300 ||*i*P **P 06 30 10.2 -2.1**
HARR Harsova 15.28 300 ||*i*P **P 06 30 13.0 -0.5**
HARR Harsova 15.28 300 P **P 06 30 13.0 -0.5**
CFR Carcaliu 15.30 302 ||*i*P **P 06 30 12.2 -1.5**
CFR Carcaliu 15.30 302 P **P 06 30 12.2 -1.5**
MSFE Esma-Masafi 15.37 146 P **Pn 06 30 07.6 -2.2**
MSFE *i* P **Pn 06 30 08.4 -1.5**
SNR=38
MSFE *i* P **Pn 06 30 08.4 -1.5**
SNR=39
NAZ Nazwa, Dubai 15.48 148 P **Pn 06 30 08.5 -2.8**
SNR=40
NAZ Nazwa, Dubai 15.48 148 *i* P **Pn 06 30 09.2 -2.0**
SNR=19
KIS Kishinev 15.58 309 *e*P **P 06 30 16.0 -0.8**
KIS *e*S **Sn 06 33 10.0 +4.8**
KIS LRM MLR 06 39 57.0
comp=N,6µm,12.0s
KIS Kishinev 15.58 309 *e*P **P 06 30 16.0 -0.8**
KIS *e*S **Sn 06 33 10.0 +4.8**
AJN Ajban 15.59 150 *i* P **Pn 06 30 11.3 -1.3**
SNR=6.9
ASUD Al Ashush, Dub 15.67 149 P **Pn 06 30 11.5 -2.2**
SNR=21
ASUD Al Ashush, Dub 15.67 149 *i* P **Pn 06 30 11.8 -1.9**
SNR=26
FAQ Al Faqa, Dubai 15.67 148 *i* P **Pn 06 30 11.7 -2.0**
SNR=17
UOSS Minazif 15.75 146 *e*Pn **Pn 06 30 12.4 -2.4**
comp=N,148nm,1.0s
UOSS Minazif 15.75 146 *i* P **Pn 06 30 11.7 -3.1**
SNR=21
KARP Karpathos 15.81 265 *e*Pn **P 06 30 18.1 -1.4**
comp=N,839nm,0.8s
KARP Karpathos 15.81 265 P **P 06 30 19.0 -0.5**
HATD Hatta, Dubai 15.82 147 P **Pn 06 30 12.6 -3.1**
SNR=35
HATD Hatta, Dubai 15.82 147 *i* P **Pn 06 30 13.1 -2.7**
SNR=17
ASHO Ashiyiah 15.92 147 P **Pn 06 30 14.2 -2.8**
SNR=54
ASHO Ashiyiah 15.92 147 *i* P **Pn 06 30 14.3 -2.8**
SNR=53
ALN Alexandroupoli 16.02 285 *e*Pn **Pn 06 30 18.9 +0.8**
comp=N,316nm,1.9s
ALN Alexandroupoli 16.02 285 P **Pn 06 30 19.6 +1.5**
ALN Alexandroupoli 16.02 285 *e*P **Pn 06 30 18.9 +0.8**
ODBI Odobesti 16.21 303 ||*i*P **P 06 30 24.3 +0.5**
ALNE Al Ain 16.35 149 *i* P **Pn 06 30 20.4 -2.1**
SNR=17
SZH Strzhica 16.35 294 *e*P **P 06 30 25.8 +0.5**
ISR Istrita 16.35 300 ⇑*i*P **P 06 30 24.5 -0.9**
ISR Istrita 16.35 300 P **P 06 30 24.2 -1.2**
ISR pmax pmax
comp=Z,217nm,1.1s
SORM Soroca 16.39 312 ||*i*P **P 06 30 24.7 -1.1**
SORM Soroca 16.39 312 P **P 06 30 24.6 -1.2**
SMTH Samothraki Isl 16.40 284 P **P 06 30 24.8 -1.2**
SMTH Samothraki Isl 16.40 284 P **P 06 30 24.8 -1.2**
RDO Rodhopi 16.41 286 P **P 06 30 26.9 +0.9**
RDO Rodhopi 16.41 286 P **P 06 30 26.9 +0.9**
SULR 16.43 299 ||*i*P **P 06 30 27.1 +0.9**
VRI Vrincioaia 16.46 303 ⇑*i*P **P 06 30 26.1 -0.6**
VRI Vrincioaia 16.46 303 P **P 06 30 26.0 -0.6**
AMGA Amorgos Island 16.49 271 P **Pn 06 30 25.4 +1.1**
MZR Muzera 16.51 157 *i* P **Pn 06 30 23.6 -1.0**
SNR=33
PLOR Plostina 16.51 303 ⇑*i*P **P 06 30 27.3 +0.1**
PLOR Plostina 16.51 303 P **P 06 30 27.2 +0.1**
KDZ Kurdzhali 16.53 288 *e*P **P 06 30 32.6 +5.2**
ZKR Zakros 16.68 265 P **P 06 30 30.2 +1.2**
ZKR Zakros 16.68 265 P **P 06 30 30.2 +1.2**
APE Apeiranthos 16.73 272 P **P 06 30 29.8 +0.1**
APE Apeiranthos 16.73 272 ||*i*P **P 06 30 30.2 +0.5**
APE Apeiranthos 16.73 272 P **P 06 30 29.8 +0.1**
APE Apeiranthos 16.73 272 *i* P **Pn 06 30 28.3 +1.0**
MLR Muntele Rosu 16.86 301 Pn **P 06 30 31.3 +0.1**
comp=Z,0.5nm,0.3s,baz=93,slow=6.8,SNR=17
MLR LR LR 06 39 23.7
comp=Z,10µm,19.0s,baz=55,slow=46
MLR Muntele Rosu 16.86 301 *e*Pn **Pn 06 30 29.2 +0.1**
comp=Z,122nm,1.1s
MLR Muntele Rosu 16.86 301 ⇑*i*P **P 06 30 32.7 +1.5**
SANT Santorini 16.94 269 *e*Pn **P 06 30 31.8 -0.1**
comp=Z,150nm,1.4s
SANT Santorini 16.94 269 ||*i*P **P 06 30 33.0 +1.1**
IOSP Ios island 16.99 271 P **Pn 06 30 29.4 -1.2**
RZN Rozhen 17.06 288 *e*P **P 06 30 34.5 +1.1**
OZUR 17.16 303 ⇑*i*P **P 06 30 35.3 +0.9**
LAST Lasithi 17.24 265 P **P 06 30 35.3 -0.1**
LAST Lasithi 17.24 265 P **P 06 30 35.3 -0.1**
BIZ Bicaz 17.25 306 ⇑*i*P **P 06 30 35.8 +0.5**
ARQ Araqi 17.30 148 P **Pn 06 30 34.4 -0.2**
SNR=30
AKASG Malin Array Be 17.35 320 P **Pn 06 30 32.8 -2.1**
comp=Z,1.5nm,0.3s,baz=127,slow=11,SNR=38
AKASG LR LR 06 37 46.6
comp=Z,13µm,19.3s,baz=125,slow=39
AKBB Malin Array Si 17.35 320 *e*Pn **Pn 06 30 32.8 -2.1**
AKBB Malin Array Si 17.35 320 *e*P **Pn 06 30 32.8 -2.1**
KIEV Kiev 17.35 320 *e*Pn **Pn 06 30 33.1 -1.8**
comp=Z,191nm,1.3s
KIEV Kiev 17.35 320 *i* P **Pn 06 30 34.4 -0.6**
SNR=22
KIEV Kiev 17.35 320 *ce*P **Pn 06 30 34.4 -0.6**
KIEV pmax pmax
comp=Z,140nm,1.7s
DOPR Dopca 17.38 302 ||*i*P **P 06 30 37.1 +0.3**
CHBR Chabahar 17.39 134 IVMs_BB IVMs_BB 06 37 57.6
comp=E,12µm,7.8s
MTUR Matau 17.39 300 ||*i*P **P 06 30 43.0 +6.1**
VOIR 17.45 300 ||*i*P **P 06 30 39.1 +1.4**
VOIR 17.45 300 P **P 06 30 38.0 +0.3**
VOIR pmax pmax
comp=Z,247nm,1.0s
PGB Panagyurishte 17.54 291 *e*P **P 06 30 42.0 +3.4**
OUR Ouranopolis 17.59 283 P **Pn 06 30 38.1 +0.2**
OUR Ouranopolis 17.59 283 P **Pn 06 30 38.1 +0.2**
OUR Ouranopolis 17.59 283 P **Pn 06 30 38.1 +0.2**
IDI Anoyia 17.66 266 P **Pn 06 30 38.9 -0.1**
comp=Z,2.4nm,0.3s,baz=105,slow=9.6,SNR=9.9
IDI LR LR 06 37 31.7
comp=Z,6µm,19.7s,baz=67,slow=37
IDI Anoyia 17.66 266 *e*Pn **Pn 06 30 39.0 -0.1**
comp=Z,537nm,1.8s
IDI Anoyia 17.66 266 ||*i*P **P 06 30 40.3 +0.3**
IDI Anoyia 17.66 266 P **Pn 06 30 37.1 -2.0**
NVR Nevrokopi 17.68 287 P **P 06 30 41.1 +0.9**
NVR Nevrokopi 17.68 287 P **P 06 30 41.1 +0.9**
ARR Arges 17.72 300 ⇑*i*P **P 06 30 41.9 +1.3**
EREA Eretria 17.77 277 P **P 06 30 41.6 +0.5**
MMB Musomiste 17.79 287 *e*P **P 06 30 44.3 +2.9**
BIDO Bidbid 17.85 143 P **Pn 06 30 38.6 -2.8**
SNR=14
SRS Serrai 17.88 286 P **P 06 30 42.1 -0.2**
SRS Serrai 17.88 286 P **P 06 30 42.1 -0.2**
SRS Serrai 17.88 286 P **P 06 30 42.1 -0.2**
CHM Chimkent 17.91 70 *e*P **Pn 06 30 39.3 -2.7**
comp=Z,249nm,2.4s
CHM LR LR 06 38 40.6
comp=Z,2µm,15.9s
VLY Voula,Athens 17.95 275 P **Pn 06 30 41.7 -0.9**
VLY Voula,Athens 17.95 275 P **Pn 06 30 41.7 -0.9**
OBN Obninsk 17.97 341 P **Pn 06 30 40.5 -2.1**
comp=Z,1.4nm,0.3s,baz=168,slow=9.0,SNR=6.2
OBN LR LR 06 38 40.9
comp=Z,5µm,18.0s,baz=151,slow=40
OBN Obninsk 17.97 341 *e*Pn **Pn 06 30 38.5 -4.1**
comp=Z,197nm,1.1s
OBN Obninsk 17.97 341 ⇑*i*P **Pn 06 30 40.3 -2.3**
OBN *i* S **Sn 06 34 04.8 +1.6**
OBN pmax pmax
comp=Z,259nm,2.5s
OBN MLR MLR
comp=Z,14µm,17.0s
SOH Sokhos 18.06 285 P **P 06 30 44.4 +0.1**
SOH Sokhos 18.06 285 P **P 06 30 44.4 +0.1**
SOH Sokhos 18.06 285 P **P 06 30 44.4 +0.1**
BURAR Bucovina Array 18.06 307 ⇑*i*P **P 06 30 45.0 +0.6**
BURAR Bucovina Array 18.06 307 P **P 06 30 44.9 +0.6**
BUR04 Bucovina Ar. S 18.07 307 *e*Pn **Pn 06 30 42.4 -1.6**
BUR08 Bucovina Ar. S 18.08 307 *e*Pn **Pn 06 30 43.6 -0.6**
BSY Bisya 18.11 147 P **P 06 30 45.7 +0.7**
SNR=27
BRLS Borolday 18.15 68 *e*P **Pn 06 30 43.0 -2.0**
BRLS *e*S **Sn 06 34 03.0 -4.9**
SMDO Samad 18.21 144 P **P 06 30 46.2 0.0**
SNR=18
VTS Vitosha 18.24 290 *e*Pn **P 06 30 46.9 +0.4**
comp=Z,81nm,1.3s
VTS Vitosha 18.24 290 ||*i*P **P 06 30 47.5 +1.0**
VTS Vitosha 18.24 290 *e*P **P 06 30 49.3 +2.8**
VTS Vitosha 18.24 290 P **Pn 06 30 46.3 +0.1**
VTS Vitosha 18.24 290 *e*P **P 06 30 46.9 +0.4**
VTS pmax pmax
comp=Z,81nm,1.3s
SMIA Simia 18.27 279 P **P 06 30 49.1 +2.4**
KKB Krupnik 18.29 288 *e*P **P 06 30 49.9 +3.1**
MOS Moscow 18.29 344 *e*P **Pn 06 30 44.4 -2.1**
MOS *e*S **Sn 06 34 07.1 -3.8**
MOS pmax pmax
comp=N,342nm,1.7s
MOS pmax pmax
comp=Z,527nm,1.6s
MOS MLR MLR
comp=E,10µm,17.0s
MOS MLR MLR
comp=Z,15µm,17.0s
MOS MLR MLR
comp=N,14µm,18.0s
LOT Lotru 18.33 300 ⇑*i*P **P 06 30 48.2 +0.9**
WSAR Wadi Sarin 18.33 142 P **Pn 06 30 46.1 -1.2**
comp=N,0.4nm,0.3s,baz=341,slow=11,SNR=22
WSAR LR LR 06 39 31.4
comp=N,10µm,18.0s,baz=329,slow=43
WSAR Wadi Sarin 18.33 142 P **Pn 06 30 46.4 -0.9**
SNR=28
THE Thessaloniki 18.35 284 P **Pn 06 30 47.4 0.0**
THE Thessaloniki 18.35 284 P **Pn 06 30 47.4 0.0**
THE Thessaloniki 18.35 284 P **Pn 06 30 47.4 0.0**
KNT Kendrikon 18.40 286 P **P 06 30 50.3 +2.2**
KNT Kendrikon 18.40 286 P **P 06 30 50.3 +2.2**
KNT Kendrikon 18.40 286 P **P 06 30 51.8 +3.7**
KNT pmax pmax
comp=Z,91nm,1.8s
ARCR ARCALIA 18.42 305 ||*i*P **P 06 30 49.3 +1.1**
KBL Kabul 18.44 95 *e*P **Pn 06 30 50.6 +1.8**
comp=Z,165nm,1.1s
DID Didima 18.45 274 P **Pn 06 30 49.2 +0.6**
DID Didima 18.45 274 P **Pn 06 30 49.2 +0.6**
LTK Loutraki 18.57 276 P **P 06 30 47.7 -2.3**
LTK Loutraki 18.57 276 P **P 06 30 47.7 -2.3**
KK31 Karatay Array 18.65 68 *e*P **P 06 30 49.0 -1.9**
KK31 Karatay Array 18.65 68 *e*P **P 06 30 49.0 -1.9**
KKAR Karatay Array 18.65 68 *e*P **P 06 30 48.9 -2.0**
KKAR Karatay Array 18.65 68 *e*P **P 06 30 48.9 -2.0**
VAY Valandovo 18.65 286 *i* P **Pn 06 30 53.6 +2.5**
AXAR Agios Charalam 18.71 278 P **Pn 06 30 53.5 +1.6**
AXAR Agios Charalam 18.71 278 P **Pn 06 30 53.5 +1.6**
LIT Litokhoron 18.73 283 *e*P **P 06 30 50.9 -0.9**
comp=Z,114nm,1.5s
LIT Litokhoron 18.73 283 P **P 06 30 51.9 +0.1**
LIT Litokhoron 18.73 283 *e*P **P 06 30 50.9 -0.9**
LIT pmax pmax
comp=Z,110nm,1.5s
GRG Griva 18.78 285 P **Pn 06 30 55.1 +2.4**
GRG pmax pmax
comp=Z,36nm,1.2s
CJR Cluj-Napoca 18.79 303 ⇑*i*P **Pn 06 30 53.3 +0.5**
CJR Cluj-Napoca 18.79 303 P **Pn 06 30 53.3 +0.5**
JMDO Jabal Madar 18.84 145 P **Pn 06 30 53.9 +0.5**
SNR=20
DSF Desfina 18.86 277 P **P 06 30 51.8 -1.4**
DSF Desfina 18.86 277 P **P 06 30 51.8 -1.4**
AGG Agios Georgios 18.94 279 *e*P **Pn 06 30 54.4 -0.2**
comp=Z,148nm,1.1s
AGG Agios Georgios 18.94 279 P **P 06 30 52.2 -1.8**
AGG Agios Georgios 18.94 279 *e*P **Pn 06 30 54.4 -0.2**
AGG pmax pmax
comp=Z,150nm,1.1s
STIP Stip 18.95 287 *i* P **P 06 30 52.3 -1.8**
GZR Gura Zlata 18.99 299 ||*i*P **Pn 06 30 55.1 -0.2**
DEV Deva 19.02 300 ⇑*i*P **Pn 06 30 56.4 +0.9**
DEV Deva 19.02 300 P **Pn 06 30 56.3 +0.8**
MAKR Makrakomi, Fth 19.09 279 P **Pn 06 30 57.0 +0.5**
MAKR Makrakomi, Fth 19.09 279 P **Pn 06 30 57.0 +0.5**
HERR Herculane 19.14 297 ||*i*P **Pn 06 30 57.0 +0.1**
KALE Kalithea 19.16 277 P **Pn 06 30 57.7 +0.3**
KALE Kalithea 19.16 277 P **Pn 06 30 57.7 +0.3**
BMR Baia Mare 19.17 306 ⇑*i*P **Pn 06 30 57.5 +0.2**
TRIP Tripoli 19.20 275 P **P 06 30 55.7 -1.2**
TRIZ Trizonia 19.22 277 P **P 06 30 57.1 +0.1**
DZA Taraz 19.23 69 *e*P **P 06 30 57.1 -0.1**
comp=Z,308nm,3.2s
DZA *e*S **Sn 06 34 32.7 -1.1**
DYR Agios Nikonas 19.30 272 P **P 06 30 57.5 -0.5**
ANX Ano Chora 19.31 278 P **P 06 30 58.1 0.0**
LAKA Lakka 19.31 277 P **P 06 30 57.4 -0.7**
LAKA Lakka 19.31 277 P **P 06 30 57.4 -0.7**
DRGR 19.40 303 ⇑*i*P **Pn 06 30 59.9 -0.2**
DRGR 19.40 303 P **P 06 30 59.5 +0.5**
DRGR pmax pmax
comp=Z,192nm,1.1s

SKO Skopje 19.52 288 *i* P P 06 31 00.7 +0.4
ITM Ithomi 19.53 274 *e* P P 06 30 58.8 -1.7
comp=Z,109nm,1.1s
FNA Florina 19.56 285 *e* P P 06 31 01.4 +0.6
comp=Z,124nm,0.9s
FNA Florina 19.56 285 P P 06 31 00.3 -0.5
FNA Florina 19.56 285 *e* P P 06 31 01.4 +0.6
FNA pmax pmax
comp=Z,120nm,0.9s
DRO Drossia 19.57 276 P P 06 31 00.6 -0.3
BIA Bitola 19.59 285 *i* P Pn 06 31 02.1 -0.4
MDVR Moldovita 19.61 297 ⇓ *i* P Pn 06 31 02.5 -0.2
PVO Paravola 19.61 278 P P 06 31 01.5 +0.2
ARU Arti 19.64 20 LR LR 06 40 48.2
comp=Z,9μm,19.5s,baz=210,slow=44
ARU Arti 19.64 20 *e* P P 06 31 00.2 -1.3
comp=Z,215nm,0.7s
ARU Arti 19.64 20 *d* *i* P P 06 31 00.5 -1.0
ARU S S 06 34 42.7 -0.6
ARU pmax pmax
comp=Z,385nm,1.2s
ARU MLR MLR
comp=Z,14μm,17.0s
KRUS Krusevo 19.65 286 *i* P P 06 31 02.4 +0.6
LVV L'vov 19.70 312 *e* P P 06 31 01.5 -0.7
LVV *e* S S 06 34 41.4 -3.1
RLS Riolos of Patr 19.74 277 P P 06 31 03.2 +0.5
RLS Riolos of Patr 19.74 277 P P 06 31 03.2 +0.5
NEST Nestorio 19.82 284 P P 06 31 03.9 +0.2
BZS Buzias 19.84 299 ⇑ *i* P P 06 31 04.5 +0.7
BZS Buzias 19.84 299 P P 06 31 04.2 +0.4
BZS pmax pmax
comp=Z,35nm,0.9s
TRPA Tarpa 19.93 307 ⇑ *i* P P 06 31 05.3 +0.6
TRPA Tarpa 19.93 307 ⇓ *e* P P 06 31 04.5 -0.2
SIRR Siria 19.96 301 ⇑ *i* P Pn 06 31 06.4 -0.3
OHR Ohrid 19.99 286 *i* P P 06 31 06.3 +0.8
KBN Korca 20.01 284 P P 06 31 06.5 +0.7
KBN Korca 20.01 284 P P 06 31 06.5 +0.7
KBN Korca 20.01 284 P P 06 31 06.5 +0.7
MNAS Manas 20.07 70 ⇓ P P 06 31 05.7 -0.8
comp=Z,72nm,1.1s
MNAS Manas 20.07 70 *i* P P 06 31 05.6 -0.8
MNAS pmax pmax
comp=Z,72nm,1.0s
LTVH L"tav"rtes, 20.10 304 ⇓ *e* P Pn 06 31 07.6 -0.8
PHP Peshkopia 20.26 287 P P 06 31 07.0 -1.4
PHP Peshkopia 20.26 287 P P 06 31 07.0 -1.4
PHP Peshkopia 20.26 287 P P 06 31 07.0 -1.4
UZH Uzhgorod 20.26 308 *d* *i* P P 06 31 07.4 -0.9
UZH *i* 06 31 15.5
UZH *e* PPP PPP 06 31 37.3
UZH *i* S S 06 34 48.7 -7.0
LKD2 Lefkada island 20.26 279 P P 06 31 06.9 -1.6
LKD2 Lefkada island 20.26 279 P P 06 31 06.9 -1.6
EVGI Lefkada island 20.29 279 P P 06 31 07.2 -1.5
FSK Fiskardo 20.38 278 P P 06 31 06.6 -3.1
KWP Kalwaria Pacla 20.39 311 *e* P Pn 06 31 11.1 -0.7
KWP *e* S Sn 06 35 02.8 +1.1
KWP Kalwaria Pacla 20.39 311 *e* P P 06 31 09.7 0.0
comp=Z,2μm,1.2s
KWP Kalwaria Pacla 20.39 311 *e* P Pn 06 31 11.1 -0.7
KWP *e* S Sn 06 35 02.8 +1.1
IGT Igoumenitsa 20.43 281 P P 06 31 09.0 -1.3
IGT Igoumenitsa 20.43 281 P P 06 31 09.0 -1.3
IGT Igoumenitsa 20.43 281 P P 06 31 09.0 -1.3
MICGM Minsk 20.47 328 ⇑ *e* P P 06 31 08.0 -2.5
MICGM PM 06 31 10.0
comp=Z,0.8nm,1.5s
MICGM PM 06 31 11.0
comp=E,1.0nm,1.5s
MICGM PM 06 31 12.0
comp=N,1.1nm,1.5s
MICGM *e* PPP PPP 06 31 46.0
MICGM *e* S S 06 34 50.0 -10
MICGM *e* SS SnSn 06 35 18.0 +0.1
MICGM *e* SSS SSS 06 35 32.0
MICGM *e* LQ LQ 06 37 40.0
MICGM *e* LR LR 06 38 14.0
MICGM LRM MLR 06 39 32.0
comp=N,19nm,16.0s
MICGM LRM MLR 06 39 32.0
comp=N,6.8nm,16.0s
MICGM LRM MLR 06 39 36.0
comp=Z,33nm,16.0s
MICGM LRM MLR 06 39 36.0
comp=Z,16nm,16.0s
MICGM LRM MLR 06 39 40.0
comp=E,9.1nm,16.0s
MICGM LRM MLR 06 39 40.0
comp=E,3.3nm,16.0s
MNK Minsk 20.47 328 ⇑ *e* P P 06 31 08.0 -2.5
MNK *e* PPP PPP 06 31 46.0
MNK *e* S S 06 34 50.0 -10
MNK *e* SS SnSn 06 35 18.0 +0.1
MNK *e* SSS SSS 06 35 32.0
MNK pmax pmax
comp=Z,810nm,1.5s
MNK pmax pmax
comp=E,960nm,1.5s
MNK pmax pmax
comp=N,1μm,1.5s
MNK MLR MLR
comp=N,19μm,16.0s
MNK MLR MLR
comp=N,7μm,16.0s
MNK MLR MLR
comp=Z,33μm,16.0s
MNK MLR MLR
comp=Z,16μm,16.0s
MNK MLR MLR
comp=E,9μm,16.0s
MNK MLR MLR
comp=E,3μm,16.0s
BEO Beograd 20.49 296 P Pn 06 31 13.5 +0.6
SGD Sagiada 20.50 281 P P 06 31 09.2 -1.8
SVE Sverdlovsk 20.57 22 *d* *i* P P 06 31 12.2 +0.6
SVE *e* S S 06 34 59.6 -2.2
SVE pmax pmax
comp=Z,444nm,1.3s
SVE MLR MLR
comp=Z,7μm,19.0s
PVY Plav 20.64 290 ⇓ *i* P P 06 31 12.8 +0.2
SRN Sarande 20.66 282 P P 06 31 11.1 -1.6
SRN Sarande 20.66 282 P P 06 31 11.1 -1.6
TIR Tirane 20.69 286 *e* P P 06 31 12.7 -0.3
comp=Z,117nm,1.1s
TIR LR LR
comp=Z,17μm,21.0s
TIR Tirane 20.69 286 *e* P P 06 31 12.7 -0.3
TIR pmax pmax
comp=Z,120nm,1.1s
IVA Berane 20.70 291 ⇓ *i* P P 06 31 13.7 +0.4
DIVS Divibare 20.73 294 *e* P P 06 31 13.8 +0.2
comp=Z,141nm,1.0s
DIVS LR LR
comp=Z,5μm,18.0s
DIVS Divibare 20.73 294 *e* P P 06 31 12.8 -0.8
AML Almayashu 20.94 71 P P 06 31 11.0 -5.2
SNR=11
KOME Kolasin 20.98 291 ⇓ *i* P P 06 31 16.4 +0.1
FRGS Fruska Gora 21.00 297 *e* P P 06 31 16.2 -0.3
OTUK Ortayu 21.01 54 ⇑ P P 06 31 16.2 -0.3
comp=Z,199nm,0.7s
OTUK Ortayu 21.01 54 P P 06 31 16.2 -0.3
OTUK pmax pmax
comp=Z,199nm,0.7s
EKS2 Erkin-Say 21.01 70 P P 06 31 17.3 +0.6
SNR=43
PLE Pljevlja 21.10 292 ⇓ *i* P P 06 31 17.6 0.0
TEKS Tekeris 21.12 295 *e* P P 06 31 17.1 -0.6
BBLS Lazići 21.13 293 *e* P P 06 31 15.2 -2.7
PDG Podgorica 21.15 289 ⇓ *i* P P 06 31 19.4 +1.4
PDG Podgorica 21.15 289 *e* P P 06 31 18.3 +0.3
TTG Podgorica 21.15 289 ⇓ *i* P P 06 31 18.4 +0.4
TTG Podgorica 21.15 289 *e* P P 06 31 18.0 0.0
comp=Z,63nm,1.1s
TTG LR LR
comp=Z,10μm,20.0s
TTG Podgorica 21.15 289 *e* P P 06 31 18.0 0.0
TTG pmax pmax
comp=Z,63nm,1.1s
ULC Ulcinj 21.15 288 ⇓ *i* P P 06 31 17.9 -0.2
DRME Dracevica, Mon 21.20 289 ⇓ *i* P P 06 31 19.2 +0.6
DRME Dracevica, Mon 21.20 289 *e* P P 06 31 20.8 +2.2
NACGM Naroch 21.21 327 *e* P P 06 31 18.0 -0.5
NACGM PM 06 31 23.0
comp=Z,0.5nm,0.8s
NACGM *e* S S 06 35 13.0 -1.5
NACGM *e* PcP PcP 06 35 37.0 +13
NACGM *e* LR LR 06 38 15.0
NACGM LRM MLR 06 40 08.0
comp=Z,17nm,16.0s
NKY Niksic 21.36 290 ⇓ *i* P P 06 31 20.5 +0.1
NKME Niksic 21.39 290 ⇓ *i* P P 06 31 20.7 +0.1
CEME Cevo 21.41 290 ⇓ *i* P P 06 31 20.9 +0.1
WHFO Wadi Hawf 21.42 161 P P 06 31 20.3 -0.7
SNR=40
BUM Brajici-Budva 21.42 289 ⇓ *i* P P 06 31 20.9 -0.1
BTLS Baital 21.43 63 *e* S S 06 35 17.7 -1.3
BTLS LR LR 06 40 54.3
comp=Z,1μm,13.4s
UPM Unac-Piva 21.44 292 ⇓ *i* P P 06 31 21.1 -0.3
UPM Unac-Piva 21.44 292 *e* P P 06 31 21.4 0.0
HAPS Han Pijesak,BI 21.48 294 *e* P P 06 31 23.0 +1.3
IDID Didziasalis 21.51 328 *e* P P 06 31 21.0 -0.7
IDID lAmb lAmb 06 31 28.4
comp=Z,98nm,1.0s
AAK Ala-Archa 21.54 70 P P 06 31 22.7 +0.3
comp=Z,64nm,0.8s,baz=247,slow=8.2,SNR=49
AAK LR LR 06 41 44.4
comp=Z,9μm,18.4s,baz=264,slow=42
AAK Ala-Archa 21.54 70 ⇓ P P 06 31 25.0 +2.6
comp=Z,254nm,1.2s
AAK Ala-Archa 21.54 70 P P 06 31 23.4 +0.9
SNR=34
AAK Ala-Archa 21.54 70 *e* P P 06 31 22.1 -0.4
comp=Z,149nm,0.8s
AAK *e* P P 06 31 22.7 +0.3
AAK Ala-Archa 21.54 70 P P 06 31 23.1 +0.7
SNR=104
AAK Ala-Archa 21.54 70 *i* P P 06 31 23.5 +1.1
SNR=58
AAK Ala-Archa 21.54 70 *i* P P 06 31 22.9 +0.5
AAK pmax pmax
comp=Z,195nm,1.1s
UCH Uchtor 21.55 71 P P 06 31 22.6 -0.2
SNR=9.4
PSZ Piszkesteto 21.55 305 *e* P P 06 31 22.3 -0.1
comp=Z,133nm,1.1s
PSZ Piszkesteto 21.55 305 ⇑ *i* P P 06 31 22.7 +0.3
PSZ Piszkesteto 21.55 305 ⇓ *e* P P 06 31 22.3 -0.1
PSZ Piszkesteto 21.55 305 *e* P P 06 31 22.3 -0.1
PSZ pmax pmax
comp=Z,130nm,1.1s
USP Ospenovka 21.57 68 P P 06 31 26.2 +3.6
SNR=12
FRU Bishkek 21.64 69 ⇑ *e* P P 06 31 23.0 -0.3
FRU *i* 06 31 31.0
FRU *i* 06 32 02.0
FRU *i* S Sn 06 35 32.0 +0.2
FRU *e* 06 35 53.0
FRU pmax pmax
comp=Z,590nm,2.4s
FRU1 Bishkek 21.65 70 *e* P P 06 31 24.1 +0.6
comp=Z,784nm,1.5s
FRU1 Bishkek 21.65 70 *e* P P 06 31 24.1 +0.6
FRU1 pmax pmax
comp=Z,784nm,1.5s
BRY Bratogost 21.70 291 ⇓ *i* P P 06 31 24.1 0.0
BRY Bratogost 21.70 291 *e* P P 06 31 24.0 0.0
HCY Herceg Novi 21.72 289 ⇓ *i* P P 06 31 24.3 +0.2
HCY Herceg Novi 21.72 289 *e* P P 06 31 23.4 -0.7
CHMS Chumysh 21.74 69 P P 06 31 24.6 +0.2
SNR=29
IIGN Ignalina 21.75 328 *e* P P 06 31 23.7 -0.6
IIGN lAmb lAmb 06 31 31.0
comp=Z,115nm,1.1s
NIE Niedzica 21.77 309 *e* P P 06 31 24.9 +0.3
NIE *e* S Sn 06 35 38.2 +3.5
NIE Niedzica 21.77 309 *e* P P 06 31 24.9 +0.3
BRZS Berezniki 21.81 50 ⇑ *i* P P 06 31 24.7 -0.4
comp=Z,106nm,0.8s
BRZS *e* S S 06 35 25.4 -1.1
TREB Trebinje 21.83 290 *e* P P 06 31 26.0 +0.7
ABTO Aybut 21.84 163 P P 06 31 26.5 +0.8
SNR=25
KBK Karagaybulak 21.88 70 P P 06 31 26.3 +0.2
SNR=29
BRVK Borovoye 21.89 41 ⇑ P P 06 31 25.2 -0.6
comp=Z,285nm,0.7s
BRVK Borovoye 21.89 41 *e* P P 06 31 25.3 -0.6
comp=Z,351nm,0.8s
BRVK LR LR
comp=Z,7μm,19.0s
BRVK Borovoye 21.89 41 P P 06 31 26.0 +0.2
SNR=112
BRVK Borovoye 21.89 41 *c* *i* P P 06 31 25.1 -0.6
BRVK pmax pmax
comp=Z,285nm,0.7s
RBK Rabkut 21.93 160 P P 06 31 26.1 -0.5
SNR=15
ISAL Salakas 21.94 328 *e* P P 06 31 25.6 -0.7
ISAL lAmb lAmb 06 31 35.3
comp=Z,111nm,1.1s
MORH M˜ţr˙igy, Hung 21.99 300 ⇓ *e* P P 06 31 26.7 -0.3
MORH M˜ţr˙igy, Hung 21.99 300 *e* P P 06 31 26.7 -0.3
BUD Budapest 22.01 303 ⇑ *e* P P 06 31 27.7 +0.5
BUD Budapest 22.01 303 P P 06 31 29.2 +2.0
BUD pmax pmax
comp=Z,31nm,1.4s
KZA Kyzart 22.09 72 P P 06 31 29.1 +0.5
SNR=26
LANS Liptovska Anna 22.19 308 *e* P P 06 31 29.3 +0.1
LANS Liptovska Anna 22.19 308 *e* P P 06 31 29.3 +0.1
SUW Suwalki 22.30 322 *e* P P 06 31 29.4 -0.8
SUW Suwalki 22.30 322 *e* P P 06 31 29.2 -1.0
comp=Z,866nm,1.1s
SUW LR LR
comp=Z,10μm,22.0s
SUW Suwalki 22.30 322 *e* P P 06 31 29.4 -0.8
OJC Ojcow 22.35 310 *e* P P 06 31 30.5 -0.4
OJC *e* S S 06 35 36.9 +0.1
OJC Ojcow 22.35 310 *e* P P 06 31 29.4 -1.5
comp=Z,129nm,1.2s
OJC Ojcow 22.35 310 *e* P P 06 31 30.5 -0.4
OJC *e* S S 06 35 36.9 +0.1
TKM2 Tokmak 2 22.36 69 ⇑ P P 06 31 31.8 +0.5
comp=Z,187nm,0.8s
TKM2 Tokmak 2 22.36 69 P P 06 31 30.3 -1.0
SNR=29
TKM2 Tokmak 2 22.36 69 P P 06 31 31.8 +0.5
TKM2 pmax pmax
comp=Z,187nm,0.9s
VYHS Vyhne 22.39 306 *e* P P 06 31 31.6 +0.3
VYHS pmax pmax
comp=Z,84nm,1.2s
VYHS Vyhne 22.39 306 *e* P P 06 31 31.6 +0.3
VYHS *e* S S 06 35 38.6 +1.0
NRN Naryn 22.67 73 *e* P P 06 31 35.4 +0.7
comp=Z,186nm,1.1s
NRN Naryn 22.67 73 *e* P P 06 31 35.4 +0.7
NRN pmax pmax
comp=Z,186nm,1.1s
KOLL Kolacno 22.69 306 *e* P P 06 31 34.3 -0.2
KOLL Kolacno 22.69 306 *e* P P 06 31 34.3 -0.2
KSH Kashi 22.80 78 P P 06 31 34.4 -1.5
KSH pP sP 06 31 39.5 +1.1
KSH PP PnPn 06 32 02.3 +2.5
KSH S S 06 35 36.5 -9.0
KSH sS pS 06 35 43.7 -3.8
KSH SS SnSn 06 36 17.3 +1.8
KSH pmax pmax
comp=Z,82nm,0.8s
KSH pmax pmax
comp=Z,3μm,6.1s
KSH LR LR
comp=Z,12μm,10.8s
KSH LR LR
comp=Z,10μm,12.6s
KSH LR LR
comp=Z,19μm,15.6s
BLY Banja Luka 22.80 295 *e* P P 06 31 35.5 -0.2
comp=Z,71nm,1.0s
BLY LR LR
comp=Z,6μm,19.0s
BLY Banja Luka 22.80 295 ⇓ *i* P P 06 31 37.0 +1.3
BLY Banja Luka 22.80 295 *e* P P 06 31 35.3 -0.4
ULHL Ulahol 22.83 71 P P 06 31 39.6 +3.3
SNR=32
MATE Matera 23.11 285 ⇑ *i* P P 06 31 36.9 -2.0
OKC Ostrava-Krasne 23.22 308 *e* P P 06 31 40.5 +0.5
OKC AMS AMS 06 43 50.0
comp=Z,6μm,15.0s
OKC Ostrava-Krasne 23.22 308 *e* P P 06 31 40.5 +0.5
OKC MLR MLR
comp=Z,6μm,15.0s
TIP Timpagrande 23.23 281 *e* P P 06 31 38.2 -2.1
comp=Z,199nm,1.3s
TIP LR LR
comp=Z,15μm,20.0s
TIP Timpagrande 23.23 281 ⇓ *i* P P 06 31 38.8 -1.4
TIP Timpagrande 23.23 281 P P 06 31 28.9 -11
JAVC Velka Javorina 23.23 306 *e* P P 06 31 41.0 +0.8
JAVC *e* S S 06 35 56.2 +3.5
SMOL Smolenice 23.30 305 P P 06 31 44.2 +3.4
AAA Alma-Ata 23.34 69 *e* P P 06 31 41.5 +0.2
comp=Z,548nm,3.6s
AAA LR LR 06 42 32.8
comp=Z,2μm,12.4s
AAA Alma-Ata 23.34 69 *e* P P 06 31 40.2 -1.1
AAA pmax pmax
comp=Z,1μm,4.7s
AAA MLR MLR
comp=Z,3μm,12.0s
MODS Modra-Piesok 23.36 305 *e* P P 06 31 40.9 -0.6
MODS pmax pmax
comp=Z,809nm,2.4s
MODS Modra-Piesok 23.36 305 *e* P P 06 31 40.9 -0.6
MODS *e* S S 06 36 00.9 +6.2
MDOK Medeo 23.43 69 ⇑ P P 06 31 42.8 +0.4
comp=Z,104nm,1.2s
MDOK Medeo 23.43 69 ⇑ *i* P P 06 31 42.0 -0.3
comp=Z,2μm,3.6s
MDOK *e* S S 06 35 55.7 -0.5
MDOK LR LR 06 42 28.6
comp=Z,3μm,13.4s
MDOK Medeo 23.43 69 P P 06 31 42.8 +0.4
MDOK pmax pmax
comp=Z,104nm,1.2s
ZST Bratislava 23.43 304 *e* S S 06 36 00.7 +4.9
KDJ Kajisay 23.53 71 *e* P P 06 31 45.9 +2.5
comp=Z,117nm,0.9s
KDJ LR LR
comp=Z,13μm,20.0s
MORC Moravsky Berou 23.58 308 *e* P P 06 31 43.0 -0.7
comp=Z,387nm,1.9s
MORC Moravsky Berou 23.58 308 ⇓ *i* P P 06 31 43.5 -0.1
MORC Moravsky Berou 23.58 308 *e* P P 06 31 43.0 -0.7
MORC pmax pmax
comp=Z,390nm,1.9s
MORC Moravsky Berou 23.58 308 *e* P P 06 31 42.9 -0.7
MORC *e* S S 06 36 01.5 +3.3
KOGS Kog 23.66 299 *i* P P 06 31 44.0 -0.5
KOGS *e* S S 06 36 06.8 +7.3
KOGS Kog 23.66 299 *i* P P 06 31 44.0 -0.5
KOGS *e* S S 06 36 06.8 +7.3
SOP Sopron 23.68 303 ⇓ *e* P P 06 31 43.6 -1.0
SOP Sopron 23.68 303 P P 06 31 45.2 +0.6
PUL Pulkovo 23.70 339 *e* P P 06 31 44.9 +0.3
PUL pmax pmax
comp=Z,124nm,1.0s
PUL MLR MLR
comp=Z,8μm,18.0s
VSU Vasula 23.78 334 *e* P P 06 31 44.6 -0.7
VSU lAmb lAmb 06 31 47.2
comp=Z,468nm,1.0s
VSU Vasula 23.78 334 *c* *e* P P 06 31 44.8 -0.6
VSU pmax pmax
comp=Z,273nm,0.9s
CUC Castrocucco 23.85 283 *e* P P 06 31 46.1 -0.2
comp=Z,179nm,1.2s
CUC LR LR
comp=Z,10μm,18.0s
DAMY Dhamar 23.89 185 *e* P P 06 31 48.6 +1.4
comp=Z,151nm,0.9s
DAMY LR LR
comp=Z,9μm,19.0s
CEL Celeste 24.04 279 *e* P P 06 31 46.6 -1.6
comp=Z,135nm,1.2s
CEL LR LR
comp=Z,8μm,18.0s
VRAC Vranov 24.04 306 P P P 06 31 47.7 -0.3
comp=Z,47nm,0.9s,baz=101,slow=9.3,SNR=39
VRAC LR LR 06 43 00.6
comp=Z,8μm,20.0s,baz=92,slow=41
VRAC Vranov 24.04 306 ⇑ *i* P P 06 31 48.3 +0.3
VRAC Vranov 24.04 306 *e* P P 06 31 47.5 -0.5
VRAC *e* S S 06 36 07.4 +2.0
KRUC Moravsky 24.10 306 *e* P P 06 31 48.3 -0.3
KRUC *e* S S 06 36 08.7 +2.3
CRES Cresnjev 24.13 298 *e* P P 06 31 48.2 -0.7
KRLC Kraliky 24.14 308 *e* P P 06 31 48.8 -0.2
KRLC Kraliky 24.14 308 *e* P P 06 31 48.8 -0.2
CONA Conrad Observa 24.19 303 *e* P P 06 31 49.3 -0.2
comp=Z,134nm,1.3s,SNR=37
ARSA Arzberg 24.29 301 *e* P P 06 31 50.0 -0.4
comp=Z,87nm,0.9s,SNR=47
SATY Saty 24.43 69 ⇑ *e* P P 06 31 53.0 +1.2
comp=Z,772nm,4.4s
SATY LR LR 06 44 15.4
comp=Z,818nm,10.6s
PRZ Przheval'sk 24.43 70 *e* P P 06 31 53.5 +1.6
comp=Z,99nm,0.9s
PRZ LR LR
comp=Z,10μm,19.0s
PRZ Przheval'sk 24.43 70 *e* P P 06 31 53.5 +1.6
PRZ pmax pmax
comp=Z,99nm,0.9s
PRZ MLR MLR
comp=Z,10μm,19.0s
ZHN Zhinishke 24.45 69 *e* P P 06 31 52.9 +0.9
comp=Z,400nm,4.3s
ZHN LR LR 06 44 14.6
comp=Z,850nm,13.2s
PERS Pernice 24.47 300 *e* P P 06 31 51.9 -0.2
PERS *e* S S 06 36 21.2 +8.8
PERS Pernice 24.47 300 *e* P P 06 31 51.9 -0.2
PERS *e* S S 06 36 21.2 +8.8
TDK Taldyqorghan 24.50 64 *e* P P 06 31 52.6 +0.3
comp=Z,1μm,3.9s
DPC Dobruska-Polom 24.50 309 *e* P P 06 31 52.1 -0.2
DPC *e* S S 06 36 14.1 +1.2
DPC AMS AMS 06 42 50.0
comp=Z,5μm,16.0s
DPC Dobruska-Polom 24.50 309 *e* P P 06 31 52.1 -0.2
DPC *e* S S 06 36 14.1 +1.2
DPC MLR MLR
comp=Z,5μm,16.0s
SOKA Soboth 24.53 300 *e* P P 06 31 53.4 +0.7
comp=Z,226nm,1.5s,SNR=48
KPKS Kokpek 24.63 68 ⇑ *i* P P 06 31 54.1 +0.5
comp=Z,522nm,3.7s
KPKS *e* S S 06 36 15.4 +0.2
KSP Ksiaz 24.67 310 *e* P P 06 31 54.5 +0.7
KSP *e* S S 06 36 25.7 +10
KSP Ksiaz 24.67 310 *e* P P 06 31 54.5 +0.7
TREC Trest 24.73 306 *e* S S 06 36 27.9 +11
LJU Ljubljana 24.80 298 *e* P P 06 31 54.9 -0.1
LJU *e* S S 06 36 28.2 +10
LJU Ljubljana 24.80 298 *e* P P 06 31 54.9 -0.1
LJU *e* S S 06 36 28.2 +10
LJU Ljubljana 24.80 298 *e* P P 06 31 54.7 -0.3
CEY Cerknica 24.84 297 *e* P P 06 31 54.8 -0.6
OBKA Obir 24.84 299 *e* P P 06 31 56.5 +1.1
comp=Z,37nm,0.9s,SNR=6.8
UZB Uzynbulak 24.88 69 *e* P P 06 31 56.5 +0.6
comp=Z,286nm,3.6s
UZB LR LR 06 44 36.4
comp=Z,1μm,14.0s
GKP Gorka Klasztor 25.01 316 *e* P P 06 31 56.1 -0.7
GKP *e* S S 06 36 37.4 +16
GKP Gorka Klasztor 25.01 316 *e* P P 06 31 56.1 -0.7
SHLS Shalkode 25.20 69 *e* P P 06 32 02.1 +3.4
comp=Z,129nm,2.8s
PDGK Podgornoye 25.22 68 P P 06 31 58.9 0.0
comp=Z,66nm,0.9s
PDGK Podgornoye 25.22 68 P P 06 31 58.9 0.0
PDGK pmax pmax
comp=Z,66nm,0.9s
MOA Molln 25.23 302 *e* P P 06 31 58.2 -0.6
comp=Z,33nm,0.8s,SNR=26
TRI Trieste 25.30 297 *e* P P 06 31 58.9 -0.6
comp=Z,76nm,1.2s

TRI **Trieste** 25.30 297 eP P 06 31 58.9 -0.6
TRI pmax pmax
comp=Z,76nm,1.2s
GOPC **GO Pecny, Ondr** 25.33 307 eP P 06 32 00.2 +0.4
GOPC ex x 06 32 08.4
GOPC eS S 06 36 39.6 +13
GOPC AMS AMS 06 43 30.0
comp=Z,8µm,18.4s
GOPC **GO Pecny, Ondr** 25.33 307 eP P 06 32 00.2 +0.4
GOPC e 06 32 08.4
GOPC MLR MLR
comp=Z,8µm,18.4s
VAE **Valguarnera** 25.34 278 P P 06 32 01.7 +1.7
comp=Z,32nm,0.9s,baz=350,slow=3.1,SNR=6.5
VAE LR LR 06 41 55.6
comp=Z,2µm,18.8s,baz=54,slow=36
MYKA **Terra Mystica** 25.47 299 i P P 06 32 01.5 +0.3
SNR=24
AQU **L'Aquila** 25.49 289 eP P 06 32 01.2 -0.1
comp=Z,160nm,1.2s
AQU LR LR
comp=Z,7µm,22.0s
AQU **L'Aquila** 25.49 289 eP P 06 32 01.2 -0.1
AQU pmax pmax
comp=Z,160nm,1.2s
AQU **L'Aquila** 25.49 289 eP P 06 32 01.9 +0.6
KURBB **Kurchatov Arra** 25.57 51 P P 06 32 02.6 +0.7
comp=Z,90nm,0.8s,baz=260,slow=9.8,SNR=143
KURBB **Kurchatov Arra** 25.57 51 ⇑P P 06 32 02.3 +0.4
comp=Z,125nm,1.1s
PRA **Prague** 25.59 307 eS S 06 36 43.6 +13
PRA AMS AMS 06 43 30.0
comp=Z,8µm,18.9s
PVCC **Panska Ves** 25.63 308 eS S 06 36 20.1 -11
PVCC AMS AMS 06 44 30.0
comp=Z,5µm,18.9s
WDD **Wied Dalam** 25.64 274 eP P 06 32 02.8 +0.1
comp=Z,148nm,1.1s
WDD LR LR
comp=Z,10µm,21.0s
KURK **Kurchatov** 25.65 51 eP P 06 32 02.6 0.0
KURK eP pP 06 32 03.2 -1.2
KURK LR LR
comp=Z,9µm,19.0s
KURK **Kurchatov** 25.65 51 P P 06 32 03.5 +0.9
SNR=60
KURK **Kurchatov** 25.65 51 ceP P 06 32 03.0 +0.4
KURK pmax pmax
comp=Z,31nm,0.6s
KBA **Koelnbreinsper** 25.73 300 eP P 06 32 05.4 +1.7
comp=Z,87nm,0.9s,SNR=8.4
KBA **Koelnbreinsper** 25.73 300 P P 06 32 05.3 +1.7
GEA0 **GERESS Array S** 25.78 304 eP P 06 32 03.1 -0.8
GEC2 **GERESS Array S** 25.78 304 eP P 06 32 03.8 -0.2
comp=Z,151nm,1.0s
GEC2 **GERESS Array S** 25.78 304 eP P 06 32 03.8 -0.2
GEC2 pmax pmax
comp=Z,150nm,1.0s
GERES **GERESS Array B** 25.78 304 P P 06 32 03.2 -0.8
comp=Z,76nm,0.8s,baz=102,slow=9.7,SNR=84
GERES LR LR 06 44 18.5
comp=Z,6µm,19.1s,baz=108,slow=41
KHC **Kasperske Hory** 25.92 305 eP P 06 32 04.0 -1.2
comp=Z,62nm,1.3s
KHC **Kasperske Hory** 25.92 305 eP P 06 32 06.3 +1.2
KHC ex x 06 32 15.0
KHC eS S 06 36 49.6 +14
KHC AMS AMS 06 44 30.0
comp=Z,7µm,12.3s
KHC **Kasperske Hory** 25.92 305 eP P 06 32 06.3 +1.2
KHC e 06 32 15.0
KHC MLR MLR
comp=Z,7µm,12.3s
BRG **Berggiesshubel** 26.10 309 eP P 06 32 06.2 -0.6
comp=Z,56nm,1.6s
BRG i 06 32 25.2
comp=Z,62nm,1.3s
BRG S S 06 36 56.0 +18
comp=N,4µm,13.2s
comp=E,5µm,12.7s
comp=Z,5µm,12.9s
BRG **Berggiesshubel** 26.10 309 eP P 06 32 06.2 -0.6
BRG pmax pmax
comp=Z,56nm,1.6s
BRG MLR MLR
comp=N,4µm,13.2s
BRG MLR MLR
comp=E,5µm,12.7s
BRG MLR MLR
comp=Z,5µm,12.9s
CLTB **Caltabellotta** 26.25 279 eP P 06 32 07.2 -1.1
comp=Z,53nm,1.0s
CLTB LR LR
comp=Z,8µm,21.0s
ABTA **Abfaltersbach** 26.26 299 eP P 06 32 07.8 -0.6
comp=Z,37nm,1.0s,SNR=20
FIA0 **FINESS Array S** 26.29 338 eP P 06 32 08.8 +0.6
FIA0 **FINESS Array S** 26.29 338 eP P 06 32 08.8 +0.6
FIA1 **FINESS Array S** 26.29 338 eP P 06 32 08.7 +0.4
FIA1 eP pP 06 32 09.2 -0.9
FIA1 epP sP 06 32 09.8 -1.0
FINES **FINESS Array B** 26.29 338 P P 06 32 08.8 +0.6
comp=Z,26nm,0.9s,baz=99,slow=12,SNR=13
FINES LR LR 06 43 42.6
comp=Z,10µm,18.1s,baz=136,slow=39
CLL **Collm** 26.79 310 eP P 06 32 12.4 -0.5
comp=Z,84nm,1.1s
CLL **Collm** 26.79 310 ⇓iP P 06 32 12.1 -0.8
comp=Z,102nm,1.1s
CLL i sP sP 06 32 18.2 +2.7
CLL e(PP) 06 32 52.0
CLL eS S 06 36 49.0 -0.2
comp=N,800nm,21.1s
CLL eS S 06 36 49.0 -0.2
comp=E,3µm,22.3s
CLL eSS SnSn 06 38 00.0 +7.3
CLL Lm MLR 06 43 00.0
comp=N,5µm,20.5s
CLL Lm MLR 06 43 00.0
comp=E,5µm,18.3s
CLL Lm MLR 06 43 00.0
comp=Z,5µm,20.5s
CLL **Collm** 26.79 310 ⇓iP P 06 32 12.1 -0.8
CLL i 06 32 18.2
CLL eS S 06 36 49.0 -0.2
CLL pmax pmax
comp=Z,102nm,1.1s
CLL MLR MLR
comp=Z,5µm,20.5s
NKC **Novy Kostel** 26.87 307 eP P 06 32 13.6 -0.1
NKC eS S 06 37 06.2 +16
NKC AMS AMS 06 44 30.0
comp=Z,7µm,14.2s
NKC **Novy Kostel** 26.87 307 eP P 06 32 13.6 -0.1
NKC MLR MLR
comp=Z,7µm,14.2s
WTTA **Wattenberg** 26.91 300 eP P 06 32 12.9 -1.4
comp=Z,88nm,1.1s,SNR=21
WATA **Walderalm** 26.96 301 eP P 06 32 13.4 -1.3
comp=Z,53nm,0.9s,SNR=10.0
ATD **Arta Tunnel** 27.05 188 LR LR 06 43 56.8
comp=Z,6µm,18.8s,baz=3.0,slow=39
ATD **Arta Tunnel** 27.05 188 eP P 06 32 16.2 +0.6
comp=Z,27nm,1.1s
SQTA **Sankt Quirin** 27.20 300 eP P 06 32 15.4 -1.4
comp=Z,94nm,1.2s,SNR=28
MOTA **Moosalm** 27.28 300 eP P 06 32 16.0 -1.6
comp=Z,65nm,0.9s,SNR=26
MK31 **Makanchi Array** 27.34 61 eP P 06 32 18.7 +0.7
MK31 **Makanchi Array** 27.34 61 eP P 06 32 18.7 +0.7
MK32 **Makanchi Array** 27.34 61 eP P 06 32 18.1 +0.2
MKAR **Makanchi Array** 27.34 61 P P 06 32 18.1 +0.2
comp=Z,16nm,0.7s,baz=266,slow=6.1,SNR=70
MKAR LR LR 06 45 20.6
comp=Z,6µm,18.8s,baz=251,slow=41
MKAR **Makanchi Array** 27.34 61 eP P 06 32 18.7 +0.7
comp=Z,321nm,0.8s
MK01 **Makanchi Array** 27.34 61 eP P 06 32 17.4 -0.6
FETA **Feichten** 27.50 300 eP P 06 32 18.4 -1.2
comp=Z,69nm,1.2s,SNR=19
RETA **Reutte** 27.52 301 eP P 06 32 18.0 -1.7
comp=Z,38nm,0.9s,SNR=15
GRF **Grafenberg Arr** 27.54 306 P P 06 32 18.9 -0.8
GRF pmax pmax
comp=Z,191nm,1.7s
GRFO **Grafenberg** 27.54 306 eP P 06 32 19.5 -0.2
comp=Z,127nm,1.5s
GRFO **Grafenberg** 27.54 306 eP P 06 32 19.5 -0.2
GRFO pmax pmax
comp=Z,130nm,1.5s
FUORN **Ofenpass-Fuorn** 27.79 299 eP P 06 32 21.9 -0.4
comp=Z,88nm,1.4s
FUORN LR LR
comp=Z,6µm,18.0s
DAVOX **Davos/Dischmat** 28.07 299 P P 06 32 23.9 -0.8
comp=Z,26nm,0.8s,baz=115,slow=11,SNR=22
DAVOX LR LR 06 45 40.0
comp=Z,5µm,18.8s,baz=84,slow=41
DAVA **Damuels** 28.10 300 eP P 06 32 23.4 -1.6
comp=Z,99nm,0.9s,SNR=30
TUE **Stuetta** 28.41 298 eP P 06 32 26.8 -1.0
comp=Z,191nm,1.9s
TUE LR LR
comp=Z,6µm,19.0s
STU **Stuttgart** 28.71 303 eP P 06 32 29.3 -0.9
comp=Z,42nm,0.9s
STU LR LR
comp=Z,8µm,19.0s
STU **Stuttgart** 28.71 303 eP P 06 32 29.3 -0.9
STU pmax pmax
comp=Z,42nm,0.9s
SLE **Schleitheim** 29.08 301 P P 06 32 33.1 -0.4
ZSN **Zaisan** 29.14 60 eP P 06 32 34.4 +0.3
comp=Z,71nm,4.6s
BFO **Black Forest** 29.24 302 eP P 06 32 34.6 -0.3
comp=Z,33nm,1.4s
BFO **Black Forest** 29.24 302 ceP P 06 32 37.1 +2.2
TNS **Taunus Mts** 29.39 306 P P 06 32 37.6 +1.3
NVS **Novosibirsk** 29.56 44 eP P 06 32 38.1 +0.5
NVS pmax pmax
comp=N,36nm,0.9s
NVS pmax pmax
comp=E,19nm,0.9s
NVS pmax pmax
comp=Z,62nm,0.9s
KEST **Kesra** 29.72 276 P P 06 32 39.4 0.0
comp=Z,19nm,1.0s,baz=336,slow=2.4,SNR=9.9
KEST LR LR 06 46 32.8
comp=Z,5µm,18.9s,baz=9.0,slow=40
KEST **Kesra** 29.72 276 eP P 06 32 38.8 -0.5
comp=Z,38nm,1.1s
SBF **Sospel** 29.78 293 eP P 06 32 38.7 -1.1
SBF pmax pmax
comp=Z,54nm,0.8s
SENIN **Lac Senin/Sane** 29.83 298 eP P 06 32 39.0 -1.4
comp=Z,32nm,0.8s
SENIN LR LR
comp=Z,9µm,19.0s
CDF **Champ du Feu** 29.94 302 eP P 06 32 38.7 -2.5
CDF pmax pmax
comp=Z,11nm,0.9s
HFS **Hagfors** 29.98 327 P P 06 32 40.0 -1.2
comp=Z,32nm,0.8s,baz=123,slow=9.7,SNR=21
HFS LR LR 06 45 25.6
comp=Z,13µm,19.6s,baz=120,slow=38
ECH **Echery** 30.01 302 eP P 06 32 40.0 -1.7
comp=Z,33nm,1.1s
ECH **Echery** 30.01 302 eP P 06 32 40.0 -1.7
ECH pmax pmax
comp=Z,33nm,1.1s
APA **Apatity** 30.07 350 ⇓iP P 06 32 41.9 -0.1
APA i S S 06 37 37.0 -3.4
APA pmax pmax
comp=Z,13nm,0.9s
APA MLR MLR
comp=Z,8µm,13.0s
HINF **Hinteralfeld** 30.18 301 eP P 06 32 43.0 -0.3
HINF pmax pmax
comp=Z,13nm,1.2s
ZAA0 **Zalesovo Array** 30.19 47 ⇑P P 06 32 42.1 -1.1
comp=Z,33nm,0.8s
ZAA0 **Zalesovo Array** 30.19 47 eP P 06 32 42.6 -0.5
comp=Z,32nm,0.8s
ZAA0 LR LR
comp=Z,13µm,18.0s
ZALV **Zalesovo Beam** 30.19 47 P P 06 32 42.4 -0.8
comp=Z,7.6nm,0.7s,baz=266,slow=9.8,SNR=26
ZALV LR LR 06 47 00.2
comp=Z,12µm,19.1s,baz=250,slow=41
ZALV **Zalesovo Beam** 30.19 47 eP P 06 32 42.1 -1.1
ZALV **Zalesovo Beam** 30.19 47 P P 06 32 42.4 -0.8
ZALV pmax pmax
comp=Z,7.0nm,0.7s
ZALV MLR MLR
comp=Z,12µm,19.1s
ZAA1 **Zalesovo Array** 30.19 47 eP P 06 32 42.4 -0.8
LPG **La Plagne** 30.21 296 eP P 06 32 42.2 -1.6
LPG pmax pmax
comp=Z,27nm,0.7s
MBDF **Montbardon** 30.21 295 eP P 06 32 43.2 -0.5
MBDF pmax pmax
comp=Z,54nm,0.8s
LPL **La Plagne** 30.22 296 eP P 06 32 41.4 -2.5
LPL pmax pmax
comp=Z,34nm,0.9s
BNI **Bardonecchia** 30.27 295 eP P 06 32 43.4 -0.8
comp=Z,49nm,1.0s
BNI **Bardonecchia** 30.27 295 eP P 06 32 43.4 -0.8
BNI pmax pmax
comp=Z,49nm,1.0s
FURI **Furi** 30.31 196 PFAKE 06 33 00.0 +15
FURI LR LR
comp=Z,10µm,18.0s
FRF **La Foret Royal** 30.37 293 eP P 06 32 43.6 -1.3
FRF pmax pmax
comp=Z,64nm,1.3s
CABF **La Chapelle** 30.67 299 eP P 06 32 45.6 -2.0
CABF pmax pmax
comp=Z,148nm,1.2s
WTSB **Winterswijk** 30.70 309 eP P 06 32 48.5 +0.8
comp=Z,481nm,2.1s
WLF **Walferdange** 30.79 305 eP P 06 32 48.1 -0.5
comp=Z,32nm,1.0s
WLF LR LR
comp=Z,6µm,21.0s
WLF **Walferdange** 30.79 305 eP P 06 32 48.1 -0.5
WLF pmax pmax
comp=Z,32nm,1.0s
WLF **Walferdange** 30.79 305 ⇓P P 06 32 48.2 -0.5
comp=Z,26nm,1.2s
ORIF **Oris-en-Rattie** 30.84 295 eP P 06 32 46.5 -2.7
ORIF pmax pmax
comp=Z,15nm,0.8s
MEM **Membach** 30.99 306 P P 06 32 52.4 +2.1
MEM **Membach** 30.99 306 ⇓P P 06 32 50.4 +0.1
comp=Z,47nm,1.6s
DGZ **Jazzator, Alta** 31.02 55 ciP P 06 32 50.6 -0.2
DGZ pmax pmax
comp=Z,43nm,1.1s
HGN **Heimansgroeve** 31.06 307 eP P 06 32 51.5 +0.6
comp=Z,210nm,1.6s
HGN eS S 06 37 58.7 +2.4
HGN eL L 06 46 01.7
comp=Z,3µm,21.9s
WMQ **Urumqi** 31.15 67 P P 06 32 53.3 +1.4
WMQ pP sP 06 32 58.1 +3.6
WMQ S S 06 38 06.8 +8.7
WMQ PcS PcS 06 39 32.4 +1.4
WMQ ScS ScS 06 43 27.1 -0.3
WMQ pmax pmax
comp=Z,88nm,1.1s
WMQ LR LR
comp=Z,13µm,18.3s
WMQ LR LR
comp=Z,12µm,16.3s
WMQ LR LR
comp=Z,7µm,17.7s
BEBN **Eben Emael** 31.22 307 ⇑P P 06 32 53.6 +1.3
NC405 **NORSAR Array S** 31.32 328 eP P 06 32 52.0 -1.1
BCLA **Clavier** 31.42 306 ⇑P P 06 32 54.3 +0.2
comp=Z,30nm,1.4s
NB2 **NORSAR Subarra** 31.50 327 P P 06 32 52.5 -2.2
comp=Z,5.9nm,0.7s,baz=121,slow=8.6
NB200 **NORSAR Array S** 31.50 327 eP P 06 32 52.8 -1.9
NOA **NORSAR Array B** 31.50 327 P P 06 32 52.8 -1.9
comp=Z,11nm,0.8s,baz=121,slow=8.4,SNR=27
NOA LR LR 06 46 22.5
comp=Z,13µm,19.4s,baz=120,slow=38
KONO **Kongsberg** 31.56 324 ceP P 06 32 54.4 -0.9
KONO pmax pmax
comp=Z,118nm,2.5s
NBO00 **NORSAR Array S** 31.68 327 eP P 06 32 55.4 -0.9
GIVF **Givet** 31.69 305 eP P 06 32 55.9 -0.6
GIVF pmax pmax
comp=Z,24nm,0.9s
VIVF **Saint-Julien-l** 31.70 295 eP P 06 32 54.6 -2.1
VIVF pmax pmax
comp=Z,23nm,1.2s
SSB **Saint Sauveur** 31.77 296 eP P 06 32 55.9 -1.4
comp=Z,45nm,0.9s
SSB **Saint Sauveur** 31.77 296 eP P 06 32 55.9 -1.4
SSB pmax pmax
comp=Z,45nm,0.9s
NC204 **NORSAR Array S** 31.80 328 eP P 06 32 56.8 -0.7
DOU **Dourbes** 31.84 305 ⇓P P 06 32 58.2 +0.5
PYUN **Piuthan** 31.94 98 eP P 06 32 59.6 +0.5
comp=Z,190nm,1.0s
UCC **Uccle** 32.05 306 PFAKE 06 33 10.0 +10
UCC LR LR
comp=Z,4µm,19.0s
SNF **Seneffe** 32.07 306 ⇑P P 06 33 00.3 +0.4
BAIF **Baives** 32.08 305 eP P 06 32 59.5 -0.4
BAIF pmax pmax
comp=Z,28nm,1.0s
LOR **Lormes** 32.20 300 eP P 06 32 58.1 -2.9
LOR pmax pmax
comp=Z,42nm,1.1s
DANN **Dangsing** 32.42 97 eP P 06 33 04.3 +0.8
comp=Z,406nm,0.8s
SSF **Saint Saulge** 32.44 299 eP P 06 33 00.5 -2.6
SSF pmax pmax
comp=Z,40nm,1.1s
AVF **Avril sur Loir** 32.55 299 eP P 06 33 01.4 -2.7
AVF pmax pmax
comp=Z,38nm,1.0s
KOLN **Koldanda** 32.57 98 eP P 06 33 05.1 +0.4
comp=Z,191nm,1.1s
BGF **Bois d'Agland** 32.90 299 eP P 06 33 04.4 -2.8
BGF pmax pmax
comp=Z,9.0nm,0.9s
KEV **Kevo** 33.04 348 PFAKE 06 33 20.0 +12
KEV LR LR
comp=Z,3µm,21.0s
ARA0 **ARCESS Array S** 33.12 347 eP P 06 33 08.0 -0.8
ARCES **ARCESS Array B** 33.12 347 P P 06 33 08.0 -0.8
comp=Z,18nm,0.8s,baz=151,slow=7.8,SNR=26
ARCES LR LR 06 47 46.9
comp=Z,364nm,18.4s,baz=146,slow=38
ARCES **ARCESS Array B** 33.12 347 eP P 06 33 08.2 -0.6
ARCES **ARCESS Array B** 33.12 347 eP P 06 33 08.2 -0.6
ARE0 **ARCESS Array S** 33.12 347 eP P 06 33 08.5 -0.3
comp=Z.4.1nm,1.3s
ARE0 LR LR
comp=Z,200nm,18.0s
TCF **Toulx Ste Croi** 33.35 298 eP P 06 33 08.9 -2.3
CAF **Calviac** 33.55 296 eP P 06 33 11.3 -1.5
CAF pmax pmax
comp=Z,26nm,1.0s
DMN **Daman** 33.82 97 eP P 06 33 16.2 +0.5
comp=Z,388nm,1.2s
KKN **Kakani** 33.87 97 eP P 06 33 16.3 +0.3
comp=Z,65nm,0.9s
RJF **Les Rejaudoux** 33.90 296 eP P 06 33 14.8 -1.1
RJF pmax pmax
comp=Z,44nm,1.6s
PKIN **Phulchoki** 34.06 97 eP P 06 33 18.1 +0.3
comp=Z,146nm,1.1s
PKI **Pulchoki** 34.07 97 eP P 06 33 18.1 +0.2
comp=Z,210nm,1.2s
GUN **Gumba** 34.28 96 eP P 06 33 19.9 +0.1
comp=Z,275nm,1.0s
JIRN **Jiri** 34.64 96 eP P 06 33 23.5 +0.6
comp=Z,222nm,0.9s
LDF **La Druitiere** 34.86 302 eP P 06 33 22.3 -1.9
LDF pmax pmax
comp=Z,106nm,1.6s
HYB **Hyderabad** 34.89 118 i P P 06 33 25.0 +0.3
HYB eS S 06 38 58.0 +1.5
FLN **La Foliniere** 35.10 303 eP P 06 33 24.3 -1.9
FLN pmax pmax
comp=Z,48nm,1.0s
HVS **Khovu-Aksy** 35.12 53 i P P 06 33 27.4 +0.9
HVS pmax pmax
comp=Z,48nm,0.9s
RAMN **Ramite** 35.30 97 eP P 06 33 28.6 +0.1
comp=Z,193nm,0.7s
GRR **Gorron** 35.36 302 eP P 06 33 25.8 -2.6
GRR pmax pmax
comp=Z,159nm,1.0s
ETSF **Etsaut** 35.67 292 eP P 06 33 29.3 -2.0
ETSF pmax pmax
comp=Z,29nm,1.1s
SJPF **Ste Jean** 36.12 293 eP P 06 33 34.2 -0.9
SJPF pmax pmax
comp=Z,30nm,1.2s
QUIF **Quistinic** 36.92 301 eP P 06 33 40.0 -1.8
QUIF pmax pmax
comp=Z,81nm,1.2s
ESK **Eskdalemuir** 37.07 314 eP P 06 33 42.3 -0.7
comp=Z,37nm,0.8s
ESK LR LR
comp=Z,8µm,21.0s
ESK **Eskdalemuir** 37.07 314 i P P 06 33 43.8 +0.8
CART **Cartagena** 37.19 284 PFAKE 06 34 00.0 +16
CART LR LR
comp=Z,2µm,20.0s
KNGR **Kungurtug, Tuv** 37.54 54 ciP P 06 33 47.1 -0.1
LSA **Lhasa** 37.60 90 P P 06 33 49.3 +0.9
LSA pmax pmax
comp=Z,26nm,1.0s
LSA **Lhasa** 37.60 90 eP P 06 33 49.4 +0.9
comp=Z,42nm,0.8s
LSA LR LR
comp=Z,2µm,18.0s
LSA **Lhasa** 37.60 90 P P 06 33 49.1 +0.8
LSA **Lhasa** 37.60 90 eP P 06 33 49.4 +1.0
LSA pmax pmax
comp=Z,42nm,0.8s
LSA MLR MLR
comp=Z,2µm,18.0s
NRIK **Noril'sk** 37.84 22 P P 06 33 49.3 0.0
comp=Z,14nm,0.9s,baz=243,slow=9.5,SNR=6.0
NRIK LR LR 06 53 44.5
comp=Z,8µm,18.0s,baz=236,slow=43
TAM **Tamanrasset** 38.32 258 eP P 06 33 54.0 -0.1
comp=Z,34nm,1.0s
TAM LR LR
comp=Z,2µm,20.0s
TAM **Tamanrasset** 38.32 258 eP P 06 33 54.0 -0.1
TAM pmax pmax
comp=Z,34nm,1.0s
ES19 **SONSECA Array** 38.80 288 eP P 06 33 56.2 -1.7
DSB **Dublin** 38.81 310 PFAKE 06 34 10.0 +12
DSB LR LR
comp=Z,6µm,18.0s
ESDC **Sonseca Array** 38.86 288 P P 06 33 56.1 -2.3
comp=Z,4.2nm,0.7s,baz=65,slow=8.6,SNR=23
ESDC PcP PcP 06 36 09.2 -0.1
comp=Z,4.3nm,0.9s,baz=49,slow=3.6,SNR=4.7
ESDC LR LR 06 51 37.0
comp=Z,2µm,18.1s,baz=80,slow=39
ESLA **Sonseca Array** 38.86 288 eP P 06 33 56.9 -1.5
comp=Z,25nm,1.3s
ESLA LR LR
comp=Z,2µm,19.0s
PAB **San Pablo** 39.18 288 eP P 06 34 00.2 -0.9
comp=Z,35nm,1.4s
PAB LR LR
comp=Z,3µm,22.0s
PAB **San Pablo** 39.18 288 eP P 06 34 00.2 -0.9
PAB pmax pmax
comp=Z,35nm,1.3s
HMDM **Hanimaadhoo** 39.67 136 PFAKE 06 34 20.0 +15
HMDM LR LR
comp=Z,3µm,22.0s
MOY **Mondy** 39.69 52 eP P 06 34 05.5 +0.3
MOY pmax pmax
comp=Z,74nm,4.8s
SHL **Shillong** 40.10 95 eP P 06 34 08.0 -1.1
SHL LR LR
comp=Z,5µm,18.0s
SHL **Shillong** 40.10 95 eP P 06 34 08.0 -1.1
SHL **Shillong** 40.10 95 eP P 06 34 07.5 -1.6
SHL eS S 06 40 16.0 +0.1
KMBO **Kilima Mbogo** 40.34 195 P P 06 34 13.0 +1.9
comp=Z,2.9nm,0.7s,baz=344,slow=9.8,SNR=4.9
KMBO LR LR 06 51 13.5
comp=Z,7µm,18.2s,baz=3.5,slow=37

KMBO **Kilima Mbogo** **40.34 195** *e*P **P** **06 34 10.5 -0.6**
comp=Z,8.9nm,1.2s
KMBO **Kilima Mbogo** **40.34 195** P **P** **06 34 13.0 +1.9**
KMBO pmax pmax
comp=Z,3.0nm,0.7s
KMBO MLR MLR
comp=Z,7μm,18.2s
PBRG **Braganca** **40.38 292** *e*P **P** **06 34 10.2 -0.8**
comp=Z,33nm,1.6s
NAI **Nairobi** **40.58 195** PFAKE 06 34 20.0 +7.0
NAI LR LR
comp=Z,7μm,19.0s
MVO **Moncorvo** **40.75 291** *e*P **P** **06 34 13.6 -0.5**
comp=Z,47nm,2.0s
MVO *e*S **S** **06 40 19.7 -5.3**
MVO *e*LR LR 06 43 46.7
comp=Z,2μm,20.0s
GTA **Gaotai** **40.88 71** ⇑P **P** **06 34 16.1 +0.8**
GTA pP sP 06 34 20.1 +2.2
GTA sP pP 06 34 23.2 +6.0
GTA PP **PnPn** **06 35 53.2 -0.3**
GTA S **S** **06 40 28.7 +1.5**
GTA sS sS 06 40 34.3 +4.0
GTA SS **SS** **06 43 25.9 -2.3**
GTA pmax pmax
comp=Z,25nm,1.0s
GTA pmax pmax
comp=Z,400nm,7.3s
GTA LR LR
comp=Z,3μm,17.1s
GTA LR LR
comp=Z,3μm,17.8s
GTA LR LR
comp=Z,4μm,16.2s
VAL **Valentia** **41.21 308** ⇑*i*PP PP 06 36 01.5 +9.0
VAL **Valentia** **41.21 308** ⇑*i*S **S** **06 40 29.3 -2.1**
ZAK **Zakamensk** **41.22 54** *e*P **P** **06 34 18.3 +0.4**
ZAK *e* 06 35 51.3
ZAK pmax pmax
comp=Z,16nm,1.1s
POLO **Lamas de Olo** **41.25 292** *e*P **P** **06 34 17.6 -0.7**
comp=Z,26nm,1.4s
MTE **Manteigas** **41.32 290** *e*P **P** **06 34 18.4 -0.4**
comp=Z,99nm,1.7s
MTE *e*S **S** **06 40 36.2 +2.6**
MTE *e*LR LR 06 47 49.9
comp=Z,2μm,18.0s
MTE **Manteigas** **41.32 290** *e*P **P** **06 34 18.4 -0.4**
comp=Z,49nm,1.1s
MTE LR LR
comp=Z,2μm,18.0s
TLY **Talaya** **41.34 52** *e*P **P** **06 34 20.6 +1.9**
comp=Z,22nm,1.2s
TLY LR LR
comp=Z,5μm,19.0s
TLY **Talaya** **41.34 52** *e*P **P** **06 34 20.4 +1.6**
TLY *e*S S 06 40 24.2 -9.2
TLY pmax pmax
comp=Z,30nm,1.9s
TLY MLR MLR
comp=Z,4μm,17.0s
BRDH **Bariadhala** **41.42 99** LR LR 06 56 17.4
comp=Z,3μm,18.9s,baz=314,slow=43
PCBR **Castelo Branco** **41.42 290** *e*P **P** **06 34 19.3 -0.3**
comp=Z,69nm,1.7s
PGAV **Gavieira, Arco** **41.45 293** *e*P **P** **06 34 19.9 0.0**
comp=Z,93nm,1.7s
PGAV *e*S **S** **06 40 39.5 +4.0**
PGAV *e*LR LR 06 47 53.2
comp=Z,3μm,18.0s
PMRV **Marv??o** **41.48 289** *e*P **P** **06 34 19.7 -0.4**
comp=Z,38nm,1.4s
PMRV *e*S **S** **06 40 33.9 -1.9**
PMRV *e*LR LR 06 44 33.9
comp=Z,2μm,20.0s
SFS **San Fernando** **41.49 284** PFAKE 06 34 30.0 +10
SFS LR LR
comp=Z,2μm,19.0s
PVIS **Viseu** **41.50 291** *e*P **P** **06 34 20.6 +0.4**
comp=Z,59nm,1.7s
MBAR **Mbarara** **41.55 204** PFAKE 06 34 30.0 +9.1
MBAR LR LR
comp=Z,4μm,18.0s
IRK **Irkutsk** **41.68 51** *e*P **P** **06 34 20.9 -0.6**
IRK pmax pmax
comp=Z,91nm,2.8s
SPA0 **Spitsbergen Ar** **41.74 351** *e*P **P** **06 34 21.4 -0.3**
SPITS **Spitsbergen Ar** **41.74 351** P **P** **06 34 23.2 +1.4**
comp=Z,15nm,0.6s,baz=145,slow=5.3,SNR=14
PESTR **Estremoz** **41.79 288** *e*P **P** **06 34 21.8 -0.8**
comp=Z,61nm,2.0s
PESTR **Estremoz** **41.79 288** *e*P **P** **06 34 20.7 -1.9**
comp=Z,15nm,1.0s
PESTR LR LR
comp=Z,1μm,21.0s
PTOM **Tomar** **42.18 290** *e*P **P** **06 34 25.8 0.0**
comp=Z,92nm,1.5s
PVAQ **Vaqueiros** **42.33 286** *e*S **S** **06 40 47.6 -0.8**
PVAQ *e*LR LR 06 44 07.0
comp=Z,2μm,18.0s
RTC **Rabat Centre** **42.86 281** PFAKE 06 34 40.0 +8.6
RTC LR LR
comp=Z,5μm,21.0s
KBS **Kingsbay** **42.88 351** PFAKE 06 34 40.0 +9.0
KBS LR LR
comp=Z,3μm,19.0s
PFVI **Vila Bisbo** **43.26 286** PFAKE 06 34 50.0 +15
PFVI LR LR
comp=Z,2μm,19.0s
SONA0 **Songino Array** **43.61 58** *e*P **P** **06 34 37.5 0.0**
SONA0 *e*PP **PcP** **06 36 25.4 +0.5**
SONM **Songino Array** **43.61 58** P **P** **06 34 37.4 0.0**
comp=Z,5.8nm,0.7s,baz=282,slow=11,SNR=20
SONM PcP **PcP** **06 36 25.4 +0.5**
comp=Z,4.1nm,0.9s,baz=289,slow=9.2,SNR=3.6
SONM LR LR 06 54 38.9
comp=Z,3μm,20.7s,baz=280,slow=39
SONA1 **Songino Array** **43.61 58** *e*P **P** **06 34 37.1 -0.3**
PALK **Pallekele** **43.71 126** LR LR 06 54 24.4
comp=Z,2μm,19.9s,baz=280,slow=38
PALK **Pallekele** **43.71 126** *e*P **P** **06 34 36.2 -2.2**
comp=Z,37nm,1.3s
PALK **Pallekele** **43.71 126** *e*P **P** **06 34 36.3 -2.2**
PALK pmax pmax
comp=Z,37nm,1.3s
ULN **Ulaanbaatar** **44.04 57** *e*P **P** **06 34 41.2 +0.3**
comp=Z,42nm,0.9s
ULN LR LR
comp=Z,2μm,22.0s
ULN **Ulaanbaatar** **44.04 57** *ce*P **P** **06 34 41.6 +0.7**
ULN pmax pmax
comp=Z,47nm,0.8s
LZH **Lanzhou** **44.97 75** *e*P **P** **06 34 49.8 +1.3**
LZH pP sP 06 34 54.1 +3.0
LZH sP pP 06 34 56.6 +6.2
LZH PP **PP** **06 36 36.4 +3.0**
LZH S **S** **06 41 27.4 +0.1**
LZH sS sS 06 41 37.8 +7.3
LZH SS **ScS** **06 44 39.8 -6.9**
LZH pmax pmax
comp=Z,130nm,0.9s
LZH pmax pmax
comp=Z,970nm,4.8s
LZH LR LR
comp=Z,6μm,15.2s
LZH LR LR
comp=Z,5μm,14.6s
LZH LR LR
comp=Z,5μm,15.2s
BOD **Bodaibo** **46.77 43** ⇓*i*P **P** **06 35 00.7 -1.5**
BOD pmax pmax
comp=Z,29nm,1.2s
CD2 **Chengdu** **46.94 81** P **P** **06 35 04.3 +0.3**
CD2 pP sP 06 35 07.5 +0.9
CD2 PP **PP** **06 36 54.0 -0.2**
CD2 S **S** **06 41 55.6 0.0**
CD2 sS sS 06 42 01.0 +2.2
CD2 pmax pmax
comp=Z,50nm,0.6s
CD2 pmax pmax
comp=Z,590nm,5.8s
CD2 LR LR
comp=Z,8μm,20.3s
CD2 LR LR
comp=Z,7μm,19.7s
CD2 LR LR
comp=Z,4μm,13.3s
TOC2 **Torodi Ar. Sit** **47.02 250** PFAKE 06 35 20.0 +15
TOC2 LR LR
comp=Z,2μm,18.0s
TOC1 **Torodi Ar. Sit** **47.02 250** PFAKE 06 35 20.0 +15
TOC1 LR LR
comp=Z,2μm,18.0s
TOA1 **Torodi Ar. Sit** **47.04 250** *e*P **P** **06 35 02.3 -2.6**
TOA0 **Torodi Ar. Sit** **47.04 250** *e*P **P** **06 35 01.2 -3.6**
TOA0 *e*P **P** **06 35 03.2 -1.7**
TOA0 LR LR
comp=Z,2μm,18.0s
TOA0 **Torodi Ar. Sit** **47.04 250** P **P** **06 35 03.6 -1.2**
SNR=11
TORD **Torodi Ar. Bea** **47.04 250** P **P** **06 35 02.3 -2.6**
comp=Z,13nm,1.0s,baz=27,slow=8.8
TORD LR LR 07 00 02.4
comp=Z,1μm,18.2s,baz=0.0,slow=43
TOC7 **Torodi Ar. Sit** **47.05 250** PFAKE 06 35 20.0 +15
TOC7 LR LR
comp=Z,2μm,18.0s
TOB5 **Torodi Ar. Sit** **47.05 250** PFAKE 06 35 20.0 +15
TOB5 LR LR
comp=Z,2μm,18.0s
SCO **Scoresbysund** **47.16 335** *e*P **P** **06 35 06.2 +1.2**
comp=Z,183nm,2.0s
SCO LR LR
comp=Z,6μm,18.0s
SCO **Scoresbysund** **47.16 335** *i* P **P** **06 35 05.9 +0.9**
comp=Z,42nm,1.3s
comp=Z,5μm,18.0s
SCO **Scoresbysund** **47.16 335** *e*P **P** **06 35 06.2 +1.2**
SCO pmax pmax
comp=Z,180nm,2.0s
DAG **Danmarks Havn** **47.27 343** *i* P **P** **06 35 05.5 -0.3**
comp=Z,18nm,1.0s
comp=Z,4μm,23.0s
DAG **Danmarks Havn** **47.27 343** *i* P **P** **06 35 05.5 -0.3**
DAG pmax pmax
comp=Z,18nm,1.0s
DAG MLR MLR
comp=Z,5μm,23.0s
BTO **Baotou** **47.99 66** *e*P **P** **06 35 11.5 -0.6**
KMI **Kunming** **48.84 89** P **P** **06 35 19.9 +0.9**
KMI pP sP 06 35 22.6 +1.0
KMI sP pP 06 35 24.1 +3.2
KMI PP **PP** **06 37 13.2 +1.1**
KMI S **S** **06 42 20.9 -2.1**
KMI pmax pmax
comp=Z,110nm,0.9s
KMI pmax pmax
comp=Z,570nm,4.0s
KMI LR LR
comp=Z,2μm,23.5s
KMI LR LR
comp=Z,2μm,18.7s
KMI LR LR
comp=Z,2μm,18.9s
PBA **Port Blair** **48.91 110** PFAKE 06 35 30.0 +11
PBA LR LR
comp=Z,4μm,21.0s
HHC **Hu-ho-hao-te** **49.02 66** *e*P **P** **06 35 20.2 +0.2**
HHC PP **PP** **06 37 13.6 +0.3**
HHC S **S** **06 42 22.6 -2.3**
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,510nm,6.9s
HHC LR LR
comp=Z,3μm,14.7s
HHC LR LR
comp=Z,2μm,13.8s
HHC LR LR
comp=Z,1μm,10.4s
CHTO **Chiang Mai** **49.23 98** *e*P **P** **06 35 21.7 -0.1**
comp=Z,37nm,0.8s
CHTO LR LR
comp=Z,1μm,22.0s
CHTO **Chiang Mai** **49.23 98** *e*P **P** **06 35 21.7 -0.1**
CHTO pmax pmax
comp=Z,37nm,0.8s
CHTO **Chiang Mai** **49.23 98** P **P** **06 35 21.7 -0.1**
comp=Z,253nm,1.5s,comp=Z,4μm
CMMT **Chiang Mai** **49.24 98** P **P** **06 35 21.6 -0.2**
comp=Z,58nm,1.5s,comp=Z,1μm
CM31 **Chiang Mai Arr** **49.44 99** *e*P **P** **06 35 23.3 0.0**
CM31 **Chiang Mai Arr** **49.44 99** P **P** **06 35 23.4 +0.1**
SNR=20
CMAR **Chiang Mai Arr** **49.44 99** P **P** **06 35 22.6 -0.7**
comp=Z,54nm,1.1s,baz=300,slow=8.4,SNR=83
CMAR LR LR 07 00 58.8
comp=Z,1μm,21.4s,baz=299,slow=42
CM01 **Chiang Mai Arr** **49.47 99** *e*P **P** **06 35 23.1 -0.5**
XAN **Xi'an** **49.60 75** P **P** **06 35 24.4 -0.1**
XAN pP sP 06 35 34.8 +7.7
XAN PP **PP** **06 37 21.6 +2.9**
XAN S **S** **06 42 33.8 +0.7**
XAN ScS **ScS** **06 45 12.9 -4.1**
XAN pmax pmax
comp=Z,67nm,1.2s
XAN pmax pmax
comp=Z,500nm,5.3s
XAN LR LR
comp=Z,4μm,17.2s
XAN LR LR
comp=Z,2μm,14.2s
PAYA **Payao** **49.64 97** P **P** **06 35 27.0 +2.1**
comp=Z,12nm,0.9s,comp=Z,96nm
LAMP **Lampang** **49.93 98** P **P** **06 35 27.8 +0.7**
comp=Z,30nm,1.0s,comp=Z,269nm
KOWA **Kowa** **50.48 256** PFAKE 06 35 40.0 +8.7
KOWA LR LR
comp=Z,1μm,22.0s
SUKH **Sukhothai** **50.53 99** P **P** **06 35 32.4 +0.8**
comp=Z,18nm,1.0s
NANT **Nan** **50.61 97** P **P** **06 35 32.0 -0.2**
comp=Z,8.3nm,0.9s
UMPA **Umpang Tak** **50.69 101** P **P** **06 35 34.1 +1.2**
comp=Z,44nm,1.1s
TIY **Taiyuan** **50.77 69** *e*P **P** **06 35 34.6 +1.2**
TIY PP **PP** **06 37 35.3 +6.0**
TIY S **S** **06 42 49.7 +0.3**
TIY pmax pmax
comp=Z,360nm,3.7s
TIY LR LR
comp=Z,990nm,12.0s
TIY LR LR
comp=Z,2μm,12.3s
TIY LR LR
comp=Z,2μm,12.9s
GYA **Guiyang** **51.25 85** ⇑*i*P **P** **06 35 36.6 -0.6**
GYA PcP **PcP** **06 36 52.9 +0.6**
GYA PP **PP** **06 37 37.6 +3.7**
GYA ScP **ScP** **06 40 49.6 +0.3**
GYA S **S** **06 42 55.0 -1.5**
GYA SS **SS** **06 46 26.5 -5.2**
GYA pmax pmax
comp=Z,50nm,0.9s
GYA pmax pmax
comp=Z,140nm,7.5s
GYA LR LR
comp=Z,4μm,20.5s
GYA LR LR
comp=Z,3μm,20.8s
GYA LR LR
comp=Z,2μm,19.9s
UTHA **Uthaitani** **51.52 101** P **P** **06 35 39.6 +0.5**
comp=Z,38nm,0.9s,comp=Z,273nm
TIXI **Tiksi** **51.59 24** *e*P **P** **06 35 39.5 +0.7**
comp=Z,32nm,1.2s
TIXI LR LR
comp=Z,2μm,21.0s
TIXI **Tiksi** **51.59 24** *ce*P **P** **06 35 38.8 -0.1**
TIXI pmax pmax
comp=Z,32nm,1.2s
TIXI MLR MLR
comp=Z,3μm,16.0s
ENH **Enshi** **51.65 79** *e*P **P** **06 35 40.0 -0.1**
comp=Z,77nm,1.5s
ENH LR LR
comp=Z,2μm,21.0s
HIA **Hailar** **51.87 53** *e*P **P** **06 35 42.1 +0.7**
comp=Z,21nm,0.9s
HIA LR LR
comp=Z,4μm,19.0s
HIA **Hailar** **51.87 53** *e*P **P** **06 35 42.1 +0.7**
HIA pmax pmax
comp=Z,21nm,0.9s
HIA MLR MLR
comp=Z,4μm,19.0s
SRDT **SRDT** **52.00 103** P **P** **06 35 43.1 +0.4**
comp=Z,85nm,0.9s,comp=Z,3μm
PBKT **Sadao Pong** **52.10 99** *e*P **P** **06 35 44.1 +0.7**
PBKT **Sadao Pong** **52.10 99** P **P** **06 35 43.8 +0.4**
comp=Z,85nm,1.0s,comp=Z,1μm
SUMG **Summit** **52.33 338** *e*P **P** **06 35 45.3 +0.5**
comp=Z,167nm,1.9s
SUMG **Summit** **52.33 338** *i* P **P** **06 35 44.3 -0.6**
SUMG **Summit** **52.33 338** *e*P **P** **06 35 45.9 +1.0**
SUMG pmax pmax
comp=Z,170nm,1.9s
BJI **Beijing** **52.59 65** ⇓*i*P **P** **06 35 47.8 +1.0**
BJI S **S** **06 43 18.0 +3.8**
BJI pmax pmax
comp=Z,12nm,1.0s
BJI LR LR
comp=Z,3μm,17.0s
BJI LR LR
comp=Z,2μm,13.0s
BJT **Baijiatuau** **52.59 65** *e*P **P** **06 35 47.4 +0.6**
comp=Z,21nm,1.0s
BJT LR LR
comp=Z,3μm,19.0s
BJT **Baijiatuau** **52.59 65** *e*P **P** **06 35 47.4 +0.6**
BJT pmax pmax
comp=Z,21nm,1.0s
BJT MLR MLR
comp=Z,3μm,19.0s
NONG **Nongkai** **52.93 96** P **P** **06 35 49.4 -0.2**
comp=Z,1.3nm,1.0s
PHET **Kaeng Krachan** **53.28 104** P **P** **06 35 52.8 +0.7**
comp=Z,26nm,1.0s,comp=Z,298nm
CHAI **Chaiyaphum** **53.28 99** P **P** **06 35 52.6 +0.4**
comp=Z,21nm,0.9s,comp=Z,208nm
YAK **Yakutsk** **53.76 35** PFAKE 06 36 10.0 +15
YAK LR LR
comp=Z,5μm,19.0s
SKNT **Sakolnakorn** **54.21 97** P **P** **06 35 59.2 +0.2**
comp=Z,24nm,1.6s,comp=Z,677nm
PATY **Pattaya** **54.21 103** P **P** **06 36 02.2 +3.2**
comp=Z,8.2nm,0.5s,comp=Z,5μm
SRAK **Srakaew** **54.45 101** P **P** **06 36 04.5 +3.8**
comp=Z,491nm,0.9s,comp=Z,4μm
TIA **Tai'an** **54.81 69** P **P** **06 36 02.6 -0.6**
TIA S **S** **06 43 49.0 +4.5**
TIA pmax pmax
comp=Z,11nm,1.1s
TIA pmax pmax
comp=Z,460nm,3.9s
TIA LR LR
comp=Z,820nm,9.0s
TIA LR LR
comp=Z,670nm,8.0s
TIA LR LR
comp=Z,1μm,31.9s
ZEA **Zeya** **54.95 46** *e*P **P** **06 36 05.5 +1.6**
ZEA *e*S **S** **06 43 46.0 +0.2**
ZEA pmax pmax
comp=Z,67nm,1.6s
ZEA smax smax
comp=E,900nm,12.0s
ZEA MLR MLR
comp=N,4μm,16.0s
ZEA MLR MLR
comp=E,9μm,16.0s
ZEA MLR MLR
comp=Z,14μm,16.0s
WHN **Wuhan** **55.26 76** ⇓P **P** **06 36 07.2 +0.8**
WHN S **S** **06 43 52.8 +2.2**
WHN LR LR
comp=Z,6μm,13.7s
WHN LR LR
comp=Z,5μm,14.4s
WHN LR LR
comp=Z,7μm,14.0s
DBIC **Dimbokro** **56.14 249** P **P** **06 36 11.4 -1.5**
comp=Z,24nm,0.9s,baz=31,slow=8.3,SNR=22
DBIC LR LR 07 05 16.9
comp=Z,2μm,18.4s,baz=22,slow=41
DBIC **Dimbokro** **56.14 249** *e*P **P** **06 36 11.4 -1.5**
DBIC pmax pmax
comp=Z,34nm,0.9s
LSZ **Lusaka** **56.19 202** *e*P **P** **06 36 13.9 +0.6**
comp=Z,56nm,1.9s
LSZ LR LR
comp=Z,5μm,18.0s
LSZ **Lusaka** **56.19 202** *e*P **P** **06 36 14.5 +1.2**
LSZ pmax pmax
comp=Z,56nm,1.9s
KIC **Kosan Baka** **56.27 249** *e*P **P** **06 36 12.3 -1.5**
comp=Z,151nm,1.0s
TIC **Tounodi** **56.28 249** *e*P **P** **06 36 12.3 -1.7**
LHMI **Lhok Sumawe** **56.29 113** PFAKE 06 36 30.0 +16
LHMI LR LR
comp=Z,2μm,20.0s
UBPT **Khong Chiam** **56.35 97** P **P** **06 36 14.6 +0.1**
comp=Z,29nm,1.7s
MLSI **Meulaboh, Aceh** **56.55 114** P **P** **06 36 15.9 0.0**
TRTT **Trang** **56.56 108** P **P** **06 36 15.3 -0.6**
comp=Z,16nm,1.1s,comp=Z,553nm
LIC **Lamto** **56.57 249** *e*P **P** **06 36 14.4 -1.6**
comp=Z,176nm,1.0s
DL2 **Dalian** **56.91 64** P **P** **06 36 18.6 +0.5**
DL2 S **S** **06 44 16.4 +4.1**
DL2 pmax pmax
comp=Z,94nm,1.0s
DL2 pmax pmax
comp=Z,590nm,4.7s
DL2 LR LR
comp=Z,2μm,14.8s
DL2 LR LR
comp=Z,2μm,15.4s
DL2 LR LR
comp=Z,3μm,17.1s
SNY **Shenyang** **57.04 60** ⇓P **P** **06 36 21.0 +2.0**
SNY S S 06 44 04.9 -9.1
SNY pmax pmax
comp=Z,390nm,6.1s
SNY LR LR
comp=Z,4μm,15.9s
SNY LR LR
comp=Z,3μm,16.5s
SNY LR LR
comp=Z,5μm,15.9s
ABPO **Ambohimpanom** **57.19 179** *e*P **P** **06 36 20.8 +0.4**
comp=Z,24nm,1.1s
ABPO LR LR
comp=Z,5μm,20.0s
ABPO **Ambohimpanom** **57.19 179** *e*P **P** **06 36 21.3 +0.9**
ABPO pmax pmax
comp=Z,24nm,1.1s
ILULI **Ilulissat** **57.24 335** PFAKE 06 36 30.0 +10
ILULI LR LR
comp=Z,4μm,19.0s
CN2 **Changchun** **57.49 57** *e*P **P** **06 36 22.0 -0.2**
CN2 *e*S **S** **06 44 23.0 +3.1**
CN2 SS **SS** **06 48 10.8 +1.7**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,4μm,18.0s
CN2 LR LR
comp=Z,5μm,18.0s
CN2 LR LR
comp=Z,7μm,18.0s
QIZ **Qiongzhong** **57.64 91** P **P** **06 36 20.9 -2.6**
QIZ S **S** **06 44 21.4 -1.0**
QIZ sS **sS** **06 44 28.3 +2.7**
QIZ ScS **ScS** **06 46 14.6 +0.7**
QIZ pmax pmax
comp=Z,11nm,1.2s
QIZ pmax pmax
comp=Z,270nm,5.3s
QIZ LR LR
comp=Z,1μm,16.7s
QIZ LR LR
comp=Z,2μm,19.0s
QIZ LR LR
comp=Z,920nm,20.6s

QIZ Qiongzhong 57.64 91 PFAKE 06 36 40.0 +16
QIZ LR LR
comp=Z,1μm,22.0s
SKLT Songkhla 57.69 108 P **P** **06 36 25.1 +1.2**
comp=Z,28nm,1.4s,comp=Z,670nm
TPTI 57.81 114 P **P** **06 36 24.9 +0.2**
SFJD Kangerlussuaq 57.93 333 PFAKE 06 36 40.0 +15
SFJD LR LR
comp=Z,4μm,21.0s
NJ2 Nanjing 57.96 73 *e*P **P** **06 36 26.0 +0.4**
NJ2 S **S** **06 44 29.8 +3.5**
NJ2 ScS **ScS** **06 46 10.7 -5.2**
NJ2 SS **SS** **06 48 21.3 +4.4**
NJ2 pmax pmax
comp=Z,20nm,1.1s
NJ2 pmax pmax
comp=Z,270nm,4.3s
NJ2 LR LR
comp=Z,4μm,19.5s
NJ2 LR LR
comp=Z,2μm,19.5s
NJ2 LR LR
comp=Z,3μm,15.7s
KCSI Kotacane, Aceh 58.05 114 P **P** **06 36 23.6 -2.9**
comp=Z,32nm,0.9s,comp=Z,753nm
GZH Guangzhou 58.19 85 P **P** **06 36 27.4 +0.1**
GZH S **S** **06 44 32.2 +2.7**
GZH LR LR
comp=Z,3μm,22.8s
GZH LR LR
comp=Z,3μm,22.5s
TULEG Thule 58.44 346 PFAKE 06 36 40.0 +12
TULEG LR LR
comp=Z,4μm,21.0s
KULM Kulim 58.95 110 *e*P **P** **06 36 31.5 -1.2**
comp=Z,59nm,1.2s
KULM LR LR
comp=Z,2μm,18.0s
KLR Kul'dur 59.23 49 LR LR 07 05 02.7
comp=Z,5μm,18.1s,baz=286,slow=39
KLR Kul'dur 59.23 49*c*e**P** **P** **06 36 34.5 +0.2**
IVI Ivigtut 59.30 326 PFAKE 06 36 50.0 +15
IVI LR LR
comp=Z,3μm,21.0s
PSI Prapat 59.38 113 P **P** **06 36 34.3 -1.5**
comp=Z,21nm,0.9s,baz=359,slow=3.1,SNR=24
PSI LR LR 07 07 16.7
comp=Z,603nm,18.1s,baz=271,slow=41
PSI Prapat 59.38 113 *e*P **P** **06 36 33.6 -2.2**
comp=Z,47nm,1.1s
GSI Gunungsitoli 59.45 116 *e*P **P** **06 36 36.1 -0.1**
comp=Z,62nm,1.0s
GSI LR LR
comp=Z,2μm,20.0s
GSI Gunungsitoli 59.45 116 P **P** **06 36 35.4 -0.8**
IPM Ipoh 59.77 110 *e*P **P** **06 36 37.3 -1.2**
comp=Z,45nm,0.9s
IPM LR LR
comp=Z,2μm,20.0s
MDJ Mudanjiang 59.85 55 P **P** **06 36 37.9 -0.7**
MDJ S **S** **06 44 50.7 +0.1**
MDJ LR LR
comp=Z,4μm,9.8s
MDJ LR LR
comp=Z,9μm,15.3s
MDJ Mudanjiang 59.85 55 PFAKE 06 36 50.0 +11
MDJ LR LR
comp=Z,7μm,18.0s
SSE Sheshan 60.16 72 P **P** **06 36 42.0 +1.1**
SSE S **S** **06 44 55.2 +0.3**
SSE pmax pmax
comp=Z,36nm,0.7s
SSE pmax pmax
comp=Z,260nm,4.5s
SSE LR LR
comp=Z,940nm,18.6s
SSE LR LR
comp=Z,1μm,17.7s
PBSI Pulau Batu 60.91 116 P **P** **06 36 44.9 -1.3**
comp=Z,50nm,1.3s
MNSI Mandailing Nat 61.23 114 P **P** **06 36 49.3 +0.9**
GRNR Gornyy 61.29 46 *e*P **P** **06 36 49.5 +1.1**
GRNR pmax pmax
comp=Z,21nm,1.0s
QZH Quanzhou 61.29 80 *e*P **P** **06 36 50.0 +1.3**
QZH S **S** **06 45 12.6 +3.1**
QZH LR LR
comp=Z,3μm,19.4s
QZH LR LR
comp=Z,2μm,20.8s
QZH LR LR
comp=Z,2μm,17.7s
USA0B Ussuriysk Arra 61.57 55 *e*P **P** **06 36 50.3 0.0**
comp=Z,36nm,1.1s
USA0B LR LR
comp=Z,4μm,19.0s
USRK Ussuriysk Ar. 61.57 55 P **P** **06 36 49.0 -1.3**
comp=Z,16nm,0.8s,baz=277,slow=6.7,SNR=27
USRK LR LR 07 06 20.8
comp=Z,4μm,19.7s,baz=286,slow=39
KS01 Wonju Array Si 61.96 63 *e*P **P** **06 36 52.1 -0.9**
KS15 Wonju Array Si 61.97 63 *e*P **P** **06 36 52.6 -0.6**
KSAR Wonju Array Be 61.97 63 P **P** **06 36 52.5 -0.6**
KSAR Wonju Array Be 61.97 63 P **P** **06 36 52.5 -0.6**
KSRS Korea Array 61.99 63 P **P** **06 36 52.5 -0.7**
comp=Z,20nm,1.0s,baz=291,slow=6.3,SNR=26
NKL Nikolayevsk 62.54 43 *e*P **P** **06 36 56.5 -0.2**
NKL *e*S **S** **06 45 28.5 +4.0**
NKL pmax pmax
comp=Z,600nm,5.0s
NKL pmax pmax
comp=Z,210nm,1.1s
NKL smax smax
comp=N,1μm,11.0s
NKL smax smax
comp=E,1μm,11.0s
NKL MLR MLR
comp=N,1μm,13.0s
NKL MLR MLR
comp=E,2μm,13.0s
NKL MLR MLR
comp=Z,4μm,13.0s
BKNI Bangkinang 62.60 114 *e*P **P** **06 36 56.5 -1.1**
comp=Z,273nm,0.9s
BKNI LR LR
comp=Z,2μm,20.0s
BKNI Bangkinang 62.60 114 P **P** **06 36 57.3 -0.3**
comp=Z,328nm,1.1s
SEY Seymchan 63.03 30 *i* P **P** **06 36 59.1 -0.7**
PDSI Padang 63.05 115 P **P** **06 37 00.0 -0.6**
comp=Z,58nm,1.4s
TATO Taipei 63.51 78 PFAKE 06 37 20.0 +16
TATO LR LR
comp=Z,2μm,22.0s
TSUM Tsumeb 63.52 211 PFAKE 06 37 20.0 +16
TSUM LR LR
comp=Z,4μm,18.0s
YHNB Yeheng 63.58 79 *e*P **P** **06 37 04.2 0.0**
comp=Z,54nm,1.0s
YHNB LR LR
comp=Z,1μm,18.0s
MYKOM Kota Tinggi 63.65 110 *e*P **P** **06 37 03.8 -0.8**
comp=Z,46nm,0.9s
MYKOM LR LR
comp=Z,1μm,19.0s
SSLB Suanglung 63.73 80 PFAKE 06 37 20.0 +15
SSLB LR LR
comp=Z,2μm,18.0s
NACB Ninganchiao 64.02 79 PFAKE 06 37 20.0 +13
NACB LR LR
comp=Z,2μm,21.0s
MA2 Magadan 64.17 33 LR LR 07 08 49.5
comp=Z,3μm,18.2s,baz=306,slow=40
MA2 Magadan 64.17 33 *e*P **P** **06 37 07.7 +0.3**
comp=Z,50nm,1.1s
MA2 Magadan 64.17 33 *e*P **P** **06 37 08.0 +0.6**
MA2 pmax pmax
comp=Z,50nm,1.1s
YULB Yu-li 64.21 80 PFAKE 06 37 20.0 +12
YULB LR LR
comp=Z,3μm,18.0s
RES Resolute Bay 64.27 349 *e*P **P** **06 37 08.6 +0.8**
comp=Z,50nm,1.8s
RES LR LR
comp=Z,2μm,19.0s
RES Resolute Bay 64.27 349 *e*P **P** **06 37 09.5 +1.7**

RES pmax pmax
comp=Z,51nm,1.8s
TWG Pinlang 64.34 80 PFAKE 06 37 20.0 +11
TWG LR LR
comp=Z,4μm,21.0s
KRJI Kerinci 64.59 115 P **P** **06 37 10.7 -0.1**
BILL Bilibino 64.66 21 *e*P **P** **06 37 10.9 +0.5**
comp=Z,70nm,1.6s
BILL Bilibino 64.66 21 *j*/*i*P **P** **06 37 10.8 +0.4**
BILL *e* 06 37 47.8
BILL *e* 06 39 28.9
BILL *i*S **S** **06 45 50.5 +0.1**
BILL *e*SS **SS** **06 50 08.7 +8.5**
BILL pmax pmax
comp=Z,24nm,1.3s
DSRI Dabo 65.72 112 P **P** **06 37 19.6 +1.5**
comp=Z,96nm,0.7s,comp=Z,12μm
MASI Maura Aman, Be 65.87 115 P **P** **06 37 19.5 +0.4**
LBTB Lobatse 66.16 201 *e*P **P** **06 37 20.6 -0.1**
comp=Z,30nm,0.9s
LBTB Lobatse 66.16 201 *e*P **P** **06 37 21.2 +0.5**
LBTB pmax pmax
comp=Z,30nm,1.0s
JNU Nakatsue 66.25 66 LR LR 07 10 47.0
comp=Z,2μm,19.6s,baz=301,slow=40
YSS Yuzh-Sakhalins 66.80 48 PFAKE 06 37 40.0 +15
YSS LR LR
comp=Z,2μm,20.0s
YSS Yuzh-Sakhalins 66.80 48 *e*P **P** **06 37 25.3 +0.7**
YSS *e**SP **sP** **06 37 29.5 +2.2**
YSS *e* 06 37 52.2
YSS *e* 06 39 50.0
YSS *e* 06 46 16.8
YSS *e*PS **PnS** **06 46 46.6 +10**
YSS *e*SS SS 06 50 39.0 +4.6
YSS pmax pmax
comp=Z,30nm,0.8s
YSS MLR MLR
comp=Z,3μm,16.0s
YSS MLR MLR
comp=N,1μm,16.0s
YSS MLR MLR
comp=E,4μm,15.0s
JOW Kunigami 67.67 73 LR LR 07 09 49.4
comp=E,926nm,19.8s,baz=294,slow=38
PPBI Pangkal Pinang 68.00 112 P **P** **06 37 33.1 +0.5**
comp=E,28nm,1.2s
MDSI Maura Dua 68.19 115 P **P** **06 37 31.8 -2.0**
ASAJ Asahikawa 68.23 50 LR LR 07 10 48.6
comp=E,2μm,18.4s,baz=280,slow=39
LWLI Liwa 68.47 115 P **P** **06 37 35.3 -0.4**
KSM Kuching 68.68 106 *e*P **P** **06 37 36.0 -1.0**
comp=E,61nm,1.7s
KSM LR LR
comp=Z,1μm,19.0s
COCO West Island 68.84 126 PFAKE 06 37 50.0 +12
COCO LR LR
comp=Z,2μm,18.0s
COCO West Island 68.84 126 *i* P **P** **06 37 40.4 +2.7**
INU Inuyama 69.37 61 PFAKE 06 37 50.0 +9.1
INU LR LR
comp=Z,1μm,21.0s
SBUM Sibu 69.50 104 *e*P **P** **06 37 41.8 -0.3**
comp=Z,65nm,1.9s
SBUM LR LR
comp=Z,600nm,20.0s
MJB9 Matsu-Tunnel 69.52 59 PFAKE 06 37 50.0 +8.1
MJB9 LR LR
comp=Z,3μm,20.0s
MAJO Matsushiro 69.53 59 *e*P **P** **06 37 41.4 -0.6**
MAJO Matsushiro 69.53 59*c*e**P** **P** **06 37 44.2 +2.3**
MAJO pmax pmax
comp=Z,68nm,2.5s
MAT Matsushiro 69.53 59 P **P** **06 37 40.1 -1.8**
MAT S **S** **06 46 47.0 -3.2**
MJAR Matsushiro Arr 69.53 59 P **P** **06 37 41.4 -0.6**
comp=Z,84nm,0.7s,baz=303,slow=5.3,SNR=12
MJAR LR LR 07 11 09.1
comp=Z,2μm,18.9s,baz=300,slow=38
BOSA Boshof 69.67 200 P **P** **06 37 42.6 -0.2**
comp=Z,8.5nm,0.8s,baz=2.5,slow=7.5,SNR=11
BOSA LR LR 07 08 08.7
comp=Z,3μm,19.7s,baz=24,slow=36
BOSA Boshof 69.67 200 *e*P **P** **06 37 42.5 -0.2**
comp=Z,23nm,1.1s
BOSA Boshof 69.67 200 *e*P **P** **06 37 43.2 +0.4**
BOSA pmax pmax
comp=Z,23nm,1.1s
YUK Yuzh-Kuril'sk 70.23 49 P **P** **06 37 48.3 +2.2**
YUK *e* 06 38 11.4
YUK *e*S **S** **06 47 00.8 +2.7**
YUK MLR MLR
comp=Z,2μm,17.0s
YUK MLR MLR
comp=N,2μm,18.0s
YUK MLR MLR
comp=E,2μm,16.0s
KKM Kota Kinabalu 70.31 98 PFAKE 06 38 00.0 +13
KKM LR LR
comp=Z,1μm,21.0s
STKI Sintang 70.48 106 P **P** **06 37 50.0 +2.0**
CGJI Cibinong 70.74 115 P **P** **06 37 49.6 0.0**
SCHQ Schefferville 71.05 326 LR LR 07 10 09.8
comp=Z,1μm,18.1s,baz=60,slow=37
PEA1 Petropavlovsk- 71.08 36 *e*P **P** **06 37 49.4 -1.8**
PEA0B Petropavlovsk- 71.09 36 PFAKE 06 38 00.0 +8.8
PEA0B LR LR
comp=Z,3μm,18.0s
PETK Petropavlovsk- 71.09 36 P **P** **06 37 49.4 -1.8**
comp=Z,9.6nm,1.0s,baz=187,slow=1.2,SNR=7.2
PETK LR LR 07 13 17.6
comp=Z,3μm,18.5s,baz=308,slow=40
PETK Petropavlovsk- 71.09 36 *e*P **P** **06 37 49.6 -1.6**
PETK Petropavlovsk- 71.09 36 *e*P **P** **06 37 49.6 -1.6**
RDOG Red Dog Mine 71.49 11 *e*P **P** **06 37 54.0 +0.6**
comp=Z,107nm,1.4s
RDOG LR LR
comp=Z,2μm,20.0s
TOLK Toolik Lake Re 72.52 6 PFAKE 06 38 10.0 +10
TOLK LR LR
comp=Z,2μm,20.0s
TOLK Toolik Lake Re 72.52 6 P **P** **06 37 60.0 +0.4**
baz=347,SNR=28
CISI Cisompet, Garu 72.91 115 PFAKE 06 38 10.0 +7.3
CISI LR LR
comp=Z,800nm,21.0s
INK Inuvik 73.53 0 *e*P **P** **06 38 05.7 +0.2**
comp=Z,31nm,1.2s
INK LR LR
comp=Z,2μm,21.0s
INK Inuvik 73.53 0 *e*P **P** **06 38 05.7 +0.2**
INK pmax pmax
comp=Z,31nm,1.2s
COLD Coldfoot 73.84 7 *e*P **P** **06 38 08.6 +1.2**
comp=Z,30nm,1.0s
ANM Nome 74.25 14 *e*P **P** **06 38 10.3 +0.5**
comp=Z,97nm,1.3s
ANM LR LR
comp=Z,2μm,19.0s
ANM Nome 74.25 14 *e*P **P** **06 38 11.0 +1.2**
ANM pmax pmax
comp=Z,97nm,1.3s
SUR Sutherland 74.48 202 PFAKE 06 38 20.0 +8.4
SUR LR LR
comp=Z,5μm,19.0s
IM3 Indian Mountai 74.68 8 *e*P **P** **06 38 11.8 -0.4**
FYU Fort Yukon 74.89 5 *e*P **P** **06 38 13.7 +0.3**
comp=Z,155nm,1.6s
FYU LR LR
comp=Z,1μm,20.0s
MLY Manley 75.93 8 *e*P **P** **06 38 20.4 +0.8**
comp=Z,63nm,1.0s
MLY LR LR
comp=Z,2μm,20.0s
POKR Poker Plat Res 76.16 6 P **P** **06 38 21.1 +0.3**
baz=349,SNR=18
MDM Murphy Dome 76.24 6 *e*P **P** **06 38 22.2 +0.9**
comp=Z,261nm,1.8s
MDM LR LR
comp=Z,1μm,20.0s
TCOL CIGO, UAF Yank 76.36 6 P **P** **06 38 21.9 +0.1**
baz=348,SNR=12
COLA College 76.36 6 *e*P **P** **06 38 22.6 +0.7**
comp=Z,85nm,0.9s
COLA LR LR
comp=Z,2μm,19.0s

COLA College 76.36 6 *e*P **P** **06 38 22.6 +0.7**
COLA pmax pmax
comp=Z,85nm,0.9s
IL1 Eielson Array 76.54 6 *e*P **P** **06 38 22.5 -0.4**
ILAR Eielson Array 76.54 6 P **P** **06 38 22.3 -0.7**
comp=Z,9.0nm,0.9s,baz=341,slow=4.3,SNR=67
ILAR LR LR 07 16 39.7
comp=Z,772nm,18.1s,baz=345,slow=39
ILB Eielson Array 76.54 6 *e*P **P** **06 38 23.3 +0.4**
CCB Clear Creek Bu 76.59 6 *e*P **P** **06 38 23.1 -0.1**
comp=Z,44nm,1.0s
CCB LR LR
comp=Z,2μm,20.0s
WRH Wood River Hil 76.73 6 *e*P **P** **06 38 23.8 -0.3**
comp=Z,40nm,1.2s
WRH LR LR
comp=Z,2μm,20.0s
BPAW Bear Paw Mtn. 76.81 8 *e*P **P** **06 38 25.3 +0.8**
comp=Z,106nm,1.2s
BPAW LR LR
comp=Z,1μm,20.0s
HDA Harding Lake 76.89 6 *e*P **P** **06 38 24.5 -0.5**
comp=Z,53nm,1.0s
HDA LR LR
comp=Z,1μm,21.0s
HDA Harding Lake 76.89 6 P **P** **06 38 24.4 -0.5**
baz=349,SNR=51
BWN Browne 76.90 7 PFAKE 06 38 40.0 +15
BWN LR LR
comp=Z,2μm,20.0s
EGAK Eagle 76.90 3 *e*P **P** **06 38 25.1 +0.1**
comp=Z,60nm,1.0s
EGAK LR LR
comp=Z,2μm,22.0s
DAV Davao City (W) 77.00 91 PFAKE 06 38 40.0 +14
DAV LR LR
comp=Z,1μm,20.0s
CAST Castle Rocks 77.35 8 PFAKE 06 38 40.0 +12
CAST LR LR
comp=Z,2μm,22.0s
MCK McKinley 77.38 7 *e*P **P** **06 38 28.3 +0.5**
comp=Z,102nm,1.2s
MCK LR LR
comp=Z,2μm,20.0s
MCK McKinley 77.38 7 *e*P **P** **06 38 28.3 +0.5**
MCK pmax pmax
comp=Z,100nm,1.2s
TRF Thorofare Moun 77.52 8 *e*P **P** **06 38 29.0 +0.3**
comp=Z,54nm,1.2s
TRF LR LR
comp=Z,2μm,21.0s
SCRK Sand Creek 77.54 5 *e*P **P** **06 38 29.3 +0.6**
comp=Z,75nm,1.1s
DAWY Dawson 77.69 3 *e*P **P** **06 38 29.6 +0.1**
comp=Z,60nm,0.9s
DAWY LR LR
comp=Z,1μm,18.0s
RND Reindeer 77.71 7 *e*P **P** **06 38 29.6 -0.1**
comp=Z,74nm,1.0s
RND LR LR
comp=Z,2μm,19.0s
RND Reindeer 77.71 7 *e*P **P** **06 38 29.6 -0.1**
RND pmax pmax
comp=Z,74nm,1.0s
RIDG Independ'e Rid 77.72 5 *e*P **P** **06 38 29.9 +0.3**
comp=Z,88nm,1.1s
RIDG LR LR
comp=Z,1μm,20.0s
FCC Fort Churchill 77.74 340 PFAKE 06 38 40.0 +10
FCC LR LR
comp=Z,2μm,19.0s
CHGQ Chibougamau 77.79 325 P **P** **06 38 29.5 -0.7**
baz=44
PPLA Purkeypile 77.85 9 *e*P **P** **06 38 31.5 +1.0**
comp=Z,117nm,1.4s
PPLA LR LR
comp=Z,2μm,22.0s
DOT Dot Lake 77.86 5 *e*P **P** **06 38 31.0 +0.6**
comp=Z,74nm,0.9s
DOT LR LR
comp=Z,1μm,20.0s
JAGI Jajag, Banyuwa 78.11 111 PFAKE 06 38 40.0 +7.5
JAGI LR LR
comp=Z,1μm,22.0s
DHY Denali Highway 78.17 6 *e*P **P** **06 38 32.5 +0.2**
comp=Z,36nm,1.0s
YKW3 Yellowknife Ar 78.18 351 *e*P **P** **06 38 31.8 -0.3**
comp=Z,49nm,1.4s
YKA Yellowknife Ar 78.24 351 P **P** **06 38 32.9 +0.5**
comp=Z,6.3nm,0.8s,baz=11,slow=6.6,SNR=11
YKA LR LR 07 14 33.2
comp=Z,163nm,20.1s,baz=17,slow=37
YKB5 Yellowknife Ar 78.24 351 *e*P **P** **06 38 33.0 +0.6**
PAX Paxson 78.43 6 *e*P **P** **06 38 34.4 +0.7**
comp=Z,45nm,1.3s
PAX LR LR
comp=Z,1μm,22.0s
PAX Paxson 78.43 6 *e*P **P** **06 38 34.4 +0.7**
PAX pmax pmax
comp=Z,45nm,1.2s
SKT Skwentna 78.81 9 *e*P **P** **06 38 36.5 +0.7**
comp=Z,78nm,1.0s
SKT LR LR
comp=Z,2μm,20.0s
HARP HAARP 79.01 6 *e*P **P** **06 38 38.3 +1.5**
comp=Z,104nm,1.0s
GHO Glory Hole Cre 79.30 7 *e*P **P** **06 38 39.3 +0.8**
comp=Z,62nm,1.1s
GHO LR LR
comp=Z,2μm,20.0s
SML Sawmill 79.33 7 *e*P **P** **06 38 39.6 +1.0**
comp=Z,80nm,1.0s
SML LR LR
comp=Z,2μm,20.0s
SML Sawmill 79.33 7 *e*P **P** **06 38 39.6 +1.0**
SML pmax pmax
comp=Z,80nm,1.0s
MATQ Matagami 79.33 327 P **P** **06 38 37.7 -1.0**
baz=41
SCM Sheep Creek Mo 79.40 7 *e*P **P** **06 38 40.0 +1.0**
comp=Z,104nm,1.2s
SCM LR LR
comp=Z,1μm,20.0s
SCM Sheep Creek Mo 79.40 7 *e*P **P** **06 38 40.4 +1.4**
SCM pmax pmax
comp=Z,100nm,1.1s
SUA Susitna One 79.41 8 PFAKE 06 38 50.0 +11
SUA LR LR
comp=Z,2μm,21.0s
PMR Palmer 79.46 8 *e*P **P** **06 38 39.8 +0.6**
PMR Palmer 79.46 8 *e*P **P** **06 38 39.8 +0.6**
LSQQ Lebel-sur-Quev 79.57 326 P **P** **06 38 39.0 -1.0**
baz=42
LUWI Luwuk 79.83 99 PFAKE 06 38 50.0 +8.0
LUWI LR LR
comp=Z,900nm,20.0s
KLU Klutina 79.86 6 *e*P **P** **06 38 42.3 +0.9**
comp=Z,113nm,1.0s
KLU LR LR
comp=Z,1μm,21.0s
RC01 Rabbit Creek A 79.89 8 *e*P **P** **06 38 42.2 +0.6**
comp=Z,81nm,1.0s
RC01 LR LR
comp=Z,1μm,20.0s
KAPI Kappang 80.04 105 PFAKE 06 38 50.0 +6.9
KAPI LR LR
comp=Z,700nm,21.0s
DIV Divide 80.23 6 *e*P **P** **06 38 44.9 +1.4**
comp=Z,81nm,1.0s
GLI Glacier Island 80.36 7 PFAKE 06 39 00.0 +16
GLI LR LR
comp=Z,2μm,20.0s
BMRM Bremner River 80.48 6 PFAKE 06 39 00.0 +15
BMRM LR LR
comp=Z,1μm,21.0s
VLDQ Val d'Or 80.49 326 *e*P **P** **06 38 46.8 +1.8**
comp=Z,41nm,1.5s
FID Port Fidalgo 80.54 6 *e*P **P** **06 38 47.3 +2.2**
comp=Z,97nm,1.4s
FID LR LR
comp=Z,1μm,21.0s
BALM Baldy 80.57 4 PFAKE 06 39 00.0 +15
BALM LR LR
comp=Z,1μm,21.0s
BALM Baldy 80.57 4 *e*P **P** **06 38 46.0 +0.6**
LBNH Lisbon 80.72 320 P **P** **06 38 46.6 +0.2**
baz=44

EYAK Cordova Ski Ar 80.80 6 eP P 06 38 48.1 +1.7
comp=Z,75nm,1.2s
EYAK LR LR
comp=Z,2µm,20.0s
TGL Tana Glacier 80.81 5 eP P 06 38 48.1 +1.4
comp=Z,66nm,1.2s
TGL LR LR
comp=Z,1µm,19.0s
D54A Lac Fusel, La 80.85 325 P P 06 38 47.4 +0.4
baz=42
SEW Seward 80.88 8 eP P 06 38 48.3 +1.4
comp=Z,91nm,1.1s
SEW LR LR
comp=Z,2µm,20.0s
HYT Haines Junctio 80.99 2 PFAKE 06 39 00.0 +12
HYT LR LR
comp=Z,2µm,21.0s
BRLK Bradley Lake 81.05 9 eP P 06 38 48.7 +0.9
comp=Z,89nm,1.1s
BRLK LR LR
comp=Z,2µm,22.0s
RAGM Ragged Mountai 81.05 6 PFAKE 06 39 00.0 +12
RAGM LR LR
comp=Z,2µm,20.0s
WHY Whitehorse 81.21 1 eP P 06 38 49.1 +0.4
comp=Z,14nm,0.9s
WHY LR LR
comp=Z,2µm,21.0s
CNPM China Poot 81.24 9 eP P 06 38 49.3 +0.4
comp=Z,81nm,1.0s
CNPM LR LR
comp=Z,2µm,21.0s
D53A Lac Vacive, Po 81.38 325 P P 06 38 50.7 +0.9
baz=41
PCA Pinnacle 81.62 3 eP P 06 38 52.7 +1.8
comp=Z,58nm,1.0s
LONY Lake Ozonia 81.75 322 PFAKE 06 39 00.0 +8.1
LONY LR LR
comp=Z,1µm,18.0s
LONY Lake Ozonia 81.75 322 P P 06 38 52.4 +0.5
baz=43
HRV Adam Dziewonsk 81.77 319 PFAKE 06 39 00.0 +8.0
HRV LR LR
comp=Z,2µm,20.0s
E53A Dumoine, Ponti 81.89 325 P P 06 38 53.0 +0.4
baz=41
ACCN Adirondack Com 82.21 321 eP P 06 38 55.8 +1.5
comp=Z,112nm,2.0s
PEMO Pembroke 82.23 324 P P 06 38 54.2 -0.1
baz=41
ALGO Algonquin Park 82.39 325 P P 06 38 54.4 -0.7
baz=41
SKAG Skagway 82.41 1 PFAKE 06 39 10.0 +15
SKAG LR LR
comp=Z,2µm,22.0s
E51A G1948 Merrick 82.59 326 P P 06 38 56.1 -0.1
baz=40
PLVO Plevna 82.63 323 PFAKE 06 39 10.0 +14
PLVO LR LR
comp=Z,2µm,18.0s
KDAK Kodiak Island 82.75 10 P P 06 38 57.7 +0.9
comp=Z,58nm,0.9s,baz=353,slow=5.1,SNR=9.9
KDAK Kodiak Island 82.75 10 eP P 06 38 57.7 +0.9
KDAK LR LR
comp=Z,2µm,20.0s
KDAK Kodiak Island 82.75 10 eP P 06 38 57.7 +0.9
KDAK MLR MLR
comp=Z,2µm,20.0s
BANO Bancroft 83.04 324 P P 06 38 57.8 -0.8
baz=41
F52A Sundridge 83.08 325 P P 06 38 59.2 +0.4
baz=40
D48A Paudash Townsh 83.09 327 P P 06 38 59.2 +0.4
baz=38
OHAK Old Harbor 83.19 11 eP P 06 39 00.6 +1.5
comp=Z,439nm,2.0s
OHAK LR LR
comp=Z,2µm,20.0s
E50A Wahnapitae 83.22 326 P P 06 38 59.9 +0.5
baz=39,SNR=5.1
CHGN Chignik 83.22 14 PFAKE 06 39 10.0 +11
CHGN LR LR
comp=Z,2µm,20.0s
DELO Deloro Mine 83.28 323 P P 06 38 58.7 -1.1
baz=41
FFC Flin Flon 83.33 342 eP P 06 39 00.0 +0.1
comp=Z,28nm,1.1s
FFC LR LR
comp=Z,2µm,20.0s
FFC Flin Flon 83.33 342 eP P 06 39 00.0 +0.1
DLBC Dease Lake 83.40 358 eP P 06 39 01.7 +1.4
comp=Z,42nm,1.2s
DLBC LR LR
comp=Z,1µm,20.0s
JIS Juneau Island 83.60 1 eP P 06 39 03.2 +2.0
comp=Z,97nm,1.8s
JIS LR LR
comp=Z,2µm,19.0s
UNV Unalaska Valle 83.71 19 PFAKE 06 39 10.0 +8.2
UNV LR LR
comp=Z,2µm,20.0s
SDPT Sand Point 83.71 15 PFAKE 06 39 10.0 +8.2
SDPT LR LR
comp=Z,2µm,19.0s
D47A Chapleau 83.73 328 P P 06 39 02.4 +0.4
baz=37
PAL Palisades 84.07 319 PFAKE 06 39 20.0 +16
PAL LR LR
comp=Z,1µm,20.0s
BINY Binghamton 84.23 321 P P 06 39 04.5 -0.3
baz=42
D46A Sault St. Mari 84.25 328 P P 06 39 04.9 +0.2
baz=37,SNR=6.4
MMRI Maumere 84.25 106 PFAKE 06 39 20.0 +15
MMRI LR LR
comp=Z,900nm,22.0s
ODNJ Ogdensburg 84.37 319 PFAKE 06 39 20.0 +15
ODNJ LR LR
comp=Z,1µm,22.0s
CLWO Collingwood 84.56 325 P P 06 39 05.3 -1.1
baz=39
KSPA Keystone Colle 84.61 320 PFAKE 06 39 20.0 +13
KSPA LR LR
comp=Z,2µm,20.0s
BMRO Meriville Lake 84.86 325 P P 06 39 08.3 +0.5
baz=38
N59A State Game Lan 85.08 320 PFAKE 06 39 20.0 +11
N59A LR LR
comp=Z,2µm,20.0s
N59A State Game Lan 85.08 320 P P 06 39 09.0 -0.1
baz=42
E45A Wooded Hills, 85.14 329 P P 06 39 09.7 +0.5
baz=36
BWLO Walkerton 85.20 325 P P 06 39 07.2 -2.4
baz=38
E44A Grand Marais A 85.23 329 PFAKE 06 39 20.0 +10
E44A LR LR
comp=Z,3µm,19.0s
E44A Grand Marais A 85.23 329 P P 06 39 10.3 +0.6
baz=35
WRAK Wrangell Islan 85.46 359 PFAKE 06 39 20.0 +9.4
WRAK LR LR
comp=Z,2µm,22.0s
PSUB Penn St. - Bra 85.66 319 PFAKE 06 39 20.0 +8.1
PSUB LR LR
comp=Z,2µm,18.0s
ULM Lac du Bonnet 85.68 337 P P 06 39 11.7 -0.1
comp=Z,15nm,0.9s,baz=25,slow=4.2,SNR=16
ULM LR LR 07 19 06.7
comp=Z,2µm,18.0s,baz=28,slow=37
ULM Lac du Bonnet 85.68 337 eP P 06 39 12.0 +0.2
comp=Z,27nm,1.0s
E43A Lone Tree Farm 85.85 330 PFAKE 06 39 20.0 +7.2
E43A LR LR
comp=Z,2µm,21.0s
E43A Lone Tree Farm 85.85 330 P P 06 39 11.6 -1.2
baz=35
D41A Chassel 85.89 331 PFAKE 06 39 20.0 +7.0
D41A LR LR
comp=Z,4µm,22.0s
D41A Chassel 85.89 331 P P 06 39 11.9 -1.1
baz=34
F44A Big Bay de Noc 85.96 329 P P 06 39 12.3 -1.0
baz=35
PAGS Pennsylvania G 86.08 320 PFAKE 06 39 30.0 +16
PAGS LR LR
comp=Z,2µm,20.0s

E42A Champion 86.17 330 P P 06 39 14.0 -0.4
baz=34
EYMN Ely 86.22 333 eP P 06 39 15.1 +0.5
comp=Z,42nm,1.4s
EYMN LR LR
comp=Z,3µm,19.0s
EYMN Ely 86.22 333 P P 06 39 14.2 -0.4
baz=32
ERPA Erie 86.23 323 PFAKE 06 39 30.0 +15
ERPA LR LR
comp=Z,2µm,20.0s
SSPA Standing Stone 86.35 321 PFAKE 06 39 30.0 +15
SSPA LR LR
comp=Z,2µm,19.0s
SSPA Standing Stone 86.35 321 P P 06 39 15.1 -0.3
baz=40
SOEI Soe 86.50 105 PFAKE 06 39 30.0 +13
SOEI LR LR
comp=Z,1µm,20.0s
E41A Kenton 86.54 331 P P 06 39 15.8 -0.4
baz=33
M54A Oil Creek Stat 86.54 323 PFAKE 06 39 30.0 +14
M54A LR LR
comp=Z,2µm,20.0s
SARN Sarigan 86.72 71 PFAKE 06 39 30.0 +12
SARN LR LR
comp=Z,1µm,20.0s
SDMD Soldier's Deli 86.75 320 PFAKE 06 39 30.0 +13
SDMD LR LR
comp=Z,800nm,20.0s
E40A Wakefield 86.91 332 P P 06 39 17.9 -0.1
baz=33,SNR=7.6
COWI Conover 86.91 331 eP P 06 39 18.3 +0.3
comp=Z,37nm,1.1s
COWI LR LR
comp=Z,2µm,22.0s
O56A Blue Knob Stat 86.97 321 PFAKE 06 39 30.0 +12
O56A LR LR
comp=Z,2µm,20.0s
G43A Wallace 87.05 330 PFAKE 06 39 30.0 +11
G43A LR LR
comp=Z,2µm,18.0s
N54A Moraine State 87.12 323 PFAKE 06 39 30.0 +11
N54A LR LR
comp=Z,2µm,18.0s
F41A Three Lakes 87.20 331 PFAKE 06 39 30.0 +11
F41A LR LR
comp=Z,2µm,22.0s
F41A Three Lakes 87.20 331 P P 06 39 19.2 -0.3
baz=33
E39A Mellen 87.21 332 P P 06 39 19.3 -0.2
baz=32,SNR=7.6
G42A Mountain 87.36 330 PFAKE 06 39 30.0 +10
G42A LR LR
comp=Z,2µm,20.0s
E38A The Farm, Brul 87.39 333 PFAKE 06 39 30.0 +10
E38A LR LR
comp=Z,2µm,19.0s
AGMN Agassiz Nation 87.39 336 eP P 06 39 20.4 +0.2
comp=Z,20nm,1.0s
AGMN LR LR
comp=Z,4µm,20.0s
AGMN Agassiz Nation 87.39 336 P P 06 39 19.9 -0.4
baz=28
J47A Sunmer 87.52 327 P P 06 39 20.7 -0.3
baz=36
H43A Windswept, Lux 87.73 329 PFAKE 06 39 30.0 +8.0
H43A LR LR
comp=Z,2µm,19.0s
F39A Loretta 87.74 332 P P 06 39 21.8 -0.2
baz=32
RCBR Riachuelo 87.75 261 PFAKE 06 39 30.0 +7.4
RCBR LR LR
comp=Z,2µm,21.0s
AAM Ann Arbor 87.76 325 PFAKE 06 39 30.0 +7.9
AAM LR LR
comp=Z,2µm,19.0s
CBN Corbin Frederi 87.94 319 PFAKE 06 39 30.0 +6.9
CBN LR LR
comp=Z,1µm,19.0s
GUMO Guam 87.99 74 LR LR 07 22 40.7
comp=Z,562nm,20.2s,baz=337,slow=38
H42A Shiocton 88.01 330 PFAKE 06 39 30.0 +6.7
H42A LR LR
comp=Z,2µm,19.0s
G40A Rib Lake 88.02 331 eP P 06 39 23.4 0.0
comp=Z,99nm,2.0s
G40A LR LR
comp=Z,2µm,22.0s
G40A Rib Lake 88.02 331 P P 06 39 23.3 0.0
baz=32,SNR=5.3
F38A Pierce - Schro 88.05 332 P P 06 39 23.4 -0.1
baz=31
MCWV Mont Chateau 88.06 322 PFAKE 06 39 30.0 +6.3
MCWV LR LR
comp=Z,1µm,20.0s
M50A Fremont 88.20 325 PFAKE 06 39 40.0 +16
M50A LR LR
comp=Z,2µm,18.0s
N51A Ashland 88.28 324 PFAKE 06 39 40.0 +15
N51A LR LR
comp=Z,2µm,20.0s
H41A Junction City 88.36 330 PFAKE 06 39 40.0 +15
H41A LR LR
comp=Z,2µm,22.0s
H41A Junction City 88.36 330 P P 06 39 24.4 -0.6
baz=33
G39A Holcombe 88.37 332 P P 06 39 24.4 -0.6
baz=32
FAKI Fak Fak 88.38 95 eP P 06 39 25.6 +0.1
comp=Z,40nm,1.4s
FAKI LR LR
comp=Z,300nm,22.0s
F37A Hinrichs Farm, 88.53 333 P P 06 39 24.9 -0.8
baz=31
H40A Chili 88.64 331 P P 06 39 25.9 -0.4
baz=32
O52A Adamsville 88.66 323 PFAKE 06 39 40.0 +14
O52A LR LR
comp=Z,2µm,19.0s
I42A Draeger Farm, 88.67 330 PFAKE 06 39 40.0 +14
I42A LR LR
comp=Z,2µm,19.0s
G38A Ridgeland 88.72 332 P P 06 39 26.1 -0.5
baz=31
M48A Edgerton 88.89 326 PFAKE 06 39 40.0 +12
M48A LR LR
comp=Z,2µm,20.0s
I41A Arkdale 88.91 330 PFAKE 06 39 40.0 +12
I41A LR LR
comp=Z,2µm,22.0s
I41A Arkdale 88.91 330 P P 06 39 27.3 -0.2
baz=33
H39A Augusta 88.92 331 P P 06 39 27.3 -0.4
baz=32
MDND Maddock 88.94 338 eP P 06 39 27.6 0.0
comp=Z,43nm,0.9s
MDND LR LR
comp=Z,2µm,18.0s
MDND Maddock 88.94 338 P P 06 39 26.8 -0.9
baz=26
P53A Whipple 88.94 322 PFAKE 06 39 40.0 +12
P53A LR LR
comp=Z,2µm,18.0s
P53A Whipple 88.94 322 P P 06 39 27.3 -0.5
baz=38
O51A Pataskala 89.00 324 P P 06 39 28.0 -0.1
baz=37
SPMN Marine on St. 89.02 333 eP P 06 39 28.5 +0.4
comp=Z,28nm,1.4s
SPMN LR LR
comp=Z,2µm,22.0s
SPMN Marine on St. 89.02 333 P P 06 39 27.7 -0.4
baz=31
N49A Columbus Grove 89.10 325 PFAKE 06 39 40.0 +11
N49A LR LR
comp=Z,2µm,19.0s
N49A Columbus Grove 89.10 325 P P 06 39 28.2 -0.3
baz=36
ACSO Alum Creek Sta 89.10 324 PFAKE 06 39 40.0 +11
ACSO LR LR
comp=Z,2µm,19.0s
P52A Corning 89.18 323 P P 06 39 28.2 -0.8
baz=38
J42A Columbus 89.24 329 P P 06 39 28.7 -0.5
baz=33
H38A Maiden Rock 89.30 332 P P 06 39 28.8 -0.6
baz=31

K43A Burlington 89.43 329 PFAKE 06 39 40.0 +10
K43A LR LR
comp=Z,2µm,18.0s
O50A Cable 89.47 324 P P 06 39 29.4 -0.9
baz=37
N48A Decatur 89.53 325 P P 06 39 29.6 -0.9
baz=36
J41A Loganville 89.55 330 P P 06 39 30.3 -0.3
baz=32
BBB Bella Bella 89.59 357 LR LR 07 23 44.6
comp=Z,612nm,20.4s,baz=345,slow=38
DGMT Dagmar 89.63 341 eP P 06 39 31.8 +0.9
comp=Z,111nm,1.5s
DGMT LR LR
comp=Z,2µm,21.0s
DGMT Dagmar 89.63 341 P P 06 39 30.8 -0.1
baz=22
M46A Old House Fiel 89.66 327 PFAKE 06 39 40.0 +8.8
M46A LR LR
comp=Z,2µm,20.0s
I39A Houston 89.72 331 PFAKE 06 39 40.0 +8.6
I39A LR LR
comp=Z,3µm,22.0s
P51A Williamsport 89.74 323 PFAKE 06 39 40.0 +8.5
P51A LR LR
comp=Z,2µm,19.0s
P51A Williamsport 89.74 323 P P 06 39 31.2 -0.3
baz=37
O49A Covington 89.76 325 eP P 06 39 31.7 +0.1
comp=Z,43nm,1.4s
O49A LR LR
comp=Z,2µm,22.0s
O49A Covington 89.76 325 P P 06 39 30.8 -0.8
baz=36
Q52A Bidwell 89.77 323 P P 06 39 30.7 -1.0
baz=38
J40A Soldiers Grove 89.81 330 P P 06 39 31.2 -0.6
baz=32
N47A Urbana 89.81 326 P P 06 39 30.7 -1.1
baz=35
JFWS Jewell Farm 90.02 330 PFAKE 06 39 40.0 +7.2
JFWS LR LR
comp=Z,2µm,20.0s
JFWS Jewell Farm 90.02 330 P P 06 39 31.5 -1.3
baz=32
O48A Farmland 90.07 325 P P 06 39 32.6 -0.5
baz=36
J39A Decorah 90.23 331 P P 06 39 33.3 -0.5
baz=31
Q51A Peebles 90.23 323 PFAKE 06 39 50.0 +16
Q51A LR LR
comp=Z,2µm,19.0s
BLA Blacksburg 90.25 320 PFAKE 06 39 50.0 +16
BLA LR LR
comp=Z,1µm,20.0s
N46A Monticello 90.25 327 P P 06 39 33.4 -0.5
baz=35
K41A Shullsburg 90.30 330 P P 06 39 33.4 -0.8
baz=32
CNNC Cliffs of the 90.46 318 PFAKE 06 39 50.0 +15
CNNC LR LR
comp=Z,3µm,21.0s
O47A Sheridan 90.54 326 P P 06 39 34.4 -0.9
baz=35
MBWA Marble Bar 90.55 117 PFAKE 06 39 50.0 +15
MBWA LR LR
comp=Z,1µm,21.0s
L42A Oliver, Polo 90.56 329 eP P 06 39 35.5 +0.2
comp=Z,26nm,1.1s
L42A LR LR
comp=Z,2µm,19.0s
L42A Oliver, Polo 90.56 329 P P 06 39 34.6 -0.7
baz=33
Q50A Georgetown 90.67 324 P P 06 39 35.5 -0.5
baz=36
M43A Waltham Townsh 90.74 328 P P 06 39 35.7 -0.5
baz=33
L41A Preston 90.83 330 P P 06 39 35.7 -0.9
baz=32
SFIN Lafayette 90.83 326 PFAKE 06 39 50.0 +13
SFIN LR LR
comp=Z,2µm,18.0s
SFIN Lafayette 90.83 326 P P 06 39 35.3 -1.3
baz=34
K39A Oelwein 90.84 331 P P 06 39 35.3 -1.3
baz=31
P48A Milroy 90.84 325 P P 06 39 35.7 -1.0
baz=36
R51A Hillsboro 90.92 323 P P 06 39 36.6 -0.5
baz=37
N44A Piper City 90.93 327 P P 06 39 36.3 -0.8
baz=34
Q49A Aurora 90.97 324 P P 06 39 36.4 -0.9
baz=36
M42A Sheffield 91.05 329 P P 06 39 37.0 -0.7
baz=33
L40A Anamosa 91.12 330 eP P 06 39 38.1 +0.2
comp=Z,25nm,1.1s
L40A LR LR
comp=Z,2µm,19.0s
L40A Anamosa 91.12 330 P P 06 39 37.3 -0.7
baz=32
WALA Waterton Lakes 91.15 347 PFAKE 06 39 50.0 +12
WALA LR LR
comp=Z,2µm,21.0s
P47A Martinsville 91.20 325 P P 06 39 37.3 -1.0
baz=35
R50A Paris 91.29 324 P P 06 39 38.2 -0.6
baz=36
EGMT Eagleton 91.34 344 eP P 06 39 39.5 +0.5
comp=Z,17nm,1.1s
EGMT LR LR
comp=Z,2µm,19.0s
EGMT Eagleton 91.34 344 P P 06 39 38.8 -0.2
baz=18
L39A Vinton 91.38 331 P P 06 39 38.4 -0.7
baz=31
Q48A North Vernon 91.41 325 P P 06 39 38.8 -0.6
baz=35
M41A Milan 91.44 329 P P 06 39 38.9 -0.5
baz=32
S51A Beattyville 91.46 323 P P 06 39 39.4 -0.2
baz=37
P46A Rosedale 91.50 326 P P 06 39 39.5 -0.2
baz=34
BLO Bloomington 91.57 325 PFAKE 06 39 50.0 +10
BLO LR LR
comp=Z,2µm,21.0s
T52A Hallie 91.59 322 P P 06 39 40.2 0.0
baz=37
O44A Mansfield 91.60 327 P P 06 39 39.8 -0.4
baz=34
ECSD EROS Data Cent 91.66 334 eP P 06 39 40.7 +0.3
comp=Z,7.7nm,1.1s
ECSD LR LR
comp=Z,3µm,19.0s
ECSD EROS Data Cent 91.66 334 P P 06 39 39.6 -0.8
baz=28
R49A Shelbyville 91.67 324 P P 06 39 39.9 -0.7
baz=36
Q47A Bedord North L 91.72 325 P P 06 39 39.3 -1.5
baz=35
LAO LASA Array 91.79 342 eP P 06 39 42.7 +1.6
comp=Z,60nm,1.0s
LAO LR LR
comp=Z,2µm,18.0s
LAO LASA Array 91.79 342 P P 06 39 41.6 +0.5
baz=21,SNR=17
SUSD Miller 91.80 336 P P 06 39 40.7 -0.3
baz=26,SNR=6.4
M40A Post Highland 91.80 330 P P 06 39 40.1 -1.0
baz=32
S50A Richmond 91.81 323 P P 06 39 39.9 -1.3
baz=36
P45A Graceland, Par 91.81 326 PFAKE 06 39 50.0 +8.8
P45A LR LR
comp=Z,2µm,20.0s
P45A Graceland, Par 91.81 326 P P 06 39 40.0 -1.2
baz=34
R48A Northridge Ran 91.90 325 P P 06 39 40.5 -1.2
baz=35
U53A Fall Branch 91.98 321 P P 06 39 40.5 -1.5
baz=37
M39A Webster 91.99 330 P P 06 39 40.9 -1.1
baz=31
SCIA State Center 92.03 331 PFAKE 06 39 50.0 +7.9
SCIA LR LR

comp=Z,2µm,21.0s
N41A Harden Midland 92.13 329 PFAKE 06 39 50.0 +7.4
N41A LR LR
comp=Z,2µm,19.0s
N41A Harden Midland 92.13 329 P **P** **06 39 41.7 -0.9**
baz=32
S49A Springfield 92.14 324 P **P** **06 39 41.6 -1.1**
baz=36
T51A Gray 92.16 322 P **P** **06 39 42.3 -0.6**
baz=36
WCI Wyandotte Cave 92.23 325 PFAKE 06 39 50.0 +6.8
WCI LR LR
comp=Z,2µm,20.0s
N40A Mertquake, Sal 92.27 330 P **P** **06 39 42.5 -0.8**
baz=32
R47A Wooly Knot Far 92.29 325 P **P** **06 39 42.3 -1.1**
baz=35
TZTN Tazewell 92.31 322 *e*P **P** **06 39 44.6 +1.0**
comp=Z,26nm,1.3s
TZTN LR LR
comp=Z,1µm,18.0s
TZTN Tazewell 92.31 322 P **P** **06 39 42.8 -0.8**
baz=37
KMSC Kings Mountain 92.32 320 *e*P **P** **06 39 44.6 +1.0**
comp=Z,73nm,1.5s
KMSC LR LR
comp=Z,1µm,21.0s
KMSC Kings Mountain 92.32 320 P **P** **06 39 43.2 -0.4**
baz=38
U52A Thorn Hill 92.34 322 P **P** **06 39 43.5 -0.3**
baz=37
NEW Newport 92.43 349 LR LR 07 22 12.0
comp=Z,2µm,21.9s,baz=11,slow=36
NEW Newport 92.43 349 *e*P **P** **06 39 45.3 +1.3**
comp=Z,27nm,1.0s
NEW Newport 92.43 349 P **P** **06 39 45.3 +1.3**
NEW Newport 92.43 349 P **P** **06 39 44.4 +0.4**
baz=13,SNR=20
P43A Skaggs, Pawnee 92.48 328 P **P** **06 39 43.6 -0.6**
baz=33
JTMT Jette 92.48 347 *e*P **P** **06 39 44.9 +0.6**
comp=Z,7.2nm,1.0s
JTMT LR LR
comp=Z,2µm,20.0s
Q45A Warren Harvey, 92.52 326 P **P** **06 39 43.7 -0.7**
baz=34
T50A Nancy 92.54 323 P **P** **06 39 43.6 -1.1**
baz=36
S48A Wiedeman Farm, 92.59 324 P **P** **06 39 44.2 -0.6**
baz=35
OLIL Olney 92.62 326 PFAKE 06 40 00.0 +15
OLIL LR LR
comp=Z,2µm,20.0s
N39A Derby Farms, D 92.64 330 PFAKE 06 40 00.0 +15
N39A LR LR
comp=Z,2µm,22.0s
N39A Derby Farms, D 92.64 330 P **P** **06 39 44.6 -0.4**
baz=31
O41A Passleys Farm, 92.64 329 P **P** **06 39 44.5 -0.5**
baz=32
B08A Colville Reser 92.64 351 *e*P **P** **06 39 45.5 +0.6**
comp=Z,14nm,1.1s
B08A LR LR
comp=Z,3µm,22.0s
V53A Saluda 92.65 321 *e*P **P** **06 39 45.4 +0.2**
comp=Z,40nm,1.2s
V53A LR LR
comp=Z,2µm,20.0s
V53A Saluda 92.65 321 P **P** **06 39 45.0 -0.2**
baz=37
U51A La Follette 92.67 322 P **P** **06 39 44.3 -1.0**
baz=36
B06A Marblemount 92.74 352 PFAKE 06 40 00.0 +15
B06A LR LR
comp=Z,2µm,19.0s
T49A Edmonton 92.80 324 PFAKE 06 40 00.0 +14
T49A LR LR
comp=Z,2µm,20.0s
T49A Edmonton 92.80 324 P **P** **06 39 44.7 -1.1**
baz=36
FITZ Fitzroy Crossi 92.82 111 P **P** **06 39 44.7 -1.4**
comp=Z,4.1nm,0.7s,baz=335,slow=3.9,SNR=13
FITZ Fitzroy Crossi 92.82 111 *e*P **P** **06 39 44.7 -1.4**
comp=Z,5.1nm,0.8s
ANWB Willy Bob 92.83 295 PFAKE 06 40 00.0 +14
ANWB LR LR
comp=Z,800nm,22.0s
P42A Winchester 92.87 328 PFAKE 06 40 00.0 +14
P42A LR LR
comp=Z,2µm,20.0s
V52A Sevierville 92.89 322 *e*P **P** **06 39 47.0 +0.7**
comp=Z,30nm,1.3s
V52A LR LR
comp=Z,2µm,18.0s
V52A Sevierville 92.89 322 P **P** **06 39 46.1 -0.2**
baz=37
S47A Hartford 93.02 325 P **P** **06 39 45.5 -1.3**
baz=35
HRY Holter Researc 93.02 345 *e*P **P** **06 39 47.0 +0.2**
U50A Jamestown 93.03 323 P **P** **06 39 46.2 -0.7**
baz=36
C09A Chrisman Ranch 93.05 350 *e*P **P** **06 39 48.0 +1.2**
comp=Z,16nm,1.1s
C09A LR LR
comp=Z,3µm,22.0s
B05A Bryant 93.06 352 P **P** **06 39 46.2 -0.6**
baz=8.8
R45A Skylar, Fairfi 93.07 326 P **P** **06 39 46.6 -0.4**
baz=34
USIN University of 93.07 325 *e*P **P** **06 39 46.6 -0.4**
comp=Z,72nm,0.6s
USIN LR LR
comp=Z,2µm,20.0s
TKL Tuckaleechee C 93.13 322 *e*P **P** **06 39 47.6 +0.3**
comp=Z,74nm,1.6s
TKL LR LR
comp=Z,2µm,18.0s
TKL Tuckaleechee C 93.13 322 P **P** **06 39 48.2 +0.8**
T48A Bowling Green 93.19 324 P **P** **06 39 46.9 -0.7**
baz=35
W53A Cullowhee 93.22 321 P **P** **06 39 48.0 0.0**
baz=37
V51A Loudon 93.29 322 PFAKE 06 40 00.0 +12
V51A LR LR
comp=Z,1µm,20.0s
V51A Loudon 93.29 322 P **P** **06 39 47.2 -0.9**
baz=36
MSO Missoula 93.31 347 PFAKE 06 40 00.0 +12
MSO LR LR
comp=Z,2µm,19.0s
MSO Missoula 93.31 347 P **P** **06 39 47.7 -0.4**
baz=15
NHSC New Hope 93.31 318 PFAKE 06 40 00.0 +12
NHSC LR LR
comp=Z,1µm,20.0s
S46A Don Dixon Farm 93.32 325 P **P** **06 39 47.6 -0.6**
baz=34
U49A Red Boiling Sp 93.40 323 P **P** **06 39 47.7 -0.9**
baz=35
GCMT Greycliff 93.44 344 *e*P **P** **06 39 49.4 +0.6**
R44A Waltonville 93.45 327 P **P** **06 39 48.5 -0.3**
baz=33
SMRT St. Maarten 93.48 296 PFAKE 06 40 00.0 +11
SMRT LR LR
comp=Z,600nm,21.0s
Q42A Golden Eagle 93.51 328 P **P** **06 39 48.3 -0.8**
baz=32
RSSD Black Hills 93.60 339 *e*P **P** **06 39 50.4 +0.7**
comp=Z,26nm,1.1s
RSSD LR LR
comp=Z,2µm,20.0s
RSSD Black Hills 93.60 339 *e*P **P** **06 39 50.4 +0.7**
RSSD Black Hills 93.60 339 P **P** **06 39 49.7 0.0**
baz=23
T47A Sharon Grove 93.62 325 *e*P **P** **06 39 48.8 -0.8**
comp=Z,18nm,1.2s
T47A LR LR
comp=Z,2µm,19.0s
T47A Sharon Grove 93.62 325 P **P** **06 39 48.7 -0.8**
baz=34
SLM Saint Louis 93.62 328 PFAKE 06 40 00.0 +10
SLM LR LR
comp=Z,2µm,20.0s
MTN Manton Dam 93.65 103 PFAKE 06 40 00.0 +10
MTN LR LR
comp=Z,600nm,22.0s
W52A Murphy 93.65 321 PFAKE 06 40 00.0 +10
W52A LR LR
comp=Z,2µm,22.0s
U48A Cassie Pea, Po 93.75 324 P **P** **06 39 49.3 -0.9**
baz=35
V50A Pikevile 93.76 322 P **P** **06 39 49.6 -0.6**
baz=36
Q41A Truxton 93.77 328 P **P** **06 39 49.3 -0.9**
baz=32
SEUS St. Eustatius 93.79 296 PFAKE 06 40 00.0 +9.4
SEUS LR LR
comp=Z,700nm,19.0s
X53A Estanollee 93.81 321 P **P** **06 39 50.3 -0.3**
baz=37
D08A Wollman Farm, 93.87 350 *e*P **P** **06 39 51.5 +1.0**
comp=Z,19nm,1.1s
D08A LR LR
comp=Z,3µm,21.0s
D03D Eldon 93.88 353 P **P** **06 39 50.8 +0.3**
baz=8.1
SABA Saba 93.89 296 PFAKE 06 40 00.0 +8.9
SABA LR LR
comp=Z,700nm,20.0s
LTY Liberty 93.89 351 PFAKE 06 40 00.0 +9.3
LTY LR LR
comp=Z,2µm,20.0s
SIUC Southern Illin 93.96 326 PFAKE 06 40 00.0 +8.9
SIUC LR LR
comp=Z,2µm,20.0s
RLMT Red Lodge 93.99 343 PFAKE 06 40 00.0 +8.6
RLMT LR LR
comp=Z,3µm,19.0s
W51A Cleveland 94.00 322 P **P** **06 39 50.8 -0.6**
baz=36
Y54A Tignall 94.02 320 P **P** **06 39 51.4 -0.1**
baz=37
X52A Dahlonega 94.03 321 P **P** **06 39 51.3 -0.3**
baz=37
BOZ Bozeman (W) 94.05 345 PFAKE 06 40 00.0 +8.4
BOZ LR LR
comp=Z,2µm,20.0s
D05A Enumclaw 94.11 352 PFAKE 06 40 00.0 +8.4
D05A LR LR
comp=Z,2µm,19.0s
U47A Clarksville 94.15 324 P **P** **06 39 50.8 -1.2**
baz=34
W50A Signal Mountai 94.24 322 PFAKE 06 40 00.0 +7.5
W50A LR LR
comp=Z,1µm,20.0s
BGNE Belgrade 94.24 334 PFAKE 06 40 00.0 +7.6
BGNE LR LR
comp=Z,3µm,19.0s
FVM French Village 94.25 327 PFAKE 06 40 00.0 +7.5
FVM LR LR
comp=Z,2µm,20.0s
T45A Paducah 94.28 326 PFAKE 06 40 00.0 +7.4
T45A LR LR
comp=Z,2µm,19.0s
E09A Wood Farm, Sta 94.29 350 *e*P **P** **06 39 53.5 +1.0**
comp=Z,15nm,1.0s
E09A LR LR
comp=Z,2µm,19.0s
FDF Fort de France 94.31 292 PFAKE 06 40 00.0 +6.9
FDF LR LR
comp=Z,600nm,20.0s
R41A Rosebud 94.39 328 P **P** **06 39 52.2 -0.9**
baz=32
E08A Dider Farm, El 94.44 350 *e*P **P** **06 39 54.1 +1.0**
comp=Z,24nm,1.6s
E08A LR LR
comp=Z,3µm,22.0s
DLMT Dillon 94.47 345 PFAKE 06 40 00.0 +6.5
DLMT LR LR
comp=Z,2µm,22.0s
Y53A Monroe 94.47 320 P **P** **06 39 53.0 -0.5**
baz=37
E07A Sunnyside 94.48 351 PFAKE 06 40 00.0 +6.6
E07A LR LR
comp=Z,3µm,22.0s
V48A Smith Brothers 94.51 324 PFAKE 06 40 00.0 +6.3
V48A LR LR
comp=Z,1µm,21.0s
V48A Smith Brothers 94.51 324 P **P** **06 39 52.4 -1.3**
baz=35
LON Longmire 94.52 352 PFAKE 06 40 00.0 +6.4
LON LR LR
comp=Z,2µm,19.0s
X51A Calhoun 94.53 322 PFAKE 06 40 10.0 +16
X51A LR LR
comp=Z,1µm,19.0s
CCM Cathedral Cave 94.53 328 PFAKE 06 40 00.0 +6.2
CCM LR LR
comp=Z,2µm,19.0s
CCM Cathedral Cave 94.53 328 P **P** **06 39 52.4 -1.4**
baz=32
S42A Caledonia 94.59 327 P **P** **06 39 53.4 -0.6**
baz=32
HAWA Hanford 94.60 350 *e*P **P** **06 39 55.0 +1.1**
comp=Z,16nm,1.0s
HAWA LR LR
comp=Z,3µm,21.0s
257A Skidaway Islan 94.64 318 PFAKE 06 40 10.0 +16
257A LR LR
comp=Z,1µm,19.0s
WVT Waverly 94.66 325 PFAKE 06 40 10.0 +16
WVT LR LR
comp=Z,2µm,20.0s
WVT Waverly 94.66 325 P **P** **06 39 53.4 -1.0**
baz=34
YHH Holmes Hill 94.66 344 *e*P **P** **06 39 55.7 +1.1**
comp=Z,16nm,1.9s
F10A Beach Ranch, E 94.69 349 *e*P **P** **06 39 55.1 +0.6**
comp=Z,9.0nm,1.0s
F10A LR LR
comp=Z,1µm,22.0s
Y52A Lilburn 94.70 321 *e*P **P** **06 39 55.0 +0.4**
comp=Z,29nm,1.3s
Y52A LR LR
comp=Z,2µm,22.0s
Y52A Lilburn 94.70 321 P **P** **06 39 54.0 -0.6**
baz=37
V47A Nunnelly 94.76 324 P **P** **06 39 53.2 -1.6**
baz=34
GOGA Godfrey 94.77 320 PFAKE 06 40 10.0 +15
GOGA LR LR
comp=Z,1µm,20.0s
LKWY Lake 94.77 344 PFAKE 06 40 10.0 +15
LKWY LR LR
comp=Z,3µm,18.0s
Z53A Monticello 94.92 320 P **P** **06 39 54.9 -0.7**
baz=37
H17A Grant Village 94.97 344 PFAKE 06 40 10.0 +14
H17A LR LR
comp=Z,4µm,18.0s
YFT Old Faithful 94.97 344 *e*P **P** **06 39 58.1 +2.1**
comp=Z,6.9nm,0.9s
YPP Pitchstone Pla 95.14 344 *e*P **P** **06 39 57.8 +1.0**
comp=Z,20nm,1.9s
F07A Phinny Hill Vi 95.14 351 PFAKE 06 40 10.0 +14
F07A LR LR
comp=Z,3µm,21.0s
S41A Jillco Farms, 95.14 328 P **P** **06 39 56.0 -0.6**
baz=32
154A Montrose 95.22 319 PFAKE 06 40 10.0 +13
154A LR LR
comp=Z,2µm,21.0s
PVMO Portageville 95.26 326 PFAKE 06 40 10.0 +13
PVMO LR LR
comp=Z,2µm,19.0s
PBMO Poplar Bluff 95.27 327 PFAKE 06 40 10.0 +13
PBMO LR LR
comp=Z,1µm,20.0s
W47A Westpoint 95.27 324 P **P** **06 39 56.2 -1.0**
baz=34
FLWY Flagg Ranch 95.30 344 *e*P **P** **06 39 58.8 +1.4**
comp=Z,23nm,1.6s
FLWY LR LR
comp=Z,2µm,22.0s
F05D White Salmon 95.34 352 P **P** **06 39 57.0 -0.3**
baz=9.3
T42A Van Buren 95.34 327 *e*P **P** **06 39 56.9 -0.5**
comp=Z,8.6nm,1.1s
T42A LR LR
comp=Z,2µm,20.0s
T42A Van Buren 95.34 327 P **P** **06 39 56.5 -0.9**
baz=32
Z52A Williamson 95.42 321 P **P** **06 39 56.9 -1.0**
baz=36
255A Hazlehurst 95.44 318 PFAKE 06 40 10.0 +12
255A LR LR
comp=Z,2µm,22.0s
Y50A Piedmont 95.50 322 P **P** **06 39 57.7 -0.6**
baz=36
IMW Indian Meadow 95.53 344 PFAKE 06 40 10.0 +11
IMW LR LR
comp=Z,2µm,21.0s
SJG San Juan 95.59 298 PFAKE 06 40 10.0 +11
SJG LR LR
comp=Z,600nm,22.0s
G08A Pilot Rock 95.61 350 *e*P **P** **06 39 59.6 +0.9**
comp=Z,20nm,1.6s
G08A LR LR
comp=Z,2µm,21.0s
T41A Mountain View 95.61 328 P **P** **06 39 57.2 -1.5**
baz=32
MOOW Moose Ponds 95.62 344 *e*P **P** **06 40 00.4 +1.4**
comp=Z,5.5nm,1.1s
MOOW LR LR
comp=Z,2µm,18.0s
K22A Casper 95.64 340 *e*P **P** **06 39 59.0 0.0**
comp=Z,26nm,1.1s
K22A LR LR
comp=Z,1µm,20.0s
K22A Casper 95.64 340 P **P** **06 39 58.1 -0.9**
baz=21
X48A Hartselle 95.67 323 PFAKE 06 40 10.0 +11
X48A LR LR
comp=Z,1µm,20.0s
X48A Hartselle 95.67 323 P **P** **06 39 57.7 -1.4**
baz=35
PLAL Pickwick Lake 95.72 324 PFAKE 06 40 10.0 +11
PLAL LR LR
comp=Z,2µm,19.0s
LOHW Long Hollow 95.72 344 *e*P **P** **06 40 00.8 +1.4**
comp=Z,8.3nm,1.3s
LOHW LR LR
comp=Z,1µm,20.0s
KSU1 Kansas State U 95.74 332 *e*P **P** **06 39 59.2 -0.1**
comp=Z,9.7nm,0.8s
KSU1 LR LR
comp=Z,3µm,22.0s
KSU1 Kansas State U 95.74 332 P **P** **06 39 58.2 -1.0**
baz=28
BMO Blue Mountains 95.79 349 *e*P **P** **06 39 59.4 -0.1**
comp=Z,4.8nm,1.1s
BMO LR LR
comp=Z,1µm,21.0s
BMO Blue Mountains 95.79 349 P **P** **06 39 59.4 -0.1**
FXWY Fox Creek 95.79 344 *e*P **P** **06 40 01.6 +1.8**
comp=Z,16nm,1.9s
Y49A Blount Mountai 95.86 322 PFAKE 06 40 10.0 +10
Y49A LR LR
comp=Z,1µm,19.0s
G06A Carlson Farm, 95.88 351 PFAKE 06 40 10.0 +10
G06A LR LR
comp=Z,2µm,21.0s
SNOW Snow King Moun 95.90 344 *e*P **P** **06 40 01.0 +0.8**
comp=Z,5.1nm,1.0s
SNOW LR LR
comp=Z,2µm,20.0s
TPAW Teton Pass 95.92 344 PFAKE 06 40 10.0 +10
TPAW LR LR
comp=Z,2µm,22.0s
OGNE Ogallala 95.92 337 PFAKE 06 40 10.0 +10
OGNE LR LR
comp=Z,2µm,20.0s
U42A Revenden 95.98 327 P **P** **06 39 59.3 -1.0**
baz=32
152A Waverly Hall 95.99 320 PFAKE 06 40 10.0 +9.5
152A LR LR
comp=Z,2µm,19.0s
152A Waverly Hall 95.99 320 P **P** **06 39 59.7 -0.8**
baz=36
REDW Red Top Meadow 96.02 344 *e*P **P** **06 40 02.1 +1.3**
comp=Z,10nm,1.2s
REDW LR LR
comp=Z,2µm,19.0s
Z50A Ashland 96.11 322 PFAKE 06 40 10.0 +8.9
Z50A LR LR
comp=Z,2µm,20.0s
Z50A Ashland 96.11 322 P **P** **06 40 00.3 -0.8**
baz=36
456A Hilliard 96.14 317 PFAKE 06 40 10.0 +8.8
456A LR LR
comp=Z,1µm,20.0s
253A Americus 96.18 320 PFAKE 06 40 10.0 +8.6
253A LR LR
comp=Z,2µm,20.0s
253A Americus 96.18 320 P **P** **06 40 00.7 -0.7**
baz=37
BW06 Boulder Array 96.29 343 PFAKE 06 40 10.0 +8.0
BW06 LR LR
comp=Z,2µm,22.0s
PDAR Pinedale Array 96.29 343 P **P** **06 40 01.8 -0.2**
comp=Z,0.4nm,0.8s,baz=284,slow=1.2,SNR=3.4
PDAR PP **PP** **06 43 51.1 -3.1**
comp=Z,0.3nm,0.6s,baz=60,slow=4.4,SNR=3.6
PDAR PKKPbc **PKKPdf** **06 56 45.6 -0.9**
comp=Z,0.7nm,0.7s,baz=197,slow=4.5,SNR=7.1
PDAR LR LR 07 26 23.3
comp=Z,2µm,20.2s,baz=19,slow=37
X46A Booneville 96.30 324 P **P** **06 40 00.9 -1.0**
baz=34
TIGA Tifton 96.40 319 PFAKE 06 40 10.0 +7.6
TIGA LR LR
comp=Z,2µm,21.0s
151A Opelika 96.41 321 P **P** **06 40 01.3 -1.1**
baz=36
MET Memphis--Engin 96.44 325 PFAKE 06 40 10.0 +7.5
MET LR LR
comp=Z,2µm,20.0s
Y47A UCPARC, Winfie 96.50 323 P **P** **06 40 01.4 -1.4**
baz=34
252A Lumpkin 96.54 320 P **P** **06 40 02.4 -0.6**
baz=36
HLID Hailey 96.55 346 *e*P **P** **06 40 03.2 +0.2**
comp=Z,14nm,1.9s
HLID LR LR
comp=Z,1µm,20.0s
HLID Hailey 96.55 346 P **P** **06 40 02.2 -0.9**
baz=15
GRTK Grand Turk 96.57 304 PFAKE 06 40 10.0 +6.7
GRTK LR LR
comp=Z,1µm,19.0s
H04A Detroit Lake 96.60 352 PFAKE 06 40 10.0 +6.9
H04A LR LR
comp=Z,2µm,20.0s
PHWY Pilot Hill 96.61 339 *e*P **P** **06 40 04.2 +0.6**
comp=Z,11nm,1.0s
PHWY LR LR
comp=Z,2µm,19.0s
AHID Auburn Hatcher 96.64 344 PFAKE 06 40 10.0 +6.5
AHID LR LR
comp=Z,2µm,18.0s
U40A Yellville 96.65 328 P **P** **06 40 03.3 -0.2**
baz=31
NWAO Narrogin (SRO) 96.67 127 PFAKE 06 40 10.0 +6.6
NWAO LR LR
comp=Z,900nm,18.0s
OXF Oxford 96.72 325 PFAKE 06 40 10.0 +6.2
OXF LR LR
comp=Z,2µm,20.0s
RWWY Rawlins 96.72 341 PFAKE 06 40 20.0 +16
RWWY LR LR
comp=Z,1µm,19.0s
658A Bunnell 96.75 316 PFAKE 06 40 20.0 +16
658A LR LR
comp=Z,1µm,22.0s
251A Midway 96.80 321 P **P** **06 40 03.3 -0.8**
baz=36
LRAL Lakeview Retre 96.81 322 PFAKE 06 40 20.0 +16
LRAL LR LR
comp=Z,2µm,21.0s
COR Corvallis 96.82 353 PFAKE 06 40 20.0 +16
COR LR LR
comp=Z,2µm,21.0s
I07A Izee 96.87 350 PFAKE 06 40 20.0 +16
I07A LR LR
comp=Z,2µm,22.0s
Y46A Houston 96.99 324 P **P** **06 40 03.3 -1.7**
baz=34
352A Blakely 97.05 320 PFAKE 06 40 20.0 +15
352A LR LR
comp=Z,2µm,20.0s
149A Jones 97.07 322 P **P** **06 40 05.1 -0.3**

baz=35
CBKS **Cedar Bluff** **97.10 334** PFAKE 06 40 20.0 +14
CBKS LR LR
comp=Z,3μm,19.0s
555A **McAlpin** **97.12 318** PFAKE 06 40 20.0 +14
555A LR LR
comp=Z,1μm,20.0s
N23A **Red Feather La** **97.12 339** *e*P **P** **06 40 05.8 0.0**
comp=Z,20nm,1.5s
N23A LR LR
comp=Z,2μm,19.0s
N23A **Red Feather La** **97.12 339** P **P** **06 40 05.2 -0.6**
baz=21
453A **Whigham** **97.24 319** PFAKE 06 40 20.0 +14
453A LR LR
comp=Z,2μm,21.0s
250A **Grady** **97.32 321** PFAKE 06 40 20.0 +13
250A LR LR
comp=Z,1μm,22.0s
PINE **Pine Mountain** **97.34 351** *e*P Pdif 06 40 08.0 +1.2
comp=Z,17nm,1.4s
PINE LR LR
comp=Z,2μm,20.0s
X43A **Marvell** **97.37 326** PFAKE 06 40 20.0 +13
X43A LR LR
comp=Z,2μm,18.0s
W41B **Gary Mavity, V** **97.41 327** PFAKE 06 40 20.0 +13
W41B LR LR
comp=Z,2μm,21.0s
J08A **Circle Bar Ran** **97.43 349** PFAKE 06 40 20.0 +13
J08A LR LR
comp=Z,1μm,20.0s
656A **Willston** **97.48 317** PFAKE 06 40 20.0 +13
656A LR LR
comp=Z,2μm,20.0s
147A **Livingston** **97.71 323** PFAKE 06 40 20.0 +12
147A LR LR
comp=Z,2μm,21.0s
249A **Camden** **97.74 322** P **P** **06 40 08.3 -0.2**
baz=35
Z45A **Winona** **97.80 324** PFAKE 06 40 20.0 +11
Z45A LR LR
comp=Z,2μm,19.0s
HWUT **Hardware Ranch** **97.85 344** PFAKE 06 40 20.0 +11
HWUT LR LR
comp=Z,2μm,21.0s
DWPF **Disney Wildern** **97.87 315** PFAKE 06 40 20.0 +11
DWPF LR LR
comp=Z,1μm,21.0s
KSCO **Kaye Shedlock'** **97.88 336** PFAKE 06 40 20.0 +11
KSCO LR LR
comp=Z,2μm,20.0s
W39A **Magazine** **98.03 328** PFAKE 06 40 20.0 +10
W39A LR LR
comp=Z,2μm,20.0s
ISCO **Idaho Springs** **98.05 339** PFAKE 06 40 20.0 +10
ISCO LR LR
comp=Z,2μm,20.0s
060A **Indiantown** **98.10 314** PFAKE 06 40 20.0 +10
060A LR LR
comp=Z,800nm,21.0s
146A **Union** **98.11 323** PFAKE 06 40 20.0 +10
146A LR LR
comp=Z,2μm,19.0s
451A **Vernon** **98.16 320** PFAKE 06 40 20.0 +10
451A LR LR
comp=Z,2μm,20.0s
TUL1 **Leonard** **98.22 330** PFAKE 06 40 20.0 +9.4
TUL1 LR LR
comp=Z,1μm,18.0s
X40A **Basin Creek Fa** **98.24 327** PFAKE 06 40 20.0 +9.3
X40A LR LR
comp=Z,2μm,20.0s
SPUT **South Promonto** **98.32 344** *e*P Pdif 06 40 12.7 +1.5
comp=Z,12nm,1.6s
WVOR **Wild Horse Val** **98.36 349** PFAKE 06 40 20.0 +8.8
WVOR LR LR
comp=Z,1μm,19.0s
K05A **Summer Lake** **98.38 351** *e*P Pdif 06 40 12.0 +0.6
comp=Z,30nm,1.4s
K05A LR LR
comp=Z,2μm,21.0s
O20A **White River Ci** **98.45 341** PFAKE 06 40 20.0 +8.2
O20A LR LR
comp=Z,2μm,20.0s
O20A **White River Ci** **98.45 341** P **P** **06 40 11.4 -0.4**
baz=20
SDDR **Presa de Saban** **98.47 302** PFAKE 06 40 20.0 +8.0
SDDR LR LR
comp=Z,1μm,21.0s
MIAR **Mount Ida** **98.51 328** PFAKE 06 40 20.0 +8.1
MIAR LR LR
comp=Z,2μm,20.0s
059A **Moore Haven** **98.59 314** PFAKE 06 40 20.0 +7.6
059A LR LR
comp=Z,900nm,21.0s
957A **Wimauma** **98.65 316** PFAKE 06 40 20.0 +7.4
957A LR LR
comp=Z,900nm,21.0s
Q24A **Divide** **98.69 338** PFAKE 06 40 20.0 +7.0
Q24A LR LR
comp=Z,2μm,22.0s
Q24A **Divide** **98.69 338** P **P** **06 40 12.0 -1.0**
baz=22
HUMO **Hull Mountain** **98.74 352** PFAKE 06 40 20.0 +7.2
HUMO LR LR
comp=Z,2μm,21.0s
CTU **Camp Tracy** **98.76 344** PFAKE 06 40 20.0 +6.9
CTU LR LR
comp=Z,2μm,19.0s
SMCO **Snowmass** **99.00 340** PFAKE 06 40 30.0 +15
SMCO LR LR
comp=Z,2μm,19.0s
U32A **Winter Ranch,** **99.02 333** PFAKE 06 40 30.0 +16
U32A LR LR
comp=Z,4μm,22.0s
MOD **Modoc Plateau** **99.11 350** *e*P **Pdif** **06 40 15.9 +1.2**
comp=Z,8.1nm,1.1s
MOD LR LR
comp=Z,2μm,22.0s
143A **Socs Landing,** **99.13 325** PFAKE 06 40 30.0 +15
143A LR LR
comp=Z,2μm,20.0s
VBMS **Vicksburg** **99.14 324** PFAKE 06 40 30.0 +15
VBMS LR LR
comp=Z,2μm,20.0s
X37A **Clayton** **99.21 329** PFAKE 06 40 30.0 +15
X37A LR LR
comp=Z,2μm,19.0s
Z41A **Richland Creek** **99.28 326** PFAKE 06 40 30.0 +15
Z41A LR LR
comp=Z,2μm,18.0s
061Z **Ochoppi** **99.31 314** PFAKE 06 40 30.0 +14
061Z LR LR
comp=Z,800nm,22.0s
DUG **Dugway, Tooele** **99.47 344** *e*P **Pdif** **06 40 17.9 +1.6**
comp=Z,15nm,1.7s
DUG LR LR
comp=Z,2μm,21.0s
DUG **Dugway, Tooele** **99.47 344** P **Pdif** **06 40 17.9 +1.6**
YBH **Yreka Blue Hor** **99.58 352** PFAKE 06 40 30.0 +13
YBH LR LR
comp=Z,2μm,21.0s
344A **Westbrook Farm** **99.88 324** PFAKE 06 40 30.0 +12
344A LR LR
comp=Z,2μm,20.0s
SDCO **Great Sand Dun** **99.92 338** PFAKE 06 40 30.0 +12
SDCO LR LR
comp=Z,3μm,20.0s
BMN **Battle Mountai** **100.09 348** PFAKE 06 40 30.0 +11
BMN LR LR
comp=Z,2μm,20.0s
PV22 **Blue Mesa, Par** **100.09 341** PFAKE 06 40 30.0 +11
PV22 LR LR
comp=Z,2μm,19.0s
PV21 **Cone Mtn., Par** **100.12 341** *e*Pdif **Pdif** **06 40 19.9 +0.6**
140A **Cam and Jess,** **100.14 327** PFAKE 06 40 30.0 +11
140A LR LR
comp=Z,1μm,18.0s
T25A **Trinidad** **100.15 337** PFAKE 06 40 30.0 +11
T25A LR LR
comp=Z,2μm,21.0s
T25A **Trinidad** **100.15 337** P **Pdif** **06 40 19.0 -0.4**
baz=23
PV09 **Paradox Valley** **100.22 341** *e*Pdif **Pdif** **06 40 20.1 +0.3**
PV23 **Carpenter Ridg** **100.23 341** *e*Pdif **Pdif** **06 40 20.8 +1.0**

GTBY **Guantanamo Bay** **100.28 306** PFAKE 06 40 30.0 +10
GTBY LR LR
comp=Z,1μm,22.0s
S22A **4UR Ranch, Cre** **100.30 339** *e*Pdif **Pdif** **06 40 20.7 +0.5**
S22A LR LR
comp=Z,2μm,22.0s
S22A **4UR Ranch, Cre** **100.30 339** P **Pdif** **06 40 19.7 -0.4**
baz=21
PV12 **Saucer Basin,** **100.30 341** *e*Pdif **Pdif** **06 40 20.8 +0.7**
PV14 **Lion Creek, Pa** **100.31 341** *e*Pdif **Pdif** **06 40 21.1 +1.0**
PV14 LR LR
comp=Z,2μm,20.0s
PV20 **West Nyswonger** **100.32 341** PFAKE 06 40 30.0 +10
PV20 LR LR
comp=Z,2μm,21.0s
PV16 **Nyswonger Mesa** **100.34 341** *e*Pdif **Pdif** **06 40 21.2 +1.0**
PV16 LR LR
comp=Z,2μm,20.0s
PV19 **Morning Glory** **100.36 341** *e*Pdif **Pdif** **06 40 21.6 +1.3**
PV17 **East Wray Mesa** **100.38 341** *e*Pdif **Pdif** **06 40 21.9 +1.5**
241A **Mo Tay, Goldon** **100.38 326** PFAKE 06 40 30.0 +10
241A LR LR
comp=Z,2μm,20.0s
PV18 **Skein Mesa, Pa** **100.40 341** PFAKE 06 40 30.0 +10
PV18 LR LR
comp=Z,2μm,20.0s
WMOK **Wichita Mounta** **100.40 332** PFAKE 06 40 30.0 +10
WMOK LR LR
comp=Z,2μm,19.0s
WMOK **Wichita Mounta** **100.40 332** P **Pdif** **06 40 19.8 -0.5**
baz=27
WR1 **Warramunga Arr** **100.42 107** *e*Pdif **Pdif** **06 40 19.6 -0.9**
WR1 *e*PP **PP** **06 44 23.4 -3.8**
WRA **Warramunga Arr** **100.42 107** P **Pdif** **06 40 19.6 -0.9**
comp=Z,0.6nm,0.6s,baz=317,slow=4.5,SNR=10
WRA PP **PP** **06 44 23.4 -3.8**
comp=Z,1.4nm,1.1s,baz=314,slow=9.8,SNR=4.6
WRAB **Tennant Creek** **100.42 107** PFAKE 06 40 30.0 +10
WRAB LR LR
comp=Z,700nm,22.0s
PV13 **Radium Mtn., P** **100.46 341** PFAKE 06 40 30.0 +9.2
PV13 LR LR
comp=Z,2μm,20.0s
342A **Flagon Creek P** **100.67 325** PFAKE 06 40 30.0 +8.5
342A LR LR
comp=Z,3μm,19.0s
WDC **Whiskeytown Da** **100.70 352** PFAKE 06 40 30.0 +8.5
WDC LR LR
comp=Z,1μm,22.0s
240A **Hunter Patters** **100.74 327** PFAKE 06 40 30.0 +8.2
240A LR LR
comp=Z,2μm,18.0s
MSU **Marysvale** **100.94 343** *e*Pdif **Pdif** **06 40 25.0 +2.0**
545A **Edgard** **100.95 323** PFAKE 06 40 30.0 +7.2
545A LR LR
comp=Z,2μm,21.0s
BEKR **Beckworth** **101.12 350** PFAKE 06 40 30.0 +6.3
BEKR LR LR
comp=Z,2μm,19.0s
PAHR **Pah Rah Range** **101.14 349** PFAKE 06 40 30.0 +6.3
PAHR LR LR
comp=Z,2μm,22.0s
MVCO **Mesa Verde** **101.26 340** PFAKE 06 40 40.0 +16
MVCO LR LR
comp=Z,2μm,19.0s
AMTX **Amarillo** **101.31 334** PFAKE 06 40 40.0 +16
AMTX LR LR
comp=Z,2μm,21.0s
NATX **Nacogdoches** **101.36 327** PFAKE 06 40 40.0 +15
NATX LR LR
comp=Z,1μm,20.0s
MTPU **Mount Pierson** **101.39 343** *e*Pdif **Pdif** **06 40 27.3 +2.2**
KVN **Kaiserville** **101.58 348** PFAKE 06 40 40.0 +14
KVN LR LR
comp=Z,2μm,19.0s
ORV **Oroville** **101.58 351** PFAKE 06 40 40.0 +15
ORV LR LR
comp=Z,2μm,22.0s
VCNR **Virginia City** **101.58 349** PFAKE 06 40 40.0 +14
VCNR LR LR
comp=Z,1μm,19.0s
PNTR **Pine Nut** **101.78 349** PFAKE 06 40 40.0 +13
PNTR LR LR
comp=Z,2μm,19.0s
R11A **Troy Canyon, C** **101.81 346** PFAKE 06 40 40.0 +13
R11A LR LR
comp=Z,2μm,20.0s
YERR **Yerington** **101.83 349** PFAKE 06 40 40.0 +13
YERR LR LR
comp=Z,1μm,21.0s
RUBR **Rubicon Trail** **101.89 350** PFAKE 06 40 40.0 +13
RUBR LR LR
comp=Z,2μm,18.0s
RYN **Ryan** **102.06 348** PFAKE 06 40 40.0 +12
RYN LR LR
comp=Z,1μm,20.0s
AFDM **Forest Hills D** **102.11 350** PFAKE 06 40 40.0 +12
AFDM LR LR
comp=Z,2μm,21.0s
CCUT **Cedar City** **102.13 344** *e*Pdif **Pdif** **06 40 30.1 +1.9**
NV11 **Mina Array Sit** **102.19 348** PFAKE 06 40 40.0 +12
NV11 LR LR
comp=Z,100nm,18.0s
NV01 **Mina Array Sit** **102.22 348** *e*Pdif **Pdif** **06 40 29.5 +0.9**
NVAR **Mina Array Bea** **102.22 348** P **Pdif** **06 40 29.5 +0.9**
comp=Z,0.3nm,0.7s,baz=2.9,slow=3.6,SNR=3.3
NVAR PKKPbc **PKKPbc** **06 56 30.0 -0.6**
comp=Z,0.4nm,0.8s,baz=208,slow=5.6,SNR=3.5
AS31 **Alice Springs** **102.32 110** *e*Pdif **Pdif** **06 40 28.1 -0.8**
AS31 *e*PP **PP** **06 44 40.4 -1.2**
ASAR **Alice Springs** **102.32 110** P **Pdif** **06 40 28.1 -0.8**
comp=Z,0.8nm,0.7s,baz=307,slow=4.7,SNR=6.8
ASAR PP **PP** **06 44 40.4 -1.2**
comp=Z,0.9nm,0.9s,baz=304,slow=7.2,SNR=5.5
WHTX **Lake Whitney,** **102.32 329** PFAKE 06 40 40.0 +11
WHTX LR LR
comp=Z,1μm,19.0s
WAKR **Walker** **102.33 349** PFAKE 06 40 40.0 +11
WAKR LR LR
comp=Z,2μm,21.0s
FORT **Forrest** **102.42 119** PFAKE 06 40 40.0 +11
FORT LR LR
comp=Z,1μm,21.0s
GDXM **Geysers** **102.48 352** PFAKE 06 40 40.0 +10
GDXM LR LR
comp=Z,2μm,20.0s
MSTX **Muleshoe** **102.52 334** PFAKE 06 40 40.0 +10
MSTX LR LR
comp=Z,3μm,19.0s
ABTX **Abilene, Hawle** **102.61 331** PFAKE 06 40 40.0 +10
ABTX LR LR
comp=Z,2μm,19.0s
LCMT **Little Creek M** **102.62 344** *e*Pdif **Pdif** **06 40 32.2 +1.9**
ANMO **Albuquerque** **102.80 338** PFAKE 06 40 40.0 +8.8
ANMO LR LR
comp=Z,2μm,20.0s
CMB **Columbia Colle** **102.93 350** PFAKE 06 40 40.0 +8.5
CMB LR LR
comp=Z,1μm,21.0s
U15A **North Rim** **102.96 343** PFAKE 06 40 40.0 +8.0
U15A LR LR
comp=Z,2μm,18.0s
MTDJ **Mount Denham** **103.07 306** PFAKE 06 40 40.0 +7.5
MTDJ LR LR
comp=Z,600nm,21.0s
BDFB **Brasilia** **103.12 260** PFAKE 06 40 40.0 +7.3
BDFB LR LR
comp=Z,2μm,19.0s
MDPB **Devils Postpil** **103.12 348** PFAKE 06 40 40.0 +7.3
MDPB LR LR
comp=Z,2μm,19.0s
OMMB **Old Mammoth Mi** **103.13 348** PFAKE 06 40 40.0 +7.2
OMMB LR LR
comp=Z,2μm,20.0s
TPNV **Topopah Spring** **103.30 346** PFAKE 06 40 40.0 +6.6
TPNV LR LR
comp=Z,2μm,21.0s
HKT **Hockley** **103.43 327** PFAKE 06 40 50.0 +16
HKT LR LR
comp=Z,2μm,20.0s
435B **Jarrell** **103.43 329** PFAKE 06 40 50.0 +16
435B LR LR
comp=Z,2μm,19.0s
W18A **Petrified Fore** **103.56 340** PFAKE 06 40 50.0 +15
W18A LR LR

comp=Z,2μm,19.0s
WUAZ **Wupatki** **103.61 342** PFAKE 06 40 50.0 +15
WUAZ LR LR
comp=Z,1μm,18.0s
Y22D **IRIS PASSCAL I** **103.75 338** PFAKE 06 40 50.0 +15
Y22D LR LR
comp=Z,3μm,20.0s
X18A **Snowflake** **104.18 340** PFAKE 06 40 50.0 +13
X18A LR LR
comp=Z,2μm,20.0s
DAC **Darwin (Calif)** **104.20 347** PFAKE 06 40 50.0 +13
DAC LR LR
comp=Z,2μm,22.0s
SAO **San Andreas Ge** **104.32 350** PFAKE 06 40 50.0 +12
SAO LR LR
comp=Z,2μm,21.0s
JCT **Junction City** **104.58 330** PFAKE 06 40 50.0 +11
JCT LR LR
comp=Z,1μm,22.0s
W13A **Hualapai Mount** **104.59 344** PFAKE 06 40 50.0 +11
W13A LR LR
comp=Z,2μm,20.0s
X16A **Lo Mia Camp, P** **104.67 341** PFAKE 06 40 50.0 +10
X16A LR LR
comp=Z,2μm,21.0s
PMPB **Monarch Peak** **104.77 350** PFAKE 06 40 50.0 +10
PMPB LR LR
comp=Z,2μm,22.0s
LDFC **Landfair** **104.88 345** PFAKE 06 40 50.0 +10
LDFC LR LR
comp=Z,1μm,20.0s
ISA **Isabella, Lake** **104.95 347** PFAKE 06 45 10.0
ISA LR LR
comp=Z,2μm,21.0s
GSC **Goldstone, Bar** **105.00 346** PFAKE 06 45 10.0
GSC LR LR
comp=Z,2μm,19.0s
SDV **Santo Domingo** **105.07 295** PFAKE 06 45 10.0
SDV LR LR
comp=Z,400nm,21.0s
PAGB **Antelope Grade** **105.17 349** PFAKE 06 45 10.0
PAGB LR LR
comp=Z,2μm,20.0s
MNTX **Cornudas Mount** **105.47 335** PFAKE 06 45 10.0
MNTX LR LR
comp=Z,3μm,19.0s
Y14A **Wickenburg** **105.51 343** PFAKE 06 45 10.0
Y14A LR LR
comp=Z,1μm,20.0s
EPT **El Paso** **105.76 336** PFAKE 06 45 10.0
EPT LR LR
comp=Z,2μm,19.0s
OSI **Osito Audit: C** **106.01 347** PFAKE 06 45 10.0
OSI LR LR
comp=Z,3μm,19.0s
Y12C **Blythe** **106.03 344** PFAKE 06 45 10.0
Y12C LR LR
comp=Z,1μm,19.0s
MWC **Mount Wilson** **106.28 347** PFAKE 06 45 10.0
MWC LR LR
comp=Z,2μm,20.0s
833A **Chaparral WMA,** **106.33 329** PFAKE 06 45 10.0
833A LR LR
comp=Z,1μm,21.0s
KVTX **Kingsville** **106.40 327** PFAKE 06 45 10.0
KVTX LR LR
comp=Z,2μm,18.0s
MAW **Mawson** **106.47 174** PFAKE 06 45 10.0
MAW LR LR
comp=Z,200nm,19.0s
TUC **Tucson** **106.50 340** PFAKE 06 45 10.0
TUC LR LR
comp=Z,2μm,20.0s
319A **Douglas** **106.96 339** PFAKE 06 45 10.0
319A LR LR
comp=Z,3μm,19.0s
LTX **Lajitas** **107.05 333** *e*PKKPbc PKKPbc 06 56 13.7 -2.0
TXAR **Lajitas Array** **107.05 333** PKKPbc PKKPbc 06 56 13.7 -2.0
comp=Z,0.2nm,0.7s,baz=183,slow=5.0,SNR=3.9
SPB **Sao Paulo** **107.30 253** PFAKE 06 45 10.0
SPB LR LR
comp=Z,1μm,20.0s
TEIG **Tepich** **107.89 316** PFAKE 06 45 10.0
TEIG LR LR
comp=Z,800nm,22.0s
HSIG **109.65 339** PFAKE 06 45 20.0
HSIG LR LR
comp=Z,2μm,19.0s
HPIG **109.94 334** PFAKE 06 45 20.0
HPIG LR LR
comp=Z,4μm,22.0s
ROSC **El Rosal** **110.50 294** PFAKE 06 45 20.0
ROSC LR LR
comp=Z,200nm,20.0s
SAML **Samuel** **111.00 275** PFAKE 06 45 20.0
SAML LR LR
comp=Z,900nm,21.0s
BCIP **Isla Barro Col** **111.25 302** PFAKE 06 45 20.0
BCIP LR LR
comp=Z,700nm,22.0s
TGUH **Tegucigalpa,Un** **112.24 311** PFAKE 06 45 20.0
TGUH LR LR
comp=Z,500nm,20.0s
ESTN **Estel** **112.45 310** PFAKE 06 45 20.0
ESTN LR LR
comp=Z,600nm,20.0s
STKA **Stephens Creek** **112.56 113** PFAKE 06 45 20.0
STKA LR LR
comp=Z,400nm,21.0s
ZAIG **Zacatecas** **112.56 329** PFAKE 06 45 20.0
ZAIG LR LR
comp=Z,1μm,19.0s
CCIG **Comitan** **113.21 316** PFAKE 06 45 20.0
CCIG LR LR
comp=Z,1μm,19.0s
SNET **Serv Nac Est T** **113.68 312** PFAKE 06 45 20.0
SNET LR LR
comp=Z,800nm,19.0s
UNM **Universidad Na** **114.15 324** PFAKE 06 45 20.0 +6.6
UNM LR LR
comp=Z,700nm,21.0s
MOIG **Morelia** **114.74 326** PFAKE 06 45 30.0 +16
MOIG LR LR
comp=Z,800nm,22.0s
SNAA **Sanae** **115.24 195** PKP **PKPdf** **06 45 13.7 +0.2**
SNAA **Sanae** **115.24 195** PFAKE 06 45 20.0 +6.5
SNAA LR LR
comp=Z,1μm,19.0s
TLIG **Tlapa** **115.39 323** PFAKE 06 45 30.0 +14
TLIG LR LR
comp=Z,700nm,22.0s
VNA2 **Neumayer--Watz** **115.69 197** PKP **PKPdf** **06 45 14.7 +0.4**
baz=25,slow=3.3
VNA1 **Neumayer--Stat** **115.70 198** PKP **PKPdf** **06 45 14.6 +0.2**
EIDS **Eidsvold** **116.19 103** PFAKE 06 45 30.0 +13
EIDS LR LR
comp=Z,800nm,22.0s
CPUP **Villa Florida** **116.30 256** PKP **PKPdf** **06 45 15.8 -1.1**
comp=Z,2.4nm,0.8s,baz=126,slow=1.4,SNR=7.6
VNA3 **Neumayer Olymp** **116.45 197** PKP **PKPdf** **06 45 16.0 +0.1**
SBLHI **Steaming Bluff** **118.85 24** PFAKE 06 45 30.0 +7.7
SBLHI LR LR
comp=Z,4μm,21.0s
NPOC **North of Pu'u** **118.93 24** PFAKE 06 45 30.0 +7.7
NPOC LR LR
comp=Z,3μm,22.0s
STCH **Steam Cracks** **118.93 24** PFAKE 06 45 30.0 +7.6
STCH LR LR
comp=Z,4μm,22.0s
JCUZ **Jacuzzi** **118.94 24** PFAKE 06 45 30.0 +7.6
JCUZ LR LR
comp=Z,3μm,22.0s
ARMA **Armidale** **119.20 107** PFAKE 06 45 30.0 +7.5
ARMA LR LR
comp=Z,1μm,20.0s
LPAZ **La Paz** **119.22 272** PKP **PKPdf** **06 45 22.1 -1.4**
comp=Z,0.9nm,0.8s,baz=82,slow=6.3,SNR=4.5
CAN **Canberra** **119.62 113** PFAKE 06 45 30.0 +6.9
CAN LR LR
comp=Z,1μm,21.0s
TRQA **Tornquist** **125.31 246** PFAKE 06 45 50.0 +16
TRQA LR LR
comp=Z,1μm,22.0s
DZM **Mont Dzumac** **126.42 91** *e*SS SS 07 04 39.5 +2.1
comp=Z,162nm,26.3s

DZM	**Mont Dzumac**	**126.42**	**91**	*e*LR	LR	07 25 10.2		
	comp=Z,1μm,34.0s							
LCO	**Las Campanas**	**127.91**	**261**	*e*PKPdf	**PKPdf**	**06 45 39.2**	**-0.3**	
LCO	**Las Campanas**	**127.91**	**261**	*e*PKIKP	**PKPdf**	**06 45 39.2**	**-0.3**	
QSPA	**South Pole Qui**	**128.30**	**180**	*e*PKPdf	**PKPdf**	**06 45 38.1**	**-0.6**	
QSPA				LR	LR			
	comp=Z,2μm,20.0s							
PLCA	**Paso Flores**	**132.46**	**246**	PKP	**PKPdf**	**06 45 47.7**	**+0.2**	
	comp=Z,13nm,1.3s,baz=50,slow=0.7,SNR=5.8							
PLCA	**Paso Flores**	**132.46**	**246**	*e*PKPdf	**PKPdf**	**06 45 48.4**	**+0.9**	
PLCA	**Paso Flores**	**132.46**	**246**	*e*PKIKP	**PKPdf**	**06 45 48.4**	**+0.9**	
VNDA	**Vanda**	**132.66**	**164**	PKP	**PKPdf**	**06 45 46.6**	**0.0**	
	comp=Z,1.2nm,0.9s,baz=283,slow=5.6,SNR=7.0							
VNDA	**Vanda**	**132.66**	**164**	*e*PKPdf	**PKPdf**	**06 45 47.3**	**+0.6**	
VNDA	**Vanda**	**132.66**	**164**	*e*PKIKP	**PKPdf**	**06 45 47.3**	**+0.6**	
SBA	**Scott Base**	**133.56**	**165**	*e*PKPdf	**PKPdf**	**06 45 48.9**	**+0.5**	
SBA	**Scott Base**	**133.56**	**165**	*e*PKIKP	**PKPdf**	**06 45 48.9**	**+0.5**	
WHZ	**Wether Hill Ro**	**136.76**	**119**	PFAKE		06 46 10.0	+15	
WHZ				LR	LR			
	comp=Z,700nm,20.0s							
HIZ	**Hauiti**	**139.94**	**107**	PFAKE		06 46 10.0	+8.7	
HIZ				LR	LR			
	comp=Z,800nm,19.0s							
BFZ	**Birch Farm**	**141.54**	**110**	PFAKE		06 46 20.0	+16	
BFZ				LR	LR			
	comp=Z,2μm,22.0s							
TAOE	**Nuku Hiva Isla**	**149.88**	**13**	*e*LR	LR	07 36 17.0		
	comp=Z,2μm,25.1s							
PPT2	**Papeete2**	**154.83**	**39**	*e*SS	SS	07 10 10.5	+2.8	
	comp=Z,382nm,26.0s							
PPT2	**Papeete2**	**154.83**	**39**	*e*LR	LR	07 38 29.7		
	comp=Z,1μm,22.0s							
TBI	**Tubuai**	**159.61**	**47**	*e*SS	SS	07 11 00.5	+1.4	
	comp=Z,234nm,24.0s							
TBI	**Tubuai**	**159.61**	**47**	*e*LR	LR	07 40 39.3		
	comp=Z,1μm,22.5s							
RKT	**Rikitea**	**164.63**	**6**	*e*SS	SS	07 11 55.4	+5.5	
	comp=Z,302nm,32.2s							
RKT	**Rikitea**	**164.63**	**6**	*e*LR	LR	07 43 05.8		
	comp=Z,977nm,27.5s							

*AZER **07** 06:32:20.4±0.6, 38°.31N×46°.48E, h5km, ml3.9/2, Error ellipse: s-maj=1.7km s-min=1.0km az=10.0*
*TEH **07** 06:32:23.7, 38°.48N×46°.58E, h13km, ML3.1*
ISC 07 06:32:23.9±1.3, 38°.40N±0°.04×46°.54E±0°.03, h7km±12km, n20, σ1°01/25, 4C-9D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ITBZ	**Tabriz**	**0.35**	**242**	*e*Pg	**Pb**	**06 32 31.8**	**-0.8**
ITBZ				IAMB	IAmb	06 32 38.3	
	comp=N,29μm,0.2s						
ITBZ				IAMB	IAmb	06 32 41.5	
	comp=Z,25μm,0.2s						
ITBZ				IAMB	IAmb	06 32 44.6	
	comp=E,36μm,0.5s						
ORD	**Ordubad**	**0.68**	**321**	⇓P	**Pg**	**06 32 36.6**	**-0.3**
ORD				⇓S	**Sb**	**06 32 47.5**	**-0.2**
ISHB	**Shabestar**	**0.74**	**261**	*e*Pg	**Pb**	**06 32 38.8**	**-0.4**
ISHB				IAMB	IAmb	06 32 52.0	
	comp=N,13μm,0.3s						
ISHB				IAMB	IAmb	06 32 53.0	
	comp=E,15μm,0.3s						
ISHB				IAMB	IAmb	06 32 59.3	
	comp=Z,8μm,0.3s						
IAZR	**Azarshahr**	**0.85**	**212**	*e*Pg	**Pn**	**06 32 41.8**	**-0.7**
IAZR				IAMB	IAmb	06 32 59.5	
	comp=N,29μm,0.3s						
IAZR				IAMB	IAmb	06 33 02.7	
	comp=Z,15μm,0.3s						
IAZR				IAMB	IAmb	06 33 05.3	
	comp=E,31μm,0.5s						
ISRB	**Sarab**	**1.06**	**123**	IAMB	IAmb	06 32 05.1	
	comp=Z,0.0nm,10.0s						
ISRB				*e*Pg	**Pg**	**06 32 44.1**	**-0.1**
ISRB				IAMB	IAmb	06 33 01.1	
	comp=N,15μm,0.2s						
ISRB				IAMB	IAmb	06 33 06.1	
	comp=E,14μm,0.3s						
NAX	**Nakhchivan**	**1.12**	**314**	P	**Pg**	**06 32 45.3**	**-0.2**
	SNR=12						
NAX				⇓S	**Sb**	**06 33 01.1**	**+0.5**
GRMI	**Germi**	**1.13**	**69**	*e*Pg	**Pg**	**06 32 44.1**	**-1.6**
SBZ	**Shahbuz**	**1.26**	**322**	⇓S	**Sn**	**06 33 05.1**	**-0.1**
LRK	**Lerik**	**1.43**	**80**	⇓P	**Pn**	**06 32 49.9**	**-0.5**
	SNR=7.8						
LRK				⇑S	**Sg**	**06 33 10.9**	**+1.0**
GLBA	**Clilabad**	**1.67**	**59**	P	**Pb**	**06 32 54.9**	**-0.1**
	SNR=11						
GLBA				⇑S	**Sg**	**06 33 19.4**	**+1.8**
MAKU	**Maku**	**1.73**	**304**	*e*Pn	**Pn**	**06 32 55.1**	**+0.5**
ASTR	**Astara**	**1.77**	**84**	⇓S	**Sg**	**06 33 21.4**	**+0.6**
LKRN	**Lenkeran, Azer**	**1.78**	**79**	P	**Pb**	**06 32 56.2**	**-0.6**
	SNR=4.1						
LKRN				⇑S	**Sg**	**06 33 22.3**	**+1.2**
HYR	**Heyderabad**	**1.86**	**316**	⇓S	**Sg**	**06 33 24.8**	**+1.2**
BRDA	**Brd**	**1.92**	**15**	⇓S	**Sg**	**06 33 26.9**	**+1.2**
GANJ	**Ganja**	**2.25**	**356**	P	**Pb**	**06 33 03.4**	**-1.4**
	SNR=7.7						
KDMR	**Kurdemir**	**2.35**	**32**	⇓S	**Sg**	**06 33 37.8**	**-1.4**
GDB	**GEDABAY**	**2.39**	**346**	P	**Pn**	**06 33 04.6**	**+1.0**
	SNR=8.1						
ZNJK	**Zanjan**	**2.43**	**135**	*e*Pn	**Pn**	**06 33 05.6**	**+1.4**
XNQ	**Khinaliq**	**3.03**	**23**	⇑P	**Pn**	**06 33 13.2**	**+0.8**
	SNR=5.2						

*AZER **07** 06:33:48.9±10.0, 38°.55N×46°.62E, h5km, ml3.3/6, Error ellipse: s-maj=7.3km s-min=0.7km az=24.0*
*TEH **07** 06:33:50.6, 38°.46N×46°.57E, h6km, ML3.3*
ISC 07 06:33:51.2±1.1, 38°.43N±0°.04×46°.56E±0°.03, h11km±11km, n19, σ1°29/25, 10C-6D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ITBZ	**Tabriz**	**0.38**	**238**	*e*Pg	**Pg**	**06 33 58.5**	**-0.3**
ITBZ				IAMB	IAmb	06 34 05.0	
	comp=E,65μm,0.3s						
ITBZ				IAMB	IAmb	06 34 11.3	
	comp=Z,43μm,0.7s						
ITBZ				IAMB	IAmb	06 41 14.7	
	comp=N,52μm,0.2s						
ORD	**Ordubad**	**0.66**	**319**	⇑P	**Pg**	**06 34 03.4**	**-0.6**
ORD				⇑S	**Sb**	**06 34 13.6**	**-0.5**
ISHB	**Shabestar**	**0.75**	**259**	IAMB	IAmb	06 34 18.6	
	comp=Z,19μm,0.4s						
ISHB				*e*Pg	**Pg**	**06 34 05.6**	**-0.2**
ISHB				IAMB	IAmb	06 34 27.5	
	comp=N,27μm,0.3s						
ISHB				IAMB	IAmb	06 34 27.5	
	comp=E,30μm,0.6s						
IBST	**Bostanabad**	**0.78**	**160**	IAMB	IAmb	06 34 18.8	
	comp=E,16μm,0.2s						
IBST				*e*Pg	**Pg**	**06 34 05.0**	**-1.3**
IAZR	**Azarshahr**	**0.88**	**211**	IAMB	IAmb	06 34 30.1	
	comp=N,49μm,0.5s						
IAZR				*e*Pg	**Pg**	**06 34 08.0**	**-0.2**
IAZR				IAMB	IAmb	06 34 32.8	
	comp=Z,18μm,0.5s						
IAZR				IAMB	IAmb	06 34 33.0	
	comp=E,60μm,0.6s						
ISRB	**Sarab**	**1.06**	**124**	*e*Pg	**Pg**	**06 34 11.0**	**-0.7**
ISRB				IAMB	IAmb	06 34 27.2	
	comp=Z,9μm,0.3s						
ISRB				IAMB	IAmb	06 34 30.6	
	comp=E,19μm,0.3s						
NAX	**Nakhchivan**	**1.11**	**312**	P	**Pn**	**06 34 12.2**	**-0.5**
	SNR=5.4						
NAX				⇓S	**Sn**	**06 34 28.7**	**+0.7**
GRMI	**Germi**	**1.11**	**70**	*e*Pg	**Pg**	**06 34 11.3**	**-1.4**
SBZ	**Shahbuz**	**1.24**	**321**	⇓S	**Sn**	**06 34 31.8**	**+0.5**
LRK	**Lerik**	**1.42**	**81**	⇑P	**Pb**	**06 34 17.0**	**-0.7**
	SNR=8.2						
LRK				⇑S	**Sg**	**06 34 38.1**	**+1.3**
GLBA	**Clilabad**	**1.65**	**60**	⇑P	**Pg**	**06 34 22.1**	**-0.8**
	SNR=4.1						
GLBA				⇓S	**Sg**	**06 34 46.3**	**+2.1**
MAKU	**Maku**	**1.73**	**303**	*e*Pn	**Pb**	**06 34 21.9**	**-1.1**
ASTR	**Astara**	**1.76**	**85**	⇓P	**Pb**	**06 34 23.6**	**+0.1**
	SNR=5.0						
ASTR				⇑S	**Sg**	**06 34 49.2**	**+1.5**
LKRN	**Lenkeran, Azer**	**1.77**	**80**	⇓P	**Pb**	**06 34 23.6**	**0.0**
	SNR=12						
HYR	**Heyderabad**	**1.85**	**315**	⇑P	**Pb**	**06 34 24.9**	**-0.1**
HYR				⇑S	**Sg**	**06 34 52.1**	**+1.5**
GANJ	**Ganja**	**2.22**	**355**	⇑P	**Pb**	**06 34 29.1**	**-2.3**
	SNR=6.7						
GDB	**GEDABAY**	**2.37**	**345**	⇑P	**Pb**	**06 34 31.7**	**-2.3**
	SNR=6.6						
ZNJK	**Zanjan**	**2.44**	**135**	*e*Pn	**Pb**	**06 34 33.6**	**-1.6**
QZX	**Qazax, Azerbai**	**2.78**	**341**	⇓P	**Pn**	**06 34 37.6**	**+2.0**
	SNR=4.7						

*AZER **07** 06:35:40.1±21.0, 38°.49N×46°.57E, h2km±2km, ml3.1/5, Error ellipse: s-maj=6.5km s-min=1.1km az=30.0*
*TEH **07** 06:35:41.7, 38°.45N×46°.56E, h4km, ML3.0*
*ISCJB **07** 06:35:42.8±0.5, 38°.35N±0°.04×46°.48E±0°.04, h10km, Error ellipse: s-maj=6.1km s-min=4.3km az=19.9*
ISC 07 06:35:41.9±0.9, 38°.42N±0°.04×46°.56E±0°.03, h10km, n15, σ0°93/19, 3C-3D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ITBZ	**Tabriz**	**0.38**	**240**	*e*Pg	**Pg**	**06 35 49.7**	**+0.3**
ITBZ				IAMB	IAmb	06 35 49.8	
	comp=Z,19μm,0.1s						
ITBZ				IAMB	IAmb	06 35 56.0	
	comp=E,33μm,0.4s						
ITBZ				IAMB	IAmb	06 35 56.2	
	comp=N,28μm,0.2s						
ORD	**Ordubad**	**0.67**	**319**	⇑P	**Pg**	**06 35 54.5**	**-0.4**
ORD				⇑S	**Sb**	**06 36 04.7**	**-0.5**
ISHB	**Shabestar**	**0.76**	**260**	*e*Pg	**Pg**	**06 35 56.0**	**-0.5**
ISHB				IAMB	IAmb	06 36 10.3	
	comp=Z,8μm,0.3s						
ISHB				IAMB	IAmb	06 36 11.4	
	comp=N,14μm,0.2s						
ISHB				IAMB	IAmb	06 36 11.5	
	comp=E,12μm,0.2s						
IBST	**Bostanabad**	**0.77**	**160**	*e*Pg	**Pg**	**06 35 56.3**	**-0.4**
IBST				IAMB	IAmb	06 36 09.8	
	comp=E,11μm,0.2s						
IAZR	**Azarshahr**	**0.87**	**212**	*e*Pg	**Pg**	**06 35 59.1**	**+0.3**
IAZR				IAMB	IAmb	06 36 15.4	
	comp=N,26μm,0.3s						
IAZR				IAMB	IAmb	06 36 16.4	
	comp=E,27μm,0.3s						
IAZR				IAMB	IAmb	06 36 19.5	
	comp=Z,8μm,0.2s						
ISRB	**Sarab**	**1.06**	**124**	*e*Pg	**Pg**	**06 36 02.4**	**+0.2**
ISRB				IAMB	IAmb	06 36 20.6	
	comp=N,9μm,0.2s						
ISRB				IAMB	IAmb	06 36 21.9	
	comp=E,9μm,0.4s						
ISRB				IAMB	IAmb	06 36 25.6	
	comp=Z,5μm,0.2s						
GRMI	**Germi**	**1.11**	**69**	*e*Pg	**Pg**	**06 36 02.5**	**-0.8**
NAX	**Nakhchivan**	**1.12**	**312**	P	**Pn**	**06 36 03.5**	**-0.2**
	SNR=9.0						
NAX				⇓S	**Sn**	**06 36 20.0**	**+0.7**
LRK	**Lerik**	**1.41**	**81**	P	**Pg**	**06 36 09.0**	**0.0**
	SNR=5.5						
LRK				⇓S	**Sg**	**06 36 28.9**	**+1.5**
GLBA	**Clilabad**	**1.65**	**60**	⇓P	**Pg**	**06 36 13.3**	**-0.2**
	SNR=10.0						
GLBA				⇑S	**Sg**	**06 36 37.4**	**+2.5**
MAKU	**Maku**	**1.73**	**303**	*e*Pn	**Pb**	**06 36 13.6**	**-0.4**
ASTR	**Astara**	**1.76**	**85**	P	**Pg**	**06 36 14.8**	**-0.8**
	SNR=4.7						
LKRN	**Lenkeran, Azer**	**1.76**	**80**	P	**Pg**	**06 36 15.6**	**-0.1**
	SNR=6.3						
GANJ	**Ganja**	**2.23**	**355**	P	**Pb**	**06 36 21.5**	**-0.7**
	SNR=5.6						
ZNJK	**Zanjan**	**2.43**	**135**	*e*Pn	**Pb**	**06 36 24.6**	**-1.3**

IDC 07 06:39:33.5±2.7, 54°.08N×86°.43E, h0km, mb1 3.7/2, mb1mx3.2/49, mbtmp3.7/2, ML3.1/2, Error ellipse: s-maj=22.8km s-min=13.8km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**263**	*i*		06 45 12.8	
	baz=84,slow=351,SNR=3.3						
ZALV	**Zalesovo Beam**	**0.96**	**263**	Pg	Pg	06 39 50.3	-1.5
	3.8nm,0.3s,baz=80,slow=16,SNR=21						
ZALV				Lg	Lg	06 40 06.0	
	3.5nm,0.3s,baz=73,slow=28,SNR=15						
ZALV				Rg	Rg	06 40 11.5	
	48nm,0.9s,baz=81,slow=38,SNR=18						
KURBB	**Kurchatov Arra**	**5.95**	**238**	Pn	Pn	06 41 03.7	+1.0
	0.3nm,0.3s,baz=55,slow=14,SNR=4.4						
MKAR	**Makanchi Array**	**7.75**	**202**	Pn	Pn	06 41 28.7	+1.2
	0.4nm,0.3s,baz=25,slow=14,SNR=10						

*AZER **07** 06:44:33.8±0.2, 38°.37N×46°.49E, h8km±5km, ml3.6/17, Error ellipse: s-maj=10.0km s-min=2.2km az=24.0*
*TEH **07** 06:44:37.0, 38°.47N×46°.59E, h6km, ML3.4*
ISC 07 06:44:36.0±1.2, 38°.40N±0°.03×46°.49E±0°.02, h4km±12km, n48, σ1°17/57, 15C-11D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ITBZ	**Tabriz**	**0.32**	**238**	*e*Pg	**Pb**	**06 44 44.8**	**+0.3**
ITBZ				IAMB	IAmb	06 44 51.3	
	comp=N,48μm,0.2s						
ITBZ				IAMB	IAmb	06 44 51.4	
	comp=Z,24μm,0.3s						
ITBZ				IAMB	IAmb	06 44 57.7	
	comp=E,51μm,0.5s						
IHRS	**Heris**	**0.44**	**101**	*e*Pg	**Pg**	**06 44 44.5**	**-0.1**
IHRS				IAMB	IAmb	06 44 51.2	
	comp=E,13μm,0.4s						
IHRS				IAMB	IAmb	06 44 51.3	
	comp=N,280nm,0.1s						
IHRS				IAMB	IAmb	06 44 51.4	
	comp=Z,26μm,0.2s						
ORD	**Ordubad**	**0.65**	**323**	⇑P	**Pb**	**06 44 49.7**	**-0.4**
ORD				⇓S	**Sb**	**06 44 58.9**	**-0.7**
ORD	**Ordubad**	**0.65**	**323**	*e*Pg	**Pb**	**06 44 49.7**	**-0.4**
IMRD	**Marand**	**0.69**	**297**	*e*Pg	**Pb**	**06 44 51.1**	**+0.3**
IMRD				IAMB	IAmb	06 45 05.2	
	comp=N,80nm,0.2s						
IMRD				IAMB	IAmb	06 45 05.5	
	comp=Z,41μm,0.4s						
IMRD				IAMB	IAmb	06 45 11.6	
	comp=E,60μm,0.5s						
ISHB	**Shabestar**	**0.70**	**260**	*e*Pg	**Pn**	**06 44 52.8**	**-0.2**
ISHB				IAMB	IAmb	06 45 06.5	
	comp=Z,17μm,0.4s						
ISHB				IAMB	IAmb	06 45 10.6	
	comp=N,19μm,0.3s						
ISHB				IAMB	IAmb	06 45 12.3	
	comp=E,25μm,0.3s						
IBST	**Bostanabad**	**0.77**	**156**	*e*Pg	**Pg**	**06 44 51.2**	**+0.4**
IBST				IAMB	IAmb	06 44 51.5	
	comp=Z,26μm,0.1s						
IBST				IAMB	IAmb	06 45 03.7	
	comp=N,19μm,0.2s						
IBST				IAMB	IAmb	06 45 04.3	
	comp=E,27μm,0.2s						
IAZR	**Azarshahr**	**0.83**	**209**	*e*Pg	**Pn**	**06 44 54.1**	**-0.7**
IAZR				IAMB	IAmb	06 45 11.5	
	comp=E,47μm,0.4s						
IAZR				IAMB	IAmb	06 45 14.2	
	comp=Z,17μm,0.2s						
IAZR				IAMB	IAmb	06 45 16.3	
	comp=N,58μm,0.3s						
ISRB	**Sarab**	**1.09**	**122**	*e*Pg	**Pg**	**06 44 57.1**	**+0.1**
ISRB				IAMB	IAmb	06 45 16.0	
	comp=N,14μm,0.2s						
ISRB				IAMB	IAmb	06 45 16.3	
	comp=Z,10μm,0.3s						
ISRB				IAMB	IAmb	06 45 16.8	
	comp=E,20μm,0.3s						
NAX	**Nakhchivan**	**1.09**	**315**	⇑P	**Pn**	**06 44 58.2**	**-0.2**
NAX				⇑S	**Sn**	**06 45 14.2**	**+0.3**
NAX	**Nakhchivan**	**1.09**	**315**	*e*Pg	**Pn**	**06 44 58.1**	**-0.2**
GRMI	**Germi**	**1.17**	**69**	*e*Pg	**Pg**	**06 44 57.4**	**-1.1**
SBZ	**Shahbuz**	**1.23**	**324**	⇑P	**Pn**	**06 45 00.4**	**+0.2**
SBZ				⇓S	**Sn**	**06 45 18.0**	**+0.6**
SBZ	**Shahbuz**	**1.23**	**324**	*e*Pg	**Pn**	**06 45 00.4**	**+0.2**
LRK	**Lerik**	**1.47**	**80**	⇑P	**Pn**	**06 45 03.6**	**+0.1**
LRK				⇓S	**Sg**	**06 45 22.9**	**-0.3**
LRK	**Lerik**	**1.47**	**80**	*e*Pg	**Pn**	**06 45 03.6**	**+0.1**
MAKU	**Maku**	**1.70**	**304**	*e*Pn	**Pg**	**06 45 08.8**	**+0.1**
GLBA	**Clilabad**	**1.70**	**60**	⇓P	**Pn**	**06 45 07.0**	**+0.4**
GLBA				⇑S	**Sg**	**06 45 32.9**	**+2.1**
GLBA	**Clilabad**	**1.70**	**60**	*e*Pn	**Pn**	**06 45 07.0**	**+0.4**
ASTR	**Astara**	**1.81**	**84**	⇓P	**Pb**	**06 45 09.7**	**-0.1**
ASTR				⇑S	**Sg**	**06 45 34.2**	**0.0**
ASTR	**Astara**	**1.81**	**84**	*e*Pn	**Pb**	**06 45 09.6**	**-0.1**
LKRN	**Lenkeran, Azer**	**1.82**	**80**	⇑P	**Pb**	**06 45 09.8**	**-0.1**
LKRN				⇑S	**Sg**	**06 45 34.7**	**+0.3**
LKRN	**Lenkeran, Azer**	**1.82**	**80**	*e*Pn	**Pb**	**06 45 09.7**	**-0.1**
HYR	**Heyderabad**	**1.83**	**316**	⇓P	**Pb**	**06 45 09.5**	**-0.8**
HYR				⇓S	**Sg**	**06 45 36.4**	**+1.5**
HYR	**Heyderabad**	**1.83**	**316**	*e*Pn	**Pb**	**06 45 09.4**	**-0.8**
BRDA	**Brd**	**1.93**	**16**	⇑P	**Pb**	**06 45 10.7**	**-1.2**
BRDA	**Brd**	**1.93**	**16**	*e*Pn	**Pb**	**06 45 10.6**	**-1.2**
ZRD	**Zardab**	**2.09**	**26**	⇓P	**Pn**	**06 45 12.6**	**+0.7**
ZRD				⇑S	**Sg**	**06 45 44.4**	**+1.2**
ZRD	**Zardab**	**2.09**	**26**	*e*Pn	**Pn**	**06 45 12.5**	**+0.7**
CLDR	**Caldiran**	**2.15**	**291**	*e*Pn	**Pg**	**06 45 17.8**	**+0.6**
GNI	**Garni**	**2.21**	**323**	*e*Pn	**Pb**	**06 45 16.9**	**+0.2**
GANJ	**Ganja**	**2.24**	**357**	⇑P	**Pn**	**06 45 15.2**	**+1.1**
GANJ	**Ganja**	**2.24**	**357**	*e*Pn	**Pn**	**06 45 15.1**	**+1.1**
TASB	**TASBURUN-IGDIR**	**2.36**	**313**	*e*Pn	**Pg**	**06 45 19.7**	**-1.5**
GDB	**GEDABAY**	**2.38**	**346**	⇓P	**Pn**	**06 45 17.5**	**+1.3**
GDB	**GEDABAY**	**2.38**	**346**	*e*Pn	**Pn**	**06 45 17.4**	**+1.3**
VANB	**Van**	**2.44**	**275**	*e*Pn	**Pg**	**06 45 22.1**	**-0.8**
ZNJK	**Zanjan**	**2.46**	**134**	*e*Pn	**Pn**	**06 45 15.9**	**-1.2**
QZX	**Qazax, Azerbai**	**2.79**	**342**	⇑P	**Pb**	**06 45 24.1**	**-2.3**
QZX	**Qazax, Azerbai**	**2.79**	**342**	*e*Pn	**Pb**	**06 45 24.1**	**-2.3**
SEKA	**Sheki**	**2.85**	**11**	⇓P	**Pb**	**06 45 25.0**	**-2.7**
SEKA	**Sheki**	**2.85**	**11**	*e*Pn	**Pb**	**06 45 24.9**	**-2.7**
PQL	**Pirkuli**	**2.88**	**34**	⇑P	**Pn**	**06 45 25.0**	**+2.0**
PQL	**Pirkuli**	**2.88**	**34**	*e*Pn	**Pn**	**06 45 24.9**	**+2.0**
XNQ	**Khinaliq**	**3.04**	**24**	⇑P	**Pn**	**06 45 26.8**	**+1.6**
XNQ	**Khinaliq**	**3.04**	**24**	*e*Pn	**Pn**	**06 45 26.7**	**+1.6**
ATGJ	**Altiaghaj**	**3.10**	**37**	⇓P	**Pn**	**06 45 27.5**	**+1.7**
ATGJ	**Altiaghaj**	**3.10**	**37**	*e*Pn	**Pn**	**06 45 27.5**	**+1.7**

*AZER **07** 06:57:13.0±32.0, 38°.23N×46°.37E, h15km, ml3.3/13, Error ellipse: s-maj=12.9km s-min=3.5km az=22.0*
*ISCJB **07** 06:57:17.4±0.7, 38°.38N±0°.05×46°.50E±0°.04, h10km, Error ellipse: s-maj=8.0km s-min=4.2km az=17.8*
*TEH **07** 06:57:17.0, 38°.46N×46°.59E, h10km, ML3.1*
ISC 07 06:57:17.8±0.9, 38°.44N±0°.05×46°.56E±0°.03, h10km, n20, σ1°26/22, 8C-9D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ITBZ	**Tabriz**	**0.38**	**238**	*e*Pg	**Pg**	**06 57 25.4**	**0.0**
ITBZ				IAMB	IAmb	06 57 31.9	
	comp=N,46μm,0.1s						
ITBZ				IAMB	IAmb	06 57 31.9	
	comp=E,43μm,0.3s						
ITBZ				IAMB	IAmb	06 57 31.9	
	comp=Z,25μm,0.3s						
IHRS	**Heris**	**0.40**	**107**	*e*Pg	**Pg**	**06 57 25.0**	**-0.7**
IHRS				IAMB	IAmb	06 57 31.7	
	comp=E,10μm,0.3s						
IHRS				IAMB	IAmb	06 57 31.8	
	comp=N,278nm,0.2s						
IHRS				IAMB	IAmb	06 57 31.8	
	comp=Z,71μm,0.2s						
ORD	**Ordubad**	**0.66**	**318**	⇓P	**Pg**	**06 57 30.2**	**-0.4**
ORD				⇓S	**Sb**	**06 57 39.6**	**-1.2**
IMRD	**Marand**	**0.73**	**292**	*e*Pg	**Pg**	**06 57 31.5**	**-0.4**
IMRD				IAMB	IAmb	06 57 45.5	
	comp=N,66nm,0.2s						
IMRD				IAMB	IAmb	06 57 49.0	
	comp=Z,25μm,0.2s						
IMRD				IAMB	IAmb	06 57 49.1	
	comp=E,40μm,0.2s						
ISHB	**Shabestar**	**0.76**	**259**	*e*Pg	**Pb**	**06 57 32.7**	**-0.5**
ISHB				IAMB	IAmb	06 57 45.6	
	comp=N,16μm,0.2s						
ISHB				IAMB	IAmb	06 57 45.9	
	comp=Z,9μm,0.3s						
ISHB				IAMB	IAmb	06 57 55.5	
	comp=E,14μm,0.4s						
IBST	**Bostanabad**	**0.78**	**160**	IAMB	IAmb	06 57 32.2	
	comp=N,12μm,0.2s						
IBST				IAMB	IAmb	06 57 44.0	
	comp=Z,14μm,0.3s						
IBST				IAMB	IAmb	06 57 45.2	
	comp=E,15μm,0.2s						
IAZR	**Azarshahr**	**0.89**	**211**	IAMB	IAmb	06 57 52.2	
	comp=Z,13μm,0.2s						
IAZR				IAMB	IAmb	06 57 56.8	
	comp=N,29μm,0.3s						
IAZR				IAMB	IAmb	06 57 59.5	
	comp=E,31μm,0.3s						
ISRB	**Sarab**	**1.06**	**125**	*e*Pg	**Pb**	**06 57 37.5**	**-0.9**
ISRB				IAMB	IAmb	06 57 54.4	
	comp=E,14μm,0.2s						
ISRB				IAMB	IAmb	06 57 56.5	
	comp=N,16μm,0.2s						
ISRB				IAMB	IAmb	06 57 56.7	
	comp=Z,7μm,0.2s						
NAX	**Nakhchivan**	**1.11**	**312**	⇑P	**Pb**	**06 57 37.3**	**-1.8**
NAX				⇑S	**Sn**	**06 57 56.1**	**+1.2**
SBZ	**Shahbuz**	**1.24**	**321**	⇑S	**Sn**	**06 57 58.9**	**+0.8**
LRK	**Lerik**	**1.41**	**81**	⇓P	**Pb**	**06 57 42.9**	**-1.4**
LRK				⇓S	**Sg**	**06 58 04.5**	**+1.3**
GLBA	**Clilabad**	**1.64**	**60**	⇑P	**Pg**	**

IMRD	**Marand**	**0.73**	**290**	*e*Pg		**Pg**	**07 02 22.7**	**-2.6**
IMRD				IAMB		IAmb	07 02 36.1		
	comp=Z,44μm,0.2s								
IMRD				IAMB		IAmb	07 02 36.5		
	comp=N,426nm,0.1s								
IMRD				IAMB		IAmb	07 02 49.6		
	comp=E,14μm,0.7s								
ISHB	**Shabestar**	**0.78**	**257**	*e*Pg		**Pg**	**07 02 23.5**	**-2.8**
ISHB				IAMB		IAmb	07 02 41.4		
	comp=N,95μm,0.4s								
ISHB				IAMB		IAmb	07 02 42.4		
	comp=E,93μm,0.5s								
ISHB				IAMB		IAmb	07 02 43.0		
	comp=Z,66μm,0.4s								
IBST	**Bostanabad**	**0.80**	**162**	*e*Pg		**Pg**	**07 02 22.9**	**-3.7**
IBST				IAMB		IAmb	07 02 23.3		
	comp=Z,58μm,0.2s								
IBST				IAMB		IAmb	07 02 38.0		
	comp=N,72μm,0.4s								
IBST				IAMB		IAmb	07 02 40.7		
	comp=E,94μm,0.4s								
IAZR	**Azarshahr**	**0.92**	**211**	*e*Pg		**Pg**	**07 02 25.7**	**-3.2**
IAZR				IAMB		IAmb	07 02 50.7		
	comp=E,14μm,0.6s								
IAZR				IAMB		IAmb	07 02 54.4		
	comp=N,11μm,0.9s								
IAZR				IAMB		IAmb	07 02 59.0		
	comp=Z,86μm,0.6s								
ISRB	**Sarab**	**1.07**	**127**	*e*Pg		**Pg**	**07 02 28.5**	**-3.2**
ISRB				IAMB		IAmb	07 02 51.1		
	comp=E,91μm,0.6s								
ISRB				IAMB		IAmb	07 02 55.7		
	comp=Z,36μm,0.6s								
ISRB				IAMB		IAmb	07 02 59.1		
	comp=N,62μm,0.6s								
GRMI	**Germi**	**1.08**	**71**	*e*Pg		**Pg**	**07 02 29.1**	**-2.7**
GRMI				*e*Sg		**Sg**	**07 02 44.7**	**-1.3**
GRMI				IAML			07 02 54.6		
	comp=N,2μm,0.5s								
GRMI	**Germi**	**1.08**	**71**	*e*Pg		**Pg**	**07 02 29.2**	**-2.7**
NAX	**Nakhchivan**	**1.11**	**310**	P		**Pb**	**07 02 30.1**	**-2.4**
	SNR=71								
NAX				⇑S		**Sg**	**07 02 46.0**	**-0.8**
SBZ	**Shahbuz**	**1.23**	**319**	⇓P		**Pn**	**07 02 31.7**	**-2.8**
SBZ				⇓S		**Sn**	**07 02 51.3**	**0.0**
LRK	**Lerik**	**1.39**	**82**	P		**Pn**	**07 02 34.5**	**-2.2**
	SNR=210								
LRK				⇓S		**Sn**	**07 02 55.1**	**-0.1**
GLBA	**Ciilabad**	**1.61**	**61**	⇓P		**Pn**	**07 02 37.7**	**-1.9**
	SNR=59								
GLBA				⇓S		**Sg**	**07 03 02.8**	**-0.1**
MAKU	**Maku**	**1.73**	**301**	*e*Pg		**Pg**	**07 02 40.4**	**-1.0**
MAKU				IAML			07 03 09.6		
	comp=N,911nm,0.5s								
MAKU				IAML			07 03 10.1		
	comp=E,707nm,0.5s								
MAKU	**Maku**	**1.73**	**301**	*e*Pn		**Pn**	**07 02 40.4**	**-1.0**
ASTR	**Astara**	**1.73**	**86**	⇑P		**Pn**	**07 02 40.1**	**-1.2**
	SNR=129								
ASTR				⇑S		**Sg**	**07 03 06.0**	**-0.8**
LKRN	**Lenkeran, Azer**	**1.74**	**81**	⇓P		**Pn**	**07 02 40.1**	**-1.2**
	SNR=45								
LKRN				⇑S		**Sg**	**07 03 06.0**	**-1.0**
HYR	**Heyderabad**	**1.84**	**313**	⇓P		**Pn**	**07 02 42.4**	**-0.4**
HYR				⇓S		**Sg**	**07 03 09.2**	**-1.1**
BRDA	**Brd**	**1.85**	**14**	⇑P		**Pn**	**07 02 41.4**	**-1.5**
	SNR=15								
BRDA				⇑S		**Sb**	**07 03 08.2**	**-0.1**
SAAT	**Saatly**	**2.00**	**45**	⇓P		**Pn**	**07 02 44.3**	**-0.6**
	SNR=10.0								
SAAT				⇑S		**Sb**	**07 03 13.1**	**+0.7**
ZRD	**Zardab**	**2.00**	**25**	⇑P		**Pn**	**07 02 43.8**	**-1.2**
	SNR=38								
ZRD				⇓S		**Sb**	**07 03 12.6**	**0.0**
GANJ	**Ganja**	**2.19**	**355**	⇑P		**Pn**	**07 02 47.2**	**-0.4**
	SNR=109								
CLDR	**Caldiran**	**2.19**	**289**	*e*P		**Pb**	**07 02 49.3**	**-1.8**
CLDR	**Caldiran**	**2.19**	**289**	*e*Pn		**Pb**	**07 02 49.2**	**-1.8**
GNI	**Garni**	**2.21**	**320**	*e*P		**Pn**	**07 02 48.2**	**+0.2**
GNI	**Garni**	**2.21**	**320**	Pn		**Pb**	**07 02 49.4**	**-1.8**
	comp=E,35nm,0.3s,baz=139,slow=1.9,SNR=83								
GNI				LR		LR	07 03 21.0		
	comp=E,401nm,18.9s,baz=62,slow=33								
GNI	**Garni**	**2.21**	**320**	*e*Pn		**Pb**	**07 02 49.2**	**-2.0**
GNI	**Garni**	**2.21**	**320**	*e*Pn		**Pn**	**07 02 48.2**	**+0.2**
KDMR	**Kurdemir**	**2.27**	**32**	⇓P		**Pn**	**07 02 48.0**	**-0.7**
	SNR=4.0								
KDMR				⇑S		**Sb**	**07 03 20.0**	**-0.4**
MNGR	**Mingechevir, A**	**2.34**	**9**	⇑P		**Pn**	**07 02 48.9**	**-0.7**
	SNR=19								
MNGR				⇓S		**Sb**	**07 03 22.6**	**+0.3**
GDB	**GEDABAY**	**2.34**	**344**	⇑P		**Pn**	**07 02 49.6**	**-0.3**
	SNR=106								
TASB	**TASBURUN-IGDIR**	**2.37**	**310**	*e*P		**Pn**	**07 02 51.2**	**+1.0**
TASB	**TASBURUN-IGDIR**	**2.37**	**310**	*e*Pn		**Pn**	**07 02 51.1**	**+0.9**
ALIB	**Äli-Bayra**	**2.40**	**51**	⇓P		**Pn**	**07 02 50.1**	**-0.3**
	SNR=16								
ZNJK	**Zanjan**	**2.45**	**136**	*e*Pn		**Pn**	**07 02 51.2**	**-0.1**
ZNJK				*e*Sg		**Sb**	**07 03 26.9**	**+1.1**
ZNJK	**Zanjan**	**2.45**	**136**	*e*Pn		**Pn**	**07 02 51.3**	**-0.1**
VANB	**Van**	**2.51**	**274**	*e*P		**Pb**	**07 02 53.8**	**-2.6**
VANB	**Van**	**2.51**	**274**	*e*Pn		**Pb**	**07 02 53.8**	**-2.6**
IML	**Ismayilli**	**2.63**	**27**	⇓P		**Pn**	**07 02 53.3**	**-0.4**
	SNR=8.7								
IML				⇓S		**Sb**	**07 03 28.3**	**-2.5**
CUKT	**Cukurca**	**2.65**	**244**	*e*P		**Pb**	**07 02 56.4**	**-2.4**
CUKT	**Cukurca**	**2.65**	**244**	*e*Pn		**Pb**	**07 02 56.5**	**-2.4**
QBL	**Gabala**	**2.66**	**21**	⇓P		**Pn**	**07 02 53.8**	**-0.3**
	SNR=23								
QZX	**Qazax, Azerbai**	**2.75**	**341**	⇑P		**Pn**	**07 02 55.3**	**-0.1**
	SNR=62								
QZX				⇑S		**Sb**	**07 03 32.5**	**-1.8**
GBS	**Qobustan**	**2.75**	**41**	⇑P		**Pn**	**07 02 55.2**	**-0.2**
	SNR=15								
SEKA	**Sheki**	**2.78**	**10**	⇓P		**Pn**	**07 02 55.5**	**-0.3**
	SNR=44								
SEKA				⇓S		**Sb**	**07 03 34.0**	**-1.1**
PQL	**Pirkuli**	**2.79**	**33**	⇓P		**Pn**	**07 02 55.4**	**-0.6**
	SNR=12								
PQL				⇓S		**Sb**	**07 03 33.1**	**-2.4**
XNQ	**Khinaliq**	**2.96**	**23**	⇓P		**Pn**	**07 02 57.8**	**-0.6**
	SNR=17								
DDFL	**Dedoflistskaro**	**3.00**	**353**	P		**Pb**	**07 03 05.5**	**+0.8**
DDFL				S		**Sg**	**07 03 45.9**	**-1.5**
DGRG	**David-gareji**	**3.12**	**343**	*e*PN		Pg	07 03 21.1	+10
DGRG				*e*S		Sg	07 04 13.5	+22
AKT	**Akhty**	**3.14**	**16**	⇑*i*PN		**Pb**	**07 03 04.2**	**-2.8**
AKT				*e*			07 03 13.3		
AKT				*e*S		**Sb**	**07 03 46.0**	**+0.6**
AKT				*e*			07 03 53.9		
AKT				*e*			07 04 05.7		
AKT				pmax	pmax				
	comp=Z,168nm,0.6s								
AKT				smax	smax				
	comp=N,547nm,0.8s								
AKT				smax	smax				
	comp=N,430nm,0.7s								
AKT				smax	smax				
	comp=E,224nm,0.8s								
SIZA	**Siyzn**	**3.16**	**34**	⇑P		**Pn**	**07 03 00.8**	**-0.2**
	SNR=10								
ZKTA	**Zakatala**	**3.17**	**0**	⇓P		**Pn**	**07 03 01.1**	**+0.1**
	SNR=22								
ZKTA				⇓S		**Sb**	**07 03 43.6**	**-2.6**
QSAR	**Qusar**	**3.31**	**22**	⇑P		**Pn**	**07 03 02.5**	**-0.5**
	SNR=6.7								
KZRT	**Kazreti**	**3.37**	**331**	P		**Pb**	**07 03 10.8**	**-0.1**
KZRT				S		**Sb**	**07 03 52.0**	**+0.1**
LGD	**Lagodekhi**	**3.38**	**356**	P		**Pb**	**07 03 08.0**	**-3.0**
LGD				S		**Sb**	**07 03 53.1**	**+0.9**
LGD	**Lagodekhi**	**3.38**	**356**	*e*PN		**Pb**	**07 03 08.0**	**-3.0**
LGD				*e*S		**Sb**	**07 03 53.0**	**+0.9**
SIRT	**Sirnak**	**3.42**	**255**	*e*P		**Pb**	**07 03 08.3**	**-3.5**
SIRT	**Sirnak**	**3.42**	**255**	*e*Pn		**Pb**	**07 03 07.7**	**-4.1**
KARS	**Kars**	**3.46**	**310**	PN		**Pb**	**07 03 11.8**	**-0.9**
KARS	**Kars**	**3.46**	**310**	*e*Pn		**Pb**	**07 03 11.8**	**-0.9**
TBLG	**Delisi**	**3.56**	**337**	*e*P		**Pb**	**07 03 09.9**	**-4.2**
TBLG	**Delisi**	**3.56**	**337**	P		**Pb**	**07 03 12.9**	**-1.2**
TBLG				S		**Sb**	**07 04 01.1**	**+3.7**
TBLG	**Delisi**	**3.56**	**337**	*e*Pn		**Pb**	**07 03 12.1**	**-2.0**
TBLG	**Delisi**	**3.56**	**337**	*e*PN		**Pb**	**07 03 12.1**	**-2.0**
TBLG	**Delisi**	**3.56**	**337**	*e*Pn		**Pb**	**07 03 13.1**	**-1.0**
HKZM	**Kohzaman**	**3.60**	**148**	*e*Pn		**Pn**	**07 03 08.0**	**+0.8**
QABG	**Abgarm-Qazvin**	**3.65**	**138**	*e*Pn		**Pn**	**07 03 08.1**	**+0.2**
QABG				IAMB		IAmb	07 04 11.8		
	comp=Z,0.0nm,1.6s								
QABG				IAMB		IAmb	07 04 14.5		
	comp=E,0.0nm,1.1s								
QABG				IAMB		IAmb	07 04 26.2		
	comp=N,0.0nm,2.2s								
IDHR	**Dehrash**	**3.76**	**182**	IAMB		IAmb	07 04 23.4		
	comp=Z,4μm,0.8s								
IDHR				IAMB		IAmb	07 04 27.2		
	comp=N,5μm,0.7s								
AKH	**Akhalkalaki**	**3.78**	**322**	*e*Pn		**Pb**	**07 03 17.1**	**-0.9**
AKH	**Akhalkalaki**	**3.78**	**322**	*e*PN		**Pb**	**07 03 17.2**	**-0.9**
AKH	**Akhalkalaki**	**3.78**	**322**	*e*Pn		**Pb**	**07 03 17.8**	**-0.3**
QALM	**Alamut, Qazvin**	**3.82**	**121**	*e*Pn		**Pn**	**07 03 11.3**	**+1.1**
QALM				IAMB		IAmb	07 04 23.2		
	comp=N,0.0nm,1.1s								
QALM				IAMB		IAmb	07 04 23.2		
	comp=Z,0.0nm,1.0s								
DUS	**Dusheti**	**3.90**	**339**	P		**Pb**	**07 03 21.2**	**+1.2**
DUS				S		**Sg**	**07 04 13.5**	**-2.7**
IBZA	**Bozab**	**4.12**	**165**	IAMB		IAmb	07 04 29.8		
	comp=E,0.0nm,0.7s								
IBZA				IAMB		IAmb	07 04 29.8		
	comp=N,0.0nm,1.5s								
IBZA				IAMB		IAmb	07 04 30.4		
	comp=Z,0.0nm,1.0s								
HAGD	**Aghdareh**	**4.18**	**150**	*e*Pn		**Pn**	**07 03 15.8**	**+0.7**
GUDG	**Gudauri**	**4.30**	**339**	P		**Pb**	**07 03 26.2**	**-0.8**
GUDG				S		**Sg**	**07 04 28.2**	**-1.1**
IKOM	**Komasi**	**4.35**	**170**	*e*Pn		**Pn**	**07 03 19.1**	**+1.7**
IKOM				IAMB		IAmb	07 04 38.7		
	comp=Z,0.0nm,2.4s								
IKOM				IAMB		IAmb	07 04 41.2		
	comp=N,0.0nm,1.2s								
ONI	**Oni**	**4.76**	**331**	P		**Pb**	**07 03 34.2**	**-0.5**
ONI				S		**Sg**	**07 04 39.6**	**-4.3**
ONI	**Oni**	**4.76**	**331**	*e*PN		**Pb**	**07 03 34.1**	**-0.5**
GROC	**Groznyy**	**4.77**	**353**	*e*PN		**Pb**	**07 03 33.1**	**-1.7**
GROC				pmax	pmax				
	comp=Z,119nm,1.2s								
ZEI	**Tsey**	**4.78**	**336**	*e*PN		Pn	07 03 28.0	+4.7
ZEI				pmax	pmax				
	comp=Z,41nm,0.6s								
IALA	**Alasht**	**5.50**	**114**	*e*Pn		**Pn**	**07 03 35.1**	**+1.7**
IALA				IAMB		IAmb	07 03 59.9		
	comp=Z,702nm,0.7s								
IALA				IAMB		IAmb	07 05 30.9		
	comp=E,1μm,0.6s								
NCK	**Nalchik**	**5.51**	**337**	*i* P		Pb	07 03 41.0	-6.4
NEY	**Neytrino**	**5.60**	**330**	*i* P		Pb	07 03 41.9	-7.2
KIV	**Kislovodsk**	**6.22**	**333**	*e*Pn		Pn	07 03 49.2	+6.1
KIV	**Kislovodsk**	**6.22**	**333**	*e*P		Pn	07 03 49.3	+6.2
KIV				pmax	pmax				
	comp=Z,11nm,1.1s								
KIV	**Kislovodsk**	**6.22**	**333**	*e*Pn		Pb	07 03 51.3	-8.3
KRSH	**Karshahi**	**6.34**	**133**	*e*Pn		**Pn**	**07 03 44.4**	**-0.5**
KRSH				IAMB		IAmb	07 05 39.2		
	comp=Z,0.0nm,1.4s								
KRSH				IAMB		IAmb	07 05 42.7		
	comp=E,0.0nm,1.0s								
KRSH				IAMB		IAmb	07 05 45.9		
	comp=N,0.0nm,1.1s								
IANJ	**Anjilo**	**6.59**	**115**	*e*Pn		**Pn**	**07 03 51.2**	**+3.0**
GAZ	**Gaziantep**	**7.53**	**263**	*e*Pn		**Pn**	**07 04 03.1**	**+2.0**
ANAR	**Anarak**	**7.83**	**130**	*e*Pn		**Pn**	**07 04 06.4**	**+1.1**
ANAR				IAMB		IAmb	07 06 40.3		
	comp=Z,0.0nm,1.5s								
ANAR				IAMB		IAmb	07 06 41.8		
	comp=E,0.0nm,1.2s								
ANAR				IAMB		IAmb	07 06 53.9		
	comp=N,0.0nm,1.1s								
GEYT	**Alibeck**	**9.10**	**90**	Pn		**Pn**	**07 04 21.1**	**-1.4**
	comp=N,1.7nm,0.3s,baz=292,slow=17,SNR=12								
GYA0B	**ALIBECK ARRAY**	**9.10**	**90**	*e*Pn		**Pn**	**07 04 21.3**	**-1.2**
BR101	**Keskin Array S**	**10.14**	**281**	*e*Pn		Pn	07 04 41.4	+4.5
BR131	**Keskin Array S**	**10.14**	**281**	*e*Pn		**Pn**	**07 04 39.0**	**+2.1**
BRTR	**Keskin Array B**	**10.14**	**281**	Pn		Pn	07 04 41.4	+4.5
	comp=N,0.1nm,0.3s,baz=102,slow=12,SNR=7.8								
ISP	**Isparta**	**12.67**	**272**	*i* P		**Pn**	**07 05 12.9**	**+1.5**
ABKAR	**Akbulak array**	**14.44**	**37**	*e*Pn		**Pn**	**07 05 34.4**	**-1.1**
ABKAR				*e*Sn		**Sn**	**07 08 12.9**	**-2.6**
RAYN	**Ar Rayn**	**14.93**	**184**	*e*Pn		Pn	07 05 36.9	-5.4
RAYN	**Ar Rayn**	**14.93**	**184**	*e*P		Pn	07 05 36.9	-5.4
UOSS	**Minazif**	**15.76**	**146**	*e*Pn		**Pn**	**07 05 47.5**	**-5.6**
	comp=N,4.9nm,1.0s								
KIEV	**Kiev**	**17.34**	**320**	*i* P		**P**	**07 06 18.6**	**+4.1**
KIEV				pmax	pmax				
	comp=Z,2.0nm,1.1s								
OBN	**Obninsk**	**17.98**	**341**	⇓*i*P		**P**	**07 06 25.7**	**+4.2**
OBN				pmax	pmax				
	comp=Z,3.0nm,0.7s								
OBN				MLR		MLR			
	comp=Z,478nm,23.0s								
BUR04	**Bucovina Ar. S**	**18.05**	**307**	*e*Pn		**P**	**07 06 23.1**	**+0.5**
WSAR	**Wadi Sarin**	**18.34**	**142**	LR		LR	07 14 08.8		
	comp=Z,515nm,20.1s,baz=21,slow=39								
KK31	**Karatay Array**	**18.68**	**68**	*e*P		**P**	**07 06 29.0**	**-0.3**
KK31	**Karatay Array**	**18.68**	**68**	*e*P		**P**	**07 06 29.0**	**-0.3**
KKAR	**Karatay Array**	**18.68**	**68**	*e*P		**P**	**07 06 29.0**	**-0.3**
KKAR	**Karatay Array**	**18.68**	**68**	*e*P		**P**	**07 06 29.0**	**-0.3**
ARU	**Arti**	**19.66**	**20**	*i* P		**Pn**	**07 06 42.8**	**+1.5**
ARU				pmax	pmax				
	comp=Z,5.0nm,1.0s								
AAK	**Ala-Archa**	**21.57**	**70**	P		**P**	**07 07 04.7**	**+3.8**
	comp=Z,4.5nm,0.9s,baz=226,slow=8.4,SNR=7.1								
AAK	**Ala-Archa**	**21.57**	**70**	*e*P		**P**	**07 07 02.9**	**+1.9**
	comp=Z,9.5nm,0.8s								
AAK	**Ala-Archa**	**21.57**	**70**	*i* P		**P**	**07 06 59.6**	**-1.3**
AAK				pmax	pmax				
	comp=Z,6.0nm,1.0s								
FRU	**Bishkek**	**21.66**	**69**	*e*P		**P**	**07 07 05.0**	**+3.2**
FRU				*e*			07 07 41.0		
BRVK	**Borovoye**	**21.91**	**41**	*e*P		**P**	**07 07 06.9**	**+2.6**
	comp=Z,6.0nm,0.6s								
BRVK	**Borovoye**	**21.91**	**41**	*ce*P		**P**	**07 07 06.7**	**+2.4**
BRVK				pmax	pmax				
	comp=Z,15nm,0.7s								
NRN	**Naryn**	**22.70**	**73**	*e*P		**P**	**07 07 14.3**	**+1.1**
	comp=Z,8.2nm,1.1s								
NRN	**Naryn**	**22.70**	**73**	*e*P		**P**	**07 07 14.3**	**+1.1**
NRN				pmax	pmax				
	comp=Z,8.0nm,1.1s								
KSH	**Kashi**	**22.82**	**78**	*e*P		**P**	**07 07 11.0**	**-3.4**
KURBB	**Kurchatov Arra**	**25.60**	**51**	P		**P**	**07 07 41.3**	**+1.0**
	comp=Z,2.4nm,0.7s,baz=262,slow=9.8,SNR=9.6								
KURK	**Kurchatov**	**25.68**	**51**	*e*P		**P**	**07 07 41.3**	**+0.3**
KURK	**Kurchatov**	**25.68**	**51**	*ce*P		**P**	**07 07 41.2**	**+0.1**
KURK				pmax	pmax				
	comp=Z,5.0nm,0.9s								
GEA0	**GERESS Array S**	**25.77**	**304**	*e*P		**P**	**07 07 41.9**	**-0.1**
GEC2	**GERESS Array S**	**25.77**	**304**	*e*P		**P**	**07 07 44.2**	**+2.1**
	comp=Z,5.7nm,1.1s								
GEC2	**GERESS Array S**	**25.77**	**304**	*e*P		**P**	**07 07 44.2**	**+2.1**
GEC2				pmax	pmax				
	comp=Z,6.0nm,1.1s								
GERES	**GERESS Array B**	**25.77**	**304**	P		**P**	**07 07 42.0**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=82,slow=9.0,SNR=3.0								
GERES	**GERESS Array B**	**25.77**	**304**	P		**P**	**07 07 42.0**	**-0.1**
MK31	**Makanchi Array**	**27.37**	**61**	*e*P		**P**	**07 07 57.6**	**+1.2**
MK31	**Makanchi Array**	**27.37**	**61**	*e*P		**P**	**07 07 57.6**	**+1.2**
MK32	**Makanchi Array**	**27.37**	**61**	*e*P		**P**	**07 07 57.4**	**+1.0**
MKAR	**Makanchi Array**	**27.37**	**61**	P		**P**	**07 07 57.4**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=262,slow=10.0,SNR=2.2								
MKAR	**Makanchi Array**	**27.37**	**61**	*e*P		**P**	**07 07 57.0**	**+0.6**
	comp=Z,9.9nm,0.7s								
MKAR	**Makanchi Array**	**27.37**	**61**	*e*P		**P**	**07 07 57.0**	**+0.6**
MKAR				pmax	pmax				
	comp=Z,10.0nm,0.7s								
MK01	**Makanchi Array**	**27.37**	**61**	*e*P		**P**	**07 07 57.6**	**+1.2**
DGZ	**Jazzator, Alta**	**31.05**	**55**	*i* P		**P**	**07 08 30.3**	**+1.1**
DGZ				pmax	pmax				
	comp=Z,2.0nm,1.0s								
WMQ	**Urumqi**	**31.18**	**67**	*e*P		**P**	**07 08 33.5**	**+3.2**
GTA	**Gaotai**	**40.91**	**71**	*e*P		**P**	**07 09 54.7**	**+1.0**
GTA				pP		sP	07 09 59.0	+1.0
GTA				sP		pP	07 10 02.0	+5.2
GTA				pmax	pmax				
	comp=Z,3.0nm,1.0s								
HHC	**Hu-ho-hao-te**	**49.04**	**66**	*e*P		**P**	**07 10 59.1**	**+0.7**
HHC				pmax	pmax				
	comp=Z,8.0nm,0.5s								
HHC				pmax	pmax				
	comp=Z,130nm,6.0s								
CMAR	**Chiang Mai Arr**	**49.46**	**98**	P		**P**	**07 11 01.9**	**+0.2**
	comp=Z,1.8nm,0.3s,baz=299,slow=7.7,SNR=6.9								
XAN	**Xi'an**	**49.62**	**75**	P		**P**	**07 11 03.0**	**+0.2**
XAN				pP		sP	07 11 12.3	+5.1
XAN				pmax	pmax				
	comp=Z,6.0nm,1.2s								
BJI	**Beijing**	**52.62**	**65**	*e*P		**P**	**07 11 28.7**	**+3.6**
BJI				pmax	pmax				
	comp=Z,6.0nm,0.7s								
DGMT	**Dagmar**	**89.63**	**341**	*e*P		**P**	**07 15 10.6**	**+1.5**
	comp=Z,22nm,0.4s								
BOZ	**Bozeman (W)**	**94.05**	**345**	*e*P		**P**	**07 15 31.7**	**+1.9**
	comp=Z,4.5nm,0.7s								
BOZ	**Bozeman (W)**	**94.05**	**345**	*e*P		**P**	**07 15 31.7**	**+1.9**
BOZ				pmax	pmax				
	comp=Z,5.0nm,0.7s								

ISK ***07*** *07:13:26.7,35°.41N×27°.81E,h8km,ML2.6/6*
ATH ***07*** *07:13:28.6,35°.51N×27°.84E,h14km±2km,ML2.3/4, Error ellipse: s-maj=5.6km s-min=1.3km az=317.0*
DDA ***07*** *07:13:29.2,35°.56N×27°.95E,h18km,Ml2.9*
ISC 07 07:13:28.3±1.7, 35°.49N±0°.07×27°.87E±0°.05, h14km±12km, n24,σ1s03/32, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KARP	**Karpathos**	**0.58**	**276**	PG		**Pg**	**07 13 37.9**	**-1.8**
KARP	**Karpathos**	**0.58**	**276**	P		**Pg**	**07 13 39.4**	**-0.2**
KARP				S		**Sg**	**07 13 47.4**	**0.0**
KARP				AML		AML	07 13 51.3	
	comp=N,703μm,0.3s							
KARP				AML		AML	07 13 51.8	
	comp=E,719μm,0.3s							
ARG	**Arkhangelos**	**0.76**	**16**	PG		**Pb**	**07 13 43.2**	**-0.1**
ARG	**Arkhangelos**	**0.76**	**16**	P		**Pg**	**07 13 42.7**	**-0.4**
ARG				S		**Sg**	**07 13 52.9**	**-0.2**
ARG				AML		AML	07 13 57.4	
	comp=E,432μm,0.3s							
ARG				AML		AML	07 14 00.8	
	comp=N,410μm,0.5s							
NIS1	**Nisyros Isl.**	**1.25**	**334**	PN		**Pg**	**07 13 51.9**	**-0.4**
NIS1	**Nisyros Isl.**	**1.25**	**334**	P		**Pg**	**07 13 52.1**	**-0.2**
MRSB	**Marmaris-Mugla**	**1.26**	**12**	PN		**Pg**	**07 13 52.2**	**-0.3**
MRSB				SN		**Sg**	**07 14 11.1**	**+2.2**
DAT	**Datca**	**1.26**	**349**	PN		**Pg**	**07 13 53.2**	**+0.6**
DAT	**Datca**	**1.26**	**349**	*i* P		**Pg**	**07 13 52.4**	**-0.3**
DAT				*i* S		**Sg**	**07 14 11.2**	**+2.1**
DATC	**Datca-Mugla**	**1.28**	**353**	PN		**Pg**	**07 13 52.6**	**-0.4**
ZKR	**Zakros**	**1.40**	**255**	P		**Pb**	**07 13 54.4**	**+0.2**
ZKR				AML		AML	07 14 24.9	
	comp=N,131μm,0.4s							
ZKR				AML		AML	07 14 31.9	
	comp=E,249μm,0.8s							
DALY	**Dalyan (Mu¨la**	**1.47**	**25**	PN		**Pb**	**07 13 55.8**	**+0.4**
DALY	**Dalyan (Mu¨la**	**1.47**	**25**	*i* P		**Pn**	**07 13 54.6**	**+0.3**
TURN	**Turunc**	**1.51**	**23**	PN		**Pn**	**07 13 53.1**	**-1.7**
TURN	**Turunc**	**1.51**	**23**	*i* P		**Pn**	**07 13 52.4**	**-2.5**
TURN				*i* S		**Sb**	**07 14 14.5**	**-0.4**
FETY	**Fethiye**	**1.51**	**40**	PN		**Pb**	**07 13 56.1**	**0.0**
BODT	**Bodrum**	**1.64**	**344**	PN		**Pb**	**07 13 57.7**	**-0.5**
NPS	**Neapolis**	**1.85**	**264**	P		**Pb**	**07 14 02.3**	**+0.3**
NPS				S		**Sb**	**07 14 25.6**	**+0.7**
NPS				AML		AML	07 14 32.3	
	comp=E,230μm,0.6s							
NPS				AML		AML	07 14 34.9	
	comp=N,211μm,0.7s							
LAST	**Lasithi**	**1.98**	**261**	P		**Pb**	**07 14 04.4**	**+0.3**
SANT	**Santorini**	**2.14**	**295**	PN		**Pn**	**07 14 03.7**	**+0.1**
TAVA	**DENIZLI_Tavas**	**2.15**	**23**	*i* P		**Pb**	**07 14 06.1**	**-0.9**
TAVA				*i* S		**Sg**	**07 14 38.0**	**+0.6**
AYDN	**Tasoluk**	**2.17**	**0**	*i* P		**Pb**	**07 14 06.1**	**-1.3**
AYDN

ITBZ					IAMB	IAmb	07 32 40.1	
	comp=Z,16μm,0.3s							
ITBZ					IAMB	IAmb	07 32 47.5	
	comp=E,22μm,0.5s							
ORD	**Ordubad**	**0.69**	**317**	⇓P	**Pg**		**07 32 32.5**	**-0.7**
ORD				⇓S	**Sg**		**07 32 41.8**	**-0.3**
IMRD	**Marand**	**0.75**	**293**	*e*Pg	**Pg**		**07 32 34.0**	**-0.5**
IMRD					IAMB	IAmb	07 32 47.2	
	comp=N,25nm,0.2s							
IMRD					IAMB	IAmb	07 32 54.2	
	comp=E,27μm,0.4s							
IMRD					IAMB	IAmb	07 32 55.7	
	comp=Z,26μm,0.6s							
IBST	**Bostanabad**	**0.76**	**162**	*e*Pg	**Pg**		**07 32 34.4**	**-0.2**
IBST					IAMB	IAmb	07 32 49.5	
	comp=E,19μm,0.5s							
IBST					IAMB	IAmb	07 32 49.5	
	comp=N,11μm,0.5s							
IBST					IAMB	IAmb	07 32 49.8	
	comp=Z,9μm,0.6s							
ISHB	**Shabestar**	**0.78**	**260**	*e*Pg	**Pg**		**07 32 35.4**	**+0.5**
ISHB					IAMB	IAmb	07 32 48.9	
	comp=Z,8μm,0.5s							
ISHB					IAMB	IAmb	07 32 55.0	
	comp=E,16μm,0.7s							
ISHB					IAMB	IAmb	07 33 02.5	
	comp=N,14μm,0.6s							
IAZR	**Azarshahr**	**0.89**	**213**	*e*Pg	**Pb**		**07 32 37.5**	**-0.5**
IAZR					IAMB	IAmb	07 33 00.1	
	comp=N,36μm,0.6s							
IAZR					IAMB	IAmb	07 33 02.9	
	comp=E,26μm,0.5s							
IAZR					IAMB	IAmb	07 33 04.6	
	comp=Z,10μm,0.4s							
ISRB	**Sarab**	**1.04**	**125**	*e*Pg	**Pn**		**07 32 40.0**	**-1.4**
ISRB					IAMB	IAmb	07 33 06.0	
	comp=E,8μm,0.5s							
ISRB					IAMB	IAmb	07 33 07.4	
	comp=N,8μm,0.6s							
ISRB					IAMB	IAmb	07 33 08.2	
	comp=Z,5μm,0.6s							
GRMI	**Germi**	**1.09**	**69**	*e*Pg	**Pb**		**07 32 40.3**	**-1.1**
NAX	**Nakhchivan**	**1.14**	**312**	⇑P	**Pb**		**07 32 41.5**	**-0.7**
	SNR=16							
NAX				⇓S	**Sg**		**07 32 56.5**	**-0.1**
LRK	**Lerik**	**1.39**	**80**	P	**Pg**		**07 32 45.9**	**-0.7**
	SNR=22							
LRK				⇑S	**Sg**		**07 33 06.0**	**+1.4**
GLBA	**Clilabad**	**1.63**	**59**	⇓P	**Pg**		**07 32 50.9**	**-0.3**
	SNR=10							
GLBA				⇓S	**Sg**		**07 33 14.9**	**+2.6**
ASTR	**Astara**	**1.73**	**85**	P	**Pg**		**07 32 52.7**	**-0.5**
	SNR=16							
ASTR				⇑S	**Sg**		**07 33 18.8**	**+3.2**
LKRN	**Lenkeran, Azer**	**1.74**	**80**	⇑P	**Pb**		**07 32 51.3**	**-1.1**
	SNR=9.2							
LKRN				⇓S	**Sg**		**07 33 18.5**	**+2.6**
MAKU	**Maku**	**1.75**	**303**	*e*Pn	**Pb**		**07 32 52.6**	**-0.2**
BRDA	**Brd**	**1.89**	**14**	⇑S	**Sg**		**07 33 20.8**	**0.0**
ZRD	**Zardab**	**2.04**	**24**	⇑S	**Sg**		**07 33 25.2**	**-0.3**
GANJ	**Ganja**	**2.23**	**355**	⇓P	**Pn**		**07 32 58.1**	**+0.5**
	SNR=7.2							
GANJ				⇓S	**Sb**		**07 33 28.4**	**-0.3**
GDB	**GEDABAY**	**2.38**	**345**	⇑P	**Pn**		**07 33 00.1**	**+0.3**
	SNR=13							
ZNJK	**Zanjan**	**2.42**	**136**	*e*Pn	**Pb**		**07 33 02.5**	**-1.6**
QZX	**Qazax, Azerbai**	**2.79**	**341**	⇓P	**Pn**		**07 33 05.0**	**-0.4**
	SNR=4.3							
QZX				⇓S	**Sn**		**07 33 41.3**	**+1.8**
XNQ	**Khinaliq**	**2.99**	**23**	⇓P	**Pn**		**07 33 07.9**	**-0.5**
	SNR=7.0							
ATGJ	**Altiaghaj**	**3.04**	**36**	⇑P	**Pn**		**07 33 09.4**	**+0.7**
	SNR=3.4							

*ISCJB **07** 07:40:56.6±0.8, 1°.78N±0°.06×127°.29E±0°.07, h100km, mb3.9/5, Error ellipse: s-maj=10.8km s-min=7.1km az=147.8*
*IDC **07** 07:40:56.4±9.6, 1°.73N×127°.22E, h80km±84km, mb3.7/5, mb1 3.8/6, mb1mx3.5/35, mbtmp4.0/6, ML3.9/1, Error ellipse: s-maj=100.8km s-min=24.7km az=64.0*
*DJA **07** 07:41:00.4±0.5, 2°N±3°×12°7E±°, h10km, M4.4/7, mb4.5/2, mB5.1/2, MLv4.3/7, Mw(mB)4.5/2*
ISC 07 07:40:58.8±0.9, 1°.82N±0°.07×127°.12E±0°.08, h100km, n15, σ2$15/20, mb4.0/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.07**	**167**	P		**Pn**	**07 41 22.2**	**+2.1**
TNTI				S		**Sn**	**07 41 40.0**	**+4.0**
SGSI	**Sangihe**	**2.44**	**319**	P		**Pn**	**07 41 38.6**	**+1.4**
SGSI				S		**Sn**	**07 42 06.8**	**+0.2**
KMSI	**Cibinong**	**3.38**	**249**	P		**Pn**	**07 41 51.0**	**+1.4**
KMSI				S		**Sn**	**07 42 31.2**	**+2.3**
SANI	**Sanana**	**4.01**	**196**	P		**Pn**	**07 41 59.2**	**+1.0**
NLAI	**Namlea**	**5.03**	**180**	P		**Pn**	**07 42 16.1**	**+4.1**
NLAI				S		**Sn**	**07 43 05.7**	**-3.2**
MRSI	**Marisa**	**5.35**	**256**	P		**Pn**	**07 42 18.3**	**+2.0**
APSI	**Ampana**	**6.11**	**244**	P		**Pn**	**07 42 28.9**	**+2.3**
TTSI	**Tana Toraja**	**8.76**	**236**	P		**Pn**	**07 43 02.1**	**-0.6**
SPSI	**Sidrap Palu**	**9.33**	**232**	P		**Pn**	**07 43 10.8**	**+0.3**
FITZ	**Fitzroy Crossi**	**19.85**	**184**	P		**P**	**07 45 20.9**	**-1.1**
	0.3nm,0.3s,baz=10,slow=9.9,SNR=7.5							
WRA	**Warramunga Arr**	**22.76**	**162**	P		**P**	**07 45 50.8**	**-2.1**
	3.4nm,0.4s,baz=340,slow=11,SNR=60							
WRA				PcP		**PcP**	**07 49 40.8**	**-0.7**
	0.4nm,0.4s,baz=334,slow=2.2,SNR=7.3							
ASAR	**Alice Springs**	**26.18**	**166**	P		**P**	**07 46 22.5**	**-1.7**
	0.8nm,0.4s,baz=348,slow=7.6,SNR=15							
STKA	**Stephens Creek**	**36.22**	**159**	P		**P**	**07 47 51.1**	**-1.0**
	1.9nm,0.2s,baz=334,slow=8.6,SNR=4.5							
MKAR	**Makanchi Array**	**59.34**	**326**	P		**P**	**07 50 51.2**	**+0.7**
	0.6nm,0.5s,baz=125,slow=8.6,SNR=5.7							
VNDA	**Vanda**	**81.50**	**173**	P		**P**	**07 53 03.7**	**-0.9**
	0.5nm,0.6s,baz=317,slow=7.2,SNR=5.7							

*IDC **07** 07:41:01.8±8.8, 36°.64N×141°.43E, h0km, mb3.6/2, mb1 3.6/3, mb1mx3.4/47, mbtmp3.6/3, ML3.2/1, Error ellipse: s-maj=143.5km s-min=65.4km az=131.0*
*JMA **07** 07:41:02.0±0.2, 36°.71N×141°.50E, h51km±3km, M3.6*
ISC 07 07:41:01.6±2.3, 36°.74N±0°.06×141°.51E±0°.09, h9km±12km, n23, σ1$27/24, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.67**	**303**	P		**Pb**	**07 41 15.5**	**0.0**
ONAJ				S		**Sb**	**07 41 25.4**	**+0.5**
JHO	**Hitachi**	**0.76**	**261**	P		**Pb**	**07 41 16.4**	**-0.6**
JFK	**Kawauchi**	**0.81**	**321**	P		**Pg**	**07 41 17.2**	**+0.1**
JFFD	**Fukushimafurud**	**0.83**	**295**	P		**Pg**	**07 41 17.8**	**+0.2**
JFFD				S		**Sb**	**07 41 29.1**	**-0.5**
JHYU	**Hitachinakayam**	**0.84**	**242**	P		**Pb**	**07 41 17.6**	**-0.7**
JHYU				*e*S		**Sb**	**07 41 28.8**	**-0.8**
JFT	**Otama**	**1.22**	**310**	P		**Pn**	**07 41 24.3**	**-0.4**
JFT				S		**Sb**	**07 41 40.4**	**-0.1**
JMM	**Marumori**	**1.26**	**333**	P		**Pn**	**07 41 23.8**	**-1.5**
JMM				*e*S		**Sb**	**07 41 40.5**	**-1.3**
JFY	**Yanaizu**	**1.59**	**295**	P		**Pn**	**07 41 30.2**	**+0.3**
JFY				S		**Sn**	**07 41 50.3**	**-0.2**
JAG	**Ashikaga**	**1.68**	**260**	P		**Pn**	**07 41 30.0**	**-1.1**
JIO	**Ouri**	**1.72**	**356**	P		**Pn**	**07 41 29.9**	**-1.7**
JOU	**Okura**	**1.76**	**338**	P		**Pn**	**07 41 32.0**	**-0.2**
JKT	**Katashina**	**1.81**	**272**	P		**Pn**	**07 41 33.2**	**+0.2**
JYS	**Shirataka**	**1.87**	**323**	P		**Pn**	**07 41 34.1**	**+0.3**
MJAR	**Matsushiro Arr**	**2.66**	**267**	Pn		**Pn**	**07 41 44.6**	**0.0**
	5.2nm,0.3s,baz=86,slow=14,SNR=26							
MAT	**Matsushiro**	**2.66**	**267**	P		**Pn**	**07 41 45.7**	**+1.1**
MAT				S		**Sn**	**07 42 13.1**	**-3.9**
H11N2	**WAKE ISLAND Hy**	**27.93**	**120**	T		T	08 16 02.3	
	baz=313,slow=75,SNR=14							
H11N1	**WAKE ISLAND Hy**	**27.94**	**120**	T		T	08 16 06.3	
	baz=313,slow=75,SNR=15							
H11N3	**WAKE ISLAND Hy**	**27.95**	**120**	T		T	08 16 12.6	
	baz=313,slow=75,SNR=18							
SONM	**Songino Array**	**28.01**	**304**	P		**P**	**07 46 54.8**	**+1.9**
	0.7nm,0.6s,baz=101,slow=7.5,SNR=3.0							
H11S1	**WAKE ISLAND Hy**	**28.64**	**123**	T		T	08 16 59.5	
	baz=315,slow=75,SNR=13							
H11S3	**WAKE ISLAND Hy**	**28.64**	**123**	T		T	08 16 58.3	
	baz=315,slow=75,SNR=11							
H11S2	**WAKE ISLAND Hy**	**28.65**	**123**	T		T	08 17 00.0	
	baz=315,slow=75,SNR=10							
MKAR	**Makanchi Array**	**44.34**	**302**	P		**P**	**07 49 13.3**	**+1.3**
	0.4nm,0.6s,baz=94,slow=12,SNR=2.4							

*NEIC **07** 07:46:43.3±0.0, 16°.03N×96°.68W, h20km, MD4.0(MEX), After MEX.*
MEX 07 07:46:43.3±0.9, 16°.03N×96°.68W, h20km±21km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HUIG	**Huatulco**	**0.60**	**115**	*e*P		Pb	07 46 53.2	-2.0
HUIG				*e*S		Sb	07 47 01.8	-1.6
HUIG	**Huatulco**	**0.60**	**115**	*e*P		Pb	07 46 53.2	-2.0
HUIG				*e*S		Sb	07 47 01.8	-1.6
VHO	**Vista Hermosa**	**1.04**	**357**	*e*P		Pb	07 46 59.4	-3.3
VHO				*e*S		Sb	07 47 11.9	-4.1
VHO	**Vista Hermosa**	**1.04**	**357**	*e*P		Pb	07 46 59.4	-3.3
VHO				*e*S		Sb	07 47 11.9	-4.1
PNIG	**Pinotepa**	**1.44**	**285**	*e*P		Pn	07 47 04.4	-3.9
PNIG				*e*S		Sn	07 47 22.9	-3.8
PNIG	**Pinotepa**	**1.44**	**285**	*e*P		Pn	07 47 04.4	-3.9
PNIG				*e*S		Sn	07 47 22.9	-3.8
CMIG	**Matias Romero**	**2.02**	**58**	*e*P		Pn	07 47 13.1	-3.1
CMIG				*i* S		Sn	07 47 36.8	-4.1
CMIG	**Matias Romero**	**2.02**	**58**	*e*P		Pn	07 47 13.1	-3.1
CMIG				*i* S		Sn	07 47 36.8	-4.1
TLIG	**Tlapa**	**2.37**	**310**	*e*P		Pn	07 47 19.3	-1.9
TLIG				*i* S		Sn	07 47 47.0	-2.7
TLIG	**Tlapa**	**2.37**	**310**	*e*P		Pn	07 47 19.3	-1.9
TLIG				*i* S		Sn	07 47 47.0	-2.7

*ISCJB **07** 07:54:50.3±0.5, 17°.08S±0°.04×69°.50W±0°.05, h187km±4km, mb3.4/4, Error ellipse: s-maj=8.1km s-min=5.1km az=35.5*
*GUC **07** 07:54:52.3±0.6, 16°.97S×69°.52W, h151km±8km, ML4.2*
*IDC **07** 07:54:52.9±1.0, 16°.78S×69°.34W, h186km±8km, mb3.1/5, mb1 3.5/8, mb1mx3.3/37, mbtmp3.9/8, Error ellipse: s-maj=21.0km s-min=16.3km az=51.0*
*SCB **07** 07:54:56.0±3.3, 17°.39S×69°.21W, h0km±4km, ML3.7/2, Error ellipse: s-maj=12.9km s-min=4.7km az=2.0*
ISC 07 07:54:51.0±0.7, 17°.05S±0°.04×69°.49W±0°.05, h174km±6km, n33, σ1$60/50, mb3.2/4, 1C-2D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BBOD	**La Paz, Gloria**	**0.95**	**64**	P		**Pn**	**07 55 18.4**	**-0.1**
BS09	**Huarina**	**1.20**	**45**	P		**Pn**	**07 55 21.2**	**+0.8**
BS09				S		**Sn**	**07 55 44.1**	**+1.1**
BS09				AML	AML		07 55 45.9	
	873nm,0.5s							
BBOJ	**La Paz, Jacaqu**	**1.25**	**87**	P		**Pn**	**07 55 20.1**	**-0.7**
BBOE	**La Paz, Chanca**	**1.47**	**81**	P		**Pn**	**07 55 23.8**	**+1.0**
LPAZ	**La Paz**	**1.51**	**60**	P		**Pn**	**07 55 24.3**	**+0.9**
	93nm,0.3s,baz=293,slow=4.8,SNR=4254							
LPAZ				S		**Sn**	**07 55 48.0**	**-0.2**
	36nm,0.3s,baz=343,slow=22,SNR=50							
LPAZ	**La Paz**	**1.51**	**60**	P		**Pn**	**07 55 23.8**	**+0.5**
LPAZ				S		**Sn**	**07 55 47.5**	**-0.7**
LPAZ	**La Paz**	**1.51**	**60**	⇑*i*P		**Pn**	**07 55 24.2**	**+0.9**
LPAZ				*i* S		**Sn**	**07 55 47.7**	**-0.4**
BBOB	**La Paz, Bander**	**1.59**	**55**	P		**Pn**	**07 55 24.6**	**+0.6**
ARCH	**Arica**	**1.62**	**208**	*e*P		**Pn**	**07 55 24.8**	**+1.1**
ARCH				*i* S		**Sn**	**07 55 49.4**	**+0.3**
ARCH				AML	AML		07 55 51.3	
	comp=E,2μm,0.6s							
PB12	**IPOC Station P**	**1.75**	**207**	⇓*i*P		**Pn**	**07 55 26.0**	**+0.9**
PB12				*i* S		**Sn**	**07 55 52.1**	**+0.6**
MNMC	**Minye Minye**	**2.07**	**183**	P		**Pn**	**07 55 28.9**	**+0.1**
MNMC				S		**Sn**	**07 55 53.0**	**-5.1**
MNMC	**Minye Minye**	**2.07**	**183**	⇓*i*P		**Pn**	**07 55 30.7**	**+1.9**
MNMC				*i* S		**Sn**	**07 56 00.3**	**+2.1**
MNMC				IAML			07 56 07.2	
	comp=E,1μm,0.2s							
BS07	**San Felipe**	**2.44**	**112**	P		**Pn**	**07 55 34.2**	**+1.0**
BS05	**Cuyupaya**	**2.44**	**89**	P		**Pn**	**07 55 34.4**	**+1.2**
BS05				S		**Sn**	**07 56 05.6**	**-0.2**
BS05				AML	AML		07 56 06.5	
	comp=E,854nm,0.4s							
PSGC	**Pisagua**	**2.60**	**193**	P		**Pn**	**07 55 34.9**	**+0.2**
PSGC				S		**Sn**	**07 56 07.7**	**-1.1**
PSGC	**Pisagua**	**2.60**	**193**	*e*P		**Pn**	**07 55 35.5**	**+0.8**
PSGC				*i* S		**Sn**	**07 56 08.2**	**-0.5**
PB11	**IPOC Station P**	**2.70**	**183**	P		**Pn**	**07 55 36.7**	**+0.8**
PB11				S		**Sn**	**07 56 05.8**	**-5.1**
PB11	**IPOC Station P**	**2.70**	**183**	*e*P		**Pn**	**07 55 37.1**	**+1.1**
PB11				*i* S		**Sn**	**07 56 11.8**	**+0.8**
BS10	**CO. Tuti**	**3.50**	**97**	P		**Pn**	**07 55 46.4**	**+0.3**
BS10				S		**Sn**	**07 56 28.4**	**-0.6**
PB01	**IPOC Station P**	**3.97**	**180**	P		**Pn**	**07 55 51.9**	**+0.2**
PB01				S		**Sn**	**07 56 37.7**	**-1.4**
BB01	**Montecillos**	**4.16**	**105**	P		**Pn**	**07 55 54.5**	**+0.2**
PB02	**IPOC Station P**	**4.26**	**185**	P		**Pn**	**07 55 56.3**	**+0.9**
PB02				S		**Sn**	**07 56 44.2**	**-1.7**
BB03	**San Joaqu`>n**	**4.42**	**90**	P		**Pn**	**07 55 58.1**	**+0.8**
MOCB	**Mochara**	**5.54**	**140**	P		**Pn**	**07 56 15.2**	**+2.8**
MOCB				S		**Sn**	**07 57 14.5**	**-1.7**
NNA	**Nana**	**8.71**	**304**	P		**Pn**	**07 56 53.4**	**-0.5**
	comp=E,12nm,0.3s,baz=133,slow=12,SNR=19							
CPUP	**Villa Florida**	**14.59**	**131**	P		**P**	**07 58 12.2**	**+1.2**
	comp=E,0.1nm,0.3s,baz=300,slow=14,SNR=2.4							
PTGA	**Pitinga**	**18.73**	**31**	P		**P**	**07 58 54.7**	**-2.0**
	comp=E,1.1nm,0.3s,baz=217,slow=12,SNR=7.3							
BDFB	**Brasilia**	**20.66**	**89**	P		**P**	**07 59 16.7**	**-0.8**
	comp=E,1.6nm,0.4s,baz=248,slow=11,SNR=3.4							
PLCA	**Paso Flores**	**23.62**	**182**	P		**P**	**07 59 49.5**	**+3.3**
	comp=E,7.2nm,0.9s,baz=23,slow=11,SNR=19							
TXAR	**Lajitas Array**	**56.70**	**324**	P		**P**	**08 04 16.2**	**-0.4**
	comp=E,0.2nm,0.7s,baz=144,slow=7.8,SNR=3.3							
PDAR	**Pinedale Array**	**70.00**	**330**	P		**P**	**08 05 44.6**	**+0.6**
	comp=E,0.2nm,0.5s,baz=142,slow=7.5,SNR=3.0							
TORD	**Torodi Ar. Bea**	**76.43**	**72**	P		**P**	**08 06 19.9**	**-2.0**
	comp=E,0.2nm,0.4s,baz=262,slow=5.2,SNR=4.2							
WRA	**Warramunga Arr**	**136.42**	**213**	PKP		**PKPdf**	**08 13 53.6**	**+0.7**
	comp=E,0.1nm,0.3s,baz=137,slow=1.8,SNR=5.7							

*ISCJB **07** 08:03:50.4±0.8, 16°.37N±0°.10×98°.55W±0°.05, h10km, mb4.1/15, Error ellipse: s-maj=14.5km s-min=4.7km az=18.2*
*NEIC **07** 08:03:53.9±0.0, 16°.50N×98°.43W, h20km, mb4.1/18, MD4.1(MEX), After MEX.*
*MEX **07** 08:03:53.9±0.6, 16°.50N×98°.43W, h20km±26km, MD4.1*
*IDC **07** 08:03:54.1±7.8, 16°.50N×98°.30W, h30km±47km, mb3.5/4, mb1 3.7/7, mb1mx3.5/38, mbtmp3.5/7, ML3.4/3, MS3.5/1, Ms1 3.5/1, ms1mx2.8/32, Error ellipse: s-maj=69.5km s-min=26.1km az=26.0*
ISC 07 08:03:52.9±0.7, 16°.56N±0°.05×98°.50W±0°.04, h10km, n45, σ3$45/54, mb4.0/15, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.39**	**115**	*e*P		**Pg**	**08 03 59.6**	**-1.1**
PNIG				*i* S		**Sg**	**08 04 04.6**	**-1.2**
PNIG	**Pinotepa**	**0.39**	**115**	*e*P		**Pg**	**08 03 59.6**	**-1.1**
PNIG				*i* S		**Sg**	**08 04 04.6**	**-1.2**
TLIG	**Tlapa**	**1.00**	**356**	*e*P		**Pg**	**08 04 10.2**	**-1.9**
TLIG				*e*S		**Sg**	**08 04 23.1**	**-2.1**
TLIG	**Tlapa**	**1.00**	**356**	*e*P		**Pg**	**08 04 10.2**	**-1.9**
TLIG				*e*S		**Sg**	**08 04 23.1**	**-2.1**
VHO	**Vista Hermosa**	**1.76**	**73**	*e*Pn		**Pn**	**08 04 20.5**	**-3.2**
VHO				*e*S		**Sn**	**08 04 40.6**	**-5.7**
VHO	**Vista Hermosa**	**1.76**	**73**	*e*P		**Pn**	**08 04 20.5**	**-3.2**
VHO				*e*S		**Sn**	**08 04 40.6**	**-5.7**
CAIG	**El Cayaco**	**1.77**	**286**	*e*Pn		**Pn**	**08 04 21.4**	**-2.2**
CAIG				*e*Sn		**Sn**	**08 04 43.1**	**-3.0**
CAIG	**El Cayaco**	**1.77**	**286**	*e*P		**Pn**	**08 04 21.4**	**-2.2**
CAIG				*e*S		**Sn**	**08 04 43.1**	**-3.0**
HUIG	**Huatulco**	**2.42**	**109**	*e*Pn		**Pn**	**08 04 29.8**	**-2.8**
HUIG				*e*Sn		**Sn**	**08 04 56.0**	**-6.4**
HUIG	**Huatulco**	**2.42**	**109**	*e*P		**Pn**	**08 04 29.8**	**-2.8**
HUIG				*i* S		**Sn**	**08 04 56.0**	**-6.4**
UNM	**Universidad Na**	**2.83**	**347**	*e*Pn		**Pn**	**08 04 40.5**	**+2.1**
CMIG	**Matias Romero**	**3.50**	**81**	Pn		**Pn**	**08 04 43.8**	**-3.5**
	7.2nm,0.3s,baz=262,slow=10,SNR=106							
CMIG				Pg		**Pb**	**08 04 55.0**	**+0.1**
	8.3nm,0.3s,baz=263,slow=16,SNR=20							
CMIG				Lg		Lg	08 05 39.6	
	28nm,0.3s,baz=192,slow=20,SNR=15							
MOIG	**Morelia**	**4.02**	**321**	*e*Pn		Pn	08 05 01.5	+6.7
CCIG	**Comitan**	**6.11**	**92**	*e*Pn		**Pn**	**08 05 23.1**	**-0.3**
ZAIG	**Zacatecas**	**7.27**	**329**	*e*Pn		Pn	08 05 45.1	+5.6
ZAIG				*e*Sg		**Sg**	**08 07 44.3**	**-2.0**
TEIG	**Tepich**	**10.36**	**68**	*e*Pn		**Pn**	**08 06 25.6**	**+3.9**
833A	**Chaparral WMA,**	**11.74**	**356**	*e*Pn		Pn	08 06 48.5	+8.1
TXAR	**Lajitas Array**	**13.57**	**340**	Pn		**Pn**	**08 07 09.0**	**+3.4**
	0.0nm,0.3s,baz=153,slow=12,SNR=3.6							
TXAR				Lg		Lg	08 11 07.3	
	0.0nm,0.3s,baz=158,slow=32,SNR=3.6							
JCT	**Junction City**	**13.91**	**355**	*e*Pn		**P**	**08 07 19.0**	**+0.6**
WHTX	**Lake Whitney,**	**15.39**	**3**	*e*Pn		**P**	**08 07 34.5**	**-0.4**
	19nm,1.1s							
ABTX	**Abilene, Hawle**	**16.03**	**356**	*e*Pn		**P**	**08 07 42.6**	**+0.6**
	15nm,0.9s							
Z41A	**Richland Creek**	**17.40**	**16**	*e*P		**P**	**08 08 02.5**	**+5.4**
	29nm,1.3s							
MSTX	**Muleshoe**	**17.76**	**348**	*e*P		**P**	**08 08 06.2**	**+5.0**
	8.1nm,0.8s							
WMOK	**Wichita Mounta**	**18.10**	**359**	*e*P		**P**	**08 08 10.9**	**+6.0**
	3.0nm,0.9s							
MIAR	**Mount Ida**	**18.45**	**13**	*e*P		**Pn**	**08 08 15.4**	**+6.7**
	6.5nm,0.9s							
TUL1	**Leonard**	**19.42**	**7**	*e*P		**Pn**	**08 08 26.0**	**+5.4**
	16nm,1.0s							
ANMO	**Albuquerque**	**19.65**	**340**	P		**P**	**08 08 21.5**	**-0.6**
	0.1nm,0.3s,baz=151,slow=16,SNR=3.6							
ANMO				LR		LR	08 17 05.9	
	comp=Z,140nm,19.2s,baz=148,slow=40							
X18A	**Snowflake**	**20.63**	**332**	*e*P		**P**	**08 08 33.5**	**+0.7**
	7.2nm,1.1s							
X16A	**Lo Mia Camp, P**	**21.24**	**329**	*e*P		**P**	**08 08 40.4**	**+1.1**
	6.6nm,1.1s							
WUAZ	**Wupatki**	**22.10**	**331**	*e*P		**P**	**08 08 50.7**	**+2.1**
	10nm,1.3s							
CBKS	**Cedar Bluff**	**22.20**	**357**	*e*P		**P**	**08 08 54.6**	**+5.2**
	12nm,0.8s							
MVCO	**Mesa Verde**	**22.39**	**339**	*e*P		**P**	**08 08 53.3**	**+1.6**
	12nm,1.4s							
W52A	**Murphy**	**22.59**	**32**	*e*P		**P**	**08 08 58.7**	**+5.1**
	37nm,1.4s							
TKL	**Tuckaleechee C**	**23.11**	**32**	P		**P**	**08 08 57.7**	**-1.3**
	4.1nm,0.8s,baz=193,slow=8.3,SNR=3.6							
U15A	**North Rim**	**23.27**	**331**	*e*P		**P**	**08 09 01.6**	**+0.6**
	4.5nm,1.1s							
ISCO	**Idaho Springs**	**23.97**	**346**	*e*P		**P**	**08 09 14.3**	**+6.4**
	3.7nm,1.0s							
KNB	**Kanab**	**24.00**	**331**	*e*P		**P**	**08 09 10.0**	**+2.0**
	4.4nm,1.0s							
MTPU	**Mount Pierson**	**24.56**	**333**	*e*P		**P**	**08 09 14.1**	**+0.7**
	6.9nm,0.8s							
PDAR	**Pinedale Array**	**27.78**	**342**	P		**P**	**08 09 40.9**	**-1.4**
	0.4nm,0.8s,baz=116,slow=8.1,SNR=4.3							
PDAR	**Pinedale Array**	**27.78**	**342**	*e*P		**P**	**08 09 49.2**	**+7.0**
NV01	**Mina Array Sit**	**27.87**	**325**	*e*P		**P**	**08 09 43.4**	**+0.3**
NVAR	**Mina Array Bea**	**27.87**	**325**	P		**P**	**08 09 43.4**	**+0.3**
	1.3nm,1.0s,baz=154,slow=9.4,SNR=8.6							
PCA	**Pinnacle**	**52.87**	**335**	*e*P		**P**	**08 13 09.6**	**+0.8**
	61nm,0.3s							
ILAR	**Eielson Array**	**58.07**	**338**	P		**P**	**08 13 45.0**	**-1.0**
	0.3nm,0.6s,baz=128,slow=7.0,SNR=3.6							
CAST	**Castle Rocks**	**59.40**	**335**	*e*P		**P**	**08 13 55.4**	**+0.1**
	12nm,0.9s							

*IDC **07** 08:08:03.0±1.2, 2°.82N×90°.23E, h0km, mb4.2/7, mb1 4.2/9, mb1mx3.8/57, mbtmp4.2/9, ML4.5/2, MS2.9/1, Ms1 3.1/1, ms1mx2.7/43, Error ellipse: s-maj=39.5km s-min=20.1km az=48.0*
*ISCJB **07** 08:08:05.2±1.0, 2°.8N±0°.1×90°.1E±0°.1, h33km, mb4.2/7, Error ellipse: s-maj=22.7km s-min=15.1km az=35.4*
ISC 07 08:08:07.9±1.2, 2°.8N±0°.2×90°.1E±0°.1, h35km, n16, σ1$26/10, mb4.1/7, Off west coast of northern Sumatera

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

mb4.4/6,mB4.9/3,MLv4.5/13,Mw(mB)4.2/3
NEIC ***07*** *08:18:20.8±0.5,0.28N×122.20E,h183km±5km,mb4.4/15, Error ellipse: s-maj=9.3km s-min=4.4km az=55.0*
IDC ***07*** *08:18:22.7±4.6,0.32N×122.19E,h199km±46km,mb3.9/11, mb1 4.1/12,mb1mx3.6/52,mbtmp4.5/12,Error ellipse: s-maj=50.0km s-min=9.8km az=63.0*

ISC 07 08:18:19.5±0.6,0.35N±0.05×122.18E±0.04,h168km±6km, n75,σ1$47/90,mb4.4/28,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.27**	**297**	P	**Pn**	**08 18 41.3**	**-0.9**
MRSI				S	**Sn**	**08 18 56.8**	**-2.7**
APSI	**Ampana**	**1.36**	**203**	P	**Pn**	**08 18 50.3**	**+1.1**
APSI				S	**Sn**	**08 19 12.0**	**-0.2**
LUWI	**Luwuk**	**1.50**	**157**	*e*Pn	**Pn**	**08 18 51.0**	**+0.4**
LUWI				*e*Sn	**Sn**	**08 19 13.1**	**-1.6**
LUWI	**Luwuk**	**1.50**	**157**	P	**Pn**	**08 18 51.6**	**+1.0**
LUWI				S	**Sn**	**08 19 13.3**	**-1.3**
KMSI	**Cibinong**	**1.81**	**83**	P	**Pn**	**08 18 52.9**	**-0.8**
KMSI				S	**Sn**	**08 19 19.6**	**-0.5**
MPSI	**Mapaga**	**2.29**	**270**	P	**Pn**	**08 18 58.3**	**-0.7**
SANI	**Sanana**	**4.49**	**122**	P	**Pn**	**08 19 26.8**	**+0.1**
SANI				S	**Sn**	**08 20 16.4**	**-2.7**
SGKI	**Sangatta, Kali**	**4.66**	**259**	P	**Pn**	**08 19 28.4**	**-0.5**
SGKI				S	**Sn**	**08 20 17.9**	**-5.2**
SPSI	**Sidrap Palu**	**4.92**	**209**	P	**Pn**	**08 19 33.1**	**+0.8**
BNSI	**Bone**	**5.16**	**204**	P	**Pn**	**08 19 37.2**	**+1.8**
TNTI	**Ternate**	**5.20**	**85**	*e*Pn	**Pn**	**08 19 36.8**	**+0.8**
LBMI	**Labuha**	**5.41**	**100**	P	**Pn**	**08 19 37.5**	**-1.2**
LBMI				S	**Sn**	**08 20 38.8**	**-1.9**
BKSI	**Bulukumba**	**6.00**	**200**	P	**Pn**	**08 19 47.0**	**+0.5**
MYLDM	**Lahad Datu**	**6.04**	**323**	*e*Pn	**Pn**	**08 19 51.7**	**+4.7**
NLAI	**Namlea**	**6.07**	**126**	P	**Pn**	**08 19 48.2**	**+0.8**
NLAI				S	**Sn**	**08 20 56.5**	**0.0**
KBKI	**Kotabaru**	**7.02**	**239**	P	Pn	08 20 07.2	+7.2
KSM	**Kuching**	**11.93**	**275**	*e*Pn	**Pn**	**08 21 05.8**	**+1.3**
MTN	**Manton Dam** 12nm,1.1s	**15.83**	**146**	*e*Pn	**P**	**08 21 53.7**	**-0.1**
CISI	**Cisompet, Garu** 60nm,1.1s	**16.34**	**241**	*e*P	**P**	**08 21 59.1**	**-0.4**
MDSI	**Maura Dua** 14nm,1.0s	**18.62**	**255**	P	**Pn**	**08 22 25.8**	**-0.9**
FITZ	**Fitzroy Crossi** 1.9nm,0.3s,baz=4.1,slow=7.2,SNR=62	**18.65**	**170**	P	**P**	**08 22 25.0**	**+0.3**
FITZ	**Fitzroy Crossi** 14nm,0.6s	**18.65**	**170**	*e*P	**P**	**08 22 25.2**	**+0.5**
PSI	**Prapat** 5.4nm,0.4s	**23.38**	**276**	*e*P	**P**	**08 23 13.2**	**-0.2**
WRAB	**Tennant Creek** 12nm,0.7s	**23.42**	**150**	*e*P	**P**	**08 23 13.3**	**-0.4**
WR1	**Warramunga Arr** 12nm,0.6s	**23.43**	**150**	*e*P	**P**	**08 23 13.5**	**-0.2**
WRA	**Warramunga Arr** 13nm,0.6s,baz=326,slow=11,SNR=162	**23.43**	**150**	P	**P**	**08 23 13.5**	**-0.2**
WB2	**Warramunga Arr**	**23.43**	**150**	*e*P	**P**	**08 23 12.7**	**-1.0**
WB2				*e*P	**P**	**08 23 13.3**	**-0.5**
SRAK	**Srakaew** 18nm,0.7s,341nm	**24.11**	**305**	P	**P**	**08 23 17.4**	**-2.6**
PBKT	**Sadao Pong** 6.6nm,0.8s	**26.40**	**309**	*e*P	**P**	**08 23 40.6**	**0.0**
PBKT	**Sadao Pong** 11nm,0.8s,602nm	**26.40**	**309**	P	**P**	**08 23 44.6**	**+4.0**
AS31	**Alice Springs** 1.9nm,0.5s	**26.45**	**155**	*e*P	**P**	**08 23 40.9**	**-0.1**
AS31				*e*PcP	**PcP**	**08 27 01.4**	**-0.5**
ASAR	**Alice Springs** 3.4nm,0.5s,baz=344,slow=14,SNR=90	**26.45**	**155**	P	**P**	**08 23 40.8**	**-0.2**
ASAR	1.3nm,0.6s,baz=345,slow=2.1,SNR=11			PcP	**PcP**	**08 27 01.4**	**-0.5**
AS01	**Alice Springs**	**26.47**	**155**	*e*P	**P**	**08 23 40.2**	**-1.0**
AS01				*e*PcP	**PcP**	**08 27 01.4**	**-0.6**
UTHA	**Uthaitani** 3.0nm,0.8s,207nm	**27.06**	**305**	P	**P**	**08 23 48.2**	**+1.7**
SUKH	**Sukhothai** 3.5nm,0.8s	**27.97**	**309**	P	**P**	**08 23 56.7**	**+2.1**
CM01	**Chiang Mai Arr**	**29.03**	**310**	*e*P	**P**	**08 24 04.2**	**+0.2**
CMAR	**Chiang Mai Arr** 2.9nm,0.8s,baz=137,slow=6.9,SNR=14	**29.06**	**310**	P	**P**	**08 24 05.6**	**+1.3**
CMMT	**Chiang Mai** 9.3nm,1.3s	**29.27**	**310**	P	**P**	**08 24 08.3**	**+2.2**
CHTO	**Chiang Mai** 5.8nm,0.9s	**29.27**	**310**	*e*P	**P**	**08 24 06.0**	**-0.1**
CHTO	**Chiang Mai** 42nm,1.2s	**29.27**	**310**	P	**P**	**08 24 08.4**	**+2.2**
STKA	**Stephens Creek** 6.8nm,0.7s,baz=326,slow=8.5,SNR=17	**36.95**	**152**	P	**P**	**08 25 13.1**	**+0.6**
STKA	**Stephens Creek** 1.9nm,0.9s	**36.95**	**152**	*e*P	**P**	**08 25 12.3**	**-0.2**
HHC	**Hu-ho-hao-te**	**41.45**	**348**	*e*P	**P**	**08 25 53.0**	**+3.2**
HHC	comp=Z,13nm,0.6s			pmax	pmax		
HHC	comp=Z,180nm,5.6s			pmax	pmax		
GTA	**Gaotai**	**43.92**	**335**	*e*P	**P**	**08 26 11.3**	**+1.5**
GTA				pP	pP	08 26 48.2	+1.3
GTA				sP	sP	08 27 07.3	+1.5
GTA				PcP	**PcP**	**08 27 50.5**	**-2.4**
GTA	comp=Z,6.0nm,1.1s			pmax	pmax		
GUN	**Gumba** comp=Z,18nm,0.6s	**44.27**	**311**	*e*P	**P**	**08 26 13.8**	**+0.7**
PKI	**Pulchoki**	**44.45**	**311**	*e*P	**P**	**08 26 14.8**	**+0.3**
PKIN	**Phulchoki**	**44.46**	**311**	*e*P	**P**	**08 26 14.6**	**+0.1**
KOLN	**Koldanda**	**45.93**	**310**	*e*P	**P**	**08 26 26.6**	**+0.6**
DANN	**Dangsing** comp=Z,20nm,0.5s	**46.10**	**311**	*e*P	**P**	**08 26 27.8**	**+0.4**
HYB	**Hyderabad**	**46.14**	**294**	*i* P	**P**	**08 26 28.0**	**+0.4**
PYUN	**Piuthan** comp=Z,14nm,0.6s	**46.56**	**310**	*e*P	**P**	**08 26 31.7**	**+0.8**
ULN	**Ulaanbaatar** comp=Z,8.0nm,0.9s	**49.12**	**347**	*e*P	**P**	**08 26 51.1**	**+0.9**
SONA0	**Songino Array**	**49.24**	**346**	*e*P	**P**	**08 26 51.7**	**+0.7**
SONM	**Songino Array** comp=Z,5.4nm,0.7s,baz=166,slow=8.6,SNR=22	**49.24**	**346**	P	**P**	**08 26 51.7**	**+0.7**
SONA1	**Songino Array**	**49.25**	**346**	*e*P	**P**	**08 26 51.7**	**+0.6**
SONA1				*e*S	**S**	**08 33 45.5**	**+1.2**
WMQ	**Urumqi**	**53.07**	**329**	*e*P	**P**	**08 27 21.9**	**+2.3**
KSH	**Kashi**	**57.37**	**318**	P	**P**	**08 27 51.8**	**+1.3**
KSH				S	**S**	**08 35 30.4**	**-3.8**
KSH	comp=Z,14nm,1.0s			pmax	pmax		
KSH	comp=Z,220nm,4.5s			pmax	pmax		
KSH	comp=N,540nm,6.5s			LR	LR		
KSH	comp=E,630nm,8.3s			LR	LR		
KSH	comp=Z,2μm,8.5s			LR	LR		
MK01	**Makanchi Array**	**57.87**	**329**	*e*P	**P**	**08 27 54.0**	**+0.2**
MK31	**Makanchi Array**	**57.89**	**329**	*e*P	**P**	**08 27 54.6**	**+0.7**
MK32	**Makanchi Array**	**57.89**	**329**	*e*P	**P**	**08 27 54.3**	**+0.4**
MKAR	**Makanchi Array** comp=Z,14nm,0.6s,baz=125,slow=9.1,SNR=107	**57.89**	**329**	P	**P**	**08 27 54.3**	**+0.4**
MKAR	**Makanchi Array** comp=Z,106nm,0.5s	**57.89**	**329**	*e*P	**P**	**08 27 54.6**	**+0.7**
AAK	**Ala-Archa** comp=Z,7.2nm,1.1s	**59.94**	**321**	*e*P	**P**	**08 28 08.9**	**+0.7**
KBL	**Kabul** comp=Z,9.9nm,0.6s	**60.09**	**310**	*e*P	**P**	**08 28 09.2**	**-0.3**
ZALV	**Zalesovo Beam** comp=Z,1.7nm,0.4s,baz=114,slow=3.7,SNR=3.6	**61.66**	**336**	P	**P**	**08 28 19.3**	**-0.1**
ZAA1	**Zalesovo Array**	**61.66**	**336**	*e*P	**P**	**08 28 19.3**	**-0.1**
KURBB	**Kurchatov Arra** comp=Z,5.3nm,0.4s,baz=115,slow=5.6,SNR=45	**62.25**	**330**	P	**P**	**08 28 23.4**	**0.0**
KURK	**Kurchatov**	**62.27**	**330**	*e*P	**P**	**08 28 23.4**	**-0.1**
BVAR	**Borovoye Array** comp=Z,2.4nm,0.7s,baz=137,slow=7.6,SNR=9.4	**67.76**	**329**	P	**P**	**08 28 58.7**	**-0.3**
BRVK	**Borovoye** comp=Z,4.4nm,1.0s	**67.83**	**329**	*e*P	**P**	**08 28 59.0**	**-0.4**
ABKAR	**Akbulak array**	**71.95**	**322**	*e*P	**P**	**08 29 23.7**	**-0.9**
VNDA	**Vanda** comp=Z,1.3nm,0.7s,baz=322,slow=6.7,SNR=15	**80.71**	**172**	P	**P**	**08 30 13.4**	**0.0**
VNDA	**Vanda** comp=Z,1.6nm,0.8s	**80.71**	**172**	*e*P	**P**	**08 30 13.4**	**0.0**
BR101	**Keskin Array S**	**88.65**	**310**	*e*P	**P**	**08 30 52.5**	**-1.6**
BRTR	**Keskin Array B** comp=Z,0.7nm,0.6s,baz=76,slow=5.2,SNR=3.7	**88.65**	**310**	P	**P**	**08 30 52.5**	**-1.6**

MAN 07 08:20:51.6,16.18N×120.35E,h25km,mb4.6,ML3.5, MS3.4,1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMPP	**San Manuel, Pa**	**0.32**	**96**	*e*P	Pb	08 20 56.0	-3.0
SMPP				*e*S	Sb	08 21 00.2	-3.7
BOLP	**Bolinao**	**0.47**	**295**	*e*P	Pb	08 21 01.8	+0.5
BOLP				*e*S	Sn	08 21 12.1	+1.8
PCPH	**Palayan**	**0.94**	**131**	*e*P	Pn	08 21 09.1	-0.2
PCPH				*e*S	Sn	08 21 22.4	+0.4
BALP	**Baler**	**1.25**	**110**	*e*P	Pn	08 21 12.9	-0.7
BALP				*e*S	Sb	08 21 30.1	-0.3
CAUP	**Cauayan**	**1.60**	**62**	*e*P	Pn	08 21 18.3	-0.1

IDC ***07*** *08:21:19.2±2.5,6.31S×107.06W,h0km,mb4.0/9, mb1 4.3/9,mb1mx4.0/38,mbtmp4.0/9,MS4.0/13, Ms1 4.0/13,ms1mx3.8/28,Error ellipse: s-maj=92.9km s-min=23.3km az=51.0*
ISCJB ***07*** *08:21:20.4±0.8,6.3S±0.1×106.8W±0.2,h10km,mb4.2/45, MS4.0/13,Error ellipse: s-maj=29.2km s-min=12.6km az=152.0*
NEIC ***07*** *08:21:22.0±0.8,6.30S×106.76W,h10km,mb4.3/38,Error ellipse: s-maj=28.6km s-min=12.4km az=63.0*
GCMT ***07*** *08:21:22.0±0.4,6.23S±0.02×107.18W±0.03,h27km±1km, MW4.9/68,Moment Tensor Solution. s22,c27; s68,c88; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.46±.17; Mθθ1.43±.14; Mϕϕ-0.97±.16; Mrθ1.26±.26; Mrϕ2.36±.10; Mθϕ-0.56±.23; Best double couple: Mw3.01000×10¹⁶ NP1:ϕs281.00000°,δ82.00000°,λ-28.00000°. NP2: ϕs15.00000°,δ62.00000°,λ-171.00000°. Principal axes: T 3.0630, Plg13.0000°, Azm331.0000°; N -0.1090, Plg61.0000°, Azm87.0000°; P -2.9580, Plg25.0000°, Azm235.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 08:21:22.0±1.1,6.3S±0.2×106.9W±0.3,h10km,n76, σ1$23/56,mb4.2/45,MS4.0/13,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui** comp=Z,205nm,19.7s,baz=132,slow=30	**20.89**	**186**	LR	LR	08 31 52.1	
TLIG	**Tlapa** 8.8nm,1.0s	**25.05**	**19**	*e*P	**P**	**08 26 47.9**	**+1.1**
CMIG	**Matias Romero** comp=Z,277nm,20.8s,baz=200,slow=31	**26.05**	**27**	LR	LR	08 34 53.2	
APG	**El Apazote** comp=Z,446nm,20.3s,baz=192,slow=31	**26.66**	**37**	LR	LR	08 35 21.6	
JTS	**JuntasAbangare** comp=Z,507nm,21.0s,baz=302,slow=30	**27.32**	**53**	LR	LR	08 35 10.4	
ATAH	**Atahualpa** comp=Z,388nm,19.6s,baz=259,slow=30	**28.29**	**93**	LR	LR	08 35 34.2	
NNA	**Nana** comp=Z,338nm,21.4s,baz=270,slow=30	**30.16**	**103**	LR	LR	08 36 45.7	
LPIG	**La Paz** comp=Z,270nm,20.2s,baz=185,slow=30	**30.36**	**354**	LR	LR	08 36 23.5	
RKT	**Rikitea** 382nm,27.2s	**31.84**	**235**	*e*LR	LR	08 35 56.4	
RKT	**Rikitea** 2.0nm,0.3s	**31.84**	**235**	*e*T	T	09 00 45.4	
LTX	**Lajitas**	**35.52**	**5**	*e*P	**P**	**08 28 17.9**	**-1.4**
TXAR	**Lajitas Array** 0.7nm,0.8s,baz=197,slow=7.7,SNR=5.3	**35.52**	**5**	P	**P**	**08 28 17.9**	**-1.4**
319A	**Douglas** 5.7nm,1.0s	**37.49**	**357**	*e*P	**P**	**08 28 37.2**	**+1.0**
MNTX	**Cornudas Mount** 4.8nm,1.0s	**37.77**	**2**	*e*P	**P**	**08 28 38.3**	**-0.1**
LPAZ	**La Paz** 1.1nm,0.9s,baz=321,slow=8.9,SNR=3.6	**39.20**	**108**	P	**P**	**08 28 52.1**	**+0.7**
LPAZ	comp=Z,158nm,20.9s,baz=269,slow=31			LR	LR	08 41 31.6	
LPAZ	**La Paz**	**39.20**	**108**	*e*P	**P**	**08 28 50.9**	**-0.5**
LPAZ				*e*pP	**P**	**08 28 52.5**	**+1.1**
LENM	**Lemitar**	**40.20**	**360**	*e*P	**P**	**08 28 59.0**	**0.0**
X16A	**Lo Mia Camp, P** 3.7nm,1.1s	**40.69**	**354**	*e*P	**P**	**08 29 03.9**	**+0.9**
WUAZ	**Wupatki** 4.3nm,1.0s	**41.77**	**354**	*e*P	**P**	**08 29 12.5**	**+0.7**
GSC	**Goldstone, Bar** 3.7nm,1.0s	**42.39**	**348**	*e*P	**P**	**08 29 17.2**	**+0.4**
PPT	**Papeete** comp=Z,96nm,20.0s,baz=71,slow=28	**43.17**	**251**	LR	LR	08 41 37.2	
PPT2	**Papeete2** 620nm,28.0s	**43.18**	**251**	*e*LQ	LQ	08 39 14.0	
PPT2	218nm,27.2s,baz=71			*e*LR	LR	08 41 10.3	
SHPR	**Sheep Range** 3.9nm,1.1s	**43.24**	**350**	*e*P	**P**	**08 29 24.9**	**+1.1**
MVCO	**Mesa Verde** 3.6nm,0.9s	**43.27**	**358**	*e*P	**P**	**08 29 25.2**	**+1.1**
KNB	**Kanab** 3.3nm,1.1s	**43.41**	**353**	*e*P	**P**	**08 29 26.1**	**+0.9**
PKCU	**Pink Cliffs** 3.6nm,1.0s	**43.77**	**354**	*e*P	**P**	**08 29 29.2**	**+1.0**
S22A	**4UR Ranch, Cre** 3.6nm,1.0s	**43.78**	**0**	*e*P	**P**	**08 29 29.1**	**+0.8**
TPNV	**Topopah Spring** 2.9nm,1.1s	**43.87**	**349**	*e*P	**P**	**08 29 30.0**	**+1.1**
CCUT	**Cedar City** 1.9nm,1.1s	**44.00**	**353**	*e*P	**P**	**08 29 30.6**	**+0.6**
PV13	**Radium Mtn., P** 3.9nm,0.9s	**44.23**	**358**	*e*P	**P**	**08 29 32.8**	**+1.0**
TBI	**Tubuai** 273nm,27.8s,baz=68	**44.34**	**243**	*e*LR	LR	08 41 40.4	
OMMB	**Old Mammoth Mi** 1.6nm,1.0s	**45.09**	**346**	*e*P	**P**	**08 29 41.6**	**+2.8**
R11A	**Troy Canyon, C** 1.8nm,1.0s	**45.12**	**350**	*e*P	**P**	**08 29 40.3**	**+1.4**
TMUT	**Trail Mountain** 10nm,0.5s	**45.50**	**355**	*e*P	**P**	**08 29 39.8**	**-2.3**
NV01	**Mina Array Sit**	**45.72**	**347**	*e*P	**P**	**08 29 43.9**	**+0.2**
NVAR	**Mina Array Bea** 2.4nm,1.0s,baz=178,slow=8.2,SNR=11	**45.72**	**347**	P	**P**	**08 29 43.8**	**+0.1**
RYN	**Ryan** 5.8nm,1.2s	**45.95**	**347**	*e*P	**P**	**08 29 46.0**	**+0.6**
WAKR	**Walker** 4.7nm,1.2s	**46.04**	**346**	*e*P	**P**	**08 29 49.2**	**+3.0**
O20A	**White River Ci** 6.9nm,1.0s	**46.18**	**359**	*e*P	**P**	**08 29 47.1**	**-0.1**
MPU	**Maple Canyon** 3.9nm,1.1s	**46.25**	**355**	*e*P	**P**	**08 29 48.8**	**+1.0**
KVN	**Kaiserville** 2.3nm,1.1s	**46.27**	**348**	*e*P	**P**	**08 29 48.0**	**+0.1**
YERR	**Yerington** 7.0nm,1.2s	**46.45**	**347**	*e*P	**P**	**08 29 50.6**	**+1.1**
DUG	**Dugway, Tooele** 2.9nm,1.1s	**46.55**	**354**	*e*P	**P**	**08 29 51.2**	**+1.1**
PNTR	**Pine Nut** 7.1nm,1.1s	**46.64**	**346**	*e*P	**P**	**08 29 51.8**	**+0.8**
AFDM	**Forest Hills D** 2.7nm,1.0s	**46.84**	**345**	*e*P	**P**	**08 29 52.8**	**+0.5**
VCNR	**Virginia City** 4.9nm,1.1s	**46.85**	**346**	*e*P	**P**	**08 29 54.1**	**+1.6**
PAHR	**Pah Rah Range** 6.0nm,1.1s	**47.18**	**347**	*e*P	**P**	**08 29 55.5**	**+0.5**
PLCA	**Paso Flores** comp=Z,373nm,19.2s,baz=318,slow=30	**47.22**	**142**	LR	LR	08 45 07.0	
PD31	**Pinedale Array**	**48.85**	**357**	*e*P	**P**	**08 30 07.8**	**-0.3**
PDAR	**Pinedale Array** 0.9nm,1.0s,baz=146,slow=14,SNR=4.2	**48.85**	**357**	P	**P**	**08 30 05.8**	**-2.3**
MOD	**Modoc Plateau** 6.5nm,1.1s	**49.48**	**347**	*e*P	**P**	**08 30 13.4**	**+0.7**
FXWY	**Fox Creek** 2.6nm,1.1s	**49.81**	**356**	*e*P	**P**	**08 30 16.1**	**+0.8**
K05A	**Summer Lake** 7.6nm,1.1s	**50.40**	**347**	*e*P	**P**	**08 30 20.9**	**+1.1**
YHH	**Holmes Hill** 3.2nm,1.1s	**50.94**	**356**	*e*P	**P**	**08 30 24.7**	**+0.8**
MCMT	**McKenzie Canyo**	**51.14**	**355**	*e*P	**P**	**08 30 26.2**	**+0.8**
CPUP	**Villa Florida** 1.3nm,0.7s,baz=293,slow=9.8,SNR=3.9	**51.19**	**119**	P	**P**	**08 30 25.3**	**-0.5**
CPUP	comp=Z,207nm,20.3s,baz=290,slow=32			LR	LR	08 48 31.0	
CPUP	**Villa Florida** 2.8nm,1.0s	**51.19**	**119**	*e*P	**P**	**08 30 25.3**	**-0.5**
NEW	**Newport** comp=Z,132nm,19.2s,baz=174,slow=31	**55.04**	**352**	LR	LR	08 50 05.5	
ULM	**Lac du Bonnet** 4.1nm,1.0s,baz=197,slow=11,SNR=3.0	**57.08**	**8**	P	**P**	**08 31 08.1**	**-0.3**
BDFB	**Brasilia** comp=Z,244nm,20.6s,baz=216,slow=34	**58.37**	**104**	LR	LR	08 53 58.9	
DLBC	**Dease Lake** 5.2nm,1.1s,baz=170,slow=11,SNR=4.6	**67.13**	**347**	P	**P**	**08 32 16.2**	**+0.4**
DLBC	**Dease Lake** 8.4nm,1.1s	**67.13**	**347**	*e*P	**P**	**08 32 16.2**	**+0.4**
EGAK	**Eagle** 8.4nm,1.1s	**75.28**	**346**	*e*P	**P**	**08 33 04.3**	**-0.6**
INK	**Inuvik** 2.8nm,1.0s,baz=151,slow=5.2,SNR=5.3	**76.72**	**350**	P	**P**	**08 33 11.7**	**-1.3**
INK	**Inuvik** 4.5nm,1.1s	**76.72**	**350**	*e*P	**P**	**08 33 11.7**	**-1.3**
IL1	**Eielson Array**	**76.80**	**344**	*e*P	**P**	**08 33 10.7**	**-2.9**
ILAR	**Eielson Array** 1.7nm,1.0s,baz=162,slow=5.4,SNR=11	**76.80**	**344**	P	**P**	**08 33 11.4**	**-2.2**
WRH	**Wood River Hil** 5.5nm,1.0s	**76.92**	**343**	*e*P	**P**	**08 33 13.3**	**-1.0**
FYU	**Fort Yukon** 27nm,1.0s	**77.73**	**345**	*e*P	**P**	**08 33 16.7**	**-2.1**
QSPA	**South Pole Qui** 10nm,1.0s	**83.81**	**180**	*e*P	**P**	**08 33 52.2**	**+0.6**
H11N3	**WAKE ISLAND Hy** baz=97,slow=74,SNR=9.1	**88.55**	**290**	T	T	10 11 53.0	
H11N2	**WAKE ISLAND Hy** baz=97,slow=74,SNR=11	**88.56**	**290**	T	T	10 11 51.2	
H11N1	**WAKE ISLAND Hy** baz=97,slow=74,SNR=13	**88.57**	**290**	T	T	10 11 53.7	
H11S2	**WAKE ISLAND Hy** baz=97,slow=75,SNR=23	**88.59**	**289**	T	T	10 11 57.0	
H11S1	**WAKE ISLAND Hy** baz=97,slow=75,SNR=26	**88.60**	**289**	T	T	10 11 54.5	
H11S3	**WAKE ISLAND Hy** baz=97,slow=75,SNR=21	**88.61**	**289**	T	T	10 11 57.6	

NNC 07 08:21:32.7±4.6,38.06N×72.02E,h0km,mb3.7,mpv3.3, 2C-6D,Error ellipse: s-maj=57.6km s-min=34.8km az=108.0,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan** 11nm,0.3s	**2.26**	**30**	⇓Pn	Pn	08 22 13.0	+1.4
SFK				⇓Lg	Lg	08 22 44.4	
MNAS	**Manas** 1.0nm,0.3s	**4.43**	**5**	⇓Pn	Pn	08 22 41.2	-0.1
MNAS				⇑Sn	Sn	08 23 35.5	+1.7
AAK	**Ala-Archa** 2.8nm,0.5s	**4.94**	**22**	⇑Pn	Pn	08 22 47.0	-1.4
AAK				⇓Sn	Sn	08 23 46.7	+0.4
TKM2	**Tokmak 2** 2.2nm,0.8s	**5.56**	**28**	⇓Pn	Pn	08 22 54.1	-2.9
TKM2				⇓Sn	Sn	08 24 03.8	+2.1
	2.2nm,0.7s						

IDC 07 08:29:10.5±7.2,20.64S×178.66W,h458km±85km, mb2.9/7,mb1 3.2/8,mb1mx3.0/34,mbtmp3.8/8,Error ellipse: s-maj=33.4km s-min=23.6km az=20.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera** 1.0nm,0.3s,baz=339,slow=2.8,SNR=5.8	**17.94**	**191**	P	P	08 32 51.6	-0.6
STKA	**Stephens Creek** 0.8nm,0.5s,baz=92,slow=14,SNR=5.3	**37.17**	**244**	P	P	08 35 41.9	+0.6
ASAR	**Alice Springs** 1.3nm,0.7s,baz=98,slow=7.7,SNR=20	**43.88**	**257**	P	P	08 36 35.4	-0.1
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=96,slow=7.2,SNR=36	**43.97**	**262**	P	P	08 36 35.6	-0.5
VNDA	**Vanda** 0.3nm,0.5s,baz=357,slow=7.6,SNR=5.3	**57.72**	**185**	P	P	08 38 15.6	-0.2
NVAR	**Mina Array Bea** 0.2nm,0.6s,baz=226,slow=9.1,SNR=3.7	**81.55**	**44**	P	P	08 40 40.6	+0.9
ILAR	**Eielson Array** 0.2nm,0.5s,baz=221,slow=4.9,SNR=4.8	**88.58**	**13**	P	P	08 41 11.9	-1.2
PDAR	**Pinedale Array** 0.3nm,0.6s,baz=212,slow=5.3,SNR=3.6	**89.49**	**43**	P	P	08 41 18.3	+0.1

IDC 07 08:55:56.0±3.0,54.13N×87.26E,h0km,mb1 3.0/2, mb1mx2.9/43,mbtmp3.0/2,ML2.7/2,Error ellipse: s-maj=26.4km s-min=18.6km az=55.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA** baz=84,slow=353,SNR=9.7	**1.45**	**264**	*i*		09 04 09.7	
ZALV	**Zalesovo Beam** 2.8nm,0.3s,baz=82,slow=16,SNR=20	**1.45**	**264**	Pg	Pn	08 56 21.5	-2.0
ZALV	3.4nm,0.3s,baz=81,slow=21,SNR=10.0			Lg	Lg	08 56 42.3	
ZALV	8.4nm,0.8s,baz=77,slow=34,SNR=8.5			Rg	Rg	08 56 56.0	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=54,slow=14,SNR=5.4	**6.40**	**240**	Pn	Pn	08 57 32.2	+0.9
KURBB	0.0nm,0.3s,baz=45,slow=32,SNR=5.7			Lg	Lg	08 59 19.4	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=28,slow=15,SNR=4.0	**8.00**	**205**	Pn	Pn	08 57 54.7	+1.3
MKAR	0.1nm,0.3s,baz=23,slow=33,SNR=4.8			Lg	Lg	09 00 11.2	

NIED ***07*** *09:07:00,37.50N×135.70E,h360km,Mw4.3 Best double couple: Mo3.34000×10¹⁵ NP1:ϕs329.00000°, δ58.00000°,λ18.00000°. NP2:ϕs230.00000°,δ75.00000°, λ147.00000°.*
BJI ***07*** *09:07:31.7,37.58N×135.74E,h361km,mb4.3/26, mB4.6/13*
ISCJB ***07*** *09:07:33.0±0.2,37.54N±0.04×135.62E±0.05, h355km±3km,mb4.0/37,Error ellipse: s-maj=5.9km s-min=5.8km az=138.5*
JMA ***07*** *09:07:33.2±0.2,37.50N×135.70E,h360km±2km,M3.8*
NEIC ***07*** *09:07:33.7±0.2,37.56N×135.66E,h351km±3km,mb4.4/13, Error ellipse: s-maj=5.2km s-min=4.8km az=63.0*
IDC ***07*** *09:07:33.9±0.9,37.52N×135.54E,h348km±9km,mb3.6/23, mb1 3.7/30,mb1mx3.6/58,mbtmp4.3/30,Error ellipse: s-maj=11.4km s-min=8.8km az=67.0*

ISC 07 09:07:33.7±0.6,37.52N±0.06×135.63E±0.06,h348km±6km, n99,σ0$86/106,mb4.1/37,1C,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKG	**Kaga**	**1.36**	**155**	P	**Pn**	**09 08 21.4**	**+0.4**
JSZ	**Suzu**	**1.38**	**92**	P	**Pn**	**09 08 21.8**	**+0.8**
JSZ				*e*S	**S**	**09 09 00.5**	**+1.5**
JYTA	**Yamagatataniai**	**2.12**	**155**	P	**Pn**	**09 08 26.2**	**+0.4**
JYTA				*e*S	**S**	**09 09 07.3**	**-0.2**
JSD	**Sado**	**2.15**	**75**	P	**Pn**	**09 08 26.2**	**+0.3**
JWT	**Wachi**	**2.24**	**185**	P	**Pn**	**09 08 27.2**	**+0.5**
JWT				S	**S**	**09 09 08.7**	**-0.5**
JOI	**OKI**	**2.26**	**238**	P	**Pn**	**09 08 27.7**	**+0.9**
MJB9	**Matsu-Tunnel**	**2.28**	**114**	*e*Pn	**Pn**	**09 08 27.5**	**+0.5**
MAJO	**Matsushiro**	**2.28**	**114**	*e*Pn	**Pn**	**09 08 27.4**	**+0.4**
MAT	**Matsush

ERM	Erimo	7.34	50	*e*Pn		Pn	09 09 19.2	-0.6
ASAJ	Asahikawa	8.45	37	P		Pn	09 09 31.9	-1.2
	16nm,0.3s,baz=234,slow=11,SNR=76							
ASAJ	Asahikawa	8.45	37	*e*Pn		Pn	09 09 32.2	-0.8
CN2	Changchun	9.96	312	*e*P		Pn	09 09 51.2	+0.2
CN2				pmax	pmax			
	comp=Z,10.0nm,1.0s							
YSS	Yuzh-Sakhalins	10.81	27	*e*Pn		Pn	09 09 59.8	-1.3
KLR	Kul'dur	12.04	348	P		P	09 10 14.3	-1.3
	0.8nm,0.3s,baz=135,slow=8.6,SNR=6.4							
TIA	Tai'an	14.87	271	P		P	09 10 46.8	-0.2
TIA				pmax	pmax			
	comp=Z,16nm,0.9s							
BJI	Beijing	15.38	285	⇑*i*P		P	09 10 52.2	-0.3
BJI				pmax	pmax			
	comp=Z,11nm,0.9s							
BJT	Baijiatuan	15.38	285	*e*P		P	09 10 51.5	-1.1
	18nm,0.6s							
HIA	Hailar	16.43	321	*e*P		P	09 11 03.0	-0.8
	14nm,0.4s							
HHC	Hu-ho-hao-te	18.93	288	*e*P		P	09 11 30.1	-0.6
HHC				pmax	pmax			
	comp=Z,8.0nm,0.6s							
HHC				pmax	pmax			
	comp=Z,210nm,6.1s							
TWG	Pinlang	19.27	225	*e*P		P	09 11 34.9	+0.6
	448nm,2.0s							
ENH	Enshi	22.82	259	*e*P		P	09 12 06.5	-1.2
	23nm,0.6s							
ULN	Ulaanbaatar	23.29	305	*e*P		P	09 12 13.2	+1.4
	10nm,0.6s							
SONA1	Songino Array	23.70	305	*e*P		P	09 12 14.9	-0.6
SONM	Songino Array	23.71	305	P		P	09 12 14.7	-0.9
	6.1nm,0.5s,baz=110,slow=8.9,SNR=27							
GYA	Guiyang	26.82	254	P		P	09 12 43.0	-0.6
GYA				pmax	pmax			
	comp=Z,10.0nm,0.7s							
GTA	Gaotai	28.00	285	*e*P		P	09 12 54.7	+0.9
GTA				pP	pP		09 14 01.5	+3.0
GTA				sP	sP		09 14 41.5	+2.3
GTA				pmax	pmax			
	comp=Z,5.0nm,0.8s							
WMQ	Urumqi	36.48	295	*e*P		P	09 14 07.1	+0.3
WMQ				pmax	pmax			
	comp=Z,25nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,370nm,6.7s							
CMAR	Chiang Mai Arr	37.24	250	P		P	09 14 13.4	0.0
	1.7nm,0.3s,baz=51,slow=6.9,SNR=9.0							
SHL	Shillong	38.82	265	*e*P		P	09 14 27.2	+0.6
	12nm,0.5s							
MK01	Makanchi Array	39.93	301	*e*P		P	09 14 34.6	-0.6
MK31	Makanchi Array	39.93	301	*e*P		P	09 14 34.7	-0.5
MKAR	Makanchi Array	39.93	301	P		P	09 14 34.4	-0.8
	1.9nm,0.5s,baz=84,slow=10.0,SNR=21							
MKAR	Makanchi Array	39.93	301	*e*P		P	09 14 34.7	-0.5
	19nm,0.6s							
FAKI	Fak Fak	40.35	185	*e*P		P	09 14 39.0	+0.1
	21nm,0.9s							
NRIK	Noril'sk	40.93	336	P		P	09 14 42.7	-0.2
	3.6nm,0.3s,baz=101,slow=11,SNR=3.6							
KURK	Kurchatov	41.98	307	*e*P		P	09 14 51.0	-0.6
	14nm,0.8s							
KURBB	Kurchatov Arra	42.05	307	P		P	09 14 51.3	-0.8
	8.6nm,0.7s,baz=87,slow=8.3,SNR=26							
GUN	Gumba	42.52	272	*e*P		P	09 14 56.6	-0.1
	27nm,0.4s							
PKI	Pulchoki	43.04	272	*e*P		P	09 15 00.3	-0.5
	11nm,0.5s							
KKN	Kakani	43.05	272	*e*P		P	09 15 01.3	+0.6
PKIN	Phulchoki	43.05	272	*e*P		P	09 15 01.0	+0.2
DANN	Dangsing	44.01	274	*e*P		P	09 15 08.3	-0.1
	57nm,0.6s							
KOLN	Koldanda	44.39	273	*e*P		P	09 15 11.1	-0.2
PYUN	Piuthan	44.73	274	*e*P		P	09 15 13.9	-0.1
AAK	Ala-Archa	46.17	296	P		P	09 15 24.8	-0.1
	4.7nm,0.5s,baz=96,slow=4.0,SNR=6.9							
AAK	Ala-Archa	46.17	296	*e*P		P	09 15 25.1	+0.3
	5.5nm,0.7s							
BVAR	Borovoye Array	46.81	311	P		P	09 15 28.9	-0.5
	2.6nm,0.4s,baz=90,slow=6.4,SNR=14							
KK31	Karatay Array	48.86	298	*e*P		P	09 15 45.3	+0.1
KKAR	Karatay Array	48.86	298	*e*P		P	09 15 45.5	+0.3
ILAR	Eielson Array	51.56	32	P		P	09 16 05.3	+0.4
	0.4nm,0.6s,baz=266,slow=6.0,SNR=7.7							
FYU	Fort Yukon	52.00	30	*e*P		P	09 16 11.6	+3.6
	18nm,0.8s							
ARU	Arti	52.91	317	P		P	09 16 14.6	-0.2
	14nm,0.5s,baz=78,slow=4.7,SNR=20							
ARU	Arti	52.91	317	*e*P		P	09 16 14.5	-0.3
	18nm,0.8s							
ABKAR	Akbulak array	54.06	308	*e*P		P	09 16 23.0	-0.2
AKTO	Aktyubinsk	54.88	310	P		P	09 16 28.4	-0.6
	4.5nm,0.6s,baz=84,slow=7.1,SNR=8.1							
FITZ	Fitzroy Crossi	56.11	191	P		P	09 16 37.8	-0.2
	1.6nm,0.7s,baz=16,slow=8.5,SNR=4.6							
WRAB	Tennant Creek	57.15	181	*e*P		P	09 16 45.2	-0.1
	9.3nm,0.9s							
WB2	Warramunga Arr	57.16	181	*e*P		P	09 16 45.2	-0.1
WB2				*e*PcP		PcP	09 17 35.5	0.0
WRA	Warramunga Arr	57.16	181	P		P	09 16 45.1	-0.3
	7.2nm,0.4s,baz=359,slow=7.5,SNR=320							
AS01	Alice Springs	60.87	182	*e*P		P	09 17 10.6	0.0
AS31	Alice Springs	60.88	182	*e*P		P	09 17 10.6	0.0
	1.0nm,0.6s							
ASAR	Alice Springs	60.88	182	P		P	09 17 10.5	-0.1
	1.9nm,0.6s,baz=16,slow=12,SNR=32							
ARCES	ARCESS Array B	61.87	338	P		P	09 17 16.7	+0.1
	2.0nm,0.7s,baz=67,slow=9.3,SNR=6.0							
FINES	FINESS Array B	66.17	330	P		P	09 17 44.2	-0.2
	2.7nm,0.6s,baz=55,slow=7.2,SNR=11							
STKA	Stephens Creek	69.26	175	P		P	09 18 04.6	+0.8
	0.9nm,0.5s,baz=350,slow=9.4,SNR=3.0							
AKASG	Malin Array Be	71.02	320	P		P	09 18 13.7	-0.6
	1.2nm,0.4s,baz=50,slow=6.2,SNR=5.5							
NB2	NORSAR Subarra	71.88	335	P		P	09 18 18.9	-0.4
	comp=Z,0.5nm,0.4s,baz=44,slow=5.9							
NOA	NORSAR Array B	71.88	335	P		P	09 18 19.1	-0.2
	comp=Z,0.2nm,0.3s,baz=42,slow=5.8,SNR=4.9							
BRTR	Keskin Array B	75.01	309	P		P	09 18 38.2	+0.3
	comp=Z,1.4nm,0.9s,baz=83,slow=3.9,SNR=6.3							
CLL	Collm	78.29	327	*e*P		P	09 18 56.0	+0.3
NVAR	Mina Array Bea	78.32	50	P		P	09 18 57.8	+1.4
	comp=Z,0.6nm,0.5s,baz=299,slow=5.3,SNR=8.6							
NV11	Mina Array Sit	78.41	50	*e*P		P	09 18 56.3	-0.5
	comp=Z,0.6nm,1.6s							
OSI	Osito Audit: C	80.45	54	*e*P		P	09 19 02.9	-4.7
	comp=Z,15nm,0.4s							
PDAR	Pinedale Array	80.53	43	P		P	09 19 08.8	+0.6
	comp=Z,0.5nm,0.6s,baz=285,slow=1.0,SNR=5.7							
ULM	Lac du Bonnet	81.54	31	P		P	09 19 13.0	0.0
	comp=Z,2.7nm,0.9s,baz=338,slow=3.9,SNR=2.9							
TXAR	Lajitas Array	93.38	49	P		P	09 20 11.6	+1.3
	comp=Z,0.5nm,0.6s,baz=274,slow=2.8,SNR=10							
X37A	Clayton	94.03	40	*e*P		P	09 20 13.1	+0.1
	comp=Z,32nm,1.8s							

IDC ***07*** *09:07:50.4±3.9, 36°.17N×70°.51E, h164km±34km, mb3.8/11, mb1 3.9/15, mb1mx3.6/54, mbtmp4.3/15, MS2.8/1, Ms1 2.8/1, ms1mx2.5/46, Error ellipse: s-maj=23.8km s-min=15.4km az=25.0*

NEIC ***07*** *09:07:53.9±1.0, 36°.42N×70°.62E, h189km±9km, mb4.4/9, Error ellipse: s-maj=9.6km s-min=8.0km az=183.0*

ISCJB ***07*** *09:07:53.9±0.3, 36°.52N±0°.02×70°.61E±0°.04, h204km, mb4.2/26, Error ellipse: s-maj=4.9km s-min=3.4km az=171.4*

MOS ***07*** *09:07:53.5±1.1, 36°.50N×70°.57E, h198km, mb4.3/10, Error ellipse: s-maj=10.6km s-min=5.3km az=80.4*

BJI ***07*** *09:07:54.1, 36°.65N×70°.53E, h192km, mb4.2/12, mB4.6/7*

NNC ***07*** *09:07:58.0±2.1, 36°.81N×70°.71E, h209km±23km, mb3.4, mpv4.6, Error ellipse: s-maj=25.8km s-min=17.3km az=77.0*

ISC 07 09:07:55.2±0.4, 36°.51N±0°.05×70°.59E±0°.05, h204km, n113, σ1ⱷ49/119, mb4.2/26, 10C-8D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	Cherat	2.89	158	P	Pn	09 08 43.5	-0.5
CEP				S	S	09 09 19.0	-2.4
CHCP	Chirah Chowk	3.59	142	P	Pn	09 08 52.1	-0.1
THW	Thamme Wali	3.83	165	P	Pn	09 08 54.6	-0.5
SFK	Sufi-Kurgan	4.18	32	⇑P	Pn	09 08 58.4	-1.2
	28nm,0.4s						
SFK				⇑S	S	09 09 46.8	-3.0
	84nm,0.9s						
SFK	Sufi-Kurgan	4.18	32	*i* PN	Pn	09 08 58.4	-1.2
SFK				pmax	pmax		
	comp=Z,28nm,0.4s						
SARP	Sargodha	4.89	159	P	Pn	09 09 07.1	-1.3
KSH	Kashi	5.21	53	P	Pn	09 09 07.3	-5.1
KSH				sP		09 09 47.3	
KSH				S	S	09 10 01.2	-12
KSH				pmax	pmax		
	comp=Z,98nm,0.9s						
KSH				pmax	pmax		
	comp=Z,500nm,5.4s						
AML	Almayashu	6.11	22	P	Pn	09 09 19.0	-5.2
	SNR=119						
MNAS	Manas	6.15	13	⇓P	Pn	09 09 23.5	-1.0
	comp=Z,39nm,0.6s						
MNAS				⇓S	S	09 10 32.3	-2.8
	comp=Z,55nm,0.7s						
MNAS	Manas	6.15	13	*i* PN	Pn	09 09 23.5	-1.0
MNAS				pmax	pmax		
	comp=Z,39nm,0.6s						
UCH	Uchtor	6.47	27	P	Pn	09 09 28.2	-0.7
	SNR=128						
NRN	Naryn	6.48	39	*e*Pn	Pn	09 09 26.5	-2.4
NRN	Naryn	6.48	39	*e*PN	Pn	09 09 26.5	-2.4
KK31	Karatay Array	6.59	360	*e*Pn	Pn	09 09 29.2	-0.8
KK31	Karatay Array	6.59	360	PN	Pn	09 09 28.7	-1.3
KK31				pmax	pmax		
	comp=Z,15nm,0.3s						
KKAR	Karatay Array	6.59	360	*e*Pn	Pn	09 09 29.2	-0.8
KKAR	Karatay Array	6.59	360	*e*PN	Pn	09 09 29.2	-0.8
EKS2	Erkin-Say	6.62	21	P	Pn	09 09 30.1	-0.5
	SNR=51						
KZA	Kyzart	6.63	32	P	Pn	09 09 29.6	-1.4
	SNR=5.8						
AAK	Ala-Archa	6.82	25	P	Pn	09 09 32.7	-0.5
	comp=Z,5.6nm,0.3s,baz=211,slow=4.7,SNR=56						
AAK				S	S	09 10 48.4	-2.5
	comp=Z,2.2nm,0.3s,baz=110,slow=23,SNR=5.9						
AAK	Ala-Archa	6.82	25	P	Pn	09 09 32.3	-1.0
	comp=Z,37nm,0.8s						
AAK	Ala-Archa	6.82	25	P	Pn	09 09 32.9	-0.4
	SNR=29						
AAK	Ala-Archa	6.82	25	*de*PN	Pn	09 09 32.2	-1.0
AAK				pmax	pmax		
	comp=Z,37nm,0.8s						
KBK	Karagaybulak	7.00	27	P	Pn	09 09 35.4	-0.1
	SNR=27						
ULHL	Ulahol	7.21	36	P	Pn	09 09 37.7	-0.6
	SNR=12						
CHMS	Chumysh	7.23	25	P	Pn	09 09 37.9	-0.5
	SNR=31						
USP	Ospenovka	7.39	23	P	Pn	09 09 39.5	-0.9
	SNR=9.8						
TKM2	Tokmak 2	7.48	30	⇓P	Pn	09 09 40.1	-1.7
	comp=Z,46nm,0.5s						
TKM2				⇑S	S	09 11 02.9	-3.6
	comp=Z,17nm,0.8s						
TKM2	Tokmak 2	7.48	30	P	Pn	09 09 41.2	-0.6
	SNR=63						
TKM2	Tokmak 2	7.48	30	*i* PN	Pn	09 09 40.0	-1.7
TKM2				pmax	pmax		
	comp=Z,46nm,0.5s						
KDJ	Kajisay	7.59	40	*e*Pn	Pn	09 09 43.7	+0.5
KDJ	Kajisay	7.59	40	*e*PN	Pn	09 09 43.7	+0.5
MDOK	Medeo	8.30	35	P	Pn	09 09 51.9	-0.5
	comp=Z,34nm,1.1s						
MDOK	Medeo	8.30	35	PN	Pn	09 09 51.9	-0.5
MDOK				pmax	pmax		
	comp=Z,34nm,1.1s						
PDGK	Podgornoye	9.65	42	⇓P	Pn	09 10 08.3	-1.6
	comp=Z,4.9nm,0.8s						
PDGK	Podgornoye	9.65	42	P	Pn	09 10 08.3	-1.6
PDGK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GEYT	Alibeck	10.05	282	LR	LR	09 14 31.7	
	comp=Z,51nm,20.0s,baz=305,slow=40						
OTUK	Ortayu	11.80	6	⇑P	Pn	09 10 36.3	-1.0
	comp=Z,14nm,1.2s						
OTUK	Ortayu	11.80	6	P	Pn	09 10 36.3	-1.0
OTUK				pmax	pmax		
	comp=Z,14nm,1.2s						
PYUN	Piuthan	13.42	125	*e*P	Pn	09 10 56.3	-1.7
	comp=Z,10nm,0.3s						
MK01	Makanchi Array	13.47	37	*e*Pn	Pn	09 10 58.5	+0.2
MK31	Makanchi Array	13.48	37	*e*Pn	Pn	09 10 58.4	0.0
MK31	Makanchi Array	13.48	37	*e*P	Pn	09 10 58.8	+0.4
MK31				pmax	pmax		
	comp=Z,13nm,0.7s						
MKAR	Makanchi Array	13.48	37	P	Pn	09 10 58.7	+0.2
	comp=Z,0.9nm,0.3s,baz=219,slow=14,SNR=50						
MKAR	Makanchi Array	13.48	37	*e*Pn	Pn	09 10 58.4	0.0
DANN	Dangsing	13.77	122	*e*P	Pn	09 11 00.6	-1.9
	comp=Z,10nm,0.3s						
KOLN	Koldanda	14.04	125	*e*P	Pn	09 11 04.6	-1.1
	comp=Z,5.0nm,0.3s						
AB31	Akbulak array	14.92	332	*i* P	Pn	09 11 13.9	-2.1
AB31				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ABKAR	Akbulak array	14.92	332	*e*Pn	Pn	09 11 15.0	-1.0
WMQ	Urumqi	14.96	56	*e*P	P	09 11 17.7	+0.3
DMN	Daman	15.16	122	*e*P	Pn	09 11 18.2	-1.3
	comp=Z,14nm,0.5s						
KKN	Kakani	15.17	121	*e*P	Pn	09 11 18.9	-0.6
KURBB	Kurchatov Arra	15.22	20	P	Pn	09 11 18.2	-1.6
	comp=Z,0.1nm,0.3s,baz=212,slow=10,SNR=10						
KURK	Kurchatov	15.33	20	*e*Pn	Pn	09 11 20.6	-0.5
KURK	Kurchatov	15.33	20	*i* P	Pn	09 11 20.9	-0.2
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PKIN	Phulchoki	15.38	121	*e*P	Pn	09 11 21.5	-0.7
	comp=Z,28nm,0.6s						
PKI	Pulchoki	15.39	121	*e*P	Pn	09 11 21.4	-1.0
	comp=Z,39nm,0.7s						
GUN	Gumba	15.51	119	*e*P	Pn	09 11 23.4	-0.4
BVAR	Borovoye Array	16.52	360	P	Pn	09 11 34.9	-0.4
	comp=Z,0.6nm,0.3s,baz=171,slow=10,SNR=15						
BRVK	Borovoye	16.55	359	⇓P	P	09 11 34.9	+0.2
	comp=Z,3.9nm,0.6s						
BRVK	Borovoye	16.55	359	*e*P	Pn	09 11 35.6	-0.1
	comp=Z,8.8nm,1.1s						
BRVK	Borovoye	16.55	359	*c i*P	P	09 11 34.8	+0.2
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AKTO	Aktyubinsk	16.61	331	P	Pn	09 11 36.9	+0.5
	comp=Z,0.6nm,0.3s,baz=136,slow=10,SNR=27						
AKTO	Aktyubinsk	16.61	331	⇑P	Pn	09 11 36.4	0.0
	comp=Z,7.4nm,0.7s						
AKTO				⇓S	S	09 14 34.0	-4.4
	comp=Z,7.8nm,1.4s						
UOSS	Minazif	16.88	231	*e*P	Pn	09 11 39.4	-0.5
	comp=Z,8.2nm,0.8s						
DGZ	Jazzator, Alta	17.98	38	*c i*P	Pn	09 11 52.1	-0.6
DGZ				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ZAA0	Zalesovo Array	20.05	25	*e*P	P	09 12 12.8	+0.3
	comp=Z,12nm,0.6s						
ZALV	Zalesovo Beam	20.05	25	P	P	09 12 13.0	+0.5
	comp=Z,9.3nm,0.5s,baz=220,slow=11,SNR=43						
ZALV	Zalesovo Beam	20.05	25	*e*P	P	09 12 12.8	+0.3
ZALV	Zalesovo Beam	20.05	25	P	P	09 12 13.0	+0.5
ZALV				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NVS	Novosibirsk	20.29	21	*e*P	P	09 12 16.5	+1.4
NVS				pmax	pmax		
	comp=N,7.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,8.0nm,0.6s						
GNI	Garni	20.57	288	*i* P	P	09 12 18.9	+0.4
GNI				pmax	pmax		
	comp=Z,22nm,0.9s						
TBLG	Delisi	20.69	293	*e*P	P	09 12 21.0	+1.4
	comp=Z,7.8nm,0.7s						
TBLG	Delisi	20.69	293	*e*P	P	09 12 21.0	+1.4
TBLG				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SHL	Shillong	21.21	115	*e*P	P	09 12 24.3	-1.1
	comp=Z,15nm,0.7s						
SHL	Shillong	21.21	115	*e*P	P	09 12 24.3	-1.1
SHL				pmax	pmax		
	comp=Z,15nm,0.7s						
ARU	Arti	21.52	342	P	P	09 12 30.2	+2.2
	comp=Z,3.3nm,0.5s,baz=129,slow=6.5,SNR=6.3						
ARU	Arti	21.52	342	*c i*P	P	09 12 29.2	+1.2
ARU				S	S	09 16 18.3	+5.6
ARU				pmax	pmax		
	comp=Z,13nm,1.7s						
NCK	Nalchik	21.76	297	*i* P	P	09 12 29.3	-1.4
NCK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GTA	Gaotai	23.18	74	⇑P	P	09 12 45.6	+1.7
GTA				sP	sP	09 13 44.7	-1.8
GTA				S	S	09 16 44.9	+4.7
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,87nm,5.2s						
GTA				LR	LR		
	comp=Z,220nm,16.2s						
GTA				LR	LR		
	comp=Z,220nm,15.5s						
GTA				LR	LR		
	comp=Z,230nm,16.2s						
VSR	Storozhevoye	26.75	313	*i* P	P	09 13 13.3	-2.5
VSR				pmax	pmax		
	comp=Z,14nm,0.8s						
SONM	Songino Array	28.60	55	P	P	09 13 34.3	+1.9
	comp=Z,1.1nm,1.0s,baz=258,slow=7.2,SNR=3.6						
SONA1	Songino Array	28.61	55	*e*P	P	09 13 33.7	+1.1
ILGA	Ilgaz	28.95	290	*e*P	P	09 13 37.7	+1.9
	comp=Z,10nm,1.0s						
OBN	Obninsk	29.71	320	*de*P	P	09 13 42.3	+0.3
OBN				*e**PP	pP	09 14 21.0	-2.4
OBN				*e*		09 14 44.6	
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CMAR	Chiang Mai Arr	30.75	118	P	P	09 13 53.6	+2.1
	comp=Z,1.3nm,0.4s,baz=302,slow=7.4,SNR=5.7						
DAMY	Dhamar	32.00	234	*e*P	P	09 14 02.9	+0.1
	comp=Z,20nm,1.3s						
HHC	Hu-ho-hao-te	32.07	70	*e*P	P	09 14 04.0	+1.0
HHC				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC				pmax	pmax		
	comp=Z,97nm,5.6s						
KIEV	Kiev	32.69	309	*i* P	P	09 14 07.3	-0.8
KIEV				pmax	pmax		
	comp=Z,2.0nm,1.1s						
UZH	Uzhgorod	36.98	305	*e*P	P	09 14 37.9	-6.9
FINES	FINESS Array B	37.29	326	P	P	09 14 48.6	+1.4
	comp=Z,4.8nm,0.6s,baz=99,slow=12,SNR=9.6						
ARCES	ARCESS Array B	41.01	338	P	P	09 15 19.4	+1.5
	comp=Z,5.8nm,0.8s,baz=113,slow=7.4,SNR=17						
ARCES	ARCESS Array B	41.01	338	*e*P	P	09 15 18.9	+1.0
NB2	NORSAR Subarra	44.17	323	P	P	09 15 44.0	+0.5
	comp=Z,3.0nm,0.5s,baz=96,slow=7.9						
NB2	NORSAR Subarra	44.17	323	P	P	09 15 44.0	+0.5
NB2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NOA	NORSAR Array B	44.17	323	P	P	09 15 44.3	+0.8
	comp=Z,4.4nm,0.6s,baz=97,slow=7.8,SNR=16						
MA2	Magadan	54.56	38	*e*P	P	09 17 00.7	-1.2
MA2				pmax	pmax		
	comp=Z,24nm,1.0s						
SEY	Seymchan	54.59	34	*e*P	P	09 17 03.1	+1.0
BILL	Bilibino	58.74	26	⇑*e*P	P	09 17 30.6	-0.6
BILL				*e**PP	pP	09 18 17.0	-0.5
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TOA0	Torodi Ar. Sit	65.39	268	*e*P	P	09 18 14.0	-2.2
TORD	Torodi Ar. Bea	65.39	268	P	P	09 18 14.1	-2.1
	comp=Z,1.6nm,0.5s,baz=49,slow=5.9,SNR=27						
IM3	Indian Mountai	72.26	17	*e*P	P	09 18 58.0	+0.2
FYU	Fort Yukon	73.64	14	*e*P	P	09 19 05.9	+0.1
	comp=Z,34nm,1.2s						
MDM	Murphy Dome	74.40	16	*e*P	P	09 19 11.5	+1.2
	comp=Z,4.0nm,0.7s						
IL1	Eielson Array	74.86	16	*e*P	P	09 19 13.5	+0.6
ILAR	Eielson Array	74.86	16	P	P	09 19 13.7	+0.7
	comp=Z,0.9nm,0.4s,baz=298,slow=4.8,SNR=16						
PCA	Pinnacle	80.44	15	*e*P	P	09 19 45.4	+1.5
	comp=Z,111nm,1.6s						
YKA	Yellowknife Ar	81.25	2	P	P	09 19 49.2	+1.2
	comp=Z,1.1nm,0.6s,baz=350,slow=5.3,SNR=4.8						
WRA	Warramunga Arr	82.28	122	P	P	09 19 52.9	-1.1
	comp=Z,2.7nm,0.7s,baz=324,slow=5.0,SNR=12						
WB2	Warramunga Arr	82.29	122	*e*P	P	09 19 52.8	-1.3
	comp=Z,5.2nm,0.9s						
ASAR	Alice Springs	84.53	125	P	P	09 20 04.8	-0.7
	comp=Z,2.8nm,0.7s,baz=312,slow=4.8,SNR=16						
AS01	Alice Springs	84.56	125	*e*P	P	09 20 04.5	-1.2
PLCA	Paso Flores	149.52	250	PKPbc	PKPbc	09 27 20.9	+0.8
	comp=Z,1.5nm,0.8s,baz=84,slow=4.7,SNR=4.2						

IDC ***07*** *09:12:20.6±0.9, 2°.67N×128°.65E, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.9/44, mbtmp3.9/11, MS3.0/1, Ms1 3.0/1, ms1mx2.5/36, Error ellipse: s-maj=41.9km s-min=18.4km az=73.0*

ISCJB ***07*** *09:12:23.7±0.3, 2°.70N±0°.04×128°.72E±0°.05, h35km, mb4.1/21, Error ellipse: s-maj=7.7km s-min=5.3km az=177.1*

NEIC ***07*** *09:12:25.6±0.2, 2°.66N×128°.76E, h35km, mb4.1/10, Error ellipse: s-maj=6.1km s-min=4.0km az=71.0*

ISC 07 09:12:25.4±0.6, 2°.67N±0°.06×128°.79E±0°.07, h35km, n49, σ0ⱷ76/45, mb4.2/21, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	2.36	217	*e*Pn	Pn	09 13 02.0	+0.3
TNTI				*e*Sn	Sn	09 13 29.8	+0.3
FAKI	Fak Fak	6.53	148	*e*Pn	Pn	09 13 57.2	-1.9
LUWI	Luwuk	7.06	239	*e*Pn	Pn	09 14 05.5	-0.8
MYLDM	Lahad Datu	10.57	284	*e*Pn	Pn	09 14 55.3	+0.8
J

USRK	**Ussuriysk Ar.**	**41.46**	**3**	P		**P**	**09 20 09.7**	**+0.9**
	3.6nm,0.8s,baz=188,slow=11,SNR=5.0							
SONA0	**Songino Array**	**48.98**	**340**	*eP*		**P**	**09 21 09.0**	**+0.4**
SONM	**Songino Array**	**48.98**	**340**	P		**P**	**09 21 09.0**	**+0.3**
	0.7nm,0.6s,baz=148,slow=8.6,SNR=3.5							
MK01	**Makanchi Array**	**59.59**	**325**	*eP*		**P**	**09 22 26.0**	**+0.3**
MK32	**Makanchi Array**	**59.60**	**325**	*eP*		**P**	**09 22 26.3**	**+0.4**
MK32				*ePcP*		**PcP**	**09 23 12.7**	**-0.2**
MKAR	**Makanchi Array**	**59.60**	**325**	P		**P**	**09 22 26.3**	**+0.4**
	0.9nm,0.5s,baz=117,slow=8.5,SNR=7.8							
MKAR				PcP		**PcP**	**09 23 12.7**	**-0.2**
	1.4nm,0.7s,baz=114,slow=5.4,SNR=4.8							
ZALV	**Zalesovo Beam**	**62.47**	**332**	P		**P**	**09 22 44.3**	**-0.8**
	0.9nm,0.5s,baz=123,slow=7.1,SNR=2.8							
ZAA1	**Zalesovo Array**	**62.48**	**332**	*eP*		**P**	**09 22 44.3**	**-0.9**
KURK	**Kurchatov**	**63.74**	**327**	*eP*		**P**	**09 22 53.6**	**0.0**
	4.7nm,0.9s							
KURBB	**Kurchatov Arra**	**63.75**	**327**	P		**P**	**09 22 53.7**	**0.0**
	1.4nm,0.6s,baz=126,slow=6.3,SNR=10.0							
BVAR	**Borovoye Array**	**69.33**	**327**	P		**P**	**09 23 29.3**	**-0.1**
	0.7nm,0.6s,baz=131,slow=6.8,SNR=3.7							
BRVK	**Borovoye**	**69.41**	**327**	*eP*		**P**	**09 23 29.9**	**+0.1**
	3.6nm,0.9s							
ILAR	**Eielson Array**	**85.17**	**25**	P		**P**	**09 24 58.0**	**+0.2**
	0.3nm,0.6s,baz=247,slow=6.1,SNR=6.0							
ILB	**Eielson Array**	**85.17**	**25**	*eP*		**P**	**09 24 57.8**	**-0.1**

NNC ***07*** *09:15:54.4±9.3,36.71N×69.51E,h0km,mb4.5,mpv4.1, Error ellipse: s-maj=116.4km s-min=70.3km az=127.0*

IDC ***07*** *09:15:54.9±8.8,35.98N×70.88E,h64km±73km,mb3.3/4, mb1 3.6/6,mb1mx3.3/37,mbtmp3.8/6,ML4.0/2,Error ellipse: s-maj=80.2km s-min=30.7km az=45.0*

ISC 07 09:15:58.3±1.4,36.2N±0.1×70.5E±0.2,h100km,n15, σ2s78/18,mb3.1/3,5C-1D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**4.48**	**31**	⇑Pn	**Pn**	**09 17 04.3**	**+0.1**
	44nm,0.4s						
SFK				⇑Sn	**Sn**	**09 17 59.8**	**+4.4**
	7.2nm,0.3s						
AML	**Almayashu**	**6.42**	**22**	P	**Pn**	**09 17 29.6**	**-1.1**
	SNR=29						
MNAS	**Manas**	**6.47**	**13**	⇑Pn	**Pn**	**09 17 29.9**	**-1.2**
	5.2nm,0.5s						
MNAS				⇑Sn	**Sn**	**09 18 39.3**	**-4.3**
	3.2nm,0.4s						
UCH	**Uchtor**	**6.78**	**26**	P	**Pn**	**09 17 33.9**	**-1.7**
	SNR=5.1						
KZA	**Kyzart**	**6.93**	**31**	P	**Pn**	**09 17 36.3**	**-1.4**
	SNR=7.9						
EKS2	**Erkin-Say**	**6.94**	**20**	P	**Pn**	**09 17 36.9**	**-0.5**
	SNR=20						
AAK	**Ala-Archa**	**7.13**	**24**	P	**Pn**	**09 17 39.1**	**-1.0**
	3.5nm,0.3s,baz=162,slow=5.8,SNR=19						
AAK				S	**Sn**	**09 18 54.7**	**-5.0**
	0.3nm,0.3s,baz=128,slow=22,SNR=2.4						
CHMS	**Chumysh**	**7.54**	**24**	P	**Pn**	**09 17 44.7**	**-0.8**
	SNR=7.4						
TKM2	**Tokmak 2**	**7.78**	**29**	⇓Pn	**Pn**	**09 17 46.8**	**-2.1**
	4.3nm,0.6s						
TKM2				⇑Sn	**Sn**	**09 19 20.4**	**+5.0**
	2.6nm,1.1s						
TKM2	**Tokmak 2**	**7.78**	**29**	P	**Pn**	**09 17 47.7**	**-1.3**
	SNR=6.6						
AKTO	**Aktyubinsk**	**16.86**	**331**	P	**P**	**09 19 48.8**	**+0.4**
	0.4nm,0.3s,baz=152,slow=14,SNR=8.8						
ZALV	**Zalesovo Beam**	**20.36**	**25**	P	Pn	09 20 25.5	-4.0
	1.8nm,0.5s,baz=218,slow=9.9,SNR=5.6						
ARCES	**ARCESS Array B**	**41.28**	**338**	P	**P**	**09 23 36.5**	**+3.1**
	1.9nm,0.9s,baz=119,slow=7.3,SNR=3.4						
WRA	**Warramunga Arr**	**82.16**	**122**	P	**P**	**09 28 06.7**	**-1.6**
	0.3nm,0.9s,baz=326,slow=5.0,SNR=5.1						
ASAR	**Alice Springs**	**84.40**	**125**	P	**P**	**09 28 18.8**	**-1.0**
	0.2nm,0.8s,baz=330,slow=3.2,SNR=3.3						

MEX 07 09:42:57.6±0.7,16.56N×98.50W,h18km±6km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.39**	**115**	*eP*	Pg	09 43 04.2	-1.6
PNIG				*i* S	Sg	09 43 09.7	-1.5
TLIG	**Tlapa**	**1.00**	**356**	*eP*	Pb	09 43 13.4	-3.1
TLIG				*eS*	Sb	09 43 25.4	-4.0
VHO	**Vista Hermosa**	**1.76**	**73**	*eP*	Pn	09 43 25.1	-2.3
CAIG	**El Cayaco**	**1.77**	**286**	*eP*	Pn	09 43 25.1	-2.2
HUIG	**Huatulco**	**2.42**	**109**	*i P*	Pn	09 43 33.8	-2.6
HUIG				*i* S	Sn	09 44 02.1	-3.5

ISCJB ***07*** *09:49:11.0±0.6,18.58N±0.07×145.74E±0.2,h200km, mb3.8/11,Error ellipse: s-maj=25.0km s-min=9.2km az=5.3*

IDC ***07*** *09:49:13.6±2.8,18.65N×145.47E,h209km±27km, mb3.7/11,mb1 3.9/12,mb1mx3.5/61,mbtmp4.2/12,Error ellipse: s-maj=21.1km s-min=13.6km az=98.0*

ISC 07 09:49:12.6±0.7,18.56N±0.08×145.6E±0.2,h200km,n14, σ1s31/15,mb3.9/11,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.99**	**188**	P	**Pn**	**09 50 29.0**	**+2.1**
	4.4nm,0.3s,baz=3.5,slow=19,SNR=3.4						
GUMO				S	**Sn**	**09 51 22.6**	**-2.8**
	20nm,0.3s,baz=180,slow=23,SNR=5.3						
JOW	**Kunigami**	**17.95**	**300**	P	**Pn**	**09 53 11.0**	**+1.0**
	1.6nm,0.3s,baz=135,slow=11,SNR=4.9						
PETK	**Petropavlovsk-**	**35.75**	**13**	P	**P**	**09 55 53.3**	**+1.2**
	2.5nm,0.8s,baz=178,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**39.82**	**197**	P	**P**	**09 56 26.9**	**+0.3**
	3.8nm,0.8s,baz=15,slow=8.2,SNR=56						
ASAR	**Alice Springs**	**43.48**	**196**	P	**P**	**09 56 56.8**	**+0.5**
	0.8nm,0.7s,baz=19,slow=7.7,SNR=15						
MKAR	**Makanchi Array**	**58.47**	**314**	P	**P**	**09 58 47.4**	**-0.3**
	0.8nm,0.7s,baz=98,slow=8.0,SNR=4.7						
KURBB	**Kurchatov Arra**	**61.34**	**318**	P	**P**	**09 59 06.2**	**-0.8**
	0.6nm,0.3s,baz=96,slow=7.0,SNR=6.7						
ILAR	**Eielson Array**	**63.82**	**26**	P	**P**	**09 59 21.9**	**-1.3**
	3.1nm,0.7s,baz=258,slow=4.8,SNR=29						
BVAR	**Borovoye Array**	**66.51**	**320**	P	**P**	**09 59 39.7**	**-1.0**
	2.5nm,0.6s,baz=91,slow=7.7,SNR=9.0						
AKTO	**Aktyubinsk**	**74.39**	**318**	P	**P**	**10 00 27.2**	**-1.2**
	0.6nm,0.5s,baz=73,slow=11,SNR=4.2						
YKA	**Yellowknife Ar**	**78.17**	**28**	P	**P**	**10 00 49.3**	**-0.1**
	2.4nm,0.6s,baz=290,slow=5.5,SNR=7.1						
NVAR	**Mina Array Bea**	**83.32**	**52**	P	**P**	**10 01 18.1**	**+0.5**
	4.5nm,0.7s,baz=264,slow=6.0,SNR=45						
PDAR	**Pinedale Array**	**88.01**	**45**	P	**P**	**10 01 40.1**	**-0.4**
	0.4nm,0.5s,baz=120,slow=1.5,SNR=7.8						
LPAZ	**La Paz**	**147.79**	**91**	PKPbc	**PKPbc**	**10 08 35.7**	**+0.3**
	3.8nm,0.8s,baz=293,slow=2.0,SNR=14						

MEX 07 10:13:14.5±0.6,16.16N×98.22W,h5km,MD3.6,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.25**	**22**	*i* P	Pg	10 13 18.4	-1.0
PNIG				*eS*	Sg	10 13 22.8	0.0
TLIG	**Tlapa**	**1.44**	**347**	*eP*	Pn	10 13 37.8	-3.5
TLIG				*eS*	Sb	10 13 55.3	-5.3
VHO	**Vista Hermosa**	**1.70**	**57**	*i* P	Pn	10 13 41.9	-3.1
VHO				*eS*	Sn	10 14 02.6	-4.5
CAIG	**El Cayaco**	**2.15**	**295**	*i* P	Pn	10 13 48.3	-2.8
CAIG				*i* S	Sn	10 14 13.4	-4.8

ISCJB ***07*** *10:25:56.0±0.4,9.11S±0.05×108.93W±0.07,h10km, mb4.5/62,MS4.3/17,Error ellipse: s-maj=10.5km s-min=7.1km az=167.7*

IDC ***07*** *10:25:56.4±1.3,8.92S×108.88W,h0km,mb3.8/6, mb1 4.2/6,mb1mx4.0/25,mbtmp3.8/6,MS4.3/18, Ms1 4.3/18,ms1mx4.2/27,Error ellipse: s-maj=69.0km s-min=25.3km az=73.0*

NEIC ***07*** *10:25:57.4±0.4,9.17S×108.95W,h10km,mb4.6/58,Error ellipse: s-maj=10.1km s-min=6.9km az=72.0*

GCMT ***07*** *10:25:59.4±0.2,9.05S±0.01×108.92W±0.01,h18km±1km, MW5.1/112,Moment Tensor Solution. s63,c79; s112,c187; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.58±.12; Mθθ1.51±.11; Mϕϕ-0.92±.12; Mrθ0.85±.25; Mθϕ4.75±.10; Mϕr-0.56±.27; Best double couple: M₀5.02300×10¹⁶ NP1:ϕ₁276.00000°,δ83.00000°, λ-11.00000°. NP2:ϕ₂8.00000°,δ79.00000°,λ-173.00000°. Principal axes: T 5.2150, Plg3.0000°, Azm323.0000°; N -0.3820, Plg77.0000°, Azm67.0000°; P -4.8300, Plg13.0000°, Azm232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 10:25:57.4±0.5,9.14S±0.08×109.01W±0.10,h10km,n101, σ1s02/78,mb4.6/62,MS4.3/17,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**17.90**	**181**	LR	LR	10 35 02.4	
	comp=Z,1μm,19.2s,baz=359,slow=30						
RPN	**Rapa Nui**	**17.90**	**181**	*e*Pn	**Pn**	**10 30 05.4**	**-1.2**
	212nm,1.4s						
PAYG	**Puerto Ayora**	**20.45**	**67**	*eP*	**P**	**10 30 35.8**	**+0.5**
	86nm,1.5s						
TLIG	**Tlapa**	**28.46**	**21**	*eP*	**P**	**10 31 52.8**	**-0.2**
	5.5nm,1.0s						
RKT	**Rikitea**	**28.48**	**238**	*e*LR	LR	10 39 18.2	
	1μm,27.2s						
MOIG	**Morelia**	**29.65**	**15**	*eP*	**P**	**10 32 03.9**	**+0.3**
	17nm,0.6s						
UNM	**Universidad Na**	**29.90**	**19**	*eP*	**P**	**10 32 07.4**	**+1.5**
	54nm,0.8s						
APG	**El Apazote**	**30.22**	**38**	LR	LR	10 41 38.5	
	comp=Z,1μm,20.4s,baz=279,slow=31						
ATAH	**Atahualpa**	**30.37**	**89**	LR	LR	10 41 05.5	
	comp=Z,304nm,20.9s,baz=266,slow=30						
TAOE	**Nuku Hiva Isla**	**30.75**	**268**	*eP*	**P**	**10 32 14.4**	**+1.1**
	88nm,1.0s						
JTS	**JuntasAbangare**	**30.75**	**52**	LR	LR	10 41 18.1	
	comp=Z,1μm,21.5s,baz=345,slow=30						
JTS	**JuntasAbangare**	**30.75**	**52**	*eP*	**P**	**10 32 14.1**	**+0.8**
	30nm,1.6s						
NNA	**Nana**	**31.74**	**98**	LR	LR	10 41 51.0	
	comp=Z,299nm,18.6s,baz=268,slow=30						
OTAV	**Otavalo**	**31.83**	**75**	*eP*	**P**	**10 32 24.2**	**+0.9**
	6.4nm,1.1s						
ZAIG	**Zacatecas**	**32.33**	**11**	*eP*	**P**	**10 32 27.5**	**+0.2**
	4.1nm,0.8s						
LPIG	**La Paz**	**33.06**	**358**	LR	LR	10 42 28.6	
	comp=Z,704nm,21.0s,baz=167,slow=30						
ROSC	**El Rosal**	**37.26**	**70**	LR	LR	10 45 29.1	
	comp=Z,230nm,20.9s,baz=266,slow=32						
833A	**Chaparral WMA,**	**38.38**	**14**	*eP*	**P**	**10 33 19.6**	**+0.6**
	10nm,1.0s						
TX31	**Lajitas Ar. Si**	**38.59**	**7**	*eP*	**P**	**10 33 19.8**	**-1.1**
TXAR	**Lajitas Array**	**38.59**	**7**	P	**P**	**10 33 18.9**	**-2.0**
	0.5nm,0.9s,baz=185,slow=9.7,SNR=4.2						
TXAR				LR	LR	10 45 56.9	
	comp=Z,302nm,21.5s,baz=0.0,slow=31						
PPT	**Papeete**	**40.28**	**254**	LR	LR	10 46 08.9	
	comp=Z,435nm,18.1s,baz=79,slow=30						
PPT2	**Papeete2**	**40.28**	**254**	*e*S	**S**	**10 39 43.6**	**+0.6**
	80nm,27.0s						
PPT2				*e*LQ	LQ	10 42 53.0	
	2μm,29.2s						
PPT2				*e*LR	LR	10 44 37.6	
	1μm,26.0s,baz=77						
LPAZ	**La Paz**	**40.45**	**104**	LR	LR	10 46 34.0	
	comp=Z,481nm,19.6s,baz=258,slow=31						
MNTX	**Cornudas Mount**	**40.75**	**5**	*eP*	**P**	**10 33 39.0**	**+0.3**
	8.6nm,1.3s						
TBI	**Tubuai**	**41.17**	**245**	*e*LQ	LQ	10 43 20.9	
	856nm,30.0s						
TBI				*e*LR	LR	10 45 03.0	
	1μm,27.8s,baz=76						
TBI	**Tubuai**	**41.17**	**245**	*e*T	T	11 17 29.4	
	2.1nm,0.3s						
Y14A	**Wickenburg**	**43.00**	**355**	*eP*	**P**	**10 33 57.9**	**+0.7**
	8.6nm,1.4s						
341A	**Kurthwood**	**43.01**	**20**	*eP*	**P**	**10 33 58.0**	**+0.8**
	26nm,1.4s						
LAZ	**Ladron**	**43.33**	**2**	*eP*	**P**	**10 33 59.3**	**-0.7**
X16A	**Lo Mia Camp, P**	**43.37**	**357**	*eP*	**P**	**10 34 00.6**	**+0.2**
	6.2nm,1.4s						
ANMO	**Albuquerque**	**43.91**	**3**	P	**P**	**10 34 03.3**	**-1.3**
	0.4nm,0.4s,baz=242,slow=6.1,SNR=4.1						
ANMO	**Albuquerque**	**43.91**	**3**	*eP*	**P**	**10 34 03.1**	**-1.5**
	1.7nm,1.0s						
W13A	**Hualapai Mount**	**44.23**	**354**	*eP*	**P**	**10 34 08.2**	**+0.9**
	5.5nm,1.1s						
WUAZ	**Wupatki**	**44.47**	**357**	*eP*	**P**	**10 34 10.2**	**+1.1**
	7.4nm,1.4s						
GO06	**Curarrehue**	**45.16**	**138**	*eP*	**P**	**10 34 13.8**	**-0.7**
	31nm,1.5s						
SAML	**Samuel**	**45.24**	**94**	*eP*	**P**	**10 34 14.2**	**-1.3**
	10nm,1.1s						
U15A	**North Rim**	**45.42**	**356**	*eP*	**P**	**10 34 18.0**	**+1.1**
	10nm,1.5s						
SHPR	**Sheep Range**	**45.76**	**353**	*eP*	**P**	**10 34 20.4**	**+1.0**
	12nm,1.5s						
MIAR	**Mount Ida**	**45.84**	**18**	*eP*	**P**	**10 34 20.6**	**+0.8**
	7.4nm,1.0s						
KNB	**Kanab**	**46.05**	**356**	*eP*	**P**	**10 34 22.6**	**+1.0**
	17nm,1.6s						
MVCO	**Mesa Verde**	**46.10**	**1**	*eP*	**P**	**10 34 22.6**	**+0.5**
	18nm,1.4s						
TPNV	**Topopah Spring**	**46.34**	**352**	*eP*	**P**	**10 34 25.2**	**+1.3**
	6.0nm,1.3s						
PLCA	**Paso Flores**	**46.36**	**139**	P	**P**	**10 34 25.3**	**+1.3**
	4.9nm,1.0s,baz=319,slow=9.6,SNR=6.6						
PLCA				LR	LR	10 48 45.1	
	comp=Z,902nm,21.6s,baz=333,slow=30						
PLCA	**Paso Flores**	**46.36**	**139**	*eP*	**P**	**10 34 24.1**	**0.0**
	13nm,1.1s						
PKCU	**Pink Cliffs**	**46.44**	**356**	*eP*	**P**	**10 34 25.9**	**+1.0**
	27nm,1.7s						
SDCO	**Great Sand Dun**	**46.75**	**4**	*eP*	**P**	**10 34 27.6**	**+0.4**
	12nm,1.4s						
W41B	**Gary Mavity, V**	**46.83**	**19**	*eP*	**P**	**10 34 27.3**	**-0.3**
	16nm,1.0s						
Z50A	**Ashland**	**47.54**	**26**	*eP*	**P**	**10 34 31.2**	**-1.9**
	10nm,0.9s						
R11A	**Troy Canyon, C**	**47.63**	**353**	*eP*	**P**	**10 34 34.5**	**+0.4**
	2.5nm,1.1s						
NV11	**Mina Array Sit**	**48.08**	**350**	*eP*	**P**	**10 34 38.5**	**+1.1**
	0.7nm,1.4s						
NV01	**Mina Array Sit**	**48.10**	**350**	*eP*	**P**	**10 34 38.0**	**+0.3**
NVAR	**Mina Array Bea**	**48.10**	**350**	P	**P**	**10 34 38.2**	**+0.5**
	2.0nm,0.8s,baz=177,slow=9.6,SNR=17						
NVAR				LR	LR	10 50 30.8	
	comp=Z,687nm,19.0s,baz=172,slow=31						
CMB	**Columbia Colle**	**48.11**	**348**	*eP*	**P**	**10 34 37.4**	**-0.1**
	4.6nm,1.1s						
PLAL	**Pickwick Lake**	**48.14**	**23**	*eP*	**P**	**10 34 36.6**	**-1.2**
	8.9nm,0.9s						
PCRV	**Puerto La Cruz**	**48.15**	**68**	LR	LR	10 50 55.0	
	comp=Z,229nm,21.0s,baz=232,slow=31						
RYN	**Ryan**	**48.34**	**350**	*eP*	**P**	**10 34 40.0**	**+0.5**
	13nm,1.3s						
P17A	**Butcher Ranch,**	**48.38**	**358**	*eP*	**P**	**10 34 40.7**	**+0.8**
	16nm,1.6s						
KVN	**Kaiserville**	**48.68**	**351**	*eP*	**P**	**10 34 42.2**	**0.0**
	6.0nm,1.1s						
YERR	**Yerington**	**48.81**	**349**	*eP*	**P**	**10 34 43.6**	**+0.5**
	16nm,1.5s						
PNTR	**Pine Nut**	**48.98**	**349**	*eP*	**P**	**10 34 46.0**	**+1.5**
	5.9nm,1.0s						
RUBR	**Rubicon Trail**	**49.05**	**349**	*eP*	**P**	**10 34 46.5**	**+1.5**
	18nm,1.1s						
VCNR	**Virginia City**	**49.19**	**349**	*eP*	**P**	**10 34 47.2**	**+1.1**
	4.9nm,1.0s						
PTGA	**Pitinga**	**49.52**	**83**	*eP*	**P**	**10 34 47.7**	**-1.1**
	6.6nm,0.9s						
PAHR	**Pah Rah Range**	**49.54**	**349**	*eP*	**P**	**10 34 49.3**	**+0.7**
	4.7nm,1.0s						
CCM	**Cathedral Cave**	**49.79**	**18**	*eP*	**P**	**10 34 48.5**	**-1.9**
	9.9nm,1.1s						
ORV	**Oroville**	**49.81**	**347**	*eP*	**P**	**10 34 51.5**	**+1.0**
	5.5nm,1.3s						
RAR	**Rarotonga**	**50.24**	**250**	LR	LR	10 51 16.6	
	comp=Z,135nm,20.2s,baz=88,slow=30						
HWUT	**Hardware Ranch**	**50.55**	**358**	*eP*	**P**	**10 34 55.5**	**-0.8**
	3.0nm,1.1s						
T49A	**Edmonton**	**51.00**	**24**	*eP*	**P**	**10 34 60.0**	**+0.4**
	9.3nm,0.9s						
WDC	**Whiskeytown Da**	**51.02**	**347**	*eP*	**P**	**10 35 00.1**	**+0.5**
	8.8nm,1.3s						
PDAR	**Pinedale Array**	**51.65**	**359**	P	**P**	**10 35 03.0**	**-1.7**
	0.5nm,0.7s,baz=183,slow=5.9,SNR=5.2						
MOD	**Modoc Plateau**	**51.83**	**349**	*eP*	**P**	**10 35 06.6**	**+0.7**
	15nm,1.3s						
WVOR	**Wild Horse Val**	**52.07**	**351**	*eP*	**P**	**10 35 08.0**	**+0.3**
	7.4nm,1.2s						
MOOW	**Moose Ponds**	**52.66**	**358**	*eP*	**P**	**10 35 11.8**	**-0.3**
	3.3nm,1.3s						
HLID	**Hailey**	**52.67**	**355**	*eP*	**P**	**10 35 12.8**	**+0.6**
	4.1nm,1.1s						
K05A	**Summer Lake**	**52.74**	**349**	*eP*	**P**	**10 35 13.3**	**+0.6**
	11nm,1.0s						
IMW	**Indian Meadow**	**52.81**	**358**	*eP*	**P**	**10 35 12.6**	**-0.8**
	5.4nm,1.0s						
J08A	**Circle Bar Ran**	**52.95**	**351**	*eP*	**P**	**10 35 15.3**	**+1.1**
	8.7nm,1.3s						
FLWY	**Flagg Ranch**	**52.99**	**358**	*eP*	**P**	**10 35 14.8**	**+0.3**
	8.8nm,1.1s						
RLMT	**Red Lodge**	**54.01**	**360**	*eP*	**P**	**10 35 20.0**	**-2.0**
	38nm,1.2s						
G08A	**Pilot Rock**	**54.91**	**351**	*eP*	**P**	**10 35 27.6**	**-0.9**
	6.5nm,1.1s						
AFI	**Afiamalu**	**61.54**	**259**	LR	LR	10 57 07.6	
	comp=Z,167nm,21.3s,baz=106,slow=30						
URZ	**Urewera**	**71.75**	**233**	LR	LR	11 00 47.5	
	comp=Z,240nm,20.7s,baz=10.0,slow=29						
SCHQ	**Schefferville**	**72.86**	**24**	LR	LR	11 07 47.4	
	comp=Z,171nm,21.7s,baz=310,slow=35						
SUA	**Susitna One**	**77.55**	**341**	*eP*	**P**	**10 37 51.7**	**-1.7**
	53nm,0.6s						
ILAR	**Eielson Array**	**78.96**	**344**	P	**P**	**10 37 60.0**	**-1.1**
	1.0nm,0.8s,baz=163,slow=5.2,SNR=9.2						
ILAR				LR	LR	11 06 06.1	
	comp=Z,140nm,18.2s,baz=147,slow=31						
QSPA	**South Pole Qui**	**80.94**	**180**	*eP*	**P**	**10 38 12.7**	**+0.7**
	59nm,1.3s						
QSPA				*e*PP	**PP**	**10 41 15.8**	**-0.5**
DZM	**Mont Dzumac**	**81.60**	**249**	*e*S	**S**	**10 48 27.6**	**-1.6**
	60nm,28.3s						
DZM	**Mont Dzumac**	**81.60**	**249**	*e*LR	LR	11 03 50.4	
	131nm,27.4s						
VNA3	**Neumayer Olymp**	**84.41**	**161**	P	**P**	**10 38 30.4**	**+0.5**
VNA1	**Neumayer--Stat**	**84.99**	**161**	P	**P**	**10 38 34.5**	**+1.8**
VNA2	**Neumayer--Watz**	**85.21**	**161**	P	**P**	**10 38 34.0**	**+0.2**
	baz=262,slow=4.7						
H11S2	**WAKE ISLAND Hy**	**87.50**	**289**	T	T	12 15 35.5	
	baz=101,slow=75,SNR=529						
H11S1	**WAKE ISLAND Hy**	**87.51**	**289**	T	T	12 15 39.1	
	baz=101,slow=75,SNR=327						
H11S3	**WAKE ISLAND Hy**	**87.52**	**289**	T	T	12 15 39.1	
	baz=101,slow=75,SNR=548						
H11N3	**WAKE ISLAND Hy**	**87.53**	**290**	T	T	12 15 35.0	
	baz=101,slow=75,SNR=95						
H11N2	**WAKE ISLAND Hy**	**87.55**	**290**	T	T	12 15 35.6	
	baz=101,slow=75,SNR=105						
H11N1	**WAKE ISLAND Hy**	**87.55**	**290**	T	T	12 15 40.6	
	baz=101,slow=75,SNR=47						
MKAR	**Makanchi Array**	**141.25**	**348**	PKP	**PKPdf**	**10 45 28.1**	**-0.5**
	0.7nm,0.8s,baz=20,slow=4.7,SNR=3.7						
KSH	**Kashi**	**149.42**	**352**	*e*PKPbc	**PKPdf**	**10 45 44.4**	**+1.4**
KSH				PP	PP	10 49 26.1	+7.9
KSH				AMB	AMB		
	comp=Z,520nm,6.3s						
CMAR	**Chiang Mai Arr**	**151.35**	**292**	PKPbc	**PKPbc**	**10 45 52.9**	**+0.5**
	comp=Z,1.3nm,0.4s,baz=24,slow=0.9,SNR=8.3						

ISCJB ***07*** *10:31:50.9±0.8,19.97S±0.03×69.4W±0.1,h107km±9km, mb3.3/1,Error ellipse: s-maj=18.8km s-min=5.3km az=177.1*

GUC ***07*** *10:31:50.3±0.6,19.96S×69.36W,h101km±3km,ML3.9*

IDC ***07*** *10:31:50.7±8.2,20.10S×69.30W,h121km±40km,mb3.2/1, mb1 3.5/3,mb1mx3.1/30,mbtmp3.7/3,Error ellipse: s-maj=122.0km s-min=30.4km az=79.0*

ISC 07 10:31:50.3±1.0,19.98S±0.03×69.4W±0.1,h104km±10km, n15,σ1s61/24,7C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB11	**IPOC Station P**	**0.31**	**314**	⇑*i*P	**Pn**	**10 32 05.6**	**0.0**
PB11				*i* S	**Sn**	**10 32 17.1**	**0.0**
PSGC	**Pisagua**	**0.76**	**299**	⇑*i*P	**Pn**	**10 32 09.5**	**+0.7**
PSGC				*i* S	**Sn**	**10 32 23.8**	**+1.1**
MNMC	**Minye Minye**	**0.86**	**349**	⇑*i*P	**Pn**	**10 32 10.2**	**+0.2**
MNMC				*i* S	**Sn**	**10 32 24.8**	**+0.3**
MNMC				IAML		10 32 26.3	
	comp=N,12μm,0.2s						
PB01	**IPOC Station P**	**1.06**	**183**	⇑*i*P	**Pn**	**10 32 12.4**	**+0.5**
PB01				*i* S	**Sn**	**10 32 29.2**	**+1.2**
PB01				IAML		10 32 30.0	
	comp=N,5μm,0.4s						
PB02	**IPOC Station P**	**1.41**	**198**	⇑*i*P	**Pn**	**10 32 16.9**	**+1.0**
PB02				*i* S	**Sn**	**10 32 36.9**	**+1.8**
PB12	**IPOC Station P**	**1.60**	**328**	⇑*i*P	**Pn**	**10 32 18.6**	**+0.4**
PB12				*i* S	**Sn**	**10 32 40.4**	**+1.1**
PB07	**IPOC Station P**	**1.80**	**194**	⇑*i*P	**Pn**	**10 32 22.0**	**+1.3**
PB07				*i* S	**Sn**	**10 32 45.4**	**+1.7**
PB07				IAML		10 32 48.6	
	comp=E,975nm,0.3s						
PB03	**IPOC Station P**	**2.09**	**189**	*eP

DIGO	Kars	1.67	5	*i* P		Pn	10 40 21.2	+0.2
SVAN	Silvan-Diyarba	1.67	250	PN		Pb	10 40 21.7	-0.6
SVAN	Silvan-Diyarba	1.67	250	*i* P		Pb	10 40 21.5	-0.8
BTMN	Batman	1.73	241	*i* P		Pn	10 40 22.2	+0.5
BTMN				*i* S		Sb	10 40 45.8	+0.5
GNI	Garni	1.85	40	PN		Pn	10 40 23.4	+0.1
NAX	Nakhchivan SNR=6.4	1.85	76	⇓P		Pn	10 40 23.4	+0.1
NAX				⇓S		Sb	10 40 49.0	+0.3
KARS	Kars	1.88	358	PN		Pn	10 40 24.0	+0.3
ECAT	Cat-ERZURUM	1.92	297	*i* P		Pn	10 40 23.6	-0.7
SBZ	Shahbuz	1.95	70	⇓P		Pn	10 40 25.3	+0.5
EAK	Akyaka	1.96	9	*i* P		Pg	10 40 28.4	-0.8
BNGB	Bing˙l‖	1.97	278	PN		Pn	10 40 25.2	+0.2
YEDI	Yedisu-Bingol	2.17	289	PN		Pn	10 40 28.4	+0.7
ORD	Ordubad	2.20	84	⇓P		Pn	10 40 28.1	0.0
ORD				⇓S		Sn	10 40 56.8	+1.4
MARD	Mardin	2.38	234	*i* P		Pn	10 40 30.7	+0.1
DDEM	Demirkent	2.41	333	*i* P		Pb	10 40 35.0	+0.1
MAZI	Mazidag	2.52	240	PN		Pn	10 40 33.3	+0.8
DAGI	Agillar	2.52	338	*i* P		Pb	10 40 36.8	-0.1
DBAD	Bademkaya	2.54	334	*i* P		Pb	10 40 37.3	+0.1
ARTV	Artvin	2.62	339	*i* P		Pb	10 40 39.3	+0.7
BAYB	BAYBURT	2.72	305	*i* P		Pb	10 40 40.4	0.0
GDB	GEDABAY SNR=7.8	2.79	44	⇓P		Pn	10 40 37.6	+1.3
QZX	Qazax, Azerbai SNR=4.9	2.85	35	⇓P		Pn	10 40 38.6	+1.5

KRSC 07 10:41:37.1±2.2, 49˚61N×156˚98E, h15km±35km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SKR	Severo-Kuril's	1.21	333	*eP*		Pn	10 41 57.6	-1.7
SKR				*eS*		Sb	10 42 11.9	-3.0
PAU	Pauzhetka	1.86	357	*eP*		Pn	10 42 09.4	+1.1
PAU				*eS*		Sb	10 42 32.8	-0.9
KDTR	Khodutka, Kamc	2.31	17	*eP*		Pb	10 42 17.3	-1.0
KDTR				*eS*		Sb	10 42 45.8	-0.8
KRMR	Karymshinskiy	3.30	12	*eP*		Pn	10 42 31.0	+2.9
KRMR				*eS*		Sn	10 43 10.7	+3.6
PET	Petropavlovsk	3.57	16	*eP*		Pn	10 42 35.4	+3.5
PET				*eS*		Sn	10 43 17.9	+4.1
DALK	Dalny	3.60	17	*eP*		Pn	10 42 35.5	+3.3
DALK				*eS*		Sb	10 43 19.9	-3.9
UGLR	Uglovaya	3.78	17	*eP*		Pb	10 42 39.2	-4.3
AVH	Avacha	3.82	16	*eP*		Pb	10 42 40.0	-4.1
SMAR	Somma	3.83	17	*eP*		Pn	10 42 39.6	+4.0
KRX	Arik	3.89	15	*eP*		Pn	10 42 39.0	+2.6
GNL	Ganaly	4.13	8	*eP*		Pb	10 42 44.7	-4.8
KBTR	Krutoberegovo	7.49	26	P		Pn	10 43 28.9	+3.3

IDC 07 10:46:02.4±2.2, 9˚22S×108˚36W, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.8/27, mbtmp4.0/3, Error ellipse: s-maj=56.3km s-min=49.6km az=172.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
TXAR	Lajitas Array 0.8nm,1.2s,baz=188,slow=6.0,SNR=3.9	38.60	7	P		P	10 53 27.3	-0.2
SDV	Santo Domingo 4.4nm,0.2s,baz=275,slow=3.4,SNR=1.6	41.65	65	P		P	10 53 53.1	-0.1
NVAR	Mina Array Bea 1.1nm,1.1s,baz=178,slow=8.9,SNR=6.5	48.30	350	P		P	10 54 45.8	-0.1
CMAR	Chiang Mai Arr 0.6nm,0.4s,baz=60,slow=2.2,SNR=4.0	151.98	292	PKPbc		PKPbc	11 06 00.4	-0.2

*IDC **07** 10:46:38.8±0.7, 8˚90S×108˚98W, h0km, mb4.3/10, mb1 4.6/10, mb1mx4.3/26, mbtmp4.3/10, MS3.6/1, Ms1 3.6/1, ms1mx3.3/5, Error ellipse: s-maj=25.8km s-min=19.6km az=69.0*

*ISCJB **07** 10:46:39.7±0.3, 8˚91S±0˚04×108˚58W±0˚04, h15km, mb5.0/244, MS4.3/2, Error ellipse: s-maj=5.8km s-min=5.0km az=22.0*

*GCMT **07** 10:46:40.8±0.3, 9˚14S±0˚02×109˚00W±0˚02, h13km±1km, MW5.0/72, Moment Tensor Solution. s28,c29; s72,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.43±.21; $M_{\theta\theta}$1.93±.14; $M_{\phi\phi}$0.50±.15; $M_{r\theta}$-1.12±.38; $M_{r\phi}$2.48±.09; $M_{\theta\phi}$0.94±.41; Best double couple: $M_0$3.62200×10^{16} NP1:$\chi_0$82.00000°, δ57.00000°, λ-48.00000°. NP2: $\phi_0$203.00000°, δ52.00000°, λ-136.00000°. Principal axes: T 3.8150, Plg3.0000°, Azm144.0000°; N -0.3850, Plg34.0000°, Azm236.0000°; P -3.4280, Plg55.0000°, Azm49.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **07** 10:46:40.8±0.2, 8˚96S×108˚73W, h10km, mb5.1/238 Error ellipse: s-maj=4.7km s-min=3.9km az=74.0*

*BJI **07** 10:46:41.0, 8˚90S×108˚70W, h10km, mB5.5/3, Ms5.4/6, Ms7 5.1/6*

ISC 07 10:46:41.5±0.4, 8˚93S±0˚07×108˚74W±0˚09, h15km, n677, σ0˚995/670, mb5.1/244, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
RPN	Rapa Nui 240nm,1.3s	18.11	182	*e*Pn		P	10 50 53.8	+0.9
PAYG	Puerto Ayora 168nm,1.5s	20.12	67	*eP*		P	10 51 14.7	-0.4
PTCN	Pitcairn Islan 231nm,0.8s	25.91	229	*eP*		P	10 52 12.6	-0.5
TLIG	Tlapa 23nm,1.3s	28.18	21	*eP*		P	10 52 33.9	+0.2
RKT	Rikitea 1.5nm,0.3s	28.82	238	*eT*		T	11 22 28.7	
MOIG	Morelia 100nm,1.5s	29.38	15	*eP*		P	10 52 45.1	+0.6
APG	El Apazote comp=Z,112nm,18.7s,baz=79,slow=32	29.89	37	LR		LR	11 02 39.8	
CCIG	Comitan 38nm,1.5s	29.96	33	*eP*		P	10 52 47.8	-1.9
TAOE	Nuku Hiva Isla 851nm,25.5s	31.02	268	*e*LR		LR	11 00 47.3	
TAOE	Nuku Hiva Isla 194nm,1.3s	31.02	268	*eP*		P	10 52 59.8	+0.7
ESTN	Estel 17nm,0.5s	31.19	46	*eP*		P	10 53 00.6	+0.2
BOAB	BOACO BROADBAN 4.1nm,1.2s	31.25	48	*eP*		P	10 53 01.9	+1.0
OTAV	Otavalo 18nm,1.3s	31.51	75	*eP*		P	10 53 04.7	+0.9
ZAIG	Zacatecas 35nm,1.4s	32.08	11	*eP*		P	10 53 09.3	+0.9
SLBS	Sierra La Lagu 24nm,1.4s	32.44	358	*eP*		P	10 53 12.3	+1.1
PCON	Cinco Dias	34.12	72	*eP*		P	10 53 28.9	+2.2
YOTC	Yotoco, Valle	34.75	70	*eP*		P	10 53 32.8	+1.1
HPIG	 22nm,1.5s	35.77	5	*eP*		P	10 53 40.4	0.0
PRAC	Prado	36.01	71	*eP*		P	10 53 42.4	-0.1
RREF	El Recreo	36.02	69	*eP*		P	10 53 48.1	+4.9
ROSC	El Rosal 4.2nm,0.3s,baz=134,slow=9.3,SNR=5.1	36.94	70	P		P	10 53 52.4	+1.7
MOTC	Monteria, Cord	37.35	63	*eP*		P	10 53 53.9	+0.1
CHIC	Chingaza	37.41	70	*eP*		P	10 53 57.0	+2.2
HSIG	 55nm,1.5s	37.79	357	*eP*		P	10 53 57.4	+0.1
833A	Chaparral WMA, 64nm,1.5s	38.12	13	*eP*		P	10 54 00.3	+0.3
833A	Chaparral WMA, baz=195,SNR=7.6	38.12	13	P		P	10 54 00.1	0.0
TX31	Lajitas Ar. Si	38.35	7	*eP*		P	10 54 02.3	+0.1
TXAR	Lajitas Array 3.8nm,1.1s,baz=185,slow=12,SNR=15	38.35	7	P		P	10 54 02.4	+0.2
RUSC	La Rusia	38.48	69	*eP*		P	10 54 04.4	+0.6
BARC	Barichara	38.65	68	*eP*		P	10 54 06.2	+1.1
PB01	IPOC Station P 24nm,1.3s	39.67	112	*eP*		P	10 54 14.9	+1.6
319A	Douglas 53nm,1.6s	40.08	359	*eP*		P	10 54 17.2	+0.7
JCT	Junction City 22nm,1.4s	40.11	12	*eP*		P	10 54 17.0	+0.2
JCT	Junction City baz=194,SNR=7.3	40.11	12	P		P	10 54 16.9	+0.2
LPAZ	La Paz 3.6nm,1.1s,baz=285,slow=7.5,SNR=6.7	40.24	105	P		P	10 54 20.1	+1.4
LPAZ	La Paz	40.24	105	*eP*		P	10 54 18.9	+0.1
MNTX	Cornudas Mount 56nm,1.6s	40.52	4	*eP*		P	10 54 20.1	0.0
MNTX	Cornudas Mount baz=185,SNR=19	40.52	4	P		P	10 54 20.1	0.0
EPT	El Paso 59nm,1.6s	40.53	3	*eP*		P	10 54 20.3	0.0
LVC	Limon Verde 16nm,1.4s	40.53	114	*eP*		P	10 54 21.4	+0.6
PPT2	Papeete2 911nm,29.5s	40.59	253	*e*LQ		LQ	11 03 37.5	
PPT2	 367nm,28.2s			*e*LR		LR	11 05 18.6	
HKT	Hockley 40nm,1.5s	40.60	17	*eP*		P	10 54 20.9	+0.2
214A	Organ Pipe Nat baz=174,SNR=8.0	40.84	355	P		P	10 54 23.0	+0.2
435B	Jarrell 56nm,1.4s	40.91	15	*eP*		P	10 54 23.9	+0.6
435B	Jarrell baz=197	40.91	15	P		P	10 54 23.6	+0.3
TUC	Tucson 11nm,1.5s	41.05	357	*eP*		P	10 54 24.1	-0.4
121A	Cookes Peak, D baz=181,SNR=6.4	41.24	1	P		P	10 54 27.0	+0.8
TBI	Tubuai 598nm,31.0s	41.49	245	*e*LQ		LQ	11 04 04.5	
TBI	 121nm,27.0s			*e*LR		LR	11 05 44.4	
TBI	Tubuai 1.8nm,0.3s	41.49	245	*eT*		T	11 38 18.7	
113A	Mohawk Valley, 38nm,1.6s	41.74	354	*eP*		P	10 54 30.3	+0.2
542A	Morse baz=204	41.83	21	P		P	10 54 31.0	+0.2
SDV	Santo Domingo 4.7nm,0.5s,baz=242,slow=4.4,SNR=4.4	41.88	66	P		P	10 54 32.8	+1.0
SDV	Santo Domingo	41.88	66	*eP*		P	10 54 32.4	+0.7
IKP	In-Ko-Pah, Jac baz=169	41.94	351	P		P	10 54 32.5	+0.7
BAR	Barrett 16nm,1.4s	42.06	350	*eP*		P	10 54 32.4	-0.3
WHTX	Lake Whitney, 71nm,1.5s	42.09	14	*eP*		P	10 54 33.1	+0.1
WHTX	Lake Whitney, baz=197	42.09	14	P		P	10 54 32.7	-0.3
GLA	Glamis baz=171	42.15	352	P		P	10 54 34.0	+0.5
SWSC	Sam W. Stewart baz=170,SNR=5.1	42.18	351	P		P	10 54 34.2	+0.6
441A	DeRidder baz=203	42.18	20	P		P	10 54 34.1	+0.4
ABTX	Abilene, Hawle 22nm,1.2s	42.22	11	*eP*		P	10 54 33.1	-1.0
ABTX	Abilene, Hawle baz=193	42.22	11	P		P	10 54 34.0	-0.1
MONP2	Monument Peak baz=169	42.23	350	P		P	10 54 34.6	+0.3
442A	Mamou baz=204	42.41	21	P		P	10 54 36.4	+0.8
545A	Edgard baz=207	42.54	24	P		P	10 54 36.7	+0.1
NATX	Nacogdoches	42.64	18	*eP*		P	10 54 37.8	+0.3
NATX	Nacogdoches baz=201	42.64	18	P		P	10 54 37.6	+0.1
443A	Delano Plantat baz=205	42.69	22	P		P	10 54 38.0	+0.2
SCI2	San Clemente I baz=166	42.71	348	P		P	10 54 38.0	0.0
341A	Kurthwood 113nm,1.4s	42.72	20	*eP*		P	10 54 38.8	+0.7
341A	Kurthwood baz=203,SNR=12	42.72	20	P		P	10 54 38.0	-0.1
Y12C	Blythe 26nm,1.5s	42.80	353	*eP*		P	10 54 39.7	+1.0
Y12C	Blythe baz=172,SNR=7.0	42.80	353	P		P	10 54 38.9	+0.2
Y14A	Wickenburg 15nm,1.4s	42.82	355	*eP*		P	10 54 39.7	+0.7
BC3	Big Chuckawall baz=170,SNR=7.3	42.83	352	P		P	10 54 39.2	+0.1
FRD	Ford Ranch, An baz=169	42.84	350	P		P	10 54 39.7	+0.5
BNM	Barren Site	42.89	3	*eP*		P	10 54 40.3	+0.6
LENM	Lemitar	42.89	2	*eP*		P	10 54 41.0	+1.4
XPFO	Piæon Flat 8.7nm,1.3s	42.94	351	*eP*		P	10 54 40.1	+0.1
PFO	Pinyon Flats O 9.5nm,1.4s	42.94	351	*eP*		P	10 54 40.1	+0.1
PFO	Pinyon Flats O baz=169	42.94	351	P		P	10 54 40.2	+0.1
444A	Pine Grove baz=206	43.04	23	P		P	10 54 40.8	+0.1
MSTX	Muleshoe 47nm,1.6s	43.04	7	*eP*		P	10 54 40.5	-0.3
MSTX	Muleshoe baz=189,SNR=7.5	43.04	7	P		P	10 54 41.0	+0.2
342A	Flagon Creek P 135nm,1.4s	43.05	21	*eP*		P	10 54 41.5	+0.7
342A	Flagon Creek P baz=204,SNR=6.9	43.05	21	P		P	10 54 40.9	+0.1
LPM	Los Pinos Moun	43.05	3	*eP*		P	10 54 41.1	+0.1
CIS	Catalina Islan baz=166	43.09	348	P		P	10 54 40.6	-0.5
LAZ	Ladron	43.12	2	*eP*		P	10 54 42.7	+1.1
SNCC	San Nicolas Is baz=164	43.18	347	P		P	10 54 42.2	+0.4
X16A	Lo Mia Camp, P 26nm,1.6s	43.18	357	*eP*		P	10 54 42.9	+0.8
445A	Amite baz=207	43.21	23	P		P	10 54 42.3	+0.2
343A	Vidalia baz=205	43.22	22	P		P	10 54 42.4	+0.3
X18A	Snowflake 48nm,1.6s	43.23	359	*eP*		P	10 54 43.6	+1.2
BELC	Belle Mtn. Jos baz=170,SNR=5.5	43.24	351	P		P	10 54 43.1	+0.6
IRM	Iron Mountain baz=171,SNR=13	43.28	352	P		P	10 54 43.1	+0.4
PDMCI	Parker Dam,Lak baz=172,SNR=7.2	43.30	353	P		P	10 54 43.2	+0.5
241A	Mo Tay, Goldon baz=203	43.44	20	P		P	10 54 44.0	+0.1
BBRC	Big Bear Solar baz=168	43.65	350	P		P	10 54 46.3	+0.4
446A	Poplarville baz=208	43.65	24	P		P	10 54 45.8	+0.2
ANMO	Albuquerque 8.3nm,1.4s	43.69	3	*eP*		P	10 54 46.1	0.0
ANMO	Albuquerque baz=183	43.69	3	P		P	10 54 46.0	-0.1
344A	Westbrook Farm 103nm,1.5s	43.70	22	*eP*		P	10 54 46.6	+0.6
344A	Westbrook Farm baz=206,SNR=5.1	43.70	22	P		P	10 54 46.4	+0.3
242A	Grayson baz=204	43.73	21	P		P	10 54 46.6	+0.3
BFSC	Mount Baldy Ra baz=167	43.76	349	P		P	10 54 47.0	+0.4
140A	Cam and Jess, 140nm,1.3s	43.80	19	*eP*		P	10 54 47.4	+0.6
140A	Cam and Jess, baz=202,SNR=5.7	43.80	19	P		P	10 54 47.6	+0.8
243A	Waterproof baz=205	43.81	21	P		P	10 54 47.3	+0.4
NEE2	Needles Airpor baz=172	43.81	353	P		P	10 54 47.2	+0.3
MWC	Mount Wilson 32nm,1.6s	43.82	349	*eP*		P	10 54 47.6	+0.4
W18A	Petrified Fore baz=179	43.82	359	P		P	10 54 47.5	+0.4
345A	Thompson Farm, baz=207	43.84	23	P		P	10 54 47.6	+0.5
DECC	Green Verdugo baz=166	43.90	349	P		P	10 54 48.2	+0.5
BLG	Laguna Peak, P baz=165	43.91	348	P		P	10 54 48.2	+0.5
SCZ2	Santa Cruz Isl baz=164	43.92	347	P		P	10 54 49.0	+1.1
447A	Lucedale 78nm,1.1s	43.95	25	*eP*		P	10 54 49.4	+1.4
447A	Lucedale baz=209	43.95	25	P		P	10 54 48.5	+0.4
GMRC	Granite Mounta baz=170,SNR=11	43.97	352	P		P	10 54 48.7	+0.4
141A	Papa Simpson, baz=203,SNR=7.3	43.98	19	P		P	10 54 48.9	+0.7
W13A	Hualapai Mount	44.06	354	*eP*		P	10 54 50.1	+0.9
AMTX	Amarillo 51nm,1.6s	44.08	8	*eP*		P	10 54 49.2	0.0
AMTX	Amarillo 22nm,1.6s	44.08	8	*eP*		P	10 54 49.0	-0.2
AMTX	Amarillo baz=190	44.08	8	P		P	10 54 49.0	-0.2
HEC	Hector,Ludlow baz=169	44.11	351	P		P	10 54 49.9	+0.5
346A	Big Creek Wild baz=208	44.13	24	P		P	10 54 50.0	+0.5
LDFC	Landfair 43nm,1.4s	44.18	352	*eP*		P	10 54 51.5	+1.6
244A	Avery, Jackson baz=206	44.24	22	P		P	10 54 50.5	+0.2
142A	Monroe baz=204	44.25	20	P		P	10 54 50.6	+0.2
RRX	Edison Barstow baz=168	44.26	350	P		P	10 54 50.6	+0.1
WUAZ	Wupatki 5.5nm,1.2s	44.27	357	*eP*		P	10 54 51.1	+0.3
WUAZ	Wupatki baz=176,SNR=6.7	44.27	357	P		P	10 54 51.0	+0.3
SBC	Santa Barbara baz=164	44.37	347	P		P	10 54 51.8	+0.4
448A	Bay Minette baz=210	44.41	26	P		P	10 54 51.6	-0.1
Z40A	Long Farm, Mag baz=202,SNR=5.7	44.42	18	P		P	10 54 52.1	+0.3
WMOK	Wichita Mounta 18nm,1.5s	44.44	12	*eP*		P	10 54 51.1	-0.9
WMOK	Wichita Mounta baz=194	44.44	12	P		P	10 54 51.4	-0.5
EDW2	Edwards Air Fo baz=167	44.44	349	P		P	10 54 52.4	+0.4
VBMS	Vicksburg baz=206	44.47	22	P		P	10 54 52.6	+0.4
347A	Saraland baz=209	44.52	25	P		P	10 54 52.5	-0.2
245A	Little AP, Sta baz=207,SNR=5.8	44.53	23	P		P	10 54 53.2	+0.5
449A	Pace baz=211	44.54	27	P		P	10 54 52.8	0.0
143A	Socs Landing,	44.58	21	*eP*		P	10 54 52.7	-0.3
143A	Socs Landing, baz=205,SNR=6.8	44.58	21	P		P	10 54 53.1	0.0
Z41A	Richland Creek 259nm,1.5s	44.61	19	*eP*		P	10 54 53.2	-0.1
Z41A	Richland Creek baz=203,SNR=6.0	44.61	19	P		P	10 54 53.7	+0.4
TUQ	Turquoise Moun baz=170,SNR=5.5	44.64	352	P		P	10 54 54.0	+0.2
GSC	Goldstone, Bar 17nm,1.5s	44.65	351	*eP*		P	10 54 53.6	-0.1
GSC	Goldstone, Bar baz=169,SNR=8.4	44.65	351	P		P	10 54 53.9	+0.2
348A	Jackson 116nm,1.5s	44.80	26	*eP*		P	10 54 55.6	+0.7
348A	Jackson baz=210	44.80	26	P		P	10 54 54.4	-0.5
PKM	Mcpherson Peak baz=164	44.82	347	P		P	10 54 55.0	-0.2
246A	Jackson Lee, B baz=208	44.82	24	P		P	10 54 54.1	-0.9
450A	Crestview baz=212	44.86	27	P		P	10 54 55.0	-0.4
Z42A	Norrel Spur, H baz=204,SNR=6.9	44.91	20	P		P	10 54 55.7	0.0
LRMC	Laurel Mtn Rad baz=168,SNR=5.7	44.97	350	P		P	10 54 56.4	+0.1
SAML	Samuel 8.1nm,1.0s	44.98	94	*eP*		P	10 54 56.4	-0.2
145A	Houston Renfro baz=207	45.03	23	P		P	10 54 56.3	-0.4
349A	Repton baz=211	45.06	26	P		P	10 54 56.8	-0.1
247A	Quitman baz=209	45.06	24	P		P	10 54 56.9	0.0
Z43A	Armstrong Fami baz=205	45.09	21	P		P	10 54 56.8	-0.3
X37A	Clayton 35nm,1.4s	45.09	16	*eP*		P	10 54 57.8	+0.6
Y40A	Okolona baz=202,SNR=8.3	45.16	18	P		P	10 54 57.6	-0.1
Y41A	Eaglette Beard baz=203,SNR=7.3	45.25	19	P		P	10 54 58.5	+0.2
SMMC	Simmler baz=164	45.27	347	P		P	10 54 58.7	+0.1
ISA	Isabella, Lake 9.8nm,1.4s	45.29	349	*eP*		P	10 54 59.0	+0.2
ISA	Isabella, Lake baz=166	45.29	349	P		P	10 54 59.2	+0.4
X39A	Fountain Ranch baz=200,SNR=7.9	45.37	17	P		P	10 54 59.1	-0.2
146A	Union 55nm,1.1s	45.40	24	*eP*		P	10 55 00.0	+0.4
146A	Union baz=208	45.40	24	P		P	10 54 59.6	0.0
Z44A	Pea Ridge, Bel baz=206	45.45	22	P		P	10 54 59.9	-0.1
248A	Dixon Mills baz=210	45.46	25	P		P	10 55 00.2	+0.1
Y42A	Garnett, Star baz=204	45.48	20	P		P	10 55 00.3	+0.1
MPMC	Manual Prospec baz=168,SNR=6.5	45.50	350	P		P	10 55 00.6	0.0
MIAR	Mount Ida 64nm,1.4s	45.56	18	*eP*		P	10 55 00.6	-0.3
MIAR	Mount Ida baz=201,SNR=12	45.56	18	P		P	10 55 00.5	-0.4
VES	Vestal, Richgr baz=166,SNR=5.9	45.58	348	P		P	10 55 01.1	+0.1
SHPR	Sheep Range 63nm,1.7s	45.59	353	*eP*		P	10 55 02.4	+1.1
351A	Pinckard baz=213	45.71	28	P		P	10 55 02.2	+0.1
PAGB	Antelope Grade 37nm,1.6s	45.73	347	*eP*		P	10 55 02.6	+0.5
DAC	Darwin (Calif) 20nm,1.5s	45.73	350	*eP*		P	10 55 02.8	+0.4
X40A	Basin Creek Fa 38nm,1.4s	45.73	18	*eP*		P	10 55 01.7	-0.5
X40A	Basin Creek Fa baz=202,SNR=5.5	45.73	18	P		P	10 55 01.9	-0.3
147A	Livingston 140nm,1.5s	45.74	24	*eP*		P	10 55 03.0	+0.7
147A	Livingston baz=209	45.74	24	P		P	10 55 01.9	-0.4
FURC	Furnace Creek, baz=169,SNR=6.6	45.80	351	P		P	10 55 03.1	+0.5
Z45A	Winona baz=207	45.80	22	P		P	10 55 02.4	-0.3
Y43A	Makayla and Ka baz=205	45.84	21	P		P	10 55 03.0	0.0
X41A	Kaden, Bauxite baz=202	45.84	19	P		P	10 55 02.9	-0.1
KNB	Kanab 64nm,1.7s	45.86	355	*eP*		P	10 55 04.6	+1.2
LCMT	Little Creek M 13nm,1.7s	45.89	355	*eP*		P	10 55 04.8	+1.2
MVCO	Mesa Verde 68nm,1.6s	45.90	0	*eP*		P	10 55 04.3	+0.5
MVCO	Mesa Verde baz=180,SNR=12	45.90	0	P		P	10 55 03.7	0.0
Z46A	Louisville baz=208	45.93	23	P		P	10 55 03.6	-0.2
CWC	Cottonwood Cre baz=167	45.97	350	P		P	10 55 03.6	-0.7
250A	Grady 164nm,1.5s	46.00	27	*eP*		P	10 55 05.2	+0.9
250A	Grady baz=212,SNR=5.3	46.00	27	P		P	10 55 04.1	-0.3
T25A	Trinidad 14nm,1.4s	46.00	5	*eP*		P	10 55 05.1	+0.5
T25A	Trinidad baz=186	46.00	5	P		P	10 55 03.5	-1.0
148A	Greensboro baz=210	46.01	25	P		P	10 55 04.4	0.0
W39A	Magazine 20nm,1.1s	46.11	17	*eP*		P	10 55 05.8	+0.6
W39A	Magazine baz=201	46.11	17	P		P	10 55 04.7	-0.5
UALR	University of 99nm,1.5s	46.16	19	*eP*		P	10 55 05.8	+0.3
TPNV	Topopah Spring 30nm,1.6s	46.17	352	*eP*		P	10 55 07.2	+1.4
TPNV	Topopah Spring baz=170,SNR=8.4	46.17	352	P		P	10 55 06.5	+0.7
352A	Blakely baz=213	46.20	29	P		P	10 55 05.4	-0.5

TUL1	Leonard	46.24	15	eP	P	10 55 06.2	0.0	
	46nm,1.4s							
TUL1	Leonard	46.24	15	P	P	10 55 05.5	-0.7	
	baz=198,SNR=6.6							
PKCU	Pink Cliffs	46.25	356	eP	P	10 55 08.2	+1.6	
	99nm,1.7s							
Z47A	Carrollton	46.29	24	P	P	10 55 06.7	+0.1	
	baz=209,SNR=6.5							
Y45A	Yeager Farm, C	46.30	22	P	P	10 55 06.6	-0.1	
	baz=207,SNR=8.3							
PMPB	Monarch Peak	46.32	346	eP	P	10 55 09.2	+2.3	
	58nm,1.4s							
PLCA	Paso Flores	46.34	140	P	P	10 55 08.5	+1.3	
	4.0nm,1.1s,baz=295,slow=15,SNR=3.1							
GRAC	Grapevine Rang	46.39	350	P	P	10 55 08.0	+0.6	
	baz=168							
X43A	Marvell	46.41	20	eP	P	10 55 09.0	+1.5	
	222nm,1.4s							
X43A	Marvell	46.41	20	P	P	10 55 07.8	+0.3	
	baz=205,SNR=5.4							
353A	Camilla	46.43	29	P	P	10 55 06.7	-1.1	
	baz=214							
CCUT	Cedar City	46.44	355	eP	P	10 55 09.2	+1.2	
	25nm,1.5s							
SZCU	Shurtz Canyon	46.46	355	eP	P	10 55 09.4	+1.2	
	15nm,1.5s							
S22A	4UR Ranch, Cre	46.46	2	eP	P	10 55 08.8	+0.5	
	37nm,1.6s							
S22A	4UR Ranch, Cre	46.46	2	P	P	10 55 08.4	+0.1	
	baz=183,SNR=11							
251A	Midway	46.49	28	P	P	10 55 07.9	-0.3	
	baz=212							
SDCO	Great Sand Dun	46.53	4	eP	P	10 55 09.4	+0.6	
	23nm,1.6s							
SDCO	Great Sand Dun	46.53	4	P	P	10 55 08.6	-0.2	
	baz=184,SNR=11							
W41B	Gary Mavity, V	46.55	19	eP	P	10 55 08.8	+0.2	
	86nm,1.4s							
W41B	Gary Mavity, V	46.55	19	P	P	10 55 08.5	-0.1	
	baz=203,SNR=13							
Y46A	Houston	46.58	23	P	P	10 55 08.9	+0.1	
	baz=207,SNR=10							
LRAL	Lakeview Retre	46.59	25	eP	P	10 55 09.0	+0.1	
	46nm,1.5s							
LRAL	Lakeview Retre	46.59	25	P	P	10 55 09.1	+0.1	
	baz=210,SNR=6.9							
150A	Eclectic	46.64	27	P	P	10 55 09.2	-0.2	
	baz=212							
X44A	Crenshaw	46.65	21	P	P	10 55 08.8	-0.6	
	baz=206							
Z48A	Northport	46.65	25	P	P	10 55 09.5	0.0	
	baz=209,SNR=10							
252A	Lumpkin	46.72	28	P	P	10 55 10.1	+0.1	
	baz=213							
PV05	Paradox Valley	46.76	360	eP	P	10 55 12.2	+1.6	
TIGA	Tifton	46.81	30	P	P	10 55 10.7	-0.1	
	baz=215							
PV01	Paradox Valley	46.82	0	eP	P	10 55 11.4	+0.5	
MTPU	Mount Pierson	46.84	356	eP	P	10 55 12.3	+1.1	
	8.6nm,1.5s							
PV13	Radium Mtn., P	46.84	360	eP	P	10 55 12.2	+1.0	
	30nm,1.5s							
X45A	UM Field Stati	46.85	22	P	P	10 55 11.0	-0.1	
	baz=206							
151A	Opelika	46.89	27	P	P	10 55 10.6	-0.8	
	baz=212							
PV02	Paradox Valley	46.89	0	eP	P	10 55 12.7	+1.2	
	38nm,1.6s							
Z49A	Columbiana	46.92	26	P	P	10 55 11.3	-0.3	
	baz=211,SNR=12							
OXF	Oxford	46.93	22	eP	P	10 55 12.0	+0.5	
	75nm,1.3s							
OXF	Oxford	46.93	22	P	P	10 55 11.2	-0.4	
	baz=206,SNR=7.1							
PV18	Skein Mesa, Pa	46.93	360	eP	P	10 55 13.0	+1.2	
	30nm,1.5s							
PV03	Paradox Valley	46.94	360	eP	P	10 55 12.9	+1.0	
PV17	East Wray Mesa	46.96	360	eP	P	10 55 13.3	+1.2	
	23nm,1.4s							
PV11	David Mesa, Pa	46.98	360	eP	P	10 55 13.5	+1.2	
	40nm,1.7s							
W43A	Forest City	46.98	20	P	P	10 55 11.9	-0.1	
	baz=205							
Y47A	UCPARC, Winfie	46.99	24	P	P	10 55 12.1	0.0	
	baz=209,SNR=6.9							
PV16	Nyswonger Mesa	46.99	360	eP	P	10 55 13.3	+0.9	
	10nm,1.5s							
PV12	Saucer Basin,	47.00	360	eP	P	10 55 13.4	+1.0	
	25nm,1.6s							
PV14	Lion Creek, Pa	47.06	360	eP	P	10 55 14.0	+1.2	
	16nm,1.6s							
253A	Americus	47.06	29	P	P	10 55 12.9	+0.2	
	baz=214							
PV23	Carpenter Ridg	47.13	360	eP	P	10 55 15.7	+2.2	
	32nm,1.5s							
V41A	Mountainview	47.14	18	P	P	10 55 12.9	-0.4	
	baz=202,SNR=9.6							
PV09	Paradox Valley	47.18	360	eP	P	10 55 14.5	+0.6	
Z50A	Ashland	47.24	26	eP	P	10 55 14.1	0.0	
	78nm,1.6s							
Z50A	Ashland	47.24	26	P	P	10 55 13.3	-0.7	
	baz=211							
PV21	Cone Mtn., Par	47.24	360	eP	P	10 55 15.5	+1.1	
	15nm,1.4s							
MLAC	Mammoth, Mammo	47.27	349	P	P	10 55 14.5	-0.1	
	baz=166							
Y48A	Jasper	47.27	25	P	P	10 55 13.3	-1.0	
	baz=210,SNR=10							
X46A	Booneville	47.28	23	P	P	10 55 13.6	-0.7	
	baz=208							
OMMB	Old Mammoth Mi	47.28	349	eP	P	10 55 15.9	+1.2	
	12nm,1.5s							
152A	Waverly Hall	47.28	28	eP	P	10 55 15.1	+0.6	
	38nm,1.5s							
152A	Waverly Hall	47.28	28	P	P	10 55 13.8	-0.6	
	baz=213,SNR=5.6							
MSU	Marysvale	47.30	356	eP	P	10 55 15.9	+1.2	
V42A	Cord	47.41	19	P	P	10 55 14.9	-0.4	
	baz=204,SNR=20							
PSUT	Pine Spring	47.46	355	eP	P	10 55 17.0	+1.1	
	18nm,1.5s							
U40A	Yellville	47.46	17	P	P	10 55 14.8	-0.9	
	baz=201,SNR=12							
R11A	Troy Canyon, C	47.46	353	eP	P	10 55 16.9	+0.9	
	25nm,1.6s							
R11A	Troy Canyon, C	47.46	353	P	P	10 55 16.4	+0.4	
	baz=171,SNR=10							
X47A	Russelville	47.52	24	P	P	10 55 15.9	-0.4	
	baz=208,SNR=7.1							
Y49A	Blount Mountai	47.54	25	eP	P	10 55 16.9	+0.5	
	92nm,1.6s							
Y49A	Blount Mountai	47.54	25	P	P	10 55 15.7	-0.7	
	baz=210,SNR=5.3							
W45A	Hickory Valley	47.58	22	P	P	10 55 16.4	-0.3	
	baz=206							
Z51A	Franklin	47.62	27	P	P	10 55 16.3	-0.7	
	baz=212							
153A	Fort Valley	47.69	29	P	P	10 55 17.2	-0.3	
	baz=214							
U41A	Viola	47.73	18	P	P	10 55 17.3	-0.6	
	baz=203,SNR=11							
255A	Hazlehurst	47.76	31	P	P	10 55 17.8	-0.3	
	baz=216							
X48A	Hartselle	47.79	24	eP	P	10 55 18.7	+0.4	
	51nm,1.6s							
X48A	Hartselle	47.79	24	P	P	10 55 18.2	-0.1	
	baz=209							
SRU	San Rafael Swe	47.82	358	eP	P	10 55 19.4	+0.7	
	16nm,1.6s							
PLAL	Pickwick Lake	47.85	23	eP	P	10 55 18.2	-0.5	
	73nm,1.5s							
Z52A	Williamson	47.86	28	P	P	10 55 18.5	-0.4	
	baz=213							
Y50A	Piedmont	47.86	26	P	P	10 55 19.0	+0.1	
	baz=211,SNR=6.7							
W46A	Michie	47.87	23	P	P	10 55 18.4	-0.5	
	baz=208							
SMCO	Snowmass	47.89	2	eP	P	10 55 19.9	+0.4	
	18nm,1.5s							
NV11	Mina Array Sit	47.93	350	eP	P	10 55 20.5	+1.0	
	1.0nm,1.3s							
V44A	Blytheville	47.93	21	P	P	10 55 18.9	-0.5	
	baz=205							
NV01	Mina Array Sit	47.95	350	eP	P	10 55 19.9	+0.2	
NVAR	Mina Array Bea	47.95	350	P	P	10 55 20.0	+0.2	
	15nm,1.3s,baz=175,slow=5.9,SNR=32							
U42A	Revenden	47.95	19	P	P	10 55 19.3	-0.3	
	baz=204,SNR=20							
CMB	Columbia Colle	47.97	348	eP	P	10 55 20.2	+0.5	
	13nm,1.6s							
154A	Montrose	48.00	29	eP	P	10 55 20.1	0.0	
	150nm,1.5s							
154A	Montrose	48.00	29	P	P	10 55 19.1	-0.9	
	baz=215							
KSCO	Kaye Shedlock'	48.03	6	P	P	10 55 19.9	-0.4	
	baz=188							
TMUT	Trail Mountain	48.03	357	eP	P	10 55 21.9	+1.4	
	10nm,1.4s							
256A	Glennville	48.10	31	P	P	10 55 19.8	-1.0	
	baz=217							
X49A	Woodville	48.14	25	P	P	10 55 20.7	-0.3	
	baz=210,SNR=10							
RYN	Ryan	48.18	350	eP	P	10 55 22.7	+1.2	
	68nm,1.6s							
V45A	Humboldt	48.19	22	P	P	10 55 20.3	-1.1	
	baz=206							
P17A	Butcher Ranch,	48.19	358	eP	P	10 55 22.2	+0.7	
	62nm,1.6s							
WAKR	Walker	48.23	349	eP	P	10 55 23.7	+1.8	
	37nm,1.7s							
CBKS	Cedar Bluff	48.23	9	eP	P	10 55 21.2	-0.6	
	52nm,1.4s							
CBKS	Cedar Bluff	48.23	9	P	P	10 55 20.7	-1.1	
	baz=192,SNR=5.0							
U43A	Rector	48.25	20	P	P	10 55 21.1	-0.7	
	baz=204							
W47A	Westpoint	48.27	23	P	P	10 55 20.4	-1.6	
	baz=208							
155A	Kite	48.32	30	P	P	10 55 21.5	-0.9	
	baz=216							
Z53A	Monticello	48.33	28	P	P	10 55 21.0	-1.5	
	baz=214							
X50B	Fort Payne	48.38	26	P	P	10 55 21.6	-1.4	
	baz=211							
T41A	Mountain View	48.42	18	P	P	10 55 22.6	-0.6	
	baz=203,SNR=10							
W48A	Pulaski	48.43	24	P	P	10 55 22.7	-0.6	
	baz=209,SNR=8.5							
GOGA	Godfrey	48.48	28	eP	P	10 55 24.1	+0.4	
	49nm,1.5s							
GOGA	Godfrey	48.48	28	P	P	10 55 23.1	-0.6	
	baz=214,SNR=5.2							
KVN	Kaiserville	48.52	350	eP	P	10 55 24.9	+0.8	
	11nm,1.2s							
V46A	Holladay	48.55	22	P	P	10 55 23.1	-1.1	
	baz=208,SNR=12							
ISCO	Idaho Springs	48.57	3	eP	P	10 55 24.9	+0.3	
	22nm,1.5s							
ISCO	Idaho Springs	48.57	3	P	P	10 55 24.4	-0.3	
	baz=184,SNR=6.7							
Y52A	Lilburn	48.58	28	eP	P	10 55 25.1	+0.6	
	56nm,1.5s							
Y52A	Lilburn	48.58	28	P	P	10 55 23.7	-0.8	
	baz=213							
PBMO	Poplar Bluff	48.61	20	eP	P	10 55 24.2	-0.4	
	79nm,1.6s							
U44A	Portageville	48.61	21	P	P	10 55 23.6	-1.0	
	baz=205							
T42A	Van Buren	48.62	19	eP	P	10 55 24.9	+0.2	
	61nm,1.6s							
T42A	Van Buren	48.62	19	P	P	10 55 24.2	-0.5	
	baz=203,SNR=7.6							
Z54A	Sparta	48.64	29	P	P	10 55 24.1	-0.8	
	baz=215							
YERR	Yerington	48.66	349	eP	P	10 55 26.2	+1.0	
	52nm,1.5s							
W49A	Belvidere	48.69	25	P	P	10 55 24.8	-0.5	
	baz=210							
NLU	North Lily Min	48.73	357	eP	P	10 55 27.1	+1.3	
	35nm,1.6s							
MPU	Maple Canyon	48.77	357	eP	P	10 55 27.0	+0.9	
	45nm,1.6s							
Y53A	Monroe	48.80	28	P	P	10 55 25.2	-0.9	
	baz=214							
U45A	Rockin P Farm,	48.80	22	P	P	10 55 25.4	-0.7	
	baz=206							
V47A	Nunnelly	48.80	23	P	P	10 55 25.4	-0.8	
	baz=208,SNR=7.4							
X51A	Calhoun	48.82	26	eP	P	10 55 26.8	+0.5	
	27nm,1.1s							
X51A	Calhoun	48.82	26	P	P	10 55 25.7	-0.6	
	baz=212							
O20A	White River Ci	48.82	1	eP	P	10 55 27.2	+0.7	
	76nm,1.6s							
O20A	White River Ci	48.82	1	P	P	10 55 26.8	+0.4	
	baz=181,SNR=9.4							
PNTR	Pine Nut	48.83	349	eP	P	10 55 27.8	+1.2	
	50nm,1.4s							
RUBR	Rubon Trail	48.90	348	eP	P	10 55 29.0	+1.9	
	62nm,1.5s							
S41A	Jillco Farms,	48.93	18	P	P	10 55 27.8	+0.6	
	baz=202,SNR=12							
T43A	Greenville	48.93	20	P	P	10 55 26.9	-0.2	
	baz=204							
WVT	Waverly	48.95	23	eP	P	10 55 27.1	-0.2	
	8.0nm,1.0s							
WVT	Waverly	48.95	23	P	P	10 55 26.8	-0.5	
	baz=208							
AFDM	Forest Hills D	48.97	347	eP	P	10 55 28.1	+0.7	
	17nm,1.6s							
V48A	Smith Brothers	49.00	24	eP	P	10 55 26.9	-0.8	
	58nm,1.6s							
V48A	Smith Brothers	49.00	24	P	P	10 55 27.2	-0.5	
	baz=209,SNR=6.2							
DUG	Dugway, Tooele	49.02	356	eP	P	10 55 29.4	+1.5	
	39nm,1.5s							
DUG	Dugway, Tooele	49.02	356	P	P	10 55 28.3	+0.4	
	baz=175,SNR=11							
U46A	Springville	49.02	22	P	P	10 55 27.3	-0.6	
	baz=207							
VCNR	Virginia City	49.04	349	eP	P	10 55 29.2	+1.1	
	27nm,1.5s							
KSU1	Kansas State U	49.10	12	eP	P	10 55 29.4	+1.1	
	37nm,1.4s							
KSU1	Kansas State U	49.10	12	P	P	10 55 28.4	0.0	
	baz=196							
T44A	Benton	49.17	20	P	P	10 55 28.3	-0.6	
	baz=205							
Y54A	Tignall	49.22	29	P	P	10 55 29.0	-0.4	
	baz=215							
PTGA	Pitinga	49.23	83	eP	P	10 55 30.0	+0.2	
	39nm,1.6s							
X52A	Dahlonega	49.28	27	P	P	10 55 29.8	0.0	
	baz=213							
JLU	Jordanelle	49.34	357	eP	P	10 55 31.2	+0.7	
	25nm,1.7s							
W51A	Cleveland	49.36	26	P	P	10 55 30.0	-0.4	
	baz=212							
PAHR	Pah Rah Range	49.38	349	eP	P	10 55 31.6	+0.9	
	44nm,1.6s							
S42A	Caledonia	49.40	19	P	P	10 55 30.9	+0.2	
	baz=204,SNR=9.1							
V49A	McMinnville	49.40	25	P	P	10 55 30.2	-0.5	
	baz=210							
U47A	Clarksville	49.43	23	P	P	10 55 30.6	-0.3	
	baz=208							
S43A	Fulton Ridge,	49.45	20	P	P	10 55 30.4	-0.6	
	baz=204							
CTU	Camp Tracy	49.45	357	eP	P	10 55 32.7	+1.4	
	24nm,1.5s							
X53A	Estanollee	49.46	28	P	P	10 55 31.0	-0.3	
	baz=214							
CCM	Cathedral Cave	49.52	18	eP	P	10 55 30.7	-0.9	
	69nm,1.5s							
CCM	Cathedral Cave	49.52	18	P	P	10 55 31.0	-0.6	
	baz=203							
N23A	Red Feather La	49.64	3	eP	P	10 55 33.9	+1.1	
	28nm,1.5s							
N23A	Red Feather La	49.64	3	P	P	10 55 32.1	-0.7	
	baz=184							
V50A	Pikevile	49.65	25	P	P	10 55 31.9	-0.8	
	baz=211,SNR=7.5							
ORV	Oroville	49.67	347	eP	P	10 55 34.2	+1.5	
	36nm,1.6s							
W52A	Murphy	49.67	27	eP	P	10 55 33.0	+0.2	
	66nm,1.5s							
W52A	Murphy	49.67	27	P	P	10 55 32.3	-0.5	
	baz=213,SNR=5.8							
R41A	Rosebud	49.70	18	P	P	10 55 32.2	-0.7	
	baz=203							
FVM	French Village	49.71	19	eP	P	10 55 33.1	0.0	
	19nm,1.1s							
BEKR	Beckworth	49.73	348	eP	P	10 55 34.3	+0.9	
	36nm,1.7s							
BMN	Battle Mountai	49.73	352	eP	P	10 55 33.7	+0.3	
	28nm,1.6s							
T46A	Princeton	49.73	22	P	P	10 55 32.6	-0.7	
	baz=207							
BGU	Big Grassy Mou	49.76	356	eP	P	10 55 34.3	+0.7	
	33nm,1.7s							
U48A	Cassie Pea, Po	49.78	23	P	P	10 55 32.9	-0.7	
	baz=209							
S44A	Carbondale	49.83	20	P	P	10 55 33.0	-1.0	
	baz=205							
TCUT	Toone Canyon	49.86	357	eP	P	10 55 35.8	+1.4	
	58nm,1.5s							
R42A	Luebbering	49.86	18	P	P	10 55 33.4	-0.8	
	baz=203,SNR=6.8							
SIUC	Southern Illin	49.87	20	eP	P	10 55 34.5	+0.3	
	34nm,1.3s							
T47A	Sharon Grove	49.98	23	eP	P	10 55 34.6	-0.5	
	58nm,1.6s							
T47A	Sharon Grove	49.98	23	P	P	10 55 33.9	-1.2	
	baz=208							
OGNE	Ogallala	50.01	7	P	P	10 55 35.3	-0.1	
	baz=189							
S45A	Carrier Mills	50.05	21	P	P	10 55 34.7	-0.9	
	baz=206							
PHWY	Pilot Hill	50.07	3	eP	P	10 55 36.0	-0.1	
	46nm,1.6s							
W53A	Cullowhee	50.08	27	P	P	10 55 34.9	-1.1	
	baz=214							
V51A	Loudon	50.08	26	eP	P	10 55 36.2	+0.3	
	42nm,1.4s							
V51A	Loudon	50.08	26	P	P	10 55 35.2	-0.7	
	baz=212							
U49A	Red Boiling Sp	50.09	24	P	P	10 55 35.0	-1.0	
	baz=210,SNR=5.2							
SPUT	South Promonto	50.10	356	eP	P	10 55 37.4	+1.3	
	54nm,1.6s							
R43A	Red Bud	50.13	19	P	P	10 55 35.1	-1.1	
	baz=204							
TKL	Tuckaleechee C	50.21	27	eP	P	10 55 37.3	+0.4	
	49nm,1.6s							
Q41A	Truxton	50.35	18	P	P	10 55 37.1	-0.7	
	baz=203,SNR=6.0							
HWUT	Hardware Ranch	50.35	357	eP	P	10 55 38.5	+0.4	
	15nm,1.5s							
T48A	Bowling Green	50.36	23	P	P	10 55 37.0	-1.0	
	baz=209							
S46A	Don Dixon Farm	50.37	22	P	P	10 55 37.5	-0.5	
	baz=207							
RWWY	Rawlins	50.39	1	eP	P	10 55 39.1	+0.7	
	34nm,1.3s							
R44A	Waltonville	50.39	20	P	P	10 55 37.3	-0.9	
	baz=205							
U50A	Jamestown	50.39	25	P	P	10 55 37.2	-1.1	
	baz=211							
O03E	Paynes Creek	50.44	347	P	P	10 55 38.0	-0.6	
	baz=163							
Q42A	Golden Eagle	50.52	18	P	P	10 55 38.2	-0.9	
	baz=204,SNR=7.6							
HVU	Hansel Valley	50.59	356	eP	P	10 55 40.2	+0.3	
	15nm,1.5s							
S47A	Hartford	50.60	23	P	P	10 55 38.7	-1.1	
	baz=208							
V53A	Saluda	50.65	27	eP	P	10 55 40.7	+0.4	
	44nm,1.4s							
V53A	Saluda	50.65	27	P	P	10 55 39.6	-0.7	
	baz=214							
T49A	Edmonton	50.70	24	eP	P	10 55 39.9	-0.7	
	45nm,1.3s							
T49A	Edmonton	50.70	24	P	P	10 55 40.0	-0.5	
	baz=210,SNR=8.9							
R45A	Skylar, Fairfi	50.71	21	P	P	10 55 40.0	-0.6	
	baz=206,SNR=9.4							
U51A	La Follette	50.71	26	P	P	10 55 40.0	-0.7	
	baz=212							
WDC	Whiskeytown Da	50.88	346	eP	P	10 55 41.5	-0.4	
	34nm,1.6s							
T50A	Nancy	50.91	25	P	P	10 55 40.9	-1.3	
	baz=211,SNR=6.3							
S48A	Wiedeman Farm,	50.97	23	P	P	10 55 41.6	-1.0	
	baz=209							
Q44A	Meyer Farm, Va	51.00	20	P	P	10 55 42.1	-0.7	
	baz=205							
U52A	Thorn Hill	51.01	26	P	P	10 55 41.8	-1.1	
	baz=213							
BGNE	Belgrade	51.03	10	eP	P	10 55 47.9	+4.9	
	30nm,0.9s							
BGNE	Belgrade	51.03	10	P	P	10 55 42.7	-0.3	
	baz=193							
TZTN	Tazewell	51.05	26	P	P	10 55 43.1	-0.2	
	baz=213							
P41A	Barry, Barry	51.06	18	P	P	10 55 42.2	-1.1	
	baz=203							
OLIL	Coney	51.17	21	eP	P	10 55 44.2	+0.1	
	47nm,1.1s							
T51A	Gray	51.24	26	P	P	10 55 44.0	-0.7	
	baz=212							
Q45A	Warren Harvey,	51.29	21	P	P	10 55 43.9	-1.0	
	baz=206,SNR=5.6							
N02D	Trinity Center	51.30	346	P	P	10 55 44.5	-0.6	
	baz=162							
R47A	Wooly Knot Far	51.35	22	P	P	10 55 44.5	-0.9	
	baz=208							
K22A	Casper	51.37	2	eP	P	10 55 46.0	+0.3	
	38nm,1.5s							
K22A	Casper	51.37	2	P	P	10 55 45.0	-0.7	
	baz=183							
WCI	Wyandotte Cave	51.38	23	eP	P	10 55 45.5	-0.2	
	18nm,1.1s							
WCI	Wyandotte Cave	51.38	23	P	P	10 55 44.1	-1.6	
	baz=209							
S49A	Springfield	51.38	24	P	P	10 55 43.8	-1.9	
	baz=210							
BW06	Boulder Array	51.45	359	eP	P	10 55 45.4	-1.1	
	13nm,1.5s							
BW06	Boulder Array	51.45	359	P	P	10 55 45.3	-1.1	
	baz=179							
PD31	Pinedale Array	51.45	359	eP	P	10 55 45.5	-0.9	
PDAR	Pinedale Array	51.45	359	P	P	10 55 45.3	-1.1	
	2.3nm,1.1s,baz=159,slow=4.5,SNR=10							
PDAR	Pinedale Array	51.45	359	eP	P	10 55 44.9	-1.5	
P43A	Skaggs, Pawnee	51.51	19	P	P	10 55 45.2	-1.3	
	baz=204							
O41A	Passleys Farm,	51.52	17	P	P	10 55 45.2	-1.5	
	baz=203,SNR=6.3							
P44A	Sand Creek, Wi	51.65	20	P	P	10 55 46.1	-1.5	
	baz=206							
S50A	Richmond	51.65	25	P	P	10 55 46.6	-1.2	
	baz=211,SNR=7.1							
MOD	Modoc Plateau	51.68	349	eP	P	10 55 48.4	+0.3	
	50nm,1.4s							
R48A	Northridge Ran	51.69	23	P	P	10 55 47.0	-1.0	
	baz=209							
M02C	Callahan	51.73	346	P	P	10 55 47.9	-0.4	
	baz=162							
N39A	Derby Farms, D	51.77	16	eP	P	10 55 47.6	-0.9	
	63nm,1.5s							
N39A	Derby Farms, D	51.77	16	P	P	10 55 47.3	-1.3	
	baz=200							
T52A	Hallie	51.77	26	P	P	10 55 47.1	-1.6	
	baz=213							
R49A	Shelbyville	51.87	24	P	P	10 55 47.7	-1.6	
	baz=210							
M04C	Macdoel	51.88	348	P	P	10 55 49.5	0.0	
	baz=164,SNR=11							
WVOR	Wild Horse Val	51.91	351	eP	P	10 55 50.4	+0.7	
	50nm,1.6s							
Q47A	Bedord North L	51.95	22	P	P	10 55 48.5	-1.4	
	baz=208							
S51A	Beattyville	51.96	25	P	P	10 55 48.3	-1.7	
	baz=212							
P45A	Graceland, Par	52.00	21	eP	P	10 55 50.3	+0.1	
	52nm,1.4s							
P45A	Graceland, Par	52.00	21	P	P	10 55 48.9	-1.4	
	baz=207							
YBH	Yreka Blue Hor	52.02	347	eP	P	10 55 50.9	+0.4	
	18nm,1.5s							
REDW	Red Top Meadow	52.08	358	eP	P	10 55 50.3	-0.7

O44A	Mansfield	52.31	20	P		P	10 55 51.0	-1.6	
	baz=206								
LOHW	Long Hollow	52.32	358	*e*P		P	10 55 52.3	-0.5	
	6.3nm,1.1s								
FXWY	Fox Creek	52.36	358	*e*P		P	10 55 52.7	-0.5	
	25nm,1.5s								
L04D	Klamath Falls	52.39	347	P		P	10 55 52.5	-0.8	
	baz=163,SNR=5.5								
M39A	Webster	52.42	16	P		P	10 55 52.2	-1.1	
	baz=201								
N42A	Yates City	52.43	18	P		P	10 55 52.3	-1.2	
	baz=204								
MOOW	Moose Ponds	52.46	358	*e*P		P	10 55 53.2	-0.7	
	25nm,1.5s								
P47A	Martinsville	52.49	22	P		P	10 55 52.4	-1.5	
	baz=208								
HLID	Hailey	52.49	355	*e*P		P	10 55 54.0	-0.1	
	32nm,1.6s								
HLID	Hailey	52.49	355	P		P	10 55 53.4	-0.7	
	baz=173,SNR=13								
R51A	Hillsboro	52.52	25	P		P	10 55 52.9	-1.3	
	baz=212								
K05A	Summer Lake	52.59	349	*e*P		P	10 55 55.8	+0.9	
	62nm,1.4s								
Q49A	Aurora	52.59	23	P		P	10 55 53.6	-1.1	
	baz=210,SNR=5.6								
IMW	Indian Meadow	52.61	358	*e*P		P	10 55 55.0	-0.1	
	41nm,1.5s								
L02E	Cave Junction	52.63	346	P		P	10 55 54.4	-0.5	
	baz=162								
O45A	Potomac	52.65	20	P		P	10 55 54.5	-0.6	
	baz=206								
K04D	Chiloquin, OR	52.66	348	P		P	10 55 54.0	-1.3	
	baz=164								
M41A	Milan	52.78	17	P		P	10 55 55.9	-0.1	
	baz=203,SNR=5.3								
P48A	Milroy	52.78	23	P		P	10 55 54.9	-1.2	
	baz=209								
J08A	Circle Bar Ran	52.79	351	*e*P		P	10 55 57.0	+0.8	
	60nm,1.5s								
FLWY	Flagg Ranch	52.79	358	*e*P		P	10 55 56.2	-0.1	
	83nm,1.5s								
N43A	Stutzman Famil	52.80	19	P		P	10 55 55.1	-1.1	
	baz=204								
Q50A	Georgetown	52.82	24	P		P	10 55 55.0	-1.4	
	baz=211								
HUMO	Hull Mountain	52.91	347	*e*P		P	10 55 57.7	+0.7	
	20nm,1.4s								
R52A	Catlettsburg	52.95	26	P		P	10 55 55.9	-1.4	
	baz=213								
RSSD	Black Hills	52.97	4	*e*P		P	10 55 57.9	+0.3	
	36nm,1.6s								
RSSD	Black Hills	52.97	4	P		P	10 55 56.3	-1.4	
	baz=186								
YPP	Pitchstone Pla	52.98	358	*e*P		P	10 55 58.5	+0.7	
	17nm,1.5s								
SFIN	Lafayette	52.98	21	P		P	10 55 56.0	-1.5	
	baz=207								
N44A	Piper City	53.00	20	P		P	10 55 56.2	-1.5	
	baz=206								
BLA	Blacksburg	53.02	28	P		P	10 55 56.4	-1.6	
	baz=216								
L39A	Vinton	53.07	16	P		P	10 55 56.5	-1.6	
	baz=201								
M42A	Sheffield	53.09	18	P		P	10 55 56.9	-1.4	
	baz=204								
H17A	Grant Village	53.10	358	*e*P		P	10 56 02.2	+3.6	
	17nm,1.6s								
H17A	Grant Village	53.10	358	P		P	10 55 57.4	-1.3	
	baz=178								
P49A	Miami Univ. Ec	53.12	23	P		P	10 55 57.2	-1.3	
	baz=210								
K02D	Willamette Mer	53.15	346	P		P	10 55 58.0	-0.9	
	baz=162								
O47A	Sheridan	53.18	22	P		P	10 55 58.5	-0.5	
	baz=208								
J05D	Fort Rock, OR	53.20	349	P		P	10 55 59.3	+0.1	
	baz=165,SNR=9.7								
L40A	Anamosa	53.22	16	P		P	10 55 58.3	-1.0	
	baz=202								
Q51A	Peebles	53.23	25	P		P	10 55 58.6	-0.9	
	baz=212								
N45A	Kentland	53.26	20	P		P	10 55 58.4	-1.1	
	baz=206								
LKWY	Lake	53.26	359	*e*P		P	10 56 00.6	+0.7	
LKWY				*e*PcP		PcP	10 57 07.5	0.0	
M43A	Waltham Townsh	53.32	19	P		P	10 55 59.2	-0.8	
	baz=204								
J04D	Umpqua Nationa	53.33	348	P		P	10 55 59.8	-0.5	
	baz=164								
YMR	Madison River	53.38	358	*e*P		P	10 56 01.2	+0.5	
	36nm,1.6s								
L41A	Preston	53.44	17	P		P	10 55 59.6	-1.3	
	baz=203								
YHB	Horse Butte	53.47	358	*e*P		P	10 56 02.4	+1.0	
	18nm,1.3s								
YHH	Holmes Hill	53.50	358	*e*P		P	10 56 01.8	+0.2	
	26nm,1.5s								
P50A	Jamestown	53.55	24	P		P	10 55 59.9	-1.9	
	baz=211								
ECSD	EROS Data Cent	53.56	11	*e*P		P	10 56 01.5	-0.2	
	12nm,1.6s								
ECSD	EROS Data Cent	53.56	11	P		P	10 55 59.9	-1.8	
	baz=195								
QLMT	Earthquake Lak	53.56	358	*e*P		P	10 56 03.4	+1.4	
N46A	Monticello	53.57	21	P		P	10 56 00.1	-1.8	
	baz=207								
L42A	Oliver, Polo	53.62	18	*e*P		P	10 56 01.6	-0.6	
	78nm,1.6s								
L42A	Oliver, Polo	53.62	18	P		P	10 56 01.0	-1.2	
	baz=204								
PINE	Pine Mountain	53.63	349	*e*P		P	10 56 03.9	+1.4	
	56nm,1.6s								
Q52A	Bidwell	53.63	26	P		P	10 56 00.4	-1.9	
	baz=213								
MCMT	McKenzie Canyo	53.63	356	*e*P		P	10 56 03.0	+0.5	
K39A	Oelwein	53.64	15	P		P	10 56 01.4	-1.0	
	baz=201								
I07A	Izee	53.66	350	*e*P		P	10 56 03.6	+1.0	
	45nm,1.6s								
J01E	Myrtle Point	53.66	346	P		P	10 56 01.2	-1.2	
	baz=161								
P51A	Williamsport	53.74	25	P		P	10 56 01.6	-1.5	
	baz=212								
K40A	Colesburg	53.84	16	P		P	10 56 02.5	-1.3	
	baz=202								
SUSD	Miller	53.85	9	P		P	10 56 03.0	-0.9	
	baz=192								
I04A	Tendick Farm,	53.92	348	P		P	10 56 03.4	-1.1	
	baz=163								
N47A	Urbana	53.92	22	P		P	10 56 03.2	-1.3	
	baz=208								
K41A	Shullsburg	53.98	17	P		P	10 56 03.6	-1.3	
	baz=203								
I03D	Drain, OR	54.03	347	P		P	10 56 04.1	-1.1	
	baz=162								
L43A	Garden Prairie	54.06	18	P		P	10 56 04.2	-1.2	
	baz=205								
O50A	Cable	54.08	24	P		P	10 56 03.0	-2.6	
	baz=211								
BMO	Blue Mountains	54.09	352	*e*P		P	10 56 05.2	-0.5	
	8.1nm,1.3s								
N48A	Decatur	54.15	22	P		P	10 56 04.2	-1.9	
	baz=209								
DLMT	Dillon	54.15	357	*e*P		P	10 56 06.6	+0.4	
	40nm,1.6s								
I05D	Terrebonne, OR	54.23	349	P		P	10 56 05.9	-0.8	
	baz=165								
P52A	Corning	54.25	25	P		P	10 56 05.9	-1.0	
	baz=213								
J39A	Decorah	54.28	15	P		P	10 56 05.7	-1.3	
	baz=201								
JFWS	Jewell Farm	54.28	17	*e*P		P	10 56 06.7	-0.4	
	48nm,1.4s								
JFWS				*es*P		pP	10 56 11.3	-0.5	
JFWS	Jewell Farm	54.28	17	P		P	10 56 05.9	-1.2	
	baz=203								
L44A	Lake County Fo	54.32	19	P		P	10 56 06.2	-1.1	
	baz=206								
BOZ	Bozeman (W)	54.34	358	*e*P		P	10 56 07.9	+0.3	
	15nm,1.4s								
BOZ	Bozeman (W)	54.34	358	P		P	10 56 06.8	-0.8	
	baz=176,SNR=5.8								
M47A	Cromwell	54.37	21	P		P	10 56 06.2	-1.5	
	baz=208								
ACSO	Alum Creek Sta	54.41	24	P		P	10 56 06.9	-1.1	
	baz=212								
K42A	Prairie Point,	54.42	17	P		P	10 56 06.6	-1.4	
	baz=204								
P53A	Whipple	54.45	26	*e*P		P	10 56 08.4	+0.1	
	20nm,0.8s								
P53A	Whipple	54.45	26	P		P	10 56 07.6	-0.7	
	baz=214								
GCMT	Greycliff	54.48	359	*e*P		P	10 56 08.6	+0.1	
O51A	Pataskala	54.49	25	P		P	10 56 06.8	-1.8	
	baz=212								
J40A	Soldiers Grove	54.59	16	P		P	10 56 08.0	-1.3	
	baz=202,SNR=5.0								
H04A	Detroit Lake	54.73	348	*e*P		P	10 56 11.0	+0.7	
	43nm,1.4s								
G08A	Pilot Rock	54.75	351	*e*P		P	10 56 10.9	+0.4	
	31nm,1.4s								
O52A	Adamsville	54.78	25	P		P	10 56 09.3	-1.4	
	baz=213								
I39A	Houston	54.81	15	*e*P		P	10 56 10.7	-0.2	
	47nm,1.5s								
I39A	Houston	54.81	15	P		P	10 56 09.9	-1.0	
	baz=201								
G06A	Carlson Farm,	54.97	350	*e*P		P	10 56 13.1	+1.1	
	48nm,1.6s								
I40A	Norwalk	55.09	16	P		P	10 56 12.1	-0.8	
	baz=202								
G05D	Wamic, OR	55.10	349	P		P	10 56 12.6	-0.4	
	baz=165								
F10A	Beach Ranch, E	55.18	353	*e*P		P	10 56 13.5	-0.1	
	16nm,1.1s								
LAO	LASA Array	55.41	2	*e*P		P	10 56 14.5	-0.7	
LAO	LASA Array	55.41	2	P		P	10 56 14.2	-1.0	
	baz=183,SNR=8.3								
HRY	Holter Researc	55.46	357	*e*P		P	10 56 15.2	-0.4	
I42A	Draeger Farm,	55.56	17	P		P	10 56 15.3	-1.0	
	baz=204								
H39A	Augusta	55.64	15	P		P	10 56 15.2	-1.6	
	baz=201								
MSO	Missoula	55.70	356	*e*P		P	10 56 16.7	-0.7	
	11nm,1.5s								
MSO	Missoula	55.70	356	P		P	10 56 16.3	-1.1	
	baz=174								
F05D	White Salmon	55.74	349	P		P	10 56 17.1	-0.5	
	baz=165								
SPMN	Marine on St.	55.78	14	*e*P		P	10 56 17.0	-0.9	
	18nm,1.2s								
SPMN	Marine on St.	55.78	14	P		P	10 56 17.4	-0.4	
	baz=195								
E09A	Wood Farm, Sta	55.83	352	*e*P		P	10 56 18.6	+0.4	
	21nm,1.4s								
HAWA	Hanford	55.91	351	*e*P		P	10 56 19.9	+1.1	
	24nm,1.5s								
E08A	Dider Farm, El	55.94	351	*e*P		P	10 56 19.5	+0.6	
	28nm,1.5s								
K48A	Perry	56.17	22	P		P	10 56 19.9	-0.8	
	baz=210								
G39A	Holcombe	56.24	15	P		P	10 56 20.5	-0.6	
	baz=201								
F37A	Hinrichs Farm,	56.30	14	P		P	10 56 21.2	-0.3	
	baz=199								
O56A	Blue Knob Stat	56.34	28	P		P	10 56 20.7	-1.3	
	baz=216								
D08A	Wollman Farm,	56.47	352	*e*P		P	10 56 22.7	0.0	
	21nm,1.5s								
G40A	Rib Lake	56.47	16	*e*P		P	10 56 22.6	-0.2	
	60nm,1.6s								
G40A	Rib Lake	56.47	16	P		P	10 56 21.6	-1.1	
	baz=202								
E04D	Cinebar	56.60	349	P		P	10 56 23.8	+0.1	
	baz=164,SNR=5.4								
LON	Longmire	56.64	349	*e*P		P	10 56 24.0	0.0	
	32nm,1.6s								
F38A	Pierce - Schro	56.69	14	P		P	10 56 23.2	-1.1	
	baz=200								
EGMT	Eagleton	56.71	359	*e*P		P	10 56 24.9	+0.3	
	25nm,1.3s								
EGMT	Eagleton	56.71	359	P		P	10 56 23.8	-0.7	
	baz=179,SNR=5.7								
F39A	Loretta	56.89	15	P		P	10 56 24.4	-1.4	
	baz=201								
LTY	Liberty	56.94	350	*e*P		P	10 56 26.8	+0.7	
	14nm,1.5s								
SSPA	Standing Stone	56.94	28	P		P	10 56 24.5	-1.7	
	baz=217								
J49A	Marlette	57.02	22	P		P	10 56 25.4	-1.3	
	baz=210								
F40A	Park Falls	57.10	15	P		P	10 56 26.6	-0.6	
	baz=202								
D05A	Enumclaw	57.10	349	*e*P		P	10 56 28.4	+1.2	
	120nm,1.6s								
MDND	Maddock	57.10	7	P		P	10 56 26.9	-0.4	
	baz=191								
C09A	Chrisman Ranch	57.11	352	*e*P		P	10 56 27.2	0.0	
	21nm,1.4s								
DGMT	Dagmar	57.29	4	*e*P		P	10 56 28.8	+0.2	
	93nm,1.5s								
DGMT	Dagmar	57.29	4	P		P	10 56 27.8	-0.7	
	baz=185,SNR=6.0								
E39A	Mellen	57.41	15	P		P	10 56 28.4	-1.0	
	baz=201								
NEW	Newport	57.42	353	*e*P		P	10 56 29.1	-0.5	
	40nm,1.5s								
NEW	Newport	57.42	353	P		P	10 56 28.8	-0.8	
	baz=170,SNR=7.1								
D03D	Eldon	57.64	349	P		P	10 56 29.9	-1.1	
	baz=163								
E40A	Wakefield	57.64	15	P		P	10 56 29.8	-1.3	
	baz=202								
B08A	Colville Reser	57.80	352	*e*P		P	10 56 32.1	-0.1	
	20nm,1.5s								
E41A	Kenton	57.91	16	P		P	10 56 32.2	-0.8	
	baz=203								
WALA	Waterton Lakes	57.92	356	*e*P		P	10 56 32.6	-0.5	
	55nm,1.6s								
AGMN	Agassiz Nation	58.10	10	*e*P		P	10 56 33.9	-0.4	
	18nm,1.2s								
AGMN	Agassiz Nation	58.10	10	P		P	10 56 33.5	-0.8	
	baz=195								
B05A	Bryant	58.16	350	P		P	10 56 34.1	-0.4	
	baz=164								
N59A	State Game Lan	58.16	29	P		P	10 56 33.4	-1.4	
	baz=219								
EYMN	Ely	58.65	13	*e*P		P	10 56 42.4	+4.3	
	13nm,1.0s								
EYMN	Ely	58.65	13	P		P	10 56 37.5	-0.6	
	baz=200								
ULM	Lac du Bonnet	59.99	10	P		P	10 56 46.7	-0.5	
	9.1nm,1.0s,baz=221,slow=6.9,SNR=4.3								
ULM	Lac du Bonnet	59.99	10	*e*P		P	10 56 46.6	-0.6	
	3nm,1.4s								
D47A	Chapleau	60.23	20	P		P	10 56 47.8	-1.2	
	baz=209								
LONY	Lake Ozonia	61.58	27	P		P	10 56 57.4	-0.8	
	baz=219								
E53A	Dumoine, Ponti	61.67	24	P		P	10 56 58.6	-0.2	
	baz=215								
D53A	Lac Vacive, Po	62.23	23	P		P	10 57 01.7	-0.8	
	baz=215								
HYT	Haines Junctio	73.14	346	*e*P		P	10 58 12.9	+1.5	
	19nm,1.5s								
DAWY	Dawson	76.39	347	*e*P		P	10 58 29.4	-0.5	
	29nm,1.5s								
RC01	Rabbit Creek A	76.84	341	*e*P		P	10 58 33.1	+0.6	
	51nm,1.5s								
PAX	Paxson	77.02	344	*e*P		P	10 58 33.3	-0.3	
	36nm,1.6s								
DOT	Dot Lake	77.19	345	*e*P		P	10 58 33.5	-1.0	
	30nm,1.6s								
EGAK	Eagle	77.40	346	*e*P		P	10 58 35.1	-0.5	
	63nm,1.8s								
SCRK	Sand Creek	77.43	345	*e*P		P	10 58 35.0	-1.0	
	38nm,1.7s								
SUA	Susitna One	77.45	341	*e*P		P	10 58 36.6	+0.6	
RIDG	Independ'e Rid	77.47	344	*e*P		P	10 58 36.1	0.0	
	61nm,1.5s								
DHY	Denali Highway	77.64	343	*e*P		P	10 58 37.7	+0.5	
	27nm,1.5s								
EPYK	Eagle Plains	77.84	349	P		P	10 58 37.7	-0.4	
	baz=152								
RND	Reindeer	78.32	343	*e*P		P	10 58 41.1	+0.2	
	46nm,1.4s								
HDA	Harding Lake	78.56	344	P		P	10 58 41.5	-0.5	
	baz=142								
MCK	McKinley	78.59	343	*e*P		P	10 58 42.2	0.0	
	67nm,1.6s								
TRF	Thorofare Moun	78.78	342	*e*P		P	10 58 43.3	-0.2	
	19nm,1.3s								
IL1	Eielson Array	78.83	344	*e*P		P	10 58 41.7	-1.8	
ILAR	Eielson Array	78.83	344	P		P	10 58 42.1	-1.4	
	1.0nm,0.9s,baz=155,slow=4.7,SNR=9.4								
WRH	Wood River Hil	78.92	344	*e*P		P	10 58 43.9	-0.1	
	68nm,1.7s								
PPLA	Purkeypile	78.96	341	*e*P		P	10 58 44.3	-0.1	
	100nm,1.5s								
CCB	Clear Creek Bu	78.98	344	*e*P		P	10 58 44.7	+0.4	
	9.6nm,1.4s								
INK	Inuvik	79.03	351	*e*P		P	10 58 43.9	-0.6	
	32nm,1.5s								
UNV	Unalaska Valle	79.16	329	*e*P		P	10 58 44.8	-0.7	
	105nm,1.3s								
CAST	Castle Rocks	79.31	342	*e*P		P	10 58 46.6	+0.4	
	28nm,1.3s								
MDM	Murphy Dome	79.34	344	*e*P		P	10 58 46.3	0.0	
	32nm,1.6s								
FYU	Fort Yukon	79.84	346	*e*P		P	10 58 50.3	+1.3	
	69nm,1.6s								
MLY	Manley	80.09	343	*e*P		P	10 58 47.7	-2.8	
	34nm,1.6s								
SBA	Scott Base	80.17	192	*e*P		P	10 58 51.2	+0.5	
	10nm,1.4s								
QSPA	South Pole Qui	81.15	180	*e*P		P	10 58 56.0	-0.3	
	39nm,1.1s								
VNDA	Vanda	81.22	193	P		P	10 58 56.6	+0.3	
	2.2nm,1.2s,baz=95,slow=2.1,SNR=5.3								
VNDA	Vanda	81.22	193	*e*P		P	10 58 57.3	+1.0	
	9.4nm,1.6s								
TOLK	Toolik Lake Re	82.51	346	*e*P		P	10 59 04.0	+0.8	
	21nm,1.5s								
TOLK	Toolik Lake Re	82.51	346	P		P	10 59 02.3	-0.9	
	baz=139								
VNA3	Neumayer Olymp	84.52	161	P		P	10 59 12.2	-1.4	
VNA1	Neumayer--Stat	85.10	161	P		P	10 59 16.2	-0.2	
VNA2	Neumayer--Watz	85.31	161	P		P	10 59 15.4	-2.1	
	baz=270,slow=4.6								
H11S2	WAKE ISLAND Hy	87.69	289	T		T	12 36 18.5		
	baz=101,slow=75,SNR=100								
H11S1	WAKE ISLAND Hy	87.69	289	T		T	12 36 18.2		
	baz=101,slow=75,SNR=91								
H11S3	WAKE ISLAND Hy	87.70	289	T		T	12 36 15.1		
	baz=101,slow=75,SNR=84								
H11N3	WAKE ISLAND Hy	87.71	290	T		T	12 36 17.9		
	baz=100,slow=75,SNR=47								
H11N2	WAKE ISLAND Hy	87.72	290	T		T	12 36 17.6		
	baz=100,slow=75,SNR=56								
H11N1	WAKE ISLAND Hy	87.73	290	T		T	12 36 21.9		
	baz=100,slow=75,SNR=12								
BJI	Beijing	129.49	315	*e*PKP		PKPdf	11 05 53.8	+3.7	
NJ2	Nanjing	130.33	305	*e*PKP		PKPdf	11 05 51.6	-0.3	
SONM	Songino Array	131.17	329	PKP		PKPdf	11 05 52.5	-0.8	
	0.6nm,0.7s,baz=90,slow=1.5,SNR=6.6								
HHC	Hu-ho-hao-te	132.23	318	*e*PKP		PKPdf	11 05 57.2	+1.8	
ZALV	Zalesovo Beam	133.80	349	PKP		PKPdf	11 05 56.0	-1.8	
	0.6nm,0.4s,baz=64,slow=3.4,SNR=2.8								
BRTR	Keskin Array B	134.56	41	PKP		PKPdf	11 05 58.9	-1.0	
	0.5nm,0.7s,baz=256,slow=8.5,SNR=3.7								
XAN	Xi'an	137.34	312	PKP		PKPdf	11 06 09.8	+4.7	
LZH	Lanzhou	139.88	317	PKP		PKPdf	11 06 06.6	-3.3	
GTA	Gaotai	140.34	325	*e*PKP		PKPdf	11 06 09.8	-0.7	
GTA				PP		PP	11 09 12.1	+4.0	
GTA				SKS		SKSdf	11 13 18.4	-2.3	
GTA				SKKS		SKKSac	11 16 04.3	+2.0	
GTA				SS		SS	11 27 34.2	+2.8	
GTA				AMB		AMB			
	comp=Z,200nm,7.5s								
GTA				LR		LR			
	comp=N,200nm,20.6s								
GTA				LR		LR			
	comp=E,130nm,21.9s								
GTA				LR		LR			
	comp=Z,260nm,21.6s								
MKAR	Makanchi Array	141.11	348	PKP		PKPdf	11 06 10.7	-0.8	
	1.1nm,0.8s,baz=354,slow=3.7,SNR=5.9								
GYA	Guiyang	142.21	302	PKP		PKPdf	11 06 13.2	-1.1	
GYA				PP		PP	11 09 23.9	+3.5	
GYA				AMB		AMB			
	comp=Z,120nm,8.2s								
WMQ	Urumqi	142.40	340	*e*PKP		PKPdf	11 06 11.8	-2.2	
WMQ				LR		LR			
	comp=N,370nm,30.3s								
WMQ				LR		LR			
	comp=E,310nm,21.9s								
WMQ				LR		LR			
	comp=Z,400nm,27.9s								
CD2	Chengdu	142.66	310	PKP		PKPdf	11 06 13.0	-1.8	
KMBO	Kilima Mbogo	144.68	105	PKP		PKPbc	11 06 18.1	+0.2	
	0.7nm,0.3s,baz=228,slow=3.5,SNR=9.8								
KMBO	Kilima Mbogo	144.68	105	*e*PKPdf		PKPdf	11 06 19.0	-0.1	
KMI	Kunming	145.99	302	PKPbc		PKPdf	11 06 20.1	-0.9	
AAK	Ala-Archa	146.30	356	*e*PKPbc		PKPbc	11 06 22.1	0.0	
KSH	Kashi	149.25	353	*e*PKPbc		PKPbc	11 06 28.8	-1.3	
KSH				PP		PP	11 10 10.0	+10	
CHTO	Chiang Mai	151.42	293	*e*PKPbc		PKPbc	11 06 34.4	-1.4	
CMAR	Chiang Mai Arr	151.52	292	PKP		PKPdf	11 06 29.4	-0.4	
	0.5nm,0.4s,baz=346,slow=0.4,SNR=4.3								
CMAR				PKPbc		pPKPdf	11 06 35.5	+0.5	
	3.6nm,0.9s,baz=65,slow=1.3,SNR=14								
PSI	Prapat	151.83	259	PKPbc		PKPbc	11 06 35.5	-1.5	
	8.6nm,0.9s,baz=180,slow=3.7,SNR=3.9								

ISCJB ***07*** *11:03:16.1±0.9, 55.73N±0.04×13.4E±0.1, h1km±10km, Error ellipse: s-maj=13.6km s-min=5.1km az=159.4*
UPP ***07*** *11:03:16.2±0.1, 55.70N×13.37E, h0km, ML2.8*

ISC 07 11:03:16.3±1.3, 55.72N±0.05×13.37E±0.08, h5km±11km, n7, σ0°61/12, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUNU	Lund	0.10	153	P		**Pg**	**11 03 18.1**	**-0.2**
LUNU				S		**Sg**	**11 03 19.6**	**0.0**
BJUU	Bjuv	0.41	332	P		**Pg**	**11 03 24.3**	**+0.2**
BJUU				S		**Sg**	**11 03 30.3**	**+0.8**
DEL	Delary	0.81	20	P		**Pg**	**11 03 31.8**	**+0.1**
DEL				S		**Sg**	**11 03 42.8**	**+0.6**
BSD	Bornholm Skovb	1.07	124	*i* P		**Pg**	**11 03 36.8**	**+0.1**
BSD				*i* S		**Sn**	**11 03 52.8**	**-0.2**
FABU	Falkenberg	1.34	345	P		**Pg**	**11 03 40.7**	**-1.2**
VXJU	Vaexsjoe	1.49	35	P		**Pn**	**11 03 44.0**	**+0.3**
VXJU				S		**Sg**	**11 04 03.6**	**-0.5**
BLEU	Blekinge	1.49	66	P		**Pn**	**11 03 43.7**	**0.0**

MEX 07 11:05:00.2±0.6, 16.37N×98.46W, h2km±4km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.32	86	*e*P		Pg	11 05 06.1	-0.3
PNIG				*i* S

ASAR	**Alice Springs**	**34.52 168**	P	P	11 16 50.7	+0.4
	0.3nm,0.4s,baz=349,slow=6.6,SNR=7.8					
MKAR	**Makanchi Array**	**52.16 323**	P	P	11 19 12.4	-0.1
	1.0nm,0.8s,baz=107,slow=7.8,SNR=5.8					

*ISCJB **07** 11:26:20.3±0.7, 16.5S±0.1×41.53E±0.06, h10km, mb4.0/6, Error ellipse: s-maj=15.5km s-min=8.1km az=176.6*
*IDC **07** 11:26:20.8±0.8, 16.25S×41.56E, h0km, mb3.9/6, mb1 4.1/9, mb1mx3.8/43, mbtmp4.0/9, ML4.1/3, Error ellipse: s-maj=28.9km s-min=19.1km az=175.0*
ISC 07 11:26:22.2±0.8, 16.7S±0.1×41.42E±0.06, h10km, n14, σ2.44/17, mb4.0/6, Mozambique Channel

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**5.82**	**110**	Pn	**Pn**	**11 27 49.5**	**+0.8**
	11nm,0.3s,baz=287,slow=16,SNR=63						
OPO				Sn	**Sn**	**11 28 53.2**	**-2.4**
	5.9nm,0.3s,baz=207,slow=23,SNR=6.3						
LSZ	**Lusaka**	**12.80**	**274**	Pn	**Pn**	**11 29 26.5**	**+2.0**
	0.2nm,0.3s,baz=95,slow=10,SNR=11						
LSZ				Lg	Lg	11 33 05.2	
	0.4nm,0.3s,baz=10,slow=22,SNR=3.9						
MATP	**Matopo**	**12.81**	**251**	*i* P	**Pn**	**11 29 23.2**	**-1.4**
MATP	**Matopo**	**12.81**	**251**	Pn	**Pn**	**11 29 22.6**	**-2.0**
	0.1nm,0.3s,baz=96,slow=12,SNR=3.0						
MATP				Sn	**Sn**	**11 31 42.8**	**-4.7**
	0.5nm,0.3s,baz=343,slow=13,SNR=2.9						
MATP	**Matopo**	**12.81**	**251**	*i* P	**Pn**	**11 29 23.2**	**-1.4**
BOSA	**Boshof**	**19.06**	**229**	P	**Pn**	**11 30 48.0**	**+2.4**
	0.3nm,0.3s,baz=49,slow=15,SNR=4.1						
BOSA				S	**Sn**	**11 34 17.6**	**-1.7**
	0.4nm,0.3s,baz=217,slow=17,SNR=6.6						
TSUM	**Tsumeb**	**22.82**	**260**	P	**P**	**11 31 27.9**	**+2.3**
	4.4nm,0.8s,baz=56,slow=7.5,SNR=6.4						
SUR	**Sutherland**	**24.36**	**226**	P	**P**	**11 31 45.3**	**+4.6**
	7.5nm,0.7s,baz=69,slow=12,SNR=9.6						
TORD	**Torodi Ar. Bea**	**49.18**	**305**	P	**P**	**11 35 08.8**	**-2.0**
	1.4nm,1.1s,baz=94,slow=5.8						
MKAR	**Makanchi Array**	**73.08**	**28**	P	**P**	**11 37 51.0**	**-1.6**
	0.4nm,0.7s,baz=222,slow=4.5,SNR=3.0						
ASAR	**Alice Springs**	**85.66**	**113**	P	**P**	**11 39 01.0**	**-0.8**
	1.0nm,0.8s,baz=253,slow=4.6,SNR=13						
WRA	**Warramunga Arr**	**87.09**	**110**	P	**P**	**11 39 09.6**	**+0.8**
	0.9nm,0.8s,baz=252,slow=3.1,SNR=11						
TXAR	**Lajitas Array**	**145.61**	**298**	PKPbc	**PKPbc**	**11 46 01.8**	**+0.1**
	0.6nm,0.9s,baz=100,slow=3.5,SNR=5.2						
NVAR	**Mina Array Bea**	**151.95**	**325**	PKPbc	**PKPbc**	**11 46 18.1**	**-0.1**
	0.1nm,0.5s,baz=77,slow=4.7,SNR=2.3						

*JMA **07** 11:46:21.9±0.1, 23.29N×121.74E, h42km±3km, M3.7*
*TAP **07** 11:46:23.1, 23.32N×121.72E, h27km, ML3.6, C*
ISC 07 11:46:22.1±1.0, 23.30N±0.02×121.76E±0.03, h25km±9km, n59, σ0.82/109, 10D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HGSD	**Ruisui**	**0.36**	**301**	P	**Pb**	**11 46 30.3**	**+0.1**
	baz=302						
HGSD				S	**Sb**	**11 46 35.5**	**-0.1**
	baz=302						
CHKT	**Chengkung**	**0.42**	**241**	*i* P	**Pb**	**11 46 31.1**	**+0.1**
	baz=229						
CHKT				S	**Sb**	**11 46 37.0**	**-0.1**
	baz=229						
TWF1	**Yuli**	**0.43**	**276**	⇓*i* P	**Pb**	**11 46 31.6**	**+0.4**
	baz=268						
TWF1				*e*S	**Sb**	**11 46 38.2**	**+0.8**
	baz=268						
YULB	**Yu-li**	**0.44**	**282**	⇓*e*P	**Pb**	**11 46 31.7**	**+0.3**
	baz=281						
YULB				*e*S	**Sb**	**11 46 38.0**	**+0.3**
	baz=281						
FULB	**Fuli**	**0.45**	**256**	⇓*e*P	**Pb**	**11 46 31.5**	**0.0**
	baz=244						
FULB				*e*S	**Sb**	**11 46 37.4**	**-0.4**
	baz=244						
EHY	**Hungye**	**0.45**	**296**	P	**Pb**	**11 46 31.8**	**+0.2**
	baz=297						
EHY				*e*S	**Sb**	**11 46 38.1**	**0.0**
	baz=297						
EGFH	**Guangfu**	**0.48**	**320**	P	**Pb**	**11 46 32.4**	**+0.4**
	baz=325						
EGFH				*e*S	**Sb**	**11 46 39.5**	**+0.9**
	baz=325						
ESL	**Shilin**	**0.59**	**329**	P	**Pb**	**11 46 33.9**	**-0.1**
	baz=338						
ESL				*e*S	**Sb**	**11 46 41.5**	**-0.4**
	baz=338						
ELDTW	**Lidau**	**0.70**	**261**	⇓*i* P	**Pb**	**11 46 35.3**	**-0.4**
	baz=248						
ELDTW				*e*S	**Sb**	**11 46 43.9**	**-1.2**
	baz=248						
YUS	**Yu-Shan**	**0.77**	**284**	*i* P	**Pb**	**11 46 37.3**	**+0.1**
	baz=283						
YUS				*e*S	**Sb**	**11 46 47.0**	**-0.4**
	baz=283						
TWD	**Chiawan**	**0.79**	**349**	P	**Pb**	**11 46 36.9**	**-0.3**
	baz=4.0						
TWD				*e*S	**Sb**	**11 46 47.1**	**-0.4**
	baz=4.0						
TTN	**Taitung**	**0.79**	**226**	*e*P	**Pb**	**11 46 37.5**	**+0.3**
	baz=213						
TWGBT	**Beinan**	**0.80**	**233**	*e*P	**Pb**	**11 46 36.9**	**-0.5**
	baz=240						
TWGBT				*e*S	**Sb**	**11 46 46.9**	**-0.8**
	baz=240						
TWG	**Pinlang**	**0.80**	**233**	⇓*i* P	**Pb**	**11 46 36.9**	**-0.5**
	baz=240						
TWG				*e*S	**Sb**	**11 46 46.7**	**-1.1**
	baz=240						
NACB	**Ninganchiao**	**0.88**	**350**	*e*P	**Pb**	**11 46 38.0**	**-0.8**
	baz=338						
NACB				*e*S	**Sb**	**11 46 48.7**	**-1.4**
	baz=338						
SSLB	**Suanglung**	**0.89**	**303**	⇓*e*P	**Pb**	**11 46 38.7**	**-0.2**
	baz=303						
SSLB				*e*S	**Sb**	**11 46 48.9**	**-1.4**
	baz=303						
CHGB	**Renai**	**0.93**	**324**	⇓*e*P	**Pb**	**11 46 39.6**	**-0.1**
	baz=326						
CHGB				*e*S	**Sb**	**11 46 50.6**	**-1.1**
	baz=326						
WHF	**Hehuan Shan**	**0.95**	**331**	P	**Pb**	**11 46 39.7**	**-0.6**
	baz=333						
WHF				*e*S	**Sb**	**11 46 51.4**	**-1.3**
	baz=333						
SMLT	**Sun Moon Lake**	**0.98**	**306**	*i* P	**Pb**	**11 46 40.5**	**-0.1**
	baz=307						
SMLT				*e*S	**Sb**	**11 46 52.6**	**-0.5**
	baz=307						
ECL	**Taimali**	**1.03**	**227**	P	**Pn**	**11 46 39.8**	**-1.2**
	baz=224						
ECL				S	**Sb**	**11 46 52.2**	**-2.1**
	baz=224						
CHN5	**Tsauling**	**1.04**	**286**	*e*P	**Pb**	**11 46 42.3**	**+0.8**
	baz=292						
CHN5				*e*S	**Sn**	**11 46 55.7**	**+0.8**
	baz=292						
TPUB	**Ta-pu**	**1.04**	**270**	⇓*e*P	**Pb**	**11 46 42.0**	**+0.4**
	baz=269						
TPUB				*e*S	**Sb**	**11 46 55.0**	**+0.2**
	baz=269						
WTP	**Ta-pu**	**1.06**	**267**	⇓*i* P	**Pb**	**11 46 42.3**	**+0.4**
	baz=258						
WTP				*e*S	**Sb**	**11 46 55.6**	**+0.3**
	baz=258						
WJS	**Zhushan**	**1.08**	**299**	*e*P	**Pb**	**11 46 43.0**	**+0.8**
	baz=299						
TWT	**Tachien**	**1.09**	**330**	*e*P	**Pb**	**11 46 42.6**	**+0.2**
	baz=331						
TWT				*e*S	**Sb**	**11 46 54.9**	**-1.4**
	baz=331						
TDCB	**Techi**	**1.10**	**330**	*e*P	**Pn**	**11 46 42.2**	**+0.2**
	baz=331						
TDCB				*e*S	**Sb**	**11 46 54.5**	**-1.9**
	baz=331						
SGST	**Jiashian**	**1.11**	**259**	P	**Pb**	**11 46 43.0**	**+0.4**
	baz=254						
SGST				*e*S	**Sn**	**11 46 57.8**	**+1.2**
	baz=254						
ENA	**Nanau**	**1.12**	**359**	*e*P	**Pn**	**11 46 41.9**	**-0.3**
	baz=1.0						
CHN1	**Nanshi**	**1.14**	**264**	P	**Pb**	**11 46 43.9**	**+0.6**
	baz=257						
CHN1				*e*S	**Sn**	**11 46 58.7**	**+1.2**
	baz=257						
WNT	**Mingjian**	**1.14**	**300**	*e*P	**Pb**	**11 46 44.0**	**+0.8**
	baz=301						
WNT				*e*S	**Sb**	**11 46 58.4**	**+0.7**
	baz=301						
WGK	**Gukeng**	**1.17**	**289**	*e*P	**Pb**	**11 46 44.2**	**+0.5**
	baz=289						
WGK				*e*S	**Sb**	**11 46 58.7**	**+0.4**
	baz=289						
NNSB	**Datong**	**1.17**	**343**	*e*P	**Pn**	**11 46 43.2**	**+0.1**
	baz=344						
NNSB				*e*S	**Sn**	**11 46 56.7**	**-1.7**
	baz=344						
TWK	**Hsinying**	**1.17**	**268**	P	**Pb**	**11 46 44.2**	**+0.4**
	baz=267						
TWK				*e*S	**Sb**	**11 46 59.2**	**+0.5**
	baz=267						
SSD	**Sandimen**	**1.18**	**242**	*e*P	**Pn**	**11 46 43.0**	**-0.1**
	baz=233						
NNS	**Nan Shan**	**1.19**	**342**	*e*P	**Pn**	**11 46 43.4**	**+0.1**
	baz=344						
NNS				*e*S	**Sn**	**11 46 56.4**	**-2.3**
	baz=344						
CHN2	**Minshiung**	**1.21**	**281**	*e*P	**Pb**	**11 46 45.1**	**+0.8**
	baz=281						
EAST	**Anshuo**	**1.25**	**223**	P	**Pn**	**11 46 43.4**	**-0.6**
	baz=220						
EAST				*e*S	**Sn**	**11 46 57.6**	**-2.4**
	baz=220						
MASBT	**Mashibuluo**	**1.25**	**237**	⇓*e*P	**Pn**	**11 46 43.9**	**-0.1**
	baz=230						
MASBT				*e*S	**Sn**	**11 46 59.2**	**-0.9**
	baz=230						
EOS1	**EOS1**	**1.28**	**15**	P	**Pn**	**11 46 45.1**	**+0.6**
	baz=28						
EOS1				*e*S	**Sn**	**11 47 00.0**	**-0.8**
	baz=28						
SGLT	**Jiouru**	**1.31**	**244**	*e*P	**Pb**	**11 46 46.8**	**+0.8**
	baz=242						
SGLT				*e*S	**Sb**	**11 47 02.5**	**+0.2**
	baz=242						
TWM1	**Shoushan**	**1.32**	**249**	*e*P	**Pb**	**11 46 47.7**	**+1.3**
	baz=247						
TWM1				*e*S	**Sb**	**11 47 05.0**	**+2.1**
	baz=247						
ENTT	**Nioudou**	**1.34**	**352**	*e*P	**Pn**	**11 46 45.7**	**+0.4**
	baz=354						
TWQ1	**Liyutan**	**1.38**	**319**	P	**Pb**	**11 46 47.8**	**+0.5**
	baz=330						
TWQ1				*e*S	**Sb**	**11 47 05.1**	**+0.6**
	baz=330						
YHNB	**Yeheng**	**1.41**	**345**	*e*P	**Pn**	**11 46 46.8**	**+0.6**
	baz=347						
YHNB				*e*S	**Sn**	**11 47 03.2**	**-0.8**
	baz=347						
TWE	**Neicheng**	**1.41**	**356**	*e*P	**Pb**	**11 46 47.3**	**-0.5**
	baz=346						
NSK	**Sanguang**	**1.42**	**345**	*e*P	**Pn**	**11 46 47.1**	**+0.7**
	baz=346						
NSY	**Sanyi**	**1.44**	**321**	*e*P	**Pb**	**11 46 49.1**	**+0.8**
	baz=336						
NSY				*e*S	**Sb**	**11 47 07.4**	**+1.2**
	baz=336						
JYNG	**Yonagunijimaku**	**1.57**	**43**	P	**Pn**	**11 46 49.2**	**+0.8**
JYNG				*e*S	**Sn**	**11 47 08.3**	**+0.3**
YOJ	**Yonaguni jima**	**1.62**	**44**	P	**Pn**	**11 46 49.7**	**+0.6**
YOJ				*e*S	**Sn**	**11 47 09.6**	**+0.4**
HATJ	**Hateruma jima**	**2.02**	**68**	P	**Pn**	**11 46 54.9**	**+0.4**
HATJ				*e*S	**Sn**	**11 47 19.6**	**+0.7**
IRIF	**Iriomote-Funau**	**2.07**	**60**	P	**Pn**	**11 46 56.1**	**+0.8**
IRIF				*e*S	**Sn**	**11 47 20.9**	**+0.6**
JKRS	**Kuro-shima**	**2.26**	**65**	P	**Pn**	**11 46 58.6**	**+0.7**
JKRS				*e*S	**Sn**	**11 47 25.5**	**+0.6**
JIJ	**Ishigaki jima**	**2.42**	**64**	P	**Pn**	**11 47 00.5**	**+0.4**
JIJ				S	**Sn**	**11 47 28.3**	**-0.6**
JISG	**Ishigakijimahi**	**2.66**	**61**	P	**Pn**	**11 47 03.6**	**+0.2**
JISG				*e*S	**Sn**	**11 47 34.1**	**-0.7**
JTJ	**Tarama**	**3.00**	**63**	P	**Pn**	**11 47 08.6**	**+0.5**
JTJ				*e*S	**Sn**	**11 47 43.9**	**+0.7**
JIRB	**Irabujima**	**3.46**	**63**	P	**Pn**	**11 47 14.8**	**+0.3**
JIRB				*e*S	**Sn**	**11 47 54.7**	**0.0**
JMJ	**Miyako jima 2**	**3.56**	**64**	P	**Pn**	**11 47 16.8**	**+1.0**
JIKM	**Ikemajima**	**3.57**	**62**	P	**Pn**	**11 47 16.3**	**+0.4**
JIKM				*e*S	**Sn**	**11 47 56.5**	**-0.8**
JOGS	**Gusukube**	**3.63**	**66**	P	**Pn**	**11 47 17.8**	**+1.0**
JOGS				*e*S	**Sn**	**11 47 58.8**	**0.0**

UCR 07 12:39:56.8±1.9, 12.58N×87.99W, h35km±14km, MD4.0, ML3.6, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCY	**Lacayo**	**0.89**	**341**	*e*P	Pn	12 40 13.5	+0.5
LCY				*e*S	Sb	12 40 25.4	-0.3
CRIN	**San Cristobal**	**0.93**	**82**	*e*P	Pb	12 40 14.5	0.0
CRIN				*e*S	Sb	12 40 27.8	+1.1
CRIN				IAML		12 40 32.3	
	comp=N,2μm,0.8s						
PACA	**Pacayal**	**0.94**	**340**	*e*P	Pb	12 40 14.6	-0.3
PACA				*e*S	Sb	12 40 27.0	-0.1
TECA	**Tecapa**	**1.04**	**331**	*e*P	Pn	12 40 15.4	+0.6
TECA				*e*S	Sn	12 40 29.2	+0.7
CNGN	**Cerro Negro**	**1.26**	**93**	*e*P	Pn	12 40 18.1	0.0
CNGN				*e*S	Sn	12 40 33.8	0.0
COPN	**Copaltepe**	**1.42**	**106**	*e*P	Pn	12 40 20.1	-0.1
COPN				*e*S	Sn	12 40 37.5	-0.2
MOMN	**Momotombo**	**1.43**	**97**	*e*P	Pn	12 40 20.2	0.0
MOMN				*e*S	Sn	12 40 37.3	-0.6
LFRS	**El Faro**	**1.47**	**315**	*e*P	Pn	12 40 21.4	+0.5
LFRS				*e*S	Sn	12 40 39.9	+0.8
LFU	**La Fuente**	**1.60**	**317**	*e*P	Pn	12 40 23.2	+0.6
LFU				*e*S	Sn	12 40 42.9	+0.8
ESTN	**Estel**	**1.66**	**72**	*e*P	Pn	12 40 23.9	+0.3
ESTN				*e*S	Sn	12 40 44.3	+0.5
BOQS	**Boqueron**	**1.70**	**313**	*e*S	Sb	12 40 47.0	-1.9
MATN	**Matagalpa**	**2.04**	**80**	*e*P	Pn	12 40 28.9	0.0
BOAB	**BOACO BROADBAN**	**2.27**	**93**	*e*P	Pn	12 40 31.9	0.0

IDC 07 12:52:26.6±4.8, 15.74S×165.82E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/41, mbtmp3.9/4, Error ellipse: s-maj=127.0km s-min=39.5km az=118.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**27.28**	**230**	P	P	12 58 12.2	-0.6
	1.1nm,0.5s,baz=58,slow=8.2,SNR=6.4						
WRA	**Warramunga Arr**	**30.23**	**257**	P	P	12 58 39.6	+0.3
	0.7nm,0.6s,baz=86,slow=9.1,SNR=14						
ASAR	**Alice Springs**	**31.01**	**250**	P	P	12 58 46.4	+0.1
	2.0nm,0.7s,baz=76,slow=9.3,SNR=29						
SONM	**Songino Array**	**82.48**	**324**	P	P	13 04 51.2	+0.1
	0.3nm,0.4s,baz=152,slow=5.6,SNR=3.0						

DJA 07 12:54:22.0±1.2, 8°S±10°×107°E±°, h27km±10km, M3.6/7, MLv3.6/7, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.71**	**38**	P	Pb	12 54 35.9	+0.1
CISI				S	Sn	12 54 45.8	-0.6
CMJI	**Cimerak**	**1.11**	**73**	P	Pn	12 54 41.2	-0.6
CMJI				S	Sn	12 54 55.8	-0.4
LEM	**Lembang**	**1.31**	**10**	P	Pn	12 54 45.3	+0.7
SKJI	**Sukabumi**	**1.38**	**324**	P	Pn	12 54 44.8	-0.7
KPJI	**Karang Pucung**	**1.73**	**63**	P	Pn	12 54 50.2	0.0
CGJI	**Cibinong**	**2.25**	**312**	P	Pn	12 54 56.5	-0.9
UGM	**Wanagama**	**3.12**	**86**	P	Pn	12 55 09.7	+0.2
PCJI	**Pacitan**	**3.76**	**91**	P	Pn	12 55 19.0	+0.7

*ISCJB **07** 13:03:06.5±1.0, 2.72N±0.05×128.97E±0.05, h50km±10km, mb4.3/26, MS3.5/13, Error ellipse: s-maj=9.9km s-min=5.6km az=136.0*
*DJA **07** 13:03:07.3±0.6, 3°N±5°×12°9E±°, h10km, M4.5/13, mb4.6/13, mB4.9/6, MLv4.6/7, Mw(mB)4.2/6*
*NEIC **07** 13:03:08.7±1.1, 2.66N×128.89E, h55km±11km, mb4.4/14, Error ellipse: s-maj=10.5km s-min=5.3km az=56.0*
*IDC **07** 13:03:08.3±3.1, 2.66N×128.75E, h46km±32km, mb3.8/13, mb1 4.0/14, mb1mx3.8/38, mbtmp4.1/14, ML3.8/1, MS3.4/15, Ms1 3.4/15, ms1mx3.3/36, Error ellipse: s-maj=31.7km s-min=13.1km az=77.0*
ISC 07 13:03:08.0±1.5, 2.73N±0.07×129.01E±0.08, h46km±14km, n90, σ1.33/79, mb4.3/26, MS3.4/13, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.54**	**220**	*e*Pn	**Pn**	**13 03 44.1**	**-2.7**
TNTI	**Ternate**	**2.54**	**220**	P	**Pn**	**13 03 45.4**	**-1.4**
TNTI				S	**Sn**	**13 04 17.4**	**+0.9**
SGSI	**Sangihe**	**3.60**	**285**	P	**Pn**	**13 04 01.5**	**+0.1**
LBMI	**Labuha**	**3.67**	**204**	P	Pn	13 04 13.4	+11
SIJI	**Sorong**	**4.22**	**148**	P	**Pn**	**13 04 09.9**	**0.0**
	5.1nm,0.3s,baz=252,slow=23,SNR=22						
SIJI				S	**Sn**	**13 04 58.5**	**+0.5**
	4.1nm,0.3s,baz=210,slow=23,SNR=9.5						
SIJI				LR	LR	13 06 04.3	
	comp=Z,506nm,18.4s,baz=311,slow=41						
KMSI	**Cibinong**	**5.46**	**247**	P	**Pn**	**13 04 25.7**	**-1.2**
SANI	**Sanana**	**5.62**	**213**	P	**Pn**	**13 04 28.4**	**-0.7**
FAKI	**Fak Fak**	**6.48**	**150**	*e*Pn	**Pn**	**13 04 40.8**	**0.0**
LUWI	**Luwuk**	**7.27**	**239**	*e*Pn	**Pn**	**13 04 50.4**	**-1.3**
LUWI	**Luwuk**	**7.27**	**239**	P	**Pn**	**13 04 52.4**	**+0.7**
	98nm,0.8s,807nm						
MRSI	**Marisa**	**7.41**	**253**	P	**Pn**	**13 04 53.7**	**+0.1**
APSI	**Ampana**	**8.20**	**244**	P	**Pn**	**13 05 05.6**	**+1.2**
MPSI	**Mapaga**	**9.41**	**256**	P	**Pn**	**13 05 22.7**	**+1.6**
MYLDM	**Lahad Datu**	**10.76**	**283**	*e*Pn	**Pn**	**13 05 39.3**	**-0.3**
BNSI	**Bone**	**11.37**	**232**	P	**Pn**	**13 05 50.6**	**+2.7**
	20nm,0.7s						
SPSI	**Sidrap Palu**	**11.38**	**234**	P	**Pn**	**13 05 47.2**	**-0.8**
	20nm,0.9s						
JAY	**Jayapura**	**12.80**	**114**	LR	LR	13 10 26.0	
	comp=Z,167nm,18.7s,baz=240,slow=34						
BATI	**Baumata**	**13.91**	**202**	LR	LR	13 11 26.0	
	comp=Z,186nm,21.7s,baz=339,slow=36						
MTN	**Manton Dam**	**15.61**	**172**	*e*Pn	**Pn**	**13 06 45.8**	**+0.8**
	10nm,0.9s						
SBUM	**Sibu**	**16.77**	**269**	*e*P	**Pn**	**13 06 59.9**	**0.0**
	14nm,1.0s						
STKI	**Sintang**	**17.72**	**262**	P	**P**	**13 07 13.7**	**+1.7**
BLJI	**Banyuglugur**	**18.57**	**236**	P	Pn	13 07 29.7	+7.9
KSM	**Kuching**	**18.73**	**267**	*e*P	**P**	**13 07 22.8**	**-0.3**
	21nm,0.9s						
GUMO	**Guam**	**19.03**	**55**	LR	LR	13 14 00.3	
	comp=Z,125nm,19.3s,baz=262,slow=34						
NGJI	**Ngawi**	**20.18**	**240**	P	Pn	13 07 52.2	+11
PWJI	**Pagerwojo**	**20.21**	**238**	P	Pn	13 07 41.1	-0.4
	58nm,0.9s						
FITZ	**Fitzroy Crossi**	**20.96**	**189**	P	**P**	**13 07 46.5**	**-0.8**
	4.2nm,0.7s,baz=31,slow=7.2,SNR=13						
FITZ				LR	LR	13 17 10.8	
	comp=Z,59nm,20.2s,baz=18,slow=40						
FITZ	**Fitzroy Crossi**	**20.96**	**189**	*e*P	**P**	**13 07 46.3**	**-0.9**
	3.9nm,0.8s						
COEN	**Coen**	**21.73**	**140**	*e*P	**P**	**13 07 56.2**	**+0.7**
	19nm,1.3s						
PMG	**Port Moresby**	**21.73**	**124**	LR	LR	13 16 24.7	
	comp=Z,124nm,19.9s,baz=276,slow=36						
WRAB	**Tennant Creek**	**23.12**	**167**	*e*P	**P**	**13 08 09.8**	**-0.5**
	29nm,1.4s						
WRA	**Warramunga Arr**	**23.13**	**167**	P	**P**	**13 08 10.7**	**+0.4**
	9.7nm,1.0s,baz=344,slow=10,SNR=38						
WB2	**Warramunga Arr**	**23.13**	**167**	*e*P	**P**	**13 08 09.9**	**-0.4**
JOW	**Kunigami**	**23.98**	**358**	LR	LR	13 16 27.5	
	comp=Z,127nm,20.6s,baz=146,slow=33						
MYKOM	**Kota Tinggi**	**25.16**	**268**	*e*P	**P**	**13 08 27.8**	**-1.5**
	13nm,1.1s						
MDSI	**Maura Dua**	**25.82**	**254**	P	**P**	**13 08 41.8**	**+6.5**
AS31	**Alice Springs**	**26.66**	**170**	*e*P	**P**	**13 08 42.1**	**-0.6**
	1.4nm,0.9s						
ASAR	**Alice Springs**	**26.66**	**170**	P	**P**	**13 08 42.7**	**0.0**
	1.2nm,0.6s,baz=354,slow=8.0,SNR=14						
ASAR				PcP	**PcP**	**13 12 05.7**	**-0.2**
	0.3nm,0.6s,baz=360,slow=3.1,SNR=3.3						
ASAR				LR	LR	13 21 56.5	
	comp=Z,93nm,18.6s,baz=352,slow=42						
AS01	**Alice Springs**	**26.67**	**170**	*e*P	**P**	**13 08 42.4**	**-0.5**
JCJ	**Chichijima**	**27.32**	**26**	LR	LR	13 17 40.0	
	comp=Z,80nm,19.9s,baz=282,slow=32						
PSI	**Prapat**	**30.05**	**271**	LR	LR	13 22 10.8	
	comp=Z,38nm,19.6s,baz=267,slow=38						
HNR	**Honiara**	**33.11**	**112**	LR	LR	13 22 49.4	
	comp=Z,50nm,19.1s,baz=285,slow=35						
CM01	**Chiang Mai Arr**	**33.31**	**300**	*e*P	**P**	**13 09 41.0**	**-0.7**
FORT	**Forrest**	**33.33**	**181**	*e*P	**P**	**13 09 40.4**	**-1.3**
	15nm,0.8s						
CM31	**Chiang Mai Arr**	**33.34**	**300**	*e*P	**P**	**13 09 41.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**33.34**	**300**	P	**P**	**13 09 41.4**	**-0.5**
	0.6nm,0.3s,baz=113,slow=7.2,SNR=8.5						
CMAR				LR	LR	13 24 16.1	
	comp=Z,58nm,19.2s,baz=156,slow=38						
KSAR	**Wonju Array Be**	**34.56**	**358**	P	**P**	**13 09 53.1**	**+0.8**
KSRS	**Korea Array**	**34.58**	**358**	P	**P**	**13 09 53.1**	**+0.7**
	2.3nm,0.9s,baz=182,slow=11,SNR=7.3						
KSRS				LR	LR	13 22 59.8	
	comp=Z,63nm,20.1s,baz=193,slow=34						
MJAR	**Matsushiro Arr**	**34.70**	**13**	LR	LR	13 22 48.6	
	comp=Z,87nm,20.3s,baz=195,slow=34						
XAN	**Xi'an**	**36.36**	**331**	P	**P**	**13 10 07.6**	**-0.2**
XAN				pP	pP	13 10 16.5	-3.7
XAN				sP	sP	13 10 20.7	-4.9
XAN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,140nm,5.1s						
STKA	**Stephens Creek**	**36.43**	**162**	P	**P**	**13 10 10.1**	**+1.7**
	comp=Z,2.1nm,0.6s,baz=335,slow=9.4,SNR=9.1						
STKA	**Stephens Creek**	**36.43**	**162**	*e*P	**P**	**13 10 08.6**	**+0.2**
	comp=Z,1.5nm,0.8s						
BJI	**Beijing**	**38.92**	**344**	⇑*i*P	**P**	**13 10 29.5**	**+0.2**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.2s						
H11S3	**WAKE ISLAND Hy**	**40.08**	**64**	T	T	13 53 50.7	
	baz=252,slow=75,SNR=110						
H11S2	**WAKE ISLAND Hy**

	comp=Z,19nm,1.0s								
ULN	**Ulaanbaatar**	**48.80**	**340**	*e*P		**P**		**13 11 48.3**	**-0.4**
	comp=Z,7.4nm,1.1s								
SONM	**Songino Array**	**48.99**	**340**	P		**P**		**13 11 50.3**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=150,slow=9.5,SNR=9.7								
KOLN	**Koldanda**	**49.96**	**304**	*e*P		**P**		**13 11 57.1**	**-0.9**
	comp=Z,25nm,0.7s								
DANN	**Dangsing**	**50.05**	**305**	*e*P		**P**		**13 11 57.2**	**-1.6**
	comp=Z,41nm,0.6s								
PYUN	**Piuthan**	**50.59**	**305**	*e*P		**P**		**13 12 01.9**	**-0.8**
	comp=Z,22nm,0.6s								
HYB	**Hyderabad**	**51.59**	**290**	*i* P		**P**		**13 12 10.0**	**-0.2**
WMQ	**Urumqi**	**54.85**	**324**	*e*P		**P**		**13 12 35.2**	**+1.4**
WMQ				LR		LR			
	comp=N,150nm,23.1s								
WMQ				LR		LR			
	comp=E,230nm,19.9s								
WMQ				LR		LR			
	comp=Z,170nm,18.1s								
PETK	**Petropavlovsk-**	**55.53**	**21**	P		**P**		**13 12 40.5**	**+2.1**
	comp=Z,2.6nm,0.9s,baz=134,slow=4.3,SNR=3.8								
MK01	**Makanchi Array**	**59.66**	**325**	*e*P		**P**		**13 13 07.0**	**-0.6**
MKAR	**Makanchi Array**	**59.68**	**325**	P		**P**		**13 13 07.3**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=118,slow=8.1,SNR=18								
MKAR				PcP		**PcP**		**13 13 54.3**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=108,slow=5.3,SNR=5.4								
ZALV	**Zalesovo Beam**	**62.52**	**332**	P		**P**		**13 13 25.8**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=106,slow=5.3,SNR=8.6								
ZALV				PcP		**PcP**		**13 14 04.5**	**-1.1**
	comp=Z,1.0nm,0.4s,baz=116,slow=6.7,SNR=3.8								
ZALV	**Zalesovo Beam**	**62.52**	**332**	*e*P		**P**		**13 13 25.1**	**-1.8**
ZALV				PcP		**PcP**		**13 14 04.5**	**-1.1**
KURK	**Kurchatov**	**63.81**	**327**	*e*P		**P**		**13 13 34.0**	**-1.4**
	comp=Z,6.6nm,0.6s								
BRVK	**Borovoye**	**69.47**	**327**	*e*P		**P**		**13 14 10.3**	**-1.2**
	comp=Z,15nm,0.9s								
ABKAR	**Akbulak array**	**74.36**	**321**	*e*P		**P**		**13 14 39.5**	**-1.4**
VNDA	**Vanda**	**82.16**	**173**	P		**P**		**13 15 22.9**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=297,slow=5.8,SNR=3.6								
IM3	**Indian Mountai**	**82.33**	**24**	*e*P		**P**		**13 15 25.6**	**+0.9**
PPT	**Papeete**	**82.64**	**108**	LR		LR		13 48 32.0	
	comp=Z,41nm,21.6s,baz=41,slow=33								
SKT	**Skwentna**	**82.65**	**28**	*e*P		**P**		**13 15 24.2**	**-2.1**
	comp=Z,14nm,0.8s								
ILAR	**Eielson Array**	**85.03**	**25**	P		**P**		**13 15 39.1**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=248,slow=5.5,SNR=8.4								

GCMT 07 13:05:22.0±0.4,**24°32S**±0°.03×**115°59W**±0°.02,**h26**km±1km, **MW4.9**/62,**Moment Tensor Solution. s24,c25; s62,c84; Duration: 0 Moment tensor: Scale** 10^{16}**Nm;** M_{rr}-0.13±.14; $M_{\theta\theta}$-1.75±.12; $M_{\phi\phi}$1.88±.12; $M_{r\theta}$-1.19±.25; $M_{\theta\phi}$1.55±.09; $M_{r\phi}$0.49±.23; **Best double couple:** $M_0$2.68500×10^{16} **NP1:**ϕ_s158.00000°,δ74.00000°, λ-161.00000°. **NP2:**ϕ_s62.00000°,δ72.00000°, λ-17.00000°. **Principal axes:** T 2.4530, Plg1.0000°, Azm290.0000°; N 0.4600, Plg65.0000°, Azm197.0000°; P -2.9170, Plg25.0000°, Azm21.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Southern East Pacific Rise**

*ISCJB **07** 13:06:56.2±1.0,44°.64N×0°.06×129°.2W±0°.1,h10km, mb4.6/4 Error ellipse: s-maj=12.0km s-min=7.5km az=160.4*
*NEIC **07** 13:06:58.1±1.0,44°.67N×129°.22W,h10km,mb4.2/6,Error ellipse: s-maj=12.6km s-min=8.3km az=53.0*
ISC 07 13:06:57.3±1.7,**44°.6N**±0°.1×**129°.2W**±0°.2,**h10**km,**n57, σ0s94/57,mb4.6/4,Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
COR	**Corvallis**	**4.20**	**88**	*e*Pn		**Pn**	**13 08 01.2**		**-0.2**
G03D	**McMinnville, O**	**4.25**	**80**	P		**Pn**	**13 08 01.8**		**-0.3**
	baz=265,SNR=14								
E03A	**Lebam**	**4.40**	**62**	*e*Pn		**Pn**	**13 08 04.0**		**-0.1**
F04D	**Rainier, OR**	**4.60**	**69**	P		**Pn**	**13 08 07.3**		**+0.5**
	baz=254								
H04D	**Lebanon**	**4.61**	**89**	P		**Pn**	**13 08 07.2**		**+0.2**
	baz=274								
I04A	**Tendick Farm,**	**4.93**	**97**	P		**Pn**	**13 08 10.9**		**-0.7**
	baz=283								
H04A	**Detroit Lake**	**4.99**	**86**	*e*Pn		**Pn**	**13 08 12.6**		**+0.2**
E04D	**Cinebar**	**5.04**	**65**	P		**Pn**	**13 08 13.3**		**+0.4**
	baz=250,SNR=7.1								
MTMW	**Mount Mitchell**	**5.12**	**71**	*e*Pn		**Pn**	**13 08 15.2**		**+1.1**
B201	**Coldwater, Mou**	**5.16**	**68**	*e*Pn		**Pn**	**13 08 15.2**		**+0.6**
D03D	**Eldon**	**5.16**	**53**	P		**Pn**	**13 08 15.1**		**+0.5**
	baz=238,SNR=19								
D04E	**Lakebay**	**5.17**	**58**	P		**Pn**	**13 08 15.4**		**+0.8**
	baz=243,SNR=14								
HDW	**Hoodsport**	**5.24**	**52**	*e*Pn		**Pn**	**13 08 16.7**		**+1.0**
J04D	**Umpqua Nationa**	**5.29**	**102**	P		**Pn**	**13 08 17.2**		**+0.7**
	baz=288								
L04D	**Klamath Falls**	**5.54**	**113**	P		**Pn**	**13 08 20.4**		**+0.5**
	baz=298								
LON	**Longmire**	**5.60**	**65**	*e*Pn		**Pn**	**13 08 20.9**		**+0.2**
F05D	**White Salmon**	**5.61**	**74**	P		**Pn**	**13 08 21.6**		**+0.9**
	baz=260,SNR=22								
I05D	**Terrebonne, OR**	**5.62**	**90**	P		**Pn**	**13 08 22.2**		**+1.3**
	baz=276								
G05D	**Wamic, OR**	**5.62**	**81**	P		**Pn**	**13 08 21.5**		**+0.5**
	baz=267								
D05A	**Enumclaw**	**5.65**	**60**	*e*Pn		**Pn**	**13 08 22.2**		**+0.9**
PGC	**Sidney**	**5.66**	**42**	*e*Pn		**Pn**	**13 08 21.2**		**-0.2**
PINE	**Pine Mountain**	**5.98**	**95**	*e*Pn		**Pn**	**13 08 26.1**		**+0.1**
B05A	**Bryant**	**6.12**	**51**	P		**Pn**	**13 08 28.8**		**+1.1**
	baz=236,SNR=13								
EBG	**Ellensburg**	**6.46**	**66**	*e*Pn		**Pn**	**13 08 33.8**		**+1.3**
LTY	**Liberty**	**6.51**	**63**	*e*Pn		**Pn**	**13 08 33.8**		**+0.6**
A05A	**Maple Falls**	**6.57**	**45**	*e*Pn		**Pn**	**13 08 34.6**		**+0.7**
B06A	**Marblemount**	**6.60**	**51**	*e*Pn		**Pn**	**13 08 35.2**		**+0.9**
C06D	**Leavenworth**	**6.64**	**57**	P		**Pn**	**13 08 36.2**		**+1.3**
	baz=244								
G08A	**Pilot Rock**	**7.29**	**81**	*e*Pn		**Pn**	**13 08 44.2**		**+0.3**
E08A	**Dider Farm, El**	**7.36**	**71**	*e*Pn		**Pn**	**13 08 46.0**		**+1.3**
D08A	**Wollman Farm,**	**7.58**	**67**	*e*Pn		**Pn**	**13 08 48.7**		**+0.9**
B08A	**Colville Reser**	**7.77**	**58**	*e*Pn		**Pn**	**13 08 50.7**		**+0.3**
J08A	**Circle Bar Ran**	**7.82**	**95**	*e*Pn		**Pn**	**13 08 53.8**		**+2.6**
HLID	**Hailey**	**10.68**	**90**	*e*Pn		**Pn**	**13 09 32.5**		**+2.1**
HLID	**Hailey**	**10.68**	**90**	P		**Pn**	**13 09 31.4**		**+1.0**
	baz=281								
MSO	**Missoula**	**10.89**	**73**	*e*Pn		**Pn**	**13 09 33.4**		**+0.2**
MSO	**Missoula**	**10.89**	**73**	P		**Pn**	**13 09 33.4**		**+0.2**
	baz=264								
FURC	**Furnace Creek,**	**12.39**	**127**	P		**Pn**	**13 09 55.1**		**+1.5**
	baz=315								
TPAW	**Teton Pass**	**13.17**	**88**	*e*Pn		**Pn**	**13 10 05.9**		**+1.3**
HWUT	**Hardware Ranch**	**13.22**	**97**	*e*Pn		**Pn**	**13 10 06.8**		**+1.7**
EGMT	**Eagleton**	**13.86**	**69**	P		**Pn**	**13 10 12.6**		**-1.1**
	baz=263								
IRM	**Iron Mountain**	**15.02**	**129**	P		**Pn**	**13 10 31.2**		**+1.5**
	baz=318								
W13A	**Hualapai Mount**	**15.07**	**124**	*e*Pn		**P**	**13 10 34.7**		**-1.2**
	7.2nm,1.5s								
O20A	**White River Ci**	**16.09**	**99**	P		**P**	**13 10 45.9**		**-1.3**
	baz=293								
PV09	**Paradox Valley**	**16.18**	**105**	*e*Pn		**Pn**	**13 10 45.6**		**+0.6**
PV14	**Lion Creek, Pa**	**16.32**	**105**	*e*Pn		**P**	**13 10 48.8**		**-0.8**
	30nm,2.0s								
PV12	**Saucer Basin,**	**16.50**	**105**	*e*Pn		**P**	**13 10 51.2**		**-0.5**
	31nm,1.8s								
ISCO	**Idaho Springs**	**18.09**	**97**	P		**Pn**	**13 11 08.6**		**-0.3**
	baz=293								
S22A	**4UR Ranch, Cre**	**18.14**	**104**	P		**Pn**	**13 11 09.1**		**-0.4**
	baz=300								
SDCO	**Great Sand Dun**	**19.06**	**103**	P		**P**	**13 11 19.4**		**-0.5**
	baz=299								
T25A	**Trinidad**	**20.11**	**103**	*e*P		**P**	**13 11 32.1**		**+0.7**
	9.8nm,1.1s								
T25A	**Trinidad**	**20.11**	**103**	P		**P**	**13 11 31.6**		**+0.2**
	baz=300								
SUA	**Susitna One**	**21.13**	**331**	*e*P		**P**	**13 11 42.7**		**+0.6**
	68nm,0.5s								
FYU	**Fort Yukon**	**23.67**	**344**	*e*P		**P**	**13 12 08.5**		**-0.1**
	27nm,1.1s								
WMOK	**Wichita Mounta**	**25.26**	**102**	*e*P		**P**	**13 12 22.5**		**-1.1**
	14nm,1.5s								
WMOK	**Wichita Mounta**	**25.26**	**102**	P		**P**	**13 12 23.1**		**-0.5**
	baz=302								
W41B	**Gary Mavity, V**	**29.65**	**96**	*e*P		**P**	**13 13 01.9**		**-1.0**
	9.7nm,1.2s								

*CNRM **07** 13:47:16.2,37°.81N×2°.27W,h5km,ML3.6*
*ISCJB **07** 13:47:17.6±0.4,37°.97N±0°.03×2°.60W±0°.02,h8km±3km, Error ellipse: s-maj=4.8km s-min=3.0km az=162.4*
*MDD **07** 13:47:19.9±0.3,37°.92N×2°.55W,h10km,mbLg2.6/24, Error ellipse: s-maj=3.2km s-min=2.2km az=142.0, PRXIMO*
*SFS **07** 13:47:19.0,37°.90N×2°.50W,h4km,ML2.4, PUEBLA DE DON FADRIQUE (GRANADA)*
*INMG **07** 13:47:19.7±1.4,37°.95N×2°.55W,h5km±3km,ML2.7, Error ellipse: s-maj=2.4km s-min=2.0km az=118.0*
ISC 07 13:47:19.2±0.9,**37°.91N**±0°.02×**2°.54W**±0°.02,**h16**km±7km, **n51,σ0s99/71,1C-5D,Spain**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
SESP	**Santiago Espad**	**0.21**	**359**	Pg		**Pg**	**13 47 23.1**		**-1.2**
	321nm,0.4s,SNR=7.9								
SESP				Lg		Lg	13 47 27.4		
	2μm,0.4s,SNR=7.9								
SESP	**Santiago Espad**	**0.21**	**359**	P		**Pb**	**13 47 24.2**		**-0.6**
SESP	**Santiago Espad**	**0.21**	**359**	S		**Sg**	**13 47 29.0**		**+1.2**
EQES	**Quesada**	**0.43**	**256**	Pg		**Pg**	**13 47 27.6**		**-0.4**
	48nm,0.4s,SNR=85								
EQES				Lg		Lg	13 47 34.0		
	365nm,0.5s								
GORA	**Gorafe**	**0.58**	**223**	Pg		**Pg**	**13 47 30.7**		**0.0**
	75nm,0.3s,SNR=7.9								
GORA				Lg		Lg	13 47 39.0		
	233nm,0.4s,SNR=7.9								
ENIJ	**Nijar**	**0.97**	**164**	⇓Pg		**Pb**	**13 47 36.5**		**-1.2**
	39nm,0.5s,SNR=18								
ENIJ				Lg		Lg	13 47 48.8		
	95nm,0.4s,SNR=4.0								
EQUE	**Quentar**	**1.00**	**226**	Pg		**Pg**	**13 47 38.4**		**+0.1**
	19nm,0.3s,SNR=32								
EQUE				Lg		Lg	13 47 52.7		
	22nm,0.2s,SNR=5.9								
EMUR	**La Murta**	**1.03**	**93**	⇓Pg		**Pn**	**13 47 39.3**		**+0.2**
	91nm,0.4s,SNR=18								
EMUR				Lg		Lg	13 47 52.6		
	137nm,0.4s,SNR=10								
EBER	**Berja**	**1.04**	**196**	Pg		**Pg**	**13 47 39.4**		**0.0**
	38nm,0.2s,SNR=69								
EBER				Lg		Lg	13 47 57.2		
	90nm,0.3s								
ETOB	**Tobarra**	**1.07**	**46**	Pg		**Pb**	**13 47 39.3**		**-0.2**
	66nm,0.5s,SNR=18								
ETOB				Lg		Lg	13 47 55.6		
	71nm,0.2s,SNR=23								
CART	**Cartagena**	**1.26**	**104**	Lg		Lg	13 48 00.0		
CART	**Cartagena**	**1.26**	**104**	*e*S		**Sg**	**13 48 00.0**		**0.0**
ELGU	**Los Guajares,**	**1.35**	**220**	Pg		**Pg**	**13 47 45.1**		**-0.1**
	39nm,0.2s,SNR=7.9								
ELGU				Lg		Lg	13 48 07.0		
	51nm,0.4s,SNR=7.9								
EGOR	**Sierra Gorda,**	**1.48**	**238**	⇓Pg		**Pb**	**13 47 47.0**		**+0.6**
	12nm,0.2s,SNR=18								
EGOR				Lg		Lg	13 48 09.0		
	22nm,0.3s,SNR=7.9								
EADA	**Adamuz**	**1.63**	**280**	⇓Pn		**Pn**	**13 47 47.2**		**0.0**
	8.8nm,0.1s,SNR=18								
EADA				Sn		**Sn**	**13 48 08.4**		**+0.4**
	4.9nm,0.2s,SNR=5.0								
EADA				Lg		Lg	13 48 11.1		
	40nm,0.3s,SNR=5.0								
EMAL	**Malaga-Limoner**	**1.89**	**233**	Pg		**Pb**	**13 47 52.7**		**-0.6**
EMAL				Lg		Lg	13 48 19.5		
EMAL	**Malaga-Limoner**	**1.89**	**233**	*e*P		**Pb**	**13 47 52.7**		**-0.6**
EMAL				*e*S		**Sg**	**13 48 19.5**		**-0.5**
EBEN2	**Beniarda presa**	**2.00**	**67**	Pg		**Pg**	**13 47 57.5**		**-0.2**
	13nm,0.4s,SNR=4.0								
EBEN2				Sn		**Sn**	**13 48 17.0**		**-0.1**
	26nm,0.4s,SNR=7.9								
ECHE	**Chera**	**2.08**	**36**	Pn		**Pn**	**13 47 54.0**		**+0.4**
	0.5nm,0.2s,SNR=7.9								
ECHE				Pg		**Pg**	**13 47 58.3**		**-0.9**
	1.5nm,0.1s,SNR=7.9								
ECHE				Lg		Lg	13 48 26.6		
	15nm,0.3s,SNR=7.9								
ESDC	**Sonseca Array**	**2.09**	**328**	Pg		**Pb**	**13 47 57.2**		**+0.4**
	5.9nm,0.2s,baz=147,slow=18,SNR=30								
ESDC				Sn		**Sn**	**13 48 18.6**		**-0.7**
	11nm,0.2s,baz=146,slow=23,SNR=28								
ESDC				Lg		Lg	13 48 24.4		
	35nm,0.6s,baz=142,slow=30,SNR=8.1								
HORN	**Hornachuelos**	**2.15**	**269**	P		**Pn**	**13 47 55.2**		**+0.8**
HORN	**Hornachuelos**	**2.15**	**269**	S		**Sb**	**13 48 26.2**		**+2.0**
PAB	**San Pablo**	**2.16**	**320**	Pn		**Pn**	**13 47 54.9**		**+0.2**
	0.7nm,0.3s,SNR=7.9								
PAB				Pg		**Pg**	**13 47 59.4**		**-1.4**
	9.7nm,0.4s,SNR=7.9								
PAB				Sn		**Sn**	**13 48 21.2**		**0.0**
	6.2nm,0.2s,SNR=7.9								
PAB				Lg		Lg	13 48 28.4		
	16nm,0.2s,SNR=7.9								
ECAB	**El Cabril**	**2.28**	**275**	⇓Pn		**Pn**	**13 47 56.1**		**-0.1**
	18nm,0.3s,SNR=18								
ECAB				Pg		**Pb**	**13 48 01.1**		**+1.1**
	15nm,0.6s,SNR=16								
ECAB				Sn		**Sn**	**13 48 24.9**		**+0.9**
	18nm,0.4s,SNR=13								
ECAB				Lg		Lg	13 48 31.7		
	18nm,0.3s,SNR=6.8								
UCM	**Universidad Co**	**2.46**	**347**	⇑*e*P		**Pg**	**13 48 05.4**		**-1.0**
UCM				*i* S		**Sg**	**13 48 37.7**		**-0.6**
LIJA	**Lijar**	**2.49**	**247**	Pg		**Pg**	**13 48 05.8**		**-1.2**
LIJA				Lg		Lg	13 48 40.0		
LIJA	**Lijar**	**2.49**	**247**	*e*P		**Pg**	**13 48 05.8**		**-1.2**
LIJA				*e*S		**Sg**	**13 48 40.0**		**+0.8**
EMOS	**Mosqueruela**	**2.94**	**33**	Pn		**Pn**	**13 48 05.1**		**-0.3**
	0.4nm,0.2s,SNR=7.9								
EMOS				Pg		**Pg**	**13 48 14.5**		**-1.0**
	3.8nm,0.5s,SNR=7.9								
EMOS				Sn		**Sn**	**13 48 40.6**		**+0.2**
	1.5nm,0.3s,SNR=7.9								
EMOS				Lg		Lg	13 48 53.2		
	2.9nm,0.3s,SNR=7.9								
GUD	**Guadarrama**	**3.01**	**336**	Pg		**Pg**	**13 48 14.8**		**-2.0**
	1.6nm,0.2s,SNR=14								
GUD				Lg		Lg	13 48 54.4		
	33nm,0.4s,SNR=13								
EIBI	**Ibiza**	**3.25**	**69**	Pn		**Pn**	**13 48 10.0**		**+0.5**
	2.5nm,0.2s,SNR=7.9								
EIBI				Sn		**Sn**	**13 48 47.2**		**-0.6**
	4.3nm,0.3s,SNR=7.9								
EMIN	**Mina Concepcio**	**3.27**	**269**	Pn		**Pn**	**13 48 09.5**		**-0.3**
	0.6nm,0.2s,SNR=7.3								
EMIN				Sn		**Sn**	**13 48 48.3**		**-0.2**
	2.6nm,0.2s,SNR=6.7								
EMIN				Lg		Lg	13 48 59.8		
	7.5nm,0.4s,SNR=5.0								
EBAD	**Badajoz**	**3.62**	**285**	Pn		**Pn**	**13 48 14.2**		**-0.4**
	0.4nm,0.1s,SNR=5.2								
EBAD				Pg		**Pb**	**13 48 25.2**		**+2.4**
	1.3nm,0.2s,SNR=5.8								
EBAD				Sn		**Sn**	**13 48 56.8**		**-0.2**
	5.2nm,0.2s,SNR=4.5								
EBAD				Lg		Lg	13 49 13.8		
	13nm,0.2s								
EGRO	**El Granado**	**3.94**	**266**	Sn		**Sn**	**13 49 03.7**		**-1.1**
	4.2nm,0.2s,SNR=7.9								
EGRO				Lg		Lg	13 49 23.2		
	5.3nm,0.3s,SNR=7.9								
PESTR	**Estremoz**	**4.08**	**285**	*e*Sn		**Sn**	**13 49 09.1**		**+0.7**
PMRV	**Marv??o**	**4.09**	**293**	*e*Sn		**Sn**	**13 49 08.8**		**+0.2**
PMRV				*e*Sg		**Sg**	**13 49 30.5**		**0.0**
PMRV				A		A	13 49 44.0		
	11nm,0.6s								
PMRV	**Marv??o**	**4.09**	**293**	Sn		**Sn**	**13 49 08.8**		**+0.2**
PMRV				Lg		Lg	13 49 30.5		
	11nm,0.6s								
PVAQ	**Vaqueiros**	**4.14**	**265**	*e*Pn		**Pn**	**13 48 21.8**		**+0.1**
PVAQ				*e*Sn		**Sn**	**13 49 08.1**		**-1.7**
PVAQ				*e*Sg		**Sg**	**13 49 29.6**		**-2.5**
PVAQ				A		A	13 49 38.5		
	11nm,0.7s								
PVAQ	**Vaqueiros**	**4.14**	**265**	Pn		**Pn**	**13 48 21.8**		**+0.1**
PVAQ				Sn		**Sn**	**13 49 08.1**		**-1.7**
PVAQ				Lg		Lg	13 49 29.6		
	11nm,0.7s								
PBDV	**Barranco-do-Ve**	**4.33**	**263**	*e*Pn		**Pn**	**13 48 25.1**		**+0.7**
PBDV				A		A	13 49 45.2		
	9.5nm,0.7s								
PBDV	**Barranco-do-Ve**	**4.33**	**263**	Pn		**Pn**	**13 48 25.1**		**+0.7**
EPOB	**Poblet**	**4.43**	**38**	Pn		**Pn**	**13 48 26.9**		**+1.0**
	0.8nm,0.2s,SNR=7.9								
MTE	**Manteigas**	**4.62**	**304**	*e*Pn		**Pn**	**13 48 28.7**		**+0.3**
MTE				A		A	13 49 55.5		
	14nm,0.5s								
MTE	**Manteigas**	**4.62**	**304**	Pn		**Pn**	**13 48 28.7**		**+0.3**
PFVI	**Vila Bisbo**	**5.06**	**263**	Sn		**Sn**	**13 49 31.2**		**-1.2**
	2.0nm,0.2s,SNR=7.9								
ECAL	**Calabor**	**5.16**	**323**	Lg		Lg	13 50 01.4		
	17nm,0.5s,SNR=7.9								
CSOR	**Sort**	**5.28**	**31**	Pn		**Pn**	**13 48 38.5**		**+1.1**
	1.2nm,0.3s,SNR=6.8								
ATE	**Arette**	**5.36**	**15**	Pn		**Pn**	**13 48 40.4**		**+1.8**
	0.7nm,0.2s,SNR=7.9								
ELAN	**Lanestosa**	**5.36**	**353**	Pn		**Pn**	**13 48 39.9**		**+1.3**
	0.1nm,0.1s,SNR=7.9								
EALK	**Alkurruntz**	**5.37**	**8**	Pn		**Pn**	**13 48 40.4**		**+1.8**
	0.5nm,0.1s,SNR=4.5								
EALK				Sn		**Sn**	**13 49 40.6**		**+0.4**
	5.9nm,0.3s,SNR=7.9								
PMAFR	**Mafra**	**5.40**	**283**	Sn		**Sn**	**13 49 39.4**		**-1.5**
	7.9nm,0.4s,SNR=7.9								
EARI	**Arriondas**	**5.76**	**340**	Sn		**Sn**	**13 49 48.0**		**-1.8**
	0.6nm,0.3s,SNR=7.9								
EARI				Lg		Lg	13 50 21.6		
	3.5nm,0.6s,SNR=5.7								

IDC 07 13:47:21.6±3.6,**21°.91N**×**143°.52E**,**h192**km±36km,**mb3.1**/5, **mb1 3.3**/6,**mb1mx3.0**/45,**mbtmpg3.7**/6,**Error ellipse: s-maj=67.0km s-min=15.5km az=102.0,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
JCJ	**Chichijima**	**5.30**	**347**	P		Pn	13 48 41.1		+1.4
	6.0nm,0.3s,baz=266,slow=23,SNR=4.8								
JCJ				S		Sn	13 49 40.7		-0.6
	5.6nm,0.3s,baz=284,slow=22,SNR=4.5								
KLR	**Kul'dur**	**28.82**	**344**	P		P	13 53 01.4		-0.2
	0.5nm,0.5s,baz=174,slow=6.2,SNR=4.6								
WRA	**Warramunga Arr**	**42.56**	**193**	P		P	13 54 58.5		0.0
	0.4nm,0.6s,baz=17,slow=9.0,SNR=7.2								
ASAR	**Alice Springs**	**46.26**	**192**	P		P	13 55 27.4		-0.5
	0.2nm,0.6s,baz=16,slow=9.2,SNR=5.0								
ILAR	**Eielson Array**	**61.70**	**27**	P		P	13 57 18.9		-0.2
	0.3nm,0.7s,baz=262,slow=6.3,SNR=4.1								
YKA	**Yellowknife Ar**	**76.12**	**28**	P		P	13 58 48.3		+0.4
	0.5nm,0.5s,baz=290,slow=5.8,SNR=2.1								

*SJA **07** 13:57:05.2±0.8,30°.51S×72°.43W,h10km,ML3.5,MW3.6*
*GUC **07** 13:57:08.6±0.6,30°.71S×72°.09W,h32km±4km,ML3.6*
ISC 07 13:57:05.2±2.4,**30°.68S**±0°.04×**72°.3W**±0°.1,**h7**km±13km,**n11, σ1s64/19,3C-1D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
LSCH	**La Serena**	**1.22**	**51**	*e*P		**Pg**	**13 57 28.7**		**+0.1**
LSCH				*i* S		**Sn**	**13 57 44.1**		**-1.2**
CMCH	**Combarbala**	**1.25**	**114**	⇑*i*P		**Pn**	**13 57 28.6**		**-0.6**
CMCH				*i* S		**Sb**	**13 57 43.2**		**-2.3**
CMCH				IAML			13 57 47.0		
	comp=E,5μm,0.3s								
GO04	**Tololo Observa**	**1.42**	**70**	*e*P		**Pb**	**13 57 31.9**		**-0.2**
GO04				*e*S		**Sg**	**13 57 53.0**		**+2.1**
GO04	**Tololo Observa**	**1.42**	**70**	⇓*i*P		**Pb**	**13 57 31.6**		**-0.6**
GO04				*i* S		**Sb**	**13 57 49.4**		**-1.2**
GO04				IAML			13 57 57.3		
	comp=N,6μm,0.4s								
LCO	**Las Campanas**	**2.19**	**41**	*e*P		**Pb**	**13 57 43.6**		**-1.6**
LCO	**Las Campanas**	**2.19**	**41**	⇑*i*P		**Pn**	**13 57 43.2**		**+1.0**
LCO				*i* S		**Sn**	**13 58 09.9**		**+0.2**
LCO				IAML			13 58 24.0		
	comp=E,267nm,0.3s								
ROC1	**El Roble**	**2.55**	**154**	*e*S		**Sg**	**13 58 26.9**		**-0.3**
ACCO	**Cerro Coronel**	**2.83**	**89**	*e*P		**Pb**	**13 57

MEX 07 14:36:19.1±0.6, 17°27'N×101°26'W, h16km±8km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.39**	**329**	*eP*	Pg	14 36 26.3	-0.8
ZIIG				*eS*	Sg	14 36 30.6	-1.9
CAIG	**El Cayaco**	**0.97**	**103**	*eP*	Pb	14 36 34.0	-3.5
CAIG				*eS*	Sb	14 36 45.5	-4.6
ARIG	**Puente Sto Nin**	**1.32**	**41**	*eP*	Pn	14 36 39.4	-3.6
ARIG				*eS*	Sn	14 36 54.8	-5.5
MEIG	**Mezcala**	**1.69**	**67**	*eP*	Pn	14 36 44.7	-3.3
MEIG				*eS*	Sn	14 37 04.7	-4.7
MMIG	**Aquila**	**2.23**	**297**	*i* P	Pn	14 36 52.8	-2.7
MMIG				*i* S	Sn	14 37 18.4	-4.3

*ISCJB **07** 14:37:34.3±0.7, 37°.26N±0°.03×31°.93E±0°.04, h1km±7km, Error ellipse: s-maj=5.6km s-min=5.1km az=10.9*
*DDA **07** 14:37:34.3, 37°.29N×31°.90E, h7km, Ml2.5*
*ISK **07** 14:37:34.5, 37°.28N×31°.88E, h14km, ML2.2/7*
ISC 07 14:37:34.2±1.3, 37°.28N±0°.03×31°.91E±0°.03, h7km±11km, n16, σ1§14/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEPZ	**Antalya-Kepez**	**0.45**	**213**	*i* P	**Pg**	**14 37 42.9**	**-0.2**
KEPZ				*i* S	**Sb**	**14 37 50.1**	**-1.4**
KMER	**Konya-Meram**	**0.61**	**37**	*i* P	**Pg**	**14 37 44.9**	**-1.1**
SUTC	**Sutluce-Ispart**	**0.75**	**285**	PG	**Pg**	**14 37 48.8**	**+0.1**
SUTC				SG	**Sb**	**14 37 59.9**	**-0.3**
KONT	**Konya--Tatoy**	**0.75**	**28**	PG	**Pg**	**14 37 49.2**	**+0.5**
KONT				SG	**Sn**	**14 38 01.5**	**-1.5**
LADK	**Ladik-KONYA**	**0.98**	**21**	PG	**Pn**	**14 37 54.5**	**-0.1**
ERMK	**Ermenek**	**1.03**	**128**	*i* P	**Pg**	**14 37 51.9**	**-2.1**
ERMK				*i* S	**Sn**	**14 38 11.7**	**+1.7**
GAZI	**Gazipasa**	**1.10**	**163**	PN	**Pn**	**14 37 56.9**	**+0.9**
GAZI				SN	**Sn**	**14 38 11.4**	**-0.1**
GAZI	**Gazipasa**	**1.10**	**163**	*i* P	**Pn**	**14 37 56.1**	**0.0**
GAZI				*i* S	**Sn**	**14 38 14.2**	**+2.7**
BAGO	**Egridir - ISPA**	**1.14**	**309**	*i* P	**Pn**	**14 37 56.3**	**-0.4**
BAGO				*i* S	**Sn**	**14 38 12.3**	**-0.2**
KDHN	**Kadinhani**	**1.25**	**8**	*i* P	**Pg**	**14 37 58.6**	**+0.4**
BERE	**Bereket-Mersin**	**1.41**	**131**	PN	**Pn**	**14 38 00.3**	**-0.2**
BERE				SN	**Sg**	**14 38 19.8**	**+0.2**
TEVE	**Tevekalti-Mers**	**1.49**	**124**	PN	**Pn**	**14 38 01.9**	**+0.3**
TEKE	**Tekeli-Mersin**	**1.50**	**139**	PN	**Pn**	**14 38 01.7**	**+0.2**
AKKU	**Akkuyu-Mersin**	**1.73**	**130**	PN	**Pn**	**14 38 04.9**	**+0.1**
IKL	**Isikli**	**1.77**	**126**	PN	**Pb**	**14 38 06.3**	**-0.7**
KERG	**Konya-Eregli**	**1.77**	**85**	*i* P	**Pb**	**14 38 07.2**	**+0.1**
KERG				*i* S	**Sg**	**14 38 33.5**	**+2.3**

*ISCJB **07** 14:40:08.4±0.7, 36°.89N±0°.04×71°.46E±0°.10, h106km, mb3.5/3, Error ellipse: s-maj=11.2km s-min=5.1km az=164.7*
*IDC **07** 14:40:09.9±3.3, 37°.00N×71°.43E, h83km±33km, mb3.5/3, mb1 3.6/8, mb1mx3.3/56, mbtmp3.9/8, MS3.3/1, Ms1 3.1/1, ms1mx2.4/36, Error ellipse: s-maj=30.7km s-min=25.0km az=15.0*
*NNC **07** 14:40:15.1±2.3, 37°.48N×71°.34E, h171km±33km, mb3.2, mpv4.3, Error ellipse: s-maj=34.0km s-min=20.3km az=92.0*
ISC 07 14:40:09.5±0.9, 37°.05N±0°.07×71°.31E±0°.08, h106km, n34, σ2§70/39, mb3.4/3, 7C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.42**	**30**	⇓P	**Pn**	**14 41 03.8**	**+2.6**
	26nm,0.3s						
SFK				⇑S	**Sn**	**14 41 42.4**	**+1.3**
	47nm,0.3s						
AML	**Almayashu**	**5.39**	**19**	P	**Pn**	**14 41 29.7**	**+1.7**
	SNR=38						
MNAS	**Manas**	**5.50**	**9**	⇑P	**Pn**	**14 41 30.8**	**+1.6**
	16nm,0.6s						
MNAS				⇑S	**Sn**	**14 42 29.9**	**-1.4**
	21nm,0.6s						
UCH	**Uchtor**	**5.73**	**25**	P	**Pn**	**14 41 34.1**	**+1.6**
	SNR=22						
KZA	**Kyzart**	**5.87**	**30**	P	**Pn**	**14 41 35.6**	**+1.2**
	SNR=13						
EKS2	**Erkin-Say**	**5.91**	**18**	P	**Pn**	**14 41 36.7**	**+2.0**
	SNR=27						
AAK	**Ala-Archa**	**6.09**	**23**	P	**Pn**	**14 41 39.2**	**+2.0**
	15nm,0.3s,baz=170,slow=5.9,SNR=219						
AAK				S	**Sn**	**14 42 44.1**	**-1.4**
	3.5nm,0.3s,baz=320,slow=24,SNR=13						
AAK	**Ala-Archa**	**6.09**	**23**	P	**Pn**	**14 41 39.0**	**+1.8**
	24nm,0.4s						
AAK				S	**Sn**	**14 42 43.7**	**-1.8**
	20nm,0.6s						
AAK	**Ala-Archa**	**6.09**	**23**	P	**Pn**	**14 41 39.1**	**+2.0**
	SNR=54						
KBK	**Karagaybulak**	**6.26**	**25**	P	**Pn**	**14 41 41.4**	**+2.0**
	SNR=12						
ULHL	**Ulahol**	**6.43**	**35**	P	**Pn**	**14 41 42.9**	**+1.0**
	SNR=11						
CHMS	**Chumysh**	**6.50**	**23**	P	**Pn**	**14 41 44.4**	**+1.8**
	SNR=32						
USP	**Ospenovka**	**6.67**	**20**	P	**Pn**	**14 41 46.3**	**+1.4**
	SNR=18						
TKM2	**Tokmak 2**	**6.72**	**28**	⇑P	**Pn**	**14 41 46.9**	**+1.1**
	14nm,0.6s						
TKM2				⇑S	**Sn**	**14 42 58.5**	**-2.4**
	8.4nm,0.8s						
TKM2	**Tokmak 2**	**6.72**	**28**	P	**Pn**	**14 41 47.2**	**+1.4**
	SNR=23						
GEYT	**Alibeck**	**10.52**	**279**	P	**Pn**	**14 42 38.6**	**+1.4**
	0.7nm,0.3s,baz=123,slow=13,SNR=7.7						
MKAR	**Makanchi Array**	**12.70**	**37**	P	**Pn**	**14 43 06.5**	**+0.3**
	0.1nm,0.3s,baz=225,slow=14,SNR=5.2						
PYUN	**Piuthan**	**13.28**	**129**	*eP*	**Pn**	**14 43 11.1**	**-3.0**
	13nm,0.3s						
DANN	**Dangsing**	**13.60**	**126**	*eP*	**Pn**	**14 43 15.0**	**-3.3**
	11nm,0.3s						
KOLN	**Koldanda**	**13.90**	**128**	*eP*	**Pn**	**14 43 19.2**	**-2.9**
	6.3nm,0.3s						
GKN	**Gorkha**	**14.40**	**125**	*eP*	**Pn**	**14 43 26.1**	**-2.5**
KKN	**Kakani**	**14.97**	**124**	*eP*	**Pn**	**14 43 33.0**	**-2.8**
DMN	**Daman**	**14.97**	**125**	*eP*	**Pn**	**14 43 33.5**	**-2.4**
	8.1nm,0.4s						
PKI	**Pulchoki**	**15.20**	**124**	*eP*	**Pn**	**14 43 35.5**	**-3.3**
	5.7nm,0.3s						
GUN	**Gumba**	**15.29**	**122**	*eP*	**Pn**	**14 43 36.4**	**-3.6**
	7.4nm,0.3s						
JIRN	**Jiri**	**15.66**	**122**	*eP*	**Pn**	**14 43 41.4**	**-3.3**
	26nm,0.4s						
BVAR	**Borovoye Array**	**15.98**	**358**	P	**Pn**	**14 43 49.0**	**+1.0**
	0.3nm,0.3s,baz=160,slow=11,SNR=5.9						
RAMN	**Ramite**	**16.40**	**124**	*eP*	**Pn**	**14 43 49.0**	**-4.7**
	17nm,0.6s						
AKTO	**Aktyubinsk**	**16.43**	**329**	⇑P	**Pn**	**14 43 49.5**	**-4.1**
	2.1nm,0.7s						
AKTO				⇑S	**Sn**	**14 46 48.3**	**-7.5**
	4.0nm,1.0s						
ZALV	**Zalesovo Beam**	**19.31**	**25**	P	**P**	**14 44 26.8**	**+0.8**
	0.7nm,0.3s,baz=224,slow=10,SNR=13						
KBZ	**Khabaz**	**22.57**	**296**	LR	LR	14 57 04.7	
	comp=Z,66nm,19.6s,baz=34,slow=45						
SONM	**Songino Array**	**27.82**	**56**	P	**P**	**14 45 51.1**	**+2.3**
	0.4nm,0.4s,baz=278,slow=9.5,SNR=3.5						
CMAR	**Chiang Mai Arr**	**30.51**	**120**	P	**P**	**14 46 14.3**	**+1.5**
	0.3nm,0.6s,baz=297,slow=7.9,SNR=4.2						
ARCES	**ARCESS Array B**	**40.73**	**337**	P	**P**	**14 47 43.2**	**+3.7**
	3.6nm,1.0s,baz=111,slow=9.9,SNR=3.3						

MEX 07 14:53:30.4±0.5, 16°.49N×98°.46W, h13km±4km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.33**	**107**	*i* P	Pg	14 53 36.6	-0.6
PNIG				*i* S	Sg	14 53 41.9	+0.1
TLIG	**Tlapa**	**1.07**	**355**	*eP*	Pb	14 53 47.3	-3.6
TLIG				*eS*	Sb	14 54 00.2	-4.7
CAIG	**El Cayaco**	**1.82**	**288**	*eP*	Pn	14 53 57.8	-3.5
CAIG				*eS*	Sn	14 54 20.1	-4.2

MAN 07 14:54:19.3, 16°.29N×120°.42E, h24km, mb4.5, ML3.4, MS3.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPP	**San Manuel, Pa**	**0.29**	**118**	*eP*	Pb	14 54 23.8	-2.3
SMPP				*eS*	Sb	14 54 27.0	-3.8
BOLP	**Bolinao**	**0.49**	**281**	*eP*	Pb	14 54 29.8	+0.4
BOLP				*eS*	Sn	14 54 39.9	+1.3
SCZP	**Santa Cruz**	**0.70**	**224**	*eP*	Pn	14 54 33.7	-0.1
SCZP				*eS*	Sn	14 54 44.9	+1.0
PCPH	**Palayan**	**0.97**	**138**	*eP*	Pn	14 54 36.7	-0.8
PCPH				*eS*	Sn	14 54 50.3	-0.2
BALP	**Baler**	**1.24**	**116**	*eP*	Pn	14 54 40.6	-0.6
BALP				*eS*	Sb	14 54 57.9	+0.2
ABRA	**Dolores**	**1.38**	**12**	*eP*	Pn	14 54 41.0	-2.2
CAUP	**Cauayan**	**1.50**	**64**	*eP*	Pb	14 54 46.0	-0.5
APYP	**Conner**	**1.75**	**27**	*eP*	Pn	14 54 48.8	+0.5
APYP				*eS*	Sn	14 55 10.3	+0.5

IDC 07 14:56:47.9±24.0, 21°.02S×178°.21W, h494km±227km, mb3.1/3, mb1 3.4/3, mb1mx2.9/33, mbtmp4.0/3, Error ellipse: s-maj=174.3km s-min=108.5km az=119.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.21**	**257**	P	P	15 04 12.8	+0.1
	1.3nm,0.5s,baz=85,slow=6.3,SNR=34						
ASAR				PcP	PcP	15 05 46.2	-0.7
	0.2nm,0.5s,baz=91,slow=3.6,SNR=4.3						
WRA	**Warramunga Arr**	**44.33**	**263**	P	P	15 04 13.2	-0.5
	1.2nm,0.5s,baz=97,slow=7.3,SNR=86						
CMAR	**Chiang Mai Arr**	**90.10**	**290**	P	P	15 08 56.3	+1.1
	0.2nm,0.4s,baz=106,slow=2.2,SNR=4.4						
AKASG	**Malin Array Be**	**143.37**	**331**	PKP	PKPab	15 15 23.2	-0.2
	0.2nm,0.3s,baz=44,slow=4.5,SNR=6.5						
GERES	**GERESS Array B**	**150.64**	**344**	PKPbc	PKPbc	15 15 44.1	+0.4
	0.6nm,0.6s,baz=270,slow=2.9,SNR=4.7						

*PGC **07** 15:04:21.8±8.5, 52°.65N×132°.87W, h27km, ML4.3/15, Mw4.5, 97km Wsw of Sandspit, Bc Queen Charlotte Islands Region*
*ISCJB **07** 15:04:23.1±0.2, 52°.75N±0°.02×132°.82W±0°.05, h22km, mb4.3/33, MS3.9/6, Error ellipse: s-maj=5.5km s-min=2.2km az=147.6*
*NEIC **07** 15:04:23.5±0.3, 52°.66N×133°.07W, h10km, mb4.1/58, MW4.5(OTT), Error ellipse: s-maj=9.2km s-min=2.4km az=51.0*
*IDC **07** 15:04:25.3±0.7, 52°.77N×132°.63W, h22km±3km, mb4.0/13, mb1 4.1/18, mb1mx4.0/44, mbtmp4.0/18, ML3.5/6, MS3.6/10, Ms1 3.6/10, ms1mx3.2/39, Error ellipse: s-maj=11.3km s-min=8.1km az=65.0*
ISC 07 15:04:24.9±0.5, 52°.74N±0°.05×132°.68W±0°.06, h22km, n233, σ1§48/222, mb4.3/32, MS3.9/6, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIB	**Dawson Inlet,**	**0.48**	**15**	P	**Pb**	**15 04 33.6**	**-1.2**
DIB				S	**Sb**	**15 04 41.5**	**+0.1**
H02S1	**DAWSON INLET T**	**0.48**	**15**	Pg	**Pb**	**15 04 33.6**	**-1.2**
H02S1				Lg	Lg	15 04 41.4	
H02N1	**VAN INLET T-PH**	**0.53**	**9**	Pg	**Pb**	**15 04 34.1**	**-1.4**
VIB	**Van Inlet**	**0.53**	**9**	P	**Pb**	**15 04 34.1**	**-1.5**
BNB	**Barry Inlet**	**0.59**	**105**	P	**Pb**	**15 04 34.6**	**-2.0**
NDB	**Naden**	**1.23**	**353**	P	**Pn**	**15 04 44.2**	**-2.6**
MASB	**Masset**	**1.34**	**17**	P	**Pn**	**15 04 46.6**	**-1.7**
RUBB	**Prince Rupert**	**2.16**	**41**	Pn	**Pn**	**15 04 58.2**	**-1.2**
CRAG	**Craig**	**2.75**	**355**	*ePn*	**Pn**	**15 05 05.7**	**-2.0**
BBB	**Bella Bella**	**2.85**	**99**	Pn	**Pn**	**15 05 06.8**	**-2.2**
	1.3nm,0.3s,baz=278,slow=12,SNR=15						
BBB				Sn	**Sn**	**15 05 40.1**	**-2.5**
	38nm,0.3s,baz=5.4,slow=23,SNR=6.5						
BBB	**Bella Bella**	**2.85**	**99**	*ePn*	**Pn**	**15 05 07.3**	**-1.7**
BBB				Sn	**Sn**	**15 05 40.1**	**-2.5**
BBB	**Bella Bella**	**2.85**	**99**	Pn	**Pn**	**15 05 06.6**	**-2.4**
BCBC	**Bella Coola**	**3.64**	**93**	Pn	**Pn**	**15 05 19.2**	**-0.6**
WRAK	**Wrangell Islan**	**3.70**	**3**	*ePn*	**Pn**	**15 05 19.9**	**-0.8**
PHC	**Port Hardy**	**3.85**	**120**	Pn	**Pn**	**15 05 19.2**	**-3.5**
PACB	**Port Alice, BC**	**3.97**	**123**	Pn	**Pn**	**15 05 21.7**	**-2.7**
MAYB	**Maynard**	**4.16**	**122**	Pn	**Pn**	**15 05 24.3**	**-2.9**
TLCB	**Telegraph Cove**	**4.25**	**119**	Pn	**Pn**	**15 05 26.0**	**-2.3**
WOSB	**Woss**	**4.61**	**122**	Pn	**Pn**	**15 05 31.7**	**-1.6**
NCRB	**Newcastle Ridg**	**4.75**	**117**	Pn	**Pn**	**15 05 32.6**	**-2.6**
UBRB	**Upper Baezaeko**	**5.22**	**85**	Pn	**Pn**	**15 05 43.3**	**+1.6**
FSB	**Fort Saint Jam**	**5.27**	**67**	Pn	**Pn**	**15 05 41.6**	**-0.7**
BTB	**Buttle Lake**	**5.57**	**123**	Pn	**Pn**	**15 05 45.9**	**-0.7**
JIS	**Juneau Island**	**5.64**	**351**	*ePn*	**Pn**	**15 05 46.0**	**-1.3**
DLBC	**Dease Lake**	**5.91**	**14**	Pn	**Pn**	**15 05 53.4**	**+2.2**
	3.1nm,0.3s,baz=226,slow=9.2,SNR=23						
DLBC	**Dease Lake**	**5.91**	**14**	*ePn*	**Pn**	**15 05 52.6**	**+1.5**
DLBC	**Dease Lake**	**5.91**	**14**	Pn	**Pn**	**15 05 52.7**	**+1.6**
PGC	**Sidney**	**7.15**	**121**	*ePn*	**Pn**	**15 06 09.7**	**+1.7**
WHY	**Whitehorse**	**8.04**	**352**	*ePn*	**Pn**	**15 06 19.3**	**-1.0**
TGL	**Tana Glacier**	**9.77**	**329**	*ePn*	**Pn**	**15 06 42.0**	**-2.0**
BALM	**Baldy**	**9.85**	**331**	*ePn*	**Pn**	**15 06 43.9**	**-1.2**
BALM	**Baldy**	**9.85**	**331**	Pn	**Pn**	**15 06 44.5**	**-0.6**
H04D	**Lebanon**	**10.52**	**137**	P	**Pn**	**15 06 54.8**	**+0.5**
	baz=324						
I04A	**Tendick Farm,**	**11.25**	**139**	P	**Pn**	**15 07 07.1**	**+2.7**
	baz=325						
I05D	**Terrebonne, OR**	**11.26**	**134**	P	**Pn**	**15 07 08.1**	**+3.6**
	baz=321						
E09A	**Wood Farm, Sta**	**11.29**	**118**	*ePn*	**Pn**	**15 07 07.5**	**+2.7**
KLU	**Klutina**	**11.32**	**326**	*ePn*	**Pn**	**15 07 04.5**	**-0.8**
K02D	**Willamette Mer**	**11.73**	**145**	P	**Pn**	**15 07 10.2**	**-0.7**
	baz=331						
J04D	**Umpqua Nationa**	**11.84**	**139**	P	**Pn**	**15 07 12.2**	**-0.3**
	baz=326						
SCM	**Sheep Creek Mo**	**12.05**	**325**	*ePn*	**Pn**	**15 07 15.4**	**+0.2**
HUMO	**Hull Mountain**	**12.06**	**143**	*ePn*	**Pn**	**15 07 16.2**	**+0.9**
F10A	**Beach Ranch, E**	**12.12**	**118**	*ePn*	**Pn**	**15 07 17.2**	**+0.9**
J05D	**Fort Rock, OR**	**12.16**	**137**	P	**Pn**	**15 07 19.5**	**+2.7**
	baz=324,SNR=5.2						
KDAK	**Kodiak Island**	**12.40**	**302**	LR	LR	15 10 58.1	
	comp=Z,74nm,21.3s,baz=110,slow=32						
K05A	**Summer Lake**	**12.76**	**137**	*ePn*	**Pn**	**15 07 26.5**	**+1.4**
EGAK	**Eagle**	**12.84**	**343**	*ePn*	**Pn**	**15 07 26.6**	**+0.8**
YBH	**Yreka Blue Hor**	**12.91**	**145**	LR	LR	15 11 33.4	
	comp=Z,152nm,21.6s,baz=334,slow=33						
SUA	**Susitna One**	**13.10**	**319**	*ePn*	**Pn**	**15 07 27.4**	**-2.1**
M02C	**Callahan**	**13.16**	**146**	P	**Pn**	**15 07 31.4**	**+0.9**
	baz=332						
MSO	**Missoula**	**13.46**	**109**	P	**Pn**	**15 07 36.0**	**+1.5**
	baz=302						
N02D	**Trinity Center**	**13.59**	**146**	P	**Pn**	**15 07 36.5**	**+0.2**
	baz=332						
RND	**Reindeer**	**13.64**	**328**	*ePn*	**Pn**	**15 07 37.4**	**+0.5**
YKA	**Yellowknife Ar**	**13.71**	**37**	Pn	**Pn**	**15 07 35.1**	**-2.6**
	0.1nm,0.3s,baz=226,slow=12,SNR=3.0						
HDA	**Harding Lake**	**13.82**	**333**	P	**Pn**	**15 07 37.9**	**-1.3**
	baz=142						
EPYK	**Eagle Plains**	**13.82**	**353**	P	**Pn**	**15 07 39.9**	**+0.6**
	baz=171						
MCK	**McKinley**	**13.90**	**329**	*ePn*	**Pn**	**15 07 41.4**	**+1.0**
WVOR	**Wild Horse Val**	**13.97**	**132**	*ePn*	**Pn**	**15 07 43.6**	**+2.0**
IL1	**Eielson Array**	**14.09**	**334**	*ePn*	**Pn**	**15 07 42.4**	**-0.6**
ILAR	**Eielson Array**	**14.09**	**334**	Pn	**Pn**	**15 07 41.5**	**-1.4**
	0.0nm,0.3s,baz=149,slow=12,SNR=10						
ILAR				LR	LR	15 13 17.5	
	comp=Z,62nm,21.9s,baz=124,slow=38						
ILB	**Eielson Array**	**14.09**	**334**	*ePn*	**Pn**	**15 07 42.4**	**-0.6**
TRF	**Thorofare Moun**	**14.15**	**326**	*ePn*	**Pn**	**15 07 44.2**	**+0.3**
WRH	**Wood River Hil**	**14.19**	**332**	*ePn*	**Pn**	**15 07 44.1**	**-0.2**
CCB	**Clear Creek Bu**	**14.24**	**333**	*ePn*	**Pn**	**15 07 44.7**	**-0.3**
MDM	**Murphy Dome**	**14.60**	**333**	*ePn*	**Pn**	**15 07 50.5**	**+0.6**
BPAW	**Bear Paw Mtn.**	**14.81**	**327**	*ePn*	**Pn**	**15 07 52.6**	**-0.2**
HLID	**Hailey**	**15.22**	**120**	*ePn*	**Pn**	**15 08 02.0**	**+3.5**
HLID				*eP*	**P**	**15 08 05.7**	**+2.3**
HLID	**Hailey**	**15.22**	**120**	P	**P**	**15 08 01.6**	**-1.8**
	baz=313,SNR=7.8						
MCMT	**McKenzie Canyo**	**15.25**	**113**	*ePn*	**P**	**15 08 01.9**	**-1.8**
EGMT	**Eagleton**	**15.34**	**99**	*ePn*	**P**	**15 08 08.8**	**+4.2**
	21nm,1.2s						
MLY	**Manley**	**15.38**	**330**	*ePn*	**Pn**	**15 08 01.0**	**+0.7**
MLY				*eP*	**P**	**15 08 05.9**	**+1.2**
BEKR	**Beckworth**	**15.40**	**142**	*ePn*	**P**	**15 08 07.4**	**+2.0**
	10nm,1.1s						
INK	**Inuvik**	**15.63**	**359**	Pn	**P**	**15 08 06.6**	**-0.9**
	0.2nm,0.3s,baz=157,slow=12,SNR=8.6						
INK	**Inuvik**	**15.63**	**359**	*ePn*	**P**	**15 08 06.0**	**-1.4**
	12nm,1.1s						
INK	**Inuvik**	**15.63**	**359**	Pn	**Pn**	**15 08 04.6**	**+1.1**
PAHR	**Pah Rah Range**	**15.92**	**140**	*ePn*	**Pn**	**15 08 09.3**	**+1.8**
	12nm,1.1s						
AFDM	**Forest Hills D**	**15.99**	**145**	*ePn*	**P**	**15 08 12.7**	**+0.9**
	29nm,1.9s						
QLMT	**Earthquake Lak**	**16.04**	**111**	*ePn*	**Pn**	**15 08 11.8**	**+2.6**
QLMT				*eP*	**P**	**15 08 15.5**	**+3.0**
BMN	**Battle Mountai**	**16.22**	**133**	*ePn*	**Pn**	**15 08 12.5**	**+1.1**
	9.7nm,1.1s						
YHB	**Horse Butte**	**16.23**	**111**	*ePn*	**P**	**15 08 17.2**	**+2.7**
	14nm,1.0s						
PNTR	**Pine Nut**	**16.37**	**141**	*ePn*	**P**	**15 08 17.3**	**+1.2**
	12nm,1.1s						
YHH	**Holmes Hill**	**16.40**	**110**	*ePn*	**P**	**15 08 17.0**	**+0.4**
	8.1nm,1.0s						
GCMT	**Greycliff**	**16.51**	**106**	*ePn*	**P**	**15 08 18.6**	**+1.0**
LKWY	**Lake**	**16.79**	**110**	*ePn*	**P**	**15 08 21.5**	**+0.7**
H17A	**Grant Village**	**16.79**	**111**	*ePn*	**P**	**15 08 22.3**	**+1.5**
	18nm,1.3s						
H17A	**Grant Village**	**16.79**	**111**	P	**Pn**	**15 08 18.5**	**-0.3**
	baz=307						
IMW	**Indian Meadow**	**16.90**	**113**	*ePn*	**P**	**15 08 24.6**	**+2.5**
	12nm,1.0s						
WAKR	**Walker**	**16.94**	**142**	*ePn*	**P**	**15 08 23.9**	**+1.5**
	24nm,1.4s						
IM3	**Indian Mountai**	**16.95**	**330**	*ePn*	**Pn**	**15 08 20.8**	**+0.5**
IM3				*eP*	**P**	**15 08 23.7**	**+1.6**
KVN	**Kaiserville**	**16.99**	**138**	*ePn*	**P**	**15 08 22.6**	**-0.4**
	9.8nm,1.1s						
FXWY	**Fox Creek**	**17.01**	**114**	*ePn*	**P**	**15 08 26.5**	**+3.2**
	6.6nm,0.9s						
MOOW	**Moose Ponds**	**17.10**	**113**	*ePn*	**P**	**15 08 26.9**	**+2.7**
	36nm,1.9s						
TPAW	**Teton Pass**	**17.15**	**114**	*ePn*	**P**	**15 08 27.9**	**+3.1**
	14nm,0.9s						
RYN	**Ryan**	**17.18**	**140**	*eP*	**P**	**15 08 26.3**	**+1.2**
	11nm,1.3s						
LOHW	**Long Hollow**	**17.27**	**113**	*eP*	**P**	**15 08 28.2**	**+2.2**
	33nm,1.8s						
REDW	**Red Top Meadow**	**17.29**	**114**	*eP*	**P**	**15 08 28.9**	**+2.5**
	12nm,1.0s						
NV01	**Mina Array Sit**	**17.44**	**139**	*ePn*	**Pn**	**15 08 27.4**	**+0.5**
NVAR	**Mina Array Bea**	**17.44**	**139**	Pn	**P**	**15 08 29.2**	**+1.2**
	0.1nm,0.3s,baz=321,slow=12,SNR=7.3						
NV11	**Mina Array Sit**	**17.50**	**139**	*ePn*	**Pn**	**15 08 28.0**	**+0.5**
BGU	**Big Grassy Mou**	**17.83**	**124**	*ePn*	**P**	**15 08 33.9**	**+1.7**
	5.0nm,1.0s						
TOLK	**Toolik Lake Re**	**17.85**	**340**	P	**Pn**	**15 08 30.6**	**-1.0**
	baz=146						
HWUT	**Hardware Ranch**	**18.09**	**120**	*ePn*	**P**	**15 08 36.6**	**+1.4**
	6.9nm,1.1s						
BW06	**Boulder Array**	**18.39**	**114**	*eP*	**Pn**	**15 08 41.3**	**+2.7**
	18nm,1.6s						
BW06	**Boulder Array**	**18.39**	**114**	P	**Pn**	**15 08 41.1**	**+2.4**
	baz=310						
PD31	**Pinedale Array**	**18.39**	**114**	*eP*	**Pn**	**15 08 40.8**	**+2.1**
PDAR	**Pinedale Array**	**18.39**	**114**	Pn	**Pn**	**15 08 41.8**	**+3.0**
	0.1nm,0.3s,baz=299,slow=6.6,SNR=10						
PDAR				LR	LR	15 14 44.9	
	comp=Z,40nm,21.0s,baz=26,slow=34						
DUG	**Dugway, Tooele**	**18.49**	**125**	*eP*	**Pn**	**15 08 41.4**	**+1.7**
	7.2nm,1.1s						
DUG	**Dugway, Tooele**	**18.49**	**125**	P	**P**	**15 08 38.6**	**-0.9**
	baz=319						
DGMT	**Dagmar**	**18.52**	**92**	*eP*	**Pn**	**15 08 42.9**	**+3.1**
	17nm,0.8s						
DGMT	**Dagmar**	**18.52**	**92**	P	**P**	**15 08 39.3**	**-0.3**
	baz=294						
R11A	**Troy Canyon, C**	**18.65**	**134**	*ePn*	**Pn**	**15 08 42.5**	**+0.9**
	5.5nm,1.1s						
R11A	**Troy Canyon, C**	**18.65**	**134**	P	**Pn**	**15 08 42.1**	**+0.5**
	baz=325,SNR=6.1						
NLU	**North Lily Min**	**19.04**	**124**	*eP*	**Pn**	**15 08 47.4**	**+1.0**
	4.2nm,1.0s						
GRAC	**Grapevine Rang**	**19.05**	**140**	P	**Pn**	**15 08 46.9**	**+0.5**
	baz=330						
CWC	**Cottonwood Cre**	**19.27**	**142**	P	**P**	**15 08 47.3**	**-0.7**
	baz=332						
PSUT	**Pine Spring**	**19.28**	**130**	*eP*	**Pn**	**15 08 49.5**	**+0.1**
	6.2nm,1.1s						
TPNV	**Topopah Spring**	**19.54**	**137**	*eP*	**P**	**15 08 51.0**	**0.0**
	14nm,0.9s						
**TP

Y14A	**Wickenburg** 6.6nm,0.8s	**23.48**	**135**	*e*P		**P**		**15 09 34.1**	**+1.1**
AGMN	**Agassiz Nation** baz=295	**23.65**	**86**	P		**P**		**15 09 34.0**	**-0.4**
X16A	**Lo Mia Camp, P** 2.5nm,0.8s	**23.77**	**132**	*e*P		**P**		**15 09 37.2**	**+1.4**
SDCO	**Great Sand Dun** 3.6nm,0.8s	**24.11**	**118**	*e*P		**P**		**15 09 40.6**	**+1.4**
SDCO	**Great Sand Dun** baz=317	**24.11**	**118**	P		**P**		**15 09 40.0**	**+0.8**
X18A	**Snowflake** 9.3nm,0.9s	**24.36**	**129**	*e*P		**P**		**15 09 42.0**	**+0.6**
214A	**Organ Pipe Nat** baz=331,SNR=8.4	**25.28**	**137**	P		**P**		**15 09 50.5**	**+1.0**
ECSD	**EROS Data Cent** 26nm,0.9s	**25.42**	**96**	*e*P		**P**		**15 09 53.8**	**+3.1**
ECSD	**EROS Data Cent** baz=303,SNR=5.9	**25.42**	**96**	P		**P**		**15 09 51.9**	**+1.1**
TUC	**Tucson** 5.9nm,1.1s	**25.84**	**134**	*e*P		**P**		**15 09 55.9**	**+1.3**
TUC	**Tucson** baz=328	**25.84**	**134**	P		**P**		**15 09 55.2**	**+0.6**
EYMN	**Ely** 20nm,1.2s	**26.45**	**84**	*e*P		**P**		**15 10 03.5**	**+3.5**
RES	**Resolute Bay** comp=Z,217nm,19.7s,baz=4.0,slow=38	**26.74**	**21**	LR		LR		15 21 07.1	
121A	**Cookes Peak, D** baz=325	**27.03**	**128**	P		**P**		**15 10 05.1**	**-0.4**
F38A	**Pierce - Schro** baz=299	**27.14**	**88**	P		**P**		**15 10 09.5**	**+3.2**
MNTX	**Cornudas Mount** 4.9nm,1.1s	**28.87**	**126**	*e*P		**P**		**15 10 23.1**	**+1.3**
MNTX	**Cornudas Mount** baz=324	**28.87**	**126**	P		**P**		**15 10 22.1**	**+0.3**
M39A	**Webster** baz=306	**29.40**	**96**	P		**P**		**15 10 26.6**	**+0.2**
WMOK	**Wichita Mounta** baz=317	**30.01**	**113**	P		**P**		**15 10 32.3**	**+0.5**
O41A	**Passleys Farm,** baz=308	**31.00**	**97**	P		**P**		**15 10 41.6**	**+1.1**
Q41A	**Truxton** baz=310	**31.52**	**99**	P		**P**		**15 10 44.6**	**-0.6**
TX31	**Lajitas Ar. Si**	**31.65**	**126**	*e*P		**P**		**15 10 47.5**	**+1.0**
TXAR	**Lajitas Array** 1.1nm,0.4s,baz=330,slow=7.2,SNR=15	**31.65**	**126**	P		**P**		**15 10 48.2**	**+1.7**
TXAR	1.4nm,0.8s,baz=331,slow=7.6,SNR=3.7			pP		**sP**		**15 10 55.0**	**-0.9**
R41A	**Rosebud** baz=310	**31.86**	**100**	P		**P**		**15 10 48.2**	**+0.1**
CCM	**Cathedral Cave** baz=311	**32.09**	**100**	P		**P**		**15 10 48.9**	**-1.3**
S41A	**Jillco Farms,** baz=311	**32.10**	**102**	P		**P**		**15 10 49.6**	**-0.6**
U40A	**Yellville** baz=313	**32.27**	**104**	P		**P**		**15 10 52.3**	**+0.5**
T41A	**Mountain View** baz=312	**32.45**	**102**	P		**P**		**15 10 52.9**	**-0.4**
S42A	**Caledonia** baz=311	**32.55**	**100**	P		**P**		**15 10 53.3**	**-0.9**
V41A	**Mountainview** baz=314,SNR=5.8	**33.08**	**104**	P		**P**		**15 10 58.6**	**-0.3**
S43A	**Fulton Ridge,** baz=311	**33.11**	**100**	P		**P**		**15 10 58.7**	**-0.4**
MIAR	**Mount Ida** baz=315	**33.11**	**108**	P		**P**		**15 10 59.4**	**+0.2**
P45A	**Graceland, Par** baz=308	**33.27**	**95**	P		**P**		**15 11 00.9**	**+0.5**
T43A	**Greenville** baz=312	**33.30**	**101**	P		**P**		**15 11 00.6**	**-0.2**
R47A	**Wooly Knot Far** baz=310	**34.78**	**96**	P		**P**		**15 11 13.8**	**+0.2**
S48A	**Wiedeman Farm,** baz=310	**35.47**	**96**	P		**P**		**15 11 20.2**	**+0.7**
Y47A	**UCPARC, Winfie** baz=314	**36.93**	**103**	P		**P**		**15 11 29.6**	**-2.4**
U50A	**Jamestown** baz=312	**37.02**	**97**	P		**P**		**15 11 32.5**	**-0.3**
SCHQ	**Schefferville** comp=Z,242nm,19.0s,baz=320,slow=37	**37.68**	**60**	LR		LR		15 27 32.5	
V52A	**Sevierville** baz=312	**38.15**	**96**	P		**P**		**15 11 42.8**	**+0.4**
W52A	**Murphy** baz=313	**38.46**	**97**	P		**P**		**15 11 45.1**	**+0.1**
V53A	**Saluda** baz=312	**38.74**	**96**	P		**P**		**15 11 48.6**	**+1.2**
W53A	**Cullowhee** baz=312	**38.87**	**97**	P		**P**		**15 11 48.5**	**0.0**
SEY	**Seymchan** 5.0nm,0.9s,baz=58,slow=15,SNR=4.6	**38.90**	**315**	P		**P**		**15 11 48.8**	**+0.5**
Y54A	**Tignall** baz=314	**40.04**	**98**	P		**P**		**15 11 58.6**	**+0.4**
PETK	**Petropavlovsk-** 1.9nm,0.7s,baz=81,slow=9.2,SNR=4.3	**40.44**	**299**	P		**P**		**15 12 01.2**	**0.0**
YAK	**Yakutsk** 19nm,0.9s	**48.55**	**321**	*e*P		**P**		**15 13 05.9**	**+0.1**
NRIK	**Noril'sk** 3.7nm,0.8s,baz=74,slow=8.5,SNR=5.1	**54.73**	**344**	P		**P**		**15 13 51.8**	**-0.1**
H11N2	**WAKE ISLAND Hy** baz=39,slow=76,SNR=120	**56.69**	**259**	T		T		16 16 13.7	
H11N3	**WAKE ISLAND Hy** baz=39,slow=76,SNR=97	**56.69**	**259**	T		T		16 16 01.2	
H11N1	**WAKE ISLAND Hy** baz=39,slow=76,SNR=96	**56.70**	**259**	T		T		16 16 00.6	
SDDR	**Presa de Saban** 11nm,0.9s	**57.85**	**101**	*e*P		**P**		**15 14 15.4**	**+0.5**
USRK	**Ussuriysk Ar.** 2.8nm,0.9s,baz=40,slow=7.5,SNR=4.1	**59.27**	**304**	P		**P**		**15 14 23.9**	**-0.5**
NB2	**NORSAR Subarra** comp=Z,4.9nm,1.0s,baz=338,slow=7.4	**62.97**	**19**	P		**P**		**15 14 50.2**	**+0.9**
NOA	**NORSAR Array B** comp=Z,2.0nm,0.8s,baz=340,slow=6.6,SNR=3.6	**62.97**	**19**	P		**P**		**15 14 50.5**	**+1.1**
NOA	comp=Z,2.6nm,0.9s,baz=338,slow=6.8,SNR=4.5			pP		**pP**		**15 14 57.2**	**+0.9**
NOA	comp=Z,120nm,18.5s,baz=345,slow=35			LR		LR		15 41 27.8	
SONM	**Songino Array** comp=Z,0.7nm,0.8s,baz=64,slow=3.4,SNR=4.3	**67.91**	**321**	P		**P**		**15 15 21.8**	**+0.2**
PMOR	**Pomariorio Ree** comp=Z,2.2nm,0.3s	**68.73**	**196**	*e*T		T		16 30 19.0	
ZALV	**Zalesovo Beam** comp=Z,0.6nm,0.5s,baz=28,slow=3.5,SNR=5.7	**69.19**	**337**	*e*P		**P**		**15 15 29.2**	**-0.1**
ZALV	**Zalesovo Beam**	**69.19**	**337**	*e*P		**P**		**15 15 28.7**	**-0.6**
TIAR	**Tiarei** comp=Z,3.4nm,0.3s	**71.47**	**197**	*e*T		T		16 33 45.1	
PPT	**Papeete** comp=Z,60nm,18.6s,baz=12,slow=29	**71.53**	**197**	LR		LR		15 39 20.2	
HHC	**Hu-ho-hao-te**	**71.53**	**314**	*e*P		**P**		**15 15 42.7**	**-1.3**
HHC	comp=Z,11nm,0.6s			pmax		pmax			
HHC	comp=Z,180nm,5.7s			pmax		pmax			
PPT2	**Papeete2** comp=Z,101nm,27.0s	**71.55**	**197**	*e*LR		LR		15 37 28.0	
KHC	**Kasperske Hory**	**74.55**	**22**	*e*P		**P**		**15 16 02.5**	**+0.9**
GERES	**GERESS Array B** comp=Z,1.8nm,0.7s,baz=335,slow=5.9,SNR=7.1	**74.84**	**22**	P		**P**		**15 16 04.5**	**+1.1**
GERES	comp=Z,1.9nm,0.7s,baz=345,slow=4.1,SNR=5.3			pP		**pP**		**15 16 11.5**	**+0.9**
AKASG	**Malin Array Be** comp=Z,54nm,18.4s,baz=300,slow=38	**75.81**	**12**	LR		LR		15 52 15.8	
MKAR	**Makanchi Array** comp=Z,1.5nm,0.8s,baz=52,slow=2.0,SNR=6.7	**76.44**	**336**	P		**P**		**15 16 11.9**	**-0.6**
MKAR	comp=Z,2.0nm,0.9s,baz=27,slow=5.6,SNR=6.2			pP		**pP**		**15 16 19.2**	**-0.5**
WMQ	**Urumqi**	**77.73**	**331**	*e*P		**P**		**15 16 21.6**	**+1.8**
ESDC	**Sonseca Array** comp=Z,0.9nm,0.6s,baz=327,slow=5.2,SNR=5.6	**77.81**	**38**	P		**P**		**15 16 21.3**	**+1.0**
ESDC	comp=Z,1.8nm,0.7s,baz=328,slow=5.3,SNR=4.6			pP		**pP**		**15 16 28.2**	**+0.8**
KEST	**Kesra** comp=Z,55nm,18.9s,baz=280,slow=35	**85.90**	**30**	LR		LR		15 54 54.1	
LPAZ	**La Paz** comp=Z,2.2nm,0.7s,baz=296,slow=3.3,SNR=9.4	**88.30**	**120**	P		**P**		**15 17 14.6**	**-0.8**
CMAR	**Chiang Mai Arr** comp=Z,1.3nm,0.9s,baz=15,slow=4.5,SNR=8.3	**96.23**	**312**	P		**P**		**15 17 50.9**	**-0.6**
CMAR	comp=Z,0.3nm,0.3s,baz=15,slow=3.7,SNR=2.5			pP		**pP**		**15 17 57.8**	**-0.9**

NEIC 07 15:05:27.0±0.0,**47.88N**×**121.65W**,**h8**km,**MD1.8**(SEA), **After SEA., Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C05A	**Tolt Reservoir**	**0.19**	**189**	Pn	Pg	15 05 31.1	+0.2
RPW	**Rockport**	**0.57**	**9**	Pn	Pg	15 05 38.1	0.0
B06A	**Marblemount**	**0.65**	**10**	*e*Pg	Pg	15 05 39.2	-0.2
B06A	**Marblemount**	**0.65**	**10**	Pn	Pg	15 05 39.2	-0.2
D05A	**Enumclaw**	**0.73**	**199**	*e*Pg	Pg	15 05 40.8	-0.3
GNW	**Green Mountain**	**0.86**	**249**	Pn	Pg	15 05 42.4	-1.1
LTY	**Liberty**	**0.91**	**133**	*e*Pg	Pg	15 05 43.3	-1.2
LTY	**Liberty**	**0.91**	**133**	Pn	Pg	15 05 43.4	-1.1
MBW	**Mount Baker**	**0.92**	**349**	Pn	Pg	15 05 44.1	-0.6
FMW	**Mount Fremont**	**0.95**	**181**	Pn	Pg	15 05 44.0	-1.3
HDW	**Hoodsport**	**0.98**	**257**	Pn	Pg	15 05 44.2	-1.6
MCW	**Mount Constitu**	**1.12**	**316**	Pn	Pg	15 05 47.9	-0.7
LON	**Longmire**	**1.14**	**186**	*e*Pg	Pg	15 05 47.1	-1.8
LON				*e*Sg	Sg	15 06 01.4	-2.3
LON	**Longmire**	**1.14**	**186**	Pn	Pg	15 05 47.3	-1.5
SMW	**South Mountain**	**1.28**	**244**	Pn	Pn	15 05 49.5	-1.7
CPW	**Capitol Peak**	**1.36**	**229**	Pn	Pn	15 05 50.8	-1.6
PA04	**PA04 Cage**	**1.43**	**303**	Pn	Pn	15 05 51.8	-1.4
B011	**North Saanich**	**1.43**	**303**	Pn	Pn	15 05 51.7	-1.5
PA12	**PA12 Sannich**	**1.43**	**303**	Pn	Pn	15 05 51.8	-1.3
B009	**North Saanich**	**1.43**	**303**	Pn	Pn	15 05 51.9	-1.3
PA02	**PA02 Ocean**	**1.43**	**303**	Pn	Pn	15 05 50.4	-2.8
B010	**North Saanich**	**1.43**	**303**	Pn	Pn	15 05 51.8	-1.4
PGC	**Sidney**	**1.43**	**303**	*e*Pn	Pn	15 05 51.8	-1.4
PGC				*e*Sn	Sn	15 06 10.4	-1.7
PGC	**Sidney**	**1.43**	**303**	Pn	Pn	15 05 51.9	-1.3
B08A	**Colville Reser**	**1.62**	**72**	*e*Pn	Pn	15 05 56.3	+0.4
B08A				*e*Sn	Sb	15 06 17.4	-0.4
B08A	**Colville Reser**	**1.62**	**72**	Pn	Pn	15 05 56.4	+0.5
LZB	**Mount Lazard**	**1.63**	**297**	Pn	Pn	15 05 54.6	-1.4
GOBB	**Galiano Island**	**1.64**	**311**	Pn	Pn	15 05 55.9	-0.2
E07A	**Sunnyside**	**1.80**	**137**	*e*Pn	Pn	15 05 57.9	-0.4
E03A	**Lebam**	**1.87**	**225**	*e*Pn	Pn	15 05 59.0	-0.2
PNT	**Penticton**	**1.97**	**42**	Pn	Pb	15 06 02.8	-0.3

*IDC **07** 15:16:22.4*±*0.9,30.74*S*×72.00*W,h0*km*,mb4.0/5, mb1 4.1/6,mb1mx3.9/21,mbtmp3.9/6,ML4.0/1,MS3.1/1, Ms1 3.1/1,ms1mx2.7/16,Error ellipse: s-maj=37.6km s-min=25.2km az=77.0*

*GUC **07** 15:16:23.2*±*0.4,30.70S*×*72.20W,h51*km*±*4km,ML4.2*

*NEIC **07** 15:16:27.1*±*0.6,30.78S*×*71.93W,h34km*±*4km,mb4.6/4, ML4.2(GUC),Error ellipse: s-maj=12.6km s-min=6.4km az=86.0*

ISC 07 15:16:22.2±1.9,**30.71S**±0.04×**72.17W**±0.08,**h3**km±12km, **n45**,σ1**s25**/44,**mb4.2**/9,**2C-1D**,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.10**	**115**	⇑*i*P	**Pg**	**15 16 44.0**	**+0.7**
CMCH				*i* S	**Sn**	**15 17 00.0**	**-0.5**
LSCH	**La Serena**	**1.13**	**45**	*e*P	**Pn**	**15 16 44.1**	**-0.9**
LSCH				*i* S	**Sg**	**15 17 00.0**	**+1.5**
GO04	**Tololo Observa**	**1.30**	**66**	*e*Pn	**Pg**	**15 16 47.2**	**+0.1**
GO04	**Tololo Observa**	**1.30**	**66**	⇓*i*P	**Pg**	**15 16 47.0**	**0.0**
GO04				*i* S	**Sg**	**15 17 05.9**	**+2.0**
LCO	**Las Campanas**	**2.12**	**37**	*e*Pn	**Pn**	**15 16 58.7**	**-0.2**
LCO	**Las Campanas**	**2.12**	**37**	⇑*i*P	**Pn**	**15 16 58.9**	**+0.1**
LCO				*e*S	**Sb**	**15 17 25.9**	**-2.4**
ROCH	**El Roble**	**2.46**	**157**	*e*P	**Pn**	**15 17 03.7**	**+0.2**
ROCH				*i* S	**Sg**	**15 17 41.8**	**+0.5**
ROCH	comp=N,1μm,0.5s			IAML		15 17 49.4	
ROC1	**El Roble**	**2.46**	**157**	*e*Pn	**Pn**	**15 17 03.6**	**0.0**
PEL	**Peldehue**	**2.73**	**153**	*e*Pn	**Pn**	**15 17 07.5**	**+0.4**
CLCH	**Cerro Calan**	**3.01**	**153**	*e*P	**Pb**	**15 17 15.8**	**-0.8**
CLCH				*e*S	**Sb**	**15 17 52.0**	**-1.9**
CLCH	comp=E,846nm,0.5s			IAML		15 18 06.2	
FCH	**Farellones**	**3.06**	**149**	*e*P	**Pn**	**15 17 12.7**	**+0.9**
FCH				*i* S	**Sn**	**15 17 49.6**	**+0.5**
FCH	comp=E,306nm,0.7s			IAML		15 18 02.0	
ANTU	**Antumapu** comp=N,486nm,0.5s	**3.13**	**156**	IAML		15 18 07.3	
GO03	**Copiap**	**3.54**	**29**	*e*Pn	**Pn**	**15 17 17.8**	**-0.3**
GO03	**Copiap** comp=N,310nm,0.8s	**3.54**	**29**	IAML		15 18 29.7	
LMEL	**Las Melosas** comp=E,342nm,0.6s	**3.54**	**153**	IAML		15 18 20.0	
GO05	**HualaæØ**	**4.29**	**177**	*e*Pn	**Pn**	**15 17 27.0**	**-1.5**
PB10	**IPOC Station P**	**7.31**	**12**	*e*Pn	**Pn**	**15 18 06.6**	**-3.4**
LVC	**Limon Verde**	**8.58**	**21**	*e*Pn	**Pn**	**15 18 25.3**	**-2.4**
GO06	**Farrrue**	**8.87**	**177**	*e*Pn	**Pn**	**15 18 32.1**	**-0.4**
PLCA	**Paso Flores** comp=E,0.3nm,0.3s,baz=1.1,slow=9.0,SNR=11	**10.09**	**173**	Pn	**Pn**	**15 18 48.0**	**-0.1**
PLCA	**Paso Flores**	**10.09**	**173**	*e*Pn	**Pn**	**15 18 47.6**	**-0.4**
TRQA	**Tornquist**	**11.15**	**134**	*e*Pn	**Pn**	**15 19 02.9**	**+0.2**
CPUP	**Villa Florida** comp=E,83nm,20.4s,baz=356,slow=40	**13.75**	**75**	LR	LR	15 25 28.8	
BDFB	**Brasilia** comp=E,2.5nm,0.5s,baz=224,slow=7.1,SNR=3.1	**26.71**	**61**	P	**P**	**15 22 03.0**	**-0.2**
W50A	**Signal Mountai** comp=E,22nm,0.9s	**66.72**	**348**	*e*P	**P**	**15 27 15.3**	**+0.7**
LTX	**Lajitas**	**66.83**	**330**	*e*P	**P**	**15 27 17.2**	**+1.7**
TXAR	**Lajitas Array** comp=E,0.4nm,0.5s,baz=152,slow=9.9,SNR=5.5	**66.83**	**330**	P	**P**	**15 27 17.2**	**+1.7**
X40A	**Basin Creek Fa**	**67.72**	**342**	*e*PcP	**PcP**	**15 27 50.5**	**+2.8**
UALR	**University of**	**67.86**	**342**	*e*sP	sP	15 27 37.6	+15
WVT	**Waverly** comp=E,12nm,0.9s	**68.10**	**346**	*e*P	**P**	**15 27 22.2**	**-1.0**
MAW	**Mawson** comp=E,2.0nm,0.8s,baz=211,slow=7.0,SNR=12	**76.36**	**164**	P	**P**	**15 28 13.0**	**+0.6**
MAW	**Mawson** comp=E,2.2nm,1.6s	**76.36**	**164**	*e*P	**P**	**15 28 12.7**	**+0.3**
HWUT	**Hardware Ranch** comp=E,2.5nm,0.7s	**80.62**	**331**	*e*P	**P**	**15 28 37.2**	**+0.8**
PDAR	**Pinedale Array** comp=E,0.3nm,0.5s,baz=137,slow=6.8,SNR=3.2	**80.79**	**333**	P	**P**	**15 28 38.2**	**+0.9**
AHID	**Auburn Hatcher** comp=E,9.2nm,0.6s	**81.40**	**332**	*e*P	**P**	**15 28 41.8**	**+1.3**
TOA0	**Torodi Ar. Sit**	**83.20**	**70**	*e*P	**P**	**15 28 48.8**	**-1.6**
TOA1	**Torodi Ar. Sit**	**83.20**	**70**	*e*P	**P**	**15 28 49.9**	**-0.5**
TORD	**Torodi Ar. Bea** comp=E,0.9nm,0.6s,baz=267,slow=4.3,SNR=7.5	**83.20**	**70**	P	**P**	**15 28 49.9**	**-0.5**
WR1	**Warramunga Arr**	**123.56**	**210**	*e*PKPdf	**PKPdf**	**15 35 21.3**	**-0.5**
WRA	**Warramunga Arr** comp=E,0.2nm,0.7s,baz=157,slow=1.8,SNR=4.5	**123.56**	**210**	PKP	**PKPdf**	**15 35 21.3**	**-0.5**
H11S2	**WAKE ISLAND Hy** baz=115,slow=74,SNR=9.2	**25.64**	**272**	T	T	17 54 20.0	
H11S1	**WAKE ISLAND Hy** baz=115,slow=74,SNR=7.0	**25.65**	**272**	T	T	17 54 17.3	
H11S3	**WAKE ISLAND Hy** baz=115,slow=74,SNR=7.4	**25.66**	**272**	T	T	17 54 21.4	
ZAA1	**Zalesovo Array**	**151.46**	**29**	*e*PKPbc	**PKPbc**	**15 36 17.7**	**+0.5**
ZALV	**Zalesovo Beam** comp=E,5.7nm,0.6s,baz=294,slow=3.2,SNR=26	**151.46**	**29**	PKPbc	**PKPbc**	**15 36 17.7**	**+0.5**

*NIED **07** 15:17:00,36.70N×142.00E,h20km,Mw4.3 Best double couple: M0 3.04000×10^15 NP1:φ=223.00000°,δ15.00000°, λ116.00000°. NP2:φ=17.00000°,δ76.00000°,λ83.00000°.*

*ISCJB **07** 15:17:10.0±1.3,36.66N±0.03×142.13E±0.05,h31km±9km, mb4.2/31,MS3.7/11,Error ellipse: s-maj=6.9km s-min=4.4km az=9.6*

*JMA **07** 15:17:11.0±0.2,36.69N×141.99E,h37km±4km,M4.2*

JMA Felt I J1.

*IDC **07** 15:17:12.1±6.4,36.63N×142.06E,h28km±44km,mb4.0/15, mb1 4.1/20,mb1mx3.9/39,mbtmp4.2/20,ML3.9/4,MS3.5/15, Ms1 3.6/15,ms1mx3.3/38,Error ellipse: s-maj=22.7km s-min=14.0km az=99.0*

*BJI **07** 15:17:12.3,36.77N×141.56E,h21km,mb4.6/27,mB4.8/16, Ms4.2/6,Ms7 3.9/5*

*NEIC **07** 15:17:13.4±0.7,36.69N×142.04E,h42km±5km,mb4.5/13, Error ellipse: s-maj=8.3km s-min=5.7km az=107.0*

NEIC Recorded [1 JMA] in Fukushima.

ISC 07 15:17:13.2±0.7,**36.68N**±0.04×**142.04E**±0.07,**h36**km±2km, **n106**,σ1**s23**/102,**mb4.3**/31,**MS3.8**/11,**1C-1D**,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.08**	**293**	P	**Pn**	**15 17 29.5**	**-2.3**
JFK	**Kawauchi**	**1.16**	**307**	P	**Pn**	**15 17 30.5**	**-2.4**
JHO	**Hitachi**	**1.19**	**267**	P	**Pn**	**15 17 31.0**	**-2.2**
JHO				*e*S	**Sn**	**15 17 45.5**	**-2.6**
JHYU	**Hitachinakayam**	**1.22**	**255**	P	**Pn**	**15 17 31.8**	**-1.8**
JHYU				S	**Sn**	**15 17 47.5**	**-1.3**
JFFD	**Fukushimafurud**	**1.26**	**290**	P	**Pn**	**15 17 31.8**	**-2.4**
JMM	**Marumori**	**1.55**	**320**	P	**Pn**	**15 17 36.5**	**-1.7**
JFT	**Otama**	**1.60**	**302**	P	**Pn**	**15 17 37.9**	**-1.0**
JIO	**Ouri**	**1.86**	**343**	P	**Pn**	**15 17 41.0**	**-1.4**
JIO				*e*S	**Sn**	**15 18 02.8**	**-1.9**
JFY	**Yanaizu**	**2.01**	**292**	P	**Pn**	**15 17 43.7**	**-0.8**
JOU	**Okura**	**2.01**	**327**	P	**Pn**	**15 17 43.6**	**-1.0**
JAG	**Ashikaga**	**2.10**	**264**	P	**Pn**	**15 17 44.6**	**-1.1**
BSO1	**Boso 1**	**2.19**	**204**	P	**Pn**	**15 17 45.8**	**-0.8**
BSO1				S	**Sn**	**15 18 11.7**	**-0.5**
JYS	**Shirataka**	**2.20**	**315**	P	**Pn**	**15 17 47.0**	**-0.2**
JYS				*e*S	**Sn**	**15 18 13.9**	**+0.7**
JMK	**Ichinoseki**	**2.36**	**344**	P	**Pn**	**15 17 48.5**	**-0.9**
JMK				*e*S	**Sn**	**15 18 16.4**	**-0.7**
JNS	**Sasagawa**	**2.46**	**299**	P	**Pn**	**15 17 51.0**	**+0.4**
MJAR	**Matsushiro Arr** 34nm,0.3s,baz=109,slow=11,SNR=366	**3.09**	**269**	Pn	**Pn**	**15 17 59.3**	**0.0**
MJAR	comp=Z,900nm,18.3s,baz=105,slow=44			LR	LR	15 19 25.3	
MAJO	**Matsushiro**	**3.09**	**269**	*e*Pn	**Pn**	**15 17 59.7**	**+0.3**
MAT	**Matsushiro**	**3.09**	**269**	P	**Pn**	**15 17 59.8**	**+0.4**
MAT				S	**Sn**	**15 18 37.7**	**+2.7**
MJB9	**Matsu-Tunnel**	**3.09**	**269**	*e*Pn	**Pn**	**15 17 59.8**	**+0.4**
JHJ2	**Mitsune**	**4.00**	**208**	*e*Pn	**Pn**	**15 18 11.0**	**-0.8**
JHJ	**Hachijo jima 2** 29nm,0.3s,baz=11,slow=21,SNR=12	**4.00**	**208**	Pn	**Pn**	**15 18 10.6**	**-1.3**
JHJ	82nm,0.3s,baz=60,slow=22,SNR=8.9			Sn	**Sn**	**15 18 55.3**	**-2.3**
JHJ	comp=Z,129nm,18.2s,baz=93,slow=38			LR	LR	15 19 43.2	
INU	**Inuyama**	**4.28**	**253**	*e*Pn	**Pn**	**15 18 16.1**	**+0.3**
ERM	**Erimo**	**5.40**	**9**	*e*Pn	**Pn**	**15 18 29.2**	**-1.9**
ASAJ	**Asahikawa** 2.1nm,0.3s,baz=231,slow=8.5,SNR=14	**7.45**	**3**	Pn	**Pn**	**15 18 57.5**	**-1.6**
CBIJ	**Chichi jima**	**9.55**	**179**	*e*Pn	**Pn**	**15 19 29.7**	**+1.6**
JNU	**Nakatsue** 0.5nm,0.3s,baz=56,slow=4.5,SNR=4.6	**9.83**	**252**	Pn	**Pn**	**15 19 33.1**	**+1.2**
JNU	comp=Z,304nm,18.1s,baz=66,slow=39			LR	LR	15 23 39.2	
JNU	**Nakatsue**	**9.83**	**252**	*e*Pn	**Pn**	**15 19 32.5**	**+0.6**
YSS	**Yuzh-Sakhalins**	**10.28**	**3**	*e*Pn	**Pn**	**15 19 39.0**	**+0.9**
USRK	**Ussuriysk Ar.** 0.2nm,0.3s,baz=132,slow=13,SNR=5.0	**10.72**	**318**	Pn	**Pn**	**15 19 45.0**	**+0.9**
USRK	comp=Z,372nm,18.4s,baz=130,slow=36			LR	LR	15 23 43.7	
KSRS	**Korea Array** 0.2nm,0.3s,baz=90,slow=13,SNR=10	**11.31**	**278**	Pn	**Pn**	**15 19 55.6**	**+3.5**
KSRS	comp=Z,335nm,19.5s,baz=94,slow=36			LR	LR	15 24 06.0	
KS01	**Wonju Array Si**	**11.33**	**278**	*e*Pn	**Pn**	**15 19 51.9**	**-0.5**
KS15	**Wonju Array Si**	**11.34**	**278**	*e*Pn	**Pn**	**15 19 54.3**	**+1.8**
KSAR	**Wonju Array Be**	**11.34**	**278**	Pn	**Pn**	**15 19 55.6**	**+3.1**
PETK	**Petropavlovsk-** comp=Z,38nm,21.8s,baz=193,slow=35	**19.75**	**29**	LR	LR	15 28 50.6	
YAK	**Yakutsk** 15nm,0.7s,baz=201,slow=5.0,SNR=14	**26.53**	**347**	P	**P**	**15 22 46.8**	**-0.2**
YAK	**Yakutsk** 28nm,0.9s	**26.53**	**347**	*e*P	**P**	**15 22 45.0**	**-2.1**
XAN	**Xi'an**	**27.07**	**274**	P	**P**	**15 22 51.9**	**-0.4**
XAN				pP	pP	15 23 04.7	+2.2
XAN	comp=Z,6.0nm,1.3s			pmax	pmax		
XAN	comp=Z,90nm,4.9s			pmax	pmax		
XAN	comp=N,200nm,18.4s			LR	LR		
XAN	comp=Z,180nm,16.3s			LR	LR		
H11N2	**WAKE ISLAND Hy** baz=314	**27.53**	**121**	T	T	15 52 20.5	
H11N1	**WAKE ISLAND Hy** baz=314	**27.54**	**121**	T	T	15 52 22.8	
H11N3	**WAKE ISLAND Hy** baz=314	**27.55**	**121**	T	T	15 52 17.4	
ENH	**Enshi** 16nm,0.8s	**27.81**	**266**	*e*P	**P**	**15 22 56.7**	**-2.2**
ULN	**Ulaanbaatar** 9.8nm,1.1s	**27.97**	**305**	*e*P	**P**	**15 22 59.2**	**-1.2**
H11S1	**WAKE ISLAND Hy** baz=315,slow=75,SNR=14	**28.24**	**123**	T	T	15 53 33.0	
H11S3	**WAKE ISLAND Hy** baz=315,slow=75,SNR=15	**28.24**	**123**	T	T	15 53 25.8	
H11S2	**WAKE ISLAND Hy** baz=315,slow=75,SNR=10	**28.26**	**123**	T	T	15 53 17.9	
SONA1	**Songino Array**	**28.40**	**304**	*e*P	**P**	**15 23 02.2**	**-2.0**
SONA0	**Songino Array**	**28.40**	**304**	*e*P	**P**	**15 23 03.8**	**-0.4**
SONM	**Songino Array** 10nm,0.8s,baz=104,slow=9.2,SNR=40	**28.40**	**304**	P	**P**	**15 23 03.8**	**-0.4**
SONM	comp=Z,92nm,18.3s,baz=152,slow=34			LR	LR	15 33 23.7	
GYA	**Guiyang** comp=Z,20nm,0.8s	**31.66**	**261**	⇓*i*P	**P**	**15 23 32.2**	**-1.0**
GYA				pmax	pmax		
GTA	**Gaotai**	**33.15**	**288**	⇑P	**P**	**15 23 46.1**	**-0.1**
GTA				pP	pP	15 23 50.2	-6.3
GTA				sP	sP	15 23 53.1	-7.8
GTA	comp=Z,3.0nm,1.0s			pmax	pmax		
GTA	comp=Z,82nm,6.4s			pmax	pmax		
GTA	comp=N,380nm,17.8s			LR	LR		
GTA	comp=E,250nm,17.1s			LR	LR		
GTA	comp=Z,120nm,15.9s			LR	LR		
NONG	**Nongkai** 0.3nm,0.9s,62nm	**38.87**	**252**	P	**P**	**15 24 36.3**	**+1.2**
CHAI	**Chaiyaphum** 3.6nm,1.1s	**41.06**	**251**	P	**P**	**15 24 54.3**	**+1.0**
PBKT	**Sadao Pong** 5.4nm,1.0s	**41.43**

INK	**Inuvik**	**54.48**	**27**	*e*P	**P**	**15 26 37.0**	**+0.4**
	17nm,2.0s							
WB2	**Warramunga Arr**	**56.78**	**189**	*e*P	**P**	**15 26 53.0**	**-0.6**
WR1	**Warramunga Arr**	**56.78**	**189**	*e*P	**P**	**15 26 52.9**	**-0.8**
	7.5nm,1.1s							
WRA	**Warramunga Arr**	**56.78**	**189**	P	**P**	**15 26 52.9**	**-0.8**
	0.6nm,0.6s,baz=7.3,slow=7.0,SNR=9.7							
ARU	**Arti**	**56.96**	**319**	*e*P	**P**	**15 26 53.7**	**-0.9**
	34nm,1.8s							
ABKAR	**Akbulak array**	**58.55**	**310**	*e*P	**P**	**15 27 05.3**	**-0.6**
AS31	**Alice Springs**	**60.51**	**189**	*e*P	**P**	**15 27 19.4**	**-0.2**
	0.9nm,0.9s							
ASAR	**Alice Springs**	**60.51**	**189**	P	**P**	**15 27 19.2**	**-0.3**
	0.6nm,0.7s,baz=21,slow=9.0,SNR=10							
GEYT	**Alibeck**	**64.45**	**299**	P	**P**	**15 27 46.1**	**+0.1**
	1.5nm,0.7s,baz=322,slow=4.5,SNR=4.9							
FINES	**FINESS Array B**	**69.36**	**333**	LR	LR	15 59 21.7		
	comp=Z,79nm,19.6s,baz=249,slow=36							
KBZ	**Khabaz**	**71.52**	**311**	P	**P**	**15 28 31.1**	**+0.9**
	3.5nm,0.9s,baz=265,slow=2.1,SNR=7.0							
NB2	**NORSAR Subarra**	**74.71**	**338**	P	**P**	**15 28 48.5**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=37,slow=5.9							
NB200	**NORSAR Array S**	**74.71**	**338**	*e*P	**P**	**15 28 49.3**	**+0.5**
NOA	**NORSAR Array B**	**74.71**	**338**	P	**P**	**15 28 49.3**	**+0.5**
	comp=Z,1.8nm,0.9s,baz=37,slow=6.0,SNR=4.2							
NOA				LR	LR	16 05 17.5		
	comp=Z,47nm,18.8s,baz=0.0,slow=39							
AKASG	**Malin Array Be**	**74.89**	**323**	P	**P**	**15 28 49.9**	**0.0**
	comp=Z,1.5nm,0.4s,baz=49,slow=5.9,SNR=8.0							
AKBB	**Malin Array Si**	**74.89**	**323**	*e*P	**P**	**15 28 49.9**	**0.0**
BUR04	**Bucovina Ar. S**	**78.90**	**322**	*e*P	**P**	**15 29 12.6**	**-0.1**
BR101	**Keskin Array S**	**79.47**	**312**	*e*P	**P**	**15 29 17.1**	**+1.1**
BRTR	**Keskin Array B**	**79.47**	**312**	P	**P**	**15 29 17.1**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=41,slow=3.9,SNR=4.8							
PPT	**Papeete**	**84.02**	**117**	LR	LR	16 00 45.2		
	comp=Z,30nm,20.2s,baz=345,slow=31							

GUC 07 15:36:34.1±0.6, 20.50S×68.93W, h107km±3km, ML3.5, 4C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.41**	**329**	↓*i* P	Pn	15 36 51.2	+0.6
PB08				*i* S	Sn	15 37 03.8	+0.9
PB08				IAML		15 37 04.7	
	comp=E,2μm,0.2s						
PB01	**IPOC Station P**	**0.76**	**224**	↑*i* P	Pn	15 36 53.2	+0.4
PB01				*i* S	Sn	15 37 07.6	+0.7
PB01				IAML		15 37 08.6	
	comp=N,2μm,0.2s						
PB11	**IPOC Station P**	**1.00**	**317**	↓*i* P	Pn	15 36 56.0	+0.7
PB11				*i* S	Sn	15 37 12.3	+1.2
PB02	**IPOC Station P**	**1.22**	**228**	↑*i* P	Pn	15 36 58.1	+0.5
PB02				*i* S	Sn	15 37 16.4	+1.0
PB09	**IPOC Station P**	**1.33**	**193**	↑*i* P	Pn	15 36 59.7	+0.8
PB09				*e*S	Sn	15 37 18.5	+0.8
PSGC	**Pisagua**	**1.44**	**308**	↓*i* P	Pn	15 37 00.6	+0.5
PSGC				*i* S	Sn	15 37 20.6	+0.9
MNMC	**Minye Minye**	**1.50**	**335**	↓*i* P	Pn	15 37 02.3	+1.3
MNMC				*e*S	Sn	15 37 23.3	+1.9
MNMC				IAML		15 37 28.7	
	comp=N,862nm,0.2s						
PB07	**IPOC Station P**	**1.52**	**216**	↑*i* P	Pn	15 37 01.6	+0.4
PB07				*i* S	Sn	15 37 22.0	+0.4
PB07				IAML		15 37 25.0	
	comp=N,844nm,0.2s						
PB03	**IPOC Station P**	**1.73**	**206**	*e*P	Pn	15 37 04.1	+0.4
PB03				*i* S	Sn	15 37 26.4	+0.2
PB03				IAML		15 37 28.6	
	comp=E,507nm,0.3s						
PB04	**IPOC Station P**	**2.15**	**212**	*e*P	Pn	15 37 10.2	+1.0
PB04				IAML		15 37 44.9	
	comp=N,410nm,0.4s						
PB06	**IPOC Station P**	**2.28**	**195**	*e*P	Pn	15 37 11.9	+1.1
PB06				IAML		15 37 46.2	
	comp=N,327nm,0.3s						
PB12	**IPOC Station P**	**2.29**	**325**	*e*P	Pn	15 37 11.3	+0.5
PB12				IAML		15 37 45.4	
	comp=N,288nm,0.4s						

KRSC 07 15:42:26.8±1.4, 50.56N×157.34E, h48km±19km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.79**	**279**	*i* P	Pn	15 42 42.1	+0.5
SKR				*e*S	Sn	15 42 52.2	-0.1
PAU	**Pauzhetka**	**0.96**	**340**	*e*P	Pn	15 42 45.8	+1.8
PAU				*e*S	Sn	15 42 58.7	+2.1
KDTR	**Khodutka, Kamc**	**1.33**	**20**	*e*P	Pn	15 42 50.5	+1.5
KDTR				*e*S	Sn	15 43 06.9	+1.4
RUS	**Russkaya**	**2.01**	**21**	*e*P	Pn	15 43 01.5	+3.3
RUS				*e*S	Sn	15 43 24.9	+2.7
KRMR	**Karymshinskiy**	**2.32**	**12**	*e*P	Pn	15 43 05.5	+3.0
KRMR				*e*S	Sn	15 43 33.5	+3.7
APC	**Apacha**	**2.37**	**357**	*e*P	Pn	15 43 05.7	+2.6
PET	**Petropavlovsk**	**2.60**	**18**	*e*P	Pn	15 43 10.0	+3.7
PET				*e*S	Sn	15 43 39.5	+3.0
DALK	**Dalny**	**2.62**	**19**	*e*P	Pn	15 43 08.8	+2.2
DALK				*e*S	Sn	15 43 39.8	+2.6
UGLR	**Uglovaya**	**2.81**	**19**	*e*P	Pn	15 43 13.1	+3.9
AVH	**Avacha**	**2.84**	**17**	*e*P	Pn	15 43 13.7	+4.0
AVH				*e*S	Sn	15 43 46.3	+3.6
KOK	**Koryaka**	**2.85**	**16**	*e*P	Pn	15 43 13.7	+3.9
SMAR	**Somma**	**2.85**	**18**	*e*P	Pn	15 43 14.5	+4.5
SDLR	**Sedlovina**	**2.88**	**19**	*e*P	Pn	15 43 13.0	+2.7
KRX	**Arik**	**2.92**	**16**	*e*P	Pn	15 43 13.9	+3.1
GNL	**Ganaly**	**3.16**	**7**	*e*P	Pn	15 43 17.8	+3.7
KBTR	**Krutoberegovo**	**6.54**	**28**	*e*P	Pn	15 44 02.9	+2.7

*ISCJB **07** 15:42:28.0±0.6, 2.89S±0.09×103.77E±0.08, h250km, mb3.5/6, Error ellipse: s-maj=15.4km s-min=7.7km az=38.5*
*DJA **07** 15:42:28.6±0.6, 3.3°S±11.1°×10.4E±1.1°1, h266km±11km, M4.2/9, mb4.2/2, mB4.6/2, MLv4.2/9, Mw(mB)3.9/2*
*IDC **07** 15:42:44.8±18.0, 2.40S×104.36E, h422km±219km, mb3.0/6, mb1 3.3/6, mb1mx2.9/47, mbtmp3.8/6, Error ellipse: s-maj=161.0km s-min=17.3km az=53.0*

ISC 07 15:42:29.1±0.9, 2.9S±0.1×103.7E±0.1, h250km, n18, σ1s21/19, mb3.5/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**1.46**	**261**	P	**Pn**	**15 43 08.4**	**+1.2**
MNAI	**Manna**	**1.62**	**207**	P	**Pn**	**15 43 08.4**	**0.0**
MNAI				S	**S**	**15 43 39.0**	**-0.3**
MDSI	**Maura Dua**	**1.64**	**163**	P	**S**	**15 43 41.3**	**+1.6**
LWLI	**Liwa**	**2.13**	**170**	P	**S**	**15 43 50.9**	**+3.4**
KRJI	**Kerinci**	**2.37**	**290**	P	**Pn**	**15 43 16.5**	**+1.3**
KASI	**Kota Agung**	**2.72**	**163**	P	**S**	**15 43 57.6**	**-0.3**
PPSI	**Pulau Pagai**	**3.68**	**272**	P	**Pn**	**15 43 29.0**	**-0.2**
PDSI	**Padang**	**3.79**	**302**	P	**Pn**	**15 43 30.3**	**-0.2**
CGJI	**Cibinong**	**4.19**	**152**	P	**Pn**	**15 43 33.6**	**-1.6**
SISI	**Saibi**	**4.86**	**289**	P	**Pn**	**15 43 41.6**	**-1.6**
MNSI	**Mandailing Nat**	**5.51**	**312**	P	**Pn**	**15 43 50.7**	**-0.6**
CISI	**Cisompet, Garu**	**6.18**	**138**	P	**Pn**	**15 43 59.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**21.74**	**348**	P	**P**	**15 47 00.8**	**0.0**
	0.6nm,0.5s,baz=182,slow=8.6,SNR=7.7						
FITZ	**Fitzroy Crossi**	**26.28**	**127**	P	**P**	**15 47 41.5**	**-0.6**
	0.8nm,0.6s,baz=329,slow=11,SNR=4.4						
WRA	**Warramunga Arr**	**34.37**	**122**	P	**P**	**15 48 52.5**	**-0.5**
	0.5nm,0.3s,baz=307,slow=9.2,SNR=32						
ASAR	**Alice Springs**	**35.77**	**128**	P	**P**	**15 49 04.7**	**-0.2**
	1.9nm,0.4s,baz=301,slow=7.9,SNR=87						
STKA	**Stephens Creek**	**45.82**	**133**	P	**P**	**15 50 26.7**	**+0.1**
	0.8nm,0.4s,baz=317,slow=8.3,SNR=8.2						
VNDA	**Vanda**	**80.57**	**169**	P	**P**	**15 54 12.9**	**-0.4**
	0.5nm,0.5s,baz=306,slow=6.1,SNR=9.2						

*IDC **07** 15:43:40.8±0.9, 45.49N×153.76E, h0km, mb3.9/5, mb1 4.1/8, mb1mx3.7/47, mbtmp3.9/8, ML3.6/2, Error ellipse: s-maj=33.8km s-min=20.2km az=121.0*
*SKHL **07** 15:43:43.3±0.6, 45.54N×153.75E, h52km±4km, mb4.3/4*
*ISCJB **07** 15:43:44.5±0.5, 45.77N±0.06×153.48E±0.08, h50km, mb4.1/9, Error ellipse: s-maj=10.3km s-min=5.2km az=139.8*
*MOS **07** 15:43:45.3±1.1, 45.34N×153.46E, h44km, mb4.2/4, Error ellipse: s-maj=20.5km s-min=14.9km az=149.0*
*NEIC **07** 15:43:45.4±0.5, 45.62N×153.70E, h35km, mb4.4/2, Error ellipse: s-maj=12.4km s-min=7.7km az=127.0*

ISC 07 15:43:46.6±0.8, 45.58N±0.09×153.60E±0.08, h50km, n44, σ2s12/48, mb4.0/9, 1C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.05**	**267**	*e*P	**Pn**	**15 44 44.7**	**-1.3**
KUR				AMB	AMB	15 44 45.8	
	11μm,0.4s						
KUR				AMB	AMB	15 44 45.8	
	20nm,0.4s						
KUR				AMB	AMB	15 44 45.8	
	30nm,0.4s						
KUR				*i* S	**Sn**	**15 45 30.3**	**-1.8**
KUR				A	A	15 45 33.3	
	100nm,0.3s						
KUR				A	A	15 45 33.3	
	79nm,0.3s						
KUR	**Kuril'sk**	**4.05**	**267**	*d i* PN	**Pn**	**15 44 44.8**	**-1.3**
KUR				*i* S	**Sn**	**15 45 31.7**	**-0.4**
KUR				pmax	pmax		
	comp=Z,252nm,0.3s						
KUR				pmax	pmax		
	comp=N,106nm,0.2s						
KUR				pmax	pmax		
	comp=E,26nm,0.3s						
KUR				smax	smax		
	comp=N,171nm,0.3s						
KUR				smax	smax		
	comp=E,65nm,0.2s						
SHO	**Shikotan**	**5.12**	**253**	*e*P	**Pn**	**15 44 58.3**	**-2.3**
SHO				AMB	AMB	15 45 00.0	
	comp=E,30nm,0.4s						
SHO				AMB	AMB	15 45 00.0	
	comp=E,20nm,0.4s						
SHO				*e*S	**Sn**	**15 45 54.5**	**-3.8**
SHO				A	A	15 46 00.0	
	comp=E,20nm,0.3s						
SHO				A	A	15 46 00.0	
	comp=E,69nm,0.3s						
SHO	**Shikotan**	**5.12**	**253**	*e*PN	**Pn**	**15 44 57.8**	**-2.8**
SHO				pmax	pmax		
	comp=Z,37nm,0.4s						
SHO				pmax	pmax		
	comp=N,21nm,0.2s						
SHO				pmax	pmax		
	comp=E,31nm,0.2s						
SKR	**Severo-Kuril's**	**5.38**	**17**	*e*P	**Pn**	**15 45 01.3**	**-2.9**
SKR				AMB	AMB	15 45 02.1	
	comp=E,20nm,0.4s						
SKR				AMB	AMB	15 45 02.1	
	comp=E,4μm,0.4s						
SKR				*e*S	**Sn**	**15 46 00.3**	**-4.4**
SKR				A	A	15 46 02.7	
	comp=E,20nm,0.2s						
SKR				A	A	15 46 02.7	
	comp=E,49nm,0.2s						
SKR	**Severo-Kuril's**	**5.38**	**17**	*i* PN	**Pn**	**15 45 01.1**	**-3.1**
YUK	**Yuzh-Kuril'sk**	**5.72**	**257**	*e*P	**Pn**	**15 45 07.9**	**-1.0**
YSS	**Yuzh-Sakhalins**	**7.64**	**284**	*e*Pn	**Pn**	**15 45 36.7**	**+1.6**
YSS	**Yuzh-Sakhalins**	**7.64**	**284**	*e*P	**Pn**	**15 45 35.9**	**+0.7**
YSS				AMB	AMB	15 45 37.8	
	comp=E,10.0nm,1.0s						
YSS				AMB	AMB	15 45 37.8	
	comp=E,4μm,1.0s						
YSS	**Yuzh-Sakhalins**	**7.64**	**284**	*e*PN	**Pn**	**15 45 36.9**	**+1.7**
YSS				pmax	pmax		
	comp=Z,30nm,1.2s						
JKA	**Kamikawa-asahi**	**7.95**	**263**	*e*P	**Pn**	**15 45 39.3**	**-0.2**
ASAJ	**Asahikawa**	**7.95**	**263**	Pn	**Pn**	**15 45 39.3**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=159,slow=24,SNR=7.6						
ASAJ	**Asahikawa**	**7.95**	**263**	*e*Pn	**Pn**	**15 45 38.9**	**-0.6**
PEA0B	**Petropavlovsk-**	**8.00**	**18**	*e*Pn	**Pn**	**15 45 37.9**	**-2.2**
PETK	**Petropavlovsk-**	**8.00**	**18**	Pn	**Pn**	**15 45 37.9**	**-2.2**
	comp=Z,2.3nm,0.3s,baz=176,slow=12,SNR=26						
PETK	**Petropavlovsk-**	**8.00**	**18**	*e*Pn	**Pn**	**15 45 38.1**	**-1.9**
PEA1	**Petropavlovsk-**	**8.00**	**18**	*e*Pn	**Pn**	**15 45 37.9**	**-2.2**
PET	**Petropavlovsk**	**8.15**	**22**	*e*Pn	**Pn**	**15 45 38.4**	**-3.7**
PET	**Petropavlovsk**	**8.15**	**22**	*e*PN	**Pn**	**15 45 38.4**	**-3.7**
MA2	**Magadan**	**14.12**	**354**	*e*Pn	**Pn**	**15 47 03.5**	**-0.1**
MA2	**Magadan**	**14.12**	**354**	*e*P	**Pn**	**15 47 03.5**	**-0.1**
MAJO	**Matsushiro**	**14.69**	**237**	*e*P	**Pn**	**15 47 08.1**	**-3.2**
MAJO	**Matsushiro**	**14.69**	**237**	*i* P	**Pn**	**15 47 08.1**	**-3.2**
USRK	**Ussuriysk Ar.**	**15.38**	**273**	Pn	**Pn**	**15 47 18.7**	**-1.4**
	baz=83,slow=15						
BILL	**Bilibino**	**23.46**	**12**	*e*P	**P**	**15 48 53.1**	**+1.9**
BILL	**Bilibino**	**23.46**	**12**	*i e*P	**P**	**15 48 53.1**	**+1.9**
BILL				*e*S	**S**	**15 52 58.5**	**-2.2**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ILAR	**Eielson Array**	**37.26**	**38**	P	**P**	**15 50 54.3**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=263,slow=7.2,SNR=4.1						
ILAR	**Eielson Array**	**37.26**	**38**	*e*P	**P**	**15 50 56.6**	**+3.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VCNR	**Virginia City**	**61.32**	**62**	*e*P	**P**	**15 53 56.0**	**-1.1**
	comp=Z,6.0nm,0.5s						
FIA0	**FINESS Array S**	**65.24**	**335**	*e*P	**P**	**15 54 25.0**	**+2.6**
FIA0	**FINESS Array S**	**65.24**	**335**	*e*P	**P**	**15 54 25.0**	**+2.6**
FINES	**FINESS Array B**	**65.24**	**335**	P	**P**	**15 54 25.0**	**+2.6**
	comp=Z,3.3nm,0.9s,baz=40,slow=7.4,SNR=5.2						
FINES	**FINESS Array B**	**65.24**	**335**	*e*P	P	15 54 26.7	+4.3
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WR1	**Warramunga Arr**	**67.52**	**200**	*e*P	**P**	**15 54 37.8**	**+0.3**
	comp=Z,32nm,2.0s						
WRA	**Warramunga Arr**	**67.52**	**200**	P	**P**	**15 54 37.8**	**+0.3**
	comp=Z,1.6nm,0.9s,baz=18,slow=6.3,SNR=8.1						
WRA	**Warramunga Arr**	**67.52**	**200**	*e*P	**P**	**15 54 38.2**	**+0.8**
WRA	**Warramunga Arr**	**67.52**	**200**	*e*P	**P**	**15 54 38.2**	**+0.8**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AS01	**Alice Springs**	**71.20**	**199**	*e*P	**P**	**15 55 00.8**	**+0.7**
AS31	**Alice Springs**	**71.21**	**199**	*e*P	**P**	**15 55 01.3**	**+1.1**
	comp=Z,0.6nm,0.6s						
ASAR	**Alice Springs**	**71.21**	**199**	P	**P**	**15 55 01.7**	**+1.5**
	comp=Z,1.7nm,0.7s,baz=18,slow=5.6,SNR=31						
CLL	**Collm**	**77.67**	**336**	*e*P	**P**	**15 55 39.0**	**+1.5**
LTX	**Lajitas**	**77.77**	**61**	*e*P	**P**	**15 55 39.3**	**+0.7**
LTX	**Lajitas**	**77.77**	**61**	*e*P	**P**	**15 55 39.3**	**+0.7**
TXAR	**Lajitas Array**	**77.77**	**61**	P	**P**	**15 55 39.3**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=300,slow=5.4,SNR=5.1						

*ISN **07** 16:21:14.4±1.0, 38.57N×47.90E, h1km±50km, ML3.9*
*AZER **07** 16:21:15.6±0.0, 38.31N×46.74E, h10km±1km, ml4.1/27, Error ellipse: s-maj=6.0km s-min=1.0km az=19.0*
*DDA **07** 16:21:16.2, 38.59N×47.38E, h8km, Ml3.6*
*TEH **07** 16:21:18.4, 38.40N×46.85E, h6km, ML3.8*
*THR **07** 16:21:18.9±0.3, 38.46N×46.89E, h16km±5km, ML3.8*
*IDC **07** 16:21:18.9±1.2, 38.37N×46.88E, h0km, mb3.6/6, mb1 3.8/11, mb1mx3.6/50, mbtmp3.7/11, ML3.4/3, MS3.1/7, Ms1 3.0/7, ms1mx2.8/60, Error ellipse: s-maj=18.7km s-min=13.5km az=9.0*
*NEIC **07** 16:21:20.1±2.6, 38.11N×46.83E, h10km, mb4.1/3, ML3.8(THR), Error ellipse: s-maj=49.1km s-min=10.5km az=201.0*

ISC 07 16:21:18.9±1.1, 38.45N±0.02×46.86E±0.02, h2km±8km, n137, σ1s82/167, mb3.8/11, 23C-18D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHRS	**Heris**	**0.20**	**133**	*e*Pg	**Pg**	**16 21 21.8**	**-1.0**
IHRS				IAMB	IAmb	16 21 25.0	
	comp=E,2079μm,0.2s						
IHRS				IAMB	IAmb	16 21 25.2	
	comp=N,1μm,0.1s						
IHRS				IAMB	IAmb	16 21 25.3	
	comp=Z,1504μm,0.3s						
ITBZ	**Tabriz**	**0.60**	**249**	*e*Pg	**Pg**	**16 21 30.1**	**-0.4**
ITBZ				IAMB	IAmb	16 21 40.8	
	comp=N,72μm,0.3s						
ITBZ				IAMB	IAmb	16 21 48.1	
	comp=E,45μm,0.3s						
ITBZ				IAMB	IAmb	16 21 49.2	
	comp=Z,36μm,0.4s						
IBST	**Bostanabad**	**0.75**	**178**	*e*Pg	**Pg**	**16 21 30.8**	**-2.6**
IBST				IAMB	IAmb	16 21 42.8	
	comp=N,63μm,0.1s						
IBST				IAMB	IAmb	16 21 43.3	
	comp=Z,57μm,0.2s						
IBST				IAMB	IAmb	16 21 43.4	
	comp=E,10μm,0.3s						
ORD	**Ordubad**	**0.83**	**305**	↓P	**Pg**	**16 21 34.4**	**-0.4**
ORD				↓S	**Sb**	**16 21 46.6**	**-1.0**
GRMI	**Germi**	**0.88**	**66**	*e*Pg	**Pg**	**16 21 35.3**	**-0.6**
GRMI	**Germi**	**0.88**	**66**	*e*Pg	**Pg**	**16 21 35.3**	**-0.6**
ISRB	**Sarab**	**0.89**	**134**	*e*Pg	**Pg**	**16 21 34.4**	**-1.7**
ISRB				IAMB	IAmb	16 21 47.6	
	comp=E,17μm,0.3s						
ISRB				IAMB	IAmb	16 21 48.6	
	comp=N,12μm,0.2s						
ISRB				IAMB	IAmb	16 21 50.0	
	comp=Z,59μm,0.4s						
IMRD	**Marand**	**0.94**	**286**	*e*Pg	**Pg**	**16 21 36.3**	**-0.7**
IMRD				IAMB	IAmb	16 21 54.3	
	comp=N,115nm,0.3s						
IMRD				IAMB	IAmb	16 21 58.0	
	comp=Z,94μm,0.5s						
IMRD				IAMB	IAmb	16 21 58.2	
	comp=E,41μm,0.4s						
ISHB	**Shabestar**	**0.99**	**260**	*e*Pg	**Pb**	**16 21 37.5**	**-1.4**
ISHB				IAMB	IAmb	16 21 54.0	
	comp=N,85μm,0.4s						
ISHB				IAMB	IAmb	16 21 56.4	
	comp=Z,40μm,0.3s						
ISHB				IAMB	IAmb	16 22 02.2	
	comp=E,85μm,0.4s						
IAZR	**Azarshahr**	**1.04**	**222**	*e*Pg	**Pb**	**16 21 37.8**	**-2.0**
IAZR				IAMB	IAmb	16 21 42.1	
	comp=Z,54μm,0.2s						
IAZR				IAMB	IAmb	16 21 58.3	
	comp=E,44μm,0.4s						
IAZR				IAMB	IAmb	16 22 06.3	
	comp=N,9μm,0.6s						
LRK	**Lerik**	**1.18**	**80**	P	**Pb**	**16 21 40.6**	**-1.5**
	SNR=387						
LRK				↓S	**Sn**	**16 21 57.6**	**-1.6**
LRK	**Lerik**	**1.18**	**80**	*e*Pg	**Pb**	**16 21 40.5**	**-1.5**
NAX	**Nakhchivan**	**1.29**	**304**	P	**Pn**	**16 21 42.9**	**-1.0**
	SNR=87						
NAX				↑S	**Sg**	**16 22 02.2**	**+1.9**
SBZ	**Shahbuz**	**1.39**	**313**	↑Pn	**Pb**	**16 21 44.9**	**-0.8**
SBZ				↑Sn	**Sg**	**16 22 04.6**	**+1.1**
SBZ	**Shahbuz**	**1.39**	**313**	*e*Pg	**Pb**	**16 21 44.8**	**-0.8**
GLBA	**Clilabad**	**1.43**	**56**	↑Pn	**Pg**	**16 21 46.5**	**+0.1**
	SNR=85						
GLBA				↓Sn	**Sg**	**16 22 07.5**	**+2.6**
GLBA	**Clilabad**	**1.43**	**56**	*e*Pg	**Pg**	**16 21 46.4**	**+0.1**
ASTR	**Astara**	**1.52**	**85**	Pn	**Pb**	**16 21 46.9**	**-0.9**
	SNR=205						
ASTR				↑Sn	**Sg**	**16 22 09.3**	**+1.5**
ASTR	**Astara**	**1.52**	**85**	*e*Pn	**Pb**	**16 21 46.8**	**-0.9**
LKRN	**Lenkeran, Azer**	**1.53**	**80**	Pn	**Pb**	**16 21 46.9**	**-1.0**
	SNR=164						
LKRN				↓Sn	**Sg**	**16 22 09.2**	**+1.3**
LKRN	**Lenkeran, Azer**	**1.53**	**80**	*e*Pn	**Pb**	**16 21 46.9**	**-1.0**
BRDA	**Brd**	**1.82**	**8**	↓Pn	**Pg**	**16 21 53.9**	**0.0**
	SNR=16						
BRDA				↑S	**Sg**	**16 22 21.7**	**+4.2**
BRDA	**Brd**	**1.82**	**8**	*e*Pn	**Pg**	**16 21 53.8**	**0.0**
SAAT	**Saatly**	**1.86**	**40**	↓Sn	**Sg**	**16 22 19.4**	**+0.8**
MAKU	**Maku**	**1.92**	**299**	*e*Pn	**Pb**	**16 21 53.3**	**-1.5**
MAKU				*e*Sg	**Sg**	**16 22 20.1**	**-0.5**
MAKU				IAML		16 22 23.7	
	comp=N,790nm,0.4s						
MAKU	**Maku**	**1.92**	**299**	*e*Pn	**Pb**	**16 21 53.3**	**-1.5**
ZRD	**Zardab**	**1.93**	**19**	↓Pn	**Pb**	**16 21 55.0**	**+0.2**
	SNR=40						
ZRD				↑Sn	**Sg**	**16 22 24.8**	**+3.8**
ZRD	**Zardab**	**1.93**	**19**	*e*Pn	**Pb**	**16 21 55.0**	**+0.2**
HYR	**Heyderabad**	**2.01**	**310**	↑Pn	**Pb**	**16 21 54.6**	**-1.6**
HYR				↓Sn	**Sb**	**16 22 21.7**	**0.0**
HYR	**Heyderabad**	**2.01**	**310**	*e*Pn	**Pb**	**16 21 54.5**	**-1.6**
KDMR	**Kurdemir**	**2.18**	**28**	↑Pn	**Pb**	**16 21 58.0**	**-1.0**
	SNR=5.3						
KDMR				↑Sn	**Sg**	**16 22 28.3**	**-0.5**
KDMR	**Kurdemir**	**2.18**	**28**	*e*Pn	**Pb**	**16 21 57.9**	**-1.0**
YOVA	**Hakkari_Y`...kse**	**2.21**	**248**	*i* P	**Pb**	**16 21 58.8**	**-0.9**
YOVA				*i* S	**Sg**	**16 22 31.7**	**+1.9**
YOVA	**Hakkari_Y`...kse**	**2.21**	**248**	*e*Pn	**Pb**	**16 21 58.7**	**-0.9**
GANJ	**Ganja**	**2.23**	**349**	Pn	**Pb**	**16 21 58.7**	**-1.3**
	SNR=77						
GANJ				↓Sn	**Sb**	**16 22 28.3**	**+0.3**
GANJ	**Ganja**	**2.23**	**349**	*e*Pn	**Pb**	**16 21 58.6**	**-1.3**
ALIB	**Äli-Bayra**	**2.24**	**47**	↓Pn	**Pb**	**16 22 00.0**	**-0.1**
	SNR=8.5						
ALIB				↓Sn	**Sb**	**16 22 28.5**	**+0.1**
ALIB	**Äli-Bayra**	**2.24**	**47**	*e*Pn	**Pb**	**16 22 00.0**	**-0.1**
ZNJK	**Zanjan**	**2.30**	**140**	*e*Pn	**Pb**	**16 21 58.2**	**-3.0**
ZNJK	**Zanjan**	**2.30**	**140**	*e*Pn	**Pb**	**16 21 58.2**	**-3.0**
MNGR	**Mingechevir, A**	**2.32**	**4**	↓Pn	**Pn**	**16 21 57.9**	**-0.3**
	SNR=12						
MNGR				↓Sn	**Sg**	**16 22 32.7**	**-0.8**
MNGR	**Mingechevir, A**	**2.32**	**4**	*e*Pn	**Pn**	**16 21 57.8**	**-0.3**
GNI	**Garni**	**2.36**	**317**	Pn	**Pb**	**16 22 02.3**	**+0.1**
	comp=N,24nm,0.3s,baz=137,slow

ZKTA				⇑Sn		**Sb**	**16 22 51.7**	**-3.7**
ZKTA	**Zakatala**	**3.19**	**357**	*e*Pn		**Pn**	**16 22 11.3**	**+1.3**
AGRB	**Hanur-Agry**	**3.21**	**292**	*e*Pn		**Pb**	**16 22 14.5**	**-2.3**
QSAR	**Qusar**	**3.24**	**19**	Pn		**Pb**	**16 22 14.6**	**-2.6**
	SNR=18							
QSAR				⇑Sn		**Sb**	**16 22 53.4**	**-3.7**
QSAR	**Qusar**	**3.24**	**19**	*e*Pn		**Pb**	**16 22 14.5**	**-2.6**
DIGO	**Kars**	**3.33**	**307**	*i* P		**Pg**	**16 22 22.3**	**-0.6**
IGZV	**Ghazvin**	**3.38**	**127**	*e*Pn		**Pn**	**16 22 13.8**	**+1.0**
IGZV				IAMB	IAmb		16 23 10.0	
	comp=Z,3μm,0.6s							
IGZV				IAMB	IAmb		16 23 10.7	
	comp=E,6μm,0.8s							
IGZV				IAMB	IAmb		16 23 11.6	
	comp=N,6μm,0.5s							
LGD	**Lagodekhi**	**3.41**	**352**	P		**Pb**	**16 22 17.8**	**-2.2**
HKZM	**Kohzaman**	**3.48**	**151**	*e*Pn		**Pn**	**16 22 15.6**	**+1.3**
HKZM				IAMB	IAmb		16 22 33.4	
	comp=N,0.0nm,0.0s							
HKZM				IAMB	IAmb		16 23 15.0	
	comp=Z,0.0nm,0.7s							
HKZM				IAMB	IAmb		16 23 29.6	
	comp=E,0.0nm,0.7s							
KZRT	**Kazreti**	**3.49**	**328**	P		**Pb**	**16 22 22.3**	**+1.0**
KZRT				S		**Sg**	**16 23 08.4**	**-2.5**
QABG	**Abgarm-Qazvin**	**3.50**	**141**	*e*Pn		**Pn**	**16 22 15.3**	**+0.8**
QABG				IAMB	IAmb		16 23 36.3	
	comp=E,0.0nm,2.7s							
QABG				IAMB	IAmb		16 24 17.0	
	comp=Z,0.0nm,4.3s							
QABG				IAMB	IAmb		16 24 18.9	
	comp=N,0.0nm,3.8s							
SIRT	**Sirnak**	**3.62**	**256**	*e*Pn		**Pb**	**16 22 21.6**	**-2.1**
QALM	**Alamut, Qazvin**	**3.63**	**123**	*e*Pn		**Pn**	**16 22 18.1**	**+1.8**
QALM				IAMB	IAmb		16 23 15.5	
	comp=N,0.0nm,1.0s							
QALM				IAMB	IAmb		16 23 26.3	
	comp=E,0.0nm,1.1s							
QALM				IAMB	IAmb		16 23 26.5	
	comp=Z,0.0nm,1.2s							
TBLG	**Delisi**	**3.66**	**334**	P		**Pb**	**16 22 25.0**	**+0.8**
TBLG				S		**Sg**	**16 23 13.7**	**-2.6**
TBLG	**Delisi**	**3.66**	**334**	*e*Pn		**Pb**	**16 22 20.1**	**-4.1**
EATA	**Eleskirt**	**3.67**	**294**	*i* P		**Pg**	**16 22 27.9**	**-1.5**
BGD	**Bogdanovka**	**3.77**	**319**	P		**Pg**	**16 22 29.0**	**-2.1**
BGD				S		**Sg**	**16 23 21.0**	**+1.1**
IDHR	**Dehrash**	**3.77**	**186**	*e*Pn		**Pn**	**16 22 18.6**	**+0.5**
IDHR				IAMB	IAmb		16 23 28.1	
	comp=Z,2μm,0.9s							
IDHR				IAMB	IAmb		16 23 31.6	
	comp=N,2μm,0.7s							
GURO	**Guroymak-BITLI**	**3.79**	**273**	*e*Pn		**Pb**	**16 22 23.2**	**-3.4**
IRAZ	**Razeghan**	**3.91**	**140**	*e*Pn		**Pn**	**16 22 21.1**	**+0.9**
IRAZ				IAMB	IAmb		16 23 25.1	
	comp=N,1μm,0.5s							
IRAZ				IAMB	IAmb		16 23 29.7	
	comp=Z,2μm,0.5s							
IRAZ				IAMB	IAmb		16 23 33.6	
	comp=E,3μm,0.6s							
IVIS	**Veis**	**3.92**	**180**	*e*Pn		**Pn**	**16 22 22.0**	**+1.8**
IVIS				IAMB	IAmb		16 23 33.0	
	comp=N,1μm,0.8s							
IVIS				IAMB	IAmb		16 23 35.2	
	comp=E,2μm,0.9s							
IVIS				IAMB	IAmb		16 23 39.2	
	comp=Z,1μm,1.0s							
AKH	**Akhalkalaki**	**3.93**	**320**	P		**Pg**	**16 22 31.5**	**-2.6**
AKH	**Akhalkalaki**	**3.93**	**320**	*e*Pn		**Pb**	**16 22 25.0**	**-4.0**
IBZA	**Bozab**	**4.06**	**168**	IAMB	IAmb		16 24 07.1	
	comp=Z,0.0nm,1.1s							
HAGD	**Aghdareh**	**4.06**	**152**	*e*Pn		**Pn**	**16 22 23.5**	**+1.3**
HAGD				IAMB	IAmb		16 22 40.1	
	comp=N,0.0nm,0.5s							
HAGD				IAMB	IAmb		16 23 37.5	
	comp=E,0.0nm,0.7s							
HAGD				IAMB	IAmb		16 23 38.4	
	comp=Z,0.0nm,0.9s							
IMHD	**Mahdasht**	**4.11**	**131**	*e*Pn		**Pn**	**16 22 24.4**	**+1.6**
IMHD				IAMB	IAmb		16 23 30.1	
	comp=E,2μm,0.3s							
IMHD				IAMB	IAmb		16 23 31.5	
	comp=N,2μm,0.3s							
IMHD				IAMB	IAmb		16 23 40.5	
	comp=Z,1μm,0.5s							
ONI	**Oni**	**4.88**	**329**	P		**Pb**	**16 22 45.2**	**+0.1**
IKFM	**Kafar-mosalman**	**4.98**	**170**	IAMB	IAmb		16 24 32.5	
	comp=Z,0.0nm,1.0s							
BINT	**Bingol**	**5.00**	**277**	*e*Pn		**Pn**	**16 22 38.4**	**+3.3**
IKMR	**Kamar-syah**	**5.08**	**165**	IAMB	IAmb		16 24 32.7	
	comp=Z,0.0nm,1.1s							
KBZ	**Khabaz**	**6.06**	**332**	Pn		Pn	16 22 55.6	+6.2
	comp=Z,0.0nm,0.3s,baz=175,slow=13,SNR=3.3							
KBZ				Lg		Lg	16 24 31.0	
	comp=Z,0.1nm,0.3s,baz=258,slow=20,SNR=3.8							
KBZ				LR		LR	16 25 15.5	
	comp=Z,106nm,20.2s,baz=142,slow=38							
KIV	**Kislovodsk**	**6.33**	**332**	*e*Pn		Pn	16 22 57.5	+4.2
GEYT	**Alibeck**	**8.88**	**90**	Pn		**Pn**	**16 23 27.8**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=8.4,slow=5.1,SNR=12							
GEYT				LR		LR	16 28 27.1	
	comp=Z,61nm,18.0s,baz=255,slow=48							
GYA0B	**ALIBECK ARRAY**	**8.88**	**90**	*e*Pn		**Pn**	**16 23 27.2**	**-1.0**
MMAI	**Mount Meron Ar**	**10.77**	**243**	LR		LR	16 29 01.8	
	comp=Z,64nm,18.6s,baz=5.0,slow=43							
EIL	**Elat**	**13.19**	**232**	LR		LR	16 30 16.6	
	comp=Z,79nm,18.9s,baz=75,slow=41							
ABKAR	**Akbulak array**	**14.32**	**37**	*e*Pn		**Pn**	**16 24 41.7**	**-0.8**
AKTO	**Aktyubinsk**	**14.37**	**30**	Pn		**Pn**	**16 24 42.4**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=213,slow=12,SNR=11							
AKTO				Sn		**Sn**	**16 27 16.6**	**-6.4**
	comp=Z,0.1nm,0.3s,baz=7.8,slow=19,SNR=5.2							
BUR04	**Bucovina Ar. S**	**18.23**	**307**	*e*Pn		**P**	**16 25 35.4**	**+2.1**
KK31	**Karatay Array**	**18.48**	**68**	*e*Pn		**Pn**	**16 25 34.9**	**-1.2**
KKAR	**Karatay Array**	**18.48**	**68**	*e*Pn		**Pn**	**16 25 34.9**	**-1.2**
ARU	**Arti**	**19.60**	**20**	P		**Pn**	**16 25 49.1**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=208,slow=3.2,SNR=7.5							
ARU				LR		LR	16 34 26.7	
	comp=Z,55nm,18.1s,baz=202,slow=40							
AAK	**Ala-Archa**	**21.37**	**70**	P		**P**	**16 26 11.0**	**+3.3**
	comp=Z,5.4nm,0.7s,baz=237,slow=7.2,SNR=13							
AAK				LR		LR	16 36 16.9	
	comp=Z,76nm,18.6s,baz=309,slow=42							
AAK	**Ala-Archa**	**21.37**	**70**	*e*P		**P**	**16 26 10.9**	**+3.3**
	comp=Z,5.8nm,0.8s							
BRVK	**Borovoye**	**21.78**	**40**	*e*P		**P**	**16 26 13.9**	**+2.2**
	comp=Z,5.7nm,0.6s							
BVAR	**Borovoye Array**	**21.81**	**40**	P		**P**	**16 26 12.9**	**+0.8**
	comp=Z,2.3nm,0.6s,baz=255,slow=8.7,SNR=13							
KURBB	**Kurchatov Arra**	**25.44**	**51**	P		**P**	**16 26 50.0**	**+2.3**
	comp=Z,1.3nm,0.7s,baz=260,slow=9.5,SNR=8.7							
KURK	**Kurchatov**	**25.52**	**51**	*e*P		**P**	**16 26 52.1**	**+3.5**
	comp=Z,6.7nm,1.1s							
GERES	**GERESS Array B**	**25.95**	**304**	P		**P**	**16 26 53.8**	**+1.2**
	comp=Z,1.6nm,0.8s,baz=83,slow=8.1,SNR=4.6							
MKAR	**Makanchi Array**	**27.18**	**61**	P		**P**	**16 27 03.7**	**0.0**
	comp=Z,0.4nm,0.7s,baz=282,slow=7.2,SNR=2.5							
WMQ	**Urumqi**	**30.99**	**67**	*e*P		**P**	**16 27 40.7**	**+3.1**
WMQ				LR		LR		
	comp=N,110nm,13.1s							
WMQ				LR		LR		
	comp=E,220nm,16.9s							
WMQ				LR		LR		
	comp=Z,91nm,13.1s							
GTA	**Gaotai**	**40.71**	**71**	*e*P		P	16 28 54.2	-6.8
GTA				pP		pP	16 28 59.0	-2.8
GTA				sP		sP	16 29 01.4	-0.7
GTA				pmax		pmax		
	comp=Z,2.0nm,1.0s							
TORD	**Torodi Ar. Bea**	**47.22**	**250**	P		**P**	**16 29 53.0**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=50,slow=9.5							
HHC	**Hu-ho-hao-te**	**48.85**	**66**	*e*P		**P**	**16 30 07.3**	**+1.4**
HHC				pmax		pmax		
	comp=Z,22nm,0.6s							
HHC				pmax		pmax		
	comp=Z,160nm,6.4s							
CMAR	**Chiang Mai Arr**	**49.24**	**99**	P		**P**	**16 30 08.6**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=297,slow=8.0,SNR=2.9							

*NEIC **07** 16:35:46.9₀0.1, 13˚.99N×91˚.90W, h24km, mb6.6/297, ME7.0, MS7.4/299, MW7.3, MW7.4, MD7.3(MEX), MD7.5(SNET), Error ellipse: s-maj=3.0km s-min=2.2km az=216.0 Broadband fault plane solution: P waves. NP1:ϕs295.00000°, δ25.00000°, λ90.00000°. NP2: ϕs115.00000°, δ65.00000°, λ90.00000°. Principal axes: T Plg70.0000°, Azm25.0000°; N Plg0.0000°, Azm0.0000°; P Plg20.0000°, Azm205.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC At least 48 people killed, 155 injured, 100 missing and dozens of buildings damaged in Quetzaltenango and San Marcos. Felt [VII] at Quetzaltenango; [VI] at Antigua Guatemala, Cahabon and Villa Nueva; [V] at Fraijanes, Guatemala, Huehuetenango, Mixco and San Bartolome Milpas Altas; [IV] at Champerico, Coban, Panajachel, San Jose Pinula, Santa Catarina Pinula and Santiago Atitlan. Also felt [VI] at Tapachula; [IV] at Jalapa, Lazaro Cardenas, San Cristobal de Las Casas, Tuxtla Gutierrez and Villahermosa; [III] at Granjas Mexico and Mexico, Mexico. Felt [IV] at San Salvador and Antiguo Cuscatlan and [III] at Ilopango and Nueva San Salvador, El Salvador. Felt [III] at Belize City and Dangriga, Belize. Felt in many parts of Belize, El Salvador, Guatemala, Honduras, Mexico and Nicaragua. A tsunami was recorded with wave heights [in cm] at the following tide stations: 35 at Salina Cruz and 30 at Puerto Chiapas, Mexico; 10 at Acajutla, El Salvador; 7 at Kahului and 6 at Hilo, Hawaii; 5 on Isla Baltra, Galapagos Islands.

*IDC **07** 16:35:49.3₀2.5, 14˚.19N×91˚.74W, h33km±17km, mb5.4/54, mb1 5.5/55, mb1mx5.5/60, mbtmp5.6/55, ML5.6/1, MS7.1/46, Ms1 7.1/46, ms1mx7.0/59 Error ellipse: s-maj=12.0km s-min=7.4km az=53.0*

*MOS **07** 16:35:49.0₀0.8, 14˚.08N×91˚.83W, h53km, mb6.6/109, MS7.4/77, Error ellipse: s-maj=6.6km s-min=3.6km az=108.2 Broadband fault plane solution: P waves. NP1:ϕs127.00000°, δ72.00000°, λ109.00000°. NP2: ϕs260.00000°, δ26.00000°, λ46.00000°. Principal axes: T Plg59.0000°, Azm63.0000°; N Plg18.0000°, Azm301.0000°; P Plg24.0000°, Azm203.0000°;*

*BJI **07** 16:35:49.6, 14˚.09N×92˚.00W, h41km, mB7.3/20, Ms7.5/52, Ms7 7.5/56*

*NEIC **07** 16:35:50.0₀0.0, 14˚.18N×91˚.92W, h30km Best double couple: NP1:ϕs126.00000°, δ69.00000°, λ98.00000°. NP2:ϕs285.00000°, δ23.00000°, λ70.00000°. Principal axes: T 1.4800, Plg65.0000°, Azm50.0000°; N -0.0300, Plg7.0000°, Azm303.0000°; P -1.4600, Plg23.0000°, Azm209.0000°;*

*MEX **07** 16:35:50.5₀0.6, 14˚.03N×92˚.32W, h17km±25km, MD7.3*

*UCR **07** 16:35:51.2₀1.8, 14˚.11N×91˚.89W, h16km±53km, mb7.7, ML6.1, mb6.6(NEIC)*

*ISCJB **07** 16:35:51.4₀0.3, 14˚.16N±0˚.01×91˚.89W±0˚.01, h71km±2km, mb6.3/628, Error ellipse: s-maj=2.5km s-min=1.5km az=138.9*

*GCMT **07** 16:35:55.7±0.1, 14˚.11N±0˚.01×92˚.43W±0˚.01, h21km, MW7.4/147, Moment Tensor Solution. s147,c393; s143,c658; Duration: 11s9 Moment tensor: Scale 10^20 Nm; Mrr1.11±.01; Mθθ-0.88±.00; Mϕϕ-0.22±.00; Mrθ0.79±.03; Mrϕ0.41±.00; Mθr-0.53±.03; Best double couple: M₀1.44700×10^20 NP1:ϕs121.00000°, δ65.00000°, λ94.00000°. NP2:ϕs291.00000°, δ25.00000°, λ81.00000°. Principal axes: T 1.4680, Plg69.0000°, Azm39.0000°; N -0.0420, Plg4.0000°, Azm299.0000°; P -1.4260, Plg20.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=150s. Triangular moment-rate function*

*NEIC **07** 16:36:15.9₀0.0, 14˚.19N×92˚.03W, h30km, Moment Tensor Solution. s173 Moment tensor: Scale 10^20Nm; Mrr1.16; Mθθ-0.86; Mϕϕ-0.30; Mrθ0.49; Mrϕ0.45; Mθr-0.52; Best double couple: M₀1.30000×10^20 NP1:ϕs291.00000°, δ30.00000°, λ76.00000°. NP2:ϕs128.00000°, δ61.00000°, λ98.00000°. Principal axes: T 1.3800, Plg73.0000°, Azm58.0000°; N -0.0800, Plg7.0000°, Azm304.0000°; P -1.3000, Plg16.0000°, Azm212.0000°;*

ISC 07 16:35:49.3₀0.2, **14˚.03N**±0˚.03×**92˚.07W**±0˚.03, **h39**km±1km, **n2597**, **σ1°96**/2702, **mb6.5**/636, **MS7.4**/606, **167C-42D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THIG		**0.89**	**348**	*e*P		**Pn**	**16 36 05.0**	**-0.3**
THIG				*i* S		**Sn**	**16 36 14.7**	**-2.4**
THIG		**0.89**	**348**	*e*P		**Pn**	**16 36 05.0**	**-0.3**
THIG				*i* S		**Sn**	**16 36 14.7**	**-2.4**
APG	**El Apazote**	**1.83**	**58**	Pg		**Pn**	**16 36 21.4**	**+3.0**
	2μm,0.3s,baz=221,slow=12,SNR=2357							
PCIG		**2.00**	**326**	*e*P		**Pn**	**16 36 18.6**	**-2.0**
PCIG				*i* S		**Sn**	**16 36 40.7**	**-3.7**
PCIG		**2.00**	**326**	*e*P		**Pn**	**16 36 18.6**	**-2.0**
PCIG				*i* S		**Sn**	**16 36 40.7**	**-3.7**
CCIG	**Comitan**	**2.24**	**358**	*e*Pn		**Pn**	**16 36 25.6**	**+1.5**
CCIG				*i* S		**Sn**	**16 36 51.0**	**+0.5**
CCIG	**Comitan**	**2.24**	**358**	*e*P		**Pn**	**16 36 24.8**	**+0.7**
CCIG				*i* S		**Sn**	**16 36 51.0**	**+0.5**
SBLS	**San Blas**	**2.38**	**94**	*e*P		**Pn**	**16 36 27.7**	**+1.6**
SNJE	**San Jose**	**2.40**	**94**	*e*P		**Pn**	**16 36 27.0**	**+0.8**
UNIC	**Santa Ana**	**2.44**	**91**	*e*P		**Pn**	**16 36 28.4**	**+1.8**
UNIC				*e*S		**Sn**	**16 36 56.9**	**+1.7**
BQQS	**Boqueron**	**2.72**	**96**	*e*P		**Pn**	**16 36 32.1**	**+1.4**
CLUB	**San Salvador**	**2.75**	**97**	*e*P		**Pn**	**16 36 32.8**	**+1.9**
CLUB				*e*S		**Sn**	**16 37 04.5**	**+1.5**
CLUB				AML	AML		16 37 18.8	
	comp=Z,298μm,0.5s							
UEES	**San Salvador**	**2.76**	**96**	*e*P		**Pn**	**16 36 32.9**	**+1.7**
SNET	**Serv Nac Est T**	**2.77**	**97**	*e*Pn		**Pn**	**16 36 32.6**	**+1.2**
SNET	**Serv Nac Est T**	**2.77**	**97**	*e*P		**Pn**	**16 36 32.8**	**+1.5**
OPAM	**San Salvador**	**2.80**	**96**	*e*P		**Pn**	**16 36 33.4**	**+1.7**
UESS	**San Salvador**	**2.80**	**96**	*e*P		**Pn**	**16 36 33.1**	**+1.4**
CUSC	**San Salvador**	**2.81**	**96**	*e*P		**Pn**	**16 36 33.6**	**+1.8**
UDBS	**Soyapango**	**2.84**	**96**	*e*P		**Pn**	**16 36 34.4**	**+2.2**
SOYA	**Soyapango**	**2.85**	**96**	*e*P		**Pn**	**16 36 33.9**	**+1.5**
TGIG		**2.91**	**340**	*e*P		**Pn**	**16 36 33.4**	**+0.1**
TGIG				*i* S		**Sn**	**16 37 06.1**	**-0.9**
TGIG		**2.91**	**340**	*e*P		**Pn**	**16 36 33.4**	**+0.1**
TGIG				*i* S		**Sn**	**16 37 06.1**	**-0.9**
LFRS	**El Faro**	**2.95**	**98**	*e*P		**Pn**	**16 36 35.2**	**+1.4**
LBRS	**Las Brisas**	**2.95**	**95**	*e*P		**Pn**	**16 36 34.8**	**+1.1**
AIES	**Las Flores**	**2.99**	**101**	AML	AML		16 37 38.6	
	comp=Z,211μm,0.7s							
LLGN	**La Laguna**	**3.02**	**87**	*e*P		**Pn**	**16 36 36.6**	**+1.8**
PAVA	**Las Pavas**	**3.06**	**96**	*e*P		**Pn**	**16 36 36.9**	**+1.6**
SNVI	**San Vicente**	**3.16**	**97**	*e*P		**Pn**	**16 36 38.4**	**+1.7**
LCY	**Lacayo**	**3.72**	**99**	*e*P		**Pn**	**16 36 46.0**	**+1.7**
VSM	**San Miguel**	**3.73**	**99**	*e*P		**Pn**	**16 36 46.1**	**+1.5**
SMIG	**San Miguel**	**3.84**	**98**	AML	AML		16 37 57.4	
	comp=Z,110μm,0.7s							
CMIG	**Matias Romero**	**4.08**	**319**	Pn		**Pn**	**16 36 48.3**	**-0.8**
	comp=Z,75nm,0.3s,baz=139,slow=11,SNR=215							
CMIG				Sn		**Sn**	**16 37 34.3**	**-1.3**
	comp=Z,5μm,0.3s,baz=99,slow=18,SNR=8.3							
HUIG	**Huatulco**	**4.27**	**294**	*e*P		**Pn**	**16 36 48.8**	**-3.0**
HUIG				*i* S		**Sn**	**16 37 35.8**	**-4.7**
HUIG	**Huatulco**	**4.27**	**294**	*e*P		**Pn**	**16 36 48.8**	**-3.0**
HUIG				*i* S		**Sn**	**16 37 35.8**	**-4.7**
TUIG	**Tuzandepetl**	**4.58**	**331**	*e*P		**Pn**	**16 36 54.9**	**-1.2**
TUIG				*i* S		**Sn**	**16 37 45.9**	**-2.1**
TUIG	**Tuzandepetl**	**4.58**	**331**	*e*P		**Pn**	**16 36 54.9**	**-1.2**
TUIG				*i* S		**Sn**	**16 37 45.9**	**-2.1**
TGUH	**Tegucigalpa,Un**	**4.65**	**89**	*e*Pn		**Pn**	**16 36 58.4**	**+1.3**
CRIN	**San Cristobal**	**5.06**	**105**	*e*P		**Pn**	**16 37 04.2**	**+1.5**
VHO	**Vista Hermosa**	**5.42**	**305**	*e*P		**Pn**	**16 37 06.2**	**-1.6**
VHO				*i* S		**Sn**	**16 38 04.5**	**-4.5**
VHO	**Vista Hermosa**	**5.42**	**305**	*e*P		**Pn**	**16 37 06.2**	**-1.6**
VHO				*i* S		**Sn**	**16 38 04.5**	**-4.5**
CNGN	**Cerro Negro**	**5.44**	**106**	*e*P		**Pn**	**16 37 08.0**	**0.0**
ESTN	**Estel**	**5.62**	**99**	*e*Pn		**Pn**	**16 37 11.5**	**+1.0**
ESTN	**Estel**	**5.62**	**99**	*e*P		**Pn**	**16 37 12.9**	**+2.5**
MOMN	**Momotombo**	**5.62**	**106**	*e*P		**Pn**	**16 37 11.0**	**+0.6**
COPN	**Copaltepe**	**5.64**	**108**	*e*P		**Pn**	**16 37 11.8**	**+1.1**
MGAN	**Managua**	**5.97**	**108**	*e*P		**Pn**	**16 37 15.9**	**+0.7**
MATN	**Matagalpa**	**6.07**	**100**	*e*P		**Pn**	**16 37 17.7**	**+1.0**
MASN	**Masaya**	**6.11**	**109**	*e*P		**Pn**	**16 37 18.3**	**+1.1**
PNIG	**Pinotepa**	**6.30**	**293**	*e*P		**Pn**	**16 37 17.6**	**-2.2**
PNIG				*i* S		**Sn**	**16 38 25.7**	**-4.9**
PNIG	**Pinotepa**	**6.30**	**293**	*e*P		**Pn**	**16 37 17.6**	**-2.2**
PNIG				*i* S		**Sn**	**16 38 25.7**	**-4.9**
BOAB	**BOACO BROADBAN**	**6.43**	**103**	*e*Pn		**Pn**	**16 37 22.4**	**+0.9**
BOAB	**BOACO BROADBAN**	**6.43**	**103**	*e*P		**Pn**	**16 37 22.1**	**+0.6**
TPIG	**Tehuac#an**	**6.70**	**311**	*i* P		**Pn**	**16 37 23.6**	**-1.8**
TPIG				*i* S		**Sn**	**16 38 38.2**	**-2.3**
CONN	**Concepcion**	**6.74**	**111**	*e*P		**Pn**	**16 37 28.9**	**+3.1**
ACON	**Acoyapa**	**7.02**	**106**	*e*P		**Pn**	**16 37 29.8**	**+0.1**
LVIG	**Laguna Verde**	**7.03**	**324**	*e*P		**Pn**	**16 37 29.0**	**-0.6**
LVIG	**Laguna Verde**	**7.03**	**324**	*e*P		**Pn**	**16 37 29.0**	**-0.6**
TEIG	**Tepich**	**7.15**	**30**	*e*Pn		**Pn**	**16 37 33.0**	**+1.7**
TEIG	**Tepich**	**7.15**	**30**	*e*P		**Pn**	**16 37 33.4**	**+2.1**
TLIG	**Tlapa**	**7.17**	**300**	*e*Pn		**Pn**	**16 37 32.2**	**+0.3**
TLIG				*e*S		**Sn**	**16 38 48.5**	**-3.6**
TLIG	**Tlapa**	**7.17**	**300**	*e*P		**Pn**	**16 37 30.4**	**-1.4**
TLIG				*e*S		**Sn**	**16 38 48.5**	**-3.6**
MYIG	**MØrida**	**7.24**	**18**	*e*P		**Pn**	**16 37 35.3**	**+2.8**
MYIG				*i* S		**Sn**	**16 38 57.8**	**+4.3**
GB1A	**Borinquen Arri**	**7.25**	**115**	*e*P		**Pn**	**16 37 37.1**	**+4.2**
BUEV	**Buena Vista**	**7.26**	**116**	*e*P		**Pn**	**16 37 36.9**	**+4.0**
VCR	**Vista de Mar**	**7.39**	**121**	*e*P		**Pn**	**16 37 36.7**	**+1.8**
MESS	**Mesas**	**7.47**	**115**	*e*P		**Pn**	**16 37 38.0**	**+2.2**
JTS	**JuntasAbangare**	**7.89**	**117**	Pn		**Pn**	**16 37 44.0**	**+2.4**
	comp=Z,24nm,0.3s,baz=358,slow=7.3,SNR=76							
JTS				Sn		**Sn**	**16 39 15.9**	**+6.3**
	comp=Z,67nm,0.3s,baz=233,slow=20,SNR=1.1							
JTS	**JuntasAbangare**	**7.89**	**117**	⇑*i* Pn		**Pn**	**16 37 43.1**	**+1.5**
JTS				Sn		**Sn**	**16 39 15.9**	**+6.3**
JTS	**JuntasAbangare**	**7.89**	**117**	*c* iP		**Pn**	**16 37 42.2**	**+0.7**
JTS	**JuntasAbangare**	**7.89**	**117**	*e*P		**Pn**	**16 37 45.0**	**+3.4**
ARE1	**Arenal 1**	**8.01**	**115**	*e*P		**Pn**	**16 37 46.5**	**+3.3**
AMVM	**AMECAMECA**	**8.20**	**309**	*e*P		Pn	16 37 54.5	+8.5
MEIG	**Mezcala**	**8.23**	**299**	*e*P		**Pn**	**16 37 45.2**	**-1.1**
MEIG				*i* S		**Sn**	**16 39 14.5**	**-3.6**
MEIG	**Mezcala**	**8.23**	**299**	*e*P		**Pn**	**16 37 45.2**	**-1.1**
MEIG				*i* S		**Sn**	**16 39 14.5**	**-3.6**
PLIG	**Platanillo**	**8.35**	**302**	*e*P		**Pn**	**16 37 47.7**	**-0.3**
PLIG				*i* S		**Sn**	**16 39 16.9**	**-4.3**
PLIG	**Platanillo**	**8.35**	**302**	*e*P		**Pn**	**16 37 47.7**	**-0.3**
PLIG				*i* S		**Sn**	**16 39 16.9**	**-4.3**
SRA1	**San Ram˜‡n**	**8.39**	**117**	*e*P		**Pn**	**16 37 52.1**	**+3.5**
CAIG	**El Cayaco**	**8.45**	**292**	*e*P		**Pn**	**16 37 48.4**	**-0.9**
CAIG				*i* S		**Sn**	**16 39 18.8**	**-4.7**
CAIG	**El Cayaco**	**8.45**	**292**	*e*P		**Pn**	**16 37 48.4**	**-0.9**
CAIG				*i* S		**Sn**	**16 39 18.8**	**-4.7**
UNM	**Universidad Na**	**8.61**	**309**	*e*Pn		**Pn**	**16 37 55.0**	**+3.3**
UNM				*i* S		**Sn**	**16 39 25.6**	**-2.1**
UNM	**Universidad Na**	**8.61**	**309**	*i* P		**Pn**	**16 37 51.4**	**-0.3**
UNM				*i* S		**Sn**	**16 39 25.6**	**-2.1**
UNM	**Universidad Na**	**8.61**	**309**	*e*P		**Pn**	**16 37 55.0**	**+3.3**
HDC	**Heredia**	**8.75**	**116**	*e*Pn		**Pn**	**16 37 54.8**	**+1.4**
HDC	**Heredia**	**8.75**	**116**	*e*P		**Pn**	**16 37 57.0**	**+3.6**
LCR2	**La Lucha 2**	**8.97**	**118**	*e*P		**Pn**	**16 37 59.5**	**+3.0**
ARIG	**Puente Sto Nin**	**9.01**	**299**	*e*P		**Pn**	**16 37 55.8**	**-1.1**
ARIG				*i* S		**Sn**	**16 39 33.3**	**-3.8**
ARIG	**Puente Sto Nin**	**9.01**	**299**	*e*P		**Pn**	**16 37 55.8**	**-1.1**
ARIG				*i* S		**Sn**	**16 39 33.3**	**-3.8**
CVTR	**Volcan Turrial**	**9.05**	**115**	*e*P		**Pn**	**16 38 01.3**	**+3.4**
URSC	**Urasca**	**9.12**	**116**	*e*P		**Pn**	**16 38 02.4**	**+3.8**
DEIG	**Demacu**	**9.12**	**314**	*i* P		**Pn**	**16 37 58.4**	**-0.2**
DEIG				*i* S		**Sn**	**16 39 37.7**	**-2.5**
DEIG	**Demacu**	**9.12**	**314**	*i* P		**Pn**	**16 37 58.4**	**-0.2**
DEIG				*i* S		**Sn**	**16 39 37.7**	**-2.5**
EDLM	**Las Mercedes**	**9.55**	**119**	*e*P		**Pn**	**16 38 08.0**	**+3.6**
ZIIG	**Zihuatanejo**	**9.72**	**293**	*i* P		**Pn**	**16 38 04.9**	**-1.7**
ZIIG				*i* S		**Sn**	**16 39 50.3**	**-3.6**
ZIIG	**Zihuatanejo**	**9.72**	**293**	*i* P		**Pn**	**16 38 04.9**	**-1.7**
ZIIG				*i* S		**Sn**	**16 39 50.9**	**-3.6**
ICCO	**Coco Island**	**9.77**	**149**	*e*P		**Pn**	**16 38 08.5**	**+1.1**
EDPN	**Palmar Norte**	**9.83**	**120**

958A **Wauchula** 16.56 34 P Pn 16 39 38.2 -0.5
baz=217,SNR=70
442A **Mamou** 16.61 359 P Pn 16 39 37.6 -1.6
baz=178,SNR=25
442A S S 16 42 50.9 -2.0
baz=178
444A **Pine Grove** 16.65 4 P Pn 16 39 39.7 0.0
baz=184
443A **Delano Plantat** 16.66 1 P Pn 16 39 39.9 +0.1
baz=180,SNR=11
441A **DeRidder** 16.67 357 P Pn 16 39 39.6 -0.5
baz=176,SNR=69
445A **Amite** 16.70 5 P Pn 16 39 41.0 +0.6
baz=185,SNR=40
857A **Zephyrhills** 16.86 31 P Pn 16 39 42.6 +0.1
baz=214,SNR=110
446A **Poplarville** 16.86 8 P Pn 16 39 43.4 +0.9
baz=188,SNR=57
MOTC **Monteria, Cord** 16.90 106 eP Pn 16 39 40.8 -2.2
060A **Indiantown** 16.94 38 ePn Pn 16 39 43.7 +0.3
comp=Z,23µm,1.2s
060A **Indiantown** 16.94 38 P Pn 16 39 43.6 +0.1
baz=222,SNR=148
447A **Lucedale** 16.98 10 ePn Pn 16 39 44.8 +0.9
comp=Z,5µm,0.8s
447A **Lucedale** 16.98 10 P Pn 16 39 44.7 +0.8
baz=191,SNR=61
959A **Okeechobee** 17.00 36 P Pn 16 39 44.1 -0.1
baz=219,SNR=46
DBBC **Dabeiba** 17.07 112 eP Pn 16 39 45.8 +0.6
DWPF **Disney Wildern** 17.15 34 ePn Pn 16 39 46.4 +0.3
comp=Z,29µm,1.8s
DWPF **Disney Wildern** 17.15 34 P Pn 16 39 46.6 +0.5
baz=217
343A **Vidalia** 17.18 1 P P 16 39 48.3 +0.7
baz=181,SNR=58
552A **Lynn Haven** 17.20 20 P P 16 39 48.3 +0.4
baz=202
449A **Pace** 17.24 14 P P 16 39 48.2 -0.1
baz=195,SNR=40
GTBY **Guantanamo Bay** 17.24 68⇑ iPn Pn 16 39 46.5 -0.8
comp=Z,3µm,1.1s
GTBY **Guantanamo Bay** 17.24 68 eP Pn 16 39 46.9 -0.4
GTBY **Guantanamo Bay** 17.24 68 eP Pn 16 39 47.1 -0.2
341A **Kurthwood** 17.25 357 ePn P 16 39 48.8 +0.4
comp=Z,3µm,1.0s
341A **Kurthwood** 17.25 357 P P 16 39 48.8 +0.4
baz=176,SNR=89
448A **Bay Minette** 17.26 12 P P 16 39 48.6 +0.1
baz=193,SNR=82
342A **Flagon Creek P** 17.26 359 ePn P 16 39 48.5 -0.1
comp=Z,14µm,1.4s
342A **Flagon Creek P** 17.26 359 P P 16 39 49.1 +0.5
baz=179,SNR=86
858A **St. Cloud** 17.27 34 P Pn 16 39 47.9 +0.3
baz=217,SNR=73
345A **Thompson Farm,** 17.30 6 P Pn 16 39 48.3 +0.4
baz=186,SNR=54
344A **Westbrook Farm** 17.38 4 ePn P 16 39 51.0 +1.1
comp=Z,8µm,1.1s
344A **Westbrook Farm** 17.38 4 P P 16 39 50.7 +0.8
baz=184,SNR=124
859A **Kempfer Cattle** 17.40 35 P Pn 16 39 49.7 +0.5
baz=218,SNR=123
435B **Jarrell** 17.43 344 ePn P 16 39 51.0 +0.6
comp=Z,4µm,0.9s
435B **Jarrell** 17.43 344 P P 16 39 51.1 +0.6
baz=161,SNR=76
655A **Horseshoe Beac** 17.43 26 P Pn 16 39 50.0 +0.5
baz=209,SNR=50
450A **Crestview** 17.44 16 P P 16 39 51.7 +1.2
baz=197,SNR=32
346A **Big Creek Wild** 17.44 7 ePn P 16 39 51.4 +0.9
comp=Z,7µm,0.9s
346A **Big Creek Wild** 17.44 7 P P 16 39 51.5 +1.0
baz=188,SNR=85
757A **Oxford** 17.50 30 P Pn 16 39 50.8 +0.5
baz=213,SNR=91
451A **Vernon** 17.50 18 ePn P 16 39 52.7 +1.4
comp=Z,7µm,1.1s
451A **Vernon** 17.50 18 P P 16 39 53.0 +1.8
baz=200,SNR=103
553A **Crawfordville** 17.56 22 P P 16 39 52.7 +0.9
baz=205,SNR=121
GRGC **Isla de Gorgon** 17.56 127 eP P 16 39 52.7 +0.7
347A **Saraland** 17.59 10 P P 16 39 54.3 +2.1
baz=191,SNR=147
MALC **Bahia Malaga** 17.61 123 eP Pn 16 39 49.4 -2.5
656A **Willston** 17.63 29 ePn P 16 39 53.2 +0.6
comp=Z,9µm,0.8s
656A **Willston** 17.63 29 P P 16 39 53.3 +0.6
baz=211,SNR=127
SMRC **Santa Marta, M** 17.64 97 eP Pn 16 39 51.0 -1.3
BRAL **Brewton** 17.67 14 ePn P 16 39 54.7 +1.6
comp=Z,9µm,1.2s
BRAL **Brewton** 17.67 14 P P 16 39 54.8 +1.6
baz=196,SNR=109
348A **Jackson** 17.72 12 ePn P 16 39 54.0 +0.4
comp=Z,16µm,1.1s
348A **Jackson** 17.72 12 P P 16 39 55.5 +1.9
baz=193,SNR=92
554A **Perry** 17.75 24 P P 16 39 55.3 +1.4
baz=207,SNR=56
243A **Waterproof** 17.77 2 P P 16 39 55.9 +1.7
baz=181,SNR=70
NATX **Nacogdoches** 17.81 353 ePn P 16 39 56.2 +1.7
comp=Z,5µm,1.2s
NATX **Nacogdoches** 17.81 353 P P 16 39 56.0 +1.4
baz=171,SNR=105
349A **Repton** 17.81 14 P P 16 39 56.9 +2.3
baz=195,SNR=191
JCT **Junction City** 17.86 338 ePn P 16 39 57.3 +2.1
comp=Z,1µm,0.8s
JCT **Junction City** 17.86 338 eP P 16 39 57.3 +2.1
JCT pmax pmax
comp=Z,1µm,0.8s
JCT **Junction City** 17.86 338 P P 16 39 57.3 +2.1
baz=154,SNR=143
452A **Marianna** 17.90 20 P P 16 39 58.1 +2.5
baz=202,SNR=62
241A **Mo Tay, Goldon** 17.93 358 P P 16 39 57.2 +1.3
baz=177,SNR=111
242A **Grayson** 17.95 360 P P 16 39 57.8 +1.6
baz=179,SNR=39
758A **Lake Helen** 17.95 32 P P 16 39 56.9 +0.7
baz=216,SNR=52
244A **Avery, Jackson** 17.97 4 P P 16 39 57.4 +1.0
baz=184,SNR=88
240A **Hunter Patters** 17.99 355 ePn P 16 39 58.1 +1.5
comp=Z,8µm,1.3s
240A **Hunter Patters** 17.99 355 P P 16 39 58.3 +1.7
baz=174,SNR=50
PLMC **San Jos¨ del** 18.00 119 eP P 16 39 57.7 +0.7
245A **Little AP, Sta** 18.03 6 P P 16 39 59.6 +2.5
baz=186,SNR=70
HELC **Santa Helena** 18.04 114 eP Pn 16 39 57.8 +0.3
HPIG 18.06 317 ePn P 16 39 59.1 +1.5
comp=Z,3µm,1.2s
HPIG 18.06 317 eP P 16 39 59.2 +1.5
555A **McAlpin** 18.08 26 ePn P 16 39 59.0 +1.3
comp=Z,19µm,1.3s
555A **McAlpin** 18.08 26 P P 16 39 58.6 +0.9
baz=209,SNR=167
350A **Dozier** 18.09 16 P P 16 39 59.5 +1.8
baz=198,SNR=47
246A **Jackson Lee, B** 18.10 8 P P 16 39 59.7 +1.8
baz=189,SNR=6.9
ZARC **Zaragoza, Cauc** 18.10 109 eP P 16 39 58.5 +0.5
657A **Interlachen** 18.13 30 P Pn 16 39 58.5 +0.4
baz=213,SNR=66
VBMS **Vicksburg** 18.16 4 ePn Pn 16 39 59.6 +1.2
comp=Z,5µm,1.0s
VBMS **Vicksburg** 18.16 4 P Pn 16 39 59.6 +1.2
baz=184,SNR=66
351A **Pinckard** 18.16 18 P Pn 16 39 59.7 +1.2
baz=200,SNR=53
453A **Whigham** 18.20 22 P Pn 16 40 00.4 +1.4
baz=204,SNR=116
247A **Quitman** 18.21 9 P Pn 16 40 00.8 +1.6
baz=190,SNR=49
556A **Lake Butler** 18.23 28 P Pn 16 40 00.4 +1.0
baz=211,SNR=84
658A **Bunnell** 18.29 31 P Pn 16 40 00.3 +0.2
baz=215,SNR=26
248A **Dixon Mills** 18.41 12 P Pn 16 40 02.8 +1.2
baz=193,SNR=116
249A **Camden** 18.43 13 P Pn 16 40 02.6 +0.8
baz=195,SNR=213
142A **Monroe** 18.43 0 P Pn 16 40 02.1 +0.3
baz=180,SNR=44
YOTC **Yotoco, Valle** 18.44 121 eP Pn 16 40 03.4 +1.2
141A **Papa Simpson,** 18.50 358 P P 16 40 02.6 +0.3
baz=177,SNR=92
WHTX **Lake Whitney,** 18.55 345 eP Pn 16 40 03.6 +0.4
comp=Z,3µm,0.8s
WHTX **Lake Whitney,** 18.55 345 P Pn 16 40 03.4 +0.2
baz=163,SNR=103
557A **Orange Park** 18.55 29 P Pn 16 40 03.3 +0.1
baz=212,SNR=113
352A **Blakely** 18.56 19 eP Pn 16 40 04.5 +1.1
comp=Z,18µm,1.3s
352A **Blakely** 18.56 19 P Pn 16 40 04.0 +0.6
baz=202,SNR=212
144A **Alexander Plac** 18.57 4 P Pn 16 40 04.2 +0.7
baz=184
140A **Cam and Jess,** 18.58 356 eP Pn 16 40 04.0 +0.5
comp=Z,5µm,1.1s
140A **Cam and Jess,** 18.58 356 P Pn 16 40 03.7 +0.2
baz=175,SNR=54
145A **Houston Renfro** 18.59 6 P Pn 16 40 04.2 +0.5
baz=186,SNR=80
143A **Socs Landing,** 18.60 2 eP Pn 16 40 03.9 +0.1
comp=Z,5µm,1.0s
143A **Socs Landing,** 18.60 2 P P 16 40 03.5 +0.3
baz=182,SNR=147
455A **Stateville** 18.60 25 P Pn 16 40 04.4 +0.6
baz=208,SNR=41
GUYC **Guyana, Colomb** 18.61 116 eP Pn 16 40 08.0 +3.4
TXAR **Lajitas Array** 18.63 327 P Pn 16 40 05.5 +1.1
comp=Z,4.5nm,0.3s,baz=154,slow=9.7,SNR=448
TX31 **Lajitas Ar. Si** 18.64 327 eP Pn 16 40 05.8 +1.4
250A **Grady** 18.64 16 eP Pn 16 40 05.1 +0.8
comp=Z,5µm,1.1s
250A **Grady** 18.64 16 P Pn 16 40 05.5 +1.2
baz=197,SNR=120
CODC **Agust¨n Codaz** 18.66 101 eP P 16 40 03.1 -1.1
353A **Camilla** 18.68 21 P Pn 16 40 05.9 +1.1
baz=204,SNR=225
H06E1 **SOCORRO T-PHAS** 18.69 287 T T 16 59 13.8
H06S1 **SOCORRO T** 18.71 287 T T 16 59 11.8
SNR=342
146A **Union** 18.72 8 eP Pn 16 40 05.7 +0.4
comp=Z,5µm,1.0s
146A **Union** 18.72 8 P Pn 16 40 05.7 +0.4
baz=189,SNR=56
H06N1 **SOCORRO T-PHAS** 18.77 287 T T 16 59 13.4
SNR=45
RREF **El Recreo** 18.81 117 eP Pn 16 40 10.9 +3.8
PTBC **PUERTO BERRIO,** 18.85 111 eP Pn 16 40 07.0 -0.1
147A **Livingston** 18.88 10 eP Pn 16 40 07.9 +0.7
comp=Z,43µm,1.8s
147A **Livingston** 18.88 10 P Pn 16 40 07.5 +0.3
baz=191,SNR=55
ANIL **Santa Ana** 18.97 118 eP Pn 16 40 10.4 +1.7
ANIL eP P 16 40 12.3 +4.5
148A **Greensboro** 18.98 12 P Pn 16 40 08.6 +0.2
baz=193,SNR=77
251A **Midway** 18.98 18 P P 16 40 08.1 +0.6
baz=200,SNR=148
TOLC **Tolima** 18.99 118 eP Pn 16 40 10.9 +1.9
TIGA **Tifton** 18.99 23 P Pn 16 40 08.9 +0.3
baz=205,SNR=393
456A **Hilliard** 19.01 27 eP Pn 16 40 08.9 0.0
comp=Z,8µm,1.0s
456A **Hilliard** 19.01 27 P Pn 16 40 08.6 -0.2
baz=211,SNR=41
POPC **Popayan, Colom** 19.02 126 eP Pn 16 40 10.5 +1.3
149A **Jones** 19.10 14 P Pn 16 40 10.2 +0.3
baz=195,SNR=160
252A **Lumpkin** 19.10 19 P Pn 16 40 10.1 +0.2
baz=202,SNR=137
Z43A **Armstrong Fami** 19.11 2 P P 16 40 09.6 +0.7
baz=182,SNR=16
457A **Yulee** 19.14 29 P Pn 16 40 10.2 -0.1
baz=212,SNR=44
Z41A **Richland Creek** 19.15 358 eP Pn 16 40 11.6 +1.1
comp=Z,23µm,1.8s
Z41A **Richland Creek** 19.15 358 P Pn 16 40 10.1 -0.3
baz=177,SNR=76
Z42A **Norrel Spur, H** 19.16 0 P P 16 40 09.4 0.0
baz=180,SNR=56
Z40A **Long Farm, Mag** 19.18 357 P P 16 40 10.2 +0.5
baz=176,SNR=69
355A **Pearson** 19.20 25 P P 16 40 10.4 +0.5
baz=208,SNR=47
LGNH **LÖgne** 19.20 74 eP Pn 16 40 11.4 +0.2
comp=Z,10µm,1.8s
Z44A **Pea Ridge, Bel** 19.22 4 P P 16 40 10.6 +0.6
baz=184,SNR=68
OTAV **Otavalo** 19.22 134⇑ iP Pn 16 40 12.1 +0.2
comp=Z,1µm,1.6s
OTAV **Otavalo** 19.22 134 eP Pn 16 40 12.3 +0.3
OTAV **Otavalo** 19.22 134 ceP Pn 16 40 12.3 +0.3
OTAV pmax pmax
comp=Z,316nm,2.5s
OCAC **Ocana** 19.27 105 eP P 16 40 10.2 -0.7
Z46A **Louisville** 19.29 8 P Pn 16 40 11.9 -0.2
baz=189,SNR=77
150A **Eclectic** 19.30 16 P Pn 16 40 12.2 -0.1
baz=197,SNR=240
BRRC **Barranca, Sant** 19.30 109 eP P 16 40 11.5 +0.3
SOTA **Rioblanco** 19.32 126 eP Pn 16 40 15.8 +2.7
GCUF **Volcan Galeras** 19.34 130 eP Pn 16 40 15.2 +1.8
253A **Americus** 19.36 21 P Pn 16 40 12.7 -0.3
baz=203,SNR=55
PCON **Cinco Dias** 19.36 126 eP Pn 16 40 13.6 -0.1
Z45A **Winona** 19.37 6 eP Pn 16 40 12.7 -0.4
comp=Z,28µm,2.0s
Z45A **Winona** 19.37 6 P P 16 40 12.6 +0.8
baz=186,SNR=80
CRUC **La Cruz** 19.41 128 eP Pn 16 40 14.1 0.0
MARP **Paez Belalcaza** 19.41 123 eP Pn 16 40 15.6 +1.6
151A **Opelika** 19.41 17 P Pn 16 40 13.7 0.0
baz=199,SNR=218
Z47A **Carrollton** 19.43 10 P Pn 16 40 13.5 -0.3
baz=191,SNR=191
SLBS **Sierra La Lagu** 19.43 302 eP Pn 16 40 14.8 +0.8
comp=Z,7µm,1.9s
LRAL **Lakeview Retre** 19.47 13 eP Pn 16 40 14.3 0.0
comp=Z,10µm,1.5s
LRAL **Lakeview Retre** 19.47 13 P Pn 16 40 13.8 -0.5
baz=194,SNR=169
356A **Blackshear** 19.48 26 P Pn 16 40 14.1 -0.3
baz=210,SNR=172
Z48A **Northport** 19.69 11 P P 16 40 16.2 +0.9
baz=192,SNR=222
URIC **Uribia, Colomb** 19.71 94 eP P 16 40 13.6 -2.0
Y42A **Garnett, Star** 19.72 1 P P 16 40 15.8 +0.3
baz=180,SNR=56
152A **Waverly Hall** 19.73 19 eP Pn 16 40 16.9 -0.5
comp=Z,3µm,0.7s
152A **Waverly Hall** 19.73 19 P Pn 16 40 16.9 -0.5
baz=201,SNR=224
ROSC **El Rosal** 19.73 116 P Pn 16 40 19.6 +1.7
comp=Z,9.2nm,0.3s,baz=30,slow=1.0,SNR=282
ROSC LR LR 16 49 36.4
comp=Z,205µm,18.6s,baz=330,slow=42
ROSC **El Rosal** 19.73 116 eP Pn 16 40 19.6 +1.7
comp=Z,4µm,1.4s
ROSC **El Rosal** 19.73 116 eP Pn 16 40 20.2 +2.3
Z49A **Columbiana** 19.73 14 P P 16 40 16.5 +0.8
baz=196,SNR=201
ABTX **Abilene, Hawle** 19.76 341 eP Pn 16 40 17.1 -0.7
comp=Z,2µm,0.7s
ABTX **Abilene, Hawle** 19.76 341 P Pn 16 40 17.1 -0.7
baz=157,SNR=773
Y41A **Eaglette Beard** 19.77 359 P P 16 40 16.1 0.0
baz=178,SNR=70
GIRC **Giron, Santand** 19.79 109 eP P 16 40 17.7 +1.0
CCAR **Cane Creek** 19.80 1 eP P 16 40 17.1 +0.7
comp=Z,13µm,1.4s
PRAC **Prado** 19.81 120 eP Pn 16 40 18.6 +0.1
Y43A **Makayla and Ka** 19.82 3 P P 16 40 17.2 +0.5
baz=183,SNR=14
357A **Townsend** 19.85 28 P P 16 40 17.9 +1.0
baz=211,SNR=43
255A **Hazlehurst** 19.86 25 eP P 16 40 17.9 +0.8
comp=Z,16µm,1.7s
255A **Hazlehurst** 19.86 25 P P 16 40 18.0 +0.9
baz=208,SNR=59
Y45A **Yeager Farm, C** 19.88 6 P P 16 40 18.3 +1.0
baz=187,SNR=50
Y44A **Strider, Charl** 19.91 5 P P 16 40 18.5 +0.8
baz=185,SNR=68
LPIG **La Paz** 19.92 303 P Pn 16 40 20.5 +0.8
comp=Z,26nm,0.3s,baz=144,slow=3.7,SNR=24
LPIG LR LR 16 48 26.8
comp=Z,903µm,18.4s,baz=120,slow=38
LPIG **La Paz** 19.92 303 eP Pn 16 40 21.4 +1.7
BETC **Betania** 19.92 123 eP Pn 16 40 20.5 +0.6
Y40A **Okolona** 19.92 357 P P 16 40 18.1 +0.3
baz=176,SNR=73
Z50A **Ashland** 19.94 15 eP Pn 16 40 19.3 -0.5
comp=Z,1µm,1.1s
Z50A **Ashland** 19.94 15 P P 16 40 18.9 +1.0
baz=197,SNR=180
Y46A **Houston** 19.98 8 P P 16 40 19.0 +0.7
baz=189,SNR=91
BARC **Barichara** 19.98 110 eP Pn 16 40 20.5 -0.3
153A **Fort Valley** 20.00 21 P P 16 40 19.6 +1.0
baz=203,SNR=53
256A **Glennville** 20.15 26 P P 16 40 21.0 +0.7
baz=209,SNR=241
PAMC **Pamplona, Colo** 20.15 107 eP P 16 40 21.2 +0.3
Y47A **UCPARC, Winfie** 20.15 10 P P 16 40 21.0 +0.7
baz=191,SNR=129
Z51A **Franklin** 20.20 17 P P 16 40 21.0 +0.2
baz=199,SNR=121
154A **Montrose** 20.23 22 eP P 16 40 21.4 +0.3
comp=Z,11µm,1.1s
154A **Montrose** 20.23 22 P P 16 40 22.0 +0.9
baz=205,SNR=130
Y48A **Jasper** 20.29 12 P P 16 40 22.3 +0.5
baz=193,SNR=164
Z52A **Williamson** 20.30 19 P P 16 40 22.4 +0.4
baz=201,SNR=98
CHIC **Chingaza** 20.34 116 eP Pn 16 40 24.7 -0.5
RUSC **La Rusia** 20.36 112 eP Pn 16 40 25.1 -0.3
X40A **Basin Creek Fa** 20.38 358 eP P 16 40 22.5 -0.2
comp=Z,8µm,1.6s
X40A **Basin Creek Fa** 20.38 358 P P 16 40 21.9 -0.8
baz=177,SNR=120
X41A **Kaden, Bauxite** 20.38 359 P P 16 40 22.9 +0.2
baz=178,SNR=87
Y49A **Blount Mountai** 20.39 14 eP P 16 40 23.7 +0.8
comp=Z,3µm,1.0s
Y49A **Blount Mountai** 20.39 14 P P 16 40 23.7 +0.8
baz=195,SNR=280
FLOC **Florencia** 20.41 126 eP Pn 16 40 25.8 +0.2
FLOC eP P 16 40 26.5 +3.3
X43A **Marvell** 20.43 3 eP P 16 40 23.3 0.0
comp=Z,36µm,2.0s
X43A **Marvell** 20.43 3 P P 16 40 23.4 +0.1
baz=183,SNR=26
X42A **Stuttgart** 20.44 1 P P 16 40 23.4 +0.1
baz=181,SNR=18
X45A **UM Field Stati** 20.45 6 P P 16 40 23.5 0.0
baz=187,SNR=128
X44A **Crenshaw** 20.45 5 P P 16 40 23.3 -0.2
baz=185,SNR=53
MIAR **Mount Ida** 20.47 356 eP P 16 40 24.0 +0.3
comp=Z,6µm,1.2s
MIAR **Mount Ida** 20.47 356 eP P 16 40 24.0 +0.3
MIAR pmax pmax
comp=Z,6µm,1.2s
MIAR **Mount Ida** 20.47 356 P P 16 40 23.2 -0.5
baz=175,SNR=220
X39A **Fountain Ranch** 20.47 355 P P 16 40 24.5 +0.7
baz=174
155A **Kite** 20.48 24 P P 16 40 24.5 +0.7
baz=207,SNR=627
SDDR **Presa de Saban** 20.52 73 eP P 16 40 24.6 +0.2
comp=Z,4µm,1.5s
SDDR LR LR
comp=Z,741µm,20.0s
257A **Skidaway Islan** 20.52 28 eP P 16 40 25.1 +0.8
comp=Z,17µm,1.4s
257A **Skidaway Islan** 20.52 28 P P 16 40 25.5 +1.2
baz=211,SNR=37
OXF **Oxford** 20.53 6 eP P 16 40 23.8 -0.6
comp=Z,6µm,1.1s
OXF **Oxford** 20.53 6 eP P 16 40 23.8 -0.6
OXF pmax pmax
comp=Z,6µm,1.1s
OXF **Oxford** 20.53 6 P P 16 40 24.2 -0.2
baz=187,SNR=157
Y50A **Piedmont** 20.59 15 P P 16 40 25.4 +0.4
baz=197,SNR=126
UALR **University of** 20.66 359 eP P 16 40 26.8 +1.1
comp=Z,8µm,1.1s
Z53A **Montello** 20.66 21 P P 16 40 26.5 +0.7
baz=203,SNR=248
X46A **Booneville** 20.68 8 P P 16 40 25.8 -0.1
baz=189,SNR=63
X37A **Clayton** 20.68 352 eP P 16 40 26.6 +0.5
comp=Z,16µm,1.6s
X37A LR LR
comp=Z,837µm,22.0s
X47A **Russelville** 20.75 10 P P 16 40 26.7 -0.1
baz=191,SNR=126
Y51A **Rockmart** 20.77 17 P P 16 40 27.5 +0.4
baz=199,SNR=322
GOGA **Godfrey** 20.82 21 eP P 16 40 27.7 +0.2
comp=Z,6µm,1.4s
GOGA LR LR
comp=Z,2230µm,21.0s
GOGA **Godfrey** 20.82 21 eP P 16 40 27.7 +0.2
GOGA pmax pmax
comp=Z,6µm,1.4s
GOGA **Godfrey** 20.82 21 P P 16 40 28.0 +0.5
baz=204,SNR=167
X48A **Hartselle** 20.83 12 eP P 16 40 27.7 +0.1
comp=Z,7µm,1.3s
X48A **Hartselle** 20.83 12 P P 16 40 27.6 -0.1
baz=193,SNR=360
Z54A **Sparta** 20.88 22 P P 16 40 28.5 +0.3
baz=205,SNR=130
156A **Sylvania** 20.90 26 P P 16 40 28.7 +0.3
baz=209,SNR=159
W43A **Forest City** 21.00 3 P P 16 40 29.2 -0.2
baz=183
Y52A **Lilburn** 21.04 19 eP P 16 40 30.5 +0.6
comp=Z,6µm,1.2s
Y52A **Lilburn** 21.04 19 P P 16 40 30.1 +0.2
baz=202,SNR=186
X49A **Woodville** 21.04 13 P P 16 40 30.3 +0.4
baz=195,SNR=212
W41B **Gary Mavity, V** 21.05 360 eP P 16 40 29.5 -0.5
comp=Z,7µm,1.5s
W41B **Gary Mavity, V** 21.05 360 P P 16 40 29.6 -0.4
baz=179,SNR=153
W44A **Shelby Farms P** 21.11 5 P P 16 40 30.1 -0.6
baz=186
W39A **Magazine** 21.13 356 eP P 16 40 31.4 +0.6
comp=Z,5µm,1.1s
W39A **Magazine** 21.13 356 P P 16 40 30.8 -0.1
baz=175,SNR=110
Z55A **Blythe** 21.13 24 P P 16 40 31.4 +0.5
baz=207,SNR=83
X50B **Fort Payne** 21.15 15 P P 16 40 31.5 +0.4
baz=197,SNR=285
W42A **Bald Knob** 21.16 1 P P 16 40 30.8 -0.3
baz=181
WHAR **Wooly Hollow** 21.17 359 eP P 16 40 31.5 +0.3
comp=Z,5µm,1.3s
PLAL **Pickwick Lake** 21.17 9 eP P 16 40 31.0 -0.3
comp=Z,3µm,1.3s
Y53A **Monroe** 21.18 20 P P 16 40 32.3 +0.9
baz=203,SNR=83
W45A **Hickory Valley** 21.19 7 P P 16 40 30.4 -1.2
baz=187,SNR=16
GRTK **Grand Turk** 21.26 67 eP P 16 40 32.7 +0.3
comp=Z,11µm,1.3s
GRTK **Grand Turk** 21.26 67 IAmb IAmb 16 41 08.3
comp=Z,45µm,1.4s
W46A **Michie** 21.27 8 P P 16 40 31.7 -0.7
baz=189,SNR=65
GDL2 **Guadalupe Moun** 21.30 330 eP P 16 40 33.9 +1.1
TAMC **Tame, Arauca** 21.32 109 eP P 16 40 33.5 +0.4
MNTX **Cornudas Mount** 21.40 327 eP P 16 40 34.9 +1.1
comp=Z,2µm,0.8s
MNTX **Cornudas Mount** 21.40 327 P P 16 40 34.7 +0.8
baz=142,SNR=1000
X51A **Calhoun** 21.46 16 eP P 16 40 34.1 -0.2
comp=Z,14µm,1.3s
X51A **Calhoun** 21.46 16 P P 16 40 34.6 +0.2
baz=199,SNR=127
HBAR **Harrisburg** 21.47 3 eP P 16 40 34.6 +0.2
comp=Z,10µm,1.3s
WMOK **Wichita Mounta** 21.49 345 eP P 16 40 34.2 -0.6
comp=Z,2µm,1.0s
WMOK **Wichita Mounta** 21.49 345 eP P 16 40 34.4 -0.4
WMOK pmax pmax

comp=Z,2µm,1.0s
WMOK Wichita Mounta 21.49 345 P P 16 40 34.2 -0.6
baz=162,SNR=354
Y54A Tignall 21.50 22 P P 16 40 35.1 +0.3
baz=205,SNR=416
W47A Westpoint 21.51 10 P P 16 40 33.8 -1.1
baz=191,SNR=190
W48A Pulaski 21.52 12 P P 16 40 34.6 -0.5
baz=193,SNR=239
SDV Santo Domingo 21.61 101 P P 16 40 35.4 -1.0
comp=Z,130nm,0.7s,baz=265,slow=5.2,SNR=17
SDV LR LR 16 50 38.6
comp=Z,321µm,19.8s,baz=282,slow=42
SDV Santo Domingo 21.61 101 eP P 16 40 34.9 -1.5
comp=Z,960nm,0.8s
SDV Santo Domingo 21.61 101 eP P 16 40 34.0 -2.4
W49A Belvidere 21.64 13 P P 16 40 36.5 +0.2
baz=195,SNR=313
V41A Mountainview 21.66 360 P P 16 40 36.8 +0.2
baz=179,SNR=180
RGRS Roger Stewart 21.68 28 eP P 16 40 35.9 -0.9
comp=Z,14µm,0.7s
V42A Cord 21.69 1 P P 16 40 35.4 -1.5
baz=181,SNR=175
V43A Jonesboro 21.70 3 P P 16 40 37.2 +0.2
baz=184
SDD Santo Domingo 21.71 75 eP P 16 40 37.3 0.0
comp=Z,8µm,1.4s
SDD LR LR
comp=Z,1594µm,20.0s
X52A Dahlonega 21.77 18 P P 16 40 37.8 0.0
baz=201,SNR=117
V44A Blytheville 21.79 5 P P 16 40 37.1 -0.8
baz=185
V45A Humboldt 21.80 7 P P 16 40 36.8 -1.1
baz=188,SNR=39
SWET Sewanee 21.81 14 eP P 16 40 38.0 -0.2
comp=Z,8µm,1.3s
NHSC New Hope 21.86 28 eP P 16 40 39.2 +0.6
comp=Z,17µm,1.3s
NHSC LR LR
comp=Z,1102µm,20.0s
NHSC New Hope 21.86 28 P P 16 40 39.2 +0.6
baz=212,SNR=40
X53A Estanollee 21.87 20 P P 16 40 38.5 -0.3
baz=203,SNR=111
GNAR Gosnell 21.92 4 eP P 16 40 38.2 -1.1
comp=Z,10µm,1.4s
W50A Signal Mountai 21.94 15 eP P 16 40 39.1 -0.5
comp=Z,5µm,1.2s
W50A Signal Mountai 21.94 15 P P 16 40 38.9 -0.6
baz=197,SNR=255
V46A Holladay 21.97 9 P P 16 40 38.1 -1.7
baz=190,SNR=441
HODGE Hodges 21.99 22 eP P 16 40 39.6 -0.5
comp=Z,6µm,1.6s
OK005 Luther M Schoo 22.02 349 eP P 16 40 42.2 +1.8
TUL1 Leonard 22.04 352 eP P 16 40 40.0 -0.6
comp=Z,5µm,1.3s
TUL1 Leonard 22.04 352 P P 16 40 39.8 -0.8
baz=170,SNR=86
W51A Cleveland 22.05 16 P P 16 40 40.9 +0.2
baz=199,SNR=120
EPT El Paso 22.06 326 eP P 16 40 41.0 0.0
comp=Z,2µm,1.0s
V47A Nunnelly 22.09 10 P P 16 40 40.2 -0.9
baz=191,SNR=328
MSTX Muleshoe 22.10 336 eP P 16 40 41.0 -0.4
comp=Z,2µm,0.8s
MSTX Muleshoe 22.10 336 P P 16 40 40.7 -0.7
baz=151,SNR=611
V48A Smith Brothers 22.12 11 eP P 16 40 40.7 -0.9
comp=Z,6µm,1.4s
V48A Smith Brothers 22.12 11 P P 16 40 40.6 -0.9
baz=193,SNR=369
U41A Viola 22.22 0 P P 16 40 41.0 -1.6
baz=180,SNR=138
W52A Murphy 22.22 18 eP P 16 40 42.6 0.0
comp=Z,2µm,1.0s
W52A Murphy 22.22 18 P P 16 40 42.6 0.0
baz=201,SNR=88
HHAR Hobbs 22.22 356 eP P 16 40 41.3 -1.3
comp=Z,3µm,1.2s
U42A Revenden 22.24 2 P P 16 40 40.8 -1.9
baz=182,SNR=206
U40A Yellville 22.24 358 P P 16 40 41.6 -1.2
baz=178,SNR=62
U43A Rector 22.29 4 P P 16 40 41.6 -1.7
baz=184,SNR=41
WVT Waverly 22.33 9 eP P 16 40 42.0 -1.7
comp=Z,2µm,1.1s
WVT Waverly 22.33 9 eP P 16 40 42.2 -1.5
WVT pmax pmax
comp=Z,2µm,1.1s
WVT Waverly 22.33 9 P P 16 40 42.4 -1.3
baz=190
V49A McMinnville 22.34 13 P P 16 40 43.2 -0.7
baz=195,SNR=246
U44B Burton Farm, H 22.35 6 P P 16 40 42.7 -1.2
baz=186,SNR=50
CPCT Cooper Cave 22.38 16 eP P 16 40 43.9 -0.4
comp=Z,5µm,1.1s
JSC Jenkinsville 22.41 24 eP P 16 40 44.4 -0.2
comp=Z,5µm,1.3s
JSC Jenkinsville 22.41 24 eP P 16 40 44.7 +0.1
JSC pmax pmax
comp=Z,5µm,1.3s
U45A Rockin P Farm, 22.42 7 P P 16 40 43.5 -1.2
baz=188,SNR=70
BG3 Lake Jocassee 22.44 20 eP P 16 40 45.0 +0.1
comp=Z,6µm,1.4s
V50A Pikevile 22.44 15 P P 16 40 44.7 -0.3
baz=197,SNR=218
U44A Portageville 22.48 5 P P 16 40 44.7 -0.6
baz=186,SNR=38
AMTX Amarillo 22.50 339 eP P 16 40 45.5 -0.2
comp=Z,2µm,0.8s
AMTX Amarillo 22.50 339 P P 16 40 45.0 -0.7
baz=155
U46A Springville 22.51 8 P P 16 40 44.0 -1.6
baz=189,SNR=92
W53A Cullowhee 22.53 19 P P 16 40 45.4 -0.5
baz=203,SNR=82
PAULI Pauline 22.68 22 eP P 16 40 47.1 -0.3
comp=Z,4µm,1.2s
PBMO Poplar Bluff 22.70 3 eP P 16 40 46.2 -1.4
comp=Z,2µm,0.9s
U47A Clarksville 22.72 10 P P 16 40 46.6 -1.3
baz=192,SNR=181
V51A Loudon 22.76 16 eP P 16 40 47.7 -0.6
comp=Z,6µm,1.3s
V51A Loudon 22.76 16 P P 16 40 48.1 -0.2
baz=199,SNR=233
TKL Tuckaleechee C 22.79 18 P P 16 40 48.2 -0.4
comp=Z,261nm,0.8s,baz=194,slow=7.7,SNR=72
TKL LR LR 16 50 45.4
comp=Z,1138µm,20.8s,baz=194,slow=40
TKL Tuckaleechee C 22.79 18 eP P 16 40 48.5 -0.1
comp=Z,11µm,1.5s
TKL Tuckaleechee C 22.79 18 P P 16 40 48.2 -0.4
TKL pmax pmax
comp=Z,261nm,0.8s
TKL MLR MLR
comp=Z,138µm,20.8s
T41A Mountain View 22.92 1 P P 16 40 48.6 -1.4
baz=180,SNR=271
T42A Van Buren 22.92 2 eP P 16 40 48.1 -1.9
comp=Z,1µm,0.9s
T42A LR LR
comp=Z,842µm,22.0s
T42A Van Buren 22.92 2 P P 16 40 48.0 -1.9
baz=182,SNR=265
U48A Cassie Pea, Po 22.93 11 P P 16 40 48.9 -1.1
baz=193,SNR=266
HSIG 22.99 313 eP P 16 40 51.5 +0.7
comp=Z,5µm,1.8s
HSIG LR LR
comp=Z,1244µm,20.0s
SRIG Santa Rosalia 23.00 308 eP P 16 40 51.9 +1.1
comp=Z,5µm,1.3s
SRIG Santa Rosalia 23.00 308 eP P 16 40 53.9 +3.0
T43A Greenville 23.01 4 P P 16 40 48.8 -2.0
baz=184,SNR=379
V52A Sevierville 23.01 18 eP P 16 40 50.9 0.0
comp=Z,13µm,1.8s
V52A Sevierville 23.01 18 P P 16 40 50.8 -0.2
baz=201,SNR=312
T44A Benton 23.07 5 P P 16 40 49.7 -1.8
baz=186,SNR=195
U49A Red Boiling Sp 23.09 13 P P 16 40 50.6 -1.0
baz=195,SNR=658
T45A Paducah 23.10 7 eP P 16 40 50.3 -1.4
comp=Z,5µm,1.0s
T45A Paducah 23.10 7 P P 16 40 50.4 -1.3
baz=188,SNR=86
V53A Saluda 23.10 19 eP P 16 40 51.8 0.0
comp=Z,7µm,1.5s
V53A Saluda 23.10 19 P P 16 40 51.5 -0.4
baz=203,SNR=148
U32A Winter Ranch, 23.11 346 eP P 16 40 50.8 -1.0
comp=Z,3µm,1.0s
KMSC Kings Mountain 23.14 23 eP P 16 40 52.1 -0.1
comp=Z,10µm,1.6s
KMSC Kings Mountain 23.14 23 P P 16 40 52.2 -0.1
baz=207,SNR=340
U50A Jamestown 23.21 15 P P 16 40 52.4 -0.5
baz=198,SNR=494
T46A Princeton 23.22 8 P P 16 40 51.7 -1.2
baz=190,SNR=335
T47A Sharon Grove 23.29 10 eP P 16 40 52.3 -1.3
comp=Z,4µm,1.1s
T47A Sharon Grove 23.29 10 P P 16 40 52.4 -1.2
baz=192,SNR=247
121A Cookes Peak, D 23.35 325 P P 16 40 56.0 +1.5
baz=138,SNR=1000
U51A La Follette 23.39 17 P P 16 40 54.5 -0.2
baz=200,SNR=197
319A Douglas 23.40 320 eP P 16 40 56.7 +1.8
comp=Z,4µm,1.1s
S41A Jillco Farms, 23.46 1 P P 16 40 53.4 -1.9
baz=180,SNR=203
S43A Fulton Ridge, 23.51 4 P P 16 40 53.8 -2.0
baz=184,SNR=98
T48A Bowling Green 23.53 11 P P 16 40 54.3 -1.7
baz=193,SNR=58
U52A Thorn Hill 23.59 18 P P 16 40 56.0 -0.7
baz=201,SNR=93
S42A Caledonia 23.67 3 P P 16 40 55.4 -1.9
baz=183,SNR=121
TZTN Tazewell 23.68 17 eP P 16 40 56.9 -0.5
comp=Z,4µm,1.3s
TZTN Tazewell 23.68 17 P P 16 40 57.0 -0.5
baz=200,SNR=119
S44A Carbondale 23.70 6 P P 16 40 56.5 -1.0
baz=186,SNR=222
T49A Edmonton 23.71 13 eP P 16 40 56.8 -0.9
comp=Z,10µm,1.7s
T49A Edmonton 23.71 13 P P 16 40 56.5 -1.1
baz=195,SNR=189
SIUC Southern Illin 23.72 6 eP P 16 40 56.3 -1.5
comp=Z,5µm,0.8s
S45A Carrier Mills 23.75 7 P P 16 40 56.4 -1.6
baz=188,SNR=166
T50A Nancy 23.79 14 P P 16 40 56.7 -1.8
baz=197,SNR=205
U53A Fall Branch 23.81 19 P P 16 40 58.2 -0.5
baz=203,SNR=338
S46A Don Dixon Farm 23.87 9 P P 16 40 57.8 -1.4
baz=190,SNR=103
FVM French Village 23.90 3 eP P 16 40 57.3 -2.2
comp=Z,2µm,1.0s
FVM French Village 23.90 3 eP P 16 40 57.6 -1.9
FVM pmax pmax
comp=Z,2µm,1.0s
S47A Hartford 23.92 10 P P 16 40 58.0 -1.6
baz=192,SNR=142
CCM Cathedral Cave 23.94 2 eP P 16 40 57.9 -1.9
comp=Z,5µm,1.4s
CCM Cathedral Cave 23.94 2 eP P 16 40 57.9 -1.9
CCM pmax pmax
comp=Z,5µm,1.3s
CCM Cathedral Cave 23.94 2 P P 16 40 58.4 -1.4
baz=182
T51A Gray 23.96 16 P P 16 40 58.5 -1.6
baz=199,SNR=353
BNM Barren Site 23.98 329 eP P 16 41 01.7 +1.1
LPM Los Pinos Moun 24.11 329 eP P 16 41 03.4 +1.6
S48A Wiedeman Farm, 24.13 12 P P 16 40 60.0 -1.6
baz=194,SNR=109
USIN University of 24.16 9 eP P 16 41 00.4 -1.5
comp=Z,9µm,1.3s
LENM Lenitar 24.17 329 eP P 16 41 04.0 +1.7
R41A Rosebud 24.18 1 P P 16 41 00.4 -1.6
baz=181,SNR=329
R42A Luebbering 24.18 2 P P 16 41 00.2 -1.8
baz=183,SNR=198
R43A Red Bud 24.22 4 P P 16 41 01.3 -1.2
baz=185,SNR=210
R44A Waltonville 24.26 6 P P 16 41 01.5 -1.3
baz=187,SNR=100
MPR Mayaguez 24.30 77 PFAKE 16 41 10.0 +6.7
MPR LR LR
comp=Z,907µm,20.0s
CRPR Cabo Rojo, PR 24.30 77 eP P 16 40 59.7 -3.7
comp=Z,1µm,1.2s
CRPR LR LR
comp=Z,2070µm,20.0s
AGP Aguadilla 24.32 76 eP P 16 41 01.8 -1.7
comp=Z,4µm,1.5s
AGP LR LR
comp=Z,1443µm,20.0s
T52A Hallie 24.37 18 P P 16 41 03.1 -0.8
baz=201,SNR=95
R45A Skylar, Fairfi 24.40 7 P P 16 41 02.9 -1.1
baz=188,SNR=126
S49A Springfield 24.41 13 P P 16 41 02.8 -1.4
baz=196,SNR=125
R46A Gibon Southern 24.42 9 P P 16 41 03.4 -0.9
baz=190,SNR=72
LAZ Ladron 24.44 329 eP P 16 41 06.6 +1.9
S50A Richmond 24.52 15 P P 16 41 04.2 -1.0
baz=198,SNR=205
ANMO Albuquerque 24.54 331 P P 16 41 07.2 +1.5
comp=Z,633nm,0.9s,baz=144,slow=12,SNR=121
ANMO Albuquerque 24.54 331 eP P 16 41 07.2 +1.5
comp=Z,2µm,0.6s
ANMO Albuquerque 24.54 331 eP P 16 41 06.8 +1.2
ANMO pmax pmax
comp=Z,2µm,0.7s
ANMO Albuquerque 24.54 331 P P 16 41 06.7 +1.0
baz=144
SLM Saint Louis 24.56 3 eP P 16 41 04.0 -1.5
comp=Z,17µm,1.9s
SLM Saint Louis 24.56 3 eP P 16 41 04.5 -1.0
WCI Wyandotte Cave 24.64 11 eP P 16 41 05.1 -1.1
comp=Z,4µm,0.8s
WCI Wyandotte Cave 24.64 11 eP P 16 41 05.1 -1.1
WCI pmax pmax
comp=Z,4µm,0.8s
WCI Wyandotte Cave 24.64 11 P P 16 41 05.4 -0.8
baz=193
R47A Wooly Knot Far 24.66 10 P P 16 41 04.8 -1.6
baz=192,SNR=206
CNNC Cliffs of the 24.68 29 eP P 16 41 05.1 -1.5
comp=Z,941nm,0.6s
CNNC Cliffs of the 24.68 29 P P 16 41 06.0 -0.6
baz=214,SNR=56
S51A Beattyville 24.69 16 eP P 16 41 06.9 +0.2
comp=Z,4µm,1.3s
S51A Beattyville 24.69 16 P P 16 41 06.8 +0.1
baz=200,SNR=113
OBIP Obispado Ponce 24.78 77 eP P 16 41 04.8 -3.0
comp=Z,443nm,1.2s
OBIP LR LR
comp=Z,721µm,21.0s
Q42A Golden Eagle 24.82 3 P P 16 41 06.5 -1.4
baz=183,SNR=91
Q41A Truxton 24.84 2 P P 16 41 07.2 -0.8
baz=182,SNR=182
ICMP Isla Caja de M 24.84 78 eP P 16 41 05.9 -2.4
comp=Z,879nm,1.3s
ICMP LR LR
comp=Z,1007µm,20.0s
OLIL Olney 24.85 7 eP P 16 41 06.9 -1.2
comp=Z,5µm,0.8s
S52A Salyersville 24.87 17 P P 16 41 07.6 -0.7
baz=201,SNR=25
R48A Northridge Ran 24.89 12 P P 16 41 07.5 -1.0
baz=194,SNR=139
Q43A New Douglas 24.90 4 P P 16 41 07.7 -0.9
baz=185,SNR=248
EMPR Esperanza - Ma 24.90 76 eP P 16 41 06.2 -2.6
comp=Z,584nm,1.2s
EMPR LR LR
comp=Z,642µm,20.0s
Q44A Meyer Farm, Va 24.92 6 P P 16 41 07.9 -0.9
baz=187,SNR=306
R49A Shelbyville 24.93 13 P P 16 41 07.7 -1.2
baz=196,SNR=145
TUC Tucson 24.97 320 eP P 16 41 10.6 +1.2
TUC LR LR
comp=Z,2473µm,18.0s
TUC Tucson 24.97 320 eP P 16 41 10.6 +1.2
TUC MLR MLR
comp=Z,2473µm,18.0s
TUC Tucson 24.97 320 P P 16 41 10.7 +1.2
baz=132
Q45A Warren Harvey, 25.00 7 P P 16 41 08.1 -1.5
baz=189,SNR=303
ATAH Atahualpa 25.03 146 P P 16 41 12.2 +1.8
comp=Z,234nm,1.1s,baz=330,slow=7.6,SNR=22
ATAH LR LR 16 48 29.8
comp=Z,186µm,19.6s,baz=285,slow=30
R50A Paris 25.11 14 P P 16 41 09.4 -1.1
baz=198,SNR=437
SJG San Juan 25.22 77 P P 16 41 09.1 -2.6
comp=Z,113nm,0.8s,baz=277,slow=6.6,SNR=15
SJG PcP PcP 16 44 43.5 -1.3
comp=Z,34nm,0.7s,baz=243,slow=1.3,SNR=1.4
SJG LR LR 16 50 35.5
comp=Z,706µm,21.5s,baz=274,slow=36
SJG San Juan 25.22 77 eP P 16 41 08.6 -3.1
comp=Z,414nm,1.0s
SJG PcP PcP 16 44 43.5 -1.3
SJG San Juan 25.22 77 eP P 16 41 10.8 -1.0
SJG San Juan 25.22 77 eP P 16 41 09.1 -2.6
SJG pmax pmax
comp=Z,410nm,1.0s
Q46A CEJHS Indians, 25.24 9 P P 16 41 10.8 -0.8
baz=190,SNR=13
KSU1 Kansas State U 25.29 352 eP P 16 41 11.3 -0.8
comp=Z,1µm,0.8s
KSU1 Kansas State U 25.29 352 P P 16 41 11.3 -0.8
baz=169,SNR=45
Q47A Bedord North L 25.30 10 P P 16 41 10.8 -1.4
baz=192,SNR=107
BLA Blacksburg 25.31 22 eP P 16 41 12.2 -0.3
comp=Z,4µm,1.4s
BLA Blacksburg 25.31 22 eP P 16 41 12.1 -0.3
BLA pmax pmax
comp=Z,4µm,1.3s
BLA Blacksburg 25.31 22 P P 16 41 12.1 -0.3
baz=207,SNR=59
R51A Hillsboro 25.32 16 P P 16 41 11.2 -1.1
baz=199,SNR=185
Q48A North Vernon 25.42 12 P P 16 41 11.8 -1.6
baz=194,SNR=186
P42A Winchester 25.50 3 eP P 16 41 12.2 -1.8
comp=Z,2µm,1.0s
P42A Winchester 25.50 3 P P 16 41 12.5 -1.5
baz=184,SNR=114
HUMP Col San Antoni 25.51 77 eP P 16 41 11.5 -2.8
comp=Z,415nm,1.0s
HUMP LR LR
comp=Z,1110µm,22.0s
T25A Trinidad 25.51 337 eP P 16 41 15.9 +1.5
comp=Z,2µm,0.7s
T25A Trinidad 25.51 337 P P 16 41 16.2 +1.7
baz=151,SNR=100
CBYP Canovanas 25.52 77 eP P 16 41 10.5 -3.9
comp=Z,459nm,1.0s
CBYP LR LR
comp=Z,1349µm,20.0s
BLO Bloomington 25.52 10 eP P 16 41 12.6 -1.6
comp=Z,2µm,0.7s
BLO Bloomington 25.52 10 eP P 16 41 13.1 -1.1
BLO pmax pmax
comp=Z,2µm,0.7s
P44A Sand Creek, Wi 25.52 6 P P 16 41 12.9 -1.3
baz=187,SNR=95
P41A Barry, Barry 25.56 2 P P 16 41 14.0 -0.6
baz=182,SNR=54
CBKS Cedar Bluff 25.60 346 eP P 16 41 14.0 -1.0
comp=Z,3µm,1.4s
CBKS Cedar Bluff 25.60 346 eP P 16 41 14.5 -0.5
CBKS Cedar Bluff 25.60 346 P P 16 41 14.1 -1.0
baz=162,SNR=80
P43A Skaggs, Pawnee 25.61 5 P P 16 41 14.1 -0.9
baz=185,SNR=75
R52A Catlettsburg 25.61 17 P P 16 41 13.7 -1.3
baz=201,SNR=68
Q49A Aurora 25.67 13 P P 16 41 14.0 -1.6
baz=196,SNR=70
P45A Graceland, Par 25.68 8 eP P 16 41 14.0 -1.7
comp=Z,3µm,0.8s
P45A Graceland, Par 25.68 8 P P 16 41 14.0 -1.7
baz=189,SNR=138
Q50A Georgetown 25.73 15 P P 16 41 15.0 -1.1
baz=198,SNR=148
MTP Monte Pirata 25.79 77 eP P 16 41 14.1 -2.8
comp=Z,1µm,1.2s
MTP LR LR
comp=Z,1270µm,20.0s
P46A Rosedale 25.84 9 P P 16 41 16.1 -1.0
baz=190,SNR=178
P47A Martinsville 25.87 10 P P 16 41 15.5 -1.8
baz=192,SNR=80
P48A Milroy 26.00 12 P P 16 41 17.0 -1.6
baz=194,SNR=176
O41A Passleys Farm, 26.00 2 P P 16 41 17.6 -1.0
baz=182,SNR=57
X18A Snowflake 26.04 325 eP P 16 41 20.8 +1.6
comp=Z,1µm,1.1s
214A Organ Pipe Nat 26.05 317 P P 16 41 20.4 +1.2
baz=128,SNR=122
Q51A Peebles 26.06 16 eP P 16 41 18.1 -1.0
comp=Z,3µm,1.0s
Q51A Peebles 26.06 16 P P 16 41 18.4 -0.7
baz=199,SNR=356
CUPR Culebra, Puert 26.06 77 eP P 16 41 15.7 -3.6
comp=Z,137nm,0.9s
CUPR LR LR
comp=Z,478µm,20.0s
O42A Bath 26.12 3 P P 16 41 18.7 -0.9
baz=184,SNR=50
O44A Mansfield 26.21 6 P P 16 41 19.0 -1.5
baz=188,SNR=45
P49A Miami Univ. Ec 26.22 13 P P 16 41 18.5 -2.0
baz=196,SNR=162
O43A Sugar Creek Fa 26.27 5 P P 16 41 20.3 -0.7
baz=186,SNR=75
Q52A Bidwell 26.30 17 P P 16 41 20.4 -0.9
baz=201,SNR=214
W18A Petrified Fore 26.35 326 eP P 16 41 23.7 +1.6
comp=Z,1µm,1.0s
W18A Petrified Fore 26.35 326 P P 16 41 23.9 +1.9
baz=138,SNR=46
STVI Saint Thomas 26.38 77 eP P 16 41 18.7 -3.5
comp=Z,2µm,1.2s
STVI LR LR
comp=Z,1076µm,20.0s
O45A Potomac 26.39 7 P P 16 41 20.7 -1.4
baz=189,SNR=312
SDCO Great Sand Dun 26.47 336 eP P 16 41 24.6 +1.4
comp=Z,2µm,1.4s
SDCO Great Sand Dun 26.47 336 P P 16 41 24.4 +1.2
baz=149,SNR=276
P50A Jamestown 26.50 14 P P 16 41 21.7 -1.4
baz=198,SNR=72
CDVI St. Croix 26.50 78 eP P 16 41 20.2 -3.2
comp=Z,698nm,1.0s
P51A Williamsport 26.56 16 eP P 16 41 22.4 -1.2
comp=Z,9µm,1.6s
P51A Williamsport 26.56 16 P P 16 41 22.3 -1.3
baz=199,SNR=70
KSCO Kaye Shedlock' 26.57 341 eP P 16 41 23.7 -0.2
comp=Z,1µm,0.7s
KSCO Kaye Shedlock' 26.57 341 P P 16 41 23.7 -0.2
baz=156,SNR=99
N41A Harden Midland 26.60 2 eP P 16 41 22.6 -1.4
comp=Z,956nm,0.9s
N41A Harden Midland 26.60 2 P P 16 41 22.8 -1.2
baz=182,SNR=71
SFIN Lafayette 26.61 8 eP P 16 41 22.1 -1.9
comp=Z,2µm,1.0s
SFIN Lafayette 26.61 8 P P 16 41 22.4 -1.6
baz=190,SNR=170
O47A Sheridan 26.61 10 P P 16 41 22.3 -1.8
baz=192,SNR=156
N39A Derby Farms, D 26.75 359 eP P 16 41 23.1 -2.2
comp=Z,3µm,1.5s
N39A Derby Farms, D 26.75 359 P P 16 41 24.1 -1.2
baz=179,SNR=37
N40A Mertquake, Sal 26.76 1 P P 16 41 24.6 -0.8

baz=181,SNR=22
N42A Yates City 26.76 3 P P 16 41 24.1 -1.3
baz=184,SNR=37
X16A Lo Mia Camp, P 26.82 323 eP P 16 41 27.7 +1.5
comp=Z,576nm,0.9s
O48A Farmland 26.82 12 P P 16 41 24.4 -1.6
baz=195,SNR=90
N44A Piper City 26.88 7 P P 16 41 25.1 -1.5
baz=188,SNR=174
O49A Covington 26.93 13 eP P 16 41 25.6 -1.4
comp=Z,1µm,0.9s
O49A Covington 26.93 13 P P 16 41 25.8 -1.2
baz=196,SNR=72
N43A Stutzman Famil 26.93 5 P P 16 41 25.6 -1.3
baz=186,SNR=112
P52A Corning 26.96 17 P P 16 41 26.3 -0.9
baz=201,SNR=58
R58B Mineral 26.96 25 P P 16 41 26.4 -0.8
baz=211,SNR=59
ABVI Anegada Island 27.00 76 eP P 16 41 25.1 -2.8
comp=Z,1µm,1.1s
ABVI LR LR
comp=Z,964µm,20.0s
N45A Kentland 27.01 8 P P 16 41 26.2 -1.4
baz=189,SNR=44
S22A 4UR Ranch, Cre 27.02 334 eP P 16 41 29.6 +1.4
comp=Z,811nm,0.9s
S22A 4UR Ranch, Cre 27.02 334 P P 16 41 29.9 +1.7
baz=147,SNR=652
P53A Whipple 27.04 18 eP P 16 41 26.9 -1.1
comp=Z,3µm,1.2s
P53A Whipple 27.04 18 P P 16 41 27.5 -0.5
baz=203,SNR=62
O50A Cable 27.05 14 P P 16 41 26.9 -1.2
baz=198,SNR=33
PCRV Puerto La Cruz 27.08 95 P P 16 41 27.9 -0.7
comp=Z,22nm,0.9s,baz=264,slow=8.6,SNR=2.7
PCRV LR LR 16 54 18.4
comp=Z,354µm,19.7s,baz=296,slow=41
N46A Monticello 27.16 9 P P 16 41 27.2 -1.8
baz=191,SNR=110
113A Mohawk Valley, 27.18 317 eP P 16 41 30.2 +0.8
comp=Z,1µm,1.4s
113A LR LR
comp=Z,1503µm,20.0s
M41A Milan 27.27 3 P P 16 41 28.7 -1.3
baz=183,SNR=110
M40A Post Highland 27.28 1 P P 16 41 29.1 -1.0
baz=181,SNR=80
ACSO Alum Creek Sta 27.29 15 eP P 16 41 28.9 -1.3
comp=Z,1µm,1.0s
ACSO Alum Creek Sta 27.29 15 P P 16 41 29.5 -0.7
baz=199,SNR=62
O51A Pataskala 27.31 16 P P 16 41 29.2 -1.1
baz=200,SNR=142
N47A Urbana 27.32 11 P P 16 41 28.5 -2.0
baz=193,SNR=84
MVCO Mesa Verde 27.34 331 eP P 16 41 32.0 +1.1
comp=Z,3µm,0.8s
MVCO Mesa Verde 27.34 331 P P 16 41 32.6 +1.6
baz=143,SNR=878
M39A Webster 27.35 360 P P 16 41 29.3 -1.4
baz=179,SNR=81
CBN Corbin Frederi 27.38 26 eP P 16 41 29.6 -1.4
comp=Z,8µm,1.7s
CBN Corbin Frederi 27.38 26 P P 16 41 30.9 0.0
baz=212,SNR=17
Q24A Divide 27.39 337 eP P 16 41 31.8 +0.3
comp=Z,580nm,1.0s
Q24A Divide 27.39 337 P P 16 41 32.5 +1.0
baz=151,SNR=30
M42A Sheffield 27.40 4 P P 16 41 30.6 -0.5
baz=184,SNR=24
N48A Decatur 27.43 12 P P 16 41 29.2 -2.2
baz=194,SNR=323
M43A Waltham Townsh 27.44 5 P P 16 41 29.8 -1.7
baz=186,SNR=205
Y14A Wickenburg 27.44 320 eP P 16 41 32.8 +1.1
comp=Z,613nm,1.1s
Y14A LR LR
comp=Z,2130µm,18.0s
M44A Midewin, Midew 27.48 7 eP P 16 41 30.7 -1.2
comp=Z,4µm,1.4s
M44A Midewin, Midew 27.48 7 P P 16 41 29.8 -2.1
baz=188,SNR=96
O52A Adamsville 27.49 17 eP P 16 41 30.6 -1.4
comp=Z,2µm,1.0s
O52A Adamsville 27.49 17 P P 16 41 30.7 -1.3
baz=202,SNR=125
WUAZ Wupatki 27.55 324 eP P 16 41 34.4 +1.6
comp=Z,643nm,0.9s
WUAZ LR LR
comp=Z,1258µm,18.0s
WUAZ Wupatki 27.55 324 P P 16 41 34.3 +1.4
baz=136,SNR=101
M45A Boilermakers S 27.58 8 P P 16 41 31.1 -1.6
baz=190,SNR=92
N49A Columbus Grove 27.66 13 eP P 16 41 31.8 -1.7
comp=Z,1µm,0.9s
N49A Columbus Grove 27.66 13 P P 16 41 32.1 -1.4
baz=196,SNR=36
MCWV Mont Chateau 27.70 21 P P 16 41 33.2 -0.7
baz=206,SNR=36
M46A Old House Fiel 27.73 9 eP P 16 41 31.9 -2.1
comp=Z,1µm,0.9s
M46A Old House Fiel 27.73 9 P P 16 41 32.5 -1.6
baz=192,SNR=16
N50A Nevada 27.76 15 P P 16 41 33.2 -1.1
baz=198,SNR=20
BGNE Belgrade 27.79 350 eP P 16 41 34.6 -0.1
comp=Z,2µm,1.0s
BGNE Belgrade 27.79 350 P P 16 41 34.7 +0.1
baz=167,SNR=38
SCIA State Center 27.79 358 eP P 16 41 33.4 -1.3
comp=Z,774nm,0.9s
SCIA State Center 27.79 358 P P 16 41 33.8 -0.9
baz=177,SNR=18
M47A Cromwell 27.80 10 P P 16 41 32.9 -1.8
baz=193,SNR=85
L40A Anamosa 27.94 1 eP P 16 41 34.5 -1.4
comp=Z,1µm,0.9s
L40A Anamosa 27.94 1 P P 16 41 34.2 -1.8
baz=181,SNR=71
SABA Saba 27.95 79 eP P 16 41 33.3 -3.0
comp=Z,3µm,2.0s
SABA LR LR
comp=Z,1417µm,22.0s
SABA Saba 27.95 79 eP P 16 41 33.5 -2.9
L42A Oliver, Polo 27.95 4 eP P 16 41 34.8 -1.3
comp=Z,3µm,1.3s
L42A Oliver, Polo 27.95 4 P P 16 41 34.7 -1.3
baz=185,SNR=108
L41A Preston 27.98 2 P P 16 41 34.8 -1.5
baz=183,SNR=81
L39A Vinton 27.99 0 P P 16 41 34.8 -1.6
baz=180,SNR=30
GLA Glamis 28.06 316 eP P 16 41 38.6 +1.4
comp=Z,1µm,1.3s
GLA LR LR
comp=Z,901µm,20.0s
GLA Glamis 28.06 316 eP P 16 41 38.9 +1.6
GLA pmax pmax
comp=Z,1µm,1.3s
GLA Glamis 28.06 316 P P 16 41 38.7 +1.4
baz=127,SNR=55
M48A Edgerton 28.09 12 eP P 16 41 35.2 -2.1
comp=Z,2µm,1.1s
M48A Edgerton 28.09 12 P P 16 41 35.8 -1.6
baz=195,SNR=42
N51A Ashland 28.09 16 eP P 16 41 35.5 -1.9
comp=Z,1µm,0.9s
N51A Ashland 28.09 16 P P 16 41 36.6 -0.7
baz=200,SNR=32
PV01 Paradox Valley 28.12 332 eP P 16 41 39.4 +1.4
SMRT St. Maarten 28.13 78 eP P 16 41 34.0 -4.0
comp=Z,490nm,1.1s
SMRT LR LR
comp=Z,944µm,22.0s
SMRT St. Maarten 28.13 78 eP P 16 41 33.4 -4.6
SEUS St. Eustatius 28.19 79 PFAKE 16 41 50.0 +12
SEUS LR LR
comp=Z,1349µm,22.0s
SEUS St. Eustatius 28.19 79 eP P 16 41 35.1 -3.4
OGNE Ogallala 28.19 344 eP P 16 41 38.1 -0.2
comp=Z,1µm,1.2s
OGNE Ogallala 28.19 344 P P 16 41 38.1 -0.2
baz=159,SNR=79
L43A Garden Prairie 28.20 5 P P 16 41 36.4 -1.9
baz=186,SNR=22
M49A Liberty Center 28.23 13 P P 16 41 37.3 -1.3
baz=196,SNR=28
L44A Lake County Fo 28.27 7 P P 16 41 37.5 -1.4
baz=188,SNR=36
SMCO Snowmass 28.29 335 eP P 16 41 40.7 +1.1
comp=Z,526nm,1.1s
SMCO LR LR
comp=Z,527µm,20.0s
Y12C Blythe 28.29 318 eP P 16 41 40.3 +1.1
comp=Z,2µm,2.0s
Y12C LR LR
comp=Z,1601µm,19.0s
Y12C Blythe 28.29 318 P P 16 41 40.6 +1.3
baz=128,SNR=49
ISCO Idaho Springs 28.30 338 eP P 16 41 40.5 +0.9
comp=Z,216nm,0.8s
ISCO LR LR
comp=Z,427µm,21.0s
ISCO Idaho Springs 28.30 338 eP P 16 41 40.5 +0.9
ISCO pmax pmax
comp=Z,220nm,0.9s
ISCO Idaho Springs 28.30 338 P P 16 41 40.2 +0.7
baz=151,SNR=50
PV05 Paradox Valley 28.32 331 eP P 16 41 40.7 +1.0
L46A Eue Claire 28.33 9 P P 16 41 36.2 -3.2
baz=192,SNR=15
PV03 Paradox Valley 28.34 331 eP P 16 41 41.2 +1.3
M50A Fremont 28.38 14 eP P 16 41 37.6 -2.3
comp=Z,800nm,1.0s
M50A Fremont 28.38 14 P P 16 41 38.6 -1.3
baz=198,SNR=53
PDMCI Parker Dam,Lak 28.39 319 P P 16 41 41.5 +1.4
baz=130,SNR=126
SKI Saint Kitts 28.41 79 eP P 16 41 37.5 -3.0
comp=Z,3µm,1.1s
SKI LR LR
comp=Z,3395µm,21.0s
SKI Saint Kitts 28.41 79 eP P 16 41 37.9 -2.7
SKI Saint Kitts 28.41 79 eP P 16 41 37.5 -3.0
SKI pmax pmax
comp=Z,3µm,1.1s
SKI MLR MLR
comp=Z,3395µm,21.0s
L47A Sherwood 28.47 11 P P 16 41 38.5 -2.2
baz=194,SNR=70
K41A Shullsburg 28.52 3 P P 16 41 39.8 -1.3
baz=183,SNR=46
M51A Elyria 28.53 16 P P 16 41 39.7 -1.5
baz=200,SNR=33
PV10 Paradox Valley 28.53 331 eP P 16 41 42.2 +0.6
NVRH Round Hill, Ne 28.54 80 eP P 16 41 43.3 +1.7
K39A Oelwein 28.57 0 P P 16 41 40.6 -1.0
baz=180,SNR=40
K40A Colesburg 28.58 1 P P 16 41 39.7 -2.0
baz=182,SNR=54
L48A N Adams 28.59 12 P P 16 41 39.8 -2.0
baz=195,SNR=177
SDMD Soldier's Deli 28.62 25 eP P 16 41 41.1 -1.0
comp=Z,305nm,0.8s
SWSC Sam W. Stewart 28.66 315 P P 16 41 43.5 +1.0
baz=125,SNR=74
PV09 Paradox Valley 28.67 331 eP P 16 41 43.6 +0.6
O56A Blue Knob Stat 28.69 22 eP P 16 41 41.8 -1.0
comp=Z,1µm,1.3s
O56A Blue Knob Stat 28.69 22 P P 16 41 42.0 -0.7
baz=208,SNR=76
IKP In-Ko-Pah, Jac 28.70 314 P P 16 41 43.9 +0.8
baz=124,SNR=97
U15A North Rim 28.73 325 eP P 16 41 45.1 +1.7
comp=Z,1µm,1.4s
U15A LR LR
comp=Z,1361µm,18.0s
K42A Prairie Point, 28.74 4 P P 16 41 42.0 -1.1
baz=185,SNR=22
W13A Hualapai Mount 28.75 321 eP P 16 41 45.1 +1.5
comp=Z,498nm,1.1s
W13A LR LR
comp=Z,1765µm,19.0s
K43A Burlington 28.75 6 eP P 16 41 40.9 -2.4
comp=Z,3µm,1.7s
K43A Burlington 28.75 6 P P 16 41 41.7 -1.5
baz=187,SNR=25
JFWS Jewell Farm 28.82 3 eP P 16 41 41.5 -2.3
comp=Z,2µm,1.2s
JFWS Jewell Farm 28.82 3 eP P 16 41 43.5 -0.3
JFWS pmax pmax
comp=Z,2µm,1.2s
JFWS Jewell Farm 28.82 3 P P 16 41 42.3 -1.5
baz=183,SNR=64
N54A Moraine State 28.83 19 eP P 16 41 40.4 -3.5
comp=Z,1µm,1.0s
N54A Moraine State 28.83 19 P P 16 41 42.6 -1.3
baz=204,SNR=65
BC3 Big Chuckawall 28.84 317 P P 16 41 46.0 +1.7
baz=127,SNR=166
L49A Milan 28.89 13 P P 16 41 42.9 -1.5
baz=196,SNR=21
MLYT Lee's Yard 28.92 81 eP P 16 41 41.3 -3.7
IRM Iron Mountain 28.95 318 P P 16 41 46.2 +1.1
baz=128,SNR=266
NEE2 Needles Airpor 28.99 319 P P 16 41 47.3 +1.8
baz=130,SNR=11
MONP2 Monument Peak 29.06 314 P P 16 41 47.2 +0.9
baz=124,SNR=63
K46A Dorr 29.06 10 P P 16 41 43.6 -2.4
baz=192,SNR=36
AAM Ann Arbor 29.09 13 eP P 16 41 44.0 -2.2
comp=Z,4µm,1.6s
AAM Ann Arbor 29.09 13 eP P 16 41 45.0 -1.2
AAM pmax pmax
comp=Z,4µm,1.6s
AAM Ann Arbor 29.09 13 P P 16 41 44.1 -2.2
baz=197
BAR Barrett 29.11 314 eP P 16 41 47.8 +1.1
comp=Z,780nm,1.6s
BAR LR LR
comp=Z,794µm,19.0s
K47A Vermontville 29.18 11 P P 16 41 44.0 -3.0
baz=194,SNR=58
J39A Decorah 29.20 1 P P 16 41 44.2 -3.0
baz=180,SNR=44
SSPA Standing Stone 29.26 22 eP P 16 41 44.8 -3.0
comp=Z,3µm,1.6s
SSPA Standing Stone 29.26 22 P P 16 41 47.1 -0.7
baz=209
J40A Soldiers Grove 29.29 2 P P 16 41 46.8 -1.1
baz=182,SNR=26
J41A Loganville 29.29 3 P P 16 41 47.8 -0.1
baz=184,SNR=54
J42A Columbus 29.29 4 P P 16 41 47.1 -0.9
baz=186,SNR=40
MVL Millersville 29.32 25 eP P 16 41 47.4 -0.9
comp=Z,2µm,1.4s
ANWB Willy Bob 29.34 79 eP P 16 41 47.4 -1.3
comp=Z,83nm,0.8s
ANWB LR LR
comp=Z,960µm,22.0s
ANWB Willy Bob 29.34 79 eP P 16 41 46.2 -2.4
PAGS Pennsylvania G 29.36 24 eP P 16 41 46.5 -2.1
comp=Z,3µm,1.8s
N23A Red Feather La 29.38 338 eP P 16 41 49.6 +0.5
comp=Z,324nm,1.0s
N23A LR LR
comp=Z,451µm,21.0s
N23A Red Feather La 29.38 338 P P 16 41 49.7 +0.5
baz=152,SNR=31
ALLY Alegheny Colle 29.40 18 eP P 16 41 47.6 -1.4
comp=Z,1µm,0.9s
BELC Belle Mtn. Jos 29.41 317 P P 16 41 50.5 +1.1
baz=127,SNR=76
J43A Natural Harves 29.41 5 P P 16 41 48.8 -0.3
baz=187,SNR=34
M54A Oil Creek Stat 29.43 19 eP P 16 41 47.7 -1.5
comp=Z,3µm,1.3s
M54A Oil Creek Stat 29.43 19 P P 16 41 48.5 -0.7
baz=205,SNR=51
TBG Guadaloupe-3 29.44 83 eP P 16 41 55.5 +5.9
KNB Kanab 29.44 325 eP P 16 41 51.2 +1.5
comp=Z,2µm,1.4s
KNB LR LR
comp=Z,1003µm,18.0s
KNB Kanab 29.44 325 eP P 16 41 51.5 +1.8
KNB pmax pmax
comp=Z,2µm,1.4s
PKCU Pink Cliffs 29.47 326 eP P 16 41 52.0 +2.0
comp=Z,2µm,1.3s
K48A Perry 29.48 12 P P 16 41 47.7 -2.0
baz=195,SNR=63
XPFO Piæon Flat 29.49 316 eP P 16 41 51.6 +1.6
comp=Z,560nm,1.4s
XPFO LR LR
comp=Z,146µm,21.0s
PFO Pinyon Flats O 29.50 316 eP P 16 41 51.6 +1.5
comp=Z,562nm,1.4s
PFO LR LR
comp=Z,895µm,21.0s
PFO Pinyon Flats O 29.50 316 eP P 16 41 51.8 +1.7
PFO pmax pmax
comp=Z,560nm,1.3s
PFO Pinyon Flats O 29.50 316 P P 16 41 51.2 +1.1
baz=126,SNR=69
LDFC Landfair 29.50 319 eP P 16 41 52.5 +2.4
comp=Z,806nm,0.9s
LDFC LR LR
comp=Z,2092µm,18.0s
FRD Ford Ranch, An 29.53 315 P P 16 41 51.6 +1.3
baz=125,SNR=67
109C Camp Elliot, M 29.53 314 P P 16 41 51.6 +1.3
baz=124,SNR=10
CPE Camp Elliot 29.53 314 eP P 16 41 51.6 +1.4
comp=Z,1µm,1.6s
CPE LR LR
comp=Z,845µm,18.0s
PHWY Pilot Hill 29.57 339 eP P 16 41 51.3 +0.4
comp=Z,431nm,1.3s
K49A Clarkson 29.60 13 P P 16 41 49.2 -1.6
baz=197,SNR=58
BBL Barber's Block 29.61 83 eP P 16 41 54.0 +2.8
O20A White River Ci 29.62 334 eP P 16 41 52.5 +1.3
comp=Z,737nm,1.3s
O20A LR LR
comp=Z,501µm,20.0s
O20A White River Ci 29.62 334 P P 16 41 52.3 +1.1
baz=174,SNR=88
MDPO Dominica; Chan 29.63 83 eP P 16 41 56.1 +4.8
PSUB Penn St. - Bra 29.64 26 eP P 16 41 49.9 -1.2
comp=Z,826nm,1.3s
GMRC Granite Mounta 29.67 318 P P 16 41 53.4 +1.8
baz=128,SNR=222
MDVC Dominica, Viel 29.67 83 eP P 16 41 53.6 +1.9
MDVC Dominica, Viel 29.67 83 eP P 16 41 53.9 +2.2
GRHS Sauteurs 29.68 90 eP P 16 42 02.1 +10
LCMT Little Creek M 29.68 324 eP P 16 41 53.1 +1.4
comp=Z,324nm,1.0s
LCMT LR LR
comp=Z,734µm,19.0s
GRSS Sisters 29.70 90 eP P 16 42 00.1 +8.3
J45A Montague 29.70 8 P P 16 41 49.6 -2.0
baz=191,SNR=6.0
I39A Houston 29.72 1 eP P 16 41 48.9 -2.9
comp=Z,538nm,0.8s
I39A Houston 29.72 1 P P 16 41 51.1 -0.8
baz=181,SNR=34
J46A Howard City 29.73 9 P P 16 41 50.7 -1.2
baz=192
MGG Marie-Galante 29.75 82 eP P 16 41 58.5 +6.1
J47A Sunmer 29.77 11 P P 16 41 50.8 -1.4
baz=194
K50A Casco 29.78 14 P P 16 41 50.2 -2.1
baz=198,SNR=25
I40A Norwalk 29.78 2 P P 16 41 50.2 -2.2
baz=182,SNR=13
SRU San Rafael Swe 29.82 330 eP P 16 41 54.3 +1.3
comp=Z,613nm,0.9s
SRU San Rafael Swe 29.82 330 eP P 16 41 54.3 +1.3
SRU pmax pmax
comp=Z,613nm,0.9s
DLPL La Plaine 29.83 84 eP P 16 41 51.5 -1.6
MTPU Mount Pierson 29.84 327 eP P 16 41 54.9 +1.5
comp=Z,676nm,0.8s
MTPU LR LR
comp=Z,1343µm,18.0s
ECSD EROS Data Cent 29.86 353 eP P 16 41 51.9 -1.1
comp=Z,789nm,1.3s
ECSD LR LR
comp=Z,95µm,18.0s
ECSD EROS Data Cent 29.86 353 P P 16 41 52.2 -0.8
baz=171,SNR=48
ERPA Erie 29.88 18 eP P 16 41 51.8 -1.4
comp=Z,5µm,1.9s
ERPA Erie 29.88 18 P P 16 41 52.1 -1.1
baz=204,SNR=39
I42A Draeger Farm, 29.88 5 eP P 16 41 52.5 -0.7
comp=Z,2µm,1.4s
I42A Draeger Farm, 29.88 5 P P 16 41 52.3 -0.9
baz=186,SNR=46
NNA Nana 29.93 149 P P 16 41 53.5 -0.5
comp=Z,126nm,1.2s,baz=317,slow=7.5,SNR=8.7
NNA PcP PcP 16 44 56.0 -0.2
comp=Z,48nm,0.8s,baz=6.9,slow=4.3,SNR=3.3
NNA Nana 29.93 149 eP P 16 41 53.6 -0.3
comp=Z,909nm,1.8s
NNA PcP PcP 16 44 56.0 -0.2
NNA Nana 29.93 149 ceP P 16 41 54.8 +0.8
NNA pmax pmax
comp=Z,529nm,2.5s
I43A Langenfeld Bro 29.94 6 P P 16 41 53.3 -0.5
baz=187,SNR=33
SVB Belmont 29.94 88 eP P 16 41 51.1 -3.1
comp=Z,272nm,0.8s
SVB Belmont 29.94 88 eP P 16 41 51.3 -2.8
FDF Fort de France 29.95 85 eP P 16 41 50.8 -3.4
comp=Z,182nm,0.8s
FDF LR LR
comp=Z,444µm,20.0s
FDF Fort de France 29.95 85 eP P 16 41 50.2 -4.0
FDF Fort de France 29.95 85 eP P 16 41 55.4 +1.2
FDF pmax pmax
comp=Z,180nm,0.8s
SVV Soufriere Volc 29.98 88 eP P 16 41 59.9 +5.5
I41A Arkdale 29.98 3 eP P 16 41 53.4 -0.7
comp=Z,1µm,1.3s
I41A Arkdale 29.98 3 P P 16 41 53.6 -0.5
baz=184,SNR=13
MURC Murrieta 29.99 315 P P 16 41 56.1 +1.7
baz=124,SNR=42
SSV Crater Summit 30.00 88 eP P 16 42 00.3 +5.6
SZCU Shurtz Canyon 30.00 325 eP P 16 41 56.6 +1.9
comp=Z,4µm,2.0s
SZCU LR LR
comp=Z,975µm,18.0s
J48A Bridge Port 30.02 12 P P 16 41 52.0 -2.5
baz=196,SNR=27
SVCV St. Vincent, C 30.05 88 eP P 16 41 59.7 +4.6
P18A Preston Nutter 30.09 331 eP P 16 41 56.5 +0.9
comp=Z,717nm,1.1s
P18A LR LR
comp=Z,538µm,18.0s
SLB Belfond 30.10 87 eP P 16 42 01.1 +5.5
SLB Belfond 30.10 87 e P 16 42 01.8 +6.2
CCUT Cedar City 30.13 325 eP P 16 41 58.3 +2.6
comp=Z,946nm,1.1s
CCUT LR LR
comp=Z,836µm,18.0s
HEC Hector,Ludlow 30.14 318 P P 16 41 57.5 +1.8
baz=127,SNR=63
BBRC Big Bear Solar 30.19 316 P P 16 41 58.3 +2.0
baz=126,SNR=26
MSU Marysvale 30.19 328 eP P 16 41 58.2 +1.9
MSU Marysvale 30.19 328 eP P 16 41 58.2 +1.9
P17A Butcher Ranch, 30.21 330 eP P 16 41 58.2 +1.9
comp=Z,1µm,1.0s
MCLT Moule a Chique 30.21 87 eP P 16 41 52.6 -3.9
J49A Marlette 30.22 13 P P 16 41 55.0 -1.1
baz=197,SNR=58
LUPA Lehigh Univers 30.23 26 eP P 16 41 55.8 -0.6
comp=Z,92nm,0.7s
TUQ Turquoise Moun 30.24 319 P P 16 41 58.1 +1.4
baz=129,SNR=102
TMUT Trail Mountain 30.30 330 eP P 16 41 59.1 +1.8
comp=Z,834nm,1.0s
N59A State Game Lan 30.33 25 eP P 16 41 56.5 -0.7
comp=Z,2µm,1.5s
N59A State Game Lan 30.33 25 P P 16 41 56.7 -0.5
baz=212,SNR=55
TCRU Three Creeks R 30.40 327 PFAKE 16 42 10.0 +12
TCRU LR LR
comp=Z,1383µm,18.0s
SHPR Sheep Range 30.46 321 eP P 16 42 00.2 +1.6
comp=Z,592nm,1.2s
SHPR LR LR
comp=Z,1643µm,18.0s
ELFO Elginfield 30.50 16 P P 16 41 56.8 -1.9
baz=200

H40A **Chili** 30.52 2 P P 16 41 57.9 -0.9
baz=183,SNR=27
H42A **Shiocton** 30.52 5 eP P 16 41 58.2 -0.7
comp=Z,3µm,1.6s
H42A **Shiocton** 30.52 5 P P 16 41 57.6 -1.3
baz=186,SNR=37
RWWY **Rawlins** 30.54 337 eP P 16 42 00.0 +0.7
comp=Z,2µm,1.8s
RWWY LR LR
comp=Z,592µm,22.0s
H38A **Maiden Rock** 30.54 360 P P 16 41 58.0 -1.0
baz=179,SNR=55
H41A **Junction City** 30.55 3 eP P 16 41 58.2 -0.9
comp=Z,1µm,1.6s
H41A **Junction City** 30.55 3 P P 16 41 58.2 -0.9
baz=184,SNR=19
H39A **Augusta** 30.55 1 P P 16 41 58.8 -0.4
baz=181,SNR=22
H43A **Windswept, Lux** 30.56 6 eP P 16 41 57.3 -1.8
comp=Z,542nm,0.9s
H43A **Windswept, Lux** 30.56 6 P P 16 41 57.9 -1.3
baz=188,SNR=5.4
RRX **Edison Barstow** 30.60 317 P P 16 42 01.8 +2.1
baz=126
SCI2 **San Clemente I** 30.60 313 P P 16 42 01.4 +1.7
baz=122,SNR=12
BFSC **Mount Baldy Ra** 30.67 315 P P 16 42 01.5 +1.0
baz=125,SNR=41
GSC **Goldstone, Bar** 30.73 318 eP P 16 42 02.2 +1.3
comp=Z,1µm,1.9s
GSC LR LR
comp=Z,844µm,20.0s
GSC **Goldstone, Bar** 30.73 318 eP P 16 42 02.2 +1.3
GSC pmax pmax
comp=Z,1µm,1.9s
GSC MLR MLR
comp=Z,844µm,20.0s
GSC **Goldstone, Bar** 30.73 318 P P 16 42 02.3 +1.4
baz=127,SNR=51
CIS **Catalina Islan** 30.73 313 P P 16 42 02.2 +1.3
baz=122,SNR=56
SHOC **Shoshone, Teco** 30.76 319 P P 16 42 02.7 +1.6
baz=129,SNR=34
TYNO **Tyneside** 30.81 18 P P 16 41 59.4 -2.0
baz=203
FMP **Fort Macarthur** 30.82 314 P P 16 42 03.2 +1.6
baz=123
I49A **Point Hope** 30.84 13 P P 16 41 58.9 -2.8
baz=197,SNR=13
KSPA **Keystone Colle** 30.87 24 eP P 16 42 00.8 -1.2
comp=Z,1µm,1.4s
TOSP **Speyside** 30.87 91 eP P 16 41 57.6 -4.7
SUSD **Miller** 30.87 350 P P 16 42 01.1 -0.9
baz=167
MWC **Mount Wilson** 30.94 315 eP P 16 42 04.3 +1.4
comp=Z,1µm,1.7s
MWC LR LR
comp=Z,818µm,21.0s
MWC **Mount Wilson** 30.94 315 eP P 16 42 04.6 +1.7
MWC pmax pmax
comp=Z,1µm,1.7s
BBSR **BB Station** 30.94 49 eP P 16 42 01.2 -1.5
comp=Z,877nm,1.0s
BBSR LR LR
comp=Z,446µm,21.0s
ODNJ **Ogdensburg** 30.95 26 eP P 16 42 00.7 -2.0
comp=Z,3µm,1.6s
PAS **Pasadena** 30.97 315 P P 16 42 04.5 +1.5
PASC **Pasadena Art C** 30.99 315 eP P 16 42 04.5 +1.3
comp=Z,1µm,1.8s
PASC LR LR
comp=Z,769µm,21.0s
CPNY **Central Park** 31.00 27 eP P 16 42 01.2 -1.9
comp=Z,750nm,1.3s
CPNY LR LR
comp=Z,1028µm,19.0s
MPU **Maple Canyon** 31.06 330 eP P 16 42 05.6 +1.7
comp=Z,916nm,0.9s
MPU LR LR
comp=Z,601µm,19.0s
SPMN **Marine on St.** 31.10 359 eP P 16 42 02.7 -1.2
comp=Z,502nm,0.8s
SPMN **Marine on St.** 31.10 359 P P 16 42 03.3 -0.6
baz=178,SNR=22
PSUT **Pine Spring** 31.10 326 eP P 16 42 06.3 +2.0
comp=Z,484nm,0.9s
PSUT LR LR
comp=Z,1078µm,20.0s
MMNY **Mt. Morris Dam** 31.10 20 eP P 16 42 02.3 -1.7
comp=Z,905nm,1.1s
STCO **Saint Catharin** 31.12 18 P P 16 42 03.1 -1.0
baz=204
K22A **Casper** 31.13 339 eP P 16 42 04.8 +0.3
comp=Z,441nm,1.0s
K22A LR LR
comp=Z,184µm,22.0s
K22A **Casper** 31.13 339 P P 16 42 04.8 +0.3
baz=152,SNR=64
DECC **Green Verdugo** 31.14 315 P P 16 42 05.5 +0.9
baz=124,SNR=16
G39A **Holcombe** 31.16 1 P P 16 42 03.3 -1.2
baz=181,SNR=75
G41A **Antigo** 31.17 4 P P 16 42 03.3 -1.3
baz=185
G40A **Rib Lake** 31.18 3 eP P 16 42 02.9 -1.8
comp=Z,679nm,1.4s
G40A LR LR
comp=Z,976µm,22.0s
G40A **Rib Lake** 31.18 3 P P 16 42 02.9 -1.8
baz=183,SNR=12
BASO **Ashfield** 31.18 15 P P 16 42 03.4 -1.2
baz=199
PAL **Palisades** 31.19 27 eP P 16 42 03.0 -1.8
comp=Z,1µm,1.3s
PAL LR LR
comp=Z,994µm,19.0s
PAL **Palisades** 31.19 27 eP P 16 42 04.3 -0.5
PAL pmax pmax
comp=Z,1µm,1.3s
PAL **Palisades** 31.19 27 P P 16 42 04.2 -0.6
baz=215,SNR=32
ACTO **Acton** 31.22 17 P P 16 42 03.8 -1.3
baz=202
NLU **North Lily Min** 31.23 330 eP P 16 42 07.3 +1.9
comp=Z,353nm,0.9s
NLU LR LR
comp=Z,616µm,19.0s
G42A **Mountain** 31.26 5 eP P 16 42 03.9 -1.5
comp=Z,1µm,1.4s
G42A **Mountain** 31.26 5 P P 16 42 04.9 -0.5
baz=186,SNR=8.3
EDW2 **Edwards Air Fo** 31.27 316 P P 16 42 06.8 +1.1
baz=125,SNR=81
MEDO **Medina** 31.30 19 P P 16 42 04.8 -1.0
baz=206
BINY **Binghamton** 31.33 23 eP P 16 42 04.5 -1.6
comp=Z,3µm,1.4s
BINY **Binghamton** 31.33 23 P P 16 42 05.1 -0.9
baz=211,SNR=96
GLMI **Grayling** 31.34 10 eP P 16 42 04.0 -2.2
comp=Z,16nm,0.5s
GLMI **Grayling** 31.34 10 P P 16 42 03.9 -2.2
baz=194,SNR=17
G43A **Wallace** 31.34 6 eP P 16 42 05.3 -0.8
comp=Z,2µm,1.7s
G43A **Wallace** 31.34 6 P P 16 42 05.0 -1.0
baz=188,SNR=28
BWLO **Walkerton** 31.41 15 P P 16 42 05.6 -1.0
baz=200
LRMC **Laurel Mtn Rad** 31.41 317 P P 16 42 08.5 +1.5
baz=126,SNR=111
TPNV **Topopah Spring** 31.41 321 eP P 16 42 09.3 +2.3
comp=Z,2µm,1.8s
TPNV LR LR
comp=Z,1522µm,20.0s
TPNV **Topopah Spring** 31.41 321 eP P 16 42 09.0 +2.0
TPNV pmax pmax
comp=Z,2µm,1.8s
TPNV **Topopah Spring** 31.41 321 P P 16 42 09.3 +2.3
baz=130,SNR=282
JLU **Jordanelle** 31.43 331 eP P 16 42 08.4 +1.2
comp=Z,260nm,0.8s
JLU LR LR
comp=Z,386µm,21.0s
TORO **Toronto--Lesli** 31.44 18 P P 16 42 05.8 -1.1
baz=204
SNCC **San Nicolas Is** 31.44 312 eP P 16 42 07.9 +0.8
comp=Z,1µm,1.4s
SNCC LR LR
comp=Z,705µm,20.0s
SNCC **San Nicolas Is** 31.44 312 P P 16 42 08.4 +1.2
baz=121
BRCO **Bruce Peninsul** 31.45 15 P P 16 42 06.0 -1.0
baz=200
FURC **Furnace Creek,** 31.48 320 P P 16 42 08.8 +1.4
baz=129,SNR=49
BLG **Laguna Peak, P** 31.57 314 P P 16 42 09.6 +1.3
baz=123,SNR=9.0
F37A **Hinrichs Farm,** 31.59 359 P P 16 42 06.7 -1.6
baz=179
BBGH **Gun Hill** 31.60 88 eP P 16 42 06.0 -2.7
OSI **Osito Audit: C** 31.61 315 eP P 16 42 10.1 +1.5
comp=Z,938nm,1.6s
OSI LR LR
comp=Z,820µm,20.0s
OSI **Osito Audit: C** 31.61 315 P P 16 42 09.9 +1.2
baz=124,SNR=9.6
MPMC **Manual Prospec** 31.63 318 P P 16 42 10.2 +1.2
baz=127,SNR=259
CTU **Camp Tracy** 31.64 331 eP P 16 42 10.8 +1.8
comp=Z,1µm,1.0s
CTU LR LR
comp=Z,212µm,18.0s
RSSD **Black Hills** 31.69 343 eP P 16 42 09.7 +0.3
comp=Z,270nm,0.7s
RSSD LR LR
comp=Z,120µm,22.0s
RSSD **Black Hills** 31.69 343 eP P 16 42 09.8 +0.4
RSSD pmax pmax
comp=Z,270nm,0.7s
RSSD **Black Hills** 31.69 343 P P 16 42 10.6 +1.2
baz=157
F41A **Three Lakes** 31.70 4 eP P 16 42 07.6 -1.7
comp=Z,1µm,1.5s
F41A **Three Lakes** 31.70 4 P P 16 42 07.6 -1.7
baz=185
DUG **Dugway, Tooele** 31.78 329 eP P 16 42 12.0 +1.8
comp=Z,737nm,1.1s
DUG LR LR
comp=Z,899µm,19.0s
DUG **Dugway, Tooele** 31.78 329 eP P 16 42 12.0 +1.8
DUG pmax pmax
comp=Z,737nm,1.1s
DUG MLR MLR
comp=Z,899µm,19.0s
DUG **Dugway, Tooele** 31.78 329 P P 16 42 11.6 +1.5
baz=139,SNR=134
F39A **Loretta** 31.80 2 P P 16 42 08.7 -1.4
baz=182,SNR=20
F42A **Maple Grove Fa** 31.80 5 P P 16 42 08.6 -1.5
baz=187,SNR=30
TCUT **Toone Canyon** 31.82 332 eP P 16 42 12.2 +1.5
comp=Z,2µm,0.9s
TCUT LR LR
comp=Z,640µm,18.0s
F38A **Pierce - Schro** 31.82 0 P P 16 42 09.3 -1.0
baz=180,SNR=54
DAC **Darwin (Calif)** 31.83 319 eP P 16 42 13.4 +2.7
comp=Z,467nm,1.1s
DAC LR LR
comp=Z,1218µm,18.0s
DAC **Darwin (Calif)** 31.83 319 eP P 16 42 13.1 +2.4
DAC pmax pmax
comp=Z,470nm,1.1s
F40A **Park Falls** 31.83 3 P P 16 42 09.4 -1.0
baz=183,SNR=29
BMRO **Meriville Lake** 31.83 15 P P 16 42 09.2 -1.3
baz=200
PKRO **Pickering** 31.84 18 P P 16 42 09.8 -0.7
baz=204
DRCO **St. Marys Ceme** 31.87 18 P P 16 42 10.0 -0.7
baz=205
YLE **Yale** 31.88 28 eP P 16 42 08.3 -2.5
comp=Z,4µm,1.7s
SCZ2 **Santa Cruz Isl** 31.91 313 P P 16 42 12.3 +1.0
baz=122,SNR=12
CLWO **Collingwood** 31.93 16 P P 16 42 10.1 -1.2
baz=202
R11A **Troy Canyon, C** 31.94 324 eP P 16 42 13.3 +1.6
comp=Z,1µm,1.6s
R11A LR LR
comp=Z,1416µm,18.0s
R11A **Troy Canyon, C** 31.94 324 P P 16 42 13.3 +1.6
baz=133,SNR=176
F43A **Flat Rock, Esc** 31.97 6 P P 16 42 10.5 -1.0
baz=189,SNR=83
ARVC **Arvin** 31.97 316 P P 16 42 13.6 +1.8
baz=124,SNR=13
WLVO **Wesleyville** 32.01 19 P P 16 42 11.2 -0.7
baz=205
F45A **CMU Biological** 32.03 9 P P 16 42 11.1 -1.0
baz=192,SNR=26
ISA **Isabella, Lake** 32.04 317 eP P 16 42 14.2 +1.7
comp=Z,1µm,1.8s
ISA LR LR
comp=Z,650µm,20.0s
ISA **Isabella, Lake** 32.04 317 eP P 16 42 14.2 +1.7
ISA pmax pmax
comp=Z,1µm,1.8s
ISA MLR MLR
comp=Z,650µm,20.0s
ISA **Isabella, Lake** 32.04 317 P P 16 42 14.0 +1.6
baz=126,SNR=120
COWI **Conover** 32.06 4 eP P 16 42 10.8 -1.7
comp=Z,1µm,1.4s
GRAC **Grapevine Rang** 32.13 320 P P 16 42 15.3 +2.1
baz=129,SNR=344
F44A **Big Bay de Noc** 32.19 7 P P 16 42 11.9 -1.6
baz=190,SNR=43
SBC **Santa Barbara** 32.20 314 P P 16 42 15.5 +1.7
baz=122
F46A **Macinaw City C** 32.24 10 P P 16 42 12.3 -1.6
baz=193,SNR=8.9
CWC **Cottonwood Cre** 32.24 318 P P 16 42 15.6 +1.3
baz=127
E39A **Mellen** 32.27 2 P P 16 42 13.7 -0.6
baz=182,SNR=19
HWUT **Hardware Ranch** 32.28 332 eP P 16 42 15.6 +1.0
comp=Z,634nm,0.9s
HWUT LR LR
comp=Z,523µm,18.0s
TOBO **Tobermory, Bru** 32.35 14 P P 16 42 13.5 -1.5
baz=199
E40A **Wakefield** 32.36 3 P P 16 42 14.3 -0.8
baz=184,SNR=34
BW06 **Boulder Array** 32.37 336 eP P 16 42 15.1 -0.3
comp=Z,606nm,1.8s
BW06 LR LR
comp=Z,768µm,21.0s
BW06 **Boulder Array** 32.37 336 P P 16 42 16.3 +0.8
baz=147,SNR=59
PD31 **Pinedale Array** 32.37 336 eP P 16 42 15.2 -0.2
PDAR **Pinedale Array** 32.37 336 P P 16 42 15.7 +0.3
comp=Z,14nm,0.7s,baz=132,slow=8.2,SNR=44
PDAR PcP PcP 16 45 03.8 +1.3
comp=Z,104nm,1.1s,baz=142,slow=4.6,SNR=3.8
PDAR ScP ScP 16 48 44.9 +1.5
comp=Z,5.7nm,0.9s,baz=168,slow=4.6,SNR=1.9
PDAR LR LR 16 57 39.2
comp=Z,651µm,21.0s,baz=154,slow=40
PDAR **Pinedale Array** 32.37 336 eP P 16 42 14.8 -0.6
PDAR PcP PcP 16 45 03.8 +1.3
PDAR ScP ScP 16 48 44.9 +1.5
E41A **Kenton** 32.44 4 P P 16 42 14.8 -0.9
baz=185,SNR=15
BGU **Big Grassy Mou** 32.44 330 eP P 16 42 17.4 +1.4
comp=Z,947nm,0.8s
BGU LR LR
comp=Z,856µm,20.0s
SPUT **South Promonto** 32.45 331 eP P 16 42 17.8 +1.7
comp=Z,1µm,1.2s
SPUT LR LR
comp=Z,414µm,21.0s
E38A **The Farm, Brul** 32.48 1 eP P 16 42 14.1 -1.9
comp=Z,876nm,1.2s
E38A **The Farm, Brul** 32.48 1 P P 16 42 14.8 -1.2
baz=181,SNR=53
E42A **Champion** 32.48 5 P P 16 42 15.4 -0.7
baz=187,SNR=22
PKM **Mcpherson Peak** 32.51 315 P P 16 42 18.4 +1.7
baz=123,SNR=69
E43A **Lone Tree Farm** 32.52 7 eP P 16 42 15.3 -1.1
comp=Z,876nm,1.2s
E43A **Lone Tree Farm** 32.52 7 P P 16 42 15.4 -1.1
baz=189,SNR=48
VES **Vestal, Richgr** 32.55 317 P P 16 42 19.0 +2.3
baz=125,SNR=120
SADO **Sadowa** 32.55 17 LR LR 16 57 16.6
comp=Z,1571µm,18.7s,baz=210,slow=40
SADO **Sadowa** 32.55 17 eP P 16 42 14.2 -2.5
comp=Z,612nm,0.8s
TIN **Tinemaha, Big** 32.71 319 P P 16 42 20.2 +1.8
baz=128,SNR=45
TRY **Troy** 32.71 25 eP P 16 42 16.9 -1.2
comp=Z,3µm,1.4s
E45A **Wooded Hills,** 32.74 9 P P 16 42 17.9 -0.4
baz=192,SNR=31
DELO **Deloro Mine** 32.79 19 P P 16 42 17.3 -1.5
baz=206
KLBO **Killbear Provi** 32.80 16 P P 16 42 16.6 -2.3
baz=201
SMMC **Simmler** 32.87 315 P P 16 42 21.8 +2.1
baz=123,SNR=30
E44A **Grand Marais A** 32.89 8 P P 16 42 18.4 -1.2
baz=191,SNR=6.8
QUA2 **Belchertown** 32.91 27 eP P 16 42 18.3 -1.6
comp=Z,444nm,0.8s
HVU **Hansel Valley** 32.97 331 eP P 16 42 22.0 +1.4
comp=Z,1µm,0.8s
HVU LR LR
comp=Z,628µm,20.0s
HVU **Hansel Valley** 32.97 331 eP P 16 42 21.9 +1.2
HVU pmax pmax
comp=Z,1µm,0.8s
BRYW **Bryant College** 33.00 29 eP P 16 42 19.5 -1.2
comp=Z,3µm,1.8s
AHID **Auburn Hatcher** 33.00 334 eP P 16 42 21.7 +0.7
comp=Z,526nm,0.9s
AHID LR LR
comp=Z,402µm,22.0s
D41A **Chassel** 33.06 4 eP P 16 42 19.7 -1.4
comp=Z,1µm,1.4s
D41A **Chassel** 33.06 4 P P 16 42 20.2 -0.9
baz=186,SNR=9.5
BUKO **Buck Lake** 33.10 16 P P 16 42 20.0 -1.5
baz=203
BANO **Bancroft** 33.14 18 P P 16 42 20.6 -1.2
baz=205
M65A **Busby, Falmout** 33.15 30 P P 16 42 21.2 -0.7
baz=220
ACCN **Adirondack Com** 33.25 25 eP P 16 42 21.4 -1.4
comp=Z,2µm,1.7s
PAGB **Antelope Grade** 33.27 316 eP P 16 42 24.5 +1.4
comp=Z,2µm,1.5s
PAGB LR LR
comp=Z,736µm,19.0s
PKLM **Kerr Lake** 33.35 316 eP P 16 42 26.2 +2.3
REDW **Red Top Meadow** 33.39 335 eP P 16 42 25.2 +0.9
comp=Z,2µm,1.1s
REDW LR LR
comp=Z,440µm,21.0s
PTAM **Tassajara Cree** 33.40 315 eP P 16 42 26.4 +2.0
PLVO **Plevna** 33.43 19 eP P 16 42 22.2 -2.1
comp=Z,378nm,0.8s
PLVO **Plevna** 33.43 19 P P 16 42 23.1 -1.3
baz=207
SNOW **Snow King Moun** 33.43 335 eP P 16 42 25.8 +1.0
comp=Z,2µm,0.9s
SNOW LR LR
comp=Z,516µm,21.0s
MLAC **Mammoth, Mammo** 33.44 320 P P 16 42 27.0 +2.1
baz=128
D46A **Sault St. Mari** 33.44 10 P P 16 42 22.4 -2.0
baz=194,SNR=81
F52A **Sundridge** 33.44 16 P P 16 42 22.1 -2.4
baz=202,SNR=70
HRV **Adam Dziewonsk** 33.45 28 eP P 16 42 23.4 -1.2
comp=Z,1µm,1.2s
HRV LR LR
comp=Z,887µm,18.0s
HRV **Adam Dziewonsk** 33.45 28 eP P 16 42 24.2 -0.4
HRV pmax pmax
comp=Z,1µm,1.2s
HRV **Adam Dziewonsk** 33.45 28 P P 16 42 23.0 -1.5
baz=218
WES **Weston** 33.46 28 eP P 16 42 22.2 -2.4
comp=Z,2µm,1.5s
WES **Weston** 33.46 28 eP P 16 42 25.1 +0.4
WES pmax pmax
comp=Z,2µm,1.5s
LOHW **Long Hollow** 33.49 335 eP P 16 42 26.2 +0.9
comp=Z,487nm,0.8s
LOHW LR LR
comp=Z,726µm,21.0s
NCB **Newcomb** 33.52 24 eP P 16 42 23.4 -1.8
comp=Z,1µm,1.3s
NV11 **Mina Array Sit** 33.52 321 eP P 16 42 27.6 +2.2
comp=Z,224nm,1.6s
TPAW **Teton Pass** 33.53 335 eP P 16 42 26.9 +1.2
comp=Z,751nm,0.9s
TPAW LR LR
comp=Z,406µm,22.0s
OMMB **Old Mammoth Mi** 33.53 319 eP P 16 42 27.5 +1.7
comp=Z,1µm,1.5s
OMMB LR LR
comp=Z,628µm,20.0s
MDPB **Devils Postpil** 33.59 319 eP P 16 42 28.0 +1.8
comp=Z,652nm,1.1s
MDPB LR LR
comp=Z,578µm,20.0s
NV01 **Mina Array Sit** 33.61 321 eP P 16 42 28.0 +1.7
NVAR **Mina Array Bea** 33.61 321 P P 16 42 28.1 +1.8
comp=Z,86nm,0.6s,baz=138,slow=8.7,SNR=391
NVAR PcP PcP 16 45 07.6 +1.5
comp=Z,80nm,0.9s,baz=130,slow=3.9,SNR=3.8
NVAR ScP ScP 16 48 50.7 +2.9
comp=Z,5.6nm,0.8s,baz=121,slow=3.5,SNR=2.3
NVAR LR LR 16 57 40.0
comp=Z,1224µm,18.8s,baz=136,slow=39
LHV **Little Huntoon** 33.62 321 eP P 16 42 29.1 +3.0
FRI **Friant** 33.62 318 epP pP 16 42 32.5 -4.5
FRI **Friant** 33.62 318 eP P 16 42 32.5 +6.4
MOOW **Moose Ponds** 33.66 335 eP P 16 42 27.7 +1.0
comp=Z,472nm,1.2s
MOOW LR LR
comp=Z,664µm,21.0s
E50A **Wahnapitae** 33.67 14 P P 16 42 23.6 -2.8
baz=200,SNR=59
FXWY **Fox Creek** 33.69 335 eP P 16 42 27.8 +0.8
comp=Z,301nm,0.8s
D47A **Chapleau** 33.77 11 P P 16 42 25.1 -2.3
baz=195,SNR=56
EYMN **Ely** 33.82 1 eP P 16 42 26.3 -1.4
comp=Z,666nm,1.3s
EYMN **Ely** 33.82 1 P P 16 42 26.7 -1.0
baz=181,SNR=28
IMW **Indian Meadow** 33.86 335 eP P 16 42 29.1 +0.5
comp=Z,265nm,0.7s
IMW LR LR
comp=Z,596µm,22.0s
RYN **Ryan** 33.86 321 eP P 16 42 30.7 +2.3
comp=Z,436nm,1.0s
RYN LR LR
comp=Z,989µm,18.0s
KVN **Kaiserville** 33.88 322 eP P 16 42 30.4 +1.8
comp=Z,860nm,1.0s
KVN LR LR
comp=Z,1457µm,18.0s
KVN **Kaiserville** 33.88 322 eP P 16 42 30.0 +1.4
KVN pmax pmax
comp=Z,860nm,1.0s
PMPB **Monarch Peak** 33.91 316 eP P 16 42 30.1 +1.4
comp=Z,854nm,1.0s
PMPB LR LR
comp=Z,736µm,20.0s
FLWY **Flagg Ranch** 33.92 336 eP P 16 42 30.1 +1.1
comp=Z,416nm,0.8s
FLWY LR LR
comp=Z,731µm,20.0s
LONY **Lake Ozonia** 33.93 23 eP P 16 42 27.4 -1.4
comp=Z,3µm,1.4s
LONY **Lake Ozonia** 33.93 23 P P 16 42 28.0 -0.8
baz=211,SNR=91
PEMO **Pembroke** 33.94 19 P P 16 42 27.8 -1.0
baz=206
ALGO **Algonquin Park** 33.95 18 P P 16 42 27.9 -0.9
baz=204
E51A **G1948 Merrick** 34.08 16 P P 16 42 28.0 -2.0
baz=202,SNR=95
HNH **Hanover** 34.09 26 eP P 16 42 29.7 -0.4
comp=Z,2µm,2.0s
YPP **Pitchstone Pla** 34.12 336 eP P 16 42 31.7 +0.9
comp=Z,256nm,0.9s
YPP LR LR

comp=Z,714µm,21.0s
H17A Grant Village 34.13 336 *eP* **P 16 42 32.8 +1.9**
comp=Z,363nm,1.1s
H17A LR LR
comp=Z,1002µm,22.0s
H17A Grant Village 34.13 336 P **P 16 42 32.9 +2.0**
baz=146,SNR=91
D48A Paudash Townsh 34.14 13 P **P 16 42 27.9 -2.7**
baz=198,SNR=39
LKWY Lake 34.21 336 *eP* **P 16 42 33.4 +1.9**
comp=Z,478nm,1.2s
LKWY LR LR
comp=Z,831µm,22.0s
LKWY Lake 34.21 336 *eP* **P 16 42 33.4 +1.9**
LKWY pmax pmax
comp=Z,478nm,1.2s
LKWY MLR MLR
comp=Z,831µm,22.0s
RLMT Red Lodge 34.26 338 *eP* **P 16 42 31.7 -0.1**
comp=Z,166nm,0.8s
RLMT LR LR
comp=Z,404µm,22.0s
RLMT Red Lodge 34.26 338 P **P 16 42 31.8 -0.1**
baz=149,SNR=62
YFT Old Faithful 34.28 336 *eP* **P 16 42 34.2 +2.1**
comp=Z,470nm,1.1s
YFT LR LR
comp=Z,766µm,20.0s
BMN Battle Mountai 34.29 325 *eP* **P 16 42 33.5 +1.4**
comp=Z,540nm,0.8s
BMN LR LR
comp=Z,831µm,18.0s
BMN Battle Mountai 34.29 325 *eP* **P 16 42 33.5 +1.4**
BMN pmax pmax
comp=Z,540nm,0.8s
BMN MLR MLR
comp=Z,831µm,18.0s
MDND Maddock 34.29 351 *eP* **P 16 42 30.3 -1.6**
comp=Z,3µm,1.1s
MDND LR LR
comp=Z,383µm,22.0s
MDND Maddock 34.29 351 P **P 16 42 30.5 -1.3**
baz=167,SNR=71
AGMN Agassiz Nation 34.31 356 *eP* **P 16 42 29.8 -2.2**
comp=Z,693nm,1.3s
AGMN LR LR
comp=Z,713µm,22.0s
AGMN Agassiz Nation 34.31 356 P **P 16 42 29.6 -2.4**
baz=173,SNR=32
ORIO Orleans, Innes 34.31 21 P **P 16 42 31.6 -0.5**
baz=209
WAKR Walker 34.35 320 *eP* **P 16 42 35.0 +2.2**
comp=Z,1µm,1.4s
WAKR LR LR
comp=Z,1146µm,19.0s
VT1 Waterbury 34.40 25 *eP* **P 16 42 31.7 -1.2**
comp=Z,2µm,1.9s
YNR Norris Junctio 34.44 336 *eP* **P 16 42 34.7 +1.2**
comp=Z,364nm,1.2s
YNR LR LR
comp=Z,634µm,19.0s
E53A Dumoine, Ponti 34.45 18 P **P 16 42 31.0 -2.2**
baz=205,SNR=57
FRNY Flat Rock 34.49 23 *eP* **P 16 42 31.8 -1.8**
comp=Z,2µm,1.4s
YMR Madison River 34.51 336 *eP* **P 16 42 35.5 +1.4**
comp=Z,464nm,0.9s
YMR LR LR
comp=Z,512µm,20.0s
YERR Yerington 34.52 321 *eP* **P 16 42 36.3 +2.1**
comp=Z,1µm,1.4s
YERR LR LR
comp=Z,1117µm,18.0s
YHH Holmes Hill 34.57 336 *eP* **P 16 42 35.6 +0.9**
comp=Z,206nm,0.9s
YHH LR LR
comp=Z,653µm,21.0s
E54A Lac Daplat, Po 34.64 18 P **P 16 42 33.9 -1.0**
baz=206,SNR=72
SAO San Andreas Ge 34.64 316 *eP* **P 16 42 36.0 +1.0**
comp=Z,755nm,1.5s
SAO LR LR
comp=Z,798µm,19.0s
SAO San Andreas Ge 34.64 316 *eP* **P 16 42 36.5 +1.4**
SAO pmax pmax
comp=Z,760nm,1.5s
LAO LASA Array 34.66 343 *eP* **P 16 42 34.4 -0.7**
comp=Z,361nm,0.7s
LAO LR LR
comp=Z,137µm,22.0s
LAO LASA Array 34.66 343 P **P 16 42 34.2 -0.9**
baz=155,SNR=191
CMB Columbia Colle 34.67 319 *eP* **P 16 42 36.5 +1.2**
comp=Z,226nm,1.0s
CMB LR LR
comp=Z,543µm,19.0s
CMB Columbia Colle 34.67 319 *eP* **P 16 42 36.7 +1.4**
CMB pmax pmax
comp=Z,230nm,1.0s
LBNH Lisbon 34.67 26 *eP* **P 16 42 34.2 -1.0**
comp=Z,2µm,1.8s
LBNH LR LR
comp=Z,832µm,18.0s
LBNH Lisbon 34.67 26 *eP* **P 16 42 34.8 -0.4**
LBNH pmax pmax
comp=Z,2µm,1.7s
LBNH Lisbon 34.67 26 P **P 16 42 34.6 -0.6**
baz=216,SNR=14
YHB Horse Butte 34.67 336 *eP* **P 16 42 36.9 +1.4**
comp=Z,293nm,0.9s
YHB LR LR
comp=Z,470nm,21.0s
ALFO Alfred 34.69 21 P **P 16 42 34.6 -0.6**
baz=210
PNTR Pine Nut 34.81 321 *eP* **P 16 42 38.8 +2.0**
comp=Z,2µm,1.4s
PNTR LR LR
comp=Z,924µm,18.0s
QLMT Earthquake Lak 34.83 336 *eP* **P 16 42 37.9 +1.1**
VCNR Virginia City 34.97 321 *eP* **P 16 42 39.5 +1.4**
comp=Z,585nm,1.2s
VCNR LR LR
comp=Z,677µm,20.0s
GCMT Greycliff 34.97 338 *eP* **P 16 42 38.1 +0.1**
PTGA Pitinga 35.01 112 P **P 16 42 38.4 0.0**
comp=Z,288nm,0.9s,baz=299,slow=9.5,SNR=235
PTGA LR LR 16 58 24.9
comp=Z,122µm,18.6s,baz=298,slow=39
PTGA Pitinga 35.01 112 *eP* **P 16 42 38.0 -0.4**
comp=Z,1µm,0.9s
PAHR Pah Rah Range 35.06 322 *eP* **P 16 42 40.7 +1.9**
comp=Z,554nm,0.9s
PAHR LR LR
comp=Z,806µm,18.0s
D53A Lac Vacive, Po 35.07 17 P **P 16 42 37.4 -1.2**
baz=204,SNR=94
HLID Hailey 35.12 331 *eP* **P 16 42 40.5 +1.2**
comp=Z,877nm,0.9s
HLID LR LR
comp=Z,766µm,20.0s
HLID Hailey 35.12 331 P **P 16 42 40.9 +1.7**
baz=140,SNR=530
RUBR Rubicon Trail 35.13 320 *eP* **P 16 42 41.7 +2.2**
comp=Z,3µm,1.4s
RUBR LR LR
comp=Z,1426µm,18.0s
MOQ Mont Orford 35.41 24 *eP* **P 16 42 40.2 -1.4**
MCMT McKenzie Canyo 35.41 334 *eP* **P 16 42 43.3 +1.4**
D54A Lac Fusel, La 35.44 18 P **P 16 42 40.2 -1.6**
baz=206,SNR=153
BOZ Bozeman (W) 35.55 336 *eP* **P 16 42 44.2 +1.3**
comp=Z,209nm,0.8s
BOZ LR LR
comp=Z,606µm,21.0s
BOZ Bozeman (W) 35.55 336 *eP* **P 16 42 44.2 +1.3**
BOZ pmax pmax
comp=Z,209nm,0.8s
BOZ MLR MLR
comp=Z,606µm,21.0s
BOZ Bozeman (W) 35.55 336 P **P 16 42 43.8 +0.9**
baz=146,SNR=47
AFDM Forest Hills D 35.57 320 *eP* **P 16 42 44.4 +1.3**
comp=Z,401nm,1.4s
AFDM LR LR
comp=Z,449µm,19.0s
DLMT Dillon 35.74 335 *eP* **P 16 42 45.8 +1.2**
comp=Z,926nm,1.0s
DLMT LR LR
comp=Z,602µm,21.0s
BEKR Beckworth 35.75 321 *eP* **P 16 42 46.5 +1.7**
comp=Z,506nm,0.9s
BEKR LR LR
comp=Z,994µm,19.0s
DGMT Dagmar 35.78 346 *eP* **P 16 42 44.1 -0.6**
comp=Z,720nm,0.6s
DGMT LR LR
comp=Z,163µm,22.0s
DGMT Dagmar 35.78 346 P **P 16 42 44.3 -0.3**
baz=159,SNR=66
LCCM Lewis and Clar 35.84 336 *eP* **P 16 42 46.8 +1.4**
WVL Waterville 35.92 28 *eP* **P 16 42 44.6 -1.3**
comp=Z,2µm,1.5s
VLDQ Val d'Or 36.08 17 *eP* **P 16 42 45.1 -2.1**
comp=Z,400nm,1.1s
VLDQ LR LR
comp=Z,1204µm,19.0s
ULM Lac du Bonnet 36.25 356 P **P 16 42 46.7 -2.0**
comp=Z,45nm,0.7s,baz=175,slow=9.8,SNR=23
ULM PcP **PcP 16 45 14.3 +1.1**
comp=Z,154nm,0.8s,baz=204,slow=4.1,SNR=3.1
ULM LR LR 17 01 12.8
comp=Z,228µm,20.4s,baz=174,slow=42
ULM Lac du Bonnet 36.25 356 *eP* **P 16 42 47.1 -1.6**
comp=Z,387nm,1.0s
ULM PcP **PcP 16 45 14.3 +1.1**
ULM Lac du Bonnet 36.25 356 *eP* **P 16 42 47.1 -1.6**
ULM 16 45 14.4
ULM pmax pmax
comp=Z,387nm,1.0s
ORV Oroville 36.26 320 *eP* **P 16 42 50.5 +1.5**
comp=Z,503nm,1.2s
ORV LR LR
comp=Z,575µm,19.0s
ORV Oroville 36.26 320 *eP* **P 16 42 50.1 +1.2**
ORV pmax pmax
comp=Z,500nm,1.2s
MCCM Marconi Confer 36.35 317 *eP* **P 16 42 51.1 +1.4**
comp=Z,1µm,1.5s
MCCM LR LR
comp=Z,844µm,18.0s
WVOR Wild Horse Val 36.43 326 *eP* **P 16 42 51.6 +1.1**
comp=Z,1µm,1.3s
WVOR LR LR
comp=Z,679µm,19.0s
WVOR Wild Horse Val 36.43 326 *eP* **P 16 42 51.6 +1.1**
WVOR pmax pmax
comp=Z,1µm,1.3s
WVOR MLR MLR
comp=Z,679µm,19.0s
NMTM Middletown 36.43 318 *eP* **P 16 42 52.2 +1.8**
HRY Holter Researc 36.55 337 *eP* **P 16 42 51.8 +0.4**
PKME Peaks-Kenny Pk 36.63 27 *eP* **P 16 42 49.9 -2.1**
comp=Z,4µm,1.9s
PKME LR LR
comp=Z,770µm,21.0s
PKME Peaks-Kenny Pk 36.63 27 P **P 16 42 50.5 -1.4**
baz=219,SNR=38
SAML Samuel 36.64 127 *eP* **P 16 42 50.5 -1.9**
comp=Z,350nm,0.9s
SAML LR LR
comp=Z,164µm,22.0s
SAML Samuel 36.64 127 *eP* **P 16 42 50.5 -1.9**
SAML pmax pmax
comp=Z,350nm,0.9s
SAML MLR MLR
comp=Z,164µm,22.0s
GDXM Geysers 36.66 318 PFAKE 16 43 00.0 +7.6
GDXM LR LR
comp=Z,911µm,19.0s
O03E Paynes Creek 36.89 321 P **P 16 42 55.4 +1.0**
baz=127,SNR=135
EGMT Eagleton 36.94 340 *eP* **P 16 42 54.9 +0.2**
comp=Z,553nm,0.6s
EGMT LR LR
comp=Z,169µm,21.0s
EGMT Eagleton 36.94 340 P **P 16 42 55.0 +0.3**
baz=150,SNR=143
LATQ La Tuque 36.94 22 P **P 16 42 53.7 -0.8**
baz=212
HOPS Hopland Field 36.94 318 *eP* **P 16 42 56.2 +1.5**
comp=Z,779nm,1.4s
HOPS LR LR
comp=Z,922µm,18.0s
J08A Circle Bar Ran 36.98 327 *eP* **P 16 42 56.4 +1.3**
comp=Z,2µm,0.8s
J08A LR LR
comp=Z,284µm,22.0s
MOD Modoc Plateau 37.00 324 *eP* **P 16 42 55.8 +0.4**
comp=Z,1µm,1.4s
MOD LR LR
comp=Z,1404µm,18.0s
EMMW East Machias 37.05 30 *eP* **P 16 42 53.5 -2.1**
comp=Z,5µm,1.8s
LSQQ Lebel-sur-Quev 37.07 17 P **P 16 42 54.1 -1.5**
baz=204
KRKM Rackout Spring 37.33 319 *eP* **P 16 43 00.7 +2.5**
BMO Blue Mountains 37.46 330 *eP* **P 16 42 59.4 +0.2**
comp=Z,740nm,1.0s
BMO LR LR
comp=Z,1042µm,20.0s
BMO Blue Mountains 37.46 330 *eP* **P 16 42 59.6 +0.4**
BMO pmax pmax
comp=Z,740nm,1.0s
MSO Missoula 37.48 335 *eP* **P 16 43 00.1 +0.9**
comp=Z,2µm,1.8s
MSO LR LR
comp=Z,731µm,20.0s
MSO Missoula 37.48 335 P **P 16 43 00.2 +0.9**
baz=143,SNR=211
WDC Whiskeytown Da 37.51 321 *eP* **P 16 42 59.0 -0.5**
comp=Z,152nm,0.9s
WDC LR LR
comp=Z,548µm,19.0s
WDC Whiskeytown Da 37.51 321 *eP* **P 16 42 59.0 -0.5**
WDC pmax pmax
comp=Z,152nm,0.9s
WDC MLR MLR
comp=Z,548µm,19.0s
MATQ Matagami 37.54 15 P **P 16 42 58.2 -1.4**
baz=203
GGN Saint George 37.65 30 *eP* **P 16 42 59.2 -1.4**
comp=Z,3µm,1.8s
GGN LR LR
comp=Z,1181µm,19.0s
KCPM Cahto Peak 37.66 319 *eP* **P 16 43 02.7 +1.8**
comp=Z,4µm,2.0s
KCPM LR LR
comp=Z,587µm,21.0s
M04C Macdoel 37.82 323 P **P 16 43 03.1 +0.9**
baz=128,SNR=101
N02D Trinity Center 37.84 321 P **P 16 43 01.1 -1.4**
baz=126,SNR=12
K05A Summer Lake 37.87 325 *eP* **P 16 43 03.5 +0.7**
comp=Z,779nm,1.3s
K05A LR LR
comp=Z,1486µm,18.0s
I07A Izee 38.02 327 *eP* **P 16 43 04.5 +0.5**
comp=Z,683nm,1.0s
I07A LR LR
comp=Z,396µm,19.0s
KMRM Mail Ridge 38.04 319 *eP* **P 16 43 05.0 +0.9**
comp=Z,832nm,0.9s
KMRM LR LR
comp=Z,870µm,18.0s
M02C Callahan 38.18 321 P **P 16 43 05.2 -0.1**
baz=126,SNR=71
F10A Beach Ranch, E 38.25 331 *eP* **P 16 43 06.5 +0.6**
comp=Z,3µm,0.8s
F10A LR LR
comp=Z,849µm,22.0s
PQI Presque Isle 38.28 27 *eP* **P 16 43 03.8 -2.1**
comp=Z,4µm,1.8s
K04D Chiloquin, OR 38.29 324 P **P 16 43 07.0 +0.7**
baz=129,SNR=12
LPAZ La Paz 38.30 141 P **P 16 43 06.8 -0.4**
comp=Z,50nm,0.9s,baz=335,slow=8.6,SNR=40
LPAZ LR LR 16 59 16.3
comp=Z,122µm,21.6s,baz=322,slow=37
LPAZ La Paz 38.30 141 *eP* **P 16 43 06.2 -0.9**
comp=Z,834nm,1.9s
LPAZ La Paz 38.30 141 *eP* **P 16 43 06.2 -0.9**
LPAZ pmax pmax
comp=Z,834nm,1.9s
YBH Yreka Blue Hor 38.30 322 P **P 16 43 07.3 +1.0**
comp=Z,42nm,0.8s,baz=144,slow=5.5,SNR=15
YBH LR LR 17 01 06.3
comp=Z,716µm,18.1s,baz=148,slow=40
YBH Yreka Blue Hor 38.30 322 *eP* **P 16 43 06.3 0.0**
comp=Z,154nm,0.8s
JTMT Jette 38.36 336 *eP* **P 16 43 06.3 -0.4**
comp=Z,2µm,2.0s
JTMT LR LR
comp=Z,521µm,20.0s
L04D Klamath Falls 38.36 323 P **P 16 43 07.1 +0.3**
baz=128,SNR=118
KHMM Horse Mountain 38.42 320 *eP* **P 16 43 08.2 +0.8**
comp=Z,595nm,0.9s
KHMM LR LR
comp=Z,452µm,21.0s
J05D Fort Rock, OR 38.42 325 P **P 16 43 07.9 +0.5**
baz=130,SNR=54
JCC Jacoby Creek, 38.57 320 *eP* **P 16 43 08.4 -0.1**
comp=Z,2µm,1.4s
JCC LR LR
comp=Z,624µm,18.0s
G08A Pilot Rock 38.59 329 *eP* **P 16 43 08.7 0.0**
comp=Z,1µm,2.0s
G08A LR LR
comp=Z,618µm,20.0s
PINE Pine Mountain 38.59 326 *eP* **P 16 43 09.5 +0.6**
comp=Z,554nm,0.8s
PINE LR LR
comp=Z,1263µm,19.0s
CHGQ Chibougamau 38.59 18 P **P 16 43 07.2 -1.3**
baz=208
BSMT Bassoo Peak 38.64 335 *eP* **P 16 43 10.1 +0.9**
PB12 IPOC Station P 38.88 146 ⇑*i*P **P 16 43 10.9 -0.5**
J04D Umpqua Nationa 38.88 324 P **P 16 43 12.4 +1.1**
baz=129,SNR=95
HAL Halifax 38.94 33 *eP* **P 16 43 09.1 -2.4**
HAL Halifax 38.94 33 *eP* **P 16 43 11.3 -0.2**
HUMO Hull Mountain 38.98 323 *eP* **P 16 43 11.8 -0.1**
comp=Z,1µm,2.0s
HUMO LR LR
comp=Z,688µm,18.0s
E09A Wood Farm, Sta 39.08 331 *eP* **P 16 43 12.7 0.0**
comp=Z,725nm,0.8s
E09A LR LR
comp=Z,802µm,19.0s
L02E Cave Junction 39.09 322 P **P 16 43 13.4 +0.6**
baz=126,SNR=18
PB16 IPOC Station P 39.10 145 ⇑*i*P **P 16 43 14.5 +0.7**
I05D Terrebonne, OR 39.17 326 P **P 16 43 14.2 +0.7**
baz=131,SNR=171
LMN Caledonia Moun 39.17 30 *eP* **P 16 43 11.5 -1.9**
comp=Z,3µm,1.7s
WALA Waterton Lakes 39.28 337 *eP* **P 16 43 15.0 +0.5**
comp=Z,1µm,1.9s
G06A Carlson Farm, 39.40 328 *eP* **P 16 43 16.2 +0.8**
comp=Z,326nm,0.9s
G06A LR LR
comp=Z,501µm,18.0s
I04A Tendick Farm, 39.40 325 P **P 16 43 15.7 +0.2**
baz=129,SNR=94
K02D Willamette Mer 39.45 323 P **P 16 43 16.2 +0.3**
baz=127,SNR=48
DBO Dodson Butte 39.46 323 *eP* **P 16 43 17.0 +1.0**
E08A Dider Farm, El 39.49 330 *eP* **P 16 43 16.0 -0.1**
comp=Z,320nm,1.0s
E08A LR LR
comp=Z,840µm,18.0s
F07A Phinny Hill Vi 39.49 329 *eP* **P 16 43 17.0 +0.9**
comp=Z,284nm,0.8s
F07A LR LR
comp=Z,388µm,21.0s
KBO Bosley Butte 39.50 322 *eP* **P 16 43 17.6 +1.3**
comp=Z,3µm,1.3s
KBO LR LR
comp=Z,632µm,19.0s
BATG Bathurst New B 39.61 28 *eP* **P 16 43 15.7 -1.4**
comp=Z,2µm,1.6s
HAWA Hanford 39.65 330 *eP* **P 16 43 17.6 +0.2**
comp=Z,412nm,0.8s
HAWA LR LR
comp=Z,714µm,18.0s
MNMC Minye Minye 39.70 146 *eP* **P 16 43 18.3 -0.1**
comp=Z,1µm,1.3s
MNMC LR LR
comp=Z,131µm,22.0s
MNMC Minye Minye 39.70 146 ⇑*i*P **P 16 43 19.0 +0.6**
G05D Wamic, OR 39.76 327 P **P 16 43 20.0 +1.6**
baz=132,SNR=166
PSGC Pisagua 39.79 147 ⇑*i*P **P 16 43 19.0 0.0**
MDP Montagnes des 39.82 99 P **P 16 43 17.6 -1.6**
comp=Z,82nm,0.8s,baz=294,slow=9.1,SNR=12
MDP PcP **PcP 16 45 27.5 +2.5**
comp=Z,88nm,0.5s,baz=283,slow=5.9,SNR=15
D08A Wollman Farm, 39.84 331 *eP* **P 16 43 19.2 +0.2**
comp=Z,482nm,0.8s
D08A LR LR
comp=Z,746µm,18.0s
H04A Detroit Lake 39.85 326 *eP* **P 16 43 19.9 +0.7**
comp=Z,1µm,0.8s
H04A LR LR
comp=Z,1448µm,18.0s
I03D Drain, OR 39.87 324 P **P 16 43 20.6 +1.3**
baz=128,SNR=77
J01E Myrtle Point 39.88 323 P **P 16 43 21.2 +1.9**
baz=127,SNR=91
NEW Newport 39.94 334 P **P 16 43 20.3 +0.4**
comp=Z,93nm,0.7s,baz=146,slow=8.4,SNR=60
NEW PcP **PcP 16 45 27.3 +2.5**
comp=Z,121nm,0.9s,baz=48,slow=2.5,SNR=3.3
NEW Newport 39.94 334 *eP* **P 16 43 20.0 +0.2**
comp=Z,288nm,0.8s
NEW PcP **PcP 16 45 27.3 +2.5**
NEW LR LR
comp=Z,869µm,19.0s
NEW Newport 39.94 334 P **P 16 43 20.1 +0.2**
baz=140,SNR=100
KEBM Edson Butte 39.95 322 *eP* **P 16 43 21.1 +1.1**
comp=Z,4µm,1.1s
KEBM LR LR
comp=Z,1323µm,18.0s
H04D Lebanon 40.05 325 P **P 16 43 21.3 +0.5**
baz=130,SNR=70
C09A Chrisman Ranch 40.09 332 *eP* **P 16 43 21.9 +0.8**
comp=Z,1µm,0.8s
C09A LR LR
comp=Z,783µm,20.0s
PB11 IPOC Station P 40.17 146 *eP* **P 16 43 21.8 -0.4**
comp=Z,1µm,1.4s
PB11 LR LR
comp=Z,200µm,22.0s
PB11 IPOC Station P 40.17 146 ⇑*i*P **P 16 43 22.2 0.0**
F05D White Salmon 40.26 328 P **P 16 43 24.2 +1.6**
baz=132,SNR=93
COR Corvallis 40.40 325 *eP* **P 16 43 24.2 +0.6**
comp=Z,3µm,1.4s
COR LR LR
comp=Z,640µm,19.0s
COR Corvallis 40.40 325 *eP* **P 16 43 24.2 +0.6**
COR pmax pmax
comp=Z,3µm,1.4s
COR MLR MLR
comp=Z,640µm,19.0s
I02D Swisshome 40.41 324 P **P 16 43 25.2 +1.5**
baz=128,SNR=121
GBN Guysborough 40.56 33 *eP* **P 16 43 23.6 -1.3**
comp=Z,828nm,1.0s
PB08 IPOC Station P 40.76 146 ⇑*i*P **P 16 43 27.8 +0.5**
G03D McMinnville, O 40.78 326 P **P 16 43 27.9 +1.2**
baz=130,SNR=55
LTY Liberty 40.82 330 *eP* **P 16 43 28.1 +0.9**
comp=Z,707nm,0.9s
LTY LR LR
comp=Z,703µm,18.0s
FL2 Flat Top 2 40.93 328 *eP* **P 16 43 30.4 +2.2**
B08A Colville Reser 40.98 332 *eP* **P 16 43 28.8 +0.3**
B08A LR LR
comp=Z,602µm,19.0s
LON Longmire 41.03 329 *eP* **P 16 43 29.9 +1.0**
comp=Z,1µm,0.8s
LON LR LR
comp=Z,608µm,18.0s
LON Longmire 41.03 329 *eP* **P 16 43 29.6 +0.7**
LON pmax pmax
comp=Z,1µm,0.8s
F04D Rainier, OR 41.20 327 P **P 16 43 31.5 +1.2**
baz=131,SNR=26
E04D Cinebar 41.28 328 P **P 16 43 31.8 +0.9**
baz=132,SNR=31
PB01 IPOC Station P 41.31 147 *eP* **P 16 43 30.8 -0.7**
comp=Z,477nm,1.5s

PB01 **IPOC Station P** 41.31 147⇑*i*P P 16 43 31.6 +0.1
PB02 **IPOC Station P** 41.33 148 *e*P P 16 43 32.5 +0.9
FFC **Flin Flon** 41.34 351 *e*P P 16 43 30.7 -0.5
comp=Z,228nm,0.9s
FFC **Flin Flon** 41.34 351*ce*P P 16 43 31.1 -0.1
FFC pmax pmax
comp=Z,303nm,1.7s
C06D **Leavenworth** 41.39 331 P P 16 43 33.0 +1.1
baz=135,SNR=63
D05A **Enumclaw** 41.42 329 *e*P P 16 43 32.8 +0.8
comp=Z,2µm,1.1s
D05A LR LR
comp=Z,554µm,18.0s
PB07 **IPOC Station P** 41.67 148⇑*i*P P 16 43 34.6 +0.1
E03A **Lebam** 41.80 327 *e*P P 16 43 36.2 +1.1
comp=Z,1µm,0.8s
E03A LR LR
comp=Z,1094µm,18.0s
D04E **Lakebay** 41.80 328 P P 16 43 35.8 +0.7
baz=132,SNR=25
PNT **Penticton** 41.82 333 *e*P P 16 43 36.9 +1.6
PNT **Penticton** 41.82 333 *e*P P 16 43 36.9 +1.6
PB03 **IPOC Station P** 42.01 148 *e*P P 16 43 37.3 0.0
PB04 **IPOC Station P** 42.04 149 *e*P P 16 43 37.2 -0.3
comp=Z,1µm,1.6s
PB04 **IPOC Station P** 42.04 149 *e*P P 16 43 38.4 +0.8
PB09 **IPOC Station P** 42.06 147⇑*i*P P 16 43 38.4 +0.7
B06A **Marblemount** 42.09 331 *e*P P 16 43 38.0 +0.5
comp=Z,2µm,0.9s
B06A LR LR
comp=Z,646µm,18.0s
D03D **Eldon** 42.20 329 P P 16 43 38.9 +0.5
baz=132,SNR=48
B05A **Bryant** 42.21 330 P P 16 43 38.6 +0.2
baz=134,SNR=68
HDW **Hoodsport** 42.26 329 *e*P P 16 43 39.5 +0.6
PB05 **IPOC Station P** 42.45 149⇑*i*P P 16 43 41.0 +0.2
PB06 **IPOC Station P** 42.65 149⇑*i*P P 16 43 42.5 +0.1
A05A **Maple Falls** 42.71 331 *e*P P 16 43 42.9 +0.3
comp=Z,114nm,0.8s
A05A LR LR
comp=Z,63µm,18.0s
A04D **Lummi Island** 42.82 330 P P 16 43 44.3 +1.0
baz=133,SNR=68
PB10 **IPOC Station P** 42.84 150 *e*P P 16 43 42.7 -1.1
comp=Z,1µm,1.8s
PB10 **IPOC Station P** 42.84 150 *e*P P 16 43 44.6 +0.8
LVC **Limon Verde** 42.91 148 *e*P P 16 43 44.5 -0.3
comp=Z,550nm,1.4s
LVC **Limon Verde** 42.91 148⇑*i*P P 16 43 46.6 +1.8
LVC **Limon Verde** 42.91 148*ce*P P 16 43 45.8 +1.0
LVC pmax pmax
comp=Z,275nm,2.5s
PB15 **IPOC Station P** 43.12 149⇑*i*P P 16 43 46.5 +0.2
PGC **Sidney** 43.13 330 *e*P P 16 43 46.7 +0.8
PGC LR LR
comp=Z,558µm,18.0s
PB14 **IPOC Station P** 43.86 151 *e*P P 16 43 52.8 +0.4
RPN **Rapa Nui** 44.22 202 P P 16 43 56.2 +1.4
comp=Z,73nm,0.8s,baz=278,slow=0.4,SNR=5.0
RPN **Rapa Nui** 44.22 202 *e*P P 16 43 54.9 +0.1
comp=Z,2µm,1.4s
RPN **Rapa Nui** 44.22 202 *e*P P 16 43 54.9 +0.1
RPN pmax pmax
comp=Z,2µm,1.4s
OZB **Mount Ozzard** 44.35 329 *e*P P 16 43 57.5 +1.7
FCC **Fort Churchill** 44.67 359 *e*P P 16 43 58.4 +0.3
comp=Z,265nm,1.1s
FCC **Fort Churchill** 44.67 359 *e*P P 16 43 58.4 +0.3
FCC pmax pmax
comp=Z,260nm,1.1s
DRLN **Deer Lake** 45.12 32 *e*P P 16 43 59.1 -2.7
comp=Z,5µm,1.6s
SCHQ **Schefferville** 45.22 20 P P 16 44 00.7 -1.9
comp=Z,145nm,1.0s,baz=216,slow=6.9,SNR=22
SCHQ PcP **PcP** 16 45 44.2 +2.0
comp=Z,112nm,0.8s,baz=248,slow=5.1,SNR=2.0
SCHQ LR LR 17 05 07.4
comp=Z,1201µm,18.9s,baz=216,slow=39
SCHQ **Schefferville** 45.22 20 *e*P P 16 43 59.9 -2.7
comp=Z,677nm,1.0s
SCHQ PcP **PcP** 16 45 44.2 +2.0
AZAP **Zapla** 46.27 145 *e*P P 16 44 11.3 -0.2
AZAP IVmB_BB 16 44 26.6
comp=Z,10µm,10.5s
ASTB **Santa Barbara** 46.40 144 *e*P P 16 44 11.4 -1.1
GO03 **Copiap** 46.48 153 *e*P P 16 44 12.2 -0.7
comp=Z,272nm,1.3s
ALOL **LOMAS DE OLMED** 46.57 144 *e*P P 16 44 13.0 -0.6
LCO **Las Campanas** 47.51 154 *e*P P 16 44 20.2 -1.0
comp=Z,357nm,1.0s
LCO **Las Campanas** 47.51 154*ce*P P 16 44 21.3 +0.1
BBB **Bella Bella** 47.70 331 P P 16 44 23.5 +1.5
comp=Z,89nm,0.8s,baz=136,slow=6.4,SNR=20
BBB **Bella Bella** 47.70 331 *e*P P 16 44 23.1 +1.0
comp=Z,2µm,2.0s
GO04 **Tololo Observa** 48.49 155 *e*P P 16 44 28.0 -0.7
comp=Z,2µm,2.0s
AGUA **GUANDACOL** 48.88 152 *e*P P 16 44 31.4 -0.2
ACLC **CERRO LA CRUZ** 49.54 151 *e*P P 16 44 36.1 -0.5
AMOG **MOGNA** 50.13 153 *e*P P 16 44 41.5 +0.5
DIB **Dawson Inlet,** 50.43 330 PFAKE 16 44 50.0 +7.1
DIB LR LR
comp=Z,305µm,21.0s
APLL **PUNTA DE LOS L** 50.55 151 *e*P P 16 44 43.6 -0.6
APLL IVmB_BB 16 44 51.5
comp=Z,19µm,14.4s
AUSP **Uspallata** 50.87 155 *e*P P 16 44 47.4 +0.6
ROC1 **El Roble** 50.89 157 *e*P P 16 44 45.5 -1.4
comp=Z,311nm,1.1s
RTCV **Cerro Valdivia** 50.90 154 *e*P P 16 44 46.7 -0.1
YKA **Yellowknife Ar** 50.98 347 P P 16 44 46.3 -0.6
comp=Z,264nm,0.7s,baz=149,slow=7.5,SNR=135
YKA LR LR 17 09 51.2
comp=Z,49µm,20.3s,baz=150,slow=40
YKA P4KPbc 17 22 19.0
comp=Z,4.3nm,0.6s,baz=146,slow=4.1,SNR=8.4
YKB5 **Yellowknife Ar** 50.98 347 *e*P P 16 44 46.3 -0.6
YKW3 **Yellowknife Ar** 51.04 347 *e*P P 16 44 46.4 -1.0
comp=Z,1µm,1.0s
PEL **Peldehue** 51.16 157 *e*P P 16 44 47.7 -1.1
comp=Z,942nm,1.5s
PEL **Peldehue** 51.16 157 *e*P P 16 44 48.2 -0.5
PEL pmax pmax
comp=Z,940nm,1.5s
ACAN **Cantantal** 51.84 153 *e*P P 16 44 53.5 -0.3
CRAG **Craig** 52.06 332 *e*P P 16 44 56.7 +1.6
comp=Z,5µm,2.0s
CRAG LR LR
comp=Z,458µm,18.0s
WRAK **Wrangell Islan** 52.28 333 *e*P P 16 44 58.2 +1.5
comp=Z,358nm,0.9s
WRAK LR LR
comp=Z,397µm,19.0s
GO05 **Hualaæ∅** 52.38 159 *e*P P 16 44 56.7 -1.0
comp=Z,570nm,1.0s
GO05 LR LR
comp=Z,109µm,21.0s
CPUP **Villa Florida** 52.45 140 P P 16 44 56.7 -1.6
comp=Z,61nm,0.8s,baz=325,slow=7.4,SNR=56
CPUP PcP **PcP** 16 46 09.5 +0.8
comp=Z,67nm,0.9s,baz=338,slow=8.6,SNR=3.2
CPUP LR LR 17 09 02.6
comp=Z,73µm,18.7s,baz=324,slow=38
CPUP **Villa Florida** 52.45 140 *e*P P 16 44 56.6 -1.7
comp=Z,567nm,1.3s
CPUP PcP **PcP** 16 46 09.5 +0.8
BDFB **Brasilia** 52.59 123 P P 16 44 59.4 -0.4
comp=Z,70nm,0.8s,baz=298,slow=8.7,SNR=25
BDFB LR LR 17 09 03.2
comp=Z,86µm,21.6s,baz=303,slow=38
BDFB **Brasilia** 52.59 123 *e*P P 16 44 59.0 -0.8
comp=Z,516nm,1.0s
BDFB **Brasilia** 52.59 123 *e*P P 16 44 59.0 -0.8
BDFB pmax pmax
comp=Z,516nm,1.0s
DLBC **Dease Lake** 52.60 336 P P 16 45 01.5 +2.4
comp=Z,402nm,1.2s,baz=132,slow=5.2,SNR=109
DLBC **Dease Lake** 52.60 336 *e*P P 16 45 00.8 +1.7
comp=Z,2µm,1.0s
DLBC LR LR
comp=Z,603µm,18.0s
TAOE **Nuku Hiva Isla** 52.85 247 *e*P P 16 45 04.8 +3.1
comp=Z,399nm,1.2s
TAOE *e*S S 16 52 25.2 -3.0
comp=Z,582µm,26.2s
TAOE *e*SS SS 16 56 04.0 -3.6
comp=Z,144µm,27.0s
TAOE *e*LQ LQ 16 57 54.2
comp=Z,218µm,28.1s
TAOE *e*LR LR 17 00 05.0
comp=Z,290µm,27.4s,baz=60
TAOE **Nuku Hiva Isla** 52.85 247 *e*T T 17 41 10.2
comp=Z,663nm,0.3s
TAOE **Nuku Hiva Isla** 52.85 247 PFAKE 16 45 10.0 +8.3
TAOE LR LR
comp=Z,79µm,18.0s
PTCN **Pitcairn Islan** 53.72 224 PFAKE 16 45 20.0 +12
PTCN LR LR
comp=Z,29µm,20.0s
JIS **Juneau Island** 54.28 334 *e*P P 16 45 12.8 +1.4
comp=Z,2µm,1.9s
JIS LR LR
comp=Z,230µm,18.0s
BESE **Bessie Mountai** 54.66 334 *e*P P 16 45 15.6 +1.4
comp=Z,3µm,2.0s
BESE LR LR
comp=Z,287µm,18.0s
SKAG **Skagway** 55.38 335 *e*P P 16 45 20.7 +1.3
comp=Z,551nm,1.1s
SKAG LR LR
comp=Z,413µm,21.0s
RKT **Rikitea** 55.92 229 *e*P P 16 45 26.8 +3.1
comp=Z,220nm,1.1s
RKT *e*S S 16 53 07.0 -2.0
comp=Z,581µm,29.5s
RKT *e*LQ LQ 16 59 07.7
comp=Z,176µm,39.2s
RKT *e*LR LR 17 01 31.1
comp=Z,159µm,32.8s,baz=53
RKT **Rikitea** 55.92 229 *e*T T 17 45 18.3
comp=Z,119nm,0.3s
WHY **Whitehorse** 55.92 336 *e*P P 16 45 23.8 +0.5
comp=Z,477nm,0.8s
WHY LR LR
comp=Z,400µm,18.0s
DHAK **Deception Hill** 56.40 333 PFAKE 16 45 40.0 +13
DHAK LR LR
comp=Z,424µm,20.0s
IVI **Ivigtut** 56.67 24 *e*P P 16 45 25.8 -2.8
comp=Z,325nm,1.1s
GO06 **Curarrehue** 56.69 161 *e*P P 16 45 27.6 -1.4
comp=Z,329nm,1.4s
HYT **Haines Junctio** 57.06 335 *e*P P 16 45 33.0 +1.5
SPB **Sao Paulo** 57.47 130 *e*P P 16 45 33.0 -1.8
comp=Z,210nm,1.1s
SPB LR LR
comp=Z,93µm,19.0s
NRS **Narsarsuaq** 57.74 25⇑*i*P P 16 45 35.2 -0.9
comp=Z,201µm,19.0s
NRS **Narsarsuaq** 57.74 25⇑*e*P P 16 45 35.2 -0.9
NRS MLR MLR
comp=Z,200µm,19.0s
PCA **Pinnacle** 57.81 334 *e*P P 16 45 37.9 +1.2
comp=Z,833nm,0.8s
PCA LR LR
comp=Z,376µm,21.0s
PLCA **Paso Flores** 58.03 161 P P 16 45 39.6 +1.2
comp=Z,28nm,1.1s,baz=4.8,slow=7.3,SNR=14
PLCA LR LR 17 05 54.2
comp=Z,90µm,20.1s,baz=38,slow=31
PLCA PKPPKP **P'P'df** 17 15 12.6 -4.8
comp=Z,3.6nm,0.9s,baz=83,slow=2.4,SNR=3.9
PLCA P4KPbc 17 22 50.5
comp=Z,1.7nm,0.7s,baz=346,slow=3.7,SNR=3.6
PLCA **Paso Flores** 58.03 161 *e*P P 16 45 39.0 +0.6
comp=Z,1µm,1.6s
PLCA P'P' 17 15 12.6
PLCA *e* 17 22 50.5
PLCA **Paso Flores** 58.03 161 *e*P P 16 45 38.4 -0.1
PLCA IVmB_BB 16 45 54.9
comp=Z,6µm,1.8s
PLCA **Paso Flores** 58.03 161 *e*P P 16 45 38.3 -0.1
PLCA pmax pmax
comp=Z,1µm,1.6s
LPA **La Plata** 58.47 147*ce*P P 16 45 39.0 -2.5
LPA *ep*P **pP** 16 45 48.0 -5.0
LPA *es*P **sP** 16 45 51.0 -6.5
LPA *e*PCP **PcP** 16 46 30.0 -1.8
LPA *e*PP **PP** 16 47 49.0 -2.4
LPA *ep*PP 16 47 57.0
LPA *e*PPP PPP 16 49 07.0
LPA *e*PPP PPP 16 49 11.0
LPA *e*PPP PPP 16 49 26.0
LPA *e*PKIKP **PKiKP** 16 52 55.0 -0.2
LPA *e*S **S** 16 53 41.0 -1.2
LPA *es*S **pS** 16 53 54.0 -1.9
LPA *e*PSP PSP 16 54 02.0
LPA *e*SCS **ScS** 16 55 28.0 -0.3
LPA *e*SKIKP 16 56 24.0
LPA *e*PKIKS 16 56 29.0
LPA *e*SS **SS** 16 57 36.0 +0.6
LPA *e*SKIKS 16 59 59.0
LPA *e*SSS SSS 17 00 09.0
LPA *e*SSS SSS 17 00 18.0
LPA *e*SSS SSS 17 00 42.0
comp=Z,141µm,23.0s
H07N1 **FLORES T-PHASE** 58.87 52 *e*P P 16 45 50.7 +6.2
TRQA **Tornquist** 59.00 153 *e*P P 16 45 44.0 -1.2
comp=Z,1µm,2.0s
TRQA **Tornquist** 59.00 153*ce*P P 16 45 44.6 -0.6
TRQA pmax pmax
comp=Z,245nm,2.5s
RCBR **Riachuelo** 59.11 106 P P 16 45 46.9 +0.4
comp=Z,171nm,0.7s,baz=279,slow=7.4,SNR=23
RCBR **Riachuelo** 59.11 106 *e*P P 16 45 45.6 -0.9
comp=Z,1µm,1.3s
RCBR LR LR
comp=Z,211µm,21.0s
RCBR **Riachuelo** 59.11 106 *e*P P 16 45 45.6 -0.9
RCBR pmax pmax
comp=Z,1µm,1.3s
RCBR MLR MLR
comp=Z,211µm,21.0s
BALM **Baldy** 59.18 334 *e*P P 16 45 47.7 +1.4
comp=Z,866nm,1.0s
BALM LR LR
comp=Z,462µm,22.0s
BALM **Baldy** 59.18 334 *e*P P 16 45 48.0 +1.7
BALM pmax pmax
comp=Z,870nm,1.0s
TGL **Tana Glacier** 59.25 334 *e*P P 16 45 47.5 +0.8
comp=Z,1µm,1.0s
TGL LR LR
comp=Z,391µm,19.0s
GO07 **Milladeo Hill,** 59.32 164 *e*P P 16 45 48.0 +0.7
comp=Z,419nm,1.1s
SFJD **Kangerlussuaq** 59.51 18 LR LR 17 12 21.9
comp=Z,615µm,20.3s,baz=228,slow=37
SFJD **Kangerlussuaq** 59.51 18 *e*P P 16 45 46.4 -1.9
comp=Z,219nm,1.3s
SFJD **Kangerlussuaq** 59.51 18⇑*i*P P 16 45 47.6 -0.6
comp=Z,635µm,17.0s
SFJD **Kangerlussuaq** 59.51 18⇑*i*P P 16 45 47.6 -0.6
SFJD MLR MLR
comp=Z,640µm,17.0s
DAWY **Dawson** 59.62 338 *e*P P 16 45 49.0 -0.2
comp=Z,460nm,1.2s
DAWY LR LR
comp=Z,533µm,21.0s
RAGM **Ragged Mountai** 59.88 333 *e*P P 16 45 52.5 +1.4
comp=Z,2µm,1.1s
RAGM LR LR
comp=Z,400µm,18.0s
EPYK **Eagle Plains** 60.08 341 P P 16 45 52.6 +0.3
baz=128,SNR=97
BMRM **Bremner River** 60.11 333 *e*P P 16 45 53.9 +1.3
comp=Z,2µm,1.2s
BMRM LR LR
comp=Z,344µm,19.0s
MID **Middleton Isla** 60.21 331 PFAKE 16 46 10.0 +17
MID LR LR
comp=Z,236µm,22.0s
JCUZ **Jacuzzi** 60.33 284 PFAKE 16 46 10.0 +15
JCUZ LR LR
comp=Z,222µm,18.0s
NPOC **North of Pu'u** 60.34 284 PFAKE 16 46 10.0 +15
NPOC LR LR
comp=Z,224µm,19.0s
STCH **Steam Cracks** 60.36 284 PFAKE 16 46 10.0 +15
STCH LR LR
comp=Z,217µm,18.0s
INK **Inuvik** 60.39 344 P P 16 45 54.8 +0.5
comp=Z,214nm,0.8s,baz=124,slow=8.1,SNR=142
INK LR LR 17 16 48.6
comp=Z,559µm,18.6s,baz=124,slow=41
INK P4KPbc 17 23 02.4
comp=Z,20nm,1.1s,baz=121,slow=3.4,SNR=10
INK **Inuvik** 60.39 344 *e*P P 16 45 54.3 0.0
comp=Z,2µm,1.4s
INK *e* 17 23 02.4
EYAK **Cordova Ski Ar** 60.43 333 *e*P P 16 45 56.3 +1.6
comp=Z,9µm,2.0s
EYAK LR LR
comp=Z,454µm,21.0s
PUH **Pauahi** 60.44 284 *e*P P 16 45 55.7 0.0
comp=Z,1µm,1.3s
PUH LR LR
comp=Z,208µm,19.0s
BYL **Byron's Ledge** 60.48 285 *e*P P 16 45 55.3 -0.7
comp=Z,1µm,1.1s
BYL LR LR
comp=Z,189µm,18.0s
HATHI **Halema'uma'u T** 60.48 285 *e*P P 16 45 55.5 -0.4
comp=Z,1µm,1.2s
HATHI LR LR
comp=Z,191µm,19.0s
KKO **Keanakako'i** 60.49 284 *e*P P 16 45 56.4 +0.4
comp=Z,1µm,1.1s
SBLHI **Steaming Bluff** 60.49 285 *e*P P 16 45 55.5 -0.5
comp=Z,1µm,1.2s
SBLHI LR LR
comp=Z,182µm,19.0s
RIM **Rim** 60.49 284 *e*P P 16 45 56.1 0.0
comp=Z,854nm,1.0s
RIM LR LR
comp=Z,187µm,18.0s
UWB **Uwekahuna B** 60.50 285 *e*P P 16 45 57.8 +1.7
comp=Z,2µm,1.2s
UWB LR LR
comp=Z,187µm,19.0s
NPH **North Pit** 60.50 285 *e*P P 16 45 56.7 +0.6
comp=Z,2µm,1.7s
NPH LR LR
comp=Z,178µm,19.0s
NPH **North Pit** 60.50 285 P P 16 45 56.7 +0.6
OBL **Observatory Le** 60.50 285 PFAKE 16 46 10.0 +14
OBL LR LR
comp=Z,185µm,19.0s
UWE **Uwekahuna** 60.51 285 *e*P P 16 45 57.1 +0.9
comp=Z,1µm,1.1s
UWE LR LR
comp=Z,188µm,19.0s
SDHHI **Sand Hill** 60.52 284 *e*P P 16 45 57.0 +0.8
comp=Z,1µm,1.1s
SDHHI LR LR
comp=Z,191µm,18.0s
WRMHI **West Rim** 60.52 285 *e*P P 16 45 56.5 +0.2
comp=Z,725nm,1.0s
HLP **Hilina Pali** 60.54 284 *e*P P 16 45 56.5 +0.2
comp=Z,2µm,1.4s
HLP LR LR
comp=Z,207µm,19.0s
MLH **Mauna Loa** 60.59 285 *e*P P 16 45 57.6 +0.7
comp=Z,1µm,1.3s
MLH LR LR
comp=Z,173µm,19.0s
MLH **Mauna Loa** 60.59 285 *e*P P 16 46 00.9 +4.1
MLH pmax pmax
comp=Z,1µm,1.3s
PCED **Cedros** 60.62 53 *e*P P 16 46 02.8 +6.3
comp=Z,146nm,0.8s
EGAK **Eagle** 60.66 338 *e*P P 16 45 55.9 -0.3
comp=Z,619nm,1.0s
EGAK LR LR
comp=Z,312µm,19.0s
RES **Resolute Bay** 60.67 359 P P 16 45 54.8 -1.3
comp=Z,40nm,0.8s,baz=176,slow=9.2,SNR=38
RES LR LR 17 14 35.7
comp=Z,303µm,21.8s,baz=174,slow=38
RES **Resolute Bay** 60.67 359 *e*P P 16 45 54.7 -1.4
comp=Z,757nm,1.8s
AIN **Ainahou** 60.67 284 *e*P P 16 45 58.6 +1.3
comp=Z,973nm,1.2s
AIN LR LR
comp=Z,199µm,18.0s
HMH **Humu'ula Sheep** 60.67 285 *e*P P 16 45 58.3 +0.8
comp=Z,914nm,1.2s
HMH LR LR
comp=Z,203µm,20.0s
DIV **Divide** 60.69 333 *e*P P 16 45 57.6 +1.0
comp=Z,954nm,1.0s
DIV LR LR
comp=Z,373µm,22.0s
POHA **Pohakuloa** 60.70 285 *e*P P 16 45 57.8 +0.1
comp=Z,1µm,1.3s
POHA LR LR
comp=Z,213µm,20.0s
MLOA **Mauna Loa Obse** 60.77 285 *e*P P 16 45 58.8 +0.5
comp=Z,633nm,1.3s
MLOA LR LR
comp=Z,182µm,20.0s
PCAN **Candelaria** 60.77 54 *e*P P 16 46 03.9 +6.4
comp=Z,190nm,1.0s
MWH **Moku'aweowe** 60.79 285 *e*P P 16 45 59.5 +0.9
comp=Z,785nm,1.3s
MWH LR LR
comp=Z,190µm,18.0s
PICO **Pico** 60.83 54 *e*P P 16 46 04.3 +6.4
comp=Z,307nm,0.9s
HPAH **Hawaii Prepara** 60.83 285 *e*P P 16 45 59.5 +1.2
comp=Z,945nm,1.1s
HPAH LR LR
comp=Z,232µm,21.0s
FID **Port Fidalgo** 60.84 333 *e*P P 16 45 57.6 +0.1
comp=Z,2µm,1.0s
FID LR LR
comp=Z,334µm,18.0s
ILULI **Ilulissat** 60.88 16 *e*P P 16 45 56.6 -1.0
comp=Z,196nm,1.3s
ILULI LR LR
comp=Z,1154µm,19.0s
ILULI **Ilulissat** 60.88 16⇑*i*P P 16 45 57.0 -0.6
comp=Z,1152µm,19.0s
ILULI **Ilulissat** 60.88 16⇑*i*P P 16 45 57.0 -0.6
ILULI MLR MLR
comp=Z,1200µm,19.0s
KLU **Klutina** 60.92 334 *e*P P 16 45 59.6 +1.4
comp=Z,700nm,0.7s
KLU LR LR
comp=Z,164µm,22.0s
ROSA **Rosais** 60.99 53 *e*P P 16 46 05.2 +6.2
comp=Z,524nm,1.5s
ROSA *e*S S 16 54 22.0 +7.1
HUH **Hualalai** 60.99 285 PFAKE 16 46 10.0 +10
HUH LR LR
comp=Z,235µm,20.0s
MHA **Mahukona** 61.01 285 *e*P P 16 45 59.6 +0.2
MHA **Mahukona** 61.01 285 *e*P P 16 45 59.6 +0.2
HARP **HAARP** 61.01 335 *e*P P 16 45 59.6 +0.9
comp=Z,2µm,0.9s
HARP LR LR
comp=Z,279µm,22.0s
KHLU **Kahalu'u** 61.06 285 *e*P P 16 46 00.8 +0.9
comp=Z,818nm,1.5s
KHLU LR LR
comp=Z,223µm,20.0s
PMAN **Manadas** 61.10 54 *e*P P 16 46 06.0 +6.3
comp=Z,465nm,1.1s
DOT **Dot Lake** 61.16 336 *e*P P 16 46 00.3 +0.6
comp=Z,856nm,0.9s
DOT LR LR
comp=Z,491µm,19.0s
GLI **Glacier Island** 61.17 333 *e*P P 16 46 00.2 +0.4
comp=Z,524nm,0.8s
GLI LR LR
comp=Z,287µm,18.0s
PGRA **Graciosa** 61.22 53 *e*P P 16 46 06.6 +6.1
comp=Z,237nm,1.0s
PGRA *e*S S 16 54 25.0 +7.2
HLK **Haleakala** 61.28 286 *e*P P 16 46 01.9 +0.3
comp=Z,1µm,1.5s
HLK LR LR
comp=Z,155µm,22.0s
SCRK **Sand Creek** 61.30 337 *e*P P 16 46 01.5 +0.8
comp=Z,3µm,1.9s
SCRK LR LR
comp=Z,525µm,18.0s
PAX **Paxson** 61.40 335 *e*P P 16 46 02.1 +0.7
comp=Z,5µm,2.0s

PAX LR LR
comp=Z,235µm,19.0s
PAX Paxson 61.40 335 *eP* **P 16 46 02.1 +0.7**
PAX pmax pmax
comp=Z,5µm,2.0s
PAX MLR MLR
comp=Z,235µm,19.0s
KHLH Kahului Airpor 61.44 286 *eP* **P 16 46 02.2 -0.1**
KHLH LR LR
comp=Z,152µm,22.0s
RIDG Independ'e Rid 61.51 336 *eP* **P 16 46 02.8 +0.7**
comp=Z,1µm,1.0s
RIDG LR LR
comp=Z,561µm,20.0s
SCM Sheep Creek Mo 61.67 334 *eP* **P 16 46 03.8 +0.6**
comp=Z,1µm,1.0s
SCM LR LR
comp=Z,388µm,22.0s
SCM Sheep Creek Mo 61.67 334 *eP* **P 16 46 04.1 +0.8**
SCM pmax pmax
comp=Z,1µm,1.0s
ADH Angra Heroismo 61.77 54 *eP* P 16 46 10.6 +6.4
comp=Z,324nm,1.3s
SEW Seward 61.93 331 *eP* **P 16 46 05.0 +0.1**
comp=Z,525nm,0.9s
SEW LR LR
comp=Z,269µm,21.0s
SML Sawmill 62.10 333 *eP* **P 16 46 06.8 +0.8**
comp=Z,5µm,1.7s
SML LR LR
comp=Z,297µm,21.0s
SML Sawmill 62.10 333 *eP* **P 16 46 06.8 +0.8**
SML pmax pmax
comp=Z,5µm,1.7s
SML MLR MLR
comp=Z,297µm,21.0s
VAH Vaihoa 62.17 244 *eP* **P 16 46 11.3 +4.1**
comp=Z,447nm,1.2s
VAH Vaihoa 62.17 244 *eT* T 17 53 01.1
comp=Z,28nm,0.3s
DHY Denali Highway 62.23 335 *eP* **P 16 46 06.9 -0.2**
comp=Z,400nm,1.1s
DHY LR LR
comp=Z,286µm,21.0s
PMOR Pomariorio Ree 62.30 245 *eP* **P 16 46 12.2 +4.1**
comp=Z,604nm,1.5s
PMOR Pomariorio Ree 62.30 245 *eT* T 17 53 13.4
comp=Z,47nm,0.2s
GHO Glory Hole Cre 62.34 333 *eP* **P 16 46 08.1 +0.3**
comp=Z,2µm,1.1s
GHO LR LR
comp=Z,250µm,21.0s
PMR Palmer 62.36 333 *eP* **P 16 46 08.1 +0.4**
comp=Z,4µm,1.8s
PMR Palmer 62.36 333 *eP* **P 16 46 08.4 +0.7**
PMR pmax pmax
comp=Z,4µm,1.7s
RC01 Rabbit Creek A 62.43 332 *eP* **P 16 46 08.7 +0.5**
comp=Z,4µm,1.7s
RC01 LR LR
comp=Z,272µm,20.0s
BRLK Bradley Lake 62.48 331 *eP* **P 16 46 09.2 +0.5**
comp=Z,1µm,0.8s
BRLK LR LR
comp=Z,346µm,22.0s
CNPM China Poot 62.56 330 *eP* **P 16 46 09.9 +0.7**
comp=Z,856nm,0.9s
CNPM LR LR
comp=Z,274µm,22.0s
HDA Harding Lake 62.65 336 *eP* **P 16 46 10.0 +0.3**
comp=Z,4µm,1.8s
HDA LR LR
comp=Z,358µm,20.0s
HDA Harding Lake 62.65 336 P **P 16 46 10.0 +0.3**
baz=116,SNR=218
KDAK Kodiak Island 62.66 328 P **P 16 46 10.9 +1.1**
comp=Z,160nm,0.6s,baz=115,slow=2.4,SNR=61
KDAK LR LR 17 13 04.8
comp=Z,233µm,20.9s,baz=98,slow=36
IL1 Eielson Array 62.78 337 *eP* **P 16 46 10.7 +0.2**
ILAR Eielson Array 62.78 337 P **P 16 46 10.9 +0.4**
PKPPKP **P'P'df**
comp=Z,75nm,1.0s,baz=129,slow=3.4,SNR=257
ILAR comp=Z,4.7nm,0.8s,baz=296,slow=4.4,SNR=7.0 **17 15 12.6 -2.7**
ILAR LR LR 17 15 48.1
comp=Z,380µm,20.0s,baz=129,slow=38
ILAR P4KPbc 17 23 10.9
comp=Z,1.2nm,0.8s,baz=131,slow=1.3,SNR=9.4
ILB Eielson Array 62.78 337 *eP* **P 16 46 11.0 +0.4**
HOM Homer 62.80 331 *eP* **P 16 46 11.7 +1.0**
comp=Z,1µm,0.8s
HOM LR LR
comp=Z,212µm,22.0s
OHAK Old Harbor 62.85 328 *eP* **P 16 46 11.4 +0.4**
comp=Z,3µm,1.6s
OHAK LR LR
comp=Z,160µm,22.0s
HON Honolulu 62.86 287 *eP* **P 16 46 12.9 +1.1**
comp=Z,2µm,1.3s
HON LR LR
comp=Z,105µm,19.0s
HON Honolulu 62.86 287 *eP* **P 16 46 16.2 +4.4**
HON pmax pmax
comp=Z,2µm,1.2s
KIP Kipapa 62.87 287 *eP* **P 16 46 12.3 +0.4**
comp=Z,684nm,1.3s
KIP Kipapa 62.87 287 *eP* **P 16 46 12.3 +0.4**
KIP pmax pmax
comp=Z,684nm,1.3s
PSET Sete Cidades 62.90 55 *eP* P 16 46 18.2 +6.3
comp=Z,670nm,1.2s
PSET *eS* **S 16 54 46.0 +6.8**
PDA Ponta Delgada 62.95 55 *eP* P 16 46 18.4 +6.3
RND Reindeer 62.97 335 *eP* **P 16 46 12.8 +0.9**
comp=Z,2µm,1.0s
RND LR LR
comp=Z,280µm,21.0s
RND Reindeer 62.97 335 *eP* **P 16 46 12.8 +0.9**
RND pmax pmax
comp=Z,2µm,1.0s
RND MLR MLR
comp=Z,280µm,21.0s
SUA Susitna One 63.02 333 *eP* **P 16 46 12.8 +0.5**
comp=Z,8µm,1.9s
SUA LR LR
comp=Z,304µm,22.0s
ANGG Ammassalik, Gr 63.03 22 *eP* **P 16 46 10.3 -1.8**
comp=Z,752nm,1.6s
CMLA Cha da Macela 63.06 55 *eP* P 16 46 19.3 +6.4
comp=Z,357nm,1.3s
CMLA *eS* **S 16 54 48.2 +7.2**
CMLA Cha da Macela 63.06 55 *eP* **P 16 46 11.2 -1.7**
comp=Z,401nm,1.3s
CMLA Cha da Macela 63.06 55 *eP* **P 16 46 11.2 -1.7**
CMLA pmax pmax
comp=Z,401nm,1.3s
CCB Clear Creek Bu 63.08 336 *eP* **P 16 46 12.3 -0.2**
comp=Z,472nm,0.9s
CCB LR LR
comp=Z,375µm,18.0s
PCALD Caldeiras da R 63.09 55 *eP* P 16 46 20.1 +7.0
comp=Z,152nm,0.6s
WRH Wood River Hil 63.12 336 *eP* **P 16 46 12.2 -0.6**
comp=Z,436nm,1.0s
WRH LR LR
comp=Z,334µm,18.0s
MCK McKinley 63.14 335 *eP* **P 16 46 13.3 +0.3**
comp=Z,3µm,1.6s
MCK LR LR
comp=Z,298µm,21.0s
MCK McKinley 63.14 335 *eP* **P 16 46 13.3 +0.3**
MCK pmax pmax
comp=Z,3µm,1.6s
POKR Poker Plat Res 63.15 337 P **P 16 46 13.1 +0.2**
baz=116,SNR=90
COLA College 63.20 337 *eP* **P 16 46 13.2 0.0**
comp=Z,1µm,0.9s
COLA LR LR
comp=Z,363µm,18.0s
COLA College 63.20 337 *eP* **P 16 46 13.4 +0.1**
COLA pmax pmax
comp=Z,1µm,0.9s
TCOL CIGO, UAF Yank 63.20 337 P **P 16 46 13.3 0.0**
baz=116,SNR=68
PSMA Santa Maria 63.34 56 *eP* P 16 46 21.0 +6.3
comp=Z,176nm,0.9s
BART Pico Bartolome 63.34 55 *eP* P 16 46 21.0 +6.2
comp=Z,546nm,1.2s
MDM Murphy Dome 63.38 337 *eP* **P 16 46 14.2 -0.3**
comp=Z,1µm,1.5s
MDM LR LR
comp=Z,374µm,19.0s
PSMN Pico do Norte, 63.39 56 *eP* P 16 46 21.7 +6.6
comp=Z,181nm,1.2s
PSMN *eS* **S 16 54 51.8 +6.6**
CHRN Cochrane 63.45 165 *eP* **P 16 46 14.4 -0.6**
comp=Z,154nm,1.1s
CHRN LR LR
comp=Z,300nm,19.0s
BWN Browne 63.53 336 *eP* **P 16 46 15.7 +0.1**
comp=Z,6µm,0.9s
BWN LR LR
comp=Z,335µm,20.0s
KULLO Kullorsuaq 63.56 10⇑ *iP* **P 16 46 15.4 -0.1**
comp=Z,534µm,19.0s
KULLO Kullorsuaq 63.56 10⇑ *iP* **P 16 46 15.4 -0.1**
KULLO MLR MLR
comp=Z,530µm,19.0s
SKT Skwentna 63.56 333 *eP* **P 16 46 16.1 +0.3**
comp=Z,7µm,2.0s
SKT LR LR
comp=Z,362µm,21.0s
TRF Thorofare Moun 63.58 335 *eP* **P 16 46 16.3 +0.3**
comp=Z,2µm,0.9s
TRF LR LR
comp=Z,461µm,21.0s
TULEG Thule 63.69 6 *eP* **P 16 46 15.6 -0.7**
comp=Z,428nm,1.4s
TULEG LR LR
comp=Z,682µm,22.0s
BPAW Bear Paw Mtn. 64.12 335 *eP* **P 16 46 19.5 +0.1**
comp=Z,2µm,1.1s
BPAW LR LR
comp=Z,306µm,22.0s
PPLA Purkeypile 64.17 334 *eP* **P 16 46 19.9 0.0**
comp=Z,3µm,1.5s
PPLA LR LR
comp=Z,351µm,22.0s
CAST Castle Rocks 64.32 334 *eP* **P 16 46 20.4 -0.4**
comp=Z,4µm,1.8s
CAST LR LR
comp=Z,269µm,20.0s
MLY Manley 64.38 336 *eP* **P 16 46 21.4 +0.2**
comp=Z,2µm,0.9s
MLY LR LR
comp=Z,309µm,19.0s
KEKH Kekaha 64.39 288 *eP* **P 16 46 26.0 +4.1**
comp=Z,2µm,2.0s
TIAR Tiarei 64.64 243 *eP* **P 16 46 27.5 +3.9**
comp=Z,100nm,1.1s
TIAR Tiarei 64.64 243 *eT* T 17 56 09.0
comp=Z,9.0nm,0.2s
TVO Taravao 64.66 242 *eP* **P 16 46 27.7 +4.0**
comp=Z,168nm,1.5s
TVO Taravao 64.66 242 *eT* T 17 56 05.9
comp=Z,5.4nm,0.2s
PPT Papeete 64.85 243 P P 16 46 31.2 +6.4
comp=Z,42nm,0.7s,baz=76,slow=4.2,SNR=6.3
PPT LR LR 17 07 34.9
comp=Z,94µm,19.2s,baz=72,slow=29
PPTF Pamatai, Papee 64.85 243 PFAKE
PPTF LR LR 16 46 40.0 +15
comp=Z,91µm,20.0s
PPT2 Papeete2 64.86 243 *eP* **P 16 46 28.9 +3.9**
comp=Z,205nm,1.5s
PAE Paea 64.89 243 *eP* **P 16 46 29.1 +4.0**
comp=Z,49nm,1.2s
SVW2 Sparrevohn 65.11 331 PFAKE
SVW2 LR LR 16 46 40.0 +14
comp=Z,72µm,21.0s
CHGN Chignik 65.35 326 *eP* **P 16 46 27.1 -0.4**
comp=Z,1µm,0.9s
CHGN LR LR
comp=Z,144µm,22.0s
TOLK Toolik Lake Re 65.47 340 *eP* **P 16 46 28.5 +0.3**
comp=Z,628nm,0.9s
TOLK Toolik Lake Re 65.47 340 P **P 16 46 29.4 +1.2**
baz=116,SNR=287
XMAS Kiritimati 65.63 266 *eP* **P 16 46 31.4 +1.4**
comp=Z,900nm,1.3s
XMAS LR LR
comp=Z,164µm,20.0s
IM3 Indian Mountai 65.91 337 *eP* **P 16 46 30.2 -0.8**
SUMG Summit 66.22 15 *eP* **P 16 46 31.8 -1.6**
comp=Z,321nm,1.1s
SUMG Summit 66.22 15⇑ *iP* **P 16 46 33.5 +0.1**
comp=Z,1454µm,18.0s
SUMG Summit 66.22 15⇑ *iP* **P 16 46 33.5 +0.1**
SUMG MLR MLR
comp=Z,1500µm,18.0s
SDPT Sand Point 66.31 325 *eP* **P 16 46 33.5 -0.2**
comp=Z,860nm,0.7s
SDPT LR LR
comp=Z,150µm,20.0s
GO09 Cerro Castillo 67.27 167 *eP* **P 16 46 40.0 +0.3**
comp=Z,879nm,1.6s
TBI Tubuai 67.31 237 *eP* **P 16 46 44.3 +3.7**
comp=Z,705nm,1.4s
TBI *eS* **S 16 55 32.5 -1.0**
comp=Z,319µm,38.5s
TBI *eLQ* LQ 17 03 50.7
comp=Z,130µm,27.0s
TBI *eLR* LR 17 06 44.3
comp=Z,240µm,29.2s,baz=64
TBI Tubuai 67.31 237 *eT* T 17 59 30.4
comp=Z,47nm,0.3s
FALS False Pass 67.91 324 *eP* **P 16 46 43.2 -0.7**
comp=Z,2µm,0.8s
AKUT Akutan 69.20 323 *eP* **P 16 46 52.5 +0.6**
comp=Z,566nm,0.6s
AKUT LR LR
comp=Z,100µm,21.0s
BORG Borgarnes 69.21 26 P **P 16 46 51.2 -0.6**
comp=Z,33nm,1.0s,baz=280,slow=11
BORG LR LR 17 17 30.4
comp=Z,193µm,18.3s,baz=259,slow=36
BORG Borgarnes 69.21 26 *eP* **P 16 46 51.7 -0.1**
comp=Z,118nm,0.8s
BORG Borgarnes 69.21 26 *eP* **P 16 46 51.7 -0.1**
BORG pmax pmax
comp=Z,118nm,0.8s
UNV Unalaska Valle 69.61 322 *eP* **P 16 46 54.3 -0.2**
comp=Z,2µm,1.0s
PMOZ Porto Moniz, M 69.92 60⇑ *eP* **P 16 46 57.3 +0.3**
comp=Z,449nm,1.6s
PMOZ *iS* **S 16 56 07.7 +3.1**
PMOZ Porto Moniz, M 69.92 60 *eLR* LR 17 08 37.1
comp=Z,108µm,20.0s
RDOG Red Dog Mine 69.94 338 *eP* **P 16 46 56.4 +0.1**
comp=Z,1µm,1.3s
RDOG LR LR
comp=Z,317µm,18.0s
SCO Scoresbysund 70.25 20 *eP* **P 16 46 56.2 -1.9**
comp=Z,127nm,1.1s
SCO LR LR
comp=Z,705µm,18.0s
SCO Scoresbysund 70.25 20 *iP* **P 16 46 56.5 -1.6**
comp=Z,684µm,18.0s
SCO Scoresbysund 70.25 20 *eP* **P 16 46 56.5 -1.6**
SCO MLR MLR
comp=Z,680µm,18.0s
ANM Nome 70.26 334 *eP* **P 16 46 58.1 -0.2**
comp=Z,2µm,2.0s
ANM LR LR
comp=Z,241µm,20.0s
ANM Nome 70.26 334 *eP* **P 16 46 59.2 +0.9**
ANM pmax pmax
comp=Z,2µm,2.0s
MACI Morro de la Ar 70.92 65 *eP* **P 16 47 00.9 -2.3**
comp=Z,1µm,1.6s
NIKH Nikolski High 70.97 321 *eP* **P 16 47 02.3 -0.6**
comp=Z,1µm,1.0s
NIKH LR LR
comp=Z,109µm,21.0s
EFI East Falkland 71.79 158 *eP* **P 16 47 07.8 +0.2**
comp=Z,201nm,1.0s
EFI LR LR
comp=Z,127µm,21.0s
EFI East Falkland 71.79 158 *eP* **P 16 47 07.8 +0.2**
EFI pmax pmax
comp=Z,201nm,1.0s
EFI MLR MLR
comp=Z,127µm,21.0s
DAG Danmarks Havn 72.65 13⇑ *iP* **P 16 47 12.1 -0.4**
comp=Z,799µm,20.0s
DAG Danmarks Havn 72.65 13⇑ *iP* **P 16 47 12.1 -0.4**
DAG MLR MLR
comp=Z,850µm,20.0s
VAL Valentia 74.06 40⇑ *iP* **P 16 47 20.1 -1.1**
VAL Valentia 74.06 40⇑ *iS* **SKiKP 16 56 47.4 +1.0**
JOHN Johnston Islan 74.29 284 *eP* **P 16 47 23.3 +0.1**
comp=Z,3µm,1.8s
JOHN LR LR
comp=Z,200µm,22.0s
JMIC Jan Mayen 74.73 20 *eP* **P 16 47 25.7 +0.9**
JMIC *eS* **S 16 57 01.6 +3.5**
RAR Rarotonga 75.12 243 P **P 16 47 30.3 +2.4**
comp=Z,26nm,0.8s,baz=180,slow=3.0,SNR=2.1
RAR LR LR 17 13 26.8
comp=Z,67µm,18.1s,baz=58,slow=30
RAR Rarotonga 75.12 243 *eP* **P 16 47 28.1 +0.2**
comp=Z,1µm,1.9s
RAR Rarotonga 75.12 243 *eP* **P 16 47 28.1 +0.2**
RAR pmax pmax
comp=Z,1µm,1.9s
SOFL Sornfelli, Far 75.43 29 *eP* P 16 47 16.6 -12
PMAFR Mafra 75.76 53 *eP* **P 16 47 30.4 -1.0**
comp=Z,311nm,1.7s
PMAFR *iS* **S 16 57 07.2 -3.5**
PMAFR *eSS* **SS 17 02 12.2 +9.4**
PMAFR *eLQ* LQ 17 07 39.1
PMAFR *eLR* LR 17 11 03.5
comp=Z,192µm,22.0s
ADK Adak 75.79 320 *eP* **P 16 47 31.5 +0.3**
comp=Z,1µm,0.8s
ADK LR LR
comp=Z,123µm,22.0s
ADK Adak 75.79 320 *eP* **P 16 47 31.5 +0.3**
ADK pmax pmax
comp=Z,1µm,0.8s
PMST Lisbon--Monsan 75.87 53⇑ *eP* **P 16 47 30.8 -1.2**
comp=Z,528nm,1.4s
LIS Lisbon 75.90 53 *eP* **P 16 47 31.3 -0.9**
LIS *eS* **S 16 57 10.8 -1.3**
LIS *eSS* **SS 17 02 03.5 -1.2**
LIS AMS AMS 17 18 04.2
comp=Z,227µm,21.7s
LIS Lisbon 75.90 53⇑ *eP* **P 16 47 31.4 -0.7**
comp=Z,477nm,1.3s
LIS Lisbon 75.90 53 *eP* **P 16 47 31.2 -0.9**
LIS *eS* **S 16 57 10.8 -1.3**
PGAV Gavieira, Arco 76.19 50⇑ *eP* **P 16 47 33.0 -0.9**
comp=Z,419nm,1.9s
PGAV *iS* **S 16 57 12.7 -2.8**
PGAV *eSS* **SS 17 02 10.4 +1.1**
PGAV *eLQ* LQ 17 06 43.8
PGAV *eLR* LR 17 11 13.1
comp=Z,153µm,18.0s
PCAS Casmilo, Conde 76.24 52⇑ *eP* **P 16 47 33.5 -0.6**
comp=Z,659nm,1.6s
PCAS *iS* **S 16 57 13.7 -2.2**
PCAS *eSS* **SS 17 02 18.8 +8.8**
PCAS *eLQ* LQ 17 07 56.1
PCAS *eLR* LR 17 11 17.1
comp=Z,184µm,20.0s
ALMR Almeirim 76.29 53 *eP* **P 16 47 33.4 -0.9**
ALMR *eS* **S 16 57 15.2 -1.3**
ALMR *eSS* **SS 17 02 09.5 -1.2**
ALMR AMS AMS 17 17 59.7
comp=Z,200µm,23.3s
ALMR Almeirim 76.29 53⇑ *eP* **P 16 47 34.8 +0.5**
ALMR Almeirim 76.29 53 *eP* **P 16 47 33.4 -0.9**
ALMR *eS* **S 16 57 15.1 -1.3**
ALMR *eSS* **SS 17 02 09.5 -1.2**
COI Coimbra 76.29 52⇑ *eP* **P 16 47 32.6 -1.7**
COI pmax pmax
comp=Z,565nm,1.6s
CLGH Cloghs, Cushen 76.32 36 *eP* P 16 47 16.5 -18
CLGH IAMs_20 IAMs_20 17 23 52.5
comp=Z,225µm,19.1s
DSB Dublin 76.33 38 *eP* **P 16 47 31.9 -2.4**
comp=Z,247nm,1.1s
DSB LR LR
comp=Z,168µm,20.0s
PFVI Vila Bisbo 76.34 55⇑ *eP* **P 16 47 34.1 -0.6**
comp=Z,592nm,1.3s
PFVI *iS* **S 16 57 16.8 -0.3**
PFVI *eSS* SS 17 02 28.2 +17
PFVI *eLR* LR 17 10 46.5
comp=Z,238µm,20.0s
PFVI Vila Bisbo 76.34 55 PFAKE 16 47 50.0 +15
PFVI LR LR
comp=Z,254µm,20.0s
PTOM Tomar 76.36 52 *eP* **P 16 47 32.3 -2.4**
comp=Z,439nm,1.3s
PTEO Sao Teotonio 76.37 54 *eP* **P 16 47 38.3 +3.5**
comp=Z,658nm,1.8s
PCAB Cabril 76.40 50 *eP* **P 16 47 35.4 +0.4**
comp=Z,275nm,1.8s
MORF Marmelete 76.46 55 *eP* **P 16 47 34.5 -0.9**
MORF *eS* **S 16 57 17.2 -1.4**
MORF *eSS* **SS 17 02 12.3 -1.3**
MORF AMS AMS 17 18 44.5
comp=Z,252µm,19.6s
MORF Marmelete 76.46 55 *eP* **P 16 47 35.1 -0.3**
comp=Z,319nm,1.4s
MORF *iS* **S 16 57 17.4 -1.1**
MORF *eSS* SS 17 02 26.9 +13
MORF *eLQ* LQ 17 08 30.2
MORF *eLR* LR 17 10 56.7
comp=Z,253µm,20.0s
MORF Marmelete 76.46 55 *eP* **P 16 47 34.5 -0.9**
MORF *eS* **S 16 57 17.1 -1.4**
MORF *eSS* **SS 17 02 12.2 -1.3**
POLO Lamas de Olo 76.61 50⇑ *eP* **P 16 47 35.1 -1.2**
comp=Z,100nm,1.4s
POLO Lamas de Olo 76.61 50 *ePP* PP 16 50 38.9 +10
POLO *iS* **S 16 57 16.6 -3.6**
POLO *eSS* **SS 17 02 25.9 +10**
POLO *eLR* LR 17 11 27.3
comp=Z,81µm,18.0s
PVIS Viseu 76.62 51⇑ *eP* **P 16 47 34.4 -1.9**
comp=Z,221nm,1.3s
LAWE Loch Awe, Argy 76.62 35 *eP* P 16 47 23.0 -13
MESJ Messejana 76.73 54 *eP* **P 16 47 36.0 -0.9**
MESJ *eS* **S 16 57 20.0 -1.3**
MESJ *eSS* **SS 17 02 16.2 -1.2**
MESJ AMS AMS 17 19 05.5
comp=Z,255µm,22.2s
MESJ Messejana 76.73 54⇑ *eP* **P 16 47 36.5 -0.4**
MESJ Messejana 76.73 54 *eP* **P 16 47 36.0 -0.9**
MESJ *eS* **S 16 57 20.0 -1.3**
MESJ *eSS* **SS 17 02 16.2 -1.2**
EVO Evora 76.80 53⇑ *iP* **P 16 47 38.7 +1.4**
comp=Z,285nm,1.3s
EVO Evora 76.80 53⇑ *iP* **P 16 47 37.8 +0.5**
EVO *iS* **S 16 57 23.3 +1.2**
MTE Manteigas 76.92 51⇑ *eP* **P 16 47 36.6 -1.4**
comp=Z,302nm,1.6s
MTE *iS* **S 16 57 19.3 -4.2**
MTE *eSS* SS 17 02 33.5 +13
MTE *eLQ* LQ 17 08 33.6
MTE *eLR* LR 17 11 36.5
comp=Z,209µm,20.0s
MTE Manteigas 76.92 51 *eP* **P 16 47 35.0 -3.0**
comp=Z,191nm,0.9s
MTE LR LR
comp=Z,203µm,19.0s
PBEJ Beja 76.98 54 *eP* **P 16 47 38.1 -0.2**
comp=Z,234nm,1.4s
PBDV Barranco-do-Ve 77.04 55⇑ *eP* **P 16 47 38.4 -0.3**
comp=Z,355nm,1.3s
PBDV *iS* **S 16 57 24.6 -0.2**
PBDV *eSS* SS 17 02 36.9 +15
PBDV *eLR* LR 17 10 56.7
comp=Z,252µm,20.0s
PCBR Castelo Branco 77.04 52 *eP* **P 16 47 37.7 -0.9**
comp=Z,313nm,1.2s
PESTR Estremoz 77.08 53⇑ *eP* **P 16 47 37.8 -1.1**
PESTR *iS* **S 16 57 26.1 +0.9**
PESTR Estremoz 77.08 53 *eLR* LR 17 11 41.0
comp=Z,193µm,20.0s

PESTR Estremoz 77.08 53 *e*P P 16 47 36.1 -2.8
comp=Z,136nm,1.2s
PESTR LR LR
comp=Z,113µm,20.0s
GAL1 Galloway 77.14 36 *e*P P 16 47 25.7 -13
PMRV Marv??o 77.16 52⇑*e*P **P** **16 47 38.2 -1.1**
comp=Z,283nm,1.3s
PMRV *i* S **S** **16 57 22.1 -4.0**
PMRV *e*SS **SS** **17 02 30.8 +6.8**
PMRV *e*LR LR 17 12 04.2
comp=Z,176µm,22.0s
PVAQ Vaqueiros 77.18 54⇑*e*P **P** **16 47 39.2 -0.2**
comp=Z,314nm,1.4s
PVAQ *i* S **S** **16 57 25.4 -0.9**
PVAQ *e*SS SS 17 02 50.5 +26
PVAQ *e*LR LR 17 10 53.3
comp=Z,254µm,20.0s
MVO Moncorvo 77.21 50⇑*e*P **P** **16 47 38.2 -1.4**
comp=Z,298nm,1.2s
MVO *i* S **S** **16 57 23.9 -2.7**
MVO *e*SS **SS** **17 02 33.0 +8.3**
MVO *e*LR LR 17 11 41.0
comp=Z,146µm,20.0s
IOMK Kirk Michael 77.29 37 *e*P P 16 47 26.6 -13
IOMK IAMs_20 IAMs_20 17 22 33.3
comp=Z,205µm,19.5s
PBRG Braganca 77.34 50⇑*e*P **P** **16 47 39.7 -0.6**
comp=Z,289nm,1.8s
PBRG *i* S **S** **16 57 25.4 -2.6**
PBRG *e*SS **SS** **17 02 36.9 +10**
PBRG *e*LQ LQ 17 07 56.1
PBRG *e*LR LR 17 11 37.6
comp=Z,150µm,22.0s
CCA1 Carnmenellis 77.35 41 *e*P P 16 47 26.6 -13
CCA1 IAMs_20 IAMs_20 17 22 16.0
comp=Z,213µm,19.0s
WPS Cemaes, Angles 77.43 38 *e*P P 16 47 25.1 -15
HTL Hartland 77.72 40 *e*P P 16 47 24.4 -18
HTL IAMs_20 IAMs_20 17 23 42.1
comp=Z,302µm,17.5s
EDI Edinburgh 77.89 35 *e*P P 16 47 28.8 -14
EDI IAMs_20 IAMs_20 17 22 26.3
comp=Z,202µm,18.7s
ESK Eskdalemuir 77.95 36 *e*P **P** **16 47 40.6 -2.8**
comp=Z,515nm,0.9s
ESK LR LR
comp=Z,179µm,20.0s
ESK Eskdalemuir 77.95 36 *e*P P 16 47 24.5 -19
ESK IAMs_20 IAMs_20 17 22 18.6
comp=Z,188µm,19.0s
ESK Eskdalemuir 77.95 36 *i* P **P** **16 47 41.8 -1.6**
EKA Eskdalemuir Ar 77.98 36 P P **16 47 41.5 -2.0**
comp=Z,131nm,0.7s,baz=278,slow=5.4,SNR=79
AVE Averroes 78.03 58⇑*i*P **P** **16 47 43.9 -0.4**
AVE *i* S **S** **16 57 34.9 -0.8**
KESW Keswick, Cumbr 78.10 36 *e*P P 16 47 30.7 -14
DYA Yadsworthy 78.15 41 *e*P P 16 47 30.9 -14
DYA IAMs_20 IAMs_20 17 21 04.8
comp=Z,150µm,20.5s
DRUM Mains of Drumt 78.15 34 *e*P P 16 47 26.7 -18
DRUM IAMs_20 IAMs_20 17 25 08.6
comp=Z,210µm,18.4s
FOEL Foel Wylfa 78.27 38 *e*P P 16 47 34.2 -11
HLM1 Long Mynd 78.51 39 *e*P P 16 47 32.8 -14
MCH1 Michaelchurch 78.52 39 *e*P P 16 47 32.8 -14
SFS San Fernando 78.52 55 *e*P **P** **16 47 46.1 -0.7**
comp=Z,360nm,1.1s
SFS LR LR
comp=Z,77µm,20.0s
SFS San Fernando 78.52 55 *e*P **P** **16 47 46.1 -0.7**
SFS pmax pmax
comp=Z,360nm,1.1s
SFS MLR MLR
comp=Z,77µm,20.0s
SFS San Fernando 78.52 55⇑*i*P **P** **16 47 47.2 +0.4**
SFS *e*S **S** **16 57 42.1 +1.4**
GIBL Gibalbin 78.65 55 *e*P **P** **16 47 52.0 +4.4**
CNIL Conil 78.66 55 *e*P P 16 47 53.0 +5.4
MONM Monmouth 78.66 39 *e*P P 16 47 33.0 -14
EDMD Edmundbyers 78.73 36 *e*P P 16 47 29.7 -18
EDMD IAMs_20 IAMs_20 17 22 42.6
comp=Z,180nm,19.0s
ROSF Rostrenen 78.87 43 *e*P **P** **16 47 45.8 -2.8**
ROSF pmax pmax
comp=Z,217nm,1.2s
KBS Kingsbay 78.99 11 *e*P **P** **16 47 47.4 -1.3**
comp=Z,263nm,1.0s
KBS LR LR
comp=Z,478µm,20.0s
KBS Kingsbay 78.99 11*c* *i*P **P** **16 47 49.4 +0.7**
KBS pmax pmax
comp=Z,861nm,1.0s
KBS MLR MLR
comp=Z,1765µm,18.0s
KBS Kingsbay 78.99 11 *e*P **P** **16 47 50.6 +1.9**
QUIF Quistinic 79.00 43 *e*P **P** **16 47 46.7 -2.6**
QUIF pmax pmax
comp=Z,352nm,1.1s
HPK Haverah Park 79.05 37 *e*P P 16 47 33.9 -16
STRD Stroud 79.06 39 *e*P P 16 47 35.3 -14
LIJA Lijar 79.09 55 *e*P **P** **16 47 49.0 -1.1**
CEU Ceuta 79.28 56⇑*i*P **P** **16 47 51.4 +0.4**
CEU *i* S **S** **16 57 49.1 +0.3**
SGMF Saint Gilles 79.35 43 *e*P **P** **16 47 48.3 -2.9**
SGMF pmax pmax
comp=Z,140nm,1.0s
CWF Charnwood Fore 79.43 38 *e*P P 16 47 32.7 -19
CWF IAMs_20 IAMs_20 17 24 56.1
comp=Z,205µm,18.6s
MIDW Midway 79.43 297 *e*P **P** **16 47 51.3 -0.7**
comp=Z,1µm,1.3s
MIDW LR LR
comp=Z,99µm,20.0s
GDLE Glaisdale, N Y 79.45 36 *e*P P 16 47 38.5 -13
GDLE IAMs_20 IAMs_20 17 25 38.0
comp=Z,208µm,18.2s
JSA Saint Aubin 79.46 42 *e*P P 16 47 38.6 -13
JSA IAMs_20 IAMs_20 17 18 33.8
comp=Z,194µm,20.1s
PAB San Pablo 79.47 52 *e*P **P** **16 47 48.8 -3.4**
comp=Z,204nm,1.0s
PAB LR LR
comp=Z,179µm,19.0s
PAB San Pablo 79.47 52 *e*P **P** **16 47 50.1 -2.1**
PAB pmax pmax
comp=Z,200nm,1.0s
ESDC Sonseca Array 79.75 52 P **P** **16 47 51.4 -2.3**
comp=Z,57nm,0.9s,baz=288,slow=5.5,SNR=55
ESDC PKKPbc **PKKPbc** **17 06 41.3 +0.3**
comp=Z,1.1nm,0.8s,baz=90,slow=3.1,SNR=2.7
ESDC PKPPK*e*P **P'P'df** **17 14 48.0 +1.3**
comp=Z,0.1nm,0.3s,baz=82,slow=2.1,SNR=4.1
ESDC LR LR 17 18 22.3
comp=Z,151µm,21.9s,baz=275,slow=32
ESLA Sonseca Array 79.75 52 *e*P **P** **16 47 50.7 -3.0**
comp=Z,209nm,1.0s
ESLA LR LR
comp=Z,171µm,19.0s
ES19 SONSECA Array 79.79 52 *e*P **P** **16 47 50.9 -3.0**
EMAL Malaga-Limoner 79.88 55⇑*i*P **P** **16 47 54.8 +0.4**
EMAL *i* S **S** **16 57 54.8 -0.4**
IFR Ifrane 79.88 58⇑*i*P **P** **16 47 54.2 -0.5**
IFR *i* S **S** **16 57 55.9 +0.2**
LMK Market Rasen 79.89 37 *e*P P 16 47 41.2 -13
LMK IAMs_20 IAMs_20 17 25 53.6
comp=Z,172µm,22.3s
H10N3 ASCENSION HYDR 79.96 101 P **P** **16 47 57.0 +2.3**
baz=278,slow=5.9,SNR=44
H10N2 ASCENSION HYDR 79.97 101 P **P** **16 47 57.2 +2.4**
baz=278,slow=5.9,SNR=20
H10N1 ASCENSION HYDR 79.98 101 P **P** **16 47 57.1 +2.2**
baz=278,slow=5.9,SNR=41
SPA0 Spitsbergen Ar 80.07 11 *e*P **P** **16 47 53.8 -0.8**
SPA0 Spitsbergen Ar 80.07 11 *e*P **P** **16 47 54.9 +0.3**
SPA0 *e*S **S** **16 57 58.9 +3.1**
SPITS Spitsbergen Ar 80.07 11 P **P** **16 47 54.2 -0.4**
comp=Z,16nm,0.5s,baz=282,slow=2.8,SNR=2.9
H10S3 ASCENSION HYDR 80.10 102 P **P** **16 47 59.0 +3.4**
baz=303,slow=8.4,SNR=9.5
H10S1 ASCENSION HYDR 80.11 102 P **P** **16 47 57.8 +2.2**
baz=303,slow=8.4,SNR=18
ASCN Ascension 80.12 101 *e*P **P** **16 47 54.2 -1.7**
comp=Z,2µm,1.0s
ASCN LR LR
comp=Z,54µm,22.0s
H10S2 ASCENSION HYDR 80.12 102 P P 16 48 01.5 +5.8
baz=303,slow=8.4,SNR=11
UCM Universidad Co 80.18 51⇑*i*P **P** **16 47 55.8 -0.2**
UCM *i* S **S** **16 57 57.0 -1.3**
PVLZ Peæn de 80.26 56⇑*i*P **P** **16 47 55.7 -0.7**
PVLZ *i* S **S** **16 57 57.7 -1.5**
HSPB Hornsund (broa 80.31 13 *e*P **P** **16 47 58.4 +2.5**
HSPB *e*S **S** **16 58 02.3 +4.0**
HSPB MLR MLR
comp=Z,814µm,20.9s
HSPB Hornsund (broa 80.31 13 *e*P **P** **16 47 58.2 +2.4**
HSPB *e*S **S** **16 58 01.7 +3.4**
MDT Midelt 80.43 59 P **P** **16 47 55.7 -1.8**
comp=Z,42nm,0.9s,baz=274,slow=5.4,SNR=18
MDT PKKPbc **PKKPbc** **17 06 40.4 +1.1**
comp=Z,1.5nm,0.8s,baz=56,slow=7.3,SNR=1.8
MDT LR LR 17 18 35.1
comp=Z,68µm,21.6s,baz=288,slow=32
GRR Gorron 80.45 43 *e*P **P** **16 47 54.6 -2.5**
GRR pmax pmax
comp=Z,436nm,1.0s
WACR West Acre 80.59 38 *e*P P 16 47 44.6 -13
WACR IAMs_20 IAMs_20 17 26 16.8
comp=Z,235µm,19.8s
KNTN Kanton 80.64 265 *e*P **P** **16 47 59.3 +0.5**
comp=Z,625nm,1.5s
KNTN LR LR
comp=Z,115µm,20.0s
HMNX Herstmonceux 80.76 40 *e*P P 16 47 45.7 -13
HMNX IAMs_20 IAMs_20 17 24 36.4
comp=Z,232µm,19.8s
LDF La Druitiere 80.89 42 *e*P **P** **16 47 57.0 -2.5**
LDF pmax pmax
comp=Z,391nm,1.1s
SUE Sulen 81.12 29 *e*P **P** **16 48 01.6 +1.1**
SUE *e*S **S** **16 58 09.1 +1.9**
FOO Floro 81.13 29 *e*P **P** **16 48 00.5 +0.1**
FOO *e*S **S** **16 58 08.2 +0.9**
SJPF Ste Jean 81.16 48 *e*P **P** **16 47 58.9 -2.2**
SJPF pmax pmax
comp=Z,288nm,1.1s
ELSH Elham, Standar 81.20 40 *e*P P 16 47 43.2 -18
ELSH IAMs_20 IAMs_20 17 21 05.4
comp=Z,207µm,20.9s
SMY Shemya 81.27 322 *e*P **P** **16 48 00.8 -0.6**
comp=Z,581nm,0.9s
SMY Shemya 81.27 322 *e*P **P** **16 48 00.8 -0.6**
SMY pmax pmax
comp=Z,581nm,0.9s
MELI Melilla 81.34 56⇑*i*P **P** **16 48 00.8 -1.3**
MELI *i* S **S** **16 58 09.0 -1.5**
PMSA Palmer Station 81.40 168 P **P** **16 48 02.6 +1.0**
comp=Z,25nm,1.0s,baz=303,slow=6.9,SNR=2.3
BILL Bilibino 81.41 338 *e*P **P** **16 48 02.7 +0.9**
comp=Z,2µm,1.1s
BILL LR LR
comp=Z,252µm,20.0s
BILL Bilibino 81.41 338*c* *i*P **P** **16 48 02.9 +1.0**
BILL *e* 16 51 17.5
BILL *e*PPP PPP 16 53 00.7
BILL *i* S **S** **16 58 09.9 -0.1**
BILL pmax pmax
comp=Z,924nm,1.2s
ASK Askoy 81.46 30 *e*P **P** **16 48 06.5 +4.2**
ASK *e*S **S** **16 58 12.2 +1.5**
BER Bergen 81.55 30 *e*P **P** **16 48 02.1 -0.6**
BER *e*S **S** **16 58 14.6 +2.9**
ETSF Etsaut 81.68 48 *e*P **P** **16 48 01.7 -2.3**
ETSF pmax pmax
comp=Z,123nm,0.9s
HYA Hoyanger 81.77 29 *e*P **P** **16 48 08.2 +4.4**
HYA *e*S **S** **16 58 15.9 +2.0**
AKN Aaknes 81.89 28 *e*P **P** **16 48 06.2 +1.6**
AKN *e*PP **PP** **16 51 10.5 -1.4**
AKN *e*S **S** **16 58 17.1 +1.8**
MOL Molde 82.04 27 *e*P **P** **16 48 07.2 +1.9**
MOL *e*S **S** **16 58 18.5 +1.9**
BJO Bjornoya 82.10 15 *e*P **P** **16 48 07.2 +1.8**
BJO *e*S **S** **16 58 19.0 +2.1**
ODD1 Odda 82.29 30 *e*P **P** **16 48 06.7 -0.1**
ODD1 *e*S **S** **16 58 20.3 +0.8**
BLS5 Blasjo 82.33 31 *e*P **P** **16 48 05.6 -1.3**
BLS5 *e*S **S** **16 58 21.3 +1.4**
CART Cartagena 82.42 53 *e*P **P** **16 48 05.3 -2.4**
comp=Z,133nm,1.2s
CART Cartagena 82.42 53⇑*i*P **P** **16 48 06.1 -1.6**
CART *i* S **S** **16 58 19.6 -1.9**
RJF Les Rejaudoux 82.65 45 *e*P **P** **16 48 06.3 -2.6**
RJF pmax pmax
comp=Z,133nm,0.8s
HOPE Hope Point 82.73 151 *e*P **P** **16 48 08.4 -0.4**
comp=Z,3µm,1.5s
HOPE LR LR
comp=Z,59µm,22.0s
LOF Lofoten 82.79 21 *e*P **P** **16 48 10.2 +1.1**
LOF *e*S **S** **16 58 27.0 +2.9**
DOMB Dombas 82.87 28 *e* **P** **16 48 09.9 +0.2**
TCF Toulx Ste Croi 82.91 44 *e*P **P** **16 48 07.4 -2.8**
TCF pmax pmax
comp=Z,196nm,1.2s
SNART Snartemo 82.98 32 *e*P **P** **16 48 14.6 +4.3**
SNART *e*S **S** **16 58 27.7 +1.2**
TBLU Trondheim 83.05 26 *e*P **P** **16 48 13.8 +3.3**
CAF Calviac 83.11 46 *e*P **P** **16 48 08.6 -2.7**
CAF pmax pmax
comp=Z,159nm,1.2s
KONS Konsvik 83.18 23 *e*P **P** **16 48 12.2 +1.1**
KONS *e*S **S** **16 58 30.7 +2.5**
UCC Uccle 83.27 39 *e*P **P** **16 48 10.4 -1.5**
comp=Z,245nm,1.0s
UCC LR LR
comp=Z,218µm,19.0s
UCC Uccle 83.27 39 *e*P **P** **16 48 10.4 -1.5**
UCC pmax pmax
comp=Z,245nm,1.0s
UCC MLR MLR
comp=Z,218µm,19.0s
UCC Uccle 83.27 39 ⇑P **P** **16 48 09.7 -2.2**
BGF Bois d'Agland 83.28 44 *e*P **P** **16 48 09.4 -2.7**
BGF pmax pmax
comp=Z,320nm,1.0s
SNF Seneffe 83.29 40 ⇓P **P** **16 48 10.7 -1.4**
comp=Z,144nm,1.6s
BAIF Baives 83.35 40 *e*P **P** **16 48 10.2 -2.2**
BAIF pmax pmax
comp=Z,205nm,1.2s
NSS Namsos 83.37 25 *e*P **P** **16 48 12.8 +0.6**
STEI Steigen 83.46 21 *e*P **P** **16 48 13.3 +0.7**
STEI *e*S **S** **16 58 35.0 +4.0**
STEI *e*SS **SS** **17 03 59.5 +3.1**
AVF Avril sur Loir 83.57 44 *e*P **P** **16 48 10.5 -3.0**
AVF pmax pmax
comp=Z,186nm,1.1s
DOU Dourbes 83.58 40 ⇑P **P** **16 48 11.6 -1.9**
comp=Z,126nm,1.4s
DOU ⇓PcP **PcP** **16 48 14.9 -2.8**
SSF Saint Saulge 83.60 43 *e*P **P** **16 48 10.9 -2.9**
SSF pmax pmax
comp=Z,192nm,0.9s
AFI Afiamalu 83.64 254 P **P** **16 48 18.6 +4.1**
comp=Z,45nm,0.8s,baz=274,slow=10,SNR=5.7
AFI LR LR 17 17 06.9
comp=Z,73µm,19.9s,baz=68,slow=30
HOMB Homborsund 83.66 32 *e*P **P** **16 48 14.3 +0.5**
GIVF Givet 83.72 40 *e*P **P** **16 48 11.3 -3.0**
GIVF pmax pmax
comp=Z,309nm,1.4s
LOR Lormes 83.79 43 *e*P **P** **16 48 12.2 -2.5**
LOR pmax pmax
comp=Z,337nm,1.0s
MOR8 Moi Rana 83.79 23 *e*P **P** **16 48 15.3 +1.0**
MOR8 *e*S **S** **16 58 37.8 +3.4**
MOR8 *e*SS **SS** **17 04 03.3 +1.7**
KONO Kongsberg 83.81 30 *e*P **P** **16 48 12.8 -1.7**
comp=Z,172nm,1.1s
KONO Kongsberg 83.81 30*c* *e*P **P** **16 48 15.3 +0.8**
KONO pmax pmax
comp=Z,268nm,1.7s
KONO MLR MLR
comp=Z,116µm,20.0s
KONO Kongsberg 83.81 30 *e*P **P** **16 48 15.8 +1.3**
KONO *e*S **S** **16 58 35.9 +1.2**
NC204 NORSAR Array S 83.87 28 *e*P **P** **16 48 13.2 -1.7**
SMF Signal de Mont 83.93 44 *e*P **P** **16 48 11.5 -3.9**
SMF pmax pmax
comp=Z,175nm,1.0s
BCLA Clavier 83.94 40 ⇑P **P** **16 48 13.6 -1.8**
comp=Z,176nm,1.3s
BCLA ⇓PcP **PcP** **16 48 17.0 -2.3**
NBO00 NORSAR Array S 83.95 29 *e*P **P** **16 48 13.6 -1.6**
TRO Tromso 84.03 19 *e*P **P** **16 48 16.1 +0.6**
TRO *e*S **S** **16 58 38.5 +1.8**
TRO *e*SS **SS** **17 04 07.7 +2.9**
NAO01 NORSAR Array S 84.06 29 *e*P **P** **16 48 14.7 -1.1**
BEBN Eben Emael 84.08 39 ⇑P **P** **16 48 14.5 -1.6**
comp=Z,21nm,1.0s
BEBN ⇓PcP **PcP** **16 48 17.7 -2.2**
NB2 NORSAR Subarra 84.15 28 P **P** **16 48 15.7 -0.6**
comp=Z,1µm,1.7s,baz=288,slow=5.6
NB2 NORSAR Subarra 84.15 28 P **P** **16 48 13.3 -3.0**
NB2 NORSAR Subarra 84.15 28 P **P** **16 48 15.7 -0.6**
baz=288,slow=5.6
NOA NORSAR Array B 84.15 28 P **P** **16 48 15.6 -0.7**
comp=Z,123nm,0.9s,baz=289,slow=5.2,SNR=36
NOA LR LR 17 26 35.0
comp=Z,121µm,19.1s,baz=285,slow=36
NC303 NORSAR Array S 84.16 28 *e*P **P** **16 48 14.7 -1.6**
NB201 NORSAR Array S 84.18 28 *e*P **P** **16 48 14.9 -1.5**
HGN Heimansgroeve 84.24 39 *e*P **P** **16 48 15.3 -1.6**
HGN *e*PP **PP** **16 51 33.9 +2.5**
HGN *e*S S 16 58 29.0 -10
OSL Oslo 84.26 30 *e*P **P** **16 48 17.0 +0.2**
MEM Membach 84.33 39 ⇑P **P** **16 48 14.8 -2.5**
comp=Z,111nm,1.3s
MEM ⇓PcP **PcP** **16 48 19.0 -2.1**
NC405 NORSAR Array S 84.36 28 *e*P **P** **16 48 16.1 -1.3**
NC602 NORSAR Array S 84.40 29 *e*P **P** **16 48 16.1 -1.3**
NC602 NORSAR Array S 84.40 29 *e*P **P** **16 48 18.6 +1.1**
EANR 'Ain N'Sour 84.42 54 P **P** **16 48 16.8 -1.4**
WTSB Winterswijk 84.45 38 *e*P **P** **16 48 16.7 -1.2**
MUD Monsted U'grnd 84.53 33⇑*i*P **P** **16 48 17.0 -1.2**
MUD Monsted U'grnd 84.53 33 *i* S **S** **16 58 35.1 -7.0**
comp=Z,165µm,21.0s
MUD Monsted U'grnd 84.53 33⇑*i*P **P** **16 48 17.0 -1.2**
MUD *i* S **S** **16 58 35.1 -7.0**
MUD MLR MLR
comp=Z,160µm,21.0s
ECHA Ech Chlef 84.58 54 P **P** **16 48 18.0 -0.9**
WLF Walferdange 84.67 40 *e*P **P** **16 48 17.2 -1.8**
comp=Z,573nm,1.6s
WLF LR LR
comp=Z,200µm,20.0s
WLF Walferdange 84.67 40 *e*P **P** **16 48 17.7 -1.4**
WLF Walferdange 84.67 40 ⇑P **P** **16 48 17.3 -1.8**
comp=Z,151nm,1.4s
EBNR Beni Rached 84.68 54 P **P** **16 48 20.7 +1.2**
ETRT Tiaret 84.70 55 P **P** **16 48 21.7 +2.0**
SSB Saint Sauveur 84.73 45 *e*P **P** **16 48 17.0 -2.6**
comp=Z,118nm,1.1s
SSB LR LR
comp=Z,132µm,21.0s
SSB Saint Sauveur 84.73 45 *e*P **P** **16 48 17.5 -2.1**
VIVF Saint-Julien-l 84.93 45 *e*P **P** **16 48 18.9 -1.7**
VIVF pmax pmax
comp=Z,180nm,1.1s
HAMF Hammerfest 85.04 18 *e*P **P** **16 48 20.6 +0.1**
HAMF *e*S **S** **16 58 46.4 -0.2**
CABF La Chapelle 85.43 43 *e*P **P** **16 48 21.1 -2.0**
CABF pmax pmax
comp=Z,223nm,1.1s
TIC Toumodi 85.56 84 *e*P **P** **16 48 22.4 -1.9**
TIC Toumodi 85.56 84 *e*PKIKP **PKKPbc** **17 06 30.3 +3.4**
HFS Hagfors 85.61 29 P **P** **16 48 22.4 -1.2**
comp=Z,31nm,0.9s,baz=329,slow=1.7,SNR=20
HFS LR LR 17 25 53.1
comp=Z,154µm,20.1s,baz=286,slow=35
HFS Hagfors 85.61 29 P **P** **16 48 22.4 -1.2**
HFS pmax pmax
comp=Z,176nm,0.8s
HFS MLR MLR
comp=Z,154µm,20.1s
HINF Hinteralfeld 85.61 42 *e*P **P** **16 48 20.5 -3.4**
HINF pmax pmax
comp=Z,224nm,1.3s
LIC Lamto 85.65 85 *e*P **P** **16 48 21.6 -3.1**
comp=Z,785nm,1.0s
LIC Lamto 85.65 85 *e*PKIKP **PKKPbc** **17 06 30.0 +3.3**
comp=Z,117nm,1.9s
KTK1 Kautokeino 85.68 19 *e*P **P** **16 48 22.2 -1.6**
KTK1 *e*S **S** **16 58 52.0 -1.1**
ECH Echery 85.70 41 *e*P **P** **16 48 22.0 -2.3**
ECH LR LR
comp=Z,166µm,19.0s
ECH Echery 85.70 41 *e*P **P** **16 48 22.6 -1.7**
DBIC Dimbokro 85.72 84 P **P** **16 48 23.8 -1.2**
comp=Z,39nm,0.9s,baz=275,slow=5.4,SNR=15
DBIC PKKPbc **PKKPbc** **17 06 28.9 +2.3**
comp=Z,9.0nm,1.0s,baz=118,slow=6.4,SNR=4.7
DBIC LR LR 17 24 06.9
comp=Z,91µm,20.3s,baz=272,slow=34
CDF Champ du Feu 85.72 41 *e*P **P** **16 48 22.3 -2.2**
CDF pmax pmax
comp=Z,213nm,1.0s
ABA Alger-Bouzarea 85.73 53 P P 16 48 30.0 +5.3
ORIF Oris-en-Rattie 85.74 45 *e*P **P** **16 48 22.9 -1.8**
ORIF pmax pmax
comp=Z,166nm,0.9s
EMHD Djebel Mahouad 85.81 54 P **P** **16 48 27.0 +1.7**
MAHO Mahon 85.90 50⇑*i*P **P** **16 48 23.6 -1.8**
MAHO *i* S **S** **16 58 49.4 -6.9**
KIC Kosan Boka 85.90 84 *e*P **P** **16 48 23.1 -2.8**
comp=Z,398nm,0.8s
KIC Kosan Boka 85.90 84 *e*PKIKP **PKKPbc** **17 06 30.6 +4.5**
comp=Z,121nm,2.0s
ARCES ARCESS Array B 86.13 18 P **P** **16 48 25.1 -0.9**
comp=Z,30nm,0.8s,baz=293,slow=3.7,SNR=51
ARCES PKKPbc **PKKPbc** **17 06 27.7 +0.4**
comp=Z,2.7nm,0.8s,baz=108,slow=2.9,SNR=5.4
ARCES LR LR 17 26 33.1
comp=Z,17µm,21.8s,baz=308,slow=35
ARCES ARCESS Array B 86.13 18 *e*P **P** **16 48 24.2 -1.8**
ARCES PKKPbc **PKKPbc** **17 06 27.7 +0.4**
ARCES ARCESS Array B 86.13 18 *e*P **P** **16 48 25.3 -0.7**
ARE0 ARCESS Array S 86.13 18 *e*P **P** **16 48 24.5 -1.5**
comp=Z,5.4nm,0.8s
ARE0 LR LR
comp=Z,18µm,22.0s
ARE0 ARCESS Array S 86.13 18 *e*P **P** **16 48 26.5 +0.5**
LPL La Plagne 86.16 44 *e*P **P** **16 48 25.4 -1.5**
LPL pmax pmax
comp=Z,194nm,1.2s
LPG La Plagne 86.18 44 *e*P **P** **16 48 25.7 -1.4**
LPG pmax pmax
comp=Z,262nm,1.3s
BNI Bardonecchia 86.25 45 *e*P **P** **16 48 25.4 -1.9**
comp=Z,175nm,1.0s
BNI LR LR
comp=Z,165µm,19.0s
BNI Bardonecchia 86.25 45 *e*P **P** **16 48 26.0 -1.3**
SENIN Lac Senin/Sane 86.31 43 *e*P **P** **16 48 25.5 -2.2**
comp=Z,380nm,0.9s
SENIN LR LR
comp=Z,170µm,19.0s
MBDF Montbardon 86.41 45 *e*P **P** **16 48 26.2 -1.9**
MBDF pmax pmax
comp=Z,107nm,1.0s
BFO Black Forest 86.41 41 *e*P **P** **16 48 25.4 -2.4**
comp=Z,189nm,1.1s
BFO LR LR
comp=Z,175µm,19.0s
BFO Black Forest 86.41 41*c* *e*P **P** **16 48 26.3 -1.6**
KEV Kevo 86.46 18 *e*P **P** **16 48 25.8 -1.8**
comp=Z,137nm,1.1s
KEV LR LR
comp=Z,343µm,21.0s
KEV Kevo 86.46 18 *e*P **P** **16 48 26.8 -0.8**
COP Copenhagen 86.50 33⇑*i*P **P** **16 48 27.3 -0.8**
COP Copenhagen 86.50 33 *i* S **SKSac** **16 58 47.8 -3.7**
comp=Z,76µm,20.0s
COP Copenhagen 86.50 33⇑*i*P **P** **16 48 27.3 -0.8**
COP *i* S **SKSac** **16 58 47.8 -3.7**
COP MLR MLR
comp=Z,76µm,20.0s
FRF La Foret Royal 86.64 46 *e*P **P** **16 48 26.9 -2.2**
FRF pmax pmax
comp=Z,184nm,1.0s
STU Stuttgart 86.83 41 *e*P **P** **16 48 27.2 -2.6**
comp=Z,295nm,1.2s
STU LR LR

comp=Z,158μm,20.0s
STU Stuttgart 86.83 41 *e*P **P 16 48 29.0 -0.9**
RGN Rugen 87.38 34 PFAKE 16 48 40.0 +7.7
RGN LR LR
comp=Z,700nm,19.0s
TUE Stuetta 87.63 43 *e*P **P 16 48 31.9 -2.1**
comp=Z,239nm,0.9s
TUE LR LR
comp=Z,159μm,20.0s
DAVA Damuels 87.72 42 *i* P **P 16 48 33.4 -1.1**
comp=Z,325nm,1.0s,SNR=73
SET Setif 87.73 53 P **P 16 48 35.0 +0.4**
GRF Grafenberg Arr 87.80 39 P **P 16 48 32.7 -1.9**
GRFO Grafenberg 87.80 39 *e*P **P 16 48 32.5 -2.0**
comp=Z,263nm,0.9s
GRFO LR LR
comp=Z,202μm,22.0s
GRFO Grafenberg 87.80 39 *e*P **P 16 48 34.0 -0.5**
CKHR Kef el Ahmar 87.86 54 P **P 16 48 36.9 +1.6**
DAVOX Davos/Dischmat 87.88 42 P **P 16 48 34.4 -0.8**
comp=Z,66nm,0.8s,baz=274,slow=3.6,SNR=33
DAVOX LR LR 17 24 28.7
comp=Z,115μm,20.7s,baz=301,slow=33
DAVOX Davos/Dischmat 87.88 42 P **P 16 48 34.4 -0.8**
DAVOX pmax pmax
comp=Z,67nm,0.8s
DAVOX MLR MLR
comp=Z,115μm,20.7s
DFRA Diebel Bou Aff 88.00 53 P **P 16 48 37.9 +2.0**
BSD Bornholm Skovb 88.03 33⇑ *i*P **P 16 48 35.9 +0.4**
BSD Bornholm Skovb 88.03 33⇑ *i*P **P 16 48 35.9 +0.4**
FUORN Ofenpass-Fuorn 88.18 42 *e*P **P 16 48 34.9 -1.9**
comp=Z,342nm,0.9s
FUORN LR LR
comp=Z,176μm,18.0s
RETA Reutte 88.23 41 *i* P **P 16 48 35.6 -1.2**
comp=Z,289nm,1.0s,SNR=46
CLL Collm 88.33 37 *e*P **P 16 48 35.1 -1.8**
comp=Z,98nm,1.1s
CLL LR LR
comp=Z,166μm,21.0s
CLL Collm 88.33 37 *i* P **P 16 48 35.8 -1.2**
comp=Z,60nm,1.4s
CLL *e*Pmax 16 48 40.0
CLL *i* Pmax 16 48 41.0
comp=Z,115nm,1.2s
CLL *e*Plp 16 48 49.0
comp=Z,46μm,21.7s
CLL *e*PP **PP 16 52 02.0 -2.4**
CLL *e* 16 52 25.0
CLL *e*SKSac **SKSac 16 58 59.0 -3.9**
CLL *e*S **S 16 59 18.0 -1.3**
comp=N,16μm,23.5s
CLL *e*S **S 16 59 18.0 -1.3**
comp=E,70μm,22.0s
CLL *e*PPS PPS 17 00 46.0
CLL *e* 17 01 54.0
CLL *e*SS **SS 17 05 06.0 -2.7**
CLL *e* 17 07 42.0
CLL *e*SSS SSS 17 08 42.0
CLL *e* 17 09 18.0
CLL *e*PKPPKPd **P'P'df 17 14 31.0 +0.6**
comp=Z,246nm,2.9s
CLL Lm MLR 17 31 00.0
comp=Z,157μm,21.4s
CLL Lmax 17 31 00.0
CLL Collm 88.33 37 *i* P **P 16 48 35.8 -1.2**
CLL *e* 16 58 59.0
CLL *e*S **S 16 59 18.0 -1.3**
CLL pmax pmax
comp=Z,115nm,1.2s
CLL MLR MLR
comp=Z,157μm,21.4s
FETA Feichten 88.36 42 *i* P **P 16 48 36.4 -1.0**
comp=Z,131nm,0.9s,SNR=36
FETA Feichten 88.36 42 *i* PKiKP **P'P'df 17 14 25.9 -4.8**
comp=Z,22nm,2.5s
NKC Novy Kostel 88.37 38 *e*P **P 16 48 36.5 -0.7**
NKC AMS AMS 17 31 50.0
comp=Z,201μm,17.9s
NKC Novy Kostel 88.37 38 *e*P **P 16 48 36.5 -0.7**
NKC MLR MLR
comp=Z,201μm,17.9s
MOTA Moosalm 88.50 41 *i* P **P 16 48 36.8 -1.3**
comp=Z,141nm,0.9s,SNR=55
CASM Ain Smara 88.56 53 P **P 16 48 41.8 +3.3**
PGF Pioggiola 88.59 47 *e*P **P 16 48 36.1 -2.4**
PGF pmax pmax
comp=Z,117nm,0.9s
SQTA Sankt Quirin 88.60 42 *i* P **P 16 48 37.4 -1.2**
comp=Z,152nm,1.2s,SNR=23
SQTA Sankt Quirin 88.60 42 *i* PKiKP **P'P'df 17 14 25.0 -5.2**
comp=Z,12nm,1.5s
CAEH 'Ain El Ouahch 88.69 53 P **P 16 48 40.4 +1.4**
CKFL Kef-Lekhel 88.70 53 P **P 16 48 41.4 +2.2**
SEY Seymchan 88.70 336 P **P 16 48 39.4 +0.9**
comp=Z,138nm,1.0s,baz=79,slow=4.4,SNR=39
SEY LR LR 17 30 53.8
comp=Z,32μm,21.6s,baz=61,slow=37
SEY Seymchan 88.70 336 *c* *i*P **P 16 48 38.2 -0.3**
WATA Walderalm 88.80 41 *i* PcP **P 16 48 38.9 -0.6**
comp=Z,40nm,0.8s
WTTA Wattenberg 88.86 41 *i* PcP **P 16 48 39.2 -0.7**
comp=Z,86nm,1.8s,SNR=15
BRG Berggiesshubel 89.04 38 *i* P **P 16 48 39.4 -1.0**
comp=Z,28nm,1.1s
BRG *i* 16 48 44.6
comp=Z,55nm,1.2s
BRG PP **PP 16 52 05.0 -5.1**
BRG S **SKSac 16 59 12.0 +4.9**
BRG SS SS 17 05 08.0 -11
BRG *e*PKPPKP **P'P'df 17 14 29.6 +0.5**
comp=Z,35nm,1.8s
comp=N,127μm,25.9s
comp=E,112μm,19.1s
comp=Z,173μm,19.8s
BRG Berggiesshubel 89.04 38 *i* P **P 16 48 39.3 -1.0**
BRG 16 52 05.0
BRG S **SKSac 16 59 12.0 +4.9**
BRG pmax pmax
comp=Z,28nm,1.2s
BRG MLR MLR
comp=N,127μm,25.9s
BRG MLR MLR
comp=E,112μm,19.1s
BRG MLR MLR
comp=Z,173μm,19.8s
VLC Villacollemand 89.05 45 *e*P **P 16 48 37.0 -3.5**
comp=Z,222nm,1.1s
VLC LR LR
comp=Z,117μm,21.0s
KHC Kasperske Hory 89.44 39 *e*P **P 16 48 40.7 -1.6**
comp=Z,46nm,1.3s
KHC LR LR
comp=Z,73μm,20.0s
KHC Kasperske Hory 89.44 39 *e*P **P 16 48 41.5 -0.8**
KHC *e*PCP **PcP 16 48 46.5 +2.8**
KHC *e*PP **PP 16 52 15.7 +2.3**
KHC *e*SKS **SKSac 16 59 01.2 -8.5**
KHC *e*PKPPKP P'P'df 17 14 19.5 -9.0
KHC AMS AMS 17 24 40.0
comp=Z,208μm,21.9s
KHC Kasperske Hory 89.44 39 *e*P **P 16 48 41.5 -0.8**
KHC *e* 16 52 15.7
KHC *e* 16 59 01.2
KHC MLR MLR
comp=Z,208μm,21.9s
PVCC Panska Ves 89.53 38 *e*P **P 16 48 40.1 -2.6**
PVCC *e*PP **PP 16 52 16.6 +2.5**
PVCC *e*SKS **SKSac 16 59 13.7 +3.6**
PVCC AMS AMS 17 31 30.0
comp=Z,186μm,20.3s
PVCC Panska Ves 89.53 38 *e*P **P 16 48 40.1 -2.6**
PVCC *e* 16 52 16.6
PVCC MLR MLR
comp=Z,186μm,20.3s
ABTA Abfaltersbach 89.60 42 *i* PcP **P 16 48 42.1 -1.1**
comp=Z,184nm,1.4s,SNR=29
GEC2 GERESS Array S 89.62 39 *e*P **P 16 48 41.2 -2.0**
comp=Z,100nm,1.1s
GEC2 LR LR
comp=Z,193μm,20.0s
GEC2 GERESS Array S 89.62 39 *e*P **P 16 48 42.0 -1.2**
GERES GERESS Array B 89.62 39 P **P 16 48 41.8 -1.5**
comp=Z,16nm,0.9s,baz=304,slow=3.1,SNR=30
GERES PKKPbc **PKKPbc 17 06 18.3 0.0**
comp=Z,1.3nm,0.8s,baz=172,slow=3.0,SNR=4.0
GERES LR LR 17 26 51.2
comp=Z,134μm,20.2s,baz=302,slow=34
PRA Prague 89.62 38 *e*P **P 16 48 42.8 -0.3**
PRA *e*SKS **SKSac 16 59 14.0 +3.4**
PRA AMS AMS 17 31 10.0
comp=Z,184μm,21.0s
PRA Prague 89.62 38 *e*P **P 16 48 42.8 -0.3**
PRA MLR MLR
comp=Z,184μm,21.0s
GEA0 GERESS Array S 89.62 39 *e*P **P 16 48 41.4 -1.9**
APA Apatity 89.64 18⇑ *i*P **P 16 48 43.7 +0.9**
APA *i* 16 52 15.0
APA *i* PPP PPP 16 54 18.0
APA *i* S **S 16 59 27.0 -4.0**
APA *i* PS **PnS 17 00 34.0 -6.4**
APA pmax pmax
comp=Z,31nm,1.1s
APA MLR MLR
comp=Z,342μm,16.0s
GKP Gorka Klasztor 90.00 35 *e*P **P 16 48 45.0 +0.2**
GKP *e*PP **PP 16 52 18.9 +1.2**
GKP *e*S **SKSac 16 59 13.8 +1.1**
GKP *e*SS **SS 17 05 33.6 +0.8**
GKP LMZ LR 17 28 46.0
comp=Z,132μm,20.7s
GKP Gorka Klasztor 90.00 35 *e*P **P 16 48 45.0 +0.2**
GKP *e* 16 52 18.9
GKP *e*S **SKSac 16 59 13.8 +1.1**
GKP *e*SS **SS 17 05 33.6 +0.8**
GKP MLR MLR
comp=Z,132μm,20.7s
KBA Koelnbreinsper 90.02 41 *i* PcP **P 16 48 45.0 -0.3**
comp=Z,94nm,0.9s
PET Petropavlovsk 90.09 325 *e*P **P 16 48 45.8 +0.6**
comp=Z,259nm,1.1s
PET LR LR
comp=Z,71μm,19.0s
PET Petropavlovsk 90.09 325 *α* *i*P **P 16 48 46.6 +1.4**
PET *e* 16 52 23.1
PET *e*S **S 16 59 34.8 -0.9**
PET *e*PS **PS 17 00 48.4 +2.0**
PET *e*PPS PPS 17 01 12.5
PET *e*SS **SS 17 05 39.0 +5.0**
PET *e*SSS SSS 17 09 13.8
PET pmax pmax
comp=Z,52μm,16.1s
PET pmax pmax
comp=Z,45μm,15.1s
PET pmax pmax
comp=Z,262nm,1.0s
PET MLR MLR
comp=Z,65μm,20.0s
TIXI Tiksi 90.21 348 LR LR 17 34 48.2
comp=Z,191μm,20.8s,baz=46,slow=39
TIXI Tiksi 90.21 348 *e*P **P 16 48 44.5 -0.9**
comp=Z,582nm,0.9s
TIXI Tiksi 90.21 348 *c* *e*P **P 16 48 45.0 -0.4**
TIXI pmax pmax
comp=Z,396nm,1.0s
TIXI MLR MLR
comp=Z,114μm,23.0s
MOA Molln 90.33 40 *i* P **P 16 48 45.2 -1.3**
comp=Z,55nm,0.9s
SHEL Horse Pasture 90.34 106 *e*P **P 16 48 46.5 -0.6**
comp=Z,216nm,0.9s
SHEL LR LR
comp=Z,55μm,21.0s
TAMR Tamra 90.34 52 PFAKE 16 49 00.0 +13
TAMR LR LR
comp=Z,600nm,18.0s
MYKA Terra Mystica 90.37 42 *i* P **P 16 48 45.3 -1.5**
comp=Z,51nm,1.0s,SNR=11
TOC7 Torodi Ar. Sit 90.42 76 PFAKE 16 49 00.0 +13
TOC7 LR LR
comp=Z,171μm,22.0s
TOB5 Torodi Ar. Sit 90.42 76 PFAKE 16 49 00.0 +13
TOB5 LR LR
comp=Z,174μm,21.0s
TOC5 Torodi Ar. Sit 90.42 76 PFAKE 16 49 00.0 +12
TOC5 LR LR
comp=Z,187μm,21.0s
TOB4 Torodi Ar. Sit 90.43 76 PFAKE 16 49 00.0 +12
TOB4 LR LR
comp=Z,168μm,22.0s
KSP Ksiaz 90.43 37 *e*P **P 16 48 47.0 +0.2**
KSP *e*PP **PP 16 52 18.9 -2.2**
KSP *e*S **SKSac 16 59 17.7 +2.4**
KSP *e*SS SS 17 05 27.8 -11
KSP LMZ LR 17 26 57.7
comp=Z,175μm,22.6s
KSP Ksiaz 90.43 37⇑ *e*P **P 16 48 47.0 +0.2**
KSP *e* 16 52 18.9
KSP MLR MLR
comp=Z,175μm,22.6s
TOA1 Torodi Ar. Sit 90.43 76 PFAKE 16 49 00.0 +12
TOA1 LR LR
comp=Z,166μm,21.0s
TOA0 Torodi Ar. Sit 90.43 76 *e*P **P 16 48 44.4 -3.2**
TOA0 LR LR
comp=Z,167μm,21.0s
TOA3 Torodi Ar. Sit 90.43 76 PFAKE 16 49 00.0 +12
TOA3 LR LR
comp=Z,160μm,21.0s
TOC1 Torodi Ar. Sit 90.43 76 PFAKE 16 49 00.0 +12
TOC1 LR LR
comp=Z,193μm,21.0s
TORD Torodi Ar. Bea 90.43 76 P **P 16 48 45.6 -2.0**
comp=Z,15nm,0.9s,baz=290,slow=5.0,SNR=21
TORD PKiKP **PKiKP 16 53 46.5 +4.0**
baz=300,slow=2.8
TORD PKKPbc **PKKPbc 17 06 17.7 +2.6**
comp=Z,2.1nm,0.9s,baz=90,slow=2.3,SNR=4.1
TORD PKPPKP **P'P'df 17 14 26.7 -0.4**
baz=131,slow=4.0
TORD LR LR 17 26 35.7
comp=Z,136μm,21.3s,baz=310,slow=34
TOA2 Torodi Ar. Sit 90.44 76 PFAKE 16 49 00.0 +12
TOA2 LR LR
comp=Z,167μm,21.0s
TOB2 Torodi Ar. Sit 90.44 76 PFAKE 16 49 00.0 +12
TOB2 LR LR
comp=Z,168μm,21.0s
TOB3 Torodi Ar. Sit 90.44 76 PFAKE 16 49 00.0 +12
TOB3 LR LR
comp=Z,164μm,21.0s
TOC4 Torodi Ar. Sit 90.44 76 PFAKE 16 49 00.0 +12
TOC4 LR LR
comp=Z,166μm,21.0s
TOC2 Torodi Ar. Sit 90.46 76 PFAKE 16 49 00.0 +12
TOC2 LR LR
comp=Z,172μm,22.0s
TOC3 Torodi Ar. Sit 90.46 76 PFAKE 16 49 00.0 +12
TOC3 LR LR
comp=Z,170μm,22.0s
FINES FINESS Array B 90.50 25 P **P 16 48 45.8 -1.1**
comp=Z,112nm,1.1s,baz=318,slow=2.6,SNR=24
FINES LR LR 17 30 42.4
comp=Z,117μm,19.3s,baz=306,slow=36
FIA1 FINESS Array S 90.50 25 *e*P **P 16 48 44.2 -2.7**
comp=Z,152nm,0.9s
TREC Trest 90.55 39 *e*P **P 16 48 47.5 0.0**
TREC *e*PCP **PcP 16 48 49.7 +1.1**
TREC *e*PP **PP 16 52 24.5 +2.3**
TREC AMS AMS 17 28 20.0
comp=Z,176μm,20.3s
TREC Trest 90.55 39 *e*P **P 16 48 47.5 0.0**
TREC *e* 16 52 24.5
TREC MLR MLR
comp=Z,176μm,20.3s
CADS Cadrg 90.58 42⇑ *e*P **P 16 48 46.3 -1.4**
CADS *e*SKSac **SKSac 16 59 18.0 +1.6**
CADS *e*S **S 16 59 38.5 -2.1**
CADS *e*SS SS 17 05 54.6 +13
CADS Cadrg 90.58 42⇑ *e*P **P 16 48 46.3 -1.4**
CADS *e*SKSac **SKSac 16 59 18.0 +1.6**
CADS *e*S **S 16 59 38.5 -2.1**
CADS *e*SS SS 17 05 54.6 +13
PEA0B Petropavlovsk- 90.58 326 *e*P **P 16 48 47.4 -0.1**
comp=Z,444nm,1.0s
PEA0B LR LR
comp=Z,93μm,22.0s
PETK Petropavlovsk- 90.58 326 P **P 16 48 49.8 +2.3**
comp=Z,53nm,0.9s,baz=78,slow=7.4,SNR=42
PETK PKKPbc **PKKPbc 17 06 20.2 +4.3**
baz=204,slow=3.2
PETK PKPPKP **P'P'df 17 14 24.8 -1.4**
comp=Z,3.9nm,1.1s,baz=125,slow=48,SNR=3.8
PETK Petropavlovsk- 90.58 326 *e*P **P 16 48 47.6 +0.1**
PETK PKKPbc **PKKPbc 17 06 20.2 +4.3**
PETK P'P' 17 14 24.8
PETK Petropavlovsk- 90.58 326 *e*P **P 16 48 47.6 +0.1**
DPC Dobruska-Polom 90.64 37 *e*P **P 16 48 47.4 -0.5**
DPC *e*PP **PP 16 52 24.9 +2.0**
DPC *e*SKS **SKSac 16 59 14.3 -2.3**
DPC AMS AMS 17 32 10.0
comp=Z,151μm,20.0s
DPC Dobruska-Polom 90.64 37 *e*P **P 16 48 47.4 -0.5**
DPC *e* 16 52 24.9
DPC *e* 16 59 14.3
DPC MLR MLR
comp=Z,151μm,20.0s
SLIT Slitere, Latvi 90.70 29⇑ *e*P **P 16 48 45.5 -2.4**
TRI Trieste 90.78 42 *e*P **P 16 48 46.8 -1.8**
comp=Z,85nm,0.9s
TRI LR LR
comp=Z,142μm,18.0s
TRI Trieste 90.78 42 *e*P **P 16 48 47.8 -0.8**
FUNA Funafuti 90.82 261 *e*P **P 16 48 47.5 -1.9**
comp=Z,673nm,1.8s
FUNA LR LR
comp=Z,189μm,20.0s
KEST Kesra 90.93 53 P **P 16 48 48.4 -1.2**
comp=Z,56nm,0.9s,baz=278,slow=2.6,SNR=15
KEST Kesra 90.93 53 *e*P **P 16 48 47.8 -1.8**
comp=Z,183nm,1.1s
KEST LR LR
comp=Z,108μm,20.0s
OBKA Obir 91.00 41 *i* PcP **P 16 48 49.4 -0.3**
comp=Z,82nm,1.0s,SNR=11
KRLC Kraliky 91.02 38 *e*P **P 16 48 51.3 +1.6**
KRLC *e*SKS **SKSac 16 59 22.2 +3.4**
KRLC Kraliky 91.02 38 *e*P **P 16 48 51.3 +1.6**
KLNR Kaliningrad 91.04 33 *c* *i*P **P 16 48 49.0 -0.5**
KLNR pmax pmax
comp=Z,371nm,1.0s
KLNR MLR MLR
comp=Z,106μm,20.0s
MA2 Magadan 91.04 333 P **P 16 48 51.0 +1.4**
comp=Z,78nm,0.7s,baz=67,slow=4.8,SNR=17
MA2 Magadan 91.04 333 *e*P **P 16 48 50.2 +0.8**
comp=Z,2μm,1.6s
MA2 LR LR
comp=Z,86μm,20.0s
MA2 Magadan 91.04 333 *c* *i*P **P 16 48 50.9 +1.4**
MA2 pmax pmax
comp=Z,1μm,1.6s
MA2 MLR MLR
comp=Z,144μm,23.0s
LJU Ljubljana 91.16 42⇑ *e*P **P 16 48 49.1 -1.2**
LJU *e*PP **PP 16 52 28.1 +1.0**
LJU *e*SKSac **SKSac 16 59 21.6 +1.9**
LJU *e*S **S 16 59 43.5 -2.3**
LJU *e* 17 02 04.4
LJU Ljubljana 91.16 42⇑ *e*P **P 16 48 49.1 -1.2**
LJU *e*PP **PP 16 52 28.1 +1.0**
LJU *e*SKSac **SKSac 16 59 21.6 +1.9**
LJU *e*S **S 16 59 43.5 -2.3**
LJU *e* 17 02 04.4
LJU Ljubljana 91.16 42⇑ *i*P **P 16 48 48.7 -1.7**
KRUC Moravsky 91.19 39⇑ *i*P **P 16 48 49.1 -1.3**
KRUC *e*PP **PP 16 52 27.2 0.0**
KRUC *e*SKS **SKSac 16 59 17.9 -1.8**
CEY Cerknica 91.20 42⇑ *i*P **P 16 48 49.4 -1.2**
VRAC Vranov 91.21 38 P **P 16 48 50.0 -0.5**
comp=Z,23nm,0.8s,baz=302,slow=5.8,SNR=12
VRAC Vranov 91.21 38 P **P 16 48 50.0 -0.5**
VRAC Vranov 91.21 38⇑ *i*P **P 16 48 51.2 +0.7**
VRAC Vranov 91.21 38 P **P 16 48 50.0 -0.5**
VRAC Vranov 91.21 38⇑ *i*P **P 16 48 50.0 -0.5**
VRAC *e*PP **PP 16 52 27.9 +0.5**
VRAC *e*SKS **SKSac 16 59 20.5 +0.6**
SOKA Soboth 91.25 41 *i* P **P 16 48 49.0 -1.8**
comp=Z,74nm,1.2s,SNR=20
CONA Conrad Observa 91.30 40 *i* PcP **P 16 48 50.1 -1.0**
comp=Z,63nm,1.1s,SNR=25
ARSA Arzberg 91.34 41 *i* P **P 16 48 49.6 -1.6**
comp=Z,57nm,1.1s
PDKS Podkum 91.45 42⇑ *e*P **P 16 48 50.5 -1.3**
PDKS Podkum 91.45 42⇑ *e*P **P 16 48 50.5 -1.3**
TAM Tamanrasset 91.46 66 *e*P **P 16 48 50.3 -2.1**
comp=Z,60nm,1.1s
TAM LR LR
comp=Z,164μm,20.0s
TAM Tamanrasset 91.46 66 *e*P **P 16 48 51.1 -1.3**
MORC Moravsky Berou 91.59 38 *e*P **P 16 48 50.1 -2.2**
comp=Z,85nm,1.1s
MORC LR LR
comp=Z,191μm,20.0s
MORC Moravsky Berou 91.59 38⇓ *i*P **P 16 48 52.4 +0.1**
MORC Moravsky Berou 91.59 38 *e*P **P 16 48 51.5 -0.8**
MORC Moravsky Berou 91.59 38⇑ *i*P **P 16 48 52.0 -0.3**
MORC *e*PP **PP 16 52 29.9 -0.5**
MORC *e*SKS **SKSac 16 59 21.8 -0.3**
AQU L'Aquila 91.73 46 *e*P **P 16 48 50.4 -2.7**
comp=Z,144nm,1.0s
AQU LR LR
comp=Z,197μm,22.0s
AQU L'Aquila 91.73 46 *e*P **P 16 48 50.4 -2.7**
AQU pmax pmax
comp=Z,144nm,1.0s
AQU MLR MLR
comp=Z,197μm,22.0s
AQU L'Aquila 91.73 46⇑ *i*P **P 16 48 52.9 -0.2**
SOP Sopron 91.82 40 *e*P **P 16 48 53.3 -0.1**
SOP *e*PP **PP 16 52 33.1 +0.8**
BOJS Bojanci 91.83 42⇓ *e*P **P 16 48 53.6 +0.2**
BOJS Bojanci 91.83 42⇓ *e*P **P 16 48 53.6 +0.2**
CRES Cresnjev 91.84 42⇑ *i*P **P 16 48 51.7 -1.8**
RAC Raciborz 91.85 37 *e*P **P 16 48 50.9 -2.5**
RAC *e* 16 59 21.0
RAC MLR MLR
comp=Z,235μm,21.2s
OKC Ostrava-Krasne 91.92 37 *e*SKS **SKSac 16 59 24.5 +0.7**
OKC AMS AMS 17 35 50.0
comp=Z,143μm,19.2s
OZLJ Ozalj 91.93 42 P **P 16 48 53.8 -0.1**
NVLJ Novalja 91.93 43 P **P 16 48 52.3 -1.6**
ZST Bratislava 91.96 39 *e*S **SKSac 16 59 25.8 +1.7**
MODS Modra-Piesok 91.99 39 *e*P **P 16 48 53.4 -0.8**
MODS pmax pmax
comp=Z,125nm,1.3s
MODS MLR MLR
comp=Z,207μm,22.3s
MODS Modra-Piesok 91.99 39 *e*P **P 16 48 53.4 -0.8**
MODS *e*pP **PcP 16 48 58.2 +3.2**
MODS Modra-Piesok 91.99 39 *e*S **SKSac 16 59 26.4 +2.0**
MODS *e*L L 17 32 44.0
JAVC Velka Javorina 92.04 38⇑ *i*P **P 16 48 55.4 +1.0**
JAVC *e*PP **PP 16 52 28.3 -5.7**
JAVC *e*SKS **SKSac 16 59 27.7 +3.0**
VSU Vasula 92.34 27 *e*P **P 16 48 53.1 -2.4**
VSU Vasula 92.34 27 *c* *i*P **P 16 48 56.3 +0.8**
VSU pmax pmax
comp=Z,130nm,1.0s
VSU MLR MLR
comp=Z,310μm,19.0s
BEHE Becsehely 92.44 41 *e*P **P 16 48 55.8 -0.5**
BEHE *e*PP **PP 16 52 38.4 +1.2**
BEHE Becsehely 92.44 41⇑ *i*P **P 16 48 56.2 -0.1**
SKR Severo-Kuril's 92.50 324 *e*P P 16 48 45.7 -11
SKR pmax pmax
comp=Z,31μm,16.1s
SKR pmax pmax
comp=Z,27μm,15.2s
SKR pmax pmax
comp=Z,602nm,0.9s
UDBI Udbina 92.53 43 P **P 16 48 56.5 -0.3**
KOLL Kolacno 92.59 39 *e*P **P 16 48 56.3 -0.6**
KOLL Kolacno 92.59 39 *e*P **P 16 48 56.3 -0.6**
KOLL *e*pP **PcP 16 49 01.9 +4.3**
OJC Ojcow 92.72 37 *e*P **P 16 48 57.6 +0.1**
OJC *e*PP **PP 16 52 42.8 +3.5**
OJC *e*S **SKSac 16 59 27.6 -0.7**
OJC *e*SS **SS 17 06 11.8 -0.4**
OJC LMN 17 24 17.5
comp=Z,84μm,28.1s
OJC Ojcow 92.72 37 *e*P **P 16 48 54.5 -3.0**
comp=Z,105nm,1.2s

OJC	**Ojcow**	**92.72**	**37**	*eP*	**P**	**16 48 56.2**	**-1.3**		
SUW	**Suwalki**	**92.86**	**32**	*eP*	**P**	**16 48 57.6**	**-0.4**		
SUW				*ePP*	**PP**	**16 52 42.6**	**+2.5**		
SUW				*eS*	**SKSac**	**16 59 28.4**	**-0.4**		
SUW				*eSS*	**SS**	**17 06 12.0**	**-1.7**		
SUW				*eSSS*	SSS	17 09 54.5			
SUW				LMZ	LR	17 29 01.3			
	comp=Z,105µm,22.0s								
SUW	**Suwalki**	**92.86**	**32**	*eP*	**P**	**16 48 54.7**	**-3.3**		
	comp=Z,238nm,0.9s								
SUW	**Suwalki**	**92.86**	**32**	*eP*	**P**	**16 48 57.6**	**-0.4**		
SUW				*e*		16 52 42.6			
SUW				*eS*	**SKSac**	**16 59 28.5**	**-0.4**		
SUW				*eSS*	**SS**	**17 06 12.0**	**-1.7**		
SUW				*eSSS*	SSS	17 09 54.6			
SUW				MLR	MLR				
	comp=Z,105µm,22.0s								
VYHS	**Vyhne**	**92.89**	**38**	*eP*	**P**	**16 48 57.3**	**-1.1**		
VYHS				*e*		16 52 42.8			
VYHS				pmax	pmax				
	comp=Z,37nm,1.2s								
VYHS				MLR	MLR				
	comp=Z,129µm,20.3s								
VYHS	**Vyhne**	**92.89**	**38**	*eP*	**P**	**16 48 57.2**	**-1.1**		
VYHS				*epP*	**PcP**	**16 49 02.1**	**+3.1**		
VYHS				*ePP*	**PP**	**16 52 42.8**	**+2.1**		
VYHS				*eS*	**SKSac**	**16 59 32.1**	**+2.7**		
VYHS				*eL*	L	17 33 24.5			
LANS	**Liptovska Anna**	**92.99**	**38**	*eP*	**P**	**16 48 58.7**	**-0.1**		
LANS				*e*		16 52 40.2			
LANS	**Liptovska Anna**	**92.99**	**38**	*eP*	**P**	**16 48 58.7**	**-0.1**		
LANS				*epP*	**PcP**	**16 49 04.3**	**+4.9**		
LANS				*ePP*	**PP**	**16 52 40.2**	**-1.3**		
PUL	**Pulkovo**	**93.17**	**25**	*i P*	**P**	**16 49 00.1**	**+0.8**		
PUL				pmax	pmax				
	comp=Z,30nm,0.6s								
PUL				MLR	MLR				
	comp=Z,128µm,17.0s								
RAO	**Raoul Island**	**93.20**	**241**	LR	LR	17 24 55.9			
	comp=Z,19µm,18.1s,baz=81,slow=32								
CLTB	**Caltabellotta**	**93.26**	**50**	*eP*	**P**	**16 48 58.3**	**-2.1**		
	comp=Z,64nm,1.2s								
CLTB				LR	LR				
	comp=Z,220µm,20.0s								
NIE	**Niedzica**	**93.37**	**37**	*eP*	**P**	**16 49 01.5**	**+1.0**		
NIE				*ePP*	**PP**	**16 52 43.9**	**-0.5**		
NIE				*eS*	**SKSac**	**16 59 36.1**	**+4.1**		
NIE				LMZ	LR	17 25 26.8			
	comp=Z,89µm,26.2s								
NIE	**Niedzica**	**93.37**	**37⇑**	*eP*	**P**	**16 49 01.5**	**+1.0**		
NIE				*e*		16 52 43.9			
NIE				MLR	MLR				
	comp=Z,89µm,26.0s								
BLY	**Banja Luka**	**93.38**	**42**	*eP*	**P**	**16 48 56.5**	**-4.1**		
	comp=Z,68nm,1.0s								
BLY				LR	LR				
	comp=Z,149µm,20.0s								
BLY	**Banja Luka**	**93.38**	**42⇑**	*iP*	**P**	**16 48 59.3**	**-1.3**		
BUD	**Budapest**	**93.43**	**39**	*eP*	**P**	**16 49 01.0**	**+0.2**		
BUD				*ePP*	**PP**	**16 52 45.7**	**+0.8**		
MORH	**M¨‡r˚igy, Hung**	**93.72**	**41**	*eP*	**P**	**16 49 00.6**	**-1.6**		
MORH				*ePP*	**PP**	**16 52 45.5**	**-1.7**		
MORH	**M¨‡r˚igy, Hung**	**93.72**	**41⇑**	*iP*	**P**	**16 48 59.4**	**-2.8**		
PSZ	**Piszkesteto**	**93.78**	**39**	*eP*	**P**	**16 48 59.7**	**-2.8**		
	comp=Z,190nm,1.3s								
PSZ				LR	LR				
	comp=Z,246µm,21.0s								
PSZ	**Piszkesteto**	**93.78**	**39⇓**	*iP*	**P**	**16 49 02.6**	**+0.1**		
PSZ	**Piszkesteto**	**93.78**	**39**	*eP*	**P**	**16 49 03.7**	**+1.2**		
PSZ				*ePP*	**PP**	**16 52 47.4**	**-0.3**		
PSZ	**Piszkesteto**	**93.78**	**39**	*eP*	**P**	**16 49 02.1**	**-0.4**		
KECS	**Kecovo**	**93.89**	**38**	*eP*	**P**	**16 49 01.4**	**-1.5**		
KECS	**Kecovo**	**93.89**	**38**	*eP*	**P**	**16 49 01.4**	**-1.5**		
NACGM	**Naroch**	**94.23**	**30**	*eP*	**P**	**16 49 03.0**	**-1.3**		
NACGM				*eP*	**P**	**16 49 03.0**	**-1.3**		
NACGM				PM		16 49 10.0			
	comp=Z,0.6nm,1.0s								
NACGM				*ePP*	**PP**	**16 52 50.0**	**-0.8**		
NACGM				*ePPP*	PPP	16 55 26.0			
NACGM				*eSKS*	**SKSac**	**16 59 36.0**	**-0.3**		
NACGM				*eS*	**S**	**17 00 10.0**	**-2.7**		
NACGM				*ePS*	**PS**	**17 01 34.0**	**+1.9**		
NACGM				*eSS*	**SS**	**17 06 28.0**	**-5.3**		
NACGM				*eSSS*	SSS	17 10 34.0			
NACGM				*eLQ*	LQ	17 21 48.0			
NACGM				*eLR*	LR	17 24 26.0			
CUC	**Castrocucco**	**94.28**	**47**	PFAKE		16 49 20.0	+15		
CUC				LR	LR				
	comp=Z,118µm,19.0s								
TARA	**Tarawa**	**94.54**	**273**	P	**P**	**16 49 08.1**	**+1.6**		
	comp=Z,25nm,1.5s								
TARA				LR	LR				
	comp=Z,272µm,20.0s								
SG1	**Sgolgore (BA)**	**94.57**	**46**	*eP*	**P**	**16 49 06.7**	**+0.5**		
MATE	**Matera**	**94.66**	**46⇓**	*iP*	P	16 49 01.0	-5.6		
KWP	**Kalwaria Pacla**	**94.67**	**36**	*eP*	**P**	**16 49 07.4**	**+0.9**		
KWP				*ePP*	**PP**	**16 52 55.6**	**+1.1**		
KWP				*eS*	**SKSac**	**16 59 40.0**	**+1.0**		
KWP				*eSS*	**SS**	**17 06 39.9**	**0.0**		
KWP				LMZ	LR	17 29 43.3			
	comp=Z,117µm,22.7s								
KWP	**Kalwaria Pacla**	**94.67**	**36**	*eP*	**P**	**16 49 04.9**	**-1.6**		
	comp=Z,2µm,1.2s								
KWP				LR	LR				
	comp=Z,898µm,20.0s								
KWP	**Kalwaria Pacla**	**94.67**	**36⇑**	*eP*	**P**	**16 49 07.4**	**+0.9**		
KWP				*e*		16 52 55.6			
KWP				*eS*	**SKSac**	**16 59 40.0**	**+1.0**		
KWP				*eSS*	**SS**	**17 06 39.9**	**0.0**		
KWP				MLR	MLR				
	comp=Z,117µm,22.7s								
HAPS	**Han Pijesak,Bl**	**94.81**	**42**	*eP*	**P**	**16 49 06.0**	**-1.4**		
WDD	**Wied Dalam**	**94.86**	**51**	*eP*	**P**	**16 49 06.1**	**-1.5**		
	comp=Z,99nm,0.9s								
WDD				LR	LR				
	comp=Z,73µm,20.0s								
UZH	**Uzhgorod**	**94.89**	**37**	*d iP*	**P**	**16 49 06.0**	**-1.5**		
UZH				*e*		16 49 20.9			
UZH				*i*		16 49 25.6			
UZH				*i*		16 52 54.9			
UZH				*i*		16 59 36.7			
UZH				*eS*	**S**	**17 00 12.8**	**-6.0**		
UZH				*i SS*	**SS**	**17 06 46.0**	**+2.9**		
UZH				*eSSS*	SSS	17 10 28.9			
UZH				MLR	MLR				
	comp=N,8µm,16.0s								
UZH				MLR	MLR				
	comp=E,30µm,16.0s								
UZH				MLR	MLR				
	comp=Z,14µm,16.0s								
FRGS	**Fruska Gora**	**94.91**	**41⇑**	*iP*	**P**	**16 49 06.1**	**-1.6**		
TREB	**Trebinje**	**94.97**	**44**	*eP*	**P**	**16 49 06.8**	**-1.2**		
MASS	**Massafra**	**94.98**	**46**	*eP*	**P**	**16 49 07.3**	**-0.8**		
MICGM	**Minsk**	**94.99**	**30⇓**	*eP*	**P**	**16 49 06.0**	**-1.8**		
MICGM				PM		16 49 10.0			
	comp=E,4.9nm,10.0s								
MICGM				PM		16 49 12.0			
	comp=Z,33nm,14.0s								
MICGM				PM		16 49 12.0			
	comp=Z,49nm,12.0s								
MICGM				*ePP*	**PP**	**16 52 56.0**	**-0.7**		
MICGM				PPM		16 53 04.0			
	comp=Z,26nm,20.0s								
MICGM				PPM		16 53 06.0			
	comp=Z,49nm,26.0s								
MICGM				*ePPP*	PPP	16 55 06.0			
MICGM				*eSKS*	SKSac	16 59 28.0	-12		
MICGM				*eS*	**S**	**17 00 16.0**	**-3.3**		
MICGM				*ePS*	**PS**	**17 01 44.0**	**+3.6**		
MICGM				*eSS*	SS	17 06 04.0	-40		
MICGM				*eSSS*	SSS	17 10 20.0			
MICGM				*eLR*	LR	17 24 08.0			
MICGM				LRM	MLR	17 27 28.0			
	comp=E,154nm,24.0s								
MICGM				LRM	MLR	17 27 32.0			
	comp=Z,76nm,22.0s								
MICGM				LRM	MLR	17 27 34.0			
	comp=E,34nm,26.0s								
MNK	**Minsk**	**94.99**	**30⇓**	*eP*	**P**	**16 49 06.0**	**-1.8**		
MNK				*e*		16 52 56.0			
MNK				*ePPP*	PPP	16 55 06.0			
MNK				*eS*	**S**	**17 00 16.0**	**-3.3**		
MNK				*ePS*	**PS**	**17 01 44.0**	**+3.6**		
MNK				*eSSS*	SSS	17 10 20.0			
MNK				pmax	pmax				
	comp=E,5µm,10.0s								
MNK				pmax	pmax				
	comp=Z,34µm,14.0s								
MNK				pmax	pmax				
	comp=Z,49µm,12.0s								
MNK				pmax	pmax				
	comp=Z,49µm,26.0s								
CEL	**Celeste**	**94.99**	**49**	PFAKE		16 49 20.0	+12		
CEL				LR	LR				
	comp=Z,96µm,21.0s								
BRY	**Bratogost**	**95.02**	**44⇓**	*iP*	**P**	**16 49 08.5**	**+0.1**		
BRY	**Bratogost**	**95.02**	**44**	*eP*	**P**	**16 49 09.7**	**+1.3**		
FASA	**Fasano**	**95.05**	**46**	*eP*	**P**	**16 49 08.3**	**-0.1**		
TAR1	**Taranto**	**95.12**	**46**	*eP*	**P**	**16 49 08.3**	**-0.4**		
UPM	**Unac-Piva**	**95.14**	**43⇓**	*iP*	**P**	**16 49 08.6**	**-0.4**		
UPM	**Unac-Piva**	**95.14**	**43**	*eP*	**P**	**16 49 10.0**	**+1.0**		
HCY	**Herceg Novi**	**95.18**	**44⇓**	*iP*	**P**	**16 49 09.4**	**+0.4**		
HCY	**Herceg Novi**	**95.18**	**44**	*eP*	**P**	**16 49 07.8**	**-1.2**		
BBLS	**Lazići**	**95.20**	**43⇑**	*iP*	**P**	**16 49 08.3**	**-0.8**		
LTVH	**L¨tav¨rtes,**	**95.23**	**39**	*eP*	**P**	**16 49 08.9**	**-0.1**		
LTVH				*ePP*	**PP**	**16 53 01.8**	**+2.9**		
TIP	**Timpagrande**	**95.27**	**48**	*eP*	**P**	**16 49 06.1**	**-3.4**		
	comp=Z,69nm,1.3s								
TIP				LR	LR				
	comp=Z,133µm,20.0s								
TRPA	**Tarpa**	**95.27**	**38⇑**	*iP*	**P**	**16 49 09.2**	**0.0**		
TRPA	**Tarpa**	**95.27**	**38**	*eP*	**P**	**16 49 10.0**	**+0.8**		
LVV	**L'vov**	**95.34**	**36**	*i P*	**P**	**16 49 08.2**	**-1.3**		
LVV				*i*		16 53 02.4			
LVV				*e*		16 55 11.5			
LVV				*i*		16 59 37.5			
LVV				*eS*	**S**	**17 00 19.3**	**-3.3**		
LVV				*i*		17 01 41.6			
LVV				pmax	pmax				
	comp=Z,200nm,1.3s								
NKME	**Niksic**	**95.36**	**44⇓**	*iP*	**P**	**16 49 10.0**	**+0.2**		
NKY	**Niksic**	**95.36**	**44⇓**	*iP*	**P**	**16 49 10.1**	**+0.2**		
PLE	**Pljevlja**	**95.41**	**43⇑**	*iP*	**P**	**16 49 10.2**	**0.0**		
CEME	**Cevo**	**95.42**	**44⇓**	*iP*	**P**	**16 49 10.4**	**+0.2**		
DIVS	**Divibare**	**95.48**	**42**	*eP*	**P**	**16 49 08.7**	**-1.7**		
	comp=Z,67nm,1.0s								
DIVS				LR	LR				
	comp=Z,161µm,21.0s								
DIVS	**Divibare**	**95.48**	**42⇑**	*iP*	**P**	**16 49 09.2**	**-1.2**		
BUM	**Brajici-Budva**	**95.51**	**44⇓**	*iP*	**P**	**16 49 10.9**	**+0.3**		
SIRR	**Siria**	**95.59**	**40⇓**	*iP*	**P**	**16 49 09.4**	**-1.4**		
KOME	**Kolasin**	**95.70**	**43⇓**	*iP*	**P**	**16 49 11.2**	**-0.2**		
PDG	**Podgorica**	**95.70**	**44⇑**	*iP*	**P**	**16 49 11.5**	**+0.2**		
PDG	**Podgorica**	**95.70**	**44⇑**	*iP*	**P**	**16 49 10.8**	**-0.5**		
TTG	**Podgorica**	**95.70**	**44⇓**	*iP*	**P**	**16 49 10.9**	**-0.4**		
TTG	**Podgorica**	**95.70**	**44**	PFAKE		16 49 20.0	+8.7		
TTG				LR	LR				
	comp=Z,137µm,21.0s								
WAKE	**Wake Island**	**95.75**	**291**	PFAKE		16 49 20.0	+8.0		
WAKE				LR	LR				
	comp=Z,94µm,20.0s								
DRME	**Dracevica, Mon**	**95.75**	**44⇓**	*iP*	**P**	**16 49 12.5**	**+0.9**		
DRME	**Dracevica, Mon**	**95.75**	**44⇑**	*iP*	**P**	**16 49 11.3**	**-0.3**		
BZS	**Buzias**	**95.85**	**40⇑**	*iP*	**P**	**16 49 10.1**	**-1.9**		
BZS	**Buzias**	**95.85**	**40**	*iP*	**P**	**16 49 10.1**	**-1.9**		
ULC	**Ulcinj**	**95.89**	**44⇓**	*iP*	**P**	**16 49 12.4**	**+0.2**		
IVA	**Berane**	**95.94**	**43⇓**	*iP*	**P**	**16 49 12.5**	**0.0**		
DRGR		**95.99**	**39⇓**	*iP*	**P**	**16 49 11.8**	**-0.9**		
DRGR		**95.99**	**39**	*iP*	**P**	**16 49 11.8**	**-0.9**		
BMR	**Baia Mare**	**96.05**	**38⇑**	*iP*	**P**	**16 49 13.5**	**+0.7**		
BMR	**Baia Mare**	**96.05**	**38**	*iP*	**P**	**16 49 13.5**	**+0.7**		
PVY	**Plav**	**96.10**	**44⇓**	*iP*	**P**	**16 49 13.3**	**0.0**		
BCI	**Bajram Curri**	**96.27**	**44**	*i P*	P	16 49 08.1	-5.9		
MDVR	**Moldovita**	**96.29**	**41⇓**	*iP*	**P**	**16 49 13.9**	**-0.1**		
PUK	**Puka**	**96.29**	**44**	*i P*	P	16 49 06.0	-8.1		
TIR	**Tirane**	**96.57**	**45⇑**	*iP*	**P**	**16 49 14.2**	**-1.1**		
TIR	**Tirane**	**96.57**	**45**	P	**P**	**16 49 14.2**	**-1.1**		
TIR	**Tirane**	**96.57**	**45**	*i P*	P	16 49 08.2	-7.1		
CJR	**Cluj-Napoca**	**96.57**	**39⇓**	*iP*	**P**	**16 49 13.8**	**-1.5**		
CJR	**Cluj-Napoca**	**96.57**	**39**	*iP*	**P**	**16 49 13.8**	**-1.5**		
GZR	**Gura Zlata**	**96.68**	**40⇑**	*iP*	**P**	**16 49 14.6**	**-1.2**		
GZR	**Gura Zlata**	**96.68**	**40**	*iP*	**P**	**16 49 14.6**	**-1.2**		
HERR	**Herculane**	**96.69**	**41⇑**	*iP*	**P**	**16 49 14.3**	**-1.5**		
PHP	**Peshkopia**	**96.81**	**44**	*i P*	P	16 49 23.3	+6.8		
ARCR	**ARCALIA**	**96.85**	**38⇑**	*iP*	**P**	**16 49 20.7**	**+4.3**		
NRIK	**Noril'sk**	**96.85**	**0**	P	**P**	**16 49 14.6**	**-1.4**		
	comp=Z,7.0nm,0.6s,baz=6.2,slow=3.4,SNR=7.7								
NRIK				LR	LR	17 37 48.9			
	comp=Z,460µm,18.5s,baz=9.0,slow=38								
BUR08	**Bucovina Ar. S**	**97.08**	**37**	*eP*	**P**	**16 49 16.2**	**-1.4**		
BUR04	**Bucovina Ar. S**	**97.09**	**37**	*eP*	**P**	**16 49 15.6**	**-2.1**		
BURAR	**Bucovina Array**	**97.10**	**37⇑**	*iP*	**P**	**16 49 17.8**	**+0.1**		
BURAR	**Bucovina Array**	**97.10**	**37**	*iP*	**P**	**16 49 17.8**	**+0.1**		
TPE	**Tepelena**	**97.11**	**46**	*i P*	Pdif	16 49 21.1	+3.2		
LOT	**Lotru**	**97.27**	**40⇑**	*iP*	**P**	**16 49 17.4**	**-1.2**		
SRN	**Sarande**	**97.28**	**46**	*i P*	**P**	**16 49 16.7**	**-1.8**		
OHR	**Ohrid**	**97.31**	**45**	*i P*	Pdif	16 49 19.8	+1.0		
MDB	**Medias**	**97.32**	**39⇓**	*iP*	Pdif	16 49 19.5	+0.8		
MDB	**Medias**	**97.32**	**39**	*iP*	Pdif	16 49 22.6	+3.9		
SKO	**Skopje**	**97.36**	**44**	*i P*	Pdif	16 49 19.1	+0.1		
YAK	**Yakutsk**	**97.41**	**342**	LR	LR	17 39 52.3			
	comp=Z,143µm,20.6s,baz=86,slow=40								
YAK	**Yakutsk**	**97.41**	**342**	*eP*	**P**	**16 49 17.9**	**-0.7**		
	comp=Z,443nm,1.2s								
YAK	**Yakutsk**	**97.41**	**342**	*c iP*	Pdif	16 49 19.8	+1.2		
YAK				*e*		16 53 18.7			
YAK				*eS*	**SKSac**	**16 59 54.1**	**+1.3**		
YAK				*e*		17 00 40.5			
YAK				*eSP*	**SP**	**17 02 04.2**	**+3.1**		
YAK				*ePS*	**PS**	**17 02 06.2**	**-0.3**		
YAK				*eSS*	**SS**	**17 07 17.6**	**-0.1**		
YAK				pmax	pmax				
	comp=Z,351nm,1.4s								
YAK				pmax	pmax				
	comp=N,58nm,1.2s								
YAK				pmax	pmax				
	comp=E,62nm,1.2s								
YAK				pmax	pmax				
	comp=Z,11µm,8.3s								
YAK				pmax	pmax				
	comp=N,5µm,8.6s								
YAK				pmax	pmax				
	comp=E,4µm,8.6s								
YAK				MLR	MLR				
	comp=Z,180µm,21.0s								
YAK				MLR	MLR				
	comp=N,165µm,19.0s								
YAK				MLR	MLR				
	comp=E,115µm,21.0s								
KRUS	**Krusevo**	**97.50**	**44**	*i P*	**P**	**16 49 18.7**	**-0.9**		
KBN	**Korca**	**97.51**	**45**	*i P*	Pdif	16 49 36.7	+17		
BIA	**Bitola**	**97.70**	**44**	*i P*	**P**	**16 49 19.4**	**-1.1**		
KIEV	**Kiev**	**97.73**	**33**	*eP*	**P**	**16 49 17.8**	**-2.5**		
	comp=E,21nm,0.8s								
KIEV				LR	LR				
	comp=Z,148µm,18.0s								
KIEV	**Kiev**	**97.73**	**33**	*cePP*	**P**	**16 49 18.8**	**-1.5**		
KIEV				pmax	pmax				
	comp=Z,12nm,0.9s								
KIEV				MLR	MLR				
	comp=Z,113µm,18.0s								
AKASG	**Malin Array Be**	**97.74**	**33**	P	**P**	**16 49 18.0**	**-2.4**		
	comp=Z,3.8nm,0.7s,baz=292,slow=3.6,SNR=13								
AKASG				PP	**PP**	**16 53 19.1**	**+1.1**		
	comp=Z,16nm,0.7s,baz=302,slow=6.8,SNR=8.9								
AKASG				PKKP	**PKKPdf**	**17 05 58.4**	**-0.2**		
	comp=Z,2.2nm,0.7s,baz=110,slow=2.4,SNR=5.0								
AKASG				LR	LR	17 36 39.6			
	comp=Z,92µm,18.0s,baz=280,slow=38								
KWAJ	**Kwajalein Atol**	**97.77**	**281**	PFAKE		16 49 30.0	+8.7		
KWAJ				LR	LR				
	comp=Z,118µm,22.0s								
PRAR	**RASCA**	**97.82**	**37⇑**	*iP*	**P**	**16 49 19.8**	**-1.0**		
FNA	**Florina**	**97.84**	**45**	*eP*	**P**	**16 49 18.5**	**-2.6**		
	comp=Z,44nm,1.2s								
FNA				LR	LR				
	comp=Z,120µm,22.0s								
FNA	**Florina**	**97.84**	**45**	*eP*	**P**	**16 49 18.5**	**-2.6**		
FNA				pmax	pmax				
	comp=Z,44nm,1.2s								
FNA				MLR	MLR				
	comp=Z,120µm,22.0s								
ARR	**Arges**	**97.85**	**39⇑**	*iP*	**P**	**16 49 20.7**	**-0.4**		
BIZ	**Bicaz**	**97.96**	**38⇑**	*iP*	**P**	**16 49 20.4**	**-1.1**		
STIP	**Stip**	**97.98**	**44**	*i P*	Pdif	16 49 22.5	+0.7		
DOPR	**Dopca**	**98.02**	**39⇓**	*iP*	**P**	**16 49 20.8**	**-1.0**		
VOIR		**98.07**	**39⇑**	*iP*	Pdif	16 49 22.4	+0.3		
VOIR		**98.07**	**39**	⇑P	Pdif	16 49 22.4	+0.3		
MXZ	**Matakaoa Point**	**98.12**	**233**	PFAKE		16 49 30.0	+7.7		
MXZ				LR	LR				
	comp=Z,49µm,18.0s								
VTS	**Vitosha**	**98.25**	**42**	*eP*	**P**	**16 49 20.5**	**-2.5**		
	comp=Z,30nm,1.2s								
VTS				LR	LR				
	comp=Z,154µm,22.0s								
VTS	**Vitosha**	**98.25**	**42⇓**	*iP*	**P**	**16 49 22.6**	**-0.5**		
VTS	**Vitosha**	**98.25**	**42**	P	**P**	**16 49 23.0**	**-0.1**		
VTS	**Vitosha**	**98.25**	**42**	*eP*	**P**	**16 49 21.9**	**-1.2**		
VAY	**Valandovo**	**98.41**	**44**	*i P*	**P**	**16 49 23.1**	**-0.4**		
HUMR	**Humele**	**98.47**	**40⇑**	*iP*	**P**	**16 49 23.3**	**-0.5**		
MLR	**Muntele Rosu**	**98.59**	**39**	P	**P**	**16 49 23.3**	**-1.2**		
	comp=Z,21nm,1.0s,baz=300,slow=5.5,SNR=13								
MLR	**Muntele Rosu**	**98.59**	**39**	*eP*	**P**	**16 49 22.5**	**-2.0**		
	comp=Z,191nm,1.5s								
MLR				LR	LR				
	comp=Z,154µm,22.0s								
MLR	**Muntele Rosu**	**98.59**	**39⇓**	*iP*	Pdif	16 49 24.9	+0.4		
MLR	**Muntele Rosu**	**98.59**	**39**	P	**P**	**16 49 23.3**	**-1.2**		
MLR				pmax	pmax				
	comp=Z,19nm,1.0s								
SORM	**Soroca**	**98.64**	**36⇓**	*iP*	**P**	**16 49 24.1**	**-0.3**		
SORM	**Soroca**	**98.64**	**36**	⇓P	**P**	**16 49 24.1**	**-0.3**		
OBN	**Obninsk**	**98.68**	**27**	P	**P**	**16 49 23.5**	**-0.9**		
	comp=Z,10.0nm,0.8s,baz=284,slow=1.6,SNR=10								
OBN				LR	LR	17 35 34.8			
	comp=Z,55µm,19.8s,baz=316,slow=36								
OBN	**Obninsk**	**98.68**	**27**	*eP*	**P**	**16 49 22.6**	**-1.8**		
	comp=Z,90nm,0.8s								
OBN	**Obninsk**	**98.68**	**27**	*ceP*	**P**	**16 49 23.3**	**-1.1**		
OBN				*e*		16 53 27.4			
OBN				*ePPP*	PPP	16 55 35.2			
OBN				*i SS*	SS	17 07 41.2	+5.2		
OBN				pmax	pmax				
	comp=Z,131nm,1.0s								
OBN				MLR	MLR				
	comp=Z,242µm,20.0s								
MOS	**Moscow**	**98.73**	**26**	*eP*	P	16 49 19.9	-4.8		
MOS				*e*		17 00 01.6			
MOS				*eS*	**S**	**17 00 49.9**	**-1.5**		
MOS				pmax	pmax				
	comp=Z,108nm,1.2s								
PLOR	**Plostina**	**98.84**	**38⇑**	*iP*	Pdif	16 49 26.6	+1.1		
PLOR	**Plostina**	**98.84**	**38**	⇑P	Pdif	16 49 26.6	+1.1		
VRI	**Vrincioaia**	**98.88**	**38⇓**	*iP*	**P**	**16 49 25.0**	**-0.6**		
VRI	**Vrincioaia**	**98.88**	**38**	⇓P	**P**	**16 49 25.0**	**-0.6**		
LIT	**Litokhoron**	**98.91**	**45**	PFAKE		16 49 40.0	+14		
LIT				LR	LR				
	comp=Z,130µm,22.0s								
MMB	**Musomiste**	**99.06**	**43**	P	**Pdif**	**16 49 27.0**	**+0.4**		
URZ	**Urewera**	**99.18**	**233**	LR	LR	17 25 01.7			
	comp=Z,25µm,21.9s,baz=80,slow=30								
NKL	**Nikolayevsk**	**99.30**	**331**	*i P*	**Pdif**	**16 49 28.0**	**+0.8**		
NKL				*e*		16 53 32.0			
NKL				*e*		17 00 00.0			
NKL				pmax	pmax				
	comp=N,150nm,2.0s								
NKL				pmax	pmax				
	comp=E,230nm,2.0s								
NKL				pmax	pmax				
	comp=Z,1µm,2.0s								
PVL	**Pavlikeni**	**99.33**	**41**	P	**Pdif**	**16 49 28.0**	**+0.4**		
KIS	**Kishinev**	**99.52**	**37**	*i P*	**Pdif**	**16 49 28.0**	**-0.4**		
	comp=Z,12µm,14.0s								
KIS	**Kishinev**	**99.52**	**37**	*i* PP	PP	16 53 34.0	+2.2		
	comp=Z,5µm,20.0s								
KIS	**Kishinev**	**99.52**	**37**	*i* PPP	PPP	16 55 52.0			
KIS				*i* SKS	**SKSac**	**17 00 04.0**	**-0.1**		
KIS				*i* SKKS	SKKSac	17 00 20.0	-16		
KIS				*i* S	**ScS**	**17 00 52.0**	**-6.4**		
KIS	**Kishinev**	**99.52**	**37**	*i* PPS	PPS	17 03 32.0			
KIS				*i* SS	SKKSdf	17 12 32.0	-31		
KIS				LRM	MLR	17 37 42.0			
	comp=Z,59µm,16.0s								
KIS	**Kishinev**	**99.52**	**37**	*c iP*	**Pdif**	**16 49 28.0**	**-0.4**		
KIS				*i*		16 53 34.0			
KIS				*i*		17 00 04.0			
KIS				*i* S	**ScS**	**17 00 52.0**	**-6.4**		
KIS				*i* PS	**PS**	**17 02 24.0**	**-6.0**		
KIS				pmax	pmax				
	comp=N,4µm,14.0s								
KIS

YUK *i* PS **PS** **17 02 55.0 +0.4**
YUK *i* SS SS 17 08 32.4 +12
YUK pmax pmax
comp=Z,1μm,7.8s
YUK MLR MLR
comp=Z,53μm,21.0s
YUK MLR MLR
comp=N,9μm,20.0s
YUK MLR MLR
comp=E,58μm,20.0s
YSS **Yuzh-Sakhalins** **101.98 325** PFAKE 16 49 50.0 +11
YSS LR LR
comp=Z,93μm,22.0s
YSS **Yuzh-Sakhalins** **101.98 325** *c* *i*P **Pdif** **16 49 41.7 +2.4**
YSS *e* 16 53 53.3
YSS *e*S **Sdif** **17 01 15.8 -3.1**
YSS *e*PS **PS** **17 02 59.0 +2.8**
YSS *e*SS SS 17 08 34.4 +12
YSS pmax pmax
comp=Z,8μm,12.0s
YSS MLR MLR
comp=Z,41μm,16.0s
YSS MLR MLR
comp=N,24μm,16.0s
YSS MLR MLR
comp=E,29μm,16.0s
VORR **Voronezh** **102.13 29** P **Pdif** **16 49 40.0 +0.1**
VORR pmax pmax
comp=Z,300nm,1.6s
VSR **Storozhevoye** **102.42 29** *e*P **Pdif** **16 49 41.6 +0.4**
VSR *e* 16 53 47.7
VSR *e* 17 00 14.9
VSR *e*SP SP 17 02 47.1 -8.2
VSR *e*SS **SS** **17 08 21.1 -7.0**
VSR pmax pmax
comp=Z,20nm,1.0s
VSR MLR MLR
comp=Z,124μm,17.5s
KHZ **Kahutara** **102.53 229** PFAKE 16 49 50.0 +8.2
KHZ LR LR
comp=Z,47μm,22.0s
VORD **Divnogorie** **102.64 29** *e*P **Pdif** **16 49 42.1 -0.1**
VORD *e* 17 00 16.8
VORD *e*SP SP 17 02 55.7 -2.0
VORD pmax pmax
comp=Z,10.0nm,0.5s
VORD MLR MLR
comp=Z,117μm,16.7s
GRNR **Gornyy** **102.85 331** *e*P **Pdif** **16 49 49.5 +6.3**
GRNR pmax pmax
comp=Z,340nm,2.0s
THZ **Tophouse** **102.92 230** PFAKE 16 50 00.0 +16
THZ LR LR
comp=Z,87μm,18.0s
SNAA **Sanae** **102.97 161** P **Pdif** **16 49 42.8 -0.3**
SNAA **Sanae** **102.97 161** P **PKKPbc** **17 05 41.5 -1.6**
SNAA **Sanae** **102.97 161** *e*Pdif **Pdif** **16 49 42.2 -1.0**
SNAA **Sanae** **102.97 161** *e*P **Pdif** **16 49 42.2 -1.0**
MQZ **McQueen's Vall** **103.33 228** PFAKE 16 50 00.0 +15
MQZ LR LR
comp=Z,53μm,22.0s
LTZ **Lake Taylor** **103.51 229** PFAKE 16 50 00.0 +14
LTZ LR LR
comp=Z,56μm,20.0s
VRH **Novokhopyorsk** **103.61 28** *e*P **Pdif** **16 49 46.2 -0.3**
VRH *e* 17 00 22.5
VRH *e*SP SP 17 03 10.0 +2.2
VRH *e*SS **SS** **17 08 35.3 -9.1**
VRH pmax pmax
comp=Z,30nm,1.0s
ASAJ **Asahikawa** **103.72 323** PFAKE 16 50 00.0 +13
ASAJ LR LR
comp=Z,67μm,20.0s
SIM **Simferopol'** **103.72 36** *d* *i*P **Pdif** **16 49 50.6 +3.4**
SIM *i* 16 54 06.0
SIM *i* 17 00 26.0
SIM *i* PS **PS** **17 03 06.0 -8.7**
SIM *i* PPS PPS 17 04 14.0
SIM *i* SS SS 17 08 43.0 -3.6
SIM *i* SSS SSS 17 12 40.0
SIM pmax pmax
comp=Z,5μm,14.1s
SIM pmax pmax
comp=Z,11μm,14.5s
OXZ **Oxford** **103.74 228** PFAKE 16 50 00.0 +13
OXZ LR LR
comp=Z,40μm,22.0s
QSPA **South Pole Qui** **103.98 180** *e*Pdif **Pdif** **16 49 48.9 +1.0**
comp=Z,137nm,1.2s
QSPA LR LR
comp=Z,48μm,21.0s
KARP **Karpathos** **104.30 47** PFAKE 16 50 00.0 +10
KARP LR LR
comp=Z,47μm,20.0s
RPZ **Rata Peaks** **104.49 228** PKKPbc PKKPbc 17 05 38.6 +1.0
comp=Z,12nm,0.6s,baz=315,slow=1.4,SNR=6.3
ERM **Erimo** **104.59 321** PFAKE 16 50 00.0 +9.0
ERM LR LR
comp=Z,129μm,21.0s
ZEA **Zeya** **104.61 337** *e*P **Pdif** **16 49 52.1 +1.2**
ZEA *e* 16 54 16.0
ZEA *e* 17 00 24.0
ZEA *e* 17 03 24.0
ZEA pmax pmax
comp=E,130nm,2.0s
ZEA pmax pmax
comp=Z,290nm,2.0s
ZEA pmax pmax
comp=E,3μm,14.0s
ZEA pmax pmax
comp=Z,11μm,14.0s
ODZ **Otahua Downs** **104.91 227** PFAKE 16 54 20.0
ODZ LR LR
comp=Z,53μm,18.0s
LBZ **Lake Benmore** **105.17 227** PFAKE 16 54 20.0
LBZ LR LR
comp=Z,71μm,19.0s
BOD **Bodaibo** **105.25 346** *e*P **Pdif** **16 49 52.4 -1.3**
BOD pmax pmax
comp=Z,73nm,1.7s
ISP **Isparta** **105.48 44** PFAKE 16 54 20.0
ISP LR LR
comp=Z,104μm,20.0s
DZM **Mont Dzumac** **105.62 251** *e*PP PP 16 54 12.0 -7.0
comp=Z,11μm,27.8s
DZM *e*SKSac **SKSac** **17 00 36.7 +2.9**
comp=Z,55μm,28.1s
DZM *e*SP **SP** **17 03 29.5 -1.7**
comp=Z,91μm,29.9s
DZM *e*SS **SKKPbc** **17 09 13.5 -0.1**
comp=Z,379μm,29.1s
DZM **Mont Dzumac** **105.62 251** *e*LQ LQ 17 20 04.7
comp=Z,181μm,38.4s
DZM *e*LR LR 17 24 35.9
comp=Z,155μm,25.5s,baz=92
DZM **Mont Dzumac** **105.62 251** PFAKE 16 54 20.0
DZM LR LR
comp=Z,68μm,22.0s
ARU **Arti** **105.64 16** Pdiff **Pdif** **16 49 58.1 +2.7**
comp=Z,8.4nm,0.7s,baz=14,slow=3.4,SNR=10
ARU **Arti** **105.64 16** *e*Pdif **Pdif** **16 49 54.5 -1.0**
comp=Z,9.8nm,0.8s
ARU **Arti** **105.64 16** P **Pdif** **16 49 58.5 +3.1**
ARU 16 54 13.2
ARU S **SKSac** **17 00 35.5 +3.0**
ARU SP **SP** **17 03 28.0 -0.6**
ARU MLR MLR
comp=Z,310μm,23.0s
ANN **Anapa** **105.68 35** *i* P **Pdif** **16 49 52.8 -3.1**
ANN *i* 17 00 35.1
ANN *e* 17 01 18.2
ANN pmax pmax
comp=Z,167nm,1.7s
ANN pmax pmax
comp=E,4.0nm,0.6s
ANN pmax pmax
comp=N,21nm,1.6s
ANN pmax pmax
comp=E,1μm,16.0s
ANN pmax pmax
comp=Z,16μm,16.0s
ANN pmax pmax
comp=N,9μm,16.0s
ILGA **Ilgaz** **105.76 40** PFAKE 16 54 20.0
ILGA LR LR
comp=Z,137μm,21.0s
ANTO **Ankara** **105.85 41** PFAKE 16 54 20.0
ANTO LR LR
comp=Z,73μm,20.0s
SBA **Scott Base** **105.98 192** *e*Pdif **Pdif** **16 49 58.0 +1.7**
comp=Z,93nm,2.3s
SBA *e*PKiKP **PKiKP** **16 54 06.8 -1.5**
SBA **Scott Base** **105.98 192** *e*P **Pdif** **16 49 58.0 +1.7**
SBA pmax pmax
comp=Z,93nm,2.3s
KLR **Kul'dur** **106.09 332** PKKPbc PKKPbc 17 05 31.4 -1.4
comp=Z,6.8nm,0.8s,baz=256,slow=6.1,SNR=10.0
BRTR **Keskin Array B** **106.47 41** Pdiff **Pdif** **16 50 03.1 +3.5**
comp=Z,0.8nm,0.7s,baz=270,slow=5.8,SNR=4.9
BRTR PKiKP **PKiKP** **16 54 11.6 +0.9**
comp=Z,9.1nm,0.8s,baz=288,slow=1.6,SNR=7.2
BRTR PKKPbc **PKKPbc** **17 05 33.2 +1.7**
comp=Z,1.1nm,0.7s,baz=109,slow=2.9,SNR=3.4
TEY **Ternei** **106.53 326** *c* *e*P **Pdif** **16 50 01.9 +2.3**
TEY *e* 16 54 25.3
TEY *e* 17 03 34.0
TEY pmax pmax
comp=Z,9μm,16.0s
MLZ **Mavora Lakes** **106.71 226** PFAKE 16 54 20.0
MLZ LR LR
comp=Z,80μm,19.0s
WHZ **Wether Hill Ro** **106.86 226** PFAKE 16 54 20.0
WHZ LR LR
comp=Z,81μm,22.0s
VNDA **Vanda** **107.08 193** Pdiff **Pdif** **16 50 08.3 +7.1**
comp=Z,1.0nm,0.9s,baz=89,slow=5.0,SNR=6.3
VNDA PKKPbc **PKKPbc** **17 05 32.8 +2.2**
comp=Z,4.1nm,0.8s,baz=301,slow=6.8,SNR=6.8
PATS **Pohnpei** **107.17 282** PFAKE 16 54 20.0
PATS LR LR
comp=Z,147μm,20.0s
DCZ **Deep Cove** **107.39 226** PFAKE 16 54 20.0
DCZ LR LR
comp=Z,45μm,20.0s
PYZ **Puysegur Point** **107.75 226** PFAKE 16 54 20.0
PYZ LR LR
comp=Z,61μm,21.0s
CSS **Mathiatis** **108.92 45** PFAKE 16 54 30.0
CSS LR LR
comp=Z,45μm,21.0s
KIV **Kislovodsk** **109.08 33** PFAKE 16 54 30.0
KIV LR LR
comp=Z,67μm,20.0s
KIV **Kislovodsk** **109.08 33** *i* P **Pdif** **16 50 09.4 -1.7**
KIV *e* 16 54 41.0
KIV *e* 17 00 46.3
KIV *e*PS **PS** **17 04 08.1 -2.1**
KIV *e*SS SS 17 09 57.3 -2.1
KIV pmax pmax
comp=Z,19nm,1.1s
KBZ **Khabaz** **109.34 33** Pdiff **Pdif** **16 50 16.5 +4.3**
comp=Z,2.2nm,0.9s,baz=297,slow=2.3,SNR=4.2
KBZ PKiKP **PKiKP** **16 54 17.3 +1.7**
comp=Z,6.2nm,0.8s,baz=283,slow=3.5,SNR=4.1
KBZ PKKPbc **PKKPbc** **17 05 24.8 +2.4**
comp=Z,7.5nm,1.0s,baz=94,slow=4.2,SNR=5.9
USA0B **Ussuriysk Arra** **109.53 328** PFAKE 16 54 30.0
USA0B LR LR
comp=Z,92μm,19.0s
USRK **Ussuriysk Ar.** **109.53 328** Pdiff **Pdif** **16 50 18.6 +5.6**
baz=79,slow=3.1
USRK PKiKP **PKiKP** **16 54 17.7 +1.7**
comp=Z,7.8nm,1.0s,baz=129,slow=2.0,SNR=4.4
USRK PKKPbc **PKKPbc** **17 05 21.5 -0.4**
comp=Z,1.3nm,0.5s,baz=254,slow=3.4,SNR=4.2
HNR **Honiara** **109.57 265** PFAKE 16 54 30.0
HNR LR LR
comp=Z,80μm,19.0s
MDJ **Mudanjiang** **110.44 330** Pdif **Pdif** **16 50 19.1 +2.0**
MDJ PP **PP** **16 54 52.6 +0.1**
MDJ SS SS 17 10 22.0 +4.7
MDJ AMB AMB
comp=Z,21μm,14.3s
MDJ LR LR
comp=Z,46μm,21.8s
MDJ LR LR
comp=Z,116μm,19.8s
MDJ **Mudanjiang** **110.44 330** PFAKE 16 54 30.0
MDJ LR LR
comp=Z,98μm,21.0s
CIT **Chita** **110.57 343** *e*PKiKP **PKiKP** **16 54 15.4 -2.4**
AKTO **Aktyubinsk** **110.65 20** Pdiff **Pdif** **16 50 19.1 +1.2**
comp=Z,1.6nm,0.6s,baz=14,slow=4.2,SNR=4.2
AKTO PKiKP **PKiKP** **16 54 19.0 +1.1**
comp=Z,5.4nm,0.9s,baz=348,slow=3.8,SNR=2.0
MJAR **Matsushiro Arr** **110.90 318** Pdiff **Pdif** **16 50 21.7 +2.4**
comp=Z,1.5nm,0.7s,baz=242,slow=2.6,SNR=4.2
MJAR PKiKP **PKiKP** **16 54 20.4 +1.6**
comp=Z,2.9nm,0.8s,baz=88,slow=1.3,SNR=4.0
MJAR PKKPbc **PKKPbc** **17 05 20.4 +3.2**
comp=Z,5.0nm,0.8s,baz=247,slow=4.9,SNR=8.0
MAJO **Matsushiro** **110.90 318** PFAKE 16 54 30.0
MAJO LR LR
comp=Z,75μm,21.0s
MAT **Matsushiro** **110.90 318** P **Pdif** **16 50 21.8 +2.5**
MJB9 **Matsu-Tunnel** **110.90 318** PFAKE 16 54 30.0
MJB9 LR LR
comp=Z,76μm,21.0s
HIA **Hailar** **110.99 338** PFAKE 16 54 30.0
HIA LR LR
comp=Z,204μm,20.0s
GROC **Groznyy** **111.22 32** *i* PKiKP **PKiKP** **16 54 19.4 +0.2**
GROC *e* 16 54 57.0
GROC *e* 17 01 25.5
GROC pmax pmax
comp=Z,84nm,1.6s
AKH **Akhalkalaki** **111.25 34** PFAKE 16 54 30.0
AKH LR LR
comp=Z,74μm,20.0s
NVS **Novosibirsk** **111.28 3** *e*P **Pdif** **16 50 23.0 +2.4**
NVS *e* 16 54 56.4
NVS pmax pmax
comp=N,13nm,1.6s
NVS pmax pmax
comp=E,12nm,1.6s
NVS pmax pmax
comp=Z,27nm,1.6s
NVS pmax pmax
comp=N,12nm,1.6s
MMAI **Mount Meron Ar** **111.43 46** PKiKP **PKiKP** **16 54 21.4 +1.4**
comp=N,0.8nm,0.5s,baz=45,slow=1.0,SNR=3.0
MMAI PKKPbc **PKKPbc** **17 05 19.0 +3.6**
comp=N,3.2nm,0.9s,baz=72,slow=4.7,SNR=3.1
BRVK **Borovoye** **111.48 11** PFAKE 16 54 30.0
BRVK LR LR
comp=Z,260μm,19.0s
BRVK **Borovoye** **111.48 11** *i* PKIKP **PKiKP** **16 54 20.4 +1.0**
BVAR **Borovoye Array** **111.53 11** Pdiff **Pdif** **16 50 27.3 +5.5**
comp=Z,3.9nm,0.8s,baz=2.9,slow=2.9,SNR=11
BVAR PKiKP **PKiKP** **16 54 20.7 +1.1**
comp=Z,19nm,0.5s,baz=315,slow=2.9,SNR=8.7
BVAR PKKPbc **PKKPbc** **17 05 16.0 +0.3**
comp=Z,1.2nm,0.7s,baz=131,slow=4.0,SNR=4.2
JHJ2 **Mitsune** **111.83 315** PFAKE 16 54 30.0
JHJ2 LR LR
comp=Z,67μm,20.0s
ZAA0 **Zalesovo Array** **112.24 2** PFAKE 16 54 30.0
ZAA0 LR LR
comp=Z,210μm,21.0s
ZALV **Zalesovo Beam** **112.24 2** Pdiff **Pdif** **16 50 30.2 +5.3**
comp=Z,1.8nm,0.7s,baz=335,slow=6.4,SNR=7.6
ZALV PKiKP **PKiKP** **16 54 22.0 +1.2**
comp=Z,4.3nm,0.7s,baz=327,slow=2.4,SNR=3.5
ZALV PKKPbc **PKKPbc** **17 05 13.2 -0.2**
comp=Z,1.9nm,0.7s,baz=189,slow=2.8,SNR=2.3
MAK **Makhachkala** **112.26 31** *i* P **Pdif** **16 50 23.8 -1.3**
MAK *i* 16 54 18.9
MAK *e* 17 01 03.0
MAK *e*PS **PS** **17 04 34.2 -5.7**
MAK *e*SS SS 17 10 36.6 -4.9
MAK pmax pmax
comp=Z,126nm,1.3s
AB31 **Akbulak array** **112.30 19** *i* PKIKP **PKiKP** **16 54 18.4 -2.7**
AB31 pmax pmax
comp=Z,118nm,1.5s
MCQ **Macquarie Isla** **112.32 217** PFAKE 16 54 30.0
MCQ LR LR
comp=Z,36μm,18.0s
INU **Inuyama** **112.39 318** PFAKE 16 54 30.0
INU LR LR
comp=Z,43μm,21.0s
TSUM **Tsumeb** **112.78 105** PKiKP **PKiKP** **16 54 22.6 -0.3**
baz=285,slow=4.5
TSUM PKKPab **PKKPab** **17 05 17.5 -1.0**
comp=Z,2.3nm,0.8s,baz=118,slow=4.4,SNR=4.3
TSUM **Tsumeb** **112.78 105** PKiKP **PKiKP** **16 54 22.6 -0.3**
TSUM PKKPab **PKKPab** **17 05 17.5 -1.0**
TSUM LR LR
comp=Z,104μm,22.0s
GNI **Garni** **112.81 35** PFAKE 16 54 30.0
GNI LR LR
comp=Z,95μm,20.0s
EIL **Elat** **112.95 49** PKiKP **PKiKP** **16 54 23.7 +0.8**
comp=Z,7.6nm,0.8s,baz=9.0,slow=4.4,SNR=6.1
ASF **Jabal al Asfar** **112.95 46** PKiKP **PKiKP** **16 54 23.0 +0.1**
comp=Z,4.1nm,0.8s,baz=341,slow=2.5,SNR=2.6
ASF PKKPab **PKKPab** **17 05 16.9 -2.4**
comp=Z,2.3nm,0.8s,baz=79,slow=5.2,SNR=3.6
CN2 **Changchun** **113.03 331** Pdif **Pdif** **16 50 30.0 +1.4**
CN2 SKS **SKSdf** **17 01 30.5 -1.4**
CN2 SS SS **17 10 58.8 +7.1**
CN2 AMB AMB
comp=Z,17μm,16.0s
CN2 LR LR
comp=Z,62μm,22.0s
CN2 LR LR
comp=Z,80μm,23.0s
TLY **Talaya** **113.15 349** PFAKE 16 54 30.0
TLY LR LR
comp=Z,91μm,18.0s
TLY **Talaya** **113.15 349** *c* *i*P **Pdif** **16 50 30.8 +1.8**
TLY *e* 17 01 31.0
TLY *e*PS **PS** **17 04 40.1 -7.7**
TLY *e*SS SS 17 10 50.5 -2.1
TLY pmax pmax
comp=Z,53nm,2.3s
LHI **Lord Howe Isla** **113.17 242** PFAKE 16 54 30.0
LHI LR LR
comp=Z,24μm,18.0s
CBIJ **Chichi jima** **113.35 308** PFAKE 16 54 40.0
CBIJ LR LR
comp=Z,82μm,22.0s
MOY **Mondy** **113.60 351** *e*P **Pdif** **16 50 32.4 +1.3**
MOY *e* 16 55 15.8
MOY pmax pmax
comp=Z,50nm,3.1s
ZAK **Zakamensk** **114.46 349** *e*P **Pdif** **16 50 36.3 +1.3**
ZAK pmax pmax
comp=Z,7.0nm,1.5s
BRZS **Berezniki** **114.86 11** *e*PKP PKPdf 16 54 27.9 +1.9
BRZS *i* PP **PP** **16 55 25.9 +2.3**
BRZS *i* SKS **SKSdf** **17 01 37.3 +2.0**
BRZS LR LR 17 46 35.4
comp=Z,22μm,17.0s
KURK **Kurchatov** **115.02 7** *e*PKiKP **PKiKP** **16 54 25.9 -0.3**
KURK PKKPbc **PKKPbc** **17 05 04.0 +0.1**
KURK LR LR
comp=Z,274μm,19.0s
KURK **Kurchatov** **115.02 7** *i* PKIKP **PKPdf** **16 54 27.2 +1.0**
KURBB **Kurchatov Arra** **115.10 7** PKKPbc PKKPbc 17 05 04.0 +0.4
comp=Z,1.7nm,0.2s,baz=184,slow=3.4,SNR=5.7
SARN **Sarigan** **115.23 296** PFAKE 16 54 40.0 +12
SARN LR LR
comp=Z,35μm,21.0s
SNY **Shenyang** **115.43 331** ⇑Pdif **Pdif** **16 50 42.3 +3.0**
SNY PP **PP** **16 55 31.1 +3.1**
SNY LR LR
comp=Z,48μm,20.1s
SNY LR LR
comp=Z,141μm,24.3s
ANA2 **Anatahan** **115.43 296** PFAKE 16 54 40.0 +12
ANA2 LR LR
comp=Z,33μm,20.0s
SEM **Semipalatinsk** **115.48 5** *e*PKP **PKPdf** **16 54 29.1 +1.7**
SEM *i* PP **PP** **16 55 30.6 +2.4**
SEM *i* PS **PS** **17 05 10.9 +1.4**
SEM LR LR 17 46 35.4
comp=Z,89μm,20.2s
RABL **Rabaul** **116.00 272** *e*PKPdf **PKPdf** **16 54 27.5 -1.6**
RABL LR LR
comp=Z,143μm,22.0s
ULN **Ulaanbaatar** **116.06 346** *e*PKPdf **PKPdf** **16 54 27.0 -1.6**
ULN LR LR
comp=Z,174μm,22.0s
SONA1 **Songino Array** **116.23 346** *e*Pdif **Pdif** **16 50 40.5 -2.5**
SONA1 *e*PKPdf **PKiKP** **16 54 28.3 -0.5**
SONM **Songino Array** **116.25 346** Pdiff **Pdif** **16 50 43.6 +0.6**
comp=Z,0.3nm,0.3s,baz=81,slow=30,SNR=4.4
SONM PKP **PKPdf** **16 54 29.7 +0.8**
comp=Z,16nm,0.8s,baz=309,slow=0.2,SNR=18
SONM PKKPbc **PKKPbc** **17 04 60.0 +0.2**
comp=Z,8.4nm,0.6s,baz=202,slow=3.3,SNR=9.0
KSRS **Korea Array** **116.48 325** Pdiff **Pdif** **16 50 47.8 +3.7**
comp=Z,1.5nm,1.1s,baz=46,slow=5.2,SNR=2.8
KSRS PKP **PKiKP** **16 54 29.8 +0.4**
comp=Z,20nm,0.8s,baz=9.5,slow=1.4,SNR=38
KSRS PKPbc **PKKPbc** **17 05 00.6 +2.2**
comp=Z,4.4nm,1.1s,baz=256,slow=3.7,SNR=5.2
KS15 **Wonju Array Si** **116.51 325** *e*PKPdf **PKPdf** **16 54 28.4 -1.1**
KSAR **Wonju Array Be** **116.51 325** Pdif **Pdif** **16 50 47.8 +3.6**
KSAR PKP **PKiKP** **16 54 29.9 +0.4**
KSAR PKKPbc **PKKPbc** **17 05 00.6 +2.3**
KSAR **Wonju Array Be** **116.51 325** P **Pdif** **16 50 47.8 +3.6**
KSAR 16 54 29.9
SUR **Sutherland** **116.59 119** PKP **PKPdf** **16 54 32.2 +2.2**
comp=Z,52nm,0.8s,baz=323,slow=1.3,SNR=12
SUR **Sutherland** **116.59 119** *e*PKPdf **PKPdf** **16 54 30.6 +0.6**
SUR LR LR
comp=Z,65μm,21.0s
SYO **Syowa Base** **117.21 162** ⇑*e*PKPdf **PKPdf** **16 54 27.0 -2.8**
SYO **Syowa Base** **117.21 162** *i* *i*PKIKP **PKPdf** **16 54 29.0 -0.8**
SYO **Syowa Base** **117.21 162** ⇑*es*PKPdf sPKPdf 16 54 40.0 -6.5
GUMO **Guam** **117.30 294** PFAKE 16 54 40.0 +8.4
GUMO LR LR
comp=Z,66μm,22.0s
JNU **Nakatsue** **117.72 320** PKKPbc PKKPbc 17 04 54.3 +0.4
comp=Z,7.6nm,1.0s,baz=90,slow=1.0,SNR=2.0
JNU **Nakatsue** **117.72 320** PKKPbc PKKPbc 17 04 54.3 +0.4
JNU LR LR
comp=Z,47μm,20.0s
ZSN **Zaisan** **118.74 2** *e*PKP **PKPdf** **16 54 35.5 +1.9**
ZSN *i* PS **PS** **17 05 40.9 +2.2**
ZSN LR LR 17 47 35.0
comp=Z,20μm,18.5s
MK31 **Makanchi Array** **119.24 4** *e*PKPdf **PKPdf** **16 54 33.0 -1.6**
MK31 **Makanchi Array** **119.24 4** *e*PKIKP **PKPdf** **16 54 33.0 -1.6**
MKAR **Makanchi Array** **119.24 4** Pdiff **Pdif** **16 50 58.2 +1.9**
comp=Z,0.5nm,0.8s,baz=15,slow=6.1,SNR=2.5
MKAR PKP **PKPdf** **16 54 33.7 -0.8**
comp=Z,12nm,0.7s,baz=353,slow=1.5,SNR=20
MKAR PKKPbc **PKKPbc** **17 04 47.7 -1.3**
comp=Z,2.5nm,0.9s,baz=204,slow=5.3,SNR=4.0
MKAR **Makanchi Array** **119.24 4** Pdif **Pdif** **16 50 58.2 +1.9**
MKAR *e*PKPdf **PKPdf** **16 54 33.1 -1.4**
MKAR PKKPbc **PKKPbc** **17 04 47.7 -1.3**
MKAR LR LR
comp=Z,44μm,20.0s
MKAR **Makanchi Array** **119.24 4** P **Pdif** **16 50 58.2 +1.9**
MKAR *e* 16 54 33.1
MKAR MLR MLR
comp=Z,44μm,20.0s
MK01 **Makanchi Array** **119.27 4** *e*PKPdf **PKPdf** **16 54 33.3 -1.3**
BTLS **Baital** **119.87 11** *e*PKP **PKPdf** **16 54 37.8 +2.0**
BTLS *i* PP **PP** **16 56 01.0 +2.5**
BTLS *i* PS **PS** **17 05 50.4 +1.5**
EIDS **Eidsvold** **119.95 249** PFAKE 16 54 50.0 +14
EIDS LR LR
comp=Z,45μm,19.0s
MANU **Manus Island** **120.12 276** PFAKE 16 54 50.0 +13
MANU LR LR
comp=Z,92μm,22.0s
BJI **Beijing** **120.13 335** Pdif **Pdif** **16 51 06.7 +6.5**
BJI PKP **PKPdf** **16 54 36.0 -0.4**
BJI pPKP **sPKPdf** **16 54 52.6 -0.5**
BJI PP **PP** **16 55 59.1 -1.4**
BJI **Beijing** **120.13 335** SS SS 17 12 19.8 -4.4
BJI AMB AMB
comp=Z,9μm,14.5s
BJI LR LR
comp=N,9μm,21.1s
BJT **Baijiatuau** **120.16 335** *e*PKPdf **PKPdf** **16 54 35.9 -0.5**
BJT LR LR
comp=Z,199μm,21.0s
BJT **Baijiatuau** **120.16 335** *e*PKIKP **PKPdf** **16 54 35.9 -0.5**
BJT MLR MLR
comp=Z,199μm,21.0s

BOSA **Boshof** 120.43 115 *i* P PKPdf 16 54 41.4 +4.0
BOSA **Boshof** 120.43 115 PKP PKPdf 16 54 37.6 +0.2
comp=Z,63nm,0.7s,baz=275,slow=2.4,SNR=41
BOSA PKKPab **PKKPab** 17 04 47.8 +3.2
comp=Z,14nm,1.2s,baz=82,slow=7.6,SNR=4.4
BOSA **Boshof** 120.43 115 *e*PKPdf PKPdf 16 54 36.0 -1.4
BOSA PKKPab **PKKPab** 17 04 47.8 +3.2
BOSA **Boshof** 120.43 115 *i* P PKPdf 16 54 41.4 +4.0
TDK **Taldyqorghan** 120.61 8 *e*PKP PKPdf 16 54 39.3 +2.0
TDK *i* PS **PS** 17 05 57.5 +2.0
TDK LR LR 17 50 53.9
comp=Z,182μm,18.5s
LBTB **Lobatse** 120.67 111 *e*PKPdf PKPdf 16 54 36.4 -1.5
LBTB **Lobatse** 120.67 111 *e*PKIKP PKPdf 16 54 36.4 -1.5
BRLS **Boroldaу** 120.84 15 *i* PP PP 16 56 08.7 +3.5
BRLS *i* PS **PS** 17 05 58.0 +0.3
BRLS LR LR 17 49 00.1
KK31 **Karatay Array** 120.94 15 *e*PKPdf PKPdf 16 54 36.6 -1.3
KK31 **Karatay Array** 120.94 15 *e*PKIKP PKPdf 16 54 36.6 -1.3
KKAR **Karatay Array** 120.94 15 *e*PKPdf PKPdf 16 54 36.6 -1.3
KKAR **Karatay Array** 120.94 15 *e*PKIKP PKPdf 16 54 36.6 -1.3
HHC **Hu-ho-hao-te** 121.17 339 *e*PKP PKPdf 16 54 39.1 +0.6
HHC PP PP 16 56 12.8 +5.1
HHC SS SS 17 12 39.8 +2.3
HHC LR LR
comp=Z,67μm,15.6s
HHC LR LR
comp=Z,172μm,17.3s
GEYT **Alibeck** 121.22 27 PKP PKPdf 16 54 38.9 +0.2
comp=Z,73nm,0.8s,baz=282,slow=2.8,SNR=33
GEYT PKKPbc **PKKPab** 17 04 44.4 +1.4
comp=Z,6.5nm,1.0s,baz=214,slow=1.6,SNR=4.3
GYA0B **ALIBECK ARRAY** 121.22 27 *e*PKPdf PKPdf 16 54 36.9 -1.8
KUU **Kurty** 121.39 10 *e*PKP PKPdf 16 54 40.4 +1.6
KUU *i* PP **PP** 16 56 11.3 +2.4
KUU *i* SKS **SKSdf** 17 01 43.9 -4.1
KUU LR LR 17 53 06.7
comp=Z,105μm,17.1s
CHM **Chimkent** 121.44 16 *e*PKP PKPdf 16 54 41.2 +2.3
CHM LR LR 17 45 31.4
comp=Z,44μm,21.7s
CAN **Canberra** 121.51 237 PFAKE 16 54 50.0 +11
CAN LR LR
comp=Z,48μm,20.0s
USP **Ospenovka** 121.67 12 P PKPdf 16 54 40.0 +0.7
SNR=28
TAU **Tasmania Unive** 121.77 228 PFAKE 16 54 50.0 +11
TAU LR LR
comp=Z,37μm,21.0s
MBAR **Mbarara** 121.89 82 PFAKE 16 54 50.0 +9.3
MBAR LR LR
comp=Z,171μm,22.0s
BTO **Baotou** 121.90 340 *e*PKP PKPdf 16 54 39.2 -0.8
PMG **Port Moresby** 121.94 268 PKP PKPdf 16 54 42.8 +2.3
comp=Z,24nm,1.0s,baz=120,slow=2.0,SNR=5.4
CHMS **Chumysh** 121.98 11 P PKPdf 16 54 40.5 +0.5
SNR=20
MNAS **Manas** 122.00 13 PKIKP PKPdf 16 54 40.4 +0.3
MNAS pmax pmax
comp=Z,297nm,1.2s
EKS2 **Erkin-Say** 122.11 12 P PKPdf 16 54 43.7 +3.4
SNR=24
FRU **Bishkek** 122.11 12⇑ *i*PKIKP PKPdf 16 54 41.0 +0.8
FRU *i* 16 56 12.0
FRU *e* 17 01 26.0
FRU *i* PS **PS** 17 06 13.0 +4.1
FRU pmax pmax
comp=Z,850nm,2.0s
FRU1 **Bishkek** 122.13 12 PFAKE 16 54 50.0 +10
FRU1 LR LR
comp=Z,168μm,19.0s
AAA **Alma-Ata** 122.15 10 *e*PKP PKPdf 16 54 42.8 +2.5
AAA *i* PP **PP** 16 56 17.1 +3.0
AAA *i* LR LR 17 45 49.9
comp=Z,72μm,19.7s
AAA **Alma-Ata** 122.15 10 *e*P Pdif 16 51 15.0 +5.7
AAA pmax pmax
comp=Z,1μm,15.1s
KPKS **Kokpek** 122.16 8 *e*PKP PKPdf 16 54 42.5 +2.1
KPKS *i* PP **PP** 16 56 17.3 +3.1
KPKS LR LR 17 53 12.4
comp=Z,92μm,17.8s
TKM2 **Tokmak 2** 122.21 11 P PKPdf 16 54 41.0 +0.3
SNR=26
MDOK **Medeo** 122.22 9 *e*PKP PKPdf 16 54 42.6 +2.0
MDOK *i* PP **PP** 16 56 17.3 +2.6
MDOK *i* PS **PS** 17 06 11.7 +1.7
MDOK LR LR 17 45 48.5
comp=Z,73μm,21.1s
AAK **Ala-Archa** 122.27 12 PKKPbc PKKPbc 17 04 39.0 +1.3
comp=Z,11nm,0.7s,baz=243,slow=2.3,SNR=11
AAK **Ala-Archa** 122.27 12 P PKPdf 16 54 41.4 +0.7
SNR=25
AAK **Ala-Archa** 122.27 12 *e*PKPdf PKPdf 16 54 40.4 -0.3
AAK PKKPbc **PKKPab** 17 04 39.0 +0.3
AAK LR LR
comp=Z,154μm,21.0s
AAK **Ala-Archa** 122.27 12 *i* P PKPdf 16 54 41.0 +0.3
SNR=35
AAK **Ala-Archa** 122.27 12 PKIKP PKPdf 16 54 41.6 +0.9
AAK pmax pmax
comp=Z,181nm,1.2s
KBK **Karagaybulak** 122.34 11 P PKPdf 16 54 41.9 +1.1
SNR=24
LSZ **Lusaka** 122.35 99 PKP PKPdf 16 54 41.7 +0.3
comp=Z,35nm,0.8s,baz=310,slow=1.4,SNR=14
LSZ PKKPbc **PKKPab** 17 04 38.8 +1.9
comp=Z,7.4nm,1.1s,baz=11,slow=2.6,SNR=4.7
LSZ **Lusaka** 122.35 99 *e*PKPdf PKPdf 16 54 39.5 -1.9
LSZ PKKPbc **PKKPab** 17 04 38.8 +1.9
LSZ LR LR
comp=Z,58μm,22.0s
LSZ **Lusaka** 122.35 99 *e*PKIKP PKPdf 16 54 39.5 -1.9
LSZ MLR MLR
comp=Z,58μm,22.0s
ZHN **Zhinishke** 122.42 8 *e*PKP PKPdf 16 54 42.5 +1.5
ZHN LR LR 17 52 59.6
comp=Z,60μm,17.9s
WMQ **Urumqi** 122.43 0 PKP PKPdf 16 54 40.9 +0.1
WMQ PP PP 16 56 25.6 +10
WMQ SKS **SKSdf** 17 01 41.3 -8.7
WMQ SKKS **SKKSac** 17 03 04.5 -9.0
WMQ SS **SS** 17 12 56.4 +3.4
WMQ AMB AMB
comp=Z,52μm,11.9s
WMQ LR LR
comp=Z,92μm,20.3s
WMQ LR LR
comp=Z,96μm,23.5s
UZB **Uzynbulak** 122.52 8 *e*PKP PKPdf 16 54 42.9 +1.8
UZB *i* PP **PP** 16 56 18.9 +2.2
UZB *i* SKS **SKSdf** 17 01 47.7 -2.7
UZB *i* PS **PS** 17 06 14.6 +1.9
UZB LR LR 17 53 54.6
comp=Z,24μm,14.6s
SATY **Saty** 122.52 8 *e*PKP PKPdf 16 54 42.9 +1.8
SATY *i* PP **PP** 16 56 19.1 +2.4
SATY LR LR 17 53 06.7
comp=Z,69μm,17.4s
SHLS **Shalkode** 122.56 7 *e*PKP PKPdf 16 54 43.7 +2.5
SHLS *i* SKS **SKSdf** 17 01 45.8 -4.6
SHLS *i* PS **PS** 17 06 15.5 +2.5
SHLS LR LR 17 50 04.1
comp=Z,30μm,18.1s
AML **Almayashu** 122.60 13 P PKPdf 16 54 42.6 +1.0
SNR=29
UCH **Uchtor** 122.67 12 P PKPdf 16 54 43.0 +1.2
SNR=44
TIA **Tai'an** 122.92 332 Pdif Pdif 16 51 15.6 +2.8
TIA PKP **PKiKP** 16 54 42.9 +0.8
TIA SKS **SKSdf** 17 01 42.2 -8.9
TIA LR LR
comp=Z,30μm,22.4s
TIA LR LR
comp=Z,44μm,25.6s
TIA LR LR
comp=Z,58μm,21.6s
KZA **Kyzart** 122.96 11 P PKPdf 16 54 43.4 +1.0
SNR=32
ULHL **Ulahol** 122.98 10 P PKPdf 16 54 43.6 +1.5
SNR=25
PRZ **Przheval'sk** 123.09 8 PFAKE 16 54 50.0 +7.7
PRZ LR LR
comp=Z,240μm,20.0s
MATP **Matopo** 123.13 105 *i* P PKPdf 16 54 44.4 +1.6
MATP **Matopo** 123.13 105 PKP PKPdf 16 54 42.5 -0.3
comp=Z,30nm,0.6s,baz=259,slow=1.4,SNR=15
MATP PKKPbc **PKKPbc** 17 04 35.2 +1.7
comp=Z,4.3nm,1.0s,baz=90,slow=5.1,SNR=3.3
MATP **Matopo** 123.13 105 *i* P PKPdf 16 54 44.4 +1.6
BLWY **Bulawayo** 123.21 105 *i* P PKPdf 16 54 43.8 +0.8
BLWY **Bulawayo** 123.21 105 *i* P PKPdf 16 54 43.8 +0.8
KDJ **Kajisay** 123.25 10 *e*PKPdf PKPdf 16 54 41.0 -1.6
KDJ LR LR
comp=Z,177μm,20.0s
KDJ **Kajisay** 123.25 10 *e*PKIKP PKPdf 16 54 41.0 -1.6
KDJ MLR MLR
comp=Z,177μm,20.0s
TIY **Taiyuan** 123.62 337 Pdif Pdif 16 51 16.6 +0.7
TIY PKP **PKiKP** 16 54 46.5 +3.0
TIY SS SS 17 13 11.1 +2.4
TIY AMB AMB
comp=Z,19μm,13.6s
TIY LR LR
comp=Z,81μm,17.4s
TIY LR LR
comp=Z,100μm,17.9s
TIY LR LR
comp=Z,76μm,30.1s
NRN **Naryn** 123.72 11 *e*PKPdf PKPdf 16 54 42.9 -0.8
NRN LR LR
comp=Z,219μm,19.0s
NRN **Naryn** 123.72 11 PKIKP PKPdf 16 54 42.9 -0.8
BTK **Batken** 123.88 16 PKIKP PKPdf 16 54 43.3 -0.5
MAW **Mawson** 124.02 169 PKP PKPdf 16 54 41.9 -1.0
comp=Z,14nm,0.7s,baz=200,slow=4.0,SNR=3.6
MAW PKKPbc **PKKPbc** 17 04 30.1 -0.8
comp=Z,6.3nm,1.0s,baz=40,slow=6.3,SNR=4.1
MAW **Mawson** 124.02 169 *e*PKPdf PKPdf 16 54 41.4 -1.5
MAW PKKPbc **PKKPbc** 17 04 30.1 -0.8
MAW **Mawson** 124.02 169 *e*PKIKP PKPdf 16 54 41.4 -1.5
CTA **Charters Tower** 124.15 255 PKP PKPdf 16 54 43.7 -0.9
comp=Z,22nm,1.1s,baz=101,slow=2.4,SNR=13
CTAO **Charters Tower** 124.15 255 *e*PKPdf PKPdf 16 54 42.0 -2.6
CTAO LR LR
comp=Z,84μm,20.0s
CTAO **Charters Tower** 124.15 255 *e*PKIKP PKPdf 16 54 42.0 -2.6
CTAO MLR MLR
comp=Z,84μm,20.0s
RAYN **Ar Rayn** 124.19 48 *e*PKPdf PKPdf 16 54 43.6 -1.1
RAYN LR LR
comp=Z,56μm,22.0s
RAYN **Ar Rayn** 124.19 48 PKIKP PKPdf 16 54 43.6 -1.1
SSE **Sheshan** 124.92 325 Pdif Pdif 16 51 22.2 +0.5
SSE PKP **PKiKP** 16 54 48.9 +2.7
SSE PP **PP** 16 56 33.3 0.0
SSE AMB AMB
comp=Z,2μm,17.8s
LODK **Lodwar** 125.07 76 *i* P PKPdf 16 54 55.1 +8.5
LODK *e* 16 56 40.7
baz=281,slow=9.3
LODK AMP 17 30 55.5
comp=N,14μm,81.0s
LODK AMP 17 38 35.4
comp=E,10μm,23.8s
NJ2 **Nanjing** 125.44 328 *e*Pdif Pdif 16 51 23.5 -0.5
NJ2 PKP **PKPdf** 16 54 46.5 -0.3
NJ2 PP **PP** 16 56 36.7 0.0
NJ2 SKS **SKSdf** 17 01 53.3 -2.6
NJ2 SS **SS** 17 13 32.7 +0.7
NJ2 AMB AMB
comp=E,26μm,11.9s
NJ2 LR LR
comp=E,70μm,20.6s
NJ2 LR LR
comp=E,72μm,18.4s
NJ2 LR LR
comp=E,88μm,21.7s
KSH **Kashi** 125.57 11 PKP PKPdf 16 54 47.4 +0.3
KSH PP **PP** 16 56 43.5 +6.3
KSH SKS **SKSdf** 17 01 54.9 -1.4
KSH SS **SS** 17 13 35.9 +2.9
KSH AMB AMB
comp=E,15μm,11.0s
KSH LR LR
comp=E,70μm,17.3s
KSH LR LR
comp=E,392μm,22.1s
CASY **Casey** 125.65 191 *e*PKPdf PKPdf 16 54 46.5 +0.5
CASY LR LR
comp=Z,57μm,18.0s
GTA **Gaotai** 125.69 349 ⇑PKP PKPdf 16 54 47.2 -0.1
GTA sPKP 16 55 00.7
GTA PP **PP** 16 56 39.3 +1.3
GTA SKS **SKSdf** 17 01 53.6 -2.9
GTA SKKS **SKKSac** 17 03 26.4 -8.3
GTA AMB AMB
comp=Z,12μm,13.3s
GTA LR LR
comp=Z,70μm,22.5s
GTA LR LR
comp=Z,74μm,24.8s
GTA LR LR
comp=Z,123μm,24.8s
FURI **Furi** 126.08 68 PFAKE 16 55 00.0 +11
FURI LR LR
comp=Z,80μm,20.0s
AAE **Adis Abeba** 126.11 68 *e*P Pdif 16 51 28.2 +0.6
AAE *i* S **SP** 17 06 43.8 +2.2
AAE **Adis Abeba** 126.11 68 *e*P Pdif 16 51 28.2 +0.6
AAE *i* S **SP** 17 06 43.8 +2.2
COEN **Coen** 126.51 263 *e*PKPdf PKPdf 16 54 47.6 -1.6
COEN LR LR
comp=Z,99μm,22.0s
JAY **Jayapura** 126.66 277 PKP PKPdf 16 54 49.1 -0.6
comp=Z,25nm,1.0s
JAY **Jayapura** 126.66 277 PKP PKPdf 16 54 56.9 +7.2
ANKE **Ethiopia-Afar** 126.73 67 *i* P Pdif 16 51 32.0 +1.5
ANKE *i* S SKiKP 16 58 16.8 -7.0
ANKE **Ethiopia-Afar** 126.73 67 *i* P Pdif 16 51 32.0 +1.5
ANKE *i* S SKiKP 16 58 16.8 -7.0
GENI **Genyem** 127.20 277 PKP PKPdf 16 54 53.9 +3.3
MIR **Mirnyy** 127.42 183⇑ *i*PKIKP PKPdf 16 54 54.0 +4.6
MIR pmax pmax
comp=Z,5μm,10.0s
MIR pmax pmax
comp=Z,574nm,2.5s
NAI **Nairobi** 127.90 81 PFAKE 16 55 00.0 +7.7
NAI LR LR
comp=Z,119μm,20.0s
LZH **Lanzhou** 127.93 344 Pdif Pdif 16 51 37.9 +2.6
LZH PKP **PKiKP** 16 54 52.4 +0.1
LZH sPKP 16 55 09.1
LZH PP **PP** 16 56 58.6 +5.6
LZH SKS **SKSdf** 17 01 57.5 -3.4
LZH SS **SS** 17 14 01.2 -1.5
LZH AMB AMB
comp=Z,35μm,9.8s
STKA **Stephens Creek** 128.02 240 PKP PKPdf 16 54 51.4 -0.3
comp=Z,19nm,1.1s,baz=144,slow=4.4,SNR=3.4
STKA **Stephens Creek** 128.02 240 *e*PKPdf PKPdf 16 54 51.0 -0.7
STKA LR LR
comp=Z,11μm,22.0s
STKA **Stephens Creek** 128.02 240 *e*PKIKP PKPdf 16 54 51.0 -0.7
STKA MLR MLR
comp=Z,11μm,22.0s
XAN **Xi'an** 128.19 338 Pdif Pdif 16 51 38.8 +2.5
XAN PKP **PKPdf** 16 54 51.6 -0.5
XAN SKKS 17 03 49.2
XAN LR LR
comp=Z,46μm,17.7s
XAN LR LR
comp=Z,200μm,21.1s
KMBO **Kilima Mbogo** 128.28 80 *i* P PKPdf 16 54 55.0 +1.9
KMBO **Kilima Mbogo** 128.28 80 PKP PKPdf 16 54 53.9 +0.8
comp=Z,50nm,1.0s,baz=289,slow=2.4,SNR=17
KMBO **Kilima Mbogo** 128.28 80 *e*PKPdf PKPdf 16 54 50.8 -2.2
KMBO LR LR
comp=Z,91μm,20.0s
KMBO **Kilima Mbogo** 128.28 80 *i* P PKPdf 16 54 55.8 +2.7
SNR=103
KMBO **Kilima Mbogo** 128.28 80 *i* P PKPdf 16 54 55.0 +1.9
KMBO **Kilima Mbogo** 128.28 80 *e*PKIKP PKPdf 16 54 50.8 -2.2
KMBO MLR MLR
comp=Z,91μm,20.0s
DAMY **Dhamar** 128.38 58 *e*PKPdf PKPdf 16 54 54.9 +1.6
DAMY LR LR
comp=Z,68μm,19.0s
ATD **Arta Tunnel** 128.59 63 PFAKE 16 55 00.0 +6.7
ATD LR LR
comp=Z,102μm,21.0s
YOJ **Yonaguni jima** 128.65 318 PFAKE 16 55 00.0 +6.9
YOJ LR LR
comp=Z,58μm,22.0s
WHN **Wuhan** 128.91 330 Pdif **Pdif** 16 51 41.7 +2.2
WHN PKP **PKPdf** 16 54 52.3 -1.2
WHN LR LR
comp=Z,276μm,18.7s
TATO **Taipei** 129.26 320 PFAKE 16 55 10.0 +16
TATO LR LR
comp=Z,46μm,21.0s
YHNB **Yeheng** 129.55 319 PFAKE 16 55 10.0 +15
YHNB LR LR
comp=Z,69μm,21.0s
SHME **Shamm** 129.56 38 *i* P **PKPdf** 16 54 54.8 -0.1
SNR=80
UMQ **Umm Al-Quwin** 129.66 39 *i* P **PKPdf** 16 54 55.3 +0.3
SNR=46
BANOM **Banah** 129.75 38 PKiKP **PKiKP** 16 54 58.7 +2.7
SNR=27
BANOM **Banah** 129.75 38 *i* P **PKPdf** 16 54 57.7 +2.4
SNR=35
NACB **Ninganchiao** 129.77 319 *e*PKPdf **PKPdf** 16 54 54.8 -0.5
NACB LR LR
comp=Z,54μm,22.0s
AJN **Ajban** 129.94 40 *i* P **PKPdf** 16 54 56.3 +0.7
SNR=58
NAZ **Nazwa, Dubai** 130.05 39 PKiKP **PKiKP** 16 54 56.4 -0.2
SNR=100
NAZ **Nazwa, Dubai** 130.05 39 *i* P **PKPdf** 16 54 56.6 +0.8
SNR=88
MZR **Muzera** 130.08 43 *i* P **PKPdf** 16 54 57.7 +1.8
SNR=43
MSFE **Esma-Masafi** 130.08 39 *i* P **PKPdf** 16 54 56.8 +0.8
SNR=40
ASUD **Al Ashush, Dub** 130.11 40 PKiKP **PKiKP** 16 54 56.7 0.0
SNR=69
ASUD **Al Ashush, Dub** 130.11 40 *i* P **PKPdf** 16 54 57.1 +1.1
SNR=32
FAQ **Al Faqa, Dubai** 130.19 40 PKiKP **PKPdf** 16 54 55.7 -0.3
SNR=55
FAQ **Al Faqa, Dubai** 130.19 40 *i* P **PKPdf** 16 54 56.9 +0.9
SNR=69
UOSS **Minazif** 130.41 39 *e*PKPpre PKPpre 16 54 44.2
UOSS *e*PKPdf **PKPdf** 16 54 55.0 -1.5
UOSS **Minazif** 130.41 39 PKPdf **PKPdf** 16 54 55.7 -0.8
SNR=61
UOSS **Minazif** 130.41 39 *i* P **PKPdf** 16 54 56.5 0.0
SNR=69
SSLB **Suanglung** 130.45 319 *e*PKPdf **PKPdf** 16 54 55.5 -1.1
SSLB LR LR
comp=Z,58μm,21.0s
HATD **Hatta, Dubai** 130.46 39 PKiKP **PKPdf** 16 54 56.3 -0.4
SNR=94
HATD **Hatta, Dubai** 130.46 39 *i* P **PKPdf** 16 54 57.1 +0.5
SNR=84
YULB **Yu-li** 130.51 318 *e*PKPdf **PKPdf** 16 54 55.9 -0.8
YULB LR LR
comp=Z,34μm,21.0s
ASHO **Ashiyiah** 130.52 39 PKPdf **PKPdf** 16 54 55.4 -1.4
SNR=99
ASHO **Ashiyiah** 130.52 39 *i* P **PKPdf** 16 54 57.4 +0.7
SNR=24
SRPI **Serui, Papua** 130.77 280 PKP PKPdf 16 55 05.3 +7.9
ALNE **Al Ain** 130.79 40 *i* P **PKPdf** 16 54 58.8 +1.6
SNR=95
TPUB **Ta-pu** 131.01 319 *e*PKPdf **PKPdf** 16 54 56.5 -1.2
TPUB LR LR
comp=Z,38μm,20.0s
TWG **Pinlang** 131.06 318 PFAKE 16 55 10.0 +12
TWG LR LR
comp=Z,134μm,19.0s
SOHO **SOHO** 131.22 39 *i* P **PKPdf** 16 54 58.9 +0.9
SNR=87
ENH **Enshi** 131.31 335 *e*PKPpre PKPpre 16 54 48.5
ENH *e*PKPdf **PKPdf** 16 54 58.4 +0.3
ENH LR LR
comp=Z,122μm,21.0s
ARQ **Araqi** 131.79 40 pPKPdf **PKPdf** 16 55 05.4 +6.2
SNR=21
HOQ **Hoqain** 132.10 39 pPKPdf **PKPdf** 16 55 06.1 +6.3
SNR=27
BBOO **Buckleboo** 132.49 238 PFAKE 16 55 10.0 +10
BBOO LR LR
comp=Z,58μm,18.0s
RKPI **Ransiki, Papua** 132.63 281 PKP PKPdf 16 55 10.4 +9.4
BIDO **Bidbid** 132.64 38 PKiKP **PKiKP** 16 55 02.2 +0.3
SNR=50
BSY **Bisya** 132.65 40 PKiKP **PKiKP** 16 55 02.0 0.0
SNR=35
DHRM **DHARAMSHALA** 132.65 13 *e*P **PKPdf** 16 55 00.4 -0.5
DHRM IAMs_20 IAMs_20 17 30 45.1
comp=Z,48μm,21.9s
CD2 **Chengdu** 132.80 341 Pdif **Pdif** 16 51 55.0 -1.9
CD2 PKP **PKPdf** 16 54 58.3 -2.6
CD2 SKS **SKSdf** 17 02 07.9 -1.8
CD2 SKKS **SKKSac** 17 04 16.0 -3.1
CD2 SS **SS** 17 15 03.3 +1.0
CD2 AMB AMB
comp=Z,72μm,11.3s
SMDO **Samad** 132.94 39 PKiKP **PKiKP** 16 55 03.3 +0.7
SNR=51
WSAR **Wadi Sarin** 133.16 38 PKiKP **PKiKP** 16 55 03.7 +0.8
SNR=89
JMDO **Jabal Madar** 133.49 39 PKiKP **PKiKP** 16 55 03.7 0.0
SNR=16
WHFO **Wadi Hawf** 133.70 48 PKPdf **PKPdf** 16 54 55.6 -7.3
SNR=16
ABTO **Aybut** 133.73 49 PKiKP **PKPdf** 16 55 03.7 +0.7
SNR=18
WBK **Wadi Bani Khal** 133.83 38 PKiKP **PKiKP** 16 55 03.9 -0.4
SNR=15
SMLA **Simla** 133.92 13 *e*P **PKPdf** 16 55 00.7 -2.2
SMLA IAMs_20 IAMs_20 17 31 09.2
comp=Z,55μm,31.2s
RBK **Rabkut** 134.29 48 PKiKP **PKiKP** 16 55 05.0 -0.4
SNR=5.8
APYP **Conner** 134.35 313 *e*P **PKPdf** 16 55 07.6 +3.6
APYP *e*S **SKiKP** 16 58 43.2 +4.5
CAUP **Cauayan** 134.53 312 *e*P **PKPdf** 16 55 07.3 +2.9
PVCP **Virac** 134.83 306 *e*P **PKPdf** 16 55 07.0 +2.0
ABRA **Dolores** 134.87 313 *e*P **PKPdf** 16 55 03.4 -1.6
ABRA *e*S **SKiKP** 16 58 48.7 +9.0
DDI **Dehra Dun** 134.89 12 *e*P **PKPdf** 16 55 03.5 -1.4
DDI IAMs_20 IAMs_20 17 31 48.9
comp=Z,41μm,17.9s
FAKI **Fak Fak** 134.89 280 *e*PKPdf **PKPdf** 16 55 04.2 -1.0
FAKI LR LR
comp=Z,108μm,20.0s
FAKI **Fak Fak** 134.89 280 PKP **PKPdf** 16 55 05.9 +0.7
WR0 **Warramunga Arr** 135.15 256 PFAKE 16 55 20.0 +14
WR0 LR LR
comp=Z,78μm,20.0s
WR9 **Warramunga Arr** 135.17 256 PFAKE 16 55 20.0 +14
WR9 LR LR
comp=Z,77μm,20.0s
SIJI **Sorong** 135.19 283 PKP **PKPdf** 16 55 06.5 +0.7
comp=Z,23nm,0.8s,baz=56,slow=3.6,SNR=1.8
SWI **Sorong** 135.20 283 PKP PKPdf 16 55 17.7 +12
WR7 **Warramunga Arr** 135.21 256 PFAKE 16 55 20.0 +14
WR7 LR LR
comp=Z,81μm,20.0s
WR6 **Warramunga Arr** 135.23 256 PFAKE 16 55 20.0 +14
WR6 LR LR
comp=Z,81μm,21.0s
WR5 **Warramunga Arr** 135.25 256 PFAKE 16 55 20.0 +14
WR5 LR LR
comp=Z,82μm,20.0s
WR4 **Warramunga Arr** 135.28 256 PFAKE 16 55 20.0 +14
WR4 LR LR
comp=Z,82μm,21.0s
WB0 **Warramunga Arr** 135.29 256 PFAKE 16 55 20.0 +14
WB0 LR LR
comp=Z,78μm,20.0s
WR3 **Warramunga Arr** 135.29 256 PFAKE 16 55 20.0 +14
WR3 LR LR
comp=Z,79μm,20.0s
WB9 **Warramunga Arr** 135.30 256 PFAKE 16 55 20.0 +14
WB9 LR LR
comp=Z,165μm,20.0s
WB8 **Warramunga Arr** 135.30 256 PFAKE 16 55 20.0 +14
WB8 LR LR
comp=Z,83μm,21.0s
WC3 **Warramunga Arr** 135.31 256 PFAKE 16 55 20.0 +14
WC3 LR LR

	comp=Z,82µm,20.0s								
WB6	**Warramunga Arr**	**135.31**	**256**	PFAKE			16 55 20.0	+14	
WB6				LR	LR				
	comp=Z,82µm,20.0s								
WC2	**Warramunga Arr**	**135.31**	**256**	PFAKE			16 55 20.0	+14	
WC2				LR	LR				
	comp=Z,94µm,21.0s								
WR2	**Warramunga Arr**	**135.32**	**256**	PFAKE			16 55 20.0	+14	
WR2				LR	LR				
	comp=Z,77µm,20.0s								
WB4	**Warramunga Arr**	**135.32**	**256**	PFAKE			16 55 20.0	+14	
WB4				LR	LR				
	comp=Z,78µm,20.0s								
WB3	**Warramunga Arr**	**135.32**	**256**	PFAKE			16 55 20.0	+14	
WB3				LR	LR				
	comp=Z,80µm,20.0s								
WB2	**Warramunga Arr**	**135.33**	**256**	*e*PKPpre	PKPpre		16 54 56.1		
WB2				LR	LR				
	comp=Z,100µm,21.0s								
WRAB	**Tennant Creek**	**135.33**	**256**	*e*PKPpre	PKPpre		16 54 56.0		
WRAB				LR	LR				
	comp=Z,97µm,21.0s								
WRAB	**Tennant Creek**	**135.33**	**256**	*e*PKHKP	PKPpre		16 54 56.0		
WRAB				MLR	MLR				
	comp=Z,97µm,21.0s								
WC1	**Warramunga Arr**	**135.34**	**256**	PFAKE			16 55 20.0	+14	
WC1				LR	LR				
	comp=Z,66µm,21.0s								
WC4	**Warramunga Arr**	**135.34**	**256**	PFAKE			16 55 20.0	+14	
WC4				LR	LR				
	comp=Z,88µm,21.0s								
WR1	**Warramunga Arr**	**135.34**	**256**	PFAKE			16 55 20.0	+14	
WR1				LR	LR				
	comp=Z,90µm,21.0s								
WRA	**Warramunga Arr**	**135.34**	**256**	PKhKP	PKPpre		16 54 58.3		
	comp=Z,6.7nm,0.8s,baz=88,slow=3.3,SNR=11								
WRA				PKP	**PKPdf**		**16 55 06.2**	**+0.3**	
	comp=Z,23nm,0.7s,baz=91,slow=2.0,SNR=29								
WRA				PKKP	**PKKPdf**		**17 04 46.9**	**-1.4**	
	comp=Z,3.2nm,1.0s,baz=282,slow=1.7,SNR=3.1								
GZH	**Guangzhou**	**135.51**	**326**	Pdif	**Pdif**		**16 52 10.2**	**+1.3**	
GZH				LR	LR				
	comp=Z,99µm,19.2s								
GZH				LR	LR				
	comp=Z,69µm,19.6s								
AS01	**Alice Springs**	**135.57**	**250**	*e*PKPpre	PKPpre		16 54 53.5		
AS31	**Alice Springs**	**135.61**	**250**	*e*PKPpre	PKPpre		16 54 54.9		
AS31				LR	LR				
	comp=Z,1µm,20.0s								
ASAR	**Alice Springs**	**135.62**	**250**	PKhKP	PKPpre		16 55 00.4		
	comp=Z,7.7nm,0.6s,baz=103,slow=3.2,SNR=33								
ASAR				PKKP	**PKKPdf**		**17 04 47.9**	**0.0**	
	comp=Z,4.3nm,0.6s,baz=290,slow=1.8,SNR=10								
CRZF	**Crozet Islands**	**135.77**	**144**	PFAKE			16 55 20.0	+14	
CRZF				LR	LR				
	comp=Z,22µm,20.0s								
SMPP	**San Manuel, Pa**	**135.88**	**312**	*e*P	PKPpre		16 55 02.8		
OCLP	**Ormoc**	**135.91**	**303**	*e*P	**PKPdf**		**16 55 06.7**	**-0.4**	
MCO	**Taipa Grande**	**136.16**	**325**	P	PKPpre		16 54 57.0		
NDI	**New Delhi**	**136.29**	**14**	*e*P	**PKPdf**		**16 55 06.0**	**-1.5**	
LSA	**Lhasa**	**136.41**	**356**	PKP	PKPpre		16 54 57.7		
LSA				PP	**PP**		**16 57 45.9**	**-1.8**	
LSA				LR	LR				
	comp=N,36µm,22.7s								
LSA				LR	LR				
	comp=E,21µm,21.1s								
LSA				LR	LR				
	comp=Z,126µm,21.9s								
LSA	**Lhasa**	**136.41**	**356**	*e*PKPpre	PKPpre		16 54 57.1		
LSA				LR	LR				
	comp=Z,97µm,21.0s								
LSA	**Lhasa**	**136.41**	**356**	*e*PKHKP	PKPpre		16 54 57.1		
LSA				MLR	MLR				
	comp=Z,97µm,21.0s								
BOAC	**Boac**	**136.71**	**308**	*e*P	**PKPdf**		**16 55 11.1**	**+2.5**	
LLP	**Lapu-Lapu**	**136.84**	**302**↓	*e*P	**PKPdf**		**16 55 10.5**	**+1.7**	
LLP				*e*S	**SKPab**		**16 58 49.9**	**+4.9**	
SAUI	**Saumlaki**	**137.06**	**273**	PFAKE			16 55 20.0	+11	
SAUI				LR	LR				
	comp=Z,67µm,20.0s								
SAUI	**Saumlaki**	**137.06**	**273**	PKP	PKPdf		16 55 23.7	+14	
RCP	**Roxas**	**137.13**	**305**↑	*e*P	**PKPdf**		**16 55 10.9**	**+1.6**	
DAV	**Davao City (W)**	**137.16**	**297**↓	*i*P	PKPpre		16 54 58.3		
DAV	**Davao City (W)**	**137.16**	**297**	PFAKE			16 55 20.0	+11	
DAV				LR	LR				
	comp=Z,61µm,22.0s								
BUKP	**Musuan**	**137.20**	**298**	*e*P	PKPpre		16 55 01.3		
CGP	**Cagayan de Oro**	**137.22**	**299**	*e*P	**PKPdf**		**16 55 15.0**	**+5.5**	
DDMP	**Don Marcelino,**	**137.51**	**296**	*e*P	**PKPdf**		**16 55 11.5**	**+1.4**	
BNDI	**Bandanaira**	**137.58**	**279**	PKP	PKPdf		16 55 19.2	+9.0	
DANN	**Dangsing**	**137.68**	**5**	*e*P	PKPpre		16 55 00.4		
PYUN	**Piuthan**	**137.84**	**7**	*e*P	PKPpre		16 55 00.2		
SJMP	**San Jose**	**137.88**	**307**	*e*P	**PKPdf**		**16 55 09.9**	**-0.8**	
MTN	**Manton Dam**	**138.01**	**266**	*e*PKPpre	PKPpre		16 55 01.2		
MTN				LR	LR				
	comp=Z,69µm,20.0s								
LKP	**Lekhapani**	**138.17**	**349**	*e*P	**PKPdf**		**16 55 09.2**	**-1.7**	
MSAI	**Masohi**	**138.18**	**281**	PKP	**PKPdf**		**16 55 17.9**	**+6.6**	
KOLN	**Koldanda**	**138.24**	**6**	*e*P	PKPpre		16 55 00.6		
GUN	**Gumba**	**138.26**	**3**	*e*P	PKPpre		16 55 01.1		
TNTI	**Ternate**	**138.27**	**287**	*e*PKPdf	**PKPdf**		**16 55 09.9**	**-1.6**	
TNTI				LR	LR				
	comp=Z,50µm,22.0s								
TNTI	**Ternate**	**138.27**	**287**	PKP	**PKPdf**		**16 55 15.1**	**+3.6**	
ZIRO	**ZIRO**	**138.29**	**352**	*e*P	PKPpre		16 55 07.5		
ZIRO				IAMs_20	IAMs_20		17 32 43.9		
	comp=Z,44µm,28.9s								
SKMP	**Bagumbayan, Su**	**138.32**	**297**	*e*P	PKPpre		16 55 04.1		
KKN	**Kakani**	**138.35**	**4**	*e*P	PKPpre		16 55 00.9		
TAWA	**Tawang**	**138.45**	**355**	*e*P	**PKPdf**		**16 55 08.7**	**-3.2**	
KMI	**Kunming**	**138.49**	**340**	Pdif	**Pdif**		**16 52 20.0**	**-2.5**	
KMI				PKP	PKPdf		16 55 01.5	-10	
KMI				sPKP			16 55 28.7		
KMI				PP	**PP**		**16 57 58.8**	**-1.8**	
KMI	**Kunming**	**138.49**	**340**	SS	SS		17 16 05.5	-5.4	
KMI				AMB	AMB				
	comp=Z,31µm,15.3s								
KMI				LR	LR				
	comp=N,43µm,28.6s								
KMI				LR	LR				
	comp=E,50µm,28.6s								
KMI				LR	LR				
	comp=Z,94µm,31.1s								
DMN	**Daman**	**138.52**	**4**	*e*P	PKPpre		16 55 00.6		
JIRN	**Jiri**	**138.52**	**2**	*e*P	PKPpre		16 55 00.9		
PKIN	**Phulchoki**	**138.57**	**3**	*e*P	PKPpre		16 55 00.6		
PKI	**Pulchoki**	**138.57**	**3**	*e*P	PKPpre		16 55 00.6		
PAGZ	**Pagadian**	**138.65**	**300**	*e*P	PKPpre		16 55 07.8		
BHJ	**Bhuj**	**138.85**	**26**	*e*P	**PKPdf**		**16 55 10.7**	**-1.6**	
BHJ				IAmb	IAmb		16 55 21.1		
BHJ				IAMs_20	IAMs_20		17 23 03.9		
	comp=Z,189µm,57.9s								
BUSP	**Coron**	**138.87**	**307**	*e*P	PKPpre		16 55 09.8		
GTK	**Tadong**	**138.89**	**359**	*e*P	PKPpre		16 55 09.4		
GTK				IAMs_20	IAMs_20		17 33 29.4		
	comp=Z,46µm,30.4s								
AAI	**Ambon**	**138.98**	**281**	PKP	PKPpre		16 55 08.0		
JORH	**JORHAT**	**139.01**	**351**	*e*P	PKPpre		16 55 09.4		
RAMN	**Ramite**	**139.24**	**2**	*e*P	PKPpre		16 55 03.1		
TEZP	**TEZPUR**	**139.32**	**353**	*e*P	PKPpre		16 55 09.4		
TEZP				IAMs_20	IAMs_20		17 33 58.6		
	comp=Z,38µm,20.1s								
ODAN	**Odare**	**139.35**	**1**	*e*P	PKPpre		16 55 03.5		
MOKO	**MOKOCHONG**	**139.38**	**351**	*e*P	PKPpre		16 55 09.5		
FORT	**Forrest**	**139.59**	**239**	*e*PKPpre	PKPpre		16 55 05.8		
FORT				LR	LR				
	comp=Z,65µm,20.0s								
NLAI	**Namlea**	**139.89**	**282**	PKP	PKPpre		16 55 11.3		
ENPP	**El Nido**	**139.95**	**307**	*e*P	PKPpre		16 55 12.1		
KOHI	**KOHIMA**	**140.03**	**351**	*e*P	PKPpre		16 55 09.9		
KOHI				IAMs_20	IAMs_20		17 33 44.1		
	comp=Z,43µm,25.8s								
DHUB	**DHUBRI**	**140.14**	**357**	*e*P	PKPpre		16 55 11.7		
SHL	**Shillong**	**140.45**	**354**	PFAKE			16 55 30.0	+15	
SHL				LR	LR				
	comp=Z,130µm,21.0s								
SHL	**Shillong**	**140.45**	**354**	*e*P	PKPpre		16 55 12.4		
SHL				IAmb	IAmb		16 55 23.6		
	comp=Z,808nm,1.7s								
SHL				IAMs_20	IAMs_20		17 33 54.1		
	comp=Z,74µm,32.8s								
SANI	**Sanana**	**140.56**	**284**	PKP	PKPpre		16 55 10.7		
QIZ	**Qiongzhong**	**140.69**	**326**	Pdif	**Pdif**		**16 52 37.6**	**+5.5**	
QIZ				PKP	**PKPdf**		**16 55 14.8**	**-1.0**	
QIZ				PP	**PP**		**16 58 14.6**	**+0.2**	
QIZ	**Qiongzhong**	**140.69**	**326**	PKP	**PKPdf**		**16 55 14.8**	**-1.0**	
QIZ				PP	**PP**		**16 58 14.6**	**+0.2**	
QIZ				AMB	AMB				
	comp=Z,23µm,16.3s								
QIZ				LR	LR				
	comp=Z,18µm,29.6s								
QIZ				LR	LR				
	comp=Z,108µm,19.6s								
QIZ	**Qiongzhong**	**140.69**	**326**	*e*PKPpre	PKPpre		16 55 14.4		
QIZ				LR	LR				
	comp=Z,127µm,20.0s								
ABPO	**Ambohimpanom**	**140.72**	**103**	*e*PKPdf	**PKPdf**		**16 55 13.2**	**-2.8**	
ABPO				LR	LR				
	comp=Z,59µm,22.0s								
ABPO	**Ambohimpanom**	**140.72**	**103**	*e*PKIKP	**PKPdf**		**16 55 13.2**	**-2.8**	
ABPO				MLR	MLR				
	comp=Z,59µm,22.0s								
SILR	**SILCHAR**	**141.13**	**353**	*e*P	**PKPdf**		**16 55 14.6**	**-1.8**	
KMSI	**Cibinong**	**141.47**	**289**	PKP	**PKPdf**		**16 55 16.8**	**-0.5**	
BHPL	**Bhopal**	**141.56**	**16**	*e*P	**PKPdf**		**16 55 15.5**	**-1.8**	
BHPL				IAmb	IAmb		16 55 24.2		
	comp=Z,946nm,1.6s								
BHPL				IAMs_20	IAMs_20		17 23 44.1		
	comp=Z,122µm,46.8s								
PAF	**Port-aux-Franc**	**141.89**	**161**	PFAKE			16 55 30.0	+13	
PAF				LR	LR				
	comp=Z,45µm,22.0s								
BOK	**Bokaro**	**142.35**	**3**	*e*P	PKPpre		16 55 14.1		
BOK				IAmb	IAmb		16 55 27.7		
	comp=Z,1µm,1.4s								
BOK				IAMs_20	IAMs_20		17 28 42.8		
	comp=Z,94µm,40.8s								
BATP	**Bataraza**	**142.68**	**306**	*e*P	**PKPdf**		**16 55 18.2**	**-1.3**	
BELO	**BELONIA**	**142.79**	**355**	*e*P	**PKPdf**		**16 55 17.3**	**-2.1**	
LUWI	**Luwuk**	**143.21**	**288**	*e*PKPdf	PKPbc		16 55 17.4	0.0	
LUWI	**Luwuk**	**143.21**	**288**	PKP	**PKPdf**		**16 55 22.4**	**+2.0**	
BRDH	**Bariadhala**	**143.34**	**354**	PKP	PKPbc		16 55 18.6	+1.2	
	comp=Z,76nm,0.3s,baz=342,slow=2.3								
SAIH	**SAIHA**	**143.37**	**352**	*e*P	PKPbc		16 55 19.2	+1.5	
SAIH				IAMs_20	IAMs_20		17 29 29.8		
	comp=Z,54µm,44.8s								
MRSI	**Marisa**	**143.37**	**290**	PKP	PKPbc		16 55 17.4	-0.4	
FITZ	**Fitzroy Crossi**	**143.58**	**258**	PKhKP	PKPpre		16 55 18.3		
	comp=Z,40nm,0.9s,baz=127,slow=2.1,SNR=57								
FITZ	**Fitzroy Crossi**	**143.58**	**258**	*e*PKPdf	PKPbc		16 55 18.3	0.0	
FITZ				LR	LR				
	comp=Z,61µm,21.0s								
BOM	**Bombay**	**144.05**	**25**	*i* x	**PKPab**		**16 55 12.5**	**-6.6**	
MYLDM	**Lahad Datu**	**144.16**	**300**	*e*PKPdf	**PKPdf**		**16 55 21.2**	**-0.8**	
MYLDM				LR	LR				
	comp=Z,140µm,22.0s								
APSI	**Ampana**	**144.19**	**288**	PKP	PKPbc		16 55 21.0	+0.7	
SOEI	**Soe**	**144.22**	**273**	*e*PKPdf	PKPbc		16 55 21.3	+0.8	
SOEI				LR	LR				
	comp=Z,70µm,20.0s								
SOEI	**Soe**	**144.22**	**273**	PKP	**PKPdf**		**16 55 21.9**	**-0.4**	
POO	**Poona**	**144.79**	**24**	*e*P	**PKPab**		**16 55 21.0**	**-0.9**	
POO				IAMs_20	IAMs_20		17 32 24.6		
	comp=Z,99µm,35.7s								
BBSI	**Bau Bau**	**144.87**	**281**	PKP	**PKPdf**		**16 55 23.9**	**+0.6**	
BATI	**Baumata**	**144.88**	**272**	PKPbc	**PKPdf**		**16 55 23.6**	**+0.2**	
	comp=Z,375nm,0.8s,baz=256,slow=0.2,SNR=38								
BATI	**Baumata**	**144.88**	**272**	PKP	**PKPdf**		**16 55 23.5**	**+0.2**	
MPSI	**Mapaga**	**145.28**	**292**	PKP	**PKPbc**		**16 55 23.0**	**-0.8**	
CHTO	**Chiang Mai**	**145.61**	**341**	*e*PKPdf	**PKPdf**		**16 55 23.5**	**-0.9**	
CHTO				LR	LR				
	comp=Z,96µm,21.0s								
CHTO	**Chiang Mai**	**145.61**	**341**	*e*PKP2	**PKPdf**		**16 55 23.5**	**-0.9**	
CHTO				MLR	MLR				
	comp=Z,96µm,21.0s								
LAMP	**Lampang**	**145.66**	**340**	PKP	**PKPdf**		**16 55 24.6**	**+0.1**	
CM31	**Chiang Mai Arr**	**145.94**	**341**	*e*PKPdf	**PKPdf**		**16 55 25.1**	**+0.1**	
CMAR	**Chiang Mai Arr**	**145.94**	**341**	PKPbc	**PKPbc**		**16 55 25.9**	**+0.2**	
	comp=Z,284nm,0.8s,baz=342,slow=4.1,SNR=389								
MMRI	**Maumere**	**145.96**	**275**	*e*PKPdf	**PKPdf**		**16 55 23.3**	**-1.8**	
MMRI				LR	LR				
	comp=Z,40µm,22.0s								
MMRI	**Maumere**	**145.96**	**275**	PKP	**PKPdf**		**16 55 24.9**	**-0.2**	
CM01	**Chiang Mai Arr**	**145.97**	**341**	*e*PKPdf	**PKPbc**		**16 55 25.9**	**+0.1**	
UTTA	**Uttaradit**	**146.06**	**338**	PKP	**PKPbc**		**16 55 25.9**	**-0.1**	
EDFI	**Ende, Flores**	**146.52**	**275**	PKP	**PKPdf**		**16 55 25.5**	**-0.7**	
BNSI	**Bone**	**146.88**	**284**	PKP	**PKPbc**		**16 55 29.2**	**+0.6**	
BKSI	**Bulukumba**	**147.15**	**282**	PKP	**PKPbc**		**16 55 28.5**	**-0.8**	
NWAO	**Narrogin (SRO)**	**147.37**	**230**	PKPbc	**PKPbc**		**16 55 28.4**	**-1.0**	
	comp=Z,65nm,0.9s,baz=353,slow=3.4,SNR=20								
NWAO	**Narrogin (SRO)**	**147.37**	**230**	*e*PKPdf	**PKPdf**		**16 55 26.9**	**-0.1**	
NWAO				LR	LR				
	comp=Z,56µm,20.0s								
HYB	**Hyderabad**	**147.41**	**17**	*i* Pdiff			16 53 04.0		
HYB				*e*PKP	**PKPdf**		**16 55 27.0**	**-0.5**	
HYB				*e*PP	**PP**		**16 58 56.0**	**+1.9**	
HYB				LR	LR				
	comp=Z,66nm,24.0s								
SGKI	**Sangatta, Kali**	**147.72**	**292**	PKP	**PKPab**		**16 55 32.2**	**-1.1**	
SMKI	**Samarinda**	**148.04**	**293**	PKP	**PKPbc**		**16 55 33.2**	**+1.4**	
H01W1	**Cape Leeuwin H**	**148.53**	**224**	PKPbc	**PKPab**		**16 55 35.1**	**-0.5**	
	baz=150,slow=4.5,SNR=15								
H01W2	**Cape Leeuwin H**	**148.55**	**224**	PKPbc	**PKPab**		**16 55 34.1**	**-1.5**	
	baz=150,slow=4.5,SNR=20								
H01W3	**Cape Leeuwin H**	**148.55**	**224**	PKPbc	**PKPab**		**16 55 34.7**	**-1.0**	
	baz=150,slow=4.5,SNR=17								
RER	**Riviere de l'E**	**148.55**	**108**	*e*PKPdf	**PKPdf**		**16 55 30.8**	**+1.4**	
RER				LR	LR				
	comp=Z,55µm,21.0s								
BKB	**Balikpapan**	**148.67**	**291**	PKP	**PKPab**		**16 55 35.8**	**-1.3**	
MBWA	**Marble Bar**	**148.91**	**252**	*e*PKPdf	**PKPdf**		**16 55 28.5**	**-1.3**	
WBSI	**Waikabubak, Su**	**148.92**	**275**	PKP	**PKPbc**		**16 55 34.2**	**+0.1**	
SRDT	**SRDT**	**149.71**	**338**	PKP	**PKPdf**		**16 55 31.9**	**+0.6**	
PLAI	**Plampang**	**150.31**	**277**	PKP	**PKPbc**		**16 55 36.6**	**-0.9**	
PATY	**Pattaya**	**150.31**	**334**	PKP	**PKPbc**		**16 55 35.8**	**-1.6**	
MTKI	**Muara Teweh, K**	**150.33**	**294**	PKP	**PKPbc**		**16 55 39.1**	**+1.5**	
PHET	**Kaeng Krachan**	**150.83**	**336**	PKP	**PKPdf**		**16 55 35.4**	**+2.4**	
SBUM	**Sibu**	**150.88**	**302**	*e*PKPdf	**PKPdf**		**16 55 33.4**	**+0.2**	
SBUM				LR	LR				
	comp=Z,18µm,21.0s								
TWSI	**Taliwang, Sumb**	**151.15**	**277**	PKP	**PKPdf**		**16 55 34.3**	**+0.7**	
MDRS	**Chennai**	**152.02**	**16**	*ex*	**PKPab**		**16 55 53.8**	**+3.2**	
MDRS				*ex*	x		16 59 09.8		
SRBI	**Singaraja**	**152.60**	**280**	PKP	**PKPbc**		**16 55 41.9**	**-0.8**	
DNP	**Denpasar**	**152.75**	**278**	PKP	**PKPbc**		**16 55 43.6**	**+0.5**	
STKI	**Sintang**	**152.81**	**299**	PKP	**PKPdf**		**16 55 37.7**	**+1.6**	
IGBI	**Denpasar**	**152.84**	**278**	PKP	**PKPbc**		**16 55 42.2**	**-1.1**	
KSM	**Kuching**	**153.00**	**303**	*e*PKPdf	**PKPdf**		**16 55 36.5**	**+0.2**	
KSM				LR	LR				
	comp=Z,47µm,22.0s								
KMMI	**Kalianget**	**153.50**	**282**	PKP	**PKPbc**		**16 55 46.6**	**+1.9**	
JAGI	**Jajag, Banyuwa**	**153.71**	**279**	*e*PKPdf	**PKPdf**		**16 55 34.9**	**-2.4**	
JAGI				LR	LR				
	comp=Z,29µm,21.0s								
PBKI	**Pangkalan Bun**	**154.00**	**293**	PKP	**PKPbc**		**16 55 49.7**	**+3.9**	
PBA	**Port Blair**	**154.04**	**349**	*e*PKPdf	PKPdf		16 55 38.0	+0.2	
GMJI	**Gumukmas**	**154.34**	**280**	PKP	**PKPdf**		**16 55 41.4**	**+3.2**	
HMDM	**Hanimaadhoo**	**154.67**	**36**	PFAKE			16 55 50.0	+2.8	
HMDM				LR	LR				
	comp=Z,51µm,20.0s								
GRJI	**Gresik**	**154.87**	**284**	PKP	**PKPbc**		**16 55 49.2**	**+1.6**	
TRTT	**Trang**	**155.34**	**331**	PKP	**PKPdf**		**16 55 40.4**	**+0.8**	
TBJI	**Tambak Boyo**	**155.43**	**285**	PKP	**PKPab**		**16 56 01.3**	**-4.0**	
SKLT	**Songkhla**	**155.46**	**328**	PKP	**PKPdf**		**16 55 43.5**	**+3.7**	
PKDT	**Phuket**	**155.90**	**334**	PKP	**PKPdf**		**16 55 43.3**	**+2.9**	
NGJI	**Ngawi**	**155.97**	**284**	PKP	PKPdf		16 55 51.0	+11	
PCJI	**Pacitan**	**156.48**	**282**	PKP	PKPdf		16 55 50.4	+9.3	
WOJI	**Wonogiri, Jawa**	**156.61**	**283**	PKP	**PKPdf**		**16 55 44.9**	**+3.6**	
UGM	**Wanagama**	**157.01**	**283**	*e*PKPdf	**PKPdf**		**16 55 41.6**	**-0.3**	
UGM				LR	LR				
	comp=Z,28µm,21.0s								
UGM	**Wanagama**	**157.01**	**283**	PKP	PKPdf		16 55 52.6	+11	
KULM	**Kulim**	**157.03**	**326**	*e*PKPdf	**PKPdf**		**16 55 41.8**	**0.0**	
KULM				LR	LR				
	comp=Z,78µm,20.0s								
IPM	**Ipoh**	**157.48**	**324**	*e*PKPdf	**PKPdf**		**16 55 42.4**	**-0.1**	
IPM				LR	LR				
	comp=Z,64µm,22.0s								
PALK	**Pallekele**	**157.65**	**19**	PKP	**PKPdf**		**16 55 42.8**	**+0.1**	
	comp=Z,67nm,1.2s,baz=297,slow=2.2,SNR=20								
PALK	**Pallekele**	**157.65**	**19**	*e*PKPdf	**PKPdf**		**16 55 42.5**	**-0.2**	
PALK				LR	LR				
	comp=Z,102µm,19.0s								
PALK	**Pallekele**	**157.65**	**19**	*i* P	**PKPdf**		**16 55 44.2**	**+1.5**	
	SNR=27								
PALK	**Pallekele**	**157.65**	**19**	*e*PKIKP	**PKPdf**		**16 55 42.5**	**-0.2**	
PALK				MLR	MLR				
	comp=Z,102µm,19.0s								
MYKOM	**Kota Tinggi**	**157.73**	**314**	*e*PKPdf	**PKPdf**		**16 55 42.5**	**-0.2**	
MYKOM				LR	LR				
	comp=Z,67µm,20.0s								
TPRI	**Tanjung Pinang**	**157.85**	**311**	PKP	**PKPdf**		**16 55 46.3**	**+3.4**	
KPJI	**Karang Pucung**	**158.33**	**286**	PKP	**PKPdf**		**16 55 46.4**	**+3.0**	
PPBI	**Pangkal Pinang**	**158.49**	**302**	PKP	**PKPdf**		**16 55 44.3**	**+0.6**	
JCJI	**Jatiwangi**	**158.65**	**288**	PKP	PKPdf		16 55 54.7	+11	
DSRI	**Dabo**	**158.72**	**308**	PKP	**PKPdf**		**16 55 51.3**	**+7.3**	
LHMI	**Lhok Sumawe**	**158.88**	**334**	PFAKE			16 55 50.0	+5.9	
LHMI				LR	LR				
	comp=Z,98µm,22.0s								
LHMI	**Lhok Sumawe**	**158.88**	**334**	PKP	**PKPdf**		**16 55 48.0**	**+3.9**	
CMJI	**Cimerak**	**158.93**	**285**	PKP	**PKPdf**		**16 55 51.4**	**+7.2**	
LEM	**Lembang**	**159.37**	**288**	PKP	**PKPdf**		**16 55 46.1**	**+1.3**	
	comp=Z,27nm,0.9s,baz=93,slow=1.7,SNR=12								
CISI	**Cisompet, Garu**	**159.45**	**286**	*e*PKPdf	**PKPdf**		**16 55 44.0**	**-0.9**	
CISI				LR	LR				
	comp=Z,40µm,22.0s								
CISI	**Cisompet, Garu**	**159.45**	**286**	PKP	**PKPdf**		**16 55 47.7**	**+2.9**	
TSI	**Tuntungan**	**159.64**	**328**	PKP	**PKPdf**		**16 55 48.5**	**+3.5**	
CBJI	**Citeko**	**159.92**	**290**	PKP	**PKPdf**		**16 55 48.0**	**+2.7**	
MLSI	**Meulaboh, Aceh**	**159.97**	**335**	PKP	**PKPdf**		**16 55 47.8**	**+2.4**	
KCSI	**Kotacane, Aceh**	**160.01**	**330**	PKP	**PKPdf**		**16 55 45.9**	**+0.4**	
PSI	**Prapat**	**160.04**	**326**	PKP	**PKPdf**		**16 55 45.9**	**+0.2**	
	comp=Z,70nm,1.1s,baz=180,slow=1.7,SNR=27								
PSI				PKPab	**PKPab**		**16 56 26.5**	**+1.3**	
	comp=Z,199nm,0.9s,baz=360,slow=3.1,SNR=4.6								
PSI	**Prapat**	**160.04**	**326**	*e*PKPdf	**PKPdf**		**16 55 44.8**	**-0.8**	
PSI				PKPab	**PKPab**		**16 56 26.5**	**+1.3**	
PSI	**Prapat**	**160.04**	**326**	*e*PKIKP	**PKPdf**		**16 55 44.8**	**-0.8**	
PSI							16 56 26.5		
PMBI	**Palembang**	**160.04**	**302**	PKP	PKPdf		16 55 53.1	+7.6	
SKJI	**Sukabumi**	**160.41**	**289**	PKP	PKPdf		16 55 56.7	+11	
SBJI	**Serang**	**160.45**	**292**	PKP	**PKPdf**		**16 55 49.4**	**+3.5**	
TPTI		**160.53**	**331**	PKP	**PKPdf**		**16 55 49.2**	**+3.2**	
BKNI	**Bangkinang**	**160.71**	**317**	PKP	**PKPdf**		**16 55 52.0**	**+5.8**	
BLSI	**Bandar Lampung**	**160.90**	**295**	PKP	**PKPdf**		**16 55 49.8**	**+3.4**	
KLI	**Kotabumi**	**161.00**	**297**	PKP	**PKPdf**		**16 55 52.6**	**+6.1**	
CGJI	**Cibinong**	**161.05**	**291**	PKP	**PKPdf**		**16 55 49.3**	**+2.8**	
SBSI	**Sibolga**	**161.09**	**324**	PKP	**PKPdf**		**16 55 53.2**	**+6.6**	
MNSI	**Mandailing Nat**	**161.29**	**321**	PKP	**PKPdf**		**16 55 49.3**	**+2.5**	
SDSI	**Sungai Dareh**	**161.35**	**313**	PKP	**PKPdf**		**16 55 49.5**	**+2.6**	
MDSI	**Maura Dua**	**161.39**	**299**	PKP	**PKPdf**		**16 55 45.9**	**-1.0**	
KASI	**Kota Agung**	**161.63**	**296**	PKP	**PKPdf**		**16 55 50.5**	**+3

CM01	**Chiang Mai Arr**	**146.22**	**341**	*e*PKPdf	**PKPdf**	**17 09 21.3**	**-1.1**

*IDC **07** 16:52:20.4±3.0, 13°.44N×92°.28W, h0km, mb4.1/3, mb1 4.4/6, mb1mx4.0/52, mbtmp4.0/6, ML3.7/3, Error ellipse: s-maj=58.5km s-min=30.5km az=169.0*
*NEIC **07** 16:52:26.8±0.8, 13°.65N×92°.25W, h35km, mb4.8/2, Error ellipse: s-maj=15.5km s-min=9.3km az=206.0*
ISC 07 16:52:26.7±1.1, **13.7N**±0.1×**92.23W**±0.07, **h32km**, **n17**, **σ0s85/19**, **mb4.1/3**, **Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**2.15**	**53**	Pn	**Pn**	**16 53 01.6**	**+1.1**
	100nm,0.3s,baz=329,slow=16,SNR=4.3						
APG				Sn	**Sb**	**16 53 31.4**	**0.0**
	100nm,0.3s,baz=331,slow=15,SNR=4.4						
CCIG	**Comitan**	**2.57**	**2**	*e*Pn	**Pn**	**16 53 07.1**	**+0.9**
CMIG	**Matias Romero**	**4.23**	**323**	Pn	**Pn**	**16 53 30.0**	**+1.1**
	2.1nm,0.3s,baz=138,slow=14,SNR=2.2						
CMIG				Sn	**Sn**	**16 54 17.6**	**+0.3**
	13nm,0.3s,baz=122,slow=13,SNR=3.0						
BCIP	**Isla Barro Col**	**12.96**	**109**	*e*Pn	**Pn**	**16 55 29.2**	**+0.5**
833A	**Chaparral WMA,**	**16.00**	**337**	*e*Pn	**Pn**	**16 56 09.7**	**+0.2**
	135nm,1.8s						
061Z	**Ochoppi**	**16.11**	**40**	*e*Pn	**Pn**	**16 56 10.7**	**-0.2**
	256nm,1.3s						
543A	**St. Martinvill**	**16.31**	**1**	*e*Pn	**P**	**16 56 15.2**	**-0.8**
	402nm,0.5s						
240A	**Hunter Patters**	**18.31**	**356**	*e*P	**P**	**16 56 36.9**	**-1.2**
	124nm,1.5s						
LTX	**Lajitas**	**18.82**	**328**	*e*P	**P**	**16 56 44.2**	**+0.3**
TXAR	**Lajitas Array**	**18.82**	**328**	P	**P**	**16 56 44.2**	**+0.3**
	0.0nm,0.3s,baz=148,slow=12,SNR=2.2						
NV01	**Mina Array Sit**	**33.76**	**322**	*e*P	**P**	**16 59 06.6**	**+0.8**
NVAR	**Mina Array Bea**	**33.76**	**322**	P	**P**	**16 59 07.0**	**+1.2**
	1.8nm,0.9s,baz=134,slow=8.9,SNR=4.1						
YKA	**Yellowknife Ar**	**51.26**	**347**	P	**P**	**17 01 25.8**	**-1.4**
	4.3nm,0.7s,baz=151,slow=7.1,SNR=5.9						
ILAR	**Eielson Array**	**63.02**	**337**	P	**P**	**17 02 49.6**	**-0.7**
	1.2nm,0.8s,baz=133,slow=4.8,SNR=6.3						
ILB	**Eielson Array**	**63.02**	**337**	*e*P	**P**	**17 02 49.3**	**-1.0**
CM31	**Chiang Mai Arr**	**146.20**	**341**	*e*PKPdf	**PKPdf**	**17 12 03.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**146.20**	**341**	PKPbc	**PKPbc**	**17 12 04.3**	**-0.4**
	4.0nm,0.8s,baz=333,slow=3.5,SNR=12						

*AZER **07** 16:52:42.9±0.1, 38°.43N×46°.66E, h8km, ml3.5/26, Error ellipse: s-maj=5.5km s-min=0.7km az=17.0*
*TEH **07** 16:52:44.8, 38°.42N×46°.58E, h17km, ML3.3*
*DDA **07** 16:52:59.1, 38°.65N×45°.26E, h7km, Ml2.8*
ISC 07 16:52:45.0±1.1, **38.44N**±0.03×**46.60E**±0.02, **h9km**±11km, **n38**, **σ1s68/58**, **21C-21D**, **Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHRS	**Heris**	**0.37**	**109**	*e*Pg	**Pg**	**16 52 52.8**	**+0.4**
IHRS				IAMB	IAmb	16 52 59.8	
	comp=E,66μm,0.1s						
IHRS				IAMB	IAmb	16 53 00.1	
	comp=Z,85μm,0.1s						
IHRS				IAMB	IAmb	16 53 00.5	
	comp=N,884nm,0.1s						
ITBZ	**Tabriz**	**0.41**	**240**	*e*Pg	**Pg**	**16 52 52.9**	**-0.2**
ITBZ				IAMB	IAmb	16 52 53.0	
	comp=Z,22μm,0.1s						
ITBZ				IAMB	IAmb	16 52 56.4	
	comp=N,25μm,0.2s						
ITBZ				IAMB	IAmb	16 53 01.4	
	comp=E,30μm,0.3s						
ORD	**Ordubad**	**0.68**	**316**	⇓P	**Pg**	**16 52 57.9**	**-0.2**
ORD				⇑S	**Sg**	**16 53 07.4**	**+0.3**
IMRD	**Marand**	**0.75**	**291**	*e*Pg	**Pg**	**16 52 59.0**	**-0.6**
IMRD				IAMB	IAmb	16 53 14.0	
	comp=N,41nm,0.2s						
IMRD				IAMB	IAmb	16 53 14.2	
	comp=Z,23μm,0.2s						
IMRD				IAMB	IAmb	16 53 20.8	
	comp=E,29μm,0.3s						
IBST	**Bostanabad**	**0.78**	**163**	*e*Pg	**Pb**	**16 52 59.1**	**-1.7**
IBST				IAMB	IAmb	16 52 59.5	
	comp=N,21μm,0.2s						
IBST				IAMB	IAmb	16 52 59.6	
	comp=Z,27μm,0.2s						
IBST				IAMB	IAmb	16 53 14.9	
	comp=E,16μm,0.2s						
ISHB	**Shabestar**	**0.79**	**259**	*e*Pg	**Pb**	**16 52 59.9**	**-1.1**
ISHB				IAMB	IAmb	16 53 12.8	
	comp=N,20μm,0.3s						
ISHB				IAMB	IAmb	16 53 16.3	
	comp=Z,9μm,0.4s						
ISHB				IAMB	IAmb	16 53 21.7	
	comp=E,18μm,0.4s						
IAZR	**Azarshahr**	**0.91**	**213**	IAMB	IAmb	16 53 18.5	
	comp=Z,15μm,0.2s						
IAZR				*e*Pg	**Pg**	**16 53 02.0**	**-0.5**
IAZR				IAMB	IAmb	16 53 18.6	
	comp=N,38μm,0.3s						
IAZR				IAMB	IAmb	16 53 21.2	
	comp=E,39μm,0.3s						
ISRB	**Sarab**	**1.04**	**126**	IAMB	IAmb	16 53 23.9	
	comp=Z,17μm,0.2s						
ISRB				*e*Pg	**Pn**	**16 53 04.7**	**-1.3**
ISRB				IAMB	IAmb	16 53 24.5	
	comp=E,25μm,0.1s						
ISRB				IAMB	IAmb	16 53 26.4	
	comp=N,25μm,0.3s						
NAX	**Nakhchivan**	**1.13**	**311**	⇓P	**Pg**	**16 53 06.4**	**-0.3**
	SNR=17						
NAX				⇑S	**Sg**	**16 53 22.4**	**+1.0**
SBZ	**Shahbuz**	**1.26**	**320**	⇑P	**Pb**	**16 53 08.3**	**-0.6**
SBZ				⇓S	**Sg**	**16 53 26.2**	**+0.8**
LRK	**Lerik**	**1.38**	**81**	P	**Pb**	**16 53 10.9**	**-0.1**
	SNR=176						
LRK				⇑S	**Sg**	**16 53 30.4**	**+1.0**
GLBA	**Clilabad**	**1.61**	**60**	⇑P	**Pg**	**16 53 16.0**	**+0.1**
	SNR=37						
GLBA				⇓S	**Sg**	**16 53 39.8**	**+2.9**
ASTR	**Astara**	**1.72**	**85**	⇓P	**Pg**	**16 53 17.5**	**-0.6**
	SNR=65						
ASTR				⇓S	**Sg**	**16 53 43.0**	**+2.6**
LKRN	**Lenkeran, Azer**	**1.73**	**80**	P	**Pb**	**16 53 17.2**	**+0.3**
	SNR=51						
LKRN				⇑S	**Sg**	**16 53 42.8**	**+2.2**
HYR	**Heyderabad**	**1.86**	**314**	⇓P	**Pb**	**16 53 18.8**	**-0.5**
HYR				⇓S	**Sg**	**16 53 45.0**	**+0.1**
BRDA	**Brd**	**1.87**	**14**	⇑S	**Sg**	**16 53 44.2**	**-1.0**
YOVA	**Hakkari_Y`…kse**	**2.01**	**246**	*i* P	**Pg**	**16 53 22.6**	**-1.0**
ZRD	**Zardab**	**2.02**	**24**	⇑S	**Sb**	**16 53 48.2**	**+1.2**
CLDR	**Caldiran**	**2.21**	**289**	*i* P	**Pb**	**16 53 25.7**	**+0.5**
CLDR				*i* S	**Sg**	**16 53 59.1**	**+3.1**
GANJ	**Ganja**	**2.21**	**355**	⇓P	**Pb**	**16 53 24.4**	**-0.8**
	SNR=37						
GANJ				⇓S	**Sb**	**16 53 53.5**	**+0.8**
KDMR	**Kurdemir**	**2.29**	**32**	⇓S	**Sg**	**16 53 57.1**	**-1.5**
MNGR	**Mingechevir, A**	**2.36**	**9**	⇑S	**Sb**	**16 53 58.6**	**+1.7**
GDB	**GEDABAY**	**2.37**	**344**	⇑P	**Pb**	**16 53 26.9**	**-1.0**
	SNR=33						
GDB				⇓S	**Sb**	**16 53 58.2**	**+0.9**
ALIB	**Äli-Bayra**	**2.41**	**50**	⇓P	**Pb**	**16 53 26.0**	**-2.4**
	SNR=6.1						
IGDI	**IGDIR**	**2.42**	**307**	*i* P	**Pb**	**16 53 27.7**	**-1.1**
HAKT	**HAKKARI**	**2.45**	**250**	*i* P	**Pg**	**16 53 31.7**	**-0.2**
IML	**Ismayilli**	**2.65**	**27**	⇑P	**Pb**	**16 53 29.9**	**-2.7**
IML				⇑S	**Sb**	**16 54 03.0**	**-2.2**
CUKT	**Cukurca**	**2.65**	**244**	*i* P	**Pg**	**16 53 34.4**	**-1.4**
QBL	**Gabala**	**2.68**	**20**	⇓S	**Sb**	**16 54 06.1**	**+0.1**
GBS	**Qobustan**	**2.77**	**40**	⇓P	**Pb**	**16 53 33.4**	**-1.3**
	SNR=4.7						
GBS				⇑S	**Sb**	**16 54 08.2**	**-0.5**
QZX	**Qazax, Azerbai**	**2.78**	**340**	⇓P	**Pb**	**16 53 33.3**	**-1.6**
QZX				⇑S	**Sb**	**16 54 07.0**	**-2.0**
SEKA	**Sheki**	**2.80**	**9**	⇓P	**Pb**	**16 53 33.2**	**-2.1**
	SNR=4.6						
SEKA				⇑S	**Sb**	**16 54 10.4**	**+0.7**
PQL	**Pirkuli**	**2.81**	**33**	⇑P	**Pb**	**16 53 33.0**	**-2.4**
	SNR=20						
PQL				⇓S	**Sb**	**16 54 07.9**	**-1.9**
XNQ	**Khinaliq**	**2.97**	**23**	P	**Pb**	**16 53 35.0**	**-3.3**
	SNR=18						
XNQ				⇑S	**Sb**	**16 54 11.6**	**-3.2**
ATGJ	**Altiaghaj**	**3.02**	**36**	⇑P	**Pn**	**16 53 35.1**	**+2.1**
ATGJ				⇑S	**Sb**	**16 54 14.0**	**-1.9**
SIZA	**Siyzn**	**3.17**	**33**	⇑P	**Pn**	**16 53 37.6**	**+2.5**
SIZA				⇓S	**Sb**	**16 54 17.2**	**-3.2**
QUBA	**Quba, Azerbaij**	**3.25**	**26**	⇑S	**Sb**	**16 54 20.5**	**-2.2**
QSAR	**Qusar**	**3.33**	**22**	⇓P	**Pn**	**16 53 38.0**	**+0.8**
QSAR				⇓S	**Sn**	**16 54 19.3**	**+2.5**

*IDC **07** 16:57:00.7±2.0, 14°.05N×91°.71W, h0km, mb4.1/5, mb1 4.5/7, mb1mx4.0/48, mbtmp4.2/7, ML4.4/2, Error ellipse: s-maj=41.7km s-min=27.2km az=177.0*
*NEIC **07** 16:57:05.8±0.9, 14°.15N×91°.75W, h35km, mb4.7/4, Error ellipse: s-maj=17.9km s-min=14.0km az=200.0*
ISC 07 16:57:05.9±1.0, **14°.1N**±0°.1×**91°.82W**±0°.08, **h35km**, **n34**, **σ1s62/34**, **mb4.3/11**, **Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**1.59**	**55**	Pg	**Pn**	**16 57 28.8**	**-2.9**
	24nm,0.3s,baz=85,slow=15,SNR=4.5						
APG				Lg	Lg	16 57 39.8	
	92nm,0.3s,baz=323,slow=18,SNR=32						
CCIG	**Comitan**	**2.19**	**352**	*e*Pn	**Pn**	**16 57 42.6**	**+2.6**
CMIG	**Matias Romero**	**4.19**	**316**	Pn	**Pn**	**16 58 07.3**	**-0.1**
	21nm,0.3s,baz=143,slow=11,SNR=8.0						
CMIG				Sn	**Sn**	**16 58 50.5**	**-4.7**
	39nm,0.3s,baz=114,slow=15,SNR=5.7						
TEIG	**Tepich**	**6.97**	**29**	*e*Pn	Pn	16 58 51.7	+6.2
TLIG	**Tlapa**	**7.35**	**299**	*e*Pn	**Pn**	**16 58 49.4**	**-1.5**
JTS	**JuntasAbangare**	**7.70**	**119**	*e*Pn	Pn	16 59 05.5	+10
JTS				Lg	Lg	17 00 58.6	
TXAR	**Lajitas Array**	**18.71**	**326**	P	**Pn**	**17 01 22.8**	**+0.6**
	0.3nm,0.3s,baz=154,slow=14,SNR=9.2						
CCAR	**Cane Creek**	**19.73**	**0**	*e*P	**P**	**17 01 30.9**	**-1.6**
	114nm,0.6s						
MNTX	**Cornudas Mount**	**21.48**	**327**	*e*P	**P**	**17 01 50.0**	**-1.5**
	6.2nm,0.8s						
AMTX	**Amarillo**	**22.53**	**338**	*e*P	**P**	**17 02 00.6**	**-2.3**
	109nm,1.8s						
TKL	**Tuckaleechee C**	**22.65**	**17**	P	**P**	**17 02 06.5**	**+2.4**
	5.1nm,0.8s,baz=186,slow=13,SNR=5.0						
WCI	**Wyandotte Cave**	**24.53**	**11**	*e*P	**P**	**17 02 21.9**	**-0.2**
	26nm,0.9s						
ANMO	**Albuquerque**	**24.60**	**330**	P	**P**	**17 02 24.0**	**+0.9**
	3.9nm,0.7s,baz=149,slow=12,SNR=7.0						
ANMO	**Albuquerque**	**24.60**	**330**	*e*P	**P**	**17 02 21.8**	**-1.4**
MVCO	**Mesa Verde**	**27.40**	**330**	*e*P	**P**	**17 02 49.7**	**+1.2**
	12nm,0.8s						
PV05	**Paradox Valley**	**28.38**	**330**	*e*P	**P**	**17 02 56.0**	**-1.2**
PDAR	**Pinedale Array**	**32.41**	**335**	P	**P**	**17 03 32.3**	**-0.4**
	0.3nm,0.5s,baz=141,slow=9.6,SNR=3.9						
NV01	**Mina Array Sit**	**33.71**	**321**	*e*P	**P**	**17 03 44.1**	**0.0**
NVAR	**Mina Array Bea**	**33.71**	**321**	P	**P**	**17 03 45.5**	**+1.4**
	2.3nm,0.7s,baz=152,slow=8.6,SNR=17						
YKA	**Yellowknife Ar**	**50.97**	**347**	P	**P**	**17 06 04.3**	**+0.5**
	4.3nm,0.6s,baz=152,slow=7.3,SNR=9.5						
ILAR	**Eielson Array**	**62.82**	**337**	P	**P**	**17 07 27.8**	**+0.1**
	2.5nm,1.0s,baz=122,slow=4.7,SNR=12						
ILB	**Eielson Array**	**62.82**	**337**	*e*P	**P**	**17 07 26.8**	**-0.9**
MLY	**Manley**	**64.42**	**336**	*e*P	**P**	**17 07 37.9**	**-0.5**
	11nm,1.1s						
HHC	**Hu-ho-hao-te**	**121.19**	**339**	*e*PKP	**PKPdf**	**17 15 55.5**	**-0.1**
HHC				PP	**PP**	**17 17 28.2**	**+3.4**
HHC				SS	SS	17 33 54.0	-1.1
WMQ	**Urumqi**	**122.36**	**0**	*e*PKP	**PKPdf**	**17 15 59.7**	**+2.0**
NJ2	**Nanjing**	**125.51**	**328**	*e*PKP	**PKPdf**	**17 16 04.9**	**+1.0**
CD2	**Chengdu**	**132.81**	**342**	PKP	**PKPdf**	**17 16 17.5**	**-0.5**
WRA	**Warramunga Arr**	**135.59**	**256**	PKP	**PKPdf**	**17 16 23.5**	**+0.2**
	0.3nm,0.6s,baz=97,slow=2.1,SNR=4.8						
ASAR	**Alice Springs**	**135.87**	**251**	PKP	**PKPdf**	**17 16 23.7**	**-0.1**
	0.2nm,0.7s,baz=103,slow=2.0,SNR=3.4						
KMI	**Kunming**	**138.51**	**340**	PKP	**PKPdf**	**17 16 29.3**	**+0.3**
CM31	**Chiang Mai Arr**	**145.96**	**342**	*e*PKPdf	**PKPbc**	**17 16 42.8**	**0.0**
CMAR	**Chiang Mai Arr**	**145.96**	**342**	PKPbc	**PKPab**	**17 16 43.1**	**0.0**
	4.6nm,0.7s,baz=330,slow=3.2,SNR=34						
CM01	**Chiang Mai Arr**	**145.99**	**342**	*e*PKPdf	**PKPbc**	**17 16 42.6**	**-0.2**
PBKT	**Sadao Pong**	**147.01**	**337**	*e*PKPbc	**PKPbc**	**17 16 46.1**	**+0.3**

*ISCJB **07** 16:58:32.9±1.3, 35°.48N±0°.08×27°.69E±0°.09, h10km, Error ellipse: s-maj=13.4km s-min=8.1km az=145.5*
*ATH **07** 16:58:38.3, 35°.59N×27°.34E, h10km±3km, ML2.5/1, Error ellipse: s-maj=10.1km s-min=1.5km az=289.0*
*DDA **07** 16:59:37.5, 36°.00N×28°.01E, h9km, Ml2.5*
ISC 07 16:58:33.7±2.0, **35.46N**±0°.09×**27.61E**±0°.10, **h10km**, **n12**, **σ1s87/12**, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.38**	**283**	P	**Pg**	**16 58 42.0**	**+0.7**
NIS1	**Nisyros Isl.**	**1.19**	**343**	P	**Pg**	**16 58 57.0**	**+0.4**
NIS1				S	**Sg**	**16 59 09.9**	**-2.2**
NIS1				AML	AML	16 59 23.2	
	comp=E,462μm,1.3s						
NIS1				AML	AML	16 59 27.6	
	comp=N,562μm,0.6s						
ZKR	**Zakros**	**1.19**	**253**	P	**Pg**	**16 58 56.8**	**+0.1**
DAT	**Datca**	**1.26**	**359**	*i* P	**Pb**	**16 58 56.1**	**-1.6**
DAT				*i* S	**Sn**	**16 59 19.1**	**+4.4**
DALY	**Dalyan (Mu¨la**	**1.59**	**32**	*i* P	Pn	16 58 60.0	-2.0
TURN	**Turunc**	**1.62**	**29**	*i* P	Pn	16 58 57.4	-4.9
ANAF	**Anafi Island**	**1.74**	**301**	P	**Pn**	**16 59 03.8**	**-0.3**
AMGA	**Amorgos Island**	**1.95**	**315**	P	**Pn**	**16 59 06.9**	**-0.1**
AYDN	**Tasoluk**	**2.20**	**6**	*i* P	**Pn**	**16 59 09.8**	**-0.7**
IOSP	**Ios island**	**2.26**	**304**	P	**Pn**	**16 59 11.3**	**0.0**
APE	**Apeiranthos**	**2.32**	**314**	P	**Pn**	**16 59 11.9**	**-0.1**
GOLH	**Golhisar**	**2.37**	**41**	*i* P	Pn	16 59 11.3	-1.5
GOLH				*i* S	**Sn**	**16 59 43.8**	**+1.9**

NNC 07 17:02:10.3±10.0, **38°.00N×71°.29E, h0km, mb4.0, mpv3.6, 3C-3D, Error ellipse: s-maj=97.1km s-min=76.3km az=134.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.65**	**40**	⇑Pn	Pn	17 02 54.6	+0.1
	7.3nm,0.3s						
SFK				⇑Sn	Sn	17 03 29.3	+1.9
	8.3nm,0.4s						
MNAS	**Manas**	**4.58**	**11**	⇓Pn	Pn	17 03 22.0	+1.1
	4.6nm,0.4s						
MNAS				⇑Sn	Sn	17 04 17.3	+2.4
	8.0nm,0.8s						
AAK	**Ala-Archa**	**5.24**	**27**	⇓Pn	Pn	17 03 28.3	-1.7
	9.0nm,0.7s						
AAK				⇓Sn	Sn	17 04 28.7	-2.6
	6.6nm,0.8s						

*UCR **07** 17:03:59.6±1.1, 13°.83N×92°.34W, h34km±999km, ML4.4, mb4.9(NEIC)*
*MEX **07** 17:04:02.8±0.5, 13°.68N×92°.21W, h20km±17km, MD3.5*
*NEIC **07** 17:04:04.2±0.2, 13°.81N×91°.75W, h35km, mb4.9/193, Error ellipse: s-maj=4.7km s-min=3.7km az=218.0*
*IDC **07** 17:04:04.3±3.4, 14°.02N×91°.58W, h33km±25km, mb4.4/31, mb1 4.6/34, mb1mx4.4/53, mbtmp4.6/34, ML4.9/2, Error ellipse: s-maj=18.9km s-min=9.5km az=50.0*
*MOS **07** 17:04:06.5±0.9, 14°.02N×91°.65W, h67km, mb5.1/28, Error ellipse: s-maj=12.0km s-min=5.0km az=109.6*
*ISCJB **07** 17:04:08.2±0.5, 14°.01N±0°.02×91°.68W±0°.02, h86km±4km, mb4.9/199, Error ellipse: s-maj=4.4km s-min=3.3km az=40.4*
ISC 07 17:04:05.2±1.0, **13°.93N**±0°.05×**91°.92W**±0°.05, **h44km**±9km, **n697**, **σ1s50/712**, **mb4.9**/199, **2C-1D**, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.03**	**341**	*e*P	**Pn**	**17 04 20.9**	**-2.3**
THIG				*e*S	**Sn**	**17 04 36.1**	**-0.4**
APG	**El Apazote**	**1.77**	**53**	Pg	**Pn**	**17 04 36.2**	**+2.5**
	333nm,0.3s,baz=196,slow=8.5,SNR=24						
APG				Sn	**Sn**	**17 04 56.8**	**+1.7**
	203nm,0.3s,baz=287,slow=20,SNR=5.5						
APG				Lg	Lg	17 05 03.7	
	183nm,0.3s,baz=287,slow=24,SNR=5.9						
PCIG		**2.16**	**325**	*e*P	**Pn**	**17 04 36.6**	**-2.2**
PCIG				*e*S	**Sn**	**17 05 01.9**	**-2.5**
RTR	**El Retiro**	**2.21**	**91**	*e*P	**Pn**	**17 04 40.5**	**+0.9**
SBLS	**San Blas**	**2.24**	**92**	*e*P	**Pn**	**17 04 40.2**	**+0.2**
CCIG	**Comitan**	**2.35**	**355**	*e*Pn	**Pn**	**17 04 44.0**	**+2.5**
CCIG	**Comitan**	**2.35**	**355**	*e*P	**Pn**	**17 04 40.4**	**-1.1**
CCIG				*e*S	**Sn**	**17 05 11.3**	**+2.1**
MTO3	**Montecristo**	**2.53**	**79**	*e*P	**Pn**	**17 04 44.8**	**+0.8**
COLS	**Colinas**	**2.56**	**96**	*e*P	**Pn**	**17 04 44.6**	**+0.1**
UEES	**San Salvador**	**2.61**	**94**	*e*P	**Pn**	**17 04 45.3**	**+0.2**
UEES				*e*S	**Sn**	**17 05 20.4**	**+4.8**
SNET	**Serv Nac Est T**	**2.63**	**95**	*e*Pn	**Pn**	**17 04 45.6**	**+0.4**
SNET	**Serv Nac Est T**	**2.63**	**95**	*e*P	**Pn**	**17 04 45.6**	**+0.4**
CUSC	**San Salvador**	**2.66**	**94**	*e*P	**Pn**	**17 04 46.4**	**+0.6**
CUSC				IAML		17 05 29.8	
	comp=Z,2μm,0.3s						
LFU	**La Fuente**	**2.74**	**93**	*e*P	**Pn**	**17 04 47.3**	**+0.5**
LFU				*e*S	**Sn**	**17 05 25.1**	**+6.5**
LFRS	**El Faro**	**2.80**	**96**	*e*P	**Pn**	**17 04 47.6**	**0.0**
LBRS	**Las Brisas**	**2.81**	**94**	*e*P	**Pn**	**17 04 48.1**	**+0.4**
PAVA	**Las Pavas**	**2.91**	**94**	*e*P	**Pn**	**17 04 49.8**	**+0.7**
TGIG		**3.06**	**338**	*e*P	**Pn**	**17 04 49.4**	**-1.7**
TGIG				*i* S	**Sn**	**17 05 26.6**	**+0.1**
CMIG	**Matias Romero**	**4.24**	**318**	Pn	**Pn**	**17 05 08.6**	**+1.2**
	comp=Z,90nm,0.3s,baz=134,slow=10,SNR=17						
CMIG				Sn	**Sn**	**17 05 53.8**	**-2.0**
	comp=Z,134nm,0.3s,baz=136,slow=21,SNR=6.6						
ESTN	**Estel**	**5.46**	**98**	*e*Pn	**Pn**	**17 05 24.8**	**+0.5**
BOAB	**BOACO BROADBAN**	**6.27**	**103**	*e*Pn	**Pn**	**17 05 32.8**	**-2.4**
TEIG	**Tepich**	**7.17**	**29**	*e*Pn	Pn	**17 05 48.9**	**+1.3**
TLIG	**Tlapa**	**7.34**	**300**	*e*Pn	**Pn**	**17 05 49.9**	**-0.2**
JTS	**JuntasAbangare**	**7.72**	**117**	Pn	**Pn**	**17 05 51.3**	**-3.8**
	comp=Z,0.5nm,0.3s,baz=314,slow=23,SNR=2.0						
JTS				Sn	**Sn**	**17 07 14.0**	**-7.3**
	baz=188,slow=10,SNR=1.5						
JTS				Lg	Lg	17 08 00.3	
	baz=216,slow=23,SNR=7.5						
JTS	**JuntasAbangare**	**7.72**	**117**	*e*P	**Pn**	**17 05 56.5**	**+1.4**
MOIG	**Morelia**	**10.55**	**304**	*e*Pn	**Pn**	**17 06 36.5**	**+2.4**
JRQG	**Juriquilla Cam**	**10.56**	**311**	*e*Pn	**Pn**	**17 06 36.7**	**+2.4**
ZAIG	**Zacatecas**	**13.39**	**313**	*e*Pn	**Pn**	**17 07 15.6**	**+2.6**
MTDJ	**Mount Denham**	**14.47**	**71**	*e*Pn	**Pn**	**17 07 27.3**	**-0.2**
833A	**Chaparral WMA,**	**15.92**	**335**	*e*Pn	**Pn**	**17 07 47.5**	**+1.3**
	comp=Z,52nm,0.9s						
833A	**Chaparral WMA,**	**15.92**	**335**	P	**Pn**	**17 07 47.3**	**+1.0**
	baz=152,SNR=6.6						
545A	**Edgard**	**16.09**	**4**	P	**Pn**	**17 07 49.5**	**+1.1**
	baz=184						
HKT	**Hockley**	**16.35**	**348**	*e*Pn	**P**	**17 07 53.4**	**-0.5**
	comp=Z,97nm,1.8s						
HKT	**Hockley**	**16.35**	**348**	*e*P	**P**	**17 07 53.4**	**-0.5**
HKT				pmax	pmax		
	comp=Z,97nm,1.8s						
958A	**Wauchula**	**16.57**	**33**	P	**Pn**	**17 07 55.1**	**+0.6**
	baz=216						
857A	**Zephyrhills**	**16.88**	**31**	P	**P**	**17 07 59.6**	**-0.3**
	baz=213						
DBBC	**Dabeiba**	**16.90**	**112**	*e*P	**Pn**	**17 07 55.5**	**-3.4**
060A	**Indiantown**	**16.93**	**38**	P	**P**	**17 08 01.5**	**+1.0**
	baz=221						
GTBY	**Guantanamo Bay**	**17.15**	**67**	*e*Pn	**P**	**17 08 04.7**	**+1.8**
	comp=Z,44nm,1.1s						
341A	**Kurthwood**	**17.36**	**356**	P	**P**	**17 08 06.1**	**+0.9**
	baz=175						
342A	**Flagon Creek P**	**17.37**	**359**	*e*Pn	**Pn**	**17 08 04.7**	**+0.3**
	comp=Z,70nm,1.0s						
342A	**Flagon Creek P**	**17.37**	**359**	P	**P**	**17 08 06.4**	**+1.1**
	baz=178						
859A	**Kempfer Cattle**	**17.41**	**34**	P	**P**	**17 08 07.0**	**+1.3**
	baz=218						
655A	**Horseshoe Beac**	**17.46**	**26**	P	**Pn**	**17 08 05.0**	**-0.5**
	baz=208						
344A	**Westbrook Farm**	**17.48**	**3**	P	**P**	**17 08 07.2**	**+0.7**
	baz=183						
757A	**Oxford**	**17.51**	**30**	P	**P**	**17 08 07.3**	**+0.4**
	baz=213						
435B	**Jarrell**	**17.56**	**344**	*e*Pn	**P**	**17 08 08.3**	**+0.9**
	comp=Z,38nm,0.8s						
435B	**Jarrell**	**17.56**	**344**	P	**P**	**17 08 08.6**	**+1.1**
	baz=161						
553A	**Crawfordville**	**17.60**	**22**	P	**P**	**17 08 09.3**	**+1.5**
	baz=204						
656A	**Willston**	**17.65**	**28**	*e*Pn	**P**	**17 08 10.2**	**+1.7**
	comp=Z,112nm,0.8s						
656A	**Willston**	**17.65**	**28**	P	**P**	**17 08 08.6**	**+0.2**
	baz=211						
347A	**Saraland**	**17.66**	**10**	P	**P**	**17 08 09.6**	**+1.0**
	baz=190						
BRAL	**Brewton**	**17.73**	**14**	Pn	**Pn**	**17 08 05.8**	**-3.1**
	comp=Z,72nm,0.8s						
BRAL	**Brewton**	**17.73**	**14**	P	**P**	**17

baz=205
251A Midway 19.04 17 P Pn 17 08 24.4 -0.3
baz=199
456A Hilliard 19.04 27 P Pn 17 08 24.6 -0.2
baz=210
148A Greensboro 19.05 11 P Pn 17 08 24.4 -0.4
baz=192
SOTA Rioblanco 19.14 126 eP Pn 17 08 29.9 +3.2
252A Lumpkin 19.15 19 P Pn 17 08 25.6 -0.4
baz=201,SNR=5.9
149A Jones 19.16 13 P Pn 17 08 25.8 -0.5
baz=195,SNR=9.7
PCON Cinco Dias 19.19 126 eP Pn 17 08 28.5 +1.2
Z41A Richland Creek 19.26 358 eP P 17 08 26.0 -0.1
comp=Z,70nm,0.8s
Z41A Richland Creek 19.26 358 P P 17 08 26.5 +0.5
baz=177
Z42A Norrel Spur, H 19.26 360 P P 17 08 26.7 +0.7
baz=179
Z40A Long Farm, Mag 19.29 356 P P 17 08 27.0 +0.7
baz=175
150A Eclectic 19.36 15 P Pn 17 08 28.8 +0.2
baz=197,SNR=9.1
151A Opelika 19.47 17 P Pn 17 08 29.4 -0.4
baz=199,SNR=10
Z47A Carrollton 19.50 10 P Pn 17 08 29.8 -0.4
baz=191
356A Blackshear 19.51 26 P Pn 17 08 30.4 0.0
baz=209
LRAL Lakeview Retre 19.54 12 eP Pn 17 08 31.4 +0.7
comp=Z,55nm,0.9s
LRAL Lakeview Retre 19.54 12 P P 17 08 29.8 +0.6
baz=194,SNR=16
ROSC El Rosal 19.56 116 P Pn 17 08 32.8 +1.3
comp=Z,1.5nm,0.3s,baz=339,slow=10,SNR=12
ROSC El Rosal 19.56 116 eP Pn 17 08 29.9 -1.6
comp=Z,53nm,1.1s
SLBS Sierra La Lagu 19.61 302 eP Pn 17 08 31.9 +0.3
comp=Z,32nm,1.2s
PRAC Prado 19.64 120 eP Pn 17 08 30.5 -1.6
Z48A Northport 19.76 11 P P 17 08 31.9 +0.3
baz=192,SNR=9.2
152A Waverly Hall 19.78 18 eP Pn 17 08 32.8 -0.7
comp=Z,38nm,0.7s
152A Waverly Hall 19.78 18 P Pn 17 08 32.9 -0.7
baz=200
Z49A Columbiana 19.80 13 P Pn 17 08 33.5 -0.2
baz=195,SNR=17
Y41A Eaglette Beard 19.87 358 P P 17 08 32.7 0.0
baz=178
ABTX Abilene, Hawle 19.90 341 eP P 17 08 34.2 +1.1
comp=Z,52nm,1.0s
ABTX Abilene, Hawle 19.90 341 P P 17 08 34.2 +1.1
baz=157,SNR=10.0
Y45A Yeager Farm, C 19.96 6 P P 17 08 33.1 -0.7
baz=186
PAMC Pamplona, Colo 19.99 107 eP Pn 17 08 35.9 -0.7
Z50A Ashland 20.00 15 eP P 17 08 34.6 +0.4
comp=Z,38nm,0.9s
Z50A Ashland 20.00 15 P Pn 17 08 35.3 -0.9
baz=197,SNR=12
Y44A Strider, Charl 20.00 4 P P 17 08 33.9 -0.2
baz=184
Y40A Okolona 20.03 357 P P 17 08 34.3 -0.2
baz=176
Y46A Houston 20.06 7 P P 17 08 35.2 +0.4
baz=188,SNR=7.2
LPIG La Paz 20.09 303 P Pn 17 08 37.6 +0.4
comp=Z,19nm,0.3s,baz=202,slow=5.4,SNR=5.1
CHIC Chingaza 20.18 116 eP Pn 17 08 38.6 -0.2
RUSC La Rusia 20.19 111 eP Pn 17 08 37.3 -1.8
Y47A UCPARC, Winfie 20.23 10 P P 17 08 37.5 +0.9
baz=191,SNR=8.5
FLOC Florencia 20.23 126 eP Pn 17 08 38.0 -1.2
Z51A Franklin 20.25 17 P Pn 17 08 38.9 -0.3
baz=199
154A Montrose 20.27 22 eP Pn 17 08 38.1 -1.2
comp=Z,108nm,0.8s
154A Montrose 20.27 22 P P 17 08 37.6 +0.6
baz=205,SNR=6.4
Z52A Williamson 20.36 18 P P 17 08 39.1 +1.0
baz=201
Y48A Jasper 20.36 11 P P 17 08 38.1 +0.1
baz=193
Y49A Blount Mountai 20.46 13 eP Pn 17 08 41.1 -0.6
comp=Z,54nm,1.0s
Y49A Blount Mountai 20.46 13 P P 17 08 39.8 +0.7
baz=195
X40A Basin Creek Fa 20.48 358 eP P 17 08 40.1 +0.7
comp=Z,95nm,1.5s
X40A Basin Creek Fa 20.48 358 P P 17 08 39.3 -0.1
baz=177
155A Kite 20.51 23 P P 17 08 39.8 +0.1
baz=206,SNR=7.3
X45A UM Field Stati 20.53 6 P P 17 08 40.2 +0.3
baz=186
MIAR Mount Ida 20.58 356 eP P 17 08 40.4 -0.1
comp=Z,73nm,1.1s
MIAR Mount Ida 20.58 356 eP P 17 08 40.4 -0.1
MIAR pmax pmax
comp=Z,73nm,1.1s
MIAR Mount Ida 20.58 356 P P 17 08 40.2 -0.3
baz=175
OXF Oxford 20.62 6 eP P 17 08 41.0 +0.2
comp=Z,115nm,1.1s
OXF Oxford 20.62 6 eP P 17 08 41.0 +0.2
OXF pmax pmax
comp=Z,115nm,1.1s
OXF Oxford 20.62 6 P P 17 08 40.8 -0.1
baz=186
Y50A Piedmont 20.65 15 P P 17 08 42.3 +1.1
baz=197
Z53A Monticello 20.71 20 P P 17 08 41.8 0.0
baz=203,SNR=14
X46A Booneville 20.76 8 P P 17 08 41.7 -0.7
baz=189
UALR University of 20.76 359 eP P 17 08 43.2 +0.9
comp=Z,262nm,1.8s
X37A Clayton 20.80 352 eP Pn 17 08 44.6 -1.1
comp=Z,87nm,1.2s
X47A Russelville 20.82 9 P P 17 08 43.3 +0.2
baz=191,SNR=5.2
Y51A Rockmart 20.83 16 P P 17 08 43.8 +0.6
baz=198,SNR=8.8
GOGA Godfrey 20.86 20 eP P 17 08 44.4 +0.9
comp=Z,45nm,1.1s
GOGA Godfrey 20.86 20 eP P 17 08 44.4 +0.9
GOGA pmax pmax
comp=Z,45nm,1.1s
GOGA Godfrey 20.86 20 P P 17 08 44.3 +0.8
baz=203,SNR=10.0
X48A Hartselle 20.90 11 eP P 17 08 44.5 +0.6
comp=Z,60nm,0.8s
X48A Hartselle 20.90 11 P P 17 08 44.2 +0.3
baz=193,SNR=19
Z54A Sparta 20.92 22 P P 17 08 44.6 +0.4
baz=205,SNR=8.1
Y52A Lilburn 21.09 18 eP P 17 08 47.0 +1.0
comp=Z,34nm,0.7s
Y52A Lilburn 21.09 18 P P 17 08 46.1 +0.1
baz=201,SNR=6.6
X49A Woodville 21.11 13 P P 17 08 46.8 +0.7
baz=195,SNR=15
W41B Gary Mavity, V 21.15 359 eP P 17 08 48.8 +2.1
comp=Z,35nm,1.1s
W41B Gary Mavity, V 21.15 359 P P 17 08 46.8 +0.2
baz=179
X50B Fort Payne 21.21 14 P P 17 08 47.8 +0.5
baz=196,SNR=12
Y53A Monroe 21.23 19 P P 17 08 48.4 +0.9
baz=202
W39A Magazine 21.24 356 eP P 17 08 49.8 +2.2
comp=Z,82nm,1.5s
W39A Magazine 21.24 356 P P 17 08 47.6 +0.1
baz=175
PLAL Pickwick Lake 21.25 9 eP P 17 08 48.9 +1.3
comp=Z,38nm,1.2s
WHAR Wooly Hollow 21.27 359 eP P 17 08 50.1 +2.3
comp=Z,35nm,1.1s
W46A Michie 21.35 8 P P 17 08 49.0 +0.3
baz=189
GDL2 Guadalupe Moun 21.45 330 eP P 17 08 51.9 +1.9
X51A Calhoun 21.52 16 P P 17 08 51.6 +1.1
baz=198
Y54A Tignall 21.54 21 P P 17 08 50.7 0.0
baz=204,SNR=6.8
MNTX Cornudas Mount 21.56 327 eP P 17 08 51.8 +0.7
comp=Z,55nm,0.8s
MNTX Cornudas Mount 21.56 327 P P 17 08 51.7 +0.6
baz=142,SNR=44
W47A Westpoint 21.59 10 P P 17 08 50.9 -0.4
baz=191,SNR=6.9
W48A Pulaski 21.59 11 P P 17 08 51.2 -0.1
baz=193,SNR=9.2
WMOK Wichita Mounta 21.62 345 eP P 17 08 51.0 -0.8
comp=Z,54nm,1.3s
WMOK Wichita Mounta 21.62 345 eP P 17 08 51.0 -0.8
WMOK pmax pmax
comp=Z,54nm,1.3s
WMOK Wichita Mounta 21.62 345 P P 17 08 50.9 -0.8
baz=161,SNR=16
W49A Belvidere 21.71 13 P P 17 08 52.6 +0.1
baz=194,SNR=10
V41A Mountainview 21.76 359 P P 17 08 52.2 -1.0
baz=179
V42A Cord 21.79 1 P P 17 08 52.3 -1.1
baz=181
X52A Dahlonega 21.83 18 P P 17 08 54.0 +0.1
baz=201
SWET Sewanee 21.87 13 eP P 17 08 55.2 +0.8
comp=Z,109nm,1.3s
NHSC New Hope 21.88 27 P P 17 08 55.5 +1.0
baz=211
X53A Estanollee 21.92 19 P P 17 08 54.8 -0.1
baz=202
W50A Signal Mountai 22.00 15 eP P 17 08 56.5 +0.7
comp=Z,41nm,0.9s
W50A Signal Mountai 22.00 15 P P 17 08 55.2 -0.6
baz=197
V46A Holladay 22.05 8 P P 17 08 55.0 -1.1
baz=189,SNR=15
W51A Cleveland 22.11 16 P P 17 08 57.4 +0.6
baz=198
TUL1 Leonard 22.16 352 eP P 17 08 58.0 +0.6
comp=Z,161nm,1.8s
TUL1 Leonard 22.16 352 P P 17 08 56.6 -0.8
baz=170
V47A Nunnelly 22.16 10 P P 17 08 56.9 -0.5
baz=191
V48A Smith Brothers 22.20 11 eP P 17 08 58.2 +0.4
comp=Z,24nm,0.7s
V48A Smith Brothers 22.20 11 P P 17 08 57.1 -0.7
baz=195,SNR=6.9
MSTX Muleshoe 22.25 336 eP P 17 08 58.5 0.0
comp=Z,79nm,1.1s
MSTX Muleshoe 22.25 336 P P 17 08 58.3 -0.2
baz=151,SNR=25
W52A Murphy 22.27 18 eP P 17 09 01.1 +2.4
comp=Z,67nm,1.4s
W52A Murphy 22.27 18 P P 17 08 59.8 +1.1
baz=200
U41A Viola 22.32 0 P P 17 08 58.1 -1.1
baz=180
HHAR Hobbs 22.33 356 eP P 17 08 59.0 -0.3
comp=Z,32nm,1.2s
U42A Revenden 22.34 1 P P 17 08 58.2 -1.1
baz=181,SNR=14
U40A Yellville 22.35 358 P P 17 08 58.5 -0.9
baz=177
U43A Rector 22.39 3 P P 17 08 58.8 -1.0
baz=183
V49A McMinnville 22.41 13 P P 17 08 59.3 -0.8
baz=195,SNR=7.0
WVT Waverly 22.41 9 eP P 17 08 58.5 -1.6
comp=Z,21nm,0.7s
WVT Waverly 22.41 9 eP P 17 08 58.5 -1.6
WVT pmax pmax
comp=Z,21nm,0.7s
WVT Waverly 22.41 9 P P 17 08 57.6 -2.5
baz=190
CPCT Cooper Cave 22.44 16 eP P 17 09 01.1 +0.6
comp=Z,110nm,1.5s
JSC Jenkinsville 22.45 24 eP P 17 09 01.0 +0.5
comp=Z,39nm,1.3s
BG3 Lake Jocassee 22.49 20 eP P 17 09 01.4 +0.4
comp=Z,32nm,1.1s
V50A Pikevile 22.50 15 P P 17 09 00.7 -0.4
baz=197
U45A Rockin P Farm, 22.50 7 P P 17 08 59.9 -1.2
baz=188
W53A Cullowhee 22.58 19 P P 17 09 02.0 0.0
baz=202
U46A Springville 22.59 8 P P 17 09 00.4 -1.5
baz=189
AMTX Amarillo 22.65 339 eP P 17 09 02.8 0.0
comp=Z,109nm,0.6s
AMTX Amarillo 22.65 339 P P 17 09 02.5 -0.2
baz=154
PAULI Pauline 22.72 22 eP P 17 09 04.7 +1.3
comp=Z,52nm,1.4s
PBMO Poplar Bluff 22.79 3 eP P 17 09 02.9 -1.2
comp=Z,57nm,1.1s
U47A Clarksville 22.80 10 P P 17 09 03.1 -1.1
baz=191
V51A Loudon 22.82 16 eP P 17 09 04.9 +0.5
comp=Z,45nm,1.0s
V51A Loudon 22.82 16 P P 17 09 03.1 -1.4
baz=199
TKL Tuckaleechee C 22.84 17 P P 17 09 04.7 0.0
comp=Z,10nm,0.5s,baz=192,slow=14,SNR=16
TKL Tuckaleechee C 22.84 17 eP P 17 09 04.1 -0.6
comp=Z,115nm,1.5s
U48A Cassie Pea, Po 23.00 11 P P 17 09 05.0 -1.2
baz=193
T42A Van Buren 23.02 2 eP P 17 09 04.5 -1.9
comp=Z,21nm,1.0s
T42A Van Buren 23.02 2 P P 17 09 05.1 -1.3
baz=182
T41A Mountain View 23.02 0 P P 17 09 05.3 -1.2
baz=180
V52A Sevierville 23.07 17 eP P 17 09 07.0 0.0
comp=Z,34nm,1.1s
V52A Sevierville 23.07 17 P P 17 09 06.7 -0.3
baz=200
T43A Greenville 23.10 3 P P 17 09 05.7 -1.6
baz=184,SNR=8.9
V53A Saluda 23.15 19 eP P 17 09 08.0 +0.1
comp=Z,40nm,1.0s
V53A Saluda 23.15 19 P P 17 09 07.9 +0.1
baz=202,SNR=6.1
U49A Red Boiling Sp 23.15 13 P P 17 09 07.2 -0.6
baz=195,SNR=9.1
T44A Benton 23.15 5 P P 17 09 06.3 -1.5
baz=185
SRIG Santa Rosalia 23.17 308 eP P 17 09 10.7 +2.7
comp=Z,81nm,1.4s
KMSC Kings Mountain 23.18 22 eP P 17 09 08.3 +0.2
comp=Z,59nm,1.3s
KMSC Kings Mountain 23.18 22 P P 17 09 08.1 0.0
baz=206,SNR=6.2
T45A Paducah 23.18 7 eP P 17 09 07.0 -1.0
comp=Z,92nm,0.6s
T45A Paducah 23.18 7 P P 17 09 07.9 -0.1
baz=188
U50A Jamestown 23.27 15 P P 17 09 08.1 -0.9
baz=197
T46A Princeton 23.30 8 P P 17 09 08.2 -0.9
baz=189,SNR=9.3
T47A Sharon Grove 23.36 10 eP P 17 09 09.2 -0.6
comp=Z,86nm,1.0s
T47A Sharon Grove 23.36 10 P P 17 09 08.5 -1.3
baz=191
U51A La Follette 23.45 16 P P 17 09 10.2 -0.6
baz=199,SNR=7.7
121A Cookes Peak, D 23.51 325 P P 17 09 12.5 +1.0
baz=138,SNR=37
S41A Jillco Farms, 23.56 0 P P 17 09 10.5 -1.3
baz=180,SNR=6.1
319A Douglas 23.56 320 eP P 17 09 13.8 +1.9
comp=Z,78nm,1.1s
S43A Fulton Ridge, 23.60 4 P P 17 09 10.2 -1.9
baz=184,SNR=7.0
T48A Bowling Green 23.61 11 P P 17 09 11.3 -0.8
baz=193
U52A Thorn Hill 23.65 17 P P 17 09 11.8 -0.8
baz=200
TZTN Tazewell 23.74 17 eP P 17 09 13.7 +0.2
comp=Z,20nm,0.6s
TZTN Tazewell 23.74 17 P P 17 09 12.6 -0.8
baz=200
S42A Caledonia 23.76 2 P P 17 09 11.6 -2.0
baz=182,SNR=5.5
T49A Edmonton 23.77 13 P P 17 09 12.3 -1.4
baz=195
S44A Carbondale 23.79 5 P P 17 09 12.6 -1.2
baz=186,SNR=24
SIUC Southern Illin 23.81 5 eP P 17 09 13.3 -0.8
comp=Z,107nm,0.8s
S45A Carrier Mills 23.84 7 P P 17 09 12.9 -1.4
baz=188
T50A Nancy 23.85 14 P P 17 09 12.9 -1.5
baz=197
U53A Fall Branch 23.86 19 P P 17 09 13.7 -0.9
baz=202,SNR=5.4
S46A Don Dixon Farm 23.95 8 P P 17 09 15.0 -0.3
baz=190
T51A Gray 24.02 16 P P 17 09 15.4 -0.6
baz=199
CCM Cathedral Cave 24.04 1 eP P 17 09 15.6 -0.6
comp=Z,29nm,1.0s
CCM Cathedral Cave 24.04 1 eP P 17 09 15.6 -0.6
CCM pmax pmax
comp=Z,29nm,1.0s
CCM Cathedral Cave 24.04 1 P P 17 09 15.6 -0.6
baz=181
BNM Barren Site 24.14 329 eP P 17 09 19.4 +1.9
LPM Los Pinos Moun 24.27 329 eP P 17 09 19.2 +0.6
R42A Luebbering 24.27 2 P P 17 09 17.1 -1.2
baz=182,SNR=6.1
R41A Rosebud 24.27 1 P P 17 09 17.1 -1.2
baz=181
R43A Red Bud 24.31 4 P P 17 09 17.6 -1.0
baz=184,SNR=11
LENM Lemitar 24.33 328 eP P 17 09 21.1 +2.0
R44A Waltonville 24.35 5 P P 17 09 17.6 -1.4
baz=186
T52A Hallie 24.42 17 P P 17 09 18.9 -0.9
baz=201
R45A Skylar, Fairfi 24.48 7 P P 17 09 19.1 -1.1
baz=188,SNR=15
S49A Springfield 24.48 13 P P 17 09 19.1 -1.1
baz=195
R46A Gibon Southern 24.50 8 P P 17 09 19.2 -1.2
baz=190
S50A Richmond 24.58 14 P P 17 09 20.3 -0.9
baz=197
LAZ Ladron 24.60 329 eP P 17 09 23.7 +2.1
ANMO Albuquerque 24.70 330 P P 17 09 24.1 +1.6
comp=Z,17nm,0.8s,baz=149,slow=11,SNR=31
ANMO Albuquerque 24.70 330 eP P 17 09 24.0 +1.5
comp=Z,21nm,0.8s
ANMO Albuquerque 24.70 330 i P P 17 09 22.6 +0.1
ANMO pmax pmax
comp=Z,20nm,0.9s
ANMO Albuquerque 24.70 330 P P 17 09 23.4 +0.9
baz=144
WCI Wyandotte Cave 24.71 11 eP P 17 09 21.6 -0.7
comp=Z,55nm,0.8s
WCI Wyandotte Cave 24.71 11 eP P 17 09 21.6 -0.7
WCI pmax pmax
comp=Z,55nm,0.8s
WCI Wyandotte Cave 24.71 11 P P 17 09 20.7 -1.6
baz=193
R47A Wooly Knot Far 24.74 10 P P 17 09 21.6 -0.9
baz=192
S51A Beattyville 24.75 16 eP P 17 09 24.1 +1.4
comp=Z,22nm,0.8s
S51A Beattyville 24.75 16 P P 17 09 22.3 -0.4
baz=199
ATAH Atahualpa 24.87 146 P P 17 09 22.1 -2.3
comp=Z,5.4nm,0.7s,baz=308,slow=17,SNR=2.5
Q42A Golden Eagle 24.91 3 P P 17 09 22.8 -1.3
baz=183
Q41A Truxton 24.93 1 P P 17 09 23.2 -1.1
baz=181,SNR=5.9
OLIL Olney 24.94 7 eP P 17 09 23.5 -0.8
comp=Z,94nm,0.9s
R48A Northridge Ran 24.96 11 P P 17 09 24.2 -0.4
baz=194
Q43A New Douglas 24.99 4 P P 17 09 24.0 -0.8
baz=185,SNR=5.5
R49A Shelbyville 24.99 13 P P 17 09 23.9 -1.0
baz=195
Q44A Meyer Farm, Va 25.01 5 P P 17 09 22.7 -2.3
baz=186,SNR=6.3
Q45A Warren Harvey, 25.09 7 P P 17 09 23.7 -2.1
baz=188,SNR=7.5
R50A Paris 25.17 14 P P 17 09 25.0 -1.5
baz=197
R51A Hillsboro 25.38 15 P P 17 09 27.4 -0.9
baz=199
Q47A Bedord North L 25.38 10 P P 17 09 27.3 -1.1
baz=192
KSU1 Kansas State U 25.41 351 eP P 17 09 28.2 -0.4
comp=Z,27nm,0.7s
KSU1 Kansas State U 25.41 351 P P 17 09 27.5 -1.2
baz=169
Q48A North Vernon 25.50 11 P P 17 09 28.6 -0.8
baz=194
P42A Winchester 25.59 3 eP P 17 09 29.4 -0.8
comp=Z,28nm,1.0s
P42A Winchester 25.59 3 P P 17 09 29.3 -1.0
baz=183
P44A Sand Creek, Wi 25.60 6 P P 17 09 29.3 -1.1
baz=187
P41A Barry, Barry 25.66 2 P P 17 09 30.2 -0.7
baz=182
T25A Trinidad 25.66 336 eP P 17 09 33.2 +2.0
comp=Z,101nm,1.6s
T25A Trinidad 25.66 336 P P 17 09 32.3 +1.0
baz=151
P43A Skaggs, Pawnee 25.70 4 P P 17 09 30.1 -1.1
baz=185
Q49A Aurora 25.74 13 P P 17 09 30.5 -1.1
baz=195
P45A Graceland, Par 25.76 7 eP P 17 09 30.9 -1.0
comp=Z,41nm,0.8s
P45A Graceland, Par 25.76 7 P P 17 09 30.6 -1.2
baz=188,SNR=11
Q50A Georgetown 25.79 14 P P 17 09 30.8 -1.3
baz=198
P46A Rosedale 25.92 8 P P 17 09 32.1 -1.1
baz=190,SNR=9.3
P47A Martinsville 25.94 10 P P 17 09 32.9 -0.6
baz=192
P48A Milroy 26.07 12 P P 17 09 33.3 -1.4
baz=194
Q51A Peebles 26.12 15 eP P 17 09 35.1 0.0
comp=Z,25nm,0.8s
Q51A Peebles 26.12 15 P P 17 09 34.6 -0.5
baz=199
X18A Snowflake 26.20 325 eP P 17 09 38.0 +1.9
comp=Z,48nm,1.5s
214A Organ Pipe Nat 26.22 317 P P 17 09 37.4 +1.3
baz=128,SNR=7.4
Q52A Bidwell 26.35 17 P P 17 09 36.4 -0.8
baz=201
O45A Potomac 26.48 7 P P 17 09 37.3 -1.0
baz=189
SDCO Great Sand Dun 26.62 335 eP P 17 09 41.7 +1.8
comp=Z,27nm,1.3s
SDCO Great Sand Dun 26.62 335 P P 17 09 40.5 +0.6
baz=149,SNR=7.5
P51A Williamsport 26.62 15 eP P 17 09 38.9 -0.8
comp=Z,91nm,1.4s
P51A Williamsport 26.62 15 P P 17 09 38.5 -1.1
baz=199
SFIN Lafayette 26.69 8 P P 17 09 37.5 -2.6
baz=190
O47A Sheridan 26.69 10 P P 17 09 38.4 -1.8
baz=192,SNR=5.6
N41A Harden Midland 26.69 2 P P 17 09 39.1 -1.2
baz=182
KSCO Kaye Shedlock' 26.71 341 eP P 17 09 41.8 +1.2
comp=Z,43nm,1.2s
KSCO Kaye Shedlock' 26.71 341 P P 17 09 39.6 -1.0
baz=156
N40A Mertquake, Sal 26.86 1 P P 17 09 40.8 -0.9
baz=180
O48A Farmland 26.89 12 P P 17 09 40.2 -1.8
baz=194
N44A Piper City 26.97 6 P P 17 09 41.5 -1.2
baz=188
X16A Lo Mia Camp, P 26.98 322 eP P 17 09 45.5 +2.3
comp=Z,8.1nm,0.8s
R58B Mineral 26.99 25 P P 17 09 42.6 -0.3
baz=211
N43A Stutzman Famil 27.02 5 P P 17 09 42.0 -1.1
baz=186
N45A Kentland 27.09 7 P P 17 09 42.3 -1.5
baz=189
P53A Whipple 27.10 18 P P 17 09 43.3 -0.6
baz=202
S22A 4UR Ranch, Cre 27.17 333 eP P 17 09 47.0 +2.0

S22A 4UR Ranch, Cre 27.17 333 P P 17 09 46.0 +1.1
baz=147,SNR=15
N46A Monticello 27.24 9 P P 17 09 44.0 -1.1
baz=191
ACSO Alum Creek Sta 27.35 15 eP P 17 09 45.3 -0.8
comp=Z,45nm,1.3s
ACSO Alum Creek Sta 27.35 15 P P 17 09 45.3 -0.8
baz=199
113A Mohawk Valley, 27.35 317 eP P 17 09 48.1 +1.9
comp=Z,14nm,1.1s
O51A Pataskala 27.37 16 P P 17 09 43.9 -2.5
baz=200
M41A Milan 27.37 2 P P 17 09 45.1 -1.2
baz=182
N47A Urbana 27.39 10 P P 17 09 44.5 -2.1
baz=193
MVCO Mesa Verde 27.50 330 eP P 17 09 49.5 +1.7
comp=Z,80nm,1.1s
MVCO Mesa Verde 27.50 330 P P 17 09 49.1 +1.3
baz=143,SNR=29
N48A Decatur 27.50 11 P P 17 09 45.9 -1.5
baz=194
M43A Waltham Townsh 27.53 5 P P 17 09 45.8 -1.9
baz=186
O52A Adamsville 27.55 17 P P 17 09 47.1 -0.9
baz=201
M44A Midewin, Midew 27.57 6 P P 17 09 46.5 -1.5
baz=188
Y14A Wickenburg 27.61 320 eP P 17 09 50.2 +1.6
comp=Z,10nm,1.1s
WUAZ Wupatki 27.72 324 eP P 17 09 51.7 +2.0
comp=Z,20nm,0.9s
WUAZ Wupatki 27.72 324 P P 17 09 51.3 +1.6
baz=136,SNR=12
L40A Anamosa 28.04 1 eP P 17 09 53.3 +1.0
comp=Z,19nm,1.1s
L40A Anamosa 28.04 1 P P 17 09 51.1 -1.2
baz=181
L42A Oliver, Polo 28.04 4 P P 17 09 51.3 -1.0
baz=184
L39A Vinton 28.09 360 P P 17 09 51.4 -1.4
baz=180
GLA Glamis 28.23 316 eP P 17 09 55.2 +1.0
comp=Z,24nm,1.2s
GLA Glamis 28.23 316 eP P 17 09 55.2 +1.0
GLA pmax pmax
comp=Z,24nm,1.2s
GLA Glamis 28.23 316 P P 17 09 55.0 +0.8
baz=127
PV01 Paradox Valley 28.27 332 eP P 17 09 57.3 +2.6
OGNE Ogallala 28.32 344 eP P 17 09 55.5 +0.6
comp=Z,29nm,1.0s
OGNE Ogallala 28.32 344 P P 17 09 54.6 -0.4
baz=159
SMCO Snowmass 28.44 335 eP P 17 09 57.9 +1.5
comp=Z,37nm,1.9s
ISCO Idaho Springs 28.44 337 eP P 17 09 58.0 +1.7
comp=Z,11nm,1.3s
ISCO Idaho Springs 28.44 337 eP P 17 09 58.0 +1.7
ISCO pmax pmax
comp=Z,11nm,1.3s
ISCO Idaho Springs 28.44 337 P P 17 09 56.1 -0.1
baz=151
Y12C Blythe 28.46 318 P P 17 09 57.4 +1.3
baz=128
PV05 Paradox Valley 28.48 331 eP P 17 09 58.5 +2.0
PV03 Paradox Valley 28.50 331 eP P 17 09 58.5 +1.8
L47A Sherwood 28.55 11 P P 17 09 54.6 -2.2
baz=193
PDMCI Parker Dam,Lak 28.56 319 P P 17 09 58.5 +1.5
baz=130
L48A N Adams 28.66 12 P P 17 09 56.8 -1.0
baz=195
PV10 Paradox Valley 28.69 331 eP P 17 09 59.8 +1.4
O56A Blue Knob Stat 28.73 22 P P 17 09 57.5 -1.1
baz=207
PV09 Paradox Valley 28.83 331 eP P 17 10 01.8 +2.0
IKP In-Ko-Pah, Jac 28.88 314 P P 17 10 00.4 +0.5
baz=125
N54A Moraine State 28.88 19 P P 17 09 58.2 -1.6
baz=204
U15A North Rim 28.89 324 eP P 17 10 02.5 +2.2
comp=Z,9.0nm,0.8s
W13A Hualapai Mount 28.92 321 eP P 17 10 02.5 +2.0
comp=Z,22nm,1.3s
BC3 Big Chuckawall 29.01 317 P P 17 10 02.3 +1.1
baz=127,SNR=12
IRM Iron Mountain 29.12 318 P P 17 10 03.3 +1.3
baz=128,SNR=7.8
SSPA Standing Stone 29.30 22 P P 17 10 02.4 -1.1
baz=208
J41A Loganville 29.38 3 P P 17 10 02.0 -2.1
baz=183
M54A Oil Creek Stat 29.48 19 P P 17 10 04.4 -0.7
baz=204
K48A Perry 29.55 12 P P 17 10 03.5 -2.1
baz=195
BELC Belle Mtn. Jos 29.58 317 P P 17 10 07.4 +1.1
baz=127
KNB Kanab 29.61 325 eP P 17 10 08.8 +2.3
comp=Z,27nm,1.0s
KNB Kanab 29.61 325 eP P 17 10 08.8 +2.3
KNB pmax pmax
comp=Z,27nm,1.0s
PKCU Pink Cliffs 29.63 326 eP P 17 10 09.8 +3.0
comp=Z,48nm,1.4s
PFO Pinyon Flats O 29.67 316 P P 17 10 08.1 +1.1
baz=126
LDFC Landfair 29.67 319 eP P 17 10 09.7 +2.7
comp=Z,24nm,1.0s
O20A White River Ci 29.77 334 P P 17 10 08.7 +0.7
baz=147
GMRC Granite Mounta 29.84 318 P P 17 10 09.6 +1.1
baz=128,SNR=5.4
LCMT Little Creek M 29.84 324 eP P 17 10 10.8 +2.3
comp=Z,16nm,1.1s
SRU San Rafael Swe 29.98 330 eP P 17 10 11.8 +2.0
comp=Z,22nm,1.1s
SRU San Rafael Swe 29.98 330 eP P 17 10 11.8 +2.0
SRU pmax pmax
comp=Z,22nm,1.1s
MTPU Mount Pierson 30.00 327 eP P 17 10 12.7 +2.5
comp=Z,11nm,0.7s
SZCU Shurtz Canyon 30.17 325 eP P 17 10 14.0 +2.5
comp=Z,24nm,0.9s
P18A Preston Nutter 30.25 331 eP P 17 10 14.4 +2.1
comp=Z,30nm,1.3s
J49A Marlette 30.29 13 P P 17 10 10.1 -2.1
baz=197
CCUT Cedar City 30.29 325 eP P 17 10 15.6 +3.0
comp=Z,28nm,1.0s
P17A Butcher Ranch, 30.36 330 eP P 17 10 15.3 +2.2
comp=Z,43nm,1.1s
TUQ Turquoise Moun 30.41 319 P P 17 10 15.0 +1.4
baz=129
TMUT Trail Mountain 30.45 330 eP P 17 10 15.9 +1.8
comp=Z,30nm,1.1s
SHPR Sheep Range 30.62 321 eP P 17 10 17.9 +2.4
comp=Z,8.8nm,1.1s
BFSC Mount Baldy Ra 30.84 315 P P 17 10 19.0 +1.5
baz=125
SPMN Marine on St. 31.20 359 P P 17 10 19.7 -0.5
baz=178
MPU Maple Canyon 31.22 330 eP P 17 10 22.9 +2.2
comp=Z,22nm,1.0s
PSUT Pine Spring 31.26 326 eP P 17 10 23.5 +2.4
comp=Z,15nm,0.9s
G40A Rib Lake 31.27 2 P P 17 10 18.3 -2.6
baz=183
K22A Casper 31.27 339 eP P 17 10 21.2 +0.1
comp=Z,9.6nm,1.3s
BINY Binghamton 31.37 23 P P 17 10 20.4 -1.4
baz=210
NLU North Lily Min 31.39 329 eP P 17 10 24.5 +2.3
comp=Z,18nm,1.3s
EDW2 Edwards Air Fo 31.43 316 P P 17 10 24.2 +1.7
baz=125
TPNV Topopah Spring 31.57 321 eP P 17 10 26.6 +2.7
comp=Z,62nm,2.0s
TPNV Topopah Spring 31.57 321 eP P 17 10 26.6 +2.7
TPNV pmax pmax
comp=Z,62nm,2.0s
TPNV Topopah Spring 31.57 321 P P 17 10 25.8 +1.9
baz=130,SNR=6.3
LRMC Laurel Mtn Rad 31.58 317 P P 17 10 25.5 +1.6
baz=126
JLU Jordanelle 31.59 331 eP P 17 10 26.1 +2.1
comp=Z,26nm,1.4s
FURC Furnace Creek, 31.65 320 P P 17 10 26.0 +1.7
baz=129
MPMC Manual Prospec 31.80 318 P P 17 10 27.3 +1.4
baz=127,SNR=9.1
CTU Camp Tracy 31.80 331 eP P 17 10 28.1 +2.3
comp=Z,42nm,1.3s
RSSD Black Hills 31.82 343 P P 17 10 26.3 +0.3
baz=157
DUG Dugway, Tooele 31.93 329 eP P 17 10 29.4 +2.4
comp=Z,12nm,1.1s
DUG Dugway, Tooele 31.93 329 eP P 17 10 29.4 +2.4
DUG pmax pmax
comp=Z,12nm,1.1s
DUG Dugway, Tooele 31.93 329 P P 17 10 27.7 +0.8
baz=139,SNR=8.6
TCUT Toone Canyon 31.97 332 eP P 17 10 29.8 +2.4
comp=Z,113nm,1.3s
CLWO Collingwood 31.99 16 P P 17 10 26.2 -1.0
baz=201
DAC Darwin (Calif) 32.00 319 eP P 17 10 31.3 +3.7
comp=Z,19nm,1.5s
DAC Darwin (Calif) 32.00 319 eP P 17 10 31.3 +3.7
DAC pmax pmax
comp=Z,19nm,1.5s
F43A Flat Rock, Esc 32.05 6 P P 17 10 25.8 -1.9
baz=188
R11A Troy Canyon, C 32.10 324 eP P 17 10 30.8 +2.3
comp=Z,15nm,1.1s
R11A Troy Canyon, C 32.10 324 P P 17 10 30.1 +1.6
baz=133,SNR=13
ISA Isabella, Lake 32.21 317 P P 17 10 30.4 +1.0
baz=126
CWC Cottonwood Cre 32.41 318 P P 17 10 32.4 +1.2
baz=127
HWUT Hardware Ranch 32.43 332 eP P 17 10 32.7 +1.3
comp=Z,34nm,1.1s
HWUT ePcP PcP 17 13 20.9 +2.9
E40A Wakefield 32.46 3 P P 17 10 29.8 -1.5
baz=183
BW06 Boulder Array 32.51 335 eP P 17 10 32.8 +0.7
comp=Z,4.8nm,1.0s
BW06 Boulder Array 32.51 335 P P 17 10 32.0 -0.1
baz=147
PD31 Pinedale Array 32.51 335 eP P 17 10 32.7 +0.6
PDAR Pinedale Array 32.51 335 P P 17 10 32.4 +0.3
comp=Z,2.3nm,0.6s,baz=129,slow=9.4,SNR=16
PDAR PcP PcP 17 13 20.1 +1.9
comp=Z,1.2nm,0.5s,baz=141,slow=4.8,SNR=12
BGU Big Grassy Mou 32.60 330 eP P 17 10 34.8 +2.0
comp=Z,6.3nm,1.0s
SADO Sadowa 32.61 17 P P 17 10 31.0 -1.6
comp=Z,4.9nm,0.5s,baz=234,slow=11,SNR=3.6
E43A Lone Tree Farm 32.61 6 P P 17 10 31.4 -1.2
baz=189
SPUT South Promonto 32.61 331 eP P 17 10 35.1 +2.2
comp=Z,58nm,1.4s
PKM Mcpherson Peak 32.68 315 P P 17 10 34.6 +1.0
baz=123
VES Vestal, Richgr 32.71 317 P P 17 10 35.2 +1.5
baz=125,SNR=6.6
DELO Deloro Mine 32.84 19 P P 17 10 33.3 -1.3
baz=206
KLBO Killbear Provi 32.86 15 P P 17 10 32.1 -2.8
baz=201
HVU Hansel Valley 33.13 331 eP P 17 10 39.5 +2.1
comp=Z,59nm,1.2s
HVU Hansel Valley 33.13 331 eP P 17 10 39.6 +2.1
HVU pmax pmax
comp=Z,59nm,1.2s
BUKO Buck Lake 33.15 16 P P 17 10 35.7 -1.7
baz=202
AHID Auburn Hatcher 33.16 334 eP P 17 10 39.0 +1.3
comp=Z,33nm,1.4s
BANO Bancroft 33.19 18 P P 17 10 36.0 -1.8
baz=205
PLVO Plevna 33.48 19 P P 17 10 38.7 -1.5
baz=206
F52A Sundridge 33.50 16 P P 17 10 39.0 -1.5
baz=202
D46A Sault St. Mari 33.52 10 P P 17 10 38.8 -1.8
baz=194
REDW Red Top Meadow 33.54 335 eP P 17 10 42.7 +1.7
comp=Z,93nm,1.3s
SNOW Snow King Moun 33.58 335 eP P 17 10 43.3 +1.8
comp=Z,83nm,1.3s
LOHW Long Hollow 33.64 335 eP P 17 10 43.4 +1.4
comp=Z,51nm,1.6s
NV11 Mina Array Sit 33.68 321 eP P 17 10 44.8 +2.5
comp=Z,3.2nm,1.1s
TPAW Teton Pass 33.68 335 eP P 17 10 44.0 +1.7
comp=Z,45nm,1.4s
OMMB Old Mammoth Mi 33.70 319 eP P 17 10 45.2 +2.5
comp=Z,19nm,1.3s
MDPB Devils Postpil 33.76 319 eP P 17 10 45.6 +2.5
comp=Z,13nm,1.0s
NV01 Mina Array Sit 33.77 321 eP P 17 10 45.2 +2.1
NVAR Mina Array Bea 33.77 321 P P 17 10 45.5 +2.4
comp=Z,20nm,0.8s,baz=139,slow=8.7,SNR=76
NVAR PcP PcP 17 13 24.1 +2.3
comp=Z,0.7nm,0.6s,baz=139,slow=25,SNR=4.2
FXWY Fox Creek 33.84 335 eP P 17 10 45.0 +1.4
comp=Z,2.0nm,1.1s
D47A Chapleau 33.84 11 P P 17 10 42.3 -1.1
baz=195
LONY Lake Ozonia 33.97 22 eP P 17 10 43.0 -1.5
comp=Z,35nm,1.3s
LONY Lake Ozonia 33.97 22 P P 17 10 43.1 -1.4
baz=211
PEMO Pembroke 33.99 19 P P 17 10 41.5 -3.2
baz=206
ALGO Algoquin Park 34.00 17 P P 17 10 43.3 -1.4
baz=204
RYN Ryan 34.03 321 eP P 17 10 47.7 +2.4
comp=Z,52nm,1.9s
KVN Kaiserville 34.04 322 eP P 17 10 47.6 +2.2
comp=Z,34nm,1.1s
KVN Kaiserville 34.04 322 eP P 17 10 47.7 +2.2
KVN pmax pmax
comp=Z,34nm,1.1s
PMPB Monarch Peak 34.08 316 eP P 17 10 46.2 +0.6
comp=Z,33nm,1.3s
E51A G1948 Merrick 34.14 15 P P 17 10 44.3 -1.7
baz=202
D48A Paudash Townsh 34.21 12 P P 17 10 44.3 -2.2
baz=197
ORIO Orleans, Innes 34.36 21 P P 17 10 47.3 -0.6
baz=209
RLMT Red Lodge 34.40 338 eP P 17 10 49.1 +0.6
comp=Z,25nm,1.8s
RLMT Red Lodge 34.40 338 P P 17 10 48.7 +0.2
baz=149
MDND Maddock 34.41 351 eP P 17 10 48.2 -0.2
comp=Z,37nm,0.6s
MDND Maddock 34.41 351 P P 17 10 48.1 -0.2
baz=166
BMN Battle Mountai 34.45 325 eP P 17 10 50.3 +1.4
comp=Z,21nm,1.0s
BMN Battle Mountai 34.45 325 eP P 17 10 50.3 +1.4
BMN pmax pmax
comp=Z,21nm,1.0s
WAKR Walker 34.52 320 eP P 17 10 52.4 +2.8
comp=Z,29nm,1.5s
YERR Yerington 34.69 321 eP P 17 10 53.6 +2.5
comp=Z,50nm,1.4s
E54A Lac Daplat, Po 34.69 18 P P 17 10 48.9 -1.9
baz=205
ALFO Alfred 34.73 21 P P 17 10 50.3 -0.7
baz=210
LAO LASA Array 34.79 343 P P 17 10 49.5 -2.2
baz=155
CMB Columbia Colle 34.83 319 eP P 17 10 53.7 +1.5
comp=Z,38nm,1.1s
CMB Columbia Colle 34.83 319 eP P 17 10 53.7 +1.5
CMB pmax pmax
comp=Z,38nm,1.1s
PTGA Pitinga 34.84 112 P P 17 10 51.9 -0.5
comp=Z,7.2nm,0.8s,baz=304,slow=22,SNR=11
PTGA Pitinga 34.84 112 eP P 17 10 50.7 -1.7
comp=Z,11nm,0.9s
PNTR Pine Nut 34.97 321 eP P 17 10 56.2 +2.7
comp=Z,18nm,0.8s
D53A Lac Vacive, Po 35.13 17 P P 17 10 53.2 -1.3
baz=204
PAHR Pah Rah Range 35.23 322 eP P 17 10 58.1 +2.5
comp=Z,18nm,1.0s
HLID Hailey 35.27 331 eP P 17 10 57.5 +1.5
comp=Z,15nm,1.0s
HLID Hailey 35.27 331 P P 17 10 56.8 +0.8
baz=140,SNR=18
RUBR Rubicon Trail 35.29 320 eP P 17 10 58.2 +1.9
comp=Z,36nm,1.1s
D54A Lac Fusel, La 35.50 18 P P 17 10 56.5 -1.2
baz=206
MCMT McKenzie Canyo 35.57 334 eP P 17 11 00.9 +2.3
DLMT Dillon 35.89 335 eP P 17 11 03.3 +2.0
comp=Z,35nm,1.3s
DGMT Dagmar 35.91 346 eP P 17 11 01.1 -0.1
comp=Z,12nm,0.6s
DGMT Dagmar 35.91 346 P P 17 11 00.6 -0.6
baz=159
BEKR Beckworth 35.92 321 eP P 17 11 04.0 +2.4
comp=Z,16nm,1.0s
ULM Lac du Bonnet 36.36 356 P P 17 11 03.4 -1.6
comp=Z,1.6nm,0.5s,baz=185,slow=9.6,SNR=4.0
ULM PcP PcP 17 13 29.3 +0.5
comp=Z,2.5nm,0.3s,baz=155,slow=6.5,SNR=3.4
ORV Oroville 36.43 320 eP P 17 11 08.3 +2.5
comp=Z,2.3nm,0.7s
ORV Oroville 36.43 320 eP P 17 11 08.3 +2.5
ORV pmax pmax
comp=Z,2.0nm,0.7s
SAML Samuel 36.47 127 eP P 17 11 04.6 -1.8
comp=Z,6.8nm,0.9s
WVOR Wild Horse Val 36.59 326 eP P 17 11 09.1 +1.8
comp=Z,8.9nm,0.8s
WVOR Wild Horse Val 36.59 326 eP P 17 11 09.1 +1.8
WVOR pmax pmax
comp=Z,9.0nm,0.8s
PKME Peaks-Kenny Pk 36.65 27 P P 17 11 07.1 -0.5
baz=218
LATQ La Tuque 36.98 22 P P 17 11 09.0 -1.3
baz=212
O03E Paynes Creek 37.05 321 P P 17 11 11.9 +0.7
baz=127
EGMT Eagleton 37.08 340 eP P 17 11 11.8 +0.5
comp=Z,50nm,1.5s
LSQQ Lebel-sur-Quev 37.13 16 P P 17 11 09.3 -2.2
baz=204
J08A Circle Bar Ran 37.14 327 eP P 17 11 13.6 +1.7
comp=Z,33nm,0.7s
MOD Modoc Plateau 37.16 324 eP P 17 11 13.4 +1.2
comp=Z,13nm,1.0s
MATQ Matagami 37.60 15 P P 17 11 13.8 -1.7
baz=203
BMO Blue Mountains 37.62 330 eP P 17 11 16.7 +0.8
comp=Z,29nm,1.4s
BMO Blue Mountains 37.62 330 eP P 17 11 16.7 +0.8
BMO pmax pmax
comp=Z,29nm,1.4s
MSO Missoula 37.63 335 eP P 17 11 17.0 +1.0
comp=Z,18nm,1.5s
MSO Missoula 37.63 335 P P 17 11 15.6 -0.3
baz=143,SNR=6.3
M04C Macdoel 37.98 323 P P 17 11 19.7 +0.6
baz=128,SNR=7.6
N02D Trinity Center 38.01 321 P P 17 11 19.6 +0.3
baz=126
LPAZ La Paz 38.14 141 P P 17 11 20.3 -0.8
comp=Z,2.1nm,0.7s,baz=328,slow=4.1,SNR=7.3
LPAZ PcP PcP 17 13 36.3 +0.8
comp=Z,3.0nm,0.9s,baz=49,slow=4.3,SNR=4.1
I07A Izee 38.18 327 eP P 17 11 22.0 +1.3
comp=Z,9.3nm,0.9s
F10A Beach Ranch, E 38.41 331 eP P 17 11 23.4 +0.8
comp=Z,56nm,0.9s
K04D Chiloquin, OR 38.45 324 P P 17 11 23.3 +0.3
baz=129
YBH Yreka Blue Hor 38.47 322 P P 17 11 23.7 +0.6
comp=Z,2.8nm,0.7s,baz=176,slow=12,SNR=5.3
JTMT Jette 38.51 336 eP P 17 11 23.4 +0.1
comp=Z,30nm,1.3s
L04D Klamath Falls 38.52 323 P P 17 11 23.5 -0.1
baz=128,SNR=6.4
J05D Fort Rock, OR 38.58 325 P P 17 11 24.6 +0.5
baz=130
CHGQ Chibougamau 38.65 18 P P 17 11 22.7 -1.7
baz=208
G08A Pilot Rock 38.74 329 eP P 17 11 26.6 +1.2
comp=Z,8.4nm,1.1s
PINE Pine Mountain 38.75 326 eP P 17 11 26.9 +1.3
comp=Z,39nm,1.8s
J04D Umpqua Nationa 39.05 324 P P 17 11 28.9 +0.8
baz=129,SNR=9.0
E09A Wood Farm, Sta 39.23 331 eP P 17 11 30.0 +0.7
comp=Z,20nm,1.0s
I05D Terrebonne, OR 39.33 326 P P 17 11 31.4 +1.1
baz=131
I04A Tendick Farm, 39.57 325 P P 17 11 33.0 +0.8
baz=129
KBO Bosley Butte 39.66 322 eP P 17 11 36.4 +3.3
comp=Z,108nm,1.5s
MDP Montagnes des 39.67 99 PcP PcP 17 13 42.0 +2.3
comp=Z,4.8nm,0.6s,baz=225,slow=1.4,SNR=2.5
HAWA Hanford 39.81 330 eP P 17 11 35.7 +1.6
comp=Z,6.5nm,0.9s
G05D Wamic, OR 39.92 327 P P 17 11 36.8 +1.7
baz=132
D08A Wollman Farm, 39.99 331 eP P 17 11 36.8 +1.1
comp=Z,36nm,1.4s
H04A Detroit Lake 40.01 326 eP P 17 11 37.2 +1.4
comp=Z,22nm,0.7s
I03D Drain, OR 40.04 324 P P 17 11 37.1 +1.1
baz=128,SNR=7.2
J01E Myrtle Point 40.05 323 P P 17 11 37.7 +1.6
baz=127,SNR=5.1
NEW Newport 40.09 334 P P 17 11 36.6 +0.2
comp=Z,12nm,1.2s,baz=144,slow=7.9,SNR=5.4
NEW PcP PcP 17 13 42.3 +1.8
comp=Z,3.0nm,0.6s,baz=118,slow=4.1,SNR=4.0
NEW Newport 40.09 334 eP P 17 11 37.1 +0.6
comp=Z,5.2nm,0.8s
NEW PcP PcP 17 13 42.3 +1.8
NEW Newport 40.09 334 eP P 17 11 37.1 +0.6
NEW 17 13 42.3
NEW pmax pmax
comp=Z,5.0nm,0.8s
NEW Newport 40.09 334 P P 17 11 36.4 -0.1
baz=140
KEBM Edson Butte 40.11 322 eP P 17 11 39.5 +2.7
comp=Z,65nm,1.0s
H04D Lebanon 40.21 325 P P 17 11 37.9 +0.4
baz=130
C09A Chrisman Ranch 40.25 332 eP P 17 11 38.9 +1.2
comp=Z,65nm,1.3s
F05D White Salmon 40.42 328 P P 17 11 39.6 +0.4
baz=132
I02D Swisshome 40.57 324 P P 17 11 41.4 +0.9
baz=128
G03D McMinnville, O 40.94 326 P P 17 11 44.5 +1.1
baz=130
LTY Liberty 40.97 330 eP P 17 11 44.9 +1.0
comp=Z,45nm,1.4s
B08A Colville Reser 41.14 332 eP P 17 11 46.0 +0.9
comp=Z,16nm,1.6s
PB01 IPOC Station P 41.16 147 eP P 17 11 46.6 +1.0
comp=Z,16nm,0.5s
LON Longmire 41.19 329 eP P 17 11 46.8 +1.2
comp=Z,22nm,0.8s
LON Longmire 41.19 329 eP P 17 11 46.8 +1.2
LON pmax pmax
comp=Z,22nm,0.8s
E04D Cinebar 41.44 328 P P 17 11 48.5 +0.9
baz=132
C06D Leavenworth 41.55 331 P P 17 11 49.3 +0.8
baz=135
D05A Enumclaw 41.58 329 eP P 17 11 50.3 +1.6
comp=Z,34nm,1.1s
B06A Marblemount 42.25 331 eP P 17 11 54.2 +0.1
comp=Z,35nm,0.9s
D03D Eldon 42.36 329 P P 17 11 55.6 +0.5
baz=132
B05A Bryant 42.37 330 P P 17 11 55.5 +0.4
baz=134
A04D Lummi Island 42.97 330 P P 17 12 00.7 +0.7
baz=133
SCHQ Schefferville 45.26 20 P P 17 12 16.4 -1.8
comp=Z,21nm,0.9s,baz=225,slow=5.9,SNR=7.6
YKA Yellowknife Ar 51.11 347 P P 17 13 02.8 -0.4
comp=Z,7.2nm,0.5s,baz=146,slow=7.6,SNR=18
CPUP Villa Florida 52.28 140 P P 17 13 11.4 -1.0
comp=Z,1.7nm,0.7s,baz=11,slow=18,SNR=3.7
BDFB Brasilia 52.42 123 P P 17 13 13.8 -0.1
comp=Z,3.5nm,0.8s,baz=46,slow=5.4,SNR=4.3
BDFB Brasilia 52.42 123 eP P 17 13 13.6 -0.3
comp=Z,17nm,1.1s

DLBC Dease Lake 52.75 336 P **P** 17 13 17.6 +1.9
comp=Z,26nm,1.0s,baz=147,slow=5.0,SNR=16
DLBC Dease Lake 52.75 336 *eP* **P** 17 13 17.7 +2.1
comp=Z,61nm,1.3s
TRQA Tornquist 58.85 153 P **P** 17 13 58.7 -0.8
DAWY Dawson 59.77 338 *eP* **P** 17 14 05.1 -0.5
comp=Z,5.0nm,1.1s
EPYK Eagle Plains 60.22 341 P **P** 17 14 08.5 -0.1
baz=128
INK Inuvik 60.52 344 P **P** 17 14 10.4 -0.1
comp=Z,11nm,0.6s,baz=126,slow=8.1,SNR=13
INK Inuvik 60.52 344 *eP* **P** 17 14 10.4 -0.1
comp=Z,34nm,1.1s
RES Resolute Bay 60.77 359 P **P** 17 14 10.8 -1.4
comp=Z,3.5nm,0.5s,baz=176,slow=9.4,SNR=15
EGAK Eagle 60.80 338 *eP* **P** 17 14 13.0 +0.5
comp=Z,189nm,1.9s
DIV Divide 60.85 333 *eP* **P** 17 14 13.6 +0.6
comp=Z,427nm,2.0s
HARP HAARP 61.16 335 *eP* **P** 17 14 15.7 +0.6
comp=Z,116nm,1.4s
DOT Dot Lake 61.31 336 *eP* **P** 17 14 17.1 +1.0
comp=Z,45nm,1.2s
SCRK Sand Creek 61.44 337 *eP* **P** 17 14 18.0 +0.9
PAX Paxson 61.55 335 *eP* **P** 17 14 17.8 0.0
PAX Paxson 61.55 335 *eP* **P** 17 14 17.8 0.0
PAX pmax pmax
comp=Z,448nm,1.8s
RIDG Independ'e Rid 61.66 336 *eP* **P** 17 14 19.9 +1.4
comp=Z,76nm,1.4s
SML Sawmill 62.25 333 *eP* **P** 17 14 22.6 +0.2
comp=Z,310nm,1.8s
SML Sawmill 62.25 333 *eP* **P** 17 14 22.6 +0.2
SML pmax pmax
comp=Z,310nm,1.8s
GHO Glory Hole Cre 62.49 333 *eP* **P** 17 14 25.3 +1.2
comp=Z,206nm,1.6s
RC01 Rabbit Creek A 62.59 332 *eP* **P** 17 14 25.8 +1.2
comp=Z,430nm,1.7s
BRLK Bradley Lake 62.63 331 *eP* **P** 17 14 26.3 +1.3
comp=Z,509nm,1.8s
HDA Harding Lake 62.79 336 *eP* **P** 17 14 26.6 +0.6
comp=Z,96nm,1.4s
HDA Harding Lake 62.79 336 P **P** 17 14 25.9 0.0
baz=116,SNR=14
KDAK Kodiak Island 62.81 328 P **P** 17 14 27.2 +1.0
comp=Z,16nm,0.9s,baz=81,slow=2.1,SNR=11
IL1 Eielson Array 62.93 337 *eP* **P** 17 14 26.5 -0.4
ILAR Eielson Array 62.93 337 P **P** 17 14 26.9 0.0
comp=Z,42nm,1.2s,baz=124,slow=4.3,SNR=90
ILB Eielson Array 62.93 337 *eP* **P** 17 14 27.2 +0.3
RND Reindeer 63.12 335 *eP* **P** 17 14 29.5 +1.3
comp=Z,71nm,1.2s
RND Reindeer 63.12 335 *eP* **P** 17 14 29.5 +1.3
RND pmax pmax
comp=Z,71nm,1.2s
CCB Clear Creek Bu 63.23 336 *eP* **P** 17 14 29.4 +0.6
comp=Z,71nm,1.4s
WRH Wood River Hil 63.27 336 *eP* **P** 17 14 29.2 +0.1
comp=Z,169nm,1.6s
MCK McKinley 63.29 335 *eP* **P** 17 14 30.6 +1.3
comp=Z,133nm,1.6s
MCK McKinley 63.29 335 *eP* **P** 17 14 30.6 +1.3
MCK pmax pmax
comp=Z,133nm,1.6s
POKR Poker Plat Res 63.30 337 P **P** 17 14 29.2 0.0
baz=116,SNR=8.5
COLA College 63.35 337 P **P** 17 14 30.3 +0.7
TCOL CIGO, UAF Yank 63.35 337 P **P** 17 14 30.0 +0.4
baz=116
MDM Murphy Dome 63.53 337 *eP* **P** 17 14 31.3 +0.4
comp=Z,156nm,1.9s
BWN Browne 63.68 336 *eP* **P** 17 14 33.2 +1.3
comp=Z,197nm,1.2s
SKT Skwentna 63.71 333 *eP* **P** 17 14 33.1 +1.0
comp=Z,415nm,2.0s
TRF Thorofare Moun 63.73 335 *eP* **P** 17 14 33.4 +1.0
comp=Z,627nm,2.0s
BPAW Bear Paw Mtn. 64.27 335 *eP* **P** 17 14 35.6 -0.1
BPAW *ePcP* **PcP** 17 15 11.4 +1.2
PPLA Purkeypile 64.33 334 *eP* **P** 17 14 36.8 +0.5
PPLA *ePcP* **PcP** 17 15 10.7 +0.1
CAST Castle Rocks 64.47 334 *eP* **P** 17 14 37.3 +0.2
CAST *ePcP* **PcP** 17 15 10.2 -0.8
MLY Manley 64.53 336 *eP* **P** 17 14 38.1 +0.6
comp=Z,239nm,1.8s
PPT Papeete 64.92 243 P **P** 17 14 42.6 +1.9
comp=Z,6.9nm,0.4s,baz=60,slow=20,SNR=2.0
TOLK Toolik Lake Re 65.61 340 *eP* **P** 17 14 45.4 +1.0
comp=Z,743nm,2.0s
TOLK Toolik Lake Re 65.61 340 P **P** 17 14 44.7 +0.3
baz=116,SNR=8.8
SUMG Summit 66.28 15 *i* P **P** 17 14 47.6 -1.5
SUMG Summit 66.28 15 *i* P **P** 17 14 47.6 -1.5
BORG Borgarnes 69.24 26 P **P** 17 15 06.5 -0.8
comp=Z,10.0nm,1.0s,baz=285,slow=12,SNR=3.5
SCO Scoresbysund 70.30 20 *i* P **P** 17 15 12.1 -1.6
SCO Scoresbysund 70.30 20 *i* P **P** 17 15 12.1 -1.6
DAG Danmarks Havn 72.71 13 *i* P **P** 17 15 26.1 -2.1
comp=Z,10nm,0.5s
DAG Danmarks Havn 72.71 13 *i* P **P** 17 15 26.1 -2.1
DAG pmax pmax
comp=Z,7.0nm,0.5s
ESK Eskdalemuir 77.95 36 *i* P **P** 17 15 57.5 -1.2
ESDC Sonseca Array 79.70 52 P **P** 17 16 06.4 -2.3
comp=Z,0.3nm,0.4s,baz=307,slow=0.6,SNR=3.6
BILL Bilibino 81.55 338 *eP* **P** 17 16 18.8 +0.8
comp=Z,82nm,1.2s
BILL Bilibino 81.55 338 ⇑ *iP* **P** 17 16 18.5 +0.6
BILL *i* 17 19 24.1
BILL pmax pmax
comp=Z,87nm,1.3s
KONO Kongsberg 83.82 30 *i* P **P** 17 16 30.8 +0.9
KONO pmax pmax
comp=Z,10.0nm,1.0s
NB2 NORSAR Subarra 84.17 28 P **P** 17 16 30.4 -1.3
comp=Z,1.0nm,0.6s,baz=289,slow=5.6
NOA NORSAR Array B 84.17 28 P **P** 17 16 30.7 -1.0
comp=Z,3.4nm,1.0s,baz=288,slow=5.4,SNR=4.7
DBIC Dimbokro 85.59 84 P **P** 17 16 38.8 -0.9
comp=Z,1.5nm,0.5s,baz=278,slow=4.6,SNR=4.7
ARCES ARCESS Array B 86.18 18 P **P** 17 16 40.7 -0.9
comp=Z,1.7nm,0.5s,baz=295,slow=4.5,SNR=21
SEY Seymchan 88.85 336 *i* P **P** 17 16 55.0 +0.5
GERES GERESS Array B 89.61 40 P **P** 17 16 55.9 -2.6
comp=Z,0.3nm,0.4s,baz=308,slow=4.8,SNR=3.1
TORD Torodi Ar. Bea 90.32 76 P **P** 17 16 59.9 -2.4
comp=Z,0.7nm,0.5s,baz=279,slow=4.3,SNR=5.5
TIXI Tiksi 90.34 348 *eP* **P** 17 17 01.0 -0.2
comp=Z,64nm,1.4s
TIXI Tiksi 90.34 348 ⇓ *iP* **P** 17 17 01.1 -0.2
TIXI pmax pmax
comp=Z,49nm,1.4s
FINES FINESS Array B 90.53 25 P **P** 17 16 59.9 -2.5
comp=Z,6.0nm,0.9s,baz=251,slow=13,SNR=3.4
PETK Petropavlovsk- 90.74 326 P **P** 17 17 04.3 +0.8
comp=Z,2.6nm,0.8s,baz=108,slow=4.8,SNR=3.9
RAO Raoul Island 93.27 241 P **P** 17 17 13.2 -2.4
comp=Z,750nm,0.3s,baz=217,slow=23,SNR=6.7
YAK Yakutsk 97.55 342 *iP* Pdif **Pdif** 17 17 34.9 +0.3
YAK pmax pmax
comp=Z,16nm,1.5s
AKASG Malin Array Be 97.74 33 Pdiff **P** 17 17 35.4 -0.3
comp=Z,0.2nm,0.3s,baz=314,slow=11,SNR=2.3
OBN Obninsk 98.71 27 ⇑ *eP* **P** 17 17 39.3 -0.6
OBN *e* 17 21 38.5
OBN pmax pmax
comp=Z,4.0nm,0.7s
URZ Urewera 99.23 233 Pdiff **Pdif** 17 17 41.2 -1.3
comp=Z,7.3nm,0.9s,baz=101,slow=5.2,SNR=2.3
ZALV Zalesovo Beam 112.34 2 PKiKP **PKiKP** 17 22 37.1 +0.8
comp=Z,0.9nm,0.5s,baz=310,slow=1.1,SNR=4.5
SONM Songino Array 116.38 346 PKP **PKPdf** 17 22 45.8 +1.4
comp=Z,0.6nm,0.5s,baz=300,slow=1.9,SNR=3.6
KSRS Korea Array 116.64 325 PKP **PKPdf** 17 22 43.5 -1.5
comp=Z,1.3nm,0.8s,baz=16,slow=2.5,SNR=3.3
KSAR Wonju Array Be 116.67 325 PKP **PKPdf** 17 22 43.5 -1.6
KSAR Wonju Array Be 116.67 325 PKiKP **PKPdf** 17 22 43.5 -1.6
MKAR Makanchi Array 119.33 5 PKP **PKPdf** 17 22 49.7 -0.3
comp=Z,0.8nm,0.6s,baz=344,slow=2.2,SNR=5.7
BOSA Boshof 120.26 115 PKP **PKPdf** 17 22 54.8 +2.4
comp=Z,4.9nm,0.9s,baz=298,slow=2.8,SNR=6.4
GEYT Alibeck 121.25 28 PKP **PKPdf** 17 22 54.4 +0.4
comp=Z,1.0nm,0.5s,baz=207,slow=2.7,SNR=4.3
HHC Hu-ho-hao-te 121.31 339 *ePKP* **PKPdf** 17 22 54.5 +0.4
HHC PP **PP** 17 24 29.2 +5.2
HHC SS SS 17 40 57.4 +3.2
WMQ Urumqi 122.53 0 *ePKP* **PKPdf** 17 22 57.1 +0.8
MAW Mawson 123.89 169 PKP **PKPdf** 17 22 57.7 -0.3
comp=Z,1.0nm,0.8s,baz=243,slow=4.5,SNR=3.2
NJ2 Nanjing 125.59 328 *ePKP* **PKPdf** 17 23 03.1 +0.7
KSH Kashi 125.64 12 PKP **PKPdf** 17 23 03.4 +0.9
KSH PP **PP** 17 24 59.2 +6.2
GTA Gaotai 125.82 349 PKP **PKPdf** 17 23 05.2 +2.4
GTA sPKP 17 23 20.1
STKA Stephens Creek 128.09 240 PKP **PKPdf** 17 23 06.9 -0.2
comp=Z,3.8nm,1.1s,baz=104,slow=5.1,SNR=5.5
XAN Xi'an 128.33 338 PKP **PKPdf** 17 23 07.8 +0.2
ENH Enshi 131.46 335 *ePKPdf* **PKPdf** 17 23 14.7 +1.0
CD2 Chengdu 132.94 341 PKP **PKPdf** 17 23 16.2 -0.3
WB2 Warramunga Arr 135.44 256 *ePKPdf* **PKPdf** 17 23 19.1 -2.2
WRA Warramunga Arr 135.45 256 PKP **PKPdf** 17 23 20.7 -0.6
comp=Z,0.8nm,0.6s,baz=89,slow=2.5,SNR=16
AS01 Alice Springs 135.67 250 *ePKPdf* **PKPdf** 17 23 19.5 -2.2
ASAR Alice Springs 135.71 250 PKhKP PKPpre 17 23 10.6
comp=Z,0.2nm,0.6s,baz=105,slow=3.7,SNR=6.3
ASAR PKP **PKPdf** 17 23 20.3 -1.5
comp=Z,0.6nm,0.8s,baz=94,slow=2.4,SNR=10
ASAR PKKP **PKKPdf** 17 33 02.4 -0.6
comp=Z,0.6nm,1.1s,baz=299,slow=1.5,SNR=7.0
GYA Guiyang 135.97 336 *ePdif* **Pdif** 17 20 25.4 -1.1
GYA PKP **PKPdf** 17 23 22.0 -0.4
GYA PP **PP** 17 26 04.3 +4.1
GYA AMB AMB
comp=Z,120nm,7.9s
KMI Kunming 138.63 340 PKP **PKPdf** 17 23 27.0 -0.4
MYLDM Lahad Datu 144.34 300 *ePKPdf* **PKPdf** 17 23 37.6 0.0
CHTO Chiang Mai 145.75 342 *ePKPdf* **PKPdf** 17 23 40.1 +0.1
CHTO Chiang Mai 145.75 342 *ePKP2* **PKPdf** 17 23 40.1 +0.1
CM31 Chiang Mai Arr 146.08 341 *ePKPdf* **PKPdf** 17 23 41.0 +0.5
CMAR Chiang Mai Arr 146.08 341 PKPbc **PKPbc** 17 23 41.6 +0.2
comp=Z,17nm,0.7s,baz=340,slow=4.0,SNR=89
CM01 Chiang Mai Arr 146.11 341 *ePKPdf* **PKPdf** 17 23 41.0 +0.5
HYB Hyderabad 147.47 17 *i* PKP **PKPbc** 17 23 45.0 -0.4

IDC ***07*** *17:05:11.3±0.8, 13°.68N×92°.28W, h0km, mb4.3/10, mb1 4.6/13, mb1mx4.3/53, mbtmp4.4/13, ML4.4/2, Error ellipse: s-maj=28.6km s-min=15.4km az=44.0*
ISCJB ***07*** *17:05:14.4±1.9, 14°.10N±0°.08×92°.2W±0°.1, h28km±12km, mb4.5/13, Error ellipse: s-maj=20.7km s-min=7.8km az=148.7*
MEX ***07*** *17:05:16.8±0.4, 14°.07N×92°.49W, h20km, MD3.8*
NEIC ***07*** *17:05:16.6±0.6, 14°.04N×92°.03W, h35km, mb4.4/2, MD3.8(MEX), Error ellipse: s-maj=25.3km s-min=8.9km az=55.0*

ISC 07 17:05:13.2±1.9, 14°.02N±0°.07×92°.29W±0°.07, h12km±10km, n31, σ2.9°32/40, mb4.5/13, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
THIG		**0.89**	**2**	*eP*	**Pg**	**17 05 30.2**	**-0.2**
THIG				*eS*	**Sg**	**17 05 40.7**	**-1.2**
THIG		**0.89**	**2**	*eP*	**Pg**	**17 05 30.2**	**-0.2**
THIG				*eS*	**Sg**	**17 05 40.7**	**-1.2**
PCIG		**1.90**	**332**	*eP*	**Pn**	**17 05 44.0**	**-1.5**
PCIG				*eS*	**Sn**	**17 06 04.3**	**-5.1**
PCIG		**1.90**	**332**	*eP*	**Pn**	**17 05 44.0**	**-1.5**
PCIG				*eS*	**Sn**	**17 06 04.3**	**-5.1**
APG	**El Apazote**	**2.02**	**61**	Pn	**Pb**	**17 05 51.2**	**+1.1**
	55nm,0.3s,baz=227,slow=19,SNR=1.6						
APG				Sn	**Sb**	**17 06 17.2**	**+1.9**
	161nm,0.3s,baz=270,slow=20,SNR=1.9						
CCIG	**Comitan**	**2.26**	**4**	*iP*	**Pn**	**17 05 50.6**	**0.0**
CCIG				*i* S	**Sn**	**17 06 15.5**	**-2.9**
CCIG	**Comitan**	**2.26**	**4**	*iP*	**Pn**	**17 05 50.6**	**0.0**
CCIG				*i* S	**Sn**	**17 06 15.5**	**-2.9**
TGIG		**2.86**	**344**	*iP*	**Pn**	**17 05 57.6**	**-1.2**
TGIG				*i* S	**Sn**	**17 06 29.7**	**-3.4**
TGIG		**2.86**	**344**	*iP*	**Pn**	**17 05 57.6**	**-1.2**
TGIG				*i* S	**Sn**	**17 06 29.7**	**-3.4**
CMIG	**Matias Romero**	**3.95**	**321**	Sn	**Sn**	**17 06 57.7**	**-2.3**
	108nm,0.3s,baz=125,slow=18,SNR=1.8						
JTS	**JuntasAbangare**	**8.07**	**116**	Pn	**Pn**	**17 07 08.4**	**-2.0**
	baz=0.0,slow=20,SNR=1.1						
JTS				Lg	Lg	17 09 16.9	
	5.7nm,0.3s,baz=134,slow=22,SNR=5.9						
TXAR	**Lajitas Array**	**18.53**	**327**	P	**Pn**	**17 09 33.9**	**+4.0**
	0.4nm,0.3s,baz=149,slow=12,SNR=3.7						
ROSC	**El Rosal**	**19.92**	**116**	P	**Pn**	**17 09 47.5**	**+0.5**
	1.3nm,0.3s,baz=101,slow=5.8,SNR=4.4						
ANMO	**Albuquerque**	**24.45**	**331**	P	**P**	**17 10 34.8**	**+2.5**
	2.8nm,0.5s,baz=195,slow=4.3,SNR=2.0						
ATAH	**Atahualpa**	**25.14**	**146**	P	**P**	**17 10 37.3**	**-1.5**
	6.6nm,0.7s,baz=111,slow=18,SNR=2.1						
PDAR	**Pinedale Array**	**32.29**	**336**	P	**P**	**17 11 44.2**	**+1.9**
	0.5nm,0.5s,baz=138,slow=9.5,SNR=2.5						
NVAR	**Mina Array Bea**	**33.48**	**321**	P	**P**	**17 11 56.3**	**+3.6**
	6.4nm,0.7s,baz=133,slow=7.6,SNR=3.6						
HLID	**Hailey**	**35.03**	**332**	*eP*	**P**	**17 12 07.8**	**+1.8**
	2.4nm,0.8s						
PTGA	**Pitinga**	**35.21**	**112**	P	**P**	**17 12 07.2**	**-0.4**
	5.6nm,0.9s,baz=297,slow=12,SNR=4.1						
SAML	**Samuel**	**36.81**	**127**	*eP*	**P**	**17 12 19.9**	**-1.5**
	6.8nm,0.9s						
YKA	**Yellowknife Ar**	**50.95**	**347**	P	**P**	**17 14 14.9**	**+0.6**
	4.8nm,0.7s,baz=149,slow=7.4,SNR=3.8						
BDFB	**Brasilia**	**52.77**	**122**	P	**P**	**17 14 26.5**	**-2.2**
	3.8nm,0.6s,baz=267,slow=10,SNR=3.9						
INK	**Inuvik**	**60.34**	**344**	P	**P**	**17 15 24.7**	**+3.0**
	10nm,1.0s,baz=149,slow=7.2,SNR=3.9						
KDAK	**Kodiak Island**	**62.55**	**328**	P	**P**	**17 15 39.7**	**+2.9**
	102nm,1.2s,baz=127,slow=4.3,SNR=6.0						
ILAR	**Eielson Array**	**62.71**	**337**	P	**P**	**17 15 40.3**	**+2.5**
	4.9nm,1.0s,baz=119,slow=4.9,SNR=2.7						
TORD	**Torodi Ar. Bea**	**90.65**	**76**	P	**P**	**17 18 16.1**	**-0.4**
	0.5nm,0.8s,baz=325,slow=1.8						
MKAR	**Makanchi Array**	**119.28**	**4**	PKP	**PKPdf**	**17 24 01.4**	**-1.2**
	0.9nm,1.0s,baz=342,slow=2.4,SNR=2.7						
STKA	**Stephens Creek**	**127.82**	**240**	PKP	**PKPdf**	**17 24 18.7**	**-0.7**
	2.1nm,0.7s,baz=74,slow=3.1,SNR=3.0						
WRA	**Warramunga Arr**	**135.12**	**256**	PKP	**PKPdf**	**17 24 32.9**	**-0.6**
	1.0nm,0.9s,baz=37,slow=1.6,SNR=2.8						
ASAR	**Alice Springs**	**135.41**	**250**	PKP	**PKPdf**	**17 24 33.8**	**-0.2**
	0.5nm,0.8s,baz=119,slow=2.1,SNR=2.8						
CMAR	**Chiang Mai Arr**	**145.88**	**341**	PKPbc	**PKPdf**	**17 24 52.8**	**-0.2**
	5.8nm,0.9s,baz=345,slow=3.5,SNR=5.8						

IDC 07 17:06:04.7±61.0, 22°.98S×178°.63E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/36, mbtmp4.0/3, Error ellipse: s-maj=1080.0km s-min=145.1km az=85.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**33.91**	**247**	P	P	17 12 49.9	**+0.3**
	1.5nm,0.5s,baz=94,slow=10,SNR=8.0						
ASAR	**Alice Springs**	**40.95**	**260**	P	P	17 13 48.8	-0.5
	0.9nm,0.7s,baz=94,slow=9.1,SNR=24						
WRA	**Warramunga Arr**	**41.21**	**266**	P	P	17 13 51.5	0.0
	1.6nm,0.5s,baz=103,slow=8.4,SNR=61						

NEIC ***07*** *17:07:12.0±0.3, 14°.10N×92°.03W, h35km, mb4.7/8, MD4.0(MEX), Error ellipse: s-maj=12.8km s-min=5.5km az=55.0*
IDC ***07*** *17:07:11.9±3.0, 14°.11N×92°.05W, h34km±21km, mb4.4/24, mb1 4.6/27, mb1mx4.4/55, mbtmp4.6/27, ML4.4/2, Error ellipse: s-maj=21.2km s-min=10.4km az=50.0*
MEX ***07*** *17:07:11.5±0.6, 13°.99N×92°.49W, h20km±28km, MD4.0*
ISCJB ***07*** *17:07:12.8±0.9, 14°.14N±0°.06×92°.18W±0°.06, h55km±6km, mb4.6/30, Error ellipse: s-maj=14.0km s-min=4.4km az=41.9*
UCR ***07*** *17:07:14.4±1.0, 14°.65N×91°.91W, h20km, mb4.7(NEIC)*

ISC 07 17:07:10.0±2.0, 14°.09N±0°.06×92°.24W±0°.06, h23km±13km, n73, σ1°.65/85, mb4.7/30, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
THIG		**0.81**	**358**	*eP*	**Pn**	**17 07 26.5**	**+0.5**
THIG				*eS*	**Sn**	**17 07 38.2**	**+0.8**
THIG		**0.81**	**358**	*eP*	**Pn**	**17 07 26.5**	**+0.5**
THIG				*eS*	**Sn**	**17 07 38.2**	**+0.8**
PCIG		**1.86**	**329**	*eP*	**Pn**	**17 07 39.1**	**-1.4**
PCIG				*i* S	**Sn**	**17 08 00.3**	**-3.0**
PCIG		**1.86**	**329**	*eP*	**Pn**	**17 07 39.1**	**-1.4**
PCIG				*i* S	**Sn**	**17 08 00.3**	**-3.0**
APG	**El Apazote**	**1.94**	**62**	Pg	**Pb**	**17 07 45.4**	**+0.6**
	168nm,0.3s,baz=254,slow=11,SNR=5.3						
APG				Lg	Lg	17 08 11.7	
	294nm,0.3s,baz=337,slow=7.2,SNR=4.6						
CCIG	**Comitan**	**2.18**	**3**	*iP*	**Pn**	**17 07 46.4**	**+1.4**
CCIG				*eS*	**Sn**	**17 08 12.5**	**+1.1**
CCIG	**Comitan**	**2.18**	**3**	*iP*	**Pn**	**17 07 46.4**	**+1.4**
CCIG				*eS*	**Sn**	**17 08 12.5**	**+1.1**
RTR	**El Retiro**	**2.52**	**94**	*eP*	**Pb**	**17 07 51.8**	**-3.0**
SBLS	**San Blas**	**2.55**	**95**	*eP*	**Pn**	**17 07 52.1**	**+1.9**
SBLS				*eS*	**Sn**	**17 08 21.4**	**+0.7**
SNJE	**San Jose**	**2.56**	**95**	*eP*	**Pb**	**17 07 53.0**	**-2.4**
TGIG		**2.80**	**342**	*eP*	**Pn**	**17 07 53.7**	**+0.1**
TGIG				*i* S	**Sn**	**17 08 26.3**	**-0.4**
TGIG		**2.80**	**342**	*eP*	**Pn**	**17 07 53.7**	**+0.1**
TGIG				*i* S	**Sn**	**17 08 26.3**	**-0.4**
BOQS	**Boqueron**	**2.89**	**97**	*eP*	**Pn**	**17 07 56.9**	**+2.0**
BOQS				*eS*	**Sn**	**17 08 31.2**	**+2.0**
SNET	**Serv Nac Est T**	**2.95**	**98**	*eP*	**Pn**	**17 07 58.2**	**+2.6**
LFRS	**El Faro**	**3.12**	**98**	*eP*	**Pn**	**17 07 59.8**	**+1.9**
PAVA	**Las Pavas**	**3.23**	**96**	*eP*	**Pn**	**17 08 01.0**	**+1.6**
CMIG	**Matias Romero**	**3.92**	**320**	Pn	**Pn**	**17 08 11.5**	**+2.6**
	baz=132,slow=9.9,SNR=1.4						
CMIG				Sn	**Sn**	**17 08 58.3**	**+4.0**
	140nm,0.3s,baz=72,slow=19,SNR=4.3						
JTS	**JuntasAbangare**	**8.06**	**117**	Pn	**Pn**	**17 09 04.4**	**-1.4**
	1.2nm,0.3s,baz=339,slow=8.6,SNR=1.3						
JTS				Lg	Lg	17 11 04.2	
	1.0nm,0.3s,baz=140,slow=23,SNR=3.2						
NATX	**Nacogdoches**	**17.73**	**353**	*eP*	**P**	**17 11 19.1**	**+3.0**
	59nm,1.0s						
TXAR	**Lajitas Array**	**18.49**	**327**	P	**Pn**	**17 11 27.8**	**+2.9**
	0.6nm,0.3s,baz=148,slow=11,SNR=8.1						
LRAL	**Lakeview Retre**	**19.45**	**13**	*eP*	**Pn**	**17 11 37.4**	**+1.1**
ROSC	**El Rosal**	**19.91**	**116**	P	**Pn**	**17 11 43.9**	**+1.6**
	1.4nm,0.3s,baz=64,slow=4.9,SNR=9.5						
MIAR	**Mount Ida**	**20.40**	**357**	*eP*	Pn	17 11 50.4	+2.8
OXF	**Oxford**	**20.49**	**7**	*eP*	Pn	17 11 49.1	+0.5
	43nm,1.0s						
GOGA	**Godfrey**	**20.82**	**21**	*eP*	**P**	**17 11 45.0**	**-5.0**
MNTX	**Cornudas Mount**	**21.26**	**328**	*eP*	**P**	**17 11 56.2**	**+1.3**
AMTX	**Amarillo**	**22.39**	**339**	*eP*	**P**	**17 12 07.6**	**+0.7**
TKL	**Tuckaleechee C**	**22.78**	**18**	P	**P**	**17 12 11.6**	**+0.6**
	9.6nm,0.7s,baz=199,slow=14,SNR=3.5						
ANMO	**Albuquerque**	**24.41**	**331**	P	**P**	**17 12 29.1**	**+2.0**
	7.9nm,0.7s,baz=151,slow=13,SNR=6.6						
ANMO	**Albuquerque**	**24.41**	**331**	*eP*	**P**	**17 12 27.9**	**+0.9**
	13nm,0.9s						
WCI	**Wyandotte Cave**	**24.61**	**11**	*eP*	**P**	**17 12 27.9**	**-0.7**
ATAH	**Atahualpa**	**25.17**	**146**	P	**P**	**17 12 35.9**	**+1.6**
	27nm,0.8s,baz=338,slow=7.1,SNR=9.4						
MVCO	**Mesa Verde**	**27.21**	**331**	*eP*	**P**	**17 12 54.0**	**+1.5**
PDAR	**Pinedale Array**	**32.24**	**336**	P	**P**	**17 13 38.7**	**+1.7**
	4.2nm,1.0s,baz=142,slow=9.0,SNR=5.6						
PDAR				PcP	**PcP**	**17 16 27.7**	**+2.5**
	0.8nm,0.5s,baz=138,slow=5.5,SNR=4.6						
SADO	**Sadowa**	**32.54**	**17**	P	**P**	**17 13 37.5**	**-1.8**
	4.1nm,0.6s,baz=251,slow=7.0,SNR=3.7						
AHID	**Auburn Hatcher**	**32.88**	**334**	*eP*	**P**	**17 13 44.4**	**+1.8**
	11nm,0.8s						
NVAR	**Mina Array Bea**	**33.45**	**321**	P	**P**	**17 13 50.6**	**+2.9**
	11nm,0.8s,baz=135,slow=8.0,SNR=8.0						
NVAR				PcP	**PcP**	**17 16 29.8**	**+1.1**
	2.1nm,0.8s,baz=126,slow=4.6,SNR=3.3						
BMN	**Battle Mountai**	**34.14**	**325**	*eP*	**P**	**17 13 56.1**	**+2.6**
	12nm,0.9s						
PTGA	**Pitinga**	**35.19**	**112**	P	**P**	**17 14 02.5**	**-0.2**
	17nm,0.7s,baz=297,slow=9.8,SNR=11						
WVOR	**Wild Horse Val**	**36.29**	**326**	*eP*	**P**	**17 14 13.4**	**+1.4**
	13nm,1.1s						
BMO	**Blue Mountains**	**37.32**	**330**	*eP*	**P**	**17 14 22.1**	**+1.4**
	13nm,1.3s						
LPAZ	**La Paz**	**38.45**	**141**	P	**P**	**17 14 30.9**	**-0.2**
	3.6nm,0.8s,baz=336,slow=11,SNR=5.2						
NEW	**Newport**	**39.81**	**334**	P	**P**	**17 14 42.1**	**+0.7**
	3.9nm,0.7s,baz=142,slow=12,SNR=3.2						
YKA	**Yellowknife Ar**	**50.88**	**347**	P	**P**	**17 16 09.0**	**+0.1**
	13nm,0.7s,baz=151,slow=7.3,SNR=12						
YKA				PcP	**PcP**	**17 17 25.3**	**+0.1**
	3.4nm,0.7s,baz=148,slow=3.5,SNR=5.4						
DLBC	**Dease Lake**	**52.48**	**336**	P	**P**	**17 16 22.1**	**+1.0**
	24nm,1.1s,baz=94,slow=3.8,SNR=5.0						
CPUP	**Villa Florida**	**52.60**	**140**	P	**P**	**17 16 21.4**	**-0.9**
	8.3nm,0.9s,baz=317,slow=6.3,SNR=4.4						
BDFB	**Brasilia**	**52.77**	**122**	P	**P**	**17 16 23.7**	**-0.1**
	9.3nm,1.0s,baz=277,slow=4.7,SNR=3.8						
INK	**Inuvik**	**60.28**	**344**	P	**P**	**17 17 17.2**	**+0.8**
	11nm,0.6s,baz=126,slow=5.9,SNR=9.7						
RES	**Resolute Bay**	**60.60**	**359**	P	**P**	**17 17 17.6**	**-0.9**
	2.6nm,0.7s,baz=162,slow=6.4,SNR=3.1						
KDAK	**Kodiak Island**	**62.52**	**328**	P	**P**	**17 17 32.9**	**+1.2**
	9.0nm,0.7s,baz=191,slow=7.4,SNR=4.3						
ILAR	**Eielson Array**	**62.66**	**337**	P	**P**	**17 17 33.2**	**+0.6**
	7.7nm,1.0s,baz=170,slow=4.0,SNR=9.9						
ESDC	**Sonseca Array**	**79.84**	**52**	P	**P**	**17 19 15.3**	**-1.8**
	1.5nm,0.8s,baz=290,slow=6.7,SNR=4.1						
SPITS	**Spitsbergen Ar**	**80.04**	**11**	P	**P**	**17 19 15.9**	**-1.4**
	27nm,1.1s,baz=255,slow=16,SNR=3.5						
NOA	**NORSAR Array B**	**84.17**	**28**	P	**P**	**17 19 38.2**	**-1.2**
	0.6nm,0.6s,baz=295,slow=7.3,SNR=2.9						
HFS	**Hagfors**	**85.63**	**29**	P	**P**	**17 19 45.3**	**-1.4**
	2.9nm,0.7s,baz=234,slow=1.2,SNR=2.5						
ARCES	**ARCESS Array B**	**86.12**	**18**	P	**P**	**17 19 47.8**	**-1.1**
	1.9nm,0.7s,baz=75,slow=1.4,SNR=3.9						
SEY	**Seymchan**	**88.57**	**336**	P	**P**	**17 20 01.8**	**+1.0**
	3.7nm,0.9s,baz=72,slow=9.6						
GERES	**GERESS Array B**	**89.68**	**39**	P	**P**	**17 20 05.7**	**-0.8**
	0.6nm,0

	baz=112						
AGMN			S	Sb	17 09 46.4	+0.2	
	baz=112						
SPMN	**Marine on St.**	**2.24 177**	P	Pn	17 09 17.9	-0.5	
	baz=357						
SPMN			S	Sb	17 09 48.9	-0.8	
	baz=357						
E40A	**Wakefield**	**2.33 115**	P	Pn	17 09 20.0	+0.3	
	baz=297,SNR=12						
E40A			Sb	Sb	17 09 53.7	+1.3	
	baz=297						
G39A	**Holcombe**	**2.51 150**	Sb	Sb	17 09 58.7	+1.4	
	baz=331						

*ISCJB **07** 17:10:36.9±1.2, 13°.7N±0°.2×92°.3W±0°.1, h35km, mb4.1/7, Error ellipse: s-maj=28.0km s-min=8.6km az=38.2*
*IDC **07** 17:10:40.3±5.5, 14°.01N×91°.98W, h30km±35km, mb3.8/7, mb1 4.1/10, mb1mx3.8/62, mbtmp4.0/10, ML3.8/2, Error ellipse: s-maj=41.5km s-min=19.3km az=36.0*
ISC 07 17:10:39.4±1.0, 13°.7N±0°.1×92°.3W±0°.1, h35km, n12, σ1§11/13, mb4.1/7, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**2.15**	**54**	Pg	**Pn**	**17 11 12.9**	**-0.1**
	64nm,0.3s,baz=202,slow=16,SNR=71						
APG				Lg	Lg	17 11 38.0	
	97nm,0.3s,baz=78,slow=20,SNR=5.2						
CMIG	**Matias Romero**	**4.19**	**323**	Pn	**Pn**	**17 11 40.0**	**-0.9**
	3.3nm,0.3s,baz=150,slow=14,SNR=10						
CMIG				Sn	**Sn**	**17 12 28.2**	**-0.5**
	35nm,0.3s,baz=71,slow=18,SNR=4.5						
JTS	**JuntasAbangare**	**7.93**	**115**	Pn	**Pn**	**17 12 32.3**	**0.0**
	baz=322,slow=15,SNR=2.0						
JTS				Lg	Lg	17 14 29.1	
	0.6nm,0.3s,baz=323,slow=22,SNR=2.9						
TXAR	**Lajitas Array**	**18.78**	**328**	P	**Pn**	**17 14 57.1**	**+0.5**
	0.1nm,0.3s,baz=149,slow=14,SNR=4.7						
PDAR	**Pinedale Array**	**32.56**	**336**	P	**P**	**17 17 09.4**	**+1.8**
	0.5nm,0.6s,baz=144,slow=7.8,SNR=2.3						
NVAR	**Mina Array Bea**	**33.72**	**322**	P	**P**	**17 17 20.1**	**+2.3**
	1.8nm,0.7s,baz=130,slow=7.7,SNR=5.4						
PTGA	**Pitinga**	**35.08**	**112**	P	**P**	**17 17 29.2**	**-0.3**
	2.1nm,0.7s,baz=297,slow=16,SNR=3.4						
YKA	**Yellowknife Ar**	**51.23**	**347**	P	**P**	**17 19 37.9**	**-1.4**
	0.8nm,0.4s,baz=146,slow=6.9,SNR=4.2						
INK	**Inuvik**	**60.62**	**344**	P	**P**	**17 20 45.6**	**-0.8**
	2.4nm,0.7s,baz=133,slow=7.1,SNR=5.1						
RES	**Resolute Bay**	**60.96**	**359**	P	**P**	**17 20 48.5**	**-0.1**
	1.6nm,1.0s,baz=205,slow=8.7,SNR=2.4						
ILAR	**Eielson Array**	**62.99**	**337**	P	**P**	**17 21 02.6**	**+0.2**
	2.3nm,1.1s,baz=115,slow=3.9,SNR=5.3						
CMAR	**Chiang Mai Arr**	**146.16**	**341**	PKPbc	**PKPab**	**17 30 17.6**	**+0.1**
	3.0nm,0.7s,baz=320,slow=2.4,SNR=14						

*IDC **07** 17:15:33.9±1.6, 13°.81N×92°.30W, h0km, mb3.9/5, mb1 4.1/8, mb1mx3.8/58, mbtmp3.8/8, ML3.6/3, Error ellipse: s-maj=38.3km s-min=20.5km az=24.0*
*ISCJB **07** 17:15:37.8±1.2, 13°.7N±0°.1×92°.33W±0°.07, h46km, mb3.9/5, Error ellipse: s-maj=16.8km s-min=9.2km az=12.3*
ISC 07 17:15:39.9±1.4, 13°.8N±0°.2×92°.32W±0°.08, h46km, n10, σ1§69/11, mb3.9/5, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**2.13**	**57**	Pn	**Pn**	**17 16 11.4**	**-1.8**
	10nm,0.3s,baz=242,slow=17,SNR=12						
APG				Sn	**Sn**	**17 16 39.5**	**+0.8**
	76nm,0.3s,baz=196,slow=7.4,SNR=19						
CMIG	**Matias Romero**	**4.07**	**323**	Pn	**Pn**	**17 16 36.5**	**-3.2**
	2.3nm,0.3s,baz=146,slow=13,SNR=3.5						
CMIG				Sn	**Sn**	**17 17 28.0**	**+1.9**
	18nm,0.3s,baz=96,slow=12,SNR=5.5						
JTS	**JuntasAbangare**	**8.02**	**115**	Lg	Lg	17 19 37.4	
	1.1nm,0.3s,baz=275,slow=21,SNR=3.3						
TXAR	**Lajitas Array**	**18.66**	**328**	P	**Pn**	**17 19 55.2**	**+0.3**
	0.1nm,0.3s,baz=148,slow=12,SNR=4.5						
ANMO	**Albuquerque**	**24.59**	**331**	P	**P**	**17 20 57.6**	**+1.7**
	1.5nm,0.3s,baz=94,slow=12,SNR=5.8						
NVAR	**Mina Array Bea**	**33.60**	**322**	P	**P**	**17 22 17.2**	**+1.0**
	0.9nm,0.8s,baz=138,slow=8.3,SNR=5.5						
PTGA	**Pitinga**	**35.16**	**112**	P	**P**	**17 22 29.9**	**+0.2**
	1.4nm,0.6s,baz=278,slow=14,SNR=3.7						
YKA	**Yellowknife Ar**	**51.11**	**347**	P	**P**	**17 24 36.9**	**-0.8**
	1.5nm,0.6s,baz=151,slow=7.0,SNR=3.6						
ILAR	**Eielson Array**	**62.87**	**337**	P	**P**	**17 26 01.2**	**+0.4**
	0.6nm,0.8s,baz=145,slow=3.3,SNR=4.7						
CMAR	**Chiang Mai Arr**	**146.04**	**341**	PKPbc	**PKPbc**	**17 35 15.7**	**0.0**
	1.9nm,0.8s,baz=338,slow=3.8,SNR=13						

*IDC **07** 17:15:55.7±1.1, 13°.85N×92°.16W, h0km, mb4.1/8, mb1 4.3/11, mb1mx4.0/57, mbtmp4.1/11, ML3.7/3, Error ellipse: s-maj=21.6km s-min=14.4km az=180.0*
*ISCJB **07** 17:15:59.6±1.1, 13°.8N±0°.1×92°.21W±0°.07, h54km, mb4.2/10, Error ellipse: s-maj=21.6km s-min=5.3km az=20.5*
*NEIC **07** 17:16:00.8±0.8, 13°.91N×92°.04W, h35km, mb4.6/2, Error ellipse: s-maj=21.1km s-min=10.5km az=217.0*
*UCR **07** 17:16:01.2±0.7, 13°.39N×92°.00W, h112km±57km, ML4.1, mb4.6(NEIC)*
ISC 07 17:16:02.4±1.0, 13°.9N±0°.1×92°.08W±0°.10, h54km, n26, σ1§37/29, mb4.2/10, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**1.92**	**54**	Pg	**Pn**	**17 16 32.5**	**-0.5**
	78nm,0.3s,baz=241,slow=9.9,SNR=28						
APG				Lg	Lg	17 17 00.2	
	131nm,0.3s,baz=141,slow=13,SNR=9.3						
RTR	**El Retiro**	**2.36**	**89**	*eP*	**Pn**	**17 16 39.7**	**+0.7**
RTR				*eS*	**Sn**	**17 17 09.2**	**+2.3**
SBLS	**San Blas**	**2.38**	**91**	*eP*	**Pn**	**17 16 39.1**	**-0.3**
MTO3	**Montecristo**	**2.69**	**79**	*eP*	**Pn**	**17 16 45.3**	**+1.8**
BOQS	**Boqueron**	**2.72**	**93**	*eP*	**Pn**	**17 16 43.9**	**-0.1**
LFRS	**El Faro**	**2.94**	**95**	*eP*	**Pn**	**17 16 46.5**	**-0.4**
PAVA	**Las Pavas**	**3.06**	**93**	*eP*	**Pn**	**17 16 47.8**	**-0.6**
PAVA				*eS*	**Sn**	**17 17 24.6**	**+0.8**
PAVA				IAML		17 17 39.4	
	comp=Z,600nm,0.4s						
CMIG	**Matias Romero**	**4.18**	**320**	Pn	**Pn**	**17 17 02.1**	**-1.7**
	comp=Z,11nm,0.3s,baz=124,slow=9.3,SNR=5.6						
JTS	**JuntasAbangare**	**7.83**	**116**	Pn	**Pn**	**17 17 50.4**	**-3.4**
	comp=Z,0.5nm,0.3s,baz=291,slow=14,SNR=3.9						
JTS				Sn	**Sn**	**17 19 19.5**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=51,slow=20,SNR=1.8						
JTS				Lg	Lg	17 19 56.9	
	comp=Z,1.1nm,0.3s,baz=147,slow=20,SNR=7.4						
TXAR	**Lajitas Array**	**18.75**	**327**	P	**Pn**	**17 20 18.1**	**0.0**
	comp=Z,0.1nm,0.3s,baz=156,slow=9.6,SNR=7.3						
MIAR	**Mount Ida**	**20.62**	**356**	*eP*	**P**	**17 20 37.8**	**+0.5**
MNTX	**Cornudas Mount**	**21.52**	**328**	*eP*	**P**	**17 20 46.1**	**-1.0**
	comp=Z,11nm,1.2s						
ANMO	**Albuquerque**	**24.67**	**331**	P	**P**	**17 21 18.6**	**+0.1**
	comp=Z,4.2nm,0.8s,baz=154,slow=13,SNR=8.6						
ANMO	**Albuquerque**	**24.67**	**331**	*eP*	**P**	**17 21 18.8**	**+0.3**
WCI	**Wyandotte Cave**	**24.79**	**11**	*eP*	**P**	**17 21 17.0**	**-2.3**
	comp=Z,27nm,0.6s						
PDAR	**Pinedale Array**	**32.50**	**336**	P	**P**	**17 22 27.0**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=171,slow=18,SNR=2.9						
PDAR	**Pinedale Array**	**32.50**	**336**	P	**P**	**17 22 27.0**	**-1.2**
NVAR	**Mina Array Bea**	**33.72**	**321**	P	**P**	**17 22 40.6**	**+1.7**
	comp=Z,1.5nm,0.7s,baz=134,slow=8.6,SNR=8.5						
PTGA	**Pitinga**	**34.96**	**112**	P	**P**	**17 22 50.8**	**+1.1**
	comp=Z,4.8nm,0.7s,baz=299,slow=11,SNR=12						
YKA	**Yellowknife Ar**	**51.12**	**347**	P	**P**	**17 24 58.7**	**-0.9**
	comp=Z,2.2nm,0.9s,baz=152,slow=7.0,SNR=3.1						
DLBC	**Dease Lake**	**52.73**	**336**	P	**P**	**17 25 12.2**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=120,slow=20,SNR=3.3						
INK	**Inuvik**	**60.53**	**344**	P	**P**	**17 26 05.9**	**-0.8**
	comp=Z,2.7nm,1.0s,baz=103,slow=4.8,SNR=3.7						
ILAR	**Eielson Array**	**62.92**	**337**	P	**P**	**17 26 22.5**	**-0.4**
	comp=Z,2.5nm,1.0s,baz=130,slow=4.2,SNR=9.5						
WRA	**Warramunga Arr**	**135.29**	**256**	PKP	**PKPdf**	**17 35 18.0**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=72,slow=2.7,SNR=4.2						
ASAR	**Alice Springs**	**135.55**	**250**	PKP	**PKPdf**	**17 35 19.6**	**+2.1**
	comp=Z,0.8nm,1.2s,baz=121,slow=2.4,SNR=4.4						
CMAR	**Chiang Mai Arr**	**146.08**	**341**	PKPbc	**PKPab**	**17 35 38.0**	**+0.1**
	comp=Z,3.9nm,0.8s,baz=332,slow=3.3,SNR=19						

*ISCJB **07** 17:37:58.2±1.4, 27°.4N±0°.5×98°.8W±0°.3, h10km, mb3.5/1, Error ellipse: s-maj=80.4km s-min=8.7km az=23.5*
*IDC **07** 17:38:05.6±6.2, 28°.37N×98°.74W, h0km, mb3.3/1, mb1 3.5/3, mb1mx3.4/43, mbtmp3.0/3, ML2.6/2, Error ellipse: s-maj=126.0km s-min=28.6km az=174.0*
ISC 07 17:37:59.7±2.6, 27°.3N±0°.7×98°.8W±0°.4, h10km, n9, σ0§75/8, Southern Texas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**4.75**	**297**	Pn	**Pn**	**17 39 15.3**	**+3.8**
	0.0nm,0.3s,baz=116,slow=8.1,SNR=3.6						
TXAR				Sn	**Sn**	**17 40 07.2**	**+0.4**
	0.1nm,0.3s,baz=158,slow=10,SNR=6.3						
NVAR	**Mina Array Bea**	**19.77**	**309**	P	**P**	**17 42 29.4**	**-0.7**
	0.1nm,0.3s,baz=139,slow=8.4,SNR=6.4						
PCM	**Pelee Case Pet**	**37.07**	**102**	*eP*	**P**	**17 45 11.1**	**+0.8**
CXM	**Morne La Croix**	**37.11**	**102**	*eP*	**P**	**17 45 11.5**	**+0.7**
PML	**Morne Lenard**	**37.11**	**102**	*eP*	**P**	**17 45 10.5**	**-0.2**
GBMF	**Grand Be**	**37.12**	**102**	*eP*	**P**	**17 45 10.8**	**0.0**
BAMF	**Morne Balai**	**37.13**	**102**	*eP*	**P**	**17 45 09.8**	**-1.0**
TRMF	**Trois Ilets**	**37.33**	**102**	*eP*	**P**	17 45 17.3	+4.9
ILAR	**Eielson Array**	**48.20**	**335**	P	**P**	**17 46 40.3**	**+0.2**
	0.3nm,0.5s,baz=114,slow=6.2,SNR=4.1						

*ISCJB **07** 17:40:51.0±0.8, 2°.59N±0°.08×128°.53E±0°.08, h250km, mb3.5/7, Error ellipse: s-maj=11.7km s-min=10.7km az=170.7*
*DJA **07** 17:40:53.1±1.0, 2°.N±6°.×12°.9E±°, h233km±12km, M4.5/6, mb4.3/4, MLv4.6/6*
*IDC **07** 17:41:25.5±2.8, 1°.48N×127°.30E, h655km±53km, mb2.7/7, mb1 2.8/8, mb1mx2.6/47, mbtmp3.7/8, Error ellipse: s-maj=23.6km s-min=15.1km az=82.0*
ISC 07 17:40:52.8±1.1, 2°.49N±0°.09×128°.5E±0°.1, h250km, n15, σ1§27/16, mb3.5/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.02**	**212**	P	**Pn**	**17 41 35.4**	**-0.1**
SGSI	**Sangihe**	**3.15**	**292**	P	**Pn**	**17 41 45.2**	**-1.8**
KMSI	**Cibinong**	**4.86**	**247**	P	**Pn**	**17 42 07.3**	**+0.4**
KMSI				S	**S**	**17 43 06.8**	**+0.9**
SANI	**Sanana**	**5.14**	**209**	P	**Pn**	**17 42 09.7**	**-0.7**
SANI				S	**S**	**17 43 08.7**	**-3.5**
LUWI	**Luwuk**	**6.67**	**238**	P	**Pn**	**17 42 29.3**	**-0.2**
APSI	**Ampana**	**7.59**	**244**	P	**Pn**	**17 42 41.5**	**+0.4**
GUMO	**Guam**	**19.62**	**55**	P	**Pn**	17 45 28.0	+20
	16nm,0.3s,baz=258,slow=0.9,SNR=8.0						
FITZ	**Fitzroy Crossi**	**20.64**	**188**	P	**P**	**17 45 14.3**	**+0.5**
	0.2nm,0.3s,baz=26,slow=8.6,SNR=7.9						
WRA	**Warramunga Arr**	**23.03**	**166**	P	**P**	**17 45 36.6**	**+0.2**
	0.7nm,0.4s,baz=343,slow=10,SNR=30						
ASAR	**Alice Springs**	**26.53**	**169**	P	**P**	**17 46 08.7**	**+0.7**
	0.6nm,0.5s,baz=351,slow=8.3,SNR=42						
CMAR	**Chiang Mai Arr**	**32.98**	**301**	P	**P**	**17 47 06.0**	**+1.3**
	0.8nm,0.7s,baz=122,slow=7.3,SNR=10						
STKA	**Stephens Creek**	**36.39**	**161**	P	**P**	**17 47 34.1**	**+0.5**
	0.9nm,0.4s,baz=358,slow=7.8,SNR=7.2						
MKAR	**Makanchi Array**	**59.55**	**325**	P	**P**	**17 50 30.1**	**-0.2**
	0.6nm,0.5s,baz=114,slow=9.0,SNR=6.5						
ZALV	**Zalesovo Beam**	**62.47**	**333**	P	**P**	**17 50 48.9**	**-0.7**
	0.3nm,0.3s,baz=91,slow=7.2,SNR=2.4						
KURBB	**Kurchatov Array**	**63.71**	**327**	P	**P**	**17 50 57.0**	**-0.8**
	1.4nm,0.6s,baz=127,slow=6.1,SNR=13						

*IDC **07** 17:57:16.1±1.9, 14°.00N×92°.34W, h0km, mb3.9/6, mb1 4.3/10, mb1mx4.0/36, mbtmp4.0/10, ML3.8/4, Error ellipse: s-maj=35.0km s-min=15.7km az=176.0*
*ISCJB **07** 17:57:19.0±1.1, 13°.9N±0°.2×92°.3W±0°.1, h46km, mb4.1/11, Error ellipse: s-maj=25.9km s-min=7.8km az=32.9*
*NEIC **07** 17:57:21.2±1.0, 14°.03N×92°.30W, h35km, mb4.2/7, Error ellipse: s-maj=22.3km s-min=9.6km az=209.0*
ISC 07 17:57:20.9±1.1, 13°.9N±0°.1×92°.4W±0°.1, h46km, n19, σ1§37/21, mb4.0/11, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**2.12**	**59**	Pn	**Pn**	**17 57 53.8**	**-0.3**
	49nm,0.3s,baz=238,slow=7.4,SNR=68						
APG				Lg	Lg	17 58 22.1	
	61nm,0.3s,baz=271,slow=23,SNR=8.1						
CMIG	**Matias Romero**	**3.99**	**323**	Pn	**Pn**	**17 58 17.5**	**-2.1**
	13nm,0.3s,baz=150,slow=11,SNR=11						
CMIG				Sn	**Sn**	**17 59 03.2**	**-1.9**
	14nm,0.3s,baz=39,slow=17,SNR=5.4						
CMIG				Lg	Lg	17 59 15.6	
	31nm,0.3s,baz=70,slow=22,SNR=6.7						
JTS	**JuntasAbangare**	**8.08**	**116**	Pn	**Pn**	**17 59 16.1**	**+0.4**
	0.2nm,0.3s,baz=360,slow=19,SNR=1.9						
JTS				Sn	**Sn**	**18 00 43.7**	**-2.1**
	0.7nm,0.3s,baz=246,slow=13,SNR=1.7						
JTS				Lg	Lg	18 01 14.1	
	0.6nm,0.3s,baz=189,slow=14,SNR=3.9						
TXAR	**Lajitas Array**	**18.58**	**327**	P	**Pn**	**18 01 35.7**	**+0.9**
	0.2nm,0.3s,baz=153,slow=12,SNR=13						
MIAR	**Mount Ida**	**20.57**	**357**	*eP*	**P**	**18 01 56.1**	**+0.3**
	14nm,1.0s						
MNTX	**Cornudas Mount**	**21.35**	**328**	*eP*	**P**	**18 02 04.6**	**+0.3**
	2.5nm,0.5s						
AMTX	**Amarillo**	**22.51**	**340**	*eP*	**P**	**18 02 16.5**	**-0.3**
	9.8nm,0.5s						
TKL	**Tuckaleechee C**	**22.98**	**18**	P	**P**	**18 02 20.8**	**-0.8**
	3.8nm,0.8s,baz=180,slow=9.1,SNR=4.1						
ANMO	**Albuquerque**	**24.51**	**331**	P	**P**	**18 02 36.9**	**+0.7**
	1.4nm,0.5s,baz=149,slow=12,SNR=6.1						
ANMO	**Albuquerque**	**24.51**	**331**	*eP*	**P**	**18 02 36.9**	**+0.7**
	3.2nm,0.9s						
MVCO	**Mesa Verde**	**27.31**	**331**	*eP*	**P**	**18 03 03.4**	**+1.8**
	6.7nm,0.8s						
HWUT	**Hardware Ranch**	**32.25**	**332**	*eP*	**P**	**18 03 47.3**	**+2.1**
	4.7nm,1.1s						
PDAR	**Pinedale Array**	**32.36**	**336**	P	**P**	**18 03 47.0**	**+0.8**
	0.8nm,1.0s,baz=129,slow=12,SNR=3.8						
NVAR	**Mina Array Bea**	**33.52**	**322**	P	**P**	**18 03 58.8**	**+2.3**
	1.4nm,0.7s,baz=135,slow=8.5,SNR=16						
HLID	**Hailey**	**35.09**	**332**	*eP*	**P**	**18 04 11.8**	**+2.0**
	3.3nm,0.9s						
YKA	**Yellowknife Ar**	**51.03**	**347**	P	**P**	**18 06 18.1**	**0.0**
	3.8nm,0.7s,baz=151,slow=7.2,SNR=5.2						
INK	**Inuvik**	**60.42**	**344**	*eP*	**P**	**18 07 25.3**	**+0.1**
ILAR	**Eielson Array**	**62.78**	**337**	P	**P**	**18 07 41.9**	**+0.6**
	1.1nm,0.8s,baz=131,slow=5.5,SNR=11						
CMAR	**Chiang Mai Arr**	**145.96**	**341**	PKPbc	**PKPab**	**18 16 56.9**	**0.0**
	3.1nm,0.7s,baz=328,slow=3.1,SNR=26						

IDC 07 18:00:24.1±3.2, 13°.72N×92°.25W, h0km, mb3.4/2, mb1 3.9/4, mb1mx3.6/35, mbtmp3.5/4, ML3.5/2, Error ellipse: s-maj=68.4km s-min=29.1km az=171.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**2.15**	**53**	Pn	Pn	18 01 01.6	+0.1
	9.3nm,0.3s,baz=241,slow=9.0,SNR=4.7						
APG				Sn	Sn	18 01 29.3	+0.3
	28nm,0.3s,baz=263,slow=9.5,SNR=5.0						
TXAR	**Lajitas Array**	**18.80**	**328**	P	Pn	18 04 47.0	+1.3
	0.0nm,0.3s,baz=149,slow=10,SNR=5.7						
NVAR	**Mina Array Bea**	**33.74**	**322**	P	P	18 07 06.2	-1.4
	0.5nm,0.7s,baz=142,slow=7.8,SNR=2.5						
ILAR	**Eielson Array**	**63.00**	**337**	P	P	18 10 53.0	+0.5
	0.6nm,1.0s,baz=116,slow=4.2,SNR=4.1						
CMAR	**Chiang Mai Arr**	**146.18**	**341**	PKPbc	PKPdf	18 20 06.5	+0.1
	1.8nm,0.8s,baz=340,slow=3.8,SNR=14						

*IDC **07** 18:01:01.7±1.1, 13°.60N×92°.02W, h0km, mb4.0/5, mb1 4.3/8, mb1mx4.0/36, mbtmp4.0/8, ML4.1/3, Error ellipse: s-maj=28.3km s-min=21.3km az=43.0*
*ISCJB **07** 18:01:05.6±0.7, 13°.62N±0°.07×92°.15W±0°.06, h37km, mb4.0/8, Error ellipse: s-maj=11.5km s-min=6.1km az=34.3*
*NEIC **07** 18:01:07.6±0.6, 13°.72N×92°.09W, h35km, mb4.0/3, Error ellipse: s-maj=18.1km s-min=8.9km az=46.0*
ISC 07 18:01:08.1±0.7, 13°.74N±0°.09×92°.07W±0°.07, h37km, n17, σ1§25/21, mb3.9/8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**2.00**	**51**	Pn	**Pn**	**18 01 39.5**	**-0.1**
	99nm,0.3s,baz=222,slow=7.2,SNR=18						
APG				Sn	**Sn**	**18 02 05.5**	**+2.0**
	113nm,0.3s,baz=357,slow=6.5,SNR=6.0						
CMIG	**Matias Romero**	**4.30**	**321**	Pn	**Pn**	**18 02 11.5**	**+0.6**
	10.0nm,0.3s,baz=109,slow=11,SNR=3.8						
CMIG				Sn	**Sn**	**18 03 02.3**	**+2.5**
	21nm,0.3s,baz=311,slow=20,SNR=2.6						
JTS	**JuntasAbangare**	**7.76**	**115**	Pn	**Pn**	**18 03 00.0**	**+1.5**
	1.9nm,0.3s,baz=345,slow=13,SNR=5.0						
JTS				Sn	**Sn**	**18 04 27.2**	**+2.0**
	0.7nm,0.3s,baz=158,slow=19,SNR=2.5						
JTS				Lg	Lg	18 05 04.3	
	0.2nm,0.3s,baz=160,slow=12,SNR=4.3						
TXAR	**Lajitas Array**	**18.88**	**327**	P	**Pn**	**18 05 25.9**	**-0.3**
	0.1nm,0.3s,baz=149,slow=10,SNR=7.9						
MIAR	**Mount Ida**	**20.76**	**356**	*eP*	**P**	**18 05 45.5**	**-0.3**
MNTX	**Cornudas Mount**	**21.65**	**328**	*eP*	**P**	**18 05 54.0**	**-1.3**
	2.5nm,0.6s						
ANMO	**Albuquerque**	**24.79**	**331**	P	**P**	**18 06 27.1**	**+0.3**
	3.3nm,0.6s,baz=143,slow=9.5,SNR=9.3						
ANMO	**Albuquerque**	**24.79**	**331**	*eP*	**P**	**18 06 26.8**	**0.0**
	3.3nm,0.7s						
MVCO	**Mesa Verde**	**27.59**	**331**	*eP*	**P**	**18 06 52.5**	**+0.4**
	3.1nm,0.7s						
NVAR	**Mina Array Bea**	**33.83**	**321**	P	**P**	**18 07 48.1**	**+1.0**
	1.1nm,0.7s,baz=148,slow=7.9,SNR=6.8						
NVAR				PcP	**PcP**	**18 10 26.2**	**+0.6**
	0.5nm,0.7s,baz=110,slow=4.9,SNR=3.7						
LPAZ	**La Paz**	**38.08**	**141**	P	**P**	**18 08 24.1**	**0.0**
	0.5nm,0.5s,baz=331,slow=10,SNR=3.6						
CPUP	**Villa Florida**	**52.23**	**140**	P	**P**	**18 10 13.8**	**-1.8**
	1.2nm,0.7s,baz=1.1,slow=9.5,SNR=3.7						
ILAR	**Eielson Array**	**63.05**	**337**	P	**P**	**18 11 30.1**	**-1.2**
	0.9nm,0.9s,baz=178,slow=4.2,SNR=5.9						
ARCES	**ARCESS Array B**	**86.41**	**18**	P	**P**	**18 13 44.4**	**-1.9**
	3.2nm,0.9s,baz=280,slow=3.3,SNR=2.7						
WRA	**Warramunga Arr**	**135.26**	**255**	PKP	**PKPdf**	**18 20 24.8**	**+0.1**
	0.3nm,0.7s,baz=61,slow=1.2,SNR=4.9						
ASAR	**Alice Springs**	**135.51**	**250**	PKP	**PKPdf**	**18 20 24.9**	**-0.2**
	0.3nm,0.8s,baz=101,slow=4.0,SNR=3.4						
CMAR	**Chiang Mai Arr**	**146.22**	**341**	PKPbc	**PKPdf**	**18 20 44.5**	**+0.1**
	4.4nm,0.7s,baz=337,slow=3.4,SNR=25						

IDC 07 18:04:34.3±3.3, 13°.58N×92°.28W, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.6/38, mbtmp3.5/4, ML3.7/2, Error ellipse: s-maj=70.8km s-min=30.4km az=167.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**2.26**	**51**	Pn	Pn	18 05 14.1	+0.9
	11nm,0.3s,baz=224,slow=8.7,SNR=4.5						
APG				Sn	Sn	18 05 42.5	+0.5
	25nm,0.3s,baz=312,slow=18,SNR=5.9						
TXAR	**Lajitas Array**	**18.90**	**328**	P	P	18 08 56.4	-0.2
	0.1nm,0.3s,baz=152,slow=8.2,SNR=4.5						
NVAR	**Mina Array Bea**	**33.83**	**322**	P	P	18 11 20.3	+1.7
	0.6nm,0.7s,baz=137,slow=10,SNR=3.7						
ILAR	**Eielson Array**	**63.12**	**337**	P	P	18 15 01.7	-1.8
	0.5nm,0.9s,baz=111,slow=3.6,SNR=4.5						
CMAR	**Chiang Mai Arr**	**146.30**	**341**	PKPbc	PKPbc	18 24 17.4	-0.5
	2.1nm,0.8s,baz=335,slow=3.4,SNR=17						

IDC 07 18:05:45.5±3.4, 13°.75N×92°.12W, h0km, mb3.6/1, mb1 4.0/3, mb1mx3.5/39, mbtmp3.5/3, ML3.4/2, Error ellipse: s-maj=66.9km s-min=18.5km az=158.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**2.04**	**52**	Pn	Pb	18 06 23.1	-0.5
	4.3nm,0.3s,baz=214,slow=18,SNR=1.8						
APG				Lg	Lg	18 06 49.5	
	3.7nm,0.3s,baz=102,slow=14,SNR=2.0						
TXAR	**Lajitas Array**	**18.84**	**327**	P	Pn	18 10 08.1	+0.4
	0.1nm,0.3s,baz=141,slow=12,SNR=3.9						
NVAR	**Mina Array Bea**	**33.79**	**321**	P	P	18 12 29.2	-0.3
	0.6nm,0.7s,baz=126,slow=9.1,SNR=2.9						
CMAR	**Chiang Mai Arr**	**146.19**	**341**	PKPbc	PKPdf	18 25 27.3	-0.6
	0.4nm,0.6s,baz=349,slow=3.7,SNR=5.2						

*ISCJB **07** 18:08:18.5±0.7, 19°.52N±0°.06×145°.5E±0°.2, h147km,

BOQS	Boqueron	3.10	98	*e*P		Pn		18 10 12.5	-0.9
LFU	La Fuente	3.26	97	*e*P		Pn		18 10 14.2	-1.3
LFRS	El Faro	3.33	99	*e*P		Pn		18 10 15.1	-1.3
PAVA	Las Pavas	3.43	97	*e*P		Pn		18 10 17.3	-0.6
PAVA				IAML				18 11 15.5	
	comp=Z,412nm,0.4s								
CMIG	Matias Romero	3.74	321	Pn		Pn		18 10 21.8	-0.3
	comp=Z,16nm,0.3s,baz=152,slow=15,SNR=26								
CMIG				Sn		Sn		18 11 04.4	-0.6
	comp=Z,65nm,0.3s,baz=257,slow=21,SNR=6.5								
JTS	JuntasAbangare	8.27	117	Pn		Pn		18 11 23.7	-0.7
	comp=Z,1.7nm,0.3s,baz=6.0,slow=7.8,SNR=3.9								
JTS				Sn		Sn		18 13 01.4	+4.9
	baz=29,slow=19,SNR=2.7								
JTS				Lg		Lg		18 13 28.1	
	comp=Z,0.4nm,0.3s,baz=296,slow=21,SNR=6.4								
655A	Horseshoe Beac	17.47	28	P		P		18 13 30.1	+2.0
	baz=211								
757A	Oxford	17.57	32	P		P		18 13 30.7	+1.6
	baz=215								
JCT	Junction City	17.60	339	*e*P		Pn		18 13 28.5	-0.4
554A	Perry	17.78	26	P		P		18 13 32.9	+1.5
	baz=208								
556A	Lake Butler	18.28	29	P		Pn		18 13 39.7	+2.5
	baz=212								
TXAR	Lajitas Array	18.32	327	P		Pn		18 13 40.3	+2.4
	comp=Z,0.2nm,0.3s,baz=152,slow=13,SNR=22								
251A	Midway	18.97	19	P		Pn		18 13 45.6	0.0
	baz=201								
150A	Eclectic	19.27	17	P		Pn		18 13 50.1	+1.0
	baz=199								
Z47A	Carrollton	19.36	11	P		P		18 13 48.6	-0.2
	baz=192								
151A	Opelika	19.40	18	P		Pn		18 13 50.3	-0.3
	baz=201								
LRAL	Lakeview Retre	19.43	14	P		P		18 13 49.7	+0.2
	baz=196								
ABTX	Abilene, Hawle	19.51	342	P		Pn		18 13 53.3	+1.2
	baz=158								
Z50A	Ashland	19.91	16	P		Pn		18 13 55.8	-0.9
	baz=198								
Y47A	UCPARC, Winfie	20.09	11	P		P		18 13 57.2	+0.5
	baz=193								
ROSC	El Rosal	20.11	116	P		P		18 13 57.8	+0.2
	comp=Z,1.6nm,0.3s,baz=90,slow=20,SNR=3.6								
MIAR	Mount Ida	20.32	357	*e*P		P		18 13 60.0	+0.8
	comp=Z,14nm,0.8s								
MIAR	Mount Ida	20.32	357	P		Pn		18 14 03.2	+1.7
	baz=176,SNR=8.5								
155A	Kite	20.50	25	P		Pn		18 14 03.9	+0.2
	baz=208								
X48A	Hartselle	20.78	13	P		P		18 14 03.5	-0.6
	baz=195								
X49A	Woodville	21.00	14	P		P		18 14 05.7	-0.8
	baz=196								
MNTX	Cornudas Mount	21.10	328	P		P		18 14 09.1	+1.4
	baz=143,SNR=13								
X50B	Fort Payne	21.12	16	P		P		18 14 07.1	-0.8
	baz=198,SNR=6.2								
WMOK	Wichita Mounta	21.27	345	*e*P		P		18 14 10.0	+0.5
	comp=Z,10nm,1.2s								
WMOK	Wichita Mounta	21.27	345	P		P		18 14 09.8	+0.3
	baz=163								
W47A	Westpoint	21.44	11	P		P		18 14 10.0	-1.4
	baz=193								
V42A	Cord	21.57	2	P		P		18 14 11.4	-1.2
	baz=182								
W49A	Belvidere	21.59	14	P		P		18 14 11.2	-1.7
	baz=196								
X52A	Dahlonega	21.77	19	P		P		18 14 13.9	-0.9
	baz=202								
MSTX	Muleshoe	21.83	336	P		P		18 14 16.5	+0.9
	baz=152,SNR=7.7								
V46A	Holladay	21.89	9	P		P		18 14 14.3	-1.8
	baz=191								
W50A	Signal Mountai	21.91	16	P		P		18 14 15.5	-0.9
	baz=198								
V47A	Nunnelly	22.02	11	P		P		18 14 16.1	-1.4
	baz=192								
V48A	Smith Brothers	22.07	12	P		P		18 14 17.0	-1.0
	baz=194								
U42A	Revenden	22.12	3	P		P		18 14 17.5	-1.1
	baz=183								
AMTX	Amarillo	22.25	340	*e*P		P		18 14 20.4	+0.3
	comp=Z,24nm,0.7s								
AMTX	Amarillo	22.25	340	P		P		18 14 20.9	+0.8
	baz=156								
WVT	Waverly	22.26	10	P		P		18 14 19.1	-1.0
	baz=192								
V49A	McMinnville	22.30	14	P		P		18 14 19.2	-1.3
	baz=197								
V50A	Pikeville	22.41	16	P		P		18 14 20.7	-0.9
	baz=199								
W53A	Cullowhee	22.52	20	P		P		18 14 21.9	-1.2
	baz=204								
U47A	Clarksville	22.66	11	P		P		18 14 23.5	-0.8
	baz=193								
TKL	Tuckaleechee C	22.77	18	P		P		18 14 23.5	-2.1
	comp=Z,5.8nm,0.7s,baz=188,slow=11,SNR=8.0								
T41A	Mountain View	22.79	1	P		P		18 14 25.0	-0.7
	baz=181								
T42A	Van Buren	22.80	3	P		P		18 14 24.1	-1.8
	baz=183								
T43A	Greenville	22.90	4	P		P		18 14 25.9	-1.0
	baz=185								
121A	Cookes Peak, D	23.03	325	P		P		18 14 30.5	+2.1
	baz=139,SNR=7.4								
U49A	Red Boiling Sp	23.04	14	P		P		18 14 27.5	-0.8
	baz=196								
V53A	Saluda	23.09	20	P		P		18 14 28.3	-0.6
	baz=204								
T46A	Princeton	23.14	9	P		P		18 14 27.4	-1.8
	baz=191								
KMSC	Kings Mountain	23.16	24	P		P		18 14 28.2	-1.3
	baz=208								
U50A	Jamestown	23.18	16	P		P		18 14 28.3	-1.4
	baz=199,SNR=9.0								
T47A	Sharon Grove	23.22	11	P		P		18 14 28.3	-1.8
	baz=193								
U51A	La Follette	23.37	17	P		P		18 14 30.6	-1.0
	baz=201								
S42A	Caledonia	23.55	3	P		P		18 14 31.2	-2.0
	baz=184								
S44A	Carbondale	23.60	6	P		P		18 14 33.2	-0.5
	baz=187								
S46A	Don Dixon Farm	23.80	9	P		P		18 14 33.8	-1.8
	baz=191								
U53A	Fall Branch	23.81	20	P		P		18 14 34.5	-1.2
	baz=204								
CCM	Cathedral Cave	23.82	2	P		P		18 14 34.3	-1.5
	baz=183								
T51A	Gray	23.94	17	P		P		18 14 35.6	-1.3
	baz=200								
R41A	Rosebud	24.05	2	P		P		18 14 36.5	-1.5
	baz=182								
R43A	Red Bud	24.12	5	P		P		18 14 37.1	-1.4
	baz=186								
ANMO	Albuquerque	24.25	331	P		P		18 14 41.1	+1.1
	comp=Z,1.8nm,0.4s,baz=142,slow=12,SNR=7.9								
ANMO	Albuquerque	24.25	331	P		P		18 14 42.4	+2.4
	baz=145								
R45A	Skylar, Fairfi	24.31	8	P		P		18 14 39.2	-1.1
	baz=190								
T52A	Hallie	24.36	19	P		P		18 14 39.1	-1.6
	baz=202								
S49A	Springfield	24.37	14	P		P		18 14 39.4	-1.4
	baz=197								
S50A	Richmond	24.48	16	P		P		18 14 40.8	-1.1
	baz=199								
WCI	Wyandotte Cave	24.58	12	*e*P		P		18 14 41.5	-1.3
	comp=Z,114nm,0.8s								
WCI	Wyandotte Cave	24.58	12	P		P		18 14 41.9	-0.8
	baz=194								
R47A	Wooly Knot Far	24.60	11	P		P		18 14 42.1	-0.8
	baz=194								
Q41A	Truxton	24.71	2	P		P		18 14 44.0	+0.1
	baz=182								
R48A	Northridge Ran	24.83	12	P		P		18 14 44.7	-0.3
	baz=195								
R49A	Shelbyville	24.88	14	P		P		18 14 44.7	-0.7
	baz=197								
Q45A	Warren Harvey,	24.92	8	P		P		18 14 44.6	-1.2
	baz=190								
Q47A	Bedord North L	25.24	11	P		P		18 14 48.6	-0.1
	baz=194								
T25A	Trinidad	25.25	337	P		P		18 14 51.3	+2.3
	baz=152								
P45A	Graceland, Par	25.60	8	P		P		18 14 51.5	-0.5
	baz=190								
P46A	Rosedale	25.77	9	P		P		18 14 52.0	-1.5
	baz=192								
SDCO	Great Sand Dun	26.20	336	*e*P		P		18 14 59.4	+1.7
	comp=Z,2.6nm,0.9s								
SDCO	Great Sand Dun	26.20	336	P		P		18 14 59.0	+1.2
	baz=150								
O45A	Potomac	26.31	8	P		P		18 14 57.3	-1.1
	baz=190								
SFIN	Lafayette	26.53	9	P		P		18 14 58.6	-1.8
	baz=191								
O47A	Sheridan	26.55	11	P		P		18 14 59.1	-1.5
	baz=193								
S22A	4UR Ranch, Cre	26.74	334	P		P		18 15 05.2	+2.5
	baz=148								
MVCO	Mesa Verde	27.05	331	*e*P		P		18 15 07.4	+2.0
	comp=Z,12nm,0.8s								
MVCO	Mesa Verde	27.05	331	P		P		18 15 07.7	+2.3
	baz=144								
HWUT	Hardware Ranch	31.99	332	*e*P		P		18 15 51.9	+2.8
	comp=Z,3.2nm,0.8s								
PDAR	Pinedale Array	32.09	336	P		P		18 15 50.7	+0.6
	comp=Z,0.7nm,0.7s,baz=130,slow=6.6,SNR=5.8								
PDAR				PcP		PcP		18 18 40.4	+1.7
	comp=Z,0.6nm,0.5s,baz=134,slow=5.4,SNR=6.3								
SADO	Sadowa	32.53	18	P		P		18 15 50.5	-3.0
	comp=Z,6.0nm,0.8s,baz=202,slow=5.4,SNR=2.8								
NVAR	Mina Array Bea	33.27	321	P		P		18 16 03.0	+2.5
	comp=Z,2.7nm,0.7s,baz=134,slow=8.6,SNR=25								
NVAR				PcP		PcP		18 18 43.1	+1.1
	comp=Z,0.8nm,0.8s,baz=174,slow=4.5,SNR=3.3								
HLID	Hailey	34.83	332	*e*P		P		18 16 15.8	+2.0
	comp=Z,4.8nm,1.0s								
HLID	Hailey	34.83	332	P		P		18 16 16.1	+2.4
	baz=140								
ULM	Lac du Bonnet	36.09	356	P		P		18 16 23.3	-1.0
	comp=Z,1.7nm,0.6s,baz=155,slow=13,SNR=2.7								
SAML	Samuel	37.01	127	*e*P		P		18 16 30.7	-1.9
	comp=Z,0.9nm,0.6s								
BMO	Blue Mountains	37.16	330	*e*P		P		18 16 35.0	+1.4
	comp=Z,4.3nm,1.3s								
YKA	Yellowknife Ar	50.77	347	P		P		18 18 22.1	-0.1
	comp=Z,8.5nm,0.7s,baz=152,slow=7.3,SNR=14								
INK	Inuvik	60.16	344	P		P		18 19 30.6	+0.9
	comp=Z,5.6nm,0.7s,baz=116,slow=6.4,SNR=11								
ILAR	Eielson Array	62.52	337	P		P		18 19 46.5	+0.8
	comp=Z,2.8nm,0.9s,baz=126,slow=4.9,SNR=26								
ILAR				PcP		PcP		18 20 24.6	+0.1
	comp=Z,0.5nm,0.6s,baz=152,slow=2.9,SNR=4.8								
ESDC	Sonseca Array	79.95	52	P		P		18 21 28.1	-3.6
	comp=Z,0.1nm,0.4s,baz=290,slow=5.9,SNR=4.6								
BILL	Bilibino	81.15	338	*e*P		P		18 21 38.5	+1.1
	comp=Z,3.5nm,0.7s								
ARCES	ARCESS Array B	86.11	18	P		P		18 22 01.9	-0.9
	comp=Z,2.4nm,0.9s,baz=271,slow=4.6,SNR=5.3								
MKAR	Makanchi Array	119.14	4	PKP		PKPdf		18 28 11.4	+0.1
	comp=Z,0.6nm,0.8s,baz=336,slow=2.7,SNR=3.5								
WRA	Warramunga Arr	135.02	256	PKP		PKPdf		18 28 42.3	+0.2
	comp=Z,0.1nm,0.4s,baz=72,slow=2.1,SNR=4.7								
ASAR	Alice Springs	135.32	251	PKP		PKPdf		18 28 42.5	-0.1
	comp=Z,0.2nm,0.7s,baz=106,slow=2.3,SNR=3.8								
CHTO	Chiang Mai	145.36	341	*e*P		PKPbc		18 29 00.1	-0.6
CMAR	Chiang Mai Arr	145.70	341	PKPbc		PKPab		18 29 02.0	-0.1
	comp=Z,7.0nm,0.8s,baz=339,slow=3.9,SNR=41								

IDC ***07*** *18:11:37.1±1.4,* 13°.36*N×*92°.08*W,h0km,mb3.5/3, mb1 3.9/5,mb1mx3.6/39,mbtmp3.5/5,ML3.4/2,Error ellipse: s-maj=43.1km s-min=24.9km az=51.0*

ISCJB ***07*** *18:11:40.6±1.3,* 13°.4*N±*0°.2*×*92°.1*W±*0°.2*,h37km,mb3.5/3, Error ellipse: s-maj=25.4km s-min=19.5km az=38.1*

ISC 07 18:11:42.4±1.3,13°.4N±0°.2×92°.0W±0°.2,h37km,n6,σ0^{s}67/6, mb3.5/3,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
APG	El Apazote	2.17	44	Pn		Pn	18 12 16.2	0.0
	21nm,0.3s,baz=270,slow=9.1,SNR=2.6							
APG				Lg		Lg	18 12 43.1	
	32nm,0.3s,baz=335,slow=14,SNR=3.8							
TXAR	Lajitas Array	19.17	328	P		P	18 16 01.9	-1.0
	0.0nm,0.3s,baz=146,slow=9.8,SNR=2.5							
NVAR	Mina Array Bea	34.11	322	P		P	18 18 24.4	+0.5
	0.3nm,0.4s,baz=131,slow=6.5,SNR=2.8							
LPAZ	La Paz	37.80	141	P		P	18 18 56.0	-0.2
	1.0nm,0.6s,baz=328,slow=8.8,SNR=5.0							
ILAR	Eielson Array	63.36	337	P		P	18 22 07.9	+0.3
	0.2nm,0.7s,baz=120,slow=6.3,SNR=3.3							
CMAR	Chiang Mai Arr	146.53	341	PKPbc		PKPbc	18 31 20.8	+0.1
	1.1nm,0.7s,baz=336,slow=3.4,SNR=5.2							

IDC 07 18:14:31.3±3.4,13°.83N×92°.14W,h0km,mb3.3/1, mb1 3.8/3,mb1mx3.5/42,mbtmp3.4/3,ML3.4/2,Error ellipse: s-maj=65.0km s-min=27.2km az=175.0,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
APG	El Apazote	2.00	54	Pn		Pn	18 15 07.0	+0.4
	13nm,0.3s,baz=215,slow=16,SNR=6.9							
APG				Sn		Sn	18 15 32.9	+0.4
	24nm,0.3s,baz=301,slow=6.5,SNR=4.9							
CMIG	Matias Romero	4.19	321	Pn		Pn	18 15 35.1	-1.4
	1.8nm,0.3s,baz=38,slow=18,SNR=1.5							
TXAR	Lajitas Array	18.77	327	P		P	18 18 52.2	0.0
	0.0nm,0.3s,baz=141,slow=12,SNR=3.4							
NVAR	Mina Array Bea	33.72	321	P		P	18 21 15.4	+0.6
	0.3nm,0.7s,baz=133,slow=8.7,SNR=2.3							
CMAR	Chiang Mai Arr	146.11	341	PKPbc		PKPdf	18 34 13.1	-0.4
	0.9nm,0.8s,baz=343,slow=3.3,SNR=7.0							

SGS 07 18:25:12.7,29°.84N×40°.17E,h25km,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TBKS	Tabuk	3.56	244	S		Sn	18 26 38.1	-10
TBKS				P		Pn	18 26 07.3	+1.0
TBKS	Tabuk	3.56	244	S		Sn	18 26 38.1	-10
TBKS				P		Pn	18 26 07.3	+1.0
BIDS	Bi'r al Bayda'	4.09	224	P		Pn	18 26 17.8	+4.1
BIDS				P		Pn	18 26 17.8	+4.1
JLOS		4.23	256	P		Pn	18 26 16.4	+0.7
JLOS		4.23	256	P		Pn	18 26 16.4	+0.7

IDC ***07*** *18:31:14.9±0.5,* 11°.14*N×*69°.91*W,h0km,mb4.1/17, mb1 4.4/21,mb1mx4.2/46,mbtmp4.2/21,ML4.5/4,MS5.3/1, Ms1 5.4/1,ms1mx4.3/35,Error ellipse: s-maj=17.3km s-min=12.2km az=51.0*

ISCJB ***07*** *18:31:15.3±0.3,* 11°.17*N±*0°.03*×*69°.87*W±*0°.03*,h12km, mb4.2/24,MS5.3/1,Error ellipse: s-maj=5.2km s-min=4.1km az=44.2*

NEIC ***07*** *18:31:17.1±0.0,* 11°.27*N×*70°.02*W,h5km,mb4.3/4, MD4.7(CAR),After CAR.*

ISC 07 18:31:17.2±0.4,11°.11N±0°.05×69°.91W±0°.06,h12km,n72, σ2^{s}31/74,mb4.3/24,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URIC	Uribia, Colomb	2.12	286	*e*P		Pn	18 31 51.0	-1.5
SDV	Santo Domingo	2.32	198	Pn		Pb	18 31 59.1	-0.1
	70nm,0.3s,baz=38,slow=9.6,SNR=35							
SDV				Lg		Lg	18 32 32.1	
	84nm,0.3s,baz=282,slow=15,SNR=6.5							
CODC	Agust¨›n Codaz	3.66	252	*e*P		Pn	18 32 14.2	+0.5
SMRC	Santa Marta, M	4.23	271	*e*P		Pn	18 32 20.9	-0.7
OCAC	Ocana	4.41	230	*e*P		Pn	18 32 25.5	+1.4
PAMC	Pamplona, Colo	4.65	216	*e*P		Pn	18 32 29.5	+1.8
TAMC	Tame, Arauca	5.00	202	*e*P		Pg	18 32 50.8	-2.4
GIRC	Giron, Santand	5.15	219	*e*P		Pn	18 32 35.5	+1.1
PCRV	Puerto La Cruz	5.27	100	Pn		Pn	18 32 36.6	+0.7
	28nm,0.3s,baz=274,slow=2.4,SNR=83							
PCRV				Sn		Sn	18 33 35.7	-0.9
	13nm,0.3s,baz=151,slow=19,SNR=4.9							
BRRC	Barranca, Sant	5.47	224	*e*P		Pn	18 32 40.2	+1.6
BARC	Barichara	5.53	216	*e*P		Pn	18 32 40.2	+0.5
RUSC	La Rusia	6.06	211	*e*P		Pn	18 32 47.5	+0.3
MOTC	Monteria, Cord	6.12	248	*e*P		Pn	18 32 48.1	+0.6
PTBC	PUERTO BERRIO,	6.39	225	*e*P		Pn	18 32 52.1	+0.9
HELC	Santa Helena	7.40	229	*e*P		Pn	18 33 10.1	+4.6
DBBC	Dabeiba	7.43	237	*e*P		Pn	18 33 08.1	+2.4
CHIC	Chingaza	7.47	211	*e*P		Pn	18 33 07.4	+0.9
ROSC	El Rosal	7.61	215	Pn		Pn	18 33 11.3	+3.0
	2.2nm,0.3s,baz=31,slow=17,SNR=7.8							
ROSC	El Rosal	7.61	215	*e*P		Pn	18 33 15.4	+7.0
SJG	San Juan	7.85	27	Pn		Pn	18 33 09.5	-1.9
	11nm,0.3s,baz=192,slow=12,SNR=15							
SJG				Sn		Sn	18 34 28.2	-12
	6.3nm,0.3s,baz=352,slow=17,SNR=6.2							
SJG	San Juan	7.85	27	*e*Pn		Pn	18 33 08.4	-3.0
	78nm,0.6s							
SJG				Sn		Sn	18 34 28.2	-12
SDDR	Presa de Saban	7.94	351	*e*Pn		Pn	18 33 13.2	+0.7
	70nm,0.3s							
GUYC	Guyana, Colomb	7.97	223	*e*P		Pn	18 33 16.0	+2.6
RREF	El Recreo	8.19	221	*e*P		Pn	18 33 18.7	+2.2
ANIL	Santa Ana	8.53	220	*e*P		Pn	18 33 22.0	+1.0
PLMC	San Jos¨ del	8.82	226	*e*P		Pn	18 33 26.7	+2.0
PRAC	Prado	8.85	214	*e*P		Pn	18 33 25.4	+0.2
BCIP	Isla Barro Col	9.96	260	*e*P		Pn	18 33 38.6	-1.6
GTBY	Guantanamo Bay	10.09	331	*e*P		Pn	18 33 41.8	-0.3
MARP	Paez Belalcaza	10.17	217	*e*P		Pn	18 33 45.3	+1.9
MTDJ	Mount Denham	10.21	315	*e*Pn		Pn	18 33 43.2	-0.7
GRTK	Grand Turk	10.41	354	*e*Pn		Pn	18 33 49.4	+3.1
POPC	Popayan, Colom	10.84	219	*e*P		Pn	18 33 52.6	0.0
PCON	Cinco Dias	10.84	217	*e*P		Pn	18 33 57.9	+5.0
SOTA	Rioblanco	11.12	217	*e*P		Pn	18 33 56.6	-0.1
OTAV	Otavalo	13.74	219	Pn		Pn	18 34 34.3	+1.9
	51nm,1.4s							
PTGA	Pitinga	15.37	139	Pn		Pn	18 34 54.0	-0.1
	0.9nm,0.3s,baz=316,slow=17,SNR=9.3							
PTGA				Lg		Lg	18 39 15.8	
	2.6nm,0.3s,baz=54,slow=23,SNR=5.1							
MDP	Montagnes des	18.11	108	P		Pn	18 35 27.7	-1.1
	1.7nm,0.3s,baz=292,slow=14,SNR=9.2							
MDP				S		Sn	18 38 38.0	-13
	1.5nm,0.3s,baz=156,slow=7.9,SNR=5.0							
MDP				Lg		Lg	18 40 47.2	
	0.4nm,0.3s,baz=162,slow=20,SNR=2.8							
ATAH	Atahualpa	20.00	205	P		P	18 35 50.0	-0.2
	4.7nm,0.8s,baz=350,slow=6.1,SNR=2.2							
SAML	Samuel	21.02	161	*e*P		P	18 36 00.9	-0.1
	16nm,0.8s							
LPAZ	La Paz	27.28	176	P		P	18 37 02.8	+0.4
	2.6nm,0.5s,baz=64,slow=1.8,SNR=15							
BDFB	Brasilia	34.30	140	P		P	18 38 04.8	+0.9
	2.2nm,0.5s,baz=288,slow=16,SNR=1.4							
TXAR	Lajitas Array	36.30	305	P		P	18 38 20.5	-0.6
	1.1nm,0.6s,baz=122,slow=10,SNR=14							
TXAR				PcP		PcP	18 40 49.4	+3.4
	0.6nm,0.6s,baz=144,slow=5.1,SNR=4.3							
CPUP	Villa Florida	39.18	162	P		P	18 38 43.3	-1.9
	2.2nm,0.5s,baz=330,slow=8.4,SNR=7.8							
ANMO	Albuquerque	40.80	312	P		P	18 38 57.9	-1.1
	0.9nm,0.7s,baz=152,slow=15,SNR=2.5							
SDCO	Great Sand Dun	41.46	316	*e*P		P	18 39 06.2	+1.8
	3.6nm,1.1s							
ULM	Lac du Bonnet	44.49	336	P		P	18 39 26.3	-2.1
	5.2nm,0.5s,baz=149,slow=11,SNR=2.9							
PDAR	Pinedale Array	46.68	320	P		P	18 39 45.6	-0.6
	0.8nm,0.6s,baz=125,slow=9.3,SNR=6.9							
HLID	Hailey	50.18	318	*e*P		P	18 40 14.1	+1.0
	1.1nm,0.9s							
FFC	Flin Flon	50.32	336	*e*P		P	18 40 12.2	-1.5
	7.2nm,0.6s							
NVAR	Mina Array Bea	50.92	311	P		P	18 40 19.4	+0.6
	1.3nm,0.6s,baz=115,slow=8.4,SNR=10.0							
NVAR				PcP		PcP	18 41 38.5	+3.2
	1.3nm,0.8s,baz=134,slow=3.9,SNR=4.4							
NVAR				LR		LR	19 01 02.6	
	comp=Z,3µm,21.6s,baz=350,slow=35							
YKA	Yellowknife Ar	60.42	338	P		P	18 41 25.8	-0.6
	3.5nm,0.6s,baz=122,slow=7.1,SNR=7.5							
TIC	Toumodi	64.17	88	*e*P		P	18 41 54.3	+1.9
SUMG	Summit	64.23	10	*i* P		P	18 41 51.9	-0.3
LIC	Lamto	64.23	88	*e*P		P	18 41 52.0	-0.8
	27nm,0.8s							
DBIC	Dimbokro	64.33	88	P		P	18 41 52.9	-0.5
	4.0nm,0.6s,baz=223,slow=7.7,SNR=6.7							
KIC	Kosan Boka	64.49	88	*e*P		P	18 41 54.0	-0.5
	21nm,0.8s							
ESDC	Sonseca Array	64.50	51	P		P	18 41 54.9	+0.7
	0.8nm,0.7s,baz=246,slow=6.4,SNR=3.9							
TORD	Torodi Ar. Bea	69.82	80	P		P	18 42 26.7	-1.6
	3.2nm,0.8s,baz=284,slow=6.0,SNR=14							
INK	Inuvik	70.12	339	P		P	18 42 29.2	0.0
	2.9nm,1.1s,baz=107,slow=4.9,SNR=2.9							
DAG	Danmarks Havn	70.86	11	*i* P		P	18 42 33.7	+0.1
ILAR	Eielson Array	74.47	334	P		P	18 42 54.0	-1.2
	0.4nm,0.4s,baz=102,slow=4.1,SNR=7.0							
KHC	Kasperske Hory	77.44	42	*e*P		P	18 43 13.5	+0.9
GERES	GERESS Array B	77.53	42	P		P	18 43 13.1	-0.1
	0.3nm,0.5s,baz=269,slow=5.6,SNR=4.0							
BRG	Berggiesshubel	77.60	40	*e*(P)		P	18 43 19.7	+6.3
	5.9nm,1.2s							
ARCES	ARCESS Array B	81.57	21	P		P	18 43

DBIC	**Dimbokro**	**77.75**	**71**	P	**P**	**18 49 42.5**	**-0.1**
	comp=N,7.4nm,0.9s,baz=187,slow=8.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**86.84**	**71**	P	**P**	**18 50 28.4**	**-1.8**
	comp=N,0.9nm,0.9s,baz=212,slow=4.3,SNR=4.5						

PLV 07 18:42:05.4±1.6, 20°.99N×106°.91E, h10km±8km, ML3.7, Vietnam

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGV	**Bac-Giang**	**0.71**	**296**	*e*Pg	Pg	18 42 19.2	+0.1
BGV				*e*Sg	Sb	18 42 29.2	-0.4
BGV				IAML		18 42 32.2	
	comp=N,4μm,0.2s						
BGV				IAML		18 42 32.3	
	comp=E,4μm,0.4s						
MTZV	**Met**	**0.77**	**316**	*e*Pg	Pg	18 42 20.1	-0.2
MTZV				IAML		18 42 34.7	
	comp=E,6μm,0.1s						
MTZV				IAML		18 42 34.8	
	comp=N,5μm,0.1s						
LSVB	**Lang Son stati**	**0.87**	**350**	*e*Pg	Pg	18 42 21.5	-0.8
LSVB				IAML		18 42 35.7	
	comp=N,1μm,0.3s						
LSVB				IAML		18 42 35.8	
	comp=E,2μm,0.3s						
BCVB	**Bac Can**	**1.39**	**310**	*e*Pg	Pg	18 42 32.1	0.0
BCVB				IAML		18 42 51.8	
	comp=E,2μm,0.3s						
BCVB				IAML		18 42 52.4	
	comp=N,2μm,0.2s						
HBVN	**Hoa-Binh**	**1.47**	**264**	*e*Pn	Pn	18 42 31.6	-0.4
HBVN				*e*Pg	Pg	18 42 34.0	+0.3
HBVN				IAML		18 42 56.8	
	comp=E,2μm,0.3s						
HBVN				IAML		18 42 58.2	
	comp=N,2μm,0.3s						
DHV	**Doan Hung**	**1.73**	**292**	*e*Pg	Pg	18 42 38.1	-0.6
DHV				*e*Sg	Sg	18 43 00.5	-0.7
DHV				IAML		18 43 02.2	
	comp=E,2μm,0.1s						
DHV				IAML		18 43 04.5	
	comp=N,997nm,0.1s						
CBVB	**Cao Bang**	**1.79**	**338**	*e*Pn	Pn	18 42 35.6	-0.7
CBVB				*e*Pg	Pg	18 42 39.1	-0.6
CBVB				IAML		18 43 03.7	
	comp=E,564nm,0.2s						
CBVB				IAML		18 43 04.4	
	comp=N,488nm,0.2s						
MCVV	**Moc Chau**	**2.12**	**265**	*e*Pn	Pn	18 42 40.8	-0.3
MCVV				IAML		18 43 16.4	
	comp=E,198nm,0.2s						
MCVV				IAML		18 43 17.5	
	comp=N,141nm,0.2s						
VTVB	**Vinh Tuy**	**2.26**	**304**	*e*Pg	Pg	18 42 48.2	-0.5
VTVB				IAML		18 43 21.0	
	comp=E,446nm,0.2s						
VTVB				IAML		18 43 22.4	
	comp=N,466nm,0.4s						
TTVN	**Tram Tau**	**2.43**	**282**	*e*Pg	Pb	18 42 50.3	+1.0
TTVN				IAML		18 43 25.5	
	comp=N,186nm,0.3s						
TTVN				IAML		18 43 28.9	
	comp=E,254nm,0.4s						
CCVB	**Con Cuong**	**2.72**	**225**	*e*Pg	Pg	18 42 56.8	-0.7
MLVB	**It Ong**	**2.74**	**281**	*e*Pg	Pg	18 42 57.8	-0.1
MLVB				IAML		18 43 35.8	
	comp=E,177nm,0.2s						
MLVB				IAML		18 43 36.3	
	comp=N,222nm,0.7s						
SPV	**Sa-pa**	**3.16**	**296**	*e*Pg	Pg	18 43 05.9	-0.2
LCVN	**Lai Chau**	**3.65**	**287**	*e*Pn	Pn	18 43 03.3	+1.2
LCVN				*e*Pg	Pg	18 43 14.1	-1.4
LCVN				IAML		18 44 06.7	
	comp=N,99nm,0.4s						
LCVN				IAML		18 44 07.8	
	comp=E,88nm,0.5s						

MEX 07 18:43:22.5±0.5, 14°.10N×92°.57W, h16km±56km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.71**	**339**	*e*P	Pn	18 43 48.5	-3.2
PCIG				*i* S	Sn	18 44 08.3	-4.9
CCIG	**Comitan**	**2.21**	**11**	*i* P	Pn	18 43 55.0	-3.7
CCIG				*i* S	Sn	18 44 21.9	-3.9
TGIG		**2.72**	**349**	*e*P	Pn	18 44 02.7	-2.9
TGIG				*i* S	Sn	18 44 34.2	-3.9

MEX 07 19:03:30.3±0.7, 13°.95N×92°.35W, h12km±173km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.93**	**334**	*e*P	Pn	19 03 59.8	-3.3
PCIG				*e*S	Sn	19 04 22.6	-4.7
CCIG	**Comitan**	**2.33**	**5**	*e*P	Pn	19 04 06.1	-2.6
CCIG				*i* S	Sn	19 04 33.1	-4.2
TGIG		**2.91**	**345**	*i* P	Pn	19 04 14.4	-2.2
TGIG				*i* S	Sn	19 04 48.2	-3.3

MEX 07 19:06:06.2±0.5, 14°.14N×92°.57W, h19km±344km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.68**	**338**	*e*P	Pn	19 06 31.5	-3.1
PCIG				*e*S	Sn	19 06 51.8	-3.9
CCIG	**Comitan**	**2.17**	**11**	*e*P	Pn	19 06 38.4	-3.2
CCIG				*i* S	Sn	19 07 03.5	-4.6
TGIG		**2.68**	**349**	*i* P	Pn	19 06 45.6	-2.9
TGIG				*e*S	Sn	19 07 17.4	-3.0

*IDC **07** 19:09:01.6±4.9, 14°.17N×91°.27W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/27, mbtmp3.4/3, ML3.9/1, Error ellipse: s-maj=272.7km s-min=69.1km az=43.0*

MEX 07 19:09:14.4±0.5, 14°.54N×92°.16W, h4km±4km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.55**	**319**	*e*P	Pn	19 09 39.4	-3.4
PCIG				*e*S	Sn	19 09 58.5	-4.9
CCIG	**Comitan**	**1.74**	**1**	*i* P	Pn	19 09 42.0	-3.6
CCIG				*i* S	Sn	19 10 03.5	-4.7
TGIG		**2.42**	**337**	*i* P	Pn	19 09 51.4	-3.4
TGIG				*i* S	Sn	19 10 21.2	-3.7
TXAR	**Lajitas Array**	**18.17**	**326**	P	Pn	19 13 24.9	-3.0
	0.1nm,0.3s,baz=138,slow=9.7,SNR=3.4						
NVAR	**Mina Array Bea**	**33.16**	**321**	P	P	19 15 47.0	-5.3
	0.5nm,0.7s,baz=135,slow=10,SNR=5.5						
ILAR	**Eielson Array**	**62.29**	**337**	P	P	19 19 29.7	-7.7
	0.6nm,0.9s,baz=144,slow=3.2,SNR=3.9						
CMAR	**Chiang Mai Arr**	**145.44**	**341**	PKPbc	PKPbc	19 28 43.6	-11
	0.5nm,0.9s,baz=340,slow=3.2,SNR=5.1						

MEX 07 19:23:25.9±0.5, 13°.65N×92°.14W, h15km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**2.29**	**333**	*e*P	Pn	19 23 59.6	-3.6
PCIG				*i* S	Sn	19 24 27.6	-3.6
CCIG	**Comitan**	**2.62**	**0**	*i* P	Pn	19 24 05.0	-2.8
TGIG		**3.25**	**343**	*e*P	Pn	19 24 13.9	-2.6
TGIG				*e*S	Sn	19 24 51.0	-3.9

*MEX **07** 19:29:49.1±0.7, 14°.24N×92°.15W, h65km±15km, MD3.8*
*IDC **07** 19:29:52.4±2.7, 13°.59N×91°.12W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/45, mbtmp3.5/4, ML3.9/1, Error ellipse: s-maj=49.0km s-min=18.2km az=131.0*

ISC 07 19:29:49.8±3.0, 14°.4N±0°.2×92°.2W±0°.1, h67km, n10, σ0s80/9, mb3.5/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.54**	**352**	*i* P	**Pn**	**19 30 02.2**	**-0.6**
THIG				*i* S	**Sn**	**19 30 11.9**	**-0.4**
PCIG		**1.66**	**323**	*i* P	**Pn**	**19 30 16.8**	**-0.1**
PCIG				*i* S	**Sn**	**19 30 37.5**	**+0.2**
APG	**El Apazote**	**1.78**	**69**	Pg	**Pn**	**19 30 18.9**	**+0.2**
	6.1nm,0.3s,baz=205,slow=16,SNR=8.6						
APG				Lg	Lg	19 30 42.5	
	baz=0.0,slow=18						
CCIG	**Comitan**	**1.90**	**1**	*i* P	**Pn**	**19 30 19.1**	**-1.2**
CCIG				*i* S	**Sn**	**19 30 44.4**	**+1.0**
TGIG		**2.56**	**340**	*i* P	**Pn**	**19 30 29.9**	**+0.8**
TGIG				*e*S	**Sn**	**19 30 59.4**	**+0.2**
TXAR	**Lajitas Array**	**18.29**	**326**	P	pP	19 34 19.9	+7.5
	0.1nm,0.3s,baz=144,slow=7.7,SNR=6.7						
ANMO	**Albuquerque**	**24.19**	**330**	P	pP	19 35 21.0	+4.8
	1.1nm,0.5s,baz=133,slow=8.7,SNR=3.8						
PDAR	**Pinedale Array**	**32.01**	**335**	P	pP	19 36 32.3	+6.0
	0.1nm,0.5s,baz=130,slow=8.4,SNR=2.8						
NVAR	**Mina Array Bea**	**33.27**	**321**	P	pP	19 36 42.6	+5.2
	0.5nm,0.7s,baz=133,slow=8.7,SNR=2.5						
CMAR	**Chiang Mai Arr**	**145.59**	**341**	PKPbc	pPKPbc	19 49 36.3	-4.5
	0.4nm,0.8s,baz=349,slow=3.9,SNR=3.7						

*IDC **07** 19:33:22.8±3.1, 13°.65N×92°.38W, h0km, mb4.0/4, mb1 4.2/7, mb1mx3.8/45, mbtmp3.9/7, ML3.4/3, MS5.0/1, Ms1 5.0/1, ms1mx3.9/42, Error ellipse: s-maj=66.7km s-min=34.4km az=7.0*
*MEX **07** 19:33:27.2±0.6, 13°.78N×92°.68W, h6km±143km, MD3.9*

ISC 07 19:33:29.4±1.4, 13°.9N±0°.1×92°.49W±0°.09, h35km, n13, σ1s29/16, mb4.1/4, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.06**	**12**	*i* P	**Pn**	**19 33 46.9**	**-0.9**
THIG				*i* S	**Sn**	**19 34 00.7**	**-0.6**
PCIG		**1.96**	**339**	*i* P	**Pn**	**19 33 58.2**	**-1.9**
PCIG				*i* S	**Sn**	**19 34 21.6**	**-2.0**
APG	**El Apazote**	**2.26**	**60**	Pn	**Pn**	**19 34 03.0**	**-1.6**
	9.5nm,0.3s,baz=247,slow=11,SNR=7.1						
CCIG	**Comitan**	**2.43**	**8**	*e*P	**Pn**	**19 34 06.9**	**+0.2**
CCIG				*i* S	**Sn**	**19 34 36.1**	**+0.8**
TGIG		**2.96**	**348**	*e*P	**Pn**	**19 34 13.5**	**-0.5**
TGIG				*i* S	**Sn**	**19 34 48.3**	**0.0**
CMIG	**Matias Romero**	**3.95**	**325**	Pn	**Pn**	**19 34 26.2**	**-1.4**
	0.8nm,0.3s,baz=128,slow=15,SNR=2.8						
TXAR	**Lajitas Array**	**18.55**	**328**	P	**Pn**	**19 37 45.1**	**+1.4**
	0.1nm,0.3s,baz=156,slow=12,SNR=6.8						
PCRV	**Puerto La Cruz**	**27.48**	**95**	LR	LR	19 51 40.9	
	comp=Z,3μm,20.5s,baz=175,slow=40						
NVAR	**Mina Array Bea**	**33.48**	**322**	P	**P**	**19 40 07.9**	**+2.3**
	1.3nm,0.8s,baz=127,slow=8.4,SNR=8.6						
YKA	**Yellowknife Ar**	**51.05**	**347**	P	**P**	**19 42 27.4**	**-0.5**
	2.3nm,0.8s,baz=146,slow=8.4,SNR=3.3						
INK	**Inuvik**	**60.43**	**344**	P	**P**	**19 43 35.2**	**+0.2**
	3.2nm,0.9s,baz=146,slow=3.4,SNR=4.5						
ILAR	**Eielson Array**	**62.78**	**337**	P	**P**	**19 43 50.4**	**-0.6**
	1.0nm,1.0s,baz=140,slow=4.1,SNR=4.6						
CMAR	**Chiang Mai Arr**	**145.96**	**340**	PKPbc	**PKPdf**	**19 53 05.2**	**-0.3**
	2.2nm,0.8s,baz=329,slow=3.4,SNR=14						

JMA 07 19:47:19.8, 38°.53N×142°.32E, h38km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.71**	**252**	P	Pn	19 47 33.2	-0.1
JIKH				*e*S	Sn	19 47 42.5	-0.4
JKMT	**Kesennumamotoy**	**0.72**	**293**	P	Pn	19 47 33.5	+0.1
JKMT				*e*S	Sn	19 47 43.2	0.0
OFUJ	**Ofunato**	**0.75**	**317**	P	Pn	19 47 33.9	+0.1
OFUJ				*e*S	Sn	19 47 44.1	+0.1
JIO	**Ouri**	**0.77**	**265**	P	Pn	19 47 34.1	+0.1
JIO				*e*S	Sn	19 47 44.3	-0.1
JMK	**Ichinoseki**	**0.96**	**296**	P	Pn	19 47 36.9	+0.2
JMK				*e*S	Sn	19 47 49.4	+0.3
JOM	**Ohasama**	**1.24**	**320**	P	Pn	19 47 41.2	+0.7
JOM				*e*S	Sn	19 47 56.4	+0.4
JOU	**Okura**	**1.31**	**263**	P	Pn	19 47 42.1	+0.5
JOU				*e*S	Sn	19 47 58.9	+1.1
JMM	**Marumori**	**1.37**	**242**	P	Pn	19 47 43.1	+0.7
JMM				*e*S	Sn	19 47 59.5	+0.2
JRG	**Rokugo**	**1.57**	**304**	P	Pn	19 47 46.5	+1.3
JRG				*e*S	Sn	19 48 05.6	+1.3
JYK	**Kaneyama**	**1.58**	**285**	P	Pn	19 47 46.5	+1.2
JYK				*e*S	Sn	19 48 05.8	+1.3
JFK	**Kawauchi**	**1.63**	**225**	P	Pn	19 47 46.0	0.0
JFK				*e*S	Sn	19 48 05.6	-0.1

*IGIL **07** 19:49:14.4, 37°.25N×12°.89W, h8km, ML2.1*
*MDD **07** 19:49:15.5±2.1, 37°.20N×12°.70W, h0km, mb3.8/10, Error ellipse: s-maj=18.5km s-min=16.9km az=64.0, PRXIMO*
*INMG **07** 19:49:15.4±0.9, 36°.95N×13°.22W, h10km, ML2.3, Error ellipse: s-maj=7.5km s-min=6.6km az=101.0*

ISC 07 19:49:15.9±2.9, 37°.37N±0°.08×12°.5W±0°.1, h10km, n41, σ2s88/67, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.91**	**94**	*e*Pn	**Pn**	**19 59 03.8**	**+1.6**
PFVI				*e*Sn	**Sb**	**19 59 41.2**	**-2.3**
PFVI				A	A	19 50 49.2	
	9.3nm,0.7s						
PFVI	**Vila Bisbo**	**2.91**	**94**	P	**Pn**	**19 59 03.7**	**+1.5**
	0.4nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**19 59 39.2**	**+1.9**
	18nm,0.5s,SNR=7.9						
PMAFR	**Mafra**	**2.96**	**57**	*e*Pn	**Pb**	**19 50 06.6**	**-2.1**
PMAFR				*e*Sn	**Sb**	**19 50 43.8**	**-1.2**
PMAFR				A	A	19 50 46.6	
	13nm,0.6s						
PMAFR	**Mafra**	**2.96**	**57**	P	**Pb**	**19 50 05.9**	**-2.8**
	6.3nm,0.2s,SNR=7.9						
PMAFR				S	**Sb**	**19 50 43.3**	**-1.6**
	26nm,0.5s,SNR=7.9						
PTEO	**Sao Teotonio**	**2.98**	**86**	*e*Pn	**Pn**	**19 50 05.5**	**+2.3**
PTEO				*e*Sn	**Sb**	**19 50 43.2**	**-2.2**
PTEO				A	A	19 50 43.7	
	6.9nm,0.7s						
PTEO	**Sao Teotonio**	**2.98**	**86**	P	**Pn**	**19 50 05.5**	**+2.3**
PTEO				S	**Sb**	**19 50 43.2**	**-2.2**
	3.5nm,0.7s						
MORF	**Marmelete**	**3.04**	**90**	*e*P	**Pn**	**19 50 05.6**	**+1.6**
MORF				*e*S	**Sn**	**19 50 43.5**	**+3.0**
MORF				AML	AML	19 50 46.3	
	comp=N,6.5nm,0.2s						
MORF	**Marmelete**	**3.04**	**90**	*e*Pn	**Pn**	**19 50 06.7**	**+2.7**
MORF				*e*Sn	**Sb**	**19 50 44.9**	**-2.3**
MORF				A	A	19 50 47.4	
	comp=N,3.9nm,0.7s						
MORF	**Marmelete**	**3.04**	**90**	P	**Pn**	**19 50 05.6**	**+1.6**
MORF				S	**Sn**	**19 50 43.5**	**+3.0**
	comp=N,6.5nm,0.2s						
MESJ	**Messejana**	**3.40**	**81**	*e*P	**Pn**	**19 50 11.1**	**+2.1**
MESJ				*e*S	**Sn**	**19 50 52.1**	**+2.8**
MESJ				AML	AML	19 50 59.3	
	comp=N,4.1nm,0.2s						
MESJ	**Messejana**	**3.40**	**81**	*e*Pn	**Pb**	**19 50 12.5**	**-3.7**
MESJ				*e*Sn	**Sn**	**19 50 52.1**	**+2.8**
MESJ				A	A	19 50 57.0	
	comp=N,2.8nm,0.7s						
MESJ	**Messejana**	**3.40**	**81**	P	**Pn**	**19 50 11.1**	**+2.1**
MESJ				S	**Sn**	**19 50 52.1**	**+2.8**
	comp=N,4.1nm,0.2s						
ALMR	**Almeirim**	**3.54**	**59**	*e*Pn	**Pb**	**19 50 15.7**	**-2.8**
ALMR				*e*Sn	**Sb**	**19 50 58.7**	**-2.8**
ALMR				A	A	19 51 01.5	
	comp=N,9.8nm,0.9s						
ALMR	**Almeirim**	**3.54**	**59**	P	**Pb**	**19 50 15.7**	**-2.8**
ALMR				S	**Sb**	**19 50 58.7**	**-2.8**
	comp=N,4.9nm,0.9s						
PBDV	**Barranco-do-Ve**	**3.61**	**91**	*e*Pn	**Pn**	**19 50 15.0**	**+3.1**
PBDV				*e*Sn	**Sb**	**19 51 00.0**	**-3.8**
PBDV				A	A	19 51 02.5	
	comp=N,6.8nm,1.0s						
PBDV	**Barranco-do-Ve**	**3.61**	**91**	P	**Pn**	**19 50 15.0**	**+3.1**
PBDV				S	**Sb**	**19 51 00.0**	**-3.8**
	comp=N,6.8nm,1.0s						
EVO	**Evora**	**3.70**	**70**	*e*Pn	**Pb**	**19 50 17.3**	**-4.0**
EVO	**Evora**	**3.70**	**70**	P	**Pb**	**19 50 17.3**	**-4.0**
PVAQ	**Vaqueiros**	**3.78**	**88**	*e*Pn	**Pn**	**19 50 16.9**	**+2.7**
PVAQ				*e*Sn	**Sn**	**19 51 02.3**	**+3.6**
PVAQ				A	A	19 51 05.4	
	comp=N,2.6nm,0.3s						
PVAQ	**Vaqueiros**	**3.78**	**88**	P	**Pn**	**19 50 16.9**	**+2.7**
PVAQ				S	**Sn**	**19 51 02.3**	**+3.6**
	comp=N,2.6nm,0.3s						
EGRO	**El Granado**	**3.96**	**86**	P	**Pn**	**19 50 19.1**	**+2.4**
	comp=N,3.7nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**19 51 06.9**	**+3.7**
	comp=N,19nm,0.9s,SNR=5.0						
PESTR	**Estremoz**	**4.12**	**67**	*e*Pn	**Pn**	**19 50 22.1**	**+3.2**
PESTR				*e*Sn	**Sn**	**19 51 12.3**	**+5.2**
PMRV	**Marv??o**	**4.48**	**61**	*e*Pn	**Pn**	**19 50 27.2**	**+3.4**
PMRV				*e*Sn	**Sn**	**19 51 19.3**	**+3.3**
PMRV				A	A	19 51 25.7	
	comp=N,2.0nm,0.7s						
PMRV	**Marv??o**	**4.48**	**61**	P	**Pn**	**19 50 27.2**	**+3.4**
PMRV				S	**Sn**	**19 51 19.3**	**+3.3**
	comp=N,2.0nm,0.7s						
EBAD	**Badajoz**	**4.51**	**71**	P	**Pn**	**19 50 26.4**	**+2.1**
	comp=N,0.6nm,0.1s,SNR=5.7						
EBAD				S	**Sn**	**19 51 18.7**	**+1.9**
	comp=N,11nm,0.7s,SNR=7.9						
PCBR	**Castelo Branco**	**4.62**	**56**	*e*Pn	**Pn**	**19 50 29.4**	**+3.7**
PCBR	**Castelo Branco**	**4.62**	**56**	P	**Pn**	**19 50 29.4**	**+3.7**
EMIN	**Mina Concepcio**	**4.62**	**83**	P	**Pn**	**19 50 28.0**	**+2.3**
	comp=N,0.2nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**19 51 21.1**	**+1.8**
	comp=N,4.8nm,0.8s,SNR=7.9						
PVIS	**Viseu**	**4.88**	**45**	*e*Sn	**Sn**	**19 51 28.5**	**+2.7**
PVIS	**Viseu**	**4.88**	**45**	S	**Sn**	**19 51 28.5**	**+2.7**
POLO	**Lamas de Olo**	**5.39**	**41**	*e*Sn	**Sn**	**19 51 42.8**	**+4.3**
POLO				A	A	19 51 46.7	
	comp=N,1.0nm,0.6s						
PGAV	**Gavieira, Arco**	**5.61**	**34**	*e*Sn	**Sn**	**19 51 44.7**	**+0.7**
PGAV				A	A	19 51 47.5	
	comp=N,2.3nm,0.3s						
ECAB	**El Cabril**	**5.63**	**81**	P	**Pn**	**19 50 42.3**	**+2.7**
	comp=N,0.7nm,0.1s,SNR=5.9						
ECAB				S	**Sn**	**19 51 45.7**	**+1.4**
	comp=N,8.9nm,1.0s,SNR=7.9						
ELOB	**Lobios**	**5.63**	**36**	S	**Sn**	**19 51 45.6**	**+1.2**
	comp=N,2.1nm,0.3s,SNR=7.9						
MVO	**Moncorvo**	**5.67**	**46**	*e*Sn	**Sn**	**19 51 49.8**	**+4.5**
MVO				A	A	19 51 52.1	
	comp=N,2.8nm,0.7s						
MVO	**Moncorvo**	**5.67**	**46**	S	**Sn**	**19 51 47.8**	**+2.5**
	comp=N,6.2nm,0.7s,SNR=7.9						
EADA	**Adamuz**	**6.30**	**80**	P	**Pn**	**19 50 51.4**	**+2.6**
	comp=N,0.9nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**6.35**	**42**	S	**Sn**	**19 52 03.6**	**+1.5**
	comp=N,5.5nm,0.5s,SNR=7.9						
EAGO	**Agolada(Pontev**	**6.37**	**30**	P	**Pn**	**19 50 50.7**	**+0.9**
	comp=N,0.3nm,0.1s,SNR=7.9						
EAGO				S	**Sn**	**19 52 00.6**	**-2.0**
	comp=N,19nm,0.8s,SNR=7.9						
PAB	**San Pablo**	**6.72**	**69**	P	**Pn**	**19 50 57.5**	**+2.7**
	comp=N,0.1nm,0.1s,SNR=7.9						
GUD	**Guadarrama**	**7.25**	**61**	P	**Pn**	**19 51 05.0**	**+3.1**
	comp=N,0.2nm,0.2s,SNR=7.9						

*IDC **07** 19:55:27.1±0.7, 13°.72N×92°.13W, h0km, mb4.3/15, mb1 4.6/17, mb1mx4.5/33, mbtmp4.3/17, ML3.8/2, MS4.8/9, Ms1 4.8/9, ms1mx4.4/50, Error ellipse: s-maj=30.5km s-min=12.5km az=55.0*
*MEX **07** 19:55:32.1±0.5, 13°.75N×92°.65W, h24km±16km, MD5.1*
*NEIC **07** 19:55:33.2±0.9, 13°.97N×92°.19W, h27km±6km, mb5.1/167, Error ellipse: s-maj=6.1km s-min=3.8km az=213.0*
*ISCJB **07** 19:55:34.3±0.2, 14°.03N±0°.02×92°.10W±0°.02, h54km, mb5.0/158, MS5.2/11, Error ellipse: s-maj=3.5km s-min=2.5km az=30.7*

ISC 07 19:55:35.7±0.4, 13°.98N±0°.06×92°.22W±0°.06, h54km, n592, σ1s30/587, mb5.0/158, MS5.4/11, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.92**	**357**	*e*P	**Pn**	**19 55 51.0**	**-1.6**
THIG				*e*S	**Sn**	**19 56 05.8**	**+0.9**
PCIG		**1.97**	**331**	*e*P	**Pn**	**19 56 02.8**	**-3.9**
PCIG				*e*S	**Sn**	**19 56 25.5**	**-4.7**
APG	**El Apazote**	**1.98**	**59**	Pn	**Pn**	**19 56 08.2**	**+1.1**
	18nm,0.3s,baz=233,slow=14,SNR=168						
APG				LR	LR	19 56 29.5	
	comp=Z,10μm,18.8s,baz=138,slow=30						
CCIG	**Comitan**	**2.29**	**2**	*e*Pn	**Pn**	**19 56 12.5**	**+1.2**
CCIG	**Comitan**	**2.29**	**2**	*e*P	**Pn**	**19 56 09.8**	**-1.5**
CCIG				*i* S	**Sn**	**19 56 40.2**	**+1.7**
TGIG		**2.92**	**343**	*e*P	**Pn**	**19 56 16.1**	**-3.7**
TGIG				*e*S	**Sn**	**19 56 50.9**	**-2.7**
SNET	**Serv Nac Est T**	**2.92**	**95**	*e*Pn	**Pn**	**19 56 17.4**	**-2.4**
CMIG	**Matias Romero**	**4.02**	**321**	Pn	**Pn**	**19 56 31.8**	**-3.0**
	3.8nm,0.3s,baz=142,slow=11,SNR=12						
CMIG				Sn	**Sn**	**19 57 22.9**	**+2.2**
	13nm,0.3s,baz=56,slow=18,SNR=4.5						
CMIG				LR	LR	19 57 55.3	
	comp=Z,4μm,19.8s,baz=140,slow=35						
HUIG	**Huatulco**	**4.16**	**296**	*i* P	Pn	19 56 29.4	-7.4
HUIG				*i* S	Sn	19 57 13.1	-11
VHO	**Vista Hermosa**	**5.33**	**306**	*i* P	Pn	19 56 46.8	-6.1
VHO				*i* S	Sn	19 57 44.1	-9.0
ESTN	**Estel**	**5.76**	**98**	*e*Pn	**Pn**	**19 56 57.5**	**-1.2**
PNIG	**Pinotepa**	**6.19**	**294**	*e*P	Pn	19 56 56.2	-8.4
PNIG				*i* S	Sn	19 58 03.6	-10
BOAB	**BOACO BROADBAN**	**6.56**	**103**	*e*Pn	**Pn**	**19 57 08.2**	**-1.5**
TPIG	**Tehuac#an**	**6.62**	**312**	*i* P	Pn	19 57 05.3	-5.4
TPIG				*i* S	**Sn**	**19 58 17.4**	**-7.6**
TLIG	**Tlapa**	**7.07**	**301**	*e*Pn	**Pn**	**19 57 14.1**	**-2.8**
TEIG	**Tepich**	**7.27**	**31**	*e*Pn	**Pn**	**19 57 19.3**	**0.0**
JTS	**JuntasAbangare**	**8.00**	**116**	Pn	**Pn**	**19 57 30.2**	**+0.8**
	2.2nm,0.3s,baz=26,slow=19,SNR=6.6						
JTS				Lg	Lg	19 59 22.4	
	0.8nm,0.3s,baz=0.0,slow=20,SNR=2.0						
MOIG	**Morelia**	**10.29**	**305**	*e*Pn	**Pn**	**19 58 00.4**	**-0.5**
BCIP	**Isla Barro Col**	**13.04**	**110**	*e*Pn	**Pn**	**19 58 38.7**	**+0.4**
ZAIG	**Zacatecas**	**13.14**	**313**	*e*Pn	**Pn**	**19 58 39.5**	**-0.5**
MTDJ	**Mount Denham**	**14.73**	**71**	*e*Pn	**Pn**	**19 59 00.5**	**-0.

346A	**Big Creek Wild** baz=189	17.51	8	P	Pn	19 59 35.6	-0.5
859A	**Kempfer Cattle** baz=219	17.53	35	P	Pn	19 59 36.1	-0.3
655A	**Horseshoe Beac** baz=210	17.54	27	P	Pn	19 59 35.2	-1.4
451A	**Vernon** baz=201	17.60	19	P	Pn	19 59 36.6	-0.6
757A	**Oxford** baz=214	17.62	31	P	Pn	19 59 37.3	-0.1
553A	**Crawfordville** baz=206	17.66	23	P	Pn	19 59 35.8	-2.2
347A	**Saraland** baz=192	17.67	10	P	P	19 59 38.3	-0.1
656A	**Willston** 474nm,1.7s	17.75	29	*e*Pn	P	19 59 41.2	+1.9
656A	**Willston** baz=212	17.75	29	P	Pn	19 59 37.4	-1.7
BRAL	**Brewton** baz=196	17.76	15	P	P	19 59 39.3	0.0
348A	**Jackson** baz=194	17.80	12	P	P	19 59 40.2	+0.4
243A	**Waterproof** baz=182	17.83	2	P	Pn	19 59 39.5	-0.6
NATX	**Nacogdoches** baz=172	17.84	353	P	Pn	19 59 39.1	-1.1
JCT	**Junction City** 125nm,1.7s	17.85	338	*e*Pn	Pn	19 59 39.5	-0.9
JCT	**Junction City** baz=155	17.85	338	P	Pn	19 59 39.2	-1.1
554A	**Perry** baz=208	17.86	25	P	Pn	19 59 38.5	-1.9
349A	**Repton** baz=196	17.90	14	P	P	19 59 41.4	+0.6
241A	**Mc Tay, Goldon** baz=178	17.97	358	P	P	19 59 39.4	-2.3
452A	**Marianna** baz=202	18.00	20	P	P	19 59 41.6	-0.4
242A	**Grayson** baz=180	18.00	0	P	P	19 59 41.9	-0.1
HPIG	60nm,1.5s	18.00	318	*e*Pn	P	19 59 41.4	-1.0
240A	**Hunter Patters** baz=175	18.03	356	P	Pn	19 59 42.5	0.0
244A	**Avery, Jackson** baz=185	18.04	4	P	P	19 59 40.4	-2.0
758A	**Lake Helen** baz=216	18.08	33	P	P	19 59 42.0	-0.9
245A	**Little AP, Sta** baz=187	18.09	6	P	P	19 59 43.0	0.0
PLMC	**San Jos¯ del**	18.11	118	*e*P	P	19 59 41.7	-1.8
HELC	**Santa Helena**	18.15	114	*e*P	P	19 59 41.7	-2.6
246A	**Jackson Lee, B** baz=190	18.17	8	P	Pn	19 59 44.1	-0.2
350A	**Dozier** baz=198	18.18	16	P	Pn	19 59 44.7	+0.4
555A	**McAlpin** baz=210	18.19	26	P	P	19 59 43.9	-0.3
VBMS	**Vicksburg** baz=185	18.22	5	P	P	19 59 44.4	0.0
ZARC	**Zaragoza, Cauc**	18.23	109	*e*P	P	19 59 43.0	-1.7
657A	**Interlachen** baz=214	18.25	30	P	P	19 59 44.0	-0.7
351A	**Pinckard** baz=201	18.26	18	P	P	19 59 44.1	-0.8
247A	**Quitman** baz=191	18.29	10	P	Pn	19 59 45.8	+0.1
453A	**Whigham** baz=205	18.30	22	P	Pn	19 59 46.9	+1.1
556A	**Lake Butler** baz=212	18.34	28	P	Pn	19 59 46.6	+0.3
658A	**Bunnell** baz=216	18.42	32	P	P	19 59 46.5	-0.1
248A	**Dixon Mills** baz=194	18.49	12	P	Pn	19 59 47.8	-0.3
249A	**Camden** baz=196	18.51	14	P	Pn	19 59 49.1	+0.7
YOTC	**Yotoco, Valle**	18.55	121	*e*P	P	19 59 48.6	+0.3
141A	**Papa Simpson,** baz=178	18.55	358	P	P	19 59 47.9	-0.2
WHTX	**Lake Whitney,** 247nm,1.8s	18.56	346	*e*P	Pn	19 59 48.6	-0.3
WHTX	**Lake Whitney,** baz=164	18.56	346	P	P	19 59 48.0	-0.2
TX31	**Lajitas Ar. Si**	18.60	327	*e*P	P	19 59 47.5	-1.3
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=153,slow=11,SNR=48	18.60	327	P	P	19 59 48.9	+0.2
140A	**Cam and Jess,** baz=176	18.62	356	P	P	19 59 48.6	-0.2
144A	**Alexander Plac** baz=185	18.64	5	P	P	19 59 48.8	-0.2
143A	**Socs Landing,** baz=182	18.65	2	P	P	19 59 49.3	+0.1
145A	**Houston Renfro** baz=187	18.66	6	P	Pn	19 59 50.1	+0.1
352A	**Blakely** baz=202	18.66	20	P	Pn	19 59 49.8	-0.4
557A	**Orange Park** baz=213	18.67	30	P	Pn	19 59 50.8	+0.6
455A	**Stateville** baz=209	18.71	25	P	Pn	19 59 51.2	+0.5
GUYC	**Guyana, Colomb**	18.72	116	*e*P	P	19 59 50.4	-0.2
250A	**Grady** baz=198	18.73	16	P	Pn	19 59 51.5	+0.6
353A	**Camilla** baz=205	18.78	22	P	Pn	19 59 52.4	+0.8
146A	**Union** baz=189	18.80	8	P	P	19 59 51.1	+0.3
RREF	**El Recreo**	18.92	117	*e*P	Pn	19 59 53.6	-0.4
147A	**Livingston** 511nm,1.7s	18.96	10	*e*P	Pn	19 59 53.1	-0.5
147A	**Livingston** baz=192	18.96	10	P	Pn	19 59 53.8	+0.1
PTBC	**PUERTO BERRIO,**	18.97	111	*e*P	P	19 59 50.9	-2.0
148A	**Greensboro** baz=194	19.06	12	P	Pn	19 59 54.7	-0.2
251A	**Midway** baz=200,SNR=6.2	19.08	18	P	Pn	19 59 54.5	-0.7
TIGA	**Tifton** baz=206	19.10	23	P	Pn	19 59 54.8	-0.5
POPC	**Popayan, Colom**	19.11	125	*e*P	P	19 59 53.6	-0.9
456A	**Hilliard** baz=211	19.13	28	P	P	19 59 54.8	+0.3
Z43A	**Armstrong Fami** baz=183	19.16	2	P	P	19 59 54.8	+0.1
149A	**Jones** baz=196	19.19	14	P	P	19 59 55.3	+0.2
252A	**Lumpkin** baz=202	19.20	20	P	Pn	19 59 56.3	-0.3
Z41A	**Richland Creek** baz=178	19.20	359	P	Pn	19 59 56.4	-0.1
Z42A	**Norrel Spur, H** baz=181	19.21	1	P	P	19 59 55.9	+0.6
Z40A	**Long Farm, Mag** baz=176	19.22	357	P	P	19 59 55.9	+0.5
457A	**Yulee** baz=213	19.25	29	P	Pn	19 59 57.2	-0.1
Z44A	**Pea Ridge, Bel** baz=185	19.28	5	P	Pn	19 59 57.1	-0.4
OTAV	**Otavalo** 50nm,1.8s	19.29	134	*e*P	P	19 59 56.4	-0.4
OTAV	**Otavalo**	19.29	134	*e*P	P	19 59 56.4	-0.4
355A	**Pearson** baz=208	19.31	25	P	P	19 59 56.4	+0.1
SLBS	**Sierra La Lagu** 143nm,1.8s	19.34	303	*e*P	P	19 59 57.2	+0.3
Z46A	**Louisville** baz=190	19.36	8	P	Pn	19 59 57.8	-0.7
150A	**Eclectic** baz=198,SNR=5.3	19.39	16	P	Pn	19 59 58.4	-0.4
OCAC	**Ocana**	19.40	105	*e*P	P	19 59 55.0	-2.7
GCUF	**Volcan Galeras**	19.42	129	*e*P	Pn	20 00 02.4	+2.6
BRRC	**Barranca, Sant**	19.43	109	*e*P	P	19 59 55.9	-1.9
Z45A	**Winona** baz=187	19.44	6	P	Pn	19 59 59.8	+0.4
253A	**Americus** baz=204	19.46	21	P	P	19 59 57.6	-0.5
Z47A	**Carrollton** baz=192	19.50	10	P	P	19 59 57.9	-0.6
151A	**Opelika** baz=200,SNR=9.9	19.51	18	P	P	19 59 58.1	-0.4
LRAL	**Lakeview Retre** 58nm,1.3s	19.56	13	*e*P	P	19 59 58.1	-1.0
LRAL	**Lakeview Retre** baz=195	19.56	13	P	P	19 59 59.8	+0.7
356A	**Blackshear** baz=210	19.59	27	P	P	19 59 59.2	-0.3
ABTX	**Abilene, Hawle**	19.76	341	*e*P	P	20 00 00.8	-0.5
ABTX	**Abilene, Hawle** baz=158,SNR=11	19.76	341	P	P	20 00 01.1	-0.3
Z48A	**Northport** baz=193	19.77	12	P	P	20 00 01.4	0.0
Y42A	**Garnett, Star** baz=181	19.77	1	P	P	20 00 01.3	-0.1
Y41A	**Eaglette Beard** baz=179	19.82	359	P	P	20 00 02.3	+0.4
Z49A	**Columbiana** baz=196	19.82	14	P	P	20 00 01.8	-0.1
LPIG	**La Paz** 12nm,0.3s,baz=110,slow=12,SNR=4.3	19.82	303	P	P	20 00 03.0	+1.0
152A	**Waverly Hall** 200nm,1.9s	19.82	19	*e*P	Pn	20 00 04.0	0.0
152A	**Waverly Hall** baz=202	19.82	19	P	P	20 00 02.7	+0.6
ROSC	**El Rosal** 0.6nm,0.3s,baz=320,slow=9.1,SNR=12	19.84	116	P	Pn	20 00 04.3	-0.4
ROSC	**El Rosal** 160nm,1.5s	19.84	116	*e*P	Pn	20 00 04.2	-0.6
ROSC	**El Rosal**	19.84	116	*e*P	Pn	20 00 03.8	-1.0
URIC	**Uribia, Colomb**	19.85	94	*e*P	Pn	20 00 12.5	+8.1
Y43A	**Makayla and Ka** baz=184	19.88	3	P	P	19 59 59.2	-3.3
PRAC	**Prado**	19.91	119	*e*P	Pn	20 00 04.7	-0.6
Y45A	**Yeager Farm, C** baz=188	19.95	7	P	P	20 00 03.1	-0.2
Y40A	**Okolona** baz=177	19.97	357	P	P	20 00 03.7	+0.2
255A	**Hazlehurst** 552nm,2.0s	19.97	25	*e*P	P	20 00 01.6	-2.0
255A	**Hazlehurst** baz=209	19.97	25	P	P	20 00 03.7	+0.1
Y44A	**Strider, Charl** baz=186	19.98	5	P	Pn	20 00 05.1	-0.6
Z50A	**Ashland** 70nm,1.3s	20.03	16	*e*P	P	20 00 04.7	+0.5
Z50A	**Ashland** baz=198,SNR=6.5	20.03	16	P	P	20 00 03.5	-0.7
Y46A	**Houston** baz=189,SNR=5.6	20.05	8	P	P	20 00 05.0	+0.5
153A	**Fort Valley** baz=204	20.10	21	P	P	20 00 04.7	-0.4
Y47A	**UCPARC, Winfie** baz=192	20.23	11	P	P	20 00 05.5	-0.9
256A	**Glennville** baz=210	20.26	26	P	Pn	20 00 08.5	-0.6
Z51A	**Franklin** baz=200	20.29	17	P	P	20 00 08.0	+0.9
154A	**Montrose** baz=206	20.33	23	P	P	20 00 07.7	+0.2
Y48A	**Jasper** baz=194	20.37	12	P	P	20 00 07.9	0.0
Z52A	**Williamson** baz=202	20.40	19	P	P	20 00 09.1	+0.8
X40A	**Basin Creek Fa** 253nm,1.9s	20.43	359	*e*P	P	20 00 09.0	+0.5
X40A	**Basin Creek Fa** baz=178	20.43	359	P	Pn	20 00 10.2	-0.8
CHIC	**Chingaza**	20.46	115	*e*P	P	20 00 09.0	-0.5
RUSC	**La Rusia**	20.48	111	*e*P	P	20 00 08.3	-1.4
Y49A	**Blount Mountai** 200nm,1.9s	20.48	14	*e*P	P	20 00 09.3	+0.2
Y49A	**Blount Mountai** baz=196,SNR=7.2	20.48	14	P	P	20 00 09.3	+0.2
FLOC	**Florencia**	20.50	126	*e*P	P	20 00 08.8	-0.7
MIAR	**Mount Ida** 178nm,1.5s	20.51	357	*e*P	P	20 00 09.6	+0.2
MIAR	**Mount Ida** baz=176	20.51	357	P	Pn	20 00 10.8	-1.3
X44A	**Crenshaw** baz=186	20.52	5	P	Pn	20 00 10.9	-1.2
155A	**Kite** baz=208	20.58	24	P	P	20 00 10.7	+0.5
Y50A	**Piedmont** baz=198	20.68	15	P	P	20 00 11.7	+0.5
UALR	**University of** 191nm,1.5s	20.71	360	*e*P	P	20 00 11.8	+0.3
X37A	**Clayton** 69nm,1.0s	20.72	353	*e*P	P	20 00 10.7	-1.0
X46A	**Booneville** baz=190	20.75	8	P	P	20 00 09.9	-2.1
Z53A	**Monticello** baz=204,SNR=5.8	20.76	21	P	P	20 00 10.8	-1.4
X47A	**Russelville** baz=192	20.83	10	P	P	20 00 12.3	-0.6
Y51A	**Rockmart** baz=200,SNR=9.8	20.87	17	P	P	20 00 12.5	-0.8
X48A	**Hartselle** 122nm,1.6s	20.91	12	*e*P	P	20 00 13.9	+0.1
X48A	**Hartselle** baz=194	20.91	12	P	P	20 00 13.9	+0.1
GOGA	**Godfrey** 66nm,1.1s	20.92	21	*e*P	P	20 00 14.8	+1.0
GOGA	**Godfrey** baz=204	20.92	21	P	P	20 00 14.4	+0.6
Z54A	**Sparta** baz=206,SNR=5.8	20.99	22	P	P	20 00 13.8	-0.8
156A	**Sylvania** baz=210	21.01	26	P	P	20 00 13.1	-1.8
W41B	**Gary Mavity, V** 242nm,1.9s	21.10	360	*e*P	P	20 00 16.9	+1.1
W41B	**Gary Mavity, V** baz=180	21.10	360	P	P	20 00 15.3	-0.5
X49A	**Woodville** baz=196	21.13	14	P	P	20 00 15.7	-0.4
Y52A	**Lilburn** 59nm,1.1s	21.14	19	*e*P	P	20 00 15.5	-0.7
Y52A	**Lilburn** baz=202	21.14	19	P	P	20 00 16.8	+0.6
W39A	**Magazine** 182nm,1.8s	21.17	356	*e*P	P	20 00 16.5	-0.1
WHAR	**Wooly Hollow** 118nm,1.5s	21.22	360	*e*P	P	20 00 17.4	+0.3
X50B	**Fort Payne** baz=198,SNR=10	21.24	15	P	P	20 00 17.1	-0.3
Z55A	**Blythe** baz=208	21.24	24	P	P	20 00 16.5	-0.8
GDL2	**Guadalupe Moun**	21.27	331	*e*P	P	20 00 18.1	+0.3
Y53A	**Monroe** baz=204	21.28	20	P	P	20 00 18.0	+0.2
W46A	**Michie** baz=190	21.35	9	P	P	20 00 16.7	-1.7
MNTX	**Cornudas Mount** 98nm,1.6s	21.37	328	*e*P	P	20 00 18.4	-0.3
MNTX	**Cornudas Mount** baz=143	21.37	328	P	P	20 00 18.8	+0.1
TAMC	**Tame, Arauca**	21.44	108	*e*P	P	20 00 20.3	+0.6
WMOK	**Wichita Mounta** 77nm,1.6s	21.50	345	*e*P	P	20 00 19.2	-0.9
WMOK	**Wichita Mounta** baz=162	21.50	345	P	P	20 00 19.4	-0.7
X51A	**Calhoun** 83nm,1.4s	21.55	17	*e*P	P	20 00 21.4	+0.8
X51A	**Calhoun** baz=200	21.55	17	P	P	20 00 19.8	-0.8
W47A	**Westpoint** baz=192	21.59	10	P	P	20 00 20.3	-0.7
W48A	**Pulaski** baz=194,SNR=6.1	21.60	12	P	P	20 00 19.0	-2.1
Y54A	**Tignall** baz=206	21.60	22	P	P	20 00 20.3	-0.9
V41A	**Mountainview** baz=180	21.71	0	P	P	20 00 21.9	-0.5
W49A	**Belvidere** baz=196,SNR=9.2	21.72	13	P	P	20 00 22.5	+0.1
V42A	**Cord** baz=182	21.75	2	P	P	20 00 21.8	-0.9
X52A	**Dahlonega** baz=202	21.87	19	P	P	20 00 24.3	+0.2
SWET	**Sewanee** 42nm,0.9s	21.89	14	*e*P	P	20 00 23.6	-0.7
X53A	**Estanollee** baz=204	21.97	20	P	P	20 00 23.8	-1.3
W50A	**Signal Mountai** 152nm,1.9s	22.03	15	*e*P	P	20 00 25.1	-0.7
W50A	**Signal Mountai** baz=198	22.03	15	P	P	20 00 24.2	-1.6
V46A	**Holladay** baz=191	22.04	9	P	P	20 00 24.0	-1.8
TUL1	**Leonard** 36nm,1.0s	22.07	352	*e*P	P	20 00 25.3	-0.9
TUL1	**Leonard** baz=171	22.07	352	P	P	20 00 25.0	-1.2
MSTX	**Muleshoe** 76nm,1.0s	22.08	336	*e*P	P	20 00 24.9	-1.6
MSTX	**Muleshoe**	22.08	336	P	P	20 00 25.6	-0.9
W51A	**Cleveland** baz=199,SNR=5.2	22.14	16	P	P	20 00 27.0	+0.1
V47A	**Nunnelly** baz=192	22.16	10	P	P	20 00 26.0	-1.1
V48A	**Smith Brothers** 30nm,1.0s	22.20	12	*e*P	P	20 00 25.4	-2.3
V48A	**Smith Brothers** baz=194,SNR=7.9	22.20	12	P	P	20 00 25.8	-1.8
HHAR	**Hobbs** 103nm,1.9s	22.26	356	*e*P	P	20 00 27.1	-1.1
U41A	**Viola** baz=181	22.27	1	P	P	20 00 27.2	-1.2
U42A	**Revenden** baz=182,SNR=5.5	22.30	2	P	P	20 00 26.9	-1.7
W52A	**Murphy** baz=202	22.32	18	P	P	20 00 26.9	-2.0
WVT	**Waverly** 79nm,1.8s	22.41	9	*e*P	P	20 00 28.9	-0.9
WVT	**Waverly** baz=191	22.41	9	P	P	20 00 26.4	-3.4
V49A	**McMinnville** baz=196,SNR=7.3	22.43	14	P	P	20 00 29.0	-1.1
CPCT	**Cooper Cave** 35nm,0.9s	22.48	17	*e*P	P	20 00 30.1	-0.5
AMTX	**Amarillo** 98nm,0.9s	22.50	339	*e*P	P	20 00 30.2	-0.7
AMTX	**Amarillo** baz=155	22.50	339	P	P	20 00 30.1	-0.8
JSC	**Jenkinsville** 64nm,1.3s	22.52	24	*e*P	P	20 00 30.7	-0.3
V50A	**Pikevile** baz=198,SNR=8.0	22.53	15	P	P	20 00 30.6	-0.5
BG3	**Lake Jocassee** 179nm,1.8s	22.54	20	*e*P	P	20 00 31.8	+0.6
U46A	**Springville** baz=190	22.58	9	P	P	20 00 30.6	-1.1
W53A	**Cullowhee** baz=203,SNR=5.7	22.62	20	P	P	20 00 32.2	-0.1
PBMO	**Poplar Bluff** 21nm,0.8s	22.76	4	*e*P	P	20 00 32.5	-1.0
PAULI	**Pauline** 163nm,1.8s	22.78	23	*e*P	P	20 00 34.3	+0.5
U47A	**Clarksville** baz=192	22.80	10	P	P	20 00 33.3	-0.6
V51A	**Loudon** 133nm,1.5s	22.85	17	*e*P	P	20 00 33.4	-1.1
V51A	**Loudon** baz=200,SNR=7.7	22.85	17	P	P	20 00 32.9	-1.6
TKL	**Tuckaleechee C** 36nm,1.1s,baz=188,slow=12,SNR=10	22.89	18	P	P	20 00 34.5	-0.4
TKL	comp=Z,7µm,19.2s,baz=200,slow=42			LR	LR	20 11 33.9	
TKL	**Tuckaleechee C** 340nm,2.0s	22.89	18	*e*P	P	20 00 34.5	-0.4
HSIG	102nm,1.9s	22.92	314	*e*P	P	20 00 34.6	-0.7
T41A	**Mountain View** baz=181	22.97	1	P	P	20 00 34.4	-1.3
T42A	**Van Buren** 29nm,1.4s	22.98	2	*e*P	P	20 00 34.8	-1.0
T42A	**Van Buren** baz=183	22.98	2	P	P	20 00 34.3	-1.5
U48A	**Cassie Pea, Po** baz=194	23.01	12	P	P	20 00 34.5	-1.6
T43A	**Greenville** baz=185	23.07	4	P	P	20 00 35.0	-1.7
V52A	**Sevierville** 100nm,1.4s	23.11	18	*e*P	P	20 00 36.7	-0.4
V52A	**Sevierville** baz=202,SNR=7.4	23.11	18	P	P	20 00 36.5	-0.6
U49A	**Red Boiling Sp** baz=196,SNR=15	23.17	13	P	P	20 00 36.1	-1.6
V53A	**Saluda** 116nm,1.5s	23.20	20	*e*P	P	20 00 37.0	-1.1
V53A	**Saluda** baz=204	23.20	20	P	P	20 00 36.9	-1.1
KMSC	**Kings Mountain** 42nm,0.9s	23.25	23	*e*P	P	20 00 37.1	-1.3
KMSC	**Kings Mountain** baz=208,SNR=8.3	23.25	23	P	P	20 00 36.6	-1.9
T46A	**Princeton** baz=191,SNR=5.3	23.29	9	P	P	20 00 37.3	-1.5
U50A	**Jamestown** baz=198,SNR=16	23.30	15	P	P	20 00 37.0	-2.0
121A	**Cookes Peak, D** baz=139,SNR=13	23.30	325	P	P	20 00 39.4	+0.1
319A	**Douglas** 108nm,1.4s	23.34	321	*e*P	P	20 00 39.7	+0.2
T47A	**Sharon Grove** 130nm,1.5s	23.36	10	*e*P	P	20 00 37.1	-2.4
T47A	**Sharon Grove** baz=192,SNR=8.3	23.36	10	P	P	20 00 37.6	-1.9
U51A	**La Follette** baz=200	23.49	17	P	P	20 00 40.0	-0.8
S41A	**Jillco Farms,** baz=181	23.52	1	P	P	20 00 39.5	-1.5
S43A	**Fulton Ridge,** baz=185	23.57	4	P	P	20 00 40.1	-1.4
T48A	**Bowling Green** baz=194	23.61	12	P	P	20 00 40.4	-1.4
U52A	**Thorn Hill** baz=202	23.69	18	P	P	20 00 42.2	-0.4
S42A	**Caledonia** baz=183	23.73	3	P	P	20 00 41.4	-1.5
S44A	**Carbondale** baz=187,SNR=6.6	23.77	6	P	P	20 00 42.2	-1.1
TZTN	**Tazewell** 46nm,1.1s	23.77	18	*e*P	P	20 00 43.3	-0.1
TZTN				*e*S	S	20 04 58.8	+3.7
TZTN	**Tazewell** baz=201	23.77	18	P	P	20 00 42.1	-1.3
SIUC	**Southern Illin** 42nm,0.8s	23.79	6	*e*P	P	20 00 42.5	-0.9
T49A	**Edmonton** 83nm,1.3s	23.79	13	*e*P	P	20 00 42.3	-1.3
T49A	**Edmonton** baz=196	23.79	13	P	P	20 00 42.3	-1.3
T50A	**Nancy** baz=198	23.88	15	P	P	20 00 43.1	-1.2
U53A	**Fall Branch** baz=204	23.91	19	P	P	20 00 43.4	-1.2
S46A	**Don Dixon Farm** baz=191	23.95	9	P	P	20 00 43.7	-1.2
BNM	**Barren Site**	23.95	329	*e*P	P	20 00 45.7	+0.3
CCM	**Cathedral Cave** 30nm,1.3s	24.00	2	*e*P	P	20 00 45.3	-0.1
CCM	**Cathedral Cave** baz=182	24.00	2	P	P	20 00 43.9	-1.5
S47A	**Hartford** baz=193	24.00	10	P	P	20 00 43.7	-1.6
T51A	**Gray** baz=200	24.06	16	P	P	20 00 45.2	-0.8
LPM	**Los Pinos Moun**	24.08	330	*e*P	P	20 00 47.2	+0.7
LENM	**Lemitar**	24.14	329	*e*P	P	20 00 47.7	+0.8
S48A	**Wiedeman Farm,** baz=195	24.21	12	P	P	20 00 45.7	-1.6
USIN	**University of** 169nm,1.6s	24.23	9	*e*P	P	20 00 47.0	-0.5
R43A	**Red Bud** baz=185	24.29	4	P	P	20 00 46.7	-1.3
R44A	**Waltonville** baz=187	24.33	6	P	P	20 00 47.2	-1.2
LAZ	**Ladron**	24.41	329	*e*P	P	20 00 49.2	-0.2
T52A	**Hallie** baz=202	24.46	18	P	P	20 00 48.3	-1.4
R45A	**Skylar, Fairfi** baz=189	24.47	7	P	P	20 00 48.8	-0.9
R46A	**Gibon Southern** baz=191	24.50	9	P	P	20 00 48.4	-1.5
S49A	**Springfield** baz=196	24.50	13	P	P	20 00 48.4	-1.6
ANMO	**Albuquerque** 1.8nm,0.6s,baz=154,slow=6.6,SNR=8.8	24.51	331	P	P	20 00 51.6	+1.2
ANMO	**Albuquerque** 62nm,1.8s	24.51	331	*e*P	P	20 00 51.3	+0.9
ANMO	**Albuquerque** baz=145	24.51	331	P	P	20 00 50.7	+0.4
WCI	**Wyandotte Cave** 37nm,0.8s	24.72	11	*e*P	P	20 00 51.8	-0.2
WCI	**Wyandotte Cave** baz=194	24.72	11	P	P	20 00 51.2	-0.8
R47A	**Wooly Knot Far** baz=193	24.74	11	P	P	20 00 50.9	-1.3
S51A	**Beattyville** baz=200	24.78	17	P	P	20 00 52.0	-0.6
Q41A	**Truxton** baz=182	24.89	2	P	P	20 00 52.2	-1.3

TUC Tucson 24.91 320 eP P 20 00 53.3 -0.6
61nm,1.8s
TUC Tucson 24.91 320 P P 20 00 54.6 +0.6
baz=133
OLIL Olney 24.93 8 eP P 20 00 53.7 -0.1
38nm,0.8s
R48A Northridge Ran 24.97 12 P P 20 00 53.3 -0.9
baz=195
R49A Shelbyville 25.01 13 P P 20 00 54.7 +0.1
baz=196
ATAH Atahualpa 25.07 146 P P 20 00 55.0 -0.8
1.9nm,0.4s,baz=320,slow=15,SNR=5.0
Q45A Warren Harvey, 25.08 7 P P 20 00 55.4 +0.2
baz=189
R50A Paris 25.20 15 P P 20 00 56.5 +0.2
baz=198
KSU1 Kansas State U 25.32 352 eP P 20 00 56.5 -0.9
36nm,0.8s
Q47A Bedord North L 25.38 11 P P 20 00 57.0 -1.0
baz=193
T25A Trinidad 25.50 337 eP P 20 00 58.4 -1.0
35nm,1.0s
T25A Trinidad 25.50 337 P P 20 00 58.9 -0.4
baz=152
Q48A North Vernon 25.50 12 P P 20 00 58.5 -0.6
baz=195
P44A Sand Creek, Wi 25.59 6 P P 20 00 60.0 +0.1
baz=188
CBKS Cedar Bluff 25.61 346 eP P 20 00 58.7 -1.5
141nm,1.5s
CBKS Cedar Bluff 25.61 346 P P 20 00 59.7 -0.4
baz=163
R52A Catlettsburg 25.70 18 P P 20 01 01.6 +0.7
baz=202
P45A Graceland, Par 25.75 8 P P 20 01 01.5 +0.2
baz=190
Q49A Aurora 25.75 13 P P 20 01 01.1 -0.2
baz=196
Q50A Georgetown 25.82 15 P P 20 01 01.2 -0.7
baz=198
P46A Rosedale 25.92 9 P P 20 01 02.1 -0.7
baz=191
P47A Martinsville 25.94 11 P P 20 01 02.4 -0.7
baz=193
214A Organ Pipe Nat 25.98 317 P P 20 01 03.8 +0.2
baz=129
O41A Passleys Farm, 26.06 2 P P 20 01 02.9 -1.3
baz=183
P48A Milroy 26.08 12 P P 20 01 02.9 -1.4
baz=195
Q51A Peebles 26.15 16 eP P 20 01 03.1 -1.9
37nm,0.9s
Q51A Peebles 26.15 16 P P 20 01 04.6 -0.4
baz=200
W18A Petrified Fore 26.31 326 P P 20 01 07.8 +1.1
baz=139
Q52A Bidwell 26.39 18 P P 20 01 07.2 +0.1
baz=202
SDCO Great Sand Dun 26.45 336 eP P 20 01 07.8 -0.3
68nm,1.5s
SDCO Great Sand Dun 26.45 336 P P 20 01 07.8 -0.3
baz=150
O45A Potomac 26.46 8 P P 20 01 07.3 -0.5
baz=190
KSCO Kaye Shedlock' 26.57 342 P P 20 01 08.8 -0.1
baz=157
P50A Jamestown 26.59 15 P P 20 01 08.1 -0.8
baz=198
SFIN Lafayette 26.68 9 P P 20 01 09.6 -0.1
baz=191
X16A Lo Mia Camp, P 26.77 323 eP P 20 01 10.7 -0.1
15nm,1.2s
O48A Farmland 26.90 12 P P 20 01 11.1 -0.6
baz=195
N44A Piper City 26.95 7 P P 20 01 11.3 -0.9
baz=189
N43A Stutzman Famil 26.99 5 P P 20 01 10.6 -1.9
baz=186
S22A 4UR Ranch, Cre 27.00 334 eP P 20 01 13.5 +0.5
72nm,1.5s
S22A 4UR Ranch, Cre 27.00 334 P P 20 01 12.3 -0.7
baz=147
O49A Covington 27.01 13 P P 20 01 11.7 -1.0
baz=197
R58B Mineral 27.07 25 P P 20 01 13.1 -0.1
baz=212
113A Mohawk Valley, 27.12 317 eP P 20 01 13.3 -0.5
35nm,1.5s
MVCO Mesa Verde 27.31 331 eP P 20 01 16.2 +0.5
46nm,1.2s
MVCO Mesa Verde 27.31 331 P P 20 01 15.1 -0.7
baz=144
Y14A Wickenburg 27.39 320 eP P 20 01 15.9 -0.3
50nm,1.7s
N47A Urbana 27.40 11 P P 20 01 15.4 -0.7
baz=194
M43A Waltham Townsh 27.50 5 P P 20 01 16.1 -0.9
baz=187
N48A Decatur 27.51 12 P P 20 01 16.4 -0.7
baz=195
WUAZ Wupatki 27.51 325 eP P 20 01 17.9 +0.5
28nm,1.5s
WUAZ Wupatki 27.51 325 P P 20 01 18.7 +1.2
baz=136
O52A Adamsville 27.59 17 eP P 20 01 17.7 -0.1
270nm,0.9s
GLA Glamis 28.00 317 P P 20 01 21.4 -0.3
baz=128
L39A Vinton 28.04 0 P P 20 01 20.5 -1.4
baz=180
PV01 Paradox Valley 28.09 332 eP P 20 01 22.8 +0.1
SMCO Snowmass 28.27 335 eP P 20 01 24.8 +0.3
31nm,1.4s
ISCO Idaho Springs 28.29 338 eP P 20 01 24.6 +0.1
34nm,1.5s
ISCO Idaho Springs 28.29 338 P P 20 01 23.6 -0.9
baz=152
PV05 Paradox Valley 28.29 331 eP P 20 01 23.8 -0.6
PV03 Paradox Valley 28.32 332 eP P 20 01 25.1 +0.4
PDMCI Parker Dam,Lak 28.34 319 P P 20 01 24.9 +0.3
baz=130
PV10 Paradox Valley 28.51 332 eP P 20 01 27.4 +1.0
PV09 Paradox Valley 28.65 332 eP P 20 01 28.6 +0.9
L48A N Adams 28.67 12 P P 20 01 26.8 -0.7
baz=196
U15A North Rim 28.68 325 eP P 20 01 28.7 +0.7
37nm,1.8s
W13A Hualapai Mount 28.70 321 eP P 20 01 28.7 +0.6
21nm,0.5s
BC3 Big Chuckawall 28.78 317 P P 20 01 29.4 +0.6
baz=127
O56A Blue Knob Stat 28.80 22 P P 20 01 28.6 -0.1
baz=208
IRM Iron Mountain 28.89 318 P P 20 01 30.4 +0.8
baz=129
MONP2 Monument Peak 28.99 315 P P 20 01 31.2 +0.5
baz=125
BELC Belle Mtn. Jos 29.35 317 P P 20 01 35.0 +1.2
baz=127
N23A Red Feather La 29.37 338 P P 20 01 33.0 -1.0
baz=152
KNB Kanab 29.40 325 eP P 20 01 35.3 +1.1
64nm,1.7s
PFO Pinyon Flats O 29.43 316 P P 20 01 35.5 +1.0
baz=126
PKCU Pink Cliffs 29.43 326 eP P 20 01 35.5 +0.9
107nm,2.0s
FRD Ford Ranch, An 29.46 315 P P 20 01 35.7 +0.9
baz=126
O20A White River Ci 29.60 335 eP P 20 01 37.1 +1.1
75nm,1.6s
O20A White River Ci 29.60 335 P P 20 01 36.6 +0.6
baz=147
GMRC Granite Mounta 29.61 318 P P 20 01 36.6 +0.5
baz=129
LCMT Little Creek M 29.63 324 eP P 20 01 37.4 +1.1
9.0nm,1.4s
SRU San Rafael Swe 29.79 331 eP P 20 01 38.4 +0.7
40nm,1.6s
MTPU Mount Pierson 29.80 327 eP P 20 01 39.0 +0.9
34nm,1.7s
ECSD EROS Data Cent 29.89 354 eP P 20 01 37.1 -1.3
19nm,1.4s
ECSD EROS Data Cent 29.89 354 P P 20 01 37.0 -1.3
baz=171
HEC Hector,Ludlow 30.07 318 P P 20 01 40.4 +0.3
baz=128
CCUT Cedar City 30.08 325 eP P 20 01 40.7 +0.4
8.2nm,1.1s
MSU Marysvale 30.15 328 eP P 20 01 41.3 +0.4
P17A Butcher Ranch, 30.18 331 eP P 20 01 40.8 -0.3
25nm,1.3s
TMUT Trail Mountain 30.27 330 eP P 20 01 42.4 +0.4
15nm,1.1s
J49A Marlette 30.30 13 P P 20 01 42.0 +0.1
baz=198
BFSC Mount Baldy Ra 30.61 316 P P 20 01 44.7 -0.2
baz=125
CIS Catalina Islan 30.66 314 P P 20 01 46.4 +1.2
baz=123
PSUT Pine Spring 31.06 326 eP P 20 01 49.9 +1.0
32nm,1.8s
NLU North Lily Min 31.20 330 eP P 20 01 51.3 +1.2
26nm,1.6s
EDW2 Edwards Air Fo 31.20 316 P P 20 01 50.6 +0.5
baz=126
TPNV Topopah Spring 31.36 321 eP P 20 01 52.9 +1.4
50nm,1.8s
MPMC Manual Prospec 31.57 319 P P 20 01 53.9 +0.4
baz=128
DUG Dugway, Tooele 31.75 329 eP P 20 01 55.3 +0.4
12nm,1.3s
DAC Darwin (Calif) 31.77 319 eP P 20 01 55.5 +0.3
24nm,1.7s
TCUT Toone Canyon 31.79 332 eP P 20 01 56.6 +1.2
263nm,2.0s
R11A Troy Canyon, C 31.90 324 eP P 20 01 55.8 -0.5
24nm,1.8s
R11A Troy Canyon, C 31.90 324 P P 20 01 56.5 +0.2
baz=133
ISA Isabella, Lake 31.97 317 eP P 20 01 56.6 -0.3
24nm,1.6s
ISA Isabella, Lake 31.97 317 P P 20 01 58.2 +1.3
baz=126
CLWO Collingwood 32.02 16 P P 20 01 56.2 -1.0
baz=202
F45A CMU Biological 32.11 9 P P 20 01 58.1 +0.3
baz=192
CWC Cottonwood Cre 32.18 319 P P 20 02 00.4 +1.7
baz=127
HWUT Hardware Ranch 32.25 332 eP P 20 01 59.9 +0.5
21nm,1.1s
BW06 Boulder Array 32.35 336 eP P 20 02 00.6 +0.4
29nm,1.5s
BW06 Boulder Array 32.35 336 P P 20 02 00.5 +0.2
baz=147
PD31 Pinedale Array 32.35 336 eP P 20 02 00.9 +0.6
PDAR Pinedale Array 32.35 336 P P 20 01 59.8 -0.5
1.8nm,0.8s,baz=128,slow=9.6,SNR=12
PDAR Pinedale Array 32.35 336 eP P 20 02 00.1 -0.1
BGU Big Grassy Mou 32.41 330 eP P 20 02 01.4 +0.7
15nm,1.3s
SPUT South Promonto 32.43 331 eP P 20 02 01.6 +0.7
25nm,1.4s
PKM Mcpherson Peak 32.44 315 P P 20 02 01.9 +0.8
baz=123
VES Vestal, Richgr 32.48 317 P P 20 02 01.3 +0.1
baz=125
DELO Deloro Mine 32.88 19 P P 20 02 04.4 -0.2
baz=207
HVU Hansel Valley 32.95 331 eP P 20 02 06.0 +0.6
71nm,1.7s
BUKO Buck Lake 33.19 17 P P 20 02 06.0 -1.3
baz=203
PAGB Antelope Grade 33.20 316 eP P 20 02 07.3 -0.3
34nm,1.4s
BANO Bancroft 33.24 19 P P 20 02 07.3 -0.4
baz=206
REDW Red Top Meadow 33.37 335 eP P 20 02 09.9 +0.8
153nm,1.4s
SNOW Snow King Moun 33.41 335 eP P 20 02 10.4 +0.8
94nm,2.2s
NV11 Mina Array Sit 33.47 321 eP P 20 02 12.7 +2.7
2.2nm,1.3s
LOHW Long Hollow 33.48 335 eP P 20 02 11.8 +1.7
72nm,1.4s
OMMB Old Mammoth Mi 33.48 320 eP P 20 02 12.6 +2.3
13nm,1.3s
TPAW Teton Pass 33.52 335 eP P 20 02 12.5 +2.0
69nm,1.3s
D46A Sault St. Mari 33.52 10 P P 20 02 09.1 -1.0
baz=194
PLVO Plevna 33.52 20 P P 20 02 10.0 -0.2
baz=207
F52A Sundridge 33.53 16 P P 20 02 09.3 -1.0
baz=203
NV01 Mina Array Sit 33.55 321 eP P 20 02 12.3 +1.5
NVAR Mina Array Bea 33.55 321 P P 20 02 12.0 +1.2
10nm,0.9s,baz=139,slow=8.9,SNR=47
NVAR PcP PcP 20 04 51.7 +1.2
1.3nm,0.8s,baz=126,slow=3.8,SNR=4.2
MOOW Moose Ponds 33.65 335 eP P 20 02 11.2 -0.3
43nm,1.5s
FXWY Fox Creek 33.67 335 eP P 20 02 12.7 +0.9
45nm,1.6s
RYN Ryan 33.81 321 eP P 20 02 13.7 +0.7
20nm,1.5s
KVN Kaiserville 33.83 322 eP P 20 02 14.1 +0.9
8nm,1.3s
IMW Indian Meadow 33.85 335 eP P 20 02 15.3 +1.9
81nm,2.0s
EYMN Ely 33.87 1 P P 20 02 12.8 -0.3
baz=181
PEMO Pembroke 34.04 19 P P 20 02 14.3 -0.3
baz=206
ALGO Algonquin Park 34.04 18 P P 20 02 14.0 -0.7
baz=205
H17A Grant Village 34.12 336 P P 20 02 13.8 -1.9
baz=147
E51A G1948 Merrick 34.17 16 P P 20 02 14.1 -1.7
baz=202
RLMT Red Lodge 34.25 338 eP P 20 02 18.3 +1.6
102nm,2.0s
RLMT Red Lodge 34.25 338 P P 20 02 16.0 -0.7
baz=150
YFT Old Faithful 34.27 336 eP P 20 02 20.9 +3.9
56nm,1.5s
WAKR Walker 34.29 320 eP P 20 02 19.9 +2.7
23nm,1.5s
YNR Norris Junctio 34.43 336 epP P 20 02 24.9 +6.6
YERR Yerington 34.47 321 eP P 20 02 21.7 +3.0
30nm,1.5s
YMR Madison River 34.50 336 eP P 20 02 22.2 +3.3
72nm,1.5s
E53A Dumoine, Ponti 34.54 18 P P 20 02 19.0 0.0
baz=205
YHH Holmes Hill 34.56 336 eP P 20 02 22.1 +2.6
43nm,1.6s
E54A Lac Daplat, Po 34.73 18 P P 20 02 20.4 -0.3
baz=206
QLMT Earthquake Lak 34.82 336 eP P 20 02 24.1 +2.5
PAHR Pah Rah Range 35.01 322 eP P 20 02 25.7 +2.4
19nm,1.4s
HLID Hailey 35.09 331 eP P 20 02 25.8 +1.8
19nm,1.1s
HLID eS S 20 07 50.6 -2.4
HLID Hailey 35.09 331 P P 20 02 25.0 +1.0
baz=140
PTGA Pitinga 35.13 112 eP P 20 02 24.0 -0.4
34nm,1.1s
D53A Lac Vacive, Po 35.16 17 P P 20 02 23.7 -0.7
baz=205
D54A Lac Fusel, La 35.54 18 P P 20 02 26.9 -0.7
baz=206
ORV Oroville 36.21 320 eP P 20 02 35.6 +2.2
22nm,1.6s
NMTM Middletown 36.37 318 ePcP PcP 20 04 58.0 -0.5
WVOR Wild Horse Val 36.39 326 eP P 20 02 37.2 +2.1
20nm,1.3s
NMCNC Mill Creek, So 36.55 318 ePcP PcP 20 04 58.4 -0.5
SKG Skaggs Springs 36.68 318 ePcP PcP 20 04 58.0 -1.4
O03E Paynes Creek 36.84 321 P P 20 02 40.0 +1.1
baz=127
GHLM Highland Sprin 36.87 318 ePcP PcP 20 04 59.0 -1.0
HOPS Hopland Field 36.88 318 ePcP PcP 20 04 59.6 -0.4
J08A Circle Bar Ran 36.94 328 eP P 20 02 41.4 +1.6
50nm,1.3s
MOD Modoc Plateau 36.96 324 eP P 20 02 41.5 +1.5
12nm,1.2s
LATQ La Tuque 37.04 22 P P 20 02 39.9 -0.4
baz=212
LSQQ Lebel-sur-Quev 37.16 17 P P 20 02 40.7 -0.7
baz=205
O02D Mt. Diablo Mer 37.38 320 P P 20 02 43.4 -0.1
baz=126
BMO Blue Mountains 37.43 330 eP P 20 02 45.4 +1.5
19nm,1.4s
MSO Missoula 37.46 335 eP P 20 02 45.9 +1.8
61nm,1.5s
MSO Missoula 37.46 335 P P 20 02 44.2 +0.1
baz=144
MATQ Matagami 37.63 16 P P 20 02 44.2 -1.1
baz=204
M04C Macdoel 37.77 323 P P 20 02 46.9 +0.1
baz=128
M02C Callahan 38.13 322 P P 20 02 49.3 -0.5
baz=127
F10A Beach Ranch, E 38.23 332 eP P 20 02 50.9 +0.4
40nm,1.0s
JTMT Jette 38.34 336 eP P 20 02 53.9 +2.4
41nm,1.3s
LPAZ La Paz 38.35 141 P P 20 02 49.1 -3.4
1.3nm,0.6s,baz=337,slow=8.1,SNR=7.1
J05D Fort Rock, OR 38.38 325 P P 20 02 51.8 -0.2
baz=131
J04D Umpqua Nationa 38.84 325 P P 20 02 56.1 +0.2
baz=130
I04A Tendick Farm, 39.36 325 P P 20 03 00.6 +0.6
baz=130
G05D Wamic, OR 39.72 327 P P 20 03 03.9 +1.0
baz=132
MNMC Minye Minye 39.74 145 eP P 20 03 04.3 +0.7
14nm,1.0s
H04A Detroit Lake 39.81 326 eP P 20 03 05.3 +1.5
113nm,1.9s
I03D Drain, OR 39.83 324 P P 20 03 04.5 +0.7
baz=128
KEBM Edson Butte 39.90 322 eP P 20 03 07.3 +2.8
82nm,1.2s
NEW Newport 39.92 334 eP P 20 03 06.3 +1.7
12nm,1.3s
C09A Chrisman Ranch 40.07 333 eP P 20 03 07.7 +1.9
94nm,2.0s
F05D White Salmon 40.23 328 P P 20 03 06.5 -0.6
baz=133
I02D Swisshome 40.36 324 P P 20 03 07.6 -0.7
baz=128
LTY Liberty 40.79 330 eP P 20 03 13.5 +1.7
57nm,1.7s
B08A Colville Reser 40.96 332 eP P 20 03 14.6 +1.4
11nm,1.2s
LON Longmire 41.00 329 eP P 20 03 15.3 +1.7
19nm,1.3s
D03D Eldon 42.17 329 P P 20 03 23.0 0.0
baz=132
SCHQ Schefferville 45.31 20 LR LR 20 24 48.9
comp=Z,4μm,18.2s,baz=230,slow=39
YKA Yellowknife Ar 51.00 347 P P 20 04 32.7 +0.8
10nm,0.7s,baz=151,slow=7.4,SNR=19
YKB5 Yellowknife Ar 51.00 347 eP P 20 04 32.9 +1.1
YKW3 Yellowknife Ar 51.06 347 eP P 20 04 33.3 +1.0
37nm,1.0s
CPUP Villa Florida 52.51 140 P P 20 04 40.3 -3.3
2.6nm,0.8s,baz=329,slow=9.4,SNR=5.5
CPUP Villa Florida 52.51 140 eP P 20 04 43.5 -0.1
29nm,1.8s
DLBC Dease Lake 52.59 336 eP P 20 04 46.6 +2.7
28nm,1.1s
BDFB Brasilia 52.69 122 P P 20 04 43.8 -1.5
3.0nm,0.8s,baz=345,slow=8.7,SNR=3.8
PLCA Paso Flores 58.03 161 P P 20 05 18.2 -5.0
3.2nm,1.0s,baz=5.2,slow=11,SNR=3.6
PLCA LR LR 20 25 18.4
comp=Z,1μm,18.8s,baz=46,slow=31
BALM Baldy 59.16 334 eP P 20 05 33.5 +2.5
16nm,1.1s
DAWY Dawson 59.62 338 eP P 20 05 35.0 +1.0
17nm,1.5s
EPYK Eagle Cains 60.08 341 P P 20 05 36.0 -1.1
baz=128
BMRM Bremner River 60.09 334 eP P 20 05 40.4 +3.1
42nm,1.3s
INK Inuvik 60.40 344 eP P 20 05 40.2 +1.0
54nm,1.4s
EGAK Eagle 60.65 338 eP P 20 05 42.0 +1.0
13nm,1.1s
KLU Klutina 60.90 334 eP P 20 05 45.0 +2.2
79nm,1.8s
HARP HAARP 61.00 335 eP P 20 05 45.5 +2.1
132nm,1.7s
DOT Dot Lake 61.15 336 eP P 20 05 46.3 +1.9
62nm,1.7s
SCRK Sand Creek 61.28 337 eP P 20 05 47.0 +1.6
48nm,1.8s
PAX Paxson 61.39 335 eP P 20 05 47.6 +1.5
74nm,1.8s
RIDG Independ'e Rid 61.50 336 eP P 20 05 48.6 +1.8
100nm,2.0s
GHO Glory Hole Cre 62.32 333 eP P 20 05 53.9 +1.5
41nm,1.2s
RC01 Rabbit Creek A 62.41 332 eP P 20 05 56.1 +3.3
25nm,1.2s
HDA Harding Lake 62.63 336 eP P 20 05 55.4 +1.1
73nm,1.8s
HDA Harding Lake 62.63 336 P P 20 05 54.3 0.0
baz=117
IL1 Eielson Array 62.77 337 eP P 20 05 55.4 +0.1
ILAR Eielson Array 62.77 337 P P 20 05 55.2 0.0
14nm,1.2s,baz=131,slow=4.1,SNR=43
ILB Eielson Array 62.77 337 eP P 20 05 56.3 +1.0
RND Reindeer 62.96 335 eP P 20 05 58.4 +1.8
38nm,1.2s
CCB Clear Creek Bu 63.07 337 eP P 20 05 57.8 +0.6
14nm,1.3s
MCK McKinley 63.13 335 eP P 20 05 59.0 +1.4
36nm,1.4s
POKR Poker Flat Res 63.14 337 P P 20 05 58.3 +0.7
baz=117
MDM Murphy Dome 63.37 337 eP P 20 06 00.2 +0.9
25nm,1.6s
BWN Browne 63.52 336 eP P 20 06 01.5 +1.3
140nm,1.5s
SKT Skwentna 63.54 333 eP P 20 06 01.7 +1.3
90nm,1.8s
TRF Thorofare Moun 63.56 335 eP P 20 06 02.1 +1.4
84nm,1.7s
BPAW Bear Paw Mtn. 64.10 335 eP P 20 06 05.1 +1.0
28nm,1.4s
PPLA Purkeypile 64.16 334 eP P 20 06 06.1 +1.5
92nm,1.8s
CAST Castle Rocks 64.30 334 eP P 20 06 06.1 +0.8
28nm,1.3s
MLY Manley 64.37 336 eP P 20 06 06.7 +0.8
21nm,1.2s
PPT Papeete 64.69 243 LR LR 20 26 45.0
comp=Z,777nm,18.4s,baz=32,slow=29
TOLK Toolik Lake Re 65.47 340 eP P 20 06 14.5 +1.6
13nm,1.0s
TOLK Toolik Lake Re 65.47 340 P P 20 06 14.3 +1.4
baz=116
ESDC Sonseca Array 79.90 52 P P 20 07 38.0 -1.1
1.3nm,0.7s,baz=283,slow=5.5,SNR=7.3
ES19 SONSECA Array 79.94 52 eP P 20 07 38.4 -1.0
BILL Bilibino 81.40 338 eP P 20 07 48.0 +1.5
24nm,1.2s
NOA NORSAR Array B 84.27 28 LR LR 20 44 11.7
comp=Z,608nm,21.8s,baz=305,slow=35
ARCES ARCESS Array B 86.22 18 P P 20 08 11.9 +0.8
2.6nm,0.9s,baz=294,slow=6.8,SNR=3.6
ARCES LR LR 20 49 06.2
comp=Z,46nm,18.1s,baz=318,slow=37
SENIN Lac Senin/Sane 86.45 43 eP P 20 08 13.7 +0.7
45nm,1.7s
TUE Stuetta 87.77 43 eP P 20 08 21.7 +2.3
24nm,1.7s
CLL Collm 88.46 37 e(sP) sP 20 08 36.0 -7.8
GERES GERESS Array B 89.75 39 P P 20 08 28.9 +0.4
0.8nm,0.9s,baz=359,slow=4.1,SNR=4.8
GEA0 GERESS Array S 89.76 39 eP P 20 08 28.8 +0.3
TORD Torodi Ar. Bea 90.59 76 P P 20 08 31.2 -1.7
0.6nm,0.7s,baz=256,slow=5.7,SNR=6.2
FINES FINESS Array B 90.61 25 LR LR 20 49 24.7
comp=Z,1μm,20.6s,baz=310,slow=36
BOSA Boshof 120.54 115 PKP PKPdf 20 14 20.1 -2.1
3.1nm,0.9s,baz=90,slow=2.0,SNR=2.5
HHC Hu-ho-hao-te 121.16 339 ePKP PKPdf 20 14 23.1 0.0
WMQ Urumqi 122.48 0 ePKP PKPdf 20 14 26.7 +1.2
WMQ LR LR
comp=Z,3μm,26.9s
NJ2 Nanjing 125.40 327 ePKP PKPdf 20 14 33.2 +1.9
KSH Kashi 125.65 11 ePKP PKPdf 20 14 33.5 +1.7
KSH PP PP 20 16 30.9 +8.4
KSH LR LR
comp=Z,3μm,23.3s

GTA	**Gaotai**	**125.71 349**	*e*PKP	**PKPdf**	**20 14 35.4**	**+3.5**
GTA			sPKP		20 14 49.9	
STKA	**Stephens Creek**	**127.86 240**	PKP	**PKPdf**	**20 14 38.0**	**+2.0**
	2.4nm,0.9s,baz=0.0,slow=6.1,SNR=3.8					
LZH	**Lanzhou**	**127.94 343**	PKP	**PKPdf**	**20 14 37.3**	**+1.0**
LZH			sPKP		20 14 51.0	
LZH			LR	LR		
	comp=N,570nm,15.2s					
LZH			LR	LR		
	comp=E,880nm,14.6s					
LZH			LR	LR		
	comp=Z,690nm,16.8s					
XAN	**Xi'an**	**128.18 338**	PKP	**PKPdf**	**20 14 41.2**	**+4.6**
XAN			LR	LR		
	comp=N,560nm,21.6s					
XAN			LR	LR		
	comp=Z,950nm,22.1s					
CD2	**Chengdu**	**132.80 341**	PKP	**PKPdf**	**20 14 44.8**	**-0.7**
WRA	**Warramunga Arr**	**135.18 256**	PKP	**PKPdf**	**20 14 49.3**	**-0.8**
	0.5nm,0.8s,baz=87,slow=2.5,SNR=5.7					
AS01	**Alice Springs**	**135.41 250**	*e*PKPdf	**PKPdf**	**20 14 49.1**	**-1.4**
ASAR	**Alice Springs**	**135.46 250**	PKP	**PKPdf**	**20 14 50.0**	**-0.6**
	0.6nm,0.8s,baz=143,slow=1.6,SNR=5.6					
GYA	**Guiyang**	**135.81 335**	*e*Pdif	**Pdif**	**20 11 54.2**	**-0.9**
GYA			PKP	**PKPdf**	**20 14 51.6**	**+0.3**
GYA			PP	**PP**	**20 17 32.8**	**+4.2**
GYA			AMB	AMB		
	comp=Z,120nm,7.9s					
KMI	**Kunming**	**138.49 339**	PKP	**PKPdf**	**20 14 56.2**	**-0.3**
KMI			AMB	AMB		
	comp=Z,190nm,5.0s					
CHTO	**Chiang Mai**	**145.61 341**	*e*PKPdf	**PKPab**	**20 15 09.5**	**0.0**
CHTO	**Chiang Mai**	**145.61 341**	P	**PKPbc**	**20 15 09.3**	**+0.1**
	118nm,1.8s,3μm					
CMMT	**Chiang Mai**	**145.61 341**	P	**PKPbc**	**20 15 09.3**	**+0.1**
	26nm,1.8s,767nm					
MMRI	**Maumere**	**145.82 275**	*e*PKPdf	**PKPdf**	**20 15 08.7**	**-0.7**
CM31	**Chiang Mai Arr**	**145.94 341**	*e*PKPdf	**PKPab**	**20 15 11.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**145.94 341**	PKPbc	**PKPdf**	**20 15 09.8**	**+0.2**
	11nm,0.9s,baz=342,slow=4.1,SNR=58					
CM01	**Chiang Mai Arr**	**145.97 341**	*e*PKPdf	**PKPdf**	**20 15 09.1**	**-0.5**
HYB	**Hyderabad**	**147.50 17**	*i* PKP	**PKPbc**	**20 15 15.0**	**+0.2**
UMPA	**Umpang Tak**	**148.07 340**	P	**PKPab**	**20 15 21.0**	**+1.9**
	6.7nm,1.1s,343nm					
UTHA	**Uthaitani**	**148.47 338**	P	**PKPbc**	**20 15 18.3**	**+1.0**
	13nm,0.9s,136nm					
SRDT	**SRDT**	**149.70 338**	P	**PKPbc**	**20 15 22.1**	**+1.6**
SBUM	**Sibu**	**150.78 302**	*e*PKPbc	**PKPbc**	**20 15 26.1**	**+2.9**
KSM	**Kuching**	**152.91 303**	*e*PKPbc	**PKPbc**	**20 15 31.2**	**+3.1**

IDC 07 20:04:58.2±4.8, 13°.58N×91°.92W, h0km, mb3.4/1, mb1 3.8/2, mb1mx3.5/41, mbtmp3.3/2, ML3.7/1, Error ellipse: s-maj=437.2km s-min=67.9km az=47.0, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**19.09**	**327**	P	P	20 09 22.5	-0.1
	0.1nm,0.3s,baz=148,slow=11,SNR=3.8						
NVAR	**Mina Array Bea**	**34.05**	**321**	P	P	20 11 44.3	-0.1
	0.5nm,0.8s,baz=142,slow=8.9,SNR=2.6						
CMAR	**Chiang Mai Arr**	**146.41**	**341**	PKPbc	PKPdf	20 24 41.3	+0.4
	1.0nm,0.6s,baz=336,slow=3.2,SNR=7.4						

IDC 07 20:05:36.6±4.3, 14°.04N×91°.68W, h0km, mb3.5/2, mb1 4.0/3, mb1mx3.6/43, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=263.9km s-min=66.1km az=46.0, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**18.84**	**326**	P	P	20 09 58.0	-0.2
	0.0nm,0.3s,baz=153,slow=12,SNR=3.0						
NVAR	**Mina Array Bea**	**33.83**	**321**	P	P	20 12 20.8	-0.2
	0.7nm,0.7s,baz=133,slow=8.7,SNR=4.3						
ILAR	**Eielson Array**	**62.92**	**337**	P	P	20 16 04.6	+0.1
	0.4nm,0.7s,baz=171,slow=5.6,SNR=5.3						
CMAR	**Chiang Mai Arr**	**146.05**	**342**	PKPbc	PKPdf	20 25 18.6	-0.1
	2.1nm,0.8s,baz=336,slow=3.4,SNR=10						

MAN 07 20:06:13.1, 12°.17N×120°.55E, h28km, mb4.3, ML3.2, MS2.9, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUSP	**Coron**	**0.39**	**244**	*e*P	Pn	20 06 23.5	+0.7
BUSP				*e*S	Sn	20 06 30.6	+1.3
SJMP	**San Jose**	**0.62**	**62**	*e*P	Pb	20 06 24.2	-1.2
SJMP				*e*S	Sb	20 06 32.3	-1.6
CUYO	**Cuyo Island**	**1.39**	**161**	*e*P	Pn	20 06 37.1	+0.5
CUYO				*e*S	Sn	20 06 54.0	-0.1
OTRP	**Odiongan**	**1.45**	**82**	*e*P	Pn	20 06 37.9	+0.5
OTRP				*e*S	Sn	20 06 56.2	+0.7
ENPP	**El Nido**	**1.46**	**229**	*e*P	Pb	20 06 39.7	0.0
JAP	**San Jose, Anti**	**1.97**	**136**⇓	*e*P	Pb	20 06 47.0	-1.3

MAN 07 20:09:50.5, 12°.14N×120°.56E, h26km, mb4.1, ML2.8, MS2.5, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUSP	**Coron**	**0.38**	**249**	*e*P	Pn	20 10 00.7	+0.4
BUSP				*e*S	Sn	20 10 08.0	+1.2
SJMP	**San Jose**	**0.63**	**59**	*e*P	Pb	20 10 01.6	-1.4
SJMP				*e*S	Sb	20 10 09.6	-1.9
CUYO	**Cuyo Island**	**1.35**	**161**	*e*P	Pn	20 10 13.2	-0.5
CUYO				*e*S	Sn	20 10 31.3	+0.4
OTRP	**Odiongan**	**1.45**	**81**	*e*P	Pn	20 10 15.7	+0.7
OTRP				*e*S	Sn	20 10 33.5	+0.4
ENPP	**El Nido**	**1.45**	**230**	*e*P	Pb	20 10 16.7	-0.1
JAP	**San Jose, Anti**	**1.94**	**135**⇓	*e*P	Pb	20 10 24.4	-0.8

*ISCJB **07** 20:15:12.2±0.7, 38°.87N±0°.04×141°.71E±0°.08, h66km±4km, mb3.7/4, Error ellipse: s-maj=11.2km s-min=5.7km az=18.2*
*JMA **07** 20:15:13.5, 38°.86N×141°.64E, h61km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φs17.00000°,δ71.00000°,λ77.00000°. NP2:φs233.00000°, δ23.00000°,λ124.00000°. Principal axes: T Plg62.0000°, Azm266.0000°; N Plg13.0000°, Azm21.0000°; P Plg25.0000°, Azm117.0000°;*
JMA Felt II J1.
*IDC **07** 20:15:13.3±3.1, 38°.89N×141°.87E, h69km±24km, mb3.5/4, mb1 3.5/8, mb1mx3.2/56, mbtmp3.7/8 Error ellipse: s-maj=39.5km s-min=22.4km az=86.0*

ISC 07 20:15:13.3±1.1, 38°.87N±0°.05×141°.71E±0°.08, h62km±6km, n25, σ0°.82/30, mb3.7/4, 2C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKMT	**Kesennumamotoy**	**0.19**	**254**	P	**Pn**	**20 15 22.9**	**0.0**
JKMT				S	**Sn**	**20 15 29.3**	**-0.5**
OFUJ	**Ofunato**	**0.22**	**351**	⇑P	**Pn**	**20 15 23.3**	**+0.2**
OFUJ				S	**Sn**	**20 15 29.9**	**-0.2**
JMK	**Ichinoseki**	**0.39**	**283**	⇓P	**Pn**	**20 15 24.0**	**-0.3**
JMK				S	**Sn**	**20 15 31.4**	**-1.0**
JIO	**Ouri**	**0.50**	**215**	⇑P	**Pn**	**20 15 25.2**	**-0.2**
JIO				S	**Sn**	**20 15 33.2**	**-0.9**
JOM	**Ohasama**	**0.69**	**332**	⇓P	**Pn**	**20 15 27.5**	**0.0**
JOM				S	**Sn**	**20 15 37.8**	**-0.1**
JOU	**Okura**	**0.96**	**239**	⇓P	**Pn**	**20 15 30.5**	**-0.4**
JOU				S	**Sn**	**20 15 43.0**	**-1.0**
JRG	**Rokugo**	**0.99**	**303**	⇓P	**Pn**	**20 15 30.9**	**-0.4**
JRG				S	**Sn**	**20 15 43.7**	**-0.9**
JYK	**Kaneyama**	**1.06**	**273**	⇓P	**Pn**	**20 15 31.7**	**-0.4**
JYK				S	**Sn**	**20 15 45.5**	**-0.6**
JMM	**Marumori**	**1.23**	**216**	P	**Pn**	**20 15 34.1**	**-0.3**
JMM				S	**Sn**	**20 15 49.3**	**-0.9**
JYS	**Shirataka**	**1.44**	**244**	⇓P	**Pn**	**20 15 37.2**	**-0.1**
JYS				S	**Sn**	**20 15 55.4**	**+0.1**
JANG	**Nango**	**1.51**	**354**	P	**Pn**	**20 15 38.1**	**-0.1**
JANG				S	**Sn**	**20 15 56.4**	**-0.6**
MJAR	**Matsushiro Arr**	**3.62**	**231**	P	**Pn**	**20 16 08.3**	**+1.4**
	0.8nm,0.3s,baz=40,slow=11,SNR=5.3						
ASAJ	**Asahikawa**	**5.29**	**7**	P	**Pn**	**20 16 29.5**	**-0.2**
	0.7nm,0.3s,baz=300,slow=8.1,SNR=4.4						
USRK	**Ussuriysk Ar.**	**9.03**	**309**	P	**Pn**	**20 17 20.6**	**-0.2**
	0.3nm,0.3s,baz=115,slow=14,SNR=5.3						
KSRS	**Korea Array**	**10.95**	**267**	P	**Pn**	**20 17 50.0**	**+2.9**
	0.2nm,0.3s,baz=74,slow=14,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**28.93**	**124**	T	T	20 51 39.0	
	baz=317,slow=76,SNR=33						
H11N1	**WAKE ISLAND Hy**	**28.94**	**124**	T	T	20 51 36.2	
	baz=317,slow=76,SNR=41						
H11N3	**WAKE ISLAND Hy**	**28.95**	**124**	T	T	20 51 40.3	
	baz=317,slow=76,SNR=30						
H11S1	**WAKE ISLAND Hy**	**29.70**	**126**	T	T	20 52 36.0	
	baz=319,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**29.70**	**126**	T	T	20 52 38.1	
	baz=319,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**29.72**	**126**	T	T	20 52 38.5	
	baz=319,slow=76,SNR=15						
ZALV	**Zalesovo Beam**	**40.88**	**311**	P	**P**	**20 22 48.9**	**-0.1**
	0.6nm,0.5s,baz=81,slow=9.3,SNR=3.0						
MKAR	**Makanchi Array**	**43.37**	**301**	P	**P**	**20 23 09.3**	**-0.2**
	0.8nm,0.5s,baz=84,slow=11,SNR=14						
KURBB	**Kurchatov Arra**	**45.08**	**307**	P	**P**	**20 23 22.7**	**-0.3**
	1.4nm,0.4s,baz=80,slow=8.0,SNR=5.2						
WRA	**Warramunga Arr**	**58.91**	**188**	P	**P**	**20 25 05.3**	**-0.7**
	0.3nm,0.5s,baz=5.5,slow=7.4,SNR=5.9						

MEX 07 20:30:39.1±0.6, 14°.10N×92°.29W, h15km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.81**	**2**	*e*P	Pg	20 30 52.6	-2.2
THIG				*i* S	Sg	20 31 01.4	-4.1
PCIG		**1.83**	**331**	*e*P	Pn	20 31 07.3	-2.8
PCIG				*e*S	Sn	20 31 27.8	-5.3
CCIG	**Comitan**	**2.18**	**4**	*i* P	Pn	20 31 12.3	-2.7
CCIG				*i* S	Sn	20 31 37.2	-4.6

IDC 07 20:33:55.3±13.0, 18°.25S×167°.96E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/29, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=231.0km s-min=42.4km az=80.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.06**	**200**	Pn	Pn	20 34 59.7	+1.0
	2.7nm,0.3s,baz=137,slow=24,SNR=34						
DZM				Sn	Sn	20 35 47.1	0.0
	3.3nm,0.3s,baz=120,slow=20,SNR=4.0						
STKA	**Stephens Creek**	**27.38**	**235**	P	P	20 39 41.7	-0.7
	2.6nm,0.8s,baz=76,slow=4.2,SNR=3.8						
WRA	**Warramunga Arr**	**31.78**	**261**	P	P	20 40 22.0	+0.3
	0.1nm,0.4s,baz=91,slow=8.3,SNR=3.3						
ASAR	**Alice Springs**	**32.20**	**254**	P	P	20 40 25.4	0.0
	0.8nm,0.6s,baz=81,slow=8.6,SNR=15						

*IDC **07** 20:40:30.4±3.0, 13°.25N×92°.27W, h0km, mb3.7/5, mb1 4.0/8, mb1mx3.8/46, mbtmp3.7/8, ML3.7/3, MS4.3/1, Ms1 4.3/1, ms1mx3.2/48, Error ellipse: s-maj=59.4km s-min=36.8km az=5.0*
*MEX **07** 20:40:36.6±0.7, 13°.72N×92°.36W, h15km±194km, MD3.9*

ISC 07 20:40:37.8±2.0, 13°.9N±0°.1×92°.21W±0°.09, h22km±11km, n15, σ1°.39/19, mb3.7/5, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.98**	**357**	*i* P	**Pb**	**20 40 55.6**	**-0.5**
THIG				*e*S	**Sb**	**20 41 08.7**	**0.0**
APG	**El Apazote**	**2.00**	**57**	Pn	**Pb**	**20 41 12.4**	**-1.2**
	42nm,0.3s,baz=222,slow=8.0,SNR=28						
APG				Sn	**Sb**	**20 41 40.0**	**+1.7**
	66nm,0.3s,baz=327,slow=12,SNR=6.7						
PCIG		**2.03**	**331**	*e*P	**Pn**	**20 41 08.7**	**-1.9**
PCIG				*e*S	**Sn**	**20 41 33.6**	**-1.7**
CCIG	**Comitan**	**2.35**	**2**	*e*P	**Pn**	**20 41 15.4**	**+0.2**
CCIG				*i* S	**Sn**	**20 41 44.3**	**+0.7**
TGIG		**2.98**	**343**	*e*P	**Pn**	**20 41 23.2**	**-0.6**
TGIG				*i* S	**Sn**	**20 41 57.9**	**-0.9**
CMIG	**Matias Romero**	**4.08**	**321**	Pn	**Pn**	**20 41 41.0**	**+2.2**
	2.8nm,0.3s,baz=124,slow=14,SNR=2.8						
CMIG				Sn	**Sn**	**20 42 26.2**	**+0.3**
	7.1nm,0.3s,baz=115,slow=17,SNR=3.7						
JTS	**JuntasAbangare**	**7.96**	**116**	Lg	Lg	20 44 36.2	
	0.2nm,0.3s,baz=17,slow=19,SNR=3.2						
TXAR	**Lajitas Array**	**18.65**	**327**	P	**Pn**	**20 44 56.7**	**+1.9**
	0.0nm,0.3s,baz=158,slow=10,SNR=8.7						
TKL	**Tuckaleechee C**	**22.94**	**18**	LR	LR	20 55 50.4	
	comp=Z,710nm,21.1s,baz=206,slow=39						
ANMO	**Albuquerque**	**24.57**	**331**	P	**P**	**20 45 57.2**	**+0.8**
	0.7nm,0.4s,baz=169,slow=10,SNR=4.0						
PDAR	**Pinedale Array**	**32.41**	**336**	P	**P**	**20 47 08.3**	**+1.9**
	0.2nm,0.6s,baz=134,slow=12,SNR=2.9						
NVAR	**Mina Array Bea**	**33.61**	**321**	P	**P**	**20 47 17.1**	**+0.2**
	1.0nm,0.8s,baz=135,slow=8.3,SNR=4.5						
YKA	**Yellowknife Ar**	**51.06**	**347**	P	**P**	**20 49 38.2**	**0.0**
	1.2nm,0.7s,baz=135,slow=8.7,SNR=3.4						
ILAR	**Eielson Array**	**62.83**	**337**	P	**P**	**20 51 00.7**	**-0.9**
	0.6nm,0.9s,baz=118,slow=7.5,SNR=4.8						
CMAR	**Chiang Mai Arr**	**146.00**	**341**	PKPbc	**PKPdf**	**21 00 14.7**	**-1.4**
	2.0nm,0.7s,baz=331,slow=3.7,SNR=17						

*ISCJB **07** 20:51:11.0±0.8, 24°.5S±0°.2×179°.7W±0°.1, h500km, mb3.7/5, Error ellipse: s-maj=28.8km s-min=17.4km az=176.7*
*IDC **07** 20:51:11.7±3.2, 23°.71S×179°.98E, h488km±25km, mb3.3/4, mb1 3.6/4, mb1mx3.1/29, mbtmp4.2/4, Error ellipse: s-maj=134.9km s-min=20.9km az=159.0*

ISC 07 20:51:11.7±0.9, 24°.5S±0°.3×179°.6W±0°.1, h500km, n11, σ1°.00/12, mb3.6/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.05**	**278**	P	**P**	**20 54 02.8**	**+1.3**
	0.7nm,0.3s,baz=99,slow=18,SNR=5.9						
STKA	**Stephens Creek**	**34.83**	**249**	P	**P**	**20 57 20.3**	**+0.2**
	0.5nm,0.4s,baz=66,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**42.26**	**261**	P	**P**	**20 58 19.9**	**-1.2**
	1.1nm,0.5s,baz=94,slow=7.3,SNR=17						
ASAR				ScP	**ScP**	**21 03 06.5**	**+0.2**
	0.7nm,1.0s,baz=125,slow=4.9,SNR=4.3						
WRA	**Warramunga Arr**	**42.73**	**267**	P	**P**	**20 58 22.6**	**-1.8**
	4.0nm,0.5s,baz=98,slow=8.3,SNR=78						
WRA				ScP	**ScP**	**21 03 09.0**	**+1.0**
	2.0nm,1.0s,baz=97,slow=4.1,SNR=8.6						
SNAA	**Sanae**	**84.04**	**179**	P	P	21 03 06.1	+17
VNA3	**Neumayer Olymp**	**84.23**	**177**	P	**P**	**21 02 50.1**	**+0.5**
VNA2	**Neuayer--Watz**	**84.66**	**177**	P	**P**	**21 02 51.8**	**+0.1**
	baz=347,slow=3.6						
VNA1	**Neumayer--Stat**	**84.89**	**177**	P	**P**	**21 02 52.9**	**+0.1**
NVAR	**Mina Array Bea**	**84.95**	**44**	P	**P**	**21 02 53.3**	**-0.6**
	0.8nm,0.8s,baz=225,slow=7.8,SNR=5.2						
TXAR	**Lajitas Array**	**90.46**	**58**	P	**P**	**21 03 20.6**	**+0.8**
	1.4nm,0.8s,baz=209,slow=6.1,SNR=5.5						
ARCES	**ARCESS Array B**	**132.57**	**348**	PKP	**PKPdf**	**21 09 27.6**	**-0.6**
	4.6nm,1.0s,baz=33,slow=2.7,SNR=6.9						

DJA 07 20:56:39.8±0.8, 0°.S±3°×12°.4E±°, h14km±7km, M3.8/9, mb3.8/1, MLv3.8/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.97**	**235**	P	Pb	20 56 57.0	-1.5
LUWI				S	Sb	20 57 09.1	-2.1
KMSI	**Cibinong**	**1.12**	**21**	P	Pb	20 57 00.9	-0.2
MRSI	**Marisa**	**1.89**	**300**	P	Pn	20 57 08.5	-3.1
APSI	**Ampana**	**1.97**	**257**	P	Pn	20 57 13.1	+0.3
APSI				S	Sb	20 57 39.5	-0.4
SANI	**Sanana**	**2.88**	**123**	P	Pn	20 57 26.2	+0.9
SANI				S	Sn	20 57 58.9	-0.8
MPSI	**Mapaga**	**3.76**	**282**	P	Pn	20 57 40.0	+2.6
NLAI	**Namlea**	**4.47**	**128**	P	Pn	20 57 47.8	+0.7
BBSI	**Bau Bau**	**5.07**	**191**	P	Pb	20 58 05.6	-2.8
SPSI	**Sidrap Palu**	**5.14**	**228**	P	Pn	20 57 57.0	+0.6

IDC 07 21:01:16.9±3.8, 12°.90N×93°.12W, h0km, mb4.9/1, mb1 4.5/2, mb1mx3.6/47, mbtmp4.0/2, ML3.6/1, Error ellipse: s-maj=377.4km s-min=65.9km az=53.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**19.06**	**331**	P	Pn	21 05 41.7	-0.1
	0.0nm,0.3s,baz=149,slow=13,SNR=2.9						
NVAR	**Mina Array Bea**	**33.86**	**323**	P	P	21 08 01.0	-0.6
	7.3nm,0.5s,baz=129,slow=9.4,SNR=5.1						
CMAR	**Chiang Mai Arr**	**146.65**	**339**	PKPbc	PKPbc	21 21 00.8	-0.7
	0.9nm,0.7s,baz=340,slow=3.9,SNR=11						

*IDC **07** 21:17:08.4±3.1, 13°.48N×92°.09W, h0km, mb3.8/3, mb1 4.1/6, mb1mx3.8/49, mbtmp3.8/6, ML3.9/3, Error ellipse: s-maj=62.2km s-min=35.1km az=4.0*
*NEIC **07** 21:17:10.5±0.0, 13°.84N×91°.64W, h22km, MD4.0(MEX), After MEX.*
*MEX **07** 21:17:10.5±0.4, 13°.84N×91°.66W, h20km±14km, MD4.0*

ISC 07 21:17:17.9±1.7, 14°.2N±0°.1×92°.10W±0°.08, h35km, n18, σ2°.33/20, mb3.8/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**1.79**	**62**	Pn	**Pn**	**21 17 46.6**	**0.0**
	27nm,0.3s,baz=245,slow=11,SNR=25						
APG				Lg	Lg	21 18 11.0	
	17nm,0.3s,baz=329,slow=13,SNR=4.9						
PCIG		**1.88**	**325**	*e*P	**Pn**	**21 17 46.2**	**-1.4**
PCIG				*e*S	**Sn**	**21 18 08.9**	**-1.3**
PCIG		**1.88**	**325**	*e*P	**Pn**	**21 17 46.2**	**-1.4**
PCIG				*i* S	**Sn**	**21 18 13.8**	**+3.6**
CCIG	**Comitan**	**2.12**	**359**	*e*P	**Pn**	**21 17 47.5**	**-3.5**
CCIG	**Comitan**	**2.12**	**359**	*e*P	**Pn**	**21 17 47.5**	**-3.5**
CCIG				*i* S	**Sn**	**21 18 16.9**	**+0.7**
TGIG		**2.79**	**339**	*e*P	**Pn**	**21 17 58.1**	**-2.1**
TGIG		**2.79**	**339**	*e*P	**Pn**	**21 17 58.1**	**-2.1**
TGIG				*e*S	**Sn**	**21 18 35.5**	**+2.8**
SNET	**Serv Nac Est T**	**2.82**	**99**	*e*Pn	Pn	21 18 02.7	+2.1
CMIG	**Matias Romero**	**3.97**	**318**	Pn	**Pn**	**21 18 16.0**	**-0.3**
	6.3nm,0.3s,baz=122,slow=9.8,SNR=16						
CMIG				Sn	**Sn**	**21 19 05.0**	**+3.4**
	6.7nm,0.3s,baz=67,slow=5.6,SNR=5.5						
TEIG	**Tepich**	**7.05**	**31**	*e*Pn	**Pn**	**21 18 59.4**	**+0.7**
LTX	**Lajitas**	**18.52**	**327**	*e*P	**Pn**	**21 21 33.5**	**+1.6**
TXAR	**Lajitas Array**	**18.52**	**327**	P	**Pn**	**21 21 33.5**	**+1.6**
	0.1nm,0.3s,baz=147,slow=11,SNR=14						
TX31	**Lajitas Ar. Si**	**18.52**	**327**	*e*P	**Pn**	**21 21 33.6**	**+1.8**
ANMO	**Albuquerque**	**24.42**	**330**	P	**P**	**21 22 34.1**	**+0.6**
	1.9nm,0.7s,baz=148,slow=11,SNR=5.8						
NV01	**Mina Array Sit**	**33.49**	**321**	*e*P	P	21 23 54.9	+0.6
NVAR	**Mina Array Bea**	**33.49**	**321**	P	P	21 23 55.6	+1.4
	1.0nm,0.7s,baz=133,slow=7.7,SNR=4.4						
ILAR	**Eielson Array**	**62.66**	**337**	P	**P**	**21 27 38.1**	**-0.6**
	0.8nm,1.0s,baz=141,slow=5.8,SNR=4.8						
CMAR	**Chiang Mai Arr**	**145.81**	**341**	PKPbc	**PKPab**	**21 36 51.5**	**-3.2**
	1.6nm,0.7s,baz=332,slow=3.4,SNR=13						

IDC 07 21:17:19.4±2.3, 50°.72N×171°.63W, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/55, mbtmp3.3/4, ML2.9/1, MS3.9/1, Ms1 3.9/1, ms1mx3.0/39, Error ellipse: s-maj=72.0km s-min=30.3km az=12.0, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILAR	**Eielson Array**	**19.10**	**33**	P	P	21 21 43.2	-0.2
	0.0nm,0.3s,baz=224,slow=9.1,SNR=3.5						
MJAR	**Matsushiro Arr**	**38.23**	**268**	LR	LR	21 38 26.5	
	comp=Z,166nm,19.5s,baz=70,slow=33						
PDAR	**Pinedale Array**	**42.13**	**76**	P	P	21 25 13.2	-0.2
	0.3nm,0.6s,baz=289,slow=5.6,SNR=3.6						
TXAR	**Lajitas Array**	**54.23**	**86**	P	P	21 26 46.9	0.0
	0.4nm,0.6s,baz=299,slow=5.8,SNR=5.7						
MKAR	**Makanchi Array**	**63.90**	**313**	P	P	21 27 53.6	0.0
	0.4nm,0.7s,baz=50,slow=7.1,SNR=4.7						

*SJA **07** 21:19:22.4±1.2, 22°.39S×68°.82W, h139km±20km, ML4.6, MW4.2*
*ISCJB **07** 21:19:23.8±0.3, 22°.50S±0°.03×68°.50W±0°.04, h109km±2km, mb4.6/95, Error ellipse: s-maj=6.7km s-min=4.1km az=164.0*
*NEIC **07** 21:19:24.5±0.4, 22°.47S×68°.46W, h101km±3km, mb4.7/85, MW4.7, ML4.6(GUC), Error ellipse: s-maj=6.3km s-min=4.1km az=65.0 Best double couple: NP1: φs138.00000°,δ31.00000°,λ-141.00000°. NP2: φs14.00000°,δ71.00000°,λ-65.00000°. Principal axes: T 1.4100, Plg22.0000°, Azm85.0000°; N 0.1200, Plg24.0000°, Azm185.0000°; P -1.5300, Plg56.0000°, Azm317.0000°;*
NEIC Felt [IV] at Calama and [III] at Tocopilla.
*GUC **07** 21:19:25.9±0.7, 22°.42S×68°.79W, h119km±5km, ML4.6*
*IDC **07** 21:19:26.4±0.6, 22°.35S×68°.34W, h117km±4km, mb4.1/14, mb1 4.2/17, mb1mx4.0/42, mbtmp4.5/17, MS3.9/1, Ms1 3.9/1, ms1mx3.3/21, Error ellipse: s-maj=16.8km s-min=12.2km az=64.0*

ISC 07 21:19:25.6±0.5, 22°.47S±0°.03×68°.62W±0°.05, h112km±4km, h113km:pP-P, n188, σ1°65/207, mb4.6/95, 15C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.30**	**243**	*e*Pn	**Pn**	**21 19 42.4**	**+0.3**
LVC				*e*S	**Sn**	**21 19 50.2**	**-4.3**
PB09	**IPOC Station P**	**0.89**	**319**	⇑*i*P	**Pn**	**21 19 46.5**	**+0.5**
PB09				*i* S	**Sn**	**21 20 01.9**	**+0.5**
PB09				IAML		21 20 03.9	
	comp=N,10μm,0.3s						
PB06	**IPOC Station P**	**0.91**	**255**	⇑*i*P

GO04	Tololo Observa	7.91	194	*e*Pn		Pn	21 21 13.8	-4.2
APLL	PUNTA DE LOS L	8.11	167	*e*P		Pn	21 21 18.6	-2.0
APLL				IAML			21 21 20.6	
	comp=Z,24nm,0.5s							
RTLL	Cerro Villicun	8.82	179	IAML			21 21 28.7	
	comp=Z,67nm,0.3s							
ROC1	El Roble	10.67	191	*e*Pn		Pn	21 21 50.9	-4.6
CPUP	Villa Florida	10.98	113	P		Pn	21 21 56.9	-2.5
	comp=Z,0.4nm,0.3s,baz=289,slow=12,SNR=38							
SAML	Samuel	14.43	22	*e*Pn		Pn	21 22 42.7	-1.9
TRQA	Tornquist	16.55	161	*e*Pn		Pn	21 23 10.3	-0.7
	comp=Z,34nm,0.9s							
GO06	Curarrehue	17.23	187	*e*P		P	21 23 19.0	-0.1
	comp=Z,27nm,0.8s							
PLCA	Paso Flores	18.28	185	P		Pn	21 23 31.4	-0.5
	comp=Z,0.3nm,0.3s,baz=22,slow=11,SNR=7.9							
PLCA	Paso Flores	18.28	185	*e*P		Pn	21 23 32.0	+0.1
	comp=Z,9.7nm,0.9s							
SPB	Sao Paulo	19.54	97	*e*P		P	21 23 43.0	-1.3
	comp=Z,67nm,0.9s							
BDFB	Brasilia	20.62	74	P		P	21 23 53.8	-2.4
	comp=Z,26nm,0.5s,baz=256,slow=12,SNR=48							
BDFB	Brasilia	20.62	74	*e*P		P	21 23 54.0	-2.2
	comp=Z,39nm,0.7s							
BPAT	Tungurahua Vol	22.92	334	P		P	21 24 21.8	+1.1
PTGA	Pitinga	23.20	22	P		P	21 24 20.2	-2.5
	comp=Z,13nm,0.5s,baz=193,slow=18,SNR=35							
PISA	Pisayambo	23.31	335	P		P	21 24 36.5	+12
BMOR	Cotopaxi Volca	23.64	335	P		P	21 24 30.6	+3.1
BTAM	Cotopaxi Volca	23.66	335	P		P	21 24 29.2	+1.6
BREF	Cotopaxi Volca	23.69	335	P		P	21 24 30.2	+2.2
BVC2	Cotopaxi Volca	23.69	335	P		P	21 24 30.3	+2.4
BNAS	Cotopaxi Volca	23.70	335	P		P	21 24 30.2	+2.2
ANTM	Antisana-La Mi	23.72	336	P		P	21 24 31.1	+2.9
ANTS	Antisana-Sarah	23.74	336	P		P	21 24 31.8	+3.5
ILLI	Illinizas Sur	23.76	334	P		P	21 24 31.8	+3.4
ANTG	Antisana-Guama	23.77	335	P		P	21 24 32.2	+3.7
ANTI	Antisana	23.78	336	P		P	21 24 32.3	+3.6
PITA	Cotopaxi Volc	23.79	335	P		P	21 24 31.9	+3.2
CONE	Cono NE Rev Vo	23.94	337	P		P	21 24 45.5	+16
NINA	Atacazo Ninahu	24.01	335	P		P	21 24 33.4	+2.7
GGPC	Guagua Pichinc	24.20	335	P		P	21 24 36.2	+3.7
OTAV	Otavalo	24.52	336	*e*P		P	21 24 37.0	+1.8
	comp=Z,10.0nm,0.8s							
ROSC	El Rosal	27.71	348	LR		LR	21 39 06.4	
	comp=Z,275nm,20.3s,baz=56,slow=43							
RCBR	Riachuelo	35.65	67	*e*P		P	21 26 12.3	-0.8
	comp=Z,15nm,0.8s							
SJG	San Juan	40.41	4	*e*P		P	21 26 49.4	-3.5
	comp=Z,11nm,0.6s							
APG	El Apazote	42.96	328	P		P	21 27 14.4	+0.5
	comp=Z,12nm,0.8s,baz=191,slow=5.8,SNR=6.6							
MOIG	Morelia	52.60	320	*e*P		P	21 28 29.5	+1.1
	comp=Z,34nm,0.4s							
ZAIG	Zacatecas	55.81	321	*e*P		P	21 28 52.7	+1.0
342A	Flagon Creek P	58.16	336	*e*P		P	21 29 08.0	+0.3
	comp=Z,44nm,0.9s							
HKT	Hockley	58.32	332	*e*P		P	21 29 09.3	+0.5
	comp=Z,13nm,1.2s							
833A	Chaparral WMA,	58.58	328	*e*P		P	21 29 10.8	0.0
	comp=Z,26nm,1.0s							
VNA3	Neumayer Olymp	59.07	161	P		P	21 29 14.3	+0.7
VNA1	Neumayer--Stat	59.28	160	P		P	21 29 16.8	+1.8
VNA2	Neumayer--Watz	59.65	160	P		P	21 29 18.3	+0.8
	baz=287,slow=7.7							
V51A	Loudon	59.84	345	*e*P		P	21 29 16.7	-2.5
	comp=Z,38nm,1.2s							
JCT	Junction City	60.57	329	*e*P		P	21 29 24.7	+0.3
	comp=Z,13nm,0.8s							
WHTX	Lake Whitney,	60.78	332	*e*P		P	21 29 25.7	0.0
	comp=Z,10nm,0.8s							
HPIG		60.80	322	*e*P		P	21 29 26.6	+0.4
UALR	University of	61.23	338	*e*P		P	21 29 28.2	-0.5
	comp=Z,8.1nm,0.6s							
SNAA	Sanae	61.28	161	P		P	21 29 29.3	+0.6
SNAA	Sanae	61.28	161	*e*P		P	21 29 29.3	+0.6
	comp=Z,8.2nm,0.9s							
MIAR	Mount Ida	61.47	337	*e*P		P	21 29 29.4	-0.9
	comp=Z,27nm,1.3s							
TXAR	Lajitas Array	61.58	325	P		P	21 29 31.7	+0.4
	comp=Z,0.7nm,0.6s,baz=150,slow=9.3,SNR=5.0							
TXAR				pP		pP	21 29 60.0	+1.2
	comp=Z,2.5nm,1.0s,baz=138,slow=7.7,SNR=6.1							
TX31	Lajitas Ar. Si	61.58	325	*e*P		P	21 29 31.1	-0.2
W39A	Magazine	62.12	337	*e*P		P	21 29 34.6	-0.1
	comp=Z,12nm,0.7s							
X37A	Clayton	62.18	335	*e*P		P	21 29 35.4	+0.3
	comp=Z,16nm,0.9s							
ABTX	Abilene, Hawle	62.29	331	*e*P		P	21 29 35.3	-0.6
	comp=Z,13nm,0.9s							
HHAR	Hobbs	63.15	337	*e*P		P	21 29 41.4	-0.1
	comp=Z,8.3nm,0.8s							
TUL1	Leonard	63.51	336	*e*P		P	21 29 42.9	-0.9
	comp=Z,18nm,1.0s							
FVM	French Village	63.53	341	*e*P		P	21 29 43.1	-0.9
	comp=Z,13nm,0.8s							
MNTX	Cornudas Mount	64.35	326	*e*P		P	21 29 48.9	-0.6
MSTX	Muleshoe	64.86	329	*e*P		P	21 29 52.7	-0.2
	comp=Z,35nm,1.3s							
319A	Douglas	66.22	322	*e*P		P	21 30 02.5	+0.8
	comp=Z,21nm,1.4s							
BNM	Barren Site	66.92	326	*e*P		P	21 30 06.8	+0.6
LPM	Los Pinos Moun	67.05	326	*e*P		P	21 30 08.5	+1.5
LENM	Lemitar	67.11	326	*e*P		P	21 30 08.9	+1.5
K43A	Burlington	67.35	344	*e*P		P	21 30 05.3	-3.1
	comp=Z,34nm,1.1s							
ANMO	Albuquerque	67.46	327	P		P	21 30 10.6	+1.0
	comp=Z,4.5nm,0.6s,baz=130,slow=8.0,SNR=13							
ANMO	Albuquerque	67.46	327	*e*P		P	21 30 10.6	+1.0
	comp=Z,6.6nm,0.8s							
CBKS	Cedar Bluff	67.58	334	*e*P		P	21 30 10.1	+0.1
	comp=Z,41nm,0.9s							
QSPA	South Pole Qui	67.72	180	*e*P		P	21 30 12.4	+1.6
LIC	Lamto	68.41	73	*e*P		P	21 30 17.3	+1.6
	comp=Z,52nm,1.9s							
TIC	Toumodi	68.60	73	*e*P		P	21 30 15.9	-1.1
KIC	Kosan Boka	68.72	73	*e*P		P	21 30 17.9	+0.2
	comp=Z,8.5nm,0.6s							
DBIC	Dimbokro	68.76	73	P		P	21 30 17.4	-0.5
	comp=Z,13nm,1.0s,baz=228,slow=6.5,SNR=6.6							
KSCO	Kaye Shedlock'	68.95	332	*e*P		P	21 30 18.8	0.0
	comp=Z,16nm,0.6s							
SDCO	Great Sand Dun	69.22	329	*e*P		P	21 30 21.6	+1.0
	comp=Z,9.9nm,1.0s							
W18A	Petrified Fore	69.29	325	*e*P		P	21 30 21.3	+0.3
	comp=Z,8.6nm,0.9s							
X16A	Lo Mia Camp, P	69.69	323	*e*P		P	21 30 25.1	+1.6
	comp=Z,6.4nm,1.1s							
113A	Mohawk Valley,	69.82	320	*e*P		P	21 30 25.1	+1.0
	comp=Z,4.8nm,1.1s							
S22A	4UR Ranch, Cre	69.85	329	*e*P		P	21 30 25.2	+0.7
	comp=Z,5.5nm,1.0s							
Q24A	Divide	70.04	330	*e*P		P	21 30 26.6	+1.0
	comp=Z,21nm,1.3s							
Y14A	Wickenburg	70.22	322	*e*P		P	21 30 26.9	+0.3
	comp=Z,9.3nm,1.5s							
MVCO	Mesa Verde	70.25	327	*e*P		P	21 30 27.7	+0.8
	comp=Z,25nm,1.4s							
OGNE	Ogallala	70.32	334	*e*P		P	21 30 26.4	-0.6
	comp=Z,12nm,0.6s							
F41A	Three Lakes	70.40	345	*e*P		P	21 30 27.2	-0.1
	comp=Z,27nm,1.4s							
WUAZ	Wupatki	70.47	324	*e*P		P	21 30 29.1	+0.9
	comp=Z,14nm,1.1s							
ECSD	EROS Data Cent	70.72	339	*e*P		P	21 30 28.3	-1.0
	comp=Z,11nm,1.4s							
ISCO	Idaho Springs	70.92	331	*e*P		P	21 30 31.4	+0.4
	comp=Z,4.5nm,0.8s							
Y12C	Blythe	70.97	321	*e*P		P	21 30 32.1	+1.1
	comp=Z,4.2nm,0.8s							
SMCO	Snowmass	71.06	329	*e*P		P	21 30 33.6	+1.7
	comp=Z,6.6nm,0.8s							
W13A	Hualapai Mount	71.56	322	*e*P		P	21 30 36.0	+1.1
	comp=Z,2.0nm,0.8s							
U15A	North Rim	71.65	324	*e*P		P	21 30 37.0	+1.6
	comp=Z,12nm,1.3s							
N23A	Red Feather La	71.96	331	*e*P		P	21 30 38.4	+1.3
	comp=Z,22nm,1.4s							
KNB	Kanab	72.37	324	*e*P		P	21 30 41.6	+2.0
	comp=Z,25nm,1.2s							
O20A	White River Ci	72.41	329	*e*P		P	21 30 40.1	+0.3
	comp=Z,20nm,1.1s							
SRU	San Rafael Swe	72.73	327	*e*P		P	21 30 42.8	+1.0
	comp=Z,16nm,1.2s							
P18A	Preston Nutter	72.99	328	*e*P		P	21 30 45.1	+1.7
	comp=Z,8.1nm,0.8s							
CCUT	Cedar City	73.05	324	*e*P		P	21 30 45.5	+1.9
	comp=Z,6.6nm,0.8s							
P17A	Butcher Ranch,	73.12	327	*e*P		P	21 30 44.8	+0.9
	comp=Z,13nm,1.1s							
MSU	Marysvale	73.13	326	*e*P		P	21 30 45.7	+1.6
PSUT	Pine Spring	74.03	325	*e*P		P	21 30 51.3	+1.9
	comp=Z,3.6nm,0.8s							
TPNV	Topopah Spring	74.22	322	*e*P		P	21 30 52.4	+1.9
	comp=Z,4.1nm,0.9s							
JLU	Jordanelle	74.33	327	*e*P		P	21 30 52.7	+1.6
	comp=Z,4.9nm,0.5s							
DAC	Darwin (Calif)	74.53	321	*e*P		P	21 30 54.0	+1.7
	comp=Z,10nm,1.4s							
AGMN	Agassiz Nation	74.56	342	*e*P		P	21 30 50.7	-1.2
	comp=Z,17nm,1.4s							
DUG	Dugway, Tooele	74.71	326	*e*P		P	21 30 54.9	+1.7
	comp=Z,11nm,1.4s							
R11A	Troy Canyon, C	74.84	323	*e*P		P	21 30 55.7	+1.7
	comp=Z,6.0nm,1.4s							
PDAR	Pinedale Array	75.08	330	P		P	21 30 55.6	+0.3
	comp=Z,0.7nm,0.5s,baz=140,slow=7.4,SNR=8.4							
PDAR				pP		pP	21 31 25.4	+1.7
	comp=Z,0.5nm,0.5s,baz=120,slow=6.9,SNR=3.5							
HWUT	Hardware Ranch	75.15	328	*e*P		P	21 30 56.0	+0.3
	comp=Z,4.2nm,0.8s							
SPUT	South Promonto	75.36	327	*e*P		P	21 30 57.0	+0.1
	comp=Z,5.2nm,0.7s							
BGU	Big Grassy Mou	75.36	327	*e*P		P	21 30 58.1	+1.2
	comp=Z,5.2nm,1.2s							
SYO	Syowa Base	75.50	159	⇑*i*P		P	21 30 57.8	+0.7
SYO	Syowa Base	75.50	159	⇑*e*PcP		PcP	21 31 06.2	-3.5
SYO	Syowa Base	75.50	159	⇑*e*pP		pP	21 31 21.4	-4.1
AHID	Auburn Hatcher	75.80	329	*e*P		P	21 31 00.3	+0.9
	comp=Z,20nm,1.1s							
VNDA	Vanda	75.94	190	P		P	21 31 00.9	+1.4
	comp=Z,0.7nm,1.0s,baz=121,slow=7.0,SNR=3.1							
VNDA				pP		pP	21 31 30.4	+2.4
	comp=Z,0.8nm,0.8s,baz=107,slow=4.9,SNR=4.3							
LOHW	Long Hollow	76.22	330	*e*P		P	21 31 03.0	+1.1
	comp=Z,4.4nm,0.8s							
OMMB	Old Mammoth Mi	76.27	321	*e*P		P	21 31 02.2	-0.2
	comp=Z,11nm,1.4s							
TPAW	Teton Pass	76.29	330	*e*P		P	21 31 03.7	+1.4
	comp=Z,5.5nm,0.8s							
ULM	Lac du Bonnet	76.32	342	P		P	21 31 00.8	-1.2
	comp=Z,1.5nm,0.6s,baz=174,slow=7.3,SNR=4.1							
NVAR	Mina Array Bea	76.42	322	P		P	21 31 04.0	+0.9
	comp=Z,1.6nm,0.9s,baz=144,slow=6.8,SNR=9.6							
FXWY	Fox Creek	76.44	330	*e*P		P	21 31 04.0	+0.9
	comp=Z,3.3nm,0.9s							
FLWY	Flagg Ranch	76.63	330	*e*P		P	21 31 04.5	+0.4
	comp=Z,15nm,1.1s							
KVN	Kaiserville	76.73	323	*e*P		P	21 31 06.1	+1.3
	comp=Z,4.7nm,1.0s							
YHH	Holmes Hill	77.24	331	*e*P		P	21 31 09.5	+1.9
	comp=Z,22nm,1.3s							
YHB	Horse Butte	77.37	330	*e*P		P	21 31 09.2	+1.0
	comp=Z,13nm,0.6s							
TOA0	Torodi Ar. Sit	77.43	70	*e*P		P	21 31 07.8	-1.2
TORD	Torodi Ar. Bea	77.43	70	P		P	21 31 06.7	-2.3
	comp=Z,6.8nm,0.4s,baz=258,slow=5.2,SNR=48							
PAHR	Pah Rah Range	77.91	322	*e*P		P	21 31 12.9	+1.6
	comp=Z,11nm,0.9s							
HLID	Hailey	78.00	328	*e*P		P	21 31 12.9	+1.2
	comp=Z,10nm,1.0s							
MCMT	McKenzie Canyo	78.19	330	*e*P		P	21 31 14.7	+1.8
ORV	Orville	79.02	321	*e*P		P	21 31 17.5	+0.3
	comp=Z,5.8nm,0.8s							
TSUM	Tsumeb	79.51	106	*e*P		P	21 31 20.8	+0.2
	comp=Z,12nm,0.9s							
J08A	Circle Bar Ran	79.92	326	*e*P		P	21 31 23.6	+1.5
	comp=Z,15nm,1.4s							
BMO	Blue Mountains	80.38	327	*e*P		P	21 31 25.8	+1.3
	comp=Z,9.8nm,1.1s							
K05A	Summer Lake	80.79	324	*e*P		P	21 31 27.2	+0.3
	comp=Z,19nm,1.2s							
F10A	Beach Ranch, E	81.13	328	*e*P		P	21 31 29.7	+1.2
	comp=Z,3.8nm,0.9s							
G08A	Pilot Rock	81.52	327	*e*P		P	21 31 31.8	+1.1
	comp=Z,3.0nm,0.8s							
PINE	Pine Mountain	81.53	325	*e*P		P	21 31 32.1	+1.3
	comp=Z,11nm,0.8s							
HAWA	Hanford	82.57	327	*e*P		P	21 31 36.8	+0.9
	comp=Z,6.5nm,0.7s							
BOSA	Boshof	82.76	118	P		P	21 31 37.7	0.0
	comp=Z,6.1nm,0.9s,baz=221,slow=4.1,SNR=4.9							
C09A	Chrisman Ranch	82.93	329	*e*P		P	21 31 38.6	+0.8
	comp=Z,17nm,0.8s							
MAW	Mawson	83.33	163	P		P	21 31 40.5	+0.9
	comp=Z,1.7nm,0.6s,baz=235,slow=6.4,SNR=7.6							
MAW				pP		pP	21 32 09.9	+1.5
	comp=Z,2.9nm,0.8s,baz=212,slow=6.9,SNR=4.2							
TAM	Tamanrasset	85.02	63	*e*P		P	21 31 49.0	-0.1
	comp=Z,2.2nm,0.9s							
ES19	SONSECA Array	86.39	44	*e*P		P	21 31 54.9	-0.5
YKA	Yellowknife Ar	92.19	340	P		P	21 32 21.7	-0.3
	comp=Z,1.9nm,0.5s,baz=136,slow=4.6,SNR=5.5							
AS01	Alice Springs	129.16	207	*e*PKPdf		PKPdf	21 38 20.8	-0.5
ASAR	Alice Springs	129.17	207	PKP		PKPdf	21 38 21.4	0.0
	comp=Z,1.4nm,0.7s,baz=150,slow=1.8,SNR=15							
WB2	Warramunga Arr	132.24	210	*e*PKPdf		PKPdf	21 38 26.8	-0.4
WRA	Warramunga Arr	132.25	210	PKP		PKPdf	21 38 27.4	+0.2
	comp=Z,1.2nm,0.5s,baz=153,slow=1.7,SNR=23							
ZALV	Zalesovo Beam	142.71	26	PKP		PKPdf	21 38 43.1	-2.2
	comp=Z,4.2nm,0.7s,baz=279,slow=3.5,SNR=10							
NRN	Naryn	144.85	49	*e*PKPdf		PKPdf	21 38 50.4	+0.5
MK31	Makanchi Array	146.25	37	*e*PKPdf		PKPbc	21 38 52.6	-0.5
MKAR	Makanchi Array	146.25	37	PKPbc		PKPbc	21 38 52.5	-0.5
	comp=Z,5.4nm,0.8s,baz=313,slow=3.0,SNR=24							
MKAR				pPKPbc		pPKPab	21 39 23.5	-0.2
	comp=Z,2.5nm,0.9s,baz=316,slow=3.3,SNR=3.4							
MK01	Makanchi Array	146.27	37	*e*PKPdf		PKPdf	21 38 52.3	+0.5
SIJI	Sorong	149.76	222	PKPbc		PKPbc	21 39 04.1	+0.8
	comp=Z,4.5nm,0.5s,baz=306,slow=4.7,SNR=4.3							
WMQ	Urumqi	151.09	37	*e*PKPbc		PKPdf	21 39 02.4	+2.7
USRK	Usuriysk Ar.	152.47	327	PKPbc		PKPbc	21 39 09.2	+0.6
	comp=Z,3.3nm,0.9s,baz=23,slow=10,SNR=4.8							
SONM	Songino Array	154.38	8	PKP		PKPdf	21 39 05.7	+1.2
	comp=Z,0.9nm,0.8s,baz=270,slow=0.9,SNR=5.7							
SONM				PKPbc		PKiKP	21 39 13.4	+0.5
	comp=Z,0.6nm,0.8s,baz=272,slow=0.9,SNR=4.9							
SONM				PKPab		PKPab	21 39 27.7	+0.3
	comp=Z,0.8nm,0.5s,baz=328,slow=4.1,SNR=4.8							
SONM				pPKP		pPKPdf	21 39 35.4	+0.3
	comp=Z,0.6nm,0.4s,baz=311,slow=1.7,SNR=3.3							
GTA	Gaotai	160.45	28	⇑PKP		PKPdf	21 39 13.6	+1.3
GTA				pPKP		pPKPdf	21 39 41.5	-1.5
GTA				sPKP			21 39 52.7	
GTA				PKPab		sPKPdf	21 39 54.5	-0.1
GTA				PP		PP	21 43 40.8	+4.9
GTA				AMB		AMB		
	comp=Z,66nm,6.3s							
GTA				LR		LR		
	comp=Z,150nm,19.7s							
GTA				LR		LR		
	comp=Z,200nm,18.4s							
GTA				LR		LR		
	comp=Z,220nm,20.0s							
HHC	Hu-ho-hao-te	161.68	360	*e*PKP		PKPdf	21 39 14.9	+1.3
CD2	Chengdu	169.19	37	PKP		PKPdf	21 39 19.5	-0.5

*ISCJB **07** 21:22:19.8±2.3, 42.5°N±0.1°×43.4°E±0.2, h10km, Error ellipse: s-maj=17.4km s-min=14.0km az=20.9*
*NORS **07** 21:22:20.3±0.0, 42.61°N×43.48E, h17km, MPVA2.5*
ISC 07 21:22:20.4±1.3, **42.62N**±0.08×**43.5E**±0.1, **h10**km, **n4,**
s0.6 43/8, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONI	Oni	0.03	186	P	Pg	21 22 22.4	+0.1
ONI				S	Sg	21 22 23.9	+0.1
DIGR	Digorskoe uzhe	0.29	18	*i* Pg	Pb	21 22 27.9	0.0
DIGR				*e*Sg	Sb	21 22 33.5	+0.7
ZEI	Tsey	0.37	63	*e*Pg	Pb	21 22 29.1	0.0
ZEI				*e*Sg	Sb	21 22 35.3	+0.3
LSNR	Lesken	0.71	22	*e*Pg	Pn	21 22 36.1	-0.5
LSNR				*e*Sg	Sn	21 22 47.2	-0.3

*IDC **07** 21:31:02.2±3.2, 9.18S×113.21E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.4/37, mbtmp3.4/5, ML3.4/1, Error ellipse: s-maj=150.9km s-min=23.2km az=51.0*
*ISCJB **07** 21:31:05.2±0.7, 9.76S±0.06×112.82E±0.05, h36km, mb3.4/4, Error ellipse: s-maj=9.9km s-min=6.5km az=34.6*
*DJA **07** 21:31:10.4±2.0, 9°S±7°×11°3E±°, h40km±23km, M3.7/10, MLv3.7/10*
ISC 07 21:31:06.1±1.0, **9.69S**±0.08×**112.90E**±0.05, **h36**km, **n15,**
s2.6 06/19, mb3.4/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GMJI	Gumukmas	1.51	21	P	Pn	21 31 30.3	-0.3
GMJI				S	Sn	21 31 45.0	-4.0
JAGI	Jajag, Banyuwa	1.73	46	P	Pn	21 31 34.6	+0.9
PWJI	Pagerwojo	1.98	327	P	Pn	21 31 37.4	+0.4
PWJI				S	Sn	21 31 59.2	-1.4
BLJI	Banyuglugur	2.05	20	P	Pn	21 31 40.5	+2.4
BLJI				S	Sn	21 32 05.7	+3.3
PCJI	Pacitan	2.25	311	P	Pn	21 31 41.5	+0.6
PCJI				S	Sn	21 32 07.0	-0.4
WOJI	Wonogiri, Jawa	2.68	313	P	Pn	21 31 47.6	+0.9
NGJI	Ngawi	2.71	328	P	Pn	21 31 50.6	+3.5
UGM	Wanagama	2.93	307	P	Pn	21 31 51.1	+0.8
KPJI	Karang Pucung	4.57	301	P	Pn	21 32 16.0	+3.3
CISI	Cisompet, Garu	5.45	292	P	Pn	21 32 24.6	-0.3
FITZ	Fitzroy Crossi	14.92	125	Pn	Pn	21 34 34.0	-0.5
	0.1nm,0.3s,baz=323,slow=13,SNR=6.9						
FITZ				Sn	Sn	21 37 06.4	-12
	0.1nm,0.3s,baz=153,slow=18,SNR=3.7						
WRA	Warramunga Arr	23.07	119	P	P	21 36 09.4	+0.6
	1.0nm,1.3s,baz=298,slow=11,SNR=4.9						
ASAR	Alice Springs	24.41	127	P	P	21 36 23.4	+2.0
	0.3nm,0.6s,baz=307,slow=8.7,SNR=5.5						
SONM	Songino Array	57.56	355	P	P	21 40 50.9	-1.3
	0.7nm,0.7s,baz=181,slow=5.4,SNR=3.6						
MKAR	Makanchi Array	62.51	337	P	P	21 41 25.1	-1.0
	0.3nm,0.4s,baz=153,slow=7.4,SNR=4.4						

*IDC **07** 21:37:12.0±2.7, 13.77N×92.00W, h0km, mb3.6/4, mb1 4.0/6, mb1mx3.7/49, mbtmp3.7/6, ML3.9/2, Error ellipse: s-maj=48.8km s-min=16.7km az=159.0*
*MEX **07** 21:37:16.0±0.4, 13.87N×92.23W, h17km±32km, MD3.9*
ISC 07 21:37:21.3±1.5, **14.2N**±0.1×**92.14W**±0.09, **h54**km, **n11,**
s2.5 00/15, mb3.7/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	El Apazote	1.82	63	Pn	Pn	21 37 47.8	-2.6
	37nm,0.3s,baz=215,slow=8.3,SNR=69						
APG				Lg	Lg	21 38 12.7	
	50nm,0.3s,baz=322,slow=17,SNR=8.8						
PCIG		1.84	326	*e*P	Pn	21 37 46.8	-3.6
PCIG				*i* S	Sn	21 38 11.0	-1.6
CCIG	Comitan	2.09	0	*i* P	Pn	21 37 52.6	-1.4
CCIG				*e*S	Sn	21 38 19.8	+0.8
TGIG		2.75	340	*e*P	Pn	21 38 00.5	-2.5
TGIG				*i* S	Sn	21 38 35.4	+0.4
CMIG	Matias Romero	3.92	318	Pn	Pn	21 38 17.0	-1.9
	6.2nm,0.3s,baz=141,slow=9.5,SNR=12						
CMIG				Sn	Sn	21 39 03.9	+0.3
	16nm,0.3s,baz=120,slow=13,SNR=4.6						
TXAR	Lajitas Array	18.47	327	P	Pn	21 41 34.3	+0.8
	0.1nm,0.3s,baz=153,slow=12,SNR=13						
ANMO	Albuquerque	24.37	331	P	P	21 42 36.1	+1.5
	1.2nm,0.5s,baz=142,slow=10,SNR=5.8						
PDAR	Pinedale Array	32.20	336	P	P	21 43 46.4	+1.9
	0.2nm,0.5s,baz=137,slow=12,SNR=2.1						
NVAR	Mina Array Bea	33.44	321	P	P	21 43 57.9	+2.5
	0.8nm,0.6s,baz=130,slow=7.9,SNR=6.9						
ILAR	Eielson Array	62.62	337	P	P	21 47 39.9	+0.2
	1.0nm,1.0s,baz=130,slow=4.1,SNR=4.9						
CMAR	Chiang Mai Arr	145.78	341	PKPbc	PKPdf	21 56 54.0	-0.8
	2.2nm,0.6s,baz=331,slow=3.2,SNR=17						

*ISCJB **07** 21:40:25.5±0.8, 12.12N±0.06×88.55W±0.04, h45km±4km, mb4.1/14, Error ellipse: s-maj=11.5km s-min=4.5km az=31.8*
*IDC **07** 21:40:25.4±4.5, 12.64N×87.48W, h23km±31km, mb4

GOGA	**Godfrey** baz=192	21.60	11	P		P	21 45 14.8	+0.5
Y47A	**UCPARC, Winfie** baz=180	21.61	1	P		P	21 45 14.4	+0.2
Y49A	**Blount Mountai** baz=184	21.64	5	P		P	21 45 13.6	-1.0
Y50A	**Piedmont** baz=186	21.73	6	P		P	21 45 15.7	+0.1
Y51A	**Rockmart** baz=187	21.82	8	P		P	21 45 16.1	-0.5
Y52A	**Lilburn** baz=190	21.94	10	P		P	21 45 18.5	+0.7
Y53A	**Monroe** baz=191	22.01	11	P		P	21 45 19.3	+0.7
TXAR	**Lajitas Array** comp=N,4.9nm,0.6s,baz=143,slow=12,SNR=45	22.13	323	P		P	21 45 21.5	+1.4
TXAR				PcP		PcP	21 49 20.5	+3.6
	comp=N,0.3nm,0.7s,baz=128,slow=5.8,SNR=3.2							
X48A	**Hartselle** baz=182	22.18	3	P		P	21 45 20.0	-0.5
Y54A	**Tignall** baz=193	22.20	13	P		P	21 45 21.6	+0.9
X51A	**Calhoun** baz=188	22.50	8	P		P	21 45 25.0	+1.1
X40A	**Basin Creek Fa** baz=167	22.53	351	P		P	21 45 23.9	-0.2
X52A	**Dahlonega** baz=190	22.69	10	P		P	21 45 25.4	-0.5
X53A	**Estanollee** baz=192	22.70	11	P		P	21 45 26.2	+0.3
MIAR	**Mount Ida** comp=N,7.5nm,0.6s	22.71	349	*e*P		P	21 45 26.1	-0.1
MIAR	**Mount Ida** baz=165,SNR=7.6	22.71	349	P		P	21 45 26.1	-0.1
ABTX	**Abilene, Hawle** baz=149	22.75	335	P		P	21 45 26.2	-0.3
W48A	**Pulaski** baz=182	22.88	3	P		P	21 45 28.5	+0.7
W51A	**Cleveland** baz=188	23.10	8	P		P	21 45 29.5	-0.6
W41B	**Gary Mavity, V** baz=169	23.12	352	P		P	21 45 29.8	-0.5
W39A	**Magazine** baz=165,SNR=6.4	23.38	349	P		P	21 45 32.7	-0.3
V47A	**Nunnelly** baz=181	23.54	2	P		P	21 45 33.5	-0.9
V42A	**Cord** baz=171	23.64	354	P		P	21 45 34.9	-0.5
V41A	**Mountainview** baz=169	23.71	353	P		P	21 45 36.2	+0.1
TKL	**Tuckaleechee C** comp=N,5.6nm,0.7s,baz=194,slow=14,SNR=5.1	23.74	10	P		P	21 45 35.8	-0.6
V53A	**Saluda** baz=192	23.92	11	P		P	21 45 38.6	+0.4
V52A	**Sevierville** baz=190	23.95	10	P		P	21 45 38.6	+0.3
U47A	**Clarksville** baz=181	24.16	2	P		P	21 45 38.5	-1.7
U42A	**Revenden** baz=172	24.17	355	P		P	21 45 39.1	-1.3
U41A	**Viola** baz=170	24.23	353	P		P	21 45 40.0	-1.0
WMOK	**Wichita Mounta** comp=N,4.2nm,0.7s	24.30	339	*e*P		P	21 45 40.8	-0.9
WMOK	**Wichita Mounta** baz=153	24.30	339	P		P	21 45 40.6	-1.1
U40A	**Yellville** baz=168,SNR=12	24.36	351	P		P	21 45 42.0	-0.2
U51A	**La Follette** baz=189	24.41	9	P		P	21 45 42.8	+0.2
TUL1	**Leonard** baz=161	24.50	346	P		P	21 45 42.9	-0.6
U52A	**Thorn Hill** baz=190	24.52	10	P		P	21 45 44.6	+1.0
U53A	**Fall Branch** baz=192	24.64	12	P		P	21 45 45.0	+0.3
T47A	**Sharon Grove** baz=182	24.71	3	P		P	21 45 44.2	-1.1
T46A	**Princeton** baz=180	24.74	1	P		P	21 45 44.1	-1.4
T43A	**Greenville** baz=174	24.82	357	P		P	21 45 45.8	-0.6
T42A	**Van Buren** baz=172	24.83	355	P		P	21 45 45.4	-0.9
MNTX	**Cornudas Mount** baz=136	24.86	324	P		P	21 45 46.6	-0.3
T41A	**Mountain View** baz=171	24.91	354	P		P	21 45 46.1	-1.0
MSTX	**Muleshoe** baz=144,SNR=8.1	25.27	331	P		P	21 45 50.4	-0.2
S41A	**Jillco Farms,** baz=171	25.44	354	P		P	21 45 50.4	-1.5
AMTX	**Amarillo** comp=N,3.3nm,0.4s	25.55	334	*e*P		P	21 45 53.3	+0.2
AMTX	**Amarillo** baz=148	25.55	334	P		P	21 45 53.6	+0.5
R41A	**Rosebud** baz=172,SNR=5.6	26.11	355	P		P	21 45 56.8	-1.2
Q52A	**Bidwell** baz=192	27.22	11	P		P	21 46 09.8	+1.8
ANMO	**Albuquerque** comp=N,0.4nm,0.4s,baz=155,slow=17,SNR=2.6	27.89	327	P		P	21 46 15.6	+1.2
T25A	**Trinidad** baz=145	28.64	333	P		P	21 46 22.4	+1.4
N39A	**Derby Farms, D** baz=170	28.78	354	P		P	21 46 20.4	-1.5
SDCO	**Great Sand Dun** baz=144,SNR=5.4	29.63	332	P		P	21 46 30.4	+0.5
S22A	**4UR Ranch, Cre** baz=141	30.26	330	P		P	21 46 36.1	+0.7
J41A	**Loganville** baz=176	31.07	358	P		P	21 46 41.0	-1.2
I41A	**Arkdale** baz=176	31.76	358	P		P	21 46 46.7	-1.5
ECSD	**EROS Data Cent** baz=164	32.19	349	P		P	21 46 50.0	-2.0
G42A	**Mountain** baz=179	32.92	0	P		P	21 46 56.9	-1.5
G39A	**Holcombe** baz=174	33.05	357	P		P	21 46 57.6	-1.9
SPMN	**Marine on St.** baz=171	33.11	354	P		P	21 46 58.1	-1.9
F39A	**Loretta** baz=174	33.66	357	P		P	21 47 03.2	-1.6
F38A	**Pierce - Schro** baz=173,SNR=8.0	33.76	356	P		P	21 47 04.3	-1.4
E39A	**Mellen** baz=175	34.10	357	P		P	21 47 07.1	-1.6
E40A	**Wakefield** baz=176	34.15	358	P		P	21 47 07.5	-1.6
E38A	**The Farm, Brul** baz=174	34.38	356	P		P	21 47 09.5	-1.6
PDAR	**Pinedale Array** comp=N,0.5nm,0.7s,baz=121,slow=14,SNR=2.3	35.51	333	P		P	21 47 21.7	+0.5
EYMN	**Ely** baz=174	35.72	357	P		P	21 47 20.6	-2.0
AGMN	**Agassiz Nation** baz=167,SNR=5.4	36.50	352	P		P	21 47 27.7	-1.6
NVAR	**Mina Array Bea** comp=N,0.9nm,0.6s,baz=149,slow=7.4,SNR=6.5	37.22	320	P		P	21 47 38.7	+2.9
NVAR				PcP		PcP	21 49 57.2	+1.9
	comp=N,0.9nm,0.6s,baz=141,slow=4.6,SNR=8.7							
ULM	**Lac du Bonnet** comp=N,12nm,0.5s,baz=167,slow=9.3,SNR=16	38.41	352	P		P	21 47 43.4	-2.1
BDFB	**Brasilia** comp=N,2.9nm,0.6s,baz=280,slow=10,SNR=4.1	48.69	124	P		P	21 49 09.2	+0.4
CPUP	**Villa Florida** comp=N,1.4nm,0.3s,baz=341,slow=6.6,SNR=3.0	48.85	142	P		P	21 49 07.5	-2.3
YKA	**Yellowknife Ar** comp=N,2.5nm,0.7s,baz=138,slow=6.4,SNR=4.1	53.58	345	P		P	21 49 42.5	-2.3
INK	**Inuvik** comp=N,2.9nm,0.8s,baz=116,slow=10,SNR=5.3	63.13	343	P		P	21 50 49.9	-1.4
HDA	**Harding Lake** baz=113	65.71	336	P		P	21 51 07.6	-0.7
ILAR	**Eielson Array** comp=N,1.4nm,1.0s,baz=112,slow=3.6,SNR=7.4	65.83	336	P		P	21 51 08.0	-1.1
WRA	**Warramunga Arr** comp=N,0.5nm,0.9s,baz=89,slow=2.9,SNR=3.5	138.22	254	PKP		PKPdf	21 59 49.4	-0.5
ASAR	**Alice Springs** comp=N,0.3nm,0.4s,baz=113,slow=6.6,SNR=2.6	138.23	248	PKP		PKPdf	21 59 50.4	+0.4
CMAR	**Chiang Mai Arr** comp=N,0.8nm,0.3s,baz=345,slow=4.0,SNR=6.6	148.66	346	PKPbc		PKPdf	22 00 09.8	+1.5

*ISCJB **07** 21:49:54.4±0.6, 14°.9S±0°.2×175°.6W±0°.1, h300km, mb3.7/10, Error ellipse: s-maj=29.5km s-min=10.1km az=160.1*

*IDC **07** 21:49:54.4±1.3, 14°.85S×175°.59W, h285km±15km, mb3.5/10, mb1 3.8/11, mb1mx3.5/42, mbtmp4.2/11, Error ellipse: s-maj=34.0km s-min=11.6km az=146.0*

ISC 07 21:49:55.4±0.7, **14°.9S**±0°.2×**175°.5W**±0°.1, **h300**km, **n15**, σ**0**s**74**/17, **mb3.8**/10, **Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	3.72	75	P	Pn	21 50 57.8	-0.9
	20nm,0.3s,baz=159,slow=1.0,SNR=13						
AFI				S	S	21 51 48.9	-0.5
	6.6nm,0.3s,baz=63,slow=18,SNR=2.5						
STKA	**Stephens Creek**	42.55	239	P	P	21 57 22.1	-0.3
	3.1nm,0.4s,baz=90,slow=9.5,SNR=10						
WRA	**Warramunga Arr**	48.01	256	P	P	21 58 04.4	-0.8
	1.0nm,0.7s,baz=88,slow=7.8,SNR=15						
WRA				PcP	PcP	21 59 28.7	+0.5
	0.3nm,0.5s,baz=91,slow=3.7,SNR=4.5						
ASAR	**Alice Springs**	48.36	252	P	P	21 58 07.8	-0.1
	9.1nm,0.4s,baz=85,slow=8.1,SNR=148						
PETK	**Petropavlovsk-**	71.59	343	P	P	22 00 44.4	+0.2
	2.5nm,0.8s,baz=163,slow=10						
YBH	**Yreka Blue Hor**	74.45	38	P	P	22 01 02.2	+1.0
	1.2nm,0.7s,baz=164,slow=3.6,SNR=3.9						
NVAR	**Mina Array Bea**	75.33	43	P	P	22 01 07.8	+1.2
	1.2nm,0.8s,baz=223,slow=8.7,SNR=7.0						
TXAR	**Lajitas Array**	82.02	57	P	P	22 01 43.5	+0.7
	0.2nm,0.5s,baz=229,slow=9.5,SNR=3.0						
ILAR	**Eielson Array**	82.38	12	P	P	22 01 43.8	0.0
	1.4nm,0.6s,baz=219,slow=5.7,SNR=22						
PDAR	**Pinedale Array**	83.26	43	P	P	22 01 49.4	+0.3
	0.5nm,0.6s,baz=197,slow=2.7,SNR=5.5						
MAW	**Mawson**	87.59	199	P	P	22 02 10.4	+0.8
	1.2nm,0.8s,baz=158,slow=5.4,SNR=3.3						
BVAR	**Borovoye Array**	116.28	322	PKP	PKPdf	22 08 02.7	-0.5
	0.4nm,0.3s,baz=109,slow=1.7,SNR=5.5						
KMBO	**Kilima Mbogo**	143.91	247	PKP	PKPdf	22 08 56.5	0.0
	1.4nm,0.8s,baz=85,slow=9.4,SNR=5.3						
BRTR	**Keskin Array B**	144.52	320	PKP	PKPdf	22 08 56.4	-0.3
	4.5nm,0.8s,baz=99,slow=3.0,SNR=25						
GERES	**GERESS Array B**	145.34	349	PKPbc	PKPab	22 08 57.6	-1.2
	0.2nm,0.3s,baz=347,slow=4.0,SNR=2.5						

*JMA **07** 21:53:02.0±0.1, 36°.18N×141°.45E, h53km±3km, M3.0*
*IDC **07** 21:53:08.7±7.2, 35°.93N×140°.81E, h68km±47km, mb3.1/3, mb1 3.3/5, mb1mx3.0/59, mbtmp3.4/5, ML3.1/2, Error ellipse: s-maj=94.7km s-min=15.8km az=74.0*

ISC 07 21:52:58.0±1.8, **36°.18N**±0°.04×**141°.60E**±0°.08, **h9**km±13km, **n18**, σ**1**s**37**/25, **mb3.4**/3, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	0.77	232	P	Pn	21 53 15.6	+0.5
CHOJ				S	Sb	21 53 25.7	+1.5
JHYU	**Hitachinakayam**	0.83	281	P	Pn	21 53 16.3	+0.3
JHYU				S	Sb	21 53 26.5	+0.4
JIHU	**Itakohorinouch**	0.90	256	P	Pn	21 53 17.5	+0.6
JIHU				S	Sb	21 53 28.6	+0.7
JHO	**Hitachi**	0.94	298	P	Pn	21 53 17.5	+0.1
JFK	**Kawauchi**	1.32	334	P	Pg	21 53 23.6	+0.3
JFK				S	Sb	21 53 39.3	-0.8
BSO1	**Boso 1**	1.61	199	P	Pb	21 53 27.0	-0.6
BSO3	**Boso 3**	1.64	213	P	Pb	21 53 27.8	-0.5
JFT	**Otama**	1.68	323	P	Pg	21 53 29.5	-0.7
JAG	**Ashikaga**	1.75	279	P	Pn	21 53 28.9	+0.3
JAG				S	Sn	21 53 48.7	-2.4
JMM	**Marumori**	1.80	339	P	Pb	21 53 30.8	-0.4
JFY	**Yanaizu**	1.95	309	P	Pb	21 53 32.8	-1.0
JKT	**Katashina**	1.98	288	P	Pn	21 53 33.0	+1.1
MJAR	**Matsushiro Arr**	2.76	278	P	Pn	21 53 42.9	+0.3
	3.7nm,0.3s,baz=114,slow=7.7,SNR=23						
MAT	**Matsushiro**	2.76	278	P	Pn	21 53 44.4	+1.8
MAT				S	Sn	21 54 16.5	+0.4
JHJ	**Hachijo jima 2**	3.40	207	P	Pn	21 53 52.0	+0.7
	11nm,0.3s,baz=289,slow=18,SNR=10						
JHJ				S	Sn	21 54 27.4	-4.5
	8.0nm,0.3s,baz=50,slow=17,SNR=2.6						
SONM	**Songino Array**	28.39	305	P	P	21 58 53.6	+0.7
	0.2nm,0.5s,baz=90,slow=8.6,SNR=2.3						
KURBB	**Kurchatov Arra**	46.65	309	P	P	22 01 26.8	+0.2
	0.4nm,0.4s,baz=86,slow=7.8,SNR=4.1						
WRA	**Warramunga Arr**	56.24	188	P	P	22 02 39.8	+1.0
	0.2nm,0.5s,baz=3.0,slow=7.6,SNR=5.5						

*ISCJB **07** 22:06:08.5±0.5, 24°.07S±0°.05×67°.13W±0°.04, h181km, mb3.6/5, Error ellipse: s-maj=7.7km s-min=5.1km az=26.5*
*IDC **07** 22:06:10.8±3.3, 24°.05S×66°.87W, h186km±27km, mb3.4/5, mb1 3.7/8, mb1mx3.5/25, mbtmp4.0/8, Error ellipse: s-maj=32.8km s-min=18.8km az=34.0*
*GUC **07** 22:06:11.8±0.4, 23°.88S×67°.66W, h223km±8km, ML4.3*

ISC 07 22:06:10.0±0.6, **24°.03S**±0°.06×**67°.13W**±0°.06, **h181**km, **n27**, σ**1**s**55**/37, **mb3.6**/5, **9C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB15	**IPOC Station P**	2.30	290	⇑*i*P	Pn	22 06 51.4	+0.7
PB15				*e*S	Sn	22 07 22.0	-0.2
PB06	**IPOC Station P**	2.60	300	⇑*i*P	Pn	22 06 54.9	+0.7
PB06				*i* S	Sn	22 07 27.6	-0.8
PB06				IAML		22 07 29.9	
	comp=E,1μm,0.2s						
PB09	**IPOC Station P**	2.95	318	⇑*i*P	Pn	22 06 59.6	+1.2
PB09				*i* S	Sn	22 07 36.0	0.0
PB09				IAML		22 07 38.1	
	comp=N,411nm,0.5s						
PB14	**IPOC Station P**	3.05	258	*e*P	Pn	22 06 58.9	-0.7
PB14				*e*S	Sn	22 07 35.4	-2.8
PB14				IAML		22 07 38.8	
	comp=E,575nm,0.3s						
PB05	**IPOC Station P**	3.05	292	⇑*i*P	Pn	22 06 59.8	+0.3
PB05				*i* S	Sn	22 07 35.8	-2.3
PB05				IAML		22 07 38.1	
	comp=E,380nm,0.4s						
PB03	**IPOC Station P**	3.12	309	⇑*i*P	Pn	22 07 00.7	+0.3
PB03				*i* S	Sn	22 07 38.0	-1.6
PB03				IAML		22 07 39.9	
	comp=N,862nm,0.3s						
PB10	**IPOC Station P**	3.18	279	⇑*i*P	Pn	22 07 01.1	+0.2
PB10				*e*S	Sn	22 07 37.9	-2.7
PB10				IAML		22 07 41.0	
	comp=N,240nm,0.3s						
PB04	**IPOC Station P**	3.25	301	⇑*i*P	Pn	22 07 02.0	0.0
PB04				*i* S	Sn	22 07 40.5	-1.9
PB04				IAML		22 07 42.6	
	comp=N,793nm,0.3s						
PB07	**IPOC Station P**	3.42	311	⇑*i*P	Pn	22 07 04.2	+0.1
PB07				*i* S	Sn	22 07 44.3	-2.0
PB01	**IPOC Station P**	3.68	323	⇑*i*P	Pn	22 07 07.2	-0.1
PB01				*i* S	Sn	22 07 50.1	-1.9
PB02	**IPOC Station P**	3.71	316	*i* P	Pn	22 07 07.5	-0.2
PB02				*i* S	Sn	22 07 50.3	-2.4
LPAZ	**La Paz**	7.76	353	P	Pn	22 08 01.9	+1.2
	comp=N,1.6nm,0.3s,baz=170,slow=9.6,SNR=32						
LPAZ				S	Sn	22 09 26.4	-1.9
	comp=N,0.1nm,0.3s,baz=342,slow=16,SNR=5.1						
CPUP	**Villa Florida**	9.17	107	P	Pn	22 08 16.5	-2.2
	comp=N,0.2nm,0.3s,baz=282,slow=13,SNR=5.6						
PLCA	**Paso Flores**	16.91	189	P	Pn	22 10 00.3	+4.2
	comp=N,0.2nm,0.3s,baz=34,slow=12,SNR=3.9						
BDFB	**Brasilia**	19.81	69	P	P	22 10 25.1	-1.8
	comp=N,1.8nm,0.3s,baz=244,slow=11,SNR=37						
PTGA	**Pitinga**	24.18	18	P	P	22 11 10.4	+0.5
	comp=N,0.7nm,0.3s,baz=204,slow=9.1,SNR=3.7						
VNA3	**Neumayer Olymp**	57.17	161	P	P	22 15 38.0	+0.5
VNA1	**Neumayer--Stat**	57.36	160	P	P	22 15 33.7	-5.1
VNA2	**Neumayer--Watz** baz=292,slow=6.6	57.73	160	P	P	22 15 40.2	-1.3
TXAR	**Lajitas Array**	63.63	325	P	P	22 16 23.2	+1.2
	comp=N,0.2nm,0.4s,baz=153,slow=8.0,SNR=7.8						
TORD	**Torodi Ar. Bea**	76.69	69	P	P	22 17 40.4	-1.2
	comp=N,0.7nm,0.5s,baz=255,slow=5.6,SNR=14						
PDAR	**Pinedale Array**	77.11	329	P	P	22 17 44.6	+1.1
	comp=N,0.5nm,0.7s,baz=136,slow=5.6,SNR=4.2						
ULM	**Lac du Bonnet**	78.22	342	P	P	22 17 49.9	+0.7
	comp=N,3.2nm,0.7s,baz=177,slow=5.2,SNR=3.0						
ASAR	**Alice Springs**	128.38	205	PKP	PKPdf	22 24 56.1	+0.3
	comp=N,0.9nm,0.7s,baz=133,slow=2.2,SNR=9.9						
WRA	**Warramunga Arr**	131.55	207	PKP	PKPdf	22 25 02.2	+0.3
	comp=N,0.6nm,0.5s,baz=160,slow=1.7,SNR=15						
ZALV	**Zalesovo Beam**	143.47	28	PKP	PKPbc	22 25 20.6	+0.2
	comp=N,1.3nm,0.7s,baz=283,slow=4.1,SNR=6.2						
MKAR	**Makanchi Array**	146.62	39	PKPbc	PKPdf	22 25 29.4	+1.0
	comp=N,1.6nm,0.7s,baz=324,slow=3.0,SNR=11						

*IDC **07** 22:22:03.3±8.8, 30°.08S×179°.88W, h481km±83km, mb2.6/2, mb1 3.0/3, mb1mx2.8/40, mbtmp3.8/3, Error ellipse: s-maj=61.8km s-min=43.7km az=89.0*

ISC 07 22:22:04.8±1.2, **30°.0S**±0°.3×**179°.9W**±0°.2, **h500**km, **n13**, σ**0**s**61**/12, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	14.58	300	P	P	22 25 10.8	0.0
	0.7nm,0.3s,baz=113,slow=12,SNR=5.3						
ASAR	**Alice Springs**	41.46	267	P	P	22 29 07.5	-0.1
	0.2nm,0.4s,baz=100,slow=8.6,SNR=3.5						
WRA	**Warramunga Arr**	42.41	273	P	P	22 29 14.9	-0.2
	0.3nm,0.5s,baz=110,slow=8.1,SNR=10						
VNA3	**Neumayer Olymp**	78.77	177	P	P	22 33 14.4	-0.3
VNA2	**Neumayer--Watz** baz=183,slow=4.9	79.19	178	P	P	22 33 17.1	+0.2
VNA1	**Neumayer--Stat**	79.43	177	P	P	22 33 18.3	+0.2
MKAR	**Makanchi Array**	116.26	311	PKP	PKPdf	22 39 51.2	+0.4
	0.3nm,0.5s,baz=204,slow=0.9,SNR=4.1						
ARCES	**ARCESS Array B**	137.87	347	PKhKP		22 40 22.6	
	2.5nm,0.9s,baz=301,slow=2.6,SNR=6.0						
FINES	**FINESS Array B**	144.22	339	PKP	PKPdf	22 40 41.5	-1.1
	7.3nm,0.5s,baz=54,slow=3.7,SNR=69						
NOA	**NORSAR Array B**	148.12	350	PKPbc	PKPbc	22 40 52.8	-0.4
	0.8nm,0.7s,baz=21,slow=4.8,SNR=4.0						
AKASG	**Malin Array Be**	149.99	322	PKPbc	PKPbc	22 40 58.5	+0.5
	3.6nm,0.6s,baz=47,slow=2.9,SNR=8.8						
BRTR	**Keskin Array B**	150.96	299	PKPbc	PKPbc	22 41 02.0	+1.1
	0.6nm,0.5s,baz=120,slow=4.7,SNR=4.8						
TORD	**Torodi Ar. Bea** baz=165,slow=6.0	163.13	185	PKPab	PKPab	22 42 03.1	-0.3

*IDC **07** 22:27:41.4±0.7, 13°.70N×92°.20W, h0km, mb4.2/14, mb1 4.4/17, mb1mx4.2/42, mbtmp4.2/17, ML4.3/3, MS3.8/1, Ms1 3.8/1, ms1mx3.0/37, Error ellipse: s-maj=24.1km s-min=13.0km az=48.0*
*ISCJB **07** 22:27:42.7±1.4, 13°.76N±0°.04×92°.32W±0°.05, h18km±9km, mb4.2/18, MS3.7/1, Error ellipse: s-maj=9.8km s-min=3.9km az=135.0*
*UCR **07** 22:27:44.0±1.0, 14°.06N×92°.37W, h34km±999km, ML4.1, mb4.1(NEIC)*
*MEX **07** 22:27:45.5±0.7, 13°.86N×92°.22W, h4km±143km, MD3.9*
*NEIC **07** 22:27:46.9±0.5, 13°.82N×92°.20W, h35km, mb4.1/8, MD4.3(MEX), Error ellipse: s-maj=14.5km s-min=6.7km az=51.0*

ISC 07 22:27:44.0±2.3, **13°.89N**±0°.06×**92°.20W**±0°.06, **h14**km±13km, **n62**, σ**1**s**24**/72, **mb4.3**/17, **1C, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		1.01	356	*e*P	Pb	22 28 03.4	0.0
THIG				*e*S	Sg	22 28 16.6	-0.3
THIG		1.01	356	*e*P	Pb	22 28 03.4	0.0
THIG				*e*S	Sg	22 28 16.6	-0.3
APG	**El Apazote**	2.01	56	Pn	Pn	22 28 19.1	+1.3
	132nm,0.3s,baz=232,slow=7.1,SNR=324						
APG				Sn	Sg	22 28 47.8	-1.0
	248nm,0.3s,baz=276,slow=6.0,SNR=15						
PCIG		2.06	331	*e*P	Pn	22 28 17.2	-1.1
PCIG		2.06	331	*e*P	Pn	22 28 17.2	-1.1
PCIG				*i* S	Sn	22 28 43.1	-0.6
CCIG	**Comitan**	2.38	1	*e*P	Pb	22 28 25.4	-1.4
CCIG				*e*S	Sb	22 28 54.0	-2.1
CCIG	**Comitan**	2.38	1	*e*P	Pn	22 28 23.2	+0.4
CCIG				*i* S	Sn	22 28 51.6	-0.3
RTR	**El Retiro**	2.48	90	*e*P	Pn	22 28 25.8	+1.6
SBLS	**San Blas**	2.50	91	*e*P	Pn	22 28 24.9	+0.3
SBLS				*e*S	Sn	22 28 57.6	+2.6
SNJE	**San Jose**	2.52	90	*e*P	Pn	22 28 25.7	+0.9
MTO3	**Montecristo**	2.80	79	⇑*e*P	Pn	22 28 29.2	+0.5
BOQS	**Boqueron**	2.84	93	*e*P	Pn	22 28 29.4	+0.2
LFU	**La Fuente**	3.00	92	*e*P	Pn	22 28 32.0	+0.8
TGIG		3.01	343	*e*P	Pn	22 28 32.3	+0.9
TGIG		3.01	343	*e*P	Pn	22 28 32.3	+0.9
TGIG				*i* S	Sn	22 29 07.4	+0.1
LFRS	**El Faro**	3.06	95	*e*P	Pn	22 28 32.9	+0.7
PAVA	**Las Pavas**	3.17	93	*e*P	Pn	22 28 34.7	+1.0
PAVA				IAML		22 29 30.3	
	comp=Z,727nm,0.4s						
TECA	**Tecapa**	3.61	96	*e*P	Pn	22 28 41.0	+1.1
CMIG	**Matias Romero**	4.10	321	Pn	Pn	22 28 46.6	+0.1
	comp=Z,7.2nm,0.3s,baz=138,slow=10,SNR=30						
CMIG				Sn	Sn	22 29 34.7	+0.4
	comp=Z,39nm,0.3s,baz=107,slow=21,SNR=3.8						
JTS	**JuntasAbangare**	7.94	116	Pn	Pn	22 29 40.2	+1.0
	comp=Z,1.7nm,0.3s,baz=27,slow=16,SNR=6.3						
JTS				Sn	Sn	22 31 04.8	-4.1
	baz=16,slow=20,SNR=1.1						
JTS				Lg	Lg	22 31 47.5	
	baz=284,slow=21,SNR=6.5						
JTS	**JuntasAbangare**	7.94	116	*e*Pn	Pn	22 29 40.7	+1.5
	comp=Z,34nm,0.6s						
JTS				*e*S	Sn	22 31 10.5	+1.7
JTS				Lg	Lg	22 31 47.5	
HKT	**Hockley**	16.33	349	*e*Pn	P	22 31 36.3	+0.4
	comp=Z,10nm,0.5s						
JCT	**Junction City**	17.94	338	*e*Pn	P	22 31 56.1	+2.4
	comp=Z,14nm,1.8s						
ZARC	**Zaragoza, Cauc**	18.18	109	*e*P	Pn	22 31 56.3	0.0
TXAR	**Lajitas Array**	18.68	327	P	Pn	22 32 04.8	+2.3
	comp=Z,0.3nm,0.3s,baz=149,slow=10.0,SNR=28						
NORC	**Norcasia**	18.96	114	*e*P	Pn	22 32 06.9	+1.0
POPC	**Popayan, Colom**	19.04	125	*e*P	P	22 32 06.3	+0.1
SOTA	**Rioblanco**	19.34	126	*e*P	Pn	22 32 13.6	+2.8
MARP	**Paez Belalcaza**	19.44	123	*e*P	Pn	22 32 12.2	+0.4
ROSC	**El Rosal**	19.78	115	P	Pn	22 32 16.5	+0.4
	comp=Z,1.8nm,0.3s,baz=57,slow=23,SNR=9.1						
PRAC	**Prado**	19.85	119	*e*P	P	22 32 14.9	0.0
BARC	**Barichara**	20.06	109	*e*P	P	22 32 18.2	+0.9
CHIC	**Chingaza**	20.40	115	*e*P	Pn	22 32 23.5	+0.2
RUSC	**La Rusia**	20.42

BOSA Boshof 120.48 115 PKP **PKPdf 22 46 35.0 -1.0**
comp=Z,2.4nm,0.8s,baz=236,slow=3.6,SNR=3.4
WRA Warramunga Arr 135.18 256 PKP **PKPdf 22 47 03.5 -0.6**
comp=Z,0.4nm,0.7s,baz=90,slow=1.7,SNR=3.7
ASAR Alice Springs 135.45 250 PKP **PKPdf 22 47 03.7 -0.9**
comp=Z,0.5nm,0.8s,baz=98,slow=2.9,SNR=4.7
CHTO Chiang Mai 145.70 341 *e*PKPbc **PKPdf 22 47 22.6 -0.5**
CMAR Chiang Mai Arr 146.03 341 PKPbc **PKPdf 22 47 24.1 +0.3**
comp=Z,11nm,0.8s,baz=340,slow=3.8,SNR=4.9
HYB Hyderabad 147.58 17 *i* PKP **PKPdf 22 47 27.5 +1.1**

*ISCJB **07** 22:30:17.5± 1.5, 40.15N±0.05×142.95E±0.07, h6*km*±11*km*, n25, σ0°74/25, mb3.6/4, Near east coast of eastern Honshu*
*JMA **07** 22:30:19.3± 0.2, 40.10N× 142.85E, h20*km*±2*km*, M3.7*
*IDC **07** 22:30:25.5± 2.6, 39.92N× 142.77E, h79*km*±23*km*, mb3.4/4, mb1 3.4/7, mb1mx3.2/41, mbtmp3.6/7, Error ellipse: s-maj=37.7km s-min=17.2km az=95.0*
ISC 07 22:30:16.5±2.0, 40.15N±0.05×142.95E±0.07, h6km**±11**km**, n25, σ0°74/25, mb3.6/4, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.86**	**256**	P			**Pb**	**22 30 34.1**	**+0.2**
JKEN	**Kujiedanarisaw**	**0.95**	**274**	P			**Pb**	**22 30 35.7**	**+0.3**
MIYJ	**Miyakonagasawa**	**1.04**	**237**	P			**Pg**	**22 30 36.6**	**+0.1**
JANG	**Nango**	**1.12**	**282**	P			**Pb**	**22 30 38.4**	**+0.1**
JANG				S			**Sg**	**22 30 52.0**	**-0.5**
JKZ	**Kuzumaki**	**1.25**	**263**	P			**Pg**	**22 30 40.6**	**0.0**
JOM	**Ohasama**	**1.44**	**243**	P			**Pn**	**22 30 43.2**	**0.0**
OFUJ	**Ofunato**	**1.45**	**223**	P			**Pn**	**22 30 43.4**	**0.0**
JARK	**Aomorirokkasho**	**1.48**	**306**	P			**Pg**	**22 30 44.8**	**-0.1**
JARK				eS			**Sb**	**22 31 03.6**	**+0.1**
JTM	**Tenmabayashi**	**1.57**	**295**	P			**Pg**	**22 30 46.2**	**-0.4**
JTM				eS			**Sn**	**22 31 05.6**	**0.0**
JAH	**Hinai**	**1.77**	**272**	P			**Pb**	**22 30 49.0**	**-0.4**
JAH				eS			**Sn**	**22 31 10.6**	**0.0**
JMK	**Ichinoseki**	**1.79**	**229**	P			**Pn**	**22 30 48.8**	**+0.8**
JMK				S			**Sn**	**22 31 10.8**	**-0.3**
JRG	**Rokugo**	**1.94**	**248**	P			**Pb**	**22 30 52.1**	**-0.1**
JRG				eS			**Sb**	**22 31 16.4**	**-0.2**
ASAJ	**Asahikawa**	**3.97**	**356**	P			**Pb**	**22 31 27.1**	**+0.1**
	4.9nm,0.3s,baz=207,slow=14,SNR=9.7								
ASAJ				S			**Sb**	**22 32 15.4**	**+0.1**
	1.0nm,0.3s,baz=162,slow=20,SNR=3.9								
MJAR	**Matsushiro Arr**	**5.18**	**227**	P			**Pn**	**22 31 37.0**	**+2.3**
	0.7nm,0.3s,baz=320,slow=11,SNR=6.6								
USRK	**Ussuriysk Ar.**	**9.09**	**300**	P			Pn	22 32 33.6	+5.4
	0.4nm,0.3s,baz=94,slow=12,SNR=5.0								
SONM	**Songino Array**	**27.20**	**299**	P			**P**	**22 36 02.0**	**+1.0**
	0.8nm,0.6s,baz=105,slow=9.4,SNR=6.1								
H11N2	**WAKE ISLAND Hy 28.90**	**128**		T			T	23 07 02.1	
	baz=318,slow=75,SNR=42								
H11N1	**WAKE ISLAND Hy 28.91**	**128**		T			T	23 07 09.0	
	baz=318,slow=75,SNR=28								
H11N3	**WAKE ISLAND Hy 28.92**	**128**		T			T	23 07 03.5	
	baz=318,slow=75,SNR=37								
H11S1	**WAKE ISLAND Hy 29.73**	**130**		T			T	23 07 34.8	
	baz=326,slow=80,SNR=14								
H11S3	**WAKE ISLAND Hy 29.73**	**130**		T			T	23 07 36.0	
	baz=326,slow=80,SNR=12								
H11S2	**WAKE ISLAND Hy 29.75**	**130**		T			T	23 07 37.1	
	baz=326,slow=80,SNR=8.3								
ZALV	**Zalesovo Beam**	**40.78**	**310**	P			**P**	**22 37 58.6**	**+0.4**
	1.3nm,0.4s,baz=80,slow=7.7,SNR=5.8								
MKAR	**Makanchi Array**	**43.56**	**300**	P			**P**	**22 38 21.1**	**0.0**
	0.4nm,0.7s,baz=84,slow=12,SNR=4.4								
WRA	**Warramunga Arr**	**60.31**	**189**	P			**P**	**22 40 24.3**	**-1.8**
	0.3nm,0.6s,baz=8.5,slow=7.0,SNR=3.2								

*MEX **07** 22:35:41.1± 0.7, 13.80N× 92.75W, h33*km*±663*km*, MD3.6*
*IDC **07** 22:35:41.6± 2.6, 13.92N× 92.28W, h0*km*, mb3.2/1, mb1 3.6/4, mb1mx3.4/42, mbtmp3.3/4, ML3.4/3, Error ellipse: s-maj=44.3km s-min=22.4km az=16.0*
ISC 07 22:35:46.2±2.2, 14.1N±0.2×92.47W±0.08, h35km**, n9, σ3°09/11, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCIG		**1.73**	**335**	*e*P			**Pn**	**22 36 09.9**	**-3.9**
PCIG				*e*S			**Sn**	**22 36 32.6**	**-2.1**
APG	**El Apazote**	**2.13**	**66**	Pn			**Pn**	**22 36 17.4**	**-2.1**
	7.6nm,0.3s,baz=241,slow=12,SNR=28								
APG				Sn			**Sn**	**22 36 46.1**	**+1.2**
	16nm,0.3s,baz=251,slow=22,SNR=5.9								
CCIG	**Comitan**	**2.17**	**8**	*e*P			**Pn**	**22 36 19.1**	**-0.9**
CCIG				*i* S			**Sn**	**22 36 48.1**	**+2.3**
TGIG		**2.71**	**347**	*e*P			**Pn**	**22 36 24.9**	**-2.5**
TGIG				*i* S			**Sn**	**22 36 58.2**	**-0.9**
CMIG	**Matias Romero**	**3.76**	**322**	Pn			Pn	22 36 43.4	+1.7
	1.9nm,0.3s,baz=140,slow=12,SNR=9.6								
CMIG				Sn			**Sn**	**22 37 30.4**	**+5.6**
	3.0nm,0.3s,baz=112,slow=12,SNR=3.7								
CMIG				Lg			Lg	22 37 49.7	
	5.7nm,0.3s,baz=248,slow=18,SNR=5.5								
JTS	**JuntasAbangare**	**8.28**	**117**	Lg			Lg	22 39 48.1	
	baz=19,slow=24,SNR=3.1								
TXAR	**Lajitas Array**	**18.34**	**327**	P			**Pn**	**22 40 00.4**	**+2.4**
	0.1nm,0.3s,baz=148,slow=9.6,SNR=4.2								
NVAR	**Mina Array Bea**	**33.29**	**321**	P			P	22 42 24.2	+3.4
	0.2nm,0.5s,baz=130,slow=9.5,SNR=2.3								
CMAR	**Chiang Mai Arr**	**145.73**	**341**	PKPbc			**PKPab**	**22 55 23.3**	**+0.6**
	1.2nm,0.3s,baz=337,slow=2.3,SNR=5.0								

*IDC **07** 22:36:28.3± 0.8, 37.58N× 141.97E, h0*km*, mb3.7/8, mb1 3.9/11, mb1mx3.8/43, mbtmp3.7/11, ML3.7/3, MS3.8/2, Ms1 3.8/2, ms1mx2.9/51, Error ellipse: s-maj=21.7km s-min=17.4km az=126.0*
*ISCJB **07** 22:36:29.1± 0.9, 37.62N± 0.03× 141.93E± 0.05, h16*km*±6*km*, mb3.6/8, MS3.7/2, Error ellipse: s-maj=7.4km s-min=4.7km az=24.9*
*JMA **07** 22:36:30.5± 0.1, 37.63N× 141.85E, h27*km*±2*km*, M4.2*
JMA Felt I J1.
ISC 07 22:36:28.8±1.9, 37.58N±0.05×141.83E±0.06, h6km**±11**km**, n33, σ1°30/41, mb3.7/8, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIKH	**Ishinomakiboku**	**0.78**	**339**	P			**Pb**	**22 36 44.5**	**-0.3**
JIKH				S			**Sg**	**22 36 53.8**	**-0.2**
JFK	**Kawauchi**	**0.79**	**254**	P			**Pn**	**22 36 45.7**	**-0.8**
JFK				S			**Sb**	**22 36 56.2**	**+0.3**
JMM	**Marumori**	**0.87**	**289**	P			**Pb**	**22 36 46.6**	**+0.3**
JMM				S			**Sb**	**22 36 58.0**	**-0.2**
JIO	**Ouri**	**0.95**	**337**	P			**Pg**	**22 36 47.2**	**+0.1**
JIO				S			**Sg**	**22 36 58.2**	**-1.2**
ONAJ	**Iwakimizuishiy**	**0.95**	**240**	P			**Pn**	**22 36 48.0**	**-0.8**
ONAJ				S			**Sb**	**22 37 00.4**	**-0.2**
JFT	**Otama**	**1.19**	**267**	P			**Pn**	**22 36 52.3**	**+0.3**
JFT				S			**Sn**	**22 37 07.9**	**-0.6**
JOU	**Okura**	**1.21**	**311**	P			**Pn**	**22 36 52.1**	**-0.2**
JOU				S			**Sg**	**22 37 07.3**	**-0.4**
JKMT	**Kesennumamotoy**	**1.26**	**347**	P			**Pn**	**22 36 52.1**	**-0.9**
JMK	**Ichinoseki**	**1.45**	**341**	P			**Pn**	**22 36 55.1**	**-0.5**
JMK				S			**Sn**	**22 37 12.5**	**-2.4**
JYS	**Shirataka**	**1.53**	**295**	P			**Pb**	**22 36 57.5**	**-0.2**
JYS				S			**Sb**	**22 37 17.2**	**-0.1**
JFY	**Yanaizu**	**1.70**	**265**	P			**Pb**	**22 37 00.2**	**-0.3**
JFY				S			**Sn**	**22 37 21.0**	**-0.1**
JYK	**Kaneyama**	**1.77**	**320**	P			**Pn**	**22 36 59.8**	**-0.1**
JYK				S			**Sn**	**22 37 21.4**	**-1.3**
MJAR	**Matsushiro Arr**	**3.08**	**251**	P			**Pn**	**22 37 19.8**	**+1.9**
	4.2nm,0.3s,baz=81,slow=16,SNR=29								
MJAR				Sn			**Sb**	**22 37 58.6**	**-3.2**
	3.1nm,0.3s,baz=353,slow=8.8,SNR=5.1								
MAT	**Matsushiro**	**3.08**	**251**	P			**Pn**	**22 37 20.2**	**+2.2**
MAT				S			**Sn**	**22 37 53.1**	**-2.0**
JHJ	**Hachijo jima 2**	**4.76**	**201**	Pn			**Pn**	**22 37 41.7**	**+0.7**
	42nm,0.3s,baz=22,slow=19,SNR=12								
JHJ				Sn			**Sn**	**22 38 34.6**	**-1.9**
	32nm,0.3s,baz=90,slow=20,SNR=3.8								
ASAJ	**Asahikawa**	**6.55**	**5**	Pn			**Pn**	**22 38 05.8**	**0.0**
	1.0nm,0.3s,baz=222,slow=16,SNR=3.7								
ASAJ				Sn			**Sn**	**22 39 18.8**	**-1.9**
	0.4nm,0.3s,baz=173,slow=19,SNR=2.4								
USRK	**Ussuriysk Ar.**	**9.95**	**315**	Pn			**Pn**	**22 38 56.3**	**+4.0**
	baz=116,slow=14								

YAK Yakutsk 25.61 347 LR LR 22 52 30.2
comp=Z,103nm,21.4s,baz=202,slow=38
SONM Songino Array 27.76 303 P **P 22 42 20.2 +1.8**
0.3nm,0.6s,baz=101,slow=7.5,SNR=3.4
H11N2 WAKE ISLAND Hy 28.15 122 T T 23 11 53.7
baz=315,slow=75,SNR=151
H11N1 WAKE ISLAND Hy 28.16 122 T T 23 11 54.3
baz=315,slow=75,SNR=134
H11N3 WAKE ISLAND Hy 28.17 122 T T 23 11 55.0
baz=315,slow=75,SNR=84
H11S1 WAKE ISLAND Hy 28.89 124 T T 23 12 43.2
baz=316,slow=76,SNR=168
H11S3 WAKE ISLAND Hy 28.89 124 T T 23 12 48.4
baz=316,slow=76,SNR=144
H11S2 WAKE ISLAND Hy 28.90 124 T T 23 12 44.5
baz=316,slow=76,SNR=172
ZALV Zalesovo Beam 41.79 312 P **P 22 44 19.5 +0.6**
0.6nm,0.6s,baz=90,slow=5.8,SNR=3.6
ZALV LR LR 23 02 28.8
comp=Z,243nm,18.0s,baz=64,slow=37
MKAR Makanchi Array 44.11 302 P **P 22 44 38.4 +0.5**
0.8nm,0.9s,baz=87,slow=8.1,SNR=3.9
ILAR Eielson Array 48.85 33 P **P 22 45 14.5 -0.3**
0.4nm,0.6s,baz=264,slow=6.1,SNR=6.9
WRA Warramunga Arr 57.65 188 P **P 22 46 20.0 +0.1**
0.6nm,0.7s,baz=6.8,slow=7.3,SNR=5.8
ASAR Alice Springs 61.38 188 P **P 22 46 46.3 +0.6**
0.4nm,0.6s,baz=15,slow=6.6,SNR=5.9
NVAR Mina Array Bea 74.40 53 P **P 22 48 08.0 +0.1**
0.8nm,0.8s,baz=296,slow=5.5,SNR=4.3
PDAR Pinedale Array 77.05 46 P **P 22 48 23.1 0.0**
0.5nm,0.6s,baz=234,slow=3.2,SNR=6.4
LPAZ La Paz 146.13 59 PKPbc **PKPdf 22 56 10.4 +0.2**
0.9nm,0.6s,baz=350,slow=6.1,SNR=4.7

*IDC **07** 22:41:26.6± 0.5, 37.46S× 73.05W, h0*km*, mb4.7/15, mb1 4.8/17, mb1mx4.6/32, mbtmp4.6/17, ML4.5/2, MS4.3/4, Ms1 4.3/4, ms1mx4.0/22, Error ellipse: s-maj=20.6km s-min=13.0km az=78.0*
*SJA **07** 22:41:27.1± 0.6, 37.55S× 73.52W, h40*km*, ML4.8, MW4.9*
*GUC **07** 22:41:30.3± 0.5, 37.53S× 73.46W, h37*km*±2*km*, ML4.8*
*ISCJB **07** 22:41:31.5± 0.5, 37.50S± 0.02× 72.97W± 0.07, h39*km*±5*km*, mb4.8/40, MS4.3/2, Error ellipse: s-maj=8.8km s-min=3.5km az=0.9*
*NEIC **07** 22:41:33.1± 0.6, 37.51S× 72.99W, h39*km*±6*km*, mb4.8/37, MW4.6, ML4.8(GUC), Error ellipse: s-maj=10.3km s-min=4.5km az=89.0, Moment Tensor Solution. s12 Moment tensor: Scale 10^16 Nm; Mrr=0.25; Mθθ 0.00; Mφφ 0.25; Mrθ 0.10; Mθφ 0.01; Mφr -1.02; Best double couple: Ms 1.10000×10^16 NP1: φ 188.00000°, δ 7.00000°, λ -77.00000°. NP2: φ 354.00000°, δ 83.00000°, λ -92.00000°. Principal axes: T 1.0600, Plg 38.0000°, Azm 86.0000°; N 0.0100, Plg 2.0000°, Azm 355.0000°; P -1.0600, Plg 52.0000°, Azm 263.0000°;*
NEIC Felt [V] at Arauco, Curanilahue, Lebu and Tirua; [IV] at Angol, Coronel and Lota; [III] at Concepcion, Longavi, Los Angeles, Los Sauces, Puren, Renaico, San Pedro and Talcahuano; [II] at Parral. Also felt at Chiguayante, Chillan and Nacimiento.
*BJI **07** 22:41:34.2, 37.50S× 72.90W, h50*km*, mB4.9/3*
ISC 07 22:41:31.4±1.1, 37.53S±0.03×73.18W±0.07, h29km**±7**km**, n136, σ1°23/153, mb4.9/40, 7C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.69**	**5**	*e*P			**Pn**	**22 41 45.5**	**+0.4**
CCSP				*e*S			**Sb**	**22 41 54.0**	**+0.1**
CCSP				IAML				22 41 58.2	
	comp=N,138μm,0.6s								
CCHI	**Chillan**	**1.28**	**44**	*e*P			**Pb**	**22 41 54.6**	**-0.2**
CCHI				*i* S			**Sb**	**22 42 12.5**	**+1.7**
TMU	**Temuco**	**1.29**	**159**	‖ *i*P			**Pn**	**22 41 52.3**	**-1.1**
TMU				*i* S			**Sn**	**22 42 10.2**	**+0.6**
TMU				IAML				22 42 12.5	
	comp=N,18μm,0.4s								
GO06	**Curarrehue**	**2.45**	**147**	*e*Pn			**Pn**	**22 42 09.9**	**+0.4**
GO06				*e*Sn			**Sn**	**22 42 37.8**	**-0.7**
GO06	**Curarrehue**	**2.45**	**147**	‖ *i*P			**Pn**	**22 42 09.8**	**+0.4**
GO06				*e*S			**Sb**	**22 42 42.4**	**-2.2**
GO06				IAML				22 42 47.1	
	comp=N,2μm,0.5s								
GO05	**HualaæØ**	**2.71**	**22**	*e*Pn			**Pn**	**22 42 13.6**	**+0.6**
GO05				*e*Sn			**Sn**	**22 42 42.6**	**-2.2**
GO05	**HualaæØ**	**2.71**	**22**	*e*P			**Pn**	**22 42 13.4**	**+0.4**
GO05				*e*S			**Sn**	**22 42 46.3**	**+1.5**
GO05				IAML				22 43 06.3	
	comp=E,4μm,0.5s								
PLCA	**Paso Flores**	**3.80**	**148**	Pn			**Pn**	**22 42 28.6**	**+0.7**
	comp=E,10nm,0.3s,baz=342,slow=10,SNR=238								
PLCA				Lg			Lg	22 43 26.6	
	comp=E,34nm,0.3s,baz=209,slow=16,SNR=4.1								
PLCA				LR			LR	22 44 09.2	
	comp=E,2μm,20.8s,baz=334,slow=43								
PLCA	**Paso Flores**	**3.80**	**148**	*e*Pn			**Pn**	**22 42 29.1**	**+1.1**
PLCA				*e*Sn			**Sn**	**22 43 14.2**	**+2.5**
PLCA				Lg			Lg	22 43 26.6	
PLCA	**Paso Flores**	**3.80**	**148**	‖ *i*P			**Pn**	**22 42 29.1**	**+1.1**
LMEL	**Las Melosas**	**4.40**	**34**	*e*P			**Pn**	**22 42 37.6**	**+1.2**
ANTU	**Antumapu**	**4.46**	**28**	*e*P			**Pn**	**22 42 37.5**	**+0.5**
CLCH	**Cerro Calan**	**4.65**	**28**	‖ *i*P			**Pn**	**22 42 39.8**	**0.0**
FCH	**Farellones**	**4.81**	**30**	‖ *i*P			**Pn**	**22 42 42.2**	**+0.1**
FCH				*i* S			**Sn**	**22 43 39.2**	**+2.2**
PEL	**Peldehue**	**4.83**	**26**	*e*Pn			**Pn**	**22 42 41.9**	**-0.2**
PEL				*e*Sn			**Sn**	**22 43 36.2**	**-0.8**
ROC1	**El Roble**	**4.88**	**22**	*e*Pn			**Pn**	**22 42 42.8**	**-0.1**
ROC1				*e*Sn			**Sn**	**22 43 36.5**	**-2.0**
ROC1	**El Roble**	**4.88**	**22**	*i* P			**Pn**	**22 42 43.2**	**+0.3**
ROC1				*e*S			**Sn**	**22 43 39.2**	**+0.6**
ROCH	**El Roble**	**4.88**	**22**	*e*P			**Pn**	**22 42 42.8**	**-0.2**
AVIZ	**Vizcacheras**	**5.55**	**45**	*e*P			**Pn**	**22 42 55.4**	**+3.2**
GO07	**Milladeo Hill,**	**5.59**	**184**	*e*Pn			**Pn**	**22 42 52.4**	**-0.2**
GO07				*e*Sn			**Sn**	**22 43 52.6**	**-3.2**
AAGR	**Agrelo**	**5.68**	**40**	*e*P			**Pn**	**22 42 55.3**	**+1.3**
ARCO	**CERRO ARCO**	**5.83**	**38**	*e*P			**Pn**	**22 42 57.5**	**+1.5**
ASAL	**Salagasta**	**6.08**	**37**	*e*P			**Pn**	**22 43 00.3**	**+0.9**
AUSP	**Uspallata**	**6.14**	**32**	*e*P			**Pn**	**22 43 01.5**	**+1.1**
RTLS	**Leoncito**	**6.55**	**30**	*e*P			**Pn**	**22 43 06.7**	**+0.7**
RTLS				IAML				22 45 07.7	
	comp=Z,255nm,0.7s								
RTCV	**Cerro Valdivia**	**6.82**	**35**	*e*P			**Pn**	**22 43 09.3**	**-0.2**
ZON	**Zonda**	**7.03**	**33**	*e*P			**Pn**	**22 43 11.8**	**-0.5**
ZON				IAML				22 45 02.8	
	comp=Z,76nm,0.7s								
ACAN	**Cantantal**	**7.19**	**45**	*e*P			**Pn**	**22 43 15.3**	**+0.8**
RTLL	**Cerro Villicun**	**7.30**	**34**	*e*P			**Pn**	**22 43 15.8**	**-0.3**
RTLL				*e*S			**Sn**	**22 44 38.2**	**+0.1**
GO04	**Tololo Observa**	**7.60**	**16**	*e*Pn			**Pn**	**22 43 19.6**	**-0.7**
GO04				*e*Sn			**Sn**	**22 44 43.1**	**-2.6**
AMOG	**MOGNA**	**7.63**	**32**	*e*P			**Pn**	**22 43 19.8**	**-0.9**
ACCO	**Cerro Coronel**	**7.72**	**27**	*e*P			**Pn**	**22 43 21.6**	**-0.5**
AROD	**Rodeo**	**7.96**	**24**	*e*P			**Pn**	**22 43 25.6**	**+0.2**
AROD				*e*S			**Sn**	**22 44 56.8**	**+2.1**
MRA	**San Martin**	**7.97**	**52**	*e*P			**Pn**	**22 43 25.9**	**+0.7**
LCO	**Las Campanas**	**8.74**	**14**	*e*Pn			**Pn**	**22 43 34.5**	**-1.5**
TRQA	**Tornquist**	**8.88**	**97**	*e*Pn			**Pn**	**22 43 38.9**	**+1.2**
AGUA	**GUANDACOL**	**8.92**	**27**	*e*P			**Pn**	**22 43 37.9**	**-0.5**
APLL	**PUNTA DE LOS L**	**9.01**	**40**	*e*P			**Pn**	**22 43 38.0**	**-1.5**
APLL				IAML				22 44 24.2	
	comp=Z,25nm,0.7s								
TCA	**Tanti**	**9.40**	**51**	*e*P			**Pn**	**22 43 44.6**	**-0.3**
ACLC	**CERRO LA CRUZ**	**9.61**	**35**	*i* P			**Pn**	**22 43 46.0**	**-1.9**
VCA	**Vinchina**	**9.71**	**27**	*e*P			Pn	22 43 43.2	-6.0
VCA				IAML				22 46 12.5	
	comp=Z,89nm,0.7s								
CHRN	**Cochrane**	**9.72**	**178**	*e*Pn			**Pn**	**22 43 50.0**	**+0.8**
GO03	**Copiap**	**10.21**	**15**	*e*Pn			**Pn**	**22 43 54.9**	**-1.2**
GO09	**Cerro Castillo**	**13.75**	**178**	*e*Pn			**Pn**	**22 44 45.2**	**+0.9**
LVC	**Limon Verde**	**15.32**	**15**	*e*Pn			**Pn**	**22 45 05.5**	**-0.3**
	comp=Z,7.6nm,0.6s								
PB04	**IPOC Station P**	**15.37**	**11**	*e*Pn			**Pn**	**22 45 06.2**	**-0.1**
	comp=Z,73nm,1.4s								
PB01	**IPOC Station P**	**16.74**	**12**	*e*Pn			**P**	**22 45 25.1**	**-0.8**
CPUP	**Villa Florida**	**17.46**	**55**	P			**Pn**	**22 45 30.9**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=221,slow=12,SNR=12								
CPUP				Lg			Lg	22 50 40.9	
	comp=Z,0.0nm,0.3s,baz=331,slow=10,SNR=2.7								
CPUP				LR			LR	22 52 53.2	
	comp=Z,1μm,19.5s,baz=230,slow=40								

CPUP Villa Florida 17.46 55 *e*Pn **Pn 22 45 33.0 +0.3**
comp=Z,9.2nm,0.8s
CPUP Lg Lg 22 50 40.9
EFI East Falkland 17.72 148 *e*Pn **Pn 22 45 35.9 +0.1**
comp=Z,94nm,0.9s
PB11 IPOC Station P 17.97 11 *e*Pn **P 22 45 40.5 +1.0**
comp=Z,44nm,0.8s
MNMC Minye Minye 18.60 11 *e*P **Pn 22 45 48.8 +1.8**
comp=Z,43nm,0.7s
LPAZ La Paz 21.62 13 P **P 22 46 20.4 +0.6**
comp=Z,5.5nm,0.9s,baz=188,slow=7.7,SNR=17
LPAZ La Paz 21.62 13 *e*P **P 22 46 21.4 +1.6**
comp=Z,11nm,0.8s
SPB Sao Paulo 26.06 65 *e*P **P 22 47 00.9 -1.3**
comp=Z,41nm,0.9s
PMSA Palmer Station 27.82 172 LR LR 22 57 45.4
comp=Z,324nm,18.8s,baz=322,slow=35
SAML Samuel 29.86 20 *e*P **P 22 47 35.7 -0.5**
comp=Z,9.9nm,1.1s
BDFB Brasilia 31.16 52 P **P 22 47 45.9 -1.9**
comp=Z,4.1nm,0.7s,baz=201,slow=9.2,SNR=8.2
BDFB Brasilia 31.16 52 *e*P **P 22 47 46.4 -1.5**
comp=Z,23nm,1.0s
RPN Rapa Nui 32.09 278 LR LR 22 57 49.3
comp=Z,1μm,18.8s,baz=122,slow=30
PTGA Pitinga 38.59 21 P **P 22 48 50.6 -1.2**
comp=Z,2.5nm,0.8s,baz=202,slow=11,SNR=6.3
ROSC El Rosal 42.16 358 P **P 22 49 21.9 +0.1**
comp=Z,26nm,0.7s,baz=133,slow=1.9,SNR=2.8
ROSC El Rosal 42.16 358 *e*P **P 22 49 25.3 +3.5**
comp=Z,130nm,1.3s
SDV Santo Domingo 46.23 3 P **P 22 49 53.0 -1.1**
comp=Z,37nm,0.9s,baz=306,slow=8.4,SNR=4.8
VNA3 Neumayer Olymp 46.47 156 P **P 22 49 55.7 +0.4**
VNA1 Neumayer--Stat 46.82 156 P **P 22 49 59.1 +1.1**
VNA2 Neumayer--Watz 47.15 156 P **P 22 50 01.0 +0.4**
baz=288,slow=9.8
SNAA Sanae 48.70 157 P **P 22 50 12.6 -0.1**
SNAA Sanae 48.70 157 *e*P **P 22 50 12.6 -0.1**
comp=Z,18nm,1.0s
QSPA South Pole Qui 52.71 180 P **P 22 50 43.5 +0.4**
comp=Z,12nm,1.1s,baz=146,slow=6.8,SNR=15
QSPA South Pole Qui 52.71 180 *e*P **P 22 50 43.7 +0.6**
comp=Z,12nm,1.1s
SBA Scott Base 59.44 192 *e*P **P 22 51 32.6 +1.8**
comp=Z,5.2nm,1.1s
VNDA Vanda 60.47 192 P **P 22 51 39.0 +1.2**
comp=Z,1.1nm,0.9s,baz=127,slow=7.4,SNR=5.9
VNDA Vanda 60.47 192 *e*P **P 22 51 39.5 +1.7**
comp=Z,3.7nm,1.2s
SYO Syowa Base 62.94 158 ‖ *e*P **P 22 51 53.4 -1.1**
SYO Syowa Base 62.94 158 ‖ *e*pP pP 22 52 03.2 -0.4
SYO Syowa Base 62.94 158 ‖ *e*X pP 22 52 05.8 +2.2
MAW Mawson 70.06 164 P **P 22 52 40.2 +0.2**
comp=Z,4.4nm,0.9s,baz=225,slow=7.5,SNR=8.9
MAW Mawson 70.06 164 *e*P **P 22 52 40.3 +0.2**
comp=Z,2.2nm,1.2s
TXAR Lajitas Array 72.39 332 P **P 22 52 54.9 +0.2**
comp=Z,4.1nm,0.9s,baz=156,slow=9.8,SNR=6.5
V48A Smith Brothers 73.99 348 *e*P **P 22 53 04.0 +0.1**
comp=Z,17nm,0.8s
LIC Lamto 76.77 71 *e*P **P 22 53 19.8 -0.6**
comp=Z,49nm,0.9s
TIC Toumodi 77.05 71 *e*P **P 22 53 22.1 +0.1**
KIC Kosan Boka 77.08 72 *e*P **P 22 53 21.2 -0.9**
comp=Z,80nm,1.1s
DBIC Dimbokro 77.19 71 P **P 22 53 22.2 -0.5**
comp=Z,8.3nm,0.7s,baz=191,slow=5.1,SNR=11
ANMO Albuquerque 78.46 333 P **P 22 53 30.1 +0.6**
comp=Z,7.7nm,1.0s,baz=153,slow=9.0,SNR=5.3
ANMO Albuquerque 78.46 333 *e*P **P 22 53 30.4 +0.9**
comp=Z,15nm,1.1s
BOSA Boshof 79.25 118 P **P 22 53 33.5 -0.8**
comp=Z,7.6nm,0.9s,baz=248,slow=7.3,SNR=7.2
BOSA Boshof 79.25 118 *e*P **P 22 53 34.0 -0.2**
comp=Z,12nm,0.9s
N39A Derby Farms, D 80.01 345 *e*P **P 22 53 37.9 +0.2**
comp=Z,31nm,1.1s
Y14A Wickenburg 80.18 327 *e*P **P 22 53 40.9 +2.1**
comp=Z,8.1nm,0.9s
LTZ Lake Taylor 80.37 223 *e*P **P 22 53 41.2 +1.3**
comp=Z,20nm,1.2s
SDCO Great Sand Dun 80.63 335 *e*P **P 22 53 41.7 +0.3**
comp=Z,7.1nm,1.1s
Y12C Blythe 80.69 326 *e*P **P 22 53 43.5 +2.1**
comp=Z,19nm,1.2s
BAR Barrett 80.77 324 *e*P **P 22 53 44.1 +2.1**
comp=Z,20nm,1.4s
XPFO Piæon Flat 81.44 325 *e*P **P 22 53 47.4 +1.8**
comp=Z,12nm,1.1s
PFO Pinyon Flats O 81.44 325 P **P 22 53 45.4 -0.3**
comp=Z,6.1nm,0.3s,baz=104,slow=3.5,SNR=9.8
PFO Pinyon Flats O 81.44 325 *e*P **P 22 53 47.1 +1.4**
comp=Z,13nm,1.2s
LBTB Lobatse 81.66 115 *e*P **P 22 53 46.7 -0.5**
comp=Z,10nm,0.8s
SMCO Snowmass 82.42 334 *e*P **P 22 53 53.0 +2.1**
comp=Z,12nm,1.1s
CCUT Cedar City 83.42 329 *e*P **P 22 53 58.2 +2.2**
comp=Z,

GYA AMB AMB
comp=Z,120nm,8.3s
CD2 Chengdu 172.93 158 PKP **PKPdf 23 01 37.5 -0.3**

*IDC **07** 22:42:42.1±0.6, 13°.90N×92°.09W, h0km, mb4.8/33, mb1 5.0/36, mb1mx4.9/50, mbtmp4.8/36, ML4.2/2, MS5.1/11, Ms1 5.1/11, ms1mx4.9/18, Error ellipse: s-maj=21.1km s-min=9.8km az=51.0*
*MEX **07** 22:42:45.9±0.5, 13°.79N×92°.53W, h5km, MD5.5*
*MOS **07** 22:42:45.5±1.0, 13°.89N×92°.13W, h29km, mb5.2/72, MS5.3/24, Error ellipse: s-maj=7.7km s-min=4.5km az=99.4*
*UCR **07** 22:42:46.2±1.4, 14°.12N×92°.15W, h152km±76km, ML4.0, mb5.1(NEIC)*
*NEIC **07** 22:42:48.2±0.2, 13°.85N×92°.16W, h35km, mb5.1/298, MS5.3/176, MD5.5(MEX), Error ellipse: s-maj=4.7km s-min=3.2km az=26.0*
*GCMT **07** 22:42:49.2±0.4, 13°.63N±0°.02×92°.61W±0°.03, h13km±1km, MW5.7/109, Moment Tensor Solution. s25,c29; s109,c193; Duration: 1ŝ7 Moment tensor: Scale 10^{17} Nm; Mrr3.31±.22; Mθθ-2.58±.14; Mϕϕ-0.72±.12; Mrθ2.81±.44; Mθϕ0.84±.07; Mϕr-1.31±.42; Best double couple: M=4.38800×10^{17} NP1:ϕs114.00000°, δ67.00000°, λ92.00000°. NP2:ϕs289.00000°, δ23.00000°, λ86.00000°. Principal axes: T 4.5950, Plg67.0000°, Azm27.0000°; N -0.4130, Plg2.0000°, Azm293.0000°; P -4.1810, Plg22.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*ISCJB **07** 22:42:49.5±0.4, 14°.07N±0°.02×92°.06W±0°.02, h58km±3km, mb5.1/323, MS5.2/202 Error ellipse: s-maj=3.9km s-min=2.4km az=35.5*

ISC 07 22:42:43.9±1.1, 13°.87N±0°.04×92°.24W±0°.04, h8km±6km, n1229, σ1ŝ53/1143, mb5.1/328, MS5.3/206, 10C-2D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THIG		**1.04**	**359**	*eP*		**Pn**		**22 43 05.1**	**+0.3**
THIG				*i*	S	**Sn**		**22 43 19.1**	**-0.4**
THIG		**1.04**	**359**	*eP*		**Pn**		**22 43 05.1**	**+0.3**
THIG				*i*	S	**Sn**		**22 43 19.1**	**-0.4**
APG	**El Apazote**	**2.06**	**56**	Pn		**Pb**		**22 43 22.1**	**+0.5**
	36nm,0.3s,baz=227,slow=9.4,SNR=134								
APG				LR		LR		22 44 14.8	
	comp=Z,27μm,21.3s,baz=169,slow=48								
PCIG		**2.06**	**333**	*eP*		**Pn**		**22 43 16.7**	**-2.1**
PCIG		**2.06**	**333**	*eP*		**Pn**		**22 43 16.7**	**-2.1**
PCIG				*i*	S	**Sn**		**22 43 41.6**	**-3.1**
CCIG	**Comitan**	**2.41**	**2**	*ePn*		**Pb**		**22 43 27.6**	**0.0**
CCIG				*eSn*		**Sn**		**22 43 54.3**	**+0.7**
CCIG	**Comitan**	**2.41**	**2**	*eP*		**Pn**		**22 43 24.0**	**+0.2**
CCIG				*eS*		**Sn**		**22 43 54.8**	**+1.2**
RTR	**El Retiro**	**2.52**	**89**	*eP*		**Pn**		**22 43 27.7**	**+2.4**
SBLS	**San Blas**	**2.54**	**90**	*eP*		**Pn**		**22 43 27.1**	**+1.5**
MTO3	**Montecristo**	**2.84**	**79**	*eP*		**Pn**		**22 43 31.2**	**+1.4**
BOQS	**Boqueron**	**2.88**	**92**	*eP*		**Pn**		**22 43 33.4**	**+3.1**
UEES	**San Salvador**	**2.91**	**92**	*eP*		**Pn**		**22 43 33.5**	**+2.8**
UEES				*eS*		**Sn**		**22 44 09.1**	**+3.1**
SNET	**Serv Nac Est T**	**2.93**	**93**	*ePn*		**Pn**		**22 43 33.6**	**+2.8**
SNET	**Serv Nac Est T**	**2.93**	**93**	*eP*		**Pn**		**22 43 31.8**	**+0.9**
OPAM	**San Salvador**	**2.95**	**92**	*eP*		**Pn**		**22 43 33.1**	**+1.9**
TGIG		**3.02**	**344**	*eP*		**Pn**		**22 43 32.6**	**+0.5**
TGIG				*eS*		**Sn**		**22 44 08.3**	**-0.2**
TGIG		**3.02**	**344**	*eP*		**Pn**		**22 43 32.6**	**+0.5**
TGIG				*eS*		**Sn**		**22 44 08.3**	**-0.2**
LFU	**La Fuente**	**3.04**	**92**	*eP*		**Pn**		**22 43 34.7**	**+2.4**
LFRS	**El Faro**	**3.10**	**94**	*eP*		**Pn**		**22 43 34.7**	**+1.5**
PAVA	**Las Pavas**	**3.21**	**92**	*eP*		**Pn**		**22 43 36.2**	**+1.5**
PAVA				IAML				22 44 32.6	
	comp=Z,541nm,0.5s								
TECA	**Tecapa**	**3.65**	**95**	*eP*		**Pn**		**22 43 42.4**	**+1.5**
CMIG	**Matias Romero**	**4.10**	**322**	Pn		**Pn**		**22 43 45.3**	**-1.6**
	comp=Z,12nm,0.3s,baz=133,slow=10,SNR=12								
CMIG				Sn		**Sn**		**22 44 36.0**	**+0.9**
	comp=Z,44nm,0.3s,baz=132,slow=9.4,SNR=4.5								
CMIG				Lg		Lg		22 44 50.0	
	comp=Z,64nm,0.3s,baz=72,slow=6.7,SNR=6.2								
CMIG				LR		LR		22 45 09.0	
	comp=Z,11μm,19.7s,baz=143,slow=35								
CMIG	**Matias Romero**	**4.10**	**322**	*i* P		**Pn**		**22 43 46.1**	**-0.8**
CMIG				*i*	S	**Sn**		**22 44 32.4**	**-2.7**
COPN	**Copaltepe**	**5.75**	**106**	*eP*		**Pn**		**22 44 10.7**	**+1.1**
ESTN	**Estel**	**5.76**	**97**	*ePn*		**Pn**		**22 44 10.5**	**+0.7**
BOAB	**BOACO BROADBAN**	**6.55**	**102**	*ePn*		**Pn**		**22 44 21.3**	**+0.6**
TLIG	**Tlapa**	**7.12**	**302**	*ePn*		**Pn**		**22 44 27.9**	**-0.6**
TEIG	**Tepich**	**7.37**	**30**	*ePn*		**Pn**		**22 44 35.7**	**+3.8**
JTS	**JuntasAbangare**	**7.96**	**116**	Pn		**Pn**		**22 44 41.8**	**+1.7**
	comp=Z,2.1nm,0.3s,baz=359,slow=10.0,SNR=7.3								
JTS				Sn		**Sn**		**22 46 07.8**	**-2.6**
	baz=291,slow=8.6,SNR=1.1								
JTS				Lg		Lg		22 46 51.9	
	comp=Z,1.8nm,0.3s,baz=25,slow=20,SNR=4.7								
JTS	**JuntasAbangare**	**7.96**	**116**	*ePn*		**Pn**		**22 44 43.7**	**+3.7**
JTS				Lg		Lg		22 46 51.9	
JTS				*eS*		**Sg**		**22 46 53.1**	**-6.4**
JTS	**JuntasAbangare**	**7.96**	**116**	*i* P		**Pn**		**22 44 40.6**	**+0.6**
MOIG	**Morelia**	**10.34**	**305**	*ePn*		**Pn**		**22 45 14.6**	**+1.7**
MOIG				*eSn*		Sn		22 47 31.3	+22
JRQG	**Juriquilla Cam**	**10.38**	**312**	*ePn*		**Pn**		**22 45 16.5**	**+3.2**
BCIP	**Isla Barro Col**	**13.02**	**110**	*ePn*		**Pn**		**22 45 52.6**	**+3.3**
BCIP	**Isla Barro Col**	**13.02**	**110**	*eP*		**Pn**		**22 45 48.2**	**-1.0**
ZAIG	**Zacatecas**	**13.21**	**314**	*ePn*		**Pn**		**22 45 53.5**	**+1.4**
062Z	**Marathon**	**15.10**	**43**	P		**Pn**		**22 46 15.5**	**-2.1**
	baz=226								
645A	**Chauvin**	**15.59**	**5**	P		**Pn**		**22 46 23.6**	**-0.5**
	baz=186								
833A	**Chaparral WMA,**	**15.85**	**336**	*ePn*		**Pn**		**22 46 28.7**	**+1.2**
	comp=Z,115nm,1.0s								
833A	**Chaparral WMA,**	**15.85**	**336**	P		**Pn**		**22 46 26.8**	**-0.7**
	baz=154,SNR=18								
061Z	**Ochoppi**	**15.99**	**40**	*ePn*		**Pn**		**22 46 30.1**	**+0.9**
	comp=Z,354nm,1.2s								
061Z	**Ochoppi**	**15.99**	**40**	P		**Pn**		**22 46 28.6**	**-0.7**
	baz=223								
059Z	**Ave Maria**	**16.01**	**38**	P		**Pn**		**22 46 28.9**	**-0.6**
	baz=221								
541A	**Lake Charles**	**16.14**	**357**	P		**Pn**		**22 46 31.3**	**+0.1**
	baz=176								
543A	**St. Martinvill**	**16.15**	**1**	P		**Pn**		**22 46 31.9**	**+0.6**
	baz=181								
545A	**Edgard**	**16.18**	**5**	P		**Pn**		**22 46 33.5**	**+1.8**
	baz=186								
542A	**Morse**	**16.18**	**359**	P		**Pn**		**22 46 33.3**	**+1.5**
	baz=179								
544A	**White Castle**	**16.20**	**3**	P		**Pn**		**22 46 33.1**	**+1.2**
	baz=183								
HKT	**Hockley**	**16.35**	**349**	*ePn*		**P**		**22 46 36.0**	**-0.7**
	comp=Z,73nm,1.5s								
HKT	**Hockley**	**16.35**	**349**	*eP*		**P**		**22 46 36.0**	**-0.7**
HKT				pmax		pmax			
	comp=Z,73nm,1.5s								
058A	**Arcadia**	**16.35**	**35**	P		**Pn**		**22 46 33.9**	**0.0**
	baz=218								
546A	**Slidell**	**16.45**	**8**	P		**Pn**		**22 46 33.5**	**-1.7**
	baz=188								
060Z	**West Palm Beac**	**16.60**	**39**	P		**Pn**		**22 46 36.0**	**-1.0**
	baz=223								
957A	**Wimauma**	**16.60**	**33**	P		**Pn**		**22 46 36.5**	**-0.6**
	baz=216								
059A	**Moore Haven**	**16.66**	**37**	P		**Pn**		**22 46 38.0**	**+0.2**
	baz=220								
442A	**Mamou**	**16.77**	**359**	P		**Pn**		**22 46 39.2**	**0.0**
	baz=179								
958A	**Wauchula**	**16.79**	**34**	P		**Pn**		**22 46 39.5**	**-0.1**
	baz=217								
443A	**Delano Plantat**	**16.82**	**1**	P		**Pn**		**22 46 39.1**	**-0.8**
	baz=181								
444A	**Pine Grove**	**16.83**	**4**	P		**Pn**		**22 46 39.7**	**-0.3**
	baz=185								
441A	**DeRidder**	**16.83**	**357**	P		**Pn**		**22 46 38.5**	**-1.4**
	baz=177								
445A	**Amite**	**16.88**	**6**	P		**Pn**		**22 46 40.6**	**0.0**
	baz=186								
MOTC	**Monteria, Cord**	**17.01**	**106**	*eP*		**P**		**22 46 44.0**	**-0.2**
446A	**Poplarville**	**17.05**	**8**	P		**Pn**		**22 46 42.5**	**-0.3**
	baz=189								
857A	**Zephyrhills**	**17.09**	**31**	P		**Pn**		**22 46 42.9**	**-0.3**
	baz=215								
DBBC	**Dabeiba**	**17.16**	**112**	*eP*		**P**		**22 46 46.7**	**+0.7**
447A	**Lucedale**	**17.17**	**10**	*ePn*		**P**		**22 46 51.1**	**+5.3**
	comp=Z,170nm,0.9s								
447A	**Lucedale**	**17.17**	**10**	P		**Pn**		**22 46 45.1**	**+0.8**
	baz=192								
060A	**Indiantown**	**17.17**	**38**	*ePn*		P		22 46 53.3	+7.3
	comp=Z,463nm,1.0s								
060A	**Indiantown**	**17.17**	**38**	P		**Pn**		**22 46 43.6**	**-0.7**
	baz=222								
959A	**Okeechobee**	**17.23**	**36**	P		**Pn**		**22 46 44.9**	**-0.1**
	baz=220								
343A	**Vidalia**	**17.35**	**2**	P		**P**		**22 46 47.6**	**-0.2**
	baz=182								
DWPF	**Disney Wildern**	**17.38**	**34**	*ePn*		**P**		**22 46 48.8**	**+0.5**
DWPF	**Disney Wildern**	**17.38**	**34**	P		**Pn**		**22 46 47.1**	**+0.2**
	baz=217								
341A	**Kurthwood**	**17.41**	**357**	*ePn*		**Pn**		**22 46 47.6**	**+0.3**
	comp=Z,86nm,1.1s								
341A	**Kurthwood**	**17.41**	**357**	P		**Pn**		**22 46 47.5**	**+0.3**
	baz=177,SNR=6.0								
552A	**Lynn Haven**	**17.41**	**20**	P		**Pn**		**22 46 48.0**	**+0.7**
	baz=203								
342A	**Flagon Creek P**	**17.43**	**360**	*ePn*		**P**		**22 46 50.4**	**+1.6**
	comp=Z,161nm,1.3s								
342A	**Flagon Creek P**	**17.43**	**360**	P		**P**		**22 46 48.3**	**-0.4**
	baz=180								
449A	**Pace**	**17.44**	**15**	P		**P**		**22 46 48.7**	**-0.2**
	baz=196								
GTBY	**Guantanamo Bay**	**17.45**	**67**	*ePn*		**P**		**22 46 51.1**	**+2.0**
448A	**Bay Minette**	**17.46**	**13**	P		**P**		**22 46 48.9**	**-0.2**
	baz=194								
345A	**Thompson Farm,**	**17.48**	**6**	P		**Pn**		**22 46 48.7**	**+0.5**
	baz=187								
858A	**St. Cloud**	**17.50**	**34**	P		**Pn**		**22 46 48.0**	**-0.4**
	baz=217								
435B	**Jarrell**	**17.54**	**345**	*ePn*		**P**		**22 46 54.2**	**+4.2**
	comp=Z,45nm,0.8s								
435B	**Jarrell**	**17.54**	**345**	P		**Pn**		**22 46 47.4**	**-1.5**
	baz=162								
344A	**Westbrook Farm**	**17.56**	**4**	*ePn*		**P**		**22 46 52.7**	**+2.5**
	comp=Z,189nm,1.0s								
344A	**Westbrook Farm**	**17.56**	**4**	P		**P**		**22 46 49.9**	**-0.3**
	baz=185,SNR=9.1								
346A	**Big Creek Wild**	**17.63**	**8**	*ePn*		**P**		**22 46 51.6**	**+0.6**
	comp=Z,110nm,0.8s								
346A	**Big Creek Wild**	**17.63**	**8**	P		**Pn**		**22 46 49.6**	**-0.3**
	baz=189								
859A	**Kempfer Cattle**	**17.63**	**35**	P		**Pn**		**22 46 50.2**	**+0.2**
	baz=219								
450A	**Crestview**	**17.64**	**16**	P		**Pn**		**22 46 49.7**	**-0.4**
	baz=198								
655A	**Horseshoe Beac**	**17.65**	**27**	P		**Pn**		**22 46 50.0**	**-0.3**
	baz=210								
451A	**Vernon**	**17.71**	**19**	P		**Pn**		**22 46 51.4**	**+0.4**
	baz=201								
757A	**Oxford**	**17.72**	**31**	P		**Pn**		**22 46 51.1**	**0.0**
	baz=214								
347A	**Saraland**	**17.78**	**10**	P		**P**		**22 46 53.8**	**+1.2**
	baz=192								
SMRC	**Santa Marta, M**	**17.79**	**97**	*eP*		**Pn**		**22 46 52.7**	**+0.6**
656A	**Willston**	**17.86**	**29**	*ePn*		**P**		**22 46 56.1**	**+2.6**
	comp=Z,216nm,1.0s								
656A	**Willston**	**17.86**	**29**	P		**P**		**22 46 54.3**	**+0.8**
	baz=212,SNR=6.8								
BRAL	**Brewton**	**17.87**	**15**	*eP*		**P**		**22 46 56.4**	**+2.8**
	comp=Z,167nm,1.0s								
BRAL	**Brewton**	**17.87**	**15**	P		**P**		**22 46 54.3**	**+0.7**
	baz=196								
348A	**Jackson**	**17.91**	**12**	*ePn*		**P**		**22 46 59.3**	**+5.2**
	comp=Z,238nm,1.1s								
348A	**Jackson**	**17.91**	**12**	P		**Pn**		**22 46 53.4**	**-0.1**
	baz=194								
243A	**Waterproof**	**17.95**	**2**	P		**Pn**		**22 46 54.1**	**+0.3**
	baz=182								
JCT	**Junction City**	**17.95**	**338**	*ePn*		**P**		**22 46 55.6**	**+1.1**
	comp=Z,76nm,1.0s								
JCT	**Junction City**	**17.95**	**338**	*eP*		**P**		**22 46 55.7**	**+1.1**
JCT				pmax		pmax			
	comp=Z,76nm,1.0s								
JCT	**Junction City**	**17.95**	**338**	P		**Pn**		**22 46 53.1**	**-0.9**
	baz=155,SNR=28								
NATX	**Nacogdoches**	**17.95**	**353**	*ePn*		**P**		**22 46 56.4**	**+1.9**
	comp=Z,118nm,1.2s								
NATX	**Nacogdoches**	**17.95**	**353**	P		**Pn**		**22 46 53.9**	**0.0**
	baz=172								
554A	**Perry**	**17.97**	**25**	P		**P**		**22 46 56.0**	**+1.2**
	baz=208								
349A	**Repton**	**18.01**	**14**	P		**P**		**22 46 56.2**	**+1.0**
	baz=196,SNR=9.6								
PLMC	**San Jos˜ del**	**18.07**	**118**	*eP*		**P**		**22 46 58.7**	**+2.6**
HPIG		**18.08**	**318**	*ePn*		**P**		**22 46 56.8**	**+0.6**
	comp=Z,55nm,1.2s								
241A	**Mo Tay, Goldon**	**18.09**	**358**	*ePn*		**P**		**22 46 56.7**	**+0.8**
	comp=Z,183nm,0.9s								
241A	**Mo Tay, Goldon**	**18.09**	**358**	P		**P**		**22 46 56.2**	**+0.2**
	baz=178,SNR=8.4								
452A	**Marianna**	**18.11**	**20**	P		**P**		**22 46 56.9**	**+0.6**
	baz=202								
242A	**Grayson**	**18.11**	**0**	P		**P**		**22 46 56.6**	**+0.3**
	baz=180,SNR=8.3								
HELC	**Santa Helena**	**18.12**	**113**	*eP*		**P**		**22 46 57.3**	**+0.4**
240A	**Hunter Patters**	**18.14**	**356**	*ePn*		**P**		**22 46 59.6**	**+3.0**
	comp=Z,177nm,1.3s								
240A	**Hunter Patters**	**18.14**	**356**	P		**P**		**22 46 56.9**	**+0.2**
	baz=175								
244A	**Avery, Jackson**	**18.15**	**4**	P		**P**		**22 46 57.4**	**+0.7**
	baz=185,SNR=7.5								
758A	**Lake Helen**	**18.18**	**33**	P		**Pn**		**22 46 57.3**	**+0.5**
	baz=216								
ZARC	**Zaragoza, Cauc**	**18.21**	**109**	*eP*		**Pn**		**22 46 56.0**	**-1.2**
245A	**Little AP, Sta**	**18.21**	**6**	P		**P**		**22 46 58.4**	**+1.1**
	baz=187,SNR=7.3								
246A	**Jackson Lee, B**	**18.29**	**8**	P		**P**		**22 46 59.3**	**+1.1**
	baz=189								
350A	**Dozier**	**18.30**	**16**	P		**P**		**22 47 00.5**	**+2.1**
	baz=198								
555A	**McAlpin**	**18.30**	**26**	*eP*		**P**		**22 47 01.5**	**+3.1**
	comp=Z,207nm,1.2s								
555A	**McAlpin**	**18.30**	**26**	P		**P**		**22 46 59.3**	**+0.9**
	baz=210								
VBMS	**Vicksburg**	**18.34**	**5**	*eP*		**P**		**22 47 02.4**	**+3.6**
	comp=Z,196nm,1.1s								
VBMS	**Vicksburg**	**18.34**	**5**	P		**P**		**22 46 59.6**	**+0.8**
	baz=185								
657A	**Interlachen**	**18.35**	**30**	P		**P**		**22 46 59.8**	**+0.8**
	baz=213								
351A	**Pinckard**	**18.37**	**18**	P		**Pn**		**22 47 01.0**	**+1.9**
	baz=200								
247A	**Quitman**	**18.41**	**10**	P		**Pn**		**22 47 00.6**	**+1.1**
	baz=191								
453A	**Whigham**	**18.41**	**22**	*eP*		**Pn**		**22 47 01.0**	**+1.4**
	comp=Z,164nm,1.1s								
453A	**Whigham**	**18.41**	**22**	P		**Pn**		**22 47 01.1**	**+1.5**
	baz=205								
556A	**Lake Butler**	**18.45**	**28**	P		**P**		**22 47 00.3**	**+0.3**
	baz=211,SNR=9.5								
YOTC	**Yotoco, Valle**	**18.50**	**121**	*eP*		**Pn**		**22 47 02.6**	**+1.7**
SMLC	**San Mart˜n de**	**18.50**	**104**	*eP*		**P**		**22 46 59.3**	**-1.4**
658A	**Bunnell**	**18.52**	**32**	P		**P**		**22 47 00.5**	**-0.4**
	baz=215								
142A	**Monroe**	**18.60**	**1**	P		**P**		**22 47 01.6**	**0.0**
	baz=181								
248A	**Dixon Mills**	**18.61**	**12**	P		**Pn**		**22 47 02.2**	**+0.2**
	baz=194								
249A	**Camden**	**18.63**	**14**	P		**P**		**22 47 02.2**	**+0.2**
	baz=195,SNR=11								
141A	**Papa Simpson,**	**18.66**	**358**	P		**Pn**		**22 47 03.7**	**+1.0**
	baz=178,SNR=8.0								
WHTX	**Lake Whitney,**	**18.67**	**346**	*ePn*		**Pn**		**22 47 04.4**	**+1.7**
	comp=Z,56nm,0.9s								
WHTX	**Lake Whitney,**	**18.67**	**346**	P		**Pn**		**22 47 02.9**	**+0.2**
	baz=164,SNR=7.3								
TXAR	**Lajitas Array**	**18.68**	**327**	P		**Pn**		**22 47 04.3**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=151,slow=7.9,SNR=114								
TXAR				LR		LR		22 55 16.3	
	comp=Z,3μm,19.0s,baz=0.0,slow=40								
TX31	**Lajitas Ar. Si**	**18.68**	**327**	*eP*		**Pn**		**22 47 04.4**	**+1.4**
140A	**Cam and Jess,**	**18.73**	**356**	*eP*		**Pn**		**22 47 06.1**	**+2.6**
	comp=Z,202nm,1.3s								
140A	**Cam and Jess,**	**18.73**	**356**	P		**Pn**		**22 47 03.6**	**+0.2**
	baz=176								
144A	**Alexander Plac**	**18.75**	**5**	P		**Pn**		**22 47 03.9**	**+0.1**
	baz=185								
143A	**Socs Landing,**	**18.77**	**2**	*eP*		**Pn**		**22 47 05.1**	**+1.1**
	comp=Z,114nm,0.8s								
143A	**Socs Landing,**	**18.77**	**2**	P		**Pn**		**22 47 04.0**	**+0.1**
	baz=182								
145A	**Houston Renfro**	**18.77**	**6**	P		**Pn**		**22 47 04.1**	**+0.1**
	baz=187								
352A	**Blakely**	**18.77**	**20**	*eP*		**Pn**		**22 47 07.0**	**+3.0**
	comp=Z,192nm,1.2s								
352A	**Blakely**	**18.77**	**20**	P		**Pn**		**22 47 04.5**	**+0.5**
	baz=202								
557A	**Orange Park**	**18.78**	**29**	P		**Pn**		**22 47 04.5**	**+0.4**
	baz=213								
455A	**Stateville**	**18.82**	**25**	P		**Pn**		**22 47 05.3**	**+0.7**
	baz=208								
250A	**Grady**	**18.84**	**16**	*eP*		**Pn**		**22 47 06.8**	**+1.9**
	comp=Z,125nm,1.1s								
250A	**Grady**	**18.84**	**16**	P		**P**		**22 47 04.2**	**-0.2**
	baz=198,SNR=11								
353A	**Camilla**	**18.90**	**22**	P		**Pn**		**22 47 05.7**	**+0.2**
	baz=204,SNR=5.9								
146A	**Union**	**18.91**	**8**	*eP*		**Pn**		**22 47 07.0**	**+1.3**
	comp=Z,187nm,1.3s								
146A	**Union**	**18.91**	**8**	P		**Pn**		**22 47 06.5**	**+0.8**
	baz=189								
NORC	**Norcasia**	**18.99**	**114**	*eP*		**Pn**		**22 47 08.6**	**+1.8**
POPC	**Popayan, Colom**	**19.05**	**125**	*eP*		**Pn**		**22 47 11.3**	**+3.5**
147A	**Livingston**	**19.07**	**10**	*eP*		**Pn**		**22 47 08.9**	**+1.4**
	comp=Z,163nm,1.2s								
147A	**Livingston**	**19.07**	**10**	P		**Pn**		**22 47 08.5**	**+0.9**
	baz=192								
148A	**Greensboro**	**19.18**	**12**	P		**P**		**22 47 08.2**	**+0.2**
	baz=194								
251A	**Midway**	**19.19**	**18**	P		**Pn**		**22 47 09.1**	**+0.1**
	baz=200,SNR=32								
TIGA	**Tifton**	**19.21**	**23**	*eP*		**Pn**		**22 47 10.3**	**+0.9**
	comp=Z,241nm,1.3s								
TIGA	**Tifton**	**19.21**	**23**	P		**Pn**		**22 47 10.2**	**+0.9**
	baz=206								
OTAV	**Otavalo**	**19.23**	**134**	*eP*		**Pn**		**22 47 11.1**	**+1.0**
	comp=Z,19nm,1.2s								
OTAV	**Otavalo**	**19.23**	**134**	*eP*		**Pn**		**22 47 11.1**	**+1.0**
OTAV				pmax		pmax			
	comp=Z,19nm,1.2s								
456A	**Hilliard**	**19.24**	**28**	*eP*		**Pn**		**22 47 12.9**	**+3.3**
	comp=Z,448nm,1.4s								
456A	**Hilliard**	**19.24**	**28**	P		**Pn**		**22 47 11.0**	**+1.4**
	baz=211								
Z43A	**Armstrong Fami**	**19.28**	**3**	P		**P**		**22 47 09.1**	**0.0**
	baz=183								
149A	**Jones**	**19.30**	**14**	P		**Pn**		**22 47 10.4**	**0.0**
	baz=196,SNR=19								
252A	**Lumpkin**	**19.31**	**20**	P		**P**		**22 47 09.7**	**+0.2**
	baz=202,SNR=9.3								
Z41A	**Richland Creek**	**19.31**	**359**	*eP*		**Pn**		**22 47 11.5**	**+1.0**
	comp=Z,150nm,1.0s								
Z41A	**Richland Creek**	**19.31**	**359**	P		**P**		**22 47 10.0**	**+0.5**
	baz=178,SNR=8.5								
Z42A	**Norrel Spur, H**	**19.32**	**1**	P		**P**		**22 47 09.8**	**+0.2**
	baz=181,SNR=6.6								
Z40A	**Long Farm, Mag**	**19.34**	**357**	P		**P**		**22 47 09.9**	**+0.2**
	baz=176,SNR=14								
SOTA	**Rioblanco**	**19.35**	**126**	*eP*		**Pn**		**22 47 13.9**	**+2.3**
GCUF	**Volcan Galeras**	**19.36**	**129**	*eP*		**Pn**		**22 47 14.6**	**+2.9**
457A	**Yulee**	**19.36**	**29**	P		**P**		**22 47 10.9**	**+0.8**
	baz=212								
OCAC	**Ocana**	**19.38**	**105**	*eP*		**P**		**22 47 11.3**	**+0.7**
SLBS	**Sierra La Lagu**	**19.38**	**303**	*eP*		**Pn**		**22 47 11.9**	**+0.4**
	comp=Z,86nm,1.4s								
Z44A	**Pea Ridge, Bel**	**19.39**	**5**	P		**P**		**22 47 10.3**	**0.0**
	baz=185								
355A	**Pearson**	**19.42**	**25**	P		**Pn**		**22 47 11.5**	**-0.2**
	baz=208								
Z46A	**Louisville**	**19.47**	**8**	P		**Pn**		**22 47 12.3**	**-0.1**
	baz=189								
150A	**Eclectic**	**19.50**	**16**	P		**P**		**22 47 12.2**	**+0.6**
	baz=198,SNR=28								
Z45A	**Winona**	**19.56**	**6**	*eP*		**Pn**		**22 47 14.9**	**+1.5**
	comp=Z,250nm,1.3s								
Z45A	**Winona**	**19.56**	**6**	P		**Pn**		**22 47 13.3**	**-0.2**
	baz=187								
253A	**Americus**	**19.57**	**21**	P		**Pn**		**22 47 14.5**	**+0.8**
	baz=204								
Z47A	**Carrollton**	**19.62**	**10**	P		**P**		**22 47 13.1**	**+0.3**
	baz=192,SNR=22								
151A	**Opelika**	**19.62**	**18**	P		**P**		**22 47 13.3**	**+0.4**
	baz=200,SNR=38								
LRAL	**Lakeview Retre**	**19.67**	**13**	*eP*		**Pn**		**22 47 15.3**	**+0.5**
	comp=Z,82nm,1.0s								
LRAL	**Lakeview Retre**	**19.67**	**13**	P		**

Y49A	**Blount Mountai**	**20.59**	**14**	P		**P**		**22 47 24.3**	**+0.8**	
	baz=196,SNR=15									
X43A	**Marvell**	**20.60**	**3**	*eP*		Pn		22 47 28.6	+2.8	
	comp=Z,238nm,0.8s									
X43A	**Marvell**	**20.60**	**3**	P		**P**		**22 47 23.5**	**0.0**	
	baz=184									
X42A	**Stuttgart**	**20.61**	**1**	P		**P**		**22 47 23.8**	**+0.3**	
	baz=181									
MIAR	**Mount Ida**	**20.63**	**357**	*eP*		**P**		**22 47 23.7**	**-0.1**	
	comp=Z,124nm,1.0s									
MIAR				LR		LR				
	comp=Z,3µm,18.0s									
MIAR	**Mount Ida**	**20.63**	**357**	*eP*		**P**		**22 47 23.7**	**-0.1**	
MIAR				pmax		pmax				
	comp=Z,124nm,1.0s									
MIAR				MLR		MLR				
	comp=Z,3µm,18.0s									
MIAR	**Mount Ida**	**20.63**	**357**	P		**P**		**22 47 23.4**	**-0.4**	
	baz=176,SNR=21									
X45A	**UM Field Stati**	**20.63**	**7**	P		**P**		**22 47 22.4**	**-1.4**	
	baz=188,SNR=5.6									
X44A	**Crenshaw**	**20.63**	**5**	P		**P**		**22 47 23.5**	**-0.3**	
	baz=186									
155A	**Kite**	**20.69**	**24**	P		**P**		**22 47 24.7**	**+0.1**	
	baz=208,SNR=22									
OXF	**Oxford**	**20.72**	**7**	*eP*		**P**		**22 47 25.2**	**+0.5**	
	comp=Z,170nm,1.0s									
OXF				LR		LR				
	comp=Z,3µm,18.0s									
OXF	**Oxford**	**20.72**	**7**	*eP*		**P**		**22 47 25.3**	**+0.5**	
OXF				pmax		pmax				
	comp=Z,170nm,1.0s									
OXF				MLR		MLR				
	comp=Z,3µm,18.0s									
OXF	**Oxford**	**20.72**	**7**	P		**P**		**22 47 24.3**	**-0.4**	
	baz=188,SNR=9.6									
SDDR	**Presa de Saban**	**20.72**	**73**	*eP*		**P**		**22 47 23.5**	**-1.6**	
SDDR				LR		LR				
	comp=Z,19µm,18.0s									
257A	**Skidaway Islan**	**20.75**	**28**	PFAKE				22 47 40.0	+13	
257A				LR		LR				
	comp=Z,20µm,20.0s									
257A	**Skidaway Islan**	**20.75**	**28**	P		**P**		**22 47 24.8**	**-0.3**	
	baz=212									
Y50A	**Piedmont**	**20.79**	**15**	P		**P**		**22 47 25.3**	**-0.4**	
	baz=198,SNR=6.7									
UALR	**University of**	**20.82**	**360**	*eP*		Pn		22 47 28.0	-0.3	
	comp=Z,176nm,1.1s									
X37A	**Clayton**	**20.83**	**353**	*eP*		**P**		**22 47 26.6**	**+0.7**	
	comp=Z,158nm,1.0s									
X46A	**Booneville**	**20.86**	**8**	P		**P**		**22 47 25.5**	**-0.9**	
	baz=190									
Z53A	**Monticello**	**20.88**	**21**	P		**P**		**22 47 26.5**	**0.0**	
	baz=204,SNR=24									
X47A	**Russellville**	**20.94**	**10**	P		**P**		**22 47 27.1**	**-0.1**	
	baz=192,SNR=8.6									
Y51A	**Rockmart**	**20.98**	**17**	P		**P**		**22 47 28.5**	**+0.8**	
	baz=200,SNR=31									
X48A	**Hartselle**	**21.03**	**12**	*eP*		**P**		**22 47 28.2**	**+0.1**	
	comp=Z,68nm,0.9s									
X48A				LR		LR				
	comp=Z,3µm,20.0s									
X48A	**Hartselle**	**21.03**	**12**	P		**P**		**22 47 27.7**	**-0.5**	
	baz=194,SNR=23									
GOGA	**Godfrey**	**21.03**	**21**	*eP*		**P**		**22 47 30.4**	**+2.2**	
	comp=Z,117nm,1.2s									
GOGA				LR		LR				
	comp=Z,20µm,20.0s									
GOGA	**Godfrey**	**21.03**	**21**	*eP*		**P**		**22 47 30.4**	**+2.2**	
GOGA				pmax		pmax				
	comp=Z,117nm,1.2s									
GOGA				MLR		MLR				
	comp=Z,20µm,20.0s									
GOGA	**Godfrey**	**21.03**	**21**	P		**P**		**22 47 28.4**	**+0.2**	
	baz=204,SNR=13									
Z54A	**Sparta**	**21.10**	**22**	P		**P**		**22 47 29.1**	**+0.2**	
	baz=206,SNR=28									
156A	**Sylvania**	**21.12**	**26**	P		**P**		**22 47 29.8**	**+0.7**	
	baz=210,SNR=9.5									
W43A	**Forest City**	**21.18**	**3**	P		**P**		**22 47 27.7**	**-2.0**	
	baz=184									
CLNB	**Carlsbad**	**21.19**	**332**	*eP*		**P**		**22 47 31.5**	**+1.5**	
W41B	**Gary Mavity, V**	**21.22**	**360**	*eP*		**P**		**22 47 32.0**	**+1.9**	
	comp=Z,29nm,0.9s									
W41B				LR		LR				
	comp=Z,5µm,18.0s									
W41B	**Gary Mavity, V**	**21.22**	**360**	P		**P**		**22 47 30.7**	**+0.6**	
	baz=180,SNR=9.7									
X49A	**Woodville**	**21.24**	**14**	P		**P**		**22 47 30.3**	**-0.1**	
	baz=196,SNR=19									
Y52A	**Lilburn**	**21.25**	**19**	*eP*		**P**		**22 47 31.6**	**+1.0**	
	comp=Z,98nm,1.0s									
Y52A				LR		LR				
	comp=Z,14µm,20.0s									
Y52A	**Lilburn**	**21.25**	**19**	P		**P**		**22 47 30.9**	**+0.4**	
	baz=202,SNR=26									
MET	**Memphis--Engin**	**21.27**	**5**	PFAKE				22 47 40.0	+9.3	
MET				LR		LR				
	comp=Z,4µm,20.0s									
W39A	**Magazine**	**21.29**	**357**	*eP*		**P**		**22 47 31.9**	**+1.0**	
	comp=Z,64nm,1.1s									
W39A				LR		LR				
	comp=Z,3µm,21.0s									
W39A	**Magazine**	**21.29**	**357**	P		**P**		**22 47 29.1**	**-1.8**	
	baz=176,SNR=13									
W44A	**Shelby Farms P**	**21.30**	**5**	P		**P**		**22 47 30.4**	**-0.6**	
	baz=186									
W42A	**Bald Knob**	**21.33**	**2**	P		**P**		**22 47 32.5**	**+1.2**	
	baz=182									
WHAR	**Wooly Hollow**	**21.33**	**360**	*eP*		**P**		**22 47 32.6**	**+1.2**	
	comp=Z,23nm,0.9s									
WHAR				LR		LR				
	comp=Z,2µm,21.0s									
Z55A	**Blythe**	**21.35**	**24**	P		**P**		**22 47 31.7**	**+0.1**	
	baz=208									
X50B	**Fort Payne**	**21.36**	**15**	P		**P**		**22 47 31.7**	**0.0**	
	baz=198,SNR=41									
GDL2	**Guadalupe Moun**	**21.36**	**331**	*eP*		**P**		**22 47 33.2**	**+1.3**	
PLAL	**Pickwick Lake**	**21.36**	**9**	*eP*		**P**		**22 47 31.7**	**0.0**	
	comp=Z,51nm,1.4s									
PLAL				LR		LR				
	comp=Z,5µm,22.0s									
W45A	**Hickory Valley**	**21.38**	**7**	P		**P**		**22 47 30.7**	**-1.2**	
	baz=188									
Y53A	**Monroe**	**21.40**	**20**	P		**P**		**22 47 32.1**	**0.0**	
	baz=203,SNR=28									
TAMC	**Tame, Arauca**	**21.42**	**108**	*eP*		**P**		**22 47 32.6**	**-0.1**	
MNTX	**Cornudas Mount**	**21.46**	**328**	*eP*		**P**		**22 47 32.5**	**-0.3**	
	comp=Z,68nm,1.2s									
MNTX				LR		LR				
	comp=Z,4µm,21.0s									
MNTX	**Cornudas Mount**	**21.46**	**328**	P		**P**		**22 47 32.3**	**-0.5**	
	baz=143,SNR=58									
W46A	**Michie**	**21.46**	**9**	P		**P**		**22 47 31.6**	**-1.2**	
	baz=190									
GRTK	**Grand Turk**	**21.48**	**66**	PFAKE				22 47 50.0	+17	
GRTK				LR		LR				
	comp=Z,4µm,18.0s									
BANI	**BANI**	**21.49**	**75**	*eP*		**P**		**22 47 33.6**	**+0.2**	
WMOK	**Wichita Mounta**	**21.61**	**345**	*eP*		**P**		**22 47 33.9**	**-0.6**	
	comp=Z,76nm,1.1s									
WMOK				LR		LR				
	comp=Z,3µm,21.0s									
WMOK	**Wichita Mounta**	**21.61**	**345**	*eP*		**P**		**22 47 33.9**	**-0.6**	
WMOK				pmax		pmax				
	comp=Z,76nm,1.1s									
WMOK				MLR		MLR				
	comp=Z,3µm,21.0s									
WMOK	**Wichita Mounta**	**21.61**	**345**	P		**P**		**22 47 33.6**	**-0.9**	
	baz=162,SNR=42									
HBAR	**Harrisburg**	**21.64**	**3**	PFAKE				22 47 50.0	+15	
HBAR				LR		LR				
	comp=Z,4µm,22.0s									
X51A	**Calhoun**	**21.67**	**17**	*eP*		**P**		**22 47 36.3**	**+1.3**	
	comp=Z,108nm,1.0s									
X51A				LR		LR				
	comp=Z,14µm,20.0s									
X51A	**Calhoun**	**21.67**	**17**	P		**P**		**22 47 34.5**	**-0.5**	
	baz=199,SNR=17									
W47A	**Westpoint**	**21.70**	**10**	P		**P**		**22 47 34.2**	**-1.3**	
	baz=192,SNR=11									
Y54A	**Tignall**	**21.71**	**22**	P		**P**		**22 47 35.5**	**0.0**	
	baz=206,SNR=14									
W48A	**Pulaski**	**21.72**	**12**	P		**P**		**22 47 34.7**	**-0.9**	
	baz=194,SNR=21									
SDV	**Santo Domingo**	**21.74**	**101**	P		**P**		**22 47 35.4**	**-0.9**	
	comp=Z,18nm,0.9s,baz=275,slow=5.6,SNR=13									
SDV	**Santo Domingo**	**21.74**	**101**	*eP*		**P**		**22 47 39.1**	**+2.9**	
	comp=Z,116nm,1.5s									
SDV				LR		LR				
	comp=Z,4µm,19.0s									
CPRX	**Cap Rock**	**21.83**	**333**	*eP*		**P**		**22 47 36.8**	**-0.2**	
V41A	**Mountainview**	**21.83**	**0**	P		**P**		**22 47 35.7**	**-1.0**	
	baz=180,SNR=22									
W49A	**Belvidere**	**21.84**	**13**	P		**P**		**22 47 36.4**	**-0.5**	
	baz=196,SNR=49									
V42A	**Cord**	**21.86**	**2**	P		**P**		**22 47 36.1**	**-1.0**	
	baz=182,SNR=20									
V43A	**Jonesboro**	**21.88**	**4**	P		**P**		**22 47 37.3**	**0.0**	
	baz=184									
SDD	**Santo Domingo**	**21.92**	**75**	PFAKE				22 47 50.0	+12	
SDD				LR		LR				
	comp=Z,12µm,19.0s									
V44A	**Blytheville**	**21.97**	**5**	P		**P**		**22 47 36.5**	**-1.7**	
	baz=186									
V45A	**Humboldt**	**21.98**	**7**	P		**P**		**22 47 37.5**	**-0.9**	
	baz=188									
X52A	**Dahlonega**	**21.98**	**19**	P		**P**		**22 47 38.6**	**+0.2**	
	baz=202,SNR=12									
SWET	**Sewanee**	**22.01**	**14**	*eP*		**P**		**22 47 38.5**	**-0.2**	
	comp=Z,128nm,1.1s									
SWET				LR		LR				
	comp=Z,8µm,20.0s									
NHSC	**New Hope**	**22.08**	**28**	*eP*		**P**		**22 47 44.4**	**+4.9**	
	comp=Z,188nm,1.0s									
NHSC				LR		LR				
	comp=Z,18µm,20.0s									
NHSC	**New Hope**	**22.08**	**28**	P		**P**		**22 47 39.4**	**-0.1**	
	baz=212,SNR=7.1									
X53A	**Estanollee**	**22.08**	**20**	P		**P**		**22 47 38.9**	**-0.6**	
	baz=203,SNR=8.9									
GNAR	**Gosnell**	**22.10**	**5**	PFAKE				22 47 50.0	+10	
GNAR				LR		LR				
	comp=Z,6µm,22.0s									
HALT	**Halls**	**22.11**	**6**	PFAKE				22 47 50.0	+10	
HALT				LR		LR				
	comp=Z,2µm,20.0s									
EPT	**El Paso**	**22.11**	**326**	*eP*		**P**		**22 47 42.7**	**+2.7**	
	comp=Z,59nm,1.4s									
EPT				LR		LR				
	comp=Z,3µm,18.0s									
W50A	**Signal Mountai**	**22.14**	**15**	*eP*		**P**		**22 47 40.8**	**+0.6**	
	comp=Z,89nm,1.1s									
W50A				LR		LR				
	comp=Z,10µm,19.0s									
W50A	**Signal Mountai**	**22.14**	**15**	P		**P**		**22 47 38.8**	**-1.4**	
	baz=198,SNR=23									
V46A	**Holladay**	**22.16**	**9**	P		**P**		**22 47 38.2**	**-2.0**	
	baz=190,SNR=17									
MSTX	**Muleshoe**	**22.18**	**336**	*eP*		**P**		**22 47 40.2**	**-0.5**	
	comp=Z,179nm,1.0s									
MSTX				LR		LR				
	comp=Z,2µm,21.0s									
MSTX	**Muleshoe**	**22.18**	**336**	P		**P**		**22 47 39.8**	**-0.9**	
	baz=152,SNR=71									
TUL1	**Leonard**	**22.18**	**352**	*eP*		**P**		**22 47 40.3**	**-0.3**	
	comp=Z,54nm,0.9s									
TUL1	**Leonard**	**22.18**	**352**	P		**P**		**22 47 39.9**	**-0.6**	
	baz=171,SNR=10									
HODGE	**Hodges**	**22.20**	**22**	*eP*		**P**		**22 47 42.9**	**+2.1**	
	comp=Z,73nm,1.4s									
HODGE				LR		LR				
	comp=Z,13µm,19.0s									
W51A	**Cleveland**	**22.25**	**16**	P		**P**		**22 47 40.2**	**-1.2**	
	baz=199,SNR=20									
V47A	**Nunnelly**	**22.28**	**10**	P		**P**		**22 47 40.3**	**-1.3**	
	baz=192,SNR=20									
V48A	**Smith Brothers**	**22.32**	**12**	*eP*		**P**		**22 47 41.3**	**-0.8**	
	comp=Z,152nm,1.1s									
V48A				LR		LR				
	comp=Z,4µm,22.0s									
V48A	**Smith Brothers**	**22.32**	**12**	P		**P**		**22 47 40.9**	**-1.1**	
	baz=194,SNR=45									
HHAR	**Hobbs**	**22.38**	**356**	*eP*		**P**		**22 47 42.0**	**-0.6**	
	comp=Z,40nm,1.2s									
U41A	**Viola**	**22.39**	**1**	P		**P**		**22 47 41.1**	**-1.6**	
	baz=181,SNR=9.2									
U40A	**Yellville**	**22.40**	**359**	P		**P**		**22 47 40.7**	**-2.2**	
	baz=178,SNR=9.7									
U42A	**Revenden**	**22.41**	**2**	P		**P**		**22 47 41.4**	**-1.6**	
	baz=182,SNR=19									
W52A	**Murphy**	**22.43**	**18**	*eP*		**P**		**22 47 44.8**	**+1.6**	
	comp=Z,53nm,1.0s									
W52A				LR		LR				
	comp=Z,13µm,20.0s									
W52A	**Murphy**	**22.43**	**18**	P		**P**		**22 47 41.6**	**-1.7**	
	baz=201									
GLAT	**Glass**	**22.47**	**6**	PFAKE				22 48 00.0	+16	
GLAT				LR		LR				
	comp=Z,6µm,22.0s									
U43A	**Rector**	**22.47**	**4**	P		**P**		**22 47 41.0**	**-2.6**	
	baz=184									
WVT	**Waverly**	**22.52**	**9**	*eP*		**P**		**22 47 42.9**	**-1.3**	
	comp=Z,24nm,0.9s									
WVT				LR		LR				
	comp=Z,4µm,21.0s									
WVT	**Waverly**	**22.52**	**9**	*eP*		**P**		**22 47 42.9**	**-1.3**	
WVT				pmax		pmax				
	comp=Z,24nm,0.9s									
WVT				MLR		MLR				
	comp=Z,4µm,21.0s									
WVT	**Waverly**	**22.52**	**9**	P		**P**		**22 47 42.4**	**-1.8**	
	baz=191									
U44B	**Burton Farm, H**	**22.53**	**6**	P		**P**		**22 47 43.0**	**-1.2**	
	baz=187									
V49A	**McMinnville**	**22.54**	**14**	P		**P**		**22 47 42.9**	**-1.5**	
	baz=196,SNR=30									
PVMO	**Portageville**	**22.57**	**5**	PFAKE				22 48 00.0	+15	
PVMO				LR		LR				
	comp=Z,3µm,18.0s									
CPCT	**Cooper Cave**	**22.59**	**17**	*eP*		**P**		**22 47 45.6**	**+0.7**	
	comp=Z,70nm,0.8s									
CPCT				LR		LR				
	comp=Z,13µm,19.0s									
AMTX	**Amarillo**	**22.60**	**339**	*eP*		**P**		**22 47 44.6**	**-0.6**	
	comp=Z,354nm,1.0s									
AMTX	**Amarillo**	**22.60**	**339**	P		**P**		**22 47 44.0**	**-1.1**	
	baz=155									
U45A	**Rockin P Farm,**	**22.61**	**7**	P		**P**		**22 47 42.7**	**-2.4**	
	baz=189									
JSC	**Jenkinsville**	**22.63**	**24**	*eP*		**P**		**22 47 46.0**	**+0.7**	
	comp=Z,51nm,1.0s									
JSC				LR		LR				
	comp=Z,15µm,19.0s									
JSC	**Jenkinsville**	**22.63**	**24**	*eP*		**P**		**22 47 46.0**	**+0.7**	
JSC				pmax		pmax				
	comp=Z,51nm,1.0s									
JSC				MLR		MLR				
	comp=Z,15µm,19.0s									
V50A	**Pikeville**	**22.64**	**15**	P		**P**		**22 47 44.0**	**-1.5**	
	baz=198,SNR=31									
BG3	**Lake Jocassee**	**22.65**	**20**	*eP*		**P**		**22 47 47.0**	**+1.4**	
	comp=Z,107nm,1.2s									
BG3				LR		LR				
	comp=Z,17µm,19.0s									
U44A	**Portageville**	**22.66**	**5**	P		**P**		**22 47 43.3**	**-2.4**	
	baz=186									
U46A	**Springville**	**22.69**	**9**	P		**P**		**22 47 44.4**	**-1.7**	
	baz=190,SNR=8.1									
W53A	**Cullowhee**	**22.74**	**20**	P		**P**		**22 47 46.2**	**-0.4**	
	baz=203,SNR=15									
PBMO	**Poplar Bluff**	**22.88**	**4**	*eP*		**P**		**22 47 46.8**	**-1.1**	
	comp=Z,66nm,0.9s									
PAULI	**Pauline**	**22.89**	**22**	*eP*		**P**		**22 47 49.6**	**+1.5**	
	comp=Z,85nm,1.1s									
PAULI				LR		LR				
	comp=Z,16µm,19.0s									
U47A	**Clarksville**	**22.91**	**10**	P		**P**		**22 47 46.7**	**-1.6**	
	baz=192,SNR=13									
V51A	**Loudon**	**22.97**	**17**	*eP*		**P**		**22 47 48.8**	**-0.1**	
	comp=Z,234nm,1.3s									
V51A				LR		LR				
	comp=Z,12µm,20.0s									
V51A	**Loudon**	**22.97**	**17**	P		**P**		**22 47 48.1**	**-0.8**	
	baz=200,SNR=31									
SRIG	**Santa Rosalia**	**22.97**	**309**	*eP*		**P**		**22 47 49.8**	**+0.7**	
	comp=Z,85nm,1.5s									
SRIG				LR		LR				
	comp=Z,8µm,19.0s									
HSIG		**22.99**	**314**	*eP*		**P**		**22 47 50.9**	**+1.7**	
	comp=Z,59nm,1.3s									
HSIG				LR		LR				
	comp=Z,10µm,19.0s									
TKL	**Tuckaleechee C**	**23.00**	**18**	P		**P**		**22 47 48.6**	**-0.7**	
	comp=Z,134nm,1.1s,baz=194,slow=10,SNR=40									
TKL	**Tuckaleechee C**	**23.00**	**18**	*eP*		**P**		**22 47 49.5**	**+0.2**	
	comp=Z,158nm,1.0s									
TKL				LR		LR				
	comp=Z,15µm,20.0s									
TKL	**Tuckaleechee C**	**23.00**	**18**	*eP*		**P**		**22 47 49.5**	**+0.2**	
TKL				pmax		pmax				
	comp=Z,158nm,1.0s									
TKL				MLR		MLR				
	comp=Z,15µm,20.0s									
T41A	**Mountain View**	**23.09**	**1**	P		**P**		**22 47 49.1**	**-1.0**	
	baz=181,SNR=21									
T42A	**Van Buren**	**23.09**	**2**	*eP*		**P**		**22 47 49.1**	**-1.0**	
	comp=Z,20nm,0.8s									
T42A				LR		LR				
	comp=Z,2µm,19.0s									
T42A	**Van Buren**	**23.09**	**2**	P		**P**		**22 47 48.4**	**-1.8**	
	baz=183,SNR=16									
U48A	**Cassie Pea, Po**	**23.12**	**12**	P		**P**		**22 47 47.3**	**-3.2**	
	baz=194,SNR=8.3									
T43A	**Greenville**	**23.19**	**4**	P		**P**		**22 47 48.4**	**-2.7**	
	baz=185,SNR=13									
V52A	**Sevierville**	**23.22**	**18**	PFAKE				22 48 00.0	+8.5	
V52A				LR		LR				
	comp=Z,16µm,20.0s									
V52A	**Sevierville**	**23.22**	**18**	P		**P**		**22 47 50.2**	**-1.3**	
	baz=201,SNR=30									
U32A	**Winter Ranch,**	**23.23**	**346**	*eP*		**P**		**22 47 51.6**	**0.0**	
	comp=Z,104nm,0.9s									
T44A	**Benton**	**23.25**	**5**	P		**P**		**22 47 49.8**	**-2.0**	
	baz=186									
T45A	**Paducah**	**23.28**	**7**	PFAKE				22 48 00.0	+7.9	
T45A				LR		LR				
	comp=Z,6µm,21.0s									
T45A	**Paducah**	**23.28**	**7**	P		**P**		**22 47 50.1**	**-2.0**	
	baz=189									
U49A	**Red Boiling Sp**	**23.28**	**13**	P		**P**		**22 47 50.9**	**-1.2**	
	baz=196,SNR=67									
V53A	**Saluda**	**23.31**	**20**	*eP*		**P**		**22 47 52.4**	**-0.1**	
	comp=Z,83nm,0.9s									
V53A				LR		LR				
	comp=Z,17µm,19.0s									
V53A	**Saluda**	**23.31**	**20**	P		**P**		**22 47 51.7**	**-0.8**	
	baz=203,SNR=25									
KMSC	**Kings Mountain**	**23.36**	**23**	*eP*		**P**		**22 47 52.1**	**-0.7**	
	comp=Z,72nm,0.9s									
KMSC				LR		LR				
	comp=Z,16µm,18.0s									
KMSC	**Kings Mountain**	**23.36**	**23**	P		**P**		**22 47 50.2**	**-2.7**	
	baz=207,SNR=19									
121A	**Cookes Peak, D**	**23.39**	**325**	P		**P**		**22 47 53.3**	**-0.1**	
	baz=139,SNR=39									
T46A	**Princeton**	**23.41**	**9**	P		**P**		**22 47 51.8**	**-1.6**	
	baz=190,SNR=18									
U50A	**Jamestown**	**23.41**	**15**	P		**P**		**22 47 52.4**	**-1.1**	
	baz=198,SNR=62									
319A	**Douglas**	**23.42**	**321**	*eP*		**P**		**22 47 54.8**	**+1.1**	
	comp=Z,67nm,1.2s									
T47A	**Sharon Grove**	**23.48**	**10**	*eP*		**P**		**22 47 52.7**	**-1.4**	
	comp=Z,144nm,1.3s									
T47A	**Sharon Grove**	**23.48**	**10**	P		**P**		**22 47 52.2**	**-1.8**	
	baz=192,SNR=20									
U51A	**La Follette**	**23.60**	**17**	P		**P**		**22 47 54.3**	**-1.1**	
	baz=200,SNR=76									
S41A	**Jillco Farms,**	**23.63**	**1**	P		**P**		**22 47 53.5**	**-2.1**	
	baz=181,SNR=15									
S43A	**Fulton Ridge,**	**23.69**	**4**	P		**P**		**22 47 53.4**	**-2.7**	
	baz=185,SNR=12									
T48A	**Bowling Green**	**23.73**	**12**	P		**P**		**22 47 54.9**	**-1.6**	
	baz=194,SNR=11									
U52A	**Thorn Hill**	**23.80**	**18**	P		**P**		**22 47 55.7**	**-1.6**	
	baz=202,SNR=22									
S42A	**Caledonia**	**23.84**	**3**	P		**P**		**22 47 55.0**	**-2.6**	
	baz=183,SNR=12									
S44A	**Carbondale**	**23.88**	**6**	P		**P**		**22 47 56.3**	**-1.6**	
	baz=187,SNR=17									
TZTN	**Tazewell**	**23.89**	**17**	*eP*		**P**		**22 47 57.9**	**-0.2**	
	comp=Z,123nm,1.0s									
TZTN	**Tazewell**	**23.89**	**17**	P		**P**		**22 47 56.3**	**-1.8**	
	baz=201,SNR=28									
SIUC	**Southern Illin**	**23.91**	**6**	*eP*		**P**		**22 47 57.4**	**-0.8**	
	comp=Z,119nm,0.9s									
SIUC				LR		LR				
	comp=Z,8µm,22.0s									
T49A	**Edmonton**	**23.91**	**13**	*eP*		**P**		**22 47 57.1**	**-1.2**	
	comp=Z,170nm,1.1s									
T49A	**Edmonton**	**23.91**	**13**	P		**P**		**22 47 57.1**	**-1.2**	
	baz=196,SNR=43									
S45A	**Carrier Mills**	**23.94**	**7**	P		**P**		**22 47 56.5**	**-2.0**	
	baz=189									
T50A	**Nancy**	**23.99**	**15**	P		**P**		**22 47 57.3**	**-1.8**	
	baz=198,SNR=25									
U53A	**Fall Branch**	**24.02**	**19**	P		**P**		**22 47 58.9**	**-0.5**	
	baz=203,SNR=22									
BNM	**Barren Site**	**24.04**	**330**	*eP*		**P**		**22 48 01.7**	**+1.9**	
S46A	**Don Dixon Farm**	**24.06**	**9**	P		**P**		**22 47 58.2**	**-1.5**	
	baz=191,SNR=9.3									
CCM	**Cathedral Cave**	**24.11**	**2**	*eP*		**P**		**22 47 58.3**	**-1.9**	
	comp=Z,50nm,1.0s									
CCM	**Cathedral Cave**	**24.11**	**2**	*eP*		**P**		**22 47 58.3**	**-1.9**	
CCM				pmax		pmax				
	comp=Z,50nm,1.0s									
CCM	**Cathedral Cave**	**24.11**	**2**	P		**P**		**22 47 58.1**	**-2.1**	
	baz=182									
S47A	**Hartford**	**24.11**	**10**	P		**P**		**22 47 59.0**	**-1.2**	
	baz=193,SNR=12									
T51A	**Gray**	**24.17**	**16**	P		**P**		**22 47 59.5**	**-1.3**	
	baz=200,SNR=38									
LPM	**Los Pinos Moun**	**24.17**	**330**	*eP*		**P**		**22 48 02.3**	**+1.3**	
LENM	**Lemitar**	**24.23**	**329**	*eP*		**P**		**22 48 03.2**

S51A	**Beattyville**	**24.90**	**16**	*eP*		**P**	**22 48 06.2**	**-1.1**
	comp=Z,67nm,0.9s								
S51A				LR		LR			
	comp=Z,13µm,20.0s								
S51A	**Beattyville**	**24.90**	**16**	P		**P**	**22 48 05.7**	**-1.6**
	baz=200,SNR=17								
CNNC	**Cliffs of the**	**24.91**	**29**	PFAKE			22 48 20.0	+13	
CNNC				LR		LR			
	comp=Z,16µm,20.0s								
CNNC	**Cliffs of the**	**24.91**	**29**	P		**P**	**22 48 06.5**	**-0.9**	
	baz=215								
ATAH	**Atahualpa**	**24.98**	**146**	P		**P**	**22 48 07.7**	**-1.0**	
	comp=Z,12nm,1.0s,baz=323,slow=8.7,SNR=7.7								
OBIP	**Obispado Ponce**	**24.98**	**77**	PFAKE			22 48 20.0	+12	
OBIP				LR		LR			
	comp=Z,11µm,19.0s								
TUC	**Tucson**	**24.99**	**320**	*eP*		**P**	**22 48 09.6**	**+1.3**	
	comp=Z,53nm,1.3s								
TUC				LR		LR			
	comp=Z,14µm,19.0s								
TUC	**Tucson**	**24.99**	**320**	*eP*		**P**	**22 48 09.6**	**+1.3**	
TUC				pmax		pmax			
	comp=Z,53nm,1.3s								
TUC				MLR		MLR			
	comp=Z,14µm,19.0s								
TUC	**Tucson**	**24.99**	**320**	P		**P**	**22 48 07.8**	**-0.5**	
	baz=133								
Q42A	**Golden Eagle**	**24.99**	**3**	P		**P**	**22 48 06.4**	**-1.7**	
	baz=184								
Q41A	**Truxton**	**25.01**	**2**	P		**P**	**22 48 06.4**	**-1.9**	
	baz=182,SNR=15								
OLIL	**Olney**	**25.04**	**8**	*eP*		**P**	**22 48 08.1**	**-0.5**	
	comp=Z,85nm,0.8s								
ICMP	**Isla Caja de M**	**25.04**	**77**	PFAKE			22 48 20.0	+11	
ICMP				LR		LR			
	comp=Z,12µm,19.0s								
Q43A	**New Douglas**	**25.08**	**5**	P		**P**	**22 48 07.8**	**-1.1**	
	baz=186,SNR=11								
S52A	**Salyersville**	**25.08**	**17**	P		**P**	**22 48 06.8**	**-2.2**	
	baz=201								
R48A	**Northridge Ran**	**25.08**	**12**	P		**P**	**22 48 06.3**	**-2.7**	
	baz=194,SNR=20								
EMPR	**Esperanza - Ma**	**25.10**	**76**	PFAKE			22 48 20.0	+11	
EMPR				LR		LR			
	comp=Z,7µm,20.0s								
Q44A	**Meyer Farm, Va**	**25.10**	**6**	P		**P**	**22 48 07.5**	**-1.7**	
	baz=187,SNR=14								
R49A	**Shelbyville**	**25.12**	**13**	P		**P**	**22 48 07.2**	**-2.1**	
	baz=196,SNR=41								
Q45A	**Warren Harvey,**	**25.19**	**7**	P		**P**	**22 48 08.1**	**-1.9**	
	baz=189,SNR=17								
R50A	**Paris**	**25.31**	**15**	P		**P**	**22 48 09.5**	**-1.6**	
	baz=198,SNR=22								
SJG	**San Juan**	**25.42**	**77**	PFAKE			22 48 20.0	+7.8	
SJG				LR		LR			
	comp=Z,13µm,19.0s								
Q46A	**CEJHS Indians,**	**25.43**	**9**	P		**P**	**22 48 10.6**	**-1.5**	
	baz=191								
KSU1	**Kansas State U**	**25.43**	**352**	*eP*		**P**	**22 48 12.1**	**0.0**	
	comp=Z,56nm,0.8s								
KSU1				LR		LR			
	comp=Z,4µm,19.0s								
KSU1	**Kansas State U**	**25.43**	**352**	P		**P**	**22 48 11.3**	**-0.9**	
	baz=170								
Q47A	**Bedord North L**	**25.50**	**11**	P		**P**	**22 48 11.6**	**-1.1**	
	baz=193,SNR=21								
R51A	**Hillsboro**	**25.52**	**16**	P		**P**	**22 48 10.8**	**-2.1**	
	baz=200,SNR=17								
BLA	**Blacksburg**	**25.53**	**22**	*eP*		**P**	**22 48 13.3**	**+0.2**	
	comp=Z,37nm,1.0s								
BLA				LR		LR			
	comp=Z,13µm,19.0s								
BLA	**Blacksburg**	**25.53**	**22**	*eP*		**P**	**22 48 13.3**	**+0.2**	
BLA				pmax		pmax			
	comp=Z,37nm,1.0s								
BLA				MLR		MLR			
	comp=Z,13µm,19.0s								
BLA	**Blacksburg**	**25.53**	**22**	P		**P**	**22 48 11.7**	**-1.4**	
	baz=207								
T25A	**Trinidad**	**25.60**	**337**	*eP*		**P**	**22 48 14.5**	**+0.6**	
	comp=Z,181nm,1.1s								
T25A	**Trinidad**	**25.60**	**337**	P		**P**	**22 48 15.0**	**+1.0**	
	baz=152,SNR=90								
Q48A	**North Vernon**	**25.62**	**12**	P		**P**	**22 48 12.3**	**-1.5**	
	baz=194,SNR=19								
P42A	**Winchester**	**25.68**	**3**	*eP*		**P**	**22 48 13.0**	**-1.4**	
	comp=Z,53nm,1.0s								
P42A	**Winchester**	**25.68**	**3**	P		**P**	**22 48 12.9**	**-1.4**	
	baz=184,SNR=11								
P44A	**Sand Creek, Wi**	**25.70**	**6**	P		**P**	**22 48 12.1**	**-2.4**	
	baz=188,SNR=6.9								
BLO	**Bloomington**	**25.71**	**10**	*eP*		**P**	**22 48 14.0**	**-0.7**	
	comp=Z,34nm,0.8s								
BLO	**Bloomington**	**25.71**	**10**	*eP*		**P**	**22 48 14.0**	**-0.7**	
BLO				pmax		pmax			
	comp=Z,34nm,0.8s								
CBYP	**Canovanas**	**25.71**	**77**	PFAKE			22 48 30.0	+15	
CBYP				LR		LR			
	comp=Z,16µm,20.0s								
CBKS	**Cedar Bluff**	**25.72**	**346**	PFAKE			22 48 30.0	+15	
CBKS				LR		LR			
	comp=Z,4µm,22.0s								
CBKS	**Cedar Bluff**	**25.72**	**346**	P		**P**	**22 48 13.3**	**-1.6**	
	baz=163,SNR=13								
P41A	**Barry, Barry**	**25.73**	**2**	P		**P**	**22 48 12.8**	**-2.0**	
	baz=182								
P43A	**Skaggs, Pawnee**	**25.79**	**5**	P		**P**	**22 48 14.2**	**-1.1**	
	baz=186								
R52A	**Catlettsburg**	**25.82**	**18**	P		**P**	**22 48 13.1**	**-2.6**	
	baz=202,SNR=7.8								
P45A	**Graceland, Par**	**25.87**	**8**	*eP*		**P**	**22 48 15.4**	**-0.7**	
	comp=Z,30nm,0.7s								
P45A	**Graceland, Par**	**25.87**	**8**	P		**P**	**22 48 14.2**	**-1.9**	
	baz=190,SNR=7.1								
Q49A	**Aurora**	**25.87**	**13**	P		**P**	**22 48 14.2**	**-1.9**	
	baz=196,SNR=11								
Q50A	**Georgetown**	**25.93**	**15**	P		**P**	**22 48 15.1**	**-1.6**	
	baz=198,SNR=14								
MTP	**Monte Pirata**	**25.98**	**77**	PFAKE			22 48 30.0	+13	
MTP				LR		LR			
	comp=Z,17µm,20.0s								
P46A	**Rosedale**	**26.03**	**9**	P		**P**	**22 48 15.9**	**-1.7**	
	baz=191,SNR=10								
214A	**Organ Pipe Nat**	**26.06**	**317**	P		**P**	**22 48 17.6**	**-0.4**	
	baz=129,SNR=18								
P47A	**Martinsville**	**26.06**	**11**	P		**P**	**22 48 16.1**	**-1.8**	
	baz=193								
X18A	**Snowflake**	**26.08**	**325**	*eP*		**P**	**22 48 20.1**	**+1.8**	
	comp=Z,46nm,1.4s								
O41A	**Passleys Farm,**	**26.18**	**2**	P		**P**	**22 48 16.0**	**-2.9**	
	baz=183								
P48A	**Milroy**	**26.19**	**12**	P		**P**	**22 48 16.8**	**-2.3**	
	baz=195,SNR=20								
Q51A	**Peebles**	**26.27**	**16**	*eP*		**P**	**22 48 18.6**	**-1.1**	
	comp=Z,160nm,1.0s								
Q51A	**Peebles**	**26.27**	**16**	P		**P**	**22 48 17.7**	**-2.0**	
	baz=200,SNR=35								
O42A	**Bath**	**26.30**	**4**	P		**P**	**22 48 20.0**	**0.0**	
	baz=184								
O44A	**Mansfield**	**26.40**	**7**	P		**P**	**22 48 20.0**	**-0.9**	
	baz=188								
W18A	**Petrified Fore**	**26.40**	**326**	*eP*		**P**	**22 48 25.1**	**+3.9**	
	comp=Z,43nm,1.3s								
W18A	**Petrified Fore**	**26.40**	**326**	P		**P**	**22 48 20.4**	**-0.8**	
	baz=139								
P49A	**Miami Univ. Ec**	**26.41**	**13**	P		**P**	**22 48 18.9**	**-2.1**	
	baz=196,SNR=12								
O43A	**Sugar Creek Fa**	**26.45**	**5**	P		**P**	**22 48 20.2**	**-1.2**	
	baz=186								
Q52A	**Bidwell**	**26.51**	**18**	P		**P**	**22 48 20.5**	**-1.4**	
	baz=202,SNR=22								
SDCO	**Great Sand Dun**	**26.55**	**336**	*eP*		**P**	**22 48 23.1**	**+0.5**	
	comp=Z,61nm,1.1s								
SDCO				LR		LR			
	comp=Z,2µm,21.0s								
SDCO	**Great Sand Dun**	**26.55**	**336**	P		**P**	**22 48 23.0**	**+0.4**	
	baz=150,SNR=58								
STVI	**Saint Thomas**	**26.57**	**77**	PFAKE			22 48 30.0	+7.3	
STVI				LR		LR			
	comp=Z,13µm,20.0s								
O45A	**Potomac**	**26.58**	**8**	P		**P**	**22 48 20.7**	**-1.9**	
	baz=190,SNR=13								
KSCO	**Kaye Shedlock'**	**26.68**	**342**	*eP*		**P**	**22 48 24.6**	**+1.0**	
	comp=Z,95nm,1.1s								
KSCO	**Kaye Shedlock'**	**26.68**	**342**	P		**P**	**22 48 23.4**	**-0.2**	
	baz=157,SNR=11								
P50A	**Jamestown**	**26.70**	**15**	P		**P**	**22 48 21.1**	**-2.5**	
	baz=198,SNR=19								
HDIL	**Hopedale**	**26.71**	**5**	PFAKE			22 48 40.0	+16	
HDIL				LR		LR			
	comp=Z,7µm,22.0s								
N41A	**Harden Midland**	**26.77**	**2**	P		**P**	**22 48 23.4**	**-0.9**	
	baz=183								
P51A	**Williamsport**	**26.77**	**16**	*eP*		**P**	**22 48 23.1**	**-1.1**	
	comp=Z,38nm,0.8s								
P51A	**Williamsport**	**26.77**	**16**	P		**P**	**22 48 22.7**	**-1.6**	
	baz=200,SNR=9.1								
SFIN	**Lafayette**	**26.80**	**9**	*eP*		**P**	**22 48 23.9**	**-0.6**	
	comp=Z,33nm,0.8s								
SFIN	**Lafayette**	**26.80**	**9**	P		**P**	**22 48 23.9**	**-0.6**	
	baz=191								
O47A	**Sheridan**	**26.80**	**10**	P		**P**	**22 48 22.9**	**-1.7**	
	baz=193,SNR=13								
X16A	**Lo Mia Camp, P**	**26.85**	**323**	*eP*		**P**	**22 48 26.1**	**+0.8**	
	comp=Z,22nm,1.1s								
N39A	**Derby Farms, D**	**26.91**	**360**	*eP*		**P**	**22 48 26.4**	**+0.9**	
	comp=Z,14nm,0.8s								
N39A	**Derby Farms, D**	**26.91**	**360**	P		**P**	**22 48 24.1**	**-1.4**	
	baz=179								
N40A	**Mertquake, Sal**	**26.92**	**1**	P		**P**	**22 48 24.8**	**-0.8**	
	baz=181								
N42A	**Yates City**	**26.93**	**4**	P		**P**	**22 48 24.6**	**-1.1**	
	baz=184								
O48A	**Farmland**	**27.02**	**12**	P		**P**	**22 48 23.8**	**-2.7**	
	baz=195,SNR=16								
N44A	**Piper City**	**27.07**	**7**	P		**P**	**22 48 24.6**	**-2.3**	
	baz=189								
S22A	**4UR Ranch, Cre**	**27.10**	**334**	*eP*		**P**	**22 48 29.1**	**+1.5**	
	comp=Z,75nm,1.2s								
S22A	**4UR Ranch, Cre**	**27.10**	**334**	P		**P**	**22 48 28.1**	**+0.5**	
	baz=148,SNR=45								
N43A	**Stutzman Famil**	**27.11**	**5**	P		**P**	**22 48 26.2**	**-1.1**	
	baz=186,SNR=14								
O49A	**Covington**	**27.12**	**13**	*eP*		**P**	**22 48 26.7**	**-0.8**	
	comp=Z,44nm,1.0s								
O49A	**Covington**	**27.12**	**13**	P		**P**	**22 48 25.7**	**-1.7**	
	baz=197,SNR=11								
P52A	**Corning**	**27.17**	**17**	P		**P**	**22 48 26.6**	**-1.2**	
	baz=202,SNR=6.5								
R58B	**Mineral**	**27.18**	**25**	P		**P**	**22 48 27.2**	**-0.8**	
	baz=212								
113A	**Mohawk Valley,**	**27.20**	**317**	*eP*		**P**	**22 48 29.7**	**+1.5**	
	comp=Z,18nm,1.2s								
O50A	**Cable**	**27.25**	**15**	P		**P**	**22 48 27.4**	**-1.2**	
	baz=198,SNR=7.7								
P53A	**Whipple**	**27.25**	**19**	*eP*		**P**	**22 48 27.8**	**-0.9**	
	comp=Z,95nm,1.0s								
P53A	**Whipple**	**27.25**	**19**	P		**P**	**22 48 28.0**	**-0.7**	
	baz=203,SNR=15								
N46A	**Monticello**	**27.36**	**9**	P		**P**	**22 48 28.8**	**-0.7**	
	baz=192,SNR=7.0								
MVCO	**Mesa Verde**	**27.41**	**331**	*eP*		**P**	**22 48 31.4**	**+1.1**	
	comp=Z,125nm,1.2s								
MVCO				LR		LR			
	comp=Z,4µm,19.0s								
MVCO	**Mesa Verde**	**27.41**	**331**	P		**P**	**22 48 30.4**	**+0.1**	
	baz=144,SNR=51								
M40A	**Post Highland**	**27.45**	**1**	P		**P**	**22 48 29.5**	**-0.9**	
	baz=181								
Y14A	**Wickenburg**	**27.46**	**320**	*eP*		**P**	**22 48 31.8**	**+1.1**	
	comp=Z,29nm,1.4s								
Q24A	**Divide**	**27.48**	**338**	*eP*		**P**	**22 48 32.9**	**+1.8**	
	comp=Z,31nm,1.4s								
Q24A	**Divide**	**27.48**	**338**	P		**P**	**22 48 30.3**	**-0.8**	
	baz=152								
ACSO	**Alum Creek Sta**	**27.49**	**15**	*eP*		**P**	**22 48 29.5**	**-1.2**	
ACSO				LR		LR			
	comp=Z,11µm,20.0s								
ACSO	**Alum Creek Sta**	**27.49**	**15**	P		**P**	**22 48 29.4**	**-1.4**	
	baz=200,SNR=5.9								
M39A	**Webster**	**27.51**	**0**	P		**P**	**22 48 30.9**	**0.0**	
	baz=180								
O51A	**Pataskala**	**27.51**	**16**	P		**P**	**22 48 29.7**	**-1.2**	
	baz=200,SNR=8.5								
N47A	**Urbana**	**27.52**	**11**	P		**P**	**22 48 28.8**	**-2.1**	
	baz=194,SNR=9.1								
WUAZ	**Wupatki**	**27.59**	**325**	*eP*		**P**	**22 48 32.9**	**+0.9**	
	comp=Z,41nm,1.3s								
WUAZ				LR		LR			
	comp=Z,11µm,19.0s								
WUAZ	**Wupatki**	**27.59**	**325**	P		**P**	**22 48 31.7**	**-0.3**	
	baz=137,SNR=14								
CBN	**Corbin Frederi**	**27.60**	**26**	PFAKE			22 48 40.0	+8.3	
CBN				LR		LR			
	comp=Z,13µm,20.0s								
CBN	**Corbin Frederi**	**27.60**	**26**	P		**P**	**22 48 31.8**	**0.0**	
	baz=212								
M43A	**Waltham Townsh**	**27.62**	**5**	P		**P**	**22 48 30.6**	**-1.3**	
	baz=187,SNR=13								
N48A	**Decatur**	**27.62**	**12**	P		**P**	**22 48 30.0**	**-1.9**	
	baz=195,SNR=16								
M44A	**Midewin, Midew**	**27.66**	**7**	*eP*		**P**	**22 48 31.7**	**-0.6**	
	comp=Z,42nm,1.0s								
M44A	**Midewin, Midew**	**27.66**	**7**	P		**P**	**22 48 30.5**	**-1.7**	
	baz=189								
O52A	**Adamsville**	**27.70**	**17**	*eP*		**P**	**22 48 31.4**	**-1.3**	
	comp=Z,95nm,0.9s								
O52A	**Adamsville**	**27.70**	**17**	P		**P**	**22 48 31.6**	**-1.0**	
	baz=202,SNR=18								
M45A	**Boilermakers S**	**27.76**	**8**	P		**P**	**22 48 31.7**	**-1.5**	
	baz=190								
N49A	**Columbus Grove**	**27.86**	**13**	P		**P**	**22 48 32.2**	**-1.8**	
	baz=197								
MCWV	**Mont Chateau**	**27.91**	**21**	P		**P**	**22 48 32.9**	**-1.6**	
	baz=206								
M46A	**Old House Fiel**	**27.92**	**9**	P		**P**	**22 48 32.8**	**-1.8**	
	baz=192								
BGNE	**Belgrade**	**27.92**	**350**	P		**P**	**22 48 33.7**	**-0.9**	
	baz=168								
SCIA	**State Center**	**27.95**	**358**	PFAKE			22 48 50.0	+15	
SCIA				LR		LR			
	comp=Z,2µm,19.0s								
SCIA	**State Center**	**27.95**	**358**	P		**P**	**22 48 33.7**	**-1.1**	
	baz=178								
N50A	**Nevada**	**27.96**	**15**	P		**P**	**22 48 32.2**	**-2.7**	
	baz=199								
M47A	**Cromwell**	**27.99**	**11**	P		**P**	**22 48 34.6**	**-0.6**	
	baz=194								
GLA	**Glamis**	**28.07**	**317**	*eP*		**P**	**22 48 37.7**	**+1.6**	
	comp=Z,33nm,1.2s								
GLA	**Glamis**	**28.07**	**317**	*eP*		**P**	**22 48 37.7**	**+1.6**	
GLA				pmax		pmax			
	comp=Z,33nm,1.2s								
GLA	**Glamis**	**28.07**	**317**	P		**P**	**22 48 34.7**	**-1.4**	
	baz=128,SNR=7.8								
L42A	**Oliver, Polo**	**28.13**	**4**	*eP*		**P**	**22 48 34.9**	**-1.5**	
	comp=Z,50nm,1.0s								
L42A	**Oliver, Polo**	**28.13**	**4**	P		**P**	**22 48 34.7**	**-1.7**	
	baz=185,SNR=8.0								
SABA	**Saba**	**28.14**	**79**	*eP*		P	22 48 42.4	+5.5	
L41A	**Preston**	**28.15**	**3**	P		**P**	**22 48 36.1**	**-0.5**	
	baz=183,SNR=6.3								
PV01	**Paradox Valley**	**28.19**	**332**	*eP*		**P**	**22 48 39.5**	**+2.2**	
N51A	**Ashland**	**28.30**	**16**	P		**P**	**22 48 37.2**	**-0.7**	
	baz=200								
OGNE	**Ogallala**	**28.30**	**344**	*eP*		**P**	**22 48 39.7**	**+1.6**	
	comp=Z,32nm,1.0s								
OGNE				LR		LR			
	comp=Z,2µm,21.0s								
OGNE	**Ogallala**	**28.30**	**344**	P		**P**	**22 48 38.8**	**+0.7**	
	baz=160								
Y12C	**Blythe**	**28.30**	**318**	*eP*		**P**	**22 48 39.7**	**+1.6**	
	comp=Z,34nm,1.4s								
Y12C	**Blythe**	**28.30**	**318**	P		**P**	**22 48 37.4**	**-0.7**	
	baz=129								
SMRT	**St. Maarten**	**28.33**	**78**	*eP*		P	22 48 27.6	-11	
SMCO	**Snowmass**	**28.37**	**335**	*eP*		**P**	**22 48 40.4**	**+1.3**	
	comp=Z,62nm,1.3s								
L43A	**Garden Prairie**	**28.38**	**5**	P		**P**	**22 48 38.9**	**+0.3**	
	baz=187								
PV05	**Paradox Valley**	**28.39**	**331**	*eP*		**P**	**22 48 40.1**	**+1.1**	
ISCO	**Idaho Springs**	**28.39**	**338**	*eP*		**P**	**22 48 39.7**	**+0.6**	
	comp=Z,12nm,1.0s								
ISCO				LR		LR			
	comp=Z,2µm,20.0s								
ISCO	**Idaho Springs**	**28.39**	**338**	*eP*		**P**	**22 48 39.7**	**+0.6**	
ISCO				pmax		pmax			
	comp=Z,12nm,1.0s								
ISCO				MLR		MLR			
	comp=Z,2µm,20.0s								
ISCO	**Idaho Springs**	**28.39**	**338**	P		**P**	**22 48 39.3**	**+0.2**	
	baz=152,SNR=8.6								
PDMCI	**Parker Dam,Lak**	**28.41**	**320**	P		**P**	**22 48 38.5**	**-0.5**	
	baz=130,SNR=8.9								
PV03	**Paradox Valley**	**28.41**	**332**	*eP*		**P**	**22 48 40.1**	**+0.8**	
M49A	**Liberty Center**	**28.43**	**13**	P		**P**	**22 48 38.8**	**-0.4**	
	baz=197								
L44A	**Lake County Fo**	**28.46**	**7**	P		**P**	**22 48 38.8**	**-0.6**	
	baz=189								
L46A	**Eue Claire**	**28.52**	**9**	P		**P**	**22 48 39.3**	**-0.6**	
	baz=192								
M50A	**Fremont**	**28.58**	**15**	P		**P**	**22 48 40.1**	**-0.4**	
	baz=199								
PV10	**Paradox Valley**	**28.60**	**332**	*eP*		**P**	**22 48 42.5**	**+1.5**	
SWSC	**Sam W. Stewart**	**28.66**	**316**	P		**P**	**22 48 40.8**	**-0.5**	
	baz=126								
L47A	**Sherwood**	**28.67**	**11**	P		**P**	**22 48 39.3**	**-1.9**	
	baz=194,SNR=6.0								
K41A	**Shullsburg**	**28.69**	**3**	P		**P**	**22 48 40.5**	**-0.9**	
	baz=184								
IKP	**In-Ko-Pah, Jac**	**28.70**	**315**	P		**P**	**22 48 39.3**	**-2.5**	
	baz=125,SNR=5.2								
M51A	**Elyria**	**28.73**	**16**	P		**P**	**22 48 40.9**	**-1.0**	
	baz=200								
K39A	**Oelwein**	**28.74**	**1**	P		**P**	**22 48 40.7**	**-1.1**	
	baz=180								
PV09	**Paradox Valley**	**28.74**	**332**	*eP*		**P**	**22 48 44.4**	**+2.1**	
K40A	**Colesburg**	**28.75**	**2**	P		**P**	**22 48 41.7**	**-0.3**	
	baz=182								
U15A	**North Rim**	**28.77**	**325**	*eP*		**P**	**22 48 44.8**	**+2.3**	
	comp=Z,22nm,0.9s								
W13A	**Hualapai Mount**	**28.77**	**321**	*eP*		**P**	**22 48 43.8**	**+1.2**	
	comp=Z,15nm,1.1s								
L48A	**N Adams**	**28.79**	**12**	P		**P**	**22 48 39.4**	**-2.9**	
	baz=196,SNR=8.0								
BC3	**Big Chuckawall**	**28.85**	**317**	P		**P**	**22 48 43.0**	**-0.2**	
	baz=128,SNR=19								
O56A	**Blue Knob Stat**	**28.91**	**22**	*eP*		**P**	**22 48 43.5**	**+0.1**	
	comp=Z,43nm,1.0s								
O56A	**Blue Knob Stat**	**28.91**	**22**	P		**P**	**22 48 42.6**	**-0.8**	
	baz=208								
K43A	**Burlington**	**28.93**	**6**	P		**P**	**22 48 43.3**	**-0.3**	
	baz=188								
IRM	**Iron Mountain**	**28.96**	**318**	P		**P**	**22 48 44.3**	**+0.3**	
	baz=129,SNR=11								
JFWS	**Jewell Farm**	**29.00**	**3**	*eP*		**P**	**22 48 44.0**	**-0.2**	
	comp=Z,15nm,1.0s								
JFWS				LR		LR			
	comp=Z,6µm,22.0s								
JFWS	**Jewell Farm**	**29.00**	**3**	*eP*		**P**	**22 48 44.0**	**-0.2**	
JFWS				pmax		pmax			
	comp=Z,15nm,1.0s								
JFWS				MLR		MLR			
	comp=Z,6µm,22.0s								
JFWS	**Jewell Farm**	**29.00**	**3**	P		**P**	**22 48 43.0**	**-1.2**	
	baz=184								
NEE2	**Needles Airpor**	**29.01**	**320**	P		**P**	**22 48 44.3**	**-0.1**	
	baz=130								
N54A	**Moraine State**	**29.04**	**19**	*eP*		**P**	**22 48 44.3**	**-0.2**	
	comp=Z,106nm,1.0s								
N54A	**Moraine State**	**29.04**	**19**	P		**P**	**22 48 43.7**	**-0.9**	
	baz=205,SNR=13								
MONP2	**Monument Peak**	**29.06**	**315**	P		**P**	**22 48 45.5**	**+0.4**	
	baz=125								
L49A	**Milan**	**29.09**	**13**	P		**P**	**22 48 44.6**	**-0.4**	
	baz=197								
K46A	**Dorr**	**29.26**	**10**	P		**P**	**22 48 45.8**	**-0.6**	
	baz=193								
AAM	**Ann Arbor**	**29.29**	**13**	PFAKE			22 49 00.0	+13	
AAM				LR		LR			
	comp=Z,9µm,20.0s								
AAM	**Ann Arbor**	**29.29**	**13**	P		**P**	**22 48 46.1**	**-0.6**	
	baz=197								
J39A	**Decorah**	**29.37**	**1**	P		**P**	**22 48 47.8**	**+0.3**	
	baz=181								
K47A	**Vermontville**	**29.38**	**11**	P		**P**	**22 48 47.2**	**-0.3**	
	baz=194								
BELC	**Belle Mtn. Jos**	**29.42**	**317**	P		**P**	**22 48 49.0**	**+0.8**	
	baz=127,SNR=6.0								
BPA	**Boggy Peak**	**29.44**	**80**	*eP*		**P**	**22 48 48.5**	**+0.1**	
J40A	**Soldiers Grove**	**29.46**	**2**	P		**P**	**22 48 48.8**	**+0.6**	
	baz=183								
J41A	**Loganville**	**29.46**	**3**	P		**P**	**22 48 46.5**	**-1.7**	
	baz=184								
N23A	**Red Feather La**	**29.47**	**339**	*eP*		**P**	**22 48 50.4**	**+1.6**	
	comp=Z,12nm,1.0s								
N23A	**Red Feather La**	**29.47**	**339**	P		**P**	**22 48 48.3**	**-0.4**	
	baz=152								
J42A	**Columbus**	**29.47**	**5**	P		**P**	**22 48 46.9**	**-1.4**	
	baz=186								
SSPA	**Standing Stone**	**29.48**	**23**	*eP*		**P**	**22 48 48.4**	**0.0**	
	comp=Z,64nm,1.3s								
SSPA	**Standing Stone**	**29.48**	**23**	P		**P**	**22 48 47.7**	**-0.8**	
	baz=209								
KNB	**Kanab**	**29.48**	**325**	*eP*		**P**	**22 48 50.8**	**+2.0**	
	comp=Z,21nm,1.0s								
XPFO	**Piæon Flat**	**29.50**	**316**	*eP*		**P**	**22 48 51.1**	**+2.2**	
	comp=Z,14nm,1.1s								
PFO	**Pinyon Flats O**	**29.50**	**316**	*eP*		**P**	**22 48 50.1**	**+1.2**	
	comp=Z,14nm,1.1s								
PFO				LR		LR			
	comp=Z,5µm,21.0s								
PFO	**Pinyon Flats O**	**29.50**	**316**	*eP*		**P**	**22 48 50.1**	**+1.2**	
PFO				pmax		pmax			
	comp=Z,14nm,1.1s								
PFO				MLR		MLR			
	comp=Z,5µm,21.0s								
PFO	**Pinyon Flats O**	**29.50**	**316**	P		**P**	**22 48 46.8**	**-2.1**	
	baz=126								
FRD	**Ford Ranch, An**	**29.53**	**316**	P		**P**	**22 48 48.5**	**-0.6**	
	baz

TUQ Turquoise Moun 30.26 319 P P 22 48 55.6 0.0
baz=129
P17A Butcher Ranch, 30.27 331 eP P 22 48 56.7 +1.0
comp=Z,54nm,1.2s
TMUT Trail Mountain 30.36 330 eP P 22 48 58.3 +1.7
comp=Z,28nm,1.0s
MCLT Moule a Chique 30.38 86 eP P 22 48 53.2 -3.6
J49A Marlette 30.42 13 P P 22 48 53.8 -2.9
baz=197
LUPA Lehigh Univers 30.45 26 eP P 22 48 57.3 +0.3
comp=Z,3.2nm,0.9s
SHPR Sheep Range 30.48 322 eP P 22 48 59.2 +1.6
comp=Z,22nm,1.3s
N59A State Game Lan 30.55 25 P P 22 48 54.5 -3.5
baz=212
RWWY Rawlins 30.63 338 eP P 22 49 00.6 +1.7
comp=Z,60nm,1.1s
BFSC Mount Baldy Ra 30.68 316 P P 22 48 58.6 -0.7
baz=125
H40A Chili 30.70 3 P P 22 48 58.0 -1.2
baz=183
ELFO Elginfield 30.70 16 P P 22 48 57.7 -1.6
baz=201
GSC Goldstone, Bar 30.74 318 eP P 22 49 02.2 +2.4
comp=Z,15nm,1.4s
GSC Goldstone, Bar 30.74 318 eP P
GSC pmax pmax
comp=Z,15nm,1.4s
TYNO Tyneside 31.02 18 P P 22 49 00.7 -1.3
baz=204
TOSP Speyside 31.03 91 e P 22 49 03.2 +0.7
TOSP Speyside 31.03 91 eP P 22 49 03.2 +0.7
I49A Point Hope 31.04 13 P P 22 49 00.7 -1.5
baz=198
MPU Maple Canyon 31.12 330 eP P 22 49 04.9 +1.6
comp=Z,35nm,1.1s
PSUT Pine Spring 31.14 326 eP P 22 49 04.9 +1.4
comp=Z,21nm,1.0s
K22A Casper 31.23 339 eP P 22 49 04.7 +0.6
comp=Z,34nm,1.0s
K22A Casper 31.23 339 P P 22 49 04.2 +0.1
baz=152,SNR=9.2
SPMN Marine on St. 31.26 359 eP P 22 49 05.2 +1.0
comp=Z,14nm,0.9s
SPMN Marine on St. 31.26 359 P P 22 49 03.9 -0.3
baz=179
EDW2 Edwards Air Fo 31.27 317 P P 22 49 03.9 -0.6
baz=126
NLU North Lily Min 31.29 330 eP P 22 49 07.1 +2.4
comp=Z,29nm,1.2s
MMNY Mt. Morris Dam 31.31 21 eP P 22 49 03.8 -0.9
comp=Z,56nm,1.0s
STCO Saint Catharin 31.33 19 P P 22 49 03.3 -1.5
baz=205
G39A Holcombe 31.33 1 P P 22 49 03.1 -1.7
baz=182
G40A Rib Lake 31.35 3 P P 22 49 04.1 -0.9
baz=184
BASO Ashfield 31.38 15 P P 22 49 03.2 -2.0
baz=200
PAL Palisades 31.42 27 P P 22 49 04.4 -1.1
baz=216
LRMC Laurel Mtn Rad 31.42 318 P P 22 49 06.0 +0.2
baz=127
ACTO Acton 31.43 17 P P 22 49 04.2 -1.4
baz=203
TPNV Topopah Spring 31.43 321 eP P 22 49 08.0 +2.0
comp=Z,31nm,1.4s
TPNV Topopah Spring 31.43 321 eP P
TPNV pmax pmax
comp=Z,31nm,1.4s
TPNV Topopah Spring 31.43 321 P P 22 49 07.4 +1.4
baz=131,SNR=8.0
G42A Mountain 31.44 5 eP P 22 49 05.6 -0.1
comp=Z,16nm,0.9s
G42A Mountain 31.44 5 P P 22 49 04.3 -1.5
baz=187
JLU Jordanelle 31.50 331 eP P 22 49 08.7 +2.1
comp=Z,28nm,1.3s
FURC Furnace Creek, 31.50 320 P P 22 49 07.1 +0.7
baz=129
MEDO Medina 31.52 19 P P 22 49 05.5 -0.9
baz=206
G43A Wallace 31.53 6 P P 22 49 05.6 -0.9
baz=188
GLMI Grayling 31.53 10 PFAKE 22 49 20.0 +13
GLMI LR LR
comp=Z,6µm,20.0s
GLMI Grayling 31.53 10 P P 22 49 05.6 -0.9
baz=194
BINY Binghamton 31.55 23 PFAKE 22 49 20.0 +13
BINY LR LR
comp=Z,11µm,21.0s
BINY Binghamton 31.55 23 P P 22 49 06.5 -0.3
baz=211
BLG Laguna Peak, P 31.57 314 P P 22 49 06.4 -0.6
baz=123
BWLO Walkerton 31.61 15 P P 22 49 06.0 -1.2
baz=201
MPMC Manual Prospec 31.64 319 P P 22 49 08.4 +0.5
baz=128,SNR=16
CTU Camp Tracy 31.71 331 eP P 22 49 10.1 +1.7
comp=Z,34nm,1.1s
F37A Hinrichs Farm, 31.76 359 P P 22 49 09.1 +0.6
baz=179
BBGH Gun Hill 31.77 87 PFAKE 22 49 20.0 +11
BBGH LR LR
comp=Z,6µm,19.0s
BBGH Gun Hill 31.77 87 eP P 22 49 06.3 -2.7
RSSD Black Hills 31.80 344 eP P 22 49 09.2 0.0
comp=Z,18nm,1.0s
RSSD Black Hills 31.80 344 eP P 22 49 09.2 0.0
RSSD pmax pmax
comp=Z,18nm,1.0s
RSSD Black Hills 31.80 344 P P 22 49 09.4 +0.2
baz=158
DUG Dugway, Tooele 31.84 329 eP P 22 49 11.1 +1.6
comp=Z,26nm,1.3s
DUG LR LR
comp=Z,10µm,20.0s
DUG Dugway, Tooele 31.84 329 P P 22 49 08.1 -1.4
baz=140,SNR=7.1
DAC Darwin (Calif) 31.84 319 eP P 22 49 10.3 +0.6
comp=Z,11nm,1.0s
DAC Darwin (Calif) 31.84 319 eP P 22 49 10.3 +0.6
DAC pmax pmax
comp=Z,11nm,1.0s
F41A Three Lakes 31.88 4 P P 22 49 11.3 +1.7
baz=186
TCUT Toone Canyon 31.89 332 eP P 22 49 11.5 +1.5
comp=Z,154nm,1.3s
F39A Loretta 31.97 2 P P 22 49 08.6 -1.8
baz=182
ARVC Arvin 31.97 316 P P 22 49 12.3 +1.8
baz=125
R11A Troy Canyon, C 31.98 324 P P 22 49 10.8 0.0
baz=133
F38A Pierce - Schro 31.99 0 P P 22 49 09.4 -1.2
baz=180
BMRO Meriville Lake 32.04 15 P P 22 49 09.4 -1.6
baz=200
PKRO Pickering 32.05 18 P P 22 49 09.7 -1.3
baz=204
ISA Isabella, Lake 32.05 317 P P 22 49 10.7 -0.6
baz=126
DRWO Darlington Wes 32.07 19 P P 22 49 10.3 -0.9
baz=205
DRCO St. Marys Ceme 32.08 19 P P 22 49 10.5 -0.9
baz=205
CLWO Collingwood 32.14 16 P P 22 49 10.2 -1.7
baz=202
GRAC Grapevine Rang 32.15 320 P P 22 49 11.9 -0.3
baz=129,SNR=9.4
F43A Flat Rock, Esc 32.15 7 P P 22 49 10.8 -1.2
baz=189
F45A CMU Biological 32.22 9 P P 22 49 11.4 -1.2
baz=192
COWI Conover 32.24 4 eP P 22 49 11.7 -1.1
comp=Z,12nm,0.8s
COWI LR LR
comp=Z,5µm,20.0s
CWC Cottonwood Cre 32.26 319 P P 22 49 13.4 +0.2
baz=128
HWUT Hardware Ranch 32.35 332 eP P 22 49 14.2 +0.2
comp=Z,35nm,1.1s
HWUT LR LR
comp=Z,1µm,21.0s
F44A Big Bay de Noc 32.38 8 P P 22 49 13.4 -0.6
baz=190
F46A Macinaw City C 32.43 10 P P 22 49 12.9 -1.5
baz=193
E39A Mellen 32.44 2 P P 22 49 15.1 +0.5
baz=183
BW06 Boulder Array 32.45 336 eP P 22 49 15.2 +0.3
comp=Z,18nm,1.0s
BW06 LR LR
comp=Z,2µm,19.0s
BW06 Boulder Array 32.45 336 P P 22 49 14.5 -0.4
baz=147,SNR=19
PD31 Pinedale Array 32.45 336 eP P 22 49 15.5 +0.5
PDAR Pinedale Array 32.45 336 P P 22 49 14.7 -0.2
comp=Z,16nm,1.1s,baz=130,slow=6.6,SNR=38
PDAR Pinedale Array 32.45 336 eP P 22 49 14.0 -0.9
BGU Big Grassy Mou 32.50 330 eP P 22 49 16.4 +1.1
comp=Z,31nm,1.4s
PKM Mcpherson Peak 32.51 315 P P 22 49 13.0 -2.5
baz=123,SNR=6.9
SPUT South Promonto 32.52 331 eP P 22 49 16.8 +1.3
comp=Z,58nm,1.3s
E40A Wakefield 32.54 3 P P 22 49 14.8 -0.6
baz=184
TOBO Tobermory, Bru 32.55 14 P P 22 49 13.3 -2.2
baz=199
E41A Kenton 32.61 4 P P 22 49 15.1 -0.9
baz=186
E38A The Farm, Brul 32.64 1 eP P 22 49 16.8 +0.5
comp=Z,18nm,1.0s
E38A The Farm, Brul 32.64 1 P P 22 49 16.3 0.0
baz=181
E42A Champion 32.67 6 P P 22 49 15.0 -1.5
baz=188
E43A Lone Tree Farm 32.71 7 eP P 22 49 16.2 -0.7
comp=Z,18nm,0.9s
E43A Lone Tree Farm 32.71 7 P P 22 49 15.4 -1.5
baz=189
SADO Sadowa 32.76 17 P P 22 49 15.6 -1.7
comp=Z,53nm,1.0s,baz=225,slow=9.2,SNR=20
SADO Sadowa 32.76 17 eP P 22 49 15.6 -1.7
comp=Z,49nm,0.9s
E45A Wooded Hills, 32.93 9 P P 22 49 18.2 -0.6
baz=192
DELO Deloro Mine 33.00 19 P P 22 49 17.7 -1.7
baz=206
HVU Hansel Valley 33.04 331 eP P 22 49 21.8 +1.8
comp=Z,60nm,1.2s
HVU Hansel Valley 33.04 331 eP P 22 49 21.8 +1.8
HVU pmax pmax
comp=Z,60nm,1.2s
AHID Auburn Hatcher 33.08 334 eP P 22 49 20.8 +0.4
comp=Z,45nm,1.1s
AHID LR LR
comp=Z,3µm,19.0s
D41A Chassel 33.24 5 P P 22 49 20.8 -0.6
baz=186
PAGB Antelope Grade 33.27 316 eP P 22 49 24.1 +2.1
comp=Z,27nm,1.1s
BUKO Buck Lake 33.30 17 P P 22 49 19.9 -2.2
baz=203
BANO Bancroft 33.35 19 P P 22 49 20.7 -1.8
baz=206
REDW Red Top Meadow 33.47 335 eP P 22 49 24.4 +0.6
comp=Z,211nm,1.2s
SNOW Snow King Moun 33.51 335 eP P 22 49 24.7 +0.4
comp=Z,188nm,1.0s
NV11 Mina Array Sit 33.54 322 eP P 22 49 25.4 +1.0
comp=Z,3.0nm,1.1s
OMMB Old Mammoth Mi 33.55 320 eP P 22 49 26.8 +2.1
comp=Z,18nm,1.2s
LOHW Long Hollow 33.57 336 eP P 22 49 25.2 +0.4
comp=Z,73nm,1.1s
TPAW Teton Pass 33.61 335 eP P 22 49 26.1 +0.9
comp=Z,143nm,1.2s
MDPB Devils Postpil 33.61 320 eP P 22 49 26.9 +1.7
comp=Z,22nm,1.1s
NV01 Mina Array Sit 33.63 321 eP P 22 49 25.7 +0.4
NVAR Mina Array Bea 33.63 321 P P 22 49 26.2 +0.9
comp=Z,31nm,1.0s,baz=136,slow=7.8,SNR=74
NVAR LR LR 23 04 50.0
comp=Z,7µm,18.7s,baz=134,slow=40
D46A Sault St. Mari 33.63 10 P P 22 49 22.4 -2.5
baz=194,SNR=11
PLVO Plevna 33.64 20 eP P 22 49 24.3 -0.7
comp=Z,42nm,1.1s
PLVO Plevna 33.64 20 P P 22 49 23.7 -1.3
baz=207
F52A Sundridge 33.65 16 P P 22 49 21.5 -3.6
baz=203,SNR=12
MOOW Moose Ponds 33.74 336 eP P 22 49 26.4 +0.2
comp=Z,48nm,1.2s
FXWY Fox Creek 33.77 335 eP P 22 49 27.1 +0.6
comp=Z,35nm,1.1s
E50A Wahnapitae 33.87 14 P P 22 49 24.8 -2.2
baz=200,SNR=9.0
RYN Ryan 33.89 322 eP P 22 49 29.4 +1.8
comp=Z,20nm,1.1s
KVN Kaiserville 33.91 322 eP P 22 49 28.7 +1.0
KVN Kaiserville 33.91 322 eP P 22 49 28.7 +1.0
KVN pmax pmax
comp=Z,27nm,1.2s
PMPB Monarch Peak 33.91 316 eP P 22 49 29.2 +1.6
comp=Z,50nm,1.3s
IMW Indian Meadow 33.95 335 eP P 22 49 29.7 +1.7
comp=Z,48nm,1.1s
D47A Chapleau 33.96 11 P P 22 49 25.1 -2.7
baz=196
EYMN Ely 33.98 1 PFAKE 22 49 40.0 +12
EYMN LR LR
comp=Z,3µm,20.0s
EYMN Ely 33.98 1 P P 22 49 25.0 -3.0
baz=181
FLWY Flagg Ranch 34.00 336 eP P 22 49 30.0 +1.6
comp=Z,40nm,1.2s
LONY Lake Ozonia 34.15 23 eP P 22 49 29.5 +0.1
comp=Z,36nm,0.9s
LONY LR LR
comp=Z,11µm,20.0s
LONY Lake Ozonia 34.15 23 P P 22 49 27.7 -1.8
baz=211,SNR=6.4
PEMO Pembroke 34.15 19 P P 22 49 27.9 -1.6
baz=206
ALGO Algonquin Park 34.16 18 P P 22 49 27.5 -2.0
baz=205
H17A Grant Village 34.22 336 eP P 22 49 32.6 +2.3
comp=Z,46nm,1.3s
H17A Grant Village 34.22 336 P P 22 49 31.3 +0.9
baz=147
E51A G1948 Merrick 34.28 16 P P 22 49 28.9 -1.7
baz=202,SNR=11
LKWY Lake 34.29 337 PFAKE 22 49 40.0 +9.0
LKWY LR LR
comp=Z,6µm,19.0s
BMN Battle Mountai 34.33 325 eP P 22 49 32.6 +1.3
comp=Z,18nm,1.0s
BMN Battle Mountai 34.33 325 eP P 22 49 32.6 +1.3
BMN pmax pmax
comp=Z,18nm,1.0s
D48A Paudash Townsh 34.34 13 P P 22 49 29.4 -1.6
baz=198
RLMT Red Lodge 34.35 338 eP P 22 49 32.3 +0.9
comp=Z,15nm,1.0s
RLMT LR LR
comp=Z,3µm,22.0s
YFT Old Faithful 34.37 336 eP P 22 49 34.4 +2.8
comp=Z,58nm,1.1s
WAKR Walker 34.37 321 eP P 22 49 32.3 +0.6
comp=Z,15nm,1.2s
MDND Maddock 34.43 351 eP P 22 49 31.4 -0.5
comp=Z,120nm,0.9s
MDND Maddock 34.43 351 P P 22 49 30.5 -1.4
baz=167,SNR=10
AGMN Agassiz Nation 34.46 356 eP P 22 49 31.3 -0.8
comp=Z,25nm,0.9s
AGMN LR LR
comp=Z,2µm,22.0s
AGMN Agassiz Nation 34.46 356 P P 22 49 31.2 -1.0
baz=174,SNR=8.5
ORIO Orleans, Innes 34.53 21 P P 22 49 31.6 -1.1
baz=209
YNR Norris Junctio 34.53 337 eP P 22 49 35.4 +2.4
comp=Z,33nm,1.3s
YERR Yerington 34.55 321 eP P 22 49 35.1 +1.8
comp=Z,21nm,1.1s
YMR Madison River 34.60 336 eP P 22 49 35.6 +2.0
comp=Z,90nm,1.2s
YHH Holmes Hill 34.65 336 eP P 22 49 35.4 +1.2
comp=Z,43nm,1.3s
E53A Dumoine, Ponti 34.66 18 P P 22 49 31.5 -2.3
baz=205,SNR=6.1
CMB Columbia Colle 34.68 319 eP P 22 49 34.8 +0.6
comp=Z,13nm,1.2s
CMB Columbia Colle 34.68 319 eP P 22 49 34.8 +0.6
CMB pmax pmax
comp=Z,13nm,1.2s
YHB Horse Butte 34.76 336 eP P 22 49 39.0 +4.0
comp=Z,44nm,1.2s
LAO LASA Array 34.77 343 eP P 22 49 35.3 +0.5
comp=Z,25nm,0.9s
LAO LR LR
comp=Z,1µm,20.0s
LAO LASA Array 34.77 343 P P 22 49 33.5 -1.3
baz=156,SNR=9.5
PNTR Pine Nut 34.83 321 eP P 22 49 37.7 +1.9
comp=Z,30nm,1.1s
E54A Lac Daplat, Po 34.85 18 P P 22 49 34.0 -1.5
baz=206,SNR=12
ALFO Alfred 34.90 21 P P 22 49 35.1 -0.8
baz=210
QLMT Earthquake Lak 34.92 336 eP P 22 49 38.8 +2.4
GCMT Greycliff 35.07 339 eP P 22 49 38.8 +1.2
PAHR Pah Rah Range 35.09 322 eP P 22 49 34.6 -3.3
comp=Z,23nm,1.2s
PTGA Pitinga 35.10 112 P P 22 49 37.6 -0.5
comp=Z,56nm,1.1s,baz=304,slow=11,SNR=26
PTGA Pitinga 35.10 112 P P 22 49 37.6 -0.5
PTGA LR LR
comp=Z,16µm,19.0s
HLID Hailey 35.18 332 eP P 22 49 39.0 +0.4
comp=Z,31nm,0.9s
HLID LR LR
comp=Z,4µm,22.0s
HLID Hailey 35.18 332 P P 22 49 38.5 -0.1
baz=140,SNR=39
D53A Lac Vacive, Po 35.28 17 P P 22 49 37.9 -1.3
baz=205,SNR=12
MCMT McKenzie Canyo 35.49 334 eP P 22 49 42.8 +1.4
BOZ Bozeman (W) 35.63 336 eP P 22 49 40.1 -2.3
comp=Z,22nm,1.2s
BOZ LR LR
comp=Z,4µm,20.0s
BOZ Bozeman (W) 35.63 336 eP P 22 49 40.1 -2.3
BOZ pmax pmax
comp=Z,22nm,1.2s
BOZ MLR MLR
comp=Z,4µm,20.0s
BOZ Bozeman (W) 35.63 336 P P 22 49 40.1 -2.3
baz=146,SNR=8.0
D54A Lac Fusel, La 35.65 18 P P 22 49 40.7 -1.7
baz=206,SNR=12
BEKR Beckworth 35.78 322 eP P 22 49 45.5 +1.7
comp=Z,21nm,1.0s
DLMT Dillon 35.82 335 eP P 22 49 46.1 +2.0
comp=Z,81nm,1.1s
DGMT Dagmar 35.90 346 eP P 22 49 44.9 +0.4
comp=Z,54nm,1.1s
DGMT LR LR
comp=Z,4µm,19.0s
DGMT Dagmar 35.90 346 P P 22 49 45.2 +0.7
baz=160
ORV Oroville 36.28 320 eP P 22 49 49.7 +1.7
comp=Z,19nm,1.3s
VLDQ Val d'Or 36.29 17 eP P 22 49 47.0 -0.8
comp=Z,52nm,1.2s
ULM Lac du Bonnet 36.41 356 P P 22 49 47.9 -0.9
comp=Z,18nm,0.9s,baz=179,slow=8.9,SNR=13
ULM Lac du Bonnet 36.41 356 eP P 22 49 48.3 -0.5
comp=Z,23nm,1.0s
ULM Lac du Bonnet 36.41 356 eP P 22 49 48.3 -0.5
ULM pmax pmax
comp=Z,23nm,1.0s
WVOR Wild Horse Val 36.48 326 eP P 22 49 50.4 +0.7
comp=Z,29nm,1.0s
WVOR LR LR
comp=Z,4µm,19.0s
HRY Holter Researc 36.64 337 eP P 22 49 52.8 +1.8
SAML Samuel 36.68 127 eP P 22 49 50.0 -1.5
comp=Z,20nm,1.1s
SAML LR LR
comp=Z,2µm,19.0s
SAML Samuel 36.68 127 eP P 22 49 50.0 -1.5
SAML pmax pmax
comp=Z,20nm,1.1s
SAML MLR MLR
comp=Z,2µm,19.0s
PKME Peaks-Kenny Pk 36.85 27 PFAKE 22 50 00.0 +7.4
PKME LR LR
comp=Z,11µm,22.0s
PKME Peaks-Kenny Pk 36.85 27 P P 22 49 52.8 +0.2
baz=219
O03E Paynes Creek 36.91 321 P P 22 49 53.2 -0.2
baz=127,SNR=6.6
J08A Circle Bar Ran 37.03 328 eP P 22 49 55.0 +0.7
comp=Z,62nm,1.0s
EGMT Eagleton 37.04 340 PFAKE 22 50 10.0 +16
EGMT LR LR
comp=Z,2µm,19.0s
EGMT Eagleton 37.04 340 P P 22 49 54.6 +0.2
baz=151
MOD Modoc Plateau 37.04 324 eP P 22 49 55.3 +0.7
comp=Z,20nm,1.2s
LATQ La Tuque 37.16 22 P P 22 49 53.6 -1.6
baz=212
LSQQ Lebel-sur-Quev 37.28 17 P P 22 49 54.5 -1.7
baz=205
O02D Mt. Diablo Mer 37.45 320 P P 22 49 57.0 -1.0
baz=126
BMO Blue Mountains 37.52 330 eP P 22 49 59.3 +0.7
comp=Z,24nm,1.1s
BMO LR LR
comp=Z,6µm,19.0s
WDC Whiskeytown Da 37.54 321 eP P 22 49 58.4 -0.2
comp=Z,8.8nm,1.2s
WDC Whiskeytown Da 37.54 321 eP P 22 49 58.4 -0.2
WDC pmax pmax
comp=Z,9.0nm,1.2s
MSO Missoula 37.56 335 eP P 22 49 59.2 +0.4
comp=Z,43nm,1.2s
MSO Missoula 37.56 335 P P 22 49 58.6 -0.2
baz=144,SNR=18
MATQ Matagami 37.74 15 P P 22 49 57.8 -2.3
baz=203
M04C Macdoel 37.85 323 P P 22 50 01.2 -0.2
baz=129
K05A Summer Lake 37.91 325 eP P 22 50 04.8 +2.9
comp=Z,23nm,1.4s
I07A Izee 38.07 328 eP P 22 50 04.2 +1.1
comp=Z,15nm,1.0s
M02C Callahan 38.21 322 P P 22 50 03.1 -1.3
baz=127
LPAZ La Paz 38.28 141 P P 22 50 05.1 -0.6
comp=Z,2.7nm,0.9s,baz=326,slow=3.6,SNR=3.6
LPAZ LR LR 23 05 50.4
comp=Z,2µm,18.3s,baz=328,slow=36
YBH Yreka Blue Hor 38.33 322 eP P 22 50 04.8 -0.6
comp=Z,12nm,1.4s
YBH Yreka Blue Hor 38.33 322 eP P 22 50 04.8 -0.6
YBH pmax pmax
comp=Z,12nm,1.4s
L04D Klamath Falls 38.39 323 P P 22 50 04.9 -1.1
baz=128
JTMT Jette 38.44 336 eP P 22 50 06.5 +0.2
comp=Z,53nm,1.1s
KHMM Horse Mountain 38.44 320 eP P 22 50 08.6 +2.2
comp=Z,42nm,1.2s
J05D Fort Rock, OR 38.46 325 P P 22 50 06.7 +0.1
baz=131
PINE Pine Mountain 38.64 326 eP P 22 50 09.0 +0.9
comp=Z,20nm,1.0s
G08A Pilot Rock 38.65 329 eP P 22 50 09.3 +1.3
comp=Z,14nm,1.4s
CHGQ Chibougamau 38.80 18 P P 22 50 07.1 -2.0
baz=208
J04D Umpqua Nationa 38.92 325 P P 22 50 09.9 -0.6
baz=130,SNR=6.9
L02E Cave Junction 39.12 322 P P 22 50 11.5 -0.4
baz=127
E09A Wood Farm, Sta 39.15 331 eP P 22 50 12.6 +0.6
comp=Z,24nm,0.9s
I05D Terrebonne, OR 39.21 326 P P 22 50 13.3 +0.5
baz=132
WALA Waterton Lakes 39.37 337 eP P 22 50 15.3 +1.3
comp=Z,61nm,1.4s
WALA ePcP PcP 22 52 18.1 -4.3
LMN Caledonia Moun 39.39 30 eP P 22 50 13.7 -0.5

I04A **Tendick Farm,** 39.45 325 P P 22 50 16.0 +1.4
baz=130
K02D **Willamette Mer** 39.48 323 P P 22 50 17.4 +2.4
baz=127
KBO **Bosley Butte** 39.52 322 eP P 22 50 18.4 +3.0
comp=Z,133nm,1.3s
E08A **Dider Farm, El** 39.56 331 eP P 22 50 19.0 +3.5
comp=Z,8.2nm,0.9s
MNMC **Minye Minye** 39.65 145 eP P 22 50 17.7 +0.8
comp=Z,47nm,1.3s
HAWA **Hanford** 39.71 330 eP P 22 50 18.4 +1.6
comp=Z,7.3nm,0.8s
HAWA LR LR
comp=Z,6µm,19.0s
G05D **Wamic, OR** 39.81 328 P P 22 50 19.6 +2.0
baz=132
BATG **Bathurst New B** 39.84 28 eP P 22 50 17.8 0.0
comp=Z,51nm,1.3s
H04A **Detroit Lake** 39.90 326 eP P 22 50 18.1 -0.3
comp=Z,54nm,0.9s
D08A **Wollman Farm,** 39.91 331 eP P 22 50 19.4 +1.0
comp=Z,25nm,1.0s
I03D **Drain, OR** 39.91 324 P P 22 50 17.9 -0.5
baz=129,SNR=5.7
J01E **Myrtle Point** 39.92 323 P P 22 50 18.6 +0.1
baz=127,SNR=5.8
KEBM **Edson Butte** 39.98 323 eP P 22 50 21.8 +2.6
comp=Z,108nm,1.2s
NEW **Newport** 40.02 334 eP P 22 50 19.0 -0.3
comp=Z,11nm,1.0s
NEW LR LR
comp=Z,3µm,19.0s
NEW **Newport** 40.02 334 eP P 22 50 19.0 -0.3
NEW pmax pmax
comp=Z,11nm,1.0s
NEW MLR MLR
comp=Z,3µm,19.0s
NEW **Newport** 40.02 334 P P 22 50 20.0 +0.7
baz=140
H04D **Lebanon** 40.09 326 P P 22 50 20.5 +0.6
baz=130
C09A **Chrisman Ranch** 40.16 333 eP P 22 50 20.8 +0.2
comp=Z,32nm,1.0s
F05D **White Salmon** 40.32 328 P P 22 50 23.6 +1.8
baz=133
I02D **Swisshome** 40.45 324 P P 22 50 24.0 +1.1
baz=128
GBN **Guysborough** 40.79 33 eP P 22 50 25.9 +0.2
G03D **McMinnville, O** 40.82 326 P P 22 50 27.7 +1.7
baz=130
LTY **Liberty** 40.88 330 eP P 22 50 26.2 -0.3
comp=Z,29nm,1.1s
B08A **Colville Reser** 41.05 332 eP P 22 50 28.7 +0.8
comp=Z,19nm,1.0s
LON **Longmire** 41.09 329 eP P 22 50 29.4 +1.2
comp=Z,18nm,0.9s
LON **Longmire** 41.09 329 eP P 22 50 29.4 +1.2
LON pmax pmax
comp=Z,18nm,0.9s
F04D **Rainier, OR** 41.25 327 P P 22 50 32.1 +2.6
baz=131
E04D **Cinebar** 41.34 328 P P 22 50 32.8 +2.6
baz=132
C06D **Leavenworth** 41.46 331 P P 22 50 32.4 +1.2
baz=135
D05A **Enumclaw** 41.48 329 eP P 22 50 34.7 +3.4
comp=Z,46nm,1.1s
FFC **Flin Flon** 41.48 351 eP P 22 50 31.7 +0.5
comp=Z,9.1nm,0.8s
FFC LR LR
comp=Z,4µm,20.0s
FFC **Flin Flon** 41.48 351 ceP P 22 50 32.3 +1.1
E03A **Lebam** 41.85 327 eP P 22 50 37.1 +2.8
comp=Z,63nm,1.0s
D04E **Lakebay** 41.86 329 P P 22 50 35.1 +0.6
baz=132
B06A **Marblemount** 42.16 331 eP P 22 50 37.8 +0.9
comp=Z,40nm,0.9s
D03D **Eldon** 42.26 329 P P 22 50 38.1 +0.3
baz=132
B05A **Bryant** 42.27 330 P P 22 50 38.2 +0.4
baz=134
LVC **Limon Verde** 42.85 147 PFAKE 22 50 50.0 +6.7
LVC LR LR
comp=Z,2µm,19.0s
A04D **Lummi Island** 42.88 330 P P 22 50 43.1 +0.4
baz=134
PGC **Sidney** 43.19 330 eP P 22 50 46.4 +1.1
comp=Z,65nm,1.1s
RPN **Rapa Nui** 44.00 202 PFAKE 22 51 00.0 +8.0
RPN LR LR
comp=Z,2µm,21.0s
DRLN **Deer Lake** 45.34 32 eP P 22 51 01.1 -1.5
comp=Z,71nm,0.9s
SCHQ **Schefferville** 45.43 20 P P 22 51 02.0 -1.1
comp=Z,15nm,0.8s,baz=245,slow=9.5,SNR=5.7
SCHQ LR LR 23 10 59.3
comp=Z,14µm,20.6s,baz=208,slow=37
SCHQ **Schefferville** 45.43 20 eP P 22 51 02.6 -0.5
comp=Z,20nm,0.9s
LCO **Las Campanas** 47.44 154 PFAKE 22 51 30.0 +11
LCO LR LR
comp=Z,1µm,21.0s
BBB **Bella Bella** 47.77 331 LR LR 23 12 18.3
comp=Z,2µm,20.5s,baz=140,slow=37
YKA **Yellowknife Ar** 51.10 347 P P 22 51 46.3 -0.5
comp=Z,54nm,0.9s,baz=146,slow=7.8,SNR=52
YKA PcP PcP 22 53 03.2 +0.7
comp=Z,5.5nm,0.9s,baz=150,slow=3.4,SNR=4.2
YKB5 **Yellowknife Ar** 51.10 347 eP P 22 51 46.5 -0.3
YKW3 **Yellowknife Ar** 51.17 347 eP P 22 51 47.2 -0.1
comp=Z,127nm,1.2s
WRAK **Wrangell Islan** 52.36 333 PFAKE 22 52 10.0 +14
WRAK LR LR
comp=Z,4µm,19.0s
CPUP **Villa Florida** 52.43 140 P P 22 51 55.3 -1.9
comp=Z,10nm,1.0s,baz=180,slow=2.0,SNR=3.2
CPUP LR LR 23 16 08.8
comp=Z,1µm,18.5s,baz=334,slow=38
TAOE **Nuku Hiva Isla** 52.63 247 eS S 22 59 25.5 -1.6
comp=Z,1µm,23.7s
TAOE eLR LR 23 06 35.3
comp=Z,2µm,28.3s,baz=71
BDFB **Brasilia** 52.64 122 P P 22 51 57.9 -1.3
comp=Z,12nm,1.0s,baz=300,slow=11,SNR=6.4
BDFB **Brasilia** 52.64 122 eP P 22 51 59.3 +0.2
comp=Z,40nm,1.3s
BDFB **Brasilia** 52.64 122 eP P 22 51 59.3 +0.2
BDFB pmax pmax
comp=Z,40nm,1.3s
DLBC **Dease Lake** 52.68 336 eP P 22 52 00.4 +1.7
comp=Z,146nm,1.1s
RKT **Rikitea** 55.68 229 eS S 23 00 09.9 +2.0
comp=Z,2µm,26.0s
RKT eLR LR 23 08 31.4
comp=Z,2µm,28.0s,baz=48
WHY **Whitehorse** 56.01 336 eP P 22 52 24.3 +1.3
comp=Z,24nm,1.1s
HYT **Haines Junctio** 57.15 336 eP P 22 52 32.3 +1.2
comp=Z,38nm,1.3s
PLCA **Paso Flores** 57.92 161 P P 22 52 34.9 -1.9
comp=Z,4.0nm,1.1s,baz=36,slow=8.7,SNR=2.3
PLCA LR LR 23 12 32.9
comp=Z,2µm,19.5s,baz=19,slow=31
TRQA **Tornquist** 58.93 152 PFAKE 22 53 00.0 +16
TRQA LR LR
comp=Z,2µm,21.0s
BALM **Baldy** 59.26 334 eP P 22 52 47.2 +1.3
comp=Z,31nm,1.1s
BALM **Baldy** 59.26 334 eP P 22 52 47.2 +1.3
BALM pmax pmax
comp=Z,31nm,1.1s
TGL **Tana Glacier** 59.32 334 eP P 22 52 48.8 +2.5
comp=Z,37nm,1.2s
SFJD **Kangerlussuaq** 59.71 18 PFAKE 22 53 00.0 +11
SFJD LR LR
comp=Z,8µm,20.0s
DAWY **Dawson** 59.72 338 eP P 22 52 48.1 -0.8
comp=Z,16nm,1.1s
RAGM **Ragged Mountai** 59.95 333 eP P 22 52 53.2 +2.6
comp=Z,49nm,1.1s
EPYK **Eagle Plains** 60.18 341 P P 22 52 50.9 -1.1
baz=128,SNR=6.7
BMRM **Bremner River** 60.19 334 eP P 22 52 54.0 +1.8
comp=Z,45nm,1.1s
EYAK **Cordova Ski Ar** 60.50 333 eP P 22 52 56.8 +2.5
comp=Z,39nm,1.0s

INK **Inuvik** 60.50 344 P P 22 52 53.9 -0.2
comp=Z,45nm,1.1s,baz=127,slow=7.7,SNR=36
INK **Inuvik** 60.50 344 eP P 22 52 53.8 -0.3
comp=Z,58nm,1.0s
INK **Inuvik** 60.50 344 eP P 22 52 53.8 -0.3
INK pmax pmax
comp=Z,58nm,1.0s
POHA **Pohakuloa** 60.59 285 PFAKE 22 53 10.0 +14
POHA LR LR
comp=Z,5µm,20.0s
EGAK **Eagle** 60.75 338 eP P 22 52 55.2 -0.7
comp=Z,36nm,1.0s
EGAK LR LR
comp=Z,3µm,19.0s
DIV **Divide** 60.77 333 eP P 22 52 58.2 +2.0
comp=Z,66nm,1.4s
RES **Resolute Bay** 60.83 359 eP P 22 52 55.5 -0.8
comp=Z,39nm,1.3s
RES **Resolute Bay** 60.83 359 eP P 22 52 55.5 -0.8
RES pmax pmax
comp=Z,39nm,1.3s
FID **Port Fidalgo** 60.91 333 eP P 22 53 01.9 +4.8
comp=Z,60nm,1.1s
HARP **HAARP** 61.09 335 eP P 22 52 59.8 +1.5
comp=Z,84nm,1.1s
DOT **Dot Lake** 61.25 336 eP P 22 53 00.2 +0.8
comp=Z,50nm,1.1s
SCRK **Sand Creek** 61.38 337 eP P 22 53 00.8 +0.4
comp=Z,40nm,1.3s
PAX **Paxson** 61.48 335 eP P 22 53 01.7 +0.7
comp=Z,30nm,1.1s
PAX **Paxson** 61.48 335 eP P 22 53 01.7 +0.7
PAX pmax pmax
comp=Z,30nm,1.1s
RIDG **Independ'e Rid** 61.60 336 eP P 22 53 03.1 +1.3
comp=Z,70nm,1.2s
SCM **Sheep Creek Mo** 61.75 334 eP P 22 53 04.3 +1.5
comp=Z,62nm,1.2s
SCM **Sheep Creek Mo** 61.75 334 eP P 22 53 04.3 +1.5
SCM pmax pmax
comp=Z,62nm,1.2s
SEW **Seward** 61.99 332 eP P 22 53 06.8 +2.5
comp=Z,90nm,1.4s
SML **Sawmill** 62.17 334 eP P 22 53 07.1 +1.5
comp=Z,49nm,1.1s
SML **Sawmill** 62.17 334 eP P 22 53 07.1 +1.5
SML pmax pmax
comp=Z,49nm,1.1s
DHY **Denali Highway** 62.31 335 eP P 22 53 07.1 +0.4
comp=Z,17nm,1.2s
GHO **Glory Hole Cre** 62.41 333 eP P 22 53 08.2 +0.9
comp=Z,62nm,1.0s
PMR **Palmer** 62.43 333 eP P 22 53 07.7 +0.4
comp=Z,48nm,1.4s
PMR **Palmer** 62.43 333 eP P 22 53 07.7 +0.4
PMR pmax pmax
comp=Z,48nm,1.4s
RC01 **Rabbit Creek A** 62.50 332 eP P 22 53 08.7 +0.9
comp=Z,46nm,1.0s
BRLK **Bradley Lake** 62.54 331 eP P 22 53 09.0 +0.9
comp=Z,51nm,0.9s
CNPM **China Poot** 62.62 331 eP P 22 53 12.1 +3.5
comp=Z,74nm,1.1s
KDAK **Kodiak Island** 62.71 328 PFAKE 22 53 20.0 +11
KDAK LR LR
comp=Z,584nm,19.0s
IL1 **Eielson Array** 62.87 337 eP P 22 53 09.1 -1.2
ILAR **Eielson Array** 62.87 337 P P 22 53 09.8 -0.4
comp=Z,41nm,1.1s,baz=130,slow=4.6,SNR=91
ILB **Eielson Array** 62.87 337 eP P 22 53 10.2 0.0
RND **Reindeer** 63.05 335 eP P 22 53 11.6 +0.1
comp=Z,81nm,1.2s
RND **Reindeer** 63.05 335 eP P 22 53 11.6 +0.1
RND pmax pmax
comp=Z,81nm,1.2s
SUA **Susitna One** 63.09 333 eP P 22 53 13.7 +1.8
comp=Z,39nm,1.0s
CCB **Clear Creek Bu** 63.17 337 eP P 22 53 12.2 0.0
comp=Z,16nm,1.1s
WRH **Wood River Hil** 63.20 336 eP P 22 53 12.5 +0.1
comp=Z,19nm,1.2s
MCK **McKinley** 63.22 335 eP P 22 53 13.0 +0.4
comp=Z,31nm,1.0s
MCK **McKinley** 63.22 335 eP P 22 53 13.0 +0.4
MCK pmax pmax
comp=Z,31nm,1.0s
POKR **Poker Plat Res** 63.24 337 P P 22 53 11.8 -0.8
baz=117,SNR=17
CMLA **Cha da Macela** 63.29 55 PFAKE 22 53 30.0 +17
CMLA LR LR
comp=Z,2µm,20.0s
COLA **College** 63.29 337 eP P 22 53 13.4 +0.5
comp=Z,26nm,1.0s
COLA LR LR
comp=Z,2µm,21.0s
COLA **College** 63.29 337 eP P 22 53 13.4 +0.5
COLA pmax pmax
comp=Z,26nm,1.0s
COLA MLR MLR
comp=Z,2µm,21.0s
TCOL **CIGO, UAF Yank** 63.29 337 P P 22 53 13.0 0.0
baz=116
MDM **Murphy Dome** 63.47 337 eP P 22 53 14.2 0.0
comp=Z,24nm,1.2s
BWN **Browne** 63.62 336 eP P 22 53 15.2 0.0
comp=Z,251nm,1.2s
SKT **Skwentna** 63.63 333 eP P 22 53 15.7 +0.3
comp=Z,43nm,1.1s
TRF **Thorofare Moun** 63.66 335 eP P 22 53 15.8 +0.1
comp=Z,40nm,0.8s
BPAW **Bear Paw Mtn.** 64.20 335 eP P 22 53 19.1 0.0
comp=Z,20nm,0.9s
PPLA **Purkeypile** 64.25 334 eP P 22 53 20.0 +0.4
comp=Z,38nm,1.1s
CAST **Castle Rocks** 64.40 334 eP P 22 53 20.0 -0.3
comp=Z,41nm,1.2s
MLY **Manley** 64.47 336 eP P 22 53 20.0 -0.8
comp=Z,27nm,0.8s
PPT2 **Papeete2** 64.63 243 eS S 23 02 03.7 +0.5
comp=Z,2µm,31.0s
PPT2 **Papeete2** 64.63 243 eLR LR 23 12 11.2
comp=Z,3µm,27.0s,baz=64
CHGN **Chignik** 65.39 326 eP P 22 53 27.9 +1.0
comp=Z,29nm,0.8s
TOLK **Toolik Lake Re** 65.57 340 eP P 22 53 27.6 -0.3
comp=Z,26nm,0.9s
TOLK **Toolik Lake Re** 65.57 340 P P 22 53 28.4 +0.5
baz=116,SNR=14
IM3 **Indian Mountai** 65.99 337 eP P 22 53 29.4 -1.2
SUMG **Summit** 66.43 15 eP P 22 53 33.6 -0.2
comp=Z,5.0nm,0.7s
SUMG **Summit** 66.43 15 iP P 22 53 32.8 -1.0
SUMG **Summit** 66.43 15 eP P 22 53 33.6 -0.2
SUMG pmax pmax
comp=Z,5.0nm,0.7s
TBI **Tubuai** 67.08 237 eS S 23 02 34.8 +2.0
comp=Z,1µm,38.0s
TBI **Tubuai** 67.08 237 eLR LR 23 13 32.0
comp=Z,2µm,29.2s,baz=59
BORG **Borgarnes** 69.43 26 LR LR 23 24 09.7
comp=Z,875nm,18.9s,baz=269,slow=36
PMOZ **Porto Moniz, M** 70.15 60 eLR LR 23 15 37.3
comp=Z,1µm,18.0s
EFI **East Falkland** 71.70 158 PFAKE 22 54 20.0 +14
EFI LR LR
comp=Z,1µm,19.0s
DAG **Danmarks Havn** 72.85 13 iP P 22 54 10.6 -2.2
comp=Z,18nm,0.9s
DAG **Danmarks Havn** 72.85 13 iP P 22 54 10.6 -2.2
DAG pmax pmax
comp=Z,15nm,0.9s
LIS **Lisbon** 76.13 53 eP P 22 54 33.1 +0.4
LIS AMS AMS 23 21 32.7
comp=N,1µm,21.1s
LIS **Lisbon** 76.13 53 eP P 22 54 33.0 +0.4
PGAV **Gavieira, Arco** 76.42 50 eP P 22 54 38.7 +4.3
PGAV **Gavieira, Arco** 76.42 50 eLQ LQ 23 16 59.6
PGAV eLR LR 23 18 51.2
comp=N,2µm,16.0s
PCAS **Casmilo, Conde** 76.47 52 eP P 22 54 34.5 -0.1
comp=N,55nm,1.5s
ALMR **Almeirim** 76.52 53 eP P 22 54 35.4 +0.5
ALMR AMS AMS 23 21 48.2
comp=E,1µm,21.4s
ALMR **Almeirim** 76.52 53 eP P 22 54 34.9 +0.1
ALMR **Almeirim** 76.52 53 eP P 22 54 35.3 +0.5
PTOM **Tomar** 76.59 52 eP P 22 54 33.3 -1.9

comp=E,53nm,1.4s
MORF **Marmelete** 76.69 55 eP P 22 54 36.4 +0.5
MORF eS S 23 04 20.9 -2.4
MORF AMS AMS 23 29 29.5
comp=Z,2µm,18.0s
MORF **Marmelete** 76.69 55 eP P 22 54 36.4 +0.5
MORF eS S 23 04 20.9 -2.4
MESJ **Messejana** 76.96 54 eP P 22 54 37.8 +0.4
MESJ AMS AMS 23 26 47.8
comp=Z,1µm,17.0s
MESJ **Messejana** 76.96 54 eP P 22 54 37.7 +0.4
MTE **Manteigas** 77.15 51 eLR LR 23 18 38.6
comp=Z,2µm,16.0s
PMRV **Marv??o** 77.40 52 eP P 22 54 39.7 -0.1
comp=Z,27nm,2.2s
PMRV eS S 23 04 24.9 -6.0
PMRV **Marv??o** 77.40 52 eLR LR 23 18 54.3
comp=Z,2µm,20.0s
PVAQ **Vaqueiros** 77.42 54 eS S 23 04 36.8 +5.7
PVAQ **Vaqueiros** 77.42 54 eLQ LQ 23 17 11.0
PVAQ eLR LR 23 19 19.7
comp=Z,2µm,18.0s
MVO **Moncorvo** 77.44 50 eS S 23 04 34.3 +2.9
MVO **Moncorvo** 77.44 50 eLR LR 23 19 04.8
comp=Z,1µm,18.0s
ESK **Eskdalemuir** 78.19 36 PFAKE 22 55 00.0 +16
ESK LR LR
comp=Z,3µm,19.0s
ESK **Eskdalemuir** 78.19 36 ceP P 22 54 44.4 +0.6
EKA **Eskdalemuir Ar** 78.21 36 P P 22 54 41.7 -2.2
comp=Z,23nm,0.9s,baz=278,slow=5.9,SNR=20
ROSF **Rostrenen** 79.10 43 eP P 22 54 46.2 -2.8
ROSF pmax pmax
comp=Z,37nm,1.4s
KBS **Kingsbay** 79.19 11 PFAKE 22 55 00.0 +11
KBS LR LR
comp=Z,6µm,19.0s
QUIF **Quistinic** 79.23 43 eP P 22 54 48.2 -1.6
QUIF pmax pmax
comp=Z,33nm,1.3s
PAB **San Pablo** 79.71 52 PFAKE 22 55 00.0 +7.3
PAB LR LR
comp=Z,2µm,19.0s
ESDC **Sonseca Array** 79.98 52 P P 22 54 51.9 -2.2
comp=Z,3.4nm,0.8s,baz=289,slow=5.0,SNR=16
ES19 **SONSECA Array** 80.02 52 eP P 22 54 52.0 -2.3
ASCN **Ascension** 80.25 101 PFAKE 22 55 10.0 +14
ASCN LR LR
comp=Z,566nm,21.0s
MDT **Midelt** 80.66 59 P P 22 54 56.6 -1.4
comp=Z,7.4nm,1.1s,baz=178,slow=6.1,SNR=6.1
MDT LR LR 23 24 17.5
comp=Z,613nm,22.0s,baz=304,slow=31
GRR **Gorron** 80.68 42 eP P 22 54 55.1 -2.5
GRR pmax pmax
comp=Z,24nm,0.8s
FLN **La Foliniere** 80.86 42 eP P 22 54 57.3 -1.2
FLN pmax pmax
comp=Z,13nm,0.8s
LDF **La Druitiere** 81.12 42 eP P 22 54 58.6 -1.4
LDF pmax pmax
comp=Z,22nm,1.0s
BILL **Bilibino** 81.50 338 eP P 22 55 01.5 -0.1
comp=Z,30nm,1.0s
BILL LR LR
comp=Z,955nm,20.0s
BILL **Bilibino** 81.50 338 ciP P 22 55 02.0 +0.4
BILL e 22 58 04.2
BILL iS S 23 05 18.8 +5.5
BILL pmax pmax
comp=Z,37nm,1.0s
BILL MLR MLR
comp=Z,1µm,21.0s
ETSF **Etsaut** 81.92 48 eP P 22 55 03.2 -1.2
ETSF pmax pmax
comp=Z,18nm,1.4s
LFF **La Frestale** 82.43 46 eP P 22 55 06.4 -0.5
LFF pmax pmax
comp=Z,12nm,1.0s
HOPE **Hope Point** 82.67 151 PFAKE 22 55 20.0 +12
HOPE LR LR
comp=Z,730nm,19.0s
RJF **Les Rejaudoux** 82.89 45 eP P 22 55 06.8 -2.5
RJF pmax pmax
comp=Z,6.0nm,0.8s
TCF **Toulx Ste Croi** 83.15 44 eP P 22 55 11.6 +0.9
TCF pmax pmax
comp=Z,16nm,1.4s
CAF **Calviac** 83.35 45 eP P 22 55 10.2 -1.6
CAF pmax pmax
comp=Z,24nm,1.5s
BGF **Bois d'Agland** 83.51 44 eP P 22 55 12.5 0.0
BGF pmax pmax
comp=Z,230nm,1.0s
BAIF **Baives** 83.58 40 eP P 22 55 11.8 -1.0
BAIF pmax pmax
comp=Z,11nm,1.1s
AVF **Avril sur Loir** 83.80 43 eP P 22 55 12.1 -1.9
AVF pmax pmax
comp=Z,11nm,1.1s
DOU **Dourbes** 83.81 40 ⇑P P 22 55 13.4 -0.6
SSF **Saint Saulge** 83.84 43 eP P 22 55 12.5 -1.7
SSF pmax pmax
comp=Z,12nm,1.0s
LOR **Lormes** 84.02 43 eP P 22 55 13.7 -1.5
LOR pmax pmax
comp=Z,14nm,1.0s
SMF **Signal de Mont** 84.16 44 eP P 22 55 14.0 -1.9
SMF pmax pmax
comp=Z,19nm,1.2s
BCLA **Clavier** 84.17 40 ⇑P P 22 55 14.8 -1.0
NB2 **NORSAR Subarra** 84.37 28 P P 22 55 15.5 -1.2
comp=Z,13nm,1.2s,baz=290,slow=5.6
NOA **NORSAR Array B** 84.37 28 P P 22 55 15.9 -0.8
comp=Z,5.0nm,1.0s,baz=294,slow=5.5,SNR=4.8
MEM **Membach** 84.56 39 ⇑P P 22 55 16.8 -0.9
comp=Z,7.9nm,1.0s
VIVF **Saint-Julien-l** 85.17 45 eP P 22 55 20.5 -0.5
TIC **Toumodi** 85.74 84 eP P 22 55 24.5 +0.1
HFS **Hagfors** 85.83 29 P P 22 55 23.1 -0.8
comp=Z,7.1nm,1.0s,baz=287,slow=5.6,SNR=3.8
LIC **Lamto** 85.83 85 eP P 22 55 24.9 0.0
comp=Z,110nm,1.2s
DBIC **Dimbokro** 85.90 84 P P 22 55 24.0 -1.2
comp=Z,17nm,1.2s,baz=222,slow=4.1,SNR=5.0
ECH **Echery** 85.93 41 eP P 22 55 24.0 -0.7
comp=Z,14nm,1.1s
ECH **Echery** 85.93 41 eP P 22 55 24.0 -0.7
ECH pmax pmax
comp=Z,14nm,1.1s
KIC **Kosan Boka** 86.08 84 eP P 22 55 26.2 +0.1
comp=Z,76nm,1.2s
ARCES **ARCESS Array B** 86.34 18 P P 22 55 25.6 -0.7
comp=Z,4.4nm,0.8s,baz=296,slow=6.3,SNR=4.8
LPL **La Plagne** 86.40 44 eP P 22 55 26.9 -0.4
LPL pmax pmax
comp=Z,13nm,1.2s
LPG **La Plagne** 86.41 44 eP P 22 55 27.3 -0.2
LPG pmax pmax
comp=Z,13nm,1.2s
BNI **Bardonecchia** 86.49 45 eP P 22 55 27.5 -0.2
comp=Z,21nm,1.3s
BNI **Bardonecchia** 86.49 45 eP P 22 55 27.5 -0.2
BNI pmax pmax
comp=Z,21nm,1.3s
SENIN **Lac Senin/Sane** 86.54 43 eP P 22 55 28.0 -0.1
comp=Z,11nm,0.9s
BFO **Black Forest** 86.65 41 eP P 22 55 27.8 -0.5
comp=Z,8.9nm,1.0s
BFO LR LR
comp=Z,73nm,21.0s
BFO **Black Forest** 86.65 41 ceP P 22 55 28.4 +0.1
KEV **Kevo** 86.67 18 PFAKE 22 55 40.0 +12
KEV LR LR
comp=Z,6µm,22.0s
FRF **La Foret Royal** 86.88 46 eP P 22 55 30.3 +0.8
FRF pmax pmax
comp=Z,9.0nm,0.9s
TUE **Stuetta** 87.86 43 eP P 22 55 34.1 -0.3
comp=Z,11nm,0.9s
DAVA **Damuels** 87.96 42 iP P 22 55 34.3 -0.5
comp=Z,18nm,1.2s,SNR=5.3
DAVOX **Davos/Dischmat** 88.12 42 P P 22 55 34.6 -1.0
comp=Z,5.1nm,0.8s,baz=298,slow=12,SNR=7.6
FUORN **Ofenpass-Fuorn** 88.42 42 eP P 22 55 36.7 -0.4
comp=Z,17nm,1.1s

RETA Reutte 88.46 41 *i* P **P 22 55 36.4 -0.7**
comp=Z,13nm,1.2s,SNR=7.8
CLL Collm 88.56 37 *e*P **P 22 55 37.0 -0.3**
comp=Z,16nm,1.5s
CLL *e*SKSac **SKSac 23 06 02.0 -4.9**
CLL *e*S **SKKSac 23 06 17.0 -0.8**
CLL *e* 23 06 45.0
CLL *e*PS 23 07 40.0
CLL *e* 23 13 00.0
CLL Lm MLR 23 41 00.0
comp=Z,1μm,19.9s
CLL Collm 88.56 37 *e*P **P 22 55 37.0 -0.3**
CLL *e* 23 06 02.0
CLL *e*S **SKKSac 23 06 17.0 -0.8**
CLL pmax pmax
comp=Z,16nm,1.5s
CLL MLR MLR
comp=Z,1μm,19.9s
FETA Feichten 88.59 42 *i* PcP **P 22 55 38.2 +0.3**
comp=Z,9.0nm,1.3s
NKC Novy Kostel 88.60 38 *e*P **P 22 55 39.9 +2.3**
NKC AMS AMS 23 35 30.0
comp=Z,2μm,17.8s
NKC Novy Kostel 88.60 38 *e*P **P 22 55 39.9 +2.3**
NKC MLR MLR
comp=Z,2μm,17.8s
MOTA Moosalm 88.73 41 *i* P **P 22 55 37.9 -0.6**
comp=Z,7.3nm,1.1s
SEY Seymchan 88.78 336 *i* P **P 22 55 37.5 -0.6**
SQTA Sankt Quirin 88.84 42 *i* P **P 22 55 38.2 -0.7**
comp=Z,8.7nm,1.4s
BRG Berggiesshubel 89.27 37 *e*P **P 22 55 38.6 -2.1**
comp=Z,13nm,1.6s
BRG *e* 22 55 42.5
comp=Z,12nm,1.3s
BRG *e* 22 59 09.1
comp=Z,4.7nm,0.9s
BRG S **SKSac 23 06 15.0 +3.8**
comp=N,2μm,20.0s
comp=E,992nm,26.1s
comp=Z,2μm,20.3s
BRG Berggiesshubel 89.27 37 *e*P **P 22 55 38.6 -2.1**
BRG *e* 22 55 42.5
BRG *e* 22 59 09.1
BRG S **SKSac 23 06 15.0 +3.8**
BRG pmax pmax
comp=Z,13nm,1.6s
BRG MLR MLR
comp=N,2μm,20.0s
BRG MLR MLR
comp=E,992nm,26.1s
BRG MLR MLR
comp=Z,2μm,20.3s
KHC Kasperske Hory 89.67 39 *e*P **P 22 55 42.5 -0.2**
comp=Z,4.1nm,1.4s
KHC Kasperske Hory 89.67 39 *e*P **P 22 55 41.4 -1.3**
KHC *e*SKS **SKSac 23 06 15.3 +1.6**
KHC AMS AMS 23 33 30.0
comp=Z,2μm,19.7s
KHC Kasperske Hory 89.67 39 *e*P **P 22 55 41.4 -1.3**
KHC *e* 23 06 15.3
KHC MLR MLR
comp=Z,2μm,19.7s
PVCC Panska Ves 89.77 38 AMS AMS 23 36 40.0
comp=Z,3μm,21.4s
ABTA Abfaltersbach 89.84 42 *i* PcP **P 22 55 43.8 +0.2**
comp=Z,13nm,1.4s
GEC2 GERESS Array S 89.85 39 *e*P **P 22 55 43.6 0.0**
comp=Z,9.8nm,1.3s
GEC2 GERESS Array S 89.85 39 *e*P **P 22 55 43.6 0.0**
GEC2 pmax pmax
comp=Z,10.0nm,1.3s
GERES GERESS Array B 89.85 39 P **P 22 55 41.6 -2.0**
comp=Z,1.2nm,0.7s,baz=197,slow=4.1,SNR=7.5
PRA Prague 89.85 38 AMS AMS 23 36 20.0
comp=Z,2μm,18.4s
GEA0 GERESS Array S 89.86 39 *e*P **P 22 55 41.8 -1.8**
PET Petropavlovsk 90.13 325 PFAKE 22 56 00.0 +15
PET LR LR
comp=Z,697nm,19.0s
PET Petropavlovsk 90.13 325 *e*P **P 22 55 48.6 +4.0**
PET *e*S **S 23 06 34.2 -4.3**
TIXI Tiksi 90.34 348 *e*P **P 22 55 45.5 +0.2**
comp=Z,19nm,0.9s
TIXI LR LR
comp=Z,2μm,22.0s
TIXI Tiksi 90.34 348 *ce*P **P 22 55 44.9 -0.4**
TIXI pmax pmax
comp=Z,34nm,1.7s
SHEL Horse Pasture 90.45 106 PFAKE 22 56 00.0 +13
SHEL LR LR
comp=Z,589nm,21.0s
MOA Molln 90.56 40 *i* PcP **PcP 22 55 47.5 -0.5**
comp=Z,6.1nm,1.4s
PETK Petropavlovsk- 90.62 326 P **P 22 55 45.6 -1.4**
comp=Z,5.4nm,1.1s,baz=94,slow=7.7,SNR=3.6
FUNA Funafuti 90.63 261 PFAKE 22 56 00.0 +12
FUNA LR LR
comp=Z,5μm,22.0s
TORD Torodi Ar. Bea 90.63 76 P **P 22 55 45.8 -2.0**
comp=Z,2.4nm,0.9s,baz=297,slow=3.9,SNR=4.3
FINES FINESS Array B 90.72 25 P **P 22 55 46.2 -1.0**
comp=Z,11nm,1.0s,baz=48,slow=2.8,SNR=6.6
TREC Trest 90.78 39 *e*SKS **SKSac 23 06 23.8 +3.7**
TREC AMS AMS 23 38 30.0
comp=Z,2μm,22.0s
DPC Dobruska-Polom 90.87 37 *e*P **P 22 55 47.9 -0.4**
DPC *ex* x 23 06 25.0
DPC AMS AMS 23 37 30.0
comp=Z,2μm,26.7s
DPC Dobruska-Polom 90.87 37 *e*P **P 22 55 47.9 -0.4**
DPC MLR MLR
comp=Z,2μm,26.0s
MA2 Magadan 91.11 333 PFAKE 22 56 00.0 +11
MA2 LR LR
comp=Z,892nm,22.0s
KEST Kesra 91.16 53 P **P 22 55 49.2 -0.7**
comp=Z,12nm,1.0s,baz=31,slow=4.2,SNR=7.4
KEST Kesra 91.16 53 *e*P **P 22 55 52.6 +2.6**
comp=Z,13nm,0.9s
VRAC Vranov 91.44 38 P **P 22 55 50.1 -0.8**
comp=Z,2.6nm,0.8s,baz=291,slow=8.8,SNR=4.0
CONA Conrad Observa 91.53 40 *i* PcP **PcP 22 55 52.2 -0.1**
comp=Z,9.3nm,1.6s
TAM Tamanrasset 91.68 66 *e*P **P 22 55 54.6 +1.9**
comp=Z,6.0nm,1.0s
MORC Moravsky Berou 91.82 38 *e*P **P 22 55 52.9 +0.2**
comp=Z,6.8nm,1.1s
MORC Moravsky Berou 91.82 38 *e*P **P 22 55 52.9 +0.2**
MORC pmax pmax
comp=Z,7.0nm,1.1s
OKC Ostrava-Krasne 92.15 37 AMS AMS 23 37 20.0
comp=Z,2μm,18.8s
MODS Modra-Piesok 92.23 39 *e*P **P 22 55 54.0 -0.5**
MODS pmax pmax
comp=Z,16nm,1.3s
MODS Modra-Piesok 92.23 39 *e*P **P 22 55 54.0 -0.5**
VYHS Vyhne 93.12 38 *e*P **P 22 55 58.6 -0.1**
VYHS pmax pmax
comp=Z,7.0nm,1.5s
VYHS Vyhne 93.12 38 *e*P **P 22 55 58.6 -0.1**
LANS Liptovska Anna 93.22 38 *e*P **P 22 56 00.3 +1.1**
LANS Liptovska Anna 93.22 38 *e*P **P 22 56 00.3 +1.1**
UZH Uzhgorod 95.12 37 *d*/*i*P **P 22 56 07.8 0.0**
UZH *e* 22 56 16.2
WAKE Wake Island 95.66 291 PFAKE 22 56 20.0 +9.2
WAKE LR LR
comp=Z,916nm,19.0s
NRIK Noril'sk 97.01 0 P **P 22 56 15.5 -0.4**
comp=Z,6.7nm,1.0s,baz=339,slow=3.0,SNR=7.2
YAK Yakutsk 97.51 341 PFAKE 22 56 30.0 +12
YAK LR LR
comp=Z,1μm,19.0s
KIEV Kiev 97.96 33 PFAKE 22 56 30.0 +9.3
KIEV LR LR
comp=Z,1μm,22.0s
AKASG Malin Array Be 97.97 33 P **P 22 56 17.7 -2.9**
comp=Z,0.2nm,0.3s,baz=277,slow=4.8,SNR=5.0
OBN Obninsk 98.91 27 PFAKE 22 56 40.0 +15
OBN LR LR
comp=Z,952nm,20.0s
OBN Obninsk 98.91 27 *e*P **P 22 56 24.4 -0.3**
OBN *e* 23 00 29.4
OBN *e*SS SS 23 14 37.6 -3.3
OBN pmax pmax
comp=Z,11nm,1.3s
OBN MLR MLR
comp=Z,1μm,19.0s
NKL Nikolayevsk 99.36 331 *e*P **Pdif 22 56 26.0 -0.8**
NKL *e* 23 00 36.0
KIS Kishinev 99.75 37 *e*P **Pdif 22 56 30.0 +1.3**
KIS LRM MLR 23 41 12.0
comp=Z,1μm,20.0s
KIS Kishinev 99.75 37 *e*P **Pdif 22 56 30.0 +1.3**
KIS *e* 23 07 06.0
KIS MLR MLR
comp=Z,1μm,16.0s
KIS MLR MLR
comp=Z,1μm,20.0s
SNZO South Karori 101.28 230 PFAKE 22 56 50.0 +14
SNZO LR LR
comp=Z,1μm,20.0s
YSS Yuzh-Sakhalins 102.02 325 PFAKE 22 56 50.0 +11
YSS LR LR
comp=Z,473nm,19.0s
QSPA South Pole Qui 103.81 180 PFAKE 22 57 00.0 +14
QSPA LR LR
comp=Z,1μm,21.0s
SBA Scott Base 105.78 192 PFAKE 23 01 20.0
SBA LR LR
comp=Z,488nm,19.0s
ARU Arti 105.84 16 PFAKE 23 01 20.0
ARU LR LR
comp=Z,2μm,20.0s
ANTO Ankara 106.08 41 PFAKE 23 01 20.0
ANTO LR LR
comp=Z,993nm,21.0s
KIV Kislovodsk 109.31 33 PFAKE 23 01 30.0
KIV LR LR
comp=Z,955nm,21.0s
HNR Honiara 109.39 265 PFAKE 23 01 30.0
HNR LR LR
comp=Z,864nm,20.0s
MDJ Mudanjiang 110.50 329 PFAKE 23 01 30.0
MDJ LR LR
comp=Z,738nm,19.0s
MAJO Matsushiro 110.91 318 PFAKE 23 01 30.0
MAJO LR LR
comp=Z,883nm,22.0s
HIA Hailar 111.08 338 PFAKE 23 01 30.0
HIA LR LR
comp=Z,1μm,20.0s
NVS Novosibirsk 111.46 3 *e*PKIKP **PKiKP 23 01 21.7 +3.0**
BRVK Borovoye 111.67 11 PFAKE 23 01 30.0
BRVK LR LR
comp=Z,898nm,21.0s
TSUM Tsumeb 112.90 105 PFAKE 23 01 30.0
TSUM LR LR
comp=Z,922nm,20.0s
GNI Garni 113.04 35 PFAKE 23 01 30.0
GNI LR LR
comp=Z,2μm,22.0s
TLY Talaya 113.28 349 PFAKE 23 01 30.0
TLY LR LR
comp=Z,950nm,19.0s
KURK Kurchatov 115.20 6 PFAKE 23 01 40.0 +14
KURK LR LR
comp=Z,4μm,19.0s
KURK Kurchatov 115.20 6 *i* PKIKP **PKPdf 23 01 27.4 +1.4**
ULN Ulaanbaatar 116.18 346 PFAKE 23 01 40.0 +12
ULN LR LR
comp=Z,939nm,19.0s
SONM Songino Array 116.37 346 PKP **PKPdf 23 01 28.1 -0.5**
comp=Z,1.2nm,0.9s,baz=15,slow=6.2,SNR=4.2
SONM PP **PP 23 02 33.6 +0.2**
comp=Z,1.4nm,1.1s,baz=14,slow=6.5,SNR=5.6
SUR Sutherland 116.66 119 PFAKE 23 01 40.0 +10
SUR LR LR
comp=Z,1μm,19.0s
GUMO Guam 117.21 293 PFAKE 23 01 40.0 +9.2
GUMO LR LR
comp=Z,1μm,20.0s
BJT Baijiatuan 120.24 335 PFAKE 23 01 50.0 +14
BJT LR LR
comp=Z,1μm,19.0s
BOSA Boshof 120.51 115 PKP **PKPdf 23 01 36.2 -0.7**
comp=Z,1.6nm,0.8s,baz=124,slow=3.6,SNR=2.1
MBAR Mbarara 122.08 82 PFAKE 23 01 50.0 +10
MBAR LR LR
comp=Z,463nm,19.0s
AAK Ala-Archa 122.47 12 PFAKE 23 01 50.0 +10
AAK LR LR
comp=Z,1μm,20.0s
LSZ Lusaka 122.48 99 *e*PKPdf **PKPdf 23 01 44.6 +3.5**
LSZ LR LR
comp=Z,493nm,19.0s
LSZ Lusaka 122.48 99 *e*PKIKP **PKPdf 23 01 44.6 +3.5**
LSZ MLR MLR
comp=Z,493nm,19.0s
WMQ Urumqi 122.60 0 *e*PKP **PKPdf 23 01 40.6 0.0**
WMQ AMB AMB
comp=Z,560nm,4.5s
WMQ LR LR
comp=Z,3μm,22.7s
WMQ LR LR
comp=Z,1μm,17.7s
WMQ LR LR
comp=Z,3μm,24.3s
CTAO Charters Tower 123.94 255 PFAKE 23 02 00.0 +16
CTAO LR LR
comp=Z,3μm,20.0s
RAYN Ar Rayn 124.42 48 PFAKE 23 02 00.0 +15
RAYN LR LR
comp=Z,706nm,20.0s
CASY Casey 125.45 191 PFAKE 23 02 00.0 +15
CASY LR LR
comp=Z,194nm,19.0s
NJ2 Nanjing 125.49 327 *e*PKP **PKPdf 23 01 47.4 +1.1**
GTA Gaotai 125.82 348 ||PKP **PKPdf 23 01 47.1 +0.1**
GTA sPKP 23 02 01.4
GTA PP **PP 23 03 45.1 +7.1**
GTA SKS **SKSdf 23 08 53.3 -6.2**
GTA SKKS **SKKSac 23 10 32.3 -5.9**
GTA SS **SS 23 20 41.7 +3.5**
GTA AMB AMB
comp=Z,320nm,8.4s
GTA LR LR
comp=Z,830nm,20.9s
GTA LR LR
comp=Z,830nm,19.0s
GTA LR LR
comp=Z,2μm,21.6s
STKA Stephens Creek 127.79 240 PKP **PKPdf 23 01 49.6 -1.1**
comp=Z,2.8nm,0.8s,baz=101,slow=3.3,SNR=3.6
LZH Lanzhou 128.04 343 PKP **PKPdf 23 01 51.8 +0.5**
LZH sPKP 23 02 09.3
LZH PP **PP 23 03 58.7 +5.9**
LZH SKKS 23 10 50.0
LZH SS **SS 23 21 10.5 +4.3**
LZH AMB AMB
comp=Z,560nm,8.7s
LZH LR LR
comp=Z,740nm,15.2s
LZH LR LR
comp=Z,860nm,16.8s
LZH LR LR
comp=Z,910nm,16.3s
XAN Xi'an 128.28 338 PKP **PKPdf 23 01 51.5 -0.2**
XAN AMB AMB
comp=Z,440nm,12.8s
XAN LR LR
comp=Z,2μm,20.1s
XAN LR LR
comp=Z,930nm,18.6s
XAN LR LR
comp=Z,2μm,19.6s
KMBO Kilima Mbogo 128.47 80 PFAKE 23 02 00.0 +7.2
KMBO LR LR
comp=Z,914nm,19.0s
TATO Taipei 129.28 319 PFAKE 23 02 10.0 +16
TATO LR LR
comp=Z,772nm,20.0s
ENH Enshi 131.38 335 *e*PKPdf **PKPdf 23 01 57.5 -0.1**
ENH LR LR
comp=Z,2μm,21.0s
CD2 Chengdu 132.90 341 PKP **PKPdf 23 01 59.0 -1.6**
WRAB Tennant Creek 135.13 256 PFAKE 23 02 20.0 +15
WRAB LR LR
comp=Z,2μm,22.0s
WRA Warramunga Arr 135.14 256 PKP **PKPdf 23 02 03.5 -1.4**
comp=Z,1.3nm,0.9s,baz=65,slow=1.0,SNR=7.1
ASAR Alice Springs 135.40 250 PKP **PKPdf 23 02 04.2 -1.1**
comp=Z,1.1nm,0.9s,baz=129,slow=2.6,SNR=3.7
GYA Guiyang 135.91 335 *e*Pdif **Pdif 22 59 08.4 -1.8**
GYA PKP **PKPdf 23 02 06.2 -0.2**
GYA PP **PP 23 04 47.0 +3.4**
GYA AMB AMB
comp=Z,120nm,7.9s
LSA Lhasa 136.57 356 PFAKE 23 02 20.0 +12
LSA LR LR
comp=Z,776nm,21.0s
DAV Davao City (W) 137.09 297 PFAKE 23 02 20.0 +11
DAV LR LR
comp=Z,613nm,19.0s
KMI Kunming 138.59 339 P **PKPdf 23 02 10.8 -0.7**
KMI pmax pmax
comp=Z,8.0nm,0.5s
KMI pmax pmax
comp=Z,120nm,3.9s
KMI Kunming 138.59 339 Pdif **Pdif 22 59 20.7 -1.5**
KMI PKP **PKPdf 23 02 11.1 -0.4**
KMI sPKP 23 02 26.3
KMI PP **PP 23 05 00.4 0.0**
KMI SKKS 23 11 47.6
KMI SS **SS 23 23 10.6 -3.6**
KMI AMB AMB
comp=Z,530nm,8.0s
KMI LR LR
comp=Z,390nm,20.1s
KMI LR LR
comp=Z,570nm,22.3s
KMI LR LR
comp=Z,550nm,27.5s
QIZ Qiongzhong 140.74 326 PFAKE 23 02 30.0 +15
QIZ LR LR
comp=Z,1μm,19.0s
ABPO Ambohimpanom 140.85 103 *e*PKPdf **PKPdf 23 02 18.2 +2.6**
ABPO LR LR
comp=Z,321nm,19.0s
ABPO Ambohimpanom 140.85 103 *e*PKIKP **PKPdf 23 02 18.2 +2.6**
ABPO MLR MLR
comp=Z,321nm,19.0s
CHTO Chiang Mai 145.71 341 PFAKE 23 02 40.0 +15
CHTO LR LR
comp=Z,526nm,19.0s
CMAR Chiang Mai Arr 146.04 341 PKPbc **PKPdf 23 02 24.4 -0.2**
comp=Z,75nm,1.1s,baz=343,slow=3.8,SNR=74
UTTA Uttaradit 146.15 338 P **PKPbc 23 02 25.7 +0.1**
comp=Z,12nm,1.0s,comp=Z,96nm
PBKT Sadao Pong 147.06 336 P **PKPbc 23 02 28.7 +0.4**
comp=Z,32nm,1.2s,comp=Z,2μm
NWAO Narrogin (SRO) 147.14 230 PFAKE 23 02 40.0 +10
NWAO LR LR
comp=Z,982nm,19.0s
CHAI Chaiyaphum 147.25 334 P **PKPab 23 02 29.8 -0.7**
comp=Z,7.5nm,1.1s,comp=Z,91nm
KAPI Kappang 147.28 282 PFAKE 23 02 40.0 +9.1
KAPI LR LR
comp=Z,585nm,22.0s
HYB Hyderabad 147.62 17 *i* PKP **PKPbc 23 02 29.5 -0.4**
MBWA Marble Bar 148.71 252 PFAKE 23 02 40.0 +3.6
MBWA LR LR
comp=Z,992nm,19.0s
COCO West Island 171.00 280 PFAKE 23 03 00.0 +6.1
COCO LR LR
comp=Z,1μm,19.0s

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*IDC **07**22:44:45.2±0.8, 13.95N×91.89W, h0km, mb4.7/21, mb1 4.8/22, mb1mx4.6/49, mbtmp4.7/22, ML3.7/1, MS4.9/4, Ms1 4.8/4, ms1mx4.5/23, Error ellipse: s-maj=30.3km s-min=13.2km az=52.0*
*ISCJB **07**22:44:50.7±0.5, 14.02N±0.07×91.89W±0.06, h54km, mb4.8/58, MS4.8/2, Error ellipse: s-maj=11.6km s-min=5.8km az=40.2*
*NEIC **07**22:44:50.2±0.3, 13.97N×91.86W, h35km, mb4.9/42, Error ellipse: s-maj=8.4km s-min=5.0km az=41.0*

ISC 07 22:44:52.0±0.6, 14.01N±0.09×91.89W±0.09, h54km, n93, σ1°21/90, mb4.9/58, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**2.28**	**354**	*e*Pn	**Pn**	**22 45 24.9**	**-2.5**
SNET	**Serv Nac Est T**	**2.60**	**97**	*e*Pn	**Pn**	**22 45 28.1**	**-3.7**
CMIG	**Matias Romero**	**4.21**	**317**	Sn	**Sn**	**22 46 42.2**	**+0.6**
	12nm,0.3s,baz=94,slow=23,SNR=2.1						
TLIG	**Tlapa**	**7.33**	**300**	*e*Pn	Pn	22 46 28.6	-8.1
JTS	**JuntasAbangare**	**7.72**	**118**	Lg	Lg	22 48 47.7	
	2.0nm,0.3s,baz=357,slow=19,SNR=3.2						
MOIG	**Morelia**	**10.53**	**304**	*e*Pn	**Pn**	**22 47 17.6**	**-3.0**
656A	**Willston**	**17.57**	**28**	*e*Pn	**Pn**	**22 48 50.9**	**-2.4**
	26nm,0.9s						
348A	**Jackson**	**17.71**	**11**	*e*Pn	**Pn**	**22 48 53.8**	**-1.1**
	28nm,0.8s						
JCT	**Junction City**	**17.94**	**337**	*e*Pn	**Pn**	**22 48 59.4**	**+1.6**
	23nm,0.9s						
352A	**Blakely**	**18.53**	**19**	*e*P	**P**	**22 49 02.3**	**-1.9**
LTX	**Lajitas**	**18.75**	**326**	*e*P	**P**	**22 49 07.0**	**+0.3**
TXAR	**Lajitas Array**	**18.75**	**326**	P	**P**	**22 49 07.0**	**+0.3**
	0.1nm,0.3s,baz=150,slow=13,SNR=3.5						
147A	**Livingston**	**18.88**	**9**	*e*P	**P**	**22 49 07.8**	**-0.1**
	30nm,1.1s						
TIGA	**Tifton**	**18.95**	**22**	*e*P	**P**	**22 49 08.0**	**-0.8**
	15nm,0.6s						
SLBS	**Sierra La Lagu**	**19.59**	**302**	*e*P	**P**	**22 49 14.6**	**-1.4**
SDV	**Santo Domingo**	**21.44**	**101**	P	**P**	**22 49 34.7**	**-1.4**
	5.1nm,0.5s,baz=334,slow=3.7,SNR=1.4						
SWET	**Sewanee**	**21.79**	**13**	*e*P	**P**	**22 49 40.8**	**+1.2**
	38nm,0.9s						
AMTX	**Amarillo**	**22.59**	**339**	*e*P	**P**	**22 49 47.6**	**-0.6**
	110nm,0.9s						
TKL	**Tuckaleechee C**	**22.77**	**17**	P	**P**	**22 49 51.2**	**+1.3**
	43nm,1.0s,baz=187,slow=8.1,SNR=4.6						
KMSC	**Kings Mountain**	**23.10**	**23**	*e*P	**P**	**22 49 54.7**	**+1.3**
	52nm,1.1s						
T47A	**Sharon Grove**	**23.29**	**10**	*e*P	**P**	**22 49 55.3**	**+0.2**
	91nm,1.1s						
TZTN	**Tazewell**	**23.66**	**17**	*e*P	**P**	**22 49 58.1**	**-0.5**
	47nm,0.9s						
T49A	**Edmonton**	**23.70**	**13**	*e*P	**P**	**22 49 59.0**	**+0.1**
	70nm,1.1s						
LPM	**Los Pinos Moun**	**24.22**	**329**	*e*P	**P**	**22 50 05.2**	**+1.2**
ANMO	**Albuquerque**	**24.65**	**330**	P	**P**	**22 50 09.5**	**+1.6**
	7.2nm,0.9s,baz=149,slow=10,SNR=2.7						
CCUT	**Cedar City**	**30.25**	**325**	*e*P	**P**	**22 50 58.8**	**+0.7**
	16nm,1.1s						
RWWY	**Rawlins**	**30.62**	**337**	*e*P	**P**	**22 51 02.3**	**+0.9**
	24nm,1.0s						
MPU	**Maple Canyon**	**31.17**	**330**	*e*P	**P**	**22 51 06.4**	**+0.3**
	9.0nm,1.0s						
TCUT	**Toone Canyon**	**31.92**	**331**	*e*P	**P**	**22 51 13.7**	**+0.9**
	49nm,1.1s						
HWUT	**Hardware Ranch**	**32.38**	**332**	*e*P	**P**	**22 51 17.3**	**+0.5**
	7.4nm,0.9s						
PD31	**Pinedale Array**	**32.46**	**335**	*e*P	**P**	**22 51 17.5**	**0.0**
PDAR	**Pinedale Array**	**32.46**	**335**	P	**P**	**22 51 18.1**	**+0.6**
	3.9nm,1.0s,baz=128,slow=8.1,SNR=5.1						
SADO	**Sadowa**	**32.53**	**17**	P	**P**	**22 51 18.1**	**+0.3**
	20nm,0.9s,baz=230,slow=9.5,SNR=5.6						
TPAW	**Teton Pass**	**33.63**	**335**	*e*P	**P**	**22 51 28.9**	**+1.1**
	22nm,1.0s						
NV01	**Mina Array Sit**	**33.73**	**321**	*e*P	**P**	**22 51 29.4**	**+0.7**
NVAR	**Mina Array Bea**	**33.73**	**321**	P	**P**	**22 51 29.4**	**+0.7**
	12nm,1.0s,baz=138,slow=8.7,SNR=5.1						
MOOW	**Moose Ponds**	**33.76**	**335**	*e*P	**P**	**22 51 30.1**	**+1.3**
	7.0nm,1.0s						
H17A	**Grant Village**	**34.23**	**336**	*e*P	**P**	**22 51 34.0**	**+1.1**
	10nm,1.0s						
YFT	**Old Faithful**	**34.38**	**336**	*e*P	**P**	**22 51 36.5**	**+2.3**
	17nm,1.1s						
YHH	**Holmes Hill**	**34.66**	**336**	*e*P	**P**	**22 51 39.1**	**+2.4**
	9.8nm,1.2s						

PTGA	**Pitinga**	**34.84**	**112**	P		**P**	**22 51 39.9**	**+1.6**
	32nm,0.9s,baz=306,slow=10,SNR=10							
QLMT	**Earthquake Lak**	**34.93**	**335**	*e*P		**P**	**22 51 41.5**	**+2.6**
HLID	**Hailey**	**35.22**	**331**	*e*P		**P**	**22 51 42.7**	**+1.3**
	12nm,0.9s							
MCMT	**McKenzie Canyo**	**35.51**	**334**	*e*P		**P**	**22 51 46.5**	**+2.5**
ULM	**Lac du Bonnet**	**36.29**	**356**	P		**P**	**22 51 50.2**	**0.0**
	8.2nm,0.9s,baz=252,slow=6.8,SNR=3.5							
WVOR	**Wild Horse Val**	**36.55**	**326**	*e*P		**P**	**22 51 52.7**	**0.0**
	13nm,1.0s							
J08A	**Circle Bar Ran**	**37.09**	**327**	*e*P		**P**	**22 51 56.5**	**-0.9**
	15nm,0.8s							
MSO	**Missoula**	**37.57**	**335**	*e*P		**P**	**22 52 00.3**	**-1.0**
	17nm,1.0s							
LPAZ	**La Paz**	**38.17**	**141**	P		**P**	**22 52 07.5**	**+0.2**
	3.4nm,0.9s,baz=348,slow=11,SNR=3.7							
F10A	**Beach Ranch, E**	**38.35**	**331**	*e*P		**P**	**22 52 07.8**	**-0.1**
	32nm,0.9s							
PGC	**Sidney**	**43.24**	**330**	*e*P		**P**	**22 52 44.1**	**-3.9**
	12nm,0.6s							
SCHQ	**Schefferville**	**45.18**	**20**	P		**P**	**22 53 03.9**	**+0.4**
	12nm,0.9s,baz=185,slow=12,SNR=3.2							
YKA	**Yellowknife Ar**	**51.05**	**347**	P		**P**	**22 53 49.1**	**+0.6**
	20nm,0.8s,baz=148,slow=7.8,SNR=10							
YKA				LR		LR	23 18 29.6	
	comp=Z,282nm,18.1s,baz=176,slow=40							
CPUP	**Villa Florida**	**52.32**	**140**	P		**P**	**22 53 57.9**	**-0.7**
	5.8nm,0.9s,baz=345,slow=7.3,SNR=3.9							
BDFB	**Brasília**	**52.44**	**123**	P		**P**	**22 53 59.7**	**0.0**
	10nm,0.9s,baz=261,slow=7.9,SNR=5.1							
BDFB				LR		LR	23 16 33.0	
	comp=Z,2µm,18.4s,baz=297,slow=36							
DLBC	**Dease Lake**	**52.69**	**336**	*e*P		**P**	**22 54 00.6**	**-0.4**
	37nm,1.0s							
INK	**Inuvik**	**60.46**	**344**	P		**P**	**22 54 56.7**	**+0.8**
	23nm,1.0s,baz=126,slow=8.4,SNR=7.4							
EGAK	**Eagle**	**60.75**	**338**	*e*P		**P**	**22 54 58.5**	**+0.6**
	15nm,1.0s							
DOT	**Dot Lake**	**61.26**	**336**	*e*P		**P**	**22 55 00.8**	**-0.6**
	11nm,1.1s							
PAX	**Paxson**	**61.50**	**335**	*e*P		**P**	**22 55 02.6**	**-0.5**
	11nm,1.0s							
RIDG	**Independ'e Rid**	**61.61**	**336**	*e*P		**P**	**22 55 03.6**	**-0.2**
	19nm,1.2s							
GHO	**Glory Hole Cre**	**62.44**	**333**	*e*P		**P**	**22 55 10.1**	**+0.7**
	39nm,1.0s							
HDA	**Harding Lake**	**62.74**	**336**	*e*P		**P**	**22 55 10.7**	**-0.6**
	16nm,1.2s							
KDAK	**Kodiak Island**	**62.77**	**328**	LR		LR	23 21 08.4	
	comp=Z,1µm,18.7s,baz=122,slow=35							
IL1	**Eielson Array**	**62.88**	**337**	*e*P		**P**	**22 55 12.3**	**+0.1**
ILAR	**Eielson Array**	**62.88**	**337**	P		**P**	**22 55 12.9**	**+0.7**
	14nm,1.1s,baz=128,slow=4.0,SNR=7.8							
ILB	**Eielson Array**	**62.88**	**337**	*e*P		**P**	**22 55 13.3**	**+1.1**
MCK	**McKinley**	**63.23**	**335**	*e*P		**P**	**22 55 14.0**	**-0.6**
	16nm,1.2s							
SKT	**Skwentna**	**63.66**	**333**	*e*P		**P**	**22 55 16.4**	**-1.1**
	13nm,1.0s							
BPAW	**Bear Paw Mtn.**	**64.21**	**335**	*e*P		**P**	**22 55 21.4**	**+0.3**
	18nm,1.1s							
PPLA	**Purkeypile**	**64.27**	**334**	*e*P		**P**	**22 55 20.9**	**-0.8**
	17nm,1.0s							
MLY	**Manley**	**64.48**	**336**	*e*P		**P**	**22 55 22.9**	**+0.1**
	18nm,1.0s							
EKA	**Eskdalemuir Ar**	**77.90**	**36**	P		**P**	**22 56 44.3**	**+0.3**
	11nm,0.8s,baz=279,slow=5.2,SNR=8.8							
ESDC	**Sonseca Array**	**79.63**	**52**	P		**P**	**22 56 54.3**	**+0.3**
	3.4nm,0.9s,baz=288,slow=5.6,SNR=6.7							
ES19	**SONSECA Array**	**79.68**	**52**	*e*P		**P**	**22 56 53.9**	**-0.4**
BILL	**Bilibino**	**81.49**	**338**	*e*P		**P**	**22 57 03.9**	**+0.6**
	13nm,0.9s							
DBIC	**Dimbokro**	**85.55**	**84**	P		**P**	**22 57 26.4**	**+1.2**
	10.0nm,1.1s,baz=277,slow=4.4,SNR=3.7							
SENIN	**Lac Senin/Sane**	**86.21**	**43**	*e*P		**P**	**22 57 27.3**	**-0.8**
	6.5nm,0.9s							
DAVOX	**Davos/Dischmat**	**87.79**	**42**	P		**P**	**22 57 37.0**	**+1.3**
	3.4nm,0.9s,baz=316,slow=14,SNR=3.8							
GERES	**GERESS Array B**	**89.53**	**40**	P		**P**	**22 57 44.7**	**+0.9**
	1.0nm,0.8s,baz=288,slow=4.0,SNR=3.8							
TOA1	**Torodi Ar. Sit**	**90.27**	**76**	*e*P		**P**	**22 57 48.5**	**+0.8**
TORD	**Torodi Ar. Bea**	**90.28**	**76**	P		**P**	**22 57 48.6**	**+0.8**
	1.5nm,0.9s,baz=264,slow=5.7							
TORD				LR		LR	23 38 15.6	
	comp=Z,910nm,18.4s,baz=290,slow=36							
TAM	**Tamanrasset**	**91.32**	**66**	*e*P		**P**	**22 57 53.4**	**+0.7**
	3.4nm,1.0s							
GEYT	**Alibeck**	**121.17**	**28**	PKP		**PKPdf**	**23 03 40.2**	**+0.8**
	1.2nm,0.9s,baz=297,slow=0.3,SNR=3.6							
KMBO	**Kilima Mbogo**	**128.12**	**80**	PKP		**PKPdf**	**23 03 54.6**	**+1.0**
	0.5nm,0.3s,baz=307,slow=5.1,SNR=3.6							
WR1	**Warramunga Arr**	**135.50**	**256**	*e*PKPdf		**PKPdf**	**23 04 07.0**	**-0.1**
WRA	**Warramunga Arr**	**135.50**	**256**	PKP		**PKPdf**	**23 04 07.0**	**-0.1**
	1.1nm,0.9s,baz=79,slow=1.7,SNR=4.5							
ASAR	**Alice Springs**	**135.76**	**250**	PKP		**PKPdf**	**23 04 08.0**	**+0.5**
	0.8nm,0.8s,baz=117,slow=2.4,SNR=4.3							
CHTO	**Chiang Mai**	**145.69**	**342**	*e*PKPdf		**PKPdf**	**23 04 25.1**	**-0.3**
CM31	**Chiang Mai Arr**	**146.02**	**341**	*e*PKPdf		**PKPab**	**23 04 27.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**146.02**	**341**	PKPbc		**PKPab**	**23 04 27.5**	**+0.2**
	14nm,0.7s,baz=340,slow=4.2,SNR=7.5							
CM01	**Chiang Mai Arr**	**146.05**	**341**	*e*PKPdf		**PKPab**	**23 04 27.5**	**+0.1**
HYB	**Hyderabad**	**147.38**	**17**	*i* PKP		**PKPbc**	**23 04 31.5**	**+0.7**

*AZER **07** 22:59:20.8±0.1,38.47N×46.56E,h5km,ml3.1/24,Error ellipse: s-maj=4.6km s-min=0.8km az=20.0*
*TEH **07** 22:59:22.3,38.44N×46.58E,h6km,ML3.1*
*DDA **07** 22:59:23.6,38.58N×46.58E,h6km,Md3.2*

ISC 07 22:59:23.0±1.1,38.50N±0.02×46.60E±0.02,h7km±11km, n39,σ1s57/63,20C-16D,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
IHRS	**Heris**	**0.39**	**117**	*e*Pg			**Pg**	**22 59 30.3**	**-0.4**
IHRS					IAMB		IAmb	22 59 37.2	
	comp=E,27µm,0.3s								
IHRS					IAMB		IAmb	22 59 37.4	
	comp=Z,84µm,0.2s								
IHRS					IAMB		IAmb	22 59 39.4	
	comp=N,125nm,0.1s								
ITBZ	**Tabriz**	**0.44**	**233**	*e*Pg			**Pg**	**22 59 30.2**	**-1.4**
ITBZ					IAMB		IAmb	22 59 36.5	
	comp=N,40µm,0.2s								
ITBZ					IAMB		IAmb	22 59 36.6	
	comp=E,27µm,0.2s								
ITBZ					IAMB		IAmb	22 59 36.6	
	comp=Z,20µm,0.3s								
ORD	**Ordubad**	**0.64**	**312**	↑P			**Pg**	**22 59 35.2**	**0.0**
ORD				↓S			**Sg**	**22 59 44.0**	**+0.5**
IMRD	**Marand**	**0.73**	**287**	*e*Pg			**Pg**	**22 59 36.3**	**-0.8**
IMRD					IAMB		IAmb	22 59 50.6	
	comp=Z,30µm,0.4s								
IMRD					IAMB		IAmb	22 59 51.6	
	comp=E,39µm,0.2s								
IMRD					IAMB		IAmb	22 59 54.7	
	comp=N,55nm,0.1s								
ISHB	**Shabestar**	**0.80**	**255**	*e*Pg			**Pg**	**22 59 37.3**	**-1.1**
ISHB					IAMB		IAmb	22 59 50.1	
	comp=E,16µm,0.2s								
ISHB					IAMB		IAmb	22 59 50.9	
	comp=Z,11µm,0.2s								
ISHB					IAMB		IAmb	22 59 52.0	
	comp=N,13µm,0.2s								
IBST	**Bostanabad**	**0.83**	**164**	*e*Pg			**Pg**	**22 59 36.8**	**-2.2**
IBST					IAMB		IAmb	22 59 37.1	
	comp=Z,10µm,0.2s								
IBST					IAMB		IAmb	22 59 49.9	
	comp=E,11µm,0.2s								
IBST					IAMB		IAmb	22 59 52.4	
	comp=N,9µm,0.3s								
IAZR	**Azarshahr**	**0.95**	**211**	*e*Pg			**Pg**	**22 59 39.5**	**-1.8**
IAZR					IAMB		IAmb	22 59 54.6	
	comp=Z,7µm,0.2s								
IAZR					IAMB		IAmb	22 59 58.0	
	comp=E,20µm,0.2s								
IAZR					IAMB		IAmb	23 00 01.0	
	comp=N,22µm,0.3s								
GRMI	**Germi**	**1.06**	**73**	*e*Pn			**Pb**	**22 59 43.4**	**-0.4**
ISRB	**Sarab**	**1.08**	**128**	*e*Pg			**Pg**	**22 59 42.1**	**-1.6**
ISRB					IAMB		IAmb	23 00 00.9	
	comp=N,13µm,0.2s								
ISRB					IAMB		IAmb	23 00 01.3	
	comp=Z,5µm,0.2s								
ISRB					IAMB		IAmb	23 00 06.7	
	comp=E,9µm,0.3s								
NAX	**Nakhchivan**	**1.09**	**308**	P			**Pb**	**22 59 43.8**	**-0.5**
	SNR=25								
NAX				↑S			**Sb**	**22 59 58.2**	**-0.6**
SBZ	**Shahbuz**	**1.21**	**318**	↑P			**Pg**	**22 59 45.7**	**-0.5**
SBZ				↓S			**Sg**	**23 00 01.2**	**-0.7**
LRK	**Lerik**	**1.37**	**83**	↑P			**Pn**	**22 59 48.6**	**-0.2**
	SNR=5.2								
LRK				↑S			**Sn**	**23 00 07.6**	**+0.2**
GLBA	**Ciilabad**	**1.58**	**62**	P			**Pg**	**22 59 53.5**	**+0.2**
	SNR=47								
GLBA				P			**Pg**	**22 59 53.6**	**+0.2**
	SNR=40								
GLBA				↑S			**Sg**	**23 00 18.1**	**+4.2**
MAKU	**Maku**	**1.72**	**300**	*e*Pn			**Pb**	**22 59 54.3**	**-0.8**
ASTR	**Astara**	**1.72**	**87**	P			**Pb**	**22 59 54.9**	**0.0**
	SNR=118								
ASTR				↑S			**Sg**	**23 00 20.2**	**+2.0**
LKRN	**Lenkeran, Azer**	**1.72**	**82**	P			**Pb**	**22 59 55.1**	**+0.2**
	SNR=55								
LKRN				↑S			**Sg**	**23 00 18.1**	**-0.2**
BRDA	**Brd**	**1.82**	**14**	↓P			**Pg**	**22 59 57.3**	**-0.5**
	SNR=12								
BRDA				↑S			**Sg**	**23 00 25.6**	**+4.2**
HYR	**Heyderabad**	**1.82**	**312**	↑P			**Pb**	**22 59 56.4**	**-0.4**
HYR				↓S			**Sg**	**23 00 22.4**	**+0.8**
ZRD	**Zardab**	**1.97**	**25**	↑P			**Pg**	**22 59 59.9**	**-0.8**
	SNR=17								
ZRD				↑S			**Sg**	**23 00 25.6**	**-0.6**
YOVA	**Hakkari_Y`…kse**	**2.04**	**244**	*i* P			**Pb**	**22 59 59.5**	**-1.0**
YOVA				*i* S			**Sg**	**23 00 31.3**	**+2.8**
GANJ	**Ganja**	**2.15**	**354**	P			**Pb**	**23 00 02.0**	**-0.3**
	SNR=28								
GANJ				↓S			**Sb**	**23 00 30.9**	**+1.5**
CLDR	**Caldiran**	**2.19**	**288**	*i* P			**Pb**	**23 00 03.3**	**+0.2**
CLDR				*i* S			**Sg**	**23 00 35.1**	**+1.7**
KDMR	**Kurdemir**	**2.24**	**33**	↓P			**Pb**	**23 00 03.2**	**-0.6**
	SNR=5.4								
KDMR				↑S			**Sg**	**23 00 34.8**	**-0.2**
MNGR	**Mingechevir, A**	**2.30**	**9**	↓S			**Sb**	**23 00 32.9**	**-0.6**
GDB	**GEDABAY**	**2.31**	**344**	↓P			**Pb**	**23 00 04.6**	**-0.6**
	SNR=12								
GDB				↓S			**Sg**	**23 00 35.9**	**-1.4**
IGDI	**IGDIR**	**2.39**	**306**	*i* P			**Pb**	**23 00 05.1**	**-1.3**
IGDI				*i* S			**Sb**	**23 00 36.5**	**+0.3**
ZNJK	**Zanjan**	**2.47**	**137**	*e*Pn			**Pn**	**23 00 04.9**	**+1.0**
HAKT	**HAKKARI**	**2.47**	**249**	*i* P			**Pg**	**23 00 08.9**	**-1.4**
HAKT				*i* S			**Sg**	**23 00 46.3**	**+4.0**
IML	**Ismayilli**	**2.60**	**28**	↑P			**Pn**	**23 00 07.3**	**+1.8**
	SNR=9.6								
IML				↓S			**Sb**	**23 00 42.0**	**-0.1**
QBL	**Gabala**	**2.62**	**21**	↓P			**Pb**	**23 00 08.6**	**-1.8**
	SNR=5.1								
CUKT	**Cukurca**	**2.68**	**243**	*i* P			**Pb**	**23 00 11.3**	**0.0**
GBS	**Qobustan**	**2.72**	**41**	↑P			**Pb**	**23 00 10.8**	**-1.3**
	SNR=3.3								
GBS				↑S			**Sb**	**23 00 44.6**	**-1.1**
QZX	**Qazax, Azerbai**	**2.72**	**340**	↑P			**Pb**	**23 00 11.2**	**-0.9**
	SNR=17								
QZX				↓S			**Sb**	**23 00 44.6**	**-1.1**
SEKA	**Sheki**	**2.75**	**9**	P			**Pb**	**23 00 10.6**	**-1.9**
	SNR=18								
PQL	**Pirkuli**	**2.76**	**33**	↑P			**Pb**	**23 00 11.0**	**-1.7**
	SNR=4.5								
PQL				↓S			**Sb**	**23 00 48.1**	**+1.3**
XNQ	**Khinaliq**	**2.92**	**23**	P			**Pn**	**23 00 12.3**	**+2.2**
	SNR=16								
ATGJ	**Altiaghaj**	**2.97**	**37**	↑P			**Pb**	**23 00 13.5**	**-2.8**
	SNR=13								
ATGJ				↓S			**Sb**	**23 00 51.3**	**-1.5**
ZKTA	**Zakatala**	**3.13**	**0**	↓S			**Sb**	**23 00 56.0**	**-1.5**
QSAR	**Qusar**	**3.27**	**22**	↓P			**Pn**	**23 00 15.5**	**+0.8**
	SNR=9.0								
QSAR				↑S			**Sb**	**23 00 58.2**	**-3.3**

IDC 07 23:08:11.9±1.9,37.78N×127.18E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.4/49,mbtmp3.6/4,MS3.1/1,Ms1 3.1/1, ms1mx2.8/38,Error ellipse: s-maj=113.0km s-min=23.2km az=70.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
DAV	**Davao City (W)**	**3.63**	**334**	LR			LR	23 10 55.2	
	comp=Z,230nm,18.2s,baz=340,slow=45								
FITZ	**Fitzroy Crossi**	**21.80**	**184**	P			P	23 13 06.3	+0.6
	1.0nm,0.6s,baz=0.0,slow=10,SNR=4.6								
WRA	**Warramunga Arr**	**24.61**	**164**	P			P	23 13 33.2	-0.9
	1.3nm,0.8s,baz=343,slow=10,SNR=9.8								
ASAR	**Alice Springs**	**28.06**	**167**	P			P	23 14 06.0	+0.7
	0.2nm,0.4s,baz=345,slow=12,SNR=2.9								
MKAR	**Makanchi Array**	**57.77**	**325**	P			P	23 18 04.8	-0.1
	0.7nm,0.5s,baz=122,slow=7.3,SNR=16								

IDC 07 23:32:48.8±2.1,4.66N×125.13E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.4/39,mbtmp3.5/3,Error ellipse: s-maj=199.6km s-min=26.4km az=64.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**26.07**	**160**	P			P	23 38 24.6	+0.3
	0.3nm,0.4s,baz=340,slow=9.7,SNR=6.5								
ASAR	**Alice Springs**	**29.43**	**163**	P			P	23 38 53.9	-0.4
	0.3nm,0.4s,baz=340,slow=7.2,SNR=4.3								
MKAR	**Makanchi Array**	**55.89**	**326**	P			P	23 42 28.4	-0.1
	0.2nm,0.3s,baz=118,slow=7.7,SNR=6.8								

*SOME **07** 23:34:28.8,40.15N×78.12E,h0km*
*KRNET **07** 23:34:31.2±0.1,39.87N×77.80E,mb3.0*
*NNC **07** 23:34:40.7±9.7,45.65N×77.22E,h7km±44km,mb3.2, mpv2.9,Error ellipse: s-maj=61.5km s-min=23.5km az=179.0*

ISC 07 23:34:30.2±2.8,39.9N±0.1×77.77E±0.08,h10km,n21, σ1s90/37,20C-8D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
NRN	**Naryn**	**2.07**	**320**	↑*i*P			**Pn**	**23 35 06.4**	**+1.1**
	baz=19								
NRN				↑*i*S			**Sn**	**23 35 32.3**	**+1.0**
	baz=19								
KDJ	**Kajisay**	**2.31**	**349**	↑*i*P			**Pn**	**23 35 09.5**	**+1.0**
	baz=49								
KDJ				↑*i*S			**Sn**	**23 35 37.5**	**+0.5**
	baz=49								
ULHL	**Ulahol**	**2.65**	**335**	↑*i*P			**Pn**	**23 35 14.3**	**+1.1**
	baz=34								
ULHL				↑*i*S			**Sn**	**23 35 45.8**	**+0.4**
	baz=34								
KZA	**Kyzart**	**2.92**	**320**	↑*i*P			**Pn**	**23 35 18.6**	**+1.5**
	baz=20								
KZA				↑*i*S			**Sn**	**23 35 52.9**	**+0.4**
	baz=20								
BOOM	**Boomskoye usch**	**2.96**	**333**	↓*i*P			**Pn**	**23 35 19.1**	**+1.6**
	baz=32								
BOOM				↓*i*S			**Sn**	**23 35 53.7**	**+0.5**
	baz=32								
SATY	**Saty**	**3.23**	**8**	*e*P			**Pn**	**23 35 25.1**	**+4.0**
	4.7nm,0.2s								
SATY				*e*S			**Sb**	**23 36 05.5**	**-1.5**
	18nm,0.6s								
TNSS	**Tian-Shan**	**3.23**	**349**	*e*P			**Pn**	**23 35 25.5**	**+4.1**
	10nm,0.2s								
TNSS				*e*S			**Sb**	**23 36 06.4**	**-1.0**
	12nm,0.5s								
ARLS	**Aral**	**3.29**	**308**	↑*i*P			**Pn**	**23 35 24.0**	**+2.0**
	baz=8.0								
ARLS				↑*i*S			**Sn**	**23 36 01.5**	**+0.3**
	baz=8.0								
MDOK	**Medeo**	**3.34**	**351**	Pg			**Pn**	**23 35 26.6**	**+4.0**
	2.1nm,0.3s								
MDOK				Lg			Lg	23 36 01.1	
	11nm,0.8s								
MDOK	**Medeo**	**3.34**	**351**	*e*P			**Pn**	**23 35 27.0**	**+4.3**
	6.2nm,0.2s								
MDOK				*e*S			**Sb**	**23 36 09.0**	**-1.4**
	9.6nm,0.4s								
UZB	**Uzynbulak**	**3.41**	**16**	*e*P			**Pn**	**23 35 25.3**	**+1.7**
	1.6nm,0.4s								
UZB				*e*S			**Sn**	**23 36 06.0**	**+1.8**
	7.2nm,0.8s								
UCH	**Uchtor**	**3.41**	**315**	↓*i*P			**Pn**	**23 35 25.4**	**+1.5**
	baz=15								
UCH				↓*i*S			**Sn**	**23 36 05.1**	**+0.4**
	baz=15								
KST	**Kastek**	**3.45**	**337**	*e*P			**Pb**	**23 35 30.0**	**-1.5**
	3.6nm,0.4s								
KST				*e*S			**Sb**	**23 36 13.8**	**+0.1**
	4.5nm,0.6s								
TKM2	**Tokmak 2**	**3.46**	**333**	↓Pn			**Pb**	**23 35 30.3**	**-1.5**
	3.5nm,0.6s								
TKM2				↑Lg			Lg	23 36 14.1	
	3.0nm,0.6s								
TKM2	**Tokmak 2**	**3.46**	**333**	↓*i*P			**Pn**	**23 35 25.9**	**+1.5**
	baz=32								
TKM2				↓*i*S			**Sn**	**23 36 05.7**	**+0.1**
	baz=32								
PDGK	**Podgornoye**	**3.69**	**20**	↑Pn			**Pn**	**23 35 25.7**	**-1.8**
	2.6nm,0.8s								
PDGK				↓Lg			Lg	23 36 10.3	
	3.9nm,0.6s								
AAK	**Ala-Archa**	**3.71**	**319**	↑Pn			**Pb**	**23 35 35.3**	**-0.7**
	1.4nm,0.4s								
AAK				↑Lg			Lg	23 36 31.6	
	8.3nm,0.9s								
AAK	**Ala-Archa**	**3.71**	**319**	↑*i*P			**Pn**	**23 35 29.2**	**+1.4**
	baz=19								
AAK				↑*i*S			**Sn**	**23 36 12.0**	**+0.4**
	baz=19								
AML	**Almayashu**	**3.83**	**308**	↑*i*P			**Pn**	**23 35 31.1**	**+1.5**
	baz=7.0								
AML				↑*i*S			**Sn**	**23 36 15.1**	**+0.3**
	baz=7.0								
CHKK	**Chushkaly**	**4.03**	**352**	*e*P			**Pb**	**23 35 38.8**	**-2.5**
	2.4nm,0.3s								
CHKK				*e*S			**Sb**	**23 36 29.1**	**-1.0**
	9.1nm,0.3s								
MNAS	**Manas**	**4.76**	**305**	↑Pn			**Pb**	**23 35 51.7**	**-2.2**
	2.9nm,1.1s								
MNAS				↑Lg			Lg	23 37 07.3	
	1.7nm,1.0s								

*ISCJB **07** 23:36:18.2±3.0, 13.94N±0.07×92.61W±0.09,h16km±23km, mb4.0/10,Error ellipse: s-maj=15.9km s-min=8.3km az=147.5*
*MEX **07** 23:36:18.4±0.3, 13.73N×92.70W,h14km±89km,MD4.0*
*NEIC **07** 23:36:18.3±0.0, 13.71N×92.68W,h20km,mb4.0/4, MD4.0(MEX),After MEX.*
*IDC **07** 23:36:18.1±1.0, 14.01N×92.52W,h0km,mb4.0/8, mb1 4.2/12,mb1mx4.0/43,mbtmp4.0/12,ML3.6/4,Error ellipse: s-maj=21.2km s-min=12.6km az=31.0*

ISC 07 23:36:18.4±3.7, 13.99N±0.08×92.60W±0.09,h5km±24km, n24,σ1s40/30,mb4.0/10,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PCIG		**1.81**	**341**	*e*P			**Pn**	**23 36 49.0**	**-1.2**
PCIG				*e*S			Sn	23 37 04.6	-8.8
PCIG		**1.81**	**341**	*e*P			**Pn**	**23 36 49.0**	**-1.2**
PCIG				*i* S			**Sn**	**23 37 12.3**	**-1.1**
APG	**El Apazote**	**2.30**	**64**	Pn			**Pn**	**23 36 56.9**	**-0.3**
	18nm,0.3s,baz=248,slow=7.5,SNR=44								
APG							Sn	23 37 14.0	-12
	61nm,0.3s,baz=249,slow=8.6,SNR=9.5								
APG							Lg	23 37 29.1	
	70nm,0.3s,baz=34,slow=23,SNR=5.3								
CCIG	**Comitan**	**2.32**	**11**	*e*P			**Pb**	**23 37 00.6**	**-0.3**
CCIG				*e*S			**Sn**	**23 37 27.1**	**+0.6**
CCIG	**Comitan**	**2.32**	**11**	*e*P			**Pn**	**23 36 57.6**	**+0.1**
CCIG				*e*S			**Sn**	**23 37 27.1**	**+0.6**
TGIG		**2.82**	**350**	*e*P			**Pn**	**23 37 03.7**	**-0.4**
TGIG				*e*S			**Sn**	**23 37 35.1**	**-3.4**
TGIG		**2.82**	**350**	*e*P			**Pn**	**23 37 03.7**	**-0.4**
TGIG				*e*S			**Sn**	**23 37 39.1**	**+0.6**
CMIG	**Matias Romero**	**3.79**	**325**	Pn			**Pn**	**23 37 18.2**	**+0.7**
	2.4nm,0.3s,baz=149,slow=9.6,SNR=13								
CMIG							Sn	**23 37 59.3**	**-3.2**
	6.9nm,0.3s,baz=82,slow=12,SNR=7.2								
CMIG							Lg	23 38 19.1	
	13nm,0.3s,baz=53,slow=20,SNR=7.0								
JTS	**JuntasAbangare**	**8.33**	**115**	Pn			**Pn**	**23 38 18.0**	**-1.9**
	2.1nm,0.3s,baz=26,slow=24,SNR=7.1								
JTS				Lg			Lg	23 40 27.5	
	0.4nm,0.3s,baz=324,slow=19,SNR=4.3								
JTS	**JuntasAbangare**	**8.33**	**115**	*e*Pn			**Pn**	**23 38 18.1**	**-1.9**
	22nm,0.8s								
JTS				Lg			Lg	23 40 27.5	
TXAR	**Lajitas Array**	**18.39**	**328**	P			**Pn**	**23 40 36.4**	**+2.0**
	0.0nm,0.3s,baz=153,slow=8.4,SNR=7.1								
ROSC	**El Rosal**	**20.18**	**115**	P			**P**	**23 40 54.8**	**+0.3**
	3.9nm,0.4s,baz=305,slow=19,SNR=7.7								
MIAR	**Mount Ida**	**20.48**	**358**	*e*P			**P**	**23 40 57.4**	**+0.2**
	8.7nm,0.8s								
MNTX	**Cornudas Mount**	**21.16**	**329**	*e*P			**P**	**23 41 05.9**	**+1.3**
	2.6nm,0.8s								
WMOK	**Wichita Mounta**	**21.40**	**346**	*e*P

2.7nm,0.8s,baz=337,slow=3.9,SNR=11

BJI ***07*** *23:42:14.8, 8˚.56S×148˚.56E, h108km, mb5.5/75, mB5.3/48*
ISCJB ***07*** *23:42:17.8±0.5, 8˚.63S±0˚.02×148˚.02E±0˚.02, h115km±4km, mb5.5/198, Error ellipse: s-maj=4.0km s-min=3.5km az=172.5*
IDC ***07*** *23:42:18.9±0.3, 8˚.63S×148˚.07E, h112km±2km, mb5.1/41, mb1 5.1/45, mb1mx5.0/50, mbtmp5.4/45, MS4.2/14, Ms1 4.2/14, ms1mx4.1/23, Error ellipse: s-maj=7.4km s-min=5.4km az=116.0*
NEIC ***07*** *23:42:19.5±0.5, 8˚.65S×148˚.03E, h118km±5km, mb5.5/79, Error ellipse: s-maj=4.7km s-min=3.4km az=82.0*
NEIC Felt [II] at Port Moresby. Also felt at Lae.
MOS ***07*** *23:42:19.2±1.0, 8˚.57S×147˚.91E, h124km, mb5.3/36, Error ellipse: s-maj=8.3km s-min=5.7km az=99.9*
GCMT ***07*** *23:42:20.5±0.3, 8˚.58S±0˚.02×147˚.98E±0˚.02, h133km±4km, MW5.6/107, Moment Tensor Solution. s34,c38; s107,c157; Duration: 1s5 Moment tensor: Scale 10^17 Nm; Mrr0.93±.12; Mθθ-2.18±.13; Mϕϕ1.25±.14; Mrθ-1.77±.08; Mθϕ-0.77±.13; Mϕr1.29±.07; Best double couple: Mo2.99700×10^17 NP1:ϕs296.00000°, δ78.00000°, λ129.00000°. NP2:ϕs40.00000°, δ40.00000°, λ18.00000°. Principal axes: T 3.0040, Plg43.0000°, Azm243.0000°; N -0.0180, Plg38.0000°, Azm107.0000°; P -2.9890, Plg24.0000°, Azm357.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***07*** *23:42:23.4±0.5, 9˚S±3˚×14˚8E±˚, h142km±5km, M5.4/97, mB5.8/69, mb5.5/97, MLv5.5/1, Mw(mB)5.4/69, Mwp7.2/1*
ISC 07 23:42:19.0±0.3, 8.66S±0.03×148.08E±0.04, h115km±2km, h115km:pP-P, n551, e1948/630, mb5.5/198, 22C-30D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**1.17**	**231**	P	**Pn**	**23 42 42.6**	**+0.1**
	2μm,0.3s,baz=53,slow=6.2,SNR=1553						
PMG				S	**Sn**	**23 43 00.5**	**+0.3**
	2μm,0.3s,baz=105,slow=16,SNR=14						
PMG				LR	LR	23 43 08.8	
	comp=Z,11μm,21.7s,baz=117,slow=42						
RABL	**Rabaul**	**6.01**	**43**	*e*Pn	**Pn**	**23 43 46.1**	**+0.4**
RABL				*e*Sn	Sn	23 44 20.7	-33
MANU	**Manus Island**	**6.61**	**354**	*e*Pn	**Pn**	**23 43 55.4**	**+1.6**
COEN	**Coen**	**7.13**	**222**	P	**Pn**	**23 44 01.6**	**+0.8**
	baz=7.2,SNR=681						
COEN	**Coen**	**7.13**	**222**	*e*Pn	**Pn**	**23 44 01.7**	**+0.9**
COEN				*e*Sn	**Sn**	**23 45 18.5**	**-1.9**
MMPI	**Merauke**	**7.62**	**271**	P	**Pn**	**23 44 09.6**	**+2.2**
	1μm,1.3s,27μm						
JAY	**Jayapura**	**9.55**	**309**	P	**Pn**	**23 44 31.3**	**-2.3**
	3.6nm,0.3s,baz=30,slow=4.0,SNR=14						
JAY				LR	LR	23 48 10.6	
	comp=Z,1μm,19.3s,slow=37						
JAY	**Jayapura**	**9.55**	**309**	P	**Pn**	**23 44 31.7**	**-1.9**
	433nm,1.0s,8μm						
GENI	**Genyem**	**9.92**	**307**	P	**Pn**	**23 44 40.7**	**+2.2**
	202nm,1.3s,3μm						
MTSU	**Mount Surprise**	**10.10**	**201**	P	**Pn**	**23 44 42.6**	**+1.6**
	baz=10,SNR=344						
CTA	**Charters Tower**	**11.50**	**189**	P	**Pn**	**23 45 01.6**	**+1.8**
	6.6nm,0.3s,baz=1.7,slow=15,SNR=60						
CTA				S	**Sn**	**23 47 07.4**	**+1.1**
	0.8nm,0.3s,baz=278,slow=19,SNR=1.7						
CTA				LR	LR	23 49 23.9	
	comp=Z,2μm,18.6s,baz=1.5,slow=37						
CTAO	**Charters Tower**	**11.50**	**189**	*e*Pn	**Pn**	**23 45 01.6**	**+1.8**
CTAO				*e*S	Sn	23 47 15.8	+10
CTAO	**Charters Tower**	**11.50**	**189**	*e*P	**Pn**	**23 45 01.6**	**+1.8**
CTAO				*e*S	Sn	23 47 15.9	+10
HNR	**Honiara**	**11.74**	**95**	LR	LR	23 49 39.9	
	comp=Z,638nm,19.4s,baz=276,slow=38						
HNR	**Honiara**	**11.74**	**95**	*e*Pn	**P**	**23 45 10.6**	**-0.9**
HNR	**Honiara**	**11.74**	**95**	*e*P	**P**	**23 45 10.6**	**-0.9**
QIS	**Mount Isa**	**14.38**	**214**	P	**Pn**	**23 45 38.2**	**+0.8**
	baz=14,SNR=94						
KDU	**Kakadu**	**15.85**	**254**	P	**Pn**	**23 45 54.5**	**-1.3**
	baz=16,SNR=53						
SAUI	**Saumlaki**	**16.62**	**271**	*e*Pn	**P**	**23 46 12.2**	**+6.4**
	844nm,1.1s						
SAUI	**Saumlaki**	**16.62**	**271**	P	**P**	**23 46 11.6**	**+5.8**
	768nm,1.4s,10μm						
FAKI	**Fak Fak**	**16.75**	**289**	*e*Pn	**Pn**	**23 46 04.8**	**-2.1**
	111nm,1.0s						
FAKI	**Fak Fak**	**16.75**	**289**	P	**Pn**	**23 46 05.1**	**-1.8**
	106nm,1.4s,3μm						
EIDS	**Eidsvold**	**16.86**	**171**	P	**P**	**23 46 10.1**	**+1.8**
	baz=17,SNR=17						
EIDS	**Eidsvold**	**16.86**	**171**	*e*Pn	**P**	**23 46 09.8**	**+1.4**
	74nm,0.8s						
MTN	**Manton Dam**	**17.16**	**255**	P	**P**	**23 46 10.2**	**-1.6**
	baz=17,SNR=21						
MTN	**Manton Dam**	**17.16**	**255**	*e*Pn	**P**	**23 46 10.4**	**-1.3**
	133nm,1.4s						
WRAB	**Tennant Creek**	**17.38**	**228**	*e*P	**P**	**23 46 13.6**	**-0.6**
	182nm,0.6s						
WRAB	**Tennant Creek**	**17.38**	**228**	*ce*P	**P**	**23 46 13.5**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,151nm,0.6s						
WB2	**Warramunga Arr**	**17.39**	**228**	*e*P	**P**	**23 46 13.5**	**-0.7**
WRA	**Warramunga Arr**	**17.39**	**228**	P	**Pn**	**23 46 14.3**	**-0.4**
	comp=Z,25nm,0.3s,baz=53,slow=11,SNR=453						
WRA				S	**Sn**	**23 49 23.5**	**-5.3**
	baz=51,slow=22,SNR=4.6						
WRA				LR	LR	23 53 07.6	
	comp=Z,2μm,19.1s,baz=60,slow=37						
WRA				ScP	**ScP**	**23 54 16.3**	**+1.7**
	baz=47,slow=2.6,SNR=9.2						
RMQ	**Roma**	**17.74**	**178**	P	**Pn**	**23 46 18.3**	**-0.5**
	baz=18,SNR=62						
QLP	**Quilpie**	**18.19**	**191**	P	**Pn**	**23 46 24.3**	**+0.1**
	baz=18,SNR=96						
SIJI	**Sorong**	**18.45**	**294**	P	**P**	**23 46 25.4**	**-0.6**
	comp=Z,11nm,0.3s,baz=108,slow=7.1,SNR=20						
SIJI				S	**S**	**23 49 49.7**	**-1.1**
	comp=Z,1.8nm,0.3s,baz=254,slow=19,SNR=3.3						
SWI	**Sorong**	**18.46**	**294**	P	**Pn**	**23 46 30.2**	**+2.7**
	comp=Z,82nm,1.0s,comp=Z,2μm						
PATS	**Pohnpei**	**18.47**	**34**	P	**P**	**23 46 25.3**	**-0.8**
	baz=18,SNR=7.7						
PATS	**Pohnpei**	**18.47**	**34**	*e*P	**Pn**	**23 46 27.1**	**-0.5**
	comp=Z,202nm,1.0s						
BNDI	**Bandanaira**	**18.52**	**282**	P	Pn	23 46 39.8	+12
KNRA	**Kununurra**	**20.12**	**248**	P	**P**	**23 46 42.4**	**-1.6**
	baz=20,SNR=43						
AS01	**Alice Springs**	**20.14**	**221**	*e*P	**P**	**23 46 42.1**	**-2.1**
AS31	**Alice Springs**	**20.17**	**221**	*e*P	**P**	**23 46 44.4**	**-0.2**
	comp=Z,72nm,0.5s						
ASAR	**Alice Springs**	**20.17**	**221**	P	**P**	**23 46 44.7**	**+0.1**
	comp=Z,61nm,0.5s,baz=52,slow=10.0,SNR=366						
ASAR				S	**S**	**23 50 24.8**	**-0.1**
	comp=Z,8.1nm,0.7s,baz=32,slow=21,SNR=3.4						
ASAR				ScP	**ScP**	**23 54 22.3**	**+1.5**
	comp=Z,2.8nm,0.8s,baz=72,slow=3.0,SNR=2.9						
AAI	**Ambon**	**20.38**	**283**	P	Pn	23 46 49.2	-0.8
	comp=Z,157nm,0.5s,comp=Z,3μm						
PALU	**Palau**	**20.90**	**319**	P	**P**	**23 46 52.9**	**+0.5**
	baz=21,SNR=30						
NLAI	**Namlea**	**21.55**	**283**	P	**P**	**23 47 00.7**	**+1.3**
	comp=Z,94nm,0.8s						
ARMA	**Armidale**	**21.90**	**172**	P	**P**	**23 47 03.6**	**+0.6**
	baz=22,SNR=47						
ARMA	**Armidale**	**21.90**	**172**	*e*P	**P**	**23 47 03.7**	**+0.6**
	comp=Z,211nm,1.0s						
LBMI	**Labuha**	**21.99**	**290**	P	**P**	**23 47 06.9**	**+2.8**
	comp=Z,165nm,1.0s,comp=Z,8μm						
DZM	**Mont Dzumac**	**22.13**	**129**	P	**P**	**23 47 05.7**	**+0.2**
	comp=Z,19nm,0.9s,baz=236,slow=9.9,SNR=10.0						
DZM	**Mont Dzumac**	**22.13**	**129**	*e*P	**P**	**23 47 06.3**	**+0.8**
	comp=Z,117nm,1.4s						
DZM				*e*pP	**pP**	**23 47 29.6**	**+2.3**
	comp=Z,372nm,1.4s						
DZM				*e*LR	LR	23 52 35.9	
	comp=Z,2μm,29.6s						
DZM	**Mont Dzumac**	**22.13**	**129**	*e*P	**P**	**23 47 04.1**	**-1.4**
DZM				*es*P	**pP**	**23 47 32.1**	**+4.9**
GUMO	**Guam**	**22.34**	**352**	P	**P**	**23 47 06.7**	**-0.9**
	comp=Z,253nm,0.9s,baz=135,slow=3.4,SNR=8.4						
GUMO				LR	LR	23 54 51.5	
	comp=Z,604nm,19.9s,baz=148,slow=34						
GUMO	**Guam**	**22.34**	**352**	*e*P	**P**	**23 47 08.4**	**+0.8**
	comp=Z,892nm,1.3s						
GUMO	**Guam**	**22.34**	**352**	*e*P	**P**	**23 47 08.4**	**+0.8**
GUMO				pmax	pmax		
	comp=Z,892nm,1.3s						
TNTI	**Ternate**	**22.67**	**293**	*e*P	**P**	**23 47 11.3**	**+0.3**
	comp=Z,215nm,0.9s						
TNTI	**Ternate**	**22.67**	**293**	P	**P**	**23 47 11.8**	**+0.8**
	comp=Z,267nm,1.0s,comp=Z,3μm						
CMSA	**Cobar Meteorol**	**22.87**	**185**	P	**P**	**23 47 12.2**	**-0.6**
	baz=23,SNR=45						
SANI	**Sanana**	**22.95**	**285**	P	**P**	**23 47 12.8**	**-0.9**
	comp=Z,116nm,1.2s,comp=Z,2μm						
SOEI	**Soe**	**23.53**	**265**	*e*P	**P**	**23 47 19.7**	**+0.4**
	comp=Z,99nm,0.6s						
SOEI	**Soe**	**23.53**	**265**	P	**P**	**23 47 19.9**	**+0.6**
	comp=Z,151nm,0.7s,comp=Z,4μm						
FITZ	**Fitzroy Crossi**	**23.74**	**244**	P	**P**	**23 47 20.4**	**-0.5**
	comp=Z,322nm,0.6s,baz=66,slow=7.5,SNR=820						
FITZ				S	**S**	**23 51 27.6**	**-0.3**
	comp=Z,19nm,0.9s,baz=266,slow=19,SNR=2.0						
FITZ	**Fitzroy Crossi**	**23.74**	**244**	P	**P**	**23 47 20.0**	**-0.9**
	baz=24,SNR=1000						
FITZ	**Fitzroy Crossi**	**23.74**	**244**	*e*P	**P**	**23 47 19.3**	**-1.6**
	comp=Z,408nm,0.9s						
FITZ				S	**S**	**23 51 27.6**	**-0.3**
STKA	**Stephens Creek**	**23.87**	**194**	P	**P**	**23 47 22.1**	**+0.1**
	comp=Z,46nm,0.4s,baz=358,slow=8.4,SNR=196						
STKA				LR	LR	23 57 36.8	
	comp=Z,2μm,18.9s,baz=8.7,slow=38						
STKA	**Stephens Creek**	**23.87**	**194**	P	**P**	**23 47 21.5**	**-0.5**
	baz=24,SNR=132						
STKA	**Stephens Creek**	**23.87**	**194**	*e*P	**P**	**23 47 21.4**	**-0.5**
	comp=Z,18nm,1.1s						
BATI	**Baumata**	**24.14**	**264**	P	**P**	**23 47 25.8**	**+1.2**
	comp=Z,182nm,0.6s,baz=153,slow=1.8,SNR=38						
BATI				S	**S**	**23 51 36.5**	**+2.1**
	comp=Z,10nm,0.4s,baz=246,slow=20,SNR=3.0						
BATI	**Baumata**	**24.14**	**264**	P	**P**	**23 47 25.9**	**+1.3**
	comp=Z,151nm,0.7s,comp=Z,3μm						
MGCD	**Mangrove Creek**	**24.59**	**174**	P	**P**	**23 47 29.5**	**+1.0**
	baz=25,SNR=10						
WRKA	**Warakurna**	**24.92**	**227**	P	**P**	**23 47 30.6**	**-1.0**
	baz=25,SNR=211						
ANA2	**Anatahan**	**24.95**	**355**	*e*P	**P**	**23 47 29.6**	**-2.3**
	comp=Z,120nm,0.6s						
MNI	**Manado**	**25.25**	**292**	P	**P**	**23 47 34.1**	**-0.6**
MNI				pmax	pmax		
	comp=Z,371nm,0.8s						
SARN	**Sarigan**	**25.30**	**355**	*e*P	**P**	**23 47 34.8**	**-0.3**
	comp=Z,74nm,1.0s						
BBSI	**Bau Bau**	**25.51**	**275**	P	**P**	**23 47 40.2**	**+3.1**
	comp=Z,25nm,1.2s,comp=Z,732nm						
YNG	**Young**	**25.52**	**179**	P	**P**	**23 47 37.5**	**+0.5**
	baz=26,SNR=47						
MMRI	**Maumere**	**25.55**	**268**	*e*P	**P**	**23 47 36.2**	**-1.3**
	comp=Z,457nm,0.5s						
MMRI	**Maumere**	**25.55**	**268**	P	**P**	**23 47 36.5**	**-0.9**
	comp=Z,592nm,0.5s,comp=Z,7μm						
SGSI	**Sangihe**	**25.62**	**298**	P	**P**	**23 47 38.5**	**+0.5**
	comp=Z,1μm,0.8s,comp=Z,9μm						
KMSI	**Cibinong**	**25.71**	**290**	P	**P**	**23 47 40.4**	**+1.6**
	comp=Z,806nm,1.0s						
HTT	**Hallett**	**26.06**	**198**	P	**P**	**23 47 42.4**	**+0.6**
	baz=26,SNR=114						
KWAJ	**Kwajalein Atol**	**26.07**	**49**	*i* P	**P**	**23 47 44.1**	**+2.1**
EDFI	**Ende, Flores**	**26.09**	**268**	P	**P**	**23 47 40.8**	**-1.6**
	comp=Z,149nm,1.1s,comp=Z,2μm						
LUWI	**Luwuk**	**26.31**	**285**	*e*P	**P**	**23 47 44.3**	**0.0**
	comp=Z,612nm,1.5s						
LUWI	**Luwuk**	**26.31**	**285**	P	**P**	**23 47 44.5**	**+0.2**
	comp=Z,329nm,1.3s,comp=Z,4μm						
BBOO	**Buckleboo**	**26.48**	**203**	P	**P**	**23 47 45.0**	**-0.6**
	baz=27,SNR=8.4						
BBOO	**Buckleboo**	**26.48**	**203**	*e*P	**P**	**23 47 45.3**	**-0.3**
	comp=Z,99nm,1.3s						
CAN	**Canberra**	**26.55**	**178**	*e*P	**P**	**23 47 44.8**	**-1.4**
	comp=Z,87nm,0.7s						
CAN	**Canberra**	**26.55**	**178**	*e*P	**P**	**23 47 44.8**	**-1.4**
CAN				pmax	pmax		
	comp=Z,87nm,0.7s						
CNB	**Canberra Magne**	**26.55**	**178**	P	**P**	**23 47 47.0**	**+0.7**
	baz=27,SNR=21						
TARA	**Tarawa**	**26.68**	**69**	*e*P	**P**	**23 47 47.1**	**-0.5**
	comp=Z,172nm,1.0s						
DDMP	**Marcelino,**	**26.70**	**303**	*e*P	**P**	**23 47 45.6**	**-2.1**
APSI	**Ampana**	**27.42**	**285**	P	**P**	**23 47 54.9**	**+0.6**
	comp=Z,136nm,1.2s,comp=Z,2μm						
MRSI	**Marisa**	**27.58**	**288**	P	**P**	**23 47 54.9**	**-0.8**
	comp=Z,31nm,0.5s,comp=Z,1μm						
BKSI	**Bulukumba**	**27.94**	**275**	P	**P**	**23 47 58.4**	**-0.5**
	comp=Z,20nm,0.9s,comp=Z,444nm						
BNSI	**Bone**	**28.11**	**277**	P	**P**	**23 48 00.6**	**+0.3**
	comp=Z,32nm,0.7s,comp=Z,1μm						
MILA	**Mila**	**28.28**	**178**	P	**P**	**23 48 02.6**	**+0.9**
	baz=28,SNR=11						
WBSI	**Waikabubak, Su**	**28.34**	**266**	P	**P**	**23 48 02.7**	**+0.2**
	comp=Z,99nm,0.5s,comp=Z,3μm						
SPSI	**Sidrap Palu**	**28.52**	**278**	P	**P**	**23 48 03.4**	**-0.6**
	comp=Z,15nm,0.6s,comp=Z,373nm						
ARPS	**Mount Arapiles**	**28.55**	**191**	P	**P**	**23 48 04.6**	**+0.6**
	baz=29,SNR=29						
FORT	**Forrest**	**28.87**	**218**	P	**P**	**23 48 06.6**	**-0.3**
	baz=29,SNR=543						
FORT	**Forrest**	**28.87**	**218**	*e*P	**P**	**23 48 06.5**	**-0.4**
	comp=Z,536nm,0.6s						
TOO	**Toolangi**	**28.88**	**184**	P	**P**	**23 48 07.7**	**+0.7**
	baz=29,SNR=24						
MPSI	**Mapaga**	**29.47**	**286**	P	**P**	**23 48 11.7**	**-0.7**
	comp=Z,26nm,1.0s,comp=Z,558nm						
PAGZ	**Pagadian**	**29.58**	**303**	*e*P	**P**	**23 48 12.2**	**-1.2**
MSLP	**Maasin**	**29.72**	**308**	*e*P	**P**	**23 48 13.2**	**-1.4**
PLAI	**Plampang**	**29.95**	**267**	P	**P**	**23 48 15.5**	**-1.2**
	comp=Z,104nm,1.1s,comp=Z,1μm						
MBWA	**Male Bar**	**30.02**	**242**	*e*P	**P**	**23 48 16.0**	**-1.2**
	comp=Z,46nm,0.7s						
TWSI	**Taliwang, Sumb**	**30.84**	**267**	P	**P**	**23 48 23.2**	**-1.3**
	comp=Z,53nm,0.7s						
BKB	**Balikpapan**	**31.91**	**282**	P	**P**	**23 48 37.0**	**+3.1**
	comp=Z,144nm,1.0s,comp=Z,2μm						
KBKI	**Kotabaru**	**32.17**	**278**	P	**P**	**23 48 36.1**	**-0.1**
	comp=Z,11nm,1.1s,comp=Z,1μm						
RCP	**Roxas**	**32.23**	**308**	*i* P	**P**	**23 48 37.0**	**+0.3**
IGBI	**Denpasar**	**32.55**	**267**	P	**P**	**23 48 39.2**	**-0.3**
	comp=Z,311nm,0.4s,comp=Z,6μm						
MEEK	**Meekatharra**	**33.15**	**234**	P	**P**	**23 48 44.6**	**-0.1**
	baz=33,SNR=175						
JAGI	**Jajag, Banyuwa**	**33.55**	**268**	*e*P	**P**	**23 48 45.1**	**-3.1**
	comp=Z,144nm,0.6s						
JAGI	**Jajag, Banyuwa**	**33.55**	**268**	P	**P**	**23 48 46.0**	**-2.2**
	comp=Z,232nm,0.8s,comp=Z,2μm						
MOO	**Moorlands**	**33.66**	**181**	P	**P**	**23 48 50.0**	**+1.3**
	baz=34,SNR=62						
SJMP	**San Jose**	**34.03**	**308**	*e*P	**P**	**23 48 52.3**	**-0.1**
TAU	**Tasmania Unive**	**34.12**	**181**	*e*P	**P**	**23 48 53.5**	**+0.7**
	comp=Z,154nm,0.9s						
TAU	**Tasmania Unive**	**34.12**	**181**	*e*P	**P**	**23 48 53.9**	**+1.1**
TAU				pmax	pmax		
	comp=Z,150nm,1.0s						
BLJI	**Banyuglugur**	**34.14**	**269**	P	**P**	**23 48 56.5**	**+3.1**
	comp=Z,62nm,0.5s						
GMJI	**Gumukmas**	**34.26**	**268**	P	**P**	**23 48 56.7**	**+2.3**
	comp=Z,51nm,1.0s						
TGY	**Tagaytay City**	**35.17**	**310**	P	**P**	**23 49 02.4**	**+0.1**
	comp=Z,194nm,0.3s,baz=290,slow=4.9,SNR=7.8						
GIRL	**Giralia**	**35.32**	**243**	P	**P**	**23 49 05.6**	**+2.1**
	baz=35,SNR=11						
BALP	**Baler**	**35.74**	**313**	*e*P	**P**	**23 49 05.8**	**-1.2**
PWJI	**Pagerwojo**	**35.89**	**268**	P	**P**	**23 49 08.8**	**+0.4**
	comp=Z,84nm,0.8s						
JCJ	**Chichijima**	**36.00**	**351**	P	**P**	**23 49 08.4**	**-0.7**
	comp=Z,73nm,0.3s,baz=248,slow=9.5,SNR=7.5						
JCJ				LR	LR	00 02 12.1	
	comp=Z,235nm,21.3s,baz=180,slow=33						
CBIJ	**Chichi jima**	**36.00**	**351**	*e*P	**P**	**23 49 06.8**	**-2.3**
	comp=Z,511nm,1.4s						
KLBR	**Kellerberrin**	**36.27**	**227**	P	**P**	**23 49 10.6**	**-0.8**
	baz=36,SNR=246						
MORW	**Morawa**	**36.29**	**232**	P	**P**	**23 49 11.6**	**-0.1**
	baz=36,SNR=46						
PCJI	**Pacitan**	**36.50**	**268**	P	**P**	**23 49 14.2**	**+0.6**
	comp=Z,288nm,1.5s						
BLDU	**Balidu**	**36.53**	**229**	P	**P**	**23 49 13.6**	**0.0**
	baz=37,SNR=42						
SMPP	**San Manuel, Pa**	**36.66**	**312**	*e*P	**P**	**23 49 12.7**	**-2.1**
WOJI	**Wonogiri, Jawa**	**36.77**	**268**	P	**P**	**23 49 15.4**	**-0.5**
	comp=Z,74nm,1.0s						
UGM	**Wanagama**	**37.16**	**268**	*e*P	**P**	**23 49 20.6**	**+1.3**
	comp=Z,226nm,1.2s						
SMRI	**Semarang**	**37.31**	**270**	*e*P	**P**	**23 49 20.5**	**-0.1**
	comp=Z,395nm,1.3s						
SMRI	**Semarang**	**37.31**	**270**	P	**P**	**23 49 20.9**	**+0.4**
	comp=Z,214nm,1.0s						
NWAO	**Narrogin (SRO)**	**37.36**	**225**	P	**P**	**23 49 20.1**	**-0.5**
	comp=Z,81nm,0.6s,baz=286,slow=7.4,SNR=66						
NWAO	**Narrogin (SRO)**	**37.36**	**225**	P	**P**	**23 49 20.2**	**-0.5**
	baz=38,SNR=45						
NWAO	**Narrogin (SRO)**	**37.36**	**225**	*e*P	**P**	**23 49 20.4**	**-0.2**
	comp=Z,120nm,0.8s						
NWAO				*e*PP	**PP**	**23 50 45.8**	**-2.3**
NWAO	**Narrogin (SRO)**	**37.36**	**225**	P	**P**	**23 49 19.9**	**-0.7**
	SNR=7.5						
NWAO	**Narrogin (SRO)**	**37.36**	**225**	*e*P	**P**	**23 49 20.4**	**-0.2**
NWAO				pmax	pmax		
	comp=Z,120nm,0.8s						
APYP	**Conner**	**37.38**	**315**	*e*P	**P**	**23 49 19.4**	**-1.5**
STKI	**Sintang**	**37.48**	**281**	P	**P**	**23 49 23.0**	**+1.1**
MUN	**Mundaring**	**37.59**	**227**	P	**P**	**23 49 23.2**	**+0.6**
	baz=38,SNR=10						
RKGY	**Rocky Gully**	**38.48**	**223**	P	**P**	**23 49 30.6**	**+0.6**
	baz=39,SNR=80						
KPJI	**Karang Pucung**	**38.78**	**269**	P	**P**	**23 49 33.0**	**+0.2**
	comp=Z,224nm,0.6s,comp=Z,3μm						
CMJI	**Cimerak**	**39.22**	**268**	P	**P**	**23 49 35.8**	**-0.7**
	comp=Z,416nm,0.8s,comp=Z,4μm						
JCJI	**Jatiwangi**	**39.51**	**270**	P	**P**	**23 49 39.2**	**+0.3**
	comp=Z,557nm,1.0s,comp=Z,7μm						
FOZ	**Fox Glacier**	**39.59**	**155**	*e*P	**P**	**23 49 40.6**	**+1.6**
	comp=Z,26nm,1.3s						
AFI	**Afiamalu**	**39.67**	**101**	P	**P**	**23 49 40.3**	**0.0**
	comp=Z,20nm,0.7s,baz=225,slow=11,SNR=2.9						
CISI	**Cisompet, Garu**	**39.87**	**269**	*e*P	**P**	**23 49 40.6**	**-1.4**
	comp=Z,356nm,1.0s						
CISI	**Cisompet, Garu**	**39.87**	**269**	P	**P**	**23 49 41.0**	**-0.9**
	comp=Z,450nm,1.0s,comp=Z,10μm						
LTZ	**Lake Taylor**	**40.07**	**152**	*e*P	**P**	**23 49 44.2**	**+1.0**
	comp=Z,30nm,0.6s						
LEM	**Lembang**	**40.12**	**270**	P	**P**	**23 49 44.3**	**+0.1**
	comp=Z,94nm,0.6s,baz=71,slow=4.7,SNR=23						
JOW	**Kunigami**	**40.18**	**332**	P	**P**	**23 49 44.4**	**+0.2**
	comp=Z,93nm,0.8s,baz=157,slow=8.2,SNR=29						
RPZ	**Rata Peaks**	**40.26**	**154**	P	**P**	**23 49 44.8**	**+0.1**
	comp=Z,18nm,0.5s,baz=295,slow=2.3,SNR=26						
RPZ	**Rata Peaks**	**40.26**	**154**	*e*P	**P**	**23 49 45.7**	**+1.0**
	comp=Z,20nm,0.7s						
WKZ	**Wanaka**	**40.34**	**157**	*e*P	**P**	**23 49 45.1**	**-0.2**
	comp=Z,65nm,1.3s						
OXZ	**Oxford**	**40.39**	**153**	*e*P	**P**	**23 49 45.9**	**+0.2**
	comp=Z,60nm,1.4s						
KHZ	**Kahutara**	**40.39**	**151**	*e*P	**P**	**23 49 46.3**	**+0.6**
	comp=Z,83nm,1.3s						
LBZ	**Lake Benmore**	**40.44**	**155**	*e*P	**P**	**23 49 46.9**	**+0.7**
	comp=Z,82nm,1.4s						
MLZ	**Mavora Lakes**	**40.45**	**158**	*e*P	**P**	**23 49 47.6**	**+1.4**
	comp=Z,17nm,0.8s						
H01W1	**Cape Leeuwin H**	**40.57**	**225**	P	**P**	**23 49 48.7**	**+1.6**
	baz=80,slow=5.4,SNR=14						
H01W3	**Cape Leeuwin H**	**40.58**	**225**	P	**P**	**23 49 48.5**	**+1.3**
	baz=80,slow=5.4,SNR=11						
H01W2	**Cape Leeuwin H**	**40.59**	**225**	P	**P**	**23 49 48.7**	**+1.4**
	baz=80,slow=5.4,SNR=13						
WHZ	**Wether Hill Ro**	**40.84**	**159**	*e*P	**P**	**23 49 47.7**	**-1.8**
	comp=Z,17nm,1.1s						
CBJI	**Citeko**	**40.92**	**270**	P	**P**	**23 49 49.8**	**-0.7**
	comp=Z,342nm,1.2s						
MQZ	**McQueen's Vall**	**40.96**	**153**	*e*P	**P**	**23 49 50.6**	**+0.1**
	comp=Z,41nm,1.1s						
TWG	**Pinlang**	**40.97**	**320**	*e*P	**P**	**23 49 49.4**	**-1.4**
	comp=Z,118nm,0.6s						
YOJ	**Yonaguni jima**	**41.02**	**324**	*e*P	**P**	**23 49 52.0**	**+0.9**
	comp=Z,195nm,1.0s						
YOJ	**Yonaguni jima**	**41.02**	**324**	*e*P	**P**	**23 49 52.0**	**+0.9**
YOJ				pmax	pmax		
	comp=Z,190nm,1.0s						
SKJI	**Sukabumi**	**41.16**	**269**	P	**P**	**23 49 52.2**	**-0.3**
	comp=Z,488nm,0.7s,comp=Z,5μm						
YULB	**Yu-li**	**41.24**	**321**	*e*P	**P**	**23 49 53.0**	**0.0**
	comp=Z,46nm,0.6s						
TPUB	**Ta-pu**	**41.60**	**320**	*e*P	**P**	**23 49 55.1**	**-0.8**
	comp=Z,126nm,0.7s						
**NACB

NJ2 pmax pmax
comp=Z,360nm,5.2s
NJ2 LR LR
comp=Z,730nm,23.9s
NJ2 LR LR
comp=Z,600nm,16.3s
NJ2 LR LR
comp=Z,820nm,17.3s
MNSI Mandailing Nat 49.23 279 P **P** **23 50 55.7 -0.6**
comp=Z,141nm,1.2s,comp=Z,2µm
SISI Saibi 49.30 276 P **P** **23 50 56.8 -0.1**
comp=Z,31nm,1.1s
KSRS Korea Array 49.60 339 P **P** **23 50 58.6 0.0**
comp=Z,39nm,0.7s,baz=157,slow=8.8,SNR=98
KSRS pP **pP** **23 51 24.8 -0.9**
comp=Z,24nm,0.8s,baz=156,slow=9.1,SNR=6.2
KSRS LR LR 00 11 40.0
comp=Z,122nm,21.2s,baz=155,slow=36
KSRS Korea Array 49.60 339 P **P** **23 50 58.7 0.0**
KSRS *PP **pP** **23 51 24.8 -0.9**
KSRS pmax pmax
comp=Z,37nm,0.7s
KSRS MLR MLR
comp=Z,122nm,21.2s
KS15 Wonju Array Si 49.61 339 *eP* **P** **23 50 59.1 +0.4**
KSAR Wonju Array Be 49.61 339 P **P** **23 50 58.6 0.0**
KSAR pP **pP** **23 51 24.8 -0.9**
KSAR Wonju Array Be 49.61 339 P **P** **23 50 58.7 0.0**
KSAR *PP **pP** **23 51 24.8 -0.9**
KS01 Wonju Array Si 49.64 339 *eP* **P** **23 50 58.0 -0.9**
SKLT Songkhla 49.85 287 P **P** **23 51 02.0 +1.0**
comp=Z,83nm,1.0s,comp=Z,1µm
PSI Prapat 50.31 281 P **P** **23 51 04.2 -0.5**
comp=Z,27nm,0.4s,baz=179,slow=1.4,SNR=54
PSI Prapat 50.31 281 *eP* **P** **23 51 04.2 -0.5**
comp=Z,157nm,1.2s
PSI Prapat 50.31 281 *eP* **P** **23 51 04.2 -0.5**
PSI pmax pmax
comp=Z,160nm,1.2s
SKNT Sakolnakorn 50.50 300 P **P** **23 51 06.6 +0.8**
comp=Z,60nm,0.8s,comp=Z,883nm
WHN Wuhan 50.67 322⇑ *iP* **P** **23 51 08.5 +1.6**
WHN pP **pP** **23 51 30.9 -3.1**
WHN S **S** **23 58 11.4 -1.9**
WHN pmax pmax
comp=Z,220nm,1.2s
WHN LR LR
comp=Z,2µm,14.9s
WHN LR LR
comp=Z,750nm,13.8s
WHN LR LR
comp=Z,2µm,16.7s
TSI Tuntungan 50.83 282 P **P** **23 51 09.0 +0.6**
comp=Z,165nm,0.4s
TRTT Trang 50.93 287 P **P** **23 51 09.8 +0.7**
comp=Z,24nm,1.4s,comp=Z,336nm
SRAK Srakaew 50.94 296 P **P** **23 51 05.7 -3.4**
comp=Z,60nm,0.9s,comp=Z,627nm
GSI Gunungsitoli 51.30 279 *eP* **P** **23 51 11.1 -0.8**
comp=Z,331nm,1.1s
GSI Gunungsitoli 51.30 279 P **P** **23 51 11.3 -0.6**
comp=Z,307nm,0.8s,comp=Z,3µm
PATY Pattaya 51.57 294 P **P** **23 51 14.7 +0.8**
comp=Z,22nm,0.8s
KCSI Kotacane, Aceh 51.60 281 P **P** **23 51 12.6 -1.6**
comp=Z,207nm,0.8s,comp=Z,2µm
NONG Nongkai 51.70 301 P **P** **23 51 15.2 +0.4**
comp=Z,3.3nm,0.9s
CHAI Chaiyaphum 51.76 298 P **P** **23 51 15.6 +0.4**
comp=Z,37nm,0.9s,comp=Z,299nm
TPTI 52.11 281 P **P** **23 51 17.7 -0.2**
comp=Z,169nm,1.1s,comp=Z,1µm
PKDT Phuket 52.23 287 P **P** **23 51 19.3 +0.5**
comp=Z,40nm,1.2s,comp=Z,533nm
PHET Kaeng Krachan 52.69 293 P **P** **23 51 23.2 +1.1**
comp=Z,36nm,0.8s,comp=Z,293nm
SNSI Sinabang, Aceh 52.75 280 P **P** **23 51 23.3 +0.6**
comp=Z,300nm,0.8s,comp=Z,3µm
ASAJ Asahikawa 52.76 355 P **P** **23 51 22.5 +0.4**
comp=Z,53nm,0.7s,baz=215,slow=6.7,SNR=15
ASAJ Asahikawa 52.76 355 *eP* **P** **23 51 23.5 +1.3**
comp=Z,67nm,0.8s
LHMI Lhok Sumawe 52.82 283 *eP* **P** **23 51 22.5 -0.6**
comp=Z,124nm,0.8s
LHMI Lhok Sumawe 52.82 283 P **P** **23 51 23.4 +0.3**
comp=Z,180nm,0.9s,comp=Z,2µm
PBKT Sadao Pong 52.92 298 *eP* **P** **23 51 25.0 +1.2**
comp=Z,18nm,0.9s
PBKT Sadao Pong 52.92 298 P **P** **23 51 24.8 +1.0**
comp=Z,16nm,1.1s
MLSI Meulaboh, Aceh 53.10 282 P **P** **23 51 24.0 -1.3**
comp=Z,520nm,0.7s,comp=Z,5µm
GYA Guiyang 53.25 312⇑ *iP* **P** **23 51 26.1 -0.1**
GYA pP pP 23 51 52.0 -1.5
GYA sP sP 23 52 03.8 -2.5
GYA PP **PP** **23 53 31.5 +3.9**
GYA ScP **ScP** **23 56 21.8 +2.0**
GYA S **S** **23 58 51.0 +2.0**
GYA sS sS 23 59 32.2 -3.8
GYA SS **SS** **00 02 31.6 +1.1**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,150nm,5.4s
GYA LR LR
comp=Z,820nm,19.2s
GYA LR LR
comp=Z,620nm,20.8s
GYA LR LR
comp=Z,930nm,20.5s
MSHR Mys Shultsa 53.29 344 *ceP* **P** **23 51 27.1 +1.1**
TIA Tai'an 53.29 329 P **P** **23 51 25.4 -0.8**
TIA S **S** **23 58 46.7 -2.3**
TIA pmax pmax
comp=Z,37nm,1.1s
TIA LR LR
comp=Z,520nm,18.0s
TIA LR LR
comp=Z,550nm,15.3s
TIA LR LR
comp=Z,1µm,17.5s
ENH Enshi 53.59 318 *eP* **P** **23 51 28.5 0.0**
comp=Z,38nm,0.7s
SRDT SRDT 53.68 295 P **P** **23 51 30.6 +1.2**
comp=Z,75nm,1.1s,comp=Z,1µm
UTTA Uttaradit 53.78 299 P **P** **23 51 31.1 +1.0**
comp=Z,40nm,0.9s,comp=Z,284nm
UTHA Uthaitani 53.85 296 P **P** **23 51 31.6 +1.0**
comp=Z,16nm,1.2s,comp=Z,167nm
TEY Ternei 54.44 350⇓ *eP* **P** **23 51 33.8 -0.6**
TEY pmax pmax
comp=Z,30nm,2.5s
SUKH Sukhothai 54.46 299 P **P** **23 51 36.7 +1.6**
comp=Z,22nm,1.0s
USRK Ussuriysk Ar. 54.60 346 P **P** **23 51 36.0 +0.5**
comp=Z,45nm,0.9s,baz=172,slow=7.9,SNR=44
USRK pP **pP** **23 52 02.6 -0.3**
baz=180,slow=5.2
UMPA Umpang Tak 54.62 297 P **P** **23 51 37.1 +0.8**
comp=Z,25nm,1.0s
LAMP Lampang 54.90 300 P **P** **23 51 39.6 +1.4**
comp=Z,33nm,0.9s,comp=Z,259nm
SNY Shenyang 55.04 338⇑ P **P** **23 51 38.8 0.0**
SNY S **S** **23 59 15.5 +3.2**
SNY pmax pmax
comp=Z,25nm,1.2s
SNY pmax pmax
comp=Z,290nm,5.2s
SNY LR LR
comp=Z,530nm,14.2s
SNY LR LR
comp=Z,420nm,13.2s
SNY LR LR
comp=Z,840nm,17.7s
PAYA Payao 55.06 301 P **P** **23 51 40.4 +1.0**
comp=Z,57nm,0.8s,comp=Z,422nm
CM01 Chiang Mai Arr 55.44 299 *eP* **P** **23 51 43.3 +1.2**
CM31 Chiang Mai Arr 55.47 299 *eP* **P** **23 51 44.3 +2.0**
CM31 Chiang Mai Arr 55.47 299 P **P** **23 51 44.1 +1.8**
SNR=31
CMAR Chiang Mai Arr 55.47 299 P **P** **23 51 43.3 +1.0**
comp=Z,56nm,0.9s,baz=124,slow=5.5,SNR=175
CMAR pP **pP** **23 52 12.6 +2.8**
comp=Z,42nm,1.1s,baz=130,slow=5.2,SNR=4.5
CMAR PKP2bc 00 21 59.7
comp=Z,0.4nm,0.3s,baz=287,slow=3.5,SNR=6.8
CMAR Chiang Mai Arr 55.47 299 P **P** **23 51 43.3 +1.0**

CMAR *PP **pP** **23 52 12.6 +2.8**
CMAR pmax pmax
comp=Z,51nm,0.9s
CMAR pmax pmax
comp=Z,42nm,1.2s
KMI Kunming 55.47 308 P **P** **23 51 44.4 +1.9**
KMI pP pP 23 52 08.7 -1.3
KMI sP sP 23 52 19.0 -3.7
KMI PP **PP** **23 53 51.3 +3.6**
KMI S **S** **23 59 22.6 +3.5**
KMI sS sS 00 00 10.2 +3.7
KMI SS **SS** **00 03 05.8 0.0**
KMI pmax pmax
comp=Z,58nm,1.1s
KMI LR LR
comp=Z,1µm,21.3s
KMI LR LR
comp=Z,640nm,17.0s
KMI LR LR
comp=Z,1µm,21.1s
YSS Yuzh-Sakhalins 55.57 356 *eP* **P** **23 51 42.8 +0.4**
comp=Z,84nm,0.8s
YSS Yuzh-Sakhalins 55.57 356⇑ *iP* **P** **23 51 42.9 +0.4**
YSS *e*
YSS pmax pmax
comp=Z,90nm,0.8s
YSS pmax pmax
comp=Z,700nm,3.0s
YSS MLR MLR
comp=Z,300nm,16.0s
MDJ Mudanjiang 55.60 344 P **P** **23 51 42.8 +0.1**
MDJ PP **PP** **23 53 47.7 -0.5**
MDJ pmax pmax
comp=Z,98nm,0.9s
MDJ pmax pmax
comp=Z,290µm,3.0s
MDJ Mudanjiang 55.60 344 *eP* **P** **23 51 43.0 +0.2**
comp=Z,124nm,1.2s
CMMT Chiang Mai 55.61 300 P **P** **23 51 44.3 +1.0**
comp=Z,67nm,1.0s,comp=Z,636nm
CHTO Chiang Mai 55.61 300 *eP* **P** **23 51 44.5 +1.2**
comp=Z,67nm,1.0s
CHTO Chiang Mai 55.61 300 P **P** **23 51 44.7 +1.4**
SNR=25
CHTO Chiang Mai 55.61 300 *eP* **P** **23 51 44.5 +1.2**
CHTO pmax pmax
comp=Z,67nm,1.0s
CHTO Chiang Mai 55.61 300 P **P** **23 51 44.4 +1.1**
comp=Z,298nm,1.1s,comp=Z,3µm
CN2 Changchun 56.11 340 *eP* **P** **23 51 46.2 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
XAN Xi'an 56.41 321 P **P** **23 51 48.1 -0.7**
XAN pP pP 23 52 17.1 +0.7
XAN sP sP 23 52 28.6 -0.5
XAN S **S** **23 59 30.7 -0.2**
XAN ScS **ScS** **00 01 21.5 -5.6**
XAN pmax pmax
comp=Z,140nm,1.0s
XAN pmax pmax
comp=Z,170nm,2.8s
XAN LR LR
comp=Z,740nm,15.7s
XAN LR LR
comp=Z,580nm,17.2s
BJT Baijiatuan 56.72 331 *eP* **P** **23 51 50.5 -0.3**
comp=Z,20nm,0.8s
BJT Baijiatuan 56.72 331 *eP* **P** **23 51 50.5 -0.3**
BJT pmax pmax
comp=Z,20nm,0.8s
BJI Beijing 56.73 331⇑ *iP* **P** **23 51 50.7 -0.2**
BJI pP **pP** **23 52 14.4 -4.1**
BJI S **S** **23 59 36.0 +1.2**
BJI pmax pmax
comp=Z,18nm,1.2s
TIY Taiyuan 56.90 327 *eP* **P** **23 51 51.8 -0.4**
TIY sP **sP** **23 52 33.0 +0.4**
TIY S **S** **23 59 35.9 -1.4**
TIY SS **SS** **00 03 29.1 +1.4**
TIY pmax pmax
comp=Z,160nm,4.3s
TIY LR LR
comp=Z,740nm,15.7s
TIY LR LR
comp=Z,210nm,10.9s
TIY LR LR
comp=Z,690nm,14.9s
CD2 Chengdu 57.89 315⇓ P **P** **23 51 59.7 +0.4**
CD2 pP pP 23 52 23.4 -3.6
CD2 PP **PP** **23 54 09.2 +0.2**
CD2 S **S** **23 59 53.3 +2.8**
CD2 sS sS 00 00 34.6 -3.6
CD2 SS **SS** **00 03 47.2 +3.7**
CD2 pmax pmax
comp=Z,240nm,0.6s
CD2 pmax pmax
comp=Z,240nm,6.0s
CD2 LR LR
comp=Z,2µm,15.9s
CD2 LR LR
comp=Z,2µm,19.9s
CD2 LR LR
comp=Z,3µm,19.4s
KLR Kul'dur 59.40 348 P **P** **23 52 09.5 +0.2**
comp=Z,44nm,1.1s,baz=168,slow=5.7,SNR=45
KLR Kul'dur 59.40 348 *iP* **P** **23 52 08.8 -0.5**
TYV Tymovskoe 59.47 356 *eP* **P** **23 52 10.2 +0.5**
TYV *e*S **S** **00 00 13.2 +3.2**
TYV pmax pmax
comp=Z,500nm,4.2s
TYV pmax pmax
comp=Z,62nm,1.3s
TYV smax smax
comp=E,800nm,7.6s
SKR Severo-Kuril's 59.51 6 *eP* P 23 52 05.2 -4.8
SKR *e* 23 54 23.7
SKR *e*PPP PPP 23 55 55.3
SKR *e*S **S** **00 00 04.9 -5.6**
SKR MLR MLR
comp=Z,600nm,19.0s
HHC Hu-ho-hao-te 59.65 328 *eP* **P** **23 52 14.3 +3.0**
HHC pmax pmax
comp=Z,32nm,0.6s
HHC pmax pmax
comp=Z,200nm,6.6s
GRNR Gornyy 60.05 351 *eP* **P** **23 52 14.7 +1.0**
GRNR pmax pmax
comp=Z,21nm,1.0s
BTO Baotou 60.28 327 *eP* **P** **23 52 16.3 +0.6**
KIP Kipapa 60.76 60 *eP* **P** **23 52 21.2 +2.1**
comp=Z,253nm,1.4s
KIP Kipapa 60.76 60 *eP* **P** **23 52 21.2 +2.1**
KIP pmax pmax
comp=Z,250nm,1.4s
LZH Lanzhou 60.92 320 *eP* **P** **23 52 21.7 +1.5**
LZH pP pP 23 52 47.2 -0.9
LZH sP sP 23 52 59.3 -1.4
LZH PP **PP** **23 54 42.9 +7.1**
LZH S **S** **00 00 27.4 -2.1**
LZH sS sS 00 01 13.5 -4.1
LZH pmax pmax
comp=Z,290nm,1.1s
LZH pmax pmax
comp=Z,470nm,5.4s
LZH LR LR
comp=Z,370nm,14.1s
LZH LR LR
comp=Z,570nm,14.4s
LZH LR LR
comp=Z,570nm,15.5s
PPT Papeete 61.14 105 LR LR 00 13 23.7
comp=Z,105nm,21.0s,baz=196,slow=30
PPT2 Papeete2 61.14 105 *e*LQ LQ 00 08 06.0
comp=Z,2µm,41.8s
PPT2 *e*LR LR 00 10 42.4
comp=Z,525nm,26.5s
TBI Tubuai 61.37 112 *e*LQ LQ 00 08 12.7
comp=Z,949nm,31.2s
TBI *e*LR LR 00 10 48.9
comp=Z,668nm,30.0s
NKL Nikolayevsk 61.89 355 *iP* **P** **23 52 26.5 +0.4**
NKL *e* 23 52 53.8
NKL pmax pmax
comp=Z,80nm,1.0s
PEA0B Petropavlovsk- 62.07 7 *eP* **P** **23 52 28.1 +0.8**
comp=Z,109nm,1.1s
PETK Petropavlovsk- 62.07 7 P **P** **23 52 27.9 +0.5**
comp=Z,40nm,0.8s,baz=164,slow=6.0,SNR=36
PETK pP **pP** **23 52 55.1 -0.3**
comp=Z,70nm,1.1s,baz=178,slow=7.0,SNR=10
PETK LR LR 00 14 35.7
comp=Z,207nm,21.4s,baz=194,slow=31
PETK Petropavlovsk- 62.07 7 *eP* **P** **23 52 27.6 +0.3**
PET Petropavlovsk 62.10 7 *eP* P 23 52 34.0 +6.5
PET *eS* **S** **00 00 50.5 +7.1**
PET MLR MLR
comp=Z,400nm,19.0s
HIA Hailar 62.81 340 *eP* **P** **23 52 32.6 +0.3**
comp=Z,71nm,0.9s
HIA Hailar 62.81 340 *iP* **P** **23 52 32.0 -0.3**
HIA pmax pmax
comp=Z,56nm,1.0s
BRDH Bariadhala 63.42 301 P **P** **23 52 37.8 +1.0**
comp=Z,91nm,0.3s,baz=102,slow=5.3,SNR=9.7
SHL Shillong 64.37 304 *eP* **P** **23 52 44.0 +0.7**
comp=Z,212nm,1.2s
SHL *e*PcP **PcP** **23 53 15.7 -1.2**
SHL Shillong 64.37 304 *eP* **P** **23 52 44.0 +0.7**
SHL *e* 23 53 15.7
SHL pmax pmax
comp=Z,210nm,1.2s
SHL Shillong 64.37 304 *eP* **P** **23 52 42.0 -1.3**
SHL *e*S **S** **00 01 12.0 -1.1**
ZEA Zeya 64.62 346 *eP* **P** **23 52 44.2 +0.1**
ZEA pmax pmax
comp=N,190nm,1.0s
ZEA pmax pmax
comp=E,59nm,1.0s
ZEA pmax pmax
comp=Z,390nm,1.2s
GTA Gaotai 65.46 321⇓ P **P** **23 52 50.7 +0.6**
GTA pP pP 23 53 14.8 -3.6
GTA PcP **PcP** **23 53 19.8 -1.3**
GTA sP sP 23 53 26.5 -4.4
GTA PP **PP** **23 55 17.5 +1.8**
GTA S **S** **00 01 26.3 +0.4**
GTA sS sS 00 02 10.0 -4.6
GTA ScS **SKSac** **00 02 29.3 -5.6**
GTA pmax pmax
comp=Z,36nm,1.0s
GTA pmax pmax
comp=Z,160nm,7.6s
GTA LR LR
comp=Z,240nm,17.8s
GTA LR LR
comp=Z,320nm,18.1s
GTA LR LR
comp=Z,380nm,20.0s
LSA Lhasa 66.69 307 P **P** **23 52 59.7 +1.1**
LSA Lhasa 66.69 307 *eP* **P** **23 52 59.6 +1.0**
comp=Z,32nm,0.7s
LSA Lhasa 66.69 307 *eP* **P** **23 52 59.6 +1.0**
LSA pmax pmax
comp=Z,32nm,0.7s
ULN Ulaanbaatar 66.94 331 *eP* **P** **23 52 59.7 +0.3**
comp=Z,314nm,0.8s
ULN Ulaanbaatar 66.94 331 P **P** **23 52 59.7 +0.3**
SNR=8.9
ULN Ulaanbaatar 66.94 331 *eP* **P** **23 52 59.7 +0.3**
ULN pmax pmax
comp=Z,26nm,0.8s
SONM Songino Array 67.24 331 P **P** **23 53 01.7 +0.5**
comp=Z,13nm,0.6s,baz=154,slow=6.1,SNR=67
SONM pP **PcP** **23 53 28.4 +0.1**
comp=Z,21nm,1.1s,baz=180,slow=5.8,SNR=4.3
SONM PKP2bc 00 21 28.1
comp=Z,3.4nm,1.2s,baz=318,slow=4.1,SNR=11
SONM LR LR 00 24 10.5
comp=Z,236nm,18.8s,baz=170,slow=37
SONA1 Songino Array 67.24 331 *eP* **P** **23 53 01.4 +0.1**
MA2 Magadan 68.05 1 P **P** **23 53 06.2 +0.3**
comp=Z,16nm,0.7s,baz=148,slow=19,SNR=4.5
MA2 pP **pP** **23 53 33.6 -0.7**
comp=Z,50nm,0.9s,baz=151,slow=6.4,SNR=5.9
PALK Pallekele 69.00 281 *eP* **P** **23 53 13.2 +0.4**
comp=Z,39nm,1.0s
PALK Pallekele 69.00 281 *eP* **P** **23 53 13.7 +0.9**
PALK pmax pmax
comp=Z,39nm,1.0s
VNDA Vanda 69.21 177 P **P** **23 53 13.2 +0.3**
comp=Z,51nm,0.9s,baz=330,slow=7.1,SNR=222
VNDA LR LR 00 21 44.4
comp=Z,296nm,19.0s,baz=334,slow=34
VNDA Vanda 69.21 177 *eP* **P** **23 53 13.1 +0.2**
comp=Z,99nm,1.1s
RAMN Ramite 69.27 303 *eP* **P** **23 53 15.1 +0.6**
comp=Z,38nm,0.5s
SBA Scott Base 69.84 176 *eP* **P** **23 53 18.0 +1.3**
comp=Z,105nm,1.4s
SBA Scott Base 69.84 176 *eP* **P** **23 53 18.2 +1.4**
SBA pmax pmax
comp=Z,94nm,1.4s
JIRN Jiri 69.87 304 *eP* **P** **23 53 18.9 +0.6**
comp=Z,103nm,0.7s
GUN Gumba 70.22 304 *eP* **P** **23 53 21.0 +0.6**
ZAK Zakamensk 70.47 331 *eP* **P** **23 53 20.6 -0.6**
ZAK *e* 23 53 48.7
ZAK pmax pmax
comp=Z,32nm,1.2s
ZAK pmax pmax
comp=Z,24nm,1.2s
PKI Pulchoki 70.48 303 *eP* **P** **23 53 22.2 +0.2**
PKIN Phulchoki 70.50 303 *eP* **P** **23 53 22.1 +0.1**
KKN Kakani 70.67 303 *eP* **P** **23 53 23.4 +0.4**
comp=Z,118nm,0.8s
DMN Daman 70.75 303 *eP* **P** **23 53 24.2 +0.7**
TLY Talaya 71.19 333 *eP* **P** **23 53 25.2 -0.2**
GKN Gorkha 71.28 303 *eP* **P** **23 53 26.9 +0.3**
comp=Z,2.8nm,0.5s
SEY Seymchan 71.46 2 P **P** **23 53 26.4 -0.3**
comp=Z,2.6nm,0.3s,baz=172,slow=23,SNR=10
SEY pP **pP** **23 53 54.8 -0.6**
comp=Z,15nm,0.9s,baz=174,slow=6.4,SNR=5.9
SEY Seymchan 71.46 2 *iP* **P** **23 53 26.6 -0.1**
BOD Bodaibo 71.83 342⇑ *iP* **P** **23 53 27.4 -1.6**
BOD *e* 23 53 57.2
BOD pmax pmax
comp=Z,35nm,1.4s
YAK Yakutsk 71.92 351 P **P** **23 53 29.5 0.0**
comp=Z,32nm,0.4s,baz=90,slow=0.2,SNR=7.7
YAK Yakutsk 71.92 351 *eP* **P** **23 53 27.5 -1.9**
YAK *e**PP **pP** **23 53 57.1 -1.1**
YAK *eS* **S** **00 02 37.8 -3.2**
YAK *e* 00 03 19.9
YAK *e**SS **sS** **00 03 32.1 +1.6**
YAK pmax pmax
comp=Z,59nm,1.3s
YAK pmax pmax
comp=N,16nm,1.2s
YAK pmax pmax
comp=Z,31nm,1.0s
YAK smax smax
comp=E,226nm,3.7s
YAK smax smax
comp=N,136nm,3.0s
KOLN Koldanda 72.06 303 *eP* **P** **23 53 31.6 +0.3**
comp=N,142nm,0.8s
DANN Dangsing 72.12 303 *eP* **P** **23 53 31.7 -0.1**
MOY Mondy 72.41 331 *eP* **P** **23 53 33.0 +0.2**
MOY pmax pmax
comp=Z,52nm,1.4s
PYUN Piuthan 72.68 303 *eP* **P** **23 53 35.0 0.0**
comp=Z,181nm,0.8s
HYB Hyderabad 73.40 291 *iP* **P** **23 53 39.5 +0.3**
HYB *e*pP **pP** **23 54 11.0 +2.9**
KNGR Kungurtug, Tuv 73.45 329 *iP* **P** **23 53 38.3 -0.6**
H08S2 Diego Garcia H 74.71 264 P **P** **23 53 47.9 +1.3**
baz=25,slow=7.7,SNR=4.0
H08S3 Diego Garcia H 74.72 264 P **P** **23 53 47.3 +0.7**
baz=25,slow=7.7,SNR=4.5
H08S1 Diego Carcia H 74.73 264 P **P** **23 53 47.9 +1.2**
baz=25,slow=7.7,SNR=3.9
WMQ Urumqi 75.50 319 P **P** **23 53 51.7 +0.8**
WMQ PcP **PcP** **23 54 03.0 -0.4**
WMQ pP pP 23 54 19.8 -0.1
WMQ sP sP 23 54 32.7 +0.4
WMQ pmax pmax
comp=Z,120nm,1.1s
WMQ pmax pmax
comp=Z,760nm,3.8s
HVS Khovu-Aksy 75.72 328 *iP* **P** **23 53 52.4 +0.4**

HVS pmax pmax
comp=Z,88nm,1.3s
BILL Bilibino 77.60 7 *e*P **P 23 54 02.4 +0.3**
comp=Z,41nm,1.2s
BILL Bilibino 77.60 7 *d i*P **P 23 54 02.1 0.0**
BILL *i* *PP **pP 23 54 31.1 -0.2**
BILL *e* 23 56 55.1
BILL *e*PPP PPP 23 58 47.0
BILL pmax pmax
comp=Z,46nm,1.3s
CHGN Chignik 78.25 27 *e*P **P 23 54 06.1 +0.1**
DGZ Jazzator, Alta 78.41 325 *d i*P **P 23 54 06.8 -0.4**
DGZ pmax pmax
comp=Z,25nm,0.9s
MKAR Makanchi Array 80.22 321 P **P 23 54 16.9 0.0**
comp=Z,21nm,0.6s,baz=102,slow=7.2,SNR=229
MKAR pP **pP 23 54 46.2 0.0**
comp=Z,26nm,0.9s,baz=102,slow=6.4,SNR=8.5
MAW Mawson 80.22 203 P **P 23 54 16.3 -0.2**
comp=Z,16nm,0.6s,baz=92,slow=6.1,SNR=99
MAW pP **pP 23 54 47.0 +1.2**
comp=Z,20nm,1.0s,baz=82,slow=6.0,SNR=5.6
MAW LR LR 00 29 32.3
comp=Z,211nm,19.1s,baz=55,slow=35
MAW Mawson 80.22 203 P **P 23 54 16.2 -0.4**
baz=80,SNR=36
TIXI Tiksi 81.15 354 *i* P **P 23 54 21.4 +0.1**
TIXI pmax pmax
comp=Z,13nm,0.9s
QSPA South Pole Qui 81.32 180 *e*P **P 23 54 22.2 -0.4**
ZALV Zalesovo Beam 81.82 328 P **P 23 54 24.6 -0.6**
comp=Z,42nm,0.6s,baz=118,slow=5.0,SNR=162
ZALV pP **pP 23 54 53.9 -0.8**
comp=Z,16nm,0.8s,baz=118,slow=4.6,SNR=4.3
KSH Kashi 81.94 312 P **P 23 54 27.1 +0.7**
KSH sP sP 23 55 03.2 -4.8
KSH PP **PP 23 57 38.4 +2.8**
KSH S **S 00 04 27.7 -3.4**
KSH SS **SS 00 09 53.1 +0.5**
KSH pmax pmax
comp=Z,28nm,0.8s
KSH pmax pmax
comp=Z,550nm,5.5s
KSH LR LR
comp=Z,500nm,7.9s
KSH LR LR
comp=Z,460nm,7.9s
KSH LR LR
comp=Z,880nm,13.3s
NVS Novosibirsk 83.05 328 ⇓ *i*P **P 23 54 30.8 -0.7**
NVS *e* 23 55 00.8
NVS *e*S **S 00 04 34.7 -6.7**
NVS pmax pmax
comp=N,12nm,1.2s
NVS pmax pmax
comp=E,24nm,1.2s
NVS pmax pmax
comp=Z,40nm,1.2s
NVS smax smax
comp=N,22nm,2.0s
NVS smax smax
comp=E,77nm,2.0s
KZA Kyzart 83.26 314 P **P 23 54 34.2 +0.7**
SNR=38
TKM2 Tokmak 2 83.28 315 P **P 23 54 33.6 +0.2**
SNR=18
KBK Karagaybulak 83.65 315 P **P 23 54 35.5 +0.3**
SNR=16
UCH Uchtor 83.83 314 P **P 23 54 37.2 +0.8**
SNR=26
CHMS Chumysh 83.89 315 P **P 23 54 36.4 +0.1**
SNR=18
FRU Bishkek 83.94 315 *i* P **P 23 54 35.5 -1.0**
FRU *i* 23 55 05.5
FRU *i* S **S 00 04 49.0 -2.0**
FRU pmax pmax
comp=Z,32nm,1.5s
AAK Ala-Archa 83.96 315 P **P 23 54 37.3 +0.5**
comp=Z,18nm,0.6s,baz=110,slow=5.2,SNR=63
AAK pP **pP 23 55 05.7 -0.6**
comp=Z,16nm,1.0s,baz=91,slow=5.1,SNR=3.9
AAK Ala-Archa 83.96 315 P **P 23 54 37.2 +0.5**
SNR=24
AAK Ala-Archa 83.96 315 *e*P **P 23 54 36.9 +0.1**
comp=Z,24nm,0.7s
AAK pP **pP 23 55 05.7 -0.6**
AAK Ala-Archa 83.96 315 P **P 23 54 37.3 +0.5**
SNR=11
AAK Ala-Archa 83.96 315 *i* P **P 23 54 36.5 -0.3**
AAK pmax pmax
comp=Z,17nm,0.8s
KURK Kurchatov 83.97 323 *e*P **P 23 54 36.2 -0.1**
KURK pP **pP 23 55 05.6 -0.3**
KURK Kurchatov 83.97 323 P **P 23 54 36.2 -0.1**
SNR=13
KURK Kurchatov 83.97 323 *de*P **P 23 54 35.4 -1.0**
KURK pmax pmax
comp=Z,33nm,1.0s
KURBB Kurchatov Arra 83.99 323 P **P 23 54 36.3 -0.2**
comp=Z,16nm,0.6s,baz=114,slow=4.2,SNR=85
KURBB pP **pP 23 55 05.6 -0.4**
comp=Z,20nm,0.8s,baz=118,slow=3.8,SNR=9.5
USP Ospenovka 84.15 315 P **P 23 54 37.9 +0.3**
SNR=31
AML Almayashu 84.38 314 P **P 23 54 39.7 +0.6**
SNR=33
EKS2 Erkin-Say 84.47 314 P **P 23 54 39.9 +0.6**
SNR=25
TCOL CIGO, UAF Yank 87.17 23 P **P 23 54 51.3 -0.6**
baz=243
COLA College 87.17 23 *e*P **P 23 54 50.8 -1.1**
comp=Z,68nm,0.9s
COLA College 87.17 23 *e*P **P 23 54 50.8 -1.1**
COLA pmax pmax
comp=Z,67nm,0.9s
HDA Harding Lake 87.31 23 P **P 23 54 51.8 -0.8**
baz=244
POKR Poker Plat Res 87.44 22 P **P 23 54 52.4 -0.8**
baz=243
ILAR Eielson Array 87.50 23 P **P 23 54 52.4 -1.1**
comp=Z,38nm,0.7s,baz=250,slow=4.8,SNR=385
ILAR pP **pP 23 55 22.2 -1.0**
comp=Z,18nm,0.9s,baz=259,slow=4.9,SNR=5.9
ILAR PP **PP 23 58 13.3 -6.6**
comp=Z,4.5nm,1.1s,baz=240,slow=7.1,SNR=3.3
NRIK Noril'sk 88.12 342 P **P 23 54 55.5 -0.8**
comp=Z,27nm,0.9s,baz=100,slow=4.6,SNR=37
NRIK pP **pP 23 55 25.0 -1.2**
comp=Z,14nm,0.8s,baz=136,slow=4.9,SNR=4.9
TOLK Toolik Lake Re 88.34 19 P **P 23 54 57.9 +0.4**
baz=241
SYO Syowa Base 88.48 200 ⇑ *e*P **P 23 54 57.0 -1.1**
SYO Syowa Base 88.48 200 ⇓ *i*PcP **PcP 23 55 00.0 +0.3**
SYO Syowa Base 88.48 200 ⇑ *i*pP pP 23 55 21.9 -6.0
BVAR Borovoye Array 89.54 324 P **P 23 55 02.3 -1.1**
comp=Z,5.1nm,0.5s,baz=108,slow=6.4,SNR=51
BVAR pP **pP 23 55 32.0 -1.2**
comp=Z,7.4nm,0.9s,baz=114,slow=3.7,SNR=5.1
BRVK Borovoye 89.61 324 *e*P **P 23 55 02.4 -1.3**
comp=Z,14nm,0.9s
BRVK Borovoye 89.61 324 *ce*P **P 23 55 02.6 -1.1**
BRVK pmax pmax
comp=Z,4.0nm,0.7s
EGAK Eagle 89.75 24 *e*P **P 23 55 04.4 +0.3**
comp=Z,21nm,0.8s
DAWY Dawson 90.22 25 *e*P **P 23 55 07.0 +0.6**
comp=Z,18nm,0.9s
EPYK Eagle Plains 92.01 23 P **P 23 55 15.1 +0.5**
baz=253
INK Inuvik 93.72 21 P **P 23 55 21.4 -1.0**
comp=Z,3.2nm,0.6s,baz=232,slow=6.2,SNR=6.0
INK PP **PP 23 59 04.0 -5.0**
comp=Z,6.6nm,1.2s,baz=288,slow=3.2,SNR=3.5
J01E Myrtle Point 94.39 47 P **P 23 55 26.9 +0.8**
baz=262
L02E Cave Junction 94.50 48 P **P 23 55 27.0 +0.4**
baz=262
K02D Willamette Mer 94.52 48 P **P 23 55 27.6 +0.8**
baz=262
O02D Mt. Diablo Mer 94.86 50 P **P 23 55 29.8 +1.5**
baz=263
M02C Callahan 94.96 49 P **P 23 55 30.0 +1.2**
baz=263
N02D Trinity Center 95.02 49 P **P 23 55 29.8 +0.7**
baz=263
HUMO Hull Mountain 95.03 48 *e*P **P 23 55 29.7 +0.7**
comp=Z,38nm,0.9s
GEYT Alibeck 95.23 307 P **P 23 55 28.9 -1.2**
comp=Z,5.2nm,0.7s,baz=263,slow=12,SNR=19
GEYT pP **pP 23 55 59.3 -0.7**
comp=Z,3.7nm,0.9s,baz=267,slow=3.0,SNR=3.2
L04D Klamath Falls 95.46 48 P **P 23 55 32.1 +1.0**
baz=263
NVL N'lazarevskaya 95.48 193 *e*P **P 23 55 30.7 +0.2**
NVL pmax pmax
comp=Z,14nm,1.0s
I04A Tendick Farm, 95.57 47 P **P 23 55 31.6 +0.1**
baz=263
O03E Paynes Creek 95.62 50 P **P 23 55 34.8 +2.9**
baz=264
J04D Umpqua Nationa 95.72 47 P **P 23 55 33.0 +0.6**
baz=264
M04C Macdoel 95.76 49 P **P 23 55 33.6 +1.1**
baz=264
B05A Bryant 96.27 42 P **P 23 55 34.6 +0.1**
baz=264
J05D Fort Rock, OR 96.36 47 P **P 23 55 35.5 +0.2**
baz=264
PKM Mcpherson Peak 96.61 56 P **P 23 55 37.4 +0.8**
baz=264
AKTO Aktyubinsk 96.65 320 P **P 23 55 34.5 -1.7**
comp=Z,3.3nm,0.8s,baz=97,slow=4.8,SNR=9.5
AKTO pP **pP 23 56 04.6 -1.5**
comp=Z,4.0nm,0.9s,baz=62,slow=2.6,SNR=5.7
ARU Arti 96.88 326 P **P 23 55 34.8 -2.2**
comp=Z,3.2nm,0.5s,baz=95,slow=7.7,SNR=8.8
ARU pP **pP 23 56 04.9 -2.1**
comp=Z,1.3nm,0.3s,baz=62,slow=2.3,SNR=1.8
ARU Arti 96.88 326 P **P 23 55 34.9 -2.2**
ARU 23 59 29.0
ARU S **SKSac 00 06 01.8 -1.5**
SNAA Sanae 97.55 189 P **P 23 55 38.8 -1.2**
SNAA Sanae 97.55 189 *e*P **P 23 55 39.6 -0.4**
ISA Isabella, Lake 97.77 55 P **P 23 55 40.5 -1.2**
baz=263
EDW2 Edwards Air Fo 98.09 56 P Pdif 23 55 43.9 +0.7
baz=265
NVAR Mina Array Bea 98.14 52 P Pdif 23 55 44.7 +1.2
comp=Z,5.3nm,0.9s,baz=255,slow=6.0,SNR=21
NVAR pP pP 23 56 12.6 -0.9
comp=Z,7.6nm,0.9s,baz=255,slow=6.7,SNR=11
CWC Cottonwood Cre 98.15 54 P Pdif 23 55 44.0 +0.5
baz=265
MPMC Manual Prospec 98.60 55 P Pdif 23 55 46.1 +0.6
baz=266
VNA2 Neumayer--Watz 98.89 188 P **P 23 55 45.2 -0.7**
baz=166,slow=4.2
VNA3 Neumayer Olymp 98.89 187 P **P 23 55 44.9 -1.0**
MONP2 Monument Peak 99.24 58 P **Pdif 23 55 50.9 +2.4**
baz=266
VNA1 Neumayer--Stat 99.25 188 P **Pdif 23 55 46.4 -1.0**
PFO Pinyon Flats O 99.26 57 P **Pdif 23 55 49.9 +1.5**
baz=266
TPFO Pinon Flats 99.26 57 P **Pdif 23 55 50.4 +1.9**
baz=266
NEW Newport 99.59 42 P **Pdif 23 55 49.9 +0.4**
baz=268
TPNV Topopah Spring 99.66 54 P **Pdif 23 55 51.6 +1.3**
baz=266
BELC Belle Mtn. Jos 99.67 57 P **Pdif 23 55 52.1 +1.7**
baz=266
TUQ Turquoise Moun 99.83 56 P **Pdif 23 55 52.8 +1.8**
baz=266
GMRC Granite Mounta 100.00 56 P **Pdif 23 55 52.8 +1.0**
baz=266
R11A Troy Canyon, C 100.26 53 P **Pdif 23 55 54.7 +1.8**
baz=267
IRM Iron Mountain 100.39 57 P **Pdif 23 55 54.8 +1.4**
baz=267
HLID Hailey 101.34 47 P **Pdif 23 55 58.4 +0.8**
baz=269
PDAR Pinedale Array 104.90 48 Pdiff **Pdif 23 56 13.3 -0.2**
comp=Z,0.5nm,0.6s,baz=259,slow=3.0,SNR=5.3
ARCES ARCESS Array B 109.10 342 Pdiff **Pdif 23 56 30.4 -0.9**
comp=Z,2.5nm,0.7s,baz=67,slow=9.3,SNR=5.1
ARCES PKiKP **PKiKP 00 00 34.0 -0.8**
comp=Z,5.2nm,1.0s,baz=49,slow=3.9,SNR=4.0
TXAR Lajitas Array 110.08 62 PKiKP **PKiKP 00 00 37.6 -0.4**
comp=Z,0.7nm,0.9s,baz=267,slow=2.1,SNR=5.0
TXAR pPKiKP **pPKiKP 00 01 09.2 +0.1**
comp=Z,2.8nm,1.1s,baz=263,slow=5.9,SNR=8.5
TXAR PKKPbc **PKKPbc 00 11 40.3 -0.2**
comp=Z,0.4nm,0.7s,baz=108,slow=7.0,SNR=4.5
FINES FINESS Array B 112.52 334 Pdiff **Pdif 23 56 45.3 -1.3**
comp=Z,1.5nm,0.6s,baz=29,slow=4.4,SNR=8.7
FINES PKiKP **PKiKP 00 00 40.4 -1.0**
comp=Z,2.0nm,0.6s,baz=174,slow=3.6,SNR=6.6
BOSA Boshof 113.58 234 PKiKP **PKiKP 00 00 44.5 -0.1**
comp=Z,3.0nm,0.8s,baz=310,slow=2.8,SNR=4.1
BRTR Keskin Array B 114.25 310 PKP PKPdf 00 00 45.3 -0.3
comp=Z,1.4nm,1.0s,baz=252,slow=2.3,SNR=6.1
BRTR PP **PP 00 01 43.5 +1.0**
comp=Z,1.0nm,0.7s,baz=113,slow=6.0,SNR=4.0
AKASG Malin Array Be 114.77 322 PKP PKPdf 00 00 45.2 -0.9
comp=Z,1.2nm,0.6s,baz=65,slow=2.3,SNR=5.9
LSZ Lusaka 115.88 248 *e*PKPdf **PKPdf 00 00 49.8 +0.5**
SORM Soroca 116.08 320 ⇓ *i*P **PKPdf 00 00 48.1 -0.5**
SORM Soroca 116.08 320 ⇓ PKiKP **PKPdf 00 00 48.1 -0.5**
TLB Topalu 117.28 316 ⇓ *i*P **PKPdf 00 00 50.3 -0.8**
TLB Topalu 117.28 316 ⇓ PKiKP **PKPdf 00 00 50.3 -0.8**
BIZ Bicaz 117.89 319 ⇑ *i*P **PKPdf 00 00 52.4 +0.2**
BURAR Bucovina Array 118.24 320 ⇑ *i*P **PKPdf 00 00 53.8 +0.8**
BURAR Bucovina Array 118.24 320 ⇑ PKiKP **PKPdf 00 00 53.8 +0.8**
MLR Muntele Rosu 118.44 317 ⇓ *i*P **PKPdf 00 00 53.2 -0.3**
MLR Muntele Rosu 118.44 317 ⇓ PKiKP **PKPdf 00 00 53.2 -0.3**
NB2 NORSAR Subarra 118.81 338 PKPdf **PKPdf 00 00 52.2 -1.4**
comp=Z,5.5nm,0.9s,baz=44,slow=1.9
NB2 NORSAR Subarra 118.81 338 PKPdf **PKPdf 00 00 52.2 -1.4**
baz=44,slow=1.9
NOA NORSAR Array B 118.81 338 PKP **PKPdf 00 00 52.8 -0.8**
comp=Z,1.3nm,0.6s,baz=54,slow=2.0,SNR=5.9
VOIR 119.06 318 ⇓ *i*P **PKPdf 00 00 54.3 -0.3**
VOIR 119.06 318 ⇓ PKiKP **PKPdf 00 00 54.3 -0.3**
PLCA Paso Flores 119.32 147 PKP **PKPdf 00 00 54.6 -0.7**
comp=Z,1.8nm,0.7s,baz=336,slow=2.6,SNR=4.8
ARR Arges 119.36 318 ⇑ *i*P **PKPdf 00 00 55.3 +0.1**
HUMR Humele 119.39 317 ⇑ *i*P **PKPdf 00 00 54.0 -1.2**
TRPA Tarpa 119.74 321 ⇓ *i*P **PKPdf 00 00 55.4 -0.3**
DRGR 120.13 320 ⇑ *i*P **PKPdf 00 00 56.1 -0.5**
DRGR 120.13 320 ⇑ PKiKP **PKPdf 00 00 56.1 -0.5**
GZR Gura Zlata 120.58 318 ⇑ *i*P **PKPdf 00 00 57.5 0.0**
GZR Gura Zlata 120.58 318 ⇑ PKiKP **PKPdf 00 00 57.5 0.0**
NIE Niedzica 120.59 323 *e*PKP **PKPdf 00 00 58.3 +0.9**
NIE Niedzica 120.59 323 *e*PKiKP **PKPdf 00 00 58.3 +0.9**
SIRR Siria 121.00 319 ⇓ *i*P **PKPdf 00 00 58.0 -0.2**
VTS Vitosha 121.22 315 ⇓ *i*P **PKPdf 00 00 58.9 -0.1**
VTS Vitosha 121.22 315 ⇓ PKiKP **PKPdf 00 00 58.9 -0.1**
BZS Buzias 121.27 319 ⇓ *i*P **PKPdf 00 00 57.9 -0.8**
BZS Buzias 121.27 319 ⇓ PKiKP **PKPdf 00 00 57.9 -0.8**
MDVR Moldovita 121.50 318 ⇓ *i*P **PKPdf 00 00 59.0 -0.3**
MORC Moravsky Berou 122.04 324 ⇓ *i*P **PKPdf 00 01 00.2 0.0**
MORC Moravsky Berou 122.04 324 ⇓ PKiKP **PKPdf 00 01 00.2 0.0**
MORC Moravsky Berou 122.04 324 *e*PKiKP **PKPdf 00 01 00.1 -0.1**
JAVC Velka Javorina 122.39 323 *e*PKiKP **PKPdf 00 01 01.9 +1.0**
DPC Dobruska-Polom 122.46 326 *e*PKP **PKPdf 00 01 01.2 +0.2**
DPC Dobruska-Polom 122.46 326 *e*PKiKP **PKPdf 00 01 01.2 +0.2**
VRAC Vranov 122.81 324 *e*PKiKP **PKPdf 00 01 01.3 -0.3**
MODS Modra-Piesok 122.84 323 *e*PKiKP **PKPdf 00 01 01.4 -0.3**
KRUC Moravsky 123.04 324 *e*PKiKP **PKPdf 00 01 01.7 -0.3**
TREC Trest 123.45 325 *e*PKP **PKPdf 00 01 03.0 +0.1**
TREC Trest 123.45 325 *e*PKiKP **PKPdf 00 01 03.0 +0.1**
BRG Berggiesshubel 123.51 327 *e*PKP PKPdf 00 01 34.5 +32
comp=Z,2.9nm,0.8s
CLL Collm 123.78 328 ⇓ *i*PKPdf **PKPdf 00 01 03.4 0.0**
comp=Z,7.0nm,0.9s
CLL *i* 00 01 35.7
CLL Collm 123.78 328 ⇓ *i*PKiKP **PKPdf 00 01 03.4 0.0**
CLL pmax pmax
comp=Z,7.0nm,0.9s
CONA Conrad Observa 123.89 323 *i* PKiKP **PKiKP 00 01 04.1 0.0**
comp=Z,6.0nm,1.0s,SNR=5.3
TSUM Tsumeb 123.91 240 *e*PKPdf **PKPdf 00 01 04.7 -0.1**
ARSA Arzberg 124.41 323 *i* PKiKP **PKPdf 00 01 04.4 -0.3**
comp=Z,3.4nm,0.9s
KHC Kasperske Hory 124.61 325 *e*PKP **PKPdf 00 01 05.3 +0.2**
KHC *ex* x 00 01 36.0
KHC Kasperske Hory 124.61 325 *e*PKiKP **PKPdf 00 01 05.3 +0.2**
KHC *e* 00 01 36.0
NKC Novy Kostel 124.65 327 *e*PKP **PKPdf 00 01 05.1 0.0**
NKC Novy Kostel 124.65 327 *e*PKiKP **PKPdf 00 01 05.1 0.0**
GERES GERESS Array B 124.69 325 PKP **PKPdf 00 01 04.6 -0.8**
comp=Z,1.9nm,0.5s,baz=40,slow=2.3,SNR=11
GERES pPKP **pPKPdf 00 01 35.9 -0.7**
comp=Z,1.8nm,0.7s,baz=75,slow=1.1,SNR=4.4
MOA Molln 124.87 324 *i* PKPdf **PKPdf 00 01 05.0 -0.6**
comp=Z,3.4nm,0.8s
PERS Pernice 124.94 322 *e*PKPdf **PKPdf 00 01 05.5 -0.4**
PERS Pernice 124.94 322 *e*PKPdf **PKPdf 00 01 05.5 -0.4**
SOKA Soboth 124.97 322 *i* PKiKP **PKPdf 00 01 06.0 +0.1**
comp=Z,12nm,1.1s
BOJS Bojanci 125.39 321 *e*PKPdf **PKPdf 00 01 06.9 +0.3**
BOJS Bojanci 125.39 321 *e*PKPdf **PKPdf 00 01 06.9 +0.3**
VISS Visnje 125.50 321 *e*PKPdf **PKPdf 00 01 07.0 +0.1**
VISS Visnje 125.50 321 *e*PKPdf **PKPdf 00 01 07.0 +0.1**
KBA Koelnbreinsper 125.79 323 *i* PKPdf **PKPdf 00 01 06.5 -1.2**
comp=Z,4.2nm,0.9s
MYKA Terra Mystica 125.84 323 *i* PKiKP **PKPdf 00 01 07.3 -0.3**
comp=Z,4.7nm,1.2s
ABTA Abfaltersbach 126.45 323 *i* PKPdf **PKPdf 00 01 07.6 -1.2**
comp=Z,15nm,1.2s,SNR=7.7
MATE Matera 126.47 315 ⇑ *i*P **PKPdf 00 01 03.3 -5.5**
WATA Walderalm 126.69 324 *i* PKiKP **PKPdf 00 01 09.7 +0.4**
comp=Z,3.9nm,0.7s
WTTA Wattenberg 126.70 324 *i* PKiKP **PKPdf 00 01 09.7 +0.3**
comp=Z,9.7nm,0.7s
MOTA Moosalm 126.96 325 *i* PKiKP **PKPdf 00 01 09.6 -0.2**
comp=Z,4.0nm,0.6s
SQTA Sankt Quirin 126.97 324 *i* PKiKP **PKPdf 00 01 09.7 -0.1**
comp=Z,14nm,1.1s
RETA Reutte 127.08 325 *i* PKiKP **PKPdf 00 01 09.8 -0.2**
comp=Z,8.2nm,1.3s
FETA Feichten 127.35 324 *i* PKiKP **PKPdf 00 01 10.9 +0.3**
comp=Z,13nm,1.2s,SNR=6.5
DAVA Damuels 127.69 325 *i* PKiKP **PKPdf 00 01 11.6 +0.3**
comp=Z,11nm,1.0s
KEST Kesra 133.76 312 PKP **PKPdf 00 01 24.1 +1.1**
comp=Z,7.7nm,0.9s,baz=166,slow=2.9,SNR=6.8
GCUF Volcan Galeras 134.18 97 *e*P **PKPdf 00 01 26.1 +1.2**
MALC Bahia Malaga 134.65 93 *e*P **PKPdf 00 01 26.4 +1.2**
SOTA Rioblanco 135.07 96 *e*P **PKPdf 00 01 26.4 -0.2**
POPC Popayan, Colom 135.07 95 *e*P **PKPdf 00 01 24.1 -2.1**
HORQ Saladito 135.27 94 *e*P **PKPdf 00 01 26.1 -0.6**
PCON Cinco Dias 135.31 95 *e*P **PKPdf 00 01 20.1 -6.6**
YOTC Yotoco, Valle 135.62 93 *e*P **PKPdf 00 01 21.1 -6.0**
LPAZ La Paz 136.42 125 PKP **PKPdf 00 01 30.2 +1.1**
comp=Z,3.5nm,0.9s,baz=330,slow=0.5,SNR=7.7
LPAZ SKPbc **SKPbc 00 04 52.1 +1.0**
comp=Z,3.3nm,1.1s,baz=203,slow=3.8,SNR=3.5
GUYC Guyana, Colomb 136.73 92 *e*P **PKPdf 00 01 29.4 -0.2**
RREF El Recreo 136.73 92 *e*P **PKPdf 00 01 31.1 +1.3**
PRAC Prado 137.02 94 *e*P **PKPdf 00 01 29.7 +0.1**
CPUP Villa Florida 137.35 145 PKP **PKPdf 00 01 30.6 +0.7**
comp=Z,3.0nm,0.8s,baz=249,slow=5.7,SNR=6.8
CPUP pPKP **pPKPdf 00 02 02.4 +1.4**
comp=Z,3.7nm,0.9s,baz=199,slow=5.8,SNR=4.3
CPUP SKPbc **SKPbc 00 04 53.6 +0.8**
comp=Z,3.8nm,1.1s,baz=124,slow=2.7,SNR=3.5
ZARC Zaragoza, Cauc 137.49 88 *e*P PKPpre 00 01 17.5
ROSC El Rosal 137.74 92 *e*P **PKPdf 00 01 30.8 -0.6**
PTBC PUERTO BERRIO 137.80 90 *e*P **PKPdf 00 01 30.2 -0.8**
BARC Barichara 139.06 90 *e*P PKPpre 00 01 24.1
RUSC La Rusia 139.09 91 *e*P PKPpre 00 01 26.4
GIRC Giron, Santand 139.10 89 *e*P **PKPdf 00 01 31.2 -2.3**
ESDC Sonseca Array 140.28 326 PKhKP PKPpre 00 01 26.8
comp=Z,0.7nm,0.6s,baz=17,slow=3.7,SNR=7.0
SDV Santo Domingo 141.75 87 PKhKP PKPpre 00 01 33.7
baz=196,slow=4.3
SDV SKPbc **SKPbc 00 05 05.5 +0.1**
comp=Z,6.1nm,0.8s,baz=219,slow=1.3,SNR=7.5
PMRV Marv??o 142.31 328 *e*PKPdf PKPpre 00 01 34.1
PTOM Tomar 142.69 329 *e*PKPdf **PKPdf 00 01 36.5 -2.6**
ALMR Almeirim 143.12 329 *e*PKPdf **PKPdf 00 01 41.2 +1.3**
EVO Evora 143.30 328 *e*PKPdf **PKPdf 00 01 39.1 -1.1**
PBEJ Beja 143.59 327 *e*PKPdf PKPbc 00 01 39.4 +1.0
PMAFR Mafra 143.63 330 *e*PKPdf PKPbc 00 01 38.3 -0.2
MESJ Messejana 143.92 327 *e*PKPdf PKPbc 00 01 39.6 +0.2
PVAQ Vaqueiros 143.97 326 *e*PKPdf PKPbc 00 01 40.6 +1.1
PTEO Sao Teotonio 144.41 327 *e*PKPdf **PKPab 00 01 40.8 +0.2**
MORF Marmelete 144.54 327 *e*PKPdf PKPbc 00 01 41.5 +0.1
MORF Marmelete 144.54 327 *e*PKPdf PKPbc 00 01 41.9 +0.5
PFVI Vila Bisbo 144.77 327 *e*PKPdf PKPbc 00 01 42.3 +0.3
TORD Torodi Ar. Bea 146.71 281 PKPbc **PKPbc 00 01 47.9 -0.7**
comp=Z,26nm,0.8s,baz=129,slow=3.7,SNR=96
TORD pPKPbc pPKPbc 00 02 17.3 -2.1
comp=Z,19nm,1.0s,baz=44,slow=4.0,SNR=3.6
TORD SKPbc **SKPbc 00 05 17.2 +0.4**
baz=102,slow=3.5
PCRV Puerto La Cruz 147.69 85 PKPbc **PKPbc 00 01 50.2 -1.2**
comp=Z,11nm,0.6s,baz=275,slow=3.8,SNR=6.2
PTGA Pitinga 150.53 107 PKP **PKPdf 00 01 53.3 +0.2**
comp=Z,3.5nm,0.7s,baz=208,slow=8.0,SNR=9.5
PTGA PKPbc **PKPbc 00 01 58.2 -0.3**
comp=Z,33nm,0.7s,baz=254,slow=3.0,SNR=61
PTGA pPKPbc **pPKPbc 00 02 28.5 -1.0**
comp=Z,51nm,1.0s,baz=261,slow=3.0,SNR=10
BDFB Brasilia 151.06 146 PKP **PKPdf 00 01 54.1 +0.3**
comp=Z,7.5nm,0.8s,baz=173,slow=1.1,SNR=32
BDFB PKPbc **PKPbc 00 01 59.2 -0.5**
comp=Z,49nm,0.7s,baz=213,slow=1.3,SNR=57
BDFB pPKPbc **pPKPbc 00 02 30.1 -0.7**
comp=Z,44nm,1.0s,baz=154,slow=2.2,SNR=6.1
KIC Kosan Boka 152.96 267 *e*PKIKP **PKPbc 00 02 03.9 -0.1**
comp=Z,90nm,1.0s
DBIC Dimbokro 153.11 268 PKPbc **PKPbc 00 02 04.0 -0.3**
comp=Z,30nm,0.8s,baz=86,slow=2.5,SNR=33
DBIC pPKPbc **pPKPbc 00 02 35.3 -0.1**
comp=Z,26nm,0.9s,baz=121,slow=4.7,SNR=4.8
LIC Lamto 153.23 267 *e*PKIKP **PKPbc 00 02 04.3 -0.3**
comp=Z,138nm,0.9s
TIC Toumodi 153.27 268 *e*PKIKP **PKPbc 00 02 04.4 -0.3**

*IDC **07** 23:48:12.5±0.8, 0.°78S×125.°73E, h0km, mb4.4/10, mb1 4.5/10, mb1mx4.1/46, mbtmp4.4/10, Error ellipse: s-maj=60.3km s-min=15.4km az=70.0*
*ISCJB **07** 23:48:16.8±0.4, 0.°72S±0.°04×125.°96E±0.°05, h42km, mb4.4/9, Error ellipse: s-maj=7.7km s-min=5.5km az=149.5*
*DJA **07** 23:48:18.8±0.3, 1.°S±3.°×12.°6E±.°, h54km±11km, M4.8/13, mb5.0/3, mB5.1/2, MLv4.7/13, Mw(mB)4.5/2*
ISC 07 23:48:18.5±0.7, 0.°75S±0.°05×125.°97E±0.°05, h42km, n23, σ0s98/25, mb4.4/9, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SANI	**Sanana**	**1.29**	**179**	P	P	**Pn**	**23 48 38.5**	**-1.6**
SANI				S	S	**Sn**	**23 48 57.8**	**+1.6**
LBMI	**Labuha**	**1.53**	**86**	P	P	**Pn**	**23 48 44.1**	**+0.7**
TNTI	**Ternate**	**2.06**	**43**	P	P	**Pn**	**23 48 50.1**	**-0.5**
KMSI	**Cibinong**	**2.39**	**303**	P	P	**Pn**	**23 48 54.2**	**-0.9**
NLAI	**Namlea**	**2.72**	**156**	P	P	**Pn**	**23 48 59.9**	**+0.2**
NLAI				S	S	**Sn**	**23 49 30.1**	**-1.3**
LUWI	**Luwuk**	**3.21**	**265**	P	P	**Pn**	**23 49 05.9**	**-0.6**
AAI	**Ambon**	**3.67**	**143**	P	P	**Pn**	**23 49 13.0**	**+0.2**
MRSI	**Marisa**	**4.21**	**287**	P	P	**Pn**	**23 49 20.5**	**+0.3**
APSI	**Ampana**	**4.33**	**268**	P	P	**Pn**	**23 49 21.0**	**-0.8**
MPSI	**Mapaga**	**6.17**	**280**	P	P	**Pn**	**23 49 50.0**	**+2.9**
SPSI	**Sidrap Palu**	**6.97**	**243**	P	P	**Pn**	**23 49 59.1**	**+1.0**
BKSI	**Bulukumba**	**7.40**	**232**	P	P	**Pn**	**23 50 04.6**	**+0.6**
WRA	**Warramunga Arr**	**20.76**	**157**	P	P		**23 52 55.8**	**-0.2**
	5.1nm,0.8s,baz=335,slow=11,SNR=3.7							
ASAR	**Alice Springs**	**24.05**	**162**	P	P		**23 53 30.0**	**+0.1**
	5.6nm,0.6s,baz=340,slow=8.4,SNR=7.1							
STKA	**Stephens Creek**	**34.30**	**156**	P	P		**23 55 01.4**	**+0.4**
	14nm,0.8s,baz=331,slow=7.1,SNR=7.4							
KSRS	**Korea Array**	**38.05**	**3**	P	P		**23 55 33.3**	**+0.3**
	3.2nm,0.6s,baz=182,slow=10,SNR=8.6							
USRK	**Ussuriysk Ar.**	**45.07**	**6**	P	P		**23 56 30.2**	**-0.1**
	3.8nm,0.7s,baz=184,slow=5.0,SNR=6.1							
SONM	**Songino Array**	**51.31**	**343**	P	P		**23 57 18.1**	**-0.5**
	2.0nm,0.7s,baz=150,slow=7.2,SNR=4.3							
MKAR	**Makanchi Array**	**60.83**	**327**	P	P		**23 58 26.0**	**-0.6**
	2.8nm,0.4s,baz=120,slow=8.5,SNR=25							
ZALV	**Zalesovo Beam**	**64.24**	**334**	P	P		**23 58 48.8**	**-0.3**
	1.9nm,0.6s,baz=126,slow=7.7,SNR=3.7							
KURBB	**Kurchatov Arra**	**65.12**	**329**	P	P		**23 58 54.4**	**-0.5**
	2.5nm,0.5s,baz=134,slow=6.6,SNR=11							
BVAR	**Borovoye Array**	**70.67**	**328**	P	P		**23 59 29.4**	**-0.4**
	2.4nm,0.7s,baz=110,slow=6.9,SNR=5.3							
CPUP	**Villa Florida**	**152.89**	**173**	PKPbc		**PKPbc**	**00 08 12.6**	**+0.7**
	0.9nm,0.6s,baz=268,slow=2.5,SNR=3.5							

*IDC **07** 23:52:05.7±0.9, 39.°63N×138.°97E, h0km, mb3.7/6, mb1 4.0/8, mb1mx3.7/46, mbtmp3.7/8, ML3.4/1, Error*

ellipse: s-maj=45.8km s-min=17.0km az=106.0
*ISCJB **07** 23:52:07.4±0.8, 39°.67N±0°.03×139°.00E±0°.04, h26km±5km, mb3.8/6, Error ellipse: s-maj=6.0km s-min=4.3km az=27.0*
*JMA **07** 23:52:07.6±0.1, 39°.68N×139°.02E, h23km±1km, M4.1*
JMA Felt I J1.

ISC 07 23:52:07.9±1.7, 39°.63N±0°.03×139°.08E±0°.05, h14km±10km, n25, σ0°.86/42, mb3.8/6, 2C-5D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOG3	**Oga3**	**0.29**	**360**	P	**Pn**	**23 52 20.1**	**+2.3**
JOG3				S	Sb	23 52 29.0	+9.3
JTB	**Tobi-shima**	**0.57**	**139**	⇓P	**Pb**	**23 52 19.8**	**+0.2**
JTB				S	**Sb**	**23 52 28.2**	**+0.7**
JYW	**Yuwa**	**0.88**	**95**	⇓P	**Pg**	**23 52 24.4**	**-0.4**
JYW				S	**Sg**	**23 52 37.1**	**+0.8**
JYYZ	**Yamagatayuza**	**0.90**	**133**	P	**Pn**	**23 52 25.9**	**-0.2**
JYYZ				*e*S	**Sb**	**23 52 38.6**	**+1.5**
JYA	**Atsumi**	**1.14**	**154**	⇑P	**Pn**	**23 52 28.5**	**-1.0**
JYA				S	**Sb**	**23 52 44.2**	**0.0**
JAW	**Awa shima**	**1.18**	**174**	P	**Pn**	**23 52 29.4**	**-0.5**
JAW				S	**Sb**	**23 52 44.8**	**-0.3**
JIW	**Iwasaki**	**1.20**	**36**	P	**Pn**	**23 52 28.9**	**-1.4**
JIW				S	**Sb**	**23 52 43.9**	**-1.8**
JYK	**Kaneyama**	**1.22**	**125**	P	**Pn**	**23 52 29.8**	**-0.7**
JYK				S	**Sb**	**23 52 46.0**	**-0.3**
JRG	**Rokugo**	**1.22**	**100**	⇓P	**Pn**	**23 52 29.8**	**-0.8**
JRG				S	**Sb**	**23 52 46.1**	**-0.3**
JAH	**Hinai**	**1.32**	**64**	⇓P	**Pn**	**23 52 31.3**	**-0.6**
JAH				S	**Sn**	**23 52 48.2**	**-1.1**
JYS	**Shirataka**	**1.60**	**151**	P	**Pn**	**23 52 35.6**	**-0.2**
JYS				S	**Sn**	**23 52 56.5**	**+0.2**
JSD	**Sado**	**1.71**	**202**	⇑P	**Pn**	**23 52 36.7**	**-0.6**
JSD				S	**Sn**	**23 52 57.4**	**-1.6**
JOM	**Ohasama**	**1.72**	**94**	⇓P	**Pn**	**23 52 36.7**	**-0.7**
JOM				S	**Sn**	**23 52 58.6**	**-0.5**
JOU	**Okura**	**1.76**	**135**	P	**Pn**	**23 52 38.0**	**0.0**
JOU				*e*S	**Sn**	**23 53 00.6**	**+0.3**
JMK	**Ichinoseki**	**1.79**	**111**	P	**Pn**	**23 52 38.8**	**+0.4**
JMK				*e*S	**Sn**	**23 53 01.9**	**+1.0**
JNS	**Sasagawa**	**1.82**	**174**	P	**Pn**	**23 52 38.5**	**-0.2**
JNS				S	**Sn**	**23 53 01.1**	**-0.4**
MAT	**Matsushiro**	**3.16**	**193**	P	**Pn**	**23 52 57.7**	**+0.5**
MAT				S	**Sn**	**23 53 34.4**	**-0.3**
MJAR	**Matsushiro Arr**	**3.16**	**193**	Pn	**Pn**	**23 52 57.7**	**+0.5**
	4.4nm,0.3s,baz=9.6,slow=14,SNR=15						
MJAR				Sn	**Sn**	**23 53 34.1**	**-0.6**
	4.4nm,0.3s,baz=88,slow=32,SNR=6.4						
USRK	**Ussuriysk Ar.**	**6.99**	**313**	Pn	**Pn**	**23 53 48.2**	**-1.6**
	baz=132,slow=13						
ILAR	**Eielson Array**	**48.32**	**33**	P	**P**	**00 00 48.6**	**+0.2**
	0.9nm,0.9s,baz=274,slow=5.8,SNR=6.2						
INK	**Inuvik**	**52.93**	**28**	P	**P**	**00 01 23.8**	**+0.6**
	1.6nm,0.8s,baz=288,slow=2.2,SNR=2.8						
WRA	**Warramunga Arr**	**59.42**	**185**	P	**P**	**00 02 09.7**	**-0.4**
	0.4nm,0.4s,baz=3.0,slow=7.3,SNR=14						
ASAR	**Alice Springs**	**63.15**	**185**	P	**P**	**00 02 35.5**	**+0.3**
	0.7nm,0.9s,baz=15,slow=3.9,SNR=4.4						
PDAR	**Pinedale Array**	**77.14**	**45**	P	**P**	**00 04 01.5**	**+0.2**
	0.3nm,0.5s,baz=318,slow=1.2,SNR=3.7						
TXAR	**Lajitas Array**	**89.95**	**51**	P	**P**	**00 05 07.6**	**+0.5**
	0.2nm,0.6s,baz=311,slow=4.2,SNR=2.6						

*IDC **07** 23:54:28.4±0.6, 36°.99N×140°.74E, h0km, mb4.0/20, mb1 4.2/25, mb1mx4.1/47, mbtmp4.1/25, ML3.8/4, Error ellipse: s-maj=15.5km s-min=12.3km az=108.0*
*ISCJB **07** 23:54:29.3±0.5, 37°.00N±0°.02×140°.83E±0°.04, h18km±3km, mb4.0/22, Error ellipse: s-maj=5.7km s-min=3.4km az=25.1*
*JMA **07** 23:54:30.4, 37°.01N×140°.70E, h11km±1km, M4.2 Broadband fault plane solution: P waves. NP1: ϕs=170.00000°, δ=48.00000°, λ=-92.00000°. NP2: ϕs=353.00000°, δ=42.00000°, λ=-88.00000°. Principal axes: T Plg3.0000°, Azm261.0000°; N Plg1.0000°, Azm171.0000°; P Plg87.0000°, Azm51.0000°;*
JMA Felt II J1.
*NEIC **07** 23:54:31.8±1.6, 36°.98N×140°.80E, h24km±11km, mb4.3/2 Error ellipse: s-maj=7.0km s-min=5.1km az=117.0*
NEIC Recorded [2 JMA] in Fukushima, Ibaraki and Tochigi.

ISC 07 23:54:30.2±0.9, 37°.00N±0°.03×140°.75E±0°.04, h12km±5km, n65, σ0°.98/76, mb4.0/22, 8C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.11**	**20**	⇑P	**Pg**	**23 54 33.5**	**+0.2**
ONAJ				S	**Sg**	**23 54 36.0**	**+0.5**
JFFD	**Fukushimafurud**	**0.18**	**301**	⇑P	**Pg**	**23 54 33.7**	**-0.6**
JFFD				S	**Sg**	**23 54 36.0**	**-1.0**
JFK	**Kawauchi**	**0.38**	**15**	⇑P	**Pg**	**23 54 37.9**	**0.0**
JFK				S	**Sg**	**23 54 43.3**	**+0.3**
JHO	**Hitachi**	**0.41**	**201**	⇑P	**Pg**	**23 54 38.3**	**-0.2**
JHO				S	**Sg**	**23 54 44.0**	**0.0**
JFT	**Otama**	**0.61**	**328**	⇑P	**Pg**	**23 54 41.9**	**-0.3**
JFT				S	**Sg**	**23 54 50.0**	**-0.4**
JSB	**Shiboa**	**0.67**	**268**	⇑P	**Pg**	**23 54 43.1**	**-0.1**
JSB				S	**Sg**	**23 54 51.9**	**-0.1**
JMM	**Marumori**	**0.86**	**2**	⇓P	**Pg**	**23 54 46.3**	**-0.7**
JMM				S	**Sg**	**23 54 57.8**	**-0.5**
JYT	**Yasato**	**0.89**	**210**	⇑P	**Pg**	**23 54 46.6**	**-0.9**
JYT				S	**Sg**	**23 54 58.3**	**-0.8**
JFY	**Yanaizu**	**0.93**	**296**	⇑P	**Pg**	**23 54 47.2**	**-1.0**
JFY				S	**Sg**	**23 54 58.8**	**-1.5**
MJAR	**Matsushiro Arr**	**2.09**	**258**	Pn	**Pn**	**23 55 05.6**	**+0.4**
	133nm,0.3s,baz=82,slow=16,SNR=166						
MJAR				Sn	**Sn**	**23 55 32.2**	**+1.1**
	91nm,0.3s,baz=162,slow=14,SNR=4.8						
MAJO	**Matsushiro**	**2.09**	**258**	*e*Pn	**Pn**	**23 55 05.7**	**+0.6**
MAJO				*e*S	**Sb**	**23 55 35.0**	**+0.9**
MAT	**Matsushiro**	**2.09**	**258**	P	**Pn**	**23 55 06.0**	**+0.9**
MAT				S	**Sb**	**23 55 33.6**	**-0.5**
MJB9	**Matsu-Tunnel**	**2.10**	**258**	*e*Pn	**Pn**	**23 55 06.1**	**+1.0**
MJB9				*e*Sn	**Sb**	**23 55 34.5**	**+0.4**
INU	**Inuyama**	**3.44**	**242**	*e*Pn	**Pn**	**23 55 25.1**	**+1.5**
JHJ	**Hachijo jima 2**	**3.95**	**192**	Pn	**Pn**	**23 55 31.6**	**+0.9**
	30nm,0.3s,baz=270,slow=24,SNR=5.5						
JHJ				Sn	**Sn**	**23 56 16.9**	**0.0**
	26nm,0.3s,baz=72,slow=19,SNR=3.4						
JHJ2	**Mitsune**	**3.95**	**191**	*e*Pn	**Pn**	**23 55 29.7**	**-1.0**
ERM	**Erimo**	**5.34**	**20**	*e*Pn	**Pn**	**23 55 49.0**	**-0.7**
ERM				*e*S	**Sn**	**23 56 49.4**	**-1.8**
ASAJ	**Asahikawa**	**7.25**	**11**	Pn	**Pn**	**23 56 16.2**	**+0.3**
	3.6nm,0.3s,baz=201,slow=19,SNR=7.4						
ASAJ				Sn	**Sn**	**23 57 40.0**	**+1.9**
	0.9nm,0.3s,baz=90,slow=20,SNR=2.2						
JNU	**Nakatsue**	**8.97**	**247**	Pn	**Pn**	**23 56 39.9**	**+0.3**
	0.2nm,0.3s,baz=95,slow=11,SNR=2.0						
USRK	**Ussuriysk Ar.**	**9.80**	**320**	Pn	**Pn**	**23 56 52.6**	**+1.7**
	baz=139,slow=14						
KSRS	**Korea Array**	**10.24**	**276**	Pn	**Pn**	**23 57 01.2**	**+4.2**
	0.2nm,0.3s,baz=87,slow=11,SNR=7.8						
KS01	**Wonju Array Si**	**10.26**	**277**	*e*Pn	**Pn**	**23 56 57.0**	**-0.3**
KSAR	**Wonju Array Be**	**10.27**	**276**	Pn	**Pn**	**23 57 01.2**	**+3.8**
SEY	**Seymchan**	**26.93**	**12**	P	**P**	**00 00 11.4**	**+0.4**
	0.9nm,0.3s,baz=194,slow=17,SNR=2.8						
SONA0	**Songino Array**	**27.36**	**304**	*e*P	**P**	**00 00 15.4**	**+0.1**
SONM	**Songino Array**	**27.36**	**304**	P	**P**	**00 00 15.4**	**+0.1**
	1.3nm,0.6s,baz=101,slow=9.1,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**28.59**	**120**	T	T	00 30 14.3	
	baz=313,slow=75,SNR=327						
H11N1	**WAKE ISLAND Hy**	**28.60**	**120**	T	T	00 30 14.9	
	baz=313,slow=75,SNR=244						
H11N3	**WAKE ISLAND Hy**	**28.61**	**120**	T	T	00 30 15.7	
	baz=313,slow=75,SNR=219						
H11S1	**WAKE ISLAND Hy**	**29.29**	**122**	T	T	00 31 08.9	
	baz=314,slow=75,SNR=447						
H11S3	**WAKE ISLAND Hy**	**29.29**	**122**	T	T	00 31 11.2	
	baz=314,slow=75,SNR=223						
H11S2	**WAKE ISLAND Hy**	**29.30**	**122**	T	T	00 31 10.5	
	baz=314,slow=75,SNR=190						
ZAA1	**Zalesovo Array**	**41.55**	**312**	*e*P	**P**	**00 02 16.4**	**-0.9**
ZALV	**Zalesovo Beam**	**41.55**	**312**	P	**P**	**00 02 16.4**	**-0.9**
	0.8nm,0.5s,baz=86,slow=7.4,SNR=3.5						
ZALV				PcP	**PcP**	**00 04 14.1**	**-0.4**
	0.6nm,0.4s,baz=111,slow=2.2,SNR=3.0						
MK32	**Makanchi Array**	**43.69**	**302**	*e*P	**P**	**00 02 34.6**	**-0.4**
MKAR	**Makanchi Array**	**43.69**	**302**	P	**P**	**00 02 34.6**	**-0.4**
	1.1nm,0.6s,baz=87,slow=8.3,SNR=9.6						
KURK	**Kurchatov**	**45.53**	**308**	P	**P**	**00 02 49.6**	**0.0**
KURBB	**Kurchatov Arra**	**45.60**	**308**	P	**P**	**00 02 49.6**	**-0.5**
	1.7nm,0.5s,baz=84,slow=7.7,SNR=7.3						
KDAK	**Kodiak Island**	**47.48**	**42**	P	**P**	**00 03 05.0**	**+0.3**
	2.7nm,0.4s,baz=308,slow=12,SNR=5.5						
MCK	**McKinley**	**48.96**	**34**	*e*P	**P**	**00 03 16.4**	**+0.3**
	7.2nm,1.1s						
ILAR	**Eielson Array**	**49.81**	**32**	P	**P**	**00 03 22.7**	**+0.1**
	0.7nm,0.6s,baz=264,slow=5.5,SNR=1.1						
INK	**Inuvik**	**54.66**	**27**	P	**P**	**00 03 59.2**	**+0.7**
	1.1nm,0.6s,baz=285,slow=7.9,SNR=5.9						
WR1	**Warramunga Arr**	**56.96**	**187**	*e*P	**P**	**00 04 15.1**	**-0.4**
WRA	**Warramunga Arr**	**56.96**	**187**	P	**P**	**00 04 15.1**	**-0.4**
	2.7nm,0.5s,baz=4.5,slow=7.4,SNR=48						
AS31	**Alice Springs**	**60.68**	**187**	*e*P	**P**	**00 04 41.2**	**-0.2**
	0.8nm,0.6s						
ASAR	**Alice Springs**	**60.69**	**187**	P	**P**	**00 04 41.2**	**-0.2**
	1.3nm,0.7s,baz=12,slow=6.8,SNR=10						
ARA0	**ARCESS Array S**	**63.84**	**339**	*e*P	**P**	**00 05 01.6**	**-0.4**
ARCES	**ARCESS Array B**	**63.84**	**339**	P	**P**	**00 05 01.6**	**-0.4**
	2.3nm,0.7s,baz=53,slow=8.1,SNR=6.7						
STKA	**Stephens Creek**	**68.52**	**179**	P	**P**	**00 05 32.2**	**-0.2**
	0.7nm,0.2s,baz=350,slow=12,SNR=2.5						
FIA0	**FINESS Array S**	**68.60**	**332**	*e*P	**P**	**00 05 32.4**	**-0.2**
FINES	**FINESS Array B**	**68.60**	**332**	P	**P**	**00 05 32.4**	**-0.2**
	3.5nm,0.8s,baz=63,slow=4.7,SNR=4.2						
AKASG	**Malin Array Be**	**74.00**	**322**	P	**P**	**00 06 05.4**	**-0.1**
	0.5nm,0.3s,baz=46,slow=5.5,SNR=3.7						
AKBB	**Malin Array Si**	**74.00**	**322**	*e*P	**P**	**00 06 05.4**	**-0.1**
NB200	**NORSAR Array S**	**74.01**	**337**	*e*P	**P**	**00 06 05.0**	**-0.5**
NOA	**NORSAR Array B**	**74.01**	**337**	P	**P**	**00 06 05.0**	**-0.5**
	0.8nm,0.7s,baz=61,slow=6.1,SNR=3.3						
NV01	**Mina Array Si**	**75.43**	**53**	*e*P	**P**	**00 06 13.2**	**-1.2**
NVAR	**Mina Array Bea**	**75.43**	**53**	P	**P**	**00 06 14.9**	**+0.5**
	0.5nm,0.6s,baz=301,slow=5.6,SNR=4.6						
PD31	**Pinedale Array**	**78.07**	**45**	*e*P	**P**	**00 06 27.8**	**-1.4**
PDAR	**Pinedale Array**	**78.07**	**45**	P	**P**	**00 06 29.3**	**+0.1**
	0.3nm,0.6s,baz=290,slow=4.3,SNR=4.2						
BR101	**Keskin Array S**	**78.48**	**311**	*e*P	**P**	**00 06 32.2**	**+0.9**
BRTR	**Keskin Array B**	**78.48**	**311**	P	**P**	**00 06 32.2**	**+0.9**
	0.7nm,0.8s,baz=54,slow=7.3,SNR=2.9						
GERES	**GERESS Array B**	**82.46**	**328**	P	**P**	**00 06 52.2**	**-0.3**
	0.3nm,0.3s,baz=34,slow=5.9,SNR=3.9						
LTX	**Lajitas**	**90.56**	**52**	*e*P	**P**	**00 07 33.0**	**+0.4**
TXAR	**Lajitas Array**	**90.56**	**52**	P	**P**	**00 07 33.0**	**+0.4**
	0.7nm,0.8s,baz=254,slow=1.1,SNR=4.3						
LPAZ	**La Paz**	**147.17**	**59**	PKPbc	**PKPbc**	**00 14 14.6**	**0.0**
	2.5nm,0.8s,baz=1.1,slow=5.5,SNR=8.6						

*IDC **08** 00:10:46.3±3.0, 13°.33N×92°.16W, h0km, mb3.5/4, mb1 3.9/7, mb1mx3.7/33, mbtmp3.6/7, ML3.7/3, MS2.9/1, Ms1 2.9/1, ms1mx2.7/23, Error ellipse: s-maj=59.6km s-min=36.0km az=6.0*
*ISCJB **08** 00:10:52.0±2.6, 14°.03N±0°.08×92°.23W±0°.07, h15km±23km, mb3.7/6, Error ellipse: s-maj=16.2km s-min=8.4km az=34.8*
*MEX **08** 00:10:53.3±0.6, 13°.90N×92°.28W, h15km±28km, MD4.1*
*NEIC **08** 00:10:53.0±0.0, 13°.87N×92°.29W, h20km, mb4.2/3, MD4.1(MEX), After MEX.*

ISC 08 00:10:54.2±2.3, 14°.03N±0°.10×92°.21W±0°.07, h23km±18km, n24, σ2°.08/32, mb3.6/6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.93**	**330**	*e*P	**Pn**	**00 11 23.4**	**-2.3**
PCIG				*e*S	**Sn**	**00 11 47.6**	**-1.7**
PCIG		**1.93**	**330**	*e*P	**Pn**	**00 11 23.4**	**-2.3**
PCIG				*e*S	**Sn**	**00 11 47.6**	**-1.7**
APG	**El Apazote**	**1.95**	**60**	Pn	**Pn**	**00 11 26.3**	**+0.1**
	47nm,0.3s,baz=220,slow=8.7,SNR=133						
CCIG	**Comitan**	**2.25**	**2**	*e*P	**Pn**	**00 11 31.4**	**+1.3**
CCIG				*e*Sn	**Sn**	**00 11 52.7**	**-4.6**
CCIG				*e*S		00 12 00.1	
CCIG	**Comitan**	**2.25**	**2**	*e*P	**Pn**	**00 11 29.8**	**-0.4**
CCIG				*i* S	**Sn**	**00 11 56.7**	**-0.5**
TGIG		**2.88**	**342**	*e*P	**Pn**	**00 11 37.1**	**-1.6**
TGIG				*e*S	**Sn**	**00 12 12.2**	**-0.4**
TGIG		**2.88**	**342**	*e*P	**Pn**	**00 11 37.1**	**-1.6**
TGIG				*e*S	**Sn**	**00 12 12.2**	**-0.4**
SNET	**Serv Nac Est T**	**2.91**	**96**	*e*Pn	**Pb**	**00 11 44.9**	**-0.6**
SNET				*e*Sn	**Sn**	**00 12 10.7**	**-2.9**
CMIG	**Matias Romero**	**3.99**	**320**	Pn	**Pn**	**00 11 54.9**	**+0.9**
	2.6nm,0.3s,baz=158,slow=12,SNR=12						
CMIG				Sn	**Sn**	**00 12 44.0**	**+3.9**
	13nm,0.3s,baz=122,slow=11,SNR=8.4						
CMIG				LR	LR	00 13 27.4	
	comp=Z,151nm,20.5s,baz=18,slow=35						
TGUH	**Tegucigalpa,Un**	**4.79**	**89**	*e*Pn	**Pn**	**00 12 08.2**	**+3.2**
ESTN	**Estel**	**5.75**	**98**	*e*Pn	**Pn**	**00 12 18.2**	**-0.1**
TLIG	**Tlapa**	**7.06**	**301**	*e*Pn	**Pn**	**00 12 35.3**	**-0.9**
TEIG	**Tepich**	**7.22**	**31**	*e*Pn	**Pn**	**00 12 39.8**	**+1.4**
TXAR	**Lajitas Array**	**18.56**	**327**	P	**Pn**	**00 15 11.6**	**+1.6**
	0.0nm,0.3s,baz=155,slow=10.0,SNR=9.7						
TX31	**Lajitas Ar. Si**	**18.56**	**327**	*e*P	**Pn**	**00 15 11.1**	**+1.1**
MNTX	**Cornudas Mount**	**21.34**	**328**	*e*P	**P**	**00 15 40.4**	**+0.6**
	2.7nm,0.9s						
ANMO	**Albuquerque**	**24.48**	**331**	P	**P**	**00 16 12.9**	**+1.0**
	1.1nm,0.6s,baz=164,slow=12,SNR=6.4						
ANMO	**Albuquerque**	**24.48**	**331**	*e*P	**P**	**00 16 14.7**	**+2.8**
	17nm,2.0s						
TMUT	**Trail Mountain**	**30.23**	**330**	*e*P	**P**	**00 17 01.1**	**-2.4**
	9.1nm,1.1s						
PDAR	**Pinedale Array**	**32.31**	**336**	P	**P**	**00 17 24.3**	**+2.5**
	0.4nm,0.8s,baz=159,slow=5.3,SNR=2.6						
NVAR	**Mina Array Bea**	**33.52**	**321**	P	**P**	**00 17 34.2**	**+1.8**
	0.5nm,0.7s,baz=130,slow=6.5,SNR=4.3						
J08A	**Circle Bar Ran**	**36.91**	**327**	*e*P	**P**	**00 18 03.2**	**+1.8**
ILAR	**Eielson Array**	**62.74**	**337**	P	**P**	**00 21 16.1**	**-1.1**
	0.5nm,1.0s,baz=125,slow=4.7,SNR=4.7						
CMAR	**Chiang Mai Arr**	**145.90**	**341**	PKPbc	**PKPdf**	**00 30 30.0**	**-2.1**
	4.8nm,1.1s,baz=335,slow=3.7,SNR=9.8						

*ISCJB **08** 00:20:38.9±0.4, 67°.78N±0°.02×20°.34E±0°.07, h0km, Error ellipse: s-maj=3.7km s-min=3.1km az=159.8*
*HEL **08** 00:20:38.9, 67°.80N×20°.01E, h0km, ML1.7, Explosion*
*UPP **08** 00:20:39.9±0.0, 67°.83N×20°.20E, h0km, ML2.5*

ISC 08 00:20:39.5±0.8, 67°.83N±0°.02×20°.26E±0°.02, h0km, n27, σ0°.92/41, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**14**	P	**Pg**	**00 20 42.7**	**+0.8**
KUA				S	**Sg**	**00 20 44.6**	**+1.1**
KUA	**Kurravaara**	**0.13**	**14**	*i* P	**Pg**	**00 20 42.7**	**+0.8**
KUA				*i* S	**Sg**	**00 20 44.6**	**+1.1**
RATU	**Laukkuluspa**	**0.25**	**268**	P	**Pg**	**00 20 44.5**	**+0.2**
RATU				S	**Sg**	**00 20 47.7**	**+0.2**
RATU	**Laukkuluspa**	**0.25**	**268**	*i* P	**Pg**	**00 20 44.5**	**+0.2**
RATU				*i* S	**Sg**	**00 20 47.7**	**+0.2**
NIKU	**Nikkaluokta**	**0.46**	**275**	P	**Pg**	**00 20 48.4**	**+0.1**
NIKU	**Nikkaluokta**	**0.46**	**275**	*i* P	**Pg**	**00 20 48.4**	**+0.1**
LANU	**Lannavaara**	**0.69**	**71**	P	**Pb**	**00 20 53.3**	**-1.1**
LANU	**Lannavaara**	**0.69**	**71**	*e*P	**Pg**	**00 20 53.1**	**+0.4**
LANU				*e*S	**Sb**	**00 21 03.0**	**-1.4**
DUNU	**Dundret**	**0.72**	**170**	P	**Pg**	**00 20 53.4**	**+0.1**
DUNU	**Dundret**	**0.72**	**170**	*i* P	**Pg**	**00 20 53.4**	**+0.1**
SALU	**Saltoluokta**	**0.81**	**237**	P	**Pg**	**00 20 54.9**	**0.0**
SALU	**Saltoluokta**	**0.81**	**237**	*i* P	**Pg**	**00 20 54.9**	**0.0**
KIF	**Kilpisjarvi**	**1.20**	**9**	*e*PN	**Pn**	**00 20 53.8**	**+0.4**
KIF				MSG		00 21 17.8	
	comp=Z,8.7nm,0.2s						
KIF				*e*SB	**Sn**	**00 21 19.0**	**-1.3**
PAJU	**Pajala**	**1.37**	**125**	P	**Pg**	**00 21 05.2**	**-0.4**
PAJU	**Pajala**	**1.37**	**125**	*e*P	**Pg**	**00 21 05.2**	**-0.4**
HEF	**Hetta**	**1.40**	**64**	*e*PG	**Pg**	**00 21 06.0**	**-0.2**
HEF				MSG		00 21 24.0	
	comp=Z,3.9nm,0.2s						
HEF				*e*SN	**Sn**	**00 21 27.9**	**+2.4**
ERTU	**Ertsjaerv**	**1.49**	**149**	P	**Pn**	**00 21 07.2**	**-0.3**
ERTU	**Ertsjaerv**	**1.49**	**149**	*e*PG	**Pn**	**00 21 07.1**	**-0.3**
ERTU				*e*SN	**Sb**	**00 21 27.9**	**+0.6**
KTK1	**Kautokeino**	**1.62**	**42**	*e*P	**Pg**	**00 21 09.8**	**-0.6**
KTK1				*e*S	**Sg**	**00 21 31.2**	**-0.2**
KTK1				IAML		00 21 38.2	
	comp=Z,4.2nm,0.3s						
TRO	**Tromso**	**1.87**	**346**	*e*P	**Pb**	**00 21 14.1**	**-0.4**
TRO				*e*S	**Sg**	**00 21 39.0**	**-0.5**
TRO				IAML		00 21 45.0	
	comp=Z,6.6nm,0.4s						
KALU	**Kalix**	**2.33**	**147**	*e*PB	**Pn**	**00 21 20.5**	**+1.6**
KALU				*e*SG	**Sb**	**00 21 51.7**	**+0.2**
TOF	**Tornio**	**2.38**	**136**	*e*PB	**Pb**	**00 21 21.7**	**-1.4**
TOF				MSG		00 21 50.7	
	comp=Z,2.9nm,0.2s						
TOF				*e*SG	**Sb**	**00 21 54.2**	**+1.3**
SGF	**Sodankyl**	**2.43**	**96**	*e*PG	**Pb**	**00 21 23.9**	**-0.1**
RNF	**Rovaniemi**	**2.56**	**116**	*e*PB	**Pb**	**00 21 24.6**	**-1.5**
RNF				*e*SG	**Sb**	**00 21 59.1**	**+1.1**
ARE0	**ARCESS Array S**	**2.57**	**46**	*e*PB	**Pb**	**00 21 24.2**	**-2.2**
	baz=227						
ARE0				*e*SG	**Sg**	**00 22 02.1**	**+0.2**
KEV	**Kevo**	**3.12**	**49**	MSG		00 22 13.2	
	comp=Z,1.8nm,0.2s						
KEV				*e*SB	**Sb**	**00 22 13.8**	**-0.5**
MSF	**Maaselka**	**3.97**	**115**	*e*P	**Pn**	**00 21 42.4**	**+0.9**

UPP 08 00:20:44.0±0.1, 67°.83N×20°.30E, h0km, ML2.3, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**7**	P	Pg	00 20 46.6	+0.2
KUA				S	Sg	00 20 48.5	+0.6
DUNU	**Dundret**	**0.72**	**172**	P	Pg	00 20 57.6	-0.2
PAJU	**Pajala**	**1.36**	**125**	P	Pg	00 21 09.1	-0.8

MEX 08 00:22:15.0±0.5, 14°.02N×92°.46W, h31km±45km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.83**	**336**	*e*P	Pn	00 22 42.6	-1.7
PCIG				*i* S	Sn	00 23 02.8	-3.6
CCIG	**Comitan**	**2.27**	**8**	*e*P	Pn	00 22 48.6	-2.0
CCIG				*i* S	Sn	00 23 15.3	-2.3
TGIG		**2.81**	**347**	*e*P	Pn	00 22 56.3	-1.6
TGIG				*e*S	Sn	00 23 28.6	-2.3

MEX 08 00:26:45.1±0.3, 18°.06N×103°.27W, h23km±6km, MD3.6, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.24**	**342**	*i* P	Pb	00 26 50.0	-1.1
MMIG				*e*S	Sb	00 26 54.0	-1.2
R15V		**1.30**	**329**	*e*P	Pn	00 27 04.9	-3.1
R15V				*e*S	Sn	00 27 20.8	-3.9
EZ5V		**1.45**	**347**	*e*P	Pn	00 27 07.7	-2.5
EZ5V				*e*S	Sn	00 27 24.6	-4.1
ZIIG	**Zihuatanejo**	**1.77**	**104**	*i* P	Pn	00 27 12.4	-2.0
ZIIG				*i* S	Sn	00 27 32.2	-4.1
CJM	**Chamela**	**2.21**	**311**	*i* P	Pn	00 27 18.1	-2.3
CJM				*i* S	Sn	00 27 44.1	-3.0

IDC 08 00:28:43.8±1.7, 7°.31S×126°.72E, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.4/29, mbtmp3.5/4, ML3.7/2, Error ellipse: s-maj=178.4km s-min=29.5km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.57**	**150**	Pn	Pn	00 32 10.4	-1.0
	0.4nm,0.3s,baz=322,slow=14,SNR=19						
WRA				Sn	Sn	00 34 37.2	-17
	0.6nm,0.3s,baz=320,slow=25,SNR=9.6						
ASAR	**Alice Springs**	**17.67**	**158**	P	Pn	00 32 51.9	+0.4
	0.2nm,0.3s,baz=336,slow=11,SNR=9.9						
ASAR				Sn	Sn	00 35 56.1	-13
	0.2nm,0.3s,baz=322,slow=15,SNR=5.9						
MKAR	**Makanchi Array**	**66.74**	**328**	P	P	00 39 36.6	-0.3
	0.5nm,0.7s,baz=122,slow=7.6,SNR=3.9						
KURBB	**Kurchatov Arra**	**71.11**	**330**	P	P	00 40 04.3	+0.4
	0.5nm,0.7s,baz=135,slow

SEUS				*e*S	**Sn**	00 45 57.8	+2.7
CELP	**Cerrillos**	**2.55**	**235**⇑	*e*P	**Pn**	00 45 26.9	+0.1
CELP	**Cerrillos**	**2.55**	**235**⇓	*e*P	**Pn**	00 45 26.9	+0.1
OBIP	**Obispado Ponce**	**2.59**	**234**⇓	*e*P	**Pn**	00 45 27.8	+0.5
OBIP	**Obispado Ponce**	**2.59**	**234**⇓	*e*P	**Pn**	00 45 27.8	+0.5
OBIP				*e*S	**Sn**	00 45 58.1	+0.2
ICMP	**Isla Caja de M**	**2.62**	**231**⇑	*e*P	**Pn**	00 45 28.1	+0.3
ICMP	**Isla Caja de M**	**2.62**	**231**⇑	*e*P	**Pn**	00 45 28.1	+0.3
SKI	**Saint Kitts**	**2.73**	**144**	*e*P	**Pb**	00 45 32.5	-2.9
SKI				*e*S	**Sn**	00 46 02.3	+0.7
LSP	**Las Mesas**	**2.90**	**242**⇑	*e*P	**Pn**	00 45 32.0	+0.4
LSP	**Las Mesas**	**2.90**	**242**⇑	*e*P	**Pn**	00 45 32.0	+0.4
LSP				*e*S	**Sn**	00 46 05.6	-0.1
NEV	**Hard Times**	**2.98**	**144**	*e*P	**Pn**	00 45 31.7	-1.1
CRPR	**Cabo Rojo, PR**	**3.00**	**239**⇓	*e*P	**Pn**	00 45 33.3	+0.2
CRPR	**Cabo Rojo, PR**	**3.00**	**239**⇓	*e*P	**Pn**	00 45 33.3	+0.2
ANWB	**Willy Bob**	**3.12**	**127**	*e*P	**Pn**	00 45 31.3	-3.4
ANWB				*e*S	**Sn**	00 46 07.0	-4.1
IDE	**Isla Desecheo**	**3.14**	**248**⇑	*e*P	**Pn**	00 45 35.0	0.0
IDE	**Isla Desecheo**	**3.14**	**248**⇑	*e*P	**Pn**	00 45 35.0	0.0
BPA	**Boggy Peak**	**3.49**	**136**	*e*P	**Pn**	00 45 41.4	+1.6
BPA				*e*S	**Sn**	00 46 20.3	+0.1
MLYT	**Lee's Yard**	**3.53**	**143**	*e*P	**Pn**	00 45 41.8	+1.4
MLYT				*e*S	**Sn**	00 46 21.0	-0.3
CRG	**Carmichael**	**4.37**	**143**	*e*P	**Pn**	00 45 55.1	+3.1
CBE	**F"f"r, Capest**	**4.38**	**142**	*e*P	**Pn**	00 45 54.0	+1.9
TBG	**Guadaloupe-3**	**4.54**	**144**	*e*P	**Pn**	00 45 55.0	+0.8
TBG				*e*S	**Sn**	00 46 37.8	-8.3
MGG	**Marie-Galante**	**4.67**	**141**	*e*P	**Pn**	00 45 56.6	+0.5
MGG	**Marie-Galante**	**4.67**	**141**	*e*S	**Sn**	00 46 49.8	+0.3
DR12	**Loma Pena Alta**	**4.77**	**261**⇑	*e*P	**Pn**	00 45 57.9	+0.4
DR12	**Loma Pena Alta**	**4.77**	**261**⇑	*e*P	**Pn**	00 45 57.9	+0.4
BBL	**Barber's Block**	**4.90**	**145**	*e*P	**Pn**	00 46 00.1	+0.9
BBL	**Barber's Block**	**4.90**	**145**	*e*P	**Pn**	00 46 00.3	+1.1
SDDR	**Presa de Saban** 26nm,0.5s	**6.53**	**266**	*e*Pn	**Pn**	00 46 22.4	+0.7
SDDR				*e*S	**Sn**	00 47 35.7	+0.3

*ISCJB **08** 00:47:23.2±0.7,20˚46S±0˚06×67˚3W±0˚2, h278km±19km, mb3.9/1, Error ellipse: s-maj=31.5km s-min=9.2km az=8.3*
*GUC **08** 00:47:23.9±0.6,20˚53S×67˚46W, h267km±8km, ML3.6*
*IDC **08** 00:47:28.0±3.4, 19˚91S×67˚13W, h299km±19km, mb3.7/1, mb1 3.3/4, mb1mx3.0/29, mbtmp3.9/4, Error ellipse: s-maj=73.4km s-min=25.1km az=55.0*

ISC 08 00:47:24.0±0.9, 20˚42S±0˚07×67˚3W±0˚2, h270km±20km, n13, σ1§00/23, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**1.73**	**279**	*e*P	**Pn**	**00 48 07.0**	**+0.6**
PB08				*i* S	**S**	**00 48 40.1**	**+0.2**
PB08	comp=E,101nm,0.1s			IAML		00 48 44.5	
PB01	**IPOC Station P**	**2.11**	**252**	*e*P	**Pn**	**00 48 09.2**	**+0.1**
PB01				*i* S	**S**	**00 48 44.4**	**-0.6**
PB01	comp=E,300nm,0.2s			IAML		00 48 46.3	
PB09	**IPOC Station P**	**2.25**	**232**	*e*P	**Pn**	**00 48 10.7**	**+0.2**
PB09				*i* S	**S**	**00 48 46.1**	**-1.3**
PB09	comp=N,100nm,0.3s			IAML		00 48 48.1	
PB11	**IPOC Station P**	**2.27**	**286**	*e*P	**Pn**	**00 48 11.6**	**+0.8**
PB11				*i* S	**S**	**00 48 48.0**	**+0.1**
PB02	**IPOC Station P**	**2.56**	**249**	*e*P	**Pn**	**00 48 14.0**	**+0.7**
PB02				*i* S	**S**	**00 48 51.8**	**-0.7**
PB07	**IPOC Station P**	**2.71**	**241**	*e*P	**Pn**	**00 48 15.8**	**+0.8**
PB07				*i* S	**S**	**00 48 54.5**	**-1.0**
PSGC	**Pisagua**	**2.74**	**287**	*e*P	**Pn**	**00 48 16.1**	**+0.9**
PSGC				*i* S	**S**	**00 48 56.0**	**+0.1**
PB03	**IPOC Station P**	**2.78**	**234**	*e*P	**Pn**	**00 48 16.3**	**+0.7**
PB03				*i* S	**S**	**00 48 55.3**	**-1.3**
PB06	**IPOC Station P**	**3.08**	**222**	*e*P	**Pn**	**00 48 19.2**	**+0.5**
PB06				*i* S	**S**	**00 49 01.0**	**-1.4**
LPAZ	**La Paz** comp=N,1.3nm,0.3s,baz=173,slow=9.5,SNR=34	**4.18**	**349**	P	**Pn**	**00 48 32.2**	**+0.7**
LPAZ				S	**S**	**00 49 23.2**	**-2.0**
CPUP	**Villa Florida** comp=N,0.3nm,0.3s,baz=318,slow=18,SNR=7.9	**10.91**	**125**	P	**P**	**00 49 58.9**	**+1.6**
BDFB	**Brasilia** comp=N,0.6nm,0.3s,baz=298,slow=4.2,SNR=12	**18.98**	**79**	P	**P**	**00 51 25.4**	**-0.7**
TORD	**Torodi Ar. Bea** comp=N,1.0nm,0.3s,baz=252,slow=5.5,SNR=34	**75.61**	**70**	P	**P**	**00 58 38.9**	**-0.9**

*JMA **08** 00:48:26.5±0.2,23˚61N×121˚65E, h17km±4km, M2.8*
*ISCJB **08** 00:48:27.5±0.2,23˚64N±0˚01×121˚60E±0˚02, h27km±2km, Error ellipse: s-maj=2.7km s-min=1.9km az=40.0*
*TAP **08** 00:48:27.4,23˚64N×121˚55E, h28km, ML3.1,B*

ISC 08 00:48:27.4±0.9, 23˚63N±0˚02×121˚59E±0˚02, h28km±5km, n78, σ0§80/134, 2C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu** baz=287	**0.16**	**285**	P	**Pb**	**00 48 32.8**	**-0.1**
EGFH				*e*S	**Sb**	**00 48 36.6**	**-0.1**
HGSD	**Ruisui** baz=221	**0.21**	**229**⇑	*e*P	**Pn**	**00 48 34.0**	**-0.7**
HGSD				*e*S	**Sb**	**00 48 39.2**	**+1.7**
ESL	**Shilin** baz=324	**0.24**	**322**⇓	*i*P	**Pb**	**00 48 33.4**	**-0.4**
ESL				S	**Sb**	**00 48 37.9**	**-0.3**
EHY	**Hungye** baz=247	**0.28**	**244**⇓	*i*P	**Pb**	**00 48 33.9**	**-0.4**
EHY				S	**Sb**	**00 48 38.3**	**-0.8**
HWA	**Hwalien** baz=16	**0.35**	**2**	*e*P	**Pn**	**00 48 35.7**	**-1.0**
HWA				*e*S	**Sn**	**00 48 42.6**	**-0.1**
YULB	**Yu-li** baz=236	**0.36**	**229**	⇓P	**Pb**	**00 48 35.1**	**-0.4**
YULB				*e*S	**Sb**	**00 48 40.7**	**-0.3**
TWF1	**Yuli** baz=233	**0.39**	**225**⇓	*i*P	**Pb**	**00 48 35.6**	**-0.3**
TWF1				*e*S	**Sb**	**00 48 41.5**	**-0.2**
TWD	**Chiawan** baz=355	**0.45**	**0**	P	**Pb**	**00 48 36.8**	**-0.1**
TWD				*e*S	**Sb**	**00 48 43.5**	**+0.1**
FULB	**Fuli** baz=224	**0.51**	**213**	*e*P	**Pn**	**00 48 38.2**	**-0.7**
FULB				*e*S	**Sn**	**00 48 46.5**	**-0.2**
NACB	**Ninganchiao** baz=354	**0.54**	**0**	*e*P	**Pb**	**00 48 37.8**	**-0.7**
NACB				*e*S	**Sb**	**00 48 45.2**	**-0.7**
CHKT	**Chengkung** baz=185	**0.57**	**202**⇓	*i*P	**Pn**	**00 48 39.0**	**-0.6**
CHKT				S	**Sn**	**00 48 47.6**	**-0.4**
CHGB	**Renai** baz=321	**0.58**	**318**	⇓P	**Pb**	**00 48 38.6**	**-0.5**
CHGB				*e*S	**Sb**	**00 48 46.2**	**-0.9**
WHF	**Hehuan Shan** baz=333	**0.60**	**330**⇑	*i*P	**Pb**	**00 48 38.8**	**-0.8**
WHF				*e*S	**Sb**	**00 48 47.0**	**-1.0**
YUS	**Yu-Shan** baz=256	**0.60**	**257**	⇓P	**Pb**	**00 48 39.3**	**-0.4**
YUS				*e*S	**Sb**	**00 48 46.8**	**-1.4**
SMLT	**Sun Moon Lake** baz=295	**0.68**	**292**⇓	*i*P	**Pb**	**00 48 40.1**	**-0.7**
SMLT				*e*S	**Sb**	**00 48 49.0**	**-1.0**
ELDTW	**Lidau** baz=225	**0.69**	**231**	P	**Pb**	**00 48 40.0**	**-0.9**
ELDTW				*e*S	**Sb**	**00 48 49.2**	**-0.9**
TYC	**Yuchr** baz=298	**0.73**	**292**	P	**Pb**	**00 48 40.8**	**-0.7**
TYC				*e*S	**Sb**	**00 48 51.0**	**-0.1**
TWT	**Tachien** baz=329	**0.73**	**329**	*e*P	**Pb**	**00 48 41.5**	**-0.2**
TWT				*e*S	**Sb**	**00 48 50.3**	**-1.1**
ALS	**Alishan** baz=261	**0.73**	**261**⇓	*e*P	**Pb**	**00 48 41.6**	**-0.2**
ALS				*e*S	**Sb**	**00 48 51.2**	**-0.4**
TDCB	**Techi** baz=329	**0.74**	**328**	P	**Pb**	**00 48 41.4**	**-0.4**
TDCB				*e*S	**Sb**	**00 48 50.1**	**-1.5**
ENA	**Nanau** baz=358	**0.81**	**10**	*e*P	**Pb**	**00 48 42.1**	**-0.8**
ENA				*e*S	**Sn**	**00 48 53.7**	**-0.4**
WJS	**Zhushan** baz=273	**0.82**	**284**	*e*P	**Pn**	**00 48 43.4**	**+0.3**
WJS				*e*S	**Sn**	**00 48 54.5**	**+0.2**
NNSB	**Datong** baz=349	**0.82**	**346**	*e*P	**Pb**	**00 48 42.4**	**-0.8**
NNSB				*e*S	**Sb**	**00 48 52.2**	**-1.7**
NNS	**Nan Shan** baz=357	**0.83**	**346**	P	**Pb**	**00 48 42.9**	**-0.6**
NNS				*e*S	**Sb**	**00 48 53.1**	**-1.2**
CHN5	**Tsauling** baz=263	**0.84**	**268**	*e*P	**Pn**	**00 48 43.4**	**-0.1**
CHN5				S	**Sb**	**00 48 54.3**	**-0.1**
WNT	**Mingjian** baz=288	**0.87**	**287**	P	**Pn**	**00 48 44.3**	**+0.5**
WNT				S	**Sn**	**00 48 55.9**	**+0.3**
TWGBT	**Beinan** baz=198	**0.93**	**210**	*e*P	**Pb**	**00 48 44.2**	**-0.8**
TWG	**Pinlang** baz=198	**0.94**	**211**	*e*P	**Pn**	**00 48 44.7**	**-0.1**
TPUB	**Ta-pu** baz=247	**0.94**	**250**	*e*P	**Pn**	**00 48 45.0**	**+0.2**
TPUB				*e*S	**Sn**	**00 48 57.7**	**+0.3**
WGK	**Gukeng** baz=274	**0.95**	**274**	*e*P	**Pn**	**00 48 46.2**	**+1.3**
WGK				*e*S	**Sn**	**00 48 57.8**	**+0.3**
CHN4	**Tsaushan** baz=254	**0.96**	**254**	*e*P	**Pn**	**00 48 45.7**	**+0.7**
CHN4				*e*S	**Sn**	**00 48 58.8**	**+1.0**
WDLH	**Douliu** baz=274	**0.97**	**274**	*e*S	**Sn**	**00 48 58.3**	**+0.2**
WTP	**Ta-pu** baz=248	**0.98**	**247**	*e*P	**Pn**	**00 48 45.8**	**+0.5**
WTP				*e*S	**Sn**	**00 48 58.8**	**+0.5**
TCU	**Taichung** baz=303	**0.99**	**302**	*e*P	**Pn**	**00 48 46.3**	**+0.8**
TCU				*e*S	**Sn**	**00 49 00.1**	**+1.6**
TWC	**Suao** baz=1.0	**1.00**	**13**	*e*P	**Pb**	**00 48 47.4**	**+1.2**
TWC				*e*S	**Sb**	**00 48 58.2**	**-0.8**
CHN2	**Minshiung** baz=265	**1.03**	**265**	*e*S	**Sn**	**00 49 01.5**	**+2.0**
TWQ1	**Liyutan** baz=324	**1.04**	**314**	*e*P	**Pb**	**00 48 47.2**	**+0.4**
TWQ1				*e*S	**Sn**	**00 49 01.1**	**+1.3**
EOS1	**EOS1** baz=42	**1.04**	**28**	*e*P	**Pb**	**00 48 48.2**	**+1.4**
WCHH	**Zhanghua** baz=296	**1.05**	**296**	*e*P	**Pb**	**00 48 47.0**	**+0.1**
WCHH				*e*S	**Sn**	**00 49 00.9**	**+0.9**
YHNB	**Yeheng** baz=1.0	**1.06**	**349**	*e*P	**Pn**	**00 48 46.2**	**-0.2**
YHNB				*e*S	**Sb**	**00 48 59.2**	**-1.4**
NSK	**Sanguang** baz=1.0	**1.07**	**348**	*e*P	**Pn**	**00 48 46.5**	**-0.1**
NSK				*e*S	**Sb**	**00 48 59.5**	**-1.4**
CHN1	**Nanshi** baz=247	**1.07**	**246**	*e*P	**Pb**	**00 48 47.8**	**+0.4**
CHN1				*e*S	**Sb**	**00 49 00.5**	**-0.5**
SGST	**Jiashian** baz=241	**1.07**	**240**	*e*S	**Sn**	**00 49 02.0**	**+1.4**
SLGT	**Liugui** baz=231	**1.07**	**234**	*e*P	**Pb**	**00 48 47.2**	**-0.2**
SLGT				*e*S	**Sn**	**00 49 00.9**	**+0.2**
TWK	**Hsinying** baz=251	**1.08**	**251**	*e*P	**Pb**	**00 48 47.8**	**+0.4**
TWK				*e*S	**Sn**	**00 49 02.1**	**+1.4**
CHY	**Chiayi** baz=264	**1.08**	**263**	*e*S	**Sn**	**00 49 02.0**	**+1.3**
NSY	**Sanyi** baz=317	**1.09**	**316**	S	**Sn**	**00 49 02.7**	**+1.6**
NSTT	**Nanjuang** baz=333	**1.14**	**332**	*e*P	**Pb**	**00 48 48.4**	**-0.1**
NSTT				*e*S	**Sb**	**00 49 01.8**	**-1.0**
LIOB	**Emei** baz=334	**1.14**	**333**	*e*P	**Pb**	**00 48 49.0**	**+0.4**
LIOB				*e*S	**Sb**	**00 49 02.2**	**-0.8**
NWLT	**Wulai** baz=357	**1.15**	**356**	*e*P	**Pb**	**00 48 49.2**	**+0.5**
NWLT				*e*S	**Sb**	**00 49 02.0**	**-1.1**
PTSB	**Yuanli** baz=316	**1.15**	**315**	*e*P	**Pb**	**00 48 48.2**	**-0.4**
PTSB				*e*S	**Sn**	**00 49 04.2**	**+1.7**
RLNB	**Erlin** baz=284	**1.16**	**283**	*e*S	**Sb**	**00 49 04.3**	**+0.9**
NMLH	**Miaoli** baz=322	**1.17**	**321**	*e*P	**Pb**	**00 48 49.2**	**+0.3**
NMLH				*e*S	**Sb**	**00 49 03.9**	**+0.3**
SSD	**Sandimen** baz=222	**1.25**	**225**	*e*P	**Pb**	**00 48 49.8**	**-0.5**
WSF	**Szhu** baz=271	**1.26**	**271**	S	**Sb**	**00 49 06.2**	**-0.1**
MASBT	**Mashibuluo** baz=223	**1.34**	**221**	*e*P	**Pn**	**00 48 50.5**	**+0.1**
MASBT				*e*S	**Sb**	**00 49 08.8**	**+0.1**
TATO	**Taipei** baz=8.0	**1.34**	**356**	*e*S	**Sn**	**00 49 07.2**	**-0.2**
EAST	**Anshuo** baz=201	**1.42**	**209**	*e*P	**Pn**	**00 48 52.0**	**+0.6**
TWB1	**Santiao Chiao** baz=4.0	**1.42**	**15**	*e*S	**Sb**	**00 49 11.6**	**+0.6**
NWF	**Wu-fen Shan** baz=7.0	**1.45**	**7**	*e*S	**Sb**	**00 49 12.1**	**+0.3**
JYNG	**Yonagunijimaku**	**1.48**	**56**	P	**Pn**	**00 48 52.3**	**0.0**
JYNG				*e*S	**Sb**	**00 49 12.1**	**-0.6**
SCZT	**Fangliau** baz=206	**1.54**	**216**	*e*P	**Pb**	**00 48 54.8**	**-0.4**
YOJ	**Yonaguni jima** baz=54	**1.54**	**57**	*e*P	**Pb**	**00 48 54.0**	**-1.3**
YOJ				*e*S	**Sn**	**00 49 12.6**	**+0.5**
YOJ	**Yonaguni jima**	**1.54**	**57**	P	**Pb**	**00 48 54.2**	**-1.1**
YOJ				*e*S	**Sn**	**00 49 12.7**	**+0.5**
WDGT	**Dungji** baz=261	**1.81**	**259**	*e*P	**Pn**	**00 48 57.0**	**+0.2**
WDGT				*e*S	**Sn**	**00 49 18.2**	**-0.6**
PHUB	**P'eng-hu** baz=254	**1.86**	**267**	*e*P	**Pn**	**00 48 57.7**	**+0.3**
PHUB				*e*S	**Sn**	**00 49 19.3**	**-0.6**
PNG	**Penghu** baz=256	**1.87**	**269**	*e*P	**Pn**	**00 48 57.9**	**+0.4**
PNG				*e*S	**Sn**	**00 49 19.8**	**-0.5**
VCHM	**Qimei** baz=261	**2.03**	**259**	*e*S	**Sn**	**00 49 23.4**	**-0.8**
HATJ	**Hateruma jima**	**2.07**	**78**	P	**Pn**	**00 49 01.1**	**+0.8**
HATJ				*e*S	**Sn**	**00 49 25.3**	**+0.1**
IRIF	**Iriomote-Funau**	**2.08**	**70**	P	**Pn**	**00 49 01.7**	**+1.3**
IRIF				S	**Sn**	**00 49 27.1**	**+1.7**
JKRS	**Kuro-shima**	**2.29**	**74**	P	**Pn**	**00 49 04.9**	**+1.5**
JKRS				*e*S	**Sn**	**00 49 32.4**	**+1.7**
VWUC	**VWUC** baz=305	**2.38**	**305**	*e*P	**Pn**	**00 49 04.7**	**+0.1**
JIJ	**Ishigaki jima**	**2.44**	**72**	P	**Pn**	**00 49 06.1**	**+0.6**
JIJ				*e*S	**Sn**	**00 49 34.0**	**-0.5**
PTMZ	**Houxiangcun** baz=302	**2.66**	**302**	*e*P	**Pn**	**00 49 08.9**	**+0.5**
JISG	**Ishigakijimahi**	**2.66**	**68**	P	**Pn**	**00 49 08.9**	**+0.4**
JISG				*e*S	**Sn**	**00 49 39.6**	**-0.2**
JTJ	**Tarama**	**3.01**	**70**	S	**Sn**	**00 49 48.5**	**0.0**
LYJJ	**Jianjiangzhen** baz=332	**3.35**	**331**	*e*S	**Sn**	**00 49 56.0**	**-0.8**
AXDP	**Jialang** baz=291	**3.54**	**292**	*e*P	**Pn**	**00 49 20.8**	**+0.3**

*IDC **08** 00:49:44.6±0.6, 17˚87N×68˚84W, h0km, mb4.1/18, mb1 4.3/20, mb1mx4.2/36, mbtmp4.1/20, ML4.1/2, Error ellipse: s-maj=17.0km s-min=13.7km az=45.0*
*ISCJB **08** 00:49:45.5±1.2, 17˚49N±0˚03×68˚88W±0˚03, h28km±10km, mb4.2/21, Error ellipse: s-maj=5.9km s-min=3.6km az=145.5*
*NEIC **08** 00:49:45.7±0.0, 17˚66N×68˚90W, h112km, MD3.8(RSPR), After RSPR.*
*RSPR **08** 00:49:45.7, 17˚66N×68˚90W, h112km±9km, MD3.8/11*

ISC 08 00:49:45.1±1.9, 17˚60N±0˚05×68˚82W±0˚04, h9km±12km, n72, σ1§54/83, mb4.3/21, 13C-10D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**1.30**	**336**⇓	*e*P	**Pg**	**00 50 09.5**	**-0.6**
DR12				*e*S	**Sn**	**00 50 26.9**	**-0.2**
DR12	**Loma Pena Alta**	**1.30**	**336**⇓	*e*P	**Pg**	**00 50 09.5**	**-0.6**
IDE	**Isla Desecheo**	**1.51**	**58**⇑	*e*P	**Pn**	**00 50 12.8**	**+0.5**
IDE	**Isla Desecheo**	**1.51**	**58**⇑	*e*P	**Pn**	**00 50 12.8**	**+0.5**
IDE				*e*S	**Sn**	**00 50 32.5**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.68**	**76**⇓	*e*P	**Pn**	**00 50 14.2**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.68**	**76**⇓	*e*P	**Pn**	**00 50 14.2**	**-0.6**
LSP	**Las Mesas**	**1.75**	**71**⇑	*e*P	**Pn**	**00 50 16.1**	**+0.4**
LSP	**Las Mesas**	**1.75**	**71**⇑	*e*P	**Pn**	**00 50 16.1**	**+0.4**
LSP				*e*S	**Sn**	**00 50 39.4**	**+1.2**
AGPR	**Aguadilla, PR**	**1.84**	**62**⇓	*e*P	**Pn**	**00 50 17.1**	**+0.1**
AGPR	**Aguadilla, PR**	**1.84**	**62**⇓	*e*P	**Pn**	**00 50 17.1**	**+0.1**
AGPR				*e*S	**Sn**	**00 50 41.5**	**+1.1**
GBPR	**Guanica, Bosqu**	**1.89**	**78**⇑	*e*P	**Pn**	**00 50 17.3**	**-0.3**
GBPR	**Guanica, Bosqu**	**1.89**	**78**⇑	*e*P	**Pn**	**00 50 17.3**	**-0.3**
AOPR	**Arecibo Observ**	**2.11**	**69**⇑	*e*P	**Pn**	**00 50 20.7**	**+0.1**
AOPR	**Arecibo Observ**	**2.11**	**69**⇑	*e*P	**Pn**	**00 50 20.7**	**+0.1**
OBIP	**Obispado Ponce**	**2.16**	**78**⇑	*e*P	**Pn**	**00 50 21.0**	**-0.3**
OBIP	**Obispado Ponce**	**2.16**	**78**⇑	*e*P	**Pn**	**00 50 21.0**	**-0.3**
OBIP				*e*S	**Sn**	**00 50 50.0**	**+1.8**
CELP	**Cerrillos**	**2.19**	**77**⇓	*e*P	**Pn**	**00 50 21.7**	**0.0**
CELP	**Cerrillos**	**2.19**	**77**⇓	*e*P	**Pn**	**00 50 21.7**	**0.0**
ICMP	**Isla Caja de M**	**2.21**	**82**⇓	*e*P	**Pn**	**00 50 22.6**	**+0.7**
ICMP	**Isla Caja de M**	**2.21**	**82**⇓	*e*P	**Pn**	**00 50 22.6**	**+0.7**
ICMP				*e*S	**Sn**	**00 50 48.1**	**-1.3**
EMPR	**Esperanza - Ma**	**2.35**	**68**⇑	*e*P	**Pn**	**00 50 23.9**	**0.0**
EMPR	**Esperanza - Ma**	**2.35**	**68**⇑	*e*P	**Pn**	**00 50 23.9**	**0.0**
EMPR				*e*S	**Sn**	**00 50 53.1**	**+0.2**
SJG	**San Juan**	**2.60**	**78**⇑	*e*P	**Pn**	**00 50 27.2**	**-0.1**
SJG	**San Juan**	**2.60**	**78**	*e*S	**Sn**	**00 50 59.6**	**+0.5**
SJG	**San Juan** 11nm,0.3s,baz=284,slow=11,SNR=9.5	**2.60**	**78**	Pn	**Pn**	**00 50 27.2**	**-0.1**
SJG	37nm,0.3s,baz=18,slow=21,SNR=11			Sn	**Sn**	**00 50 58.7**	**-0.3**
SJG	**San Juan**	**2.60**	**78**	*e*Pn	**Pn**	**00 50 27.0**	**-0.3**
SJG				*e*S	**Sn**	**00 50 57.8**	**-1.2**
SDDR	**Presa de Saban**	**2.72**	**301**	*e*Pn	**Pn**	**00 50 29.7**	**+0.6**
LGNH	**LØogne**	**3.71**	**285**	*e*Pn	**Pn**	**00 50 43.2**	**+0.6**
GRTK	**Grand Turk**	**4.46**	**331**	*e*Pn	**Pn**	**00 50 53.0**	**0.0**
URIC	**Uribia, Colomb**	**6.61**	**208**	*e*P	**Pn**	**00 51 20.9**	**-1.7**
PCRV	**Puerto La Cruz** 8.5nm,0.3s,baz=340,slow=7.7,SNR=20	**8.42**	**151**	Pn	**Pn**	**00 51 49.6**	**+2.1**
PCRV	5.1nm,0.3s,baz=122,slow=13,SNR=6.4			Sn	**Sn**	**00 53 17.4**	**-5.4**
SDV	**Santo Domingo**	**8.83**	**192**	*e*Pn	**Pn**	**00 51 54.5**	**+1.2**
SDV				*e*S	**Sn**	**00 53 30.3**	**-2.8**
SMLC	**San Mart`n de**	**10.12**	**211**	*e*P	**Pn**	**00 52 09.6**	**-1.2**
OCAC	**Ocana**	**10.28**	**206**	*e*P	**Pn**	**00 52 10.2**	**-2.8**
PAMC	**Pamplona, Colo**	**10.87**	**201**	*e*P	**Pn**	**00 52 20.3**	**-1.1**
MOTC	**Monteria, Cord**	**11.01**	**218**	*e*P	**Pn**	**00 52 24.2**	**+1.4**
GIRC	**Giron, Santand**	**11.29**	**203**	*e*P	**Pn**	**00 52 26.2**	**-0.7**
ZARC	**Zaragoza, Cauc**	**11.64**	**211**	*e*P	**Pn**	**00 52 28.9**	**-2.7**
BARC	**Barichara**	**11.73**	**202**	*e*P	**Pn**	**00 52 31.5**	**-1.6**
PTBC	**PUERTO BERRIO,**	**12.29**	**207**	*e*P	**Pn**	**00 52 39.5**	**-1.0**
RUSC	**La Rusia**	**12.35**	**200**	*e*P	**Pn**	**00 52 40.8**	**-0.9**
HELC	**Santa Helena**	**13.09**	**211**	*e*P	**Pn**	**00 52 51.5**	**-0.3**
NORC	**Norcasia**	**13.34**	**207**	*e*P	**Pn**	**00 52 56.1**	**+1.3**
CHIC	**Chingaza**	**13.75**	**201**	*e*P	**Pn**	**00 53 00.1**	**-0.7**
GUYC	**Guyana, Colomb**	**13.87**	**208**	*e*P	**Pn**	**00 53 03.4**	**+0.9**
PRAC	**Prado**	**15.02**	**204**	*e*P	**Pn**	**00 53 20.0**	**+2.2**
SOTA	**Rioblanco**	**17.16**	**207**	*e*P	**P**	**00 53 51.9**	**+4.4**
FLOC	**Florencia**	**17.27**	**204**	*e*P	**P**	**00 53 50.6**	**+2.4**
PTGA	**Pitinga** 1.8nm,0.4s,baz=347,slow=13,SNR=4.6	**20.19**	**154**	P	Pn	00 54 24.7	+2.5
SAML	**Samuel**	**26.96**	**168**	*e*P	**P**	**00 55 21.7**	**-5.5**
LPAZ	**La Paz** 0.7nm,0.6s,baz=335,slow=6.9,SNR=3.4	**33.68**	**179**	P	**P**	**00 56 30.6**	**+3.3**
TXAR	**Lajitas Array** 0.2nm,0.5s,baz=115,slow=8.7,SNR=5.9	**33.91**	**297**	P	**P**	**00 56 28.1**	**-0.6**
TXAR	0.5nm,0.6s,baz=132,slow=3.8,SNR=6.3			PcP	**PcP**	**00 59 07.1**	**-0.2**
SCHQ	**Schefferville** 11nm,0.6s,baz=197,slow=8.4,SNR=13	**37.20**	**2**	P	**P**	**00 56 55.3**	**-1.3**
PDAR	**Pinedale Array** 0.7nm,0.7s,baz=98,slow=11,SNR=7.1	**42.65**	**315**	P	**P**	**00 57 41.2**	**-1.2**
CPUP	**Villa Florida** 1.7nm,0.4s,baz=12,slow=0.4,SNR=11	**45.07**	**165**	P	**P**	**00 58 05.9**	**+4.3**
NVAR	**Mina Array Bea** 0.7nm,0.3s,baz=95,slow=7.4,SNR=12	**47.73**	**306**	P	**P**	**00 58 23.2**	**+0.5**
YKA	**Yellowknife Ar** 1.4nm,0.5s,baz=108,slow=7.0,SNR=4.6	**54.91**	**336**	P	**P**	**00 59 14.4**	**-1.5**
ESDC	**Sonseca Array** 1.8nm,0.7s,baz=269,slow=7.2,SNR=14	**59.75**	**54**	P	**P**	**00 59 51.4**	**+0.8**
TORD	**Torodi Ar. Bea** 0.6nm,0.6s,baz=282,slow=5.8,SNR=5.6	**67.80**	**83**	P	**P**	**01 00 43.4**	**-0.7**
ILAR	**Eielson Array** 1.4nm,0.6s,baz=98,slow=4.9,SNR=33	**69.14**	**333**	P	**P**	**01 00 50.4**	**-1.3**
RETA	**Reutte** 2.1nm,0.6s	**70.26**	**45**	*i* P	**P**	**01 00 59.3**	**+0.4**
FETA	**Feichten** 2.9nm,0.5s	**70.28**	**46**	*i* P	**P**	**01 00 59.7**	**+0.5**
KEST	**Kesra** 2.7nm,0.6s,baz=208,slow=3.6,SNR=8.2	**70.50**	**58**	P	**P**	**01 01 01.2**	**+0.6**
MOTA	**Moosalm** 2.0nm,0.5s	**70.50**	**45**	*i* P	**P**	**01 01 01.0**	**+0.5**
SQTA	**Sankt Quirin** 1.8nm,0.4s	**70.59**	**45**	*i* P	**P**	**01 01 01.3**	**+0.3**
KDAK	**Kodiak Island** 5.9nm,0.7s,baz=174,slow=9.2	**71.99**	**326**	P	**P**	**01 01 08.6**	**-0.4**
GERES	**GERESS Array B** 1.0nm,0.7s,baz=289,slow=3.0,SNR=2.8	**72.09**	**43

PCIG		2.14	337	*e*P	Pn	00 59 21.7	-3.2
PCIG				*i* S	Sn	00 59 48.7	-1.5
APG	**El Apazote**	**2.21**	**55**	Pn	**Pn**	**00 59 26.8**	**+0.8**
	14nm,0.3s,baz=230,slow=10,SNR=36						
APG				LR	LR	00 59 56.2	
	comp=Z,165nm,18.7s,baz=142,slow=31						
CCIG	**Comitan**	**2.54**	**4**	*e*Pn	**Pn**	**00 59 32.6**	**+2.0**
CCIG				*e*Sn	**Sn**	**01 00 05.0**	**+4.5**
CCIG	**Comitan**	**2.54**	**4**	*i* P	**Pn**	**00 59 29.0**	**-1.6**
CCIG				*e*P		00 59 31.8	
CCIG				*e*S	**Sn**	**00 59 59.4**	**-1.1**
TGIG		**3.13**	**346**	*e*P	**Pn**	**00 59 36.2**	**-2.2**
TGIG				*i* S	**Sn**	**01 00 13.8**	**-0.9**
CMIG	**Matias Romero**	**4.15**	**324**	Pn	**Pn**	**00 59 51.6**	**-0.9**
	1.0nm,0.3s,baz=134,slow=14,SNR=6.8						
CMIG				Sn	**Sn**	**01 00 36.3**	**-3.6**
	5.7nm,0.3s,baz=106,slow=8.3,SNR=6.0						
TLIG	**Tlapa**	**7.11**	**303**	*e*Pn	**Pn**	**01 00 33.8**	**+0.5**
TLIG				*e*Sn	**Sn**	**01 01 56.3**	**+3.2**
TEIG	**Tepich**	**7.54**	**30**	*e*Pn	**Pn**	**01 00 40.0**	**+1.0**
JTS	**JuntasAbangare**	**7.99**	**115**	Pn	**Pn**	**01 00 45.4**	**+0.1**
	0.9nm,0.3s,baz=13,slow=16,SNR=3.7						
JTS	**JuntasAbangare**	**7.99**	**115**	*e*Pn	**Pn**	**01 00 46.5**	**+1.3**
MTDJ	**Mount Denham**	**14.91**	**71**	*e*Pn	**P**	**01 02 22.1**	**-3.1**
833A	**Chaparral WMA,**	**15.94**	**337**	*e*Pn	**P**	**01 02 38.0**	**+1.4**
	12nm,0.9s						
JCT	**Junction City**	**18.04**	**339**	*e*Pn	**P**	**01 03 01.3**	**+1.5**
	7.9nm,0.9s						
ZARC	**Zaragoza, Cauc**	**18.25**	**108**	ǁ*e*P	**P**	**01 02 58.1**	**-4.1**
SMLC	**San Mart›n de**	**18.56**	**103**	*e*P	**Pn**	**01 03 06.4**	**+0.4**
TX31	**Lajitas Ar. Si**	**18.75**	**328**	*e*P	**Pn**	**01 03 09.8**	**+1.5**
TXAR	**Lajitas Array**	**18.75**	**328**	P	**Pn**	**01 03 08.6**	**+0.3**
	0.0nm,0.3s,baz=160,slow=12,SNR=20						
147A	**Livingston**	**19.22**	**10**	*e*P	**P**	**01 03 11.7**	**-1.0**
	84nm,1.5s						
SOTA	**Rioblanco**	**19.35**	**125**	*e*P	**Pn**	**01 03 16.9**	**+0.9**
PRAC	**Prado**	**19.89**	**118**	*e*P	**Pn**	**01 03 23.4**	**+1.3**
ABTX	**Abilene, Hawle**	**19.96**	**342**	*e*P	**Pn**	**01 03 22.2**	**-0.5**
	26nm,1.4s						
152A	**Waverly Hall**	**20.10**	**19**	*e*P	**Pn**	**01 03 25.1**	**+0.8**
	11nm,0.9s						
BARC	**Barichara**	**20.13**	**109**	*e*P	Pn	01 03 28.0	+3.0
Z50A	**Ashland**	**20.30**	**16**	*e*P	**P**	**01 03 24.1**	**-0.4**
	13nm,1.1s						
PAMC	**Pamplona, Colo**	**20.31**	**106**	*e*P	**P**	**01 03 24.7**	**-0.6**
FLOC	**Florencia**	**20.44**	**125**	*e*P	Pn	01 03 34.0	+5.5
CHIC	**Chingaza**	**20.45**	**114**	*e*P	Pn	01 03 29.3	+0.3
RUSC	**La Rusia**	**20.49**	**110**	*e*P	**P**	**01 03 27.4**	**+0.2**
Y49A	**Blount Mountai**	**20.75**	**14**	*e*P	Pn	01 03 29.5	-2.4
	26nm,1.4s						
MIAR	**Mount Ida**	**20.76**	**357**	*e*P	**P**	**01 03 29.4**	**0.0**
	14nm,1.0s						
X37A	**Clayton**	**20.95**	**353**	*e*P	**P**	**01 03 31.1**	**-0.5**
	13nm,1.0s						
GOGA	**Godfrey**	**21.19**	**21**	*e*P	**P**	**01 03 32.8**	**-1.3**
	12nm,1.2s						
Y52A	**Lilburn**	**21.41**	**19**	*e*P	**P**	**01 03 37.0**	**+0.6**
	17nm,1.4s						
MNTX	**Cornudas Mount**	**21.52**	**328**	*e*P	**P**	**01 03 38.4**	**+0.7**
	6.0nm,1.0s						
WMOK	**Wichita Mounta**	**21.72**	**346**	*e*P	**P**	**01 03 39.2**	**-0.6**
	7.0nm,1.1s						
SDV	**Santo Domingo**	**21.81**	**100**	P	**P**	**01 03 41.8**	**+0.6**
	2.0nm,0.5s,baz=112,slow=3.9,SNR=4.2						
SWET	**Sewanee**	**22.16**	**14**	*e*P	**P**	**01 03 43.7**	**-0.8**
	12nm,1.0s						
MSTX	**Muleshoe**	**22.27**	**337**	*e*P	**P**	**01 03 45.8**	**0.0**
	15nm,0.9s						
V48A	**Smith Brothers**	**22.47**	**12**	*e*P	**P**	**01 03 46.1**	**-1.8**
	14nm,1.0s						
AMTX	**Amarillo**	**22.69**	**340**	*e*P	**P**	**01 03 49.8**	**-0.5**
	34nm,0.9s						
CPCT	**Cooper Cave**	**22.75**	**17**	*e*P	**P**	**01 03 49.8**	**-0.9**
	6.1nm,0.8s						
TKL	**Tuckaleechee C**	**23.16**	**18**	P	**P**	**01 03 54.3**	**-0.7**
	5.8nm,0.8s,baz=178,slow=9.8,SNR=5.2						
V52A	**Sevierville**	**23.38**	**18**	*e*P	**P**	**01 03 57.3**	**+0.1**
	15nm,1.0s						
T47A	**Sharon Grove**	**23.63**	**10**	*e*P	**P**	**01 03 57.6**	**-2.0**
	8.1nm,0.7s						
SIUC	**Southern Illin**	**24.05**	**6**	*e*P	**P**	**01 04 02.0**	**-1.5**
	10nm,0.6s						
BNM	**Barren Site**	**24.11**	**330**	*e*P	**P**	**01 04 02.1**	**-2.3**
ANMO	**Albuquerque**	**24.68**	**331**	P	**P**	**01 04 10.3**	**+0.8**
	1.7nm,0.8s,baz=153,slow=11,SNR=5.2						
ANMO	**Albuquerque**	**24.68**	**331**	*e*P	**P**	**01 04 12.6**	**+3.1**
	4.4nm,1.1s						
WCI	**Wyandotte Cave**	**24.98**	**11**	*e*P	**P**	**01 04 10.0**	**-2.0**
	17nm,0.8s						
SJG	**San Juan**	**25.54**	**77**	LR	LR	01 15 16.9	
	comp=Z,194nm,18.5s,baz=278,slow=39						
T25A	**Trinidad**	**25.69**	**337**	*e*P	**P**	**01 04 20.6**	**+1.9**
	11nm,0.8s						
SDCO	**Great Sand Dun**	**26.64**	**336**	*e*P	**P**	**01 04 26.7**	**-0.7**
	6.6nm,1.3s						
X16A	**Lo Mia Camp, P**	**26.90**	**323**	*e*P	**P**	**01 04 31.5**	**+1.9**
	3.3nm,1.3s						
S22A	**4UR Ranch, Cre**	**27.18**	**334**	*e*P	**P**	**01 04 34.6**	**+2.3**
	8.7nm,1.2s						
MVCO	**Mesa Verde**	**27.48**	**331**	*e*P	**P**	**01 04 36.5**	**+1.6**
	8.3nm,1.0s						
PV03	**Paradox Valley**	**28.49**	**332**	*e*P	**P**	**01 04 45.8**	**+2.0**
PV10	**Paradox Valley**	**28.67**	**332**	*e*P	**P**	**01 04 47.0**	**+1.5**
U15A	**North Rim**	**28.82**	**325**	*e*P	**P**	**01 04 49.0**	**+2.1**
	3.9nm,1.4s						
PSUT	**Pine Spring**	**31.20**	**326**	*e*P	**P**	**01 05 10.6**	**+2.7**
	3.0nm,1.0s						
SADO	**Sadowa**	**32.92**	**17**	P	**P**	**01 05 23.8**	**+1.2**
	4.8nm,0.9s,baz=282,slow=5.8,SNR=3.5						
HVU	**Hansel Valley**	**33.11**	**331**	*e*P	**P**	**01 05 26.5**	**+2.0**
	8.7nm,1.3s						
LOHW	**Long Hollow**	**33.66**	**336**	*e*P	**P**	**01 05 30.8**	**+1.4**
	5.2nm,0.9s						
NV01	**Mina Array Sit**	**33.68**	**322**	*e*P	**P**	**01 05 31.6**	**+2.0**
NVAR	**Mina Array Bea**	**33.68**	**322**	P	**P**	**01 05 32.0**	**+2.4**
	2.7nm,0.8s,baz=138,slow=8.6,SNR=17						
NVAR				LR	LR	01 20 23.8	
	comp=Z,128nm,19.1s,baz=103,slow=39						
MOOW	**Moose Ponds**	**33.83**	**336**	*e*P	**P**	**01 05 32.0**	**+1.2**
	5.8nm,1.2s						
KVN	**Kaiserville**	**33.96**	**323**	*e*P	**P**	**01 05 34.5**	**+2.5**
	2.7nm,1.0s						
PTGA	**Pitinga**	**35.14**	**112**	P	**P**	**01 05 43.6**	**+1.3**
	4.7nm,0.8s,baz=308,slow=9.5,SNR=12						
HLID	**Hailey**	**35.26**	**332**	*e*P	**P**	**01 05 44.2**	**+1.1**
	3.2nm,0.9s						
MCMT	**McKenzie Canyo**	**35.58**	**335**	*e*P	**P**	**01 05 48.4**	**+2.5**
H04A	**Detroit Lake**	**39.96**	**326**	*e*P	**P**	**01 06 18.8**	**-4.0**
	7.8nm,0.9s						
YKA	**Yellowknife Ar**	**51.22**	**347**	P	**P**	**01 07 50.9**	**-0.4**
	5.4nm,0.7s,baz=148,slow=7.7,SNR=9.7						
CPUP	**Villa Florida**	**52.39**	**139**	P	**P**	**01 07 59.9**	**-0.7**
	1.3nm,0.9s,baz=6.4,slow=7.1,SNR=3.4						
BDFB	**Brasilia**	**52.65**	**122**	P	**P**	**01 08 02.5**	**-0.4**
	1.8nm,0.5s,baz=196,slow=15,SNR=2.8						
DLBC	**Dease Lake**	**52.77**	**336**	P	**P**	**01 08 03.5**	**+0.5**
	8.2nm,1.0s,baz=146,slow=7.0,SNR=6.7						
DLBC	**Dease Lake**	**52.77**	**336**	*e*P	**P**	**01 08 05.1**	**+2.0**
INK	**Inuvik**	**60.61**	**344**	P	**P**	**01 08 59.1**	**+0.6**
	5.0nm,1.0s,baz=118,slow=6.0,SNR=6.5						
ILAR	**Eielson Array**	**62.96**	**337**	P	**P**	**01 09 15.0**	**+0.6**
	2.7nm,1.0s,baz=131,slow=4.1,SNR=5.0						
TORD	**Torodi Ar. Bea**	**90.75**	**76**	P	**P**	**01 11 50.6**	**-1.2**
	0.3nm,0.7s,baz=239,slow=7.8						
CMAR	**Chiang Mai Arr**	**146.14**	**341**	PKPbc	**PKPab**	**01 18 29.5**	**-0.1**
	4.0nm,0.7s,baz=343,slow=4.3,SNR=13						

*MEX **08** 01:07:31.0±0.4, 13.66N×92.19W, h20km±16km, MD3.9*
*IDC **08** 01:07:31.2±2.0, 14.15N×92.54W, h0km, mb4.2/10, mb1 4.5/13, mb1mx4.1/50, mbtmp4.2/13, ML3.7/3, MS3.4/1, Ms1 3.4/1, ms1mx2.8/40, Error ellipse: s-maj=49.3km s-min=20.6km az=24.0*
*ISCJB **08** 01:07:34.7±1.1, 14.05N±0.07×92.42W±0.06, h38km±9km, mb4.4/46, Error ellipse: s-maj=14.5km s-min=5.9km az=37.9*
*NEIC **08** 01:07:36.8±0.8, 14.15N×92.37W, h35km, mb4.5/44, Error ellipse: s-maj=14.9km s-min=9.0km az=207.0*

ISC 08 01:07:35.8±2.1, 14.16N±0.09×92.39W±0.07, h29km±14km, n91, σ1°49/89, mb4.5/46, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.74**	**333**	*e*Pn	**Pn**	**01 08 02.9**	**-1.1**
PCIG				*e*Sn	**Sn**	**01 08 20.6**	**-4.7**
PCIG				*i* P	**Pn**	**01 08 04.9**	**+0.9**
PCIG				*i* S	**Sb**	**01 08 30.6**	**+2.1**
APG	**El Apazote**	**2.04**	**65**	Pn	**Pb**	**01 08 10.7**	**-1.7**
	6.4nm,0.3s,baz=263,slow=9.3,SNR=7.0						
APG				LR	LR	01 09 12.2	
	comp=Z,830nm,18.7s,baz=160,slow=46						
CCIG	**Comitan**	**2.13**	**6**	*e*Pn	**Pn**	**01 08 09.6**	**0.0**
CCIG				*e*Sn	**Sn**	**01 08 35.2**	**+0.1**
CCIG	**Comitan**	**2.13**	**6**	*e*P	**Pn**	**01 08 09.6**	**0.0**
CCIG				*i* S	**Sb**	**01 08 40.0**	**+0.1**
TGIG		**2.70**	**345**	*e*Pn	**Pn**	**01 08 19.0**	**+1.6**
TGIG		**2.70**	**345**	*e*P	**Pn**	**01 08 19.0**	**+1.6**
TGIG				*i* S	**Sb**	**01 08 55.1**	**-1.1**
CMIG	**Matias Romero**	**3.78**	**321**	Pn	**Pn**	**01 08 30.1**	**-2.1**
	8.4nm,0.3s,baz=31,slow=11,SNR=5.3						
CMIG				Sn	**Sn**	**01 09 18.1**	**+2.3**
	11nm,0.3s,baz=77,slow=9.9,SNR=4.3						
ESTN	**Estel**	**5.94**	**99**	*e*Pn	**Pn**	**01 09 01.2**	**-0.8**
TLIG	**Tlapa**	**6.84**	**300**	*e*Pn	**Pn**	**01 09 13.3**	**-1.1**
TEIG	**Tepich**	**7.20**	**32**	*e*Pn	**Pn**	**01 09 22.6**	**+3.4**
JTS	**JuntasAbangare**	**8.22**	**117**	Lg	Lg	01 11 50.6	
	0.5nm,0.3s,baz=207,slow=17,SNR=6.2						
LTX	**Lajitas**	**18.36**	**327**	*e*P	**P**	**01 11 48.1**	**-0.2**
TXAR	**Lajitas Array**	**18.36**	**327**	P	**P**	**01 11 48.1**	**-0.2**
	0.1nm,0.3s,baz=150,slow=16,SNR=12						
TX31	**Lajitas Ar. Si**	**18.36**	**327**	*e*P	**Pn**	**01 11 49.6**	**+1.1**
SMLC	**San Mart›n de**	**18.72**	**105**	*e*P	**Pn**	**01 11 56.3**	**+3.5**
GUYC	**Guyana, Colomb**	**18.95**	**116**	*e*P	**Pn**	**01 11 56.3**	**+0.2**
POPC	**Popayan, Colom**	**19.34**	**125**	ǁ*e*P	**Pn**	**01 12 02.9**	**+2.3**
ABTX	**Abilene, Hawle**	**19.54**	**341**	*e*P	**Pn**	**01 12 03.1**	**+0.4**
	13nm,0.9s						
152A	**Waverly Hall**	**19.71**	**19**	*e*P	**Pn**	**01 12 08.2**	**+3.5**
	12nm,0.7s						
154A	**Montrose**	**20.23**	**23**	*e*P	Pn	01 12 13.2	+2.4
	32nm,0.7s						
BARC	**Barichara**	**20.32**	**110**	*e*P	**P**	**01 12 08.9**	**-1.2**
MIAR	**Mount Ida**	**20.33**	**357**	*e*P	**P**	**01 12 10.5**	**+0.7**
	18nm,1.1s						
PAMC	**Pamplona, Colo**	**20.48**	**107**	*e*P	**P**	**01 12 10.2**	**-1.9**
X37A	**Clayton**	**20.52**	**353**	*e*P	Pn	01 12 13.1	-1.0
	13nm,0.9s						
CHIC	**Chingaza**	**20.68**	**115**	*e*P	**P**	**01 12 14.9**	**+0.7**
RUSC	**La Rusia**	**20.69**	**111**	*e*P	**P**	**01 12 12.5**	**-1.9**
FLOC	**Florencia**	**20.73**	**126**	*e*P	Pn	01 12 18.9	+2.1
GDL2	**Guadalupe Moun**	**21.03**	**331**	*e*P	P	01 12 25.4	+7.8
MNTX	**Cornudas Mount**	**21.13**	**328**	*e*P	**P**	**01 12 18.9**	**+0.4**
	7.1nm,1.0s						
WMOK	**Wichita Mounta**	**21.29**	**345**	*e*P	**P**	**01 12 20.5**	**+0.3**
	4.9nm,0.8s						
SWET	**Sewanee**	**21.76**	**14**	*e*P	**P**	**01 12 25.4**	**+0.2**
	22nm,1.2s						
MSTX	**Muleshoe**	**21.86**	**336**	*e*P	**P**	**01 12 27.7**	**+1.4**
	8.6nm,0.8s						
SDV	**Santo Domingo**	**21.94**	**101**	P	**P**	**01 12 28.7**	**+1.2**
	1.8nm,0.6s,baz=255,slow=19,SNR=3.0						
HHAR	**Hobbs**	**22.08**	**357**	*e*P	**P**	**01 12 30.1**	**+1.5**
	57nm,2.0s						
AMTX	**Amarillo**	**22.28**	**339**	*e*P	**P**	**01 12 31.0**	**+0.2**
	35nm,0.8s						
PBMO	**Poplar Bluff**	**22.60**	**4**	*e*P	**P**	**01 12 33.4**	**-0.7**
	12nm,1.0s						
TKL	**Tuckaleechee C**	**22.77**	**18**	P	**P**	**01 12 35.1**	**-0.9**
	7.2nm,0.9s,baz=211,slow=11,SNR=4.0						
TKL	**Tuckaleechee C**	**22.77**	**18**	*e*P	**P**	**01 12 35.1**	**-0.9**
	18nm,1.2s						
T47A	**Sharon Grove**	**23.22**	**11**	*e*P	**P**	**01 12 39.6**	**-1.0**
	24nm,1.2s						
SIUC	**Southern Illin**	**23.63**	**6**	*e*P	**P**	**01 12 43.9**	**-0.6**
	22nm,0.8s						
ANMO	**Albuquerque**	**24.28**	**331**	P	**P**	**01 12 49.1**	**-1.9**
	0.7nm,0.5s,baz=145,slow=12,SNR=2.4						
ANMO	**Albuquerque**	**24.28**	**331**	*e*P	**P**	**01 12 49.1**	**-1.9**
	3.7nm,1.0s						
WCI	**Wyandotte Cave**	**24.58**	**12**	*e*P	**P**	**01 12 52.4**	**-1.0**
	17nm,0.8s						
OLIL	**Olney**	**24.77**	**8**	*e*P	**P**	**01 12 55.4**	**+0.3**
	21nm,0.8s						
T25A	**Trinidad**	**25.27**	**337**	*e*P	**P**	**01 13 01.6**	**+1.6**
	16nm,1.1s						
SDCO	**Great Sand Dun**	**26.23**	**336**	*e*P	**P**	**01 13 10.0**	**+1.3**
	5.7nm,1.1s						
X16A	**Lo Mia Camp, P**	**26.53**	**323**	*e*P	**P**	**01 13 12.7**	**+1.4**
	3.3nm,1.3s						
S22A	**4UR Ranch, Cre**	**26.77**	**334**	*e*P	**P**	**01 13 15.8**	**+2.2**
	19nm,1.5s						
MVCO	**Mesa Verde**	**27.08**	**331**	*e*P	**P**	**01 13 18.8**	**+2.4**
	12nm,1.1s						
PV03	**Paradox Valley**	**28.09**	**332**	*e*P	P	01 13 30.7	+5.4
PV10	**Paradox Valley**	**28.27**	**332**	*e*P	**P**	**01 13 28.3**	**+1.2**
PSUT	**Pine Spring**	**30.82**	**326**	*e*P	P	01 13 55.2	+5.7
	1.6nm,0.8s						
RSSD	**Black Hills**	**31.48**	**344**	*e*P	**P**	**01 13 55.9**	**+0.6**
	3.8nm,0.8s						
PD31	**Pinedale Array**	**32.12**	**336**	*e*P	**P**	**01 14 01.2**	**+0.2**
PDAR	**Pinedale Array**	**32.12**	**336**	P	**P**	**01 14 01.2**	**+0.2**
	1.0nm,0.4s,baz=134,slow=4.3,SNR=10						
PDAR	**Pinedale Array**	**32.12**	**336**	*e*P	**P**	**01 14 03.8**	**+2.8**
REDW	**Red Top Meadow**	**33.14**	**335**	*e*P	**P**	**01 14 10.9**	**+1.0**
	22nm,1.2s						
SNOW	**Snow King Moun**	**33.19**	**335**	*e*P	**P**	**01 14 11.6**	**+1.3**
	14nm,0.8s						
NV11	**Mina Array Sit**	**33.23**	**321**	*e*P	**P**	**01 14 11.9**	**+1.3**
	0.2nm,0.9s						
LOHW	**Long Hollow**	**33.25**	**336**	*e*P	**P**	**01 14 11.4**	**+0.6**
	9.1nm,1.3s						
TPAW	**Teton Pass**	**33.29**	**335**	*e*P	**P**	**01 14 12.3**	**+1.1**
	25nm,1.6s						
NV01	**Mina Array Sit**	**33.31**	**321**	*e*P	**P**	**01 14 12.0**	**+0.6**
NVAR	**Mina Array Bea**	**33.31**	**321**	P	**P**	**01 14 11.6**	**+0.1**
	2.2nm,0.8s,baz=138,slow=8.5,SNR=17						
MOOW	**Moose Ponds**	**33.42**	**336**	*e*P	**P**	**01 14 12.7**	**+0.3**
	4.8nm,1.1s						
FXWY	**Fox Creek**	**33.44**	**335**	*e*P	**P**	**01 14 13.3**	**+0.8**
	18nm,1.5s						
MDND	**Maddock**	**34.12**	**351**	*e*P	**P**	**01 14 17.5**	**-0.6**
	32nm,0.7s						
HLID	**Hailey**	**34.86**	**332**	*e*P	**P**	**01 14 25.7**	**+0.9**
	2.4nm,0.9s						
MCMT	**McKenzie Canyo**	**35.17**	**334**	*e*P	**P**	**01 14 29.4**	**+1.9**
PTGA	**Pitinga**	**35.35**	**112**	*e*P	**P**	**01 14 27.9**	**-1.1**
	5.9nm,0.9s						
DLMT	**Dillon**	**35.50**	**335**	*e*P	**P**	**01 14 31.6**	**+1.4**
	31nm,1.8s						
ULM	**Lac du Bonnet**	**36.11**	**356**	P	**P**	**01 14 33.3**	**-1.8**
	2.9nm,0.7s,baz=192,slow=6.4,SNR=3.5						
J08A	**Circle Bar Ran**	**36.71**	**328**	*e*P	**P**	**01 14 41.0**	**+0.4**
	5.4nm,0.9s						
I07A	**Izee**	**37.75**	**328**	*e*P	P	01 14 55.0	+5.6
	12nm,1.5s						
F10A	**Beach Ranch, E**	**37.99**	**332**	*e*P	**P**	**01 14 51.5**	**+0.1**
	8.8nm,0.9s						
YKA	**Yellowknife Ar**	**50.79**	**347**	P	**P**	**01 16 33.0**	**-0.2**
	7.8nm,0.7s,baz=149,slow=7.6,SNR=12						
YKA	**Yellowknife Ar**	**50.79**	**347**	P	**P**	**01 16 33.0**	**-0.2**
YKB5	**Yellowknife Ar**	**50.79**	**347**	*e*P	**P**	**01 16 33.0**	**-0.2**
DLBC	**Dease Lake**	**52.36**	**336**	P	**P**	**01 16 45.3**	**+0.1**
	8.1nm,1.0s,baz=195,slow=6.4,SNR=6.6						
DLBC	**Dease Lake**	**52.36**	**336**	*e*P	**P**	**01 16 48.4**	**+3.2**
	8.2nm,0.9s						
INK	**Inuvik**	**60.18**	**344**	P	**P**	**01 17 39.5**	**-1.2**
	2.5nm,0.8s,baz=131,slow=9.1,SNR=8.7						
INK	**Inuvik**	**60.18**	**344**	*e*P	**P**	**01 17 39.5**	**-1.2**
	7.7nm,1.3s						
IL1	**Eielson Array**	**62.55**	**337**	*e*P	**P**	**01 17 55.2**	**-1.6**
ILAR	**Eielson Array**	**62.55**	**337**	P	**P**	**01 17 55.1**	**-1.7**
	3.0nm,1.0s,baz=137,slow=4.2,SNR=18						
ILB	**Eielson Array**	**62.55**	**337**	*e*P	**P**	**01 17 56.5**	**-0.3**
RND	**Reindeer**	**62.73**	**335**	*e*P	**P**	**01 17 58.2**	**+0.1**
	6.6nm,0.8s						
BWN	**Browne**	**63.29**	**336**	*e*P	**P**	**01 18 01.7**	**0.0**
	24nm,1.0s						
TRF	**Thorstare Moun**	**63.34**	**335**	*e*P	**P**	**01 18 04.1**	**+1.8**
	5.8nm,0.8s						
MLY	**Manley**	**64.14**	**336**	*e*P	**P**	**01 18 06.9**	**-0.5**
	5.5nm,0.8s						
CM31	**Chiang Mai Arr**	**145.72**	**341**	*e*PKPdf	**PKPdf**	**01 27 11.7**	**-0.9**
CMAR	**Chiang Mai Arr**	**145.72**	**341**	PKPbc	**PKPdf**	**01 27 11.7**	**-0.9**
	3.6nm,0.6s,baz=339,slow=3.6,SNR=14						

*ISCJB **08** 01:12:10.5±0.4, 44.01N±0.05×142.19E±0.07, h223km±3km, mb3.5/7, Error ellipse: s-maj=8.5km s-min=7.5km az=26.8*
*JMA **08** 01:12:11.8±0.2, 44.04N×142.12E, h216km±2km, M3.4*
*IDC **08** 01:12:11.2±0.5, 44.04N×142.25E, h215km±3km, mb3.3/7, mb1 3.4/9, mb1mx3.1/45, mbtmp3.8/9, Error ellipse: s-maj=23.3km s-min=14.6km az=115.0*

ISC 08 01:12:11.4±0.7, 44.01N±0.06×142.17E±0.06, h220km±5km, n28, σ0°81/39, mb3.5/7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**0.32**	**71**	P	**Pn**	**01 12 40.3**	**0.0**
	3.6nm,0.3s,baz=270,slow=7.1,SNR=5.9						
ASAJ				S	**S**	**01 13 02.2**	**-0.8**
	4.6nm,0.3s,baz=356,slow=33,SNR=13						
ASAJ	**Asahikawa**	**0.32**	**71**	*e*S	**S**	**01 13 02.1**	**-0.8**
JKK2	**Kamakawa 2**	**0.44**	**109**	P	**Pn**	**01 12 41.1**	**+0.4**
JKK2				*e*S	**S**	**01 13 03.4**	**-0.1**
JSS	**Shosan**	**0.45**	**329**	P	**Pn**	**01 12 40.9**	**+0.3**
JSS				*e*S	**S**	**01 13 03.0**	**-0.6**
JAB	**Ashibetsu**	**0.51**	**176**	*e*S	**S**	**01 13 04.0**	**+0.1**
JYG	**Yagishiri**	**0.68**	**308**	P	**Pn**	**01 12 41.4**	**-0.1**
JYG				*e*S	**S**	**01 13 04.1**	**-0.9**
JFR	**Furan**	**0.90**	**160**	P	**Pn**	**01 12 43.0**	**+0.2**
JFR				*e*S	**S**	**01 13 07.6**	**+0.5**
JTKR	**Abashiri--Toko**	**1.25**	**91**	P	**Pn**	**01 12 46.0**	**+1.1**
JEW	**Eniwo**	**1.29**	**204**	P	**Pn**	**01 12 46.1**	**+0.8**
JWK2	**Keihoku**	**1.32**	**352**	P	**Pn**	**01 12 45.1**	**-0.3**
JAR	**Ashorobuto**	**1.36**	**121**	P	**Pn**	**01 12 46.9**	**+1.1**
JAR				*e*S	**S**	**01 13 13.7**	**+1.2**
JSK	**Shakotan**	**1.40**	**242**	P	**Pn**	**01 12 46.2**	**+0.2**
JCH	**Churui**	**1.65**	**148**	P	**Pn**	**01 12 47.7**	**-0.5**
JCH				*e*S	**S**	**01 13 14.9**	**-1.8**
JNBK	**Urakawa-nobuka**	**1.78**	**166**	P	**Pn**	**01 12 50.2**	**+0.8**
JNBK				*e*S	**S**	**01 13 19.6**	**+0.7**
JAK	**Akkeshi**	**2.10**	**118**	P	**Pn**	**01 12 52.3**	**-0.1**
JAK				*e*S	**S**	**01 13 23.4**	**-0.8**
JKB	**Kayabe**	**2.28**	**202**	P	**Pn**	**01 12 54.2**	**-0.1**
JKB				*e*S	**S**	**01 13 27.3**	**-0.3**
NEM2	**Nemuro 2**	**2.67**	**103**	*e*S	**S**	**01 13 33.1**	**-1.8**
JOT	**Ohata**	**2.76**	**198**	P	**Pn**	**01 12 59.1**	**-0.3**
JOT				*e*S	**S**	**01 13 35.3**	**-1.4**
JOSM	**Okushiri--Mats**	**2.76**	**227**	P	**Pn**	**01 12 59.4**	**0.0**
MJAR	**Matsushiro Arr**	**8.05**	**203**	P	**Pn**	**01 14 04.8**	**-0.6**
	0.4nm,0.3s,baz=39,slow=16,SNR=3.5						
PETK	**Petropavlovsk-**	**13.70**	**43**	P	**P**	**01 15 17.7**	**-0.8**
	0.2nm,0.3s,baz=207,slow=6.2,SNR=4.5						
SONM	**Songino Array**	**25.04**	**291**	P	**P**	**01 17 16.7**	**+1.3**
	0.3nm,0.4s,baz=77,slow=9.0,SNR=2.4						
ILAR	**Eielson Array**	**43.40**	**36**	P	**P**	**01 19 52.8**	**+0.9**
	0.6nm,0.9s,baz=282,slow=6.8,SNR=5.4						
INK	**Inuvik**	**47.98**	**30**	P	**P**	**01 20 26.5**	**-1.0**
	0.9nm,0.4s,baz=278,slow=7.1,SNR=12						
RES	**Resolute Bay**	**55.72**	**16**	P	**P**	**01 21 24.1**	**-0.3**
	1.5nm,0.5s,baz=314,slow=6.5,SNR=7.4						
FINES	**FINESS Array B**	**62.95**	**331**	P	**P**	**01 22 14.0**	**-0.1**
	3.4nm,1.0s,baz=52,slow=9.0,SNR=2.8						
WRA	**Warramunga Arr**	**64.05**	**188**	P	**P**	**01 22 22.4**	**+0.7**
	0.3nm,0.4s,baz=6.4

δ80.00000°,λ-9.00000°. Principal axes: T 2.0500, Plg0.0000°, Azm85.0000°; N -0.0700, Plg76.0000°, Azm351.0000°; P -1.9800, Plg13.0000°, Azm175.0000°;
ISC 08 02:01:49.7s0.4,**49°13'**N0'03"x**128°54'**W0'03,**h11**km,**h11**km:**pP-P,n2102,**σ1°68/1997,**mb5.7/432,MS6.1/620,**
75C-30D,Vancouver Island region

Code	Station Name	Δ°	Az°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDB	**Eliza Dome**	**1.19**	**51**	*e*Pn	**Pb**	**02 02 08.8**	**-3.4**
EDB				Sn	**Sb**	**02 02 26.4**	**-1.3**
EDB	**Eliza Dome**	**1.19**	**51**	Pn	**Pb**	**02 02 08.6**	**-3.6**
EDB				Sn	**Sb**	**02 02 26.4**	**-1.3**
NC89	**ODP889**	**1.21**	**112**	Pn	**Pn**	**02 02 09.1**	**-3.2**
KEMF	**NEPTUNE Canada**	**1.23**	**198**	Pn	Pn	02 02 02.8	-10
ETB	**Estevan Point**	**1.34**	**78**	Pn	**Pn**	**02 02 11.1**	**-3.1**
ETB	**Estevan Point**	**1.34**	**78**	Pn	**Pn**	**02 02 11.1**	**-3.1**
NC27	**ODP1027**	**1.46**	**159**	Pn	Pn	02 02 08.5	-7.1
NC27				Sn	Sn	02 02 24.9	-10
PACB	**Port Alice, BC**	**1.48**	**27**	Pn	**Pn**	**02 02 12.5**	**-3.7**
PACB				Sn	**Sn**	**02 02 32.9**	**-2.6**
WOSB	**Woss**	**1.65**	**50**	Pn	**Pn**	**02 02 15.8**	**-2.8**
WOSB	**Woss**	**1.65**	**50**	Pn	**Pn**	**02 02 15.8**	**-2.8**
NCBC	**Barkley Canyon**	**1.71**	**113**	Pn	**Pn**	**02 02 16.0**	**-3.4**
NCBC				Sn	**Sn**	**02 02 38.0**	**-3.3**
TOFB	**Tofino**	**1.73**	**88**	Pn	**Pn**	**02 02 16.7**	**-3.5**
PHC	**Port Hardy**	**1.74**	**24**	*e*Pn	**Pn**	**02 02 16.7**	**-3.1**
PHC				Sn	**Sn**	**02 02 38.2**	**-3.7**
PHC	**Port Hardy**	**1.74**	**24**	Pn	**Pn**	**02 02 16.6**	**-3.2**
PHC				Sn	**Sn**	**02 02 38.2**	**-3.7**
GDR	**Gold River**	**1.76**	**67**	Pn	**Pn**	**02 02 16.9**	**-3.2**
GDR	**Gold River**	**1.76**	**67**	Pn	**Pn**	**02 02 16.9**	**-3.2**
TLCB	**Telegraph Cove**	**1.80**	**37**	Pn	**Pn**	**02 02 18.1**	**-2.5**
TLCB				Sn	**Sn**	**02 02 41.8**	**-1.7**
B012	**Ucluelet**	**1.98**	**95**	Pn	**Pn**	**02 02 20.0**	**-3.1**
B012				Sn	**Sn**	**02 02 45.3**	**-2.7**
BTB	**Buttle Lake**	**2.01**	**79**	Pn	**Pn**	**02 02 20.8**	**-2.9**
BTB				Sn	**Sn**	**02 02 46.9**	**-1.9**
BTB	**Buttle Lake**	**2.01**	**79**	Pn	**Pn**	**02 02 20.8**	**-2.9**
BTB				Sn	**Sn**	**02 02 46.9**	**-1.9**
OZB	**Mount Ozzard**	**2.01**	**94**	*e*Pn	**Pn**	**02 02 20.1**	**-3.5**
OZB				Sn	**Sn**	**02 02 45.7**	**-3.1**
OZB	**Mount Ozzard**	**2.01**	**94**	Pn	**Pn**	**02 02 20.1**	**-3.5**
OZB				Sn	**Sn**	**02 02 45.7**	**-3.1**
SPLB	**Strathcona Par**	**2.03**	**67**	Pn	**Pn**	**02 02 21.4**	**-2.5**
SPLB				Sn	**Sn**	**02 02 48.8**	**-0.4**
NCRB	**Newcastle Ridg**	**2.06**	**51**	Pn	**Pn**	**02 02 22.2**	**-2.1**
NCRB	**Newcastle Ridg**	**2.06**	**51**	Pn	**Pn**	**02 02 22.2**	**-2.1**
MWAB	**Mount Washingt**	**2.20**	**73**	Pn	**Pn**	**02 02 23.8**	**-2.5**
MWAB				Sn	**Sn**	**02 02 52.8**	**-0.8**
CBB	**Campbell River**	**2.26**	**65**	Pn	**Pn**	**02 02 24.7**	**-2.2**
CBB				Sn	**Sn**	**02 02 54.3**	**-0.5**
CBB	**Campbell River**	**2.26**	**65**	Pn	**Pn**	**02 02 24.7**	**-2.2**
CBB				Sn	**Sn**	**02 02 54.3**	**-0.5**
B928	**Bamfield**	**2.26**	**96**	Pn	**Pn**	**02 02 23.5**	**-3.4**
B928				Sn	**Sn**	**02 02 52.1**	**-2.7**
B928	**Bamfield**	**2.26**	**96**	Pn	**Pn**	**02 02 23.5**	**-3.4**
B928				Sn	**Sn**	**02 02 52.1**	**-2.7**
ALB	**Alberni**	**2.44**	**85**	Pn	**Pn**	**02 02 27.0**	**-2.4**
ALB	**Alberni**	**2.44**	**85**	Pn	**Pn**	**02 02 27.0**	**-2.4**
ALB	**Alberni**	**2.44**	**85**	P	**Pn**	**02 02 27.0**	**-2.4**
B927	**Port Alberni**	**2.45**	**86**	Pn	**Pn**	**02 02 27.2**	**-2.3**
B927				Sn	**Sn**	**02 02 59.2**	**-0.2**
B927	**Port Alberni**	**2.45**	**86**	Pn	**Pn**	**02 02 27.2**	**-2.3**
B927				Sn	**Sn**	**02 02 59.2**	**-0.2**
MGB	**Mount Grey**	**2.54**	**91**	Pn	**Pn**	**02 02 27.8**	**-3.1**
MGB				Sn	**Sn**	**02 02 59.0**	**-2.8**
MGB	**Mount Grey**	**2.54**	**91**	Pn	**Pn**	**02 02 27.8**	**-3.1**
MGB				Sn	**Sn**	**02 02 59.0**	**-2.8**
TXB	**Texada**	**2.74**	**76**	Pn	**Pn**	**02 02 31.4**	**-2.2**
TXB	**Texada**	**2.74**	**76**	Pn	**Pn**	**02 02 31.4**	**-2.2**
PFB	**Port Renfrew**	**2.77**	**100**	Pn	**Pn**	**02 02 30.2**	**-3.8**
PFB				Sn	**Sn**	**02 03 03.9**	**-3.4**
PFB	**Port Renfrew**	**2.77**	**100**	Pn	**Pn**	**02 02 30.2**	**-3.8**
PFB				Sn	**Sn**	**02 03 03.9**	**-3.4**
YOUB	**Youbou, Lake C**	**2.83**	**93**	Pn	**Pn**	**02 02 31.9**	**-2.9**
YOUB				Sn	**Sn**	**02 03 06.5**	**-2.4**
YOUB	**Youbou, Lake C**	**2.83**	**93**	Pn	**Pn**	**02 02 31.9**	**-2.9**
YOUB				Sn	**Sn**	**02 03 06.5**	**-2.4**
GHNB	**Nanoose**	**2.83**	**85**	Pn	**Pn**	**02 02 32.4**	**-2.4**
B926	**Mesachie Lake**	**2.92**	**94**	Pn	**Pn**	**02 02 33.8**	**-2.3**
NLLB	**Nanaimo Lost L**	**2.99**	**86**	Pn	**Pn**	**02 02 34.8**	**-2.2**
NLLB				Sn	**Sn**	**02 03 11.9**	**-0.9**
NLLB	**Nanaimo Lost L**	**2.99**	**86**	Pn	**Pn**	**02 02 34.8**	**-2.2**
NLLB				Sn	**Sn**	**02 03 11.9**	**-0.9**
OFR	**Olym-F Res Ctr**	**3.00**	**112**	Pn	**Pn**	**02 02 34.9**	**-2.3**
OFR				Sn	**Sn**	**02 03 09.9**	**-3.2**
OFR	**Olym-F Res Ctr**	**3.00**	**112**	Pn	**Pn**	**02 02 34.9**	**-2.3**
OFR				Sn	**Sn**	**02 03 09.9**	**-3.2**
BBB	**Bella Bella**	**3.08**	**5**	Pn	**Pn**	**02 02 35.0**	**-3.2**
	396nm,0.3s,baz=199,slow=14,SNR=452						
BBB				LR	LR	02 03 06.7	
	comp=Z,64μm,20.2s,baz=191,slow=26						
BBB				Sn	**Sn**	**02 03 12.4**	**-2.4**
	598nm,0.3s,baz=303,slow=23,SNR=8.5						
BBB	**Bella Bella**	**3.08**	**5**	*e*Pn	**Pn**	**02 02 35.3**	**-2.8**
BBB				*e*Sn	**Sn**	**02 03 11.6**	**-3.3**
BBB	**Bella Bella**	**3.08**	**5**	Pn	**Pn**	**02 02 34.9**	**-3.2**
BBB				Sn	**Sn**	**02 03 10.5**	**-4.3**
SHB	**Sechelt**	**3.09**	**79**	Pn	**Pn**	**02 02 35.9**	**-2.5**
SHB	**Sechelt**	**3.09**	**79**	Pn	**Pn**	**02 02 35.9**	**-2.5**
LZB	**Mount Lazard**	**3.16**	**98**	Pn	**Pn**	**02 02 35.8**	**-3.6**
LZB				Sn	**Sn**	**02 03 13.5**	**-3.6**
LZB	**Mount Lazard**	**3.16**	**98**	Pn	**Pn**	**02 02 35.8**	**-3.6**
LZB				Sn	**Sn**	**02 03 13.5**	**-3.6**
BPCB	**Bare Point**	**3.19**	**92**	Pn	**Pn**	**02 02 37.6**	**-2.1**
BPCB				Sn	**Sn**	**02 03 16.8**	**-0.9**
BPCB	**Bare Point**	**3.19**	**92**	Pn	**Pn**	**02 02 37.6**	**-2.1**
BPCB				Sn	**Sn**	**02 03 16.8**	**-0.9**
GOBB	**Galiano Island**	**3.31**	**91**	Pn	**Pn**	**02 02 40.0**	**-1.4**
GOBB	**Galiano Island**	**3.31**	**91**	Pn	**Pn**	**02 02 40.0**	**-1.4**
B010	**North Saanich**	**3.39**	**96**	Pn	**Pn**	**02 02 40.3**	**-2.2**
B009	**North Saanich**	**3.39**	**96**	Pn	**Pn**	**02 02 40.1**	**-2.4**
PGC	**Sidney**	**3.39**	**96**	*e*Pn	**Pn**	**02 02 39.9**	**-2.6**
PGC				*e*Sn	**Sn**	**02 03 16.3**	**-6.4**
PGC	**Sidney**	**3.39**	**96**	Pn	**Pn**	**02 02 39.9**	**-2.6**
PGC				Sn	**Sn**	**02 03 20.3**	**-2.4**
PA02	**PA02 Ocean**	**3.39**	**96**	Pn	**Pn**	**02 02 40.2**	**-2.4**
PA02				Sn	**Sn**	**02 03 20.3**	**-2.5**
PA12	**PA12 Sannich**	**3.39**	**96**	Pn	**Pn**	**02 02 40.1**	**-2.4**
PA12				Sn	**Sn**	**02 03 20.3**	**-2.5**
B011	**North Saanich**	**3.40**	**96**	Pn	**Pn**	**02 02 40.4**	**-2.2**
B011				Sn	**Sn**	**02 03 21.3**	**-1.5**
PA01	**PA01 North**	**3.40**	**96**	Pn	**Pn**	**02 02 40.1**	**-2.4**
PA01				Sn	**Sn**	**02 03 20.5**	**-2.2**
PA03	**PA03 Flamable**	**3.40**	**96**	Pn	**Pn**	**02 02 40.4**	**-2.1**
PA03				Sn	**Sn**	**02 03 20.5**	**-2.3**
PA04	**PA04 Cage**	**3.40**	**96**	Pn	**Pn**	**02 02 40.1**	**-2.5**
PA04				Sn	**Sn**	**02 03 20.5**	**-2.3**
PA05	**PA05 Willingdo**	**3.40**	**96**	Pn	**Pn**	**02 02 40.4**	**-2.2**
PA05				Sn	**Sn**	**02 03 20.8**	**-2.0**
BCBC	**Bella Coola**	**3.44**	**19**	Pn	**Pn**	**02 02 41.3**	**-1.9**
VGZ	**Gonzales**	**3.52**	**100**	Pn	**Pn**	**02 02 40.8**	**-3.6**
VGZ	**Gonzales**	**3.52**	**100**	Pn	**Pn**	**02 02 40.8**	**-3.6**
VGZ				Sn	**Sn**	**02 03 22.9**	**-3.0**
WISH	**Wishkah**	**3.77**	**120**	Pn	**Pn**	**02 02 45.3**	**-2.4**
WISH	**Wishkah**	**3.77**	**120**	Pn	**Pn**	**02 02 45.3**	**-2.4**
WISH				Sn	**Sn**	**02 03 28.2**	**-3.9**
MCW	**Mount Constitu**	**3.79**	**95**	Pn	**Pn**	**02 02 46.0**	**-2.1**
MCW	**Mount Constitu**	**3.79**	**95**	Pn	**Pn**	**02 02 46.0**	**-2.1**
MCW	**Mount Constitu**	**3.79**	**95**	P	**Pn**	**02 02 46.0**	**-2.1**
BLN	**Blyn Mountain**	**3.86**	**105**	Pn	**Pn**	**02 02 46.8**	**-2.3**
BLN	**Blyn Mountain**	**3.86**	**105**	Pn	**Pn**	**02 02 46.8**	**-2.3**
A04D	**Lummi Island**	**3.87**	**94**	P	**Pn**	**02 02 46.9**	**-2.1**
	baz=280,SNR=64						
SMW	**South Mountain**	**3.92**	**116**	Pn	**Pn**	**02 02 49.1**	**-0.8**
SMW	**South Mountain**	**3.92**	**116**	Pn	**Pn**	**02 02 49.1**	**-0.8**
HDW	**Hoodsport**	**3.94**	**110**	*e*Pn	**Pn**	**02 02 48.3**	**-1.9**
HDW	**Hoodsport**	**3.94**	**110**	Pn	**Pn**	**02 02 48.0**	**-2.2**
D03D	**Eldon**	**3.97**	**112**	P	**Pn**	**02 02 48.0**	**-2.5**
	baz=297,SNR=247						
BNB	**Barry Inlet**	**4.01**	**331**	Pn	Pn	02 02 43.8	-7.3
BNB	**Barry Inlet**	**4.01**	**331**	Pn	Pn	02 02 43.8	-7.3
GNW	**Green Mountain**	**4.12**	**110**	Pn	**Pn**	**02 02 50.5**	**-2.0**
GNW	**Green Mountain**	**4.12**	**110**	Pn	**Pn**	**02 02 50.5**	**-2.0**
E03A	**Lebam**	**4.23**	**126**	*e*Pn	**Pn**	**02 02 52.8**	**-1.3**
E03A				*e*Sn	**Sn**	**02 03 40.8**	**-2.6**
E03A	**Lebam**	**4.23**	**126**	Sn	**Sn**	**02 03 38.0**	**-5.4**
VDB	**Vedder Mountai**	**4.23**	**89**	Pn	**Pn**	**02 02 53.0**	**-1.2**
VDB	**Vedder Mountai**	**4.23**	**89**	Pn	**Pn**	**02 02 53.0**	**-1.2**
A05A	**Maple Falls**	**4.25**	**89**	*e*Pn	**Pn**	**02 02 53.4**	**-0.8**
D04E	**Lakebay**	**4.33**	**115**	P	**Pn**	**02 02 52.9**	**-2.4**
	baz=300,SNR=64						
B05A	**Bryant**	**4.36**	**99**	P	**Pn**	**02 02 54.0**	**-1.8**
	baz=285,SNR=156						
B06A	**Marblemount**	**4.70**	**95**	*e*Pn	**Pn**	**02 02 59.6**	**-0.9**
B06A				*e*Sn	**Sn**	**02 03 52.4**	**-2.5**
B06A	**Marblemount**	**4.70**	**95**	Sn	**Sn**	**02 03 54.0**	**-1.0**
E04D	**Cinebar**	**4.77**	**120**	P	**Pn**	**02 02 58.9**	**-2.6**
	baz=306,SNR=86						
H02S1	**DAWSON INLET T**	**4.77**	**330**	Pn	**Pn**	**02 02 57.2**	**-4.3**
D05A	**Enumclaw**	**4.79**	**111**	*e*Pn	**Pn**	**02 03 00.4**	**-1.4**
F04D	**Rainier, OR**	**4.82**	**127**	P	**Pn**	**02 03 01.1**	**-1.1**
	baz=312,SNR=16						
H02N1	**VAN INLET T-PH**	**4.84**	**330**	Pn	**Pn**	**02 02 58.2**	**-4.3**
VIB	**Van Inlet**	**4.84**	**330**	Sn	**Sn**	**02 03 52.0**	**-6.5**
B201	**Coldwater, Mou**	**5.09**	**121**	*e*Pn	**Pn**	**02 03 05.6**	**-0.3**
FL2	**Flat Top 2**	**5.11**	**123**	*e*Pn	**Pn**	**02 03 05.9**	**-0.4**
LON	**Longmire**	**5.11**	**115**	*e*Pn	**Pn**	**02 03 05.2**	**-0.9**
LON	**Longmire**	**5.11**	**115**	*e*P	**Pn**	**02 03 05.3**	**-0.9**
B203	**Quarry, Mount**	**5.13**	**123**	*e*Pn	**Pn**	**02 03 06.5**	**+0.1**
B202	**Windy Ridge, M**	**5.20**	**121**	*e*Pn	**Pn**	**02 03 07.4**	**0.0**
C06D	**Leavenworth**	**5.22**	**100**	P	**Pn**	**02 03 06.7**	**-1.0**
	baz=287,SNR=25						
MTMW	**Mount Mitchell**	**5.29**	**124**	*e*Pn	**Pn**	**02 03 08.3**	**-0.4**
G03D	**McMinnville, O**	**5.32**	**135**	P	**Pn**	**02 03 07.5**	**-1.5**
	baz=320,SNR=34						
LTY	**Liberty**	**5.58**	**107**	*e*Pn	**Pn**	**02 03 11.7**	**-1.1**
ETW	**Entiat**	**5.68**	**102**	*e*Pn	Pn	02 03 08.4	-5.7
ETW				*e*Pg	**Pg**	**02 03 35.5**	**-2.9**
COR	**Corvallis**	**5.79**	**140**	*e*Pn	**Pn**	**02 03 15.7**	**+0.2**
COR	**Corvallis**	**5.79**	**140**	*e*P	**Pn**	**02 03 15.7**	**+0.2**
F05D	**White Salmon**	**5.79**	**121**	P	**Pn**	**02 03 15.1**	**-0.4**
	baz=308,SNR=160						
EBG	**Ellensburg**	**5.79**	**110**	*e*Pn	**Pn**	**02 03 16.2**	**+0.6**
PNT	**Penticton**	**5.85**	**85**	*e*Pn	**Pn**	**02 03 14.9**	**-1.4**
PNT	**Penticton**	**5.85**	**85**	*e*P	**Pn**	**02 03 15.0**	**-1.4**
I02D	**Swakane**	**5.97**	**145**	P	**Pn**	**02 03 16.3**	**-1.7**
	baz=330,SNR=14						
H04D	**Lebanon**	**6.09**	**137**	P	**Pn**	**02 03 20.6**	**+1.1**
	baz=322,SNR=21						
B08A	**Colville Reser**	**6.14**	**94**	*e*Pn	**Pn**	**02 03 19.1**	**-1.2**
H04A	**Detroit Lake**	**6.22**	**133**	*e*Pn	**Pn**	**02 03 21.1**	**-0.3**
G05D	**Wamic, OR**	**6.27**	**126**	P	**Pn**	**02 03 22.1**	**0.0**
	baz=312,SNR=53						
E07A	**Sunnyside**	**6.39**	**110**	*e*Pn	**Pn**	**02 03 23.0**	**-0.7**
I03D	**Drain, OR**	**6.51**	**145**	P	**Pn**	**02 03 23.4**	**-2.0**
	baz=329,SNR=64						
G06A	**Carlson Farm,**	**6.64**	**123**	*e*Pn	**Pn**	**02 03 27.9**	**+0.6**
HAWA	**Hanford**	**6.66**	**111**	*e*Pn	**Pn**	**02 03 27.5**	**0.0**
F07A	**Phinny Hill Vi**	**6.67**	**116**	*e*Pn	**Pn**	**02 03 28.5**	**+1.0**
D08A	**Wollman Farm,**	**6.77**	**104**	*e*Pn	**Pn**	**02 03 26.9**	**-2.0**
J01E	**Myrtle Point**	**6.77**	**150**	P	**Pn**	**02 03 27.3**	**-1.6**
	baz=334,SNR=15						
I04A	**Tendick Farm,**	**6.81**	**139**	P	**Pn**	**02 03 28.8**	**-0.7**
	baz=325						
I05D	**Terrebonne, OR**	**6.88**	**131**	P	**Pn**	**02 03 30.3**	**-0.2**
	baz=318,SNR=35						
KEBM	**Ed Butte**	**6.91**	**153**	*e*Pn	**Pn**	**02 03 31.5**	**+0.6**
E08A	**Dider Farm, El**	**6.91**	**109**	*e*Pn	**Pn**	**02 03 30.0**	**-0.8**
CRAG	**Craig**	**6.95**	**338**	*e*Pn	**Pn**	**02 03 30.8**	**-0.4**
C09A	**Chrisman Ranch**	**6.96**	**97**	*e*Pn	**Pn**	**02 03 30.2**	**-1.3**
DBO	**Dodson Butte**	**7.04**	**147**	*e*Pn	**Pn**	**02 03 30.9**	**-1.9**
K02D	**Willamette Mer**	**7.27**	**150**	P	**Pn**	**02 03 35.7**	**-0.3**
	baz=335,SNR=31						
J04D	**Umpqua Nationa**	**7.38**	**140**	P	**Pn**	**02 03 37.1**	**-0.5**
	baz=326,SNR=42						
E09A	**Wood Farm, Sta**	**7.47**	**107**	*e*Pn	**Pn**	**02 03 37.0**	**-1.5**
PINE	**Pine Mountain**	**7.48**	**133**	*e*Pn	**Pn**	**02 03 40.3**	**+1.4**
KBO	**Bosley Butte**	**7.54**	**155**	*e*Pn	**Pn**	**02 03 41.4**	**+1.7**
G08A	**Pilot Rock**	**7.57**	**117**	*e*Pn	**Pn**	**02 03 40.0**	**0.0**
HUMO	**Hull Mountain**	**7.59**	**147**	*e*Pn	**Pn**	**02 03 42.1**	**+1.8**
NEW	**Newport**	**7.61**	**92**	Pn	**Pn**	**02 03 39.4**	**-1.1**
	10nm,0.3s,baz=280,slow=12,SNR=126						
NEW				LR	LR	02 06 44.9	
	comp=Z,282μm,18.5s,baz=272,slow=39						
NEW	**Newport**	**7.61**	**92**	*e*Pn	**Pn**	**02 03 39.4**	**-1.1**
NEW				*e*Sn	**Sn**	**02 05 06.5**	**-0.2**
NEW	**Newport**	**7.61**	**92**	P	**Pn**	**02 03 38.6**	**-1.8**
	baz=282,SNR=204						
WRAK	**Wrangell Islan**	**7.66**	**344**	*e*Pn	**Pn**	**02 03 40.5**	**-0.6**
J05D	**Fort Rock, OR**	**7.73**	**136**	P	**Pn**	**02 03 43.8**	**+1.5**
	baz=322,SNR=81						
L02E	**Cave Junction**	**7.78**	**152**	P	**Pn**	**02 03 42.3**	**-0.5**
	baz=336,SNR=17						
I07A	**Izee**	**8.01**	**126**	*e*Pn	**Pn**	**02 03 48.2**	**+2.2**
I07A				*e*Sn	**Sn**	**02 05 14.7**	**-1.9**
K04D	**Chiloquin, OR**	**8.04**	**141**	P	**Pn**	**02 03 46.9**	**+0.4**
	baz=327,SNR=16						
L04D	**Klamath Falls**	**8.17**	**145**	P	**Pn**	**02 03 49.1**	**+0.8**
	baz=331,SNR=44						
F10A	**Beach Ranch, E**	**8.28**	**108**	*e*Pn	**Pn**	**02 03 48.9**	**-0.8**
K05A	**Summer Lake**	**8.33**	**137**	*e*Pn	**Pn**	**02 03 51.5**	**+1.0**
YBH	**Yreka Blue Hor**	**8.45**	**149**	Pn	**Pn**	**02 03 52.7**	**+0.6**
	1.8nm,0.3s,baz=338,slow=14,SNR=86						
YBH				LR	LR	02 06 52.7	
	comp=Z,169μm,18.5s,baz=330,slow=36						
YBH	**Yreka Blue Hor**	**8.45**	**149**	*e*Pn	**Pn**	**02 03 54.6**	**+2.5**
YBH	**Yreka Blue Hor**	**8.45**	**149**	*e*P	**Pn**	**02 03 54.6**	**+2.5**
M02C	**Callahan**	**8.71**	**150**	P	**Pn**	**02 03 57.1**	**+1.5**
	baz=335,SNR=126						
M04C	**Macdoel**	**8.72**	**145**	P	**Pn**	**02 03 57.2**	**+1.3**
	baz=330,SNR=121						
BMO	**Blue Mountains**	**8.79**	**115**	*e*Pn	**Pn**	**02 03 56.3**	**-0.4**
BMO	**Blue Mountains**	**8.79**	**115**	*e*P	**Pn**	**02 03 56.3**	**-0.4**
JCC	**Jacoby Creek,**	**8.90**	**157**	*e*Pn	**Pn**	**02 04 00.1**	**+1.9**
KHMM	**Horse Mountain**	**8.92**	**156**	*e*Pn	**Pn**	**02 04 00.6**	**+1.9**
LGBM	**Gray Butte**	**8.97**	**148**	*e*Pn	**Pn**	**02 04 02.3**	**+2.9**
J08A	**Circle Bar Ran**	**9.05**	**126**	*e*Pn	**Pn**	**02 04 00.4**	**+0.1**
N02D	**Trinity Center**	**9.13**	**151**	P	**Pn**	**02 04 03.2**	**+1.8**
	baz=336,SNR=157						
MOD	**Modoc Plateau**	**9.25**	**138**	*e*Pn	**Pn**	**02 04 05.6**	**+2.5**
DLBC	**Dease Lake**	**9.37**	**355**	Pn	**Pn**	**02 04 04.5**	**-0.1**
	5.4nm,0.3s,baz=180,slow=11,SNR=101						
DLBC				LR	LR	02 07 35.0	
	comp=Z,153μm,21.3s,baz=170,slow=37						
DLBC	**Dease Lake**	**9.37**	**355**	*e*Pn	**Pn**	**02 04 05.9**	**+1.3**
KMRM	**Mail Ridge**	**9.54**	**157**	*e*Pn	**Pn**	**02 04 09.8**	**+2.8**
WDC	**Whiskeytown Da**	**9.54**	**151**	*e*Pn	**Pn**	**02 04 09.0**	**+2.0**
WDC	**Whiskeytown Da**	**9.54**	**151**	*e*P	**Pn**	**02 04 09.0**	**+2.0**
JTMT	**Jette**	**9.58**	**93**	*e*Pn	**Pn**	**02 04 07.8**	**+0.2**
WALA	**Waterton Lakes**	**9.60**	**85**	*e*Pn	**Pn**	**02 04 07.8**	**0.0**
WVOR	**Wild Horse Val**	**9.62**	**130**	*e*Pn	**Pn**	**02 04 10.6**	**+2.4**
WVOR	**Wild Horse Val**	**9.62**	**130**	*e*P	**Pn**	**02 04 10.6**	**+2.4**
LBCM	**Butte Creek Ri**	**9.72**	**146**	*e*Pn	**Pn**	**02 04 12.1**	**+2.5**
JIS	**Juneau Island**	**9.79**	**342**	*e*Pn	**Pn**	**02 04 11.6**	**+1.2**
O02D	**Mt. Diablo Mer**	**9.84**	**153**	P	**Pn**	**02 04 12.9**	**+1.8**
	baz=338,SNR=70						
O03E	**Paynes Creek**	**10.04**	**149**	P	**Pn**	**02 04 14.8**	**+0.9**
	baz=334,SNR=57						
O03E				S	**Sn**	**02 06 05.5**	**-1.1**
	baz=334						
MSO	**Missoula**	**10.06**	**98**	*e*Pn	**Pn**	**02 04 13.4**	**-0.7**
MSO				*e*Sn	**Sn**	**02 06 09.7**	**+2.8**
MSO	**Missoula**	**10.06**	**98**	P	**Pn**	**02 04 12.0**	**-2.2**
	baz=289,SNR=89						
KCPM	**Cahto Peak**	**10.08**	**158**	*e*Pn	**Pn**	**02 04 17.0**	**+2.5**
BESE	**Bessie Mountai**	**10.17**	**341**	*e*Pn	**Pn**	**02 04 17.9**	**+2.3**
ORV	**Oroville**	**10.81**	**150**	*e*Pn	**Pn**	**02 04 26.1**	**+1.8**
ORV	**Oroville**	**10.81**	**150**	*e*P	**Pn**	**02 04 26.1**	**+1.8**
HOPS	**Hopland Field**	**10.86**	**157**	*e*Pn	**Pn**	**02 04 26.5**	**+1.5**
BEKR	**Beckworth**	**10.94**	**145**	*e*Pn	**Pn**	**02 04 28.5**	**+2.3**
SKAG	**Skagway**	**11.08**	**342**	*e*Pn	**Pn**	**02 04 29.6**	**+1.7**
HLID	**Hailey**	**11.23**	**114**	*e*Pn	**Pn**	**02 04 31.1**	**+0.8**
HLID	**Hailey**	**11.23**	**114**	P	**Pn**	**02 04 30.1**	**-0.2**
	baz=305,SNR=159						
LRM	**Limekiln Ridge**	**11.38**	**101**	*e*Pn	**Pn**	**02 04 31.4**	**-0.9**
PAHR	**Pah Rah Range**	**11.46**	**142**	*e*Pn	**Pn**	**02 04 35.7**	**+2.3**
DHAK	**Deception Hill**	**11.47**	**334**	*e*Pn	Pn	02 04 39.5	+6.2
DLMT	**Dillon**	**11.47**	**103**	*e*Pn	**Pn**	**02 04 32.5**	**-1.0**
HRY	**Holter Researc**	**11.47**	**96**	*e*Pn	**Pn**	**02 04 33.2**	**-0.3**
AFDM	**Forest Hills D**	**11.53**	**149**	*e*Pn	**Pn**	**02 04 35.9**	**+1.7**
MCMT	**McKenzie Canyo**	**11.55**	**106**	*e*Pn	**Pn**	**02 04 34.3**	**-0.3**
VCNR	**Virginia City**	**11.71**	**144**	*e*Pn	**Pn**	**02 04 39.7**	**+2.9**
MCCM	**Marconi Confer**	**11.71**	**157**	*e*Pn	**Pn**	**02 04 38.4**	**+1.7**
RUBR	**Rubicon Trail**	**11.73**	**146**	*e*Pn	**Pn**	**02 04 40.6**	**+3.5**
BMN	**Battle Mountai**	**11.83**	**133**	*e*Pn	**Pn**	**02 04 40.6**	**+2.2**
PNTR	**Pine Nut**	**11.90**	**144**	*e*Pn	**Pn**	**02 04 42.4**	**+2.9**
BOZ	**Bozeman (W)**	**12.00**	**101**	*e*Pn	**Pn**	**02 04 39.8**	**-0.9**
BOZ	**Bozeman (W)**	**12.00**	**101**	*e*P	**Pn**	**02 04 39.8**	**-0.9**
BOZ	**Bozeman (W)**	**12.00**	**101**	P	**Pn**	**02 04 38.8**	**-1.9**
	baz=294,SNR=69						
WHY	**Whitehorse**	**12.11**	**345**	*e*Pn	**Pn**	**02 04 43.3**	**+1.2**
YERR	**Yerington**	**12.13**	**143**	*e*Pn	**Pn**	**02 04 46.1**	**+3.4**
QLMT	**Earthquake Lak**	**12.45**	**104**	*e*Pn	**Pn**	**02 04 48.8**	**+1.9**
WAKR	**Walker**	**12.48**	**145**	*e*Pn	**Pn**	**02 04 50.1**	**+2.8**
EGMT	**Eagleton**	**12.49**	**88**	*e*Pn	**Pn**	**02 04 47.2**	**-0.2**
EGMT	**Eagleton**	**12.49**	**88**	P	**Pn**	**02 04 46.1**	**-1.3**
	baz=283,SNR=38						
KVN	**Kaiserville**	**12.55**	**139**	*e*Pn	**Pn**	**02 04 50.4**	**+2.1**
KVN	**Kaiserville**	**12.55**	**139**	*e*P	**Pn**	**02 04 50.4**	**+2.1**
CMB	**Columbia Colle**	**12.55**	**149**	*e*Pn	**Pn**	**02 04 49.9**	**+1.7**
CMB	**Columbia Colle**	**12.55**	**149**	*e*P	**Pn**	**02 04 49.9**	**+1.7**
YHB	**Horse Butte**	**12.63**	**104**	*e*Pn	**Pn**	**02 04 49.9**	**+0.4**
RYN	**Ryan**	**12.73**	**142**	*e*Pn	**Pn**	**02 04 53.0**	**+2.3**
HYT	**Haines Junctio**	**12.79**	**340**	*e*Pn	**Pn**	**02 04 53.5**	**+2.2**
YMR	**Madison River**	**12.81**	**104**	*e*Pn	**Pn**	**02 04

SBC	Santa Barbara	16.06	153	P		Pn	02 05 35.1	-0.4	
	baz=339								
DAWY	Dawson	16.08	343	eP	Pn	Pn	02 05 36.0	+0.4	
	comp=Z,748nm,1.2s								
P18A	Preston Nutter	16.13	119	eP	Pn	P	02 05 38.2	-1.7	
	comp=Z,897nm,1.6s								
MTPU	Mount Pierson	16.18	127	eP	Pn	P	02 05 39.0	-1.6	
	comp=Z,554nm,1.3s								
HARP	HAARP	16.19	331	eP	Pn	Pn	02 05 38.1	+1.2	
	comp=Z,3µm,2.0s								
OSI	Osito Audit: C	16.22	150	eP	Pn	Pn	02 05 38.1	+0.6	
	comp=Z,1µm,1.9s								
OSI	Osito Audit: C	16.22	150	P		Pn	02 05 37.0	-0.5	
	baz=337								
EDW2	Edwards Air Fo	16.23	147	P		Pn	02 05 37.3	-0.3	
	baz=335,SNR=37								
SEW	Seward	16.27	320	eP	Pn	Pn	02 05 39.2	+1.4	
	comp=Z,402nm,1.3s								
GSC	Goldstone, Bar	16.29	144	eP	Pn	Pn	02 05 39.8	+1.3	
	comp=Z,464nm,1.3s								
GSC	Goldstone, Bar	16.29	144	eP	Pn	Pn	02 05 39.8	+1.3	
GSC					pmax	pmax			
	comp=Z,460nm,1.3s								
GSC	Goldstone, Bar	16.29	144	P		Pn	02 05 39.5	+1.1	
	baz=332,SNR=106								
SRU	San Rafael Swe	16.32	121	eP	Pn	Pn	02 05 40.1	+1.3	
	comp=Z,263nm,0.9s								
SRU	San Rafael Swe	16.32	121	eP	Pn	Pn	02 05 40.2	+1.3	
SRU					pmax	pmax			
	comp=Z,260nm,0.9s								
LCMT	Little Creek M	16.44	132	eP	Pn	Pn	02 05 41.6	+1.2	
	comp=Z,254nm,1.0s								
SCZ2	Santa Cruz Isl	16.50	153	P		Pn	02 05 40.7	-0.4	
	baz=339								
SCM	Sheep Creek Mo	16.51	327	eP	Pn	Pn	02 05 41.3	+0.3	
	comp=Z,3µm,1.9s								
SCM	Sheep Creek Mo	16.51	327	eP	Pn	Pn	02 05 41.3	+0.3	
SCM					pmax	pmax			
	comp=Z,3µm,1.8s								
TUQ	Turquoise Moun	16.53	141	P		Pn	02 05 42.5	+1.0	
	baz=330								
PKCU	Pink Cliffs	16.57	129	eP	Pn	P	02 05 44.7	-0.1	
	comp=Z,3µm,1.9s								
BLG	Laguna Peak, P	16.57	151	P		Pn	02 05 41.5	-0.4	
	baz=338								
RRX	Edison Barstow	16.59	145	P		Pn	02 05 42.8	+0.6	
	baz=333								
K22A	Casper	16.61	105	eP	Pn	Pn	02 05 42.9	+0.3	
	comp=Z,2µm,1.5s								
K22A	Casper	16.61	105	P		Pn	02 05 42.0	-0.6	
	baz=301								
KNB	Kanab	16.64	131	eP	Pn	Pn	02 05 44.0	+1.0	
	comp=Z,417nm,1.2s								
KNB	Kanab	16.64	131	eP	Pn	Pn	02 05 44.0	+1.0	
KNB					pmax	pmax			
	comp=Z,420nm,1.2s								
KDAK	Kodiak Island	16.66	310	Pn		Pn	02 05 40.4	-2.5	
	comp=Z,0.4nm,0.3s,baz=120,slow=7.5,SNR=14								
KDAK					LR	LR	02 10 06.7		
	comp=Z,33µm,21.1s,baz=115,slow=30								
DECC	Green Verdugo	16.68	149	P		Pn	02 05 42.8	-0.5	
	baz=336								
RWWY	Rawlins	16.69	108	ePn		Pn	02 05 43.5	-0.2	
	comp=Z,1µm,1.7s								
PAX	Paxson	16.70	332	ePn		Pn	02 05 43.8	+0.3	
	comp=Z,2µm,1.6s								
PAX	Paxson	16.70	332	eP	Pn	Pn	02 05 43.8	+0.3	
PAX					pmax	pmax			
	comp=Z,2µm,1.6s								
BRLK	Bradley Lake	16.71	318	ePn		P	02 05 44.7	-1.1	
	comp=Z,554nm,1.3s								
CNPM	China Poot	16.75	317	ePn		P	02 05 46.8	+0.5	
	comp=Z,986nm,1.6s								
MWC	Mount Wilson	16.80	149	ePn		Pn	02 05 45.7	+0.7	
	comp=Z,448nm,1.1s								
MWC	Mount Wilson	16.80	149	eP	Pn	Pn	02 05 45.7	+0.7	
MWC					pmax	pmax			
	comp=Z,450nm,1.1s								
PASC	Pasadena Art C	16.80	149	ePn		Pn	02 05 45.6	+0.7	
	comp=Z,345nm,1.1s								
DOT	Dot Lake	16.82	336	ePn		Pn	02 05 45.2	+0.2	
	comp=Z,3µm,1.7s								
OHAK	Old Harbor	16.83	308	ePn		Pn	02 05 42.4	-2.6	
	comp=Z,386nm,1.2s								
SML	Sawmill	16.85	326	ePn		Pn	02 05 46.0	+0.6	
	comp=Z,1µm,1.6s								
SML	Sawmill	16.85	326	eP	Pn	Pn	02 05 46.0	+0.6	
SML					pmax	pmax			
	comp=Z,1µm,1.5s								
HEC	Hector,Ludlow	16.89	143	P		Pn	02 05 46.3	+0.2	
	baz=332								
BFSC	Mount Baldy Ra	16.92	147	P		Pn	02 05 46.5	-0.1	
	baz=335								
RC01	Rabbit Creek A	16.95	323	ePn		P	02 05 47.7	-0.8	
	comp=Z,704nm,1.6s								
O20A	White River Ci	16.97	114	ePn		Pn	02 05 47.5	+0.3	
	comp=Z,2µm,1.8s								
O20A	White River Ci	16.97	114	P		Pn	02 05 47.1	-0.1	
	baz=309								
HOM	Homer	16.99	317	ePn		Pn	02 05 44.5	-2.6	
	comp=Z,772nm,1.1s								
PMR	Palmer	17.01	325	ePn		Pn	02 05 47.0	-0.3	
PMR	Palmer	17.01	325	eP		Pn	02 05 47.0	-0.3	
GHO	Glory Hole Cre	17.05	326	ePn		Pn	02 05 48.2	+0.3	
	comp=Z,2µm,1.9s								
SCRK	Sand Creek	17.07	336	ePn		Pn	02 05 48.1	0.0	
	comp=Z,1µm,1.3s								
EGAK	Eagle	17.07	341	ePn		Pn	02 05 48.6	+0.5	
	comp=Z,2µm,1.8s								
RIDG	Independ'e Rid	17.11	335	ePn		Pn	02 05 49.2	+0.6	
	comp=Z,2µm,1.5s								
BBRC	Big Bear Solar	17.17	146	P		Pn	02 05 50.4	+0.7	
	baz=334								
LDFC	Landfair	17.18	140	ePn		Pn	02 05 49.8	+0.1	
	comp=Z,591nm,0.9s								
FMP	Fort Macarthur	17.18	150	P		Pn	02 05 49.2	-0.4	
	baz=337								
GMRC	Granite Mounta	17.20	142	P		Pn	02 05 49.8	-0.2	
	baz=331								
SNCC	San Nicolas Is	17.23	154	ePn		P	02 05 53.0	+1.2	
	comp=Z,685nm,1.4s								
SNCC	San Nicolas Is	17.23	154	P		Pn	02 05 49.9	-0.4	
	baz=340								
FFC	Flin Flon	17.26	61	ePn		Pn	02 05 47.1	-3.3	
	comp=Z,4µm,0.8s								
FFC	Flin Flon	17.26	61	eP	Pn	Pn	02 05 47.1	-3.3	
FFC					pmax	pmax			
	comp=Z,4µm,0.8s								
U15A	North Rim	17.37	131	ePn		P	02 05 53.8	+0.2	
	comp=Z,237nm,1.1s								
DHY	Denali Highway	17.38	331	ePn		Pn	02 05 52.4	+0.4	
	comp=Z,2µm,1.8s								
CIS	Catalina Islan	17.43	151	P		Pn	02 05 52.0	-0.8	
	baz=338								
PV09	Paradox Valley	17.53	120	ePn		P	02 05 55.0	-0.4	
RSSD	Black Hills	17.53	97	ePn		Pn	02 05 53.4	-0.7	
	comp=Z,762nm,1.2s								
RSSD	Black Hills	17.53	97	eP	Pn	Pn	02 05 53.4	-0.7	
RSSD					pmax	pmax			
	comp=Z,760nm,1.2s								
RSSD	Black Hills	17.53	97	P		Pn	02 05 52.2	-2.0	
	baz=296								
SUA	Susitna One	17.56	323	ePn		P	02 05 55.3	0.0	
	comp=Z,1µm,1.8s								
NEE2	Needles Airpor	17.65	139	P		Pn	02 05 55.6	+0.2	
	baz=329								
MURC	Murrieta	17.66	147	P		Pn	02 05 55.1	-0.5	
	baz=335								
PV10	Paradox Valley	17.67	120	ePn		P	02 05 57.8	+1.0	
W13A	Hualapai Mount	17.69	137	ePn		Pn	02 05 56.6	+0.4	
	comp=Z,177nm,0.9s								
BELC	Belle Mtn. Jos	17.75	144	P		Pn	02 05 57.0	+0.1	
	baz=332								
SCI2	San Clemente I	17.78	151	P		Pn	02 05 56.9	-0.1	
	baz=338								
EPYK	Eagle Plains	17.80	349	P		P	02 05 58.1	+0.2	
	baz=162								
PV05	Paradox Valley	17.84	121	ePn		P	02 05 59.1	+0.4	
PV03	Paradox Valley	17.86	120	ePn		Pn	02 05 58.4	+0.2	
PFO	Pinyon Flats O	17.92	145	ePn		P	02 05 59.3	-0.2	
	comp=Z,466nm,2.0s								
PFO	Pinyon Flats O	17.92	145	eP		P	02 05 59.3	-0.2	
PFO					pmax	pmax			
	comp=Z,470nm,2.0s								
PFO	Pinyon Flats O	17.92	145	P		Pn	02 05 59.1	+0.2	
	baz=334								
XPFO	Piæon Flat	17.92	145	ePn		P	02 05 59.3	-0.3	
	comp=Z,465nm,2.0s								
N23A	Red Feather La	17.92	109	ePn		Pn	02 05 59.2	+0.1	
	comp=Z,567nm,1.3s								
N23A	Red Feather La	17.92	109	P		Pn	02 05 59.3	+0.3	
	baz=305								
IRM	Iron Mountain	17.95	141	P		Pn	02 05 58.9	-0.4	
	baz=331								
FRD	Ford Ranch, An	17.97	146	P		Pn	02 05 59.5	-0.1	
	baz=334								
PHWY	Pilot Hill	18.00	107	ePn		Pn	02 05 59.0	-1.1	
	comp=Z,752nm,1.3s								
RND	Reindeer	18.09	330	ePn		P	02 06 02.0	+0.9	
	comp=Z,1µm,1.4s								
RND	Reindeer	18.09	330	eP		P	02 06 02.0	+0.9	
RND					pmax	pmax			
	comp=Z,2µm,1.4s								
PV01	Paradox Valley	18.10	120	ePn		P	02 06 01.6	0.0	
SKT	Skwentna	18.16	324	ePn		P	02 06 02.2	+0.3	
	comp=Z,794nm,1.7s								
HDA	Harding Lake	18.22	334	ePn		P	02 06 02.7	+0.2	
	comp=Z,1µm,1.7s								
HDA	Harding Lake	18.22	334	P		P	02 06 02.4	-0.1	
	baz=138,SNR=6.9								
PDMCI	Parker Dam,Lak	18.25	139	P		Pn	02 06 02.5	-0.4	
	baz=329								
BC3	Big Chuckawall	18.27	143	P		P	02 06 03.3	0.0	
	baz=332								
SMCO	Snowmass	18.34	115	eP		Pn	02 06 04.3	0.0	
	comp=Z,288nm,1.2s								
109C	Camp Elliot, M	18.34	148	P		Pn	02 06 03.7	-0.2	
	baz=336								
CPE	Camp Elliot	18.34	148	eP		P	02 06 05.1	+1.1	
	comp=Z,287nm,1.3s								
MCK	McKinley	18.34	330	ePn		P	02 06 04.3	+0.4	
	comp=Z,1µm,1.3s								
MCK	McKinley	18.34	330	eP		P	02 06 04.3	+0.4	
MCK					pmax	pmax			
	comp=Z,1µm,1.2s								
IL1	Eielson Array	18.48	335	eP		P	02 06 04.3	-1.0	
ILAR	Eielson Array	18.48	335	P		P	02 06 04.8	-0.5	
	comp=Z,0.7nm,0.3s,baz=148,slow=10,SNR=153								
ILAR					PcP	PcP	02 10 34.0	-0.8	
	comp=Z,0.2nm,0.3s,baz=178,slow=1.1,SNR=6.4								
ILAR					LR	LR	02 12 25.4		
	comp=Z,53µm,21.8s,baz=147,slow=35								
ILB	Eielson Array	18.48	335	eP		P	02 06 04.8	-0.5	
ILB					ePcP	PcP	02 10 34.0	-0.8	
WUAZ	Wupatki	18.54	131	eP		Pn	02 06 08.3	+1.7	
	comp=Z,305nm,1.3s								
WUAZ	Wupatki	18.54	131	P		Pn	02 06 07.6	+1.0	
	baz=323								
Y12C	Blythe	18.56	141	eP		Pn	02 06 07.8	+1.1	
	comp=Z,178nm,1.0s								
Y12C	Blythe	18.56	141	P		Pn	02 06 06.9	+0.2	
	baz=330								
MONP2	Monument Peak	18.58	146	P		Pn	02 06 07.5	+0.4	
	baz=335								
WRH	Wood River Hil	18.60	333	eP		Pn	02 06 06.8	-0.1	
	comp=Z,5µm,1.7s								
TRF	Thorofare Moun	18.60	329	eP		Pn	02 06 07.8	+0.7	
	comp=Z,4µm,1.8s								
CCB	Clear Creek Bu	18.65	334	eP		P	02 06 07.0	-0.2	
	comp=Z,4µm,2.0s								
BAR	Barrett	18.68	147	eP		Pn	02 06 08.3	+0.2	
	comp=Z,138nm,1.2s								
SWSC	Sam W. Stewart	18.76	145	P		P	02 06 07.7	-0.9	
	baz=334								
ISCO	Idaho Springs	18.77	111	eP		Pn	02 06 10.3	+0.8	
	comp=Z,568nm,1.7s								
ISCO	Idaho Springs	18.77	111	eP		Pn	02 06 10.3	+0.8	
ISCO					pmax	pmax			
	comp=Z,570nm,1.7s								
ISCO	Idaho Springs	18.77	111	P		Pn	02 06 10.2	+0.7	
	baz=308								
MVCO	Mesa Verde	18.79	122	eP		Pn	02 06 10.5	+0.9	
	comp=Z,922nm,1.3s								
MVCO	Mesa Verde	18.79	122	P		Pn	02 06 09.8	+0.1	
	baz=316								
BWN	Browne	18.82	331	eP		Pn	02 06 09.2	-0.3	
	comp=Z,3µm,1.4s								
COLA	College	18.83	334	eP		Pn	02 06 09.9	+0.2	
	comp=Z,2µm,1.5s								
COLA	College	18.83	334	eP		Pn	02 06 09.9	+0.2	
COLA					pmax	pmax			
	comp=Z,2µm,1.5s								
TCOL	CGO, UAF Yank	18.83	334	P		Pn	02 06 09.4	-0.3	
	baz=137								
POKR	Poker Plat Res	18.89	335	P		P	02 06 10.1	+0.2	
	baz=139								
IKP	In-Ko-Pah, Jac	18.91	146	P		Pn	02 06 10.8	-0.2	
	baz=334								
PPLA	Purkeypile	18.94	326	eP		P	02 06 10.7	+0.1	
	comp=Z,942nm,1.4s								
MDM	Murphy Dome	19.00	334	eP		P	02 06 11.0	-0.1	
	comp=Z,4µm,1.6s								
GLA	Glenn	19.05	142	eP		Pn	02 06 12.5	-0.1	
	comp=Z,131nm,0.8s								
GLA	Glamis	19.05	142	eP		Pn	02 06 12.5	-0.1	
GLA					pmax	pmax			
	comp=Z,130nm,0.9s								
GLA	Glamis	19.05	142	P		Pn	02 06 12.2	-0.4	
	baz=332								
Y14A	Wickenburg	19.06	137	eP		Pn	02 06 13.4	+0.6	
	comp=Z,142nm,1.0s								
MDND	Maddock	19.18	83	eP		Pn	02 06 14.0	-0.1	
	comp=Z,2µm,1.2s								
MDND	Maddock	19.18	83	P		Pn	02 06 13.7	-0.3	
	baz=285								
CAST	Castle Rocks	19.21	327	eP		P	02 06 13.3	-0.1	
	comp=Z,2µm,1.9s								
BPAW	Bear Paw Mtn.	19.26	329	eP		P	02 06 14.0	0.0	
	comp=Z,2µm,1.6s								
CHGN	Chignik	19.35	303	eP		P	02 06 13.7	-1.2	
	comp=Z,481nm,1.4s								
S22A	4UR Ranch, Cre	19.37	118	eP		Pn	02 06 17.5	+0.8	
	comp=Z,252nm,1.1s								
S22A	4UR Ranch, Cre	19.37	118	P		Pn	02 06 16.6	-0.1	
	baz=313								
X16A	Lo Mia Camp, P	19.39	133	eP		Pn	02 06 17.5	+0.6	
	comp=Z,113nm,1.0s								
INK	Inuvik	19.40	354	P		P	02 06 15.4	+0.1	
	comp=Z,0.6nm,0.3s,baz=165,slow=12,SNR=50								
INK					LR	LR	02 14 34.6		
	comp=Z,13µm,22.0s,baz=169,slow=40								
INK	Inuvik	19.40	354	eP		P	02 06 15.3	0.0	
	comp=Z,747nm,1.5s								
INK	Inuvik	19.40	354	eP		P	02 06 15.3	0.0	
INK					pmax	pmax			
	comp=Z,750nm,1.5s								
Q24A	Divide	19.57	112	eP		Pn	02 06 19.9	+0.7	
	comp=Z,199nm,1.1s								
Q24A	Divide	19.57	112	P		Pn	02 06 19.2	+0.1	
	baz=309								
W18A	Petrified Fore	19.69	128	eP		Pn	02 06 20.7	+0.3	
	comp=Z,1µm,1.9s								
W18A	Petrified Fore	19.69	128	P		Pn	02 06 20.9	+0.5	
	baz=322								
113A	Mohawk Valley,	19.73	140	eP		Pn	02 06 20.0	-0.7	
	comp=Z,286nm,1.7s								
MLY	Manley	19.81	332	eP		P	02 06 20.1	+0.2	
	comp=Z,3µm,1.4s								
X18A	Snowflake	20.04	130	eP		Pn	02 06 24.2	-0.3	
	comp=Z,271nm,1.1s								
X18A					LR	LR			
	comp=Z,47µm,18.0s								
SDCO	Great Sand Dun	20.15	116	eP		Pn	02 06 25.5	-0.5	
	comp=Z,98nm,1.1s								
SDCO					LR	LR			
	comp=Z,63µm,18.0s								
SDCO	Great Sand Dun	20.15	116	P		Pn	02 06 25.6	-0.3	
	baz=312								
OGNE	Ogallala	20.36	104	eP		Pn	02 06 28.0	-0.3	
	comp=Z,1µm,1.0s								
OGNE					LR	LR			
	comp=Z,32µm,19.0s								
OGNE	Ogallala	20.36	104	P		Pn	02 06 27.6	-0.6	
	baz=303								
SDPT	Sand Point	20.40	300	eP		P	02 06 26.7	+0.4	
	comp=Z,2µm,1.9s								
SDPT					LR	LR			
	comp=Z,37µm,21.0s								
SUSD	Miller	20.72	92	P		P	02 06 30.4	+0.4	
	baz=294								
214A	Organ Pipe Nat	20.83	140	P		P	02 06 31.4	+0.1	
	baz=330								
ULM	Lac du Bonnet	21.08	74	P		P	02 06 33.3	-0.4	
	comp=Z,531nm,1.0s,baz=285,slow=10,SNR=77								
ULM					LR	LR	02 15 20.1		
	comp=Z,61µm,21.8s,baz=280,slow=38								
ULM	Lac du Bonnet	21.08	74	eP		P	02 06 32.9	-0.9	
	comp=Z,2µm,1.3s								
ULM					LR	LR			
	comp=Z,153µm,18.0s								
KSCO	Kaye Shedlock'	21.09	109	eP		P	02 06 34.9	+0.8	
	comp=Z,2µm,1.2s								
KSCO					LR	LR			
	comp=Z,97µm,21.0s								
KSCO	Kaye Shedlock'	21.09	109	P		P	02 06 35.6	+1.5	
	baz=308								
T25A	Trinidad	21.20	115	eP		P	02 06 36.6	+1.2	
	comp=Z,1µm,1.6s								
T25A					LR	LR			
	comp=Z,70µm,19.0s								
T25A	Trinidad	21.20	115	P		P	02 06 37.0	+1.6	
	baz=312								
IM3	Indian Mountai	21.38	331	eP		P	02 06 35.5	-1.4	
TUC	Tucson	21.44	135	eP		P	02 06 39.0	+1.2	
	comp=Z,857nm,1.9s								
TUC					LR	LR			
	comp=Z,23µm,19.0s								
TUC	Tucson	21.44	135	eP		P	02 06 39.0	+1.2	
TUC					pmax	pmax			
	comp=Z,860nm,1.9s								
TUC	Tucson	21.44	135	P		P	02 06 40.1	+2.2	
	baz=327								
AGMN	Agassiz Nation	21.49	80	eP		P	02 06 38.2	0.0	
	comp=Z,896nm,1.1s								
AGMN					LR	LR			
	comp=Z,121µm,19.0s								
AGMN	Agassiz Nation	21.49	80	P		P	02 06 38.2	0.0	
	baz=285								
ANMO	Albuquerque	21.57	123	P		P	02 06 40.7	+1.3	
	comp=Z,72nm,1.2s,baz=317,slow=11,SNR=66								
ANMO					LR	LR	02 14 40.4		
	comp=Z,17µm,21.1s,baz=310,slow=36								
ANMO	Albuquerque	21.57	123	eP		P	02 06 40.6	+1.3	
	comp=Z,419nm,1.4s								
ANMO					LR	LR			
	comp=Z,15µm,19.0s								
ANMO	Albuquerque	21.57	123	ceP		P	02 06 40.3	+0.9	
ANMO					pmax	pmax			
	comp=Z,199nm,1.7s								
ANMO					MLR	MLR			
	comp=Z,28µm,15.0s								
ANMO	Albuquerque	21.57	123	P		P	02 06 40.6	+1.2	
	baz=318								
LAZ	Ladron	21.60	125	eP		P	02 06 41.4	+1.7	
LENM	Lemitar	21.87	125	eP		P	02 06 43.7	+1.1	
LPM	Los Pinos Moun	21.95	124	eP		P	02 06 45.1	+1.7	
Y22D	IRIS PASSCAL I	21.97	125	PFAKE			02 07 00.0	+16	
Y22D					LR	LR			
	comp=Z,47µm,19.0s								
Y22D	IRIS PASSCAL I	21.97	125	P		P	02 06 45.8	+2.2	
	baz=320								
FALS	False Pass	22.06	298	eP		P	02 06 44.6	+0.3	
	comp=Z,390nm,1.0s								
FALS					LR	LR			
	comp=Z,53µm,18.0s								
BNM	Barren Site	22.07	125	eP		P	02 06 45.8	+1.1	
TOLK	Toolik Lake Re	22.15	340	eP		P	02 06 43.9	-1.3	
	comp=Z,2µm,1.1s								
TOLK					LR	LR			
	comp=Z,84µm,20.0s								
TOLK	Toolik Lake Re	22.15	340	P		P	02 06 45.5	+0.3	
	baz=141								
FCC	Fort Churchill	22.21	51	eP		P	02 06 46.3	+0.5	
	comp=Z,989nm,0.9s								
FCC					LR	LR			
	comp=Z,46µm,20.0s								
FCC	Fort Churchill	22.21	51	eP		P	02 06 46.3	+0.5	
FCC					pmax	pmax			
	comp=Z,990nm,1.0s								
ECSD	EROS Data Cent	22.55	92	eP		P	02 06 49.7	0.0	
	comp=Z,1µm,1.4s								
ECSD					LR	LR			
	comp=Z,94µm,18.0s								
ECSD	EROS Data Cent	22.55	92	P		P	02 06 49.4	-0.3	
	baz=295								
BGNE	Belgrade	22.62	98	eP		P	02 06 51.3	+0.8	
	comp=Z,2µm,1.1s								
BGNE					LR	LR			
	comp=Z,63µm,21.0s								
BGNE	Belgrade	22.62	98	P		P	02 06 50.9	+0.4	
	baz=301								
121A	Cookes Peak, D	22.72	129	P		P	02 06 52.7	+1.1	
	baz=323								
319A	Douglas	22.92	134	eP		P	02 06 55.6	+1.9	
	comp=Z,1µm,2.0s								
319A					LR	LR			
	comp=Z,23µm,21.0s								
CBKS	Cedar Bluff	23.02	106	eP		P	02 06 56.1	+1.4	
	comp=Z,1µm,1.4s								
CBKS					LR	LR			
	comp=Z,33µm,20.0s								
CBKS	Cedar Bluff	23.02	106	eP		P	02 06 56.1	+1.4	
CBKS					pmax	pmax			
	comp=Z,1µm,1.3s								
CBKS	Cedar Bluff	23.02	106	P		P	02 06 55.3	+0.6	
	baz=306								
AKUT	Akutan	23.45	297	PFAKE			02 07 10.0	+11	
AKUT					LR	LR			
	comp=Z,32µm,20.0s								
UNV	Unalaska Valle	23.90	296	PFAKE			02 07 10.0	+6.9	
UNV					LR	LR			
	comp=Z,21µm,19.0s								
EPT	El Paso	23.98	128	eP		P	02 07 05.4	+1.1	
	comp=Z,294nm,1.3s								
EPT					LR	LR			
	comp=Z,38µm,19.0s								
HSIG		24.17	140	eP		P	02 07 07.2	+1.2	
	comp=Z,479nm,1.9s								
HSIG					LR	LR			
	comp=Z,35µm,19.0s								
AMTX	Amarillo	24.35	116	eP		P	02 07 08.3	+0.7	
	comp=Z,510nm,1.4s								
AMTX					LR	LR			
	comp=Z,73µm,20.0s								
AMTX	Amarillo	24.35	116	P		P	02 07 08.1	+0.5	
	baz=314								
MSTX	Muleshoe	24.36	119	eP		P	02 07 08.6	+0.9	
	comp=Z,1µm,1.8s								
MSTX					LR	LR			
	comp=Z,32µm,19.0s								
MSTX	Muleshoe	24.36	119	P		P	02 07 07.7	0.0	
	baz=317								
F37A	Hinrichs Farm,	24.39	84	P		P	02 07 08.3	+0.5	
	baz=291								
EYMN	Ely	24.41	79	eP		P

U32A Winter Ranch, 24.98 110 *e*P **P 02 07 14.2 +1.0**
comp=Z,2µm,1.8s
U32A LR LR
comp=Z,60µm,18.0s
H38A Maiden Rock 25.01 86 P **P 02 07 14.0 +0.6**
baz=294
SRIG Santa Rosalia 25.15 144 *e*P **P 02 07 15.2 +0.4**
comp=Z,418nm,1.2s
SRIG LR LR
comp=Z,18µm,18.0s
NIKH Nikolski High 25.39 294 PFAKE 02 07 30.0 +13
NIKH LR LR
comp=Z,35µm,18.0s
F39A Loretta 25.44 83 P **P 02 07 17.2 0.0**
baz=291
G39A Holcombe 25.50 84 P **P 02 07 18.5 +0.6**
baz=292
E39A Mellen 25.51 82 P **P 02 07 17.9 -0.1**
baz=290
RDOG Red Dog Mine 25.51 330 *e*P **P 02 07 18.7 +1.0**
comp=Z,216nm,1.4s
RDOG LR LR
comp=Z,30µm,19.0s
SCIA State Center 25.61 93 *e*P **P 02 07 20.7 +1.9**
comp=Z,2µm,1.5s
SCIA LR LR
comp=Z,67µm,20.0s
SCIA State Center 25.61 93 P **P 02 07 20.1 +1.3**
baz=299
H39A Augusta 25.66 86 P **P 02 07 19.6 +0.3**
baz=294
I39A Houston 25.84 88 *e*P **P 02 07 22.1 +1.1**
comp=Z,2µm,1.1s
I39A LR LR
comp=Z,73µm,22.0s
I39A Houston 25.84 88 P **P 02 07 21.9 +0.9**
baz=295
E40A Wakefield 25.91 81 P **P 02 07 21.8 +0.2**
baz=290
C40A Isle Royale Na 25.92 78 *e*P **P 02 07 22.4 +0.7**
comp=Z,643nm,0.9s
C40A LR LR
comp=Z,109µm,21.0s
J39A Decorah 25.95 89 P **P 02 07 22.5 +0.6**
baz=296
F40A Park Falls 25.95 82 P **P 02 07 22.2 +0.2**
baz=291
K39A Oelwein 26.11 90 P **P 02 07 23.7 +0.4**
baz=297
G40A Rib Lake 26.14 84 *e*P **P 02 07 24.3 +0.6**
comp=Z,472nm,1.3s
G40A LR LR
comp=Z,79µm,18.0s
G40A Rib Lake 26.14 84 P **P 02 07 23.9 +0.2**
baz=293
WMOK Wichita Mounta 26.19 112 *e*P **P 02 07 24.9 +0.7**
comp=Z,168nm,1.3s
WMOK LR LR
comp=Z,82µm,19.0s
WMOK Wichita Mounta 26.19 112 *e*P **P 02 07 24.9 +0.7**
WMOK pmax pmax
comp=Z,170nm,1.2s
WMOK Wichita Mounta 26.19 112 P **P 02 07 24.7 +0.5**
baz=313
H40A Chili 26.27 85 P **P 02 07 25.4 +0.6**
baz=294
L39A Vinton 26.30 92 P **P 02 07 25.8 +0.7**
baz=298
I40A Norwalk 26.42 87 P **P 02 07 27.4 +1.1**
baz=295
M39A Webster 26.50 93 P **P 02 07 27.6 +0.7**
baz=300
E41A Kenton 26.51 81 P **P 02 07 27.8 +0.8**
baz=291
COWI Conover 26.53 81 *e*P **P 02 07 27.9 +0.7**
comp=Z,290nm,1.2s
COWI LR LR
comp=Z,90µm,21.0s
J40A Soldiers Grove 26.55 88 P **P 02 07 28.6 +1.2**
baz=296
D41A Chassel 26.57 79 *e*P **P 02 07 29.1 +1.6**
comp=Z,1µm,1.4s
D41A LR LR
comp=Z,93µm,22.0s
D41A Chassel 26.57 79 P **P 02 07 28.0 +0.5**
baz=290
N39A Derby Farms, D 26.58 94 *e*P **P 02 07 28.4 +0.7**
comp=Z,512nm,0.9s
N39A LR LR
comp=Z,53µm,21.0s
N39A Derby Farms, D 26.58 94 P **P 02 07 28.1 +0.4**
baz=301
K40A Colesburg 26.60 90 P **P 02 07 28.8 +0.9**
baz=297
F41A Three Lakes 26.68 82 *e*P **P 02 07 29.4 +0.8**
comp=Z,274nm,1.4s
F41A LR LR
comp=Z,79µm,20.0s
F41A Three Lakes 26.68 82 P **P 02 07 29.0 +0.5**
baz=292
H41A Junction City 26.76 85 *e*P **P 02 07 30.6 +1.4**
comp=Z,582nm,1.2s
H41A LR LR
comp=Z,92µm,18.0s
H41A Junction City 26.76 85 P **P 02 07 29.8 +0.5**
baz=294
G41A Antigo 26.83 83 P **P 02 07 30.1 +0.2**
baz=293
L40A Anamosa 26.84 91 *e*P **P 02 07 30.8 +0.8**
L40A LR LR
comp=Z,84µm,19.0s
L40A Anamosa 26.84 91 P **P 02 07 30.9 +0.9**
baz=298
I41A Arkdale 26.84 86 *e*P **P 02 07 30.8 +0.8**
comp=Z,877nm,1.2s
I41A LR LR
comp=Z,93µm,22.0s
I41A Arkdale 26.84 86 P **P 02 07 30.3 +0.3**
baz=295
M40A Post Highland 26.96 93 P **P 02 07 31.5 +0.4**
baz=300
J41A Loganville 27.04 88 P **P 02 07 32.1 +0.3**
baz=296
JFWS Jewell Farm 27.09 89 *e*P **P 02 07 33.0 +0.8**
comp=Z,1µm,1.0s
JFWS LR LR
comp=Z,64µm,21.0s
JFWS Jewell Farm 27.09 89 *e*P **P 02 07 33.0 +0.8**
JFWS pmax pmax
comp=Z,1µm,1.0s
JFWS Jewell Farm 27.09 89 P **P 02 07 33.7 +1.5**
baz=297
ABTX Abilene, Hawle 27.14 117 *e*P **P 02 07 33.1 +0.3**
comp=Z,397nm,1.8s
ABTX LR LR
comp=Z,71µm,18.0s
ABTX Abilene, Hawle 27.14 117 P **P 02 07 32.6 -0.2**
baz=316
N40A Mertquake, Sal 27.18 94 P **P 02 07 33.4 +0.4**
baz=300
K41A Shullsburg 27.19 89 P **P 02 07 34.3 +1.2**
baz=298
E42A Champion 27.20 80 P **P 02 07 34.0 +0.7**
baz=291
TUL1 Leonard 27.28 107 *e*P **P 02 07 35.3 +1.3**
comp=Z,359nm,1.5s
TUL1 LR LR
comp=Z,36µm,20.0s
TUL1 Leonard 27.28 107 P **P 02 07 33.8 -0.2**
baz=310
F42A Maple Grove Fa 27.31 82 P **P 02 07 34.1 -0.1**
baz=292
G42A Mountain 27.31 83 *e*P **P 02 07 35.3 +1.1**
comp=Z,299nm,1.0s
G42A LR LR
comp=Z,92µm,18.0s
G42A Mountain 27.31 83 P **P 02 07 33.3 -0.9**
baz=293
L41A Preston 27.31 90 P **P 02 07 34.0 -0.2**
baz=298
TX31 Lajitas Ar. Si 27.39 127 *e*P **P 02 07 36.0 +0.9**
LTX Lajitas 27.39 127 *e*P **P 02 07 35.4 +0.2**
LTX *e*PcP **PcP 02 10 54.1 +0.2**
LTX Lajitas 27.39 127 *e*P **P 02 07 35.4 +0.2**
LTX *e* 02 10 54.1
TXAR Lajitas Array 27.39 127 P **P 02 07 35.4 +0.2**
comp=Z,11nm,0.8s,baz=309,slow=6.2,SNR=51
TXAR PcP **PcP 02 10 54.1 +0.1**
comp=Z,2.9nm,0.7s,baz=125,slow=0.7,SNR=5.8
TXAR LR LR 02 18 53.1
comp=Z,13µm,19.0s,baz=0.0,slow=37
TXAR Lajitas Array 27.39 127 P **P 02 07 35.4 +0.2**
TXAR 02 10 54.1
TXAR pmax pmax
comp=Z,11nm,0.8s
TXAR MLR MLR
comp=Z,13µm,19.0s
H42A Shiocton 27.53 84 *e*P **P 02 07 37.5 +1.3**
comp=Z,456nm,1.1s
H42A LR LR
comp=Z,84µm,20.0s
H42A Shiocton 27.53 84 P **P 02 07 36.4 +0.2**
baz=294
I42A Draeger Farm, 27.54 86 *e*P **P 02 07 37.0 +0.8**
comp=Z,646nm,0.9s
I42A LR LR
comp=Z,100µm,19.0s
I42A Draeger Farm, 27.54 86 P **P 02 07 36.5 +0.3**
baz=295
M41A Milan 27.62 92 P **P 02 07 37.3 +0.4**
baz=300
J42A Columbus 27.65 87 P **P 02 07 37.5 +0.3**
baz=296
K42A Prairie Point, 27.74 88 P **P 02 07 38.4 +0.3**
baz=297
N41A Harden Midland 27.74 93 *e*P **P 02 07 38.9 +0.7**
comp=Z,3µm,1.4s
N41A LR LR
comp=Z,69µm,21.0s
N41A Harden Midland 27.74 93 P **P 02 07 38.8 +0.7**
baz=301
G43A Wallace 27.79 82 *e*P **P 02 07 39.3 +0.8**
comp=Z,109nm,0.9s
G43A LR LR
comp=Z,88µm,20.0s
G43A Wallace 27.79 82 P **P 02 07 41.3 +2.8**
baz=293
E43A Lone Tree Farm 27.82 80 *e*P **P 02 07 39.1 +0.4**
comp=Z,179nm,0.9s
E43A LR LR
comp=Z,86µm,22.0s
E43A Lone Tree Farm 27.82 80 P **P 02 07 38.9 +0.2**
baz=291
L42A Oliver, Polo 27.89 90 *e*P **P 02 07 40.0 +0.6**
comp=Z,623nm,0.9s
L42A LR LR
comp=Z,68µm,18.0s
L42A Oliver, Polo 27.89 90 P **P 02 07 39.7 +0.3**
baz=298
F43A Flat Rock, Esc 27.91 81 P **P 02 07 40.0 +0.5**
baz=292
O41A Passleys Farm, 28.03 94 P **P 02 07 40.8 +0.1**
baz=302
I43A Langenfeld Bro 28.05 85 P **P 02 07 40.4 -0.3**
baz=295
H43A Windswept, Lux 28.05 84 *e*P **P 02 07 42.1 +1.3**
comp=Z,317nm,1.0s
H43A LR LR
comp=Z,70µm,19.0s
H43A Windswept, Lux 28.05 84 P **P 02 07 41.6 +0.8**
baz=294
J43A Natural Harves 28.08 86 P **P 02 07 41.1 0.0**
baz=296
M42A Sheffield 28.09 91 P **P 02 07 41.6 +0.3**
baz=299
P41A Barry, Barry 28.14 95 P **P 02 07 41.8 +0.1**
baz=302
N42A Yates City 28.22 92 P **P 02 07 42.5 +0.1**
baz=300
HHAR Hobbs 28.22 104 *e*P **P 02 07 43.1 +0.7**
comp=Z,181nm,0.9s
HHAR LR LR
comp=Z,36µm,18.0s
F44A Big Bay de Noc 28.34 80 P **P 02 07 43.2 -0.1**
baz=292
HPIG 28.35 133 *e*P **P 02 07 44.5 +0.6**
comp=Z,89nm,1.4s
HPIG LR LR
comp=Z,35µm,18.0s
X37A Clayton 28.39 108 *e*P **P 02 07 42.1 -1.8**
comp=Z,520nm,1.8s
X37A LR LR
comp=Z,51µm,19.0s
L43A Garden Prairie 28.41 89 P **P 02 07 44.4 +0.3**
baz=298
Q41A Truxton 28.42 97 P **P 02 07 44.6 +0.5**
baz=304
E44A Grand Marais A 28.42 79 *e*P **P 02 07 46.0 +1.8**
comp=Z,1µm,1.8s
E44A LR LR
comp=Z,63µm,22.0s
E44A Grand Marais A 28.42 79 P **P 02 07 44.3 +0.1**
baz=291
K43A Burlington 28.44 88 *e*P **P 02 07 44.9 +0.5**
comp=Z,706nm,1.3s
K43A LR LR
comp=Z,96µm,18.0s
K43A Burlington 28.44 88 P **P 02 07 44.0 -0.3**
baz=297
O42A Bath 28.51 94 P **P 02 07 45.7 +0.7**
baz=302
JCT Junction City 28.62 120 *e*P **P 02 07 46.3 +0.2**
comp=Z,281nm,1.6s
JCT LR LR
comp=Z,26µm,18.0s
JCT Junction City 28.62 120 *e*P **P 02 07 46.3 +0.2**
JCT pmax pmax
comp=Z,280nm,1.6s
JCT Junction City 28.62 120 P **P 02 07 45.9 -0.2**
baz=319
M43A Waltham Townsh 28.63 90 P **P 02 07 45.7 -0.2**
baz=299
P42A Winchester 28.66 95 *e*P **P 02 07 47.3 +1.0**
comp=Z,587nm,1.1s
P42A Winchester 28.66 95 P **P 02 07 46.1 -0.2**
baz=302
R41A Rosebud 28.69 98 P **P 02 07 46.5 -0.1**
baz=305
N43A Stutzman Famil 28.73 92 P **P 02 07 47.5 +0.6**
baz=300
ATKA Atka Island 28.73 294 PFAKE 02 08 00.0 +13
ATKA LR LR
comp=Z,28µm,20.0s
LPIG La Paz 28.80 144 P **P 02 07 47.2 -0.4**
comp=Z,8.2nm,0.3s,baz=53,slow=7.4,SNR=4.4
LPIG LR LR 02 19 33.5
comp=Z,19µm,18.2s,baz=332,slow=37
HDIL Hopedale 28.84 92 *e*P **P 02 07 48.6 +0.7**
comp=Z,1µm,1.0s
HDIL LR LR
comp=Z,62µm,20.0s
HDIL Hopedale 28.84 92 P **P 02 07 48.6 +0.7**
baz=301
S41A Jillco Farms, 28.86 100 P **P 02 07 47.4 -0.7**
baz=306
U40A Yellville 28.87 103 P **P 02 07 48.5 +0.3**
baz=308
WHTX Lake Whitney, 28.89 115 *e*P **P 02 07 48.7 +0.3**
comp=Z,279nm,1.5s
WHTX LR LR
comp=Z,86µm,18.0s
WHTX Lake Whitney, 28.89 115 P **P 02 07 48.1 -0.2**
baz=316
Q42A Golden Eagle 28.90 96 P **P 02 07 48.9 +0.5**
baz=304
CCM Cathedral Cave 28.91 98 *e*P **P 02 07 48.8 +0.3**
comp=Z,228nm,0.9s
CCM LR LR
comp=Z,49µm,22.0s
CCM Cathedral Cave 28.91 98 *e*P **P 02 07 48.8 +0.3**
CCM pmax pmax
comp=Z,230nm,0.9s
CCM Cathedral Cave 28.91 98 P **P 02 07 48.2 -0.4**
baz=305
L44A Lake County Fo 28.96 88 P **P 02 07 48.9 0.0**
baz=298
O43A Sugar Creek Fa 28.97 93 P **P 02 07 50.0 +0.9**
baz=301
W39A Magazine 29.00 106 *e*P **P 02 07 50.4 +1.1**
comp=Z,181nm,1.1s
W39A LR LR
comp=Z,27µm,20.0s
W39A Magazine 29.00 106 P **P 02 07 49.7 +0.4**
baz=310
E45A Wooded Hills, 29.00 79 P **P 02 07 49.1 -0.2**
baz=292
F45A CMU Biological 29.03 80 P **P 02 07 50.3 +0.7**
baz=293
R42A Luebbering 29.08 98 P **P 02 07 49.9 -0.1**
baz=304
T41A Mountain View 29.16 101 P **P 02 07 50.4 -0.3**
baz=306
P43A Skaggs, Pawnee 29.17 94 P **P 02 07 51.2 +0.4**
baz=302
SLM Saint Louis 29.25 96 *e*P **P 02 07 52.6 +1.1**
comp=Z,2µm,1.8s
SLM LR LR
comp=Z,68µm,18.0s
SLM Saint Louis 29.25 96 *e*P **P 02 07 52.6 +1.1**
SLM pmax pmax
comp=Z,2µm,1.8s
M44A Midewin, Midew 29.25 90 *e*P **P 02 07 52.4 +0.8**
comp=Z,1µm,1.4s
M44A LR LR
comp=Z,74µm,18.0s
M44A Midewin, Midew 29.25 90 P **P 02 07 51.6 0.0**
baz=300
RES Resolute Bay 29.29 18 P **P 02 07 51.2 -0.2**
comp=Z,30nm,0.8s,baz=235,slow=9.7,SNR=48
RES LR LR 02 18 17.4
comp=Z,16µm,21.9s,baz=230,slow=34
RES Resolute Bay 29.29 18 *e*P **P 02 07 51.3 -0.2**
comp=Z,164nm,0.9s
RES LR LR
comp=Z,19µm,19.0s
RES Resolute Bay 29.29 18 *e*P **P 02 07 51.3 -0.2**
RES pmax pmax
comp=Z,160nm,0.9s
SLBS Sierra La Lagu 29.31 143 *e*P **P 02 07 54.4 +2.1**
comp=Z,68nm,1.4s
SLBS LR LR
comp=Z,24µm,18.0s
S42A Caledonia 29.37 98 P **P 02 07 52.2 -0.4**
baz=305
J45A Montague 29.39 85 P **P 02 07 52.7 -0.1**
baz=296
Q43A New Douglas 29.43 95 P **P 02 07 53.0 -0.2**
baz=303
U41A Viola 29.48 102 P **P 02 07 53.6 0.0**
baz=308
FVM French Village 29.48 98 *e*P **P 02 07 53.6 0.0**
comp=Z,204nm,0.8s
FVM LR LR
comp=Z,30µm,22.0s
FVM French Village 29.48 98 *e*P **P 02 07 53.7 0.0**
FVM pmax pmax
comp=Z,200nm,0.9s
N44A Piper City 29.49 91 P **P 02 07 53.9 +0.3**
baz=300
F46A Macinaw City C 29.49 80 P **P 02 07 52.6 -1.0**
baz=293
D46A Sault St. Mari 29.54 77 P **P 02 07 54.1 +0.1**
baz=291
MIAR Mount Ida 29.55 106 *e*P **P 02 07 55.4 +1.2**
comp=Z,501nm,1.8s
MIAR LR LR
comp=Z,32µm,19.0s
MIAR Mount Ida 29.55 106 *e*P **P 02 07 55.4 +1.2**
MIAR pmax pmax
comp=Z,500nm,1.7s
MIAR Mount Ida 29.55 106 P **P 02 07 54.6 +0.4**
baz=311
O44A Mansfield 29.59 92 P **P 02 07 54.3 -0.2**
baz=301
T42A Van Buren 29.60 100 *e*P **P 02 07 54.5 -0.2**
comp=Z,128nm,1.1s
T42A LR LR
comp=Z,25µm,20.0s
T42A Van Buren 29.60 100 P **P 02 07 53.8 -0.9**
baz=306
R43A Red Bud 29.64 97 P **P 02 07 55.2 +0.2**
baz=304
V41A Mountainview 29.67 103 P **P 02 07 55.6 +0.3**
baz=308
435B Jarrell 29.68 117 *e*P **P 02 07 56.5 +1.0**
comp=Z,108nm,1.4s
435B LR LR
comp=Z,78µm,18.0s
435B Jarrell 29.68 117 P **P 02 07 55.7 +0.3**
baz=317
M45A Boilermakers S 29.77 89 P **P 02 07 56.7 +0.6**
baz=300
P44A Sand Creek, Wi 29.85 94 P **P 02 07 57.3 +0.5**
baz=302
N45A Kentland 29.87 90 P **P 02 07 57.7 +0.7**
baz=300
WHAR Wooly Hollow 29.89 104 *e*P **P 02 07 57.8 +0.5**
comp=Z,229nm,1.3s
WHAR LR LR
comp=Z,25µm,18.0s
Q44A Meyer Farm, Va 29.89 95 P **P 02 07 57.4 +0.2**
baz=303
U42A Revenden 29.91 101 P **P 02 07 57.0 -0.4**
baz=307
J46A Howard City 29.91 85 P **P 02 07 57.8 +0.5**
baz=297
S43A Fulton Ridge, 29.95 98 P **P 02 07 57.5 -0.2**
baz=305
GLMI Grayling 29.96 81 *e*P **P 02 07 58.6 +0.9**
comp=Z,259nm,0.9s
GLMI LR LR
comp=Z,121µm,18.0s
GLMI Grayling 29.96 81 P **P 02 07 58.0 +0.2**
baz=294
W41B Gary Mavity, V 29.99 104 *e*P **P 02 07 58.9 +0.8**
comp=Z,152nm,1.1s
W41B LR LR
comp=Z,25µm,19.0s
W41B Gary Mavity, V 29.99 104 P **P 02 07 58.7 +0.6**
baz=309
O45A Potomac 30.03 92 P **P 02 07 58.7 +0.3**
baz=301
X40A Basin Creek Fa 30.05 106 *e*P **P 02 07 59.8 +1.1**
comp=Z,92nm,1.0s
X40A LR LR
comp=Z,33µm,18.0s
X40A Basin Creek Fa 30.05 106 P **P 02 07 59.1 +0.5**
baz=310
D47A Chapleau 30.08 76 P **P 02 07 59.6 +0.8**
baz=291
Y40A Okolona 30.08 107 P **P 02 07 59.1 +0.2**
baz=311
T43A Greenville 30.09 99 P **P 02 07 58.3 -0.7**
baz=306
L46A Eue Claire 30.10 87 P **P 02 07 59.2 +0.2**
baz=299
K46A Dorr 30.12 86 P **P 02 07 59.5 +0.3**
baz=298
V42A Cord 30.14 102 P **P 02 07 59.5 0.0**
baz=308
UALR University of 30.18 105 *e*P **P 02 08 01.3 +1.5**
comp=Z,338nm,1.6s
UALR LR LR
comp=Z,23µm,18.0s
PBMO Poplar Bluff 30.18 100 *e*P **P 02 07 59.7 -0.1**
comp=Z,133nm,1.0s
PBMO LR LR
comp=Z,24µm,19.0s
R44A Waltonville 30.21 96 P **P 02 08 00.1 +0.1**
baz=304
X41A Kaden, Bauxite 30.25 105 P **P 02 08 00.8 +0.5**
baz=310
ADK Adak 30.30 294 PFAKE 02 08 10.0 +9.3
ADK LR LR
comp=Z,30µm,21.0s
M46A Old House Fiel 30.35 89 *e*P **P 02 08 01.9 +0.6**
comp=Z,562nm,1.8s
M46A LR LR
comp=Z,76µm,19.0s
M46A Old House Fiel 30.35 89 P **P 02 08 01.5 +0.2**
baz=300
N46A Monticello 30.36 90 P **P 02 08 01.8 +0.6**
baz=300
SFIN Lafayette 30.38 91 *e*P **P 02 08 02.5 +1.1**
comp=Z,1µm,1.8s
SFIN LR LR
comp=Z,71µm,19.0s
SFIN Lafayette 30.38 91 P **P 02 08 02.4 +0.9**
baz=301
W42A Bald Knob 30.39 103 P **P 02 08 01.9 +0.2**
baz=309
P45A Graceland, Par 30.39 93 *e*P **P 02 08 02.8 +1.1**
comp=Z,1µm,1.5s
P45A LR LR

comp=Z,67µm,18.0s
P45A Graceland, Par 30.39 93 P P 02 08 02.1 +0.5
baz=302
S44A Carbondale 30.41 97 P P 02 08 01.7 -0.1
baz=305
SIUC Southern Illin 30.43 97 eP P 02 08 02.5 +0.6
comp=Z,338nm,0.9s
SIUC LR LR
comp=Z,2µm,21.0s
U43A Rector 30.44 100 P P 02 08 01.6 -0.5
baz=307
Q45A Warren Harvey, 30.46 94 P P 02 08 02.8 +0.5
baz=303
833A Chaparral WMA, 30.50 122 eP P 02 08 03.1 +0.5
comp=Z,76nm,1.0s
833A LR LR
comp=Z,7µm,21.0s
833A Chaparral WMA, 30.50 122 P P 02 08 02.9 +0.3
baz=321
Z40A Long Farm, Mag 30.50 108 P P 02 08 03.1 +0.5
baz=312
J47A Sunmer 30.50 84 P P 02 08 02.5 0.0
baz=297
T44A Benton 30.55 98 P P 02 08 02.8 -0.2
baz=306
Y41A Eaglette Beard 30.58 106 P P 02 08 04.2 +0.8
baz=311
OLIL Olney 30.59 94 eP P 02 08 04.0 +0.7
comp=Z,1µm,1.2s
OLIL LR LR
comp=Z,58µm,22.0s
K47A Vermontville 30.64 85 P P 02 08 03.6 -0.2
baz=298
PARMO Parma 30.69 99 eP P 02 08 05.5 +1.2
comp=Z,134nm,0.8s
PARMO LR LR
comp=Z,23µm,20.0s
P46A Rosedale 30.70 92 P P 02 08 04.8 +0.4
baz=302
V43A Jonesboro 30.70 101 P P 02 08 04.6 +0.2
baz=308
R45A Skylar, Fairfi 30.71 95 P P 02 08 04.8 +0.4
baz=304
NATX Nacogdoches 30.74 112 eP P 02 08 06.4 +1.7
comp=Z,354nm,1.9s
NATX LR LR
comp=Z,70µm,19.0s
NATX Nacogdoches 30.74 112 P P 02 08 05.7 +0.9
baz=315
HBAR Harrisburg 30.77 102 PFAKE 02 08 20.0 +15
HBAR LR LR
comp=Z,24µm,19.0s
X42A Stuttgart 30.77 104 P P 02 08 05.8 +0.7
baz=310
140A Cam and Jess, 30.80 109 eP P 02 08 07.4 +2.1
comp=Z,428nm,1.4s
140A LR LR
comp=Z,34µm,20.0s
140A Cam and Jess, 30.80 109 P P 02 08 06.8 +1.5
baz=313
U44A Portageville 30.82 99 P P 02 08 05.0 -0.5
baz=307
L47A Sherwood 30.84 87 P P 02 08 05.5 0.0
baz=299
M47A Cromwell 30.86 88 P P 02 08 05.6 -0.1
baz=300
D48A Paudash Townsh 30.86 76 P P 02 08 06.0 +0.3
baz=291
S45A Carrier Mills 30.86 97 P P 02 08 05.7 -0.1
baz=305
PVMO Portageville 30.87 100 PFAKE 02 08 20.0 +14
PVMO LR LR
comp=Z,24µm,21.0s
Z41A Richland Creek 30.87 107 eP P 02 08 07.7 +1.8
comp=Z,139nm,1.3s
Z41A LR LR
comp=Z,44µm,19.0s
Z41A Richland Creek 30.87 107 P P 02 08 06.7 +0.8
baz=312
Q46A CEJHS Indians, 30.92 93 P P 02 08 06.4 +0.1
baz=303
GNAR Gosnell 30.93 101 eP P 02 08 07.7 +1.3
comp=Z,400nm,1.2s
GNAR LR LR
comp=Z,39µm,19.0s
W43A Forest City 31.03 103 P P 02 08 07.2 -0.1
baz=309
N47A Urbana 31.05 89 P P 02 08 07.3 -0.1
baz=300
O47A Sheridan 31.06 90 P P 02 08 07.7 +0.2
baz=301
CCAR Cane Creek 31.09 105 eP P 02 08 10.2 +2.4
comp=Z,395nm,1.4s
CCAR LR LR
comp=Z,32µm,19.0s
V44A Blytheville 31.09 101 P P 02 08 07.2 -0.6
baz=308
240A Hunter Patters 31.10 110 PFAKE 02 08 20.0 +12
240A LR LR
comp=Z,51µm,22.0s
240A Hunter Patters 31.10 110 P P 02 08 08.3 +0.4
baz=314
Y42A Garnett, Star 31.13 106 P P 02 08 09.3 +1.1
baz=311
U44B Burton Farm, H 31.14 99 P P 02 08 07.9 -0.4
baz=307
J48A Bridge Port 31.15 84 P P 02 08 08.7 +0.4
baz=297
K48A Perry 31.16 85 P P 02 08 08.8 +0.4
baz=298
T45A Paducah 31.20 98 eP P 02 08 09.7 +0.9
comp=Z,462nm,1.1s
T45A LR LR
comp=Z,62µm,21.0s
T45A Paducah 31.20 98 P P 02 08 08.8 +0.1
baz=306
GLAT Glass 31.22 99 eP P 02 08 10.6 +1.6
comp=Z,829nm,1.6s
GLAT LR LR
comp=Z,63µm,18.0s
141A Papa Simpson, 31.25 109 P P 02 08 10.2 +1.0
baz=313
R46A Gibon Southern 31.26 95 P P 02 08 09.5 +0.2
baz=304
X43A Marvell 31.27 104 eP P 02 08 11.1 +1.7
comp=Z,963nm,2.0s
X43A LR LR
comp=Z,35µm,19.0s
X43A Marvell 31.27 104 P P 02 08 10.0 +0.6
baz=310
USIN University of 31.30 95 eP P 02 08 10.5 +0.8
comp=Z,214nm,0.8s
USIN LR LR
comp=Z,58µm,22.0s
HKT Hockley 31.32 116 eP P 02 08 11.3 +1.5
comp=Z,161nm,1.5s
HKT LR LR
comp=Z,99µm,18.0s
HKT Hockley 31.32 116 eP P 02 08 11.3 +1.5
HKT pmax pmax
comp=Z,160nm,1.5s
L48A N Adams 31.35 86 P P 02 08 10.2 +0.1
baz=299
P47A Martinsville 31.38 92 P P 02 08 10.8 +0.4
baz=302
BLO Bloomington 31.39 92 eP P 02 08 11.1 +0.7
comp=Z,243nm,0.8s
BLO LR LR
comp=Z,64µm,21.0s
BLO Bloomington 31.39 92 eP P 02 08 11.1 +0.7
BLO pmax pmax
comp=Z,240nm,0.8s
M48A Edgerton 31.39 87 eP P 02 08 11.1 +0.7
comp=Z,440nm,1.7s
M48A LR LR
comp=Z,65µm,21.0s
M48A Edgerton 31.39 87 P P 02 08 10.6 +0.1
baz=299
Z42A Norrel Spur, H 31.40 107 P P 02 08 11.5 +1.0
baz=312
HALT Halls 31.40 100 PFAKE 02 08 20.0 +9.4
HALT LR LR
comp=Z,20µm,19.0s
S46A Don Dixon Farm 31.42 96 P P 02 08 10.8 0.0
baz=305
I49A Point Hope 31.49 82 P P 02 08 11.5 +0.2
baz=296
N48A Decatur 31.49 89 P P 02 08 11.5 +0.2
baz=300
MET Memphis--Engin 31.50 102 PFAKE 02 08 20.0 +8.6
MET LR LR
comp=Z,39µm,19.0s
U45A Rockin P Farm, 31.52 99 P P 02 08 11.5 -0.1
baz=307
J49A Marlette 31.55 83 P P 02 08 12.2 +0.4
baz=297
W44A Shelby Farms P 31.57 102 P P 02 08 12.5 +0.5
baz=309
Q47A Bedord North L 31.57 93 P P 02 08 12.5 +0.4
baz=303
K49A Clarkson 31.60 84 P P 02 08 12.7 +0.4
baz=298
Y43A Makayla and Ka 31.63 105 P P 02 08 13.5 +0.9
baz=310
241A Mo Tay, Goldon 31.63 109 PFAKE 02 08 30.0 +17
241A LR LR
comp=Z,36µm,22.0s
241A Mo Tay, Goldon 31.63 109 P P 02 08 13.5 +0.9
baz=314
T46A Princeton 31.67 97 P P 02 08 13.3 +0.4
baz=306
AAM Ann Arbor 31.69 85 eP P 02 08 13.9 +0.8
comp=Z,90nm,0.9s
AAM LR LR
comp=Z,71µm,21.0s
AAM Ann Arbor 31.69 85 eP P 02 08 13.9 +0.8
AAM pmax pmax
comp=Z,90nm,1.0s
AAM Ann Arbor 31.69 85 P P 02 08 13.5 +0.4
baz=298
L49A Milan 31.71 86 P P 02 08 13.4 +0.1
baz=299
O48A Farmland 31.71 90 P P 02 08 12.8 -0.5
baz=301
V45A Humboldt 31.75 100 P P 02 08 13.6 0.0
baz=308
X44A Crenshaw 31.75 103 P P 02 08 14.0 +0.4
baz=310
TOBO Tobermory, Bru 31.79 79 P P 02 08 14.3 +0.4
baz=294
E50A Wahnapitae 31.82 76 P P 02 08 14.4 +0.3
baz=293
R47A Wooly Knot Far 31.86 94 P P 02 08 14.9 +0.3
baz=304
142A Monroe 31.88 108 P P 02 08 15.9 +1.1
baz=312
M49A Liberty Center 31.88 87 P P 02 08 15.0 +0.3
baz=300
Z43A Armstrong Fami 31.89 106 P P 02 08 15.7 +0.9
baz=311
U46A Springville 31.89 98 P P 02 08 15.1 +0.2
baz=307
341A Kurthwood 31.95 111 eP P 02 08 16.8 +1.3
comp=Z,117nm,1.4s
341A LR LR
comp=Z,58µm,19.0s
341A Kurthwood 31.95 111 P P 02 08 16.3 +0.9
baz=314
P48A Milroy 31.95 91 P P 02 08 15.4 0.0
baz=302
W45A Hickory Valley 31.96 101 P P 02 08 16.0 +0.5
baz=308
N49A Columbus Grove 32.02 88 eP P 02 08 16.5 +0.6
comp=Z,191nm,1.5s
N49A LR LR
comp=Z,23µm,19.0s
N49A Columbus Grove 32.02 88 P P 02 08 15.8 -0.2
baz=300
S47A Hartford 32.02 95 P P 02 08 15.8 -0.2
baz=305
Q48A North Vernon 32.03 92 P P 02 08 16.2 +0.1
baz=303
WCI Wyandotte Cave 32.05 94 eP P 02 08 17.0 +0.8
comp=Z,137nm,0.9s
WCI LR LR
comp=Z,76µm,18.0s
WCI Wyandotte Cave 32.05 94 eP P 02 08 17.0 +0.8
WCI pmax pmax
comp=Z,140nm,0.9s
WCI Wyandotte Cave 32.05 94 P P 02 08 16.5 +0.3
baz=304
Y44A Strider, Charl 32.05 104 P P 02 08 16.8 +0.5
baz=310
242A Grayson 32.08 108 P P 02 08 17.2 +0.7
baz=313
143A Socs Landing, 32.12 107 eP P 02 08 18.9 +2.0
comp=Z,171nm,1.3s
143A LR LR
comp=Z,44µm,18.0s
143A Socs Landing, 32.12 107 P P 02 08 18.0 +1.1
baz=312
K50A Casco 32.15 84 P P 02 08 17.1 +0.1
baz=298
BASO Ashfield 32.22 81 P P 02 08 17.9 +0.2
baz=296
OXF Oxford 32.22 102 eP P 02 08 18.5 +0.8
comp=Z,386nm,0.8s
OXF LR LR
comp=Z,18µm,18.0s
OXF Oxford 32.22 102 eP P 02 08 18.5 +0.8
OXF pmax pmax
comp=Z,390nm,0.9s
OXF Oxford 32.22 102 P P 02 08 17.9 +0.2
baz=309
T47A Sharon Grove 32.22 96 eP P 02 08 18.3 +0.5
comp=Z,131nm,1.1s
T47A LR LR
comp=Z,67µm,21.0s
T47A Sharon Grove 32.22 96 P P 02 08 17.6 -0.2
baz=306
R48A Northridge Ran 32.23 93 P P 02 08 18.1 +0.2
baz=304
WVT Waverly 32.25 98 eP P 02 08 18.2 +0.2
comp=Z,162nm,1.1s
WVT LR LR
comp=Z,20µm,20.0s
WVT Waverly 32.25 98 eP P 02 08 18.2 +0.2
WVT pmax pmax
comp=Z,160nm,1.1s
WVT Waverly 32.25 98 P P 02 08 17.9 -0.1
baz=307
BMRO Meriville Lake 32.26 80 P P 02 08 18.2 +0.2
baz=295
BRCO Bruce Peninsul 32.26 81 P P 02 08 18.9 +0.9
baz=296
V46A Holladay 32.26 99 P P 02 08 17.9 -0.2
baz=307
X45A UM Field Stati 32.28 102 P P 02 08 18.3 0.0
baz=309
O49A Covington 32.29 89 eP P 02 08 17.6 -0.7
comp=Z,297nm,1.5s
O49A LR LR
comp=Z,69µm,20.0s
O49A Covington 32.29 89 P P 02 08 18.0 -0.3
baz=301
441A DeRidder 32.34 111 P P 02 08 20.3 +1.4
baz=315
Z44A Pea Ridge, Bel 32.35 105 P P 02 08 20.2 +1.2
baz=311
P49A Miami Univ. Ec 32.38 90 P P 02 08 19.0 -0.1
baz=302
U47A Clarksville 32.42 97 P P 02 08 19.9 +0.4
baz=306
D51A Lot 18 Range I 32.44 75 P P 02 08 19.6 +0.1
baz=292
342A Flagon Creek P 32.44 110 PFAKE 02 08 30.0 +10
342A LR LR
comp=Z,37µm,19.0s
342A Flagon Creek P 32.44 110 P P 02 08 20.9 +1.2
baz=314
W46A Michie 32.50 100 P P 02 08 20.1 0.0
baz=308
BWLO Walkerton 32.51 81 P P 02 08 21.0 +0.7
baz=296
S48A Wiedeman Farm, 32.52 94 P P 02 08 20.7 +0.3
baz=305
M50A Fremont 32.53 86 eP P 02 08 21.2 +0.8
comp=Z,79nm,0.8s
M50A LR LR
comp=Z,70µm,18.0s
M50A Fremont 32.53 86 P P 02 08 20.8 +0.4
baz=300
F51A Arnstein 32.54 77 P P 02 08 20.8 +0.3
baz=294
Y45A Yeager Farm, C 32.54 103 P P 02 08 21.3 +0.7
baz=310
Q49A Aurora 32.54 91 P P 02 08 20.6 0.0
baz=303
E51A G1948 Merrick 32.57 76 P P 02 08 20.8 +0.1
baz=293
KLBO Killbear Provi 32.58 78 P P 02 08 20.4 -0.5
baz=295
MATQ Matagami 32.59 69 P P 02 08 20.6 -0.3
baz=289
T48A Bowling Green 32.61 96 P P 02 08 21.2 0.0
baz=305
243A Waterproof 32.62 108 P P 02 08 22.3 +1.0
baz=313
V47A Nunnelly 32.63 98 P P 02 08 21.4 0.0
baz=307
X46A Booneville 32.72 101 P P 02 08 22.1 0.0
baz=309
R49A Shelbyville 32.75 93 P P 02 08 22.6 +0.2
baz=304
Z45A Winona 32.77 104 eP P 02 08 24.2 +1.7
comp=Z,262nm,1.2s
Z45A LR LR
comp=Z,30µm,18.0s
Z45A Winona 32.77 104 P P 02 08 23.4 +0.8
baz=311
N50A Nevada 32.77 87 P P 02 08 22.7 +0.1
baz=300
O50A Cable 32.78 89 P P 02 08 22.6 -0.1
baz=301
144A Alexander Plac 32.78 106 P P 02 08 23.8 +1.1
baz=312
PLAL Pickwick Lake 32.79 100 eP P 02 08 22.8 +0.1
comp=Z,636nm,2.0s
PLAL LR LR
comp=Z,18µm,19.0s
ELFO Elginfield 32.81 82 P P 02 08 23.3 +0.4
baz=297
541A Lake Charles 32.83 112 PFAKE 02 08 40.0 +17
541A LR LR
comp=Z,57µm,19.0s
541A Lake Charles 32.83 112 P P 02 08 24.6 +1.4
baz=316
442A Mamou 32.84 111 P P 02 08 24.5 +1.4
baz=315
U48A Cassie Pea, Po 32.87 97 P P 02 08 23.6 +0.1
baz=306
CLWO Collingwood 32.91 80 P P 02 08 23.9 +0.1
baz=296
W47A Westpoint 32.93 99 P P 02 08 23.8 -0.3
baz=308
343A Vidalia 32.94 109 P P 02 08 25.3 +1.2
baz=314
P50A Jamestown 32.94 90 P P 02 08 23.6 -0.5
baz=302
S49A Springfield 32.96 94 P P 02 08 24.1 -0.1
baz=304
Y46A Houston 32.97 103 P P 02 08 24.5 +0.2
baz=310
F52A Sundridge 32.98 77 P P 02 08 24.2 -0.1
baz=294
VBMS Vicksburg 33.00 107 eP P 02 08 26.7 +2.1
comp=Z,208nm,1.0s
VBMS LR LR
comp=Z,32µm,18.0s
VBMS Vicksburg 33.00 107 P P 02 08 25.8 +1.2
baz=312
244A Avery, Jackson 33.01 107 P P 02 08 26.0 +1.2
baz=313
BUKO Buck Lake 33.07 77 P P 02 08 25.1 0.0
baz=295
145A Houston Renfro 33.12 105 P P 02 08 26.8 +1.2
baz=312
M51A Elyria 33.12 86 P P 02 08 25.4 -0.3
baz=300
V48A Smith Brothers 33.14 98 eP P 02 08 26.4 +0.5
comp=Z,515nm,2.0s
V48A LR LR
comp=Z,52µm,19.0s
V48A Smith Brothers 33.14 98 P P 02 08 26.2 +0.3
baz=307
ACSO Alum Creek Sta 33.16 88 eP P 02 08 26.6 +0.7
comp=Z,119nm,1.0s
ACSO LR LR
comp=Z,69µm,21.0s
ACSO Alum Creek Sta 33.16 88 P P 02 08 25.7 -0.2
baz=301
542A Morse 33.17 111 P P 02 08 27.4 +1.2
baz=316
T49A Edmonton 33.18 95 eP P 02 08 26.6 +0.4
comp=Z,152nm,1.4s
T49A LR LR
comp=Z,50µm,21.0s
T49A Edmonton 33.18 95 P P 02 08 26.3 +0.1
baz=305
443A Delano Plantat 33.20 110 P P 02 08 28.2 +1.8
baz=314
N51A Ashland 33.20 87 eP P 02 08 27.0 +0.6
comp=Z,407nm,1.5s
N51A LR LR
comp=Z,63µm,19.0s
N51A Ashland 33.20 87 P P 02 08 26.3 -0.1
baz=300
X47A Russelville 33.21 101 P P 02 08 25.8 -0.7
baz=309
LSQQ Lebel-sur-Quev 33.23 70 P P 02 08 26.3 -0.1
baz=290
Q50A Georgetown 33.23 91 P P 02 08 26.8 +0.2
baz=303
VLDQ Val d'Or 33.27 72 eP P 02 08 25.7 -1.1
comp=Z,546nm,1.8s
VLDQ LR LR
comp=Z,135µm,18.0s
R50A Paris 33.31 92 P P 02 08 27.6 +0.3
baz=304
Z46A Louisville 33.36 104 P P 02 08 27.9 +0.2
baz=311
U49A Red Boiling Sp 33.36 96 P P 02 08 27.7 0.0
baz=306
ZAIG Zacatecas 33.36 133 eP P 02 08 28.3 +0.1
comp=Z,89nm,1.3s
ZAIG LR LR
comp=Z,35µm,18.0s
344A Westbrook Farm 33.38 108 eP P 02 08 30.0 +2.0
comp=Z,518nm,1.9s
344A LR LR
comp=Z,44µm,20.0s
344A Westbrook Farm 33.38 108 P P 02 08 28.9 +0.9
baz=313
W48A Pulaski 33.43 99 P P 02 08 28.2 -0.1
baz=308
ACTO Acton 33.44 81 P P 02 08 29.0 +0.7
baz=297
O51A Pataskala 33.45 88 P P 02 08 28.1 -0.4
baz=301
P51A Williamsport 33.49 89 eP P 02 08 29.4 +0.5
comp=Z,229nm,0.9s
P51A LR LR
comp=Z,53µm,22.0s
P51A Williamsport 33.49 89 P P 02 08 28.5 -0.4
baz=302
D53A Lac Vacive, Po 33.50 74 P P 02 08 28.8 0.0
baz=293
245A Little AP, Sta 33.52 106 P P 02 08 30.2 +1.0
baz=312
SADO Sadowa 33.52 78 P P 02 08 29.2 +0.2
comp=Z,34nm,0.8s,baz=308,slow=9.3,SNR=20
SADO LR LR 02 22 23.9
comp=Z,121µm,19.0s,baz=323,slow=37
SADO Sadowa 33.52 78 eP P 02 08 29.3 +0.2
comp=Z,88nm,1.0s
SADO LR LR
comp=Z,140µm,19.0s
Q51A Peebles 33.55 90 eP P 02 08 30.0 +0.6
comp=Z,138nm,0.9s
Q51A LR LR
comp=Z,49µm,18.0s
Q51A Peebles 33.55 90 P P 02 08 29.4 0.0
baz=303
S50A Richmond 33.60 93 P P 02 08 30.2 +0.4
baz=304
Y47A UCPARC, Winfie 33.60 102 P P 02 08 29.7 -0.2
baz=310
543A St. Martinvill 33.63 111 PFAKE 02 08 40.0 +10
543A LR LR
comp=Z,53µm,19.0s
543A St. Martinvill 33.63 111 P P 02 08 31.3 +1.2
baz=315
146A Union 33.65 104 eP P 02 08 31.8 +1.5
comp=Z,282nm,1.3s

146A LR LR
comp=Z,14µm,21.0s
146A Union 33.65 104 P **P** 02 08 30.8 +0.5
baz=311
T50A Nancy 33.68 94 P **P** 02 08 30.2 -0.4
baz=305
ALGO Algonquin Park 33.72 76 P **P** 02 08 31.4 +0.6
baz=294
V49A McMinnville 33.72 97 P **P** 02 08 30.9 0.0
baz=307
X48A Hartselle 33.78 100 *e*P **P** 02 08 31.7 +0.3
comp=Z,68nm,0.9s
X48A LR LR
comp=Z,15µm,21.0s
X48A Hartselle 33.78 100 P **P** 02 08 30.7 -0.7
baz=309
R51A Hillsboro 33.79 91 P **P** 02 08 31.8 +0.3
baz=304
TYNO Tyneside 33.79 81 P **P** 02 08 31.1 -0.3
baz=298
E53A Dumoine, Ponti 33.80 75 P **P** 02 08 31.8 +0.3
baz=294
444A Pine Grove 33.88 109 P **P** 02 08 33.5 +1.3
baz=314
W49A Belvidere 33.88 98 P **P** 02 08 32.4 +0.2
baz=308
Z47A Carrollton 33.91 103 P **P** 02 08 32.7 +0.2
baz=310
345A Thompson Farm, 33.92 107 P **P** 02 08 33.7 +1.1
baz=313
PKRO Pickering 33.92 80 P **P** 02 08 32.6 +0.1
baz=297
O52A Adamsville 33.97 87 *e*P **P** 02 08 33.2 +0.2
comp=Z,101nm,1.1s
O52A LR LR
comp=Z,12µm,18.0s
O52A Adamsville 33.97 87 P **P** 02 08 33.2 +0.2
baz=301
246A Jackson Lee, B 34.01 105 P **P** 02 08 34.5 +1.0
baz=312
P52A Corning 34.02 88 P **P** 02 08 32.8 -0.7
baz=302
U50A Jamestown 34.03 95 P **P** 02 08 33.7 0.0
baz=306
SWET Sewanee 34.03 98 *e*P **P** 02 08 33.9 +0.3
comp=Z,366nm,2.0s
SWET LR LR
comp=Z,46µm,20.0s
Y48A Jasper 34.04 101 P **P** 02 08 33.4 -0.2
baz=310
E54A Lac Daplat, Po 34.08 75 P **P** 02 08 33.5 -0.3
baz=294
445A Amite 34.12 108 P **P** 02 08 35.6 +1.3
baz=314
147A Livingston 34.12 104 *e*P **P** 02 08 35.3 +0.9
comp=Z,443nm,1.8s
147A LR LR
comp=Z,33µm,18.0s
147A Livingston 34.12 104 P **P** 02 08 34.2 -0.1
baz=311
D54A Lac Fusel, La 34.13 73 P **P** 02 08 34.6 +0.3
baz=293
Z48A Northport 34.13 102 P **P** 02 08 33.9 -0.5
baz=310
S51A Beattyville 34.15 92 *e*P **P** 02 08 35.5 +0.9
comp=Z,152nm,1.0s
S51A LR LR
comp=Z,56µm,18.0s
S51A Beattyville 34.15 92 P **P** 02 08 34.8 +0.2
baz=304
ERPA Erie 34.18 83 PFAKE 02 08 50.0 +15
ERPA LR LR
comp=Z,87µm,18.0s
ERPA Erie 34.18 83 P **P** 02 08 34.9 +0.1
baz=299
DRWO Darlington Wes 34.18 80 P **P** 02 08 34.9 +0.2
baz=297
BANO Bancroft 34.19 77 P **P** 02 08 35.0 +0.1
baz=296
DRCO St. Marys Ceme 34.20 80 P **P** 02 08 35.7 +0.8
baz=297
STCO Saint Catharin 34.20 81 P **P** 02 08 34.9 0.0
baz=298
X49A Woodville 34.21 99 P **P** 02 08 34.5 -0.6
baz=309
346A Big Creek Wild 34.22 107 *e*P **P** 02 08 37.2 +2.0
comp=Z,982nm,1.9s
346A LR LR
comp=Z,30µm,19.0s
346A Big Creek Wild 34.22 107 P **P** 02 08 36.1 +0.9
baz=313
Q52A Bidwell 34.29 89 P **P** 02 08 35.5 -0.4
baz=303
T51A Gray 34.30 94 P **P** 02 08 36.1 +0.2
baz=305
V50A Pikevile 34.30 97 P **P** 02 08 35.6 -0.4
baz=307
ALLY Alegheny Colle 34.30 84 *e*P **P** 02 08 36.3 +0.3
comp=Z,130nm,0.9s
ALLY LR LR
comp=Z,92µm,18.0s
247A Quitman 34.31 105 P **P** 02 08 36.9 +0.8
baz=312
PEMO Pembroke 34.35 76 P **P** 02 08 36.5 +0.2
baz=295
R52A Catlettsburg 34.38 91 P **P** 02 08 36.3 -0.4
baz=304
W50A Signal Mountai 34.45 97 *e*P **P** 02 08 37.3 0.0
comp=Z,91nm,1.0s
W50A LR LR
comp=Z,49µm,21.0s
W50A Signal Mountai 34.45 97 P **P** 02 08 37.2 -0.1
baz=308
S52A Salyersville 34.46 92 P **P** 02 08 37.3 0.0
baz=304
545A Edgard 34.50 109 PFAKE 02 08 50.0 +12
545A LR LR
comp=Z,46µm,18.0s
CHGQ Chibougamau 34.53 68 P **P** 02 08 38.0 +0.3
baz=290
Y49A Blount Mountai 34.56 100 *e*P **P** 02 08 38.1 -0.1
comp=Z,148nm,1.4s
Y49A LR LR
comp=Z,19µm,21.0s
Y49A Blount Mountai 34.56 100 P **P** 02 08 38.1 -0.1
baz=309
148A Greensboro 34.59 103 P **P** 02 08 38.6 +0.1
baz=311
P53A Whipple 34.59 88 *e*P **P** 02 08 38.7 +0.3
comp=Z,181nm,1.4s
P53A LR LR
comp=Z,78µm,19.0s
P53A Whipple 34.59 88 P **P** 02 08 38.1 -0.3
baz=302
U51A La Follette 34.59 95 P **P** 02 08 38.5 0.0
baz=306
DELO Delco Mine 34.61 78 P **P** 02 08 38.6 +0.1
baz=296
X50B Fort Payne 34.68 99 P **P** 02 08 39.2 0.0
baz=308
MEDO Medina 34.68 81 P **P** 02 08 39.6 +0.5
baz=298
M54A Oil Creek Stat 34.69 84 *e*P **P** 02 08 39.8 +0.5
comp=Z,329nm,1.6s
M54A LR LR
comp=Z,90µm,19.0s
M54A Oil Creek Stat 34.69 84 P **P** 02 08 39.2 -0.1
baz=300
446A Poplarville 34.69 107 P **P** 02 08 40.2 +0.9
baz=314
LRAL Lakeview Retre 34.71 102 *e*P **P** 02 08 39.6 +0.1
comp=Z,136nm,1.4s
LRAL LR LR
comp=Z,35µm,19.0s
LRAL Lakeview Retre 34.71 102 P **P** 02 08 39.4 -0.1
baz=310
V51A Loudon 34.71 96 *e*P **P** 02 08 40.0 +0.5
comp=Z,99nm,1.0s
V51A LR LR
comp=Z,72µm,22.0s
V51A Loudon 34.71 96 P **P** 02 08 38.9 -0.6
baz=307
PLVO Plevna 34.73 77 *e*P **P** 02 08 40.4 +0.9
comp=Z,66nm,1.0s
PLVO LR LR
comp=Z,83µm,20.0s
PLVO Plevna 34.73 77 P **P** 02 08 39.8 +0.2
baz=296

N54A Moraine State 34.75 85 *e*P **P** 02 08 40.4 +0.6
comp=Z,377nm,1.4s
N54A LR LR
comp=Z,83µm,18.0s
N54A Moraine State 34.75 85 P **P** 02 08 39.4 -0.4
baz=300
347A Saraland 34.79 106 P **P** 02 08 41.2 +1.0
baz=313
TZTN Tazewell 34.80 94 *e*P **P** 02 08 41.1 +0.8
comp=Z,137nm,1.1s
TZTN LR LR
comp=Z,38µm,18.0s
TZTN Tazewell 34.80 94 P **P** 02 08 40.3 0.0
baz=306
CPCT Cooper Cave 34.81 96 *e*P **P** 02 08 40.9 +0.6
comp=Z,122nm,1.4s
CPCT LR LR
comp=Z,59µm,21.0s
W51A Cleveland 34.83 97 P **P** 02 08 40.6 +0.1
baz=308
248A Dixon Mills 34.84 104 P **P** 02 08 41.3 +0.6
baz=312
645A Chauvin 34.84 110 P **P** 02 08 41.0 +0.4
baz=315
546A Slidell 34.85 108 P **P** 02 08 41.8 +1.1
baz=314
T52A Hallie 34.85 93 P **P** 02 08 40.8 +0.1
baz=305
Z49A Columbiana 34.90 101 P **P** 02 08 40.8 -0.4
baz=310
Y50A Piedmont 34.98 100 P **P** 02 08 41.8 0.0
baz=309
U52A Thorn Hill 35.01 94 P **P** 02 08 42.1 0.0
baz=306
149A Jones 35.12 102 P **P** 02 08 43.0 -0.1
baz=311
X51A Calhoun 35.13 98 *e*P **P** 02 08 43.7 +0.6
comp=Z,245nm,1.0s
X51A LR LR
comp=Z,36µm,19.0s
X51A Calhoun 35.13 98 P **P** 02 08 43.1 0.0
baz=308
447A Lucedale 35.13 106 *e*P **P** 02 08 45.1 +2.0
comp=Z,218nm,1.1s
447A LR LR
comp=Z,32µm,19.0s
447A Lucedale 35.13 106 P **P** 02 08 44.2 +1.0
baz=313
TKL Tuckaleechee C 35.18 95 P **P** 02 08 43.3 -0.2
comp=Z,16nm,1.0s,baz=316,slow=8.8,SNR=9.1
TKL LR LR 02 23 51.8
comp=Z,37µm,21.1s,baz=304,slow=38
TKL Tuckaleechee C 35.18 95 *e*P **P** 02 08 43.8 +0.3
comp=Z,412nm,1.8s
TKL LR LR
comp=Z,48µm,21.0s
V52A Sevierville 35.18 95 *e*P **P** 02 08 43.7 +0.1
comp=Z,217nm,1.1s
V52A LR LR
comp=Z,57µm,22.0s
V52A Sevierville 35.18 95 P **P** 02 08 43.5 -0.1
baz=307
348A Jackson 35.19 105 *e*P **P** 02 08 45.4 +1.7
comp=Z,1µm,1.9s
348A LR LR
comp=Z,33µm,18.0s
348A Jackson 35.19 105 P **P** 02 08 44.3 +0.7
baz=312
MMNY Mt. Morris Dam 35.24 81 *e*P **P** 02 08 43.9 -0.1
comp=Z,89nm,0.9s
MMNY LR LR
comp=Z,63µm,18.0s
Z50A Ashland 35.26 101 *e*P **P** 02 08 44.1 -0.1
comp=Z,193nm,1.4s
Z50A LR LR
comp=Z,42µm,18.0s
Z50A Ashland 35.26 101 P **P** 02 08 44.3 0.0
baz=310
249A Camden 35.31 103 P **P** 02 08 44.8 +0.1
baz=312
Y51A Rockmart 35.41 99 P **P** 02 08 45.7 +0.1
baz=309
W52A Murphy 35.41 96 *e*P **P** 02 08 45.7 +0.1
comp=Z,125nm,1.1s
W52A LR LR
comp=Z,2µm,19.0s
W52A Murphy 35.41 96 P **P** 02 08 45.8 +0.2
baz=308
MCWV Mont Chateau 35.51 87 PFAKE 02 09 00.0 +14
MCWV LR LR
comp=Z,30µm,19.0s
MCWV Mont Chateau 35.51 87 P **P** 02 08 46.4 0.0
baz=302
SMY Shemya 35.51 298 PFAKE 02 09 00.0 +14
SMY LR LR
comp=Z,14µm,20.0s
448A Bay Minette 35.54 106 P **P** 02 08 47.5 +0.9
baz=313
U53A Fall Branch 35.55 93 P **P** 02 08 46.8 +0.1
baz=306
ORIO Orleans, Innes 35.55 75 P **P** 02 08 46.6 0.0
baz=296
150A Eclectic 35.61 102 P **P** 02 08 47.5 +0.2
baz=311
349A Repton 35.68 104 P **P** 02 08 48.2 +0.3
baz=312
Z51A Franklin 35.70 100 P **P** 02 08 48.2 +0.2
baz=310
X52A Dahlonega 35.73 97 P **P** 02 08 48.6 +0.2
baz=308
V53A Saluda 35.80 95 *e*P **P** 02 08 49.6 +0.7
comp=Z,230nm,1.0s
V53A LR LR
comp=Z,81µm,19.0s
V53A Saluda 35.80 95 P **P** 02 08 49.4 +0.4
baz=307
TULEG Thule 35.85 20 *es*P **sP** 02 08 55.0 +1.5
TULEG LR LR
comp=Z,21µm,20.0s
250A Grady 35.86 103 *e*P **P** 02 08 50.6 +1.2
comp=Z,842nm,1.8s
250A LR LR
comp=Z,45µm,20.0s
250A Grady 35.86 103 P **P** 02 08 49.7 +0.3
baz=311
W53A Cullowhee 35.87 96 P **P** 02 08 49.7 +0.1
baz=307
ALFO Alfred 35.87 75 P **P** 02 08 49.3 0.0
baz=296
KHLH Kahului Airpor 35.88 228 PFAKE 02 09 00.0 +10
KHLH LR LR
comp=Z,11µm,18.0s
BRAL Brewton 35.90 104 *e*P **P** 02 08 51.4 +1.7
comp=Z,462nm,1.5s
BRAL LR LR
comp=Z,24µm,18.0s
BRAL Brewton 35.90 104 P **P** 02 08 50.5 +0.8
baz=312
HLK Haleakala 35.91 228 PFAKE 02 09 00.0 +10
HLK LR LR
comp=Z,17µm,18.0s
O56A Blue Knob Stat 36.03 85 *e*P **P** 02 08 51.0 +0.1
comp=Z,358nm,1.7s
O56A LR LR
comp=Z,66µm,19.0s
O56A Blue Knob Stat 36.03 85 P **P** 02 08 50.3 -0.6
baz=302
449A Pace 36.06 105 P **P** 02 08 52.1 +1.0
baz=313
Y52A Lilburn 36.08 98 *e*P **P** 02 08 52.0 +0.7
comp=Z,262nm,1.4s
Y52A LR LR
comp=Z,49µm,19.0s
Y52A Lilburn 36.08 98 P **P** 02 08 51.4 +0.1
baz=309
151A Opelika 36.11 101 P **P** 02 08 51.6 0.0
baz=311
BG3 Lake Jocassee 36.13 96 *e*P **P** 02 08 52.6 +0.9
comp=Z,252nm,1.0s
BG3 LR LR
comp=Z,82µm,18.0s
JRQG Juriquilla Cam 36.15 132 *e*P **P** 02 08 53.8 +1.6
comp=Z,524nm,1.2s
JRQG LR LR
comp=Z,85µm,18.0s
X53A Estanollee 36.18 97 P **P** 02 08 52.4 +0.2
baz=308
350A Dozier 36.18 103 P **P** 02 08 52.3 +0.1
baz=312

KIP Kipapa 36.23 231 *i* P **P** 02 08 52.0 -0.6
KIP pmax pmax
comp=Z,309nm,1.0s
HPAH Hawaii Prepara 36.27 227 PFAKE 02 09 10.0 +17
HPAH LR LR
comp=Z,20µm,18.0s
Z52A Williamson 36.27 99 P **P** 02 08 52.8 -0.2
baz=310
SSPA Standing Stone 36.29 84 *e*P **P** 02 08 52.9 0.0
comp=Z,215nm,1.5s
SSPA LR LR
comp=Z,87µm,19.0s
SSPA Standing Stone 36.29 84 P **P** 02 08 52.4 -0.5
baz=301
251A Midway 36.34 102 P **P** 02 08 53.5 +0.1
baz=311
Y53A Monroe 36.40 98 P **P** 02 08 54.7 +0.7
baz=309
152A Waverly Hall 36.41 100 *e*P **P** 02 08 54.4 +0.3
comp=Z,128nm,0.9s
152A LR LR
comp=Z,16µm,19.0s
152A Waverly Hall 36.41 100 P **P** 02 08 54.1 0.0
baz=310
POHA Pohakuloa 36.42 226 PFAKE 02 09 10.0 +15
POHA LR LR
comp=Z,16µm,18.0s
450A Crestview 36.43 104 P **P** 02 08 55.1 +0.8
baz=313
LATQ La Tuque 36.46 71 P **P** 02 08 54.3 -0.1
baz=294
BLA Blacksburg 36.47 91 *e*P **P** 02 08 55.7 +1.0
comp=Z,298nm,1.1s
BLA LR LR
comp=Z,58µm,21.0s
BLA Blacksburg 36.47 91 *e*P **P** 02 08 55.7 +1.0
BLA pmax pmax
comp=Z,300nm,1.1s
BLA Blacksburg 36.47 91 P **P** 02 08 55.0 +0.3
baz=305
LONY Lake Ozonia 36.51 76 *e*P **P** 02 08 55.2 +0.4
comp=Z,256nm,1.6s
LONY LR LR
comp=Z,61µm,19.0s
LONY Lake Ozonia 36.51 76 P **P** 02 08 54.7 -0.1
baz=297
NPOC North of Pu'u 36.54 225 PFAKE 02 09 10.0 +15
NPOC LR LR
comp=Z,29µm,22.0s
JCUZ Jacuzzi 36.54 225 PFAKE 02 09 10.0 +15
JCUZ LR LR
comp=Z,37µm,20.0s
HATHI Halema'uma'u T 36.58 225 PFAKE 02 09 10.0 +14
HATHI LR LR
comp=Z,17µm,20.0s
SBLHI Steaming Bluff 36.58 225 PFAKE 02 09 10.0 +14
SBLHI LR LR
comp=Z,25µm,20.0s
UWB Uwekahuna B 36.59 225 PFAKE 02 09 10.0 +14
UWB LR LR
comp=Z,18µm,18.0s
OBL Observatory Le 36.60 225 PFAKE 02 09 10.0 +14
OBL LR LR
comp=Z,15µm,19.0s
UWE Uwekahuna 36.60 225 PFAKE 02 09 10.0 +14
UWE LR LR
comp=Z,21µm,21.0s
KKO Keanakako'i 36.61 225 PFAKE 02 09 10.0 +14
KKO LR LR
comp=Z,18µm,20.0s
RIM Rim 36.61 225 PFAKE 02 09 10.0 +14
RIM LR LR
comp=Z,11µm,18.0s
WRMHI West Rim 36.61 225 PFAKE 02 09 10.0 +14
WRMHI LR LR
comp=Z,11µm,21.0s
HUH Hualalai 36.63 226 PFAKE 02 09 10.0 +14
HUH LR LR
comp=Z,11µm,18.0s
BILL Bilibino 36.65 325 *e*P **P** 02 08 55.2 -0.6
comp=Z,198nm,1.5s
BILL LR LR
comp=Z,27µm,22.0s
BILL Bilibino 36.65 325 *d* *i* P **P** 02 08 53.9 -1.9
BILL *i* 02 10 22.2
BILL *i* S **S** **02 14 39.6 +1.3**
BILL *i* SS **SnSn** **02 17 04.4 -3.5**
BILL pmax pmax
comp=Z,153nm,1.5s
BILL MLR MLR
comp=Z,19µm,16.0s
MOIG Morelia 36.66 134 PFAKE 02 09 10.0 +13
MOIG LR LR
comp=Z,18µm,22.0s
MWH Moku'aweowe 36.69 226 PFAKE 02 09 10.0 +13
MWH LR LR
comp=Z,20µm,18.0s
KHLU Kahalu'u 36.73 226 PFAKE 02 09 10.0 +13
KHLU LR LR
comp=Z,19µm,20.0s
BINY Binghamton 36.74 80 *e*P **P** 02 08 57.2 +0.4
comp=Z,394nm,1.8s
BINY LR LR
comp=Z,5µm,21.0s
BINY Binghamton 36.74 80 P **P** 02 08 56.7 -0.2
baz=300
351A Pinckard 36.75 103 P **P** 02 08 57.2 +0.3
baz=312
GOGA Godfrey 36.75 98 *e*P **P** 02 08 57.3 +0.3
comp=Z,394nm,1.4s
GOGA LR LR
comp=Z,32µm,18.0s
GOGA Godfrey 36.75 98 *e*P **P** 02 08 57.3 +0.3
GOGA pmax pmax
comp=Z,390nm,1.4s
GOGA Godfrey 36.75 98 P **P** 02 08 57.0 0.0
baz=309
Z53A Monticello 36.77 98 P **P** 02 08 56.9 -0.2
baz=309
252A Lumpkin 36.83 101 P **P** 02 08 57.6 -0.1
baz=311
PAULI Pauline 36.96 95 *e*P **P** 02 08 59.1 +0.3
comp=Z,639nm,1.9s
PAULI LR LR
comp=Z,46µm,20.0s
Y54A Tignall 36.98 97 P **P** 02 08 58.5 -0.4
baz=309
153A Fort Valley 37.00 100 P **P** 02 08 58.7 -0.4
baz=310
HODGE Hodges 37.03 96 *e*P **P** 02 08 59.8 +0.4
comp=Z,285nm,1.3s
HODGE LR LR
comp=Z,34µm,21.0s
NCB Newcomb 37.03 77 *e*P **P** 02 09 01.3 +2.0
comp=Z,274nm,1.9s
NCB LR LR
comp=Z,54µm,21.0s
FRNY Flat Rock 37.04 75 *e*P **P** 02 08 59.7 +0.3
comp=Z,172nm,1.3s
FRNY LR LR
comp=Z,63µm,18.0s
352A Blakely 37.05 102 *e*P **P** 02 09 00.3 +0.8
comp=Z,139nm,0.9s
352A LR LR
comp=Z,40µm,20.0s
352A Blakely 37.05 102 P **P** 02 08 59.3 -0.2
baz=312
KMSC Kings Mountain 37.08 94 *e*P **P** 02 08 60.0 +0.2
comp=Z,559nm,1.8s
KMSC LR LR
comp=Z,88µm,18.0s
KMSC Kings Mountain 37.08 94 P **P** 02 08 59.5 -0.3
baz=307
451A Vernon 37.09 104 PFAKE 02 09 10.0 +10
451A LR LR
comp=Z,20µm,18.0s
451A Vernon 37.09 104 P **P** 02 09 00.6 +0.6
baz=313
253A Americus 37.18 101 *e*P **P** 02 09 00.9 +0.2
comp=Z,326nm,1.0s
253A LR LR
comp=Z,19µm,18.0s
253A Americus 37.18 101 P **P** 02 09 00.5 -0.1
baz=311
KSPA Keystone Colle 37.20 81 PFAKE 02 09 10.0 +9.3
KSPA LR LR

comp=Z,61µm,19.0s
PAGS Pennsylvania G 37.26 84 *e*P P 02 09 01.2 0.0
comp=Z,305nm,1.6s
PAGS LR LR
comp=Z,82µm,20.0s
Z54A Sparta 37.27 98 P P 02 09 01.0 -0.4
baz=309
452A Marianna 37.30 103 P P 02 09 01.9 +0.3
baz=312
SCHQ Schefferville 37.34 57 P P 02 09 01.9 +0.2
comp=Z,33nm,0.9s,baz=300,slow=9.1,SNR=9.1
SCHQ LR LR 02 25 03.6
comp=Z,47µm,18.2s,baz=290,slow=37
SCHQ Schefferville 37.34 57 *e*P P 02 09 02.8 +1.0
comp=Z,131nm,1.0s
SCHQ LR LR
comp=Z,63µm,18.0s
154A Montrose 37.49 99 *e*P P 02 09 03.4 +0.1
comp=Z,232nm,1.0s
154A LR LR
comp=Z,26µm,19.0s
154A Montrose 37.49 99 P P 02 09 02.8 -0.5
baz=310
N59A State Game Lan 37.52 82 *e*P P 02 09 03.7 +0.2
comp=Z,170nm,1.5s
N59A LR LR
comp=Z,74µm,21.0s
N59A State Game Lan 37.52 82 P P 02 09 03.0 -0.5
baz=301
353A Camilla 37.59 101 P P 02 09 04.0 -0.1
baz=312
SDMD Soldier's Deli 37.61 85 *e*P P 02 09 04.9 +0.7
comp=Z,47nm,1.4s
SDMD LR LR
comp=Z,35µm,20.0s
MVL Millersville 37.62 84 *e*P P 02 09 04.5 +0.2
comp=Z,255nm,1.7s
MVL LR LR
comp=Z,79µm,20.0s
JSC Jenkinsville 37.65 95 *e*P P 02 09 05.0 +0.4
comp=Z,362nm,1.3s
JSC LR LR
comp=Z,56µm,20.0s
JSC Jenkinsville 37.65 95 *e*P P 02 09 05.0 +0.4
JSC pmax pmax
comp=Z,360nm,1.3s
ACCN Adirondack Com 37.66 77 PFAKE 02 09 20.0 +15
ACCN LR LR
comp=Z,90µm,19.0s
MOQ Mont Orford 37.67 74 *e*P P 02 09 05.6 +0.8
552A Lynn Haven 37.71 104 P P 02 09 05.4 +0.3
baz=313
R58B Mineral 37.72 88 P P 02 09 05.8 +0.6
baz=304
Z55A Blythe 37.74 97 P P 02 09 05.1 -0.2
baz=309
254A Abbeville 37.80 100 P P 02 09 05.4 -0.5
baz=311
453A Whigham 37.85 102 *e*P P 02 09 07.4 +1.0
comp=Z,339nm,1.5s
453A LR LR
comp=Z,51µm,18.0s
453A Whigham 37.85 102 P P 02 09 06.3 -0.1
baz=312
155A Kite 37.90 98 P P 02 09 06.5 -0.2
baz=310
CBN Corbin Frederi 37.92 87 *e*P P 02 09 07.6 +0.7
comp=Z,430nm,1.6s
CBN LR LR
comp=Z,54µm,22.0s
CBN Corbin Frederi 37.92 87 P P 02 09 07.0 +0.2
baz=304
TIGA Tifton 37.94 101 *e*P P 02 09 07.4 +0.4
comp=Z,430nm,1.6s
TIGA LR LR
comp=Z,29µm,19.0s
TIGA Tifton 37.94 101 P P 02 09 06.8 -0.3
baz=311
UNM Universidad Na 37.94 131 PFAKE 02 09 20.0 +13
UNM LR LR
comp=Z,49µm,19.0s
LUPA Lehigh Univers 37.95 82 *e*P P 02 09 07.6 +0.6
comp=Z,37nm,1.8s
LUPA LR LR
comp=Z,5µm,20.0s
TRY Troy 37.98 78 *e*P P 02 09 08.0 +0.7
comp=Z,293nm,1.6s
ODNJ Ogdensburg 38.20 81 *e*P P 02 09 09.4 +0.3
comp=Z,172nm,1.3s
ODNJ LR LR
comp=Z,9µm,18.0s
553A Crawfordville 38.22 103 P P 02 09 10.1 +0.6
baz=313
PSUB Penn St. - Bra 38.24 83 *e*P P 02 09 09.5 -0.1
comp=Z,236nm,1.7s
PSUB LR LR
comp=Z,96µm,18.0s
255A Hazlehurst 38.34 99 *e*P P 02 09 10.4 0.0
comp=Z,223nm,1.3s
255A LR LR
comp=Z,16µm,18.0s
255A Hazlehurst 38.34 99 P P 02 09 09.6 -0.8
baz=311
LBNH Lisbon 38.37 75 *e*P P 02 09 13.3 +2.7
comp=Z,262nm,1.6s
LBNH LR LR
comp=Z,62µm,19.0s
LBNH Lisbon 38.37 75 *e*P P 02 09 13.3 +2.7
LBNH pmax pmax
comp=Z,260nm,1.6s
LBNH Lisbon 38.37 75 P P 02 09 10.6 0.0
baz=298
355A Pearson 38.47 100 P P 02 09 10.8 -0.8
baz=311
KULLO Kullorsuaq 38.48 24 *i* P P 02 09 15.9 +4.7
comp=Z,181nm,1.1s
comp=Z,9µm,17.0s
KULLO Kullorsuaq 38.48 24 *i* P P 02 09 15.9 +4.7
KULLO pmax pmax
comp=Z,180nm,1.1s
KULLO MLR MLR
comp=Z,9µm,17.0s
156A Sylvania 38.51 97 P P 02 09 11.7 -0.2
baz=310
256A Glennville 38.69 99 P P 02 09 12.7 -0.7
baz=310
PAL Palisades 38.69 81 PFAKE 02 09 20.0 +6.7
PAL LR LR
comp=Z,69µm,22.0s
PAL Palisades 38.69 81 P P 02 09 12.6 -0.6
baz=301
455A Stateville 38.76 101 P P 02 09 13.7 -0.3
baz=312
CPNY Central Park 38.76 81 PFAKE 02 09 30.0 +16
CPNY LR LR
comp=Z,7µm,20.0s
554A Perry 38.77 103 P P 02 09 14.3 +0.3
baz=313
356A Blackshear 38.95 100 P P 02 09 14.7 -0.9
baz=311
NHSC New Hope 39.09 96 *e*P P 02 09 17.4 +0.7
comp=Z,685nm,1.5s
NHSC LR LR
comp=Z,77µm,18.0s
NHSC New Hope 39.09 96 P P 02 09 16.6 -0.1
baz=309
YLE Yale 39.16 80 PFAKE 02 09 30.0 +13
YLE LR LR
comp=Z,136µm,18.0s
555A McAlpin 39.21 102 *e*P P 02 09 19.4 +1.7
comp=Z,775nm,1.8s
555A LR LR
comp=Z,31µm,20.0s
555A McAlpin 39.21 102 P P 02 09 17.8 +0.1
baz=312
257A Skidaway Islan 39.25 98 PFAKE 02 09 30.0 +12
257A LR LR
comp=Z,26µm,19.0s
257A Skidaway Islan 39.25 98 P P 02 09 17.9 -0.2
baz=310
CNNC Cliffs of the 39.28 91 PFAKE 02 09 30.0 +12
CNNC LR LR
comp=Z,36µm,20.0s
CNNC Cliffs of the 39.28 91 P P 02 09 18.6 +0.2
baz=307
456A Hilliard 39.42 100 PFAKE 02 09 30.0 +11
456A LR LR
comp=Z,37µm,20.0s

655A Horseshoe Beac 39.43 103 P P 02 09 19.6 -0.1
baz=313
HRV Adam Dziewonsk 39.44 77 PFAKE 02 09 30.0 +10
HRV LR LR
comp=Z,64µm,19.0s
HRV Adam Dziewonsk 39.44 77 P P 02 09 19.7 +0.1
baz=300
PKME Peaks-Kenny Pk 39.55 72 PFAKE 02 09 30.0 +10
PKME LR LR
comp=Z,91µm,19.0s
PKME Peaks-Kenny Pk 39.55 72 P P 02 09 19.1 -1.4
baz=298
556A Lake Butler 39.65 101 P P 02 09 21.6 +0.2
baz=312
TLIG Tlapa 39.74 132 *e*P P 02 09 23.1 +0.7
comp=Z,69nm,1.2s
TLIG LR LR
comp=Z,18µm,21.0s
656A Willston 39.99 102 *e*P P 02 09 25.2 +0.9
comp=Z,160nm,0.9s
656A *e*PP PnPn 02 10 59.1 -0.3
656A LR LR
comp=Z,16µm,20.0s
656A Willston 39.99 102 P P 02 09 24.2 -0.1
baz=313
557A Orange Park 40.07 101 P P 02 09 25.0 0.0
baz=312
657A Interlachen 40.27 101 P P 02 09 26.8 +0.2
baz=313
757A Oxford 40.58 102 P P 02 09 29.2 +0.1
baz=313
BATG Bathurst New B 40.64 68 *e*P P 02 09 30.6 +1.1
comp=Z,486nm,1.8s
BATG LR LR
comp=Z,16µm,20.0s
658A Bunnell 40.78 101 PFAKE 02 09 40.0 +9.2
658A LR LR
comp=Z,14µm,18.0s
658A Bunnell 40.78 101 P P 02 09 31.0 +0.2
baz=313
857A Zephyrhills 40.94 103 P P 02 09 32.2 +0.1
baz=314
ILULI Ilulissat 40.95 32 PFAKE 02 09 40.0 +8.3
ILULI LR LR
comp=Z,22µm,20.0s
758A Lake Helen 41.12 102 P P 02 09 34.0 +0.4
baz=313
GGN Saint George 41.15 71 PFAKE 02 09 50.0 +16
GGN LR LR
comp=Z,52µm,21.0s
957A Wimauma 41.34 104 PFAKE 02 09 50.0 +15
957A LR LR
comp=Z,21µm,19.0s
957A Wimauma 41.34 104 P P 02 09 36.2 +0.8
baz=314
858A St. Cloud 41.53 102 P P 02 09 36.3 -0.7
baz=314
DWPF Disney Wildern 41.55 103 PFAKE 02 09 50.0 +13
DWPF LR LR
comp=Z,19µm,19.0s
DWPF Disney Wildern 41.55 103 P P 02 09 36.8 -0.4
baz=314
SFJD Kangerlussuaq 41.64 35 LR LR 02 26 07.1
comp=Z,13µm,18.5s,baz=285,slow=35
SFJD Kangerlussuaq 41.64 35 *e*P P 02 09 39.4 +2.0
comp=Z,256nm,1.4s
SFJD LR LR
comp=Z,16µm,18.0s
SFJD Kangerlussuaq 41.64 35 *i* P P 02 09 38.5 +1.1
comp=Z,216nm,1.3s
comp=Z,20µm,15.0s
SFJD Kangerlussuaq 41.64 35 *i* P P 02 09 38.5 +1.1
SFJD pmax pmax
comp=Z,220nm,1.3s
SFJD MLR MLR
comp=Z,20µm,15.0s
958A Wauchula 41.71 104 P P 02 09 38.9 +0.4
baz=314
859A Kempfer Cattle 41.93 102 P P 02 09 40.2 -0.1
baz=314
CMIG Matias Romero 42.00 128 P P 02 09 41.0 +0.1
comp=Z,10nm,0.9s,baz=358,slow=10,SNR=4.7
058A Arcadia 42.04 104 P P 02 09 41.2 0.0
baz=315
LMN Caledonia Moun 42.06 69 *e*P P 02 09 42.1 +1.0
comp=Z,248nm,1.5s
LMN *e*PP PP 02 11 13.4 -4.9
LMN LR LR
comp=Z,44µm,18.0s
959A Okeechobee 42.31 103 P P 02 09 43.3 -0.1
baz=314
059A Moore Haven 42.53 104 PFAKE 02 10 00.0 +15
059A LR LR
comp=Z,17µm,18.0s
059A Moore Haven 42.53 104 P P 02 09 45.6 +0.5
baz=315
MIDW Midway 42.59 259 PFAKE 02 10 00.0 +14
MIDW LR LR
comp=Z,22µm,20.0s
059Z Ave Maria 42.78 105 P P 02 09 47.5 +0.3
baz=315
060A Indiantown 42.98 103 PFAKE 02 10 00.0 +11
060A LR LR
comp=Z,19µm,18.0s
060A Indiantown 42.98 103 P P 02 09 49.4 +0.6
baz=314
TEIG Tepich 43.12 117 *e*P P 02 09 50.5 +0.5
comp=Z,115nm,1.5s
TEIG LR LR
comp=Z,9µm,21.0s
060Z West Palm Beac 43.29 104 P P 02 09 51.7 +0.3
baz=315
SEY Seymchan 43.33 319 P P 02 09 49.5 -1.7
comp=Z,26nm,0.8s,baz=173,slow=23,SNR=16
SEY Seymchan 43.33 319 *i* P P 02 09 51.0 -0.2
HAL Halifax 43.40 70 PFAKE 02 10 00.0 +8.0
HAL LR LR
comp=Z,38µm,22.0s
061Z Ochoppi 43.45 105 PFAKE 02 10 00.0 +7.4
061Z LR LR
comp=Z,32µm,19.0s
061Z Ochoppi 43.45 105 P P 02 09 52.5 -0.1
baz=315
SUMG Summit 44.06 26 *e*P P 02 09 57.7 +0.2
comp=Z,465nm,1.4s
SUMG LR LR
comp=Z,16µm,19.0s
SUMG Summit 44.06 26⇓ *i*P P 02 09 58.1 +0.6
comp=Z,545nm,1.1s
comp=Z,48µm,14.0s
SUMG Summit 44.06 26 *e*P P 02 09 57.7 +0.2
PET Petropavlovsk 44.10 304 *e*P P 02 09 56.8 -0.7
comp=Z,137nm,1.1s
PET LR LR
comp=Z,11µm,22.0s
PET Petropavlovsk 44.10 304⇑ *i*P P 02 09 56.7 -0.8
PET *e*S S 02 16 28.6 -1.1
PET 02 19 58.3
PET pmax pmax
comp=Z,300nm,12.0s
PET pmax pmax
comp=Z,133nm,1.1s
CCIG Comitan 44.12 125 PFAKE 02 10 10.0 +12
CCIG LR LR
comp=Z,21µm,18.0s
062Z Marathon 44.17 106 P P 02 09 59.1 +0.7
baz=316
IVI Ivigtut 44.53 43 *e*P P 02 10 01.6 +0.8
comp=Z,172nm,0.9s
IVI LR LR
comp=Z,23µm,19.0s
PEA1 Petropavlovsk- 44.58 304 *e*P P 02 09 59.3 -2.1
PEA0B Petropavlovsk- 44.58 304 *e*P P 02 09 59.6 -1.8
comp=Z,176nm,1.3s
PEA0B LR LR
comp=Z,8µm,21.0s
PETK Petropavlovsk- 44.58 304 P P 02 09 59.3 -2.1
comp=Z,20nm,0.8s,baz=92,slow=11,SNR=30
PETK LR LR 02 25 43.7
comp=Z,7µm,20.2s,baz=79,slow=32
PETK Petropavlovsk- 44.58 304 *e*P P 02 09 59.1 -2.3
PETK Petropavlovsk- 44.58 304 P P 02 09 59.3 -2.1
PETK pmax pmax
comp=Z,19nm,0.7s
DRLN Deer Lake 44.81 62 *e*P P 02 10 04.3 +1.0
comp=Z,157nm,0.8s
DRLN LR LR

comp=Z,32µm,19.0s
MA2 Magadan 45.32 315 *e*P P 02 10 07.5 +0.3
comp=Z,1µm,1.6s
MA2 LR LR
comp=Z,10µm,18.0s
MA2 Magadan 45.32 315 *i* P P 02 10 09.9 +2.7
MA2 pmax pmax
comp=Z,88nm,1.4s
MA2 MLR MLR
comp=Z,8µm,17.0s
NRS Narsarsuaq 45.77 42 PFAKE 02 10 20.0 +9.3
NRS LR LR
comp=Z,22µm,18.0s
JOHN Johnston Islan 46.30 240 PFAKE 02 10 30.0 +15
JOHN LR LR
comp=Z,26µm,21.0s
SKR Severo-Kuril's 46.57 302 *e*P P 02 10 13.6 -3.5
SKR *e*S S 02 17 06.0 +0.6
SKR pmax pmax
comp=Z,800nm,5.2s
SKR pmax pmax
comp=Z,600nm,6.6s
SKR pmax pmax
comp=Z,118nm,1.3s
SKR MLR MLR
comp=Z,4µm,17.0s
SKR MLR MLR
comp=Z,4µm,16.0s
DAG Danmarks Havn 46.98 17⇓ *i*P P 02 10 19.7 -0.3
comp=Z,82nm,1.0s
comp=Z,20µm,13.0s
DAG Danmarks Havn 46.98 17⇓ *i*P P 02 10 19.7 -0.3
DAG pmax pmax
comp=Z,82nm,1.0s
DAG MLR MLR
comp=Z,20µm,13.0s
ANGG Ammassalik, Gr 47.03 35 PFAKE 02 10 30.0 +9.5
ANGG LR LR
comp=Z,20µm,20.0s
SNET Serv Nac Est T 47.83 124 PFAKE 02 10 40.0 +13
SNET LR LR
comp=Z,23µm,18.0s
TIXI Tiksi 47.95 335 P P 02 10 26.0 -1.6
comp=Z,4.1nm,0.4s,baz=78,slow=8.3
TIXI Tiksi 47.95 335 *e*P P 02 10 27.1 -0.6
TIXI LR LR
comp=Z,16µm,19.0s
TIXI Tiksi 47.95 335 P P 02 10 26.0 -1.6
TIXI pmax pmax
comp=Z,4.0nm,0.4s
TGUH Tegucigalpa,Un 48.61 121 *e*P P 02 10 36.5 +3.1
comp=Z,109nm,1.0s
TGUH LR LR
comp=Z,19µm,20.0s
SCO Scoresbysund 49.68 25 *e*P P 02 10 41.1 +0.2
comp=Z,53nm,1.1s
SCO LR LR
comp=Z,17µm,18.0s
SCO Scoresbysund 49.68 25 *i* P P 02 10 41.0 +0.1
comp=Z,52nm,1.1s
comp=Z,17µm,19.0s
SCO Scoresbysund 49.68 25 *e*P P 02 10 41.0 +0.1
SCO pmax pmax
comp=Z,52nm,1.1s
SCO MLR MLR
comp=Z,17µm,19.0s
BBSR BB Station 49.70 85 *e*P P 02 10 42.0 +0.4
comp=Z,274nm,1.5s
BBSR LR LR
comp=Z,27µm,18.0s
ESTN Estel 49.90 121 *e*P P 02 10 44.3 +1.0
comp=Z,169nm,1.1s
ESTN LR LR
comp=Z,20µm,21.0s
MTDJ Mount Denham 51.15 108 *e*P P 02 10 54.3 +1.4
comp=Z,150nm,1.3s
MTDJ LR LR
comp=Z,8µm,20.0s
SPITS Spitsbergen Ar 51.18 9 P P 02 10 50.6 -1.6
comp=Z,31nm,1.1s,baz=74,slow=6.2,SNR=2.1
GTBY Guantanamo Bay 51.41 105 *e*P P 02 10 55.5 +0.8
comp=Z,144nm,1.4s
GTBY LR LR
comp=Z,15µm,22.0s
PRVC Isla de Provid 52.56 116 *e*P P 02 11 13.4 +10
GRTK Grand Turk 52.82 100 *e*P P 02 11 05.8 +0.7
comp=Z,100nm,1.0s
GRTK LR LR
comp=Z,13µm,18.0s
JTS JuntasAbangare 52.98 122 P P 02 11 04.5 -1.9
comp=Z,3.0nm,0.7s,baz=112,slow=19,SNR=3.2
JTS LR LR 02 36 14.3
comp=Z,8µm,19.0s,baz=34,slow=39
JTS JuntasAbangare 52.98 122 *e*P P 02 11 04.5 -1.9
comp=Z,22nm,1.2s
JTS LR LR
comp=Z,11µm,20.0s
YAK Yakutsk 53.01 325 *e*P P 02 11 05.1 -0.8
comp=Z,70nm,0.9s
YAK LR LR
comp=Z,13µm,19.0s
YAK Yakutsk 53.01 325 *e*P P 02 11 05.1 -0.8
YAK *e* 02 12 14.4
YAK *e*S S 02 18 39.5 +4.4
YAK *e* 02 20 52.0
YAK pmax pmax
comp=Z,63nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,20nm,1.2s
YAK pmax pmax
comp=Z,72nm,1.3s
YAK smax smax
comp=N,4µm,13.1s
YAK smax smax
comp=E,608nm,6.4s
YAK MLR MLR
comp=Z,12µm,18.0s
YAK MLR MLR
comp=E,6µm,18.0s
YAK MLR MLR
comp=N,20µm,21.0s
BORG Borgarnes 53.30 31 P P 02 11 05.8 -2.3
comp=N,16nm,0.9s,baz=67,slow=7.7,SNR=2.7
BORG Borgarnes 53.30 31 *e*P P 02 11 05.8 -2.3
comp=N,263nm,1.3s
BORG LR LR
comp=Z,17µm,19.0s
NKL Nikolayevsk 53.38 311 *e*P P 02 11 08.0 -0.8
NKL *e* 02 12 24.0
NKL *e*S S 02 18 35.0 -5.4
NKL pmax pmax
comp=Z,100nm,1.4s
NKL pmax pmax
comp=Z,500nm,5.0s
NKL smax smax
comp=N,4µm,14.0s
NKL smax smax
comp=E,2µm,14.0s
NKL MLR MLR
comp=N,4µm,16.0s
NKL MLR MLR
comp=E,6µm,16.0s
NKL MLR MLR
comp=Z,7µm,14.0s
HDC Heredia 53.69 121 PFAKE 02 11 20.0 +8.3
HDC LR LR
comp=Z,14µm,22.0s
TYV Tymovskoe 53.70 308 *e*P P 02 11 10.9 -0.4
TYV *e*S S 02 18 45.3 +0.4
TYV pmax pmax
comp=Z,42nm,1.2s
TYV smax smax
comp=E,600nm,8.1s
LGNH LØogne 54.05 104 *e*P P 02 11 16.1 +2.0
comp=E,542nm,2.0s
KUR Kuril'sk 54.17 300 *e*P P 02 11 17.5 +2.8
KUR *e*S S 02 18 56.8 +5.5
KUR MLR MLR
comp=Z,4µm,14.0s
KUR MLR MLR
comp=E,1µm,13.0s
SDDR Presa de Saban 54.55 102 *e*P P 02 11 18.3 +0.4
comp=E,223nm,1.8s
SDDR LR LR
comp=Z,21µm,19.0s

SDD Santo Domingo 55.81 102 PFAKE 02 11 40.0 +13
SDD LR LR
comp=Z,13µm,20.0s
YSS Yuzh-Sakhalins 55.98 304 *eP* **P 02 11 31.5 +3.7**
comp=Z,244nm,1.5s
YSS LR LR
comp=Z,4µm,19.0s
YSS Yuzh-Sakhalins 55.98 304⇓ *eP* **P 02 11 30.9 +3.1**
YSS *eS* **S 02 19 10.9 -4.6**
YSS pmax pmax
comp=Z,50nm,0.9s
YSS MLR MLR
comp=Z,5µm,16.0s
YSS MLR MLR
comp=N,4µm,16.0s
YSS MLR MLR
comp=E,6µm,16.0s
YUK Yuzh-Kuril'sk 56.04 300*c iP* P 02 11 19.7 -8.5
YUK *e* 02 12 31.8
YUK *e* 02 21 09.0
YUK *eSS* **SS 02 23 00.5 -1.4**
YUK pmax pmax
comp=Z,1µm,2.7s
BCIP Isla Barro Col 56.81 118 PFAKE 02 11 50.0 +16
BCIP LR LR
comp=Z,6µm,20.0s
BCIP Isla Barro Col 56.81 118 *eP* P 02 11 43.0 +8.9
GRNR Gornyy 56.92 311 *eP* **P 02 11 33.3 -1.2**
GRNR pmax pmax
comp=Z,21nm,1.0s
PNME Penonome 57.08 119 *eP* **P 02 11 32.2 -3.8**
UPA Univ. de Panam 57.14 117 *eP* **P 02 11 34.5 -1.9**
AGP Aguadilla 57.64 99 PFAKE 02 11 50.0 +10
AGP LR LR
comp=Z,13µm,18.0s
AZU Azuero 57.67 119 *eP* P 02 11 49.8 +10
MPR Mayaguez 57.78 99 *eP* **P 02 11 41.2 +0.2**
comp=Z,98nm,1.1s
MPR LR LR
comp=Z,7µm,21.0s
ASAJ Asahikawa 57.83 302 P **P 02 11 39.0 -2.0**
comp=Z,22nm,0.8s,baz=347,slow=13,SNR=4.5
ASAJ Asahikawa 57.83 302 *eP* **P 02 11 39.0 -2.0**
comp=Z,122nm,1.4s
ASAJ LR LR
comp=Z,5µm,20.0s
ASAJ Asahikawa 57.83 302 P **P 02 11 39.0 -2.0**
ASAJ pmax pmax
comp=Z,22nm,0.9s
CRPR Cabo Rojo, PR 57.95 100 *eP* **P 02 11 41.4 -0.7**
comp=Z,250nm,1.6s
CRPR LR LR
comp=Z,15µm,18.0s
EMPR Esperanza - Ma 57.99 99 PFAKE 02 11 50.0 +7.7
EMPR LR LR
comp=Z,5µm,18.0s
OBIP Obispado Ponce 58.25 99 *eP* **P 02 11 43.5 -0.7**
comp=Z,184nm,1.6s
UPD2 Meteti 58.38 116 *eP* **P 02 11 47.4 +2.3**
ICMP Isla Caja de M 58.42 99 *eP* **P 02 11 45.0 -0.3**
comp=Z,132nm,1.1s
ICMP LR LR
comp=Z,13µm,18.0s
SJG San Juan 58.50 99 P **P 02 11 44.2 -1.7**
comp=Z,16nm,0.7s,baz=327,slow=6.5,SNR=8.1
SJG LR LR 02 37 26.8
comp=Z,6µm,20.9s,baz=306,slow=36
SJG San Juan 58.50 99 *eP* **P 02 11 45.3 -0.6**
SJG LR LR
comp=Z,13µm,18.0s
SJG San Juan 58.50 99 *eP* **P 02 11 45.3 -0.6**
SJG MLR MLR
comp=Z,13µm,18.0s
CBYP Canovanas 58.57 98 *eP* **P 02 11 45.5 -1.0**
comp=Z,60nm,1.0s
CBYP LR LR
comp=Z,14µm,20.0s
SMRC Santa Marta, M 58.60 111 *eP* **P 02 11 50.4 +3.7**
TAOE Nuku Hiva Isla 58.63 193 *eS* **S 02 19 50.0 -1.0**
comp=Z,5µm,25.0s
TAOE *eLQ* LQ 02 26 27.3
comp=Z,15µm,27.8s
TAOE *eLR* LR 02 28 55.5
comp=Z,37µm,25.6s,baz=18
TAOE Nuku Hiva Isla 58.63 193 *eT* T 03 14 48.3
comp=Z,173nm,0.2s
TAOE Nuku Hiva Isla 58.63 193 PFAKE 02 12 00.0 +13
TAOE LR LR
comp=Z,19µm,21.0s
HUMP Col San Antoni 58.67 98 *eP* **P 02 11 46.7 -0.5**
comp=Z,190nm,1.3s
HUMP LR LR
comp=Z,12µm,20.0s
H11N2 WAKE ISLAND Hy 58.75 264 T T 03 15 11.4
baz=44,slow=76,SNR=1602
H11N3 WAKE ISLAND Hy 58.75 264 T T 03 15 11.5
baz=44,slow=76,SNR=1227
H11N1 WAKE ISLAND Hy 58.76 264 T T 03 15 12.6
baz=44,slow=76,SNR=1226
ERM Erimo 58.85 299 PFAKE 02 12 00.0 +12
ERM LR LR
comp=Z,11µm,22.0s
MTP Monte Pirata 58.90 98 *eP* **P 02 11 49.0 +0.3**
comp=Z,308nm,1.5s
MTP LR LR
comp=Z,18µm,19.0s
NRIK Noril'sk 58.90 346 P **P 02 11 46.1 -1.9**
comp=Z,127nm,1.2s,baz=46,slow=5.9,SNR=19
NRIK LR LR 02 39 34.9
comp=Z,9µm,19.6s,baz=48,slow=38
NRIK Noril'sk 58.90 346 P **P 02 11 46.1 -1.9**
NRIK pmax pmax
comp=Z,68nm,1.0s
NRIK MLR MLR
comp=Z,9µm,19.6s
CUPR Culebra, Puert 58.92 98 PFAKE 02 12 00.0 +11
CUPR LR LR
comp=Z,5µm,18.0s
STVI Saint Thomas 59.10 98 *eP* **P 02 11 50.9 +0.8**
comp=Z,95nm,1.4s
STVI LR LR
comp=Z,10µm,21.0s
WAKE Wake Island 59.23 264 PFAKE 02 12 00.0 +9.0
WAKE LR LR
comp=Z,14µm,21.0s
ABVI Anegada Island 59.23 97 *eP* **P 02 11 51.7 +0.6**
comp=Z,220nm,1.1s
ABVI LR LR
comp=Z,16µm,22.0s
ZEA Zeya 59.29 318 *eP* **P 02 11 50.2 -0.8**
ZEA *eS* **S 02 20 00.5 +1.7**
ZEA *e* 02 21 39.0
ZEA pmax pmax
comp=Z,43nm,1.2s
ZEA pmax pmax
comp=Z,500nm,7.0s
ZEA smax smax
comp=N,4µm,14.0s
ZEA MLR MLR
comp=N,5µm,16.0s
ZEA MLR MLR
comp=E,7µm,16.0s
ZEA MLR MLR
comp=Z,12µm,16.0s
PAYG Puerto Ayora 59.54 134 PFAKE 02 12 10.0 +17
PAYG LR LR
comp=Z,7µm,21.0s
URIC Uribia, Colomb 59.56 109 *eP* **P 02 11 53.0 -0.4**
MOTC Monteria, Cord 59.59 114 *eP* **P 02 11 53.0 -0.6**
H11S1 WAKE ISLAND Hy 59.75 263 T T 03 16 28.7
baz=49,slow=74,SNR=297
H11S2 WAKE ISLAND Hy 59.76 263 T T 03 16 31.9
baz=49,slow=74,SNR=31
H11S3 WAKE ISLAND Hy 59.77 263 T T 03 16 28.8
baz=49,slow=74,SNR=180
CODC Agust`›n Codaz 60.03 111 *eP* **P 02 11 56.3 -0.2**
KEV Kevo 60.09 10 PFAKE 02 12 10.0 +14
KEV LR LR
comp=Z,7µm,20.0s
ARA0 ARCESS Array S 60.13 10 *eP* **P 02 11 55.2 -1.3**
ARCES ARCESS Array B 60.13 10 P **P 02 11 55.2 -1.3**
comp=Z,7.0nm,1.0s,baz=31,slow=3.3,SNR=4.6
ARCES LR LR 02 39 18.7
comp=Z,536nm,19.5s,baz=342,slow=37
ARE0 ARCESS Array S 60.13 10 PFAKE 02 12 10.0 +13
ARE0 LR LR
comp=Z,600nm,19.0s
KLR Kul'dur 60.22 312 P **P 02 11 56.1 -1.3**
comp=Z,18nm,1.1s,baz=28,slow=7.3,SNR=15
KLR Kul'dur 60.22 312*ceP* **P**
SMLC San Mart`›n de 60.53 113 *eP* **P 02 11 59.6 -0.4**
SMRT St. Maarten 60.55 96 *eP* **P 02 11 59.8 -0.3**
comp=Z,69nm,0.6s
SMRT LR LR
comp=Z,24µm,21.0s
SMRT St. Maarten 60.55 96 *eP* P 02 11 55.1 -5.0
SOLC Bahia Solano 60.59 117 *eP* **P 02 12 00.9 +0.6**
DBBC Dabeiba 60.66 116 *eP* **P 02 12 00.3 -0.7**
SABA Saba 60.75 97 PFAKE 02 12 10.0 +8.5
SABA LR LR
comp=Z,16µm,21.0s
SABA Saba 60.75 97 *eP* **P 02 11 58.9 -2.6**
SEUS St. Eustatius 61.01 97 PFAKE 02 12 20.0 +17
SEUS LR LR
comp=Z,18µm,22.0s
SEUS St. Eustatius 61.01 97 *eP* P 02 11 52.9 -10
ZARC Zaragoza, Cauc 61.09 114 *eP* **P 02 12 01.6 -2.2**
SKI Saint Kitts 61.29 97 *eP* **P 02 12 04.7 -0.4**
comp=Z,2µm,1.6s
SKI LR LR
comp=Z,58µm,22.0s
SKI Saint Kitts 61.29 97 *eP* **P 02 12 02.3 -2.8**
SKI Saint Kitts 61.29 97 *eP* **P 02 12 04.7 -0.4**
SKI MLR MLR
comp=Z,58µm,22.0s
OCAC Ocana 61.43 112 *eP* **P 02 12 06.3 0.0**
BOD Bodaibo 61.65 327 *eP* **P 02 12 03.2 -3.8**
BOD pmax pmax
comp=Z,65nm,1.4s
ANWB Willy Bob 61.66 96 PFAKE 02 12 20.0 +12
ANWB LR LR
comp=Z,13µm,21.0s
ANWB Willy Bob 61.66 96 *eP* **P 02 12 06.4 -1.2**
HELC Santa Helena 61.72 116 *eP* **P 02 12 07.6 -0.9**
BPA Boggy Peak 62.07 96 *eP* **P 02 12 08.7 -1.8**
BRRC Barranca, Sant 62.08 113 *eP* **P 02 12 10.2 -0.3**
PTBC PUERTO BERRIO, 62.09 114 *eP* **P 02 12 10.2 -0.3**
PLMC San Jos`' del 62.31 117 *eP* **P 02 12 10.9 -1.2**
GIRC Giron, Santand 62.42 113 *eP* **P 02 12 12.2 -0.7**
MALC Bahia Malaga 62.42 119 *eP* **P 02 12 12.1 -0.7**
PAMC Pamplona, Colo 62.51 112 *eP* **P 02 12 12.9 -1.1**
SDV Santo Domingo 62.58 109 P **P 02 12 13.9 -0.1**
comp=Z,19nm,0.7s,baz=348,slow=3.3,SNR=24
SDV LR LR 02 42 46.7
comp=Z,9µm,20.0s,baz=316,slow=39
SDV Santo Domingo 62.58 109 *eP* **P 02 12 13.9 -0.1**
comp=Z,36nm,0.9s
SDV LR LR
comp=Z,10µm,20.0s
NORC Norcasia 62.62 115 *eP* **P 02 12 14.0 -0.1**
GRGC Isla de Gorgon 62.77 120 *eP* **P 02 12 16.2 +1.2**
BARC Barichara 62.81 113 *eP* **P 02 12 14.2 -1.4**
APA Apatity 62.84 8 *iP* P 02 12 05.5 -9.3
APA *i* 02 12 54.0
APA *i* 02 14 39.0
APA *i* 02 20 47.0
APA *i SS* SS 02 24 51.6 +4.2
APA MLR MLR
comp=Z,14µm,16.0s
RREF El Recreo 62.86 116 *eP* **P 02 12 15.6 -0.8**
YOTC Yotoco, Valle 63.02 118 *eP* P 02 12 23.5 +6.6
TBG Guadaloupe-3 63.08 97 *eP* P 02 12 09.9 -7.3
DEG La Desirade 63.12 96 *eP* **P 02 12 16.8 -0.7**
TOLC Tolima 63.13 116 *eP* **P 02 12 14.4 -3.5**
ANIL Santa Ana 63.16 117 *eP* **P 02 12 17.6 -0.5**
HORQ Saladito 63.26 118 *eP* **P 02 12 16.9 -1.8**
MDPO Dominica; Chan 63.41 97 *e* P 02 12 25.6 +6.3
RUSC La Rusia 63.42 114 *eP* **P 02 12 19.1 -0.9**
BBL Barber's Block 63.43 97 *eP* **P 02 12 19.1 -0.4**
USA0B Ussuriysk Arra 63.51 308 *eP* **P 02 12 18.4 -1.2**
comp=Z,84nm,1.2s
USA0B LR LR
comp=Z,8µm,18.0s
USRK Ussuriysk Ar. 63.51 308 P **P 02 12 17.6 -2.0**
comp=Z,32nm,1.2s,baz=51,slow=3.9,SNR=11
USRK LR LR 02 38 16.2
comp=Z,6µm,19.9s,baz=40,slow=34
ROSC El Rosal 63.52 115 P **P 02 12 20.4 -0.2**
comp=Z,5.8nm,0.3s,baz=204,slow=22,SNR=18
ROSC LR LR 02 44 29.4
comp=Z,3µm,18.3s,baz=347,slow=40
ROSC El Rosal 63.52 115 *eP* **P 02 12 22.1 +1.6**
comp=Z,89nm,1.3s
ROSC LR LR
comp=Z,4µm,21.0s
ROSC El Rosal 63.52 115 *eP* **P 02 12 22.2 +1.7**
DLPL La Plaine 63.72 97 *eP* **P 02 12 22.8 +1.4**
KNTN Kanton 63.75 230 PFAKE 02 12 30.0 +8.4
KNTN LR LR
comp=Z,10µm,20.0s
TAMC Tame, Arauca 63.77 112 *eP* **P 02 12 22.0 +0.2**
POPC Popayan, Colom 63.99 119 *eP* **P 02 12 22.9 -0.6**
CHIC Chingaza 64.04 115 *eP* **P 02 12 23.5 -0.5**
PRAC Prado 64.09 117 *eP* **P 02 12 22.9 -1.0**
MARP Paez Belalcaza 64.17 118 *eP* **P 02 12 24.7 0.0**
FDF Fort de France 64.22 97 PFAKE 02 12 40.0 +15
FDF LR LR
comp=Z,20µm,21.0s
FDF Fort de France 64.22 97 *eP* P 02 12 19.1 -5.7
PCON Cinco Dias 64.33 119 *eP* **P 02 12 26.9 +0.8**
SOTA Rioblanco 64.36 119 *eP* **P 02 12 26.1 -0.1**
MDJ Mudanjiang 64.45 309 P **P 02 12 29.3 +3.4**
MDJ sP sP 02 12 33.4 +2.7
MDJ PP **PP 02 14 53.4 +6.3**
MDJ S **S 02 21 09.2 +4.9**
MDJ pmax pmax
comp=Z,17nm,0.7s
MDJ pmax pmax
comp=Z,350nm,4.1s
MDJ LR LR
comp=Z,5µm,18.3s
MDJ LR LR
comp=Z,7µm,17.6s
MDJ LR LR
comp=Z,9µm,16.0s
MDJ Mudanjiang 64.45 309 PFAKE 02 12 40.0 +14
MDJ LR LR
comp=Z,6µm,18.0s
BETC Betania 64.59 118 *eP* **P 02 12 26.9 -0.3**
CRUC La Cruz 64.63 120 *eP* **P 02 12 28.4 +0.6**
GCUF Volcan Galeras 64.69 120 *eP* **P 02 12 27.9 -0.4**
OTAV Otavalo 64.88 122 *eP* **P 02 12 30.7 +1.2**
comp=Z,152nm,1.5s
OTAV LR LR
comp=Z,5µm,22.0s
OTAV Otavalo 64.88 122*ceP* **P 02 12 30.9 +1.4**
OTAV pmax pmax
comp=Z,75nm,1.7s
MSHR Mys Shultsa 65.07 307 *iP* **P 02 12 30.6 +0.7**
NC204 NORSAR Array S 65.19 20 *eP* **P 02 12 30.7 +0.2**
SVV Soufriere Volc 65.22 98 *eP* **P 02 12 35.1 +3.9**
SSV Crater Summit 65.23 98 *eP* P 02 12 38.0 +6.6
SVB Belmont 65.23 98 PFAKE 02 12 40.0 +8.7
SVB LR LR
comp=Z,9µm,22.0s
SVB Belmont 65.23 98 *eP* **P 02 12 27.8 -3.5**
FCV Fort Charlotte 65.32 99 *eP* **P 02 12 29.0 -2.9**
MAJO Matsushiro 65.36 298 *eP* **P 02 12 30.0 -1.9**
comp=Z,33nm,0.9s
MAJO Matsushiro 65.36 298*ceP* **P 02 12 35.0 +3.1**
MAJO pmax pmax
comp=Z,103nm,2.5s
MAT Matsushiro 65.36 298 P **P 02 12 33.5 +1.6**
MAT S **S 02 21 12.4 -3.3**
MJAR Matsushiro Arr 65.36 298 P **P 02 12 28.9 -3.0**
comp=Z,3.5nm,0.6s,baz=43,slow=4.4,SNR=7.9
MJAR Matsushiro Arr 65.36 298 P **P 02 12 28.9 -3.0**
MJAR pmax pmax
comp=Z,6.0nm,0.7s
MJB9 Matsu-Tunnel 65.36 298 *eP* **P 02 12 30.0 -1.9**
comp=Z,35nm,0.9s
FLOC Florencia 65.36 119 *eP* **P 02 12 31.5 -0.7**
NC303 NORSAR Array S 65.38 20 *eP* **P 02 12 31.9 +0.3**
NBO00 NORSAR Array S 65.41 20 *eP* **P 02 12 32.0 +0.1**
NB2 NORSAR Subarra 65.50 20 P **P 02 12 31.8 -0.7**
comp=Z,3.6nm,0.8s,baz=331,slow=6.5
NB200 NORSAR Array S 65.50 20 *eP* **P 02 12 32.2 -0.3**
NOA NORSAR Array B 65.50 20 P **P 02 12 32.2 -0.3**
comp=Z,30nm,1.2s,baz=330,slow=6.4,SNR=12
NOA LR LR 02 39 40.4
comp=Z,9µm,21.8s,baz=325,slow=35
NC405 NORSAR Array S 65.55 20 *eP* **P 02 12 33.5 +0.8**
HIA Hailar 65.77 318 *eP* **P 02 12 37.7 +3.3**
comp=Z,61nm,1.4s
HIA LR LR
comp=Z,12µm,18.0s
GRGR Grenville 65.82 100 PFAKE 02 12 50.0 +15
GRGR LR LR
comp=Z,6µm,21.0s
PMOR Pomariorio Ree 66.11 201 *eT* T 03 24 08.3
comp=Z,40nm,0.2s
VAH Vaihoa 66.28 200 *eP* **P 02 12 39.9 +2.1**
comp=Z,182nm,1.6s
VAH Vaihoa 66.28 200 *eT* T 03 24 20.6
comp=Z,9.1nm,0.3s
ESK Eskdalemuir 66.33 31 PFAKE 02 12 50.0 +12
ESK LR LR
comp=Z,18µm,19.0s
EKA Eskdalemuir Ar 66.33 31 P **P 02 12 36.4 -1.4**
comp=Z,3.3nm,0.8s,baz=334,slow=5.6,SNR=5.1
KONO Kongsberg 66.36 22 *eP* **P 02 12 40.3 +2.4**
comp=Z,120nm,1.4s
KONO LR LR
comp=Z,10µm,19.0s
KONO Kongsberg 66.36 22 *eP* **P 02 12 37.4 -0.5**
KONO pmax pmax
comp=Z,20nm,1.1s
KONO MLR MLR
comp=Z,9µm,17.0s
GUVC San Jose del G 66.36 115 *eP* **P 02 12 37.5 -1.1**
KWAJ Kwajalein Atol 66.37 256 PFAKE 02 12 50.0 +11
KWAJ LR LR
comp=Z,17µm,20.0s
BBGH Gun Hill 66.43 97 PFAKE 02 12 50.0 +11
BBGH LR LR
comp=Z,29µm,22.0s
VAL Valentia 66.46 36 *eP* **P 02 12 41.6 +2.9**
VAL Valentia 66.46 36*lfS* **S 02 21 33.1 +4.5**
HFS Hagfors 66.87 19 P **P 02 12 41.1 -0.1**
comp=Z,22nm,0.9s,baz=343,slow=3.6,SNR=14
DSB Dublin 66.89 34 PFAKE 02 12 50.0 +8.5
DSB LR LR
comp=Z,14µm,21.0s
CN2 Changchun 67.12 311 *eP* **P 02 12 41.0 -2.1**
CN2 PcP **PcP 02 13 09.8 -1.4**
CN2 ScP 02 17 11.5
CN2 *eS* **S 02 21 31.5 -5.4**
CN2 *eSS* **SS 02 25 51.2 -3.8**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,3µm,20.0s
CN2 LR LR
comp=Z,8µm,20.0s
CN2 LR LR
comp=Z,6µm,20.0s
TBH Brigand Hill 67.43 100 *eP* **P 02 12 45.3 -0.1**
ROSA Rosais 67.80 56 PFAKE 02 13 00.0 +13
ROSA LR LR
comp=Z,12µm,21.0s
FIA1 FINESS Array S 67.91 13 *eP* **P 02 12 47.6 -0.1**
FIA0 FINESS Array S 67.91 13 *eP* **P 02 12 47.1 -0.7**
FIA0 FINESS Array S 67.91 13 *eP* **P 02 12 47.1 -0.7**
FINES FINESS Array B 67.91 13 P **P 02 12 47.1 -0.7**
comp=Z,20nm,0.9s,baz=320,slow=5.0,SNR=10
FINES LR LR 02 43 23.7
comp=Z,11µm,19.2s,baz=343,slow=37
TARA Tarawa 68.87 246 PFAKE 02 13 10.0 +16
TARA LR LR
comp=Z,28µm,21.0s
TIAR Tiarei 68.92 201 *eT* T 03 27 38.4
comp=Z,4.4nm,0.2s
PPT Papeete 68.98 202 LR LR 02 35 00.9
comp=Z,4µm,21.8s,baz=14,slow=29
PPT2 Papeete2 69.00 202 *eP* **P 02 12 58.0 +2.9**
comp=Z,118nm,1.5s
PPT2 *eS* **S 02 21 59.2 -0.6**
comp=Z,12µm,27.0s
PPT2 *eSS* **SS 02 26 26.4 +0.4**
comp=Z,3µm,28.8s
PPT2 *eLQ* LQ 02 30 22.4
comp=Z,26µm,28.0s
PPT2 *eLR* LR 02 33 42.8
comp=Z,19µm,27.2s,baz=11
PPT2 Papeete2 69.00 202 *eT* T 03 27 44.8
comp=Z,9.7nm,0.3s
PAE Paea 69.07 201 *eT* T 03 27 49.9
comp=Z,2.1nm,0.3s
TVO Taravao 69.11 201 *eT* T 03 27 53.6
comp=Z,6.7nm,0.3s
IRK Irkutsk 69.48 328 *eP* **P 02 12 57.8 0.0**
IRK pmax pmax
comp=Z,214nm,2.6s
SNY Shenyang 69.50 311 ⇑P **P 02 12 58.0 0.0**
SNY S **S 02 22 03.6 -1.7**
SNY pmax pmax
comp=Z,19nm,0.7s
SNY pmax pmax
comp=Z,440nm,3.7s
SNY LR LR
comp=Z,8µm,16.8s
SNY LR LR
comp=Z,9µm,14.1s
SNY LR LR
comp=Z,9µm,16.1s
CBIJ Chichi jima 69.57 288 PFAKE 02 13 10.0 +11
CBIJ LR LR
comp=Z,7µm,22.0s
JCJ Chichijima 69.57 288 LR LR 02 36 29.7
comp=Z,5µm,21.4s,baz=51,slow=30
CMLA Cha da Macela 69.97 55 PFAKE 02 13 10.0 +9.0
CMLA LR LR
comp=Z,11µm,19.0s
TLY Talaya 70.17 328 *eP* **P 02 13 01.5 -0.5**
comp=Z,84nm,1.3s
TLY LR LR
comp=Z,12µm,19.0s
TLY Talaya 70.17 328 P **P 02 13 01.0 -1.1**
SNR=15
TLY Talaya 70.17 328 *eP* **P 02 13 00.1 -1.9**
TLY *eS* **S 02 22 16.6 +3.7**
TLY *eSS* **SS 02 26 37.9 -3.8**
TLY pmax pmax
comp=Z,79nm,1.4s
TLY MLR MLR
comp=Z,7µm,16.0s
KS01 Wonju Array Si 70.47 305 *eP* **P 02 13 01.1 -2.9**
KSRS Korea Array 70.47 305 P **P 02 13 02.6 -1.4**
comp=Z,9.3nm,1.0s,baz=55,slow=6.0,SNR=14
KSRS LR LR 02 41 50.3
comp=Z,2µm,21.6s,baz=55,slow=34
KS15 Wonju Array Si 70.50 305 *eP* **P 02 13 02.6 -1.6**
KSAR Wonju Array Be 70.50 305 P **P 02 13 02.6 -1.6**
KSAR Wonju Array Be 70.50 305 P **P 02 13 02.6 -1.6**
VSU Vasula 70.86 13 *iP* **P 02 13 08.4 +2.3**
VSU pmax pmax
comp=Z,111nm,1.0s
VSU MLR MLR
comp=Z,16µm,16.0s
ATAH Atahualpa 71.05 126 P **P 02 13 08.1 -0.2**
comp=Z,21nm,1.1s,baz=312,slow=4.6,SNR=8.5
ATAH PKKP **PKKPdf 02 32 47.0 +0.1**
comp=Z,4.4nm,0.3s,baz=24,slow=5.3,SNR=4.4
ATAH LR LR 02 44 30.6
comp=Z,8µm,20.8s,baz=329,slow=36
MOY Mondy 71.07 330 *eP* **P 02 13 07.6 0.0**
MOY pmax pmax
comp=Z,125nm,2.2s
ZAK Zakamensk 71.38 328 *eP* **P 02 13 07.9 -1.6**
ZAK *e* 02 15 48.9
ZAK pmax pmax
comp=Z,15nm,1.7s
TJN Taejon 71.57 304 *iP* **P 02 13 12.9 +2.2**
JNU Nakatsue 72.01 300 P **P 02 13 12.6 -0.9**
comp=Z,43nm,1.1s,baz=65,slow=3.4,SNR=6.4
JNU Nakatsue 72.01 300 *eP* **P 02 13 12.6 -0.9**
JNU LR LR
comp=Z,6µm,22.0s
ULN Ulaanbaatar 72.09 324 *eP* **P 02 13 13.9 0.0**
comp=Z,25nm,1.3s
ULN LR LR
comp=Z,18µm,20.0s
ULN Ulaanbaatar 72.09 324 P **P 02 13 15.5 +1.6**
SNR=10

ULN	**Ulaanbaatar**	**72.09**	**324**	*ce*	P		**P**	**02 13 13.1**	**-0.8**
ULN					pmax		pmax			
	comp=Z,18nm,1.7s									
ULN					MLR		MLR			
	comp=Z,17µm,19.0s									
RKT	**Rikitea**	**72.15**	**186**		*e*S		**S**	**02 22 35.4**	**-0.7**
	comp=Z,14µm,29.8s									
RKT					*e*LQ		LQ	02 32 01.4		
	comp=Z,6µm,32.8s									
RKT					*e*LR		LR	02 35 12.6		
	comp=Z,16µm,27.8s,baz=4.0									
RKT	**Rikitea**	**72.15**	**186**		*e*T		T	03 31 42.6		
	comp=Z,12nm,0.3s									
WTSB	**Winterswijk**	**72.35**	**27**		*e*P		**P**	**02 13 19.0**	**+3.9**	
SONA1	**Songino Array**	**72.36**	**325**		*e*P		**P**	**02 13 12.1**	**-3.4**	
SGMF	**Saint Gilles**	**72.37**	**35**		*e*P		**P**	**02 13 19.6**	**+4.3**	
SGMF					pmax		pmax			
	comp=Z,106nm,1.6s									
SONA0	**Songino Array**	**72.37**	**325**		*e*P		**P**	**02 13 14.2**	**-1.3**	
SONM	**Songino Array**	**72.37**	**325**		P		**P**	**02 13 14.2**	**-1.3**	
	comp=Z,7.1nm,1.1s,baz=15,slow=6.3,SNR=16									
SONM					LR		LR	02 45 34.5		
	comp=Z,17µm,20.9s,baz=30,slow=36									
QUIF	**Quistinic**	**72.42**	**35**		*e*P		**P**	**02 13 19.8**	**+4.2**	
QUIF					pmax		pmax			
	comp=Z,55nm,1.4s									
UCC	**Uccle**	**72.61**	**29**		PFAKE			02 13 30.0	+13	
UCC					LR		LR			
	comp=Z,11µm,19.0s									
UCC	**Uccle**	**72.61**	**29**	⇑	P		**P**	**02 13 19.4**	**+2.7**	
DL2	**Dalian**	**72.68**	**310**		*e*P		**P**	**02 13 20.0**	**+2.7**	
DL2					sP		**PcP**	**02 13 33.9**	**-0.8**	
DL2					S		**S**	**02 22 43.2**	**+1.0**	
DL2					pmax		pmax			
	comp=Z,42nm,1.0s									
DL2					pmax		pmax			
	comp=Z,310nm,5.0s									
DL2					LR		LR			
	comp=Z,6µm,20.0s									
DL2					LR		LR			
	comp=Z,5µm,23.0s									
DL2					LR		LR			
	comp=Z,8µm,23.5s									
FLN	**La Foliniere**	**72.70**	**33**		*e*P		**P**	**02 13 17.9**	**+0.6**	
FLN					pmax		pmax			
	comp=Z,47nm,1.3s									
GRR	**Gorron**	**72.88**	**34**		*e*P		**P**	**02 13 18.1**	**-0.3**	
GRR					pmax		pmax			
	comp=Z,114nm,1.4s									
LDF	**La Druitiere**	**72.97**	**33**		*e*P		**P**	**02 13 21.8**	**+2.9**	
LDF					pmax		pmax			
	comp=Z,86nm,1.4s									
NVS	**Novosibirsk**	**73.02**	**341**	⇑	*i*P		**P**	**02 13 17.7**	**-1.4**	
NVS					*i* S		**SKiKP**	**02 22 48.6**	**-2.6**	
NVS					pmax		pmax			
	comp=Z,164nm,1.2s									
NVS					pmax		pmax			
	comp=N,35nm,0.8s									
NVS					pmax		pmax			
	comp=E,3.0nm,1.1s									
NVS					smax		smax			
	comp=N,35nm,2.8s									
NVS					smax		smax			
	comp=E,3.0nm,0.9s									
BEBN	**Eben Emael**	**73.03**	**28**	⇑	P		**P**	**02 13 19.3**	**+0.1**	
BEBN				⇑	sP		**sP**	**02 13 26.4**	**+2.4**	
HGN	**Heimansgroeve**	**73.13**	**28**		*e*P		**P**	**02 13 20.1**	**+0.3**	
	comp=E,229nm,2.7s									
HGN					*e*S		**S**	**02 22 45.0**	**-2.0**	
HGN					*e*SS		**SS**	**02 27 21.0**	**-6.0**	
BAIF	**Baives**	**73.20**	**30**		*e*P		**P**	**02 13 19.9**	**-0.3**	
BAIF					pmax		pmax			
	comp=Z,102nm,1.6s									
BCLA	**Clavier**	**73.24**	**29**	⇓	P		**P**	**02 13 20.2**	**-0.2**	
BCLA				⇑	pP		**pP**	**02 13 24.3**	**+0.2**	
BCLA				⇑	sP		**sP**	**02 13 27.5**	**+2.1**	
	comp=Z,38nm,1.5s									
DOU	**Dourbes**	**73.29**	**29**	⇑	P		**P**	**02 13 20.9**	**+0.1**	
DOU				⇑	pP		**pP**	**02 13 24.7**	**+0.3**	
DOU				⇑	sP		**sP**	**02 13 28.0**	**+2.3**	
MEM	**Membach**	**73.29**	**28**	⇑	P		**P**	**02 13 21.0**	**+0.3**	
MEM				⇑	pP		**pP**	**02 13 24.8**	**+0.4**	
MEM				⇑	sP		**sP**	**02 13 28.1**	**+2.5**	
	comp=Z,36nm,1.7s									
AFI	**Afiamalu**	**73.46**	**224**		LR		LR	02 41 30.3		
	comp=Z,3µm,18.3s,baz=28,slow=32									
ZAA1	**Zalesovo Array**	**73.51**	**340**		*e*P		**P**	**02 13 20.5**	**-1.5**	
ZAA0	**Zalesovo Array**	**73.51**	**340**		*e*P		**P**	**02 13 20.6**	**-1.4**	
	comp=Z,66nm,1.0s									
ZAA0					LR		LR			
	comp=Z,8µm,22.0s									
ZALV	**Zalesovo Beam**	**73.51**	**340**		P		**P**	**02 13 20.5**	**-1.5**	
	comp=Z,19nm,0.8s,baz=26,slow=5.5,SNR=47									
ZALV					LR		LR	02 47 49.2		
	comp=Z,7µm,19.9s,baz=10.0,slow=38									
PATS	**Pohnpei**	**73.84**	**262**		PFAKE			02 13 40.0	+16	
PATS					LR		LR			
	comp=Z,8µm,18.0s									
PTCN	**Pitcairn Islan**	**73.87**	**181**		PFAKE			02 13 40.0	+16	
PTCN					LR		LR			
	comp=Z,6µm,20.0s									
GKP	**Gorka Klasztor**	**73.94**	**21**		*e*P		**P**	**02 13 24.9**	**+0.4**	
GKP	**Gorka Klasztor**	**73.94**	**21**		*e*P		**P**	**02 13 24.9**	**+0.4**	
SVE	**Sverdlovsk**	**74.14**	**355**	*d*	*i*P		**P**	**02 13 24.9**	**-0.7**	
SVE					*e*PPP		PPP	02 18 01.4		
SVE					*e*S		**S**	**02 22 57.5**	**-0.7**	
SVE					*e*			02 23 30.6		
SVE					pmax		pmax			
	comp=Z,107nm,1.6s									
SVE					MLR		MLR			
	comp=Z,5µm,19.0s									
WLF	**Walferdange**	**74.16**	**29**		PFAKE			02 13 40.0	+14	
WLF					LR		LR			
	comp=Z,12µm,18.0s									
WLF	**Walferdange**	**74.16**	**29**	⇑	P		**P**	**02 13 26.0**	**+0.1**	
WLF				⇑	pP		**sP**	**02 13 31.0**	**+0.2**	
WLF				⇑	sP		**pP**	**02 13 34.0**	**+4.5**	
	comp=Z,38nm,2.0s									
NACGM	**Naroch**	**74.29**	**15**		*e*P		**P**	**02 13 25.0**	**-1.5**	
NACGM					*e*S		**S**	**02 23 08.0**	**+8.0**	
NACGM					*e*PS		PnS	02 23 49.0	+16	
NACGM					*e*SS		SS	02 28 12.0	+28	
NACGM					*e*SSS		SSS	02 31 50.0		
NACGM					*e*LQ		LQ	02 36 25.0		
NACGM					*e*LR		LR	02 41 32.0		
NACGM					LRM		MLR	02 44 03.0		
	comp=Z,5.4nm,22.0s									
BJT	**Baijiatuan**	**74.49**	**314**		PFAKE			02 13 40.0	+12	
BJT					LR		LR			
	comp=Z,7µm,18.0s									
SUW	**Suwalki**	**74.50**	**17**		*e*P		**P**	**02 13 27.4**	**-0.4**	
SUW					*e*S		**S**	**02 23 08.4**	**+6.0**	
SUW	**Suwalki**	**74.50**	**17**		*e*P		**P**	**02 13 27.3**	**-0.4**	
	comp=Z,126nm,1.1s									
SUW					LR		LR			
	comp=Z,7µm,18.0s									
SUW	**Suwalki**	**74.50**	**17**		*e*P		**P**	**02 13 27.3**	**-0.4**	
SUW					pmax		pmax			
	comp=Z,126nm,1.1s									
SUW					MLR		MLR			
	comp=Z,7µm,18.0s									
TBI	**Tubuai**	**74.53**	**200**		*e*S		**S**	**02 23 02.8**	**-0.3**	
	comp=Z,7µm,34.2s									
TBI					*e*SS		**SS**	**02 27 50.0**	**-0.5**	
	comp=Z,2µm,28.0s									
TBI					*e*LQ		LQ	02 33 08.5		
	comp=Z,9µm,28.2s									
TBI					*e*LR		LR	02 36 21.2		
	comp=Z,14µm,28.0s,baz=9.6									
TBI	**Tubuai**	**74.53**	**200**		*e*T		T	03 34 39.1		
	comp=Z,17nm,0.3s									
ARU	**Arti**	**74.65**	**356**		P		**P**	**02 13 27.5**	**-1.0**	
	comp=Z,17nm,0.9s,baz=338,slow=2.5,SNR=16									
ARU	**Arti**	**74.65**	**356**	*d*	*i*P		**P**	**02 13 27.2**	**-1.4**	
ARU								02 16 10.6		
ARU					PPP		PPP	02 17 58.4		
ARU					S		**S**	**02 23 03.4**	**-0.5**	
ARU					SS		**SS**	**02 27 55.3**	**+5.7**	
ARU					pmax		pmax			
	comp=Z,59nm,1.7s									
MFF	**Saint Martin d**	**74.65**	**34**		*e*P		**P**	**02 13 31.2**	**+2.4**	
MFF					pmax		pmax			
	comp=Z,80nm,1.5s									
CLL	**Collm**	**74.69**	**24**		*e*P		**P**	**02 13 27.9**	**-0.9**	
	comp=Z,71nm,1.4s									
CLL					LR		LR			
	comp=Z,9µm,19.0s									
CLL	**Collm**	**74.69**	**24**		*i* P		**P**	**02 13 28.8**	**-0.1**	
	comp=Z,18nm,1.2s									
CLL					*i* pP		**pP**	**02 13 32.6**	**+0.1**	
	comp=Z,43nm,1.3s									
CLL					*i* sP		**sP**	**02 13 35.9**	**+2.1**	
	comp=Z,95nm,1.6s									
CLL					*e*S		**S**	**02 23 10.0**	**+5.4**	
CLL					*e*SS		**SS**	**02 27 51.0**	**+0.4**	
CLL					*e*(SSS)			02 31 48.0		
CLL					LmV			02 48 00.0		
	comp=Z,9µm,19.8s									
CLL	**Collm**	**74.69**	**24**		*e*P		**P**	**02 13 28.0**	**-0.9**	
CLL					pmax		pmax			
	comp=Z,71nm,1.4s									
CLL					MLR		MLR			
	comp=Z,9µm,19.0s									
SARN	**Sarigan**	**74.77**	**278**		PFAKE			02 13 40.0	+10	
SARN					LR		LR			
	comp=Z,11µm,22.0s									
MICGM	**Minsk**	**74.85**	**14**		*e*P		P	02 13 35.0	+5.2	
MICGM					*e*S		S	02 23 20.0	+14	
MICGM					*e*SKKS		**ScS**	**02 23 46.0**	**+4.7**	
MICGM					*e*PS		PnS	02 24 20.0	+40	
MICGM					*e*SS		SS	02 28 30.0	+37	
MICGM					*e*SSS		SSS	02 31 10.0		
MICGM					*e*LQ		LQ	02 35 40.0		
MICGM					*e*LR		LR	02 41 30.0		
MICGM					LRM		MLR	02 44 58.0		
	comp=N,6.8nm,18.0s									
MICGM					LRM		MLR	02 45 10.0		
	comp=Z,9.2nm,20.0s									
MNK	**Minsk**	**74.85**	**14**		*e*P		P	02 13 35.0	+5.2	
MNK					*e*			02 23 46.0		
MNK					*e*SSS		SSS	02 31 10.0		
MOS	**Moscow**	**74.87**	**8**		*e*P		**P**	**02 13 26.2**	**-3.6**	
MOS					*e*			02 16 16.4		
MOS					*e*S		**S**	**02 23 04.6**	**-1.8**	
MOS					pmax		pmax			
	comp=Z,76nm,1.4s									
MOS					MLR		MLR			
	comp=N,9µm,17.0s									
MOS					MLR		MLR			
	comp=Z,8µm,17.0s									
MOX	**Moxa**	**74.91**	**25**		P		**P**	**02 13 30.6**	**+0.3**	
ANA2	**Anatahan**	**75.07**	**278**		PFAKE			02 13 40.0	+8.3	
ANA2					LR		LR			
	comp=Z,10µm,22.0s									
PGAV	**Gavieira, Arco**	**75.21**	**42**		*e*P		**P**	**02 13 34.8**	**+2.6**	
	comp=Z,76nm,1.6s									
PGAV					*e*S		**S**	**02 23 16.1**	**+5.2**	
PGAV					*e*LQ		LQ	02 32 49.5		
PGAV					*e*LR		LR	02 38 46.4		
	comp=Z,6µm,20.0s									
BRG	**Berggiesshubel**	**75.33**	**24**		*i* P		**P**	**02 13 32.5**	**-0.1**	
	comp=Z,54nm,1.6s									
BRG					*i*			02 13 40.1		
	comp=Z,85nm,1.4s									
BRG					S		**S**	**02 23 13.0**	**+1.2**	
BRG					SS		**SS**	**02 28 00.0**	**-0.4**	
	comp=N,7µm,19.2s									
	comp=E,7µm,19.8s									
	comp=Z,8µm,20.1s									
BRG	**Berggiesshubel**	**75.33**	**24**		*i* P		**P**	**02 13 32.5**	**-0.1**	
BRG					*i*			02 13 40.1		
BRG					S		**S**	**02 23 13.0**	**+1.2**	
BRG					SS		**SS**	**02 28 00.0**	**-0.4**	
BRG					pmax		pmax			
	comp=Z,54nm,1.6s									
BRG					MLR		MLR			
	comp=N,7µm,19.2s									
BRG					MLR		MLR			
	comp=E,7µm,19.8s									
BRG					MLR		MLR			
	comp=Z,8µm,20.1s									
RAR	**Rarotonga**	**75.35**	**210**		LR		LR	02 38 59.0		
	comp=Z,3µm,20.5s,baz=13,slow=30									
RAR	**Rarotonga**	**75.35**	**210**		PFAKE			02 13 50.0	+17	
RAR					LR		LR			
	comp=Z,5µm,19.0s									
OBN	**Obninsk**	**75.38**	**9**		P		**P**	**02 13 31.6**	**-1.2**	
	comp=Z,12nm,1.0s,baz=120,slow=13,SNR=5.2									
OBN	**Obninsk**	**75.38**	**9**		*e*P		**P**	**02 13 31.8**	**-1.1**	
	comp=Z,101nm,1.3s									
OBN					LR		LR			
	comp=Z,11µm,19.0s									
OBN	**Obninsk**	**75.38**	**9**	*ce*	P		**P**	**02 13 32.2**	**-0.6**	
OBN					*i*			02 13 49.6		
OBN					*e*			02 16 25.9		
OBN					*i* S		**S**	**02 23 13.6**	**+1.5**	
OBN					pmax		pmax			
	comp=Z,34nm,1.0s									
OBN					MLR		MLR			
	comp=Z,9µm,18.0s									
LOR	**Lormes**	**75.50**	**31**		*e*P		**P**	**02 13 33.3**	**-0.4**	
LOR					pmax		pmax			
	comp=Z,79nm,1.4s									
NKC	**Novy Kostel**	**75.51**	**25**		*e*P		**P**	**02 13 33.6**	**-0.1**	
NKC					*e*S		**S**	**02 23 18.6**	**+4.7**	
NKC					AMS		AMS	02 47 40.0		
	comp=Z,11µm,19.6s									
NKC	**Novy Kostel**	**75.51**	**25**		*e*P		**P**	**02 13 33.6**	**-0.1**	
NKC					*e*S		**S**	**02 23 18.6**	**+4.7**	
NKC					MLR		MLR			
	comp=Z,11µm,19.6s									
SSF	**Saint Saulge**	**75.55**	**32**		*e*P		**P**	**02 13 33.6**	**-0.4**	
SSF					pmax		pmax			
	comp=Z,105nm,1.6s									
CDF	**Champ du Feu**	**75.62**	**29**		*e*P		**P**	**02 13 34.1**	**-0.4**	
CDF					pmax		pmax			
	comp=Z,109nm,1.6s									
GRFO	**Grafenberg**	**75.66**	**26**		*e*P		**P**	**02 13 35.3**	**+0.7**	
	comp=Z,198nm,1.9s									
GRFO					LR		LR			
	comp=Z,12µm,20.0s									
AVF	**Avril sur Loir**	**75.73**	**32**		*e*P		**P**	**02 13 34.4**	**-0.6**	
AVF					pmax		pmax			
	comp=Z,59nm,1.4s									
ECH	**Echery**	**75.75**	**29**		*e*P		**P**	**02 13 35.0**	**-0.1**	
	comp=Z,78nm,1.5s									
ECH					LR		LR			
	comp=Z,8µm,19.0s									
ECH	**Echery**	**75.75**	**29**		*e*P		**P**	**02 13 35.0**	**-0.1**	
ECH					pmax		pmax			
	comp=Z,78nm,1.5s									
ECH					MLR		MLR			
	comp=Z,8µm,19.0s									
BGF	**Bois d'Agland**	**75.76**	**32**		*e*P		**P**	**02 13 34.6**	**-0.6**	
BGF					pmax		pmax			
	comp=Z,64nm,1.4s									
TCF	**Toulx Ste Croi**	**75.77**	**33**		*e*P		**P**	**02 13 34.7**	**-0.6**	
TCF					pmax		pmax			
	comp=Z,63nm,1.4s									
PVCC	**Panska Ves**	**75.81**	**23**		*e*P		**P**	**02 13 35.8**	**+0.4**	
PVCC					*e*pP		**sP**	**02 13 40.0**	**-0.3**	
PVCC					*e*S		**S**	**02 23 22.7**	**+5.6**	
PVCC					AMS		AMS	02 49 10.0		
	comp=Z,6µm,18.0s									
PVCC	**Panska Ves**	**75.81**	**23**		*e*P		**P**	**02 13 35.8**	**+0.4**	
PVCC					*e*			02 13 40.0		
PVCC					*e*S		**S**	**02 23 22.7**	**+5.6**	
PVCC					MLR		MLR			
	comp=Z,6µm,18.0s									
STU	**Stuttgart**	**75.89**	**27**		PFAKE			02 13 50.0	+14	
STU					LR		LR			
	comp=Z,14µm,20.0s									
POLO	**Lamas de Olo**	**75.89**	**42**		*e*P		**P**	**02 13 36.8**	**+0.6**	
	comp=Z,33nm,2.1s									
HHC	**Hu-ho-hao-te**	**75.94**	**317**		*e*P		**P**	**02 13 36.3**	**-0.2**	
HHC					S		**S**	**02 23 16.0**	**-3.1**	
HHC					ScS		**ScS**	**02 23 50.2**	**-0.7**	
HHC					SS		**SS**	**02 28 11.4**	**+1.0**	
HHC					pmax		pmax			
	comp=Z,13nm,0.7s									
HHC					pmax		pmax			
	comp=Z,260nm,4.8s									
HHC					LR		LR			
	comp=Z,15µm,14.7s									
HHC					LR		LR			
	comp=Z,20µm,15.6s									
HHC					LR		LR			
	comp=Z,11µm,15.6s									
NNA	**Nana**	**75.95**	**128**		P		**P**	**02 13 35.7**	**-0.9**	
	comp=Z,13nm,0.8s,baz=296,slow=7.4,SNR=3.1									
NNA	**Nana**	**75.95**	**128**		*e*P		**P**	**02 13 37.9**	**+1.3**	
NNA					LR		LR			
	comp=Z,5µm,19.0s									
NNA	**Nana**	**75.95**	**128**		*i* P		**P**	**02 13 38.4**	**+1.8**	
KSP	**Ksiaz**	**75.96**	**22**		*e*P		**P**	**02 13 36.8**	**+0.6**	
KSP					*e*S		**S**	**02 23 22.5**	**+3.8**	
KSP	**Ksiaz**	**75.96**	**22**		*e*P		**P**	**02 13 36.8**	**+0.6**	
KSP					*e*S		**S**	**02 23 22.5**	**+3.8**	
PBRG	**Braganca**	**76.00**	**41**		*e*P		**P**	**02 13 37.2**	**+0.5**	
	comp=Z,25nm,2.5s									
HINF	**Hinteralfeld**	**76.01**	**29**		*e*P		**P**	**02 13 36.1**	**-0.5**	
HINF					pmax		pmax			
	comp=Z,69nm,1.5s									
BFO	**Black Forest**	**76.02**	**28**		*e*P		**P**	**02 13 36.9**	**+0.2**	
	comp=Z,104nm,1.4s									
BFO					LR		LR			
	comp=Z,10µm,20.0s									
BFO	**Black Forest**	**76.02**	**28**	*ce*	P		**P**	**02 13 37.5**	**+0.8**	
BFO					pmax		pmax			
	comp=Z,7.0nm,1.3s									
SMF	**Signal de Mont**	**76.03**	**32**		*e*P		**P**	**02 13 35.9**	**-0.8**	
SMF					pmax		pmax			
	comp=Z,46nm,1.3s									
PRA	**Prague**	**76.19**	**24**		*e*S		**S**	**02 23 25.0**	**+3.7**	
PRA					*e*SS		**SS**	**02 28 18.0**	**+4.6**	
PRA					AMS		AMS	02 45 40.0		
	comp=Z,9µm,20.2s									
RJF	**Les Rejaudoux**	**76.36**	**34**		*e*P		**P**	**02 13 38.0**	**-0.6**	
LFF	**La Frestale**	**76.39**	**34**		*e*P		**P**	**02 13 37.0**	**-1.8**	
LFF					pmax		pmax			
	comp=Z,36nm,1.3s									
PVIS	**Viseu**	**76.39**	**42**		*e*P		**P**	**02 13 38.6**	**-0.3**	
	comp=Z,89nm,1.9s									
MVO	**Moncorvo**	**76.40**	**41**		*e*P		**P**	**02 13 42.5**	**+3.5**	
	comp=Z,66nm,1.9s									
MVO					*e*S		**S**	**02 23 23.7**	**-0.3**	
MVO	**Moncorvo**	**76.40**	**41**		*e*LR		LR	02 39 17.0		
	comp=Z,5µm,16.0s									
DPC	**Dobruska-Polom**	**76.42**	**22**		*e*P		**P**	**02 13 39.0**	**+0.1**	
DPC					*e*pP		**sP**	**02 13 43.7**	**-0.2**	
DPC					*e*S		**S**	**02 23 28.4**	**+4.5**	
DPC					*e*SS		**SS**	**02 28 23.4**	**+6.5**	
DPC					AMS		AMS	02 49 00.0		
	comp=Z,8µm,16.9s									
DPC	**Dobruska-Polom**	**76.42**	**22**		*e*P		**P**	**02 13 39.0**	**+0.1**	
DPC					*e*			02 13 43.7		
DPC					*e*S		**S**	**02 23 28.4**	**+4.5**	
DPC					*e*SS		**SS**	**02 28 23.4**	**+6.5**	
DPC					MLR		MLR			
	comp=Z,8µm,16.9s									
WET	**Wettzell**	**76.62**	**25**		P		**P**	**02 13 40.5**	**+0.4**	
PCAS	**Casmilo, Conde**	**76.65**	**43**		*e*P		**P**	**02 13 40.9**	**+0.5**	
PTGA	**Pitinga**	**76.68**	**107**		P		**P**	**02 13 40.3**	**-0.6**	
	comp=Z,19nm,1.0s,baz=324,slow=7.0,SNR=23									
PTGA	**Pitinga**	**76.68**	**107**		*e*P		**P**	**02 13 40.1**	**-0.7**	
	comp=Z,67nm,1.2s									
PTGA					LR		LR			
	comp=Z,6µm,21.0s									
MTE	**Manteigas**	**76.80**	**42**		*e*P		**P**	**02 13 44.3**	**+3.0**	
	comp=Z,79nm,1.9s									
MTE					*e*S		**S**	**02 23 32.7**	**+4.3**	
MTE					*e*LQ		LQ	02 32 57.8		
MTE					*e*LR		LR	02 39 28.0		
	comp=Z,6µm,16.0s									
MTE	**Manteigas**	**76.80**	**42**		PFAKE			02 13 50.0	+8.7	
MTE					LR		LR			
	comp=Z,6µm,20.0s									
DGZ	**Jazzator, Alta**	**76.81**	**337**	*d*	*i*P		**P**	**02 13 40.7**	**-0.6**	
DGZ					pmax		pmax			
	comp=Z,16nm,0.8s									
CABF	**La Chapelle**	**76.82**	**30**		*e*P		**P**	**02 13 41.2**	**-0.1**	
CABF					pmax		pmax			
	comp=Z,139nm,1.6s									
BTO	**Baotou**	**76.82**	**318**		*e*P		**P**	**02 13 43.8**	**+2.3**	
KHC	**Kasperske Hory**	**76.82**	**24**		*e*P		**P**	**02 13 41.6**	**+0.4**	
	comp=Z,77nm,1.9s									
KHC					LR		LR			
	comp=Z,4µm,21.0s									
KHC	**Kasperske Hory**	**76.82**	**24**		*e*P		**P**	**02 13 41.4**	**+0.2**	
KHC					*e*pP		**sP**	**02 13 45.9**	**-0.3**	
KHC					*e*x		x	02 13 56.0		
KHC					*e*S		**S**	**02 23 33.0**	**+4.7**	
KHC					*e*SS		**SS**	**02 28 23.4**	**+0.3**	
KHC					AMS		AMS	02 48 20.0		
	comp=Z,10µm,16.4s									
KHC	**Kasperske Hory**	**76.82**	**24**		*e*P		**P**	**02 13 41.4**	**+0.2**	
KHC					*e*			02 13 45.9		
KHC					*e*			02 13 56.0		
KHC					*e*S		**S**	**02 23 33.0**	**+4.7**	
KHC					*e*SS		**SS**	**02 28 23.4**	**+0.3**	
KHC					MLR		MLR			
	comp=Z,10µm,16.4s									
CAF	**Calviac**	**76.88**	**34**		*e*P		**P**	**02 13 41.1**	**-0.5**	
CAF					pmax		pmax			
	comp=Z,85nm,1.5s									
MDP	**Montagnes des**	**76.94**	**97**		P		**P**	**02 13 41.8**	**-0.5**	
	comp=Z,5.8nm,0.6s,baz=346,slow=8.7,SNR=3.5									
BRVK	**Borovoye**	**76.95**	**348**		*e*P		**P**	**02 13 40.7**	**-1.1**	
	comp=Z,117nm,1.4s									
BRVK					LR		LR			
	comp=Z,12µm,22.0s									
BRVK	**Borovoye**	**76.95**	**348**		P		**P**	**02 13 40.4**	**-1.4**	
	SNR=40									
BRVK	**Borovoye**	**76.95**	**348**	*ce*	P		**P**	**02 13 40.3**	**-1.5**	
BRVK					pmax		pmax			
	comp=Z,67nm,1.3s									
BRVK					MLR		MLR			
	comp=Z,12µm,21.0s									
BVAR	**Borovoye Array**	**76.97**	**348**		P		**P**	**02 13 40.7**	**-1.2**	
	comp=Z,18nm,1.1s,baz=20,slow=4.7,SNR=24									
TIA	**Tai'an**	**77.02**	**311**		P		**P**	**02 13 41.2**	**-1.3**	
TIA					S		**S**	**02 23 31.9**	**+1.1**	
TIA					pmax		pmax			
	comp=Z,240nm,5.5s									
TIA					LR		LR			
	comp=Z,4µm,22.6s									
TIA					LR		LR			
	comp=Z,7µm,22.5s

OKC e 02 13 48.7
OKC eS **S** **02 23 38.8 +5.0**
OKC MLR MLR
comp=Z,5µm,16.1s
ALMR Almeirim 77.35 44 eP **P** **02 13 44.7 +0.4**
ALMR eS **S** **02 23 34.1 -0.1**
ALMR AMS AMS 02 42 27.6
comp=E,12µm,19.9s
ALMR Almeirim 77.35 44 eP **P** **02 13 45.5 +1.2**
comp=E,103nm,1.0s
OJC Ojcow 77.37 20 eP **P** **02 13 44.3 0.0**
OJC eS **S** **02 23 37.7 +3.5**
OJC Ojcow 77.37 20 eP **P** **02 13 44.0 -0.3**
comp=E,97nm,1.5s
OJC Ojcow 77.37 20 eP **P** **02 13 44.0 -0.3**
OJC pmax pmax
comp=Z,97nm,1.5s
DAVA Damuels 77.42 28 *i* pP **P** **02 13 45.7 +0.9**
comp=Z,75nm,1.9s,SNR=9.2
SENIN Lac Senin/Sane 77.43 30 eP **P** **02 13 45.8 +0.9**
comp=E,111nm,1.8s
SENIN LR LR
comp=Z,23µm,18.0s
LIS Lisbon 77.44 44 eP **P** **02 13 45.1 +0.4**
LIS eS **S** **02 23 35.4 +0.2**
LIS AMS AMS 02 42 07.6
comp=E,12µm,23.9s
VRAC Vranov 77.45 23 P **P** **02 13 44.3 -0.4**
comp=E,14nm,0.8s,baz=340,slow=6.0,SNR=15
VRAC Vranov 77.45 23⇑ *i* P **P** **02 13 44.6 -0.1**
VRAC Vranov 77.45 23 P **P** **02 13 44.3 -0.4**
VRAC pmax pmax
comp=Z,18nm,0.8s
VRAC Vranov 77.45 23 eP **P** **02 13 44.6 -0.1**
SSB Saint Sauveur 77.46 32 PFAKE 02 14 00.0 +15
SSB LR LR
comp=Z,16µm,21.0s
RETA Reutte 77.51 27 *i* pP **P** **02 13 45.7 +0.6**
comp=Z,25nm,1.4s
KRUC Moravsky 77.63 23 P **P** **02 13 45.6 -0.1**
KRUC Moravsky 77.63 23 eP **P** **02 13 45.1 -0.6**
GUMO Guam 77.64 276 PFAKE 02 14 00.0 +14
GUMO LR LR
comp=Z,6µm,19.0s
PMRV Marv??o 77.66 43 eP **P** **02 13 45.0 -1.1**
comp=Z,61nm,1.6s
PMRV eS **S** **02 23 42.0 +4.3**
PMRV Marv??o 77.66 43 eLR LR 02 40 10.3
comp=Z,6µm,18.0s
MOTA Moosalm 77.74 27 *i* pP **P** **02 13 47.0 +0.4**
comp=Z,14nm,1.1s
SEM Semipalatinsk 77.82 342 eP **P** **02 13 45.7 -1.3**
comp=Z,72nm,2.1s
SEM eS **S** **02 23 38.6 -0.8**
SEM LR LR 02 48 42.3
comp=Z,3µm,19.1s
RPN Rapa Nui 77.82 163⇑ eP **P** **02 13 48.4 +1.6**
KURK Kurchatov 77.85 343 eP **P** **02 13 45.4 -1.4**
comp=Z,75nm,1.1s
KURK ePP **PP** **02 16 48.0 +6.3**
KURK LR LR
comp=Z,8µm,18.0s
KURK Kurchatov 77.85 343 SNR=29 P **P** **02 13 45.1 -1.8**
KURK Kurchatov 77.85 343 *ce*P **P** **02 13 45.6 -1.3**
KURK pmax pmax
comp=Z,518nm,1.7s
KURK MLR MLR
comp=Z,7µm,18.0s
DAVOX Davos/Dischmat 77.88 28 P **P** **02 13 46.9 -0.5**
comp=Z,10nm,1.0s,baz=330,slow=6.2,SNR=10
SQTA Sankt Quirin 77.88 27 *i* pP **P** **02 13 47.9 +0.6**
comp=Z,32nm,1.7s,SNR=15
WATA Walderalm 77.89 26 *i* pP **P** **02 13 48.0 +0.6**
comp=Z,25nm,1.1s
FETA Feichten 77.92 27 *i* pP **P** **02 13 48.3 +0.7**
comp=Z,50nm,1.3s,SNR=9.8
KURBB Kurchatov Arra 77.96 343 P **P** **02 13 45.9 -1.5**
comp=Z,31nm,1.0s,baz=18,slow=5.2,SNR=49
KURBB PP **PP** **02 16 48.0 +5.4**
comp=Z,3.2nm,0.9s,baz=12,slow=8.4,SNR=4.5
WTTA Wattenberg 77.97 26 *i* pP **P** **02 13 48.8 +0.9**
comp=Z,63nm,1.5s
TUE Stuetta 77.99 28 eP **P** **02 13 48.5 +0.5**
comp=Z,113nm,1.7s
TUE LR LR
comp=Z,17µm,20.0s
LPL La Plagne 78.00 30 eP **P** **02 13 48.3 +0.2**
LPL pmax pmax
comp=Z,40nm,1.3s
LPG La Plagne 78.02 30 eP **P** **02 13 51.3 +3.0**
LPG pmax pmax
comp=Z,43nm,1.4s
PESTR Estremoz 78.03 43 eP **P** **02 13 50.7 +2.6**
comp=Z,34nm,1.3s
PESTR LR LR
comp=Z,7µm,18.0s
TIY Taiyuan 78.08 315 eP **P** **02 13 52.2 +3.7**
TIY S **S** **02 23 40.3 -2.1**
TIY SS **SS** **02 28 48.3 +5.5**
TIY pmax pmax
comp=Z,250nm,6.4s
TIY LR LR
comp=Z,7µm,15.8s
TIY LR LR
comp=Z,7µm,15.0s
TIY LR LR
comp=Z,3µm,20.7s
LPSR Galich'ya Gora 78.09 8 eP **P** **02 13 47.1 -1.1**
LPSR pmax pmax
comp=Z,40nm,1.8s
LPSR MLR MLR
comp=Z,10µm,15.5s
EVO Evora 78.11 44 eP **P** **02 13 53.0 +4.5**
comp=Z,117nm,1.9s
EVO Evora 78.11 44 *i* P P 02 13 54.7 +6.2
JAVC Velka Javorina 78.14 22 eP **P** **02 13 49.2 +0.6**
FUORN Ofenpass-Fuorn 78.14 28 eP **P** **02 13 50.3 +1.4**
comp=Z,142nm,1.4s
FUORN LR LR
comp=Z,16µm,22.0s
PMOZ Porto Moniz, M 78.14 53 eP P 02 13 57.4 +8.4
PMOZ eS S 02 23 54.0 +11
PMOZ Porto Moniz, M 78.14 53 eLR LR 02 39 23.1
comp=Z,7µm,20.0s
MOA Molln 78.18 25 *i* pP pP 02 13 50.8 -1.7
comp=Z,20nm,1.2s
JOW Kunigami 78.19 297 P **P** **02 13 48.3 -0.9**
comp=Z,14nm,0.7s,baz=78,slow=8.6,SNR=3.6
NIE Niedzica 78.24 20 eP **P** **02 13 49.5 +0.4**
NIE Niedzica 78.24 20 eP **P** **02 13 49.5 +0.4**
LANS Liptovska Anna 78.30 21 eP **P** **02 13 49.8 +0.3**
LANS e 02 13 53.9
LANS e 02 16 42.8
LANS Liptovska Anna 78.30 21 eP **P** **02 13 49.8 +0.3**
LANS epP **sP** **02 13 53.9 -0.5**
LANS ePP **PP** **02 16 42.8 -2.7**
PMAR Madeira 78.37 53 eP P 02 13 59.8 +9.5
BNI Bardonecchia 78.39 31 eP **P** **02 13 52.6 +2.5**
comp=Z,70nm,1.5s
BNI LR LR
comp=Z,17µm,21.0s
MODS Modra-Piesok 78.49 22 eP **P** **02 13 50.3 -0.2**
MODS e 02 13 53.9
MODS eS **S** **02 23 54.0 +7.7**
MODS pmax pmax
comp=Z,86nm,1.3s
MODS Modra-Piesok 78.49 22 eP **P** **02 13 50.3 -0.2**
MODS epP **pP** **02 13 53.9 -0.2**
MODS Modra-Piesok 78.49 22 eS **S** **02 23 54.0 +7.7**
MODS eL L 02 46 19.6
CONA Conrad Observa 78.54 24 *i* pP **P** **02 13 51.5 +0.7**
comp=Z,20nm,0.9s,SNR=9.4
KWP Kalwaria Pacla 78.56 19 eP **P** **02 13 51.3 +0.5**
KWP Kalwaria Pacla 78.56 19 PFAKE 02 14 00.0 +9.1
KWP LR LR
comp=Z,63µm,19.0s
KWP Kalwaria Pacla 78.56 19 eP **P** **02 13 51.3 +0.5**
MESJ Messejana 78.58 44 eP **P** **02 13 51.3 +0.1**
MESJ eS S **02 23 47.7 +0.1**
MESJ AMS AMS 02 42 38.7
comp=E,8µm,21.3s
PBEJ Beja 78.59 44 eP P 02 14 01.8 +11
ZST Bratislava 78.61 23 eS **S** **02 23 48.4 +0.9**
KBA Koelnbreinsper 78.63 25 *i* pP **P** **02 13 52.1 +0.6**
comp=E,72nm,1.4s,SNR=9.4
KBA Koelnbreinsper 78.63 25 P **P** **02 13 52.1 +0.6**
LVV L'vov 78.65 18 eP **P** **02 13 51.7 +0.3**
LVV e 02 16 45.3
LVV eS **S** **02 23 47.9 -0.1**
LVV e 02 24 06.9
LVV e 02 24 29.5
LVV e 02 28 50.9
ABTA Abfaltersbach 78.69 26 *i* pP **P** **02 13 52.5 +0.8**
comp=E,33nm,1.2s,SNR=11
MBDF Montbardon 78.70 31 eP **P** **02 13 52.2 +0.3**
MBDF pmax pmax
comp=Z,27nm,1.2s
UCM Universidad Co 78.72 40 eP P 02 13 40.2 -12
AKASG Malin Array Be 78.74 14 P **P** **02 13 50.2 -1.6**
comp=Z,10.0nm,0.9s,baz=346,slow=5.3,SNR=16
AKASG LR LR 02 48 56.2
comp=Z,7µm,21.5s,baz=345,slow=36
AKBB Malin Array Si 78.74 14 eP **P** **02 13 50.2 -1.6**
AKBB Malin Array Si 78.74 14 eP **P** **02 13 50.2 -1.6**
KIEV Kiev 78.75 14 eP **P** **02 13 50.6 -1.3**
comp=Z,59nm,1.4s
KIEV LR LR
comp=Z,9µm,22.0s
KIEV Kiev 78.75 14 *ce*P **P** **02 13 50.8 -1.0**
KIEV pmax pmax
comp=Z,18nm,1.2s
KIEV MLR MLR
comp=Z,7µm,20.0s
VYHS Vyhne 78.76 21 eP **P** **02 13 52.2 +0.2**
VYHS pmax pmax
comp=Z,93nm,2.4s
VYHS Vyhne 78.76 21 eP **P** **02 13 52.2 +0.2**
VYHS eL L 02 46 28.7
MORF Marmelete 78.81 45 eP **P** **02 13 52.7 +0.2**
MORF eS **S** **02 23 50.2 0.0**
MORF AMS AMS 02 42 34.4
comp=E,7µm,20.1s
MORF Marmelete 78.81 45 eP **P** **02 13 53.2 +0.7**
comp=E,136nm,2.4s
MORF eS **S** **02 23 52.1 +1.9**
PFVI Vila Bisbo 78.87 45 eS **S** **02 23 58.1 +7.4**
PFVI Vila Bisbo 78.87 45 PFAKE 02 14 00.0 +7.2
PFVI LR LR
comp=Z,8µm,19.0s
PAB San Pablo 78.89 41 eP **P** **02 13 53.5 +0.5**
comp=Z,76nm,1.4s
PAB LR LR
comp=Z,5µm,19.0s
PAB San Pablo 78.89 41 eP **P** **02 13 53.5 +0.5**
PAB pmax pmax
comp=Z,76nm,1.4s
PAB MLR MLR
comp=Z,5µm,19.0s
SSE Sheshan 78.92 305 P **P** **02 13 54.7 +1.6**
SSE S **S** **02 23 50.3 -1.0**
SSE pmax pmax
comp=Z,19nm,0.7s
SSE pmax pmax
comp=Z,100nm,4.1s
SSE LR LR
comp=Z,2µm,17.3s
SSE LR LR
comp=Z,2µm,19.8s
SOP Sopron 78.94 23⇓ eP **P** **02 13 53.1 +0.1**
ESDC Sonseca Array 78.95 40 P **P** **02 13 52.2 -1.0**
comp=Z,5.5nm,0.8s,baz=317,slow=4.7,SNR=19
ESDC LR LR 02 45 34.9
comp=Z,4µm,19.1s,baz=330,slow=33
ESLA Sonseca Array 78.95 40 eP **P** **02 13 53.4 +0.2**
comp=Z,84nm,1.6s
ESLA LR LR
comp=Z,6µm,18.0s
ES19 SONSECA Array 78.95 40 eP **P** **02 13 52.7 -0.6**
VORR Voronezh 79.04 8 P **P** **02 13 53.0 -0.4**
VORR pmax pmax
comp=Z,250nm,2.4s
ARSA Arzberg 79.07 24 *i* pP **P** **02 13 54.5 +0.8**
comp=Z,30nm,1.2s,SNR=10
MYKA Terra Mystica 79.12 25 *i* P **P** **02 13 54.0 0.0**
comp=Z,28nm,1.7s
KECS Kecovo 79.16 20 eP **P** **02 13 53.2 -0.9**
KECS e 02 13 57.3
KECS e 02 16 55.6
KECS pmax pmax
comp=Z,77nm,1.4s
KECS Kecovo 79.16 20 eP **P** **02 13 53.2 -0.9**
KECS epP **pP** **02 13 57.3 -0.5**
KECS ePP **PP** **02 16 55.6 +2.9**
PVAQ Vaqueiros 79.16 44 eP **P** **02 13 54.3 -0.1**
comp=Z,122nm,1.7s
PVAQ eS **S** **02 23 52.3 -1.5**
PVAQ Vaqueiros 79.16 44 eLR LR 02 40 08.7
comp=Z,7µm,20.0s
SRO Srobarova 79.27 22 eP **P** **02 13 54.9 +0.2**
SRO Srobarova 79.27 22 eP **P** **02 13 54.9 +0.2**
NJ2 Nanjing 79.41 307 eP **P** **02 13 57.4 +1.6**
NJ2 sP **PcP** **02 14 04.1 +0.2**
NJ2 S **S** **02 23 55.6 -1.0**
NJ2 SS **SS** **02 29 06.2 +3.4**
NJ2 pmax pmax
comp=Z,12nm,0.5s
NJ2 pmax pmax
comp=Z,360nm,4.7s
NJ2 LR LR
comp=Z,3µm,17.9s
NJ2 LR LR
comp=Z,8µm,22.2s
NJ2 LR LR
comp=Z,4µm,20.6s
UZH Uzhgorod 79.42 19 eP **P** **02 13 55.6 +0.1**
UZH e 02 13 56.4
UZH e 02 17 00.6
UZH eS **S** **02 23 53.8 -2.3**
UZH eSSS SSS 02 32 24.6
UZH MLR MLR
comp=N,700nm,16.0s
UZH MLR MLR
comp=E,900nm,16.0s
UZH MLR MLR
comp=Z,600nm,16.0s
SOKA Soboth 79.46 25 *i* P **P** **02 13 55.9 -0.1**
comp=Z,30nm,1.3s,SNR=14
VSR Storozhevoye 79.48 8 eP **P** **02 13 52.9 -3.0**
VSR pmax pmax
comp=Z,30nm,1.8s
VSR MLR MLR
comp=Z,9µm,16.6s
OBKA Obir 79.49 25 *i* P **P** **02 13 55.5 -0.6**
comp=Z,20nm,0.8s,SNR=11
PERS Pernice 79.53 25 *i* P **P** **02 13 56.1 -0.1**
PERS eSKSac **S** **02 24 00.6 +3.1**
PERS Pernice 79.53 25 *i* P **P** **02 13 56.1 -0.1**
PERS eSKSac **S** **02 24 00.6 +3.1**
ZSN Zaisan 79.54 338 eP **P** **02 13 55.5 -0.8**
comp=Z,27nm,1.6s
ZSN eS **S** **02 23 57.3 -0.2**
PSZ Piszkesteto 79.55 21 eP **P** **02 13 55.9 -0.5**
comp=Z,205nm,1.7s
PSZ LR LR
comp=Z,9µm,21.0s
PSZ Piszkesteto 79.55 21⇑ *i* P **P** **02 13 55.9 -0.5**
PSZ Piszkesteto 79.55 21⇓ eP **P** **02 13 56.7 +0.3**
PSZ Piszkesteto 79.55 21⇑ P **P** **02 13 55.9 -0.5**
BRZS Berezniki 79.60 346 eP **P** **02 13 55.4 -1.1**
comp=Z,62nm,1.7s
BRZS *i* PP **PP** **02 16 55.7 -0.7**
FRF La Foret Royal 79.69 31 eP **P** **02 13 59.2 +2.1**
FRF pmax pmax
comp=Z,59nm,1.6s
VRH Novokhopyorsk 79.70 6 eP **P** **02 13 54.7 -2.3**
VRH pmax pmax
comp=Z,20nm,1.1s
VRH MLR MLR
comp=Z,12µm,19.0s
BUD Budapest 79.75 22⇑ eP **P** **02 13 58.2 +0.8**
BUD Budapest 79.75 22 P **P** **02 13 58.4 +1.0**
LJU Ljubljana 79.91 25 eP **P** **02 13 57.9 -0.4**
JAVS Javornik 79.91 26 *i* P **P** **02 13 57.7 -0.7**
JAVS eSKSac **S** **02 24 08.2 +6.4**
JAVS Javornik 79.91 26 *i* P **P** **02 13 57.7 -0.7**
JAVS eSKSac **S** **02 24 08.2 +6.4**
TRPA Tarpa 79.95 19⇓ *i* P **P** **02 13 58.5 +0.1**
TRPA Tarpa 79.95 19⇓ eP **P** **02 13 58.2 -0.2**
TRI Trieste 80.00 26 PFAKE 02 14 10.0 +11
TRI LR LR
comp=Z,12µm,18.0s
BEHE Becsehely 80.12 24⇑ eP **P** **02 14 00.3 +0.9**
CEY Cerknica 80.16 25 eP **P** **02 13 59.4 -0.3**
VISS Visnje 80.21 25 eP **P** **02 13 59.5 -0.4**
VISS Visnje 80.21 25 eP **P** **02 13 59.5 -0.4**
CRES Cresnjev 80.36 25 eP **P** **02 13 59.8 -1.0**
VLC Villacollemand 80.39 29 PFAKE 02 14 10.0 +9.1
VLC LR LR
comp=Z,14µm,19.0s
LTVH L"tav"rtes, 80.51 20⇑ eP **P** **02 14 02.5 +1.0**
BOJS Bojanci 80.60 25 eP **P** **02 14 01.4 -0.6**
BOJS eSKSac **S** **02 24 11.3 +2.6**
BOJS Bojanci 80.60 25 eP **P** **02 14 01.4 -0.6**
BOJS eSKSac **S** **02 24 11.3 +2.6**
SFS San Fernando 80.62 44 eP P 02 14 10.4 +8.1
AKTO Aktyubinsk 80.66 356 P **P** **02 14 00.8 -1.4**
comp=Z,12nm,1.0s,baz=17,slow=4.6,SNR=23
MK31 Makanchi Array 80.78 339 eP **P** **02 14 01.4 -1.6**
MK31 Makanchi Array 80.78 339 eP **P** **02 14 01.4 -1.6**
MK32 Makanchi Array 80.78 339 eP **P** **02 14 01.3 -1.7**
MKAR Makanchi Array 80.78 339 P **P** **02 14 01.3 -1.7**
comp=Z,14nm,0.8s,baz=29,slow=4.2,SNR=45
MKAR LR LR 02 53 26.0
comp=Z,8µm,18.7s,baz=17,slow=38
MKAR Makanchi Array 80.78 339 P **P** **02 14 01.3 -1.7**
MKAR pmax pmax
comp=Z,14nm,0.8s
MKAR MLR MLR
comp=Z,8µm,18.7s
MK01 Makanchi Array 80.80 339 eP **P** **02 14 01.2 -1.9**
MORH M¨ţr¨igy, Hung 80.84 22⇓ eP **P** **02 14 03.1 -0.2**
MORH M¨ţr¨igy, Hung 80.84 22 eP **P** **02 14 02.7 -0.6**
BUR08 Bucovina Ar. S 80.96 18 eP **P** **02 14 04.3 +0.3**
BUR04 Bucovina Ar. S 80.99 18 eP **P** **02 14 04.0 -0.1**
BURAR Bucovina Array 80.99 18⇓ *i* P **P** **02 14 03.6 -0.6**
BURAR Bucovina Array 80.99 18⇓ P **P** **02 14 03.6 -0.6**
SORM Soroca 81.08 15⇑ *i* P **P** **02 14 03.4 -1.1**
SORM Soroca 81.08 15⇑ P **P** **02 14 03.4 -1.1**
SAML Samuel 81.14 115 eP **P** **02 14 02.3 -2.9**
comp=Z,29nm,1.1s
SAML LR LR
comp=Z,6µm,19.0s
SAML Samuel 81.14 115 eP **P** **02 14 02.3 -2.9**
SAML pmax pmax
comp=Z,29nm,1.1s
SAML MLR MLR
comp=Z,6µm,19.0s
EMAL Malaga-Limoner 81.17 42 *i* P **P** **02 14 06.6 +1.4**
DRGR 81.25 20⇑ *i* P **P** **02 14 05.5 -0.1**
DRGR 81.25 20⇑ P **P** **02 14 05.5 -0.1**
ARCR ARCALIA 81.32 18⇑ *i* P **P** **02 14 06.3 +0.4**
PGF Pioggiola 81.38 30 eP **P** **02 14 05.8 -0.6**
PGF pmax pmax
comp=Z,34nm,1.2s
PRAR RASCA 81.43 17⇓ *i* P **P** **02 14 08.8 +2.4**
CEU Ceuta 81.47 43 eP P 02 14 16.2 +9.5
CEU eS **S** **02 24 22.1 +4.0**
SIRR Siria 81.51 20⇓ *i* P **P** **02 14 06.8 -0.1**
CJR Cluj-Napoca 81.52 19⇓ *i* P **P** **02 14 05.8 -1.2**
CJR Cluj-Napoca 81.52 19⇓ P **P** **02 14 05.8 -1.2**
BIZ Bicaz 81.81 17⇑ *i* P **P** **02 14 09.0 +0.5**
BLY Banja Luka 81.83 24 eP **P** **02 14 08.6 +0.1**
comp=Z,52nm,1.5s
BLY LR LR
comp=Z,7µm,18.0s
BLY Banja Luka 81.83 24 eP **P** **02 14 10.5 +2.0**
CART Cartagena 81.95 40 PFAKE 02 14 20.0 +11
CART LR LR
comp=Z,6µm,18.0s
CART Cartagena 81.95 40 *i* P **P** **02 14 05.8 -3.5**
CART eS **S** **02 24 24.8 +1.8**
MAHO Mahon 82.05 35 eP P 02 14 16.7 +6.9
MAHO eS **S** **02 24 28.5 +4.6**
DOB Doboj 82.08 23 eP **P** **02 14 08.5 -1.4**
BZS Buzias 82.12 21⇑ *i* P **P** **02 14 09.5 -0.6**
BZS Buzias 82.12 21⇑ P **P** **02 14 09.5 -0.6**
FRGS Fruska Gora 82.12 22 eP **P** **02 14 09.0 -1.1**
WMQ Urumqi 82.14 334 P **P** **02 14 09.7 -0.6**
WMQ pP pP 02 14 13.6 -0.4
WMQ sP PcP 02 14 20.6 +4.9
WMQ PP **PP** **02 17 21.0 +3.4**
WMQ S **S** **02 24 26.9 +1.9**
WMQ SS **SS** **02 29 44.3 +1.4**
WMQ pmax pmax
comp=Z,57nm,1.1s
WMQ pmax pmax
comp=Z,300nm,3.8s
WMQ LR LR
comp=Z,16µm,19.9s
WMQ LR LR
comp=Z,15µm,18.3s
WMQ LR LR
comp=Z,14µm,18.3s
KIS Kishinev 82.26 15 eP P 02 14 38.0 +27
KIS LRM MLR 02 55 38.0
comp=Z,6µm,16.0s
RTC Rabat Centre 82.36 46 PFAKE 02 14 20.0 +8.5
RTC LR LR
comp=Z,21µm,19.0s
GZR Gura Zlata 82.59 20⇓ *i* P **P** **02 14 11.9 -0.7**
GZR Gura Zlata 82.59 20⇓ P **P** **02 14 12.0 -0.7**
DOPR Dopca 82.60 18⇑ *i* P **P** **02 14 12.6 0.0**
AVE Averroes 82.67 46 *i* P **P** **02 14 16.5 +3.4**
AVE eS **S** **02 24 30.6 +0.1**
XAN Xi'an 82.72 315 P **P** **02 14 13.6 +0.1**
XAN pP sP 02 14 22.0 +3.6
XAN PP **PP** **02 17 23.7 +1.0**
XAN S **S** **02 24 29.4 -1.7**
XAN sS SKKSac 02 24 40.0 +1.3
XAN pmax pmax
comp=Z,24nm,1.4s
XAN pmax pmax
comp=Z,310nm,3.5s
XAN LR LR
comp=Z,7µm,17.3s
XAN LR LR
comp=Z,9µm,15.4s
XAN LR LR
comp=Z,7µm,18.2s
HAPS Han Pijesak,Bl 82.90 23 eP **P** **02 14 13.2 -1.1**
MDVR Moldovita 82.93 21⇑ *i* P **P** **02 14 14.1 -0.3**
WHN Wuhan 82.93 309⇓ P **P** **02 14 14.2 -0.4**
WHN S **S** **02 24 31.5 -1.8**
WHN LR LR
comp=Z,5µm,17.8s
WHN LR LR
comp=Z,9µm,16.3s
WHN LR LR
comp=Z,15µm,27.3s
AQU L'Aquila 82.95 27 eP **P** **02 14 14.7 +0.1**
comp=Z,36nm,0.9s
AQU LR LR
comp=Z,19µm,18.0s
AQU L'Aquila 82.95 27 eP **P** **02 14 14.0 -0.6**
PLOR Plostina 82.97 17⇑ *i* P **P** **02 14 14.5 0.0**
PLOR Plostina 82.97 17⇑ P **P** **02 14 14.5 0.0**
VRI Vrincioaia 82.97 17⇑ *i* P **P** **02 14 13.8 -0.7**
VRI Vrincioaia 82.97 17⇑ P **P** **02 14 13.8 -0.7**
HERR Herculane 83.00 20⇓ *i* P **P** **02 14 15.0 +0.3**
ARR Arges 83.02 19⇓ *i* P **P** **02 14 14.2 -0.7**
VOIR 83.04 18⇓ *i* P **P** **02 14 14.5 -0.5**
VOIR 83.04 18⇓ P **P** **02 14 14.5 -0.5**
YOJ Yonaguni jima 83.05 299 PFAKE 02 14 30.0 +15
YOJ LR LR
comp=Z,3µm,21.0s
DIVS Divibare 83.16 22 eP **P** **02 14 15.4 -0.2**
comp=Z,74nm,1.3s
DIVS LR LR
comp=Z,9µm,18.0s
DIVS Divibare 83.16 22 eP **P** **02 14 13.5 -2.1**
MLR Muntele Rosu 83.17 18 P **P** **02 14 14.0 -1.7**
comp=Z,0.6nm,0.3s,baz=355,slow=19,SNR=2.2
MLR Muntele Rosu 83.17 18 eP **P** **02 14 14.1 -1.7**
MLR ePcP **PcP** **02 14 19.9 -0.4**
MLR LR LR
comp=Z,13µm,22.0s
MLR Muntele Rosu 83.17 18⇓ *i* P **P** **02 14 16.1 +0.4**
BBLS Lazići 83.23 23 eP **P** **02 14 15.1 -0.9**
LZH Lanzhou 83.26 320 eP **P** **02 14 19.1 +2.7**
LZH pP sP 02 14 25.8 +4.4
LZH sP PcP 02 14 30.9 +10
LZH PP **PP** **02 17 33.5 +6.4**

LZH S **S** **02 24 33.2 -3.6**
LZH sS SKKSac 02 24 44.2 +1.3
LZH pmax pmax
comp=Z,76nm,1.2s
LZH pmax pmax
comp=Z,390nm,4.8s
LZH LR LR
comp=Z,16µm,14.6s
LZH LR LR
comp=Z,12µm,14.6s
LZH LR LR
comp=Z,22µm,17.3s
TDK Taldyqorghan 83.34 341 *e*P **P** **02 14 15.4 -1.0**
comp=Z,110nm,1.6s
TDK LR LR 02 52 11.1
comp=Z,6µm,15.9s
TATO Taipei 83.51 301 PFAKE 02 14 30.0 +12
TATO LR LR
comp=Z,5µm,22.0s
IFR Ifrane 83.56 45 *i* P P 02 14 24.5 +6.5
IFR *e*S **S** **02 24 42.9 +3.0**
GOLR 83.59 19⇑ *i*P **P** **02 14 18.7 +1.0**
YHNB Yeheng 83.81 301 PFAKE 02 14 30.0 +11
YHNB LR LR
comp=Z,4µm,22.0s
CFR Carcaliu 83.89 16⇑ *i*P **P** **02 14 20.0 +0.8**
CFR Carcaliu 83.89 16⇑ P **P** **02 14 20.0 +0.8**
HUMR Humele 83.89 19⇑ *i*P **P** **02 14 18.3 -1.0**
BRY Bratogost 83.90 24 *e*P **P** **02 14 17.9 -1.6**
TLCR 84.01 16⇓ *i*P **P** **02 14 19.7 -0.1**
TLCR 84.01 16⇓ P **P** **02 14 19.7 -0.1**
TREB Trebinje 84.03 24 *e*P **P** **02 14 17.5 -2.5**
NACB Ninganchiao 84.08 300 PFAKE 02 14 30.0 +9.5
NACB LR LR
comp=Z,4µm,21.0s
LPAZ La Paz 84.18 123 P **P** **02 14 20.3 -1.5**
comp=Z,16nm,0.9s,baz=357,slow=7.0,SNR=24
LPAZ LR LR 02 55 01.6
comp=Z,4µm,20.7s,baz=328,slow=38
LPAZ La Paz 84.18 123 *e*P **P** **02 14 20.1 -1.6**
comp=Z,40nm,1.0s
HARR Harsova 84.33 17⇑ *i*P **P** **02 14 21.5 0.0**
HARR Harsova 84.33 17⇑ P **P** **02 14 21.5 0.0**
PDG Podgorica 84.53 23⇑ *i*P **P** **02 14 22.1 -0.4**
PDG Podgorica 84.53 23 *e*P **P** **02 14 21.9 -0.6**
TTG Podgorica 84.53 23 *e*P **P** **02 14 21.7 -0.8**
comp=Z,51nm,0.9s
TTG LR LR
comp=Z,9µm,19.0s
TTG Podgorica 84.53 23 *e*P **P** **02 14 21.7 -0.8**
TTG pmax pmax
comp=Z,51nm,0.9s
TTG MLR MLR
comp=Z,9µm,19.0s
TIRR Tirgusor 84.64 16 PFAKE 02 14 30.0 +7.0
TIRR LR LR
comp=Z,8µm,19.0s
TIRR Tirgusor 84.64 16⇑ *i*P **P** **02 14 22.5 -0.5**
TIRR Tirgusor 84.64 16⇑ P **P** **02 14 22.5 -0.5**
SSLB Suanglung 84.74 300 PFAKE 02 14 40.0 +16
SSLB LR LR
comp=Z,4µm,22.0s
KPKS Kokpek 84.75 340 *e*P **P** **02 14 22.6 -1.2**
comp=Z,99nm,2.2s
KPKS *e*S **S** **02 24 45.9 -5.4**
KPKS LR LR 02 53 29.2
comp=Z,2µm,15.6s
ZIMR 84.81 19⇑ *i*P **P** **02 14 23.2 -0.7**
ZIMR 84.81 19⇑ P **P** **02 14 23.2 -0.7**
KUU Kurty 84.83 342 *i* P **P** **02 14 21.8 -2.3**
comp=Z,64nm,2.7s
KUU *e*S **S** **02 24 45.2 -6.8**
YULB Yu-li 84.86 300 PFAKE 02 14 40.0 +15
YULB LR LR
comp=Z,2µm,22.0s
UZB Uzynbulak 84.98 340 *i* P **P** **02 14 23.6 -1.4**
comp=Z,22nm,1.6s
UZB *i* PP **PP** **02 17 39.9 -1.0**
UZB *e*S **S** **02 24 47.5 -6.3**
UZB LR LR 02 54 10.3
comp=Z,1µm,14.8s
SIM Simferopol' **85.09 12** *e*P **P** **02 14 27.5 +2.2**
SIM *e*S **S** **02 25 00.0 +5.5**
SIM pmax pmax
comp=Z,12nm,1.1s
SIM MLR MLR
comp=Z,6µm,16.0s
QZH Quanzhou 85.15 303⇓ *i*P **P** **02 14 26.6 +0.6**
QZH SKS **SKSac** **02 24 50.1 -0.6**
QZH S **S** **02 24 55.9 +0.2**
QZH SS **SS** **02 30 30.3 +1.9**
QZH LR LR
comp=Z,2µm,17.1s
QZH LR LR
comp=Z,3µm,20.4s
QZH LR LR
comp=Z,3µm,17.5s
SATY Saty 85.20 341 *i* P **P** **02 14 24.8 -1.3**
comp=Z,155nm,2.9s
SATY *i* PP **PP** **02 17 41.5 -1.0**
HNR Honiara 85.25 250 LR LR 02 44 44.2
comp=Z,12µm,21.2s,baz=40,slow=30
HNR Honiara 85.25 250 PFAKE 02 14 40.0 +14
HNR LR LR
comp=Z,12µm,20.0s
TPUB Ta-pu 85.31 300 PFAKE 02 14 40.0 +13
TPUB LR LR
comp=Z,3µm,21.0s
VTS Vitosha 85.35 21 *e*P **P** **02 14 25.9 -1.0**
comp=Z,31nm,1.2s
VTS LR LR
comp=Z,7µm,19.0s
VTS Vitosha 85.35 21⇑ *i*P **P** **02 14 26.1 -0.8**
VTS Vitosha 85.35 21 *e*P **P** **02 14 25.9 -1.0**
VTS pmax pmax
comp=Z,31nm,1.2s
VTS MLR MLR
comp=Z,7µm,19.0s
AAA Alma-Ata 85.37 342 *e*P **P** **02 14 25.7 -1.1**
comp=Z,50nm,1.3s
AAA Alma-Ata 85.37 342 *e*P **P** **02 14 24.9 -2.0**
AAA *e*S **S** **02 24 54.8 -2.7**
AAA pmax pmax
comp=Z,400nm,6.0s
MDOK Medeo 85.39 342 *i* P **P** **02 14 25.5 -1.6**
comp=Z,392nm,2.3s
MDOK *i* PP **PP** **02 17 43.3 -0.9**
MDOK *e*S **SKSac** **02 24 49.5 -2.5**
MDOK LR LR 02 52 27.5
comp=Z,3µm,16.7s
TWG Pinlang 85.43 300 PFAKE 02 14 40.0 +13
TWG LR LR
comp=Z,9µm,19.0s
SKO Skopje 85.51 22 *i* P **P** **02 14 27.5 0.0**
ENH Enshi 85.57 313 *e*P **P** **02 14 28.9 +0.8**
comp=Z,66nm,1.3s
ENH LR LR
comp=Z,6µm,19.0s
ANN Anapa 85.66 10 *e*P **P** **02 14 30.0 +1.9**
ANN *e**PP **sP** **02 14 33.3 +0.2**
ANN *e* 02 17 48.1
ANN *e* 02 25 03.8
ANN pmax pmax
comp=Z,46nm,1.2s
ANN MLR MLR
comp=Z,8µm,16.0s
ANN MLR MLR
comp=N,4µm,16.0s
TIR Tirane 85.70 23 PFAKE 02 14 40.0 +12
TIR LR LR
comp=Z,10µm,18.0s
MNMC Minye Minye 85.71 126 *e*P **P** **02 14 27.7 -1.2**
comp=Z,40nm,1.0s
MNMC LR LR
comp=Z,4µm,22.0s
PRZ Przheval'sk 85.75 340 PFAKE 02 14 40.0 +11
PRZ LR LR
comp=Z,10µm,21.0s
USP Ospenovka 85.79 343 P **P** **02 14 32.5 +3.6**
SNR=6.1
CUC Castrocucco 85.84 27 PFAKE 02 14 40.0 +11
CUC LR LR
comp=Z,9µm,20.0s
GOF Gofitskoye 85.91 6 *e*P **P** **02 14 28.7 -0.7**
GOF pmax pmax
comp=Z,50nm,1.0s
TKM2 Tokmak 2 85.92 342 P **P** **02 14 28.1 -1.6**
SNR=8.9
STIP Stip 85.96 22 *i* P **P** **02 14 29.2 -0.5**
CHMS Chumysh 86.00 343 P **P** **02 14 33.6 +3.6**
SNR=6.3
KRUS Krusevo 86.04 22 *i* P **P** **02 14 29.0 -1.2**
RABL Rabaul 86.16 259 PFAKE 02 14 40.0 +8.9
RABL LR LR
comp=Z,7µm,18.0s
OHR Ohrid 86.17 23 *i* P **P** **02 14 27.6 -3.3**
FRU Bishkek 86.19 343 *e*P **P** **02 14 29.0 -1.9**
FRU *e* 02 17 57.0
FRU *e*S **S** **02 25 10.0 +4.5**
FRU pmax pmax
comp=Z,120nm,2.0s
FRU smax smax
comp=E,2µm,8.0s
PB11 IPOC Station P 86.20 126 *e*P **P** **02 14 30.0 -1.2**
comp=E,78nm,0.9s
PB11 LR LR
comp=Z,3µm,18.0s
FRU1 Bishkek 86.21 343 PFAKE 02 14 40.0 +9.0
FRU1 LR LR
comp=Z,8µm,18.0s
KBK Karagaybulak 86.30 343 P **P** **02 14 35.2 +3.6**
SNR=6.2
KDJ Kajisay 86.35 341 PFAKE 02 14 40.0 +8.1
KDJ LR LR
comp=Z,6µm,20.0s
AAK Ala-Archa 86.40 343 P **P** **02 14 31.2 -0.9**
SNR=7.6
AAK Ala-Archa 86.40 343 *e*P **P** **02 14 31.4 -0.7**
comp=Z,36nm,1.2s
AAK *e*PP **PP** **02 17 51.5 -0.9**
AAK LR LR
comp=Z,7µm,18.0s
AAK Ala-Archa 86.40 343 P **P** **02 14 30.8 -1.3**
SNR=14
AAK Ala-Archa 86.40 343 *ce*P **P** **02 14 31.4 -0.7**
AAK pmax pmax
comp=Z,80nm,1.7s
VAY Valandovo 86.40 21 *i* P **P** **02 14 33.1 +1.2**
EKS2 Erkin-Say 86.51 344 P **P** **02 14 31.8 -0.8**
SNR=7.0
FNA Florina 86.62 22 PFAKE 02 14 40.0 +6.9
FNA LR LR
comp=Z,14µm,19.0s
KK31 Karatay Array 86.64 346 *e*P **P** **02 14 31.8 -1.3**
KK31 Karatay Array 86.64 346 *e*P **P** **02 14 31.8 -1.3**
KZA Kyzart 86.80 342 P **P** **02 14 37.9 +3.5**
SNR=6.5
TIP Timpagrande 86.87 26 PFAKE 02 14 50.0 +16
TIP LR LR
comp=Z,15µm,22.0s
TIP Timpagrande 86.87 26⇑ *i*P **P** **02 14 35.0 +0.7**
KIV Kislovodsk 86.98 6 *e*P **P** **02 14 34.0 -0.8**
comp=Z,32nm,1.0s
KIV LR LR
comp=Z,9µm,20.0s
KIV Kislovodsk 86.98 6 P **P** **02 14 32.6 -2.3**
KIV Kislovodsk 86.98 6 *e*P **P** **02 14 35.3 +0.5**
KIV *e* 02 25 01.7
KIV *e*SS SS 02 30 57.1 +3.0
KIV pmax pmax
comp=Z,139nm,4.4s
KIV pmax pmax
comp=Z,29nm,1.0s
KIV MLR MLR
comp=Z,9µm,20.0s
KVAR Kislovodsk Arr 86.98 6 LR LR 02 56 48.4
comp=Z,6µm,18.9s,baz=264,slow=38
AML Almayashu 87.04 344 P **P** **02 14 34.7 -0.8**
SNR=7.6
KBZ Khabaz 87.22 6 P **P** **02 14 35.0 -0.8**
comp=Z,13nm,1.0s,baz=340,slow=6.6,SNR=7.9
KBZ LR LR 02 56 52.8
comp=Z,9µm,19.1s,baz=348,slow=38
CLTB Caltabellotta 87.25 29 PFAKE 02 14 50.0 +14
CLTB LR LR
comp=Z,12µm,20.0s
NRN Naryn 87.26 342 *e*P **P** **02 14 36.1 -0.4**
comp=Z,30nm,1.2s
NRN LR LR
comp=Z,8µm,20.0s
NRN Naryn 87.26 342 *e*P **P** **02 14 36.2 -0.4**
NRN pmax pmax
comp=Z,31nm,1.2s
NRN MLR MLR
comp=Z,8µm,20.0s
PB01 IPOC Station P 87.34 127 *e*P **P** **02 14 34.8 -1.9**
comp=Z,41nm,1.4s
CEL Celeste 87.46 27 PFAKE 02 14 50.0 +13
CEL LR LR
comp=Z,4µm,20.0s
NCK Nalchik 87.50 6 *e*P **P** **02 14 37.8 +0.5**
NCK pmax pmax
comp=Z,7.0nm,1.0s
LIT Litokhoron 87.54 22 PFAKE 02 14 50.0 +12
LIT LR LR
comp=Z,8µm,18.0s
ALN Alexandroupoli 87.60 19 PFAKE 02 14 50.0 +12
ALN LR LR
comp=Z,4µm,19.0s
KEST Kesra 87.60 33 P **P** **02 14 37.0 -1.0**
comp=Z,14nm,1.0s,baz=302,slow=5.6,SNR=6.9
KEST LR LR 02 51 06.3
comp=Z,3µm,21.4s,baz=295,slow=34
KEST Kesra 87.60 33 *e*P **P** **02 14 38.6 +0.7**
comp=Z,37nm,1.3s
KEST LR LR
comp=Z,8µm,19.0s
MANU Manus Island 87.66 264 PFAKE 02 14 50.0 +12
MANU LR LR
comp=Z,7µm,20.0s
NEY Neytrino 87.69 6 *e*P **P** **02 14 38.7 +0.3**
NEY pmax pmax
comp=Z,5.0nm,1.1s
CD2 Chengdu 87.70 317 P **P** **02 14 38.2 -0.3**
CD2 pP sP 02 14 43.7 +0.3
CD2 sP pP 02 14 45.8 +3.7
CD2 PP **PP** **02 18 02.3 -0.8**
CD2 SKS **SKSac** **02 25 05.3 -1.2**
CD2 S **SKKSac** **02 25 17.2 +1.0**
CD2 SS **SS** **02 31 04.2 -1.2**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
CD2 pmax pmax
comp=Z,240nm,6.8s
CD2 LR LR
comp=Z,10µm,20.4s
CD2 LR LR
comp=Z,17µm,18.4s
CD2 LR LR
comp=Z,7µm,19.4s
GROC Groznyy 87.92 4 *e*P **P** **02 14 42.0 +2.8**
GROC *e* 02 18 03.1
GROC pmax pmax
comp=Z,34nm,1.2s
ZEI Tsey 88.23 6 *e*P **P** **02 14 39.5 -1.5**
ZEI pmax pmax
comp=Z,8.0nm,1.1s
MAK Makhachkala 88.23 3 *e*P **P** **02 14 38.2 -2.5**
MAK *e* 02 18 05.0
MAK *e* 02 25 05.7
MAK *e*SS SS 02 31 09.2 -2.8
MAK *e*SSS SSS 02 34 50.3
MAK pmax pmax
comp=Z,183nm,1.1s
AGG Agios Georgios 88.52 22 PFAKE 02 14 50.0 +7.8
AGG LR LR
comp=Z,6µm,22.0s
ILGA Ilgaz 88.85 13 PFAKE 02 15 00.0 +16
ILGA LR LR
comp=Z,5µm,19.0s
LVC Limon Verde 88.93 127 PFAKE 02 15 00.0 +15
LVC LR LR
comp=Z,4µm,22.0s
LVC Limon Verde 88.93 127 *ce*P **P** **02 14 45.1 +0.6**
LVC pmax pmax
comp=Z,17nm,1.7s
KSH Kashi 89.11 341 P **P** **02 14 46.4 +1.3**
KSH pP sP 02 14 50.5 +0.4
KSH PP **PP** **02 18 18.1 +4.0**
KSH S **S** **02 25 31.8 -2.0**
KSH SS **SS** **02 31 28.2 +2.8**
KSH pmax pmax
comp=Z,22nm,1.1s
KSH LR LR
comp=Z,12µm,18.6s
KSH LR LR
comp=Z,11µm,22.9s
WDD Wied Dalam 89.26 29 PFAKE 02 15 00.0 +14
WDD LR LR
comp=Z,6µm,19.0s
TBLG Delisi 89.33 5 *e*P **P** **02 14 46.2 +0.2**
comp=Z,54nm,1.3s
TBLG Delisi 89.33 5 *e*P **P** **02 14 46.2 +0.2**
TBLG pmax pmax
comp=Z,54nm,1.3s
GZH Guangzhou 89.49 306 *e*P **P** **02 14 43.7 -3.2**
GZH SKS **SKSac** **02 25 15.0 -2.2**
GZH S **SKKSac** **02 25 27.5 -2.1**
GZH LR LR
comp=Z,3µm,18.9s
GZH LR LR
comp=Z,3µm,19.1s
AKH Akhalkalaki 89.57 6 PFAKE 02 15 00.0 +13
AKH LR LR
comp=Z,8µm,20.0s
ANTO Ankara 89.86 14 *e*P **P** **02 14 47.8 -0.8**
comp=Z,294nm,1.5s
ANTO LR LR
comp=Z,5µm,19.0s
ANTO Ankara 89.86 14⇑ *i*P **P** **02 14 52.2 +3.7**
ANTO Ankara 89.86 14 *e*P **P** **02 14 47.8 -0.8**
ANTO pmax pmax
comp=Z,294nm,1.5s
ANTO MLR MLR
comp=Z,5µm,19.0s
GYA Guiyang 90.11 313⇑ *i*P **P** **02 14 51.4 +1.4**
GYA pP sP 02 14 55.8 +0.8
GYA PP **PP** **02 18 24.2 +1.6**
GYA SKS **SKSac** **02 25 18.4 -2.7**
GYA S **S** **02 25 39.0 -4.4**
GYA SS **SS** **02 31 40.8 0.0**
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,300nm,5.9s
GYA LR LR
comp=Z,4µm,18.9s
GYA LR LR
comp=Z,5µm,18.9s
GYA LR LR
comp=Z,5µm,21.1s
BR101 Keskin Array S 90.14 14 *e*P **P** **02 14 48.8 -1.2**
BR131 Keskin Array S 90.14 14 *e*P **P** **02 14 49.7 -0.2**
BRTR Keskin Array B 90.14 14 P **P** **02 14 48.8 -1.2**
comp=Z,3.6nm,1.0s,baz=345,slow=1.3,SNR=6.7
BRTR PKKPbc **PKKPbc** **02 32 21.4 +3.3**
comp=Z,1.4nm,1.0s,baz=164,slow=4.9,SNR=6.1
BRTR LR LR 02 58 28.7
comp=Z,3µm,19.0s,baz=348,slow=38
ITM Ithomi 90.16 23 PFAKE 02 15 00.0 +10
ITM LR LR
comp=Z,11µm,22.0s
MANT Manisa 90.43 18 *e*P **P** **02 14 50.9 -0.5**
comp=Z,72nm,0.9s
GNI Garni 90.91 5 LR LR 02 58 55.1
comp=Z,7µm,20.2s,baz=4.5,slow=38
GNI Garni 90.91 5 PFAKE 02 15 00.0 +6.5
GNI LR LR
comp=Z,8µm,21.0s
GNI Garni 90.91 5 *ce*P **P** **02 14 50.7 -2.8**
GNI pmax pmax
comp=Z,24nm,1.1s
DZM Mont Dzumac 91.39 237 LR LR 02 47 31.0
comp=Z,8µm,21.3s,baz=28,slow=30
DZM Mont Dzumac 91.39 237 *e*PS PS 02 27 05.4 +0.6
comp=Z,2µm,26.4s
DZM Mont Dzumac 91.39 237 *e*LR LR 02 44 16.0
comp=Z,16µm,23.3s,baz=44
DZM Mont Dzumac 91.39 237 PFAKE 02 15 10.0 +14
DZM LR LR
comp=Z,8µm,20.0s
ISP Isparta 91.46 16 PFAKE 02 15 10.0 +14
ISP LR LR
comp=Z,5µm,21.0s
SANT Santorini 91.80 21 PFAKE 02 15 10.0 +12
SANT LR LR
comp=Z,7µm,20.0s
IDI Anoyia 92.70 21 LR LR 02 58 41.1
comp=Z,3µm,18.1s,baz=325,slow=37
IDI Anoyia 92.70 21 PFAKE 02 15 10.0 +8.2
IDI LR LR
comp=Z,3µm,19.0s
KARP Karpathos 92.97 20 PFAKE 02 15 10.0 +7.0
KARP LR LR
comp=Z,4µm,22.0s
KMI Kunming 93.10 315 P **P** **02 15 02.4 -1.6**
KMI pP sP 02 15 10.3 +1.3
KMI sP pP 02 15 14.1 +6.4
KMI SKS **SKSac** **02 25 36.5 -1.8**
KMI S **S** **02 26 05.2 -5.6**
KMI pmax pmax
comp=Z,83nm,5.2s
KMI LR LR
comp=Z,4µm,18.1s
KMI LR LR
comp=Z,8µm,18.6s
KMI LR LR
comp=Z,4µm,19.0s
GEYT Alibeck 93.12 355 P **P** **02 15 02.3 -1.3**
comp=Z,3.6nm,1.0s,baz=305,slow=10,SNR=5.7
GEYT PP **PP** **02 18 49.8 +4.1**
comp=Z,3.9nm,1.1s,baz=1.3,slow=6.5,SNR=4.3
GYA0B ALIBECK ARRAY 93.12 355 *e*P **P** **02 15 02.7 -1.0**
comp=Z,9.7nm,0.9s
GYA0B LR LR
comp=Z,6µm,20.0s
LCO Las Campanas 93.30 132 *e*P **P** **02 15 04.2 -0.4**
comp=Z,22nm,1.1s
LCO LR LR
comp=Z,4µm,21.0s
LCO Las Campanas 93.30 132 *ce*P **P** **02 15 04.8 +0.2**
LSA Lhasa 93.91 326 P **P** **02 15 07.7 -0.2**
LSA LR LR
comp=Z,2µm,18.8s
LSA LR LR
comp=Z,2µm,14.1s
LSA LR LR
comp=Z,8µm,15.2s
LSA Lhasa 93.91 326 *e*P **P** **02 15 10.8 +2.9**
comp=Z,26nm,1.1s
LSA LR LR
comp=Z,8µm,18.0s
LSA Lhasa 93.91 326 *e*P **P** **02 15 10.8 +2.9**
LSA pmax pmax
comp=Z,26nm,1.1s
LSA MLR MLR
comp=Z,8µm,18.0s
LKP Lekhapani 94.20 321 *e*P **P** **02 15 11.0 +2.3**
GO04 Tololo Observa 94.21 133 PFAKE 02 15 20.0 +11
GO04 LR LR
comp=Z,5µm,20.0s
QIZ Qiongzhong 94.67 306 P **P** **02 15 13.3 +2.3**
QIZ S **S** **02 26 22.9 -1.3**
QIZ SS **SS** **02 32 47.0 +0.6**
QIZ pmax pmax
comp=Z,17nm,1.8s
QIZ LR LR
comp=Z,2µm,20.0s
QIZ LR LR
comp=Z,4µm,21.4s
QIZ LR LR
comp=Z,2µm,21.6s
QIZ Qiongzhong 94.67 306 PFAKE 02 15 20.0 +9.0
QIZ LR LR
comp=Z,3µm,20.0s
CSS Mathiatis 94.74 15 *e*P **P** **02 15 11.0 -0.1**
comp=Z,39nm,1.2s
CSS LR LR
comp=Z,6µm,21.0s
ZIRO ZIRO 94.83 323 *e*P **P** **02 15 11.8 -0.1**
DAV Davao City (W) 94.94 287 PFAKE 02 15 20.0 +7.7
DAV LR LR
comp=Z,12µm,22.0s
KBL Kabul 95.24 345 *e*P **P** **02 15 15.9 +2.2**
KBL Kabul 95.24 345 *e*P **P** **02 15 15.9 +2.2**
JORH JORHAT 95.37 322 *e*P **P** **02 15 15.6 +1.5**

TAWA Tawang 95.54 325 *e*P **P 02 15 14.8 -0.5**
BDFB Brasilia 95.62 107 P **P 02 15 16.6 +1.2**
comp=Z,1.8nm,0.6s,baz=127,slow=5.1,SNR=2.7
BDFB LR LR 03 04 29.5
comp=Z,4μm,18.5s,baz=324,slow=39
MOKO MOKOCHONG 95.64 322 *e*P **P 02 15 15.8 +0.3**
MOKO IAmb IAmb 02 15 21.4
comp=Z,16nm,0.6s
DHRM DHARAMSHALA 96.01 339 *e*P **P 02 15 17.4 +0.1**
DHRM IAMs_20 IAMs_20 02 58 45.4
comp=Z,5μm,18.4s
TEZP TEZPUR 96.06 324 *e*P **P 02 15 16.7 -0.5**
RCBR Riachuelo 96.09 92 PFAKE 02 15 30.0 +12
RCBR LR LR
comp=Z,7μm,20.0s
KOHI KOHIMA 96.34 322 *e*P **P 02 15 17.4 -1.4**
KOHI IAmb IAmb 02 15 19.9
comp=Z,24nm,0.3s
PEL Peldehue 96.72 134 PFAKE 02 15 30.0 +10
PEL LR LR
comp=Z,3μm,20.0s
GUWA GUWAHATI 96.87 324 *e*P **P 02 15 21.0 +0.2**
GUWA IAmb IAmb 02 15 22.3
comp=Z,187nm,0.1s
SMLA Simla 96.88 338 *e*P **P 02 15 20.4 -0.4**
SMLA IAMs_20 IAMs_20 02 52 42.2
comp=Z,4μm,27.3s
MMAI Mount Meron Ar 96.98 14 LR LR 02 58 38.5
comp=Z,181nm,20.5s,baz=30,slow=35
GTK Tadong 96.99 327 *e*P **P 02 15 21.2 -0.5**
GTK IAmb IAmb 02 15 30.5
comp=Z,42nm,1.6s
SHL Shillong 97.36 324 PFAKE 02 15 30.0 +6.6
SHL LR LR
comp=Z,7μm,20.0s
SHL Shillong 97.36 324 *e*P **P 02 15 20.8 -2.6**
SHL IAMs_20 IAMs_20 02 56 28.5
comp=Z,3μm,17.1s
DDI Dehra Dun 97.42 337 *e*P **P 02 15 21.8 -1.6**
TAM Tamanrasset 97.54 42 PFAKE 02 15 40.0 +16
TAM LR LR
comp=Z,6μm,18.0s
GO05 HualaæØ 97.69 136 PFAKE 02 15 40.0 +16
GO05 LR LR
comp=Z,2μm,20.0s
TURI Tura 97.97 325 *ex* P 02 15 19.8 -6.1
CPUP Villa Florida 98.21 121 P **P 02 15 26.5 -0.2**
comp=Z,1.2nm,0.8s,baz=302,slow=6.9,SNR=3.0
CPUP LR LR 03 05 28.9
comp=Z,3μm,19.2s,baz=335,slow=39
CPUP Villa Florida 98.21 121 *e*P Pdif 02 15 28.8 +2.1
comp=Z,6.6nm,1.2s
FAKI Fak Fak 98.23 275 PFAKE 02 15 40.0 +13
FAKI LR LR
comp=Z,6μm,21.0s
OUZ Omahuta 98.44 224 PFAKE 02 15 40.0 +12
OUZ LR LR
comp=Z,4μm,22.0s
TNTI Ternate 98.62 281 PFAKE 02 15 40.0 +11
TNTI LR LR
comp=Z,6μm,22.0s
AGT Agartala 99.12 324 *e*P **Pdif 02 15 30.8 -0.3**
AGT IAMs_20 IAMs_20 02 59 40.6
comp=Z,5μm,14.0s
URZ Urewera 99.41 220 LR LR 02 54 19.3
comp=Z,2μm,19.4s,baz=38,slow=32
URZ Urewera 99.41 220 PFAKE 02 15 40.0 +8.3
URZ LR LR
comp=Z,3μm,20.0s
BELO BELONIA 99.61 323 *e*P **Pdif 02 15 32.4 -0.8**
SAIH SAIHA 99.68 322 *e*P **Pdif 02 15 33.1 -0.6**
KOWA Kowa 99.97 54 PFAKE 02 15 50.0 +15
KOWA LR LR
comp=Z,9μm,22.0s
CHTO Chiang Mai 100.30 315 PFAKE 02 15 50.0 +14
CHTO LR LR
comp=Z,3μm,20.0s
HIZ Hauiti 100.60 222 PFAKE 02 15 50.0 +13
HIZ LR LR
comp=Z,4μm,19.0s
CM31 Chiang Mai Arr 100.61 315 *e*Pdif **Pdif 02 15 37.6 -0.1**
CMAR Chiang Mai Arr 100.61 315 P **Pdif 02 15 37.6 -0.1**
comp=Z,4.8nm,0.8s,baz=10,slow=4.3,SNR=18
MYLDM Lahad Datu 100.81 291 PFAKE 02 15 50.0 +11
MYLDM LR LR
comp=Z,8μm,20.0s
BOK Bokaro 101.18 328 *e*P **Pdif 02 15 38.0 -2.3**
BOK IAmb IAmb 02 15 38.6
comp=Z,3.7nm,0.6s
GO06 Curarrehue 101.69 139 PFAKE 02 15 50.0 +8.0
GO06 LR LR
comp=Z,2μm,21.0s
BFZ Birch Farm 101.80 220 PFAKE 02 15 50.0 +7.7
BFZ LR LR
comp=Z,4μm,20.0s
CTAO Charters Tower 101.88 253 PFAKE 02 16 00.0 +17
CTAO LR LR
comp=Z,4μm,21.0s
SPB Sao Paulo 101.94 112 PFAKE 02 16 00.0 +17
SPB LR LR
comp=Z,5μm,20.0s
SAUI Saumlaki 102.64 272 PFAKE 02 16 00.0 +13
SAUI LR LR
comp=Z,5μm,20.0s
EIDS Eidsvold 102.82 246 PFAKE 02 16 00.0 +13
EIDS LR LR
comp=Z,9μm,21.0s
LHI Lord Howe Isla 102.86 237 PFAKE 02 16 00.0 +13
LHI LR LR
comp=Z,7μm,20.0s
LUWI Luwuk 102.95 284 PFAKE 02 16 00.0 +12
LUWI LR LR
comp=Z,3μm,20.0s
SNZO South Karori 102.97 220 PFAKE 02 16 00.0 +13
SNZO LR LR
comp=Z,3μm,18.0s
TOC7 Torodi Ar. Sit 104.04 50 PFAKE 02 16 00.0 +6.9
TOC7 LR LR
comp=Z,11μm,19.0s
TOC1 Torodi Ar. Sit 104.04 50 PFAKE 02 16 00.0 +6.9
TOC1 LR LR
comp=Z,13μm,19.0s
TOB5 Torodi Ar. Sit 104.05 50 PFAKE 02 16 00.0 +6.9
TOB5 LR LR
comp=Z,11μm,19.0s
TOA1 Torodi Ar. Sit 104.05 50 *e*PKiKP **PKiKP 02 20 12.6 +2.2**
TOA1 LR LR
comp=Z,11μm,19.0s
TOA0 Torodi Ar. Sit 104.06 50 PFAKE 02 16 00.0 +6.9
TOA0 LR LR
comp=Z,11μm,20.0s
TORD Torodi Ar. Bea 104.06 50 PP PP 02 20 12.6 +2.5
comp=Z,3.2nm,1.0s,baz=324,slow=8.1,SNR=5.8
TOB2 Torodi Ar. Sit 104.06 50 PFAKE 02 16 00.0 +6.8
TOB2 LR LR
comp=Z,11μm,19.0s
TOA2 Torodi Ar. Sit 104.06 50 PFAKE 02 16 00.0 +6.8
TOA2 LR LR
comp=Z,11μm,19.0s
TOB4 Torodi Ar. Sit 104.06 50 PFAKE 02 16 00.0 +6.8
TOB4 LR LR
comp=Z,11μm,19.0s
TOA3 Torodi Ar. Sit 104.06 50 PFAKE 02 16 00.0 +6.8
TOA3 LR LR
comp=Z,10μm,19.0s
TOC2 Torodi Ar. Sit 104.06 50 PFAKE 02 16 00.0 +6.8
TOC2 LR LR
comp=Z,11μm,20.0s
TOC5 Torodi Ar. Sit 104.07 50 PFAKE 02 16 00.0 +6.8
TOC5 LR LR
comp=Z,12μm,19.0s
TOB3 Torodi Ar. Sit 104.07 50 PFAKE 02 16 00.0 +6.8
TOB3 LR LR
comp=Z,11μm,19.0s
TOC3 Torodi Ar. Sit 104.08 50 PFAKE 02 16 00.0 +6.8
TOC3 LR LR
comp=Z,11μm,19.0s
TOC4 Torodi Ar. Sit 104.08 50 PFAKE 02 16 00.0 +6.7
TOC4 LR LR
comp=Z,12μm,18.0s
THZ Tophouse 104.12 221 PFAKE 02 16 10.0 +17
THZ LR LR
comp=Z,3μm,21.0s
BHPL Bhopal 104.32 335 *e*P **Pdif 02 15 53.3 -1.0**
BHPL IAmb IAmb 02 15 54.2
comp=Z,17nm,0.2s
BHPL IAMs_20 IAMs_20 02 57 41.2
comp=Z,5μm,41.1s
KHZ Kahutara 104.38 220 PFAKE 02 16 10.0 +16
KHZ LR LR
comp=Z,4μm,18.0s
TRQA Tornquist 104.87 131 PFAKE 02 16 10.0 +14
TRQA LR LR
comp=Z,4μm,20.0s
MQZ McQueen's Vall 105.81 220 PFAKE 02 20 20.0
MQZ LR LR
comp=Z,2μm,20.0s
BHJ Bhuj 106.14 343 *e*P **Pdif 02 16 01.6 -0.7**
BHJ IAmb IAmb 02 16 17.4
UOSS Minazif 106.14 356 PFAKE 02 20 30.0
UOSS LR LR
comp=Z,4μm,21.0s
ARMA Armidale 106.24 242 PFAKE 02 20 30.0
ARMA LR LR
comp=Z,10μm,20.0s
MTN Manton Dam 106.34 269 PFAKE 02 20 30.0
MTN LR LR
comp=Z,5μm,21.0s
RPZ Rata Peaks 106.50 221 PFAKE 02 20 30.0
RPZ LR LR
comp=Z,4μm,18.0s
SBUM Sibu 106.77 294 PFAKE 02 20 30.0
SBUM LR LR
comp=Z,1μm,20.0s
FOZ Fox Glacier 106.89 222 PFAKE 02 20 30.0
FOZ LR LR
comp=Z,3μm,19.0s
LBZ Lake Benmore 107.41 221 PFAKE 02 20 30.0
LBZ LR LR
comp=Z,2μm,19.0s
RAYN Ar Rayn 107.49 6 PFAKE 02 20 30.0
RAYN LR LR
comp=Z,2μm,21.0s
ODZ Otahua Downs 107.74 221 PFAKE 02 20 30.0
ODZ LR LR
comp=Z,3μm,21.0s
KAPI Kappang 107.91 283 PFAKE 02 20 30.0
KAPI LR LR
comp=Z,4μm,21.0s
WKZ Wanaka 108.27 222 PFAKE 02 20 30.0
WKZ LR LR
comp=Z,3μm,20.0s
SOEI Soe 108.56 277 PFAKE 02 20 30.0
SOEI LR LR
comp=Z,6μm,22.0s
KSM Kuching 108.69 295 PFAKE 02 20 30.0
KSM LR LR
comp=Z,3μm,22.0s
MMRI Maumere 109.05 279 PFAKE 02 20 30.0
MMRI LR LR
comp=Z,3μm,20.0s
MLZ Mavora Lakes 109.08 222 PFAKE 02 20 30.0
MLZ LR LR
comp=Z,3μm,22.0s
WB0 Warramunga Arr 109.24 262 PFAKE 02 20 30.0
WB0 LR LR
comp=Z,6μm,22.0s
WB9 Warramunga Arr 109.27 262 PFAKE 02 20 30.0
WB9 LR LR
comp=Z,12μm,22.0s
WB8 Warramunga Arr 109.28 262 PFAKE 02 20 30.0
WB8 LR LR
comp=Z,6μm,22.0s
WR0 Warramunga Arr 109.29 262 PFAKE 02 20 30.0
WR0 LR LR
comp=Z,4μm,19.0s
WR9 Warramunga Arr 109.30 262 PFAKE 02 20 30.0
WR9 LR LR
comp=Z,4μm,20.0s
WR8 Warramunga Arr 109.31 262 PFAKE 02 20 30.0
WR8 LR LR
comp=Z,4μm,20.0s
WB6 Warramunga Arr 109.32 262 PFAKE 02 20 30.0
WB6 LR LR
comp=Z,6μm,22.0s
WR7 Warramunga Arr 109.33 262 PFAKE 02 20 30.0
WR7 LR LR
comp=Z,4μm,19.0s
WR6 Warramunga Arr 109.34 262 PFAKE 02 20 30.0
WR6 LR LR
comp=Z,4μm,19.0s
WB5 Warramunga Arr 109.34 262 PFAKE 02 20 30.0
WB5 LR LR
comp=Z,5μm,22.0s
WR5 Warramunga Arr 109.35 262 PFAKE 02 20 30.0
WR5 LR LR
comp=Z,4μm,20.0s
WB4 Warramunga Arr 109.36 262 PFAKE 02 20 30.0
WB4 LR LR
comp=Z,4μm,19.0s
WR4 Warramunga Arr 109.37 262 PFAKE 02 20 30.0
WR4 LR LR
comp=Z,4μm,19.0s
WR3 Warramunga Arr 109.38 262 PFAKE 02 20 30.0
WR3 LR LR
comp=Z,4μm,20.0s
WB3 Warramunga Arr 109.38 262 PFAKE 02 20 30.0
WB3 LR LR
comp=Z,4μm,22.0s
WRAB Tennant Creek 109.39 262 PFAKE 02 20 30.0
WRAB LR LR
comp=Z,6μm,22.0s
WC1 Warramunga Arr 109.39 262 PFAKE 02 20 30.0
WC1 LR LR
comp=Z,4μm,22.0s
WR2 Warramunga Arr 109.39 262 PFAKE 02 20 30.0
WR2 LR LR
comp=Z,5μm,22.0s
WC3 Warramunga Arr 109.39 262 PFAKE 02 20 30.0
WC3 LR LR
comp=Z,4μm,19.0s
WB2 Warramunga Arr 109.40 262 PFAKE 02 20 30.0
WB2 LR LR
comp=Z,7μm,22.0s
WR1 Warramunga Arr 109.40 262 *e*Pdif **Pdif 02 16 24.3 +7.6**
WR1 *e*PKiKP **PKiKP 02 20 18.9 -1.2**
WR1 *e*PKKPdf **PKKPdf 02 31 40.4 +1.0**
WR1 LR LR
comp=Z,5μm,22.0s
PBA Port Blair 109.41 317 PFAKE 02 20 30.0
PBA LR LR
comp=Z,5μm,20.0s
WRA Warramunga Arr 109.41 262 Pdiff **Pdif 02 16 24.3 +7.6**
comp=Z,0.9nm,1.0s,baz=44,slow=5.0,SNR=5.2
WRA PKiKP **PKiKP 02 20 18.9 -1.2**
comp=Z,1.0nm,0.8s,baz=19,slow=1.9,SNR=8.1
WRA PKKP **PKKPdf 02 31 40.4 +1.0**
comp=Z,1.6nm,1.1s,baz=215,slow=2.3,SNR=5.2
WC4 Warramunga Arr 109.42 262 PFAKE 02 20 30.0
WC4 LR LR
comp=Z,6μm,22.0s
WHZ Wether Hill Ro 109.57 222 PFAKE 02 20 30.0
WHZ LR LR
comp=Z,3μm,21.0s
DCZ Deep Cove 109.59 222 PFAKE 02 20 30.0
DCZ LR LR
comp=Z,2μm,22.0s
POO Poona 109.76 337 *e*P **Pdif 02 16 18.1 -0.4**
KULM Kulim 111.00 306 PFAKE 02 20 40.0
KULM LR LR
comp=Z,4μm,19.0s
CAN Canberra 111.31 240 PFAKE 02 20 40.0
CAN LR LR
comp=Z,4μm,20.0s
IPM Ipoh 111.49 305 PFAKE 02 20 40.0
IPM LR LR
comp=Z,2μm,20.0s
ASCN Ascension 111.71 77 PFAKE 02 20 40.0
ASCN LR LR
comp=Z,6μm,19.0s
MYKOM Kota Tinggi 112.17 301 PFAKE 02 20 40.0
MYKOM LR LR
comp=Z,3μm,20.0s
AS31 Alice Springs 112.34 259 PFAKE 02 20 40.0
AS31 LR LR
comp=Z,100nm,18.0s
ASAR Alice Springs 112.34 259 Pdiff **Pdif 02 16 37.0 +7.2**
comp=Z,0.5nm,0.7s,baz=54,slow=4.4,SNR=5.0
ASAR PKiKP **PKiKP 02 20 25.6 +0.1**
comp=Z,0.8nm,0.8s,baz=39,slow=3.1,SNR=4.7
ASAR PKKPbc **PKKPab 02 31 21.4 -1.5**
comp=Z,0.9nm,0.8s,baz=220,slow=2.4,SNR=4.9
LHMI Lhok Sumawe 112.98 310 PFAKE 02 20 40.0
LHMI LR LR
comp=Z,4μm,21.0s
STKA Stephens Creek 113.26 248 PFAKE 02 20 40.0
STKA LR LR
comp=Z,2μm,19.0s
FITZ Fitzroy Crossi 113.77 270 PFAKE 02 20 40.0
FITZ LR LR
comp=Z,4μm,21.0s
PSI Prapat 114.02 306 PFAKE 02 20 40.0 +11
PSI LR LR
comp=Z,4μm,21.0s
JAGI Jajag, Banyuwa 114.11 286 PFAKE 02 20 40.0 +11
JAGI LR LR
comp=Z,5μm,22.0s
BKNI Bangkinang 114.94 303 PFAKE 02 20 40.0 +9.1
BKNI LR LR
comp=Z,4μm,20.0s
SMRI Semarang 115.33 290 PFAKE 02 20 40.0 +8.4
SMRI LR LR
comp=Z,4μm,22.0s
UGM Wanagama 115.95 289 PFAKE 02 20 40.0 +7.2
UGM LR LR
comp=Z,3μm,21.0s
GSI Gunungsitoli 115.99 307 PFAKE 02 20 40.0 +7.1
GSI LR LR
comp=Z,4μm,22.0s
DAMY Dhamar 116.28 8 PFAKE 02 20 50.0 +16
DAMY LR LR
comp=Z,2μm,21.0s
BBOO Buckleboo 117.30 251 PFAKE 02 20 50.0 +15
BBOO LR LR
comp=Z,10μm,22.0s
CISI Cisompet, Garu 117.34 292 PFAKE 02 20 50.0 +15
CISI LR LR
comp=Z,2μm,22.0s
TAU Tasmania Unive 117.53 236 PFAKE 02 20 50.0 +15
TAU LR LR
comp=Z,6μm,20.0s
MNAI Manna 117.69 298 PFAKE 02 20 50.0 +14
MNAI LR LR
comp=Z,2μm,22.0s
PALK Pallekele 118.28 327 PFAKE 02 20 50.0 +13
PALK LR LR
comp=Z,4μm,22.0s
ATD Arta Tunnel 119.13 10 PFAKE 02 20 50.0 +11
ATD LR LR
comp=Z,2μm,20.0s
MNCI Minicoy 119.78 335 PFAKE 02 20 50.0 +10
MNCI LR LR
comp=Z,5μm,20.0s
MCQ Macquarie Isla 119.81 220 PFAKE 02 20 50.0 +11
MCQ LR LR
comp=Z,3μm,18.0s
MBWA Marble Bar 119.84 272 PFAKE 02 20 50.0 +10
MBWA LR LR
comp=Z,4μm,20.0s
FORT Forrest 120.99 258 PFAKE 02 20 50.0 +8.1
FORT LR LR
comp=Z,12μm,22.0s
FURI Furi 121.14 15 PFAKE 02 20 50.0 +6.8
FURI LR LR
comp=Z,4μm,19.0s
HMDM Hanimaadhoo 121.18 335 PFAKE 02 20 50.0 +7.1
HMDM LR LR
comp=Z,4μm,20.0s
SHEL Horse Pasture 123.25 75 PFAKE 02 21 00.0 +13
SHEL LR LR
comp=Z,4μm,19.0s
COCO West Island 127.54 299 PFAKE 02 21 10.0 +15
COCO LR LR
comp=Z,2μm,22.0s
MBAR Mbarara 128.48 27 PFAKE 02 21 10.0 +13
MBAR LR LR
comp=Z,3μm,19.0s
HOPE Hope Point 128.65 131 PFAKE 02 21 10.0 +14
HOPE LR LR
comp=Z,6μm,21.0s
NWAO Narrogin (SRO) 129.39 263 PFAKE 02 21 10.0 +12
NWAO LR LR
comp=Z,6μm,18.0s
KMBO Kilima Mbogo 130.65 19 PKP **PKPdf 02 21 02.2 +0.9**
comp=Z,0.5nm,0.3s,baz=245,slow=8.3,SNR=4.1
KMBO Kilima Mbogo 130.65 19 *e*PKPdf **PKPdf 02 21 02.2 +0.9**
KMBO LR LR
comp=Z,3μm,20.0s
NAI Nairobi 130.69 19 PFAKE 02 21 10.0 +8.7
NAI LR LR
comp=Z,4μm,21.0s
SBA Scott Base 132.64 195 PFAKE 02 21 20.0 +17
SBA LR LR
comp=Z,3μm,20.0s
VNDA Vanda 133.32 196 PKP **PKPdf 02 21 05.0 +1.0**
comp=Z,1.3nm,0.9s,baz=336,slow=5.3,SNR=5.2
VNDA Vanda 133.32 196 *e*PKPdf **PKPdf 02 21 05.5 +1.5**
QSPA South Pole Qui 138.93 180 *e*PKPpre PKPpre 02 21 08.8
QSPA LR LR
comp=Z,7μm,19.0s
TSUM Tsumeb 139.63 54 *e*PKPdf **PKPdf 02 21 15.8 -1.9**
TSUM LR LR
comp=Z,6μm,21.0s
LSZ Lusaka 141.25 38 *e*PKPpre PKPpre 02 21 15.7
LSZ LR LR
comp=Z,8μm,22.0s
VNA3 Neumayer Olymp 144.69 151 PKP **PKPab 02 21 21.7 -2.1**
VNA1 Neumayer--Stat 145.21 150 PKP **PKPbc 02 21 25.0 -0.5**
CASY Casey 145.70 218 PFAKE 02 21 40.0 +12
CASY LR LR
comp=Z,3μm,20.0s
MATP Matopo 145.98 41 PKPbc **PKPab 02 21 29.8 -0.3**
comp=Z,22nm,1.1s,baz=357,slow=3.0,SNR=13
SNAA Sanae 146.78 152 PKP **PKPdf 02 21 27.8 -0.7**
SNAA Sanae 146.78 152 *e*PKPdf **PKPdf 02 21 27.0 -1.5**
SNAA LR LR
comp=Z,3μm,19.0s
SNAA Sanae 146.78 152 *e*PKIKP **PKPdf 02 21 27.0 -1.5**
SNAA MLR MLR
comp=Z,3μm,19.0s
LBTB Lobatse 148.58 49 *e*PKPbc **PKPbc 02 21 36.4 -0.3**
LBTB Lobatse 148.58 49 *e*PKP2 **PKPbc 02 21 36.4 -0.3**
OPO Ambohidratompo 149.32 8 PKPbc **PKPbc 02 21 37.4 -1.4**
comp=Z,6.8nm,0.9s,baz=271,slow=1.6,SNR=5.3
ABPO Ambohimpanom 149.77 8 *e*PKPbc **PKPbc 02 21 41.5 +1.6**
ABPO LR LR
comp=Z,5μm,18.0s
ABPO Ambohimpanom 149.77 8 *i* PKP2 **PKPab 02 21 45.0 -0.2**
BOSA Boshof 151.33 54 PKPbc **PKPbc 02 21 41.4 -2.0**
comp=Z,17nm,0.8s,baz=328,slow=3.8,SNR=18
NVL N'lazarevskaya 151.53 154 *e*PKIKP **PKPbc 02 21 41.3 -1.0**
NVL *e*SS SS 02 44 49.5 +2.8
SUR Sutherland 151.65 65 PKPbc **PKPbc 02 21 43.5 -0.5**
comp=Z,13nm,0.8s,baz=83,slow=4.7,SNR=7.0
SUR Sutherland 151.65 65 *e*PKPbc **PKPbc 02 21 44.3 +0.3**
SUR LR LR
comp=Z,5μm,20.0s
RER Riviere de l'E 151.88 351 PFAKE 02 21 50.0 -3.8
RER LR LR
comp=Z,4μm,20.0s
SYO Syowa Base 159.22 168 *e*P PKPdf 02 22 04.4 +18
SYO Syowa Base 159.22 168 *e*P PKPab 02 22 10.3 -13
SYO Syowa Base 159.22 168 *e*P PKPab 02 22 14.8 -9.0
MAW Mawson 160.59 193 PKP **PKPdf 02 21 48.1 +0.1**
comp=Z,2.6nm,1.1s,baz=295,slow=3.3,SNR=3.5

*PGC **08** 02:06:08.3±3.9, 49.°04N×128.°73W, h10km, MLSn3.7/1, Mw4.4/1, 203km Wsw of Gold R., Bc Vancouver Island, Canada Region*
*NEIC **08** 02:06:09.9±2.4, 49.°19N×128.°40W, h10km±15km, MW4.4(OTT), Error ellipse: s-maj=28.3km s-min=6.4km az=52.0*

ISC 08 02:06:08.6±3.0, 49.°15N±0.°10×128.°5W±0.°1, h9km, n28, σ0.°73/33, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**1.16**	**51**	P		**Pb**	**02 06 30.7**	**-0.2**
EDB				S		**Sb**	**02 06 47.1**	**+1.1**
EDB	**Eliza Dome**	**1.16**	**51**	P		**Pb**	**02 06 30.7**	**-0.2**
EDB				S		**Sb**	**02 06 47.1**	**+1.1**
ETB	**Estevan Point**	**1.31**	**79**	P		**Pn**	**02 06 33.1**	**0.0**
ETB	**Estevan Point**	**1.31**	**79**	P		**Pn**	**02 06 33.1**	**0.0**

PACB	**Port Alice, BC**	**1.45**	**27**	P		**Pn**	**02 06 34.6**	**-0.3**
PACB				S		**Sn**	**02 06 53.5**	**-0.6**
WOSB	**Woss**	**1.62**	**51**	Pn		**Pn**	**02 06 37.2**	**-0.1**
WOSB	**Woss**	**1.62**	**51**	Pn		**Pn**	**02 06 37.2**	**-0.1**
PHC	**Port Hardy**	**1.71**	**24**	Pn		**Pn**	**02 06 38.8**	**+0.3**
PHC				Sn		**Sn**	**02 06 59.0**	**-1.4**
PHC	**Port Hardy**	**1.71**	**24**	Pn		**Pn**	**02 06 38.8**	**+0.3**
PHC				Sn		**Sn**	**02 06 59.0**	**-1.4**
TOFB	**Tofino**	**1.71**	**89**	Sn		**Sn**	**02 07 00.6**	**+0.1**
GDR	**Gold River**	**1.74**	**68**	Pn		**Pn**	**02 06 38.7**	**-0.2**
GDR	**Gold River**	**1.74**	**68**	Pn		**Pn**	**02 06 38.7**	**-0.2**
TLCB	**Telegraph Cove**	**1.77**	**37**	Pn		**Pn**	**02 06 40.4**	**+1.0**
BTB	**Buttle Lake**	**1.98**	**80**	Pn		**Pn**	**02 06 42.0**	**-0.5**
BTB	**Buttle Lake**	**1.98**	**80**	Pn		**Pn**	**02 06 42.0**	**-0.5**
OZB	**Mount Ozzard**	**2.00**	**94**	Pn		**Pn**	**02 06 43.0**	**+0.5**
OZB	**Mount Ozzard**	**2.00**	**94**	Pn		**Pn**	**02 06 43.0**	**+0.5**
SPLB	**Strathcona Par**	**2.01**	**67**	Pn		**Pn**	**02 06 43.3**	**+0.7**
NCRB	**Newcastle Ridg**	**2.03**	**51**	Pn		**Pn**	**02 06 42.0**	**-1.0**
NCRB	**Newcastle Ridg**	**2.03**	**51**	Pn		**Pn**	**02 06 42.0**	**-1.0**
CBB	**Campbell River**	**2.23**	**65**	Pn		**Pn**	**02 06 46.6**	**+0.9**
CBB	**Campbell River**	**2.23**	**65**	Pn		**Pn**	**02 06 46.6**	**+0.9**
B928	**Bamfield**	**2.25**	**97**	Sn		**Sn**	**02 07 12.8**	**-0.9**
B928	**Bamfield**	**2.25**	**97**	Sn		**Sn**	**02 07 12.8**	**-0.9**
MGB	**Mount Grey**	**2.52**	**92**	Sn		**Sn**	**02 07 20.0**	**-0.6**
MGB	**Mount Grey**	**2.52**	**92**	Sn		**Sn**	**02 07 20.0**	**-0.6**
BBB	**Bella Bella**	**3.05**	**5**	Sn		**Sn**	**02 07 33.6**	**0.0**
BBB	**Bella Bella**	**3.05**	**5**	Sn		**Sn**	**02 07 33.6**	**0.0**

MEX 08 02:09:53.7±0.6, 13°80.N×92°23.W, h34$^{km}_{\pm 57}$, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.10**	**358**	*e*P	Pn	02 10 11.1	-1.7
THIG				*e*S	Sn	02 10 24.4	-2.5
PCIG		**2.12**	**333**	*e*P	Pn	02 10 24.4	-2.4
PCIG				*e*S	Sn	02 10 50.3	-1.8
CCIG	**Comitan**	**2.47**	**2**	*e*P	Pn	02 10 30.2	-1.6
CCIG				*e*S	Sn	02 10 59.0	-1.9

*IDC **08** 02:18:55.4±0.8, 13°.72N×92°.18W, h0^{km}, mb4.1/9, mb1 4.3/14, mb1mx4.1/47, mbtmp4.1/14, ML3.6/5, MS5.1/3, Ms1 5.1/3, ms1mx4.1/47, Error ellipse: s-maj=26.9km s-min=12.6km az=43.0*

*ISCJB **08** 02:19:01.7±0.4, 13°.90N±0°.05×92°.03W±0°.05, h54^{km}, mb4.2/26, MS5.1/2, Error ellipse: s-maj=9.4km s-min=3.9km az=39.6*

*NEIC **08** 02:19:01.5±0.9, 13°.79N×92°.10W, h40$^{km}_{\pm 8}$, mb4.3/21, Error ellipse: s-maj=13.0km s-min=4.8km az=221.0*

ISC 08 02:19:02.7±0.6, 13°.84N±0°.07×92°.07W±0°.07, h54^{km}, n79, σ1§52/77, mb4.3/26, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**1.94**	**53**	Pn	**Pn**	**02 19 33.4**	**-0.1**
	70nm,0.3s,baz=225,slow=9.0,SNR=100						
APG				Sn	**Sn**	**02 19 59.4**	**+2.5**
	226nm,0.3s,baz=318,slow=5.6,SNR=13						
CCIG	**Comitan**	**2.42**	**359**	*e*Pn	**Pn**	**02 19 39.5**	**-0.5**
CCIG				*e*Sn	**Sn**	**02 20 08.2**	**-0.5**
CMIG	**Matias Romero**	**4.21**	**320**	Pn	**Pn**	**02 20 01.6**	**-2.9**
	3.8nm,0.3s,baz=167,slow=13,SNR=13						
TGUH	**Tegucigalpa,Un**	**4.67**	**87**	*e*Pn	**Pn**	**02 20 10.3**	**-0.3**
TGUH				*e*Sn	**Sn**	**02 21 02.3**	**-1.2**
ESTN	**Estel**	**5.60**	**97**	*e*Pn	**Pn**	**02 20 23.1**	**-0.4**
TLIG	**Tlapa**	**7.26**	**301**	*e*Pn	**Pn**	**02 20 45.5**	**-0.9**
TEIG	**Tepich**	**7.31**	**29**	*e*Pn	**Pn**	**02 20 46.7**	**-0.3**
JTS	**JuntasAbangare**	**7.81**	**116**	Pn	**Pn**	**02 20 52.0**	**-1.8**
	0.5nm,0.3s,baz=163,slow=20,SNR=2.6						
JTS	**JuntasAbangare**	**7.81**	**116**	*e*Pn	**Pn**	**02 20 52.0**	**-1.8**
JTS				*e*Sn	**Sn**	**02 22 17.8**	**-3.1**
MOTC	**Monteria, Cord**	**16.86**	**106**	*e*P	**P**	**02 22 58.8**	**+2.3**
ZARC	**Zaragoza, Cauc**	**18.05**	**109**	*e*P	**Pn**	**02 23 10.2**	**+0.3**
YOTC	**Yotoco, Valle**	**18.35**	**121**	*e*P	**Pn**	**02 23 13.6**	**0.0**
HORQ	**Saladito**	**18.40**	**123**	*e*P	**Pn**	**02 23 17.1**	**+2.7**
GUYC	**Guyana, Colomb**	**18.54**	**116**	*e*P	**Pn**	**02 23 18.8**	**+2.6**
PTBC	**PUERTO BERRIO,**	**18.79**	**111**	*e*P	**P**	**02 23 18.2**	**+0.4**
TXAR	**Lajitas Array**	**18.79**	**327**	P	**P**	**02 23 18.0**	**+0.2**
	0.2nm,0.3s,baz=153,slow=11,SNR=31						
TX31	**Lajitas Ar. Si**	**18.79**	**327**	*e*P	**Pn**	**02 23 19.1**	**+0.3**
POPC	**Popayan, Colom**	**18.91**	**125**	*e*P	**Pn**	**02 23 21.2**	**+0.7**
POPC				*e*P	**P**	**02 23 21.5**	**+2.1**
CRUC	**La Cruz**	**19.30**	**128**	*e*P	**Pn**	**02 23 30.8**	**+5.6**
MARP	**Paez Belalcaza**	**19.31**	**123**	*e*P	**Pn**	**02 23 26.7**	**+1.4**
ROSC	**El Rosal**	**19.66**	**115**	P	**P**	**02 23 28.6**	**+0.9**
	0.7nm,0.3s,baz=70,slow=6.4,SNR=6.6						
ROSC	**El Rosal**	**19.66**	**115**	*e*P	**P**	**02 23 28.6**	**+0.9**
	14nm,1.0s						
ROSC	**El Rosal**	**19.66**	**115**	*e*P	**Pn**	**02 23 31.5**	**+2.1**
GIRC	**Giron, Santand**	**19.74**	**108**	*e*P	Pn	02 23 39.5	+9.3
BETC	**Betania**	**19.83**	**123**	*e*P	**Pn**	**02 23 36.4**	**+5.2**
BARC	**Barichara**	**19.93**	**109**	*e*P	**Pn**	**02 23 32.4**	**-0.2**
PAMC	**Pamplona, Colo**	**20.10**	**107**	*e*P	Pn	02 23 34.3	-0.6
CHIC	**Chingaza**	**20.27**	**115**	*e*P	Pn	02 23 36.6	-0.1
RUSC	**La Rusia**	**20.30**	**111**	*e*P	**P**	**02 23 35.9**	**+1.1**
FLOC	**Florencia**	**20.30**	**125**	*e*P	Pn	02 23 39.1	+2.3
GDL2	**Guadalupe Moun**	**21.45**	**330**	*e*P	**P**	**02 23 47.5**	**+0.8**
MNTX	**Cornudas Mount**	**21.56**	**328**	*e*P	**P**	**02 23 47.6**	**-0.1**
	9.2nm,0.8s						
SDV	**Santo Domingo**	**21.58**	**101**	P	**P**	**02 23 46.7**	**-1.6**
	1.7nm,0.4s,baz=204,slow=17,SNR=5.5						
SDV	**Santo Domingo**	**21.58**	**101**	*e*P	**P**	**02 23 48.2**	**-0.1**
	7.1nm,0.8s						
GUVC	**San Jose del G**	**22.25**	**119**	*e*P	**P**	**02 23 55.0**	**-0.4**
MSTX	**Muleshoe**	**22.27**	**336**	*e*P	**P**	**02 23 54.1**	**-1.3**
	16nm,1.1s						
AMTX	**Amarillo**	**22.68**	**339**	*e*P	**P**	**02 23 58.7**	**-1.0**
	14nm,0.6s						
319A	**Douglas**	**23.54**	**321**	*e*P	**P**	**02 24 10.2**	**+1.9**
	6.0nm,0.8s						
ANMO	**Albuquerque**	**24.70**	**331**	P	**P**	**02 24 19.1**	**+0.1**
	4.6nm,0.7s,baz=145,slow=12,SNR=21						
ANMO	**Albuquerque**	**24.70**	**331**	*e*P	**P**	**02 24 19.9**	**+0.9**
	5.8nm,0.8s						
WCI	**Wyandotte Cave**	**24.82**	**11**	*e*P	**P**	**02 24 19.0**	**-0.9**
	11nm,0.8s						
S22A	**4UR Ranch, Cre**	**27.19**	**334**	*e*P	**P**	**02 24 43.0**	**+1.4**
	0.5nm,0.5s						
MVCO	**Mesa Verde**	**27.50**	**331**	*e*P	**P**	**02 24 45.6**	**+1.2**
	19nm,1.2s						
P17A	**Butcher Ranch,**	**30.37**	**331**	*e*P	**P**	**02 25 09.7**	**0.0**
MPU	**Maple Canyon**	**31.22**	**330**	*e*P	**P**	**02 25 19.0**	**+1.7**
TCUT	**Toone Canyon**	**31.98**	**332**	*e*P	**P**	**02 25 25.9**	**+1.9**
	23nm,1.5s						
PD31	**Pinedale Array**	**32.53**	**336**	*e*P	**P**	**02 25 28.9**	**+0.1**
PDAR	**Pinedale Array**	**32.53**	**336**	P	**P**	**02 25 28.9**	**+0.1**
	0.4nm,0.8s,baz=138,slow=9.6,SNR=2.8						
SPUT	**South Promonto**	**32.61**	**331**	*e*P	**P**	**02 25 31.3**	**+1.8**
	2.6nm,1.1s						
SADO	**Sadowa**	**32.73**	**17**	LR	LR	02 39 38.3	
	comp=Z,5μm,18.1s,baz=248,slow=38						
HVU	**Hansel Valley**	**33.13**	**331**	*e*P	**P**	**02 25 35.3**	**+1.3**
	0.4nm,0.7s						
REDW	**Red Top Meadow**	**33.55**	**335**	*e*P	**P**	**02 25 38.4**	**+0.7**
	2.1nm,0.6s						
NV01	**Mina Array Sit**	**33.75**	**321**	*e*P	**P**	**02 25 40.6**	**+1.2**
NVAR	**Mina Array Bea**	**33.75**	**321**	P	**P**	**02 25 40.9**	**+1.5**
	3.1nm,0.8s,baz=133,slow=8.4,SNR=24						
KVN	**Kaiserville**	**34.02**	**322**	*e*P	**P**	**02 25 43.8**	**+2.0**
	4.9nm,1.2s						
PTGA	**Pitinga**	**34.95**	**112**	P	**P**	**02 25 49.4**	**-0.4**
	4.7nm,0.7s,baz=304,slow=9.7,SNR=15						
PTGA	**Pitinga**	**34.95**	**112**	*e*P	**P**	**02 25 50.3**	**+0.4**
HLID	**Hailey**	**35.28**	**331**	*e*P	**P**	**02 25 53.6**	**+1.0**
	1.1nm,0.6s						
WVOR	**Wild Horse Val**	**36.58**	**326**	*e*P	**P**	**02 26 04.7**	**+1.0**
J08A	**Circle Bar Ran**	**37.13**	**328**	*e*P	**P**	**02 26 09.5**	**+1.2**
	10nm,0.6s						
LPAZ	**La Paz**	**38.16**	**141**	P	**P**	**02 26 17.5**	**-0.3**
	1.2nm,0.7s,baz=324,slow=8.9,SNR=5.7						
F10A	**Beach Ranch, E**	**38.41**	**332**	*e*P	**P**	**02 26 19.3**	**+0.3**
	7.4nm,0.8s						
YKA	**Yellowknife Ar**	**51.16**	**347**	P	**P**	**02 27 59.3**	**-0.8**
	2.3nm,0.6s,baz=150,slow=7.3,SNR=5.9						
YKB5	**Yellowknife Ar**	**51.16**	**347**	*e*P	**P**	**02 27 59.3**	**-0.7**
CPUP	**Villa Florida**	**52.31**	**140**	P	**P**	**02 28 08.1**	**-1.0**
	1.8nm,0.8s,baz=333,slow=8.9,SNR=5.9						
CPUP	**Villa Florida**	**52.31**	**140**	*e*P	**P**	**02 28 08.1**	**-1.0**
	2.8nm,0.9s						
IL1	**Eielson Array**	**62.95**	**337**	*e*P	**P**	**02 29 22.9**	**-0.5**
ILAR	**Eielson Array**	**62.95**	**337**	P	**P**	**02 29 22.7**	**-0.7**
	3.0nm,1.1s,baz=135,slow=3.6,SNR=15						
ILB	**Eielson Array**	**62.95**	**337**	*e*P	**P**	**02 29 22.7**	**-0.7**
RND	**Reindeer**	**63.14**	**335**	*e*P	**P**	**02 29 25.9**	**+1.1**
	4.1nm,1.0s						
MLY	**Manley**	**64.55**	**336**	*e*P	**P**	**02 29 34.2**	**+0.3**
	4.4nm,0.8s						
NOA	**NORSAR Array B**	**84.32**	**28**	LR	LR	03 08 50.1	
	comp=Z,575nm,20.1s,baz=220,slow=36						
FINES	**FINESS Array B**	**90.67**	**25**	LR	LR	03 15 14.3	
	comp=Z,850nm,18.6s,baz=320,slow=37						
WR1	**Warramunga Arr**	**135.29**	**256**	*e*PKPdf	**PKPdf**	**02 38 17.2**	**0.0**
WRA	**Warramunga Arr**	**135.29**	**256**	PKP	**PKPdf**	**02 38 17.2**	**0.0**
	0.6nm,0.7s,baz=88,slow=2.0,SNR=8.4						
AS31	**Alice Springs**	**135.54**	**250**	*e*PKPdf	**PKPdf**	**02 38 17.8**	**+0.1**
ASAR	**Alice Springs**	**135.54**	**250**	PKP	**PKPdf**	**02 38 17.8**	**+0.1**
	0.6nm,0.8s,baz=78,slow=2.6,SNR=5.2						
CM31	**Chiang Mai Arr**	**146.12**	**341**	*e*PKPdf	**PKPab**	**02 38 38.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**146.12**	**341**	PKPbc	**PKPab**	**02 38 38.4**	**+0.1**
	5.5nm,0.7s,baz=341,slow=3.6,SNR=9.1						

*IDC **08** 02:20:35.3±2.9, 14°.13N×91°.93W, h33$^{km}_{\pm 20}$, mb4.4/21, mb1 4.6/24, mb1mx4.5/42, mbtmp4.6/24, ML5.1/3, Error ellipse: s-maj=21.6km s-min=10.4km az=49.0*

*MOS **08** 02:20:35.5±0.9, 14°.12N×91°.90W, h44^{km}, mb4.9/39, Error ellipse: s-maj=12.9km s-min=4.8km az=109.2*

*MEX **08** 02:20:36.4±0.6, 14°.03N×92°.40W, h26$^{km}_{\pm 28}$, MD4.8*

*NEIC **08** 02:20:36.7±0.0, 14°.05N×92°.40W, h17^{km}, mb4.9/239, MD4.8(MEX), After MEX.*

*UCR **08** 02:20:36.2±1.9, 14°.49N×91°.92W, h169$^{km}_{\pm 89}$, ML4.3, mb4.9(NEIC)*

*ISCJB **08** 02:20:40.9±0.5, 14°.25N±0°.03×91°.83W±0°.02, h92$^{km}_{\pm 4}$, mb4.8/216, Error ellipse: s-maj=4.5km s-min=3.4km az=29.1*

ISC 08 02:20:35.4±0.9, 14°07N±0°.05×92°22W±0°05, h33$^{km}_{\pm 3}$, n833, σ1§64/840, mb4.9/221, 2C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.83**	**357**	*e*Pn	**Pb**	**02 20 50.5**	**-1.0**
THIG				*e*Sn	**Sb**	**02 21 01.1**	**-1.3**
THIG		**0.83**	**357**	*e*P	**Pb**	**02 20 50.5**	**-1.0**
THIG				*i* S	**Sb**	**02 21 01.9**	**-0.5**
PCIG		**1.89**	**329**	*e*Pn	**Pn**	**02 21 04.3**	**-1.0**
PCIG				*e*Sn	**Sn**	**02 21 24.7**	**-3.3**
PCIG		**1.89**	**329**	*e*P	**Pn**	**02 21 04.3**	**-1.0**
PCIG				*i* S	**Sn**	**02 21 24.7**	**-3.3**
APG	**El Apazote**	**1.93**	**61**	Pg	**Pn**	**02 21 07.8**	**+1.6**
	235nm,0.3s,baz=232,slow=13,SNR=15						
APG				Lg	Lg	02 21 35.0	
	266nm,0.3s,baz=115,slow=2.9,SNR=4.1						
CCIG	**Comitan**	**2.20**	**2**	*e*Pn	**Pn**	**02 21 13.1**	**+3.3**
CCIG				*e*Sn	**Sn**	**02 21 34.7**	**-1.2**
CCIG	**Comitan**	**2.20**	**2**	*e*P	**Pn**	**02 21 09.9**	**+0.1**
CCIG				*i* S	**Sn**	**02 21 36.4**	**+0.5**
RTR	**El Retiro**	**2.50**	**94**	*e*P	**Pn**	**02 21 16.3**	**+2.3**
SBLS	**San Blas**	**2.53**	**95**	*e*P	**Pn**	**02 21 16.8**	**+2.4**
SNJE	**San Jose**	**2.54**	**94**	*e*P	**Pn**	**02 21 17.6**	**+3.1**
TGIG		**2.83**	**342**	*e*Pn	**Pn**	**02 21 18.1**	**-0.2**
TGIG		**2.83**	**342**	*e*P	**Pn**	**02 21 18.1**	**-0.2**
TGIG				*i* S	**Sn**	**02 21 50.1**	**-1.2**
COLS	**Colinas**	**2.86**	**98**	*e*P	**Pn**	**02 21 21.5**	**+2.6**
BOQS	**Boqueron**	**2.87**	**96**	*e*P	**Pn**	**02 21 21.1**	**+1.9**
BOQS				*e*S	**Sn**	**02 21 58.5**	**+5.9**
SNET	**Serv Nac Est T**	**2.92**	**97**	*e*Pn	**Pn**	**02 21 20.2**	**+0.5**
SNET				*e*Sn	**Sn**	**02 21 51.8**	**-2.0**
SNET	**Serv Nac Est T**	**2.92**	**97**	*e*P	**Pn**	**02 21 22.6**	**+2.8**
SNET				*e*S	**Sn**	**02 21 56.1**	**+2.3**
SNET				IAML		02 22 19.4	
	comp=Z,2μm,0.5s						
LFU	**La Fuente**	**3.03**	**96**	*e*P	**Pn**	**02 21 23.0**	**+1.8**
LFRS	**El Faro**	**3.10**	**98**	*e*P	**Pn**	**02 21 24.6**	**+2.4**
LBRS	**Las Brisas**	**3.10**	**96**	*e*P	**Pn**	**02 21 22.9**	**+0.8**
PAVA	**Las Pavas**	**3.21**	**96**	*e*P	**Pn**	**02 21 26.3**	**+2.7**
PAVA				IAML		02 22 28.2	
	comp=Z,1μm,0.5s						
CMIG	**Matias Romero**	**3.95**	**320**	Pn	**Pn**	**02 21 34.2**	**+0.4**
	comp=Z,42nm,0.3s,baz=155,slow=13,SNR=3.5						
CMIG				Sn	**Sn**	**02 22 18.8**	**-0.2**
	comp=Z,159nm,0.3s,baz=302,slow=23,SNR=6.7						
ESTN	**Estel**	**5.77**	**99**	*e*Pn	**Pn**	**02 22 00.2**	**+1.3**
ESTN				*e*Sn	**Sn**	**02 23 01.4**	**-2.5**
TLIG	**Tlapa**	**7.03**	**300**	*e*Pn	**Pn**	**02 22 18.3**	**+2.2**
TLIG				*e*Sn	**Sn**	**02 23 33.2**	**-1.8**
JTS	**JuntasAbangare**	**8.04**	**117**	Pn	**Pn**	**02 22 30.4**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=45,slow=20,SNR=2.1						
JTS				Lg	Lg	02 24 32.4	
	comp=Z,1.8nm,0.3s,baz=331,slow=21,SNR=8.5						
JTS	**JuntasAbangare**	**8.04**	**117**	*e*Pn	**Pn**	**02 22 30.4**	**+0.4**
JTS				*e*Sn	**Sn**	**02 23 57.1**	**-2.7**
JTS	**JuntasAbangare**	**8.04**	**117**	*i* P	**Pn**	**02 22 32.4**	**+2.5**
MOIG	**Morelia**	**10.23**	**304**	*e*Pn	Pn	02 23 05.2	+4.9
JRQG	**Juriquilla Cam**	**10.25**	**311**	*e*Pn	Pn	02 23 09.0	+8.5
ZAIG	**Zacatecas**	**13.08**	**313**	*e*Pn	**Pn**	**02 23 43.2**	**+3.9**
MTDJ	**Mount Denham**	**14.70**	**72**	*e*Pn	Pn	02 24 00.5	-0.7
833A	**Chaparral WMA,**	**15.67**	**336**	*e*Pn	**Pn**	**02 24 13.6**	**-0.2**
	comp=Z,90nm,1.4s						
833A	**Chaparral WMA,**	**15.67**	**336**	P	**Pn**	**02 24 14.4**	**+0.6**
	baz=154,SNR=8.3						
HKT	**Hockley**	**16.15**	**349**	*e*Pn	**Pn**	**02 24 22.0**	**+2.1**
	comp=Z,80nm,1.9s						
HKT	**Hockley**	**16.15**	**349**	*e*P	**Pn**	**02 24 22.0**	**+2.1**
HKT				pmax	pmax		
	comp=Z,80nm,1.9s						
058A	**Arcadia**	**16.17**	**35**	P	**Pn**	**02 24 18.7**	**-1.6**
	baz=219						
442A	**Mamou**	**16.56**	**359**	P	**Pn**	**02 24 26.7**	**+1.5**
	baz=180						
958A	**Wauchula**	**16.61**	**34**	P	**Pn**	**02 24 24.3**	**-1.5**
	baz=218						
443A	**Delano Plantat**	**16.62**	**1**	P	**Pn**	**02 24 27.0**	**+1.2**
	baz=182						
444A	**Pine Grove**	**16.62**	**4**	P	**Pn**	**02 24 27.2**	**+1.3**
	baz=186						
441A	**DeRidder**	**16.62**	**357**	P	**Pn**	**02 24 26.4**	**+0.5**
	baz=177						
446A	**Poplarville**	**16.84**	**8**	P	**Pn**	**02 24 29.0**	**+0.3**
	baz=190						
857A	**Zephyrhills**	**16.90**	**32**	P	**Pn**	**02 24 28.2**	**-1.3**
	baz=216						
060A	**Indiantown**	**17.00**	**39**	*e*Pn	**Pn**	**02 24 31.2**	**+0.4**
	comp=Z,179nm,0.7s						
060A	**Indiantown**	**17.00**	**39**	P	**Pn**	**02 24 30.2**	**-0.5**
	baz=223						
959A	**Okeechobee**	**17.05**	**37**	P	**Pn**	**02 24 30.7**	**-0.7**
	baz=221						
DWPF	**Disney Wildern**	**17.20**	**34**	*e*Pn	**Pn**	**02 24 35.7**	**+2.5**
	comp=Z,66nm,0.6s						
DWPF	**Disney Wildern**	**17.20**	**34**	P	**Pn**	**02 24 31.7**	**-1.5**
	baz=219						
341A	**Kurthwood**	**17.20**	**357**	*e*Pn	**Pn**	**02 24 36.0**	**+2.8**
	comp=Z,31nm,0.8s						
341A	**Kurthwood**	**17.20**	**357**	P	**Pn**	**02 24 34.0**	**+0.8**
	baz=178						
342A	**Flagon Creek P**	**17.22**	**360**	*e*Pn	**P**	**02 24 37.7**	**+3.0**
	comp=Z,83nm,1.1s						
342A	**Flagon Creek P**	**17.22**	**360**	P	**Pn**	**02 24 35.0**	**+1.6**
	baz=180,SNR=5.2						
448A	**Bay Minette**	**17.25**	**13**	P	**Pn**	**02 24 34.5**	**+0.7**
	baz=195						
345A	**Thompson Farm,**	**17.27**	**6**	P	**Pn**	**02 24 36.0**	**+1.9**
	baz=188,SNR=6.1						
858A	**St. Cloud**	**17.32**	**34**	P	**Pn**	**02 24 33.5**	**-1.1**
	baz=218						
435B	**Jarrell**	**17.35**	**344**	*e*Pn	**P**	**02 24 38.5**	**+2.3**
	comp=Z,26nm,0.6s						
435B				*e*Sn	**Sn**	**02 27 48.0**	**+0.8**
435B	**Jarrell**	**17.35**	**344**	P	**Pn**	**02 24 37.2**	**+2.2**
	baz=163						
344A	**Westbrook Farm**	**17.35**	**4**	*e*Pn	**P**	**02 24 39.6**	**+3.5**
	comp=Z,50nm,0.9s						
344A	**Westbrook Farm**	**17.35**	**4**	P	**Pn**	**02 24 36.4**	**+1.3**
	baz=185						
GTBY	**Guantanamo Bay**	**17.36**	**68**	*e*Pn	**Pn**	**02 24 36.7**	**+1.4**
	comp=Z,27nm,0.8s						
346A	**Big Creek Wild**	**17.42**	**8**	*e*Pn	**P**	**02 24 41.1**	**+4.2**
	comp=Z,83nm,0.8s						
346A	**Big Creek Wild**	**17.42**	**8**	P	**Pn**	**02 24 37.8**	**+1.9**
	baz=190,SNR=7.0						
859A	**Kempfer Cattle**	**17.45**	**35**	P	**Pn**	**02 24 36.1**	**-0.3**
	baz=220,SNR=5.3						
655A	**Horseshoe Beac**	**17.46**	**27**	P	**Pn**	**02 24 36.8**	**+0.4**
	baz=211						
757A	**Oxford**	**17.53**	**31**	P	**Pn**	**02 24 37.1**	**-0.2**
	baz=215,SNR=5.6						
553A	**Crawfordville**	**17.57**	**23**	P	**Pn**	**02 24 37.3**	**-0.5**
	baz=206						
347A	**Saraland**	**17.57**	**10**	P	**Pn**	**02 24 38.4**	**+0.5**
	baz=192,SNR=6.6						
656A	**Willston**	**17.66**	**29**	*e*Pn	**Pn**	**02 24 39.8**	**+0.8**
	comp=Z,264nm,1.1s						
656A	**Willston**	**17.66**	**29**	P	**Pn**	**02 24 39.8**	**+0.8**
	baz=213,SNR=5.7						
BRAL	**Brewton**	**17.66**	**15**	*e*Pn	**Pn**	**02 24 38.1**	**-0.8**
	comp=Z,268nm,1.7s						
BRAL	**Brewton**	**17.66**	**15**	P	**Pn**	**02 24 39.6**	**+0.6**
	baz=197						
348A	**Jackson**	**17.71**	**12**	*e*Pn	**P**	**02 24 43.1**	**+3.0**
	comp=Z,100nm,0.8s						
348A	**Jackson**	**17.71**	**12**	P	**Pn**	**02 24 40.0**	**+0.5**
	baz=194,SNR=6.1						
243A	**Waterproof**	**17.74**	**2**	P	**Pn**	**02 24 40.4**	**+0.6**
	baz=183						
NATX	**Nacogdoches**	**17.75**	**353**	*e*Pn	**Pn**	**02 24 40.4**	**+0.5**
	comp=Z,38nm,1.0s						
NATX	**Nacogdoches**	**17.75**	**353**	P	**Pn**	**02 24 41.2**	**+1.2**
	baz=173						
JCT	**Junction City**	**17.76**	**338**	*e*Pn	**Pn**	**02 24 40.2**	**0.0**
	comp=Z,16nm,0.8s						
JCT				*e*Sn	**Sn**	**02 27 58.1**	**+0.9**
JCT	**Junction City**	**17.76**	**338**	*e*P	**Pn**	**02 24 40.2**	**0.0**
JCT				*e*		02 27 58.1	
JCT				pmax	pmax		
	comp=Z,17nm,0.8s						
JCT	**Junction City**	**17.76**	**338**	P	**Pn**	**02 24 41.9**	**+1.6**
	baz=156						
349A	**Repton**	**17.80**	**14**	P	**Pn**	**02 24 41.4**	**+0.8**
	baz=197,SNR=7.4						
241A	**Mo Tay, Goldon**	**17.88**	**358**	P	**Pn**	**02 24 44.0**	**+2.4**
	baz=178,SNR=6.1						
242A	**Grayson**	**17.91**	**0**	P	**Pn**	**02 24 43.1**	**+1.2**
	baz=181,SNR=8.2						
452A	**Marianna**	**17.91**	**20**	P	**Pn**	**02 24 41.6**	**-0.3**
	baz=203						
HPIG		**17.93**	**318**	*e*Pn	**P**	**02 24 44.3**	**+1.4**
	comp=Z,15nm,0.7s						
240A	**Hunter Patters**	**17.94**	**356**	P	**Pn**	**02 24 44.1**	**+1.8**
	baz=176						
244A	**Avery, Jackson**	**17.94**	**4**	P	**Pn**	**02 24 42.8**	**+0.5**
	baz=185						
758A	**Lake Helen**	**18.00**	**33**	P	**Pn**	**02 24 41.7**	**-1.3**
	baz=217						
245A	**Little AP, Sta**	**18.00**	**6**	P	**Pn**	**02 24 44.3**	**+1.2**
	baz=188						
555A	**McAlpin**	**18.11**	**27**	*e*Pn	**Pn**	**02 24 46.4**	**+1.9**
	comp=Z,185nm,0.6s						
555A	**McAlpin**	**18.11**	**27**	P	**Pn**	**02 24 44.5**	**+0.1**
	baz=210,SNR=10						
VBMS	**Vicksburg**	**18.13**	**5**	*e*Pn	**Pn**	**02 24 46.5**	**+1.8**
	comp=Z,65nm,0.8s						
VBMS	**Vicksburg**	**18.13**	**5**	P	**Pn**	**02 24 45.7**	**+1.0**
	baz=186						
657A	**Interlachen**	**18.16**	**30**	P	**P**	**02 24 45.1**	**-0.1**
	baz=214						
351A	**Pinckard**	**18.17**	**18**	P	**Pn**	**02 24 47.4

Z49A	**Columbiana** baz=197	19.73	14	P		P	02 25 03.7	+1.4
152A	**Waverly Hall** comp=Z,41nm,0.8s	19.73	19	eP		P	02 25 04.0	+1.6
152A	**Waverly Hall** baz=202,SNR=5.9	19.73	19	P		P	02 25 03.6	+1.2
CCAR	**Cane Creek** comp=Z,57nm,0.8s	19.76	1	eP		P	02 25 04.4	+1.7
LPIG	**La Paz** comp=Z,27nm,0.3s,baz=17,slow=3.8,SNR=6.4	19.77	303	P		Pn	02 25 04.5	-0.1
Y43A	**Makayla and Ka** baz=184	19.79	3	P		P	02 25 04.1	+1.2
Y45A	**Yeager Farm, C** baz=188	19.85	7	P		P	02 25 04.9	+1.2
Y40A	**Okolona** baz=178,SNR=7.6	19.87	357	P		P	02 25 04.3	+0.4
357A	**Townsend** baz=212	19.88	28	P		P	02 25 03.5	-0.4
ROSC	**El Rosal** comp=Z,1.0nm,0.3s,baz=143,slow=1.5,SNR=22	19.88	116	P		P	02 25 04.6	+0.1
ROSC	**El Rosal** comp=Z,36nm,0.8s	19.88	116	eP		P	02 25 05.7	+1.2
255A	**Hazlehurst** baz=209	19.88	25	P		P	02 25 04.7	+0.7
Y44A	**Strider, Charl** baz=186,SNR=8.8	19.88	5	P		P	02 25 05.0	+1.1
Z50A	**Ashland** comp=Z,54nm,1.1s	19.93	16	eP		P	02 25 05.8	+1.2
Z50A	**Ashland** baz=199,SNR=9.3	19.93	16	P		P	02 25 05.6	+1.0
Y46A	**Houston** baz=190,SNR=20	19.95	8	P		P	02 25 05.5	+0.7
153A	**Fort Valley** baz=205	20.01	21	P		P	02 25 05.5	+0.1
Y47A	**UCPARC, Winfie** baz=193,SNR=8.5	20.14	11	P		P	02 25 08.0	+1.3
256A	**Glennville** baz=211,SNR=9.4	20.18	26	P		P	02 25 07.4	+0.2
Z51A	**Franklin** baz=201	20.20	17	P		P	02 25 08.5	+1.1
154A	**Montrose** comp=Z,87nm,0.9s	20.24	23	eP		P	02 25 08.8	+0.9
154A	**Montrose** baz=207	20.24	23	P		P	02 25 08.2	+0.3
Y48A	**Jasper** baz=195,SNR=6.1	20.27	12	P		P	02 25 09.1	+0.9
Z52A	**Williamson** baz=203	20.31	19	P		P	02 25 08.2	-0.4
X40A	**Basin Creek Fa** comp=Z,46nm,1.3s	20.33	359	eP		P	02 25 10.7	+1.8
X40A	**Basin Creek Fa** baz=179	20.33	359	P		P	02 25 09.7	+0.8
X41A	**Kaden, Bauxite** baz=180	20.33	359	P		P	02 25 09.7	+0.8
Y49A	**Blount Mountai** comp=Z,25nm,0.8s	20.39	14	eP		P	02 25 11.2	+1.6
Y49A	**Blount Mountai** baz=197	20.39	14	P		P	02 25 09.6	+0.1
X43A	**Marvell** comp=Z,65nm,0.8s	20.39	3	eP		Pn	02 25 15.3	+3.6
X43A	**Marvell** baz=184	20.39	3	P		P	02 25 10.7	+1.2
X42A	**Stuttgart** baz=182	20.40	1	P		P	02 25 10.9	+1.3
MIAR	**Mount Ida** comp=Z,47nm,0.8s	20.42	357	eP		P	02 25 10.8	+1.0
MIAR	**Mount Ida**	20.42	357	eP		P	02 25 10.8	+1.0
MIAR				pmax		pmax		
MIAR	**Mount Ida** baz=177,SNR=9.2	20.42	357	P		P	02 25 10.6	+0.8
X45A	**UM Field Stati** baz=188	20.42	7	P		P	02 25 09.9	+0.1
X44A	**Crenshaw** baz=186	20.42	5	P		P	02 25 09.5	-0.3
155A	**Kite** baz=208	20.50	24	P		P	02 25 10.6	-0.1
OXF	**Oxford** baz=188	20.51	7	P		P	02 25 11.2	+0.5
Y50A	**Piedmont** baz=199	20.59	15	P		P	02 25 12.0	+0.3
UALR	**University of** comp=Z,84nm,0.8s	20.61	360	eP		P	02 25 15.0	+3.2
X37A	**Clayton** comp=Z,56nm,1.0s	20.62	353	eP		P	02 25 13.8	+1.8
SDDR	**Presa de Saban**	20.64	73	epP		Pn	02 25 19.2	+4.3
X46A	**Booneville** baz=190,SNR=5.0	20.66	9	P		P	02 25 13.1	+0.7
Z53A	**Monticello** baz=205	20.68	21	P		P	02 25 12.7	+0.1
X47A	**Russellville** baz=193,SNR=8.4	20.73	10	P		P	02 25 13.3	+0.1
Y51A	**Rockmart** baz=200,SNR=7.5	20.78	17	P		P	02 25 13.3	-0.4
X48A	**Hartselle** comp=Z,26nm,0.8s	20.82	12	eP		P	02 25 14.3	+0.2
X48A	**Hartselle** baz=195,SNR=9.4	20.82	12	P		P	02 25 14.1	0.0
GOGA	**Godfrey** comp=Z,60nm,1.3s	20.83	21	eP		P	02 25 15.0	+0.7
GOGA	**Godfrey**	20.83	21	eP		P	02 25 15.0	+0.7
GOGA				pmax		pmax		
GOGA	**Godfrey** baz=205	20.83	21	P		P	02 25 14.0	-0.2
Z54A	**Sparta** baz=207,SNR=6.6	20.90	23	P		P	02 25 15.8	+0.8
156A	**Sylvania** baz=211,SNR=5.6	20.92	26	P		P	02 25 15.5	+0.2
W41B	**Gary Mavity, V** comp=Z,29nm,0.9s	21.01	360	eP		P	02 25 18.8	+2.6
W41B	**Gary Mavity, V** baz=180	21.01	360	P		P	02 25 17.3	+1.1
X49A	**Woodville** baz=196,SNR=10.0	21.04	14	P		P	02 25 16.9	+0.4
Y52A	**Lilburn** comp=Z,72nm,1.5s	21.05	19	eP		P	02 25 17.9	+1.3
Y52A	**Lilburn** baz=203	21.05	19	P		P	02 25 16.6	0.0
W39A	**Magazine** comp=Z,36nm,1.1s	21.08	356	eP		P	02 25 17.5	+0.6
W39A	**Magazine** baz=176	21.08	356	P		P	02 25 17.7	+0.8
W42A	**Bald Knob** baz=182	21.12	2	P		P	02 25 18.1	+0.7
WHAR	**Wooly Hollow** comp=Z,35nm,1.1s	21.12	360	eP		P	02 25 20.2	+2.7
X50B	**Fort Payne** baz=198,SNR=6.6	21.15	15	P		P	02 25 18.0	+0.3
PLAL	**Pickwick Lake** comp=Z,7.4nm,0.9s	21.15	9	eP		P	02 25 16.9	-0.9
Z55A	**Blythe** baz=208	21.15	24	P		P	02 25 17.6	-0.2
W45A	**Hickory Valley** baz=189	21.17	7	P		P	02 25 18.1	+0.2
GDL2	**Guadalupe Moun**	21.19	330	eP		P	02 25 20.8	+2.5
Y53A	**Monroe** baz=204	21.20	20	P		P	02 25 18.0	-0.2
W46A	**Michie** baz=191,SNR=6.3	21.25	9	P		P	02 25 19.7	+0.9
MNTX	**Cornudas Mount** comp=Z,43nm,0.8s	21.29	328	eP		P	02 25 20.9	+1.6
MNTX	**Cornudas Mount** baz=143,SNR=40	21.29	328	P		P	02 25 20.9	+1.6
WMOK	**Wichita Mounta** comp=Z,20nm,0.8s	21.41	345	eP		P	02 25 21.8	+1.3
WMOK	**Wichita Mounta**	21.41	345	eP		P	02 25 21.8	+1.3
WMOK				pmax		pmax		
WMOK	**Wichita Mounta** baz=163,SNR=13	21.41	345	P		P	02 25 21.4	+0.9
X51A	**Calhoun** baz=200	21.46	17	P		P	02 25 21.9	+0.9
W47A	**Westpoint** baz=193	21.49	10	P		P	02 25 21.3	-0.1
W48A	**Pulaski** baz=194,SNR=6.8	21.51	12	P		P	02 25 21.0	-0.5
Y54A	**Tignall** baz=206	21.51	22	P		P	02 25 21.5	-0.2
V41A	**Mountainview** baz=181	21.62	0	P		P	02 25 22.4	-0.4
W49A	**Belvidere** baz=196,SNR=7.9	21.63	13	P		P	02 25 22.5	-0.3
CPRX	**Cap Rock**	21.65	333	eP		P	02 25 25.4	+2.1
V42A	**Cord** baz=183,SNR=7.1	21.65	2	P		P	02 25 22.6	-0.5
V43A	**Jonesboro** baz=185	21.67	4	P		P	02 25 23.7	+0.4
SDV	**Santo Domingo** comp=Z,9.1nm,0.8s,baz=268,slow=3.5,SNR=9.1	21.76	101	P		P	02 25 22.5	-2.2
SDV	**Santo Domingo** comp=Z,20nm,0.8s	21.76	101	eP		P	02 25 23.4	-1.3
V45A	**Humboldt** baz=189	21.77	7	P		P	02 25 24.0	-0.4
X52A	**Dahlonega** baz=203,SNR=11	21.78	19	P		P	02 25 24.7	+0.2
SWET	**Sewanee** comp=Z,49nm,0.7s	21.80	14	eP		P	02 25 25.3	+0.6
X53A	**Estanollee** baz=204,SNR=6.0	21.88	20	P		P	02 25 24.9	-0.7
NHSC	**New Hope** baz=213	21.89	28	P		P	02 25 24.3	-1.4
W50A	**Signal Mountai** comp=Z,33nm,0.8s	21.94	15	eP		P	02 25 27.8	+1.6
W50A	**Signal Mountai** baz=199	21.94	15	P		P	02 25 25.4	-0.8
EPT	**El Paso** comp=Z,28nm,1.1s	21.95	326	eP		P	02 25 27.8	+1.4
V46A	**Holladay** baz=191,SNR=13	21.95	9	P		P	02 25 25.0	-1.2
TUL1	**Leonard** comp=Z,26nm,0.8s	21.98	352	eP		P	02 25 28.4	+1.8
TUL1	**Leonard** baz=171	21.98	352	P		P	02 25 26.8	+0.2
MSTX	**Muleshoe** comp=Z,57nm,1.0s	22.00	336	eP		P	02 25 27.9	+1.0
MSTX	**Muleshoe** baz=152,SNR=19	22.00	336	P		P	02 25 27.8	+0.8
W51A	**Cleveland** baz=200	22.05	16	P		P	02 25 27.1	-0.3
V47A	**Nunnelly** baz=193	22.07	10	P		P	02 25 26.7	-0.8
V48A	**Smith Brothers** comp=Z,43nm,0.8s	22.11	12	eP		P	02 25 27.9	-0.1
V48A	**Smith Brothers** baz=194,SNR=15	22.11	12	P		P	02 25 27.6	-0.5
HHAR	**Hobbs** comp=Z,23nm,1.1s	22.17	356	eP		P	02 25 29.0	+0.3
U41A	**Viola** baz=181	22.18	1	P		P	02 25 28.4	-0.4
U40A	**Yellville** baz=179	22.20	359	P		P	02 25 29.5	+0.6
U42A	**Revenden** baz=183,SNR=6.5	22.20	2	P		P	02 25 28.7	-0.2
W52A	**Murphy** comp=Z,22nm,0.8s	22.22	18	eP		P	02 25 30.4	+1.1
W52A	**Murphy** baz=202	22.22	18	P		P	02 25 29.2	-0.1
U43A	**Rector** baz=185	22.26	4	P		P	02 25 29.6	0.0
WVT	**Waverly** comp=Z,13nm,0.6s	22.31	9	eP		P	02 25 30.1	-0.1
WVT	**Waverly**	22.31	9	eP		P	02 25 30.1	-0.1
WVT				pmax		pmax		
WVT	**Waverly** baz=192	22.31	9	P		P	02 25 29.2	-1.0
U44B	**Burton Farm, H** baz=188	22.32	6	P		P	02 25 29.7	-0.5
V49A	**McMinnville** baz=197,SNR=11	22.33	14	P		P	02 25 29.8	-0.7
CPCT	**Cooper Cave** comp=Z,31nm,0.7s	22.38	17	eP		P	02 25 31.6	+0.7
U45A	**Rockin P Farm,** baz=189	22.40	7	P		P	02 25 30.1	-1.0
AMTX	**Amarillo** comp=Z,117nm,0.8s	22.41	339	eP		P	02 25 32.5	+1.2
AMTX	**Amarillo** baz=156	22.41	339	P		P	02 25 32.6	+1.2
JSC	**Jenkinsville** comp=Z,40nm,0.9s	22.43	24	eP		P	02 25 32.0	+0.5
JSC	**Jenkinsville**	22.43	24	eP		P	02 25 32.0	+0.5
JSC				pmax		pmax		
V50A	**Pikevile** baz=199	22.44	15	P		P	02 25 30.6	-0.9
BG3	**Lake Jocassee** comp=Z,28nm,1.1s	22.45	20	eP		P	02 25 31.3	-0.4
BG3				epP		sP	02 25 45.4	+0.6
U46A	**Springville** baz=191,SNR=13	22.48	9	P		P	02 25 31.2	-0.8
W53A	**Cullowhee** baz=204	22.54	20	P		P	02 25 33.3	+0.6
PARMO	**Parma** comp=Z,77nm,0.7s	22.60	5	eP		P	02 25 33.8	+0.5
PBMO	**Poplar Bluff** comp=Z,44nm,0.9s	22.67	4	eP		P	02 25 32.8	-1.1
PAULI	**Pauline** comp=Z,86nm,1.4s	22.69	23	eP		P	02 25 35.0	+0.8
U47A	**Clarksville** baz=193,SNR=6.4	22.71	10	P		P	02 25 33.7	-0.7
V51A	**Loudon** comp=Z,24nm,0.8s	22.76	17	eP		P	02 25 35.5	+0.5
V51A	**Loudon** baz=200	22.76	17	P		P	02 25 34.2	-0.8
TKL	**Tuckaleechee C** comp=Z,18nm,0.7s,baz=203,slow=11,SNR=13	22.79	18	P		P	02 25 34.1	-1.2
TKL	**Tuckaleechee C** comp=Z,52nm,1.2s	22.79	18	eP		P	02 25 35.9	+0.6
TKL	**Tuckaleechee C**	22.79	18	eP		P	02 25 35.9	+0.6
TKL				pmax		pmax		
T41A	**Mountain View** baz=182,SNR=6.0	22.88	1	P		P	02 25 35.0	-1.2
T42A	**Van Buren** comp=Z,7.4nm,0.9s	22.88	2	eP		P	02 25 35.1	-1.1
T42A	**Van Buren** baz=183,SNR=7.2	22.88	2	P		P	02 25 35.2	-1.1
U48A	**Cassie Pea, Po** baz=195,SNR=5.2	22.91	12	P		P	02 25 35.1	-1.5
T43A	**Greenville** baz=185,SNR=9.3	22.98	4	P		P	02 25 35.9	-1.3
V52A	**Sevierville** comp=Z,30nm,0.9s	23.02	18	eP		P	02 25 37.7	0.0
V52A	**Sevierville** baz=202,SNR=5.4	23.02	18	P		P	02 25 36.1	-1.5
U32A	**Winter Ranch,** comp=Z,32nm,0.8s	23.03	346	eP		P	02 25 38.7	+0.9
T44A	**Benton** baz=187,SNR=9.0	23.04	5	P		P	02 25 36.6	-1.2
T45A	**Paducah** comp=Z,82nm,0.8s	23.07	7	eP		P	02 25 38.7	+0.6
T45A	**Paducah** baz=189	23.07	7	P		P	02 25 37.5	-0.6
U49A	**Red Boiling Sp** baz=196,SNR=26	23.08	13	P		P	02 25 37.4	-0.8
V53A	**Saluda** comp=Z,38nm,1.0s	23.11	20	eP		P	02 25 39.0	+0.4
V53A	**Saluda** baz=204	23.11	20	P		P	02 25 37.5	-1.1
KMSC	**Kings Mountain** comp=Z,31nm,0.9s	23.16	23	eP		P	02 25 39.4	+0.3
KMSC	**Kings Mountain** baz=208,SNR=8.1	23.16	23	P		P	02 25 38.0	-1.1
T46A	**Princeton** baz=191,SNR=13	23.20	9	P		P	02 25 38.5	-0.9
U50A	**Jamestown** baz=199,SNR=23	23.21	15	P		P	02 25 39.0	-0.6
121A	**Cookes Peak, D** baz=139,SNR=35	23.23	325	P		P	02 25 42.4	+2.4
T47A	**Sharon Grove** comp=Z,32nm,0.8s	23.27	10	eP		P	02 25 39.6	-0.6
T47A	**Sharon Grove** baz=193,SNR=9.9	23.27	10	P		P	02 25 39.2	-0.9
319A	**Douglas** comp=Z,29nm,0.8s	23.27	321	eP		P	02 25 43.4	+3.0
U51A	**La Follette** baz=201,SNR=14	23.39	17	P		P	02 25 41.1	-0.3
S41A	**Jillco Farms,** baz=182,SNR=7.8	23.42	1	P		P	02 25 40.2	-1.4
S43A	**Fulton Ridge,** baz=186	23.48	4	P		P	02 25 40.5	-1.7
T48A	**Bowling Green** baz=195	23.52	12	P		P	02 25 40.0	-2.6
U52A	**Thorn Hill** baz=202	23.60	18	P		P	02 25 41.6	-1.8
S42A	**Caledonia** baz=184	23.63	3	P		P	02 25 41.9	-1.8
S44A	**Carbondale** baz=188,SNR=12	23.67	6	P		P	02 25 43.1	-0.9
TZTN	**Tazewell** comp=Z,23nm,0.8s	23.68	18	eP		P	02 25 43.8	-0.3
TZTN	**Tazewell** baz=202	23.68	18	P		P	02 25 41.8	-2.4
SIUC	**Southern Illin** comp=Z,94nm,0.8s	23.70	6	eP		P	02 25 43.9	-0.4
T49A	**Edmonton** comp=Z,33nm,0.8s	23.70	13	eP		P	02 25 43.7	-0.6
T49A	**Edmonton** baz=197,SNR=10	23.70	13	P		P	02 25 43.1	-1.2
S45A	**Carrier Mills** baz=189,SNR=5.9	23.73	7	P		P	02 25 42.9	-1.7
T50A	**Nancy** baz=198,SNR=9.9	23.78	15	P		P	02 25 43.8	-1.3
U53A	**Fall Branch** baz=204,SNR=8.5	23.82	20	P		P	02 25 44.7	-0.8
S46A	**Don Dixon Farm** baz=191,SNR=9.8	23.85	9	P		P	02 25 44.3	-1.4
BNM	**Barren Site**	23.87	329	eP		P	02 25 49.1	+2.9
CCM	**Cathedral Cave** comp=Z,24nm,1.1s	23.90	2	eP		P	02 25 45.3	-0.9
CCM	**Cathedral Cave**	23.90	2	eP		P	02 25 45.3	-0.9
CCM				pmax		pmax		
CCM	**Cathedral Cave** baz=183	23.90	2	P		P	02 25 44.4	-1.8
S47A	**Hartford** baz=193	23.90	11	P		P	02 25 44.9	-1.3
Y22D	**IRIS PASSCAL I** baz=143	23.96	329	P		P	02 25 47.8	+0.8
T51A	**Gray** baz=200	23.96	16	P		P	02 25 45.6	-1.3
LPM	**Los Pinos Moun**	24.00	330	eP		P	02 25 50.0	+2.6
LENM	**Lemitar**	24.06	329	eP		P	02 25 50.7	+2.8
S48A	**Wiedeman Farm,** baz=195	24.12	12	P		P	02 25 46.9	-1.4
USIN	**University of** comp=Z,76nm,1.0s	24.14	9	eP		P	02 25 48.4	+0.1
R41A	**Rosebud** baz=182,SNR=10	24.14	2	P		P	02 25 47.0	-1.4
R42A	**Luebbering** baz=184	24.14	3	P		P	02 25 46.3	-2.1
R43A	**Red Bud** baz=186,SNR=10	24.19	4	P		P	02 25 47.6	-1.2
LAZ	**Ladron**	24.33	329	eP		P	02 25 53.5	+3.0
R45A	**Skylar, Fairfi** baz=190,SNR=14	24.37	8	P		P	02 25 49.5	-1.0
T52A	**Hallie** baz=202	24.37	18	P		P	02 25 49.1	-1.5
R46A	**Gibon Southern** baz=192	24.40	9	P		P	02 25 50.1	-0.6
S49A	**Springfield** baz=197,SNR=15	24.41	13	P		P	02 25 49.4	-1.4
ANMO	**Albuquerque** comp=Z,22nm,0.8s,baz=148,slow=12,SNR=45	24.43	331	P		P	02 25 52.6	+1.2
ANMO	**Albuquerque** comp=Z,23nm,0.8s	24.43	331	eP		P	02 25 53.4	+2.0
ANMO	**Albuquerque**	24.43	331	*i* P		P	02 25 52.7	+1.3
ANMO				pmax		pmax		
ANMO	**Albuquerque** baz=145	24.43	331	P		P	02 25 52.9	+1.5
S50A	**Richmnd** baz=199,SNR=8.9	24.52	15	P		P	02 25 50.7	-1.1
SLM	**Saint Louis** comp=Z,51nm,0.8s	24.53	4	eP		P	02 25 51.3	-0.6
SLM	**Saint Louis**	24.53	4	eP		P	02 25 51.3	-0.6
SLM				pmax		pmax		
WCI	**Wyandotte Cave** comp=Z,116nm,0.8s	24.62	11	eP		P	02 25 52.0	-0.8
WCI	**Wyandotte Cave**	24.62	11	eP		P	02 25 52.0	-0.8
WCI				pmax		pmax		
WCI	**Wyandotte Cave** baz=194	24.62	11	P		P	02 25 51.8	-1.0
R47A	**Wooly Knot Far** baz=194,SNR=15	24.65	11	P		P	02 25 52.1	-0.9
S51A	**Beattyville** comp=Z,29nm,0.8s	24.69	17	eP		P	02 25 52.7	-0.7
S51A	**Beattyville** baz=201,SNR=5.7	24.69	17	P		P	02 25 51.9	-1.6
CNNC	**Cliffs of the** baz=215	24.71	29	P		P	02 25 52.2	-1.5
Q42A	**Golden Eagle** baz=184,SNR=7.3	24.79	3	P		P	02 25 53.2	-1.1
Q41A	**Truxton** baz=183,SNR=8.6	24.80	2	P		P	02 25 52.8	-1.5
OLIL	**Olney** comp=Z,100nm,0.8s	24.83	8	eP		P	02 25 54.0	-0.6
TUC	**Tucson** comp=Z,11nm,1.0s	24.84	320	eP		P	02 25 57.4	+2.4
TUC	**Tucson**	24.84	320	eP		P	02 25 57.4	+2.4
TUC				pmax		pmax		
TUC	**Tucson** baz=133	24.84	320	P		P	02 25 56.5	+1.5
Q43A	**New Douglas** baz=186,SNR=6.9	24.87	5	P		P	02 25 53.7	-1.4
R48A	**Northridge Ran** baz=195,SNR=11	24.87	12	P		P	02 25 53.9	-1.2
Q44A	**Meyer Farm, Va** baz=188,SNR=8.7	24.89	6	P		P	02 25 54.0	-1.3
R49A	**Shelbyville** baz=197,SNR=9.1	24.92	13	P		P	02 25 54.0	-1.5
Q45A	**Warren Harvey,** baz=190,SNR=11	24.98	8	P		P	02 25 55.1	-1.0
R50A	**Paris** baz=199,SNR=6.1	25.11	15	P		P	02 25 55.8	-1.4
ATAH	**Atahualpa** comp=Z,6.7nm,0.6s,baz=75,slow=8.7,SNR=3.7	25.14	146	P		P	02 25 58.0	-0.2
KSU1	**Kansas State U** comp=Z,19nm,0.8s	25.23	352	eP		P	02 25 57.8	-0.5
KSU1	**Kansas State U** baz=170	25.23	352	P		P	02 25 57.7	-0.5
Q47A	**Bedord North L** baz=194	25.29	11	P		P	02 25 58.4	-0.4
R51A	**Hillsboro** baz=200,SNR=6.0	25.32	16	P		P	02 25 57.7	-1.4
BLA	**Blacksburg** baz=208	25.33	22	P		P	02 25 58.0	-1.3
Q48A	**North Vernon** baz=195,SNR=7.7	25.41	12	P		P	02 25 58.5	-1.4
T25A	**Trinidad** comp=Z,34nm,0.8s	25.42	337	eP		P	02 26 02.9	+2.6
T25A	**Trinidad** baz=152,SNR=16	25.42	337	P		P	02 26 02.7	+2.4
P42A	**Winchester** comp=Z,21nm,0.9s	25.47	3	eP		P	02 25 59.1	-1.3
P42A	**Winchester** baz=185	25.47	3	P		P	02 25 59.2	-1.3
P44A	**Sand Creek, Wi** baz=188,SNR=5.1	25.49	6	P		P	02 25 59.5	-1.1
BLO	**Bloomington** comp=Z,33nm,0.8s	25.50	10	eP		P	02 26 00.4	-0.4
BLO	**Bloomington**	25.50	10	eP		P	02 26 00.4	-0.4
BLO				pmax		pmax		
P41A	**Barry, Barry** baz=183	25.52	2	P		P	02 25 59.5	-1.4
CBKS	**Cedar Bluff** comp=Z,26nm,0.7s	25.52	346	eP		P	02 26 01.7	+0.6
CBKS	**Cedar Bluff** baz=163,SNR=5.3	25.52	346	P		P	02 26 00.6	-0.4
P43A	**Skaggs, Pawnee** baz=186	25.58	5	P		P	02 26 00.5	-1.0
R52A	**Catlettsburg** baz=202	25.61	18	P		P	02 26 00.1	-1.7
P45A	**Graceland, Par** comp=Z,40nm,0.8s	25.66	8	eP		P	02 26 01.4	-0.8
P45A	**Graceland, Par** baz=190,SNR=11	25.66	8	P		P	02 26 00.9	-1.2
Q49A	**Aurora** baz=197	25.66	13	P		P	02 26 00.9	-1.4
Q50A	**Georgetown** baz=199,SNR=6.0	25.72	15	P		P	02 26 01.1	-1.7
P46A	**Rosedale** baz=192	25.82	9	P		P	02 26 02.5	-1.2
P47A	**Martinsville** baz=194	25.85	11	P		P	02 26 02.4	-1.5
214A	**Organ Pipe Nat** baz=129,SNR=6.3	25.92	317	P		P	02 26 06.2	+1.5
X18A	**Snowflake** comp=Z,16nm,1.0s	25.92	325	eP		P	02 26 07.8	+3.0
O41A	**Passleys Farm,** baz=183	25.97	2	P		P	02 26 04.4	-0.6
P48A	**Milroy** baz=196,SNR=8.5	25.99	12	P		P	02 26 03.4	-1.8
Q51A	**Peebles** comp=Z,30nm,0.8s	26.06	16	eP		P	02 26 05.2	-0.6
Q51A	**Peebles** baz=200,SNR=7.1	26.06	16	P		P	02 26 04.9	-1.0
O44A	**Mansfield** baz=189	26.19	7	P		P	02 26 05.3	-1.6

P49A	Miami Univ. Ec	26.21	13	P		P	02 26 05.8	-1.4	
	baz=197,SNR=5.6								
O43A	Sugar Creek Fa	26.24	5	P		P	02 26 05.5	-1.9	
	baz=187								
W18A	Petrified Fore	26.24	326	eP		P	02 26 12.1	+4.4	
	comp=Z,19nm,0.9s								
W18A	Petrified Fore	26.24	326	P		P	02 26 09.9	+2.2	
	baz=139								
Q52A	Bidwell	26.30	18	P		P	02 26 06.8	-1.2	
	baz=202								
SDCO	Great Sand Dun	26.37	336	eP		P	02 26 11.2	+2.2	
	comp=Z,9.1nm,0.8s								
SDCO	Great Sand Dun	26.37	336	P		P	02 26 09.7	+0.7	
	baz=150,SNR=14								
O45A	Potomac	26.37	8	P		P	02 26 07.3	-1.3	
	baz=190,SNR=13								
KSCO	Kaye Shedlock'	26.49	342	P		P	02 26 09.4	-0.5	
	baz=157								
P50A	Jamestown	26.49	15	P		P	02 26 09.1	-0.6	
	baz=199,SNR=5.5								
HDIL	Hopedale	26.51	5	eP		P	02 26 08.7	-1.2	
	comp=Z,26nm,0.8s								
HDIL	Hopedale	26.51	5	P		P	02 26 08.6	-1.3	
	baz=187								
P51A	Williamsport	26.56	16	eP		P	02 26 09.5	-0.9	
	comp=Z,18nm,0.8s								
P51A	Williamsport	26.56	16	P		P	02 26 09.2	-1.2	
	baz=200								
SFIN	Lafayette	26.59	9	eP		P	02 26 09.8	-0.8	
	comp=Z,26nm,0.7s								
SFIN	Lafayette	26.59	9	P		P	02 26 09.1	-1.4	
	baz=192								
O47A	Sheridan	26.60	10	P		P	02 26 08.8	-1.8	
	baz=194,SNR=7.3								
X16A	Lo Mia Camp, P	26.69	323	eP		P	02 26 14.0	+2.2	
	comp=Z,11nm,0.8s								
N39A	Derby Farms, D	26.70	360	P		P	02 26 10.3	-1.4	
	baz=180								
N40A	Mertquake, Sal	26.72	1	P		P	02 26 10.6	-1.1	
	baz=182								
N42A	Yates City	26.72	4	P		P	02 26 10.3	-1.5	
	baz=185								
O48A	Farmland	26.81	12	P		P	02 26 11.0	-1.6	
	baz=196								
N44A	Piper City	26.86	7	P		P	02 26 11.4	-1.6	
	baz=189,SNR=7.4								
N43A	Stutzman Famil	26.90	5	P		P	02 26 11.9	-1.4	
	baz=187,SNR=7.6								
O49A	Covington	26.92	13	eP		P	02 26 11.6	-2.0	
	comp=Z,31nm,1.0s								
O49A	Covington	26.92	13	P		P	02 26 11.7	-1.9	
	baz=197								
S22A	4UR Ranch, Cre	26.92	334	eP		P	02 26 16.6	+2.6	
	comp=Z,28nm,1.0s								
S22A	4UR Ranch, Cre	26.92	334	P		P	02 26 15.3	+1.3	
	baz=148,SNR=20								
P52A	Corning	26.96	17	P		P	02 26 13.1	-0.8	
	baz=202								
R58B	Mineral	26.99	26	P		P	02 26 11.7	-2.5	
	baz=212								
N45A	Kentland	26.99	8	P		P	02 26 13.1	-1.1	
	baz=190								
O50A	Cable	27.05	15	P		P	02 26 12.8	-2.0	
	baz=199								
P53A	Whipple	27.05	19	P		P	02 26 13.8	-1.0	
	baz=204								
N46A	Monticello	27.15	9	P		P	02 26 14.2	-1.4	
	baz=192,SNR=6.1								
MVCO	Mesa Verde	27.23	331	eP		P	02 26 19.0	+2.3	
	comp=Z,68nm,0.9s								
MVCO	Mesa Verde	27.23	331	P		P	02 26 18.6	+1.9	
	baz=144,SNR=43								
M40A	Post Highland	27.24	1	P		P	02 26 15.3	-1.1	
	baz=182								
M41A	Milan	27.24	3	P		P	02 26 15.5	-0.9	
	baz=184								
ACSO	Alum Creek Sta	27.29	16	P		P	02 26 15.0	-1.9	
	baz=200								
M39A	Webster	27.30	0	P		P	02 26 15.9	-1.1	
	baz=180								
N47A	Urbana	27.31	11	P		P	02 26 15.0	-2.1	
	baz=194,SNR=5.3								
O51A	Pataskala	27.31	16	P		P	02 26 15.6	-1.5	
	baz=201								
Y14A	Wickenburg	27.31	320	eP		P	02 26 19.7	+2.4	
	comp=Z,7.8nm,1.0s								
CBN	Corbin Frederi	27.40	26	P		P	02 26 16.8	-1.1	
	baz=213								
M43A	Waltham Townsh	27.41	5	P		P	02 26 16.9	-1.0	
	baz=187,SNR=6.7								
N48A	Decatur	27.41	12	P		P	02 26 16.1	-1.9	
	baz=196,SNR=5.8								
WUAZ	Wupatki	27.44	324	eP		P	02 26 21.3	+2.9	
	comp=Z,13nm,0.8s								
WUAZ	Wupatki	27.44	324	P		P	02 26 20.6	+2.1	
	baz=137,SNR=7.5								
M44A	Midewin, Midew	27.45	7	eP		P	02 26 17.6	-0.8	
	comp=Z,20nm,0.8s								
M44A	Midewin, Midew	27.45	7	P		P	02 26 17.0	-1.3	
	baz=189								
O52A	Adamsville	27.50	17	P		P	02 26 16.9	-1.8	
	baz=202								
M45A	Boilermakers S	27.55	8	P		P	02 26 17.6	-1.7	
	baz=191								
N49A	Columbus Grove	27.65	13	P		P	02 26 19.1	-1.0	
	baz=197								
M47A	Cromwell	27.79	11	P		P	02 26 19.8	-1.5	
	baz=194								
L42A	Oliver, Polo	27.92	4	eP		P	02 26 22.4	-0.1	
	comp=Z,26nm,0.9s								
L42A	Oliver, Polo	27.92	4	P		P	02 26 21.2	-1.3	
	baz=186,SNR=6.6								
GLA	Glamis	27.93	316	eP		P	02 26 25.2	+2.4	
	comp=Z,6.1nm,0.7s								
GLA	Glamis	27.93	316	eP		P	02 26 25.2	+2.4	
GLA				pmax		pmax			
	comp=Z,6.0nm,0.7s								
PV01	Paradox Valley	28.01	332	eP		P	02 26 26.6	+2.9	
N51A	Ashland	28.09	16	P		P	02 26 22.2	-1.9	
	baz=201								
Y12C	Blythe	28.16	318	eP		P	02 26 27.4	+2.6	
	comp=Z,6.9nm,0.9s								
Y12C	Blythe	28.16	318	P		P	02 26 26.8	+2.0	
	baz=129								
L43A	Garden Prairie	28.17	5	P		P	02 26 24.9	+0.2	
	baz=188								
SMCO	Snowmass	28.19	335	eP		P	02 26 27.9	+2.4	
	comp=Z,3.9nm,1.0s								
ISCO	Idaho Springs	28.20	338	eP		P	02 26 29.0	+3.6	
	comp=Z,4.9nm,0.8s								
ISCO	Idaho Springs	28.20	338	eP		P	02 26 29.0	+3.6	
ISCO				pmax		pmax			
	comp=Z,5.0nm,0.8s								
ISCO	Idaho Springs	28.20	338	P		P	02 26 25.6	+0.2	
	baz=152,SNR=5.5								
PV05	Paradox Valley	28.21	331	eP		P	02 26 28.1	+2.6	
PV03	Paradox Valley	28.24	332	eP		P	02 26 28.4	+2.8	
L44A	Lake County Fo	28.25	7	P		P	02 26 24.4	-1.0	
	baz=189								
PDMCI	Parker Dam,Lak	28.27	319	P		P	02 26 27.4	+1.7	
	baz=130								
L46A	Eue Claire	28.31	9	P		P	02 26 24.6	-1.4	
	baz=192								
PV10	Paradox Valley	28.42	331	eP		P	02 26 29.3	+1.9	
L47A	Sherwood	28.46	11	P		P	02 26 25.5	-1.8	
	baz=195								
K39A	Oelwein	28.53	1	P		P	02 26 27.2	-0.8	
	baz=181								
PV09	Paradox Valley	28.57	331	eP		P	02 26 31.3	+2.6	
IKP	In-Ko-Pah, Jac	28.57	314	P		P	02 26 30.2	+1.6	
	baz=125								
L48A	N Adams	28.58	12	P		P	02 26 26.8	-1.6	
	baz=196,SNR=6.0								
U15A	North Rim	28.61	325	eP		P	02 26 31.8	+2.7	
	comp=Z,12nm,1.0s								
W13A	Hualapai Mount	28.63	321	eP		P	02 26 32.2	+3.0	
	comp=Z,11nm,1.2s								
BC3	Big Chuckawall	28.71	317	P		P	02 26 30.7	+0.8	
	baz=128,SNR=9.1								
JFWS	Jewell Farm	28.79	3	eP		P	02 26 29.9	-0.4	
	comp=Z,10nm,1.0s								
JFWS	Jewell Farm	28.79	3	eP		P	02 26 29.9	-0.4	
JFWS				pmax		pmax			
	comp=Z,10.0nm,1.0s								
JFWS	Jewell Farm	28.79	3	P		P	02 26 29.0	-1.3	
	baz=184								
IRM	Iron Mountain	28.82	318	P		P	02 26 31.9	+1.2	
	baz=129,SNR=5.4								
N54A	Moraine State	28.84	19	eP		P	02 26 29.8	-0.9	
	comp=Z,20nm,0.8s								
N54A	Moraine State	28.84	19	P		P	02 26 29.0	-1.7	
	baz=206								
L49A	Milan	28.88	13	P		P	02 26 29.8	-1.3	
	baz=198								
MONP2	Monument Peak	28.93	315	P		P	02 26 31.1	-0.8	
	baz=125								
K46A	Dorr	29.05	10	P		P	02 26 30.5	-2.0	
	baz=193								
K47A	Vermontville	29.17	11	P		P	02 26 31.5	-2.1	
	baz=195								
J41A	Loganville	29.25	3	P		P	02 26 31.5	-2.9	
	baz=185								
J42A	Columbus	29.26	5	P		P	02 26 30.8	-3.6	
	baz=186								
SSPA	Standing Stone	29.28	23	P		P	02 26 33.5	-1.1	
	baz=210								
BELC	Belle Mtn. Jos	29.28	317	P		P	02 26 36.8	+1.9	
	baz=127								
N23A	Red Feather La	29.29	338	P		P	02 26 34.9	-0.1	
	baz=152								
KNB	Kanab	29.32	325	eP		P	02 26 38.5	+3.2	
	comp=Z,22nm,1.2s								
KNB	Kanab	29.32	325	eP		P	02 26 38.5	+3.2	
KNB				pmax		pmax			
	comp=Z,22nm,1.2s								
PKCU	Pink Cliffs	29.35	326	eP		P	02 26 39.7	+3.9	
	comp=Z,12nm,1.0s								
PFO	Pinyon Flats O	29.36	316	P		P	02 26 37.0	+1.3	
	baz=126								
LDFC	Landfair	29.37	319	eP		P	02 26 39.1	+3.4	
	comp=Z,27nm,1.1s								
J43A	Natural Harves	29.39	6	P		P	02 26 35.3	-0.2	
	baz=188								
FRD	Ford Ranch, An	29.39	315	P		P	02 26 37.2	+1.4	
	baz=126								
M54A	Oil Creek Stat	29.43	19	P		P	02 26 33.4	-2.7	
	baz=206								
K48A	Perry	29.47	12	P		P	02 26 34.4	-1.9	
	baz=196								
O20A	White River Ci	29.52	335	eP		P	02 26 39.4	+2.4	
	comp=Z,16nm,1.0s								
O20A	White River Ci	29.52	335	P		P	02 26 38.3	+1.3	
	baz=148,SNR=6.7								
GMRC	Granite Mounta	29.54	318	P		P	02 26 38.9	+1.7	
	baz=129,SNR=5.3								
K49A	Clarkson	29.59	13	P		P	02 26 35.5	-1.9	
	baz=198								
I39A	Houston	29.68	1	P		P	02 26 37.4	-0.8	
	baz=182								
SRU	San Rafael Swe	29.71	330	eP		P	02 26 41.3	+2.6	
	comp=Z,13nm,1.0s								
SRU	San Rafael Swe	29.71	330	eP		P	02 26 41.3	+2.6	
SRU				pmax		pmax			
	comp=Z,13nm,1.0s								
MTPU	Mount Pierson	29.73	327	eP		P	02 26 42.1	+3.0	
	comp=Z,12nm,0.7s								
ECSD	EROS Data Cent	29.80	354	P		P	02 26 38.6	-0.6	
	baz=172								
I42A	Draeger Farm,	29.85	5	P		P	02 26 38.7	-0.9	
	baz=187								
MURC	Murrieta	29.86	315	P		P	02 26 40.5	+0.6	
	baz=125								
SZCU	Shurtz Canyon	29.89	325	eP		P	02 26 43.8	+3.5	
	comp=Z,13nm,0.8s								
I43A	Langenfeld Bro	29.91	6	P		P	02 26 39.2	-1.0	
	baz=188								
P18A	Preston Nutter	29.99	331	eP		P	02 26 43.9	+2.6	
	comp=Z,12nm,1.0s								
CCUT	Cedar City	30.01	325	eP		P	02 26 44.7	+3.3	
	comp=Z,13nm,0.8s								
MSU	Marysvale	30.07	328	eP		P	02 26 45.0	+3.0	
MSU	Marysvale	30.07	328	eP		P	02 26 45.0	+3.0	
P17A	Butcher Ranch,	30.10	331	eP		P	02 26 44.8	+2.7	
	comp=Z,27nm,0.9s								
TUQ	Turquoise Moun	30.12	319	P		P	02 26 43.7	+1.4	
	baz=129								
TMUT	Trail Mountain	30.18	330	eP		P	02 26 45.8	+2.7	
	comp=Z,20nm,0.9s								
J49A	Marlette	30.21	13	P		P	02 26 40.1	-2.7	
	baz=198								
SHPR	Sheep Range	30.33	322	eP		P	02 26 47.1	+2.9	
	comp=Z,16nm,1.4s								
SHPR				ePcP		PcP	02 29 45.8	+1.8	
RWWY	Rawlins	30.44	338	eP		P	02 26 47.6	+2.4	
	comp=Z,17nm,1.2s								
RWWY				ePcP		PcP	02 29 47.2	+2.9	
ELFO	Elginfield	30.50	16	P		P	02 26 43.0	-2.3	
	baz=202								
H38A	Maiden Rock	30.50	360	P		P	02 26 44.4	-1.0	
	baz=180								
TYNO	Tyneside	30.81	18	P		P	02 26 47.0	-1.1	
	baz=204								
MPU	Maple Canyon	30.95	330	eP		P	02 26 52.4	+2.7	
	comp=Z,19nm,0.8s								
PSUT	Pine Spring	30.98	326	eP		P	02 26 53.2	+3.2	
	comp=Z,9.8nm,0.9s								
K22A	Casper	31.04	339	P		P	02 26 51.2	+0.8	
	baz=153								
SPMN	Marine on St.	31.05	359	P		P	02 26 49.4	-0.8	
	baz=179								
NLU	North Lily Min	31.12	330	eP		P	02 26 54.0	+2.8	
	comp=Z,9.3nm,1.0s								
NLU				ePcP		PcP	02 29 48.2	+2.2	
G39A	Holcombe	31.12	1	P		P	02 26 49.6	-1.3	
	baz=182								
BASO	Ashfield	31.17	15	P		P	02 26 49.2	-2.1	
	baz=200								
TPNV	Topopah Spring	31.28	321	eP		P	02 26 56.0	+3.4	
	comp=Z,24nm,0.4s								
TPNV	Topopah Spring	31.28	321	eP		P	02 26 56.0	+3.4	
TPNV				pmax		pmax			
	comp=Z,24nm,0.4s								
MEDO	Medina	31.31	20	P		P	02 26 50.7	-1.9	
	baz=207								
G43A	Wallace	31.32	6	P		P	02 26 51.6	-1.0	
	baz=189								
JLU	Jordanelle	31.32	331	eP		P	02 26 55.7	+2.7	
	comp=Z,16nm,1.3s								
BINY	Binghamton	31.35	24	P		P	02 26 51.2	-1.7	
	baz=212								
FURC	Furnace Creek,	31.36	320	P		P	02 26 54.6	+1.5	
	baz=129								
BWLO	Walkerton	31.40	15	P		P	02 26 51.8	-1.6	
	baz=201								
BLG	Laguna Peak, P	31.44	314	P		P	02 26 55.6	+1.8	
	baz=123								
MPMC	Manual Prospec	31.50	319	P		P	02 26 55.9	+1.4	
	baz=128,SNR=11								
CTU	Camp Tracy	31.53	331	eP		P	02 26 57.5	+2.7	
	comp=Z,18nm,0.9s								
RSSD	Black Hills	31.60	344	eP		P	02 26 56.2	+0.8	
	comp=Z,3.6nm,0.8s								
RSSD	Black Hills	31.60	344	eP		P	02 26 56.2	+0.8	
RSSD				pmax		pmax			
	comp=Z,4.0nm,0.8s								
RSSD	Black Hills	31.60	344	P		P	02 26 56.0	+0.6	
	baz=158								
DUG	Dugway, Tooele	31.67	329	eP		P	02 26 58.4	+2.5	
	comp=Z,11nm,1.1s								
DUG	Dugway, Tooele	31.67	329	eP		P	02 26 58.4	+2.5	
DUG				pmax		pmax			
	comp=Z,11nm,1.1s								
DUG	Dugway, Tooele	31.67	329	P		P	02 26 58.1	+2.2	
	baz=140,SNR=8.0								
DAC	Darwin (Calif)	31.70	319	eP		P	02 26 58.9	+2.6	
	comp=Z,6.3nm,0.9s								
DAC	Darwin (Calif)	31.70	319	eP		P	02 26 58.9	+2.6	
DAC				pmax		pmax			
	comp=Z,6.0nm,0.9s								
TCUT	Toone Canyon	31.71	332	eP		P	02 26 59.3	+2.9	
	comp=Z,51nm,0.9s								
R11A	Troy Canyon, C	31.82	324	eP		P	02 27 00.1	+2.7	
	comp=Z,3.3nm,0.9s								
R11A	Troy Canyon, C	31.82	324	P		P	02 26 59.5	+2.1	
	baz=134,SNR=6.8								
BMRO	Meriville Lake	31.83	15	P		P	02 26 55.4	-1.7	
	baz=201								
PKRO	Pickering	31.84	18	P		P	02 26 55.5	-1.7	
	baz=205								
CLWO	Collingwood	31.93	16	P		P	02 26 56.5	-1.5	
	baz=202								
GRAC	Grapevine Rang	32.00	320	P		P	02 27 01.5	+2.7	
	baz=129,SNR=9.8								
CWC	Cottonwood Cre	32.11	319	P		P	02 27 01.9	+2.0	
	baz=128								
HWUT	Hardware Ranch	32.17	332	eP		P	02 27 02.7	+2.3	
	comp=Z,19nm,0.9s								
HWUT				ePcP		PcP	02 29 49.7	+0.9	
BW06	Boulder Array	32.27	336	eP		P	02 27 02.4	+1.1	
BW06	Boulder Array	32.27	336	P		P	02 27 02.3	+1.1	
	baz=148								
PD31	Pinedale Array	32.27	336	eP		P	02 27 02.4	+1.2	
PD31				ePcP		PcP	02 29 51.7	+2.5	
PDAR	Pinedale Array	32.27	336	P		P	02 27 02.3	+1.0	
	comp=Z,2.4nm,0.5s,baz=129,slow=9.5,SNR=18								
PDAR				PcP		PcP	02 29 48.8	-0.3	
	comp=Z,1.9nm,0.6s,baz=134,slow=4.4,SNR=9.5								
PDAR	Pinedale Array	32.27	336	eP		P	02 27 01.8	+0.6	
PDAR				ePcP		PcP	02 29 51.0	+1.9	
E40A	Wakefield	32.33	3	P		P	02 27 00.9	-0.6	
	baz=184								
BGU	Big Grassy Mou	32.33	330	eP		P	02 27 04.5	+2.7	
	comp=Z,14nm,0.8s								
SPUT	South Promonto	32.34	331	eP		P	02 27 04.6	+2.7	
	comp=Z,18nm,1.0s								
SPUT				ePcP		PcP	02 29 52.9	+3.7	
VES	Vestal, Richgr	32.41	317	P		P	02 27 04.2	+1.8	
	baz=126,SNR=7.4								
E38A	The Farm, Brul	32.44	1	P		P	02 27 01.9	-0.5	
	baz=182								
SADO	Sadowa	32.55	17	P		P	02 27 01.4	-2.1	
	comp=Z,16nm,0.9s,baz=209,slow=6.8,SNR=8.2								
SADO	Sadowa	32.55	17	eP		P	02 27 01.4	-2.1	
	comp=Z,8.8nm,0.8s								
DELO	Deloro Mine	32.80	19	P		P	02 27 03.7	-1.9	
	baz=207								
KLBO	Killbear Provi	32.80	16	P		P	02 27 02.4	-3.2	
	baz=202								
HVU	Hansel Valley	32.87	331	eP		P	02 27 09.1	+2.6	
	comp=Z,29nm,0.9s								
HVU	Hansel Valley	32.87	331	eP		P	02 27 09.1	+2.6	
HVU				pmax		pmax			
	comp=Z,29nm,0.9s								
AHID	Auburn Hatcher	32.90	334	eP		P	02 27 08.7	+1.9	
	comp=Z,18nm,0.9s								
BUKO	Buck Lake	33.10	17	P		P	02 27 05.8	-2.4	
	baz=203								
BANO	Bancroft	33.15	19	P		P	02 27 06.9	-1.8	
	baz=206								
REDW	Red Top Meadow	33.29	335	eP		P	02 27 12.1	+1.9	
	comp=Z,45nm,0.8s								
SNOW	Snow King Moun	33.33	335	eP		P	02 27 12.6	+2.0	
	comp=Z,56nm,0.7s								
LOHW	Long Hollow	33.39	335	eP		P	02 27 12.8	+1.7	
	comp=Z,12nm,0.8s								
NV11	Mina Array Sit	33.39	321	eP		P	02 27 14.2	+3.1	
	comp=Z,1.2nm,0.9s								
NV11				ePcP		PcP	02 29 53.8	+1.6	
D46A	Sault St. Mari	33.43	10	P		P	02 27 09.3	-1.8	
	baz=195								
TPAW	Teton Pass	33.43	335	eP		P	02 27 13.7	+2.2	
	comp=Z,36nm,1.3s								
PLVO	Plevna	33.44	20	P		P	02 27 09.5	-1.7	
	baz=208								
F52A	Sundridge	33.44	16	P		P	02 27 08.9	-2.3	
	baz=203								
MDPB	Devils Postpil	33.47	319	eP		P	02 27 15.0	+3.1	
	comp=Z,11nm,0.9s								
NV01	Mina Array Sit	33.48	321	eP		P	02 27 14.0	+2.1	
NV01				ePcP		PcP	02 29 54.1	+1.5	
NVAR	Mina Array Bea	33.48	321	P		P	02 27 14.0	+2.1	
	comp=Z,14nm,0.7s,baz=135,slow=8.6,SNR=61								
NVAR				PcP		PcP	02 29 53.0	+0.4	
	comp=Z,5.4nm,0.9s,baz=134,slow=3.4,SNR=7.2								
MOOW	Moose Ponds	33.56	335	eP		P	02 27 14.4	+1.8	
	comp=Z,8.3nm,0.9s								
FXWY	Fox Creek	33.59	335	eP		P	02 27 14.7	+1.9	
	comp=Z,8.2nm,0.9s								
E50A	Wahnapitae	33.66	14	P		P	02 27 10.3	-2.8	
	baz=201								
RYN	Ryan	33.74	321	eP		P	02 27 17.3	+3.2	
	comp=Z,7.9nm,0.9s								
D47A	Chapleau	33.75	11	P		P	02 27 11.5	-2.4	
	baz=196								
KVN	Kaiserville	33.76	322	eP		P	02 27 17.1	+2.8	
	comp=Z,26nm,1.2s								
KVN	Kaiserville	33.76	322	eP		P	02 27 17.1	+2.8	
KVN				pmax		pmax			
	comp=Z,26nm,1.2s								
IMW	Indian Meadow	33.76	335	eP		P	02 27 16.2	+1.8	
	comp=Z,11nm,1.1s								
PEMO	Pembroke	33.95	19	P		P	02 27 14.0	-1.6	
	baz=207								
ALGO	Algonquin Park	33.95	18	P		P	02 27 13.9	-1.7	
	baz=205								
E51A	G1948 Merrick	34.08	16	P		P	02 27 15.0	-1.7	
	baz=203								
RLMT	Red Lodge	34.16	338	P		P	02 27 19.0	+1.3	
	baz=150								
BMN	Battle Mountai	34.17	325	eP		P	02 27 20.5	+2.7	
	comp=Z,13nm,0.8s								
BMN	Battle Mountai	34.17	325	eP		P	02 27 20.5	+2.7	
BMN				pmax		pmax			
	comp=Z,13nm,0.8s								
WAKR	Walker	34.22	320	eP		P	02 27 21.8	+3.4	
	comp=Z,3.3nm,1.0s								
MDND	Maddock	34.23	351	eP		P	02 27 17.5	-0.5	
	comp=Z,63nm,1.0s								
MDND	Maddock	34.23	351	P		P	02 27 17.8	-0.2	
	baz=168								
AGMN	Agassiz Nation	34.26	356	P		P	02 27 17.9	-0.4	
	baz=174								
YHH	Holmes Hill	34.47	336	eP		P	02 27 23.2	+2.6	
	comp=Z,2.5nm,0.8s								
CMB	Columbia Colle	34.54	319	eP		P	02 27 23.3	+2.4	
	comp=Z,6.0nm,1.1s								
CMB	Columbia Colle	34.54	319	eP		P	02 27 23.3	+2.4	
CMB				pmax		pmax			
	comp=Z,6.0nm,1.1s								
LAO	LASA Array	34.57	343	eP		P	02 27 18.3	-2.8	
	comp=Z,7nm,0.8s								
D51A	Lot 18 Range I	34.62	16	P		P	02 27 18.9	-2.6	
	baz=202								
E54A	Lac Daplat, Po	34.65	18	P		P	02 27 19.5	-2.1	
	baz=206								
PNTR	Pine Nut	34.68	321	eP		P	02 27 25.7	+3.4	
	comp=Z,18nm,0.9s								
ALFO	Alfred	34.70	22	P		P	02 27 20.5	-1.6	
	baz=211								
PAHR	Pah Rah Range	34.94	322	eP		P	02 27 27.5	+3.0	
	comp=Z,11nm,1.1s								
HLID	Hailey	35.01	331	eP		P	02 27 27.1	+2.0	
	comp=Z,19nm,0.9s								
HLID	Hailey	35.01	331	P		P	02 27 26.4	+1.3	
	baz=141,SNR=28								
D53A	Lac Vacive, Po	35.

SAML	**Samuel**	**36.78**	**127**	*e*P		**P**		**02 27 38.6**	**-1.8**
	comp=Z,10nm,1.1s									
SAML	**Samuel**	**36.78**	**127**	*e*P		**P**		**02 27 38.6**	**-1.8**
SAML					pmax	pmax				
	comp=Z,10.0nm,1.1s									
EGMT	**Eagleton**	**36.85**	**340**	P		**P**		**02 27 41.0**	**+0.4**
	baz=151									
J08A	**Circle Bar Ran**	**36.87**	**327**	*e*P		**P**		**02 27 43.2**	**+2.3**
	comp=Z,64nm,0.6s									
MOD	**Modoc Plateau**	**36.88**	**324**	*e*P		**P**		**02 27 43.1**	**+2.0**
	comp=Z,14nm,1.3s									
LATQ	**La Tuque**	**36.95**	**22**	P		**P**		**02 27 40.2**	**-1.2**
	baz=213									
LSQQ	**Lebel-sur-Quev**	**37.07**	**17**	P		P		02 27 40.3	-2.1	
	baz=205									
O02D	**Mt. Diablo Mer**	**37.30**	**320**	P		**P**		**02 27 45.0**	**+0.4**
	baz=126									
BMO	**Blue Mountains**	**37.35**	**330**	*e*P		**P**		**02 27 46.2**	**+1.2**
	comp=Z,16nm,1.0s									
BMO	**Blue Mountains**	**37.35**	**330**	*e*P		**P**		**02 27 46.2**	**+1.2**
BMO					pmax	pmax				
	comp=Z,16nm,1.0s									
MSO	**Missoula**	**37.38**	**335**	*e*P		**P**		**02 27 46.8**	**+1.6**
	comp=Z,10nm,0.9s									
MSO	**Missoula**	**37.38**	**335**	P		**P**		**02 27 46.2**	**+1.0**
	baz=144,SNR=7.3									
MATQ	**Matagami**	**37.53**	**16**	P		**P**		**02 27 44.7**	**-1.6**
	baz=204									
M04C	**Macdoel**	**37.69**	**323**	P		**P**		**02 27 49.0**	**+1.0**
	baz=129									
I07A	**Izee**	**37.91**	**327**	*e*P		**P**		**02 27 51.4**	**+1.6**
	comp=Z,14nm,0.9s									
F10A	**Beach Ranch, E**	**38.14**	**331**	*e*P		**P**		**02 27 52.9**	**+1.2**
	comp=Z,70nm,0.8s									
L04D	**Klamath Falls**	**38.23**	**323**	P		**P**		**02 27 54.2**	**+1.6**
	baz=128									
J05D	**Fort Rock, OR**	**38.30**	**325**	P		**P**		**02 27 55.2**	**+2.1**
	baz=131									
LPAZ	**La Paz**	**38.43**	**141**	P		**P**		**02 27 53.9**	**-1.0**
	comp=Z,2.2nm,0.8s,baz=90,slow=24,SNR=7.7									
LPAZ					PcP	**PcP**		**02 30 08.2**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=321,slow=3.2,SNR=5.9									
LPAZ	**La Paz**	**38.43**	**141**	*e*P		**P**		**02 27 54.2**	**-0.7**
LPAZ	**La Paz**	**38.43**	**141**	*e*P		**P**		**02 27 54.2**	**-0.7**
PINE	**Pine Mountain**	**38.47**	**326**	*e*P		**P**		**02 27 56.3**	**+1.7**
	comp=Z,12nm,0.8s									
G08A	**Pilot Rock**	**38.48**	**329**	*e*P		**P**		**02 27 56.1**	**+1.6**
	comp=Z,3.6nm,1.0s									
G08A					*e*PcP	**PcP**		**02 30 08.6**	**+1.4**
J04D	**Umpqua Nationa**	**38.76**	**324**	P		**P**		**02 27 58.7**	**+1.6**
	baz=130,SNR=6.7									
E09A	**Wood Farm, Sta**	**38.97**	**331**	*e*P		**P**		**02 27 59.1**	**+0.6**
	comp=Z,29nm,1.3s									
I05D	**Terrebonne, OR**	**39.05**	**326**	P		**P**		**02 28 01.4**	**+2.2**
	baz=132									
G06A	**Carlson Farm,**	**39.28**	**328**	*e*P		**P**		**02 28 03.3**	**+2.1**
	comp=Z,2.1nm,0.7s									
I04A	**Tendick Farm,**	**39.28**	**325**	P		**P**		**02 28 02.7**	**+1.5**
	baz=130									
K02D	**Willamette Mer**	**39.32**	**323**	P		**P**		**02 28 03.8**	**+2.2**
	baz=127									
F07A	**Phinny Hill Vi**	**39.38**	**329**	*e*P		**P**		**02 28 06.4**	**+4.5**
	comp=Z,7.7nm,0.8s									
E08A	**Dider Farm, El**	**39.39**	**331**	*e*P		**P**		**02 28 03.4**	**+1.5**
	comp=Z,8.8nm,0.9s									
HAWA	**Hanford**	**39.54**	**330**	*e*P		**P**		**02 28 05.2**	**+1.9**
	comp=Z,9.1nm,0.9s									
G05D	**Wamic, OR**	**39.64**	**327**	P		**P**		**02 28 06.1**	**+1.9**
	baz=133,SNR=10									
D08A	**Wollman Farm,**	**39.73**	**331**	*e*P		**P**		**02 28 06.4**	**+1.6**
	comp=Z,9.0nm,0.8s									
H04A	**Detroit Lake**	**39.73**	**326**	*e*P		**P**		**02 28 06.8**	**+1.9**
	comp=Z,36nm,0.6s									
I03D	**Drain, OR**	**39.75**	**324**	P		**P**		**02 28 06.3**	**+1.3**
	baz=129									
J01E	**Myrtle Point**	**39.76**	**323**	P		**P**		**02 28 06.8**	**+1.7**
	baz=128									
MNMC	**Minye Minye**	**39.81**	**145**	*e*P		**P**		**02 28 07.6**	**+1.5**
	comp=Z,8.9nm,0.9s									
KEBM	**Edson Butte**	**39.83**	**322**	*e*P		**P**		**02 28 10.3**	**+4.5**
NEW	**Newport**	**39.84**	**334**	*e*P		**P**		**02 28 06.8**	**+1.1**
	comp=Z,7.3nm,0.8s									
NEW	**Newport**	**39.84**	**334**	*e*P		**P**		**02 28 06.8**	**+1.1**
NEW					pmax	pmax				
	comp=Z,7.0nm,0.8s									
NEW	**Newport**	**39.84**	**334**	P		**P**		**02 28 06.2**	**+0.5**
	baz=141,SNR=5.1									
H04D	**Lebanon**	**39.93**	**326**	P		**P**		**02 28 07.2**	**+0.7**
	baz=130									
C09A	**Chrisman Ranch**	**39.99**	**333**	*e*P		**P**		**02 28 08.5**	**+1.5**
	comp=Z,26nm,0.9s									
F05D	**White Salmon**	**40.15**	**328**	P		**P**		**02 28 10.4**	**+2.0**
	baz=133,SNR=9.3									
I02D	**Swisshome**	**40.29**	**324**	P		**P**		**02 28 11.4**	**+1.9**
	baz=128									
G03D	**McMinnville, O**	**40.66**	**326**	P		**P**		**02 28 14.5**	**+1.9**
	baz=130									
LTY	**Liberty**	**40.71**	**330**	*e*P		**P**		**02 28 14.8**	**+1.8**
	comp=Z,22nm,1.1s									
B08A	**Colville Reser**	**40.88**	**332**	*e*P		**P**		**02 28 15.6**	**+1.3**
	comp=Z,18nm,1.2s									
LON	**Longmire**	**40.92**	**329**	*e*P		**P**		**02 28 16.4**	**+1.7**
	comp=Z,21nm,0.8s									
LON	**Longmire**	**40.92**	**329**	*e*P		**P**		**02 28 16.4**	**+1.7**
LON					pmax	pmax				
	comp=Z,21nm,0.8s									
E04D	**Cinebar**	**41.17**	**328**	P		**P**		**02 28 18.2**	**+1.5**
	baz=132									
C06D	**Leavenworth**	**41.28**	**331**	P		**P**		**02 28 19.5**	**+1.8**
	baz=135									
D05A	**Enumclaw**	**41.31**	**329**	*e*P		**P**		**02 28 20.2**	**+2.4**
	comp=Z,22nm,0.8s									
D04E	**Lakebay**	**41.69**	**329**	P		**P**		**02 28 23.0**	**+2.0**
	baz=132									
B06A	**Marblemount**	**41.99**	**331**	*e*P		**P**		**02 28 24.8**	**+1.4**
	comp=Z,37nm,0.9s									
D03D	**Eldon**	**42.09**	**329**	P		**P**		**02 28 25.5**	**+1.3**
	baz=132									
B05A	**Bryant**	**42.10**	**330**	P		**P**		**02 28 25.0**	**+0.7**
	baz=134,SNR=6.7									
A05A	**Maple Falls**	**42.61**	**331**	*e*P		**P**		**02 28 30.5**	**+2.1**
	comp=Z,9.9nm,0.4s									
A04D	**Lummi Island**	**42.71**	**330**	P		**P**		**02 28 30.6**	**+1.4**
	baz=134,SNR=6.2									
PGC	**Sidney**	**43.02**	**330**	*e*P		**P**		**02 28 33.4**	**+1.6**
	comp=Z,23nm,0.8s									
SCHQ	**Schefferville**	**45.23**	**20**	P		**P**		**02 28 47.5**	**-1.9**
	comp=Z,9.2nm,0.7s,baz=194,slow=7.4,SNR=5.5									
SCHQ	**Schefferville**	**45.23**	**20**	*e*P		**P**		**02 28 47.5**	**-1.9**
	comp=Z,7.4nm,0.8s									
YKA	**Yellowknife Ar**	**50.91**	**347**	P		**P**		**02 29 33.1**	**0.0**
	comp=Z,32nm,0.8s,baz=150,slow=7.5,SNR=38									
YKA					PcP	**PcP**		**02 30 48.6**	**-0.6**
	comp=Z,4.2nm,0.7s,baz=150,slow=4.0,SNR=7.0									
YKB5	**Yellowknife Ar**	**50.91**	**347**	*e*P		**P**		**02 29 33.2**	**+0.1**
YKB5					*e*PcP	**PcP**		**02 30 48.6**	**-0.6**
DLBC	**Dease Lake**	**52.50**	**336**	*e*P		**P**		**02 29 47.9**	**+2.7**
	comp=Z,57nm,1.4s									
CPUP	**Villa Florida**	**52.58**	**140**	P		**P**		**02 29 44.6**	**-1.5**
	comp=Z,3.4nm,0.7s,baz=316,slow=7.2,SNR=10									
CPUP	**Villa Florida**	**52.58**	**140**	*e*P		**P**		**02 29 44.9**	**-1.2**
	comp=Z,4.8nm,0.8s									
CPUP	**Villa Florida**	**52.58**	**140**	*e*P		**P**		**02 29 44.9**	**-1.2**
CPUP					pmax	pmax				
	comp=Z,5.0nm,0.8s									
BDFB	**Brasilia**	**52.74**	**122**	P		**P**		**02 29 45.9**	**-1.7**
	comp=Z,5.0nm,0.9s,baz=301,slow=11,SNR=4.8									
HYT	**Haines Junctio**	**56.96**	**335**	*e*P		**P**		**02 30 20.1**	**+2.5**
	comp=Z,19nm,1.4s									
PCA	**Pinnacle**	**57.71**	**334**	*e*P		**P**		**02 30 25.4**	**+2.6**
	comp=Z,21nm,0.8s									
TGL	**Tana Glacier**	**59.15**	**334**	*e*P		**P**		**02 30 35.1**	**+2.3**
	comp=Z,14nm,0.8s									
DAWY	**Dawson**	**59.53**	**338**	*e*P		**P**		**02 30 36.1**	**+0.8**
	comp=Z,9.8nm,1.3s									
RAGM	**Ragged Mountai**	**59.77**	**333**	*e*P		**P**		**02 30 39.7**	**+2.6**
	comp=Z,38nm,1.1s									
EPYK	**Eagle Plains**	**59.99**	**341**	P		**P**		**02 30 38.7**	**+0.2**
	baz=128									
BMRM	**Bremner River**	**60.01**	**334**	*e*P		**P**		**02 30 41.1**	**+2.4**
	comp=Z,19nm,0.9s									
INK	**Inuvik**	**60.31**	**344**	P		**P**		**02 30 41.2**	**+0.7**
	baz=132,slow=7.6									
INK	**Inuvik**	**60.31**	**344**	*e*P		**P**		**02 30 41.5**	**+1.0**
	comp=Z,30nm,1.0s									
INK	**Inuvik**	**60.31**	**344**	*e*P		**P**		**02 30 41.5**	**+1.0**
INK					pmax	pmax				
	comp=Z,30nm,1.0s									
EYAK	**Cordova Ski Ar**	**60.32**	**333**	*e*P		**P**		**02 30 43.3**	**+2.6**
	comp=Z,24nm,0.9s									
EGAK	**Eagle**	**60.56**	**338**	*e*P		**P**		**02 30 43.2**	**+0.8**
	comp=Z,13nm,1.0s									
DIV	**Divide**	**60.59**	**333**	*e*P		**P**		**02 30 44.8**	**+2.1**
	comp=Z,16nm,0.9s									
MLOA	**Mauna Loa Obse**	**60.61**	**285**	*e*PcP		**PcP**		**02 31 29.3**	**+1.0**
KLU	**Klutina**	**60.82**	**334**	*e*P		**P**		**02 30 46.1**	**+1.8**
	comp=Z,21nm,0.8s									
HARP	**HAARP**	**60.91**	**335**	*e*P		**P**		**02 30 47.3**	**+2.5**
	comp=Z,40nm,1.1s									
DOT	**Dot Lake**	**61.07**	**336**	*e*P		**P**		**02 30 47.6**	**+1.7**
	comp=Z,21nm,0.9s									
SCRK	**Sand Creek**	**61.20**	**337**	*e*P		**P**		**02 30 48.5**	**+1.6**
	comp=Z,5.8nm,0.9s									
PAX	**Paxson**	**61.30**	**335**	*e*P		**P**		**02 30 48.6**	**+1.1**
	comp=Z,14nm,0.8s									
PAX	**Paxson**	**61.30**	**335**	*e*P		**P**		**02 30 48.6**	**+1.1**
PAX					pmax	pmax				
	comp=Z,14nm,0.8s									
RIDG	**Independ'e Rid**	**61.42**	**336**	*e*P		**P**		**02 30 49.9**	**+1.7**
	comp=Z,22nm,0.9s									
SCM	**Sheep Creek Mo**	**61.57**	**334**	*e*P		**P**		**02 30 50.9**	**+1.6**
	comp=Z,26nm,1.0s									
SCM	**Sheep Creek Mo**	**61.57**	**334**	*e*P		**P**		**02 30 50.9**	**+1.6**
SCM					pmax	pmax				
	comp=Z,26nm,1.0s									
SEW	**Seward**	**61.82**	**331**	*e*P		**P**		**02 30 52.2**	**+1.3**
	comp=Z,28nm,1.0s									
GHO	**Glory Hole Cre**	**62.24**	**333**	*e*P		**P**		**02 30 55.0**	**+1.2**
	comp=Z,59nm,0.9s									
PMR	**Palmer**	**62.25**	**333**	*e*P		**P**		**02 30 54.9**	**+1.1**
	comp=Z,20nm,1.1s									
PMR	**Palmer**	**62.25**	**333**	*e*P		**P**		**02 30 54.9**	**+1.1**
PMR					pmax	pmax				
	comp=Z,20nm,1.1s									
RC01	**Rabbit Creek A**	**62.33**	**332**	*e*P		**P**		**02 30 55.7**	**+1.3**
	comp=Z,31nm,0.8s									
BRLK	**Bradley Lake**	**62.37**	**331**	*e*P		**P**		**02 30 56.4**	**+1.7**
	comp=Z,39nm,0.8s									
CNPM	**China Poot**	**62.45**	**330**	*e*P		**P**		**02 30 56.9**	**+1.6**
	comp=Z,27nm,0.8s									
HDA	**Harding Lake**	**62.55**	**336**	*e*P		**P**		**02 30 56.5**	**+0.7**
	comp=Z,16nm,0.9s									
HDA	**Harding Lake**	**62.55**	**336**	P		**P**		**02 30 55.9**	**+0.1**
	baz=117,SNR=11									
IL1	**Eielson Array**	**62.69**	**337**	*e*P		**P**		**02 30 57.0**	**+0.3**
ILAR	**Eielson Array**	**62.69**	**337**	P		**P**		**02 30 57.2**	**+0.5**
	comp=Z,13nm,0.9s,baz=155,slow=4.6,SNR=46									
ILAR	**Eielson Array**	**62.69**	**337**	*e*P		**P**		**02 30 57.2**	**+0.5**
ILAR					pmax	pmax				
	comp=Z,12nm,0.9s									
ILB	**Eielson Array**	**62.69**	**337**	*e*P		**P**		**02 30 57.6**	**+0.9**
RND	**Reindeer**	**62.87**	**335**	*e*P		**P**		**02 30 59.3**	**+1.3**
	comp=Z,39nm,0.9s									
RND	**Reindeer**	**62.87**	**335**	*e*P		**P**		**02 30 59.3**	**+1.3**
RND					pmax	pmax				
	comp=Z,39nm,0.9s									
SUA	**Susitna One**	**62.92**	**333**	*e*P		**P**		**02 30 59.7**	**+1.3**
	comp=Z,20nm,0.8s									
CCB	**Clear Creek Bu**	**62.99**	**337**	*e*P		**P**		**02 30 59.1**	**+0.4**
	comp=Z,6.9nm,0.8s									
WRH	**Wood River Hil**	**63.02**	**336**	*e*P		**P**		**02 30 59.5**	**+0.6**
	comp=Z,8.8nm,1.0s									
MCK	**McKinley**	**63.04**	**335**	*e*P		**P**		**02 31 00.4**	**+1.3**
	comp=Z,13nm,1.0s									
MCK	**McKinley**	**63.04**	**335**	*e*P		**P**		**02 31 00.4**	**+1.3**
MCK					pmax	pmax				
	comp=Z,13nm,1.0s									
POKR	**Poker Plat Res**	**63.05**	**337**	P		**P**		**02 30 59.6**	**+0.5**
	baz=117,SNR=7.3									
TCOL	**CIGO, UAF Yank**	**63.11**	**337**	P		**P**		**02 31 00.9**	**+1.4**
	baz=116									
MDM	**Murphy Dome**	**63.29**	**337**	*e*P		**P**		**02 31 01.4**	**+0.7**
	comp=Z,8.2nm,0.8s									
BWN	**Browne**	**63.44**	**336**	*e*P		**P**		**02 31 02.7**	**+1.1**
	comp=Z,76nm,0.8s									
SKT	**Skwentna**	**63.46**	**333**	*e*P		**P**		**02 31 03.2**	**+1.3**
	comp=Z,23nm,0.8s									
TRF	**Thorofare Moun**	**63.48**	**335**	*e*P		**P**		**02 31 03.0**	**+0.8**
	comp=Z,34nm,0.9s									
BPAW	**Bear Paw Mtn.**	**64.02**	**335**	*e*P		**P**		**02 31 06.1**	**+0.6**
	comp=Z,19nm,0.9s									
PPLA	**Purkeypile**	**64.07**	**334**	*e*P		**P**		**02 31 06.6**	**+0.6**
	comp=Z,17nm,0.8s									
CAST	**Castle Rocks**	**64.22**	**334**	*e*P		**P**		**02 31 05.8**	**-1.1**
	comp=Z,13nm,0.8s									
MLY	**Manley**	**64.29**	**336**	*e*P		**P**		**02 31 08.0**	**+0.7**
	comp=Z,31nm,0.8s									
CHGN	**Chignik**	**65.23**	**326**	*e*P		**P**		**02 31 14.8**	**+1.3**
	comp=Z,46nm,1.0s									
TOLK	**Toolik Lake Re**	**65.38**	**340**	*e*P		**P**		**02 31 15.9**	**+1.6**
	comp=Z,13nm,0.9s									
TOLK	**Toolik Lake Re**	**65.38**	**340**	P		**P**		**02 31 14.7**	**+0.3**
	baz=116,SNR=6.0									
IM3	**Indian Mountai**	**65.81**	**337**	*e*P		**P**		**02 31 16.9**	**-0.2**
DAG	**Danmarks Havn**	**72.64**	**13**	P		**P**		**02 31 57.7**	**-1.5**
ESDC	**Sonseca Array**	**79.83**	**52**	P		P		02 32 38.2	-2.7	
	comp=Z,2.6nm,0.9s,baz=293,slow=5.1,SNR=9.5									
ES19	**SONSECA Array**	**79.88**	**52**	*e*P		P		02 32 38.6	-2.5	
BILL	**Bilibino**	**81.31**	**338**	*e*P		**P**		**02 32 49.3**	**+1.1**
	comp=Z,24nm,0.8s									
BILL	**Bilibino**	**81.31**	**338**	*c i*P		**P**		**02 32 49.2**	**+1.0**
BILL					pmax	pmax				
	comp=Z,22nm,1.0s									
NB2	**NORSAR Subarra**	**84.18**	**28**	P		**P**		**02 33 02.5**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=290,slow=5.3									
NB200	**NORSAR Array S**	**84.18**	**28**	*e*P		**P**		**02 33 02.0**	**-1.2**
NOA	**NORSAR Array B**	**84.18**	**28**	P		**P**		**02 33 02.0**	**-1.2**
	comp=Z,1.7nm,0.9s,baz=291,slow=5.0,SNR=5.3									
NOA	**NORSAR Array B**	**84.18**	**28**	*e*P		**P**		**02 33 03.1**	**-0.2**
NOA					pmax	pmax				
	comp=Z,2.0nm,0.9s									
ARA0	**ARCESS Array S**	**86.13**	**18**	*e*P		**P**		**02 33 10.8**	**-2.1**
ARCES	**ARCESS Array B**	**86.13**	**18**	P		**P**		**02 33 10.8**	**-2.1**
	comp=Z,2.5nm,0.6s,baz=337,slow=2.8,SNR=6.8									
SENIN	**Lac Senin/Sane**	**86.38**	**43**	*e*P		**P**		**02 33 14.1**	**-0.7**
	comp=Z,7.5nm,0.9s									
BFO	**Black Forest**	**86.48**	**41**	*i* P		**P**		**02 33 14.1**	**-0.9**
TUE	**Stuetta**	**87.70**	**43**	*e*P		**P**		**02 33 20.3**	**-0.9**
	comp=Z,7.4nm,0.9s									
DAVA	**Damuels**	**87.79**	**42**	*i* P		**P**		**02 33 20.2**	**-1.4**
	comp=Z,7.9nm,0.8s									
FUORN	**Ofenpass-Fuorn**	**88.25**	**42**	*e*P		**P**		**02 33 23.3**	**-0.6**
	comp=Z,8.8nm,1.0s									
RETA	**Reutte**	**88.30**	**41**	*i* P		**P**		**02 33 22.6**	**-1.2**
	comp=Z,8.6nm,1.0s									
CLL	**Collm**	**88.38**	**37**	*e*P		P		02 33 30.0	+5.9	
FETA	**Feichten**	**88.42**	**42**	*i* P		**P**		**02 33 23.6**	**-1.0**
	comp=Z,3.7nm,0.8s									
SEY	**Seymchan**	**88.60**	**336**	*i* P		**P**		**02 33 25.8**	**+1.0**
GERES	**GERESS Array B**	**89.68**	**39**	P		**P**		**02 33 28.5**	**-1.8**
	comp=Z,0.9nm,0.7s,baz=245,slow=2.2,SNR=4.6									
GERES	**GERESS Array B**	**89.68**	**39**	*e*P		**P**		**02 33 30.1**	**-0.3**
GERES					pmax	pmax				
	comp=Z,1.0nm,0.6s									
TIXI	**Tiksi**	**90.14**	**348**	*e*P		**P**		**02 33 30.8**	**-1.1**
TIXI					pmax	pmax				
	comp=Z,14nm,0.9s									
PEA1	**Petropavlovsk-**	**90.46**	**326**	*e*P		**P**		**02 33 33.7**	**-0.1**
PETK	**Petropavlovsk-**	**90.46**	**326**	P		**P**		**02 33 33.7**	**-0.1**
	comp=Z,4.6nm,0.8s,baz=101,slow=6.2,SNR=7.1									
PETK	**Petropavlovsk-**	**90.46**	**326**	*e*P		**P**		**02 33 37.1**	**+3.3**
FIA0	**FINESS Array S**	**90.52**	**25**	*e*P		**P**		**02 33 32.0**	**-1.8**
FIA0	**FINESS Array S**	**90.52**	**25**	*e*P		**P**		**02 33 32.0**	**-1.8**
FINES	**FINESS Array B**	**90.52**	**25**	P		**P**		**02 33 32.0**	**-1.8**
	comp=Z,3.8nm,0.8s,baz=192,slow=2.7,SNR=4.3									
FINES	**FINESS Array B**	**90.52**	**25**	*e*P		**P**		**02 33 32.6**	**-1.2**
FINES					pmax	pmax				
	comp=Z,4.0nm,0.8s									
TOA1	**Torodi Ar. Sit**	**90.56**	**76**	*e*P		P		02 33 32.0	-3.0	
TORD	**Torodi Ar. Bea**	**90.57**	**76**	P		P		02 33 32.0	-3.0	
	comp=Z,0.4nm,0.5s,baz=290,slow=3.9,SNR=8.1									
VYHS	**Vyhne**	**92.95**	**38**	*e*P		**P**		**02 33 45.1**	**-0.3**
VYHS	**Vyhne**	**92.95**	**38**	*e*P		**P**		**02 33 45.1**	**-0.3**
YAK	**Yakutsk**	**97.32**	**341**	*i* P		**P**		**02 34 06.4**	**+1.4**
YAK					pmax	pmax				
	comp=Z,7.0nm,0.9s									
OBN	**Obninsk**	**98.71**	**27**	*e*P		**P**		**02 34 12.0**	**+0.6**
OBN					pmax	pmax				
	comp=Z,4.0nm,0.8s									
TEY	**Ternei**	**106.42**	**326**	*ce*P		**Pdif**		**02 34 40.8**	**-5.1**
SONA0	**Songino Array**	**116.17**	**346**	*e*PKPdf		**PKPdf**		**02 39 14.0**	**-1.6**
SONM	**Songino Array**	**116.17**	**346**	PKP		**PKPdf**		**02 39 14.0**	**-1.6**
	comp=Z,0.8nm,0.7s,baz=27,slow=4.2,SNR=3.1									
MK32	**Makanchi Array**	**119.21**	**4**	*e*PKPdf		**PKPdf**		**02 39 20.8**	**-0.6**
MKAR	**Makanchi Array**	**119.21**	**4**	PKP		**PKPdf**		**02 39 20.8**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=305,slow=2.5,SNR=4.5									
BOSA	**Boshof**	**120.58**	**115**	PKP		**PKPdf**		**02 39 23.2**	**-1.3**
	comp=Z,4.9nm,0.8s,baz=218,slow=3.2,SNR=6.9									
HHC	**Hu-ho-hao-te**	**121.08**	**339**	*e*PKP		**PKPdf**		**02 39 25.3**	**+0.1**
GEYT	**Alibeck**	**121.25**	**27**	PKP		**PKPdf**		**02 39 25.1**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=299,slow=16,SNR=4.3									
WMQ	**Urumqi**	**122.39**	**0**	*e*PKP		**PKPdf**		**02 39 29.5**	**+1.9**
LSZ	**Lusaka**	**122.50**	**99**	PKP		**PKPdf**		**02 39 28.7**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=272,slow=1.1,SNR=4.9									
MATP	**Matopo**	**123.28**	**105**	PKP		**PKPdf**		**02 39 29.3**	**-0.6**
	comp=Z,5.1nm,1.0s,baz=292,slow=1.5,SNR=8.8									
NJ2	**Nanjing**	**125.32**	**328**	*e*PKP		**PKPdf**		**02 39 35.5**	**+2.1**
KSH	**Kashi**	**125.56**	**11**	*e*PKP		**PKPdf**		**02 39 37.1**	**+3.2**
GTA	**Gaotai**	**125.62**	**349**	*e*PKP		**PKPdf**		**02 39 35.6**	**+1.6**
GTA				sPKP				02 39 49.9		
LZH	**Lanzhou**	**127.85**	**344**	PKP		**PKPdf**		**02 39 40.1**	**+1.7**
LZH				sPKP				02 39 57.0		
STKA	**Stephens Creek**	**127.91**	**240**	PKP		**PKPdf**		**02 39 37.6**	**-0.8**
	comp=Z,3.0nm,0.7s,baz=79,slow=4.4,SNR=8.4									
CD2	**Chengdu**	**132.71**	**341**	PKP		**PKPdf**		**02 39 47.5**	**-0.1**
WB2	**Warramunga Arr**	**135.20**	**256**	*e*PKPdf		**PKPdf**		**02 39 52.8**	**+0.3**
WR1	**Warramunga Arr**	**135.21**	**256**	*e*PKPdf		**PKPdf**		**02 39 52.5**	**+0.1**
WRA	**Warramunga Arr**	**135.21**	**256**	PKP		**PKPdf**		**02 39 52.5**	**0.0**
	comp=Z,1.2nm,0.6s,baz=82,slow=1.8,SNR=16									
AS31	**Alice Springs**	**135.49**	**251**	*e*PKPdf		**PKPdf**		**02 39 52.0**	**-0.9**
ASAR	**Alice Springs**	**135.49**	**251**	PKP		**PKPdf**		**02 39 52.0**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=119,slow=1.6,SNR=7.5									
CHTO	**Chiang Mai**	**145.52**	**341**	*e*PKPdf		**PKPbc**		**02 40 11.0**	**-0.2**
CHTO	**Chiang Mai**	**145.52**	**341**	*e*PKP2		**PKPbc**		**02 40 11.0**	**-0.2**
CM31	**Chiang Mai Arr**	**145.85**	**341**	*e*PKPdf		**PKPdf**		**02 40 13.1**	**+1.3**
CMAR	**Chiang Mai Arr**	**145.85**	**341**	PKPbc		**PKPdf**		**02 40 12.7**	**+0.9**
	comp=Z,33nm,0.8s,baz=342,slow=4.0,SNR=62									
CM01	**Chiang Mai Arr**	**145.88**	**341**	*e*PKPdf		**PKPdf**		**02 40 11.9**	**+0.2**
PBKT	**Sadao Pong**	**146.88**	**336**	*e*PKPdf		**PKPdf**		**02 40 16.1**	**+2.7**
HYB	**Hyderabad**	**147.41**	**17**	*i* PKP		**PKPdf**		**02 40 17.0**	**+2.6**
PSI	**Prapat**	**159.92**	**326**	*e*PKPab		**PKPab**		**02 41 11.9**	**+0.3**
PSI	**Prapat**	**159.92**	**326**	*e*PKP2		**PKPab**		**02 41 11.9**	**+0.3**

ISCJB ***08*** *02:26:38.1±0.9, 14.12N±0.05, 92.69W±0.05, h35km±7km, mb4.4/49, Error ellipse: s-maj=10.8km s-min=4.8km az=41.0*

MEX ***08*** *02:26:39.1±0.5, 14.06N±92.86W, h18km±41km, MD4.3*

IDC ***08*** *02:26:40.5±3.6, 14.46N±92.34W, h34km±24km, mb4.0/15, mb1 4.2/18, mb1mx4.0/49, mbtmp4.2/18, ML3.7/3, Error ellipse: s-maj=37.3km s-min=12.3km az=43.0*

NEIC ***08*** *02:26:41.1±1.0,

SNOW	Snow King Moun 22nm,0.9s	33.06	336	*e*P		P	02 33 14.0	+2.2
NV01	Mina Array Sit	33.10	322	*e*P		P	02 33 14.3	+2.1
NVAR	Mina Array Bea 3.5nm,0.8s,baz=136,slow=8.5,SNR=23	33.10	322	P		P	02 33 14.0	+1.8
NVAR	Mina Array Bea	33.10	322	P		P	02 33 14.0	+1.8
LOHW	Long Hollow 16nm,1.3s	33.13	336	*e*P		P	02 33 13.4	+1.1
TPAW	Teton Pass 17nm,1.2s	33.16	336	*e*P		P	02 33 14.7	+2.0
MOOW	Moose Ponds 1.8nm,0.8s	33.30	336	*e*P		P	02 33 15.5	+1.7
FXWY	Fox Creek 3.0nm,1.0s	33.32	336	*e*P		P	02 33 15.7	+1.7
KVN	Kaiserville 1.9nm,1.1s	33.38	323	*e*P		P	02 33 16.1	+1.5
IMW	Indian Meadow 3.9nm,0.8s	33.50	336	*e*P		P	02 33 17.7	+2.0
YHH	Holmes Hill 7.3nm,1.3s	34.21	337	*e*P		P	02 33 24.4	+2.5
HLID	Hailey 8.4nm,1.4s	34.71	332	*e*P		P	02 33 27.9	+1.9
MCMT	McKenzie Canyo	35.04	335	*e*P		P	02 33 31.8	+2.9
DLMT	Dillon 11nm,1.1s	35.37	336	*e*P		P	02 33 33.1	+1.4
LRM	Limekiln Ridge	35.70	336	*e*P		P	02 33 36.1	+1.5
PTGA	Pitinga 6.8nm,0.7s,baz=296,slow=10,SNR=18	35.70	112	P		P	02 33 33.2	-1.5
PTGA	Pitinga 8.5nm,0.8s	35.70	112	*e*P		P	02 33 33.2	-1.5
WVOR	Wild Horse Val 8.2nm,1.2s	35.97	327	*e*P		P	02 33 38.9	+2.0
ULM	Lac du Bonnet 2.7nm,0.6s,baz=123,slow=9.1,SNR=3.1	36.13	357	P		P	02 33 36.6	-1.4
ULM	Lac du Bonnet	36.13	357	P		P	02 33 36.6	-1.4
J08A	Circle Bar Ran 9.8nm,1.1s	36.53	328	*e*P		P	02 33 43.5	+1.8
MSO	Missoula 8.8nm,1.1s	37.11	336	*e*P		P	02 33 46.6	+0.1
F10A	Beach Ranch, E 11nm,0.9s	37.84	332	*e*P		P	02 33 53.8	+1.1
LPAZ	La Paz 0.9nm,0.7s,baz=358,slow=1.9,SNR=4.1	38.81	140	P		P	02 34 03.4	+1.7
LPAZ	La Paz	38.81	140	*e*P		P	02 34 03.4	+1.7
YKA	Yellowknife Ar 10.0nm,0.7s,baz=148,slow=7.5,SNR=17	50.74	347	P		P	02 35 35.6	+0.1
YKA	Yellowknife Ar	50.74	347	P		P	02 35 35.6	+0.1
YKB5	Yellowknife Ar	50.74	347	*e*P		P	02 35 34.5	-1.0
YKW3	Yellowknife Ar 16nm,0.8s	50.81	347	*e*P		P	02 35 35.4	-0.5
INK	Inuvik 3.9nm,0.7s,baz=121,slow=6.7,SNR=14	60.12	344	P		P	02 36 42.4	-0.4
INK	Inuvik 9.2nm,1.1s	60.12	344	*e*P		P	02 36 43.6	+0.8
RES	Resolute Bay 1.8nm,0.7s,baz=200,slow=5.7,SNR=4.1	60.58	359	P		P	02 36 44.9	-1.0
RES	Resolute Bay 9.9nm,1.4s	60.58	359	*e*P		P	02 36 44.9	-1.0
IL1	Eielson Array	62.43	337	*e*P		P	02 36 58.0	-0.6
ILAR	Eielson Array 4.2nm,1.1s,baz=134,slow=3.7,SNR=17	62.43	337	P		P	02 36 58.6	0.0
ILAR	Eielson Array	62.43	337	P		P	02 36 58.6	0.0
ILB	Eielson Array	62.43	337	*e*P		P	02 36 59.0	+0.4
RND	Reindeer 14nm,1.4s	62.60	335	*e*P		P	02 37 01.0	+1.2
BWN	Browne 35nm,1.2s	63.17	336	*e*P		P	02 37 06.0	+2.5
MLY	Manley 5.3nm,0.8s	64.03	336	*e*P		P	02 37 09.9	+0.7
ESDC	Sonseca Array 0.5nm,0.6s,baz=291,slow=6.2,SNR=4.8	80.26	52	P		P	02 38 43.8	-3.0
ESDC	Sonseca Array	80.26	52	*e*P		P	02 38 43.8	-3.0
ES19	SONSECA Array	80.31	51	*e*P		P	02 38 43.9	-3.2
ARA0	ARCESS Array S	86.28	18	*e*P		P	02 39 15.4	-1.8
ARA0				*e*PcP		PcP	02 39 18.7	-1.0
ARCES	ARCESS Array B 4.2nm,0.9s,baz=25,slow=6.7,SNR=3.7	86.28	18	P		P	02 39 15.4	-1.8
ARCES	ARCESS Array B	86.28	18	P		P	02 39 15.4	-1.8
TOA1	Torodi Ar. Sit	91.11	76	*e*P		P	02 39 38.8	-2.4
TORD	Torodi Ar. Bea 1.0nm,1.2s,baz=245,slow=3.4	91.11	76	P		P	02 39 38.8	-2.4
TORD	Torodi Ar. Bea	91.11	76	P		P	02 39 38.8	-2.4
GTA	Gaotai	125.47	348	*e*PKP		PKPdf	02 45 40.7	+3.3
GTA				sPKP			02 45 54.7	
KSH	Kashi	125.64	11	*e*PKP		PKPdf	02 45 37.4	-0.3
WR1	Warramunga Arr	134.66	256	*e*PKPdf		PKPdf	02 45 57.1	+2.0
WRA	Warramunga Arr 0.2nm,0.6s,baz=84,slow=2.8,SNR=4.4	134.66	256	PKP		PKPdf	02 45 57.1	+2.0
WRA	Warramunga Arr	134.66	256	PKP		PKPdf	02 45 57.1	+2.0
CM31	Chiang Mai Arr	145.63	340	*e*PKPdf		PKPdf	02 46 15.2	+0.1
CMAR	Chiang Mai Arr 3.8nm,0.7s,baz=341,slow=3.8,SNR=20	145.63	340	PKPbc		PKPbc	02 46 15.2	+0.1
CMAR	Chiang Mai Arr	145.63	340	PKPbc		PKPdf	02 46 15.2	+0.1

*ISCJB **08** 02:27:15.9±0.4, 14°.25N±0°.05×92°.35W±0°.04, h62km, mb4.7/94, Error ellipse: s-maj=8.3km s-min=4.7km az=36.0*

*NEIC **08** 02:27:15.0±0.4, 14°.24N×92°.37W, h35km, mb4.8/92, Error ellipse: s-maj=10.0km s-min=4.9km az=214.0*

*IDC **08** 02:27:16.0±3.5, 14°.58N×92°.15W, h33km±24km, mb4.4/21, mb1 4.5/23, mb1mx4.3/48, mbtmp4.6/23, ML4.2/2, Error ellipse: s-maj=29.6km s-min=11.0km az=52.0*

ISC 08 02:27:17.9±0.5, 14°.34N±0°.07×92°.38W±0°.08, h62km, n152, σ1§45/149, mb4.7/93, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CCIG	Comitan	1.95	7	*e*Pn		Pn	Pn	02 27 45.7	-3.2
CCIG				*e*Sn		Sn	Sn	02 28 12.6	+0.3
APG	El Apazote 80nm,0.3s,baz=307,slow=15,SNR=7.0	1.97	70	Pg		Pn	Pn	02 27 47.3	-1.9
SNET	Serv Nac Est T	3.12	102	*e*Pn		Pn	Pn	02 28 02.6	-2.2
ESTN	Estel	5.97	101	*e*Pn		Pn	Pn	02 28 42.9	-1.0
BOAB	BOACO BROADBAN	6.80	105	*e*Pn		Pn	Pn	02 29 01.2	+6.1
JTS	JuntasAbangare 2.9nm,0.3s,baz=2.5,slow=18,SNR=3.7	8.30	118	Pn		Pn	Pn	02 29 15.1	-0.5
JTS				Lg		Lg	Lg	02 31 32.9	
MOIG	Morelia 0.8nm,0.3s,baz=183,slow=12,SNR=5.3	9.96	303	*e*Pn		Pn	Pn	02 29 35.5	-3.0
833A	Chaparral WMA, 50nm,1.2s	15.37	336	*e*Pn		Pn	Pn	02 30 52.5	+1.4
HKT	Hockley 49nm,1.5s	15.86	349	*e*Pn		P	P	02 30 59.0	-0.9
344A	Westbrook Farm 171nm,1.8s	17.10	5	*e*Pn		Pn	Pn	02 31 12.1	-0.7
346A	Big Creek Wild 38nm,0.6s	17.18	8	*e*Pn		P	P	02 31 19.7	+5.2
451A	Vernon 282nm,1.4s	17.31	20	*e*Pn		Pn	Pn	02 31 14.6	-0.8
JCT	Junction City 28nm,1.3s	17.46	338	*e*Pn		P	P	02 31 18.0	+0.4
348A	Jackson 74nm,1.0s	17.48	13	*e*Pn		P	P	02 31 19.4	+1.5
HPIG	 99nm,1.9s	17.63	317	*e*Pn		P	P	02 31 20.9	+1.1
LTX	Lajitas	18.21	327	*e*P		Pn	Pn	02 31 27.2	+0.7
TX31	Lajitas Ar. Si	18.21	327	*e*P		Pn	Pn	02 31 28.2	+1.6
TXAR	Lajitas Array 0.2nm,0.3s,baz=138,slow=9.6,SNR=4.9	18.21	327	P		Pn	Pn	02 31 27.2	+0.7
352A	Blakely 41nm,0.9s	18.38	21	*e*P		Pn	Pn	02 31 31.7	+3.3
250A	Grady 201nm,1.8s	18.43	17	*e*P		Pn	Pn	02 31 35.2	+6.3
SLBS	Sierra La Lagu 14nm,1.1s	19.01	302	*e*P		Pn	Pn	02 31 36.7	+0.5
ROSC	El Rosal 24nm,1.0s,baz=269,slow=10,SNR=6.5	20.14	116	P		P	P	02 31 48.4	+0.9
MIAR	Mount Ida 33nm,0.9s	20.15	357	*e*P		Pn	Pn	02 31 49.3	-0.1
X37A	Clayton 26nm,0.9s	20.34	353	*e*P		Pn	Pn	02 31 54.3	+2.6
GOGA	Godfrey 17nm,0.8s	20.64	22	*e*P		Pn	Pn	02 31 57.0	+1.7
Y52A	Lilburn 36nm,0.9s	20.85	20	*e*P		P	P	02 31 54.5	-0.1
MNTX	Cornudas Mount 12nm,0.8s	20.98	328	*e*P		P	P	02 31 55.4	-0.8
WMOK	Wichita Mounta 13nm,0.9s	21.12	345	*e*P		P	P	02 31 57.6	+0.1
CPRX	Cap Rock	21.34	333	*e*P		P	P	02 32 00.6	+0.5
MSTX	Muleshoe 23nm,0.9s	21.70	336	*e*P		P	P	02 32 04.3	+0.5
TUL1	Leonard 28nm,0.9s	21.70	352	*e*P		P	P	02 32 11.9	+8.2
SDV	Santo Domingo 9.7nm,0.7s,baz=282,slow=5.7,SNR=6.8	21.97	102	P		P	P	02 32 07.1	+0.1
SDV	Santo Domingo 7.8nm,0.6s	21.97	102	*e*P		P	P	02 32 05.0	-2.0
WVT	Waverly 9.1nm,0.8s	22.08	10	*e*P		P	P	02 32 07.0	-0.8
AMTX	Amarillo 58nm,0.8s	22.11	339	*e*P		P	P	02 32 07.7	-0.6
BG3	Lake Jocassee 18nm,0.8s	22.26	21	*e*P		P	P	02 32 12.7	+2.9
TKL	Tuckaleechee C 19nm,1.1s,baz=192,slow=12,SNR=4.4	22.59	18	P		P	P	02 32 12.4	-1.0
U32A	Winter Ranch, 53nm,1.0s	22.74	346	*e*P		P	P	02 32 14.1	-0.8
KMSC	Kings Mountain 22nm,1.0s	22.98	24	*e*P		P	P	02 32 18.3	+0.9
SIUC	Southern Illin 41nm,0.9s	23.45	6	*e*P		P	P	02 32 21.6	-0.2
WCI	Wyandotte Cave 44nm,0.9s	24.40	12	*e*P		P	P	02 32 30.4	0.0
TUC	Tucson 12nm,1.1s	24.54	320	*e*P		P	P	02 32 31.0	-0.9
OLIL	Olney 33nm,0.9s	24.59	8	*e*P		P	P	02 32 32.8	+0.6
KSU1	Kansas State U 30nm,0.8s	24.95	352	*e*P		P	P	02 32 34.9	-0.5
T25A	Trinidad 36nm,1.0s	25.11	337	*e*P		P	P	02 32 38.9	+1.6
CBKS	Cedar Bluff 39nm,0.8s	25.23	346	*e*P		P	P	02 32 39.8	+1.7
ATAH	Atahualpa 4.1nm,0.3s,baz=262,slow=4.3,SNR=3.3	25.45	146	P		P	P	02 32 43.5	+2.8
Q51A	Peebles 23nm,0.9s	25.85	16	*e*P		P	P	02 32 44.3	+0.6
SDCO	Great Sand Dun 24nm,1.1s	26.07	336	*e*P		P	P	02 32 47.2	+1.3
X16A	Lo Mia Camp, P 14nm,1.1s	26.39	323	*e*P		P	P	02 32 49.4	+0.6
S22A	4UR Ranch, Cre 28nm,1.1s	26.61	334	*e*P		P	P	02 32 52.2	+1.3
WUAZ	Wupatki 9.4nm,1.0s	27.13	324	*e*P		P	P	02 32 56.1	+0.7
PV01	Paradox Valley	27.71	332	*e*P		P	P	02 33 02.3	+1.6
SMCO	Snowmass 24nm,1.4s	27.89	335	*e*P		P	P	02 33 04.4	+2.0
ISCO	Idaho Springs 13nm,1.3s	27.90	338	*e*P		P	P	02 33 03.6	+1.2
PV03	Paradox Valley	27.93	332	*e*P		P	P	02 33 03.8	+1.2
PV10	Paradox Valley	28.12	331	*e*P		P	P	02 33 07.0	+2.7
PV09	Paradox Valley	28.26	331	*e*P		P	P	02 33 09.0	+3.4
LDFC	Landfair 19nm,1.1s	29.07	319	*e*P		P	P	02 33 13.8	+1.2
O20A	White River Ci 12nm,1.0s	29.21	335	*e*P		P	P	02 33 17.4	+3.4
ECSD	EROS Data Cent 8.6nm,0.6s	29.52	354	*e*P		P	P	02 33 18.0	+1.6
CCUT	Cedar City 4.8nm,0.9s	29.70	325	*e*P		P	P	02 33 18.7	+0.3
SHPR	Sheep Range 9.1nm,1.4s	30.03	321	*e*P		P	P	02 33 21.1	0.0
RWWY	Rawlins 9.9nm,0.9s	30.14	338	*e*P		P	P	02 33 23.7	+1.5
GLMI	Grayling 239nm,1.8s	31.09	11	*e*P		P	P	02 33 34.4	+4.1
TCUT	Toone Canyon 88nm,1.7s	31.41	332	*e*P		P	P	02 33 34.3	+0.9
R11A	Troy Canyon, C 5.4nm,1.1s	31.52	324	*e*P		P	P	02 33 35.3	+1.0
HWUT	Hardware Ranch 12nm,1.1s	31.86	332	*e*P		P	P	02 33 37.0	-0.4
BW06	Boulder Array 7.2nm,1.0s	31.96	336	*e*P		P	P	02 33 38.5	+0.2
PD31	Pinedale Array	31.96	336	*e*P		P	P	02 33 38.5	+0.2
PDAR	Pinedale Array 5.0nm,1.0s,baz=126,slow=7.5,SNR=11	31.96	336	P		P	P	02 33 38.0	-0.2
PDAR					PcP	PcP	PcP	02 36 30.2	+3.0
	0.8nm,0.6s,baz=140,slow=4.8,SNR=4.6								
BGU	Big Grassy Mou 6.0nm,1.0s	32.02	330	*e*P		P	P	02 33 40.3	+1.6
HVU	Hansel Valley 8.0nm,0.9s	32.56	331	*e*P		P	P	02 33 43.6	+0.2
AHID	Auburn Hatcher 27nm,1.3s	32.60	334	*e*P		P	P	02 33 46.0	+2.2
REDW	Red Top Meadow 60nm,1.3s	32.98	335	*e*P		P	P	02 33 47.3	+0.1
SNOW	Snow King Moun 43nm,0.8s	33.02	335	*e*P		P	P	02 33 48.1	+0.5
LOHW	Long Hollow 18nm,0.9s	33.09	335	*e*P		P	P	02 33 48.1	+0.1
NV11	Mina Array Sit 1.0nm,1.0s	33.09	321	*e*P		P	P	02 33 48.2	+0.2
TPAW	Teton Pass 36nm,1.3s	33.13	335	*e*P		P	P	02 33 48.8	+0.4
MDPB	Devils Postpil 9.4nm,1.0s	33.17	319	*e*P		P	P	02 33 48.6	-0.2
NV01	Mina Array Sit	33.18	321	*e*P		P	P	02 33 48.9	0.0
NVAR	Mina Array Bea 9.2nm,0.8s,baz=135,slow=8.7,SNR=15	33.18	321	P		P	P	02 33 49.6	+0.7
FXWY	Fox Creek 11nm,1.1s	33.28	335	*e*P		P	P	02 33 50.6	+0.8
IMW	Indian Meadow 9.4nm,0.9s	33.46	335	*e*P		P	P	02 33 52.1	+0.7
FLWY	Flagg Ranch 12nm,1.0s	33.52	336	*e*P		P	P	02 33 52.9	+1.1
YFT	Old Faithful 14nm,1.1s	33.88	336	*e*P		P	P	02 33 56.1	+1.2
MDND	Maddock 48nm,0.7s	33.95	351	*e*P		P	P	02 33 55.0	-0.2
CMB	Columbia Colle 8.3nm,1.2s	34.24	319	*e*P		P	P	02 33 58.0	+0.1
QLMT	Earthquake Lak	34.43	336	*e*P		P	P	02 34 00.3	+0.6
PAHR	Pah Rah Range 7.7nm,1.1s	34.64	322	*e*P		P	P	02 34 01.7	+0.2
MCMT	McKenzie Canyo	35.01	334	*e*P		P	P	02 34 06.7	+2.0
BOZ	Bozeman (W) 31nm,2.0s	35.15	336	*e*P		P	P	02 34 06.9	+1.2
SAC	San Andreas	35.31	317	*e*P		P	P	02 34 05.8	-1.3
DLMT	Dillon 25nm,1.0s	35.34	335	*e*P		P	P	02 34 08.6	+1.2
DGMT	Dagmar 18nm,0.9s	35.41	346	*e*P		P	P	02 34 08.1	+0.3
PTGA	Pitinga 20nm,0.7s,baz=296,slow=9.5,SNR=20	35.41	112	P		P	P	02 34 07.6	-0.6
PTGA	Pitinga 23nm,0.8s	35.41	112	*e*P		P	P	02 34 08.3	+0.1
ULM	Lac du Bonnet 5.2nm,0.5s,baz=170,slow=10,SNR=7.9	35.93	356	P		P	P	02 34 10.6	-1.6
WVOR	Wild Horse Val 9.6nm,1.0s	36.01	326	*e*P		P	P	02 34 14.2	+1.1
MOD	Modoc Plateau 21nm,1.6s	36.58	324	*e*P		P	P	02 34 18.1	+0.1
BMO	Blue Mountains 19nm,1.8s	37.04	330	*e*P		P	P	02 34 21.8	-0.2
MSO	Missoula 17nm,1.2s	37.08	335	*e*P		P	P	02 34 22.8	+0.6
F10A	Beach Ranch, E 19nm,0.8s	37.84	331	*e*P		P	P	02 34 28.1	-0.5
LPAZ	La Paz 2.1nm,0.9s,baz=270,slow=3.0,SNR=3.2	38.73	141	P		P	P	02 34 37.9	+0.9
H04A	Detroit Lake 21nm,1.1s	39.43	326	*e*P		P	P	02 34 41.5	-0.4
NEW	Newport 3.7nm,0.8s,baz=145,slow=10.0,SNR=6.7	39.53	334	P		P	P	02 34 43.2	+0.4
NEW	Newport 12nm,1.4s	39.53	334	*e*P		P	P	02 34 46.0	+3.2
C09A	Chrisman Ranch 8.4nm,0.8s	39.68	333	*e*P		P	P	02 34 44.5	+0.5
B08A	Colville Reser 15nm,1.4s	40.57	332	*e*P		P	P	02 34 50.4	-0.9
SCHQ	Schefferville 10nm,0.8s,baz=234,slow=7.1,SNR=4.4	45.04	21	P		P	P	02 35 26.1	-1.3
YKA	Yellowknife Ar 24nm,0.7s,baz=150,slow=7.4,SNR=26	50.61	347	P		P	P	02 36 10.5	+0.2
YKB5	Yellowknife Ar	50.61	347	*e*P		P	P	02 36 09.3	-1.0
YKW3	Yellowknife Ar 33nm,0.8s	50.68	347	*e*P		P	P	02 36 10.1	-0.7
BDFB	Brasilia 2.7nm,0.7s,baz=314,slow=7.6,SNR=4.7	53.01	122	P		P	P	02 36 28.3	-0.7
INK	Inuvik 11nm,0.7s,baz=118,slow=6.0,SNR=18	60.01	344	P		P	P	02 37 18.1	+0.3
INK	Inuvik 13nm,0.8s	60.01	344	*e*P		P	P	02 37 18.1	+0.3
RES	Resolute Bay 3.6nm,0.7s,baz=184,slow=9.6,SNR=5.1	60.36	359	P		P	P	02 37 19.7	-0.3
KLU	Klutina 46nm,1.7s	60.51	334	*e*P		P	P	02 37 22.9	+1.5
DOT	Dot Lake 9.4nm,0.9s	60.76	336	*e*P		P	P	02 37 23.9	+0.8
SCRK	Sand Creek 19nm,1.5s	60.90	337	*e*P		P	P	02 37 25.2	+1.1
PAX	Paxson 7.0nm,0.8s	61.00	335	*e*P		P	P	02 37 25.2	+0.4
RIDG	Independ'e Rid 17nm,1.0s	61.11	336	*e*P		P	P	02 37 26.7	+1.2
HDA	Harding Lake 36nm,1.8s	62.24	336	*e*P		P	P	02 37 33.1	+0.1
ILAR	Eielson Array 7.8nm,1.0s,baz=132,slow=4.4,SNR=14	62.38	337	P		P	P	02 37 33.9	0.0
ILB	Eielson Array	62.38	337	*e*P		P	P	02 37 34.5	+0.5
RND	Reindeer 108nm,2.0s	62.57	335	*e*P		P	P	02 37 35.9	+0.7
MCK	McKinley 59nm,1.8s	62.74	335	*e*P		P	P	02 37 36.8	+0.4
BWN	Browne 70nm,1.1s	63.13	336	*e*P		P	P	02 37 39.0	+0.1
TRF	Thorofare Moun 9.7nm,0.8s	63.18	335	*e*P		P	P	02 37 39.2	-0.2
MLY	Manley 13nm,0.8s	63.98	336	*e*P		P	P	02 37 44.4	-0.2
IM3	Indian Mountai	65.50	337	*e*P		P	P	02 37 53.1	-1.3
ESDC	Sonseca Array 2.5nm,0.8s,baz=287,slow=5.8,SNR=11	79.80	52	P		P	P	02 39 19.0	-0.8
ES19	SONSECA Array	79.84	52	*e*P		P	P	02 39 18.4	-1.6
BILL	Bilibino 13nm,0.8s	81.01	338	*e*P		P	P	02 39 25.5	-0.2
NB200	NORSAR Array S	84.03	28	*e*P		P	P	02 39 40.4	-1.2
ARA0	ARCESS Array S	85.93	18	*e*P		P	P	02 39 51.0	+0.1
ARCES	ARCESS Array B 2.3nm,0.6s,baz=289,slow=3.7,SNR=7.3	85.93	18	P		P	P	02 39 51.0	+0.1
DBIC	Dimbokro 1.4nm,0.6s,baz=256,slow=8.3,SNR=3.5	85.99	84	P		P	P	02 39 52.6	+0.4
CLL	Collm	88.27	37	*e*P		P	P	02 40 05.0	+2.4
FIA0	FINESS Array S	90.35	25	*e*P		P	P	02 40 10.7	-1.4
FINES	FINESS Array B 1.7nm,0.7s,baz=165,slow=23,SNR=5.7	90.35	25	P		P	P	02 40 10.7	-1.4
TOA1	Torodi Ar. Sit	90.65	76	*e*P		P	P	02 40 13.2	-1.2
TORD	Torodi Ar. Bea 0.6nm,0.6s,baz=288,slow=3.9,SNR=7.1	90.66	76	P		P	P	02 40 13.2	-1.3
HHC	Hu-ho-hao-te	120.77	339	*e*PKP		PKPdf	PKPdf	02 46 01.4	-2.1
WMQ	Urumqi	122.12	360	*e*PKP		PKPdf	PKPdf	02 46 06.7	+0.8
NJ2	Nanjing	125.02	327	*e*PKP		PKPdf	PKPdf	02 46 12.2	+0.5
CD2	Chengdu	132.41	341	PKP		PKPdf	PKPdf	02 46 24.0	-1.9
CHTO	Chiang Mai	145.22	341	*e*PKPbc		PKPbc	PKPbc	02 46 48.6	-0.5
CM31	Chiang Mai Arr	145.55	341	*e*PKPdf		PKPbc	PKPbc	02 46 50.1	0.0
CMAR	Chiang Mai Arr 9.2nm,0.8s,baz=339,slow=3.7,SNR=13	145.55	341	PKPbc		PKPbc	PKPbc	02 46 50.1	0.0
CM01	Chiang Mai Arr	145.58	341	*e*PKPdf		PKPdf	PKPdf	02 46 49.8	-0.3
HYB	Hyderabad	147.20	16	*i* PKP		PKPbc	PKPbc	02 46 55.0	-0.1

MEX 08 02:30:19.0±0.5, 13°.82N×92°.16W, h15km, MD3.6, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		1.08	355	*i* P		P	Pb	02 30 35.5	-4.0
THIG				*i* S		P	Sb	02 30 49.2	-4.3
PCIG		2.13	332	*i* P		P	Pn	02 30 50.1	-4.0
PCIG				*i* S		P	Sn	02 31 16.1	-4.2
CCIG	Comitan	2.45	1	*e*P		P	Pn	02 30 52.2	-2.4
CCIG				*e*S		P	Sn	02 31 25.1	-3.3
TGIG		3.08	343	*i* P		P	Pn	02 31 05.4	-1.8
TGIG				*i* S		P	Sn	02 31 41.0	-2.9

IDC 08 02:35:53.9±2.9, 17°.04S×179°.74W, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.5/30, mbtmp3.4/3, Error ellipse: s-maj=346.7km s-min=34.9km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.3nm,0.7s,baz=91,slow=8.4,SNR=6.5	43.55	259	P		P	P	02 44 00.2	+0.4
ASAR	Alice Springs 0.5nm,0.6s,baz=87,slow=8.2,SNR=6.3	43.81	253	P		P	P	02 44 01.4	-0.6
TXAR	Lajitas Array 0.2nm,0.7s,baz=217,slow=7.4,SNR=3.8	86.61	58	P		P	P	02 48 39.8	0.0

*IDC **08** 02:40:29.9±2.7, 21°.60S×178°.33W, h367km±30km, mb3.3/9, mb1 3.6/11, mb1mx3.4/33, mbtmp4.1/11, Error ellipse: s-maj=24.3km s-min=14.6km az=142.0*

*ISCJB **08** 02:40:31.4±0.7, 21°.7S±0°.1×178°.3W±0°.1, h400km, mb3.5/9, Error ellipse: s-maj=22.5km s-min=12.9km az=141.9*

ISC 08 02:40:32.5±0.8, 21°.6S±0°.2×178°.3W±0°.2, h400km, n12, σ1§27/11, mb3.4/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu 3.9nm,0.3s,baz=198,slow=20,SNR=2.8	9.85	40	P		Pn	Pn	02 42 47.0	-1.9
DZM	Mont Dzumac 1.2nm,0.3s,baz=82,slow=24,SNR=8.5	14.20	265	P		P	P	02 43 38.3	+1.8
URZ	Urewera 2.1nm,0.3s,baz=272,slow=3.4,SNR=11	17.06	192	P		P	P	02 44 04.8	-2.0
STKA	Stephens Creek 1.5nm,0.4s,baz=101,slow=12,SNR=6.0	37.09	245	P		P	P	02 47 06.4	-0.2
ASAR	Alice Springs 1.0nm,0.5s,baz=88,slow=8.8,SNR=13	44.03	258	P		P	P	02 48 02.9	0.0
WRA	Warramunga Arr 1.1nm,0.3s,baz=95,slow=8.0,SNR=51	44.21	263	P		P	P	02 48 03.6	-0.7
VNDA	Vanda 0.6nm,0.4s,baz=3.8,slow=7.2,SNR=5.8	56.78	185	P		P	P	02 49 37.2	+1.1
NVAR	Mina Array Bea 0.6nm,0.8s,baz=217,slow=9.1,SNR=4.1	82.01	43	P		P	P	02 52 10.0	+0.6
TXAR	Lajitas Array 0.4nm,0.8s,baz=223,slow=6.1,SNR=4.7	87.87	57	P		P	P	02 52 39.8	+1.5
ILAR	Eielson Array 0.2nm,0.5s,baz=227,slow=4.9,SNR=6.2	89.45	13	P		P	P	02 52 45.5	+0.8
PDAR	Pinedale Array 0.6nm,0.8s,baz=321,slow=2.1,SNR=4.3	89.94	43	P		P	P	02 52 47.7	-0.1
CMAR	Chiang Mai Arr 0.8nm,0.3s,baz=90,slow=4.5,SNR=4.7	90.25	290

IAZR				IAMB	IAmb	02 47 15.4		
	comp=E,23μm,0.3s							
IAZR				IAMB	IAmb	02 47 18.1		
	comp=Z,9μm,0.2s							
IAZR				IAMB	IAmb	02 47 18.7		
	comp=N,20μm,0.5s							
ISRB	**Sarab**	**1.06**	**122**	*e*Pg	**Pg**	**02 47 02.2**	**-0.2**
ISRB				IAMB	IAmb	02 47 21.0		
	comp=E,11μm,0.2s							
ISRB				IAMB	IAmb	02 47 21.6		
	comp=Z,7μm,0.2s							
ISRB				IAMB	IAmb	02 47 22.1		
	comp=N,14μm,0.2s							
NAX	**Nakhchivan**	**1.12**	**314**	⇑P	**Pb**	**02 47 03.3**	**-0.3**
NAX				⇓S	**Sn**	**02 47 18.9**	**-0.6**
GRMI	**Germi**	**1.14**	**69**	*e*Pg	**Pg**	**02 47 02.8**	**-1.1**
SBZ	**Shahbuz**	**1.25**	**323**	⇓P	**Pn**	**02 47 06.0**	**+0.2**
SBZ				⇑S	**Sn**	**02 47 23.4**	**+0.5**
LRK	**Lerik**	**1.44**	**80**	⇑P	**Pn**	**02 47 08.2**	**-0.2**
LRK				⇑S	**Sb**	**02 47 27.5**	**0.0**
GLBA	**Clilabad**	**1.68**	**59**	⇓P	**Pb**	**02 47 13.1**	**+0.1**
GLBA				⇑S	**Sg**	**02 47 37.2**	**+1.3**
MAKU	**Maku**	**1.73**	**304**	*e*Pn	**Pb**	**02 47 14.0**	**0.0**
ASTR	**Astara**	**1.78**	**84**	⇑P	**Pb**	**02 47 14.8**	**+0.1**
ASTR				⇓S	**Sg**	**02 47 40.0**	**+0.8**
LKRN	**Lenkeran, Azer**	**1.79**	**79**	⇓P	**Pb**	**02 47 14.9**	**0.0**
LKRN				⇑S	**Sg**	**02 47 39.9**	**+0.5**
HYR	**Heyderabad**	**1.86**	**316**	⇑P	**Pb**	**02 47 15.9**	**-0.2**
HYR				⇑S	**Sg**	**02 47 41.1**	**-0.5**
GDB	**GEDABAY**	**2.39**	**346**	⇓P	**Pb**	**02 47 24.0**	**-1.3**
GDB				⇑S	**Sb**	**02 47 55.6**	**+0.6**
ZNJK	**Zanjan**	**2.43**	**135**	*e*Pn	**Pb**	**02 47 25.2**	**-0.8**
QZX	**Qazax, Azerbai**	**2.80**	**342**	⇓P	**Pb**	**02 47 32.1**	**-0.1**
QZX				⇓S	**Sb**	**02 48 07.8**	**+1.2**

*ISK **08** 02:47:20.2, 38.78N×43.47E, h5km, ML2.7/6*
*ISCJB **08** 02:47:21.2±0.7, 38.72N±0.03×43.59E±0.07, h11km±5km, Error ellipse: s-maj=9.3km s-min=4.8km az=24.4*
*DDA **08** 02:47:21.3, 38.73N×43.48E, h7km, Ml3.1*
ISC 08 02:47:20.7±1.3, **38.76N**±0.04×**43.66E**±0.05, **h21**km±2km, **n18**, σ1§**35**/27, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.24**	**344**	*i* P	**Pb**	**02 47 26.4**	**-0.6**
VMUR				*i* S	**Sb**	**02 47 31.8**	**+0.4**
VANB	**Van**	**0.27**	**232**	PG	**Pb**	**02 47 26.9**	**-0.2**
TVAN	**Van**	**0.30**	**221**	*i* P	**Pb**	**02 47 26.5**	**-1.1**
ERCV	**ERCIS-VAN**	**0.36**	**316**	PG	**Pb**	**02 47 27.1**	**-1.4**
CLDR	**Caldiran**	**0.43**	**28**	PG	**Pn**	**02 47 31.1**	**-0.8**
CLDR				SG	**Sn**	**02 47 39.3**	**0.0**
CLDR	**Caldiran**	**0.43**	**28**	*i* P	**Pn**	**02 47 31.3**	**-0.6**
CLDR				*i* S	**Sn**	**02 47 40.4**	**+1.1**
GEVA	**Gevas**	**0.65**	**227**	*i* P	**Pb**	**02 47 32.3**	**-1.2**
GEVA				*i* S	**Sn**	**02 47 44.4**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.73**	**274**	*i* P	**Pb**	**02 47 33.7**	**-1.2**
ADCV				*i* S	**Sn**	**02 47 44.5**	**-2.0**
DYDN	**Diyadin**	**0.79**	**2**	*i* P	**Pb**	**02 47 35.6**	**-0.2**
DYDN				*i* S	**Sn**	**02 47 48.6**	**+0.7**
TUTA	**Tutak**	**0.92**	**315**	*i* P	**Pb**	**02 47 37.1**	**-1.0**
TUTA				*i* S	**Sn**	**02 47 50.2**	**-1.1**
AGRB	**Hanur-Agry**	**0.97**	**328**	PG	**Pb**	**02 47 37.9**	**-1.0**
GURO	**Guroymak-BITLI**	**1.29**	**261**	PN	**Pn**	**02 47 42.8**	**-0.8**
EKAR	**Karacoban**	**1.34**	**292**	*i* P	**Pb**	**02 47 47.3**	**+2.1**
EATA	**Eleskirt**	**1.43**	**321**	*i* P	**Pb**	**02 47 47.3**	**+0.5**
EATA				*i* S	**Sb**	**02 48 06.7**	**+2.1**
SRTM	**Siirt_Merkez**	**1.56**	**241**	*i* P	**Pn**	**02 47 47.3**	**0.0**
SRTM				*i* S	**Sb**	**02 48 11.9**	**+3.6**
SIRT	**Sirnak**	**1.58**	**218**	PN	**Pb**	**02 47 49.5**	**+0.2**
SVAN	**Silvan-Diyarba**	**2.02**	**253**	PN	**Pb**	**02 47 55.5**	**-1.3**
SENK	**Senkaya-Erzuru**	**2.06**	**331**	PN	**Pb**	**02 47 56.5**	**-1.1**

MEX 08 02:49:37.0±0.7, **14°24N×92°45W, h68**km±17km, **MD3.7, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.68**	**15**	*e*P	Pn	02 49 49.8	-1.8
THIG				*i* S	Sn	02 50 01.2	-1.0
PCIG		**1.63**	**333**	*e*P	Pn	02 50 02.3	-1.4
PCIG				*e*S	Sn	02 50 21.6	-2.2
CCIG	**Comitan**	**2.05**	**8**	*i* P	Pn	02 50 08.2	-1.3
CCIG				*i* S	Sn	02 50 32.8	-1.3
TGIG		**2.60**	**346**	*e*P	Pn	02 50 16.0	-0.8
TGIG				*i* S	Sn	02 50 46.5	-0.9

*ISCJB **08** 02:49:40.4±0.9, 18.65S±0.2×169.10E±0.2, h201km, mb3.9/10, Error ellipse: s-maj=31.9km s-min=14.4km az=45.0*
*IDC **08** 02:49:42.6±3.1, 18.84S×169.11E, h217km±31km, mb3.7/10, mb1 3.9/11, mb1mx3.6/41, mbtmp4.2/11, Error ellipse: s-maj=43.1km s-min=18.4km az=158.0*
ISC 08 02:49:41.1±0.9, **18.7S**±0.2×**169.1E**±0.2, **h201**km, **n14**, σ1§**01**/13, **mb4.0**/10, **1D**, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.17**	**216**	P	**Pn**	**02 50 45.4**	**+0.3**
	5.0nm,0.3s,baz=285,slow=8.8,SNR=19						
CTA	**Charters Tower**	**21.60**	**263**	P	**P**	**02 54 17.0**	**+1.5**
	2.7nm,0.5s,baz=116,slow=10,SNR=4.8						
STKA	**Stephens Creek**	**28.02**	**237**	P	**P**	**02 55 12.8**	**-0.8**
	5.2nm,0.6s,baz=83,slow=11,SNR=25						
WRA	**Warramunga Arr**	**32.80**	**262**	P	**P**	**02 55 55.5**	**-0.3**
	1.5nm,0.3s,baz=83,slow=6.7,SNR=72						
ASAR	**Alice Springs**	**33.14**	**255**	P	**P**	**02 55 58.6**	**0.0**
	18nm,0.4s,baz=83,slow=8.9,SNR=264						
PETK	**Petropavlovsk-**	**72.21**	**353**	P	**P**	**03 00 43.9**	**0.0**
	1.9nm,0.8s,baz=172,slow=11,SNR=3.5						
CMAR	**Chiang Mai Arr**	**78.18**	**294**	P	**P**	**03 01 18.1**	**-0.6**
	1.3nm,0.3s,baz=54,slow=4.7,SNR=2.7						
SYO	**Syowa Base**	**85.39**	**196**	⇓*e*P	P	03 02 02.7	+7.2
SONM	**Songino Array**	**86.74**	**323**	P	**P**	**03 02 03.7**	**+1.2**
	0.5nm,0.5s,baz=102,slow=6.3,SNR=2.9						
NVAR	**Mina Array Bea**	**88.55**	**49**	P	**P**	**03 02 12.1**	**+0.6**
	0.3nm,0.5s,baz=227,slow=7.1,SNR=3.5						
ILAR	**Eielson Array**	**89.78**	**17**	P	**P**	**03 02 15.6**	**-0.7**
	0.4nm,0.6s,baz=240,slow=4.5,SNR=7.0						
TXAR	**Lajitas Array**	**96.63**	**61**	P	**P**	**03 02 49.5**	**+0.8**
	0.2nm,0.8s,baz=225,slow=2.4,SNR=2.9						
ARCES	**ARCESS Array B**	**124.54**	**345**	PKP	**PKPdf**	**03 08 15.0**	**-0.8**
	2.2nm,0.7s,baz=75,slow=2.9,SNR=5.8						
GERES	**GERESS Array B**	**143.98**	**332**	PKP	**PKPdf**	**03 08 50.9**	**-1.8**
	1.2nm,0.7s,baz=31,slow=5.4,SNR=6.8						

KRSC 08 03:03:21.7±1.1, **52°23N×157°13E, h203**km±7km, **ML3.6, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTVR	**Mutnovka**	**0.69**	**68**	*e*P	Pn	03 03 51.5	+1.4
MTVR				*e*S	S	03 04 13.3	+1.1
APC	**Apacha**	**0.70**	**1**	*e*P	Pn	03 03 50.1	+0.2
APC				*e*S	S	03 04 11.2	-0.8
KDTR	**Khodutka, Kamc**	**0.72**	**125**	*e*P	Pn	03 03 50.6	+0.5
KDTR				*e*S	S	03 04 11.9	-0.1
PAU	**Pauzhetka**	**0.79**	**195**	*e*P	Pn	03 03 51.1	+0.6
KRMR	**Karymshinskiy**	**0.86**	**45**	*e*P	Pn	03 03 51.9	+1.1
KRMR				*e*S	S	03 04 14.4	+1.0
RUS	**Russkaya**	**0.87**	**76**	*e*P	Pn	03 03 52.1	+1.2
RUS				*e*S	S	03 04 14.5	+1.0
PET	**Petropavlovsk**	**1.22**	**49**	*e*P	Pn	03 03 54.4	+1.1
PET				*e*S	S	03 04 18.3	+0.7
DALK	**Dalny**	**1.27**	**50**	*e*P	Pn	03 03 55.2	+1.5
DALK				*e*S	S	03 04 20.0	+1.7
KOK	**Koryaka**	**1.40**	**40**	*e*P	Pn	03 03 56.4	+1.5
KOK				*e*S	S	03 04 21.9	+1.5
UGLR	**Uglovaya**	**1.42**	**46**	*e*P	Pn	03 03 57.3	+2.3
AVH	**Avacha**	**1.43**	**43**	*e*P	Pn	03 03 56.8	+1.8
AVH				*e*S	S	03 04 22.5	+1.8
SMAR	**Somma**	**1.45**	**44**	*e*P	Pn	03 03 57.2	+1.8
KRX	**Arik**	**1.46**	**39**	*e*P	Pn	03 03 56.1	+0.7
SDLR	**Sedlovina**	**1.50**	**45**	*e*P	Pn	03 03 57.6	+1.9
GNL	**Ganaly**	**1.55**	**18**	*e*P	Pn	03 03 56.7	+0.6
SPN	**Mys Shipunski**	**1.96**	**63**	*e*P	Pn	03 04 01.4	+1.4
SPN				*e*S	S	03 04 29.4	+0.1
KZV	**Kizimen**	**3.45**	**32**	*e*P	Pn	03 04 19.2	+2.4
KZV				*e*S	S	03 05 01.6	+2.0
TUMR	**Tumrok**	**3.54**	**29**	*e*P	Pn	03 04 19.8	+1.8
MKZ	**Mys Kozlova**	**3.61**	**48**	*e*P	Pn	03 04 19.9	+1.3
MKZ				*e*S	S	03 05 02.7	0.0
KBTR	**Krutoberegovo**	**5.20**	**38**	*e*P	Pn	03 04 39.9	+1.4
BKI	**Bering**	**6.03**	**57**	*e*S	S	03 05 56.5	-1.8

IDC 08 03:11:56.5±1.2, **12°52N×144°20E, h0**km, **mb3.5**/4, **mb1 3.7**/4, **mb1mx3.4**/54, **mbtmp3.5**/4, **MS4.3**/2, **Ms1 4.3**/2, **ms1mx3.6**/40, **Error ellipse: s-maj=38.8km s-min=17.3km az=112.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.25**	**32**	Pn	Pn	03 12 21.9	+0.7
	108nm,0.3s,baz=177,slow=8.8,SNR=24						
GUMO				Sn	Sn	03 12 38.2	-0.5
	350nm,0.3s,baz=175,slow=23,SNR=35						
JAY	**Jayapura**	**15.33**	**193**	LR	LR	03 20 20.3	
	comp=Z,738nm,20.7s,slow=33						
WRA	**Warramunga Arr**	**33.69**	**197**	P	P	03 18 39.1	-0.4
	0.6nm,0.8s,baz=21,slow=10,SNR=6.9						
ASAR	**Alice Springs**	**37.35**	**196**	P	P	03 19 11.1	+0.1
	0.3nm,0.6s,baz=18,slow=10,SNR=4.9						
MKAR	**Makanchi Array**	**61.81**	**317**	P	P	03 22 17.3	-0.1
	0.3nm,0.5s,baz=87,slow=9.3,SNR=3.8						
RAR	**Rarotonga**	**64.43**	**121**	LR	LR	03 43 56.8	
	comp=Z,332nm,19.4s,baz=176,slow=30						
KURBB	**Kurchatov Arra**	**65.02**	**320**	P	P	03 22 38.4	-0.1
	0.5nm,0.6s,baz=110,slow=6.6,SNR=4.0						

*ISCJB **08** 03:17:47.0±0.7, 38.43N±0.04×39.04E±0.06, h7km±8km, Error ellipse: s-maj=8.8km s-min=6.3km az=156.7*
*DDA **08** 03:17:46.5, 38.40N×39.03E, h7km, Ml2.5*
*ISK **08** 03:17:46.3, 38.42N×39.03E, h9km, ML2.0/5*
ISC 08 03:17:47.0±1.0, **38.41N**±0.05×**39.03E**±0.04, **h12**km±9km, **n9**, σ0§**52**/13, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.09**	**336**	*i* P	**Pg**	**03 17 50.1**	**+0.1**
SVRC	**Sivrice-ELAZID**	**0.22**	**99**	PG	**Pg**	**03 17 51.4**	**-0.3**
SVRC				SG	**Sg**	**03 17 54.9**	**-0.1**
PTK	**Pertek**	**0.56**	**30**	PG	**Pg**	**03 17 57.6**	**-0.3**
AKCD	**Akcadag**	**0.88**	**263**	*i* P	**Pg**	**03 18 03.5**	**-0.5**
AKCD				*i* S	**Sb**	**03 18 16.1**	**+0.1**
KEMA	**Kemaliye**	**0.95**	**334**	*i* P	**Pg**	**03 18 05.0**	**-0.4**
KEMA				*i* S	**Sb**	**03 18 19.0**	**+0.9**
URFA	**Urfa**	**0.98**	**190**	PG	**Pb**	**03 18 05.6**	**-0.4**
ILIC	**ilic-Erzincan**	**1.10**	**341**	PN	**Pg**	**03 18 07.4**	**-0.8**
MAZI	**Mazidag**	**1.47**	**130**	PN	**Pn**	**03 18 13.6**	**+0.3**
SURC	**SANLIURFA_SURC**	**1.57**	**192**	*i* P	**Pb**	**03 18 15.8**	**-0.1**
SURC				*i* S	**Sg**	**03 18 37.9**	**+0.5**

IDC 08 03:19:21.7±9.0, **13°31N×92°48W, h0**km, **mb3.3**/2, **mb1 3.8**/3, **mb1mx3.5**/34, **mbtmp3.3**/3, **ML3.5**/1, **Error ellipse: s-maj=317.4km s-min=119.2km az=39.0, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**19.03**	**329**	P	P	03 23 44.9	-0.5
	0.0nm,0.3s,baz=161,slow=12,SNR=7.5						
NVAR	**Mina Array Bea**	**33.92**	**322**	P	P	03 26 07.4	+0.5
	0.4nm,0.6s,baz=142,slow=7.7,SNR=4.6						
ILAR	**Eielson Array**	**63.29**	**337**	P	P	03 29 51.9	-0.2
	0.2nm,0.6s,baz=134,slow=6.4,SNR=3.0						

*IDC **08** 03:23:34.8±3.2, 18.69S×168.87E, h88km±27km, mb4.2/19, mb1 4.4/20, mb1mx4.2/42, mbtmp4.6/20, MS4.9/1, Ms1 5.0/1, ms1mx3.5/45, Error ellipse: s-maj=21.4km s-min=13.4km az=71.0*
*ISCJB **08** 03:23:35.0±0.3, 18.67S±0.04×168.68E±0.06, h100km, mb4.6/45, Error ellipse: s-maj=8.8km s-min=5.4km az=171.7*
*BJI **08** 03:23:35.8, 18.60S×168.60E, h103km, mb4.7/20, mB5.2/3*
*NEIC **08** 03:23:36.7±1.8, 18.65S×168.72E, h104km±15km, mb4.7/28, Error ellipse: s-maj=10.6km s-min=7.2km az=48.0*
ISC 08 03:23:36.0±0.5, **18.68S**±0.07×**168.8E**±0.1, **h100**km, **n104**, σ1§**13**/103, **mb4.7**/45, **6C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.03**	**213**	P	**Pn**	**03 24 36.5**	**+0.8**
	161nm,0.3s,baz=133,slow=22,SNR=490						
DZM				S	**Sn**	**03 25 20.8**	**-1.1**
	192nm,0.3s,baz=298,slow=21,SNR=13						
DZM	**Mont Dzumac**	**4.03**	**213**	*e*Pn	**Pn**	**03 24 35.7**	**0.0**
DZM				*e*Sn	**Sn**	**03 25 21.3**	**-0.6**
OUZ	**Omahuta**	**17.02**	**166**	*e*Pn	**P**	**03 27 30.0**	**+2.0**
	12nm,0.8s						
ARMA	**Armidale**	**19.47**	**230**	*e*P	**P**	**03 27 53.1**	**-2.0**
	3.5nm,0.8s						
HIZ	**Hauiti**	**20.45**	**166**	*e*P	**P**	**03 28 07.7**	**+2.1**
	63nm,1.1s						
URZ	**Urewera**	**20.81**	**161**	P	**P**	**03 28 09.2**	**-0.2**
	6.4nm,0.4s,baz=45,slow=6.1,SNR=5.2						
URZ	**Urewera**	**20.81**	**161**	*e*P	**P**	**03 28 11.8**	**+2.5**
CTA	**Charters Tower**	**21.31**	**263**	P	**P**	**03 28 15.9**	**+1.1**
	3.9nm,0.4s,baz=83,slow=12,SNR=13						
CTAO	**Charters Tower**	**21.31**	**263**	*e*P	**P**	**03 28 15.9**	**+1.1**
	20nm,1.4s						
BKZ	**Black Stump Fm**	**21.48**	**163**	*e*P	**P**	**03 28 18.3**	**+1.8**
	36nm,1.3s						
BFZ	**Birch Farm**	**22.84**	**165**	*e*P	**P**	**03 28 30.6**	**-0.2**
	67nm,1.3s						
SNZO	**South Karori**	**23.12**	**169**	*e*P	**P**	**03 28 33.0**	**-0.3**
	106nm,1.2s						
THZ	**Tophouse**	**23.27**	**172**	*e*P	**P**	**03 28 35.4**	**+0.5**
	21nm,0.6s						
CAN	**Canberra**	**24.13**	**223**	*e*P	**P**	**03 28 42.7**	**+0.1**
	17nm,0.6s						
LTZ	**Lake Taylor**	**24.21**	**174**	*e*P	**P**	**03 28 44.4**	**+1.2**
	59nm,1.4s						
OXZ	**Oxford**	**24.72**	**174**	*e*P	**P**	**03 28 48.1**	**+0.2**
	54nm,1.3s						
COEN	**Coen**	**25.02**	**277**	*e*P	**P**	**03 28 50.9**	**0.0**
	8.8nm,1.1s						
RPZ	**Rata Peaks**	**25.03**	**176**	P	**P**	**03 28 50.7**	**-0.1**
	9.0nm,0.7s,baz=207,slow=7.1,SNR=6.3						
LBZ	**Lake Benmore**	**25.66**	**178**	*e*P	**P**	**03 28 56.2**	**-0.2**
	11nm,0.9s						
STKA	**Stephens Creek**	**27.79**	**237**	P	**P**	**03 29 16.5**	**+0.8**
	5.8nm,0.5s,baz=60,slow=9.3,SNR=30						
STKA	**Stephens Creek**	**27.79**	**237**	*e*P	**P**	**03 29 16.1**	**+0.4**
	1.5nm,0.6s						
WB2	**Warramunga Arr**	**32.50**	**262**	*e*P	**P**	**03 29 56.0**	**-1.4**
WRAB	**Tennant Creek**	**32.50**	**262**	*e*P	**P**	**03 29 56.1**	**-1.3**
	18nm,0.4s						
WR1	**Warramunga Arr**	**32.51**	**262**	*e*P	**P**	**03 29 56.3**	**-1.2**
	14nm,1.5s						
WRA	**Warramunga Arr**	**32.51**	**262**	P	**P**	**03 29 56.3**	**-1.2**
	2.4nm,0.3s,baz=88,slow=8.5,SNR=121						
BBOO	**Buckleboo**	**32.52**	**238**	*e*P	**P**	**03 29 57.5**	**0.0**
	9.2nm,0.6s						
AS01	**Alice Springs**	**32.81**	**255**	*e*P	**P**	**03 29 59.2**	**-0.9**
AS31	**Alice Springs**	**32.86**	**255**	*e*P	**P**	**03 30 00.1**	**-0.4**
	18nm,0.4s						
ASAR	**Alice Springs**	**32.86**	**255**	P	**P**	**03 30 00.2**	**-0.3**
	29nm,0.5s,baz=83,slow=8.7,SNR=473						
MTN	**Manton Dam**	**36.66**	**273**	*e*P	**P**	**03 30 31.9**	**-1.4**
	15nm,1.3s						
FORT	**Forrest**	**38.71**	**244**	*e*P	**P**	**03 30 49.6**	**-0.8**
	18nm,0.7s						
FITZ	**Fitzroy Crossi**	**40.88**	**264**	P	**P**	**03 31 09.0**	**+0.5**
	13nm,0.6s,baz=98,slow=7.4,SNR=63						
FITZ	**Fitzroy Crossi**	**40.88**	**264**	*e*P	**P**	**03 31 08.7**	**+0.2**
	12nm,0.6s						
MBWA	**Marble Bar**	**46.05**	**258**	*e*P	**P**	**03 31 50.0**	**-0.1**
	19nm,1.1s						
MHA	**Mahukona**	**51.87**	**44**	*e*P	**P**	**03 32 33.0**	**-1.4**
WNDA	**Vanda**	**58.97**	**182**	P	**P**	**03 33 24.8**	**+0.2**
	1.5nm,0.7s,baz=1.7,slow=7.6,SNR=11						
VNDA				LR	LR	03 54 22.2	
	comp=Z,1μm,19.5s,baz=214,slow=31						
VNDA	**Vanda**	**58.97**	**182**	*e*P	**P**	**03 33 24.7**	**+0.2**
	2.5nm,0.8s						
SBA	**Scott Base**	**59.22**	**181**	*e*P	**P**	**03 33 27.4**	**+1.2**
	15nm,0.8s						
MJAR	**Matsushiro Arr**	**62.06**	**332**	P	**P**	**03 33 45.5**	**-0.6**
	3.3nm,0.6s,baz=174,slow=7.8,SNR=9.6						
MAJO	**Matsushiro**	**62.07**	**332**	*e*P	**P**	**03 33 45.5**	**-0.7**
ASAJ	**Asahikawa**	**66.93**	**340**	P	**P**	**03 34 18.8**	**+1.1**
	28nm,1.0s,baz=220,slow=12,SNR=4.2						
ASAJ	**Asahikawa**	**66.93**	**340**	*e*P	**P**	**03 34 18.8**	**+1.1**
	43nm,1.1s						
KSRS	**Korea Array**	**67.81**	**326**	P	**P**	**03 34 25.0**	**+1.7**
	0.9nm,0.6s,baz=133,slow=6.8,SNR=4.7						
KS15	**Wonju Array Si**	**67.82**	**326**	*e*P	**P**	**03 34 25.0**	**+1.6**
KSAR	**Wonju Array Be**	**67.82**	**326**	P	**P**	**03 34 25.0**	**+1.6**
NJ2	**Nanjing**	**69.52**	**316**	*e*P	**P**	**03 34 36.4**	**+2.4**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
IPM	**Ipoh**	**70.56**	**282**	*e*P	**P**	**03 34 36.6**	**-4.2**
	31nm,1.3s						
USRK	**Ussuriysk Ar.**	**71.05**	**333**	P	**P**	**03 34 43.8**	**+0.7**
	3.0nm,0.7s,baz=116,slow=6.6						
QSPA	**South Pole Qui**	**71.37**	**180**	P	**P**	**03 34 45.1**	**+0.1**
	17nm,0.9s,baz=29,slow=3.7,SNR=5.8						
QSPA	**South Pole Qui**	**71.37**	**180**	*e*P	**P**	**03 34 44.6**	**-0.4**
	16nm,0.9s						
PETK	**Petropavlovsk-**	**72.13**	**353**	P	**P**	**03 34 49.0**	**-0.4**
	3.4nm,0.7s,baz=154,slow=8.4,SNR=6.7						
PETK	**Petropavlovsk-**	**72.13**	**353**	*e*P	**P**	**03 34 47.4**	**-2.0**
PEA1	**Petropavlovsk-**	**72.14**	**353**	*e*P	**P**	**03 34 49.0**	**-0.5**
CN2	**Changchun**	**73.77**	**329**	*e*P	**P**	**03 34 59.5**	**+0.2**
CN2				epP	pP	03 35 24.6	-0.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GYA	**Guiyang**	**75.16**	**305**	*e*P	**P**	**03 35 09.4**	**+1.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KLR	**Kul'dur**	**75.19**	**336**	P	**P**	**03 35 07.9**	**+0.5**
	1.0nm,0.6s,baz=53,slow=4.0,SNR=3.8						
BJI	**Beijing**	**76.24**	**321**	P	**P**	**03 35 14.7**	**+1.1**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KMI	**Kunming**	**77.62**	**302**	P	**P**	**03 35 21.7**	**-0.3**
KMI				pmax	pmax		
	comp=Z,17nm,0.8s						
CM31	**Chiang Mai Arr**	**77.89**	**294**	*e*P	**P**	**03 35 25.1**	**+1.7**
CMAR	**Chiang Mai Arr**	**77.89**	**294**	P	**P**	**03 35 25.1**	**+1.7**
	1.3nm,0.3s,baz=125,slow=3.9,SNR=7.9						
MAW	**Mawson**	**78.79**	**202**	P	**P**	**03 35 28.3**	**+0.9**
	4.7nm,0.9s,baz=102,slow=6.0,SNR=9.6						
MAW	**Mawson**	**78.79**	**202**	*e*P	**P**	**03 35 28.3**	**+0.9**
	1.8nm,1.0s						
HHC	**Hu-ho-hao-te**	**79.53**	**320**	*e*P	**P**	**03 35 32.4**	**+0.5**
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
CD2	**Chengdu**	**79.56**	**308**	*e*P	**P**	**03 35 32.0**	**-0.3**
LZH	**Lanzhou**	**82.04**	**312**	*e*P	**P**	**03 35 48.7**	**+3.1**
LZH				pP	pP	03 36 14.0	+2.5
LZH				sP	sP	03 36 24.7	+2.5
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
SYO	**Syowa Base**	**85.35**	**196**	⇑*e*P	**P**	**03 36 01.1**	**-0.5**
SYO	**Syowa Base**	**85.35**	**196**	⇑epP	pP	03 36 30.0	+2.2
GTA	**Gaotai**	**86.44**	**314**	*e*P	**P**	**03 36 08.6**	**+0.9**
GTA				pP	pP	03 36 35.1	+1.2
GTA				sP	sP	03 36 47.1	+2.6
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SONA0	**Songino Array**	**86.52**	**323**	*e*P	**P**	**03 36 08.3**	**+0.4**
SONM	**Songino Array**	**86.52**	**323**	P	**P**	**03 36 08.3**	**+0.4**
	5.6nm,0.9s,baz=154,slow=6.8,SNR=19						
SONA1	**Songino Array**	**86.53**	**323**	*e*P	**P**	**03 36 07.7**	**-0.2**
SNAA	**Sanae**	**89.70**	**183**	P	**P**	**03 36 21.7**	**-0.9**
ILAR	**Eielson Array**	**89.83**	**17**	P	**P**	**03 36 21.7**	**-1.3**
	1.3nm,0.7s,baz=235,slow=5.2,SNR=12						
ILB	**Eielson Array**	**89.83**	**17**	*e*P	**P**	**03 36 21.7**	**-1.3**
VNA3	**Neumayer Olymp**	**90.30**	**180**	P	**P**	**03 36 24.4**	**-1.0**
WMQ	**Urumqi**	**96.52**	**314**	*e*P	**P**	**03 36 55.4**	**+1.0**
WMQ				pmax	pmax		
	comp=Z,28nm,1.7s						
WMQ				LR	LR		
	comp=N,540nm,28.5s						
WMQ				LR	LR		
	comp=E,490nm,18.1s						
WMQ				LR	LR		
	comp=Z,850nm,24.1s						
ARA0	**ARCESS Array S**	**124.42**	**345**	*e*PKPdf	**PKPdf**	**03 42 22.5**	**-0.2**
ARCES	**ARCESS Array B**	**124.42**	**345**	PKP	**PKPdf**	**03 42 22.5**	**-0.2**

ABPO pmax pmax
comp=Z,27nm,0.9s
OPO Ambohidratompo 18.36 341 P **Pn** **03 28 42.6 -1.3**
comp=Z,0.9nm,0.3s,baz=148,slow=13,SNR=13
BOSA Boshof 24.79 280 P **P** **03 29 49.6 -1.5**
comp=Z,40nm,1.1s,baz=116,slow=9.6,SNR=20
BOSA Boshof 24.79 280 *e*P **P** **03 29 50.3 -0.8**
BOSA Boshof 24.79 280 *e*P **P** **03 29 50.3 -0.8**
LBTB Lobatse 26.22 287 *e*P **P** **03 30 02.2 -1.8**
comp=Z,30nm,1.0s
LBTB Lobatse 26.22 287 *e*P **P** **03 30 02.3 -1.8**
LBTB pmax pmax
comp=Z,31nm,1.0s
MATP Matopo 26.78 299 P **P** **03 30 08.6 -0.6**
comp=Z,5.8nm,0.9s,baz=126,slow=10,SNR=9.5
SUR Sutherland 27.03 269 P **P** **03 30 10.7 -0.8**
comp=Z,26nm,1.0s,baz=151,slow=5.3,SNR=5.3
SUR Sutherland 27.03 269 *e*P **P** **03 30 11.5 0.0**
comp=Z,54nm,1.3s
LSZ Lusaka 30.58 306 *e*P **P** **03 30 42.0 -1.1**
comp=Z,20nm,1.1s
LSZ Lusaka 30.58 306 P **P** **03 30 41.7 -1.3**
SNR=5.2
LSZ Lusaka 30.58 306 *e*P **P** **03 30 42.0 -1.1**
LSZ pmax pmax
comp=Z,20nm,1.1s
MAW Mawson 31.93 173 P **P** **03 30 53.6 -0.7**
comp=Z,2.8nm,0.6s,baz=351,slow=9.3,SNR=13
MAW Mawson 31.93 173 *e*P **P** **03 30 54.3 0.0**
comp=Z,1.6nm,1.1s
MAW Mawson 31.93 173 *e*P **P** **03 30 54.3 0.0**
H08S1 Diego Garcia H 33.38 36 T T 04 05 57.7
baz=208,slow=75,SNR=41
H08S2 Diego Garcia H 33.39 36 T T 04 05 59.0
baz=208,slow=75,SNR=27
H08S3 Diego Garcia H 33.40 36 T T 04 05 58.9
baz=208,slow=75,SNR=39
SYO Syowa Base 33.74 189‖ *e*P **P** **03 31 09.4 -0.6**
SYO Syowa Base 33.74 189‖ *ep*P **P** **03 31 11.4 +1.4**
H08N3 Diego Garcia H 33.85 33 T T 04 06 29.8
baz=206,slow=75,SNR=20
H08N1 Diego Garcia H 33.86 33 T T 04 06 28.2
baz=206,slow=75,SNR=28
H08N2 Diego Garcia H 33.87 33 T T 04 06 29.1
baz=206,slow=75,SNR=19
WIN Windhoek 34.13 283 P **P** **03 31 16.2 +2.0**
WIN pmax pmax
comp=Z,14nm,1.0s
TSUM Tsumeb 35.61 289 *e*P **P** **03 31 26.5 -0.4**
comp=Z,20nm,1.3s
KMBO Kilima Mbogo 37.93 333 P **P** **03 31 46.3 -0.5**
comp=Z,7.6nm,1.0s,baz=156,slow=8.9,SNR=15
KMBO Kilima Mbogo 37.93 333 *e*P **P** **03 31 46.3 -0.5**
comp=Z,13nm,1.1s
KMBO Kilima Mbogo 37.93 333 P **P** **03 31 47.9 +1.1**
SNR=8.0
KMBO Kilima Mbogo 37.93 333 *i* P **P** **03 31 48.2 +1.4**
SNR=8.9
KMBO Kilima Mbogo 37.93 333 *e*P **P** **03 31 46.3 -0.5**
KMBO pmax pmax
comp=Z,13nm,1.1s
CASY Casey 44.38 151 *e*P **P** **03 32 37.8 -1.2**
comp=Z,33nm,1.3s
SNAA Sanae 45.55 202 P **P** **03 32 48.1 -0.2**
SNAA Sanae 45.55 202 *e*P **P** **03 32 48.3 0.0**
comp=Z,9.8nm,1.0s
SNAA Sanae 45.55 202 *ce*P **P** **03 32 48.9 +0.6**
VNA3 Neumayer Olymp 47.53 203 P **P** **03 33 03.4 -0.4**
ATD Arta Tunnel 48.48 346 P **P** **03 33 11.7 -0.1**
comp=Z,15nm,0.9s,baz=167,slow=3.4,SNR=7.4
ATD Arta Tunnel 48.48 346 *e*P **P** **03 33 13.8 +2.0**
comp=Z,33nm,1.1s
H01W2 Cape Leeuwin H 48.79 107 T T 04 25 29.1
baz=250,slow=75,SNR=610
H01W3 Cape Leeuwin H 48.80 107 T T 04 25 29.6
baz=250,slow=75,SNR=601
H01W1 Cape Leeuwin H 48.81 107 T T 04 25 30.4
baz=250,slow=75,SNR=833
DAMY Dhamar 51.18 349 *e*P **P** **03 33 35.8 +3.1**
comp=Z,43nm,1.3s
NWAO Narrogin (SRO) 51.91 106 P **P** **03 33 37.0 -0.7**
comp=Z,7.3nm,0.8s,baz=130,slow=4.2,SNR=4.3
NWAO Narrogin (SRO) 51.91 106 *e*P **P** **03 33 37.0 -0.7**
QSPA South Pole Qui 53.99 180 P **P** **03 33 52.0 -0.8**
comp=Z,14nm,1.0s,baz=253,slow=3.2,SNR=19
QSPA South Pole Qui 53.99 180 *e*P **P** **03 33 52.0 -0.8**
comp=Z,44nm,1.3s
VNDA Vanda 58.81 166 P **P** **03 34 26.3 -0.5**
comp=Z,4.1nm,0.8s,baz=260,slow=6.1,SNR=11
VNDA Vanda 58.81 166 *e*P **P** **03 34 26.1 -0.7**
comp=Z,13nm,1.2s
VNDA Vanda 58.81 166 *e*P **P** **03 34 26.1 -0.7**
VNDA pmax pmax
comp=Z,13nm,1.2s
MZR Muzera 58.87 0 *i* P **P** **03 34 28.9 +1.1**
SNR=10
SBA Scott Base 59.58 167 *e*P **P** **03 34 33.5 +1.4**
comp=Z,21nm,1.4s
SBA Scott Base 59.58 167 *e*P **P** **03 34 33.5 +1.4**
SBA pmax pmax
comp=Z,21nm,1.4s
RAYN Ar Rayn 59.84 352 *e*P **P** **03 34 35.3 +0.8**
comp=Z,25nm,1.2s
RAYN Ar Rayn 59.84 352 *i* P **P** **03 34 35.2 +0.6**
SNR=10
RAYN Ar Rayn 59.84 352 *e*P **P** **03 34 35.3 +0.8**
RAYN pmax pmax
comp=Z,25nm,1.2s
SOHO SOHO 60.08 3 *i* P **P** **03 34 36.2 +0.2**
SNR=8.3
ASUD Al Ashush, Dub 60.52 2 P **P** **03 34 38.6 -0.5**
ASHO Ashiyiah 60.60 3 P **P** **03 34 39.4 -0.3**
HATD Hatta, Dubai 60.75 3 P **P** **03 34 39.3 -1.3**
NAZ Nazwa, Dubai 60.89 2 P **P** **03 34 39.6 -2.0**
MSFE Esma-Masafi 61.28 3 *i* P **P** **03 34 42.1 -2.1**
SNR=7.4
SHME Shamm 61.96 3 P **P** **03 34 48.5 -0.4**
FITZ Fitzroy Crossi 65.49 95 *e*P **P** **03 35 11.3 -1.2**
comp=Z,17nm,1.4s
TOA0 Torodi Ar. Sit 69.11 305 *e*P **P** **03 35 36.0 +0.7**
TORD Torodi Ar. Bea 69.11 305 P **P** **03 35 34.7 -0.6**
comp=Z,3.4nm,0.9s,baz=96,slow=2.4,SNR=20
TORD PP **PP** **03 38 03.6 -4.6**
comp=Z,1.8nm,1.0s,baz=136,slow=8.7,SNR=3.9
TOA1 Torodi Ar. Sit 69.11 305 *e*P **P** **03 35 34.7 -0.6**
TOA1 *e*PP **PP** **03 38 03.6 -4.7**
DBIC Dimbokro 69.13 295 P **P** **03 35 35.2 -0.2**
comp=Z,4.9nm,0.9s,baz=124,slow=11,SNR=3.6
DBIC Dimbokro 69.13 295 *e*P **P** **03 35 35.2 -0.2**
comp=Z,27nm,1.5s
DBIC Dimbokro 69.13 295 *e*P **P** **03 35 35.3 -0.2**
DBIC pmax pmax
comp=Z,27nm,1.5s
ASAR Alice Springs 69.17 105 P **P** **03 35 34.5 -1.2**
comp=Z,1.4nm,0.8s,baz=233,slow=5.7,SNR=9.9
AS31 Alice Springs 69.17 105 *e*P **P** **03 35 36.7 +0.9**
comp=Z,1.7nm,1.1s
AS01 Alice Springs 69.20 105 *e*P **P** **03 35 32.9 -3.1**
CM01 Chiang Mai Arr 69.39 47 *e*P **P** **03 35 37.3 +0.4**
CM31 Chiang Mai Arr 69.41 46 *e*P **P** **03 35 35.7 -1.4**
CMAR Chiang Mai Arr 69.41 46 P **P** **03 35 35.7 -1.4**
comp=Z,4.1nm,0.5s,baz=231,slow=6.8,SNR=18
CHTO Chiang Mai 69.69 46 *e*P **P** **03 35 37.1 -1.7**
comp=Z,6.3nm,0.9s
CHTO Chiang Mai 69.69 46 *e*P **P** **03 35 37.1 -1.7**
CHTO pmax pmax
comp=Z,6.0nm,0.9s
STKA Stephens Creek 70.77 116 P **P** **03 35 44.4 -1.1**
comp=Z,1.9nm,0.7s,baz=317,slow=11,SNR=4.5
SHL Shillong 71.41 36 *e*P **P** **03 35 46.5 -2.8**
comp=Z,6.2nm,0.7s
SHL Shillong 71.41 36 *e*P **P** **03 35 46.6 -2.8**
SHL pmax pmax
comp=Z,6.0nm,0.7s
WR1 Warramunga Arr 71.47 101 *e*P **P** **03 35 48.3 -1.6**
comp=Z,31nm,1.4s
WRA Warramunga Arr 71.47 101 P **P** **03 35 48.3 -1.6**
comp=Z,4.8nm,0.8s,baz=233,slow=5.2,SNR=17
WB2 Warramunga Arr 71.48 101 *e*P **P** **03 35 48.8 -1.1**
WRAB Tennant Creek 71.49 101 *e*P **P** **03 35 48.2 -1.7**
comp=Z,16nm,1.1s
WRAB Tennant Creek 71.49 101 *ce*P **P** **03 35 48.9 -1.1**
WRAB pmax pmax
comp=Z,58nm,2.5s
KBL Kabul 71.89 14 *e*P **P** **03 35 50.6 -1.5**
comp=Z,18nm,1.4s
KBL Kabul 71.89 14 *e*P **P** **03 35 50.6 -1.5**
KBL pmax pmax
comp=Z,18nm,1.4s
CSS Mathiatis 73.19 343 *e*P **P** **03 36 00.7 +1.1**
comp=Z,20nm,1.0s
GYA0B ALIBECK ARRAY 73.89 4 *e*P **P** **03 36 03.6 -0.1**
comp=Z,12nm,1.3s
TAM Tamanrasset 74.02 315 *e*P **P** **03 36 06.2 +1.2**
comp=Z,12nm,1.2s
TAM Tamanrasset 74.02 315 *e*P **P** **03 36 06.2 +1.2**
TAM pmax pmax
comp=Z,12nm,1.2s
LSA Lhasa 74.58 34 *e*P **P** **03 36 07.2 -1.3**
comp=Z,11nm,1.1s
LSA Lhasa 74.58 34 P **P** **03 36 05.8 -2.7**
LSA Lhasa 74.58 34 *e*P **P** **03 36 07.2 -1.3**
LSA pmax pmax
comp=Z,11nm,1.1s
KARP Karpathos 75.41 338 *e*P **P** **03 36 14.6 +2.1**
comp=Z,79nm,1.0s
GNI Garni 76.38 353 *e*P **P** **03 36 20.4 +2.2**
comp=Z,32nm,1.3s
GNI Garni 76.38 353 *ce*P **P** **03 36 18.8 +0.7**
GNI pmax pmax
comp=Z,36nm,1.1s
KMI Kunming 76.79 45 P **P** **03 36 24.6 +3.7**
KMI sP PcP 03 36 32.0 -0.1
KMI pmax pmax
comp=Z,19nm,0.8s
BR101 Keskin Array S 77.69 345 *e*P **P** **03 36 23.6 -1.9**
BR131 Keskin Array S 77.69 345 *e*P **P** **03 36 23.9 -1.6**
BR131 Keskin Array S 77.69 345 P **P** **03 36 23.6 -1.9**
SNR=6.6
BR131 Keskin Array S 77.69 345 P **P** **03 36 23.6 -1.9**
SNR=6.6
BRTR Keskin Array B 77.69 345 P **P** **03 36 23.6 -1.9**
comp=Z,8.1nm,0.9s,baz=169,slow=7.0,SNR=33
AKH Akhalkalaki 77.75 352 *e*P **P** **03 36 27.9 +2.0**
comp=Z,20nm,1.2s
AKH Akhalkalaki 77.75 352⇑ *i*P **P** **03 36 26.6 +0.8**
AKH Akhalkalaki 77.75 352 P **P** **03 36 27.9 +2.0**
MANT Manisa 77.75 340 *e*P **P** **03 36 27.9 +1.9**
comp=Z,114nm,1.1s
TBLG Delisi 77.94 353 *e*P **P** **03 36 27.8 +1.1**
comp=Z,42nm,1.3s
TBLG Delisi 77.94 353 *e*P **P** **03 36 27.8 +1.1**
TBLG pmax pmax
comp=Z,42nm,1.3s
BR231 Keskin MP Arra 77.98 344 *e*P **P** **03 36 27.4 +0.2**
ANTO Ankara 78.01 344 *e*P **P** **03 36 28.3 +1.1**
comp=Z,34nm,1.4s
ANTO Ankara 78.01 344⇑ *i*P **P** **03 36 27.1 -0.1**
ANTO Ankara 78.01 344 *e*P **P** **03 36 28.3 +1.1**
ANTO pmax pmax
comp=Z,34nm,1.4s
SFK Sufi-Kurgan 78.08 16 P **P** **03 36 27.9 +0.1**
SFK pmax pmax
comp=Z,13nm,1.3s
KSH Kashi 78.19 18 P **P** **03 36 24.3 -4.0**
KSH pP pP 03 36 28.7 -4.2
KSH PcP **sP** **03 36 33.4 -1.2**
KSH S S 03 46 11.3 -11
KSH pmax pmax
comp=Z,19nm,0.6s
KSH pmax pmax
comp=Z,460nm,5.8s
KSH LR LR
comp=Z,690nm,10.0s
KSH LR LR
comp=Z,610nm,7.8s
KSH LR LR
comp=Z,1μm,18.1s
ZEI Tsey 79.07 353 *e*P **P** **03 36 31.8 -1.4**
ZEI pmax pmax
comp=Z,23nm,1.0s
NEY Neytrino 79.65 352 *i* P **P** **03 36 36.8 +0.5**
NEY pmax pmax
comp=Z,2.0nm,0.8s
NCK Nalchik 79.80 353 *ce*P **P** **03 36 38.4 +1.5**
NCK pmax pmax
comp=Z,18nm,0.6s
GYA Guiyang 80.09 47 *e*P **P** **03 36 41.8 +2.8**
GYA PP **PP** **03 39 46.4 +4.9**
GYA S **S** **03 46 46.5 +3.3**
GYA SKS **SKSac** **03 46 55.8 -0.4**
GYA pmax pmax
comp=Z,10.0nm,1.0s
KBZ Khabaz 80.11 352 P **P** **03 36 37.8 -0.7**
comp=Z,5.4nm,1.0s,baz=241,slow=1.8,SNR=5.8
MNAS Manas 80.25 14 P **P** **03 36 40.0 +0.5**
KIV Kislovodsk 80.35 352 *e*P **P** **03 36 41.0 +1.0**
comp=Z,57nm,1.3s
KIV Kislovodsk 80.35 352 P **P** **03 36 41.1 +1.2**
SNR=6.3
KIV Kislovodsk 80.35 352 P **P** **03 36 41.1 +1.2**
SNR=6.3
KIV Kislovodsk 80.35 352 *e*P **P** **03 36 40.8 +0.9**
KIV pmax pmax
comp=Z,38nm,1.1s
UCH Uchtor 80.42 16 P **P** **03 36 38.9 -1.9**
SNR=8.0
KZA Kyzart 80.44 16 P **P** **03 36 40.4 -0.5**
SNR=6.5
EKS2 Erkin-Say 80.68 15 P **P** **03 36 39.0 -2.8**
SNR=8.4
CTA Charters Tower 80.71 108 P **P** **03 36 41.6 -0.9**
comp=Z,8.7nm,1.0s,baz=229,slow=9.9,SNR=6.3
CTAO Charters Tower 80.71 108 *e*P **P** **03 36 44.1 +1.5**
comp=Z,20nm,1.2s
AAK Ala-Archa 80.81 16 P **P** **03 36 44.4 +1.8**
SNR=9.2
AAK Ala-Archa 80.81 16 *e*P **P** **03 36 42.2 -0.3**
comp=Z,33nm,1.3s
AAK Ala-Archa 80.81 16 P **P** **03 36 44.5 +2.0**
SNR=8.1
AAK Ala-Archa 80.81 16 P **P** **03 36 44.5 +2.0**
SNR=8.1
AAK Ala-Archa 80.81 16 *i* P **P** **03 36 41.7 -0.8**
SNR=9.0
AAK Ala-Archa 80.81 16 *ce*P **P** **03 36 42.6 +0.1**
AAK pmax pmax
comp=Z,64nm,1.3s
KBK Karagaybulak 80.93 16 P **P** **03 36 45.3 +2.1**
SNR=5.1
FRU Bishkek 81.02 16 *e*P **P** **03 36 42.5 -1.0**
FRU pmax pmax
comp=Z,110nm,2.5s
GOF Gofitskoye 81.40 353⇓ *i*P **P** **03 36 46.1 +0.7**
GOF pmax pmax
comp=Z,70nm,0.9s
CD2 Chengdu 81.83 42 *e*P **P** **03 36 50.4 +2.3**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,140nm,5.0s
KEST Kesra 82.41 325 P **P** **03 36 50.8 -0.3**
comp=Z,11nm,1.0s,baz=291,slow=5.9,SNR=6.8
KEST Kesra 82.41 325 *e*P **P** **03 36 54.1 +3.0**
comp=Z,20nm,1.1s
VTS Vitosha 83.08 338 *e*P **P** **03 36 54.2 -0.2**
comp=Z,12nm,1.0s
VTS Vitosha 83.08 338⇑ *i*P **P** **03 36 54.6 +0.1**
VTS Vitosha 83.08 338⇑ P **P** **03 36 54.6 +0.1**
TIRR Tirgusor 83.39 342⇑ *i*P **P** **03 36 55.2 -0.6**
TIRR Tirgusor 83.39 342⇑ P **P** **03 36 55.2 -0.6**
ZIMR 83.44 340⇑ *i*P **P** **03 36 56.9 +0.9**
ZIMR 83.44 340⇑ P **P** **03 36 56.9 +0.9**
CFR Carcaliu 84.13 342⇑ *i*P **P** **03 36 58.4 -1.1**
CFR Carcaliu 84.13 342⇑ P **P** **03 36 58.4 -1.1**
HUMR Humele 84.35 340⇑ *i*P **P** **03 37 01.0 +0.3**
TRQA Tornquist 84.94 226 *e*P **P** **03 37 04.4 +0.2**
comp=Z,24nm,1.3s
TRQA Tornquist 84.94 226 *ce*P **P** **03 37 04.4 +0.2**
TRQA pmax pmax
comp=Z,15nm,1.0s
MLR Muntele Rosu 84.98 341 *e*P **P** **03 37 02.9 -1.1**
comp=Z,20nm,1.1s
MLR Muntele Rosu 84.98 341⇑ *i*P **P** **03 37 02.5 -1.5**
MLR Muntele Rosu 84.98 341 *e*P **P** **03 37 02.9 -1.1**
MLR pmax pmax
comp=Z,20nm,1.1s
VRI Vrincioaia 85.12 342⇑ *i*P **P** **03 37 03.5 -1.1**
VRI Vrincioaia 85.12 342⇑ P **P** **03 37 03.6 -1.1**
PLOR Plostina 85.13 342⇑ *i*P **P** **03 37 03.5 -1.2**
PLOR Plostina 85.13 342⇑ P **P** **03 37 03.5 -1.2**
VOIR 85.17 340⇑ *i*P **P** **03 37 03.4 -1.5**
VOIR 85.17 340⇑ P **P** **03 37 03.4 -1.5**
ARR Arges 85.22 340⇑ *i*P **P** **03 37 03.7 -1.4**
HERR Herculane 85.40 339⇑ *i*P **P** **03 37 05.5 -0.5**
MDVR Moldovita 85.52 338⇑ *i*P **P** **03 37 06.1 -0.6**
WMQ Urumqi 85.56 24 P **P** **03 37 07.6 +0.7**
WMQ pP pP 03 37 11.7 +0.1
WMQ pmax pmax
comp=Z,25nm,1.7s
WMQ LR LR
comp=Z,490nm,21.7s
WMQ LR LR
comp=Z,460nm,20.3s
WMQ LR LR
comp=Z,840nm,23.3s
GZR Gura Zlata 85.76 339⇑ *i*P **P** **03 37 07.8 -0.1**
GZR Gura Zlata 85.76 339⇑ P **P** **03 37 07.9 0.0**
LZH Lanzhou 85.90 39 *e*P P 03 36 55.6 -13
LZH pP PcP 03 37 00.4 -11
LZH sP pP 03 37 03.7 -10
LZH pmax pmax
comp=Z,120nm,1.2s
LZH LR LR
comp=N,1μm,11.4s
LZH LR LR
comp=E,990nm,13.6s
LZH LR LR
comp=Z,1μm,11.9s
BZS Buzias 86.31 338⇑ *i*P **P** **03 37 09.8 -0.7**
BZS Buzias 86.31 338⇑ P **P** **03 37 09.8 -0.7**
GTA Gaotai 86.59 34⇑ P **P** **03 37 13.4 +1.2**
GTA pP pP 03 37 16.9 0.0
GTA sP sP 03 37 19.8 +1.3
GTA S **S** **03 47 46.1 -2.4**
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA pmax pmax
comp=Z,590nm,6.5s
GTA LR LR
comp=Z,450nm,18.4s
GTA LR LR
comp=Z,400nm,17.1s
GTA LR LR
comp=Z,590nm,18.4s
MK01 Makanchi Array 86.60 20 *e*P **P** **03 37 10.1 -1.9**
MK31 Makanchi Array 86.62 19 *e*P **P** **03 37 10.9 -1.1**
MK31 Makanchi Array 86.62 19 *e*P **P** **03 37 10.9 -1.1**
MK32 Makanchi Array 86.62 19 *e*P **P** **03 37 10.5 -1.6**
MKAR Makanchi Array 86.62 19 P **P** **03 37 10.5 -1.6**
comp=Z,2.6nm,0.8s,baz=216,slow=6.2,SNR=12
CJR Cluj-Napoca 86.74 340⇑ *i*P **P** **03 37 14.2 +1.6**
CJR Cluj-Napoca 86.74 340⇑ P **P** **03 37 14.2 +1.6**
SORM Soroca 86.86 344⇑ *i*P **P** **03 37 12.0 -1.1**
SORM Soroca 86.86 344⇑ P **P** **03 37 12.0 -1.1**
ARCR ARCALIA 86.87 341⇑ *i*P **P** **03 37 13.6 +0.4**
SIRR Siria 86.88 339⇑ *i*P **P** **03 37 13.0 -0.3**
DRGR 87.06 340⇑ *i*P **P** **03 37 13.5 -0.7**
DRGR 87.06 340⇑ P **P** **03 37 13.5 -0.7**
BURAR Bucovina Array 87.13 341⇑ *i*P **P** **03 37 15.2 +0.6**
BURAR Bucovina Array 87.13 341⇑ P **P** **03 37 15.2 +0.6**
BUR04 Bucovina Ar. S 87.14 341 *e*P **P** **03 37 15.2 +0.6**
BUR08 Bucovina Ar. S 87.17 341 *e*P **P** **03 37 16.4 +1.6**
VRH Novokhopyorsk 87.62 353 *e*P **P** **03 37 16.1 -0.6**
VRH pmax pmax
comp=Z,20nm,0.8s
VORD Divnogorie 87.66 351 *e*P **P** **03 37 16.7 -0.2**
VORD pmax pmax
comp=Z,30nm,1.3s
PLCA Paso Flores 87.72 219 P **P** **03 37 17.0 -0.9**
comp=Z,10nm,1.2s,baz=197,slow=6.0,SNR=5.9
PLCA Paso Flores 87.72 219 *e*P **P** **03 37 18.3 +0.4**
comp=Z,17nm,1.2s
PLCA Paso Flores 87.72 219 *e*P **P** **03 37 18.3 +0.4**
PLCA pmax pmax
comp=Z,17nm,1.2s
VSR Storozhevoye 87.92 351 *e*P **P** **03 37 16.4 -1.7**
VSR pmax pmax
comp=Z,30nm,1.0s
TRPA Tarpa 88.32 340⇑ *i*P **P** **03 37 19.8 -0.3**
UZH Uzhgorod 88.85 340 *d i*P **P** **03 37 22.8 +0.2**
UZH *e* 03 37 26.4
UZH *e* 03 37 30.8
KIEV Kiev 89.08 345 *e*P **P** **03 37 22.5 -1.1**
comp=Z,18nm,1.1s
KIEV Kiev 89.08 345 *ce*P **P** **03 37 23.9 +0.3**
KIEV pmax pmax
comp=Z,26nm,1.7s
AKASG Malin Array Be 89.08 345 P **P** **03 37 21.9 -1.7**
comp=Z,7.1nm,0.9s,baz=172,slow=4.4,SNR=24
AKBB Malin Array Si 89.08 345 *e*P **P** **03 37 21.9 -1.7**
AKBB Malin Array Si 89.08 345 *e*P **P** **03 37 21.9 -1.7**
LPSR Galich'ya Gora 89.31 351 *e*P **P** **03 37 23.7 -0.9**
LPSR pmax pmax
comp=Z,10.0nm,1.1s
KURK Kurchatov 89.37 16 *ce*P **P** **03 37 26.6 +1.6**
KURK pmax pmax
comp=Z,4.0nm,1.1s
SOKA Soboth 89.37 335 *i* P **P** **03 37 26.1 +0.8**
comp=Z,8.8nm,0.9s
OBKA Obir 89.39 334 *i* P **P** **03 37 27.2 +1.8**
comp=Z,20nm,1.9s
ARSA Arzberg 89.70 335 *i* P **P** **03 37 28.3 +1.6**
comp=Z,8.9nm,1.3s
BDFB Brasilia 89.73 251 P **P** **03 37 27.9 0.0**
comp=Z,11nm,1.0s,baz=65,slow=6.7,SNR=9.0
BDFB Brasilia 89.73 251 *e*P **P** **03 37 25.8 -2.0**
comp=Z,31nm,1.4s
BDFB Brasilia 89.73 251 *e*P **P** **03 37 25.8 -2.0**
BDFB pmax pmax
comp=Z,31nm,1.4s
VYHS Vyhne 89.73 338 *e*P **P** **03 37 26.0 -0.8**
VYHS Vyhne 89.73 338 *e*P **P** **03 37 26.0 -0.8**
CPUP Villa Florida 89.79 237 P **P** **03 37 28.4 +0.6**
comp=Z,7.4nm,1.0s,baz=113,slow=4.3,SNR=13
CPUP Villa Florida 89.79 237 *e*P **P** **03 37 28.2 +0.4**
comp=Z,16nm,1.3s
CPUP Villa Florida 89.79 237 *e*P **P** **03 37 28.2 +0.4**
CPUP pmax pmax
comp=Z,16nm,1.3s
BRVK Borovoye 90.10 10 *ce*P **P** **03 37 27.5 -0.9**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
CONA Conrad Observa 90.18 336 *i* P **P** **03 37 30.6 +1.6**
comp=Z,5.3nm,1.1s
KBA Koelnbreinsper 90.31 334 *i* P **P** **03 37 31.4 +1.7**
comp=Z,12nm,1.4s
ABTA Abfaltersbach 90.32 333 *i* P **P** **03 37 29.7 0.0**
comp=Z,23nm,1.2s,SNR=6.4
MOA Moln 90.64 335 *i* P **P** **03 37 32.5 +1.4**
comp=Z,7.9nm,1.2s
FUORN Ofenpass-Fuorn 91.05 332 *e*P **P** **03 37 35.0 +1.7**
comp=Z,10nm,1.0s
WTTA Wattenberg 91.08 333 *i* P **P** **03 37 34.2 +0.9**
comp=Z,16nm,1.0s
WATA Walderalm 91.16 333 *i* P **P** **03 37 34.2 +0.6**
comp=Z,15nm,1.1s,SNR=6.9
WATA Walderalm 91.16 333 P **P** **03 37 34.2 +0.6**
SQTA Sankt Quirin 91.20 333 *i* P **P** **03 37 34.4 +0.6**
comp=Z,14nm,0.9s,SNR=5.8
FETA Feichten 91.21 332 *i* P **P** **03 37 34.9 +1.0**
comp=Z,21nm,1.0s,SNR=9.1
TUE Stuetta 91.28 331 *e*P **P** **03 37 35.1 +0.8**
comp=Z,7.1nm,1.0s
MOTA Moosalm 91.34 333 *i* P **P** **03 37 34.8 +0.3**
comp=Z,13nm,1.0s,SNR=9.1
MOTA Moosalm 91.34 333 P **P** **03 37 35.3 +0.8**
NJ2 Nanjing 91.51 51 *e*P **P** **03 37 35.6 +0.2**
NJ2 pmax pmax
comp=Z,16nm,1.0s
RETA Reutte 91.59 333 *i* P **P** **03 37 35.5 0.0**
comp=Z,19nm,1.0s,SNR=5.2
GEA0 GERESS Array S 91.69 335 *e*P **P** **03 37 35.7 -0.2**
GERES GERESS Array B 91.69 335 P **P** **03 37 35.0 -1.0**
comp=Z,1.9nm,1.0s,baz=145,slow=4.9,SNR=6.9
DAVA Damuels 91.75 332 *i* P **P** **03 37 36.8 +0.3**
comp=Z,13nm,0.9s
ES19 SONSECA Array 92.06 320 *e*P **P** **03 37 38.1 +0.2**
OBN Obninsk 92.07 350 *ce*P **P** **03 37 37.8 +0.4**
OBN *e* 03 41 17.8
OBN pmax pmax
comp=Z,9.0nm,1.1s
ESDC Sonseca Array 92.07 319 P **P** **03 37 37.0 -0.9**
comp=Z,3.8nm,1.0s,baz=144,slow=3.4,SNR=11
ARU Arti 92.37 3 *c i*P **P** **03 37 38.3 -0.5**
ARU 03 41 16.4
ARU S **SKSac** **03 48 11.3 +0.1**
ARU pmax pmax

comp=Z,20nm,2.5s
BFO Black Forest 93.20 332 *ce*P P 03 37 45.7 +2.8
BRG Berggiesshubel 93.35 336 *e*P P 03 37 44.2 +0.7
comp=Z,16nm,1.6s
BRG Berggiesshubel 93.35 336 *e*P P 03 37 44.2 +0.7
BRG pmax pmax
comp=Z,16nm,1.6s
HHC Hu-ho-hao-te 93.46 40 *e*P P 03 37 46.8 +2.4
HHC pmax pmax
comp=Z,23nm,0.7s
ZALV Zalesovo Beam 93.82 18 P P 03 37 42.9 -2.6
comp=Z,1.1nm,0.6s,baz=191,slow=4.3,SNR=5.7
ZAA1 Zalesovo Array 93.82 18 *e*P P 03 37 42.9 -2.6
CLL Collm 94.03 336 *e*P P 03 37 48.0 +1.4
comp=Z,21nm,1.5s
CLL Collm 94.03 336 *e*P P 03 37 48.0 +1.4
CLL pmax pmax
comp=Z,21nm,1.5s
APA Apatity 104.53 352 *i*P Pdif 03 38 33.5 +0.1
APA pmax pmax
comp=Z,11nm,1.0s
BILL Bilibino 131.57 28 *i* PKIKP PKPdf 03 43 41.4 +0.8
BILL pmax pmax
comp=Z,4.0nm,1.4s
RDOG Red Dog Mine 142.20 21 *e*PKPpre PKPpre 03 43 56.3
155A Kite 143.56 278 P PKPbc 03 44 00.8 -0.3
baz=108,SNR=5.2
254A Abbeville 144.01 276 P PKPbc 03 44 02.6 +0.1
baz=109
Z54A Sparta 144.05 278 P PKPbc 03 44 02.8 +0.3
baz=107
154A Montrose 144.07 277 P PKPbc 03 44 03.2 +0.5
baz=108
TIGA Tifton 144.08 275 *e*PKPdf PKPdf 03 44 03.9 -0.8
TIGA Tifton 144.08 275 P PKPbc 03 44 03.7 +0.9
baz=110,SNR=6.0
Y54A Tignall 144.10 280 P PKPbc 03 44 03.0 +0.2
baz=106
E50A Wahnapitae 144.44 301 P PKPab 03 44 03.2 +0.1
baz=90
353A Camilla 144.56 275 P PKPab 03 44 03.8 -0.2
baz=110
GOGA Godfrey 144.60 278 *e*PKPdf PKPdf 03 44 05.7 +0.1
GOGA Godfrey 144.60 278 *e*PKIKP PKPdf 03 44 05.7 +0.1
GOGA Godfrey 144.60 278 P PKPab 03 44 03.5 -0.6
baz=107
BG3 Lake Jocassee 144.60 281 *e*PKPdf PKPbc 03 44 04.7 +0.4
Z53A Monticello 144.64 278 P PKPab 03 44 03.3 -1.0
baz=107,SNR=7.0
U53A Fall Branch 144.66 284 P PKPab 03 44 03.9 -0.4
baz=103
153A Fort Valley 144.66 277 P PKPab 03 44 04.2 -0.2
baz=108
V53A Saluda 144.68 282 *e*PKPdf PKPab 03 44 04.0 -0.4
V53A Saluda 144.68 282 P PKPab 03 44 04.2 -0.3
baz=104
253A Americus 144.72 276 *e*PKPdf PKPdf 03 44 05.8 -0.1
253A Americus 144.72 276 P PKPab 03 44 04.6 0.0
baz=109
X53A Estanollee 144.77 280 P PKPab 03 44 04.2 -0.5
baz=105
O52A Adamsville 144.78 290 *e*PKPdf PKPab 03 44 04.6 0.0
O52A Adamsville 144.78 290 P PKPab 03 44 04.5 -0.2
baz=98
Y53A Monroe 144.82 279 P PKPbc 03 44 05.1 +0.1
baz=106
W53A Cullowhee 144.83 281 P PKPbc 03 44 05.3 +0.1
baz=104
Q52A Bidwell 144.93 288 P PKPbc 03 44 05.3 +0.1
baz=100
P52A Corning 144.93 289 P PKPab 03 44 04.7 -0.5
baz=99
TOLK Toolik Lake Re 145.09 14 P PKPbc 03 44 04.8 -0.1
baz=326
R52A Catlettsburg 145.11 287 P PKPbc 03 44 04.9 -0.9
baz=100
T52A Hallie 145.14 285 P PKPbc 03 44 05.9 -0.1
baz=102
D48A Paudash Townsh 145.16 303 P PKPbc 03 44 05.0 -0.7
baz=88
352A Blakely 145.17 275 P PKPdf 03 44 06.7 +0.1
baz=109
252A Lumpkin 145.19 276 P PKPbc 03 44 05.6 -0.7
baz=109,SNR=6.1
M51A Elyria 145.20 292 P PKPbc 03 44 05.5 -0.5
baz=96
Y52A Lilburn 145.20 279 *e*PKPbc PKPbc 03 44 06.0 -0.3
Y52A Lilburn 145.20 279 P PKPbc 03 44 05.2 -1.1
baz=106,SNR=8.2
X52A Dahlonega 145.27 280 P PKPbc 03 44 05.7 -0.8
baz=105,SNR=8.4
U52A Thorn Hill 145.28 283 P PKPbc 03 44 06.1 -0.4
baz=103
N51A Ashland 145.29 292 *e*PKPbc PKPdf 03 44 06.8 +0.3
N51A Ashland 145.29 292 P PKPab 03 44 06.5 0.0
baz=97
Z52A Williamson 145.29 278 P PKPbc 03 44 06.5 -0.1
baz=107,SNR=12
S52A Salyersville 145.32 286 P PKPdf 03 44 06.8 0.0
baz=101
V52A Sevierville 145.34 282 *e*PKPdf PKPab 03 44 07.1 +0.2
V52A Sevierville 145.34 282 P PKPbc 03 44 05.9 -0.7
baz=104
O51A Pataskala 145.37 290 P PKPbc 03 44 06.4 -0.2
baz=98
152A Waverly Hall 145.38 277 P PKPbc 03 44 06.2 -0.7
baz=108
W52A Murphy 145.42 281 *e*PKPdf PKPdf 03 44 07.1 +0.1
W52A Murphy 145.42 281 P PKPbc 03 44 06.4 -0.5
baz=104,SNR=5.4
TZTN Tazewell 145.46 284 *e*PKPdf PKPab 03 44 07.8 +0.5
TZTN Tazewell 145.46 284 P PKPab 03 44 07.3 +0.1
baz=102
P51A Williamsport 145.62 289 *e*PKPdf PKPdf 03 44 07.3 +0.1
P51A Williamsport 145.62 289 P PKPdf 03 44 07.2 +0.1
baz=98
351A Pinckard 145.65 274 P PKPdf 03 44 07.4 0.0
baz=110
K50A Casco 145.65 295 P PKPbc 03 44 07.3 -0.1
baz=94
ACSO Alum Creek Sta 145.66 290 *e*PKPdf PKPdf 03 44 06.9 -0.3
ACSO Alum Creek Sta 145.66 290 P PKPdf 03 44 07.0 -0.3
baz=97
S51A Beattyville 145.72 286 *e*PKPdf PKPab 03 44 09.0 +0.8
S51A Beattyville 145.72 286 P PKPdf 03 44 06.2 -1.1
baz=101
251A Midway 145.76 275 P PKPdf 03 44 06.9 -0.7
baz=108,SNR=11
Q51A Peebles 145.77 288 *e*PKPdf PKPab 03 44 08.3 0.0
Q51A Peebles 145.77 288 P PKPdf 03 44 07.0 -0.4
baz=99
U51A La Follette 145.79 283 P PKPdf 03 44 07.5 -0.1
baz=102
151A Opelika 145.83 276 P PKPdf 03 44 07.7 0.0
baz=108
R51A Hillsboro 145.83 287 P PKPdf 03 44 07.5 -0.1
baz=100
M50A Fremont 145.85 292 *e*PKPdf PKPab 03 44 08.8 +0.3
M50A Fremont 145.85 292 P PKPbc 03 44 08.2 +0.1
baz=96
N50A Nevada 145.86 291 P PKPbc 03 44 08.2 +0.1
baz=96
T51A Gray 145.86 284 P PKPdf 03 44 07.5 -0.2
baz=102
I49A Point Hope 145.86 297 P PKPab 03 44 08.7 +0.2
baz=92
V51A Loudon 145.93 282 *e*PKPdf PKPbc 03 44 08.2 -0.2
V51A Loudon 145.93 282 P PKPbc 03 44 08.4 -0.1
baz=103
Z51A Franklin 145.94 278 P PKPbc 03 44 08.8 +0.2
baz=107
CMIG Matias Romero 146.00 244 PKPbc PKPdf 03 44 08.8 +0.4
comp=Z,7.0nm,0.9s,baz=1.0,slow=4.2,SNR=5.0
Y51A Rockmart 146.01 279 P PKPdf 03 44 08.3 +0.3
baz=106,SNR=9.7
X51A Calhoun 146.03 280 *e*PKPdf PKPab 03 44 09.9 +0.5
X51A Calhoun 146.03 280 P PKPbc 03 44 08.9 +0.1
baz=105,SNR=6.6
D47A Chapleau 146.05 302 P PKPbc 03 44 08.6 +0.1
baz=87
J49A Marlette 146.07 296 P PKPab 03 44 09.2 0.0
baz=93
W51A Cleveland 146.10 281 P PKPab 03 44 09.6 -0.1
baz=104,SNR=8.0
O50A Cable 146.14 290 P PKPdf 03 44 08.4 +0.4
baz=97
P50A Jamestown 146.20 289 P PKPbc 03 44 09.2 0.0
baz=98
Q50A Georgetown 146.23 288 P PKPbc 03 44 09.0 -0.3
baz=99
IM3 Indian Mountai 146.23 20 *e*PKPdf PKPdf 03 44 06.8 -0.5
K49A Clarkson 146.26 295 P PKPbc 03 44 09.4 +0.1
baz=93
S50A Richmond 146.35 285 P PKPbc 03 44 09.3 -0.4
baz=100
R50A Paris 146.41 287 P PKPbc 03 44 09.8 -0.1
baz=100
150A Eclectic 146.41 276 P PKPbc 03 44 10.0 0.0
baz=108,SNR=6.4
250A Grady 146.41 275 *e*PKPdf PKPab 03 44 11.2 +0.2
L49A Milan 146.45 293 P PKPbc 03 44 09.5 -0.3
baz=94
U50A Jamestown 146.45 283 P PKPdf 03 44 09.2 +0.5
baz=102
V50A Pikeville 146.49 282 P PKPdf 03 44 09.2 +0.5
baz=103
Z50A Ashland 146.52 277 *e*PKPdf PKPbc 03 44 10.7 +0.3
Z50A Ashland 146.52 277 P PKPdf 03 44 09.7 +0.8
baz=107,SNR=6.9
W50A Signal Mountai 146.55 281 *e*PKPdf PKPab 03 44 11.3 -0.2
W50A Signal Mountai 146.55 281 P PKPdf 03 44 09.7 +0.7
baz=104
Y50A Piedmont 146.55 278 P PKPdf 03 44 09.4 +0.5
baz=106
M49A Liberty Center 146.55 292 P PKPbc 03 44 10.0 -0.1
baz=95
T50A Nancy 146.57 284 P PKPbc 03 44 10.1 -0.3
baz=101
X50B Fort Payne 146.63 279 P PKPdf 03 44 09.9 +0.8
baz=105,SNR=9.0
N49A Columbus Grove 146.65 291 *e*PKPdf PKPdf 03 44 09.4 +0.6
N49A Columbus Grove 146.65 291 P PKPdf 03 44 09.5 +0.6
baz=96
O49A Covington 146.69 290 *e*PKPdf PKPdf 03 44 09.3 +0.4
O49A Covington 146.69 290 P PKPdf 03 44 09.3 +0.4
baz=97
D46A Sault St. Mari 146.69 302 P PKPbc 03 44 10.0 -0.5
baz=87
K48A Perry 146.75 295 P PKPbc 03 44 09.9 -0.8
baz=93
P49A Miami Univ. Ec 146.90 289 P PKPdf 03 44 09.8 +0.5
baz=98
L48A N Adams 146.93 293 P PKPdf 03 44 10.0 +0.7
baz=94
349A Repton 146.96 273 P PKPdf 03 44 10.0 +0.3
baz=109
Z49A Columbiana 146.99 277 P PKPdf 03 44 10.3 +0.6
baz=107
149A Jones 147.03 276 P PKPdf 03 44 10.2 +0.5
baz=107
SWET Sewanee 147.04 281 *e*PKPdf PKPbc 03 44 11.2 -0.6
R49A Shelbyville 147.06 286 P PKPdf 03 44 09.9 +0.3
baz=99
S49A Springfield 147.07 285 P PKPdf 03 44 10.0 +0.3
baz=100
Y49A Blount Mountai 147.08 278 *e*PKPbc PKPab 03 44 13.3 -0.3
Y49A Blount Mountai 147.08 278 P PKPdf 03 44 10.9 +1.0
baz=106
249A Camden 147.10 274 P PKPdf 03 44 11.0 +1.1
baz=108
T49A Edmonton 147.13 284 *e*PKPdf PKPdf 03 44 10.4 +0.6
T49A Edmonton 147.13 284 P PKPdf 03 44 10.6 +0.8
baz=101,SNR=7.6
V49A McMinnville 147.15 282 P PKPdf 03 44 10.9 +1.0
baz=103
GLMI Grayling 147.16 298 P PKPbc 03 44 11.8 -0.1
baz=89
X49A Woodville 147.18 279 P PKPdf 03 44 10.9 +1.0
baz=105
U49A Red Boiling Sp 147.21 283 P PKPbc 03 44 11.2 -1.1
baz=102,SNR=8.1
F46A Macinaw City C 147.24 300 P PKPbc 03 44 11.2 -0.8
baz=88
W49A Belvidere 147.28 280 P PKPbc 03 44 11.4 -1.1
baz=104,SNR=9.4
N48A Decatur 147.28 291 P PKPbc 03 44 11.8 -0.5
baz=95
O48A Farmland 147.32 290 P PKPdf 03 44 10.6 +0.6
baz=96
LRAL Lakeview Retre 147.32 276 *e*PKPbc PKPbc 03 44 13.6 +1.0
LRAL Lakeview Retre 147.32 276 P PKPbc 03 44 11.8 -0.8
baz=107
K47A Vernontville 147.40 294 P PKPbc 03 44 12.1 -0.4
baz=92
P48A Milroy 147.43 288 P PKPbc 03 44 11.6 -1.2
baz=97
L47A Sherwood 147.51 293 P PKPbc 03 44 12.1 -0.8
baz=94
E45A Wooded Hills, 147.51 301 P PKPbc 03 44 12.1 -0.6
baz=87
348A Jackson 147.55 273 P PKPbc 03 44 12.7 -0.6
baz=109
Q48A North Vernon 147.59 287 P PKPbc 03 44 12.3 -0.9
baz=98
INK Inuvik 147.61 5 PKPbc PKPbc 03 44 10.9 -1.3
comp=Z,30nm,1.1s,baz=9.2,slow=6.2,SNR=22
INK Inuvik 147.61 5 *e*PKP2 PKPbc 03 44 11.0 -1.3
R48A Northridge Ran 147.62 286 P PKPbc 03 44 12.4 -0.9
baz=99,SNR=5.7
S48A Wiedeman Farm, 147.65 285 P PKPdf 03 44 12.0 +1.4
baz=100
148A Greensboro 147.67 275 P PKPdf 03 44 12.0 +1.2
baz=107
Y48A Jasper 147.70 278 P PKPbc 03 44 12.5 -1.1
baz=105,SNR=8.2
X48A Hartselle 147.74 279 *e*PKPbc PKPbc 03 44 13.8 0.0
X48A Hartselle 147.74 279 P PKPbc 03 44 13.3 -0.4
baz=105,SNR=9.7
MLY Manley 147.77 19 *e*PKPdf PKPbc 03 44 12.3 -0.6
M47A Cromwell 147.78 292 P PKPdf 03 44 12.1 +1.3
baz=94
F45A CMU Biological 147.78 300 P PKPbc 03 44 12.6 -0.9
baz=87
N47A Urbana 147.79 291 P PKPbc 03 44 12.4 -1.2
baz=95
U48A Cassie Pea, Po 147.81 283 P PKPbc 03 44 12.6 -1.2
baz=102,SNR=6.0
T48A Bowling Green 147.81 284 P PKPbc 03 44 12.6 -1.2
baz=101,SNR=6.0
W48A Pulaski 147.82 280 P PKPbc 03 44 13.0 -0.9
baz=104,SNR=6.0
Z48A Northport 147.87 277 P PKPdf 03 44 12.2 +1.1
baz=106
V48A Smith Brothers 147.87 281 *e*PKPbc PKPab 03 44 16.4 -0.3
V48A Smith Brothers 147.87 281 P PKPbc 03 44 12.9 -1.1
baz=103,SNR=7.1
WCI Wyandotte Cave 147.92 286 *e*PKPdf PKPdf 03 44 12.2 +1.2
WCI Wyandotte Cave 147.92 286 *e*PKP2 PKPdf 03 44 12.2 +1.2
WCI Wyandotte Cave 147.92 286 P PKPbc 03 44 13.0 -1.1
baz=99
K46A Dorr 147.97 294 P PKPdf 03 44 12.6 +1.6
baz=92
P47A Martinsville 148.08 288 P PKPdf 03 44 12.9 +1.6
baz=97
O47A Sheridan 148.09 290 P PKPbc 03 44 13.6 -0.9
baz=96
R47A Wooly Knot Far 148.12 286 P PKPbc 03 44 13.3 -1.3
baz=99,SNR=6.1
Q47A Bedord North L 148.13 287 P PKPbc 03 44 13.3 -1.3
baz=98
Z47A Carrollton 148.23 276 P PKPbc 03 44 14.1 -1.0
baz=106
147A Livingston 148.24 275 P PKPbc 03 44 13.6 -1.4
baz=107
Y47A UCPARC, Winfie 148.25 277 P PKPbc 03 44 13.5 -1.5
baz=105
S47A Hartford 148.28 285 P PKPbc 03 44 13.5 -1.5
baz=100,SNR=5.1
247A Quitman 148.33 274 P PKPbc 03 44 13.7 -1.6
baz=103
M46A Old House Fiel 148.33 292 *e*PKPdf PKPdf 03 44 13.2 +1.6
M46A Old House Fiel 148.33 292 P PKPdf 03 44 13.4 +1.8
baz=94
T47A Sharon Grove 148.35 283 *e*PKPdf PKPbc 03 44 13.9 -1.3
T47A Sharon Grove 148.35 283 P PKPbc 03 44 13.8 -1.5
baz=100,SNR=10
W47A Westpoint 148.37 280 P PKPdf 03 44 13.3 +1.4
baz=103,SNR=7.1
U47A Clarksville 148.39 282 P PKPdf 03 44 12.9 +1.0
baz=101,SNR=7.7
F44A Big Bay de Noc 148.40 301 P PKPbc 03 44 14.1 -1.0
baz=86
X47A Russelville 148.41 279 P PKPdf 03 44 13.7 +1.7
baz=104
BPAW Bear Paw Mtn. 148.43 20 *e*PKPdf PKPbc 03 44 13.6 -1.1
V47A Nunnelly 148.44 281 P PKPdf 03 44 13.3 +1.3
baz=102
MDM Murphy Dome 148.46 17 *e*PKPdf PKPbc 03 44 13.3 -1.5
POKR Poker Flat Res 148.52 17 P PKPbc 03 44 13.7 -1.1
baz=326
N46A Monticello 148.58 291 P PKPbc 03 44 14.7 -1.0
baz=94
TCOL CIGO, UAF Yank 148.62 17 P PKPbc 03 44 14.2 -0.8
baz=326
COLA College 148.62 17 *e*PKPbc PKPbc 03 44 15.7 +0.6
CAST Castle Rocks 148.63 22 *e*PKPdf PKPdf 03 44 11.6 +0.2
PLAL Pickwick Lake 148.69 279 *e*PKPdf PKPbc 03 44 14.9 -1.3
WVT Waverly 148.75 282 *e*PKPdf PKPbc 03 44 14.9 -1.4
WVT Waverly 148.75 282 *e*PKP2 PKPbc 03 44 14.9 -1.4
WVT Waverly 148.75 282 P PKPbc 03 44 14.8 -1.4
baz=102
E43A Lone Tree Farm 148.76 301 *e*PKPbc PKPbc 03 44 17.4 +1.4
E43A Lone Tree Farm 148.76 301 P PKPbc 03 44 15.0 -1.0
baz=85
BWN Browne 148.79 19 *e*PKPbc PKPbc 03 44 16.7 +1.2
SFIN Lafayette 148.81 290 *e*PKPdf PKPbc 03 44 15.2 -1.1
SFIN Lafayette 148.81 290 P PKPbc 03 44 14.7 -1.6
baz=95
CCB Clear Creek Bu 148.82 17 *e*PKPdf PKPbc 03 44 13.8 -1.7
146A Union 148.86 275 P PKPbc 03 44 15.4 -1.3
baz=107
WRH Wood River Hil 148.90 18 *e*PKPdf PKPdf 03 44 10.2 -1.6
F43A Flat Rock, Esc 148.93 300 P PKPbc 03 44 16.3 -0.1
baz=86
Z46A Louisville 148.93 276 P PKPbc 03 44 15.9 -1.0
baz=106
IL1 Eielson Array 148.94 17 *e*PKPdf PKPdf 03 44 13.6 +1.7
ILAR Eielson Array 148.94 17 PKPbc PKPdf 03 44 13.7 +1.8
comp=Z,12nm,0.8s,baz=317,slow=3.2,SNR=61
ILB Eielson Array 148.94 17 *e*PKPdf PKPbc 03 44 14.0 -1.9
S46A Don Dixon Farm 148.95 285 P PKPbc 03 44 16.0 -0.8
baz=99
USIN University of 148.95 285 *e*PKPbc PKPbc 03 44 17.8 +1.1
W46A Michie 148.97 280 P PKPbc 03 44 16.0 -0.9
baz=103
T46A Princeton 148.98 283 P PKPbc 03 44 16.0 -0.9
baz=100,SNR=12
PPLA Purkeypile 148.99 22 *e*PKPbc PKPbc 03 44 15.8 -0.4
M45A Boilermakers S 149.00 292 P PKPbc 03 44 16.6 -0.2
baz=93
Y46A Houston 149.05 277 P PKPbc 03 44 16.3 -0.8
baz=105
U46A Springville 149.07 282 P PKPbc 03 44 16.1 -1.0
baz=101
TRF Thorofare Moun 149.13 21 *e*pPKPdf PKPbc 03 44 15.4 -1.2
N45A Kentland 149.16 291 P PKPdf 03 44 13.6 +0.6
baz=94
EPYK Eagle Plains 149.22 8 P PKPbc 03 44 15.6 -1.0
baz=344
P45A Graceland, Par 149.22 288 P PKPbc 03 44 15.6 -1.8
baz=96
HDA Harding Lake 149.23 17 *e*PKPdf PKPbc 03 44 14.9 -1.7
HDA Harding Lake 149.23 17 P PKPdf 03 44 14.5 +2.1
baz=327
O45A Potomac 149.28 290 P PKPbc 03 44 16.7 -0.8
baz=95
MCK McKinley 149.28 19 *e*PKPbc PKPbc 03 44 16.6 -0.2
G43A Wallace 149.32 299 *e*PKPbc PKPbc 03 44 17.8 +0.3
G43A Wallace 149.32 299 P PKPbc 03 44 17.1 -0.3
baz=86,SNR=5.8
245A Little AP, Sta 149.36 273 P PKPbc 03 44 16.9 -1.1
baz=108
E42A Champion 149.39 302 P PKPbc 03 44 17.2 -0.4
baz=84
OLIL Olney 149.40 287 *e*PKPdf PKPdf 03 44 14.7 +1.3
H43A Windswept, Lux 149.42 298 P PKPbc 03 44 18.0 +0.2
baz=88
Q45A Warren Harvey, 149.46 287 P PKPbc 03 44 17.5 -0.6
baz=97
R45A Skylar, Fairfi 149.48 286 P PKPbc 03 44 17.5 -0.6
baz=98
L44A Lake County Fo 149.53 293 P PKPbc 03 44 17.8 -0.3
baz=92
U45A Rockin P Farm, 149.53 282 P PKPbc 03 44 17.6 -0.7
baz=101
145A Houston Renfro 149.56 274 P PKPbc 03 44 18.0 -0.4
baz=107
RND Reindeer 149.57 20 *e*PKPbc PKPbc 03 44 17.4 -0.2
V45A Humboldt 149.57 280 P PKPbc 03 44 17.1 -1.2
baz=102
Z45A Winona 149.58 276 P PKPbc 03 44 18.3 -0.1
baz=106
Y45A Yeager Farm, C 149.59 277 P PKPbc 03 44 18.7 +0.2
baz=105
M44A Midewin, Midew 149.60 292 *e*PKPbc PKPbc 03 44 18.6 +0.3
M44A Midewin, Midew 149.60 292 P PKPbc 03 44 17.9 -0.4
baz=93,SNR=5.8
F42A Maple Grove Fa 149.60 300 P PKPbc 03 44 17.8 -0.3
baz=85
X45A UM Field Stati 149.62 278 P PKPbc 03 44 18.2 -0.3
baz=104
W45A Hickory Valley 149.62 279 P PKPbc 03 44 18.2 -0.3
baz=103
S45A Carrier Mills 149.62 284 P PKPbc 03 44 17.5 -1.0
baz=99
N44A Piper City 149.63 291 P PKPbc 03 44 17.2 -1.1
baz=94
OXF Oxford 149.65 278 *e*PKPdf PKPbc 03 44 16.4 -2.2
OXF Oxford 149.65 278 P PKPbc 03 44 17.3 -1.3
baz=104
I43A Langenfeld Bro 149.71 297 P PKPbc 03 44 17.9 -0.5
baz=88,SNR=7.0
D41A Chassel 149.77 303 *e*PKPbc PKPbc 03 44 20.2 +1.7
D41A Chassel 149.77 303 P PKPbc 03 44 17.8 -0.7
baz=83
O44A Mansfield 149.83 289 P PKPbc 03 44 18.4 -0.5
baz=95
G42A Mountain 149.85 299 *e*PKPbc PKPbc 03 44 19.2 +0.5
G42A Mountain 149.85 299 P PKPbc 03 44 18.3 -0.4
baz=86,SNR=6.5
344A Westbrook Farm 149.85 272 *e*PKPbc PKPbc 03 44 19.2 0.0
344A Westbrook Farm 149.85 272 P PKPbc 03 44 18.0 -1.1
baz=109
K43A Burlington 149.85 294 *e*PKPbc PKPbc 03 44 19.4 +0.5
K43A Burlington 149.85 294 P PKPbc 03 44 19.3 +0.5
baz=90
SKT Skwentna 149.88 23 *e*PKPdf PKPdf 03 44 12.1 -1.4
P44A Sand Creek, Wi 149.89 288 P PKPbc 03 44 18.6 -0.5
baz=96,SNR=11
J43A Natural Harves 149.91 296 P PKPbc 03 44 18.9 -0.1
baz=89
VBMS Vicksburg 149.92 273 P PKPbc 03 44 19.3 -0.1
baz=108
H42A Shiocton 149.96 298 *e*PKPbc PKPbc 03 44 19.9 +0.9
H42A Shiocton 149.96 298 P PKPbc 03 44 18.8 -0.2
baz=87
U44B Burton Farm, H 150.00 282 P PKPbc 03 44 18.8 -0.6
baz=101
244A Avery, Jackson 150.00 273 P PKPbc 03 44 19.3 -0.2
baz=108
C40A Isle Royale Na 150.04 305 P PKPbc 03 44 19.3 +0.2
baz=81
EGAK Eagle 150.09 12 *e*PKPbc PKPbc 03 44 17.7 -1.1
R44A Waltonville 150.10 285 P PKPbc 03 44 19.5 -0.1
baz=98
E41A Kenton 150.11 302 P PKPbc 03 44 19.3 -0.1
baz=83,SNR=7.3
SIUC Southern Illin 150.13 284 *e*PKPbc PKPbc 03 44 21.0 +1.4
Q44A Meyer Farm, Va 150.13 287 P PKPbc 03 44 19.3 -0.3
baz=96
L43A Garden Prairie 150.15 293 P PKPbc 03 44 19.3 -0.3
baz=91,SNR=18
S44A Carbondale 150.15 284 P PKPbc 03 44 19.6 -0.1
baz=98
Z44A Pea Ridge, Bel 150.15 275 P PKPbc 03 44 19.5 -0.3
baz=106
Y44A Strider, Charl 150.16 277 P PKPbc 03 44 19.4 -0.4
baz=105
DHY Denali Highway 150.23 19 *e*PKPbc PKPbc 03 44 18.9 -0.4
I42A Draeger Farm, 150.26 297 *e*PKPbc PKPbc 03 44 20.1 +0.3
I42A Draeger Farm, 150.26 297 P PKPbc 03 44 20.0 +0.2
baz=88
SCRK Sand Creek 150.27 15 *e*PKPbc PKPbc 03 44 18.9 -0.4
COWI Conover 150.27 301 *e*PKPbc PKPbc 03 44 18.9 -0.9
F41A Three Lakes 150.28 300 *e*PKPbc PKPbc 03 44 20.0 +0.2
F41A Three Lakes 150.28 300 P PKPbc 03 44 19.7 -0.1
baz=84,SNR=6.9
RIDG Independ'e Rid 150.28 16 *e*PKPbc PKPbc 03 44 20.8 +1.5
M43A Waltham Townsh 150.29 292 P PKPbc 03 44 19.9 0.0
baz=92,SNR=5.9

U44A	Portageville baz=100	150.29	282	P	PKPbc	03 44 20.3	+0.2
T44A	Benton baz=100	150.32	283	P	PKPbc	03 44 20.0	-0.1
PARMO	Parma	150.38	282	*e*PKPbc	PKPbc	03 44 21.3	+1.0
G41A	Antigo baz=85	150.38	299	P	PKPbc	03 44 20.3	+0.2
N43A	Stutzman Famil baz=93,SNR=7.0	150.43	291	P	PKPbc	03 44 20.1	-0.1
J42A	Columbus baz=89,SNR=8.8	150.43	296	P	PKPbc	03 44 20.2	0.0
GNAR	Gosnell	150.46	281	*e*PKPbc	PKPbc	03 44 21.7	+1.2
O43A	Sugar Creek Fa baz=94	150.49	289	P	PKPbc	03 44 20.3	-0.1
HDIL	Hopedale	150.49	290	*e*PKPbc	PKPbc	03 44 21.0	+0.5
HDIL	Hopedale baz=94	150.49	290	P	PKPbc	03 44 20.3	-0.2
SUA	Susitna One	150.51	23	*e*PKPbc	PKPbc	03 44 19.0	-1.0
DOT	Dot Lake	150.54	16	*e*PKPbc	PKPbc	03 44 19.3	-0.5
243A	Waterproof baz=109	150.59	272	P	PKPbc	03 44 20.9	0.0
P43A	Skaggs, Pawnee baz=95	150.60	288	P	PKPbc	03 44 20.3	-0.4
K42A	Prairie Point, baz=90,SNR=7.7	150.60	294	P	PKPbc	03 44 20.5	-0.2
Q43A	New Douglas baz=96	150.66	287	P	PKPbc	03 44 20.4	-0.5
Y43A	Makayla and Ka baz=105	150.72	276	P	PKPbc	03 44 20.4	-0.7
E40A	Wakefield baz=82	150.75	302	P	PKPbc	03 44 20.9	0.0
H41A	Junction City	150.76	298	*e*PKPbc	PKPbc	03 44 21.6	+0.6
H41A	Junction City baz=86	150.76	298	P	PKPbc	03 44 20.9	-0.1
R43A	Red Bud baz=97	150.76	285	P	PKPbc	03 44 20.9	-0.3
143A	Socs Landing, baz=107	150.78	274	P	PKPbc	03 44 20.5	-0.9
S43A	Fulton Ridge, baz=98	150.78	284	P	PKPbc	03 44 21.1	-0.2
PAX	Paxson	150.80	18	*e*PKPbc	PKPbc	03 44 21.2	+0.6
X43A	Marvell baz=104	150.83	277	P	PKPbc	03 44 21.0	-0.4
L42A	Oliver, Polo	150.83	293	*e*PKPbc	PKPbc	03 44 21.1	-0.1
L42A	Oliver, Polo baz=91,SNR=13	150.83	293	P	PKPbc	03 44 20.8	-0.4
GHO	Glory Hole Cre	150.84	22	*e*PKPbc	PKPbc	03 44 22.6	+1.9
U43A	Rector baz=100	150.84	281	P	PKPbc	03 44 20.8	-0.6
T43A	Greenville baz=99	150.87	283	P	PKPbc	03 44 20.9	-0.6
M42A	Sheffield baz=92	150.89	292	P	PKPbc	03 44 21.3	-0.1
PMR	Palmer	150.92	22	*e*PKPdf	PKPbc	03 44 18.4	-2.3
PMR	Palmer	150.92	22	*e*PKIKP	PKPbc	03 44 18.4	-2.3
PBMO	Poplar Bluff	150.93	282	*e*PKPbc	PKPbc	03 44 20.8	-0.8
I41A	Arkdale	150.94	297	*e*PKPbc	PKPbc	03 44 21.9	+0.5
I41A	Arkdale baz=87,SNR=6.0	150.94	297	P	PKPbc	03 44 21.2	-0.2
F40A	Park Falls baz=83	150.97	301	P	PKPbc	03 44 21.7	+0.3
SML	Sawmill	150.99	21	*e*PKPbc	PKPbc	03 44 22.4	+1.4
DAWY	Dawson	151.05	12	*e*PKPbc	PKPbc	03 44 20.5	-0.6
O42A	Bath baz=94	151.07	289	P	PKPbc	03 44 22.0	+0.2
N42A	Yates City baz=93	151.07	290	P	PKPbc	03 44 21.9	+0.1
J41A	Loganville baz=88	151.08	296	P	PKPbc	03 44 21.9	+0.1
G40A	Rib Lake	151.09	300	*e*PKPbc	PKPbc	03 44 22.2	+0.5
G40A	Rib Lake baz=84	151.09	300	P	PKPbc	03 44 22.1	+0.3
FVM	French Village	151.11	285	*e*PKPbc	PKPbc	03 44 21.9	-0.1
342A	Flagon Creek P baz=109	151.12	270	P	PKPbc	03 44 21.9	-0.3
RC01	Rabbit Creek A	151.12	23	*e*PKPbc	PKPbc	03 44 20.6	-0.7
142A	Monroe baz=107	151.17	273	P	PKPbc	03 44 22.1	-0.1
242A	Grayson baz=108	151.19	272	P	PKPbc	03 44 21.7	-0.7
E39A	Mellen baz=82,SNR=5.8	151.21	302	P	PKPbc	03 44 22.0	0.0
P42A	Winchester baz=95	151.22	288	P	PKPbc	03 44 21.4	-0.8
SCM	Sheep Creek Mo	151.25	20	*e*PKPbc	PKPbc	03 44 21.7	0.0
JFWS	Jewell Farm	151.26	295	*e*PKPbc	PKPbc	03 44 21.4	-0.8
JFWS	Jewell Farm	151.26	295	*e*PKIKP	PKPbc	03 44 21.4	-0.8
JFWS	Jewell Farm baz=89,SNR=9.4	151.26	295	P	PKPbc	03 44 22.2	0.0
H40A	Chili baz=85,SNR=5.6	151.28	298	P	PKPbc	03 44 22.3	+0.1
K41A	Shullsburg baz=89,SNR=5.7	151.31	294	P	PKPbc	03 44 22.3	0.0
Q42A	Golden Eagle baz=96	151.31	286	P	PKPbc	03 44 22.9	+0.5
541A	Lake Charles baz=111	151.36	267	P	PKPbc	03 44 22.8	0.0
S42A	Caledonia baz=98	151.37	284	P	PKPbc	03 44 22.7	0.0
Z42A	Norrel Spur, H baz=106	151.37	274	P	PKPbc	03 44 22.6	-0.1
Y42A	Garnett, Star baz=105	151.39	276	P	PKPbc	03 44 22.8	+0.1
X42A	Stuttgart baz=103	151.44	277	P	PKPbc	03 44 22.3	-0.6
R42A	Luebbering baz=97	151.44	285	P	PKPbc	03 44 22.2	-0.5
L41A	Preston baz=90,SNR=6.0	151.45	293	P	PKPbc	03 44 22.4	-0.3
M41A	Milan baz=91	151.47	292	P	PKPbc	03 44 22.8	+0.1
I40A	Norwalk baz=86	151.49	297	P	PKPbc	03 44 22.2	-0.5
T42A	Van Buren	151.50	282	*e*PKPbc	PKPbc	03 44 22.0	-0.9
T42A	Van Buren baz=99	151.50	282	P	PKPbc	03 44 22.7	-0.2
U42A	Revenden baz=100	151.50	281	P	PKPbc	03 44 22.7	-0.3
W42A	Bald Knob baz=102	151.51	279	P	PKPbc	03 44 22.5	-0.5
V42A	Cord baz=101	151.52	280	P	PKPbc	03 44 22.0	-1.0
F39A	Loretta baz=82	151.52	301	P	PKPbc	03 44 21.9	-0.8
EYMN	Ely	151.59	305	*e*PKPbc	PKPbc	03 44 21.8	-1.0
EYMN	Ely baz=78	151.59	305	P	PKPbc	03 44 22.5	-0.3
J40A	Soldiers Grove baz=87	151.61	296	P	PKPbc	03 44 22.5	-0.5
O41A	Passleys Farm, baz=93	151.68	289	P	PKPbc	03 44 23.0	-0.3
N41A	Harden Midland baz=92	151.69	290	P	PKPbc	03 44 22.8	-0.4
CCM	Cathedral Cave	151.76	285	*e*PKPbc	PKPbc	03 44 22.3	-1.2
CCM	Cathedral Cave	151.76	285	*e*PKIKP	PKPbc	03 44 22.3	-1.2
CCM	Cathedral Cave baz=97	151.76	285	P	PKPbc	03 44 23.1	-0.4
G39A	Holcombe baz=84,SNR=7.3	151.77	300	P	PKPbc	03 44 22.8	-0.5
341A	Kurthwood baz=109	151.78	270	P	PKPbc	03 44 22.7	-1.0
P41A	Barry, Barry baz=94	151.78	288	P	PKPbc	03 44 23.3	-0.2
241A	Mo Tay, Goldon baz=108	151.80	271	P	PKPbc	03 44 23.4	-0.3
Q41A	Truxton baz=95	151.85	286	P	PKPbc	03 44 23.0	-0.6
E38A	The Farm, Brul	151.86	303	*e*PKPbc	PKPbc	03 44 23.9	+0.4
E38A	The Farm, Brul baz=81	151.86	303	P	PKPbc	03 44 23.5	+0.1
R41A	Rosebud baz=96	151.90	285	P	PKPbc	03 44 23.5	-0.4
H39A	Augusta baz=84	151.91	299	P	PKPbc	03 44 24.0	+0.4
K40A	Colesburg baz=88	151.92	294	P	PKPbc	03 44 24.0	+0.3
KLU	Klutina	151.92	20	*e*PKPbc	PKPbc	03 44 23.0	-0.2
141A	Papa Simpson, baz=107	151.96	273	P	PKPbc	03 44 24.4	+0.3
L40A	Anamosa baz=90	151.99	293	P	PKPbc	03 44 24.3	+0.4
T41A	Mountain View baz=99	152.03	282	P	PKPbc	03 44 24.3	+0.2
U41A	Viola baz=100	152.04	281	P	PKPbc	03 44 24.2	0.0
Z41A	Richland Creek	152.06	274	*e*PKPbc	PKPbc	03 44 25.5	+1.2
Z41A	Richland Creek baz=106	152.06	274	P	PKPbc	03 44 24.2	-0.1
UALR	University of	152.06	277	*e*PKPbc	PKPbc	03 44 25.8	+1.5
Y41A	Eaglette Beard baz=104	152.07	275	P	PKPbc	03 44 24.0	-0.3
W41B	Gary Mavity, V	152.07	278	*e*PKPbc	PKPbc	03 44 24.2	-0.1
W41B	Gary Mavity, V baz=102	152.07	278	P	PKPbc	03 44 24.2	-0.1
S41A	Jillco Farms, baz=98	152.09	283	P	PKPbc	03 44 24.3	0.0
V41A	Mountainview baz=101	152.12	280	P	PKPbc	03 44 24.3	-0.1
WHAR	Wooly Hollow	152.13	278	*e*PKPbc	PKPbc	03 44 24.3	-0.1
I39A	Houston	152.15	297	*e*PKPbc	PKPbc	03 44 24.7	+0.5
I39A	Houston baz=86	152.15	297	P	PKPbc	03 44 24.0	-0.2
F38A	Pierce - Schro baz=82	152.18	301	P	PKPbc	03 44 23.5	-0.6
M40A	Post Highland baz=91	152.21	292	P	PKPbc	03 44 24.4	0.0
N40A	Mertquake, Sal baz=92	152.25	290	P	PKPbc	03 44 23.6	-0.9
J39A	Decorah baz=87	152.31	296	P	PKPbc	03 44 23.7	-0.9
X40A	Basin Creek Fa baz=103	152.39	277	P	PKPbc	03 44 24.2	-0.9
KDAK	Kodiak Island comp=Z,14nm,1.1s,baz=313,slow=4.9,SNR=4.2	152.42	30	PKPbc	PKPbc	03 44 24.3	+0.1
K39A	Oelwein baz=88	152.47	294	P	PKPbc	03 44 24.7	-0.3
L39A	Vinton baz=89	152.57	293	P	PKPbc	03 44 25.3	+0.1
YKA	Yellowknife Ar comp=Z,5.0nm,1.1s,baz=16,slow=4.5,SNR=6.4	152.61	348	PKPab	PKPab	03 44 35.5	+0.3
YKB5	Yellowknife Ar	152.61	348	*e*PKPbc	PKPbc	03 44 24.4	-0.2
YKB5				*e*PKPab	PKPab	03 44 35.5	+0.3
Y40A	Okolona baz=104	152.64	275	P	PKPbc	03 44 25.7	+0.1
M39A	Webster baz=90	152.70	292	P	PKPbc	03 44 25.5	0.0
F37A	Hinrichs Farm, baz=81	152.73	301	P	PKPbc	03 44 25.7	+0.3
U40A	Yellville baz=100	152.78	280	P	PKPbc	03 44 25.3	-0.6
SPMN	Marine on St. baz=82	152.93	300	P	PKPbc	03 44 25.7	-0.2
N39A	Derby Farms, D baz=91	152.94	290	P	PKPbc	03 44 25.9	-0.2
MIAR	Mount Ida baz=103	153.00	276	P	PKPbc	03 44 26.2	-0.1
NATX	Nacogdoches baz=108	153.13	270	P	PKPbc	03 44 27.3	+0.5
W39A	Magazine	153.31	278	*e*PKPab	PKPab	03 44 41.1	+2.0
W39A	Magazine baz=102	153.31	278	P	PKPbc	03 44 28.4	+1.4
HKT	Hockley comp=Z,38nm,1.7s	153.46	265	*e*PKIKP	PKPbc	03 44 30.5	+3.1
HKT				pmax	pmax		
X37A	Clayton	154.46	276	*e*PKPab	PKPab	03 44 46.4	+2.4
WHTX	Lake Whitney, baz=108	155.46	269	P	PKPab	03 44 49.2	+0.8
ECSD	EROS Data Cent baz=82	155.83	297	P	PKPab	03 44 49.7	+0.1
JCT	Junction City	156.85	264	*e*PKPdf	PKPdf	03 44 26.5	+1.9
JCT				*e*PKPab	PKPab	03 44 55.4	+0.9
JCT	Junction City	156.85	264	*e*PKIKP	PKPdf	03 44 26.5	+1.9
CBKS	Cedar Bluff baz=91	158.47	285	P	PKPab	03 45 01.8	+0.6
DGMT	Dagmar baz=61	159.41	314	P	PKPab	03 45 05.5	+0.6
LTX	Lajitas	159.48	257	*e*PKPdf	PKPdf	03 44 27.1	-0.8
LTX				*e*PKPab	PKPab	03 45 07.0	+1.1
LTX	Lajitas	159.48	257	*e*PKIKP	PKPdf	03 44 27.1	-0.8
TXAR	Lajitas Array comp=Z,1.1nm,1.0s,baz=127,slow=3.3,SNR=6.7	159.48	257	PKP	PKPdf	03 44 27.1	-0.8
TXAR				PKPab	PKPab	03 45 07.0	+1.1
TX31	Lajitas Ar. Si comp=Z,3.6nm,1.0s,baz=123,slow=6.3,SNR=12	159.48	257	*e*PKPab	PKPab	03 45 06.7	+0.8
OGNE	Ogallala baz=84	160.16	291	P	PKPab	03 45 08.5	0.0
MSTX	Muleshoe	160.29	271	*e*PKPab	PKPab	03 45 10.5	+1.1
MSTX	Muleshoe baz=103	160.29	271	P	PKPab	03 45 10.9	+1.5
MNTX	Cornudas Mount	161.75	262	*e*PKPdf	PKPdf	03 44 31.1	+0.9
MNTX				*e*PKPab	PKPab	03 45 16.0	+0.3
MNTX	Cornudas Mount baz=110	161.75	262	P	PKPab	03 45 15.9	+0.3
SDCO	Great Sand Dun baz=91	162.98	282	P	PKPab	03 45 22.4	+1.2
ISCO	Idaho Springs baz=84	162.99	289	P	PKPab	03 45 22.9	+1.6
N23A	Red Feather La baz=80	163.10	292	P	PKPab	03 45 22.5	+0.9
K22A	Casper baz=74	163.14	299	P	PKPab	03 45 22.1	+0.5
ANMO	Albuquerque baz=100	163.47	272	P	PKPab	03 45 24.6	+1.2
RLMT	Red Lodge baz=61	164.06	309	P	PKPab	03 45 26.1	+0.4
YHH	Holmes Hill	165.21	310	*e*PKPdf	PKPdf	03 44 35.2	+1.8
PD31	Pinedale Array	165.23	302	*e*PKPdf	PKPdf	03 44 33.4	0.0
PD31				*e*PP	PP	03 49 18.1	+0.1
PDAR	Pinedale Array comp=Z,3.0nm,1.1s,baz=140,slow=1.2,SNR=11	165.23	302	PKP	PKPdf	03 44 31.9	-1.4
PDAR				PP	PP	03 49 18.1	+0.1
PDAR	Pinedale Array comp=Z,1.3nm,1.0s,baz=71,slow=6.8,SNR=6.2	165.23	302	*e*PKPdf	PKPdf	03 44 32.8	-0.5
BW06	Boulder Array	165.23	302	*e*PKPdf	PKPdf	03 44 33.4	0.0
MVCO	Mesa Verde baz=91	165.35	279	P	PKPab	03 45 32.0	+0.3
YFT	Old Faithful	165.37	309	*e*PKPab	PKPab	03 45 34.5	+3.0
PV09	Paradox Valley	165.83	285	*e*PKPab	PKPab	03 45 36.3	+2.5
FXWY	Fox Creek	165.87	307	*e*PKPdf	PKPdf	03 44 33.2	-0.7
NEW	Newport comp=Z,1.2nm,0.5s,baz=12,slow=16,SNR=3.0	166.02	333	PKP	PKPdf	03 44 32.4	-1.1
NEW				PKPab	PKPab	03 45 33.9	+0.1
NEW	Newport comp=Z,0.7nm,0.3s,baz=359,slow=7.0,SNR=3.7	166.02	333	PKP	PKPdf	03 44 32.4	-1.1
NEW				*e*PKPab	PKPab	03 45 35.3	+1.5
NEW	Newport baz=33	166.02	333	P	PKPab	03 45 34.3	+0.5
TUC	Tucson	166.27	258	*e*PKPab	PKPab	03 45 37.6	+2.0
TUC	Tucson	166.27	258	*e*PKP2	PKPab	03 45 37.6	+2.0
TUC	Tucson baz=111	166.27	258	P	PKPab	03 45 35.8	+0.2
HWUT	Hardware Ranch	167.03	299	*e*PKPdf	PKPdf	03 44 35.3	+0.5
E09A	Wood Farm, Sta	167.85	331	*e*PKPdf	PKPdf	03 44 36.7	+1.7
NLU	North Lily Min	167.87	292	*e*PKPdf	PKPdf	03 44 36.4	+1.0
NLU				*e*PKPab	PKPab	03 45 44.6	+1.9
HLID	Hailey	168.03	312	*e*PKPab	PKPab	03 45 44.6	+1.4
HLID	Hailey baz=55	168.03	312	P	PKPab	03 45 43.7	+0.6
DUG	Dugway, Tooele baz=74	168.36	294	P	PKPab	03 45 45.7	+0.9
113A	Mohawk Valley,	168.79	256	*e*PKPab	PKPab	03 45 50.0	+3.4
Y12C	Blythe baz=107	169.71	260	P	PKPab	03 45 51.7	+1.0
IRM	Iron Mountain baz=105	170.32	261	P	PKPab	03 45 55.1	+1.7
BC3	Big Chuckawall baz=108	170.42	258	P	PKPab	03 45 54.8	+0.8
R11A	Troy Canyon, C baz=79	170.88	287	P	PKPab	03 45 56.4	+0.4
BELC	Belle Mtn. Jos baz=107	170.96	259	P	PKPab	03 45 56.3	-0.1
PFO	Pinyon Flats O baz=110	171.20	256	P	PKPab	03 45 58.2	+0.8
PINE	Pine Mountain	171.22	332	*e*PKPdf	PKPdf	03 44 39.3	+2.0
FRD	Ford Ranch, An baz=111	171.27	255	P	PKPab	03 45 56.1	-1.6
HEC	Hector,Ludlow baz=102	171.43	264	P	PKPab	03 45 59.7	+1.2
I04A	Tendick Farm, baz=24	171.72	338	P	PKPab	03 45 59.2	+0.1
NV01	Mina Array Sit	172.94	291	*e*PKPdf	PKPdf	03 44 38.5	+0.2
NV01				*e*PKPab	PKPab	03 46 06.8	+1.6
NVAR	Mina Array Bea comp=Z,2.7nm,1.1s,baz=83,slow=0.3,SNR=9.3	172.94	291	PKP	PKPdf	03 44 38.3	0.0
NVAR				PKPab	PKPab	03 46 06.5	+1.3
	comp=Z,2.4nm,1.0s,baz=77,slow=4.9,SNR=8.5						

MEX 08 03:48:46.5±0.5, 14°37N×92°48W, h73km±11km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.58	21	*i* P	Pn	03 48 58.6	-1.8
THIG				*e*S	Sn	03 49 09.1	-1.4
PCIG		1.51	332	*e*P	Pn	03 49 10.7	-1.1
PCIG				*e*S	Sn	03 49 28.4	-2.4
CCIG	Comitan	1.93	10	*e*P	Pn	03 49 16.9	-0.6
CCIG				*i* S	Sn	03 49 39.6	-1.5
TGIG		2.48	346	*i* P	Pn	03 49 24.4	-0.4
TGIG				*e*S	Sn	03 49 52.5	-1.5

*ISCJB **08** 03:56:54.1±0.6, 29°.82S±0°.05×126°.93E±0°.05, h10km, Error ellipse: s-maj=8.0km s-min=6.5km az=17.9*
*AUST **08** 03:56:55.5±0.4, 29°.90S×126°.99E, h0km, Error ellipse: s-maj=6.0km s-min=4.2km az=36.0*
*IDC **08** 03:56:56.1±2.5, 29°.76S×127°.12E, h0km, mb1 4.3/5, mb1mx3.8/38, mbtmp4.1/5, ML4.1/4, Error ellipse: s-maj=32.9km s-min=23.0km az=152.0*

ISC 08 03:56:55.4±0.8, 29°.86S±0°.07×127°.04E±0°.06, h10km, n16, σ2.85/20, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FORT	Forrest baz=1.3,SNR=231	1.27	136	P	Pn	03 57 20.9	+1.6
FORT	baz=1.3			S	Sb	03 57 36.9	+1.0
WRKA	Warakurna baz=5.0,SNR=15	4.93	13	P	Pn	03 58 14.5	+4.9
MEEK	Meekatharra baz=8.1,SNR=12	8.09	291	P	Pn	03 58 54.5	+1.5
KLBR	Kellerberrin baz=8.1,SNR=17	8.18	255	P	Pn	03 58 53.8	-0.3
BBOO	Buckleboo baz=8.3,SNR=9.9	8.26	113	P	Pn	03 58 58.0	+2.8
ASAR	Alice Springs 2.3nm,0.3s,baz=228,slow=11,SNR=86	8.70	46	Pn	Pn	03 59 03.5	+2.2
ASAR	2.1nm,0.3s,baz=226,slow=23,SNR=14			Sn	Sn	04 00 36.6	-2.9
ASAR	2.4nm,0.3s,baz=226,slow=25,SNR=6.9			Lg	Lg	04 01 27.1	
AS02	Alice Springs baz=8.8	8.71	47	P	Pn	03 59 04.4	+2.9
AS16	Alice Springs baz=8.8	8.74	46	P	Pn	03 59 04.7	+2.8
NWAO	Narrogin (SRO) 2.0nm,0.3s,baz=308,slow=14,SNR=12	8.92	247	Pn	Pn	03 59 06.8	+2.5
NWAO	5.9nm,0.3s,baz=310,slow=9.9,SNR=7.0			Sn	Sn	04 00 39.6	-5.2
NWAO	9.7nm,0.3s,baz=218,slow=21,SNR=8.2			Lg	Lg	04 01 29.5	
NWAO	Narrogin (SRO) baz=8.9	8.92	247	P	Pn	03 59 05.8	+1.5
BLDU	Ballidu baz=8.9,SNR=7.4	8.97	263	P	Pn	03 59 04.0	-1.0
FITZ	Fitzroy Crossi 1.0nm,0.3s,baz=185,slow=14,SNR=34	11.78	353	Pn	Pn	03 59 44.7	+1.2
FITZ	Fitzroy Crossi baz=12,SNR=8.3	11.78	353	P	Pn	03 59 44.6	+1.2
WRA	Warramunga Arr 1.5nm,0.3s,baz=210,slow=14,SNR=119	11.88	35	Pn	Pn	03 59 46.4	+1.4
WRA	0.8nm,0.3s,baz=217,slow=22,SNR=4.7			Sn	Sn	04 01 53.6	-4.1
WRA	0.3nm,0.3s,baz=216,slow=27,SNR=3.5			Lg	Lg	04 03 06.1	
WB3	Warramunga Arr baz=12	11.91	36	P	Pn	03 59 46.8	+1.4
STKA	Stephens Creek 0.4nm,0.3s,baz=280,slow=17,SNR=5.0	12.67	103	Pn	Pn	03 59 56.3	+0.6
STKA	0.9nm,0.3s,baz=352,slow=8.6,SNR=4.8			Sn	Sn	04 02 11.1	-5.7
STKA	0.8nm,0.3s,baz=141,slow=22,SNR=3.1			Lg	Lg	04 03 34.4	

SCB 08 04:09:26.7±1.3, 17°.50S×65°.81W, h3km±3km, ML3.5/4, Error ellipse: s-maj=2.9km s-min=2.5km az=0.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BS10	CO. Tuti	0.06	307	Pg	Pg	04 09 30.2	+1.9
BS10				Sg	Sg	04 09 33.4	+4.1
BB01	Montecillos	0.77	138	P	Pg	04 09 42.3	+0.7
BB01				S	Sb	04 09 54.9	+0.8
BB01	531nm,0.4s			AML	AML	04 09 57.3	
BS05	Cuyupaya	1.19	294	P	Pb	04 09 49.9	-0.2
BS07	San Felipe	1.34	249	P	Pn	04 09 52.9	0.0
BS07				S	Sn	04 10 12.1	+0.5
BS07	475nm,0.5s			AML	AML	04 10 13.8	
BS02	Patallajta	1.76	157	S	Sb	04 10 22.6	+0.2
BBOE	La Paz, Chanca	2.19	288	P	Pn	04 10 05.0	+0.5
BBOJ	La Paz, Jacaqu	2.34	282	P	Pn	04 10 06.5	0.0
LPAZ	La Paz	2.53	298	P	Pn	04 10 09.4	+0.2
LPAZ				S	Sn	04 10 41.4	+0.5
BBOB	La Paz, Bander	2.60	301	P	Pn	04 10 10.2	0.0
BBOD	La Paz, Gloria	2.80	287	P	Pn	04 10 13.3	+0.3
BB07	Casarave	2.89	26	P	Pn	04 10 12.1	-1.6
BB07				S	Sn	04 10 47.4	-1.7
BB07	512nm,0.3s			AML	AML	04 10 51.5	
BS09	Huarina	2.98	295	P	Pn	04 10 14.6	-0.8
BS09				S	Sn	04 10 53.5	+1.5
BS09	343nm,0.3s			AML	AML	04 10 58.6	
MOCB	Mochara	3.74	178	P	Pn	04 10 25.0	-0.8
SIV	San Ignacio	4.78	72	P	Pn	04 10 38.2	-1.5

MEX 08 04:26:11.2±0.8, 16°.17N×98°.33W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.29	40	*e*P	Pg	04 26 15.8	-1.2
PNIG				*e*S	Sg	04 26 20.9	0.0
TLIG	Tlapa	1.41	351	*e*P	Pn	04 26 33.9	-3.7
TLIG				*e*S	Sb	04 26 51.5	-4.9
VHO	Vista Hermosa	1.77	59	*e*P	Pn	04 26 39.4	-3.4
VHO				*i* S	Sn	04 27 00.6	-5.2

*IDC **08** 04:27:04.8±0.7, 55°.84S×27°.08W, h0km, mb4.5/8, mb1 4.6/8, mb1mx4.2/23, mbtmp4.5/8, Error ellipse: s-maj=28.3km s-min=18.1km az=72.0*
*ISCJB **08** 04:27:16.7±0.4, 55°.96S±0°.07×27°.4W±0°.1, h112km, mb4.5/19, Error ellipse: s-maj=13.0km s-min=7.0km az=142.7*
*NEIC **08** 04:27:16.7±1.2, 55°.94S×27°.38W, h94km±10km, mb4.6/15, Error ellipse: s-maj=9.8km s-min=5.9km az=53.0*

ISC 08 04:27:18.6±0.5, 55°.89S±0°.08×27°.64W±0°.08, h112km, n63, σ1.58/66, mb4.6/17, 1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.33	284	*e*Pn	Pn	04 28 36.3	+0.5
HOPE				*e*Sn	Sn	04 29 32.7	-3.2
VNA1	Neumayer--Stat	17.04	158	P	Pn	04 31 07.4	-2.2
VNA3	Neumayer Olymp	17.23	160	P	P	04 31 09.6	-2.2
VNA3				S	S	04 34 34.1	+9.0
VNA2	Neumayer--Watz baz=314,slow=13	17.44	158	P	P	04 31 12.2	-1.8
VNA2				S	S	04 34 39.0	+10
SNAA	Sanae	19.00	156	P	P	04 31 29.1	-1.9
SNAA	Sanae 14nm,0.6s	19.00	156	*e*P	P	04 31 29.2	-1.9
SNAA				*e*S	Sn	04 35 04.9	-1.0
PMSA	Palmer Station 39nm,1.0s,baz=52,slow=5.1,SNR=4.5	19.82	229	P	P	04 31 40.9	+1.0
TRQA	Tornquist 16nm,1.4s	29.02	293	*e*P	P	04 33 06.5	-1.3
SYO	Syowa Base	31.87	141	*e*P	P	04 33 31.8	-0.7
QSPA	South Pole Qui 13nm,0.7s,baz=210,slow=3.3,SNR=46	34.37	180	P	P	04 33 53.5	-0.9
CPUP	Villa Florida 1.0nm,0.6s,baz=172,slow=15,SNR=2.8	36.51	312	P	P	04 34 13.8	+0.8
CPUP	Villa Florida 2.1nm,1.1s	36.51	312	*e*P	P	04 34 13.8	+0.8
GO04	Tololo Observa 8.1nm,1.4s	39.73	292	*e*P	P	04 34 40.7	+0.4
MAW	Mawson 2.6nm,0.8s,baz=247,slow=8.8,SNR=9.4	40.43	144	P	P	04 34 43.7	-1.6
LVC	Limon Verde	45.00	300	*e*P	P	04 35 23.4	+0.3

	18nm,1.4s							
SBA	**Scott Base**	**46.23**	**184**	*e*P	**P**	**04 35 32.0**	**+0.3**
	15nm,1.1s							
PB01	**IPOC Station P**	**46.61**	**301**	*e*P	**P**	**04 35 36.9**	**+1.4**
	8.0nm,0.7s							
VNDA	**Vanda**	**46.73**	**183**	P	**P**	**04 35 35.5**	**-0.1**
	6.2nm,0.8s,baz=188,slow=7.0,SNR=69							
VNDA	**Vanda**	**46.73**	**183**	*e*P	**P**	**04 35 35.0**	**-0.6**
	13nm,0.9s							
PB11	**IPOC Station P**	**47.78**	**302**	*e*P	**P**	**04 35 45.5**	**+0.9**
	23nm,1.4s							
MNMC	**Minye Minye**	**48.30**	**302**	*e*P	**P**	**04 35 50.0**	**+1.3**
	12nm,0.5s							
LPAZ	**La Paz**	**50.08**	**306**	P	**P**	**04 36 04.1**	**+1.4**
	2.9nm,0.4s,baz=100,slow=4.7,SNR=31							
LPAZ	**La Paz**	**50.08**	**306**	*e*P	**P**	**04 36 04.3**	**+1.6**
	6.9nm,1.0s							
SAML	**Samuel**	**54.51**	**315**	*e*P	**P**	**04 36 35.8**	**+1.1**
	3.4nm,0.9s							
LSZ	**Lusaka**	**58.55**	**69**	*e*P	**P**	**04 37 02.5**	**-1.0**
	7.7nm,1.4s							
OTAV	**Otavalo**	**69.35**	**304**	*e*P	**P**	**04 38 15.5**	**+0.9**
	9.7nm,1.3s							
TOA0	**Torodi Ar. Sit**	**73.04**	**30**	*e*P	**P**	**04 38 35.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**73.04**	**30**	P	**P**	**04 38 36.4**	**+0.3**
	0.9nm,0.6s,baz=200,slow=6.2,SNR=13							
TOA1	**Torodi Ar. Sit**	**73.04**	**30**	*e*P	**P**	**04 38 36.4**	**+0.2**
PTCN	**Pitcairn Islan**	**76.23**	**246**	*e*P	**P**	**04 38 55.0**	**+0.4**
	135nm,0.7s							
ASAR	**Alice Springs**	**99.22**	**163**	P	**Pdif**	**04 40 46.1**	**-1.5**
	1.2nm,0.9s,baz=206,slow=3.3,SNR=9.6							
AS31	**Alice Springs**	**99.22**	**163**	*e*P	**Pdif**	**04 40 46.1**	**-1.5**
	1.2nm,1.3s							
NB200	**NORSAR Array S**	**120.54**	**21**	*e*PKPdf	**PKPdf**	**04 45 55.8**	**+0.2**
NOA	**NORSAR Array B**	**120.54**	**21**	PKP	**PKPdf**	**04 45 55.8**	**+0.2**
	1.6nm,0.9s,baz=160,slow=5.5,SNR=3.3							
KSH	**Kashi**	**128.77**	**75**	*e*PKP	**PKPdf**	**04 46 11.2**	**-0.9**
CD2	**Chengdu**	**137.95**	**106**	PKP	**PKPdf**	**04 46 29.8**	**+0.3**
WMQ	**Urumqi**	**138.12**	**79**	*e*PKP	**PKPdf**	**04 46 31.2**	**+1.7**
TWG	**Pinlang**	**139.72**	**132**	*e*PKPdf	**PKPdf**	**04 46 34.5**	**+1.5**
LZH	**Lanzhou**	**141.89**	**101**	PKP	**PKPdf**	**04 46 36.4**	**-0.3**
LZH				sPKP		04 47 12.4		
INK	**Inuvik**	**145.51**	**321**	PKPbc	**PKPab**	**04 46 42.5**	**0.0**
	4.5nm,0.7s,baz=77,slow=1.9,SNR=21							
INK	**Inuvik**	**145.51**	**321**	*e*PKPdf	**PKPab**	**04 46 42.9**	**+0.3**
DAWY	**Dawson**	**146.49**	**312**	*e*PKPdf	**PKPbc**	**04 46 45.4**	**+0.1**
DOT	**Dot Lake**	**148.34**	**310**	*e*PKPbc	**PKPbc**	**04 46 51.3**	**+1.0**
SCRK	**Sand Creek**	**148.40**	**311**	*e*PKPbc	**PKPbc**	**04 46 51.1**	**+0.6**
KLU	**Klutina**	**148.53**	**306**	*e*PKPbc	**PKPbc**	**04 46 52.0**	**+1.1**
RIDG	**Independ'e Rid**	**148.71**	**310**	*e*PKPbc	**PKPbc**	**04 46 52.5**	**+1.2**
HHC	**Hu-ho-hao-te**	**149.53**	**102**	*e*PKPbc	**PKPbc**	**04 46 48.5**	**-0.9**
DHY	**Denali Highway**	**149.63**	**309**	*e*PKPbc	**PKPbc**	**04 46 55.2**	**+1.5**
IL1	**Eielson Array**	**149.82**	**312**	*e*PKPbc	**PKPbc**	**04 46 53.8**	**-0.1**
ILAR	**Eielson Array**	**149.82**	**312**	PKPbc	**PKPbc**	**04 46 54.2**	**+0.4**
	9.0nm,1.0s,baz=127,slow=1.4,SNR=48							
ILB	**Eielson Array**	**149.82**	**312**	*e*PKPbc	**PKPbc**	**04 46 54.4**	**+0.5**
CCB	**Clear Creek Bu**	**150.18**	**312**	*e*PKPbc	**PKPbc**	**04 46 54.6**	**-0.2**
WRH	**Wood River Hil**	**150.26**	**311**	*e*PKPbc	**PKPbc**	**04 46 55.4**	**+0.4**
RND	**Reindeer**	**150.36**	**309**	*e*PKPbc	**PKPbc**	**04 46 56.2**	**+0.9**
MCK	**McKinley**	**150.47**	**310**	*e*PKPbc	**PKPbc**	**04 46 56.4**	**+0.9**
KDAK	**Kodiak Island**	**150.52**	**297**	PKPbc	**PKPbc**	**04 46 56.4**	**+0.7**
	6.1nm,0.6s,baz=222,slow=3.1,SNR=16							
BWN	**Browne**	**150.79**	**310**	*e*PKPbc	**PKPbc**	**04 46 57.4**	**+1.2**
SONA0	**Songino Array**	**150.97**	**87**	*e*PKPbc	**PKPbc**	**04 46 56.8**	**-0.5**
SONM	**Songino Array**	**150.97**	**87**	PKPbc	**PKPbc**	**04 46 56.8**	**-0.5**
	3.1nm,0.7s,baz=207,slow=2.5,SNR=12							
SONA1	**Songino Array**	**150.98**	**87**	*e*PKPbc	**PKPbc**	**04 46 57.3**	**-0.1**
TRF	**Thorofare Moun**	**151.00**	**309**	*e*PKPbc	**PKPbc**	**04 46 57.5**	**+0.5**
SKT	**Skwentna**	**151.24**	**305**	*e*PKPbc	**PKPbc**	**04 46 57.9**	**+0.5**
IM3	**Indian Mountai**	**152.84**	**314**	*e*PKPbc	**PKPbc**	**04 47 01.3**	**+0.5**

MAN 08 04:36:53.9, 8.45N×124.70E, h42km, **mb4.1, ML2.9, MS2.5, 1C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**0.01**	**328**	*e*P	Pn	04 37 00.7	+0.1
CGP				*i* S	Sn	04 37 05.5	+0.2
BUKP	**Musuan**	**0.67**	**147**	*e*P	Pn	04 37 08.8	+1.7
BUKP				*e*S	Sn	04 37 18.6	+2.1
PAGZ	**Pagadian**	**1.43**	**246**	*e*P	Pn	04 37 17.5	0.0
PAGZ				*e*S	Sn	04 37 36.3	+1.2

IDC 08 05:04:25.2±2.1, 1.01N×126.51E, h0km, **mb3.5**/4, **mb1 3.8**/4, **mb1mx3.5**/35, **mbtmp3.6**/4, **Error ellipse: s-maj=166.7km s-min=27.8km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.19**	**160**	P	P	05 09 22.5	-0.8
	1.0nm,0.6s,baz=339,slow=11,SNR=11						
ASAR	**Alice Springs**	**25.56**	**164**	P	P	05 09 56.9	+0.9
	0.4nm,0.4s,baz=338,slow=7.0,SNR=5.2						
MKAR	**Makanchi Array**	**59.66**	**326**	P	P	05 14 31.3	-0.1
	0.3nm,0.4s,baz=108,slow=6.9,SNR=3.4						
VNDA	**Vanda**	**80.78**	**173**	P	P	05 16 40.0	-0.1
	0.5nm,0.9s,baz=349,slow=5.5,SNR=2.7						

*ISCJB **08** 05:20:40.6±0.3, 4.44N±0.03×125.98E±0.05, h150km, mb4.2/20, Error ellipse: s-maj=7.4km s-min=3.4km az=159.5*
*NEIC **08** 05:20:41.4±0.9, 4.54N×125.94E, h154km±9km, mb4.4/7, Error ellipse: s-maj=10.4km s-min=5.3km az=220.0*
*MAN **08** 05:20:41.2, 4.53N×125.76E, h193km, mb5.2, ML4.2, MS4.3*
*IDC **08** 05:20:45.9±1.3, 4.33N×125.85E, h188km±12km, mb3.7/13, mb1 3.8/16, mb1mx3.5/57, mbtmp4.3/16, Error ellipse: s-maj=23.7km s-min=7.8km az=69.0*
*DJA **08** 05:20:48.1±1.0, 4.7N±8.8×12.6E±1.1, h129km±5km, M4.5/12, mB5.1/5, mb4.5/8, MLv4.5/12, Mw(mB)4.4/5*

ISC 08 05:20:41.7±0.5, 4.41N±0.04×125.95E±0.07, **h150**km, **n56,** σ1**s68**/69, **mb4.2**/20, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**0.84**	**210**	P	**Pn**	**05 21 07.3**	**+2.1**
SGSI				S	**Sn**	**05 21 24.7**	**+1.6**
DDMP	**Don Marcelino,**	**1.70**	**352**	*e*P	**Pn**	**05 21 14.0**	**+0.5**
DDMP				*e*S	**Sn**	**05 21 38.1**	**+0.3**
SKMP	**Bagumbayan, Su**	**2.52**	**326**	*e*P	**Pn**	**05 21 23.3**	**+0.2**
SKMP				*e*S	**Sn**	**05 21 55.4**	**+0.4**
DAV	**Davao City (W)**	**2.67**	**352**	P	Pn	05 21 33.1	+8.2
	60nm,0.3s,baz=111,slow=16,SNR=3.3						
DAV				S	**Sn**	**05 22 02.1**	**+3.8**
	134nm,0.3s,baz=81,slow=17,SNR=4.7						
BUKP	**Musuan**	**3.56**	**346**	*e*P	**Pn**	**05 21 35.3**	**-1.0**
BUKP				*e*S	**Sn**	**05 22 18.9**	**+0.3**
TNTI	**Ternate**	**3.88**	**159**	*e*Pn	**Pn**	**05 21 42.0**	**+1.5**
TNTI				*e*Sn	**Sn**	**05 22 26.8**	**+0.6**
TNTI	**Ternate**	**3.88**	**159**	P	**Pn**	**05 21 42.6**	**+2.1**
TNTI				S	**Sn**	**05 22 24.7**	**-1.5**
PAGZ	**Pagadian**	**4.26**	**323**	*e*P	**Pn**	**05 21 44.9**	**-0.5**
KMSI	**Cibinong**	**4.29**	**207**	P	**Pn**	**05 21 47.3**	**+1.5**
LBMI	**Labuha**	**5.25**	**163**	P	**Pn**	**05 21 59.8**	**+1.3**
LBMI				S	**Sn**	**05 22 57.1**	**-1.4**
MRSI	**Marisa**	**5.60**	**226**	P	**Pn**	**05 22 04.9**	**+1.8**
	77nm,0.8s,637nm						
LUWI	**Luwuk**	**6.28**	**210**	*e*Pn	**Pn**	**05 22 13.5**	**+1.3**
LUWI	**Luwuk**	**6.28**	**210**	P	**Pn**	**05 22 12.8**	**+0.6**
SANI	**Sanana**	**6.42**	**180**	P	**Pn**	**05 22 12.9**	**-1.2**
	152nm,0.4s,8μm						
APSI	**Ampana**	**6.81**	**219**	P	**Pn**	**05 22 22.6**	**+3.2**
MPSI	**Mapaga**	**7.28**	**236**	P	**Pn**	**05 22 29.3**	**+3.8**
	12nm,0.8s,2μm						
MYLDM	**Lahad Datu**	**7.46**	**276**	*e*Pn	**Pn**	**05 22 26.9**	**-1.1**
SIJI	**Sorong**	**7.47**	**135**	P	**Pn**	**05 22 31.2**	**+3.2**
	2.7nm,0.3s,baz=318,slow=16,SNR=5.2						
SIJI				S	**Sn**	**05 23 48.3**	**-3.2**
	1.0nm,0.3s,baz=311,slow=19,SNR=2.5						
NLAI	**Namlea**	**7.69**	**171**	P	**Pn**	**05 22 30.8**	**-0.2**
FAKI	**Fak Fak**	**9.63**	**139**	*e*Pn	**Pn**	**05 22 58.8**	**+1.9**
FAKI	**Fak Fak**	**9.63**	**139**	P	**Pn**	**05 22 58.9**	**+2.0**
MMRI	**Maumere**	**13.48**	**196**	*e*Pn	**Pn**	**05 23 47.5**	**+0.3**
SBUM	**Sibu**	**13.84**	**262**	*e*Pn	**Pn**	**05 23 51.2**	**-0.5**
SOEI	**Soe**	**14.18**	**187**	*e*Pn	**Pn**	**05 23 57.4**	**+1.4**
BATI	**Baumata**	**14.70**	**189**	P	**P**	**05 24 05.3**	**+0.6**
	6.4nm,0.3s,baz=7.4,slow=18,SNR=5.8						
KSM	**Kuching**	**15.89**	**260**	*e*Pn	**Pn**	**05 24 17.0**	**-0.3**
	17nm,0.7s						
JAY	**Jayapura**	**16.27**	**115**	P	**P**	**05 24 23.5**	**+1.3**
	1.6nm,0.3s,baz=333,slow=6.8,SNR=6.1						
MTN	**Manton Dam**	**17.90**	**163**	*e*P	**P**	**05 24 40.9**	**+0.8**
	17nm,0.5s						
FITZ	**Fitzroy Crossi**	**22.37**	**181**	P	**P**	**05 25 27.3**	**-0.4**
	2.8nm,0.4s,baz=7.1,slow=6.5,SNR=30						
SKNT	**Sakolnakorn**	**24.90**	**302**	P	**P**	**05 25 51.3**	**+0.4**
	6.8nm,1.1s						
BKNI	**Bangkinang**	**25.21**	**261**	*e*P	**P**	**05 25 54.2**	**+0.3**
	58nm,0.5s						
WRAB	**Tennant Creek**	**25.56**	**161**	*e*P	**P**	**05 25 57.3**	**+0.3**
	12nm,1.4s						
WRA	**Warramunga Arr**	**25.57**	**161**	P	**P**	**05 25 57.1**	**+0.1**
	3.9nm,0.7s,baz=339,slow=10,SNR=57						
WRA				S	**S**	**05 30 10.1**	**-3.8**
	0.4nm,0.8s,baz=317,slow=22,SNR=2.9						
WRA				ScP	**ScP**	**05 32 47.4**	**-2.5**
	0.5nm,0.7s,baz=340,slow=2.9,SNR=6.1						
WB2	**Warramunga Arr**	**25.57**	**161**	*e*P	**P**	**05 25 57.1**	**0.0**
CBIJ	**Chichi jima**	**27.37**	**33**	*e*P	**P**	**05 26 10.9**	**-2.1**
ASAR	**Alice Springs**	**28.97**	**165**	P	**P**	**05 26 27.8**	**+0.5**
	2.4nm,0.4s,baz=346,slow=7.9,SNR=38						
ASAR				S	**S**	**05 31 04.8**	**-2.6**
	0.3nm,0.4s,baz=349,slow=22,SNR=5.2						
AS01	**Alice Springs**	**28.98**	**165**	*e*P	**P**	**05 26 27.6**	**+0.2**
CM01	**Chiang Mai Arr**	**29.83**	**300**	*e*P	**P**	**05 26 35.0**	**0.0**
CMAR	**Chiang Mai Arr**	**29.86**	**300**	P	**P**	**05 26 35.2**	**-0.1**
	2.0nm,0.3s,baz=116,slow=6.9,SNR=8.9						
CHTO	**Chiang Mai**	**30.01**	**301**	*e*P	**P**	**05 26 34.9**	**-1.7**
	3.1nm,0.8s						
CTA	**Charters Tower**	**31.48**	**141**	P	**P**	**05 26 50.8**	**+1.4**
	3.6nm,0.6s,baz=325,slow=5.9,SNR=5.3						
CTAO	**Charters Tower**	**31.48**	**141**	*e*P	**P**	**05 26 49.1**	**-0.4**
CTAO				*e*pP	**pP**	**05 27 26.1**	**+4.8**
NWAO	**Narrogin (SRO)**	**38.05**	**192**	P	**P**	**05 27 45.7**	**+0.1**
	2.3nm,0.5s,baz=18,slow=20,SNR=4.2						
HHC	**Hu-ho-hao-te**	**38.51**	**342**	*e*P	**P**	**05 27 50.4**	**+0.8**
HHC				pmax	pmax		
	comp=Z,39nm,0.6s						
HHC				pmax	pmax		
	comp=Z,200nm,6.4s						
SHL	**Shillong**	**38.85**	**306**	*e*P	**P**	**05 27 51.4**	**-1.4**
	comp=Z,10nm,0.7s						
STKA	**Stephens Creek**	**39.04**	**159**	P	**P**	**05 27 54.6**	**+0.7**
	comp=Z,7.5nm,0.7s,baz=339,slow=9.7,SNR=16						
STKA	**Stephens Creek**	**39.04**	**159**	*e*P	**P**	**05 27 54.8**	**+0.8**
	comp=Z,1.7nm,0.8s						
USRK	**Ussuriysk Ar.**	**39.98**	**7**	P	**P**	**05 28 02.7**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=187,slow=6.5						
KLR	**Kul'dur**	**44.93**	**5**	P	**P**	**05 28 42.1**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=159,slow=14,SNR=4.0						
WMQ	**Urumqi**	**51.72**	**325**	*e*P	**P**	**05 29 34.1**	**+0.4**
MKAR	**Makanchi Array**	**56.55**	**325**	P	**P**	**05 30 09.1**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=118,slow=8.1,SNR=10						
MKAR				ScP	**ScP**	**05 34 45.6**	**-3.3**
	comp=Z,0.6nm,0.7s,baz=129,slow=4.8,SNR=3.8						
KURBB	**Kurchatov Arra**	**60.75**	**327**	P	**P**	**05 30 37.3**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=131,slow=6.4,SNR=19						
KURK	**Kurchatov**	**60.75**	**328**	*e*P	**P**	**05 30 36.0**	**-1.5**
	comp=Z,2.6nm,0.6s						
BVAR	**Borovoye Array**	**66.33**	**327**	P	**P**	**05 31 13.7**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=131,slow=6.7,SNR=5.1						
VNDA	**Vanda**	**84.20**	**173**	P	**P**	**05 32 56.1**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=352,slow=6.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**121.97**	**288**	PKP	**PKPdf**	**05 39 17.6**	**-1.7**
	comp=Z,0.2nm,0.6s,baz=96,slow=1.4						

IDC 08 05:21:44.9±5.1, 14.35N×92.01W, h0km, **mb3.5**/1, **mb1 3.8**/2, **mb1mx3.5**/32, **mbtmp3.3**/2, **ML3.3**/1, **Error ellipse: s-maj=440.1km s-min=69.5km az=46.0, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**18.40**	**326**	P	Pn	05 26 01.6	-0.1
	0.0nm,0.3s,baz=146,slow=14,SNR=4.2						
NVAR	**Mina Array Bea**	**33.40**	**321**	P	P	05 28 25.4	-0.1
	0.4nm,0.7s,baz=129,slow=9.0,SNR=4.4						
CMAR	**Chiang Mai Arr**	**145.66**	**341**	PKPbc	PKPdf	05 41 25.7	-0.7
	1.5nm,0.4s,baz=298,slow=1.9,SNR=6.7						

IDC 08 05:26:22.2±67.0, 13.70S×166.34E, h0km, **mb3.6**/3, **mb1 3.8**/3, **mb1mx3.5**/45, **mbtmp3.6**/3, **MS2.9**/1, **Ms1 2.9**/1, **ms1mx2.7**/38, **Error ellipse: s-maj=1125.0km s-min=118.3km az=63.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.56**	**303**	LR	LR	05 31 28.5	
	comp=Z,91nm,19.0s,baz=134,slow=40						
STKA	**Stephens Creek**	**29.00**	**227**	P	P	05 32 23.8	-0.1
	0.8nm,0.4s,baz=70,slow=11,SNR=3.2						
WRA	**Warramunga Arr**	**31.22**	**254**	P	P	05 32 43.7	0.0
	0.4nm,0.8s,baz=85,slow=9.1,SNR=2.5						
ASAR	**Alice Springs**	**32.22**	**247**	P	P	05 32 52.5	0.0
	0.3nm,0.5s,baz=74,slow=9.5,SNR=5.4						

*NIED **08** 05:38:00, 36.30N×141.80E, h20km, Mw4.0 Best double couple: M0 1.11000×10^15 NP1:φ=225.00000°, δ=24.00000°, λ=117.00000°. NP2:φ=15.00000°, δ=69.00000°, λ=78.00000°.*
*IDC **08** 05:38:19.3±0.9, 36.33N×142.22E, h0km, mb4.0/12, mb1 4.1/18, mb1mx3.9/49, mbtmp4.0/18, ML3.8/5, MS2.9/3, Ms1 2.9/3, ms1mx2.7/50, Error ellipse: s-maj=21.9km s-min=15.9km az=91.0*
*ISCJB **08** 05:38:20.3±0.4, 36.28N±0.03×142.16E±0.04, h19km, mb4.1/17, Error ellipse: s-maj=5.2km s-min=4.4km az=34.8*
*JMA **08** 05:38:24.4±0.2, 36.34N×141.84E, h51km, M4.1*
*NEIC **08** 05:38:24.4±0.4, 36.29N×142.14E, h35km, mb4.3/4, Error ellipse: s-maj=7.1km s-min=6.1km az=98.0*

ISC 08 05:38:22.1±0.7, **36.30N**±0.05×**142.12E**±0.06, **h19**km, **n62,** σ1**s55**/65, **mb4.1**/17, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.18**	**240**	P	**Pn**	**05 38 42.6**	**-1.0**
CHOJ				*e*S	**Sb**	**05 38 56.1**	**-2.7**
JHYU	**Hitachinakayam**	**1.24**	**273**	P	**Pn**	**05 38 42.8**	**-1.6**
JHO	**Hitachi**	**1.29**	**285**	P	**Pn**	**05 38 43.1**	**-2.0**
JIHU	**Itakohorinouch**	**1.33**	**256**	P	**Pn**	**05 38 44.9**	**-0.8**
ONAJ	**Iwakimizuishiy**	**1.33**	**308**	P	**Pn**	**05 38 44.4**	**-1.4**
JFT	**Otama**	**1.88**	**311**	*e*S	**Sn**	**05 39 11.8**	**-4.7**
BSO1	**Boso 1**	**1.89**	**210**	P	**Pn**	**05 38 53.2**	**+0.4**
JMM	**Marumori**	**1.89**	**326**	*e*S	**Sn**	**05 39 13.8**	**-2.9**
BSO3	**Boso 3**	**1.99**	**222**	P	**Pn**	**05 38 54.5**	**0.0**
JAG	**Ashikaga**	**2.15**	**274**	P	**Pn**	**05 38 55.6**	**-1.5**
MJAR	**Matsushiro Arr**	**3.16**	**276**	P	**Pn**	**05 39 10.8**	**-0.2**
	15nm,0.3s,baz=112,slow=7.8,SNR=70						
MJAR				Sn	**Sn**	**05 39 47.1**	**-1.0**
	8.9nm,0.3s,baz=82,slow=17,SNR=6.0						
MJAR				LR	LR	05 40 25.4	
	comp=Z,209nm,20.8s,baz=40,slow=39						
MAJO	**Matsushiro**	**3.16**	**276**	*e*Pn	**Pn**	**05 39 11.0**	**+0.1**
MAJO				*e*Sn	**Sn**	**05 39 49.8**	**+1.6**
MAT	**Matsushiro**	**3.16**	**276**	P	**Pn**	**05 39 11.2**	**+0.2**
MAT				*e*S	**Sn**	**05 39 47.0**	**-1.2**
MJB9	**Matsu-Tunnel**	**3.17**	**276**	*e*Pn	**Pn**	**05 39 11.2**	**+0.2**
MJB9				*e*Sn	**Sn**	**05 39 50.0**	**+1.8**
JHJ2	**Mitsune**	**3.70**	**211**	*e*Pn	**Pn**	**05 39 18.5**	**+0.2**
JHJ2				*e*Sn	**Sn**	**05 39 58.4**	**-2.9**
JHJ	**Hachijo jima 2**	**3.71**	**212**	Pn	**Pn**	**05 39 18.1**	**-0.3**
	44nm,0.3s,baz=51,slow=18,SNR=6.6						
JHJ				Sn	**Sn**	**05 39 57.9**	**-3.6**
	61nm,0.3s,baz=84,slow=23,SNR=6.6						
INU	**Inuyama**	**4.25**	**259**	*e*Pn	**Pn**	**05 39 26.9**	**+1.1**
INU				*e*Sn	**Sn**	**05 40 17.9**	**+2.9**
ERM	**Erimo**	**5.77**	**8**	*e*Pn	**Pn**	**05 39 47.6**	**+0.9**
ERM				*e*Sn	**Sn**	**05 40 54.0**	**+1.8**
ASAJ	**Asahikawa**	**7.82**	**3**	Pn	**Pn**	**05 40 12.5**	**-2.4**
	0.8nm,0.3s,baz=142,slow=19,SNR=2.0						
ASAJ				LR	LR	05 43 06.1	
	comp=Z,59nm,20.4s,baz=116,slow=37						
ASAJ	**Asahikawa**	**7.82**	**3**	*e*Pn	**Pn**	**05 40 11.6**	**-3.2**
CBIJ	**Chichi jima**	**9.17**	**180**	*e*Pn	**Pn**	**05 40 35.0**	**+1.5**
JCJ	**Chichijima**	**9.17**	**180**	Pn	**Pn**	**05 40 32.7**	**-0.8**
	4.2nm,0.3s,baz=86,slow=16,SNR=2.2						
USRK	**Ussuriysk Ar.**	**11.05**	**319**	Pn	**Pn**	**05 40 59.6**	**+0.6**
	baz=120,slow=13						
KSRS	**Korea Array**	**11.43**	**280**	Pn	**Pn**	**05 41 07.2**	**+2.9**
	0.2nm,0.3s,baz=96,slow=14,SNR=6.7						
KSRS				LR	LR	05 45 20.2	
	comp=Z,109nm,19.5s,baz=22,slow=36						
KS15	**Wonju Array Si**	**11.46**	**280**	*e*Pn	**Pn**	**05 41 05.4**	**+0.6**
KSAR	**Wonju Array Be**	**11.46**	**280**	Pn	**Pn**	**05 41 07.2**	**+2.4**
H11N2	**WAKE ISLAND Hy**	**27.28**	**121**	T	T	06 12 46.8	
	baz=312,slow=75,SNR=29						
H11N1	**WAKE ISLAND Hy**	**27.29**	**121**	T	T	06 12 47.9	
	baz=312,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**27.30**	**121**	T	T	06 12 49.6	
	baz=312,slow=75,SNR=17						
ENH	**Enshi**	**27.85**	**267**	*e*P	**P**	**05 44 09.5**	**-1.1**
	11nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**27.98**	**123**	T	T	06 13 37.1	
	baz=314,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	**27.98**	**123**	T	T	06 13 39.9	
	baz=314,slow=76,SNR=21						
H11S2	**WAKE ISLAND Hy**	**28.00**	**123**	T	T	06 13 38.8	
	baz=314,slow=76,SNR=20						
SONA1	**Songino Array**	**28.67**	**305**	*e*P	**P**	**05 44 18.6**	**+0.8**
SONA0	**Songino Array**	**28.67**	**305**	*e*P	**P**	**05 44 18.3**	**+0.5**
SONM	**Songino Array**	**28.67**	**305**	P	**P**	**05 44 18.3**	**+0.5**
	4.2nm,0.8s,baz=102,slow=8.5,SNR=17						
PBKT	**Sadao Pong**	**41.37**	**253**	*e*P	**P**	**05 46 07.2**	**0.0**
CM31	**Chiang Mai Arr**	**41.87**	**257**	*e*P	**P**	**05 46 11.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**41.87**	**257**	P	**P**	**05 46 11.0**	**-0.2**
	0.8nm,0.4s,baz=38,slow=6.4,SNR=6.0						
ZAA1	**Zalesovo Array**	**42.83**	**313**	*e*P	**P**	**05 46 19.4**	**+0.7**
ZAA0	**Zalesovo Array**	**42.83**	**313**	*e*P	**P**	**05 46 19.6**	**+0.9**
	3.6nm,1.0s						
ZALV	**Zalesovo Beam**	**42.83**	**313**	P	**P**	**05 46 19.4**	**+0.7**
	1.7nm,0.5s,baz=92,slow=7.4,SNR=8.1						
MK01	**Makanchi Array**	**44.99**	**303**	*e*P	**P**	**05 46 37.3**	**+1.1**
MK31	**Makanchi Array**	**44.99**	**303**	*e*P	**P**	**05 46 36.9**	**+0.7**
MK32	**Makanchi Array**	**44.99**	**303**	*e*P	**P**	**05 46 36.9**	**+0.7**
MKAR	**Makanchi Array**	**44.99**	**303**	P	**P**	**05 46 36.9**	**+0.7**
	3.1nm,0.8s,baz=86,slow=8.9,SNR=15						
KURK	**Kurchatov**	**46.83**	**309**	*e*P	**P**	**05 46 51.3**	**+0.7**
	4.7nm,0.8s						
ILAR	**Eielson Array**	**49.81**	**32**	P	**P**	**05 47 12.7**	**-0.7**
	0.4nm,0.7s,baz=260,slow=6.8,SNR=5.6						
ILB	**Eielson Array**	**49.81**	**32**	*e*P	**P**	**05 47 11.5**	**-1.9**
BVAR	**Borovoye Array**	**51.49**	**313**	P	**P**	**05 47 25.7**	**-0.5**
	1.1nm,0.7s,baz=75,slow=6.1,SNR=4.5						
INK	**Inuvik**	**54.79**	**27**	P	**P**	**05 47 50.4**	**+0.2**
	3.0nm,1.2s,baz=263,slow=4.1,SNR=4.2						
INK	**Inuvik**	**54.79**	**27**	*e*P	**P**	**05 47 49.6**	**-0.6**
	40nm,2.0s						
WR1	**Warramunga Arr**	**56.41**	**189**	*e*P	**P**	**05 48 02.9**	**+0.5**
	21nm,1.9s						
WRA	**Warramunga Arr**	**56.41**	**189**	P	**P**	**05 48 02.9**	**+0.5**
	0.5nm,0.5s,baz=7.0,slow=7.6,SNR=8.5						
AS31	**Alice Springs**	**60.14**	**189**	*e*P	**P**	**05 48 26.7**	**-1.8**
	0.9nm,1.0s						
ASAR	**Alice Springs**	**60.14**	**189**	P

ERCV				SG	**Sg**	**05 45 19.6**	**-0.1**
CLDR	**Caldiran**	**0.52**	**37**	PG	**Pg**	**05 45 18.3**	**-0.5**
CLDR	**Caldiran**	**0.52**	**37**	*i* P	**Pb**	**05 45 19.1**	**-0.5**
CLDR				*i* S	**Sb**	**05 45 29.1**	**+2.0**
GEVA	**Gevas**	**0.55**	**221**	*i* P	**Pg**	**05 45 18.4**	**-0.8**
GEVA				*i* S	**Sb**	**05 45 29.4**	**+1.7**
ADCV	**BITLIS_Adilcev**	**0.62**	**278**	*i* P	**Pb**	**05 45 20.7**	**-0.5**
ADCV				*i* S	**Sb**	**05 45 32.2**	**+2.4**
AGRB	**Hanur-Agry**	**0.94**	**335**	PG	**Pg**	**05 45 25.9**	**-0.7**
GURO	**Guroymak-BITLI**	**1.17**	**262**	PN	**Pg**	**05 45 29.4**	**-1.6**
CUKT	**Cukurca**	**1.48**	**177**	PN	**Pg**	**05 45 35.5**	**-1.4**
SIRT	**Sirnak**	**1.49**	**215**	PN	**Pb**	**05 45 35.5**	**-0.4**

IDC 08 05:55:38.5±1.8, 24°.74N×141°.21E, h181km±21km, mb3.3/3, mb1 3.6/4, mb1mx3.0/44, mbtmp3.8/4, Error ellipse: s-maj=45.2km s-min=21.7km az=91.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.51**	**20**	P	Pn	05 56 22.8	+1.5
	baz=287,slow=19						
JCJ				S	Sn	05 56 54.4	-0.3
	8.0nm,0.3s,baz=287,slow=20,SNR=3.2						
WRA	**Warramunga Arr**	**44.91**	**189**	P	P	06 03 35.0	-0.3
	2.6nm,0.3s,baz=8.3,slow=8.7,SNR=56						
MKAR	**Makanchi Array**	**51.33**	**311**	P	P	06 04 24.2	0.0
	0.4nm,0.4s,baz=91,slow=9.0,SNR=5.9						
ILAR	**Eielson Array**	**60.20**	**28**	P	P	06 05 26.9	-0.1
	0.5nm,1.1s,baz=247,slow=6.4,SNR=1.9						

*NIED **08** 05:58:00, 39°.90N×142°.20E, h44km, Mw4.2 Best double couple: M₀2.12000×10¹⁵ NP1:φ₁95.00000°, δ14.00000°, λ87.00000°. NP2:φ₂18.00000°, δ76.00000°, λ91.00000°.*
*ISCJB **08** 05:58:52.8±0.7, 39°.89N±0°.03×142°.19E±0°.09, h54km±4km, mb4.0/11, MS3.4/7, Error ellipse: s-maj=11.2km s-min=5.4km az=9.2*
*JMA **08** 05:58:53.7±0.1, 39°.88N×142°.16E, h47km±1km, M3.9*
JMA Felt II J1.
*IDC **08** 05:58:55.8±2.0, 39°.90N×142°.18E, h70km±17km, mb3.7/11, mb1 3.9/15, mb1mx3.6/46, mbtmp4.0/15, MS3.2/13, Ms1 3.2/13, ms1mx3.0/49, Error ellipse: s-maj=22.1km s-min=12.3km az=103.0*

ISC 08 05:58:54.0±0.9, 39°.87N±0°.04×142°.11E±0°.08, h48km±7km, n42, σ1s19/37, mb4.0/11, MS3.6/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.20**	**289**	P	**Pn**	**05 59 02.4**	**+0.3**
JTH				*i* S	**Sn**	**05 59 08.1**	**+0.3**
MIYJ	**Miyakonagasawa**	**0.37**	**217**	P	**Pn**	**05 59 03.5**	**-0.2**
MIYJ				S	**Sn**	**05 59 10.3**	**-0.2**
JKEN	**Kujiedanarisaw**	**0.45**	**317**	P	**Pn**	**05 59 04.2**	**-0.3**
JKEN				S	**Sn**	**05 59 12.0**	**0.0**
JKZ	**Kuzumaki**	**0.61**	**281**	P	**Pn**	**05 59 07.0**	**+0.4**
JKZ				S	**Sn**	**05 59 16.2**	**+0.6**
JANG	**Nango**	**0.68**	**318**	P	**Pn**	**05 59 07.1**	**-0.3**
JANG				S	**Sn**	**05 59 16.3**	**-0.7**
JOM	**Ohasama**	**0.75**	**238**	P	**Pn**	**05 59 08.5**	**+0.2**
JOM				S	**Sn**	**05 59 19.0**	**+0.4**
OFUJ	**Ofunato**	**0.86**	**203**	P	**Pn**	**05 59 09.7**	**-0.2**
JMK	**Ichinoseki**	**1.15**	**217**	P	**Pn**	**05 59 14.0**	**+0.3**
JMK				S	**Sn**	**05 59 28.7**	**+0.4**
JAH	**Hinai**	**1.17**	**286**	P	**Pn**	**05 59 14.7**	**+0.7**
JTM	**Tenmabayashi**	**1.21**	**319**	P	**Pn**	**05 59 14.6**	**+0.1**
JTM				S	**Sn**	**05 59 29.9**	**+0.1**
JRG	**Rokugo**	**1.23**	**248**	P	**Pn**	**05 59 15.9**	**+1.0**
JRG				S	**Sn**	**05 59 32.3**	**+1.9**
ASAJ	**Asahikawa**	**4.25**	**5**	P	**Pn**	**05 59 57.5**	**+1.2**
	3.2nm,0.3s,baz=198,slow=8.0,SNR=7.5						
ASAJ				S	**Sn**	**06 00 45.2**	**+0.6**
	1.1nm,0.3s,baz=102,slow=19,SNR=3.1						
MAT	**Matsushiro**	**4.53**	**224**	P	**Pn**	**06 00 03.3**	**+3.2**
MJAR	**Matsushiro Arr**	**4.53**	**224**	P	**Pn**	**06 00 03.1**	**+3.1**
	2.8nm,0.3s,baz=28,slow=12,SNR=29						
MJAR				LR	LR	06 02 18.2	
	comp=Z,106nm,21.7s,baz=5.0,slow=44						
USRK	**Ussuriysk Ar.**	**8.68**	**303**	P	**Pn**	**06 01 00.1**	**+3.2**
	0.4nm,0.3s,baz=111,slow=14,SNR=7.9						
USRK				LR	LR	06 04 05.0	
	comp=Z,195nm,20.7s,baz=92,slow=36						
JNU	**Nakatsue**	**11.27**	**237**	LR	LR	06 06 22.4	
	comp=Z,90nm,18.5s,baz=104,slow=39						
KSRS	**Korea Array**	**11.35**	**262**	P	Pn	06 01 38.0	+4.6
	0.3nm,0.3s,baz=76,slow=13,SNR=5.7						
KSRS				LR	LR	06 05 35.9	
	comp=Z,61nm,19.3s,baz=76,slow=35						
KLR	**Kul'dur**	**11.91**	**325**	P	Pn	06 01 47.0	+6.0
	0.1nm,0.3s,baz=104,slow=19,SNR=2.5						
KLR				LR	LR	06 05 57.4	
	comp=Z,146nm,20.7s,baz=102,slow=35						
JCJ	**Chichijima**	**12.75**	**180**	LR	LR	06 09 42.0	
	comp=Z,16nm,19.7s,baz=222,slow=51						
PETK	**Petropavlovsk-**	**16.99**	**34**	P	**P**	**06 02 51.1**	**+1.7**
	0.5nm,0.3s,baz=195,slow=7.2,SNR=12						
YAK	**Yakutsk**	**23.44**	**345**	LR	LR	06 14 57.9	
	comp=Z,49nm,19.6s,baz=90,slow=41						
SONM	**Songino Array**	**26.76**	**299**	P	**P**	**06 04 29.6**	**+0.3**
	1.1nm,0.7s,baz=94,slow=7.7,SNR=4.6						
SONM				LR	LR	06 15 48.7	
	comp=Z,78nm,19.5s,baz=130,slow=38						
H11N2	**WAKE ISLAND Hy**	**29.26**	**126**	T	T	06 35 23.8	
	baz=318,slow=75,SNR=724						
H11N1	**WAKE ISLAND Hy**	**29.27**	**126**	T	T	06 35 26.8	
	baz=318,slow=75,SNR=379						
H11N3	**WAKE ISLAND Hy**	**29.27**	**126**	T	T	06 35 26.2	
	baz=318,slow=75,SNR=463						
H11S1	**WAKE ISLAND Hy**	**30.06**	**128**	T	T	06 36 26.5	
	baz=320,slow=76,SNR=97						
H11S3	**WAKE ISLAND Hy**	**30.06**	**128**	T	T	06 36 29.5	
	baz=320,slow=76,SNR=80						
H11S2	**WAKE ISLAND Hy**	**30.08**	**128**	T	T	06 36 26.4	
	baz=320,slow=76,SNR=81						
TIXI	**Tiksi**	**32.55**	**352**	LR	LR	06 20 53.0	
	comp=Z,47nm,20.4s,baz=171,slow=40						
ZALV	**Zalesovo Beam**	**40.46**	**310**	P	**P**	**06 06 27.2**	**-0.4**
	1.8nm,0.6s,baz=96,slow=8.9,SNR=6.3						
ZALV				LR	LR	06 23 55.2	
	comp=Z,86nm,18.5s,baz=64,slow=37						
NRIK	**Noril'sk**	**40.94**	**334**	LR	LR	06 24 11.2	
	comp=Z,88nm,18.8s,baz=182,slow=37						
CMAR	**Chiang Mai Arr**	**42.80**	**253**	P	**P**	**06 06 46.6**	**-0.7**
	1.2nm,0.3s,baz=35,slow=7.1,SNR=3.3						
MKAR	**Makanchi Array**	**43.13**	**300**	P	**P**	**06 06 49.3**	**-0.3**
	2.2nm,0.8s,baz=82,slow=8.1,SNR=12						
ILAR	**Eielson Array**	**46.82**	**34**	P	**P**	**06 07 19.3**	**+0.7**
	0.6nm,0.9s,baz=272,slow=7.1,SNR=3.1						
BVAR	**Borovoye Array**	**49.10**	**311**	LR	LR	06 28 24.9	
	comp=Z,60nm,19.8s,baz=317,slow=36						
ARU	**Arti**	**54.62**	**317**	LR	LR	06 33 36.6	
	comp=Z,51nm,18.5s,baz=60,slow=38						
WRA	**Warramunga Arr**	**59.95**	**188**	P	**P**	**06 08 54.2**	**-1.2**
	1.4nm,0.6s,baz=6.8,slow=7.0,SNR=23						
ASAR	**Alice Springs**	**63.67**	**188**	P	**P**	**06 09 19.8**	**-0.6**
	0.9nm,0.7s,baz=12,slow=5.4,SNR=10						
FINES	**FINESS Array B**	**66.56**	**332**	P	**P**	**06 09 37.9**	**-0.8**
	3.4nm,0.8s,baz=46,slow=8.5,SNR=4.5						
KBZ	**Khabaz**	**69.48**	**310**	P	**P**	**06 09 57.1**	**-0.2**
	4.1nm,0.9s,baz=7.4,slow=0.2,SNR=5.2						
NOA	**NORSAR Array B**	**71.78**	**337**	P	**P**	**06 10 10.6**	**-0.5**
	0.7nm,0.6s,baz=28,slow=8.3,SNR=2.8						
AKASG	**Malin Array Be**	**72.39**	**322**	P	**P**	**06 10 13.9**	**-0.9**
	0.8nm,0.6s,baz=45,slow=5.8,SNR=6.0						

KRSC 08 06:02:11.6±1.3, 50°.55N×157°.03E, h56km±18km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.60**	**284**	*e*P	Pn	06 02 25.2	+0.9
SKR				*e*S	Sn	06 02 34.9	+1.3
PAU	**Pauzhetka**	**0.93**	**352**	*e*P	Pn	06 02 29.8	+1.2
PAU				*e*S	Sn	06 02 43.5	+2.4
KDTR	**Khodutka, Kamc**	**1.43**	**27**	*e*P	Pn	06 02 36.7	+1.6
KDTR				*e*S	Sn	06 02 54.9	+2.1
MTVR	**Mutnovka**	**2.07**	**20**	*e*P	Pn	06 02 46.4	+2.4
MTVR				*e*S	Sn	06 03 11.6	+2.9
RUS	**Russkaya**	**2.11**	**26**	S	Sn	06 03 10.9	+1.6
AVH	**Avacha**	**2.92**	**21**	*e*P	Pn	06 02 59.5	+3.9
SMAR	**Somma**	**2.94**	**21**	*e*P	Pn	06 02 59.7	+3.8
SDLR	**Sedlovina**	**2.97**	**22**	*e*P	Pn	06 02 59.0	+2.8
GNL	**Ganaly**	**3.20**	**10**	*e*P	Pn	06 03 00.8	+1.3

IDC 08 06:04:27.9±2.4, 14°.00N×92°.23W, h0km, mb3.1/1, mb1 3.6/3, mb1mx3.3/34, mbtmp3.2/3, ML3.5/2, Error ellipse: s-maj=34.0km s-min=15.0km az=177.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**1.98**	**59**	Pg	Pb	06 05 04.2	-0.9
	18nm,0.3s,baz=243,slow=6.8,SNR=16						
APG				Lg	Lg	06 05 31.1	
	32nm,0.3s,baz=298,slow=18,SNR=6.7						
CMIG	**Matias Romero**	**4.00**	**321**	Pn	Pn	06 05 30.3	-0.2
	2.1nm,0.3s,baz=143,slow=12,SNR=11						
CMIG				Sn	Sn	06 06 19.9	+1.8
	7.1nm,0.3s,baz=103,slow=17,SNR=4.6						
CMIG				Lg	Lg	06 06 33.1	
	10nm,0.3s,baz=45,slow=23,SNR=6.0						
TXAR	**Lajitas Array**	**18.58**	**327**	P	Pn	06 08 48.2	+1.3
	0.1nm,0.3s,baz=138,slow=11,SNR=4.2						
NVAR	**Mina Array Bea**	**33.53**	**321**	P	P	06 11 10.1	+0.4
	0.1nm,0.4s,baz=139,slow=8.4,SNR=2.5						
CMAR	**Chiang Mai Arr**	**145.92**	**341**	PKPbc	PKPdf	06 24 08.7	-1.1
	0.7nm,0.4s,baz=328,slow=3.2,SNR=6.3						

*IDC **08** 06:10:49.6±3.2, 14°.24N×92°.26W, h0km, mb3.7/2, mb1 4.0/4, mb1mx3.7/32, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=45.1km s-min=13.8km az=3.0*
*MEX **08** 06:10:51.4±0.4, 14°.10N×92°.65W, h46km±22km, MD3.7*
*NEIC **08** 06:10:51.5±0.0, 14°.10N×92°.67W, h20km, MD4.0(MEX), After MEX.*

ISC 08 06:10:47.6±2.2, 14°.16N±0°.07×92°.65W±0°.06, h4km±13km, n19, σ1s86/28, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.83**	**26**	*e*Pg	**Pn**	**06 11 05.6**	**-0.3**
THIG				*e*Sg	**Sn**	**06 11 18.0**	**-0.5**
THIG		**0.83**	**26**	*e*P	**Pn**	**06 11 05.6**	**-0.3**
THIG				*i* S	**Sn**	**06 11 17.2**	**-1.4**
PCIG		**1.63**	**340**	*e*Pn	**Pb**	**06 11 17.4**	**-0.7**
PCIG				*e*Sn	**Sn**	**06 11 36.5**	**-1.9**
PCIG		**1.63**	**340**	*e*P	**Pb**	**06 11 17.4**	**-0.7**
PCIG				*e*S	**Sn**	**06 11 36.5**	**-1.9**
CCIG	**Comitan**	**2.16**	**13**	*e*Pn	**Pg**	**06 11 29.1**	**0.0**
CCIG				*e*Sn	**Sg**	**06 11 58.3**	**+1.2**
CCIG	**Comitan**	**2.16**	**13**	*e*P	**Pn**	**06 11 24.2**	**-0.3**
CCIG				*i* S	**Sn**	**06 11 50.2**	**-1.6**
APG	**El Apazote**	**2.27**	**68**	Pg	**Pn**	**06 11 24.3**	**-1.7**
	23nm,0.3s,baz=245,slow=6.9,SNR=26						
APG				Lg	Lg	06 11 50.1	
	36nm,0.3s,baz=336,slow=15,SNR=8.0						
TGIG		**2.64**	**350**	*e*Pn	**Pb**	**06 11 33.7**	**-1.7**
TGIG		**2.64**	**350**	*e*P	**Pn**	**06 11 30.9**	**0.0**
TGIG				*i* S	**Sn**	**06 12 01.5**	**-1.9**
CMIG	**Matias Romero**	**3.62**	**324**	Pn	**Pb**	**06 11 49.5**	**-2.6**
	3.4nm,0.3s,baz=144,slow=12,SNR=18						
CMIG				Sn	**Sb**	**06 12 34.8**	**-1.7**
	9.8nm,0.3s,baz=114,slow=20,SNR=6.8						
CMIG				Lg	Lg	06 12 49.6	
	18nm,0.3s,baz=195,slow=20,SNR=6.5						
TGUH	**Tegucigalpa,Un**	**5.21**	**91**	*e*Pn	**Pn**	**06 12 07.8**	**+1.5**
TGUH				*e*Sn	**Sn**	**06 13 06.5**	**-0.4**
ESTN	**Estel**	**6.19**	**99**	*e*Pn	**Pn**	**06 12 17.4**	**-2.4**
TEIG	**Tepich**	**7.33**	**34**	*e*Pn	**Pn**	**06 12 37.4**	**+1.9**
TEIG				*e*Sn	**Sn**	**06 13 58.1**	**-1.0**
UNM	**Universidad Na**	**8.09**	**310**	*e*Pn	**Pn**	**06 12 46.7**	**+0.5**
TXAR	**Lajitas Array**	**18.22**	**328**	P	**P**	**06 15 07.6**	**+5.8**
	0.1nm,0.3s,baz=148,slow=12,SNR=5.3						
ROSC	**El Rosal**	**20.29**	**115**	*e*P	**P**	**06 15 24.2**	**-0.7**
CRPR	**Cabo Rojo, PR**	**24.82**	**78**	*e*P	**P**	**06 16 10.7**	**-0.3**
NVAR	**Mina Array Bea**	**33.15**	**322**	P	P	06 17 30.4	+5.1
	0.5nm,0.6s,baz=125,slow=8.5,SNR=5.6						
YKA	**Yellowknife Ar**	**50.72**	**347**	P	**P**	**06 19 49.3**	**+1.1**
	1.0nm,0.6s,baz=149,slow=7.3,SNR=4.1						

GUC 08 06:16:43.6±0.5, 23°.77S×67°.46W, h232km±6km, ML3.5, 6C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.76**	**311**	*i* P	Pn	06 17 23.9	+1.1
LVC				*i* S	S	06 17 55.1	+1.7
PB15	**IPOC Station P**	**1.93**	**286**	⇑*i* P	Pn	06 17 25.5	+1.4
PB15				*i* S	S	06 17 57.4	+1.6
PB06	**IPOC Station P**	**2.21**	**298**	⇑*i* P	Pn	06 17 28.6	+1.8
PB06				*i* S	S	06 18 02.9	+2.3
PB06				IAML		06 18 04.1	
	comp=N,123nm,0.4s						
PB05	**IPOC Station P**	**2.68**	**289**	⇑*i* P	Pn	06 17 33.6	+2.0
PB05				*i* S	S	06 18 11.0	+1.8
PB05				IAML		06 18 15.0	
	comp=E,51nm,0.4s						
PB03	**IPOC Station P**	**2.72**	**309**	⇑*i* P	Pn	06 17 34.1	+2.0
PB03				*i* S	S	06 18 12.4	+2.4
PB04	**IPOC Station P**	**2.85**	**299**	⇓*i* P	Pn	06 17 35.9	+2.3
PB04				*i* S	S	06 18 15.4	+2.6
PB04				IAML		06 18 21.3	
	comp=E,88nm,0.2s						
PB07	**IPOC Station P**	**3.02**	**312**	⇑*i* P	Pn	06 17 37.6	+2.1
PB07				*i* S	S	06 18 18.1	+2.0
PB07				IAML		06 18 22.2	
	comp=N,61nm,0.3s						
PB01	**IPOC Station P**	**3.29**	**325**	⇑*i* P	Pn	06 17 40.5	+2.0
PB01				*i* S	S	06 18 24.1	+2.5
PB02	**IPOC Station P**	**3.31**	**317**	⇓*i* P	Pn	06 17 40.8	+2.0
PB02				*i* S	S	06 18 24.3	+2.3
MNMC	**Minye Minye**	**5.02**	**336**	*e*P	Pn	06 18 02.7	+3.2
MNMC				*i* S	S	06 19 01.9	+2.3

*NEIC **08** 06:24:10.0±0.0, 32°.71S×71°.31W, h46km, mb4.3/3, ML4.1(GUC), After GUC.*
NEIC Felt [III] at Puchuncavi, Quillota, Tiltil, Valparaiso, Villa Alemana and Vina del Mar; [II] at San Antonio and Santiago. Also felt at Las Condes and Quilpue.
*GUC **08** 06:24:10.3±0.6, 32°.71S×71°.31W, h46km±2km, ML4.1*
*SJA **08** 06:24:12.3±0.8, 32°.65S×71°.17W, h12km±7km, ML3.7, MW3.8*
*IDC **08** 06:24:15.5±1.2, 32°.74S×71°.31W, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.8/27, mbtmp3.8/7, ML3.7/1, Error ellipse: s-maj=41.5km s-min=29.1km az=29.0*

ISC 08 06:24:08.3±0.7, 32°.74S±0°.03×71°.49W±0°.05, h24km±4km, n60, σ1s52/59, mb3.9/8, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.47**	**121**	*e*Pn	**Pn**	**06 24 20.1**	**+0.4**
ROC1				*e*Sn	**Sn**	**06 24 26.6**	**-0.7**
ROC1	**El Roble**	**0.47**	**121**	*e*P	**Pn**	**06 24 19.9**	**+0.3**
ROC1				*e*S	**Sn**	**06 24 25.9**	**-1.4**
ROCH	**El Roble**	**0.47**	**120**	⇑*i* P	**Pn**	**06 24 19.9**	**+0.2**
ROCH				*i* S	**Sn**	**06 24 27.3**	**0.0**
ROCH				IAML		06 24 31.1	
	comp=E,14μm,0.6s						
PEL	**Peldehue**	**0.79**	**121**	*e*Pn	**Pn**	**06 24 24.4**	**+0.4**
PEL				*e*Sn	**Sb**	**06 24 33.0**	**-0.8**
PEL	**Peldehue**	**0.79**	**121**	⇑*i* P	**Pn**	**06 24 24.1**	**+0.1**
PEL				*i* S	**Sn**	**06 24 34.3**	**-0.7**
PEL				IAML		06 24 35.7	
	comp=N,19μm,0.2s						
CLCH	**Cerro Calan**	**1.03**	**130**	⇓*i* P	**Pb**	**06 24 28.0**	**+0.3**
CLCH				*i* S	**Sn**	**06 24 41.1**	**0.0**
CLCH				IAML		06 24 45.9	
	comp=N,7μm,0.3s						
ANTU	**Antumapu**	**1.10**	**139**	⇓*i* P	**Pb**	**06 24 28.9**	**+0.3**
ANTU				*i* S	**Sn**	**06 24 43.0**	**+0.4**
ANTU				IAML		06 24 43.4	
	comp=N,7μm,0.2s						
FCH	**Farellones**	**1.17**	**121**	⇓*i* P	**Pb**	**06 24 29.9**	**-0.1**
FCH				*i* S	**Sb**	**06 24 44.7**	**-0.2**
FCH				IAML		06 24 45.2	
	comp=E,11μm,0.2s						
LMEL	**Las Melosas**	**1.54**	**136**	⇓*i* P	**Pb**	**06 24 35.6**	**-0.8**
LMEL				*i* S	**Sb**	**06 24 54.9**	**-0.6**
LMEL				IAML		06 24 58.8	
	comp=N,9μm,0.1s						
CMCH	**Combarbala**	**1.61**	**15**	*e*P	**Pb**	**06 24 36.8**	**-0.7**
AUSP	**Uspallata**	**1.85**	**74**	*e*P	**Pb**	**06 24 42.2**	**+0.6**
RTLS	**Leoncito**	**2.08**	**64**	*e*P	**Pb**	**06 24 45.6**	**0.0**
ARCO	**CERRO ARCO**	**2.16**	**93**	*e*P	**Pb**	**06 24 47.0**	**+0.2**
ARCO				IAML		06 25 01.0	
	comp=Z,641nm,0.4s						
ASAL	**Salagasta**	**2.25**	**87**	*e*P	**Pb**	**06 24 48.3**	**+0.1**
AAGR	**Agrelo**	**2.27**	**99**	*e*P	**Pb**	**06 24 48.5**	**-0.1**
GO05	**Hualaæ0**	**2.29**	**189**	*e*Pn	**Pn**	**06 24 45.3**	**+0.7**
GO05				*e*Sn	**Sn**	**06 25 11.9**	**-0.2**
GO05	**Hualaæ0**	**2.29**	**189**	⇑*i* P	**Pn**	**06 24 44.9**	**+0.3**
GO04	**Tololo Observa**	**2.62**	**13**	*e*Pn	**Pn**	**06 24 51.8**	**+2.4**
GO04	**Tololo Observa**	**2.62**	**13**	⇑*i* P	**Pn**	**06 24 51.0**	**+1.6**
ACCO	**Cerro Coronel**	**2.98**	**45**	*e*P	**Pb**	**06 24 59.6**	**-1.3**
AROD	**Rodeo**	**3.09**	**34**	*e*P	**Pb**	**06 25 01.7**	**-1.1**
ACDV	**Cuesta del Vie**	**3.26**	**39**	*e*P	**Pb**	**06 25 02.9**	**-2.7**
ACAN	**Cantantal**	**3.66**	**84**	*e*P	**Pn**	**06 25 07.3**	**+3.8**
LCO	**Las Campanas**	**3.78**	**11**	*e*Pn	**Pn**	**06 25 04.6**	**-0.6**
GO06	**Curarrehue**	**6.83**	**180**	*e*Pn	**Pn**	**06 25 47.9**	**+0.8**
PLCA	**Paso Flores**	**8.01**	**175**	Pn	**Pn**	**06 26 04.8**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=2.7,slow=12,SNR=19						
PLCA				Sn	Sb	06 27 57.5	-3.9
	comp=Z,0.1nm,0.3s,baz=281,slow=18,SNR=1.5						
TRQA	**Tornquist**	**9.40**	**127**	*e*Pn	**Pn**	**06 26 21.4**	**-0.8**
LVC	**Limon Verde**	**10.35**	**13**	Pn	Pn	06 26 40.9	+5.3
	comp=Z,0.3nm,0.3s,baz=153,slow=4.5,SNR=3.2						
LVC				Sn	Sn	06 28 42.7	+12
	baz=191,slow=16,SNR=2.2						
LVC				Lg	Lg	06 29 13.5	
	comp=Z,1.5nm,0.3s,baz=309,slow=23,SNR=4.7						
PB11	**IPOC Station P**	**13.03**	**8**	*e*Pn	**Pn**	**06 27 11.9**	**-0.2**
MNMC	**Minye Minye**	**13.66**	**8**	*e*Pn	**Pn**	**06 27 20.3**	**-0.5**
CPUP	**Villa Florida**	**13.88**	**66**	Pn	**Pn**	**06 27 22.9**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=239,slow=4.7,SNR=3.5						
CPUP				Lg	Lg	06 31 06.8	
	comp=Z,0.1nm,0.3s,baz=171,slow=19,SNR=2.3						
LPAZ	**La Paz**	**16.66**	**11**	Pn	**P**	**06 28 09.2**	**+6.1**
	comp=Z,0.1nm,0.3s,baz=204,slow=8.3,SNR=10.0						
LPAZ	**La Paz**	**16.66**	**11**	Pn	**P**	**06 28 09.2**	**+6.1**
	comp=Z,2.3nm,0.8s						
GO09	**Cerro Castillo**	**18.53**	**182**	*e*P	**P**	**06 28 23.1**	**+0.2**
	comp=Z,105nm,1.6s						
GO10	**Punta Arenas**	**20.41**	**179**	*e*P	**P**	**06 28 43.7**	**+0.3**
	comp=Z,179nm,1.5s						
EFI	**East Falkland**	**21.31**	**157**	*e*P	**P**	**06 28 52.5**	**-0.6**
	comp=Z,226nm,1.8s						
SAML	**Samuel**	**24.89**	**20**	*e*P	**P**	**06 29 29.2**	**-0.1**
SAML				*e*pP	**sP**	**06 29 39.1**	**-0.5**
BDFB	**Brasilia**	**27.25**	**57**	P	pP	06 30 00.6	+2.5
	comp=Z,3.1nm,0.7s,baz=186,slow=8.6,SNR=4.7						
BDFB	**Brasilia**	**27.25**	**57**	*e*P	**P**	**06 29 49.8**	**-1.1**
BDFB				*e*pP	**sP**	**06 30 00.8**	**-0.3**
VNA3	**Neumayer Olymp**	**50.35**	**158**	P	**P**	**06 33 02.9**	**+0.1**
VNA2	**Neumayer--Watz**	**51.00**	**158**	P	**P**	**06 33 07.6**	**-0.1**
	baz=289,slow=9.1						
SNAA	**Sanae**	**52.58**	**158**	P	**P**	**06 33 19.4**	**-0.1**
TXAR	**Lajitas Array**	**68.87**	**330**	P	P	06 35 22.6	+12
	comp=Z,0.3nm,0.5s,baz=159,slow=7.2,SNR=8.4						
WVT	**Waverly**	**70.20**	**346**	*e*P	**P**	**06 35 18.5**	**-0.3**
WVT				*e*pP	**sP**	**06 35 29.8**	**+0.2**
LPM	**Los Pinos Moun**	**74.43**	**330**	*e*P	**P**	**06 35 44.4**	**-0.1**
LPM				*e*S	**S**	**06 45 15.5**	**-2.3**
BOSA	**Boshof**	**80.25**	**118**	P	P	06 36 28.1	+11
	comp=Z,1.5nm,0.5s,baz=236,slow=4.6,SNR=3.9						
PSUT	**Pine Spring**	**81.11**	**328**	*e*P	**P**	**06 36 21.8**	**+0.2**
	comp=Z,4.9nm,1.0s						
PDAR	**Pinedale Array**	**82.85**	**333**	P	P	06 36 43.2	+13
	comp=Z,0.2nm,0.7s,baz=116,slow=6.1,SNR=3.2						
NVAR	**Mina Array Bea**	**83.12**	**325**	P	P	06 36 43.4	+11
	comp=Z,0.4nm,0.7s,baz=130,slow=5.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**83.35**	**70**	P	P	06 36 44.3	+11
	comp=Z,0.6nm,0.9s,baz=264,slow=4.3						
WRA	**Warramunga Arr**	**122.08**	**209**	PKP	PKPdf	06 43 12.0	+11
	comp=Z,0.5nm,1.1s,baz=186,slow=1.7,SNR=4.7						
H11S2	**WAKE ISLAND Hy**	**26.24**	**270**	T	T	09 02 07.5	
	baz=118,slow=75,SNR=56						
H11S1	**WAKE ISLAND Hy**	**26.25**	**270**	T	T	09 02 08.9	
	baz=118,slow=75,SNR=113						
H11S3	**

ISC 08 07:11:14.3±1.5, 41°30N±0°.03×71°21E±0°.05, h11km±13km, n15, σ1s10/28, 13C-13D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.75**	**48**	⇑	*iP*		**Pg**	**07 11 28.2**	**-0.7**
	baz=56								
ARK				⇑	*iS*		**Sb**	**07 11 40.0**	**+0.1**
	baz=56								
IUG	**luzhnay**	**1.22**	**314**		*eP*		**Pn**	**07 11 36.3**	**-1.2**
IUG	13nm,0.2s				*eS*		**Sn**	**07 11 55.4**	**+1.3**
	16nm,0.2s								
BTK	**Batken**	**1.28**	**194**	⇓	*iP*		**Pn**	**07 11 37.4**	**-0.8**
	baz=90								
BTK				⇓	*iS*		**Sg**	**07 11 55.8**	**+0.5**
	baz=90								
ARSB	**Arslanbob**	**1.33**	**88**	⇑	*iP*		**Pb**	**07 11 39.3**	**-0.1**
	baz=90								
ARSB				⇑	*iS*		**Sg**	**07 11 58.9**	**+1.6**
	baz=90								
MNAS	**Manas**	**1.53**	**39**	⇓	*P*		**Pb**	**07 11 42.6**	**-0.1**
	1.4nm,0.4s								
MNAS				⇓	*S*		**Sg**	**07 12 05.1**	**+1.5**
	1.5nm,0.3s								
MNAS	**Manas**	**1.53**	**39**	⇑	*iP*		**Pb**	**07 11 42.2**	**-0.6**
	baz=42								
MNAS				⇑	*iS*		**Sg**	**07 12 03.2**	**-0.3**
	baz=42								
DRK	**Karamyk**	**1.87**	**166**	⇓	*iP*		**Pb**	**07 11 49.1**	**+0.4**
	baz=64								
DRK				⇓	*iS*		**Sg**	**07 12 15.7**	**+1.2**
	baz=64								
AML	**Almayashu**	**2.04**	**65**	⇓	*iP*		**Pb**	**07 11 51.2**	**-0.4**
	baz=67								
AML				⇓	*eS*		**Sg**	**07 12 19.8**	**0.0**
	baz=67								
MRKS	**Merke**	**2.08**	**45**		*eP*		**Pb**	**07 11 52.8**	**+0.6**
	4.5nm,0.4s								
MRKS					*eS*		**Sg**	**07 12 23.9**	**+2.6**
	4.8nm,0.3s								
SFK	**Sufi-Kurgan**	**2.17**	**126**	⇓	*iP*		**Pb**	**07 11 53.8**	**+0.1**
	baz=25								
SFK				⇓	*iS*		**Sg**	**07 12 23.3**	**-0.6**
	baz=25								
EKS2	**Erkin-Say**	**2.35**	**54**	⇑	*eP*		**Pb**	**07 11 55.4**	**-1.3**
	baz=55								
EKS2				⇑	*iS*		**Sb**	**07 12 26.4**	**+0.6**
	baz=55								
ARLS	**Aral**	**2.40**	**75**	⇓	*iP*		**Pb**	**07 11 56.4**	**-1.2**
	baz=76								
ARLS				⇓	*iS*		**Sb**	**07 12 28.6**	**+1.3**
	baz=76								
UCH	**Uchtor**	**2.64**	**68**	⇑	*eP*		**Pb**	**07 11 59.9**	**-2.0**
	baz=70								
UCH				⇑	*iS*		**Sb**	**07 12 34.1**	**-0.4**
	baz=70								
AAK	**Ala-Archa**	**2.79**	**60**	⇑	Pg		**Pb**	**07 12 04.5**	**+0.3**
	2.3nm,0.6s								
AAK				⇑	Lg		Lg	07 12 43.4	
	1.3nm,0.5s								
TKM2	**Tokmak 2**	**3.64**	**62**	⇓	Pg		**Pb**	**07 12 19.2**	**+0.4**
	2.7nm,1.2s								
TKM2				⇑	Lg		Lg	07 13 08.2	
	3.9nm,1.0s								

*ISCJB **08** 07:13:02.5±0.2, 18°.12S±0°.04×178°.09W±0°.06, h590km, mb4.3/69, Error ellipse: s-maj=7.9km s-min=5.0km az=23.0*

*NEIC **08** 07:13:05.8±0.6, 18°.17S×178°.03W, h618km±8km, mb4.4/51, Error ellipse: s-maj=8.0km s-min=5.0km az=121.0*

*IDC **08** 07:13:07.8±1.1, 18°.07S×178°.13W, h639km±15km, mb3.6/18, mb1 3.7/20, mb1mx3.6/29, mbtmp4.6/20, Error ellipse: s-maj=13.6km s-min=8.6km az=147.0*

ISC 08 07:13:04.1±0.4, 18°.12S±0°.08×178°.14W±0°.08, h590km, n124, σ1s45/128, mb4.3/69, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.41**	**57**			P	P	07 15 01.5	+3.8
	3.9nm,0.3s,baz=242,slow=15,SNR=7.0								
AFI						S	**S**	**07 16 34.9**	**+4.3**
	2.2nm,0.3s,baz=191,slow=12,SNR=7.2								
AFI	**Afiamalu**	**7.41**	**57**		*eP*		**P**	07 15 00.2	+2.5
FUNA	**Funafuti**	**9.88**	**344**		*eP*		**P**	**07 15 25.0**	**+3.4**
DZM	**Mont Dzumac**	**15.01**	**252**		P		**P**	**07 16 16.3**	**+3.5**
	0.9nm,0.3s,baz=130,slow=19,SNR=8.6								
DZM	**Mont Dzumac**	**15.01**	**252**		*eP*		**P**	**07 16 15.4**	**+2.6**
	6.9nm,1.0s								
OUZ	**Omahuta**	**18.55**	**202**		*eP*		**P**	**07 16 48.9**	**+3.8**
	9.9nm,1.0s								
MXZ	**Matakaoa Point**	**19.62**	**188**		*eP*		**P**	**07 16 55.0**	**+0.3**
	46nm,1.0s								
URZ	**Urewera**	**20.49**	**191**		P		**P**	**07 17 01.4**	**-1.1**
	3.4nm,0.3s,baz=343,slow=17,SNR=2.9								
URZ	**Urewera**	**20.49**	**191**		*eP*		**P**	**07 17 01.4**	**-1.1**
	12nm,1.0s								
BKZ	**Black Stump Fm**	**21.48**	**191**		*eP*		**P**	**07 17 10.4**	**-1.1**
	7.7nm,1.0s								
BFZ	**Birch Farm**	**23.00**	**191**		*eP*		**P**	**07 17 25.2**	**+0.3**
	25nm,1.1s								
SNZO	**South Karori**	**23.91**	**193**		*eP*		**P**	**07 17 32.7**	**-0.3**
	24nm,1.0s								
THZ	**Tophouse**	**24.78**	**196**		*eP*		**P**	**07 17 41.2**	**+0.4**
	9.1nm,0.7s								
KHZ	**Kahutara**	**25.23**	**195**		*eP*		**P**	**07 17 44.3**	**-0.3**
	11nm,0.8s								
LTZ	**Lake Taylor**	**25.90**	**196**		*eP*		**P**	**07 17 49.9**	**-0.7**
	15nm,0.8s								
OXZ	**Oxford**	**26.47**	**196**		*eP*		**P**	**07 17 55.2**	**-0.3**
	16nm,0.9s								
CRLZ	**Canterbury Las**	**26.55**	**195**		*eP*		**P**	**07 17 56.1**	**-0.1**
	9.4nm,0.5s								
MQZ	**McQueen's Vall**	**26.66**	**195**		*eP*		**P**	**07 17 56.5**	**-0.8**
	12nm,1.0s								
RPZ	**Rata Peaks**	**27.10**	**197**		P		**P**	**07 18 01.8**	**+0.7**
	6.1nm,0.7s,baz=4.1,slow=14,SNR=4.0								
RPZ	**Rata Peaks**	**27.10**	**197**		*eP*		**P**	**07 18 01.7**	**+0.7**
	13nm,1.2s								
PPT	**Papeete**	**27.18**	**93**		P		**P**	**07 18 03.4**	**+1.2**
	27nm,0.9s,baz=223,slow=19,SNR=3.9								
PPT	**Papeete**	**27.18**	**93**		*eP*		**P**	**07 18 03.0**	**+0.8**
PPTF	**Pamatai, Papee**	**27.19**	**93**		*eP*		**P**	**07 18 03.0**	**+0.7**
FOZ	**Fox Glacier**	**27.30**	**199**		*eP*		**P**	**07 18 02.4**	**-0.4**
	15nm,0.6s								
LBZ	**Lake Benmore**	**27.96**	**198**		*eP*		**P**	**07 18 07.7**	**-0.9**
	11nm,1.1s								
ODZ	**Otahua Downs**	**28.43**	**197**		*eP*		**P**	**07 18 12.3**	**-0.4**
	3.6nm,0.7s								
WKZ	**Wanaka**	**28.72**	**199**		*eP*		**P**	**07 18 15.2**	**+0.1**
	13nm,1.0s								
EIDS	**Eidsvold**	**29.44**	**250**		*eP*		**P**	**07 18 19.4**	**-2.2**
	8.9nm,1.1s								
MLZ	**Mavora Lakes**	**29.48**	**200**		*eP*		**P**	**07 18 22.3**	**+0.5**
	6.6nm,0.9s								
DCZ	**Deep Cove**	**29.89**	**201**		*eP*		**P**	**07 18 24.5**	**-0.7**
	7.8nm,0.9s								
WHZ	**Wether Hill Ro**	**30.01**	**200**		*eP*		**P**	**07 18 25.2**	**-1.0**
	17nm,0.9s								
CTA	**Charters Tower**	**33.67**	**261**		P		**P**	**07 18 59.4**	**+1.7**
	3.7nm,0.4s,baz=91,slow=11,SNR=7.9								
CTAO	**Charters Tower**	**33.67**	**261**		*eP*		**P**	**07 18 59.6**	**+1.9**
	6.0nm,0.6s								
CAN	**Canberra**	**33.78**	**233**		*eP*		**P**	**07 19 00.9**	**+2.4**
STKA	**Stephens Creek**	**38.75**	**241**		P		**P**	**07 19 41.4**	**+2.1**
	2.1nm,0.4s,baz=104,slow=10,SNR=9.0								
STKA	**Stephens Creek**	**38.75**	**241**		*eP*		**P**	**07 19 41.6**	**+2.4**
	0.5nm,0.6s								
BBOO	**Buckleboo**	**43.53**	**241**		*eP*		**P**	**07 20 18.1**	**+1.1**
	6.6nm,0.6s								
WB2	**Warramunga Arr**	**44.84**	**260**		*eP*		**P**	**07 20 27.6**	**+0.4**
WRAB	**Tennant Creek**	**44.84**	**260**		*eP*		**P**	**07 20 27.6**	**+0.4**
	20nm,1.1s								
WRA	**Warramunga Arr**	**44.85**	**260**		P		**P**	**07 20 27.9**	**+0.7**
	7.9nm,0.3s,baz=96,slow=7.1,SNR=402								
WRA						P	**PcP**	**07 21 55.2**	**-0.9**
	0.8nm,0.3s,baz=90,slow=3.7,SNR=5.4								
WRA						S	**S**	**07 26 18.9**	**-4.2**
	1.3nm,0.8s,baz=98,slow=13,SNR=7.2								
AS01	**Alice Springs**	**44.94**	**254**		*eP*		**P**	**07 20 28.9**	**+0.9**
AS01					*eP*	cP	**PcP**	**07 21 55.5**	**-1.0**
AS31	**Alice Springs**	**44.98**	**254**		*eP*		**P**	**07 20 29.0**	**+0.7**
	4.3nm,0.7s								
ASAR	**Alice Springs**	**44.98**	**254**		P		**P**	**07 20 29.4**	**+1.0**
	21nm,0.7s,baz=90,slow=7.8,SNR=253								
ASAR						P	**PcP**	**07 21 55.5**	**-1.1**
	2.3nm,0.4s,baz=96,slow=4.1,SNR=9.0								
ASAR						S	**S**	**07 26 22.1**	**-2.8**
	1.8nm,0.7s,baz=89,slow=15,SNR=15								
MTN	**Manton Dam**	**49.05**	**269**		*eP*		**P**	**07 20 59.1**	**+0.3**
	14nm,0.8s								
FORT	**Forrest**	**50.15**	**245**		*eP*		**P**	**07 21 06.9**	**+0.2**
	14nm,0.7s								
FAKI	**Fak Fak**	**50.87**	**281**		*eP*		**P**	**07 21 12.5**	**+0.3**
	10nm,1.1s								
FITZ	**Fitzroy Crossi**	**53.25**	**261**		*eP*		**P**	**07 21 29.7**	**+0.6**
	3.0nm,0.6s								
MBWA	**Marble Bar**	**58.27**	**256**		*eP*		**P**	**07 22 03.8**	**0.0**
	6.0nm,0.8s								
NWAO	**Narrogin (SRO)**	**59.34**	**242**		*eP*		**P**	**07 22 11.2**	**+0.5**
	9.2nm,1.0s								
SBA	**Scott Base**	**60.22**	**184**		*eP*		**P**	**07 22 17.4**	**+1.7**
	6.5nm,1.0s								
VNDA	**Vanda**	**60.26**	**185**		P		**P**	**07 22 16.8**	**+0.8**
	0.9nm,0.5s,baz=359,slow=6.3,SNR=17								
JHJ2	**Mitsune**	**64.87**	**322**		*eP*		**P**	**07 22 46.7**	**+0.4**
	219nm,1.0s								
JHJ	**Hachijo jima 2**	**64.90**	**322**		P		**P**	**07 22 46.5**	**+0.1**
	55nm,0.3s,baz=49,slow=20,SNR=4.2								
MJAR	**Matsushiro Arr**	**68.23**	**323**		P		**P**	**07 23 06.3**	**-0.6**
	4.6nm,0.5s,baz=166,slow=5.8,SNR=8.1								
MAT	**Matsushiro**	**68.23**	**323**		P		**P**	**07 23 06.5**	**-0.5**
ADK	**Adak**	**69.72**	**1**		*eP*		**P**	**07 23 14.6**	**-0.9**
	19nm,0.7s								
UGM	**Wanagama**	**69.90**	**268**		*eP*		**P**	**07 23 17.2**	**-0.3**
	41nm,0.8s								
JNU	**Nakatsue**	**70.47**	**316**		P		**P**	**07 23 20.0**	**-0.4**
	2.9nm,0.4s,baz=90,slow=1.0,SNR=3.2								
QSPA	**South Pole Qui**	**71.93**	**180**		*eP*		**P**	**07 23 27.6**	**-1.0**
	4.9nm,0.6s								
PETK	**Petropavlovsk-**	**73.95**	**345**		P		**P**	**07 23 39.4**	**-0.6**
	6.6nm,0.6s,baz=124,slow=7.5,SNR=19								
KSRS	**Korea Array**	**75.03**	**318**		P		**P**	**07 23 46.1**	**-0.2**
	1.1nm,0.5s,baz=122,slow=6.2,SNR=3.4								
USRK	**Ussuriysk Ar.**	**76.94**	**326**		P		**P**	**07 23 57.2**	**+0.5**
	1.4nm,0.6s,baz=128,slow=3.7								
NV01	**Mina Array Sit**	**79.40**	**44**		*eP*		**P**	**07 24 09.1**	**-1.2**
NVAR	**Mina Array Bea**	**79.40**	**44**		P		**P**	**07 24 09.8**	**-0.5**
	1.6nm,0.7s,baz=224,slow=9.1,SNR=11								
MOD	**Modoc Plateau**	**80.08**	**40**		*eP*		**P**	**07 24 13.4**	**-0.4**
	3.6nm,0.7s								
CN2	**Changchun**	**80.35**	**322**		*eP*		**P**	**07 24 14.9**	**+0.1**
CN2						pmax	pmax		
	comp=Z,10.0nm,0.9s								
PINE	**Pine Mountain**	**80.80**	**38**		*eP*		**P**	**07 24 17.0**	**-0.5**
	comp=Z,7.7nm,0.9s								
J08A	**Circle Bar Ran**	**82.02**	**39**		*eP*		**P**	**07 24 23.4**	**-0.2**
	comp=Z,3.3nm,0.8s								
SUA	**Susitna One**	**82.28**	**13**		*eP*		**P**	**07 24 22.8**	**-1.7**
	comp=Z,10nm,1.0s								
U15A	**North Rim**	**82.47**	**48**		*eP*		**P**	**07 24 25.4**	**-0.8**
	comp=Z,3.3nm,0.8s								
GHO	**Glory Hole Cre**	**82.95**	**14**		*eP*		**P**	**07 24 26.4**	**-1.4**
	comp=Z,12nm,0.8s								
SCM	**Sheep Creek Mo**	**83.37**	**14**		*eP*		**P**	**07 24 28.7**	**-1.1**
	comp=Z,12nm,0.6s								
MAW	**Mawson**	**83.75**	**200**		P		P	07 24 25.9	-5.7
	comp=Z,0.7nm,0.4s,baz=200,slow=17,SNR=8.9								
SEY	**Seymchan**	**84.04**	**347**		P		**P**	**07 24 32.0**	**-1.0**
	comp=Z,1.6nm,0.4s,baz=154,slow=5.4,SNR=16								
TRF	**Thorofare Moun**	**84.16**	**12**		*eP*		**P**	**07 24 31.8**	**-2.0**
	comp=Z,13nm,0.7s								
RND	**Reindeer**	**84.42**	**13**		*eP*		**P**	**07 24 33.6**	**-1.3**
	comp=Z,12nm,0.8s								
HLID	**Hailey**	**84.62**	**41**		*eP*		**P**	**07 24 36.2**	**-0.4**
	comp=Z,2.1nm,0.9s								
MCK	**McKinley**	**84.69**	**13**		*eP*		**P**	**07 24 35.1**	**-1.1**
	comp=Z,5.3nm,0.6s								
WRH	**Wood River Hil**	**85.52**	**13**		*eP*		**P**	**07 24 38.5**	**-1.7**
	comp=Z,5.5nm,1.0s								
HDA	**Harding Lake**	**85.71**	**13**		*eP*		**P**	**07 24 39.5**	**-1.6**
	comp=Z,4.8nm,0.6s								
CCB	**Clear Creek Bu**	**85.73**	**13**		*eP*		**P**	**07 24 39.3**	**-1.8**
	comp=Z,11nm,1.2s								
TX31	**Lajitas Ar. Si**	**85.89**	**58**		*eP*		**P**	**07 24 43.4**	**+0.5**
TXAR	**Lajitas Array**	**85.89**	**58**		P		**P**	**07 24 43.2**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=220,slow=6.2,SNR=25								
MDM	**Murphy Dome**	**85.92**	**12**		*eP*		**P**	**07 24 39.7**	**-2.4**
	comp=Z,4.1nm,0.9s								
IL1	**Eielson Arry**	**86.04**	**13**		*eP*		**P**	**07 24 40.7**	**-2.0**
ILAR	**Eielson Array**	**86.04**	**13**		P		**P**	**07 24 40.6**	**-2.0**
	comp=Z,2.1nm,0.5s,baz=221,slow=4.9,SNR=43								
ILB	**Eielson Array**	**86.04**	**13**		*eP*		**P**	**07 24 40.8**	**-1.8**
MCMT	**McKenzie Canyo**	**86.23**	**40**		*eP*		**P**	**07 24 44.2**	**-0.2**
XAN	**Xi'an**	**86.59**	**307**		P		**P**	**07 24 46.3**	**+0.2**
XAN						pP	PcP	07 24 57.9	+10
XAN						pmax	pmax		
	comp=Z,9.0nm,1.1s								
PDAR	**Pinedale Array**	**87.33**	**43**		P		**P**	**07 24 48.1**	**-1.4**
	comp=Z,1.3nm,0.6s,baz=226,slow=3.5,SNR=8.8								
PDAR	**Pinedale Array**	**87.33**	**43**		*eP*		**P**	**07 24 48.3**	**-1.2**
HHC	**Hu-ho-hao-te**	**87.60**	**314**		*eP*		**P**	**07 24 53.3**	**+2.6**
HHC						pmax	pmax		
	comp=Z,38nm,0.7s								
HHC						pmax	pmax		
	comp=Z,190nm,6.8s								
CMAR	**Chiang Mai Arr**	**89.20**	**290**		P		**P**	**07 24 59.0**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=112,slow=3.3,SNR=11								
MKAR	**Makanchi Array**	**109.47**	**314**		PKiKP		**PKiKP**	**07 30 25.7**	**-2.6**
	comp=Z,0.5nm,0.6s,baz=75,slow=0.1,SNR=3.8								
ARCES	**ARCESS Array B**	**126.57**	**350**		PKP		**PKPdf**	**07 30 58.5**	**-2.0**
	comp=Z,2.5nm,0.6s,baz=25,slow=0.6,SNR=14								
FINES	**FINESS Array B**	**133.46**	**344**		PKP		**PKPdf**	**07 31 11.2**	**-2.5**
	comp=Z,4.2nm,1.0s,baz=110,slow=2.8,SNR=4.6								
AKASG	**Malin Array Be**	**140.87**	**332**		PKhKP		PKPpre	07 31 20.1	
	comp=Z,1.2nm,0.3s,baz=42,slow=3.9,SNR=9.0								
AKASG					PKP		**PKPdf**	**07 31 27.9**	**+0.3**
	comp=Z,1.0nm,0.4s,baz=34,slow=2.5,SNR=3.4								
BUR08	**Bucovina Ar. S**	**144.91**	**332**		*e*PKPdf		PKPbc	07 31 35.0	-0.8
BUR04	**Bucovina Ar. S**	**144.92**	**332**		*e*PKPdf		**PKPab**	**07 31 35.4**	**-1.4**
BR131	**Keskin Array S**	**145.11**	**315**		*e*PKPdf		**PKPdf**	**07 31 35.1**	**-0.6**
BRTR	**Keskin Array B**	**145.11**	**315**		PKPbc		**PKPdf**	**07 31 35.2**	**-0.4**
	comp=Z,4.6nm,0.8s,baz=137,slow=4.0,SNR=17								
CLL	**Collm**	**145.73**	**348**		*e*PKPdf		**PKPbc**	**07 31 36.5**	**-1.4**
CLL	**Collm**	**145.73**	**348**	⇓	*i*PKPbc		**PKPbc**	**07 31 36.4**	**-1.4**
	comp=Z,18nm,0.6s								
DPC	**Dobruska-Polom**	**145.82**	**343**		*e*PKP		**PKPbc**	**07 31 37.4**	**-0.8**
LANS	**Liptovska Anna**	**145.93**	**339**		*e*PKP		**PKPbc**	**07 31 38.3**	**-0.2**
BRG	**Berggiesshubel**	**145.93**	**346**		*i* PKP		**PKPbc**	**07 31 37.3**	**-1.1**
	comp=Z,14nm,1.1s								
VYHS	**Vyhne**	**146.71**	**339**		*e*PKP		**PKPbc**	**07 31 39.6**	**-1.0**
NKC	**Novy Kostel**	**146.86**	**348**		*e*PKP		**PKPbc**	**07 31 40.0**	**-1.0**
MODS	**Modra-Piesok**	**147.32**	**341**		*e*PKP		**PKPbc**	**07 31 40.9**	**-1.3**
KHC	**Kasperske Hory**	**147.65**	**346**		*e*PKPbc		**PKPbc**	**07 31 42.3**	**-0.8**
KHC	**Kasperske Hory**	**147.65**	**346**		*e*PKP		**PKPbc**	**07 31 42.0**	**-1.1**
GEC2	**GERESS Array S**	**147.88**	**345**		*e*PKPbc		**PKPbc**	**07 31 42.3**	**-1.4**
GERES	**GERESS Array B**	**147.88**	**345**		PKPbc		**PKPbc**	**07 31 42.5**	**-1.2**
	comp=Z,3.1nm,0.5s,baz=29,slow=3.0,SNR=17								
CONA	**Conrad Observa**	**148.14**	**342**		*i* PKPbc		**PKPbc**	**07 31 43.3**	**-1.2**
	comp=Z,4.2nm,0.6s								
SOKA	**Soboth**	**149.52**	**342**		*i* PKPbc		**PKPbc**	**07 31 46.1**	**-1.7**
	comp=Z,6.0nm,1.1s								
KBA	**Koelnbreinsper**	**149.61**	**344**		*i* PKPbc		**PKPbc**	**07 31 45.9**	**-2.2**
	comp=Z,1.6nm,0.6s								
WTTA	**Wattenberg**	**149.84**	**347**		*i* PKPbc		**PKPbc**	**07 31 47.2**	**-1.5**
	comp=Z,7.4nm,0.5s								
MOTA	**Moosalm**	**149.88**	**347**		*i* PKPbc		**PKPbc**	**07 31 47.4**	**-1.4**
	comp=Z,3.4nm,0.5s								
MYKA	**Terra Mystica**	**149.95**	**344**		*i* PKPbc		**PKPbc**	**07 31 46.6**	**-2.3**
	comp=Z,7.8nm,0.8s								
SQTA	**Sankt Quirin**	**149.98**	**347**		*i* PKPbc		**PKPbc**	**07 31 47.4**	**-1.5**
	comp=Z,6.1nm,0.6s								
ABTA	**Abfaltersbach**	**150.13**	**345**		*i* PKPbc		**PKPbc**	**07 31 47.1**	**-2.1**
	comp=Z,11nm,0.6s								
DAVA	**Damuels**	**150.18**	**349**		*i* PKiKP		**PKPbc**	**07 31 48.6**	**-0.9**
	comp=Z,3.7nm,0.6s								
FETA	**Feichten**	**150.27**	**348**		*i* PKPbc		**PKPbc**	**07 31 48.3**	**-1.4**
	comp=Z,7.1nm,0.8s								
FUORN	**Ofenpass-Fuorn**	**150.74**	**348**		*e*PKPdf		**PKPdf**	**07 31 44.3**	**-0.4**
FUORN					*e*PKPbc		**PKPbc**	**07 31 49.6**	**-1.3**
FUORN					*e*PKPab		**PKPab**	**07 31 59.9**	**-0.7**

KRSC 08 07:13:15.6±1.3, 50°.99N×159°.75E, h99km±23km, ML3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.33**	**309**		*eP*		Pn	07 13 40.5	+0.8
KDTR					*eS*		Sn	07 13 58.9	+1.0
RUS	**Russkaya**	**1.64**	**332**		*eP*		Pn	07 13 44.0	+0.6
RUS					*eS*		Sn	07 14 05.5	+0.9
MTVR	**Mutnovka**	**1.78**	**328**		*eP*		Pn	07 13 46.8	+1.3
MTVR					*eS*		Sn	07 14 10.0	+1.8
KRMR	**Karymshinskiy**	**2.10**	**332**		*eP*		Pn	07 13 51.2	+1.9
KRMR					*eS*		Sn	07 14 18.0	+2.9
DALK	**Dalny**	**2.13**	**344**		*eP*		Pn	07 13 51.5	+1.7
DALK					*eS*		Sn	07 14 18.5	+2.5
UGLR	**Uglovaya**	**2.29**	**346**		*eP*		Pn	07 13 54.7	+2.7
SKR	**Severo-Kuril's**	**2.32**	**264**		*eP*		Pn	07 13 54.2	+1.9
SKR					*eS*		Sn	07 14 22.2	+1.8
SMAR	**Somma**	**2.35**	**346**		P		Pn	07 13 55.4	+2.5
SDLR	**Sedlovina**	**2.35**	**347**		*eP*		Pn	07 13 54.9	+2.1
AVH	**Avacha**	**2.36**	**345**		*eP*		Pn	07 13 55.2	+2.3
KOK	**Koryaka**	**2.41**	**344**		*i* P		Pn	07 13 56.1	+2.6
GNL	**Ganaly**	**2.93**	**338**		*eP*		Pn	07 14 03.3	+2.9
TUMD	**Tumrok D**	**4.24**	**5**		*eS*		Sn	07 15 06.9	+0.6
KBTR	**Krutoberegovo**	**5.54**	**18**		*eP*		Pn	07 14 36.9	+1.4

*NEIC **08** 07:39:42.9±0.2, 14°.66S×167°.19E, mb5.1/52, Error ellipse: s-maj=5.7km s-min=4.2km az=88.0*

*ISCJB **08** 07:39:42.4±1.1, 14°.68S±0°.03×167°.18E±0°.04, h112km±10km, mb4.9/91, Error ellipse: s-maj=6.4km s-min=4.8km az=165.5*

*IDC **08** 07:39:42.9±0.5, 14°.72S×167°.25E, h101km±3km, mb4.5/28, mb1 4.5/30, mb1mx4.4/51, mbtmp4.9/30, MS3.6/20, Ms1 3.6/20, ms1mx3.5/32, Error ellipse: s-maj=11.6km s-min=7.9km az=80.0*

*MOS **08** 07:39:42.4±1.0, 14°.66S×167°.19E, h111km, mb4.9/26, Error ellipse: s-maj=9.5km s-min=9.2km az=16.2*

*BJI **08** 07:39:44.5, 14°.03S×167°.35E, h110km, mb4.8/34, mB4.9/22*

*GCMT **08** 07:39:44.8±0.3, 14°.73S±0°.02×166°.93E±0°.02, h122km±4km, MW5.0/68, Moment Tensor Solution. s21,c25; s68,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.07±.21; $M_{\theta\theta}$1.12±.20; $M_{\phi\phi}$-1.06±.17; $M_{r\theta}$-3.31±.13; $M_{r\phi}$2.27±.19; $M_{\theta\phi}$1.11±.13; Best double couple: $M_0$4.29500×10^{16} NP1:ϕ_s104.00000°, δ89.00000°, λ-54.00000°. NP2: ϕ_s195.00000°, δ36.00000°, λ-179.00000°. Principal axes: T 4.1280, Plg34.0000°, Azm164.0000°; N 0.3270, Plg36.0000°, Azm284.0000°; P -4.4630, Plg35.0000°, Azm45.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 07:39:43.3±0.4, 14°.71S±0°.04×167°.20E±0°.05, h104km±3km, h105km:pP-P, n230, σ1s16/258, mb5.0/90, 8C-5D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.36**	**185**		P		**Pn**	**07 41 29.2**	**+1.0**
	127nm,0.3s,baz=17,slow=14,SNR=336								
DZM					S		**Sn**	**07 42 47.3**	**-2.9**
	57nm,0.3s,baz=324,slow=23,SNR=8.3								
DZM	**Mont Dzumac**	**7.36**	**185**		*e*Pn		**Pn**	**07 41 28.9**	**+0.7**
	350nm,0.2s								
DZM					*e*Sn		**Sn**	**07 42 47.3**	**-2.9**
	354nm,0.3s								
DZM					*e*LR		LR	07 43 09.1	
	2μm,29.6s			

STKA ePcP **PcP** **07 48 39.9 +0.4**
RPZ Rata Peaks 29.10 174 P **P** **07 45 34.0 0.0**
comp=Z,44nm,0.6s,baz=307,slow=2.1,SNR=30
RPZ Rata Peaks 29.10 174 eP **P** **07 45 34.7 +0.6**
MQZ McQueen's Vall 29.28 172 eP **P** **07 45 35.4 -0.2**
comp=Z,51nm,0.8s
LBZ Lake Benmore 29.69 176 eP **P** **07 45 38.7 -0.6**
comp=Z,100nm,1.4s
TOO Toolangi 29.83 216 P **P** **07 45 41.5 +0.9**
baz=30,SNR=9.0
TOO Toolangi 29.83 216 P P **07 45 41.8 +1.1**
TOO pmax pmax
comp=Z,23nm,1.1s
WKZ Wanaka 30.06 177 eP **P** **07 45 43.0 +0.4**
comp=Z,273nm,2.0s
MLZ Mavora Lakes 30.57 179 eP **P** **07 45 47.4 +0.3**
comp=Z,46nm,1.0s
DCZ Deep Cove 30.66 180 eP **P** **07 45 48.1 +0.3**
comp=Z,54nm,1.0s
WHZ Wether Hill Ro 31.09 179 eP **P** **07 45 51.5 -0.2**
comp=Z,25nm,0.7s
ARPS Mount Arapiles 31.52 221 P **P** **07 45 56.5 +1.0**
baz=32,SNR=10.0
WR0 Warramunga Arr 31.58 256 P **P** **07 45 55.0 -1.2**
baz=32
HTT Hallett 31.68 229 P **P** **07 45 58.1 +1.0**
baz=32,SNR=26
WC3 Warramunga Arr 31.73 256 eP **P** **07 45 55.5 -2.2**
comp=Z,11nm,1.0s
WB2 Warramunga Arr 31.75 256 eP **P** **07 45 56.3 -1.5**
WRAB Tennant Creek 31.75 256 eP **P** **07 45 56.6 -1.2**
comp=Z,11nm,1.1s
WRAB Tennant Creek 31.75 256*ce*P **P** **07 45 56.3 -1.5**
WRAB pmax pmax
comp=Z,9.0nm,1.2s
WR1 Warramunga Arr 31.76 256 eP **P** **07 45 56.6 -1.3**
comp=Z,15nm,1.1s
WRA Warramunga Arr 31.77 256 P **P** **07 45 56.6 -1.3**
comp=Z,5.1nm,0.8s,baz=86,slow=9.1,SNR=56
WRA pP **pP** **07 46 19.9 -1.3**
comp=Z,2.8nm,0.7s,baz=86,slow=9.1,SNR=4.4
WRA ScP **ScP** **07 52 21.7 +0.7**
comp=Z,2.3nm,0.9s,baz=88,slow=3.5,SNR=9.1
WRA LR LR 07 58 15.0
comp=Z,130nm,20.6s,baz=70,slow=35
AS01 Alice Springs 32.57 249 eP **P** **07 46 03.7 -1.3**
MOO Moorlands 32.58 208 P **P** **07 46 05.7 +1.0**
baz=33,SNR=9.1
AS31 Alice Springs 32.62 249 eP **P** **07 46 02.9 -2.5**
comp=Z,5.8nm,0.9s
ASAR Alice Springs 32.62 249 P **P** **07 46 04.3 -1.1**
comp=Z,9.3nm,0.5s,baz=77,slow=9.2,SNR=96
ASAR pP **pP** **07 46 26.9 -1.8**
comp=Z,20nm,1.1s,baz=76,slow=9.5,SNR=2.5
ASAR ScP **ScP** **07 52 24.0 +0.1**
comp=Z,4.2nm,0.9s,baz=86,slow=3.6,SNR=15
ASAR LR LR 07 58 36.4
comp=Z,121nm,18.8s,baz=81,slow=35
TAU Tasmania Unive 32.89 207 P **P** **07 46 08.5 +1.1**
TAU pmax pmax
comp=Z,116nm,1.7s
BBOO Buckleboo 33.54 232 P **P** **07 46 13.9 +0.7**
baz=34,SNR=42
BBOO Buckleboo 33.54 232 eP **P** **07 46 14.0 +0.7**
comp=Z,81nm,1.0s
KDU Kakadu 33.78 269 P **P** **07 46 15.0 -0.5**
baz=34,SNR=5.0
GUMO Guam 35.76 321 LR LR 08 02 16.5
comp=Z,46nm,18.1s,baz=140,slow=38
KNRA Kununurra 37.07 263 P **P** **07 46 43.0 -0.7**
baz=37,SNR=3.3
WRKA Warakurna 37.88 248 P **P** **07 46 49.7 -0.8**
baz=38,SNR=95
SIJI Sorong 38.07 288 LR LR 08 02 24.8
comp=Z,111nm,21.1s,baz=134,slow=36
FORT Forrest 39.25 239 P **P** **07 47 01.9 +0.1**
baz=40,SNR=31
FORT Forrest 39.25 239 eP **P** **07 47 02.0 +0.2**
comp=Z,68nm,0.7s
FITZ Fitzroy Crossi 39.95 259 LR LR 08 02 32.8
comp=Z,86nm,19.9s,baz=89,slow=34
FITZ Fitzroy Crossi 39.95 259 P **P** **07 47 07.4 -0.4**
baz=40,SNR=21
FITZ Fitzroy Crossi 39.95 259 eP **P** **07 47 07.3 -0.4**
comp=Z,12nm,0.9s
PPT2 Papeete2 41.55 100 eLQ LQ 07 56 55.3
PPT2 eLR LR 07 59 01.1
comp=Z,599nm,29.5s
comp=Z,79nm,26.8s
BATI Baumata 42.70 271 LR LR 08 03 16.1
comp=Z,62nm,20.3s,baz=118,slow=33
EDFI Ende, Flores 44.89 272 P **P** **07 47 47.9 -0.1**
comp=Z,21nm,0.8s
MEEK Meekatharra 46.73 247 P **P** **07 48 02.2 -0.1**
baz=47,SNR=17
KLBR Kellerberrin 48.05 241 P **P** **07 48 11.6 -0.8**
baz=48,SNR=13
JCJ Chichijima 48.13 330 P **P** **07 48 12.2 -0.7**
comp=Z,55nm,0.7s,baz=74,slow=12,SNR=3.4
PLAI Plampang 48.66 271 P **P** **07 48 17.1 -0.2**
comp=Z,41nm,1.0s
NWAO Narrogin (SRO) 48.70 239 P **P** **07 48 17.0 -0.4**
baz=49,SNR=7.5
NWAO Narrogin (SRO) 48.70 239 eP **P** **07 48 16.9 -0.4**
comp=Z,50nm,1.3s
NWAO Narrogin (SRO) 48.70 239 eP **P** **07 48 16.9 -0.4**
NWAO pmax pmax
comp=Z,50nm,1.3s
BLDU Ballidu 48.81 242 P **P** **07 48 17.3 -0.9**
baz=49,SNR=5.5
MPSI Mapaga 49.10 284 P **P** **07 48 20.6 0.0**
RKGY Rocky Gully 49.21 237 P **P** **07 48 21.1 -0.1**
baz=50
MORW Morawa 49.22 244 P **P** **07 48 21.0 -0.4**
baz=50,SNR=11
MUN Mundaring 49.41 240 P **P** **07 48 22.7 -0.1**
baz=50,SNR=5.4
TWSI Taliwang, Sumb 49.54 271 P **P** **07 48 24.2 +0.2**
comp=Z,54nm,1.2s
TAOE Nuku Hiva Isla 51.78 90 eLR LR 08 03 45.9
comp=Z,140nm,31.5s
JHJ Hachijo jima 2 54.29 332 LR LR 08 09 42.9
comp=Z,74nm,19.1s,baz=48,slow=33
JOW Kunigami 55.98 317 P **P** **07 49 11.6 +0.4**
comp=Z,12nm,0.9s,baz=126,slow=18,SNR=5.0
JOW pP **pP** **07 49 35.4 -1.1**
comp=Z,15nm,0.8s,baz=153,slow=5.9,SNR=3.5
MJAR Matsushiro Arr 57.85 333 P **P** **07 49 23.3 -0.9**
comp=Z,9.2nm,0.6s,baz=178,slow=8.3,SNR=17
MJAR pP **pP** **07 49 49.2 -0.4**
comp=Z,6.9nm,0.8s,baz=167,slow=9.2,SNR=5.1
MAJO Matsushiro 57.85 333 eP **P** **07 49 23.9 -0.3**
comp=Z,67nm,1.6s
MAJO ep **pP** **07 49 49.2 -0.5**
MAJO Matsushiro 57.85 333*d* iP **P** **07 49 23.4 -0.8**
MAJO pmax pmax
comp=Z,13nm,0.6s
MAT Matsushiro 57.85 333 P **P** **07 49 23.5 -0.7**
MJB9 Matsu-Tunnel 57.86 333 eP **P** **07 49 23.9 -0.3**
comp=Z,65nm,1.6s
JNU Nakatsue 58.86 324 P **P** **07 49 30.9 -0.4**
comp=Z,15nm,0.7s,baz=53,slow=4.6,SNR=8.8
JNU pP **pP** **07 49 57.2 +0.3**
comp=Z,21nm,0.9s,baz=124,slow=5.2,SNR=4.1
JNU LR LR 08 11 45.6
comp=Z,37nm,18.1s,baz=133,slow=33
JNU Nakatsue 58.86 324 eP **P** **07 49 31.4 0.0**
comp=Z,29nm,1.0s
ASAJ Asahikawa 62.70 340 P **P** **07 49 56.8 -0.2**
comp=Z,16nm,0.7s,baz=225,slow=8.6,SNR=5.9
VNDA Vanda 62.88 181 P **P** **07 49 58.1 +0.2**
comp=Z,11nm,0.8s,baz=357,slow=7.8,SNR=81
VNDA LR LR 08 14 57.6
comp=Z,13nm,18.5s,baz=6.5,slow=34
VNDA Vanda 62.88 181 eP **P** **07 49 58.2 +0.4**
comp=Z,19nm,1.0s
VNDA Vanda 62.88 181 eP **P** **07 49 58.2 +0.4**
VNDA pmax pmax
comp=Z,19nm,1.0s
SBA Scott Base 63.16 180 eP **P** **07 50 01.0 +1.3**
comp=Z,53nm,0.8s
SBA Scott Base 63.16 180 eP **P** **07 50 01.0 +1.3**
SBA pmax pmax
comp=Z,53nm,0.8s
TJN Taejon 63.21 325⇑ eP **P** **07 50 00.6 0.0**
CASY Casey 63.52 202 eP **P** **07 50 02.5 +0.3**
comp=Z,52nm,0.6s
KSRS Korea Array 63.68 326 P **P** **07 50 04.0 +0.3**
comp=Z,3.7nm,0.8s,baz=142,slow=7.1,SNR=12
KSRS pP **pP** **07 50 29.8 +0.3**
comp=Z,3.8nm,0.9s,baz=141,slow=6.9,SNR=5.7
KSRS LR LR 08 13 53.6
comp=Z,14nm,21.6s,baz=30,slow=32
KS01 Wonju Array Si 63.72 326 eP **P** **07 50 03.9 0.0**
YSS Yuzh-Sakhalins 65.19 342 eP **P** **07 50 14.2 +0.9**
YSS pmax pmax
comp=Z,30nm,0.9s
NJ2 Nanjing 65.61 316 eP **P** **07 50 15.9 -0.4**
NJ2 pmax pmax
comp=Z,20nm,0.5s
USRK Ussuriysk Ar. 66.83 333 P **P** **07 50 24.8 +0.9**
comp=Z,11nm,1.0s,baz=124,slow=6.2,SNR=8.8
PEA0B Petropavlovsk- 68.03 354 eP **P** **07 50 31.7 +0.4**
comp=Z,21nm,0.9s
PETK Petropavlovsk- 68.03 354 P **P** **07 50 31.6 +0.4**
comp=Z,10nm,0.8s,baz=161,slow=8.0,SNR=12
PETK LR LR 08 14 40.5
comp=Z,49nm,19.7s,baz=143,slow=31
PETK Petropavlovsk- 68.03 354 eP **P** **07 50 31.5 +0.3**
PETK Petropavlovsk- 68.03 354 P **P** **07 50 31.6 +0.3**
PETK pmax pmax
comp=Z,11nm,0.9s
PEA1 Petropavlovsk- 68.04 354 eP **P** **07 50 31.6 +0.3**
CN2 Changchun 69.59 329 eP **P** **07 50 41.5 +0.4**
CN2 epP pP 07 51 07.9 +0.5
CN2 pmax pmax
comp=Z,10.0nm,0.7s
PSI Prapat 69.79 279 eP **P** **07 50 42.6 -0.6**
comp=Z,7.2nm,0.9s
PSI Prapat 69.79 279 eP **P** **07 50 42.6 -0.6**
PSI pmax pmax
comp=Z,7.0nm,0.9s
KLR Kul'dur 70.96 336 P **P** **07 50 50.0 +0.7**
comp=Z,3.0nm,0.6s,baz=95,slow=4.7,SNR=7.7
KLR Kul'dur 70.96 336⇓ eP **P** **07 50 50.2 +0.8**
ENH Enshi 71.30 309 eP **P** **07 50 52.0 +0.1**
comp=Z,14nm,0.9s
GYA Guiyang 71.65 305 P **P** **07 50 55.4 +1.2**
GYA pP pP 07 51 24.2 +3.7
GYA sP sP 07 51 37.8 +6.0
GYA PP **PP** **07 53 38.9 +4.2**
GYA S **S** **08 00 04.2 -1.6**
GYA SKS **SKSac** **08 00 43.0 -5.6**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,100nm,6.0s
BJI Beijing 72.20 321 P **P** **07 50 57.8 +0.8**
BJI pP **pP** **07 51 23.7 +0.3**
BJI pmax pmax
comp=Z,8.0nm,1.0s
XAN Xi'an 73.62 313 P **P** **07 51 06.0 +0.4**
XAN pmax pmax
comp=Z,10.0nm,0.8s
KMI Kunming 74.24 302 P P 07 51 15.2 +5.6
KMI pmax pmax
comp=Z,20nm,1.3s
CM01 Chiang Mai Arr 74.85 294 eP **P** **07 51 14.4 +1.4**
CMAR Chiang Mai Arr 74.88 294 P **P** **07 51 14.9 +1.7**
comp=Z,2.4nm,0.6s,baz=124,slow=4.2,SNR=12
CMAR pP **pP** **07 51 41.2 +1.5**
comp=Z,7.8nm,0.9s,baz=122,slow=4.4,SNR=5.1
CHTO Chiang Mai 75.01 294 eP **P** **07 51 14.0 +0.1**
comp=Z,8.6nm,0.6s
CHTO Chiang Mai 75.01 294 eP **P** **07 51 14.0 +0.1**
CHTO pmax pmax
comp=Z,9.0nm,0.6s
CHTO Chiang Mai 75.01 294 P **P** **07 51 17.8 +3.9**
QSPA South Pole Qui 75.32 180 eP **P** **07 51 15.2 +0.2**
comp=Z,51nm,0.8s
HHC Hu-ho-hao-te 75.52 320 eP **P** **07 51 18.4 +1.9**
HHC pmax pmax
comp=Z,23nm,0.6s
HHC pmax pmax
comp=Z,110nm,4.9s
CD2 Chengdu 75.94 308 P **P** **07 51 19.4 +0.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.0s
SEY Seymchan 78.25 353 P **P** **07 51 30.5 -0.7**
comp=Z,2.3nm,0.5s,baz=184,slow=9.6,SNR=7.4
MAW Mawson 81.88 202 P **P** **07 51 51.1 +0.4**
comp=Z,8.5nm,0.9s,baz=111,slow=6.9,SNR=21
MAW LR LR 08 23 32.6
comp=Z,55nm,20.4s,baz=60,slow=32
MAW Mawson 81.88 202 P **P** **07 51 51.3 +0.5**
baz=82,SNR=16
MAW Mawson 81.88 202 eP **P** **07 51 51.3 +0.5**
comp=Z,2.1nm,0.9s
MAW Mawson 81.88 202 eP **P** **07 51 51.3 +0.5**
MAW pmax pmax
comp=Z,2.0nm,0.9s
SONA0 Songino Array 82.44 324 eP **P** **07 51 53.9 -0.3**
SONA0 epP **pP** **07 52 18.9 -2.2**
SONM Songino Array 82.44 324 P **P** **07 51 53.9 -0.3**
comp=Z,1.8nm,0.3s,baz=142,slow=5.5,SNR=16
SONM pP **pP** **07 52 18.9 -2.2**
comp=Z,2.3nm,0.9s,baz=127,slow=4.8,SNR=4.1
SONA1 Songino Array 82.44 324 eP **P** **07 51 54.2 0.0**
BILL Bilibino 82.52 360 eP **P** **07 51 54.5 +0.5**
comp=Z,15nm,0.8s
BILL Bilibino 82.52 360*d* iP **P** **07 51 53.7 -0.3**
BILL *i* *PP **pP** **07 52 24.3 +3.3**
BILL pmax pmax
comp=Z,14nm,1.0s
GTA Gaotai 82.60 314⇑ P **P** **07 51 56.5 +1.3**
GTA pP pP 07 52 23.3 +1.1
GTA sP sP 07 52 35.8 +2.4
GTA S **S** **08 02 04.0 -0.1**
GTA sS sS 08 02 54.0 +3.5
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA pmax pmax
comp=Z,84nm,6.8s
GTA LR LR
comp=Z,190nm,17.8s
GTA LR LR
comp=Z,140nm,19.0s
GTA LR LR
comp=Z,120nm,16.8s
TRF Thorofare Moun 84.54 18 eP **P** **07 52 03.6 -1.0**
comp=Z,9.7nm,0.8s
RND Reindeer 84.94 18 eP **P** **07 52 05.4 -1.1**
comp=Z,56nm,1.8s
RND Reindeer 84.94 18 eP **P** **07 52 05.4 -1.1**
RND pmax pmax
comp=Z,56nm,1.8s
MCK McKinley 85.15 18 eP **P** **07 52 07.3 -0.2**
comp=Z,14nm,1.1s
MCK McKinley 85.15 18 eP **P** **07 52 07.3 -0.2**
MCK pmax pmax
comp=Z,14nm,1.1s
YBH Yreka Blue Hor 85.45 45 P **P** **07 52 08.8 -0.7**
comp=Z,1.5nm,0.8s,baz=288,slow=6.7,SNR=3.5
ZAK Zakamensk 85.49 325 eP **P** **07 52 07.7 -1.9**
ZAK *e* 07 52 34.2
ZAK pmax pmax
comp=Z,8.0nm,1.2s
ZAK pmax pmax
comp=Z,7.0nm,1.2s
IM3 Indian Mountai 85.56 15 eP **P** **07 52 09.7 +0.2**
WRH Wood River Hil 85.95 18 eP **P** **07 52 09.7 -1.7**
comp=Z,15nm,1.4s
CCB Clear Creek Bu 86.16 18 eP **P** **07 52 11.6 -0.8**
comp=Z,4.5nm,0.7s
HDA Harding Lake 86.25 18 eP **P** **07 52 12.0 -0.9**
comp=Z,11nm,0.7s
MDM Murphy Dome 86.27 17 eP **P** **07 52 12.2 -0.8**
comp=Z,7.0nm,1.1s
IL1 Eielson Array 86.53 18 eP **P** **07 52 12.4 -1.8**
ILAR Eielson Array 86.53 18 P **P** **07 52 13.2 -1.0**
comp=Z,5.5nm,0.8s,baz=234,slow=4.6,SNR=48
ILAR pP **pP** **07 52 41.6 +0.2**
comp=Z,2.0nm,0.7s,baz=238,slow=5.1,SNR=2.5
ILAR LR LR 08 23 40.9
comp=Z,96nm,20.4s,baz=228,slow=30
ILB Eielson Array 86.53 18 eP **P** **07 52 13.4 -0.8**
NV01 Mina Array Sit 87.31 49 eP **P** **07 52 17.2 -1.7**
NVAR Mina Array Bea 87.31 49 P **P** **07 52 17.4 -1.5**
comp=Z,1.1nm,0.9s,baz=221,slow=7.1,SNR=5.5
SYO Syowa Base 88.71 197⇓ eP **P** **07 52 23.9 -0.8**
SYO Syowa Base 88.71 197⇑ ePcP **PcP** **07 52 27.8 +1.6**
SYO Syowa Base 88.71 197⇑ epP pP 07 52 53.5 +1.5
KNGR Kungurtug, Tuv 88.87 323⇑ eP **P** **07 52 25.1 -0.8**
WMQ Urumqi 92.66 315 eP **P** **07 52 43.9 +0.3**
WMQ LR LR
comp=Z,41nm,13.7s
WMQ LR LR
comp=Z,67nm,16.7s
NVL N'lazarevskaya 93.06 188 eP **P** **07 52 43.3 -1.6**
NVL pmax pmax
comp=Z,10.0nm,0.8s
SNAA Sanae 93.57 183 P **P** **07 52 46.3 -1.0**
SNAA Sanae 93.57 183 eP **P** **07 52 46.3 -1.0**
comp=Z,8.9nm,0.7s
SNAA Sanae 93.57 183*c* iP **P** **07 52 46.1 -1.2**
VNA3 Neumayer Olymp 94.24 181 P **P** **07 52 49.1 -1.2**
VNA2 Neumayer--Watz 94.50 182 P **P** **07 52 50.7 -0.9**
baz=186,slow=4.1
DGZ Jazzator, Alta 94.60 320*de*P **P** **07 52 52.0 -0.5**
DGZ pmax pmax
comp=Z,2.0nm,0.8s
VNA1 Neumayer--Stat 94.80 182 P **P** **07 52 52.1 -0.8**
ANMO Albuquerque 95.34 55 LR LR 08 31 11.1
comp=Z,35nm,19.6s,baz=93,slow=32
LTX Lajitas 96.33 61 eP **P** **07 52 59.7 -1.1**
LTX epP **pP** **07 53 28.1 -0.1**
LTX Lajitas 96.33 61 eP **P** **07 52 59.7 -1.1**
LTX e*PP **pP** **07 53 28.1 -0.1**
TXAR Lajitas Array 96.33 61 P **P** **07 52 59.7 -1.1**
comp=Z,0.1nm,0.7s,baz=203,slow=8.8,SNR=2.4
TXAR pP **pP** **07 53 28.1 -0.1**
comp=Z,0.2nm,0.7s,baz=218,slow=5.6,SNR=2.5
MK01 Makanchi Array 97.13 316 eP **P** **07 53 03.4 -0.5**
MK31 Makanchi Array 97.14 316 eP **P** **07 53 04.0 0.0**
MK32 Makanchi Array 97.14 316 eP **P** **07 53 04.0 0.0**
MK32 epP **pP** **07 53 31.2 -0.2**
MKAR Makanchi Array 97.14 316 P **P** **07 53 04.0 0.0**
comp=Z,3.0nm,0.7s,baz=84,slow=6.3,SNR=19
MKAR pP **pP** **07 53 31.2 -0.2**
comp=Z,1.1nm,0.7s,baz=90,slow=7.2,SNR=3.1
ZAA0 Zalesovo Array 97.33 324 eP **P** **07 53 03.8 -0.8**
comp=Z,13nm,1.4s
ZALV Zalesovo Beam 97.33 324 P **P** **07 53 03.8 -0.8**
comp=Z,3.6nm,0.6s,baz=115,slow=4.4,SNR=13
ZALV pP **pP** **07 53 30.7 -1.4**
comp=Z,1.4nm,0.6s,baz=106,slow=3.2,SNR=2.6
ZALV LR LR 08 36 52.7
comp=Z,22nm,19.2s,baz=70,slow=35
ZAA1 Zalesovo Array 97.33 324 eP **P** **07 53 03.8 -0.8**
ZAA1 epP **pP** **07 53 30.7 -1.4**
YKA Yellowknife Ar 97.56 27 P **P** **07 53 04.3 -1.1**
comp=Z,1.3nm,0.8s,baz=261,slow=4.8,SNR=3.8
NRIK Noril'sk 100.03 339 P **Pdif** **07 53 14.1 -2.3**
comp=Z,2.5nm,0.8s,baz=43,slow=6.8,SNR=3.2
KSH Kashi 100.13 308 eP **Pdif** **07 53 21.6 +3.9**
KURK Kurchatov 100.34 320 ePdif **Pdif** **07 53 17.2 -0.9**
KURK Kurchatov 100.34 320⇑ eP **Pdif** **07 53 18.6 +0.5**
KURBB Kurchatov Arra 100.38 320 P **Pdif** **07 53 17.2 -1.1**
comp=Z,0.5nm,0.3s,baz=92,slow=4.6,SNR=2.7
LPAZ La Paz 117.28 117 PKP **PKPdf** **07 58 17.3 -0.9**
comp=Z,0.3nm,0.5s,baz=214,slow=7.3,SNR=4.7
ARA0 ARCESS Array S 120.21 345 ePKPdf **PKPdf** **07 58 21.1 -0.5**
ARCES ARCESS Array B 120.21 345 PKP **PKPdf** **07 58 21.1 -0.5**
comp=Z,4.3nm,0.5s,baz=73,slow=1.9,SNR=42
BOSA Boshof 123.35 220 PKP **PKPdf** **07 58 28.6 -0.4**
comp=Z,1.4nm,0.6s,baz=78,slow=14,SNR=3.6
NB2 NORSAR Subarra130.58 345 PKPdf **PKPdf** **07 58 41.8 +0.2**
comp=Z,0.4nm,0.5s,baz=31,slow=1.9
NB200 NORSAR Array S 130.58 345 ePKPdf **PKPdf** **07 58 41.5 -0.1**
NOA NORSAR Array B 130.58 345 PKP **PKPdf** **07 58 41.5 -0.1**
comp=Z,0.8nm,0.6s,baz=32,slow=2.1,SNR=5.2
NOA SKPbc **SKPab** **08 01 56.3 +0.3**
comp=Z,6.8nm,0.9s,baz=31,slow=3.1,SNR=12
AKASG Malin Array Be 130.68 326 SKPbc **SKPbc** **08 01 56.5 0.0**
comp=Z,1.6nm,0.6s,baz=51,slow=4.6,SNR=6.6
BR101 Keskin Array S 132.44 311 ePKPdf **PKPdf** **07 58 44.7 -1.3**
BRTR Keskin Array B 132.44 311 PKP **PKPdf** **07 58 44.7 -1.3**
comp=Z,0.7nm,0.7s,baz=141,slow=6.0,SNR=2.6
BRTR SKPbc **SKPab** **08 02 05.0 +0.1**
comp=Z,1.1nm,0.7s,baz=95,slow=2.9,SNR=5.9
EKA Eskdalemuir Ar 138.78 352 PKP **PKPdf** **07 58 58.2 +1.2**
comp=Z,1.1nm,0.5s,baz=0.2,slow=2.4,SNR=6.2
GERES GERESS Array B 139.59 333 PKP **PKPdf** **07 58 59.9 +1.0**
comp=Z,0.7nm,0.5s,baz=54,slow=3.4,SNR=3.8
GERES SKPbc **SKPbc** **08 02 25.4 +0.2**
comp=Z,0.5nm,0.6s,baz=17,slow=5.6,SNR=3.5
OBKA Obir 140.90 330 *i* PKiKP **PKPdf** **07 59 02.3 +1.0**
comp=Z,2.9nm,0.5s
BFO Black Forest 142.21 337 *i* PKiKP **PKPdf** **07 59 08.0 +4.5**
FETA Feichten 142.28 333 *i* PKPdf **PKPdf** **07 59 01.9 -2.0**
comp=Z,4.4nm,0.9s
DAVOX Davos/Dischmat 142.83 334 PKhKP PKPpre 07 59 01.3
comp=Z,6.0nm,0.5s,baz=215,slow=6.5,SNR=11
TIP Timpagrande 144.38 319 ePKPdf PKPbc 07 59 06.6 +0.2
BNI Bardonecchia 145.55 335 ePKPdf **PKPab** **07 59 10.1 -0.2**
BNI Bardonecchia 145.55 335 ePKP2 **PKPab** **07 59 10.1 -0.2**
SSB Saint Sauveur 146.18 338 ePKPdf **PKPab** **07 59 12.4 0.0**
SSB Saint Sauveur 146.18 338 ePKP2 **PKPab** **07 59 12.5 0.0**
KEST Kesra 151.15 321 PKPbc **PKPbc** **07 59 24.9 0.0**
comp=Z,6.8nm,0.6s,baz=111,slow=8.6,SNR=7.1
KEST Kesra 151.15 321 ePKPbc **PKPbc** **07 59 25.8 +0.9**
ESDC Sonseca Array 153.94 344 PKPbc **PKPbc** **07 59 31.4 +0.5**
comp=Z,0.2nm,0.3s,baz=14,slow=5.1,SNR=3.3
ESDC PKPab **PKPab** **07 59 44.8 +0.4**
comp=Z,0.4nm,0.5s,baz=9.2,slow=4.5,SNR=4.3
TOA0 Torodi Ar. Sit 165.84 265 ePKPab **PKPab** **08 00 37.1 +0.1**
TORD Torodi Ar. Bea 165.84 265 PKP **PKPdf** **07 59 36.0 -0.8**
comp=Z,0.7nm,0.8s,baz=178,slow=6.9
TORD PKPab **PKPab** **08 00 35.4 -1.6**
comp=Z,1.6nm,0.9s,baz=109,slow=6.1,SNR=8.1
TORD pPKPab **pPKPab** **08 01 04.0 -0.6**
comp=Z,2.2nm,1.0s,baz=90,slow=4.1,SNR=6.2
TOA1 Torodi Ar. Sit 165.85 266 ePKPdf **PKPdf** **07 59 36.0 -0.8**
TOA1 ePKPab **PKPab** **08 00 35.4 -1.6**
TOA1 epPKPab **pPKPab** **08 01 04.0 -0.6**

IDC 08 07:57:55.7±2.4, 54.19N×86.14E, h0km, mb1 3.3/2, mb1mx3.1/49, mbtmp3.3/2, ML3.1/2, 2C, Error ellipse: s-maj=18.7km s-min=12.3km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.82**	**254**	*i*				08 02 50.1	
baz=73,slow=336,SNR=4.1									
ZAA0	**Zalesovo Array**	**0.82**	**253**	⇑P		Pg		07 58 11.3	0.0
2.4nm,0.3s,baz=61,slow=16									
ZAA0				⇑S		Sg		07 58 22.4	+0.5
6.1nm,0.4s,baz=66,slow=29									
ZALV	**Zalesovo Beam**	**0.82**	**253**	Pg		Pg		07 58 11.6	+0.3
1.8nm,0.3s,baz=68,slow=18,SNR=20									
ZALV				Lg		Lg		07 58 22.1	
7.2nm,0.3s,baz=68,slow=30,SNR=29									
KURBB	**Kurchatov Arra**	**5.87**	**236**	Pn		Pn		07 59 25.3	+1.4
0.3nm,0.3s,baz=53,slow=14,SNR=9.7									
KURBB				Lg		Lg		08 01 03.4	
0.1nm,0.3s,baz=49,slow=32,SNR=4.1									
MKAR	**Makanchi Array**	**7.80**	**200**	Pn		Pn		07 59 50.5	+0.2
0.6nm,0.3s,baz=19,slow=14,SNR=19									
MKAR				Lg		Lg		08 02 03.2	
0.0nm,0.3s,baz=37,slow=36,SNR=2.8									

IDC 08 08:02:18.0±1.8, 2.14N×128.83E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/33, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=119.9km s-min=23.6km az=64.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.85**	**141**	Pn		Pn		08 03 18.6	0.0
2.3nm,0.3s,baz=342,slow=20,SNR=3.6									
SIJI				Sn		Sn		08 04 00.5	-4.0
1.7nm,0.3s,baz=342,slow=20,SNR=4.1									
WRA	**Warramunga Arr**	**22.60**	**166**	P		P		08 07 20.9	+0.5
0.2nm,0.5s,baz=351,slow=12,SNR=7.8									
ASAR	**Alice Springs**	**26.12**	**169**	P		P		08 07 52.9	-1.0
0.2nm,0.5s,baz=354,slow=8.1,SNR=6.2									
STKA	**Stephens Creek**	**35.93**	**161**	P		P		08 09 20.8	+0.5
1.8nm,0.7s,baz=340,slow=12,SNR=2.6									
MKAR	**Makanchi Array**	**60.06**	**325**	P		P		08 12 26.9	-0.1
0.4nm,0.5s,baz=123,slow=7.0,SNR=5.2									

*MEX **08** 08:16:44.6±0.5, 14.02N×92.92W, h20km±65km, MD4.0*
*ISCJB **08** 08:16:47.1±0.8, 14.23N±0.05×92.52W±0.04, h50km±6km,*

mb4.2/53,MS3.7/12, Error ellipse: s-maj=10.6km s-min=4.1km az=36.2
*NEIC **08** 08:16:49.2±0.6, 14°.26N×92°.50W, h51km±5km, mb4.3/51, MD4.3(MEX), Error ellipse: s-maj=8.5km s-min=4.2km az=212.0*
*IDC **08** 08:16:51.6±2.9, 14°.41N×92°.36W, h76km±24km, mb3.8/15, mb1 4.0/17, mb1mx3.8/49, mbtmp4.0/17, MS3.7/13, Ms1 3.7/13, ms1mx3.4/35, Error ellipse: s-maj=33.5km s-min=12.5km az=47.0*

ISC 08 08:16:48.0±1.3, 14°.20N±0°.07×92°.62W±0°.06, h47km±12km, n127, σ1§43/123, mb4.3/52, MS3.7/12, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THIG		**0.78**	**26**	*e*	P	n	**Pn**	**08 17 01.7**	**-1.0**
THIG		**0.78**	**26**	*e*	P		**Pn**	**08 17 01.7**	**-1.0**
PCIG		**1.60**	**339**	*e*	P	n	**Pn**	**08 17 10.8**	**-3.1**
PCIG				*e*	S	n	**Sn**	**08 17 29.9**	**-3.5**
PCIG		**1.60**	**339**	*e*	P		**Pn**	**08 17 10.8**	**-3.1**
PCIG				*i*	S		**Sn**	**08 17 29.9**	**-3.5**
CCIG	**Comitan**	**2.12**	**13**	*e*	P	n	**Pn**	**08 17 23.0**	**+1.9**
CCIG				*e*	S	n	**Sn**	**08 17 48.5**	**+2.2**
CCIG	**Comitan**	**2.12**	**13**	*e*	P		**Pn**	**08 17 20.4**	**-0.7**
CCIG				*i*	S		**Sn**	**08 17 47.8**	**+1.4**
APG	**El Apazote**	**2.23**	**69**	P			**Pn**	**08 17 23.2**	**+0.6**
	19nm,0.3s,baz=247,slow=5.0,SNR=79								
APG				S			**Sn**	**08 17 51.3**	**+2.1**
	19nm,0.3s,baz=307,slow=11,SNR=4.7								
TGIG		**2.61**	**349**	*e*	P	n	**Pn**	**08 17 27.3**	**-0.4**
TGIG				*e*	S	n	**Sn**	**08 17 59.9**	**+1.7**
TGIG		**2.61**	**349**	*e*	P		**Pn**	**08 17 25.1**	**-2.6**
TGIG				*i*	S		**Sn**	**08 17 56.3**	**-1.9**
SNET	**Serv Nac Est T**	**3.33**	**98**	*e*	P	n	**Pn**	**08 17 36.6**	**-0.9**
SNET				*e*	S	n	**Sn**	**08 18 16.5**	**+0.5**
CMIG	**Matias Romero**	**3.61**	**323**	P			**Pn**	**08 17 38.7**	**-2.7**
	3.1nm,0.3s,baz=166,slow=14,SNR=63								
CMIG				S			**Sn**	**08 18 25.1**	**+2.3**
	18nm,0.3s,baz=33,slow=7.6,SNR=5.1								
TGUH	**Tegucigalpa,Un**	**5.18**	**91**	*e*	P	n	**Pn**	**08 18 01.9**	**-1.1**
ESTN	**Estel**	**6.17**	**99**	*e*	P	n	**Pn**	**08 18 16.6**	**-0.1**
ESTN				*e*	S	n	**Sn**	**08 19 23.1**	**-2.9**
TLIG	**Tlapa**	**6.63**	**301**	*e*	P	n	**Pn**	**08 18 24.9**	**+1.9**
TEIG	**Tepich**	**7.29**	**34**	*e*	P	n	**Pn**	**08 18 32.2**	**+0.3**
UNM	**Universidad Na**	**8.09**	**310**	*e*	P	n	**Pn**	**08 18 44.6**	**+1.4**
JTS	**JuntasAbangare**	**8.44**	**117**	P			**Pn**	**08 18 47.9**	**+0.1**
	1.2nm,0.3s,baz=22,slow=19,SNR=5.2								
JTS	**JuntasAbangare**	**8.44**	**117**	*e*	P	n	**Pn**	**08 18 48.2**	**+0.5**
MOIG	**Morelia**	**9.84**	**305**	*e*	P	n	**Pn**	**08 19 09.5**	**+2.3**
JRQG	**Juriquilla Cam**	**9.88**	**312**	*e*	P	n	**Pn**	**08 19 09.6**	**+2.0**
HKT	**Hockley**	**15.95**	**350**	*e*	P	n	**Pn**	**08 20 29.2**	**+0.1**
	1.4nm,0.8s								
341A	**Kurthwood**	**17.06**	**358**	*e*	P	n	**Pn**	**08 20 43.7**	**+0.6**
	8.7nm,0.9s								
JCT	**Junction City**	**17.50**	**339**	*e*	P	n	**Pn**	**08 20 49.8**	**+1.1**
	7.9nm,1.1s								
HPIG		**17.58**	**318**	*e*	P	n	**Pn**	**08 20 50.9**	**+1.0**
	6.7nm,0.9s								
LTX	**Lajitas**	**18.20**	**328**	*e*	P	n	**P**	**08 20 57.2**	**+0.1**
TXAR	**Lajitas Array**	**18.20**	**328**	P			**P**	**08 20 57.2**	**+0.1**
	0.1nm,0.3s,baz=156,slow=16,SNR=18								
TX31	**Lajitas Ar. Si**	**18.20**	**328**	*e*	P	n	**P**	**08 20 57.9**	**+0.8**
250A	**Grady**	**18.62**	**17**	*e*	P		**Pn**	**08 21 02.6**	**+0.3**
	25nm,1.0s								
Z45A	**Winona**	**19.27**	**7**	*e*	P		**P**	**08 21 09.2**	**+0.5**
	20nm,1.0s								
LPIG	**La Paz**	**19.38**	**303**	LR			LR	08 28 43.5	
	comp=Z,108nm,19.2s,baz=134,slow=36								
PTBC	**PUERTO BERRIO,**	**19.41**	**111**	*e*	P		**P**	**08 21 09.1**	**-1.3**
ABTX	**Abilene, Hawle**	**19.43**	**342**	*e*	P		**P**	**08 21 09.2**	**-1.3**
	6.1nm,0.8s								
NORC	**Norcasia**	**19.46**	**114**	*e*	P		**P**	**08 21 10.4**	**-0.6**
MIAR	**Mount Ida**	**20.27**	**358**	*e*	P		**P**	**08 21 19.9**	**+0.3**
	21nm,1.1s								
ROSC	**El Rosal**	**20.28**	**116**	P			Pn	08 21 21.8	-0.8
	4.7nm,0.6s,baz=87,slow=1.3,SNR=6.4								
ROSC				LR			LR	08 30 42.2	
	comp=Z,83nm,19.0s,baz=266,slow=41								
ROSC	**El Rosal**	**20.28**	**116**	*e*	P		Pn	08 21 21.8	-0.9
	12nm,1.1s								
X37A	**Clayton**	**20.45**	**353**	*e*	P		Pn	08 21 24.5	+0.4
	8.2nm,0.9s								
UALR	**University of**	**20.49**	**1**	*e*	P		**P**	**08 21 22.3**	**+0.4**
	8.5nm,0.9s								
BARC	**Barichara**	**20.54**	**110**	*e*	P		**P**	**08 21 23.1**	**+0.1**
GDL2	**Guadalupe Moun**	**20.89**	**331**	*e*	P		**P**	**08 21 27.0**	**+0.6**
CHIC	**Chingaza**	**20.90**	**115**	*e*	P		**P**	**08 21 26.4**	**-0.6**
RUSC	**La Rusia**	**20.91**	**111**	*e*	P		Pn	08 21 29.1	-1.2
FLOC	**Florencia**	**20.94**	**122**	*e*	P		Pn	08 21 29.7	-0.3
MNTX	**Cornudas Mount**	**20.98**	**328**	*e*	P		**P**	**08 21 27.8**	**+0.5**
	6.5nm,1.0s								
HBAR	**Harrisburg**	**21.34**	**4**	*e*	P		**P**	**08 21 32.1**	**+1.1**
	33nm,0.4s								
CPRX	**Cap Rock**	**21.36**	**333**	*e*	P		**P**	**08 21 32.9**	**+1.4**
GRTK	**Grand Turk**	**21.69**	**67**	*e*	P		**P**	**08 21 36.0**	**+1.1**
	26nm,1.0s								
MSTX	**Muleshoe**	**21.73**	**337**	*e*	P		**P**	**08 21 36.2**	**+0.8**
	11nm,1.0s								
SWET	**Sewanee**	**21.77**	**15**	*e*	P		**P**	**08 21 35.2**	**-0.6**
	6.3nm,0.8s								
HALT	**Halls**	**21.82**	**7**	*e*	P		**P**	**08 21 35.7**	**-0.5**
	22nm,0.6s								
HHAR	**Hobbs**	**22.02**	**357**	*e*	P		**P**	**08 21 39.0**	**+0.6**
	4.9nm,0.7s								
AMTX	**Amarillo**	**22.16**	**340**	*e*	P		**P**	**08 21 40.1**	**+0.1**
	22nm,0.8s								
SDV	**Santo Domingo**	**22.17**	**101**	LR			LR	08 31 31.2	
	comp=Z,692nm,20.4s,baz=54,slow=40								
TKL	**Tuckaleechee C**	**22.80**	**19**	P			**P**	**08 21 45.8**	**-0.9**
	3.9nm,0.9s,baz=190,slow=12,SNR=4.3								
TKL				LR			LR	08 31 57.1	
	comp=Z,280nm,18.5s,baz=220,slow=40								
319A	**Douglas**	**22.93**	**321**	*e*	P		**P**	**08 21 49.5**	**+1.3**
	9.6nm,0.9s								
KMSC	**Kings Mountain**	**23.20**	**24**	*e*	P		**P**	**08 21 50.1**	**-0.6**
	13nm,1.1s								
T47A	**Sharon Grove**	**23.22**	**11**	*e*	P		**P**	**08 21 49.3**	**-1.7**
	8.4nm,0.9s								
BNM	**Barren Site**	**23.57**	**330**	*e*	P		**P**	**08 21 55.7**	**+1.1**
SIUC	**Southern Illin**	**23.61**	**7**	*e*	P		**P**	**08 21 51.5**	**-3.2**
	5.8nm,0.9s								
LENM	**Lemitar**	**23.75**	**329**	*e*	P		**P**	**08 21 57.5**	**+1.3**
LAZ	**Ladron**	**24.02**	**329**	*e*	P		**P**	**08 21 59.3**	**+0.5**
ANMO	**Albuquerque**	**24.13**	**331**	P			**P**	**08 22 00.7**	**+0.9**
	0.9nm,0.6s,baz=156,slow=14,SNR=5.5								
ANMO	**Albuquerque**	**24.13**	**331**	*e*	P		**P**	**08 22 00.8**	**+1.1**
	2.5nm,0.9s								
TUC	**Tucson**	**24.50**	**320**	*e*	P		**P**	**08 22 05.0**	**+2.0**
	7.8nm,1.1s								
WCI	**Wyandotte Cave**	**24.58**	**12**	*e*	P		**P**	**08 22 01.9**	**-1.6**
	13nm,0.9s								
KSU1	**Kansas State U**	**25.05**	**353**	*e*	P		**P**	**08 22 08.1**	**+0.3**
	12nm,1.0s								
T25A	**Trinidad**	**25.15**	**337**	*e*	P		**P**	**08 22 11.2**	**+2.2**
	9.2nm,0.9s								
X18A	**Snowflake**	**25.59**	**325**	*e*	P		**P**	**08 22 14.9**	**+1.8**
	3.7nm,1.1s								
SJG	**San Juan**	**25.70**	**78**	LR			LR	08 33 22.6	
	comp=Z,114nm,20.3s,baz=268,slow=39								
SDCO	**Great Sand Dun**	**26.10**	**336**	*e*	P		**P**	**08 22 18.5**	**+0.8**
X16A	**Lo Mia Camp, P**	**26.36**	**323**	*e*	P		**P**	**08 22 19.2**	**-0.7**
	4.3nm,1.0s								
S22A	**4UR Ranch, Cre**	**26.64**	**334**	*e*	P		**P**	**08 22 24.6**	**+2.1**
	7.4nm,1.0s								
MVCO	**Mesa Verde**	**26.93**	**331**	*e*	P		**P**	**08 22 27.2**	**+2.0**
	10.0nm,1.0s								
Y14A	**Wickenburg**	**26.97**	**320**	*e*	P		**P**	**08 22 26.1**	**+0.8**
	0.8nm,0.6s								
KNB	**Kanab**	**29.00**	**325**	*e*	P		**P**	**08 22 45.2**	**+1.6**
	2.8nm,1.1s								
NNA	**Nana**	**30.36**	**148**	LR			LR	08 33 17.6	
	comp=Z,72nm,19.4s,baz=262,slow=32								
PD31	**Pinedale Array**	**31.99**	**336**	*e*	P		**P**	**08 23 10.7**	**+0.7**
PDAR	**Pinedale Array**	**31.99**	**336**	P			**P**	**08 23 10.2**	**+0.2**
	1.3nm,0.9s,baz=134,slow=8.5,SNR=7.2								
PDAR	**Pinedale Array**	**31.99**	**336**	*e*	P		**P**	**08 23 10.1**	**+0.1**
HVU	**Hansel Valley**	**32.57**	**331**	*e*	P		**P**	**08 23 16.2**	**+1.3**
	5.0nm,1.1s								
AHID	**Auburn Hatcher**	**32.62**	**334**	*e*	P		**P**	**08 23 17.5**	**+2.0**
	5.8nm,0.9s								
REDW	**Red Top Meadow**	**33.01**	**335**	*e*	P		**P**	**08 23 19.9**	**+1.1**
	17nm,1.0s								
SNOW	**Snow King Moun**	**33.05**	**335**	*e*	P		**P**	**08 23 20.5**	**+1.2**
	20nm,0.9s								
NV11	**Mina Array Sit**	**33.05**	**322**	*e*	P		**P**	**08 23 20.8**	**+1.5**
	0.2nm,0.8s								
LOHW	**Long Hollow**	**33.12**	**336**	*e*	P		**P**	**08 23 20.8**	**+1.0**
	5.6nm,0.9s								
NV01	**Mina Array Sit**	**33.14**	**321**	*e*	P		**P**	**08 23 21.0**	**+0.9**
NVAR	**Mina Array Bea**	**33.14**	**321**	P			**P**	**08 23 21.4**	**+1.4**
	2.4nm,0.8s,baz=133,slow=8.0,SNR=18								
TPAW	**Teton Pass**	**33.15**	**335**	*e*	P		**P**	**08 23 21.3**	**+1.1**
	8.1nm,1.0s								
MOOW	**Moose Ponds**	**33.29**	**336**	*e*	P		**P**	**08 23 22.1**	**+0.8**
	2.1nm,0.8s								
YMR	**Madison River**	**34.14**	**336**	*e*	P		**P**	**08 23 30.4**	**+1.7**
	9.9nm,1.1s								
MCMT	**McKenzie Canyo**	**35.03**	**335**	*e*	P		**P**	**08 23 38.1**	**+1.6**
BOZ	**Bozeman (W)**	**35.18**	**337**	*e*	P		**P**	**08 23 38.7**	**+1.1**
	1.3nm,0.8s								
DLMT	**Dillon**	**35.37**	**335**	*e*	P		**P**	**08 23 40.4**	**+1.2**
	11nm,1.1s								
PTGA	**Pitinga**	**35.57**	**112**	P			**P**	**08 23 39.8**	**-1.3**
	6.1nm,0.8s,baz=291,slow=18,SNR=7.3								
PTGA	**Pitinga**	**35.57**	**112**	*e*	P		**P**	**08 23 41.1**	**-0.1**
	6.0nm,0.8s								
LRM	**Limekiln Ridge**	**35.69**	**336**	*e*	P		**P**	**08 23 43.1**	**+1.0**
WVOR	**Wild Horse Val**	**35.99**	**326**	*e*	P		**P**	**08 23 46.0**	**+1.4**
	5.2nm,1.1s								
ULM	**Lac du Bonnet**	**36.05**	**356**	P			**P**	**08 23 42.9**	**-1.9**
	3.6nm,0.7s,baz=176,slow=10.0,SNR=4.0								
ULM				LR			LR	08 39 29.9	
	comp=Z,58nm,18.6s,baz=250,slow=38								
HRY	**Holter Researc**	**36.19**	**337**	*e*	P		**P**	**08 23 46.7**	**+0.5**
J08A	**Circle Bar Ran**	**36.55**	**328**	*e*	P		**P**	**08 23 50.2**	**+0.9**
	5.4nm,0.9s								
MSO	**Missoula**	**37.10**	**336**	*e*	P		**P**	**08 23 54.6**	**+0.6**
	4.7nm,1.1s								
YBH	**Yreka Blue Hor**	**37.84**	**322**	P			**P**	**08 23 59.4**	**-0.8**
	0.8nm,0.7s,baz=108,slow=16,SNR=1.9								
F10A	**Beach Ranch, E**	**37.85**	**332**	*e*	P		**P**	**08 24 00.6**	**+0.4**
	8.7nm,0.9s								
LPAZ	**La Paz**	**38.77**	**141**	P			**P**	**08 24 11.0**	**+2.1**
	1.2nm,0.9s,baz=334,slow=5.1,SNR=3.7								
LPAZ	**La Paz**	**38.77**	**141**	*e*	P		**P**	**08 24 10.9**	**+2.1**
SCHQ	**Schefferville**	**45.24**	**21**	LR			LR	08 45 03.1	
	comp=Z,232nm,18.3s,baz=276,slow=38								
YKA	**Yellowknife Ar**	**50.69**	**347**	P			**P**	**08 25 42.5**	**0.0**
	8.5nm,0.7s,baz=149,slow=7.7,SNR=20								
YKW3	**Yellowknife Ar**	**50.76**	**347**	*e*	P		**P**	**08 25 42.9**	**-0.1**
	15nm,0.9s								
DLBC	**Dease Lake**	**52.23**	**336**	P			**P**	**08 25 55.4**	**+1.3**
	3.2nm,0.9s,baz=120,slow=8.1,SNR=4.5								
CPUP	**Villa Florida**	**52.92**	**139**	LR			LR	08 49 29.4	
	comp=Z,40nm,19.8s,baz=137,slow=37								
PLCA	**Paso Flores**	**58.36**	**160**	LR			LR	08 47 11.8	
	comp=Z,54nm,18.3s,baz=328,slow=31								
INK	**Inuvik**	**60.08**	**344**	P			**P**	**08 26 49.9**	**0.0**
	4.2nm,0.8s,baz=102,slow=5.9,SNR=14								
INK	**Inuvik**	**60.08**	**344**	*e*	P		**P**	**08 26 50.2**	**+0.3**
	11nm,1.1s								
HDA	**Harding Lake**	**62.28**	**337**	*e*	P		**P**	**08 27 07.0**	**+2.1**
	2.8nm,0.8s								
IL1	**Eielson Array**	**62.42**	**337**	*e*	P		**P**	**08 27 04.8**	**-1.0**
ILAR	**Eielson Array**	**62.42**	**337**	P			**P**	**08 27 06.2**	**+0.4**
	3.4nm,1.1s,baz=129,slow=3.3,SNR=16								
ILAR				LR			LR	08 58 17.2	
	comp=Z,65nm,18.3s,baz=144,slow=40								
ILB	**Eielson Array**	**62.42**	**337**	*e*	P		**P**	**08 27 06.3**	**+0.4**
ESDC	**Sonseca Array**	**80.06**	**52**	P			**P**	**08 28 51.0**	**-2.0**
	0.1nm,3s,baz=281,slow=7.7,SNR=3.8								
NOA	**NORSAR Array B**	**84.25**	**28**	LR			LR	09 07 45.5	
	comp=Z,24nm,18.1s,baz=20,slow=36								
TOA1	**Torodi Ar. Sit**	**90.91**	**76**	*e*	P		**P**	**08 29 45.8**	**-1.7**
TORD	**Torodi Ar. Bea**	**90.91**	**76**	P			**P**	**08 29 45.8**	**-1.7**
	0.3nm,0.9s,baz=316,slow=6.0								
NRIK	**Noril'sk**	**96.68**	**360**	LR			LR	09 17 57.9	
	comp=Z,101nm,19.0s,baz=8.5,slow=38								
KSH	**Kashi**	**125.51**	**11**	*e*	PKP		**PKPdf**	**08 35 46.3**	**+1.7**
WR1	**Warramunga Arr**	**134.86**	**256**	*e*	PKPdf		**PKPdf**	**08 36 01.6**	**-1.0**
WRA	**Warramunga Arr**	**134.86**	**256**	PKP			**PKPdf**	**08 36 01.6**	**-1.0**
	0.3nm,0.9s,baz=90,slow=28,SNR=4.0								
ASAR	**Alice Springs**	**135.17**	**251**	PKP			**PKPdf**	**08 36 02.4**	**-0.7**
	0.3nm,0.8s,baz=287,slow=40,SNR=3.2								
CMAR	**Chiang Mai Arr**	**145.60**	**340**	PKPbc			**PKPdf**	**08 36 22.0**	**0.0**
	2.5nm,0.4s,baz=353,slow=4.7,SNR=21								

*ISCJB **08** 08:24:21.7±0.4, 20°.45S±0°.03×69°.58W±0°.10, h92km±4km, mb3.8/7, Error ellipse: s-maj=15.6km s-min=5.5km az=0.7*
*GUC **08** 08:24:22.6±0.7, 20°.46S×69°.93W, h73km±5km, ML4.2*
*IDC **08** 08:24:24.2±1.6, 20°.38S×69°.29W, h97km±18km, mb3.6/8, mb1 3.7/11, mb1mx3.6/39, mbtmp3.9/11, MS3.2/3, Ms1 3.1/3, ms1mx2.8/23, Error ellipse: s-maj=23.2km s-min=15.0km az=95.0*

ISC 08 08:24:22.5±0.8, 20°.43S±0°.03×69°.7W±0°.1, h85km±7km, n21, σ1§49/26, mb3.9/7, 4C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.65**	**160**	⇓	*i*	P	**Pn**	**08 24 38.3**	**+0.2**
PB01					*i*	S	**Sn**	**08 24 49.9**	**+0.2**
PB01						IAML		08 24 51.7	
	comp=E,17μm,0.4s								
PB11	**IPOC Station P**	**0.67**	**5**	⇓	*i*	P	**Pn**	**08 24 38.6**	**+0.2**
PB11					*i*	S	**Sn**	**08 24 50.9**	**+0.7**
PB11						IAML		08 24 52.0	
	comp=N,10μm,0.3s								
PB02	**IPOC Station P**	**0.90**	**190**	⇑	*i*	P	**Pn**	**08 24 41.0**	**+0.2**
PB02					*i*	S	**Sn**	**08 24 54.0**	**-0.4**
PSGC	**Pisagua**	**0.91**	**335**	⇑	*i*	P	**Pn**	**08 24 40.5**	**-0.4**
PSGC					*i*	S	**Sn**	**08 24 53.4**	**-1.3**
PB07	**IPOC Station P**	**1.30**	**187**	⇓	*i*	P	**Pn**	**08 24 45.6**	**0.0**
PB07					*i*	S	**Sn**	**08 25 02.7**	**-0.3**
PB07						IAML		08 25 07.6	
	comp=E,7μm,0.5s								
MNMC	**Minye Minye**	**1.30**	**5**	⇓	*i*	P	**Pn**	**08 24 46.6**	**+0.9**
MNMC					*i*	S	**Sn**	**08 25 04.8**	**+1.6**
MNMC						IAML		08 25 08.9	
	comp=E,7μm,0.3s								
PB03	**IPOC Station P**	**1.61**	**181**	⇓	*i*	P	**Pn**	**08 24 49.6**	**+0.1**
PB03						IAML		08 25 11.8	
	comp=N,4μm,0.5s								
PB04	**IPOC Station P**	**1.94**	**192**	⇑	*i*	P	**Pn**	**08 24 53.1**	**-0.8**
PB04						IAML		08 25 18.5	
	comp=E,4μm,0.2s								
LVC	**Limon Verde**	**2.30**	**161**	P			**Pn**	**08 25 00.1**	**+1.3**
	comp=E,80nm,0.3s,baz=350,slow=11,SNR=880								
LVC					S		**Sn**	**08 25 28.1**	**+1.6**
	comp=E,304nm,0.3s,baz=166,slow=19,SNR=34								
PB05	**IPOC Station P**	**2.45**	**190**	⇑	*i*	P	**Pn**	**08 24 59.8**	**-0.9**
LPAZ	**La Paz**	**4.39**	**20**	P			**Pn**	**08 25 27.7**	**+0.3**
	comp=E,1.2nm,0.3s,baz=210,slow=4.2,SNR=33								
CPUP	**Villa Florida**	**12.80**	**120**	P			Pn	08 27 18.5	-2.7
	comp=E,0.1nm,0.3s,baz=315,slow=13,SNR=2.5								
CPUP				LR			LR	08 32 48.9	
	comp=E,55nm,20.3s,baz=244,slow=40								
PLCA	**Paso Flores**	**20.25**	**182**	P			**P**	**08 28 54.1**	**+3.1**
	comp=E,1.8nm,0.8s,baz=356,slow=13,SNR=3.4								
BDFB	**Brasilia**	**21.18**	**81**	P			**P**	**08 28 57.4**	**-3.9**
	comp=E,2.7nm,0.6s,baz=246,slow=20,SNR=1.7								
BDFB				LR			LR	08 38 20.2	
	comp=E,34nm,18.3s,baz=208,slow=40								
PTGA	**Pitinga**	**21.78**	**27**	P			**P**	**08 29 06.2**	**-1.4**
	comp=E,9.0nm,0.3s,baz=203,slow=16,SNR=22								
MDP	**Montagnes des**	**30.42**	**35**	LR			LR	08 43 00.0	
	comp=E,110nm,18.9s,baz=262,slow=37								
TXAR	**Lajitas Array**	**59.32**	**325**	P			**P**	**08 34 16.1**	**+0.2**
	comp=E,0.2nm,0.6s,baz=152,slow=10,SNR=4.4								
PDAR	**Pinedale Array**	**72.81**	**330**	P			**P**	**08 35 43.7**	**+1.5**
	comp=E,0.4nm,0.7s,baz=132,slow=6.2,SNR=4.3								
NVAR	**Mina Array Bea**	**74.19**	**322**	P			**P**	**08 35 52.2**	**+1.8**
	comp=E,2.3nm,1.2s,baz=128,slow=5.8,SNR=3.0								
TORD	**Torodi Ar. Bea**	**77.72**	**71**	P			**P**	**08 36 08.5**	**-2.1**
	comp=E,1.0nm,0.6s,baz=235,slow=5.6,SNR=9.5								
YKA	**Yellowknife Ar**	**89.93**	**341**	P			**P**	**08 37 12.2**	**+0.4**
	comp=E,0.7nm,0.6s,baz=135,slow=4.7,SNR=4.6								

KRSC 08 08:42:19.6±1.2, 55°.85N×163°.12E, h5km±20km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.40**	**336**	*i*	P	Pg	08 42 28.1	+0.8
KBTR				*e*	S	Sg	08 42 33.5	+0.9
KBG	**Krutoberegovo**	**0.47**	**331**	*e*	P	Pg	08 42 29.3	+0.7
KBG				*e*	S	Sg	08 42 35.2	+0.4
SMKR	**Semkarok**	**1.18**	**309**	*e*	P	Pg	08 42 41.7	-0.5
SMKR				*e*	S	Sb	08 42 58.6	+0.5
BDR	**Baidarnaya**	**1.29**	**305**	*e*	P	Pg	08 42 43.8	-0.5
BDR				*e*	S	Sg	08 43 00.8	-0.2
ZLN	**Zelenaya**	**1.31**	**279**	*e*	P	Pb	08 42 45.3	+0.5
SRKR	**Sorokina**	**1.36**	**308**	*e*	P	Pn	08 42 44.8	-0.4
SRKR				*e*	S	Sg	08 43 02.6	-0.5
CIRR	**Tsirk**	**1.36**	**283**	*e*	P	Pg	08 42 46.0	+0.4
CIRR				*e*	S	Sn	08 43 04.3	+0.5
BZGR	**Bezymyannyi-Gr**	**1.37**	**275**	*e*	P	Pg	08 42 46.2	+0.4
LGNR	**Loginova**	**1.39**	**281**	*e*	P	Pg	08 42 46.5	+0.4
KLY	**Klyuchi**	**1.46**	**290**	*e*	P	Pn	08 42 44.9	-1.7
KLY				*e*	S	Sb	08 43 02.2	-3.8
BZWR	**Bezymyannyi-We**	**1.48**	**276**	*e*	P	Pg	08 42 48.0	+0.1
KRSR	**Krestovskiy**	**1.48**	**286**	*e*	P	Pn	08 42 46.5	-0.5
KRSR				*e*	S	Sn	08 43 05.9	-0.8
BZMR	**Bezymyannaya**	**1.48**	**275**	*e*	P	Pb	08 42 47.5	-0.2
MKZ	**Mys Kozlova**	**1.52**	**212**	*i*	P	Pn	08 42 46.6	-0.7
KMNR	**Kamenistaya**	**1.63**	**268**	*i*	P	Pn	08 42 49.5	+0.5
KPT	**Kopyto**	**1.63**	**275**	*e*	P	Pn	08 42 49.2	+0.1
KPT				*e*	S	Sg	08 43 12.3	+0.3
TUMD	**Tumrok D**	**1.67**	**249**	*e*	P	Pn	08 42 48.9	-0.6
BKI	**Bering**	**1.75**	**110**	*e*	P	Pg	08 42 54.1	+1.1
KZV	**Kizimen**	**1.77**	**247**	*e*	P	Pn	08 42 50.8	-0.1
TUMR	**Tumrok**	**1.78**	**253**	*e*	P	Pb	08 42 51.9	-0.8
TUMR				*e*	S	Sg	08 43 16.0	-0.7
KOZ	**Kozyrevsk**	**1.84**	**278**	*e*	P	Pb	08 42 53.7	+0.1
KOZ				*e*	S	Sg	08 43 18.8	+0.3
SDLR	**Sedlovina**	**3.56**	**226**	*e*	P	Pn	08 43 18.0	+2.4
SMAR	**Somma**	**3.61**	**226**	*e*	P	Pn	08 43 18.9	+2.6
AVH	**Avacha**	**3.63**	**226**	*i*	P	Pn	08 43 19.9	+3.4
GNL	**Ganaly**	**3.69**	**236**	*e*	P	Pn	08 43 19.2	+1.9

*ISCJB **08** 09:10:32.0±0.2, 2°.91S±0°.03×127°.99E±0°.03, h38km, mb4.3/19, MS3.4/9, Error ellipse: s-maj=4.2km s-min=3.2km az=44.7*
*DJA **08** 09:10:33.4±0.4, 3°.5±2°×12°.8E±°, h22km±5km, M4.5/16, mb4.7/11, mB5.0/5, MLv4.6/16, Mw(mB)4.3/5*
*NEIC **08** 09:10:33.4±0.2, 2°.95S×128°.01E, h35km, mb4.3/14, Error ellipse: s-maj=5.3km s-min=3.3km az=62.0*
*IDC **08** 09:10:34.0±3.6, 2°.96S×128°.05E, h37km±30km, mb4.0/12, mb1 4.2/15, mb1mx4.0/44, mbtmp4.2/15, ML4.2/3, MS3.5/12, Ms1 3.5/12, ms1mx3.2/43, Error ellipse: s-maj=29.8km s-min=8.6km az=75.0*

ISC 08 09:10:33.8±0.4, 2°.91S±0°.04×128°.03E±0°.04, h38km, n82, σ1§54/87, mb4.3/19, MS3.3/9, Ceram Sea

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

HHC				pmax	pmax		
	comp=Z,170nm,6.1s						
USRK	**Ussuriysk Ar.**	**47.03**	**4**	P	**P**	**09 19 02.4**	**+0.9**
	comp=Z,2.0nm,0.9s,baz=174,slow=5.5						
GTA	**Gaotai**	**49.47**	**331**	*e*P	**P**	**09 19 21.5**	**+1.0**
GTA				pP	pP	09 19 26.4	-5.2
GTA				sP	sP	09 19 28.6	-7.5
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KLR	**Kul'dur**	**52.03**	**3**	LR	LR	09 41 05.3	
	comp=Z,22nm,21.5s,baz=145,slow=35						
SONA0	**Songino Array**	**53.97**	**342**	*e*P	**P**	**09 19 54.7**	**+0.7**
SONM	**Songino Array**	**53.97**	**342**	P	**P**	**09 19 54.7**	**+0.7**
	comp=Z,1.4nm,0.9s,baz=158,slow=7.2,SNR=6.8						
SONA1	**Songino Array**	**53.98**	**342**	*e*P	**P**	**09 19 53.6**	**-0.5**
RPZ	**Rata Peaks**	**55.66**	**143**	LR	LR	09 44 04.8	
	comp=Z,98nm,20.7s,baz=215,slow=36						
WMQ	**Urumqi**	**58.92**	**327**	*e*P	**P**	**09 20 31.8**	**+2.6**
KSH	**Kashi**	**63.70**	**317**	*e*P	**P**	**09 21 03.7**	**+2.0**
MK01	**Makanchi Array**	**63.73**	**327**	*e*P	**P**	**09 21 02.2**	**+0.6**
MK32	**Makanchi Array**	**63.75**	**327**	*e*P	**P**	**09 21 02.4**	**+0.6**
MKAR	**Makanchi Array**	**63.75**	**327**	P	**P**	**09 21 02.4**	**+0.6**
	comp=Z,2.5nm,1.0s,baz=122,slow=6.2,SNR=8.7						
ZALV	**Zalesovo Beam**	**67.07**	**334**	P	**P**	**09 21 22.9**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=137,slow=13,SNR=3.7						
ZALV	**Zalesovo Beam**	**67.07**	**334**	*e*P	**P**	**09 21 22.1**	**-1.0**
ZAA1	**Zalesovo Array**	**67.07**	**334**	*e*P	**P**	**09 21 22.9**	**-0.2**
KURK	**Kurchatov**	**68.03**	**329**	*e*P	**P**	**09 21 29.6**	**+0.4**
	comp=Z,9.0nm,1.0s						
VNDA	**Vanda**	**76.72**	**173**	P	**P**	**09 22 20.2**	**-0.4**
	comp=Z,1.0nm,1.0s,baz=323,slow=5.6,SNR=5.0						
VNDA				LR	LR	09 55 49.9	
	comp=Z,32nm,18.9s,baz=328,slow=35						
ILAR	**Eielson Array**	**90.51**	**25**	P	**P**	**09 23 31.4**	**0.0**
	comp=Z,0.5nm,1.0s,baz=258,slow=3.6,SNR=3.2						
TORD	**Torodi Ar. Bea**	**126.00**	**284**	PKP	**PKPdf**	**09 29 33.1**	**+0.2**
	comp=Z,0.6nm,1.0s						
TOA1	**Torodi Ar. Sit**	**126.01**	**284**	*e*PKPdf	**PKPdf**	**09 29 33.1**	**+0.2**
CPUP	**Villa Florida**	**150.47**	**170**	PKPbc	**PKPbc**	**09 30 24.1**	**+1.9**
	comp=Z,2.5nm,0.9s,baz=286,slow=3.3,SNR=4.2						

*ISCJB **08** 09:10:41.2±0.7, 49.°09N±0.°03×3.°48W±0.°04, h14km±5km, Error ellipse: s-maj=5.7km s-min=4.5km az=6.0*
*LDG **08** 09:10:41.9±0.1, 49.°19N×3.°54W, h7km, Md2.8/6, Ml3.3/11, Error ellipse: s-maj=1.6km s-min=1.5km az=96.0*
*BGS **08** 09:10:44.6±0.9, 49.°25N×3.°41W, h16km±9km, ML2.3*

ISC 08 09:10:42.3±2.0, 49.°16N±0.°03×3.°45W±0.°04, h11km±15km, n37, σ1§53/59, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSF	**Rostrenen**	**0.83**	**172**	*e*Pg	**Pb**	**09 10 58.5**	**-0.2**
ROSF				*e*Sg	**Sb**	**09 11 09.3**	**-0.6**
	83nm,0.2s						
JSA	**Saint Aubin**	**0.84**	**87**	*e*P	**Pb**	**09 10 59.1**	**+0.3**
JSA				*e*S	**Sb**	**09 11 10.1**	**0.0**
JSA				IAML		09 11 12.2	
	comp=E,158nm,0.2s						
JSA				IAML		09 11 12.3	
	comp=N,136nm,0.2s						
JSA	**Saint Aubin**	**0.84**	**87**	*e*P	**Pb**	**09 10 59.1**	**+0.3**
JSA				*e*S	**Sb**	**09 11 10.1**	**0.0**
JSA				IAML		09 11 12.2	
	comp=E,158nm,0.2s						
JSA				IAML		09 11 12.3	
	comp=N,136nm,0.2s						
JRS	**Jersey**	**0.89**	**87**	*e*P	**Pb**	**09 10 59.8**	**0.0**
JRS				*e*S	**Sb**	**09 11 11.7**	**+0.2**
JRS	**Jersey**	**0.89**	**87**	*e*P	**Pb**	**09 10 59.8**	**0.0**
JRS				*e*S	**Sb**	**09 11 11.7**	**+0.2**
JDC	**Jersey Dam (Cr**	**0.92**	**88**	*e*P	**Pb**	**09 11 00.6**	**+0.4**
JDC				*e*S	**Sb**	**09 11 12.7**	**+0.3**
JDC	**Jersey Dam (Cr**	**0.92**	**88**	*e*P	**Pb**	**09 11 00.6**	**+0.4**
JDC				*e*S	**Sb**	**09 11 12.7**	**+0.3**
JDG	**Jersey Dam (Ga**	**0.92**	**87**	*e*P	**Pb**	**09 11 00.7**	**+0.4**
JDG				*e*S	**Sb**	**09 11 12.5**	**+0.1**
JDG	**Jersey Dam (Ga**	**0.92**	**87**	*e*P	**Pb**	**09 11 00.7**	**+0.4**
JDG				*e*S	**Sb**	**09 11 12.5**	**+0.1**
SGMF	**Saint Gilles**	**1.08**	**147**	*e*Pn	**Pn**	**09 11 02.9**	**-0.4**
SGMF	**Saint Gilles**	**1.08**	**147**	*e*Pg	**Pn**	**09 11 03.4**	**+0.1**
SGMF				*e*Sg	**Sb**	**09 11 17.2**	**+0.2**
	comp=N,60nm,0.2s						
QUIF	**Quistinic**	**1.26**	**171**	*e*Pn	**Pn**	**09 11 04.9**	**-0.9**
QUIF	**Quistinic**	**1.26**	**171**	*e*Pg	**Pn**	**09 11 06.4**	**+0.6**
QUIF				*e*Sg	**Sn**	**09 11 22.3**	**-0.3**
	comp=N,130nm,0.3s						
DYA	**Yadsworthy**	**1.32**	**346**	*e*P	**Pn**	**09 11 06.3**	**-0.3**
DYA				IAML		09 11 26.3	
	comp=N,53nm,0.1s						
DYA				IAML		09 11 26.8	
	comp=E,37nm,0.2s						
DYA	**Yadsworthy**	**1.32**	**346**	*e*P	**Pn**	**09 11 06.3**	**-0.3**
DYA				IAML		09 11 26.3	
	comp=N,53nm,0.1s						
DYA				IAML		09 11 26.8	
	comp=E,37nm,0.2s						
CCA1	**Carnmenellis**	**1.55**	**312**	*e*P	**Pn**	**09 11 10.9**	**+1.1**
CCA1				*e*S	**Sn**	**09 11 28.5**	**-1.4**
CCA1				IAML		09 11 32.8	
	comp=N,32nm,0.2s						
CCA1				IAML		09 11 32.9	
	comp=E,27nm,0.2s						
CCA1	**Carnmenellis**	**1.55**	**312**	*e*P	**Pn**	**09 11 10.9**	**+1.1**
CCA1				*e*S	**Sn**	**09 11 28.5**	**-1.4**
CCA1				IAML		09 11 32.8	
	comp=N,32nm,0.2s						
CCA1				IAML		09 11 32.9	
	comp=E,27nm,0.2s						
GRR	**Gorron**	**1.88**	**113**	*e*Pn	**Pn**	**09 11 13.8**	**-0.5**
GRR	**Gorron**	**1.88**	**113**	*e*Pg	**Pb**	**09 11 17.5**	**+0.9**
GRR				*e*Sn	**Sn**	**09 11 37.4**	**-0.5**
	comp=E,28nm,0.2s						
GRR				*e*Sg	**Sb**	**09 11 43.5**	**+3.5**
	comp=E,30nm,0.2s						
HTL	**Hartland**	**1.96**	**340**	*e*P	**Pn**	**09 11 14.9**	**-0.5**
HTL				IAML		09 11 51.3	
	comp=N,16nm,0.4s						
HTL				IAML		09 11 52.6	
	comp=E,13nm,0.5s						
HTL	**Hartland**	**1.96**	**340**	*e*P	**Pn**	**09 11 14.9**	**-0.5**
HTL				IAML		09 11 51.3	
	comp=N,16nm,0.4s						
HTL				IAML		09 11 52.6	
	comp=E,13nm,0.5s						
FLN	**La Foliniere**	**1.99**	**100**	*e*Pn	**Pn**	**09 11 15.3**	**-0.6**
	baz=280						
FLN	**La Foliniere**	**1.99**	**100**	*e*Pg	**Pb**	**09 11 19.8**	**+1.2**
	baz=280						
FLN				*e*Sn	**Sn**	**09 11 39.9**	**-0.9**
	baz=278						
FLN				*e*Sg	**Sg**	**09 11 47.1**	**+0.7**
	comp=E,30nm,0.3s,baz=283						
LDF	**La Druitiere**	**2.27**	**103**	*e*Pn	**Pn**	**09 11 19.3**	**-0.4**
LDF	**La Druitiere**	**2.27**	**103**	*e*Pg	**Pb**	**09 11 24.7**	**+1.5**
LDF				*e*Sn	**Sn**	**09 11 46.2**	**-1.3**
LDF				*e*Sg	**Sb**	**09 11 55.0**	**+3.8**
	comp=E,21nm,0.3s						
MFF	**Saint Martin d**	**3.39**	**138**	*e*Pn	**Pn**	**09 11 34.5**	**-0.6**
MFF	**Saint Martin d**	**3.39**	**138**	*e*Pg	**Pb**	**09 11 45.6**	**+3.3**
MFF				*e*Sg	**Sb**	**09 12 30.1**	**+6.6**
	comp=E,11nm,0.3s						
TCF	**Toulx Ste Croi**	**4.78**	**125**	*e*Pn	**Pn**	**09 11 53.3**	**-0.9**
BGF	**Bois d'Agland**	**4.97**	**119**	*e*Pn	**Pn**	**09 11 56.0**	**-0.8**
LFF	**La Frestale**	**5.10**	**144**	*e*Pn	**Pn**	**09 11 57.3**	**-1.3**
LFF				*e*Sg	**Sg**	**09 13 23.6**	**-2.3**
	comp=E,14nm,0.5s						
RJF	**Les Rejaudoux**	**5.13**	**137**	*e*Pn	**Pn**	**09 11 57.6**	**-1.4**
RJF				*e*Sg	**Sg**	**09 13 24.4**	**-2.4**
	comp=E,7.9nm,0.4s						
AVF	**Avril sur Loir**	**5.14**	**115**	*e*Pn	**Pn**	**09 11 58.6**	**-0.6**
LOR	**Lormes**	**5.24**	**108**	*e*Pn	**Pn**	**09 11 59.5**	**-1.0**
	baz=282						
SMF	**Signal de Mont**	**5.51**	**114**	*e*Pn	**Pn**	**09 12 02.9**	**-1.3**
SJPF	**Ste Jean**	**6.24**	**165**	*e*Pn	**Pn**	**09 12 12.7**	**-1.6**
ETSF	**Etsaut**	**6.58**	**161**	*e*Pn	**Pn**	**09 12 17.2**	**-1.7**
EPF	**Esparros**	**6.67**	**155**	*e*Pn	**Pn**	**09 12 18.6**	**-1.6**

IDC 08 09:15:54.6±20.0, 17.°86S×179.°66W, h683km±183km, mb3.0/6, mb1 3.1/6, mb1mx2.8/38, mbtmp4.1/6, Error ellipse: s-maj=214.9km s-min=30.9km az=46.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**32.28**	**261**	P	P	09 21 31.5	-0.4
	1.0nm,0.4s,baz=90,slow=8.1,SNR=4.4						
STKA	**Stephens Creek**	**37.62**	**241**	P	P	09 22 15.2	-0.3
	1.5nm,0.3s,baz=63,slow=11,SNR=3.9						
WRA	**Warramunga Arr**	**43.47**	**260**	P	P	09 23 01.5	-0.2
	1.4nm,0.5s,baz=95,slow=7.2,SNR=43						
WRA				PcP	PcP	09 24 32.7	-0.6
	0.1nm,0.3s,baz=90,slow=2.5,SNR=2.9						
ASAR	**Alice Springs**	**43.66**	**254**	P	P	09 23 03.1	0.0
	13nm,0.5s,baz=89,slow=8.3,SNR=226						
ASAR				PcP	PcP	09 24 33.3	-0.7
	0.3nm,0.6s,baz=114,slow=3.4,SNR=2.8						
FITZ	**Fitzroy Crossi**	**51.87**	**261**	P	P	09 24 04.9	+1.4
	0.8nm,0.6s,baz=120,slow=8.1,SNR=3.3						
VNDA	**Vanda**	**60.40**	**185**	P	P	09 25 00.8	+0.2
	0.2nm,0.7s,baz=40,slow=2.8,SNR=2.2						

MEX 08 09:19:00.4±0.5, 14.°17N×92.°76W, h15km±78km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.88**	**33**	*e*P	Pb	09 19 14.0	-3.3
THIG				*e*S	Sb	09 19 24.9	-4.0
PCIG		**1.59**	**344**	*e*P	Pn	09 19 24.2	-3.8
PCIG				*i* S	Sn	09 19 43.6	-4.8
CCIG	**Comitan**	**2.19**	**16**	*e*P	Pn	09 19 32.6	-3.8
CCIG				*i* S	Sn	09 19 59.5	-3.8
TGIG		**2.62**	**352**	*e*P	Pn	09 19 40.0	-2.2
TGIG				*e*S	Sn	09 20 10.3	-3.5

*IDC **08** 09:27:27.9±2.5, 49.°67N×128.°22W, h0km, mb3.4/3, mb1 3.7/8, mb1mx3.5/46, mbtmp3.5/8, ML3.2/3, MS3.4/3, Ms1 3.4/3, ms1mx2.8/21, Error ellipse: s-maj=54.2km s-min=12.6km az=59.0*
*ISCJB **08** 09:27:30.4±1.7, 49.°8N±0.°2×128.°1W±0.°4, h24km, mb3.2/2, MS4.2/1, Error ellipse: s-maj=39.1km s-min=10.4km az=145.9*

ISC 08 09:27:32.0±1.8, 49.°8N±0.°1×128.°2W±0.°2, h24km, n10, σ0§95/9, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBB	**Bella Bella**	**2.44**	**1**	Pn	**Pn**	**09 28 09.5**	**-0.8**
	7.2nm,0.3s,baz=187,slow=12,SNR=15						
BBB				Sn	**Sb**	**09 28 44.7**	**0.0**
	15nm,0.3s,baz=296,slow=21,SNR=11						
NEW	**Newport**	**7.45**	**97**	LR	LR	09 32 08.3	
	comp=Z,92nm,18.2s,baz=314,slow=38						
DLBC	**Dease Lake**	**8.77**	**354**	Pn	**Pn**	**09 29 36.4**	**-0.8**
	baz=166,slow=17,SNR=2.3						
DLBC				LR	LR	09 32 52.5	
	comp=Z,123nm,19.5s,baz=226,slow=37						
PDAR	**Pinedale Array**	**14.65**	**111**	Pn	**Pn**	**09 30 58.2**	**+0.3**
	0.0nm,0.3s,baz=307,slow=12,SNR=7.2						
ILAR	**Eielson Array**	**18.01**	**334**	P	**P**	**09 31 41.9**	**+1.2**
	baz=145,slow=9.7,SNR=5.7						
INK	**Inuvik**	**18.80**	**354**	P	**Pn**	**09 31 50.2**	**+0.3**
	0.0nm,0.3s,baz=314,slow=11,SNR=2.4						
ULM	**Lac du Bonnet**	**20.71**	**76**	P	**P**	**09 32 10.9**	**+0.6**
	2.3nm,0.8s,baz=297,slow=16,SNR=2.9						
ANMO	**Albuquerque**	**21.74**	**125**	P	**P**	**09 32 21.8**	**+0.1**
	0.3nm,0.4s,baz=302,slow=13,SNR=3.0						
TXAR	**Lajitas Array**	**27.61**	**128**	P	**P**	**09 33 16.0**	**-1.4**
	0.8nm,1.1s,baz=332,slow=5.1,SNR=2.7						
AKASG	**Malin Array Be**	**78.09**	**14**	LR	LR	10 14 23.1	
	comp=Z,92nm,18.0s,baz=345,slow=36						

IDC 08 09:28:56.5±2.6, 53.°65N×86.°93E, h0km, mb1 3.0/2, mb1mx2.9/49, mbtmp3.0/2, ML2.6/2, 3C, Error ellipse: s-maj=23.6km s-min=13.2km az=74.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**284**	*i*		09 36 18.6	
	baz=104,slow=353,SNR=3.1						
ZALV	**Zalesovo Beam**	**1.29**	**284**	Pg	Pg	09 29 19.8	-1.3
	1.2nm,0.3s,baz=105,slow=17,SNR=17						
ZALV				Lg	Lg	09 29 37.5	
	1.6nm,0.3s,baz=107,slow=33,SNR=11						
KURK	**Kurchatov**	**5.89**	**243**	↑Lg	Lg	09 32 04.7	
	3.0nm,0.6s						
KURBB	**Kurchatov Arra**	**5.99**	**243**	Pn	Pn	09 30 27.5	+1.3
	0.1nm,0.3s,baz=60,slow=14,SNR=4.1						
KURBB				Lg	Lg	09 32 08.7	
	0.0nm,0.3s,baz=59,slow=32,SNR=5.7						
KURBB	**Kurchatov Arra**	**5.99**	**243**	↑Pn	Pn	09 30 26.3	+0.1
	2.4nm,0.8s,baz=61,slow=14						
KURBB				↑Lg	Lg	09 32 09.0	
	6.4nm,0.7s,baz=60,slow=34						
MKAR	**Makanchi Array**	**7.47**	**205**	Pn	Pn	09 30 48.0	+1.3
	0.1nm,0.3s,baz=26,slow=13,SNR=5.0						
MKAR				Sn	Sn	09 32 11.4	-0.7
	0.1nm,0.3s,baz=21,slow=29,SNR=3.2						
MKAR				Lg	Lg	09 32 55.9	
	0.1nm,0.3s,baz=28,slow=31,SNR=5.4						

*IDC **08** 09:37:18.7±0.9, 0.°15N×120.°71E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.7/54, mbtmp3.8/8, ML3.8/1, MS3.3/3, Ms1 3.3/3, ms1mx2.7/31, Error ellipse: s-maj=46.6km s-min=15.6km az=56.0*
*ISCJB **08** 09:37:21.7±0.7, 0.°29S±0.°05×119.°64E±0.°07, h35km, mb3.6/6, MS3.4/2, Error ellipse: s-maj=10.5km s-min=6.3km az=16.3*
*DJA **08** 09:37:22.3±0.4, 0.°5S×12.°0E±°, h10km, M4.4/13, mb4.6/2, mB5.3/2, MLv4.3/13, Mw(mB)4.7/2*

ISC 08 09:37:23.7±0.9, 0.°26S±0.°06×119.°69E±0.°09, h35km, n20, σ1§68/19, mb3.7/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**0.63**	**19**	P	**Pn**	**09 37 33.9**	**-2.3**
MPSI				S	**Sn**	**09 37 45.2**	**+0.2**
APSI	**Ampana**	**2.06**	**108**	P	**Pn**	**09 37 55.7**	**-0.2**
MRSI	**Marisa**	**2.37**	**72**	P	**Pn**	**09 38 00.1**	**0.0**
MRSI				S	**Sn**	**09 38 30.1**	**+2.2**
LUWI	**Luwuk**	**3.18**	**104**	P	**Pn**	**09 38 11.3**	**+0.1**
SPSI	**Sidrap Palu**	**3.68**	**179**	P	**Pn**	**09 38 18.3**	**+0.1**
BNSI	**Bone**	**4.13**	**174**	P	**Pn**	**09 38 25.5**	**+1.1**
KMSI	**Cibinong**	**4.37**	**79**	P	**Pn**	**09 38 28.0**	**+0.4**
BKSI	**Bulukumba**	**5.05**	**175**	P	**Pn**	**09 38 36.8**	**-0.2**
SANI	**Sanana**	**6.54**	**106**	P	**Pn**	**09 38 54.9**	**-2.6**
SGSI	**Sangihe**	**7.03**	**56**	P	**Pn**	**09 39 03.8**	**-0.4**
BATI	**Baumata**	**10.64**	**158**	LR	LR	09 44 53.3	
	comp=Z,80nm,20.4s,baz=230,slow=42						
FITZ	**Fitzroy Crossi**	**18.67**	**162**	P	**P**	**09 41 38.8**	**-0.1**
	0.2nm,0.3s,baz=346,slow=11,SNR=8.7						
PSI	**Prapat**	**20.98**	**278**	P	P	09 42 14.4	+10
	7.0nm,0.7s,baz=180,slow=10,SNR=9.3						
PSI				LR	LR	09 51 25.5	
	comp=Z,75nm,18.7s,baz=132,slow=39						
WRA	**Warramunga Arr**	**24.26**	**145**	P	**P**	**09 42 35.8**	**-1.9**
	1.7nm,0.7s,baz=326,slow=10,SNR=12						
ASAR	**Alice Springs**	**27.05**	**150**	P	**P**	**09 43 02.4**	**-0.7**
	0.9nm,0.8s,baz=324,slow=8.2,SNR=11						
CMAR	**Chiang Mai Arr**	**27.60**	**313**	P	**P**	**09 43 12.0**	**+4.0**
	1.4nm,0.4s,baz=139,slow=7.4,SNR=6.2						
STKA	**Stephens Creek**	**37.65**	**149**	P	**P**	**09 44 33.8**	**-1.8**
	1.4nm,0.9s,baz=323,slow=18,SNR=2.5						
SONM	**Songino Array**	**49.28**	**348**	P	**P**	**09 46 08.0**	**-1.2**
	0.2nm,0.3s,baz=160,slow=8.8,SNR=2.5						
MKAR	**Makanchi Array**	**57.74**	**330**	P	**P**	**09 47 08.4**	**+1.4**
	0.4nm,0.6s,baz=148,slow=7.3,SNR=2.8						
BOSA	**Boshof**	**93.77**	**241**	LR	LR	10 27 00.9	
	comp=Z,24nm,19.3s,baz=29,slow=31						

*AZER **08** 09:44:59.7±0.4, 38.°34N×46.°47E, h3km, ml4.6/27, Error ellipse: s-maj=1.4km s-min=0.7km az=9.0*
*IDC **08** 09:45:02.6±1.0, 38.°21N×46.°60E, h0km, mb4.0/15, mb1 4.1/20, mb1mx4.0/41, mbtmp3.9/20, ML3.5/5, MS3.5/21, Ms1 3.5/21, ms1mx3.3/39, Error ellipse: s-maj=24.0km s-min=10.8km az=7.0*
*THR **08** 09:45:02.8±0.5, 38.°47N×46.°56E, h14km±7km, ML4.1*
*TEH **08** 09:45:03.7, 38.°41N×46.°57E, h10km, ML4.2*
*NEIC **08** 09:45:04.8±0.4, 38.°32N×46.°66E, h10km, mb4.3/13, ML4.1(THR), MN4.2(TEH), Error ellipse: s-maj=7.8km s-min=4.9km az=184.0*
*BJI **08** 09:45:05.5, 38.°40N×46.°80E, h10km, mb4.5/16, mB4.9/11, Ms4.4/3, Ms7 4.2/2*
*MOS **08** 09:45:05.2±1.6, 38.°46N×46.°79E, h13km, mb4.3/24, Error ellipse: s-maj=5.9km s-min=4.2km az=115.8*

ISC 08 09:45:05.1±1.0, 38.°53N±0.°02×46.°63E±0.°01, h7km±7km, n276, σ1§97/315, mb4.3/38, MS3.5/15, 25C-38D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHRS	**Heris**	**0.38**	**123**	*e*Pg	**Pg**	**09 45 10.4**	**-2.2**
IHRS				IAMB	IAmb	09 45 17.0	
	comp=E,45μm,0.4s						
IHRS				IAMB	IAmb	09 45 17.1	
	comp=Z,83μm,0.3s						
IHRS				IAMB	IAmb	09 45 18.2	
	comp=N,1μm,0.1s						
ITBZ	**Tabriz**	**0.48**	**233**	Pg	**Pg**	**09 45 10.8**	**-3.7**
ITBZ	**Tabriz**	**0.48**	**233**	*e*Pg	**Pg**	**09 45 10.7**	**-3.7**
ITBZ				IAMB	IAmb	09 45 17.5	
	comp=N,25μm,0.2s						
ITBZ				IAMB	IAmb	09 45 24.9	
	comp=Z,35μm,0.3s						
ITBZ				IAMB	IAmb	09 45 25.9	
	comp=E,55μm,0.5s						
ORD	**Ordubad**	**0.64**	**309**	↑P	**Pg**	**09 45 15.8**	**-1.7**
ORD				↓S	**Sg**	**09 45 25.8**	**0.0**
IMRD	**Marand**	**0.75**	**284**	Pg	**Pg**	**09 45 17.0**	**-2.5**
IMRD	**Marand**	**0.75**	**284**	*e*Pg	**Pg**	**09 45 17.1**	**-2.5**
IMRD				IAMB	IAmb	09 45 30.9	
	comp=N,412nm,0.2s						
IMRD				IAMB	IAmb	09 45 38.3	
	comp=E,53μm,0.6s						
IMRD				IAMB	IAmb	09 45 39.2	
	comp=Z,88μm,0.5s						
ISHB	**Shabestar**	**0.84**	**253**	Pg	**Pg**	**09 45 17.8**	**-3.4**
ISHB	**Shabestar**	**0.84**	**253**	*e*Pg	**Pg**	**09 45 18.1**	**-3.1**
ISHB				IAMB	IAmb	09 45 32.4	
	comp=N,38μm,0.3s						
ISHB				IAMB	IAmb	09 45 35.0	
	comp=E,24μm,0.2s						
ISHB				IAMB	IAmb	09 45 37.8	
	comp=Z,84μm,0.3s						
IBST	**Bostanabad**	**0.85**	**166**	Pg	Pg	09 45 16.9	-4.6
IBST	**Bostanabad**	**0.85**	**166**	*e*Pg	Pg	09 45 16.9	-4.6
IBST				IAMB	IAmb	09 45 17.5	
	comp=Z,75μm,0.2s						
IBST				IAMB	IAmb	09 45 30.6	
	comp=E,2μm,0.4s						
IBST				IAMB	IAmb	09 45 30.9	
	comp=N,79μm,0.2s						
IAZR	**Azarshahr**	**0.99**	**211**	Pg	**Pg**	**09 45 19.8**	**-4.4**
IAZR	**Azarshahr**	**0.99**	**211**	*e*Pg	**Pg**	**09 45 19.8**	**-4.4**
IAZR				IAMB	IAmb	09 45 34.6	
	comp=Z,20μm,0.2s						
IAZR				IAMB	IAmb	09 45 41.6	
	comp=E,72μm,0.3s						
IAZR				IAMB	IAmb	09 45 51.2	
	comp=N,79μm,0.6s						
GRMI	**Germi**	**1.02**	**74**	*e*Pg	**Pg**	**09 45 23.3**	**-1.5**
GRMI				*e*Sg	**Sb**	**09 45 38.4**	**-0.6**
GRMI	**Germi**	**1.02**	**74**	*e*Pg	**Pg**	**09 45 23.3**	**-1.5**
ISRB	**Sarab**	**1.07**	**130**	*e*Pg	**Pg**	**09 45 22.4**	**-3.3**
ISRB				IAMB	IAmb	09 45 45.8	
	comp=E,3μm,0.4s						
ISRB				IAMB	IAmb	09 45 48.0	
	comp=Z,39μm,0.5s						
ISRB				IAMB	IAmb	09 45 55.6	
	comp=N,84μm,0.4s						
NAX	**Nakhchivan**	**1.10**	**306**	P	**Pg**	**09 45 24.4**	**-1.8**
	SNR=141						
NAX				↑S	**Sg**	**09 45 40.2**	**-0.2**
SBZ	**Shahbuz**	**1.21**	**316**	↓P	**Pg**	**09 45 26.1**	**-2.2**
SBZ				↑S	**Sg**	**09 45 43.7**	**-0.3**
LRK	**Lerik**	**1.34**	**85**	↓P	**Pn**	**09 45 28.7**	**-1.7**
	SNR=355						
LRK				↓S	**Sn**	**09 45 50.5**	**+1.9**
LRK	**Lerik**	**1.34**	**85**	*e*Pg	**Pn**	**09 45 28.7**	**-1.7**
GLBA	**Clilabad**	**1.55**	**62**	↓P	**Pb**	**09 45 34.1**	**0.0**
	SNR=146						
GLBA				↓S	**Sg**	**09 45 58.2**	**+3.4**
GLBA	**Clilabad**	**1.55**	**62**	*e*Pn	**Pb**	**09 45 34.0**	**0.0**
LKRN	**Lenkeran, Azer**	**1.69**	**83**	PG	**Pn**	**09 45 34.8**	**-0.2**
LKRN	**Lenkeran, Azer**	**1.69**	**83**	↓P	**Pn**	**09 45 34.9**	**-0.2**
	SNR=92						
LKRN				↓S	**Sg**	**09 45 59.6**	**+0.2**
LKRN	**Lenkeran, Azer**	**1.69**	**83**	*e*Pn	**Pn**	**09 45 34.8**	**-0.2**
ASTR	**Astara**	**1.69**	**88**	↑P	**Pn**	**09 45 35.1**	**+0.1**
	SNR=109						
ASTR				↓S	**Sg**	**09 46 00.2**	**+0.8**
ASTR	**Astara**	**1.69**	**88**	*e*Pn	**Pn**	**09 45 35.1**	**+0.1**
MAKU	**Maku**	**1.73**	**299**	*e*Pn	**Pn**	**09 45 34.6**	**-1.2**
MAKU				*e*Sg	**Sn**	**09 45 57.1**	**-1.1**
MAKU				IAML		09 46 05.9	
	comp=N,2μm,0.6s						
BRDA	**Brd**	**1.78**	**14**	↑P	**Pg**	**09 45 38.7**	**-0.6**
	SNR=37						
BRDA				↑S	**Sg**	**09 46 06.2**	**+3.8**
BRDA	**Brd**	**1.78**	**14**	*e*Pn	**Pg

SEKA ⇓S **Sb** **09 46 28.7 +1.2**
SEKA Sheki 2.71 9 *e*Pn **Pn** **09 45 51.2 +2.0**
CUKT Cukurca 2.71 243 P **Pn** **09 45 50.7 +1.4**
CUKT Cukurca 2.71 243 *i* P **Pn** **09 45 50.1 +0.8**
CUKT *i* S **Sg** **09 46 35.9 +3.6**
PQL Pirkuli 2.72 33 ⇓P **Pb** **09 45 52.1 -2.1**
PQL ⇓S **Sg** **09 46 30.6 -1.8**
PQL Pirkuli 2.72 33 *e*Pn **Pb** **09 45 52.0 -2.1**
GEVA Gevas 2.82 267 *i* P **Pn** **09 45 50.3 -0.4**
GEVA *i* S **Sg** **09 46 36.1 +0.5**
XNQ Khinaliq 2.88 23 ⇓P **Pn** **09 45 52.7 +1.1**
XNQ ⇓S **Sb** **09 46 30.8 -1.8**
XNQ Khinaliq 2.88 23 *e*Pn **Pn** **09 45 52.7 +1.1**
ATGJ Altiaghaj 2.93 37 ⇓P **Pb** **09 45 55.7 -2.1**
ATGJ ⇓S **Sg** **09 46 37.8 -1.4**
ATGJ Altiaghaj 2.93 37 *e*Pn **Pb** **09 45 55.6 -2.1**
DDFL Dedoflistskaro 2.94 352 P **Pb** **09 45 58.7 +0.8**
AGRB Hanur-Agry 3.02 291 P **Pb** **09 45 57.8 -1.5**
AGRB Hanur-Agry 3.02 291 *e*Pn **Pb** **09 45 58.0 -1.3**
AKT Akhty 3.06 16 *e*PN **Pb** **09 45 57.2 -2.8**
AKT *e* 09 46 04.8
AKT *e* 09 46 06.9
AKT *e*S **Sb** **09 46 39.5 +1.8**
AKT *e* 09 46 50.6
AKT pmax pmax
comp=Z,269nm,0.6s
AKT smax smax
comp=N,293nm,0.7s
AKT smax smax
comp=E,646nm,0.6s
AKT smax smax
comp=E,728nm,0.7s
ADCV BITLIS_Adilcev 3.07 276 *i* P **Pn** **09 45 54.7 +0.4**
ADCV *i* S **Sg** **09 46 44.6 +0.8**
DGRG David-gareji 3.08 342 *e*PN Pg 09 46 15.1 +11
SIZA Siyzn 3.08 34 ⇑P **Pb** **09 45 58.8 -1.5**
SIZA ⇑S **Sg** **09 46 42.9 -1.2**
SIZA Siyzn 3.08 34 *e*Pn **Pb** **09 45 58.8 -1.5**
ZKTA Zakatala 3.10 360 PN **Pb** **09 45 58.9 -1.8**
ZKTA Zakatala 3.10 360 ⇓P **Pb** **09 45 58.9 -1.8**
ZKTA ⇑S **Sb** **09 46 40.7 +1.9**
ZKTA Zakatala 3.10 360 *e*Pn **Pb** **09 45 58.9 -1.8**
QUB Quba 3.14 24 *e*Pn **Pb** **09 45 58.3 -3.0**
DIGO Kars 3.15 308 *i* P **Pb** **09 46 00.9 -0.6**
DIGO *i* S **Sg** **09 46 43.7 -2.5**
QUBA Quba, Azerbaij 3.16 26 ⇑P **Pb** **09 45 58.4 -3.3**
QUBA ⇓S **Sb** **09 46 40.4 -0.1**
QSAR Qusar 3.23 22 ⇑P **Pb** **09 45 59.4 -3.5**
QSAR ⇑S **Sb** **09 46 42.4 -0.1**
QSAR Qusar 3.23 22 *e*Pn **Pb** **09 45 59.3 -3.5**
LGD Lagodekhi 3.32 355 P **Pb** **09 46 00.8 -3.4**
LGD S **Sb** **09 46 46.8 +2.0**
LGD Lagodekhi 3.32 355 *e*PN **Pb** **09 46 00.8 -3.4**
LGD *e*S **Sb** **09 46 46.7 +1.9**
KZRT Kazreti 3.33 330 P **Pb** **09 46 04.7 +0.1**
KZRT S **Sg** **09 46 48.5 -3.6**
KARS Kars 3.46 308 P **Pb** **09 46 06.3 -0.4**
KARS Kars 3.46 308 PN **Pb** **09 46 04.4 -2.3**
SIRT Sirnak 3.47 254 P **Pb** **09 46 07.6 +0.7**
EATA Eleskirt 3.48 294 *i* P **Pb** **09 46 03.9 -3.4**
EATA *i* S **Sg** **09 46 57.5 +0.6**
SIRN S¨¬rnak 3.49 254 *i* P **Pb** **09 46 06.0 -1.2**
SIRN *i* S **Sg** **09 46 58.4 +1.3**
TBLG Delisi 3.51 336 P **Pb** **09 46 05.6 -2.0**
TBLG Delisi 3.51 336 P **Pb** **09 46 07.8 +0.2**
TBLG S **Sg** **09 46 54.8 -3.1**
TBLG Delisi 3.51 336 *e*Pn **Pb** **09 46 05.2 -2.4**
TBLG Delisi 3.51 336 PN **Pb** **09 46 05.4 -2.2**
SEAG Tbilisi Sea 3.52 337 P **Pb** **09 46 08.4 +0.6**
SEAG S **Sg** **09 46 56.9 -1.3**
IGZV Ghazvin 3.56 126 *e*Pn **Pn** **09 46 01.4 +0.3**
IGZV IAMB IAmb 09 47 08.8
comp=E,8µm,0.7s
BGD Bogdanovka 3.59 320 P **Pb** **09 46 08.9 -0.2**
BGD S **Sb** **09 46 52.2 -0.8**
GURO Guroymak-BITLI 3.61 272 P **Pn** **09 46 03.0 +1.4**
HKZM Kohzaman 3.63 149 *e*Pn **Pn** **09 46 02.3 +0.3**
EKAR Karacoban 3.64 283 *i* P **Pb** **09 46 11.2 +1.3**
EKAR *i* S **Sg** **09 47 10.1 +8.2**
QABG Abgarm-Qazvin 3.67 139 *e*Pn **Pn** **09 46 02.4 -0.1**
QABG IAMB IAmb 09 47 06.0
comp=N,0.0nm,1.3s
QABG IAMB IAmb 09 47 08.7
comp=E,0.0nm,1.0s
QABG IAMB IAmb 09 47 09.6
comp=Z,0.0nm,2.0s
SRTM Siirt_Merkez 3.75 263 *i* P **Pn** **09 46 03.8 +0.4**
SRTM *i* S **Sg** **09 47 05.8 +0.4**
AKH Akhalkalaki 3.75 321 P **Pb** **09 46 10.7 -1.1**
AKH Akhalkalaki 3.75 321 P **Pb** **09 46 11.9 0.0**
AKH S **Sg** **09 47 08.4 +2.7**
AKH Akhalkalaki 3.75 321 *e*Pn **Pb** **09 46 08.5 -3.4**
AKH Akhalkalaki 3.75 321 *e*PN **Pb** **09 46 08.5 -3.4**
QALM Alamut, Qazvin 3.82 122 *e*Pn **Pn** **09 46 04.9 +0.4**
QALM IAMB IAmb 09 47 11.4
comp=N,0.0nm,1.4s
QALM IAMB IAmb 09 47 14.6
comp=E,0.0nm,2.0s
QALM IAMB IAmb 09 47 17.3
comp=Z,0.0nm,1.1s
DUS Dusheti 3.85 338 P **Pb** **09 46 15.2 +1.7**
DUS S **Sg** **09 47 06.8 -2.0**
SENK Senkaya-Erzuru 3.88 303 P **Pb** **09 46 16.0 +2.0**
IVIS Veis 4.00 177 *e*Pn **Pn** **09 46 07.3 +0.4**
IVIS IAMB IAmb 09 47 18.1
comp=E,3µm,0.8s
IVIS IAMB IAmb 09 47 19.4
comp=Z,4µm,1.5s
IVIS IAMB IAmb 09 47 19.5
comp=N,3µm,0.7s
HAGD Aghdareh 4.21 151 *e*Pn **Pn** **09 46 10.3 +0.3**
SVAN Silvan-Diyarba 4.29 267 P **Pn** **09 46 10.6 -0.3**
IKOM Komasi 4.40 170 *e*Pn **Pn** **09 46 11.6 -0.9**
IKOM IAMB IAmb 09 47 34.5
comp=N,0.0nm,1.2s
MAK Makhachkala 4.48 8 *e*PN **Pn** **09 46 12.0 -1.3**
MAK *e* 09 46 26.7
MAK *e*S **Sn** **09 47 06.4 +0.7**
MAK *e* 09 47 21.0
MAK *e* 09 47 34.3
MAK pmax pmax
comp=Z,172nm,0.3s
MAK smax smax
comp=N,264nm,0.9s
MAK smax smax
comp=N,296nm,0.6s
BNGB Bing¯¶l 4.68 278 P Pn 09 46 10.8 -5.4
GROC Groznyy 4.71 353 *e*PN **Pn** **09 46 17.7 +1.1**
GROC *e*S **Sn** **09 47 11.4 -0.1**
GROC pmax pmax
comp=Z,84nm,1.4s
GROC smax smax
comp=E,238nm,1.3s
GROC smax smax
comp=E,599nm,1.4s
ONI Oni 4.72 330 P **Pb** **09 46 27.7 -0.6**
ONI S **Sg** **09 47 32.3 -4.5**
ONI Oni 4.72 330 *e*PN **Pb** **09 46 27.7 -0.6**
ONI *e*S **Sg** **09 47 32.3 -4.5**
ZEI Tsey 4.74 335 *e*PN **Pb** **09 46 25.3 -3.2**
ZEI pmax pmax
comp=Z,69nm,0.6s
YEDI Yedisu-Bingol 4.83 283 *e*P **Pb** **09 46 30.0 -0.2**
IPRN Peran 5.08 115 IAMB IAmb 09 47 42.5
comp=N,4µm,0.7s
IPRN IAMB IAmb 09 48 06.5
comp=E,4µm,0.7s
IKFM Kafar-mosalman 5.09 169 *e*Pn **Pn** **09 46 23.7 +1.9**
IKFM IAMB IAmb 09 47 54.4
comp=Z,0.0nm,3.0s
IKFM IAMB IAmb 09 48 07.7
comp=N,0.0nm,3.2s
IKFM IAMB IAmb 09 48 08.9
comp=E,0.0nm,2.4s
NCK Nalchik 5.47 336⇓ *e*P **Pn** **09 46 28.3 +1.3**
IALA Alasht 5.50 114 *e*Pn **Pn** **09 46 28.6 +1.0**
IALA IAMB IAmb 09 46 43.8
comp=Z,836nm,0.4s
IALA IAMB IAmb 09 47 45.1
comp=E,2µm,0.6s
NEY Neytrino 5.57 329⇓ *e*P **Pn** **09 46 30.7 +2.2**
PTK Pertek 5.68 276 *e*P Pn 09 46 34.9 +4.9

IFIR Firoozkooh 5.68 119 IAMB IAmb 09 48 24.5
comp=N,892nm,0.9s
IFIR IAMB IAmb 09 48 24.6
comp=E,956nm,0.8s
SVRC Sivrice-ELAZID 5.75 271 *e*P **Pn** **09 46 30.9 -0.2**
KBZ Khabaz 5.91 333 Pn Pn 09 46 39.7 +6.7
comp=E,0.2nm,0.3s,baz=138,slow=16,SNR=2.2
KBZ Lg Lg 09 48 11.6
comp=E,0.1nm,0.3s,baz=146,slow=19,SNR=1.8
KBZ LR LR 09 49 19.7
comp=E,512nm,21.6s,baz=131,slow=42
ISHM Shahmirzad 5.97 115 *e*Pn **Pn** **09 46 35.9 +1.7**
ISHM IAMB IAmb 09 47 57.0
comp=Z,567nm,0.6s
IKIA Kiasar 6.07 110 *e*Pn **Pn** **09 46 37.0 +1.5**
IKIA IAMB IAmb 09 46 44.3
comp=Z,499nm,0.5s
IKIA IAMB IAmb 09 48 01.6
comp=E,723nm,0.7s
IKIA IAMB IAmb 09 48 01.7
comp=N,1µm,0.9s
KVAR Kislovodsk Arr 6.18 333 LR LR 09 49 21.0
comp=N,371nm,18.6s,baz=58,slow=40
KIV Kislovodsk 6.18 333 *e*Pn **Pn** **09 46 39.5 +2.6**
KIV Kislovodsk 6.18 333 *e*P **Pn** **09 46 39.5 +2.6**
KIV pmax pmax
comp=Z,14nm,1.1s
KIV MLR MLR
comp=Z,93nm,7.0s
IANJ Anjilo 6.58 115 *e*Pn **Pn** **09 46 43.2 +0.7**
IANJ IAMB IAmb 09 48 54.4
comp=Z,528nm,1.6s
IPIR Pirpir 6.78 148 *e*Pn **Pn** **09 46 45.3 -0.1**
IPIR IAMB IAmb 09 48 48.0
comp=E,492nm,0.7s
IPIR IAMB IAmb 09 48 53.2
comp=N,553nm,0.9s
IPIR IAMB IAmb 09 48 53.4
comp=Z,664nm,1.0s
ANAR Anarak 7.84 131 *e*Pn **Pn** **09 47 01.8 +2.0**
ANAR IAMB IAmb 09 49 34.3
comp=Z,0.0nm,1.5s
ANAR IAMB IAmb 09 49 53.2
comp=E,0.0nm,1.2s
GEYT Alibeck 9.06 90 Pn **Pn** **09 47 14.5 -1.8**
comp=E,1.6nm,0.3s,baz=275,slow=18,SNR=14
GEYT Sn **Sn** **09 48 58.6 +0.1**
comp=E,0.5nm,0.3s,baz=273,slow=27,SNR=2.6
GYA0B ALIBECK ARRAY 9.06 90 *e*Pn **Pn** **09 47 15.1 -1.2**
ISFR Sfrayin 9.12 96 *e*Pn **Pn** **09 47 18.5 +1.1**
ISFR IAMB IAmb 09 47 27.9
comp=Z,1µm,0.6s
ANN Anapa 9.30 315 *e*P Pn 09 47 31.0 +11
ANN pmax pmax
comp=Z,18nm,0.5s
IEMG Emamgholi 9.56 93 *e*Pn **Pn** **09 47 22.9 -0.5**
IEMG IAMB IAmb 09 47 29.5
comp=Z,233nm,0.4s
IEMG IAMB IAmb 09 47 34.3
comp=E,708nm,0.3s
IEMG IAMB IAmb 09 47 40.3
comp=N,502nm,0.5s
IAKL Akhelmad 9.81 98 *e*Pn **Pn** **09 47 28.0 +1.1**
IAKL IAMB IAmb 09 47 32.2
comp=Z,477nm,0.6s
IAKL IAMB IAmb 09 47 39.3
comp=N,599nm,0.7s
TPRV Parvadeh(Tabas 9.84 121 *e*Pn **Pn** **09 47 29.2 +2.2**
IPAY Payeh 10.04 98 *e*Pn **Pn** **09 47 31.3 +1.3**
IPAY IAMB IAmb 09 47 41.2
comp=N,450nm,0.5s
BR101 Keskin Array S 10.17 281 *e*Pn **Pn** **09 47 33.1 +1.5**
BR131 Keskin Array S 10.17 281 *e*Pn **Pn** **09 47 35.0 +3.4**
BRTR Keskin Array B 10.17 281 Pn **Pn** **09 47 33.1 +1.5**
comp=N,0.1nm,0.3s,baz=110,slow=13,SNR=14
BRTR LR LR 09 51 42.7
comp=N,136nm,20.6s,baz=94,slow=39
ISP Isparta 12.70 272 P **Pn** **09 48 10.4 +4.2**
EIL Elat 13.10 231 LR LR 09 53 46.3
comp=N,152nm,19.5s,baz=65,slow=41
UOSS Minazif 15.79 146 *e*Pn **Pn** **09 48 46.0 -1.9**
comp=N,6.6nm,0.9s
KARP Karpathos 15.83 265 *e*Pn **Pn** **09 48 50.4 +1.9**
APE Apeiranthos 16.74 272 P **P** **09 49 04.4 +1.9**
APE pmax pmax
comp=Z,84nm,2.6s
MLR Muntele Rosu 16.85 301 Pn **P** **09 49 05.1 +1.4**
comp=Z,0.1nm,0.3s,baz=166,slow=10,SNR=2.3
AKASG Malin Array Be 17.32 320 Pn **Pn** **09 49 07.3 +0.1**
comp=Z,0.2nm,0.3s,baz=129,slow=11,SNR=3.8
AKASG LR LR 09 56 08.9
comp=Z,187nm,21.5s,baz=200,slow=38
AKBB Malin Array Si 17.32 320 *e*Pn **Pn** **09 49 07.3 +0.1**
AKBB Malin Array Si 17.32 320 *e*P **Pn** **09 49 07.3 +0.1**
KIEV Kiev 17.32 320⇑ *e*P **P** **09 49 08.0 -0.7**
VOIR 17.44 300 P **P** **09 49 11.6 +1.4**
VOIR pmax pmax
comp=Z,10.0nm,1.0s
IDI Anoyia 17.68 266 P **P** **09 49 13.5 +0.6**
comp=Z,0.6nm,0.3s,baz=70,slow=12,SNR=2.8
IDI LR LR 09 56 03.3
comp=Z,82nm,18.0s,baz=72,slow=38
SRS Serrai 17.88 286 P **P** **09 49 17.7 +2.7**
SRS pmax pmax
comp=Z,17nm,2.9s
OBN Obninsk 17.93 341 LR LR 09 56 43.7
comp=Z,61nm,19.4s,baz=170,slow=38
OBN Obninsk 17.93 341⇓ *e*P **P** **09 49 17.6 +2.3**
OBN *e*S **Sn** **09 52 35.4 +0.7**
OBN pmax pmax
comp=Z,7.0nm,0.9s
OBN MLR MLR
comp=Z,243nm,16.0s
BUR04 Bucovina Ar. S 18.05 307 *e*Pn **P** **09 49 17.6 +0.8**
SOH Sokhos 18.06 285 P **P** **09 49 18.8 +1.8**
SOH pmax pmax
comp=Z,19nm,2.8s
BUR08 Bucovina Ar. S 18.07 307 *e*P **P** **09 49 19.0 +2.0**
WSAR Wadi Sarin 18.36 143 LR LR 09 57 44.3
comp=Z,88nm,22.0s,baz=346,slow=42
KNT Kendrikon 18.40 286 P **P** **09 49 24.5 +3.8**
KK31 Karatay Array 18.62 68 *e*P **P** **09 49 22.1 -0.9**
KK31 Karatay Array 18.62 68 *e*P **P** **09 49 22.2 -0.9**
GRG Griva 18.78 285 P **Pn** **09 49 30.2 +4.9**
DRGR 19.38 303 P **Pn** **09 49 35.7 +3.1**
FNA Florina 19.56 285 P **Pn** **09 49 37.5 +2.8**
FNA pmax pmax
comp=Z,11nm,1.2s
ARU Arti 19.59 20 P **P** **09 49 33.1 -0.5**
comp=Z,0.0nm,0.3s,baz=206,slow=7.7,SNR=12
ARU Arti 19.59 20 *e*P **P** **09 49 33.1 -0.5**
comp=Z,16nm,0.9s
ARU Arti 19.59 20⇓ *e*P **P** **09 49 33.0 -0.5**
ARU pmax pmax
comp=Z,13nm,0.7s
BZS Buzias 19.83 299 P **Pn** **09 49 39.9 +2.1**
BZS pmax pmax
comp=Z,3.0nm,1.0s
OHR Ohrid 19.99 286 P **Pn** **09 49 42.3 +2.5**
OHR pmax pmax
comp=Z,42nm,1.1s
MNAS Manas 20.04 70 P Pn 09 49 40.3 -0.2
MNAS pmax pmax
comp=Z,5.0nm,1.1s
SVE Sverdlovsk 20.52 22 *e*P Pn 09 49 45.5 -0.3
SVE *e*S **S** **09 53 24.8 -8.5**
TIR Tirane 20.69 286 *e*P Pn 09 49 48.5 +0.5
comp=Z,23nm,0.5s
TIR Tirane 20.69 286 *e*P Pn 09 49 48.6 +0.6
TIR pmax pmax
comp=Z,23nm,0.5s
SFK Sufi-Kurgan 20.83 77 P Pn 09 49 49.5 -0.4
SFK pmax pmax
comp=Z,10.0nm,0.9s
OTUK Ortayu 20.97 54 P **P** **09 49 49.4 +0.7**
AAK Ala-Archa 21.51 70 P **P** **09 49 57.7 +3.0**
comp=Z,3.6nm,0.7s,baz=265,slow=12,SNR=7.5
AAK LR LR 10 00 09.1
comp=Z,89nm,19.6s,baz=276,slow=42
AAK Ala-Archa 21.51 70 *e*P **P** **09 49 53.9 -0.8**
comp=Z,10nm,0.9s
AAK Ala-Archa 21.51 70⇑ *e*P **P** **09 49 53.6 -1.1**
AAK pmax pmax
comp=Z,2.0nm,1.2s
PSZ Piszkesteto 21.54 304 *e*P **P** **09 49 57.4 +2.5**
comp=Z,4.7nm,0.9s

PSZ Piszkesteto 21.54 304 *e*P **P** **09 49 57.4 +2.5**
PSZ pmax pmax
comp=Z,5.0nm,0.9s
FRU Bishkek 21.61 70 *e*P **P** **09 49 57.5 +1.9**
FRU *e* 09 50 15.5
NIE Niedzica 21.74 309 P **P** **09 50 01.5 +4.5**
NIE pmax pmax
comp=Z,6.0nm,2.5s
BRVK Borovoye 21.84 41 *e*P **P** **09 49 58.3 +0.3**
comp=Z,13nm,0.7s
BRVK Borovoye 21.84 41⇓ *e*P **P** **09 49 58.1 +0.2**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BUD Budapest 21.99 303 P **P** **09 50 05.5 +5.9**
BUD pmax pmax
comp=Z,16nm,0.7s
OJC Ojcow 22.33 310 *e*P **P** **09 50 05.7 +2.4**
comp=Z,7.4nm,1.0s
OJC Ojcow 22.33 310 *e*P **P** **09 50 05.7 +2.4**
OJC pmax pmax
comp=Z,7.0nm,1.0s
VYHS Vyhne 22.37 305 *e*P **P** **09 50 09.2 +5.4**
VYHS pmax pmax
comp=Z,7.0nm,1.3s
VYHS Vyhne 22.37 305 *e*P **P** **09 50 09.2 +5.4**
NRN Naryn 22.64 73 *e*P **P** **09 50 06.2 -0.8**
comp=Z,11nm,0.9s
NRN Naryn 22.64 73 *e*P **P** **09 50 06.2 -0.8**
NRN pmax pmax
comp=Z,11nm,0.9s
KSH Kashi 22.77 78 P **P** **09 50 08.7 +0.5**
KSH pP sP 09 50 13.7 +2.6
KSH S **S** **09 54 11.4 -6.2**
KSH pmax pmax
comp=Z,11nm,0.6s
KSH pmax pmax
comp=Z,150nm,4.6s
KSH LR LR
comp=Z,330nm,9.6s
KSH LR LR
comp=Z,340nm,9.4s
KSH LR LR
comp=Z,320nm,15.2s
VRAC Vranov 24.02 306 LR LR 10 01 43.4
comp=Z,104nm,19.4s,baz=66,slow=41
PRZ Przheval'sk 24.40 71 *e*P **P** **09 50 24.1 -0.1**
comp=Z,18nm,1.0s
PRZ Przheval'sk 24.40 71 *e*P **P** **09 50 24.1 -0.1**
PRZ pmax pmax
comp=Z,19nm,1.0s
PDGK Podgornoye 25.18 68 P **P** **09 50 32.5 +1.2**
PDGK pmax pmax
comp=Z,5.0nm,1.8s
KURBB Kurchatov Arra 25.53 51 P **P** **09 50 35.0 +0.8**
comp=Z,4.7nm,0.8s,baz=261,slow=10,SNR=20
KURK Kurchatov 25.61 51 *e*P **P** **09 50 35.6 +0.7**
comp=Z,13nm,0.9s
KURK Kurchatov 25.61 51 *c i*P **P** **09 50 35.5 +0.7**
KURK pmax pmax
comp=Z,12nm,1.0s
KBA Koelnbreinsper 25.72 300 P **P** **09 50 39.1 +3.0**
KBA pmax pmax
comp=Z,9.0nm,1.1s
GEA0 GERESS Array S 25.76 304 *e*P **P** **09 50 37.3 +0.9**
GEC2 GERESS Array S 25.76 304 *e*P **P** **09 50 37.3 +0.9**
comp=Z,3.9nm,0.6s
GEC2 GERESS Array S 25.76 304 *e*P **P** **09 50 37.3 +0.9**
GEC2 pmax pmax
comp=Z,4.0nm,0.6s
GERES GERESS Array B 25.76 304 P **P** **09 50 36.5 +0.1**
comp=Z,2.4nm,0.6s,baz=109,slow=10.0,SNR=7.7
GERES LR LR 10 02 31.0
comp=Z,50nm,19.3s,baz=88,slow=40
FIA0 FINESS Array S 26.25 338 *e*P **P** **09 50 42.9 +2.4**
FIA0 FINESS Array S 26.25 338 *e*P **P** **09 50 42.9 +2.4**
FINES FINESS Array B 26.25 338 P **P** **09 50 42.9 +2.4**
comp=Z,0.9nm,0.6s,baz=141,slow=14,SNR=2.5
FINES LR LR 10 02 29.2
comp=Z,186nm,18.4s,baz=351,slow=40
CLL Collm 26.77 309 *e*P **P** **09 50 47.7 +2.4**
comp=Z,4.8nm,1.0s
CLL Collm 26.77 309 *e*P **P** **09 50 48.0 +2.6**
CLL Collm 26.77 309 *e*P **P** **09 50 48.0 +2.6**
MK31 Makanchi Array 27.30 61 *e*P **P** **09 50 51.4 +1.1**
MK31 Makanchi Array 27.30 61 *e*P **P** **09 50 51.4 +1.1**
MK32 Makanchi Array 27.30 61 *e*P **P** **09 50 51.3 +1.0**
MKAR Makanchi Array 27.30 61 P **P** **09 50 51.3 +1.0**
comp=Z,1.0nm,0.7s,baz=270,slow=4.3,SNR=4.0
MK01 Makanchi Array 27.31 61 *e*P **P** **09 50 51.3 +1.0**
DAVOX Davos/Dischmat 28.05 299 P **P** **09 50 57.4 +0.2**
comp=Z,2.7nm,0.5s,baz=96,slow=9.2,SNR=3.3
KEST Kesra 29.73 276 LR LR 10 05 05.2
comp=Z,51nm,18.5s,baz=272,slow=40
HFS Hagfors 29.95 327 P **P** **09 51 13.8 +0.2**
comp=Z,5.4nm,0.8s,baz=141,slow=15,SNR=5.6
HFS LR LR 10 03 56.0
comp=Z,267nm,20.9s,baz=98,slow=38
ZALV Zalesovo Beam 30.14 47 P **P** **09 51 14.2 -1.2**
comp=Z,0.3nm,0.3s,baz=264,slow=8.4,SNR=2.2
ZALV LR LR 10 05 41.9
comp=Z,108nm,18.8s,baz=248,slow=41
ZAA1 Zalesovo Array 30.14 47 *e*P **P** **09 51 14.2 -1.2**
DGZ Jazzator, Alta 30.98 56 *d e*P **P** **09 51 24.3 +1.2**
DGZ pmax pmax
comp=Z,4.0nm,1.0s
WMQ Urumqi 31.12 67 P **P** **09 51 26.0 +1.7**
WMQ sP sP 09 51 36.7 +9.5
WMQ pmax pmax
comp=Z,25nm,0.7s
WMQ pmax pmax
comp=Z,130nm,3.6s
WMQ LR LR
comp=Z,97nm,16.1s
WMQ LR LR
comp=Z,210nm,16.1s
NB200 NORSAR Array S 31.46 327 *e*P **P** **09 51 26.7 -0.3**
NOA NORSAR Array B 31.46 327 P **P** **09 51 26.7 -0.3**
comp=Z,0.7nm,0.6s,baz=121,slow=8.7,SNR=3.1
NOA LR LR 10 05 04.7
comp=Z,210nm,18.6s,baz=120,slow=38
ARA0 ARCESS Array S 33.07 347 *e*P **P** **09 51 41.2 +0.2**
ARCES ARCESS Array B 33.07 347 P **P** **09 51 41.2 +0.2**
comp=Z,4.1nm,0.9s,baz=123,slow=4.5,SNR=6.3
KNGR Kungurtug, Tuv 37.49 54⇓ *e*P **P** **09 52 19.4 0.0**
SONA0 Songino Array 43.57 58 *e*P **P** **09 53 10.2 +0.5**
SONM Songino Array 43.57 58 P **P** **09 53 10.2 +0.5**
comp=Z,0.6nm,0.9s,baz=286,slow=10,SNR=3.6
SONM LR LR 10 13 08.0
comp=Z,40nm,18.1s,baz=216,slow=38
TOA1 Torodi Ar. Sit 47.07 250 *e*P **P** **09 53 35.2 -2.5**
TORD Torodi Ar. Bea 47.08 250 P **P** **09 53 35.2 -2.5**
comp=Z,2.5nm,1.0s,baz=61,slow=7.4,SNR=7.3
HHC Hu-ho-hao-te 48.98 66 *e*P **P** **09 53 52.3 -0.1**
HHC pmax pmax
comp=Z,26nm,0.8s
HHC pmax pmax
comp=Z,140nm,7.4s
CHTO Chiang Mai 49.23 98 *e*P **P** **09 53 53.9 -0.4**
comp=Z,4.1nm,0.7s
CHTO Chiang Mai 49.23 98 *e*P **P** **09 53 53.9 -0.4**
CHTO pmax pmax
comp=Z,4.0nm,0.7s
CHTO Chiang Mai 49.23 98 P **P** **09 53 55.2 +0.9**
comp=Z,31nm,1.0s
CMMT Chiang Mai 49.23 98 P **P** **09 53 55.1 +0.7**
comp=Z,6.9nm,1.2s,comp=Z,610nm
CMAR Chiang Mai Arr 49.43 99 P **P** **09 53 55.3 -0.6**
comp=Z,3.3nm,0.6s,baz=301,slow=8.0,SNR=16
CMAR LR LR 10 17 54.4
comp=Z,19nm,18.1s,baz=215,slow=40
UMPA Umpang Tak 50.68 101 P **P** **09 54 07.1 +1.7**
comp=Z,4.2nm,0.9s,comp=Z,1µm
UTHA Uthaitani 51.52 101 P **P** **09 54 12.6 +0.9**
comp=Z,3.3nm,0.8s
PBKT Sadao Pong 52.09 99 P **P** **09 54 16.4 +0.4**
comp=Z,9.8nm,1.1s,comp=Z,600nm
SRAK Srakaew 54.45 101 P **P** **09 54 36.8 +3.5**
USRK Ussuriysk Ar. 61.53 55 P **P** **09 55 22.1 -0.5**
comp=Z,1.8nm,0.8s,baz=318,slow=6.2
KS15 Wonju Array Si 61.93 63 *e*P **P** **09 55 25.1 -0.4**
KSAR Wonju Array Be 61.93 63 P **P** **09 55 25.1 -0.4**
KSAR Wonju Array Be 61.93 63 P **P** **09 55 25.1 -0.4**
KSRS Korea Array 61.95 63 P **P** **09 55 25.1 -0.5**
comp=Z,0.8nm,0.5s,baz=271,slow=6.2,SNR=5.0
BILL Bilibino 64.60 21 *i* P **P** **09 55 42.8 +0.1**
BILL *i* 09 56 17.1

BILL				*i*			09 58 14.7		
BILL					pmax	pmax			
	comp=Z,4.0nm,1.4s								
ILAR	**Eielson Array**	**76.49**	**6**	P		**P**	**09 56 54.6**	**-0.6**	
	comp=Z,0.7nm,1.0s,baz=322,slow=5.3,SNR=4.9								
ILAR				LR		LR	10 32 45.3		
	comp=Z,18nm,19.6s,baz=342,slow=37								
ILB	**Eielson Array**	**76.49**	**6**	*eP*		**P**	**09 56 54.6**	**-0.6**	
ULM	**Lac du Bonnet**	**85.64**	**337**	LR		LR	10 38 58.0		
	comp=Z,57nm,19.1s,baz=122,slow=38								
PDAR	**Pinedale Array**	**96.24**	**343**	LR		LR	10 42 10.2		
	comp=Z,33nm,19.1s,baz=55,slow=36								

MEX 08 10:00:20.8±0.6, 14°11'N×92°53'W, h18km±627km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.83**	**18**	*i* P	Pb	10 00 34.6	-2.2
THIG				*eS*	Sb	10 00 44.8	-2.9
PCIG		**1.72**	**337**	*eP*	Pn	10 00 46.7	-3.2
PCIG				*eS*	Sn	10 01 06.8	-4.7
CCIG	**Comitan**	**2.19**	**10**	*eP*	Pn	10 00 53.8	-2.8
CCIG				*i* S	Sn	10 01 19.2	-4.2
TGIG		**2.71**	**348**	*eP*	Pn	10 01 01.8	-1.8
TGIG				*eS*	Sn	10 01 32.7	-3.4

MAN 08 10:27:29.6, 7°26'N×123°41'E, h35km, mb4.5, ML3.3, MS3.1, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.58**	**357**	*eP*	Pn	10 27 42.3	+0.9
PAGZ				*eS*	Sn	10 27 51.5	+1.8
CTBH	**Cotabato--PC H**	**0.83**	**93⇓**	*iP*	Pn	10 27 46.2	+1.5
CTBH				*i* S	Sn	10 27 54.6	-1.2
DCPH	**Dipolog City**	**1.31**	**357⇑**	*eP*	Pn	10 27 56.9	+5.4
SKMP	**Bagumbayan, Su**	**1.34**	**123**	*eP*	Pn	10 27 52.3	+0.4
SKMP				*eS*	Sn	10 28 07.7	-0.8
CGP	**Cagayan de Oro**	**1.74**	**47⇑**	*eP*	Pn	10 28 01.5	+4.2
CGP				*eS*	Sn	10 28 22.1	+3.9
BUKP	**Musuan**	**1.75**	**69**	*eP*	Pn	10 28 00.3	+2.9

MEX 08 10:58:18.2±0.5, 16°34'N×98°04'W, h5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.10**	**302**	*eP*	Pg	10 58 19.8	-0.7
PNIG				*eS*	Sg	10 58 22.3	+0.4
TLIG	**Tlapa**	**1.32**	**337**	*eP*	Pn	10 58 39.3	-4.2
TLIG				*i* S	Sg	10 58 56.5	-4.2
VHO	**Vista Hermosa**	**1.45**	**59**	*eP*	Pn	10 58 41.3	-3.9
VHO				*eS*	Sb	10 59 00.3	-4.3
HUIG	**Huatulco**	**1.94**	**107**	*i* P	Pn	10 58 48.4	-3.4
HUIG				*i* S	Sn	10 59 12.3	-4.2

*IDC **08** 11:03:28.7±2.9, 31°.37S×68°.75W, h88km±27km, mb3.6/1, mb1 3.8/4, mb1mx3.5/23, mbtmp4.0/4, Error ellipse: s-maj=74.3km s-min=26.7km az=98.0*
*ISCJB **08** 11:03:30.3±0.5, 31°.34S±0°.02×68°.89W±0°.05, h111km±5km, mb3.7/1, Error ellipse: s-maj=6.6km s-min=3.9km az=5.1*
*GUC **08** 11:03:30.2±0.8, 31°.30S×69°.01W, h116km±20km, ML3.8*
*SJA **08** 11:03:30.6±0.6, 31°.36S×68°.97W, h99km±2km, ML3.7, MW3.9*

ISC 08 11:03:29.8±0.8, 31°31'S±0'.04×68°89'W±0'.05, h106km±6km, n38, σ1s71/48, 5C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.29**	**143**	*eP*	**Pn**	**11 03 46.0**	**+0.8**
ZON				AMPG		11 03 46.3	
	comp=Z,16μm,0.3s						
ZON				IAML		11 03 46.3	
	comp=Z,834nm,0.2s						
ZON				AMPG		11 03 46.7	
	comp=Z,32μm,0.1s						
ZON				*eS*	**Sn**	**11 03 57.0**	**+0.3**
ZON				AMSG		11 03 57.9	
	comp=Z,16μm,0.3s						
RTLL	**Cerro Villicun**	**0.35**	**93**	*eP*	**Pn**	**11 03 46.2**	**+0.8**
RTLL				AMPG		11 03 46.9	
	comp=Z,26μm,0.3s						
RTLL				AMPG		11 03 47.1	
	comp=Z,55μm,0.1s						
RTLL				AMSG		11 03 57.9	
	comp=Z,21μm,0.5s						
RTLL				IAML		11 03 58.0	
	comp=Z,2μm,0.3s						
RTLL				*eS*	**Sn**	**11 03 58.1**	**+0.9**
RTLL				AMSG		11 03 58.1	
	comp=Z,32μm,0.3s						
RTLL				AMSG		11 03 58.4	
	comp=N,125μm,0.6s						
SJA	**San Juan**	**0.35**	**128**	IAML		11 03 46.9	
	comp=Z,2μm,0.2s						
SJA				AMPG		11 03 47.0	
	comp=Z,23μm,0.5s						
AMOG	**MOGNA**	**0.50**	**43**	*eP*	**Pn**	**11 03 47.7**	**+1.4**
RTLS	**Leoncito**	**0.60**	**216**	*eP*	**Pn**	**11 03 48.2**	**+0.9**
RTLS				*eS*	**Sn**	**11 04 00.8**	**+0.3**
RTLS				IAML		11 04 01.8	
	comp=Z,2μm,0.4s						
RTCV	**Cerro Valdivia**	**0.63**	**152**	*eP*	**Pn**	**11 03 48.1**	**+0.8**
ACCO	**Cerro Coronel**	**0.73**	**348**	*eP*	**Pn**	**11 03 50.2**	**+1.7**
AUSP	**Uspallata**	**1.01**	**205**	*eP*	**Pn**	**11 03 52.0**	**+0.9**
AUSP				*eS*	**Sn**	**11 04 07.3**	**+0.2**
ACDV	**Cuesta del Vie**	**1.15**	**350**	*eP*	**Pn**	**11 03 54.4**	**+1.9**
ACDV				*eS*	**Sn**	**11 04 11.8**	**+2.2**
ACDV				IAML		11 04 13.1	
	comp=Z,2μm,0.3s						
AROD	**Rodeo**	**1.25**	**336**	*eP*	**Pn**	**11 03 55.7**	**+2.0**
AROD				*eS*	**Sn**	**11 04 13.9**	**+2.1**
ASAL	**Salagasta**	**1.28**	**178**	*eP*	**Pn**	**11 03 55.0**	**+1.1**
ARCO	**CERRO ARCO**	**1.53**	**181**	*eP*	**Pn**	**11 03 58.1**	**+1.2**
ARCO				IAML		11 04 20.5	
	comp=Z,984nm,0.2s						
AAGR	**Agrelo**	**1.77**	**178**	*eP*	**Pn**	**11 04 01.1**	**+1.2**
AAGR				*eS*	**Sn**	**11 04 22.9**	**+0.2**
CMCH	**Combarbala**	**1.82**	**274**	*eP*	**Pn**	**11 04 01.6**	**+1.3**
CMCH				*i* S	**Sn**	**11 04 25.2**	**+1.6**
CMCH				IAML		11 04 27.5	
	comp=E,2μm,0.6s						
AGUA	**GUANDACOL**	**1.85**	**11**	*eP*	**Pn**	**11 04 03.2**	**+2.4**
GO04	**Tololo Observ**	**2.00**	**304**	*eP*	**Pn**	**11 04 04.0**	**+1.2**
GO04				*i* S	**Sn**	**11 04 29.7**	**+1.6**
GO04				IAML		11 04 35.9	
	comp=E,2μm,0.7s						
AVIZ	**Vizcacheras**	**2.18**	**172**	*eP*	**Pn**	**11 04 06.2**	**+1.2**
APLL	**PUNTA DE LOS L**	**2.22**	**66**	IAML		11 04 36.2	
	comp=Z,372nm,0.3s						
FCH	**Farellones**	**2.34**	**210⇑**	*eP*	**Pn**	**11 04 08.8**	**+1.5**
FCH				*i* S	**Sn**	**11 04 38.4**	**+2.5**
FCH				IAML		11 04 44.0	
	comp=E,309nm,0.3s						
PEL	**Peldehue**	**2.38**	**219⇑**	*iP*	**Pn**	**11 04 08.0**	**+0.5**
PEL				*i* S	**Sn**	**11 04 37.3**	**+0.7**
PEL				IAML		11 04 39.2	
	comp=N,381nm,0.5s						
ROCH	**El Roble**	**2.45**	**227⇑**	*iP*	**Pn**	**11 04 08.7**	**+0.1**
ROCH				*i* S	**Sn**	**11 04 38.5**	**+0.1**
ROCH				IAML		11 04 42.8	
	comp=N,474nm,0.5s						
LSCH	**La Serena**	**2.47**	**304**	*i* S	**Sn**	**11 04 37.9**	**-0.6**
CLCH	**Cerro Calan**	**2.51**	**213**	*eP*	**Pn**	**11 04 10.4**	**+1.2**
CLCH				*i* S	**Sn**	**11 04 41.0**	**+1.5**
CLCH				IAML		11 04 45.5	
	comp=E,561nm,0.4s						
VCA	**Vinchina**	**2.63**	**13**	IAML		11 04 14.2	
	comp=Z,516nm,0.2s						
VCA	**Vinchina**	**2.63**	**13⇑**	*iP*	**Pn**	**11 04 13.2**	**+2.2**
VCA				*i* S	**Sn**	**11 04 45.1**	**+2.5**
LMEL	**Las Melosas**	**2.77**	**203**	*eP*	**Pn**	**11 04 14.4**	**+1.7**
LMEL				IAML		11 04 58.7	
	comp=N,162nm,0.2s						
LCO	**Las Campanas**	**2.78**	**325⇑**	*iP*	**Pn**	**11 04 14.4**	**+1.4**
LCO				*i* S	**Sn**	**11 04 47.2**	**+1.0**
LCO				IAML		11 04 51.9	
	comp=E,403nm,0.4s						
MRA	**San Martin**	**2.92**	**113**	IAML		11 04 49.7	
	comp=Z,103nm,0.5s						
TCA	**Tanti**	**3.67**	**92**	IAML		11 05 09.2	
	comp=Z,63nm,0.6s						
CYA	**Choya**	**3.92**	**44**	IAML		11 04 28.7	
	comp=Z,176nm,0.4s						
FSA	**Cafayete**	**5.77**	**27**	IAML		11 04 55.0	
	comp=Z,25nm,0.3s						
LVC	**Limon Verde**	**8.66**	**360**	P	**Pn**	**11 05 31.4**	**-1.2**
	comp=Z,2.0nm,0.3s,baz=164,slow=6.6,SNR=46						
LVC				S	**Sn**	**11 07 06.5**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=120,slow=21,SNR=1.1						
PLCA	**Paso Flores**	**9.50**	**188**	P	**Pn**	**11 05 42.4**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=24,slow=13,SNR=3.3						
LPAZ	**La Paz**	**14.97**	**3**	P	**P**	**11 06 58.5**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=178,slow=6.4,SNR=24						
LPAZ				S	**Sn**	**11 09 35.8**	**-6.3**
	comp=Z,0.1nm,0.3s,baz=100,slow=22,SNR=1.2						
TORD	**Torodi Ar. Bea**	**80.77**	**69**	P	**P**	**11 15 32.4**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=277,slow=6.1,SNR=5.6						
WRA	**Warramunga Arr**	**124.38**	**207**	PKP	**PKPdf**	**11 22 17.5**	**+0.6**
	comp=Z,0.7nm,1.2s,baz=154,slow=1.7,SNR=3.1						
ZALV	**Zalesovo Beam**	**150.54**	**32**	PKPbc	**PKPbc**	**11 23 10.0**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=323,slow=3.1,SNR=5.5						
MKAR	**Makanchi Array**	**152.99**	**47**	PKPbc	**PKPbc**	**11 23 15.3**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=26,slow=7.4,SNR=2.6						

*NIED **08** 11:07:00, 38°.60N×141°.90E, h32km, Mw3.8 Best double couple: M₀5.88000×10¹⁴ NP1:φs147.00000°, δ38.00000°, λ-117.00000°. NP2:φs360.00000°, δ57.00000°, λ-71.00000°.*
*ISCJB **08** 11:07:24.1±1.1, 38°.61N±0°.04×141°.9E±0°.1, h52km±6km, mb3.7/5, Error ellipse: s-maj=15.8km s-min=6.4km az=13.8*
*JMA **08** 11:07:24.9, 38°.62N×141°.91E, h48km±1km, M3.6*
JMA Felt II J1.
*IDC **08** 11:07:28.8±1.5, 39°.30N×140°.53E, h0km, mb3.7/5, mb1 3.7/7, mb1mx3.5/46, mbtmp3.7/7, ML3.1/2, Error ellipse: s-maj=44.0km s-min=20.6km az=78.0*

ISC 08 11:07:24.7±1.7, 38°61'N±0°.05×142°0'E±0°.1, h43km±11km, n26, σ0s85/26, mb3.8/5, Near coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKMT	**Kesennumamotoy**	**0.42**	**298**	P	**Pn**	**11 07 34.8**	**+0.2**
JKMT				S	**Sn**	**11 07 41.6**	**0.0**
JIKH	**Ishinomakikobu**	**0.49**	**232**	P	**Pn**	**11 07 35.5**	**+0.1**
JIKH				S	**Sn**	**11 07 42.8**	**-0.1**
JIO	**Ouri**	**0.50**	**252**	P	**Pn**	**11 07 35.6**	**+0.1**
JIO				S	**Sn**	**11 07 42.8**	**-0.4**
OFUJ	**Ofunato**	**0.52**	**335**	P	**Pn**	**11 07 36.0**	**+0.2**
OFUJ				S	**Sn**	**11 07 43.8**	**+0.1**
JMK	**Ichinoseki**	**0.67**	**301**	P	**Pn**	**11 07 37.8**	**+0.1**
JMK				S	**Sn**	**11 07 47.0**	**-0.1**
JOM	**Ohasama**	**1.00**	**329**	P	**Pn**	**11 07 42.4**	**+0.1**
JOM				S	**Sn**	**11 07 55.6**	**+0.3**
JOU	**Okura**	**1.04**	**257**	P	**Pn**	**11 07 42.7**	**-0.1**
JOU				S	**Sn**	**11 07 55.9**	**-0.3**
JMM	**Marumori**	**1.18**	**231**	P	**Pn**	**11 07 44.2**	**-0.5**
JMM				*eS*	**Sn**	**11 07 58.5**	**-1.0**
JYK	**Kaneyama**	**1.28**	**284**	P	**Pn**	**11 07 46.2**	**+0.1**
JRG	**Rokugo**	**1.29**	**308**	P	**Pn**	**11 07 46.4**	**+0.1**
JFK	**Kawauchi**	**1.51**	**215**	P	**Pn**	**11 07 49.0**	**-0.2**
JYS	**Shirataka**	**1.53**	**256**	P	**Pn**	**11 07 49.7**	**+0.1**
MJAR	**Matsushiro Arr**	**3.62**	**236**	Pn	**Pn**	**11 08 19.9**	**+1.6**
	1.6nm,0.3s,baz=36,slow=12,SNR=14						
MAT	**Matsushiro**	**3.62**	**236**	P	**Pn**	**11 08 21.5**	**+3.2**
ASAJ	**Asahikawa**	**5.52**	**5**	Pn	**Pn**	**11 08 44.6**	**+0.4**
	0.7nm,0.3s,baz=209,slow=12,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**28.63**	**124**	T	T	11 43 44.1	
	baz=317,slow=75,SNR=52						
H11N1	**WAKE ISLAND Hy**	**28.64**	**124**	T	T	11 43 45.7	
	baz=317,slow=75,SNR=90						
H11N3	**WAKE ISLAND Hy**	**28.65**	**124**	T	T	11 43 45.7	
	baz=317,slow=75,SNR=66						
H11S1	**WAKE ISLAND Hy**	**29.40**	**126**	T	T	11 44 41.6	
	baz=318,slow=76,SNR=46						
H11S3	**WAKE ISLAND Hy**	**29.40**	**126**	T	T	11 44 43.2	
	baz=318,slow=76,SNR=54						
H11S2	**WAKE ISLAND Hy**	**29.41**	**126**	T	T	11 44 42.0	
	baz=318,slow=76,SNR=49						
ZALV	**Zalesovo Beam**	**41.19**	**311**	P	**P**	**11 15 04.1**	**-0.6**
	0.7nm,0.4s,baz=87,slow=8.5,SNR=3.6						
MKAR	**Makanchi Array**	**43.66**	**301**	P	**P**	**11 15 25.0**	**0.0**
	0.3nm,0.5s,baz=78,slow=8.4,SNR=2.6						
KURBB	**Kurchatov Arra**	**45.38**	**307**	P	**P**	**11 15 37.9**	**-0.7**
	2.7nm,0.5s,baz=81,slow=8.1,SNR=5.6						
WRA	**Warramunga Arr**	**58.68**	**188**	P	P	11 17 31.6	+14
	0.5nm,0.7s,baz=6.6,slow=7.3,SNR=3.1						
ASAR	**Alice Springs**	**62.41**	**188**	P	P	11 17 57.9	+15
	0.3nm,0.8s,baz=19,slow=5.9,SNR=3.9						

MEX 08 11:24:54.1±0.4, 13°.75N×92°.57W, h16km±123km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.19**	**14**	*eP*	Pn	11 25 12.7	-3.4
THIG				*i* S	Sb	11 25 26.5	-5.0
PCIG		**2.04**	**342**	*eP*	Pn	11 25 25.2	-2.6
PCIG				*eS*	Sn	11 25 48.2	-4.9
CCIG	**Comitan**	**2.55**	**9**	*eP*	Pn	11 25 31.8	-3.3
CCIG				*i* S	Sn	11 26 02.5	-3.5
TGIG		**3.06**	**350**	*i* P	Pn	11 25 39.2	-2.7
TGIG				*eS*	Sn	11 26 14.7	-3.6

IDC 08 11:30:02.7±2.2, 52°.80N×131°.90W, h0km, mb3.2/1, mb1 3.7/5, mb1mx3.4/38, mbtmp3.3/5, ML3.5/4, MS2.8/1, Ms1 2.8/1, ms1mx2.3/14, Error ellipse: s-maj=27.2km s-min=11.1km az=49.0, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBB	**Bella Bella**	**2.39**	**103**	Pn	Pn	11 30 41.5	-1.7
	15nm,0.3s,baz=290,slow=12,SNR=11						
BBB				Pg	Pb	11 30 46.6	0.0
	27nm,0.3s,baz=285,slow=17,SNR=41						
BBB				Lg	Lg	11 31 18.6	
	53nm,0.3s,baz=22,slow=23,SNR=19						
DLBC	**Dease Lake**	**5.75**	**10**	Pn	Pn	11 31 30.2	+0.8
	0.7nm,0.3s,baz=190,slow=17,SNR=7.5						
DLBC				Lg	Lg	11 33 03.5	
	3.5nm,0.3s,baz=308,slow=11,SNR=10						
DLBC				LR	LR	11 34 01.9	
	comp=Z,74nm,18.3s,baz=188,slow=42						
YKA	**Yellowknife Ar**	**13.37**	**37**	Pn	Pn	11 33 11.8	-1.7
	0.1nm,0.3s,baz=228,slow=12,SNR=3.0						
PDAR	**Pinedale Array**	**17.98**	**115**	P	Pn	11 34 14.3	+0.1
	0.1nm,0.3s,baz=310,slow=7.0,SNR=4.3						
TXAR	**Lajitas Array**	**31.31**	**127**	P	P	11 36 25.6	+1.1
	0.2nm,0.6s,baz=323,slow=7.8,SNR=4.6						

*DDA **08** 11:32:59.0, 37°.60N×41°.84E, h7km, Ml2.7*
*ISK **08** 11:33:00.1, 37°.60N×41°.82E, h28km, ML2.5/4*

ISC 08 11:32:59.4±1.2, 37°57'N±0°.04×41°82'E±0°.03, h9km±10km, n15, σ1s87/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRTM	**Siirt_Merkez**	**0.43**	**11**	*i* P	**Pg**	**11 33 05.7**	**-2.1**
SRTM				*i* S	**Sb**	**11 33 15.2**	**-0.7**
SIRN	**S¨¨-rnak**	**0.48**	**98**	*i* P	**Pg**	**11 33 08.3**	**-0.4**
SIRN				*i* S	**Sb**	**11 33 22.8**	**+5.6**
SIRT	**Sirnak**	**0.50**	**98**	PG	**Pb**	**11 33 11.4**	**+1.0**
BTMN	**Batman**	**0.54**	**307**	*i* P	**Pg**	**11 33 09.2**	**-0.7**
BTMN				*i* S	**Sn**	**11 33 21.3**	**-1.4**
SVAN	**Silvan-Diyarba**	**0.76**	**320**	PG	**Pg**	**11 33 14.8**	**+0.7**
SVAN				SG	**Sb**	**11 33 25.8**	**+0.4**
SVAN	**Silvan-Diyarba**	**0.76**	**320**	*i* P	**Pg**	**11 33 13.5**	**-0.5**
SVAN				*i* S	**Sn**	**11 33 29.8**	**+1.7**
MARD	**Mardin**	**0.87**	**253**	*i* P	**Pg**	**11 33 15.7**	**-0.4**
MARD				*i* S	**Sn**	**11 33 30.0**	**-0.8**
GURO	**Guroymak-BITLI**	**0.99**	**10**	PG	**Pg**	**11 33 17.8**	**-0.7**
GURO				SG	**Sg**	**11 33 31.3**	**-0.2**
MAZI	**Mazidag**	**1.10**	**265**	PN	**Pb**	**11 33 20.1**	**-0.5**
GEVA	**Gevas**	**1.23**	**52**	*i* P	**Pn**	**11 33 21.3**	**-1.6**
GEVA				*i* S	**Sn**	**11 33 40.2**	**+0.4**
HANI	**Diyarbakir_Han**	**1.40**	**307**	*i* P	**Pn**	**11 33 24.4**	**-0.9**
HANI				*i* S	**Sg**	**11 33 45.8**	**+1.3**
CUKT	**Cukurca**	**1.46**	**102**	PN	**Pn**	**11 33 25.1**	**-1.0**
CUKT	**Cukurca**	**1.46**	**102**	*i* P	**Pn**	**11 33 22.2**	**-3.9**
CUKT				*i* S	**Sn**	**11 33 44.7**	**-0.7**
BNGL	**BINGOL**	**1.48**	**339**	*i* P	**Pn**	**11 33 26.5**	**+0.1**
BNGL				*i* S	**Sg**	**11 33 50.1**	**+3.2**
HAKT	**HAKKARI**	**1.50**	**90**	*i* P	**Pn**	**11 33 25.0**	**-1.7**
HAKT				*i* S	**Sg**	**11 33 48.0**	**+0.3**

MEX 08 11:44:37.6±0.4, 14°26N×93°02W, h15km±31km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.97**	**48**	*eP*	Pb	11 44 53.0	-3.2
THIG				*eS*	Sb	11 45 05.1	-3.7
PCIG		**1.45**	**352**	*eP*	Pn	11 44 59.8	-3.5
PCIG				*i* S	Sn	11 45 16.7	-5.4
CCIG	**Comitan**	**2.18**	**23**	*eP*	Pn	11 45 10.8	-2.8
CCIG				*eS*	Sn	11 45 36.1	-4.3
TGIG		**2.50**	**358**	*i* P	Pn	11 45 14.4	-3.5
TGIG				*eS*	Sn	11 45 44.5	-3.7

MEX 08 11:49:30.4±0.6, 14°07N×92°53W, h15km±106km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.87**	**17**	*eP*	Pb	11 49 44.2	-3.0
THIG				*eS*	Sb	11 49 55.4	-3.2
PCIG		**1.75**	**338**	*eP*	Pn	11 49 56.7	-3.6
PCIG				*eS*	Sn	11 50 17.9	-4.5
CCIG	**Comitan**	**2.23**	**10**	*i* P	Pn	11 50 03.8	-3.2
CCIG				*i* S	Sn	11 50 30.4	-4.0
TGIG		**2.75**	**348**	*eP*	Pn	11 50 13.0	-1.0

*IDC **08** 12:01:42.0±1.1, 49°.12N×128°.23W, h0km, mb3.6/5, mb1 3.8/11, mb1mx3.7/41, mbtmp3.6/11, ML3.0/6, MS3.2/11, Ms1 3.3/11, ms1mx3.0/51, Error ellipse: s-maj=24.3km s-min=13.2km az=53.0*
*ISCJB **08** 12:01:43.0±0.9, 49°.33N±0°.07×128°.0W±0°.2, h17km, mb3.4/4, MS3.6/5, Error ellipse: s-maj=19.0km s-min=7.1km az=158.7*

ISC 08 12:01:44.0±1.1, 49°33'N±0°.09×128°1'W±0°.1, h17km, n21, σ1s73/13, mb3.5/4, MS3.6/5, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBB	**Bella Bella**	**2.86**	**0**	Pn	**Pn**	**12 02 27.4**	**-1.4**
	10nm,0.3s,baz=212,slow=5.3,SNR=42						
BBB				Sn	**Sn**	**12 03 02.9**	**+0.1**
	24nm,0.3s,baz=133,slow=22,SNR=15						
BBB				LR	LR	12 03 46.4	
	comp=Z,135nm,19.9s,baz=136,slow=40						
NEW	**Newport**	**7.36**	**94**	Pn	**Pn**	**12 03 31.3**	**+0.7**
	0.1nm,0.3s,baz=296,slow=17,SNR=2.2						
NEW				LR	LR	12 06 34.5	
	comp=Z,66nm,18.8s,baz=278,slow=40						
YBH	**Yreka Blue Hor**	**8.49**	**151**	Pn	**Pn**	**12 03 46.0**	**-0.3**
	0.1nm,0.3s,baz=318,slow=3.6,SNR=9.2						
YBH				LR	LR	12 06 44.0	
	comp=Z,137nm,20.1s,baz=352,slow=36						
NVAR	**Mina Array Bea**	**12.99**	**143**	Pn	**Pn**	**12 04 48.1**	**+0.3**
	0.1nm,0.3s,baz=317,slow=12,SNR=13						
NVAR				LR	LR	12 09 40.0	
	comp=Z,80nm,21.1s,baz=292,slow=37						
PDAR	**Pinedale Array**	**14.46**	**110**	Pn	**P**	**12 05 11.2**	**-3.5**
	0.0nm,0.3s,baz=297,slow=9.8,SNR=8.7						
YKA	**Yellowknife Ar**	**15.17**	**25**	Pn	**Pn**	**12 05 16.1**	**-1.1**
	0.0nm,0.3s,baz=214,slow=12,SNR=2.6						
KDAK	**Kodiak Island**	**16.73**	**310**	LR	LR	12 10 15.5	
	comp=Z,96nm,20.5s,baz=98,slow=30						
ILAR	**Eielson Array**	**18.41**	**334**	P	**P**	**12 05 59.5**	**+1.4**
	0.0nm,0.3s,baz=148,slow=11,SNR=10						
ILAR				LR	LR	12 12 25.1	
	comp=Z,47nm,18.0s,baz=134,slow=35						
ULM	**Lac du Bonnet**	**20.77**	**75**	P	**P**	**12 06 25.4**	**+1.5**
	2.4nm,0.8s,baz=260,slow=6.5,SNR=2.1						
ANMO	**Albuquerque**	**21.46**	**124**	P	**P**	**12 06 32.2**	**+0.6**
	0.6nm,0.6s,baz=316,slow=16,SNR=3.0						
TXAR	**Lajitas Array**	**27.31**	**128**	P	**P**	**12 07 26.8**	**-1.1**
	0.3nm,0.7s,baz=305,slow=6.5,SNR=5.9						
RES	**Resolute Bay**	**29.02**	**17**	LR	LR	12 18 22.9	
	comp=Z,72nm,19.9s,baz=54,slow=34						
H11N2	**WAKE ISLAND Hy**	**59.03**	**265**	T	T	13 15 02.9	
	baz=44,slow=75,SNR=9.5						
H11N3	**WAKE ISLAND Hy**	**59.03**	**264**	T	T	13 15 04.4	
	baz=44,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**59.04**	**265**	T	T	13 15 04.4	
	baz=44,slow=75,SNR=6.8						
JNU	**Nakatsue**	**72.14**	**300**	LR	LR	12 43 08.1	
	comp=Z,33nm,21.7s,baz=106,slow=34						
SONM	**Songino Array**	**72.36**	**325**	LR	LR	12 44 21.2	
	comp=Z,29nm,19.8s,baz=254,slow=35						
ZALV	**Zalesovo Beam**	**73.41**	**340**	P	**P**	**12 13 16.6**	**+1.9**
	0.4nm,0.4s,baz=354,slow=4.3,SNR=3.2						
VRAC	**Vranov**	**77.17**	**23**	LR	LR	12 47 13.4	
	comp=Z,26nm,18.4s,baz=348,slow=35						
DAVOX	**Davos/Dischmat**	**77.58**	**28**	LR	LR	12 50 21.2	
	comp=Z,59nm,20.2s,baz=354,slow=38						
MKAR	**Makanchi Array**	**80.68**	**339**	P	**P**	**12 13 57.9**	**+2.1**
	0.6nm,0.7s,baz=24,slow=5.4,SNR=3.4						

*ISK **08** 12:16:28.7, 40°.40N×39°.66E, h21km, ML2.2/4*
*ISCJB **08** 12:16:29.8±0.6, 40°.40N±0°.04×39°.66E±0°.05, h9km±10km, Error ellipse: s-maj=7.0km s-min=5.9km az=163.7*
*DDA **08** 12:16:29.7, 40°.43N×39°.63E, h7km, Ml2.6*

ISC 08 12:16:29.2±1.3, 40°.40N±0°.05×39°.66E±0°.03, h14km±12km, n8, σ0s79/13, Turkey

| Code | Station Name |

PB06 IAML 12 27 03.2
comp=E,1µm,0.3s
ALOL LOMAS DE OLMED 2.65 98 *e*P **Pn 12 26 24.9 +0.5**
PB09 IPOC Station P 2.76 306⇑*i*P **Pn 12 26 27.0 +1.2**
PB09 *i* S **S 12 27 02.4 +0.6**
PB09 IAML 12 27 08.5
comp=E,343nm,0.4s
FSA Cafayete 2.77 164 *e*P **Pn 12 26 26.5 +0.7**
PB03 IPOC Station P 3.02 297⇑*i*P **Pn 12 26 29.4 +0.5**
PB03 *i* S **S 12 27 06.2 -1.1**
PB03 IAML 12 27 08.2
comp=E,1µm,0.3s
PB05 IPOC Station P 3.15 280⇑*i*P **Pn 12 26 30.3 0.0**
PB05 *i* S **S 12 27 08.2 -1.6**
PB05 IAML 12 27 14.3
comp=N,329nm,0.4s
PB04 IPOC Station P 3.24 289 *e*Pn **Pn 12 26 31.4 -0.1**
PB04 *e*S **S 12 27 11.4 -0.5**
PB04 IPOC Station P 3.24 289⇑*i*P **Pn 12 26 31.6 +0.2**
PB04 *i* S **S 12 27 10.2 -1.7**
PB04 IAML 12 27 15.5
comp=N,1µm,0.3s
PB07 IPOC Station P 3.29 301⇑*i*P **Pn 12 26 32.5 +0.4**
PB07 *i* S **S 12 27 11.3 -1.7**
PB10 IPOC Station P 3.41 268 *e*Pn **Pn 12 26 32.9 -0.3**
PB10 *e*S **S 12 27 16.1 +0.8**
PB10 IPOC Station P 3.41 268 *e*P **Pn 12 26 33.6 +0.4**
PB10 IPOC Station P 3.41 268⇑*i*P **Pn 12 26 33.5 +0.3**
PB10 *i* S **S 12 27 13.0 -2.2**
PB10 IAML 12 27 16.6
comp=E,293nm,0.3s
PB01 IPOC Station P 3.42 314 *e*Pn **Pn 12 26 33.1 -0.5**
PB01 *e*S **S 12 27 16.0 +0.2**
PB01 IPOC Station P 3.42 314⇑*i*P **Pn 12 26 33.8 +0.3**
PB01 *i* S **S 12 27 15.3 -0.5**
PB14 IPOC Station P 3.46 249 *e*P **Pn 12 26 34.0 -0.2**
PB14 *i* S **S 12 27 15.2 -1.7**
PB02 IPOC Station P 3.53 306⇑*i*P **Pn 12 26 34.9 0.0**
PB02 *i* S **S 12 27 16.5 -1.7**
AHML Horco Molle 3.59 158 *e*P **Pn 12 26 36.1 +0.6**
PB08 IPOC Station P 3.93 326⇑*i*P **Pn 12 26 41.2 +1.1**
PB08 *i* S **S 12 27 28.2 +0.7**
PB11 IPOC Station P 4.51 324 *e*Pn **Pn 12 26 45.9 -1.1**
PB11 *e*S **S 12 27 39.2 -1.1**
MNMC Minye Minye 5.00 329 *e*Pn **Pn 12 26 52.6 -0.9**
MNMC *e*S **S 12 27 50.2 -1.7**
GO03 Copiap 5.14 216 *e*Pn **Pn 12 26 53.3 -1.6**
LCO Las Campanas 6.53 211 *e*Pn **Pn 12 27 11.0 -2.1**
LPAZ La Paz 7.23 350 P **Pn 12 27 23.6 +1.1**
comp=E,1.8nm,0.3s,baz=143,slow=4.8,SNR=42
LPAZ S **S 12 28 44.3 -0.5**
baz=347,slow=15,SNR=2.5
LPAZ La Paz 7.23 350 *e*Pn **Pn 12 27 20.7 -1.8**
GO04 Tololo Observa 7.57 207 *e*Pn **Pn 12 27 23.8 -2.7**
CPUP Villa Florida 9.10 110 P **Pn 12 27 45.2 -1.1**
comp=E,0.1nm,0.3s,baz=291,slow=12,SNR=5.7
CPUP Villa Florida 9.10 110 *e*Pn **Pn 12 27 44.5 -1.8**
ROC1 El Roble 10.18 200 *e*Pn **Pn 12 27 57.6 -2.8**
SAML Samuel 14.84 14 *e*Pn **Pn 12 28 56.6 -2.4**
TRQA Tornquist 15.14 165 *e*P **Pn 12 29 00.1 -2.5**
PLCA Paso Flores 17.51 189 P **Pn 12 29 33.3 +2.3**
comp=E,0.2nm,0.3s,baz=18,slow=13,SNR=3.7
BDFB Brasilia 19.36 70 P **Pn 12 29 50.1 -2.8**
comp=E,0.7nm,0.3s,baz=232,slow=13,SNR=9.4
TXAR Lajitas Array 63.31 324 P **P 12 35 48.1 +1.6**
comp=E,0.3nm,0.7s,baz=155,slow=8.8,SNR=4.3
DBIC Dimbokro 67.49 72 P **P 12 36 13.6 +0.1**
comp=E,1.8nm,0.7s,baz=236,slow=7.6,SNR=1.5
TORD Torodi Ar. Bea 76.24 69 P **P 12 37 05.3 -0.3**
comp=E,0.7nm,0.5s,baz=263,slow=6.2,SNR=10
PDAR Pinedale Array 76.75 329 P **P 12 37 09.8 +1.7**
comp=E,0.3nm,0.5s,baz=155,slow=7.4,SNR=3.8
NVAR Mina Array Bea 78.20 321 P **P 12 37 18.4 +2.2**
comp=E,0.2nm,0.4s,baz=166,slow=4.6,SNR=3.3
YKA Yellowknife Ar 93.66 340 P **P 12 38 32.9 +1.2**
comp=E,1.0nm,0.7s,baz=138,slow=4.8,SNR=5.7
ASAR Alice Springs 129.01 205 PKP **PKPdf 12 44 24.3 +0.9**
comp=E,0.5nm,1.1s,baz=142,slow=1.3,SNR=3.7
WRA Warramunga Arr 132.18 207 PKP **PKPdf 12 44 30.7 +1.3**
comp=E,0.3nm,0.5s,baz=159,slow=1.6,SNR=5.6
MKAR Makanchi Array 146.01 39 PKPbc **PKPab 12 44 54.5 -1.2**
comp=E,1.0nm,0.6s,baz=337,slow=3.0,SNR=7.2
SONM Songino Array 155.07 11 PKPab **PKPab 12 45 33.6 +0.5**
comp=E,0.4nm,0.5s,baz=323,slow=6.0,SNR=3.0

IDC 08 12:38:36.3±735.0**, 48.77N**×**52.94E, h0**km**, Error ellipse: s-maj=357.7km s-min=87.1km az=62.0, Western Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**3.70**	**62**	*i*		13 01 41.4	
	baz=247,slow=304,SNR=7.8						
I46RU	**ZALESOVO INFRA**	**20.46**	**63**	*i*		14 45 50.0	
	baz=263,slow=329,SNR=2.0						
I34MN	**SONGINO INFRAS**	**34.98**	**71**	*i*		16 12 20.0	
	baz=288,slow=334,SNR=0.8						

MEX 08 12:45:36.0±0.5**, 13.83N**×**92.41W, h16**km±113km**, MD3.9, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.08**	**8**	*e*P		Pb 12 45 52.7	-3.7
THIG				*i* S		Sb 12 46 06.0	-4.2
PCIG		**2.02**	**337**	*e*P		Pn 12 46 06.8	-2.6
PCIG				*i* S		Sn 12 46 29.1	-5.3
CCIG	**Comitan**	**2.45**	**6**	*i* P		Pn 12 46 12.0	-3.5
CCIG				*e*S		Sn 12 46 41.6	-3.7
TGIG		**3.01**	**347**	*i* P		Pn 12 46 20.5	-2.6
TGIG				*i* S		Sn 12 46 55.1	-3.7

*IDC **08** 12:45:57.7±0.7, 36.02N×71.20E, h0km, mb4.3/19, mb1 4.4/24, mb1mx4.2/60, mbtmp4.4/24, ML4.2/5, MS3.0/3, Ms1 3.1/3, ms1mx2.7/32, Error ellipse: s-maj=15.4km s-min=14.4km az=4.0*
*NNC **08** 12:46:03.9±12.0, 36.45N×70.86E, h0km, mb5.0, mpv4.6, Error ellipse: s-maj=139.4km s-min=65.0km az=151.0*
*BJI **08** 12:46:03.9, 36.28N×70.93E, h48km, mb4.5/23, mB4.6/14, ML4.7/3, Ms4.2/3, Ms7 4.1/2*
*MOS **08** 12:46:09.5±1.0, 36.45N×71.36E, h93km, mb4.3/25, Error ellipse: s-maj=7.2km s-min=5.0km az=94.0*
*ISCJB **08** 12:46:10.4±0.2, 36.40N±0.02×71.52E±0.03, h114km, mb4.2/49, Error ellipse: s-maj=3.7km s-min=3.0km az=153.1*
*NEIC **08** 12:46:10.1±0.7, 36.42N×71.35E, h90km±6km, mb4.3/22, Error ellipse: s-maj=5.6km s-min=4.5km az=185.0*
ISC 08 12:46:12.0±0.4**, 36.41N**±0.04×**71.37E**±0.04**, h114**km**, n191**, σ2**s14**/197**, mb4.2**/49**, 20C-16D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.61**	**170**	⇓P		**Pn 12 46 53.4**	**+0.2**
CEP				S		**Sn 12 47 27.0**	**+2.2**
KBL	**Kabul**	**2.66**	**226**	*e*Pn		**Pn 12 46 52.8**	**-1.1**
KBL				*e*Sn		**Sn 12 47 29.5**	**+3.5**
KBL	**Kabul**	**2.66**	**226**	*e*PN		**Pn 12 46 52.8**	**-1.1**
KBL				*e*		12 47 29.5	
CHCP	**Chirah Chowk**	**3.15**	**150**	P		**Pn 12 47 00.7**	**+0.5**
THW	**Thamme Wali**	**3.62**	**175**	P		**Pn 12 47 06.0**	**-0.4**
SFK	**Sufi-Kurgan**	**3.97**	**24**	⇑P		**Pn 12 47 10.6**	**-0.7**
	25nm,0.4s						
SFK				⇓S		**Sn 12 47 56.7**	**-0.5**
	142nm,0.4s						
SFK	**Sufi-Kurgan**	**3.97**	**24**	PN		**Pn 12 47 10.6**	**-0.7**
SFK				S		**Sn 12 47 56.7**	**-0.5**
SFK				pmax	pmax		
	comp=Z,25nm,0.4s						
SFK				smax	smax		
	comp=N,142nm,0.4s						
SARP	**Sargodha**	**4.60**	**166**	P		**Pn 12 47 18.1**	**-1.4**
JMU	**Jammu**	**4.69**	**141**	*e*P		Pn 12 47 12.0	-8.7
JMU				*e*S		Sn 12 48 03.0	-11
AML	**Almayashu**	**6.00**	**17**	P		**Pn 12 47 36.6**	**-2.0**
	SNR=158						
MNAS	**Manas**	**6.14**	**8**	⇓P		**Pn 12 47 38.0**	**-2.3**
	comp=N,40nm,0.6s						
MNAS				⇓S		**Sn 12 48 46.4**	**-2.9**
	comp=N,84nm,0.5s						
MNAS	**Manas**	**6.14**	**8**	PN		**Pn 12 47 38.0**	**-2.3**
MNAS				pmax	pmax		
	comp=Z,40nm,0.6s						
UCH	**Uchtor**	**6.30**	**22**	P		**Pn 12 47 41.0**	**-1.9**
	SNR=45						
KZA	**Kyzart**	**6.41**	**27**	P		**Pn 12 47 43.4**	**-0.9**
	SNR=14						
EKS2	**Erkin-Say**	**6.52**	**16**	P		**Pn 12 47 43.9**	**-1.6**
	SNR=90						
AAK	**Ala-Archa**	**6.68**	**20**	Pn		**Pn 12 47 46.4**	**-1.2**
	comp=Z,22nm,0.3s,baz=180,slow=6.1,SNR=160						
AAK					Sn	**Sn 12 48 59.0**	**-3.3**
	comp=Z,3.9nm,0.3s,baz=324,slow=19,SNR=2.2						
AAK					LR	LR 12 50 54.3	
	comp=Z,72nm,21.3s,baz=190,slow=42						
AAK	**Ala-Archa**	**6.68**	**20**	P		**Pn 12 47 45.8**	**-1.8**
	comp=Z,46nm,0.5s						
AAK	**Ala-Archa**	**6.68**	**20**	P		**Pn 12 47 46.0**	**-1.6**
	SNR=85						
AAK	**Ala-Archa**	**6.68**	**20**	*d i* PN		**Pn 12 47 46.3**	**-1.3**
KK31	**Karatay Array**	**6.72**	**355**	*e*Pn		**Pn 12 47 44.9**	**-3.2**
KK31	**Karatay Array**	**6.72**	**355**	*e*PN		**Pn 12 47 44.9**	**-3.2**
KBK	**Karagaybulak**	**6.83**	**23**	P		**Pn 12 47 48.6**	**-1.1**
	SNR=22						
FRU1	**Bishkek**	**6.87**	**20**	*e*Pn		**Pn 12 47 48.4**	**-1.8**
FRU1	**Bishkek**	**6.87**	**20**	*e*PN		**Pn 12 47 48.4**	**-1.8**
CHMS	**Chumysh**	**7.08**	**21**	P		**Pn 12 47 51.3**	**-1.7**
	SNR=42						
USP	**Osenovka**	**7.26**	**18**	P		**Pn 12 47 53.3**	**-2.1**
	SNR=24						
TKM2	**Tokmak 2**	**7.28**	**25**	⇑P		**Pn 12 47 54.2**	**-1.6**
	comp=Z,27nm,0.6s						
TKM2	**Tokmak 2**	**7.28**	**25**	P		**Pn 12 47 54.6**	**-1.2**
	SNR=9.2						
TKM2	**Tokmak 2**	**7.28**	**25**	PN		**Pn 12 47 54.2**	**-1.6**
TKM2				pmax	pmax		
	comp=Z,27nm,0.5s						
MDOK	**Medeo**	**8.04**	**31**	P		**Pn 12 48 05.4**	**-0.7**
	comp=Z,13nm,1.0s						
MDOK	**Medeo**	**8.04**	**31**	PN		**Pn 12 48 05.4**	**-0.7**
MDOK				pmax	pmax		
	comp=Z,13nm,1.0s						
NDI	**New Delhi**	**9.14**	**146**	*e*P		**Pn 12 48 19.0**	**-2.0**
NDI				*e*S		**Sn 12 49 56.0**	**-6.1**
ASHT	**Ashkhabad**	**10.48**	**282**	P		**Pn 12 48 37.2**	**-1.7**
ASHT				pmax	pmax		
	comp=Z,161nm,0.5s						
GEYT	**Alibeck**	**10.69**	**282**	Pn		Pn 12 48 34.0	-7.8
	comp=Z,10nm,0.3s,baz=101,slow=15,SNR=30						
GEYT					Sn	Sn 12 50 26.4	-13
	comp=Z,8.0nm,0.3s,baz=112,slow=19,SNR=8.1						
GYA0B	**ALIBECK ARRAY**	**10.69**	**282**	⇑P		Pn 12 48 35.2	-6.6
	comp=Z,21nm,0.3s,baz=118,slow=13						
GYA0B				⇑S		Sn 12 50 27.4	-12
	comp=Z,93nm,0.5s,baz=118,slow=25						
GYA0B	**ALIBECK ARRAY**	**10.69**	**282**	*e*Pn		Pn 12 48 35.2	-6.6
GYA0B				*e*Sn		Sn 12 50 26.6	-13
PYUN	**Piuthan**	**12.85**	**127**	*e*P		Pn 12 49 06.0	-4.7
	comp=Z,232nm,0.4s						
PYUN				*e*S		Sn 12 51 21.6	-11
MK01	**Makanchi Array**	**13.18**	**35**	*e*Pn		**Pn 12 49 12.2**	**-2.5**
DANN	**Dangsing**	**13.19**	**124**	*e*P		**Pn 12 49 11.1**	**-4.1**
	comp=Z,143nm,0.4s						
DANN				*e*S		Sn 12 51 29.1	-11
MK31	**Makanchi Array**	**13.20**	**35**	*e*Pn		**Pn 12 49 13.9**	**-1.0**
MK31	**Makanchi Array**	**13.20**	**35**	*e*P		**Pn 12 49 13.9**	**-1.0**
MK32	**Makanchi Array**	**13.20**	**35**	*e*Pn		**Pn 12 49 13.2**	**-1.7**
MKAR	**Makanchi Array**	**13.20**	**35**	Pn		**Pn 12 49 13.2**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=220,slow=13,SNR=14						
KOLN	**Koldanda**	**13.47**	**126**	*e*P		Pn 12 49 14.0	-4.7
	comp=Z,84nm,0.5s						
KOLN				*e*S		Sn 12 51 37.0	-10
GKN	**Gorkha**	**14.00**	**123**	*e*P		**Pn 12 49 21.6**	**-4.0**
GKN				*e*S		Sn 12 51 48.5	-12
WMQ	**Urumqi**	**14.51**	**54**	*e*P		**Pn 12 49 33.4**	**+1.6**
DMN	**Daman**	**14.57**	**123**	*e*P		**Pn 12 49 29.0**	**-4.0**
	comp=Z,48nm,0.3s						
KKN	**Kakani**	**14.57**	**122**	*e*P		Pn 12 49 28.7	-4.2
	comp=Z,48nm,0.3s						
KKN				*e*S		Sn 12 52 01.8	-12
PKIN	**Phulchoki**	**14.79**	**123**	*e*P		**Pn 12 49 31.5**	**-4.2**
	comp=Z,60nm,0.4s						
PKIN				*e*S		Sn 12 52 06.6	-13
PKI	**Pulchoki**	**14.80**	**123**	*e*P		Pn 12 49 31.5	-4.4
GUN	**Gumba**	**14.91**	**120**	*e*P		Pn 12 49 32.8	-4.5
KURBB	**Kurchatov Arra**	**15.12**	**18**	Pn		**Pn 12 49 34.4**	**-5.0**
	comp=Z,0.1nm,0.3s,baz=214,slow=13,SNR=4.0						
KURK	**Kurchatov**	**15.23**	**18**	*e*Pn		**Pn 12 49 34.4**	**-6.4**
KURK	**Kurchatov**	**15.23**	**18**	*e*P		**P 12 49 42.0**	**-1.0**
JIRN	**Jiri**	**15.28**	**121**	*e*P		**Pn 12 49 37.9**	**-4.1**
	comp=Z,160nm,0.3s						
JIRN				*e*S		Sn 12 52 17.6	-14
RAMN	**Ramite**	**16.01**	**122**	*e*P		**Pn 12 49 46.4**	**-4.6**
	comp=Z,74nm,0.5s						
ODAN	**Odare**	**16.61**	**120**	*e*P		**Pn 12 49 54.4**	**-4.0**
	comp=Z,60nm,0.6s						
BVAR	**Borovoye Array**	**16.63**	**358**	Pn		**Pn 12 49 54.4**	**-3.7**
	comp=Z,1.4nm,0.3s,baz=168,slow=11,SNR=15						
BRVK	**Borovoye**	**16.67**	**358**	*e*Pn		**Pn 12 49 56.5**	**-2.0**
	comp=Z,7.0nm,0.6s						
BRVK	**Borovoye**	**16.67**	**358**	⇓*e*P		**Pn 12 49 54.7**	**-3.9**
AKTO	**Aktyubinsk**	**17.01**	**330**	P		**Pn 12 49 59.8**	**-3.0**
	comp=Z,3.4nm,0.3s,baz=136,slow=11,SNR=34						
AKTO	**Aktyubinsk**	**17.01**	**330**	⇑P		**Pn 12 49 59.8**	**-3.0**
	comp=Z,38nm,0.8s						
AKTO				⇑S		**Sn 12 53 06.4**	**-5.6**
	comp=Z,15nm,0.9s						
UOSS	**Minazif**	**17.31**	**233**	*e*P		**P 12 50 06.0**	**-0.3**
	comp=Z,5.0nm,0.7s						
DGZ	**Jazzator, Alta**	**17.68**	**36**	*de*P		**P 12 50 09.6**	**-0.7**
LSA	**Lhasa**	**17.86**	**106**	*e*P		**P 12 50 12.3**	**-0.6**
	comp=Z,10nm,0.6s						
LSA	**Lhasa**	**17.86**	**106**	*e*P		**P 12 50 12.3**	**-0.6**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MAK	**Makhachkala**	**19.46**	**297**	*e*P		**P 12 50 26.4**	**-3.3**
MAK				*e*S		**S 12 54 04.5**	**+1.1**
MAK				pmax	pmax		
	comp=Z,578nm,1.6s						
ZAA0	**Zalesovo Array**	**19.88**	**24**	*e*P		**P 12 50 33.8**	**-0.3**
	comp=Z,14nm,0.9s						
ZALV	**Zalesovo Beam**	**19.88**	**24**	P		**P 12 50 33.6**	**-0.5**
	comp=Z,14nm,0.3s,baz=228,slow=11,SNR=42						
ZALV	**Zalesovo Beam**	**19.88**	**24**	*e*P		**P 12 50 33.8**	**-0.3**
ZALV				*e*S		**Sn 12 54 19.6**	**-1.0**
ZALV	**Zalesovo Beam**	**19.88**	**24**	*e*P		**P 12 50 33.8**	**-0.3**
ZAA1	**Zalesovo Array**	**19.88**	**24**	*e*P		**P 12 50 33.6**	**-0.5**
HYB	**Hyderabad**	**19.96**	**160**	*i* P		Pn 12 50 38.5	+0.5
HYB				*e*S		**S 12 54 09.0**	**-4.6**
NVS	**Novosibirsk**	**20.17**	**20**	⇑*i*P		**P 12 50 37.1**	**0.0**
NVS				*e*S		**S 12 54 16.3**	**-0.8**
NVS				pmax	pmax		
	comp=N,4.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,7.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.9s						
NVS				smax	smax		
	comp=N,7.0nm,1.0s						
NVS				smax	smax		
	comp=E,2.0nm,0.6s						
SHL	**Shillong**	**20.60**	**116**	*e*P		**P 12 50 42.4**	**+0.1**
	comp=E,21nm,0.7s						
SHL	**Shillong**	**20.60**	**116**	*e*P		**P 12 50 42.4**	**+0.1**
SHL				pmax	pmax		
	comp=Z,21nm,0.7s						
GNI	**Garni**	**21.21**	**288**	P		**P 12 50 50.1**	**+1.5**
	comp=Z,9.9nm,0.5s,baz=124,slow=11,SNR=3.9						
TBLG	**Delisi**	**21.31**	**293**	*e*P		**P 12 50 50.2**	**+0.6**
	comp=Z,14nm,0.5s						
TBLG	**Delisi**	**21.31**	**293**	*e*P		**P 12 50 50.2**	**+0.6**
TBLG				pmax	pmax		
	comp=Z,14nm,0.5s						
SVE	**Sverdlovsk**	**21.67**	**344**	*e*P		**P 12 50 53.1**	**-0.1**
HVS	**Khovu-Aksy**	**21.72**	**40**	⇑*e*P		**P 12 50 55.2**	**+1.3**
HVS				pmax	pmax		
	comp=Z,22nm,1.8s						
ARU	**Arti**	**21.82**	**341**	P		**P 12 50 54.9**	**+0.1**
	comp=Z,19nm,0.5s,baz=132,slow=6.6,SNR=13						
ARU	**Arti**	**21.82**	**341**	*e*P		**P 12 50 54.3**	**-0.5**
	comp=Z,25nm,0.6s						
ARU	**Arti**	**21.82**	**341**	*d i* P		**P 12 50 54.6**	**-0.2**
ARU				S		**S 12 54 54.2**	**+5.4**
ARU				SS		**SnSn 12 55 21.8**	**-3.4**
ARU				pmax	pmax		
	comp=Z,50nm,2.5s						
AKH	**Akhalkalaki**	**22.21**	**292**	*e*P		**P 12 50 59.8**	**+0.5**
	comp=Z,12nm,0.9s						
AKH	**Akhalkalaki**	**22.21**	**292**	*e*P		**P 12 50 59.8**	**+0.5**
AKH				pmax	pmax		
	comp=Z,13nm,0.9s						
GTA	**Gaotai**	**22.61**	**74**	⇓P		**P 12 51 06.6**	**+3.3**
GTA				pP		pP 12 51 18.9	-6.2
GTA				sP		sP 12 51 24.3	-15
GTA				S		**S 12 55 11.0**	**+8.4**
GTA				sS		Sn 12 55 28.6	+2.4
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,52nm,6.8s						
GTA				LR	LR		
	comp=Z,420nm,15.9s						
GTA				LR	LR		
	comp=Z,180nm,15.2s						
KBZ	**Khabaz**	**22.91**	**297**	P		**P 12 51 07.0**	**+1.0**
	comp=Z,4.2nm,0.6s,baz=92,slow=6.3,SNR=5.0						
KBZ				LR	LR	13 01 37.9	
	comp=Z,67nm,18.2s,baz=37,slow=41						
NEY	**Neytrino**	**22.97**	**296**	⇑*e*P		**P 12 51 06.2**	**-0.6**
NEY				pmax	pmax		
	comp=Z,2.0nm,1.4s						
KIV	**Kislovodsk**	**23.09**	**298**	*e*P		**P 12 51 08.1**	**+0.1**
	comp=Z,10nm,0.6s						
KIV	**Kislovodsk**	**23.09**	**298**	*e*P		**P 12 51 08.4**	**+0.5**
KIV				*e*S		**S 12 55 16.4**	**+6.2**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
RAYN	**Ar Rayn**	**25.73**	**247**	*e*P		**P 12 51 32.3**	**+0.3**
	comp=Z,3.3nm,0.6s						
RAYN	**Ar Rayn**	**25.73**	**247**	*e*P		**P 12 51 32.3**	**+0.3**
RAYN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
VSR	**Storozhevoye**	**27.28**	**313**	*e*P		**P 12 51 46.7**	**+1.2**
VSR				pmax	pmax		
	comp=Z,8.0nm,0.5s						
LPSR	**Galich'ya Gora**	**27.93**	**316**	*e*P		**P 12 51 51.5**	**+0.2**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SONA0	**Songino Array**	**28.14**	**55**	*e*P		**P 12 51 55.3**	**+1.8**
SONM	**Songino Array**	**28.14**	**55**	P		**P 12 51 55.3**	**+1.8**
	comp=Z,0.6nm,0.4s,baz=267,slow=8.9,SNR=6.4						
SONA1	**Songino Array**	**28.15**	**55**	*e*P		**P 12 51 55.3**	**+1.8**
BR101	**Keskin Array S**	**29.75**	**288**	*e*P		**P 12 52 07.8**	**+0.1**
BRTR	**Keskin Array B**	**29.75**	**288**	P		**P 12 52 07.8**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=101,slow=9.7,SNR=4.0						
CMAR	**Chiang Mai Arr**	**30.15**	**119**	P		**P 12 52 13.7**	**+2.4**
	comp=Z,0.6nm,0.4s,baz=303,slow=9.1,SNR=11						
CMAR				LR	LR	13 05 23.7	
	comp=Z,27nm,18.2s,baz=194,slow=39						
CM01	**Chiang Mai Arr**	**30.18**	**119**	*e*P		**P 12 52 11.8**	**+0.2**
OBN	**Obninsk**	**30.20**	**319**	⇓*e*P		**P 12 52 12.6**	**+1.3**
OBN				*e*		12 53 10.4	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**31.52**	**69**	*e*P		**P 12 52 24.1**	**+0.8**
HHC				pmax	pmax		
	comp=Z,25nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,8.0s						
AKASG	**Malin Array Be**	**33.24**	**309**	P		**P 12 52 38.5**	**+0.5**
	comp=Z,3.3nm,0.5s,baz=79,slow=7.5,SNR=22						
AKBB	**Malin Array Si**	**33.24**	**309**	*e*P		**P 12 52 38.5**	**+0.5**
KIEV	**Kiev**	**33.24**	**309**	*e*P		**P 12 52 37.1**	**-0.9**
	comp=Z,9.5nm,0.6s						
KIEV	**Kiev**	**33.24**	**309**	⇓*e*P		**P 12 52 38.0**	**-0.1**
KIEV				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SORM	**Soroca**	**33.50**	**304**	⇓*i*P		**P 12 52 41.0**	**+0.7**
SORM	**Soroca**	**33.50**	**304**	⇓P		**P 12 52 41.0**	**+0.7**
NRIK	**Noril'sk**	**34.17**	**10**	P		**P 12 52 47.3**	**+1.5**
	comp=Z,3.6nm,0.4s,baz=193,slow=6.2,SNR=4.7						
PLOR	**Plostina**	**34.59**	**300**	⇑*i*P		**P 12 52 52.6**	**+2.8**
PLOR	**Plostina**	**34.59**	**300**	⇑P		**P 12 52 52.6**	**+2.8**
MLR	**Muntele Rosu**	**35.09**	**299**	P		**P 12 52 58.6**	**+4.4**
	comp=Z,5.8nm,0.8s,baz=105,slow=12,SNR=9.1						
MLR	**Muntele Rosu**	**35.09**	**299**	*e*P		**P 12 52 53.8**	**-0.4**
	comp=Z,11nm,1.0s						
MLR	**Muntele Rosu**	**35.09**	**299**	⇑*i*P		**P 12 52 58.8**	**+4.6**
MLR	**Muntele Rosu**	**35.09**	**299**	⇑P		**P 12 52 58.8**	**+4.6**
BURAR	**Bucovina Array**	**35.59**	**303**	⇑*i*P		**P 12 52 58.5**	**+0.1**
BURAR	**Bucovina Array**	**35.59**	**303**	⇑P		**P 12 52 58.5**	**+0.1**
BUR04	**Bucovina Ar. S**	**35.59**	**303**	*e*P		**P 12 52 58.6**	**+0.1**
BUR08	**Bucovina Ar. S**	**35.60**	**303**	*e*P		**P 12 52 59.0**	**+0.4**
VOIR		**35.72**	**299**	⇑*i*P		**P 12 53 02.9**	**+3.3**
VOIR		**35.72**	**299**	⇑P		**P 12 53 02.9**	**+3.3**
ARR	**Arges**	**36.01**	**299**	⇓*i*P		**P 12 53 03.7**	**+1.6**
DRGR		**37.30**	**302**	⇑*i*P		**P 12 53 14.4**	**+1.4**
DRGR		**37.30**	**302**	⇑P		**P 12 53 14.4**	**+1.4**
FIA1	**FINESS Array S**	**37.73**	**326**	*e*P		**P 12 53 16.8**	**+0.5**
	comp=Z,4.2nm,0.9s						
FIA0	**FINESS Array S**	**37.73**	**326**	*e*P		**P 12 53 17.2**	**+1.0**
FIA0	**FINESS Array S**	**37.73**	**326**	*e*P		**P 12 53 17.3**	**+1.0**
FINES	**FINESS Array B**	**37.73**	**326**	P		**P 12 53 17.2**	**+1.0**
	comp=Z,5.4nm,0.4s,baz=120,slow=8.6,SNR=31						
NIE	**Niedzica**	**38.87**	**306**	*e*P		**P 12 53 30.2**	**+4.1**
NIE	**Niedzica**	**38.87**	**306**	P		**P 12 53 28.5**	**+2.4**
NIE				pmax	pmax		
	comp=Z,9.0nm,2.7s						
NJ2	**Nanjing**	**39.19**	**82**	*e*P		**P 12 53 30.2**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KEV	**Kevo**	**41.00**	**338**	*e*P		**P 12 53 44.4**

TOA0	**Torodi Ar. Sit**	**66.01**	**269**	*e*P		**P**	**12 56 46.2**	**-0.4**
TOA1	**Torodi Ar. Sit**	**66.01**	**269**	*e*P		**P**	**12 56 44.7**	**-2.0**
TORD	**Torodi Ar. Bea**	**66.01**	**269**	P		**P**	**12 56 44.7**	**-2.0**
	comp=Z,3.5nm,0.5s,baz=45,slow=5.7,SNR=40							
ILAR	**Eielson Array**	**74.79**	**16**	P		**P**	**12 57 39.8**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=300,slow=4.4,SNR=5.7							
ILB	**Eielson Array**	**74.79**	**16**	*e*P		**P**	**12 57 39.4**	**+0.1**
PPLA	**Purkeypile**	**75.08**	**19**	*e*P		**P**	**12 57 41.7**	**+0.6**
	comp=Z,5.3nm,1.2s							
TRF	**Thorofare Moun**	**75.11**	**18**	*e*P		**P**	**12 57 42.5**	**+1.2**
RND	**Reindeer**	**75.50**	**17**	*e*P		**P**	**12 57 43.6**	**+0.2**
	comp=Z,3.4nm,1.1s							
RND	**Reindeer**	**75.50**	**17**	*e*P		**P**	**12 57 43.6**	**+0.2**
RND				pmax	pmax			
	comp=Z,3.0nm,1.1s							
SCRK	**Sand Creek**	**76.11**	**15**	*e*P		**P**	**12 57 47.4**	**+0.4**
	comp=Z,3.1nm,1.2s							
DHY	**Denali Highway**	**76.13**	**17**	*e*P		**P**	**12 57 48.0**	**+0.9**
	comp=Z,2.9nm,1.1s							
BOSA	**Boshof**	**77.87**	**220**	P		**P**	**12 57 54.4**	**-2.8**
	comp=Z,2.6nm,0.8s,baz=80,slow=12,SNR=3.6							
YKA	**Yellowknife Ar**	**81.33**	**3**	P		**P**	**12 58 16.8**	**+1.4**
	comp=Z,1.3nm,0.5s,baz=351,slow=5.3,SNR=15							
YKB5	**Yellowknife Ar**	**81.33**	**3**	*e*P		**P**	**12 58 15.9**	**+0.6**
WRA	**Warramunga Arr**	**81.69**	**122**	P		**P**	**12 58 18.1**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=325,slow=4.9,SNR=16							
WR1	**Warramunga Arr**	**81.69**	**122**	*e*P		**P**	**12 58 18.1**	**+0.2**
	comp=Z,5.8nm,1.1s							
WB2	**Warramunga Arr**	**81.70**	**122**	*e*P		**P**	**12 58 18.8**	**+0.8**
	comp=Z,2.1nm,0.6s							
WC3	**Warramunga Arr**	**81.72**	**122**	*e*P		**P**	**12 58 17.9**	**-0.2**
	comp=Z,2.3nm,1.1s							
ASAR	**Alice Springs**	**83.96**	**125**	P		**P**	**12 58 30.0**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=309,slow=4.6,SNR=16							
AS01	**Alice Springs**	**83.99**	**125**	*e*P		**P**	**12 58 29.0**	**-0.7**

*NORS **08** 12:48:13.0±0.0, 42˚.49N×43˚.56E, h9km*
*MOS **08** 12:48:14.5±0.0, 42˚.57N×43˚.48E, h12km, MPVA3.6*
*DDA **08** 12:48:37.1, 41˚.60N×42˚.12E, h7km, Ml2.4*
ISC 08 12:48:13.4±1.2, 42˚.51N±0˚.03×43˚.49E±0˚.03, h3km±11km, n16, σ0°43/32, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ZEI	**Tsey**	**0.41**	**47**	*i* Pg		**Pg**	**12 48 21.0**	**-0.4**
ZEI				*e*Sg		**Sg**	**12 48 26.6**	**-0.2**
KORR	**Kora**	**0.72**	**36**	*i* Pg		**Pg**	**12 48 26.9**	**-0.2**
KORR				*e*Sg		**Sg**	**12 48 37.5**	**+1.1**
ARNR	**Ardon**	**0.89**	**41**	*e*Pg		**Pg**	**12 48 30.7**	**+0.2**
ARNR				*e*Sg		**Sb**	**12 48 43.8**	**0.0**
NEY	**Neytrino**	**0.93**	**323**	*e*Pg		**Pg**	**12 48 31.4**	**+0.1**
NEY				*e*Sg		**Sg**	**12 48 43.3**	**-0.1**
STDR	**Stavd-Durt**	**0.96**	**26**	*e*Pg		**Pb**	**12 48 32.6**	**-0.1**
STDR				*e*Sg		**Sb**	**12 48 46.2**	**+0.4**
EPOS	**Posof**	**1.15**	**210**	*i* P		**Pn**	**12 48 36.6**	**0.0**
EPOS				*i* S		**Sn**	**12 48 53.4**	**+0.5**
KBTC	**Kuba-Taba**	**1.31**	**357**	*e*Pg		**Pg**	**12 48 38.6**	**+0.1**
KBTC				*e*Sg		**Sn**	**12 48 57.2**	**+0.4**
SHA1	**Shidzhatmaz**	**1.38**	**334**	*e*Pg		**Pn**	**12 48 39.4**	**-0.3**
SHA1				*e*Sg		**Sg**	**12 48 57.5**	**-0.1**
KIV0	**Kislovodsk Arr**	**1.56**	**338**	*e*Pg		**Pb**	**12 48 42.9**	**-0.1**
KIV0				*e*Sg		**Sn**	**12 49 02.3**	**-0.7**
BATM	**Batumi**	**1.61**	**237**	P		**Pb**	**12 48 43.6**	**-0.2**
BATM				S		**Sg**	**12 49 06.1**	**+0.9**
ARTV	**Artvin**	**1.76**	**222**	*i* P		**Pb**	**12 48 46.2**	**-0.3**
ARTV				*i* S		**Sg**	**12 49 10.1**	**+0.1**
DBOC	**Borcka**	**1.79**	**230**	*i* P		**Pn**	**12 48 45.6**	**+0.4**
DBOC				*i* S		**Sg**	**12 49 10.3**	**-0.6**
DAGI	**Agillar**	**1.85**	**220**	*i* P		**Pb**	**12 48 47.7**	**-0.2**
DAGI				*i* S		**Sg**	**12 49 13.3**	**+0.5**
DBAD	**Bademkaya**	**2.00**	**223**	*i* P		**Pb**	**12 48 50.3**	**-0.2**
DBAD				*i* S		**Sg**	**12 49 17.7**	**-0.1**
LGD	**Lagodekhi**	**2.15**	**107**	P		**Pb**	**12 48 53.1**	**+0.1**
LGD				S		**Sb**	**12 49 19.5**	**-0.6**
LGD	**Lagodekhi**	**2.15**	**107**	*e*Pg		**Pb**	**12 48 53.1**	**+0.1**
LGD				*e*Sg		**Sb**	**12 49 19.5**	**-0.6**

*DDA **08** 13:05:41.2, 36˚.73N×31˚.45E, h50km, Ml3.2*
*ISCJB **08** 13:05:42.9±0.9, 36˚.83N±0˚.09×31˚.25E±0˚.05, h100km±12km, Error ellipse: s-maj=15.6km s-min=5.0km az=13.7*
*ISK **08** 13:05:50.0, 37˚.07N×32˚.21E, h4km, ML2.6/10*
ISC 08 13:05:42.9±1.8, 36˚.90N±0˚.08×31˚.28E±0˚.04, h103km±18km, n17, σ1°61/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KORT	**Korkueli**	**0.75**	**278**	*i* P		**Pn**	**13 06 00.6**	**-0.6**
KORT				*i* S		**Sn**	**13 06 16.3**	**+1.3**
GAZI	**Gazipasa**	**1.07**	**128**	PG		**Pn**	**13 06 06.9**	**+2.5**
GAZI				SG		**Sn**	**13 06 19.1**	**-1.4**
BRDR	**BURDUR-Merkez**	**1.25**	**310**	*i* P		**Pn**	**13 06 05.7**	**-0.8**
KONT	**Konya--Tatoy**	**1.35**	**39**	PG		**Pn**	**13 06 07.9**	**+0.3**
GOLH	**Golhisar**	**1.41**	**284**	*i* P		**Pn**	**13 06 09.2**	**+0.8**
GOLH				*i* S		**Sn**	**13 06 29.3**	**+1.7**
AKAS	**Kas**	**1.50**	**244**	*i* P		**Pn**	**13 06 08.6**	**-0.9**
AKAS				*i* S		**Sn**	**13 06 28.0**	**-1.6**
BERE	**Bereket-Mersin**	**1.66**	**109**	PN		**Pn**	**13 06 11.9**	**+0.4**
TEKE	**Tekeli-Mersin**	**1.66**	**117**	PN		**Pn**	**13 06 12.3**	**+0.9**
TEKE				SN		**Sn**	**13 06 30.0**	**-3.0**
TEVE	**Tevekalti-Mers**	**1.80**	**104**	PN		**Pn**	**13 06 13.5**	**+0.3**
TAVA	**DENIZLI_Tavas**	**1.97**	**287**	*i* P		**Pn**	**13 06 16.1**	**+0.8**
TAVA				*i* S		**Sn**	**13 06 38.1**	**-1.9**
AKKU	**Akkuyu-Mersin**	**1.98**	**111**	PN		**Pn**	**13 06 16.2**	**+0.9**
KEBE	**Keben-Mersin**	**2.01**	**102**	PN		**Pn**	**13 06 16.5**	**+0.7**
IKL	**Isikli**	**2.05**	**108**	PN		**Pn**	**13 06 17.6**	**+1.4**
DALY	**Dalyan (Mu˘la**	**2.10**	**269**	*i* P		**Pn**	**13 06 16.3**	**-0.7**
DALY				*i* S		**Sn**	**13 06 40.7**	**-2.2**
TURN	**Turunc**	**2.14**	**270**	*i* P		**Pn**	**13 06 18.7**	**+1.2**
TURN				*i* S		**Sn**	**13 06 47.2**	**+3.4**
KIZK	**Mersin**	**2.34**	**99**	PN		**Pn**	**13 06 20.9**	**+0.8**
MERS	**Mersin**	**2.60**	**90**	PN		**Pn**	**13 06 23.6**	**0.0**

*MDD **08** 13:45:29.5±2.2, 37˚.34N×12˚.67W, h0km, mb3.8/9, mbLg1.9/4, Error ellipse: s-maj=20.5km s-min=16.3km az=41.0, PRXIMO*
*IGIL **08** 13:45:29.8, 37˚.40N×12˚.66W, h2km, ML1.9*
*INMG **08** 13:45:30.8±0.9, 37˚.07N×13˚.07W, h10km, ML2.2, Error ellipse: s-maj=8.0km s-min=5.8km az=104.0*
ISC 08 13:45:25.3±3.6, 37˚.3N±0˚.1×12˚.8W±0˚.2, h10km, n29, σ2°24/54, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.17**	**91**	*e*Pn		**Pn**	**13 46 17.0**	**+1.7**
PFVI				*e*Sn		**Sn**	**13 46 50.7**	**-2.4**
PFVI	**Vila Bisbo**	**3.17**	**91**	P		**Pn**	**13 46 16.9**	**+1.7**
	0.8nm,0.1s,SNR=7.9							
PFVI				S		**Sn**	**13 46 52.1**	**-1.1**
	2.6nm,0.2s,SNR=4.0							
PMAFR	**Mafra**	**3.25**	**58**	*e*Pn		**Pn**	**13 46 19.2**	**+2.9**
PMAFR				*e*Sn		**Sn**	**13 46 56.8**	**+1.8**
PMAFR				A		A	13 47 04.2	
	10.0nm,0.7s							
PMAFR	**Mafra**	**3.25**	**58**	P		**Pn**	**13 46 19.1**	**+2.9**
	6.4nm,0.2s,SNR=7.9							
PMAFR				S		**Sn**	**13 46 56.7**	**+1.8**
	10nm,0.3s,SNR=7.9							
PTEO	**Sao Teotonio**	**3.26**	**84**	*e*Pn		**Pn**	**13 46 19.0**	**+2.6**
PTEO				*e*Sn		**Sn**	**13 46 55.7**	**+0.5**
PTEO				A		A	13 46 58.8	
	4.4nm,0.6s							
PTEO	**Sao Teotonio**	**3.26**	**84**	P		**Pn**	**13 46 19.0**	**+2.6**
PTEO				S		**Sn**	**13 46 55.7**	**+0.5**
	2.2nm,0.6s							
MORF	**Marmelete**	**3.31**	**88**	*e*P		**Pn**	**13 46 19.3**	**+2.2**
MORF	**Marmelete**	**3.31**	**88**	*e*Pn		**Pb**	**13 46 21.3**	**-2.8**
MORF				*e*Sn		**Sn**	**13 46 56.1**	**-0.4**
MORF	**Marmelete**	**3.31**	**88**	P		**Pb**	**13 46 21.3**	**-2.8**
MORF				S		**Sn**	**13 46 56.1**	**-0.4**
MESJ	**Messejana**	**3.68**	**80**	*e*P		**Pn**	**13 46 24.2**	**+2.0**
MESJ				*e*S		**Sn**	**13 47 03.9**	**-1.8**
MESJ				AML		AML	13 47 09.0	
	comp=N,3.4nm,0.4s							
MESJ	**Messejana**	**3.68**	**80**	*e*Pn		**Pn**	**13 46 25.8**	**+3.6**
MESJ				*e*Sn		**Sn**	**13 47 05.7**	**0.0**
MESJ				A		A	13 47 09.7	
	comp=N,3.3nm,0.7s							
MESJ	**Messejana**	**3.68**	**80**	P		**Pn**	**13 46 25.8**	**+3.6**
MESJ				S		**Sn**	**13 47 05.7**	**0.0**
	comp=N,3.3nm,0.7s							
PBDV	**Barranco-do-Ve**	**3.88**	**89**	*e*Pn		**Pn**	**13 46 28.2**	**+3.2**
PBDV				*e*Sn		**Sn**	**13 47 11.1**	**+0.4**
PBDV				A		A	13 47 13.3	
	comp=N,2.5nm,0.5s							
PBDV	**Barranco-do-Ve**	**3.88**	**89**	P		**Pn**	**13 46 28.2**	**+3.2**
PBDV				S		**Sn**	**13 47 11.1**	**+0.4**
	comp=N,2.5nm,0.5s							
PVAQ	**Vaqueiros**	**4.05**	**87**	*e*Pn		**Pn**	**13 46 30.2**	**+2.9**
PVAQ				*e*Sn		**Sn**	**13 47 14.7**	**-0.1**
PVAQ				A		A	13 47 22.1	
	comp=N,3.5nm,0.6s							
PVAQ	**Vaqueiros**	**4.05**	**87**	P		**Pn**	**13 46 30.2**	**+2.9**
PVAQ				S		**Sn**	**13 47 14.7**	**-0.1**
	comp=N,3.5nm,0.6s							
EGRO	**El Granado**	**4.24**	**85**	P		**Pn**	**13 46 32.4**	**+2.5**
	comp=N,0.8nm,0.1s,SNR=4.6							
EGRO				S		**Sn**	**13 47 18.0**	**-1.5**
	comp=N,1.1nm,0.2s,SNR=7.9							
PCAS	**Casmilo, Conde**	**4.37**	**49**	*e*Pn		**Pn**	**13 46 35.0**	**+3.3**
PCAS				*e*Sn		**Sn**	**13 47 23.4**	**+0.8**
PESTR	**Estremoz**	**4.41**	**67**	*e*Pn		**Pn**	**13 46 35.6**	**+3.3**
PESTR				*e*Sn		**Sn**	**13 47 23.8**	**+0.1**
PESTR				A		A	13 47 34.5	
	comp=N,3.1nm,0.6s							
PMRV	**Marv??o**	**4.77**	**61**	*e*Pn		**Pn**	**13 46 40.4**	**+3.2**
PMRV				*e*Sn		**Sn**	**13 47 32.6**	**+0.1**
PMRV	**Marv??o**	**4.77**	**61**	P		**Pn**	**13 46 40.4**	**+3.2**
PMRV				S		**Sn**	**13 47 32.6**	**+0.1**
EBAD	**Badajoz**	**4.80**	**70**	P		**Pn**	**13 46 40.5**	**+2.9**
	comp=N,1.2nm,0.1s,SNR=7.1							
EBAD				S		**Sn**	**13 47 31.1**	**-2.3**
	comp=N,2.0nm,0.2s,SNR=4.0							
EMIN	**Mina Concepcio**	**4.89**	**82**	P		**Pn**	**13 46 40.9**	**+1.9**
	comp=N,0.4nm,0.1s,SNR=7.9							
EMIN				S		**Sn**	**13 47 34.2**	**-1.4**
	comp=N,0.4nm,0.2s,SNR=7.9							
PGAV	**Gavieira, Arco**	**5.85**	**35**	*e*Sn		**Sn**	**13 47 59.0**	**-0.3**
ELOB	**Lobios**	**5.87**	**37**	S		**Sn**	**13 47 57.3**	**-2.6**
	comp=N,0.9nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**5.91**	**80**	P		**Pn**	**13 46 55.2**	**+2.3**
	comp=N,0.3nm,0.1s,SNR=12							
ECAB				S		**Sn**	**13 47 58.8**	**-1.9**
	comp=N,0.2nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**6.58**	**80**	P		**Pn**	**13 47 04.5**	**+2.5**
	comp=N,0.8nm,0.1s,SNR=7.9							
EADA				S		**Sn**	**13 48 16.2**	**-0.9**
	comp=N,0.3nm,0.2s,SNR=4.4							
EAGO	**Agolada(Pontev**	**6.60**	**32**	P		**Pn**	**13 47 03.6**	**+1.2**
	comp=N,0.4nm,0.1s,SNR=7.9							
EAGO				S		**Sn**	**13 48 13.8**	**-3.9**
	comp=N,0.8nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**6.61**	**43**	P		**Pn**	**13 47 04.2**	**+1.7**
	comp=N,0.3nm,0.1s,SNR=7.9							

*ISCJB **08** 13:59:58.7±0.3, 7˚.31N±0˚.04×124˚.34E±0˚.06, h400km, mb4.0/24, Error ellipse: s-maj=8.8km s-min=4.5km az=161.1*
*DJA **08** 13:59:59.6±0.5, 7˚.5˚×12˚.4E±˚, h397km±8km, M4.4/18, mb4.4/18, mB4.7/9, MLv5.0/7, Mw(mB)3.9/9*
*MAN **08** 14:00:00.5, 7˚.17N×124˚.21E, h425km, mb5.0, ML3.9, MS3.9*
*IDC **08** 14:00:01.9±1.3, 7˚.16N×124˚.35E, h440km±15km, mb3.7/23, mb1 3.8/26, mb1mx3.6/51, mbtmp4.5/26, Error ellipse: s-maj=15.6km s-min=7.5km az=77.0*
ISC 08 13:59:59.3±0.4, 7˚.22N±0˚.05×124˚.29E±0˚.08, h400km, n67, σ2°21/73, mb4.0/24, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SKMP	**Bagumbayan, Su**	**0.74**	**160**	*e*P		**Pn**	**14 00 53.1**	**+3.4**
SKMP				*e*S		**S**	**14 01 36.1**	**+5.9**
PAGZ	**Pagadian**	**1.10**	**305**	*e*P		**Pn**	**14 00 54.4**	**+3.6**
GSPH	**General Santos**	**1.30**	**150**	*e*P		**Pn**	14 00 57.3	+5.5
DDMP	**Don Marcelino,**	**1.79**	**128**	*e*P		**Pn**	**14 00 55.7**	**+1.6**
DDMP				*e*S		**S**	**14 01 40.6**	**+2.4**
MSLP	**Maasin**	**2.95**	**11**	*e*P		**Pn**	**14 01 06.5**	**+4.4**
SGSI	**Sangihe**	**3.72**	**161**	P		**Pn**	**14 01 09.7**	**+0.8**
GUIM	**Jordan**	**3.78**	**334**	*e*P		**Pn**	**14 01 09.3**	**0.0**
GUIM				*e*S		**S**	**14 02 05.7**	**-0.4**
CUYO	**Cuyo Island**	**4.85**	**318**	*e*P		**Pn**	**14 01 22.6**	**+2.8**
CNP	**Catarman**	**5.27**	**4**	*e*P		**Pn**	**14 01 28.5**	**+4.4**
CNP				*e*S		**S**	**14 02 38.6**	**+5.5**
SJMP	**San Jose**	**6.08**	**329**	*e*P		**Pn**	**14 01 36.6**	**+3.8**
BUSP	**Coron**	**6.24**	**320**	*e*P		**Pn**	**14 01 37.2**	**+2.7**
PVCP	**Virac**	**6.34**	**359**	*e*P		**Pn**	**14 01 38.1**	**+2.5**
PVCP				*e*S		**S**	**14 02 56.4**	**+2.2**
KMSI	**Cibinong**	**6.61**	**183**	P		**P**	**14 01 41.0**	**+1.7**
MRSI	**Marisa**	**7.10**	**199**	P		**P**	**14 01 47.3**	**+2.6**
TNTI	**Ternate**	**7.10**	**154**	P		**Pn**	**14 01 44.9**	**+0.7**
MPSI	**Mapaga**	**8.12**	**213**	P		**P**	**14 01 58.4**	**+2.3**
LUWI	**Luwuk**	**8.35**	**191**	P		**P**	**14 01 59.5**	**+0.9**
APSI	**Ampana**	**8.50**	**198**	P		**P**	14 02 05.8	+5.5
SANI	**Sanana**	**9.36**	**170**	P		**P**	**14 02 07.8**	**-2.1**
NLAI	**Namlea**	**10.76**	**165**	P		**Pn**	**14 02 27.3**	**+1.1**
APYP	**Conner**	**10.99**	**345**	*e*P		**Pn**	**14 02 30.3**	**+1.5**
MSAI	**Masohi**	**11.47**	**156**	P		**Pn**	**14 02 36.4**	**+1.9**
AAI	**Ambon**	**11.51**	**160**	P		**Pn**	**14 02 37.1**	**+2.1**
SPSI	**Sidrap Palu**	**11.99**	**202**	P		**Pn**	**14 02 40.5**	**0.0**
BNSI	**Bone**	**12.28**	**200**	P		Pn	14 02 49.5	+5.7
EDFI	**Ende, Flores**	**16.07**	**189**	P		**P**	**14 03 26.8**	**+3.2**
BATI	**Baumata**	**17.32**	**182**	P		**P**	**14 03 37.8**	**+1.0**
	4.5nm,0.3s,baz=273,slow=2.0,SNR=9.8							
BATI	**Baumata**	**17.32**	**182**	P		**P**	**14 03 38.4**	**+1.6**
GENI	**Genyem**	**18.60**	**121**	P		**P**	**14 03 51.8**	**+1.4**
JAY	**Jayapura**	**19.02**	**120**	P		**P**	**14 03 54.1**	**-0.6**
	1.9nm,0.3s,baz=310,slow=2.4,SNR=10							
JOW	**Kunigami**	**19.87**	**11**	P		**P**	**14 04 03.5**	**+1.0**
	0.8nm,0.3s,baz=148,slow=14,SNR=6.2							
PBKT	**Sadao Pong**	**24.62**	**294**	P		**P**	**14 04 47.0**	**+1.3**
FITZ	**Fitzroy Crossi**	**25.19**	**177**	P		**P**	**14 04 49.8**	**-0.9**
	1.0nm,0.3s,baz=7.2,slow=8.3,SNR=16							
CMAR	**Chiang Mai Arr**	**27.08**	**297**	P		**P**	**14 05 08.9**	**+1.2**
	2.0nm,0.6s,baz=104,slow=7.2,SNR=21							
CMAR				ScP		**ScP**	**14 11 14.2**	**-4.3**
	0.4nm,0.3s,baz=126,slow=1.1,SNR=4.6							
CMMT	**Chiang Mai**	**27.21**	**298**	P		**P**	**14 05 09.7**	**+1.0**
CHTO	**Chiang Mai**	**27.21**	**298**	P		**P**	**14 05 09.8**	**+1.0**
	28nm,0.6s							
WRA	**Warramunga Arr**	**28.74**	**160**	P		**P**	**14 05 20.6**	**-1.7**
	2.3nm,0.3s,baz=333,slow=9.6,SNR=78							
WRA				ScP		**ScP**	**14 11 18.2**	**-5.5**
	0.7nm,0.4s,baz=344,slow=3.3,SNR=15							
KSRS	**Korea Array**	**30.28**	**6**	P		**P**	**14 05 35.7**	**+0.4**
	11nm,0.7s,baz=180,slow=10.0,SNR=9.6							
MJAR	**Matsushiro Arr**	**31.83**	**22**	P		**P**	**14 05 48.1**	**-0.8**
	4.4nm,0.7s,baz=203,slow=11,SNR=5.0							
ASAR	**Alice Springs**	**32.10**	**163**	P		**P**	**14 05 50.6**	**-0.8**
	13nm,0.5s,baz=342,slow=6.9,SNR=651							
ASAR				ScP		**ScP**	**14 11 29.2**	**-5.5**
	0.3nm,0.4s,baz=338,slow=3.2,SNR=7.8							
USRK	**Ussuriysk Ar.**	**37.45**	**9**	P		**P**	**14 06 36.5**	**+0.3**
	2.6nm,0.6s,baz=197,slow=5.3,SNR=5.9							
ASAJ	**Asahikawa**	**40.09**	**21**	P		**P**	**14 06 58.4**	**+0.5**
	18nm,1.0s,baz=225,slow=10.0,SNR=5.0							
RAMN	**Ramite**	**40.79**	**303**	*e*P		**P**	**14 07 05.1**	**+0.9**
JIRN	**Jiri**	**41.40**	**304**	*e*P		**P**	**14 07 09.8**	**+0.6**
GUN	**Gumba**	**41.75**	**304**	*e*P		**P**	**14 07 12.5**	**+0.5**
	16nm,0.5s							
PKI	**Pulchoki**	**42.01**	**304**	*e*P		**P**	**14 07 14.2**	**+0.2**
PKIN	**Phulchoki**	**42.02**	**304**	*e*P		**P**	**14 07 14.1**	**0.0**
KKN	**Kakani**	**42.19**	**304**	*e*P		**P**	**14 07 15.6**	**+0.2**
STKA	**Stephens Creek**	**42.24**	**158**	P		**P**	**14 07 15.0**	**-0.4**
	5.6nm,0.4s,baz=331,slow=7.4,SNR=15							
DMN	**Daman**	**42.27**	**304**	*e*P		**P**	**14 07 16.3**	**+0.2**
	12nm,0.9s							
KLR	**Kul'dur**	**42.34**	**7**	P		**P**	**14 07 15.3**	**-0.5**
	2.8nm,0.5s,baz=196,slow=6.1,SNR=11							
SONM	**Songino Array**	**43.25**	**342**	P		**P**	**14 07 23.6**	**+0.2**
	2.1nm,0.6s,baz=158,slow=8.9,SNR=15							
KOLN	**Koldanda**	**43.58**	**303**	*e*P		**P**	**14 07 26.8**	**+0.5**
	11nm,0.4s							
DANN	**Dangsing**	**43.65**	**304**	*e*P		**P**	**14 07 27.2**	**+0.2**
	20nm,0.6s							
PYUN	**Piuthan**	**44.20**	**303**	*e*P		**P**	**14 07 31.7**	**+0.5**
	21nm,0.8s							
PETK	**Petropavlovsk-**	**53.21**	**24**	P		**P**	**14 08 38.5**	**+0.3**
	2.6nm,0.5s,baz=205,slow=4.2,SNR=11							
MKAR	**Makanchi Array**	**53.33**	**325**	P		**P**	**14 08 39.2**	**+0.1**
	3.0nm,0.3s,baz=118,slow=7.5,SNR=91							
MKAR				PcP		**PcP**	**14 09 39.1**	**-1.6**
	0.9nm,0.6s,baz=95,slow=2.7,SNR=5.1							
ZALV	**Zalesovo Beam**	**56.40**	**333**	P		**P**	**14 08 59.8**	**-0.9**
	3.1nm,0.3s,baz=128,slow=6.5,SNR=14							
KURBB	**Kurchatov Arra**	**57.51**	**327**	P		**P**	**14 09 07.9**	**-0.5**
	4.7nm,0.6s,baz=128,slow=6.5,SNR=40							
BVAR	**Borovoye Array**	**63.09**	**327**	P		**P**	**14 09 45.2**	**-0.5**
	2.4nm,0.7s,baz=141,slow=7.6,SNR=14							
NRIK	**Noril'sk**	**66.49**	**347**	P		**P**	**14 10 06.5**	**-0.6**
	3.8nm,0.5s,baz=120,slow=7.2,SNR=6.4							
ILAR	**Eielson Array**	**83.02**	**26**	P		**P**	**14 11 38.6**	**-2.2**
	0.8nm,0.6s,baz=248,slow=5.1,SNR=16							
BRTR	**Keskin Array B**	**85.94**	**309**	P		**P**	**14 11 55.4**	**-0.7**
	0.8nm,0.7s,baz=101,slow=3.9,SNR=3.6							
ARCES	**ARCESS Array B**	**86.36**	**340**	P		**P**	**14 11 55.3**	**-1.9**
	5.3nm,0.9s,baz=54,slow=6.2,SNR=6.4							
SPITS	**Spitsbergen Ar**	**86.61**	**349**	P		**P**	**14 11 56.9**	**-1.3**
	10nm,0.9s,baz=132,slow=8.0,SNR=5.0							
FINES	**FINESS Array B**	**87.63**	**332**	P		**P**	**14 12 01.5**	**-1.8**
	2.7nm,0.5s,baz=63,slow=4.2,SNR=29							
NOA	**NORSAR Array B**	**94.60**	**333**	P		**P**	**14 12 33.4**	**-2.3**
	0.8nm,0.7s,baz=66,slow=4.5,SNR=3.6							

*NIED **08** 14:03:00, 39˚.60N×143˚.80E, h17km, Mw3.8 Best double couple: M0 5.59000×10^14 NP1:φ 175.00000°, δ 36.00000°, λ 59.00000°. NP2:φ 32.00000°, δ 60.00000°, λ 111.00000°.*
*JMA **08** 14:03:08.1±0.1, 39˚.58N×143˚.82E, h17km, M4.0*
*ISCJB **08** 14:03:09.2±1.0, 39˚.60N±0˚.04×143˚.7E±0˚.1, h11km, mb4.0/6, MS3.0/1, Error ellipse: s-maj=13.2km s-min=4.2km az=22.7*
*IDC **08** 14:03:13.0±7.7, 39˚.50N×143˚.91E, h37km±38km, mb3.8/6, mb1 3.8/10, mb1mx3.5/39, mbtmp3.9/10, ML3.0/4, MS3.0/3, Ms1 3.0/3, ms1mx2.4/43, Error ellipse: s-maj=86.8km s-min=32.2km az=111.0*
ISC 08 14:03:10.6±1.4, 39˚.56N±0˚.07×143˚.7E±0˚.1, h11km, n27, σ1°45/33, mb3.9/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.44**	**271**	P		**Pn**	**14 03 35.3**	**-1.3**
JTH	**Tanohata**	**1.45**	**286**	P		**Pn**	**14 03 35.3**	**-1.5**
OFUJ	**Ofunato**	**1.63**	**254**	P		**Pn**	**14 03 38.1**	**-1.1**
JKEN	**Kujiedanarisaw**	**1.65**	**294**	P		**Pn**	**14 03 37.9**	**-1.6**
JOM	**Ohasama**	**1.85**	**268**	P		**Pn**	**14 03 41.7**	**-0.5**
JANG	**Nango**	**1.85**	**297**	P		**Pn**	**14 03 40.9**	**-1.4**
JMK	**Ichinoseki**	**2.00**	**253**	P		**Pn**	**14 03 43.5**	**-0.8**
JYK	**Kaneyama**	**2.66**	**257**	P		**Pn**	**14 03 53.0**	**-0.3**
JNBK	**Urakawa-nobuka**	**2.81**	**346**	P		**Pn**	**14 03 55.9**	**+0.4**
JNBK				*e*S		**Sn**	**14 04 28.6**	**-0.7**
JCH	**Churui**	**3.06**	**356**	P		**Pn**	**14 03 58.6**	**-0.3**
JCH				*e*S		**Sn**	**14

LFRS	**El Faro**	**3.00**	**95**	*e*P	**Pn**	**14 34 49.1**	**-0.6**	
LBRS	**Las Brisas**	**3.00**	**93**	*e*P	**Pn**	**14 34 49.7**	**-0.2**	
PAVA	**Las Pavas**	**3.11**	**94**	*e*P	**Pn**	**14 34 51.2**	**-0.1**	
TECA	**Tecapa**	**3.55**	**97**	*e*P	**Pn**	**14 34 57.4**	**-0.2**	
CMIG	**Matias Romero**	**4.12**	**320**	P	**Pn**	**14 35 05.3**	**+0.2**	
	comp=Z,12nm,0.3s,baz=153,slow=14,SNR=43							
CMIG				S	**Sn**	**14 35 55.9**	**+2.6**	
	comp=Z,73nm,0.3s,baz=251,slow=3.9,SNR=6.9							
CMIG				LR	LR	14 36 42.6		
	comp=Z,90nm,20.9s,baz=102,slow=36							
JTS	**JuntasAbangare**	**7.89**	**116**	P	**Pn**	**14 35 57.9**	**+0.8**	
	comp=Z,1.9nm,0.3s,baz=340,slow=9.4,SNR=5.5							
JTS				S	**Sn**	**14 37 28.7**	**+2.2**	
	baz=14,slow=21,SNR=1.0							
JTS				Lg	Lg	14 37 59.3		
	comp=Z,0.6nm,0.3s,baz=319,slow=22,SNR=2.9							
TXAR	**Lajitas Array**	**18.69**	**327**	P	**Pn**	**14 38 23.6**	**+2.6**	
	comp=Z,0.3nm,0.3s,baz=153,slow=13,SNR=30							
LRAL	**Lakeview Retre**	**19.59**	**13**	*e*P	**Pn**	**14 38 31.1**	**-0.6**	
	comp=Z,14nm,0.8s							
ROSC	**El Rosal**	**19.74**	**116**	P	**P**	**14 38 33.4**	**+0.7**	
	comp=Z,1.1nm,0.3s,baz=17,slow=12,SNR=8.0							
MIAR	**Mount Ida**	**20.57**	**357**	*e*P	Pn	14 38 43.5	+0.2	
	comp=Z,10nm,0.8s							
MNTX	**Cornudas Mount**	**21.46**	**328**	*e*P	**P**	**14 38 51.7**	**+0.9**	
	comp=Z,11nm,0.8s							
SDV	**Santo Domingo**	**21.65**	**101**	P	**P**	**14 38 53.8**	**+0.6**	
	comp=Z,6.9nm,0.4s,baz=311,slow=9.3							
AMTX	**Amarillo**	**22.58**	**339**	*e*P	**P**	**14 39 01.5**	**-1.3**	
	comp=Z,18nm,0.5s							
TKL	**Tuckaleechee C**	**22.91**	**18**	P	**P**	**14 39 07.5**	**+1.4**	
	comp=Z,3.1nm,0.7s,baz=187,slow=12,SNR=4.2							
TKL				LR	LR	14 49 28.6		
	comp=Z,153nm,18.1s,baz=212,slow=40							
ANMO	**Albuquerque**	**24.60**	**331**	P	**P**	**14 39 24.7**	**+2.0**	
	comp=Z,7.0nm,0.7s,baz=145,slow=12,SNR=26							
ATAH	**Atahualpa**	**24.98**	**146**	LR	LR	14 47 41.7		
	comp=Z,112nm,21.8s,baz=291,slow=33							
SJG	**San Juan**	**25.31**	**77**	LR	LR	14 48 53.0		
	comp=Z,109nm,18.9s,baz=242,slow=35							
MVCO	**Mesa Verde**	**27.40**	**331**	*e*P	**P**	**14 39 49.2**	**+1.1**	
	comp=Z,8.7nm,0.9s							
PDAR	**Pinedale Array**	**32.43**	**336**	P	**P**	**14 40 34.0**	**+1.4**	
	comp=Z,0.5nm,0.6s,baz=134,slow=9.9,SNR=3.9							
PDAR				PcP	**PcP**	**14 43 17.9**	**-2.1**	
	comp=Z,0.5nm,0.6s,baz=128,slow=5.0,SNR=4.6							
NVAR	**Mina Array Bea**	**33.65**	**321**	P	**P**	**14 40 46.2**	**+2.9**	
	comp=Z,3.5nm,0.6s,baz=130,slow=8.6,SNR=17							
NVAR				LR	LR	14 56 32.5		
	comp=Z,106nm,18.3s,baz=100,slow=40							
LPAZ	**La Paz**	**38.26**	**141**	P	**P**	**14 41 21.4**	**-2.0**	
	comp=Z,1.4nm,0.6s,baz=318,slow=6.5,SNR=4.4							
SIV	**San Ignacio**	**42.73**	**133**	P	**P**	**14 41 57.6**	**-2.3**	
	comp=Z,3.4nm,1.0s,baz=312,slow=8.1,SNR=14							
SIV				PcP	**PcP**	**14 43 50.1**	**-1.5**	
	comp=Z,1.1nm,0.7s,baz=243,slow=2.3,SNR=3.7							
YKA	**Yellowknife Ar**	**51.07**	**347**	P	**P**	**14 43 03.7**	**-0.7**	
	comp=Z,2.5nm,0.6s,baz=151,slow=7.1,SNR=9.5							
KDAK	**Kodiak Island**	**62.71**	**328**	LR	LR	15 12 51.5		
	comp=Z,36nm,18.6s,baz=42,slow=37							
ILAR	**Eielson Array**	**62.85**	**337**	P	**P**	**14 44 28.1**	**+0.2**	
	comp=Z,3.4nm,1.1s,baz=138,slow=4.1,SNR=15							
AFI	**Afiamalu**	**83.55**	**254**	LR	LR	15 12 26.5		
	comp=Z,91nm,20.7s,baz=46,slow=28							
TORD	**Torodi Ar. Bea**	**90.52**	**76**	LR	LR	15 27 41.7		
	comp=Z,25nm,18.1s,baz=285,slow=36							
WRA	**Warramunga Arr**	**135.25**	**256**	PKP	**PKPdf**	**14 53 21.9**	**-1.0**	
	comp=Z,0.4nm,0.8s,baz=89,slow=3.5							
CMAR	**Chiang Mai Arr**	**146.02**	**341**	PKPbc	**PKPdf**	**14 53 42.3**	**0.0**	
	comp=Z,5.1nm,0.7s,baz=336,slow=3.4,SNR=42							

IDC 08 14:50:27.3±40.0, 29.46S×179.19W, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/27, mbtmp3.5/3, Error ellipse: s-maj=724.5km s-min=150.3km az=95.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**33.70**	**256**	P	P	14 57 10.5	+0.2
	0.9nm,0.8s,baz=110,slow=15,SNR=3.6						
ASAR	**Alice Springs**	**42.13**	**266**	P	P	14 58 21.2	-0.5
	0.2nm,0.6s,baz=104,slow=7.3,SNR=8.7						
WRA	**Warramunga Arr**	**43.04**	**272**	P	P	14 58 29.0	0.0
	0.3nm,0.4s,baz=112,slow=7.9,SNR=10						

MEX 08 14:55:32.2±0.5, 13.65N×91.96W, h15km±18km, MD3.7, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.29**	**347**	*i* P	Pn	14 55 52.6	-3.1
THIG				*e*S	Sb	14 56 07.2	-5.3
PCIG		**2.38**	**329**	*e*P	Pn	14 56 07.6	-3.1
PCIG				*e*S	Sn	14 56 35.4	-4.3
CCIG	**Comitan**	**2.62**	**356**	*e*P	Pn	14 56 10.9	-3.4
CCIG				*e*S	Sn	14 56 42.7	-3.3
TGIG		**3.31**	**340**	*i* P	Pn	14 56 21.1	-2.5
TGIG				*i* S	Sn	14 56 58.7	-4.0

*IDC **08** 14:59:23.1±2.7,54.42N×172.10W, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.5/50, mbtmp3.8/5, ML3.4/2, Error ellipse: s-maj=51.7km s-min=34.8km az=12.0*
*ISCJB **08** 14:59:36.6±1.7,52.3N±0.1×169.5W±0.1, h23km±12km, mb3.5/2, Error ellipse: s-maj=23.6km s-min=4.8km az=151.8*
*NEIC **08** 14:59:38.6±0.0,52.60N×169.76W, h18km, ML3.3(AEIC), After AEIC.*

ISC 08 14:59:35.7±3.6, 52.3N±0.2×169.4W±0.1, h9km±21km, n29, σ1§16/31, mb3.9/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.80**	**26**	P	**Pb**	**14 59 51.6**	**-0.2**
NIKH				S	**Sg**	**15 00 01.9**	**+0.3**
OKSO	**Okmok South**	**1.35**	**35**	P	**Pn**	**14 59 59.8**	**-0.9**
OKCE	**Okmok Cone E**	**1.41**	**33**	P	**Pn**	**15 00 01.0**	**-0.5**
OKTU	**Okmok Mt. Tuli**	**1.41**	**36**	P	**Pn**	**15 00 01.1**	**-0.5**
OKNC	**Okmok New Cone**	**1.44**	**33**	P	**Pn**	**15 00 02.0**	**0.0**
OKNC				S	**Sb**	**15 00 19.8**	**-1.4**
MREP	**Makushin Rep't**	**2.25**	**45**	P	**Pn**	**15 00 13.4**	**+0.3**
MSW	**Makushin Switc**	**2.31**	**43**	P	**Pn**	**15 00 14.2**	**+0.3**
MNAT	**Makushin Natee**	**2.33**	**44**	P	**Pn**	**15 00 14.7**	**+0.5**
UNV	**Unalaska Valle**	**2.38**	**47**	P	**Pn**	**15 00 15.4**	**+0.5**
UNV				S	**Sn**	**15 00 43.7**	**-0.5**
MTBL	**Makushin Table**	**2.39**	**43**	P	**Pn**	**15 00 15.8**	**+0.8**
AKMO	**Akutan Morgan**	**2.76**	**47**	P	**Pn**	**15 00 21.9**	**+1.8**
AKRB	**Akutan Reef Bi**	**2.76**	**46**	P	**Pn**	**15 00 21.9**	**+1.8**
ZRO	**Akutan Zero**	**2.78**	**47**	P	**Pn**	**15 00 22.3**	**+2.0**
AKGG	**Akutan Green G**	**2.84**	**45**	P	**Pn**	**15 00 22.9**	**+1.7**
AKGG				S	**Sn**	**15 00 57.0**	**+1.5**
KOFP	**Korovin Flat P**	**2.86**	**272**	P	**Pn**	**15 00 21.9**	**+0.4**
AHB	**Akutan Harbor**	**2.87**	**48**	P	**Pn**	**15 00 23.3**	**+1.7**
AKUT	**Akutan**	**2.90**	**48**	P	**Pn**	**15 00 22.9**	**+0.9**
AKUT				S	**Sn**	**15 00 58.3**	**+1.4**
ATKA	**Atka Island**	**2.93**	**271**	P	**Pn**	**15 00 21.8**	**-0.6**
KOWE	**Korovin West**	**2.96**	**274**	P	**Pn**	**15 00 22.5**	**-0.3**
GSTD	**Great Sitkin T**	**4.13**	**270**	P	**Pn**	**15 00 38.7**	**-0.3**
ADAG	**Mount Adagdak**	**4.42**	**269**	P	**Pn**	**15 00 43.8**	**+0.8**
FALS	**False Pass**	**4.44**	**52**	P	**Pn**	**15 00 44.2**	**+1.1**
ADK	**Adak**	**4.49**	**268**	P	**Pn**	**15 00 43.6**	**-0.2**
TASE	**Tanaga Southea**	**5.32**	**269**	P	**Pn**	**15 00 56.5**	**+1.2**
KDAK	**Kodiak Island**	**11.13**	**54**	Pn	**Pn**	**15 02 12.4**	**-2.4**
	0.2nm,0.3s,baz=268,slow=14,SNR=3.3						
ILAR	**Eielson Array**	**17.07**	**34**	Pn	Pn	15 03 10.3	-24
	0.2nm,0.3s,baz=227,slow=13,SNR=14						
DLBC	**Dease Lake**	**22.98**	**59**	P	P	15 04 34.1	-6.3
	1.4nm,0.4s,baz=243,slow=16,SNR=6.2						
TXAR	**Lajitas Array**	**52.79**	**89**	P	**P**	**15 08 50.4**	**-0.8**
	0.2nm,0.6s,baz=292,slow=4.8,SNR=3.4						
FINES	**FINESS Array B**	**65.98**	**352**	P	P	15 09 55.4	-26
	1.1nm,0.6s,baz=21,slow=6.6,SNR=6.7						

*IDC **08** 15:41:55.0±3.1, 13.57N×92.05W, h0km, mb3.7/2, mb1 4.0/5, mb1mx3.6/50, mbtmp3.7/5, ML3.4/3, MS3.1/4, Ms1 3.1/4, ms1mx2.7/38, Error ellipse: s-maj=62.2km s-min=35.3km az=5.0*
*MEX **08** 15:41:56.5±0.3, 13.51N×92.07W, h15km, MD3.7*
ISC 08 15:41:58.1±1.7, 13.8N±0.1×92.10W±0.07, h10km, n13, σ1§01/16, MS3.2/3, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.10**	**352**	*e*P	**Pn**	**15 42 17.8**	**-1.8**
THIG				*i* S	**Sn**	**15 42 34.5**	**-0.5**
APG	**El Apazote**	**1.98**	**53**	Pn	**Pn**	**15 42 31.7**	**-0.2**
	8.3nm,0.3s,baz=235,slow=19,SNR=40						
APG				Sn	**Sn**	**15 42 57.6**	**+0.6**
	12nm,0.3s,baz=286,slow=23,SNR=12						
APG				LR	LR	15 43 28.2	
	comp=Z,143nm,18.4s,baz=28,slow=44						
PCIG		**2.17**	**330**	*e*P	**Pn**	**15 42 33.2**	**-1.2**
PCIG				*i* S	**Sn**	**15 43 01.5**	**+0.2**
CCIG	**Comitan**	**2.46**	**359**	*e*P	**Pn**	**15 42 38.2**	**-0.3**
CCIG				*i* S	**Sn**	**15 43 10.0**	**+1.2**
TGIG		**3.11**	**342**	*e*P	**Pn**	**15 42 46.6**	**-0.7**
TGIG				*e*S	**Sn**	**15 43 25.3**	**+0.6**
CMIG	**Matias Romero**	**4.23**	**321**	Pn	**Pn**	**15 43 03.1**	**+0.5**
	1.0nm,0.3s,baz=138,slow=18,SNR=8.5						
CMIG				Sn	**Sn**	**15 43 53.0**	**+0.9**
	1.9nm,0.3s,baz=94,slow=14,SNR=4.1						
TXAR	**Lajitas Array**	**18.80**	**327**	P	**P**	**15 46 19.6**	**+1.7**
	0.1nm,0.3s,baz=153,slow=13,SNR=13						
TKL	**Tuckaleechee C**	**23.01**	**18**	LR	LR	15 56 60.0	
	comp=Z,78nm,18.1s,baz=356,slow=39						
ANMO	**Albuquerque**	**24.72**	**331**	P	**P**	**15 47 20.6**	**+0.7**
	0.9nm,0.6s,baz=135,slow=8.6,SNR=3.5						
SJG	**San Juan**	**25.30**	**77**	LR	LR	15 56 39.6	
	comp=Z,49nm,18.2s,baz=250,slow=35						
SCHQ	**Schefferville**	**45.44**	**20**	LR	LR	16 10 37.5	
	comp=Z,38nm,18.4s,baz=298,slow=38						
ILAR	**Eielson Array**	**62.98**	**337**	P	**P**	**15 52 24.2**	**-0.6**
	1.3nm,1.1s,baz=109,slow=4.9,SNR=6.3						
CMAR	**Chiang Mai Arr**	**146.14**	**341**	PKPbc	**PKPdf**	**16 01 38.0**	**-0.6**
	1.1nm,0.8s,baz=348,slow=3.8,SNR=10						

UCR 08 15:49:10.1±2.4, 8.27N×82.96W, h10km±6km, MD3.9, 1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTJ1	**Puerto Jim˜ne**	**0.43**	**308**	↓*i* P	Pg	15 49 18.4	-0.2
PTJ1				*e*S	Sb	15 49 26.7	+0.4
EDSV	**San Vito**	**0.55**	**358**	*e*P	Pg	15 49 19.9	-0.9
EDSV				*e*S	Sb	15 49 29.7	-0.2
BRU2	**Volcan**	**0.58**	**27**	*e*P	Pg	15 49 21.3	-0.1
BRU2				*e*S	Sb	15 49 31.1	+0.2
DRK0	**Durika**	**1.03**	**344**	*e*P	Pg	15 49 28.6	-1.3
DRK0				*e*S	Sg	15 49 43.1	-0.1
LCR2	**La Lucha 2**	**1.79**	**325**	*e*P	Pn	15 49 40.7	-0.6
LCR2				*e*S	Sb	15 50 05.0	-0.7
CVTR	**Volcan Turrial**	**1.91**	**336**	*e*P	Pn	15 49 43.1	0.0
HDC	**Heredia**	**2.06**	**326**	*e*S	Sb	15 50 13.0	-0.6
AZU	**Azuero**	**2.70**	**100**	*e*P	Pn	15 49 53.3	-0.3
AZU				*e*S	Sn	15 50 25.4	-1.0
PLVR	**Palo Verde**	**3.14**	**311**	*e*P	Pn	15 49 59.1	-0.7
PLVR				*e*S	Sn	15 50 35.5	-1.9
BCIP	**Isla Barro Col**	**3.21**	**74**	*e*P	Pn	15 50 01.1	+0.4

*IDC **08** 15:52:13.8±1.6, 17.73S×178.64W, h509km±20km, mb3.4/14, mb1 3.6/15, mb1mx3.3/55, mbtmp4.3/15, Error ellipse: s-maj=21.2km s-min=12.0km az=142.0*
*ISCJB **08** 15:52:14.9±0.6, 17.85S±0.1×178.5W±0.1, h550km, mb3.8/13, Error ellipse: s-maj=20.3km s-min=9.6km az=151.4*
ISC 08 15:52:16.1±0.7, 17.8S±0.2×178.5W±0.1, h550km, n17, σ1§33/20, mb3.7/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.50**	**60**	P	**P**	**15 54 07.0**	**-2.1**
	1.7nm,0.3s,baz=214,slow=3.6,SNR=4.0						
AFI				S	**S**	**15 55 39.6**	**-2.0**
	1.1nm,0.3s,baz=199,slow=22,SNR=1.5						
URZ	**Urewera**	**20.73**	**190**	P	**P**	**15 56 18.3**	**-0.3**
	2.1nm,0.4s,baz=36,slow=19,SNR=4.2						
STKA	**Stephens Creek**	**38.64**	**241**	P	**P**	**15 58 51.9**	**-1.0**
	1.8nm,0.4s,baz=67,slow=7.7,SNR=3.3						
JAY	**Jayapura**	**42.85**	**286**	P	**P**	**15 59 25.9**	**-0.7**
	6.7nm,0.8s,baz=147,slow=12,SNR=3.4						
WRA	**Warramunga Arr**	**44.61**	**259**	P	**P**	**15 59 38.6**	**-1.6**
	1.2nm,0.5s,baz=94,slow=7.2,SNR=16						
WRA				PcP	**PcP**	**16 01 11.6**	**+0.5**
	0.8nm,0.8s,baz=90,slow=3.4,SNR=5.0						
ASAR	**Alice Springs**	**44.78**	**254**	P	**P**	**15 59 41.0**	**-0.5**
	12nm,0.5s,baz=88,slow=8.1,SNR=174						
ASAR				PcP	**PcP**	**16 01 12.4**	**+0.7**
	0.8nm,0.4s,baz=100,slow=3.9,SNR=7.0						
FITZ	**Fitzroy Crossi**	**53.01**	**260**	P	**P**	**16 00 42.2**	**-0.1**
	0.8nm,0.8s,baz=75,slow=8.0,SNR=2.2						
MJAR	**Matsushiro Arr**	**67.81**	**323**	P	**P**	**16 02 19.2**	**-0.5**
	1.0nm,0.8s,baz=165,slow=6.2,SNR=4.4						
JNU	**Nakatsue**	**70.05**	**316**	P	**P**	**16 02 32.2**	**-1.0**
	4.0nm,1.0s,baz=118,slow=15,SNR=2.2						
ASAJ	**Asahikawa**	**71.18**	**331**	P	**P**	**16 02 40.5**	**+0.9**
	20nm,1.1s,baz=335,slow=24,SNR=2.0						
SEY	**Seymchan**	**83.68**	**347**	P	**P**	**16 03 46.8**	**0.0**
	4.6nm,0.9s,baz=121,slow=7.7,SNR=8.8						
ILAR	**Eielson Array**	**85.81**	**11**	P	**P**	**16 03 56.9**	**-0.2**
	0.4nm,0.4s,baz=226,slow=5.1,SNR=8.8						
TXAR	**Lajitas Array**	**85.98**	**58**	P	**P**	**16 04 01.9**	**+3.0**
	0.7nm,0.7s,baz=232,slow=4.4,SNR=7.5						
PDAR	**Pinedale Array**	**87.31**	**43**	P	**P**	**16 04 06.5**	**+1.5**
	0.4nm,0.6s,baz=208,slow=5.0,SNR=4.5						
CMAR	**Chiang Mai Arr**	**88.82**	**290**	P	**P**	**16 04 13.7**	**+1.4**
	0.4nm,0.4s,baz=110,slow=2.4,SNR=5.2						
BRTR	**Keskin Array B**	**144.70**	**315**	PKP	**PKPab**	**16 10 51.9**	**-0.1**
	2.5nm,0.8s,baz=138,slow=6.5,SNR=11						
GERES	**GERESS Array B**	**147.52**	**345**	PKPbc	**PKPbc**	**16 10 59.8**	**+1.0**
	1.8nm,0.5s,baz=22,slow=3.1,SNR=18						

*IDC **08** 15:52:37.2±2.1, 0.29N×125.80E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/39, mbtmp3.8/3, Error ellipse: s-maj=175.4km s-min=28.2km az=65.0*
*DJA **08** 15:52:40.3±0.4, 0°N±6'×12°6E±', h10km, M3.6/7, mb3.8/1, ML3.6/7*
*ISCJB **08** 15:52:41.1±0.8, 0.4N±0.1×125.94E±0.06, h44km, mb3.7/3, Error ellipse: s-maj=15.4km s-min=8.4km az=11.8*
ISC 08 15:52:42.5±1.1, 0.40N±0.10×125.94E±0.06, h44km, n9, σ0§96/10, mb3.8/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.47**	**75**	P	**Pn**	**15 53 06.2**	**-0.4**
KMSI	**Cibinong**	**1.97**	**275**	P	**Pn**	**15 53 12.4**	**-1.0**
KMSI				S	**Sn**	**15 53 36.6**	**-0.3**
SANI	**Sanana**	**2.43**	**179**	P	**Pn**	**15 53 19.1**	**-0.7**
LUWI	**Luwuk**	**3.48**	**246**	P	**Pn**	**15 53 35.4**	**+1.3**
MRSI	**Marisa**	**4.00**	**271**	P	**Pn**	**15 53 40.4**	**-0.9**
APSI	**Ampana**	**4.49**	**253**	P	**Pn**	**15 53 47.4**	**-0.6**
WRA	**Warramunga Arr**	**21.83**	**158**	P	**P**	**15 57 30.4**	**-0.9**
	1.9nm,0.7s,baz=336,slow=11,SNR=6.1						
ASAR	**Alice Springs**	**25.14**	**163**	P	**P**	**15 58 04.1**	**+0.4**
	1.0nm,0.3s,baz=341,slow=8.2,SNR=16						
MKAR	**Makanchi Array**	**59.86**	**327**	P	**P**	**16 02 44.7**	**+1.0**
	0.6nm,0.6s,baz=117,slow=8.8,SNR=0.4						

*ISCJB **08** 15:53:55.3±0.3, 49.41N±0.02×157.37E±0.05, h39km, mb4.4/42, MS3.2/13, Error ellipse: s-maj=5.4km s-min=2.4km az=29.7*
*MOS **08** 15:53:56.6±1.0, 49.47N×157.32E, h55km, mb4.6/21, Error ellipse: s-maj=9.0km s-min=3.3km az=81.2*
MOS Felt (II) at Severo-Kuril'sk.
*KRSC **08** 15:53:56.2±2.5, 49.54N×157.97E, h40km±43km, ML5.0*
*NEIC **08** 15:53:58.9±0.7, 49.54N×157.23E, h57km±6km, mb4.5/23, Error ellipse: s-maj=7.4km s-min=4.3km az=139.0*
*IDC **08** 15:53:59.5±2.2, 49.54N×157.23E, h60km±19km, mb3.9/19, mb1 4.0/27, mb1mx3.8/61, mbtmp4.2/27, MS3.2/18, Ms1 3.2/18, ms1mx3.1/51, Error ellipse: s-maj=18.7km s-min=10.5km az=117.0*
ISC 08 15:53:56.5±0.5, 49.42N±0.05×157.50E±0.05, h39km, n208, σ1§70/230, mb4.4/42, MS3.2/13, 5C-8D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.54**	**325**	*e*P	**Pn**	**15 54 21.6**	**+0.1**
SKR				*e*S	**Sn**	**15 54 39.9**	**-0.4**
SKR	**Severo-Kuril's**	**1.54**	**325**	↓*i* PN	**Pn**	**15 54 21.6**	**+0.1**
SKR				*i* S	**Sn**	**15 54 39.7**	**-0.6**
SKR				pmax	pmax		
	comp=Z,2μm,0.4s						
SKR				smax	smax		
	comp=N,8μm,0.2s						
SKR				smax	smax		
	comp=E,17μm,0.9s						
PAU	**Pauzhetka**	**2.10**	**348**	*e*P	**Pn**	**15 54 30.1**	**+1.1**
PAU				*e*S	**Sn**	**15 54 54.4**	**+0.6**
PAU	**Pauzhetka**	**2.10**	**348**	PN	**Pn**	**15 54 30.1**	**+1.1**
PAU				S	**Sn**	**15 54 54.4**	**+0.6**
KDTR	**Khodutka, Kamc**	**2.42**	**9**	*e*P	**Pn**	**15 54 34.1**	**+0.6**
KDTR				*e*S	**Sn**	**15 55 00.9**	**-0.9**
RUS	**Russkaya**	**3.08**	**12**	*i* P	**Pn**	**15 54 43.3**	**+0.7**
RUS				*e*S	**Sn**	**15 55 16.3**	**-1.9**
RUS	**Russkaya**	**3.08**	**12**	PN	**Pn**	**15 54 43.3**	**+0.7**
RUS				S	**Sn**	**15 55 16.3**	**-1.9**
MTVR	**Mutnovka**	**3.10**	**8**	*e*P	**Pn**	**15 54 44.0**	**+1.0**
MTVR				*e*S	**Sn**	**15 55 17.7**	**-1.1**
MTVR	**Mutnovka**	**3.10**	**8**	PN	**Pn**	**15 54 44.0**	**+1.0**
MTVR				S	**Sn**	**15 55 17.7**	**-1.1**
GRL	**Gorelyy**	**3.16**	**6**	*i* P	**Pn**	**15 54 45.3**	**+1.5**
GRL				*e*S	**Sn**	**15 55 21.4**	**+1.2**
GRL	**Gorelyy**	**3.16**	**6**	PN	**Pn**	**15 54 45.3**	**+1.5**
GRL				S	**Sn**	**15 55 21.4**	**+1.2**
KRMR	**Karymshinskiy**	**3.44**	**6**	*e*P	**Pn**	**15 54 49.4**	**+1.9**
KRMR				*e*S	**Sn**	**15 55 28.8**	**+1.9**
KRMR	**Karymshinskiy**	**3.44**	**6**	PN	**Pn**	**15 54 49.4**	**+1.9**
KRMR				S	**Sn**	**15 55 28.8**	**+1.9**
APC	**Apacha**	**3.52**	**357**	*e*P	**Pn**	**15 54 50.4**	**+1.9**
APC	**Apacha**	**3.52**	**357**	PN	**Pn**	**15 54 50.4**	**+1.9**
PET	**Petropavlovsk**	**3.68**	**11**	*e*Pn	**Pn**	**15 54 51.5**	**+0.7**
PET				*e*Sn	**Sn**	**15 55 33.0**	**+0.1**
PET	**Petropavlovsk**	**3.68**	**11**	*i* P	**Pn**	**15 54 52.0**	**+1.1**
PET				*e*S	**Sn**	**15 55 33.0**	**+0.1**
PET	**Petropavlovsk**	**3.68**	**11**	*e*PN	**Pn**	**15 54 51.9**	**+1.1**
PET				*e*S	**Sn**	**15 55 33.0**	**+0.1**
PET				pmax	pmax		
	comp=Z,199nm,0.4s						
PET				pmax	pmax		
	comp=N,539nm,0.5s						
PET				smax	smax		
	comp=N,539nm,0.5s						
PET				smax	smax		
	comp=E,320nm,0.6s						
PET				MLR	MLR		
	comp=Z,700nm,19.0s						
PEA0B	**Petropavlovsk-**	**3.69**	**2**	*e*Pn	**Pn**	**15 54 52.6**	**+1.6**
PEA0B				*e*Sn	Sn	15 55 23.1	-10
PETK	**Petropavlovsk-**	**3.69**	**2**	P	**Pn**	**15 54 52.8**	**+1.8**
	comp=Z,6.9nm,0.3s,baz=166,slow=15,SNR=106						
PETK				S	**Sn**	**15 55 35.7**	**+2.4**
	comp=Z,3.9nm,0.3s,baz=188,slow=18,SNR=3.8						
PETK				LR	LR	15 56 44.7	
	comp=Z,554nm,20.3s,baz=184,slow=46						
PETK	**Petropavlovsk-**	**3.69**	**2**	*e*Pn	**Pn**	**15 54 52.5**	**+1.5**
PETK				*e*Sn	Sn	15 55 23.5	-10
PETK				S	**Sn**	**15 55 35.7**	**+2.4**
PEA1	**Petropavlovsk-**	**3.70**	**2**	*e*Pn	**Pn**	**15 54 52.8**	**+1.7**
PEA1				*e*Sn	**Sn**	**15 55 35.7**	**+2.3**
PEA1				*e*		15 56 44.7	
DALK	**Dalny**	**3.70**	**12**	*e*P	**Pn**	**15 54 52.3**	**+1.2**
DALK				*e*S	**Sn**	**15 55 33.4**	**0.0**
DALK	**Dalny**	**3.70**	**12**	PN	**Pn**	**15 54 52.3**	**+1.2**
DALK				S	**Sn**	**15 55 33.4**	**0.0**
UGLR	**Uglovaya**	**3.88**	**12**	*i* P	**Pn**	**15 54 55.7**	**+2.0**
UGLR	**Uglovaya**	**3.88**	**12**	PN	**Pn**	**15 54 55.7**	**+2.0**
AVH	**Avacha**	**3.93**	**11**	*i* P	**Pn**	**15 54 56.5**	**+2.2**
AVH				*e*S	**Sn**	**15 55 41.8**	**+2.7**
AVH	**Avacha**	**3.93**	**11**	PN	**Pn**	**15 54 56.5**	**+2.2**
AVH				S	**Sn**	**15 55 41.8**	**+2.7**
NLC	**Nalytchevo**	**3.93**	**16**	*e*P	**Pn**	**15 54 54.1**	**-0.1**
NLC				*e*S	**Sn**	**15 55 37.0**	**-2.0**
NLC	**Nalytchevo**	**3.93**	**16**	PN	**Pn**	**15 54 54.1**	**-0.1**
NLC				S	**Sn**	**15 55 37.0**	**-2.0**
SMAR	**Somma**	**3.93**	**12**	*i* P	**Pn**	**15 54 55.9**	**+1.4**
SMAR	**Somma**	**3.93

USA0B	**Ussuriysk Arra**	**18.18**	**263**	*e*P		**P**	**15 58 04.9**	**-0.8**
	comp=E,23nm,1.4s								
USRK	**Ussuriysk Ar.**	**18.18**	**263**	P		**P**	**15 58 03.8**	**-1.9**
	comp=E,0.2nm,0.3s,baz=63,slow=11,SNR=11								
VLA	**Vladivostok**	**18.74**	**260**⇑	*e*P		**P**	**15 58 11.3**	**-0.5**
MJA0	**Matsu Arr-Jizo**	**19.01**	**235**	*e*P		**Pn**	**15 58 17.0**	**+1.2**
MJB9	**Matsu-Tunnel**	**19.03**	**235**	*e*P		**Pn**	**15 58 17.0**	**+1.0**
	comp=E,12nm,0.9s								
MAJO	**Matsushiro**	**19.03**	**235**	*e*P		**P**	**15 58 14.7**	**-0.3**
MAJO				*e*Pn		**Pn**	**15 58 17.0**	**+0.9**
MAJO	**Matsushiro**	**19.03**	**235**⇑	*e*P		**Pn**	**15 58 17.0**	**+0.9**
MAJO				pmax		pmax			
	comp=Z,59nm,2.6s								
MJAR	**Matsushiro Arr**	**19.03**	**235**	P		**P**	**15 58 14.7**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=22,slow=9.1,SNR=9.1								
BILL	**Bilibino**	**19.18**	**10**	*e*P		**Pn**	**15 58 17.1**	**-0.5**
	comp=Z,9.9nm,1.1s								
BILL	**Bilibino**	**19.18**	**10**	*i* P		**P**	**15 58 16.3**	**-0.2**
BILL				pmax		pmax			
	comp=Z,9.0nm,1.2s								
BILL				MLR		MLR			
	comp=Z,171nm,19.0s								
YAK	**Yakutsk**	**19.92**	**320**	P		**P**	**15 58 22.0**	**-2.5**
	comp=Z,0.0nm,0.3s,baz=28,slow=3.4,SNR=11								
YAK				LR		LR	16 06 19.3		
	comp=Z,114nm,19.1s,baz=94,slow=38								
YAK	**Yakutsk**	**19.92**	**320**	*e*P		**P**	**15 58 21.0**	**-3.5**
	comp=Z,29nm,1.0s								
YAK	**Yakutsk**	**19.92**	**320**	*e*P		**P**	**15 58 20.8**	**-3.7**
YAK				pmax		pmax			
	comp=Z,26nm,1.0s								
YAK				pmax		pmax			
	comp=N,5.0nm,1.3s								
YAK				pmax		pmax			
	comp=E,12nm,1.3s								
KSRS	**Korea Array**	**24.41**	**252**	P		**P**	**15 59 11.7**	**+0.5**
	comp=E,4.2nm,0.7s,baz=47,slow=9.6,SNR=15								
KS01	**Wonju Array Si**	**24.42**	**252**	*e*P		**P**	**15 59 11.3**	**+0.1**
HIA	**Hailar**	**24.43**	**284**	*e*P		**P**	**15 59 08.1**	**-3.2**
	comp=E,4.7nm,0.9s								
HIA	**Hailar**	**24.43**	**284**	*e*P		**P**	**15 59 08.1**	**-3.2**
HIA				pmax		pmax			
	comp=Z,5.0nm,0.9s								
KS15	**Wonju Array Si**	**24.45**	**252**	*e*P		**P**	**15 59 10.9**	**-0.6**
KSAR	**Wonju Array Be**	**24.45**	**252**	P		**P**	**15 59 11.7**	**+0.2**
KSAR	**Wonju Array Be**	**24.45**	**252**	P		**P**	**15 59 11.7**	**+0.2**
ANM	**Nome**	**24.78**	**38**	*e*P		**P**	**15 59 14.3**	**0.0**
	comp=Z,94nm,1.6s								
ANM	**Nome**	**24.78**	**38**	*e*P		**P**	**15 59 14.3**	**0.0**
ANM				pmax		pmax			
	comp=Z,94nm,1.6s								
CBIJ	**Chichi jima**	**25.23**	**214**	*e*P		**P**	**15 59 20.0**	**+1.4**
	comp=Z,91nm,1.0s								
JCJ	**Chichijima**	**25.23**	**214**	LR		LR	16 10 39.0		
	comp=Z,111nm,19.1s,baz=52,slow=40								
JNU	**Nakatsue**	**25.60**	**240**	P		**P**	**15 59 23.7**	**+1.7**
	comp=Z,2.2nm,0.5s,baz=49,slow=2.9,SNR=4.9								
JNU				LR		LR	16 09 20.6		
	comp=Z,48nm,20.5s,baz=63,slow=36								
JNU	**Nakatsue**	**25.60**	**240**	*e*P		**P**	**15 59 25.4**	**+3.3**
	comp=Z,25nm,1.4s								
TIXI	**Tiksi**	**25.86**	**340**	LR		LR	16 10 41.0		
	comp=Z,69nm,19.8s,baz=208,slow=39								
TIXI	**Tiksi**	**25.86**	**340**⇓	*e*P		**P**	**15 59 21.9**	**-2.0**
TIXI				pmax		pmax			
	comp=Z,5.0nm,0.9s								
H11N2	**WAKE ISLAND Hy**	**30.57**	**162**	T		T	16 33 43.1		
	baz=348,slow=76,SNR=25								
H11N3	**WAKE ISLAND Hy**	**30.58**	**162**	T		T	16 34 14.0		
	baz=348,slow=76,SNR=26								
H11N1	**WAKE ISLAND Hy**	**30.58**	**162**	T		T	16 34 14.1		
	baz=348,slow=76,SNR=22								
CNPM	**China Poot**	**30.70**	**51**	*e*P		**P**	**16 00 09.8**	**+2.5**
	comp=Z,38nm,1.3s								
TRF	**Thorofare Moun**	**31.09**	**43**	*e*P		**P**	**16 00 11.9**	**+1.0**
	comp=Z,25nm,2.0s								
H11S1	**WAKE ISLAND Hy**	**31.72**	**163**	T		T	16 34 48.2		
	baz=347,slow=76,SNR=43								
H11S3	**WAKE ISLAND Hy**	**31.73**	**163**	T		T	16 34 48.7		
	baz=347,slow=76,SNR=65								
H11S2	**WAKE ISLAND Hy**	**31.74**	**163**	T		T	16 34 49.2		
	baz=347,slow=76,SNR=35								
TOLK	**Toolik Lake Re**	**31.91**	**34**	*e*P		**P**	**16 00 18.1**	**+0.3**
	comp=Z,14nm,1.7s								
SML	**Sawmill**	**32.00**	**47**	*e*P		**P**	**16 00 20.7**	**+2.0**
	comp=Z,14nm,0.6s								
SML	**Sawmill**	**32.00**	**47**	*e*P		**P**	**16 00 20.7**	**+2.0**
SML				pmax		pmax			
	comp=Z,14nm,0.6s								
IL1	**Eielson Array**	**32.62**	**41**	*e*P		**P**	**16 00 25.4**	**+1.4**
ILAR	**Eielson Array**	**32.62**	**41**	P		**P**	**16 00 25.0**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=259,slow=7.5,SNR=4.6								
ILAR				LR		LR	16 13 39.2		
	comp=Z,25nm,20.3s,baz=324,slow=36								
SONM	**Songino Array**	**33.29**	**287**	LR		LR	16 16 14.8		
	comp=Z,36nm,19.3s,baz=316,slow=40								
GUMO	**Guam**	**37.21**	**201**	LR		LR	16 17 03.7		
	comp=Z,16nm,18.2s,baz=134,slow=37								
INK	**Inuvik**	**37.80**	**34**	P		**P**	**16 01 08.5**	**0.0**
	comp=Z,2.6nm,0.9s,baz=290,slow=6.0,SNR=3.4								
INK	**Inuvik**	**37.80**	**34**	*e*P		**P**	**16 01 09.9**	**+1.4**
	comp=Z,20nm,1.8s								
NRIK	**Noril'sk**	**38.05**	**327**	LR		LR	16 17 38.8		
	comp=Z,54nm,18.0s,baz=19,slow=38								
HVS	**Khovu-Aksy**	**39.66**	**298**⇑	*e*P		**P**	**16 01 23.9**	**-0.5**
HVS				pmax		pmax			
	comp=Z,3.0nm,0.7s								
GTA	**Gaotai**	**41.47**	**279**	⇑P		**P**	**16 01 38.8**	**-0.7**
GTA				pP		pP	16 01 44.3	-6.3	
GTA				sP		sP	16 01 47.6	-7.6	
GTA				pmax		pmax			
	comp=Z,2.0nm,1.1s								
ZAA1	**Zalesovo Array**	**43.46**	**305**	*e*P		**P**	**16 01 53.8**	**-1.6**
ZAA0	**Zalesovo Array**	**43.46**	**305**	*e*P		**P**	**16 01 54.0**	**-1.4**
	comp=Z,2.3nm,1.0s								
ZALV	**Zalesovo Beam**	**43.46**	**305**	P		**P**	**16 01 53.8**	**-1.6**
	comp=Z,1.5nm,0.3s,baz=60,slow=6.3,SNR=8.1								
ZALV	**Zalesovo Beam**	**43.46**	**305**	*e*P		**P**	**16 01 54.1**	**-1.3**
DGZ	**Jazzator, Alta**	**43.90**	**298**	*de*P		**P**	**16 01 59.0**	**-0.2**
DGZ				pmax		pmax			
	comp=Z,2.0nm,0.9s								
NVS	**Novosibirsk**	**43.93**	**307**	*i* P		**P**	**16 01 58.4**	**-0.7**
RES	**Resolute Bay**	**47.34**	**20**	*e*P		**P**	**16 02 28.1**	**+2.3**
RES	**Resolute Bay**	**47.34**	**20**	*e*P		**P**	**16 02 28.1**	**+2.3**
MLH	**Mauna Loa**	**47.90**	**111**	*e*P		**P**	**16 02 33.8**	**+2.7**
	comp=Z,389nm,1.7s								
MK31	**Makanchi Array**	**48.33**	**297**	*e*P		**P**	**16 02 32.4**	**-1.5**
MK31	**Makanchi Array**	**48.33**	**297**	*e*P		**P**	**16 02 32.4**	**-1.5**
MK32	**Makanchi Array**	**48.33**	**297**	*e*P		**P**	**16 02 32.8**	**-1.1**
MKAR	**Makanchi Array**	**48.33**	**297**	P		**P**	**16 02 32.8**	**-1.1**
	comp=Z,1.5nm,0.4s,baz=61,slow=7.6,SNR=1.5								
KURK	**Kurchatov**	**48.34**	**303**	*e*P		**P**	**16 02 32.5**	**-1.3**
	comp=Z,4.6nm,0.6s								
KURK	**Kurchatov**	**48.34**	**303**	*de*P		**P**	**16 02 32.7**	**-1.1**
KURK				*i* *PP		**pP**	**16 02 46.9**	**+1.8**
KURK				pmax		pmax			
	comp=Z,5.0nm,1.0s								
DAV	**Davao City (W)**	**50.00**	**223**	LR		LR	16 20 17.1		
	comp=Z,23nm,21.9s,baz=268,slow=32								
BRVK	**Borovoye**	**51.47**	**310**	*e*P		**P**	**16 02 56.5**	**-1.0**
	comp=Z,6.6nm,0.8s								
BRVK	**Borovoye**	**51.47**	**310**⇓	*e*P		**P**	**16 02 56.5**	**-1.0**
BRVK				pmax		pmax			
	comp=Z,5.0nm,0.8s								
JAY	**Jayapura**	**53.73**	**201**	P		**P**	**16 03 15.3**	**+0.6**
	comp=Z,12nm,0.9s,baz=15,slow=12,SNR=3.5								
JAY				LR		LR	16 23 47.5		
	comp=Z,27nm,21.3s,baz=233,slow=33								
ARU	**Arti**	**55.01**	**318**⇓	*e*P		**P**	**16 03 22.2**	**-1.4**
ARU				pmax		pmax			
	comp=Z,8.0nm,1.3s								
CHTO	**Chiang Mai**	**55.56**	**258**	*e*P		**P**	**16 03 28.4**	**+0.4**
	comp=Z,3.3nm,0.7s								
CHTO	**Chiang Mai**	**55.56**	**258**	*e*P		**P**	**16 03 28.4**	**+0.4**
CHTO				pmax		pmax			
	comp=Z,3.0nm,0.7s								
CM31	**Chiang Mai Arr**	**55.83**	**258**	*e*P		**P**	**16 03 30.1**	**+0.2**
CMAR	**Chiang Mai Arr**	**55.83**	**258**	P		**P**	**16 03 30.9**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=30,slow=7.4,SNR=9.8								
CMAR	**Chiang Mai Arr**	**55.83**	**258**	*e*P		**P**	**16 03 33.5**	**+3.6**
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
CM01	**Chiang Mai Arr**	**55.84**	**258**	*e*P		**P**	**16 03 30.2**	**+0.2**
ARA0	**ARCESS Array S**	**56.27**	**342**	*e*P		**P**	**16 03 31.2**	**-1.2**
ARCES	**ARCESS Array B**	**56.27**	**342**	P		**P**	**16 03 31.2**	**-1.2**
	comp=Z,2.9nm,0.7s,baz=47,slow=7.9,SNR=9.0								
ARCES	**ARCESS Array B**	**56.27**	**342**	*e*P		**P**	**16 03 30.6**	**-1.8**
ARCES				pmax		pmax			
	comp=Z,3.0nm,0.7s								
SUMG	**Summit**	**57.79**	**6**	*i* P		P	16 03 59.8	+16	
ULM	**Lac du Bonnet**	**62.57**	**44**	LR		LR	16 34 25.5		
	comp=Z,28nm,18.1s,baz=308,slow=39								
FIA0	**FINESS Array S**	**62.83**	**336**	*e*P		**P**	**16 04 16.5**	**-1.2**
FIA0	**FINESS Array S**	**62.83**	**336**	*e*P		**P**	**16 04 16.5**	**-1.2**
FINES	**FINESS Array B**	**62.83**	**336**	P		**P**	**16 04 16.5**	**-1.2**
	comp=Z,0.9nm,0.4s,baz=38,slow=7.2,SNR=5.4								
FINES	**FINESS Array B**	**62.83**	**336**	*e*P		**P**	**16 04 17.2**	**-0.5**
FINES				pmax		pmax			
	comp=Z,1.0nm,0.4s								
NB200	**NORSAR Array S**	**66.59**	**343**	*e*P		**P**	**16 04 42.3**	**0.0**
NB200				*e*			16 37 16.3		
NOA	**NORSAR Array B**	**66.59**	**343**	P		**P**	**16 04 42.3**	**0.0**
	comp=Z,5.9nm,0.9s,baz=24,slow=6.6,SNR=13								
NOA				LR		LR	16 37 16.3		
	comp=Z,20nm,18.2s,baz=0.0,slow=39								
GEYT	**Alibeck**	**67.70**	**303**	P		**P**	**16 04 49.4**	**-0.2**
	comp=Z,2.3nm,1.0s,baz=343,slow=3.6,SNR=3.9								
AKASG	**Malin Array Be**	**70.90**	**328**	P		**P**	**16 05 08.3**	**-0.8**
	comp=Z,2.4nm,0.5s,baz=32,slow=6.2,SNR=13								
AKASG				LR		LR	16 39 21.2		
	comp=Z,38nm,18.1s,baz=325,slow=38								
AKBB	**Malin Array Si**	**70.90**	**328**	*e*P		**P**	**16 05 08.3**	**-0.8**
AKBB				*e*			16 39 21.2		
KIEV	**Kiev**	**70.91**	**328**	*e*P		**P**	**16 05 08.2**	**-1.0**
	comp=Z,9.4nm,0.9s								
KIEV	**Kiev**	**70.91**	**328**	*e*P		**P**	**16 05 08.2**	**-1.0**
KIEV				pmax		pmax			
	comp=Z,9.0nm,0.9s								
KIV	**Kislovodsk**	**70.98**	**316**	*e*P		**P**	**16 05 07.9**	**-2.0**
KIV				pmax		pmax			
	comp=Z,9.0nm,1.1s								
KBZ	**Khabaz**	**71.06**	**316**	P		**P**	**16 05 10.2**	**0.0**
	comp=Z,6.1nm,0.9s,baz=92,slow=4.6,SNR=10								
KBZ				LR		LR	16 38 11.3		
	comp=Z,45nm,18.2s,baz=10,slow=37								
WB2	**Warramunga Arr**	**72.05**	**203**	*e*P		**P**	**16 05 15.8**	**-0.6**
WR1	**Warramunga Arr**	**72.06**	**203**	*e*P		**P**	**16 05 16.8**	**+0.4**
	comp=Z,5.8nm,1.0s								
WRA	**Warramunga Arr**	**72.06**	**203**	P		**P**	**16 05 16.8**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=18,slow=6.2,SNR=17								
WRA	**Warramunga Arr**	**72.06**	**203**	*e*P		**P**	**16 05 17.2**	**+0.8**
WRA				pmax		pmax			
	comp=Z,3.0nm,0.8s								
AKH	**Akhalkalaki**	**72.59**	**314**	*e*P		**P**	**16 05 18.8**	**-0.9**
	comp=Z,12nm,1.1s								
AKH	**Akhalkalaki**	**72.59**	**314**	*e*P		**P**	**16 05 18.8**	**-0.9**
AKH				pmax		pmax			
	comp=Z,12nm,1.1s								
FITZ	**Fitzroy Crossi**	**72.92**	**212**	P		**P**	**16 05 22.8**	**+1.3**
	comp=Z,2.7nm,0.7s,baz=348,slow=4.1,SNR=6.1								
FITZ	**Fitzroy Crossi**	**72.92**	**212**	*e*P		**P**	**16 05 22.3**	**+0.8**
	comp=Z,3.5nm,0.8s								
LTX	**Lajitas**	**73.65**	**64**	*e*P		**P**	**16 05 27.4**	**+1.4**
LTX	**Lajitas**	**73.65**	**64**	*e*P		**P**	**16 05 27.5**	**+1.4**
TXAR	**Lajitas Array**	**73.65**	**64**	P		**P**	**16 05 27.4**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=300,slow=4.0,SNR=9.0								
BUR08	**Bucovina Ar. S**	**74.88**	**329**	*e*P		**P**	**16 05 32.7**	**-0.3**
BUR04	**Bucovina Ar. S**	**74.90**	**329**	*e*P		**P**	**16 05 32.2**	**-0.8**
CLL	**Collm**	**75.17**	**338**	*e*P		**P**	**16 05 34.0**	**-0.4**
CLL	**Collm**	**75.17**	**338**	*e*P		**P**	**16 05 34.0**	**-0.4**
MORC	**Moravsky Berou**	**75.37**	**334**	*e*P		**P**	**16 05 36.9**	**+1.3**
	comp=Z,6.3nm,1.0s								
MORC	**Moravsky Berou**	**75.37**	**334**	*e*P		**P**	**16 05 36.9**	**+1.3**
MORC				pmax		pmax			
	comp=Z,6.0nm,1.0s								
LANS	**Liptovska Anna**	**75.38**	**333**	*e*P		**P**	**16 05 37.7**	**+2.0**
LANS	**Liptovska Anna**	**75.38**	**333**	*e*P		**P**	**16 05 37.7**	**+2.0**
O49A	**Covington**	**75.48**	**44**	*e*PcP		**PcP**	**16 05 47.7**	**-1.7**
AS31	**Alice Springs**	**75.73**	**202**	*e*P		**P**	**16 05 39.3**	**+1.5**
	comp=Z,0.9nm,1.1s								
ASAR	**Alice Springs**	**75.73**	**202**	P		**P**	**16 05 39.1**	**+1.2**
	comp=Z,1.3nm,0.7s,baz=14,slow=5.5,SNR=26								
VYHS	**Vyhne**	**76.15**	**333**	*e*P		**P**	**16 05 40.1**	**0.0**
VYHS	**Vyhne**	**76.15**	**333**	*e*P		**P**	**16 05 40.1**	**0.0**
KHC	**Kasperske Hory**	**77.03**	**337**	*e*P		**P**	**16 05 46.0**	**+0.9**
KHC	**Kasperske Hory**	**77.03**	**337**	*e*P		**P**	**16 05 46.0**	**+0.9**
GERES	**GERESS Array B**	**77.26**	**336**	P		**P**	**16 05 46.9**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=37,slow=6.9,SNR=5.6								
GERES	**GERESS Array B**	**77.26**	**336**	*e*P		**P**	**16 05 47.6**	**+1.1**
SWET	**Sewanee**	**78.72**	**48**	*e*P		**P**	**16 05 52.7**	**-2.0**

MEX 08 15:54:23.7±0.8, 15°.83N×93°.89W, h86km±9km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**0.66**	**100**	*e*P		Pn		15 54 37.9	-1.5
PCIG				*i* S		Sn		15 54 49.8	-1.4
TGIG		**1.20**	**38**	*e*P		Pn		15 54 44.0	-1.7
TGIG				*i* S		Sn		15 54 59.5	-2.5
CMIG	**Matias Romero**	**1.58**	**323**	*e*P		Pn		15 54 49.8	-0.5
CMIG				*i* S		Sn		15 55 09.3	-1.1
CCIG	**Comitan**	**1.75**	**75**	*e*P		Pn		15 54 51.4	-1.2
CCIG				*e*S		Sn		15 55 13.2	-1.4
THIG		**1.81**	**120**	*e*P		Pn		15 54 52.0	-1.3
THIG				*i* S		Sn		15 55 14.3	-1.5

DJA 08 15:54:29.9±0.8, 11°.5±6°.×11°.4E±°, h10km, M3.5/7, MLv3.5/7, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**2.07**	**33**	P		Pn		15 55 04.2	-0.5
IGBI				S		Sn		15 55 30.6	0.0
JAGI	**Jajag, Banyuwa**	**2.09**	**4**	P		Pn		15 55 04.9	-0.1
JAGI				S		Sn		15 55 32.5	+1.3
DNP	**Denpasar**	**2.22**	**32**	P		Pn		15 55 06.6	-0.2
SRBI	**Singaraja**	**2.74**	**26**	P		Pn		15 55 15.2	+1.2
BLJI	**Banyuglugur**	**2.84**	**352**	P		Pn		15 55 16.2	+0.9
PWJI	**Pagerwojo**	**3.34**	**319**	P		Pn		15 55 20.0	-2.2
PWJI				S		Sn		15 56 00.0	-2.0
TWSI	**Taliwang, Sumb**	**3.37**	**58**	P		Pn		15 55 22.0	-0.6
PLAI	**Plampang**	**4.10**	**65**	P		Pn		15 55 31.3	-1.3

*BER **08** 16:01:24.3±1.6, 80°.52N×0°.89E, h10km, ML2.4, ML3.0(NAO)*
ISC 08 16:01:25.4±3.6, 80°.33N±0°.09×1°.6E±0°.2, h10km, n11, σ1°12/20, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**2.35**	**122**	Pn		Pn		**16 02 03.4**	**-0.6**
KBS				Sn		Sn		**16 02 32.0**	**-0.8**
KBS	**Kingsbay**	**2.35**	**122**	*e*P		Pn		**16 02 03.4**	**-0.6**
KBS				*e*S		Sn		**16 02 32.1**	**-0.7**
BRBA	**Barentsburg A**	**3.30**	**127**	Pn		Pn		**16 02 17.9**	**+0.9**
BRBA				Sn		Sn		**16 02 58.8**	**+2.7**
BRBA	**Barentsburg A**	**3.30**	**127**	Pn		Pn		**16 02 17.9**	**+0.9**
BRBA				Sn		Sn		**16 02 58.8**	**+2.7**
SPA0	**Spitsbergen Ar**	**3.51**	**121**	Pn		Pn		**16 02 20.1**	**+0.1**
	baz=325,slow=11								
SPA0				Sn		Sn		**16 03 01.4**	**-0.1**
	baz=325,slow=37								
SPA0	**Spitsbergen Ar**	**3.51**	**121**	*e*P		Pn		**16 02 20.1**	**+0.1**
SPA0				*e*S		Sn		**16 03 01.3**	**-0.1**
SPA0				IAML				16 03 06.5	
	comp=Z,14nm,0.5s								
HSP	**Hornsund**	**4.32**	**133**	Pn		Pn		**16 02 30.8**	**-0.2**
HSP				Sn		Sn		**16 03 20.9**	**-0.4**
HSPB	**Hornsund (broa**	**4.32**	**133**	*e*P		Pn		**16 02 31.2**	**+0.2**
HSPB				*e*S		Sn		**16 03 20.8**	**-0.6**
HSPB				IAML				16 03 26.6	
	comp=Z,18nm,0.6s								
ZFI2	**Zemlya Franca-**	**7.42**	**64**	*i* P		Pn		**16 03 14.5**	**+1.0**
ZFI2				*i* S		Sn		**16 04 36.7**	**-0.8**
ARA0	**ARCESS Array S**	**12.32**	**138**	Pn		Pn		**16 04 19.8**	**-0.8**
	baz=339,slow=7.9								
ARA0	**ARCESS Array S**	**12.32**	**138**	Pn		Pn		**16 04 19.8**	**-0.8**
	baz=339,slow=7.9								

MEX 08 16:02:46.9±0.7, 15°.98N×93°.75W, h94km±7km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**0.58**	**118**	*e*P		Pn		16 03 01.0	-1.7
PCIG				*i* S		Sn		16 03 13.2	-1.4
TGIG		**1.00**	**37**	*e*P		Pn		16 03 05.4	-1.6
TGIG				*i* S		Sn		16 03 19.9	-2.1
CMIG	**Matias Romero**	**1.55**	**316**	*e*P		Pn		16 03 12.3	-1.1
CMIG				*i* S		Sn		16 03 32.7	-0.9
CCIG	**Comitan**	**1.58**	**79**	*e*P		Pn		16 03 13.2	-0.8
CCIG				*i* S		Sn		16 03 34.0	-0.6

*ISCJB **08** 16:09:22.7±0.7, 5°.70S±0°.06×147°.45E±0°.08, h170km, mb4.8/13, Error ellipse: s-maj=11.9km s-min=9.0km az=172.3*
*NEIC **08** 16:09:23.0±1.8, 5°.59S×147°.53E, h163km±14km, mb4.8/14, Error ellipse: s-maj=16.0km s-min=10.9km az=210.0*
*IDC **08** 16:09:23.4±5.9, 5°.76S×147°.62E, h160km±56km, mb3.8/2, mb1 3.9/3, mb1mx3.2/32, mbtmp4.2/3, Error ellipse: s-maj=82.0km s-min=46.1km az=130.0*
ISC 08 16:09:23.9±1.0, 5°.74S±0°.09×147°.5E±0°.1, h170km, n26, σ1°49/27, mb4.8/13, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.66**	**185**	P		P	**Pn**	**16 10 20.1**	**-0.3**
	0.9nm,0.3s,baz=11,slow=4.4,SNR=6.9								
PMG				S			**Sn**	**16 11 03.1**	**-1.4**
	3.2nm,0.3s,baz=85,slow=17,SNR=6.5								
COEN	**Coen**	**9.20**	**207**	*e*P		n	**Pn**	**16 11 35.8**	**+2.7**
COEN				*e*S		n	**Sn**	**16 13 13.4**	**-2.2**
SAUI	**Saumlaki**	**16.20**	**261**	*e*P		n	**P**	**16 13 04.1**	**+1.9**
	115nm,0.9s								
MTN	**Manton Dam**	**17.59**	**245**	*e*P			**Pn**	**16 13 17.1**	**-1.8**
	20nm,1.5s								
WRAB	**Tennant Creek**	**19.02**	**221**	*e*P			**Pn**	**16 13 34.4**	**-1.3**
	6.9nm,0.6s								
WB2	**Warramunga Arr**	**19.03**	**221**	*e*P			**P**	**16 13 32.5**	**-0.6**
WR1	**Warramunga Arr**	**19.04**	**221**	*e*P			**Pn**	**16 13 34.6**	**-1.3**
	5.8nm,0.7s								
WRA	**Warramunga Arr**	**19.04**	**221**	P			**Pn**	**16 13 34.6**	**-1.3**
	0.8nm,0.3s,baz=46,slow=11,SNR=65								
AS01	**Alice Springs**	**22.07**	**215**	*e*P			**P**	**16 14 06.0**	**+0.6**
AS31	**Alice Springs**	**22.10**	**215**	*e*P			**P**	**16 14 06.8**	**+1.2**
	1.4nm,0.6s								
ASAR	**Alice Springs**	**22.10**	**215**	P			**P**	**16 14 07.2**	**+1.5**
	2.6nm,0.5s,baz=50,slow=8.5,SNR=187								
SOEI	**Soe**	**23.33**	**259**	*e*P			**P**	**16 14 20.6**	**+3.3**
	52nm,1.9s								
FITZ	**Fitzroy Crossi**	**24.60**	**238**	P			**P**	**16 14 29.4**	**+0.8**
	2.9nm,0.4s,baz=53,slow=9.5,SNR=31								
FITZ	**Fitzroy Crossi**	**24.60**	**238**	*e*P			**P**	**16 14 29.7**	**+1.1**
	6.0nm,1.0s								
FORT	**Forrest**	**30.87**	**214**	*e*P			**P**	**16 15 24.2**	**-0.1**
	20nm,1.2s								
MBWA	**Marble Bar**	**30.94**	**238**	*e*P			**P**	**16 15 25.3**	**+0.2**
	23nm,1.3s								
NACB	**Ninganchiao**	**38.99**	**321**	*e*P			**P**	**16 16 32.9**	**-1.0**
	17nm,0.8s								
TPUB	**Ta-pu**	**38.99**	**319**	*e*P			**P**	**16 16 32.7**	**-1.3**
	134nm,2.0s								
CISI	**Cisompet, Garu**	**39.42**	**265**	*e*P			**P**	**16 16 36.6**	**-1.1**
	55nm,1.3s								
RAO	**Raoul Island**	**40.19**	**130**	*e*P			**P**	**16 16 43.0**	**-0.8**
	2μm,1.6s								
KHZ	**Kahutara**	**43.23**	**152**	*e*P			**P**	**16 17 09.3**	**+1.0**
	35nm,1.1s								
BFZ	**Birch Farm**	**43.30**	**148**	*e*P			**P**	**16 17 10.5**	**+1.6**
	105nm,1.7s								
MQZ	**McQueen's Vall**	**43.83**	**154**	*e*P			**P**	**16 17 14.4**	**+1.4**
	76nm,1.4s								
LPM	**Los Pinos Moun**	**106.34**	**56**	*e*Sdif			Sdif	16 35 02.7	-0.8
TORD	**Torodi Ar. Bea**	**145.47**	**285**	PKPbc			**PKPab**	**16 28 43.1**	**-0.5**
	baz=72,slow=4.7								
TOA1	**Torodi Ar. Sit**	**145.47**	**285**	*e*PKPdf			**PKPab**	**16 28 43.1**	**-0.5**

MEX 08 16:16:26.4±0.6, 13°.97N×92°.26W, h70km±17km, MD3.8, Off coast of Chiapas

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

YUK	**Yuzh-Kuril'sk**	**1.84**	**274**	*d*	*i*PN	**Pn**	**16 26 45.6**	**+0.3**
YUK					*i* S	**Sn**	**16 27 07.1**	**-0.4**
YUK					pmax	pmax		
	comp=N,166nm,0.1s							
YUK					pmax	pmax		
	comp=E,271nm,0.1s							
YUK					pmax	pmax		
	comp=Z,2μm,0.1s							
YUK					smax	smax		
	comp=N,2μm,0.2s							
YUK					smax	smax		
	comp=E,4μm,0.4s							
LAGR	**Lagunnoye**	**1.90**	**275**	*i*	P	**Pn**	**16 26 46.0**	**0.0**
LAGR					AMB	AMB	16 26 48.0	
	comp=E,160nm,0.3s							
LAGR					AMB	AMB	16 26 48.0	
	comp=E,180nm,0.3s							
LAGR					*e*S	**Sn**	**16 27 08.0**	**-0.8**
LAGR					A	A	16 27 13.0	
	comp=E,490nm,0.4s							
LAGR					A	A	16 27 13.0	
	comp=E,689nm,0.4s							
LAGR	**Lagunnoye**	**1.90**	**275**	⇓	*i*PN	**Pn**	**16 26 46.4**	**+0.4**
LAGR					*e*S	**Sn**	**16 27 08.0**	**-0.8**
LAGR					pmax	pmax		
	comp=E,162nm,0.1s							
LAGR					pmax	pmax		
	comp=Z,1μm,0.1s							
LAGR					smax	smax		
	comp=N,5μm,0.2s							
LAGR					smax	smax		
	comp=E,683nm,0.2s							
GRPR	**Tuman**	**1.91**	**273**	*i*	P	**Pn**	**16 26 46.0**	**-0.2**
GRPR					AMB	AMB	16 26 47.0	
	comp=E,170nm,0.2s							
GRPR					AMB	AMB	16 26 47.0	
	comp=E,50nm,0.2s							
GRPR					AMB	AMB	16 26 47.0	
	comp=E,60nm,0.2s							
GRPR					*e*S	**Sn**	**16 27 08.0**	**-1.0**
GRPR					A	A	16 27 11.0	
	comp=E,310nm,0.2s							
GRPR					A	A	16 27 11.0	
	comp=E,189nm,0.2s							
GRPR	**Tuman**	**1.91**	**273**	⇑	*i*PN	**Pn**	**16 26 46.4**	**+0.2**
GRPR					*e*S	**Sn**	**16 27 08.7**	**-0.3**
GRPR					pmax	pmax		
	comp=N,165nm,0.1s							
GRPR					pmax	pmax		
	comp=E,51nm,0.1s							
GRPR					pmax	pmax		
	comp=Z,638nm,0.1s							
GRPR					smax	smax		
	comp=N,3μm,0.1s							
GRPR					smax	smax		
	comp=E,2μm,0.2s							
NEM2	**Nemuro 2**	**2.02**	**255**		P	**Pn**	**16 26 47.4**	**-0.3**
NEM2					*e*S	**Sn**	**16 27 09.9**	**-1.8**
GLVR	**Golovnino**	**2.10**	**266**	*i*	P	**Pn**	**16 26 49.0**	**+0.2**
GLVR					AMB	AMB	16 26 50.0	
	comp=E,150nm,0.2s							
GLVR					AMB	AMB	16 26 50.0	
	comp=E,20nm,0.2s							
GLVR					*e*S	**Sn**	**16 27 14.0**	**+0.3**
GLVR					A	A	16 27 15.0	
	comp=E,550nm,0.4s							
GLVR					A	A	16 27 15.0	
	comp=E,169nm,0.4s							
GLVR	**Golovnino**	**2.10**	**266**	⇓	*i*PN	**Pn**	**16 26 49.5**	**+0.7**
GLVR					*e*S	**Sn**	**16 27 14.1**	**+0.3**
GLVR					pmax	pmax		
	comp=N,145nm,0.1s							
GLVR					pmax	pmax		
	comp=Z,2μm,0.1s							
GLVR					smax	smax		
	comp=E,2μm,0.2s							
GLVR					smax	smax		
	comp=N,5μm,0.4s							
JRA	**Rausu**	**2.38**	**271**		P	**Pn**	**16 26 53.7**	**+1.2**
JRA					*e*S	**Sn**	**16 27 21.2**	**+0.7**
JKHN	**Kushirohamanak**	**2.52**	**251**		P	**Pn**	**16 26 54.7**	**+0.3**
JKHN					*e*S	**Sn**	**16 27 23.1**	**-0.8**
JNK	**Nakash**	**2.70**	**264**		P	**Pn**	**16 26 57.5**	**+0.5**
JNK					*e*S	**Sn**	**16 27 28.2**	**-0.2**
JAK	**Akkeshi**	**2.86**	**252**		P	**Pn**	**16 26 59.1**	**-0.1**
JAK					*e*S	**Sn**	**16 27 31.1**	**-1.3**
JTKR	**Abashiri--Toko**	**3.25**	**272**		P	**Pn**	**16 27 06.1**	**+1.6**
JAR	**Ashorobuto**	**3.43**	**261**		P	**Pn**	**16 27 08.1**	**+1.1**
JAR					*e*S	**Sn**	**16 27 46.8**	**+0.4**
JCH	**Churui**	**3.92**	**252**		P	**Pn**	**16 27 13.9**	**+0.3**
JCH					*e*S	**Sn**	**16 27 56.7**	**-1.6**
JKA	**Kamikawa-asahi**	**4.20**	**274**	*e*P		**Pn**	**16 27 19.8**	**+2.3**
ASAJ	**Asahikawa**	**4.20**	**274**		P	**Pn**	**16 27 19.8**	**+2.3**
	comp=N,7.7nm,0.3s,baz=188,slow=3.3,SNR=55							
ASAJ					S	Sn	16 28 14.7	+9.4
	comp=N,4.4nm,0.3s,baz=207,slow=32,SNR=3.7							
JFR	**Furan**	**4.30**	**262**		P	**Pn**	**16 27 20.9**	**+2.0**
JNBK	**Urakawa-nobuka**	**4.46**	**250**		P	**Pn**	**16 27 21.3**	**+0.2**
JNBK					*e*S	**Sn**	**16 28 10.6**	**-1.1**
JWK2	**Keihoku**	**4.85**	**289**		P	**Pn**	**16 27 30.2**	**+3.8**
YSS	**Yuzh-Sakhalins**	**5.00**	**309**	*e*P		**Pn**	**16 27 29.3**	**+0.9**
YSS					AMB	AMB	16 27 30.5	
	comp=N,30nm,0.7s							
YSS					AMB	AMB	16 27 30.5	
	comp=N,4μm,0.7s							
YSS					*e*S	**Sn**	**16 28 24.6**	**-0.2**
YSS	**Yuzh-Sakhalins**	**5.00**	**309**	*e*PN		**Pn**	**16 27 29.3**	**+0.9**
YSS					*e*S	**Sn**	**16 28 24.6**	**-0.2**
YSS					pmax	pmax		
	comp=Z,30nm,0.5s							
JEW	**Eniwo**	**5.19**	**260**		P	**Pn**	**16 27 33.3**	**+2.2**
JKB	**Kayabe**	**5.79**	**252**		P	**Pn**	**16 27 40.0**	**+0.7**
JKB					*e*S	**Sn**	**16 28 41.2**	**-3.2**
JOT	**Ohata**	**6.00**	**247**		P	**Pn**	**16 27 42.6**	**+0.4**
SKR	**Severo-Kuril's**	**8.54**	**35**	*e*P		**Pn**	**16 28 17.8**	**+0.9**
SKR	**Severo-Kuril's**	**8.54**	**35**	⇑	*e*PN	**Pn**	**16 28 17.8**	**+0.9**
MAJO	**Matsushiro**	**10.73**	**230**	⇑	*i*PN	**Pn**	**16 28 51.8**	**+4.8**
MJAR	**Matsushiro Arr**	**10.73**	**230**		LR	LR	16 32 33.1	
	comp=Z,27nm,21.8s,baz=40,slow=35							
PETK	**Petropavlovsk-**	**11.04**	**31**		P	**Pn**	**16 28 50.5**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=208,slow=14,SNR=15							
PETK					LR	LR	16 32 50.5	
	comp=Z,73nm,18.2s,baz=136,slow=36							
USRK	**Ussuriysk Ar.**	**11.82**	**277**		P	**Pn**	**16 29 02.8**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=85,slow=16,SNR=4.8							
KLR	**Kul'dur**	**12.62**	**301**		LR	LR	16 33 43.8	
	comp=Z,42nm,19.7s,baz=82,slow=35							
KLR	**Kul'dur**	**12.62**	**301**	*e*P		**Pn**	**16 29 11.8**	**-0.8**
KLR	**Kul'dur**	**12.62**	**301**	⇓	*e*PN	**Pn**	**16 29 11.8**	**-0.8**
MSHR	**Mys Shultsa**	**12.66**	**270**	⇓	*e*PN	**Pn**	**16 29 11.8**	**-1.4**
KSRS	**Korea Array**	**16.81**	**254**		LR	LR	16 36 18.7	
	comp=Z,24nm,18.9s,baz=285,slow=36							
JNU	**Nakatsue**	**17.42**	**238**		LR	LR	16 36 54.7	
	comp=Z,37nm,19.9s,baz=102,slow=36							
SEY	**Seymchan**	**19.17**	**6**		P	**P**	**16 30 32.7**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=198,slow=8.4,SNR=4.9							
YAK	**Yakutsk**	**21.20**	**335**		P	**P**	**16 30 53.9**	**-2.8**
	comp=Z,7.2nm,0.5s,baz=65,slow=1.7,SNR=14							
YAK	**Yakutsk**	**21.20**	**335**	⇑	*i*P	**P**	**16 30 53.9**	**-2.8**
YAK					pmax	pmax		
	comp=Z,5.0nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**28.66**	**141**		T	T	17 03 02.1	
	baz=332,slow=76,SNR=87							
H11N1	**WAKE ISLAND Hy**	**28.67**	**142**		T	T	17 03 04.8	
	baz=332,slow=76,SNR=81							
H11N3	**WAKE ISLAND Hy**	**28.68**	**141**		T	T	17 03 05.1	
	baz=332,slow=76,SNR=79							
SONM	**Songino Array**	**29.24**	**293**		P	**P**	**16 32 13.3**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=80,slow=8.9,SNR=9.2							
SONM					LR	LR	16 43 35.6	
	comp=Z,39nm,18.6s,baz=159,slow=36							
H11S1	**WAKE ISLAND Hy**	**29.65**	**143**		T	T	17 04 17.4	
	baz=333,slow=76,SNR=270							
H11S3	**WAKE ISLAND Hy**	**29.65**	**143**		T	T	17 04 18.1	
	baz=333,slow=76,SNR=214							
H11S2	**WAKE ISLAND Hy**	**29.66**	**143**		T	T	17 04 15.7	
	baz=333,slow=76,SNR=193							
KDAK	**Kodiak Island**	**38.45**	**48**		P	**P**	**16 33 31.9**	**-0.2**
	comp=Z,12nm,1.0s,baz=320,slow=1.7,SNR=7.5							
ILAR	**Eielson Array**	**40.80**	**36**		P	**P**	**16 33 51.1**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=272,slow=8.9,SNR=11							
ILAR	**Eielson Array**	**40.80**	**36**	*e*P		**P**	**16 33 51.5**	**0.0**
ILAR	**Eielson Array**	**40.80**	**36**	*e*P		**P**	**16 33 51.6**	**0.0**
ILAR					pmax	pmax		
	comp=Z,1.0nm,0.6s							
DGZ	**Jazzator, Alta**	**41.12**	**300**	⇑	*e*P	**P**	**16 33 55.4**	**+0.8**
DGZ					pmax	pmax		
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**45.31**	**298**		P	**P**	**16 34 29.0**	**+0.7**
	comp=Z,1.6nm,0.5s,baz=79,slow=9.3,SNR=21							
MKAR					PcP	**PcP**	**16 36 07.1**	**0.0**
	comp=Z,0.4nm,0.6s,baz=84,slow=4.6,SNR=3.0							
MKAR	**Makanchi Array**	**45.31**	**298**	*e*P		**P**	**16 34 27.9**	**-0.4**
MKAR	**Makanchi Array**	**45.31**	**298**	*e*P		**P**	**16 34 27.9**	**-0.4**
MKAR					pmax	pmax		
	comp=Z,2.0nm,0.5s							
INK	**Inuvik**	**45.78**	**30**		P	**P**	**16 34 31.8**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=283,slow=6.4,SNR=9.8							
CMAR	**Chiang Mai Arr**	**48.45**	**255**		P	**P**	**16 34 55.6**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=50,slow=8.4,SNR=3.1							
AAK	**Ala-Archa**	**52.10**	**296**	*e*P		**P**	**16 35 20.0**	**-0.6**
AAK	**Ala-Archa**	**52.10**	**296**	⇑	*e*P	**P**	**16 35 20.0**	**-0.6**
AAK					pmax	pmax		
	comp=Z,7.0nm,1.8s							
YKA	**Yellowknife Ar**	**55.14**	**34**		P	**P**	**16 35 42.3**	**0.0**
	comp=Z,1.1nm,0.6s,baz=300,slow=6.9,SNR=3.6							
YKA	**Yellowknife Ar**	**55.14**	**34**	*e*P		**P**	**16 35 42.4**	**+0.1**
ARCES	**ARCESS Array B**	**59.39**	**340**		P	**P**	**16 36 12.2**	**0.0**
	comp=Z,17nm,1.2s,baz=48,slow=6.9,SNR=4.9							
ARCES	**ARCESS Array B**	**59.39**	**340**		P	**P**	**16 36 12.2**	**0.0**
ARCES					pmax	pmax		
	comp=Z,9.0nm,1.0s							
WRA	**Warramunga Arr**	**64.86**	**195**		P	**P**	**16 36 51.2**	**+1.8**
	comp=Z,0.3nm,0.8s,baz=11,slow=6.6,SNR=3.2							
FINES	**FINESS Array B**	**65.12**	**333**		P	**P**	**16 36 50.0**	**-0.6**
	comp=Z,2.6nm,0.7s,baz=46,slow=7.1,SNR=7.2							
FINES	**FINESS Array B**	**65.12**	**333**	*e*P		**P**	**16 36 50.1**	**-0.5**
FINES	**FINESS Array B**	**65.12**	**333**	*e*P		**P**	**16 36 50.1**	**-0.5**
FINES					pmax	pmax		
	comp=Z,3.0nm,0.7s							
GEYT	**Alibeck**	**65.15**	**299**		P	**P**	**16 36 53.0**	**+1.8**
	comp=Z,1.4nm,0.5s,baz=79,slow=7.8,SNR=4.6							
NVAR	**Mina Array Bea**	**66.70**	**59**		P	**P**	**16 37 02.0**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=307,slow=7.5,SNR=2.9							
ASAR	**Alice Springs**	**68.57**	**194**		P	**P**	**16 37 13.4**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=8.5,slow=6.9,SNR=3.8							
PDAR	**Pinedale Array**	**69.09**	**50**		P	**P**	**16 37 16.1**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=275,slow=1.8,SNR=8.0							
NB2	**NORSAR Subarra**	**69.76**	**339**		P	**P**	**16 37 19.5**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=29,slow=6.5							
NOA	**NORSAR Array B**	**69.76**	**339**		P	**P**	**16 37 19.8**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=31,slow=6.6,SNR=11							
KIV	**Kislovodsk**	**70.32**	**312**	*e*P		**P**	**16 37 21.0**	**-2.7**
KIV					pmax	pmax		
	comp=Z,8.0nm,1.0s							
KBZ	**Khabaz**	**70.36**	**312**		P	**P**	**16 37 24.9**	**+1.1**
	comp=Z,2.8nm,0.9s,baz=64,slow=3.9,SNR=4.9							
AKASG	**Malin Array Be**	**71.97**	**324**		P	**P**	**16 37 32.8**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=40,slow=6.1,SNR=4.6							
SCHQ	**Schefferville**	**77.14**	**20**		P	**P**	**16 38 02.9**	**-0.5**
	comp=Z,3.6nm,0.8s,baz=282,slow=9.3,SNR=2.8							
GERES	**GERESS Array B**	**79.44**	**331**		P	**P**	**16 38 15.4**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=54,slow=5.0,SNR=3.6							
TXAR	**Lajitas Array**	**81.78**	**57**		P	**P**	**16 38 29.3**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=302,slow=4.3,SNR=9.3							
TXAR	**Lajitas Array**	**81.78**	**57**	*e*P		**P**	**16 38 29.5**	**+0.3**
MMAI	**Mount Meron Ar**	**82.09**	**309**		P	**P**	**16 38 31.3**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=30,slow=6.7,SNR=3.6							
CPUP	**Villa Florida**	**152.75**	**58**		PKPbc	**PKPbc**	**16 46 06.5**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=315,slow=5.7,SNR=2.9							

IDC 08 16:51:23.3±47.0, 17°32'S×172°41'W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/37, mbtmp3.8/3, Error ellipse: s-maj=910.5km s-min=190.8km az=82.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.94**	**242**	P		P	16 59 32.0	-0.3
	0.9nm,0.6s,baz=98,slow=7.1,SNR=2.3							
WRA	**Warramunga Arr**	**50.36**	**258**	P		P	17 00 22.0	-0.6
	0.5nm,1.0s,baz=97,slow=7.0,SNR=6.4							
ASAR	**Alice Springs**	**50.45**	**253**	P		P	17 00 23.6	+0.3
	1.6nm,0.5s,baz=89,slow=7.8,SNR=71							

*BJI **08** 17:06:29.0, 7°.95S×128°.99E, h176km, mb4.4/24, mb4.6/14*
*ISCJB **08** 17:06:33.8±0.3, 7°.29S±0°.03×128°.27E±0°.05, h151km, mb4.4/19, Error ellipse: s-maj=6.8km s-min=4.3km az=153.8*
*NEIC **08** 17:06:36.9±0.7, 7°.13S×128°.50E, h166km±8km, mb4.5/10, Error ellipse: s-maj=8.6km s-min=7.2km az=220.0*
*DJA **08** 17:06:37.9±0.3, 7°.5±3°×127°.9E±°, h164km±12km, M4.4/12, mb4.4/7, mB5.0/4, MLv4.4/12, Mw(mB)4.3/4, Mwp7.0/1*
*IDC **08** 17:06:38.7±1.5, 7°.31S×128°.36E, h187km±15km, mb3.8/7, mb1 4.0/12, mb1mx3.7/32, mbtmp4.5/12, Error ellipse: s-maj=15.8km s-min=11.2km az=52.0*

ISC 08 17:06:35.1±0.5, 7°35'S×128°32'E±0°.06, h151km, n60, σ2s22/62, mb4.3/19, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.02**	**102**	*e*Pn		**Pn**	**17 07 24.0**	**+1.3**
SAUI	**Saumlaki**	**3.02**	**102**	P		**Pn**	**17 07 24.8**	**+2.0**
SAUI				S		**Sn**	**17 07 57.8**	**-1.8**
BNDI	**Bandanaira**	**3.22**	**29**	P		**Pn**	**17 07 27.0**	**+1.7**
BNDI				S		**Sn**	**17 08 05.8**	**+1.5**
AAI	**Ambon**	**3.64**	**358**	P		**Pn**	**17 07 33.5**	**+2.8**
MSAI	**Masohi**	**4.03**	**9**	P		**Pn**	**17 07 37.8**	**+2.1**
NLAI	**Namlea**	**4.26**	**343**	P		**Pn**	**17 07 42.8**	**+4.0**
SOEI	**Soe**	**4.66**	**239**	*e*Pn		Pn	17 07 51.5	+7.3
SOEI	**Soe**	**4.66**	**239**	P		Pn	17 07 51.4	+7.2
BATI	**Baumata**	**5.40**	**238**	P		Pn	17 08 00.2	+6.3
	57nm,0.3s,baz=124,slow=3.5,SNR=84							
BATI				S		Sn	17 09 02.3	+6.8
	28nm,0.3s,baz=139,slow=20,SNR=9.7							
BATI	**Baumata**	**5.40**	**238**	P		Pn	17 08 00.3	+6.4
BATI				S		Sn	17 09 03.0	+7.5
SANI	**Sanana**	**5.75**	**336**	P		**Pn**	**17 08 02.2**	**+3.6**
FAKI	**Fak Fak**	**5.89**	**42**	*e*Pn		Pn	17 07 57.1	-3.3
BBSI	**Bau Bau**	**6.00**	**288**	P		Pn	17 08 08.8	+6.9
	5.6nm,0.8s,291nm							
MTN	**Maton Mam**	**6.12**	**153**	*e*Pn		**Pn**	**17 08 05.4**	**+2.0**
EDFI	**Ende, Flores**	**6.71**	**258**	P		Pn	17 08 18.4	+7.0
FITZ	**Fitzroy Crossi**	**11.00**	**193**	P		**Pn**	**17 09 09.8**	**+1.6**
	5.0nm,0.3s,baz=27,slow=10,SNR=183							
FITZ				S		**Sn**	**17 11 08.0**	**-1.9**
	4.5nm,0.3s,baz=99,slow=23,SNR=8.6							
JAY	**Jayapura**	**13.24**	**69**	P		**Pn**	**17 09 39.5**	**+2.0**
	0.8nm,0.3s,baz=66,slow=4.6,SNR=5.8							
WRAB	**Tennant Creek**	**13.81**	**156**	*e*Pn		**Pn**	**17 09 43.7**	**-0.9**
WRA	**Warramunga Arr**	**13.81**	**156**	P		**Pn**	**17 09 42.6**	**-2.0**
	2.7nm,0.3s,baz=330,slow=14,SNR=61							
WRA				S		**Sn**	**17 12 10.2**	**-7.6**
	5.6nm,0.3s,baz=324,slow=23,SNR=12							
WB2	**Warramunga Arr**	**13.82**	**156**	*e*Pn		**Pn**	**17 09 42.7**	**-2.0**
JAGI	**Jajag, Banyuwa**	**14.07**	**265**	*e*Pn		**P**	**17 09 50.2**	**-0.8**
COEN	**Coen**	**16.00**	**115**	*e*Pn		**Pn**	**17 10 12.6**	**+0.7**
	20nm,1.0s							
MBWA	**Marble Bar**	**16.04**	**210**	*e*P		**P**	**17 10 17.4**	**+4.6**
	151nm,1.6s							
AS31	**Alice Springs**	**17.09**	**162**	*e*P		**Pn**	**17 10 27.1**	**+2.0**
	20nm,0.6s							
ASAR	**Alice Springs**	**17.09**	**162**	P		**Pn**	**17 10 26.9**	**+1.8**
	9.4nm,0.3s,baz=341,slow=10,SNR=1910							
ASAR				S		**S**	**17 13 33.3**	**-1.6**
	1.6nm,0.3s,baz=351,slow=29,SNR=7.6							
ASAR				ScP		**ScP**	**17 18 16.8**	**-5.2**
	0.2nm,0.3s,baz=351,slow=1.8,SNR=5.0							
AS01	**Alice Springs**	**17.10**	**162**	*e*P		**Pn**	**17 10 26.8**	**+1.6**
PMG	**Port Moresby**	**18.75**	**98**	P		**P**	**17 10 44.7**	**+2.1**
	1.7nm,0.3s,baz=178,slow=4.2,SNR=7.3							
CTA	**Charters Tower**	**21.51**	**128**	P		**P**	**17 11 12.8**	**+0.6**
	8.5nm,0.7s,baz=299,slow=15,SNR=16							
CTAO	**Charters Tower**	**21.51**	**128**	*e*P		**P**	**17 11 13.0**	**+0.7**
	9.5nm,0.8s							
FORT	**Forrest**	**23.31**	**181**	*e*P		**P**	**17 11 31.4**	**+1.8**
	22nm,0.6s							
BBOO	**Buckleboo**	**26.33**	**165**	*e*P		**P**	**17 11 58.0**	**+1.0**
	11nm,0.8s							
STKA	**Stephens Creek**	**27.36**	**155**	P		**P**	**17 12 06.8**	**+0.6**
	4.9nm,0.5s,baz=331,slow=9.8,SNR=16							
STKA	**Stephens Creek**	**27.36**	**155**	*e*P		**P**	**17 12 06.8**	**+0.6**
	3.5nm,1.4s							
UTTA	**Uttaradit**	**37.06**	**313**	P		**P**	**17 13 31.7**	**+0.9**
	3.2nm,0.7s,36nm							
CMAR	**Chiang Mai Arr**	**38.70**	**312**	P		**P**	**17 13 45.2**	**+0.6**
	1.5nm,0.5s,baz=141,slow=7.3,SNR=20							
CMAR				ScP		**ScP**	**17 19 25.3**	**-2.4**
	0.3nm,0.3s,baz=121,slow=2.1,SNR=2.7							
CMMT	**Chiang Mai**	**38.92**	**312**	P		**P**	**17 13 47.1**	**+0.7**
	5.7nm,0.9s							
CHTO	**Chiang Mai**	**38.92**	**312**	*e*P		**P**	**17 13 46.7**	**+0.3**
	3.7nm,0.9s							
CHTO	**Chiang Mai**	**38.92**	**312**	P		**P**	**17 13 47.2**	**+0.8**
	25nm,0.9s							
NJ2	**Nanjing**	**40.21**	**348**	*e*P		**P**	**17 13 56.1**	**-0.7**
NJ2					pmax	pmax		
	comp=Z,9.0nm,0.5s							
KMI	**Kunming**	**40.77**	**323**	P		**P**	**17 14 02.1**	**+0.3**
KMI					pP	pP	17 14 39.1	+4.1
KMI					pmax	pmax		
	comp=Z,19nm,0.6s							
KMI					pmax	pmax		
	comp=Z,57nm,3.6s							
KSAR	**Wonju Array Be**	**44.56**	**360**	P		**P**	**17 14 30.7**	**-1.2**
KSRS	**Korea Array**	**44.57**	**360**	P		**P**	**17 14 30.7**	**-1.2**
	0.5nm,0.5s,baz=179,slow=9.6,SNR=2.6							
CD2	**Chengdu**	**44.73**	**329**	*e*P		**P**	**17 14 34.0**	**+0.5**
LSA	**Lhasa**	**51.31**	**318**	*e*P		**P**	**17 15 24.8**	**+0.2**
	2.9nm,0.5s							
RAMN	**Ramite**	**52.87**	**312**	*e*P		**P**	**17 15 35.7**	**-0.2**
	16nm,0.4s							
GTA	**Gaotai**	**53.49**	**333**	⇑	P	**P**	**17 15 39.6**	**-0.5**
GTA					pP	pP	17 16 19.5	+4.6
GTA					sP	PcP	17 16 40.3	-4.7
GTA					S	**S**	**17 22 57.9**	**-3.4**
GTA					pmax	pmax		
	comp=Z,4.0nm,0.8s							
GTA					pmax	pmax		
	comp=Z,74nm,5.6s							
GTA					LR	LR		
	comp=N,230nm,20.0s							
GTA					LR	LR		
	comp=E,120nm,19.7s							
GTA					LR	LR		
	comp=Z,110nm,18.1s							
JIRN	**Jiri**	**53.57**	**312**	*e*P		**P**	**17 15 40.8**	**-0.4**
	6.8nm,0.3s							
GUN	**Gumba**	**53.94**	**312**	*e*P		**P**	**17 15 43.4**	**-0.4**
	14nm,0.4s							
PKI	**Pulchoki**	**54.10**	**312**	*e*P		**P**	**17 15 44.2**	**-0.7**
	9.3nm,0.5s							
PKIN	**Phulchoki**	**54.11**	**312**	*e*P		**P**	**17 15 44.1**	**-0.9**
	6.3nm,0.5s							
KKN	**Kakani**	**54.31**	**312**	*e*P		**P**	**17 15 45.9**	**-0.5**
	6.9nm,0.5s							
GKN	**Gorkha**	**54.91**	**312**	*e*P		**P**	**17 15 50.5**	**-0.1**
KOLN	**Koldanda**	**55.55**	**311**	*e*P		**P**	**17 15 54.9**	**-0.4**
PYUN	**Piuthan**	**56.19**	**311**	*e*P		**P**	**17 15 59.4**	**-0.4**
	11nm,0.7s							
SONM	**Songino Array**	**58.26**	**343**	P		**P**	**17 16 13.9**	**+0.1**
	1.8nm,0.8s,baz=164,slow=5.8,SNR=9.3							
WMQ	**Urumqi**	**62.79**	**328**	*e*P		**P**	**17 16 44.5**	**-0.1**
WMQ					pmax	pmax		
	comp=Z,18nm,0.9s							
WMQ					pmax	pmax		
	comp=Z,81nm,4.5s							
WMQ					LR	LR		
	comp=N,58nm,16.5s							
WMQ					LR	LR		
	comp=E,140nm,14.5s							
WMQ					LR	LR		
	comp=Z,62nm,15.5s							
KSH	**Kashi**	**67.16**	**318**	*e*P		**P**	**17 17 13.4**	**+0.4**
KSH					S	**S**	**17 25 48.3**	**-7.2**
KSH					pmax	pmax		
	comp=Z,7.0nm,0.5s							
KSH					pmax	pmax		
	comp=Z,510nm,5.5s							
KSH					LR	LR		
	comp=N,440nm,10.5s							
KSH					LR	LR		
	comp=E,480nm,6.9s							
KSH					LR	LR		
	comp=Z,400nm,11.1s							
MKAR	**Makanchi Array**	**67.62**	**328**	P		**P**	**17 17 15.2**	**-0.4**
	3.4nm,0.5s,baz=116,slow=8.5,SNR=33							
ZALV	**Zalesovo Beam**	**71.17**	**335**	P		**P**	**17 17 35.7**	**-1.4**
	3.1nm,0.5s,baz=139,slow=5.7,SNR=11							
KURK	**Kurchatov**	**71.96**	**329**	*e*P		**P**	**17 17 40.6**	**-1.4**
	50nm,1.0s							

*ISK **08** 17:27:56.1, 37°.37N×37°.16E, h5km, ML1.9/2*
*ISCJB **08** 17:27:57.3

comp=Z,113nm,19.7s,baz=306,slow=37
YKA Yellowknife Ar 51.34 347 P **P 17 38 28.4 -0.2**
2.7nm,0.6s,baz=149,slow=7.3,SNR=13
INK Inuvik 60.75 344 P **P 17 39 36.1 +0.4**
3.2nm,0.7s,baz=127,slow=6.9,SNR=11
ILAR Eielson Array 63.13 337 P **P 17 39 53.3 +1.4**
0.7nm,0.8s,baz=104,slow=7.5,SNR=7.1
ESDC Sonseca Array 79.96 52 P **P 17 41 32.8 -1.0**
0.2nm,0.3s,baz=290,slow=6.7,SNR=3.3
CMAR Chiang Mai Arr 146.29 341 PKPbc **PKPab 17 49 06.3 -0.2**
1.3nm,0.7s,baz=333,slow=3.5,SNR=10

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*IDC **08** 17:30:26.9±2.0, 48.09N× 155.37E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.6/51, mbtmp3.8/8, ML2.5/1, MS3.0/7, Ms1 3.0/7, ms1mx2.7/48, Error ellipse: s-maj=50.9km s-min=27.5km az=150.0*
*KRSC **08** 17:30:28.5±1.3, 48.10N× 156.62E, h16km±26km, ML3.9*
*ISCJB **08** 17:30:29.2±0.9, 48.14N±0.09× 155.5E±0.2, h27km, mb3.8/8, MS3.1/3, Error ellipse: s-maj=20.7km s-min=4.8km az=35.3*
*NEIC **08** 17:30:32.8±1.1, 48.23N× 155.35E, h35km, mb4.1/1, Error ellipse: s-maj=28.5km s-min=8.9km az=137.0*
ISC 08 17:30:30.5±1.2, 48.1N±0.1× 155.7E±0.1, h27km, n34, σ1§01/33, mb3.9/8, MS3.2/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.64**	**6**	*eP*	**Pn**	**17 31 11.0**	**-0.2**
SKR				*eS*	**Sn**	**17 31 43.2**	**+0.9**
PAU	**Pauzhetka**	**3.49**	**12**	*eS*	**Sn**	**17 32 03.8**	**+0.6**
KDTR	**Khodutka, Kamc**	**4.06**	**22**	*eP*	**Pn**	**17 31 30.4**	**-0.4**
KDTR				*eS*	**Sn**	**17 32 16.1**	**-1.3**
MTVR	**Mutnovka**	**4.71**	**19**	*eP*	**Pn**	**17 31 40.5**	**+0.6**
MTVR				*eS*	**Sn**	**17 32 34.3**	**+0.7**
RUS	**Russkaya**	**4.74**	**22**	*eS*	**Sn**	**17 32 32.6**	**-1.6**
KRMR	**Karymshinskiy**	**5.03**	**17**	*eP*	**Pn**	**17 31 45.1**	**+1.1**
PETK	**Petropavlovsk-**	**5.21**	**14**	Pn	**Pn**	**17 31 47.8**	**+1.1**
	0.8nm,0.3s,baz=180,slow=13,SNR=16						
PETK				LR	LR	17 34 22.4	
	comp=Z,144nm,18.1s,baz=105,slow=45						
PET	**Petropavlovsk**	**5.32**	**20**	*eP*	**Pn**	**17 31 47.5**	**-0.6**
PET	**Petropavlovsk**	**5.32**	**20**	*eP*	**Pn**	**17 31 48.1**	**0.0**
PET				*eS*	**Sn**	**17 32 48.1**	**-0.3**
DALK	**Dalny**	**5.35**	**21**	*eP*	**Pn**	**17 31 48.4**	**-0.1**
DALK				*eS*	**Sn**	**17 32 48.9**	**-0.2**
UGLR	**Uglovaya**	**5.53**	**20**	*eP*	**Pn**	**17 31 52.4**	**+1.3**
AVH	**Avacha**	**5.56**	**20**	*i* P	**Pn**	**17 31 52.7**	**+1.2**
SMAR	**Somma**	**5.58**	**20**	*i* P	**Pn**	**17 31 53.4**	**+1.6**
SDLR	**Sedlovina**	**5.61**	**20**	*eP*	**Pn**	**17 31 52.0**	**-0.2**
SPN	**Mys Shipunski**	**5.75**	**27**	*eP*	**Pn**	**17 31 53.7**	**-0.4**
SPN				*eS*	**Sn**	**17 32 57.3**	**-1.8**
GNL	**Ganaly**	**5.82**	**14**	*i* P	**Pn**	**17 31 56.9**	**+1.8**
ASAJ	**Asahikawa**	**9.89**	**251**	Pn	**Pn**	**17 32 51.3**	**+0.5**
	0.3nm,0.3s,baz=112,slow=19,SNR=2.5						
ASAJ				LR	LR	17 35 59.3	
	comp=Z,54nm,18.1s,baz=192,slow=34						
MA2	**Magadan**	**11.88**	**348**	LR	LR	17 38 43.6	
	comp=Z,42nm,18.6s,baz=130,slow=42						
KLR	**Kul'dur**	**15.83**	**283**	LR	LR	17 40 17.7	
	comp=Z,38nm,18.2s,baz=45,slow=38						
YAK	**Yakutsk**	**20.22**	**323**	LR	LR	17 43 16.3	
	comp=Z,50nm,20.4s,baz=92,slow=38						
KSRS	**Korea Array**	**22.84**	**253**	P	**P**	**17 35 30.7**	**-0.6**
	1.0nm,0.6s,baz=46,slow=10,SNR=3.5						
KSAR	**Wonju Array Be**	**22.87**	**253**	P	**P**	**17 35 30.7**	**-1.0**
H11S1	**WAKE ISLAND Hy**	**30.83**	**159**	T	T	18 09 52.6	
	baz=344,slow=76,SNR=24						
H11S3	**WAKE ISLAND Hy**	**30.84**	**159**	T	T	18 09 44.7	
	baz=344,slow=76,SNR=36						
H11S2	**WAKE ISLAND Hy**	**30.85**	**159**	T	T	18 09 56.3	
	baz=344,slow=76,SNR=22						
SONM	**Songino Array**	**32.54**	**288**	LR	LR	17 51 05.8	
	comp=Z,43nm,18.5s,baz=32,slow=38						
MKAR	**Makanchi Array**	**47.87**	**297**	P	**P**	**17 39 04.4**	**-1.4**
	1.2nm,0.6s,baz=64,slow=7.1,SNR=10						
MKAR				LR	LR	18 01 02.7	
	comp=Z,40nm,18.4s,baz=78,slow=38						
KURK	**Kurchatov**	**48.07**	**304**	*eP*	**P**	**17 39 05.7**	**-1.6**
CHTO	**Chiang Mai**	**54.09**	**258**	*eP*	**P**	**17 39 53.4**	**+0.5**
	2.1nm,1.1s						
FINES	**FINESS Array B**	**63.57**	**336**	P	**P**	**17 40 57.5**	**-0.6**
	3.1nm,1.0s,baz=30,slow=8.8,SNR=5.6						
NOA	**NORSAR Array B**	**67.52**	**342**	P	**P**	**17 41 24.0**	**+0.2**
	0.8nm,0.7s,baz=24,slow=6.6,SNR=3.9						
TXAR	**Lajitas Array**	**75.35**	**62**	P	**P**	**17 42 13.1**	**+1.5**
	0.3nm,0.6s,baz=313,slow=3.6,SNR=3.6						
GERES	**GERESS Array B**	**78.00**	**335**	P	**P**	**17 42 26.7**	**+0.4**
	0.4nm,0.6s,baz=52,slow=5.1,SNR=2.9						
BRTR	**Keskin Array B**	**78.58**	**318**	P	**P**	**17 42 29.7**	**0.0**
	0.7nm,0.8s,baz=105,slow=3.4,SNR=3.0						

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*ISCJB **08** 17:30:36.6±0.6, 48.89S±0.08× 128.0E±0.2, h10km, mb4.5/13, Error ellipse: s-maj=23.5km s-min=11.0km az=173.4*
*IDC **08** 17:30:36.5±0.8, 48.94S× 127.89E, h0km, mb4.6/9, mb1 4.7/11, mb1mx4.4/34, mbtmp4.6/11, ML4.1/1, MS4.7/3, Ms1 4.7/3, ms1mx3.5/27, Error ellipse: s-maj=40.2km s-min=16.3km az=87.0*
*NEIC **08** 17:30:38.3±0.4, 48.91S× 127.80E, h10km, mb4.6/3, Error ellipse: s-maj=18.5km s-min=8.4km az=84.0*
ISC 08 17:30:38.5±0.8, 48.9S±0.1× 127.9E±0.2, h10km, n25, σ0§81/19, mb4.6/13, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**17.29**	**319**	T	T	17 52 04.9	
	baz=146,slow=74,SNR=238						
H01W2	**Cape Leeuwin H**	**17.29**	**319**	T	T	17 52 05.1	
	baz=146,slow=74,SNR=308						
H01W3	**Cape Leeuwin H**	**17.30**	**319**	T	T	17 52 06.1	
	baz=146,slow=74,SNR=237						
NWAO	**Narrogin (SRO)**	**17.84**	**330**	P	**Pn**	**17 34 46.0**	**-0.8**
	0.5nm,0.3s,baz=40,slow=9.3,SNR=3.8						
STKA	**Stephens Creek**	**19.92**	**36**	P	**P**	**17 35 10.7**	**+0.4**
	0.3nm,0.3s,baz=192,slow=13,SNR=17						
ASAR	**Alice Springs**	**25.64**	**13**	P	**P**	**17 36 07.8**	**-0.5**
	24nm,0.9s,baz=187,slow=9.1,SNR=102						
WRA	**Warramunga Arr**	**29.37**	**13**	P	**P**	**17 36 40.8**	**-0.9**
	8.8nm,1.0s,baz=195,slow=9.1,SNR=25						
WRAB	**Tennant Creek**	**29.38**	**13**	*eP*	**P**	**17 36 41.0**	**-0.7**
	13nm,1.1s						
VNDA	**Vanda**	**31.52**	**167**	P	**P**	**17 36 59.7**	**-0.4**
	5.3nm,0.8s,baz=314,slow=9.6,SNR=34						
SBA	**Scott Base**	**32.52**	**166**	*eP*	**P**	**17 37 10.2**	**+1.2**
	9.3nm,1.1s						
BATI	**Baumata**	**38.74**	**353**	P	**P**	**17 38 03.8**	**+0.8**
	13nm,0.7s,baz=76,slow=2.6,SNR=3.9						
BATI				LR	LR	17 53 09.0	
	comp=Z,208nm,18.9s,baz=201,slow=35						
QSPA	**South Pole Qui**	**41.21**	**180**	P	**P**	**17 38 22.1**	**-1.1**
	11nm,1.1s,baz=344,slow=4.2,SNR=13						
LEM	**Lembang**	**45.30**	**331**	P	**P**	**17 38 56.9**	**+0.2**
	10nm,0.5s,baz=22,slow=3.2,SNR=4.5						
AFI	**Afiamalu**	**60.24**	**76**	LR	LR	18 03 38.4	
	comp=Z,2μm,18.5s,baz=181,slow=33						
RAR	**Rarotonga**	**62.82**	**92**	LR	LR	18 04 13.2	
	comp=Z,598nm,20.1s,baz=274,slow=32						
CMAR	**Chiang Mai Arr**	**71.84**	**331**	P	**P**	**17 42 01.2**	**-0.1**
	5.2nm,1.0s,baz=183,slow=5.5,SNR=37						
CMMT	**Chiang Mai**	**72.17**	**331**	P	**P**	**17 42 03.5**	**+0.1**
CHTO	**Chiang Mai**	**72.17**	**331**	*eP*	**P**	**17 42 03.0**	**-0.3**
	5.7nm,1.1s						
CHTO	**Chiang Mai**	**72.17**	**331**	P	**P**	**17 42 03.6**	**+0.2**
MJAR	**Matsushiro Arr**	**85.57**	**8**	P	**P**	**17 43 16.0**	**-0.5**
	3.4nm,1.0s,baz=203,slow=8.5,SNR=5.3						
KSAR	**Wonju Array Be**	**85.98**	**0**	P	**P**	**17 43 17.9**	**-0.6**
KSRS	**Korea Array**	**85.99**	**0**	P	**P**	**17 43 17.9**	**-0.6**
	1.3nm,0.9s,baz=188,slow=6.9,SNR=4.4						
GTA	**Gaotai**	**91.38**	**339**	*eP*	**P**	**17 43 44.9**	**+0.6**
GTA				pP	sP	17 43 53.0	+4.2
GTA				sP	pP	17 43 57.2	+10
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CLL	**Collm**	**139.38**	**299**	*e*PKiKP	**PKiKP**	**17 50 09.0**	**+1.7**
ESDC	**Sonseca Array**	**144.82**	**273**	PKP	PKPbc	17 50 14.3	0.0
	comp=Z,1.1nm,0.9s,baz=92,slow=2.5,SNR=4.6						

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*ISCJB **08** 17:31:52.1±0.5, 2.24S±0.04× 77.30W±0.08, h158km±8km, mb3.6/4, Error ellipse: s-maj=13.8km s-min=6.8km az=11.9*

*IGQ **08** 17:31:52.4±0.7, 2.2S±7.7× 7.7W±, h124km±10km, MLv4.0/2*
*IDC **08** 17:31:53.8±4.0, 2.32S× 77.27W, h168km±43km, mb3.4/4, mb1 3.4/6, mb1mx3.2/34, mbtmp3.9/6, MS3.2/1, Ms1 3.2/1, ms1mx2.5/23, Error ellipse: s-maj=43.1km s-min=21.4km az=48.0*
ISC 08 17:31:52.3±0.9, 2.21S±0.05× 77.30W±0.09, h155km±9km, n50, σ0§96/57, mb3.7/4, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUYO	**Puyo, Santa Ro**	**1.02**	**315**	P	**Pn**	**17 32 17.5**	**-0.3**
PUYO				S	**Sn**	**17 32 36.8**	**-0.6**
ARDO	**Archidona, Ten**	**1.31**	**337**	P	**Pn**	**17 32 19.4**	**-1.1**
ARDO				S	**Sn**	**17 32 40.5**	**-1.6**
BPAT	**Tungurahua Vol**	**1.34**	**302**	P	**Pn**	**17 32 21.0**	**-0.2**
BPAT				S	**Sn**	**17 32 43.2**	**0.0**
PAT1	**Patacocha**	**1.34**	**302**	P	**Pn**	**17 32 21.1**	**-0.1**
BULB	**Ulba Tungurahu**	**1.35**	**305**	P	**Pn**	**17 32 20.9**	**-0.2**
BULB				S	**Sn**	**17 32 43.7**	**+0.4**
ARRY	**Arrayan**	**1.35**	**301**	P	**Pn**	**17 32 21.0**	**-0.2**
BRUN	**Tungurahua Vol**	**1.36**	**305**	P	**Pn**	**17 32 21.2**	**-0.1**
BRUN				S	**Sn**	**17 32 43.5**	**+0.1**
RETU	**Refugio**	**1.38**	**303**	P	**Pn**	**17 32 21.4**	**-0.2**
BMAS	**Trigal station**	**1.38**	**301**	P	**Pn**	**17 32 22.3**	**+0.9**
RUN5	**Runtun**	**1.38**	**305**	P	**Pn**	**17 32 21.3**	**-0.1**
POND	**Pondoa**	**1.40**	**304**	P	**Pn**	**17 32 21.4**	**-0.1**
POND				S	**Sn**	**17 32 44.0**	**0.0**
RIOE1	**Riobamba**	**1.41**	**289**	P	**Pn**	**17 32 22.3**	**+0.6**
JUI6	**Juive**	**1.41**	**304**	P	**Pn**	**17 32 21.5**	**-0.2**
BBIL	**Ulba Tungurahu**	**1.41**	**302**	P	**Pn**	**17 32 21.6**	**-0.1**
PIS1	**Pisayambo**	**1.58**	**316**	P	**Pn**	**17 32 23.9**	**+0.2**
PISA	**Pisayambo**	**1.58**	**316**	P	**Pn**	**17 32 23.8**	**+0.2**
COV1	**Cotopaxi Volc**	**1.86**	**326**	P	**Pn**	**17 32 29.1**	**+2.3**
BMOR	**Cotopaxi Volca**	**1.88**	**322**	P	**Pn**	**17 32 27.9**	**+1.0**
BTAM	**Cotopaxi Volca**	**1.88**	**324**	P	**Pn**	**17 32 28.0**	**+1.0**
BVC2	**Cotopaxi Volca**	**1.91**	**324**	P	**Pn**	**17 32 28.6**	**+1.3**
ANTM	**Antisana-La Mi**	**1.91**	**331**	P	**Pn**	**17 32 27.3**	**+0.1**
BREF	**Cotopaxi Volca**	**1.91**	**323**	P	**Pn**	**17 32 29.5**	**+2.1**
ANTS	**Antisana-Sarah**	**1.92**	**333**	P	**Pn**	**17 32 27.5**	**+0.1**
BNAS	**Cotopaxi Volca**	**1.94**	**322**	P	**Pn**	**17 32 28.7**	**+1.2**
NAS2	**Nasa**	**1.95**	**323**	P	**Pn**	**17 32 29.7**	**+2.0**
ANTG	**Antisana-Guama**	**1.95**	**331**	P	**Pn**	**17 32 28.2**	**+0.5**
ANTI	**Antisana**	**1.95**	**334**	P	**Pn**	**17 32 27.9**	**+0.1**
COHC	**Cochancay**	**1.97**	**263**	P	**Pn**	**17 32 27.4**	**+0.1**
COHC				S	**Sn**	**17 32 55.5**	**+1.1**
PITA	**Cotopaxi Volc**	**2.00**	**325**	P	**Pn**	**17 32 29.8**	**+1.6**
ILLI	**Illinizas Sur**	**2.06**	**316**	P	**Pn**	**17 32 29.8**	**+0.8**
LAV4	**Lava4-Reventad**	**2.13**	**351**	P	**Pn**	**17 32 29.0**	**-0.6**
CONE	**Cono NE Rev Vo**	**2.16**	**351**	P	**Pn**	**17 32 29.2**	**-0.7**
MILO	**Milagro-Astudi**	**2.26**	**268**	P	**Pn**	**17 32 30.6**	**-0.2**
MILO				S	**Sn**	**17 33 00.8**	**+0.4**
CAYA	**Cayambe**	**2.37**	**343**	P	**Pn**	**17 32 33.2**	**+0.5**
GGPC	**Guagua Pichinc**	**2.40**	**327**	P	**Pn**	**17 32 33.5**	**+0.5**
YANA	**Yana**	**2.44**	**328**	P	**Pn**	**17 32 32.8**	**-0.6**
IMBA	**Imbabura, San**	**2.63**	**340**	P	**Pn**	**17 32 35.4**	**-0.3**
URCU	**Urcuqui**	**2.80**	**340**	P	**Pn**	**17 32 38.8**	**+0.9**
PAC1	**Pacto, Para`s**	**2.88**	**329**	P	**Pn**	**17 32 39.1**	**+0.5**
MORR	**Playas El Morr**	**3.07**	**262**	P	**Pn**	**17 32 40.1**	**-0.6**
SALI	**Salinas**	**3.69**	**270**	P	**Pn**	**17 32 45.7**	**-3.0**
ATAH	**Atahualpa**	**5.01**	**193**	P	**Pn**	**17 33 07.5**	**+1.1**
	6.8nm,0.3s,baz=14,slow=11,SNR=47						
ATAH				S	**Sn**	**17 34 03.5**	**-0.6**
	5.8nm,0.3s,baz=183,slow=15,SNR=14						
LPAZ	**La Paz**	**16.64**	**148**	P	**P**	**17 35 38.2**	**+1.1**
	0.2nm,0.3s,baz=328,slow=13,SNR=5.8						
SIV	**San Ignacio**	**21.04**	**132**	P	**P**	**17 36 24.3**	**+0.1**
	1.2nm,0.3s,baz=322,slow=6.8,SNR=6.4						
MDP	**Montagnes des**	**25.68**	**74**	LR	LR	17 48 03.0	
	comp=Z,53nm,21.1s,baz=44,slow=38						
PLCA	**Paso Flores**	**38.83**	**172**	P	**P**	**17 39 01.9**	**-0.3**
	1.0nm,0.5s,baz=333,slow=7.4,SNR=2.9						
ANMO	**Albuquerque**	**45.98**	**326**	P	**P**	**17 40 01.5**	**+1.3**
	1.0nm,0.5s,baz=132,slow=15,SNR=3.0						
TORD	**Torodi Ar. Bea**	**79.79**	**76**	P	**P**	**17 43 43.3**	**-0.6**
	0.5nm,0.7s,baz=280,slow=5.4						
ASAR	**Alice Springs**	**140.21**	**228**	PKhKP	PKPpre	17 50 56.2	
	0.6nm,1.0s,baz=128,slow=3.7,SNR=3.8						
ASAR				PKP	**PKPdf**	**17 51 02.3**	**-1.2**
	0.3nm,0.8s,baz=122,slow=2.8,SNR=4.2						
WRA	**Warramunga Arr**	**141.94**	**233**	PKhKP	PKPpre	17 51 02.7	
	0.6nm,1.0s,baz=120,slow=2.7,SNR=4.5						

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*ISCJB **08** 17:34:34.5±0.4, 13.65N±0.02× 120.44E±0.05, h98km±5km, mb3.9/7, Error ellipse: s-maj=8.3km s-min=4.1km az=0.1*
*MAN **08** 17:34:34.6, 13.66N× 120.46E, h87km, mb4.7, ML3.6, MS3.5*
*IDC **08** 17:34:35.9±0.7, 13.73N× 120.90E, h101km±8km, mb3.4/6, mb1 3.5/6, mb1mx3.2/41, mbtmp3.7/6, Error ellipse: s-maj=44.1km s-min=13.8km az=65.0*
ISC 08 17:34:35.7±0.8, 13.64N±0.03× 120.46E±0.05, h93km±7km, n23, σ1§23/38, mb3.9/7, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.65**	**45**	P	**Pn**	**17 34 52.7**	**+0.5**
	328nm,0.3s,baz=142,slow=9.3,SNR=22						
TGY				S	**Sn**	**17 35 03.8**	**-0.6**
	993nm,0.3s,baz=307,slow=20,SNR=28						
TGY	**Tagaytay City**	**0.65**	**45**	*i*P	**Pn**	**17 34 52.6**	**+0.5**
TGY				*i* S	**Sn**	**17 35 04.2**	**-0.2**
SJMP	**San Jose**	**1.34**	**151**	*e*P	**Pn**	**17 34 59.9**	**+0.3**
SJMP				*e*S	**Sn**	**17 35 17.5**	**-0.1**
BOAC	**Boac**	**1.36**	**97**	*e*P	**Pn**	**17 34 59.0**	**-0.8**
BOAC				*e*S	**Sn**	**17 35 18.4**	**+0.3**
BUSP	**Coron**	**1.65**	**189**	*e*P	**Pn**	**17 35 03.7**	**+0.2**
BUSP				*e*S	**Sn**	**17 35 24.9**	**+0.3**
GQP	**Guinayangan**	**1.95**	**82**	*e*P	**Pn**	**17 35 07.9**	**+0.6**
GQP				*i* S	**Sn**	**17 35 32.8**	**+1.3**
OTRP	**Odiongan**	**1.98**	**130**	*e*P	**Pn**	**17 35 07.5**	**-0.3**
OTRP				*e*S	**Sn**	**17 35 30.7**	**-1.6**
PCPH	**Palayan**	**2.01**	**18**	*e*P	**Pn**	**17 35 06.7**	**-1.4**
PCPH				*e*S	**Sn**	**17 35 32.0**	**-0.9**
SCZP	**Santa Cruz**	**2.19**	**346**	*e*P	**Pn**	**17 35 10.2**	**-0.3**
SCZP				*e*S	**Sn**	**17 35 35.0**	**-2.1**
BALP	**Baler**	**2.35**	**27**	*e*P	**Pn**	**17 35 13.2**	**+0.6**
SMPP	**San Manuel, Pa**	**2.50**	**5**	*e*P	**Pn**	**17 35 13.2**	**-1.5**
SMPP				*e*S	**Sn**	**17 35 41.9**	**-2.8**
ENPP	**El Nido**	**2.62**	**203**	*e*P	**Pn**	**17 35 16.4**	**+0.1**
ENPP				*e*S	**Sn**	**17 35 46.7**	**-0.7**
CUYO	**Cuyo Island**	**2.83**	**169**	*e*P	**Pn**	**17 35 18.8**	**-0.3**
CUYO				*e*S	**Sn**	**17 35 51.7**	**-0.7**
CAUP	**Cauayan**	**3.54**	**22**	*e*P	**Pn**	**17 35 29.4**	**+0.8**
PVCP	**Virac**	**3.59**	**90**	*e*P	**Pn**	**17 35 28.8**	**-0.4**
APYP	**Conner**	**4.26**	**10**	*e*P	**Pn**	**17 35 39.1**	**+0.7**
APYP				*e*S	**Sn**	**17 36 29.5**	**+2.4**
CMAR	**Chiang Mai Arr**	**21.22**	**286**	P	**P**	**17 39 17.5**	**+3.3**
	0.8nm,0.6s,baz=96,slow=7.7,SNR=9.6						
BATI	**Baumata**	**23.91**	**172**	P	**P**	**17 39 41.4**	**+0.4**
	17nm,0.4s,baz=94,slow=0.5,SNR=14						
SONM	**Songino Array**	**36.05**	**344**	P	**P**	**17 41 28.0**	**-0.2**
	1.2nm,0.6s,baz=162,slow=9.4,SNR=7.0						
WRA	**Warramunga Arr**	**36.06**	**157**	P	**P**	**17 41 26.4**	**-2.0**
	1.0nm,0.8s,baz=341,slow=9.2,SNR=12						
WRA				pP	**pP**	**17 41 49.7**	**-0.2**
	0.3nm,0.6s,baz=335,slow=9.5,SNR=2.2						
ASAR	**Alice Springs**	**39.34**	**160**	P	**P**	**17 41 54.9**	**-1.1**
	0.5nm,0.6s,baz=338,slow=6.8,SNR=12						
ASAR				pP	**pP**	**17 42 18.1**	**+0.3**
	0.4nm,0.7s,baz=343,slow=6.6,SNR=2.5						
MKAR	**Makanchi Array**	**45.94**	**324**	P	**P**	**17 42 50.4**	**+1.1**
	0.9nm,0.5s,baz=133,slow=9.2,SNR=8.0						
ZALV	**Zalesovo Beam**	**49.00**	**333**	P	**P**	**17 43 12.3**	**-0.4**
	0.6nm,0.3s,baz=120,slow=9.5,SNR=3.3						

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*BJI **08** 17:38:02.4, 49.80S× 117.40E, h10km, mb4.9/36, mB5.4/25, Ms5.1/16, Ms7 4.7/13*
*IDC **08** 17:38:03.3±0.5, 49.76S× 117.49E, h0km, mb4.6/19, mb1 4.8/20, mb1mx4.7/29, mbtmp4.7/20, ML3.2/1, MS4.6/18, Ms1 4.6/18, ms1mx4.5/25, Error ellipse: s-maj=18.4km s-min=13.0km az=107.0*
*MOS **08** 17:38:04.0±1.3, 49.67S× 117.38E, h10km, mb5.4/14, Error ellipse: s-maj=20.8km s-min=9.0km az=84.8*
*ISCJB **08** 17:38:04.6±0.2, 49.71S±0.04× 117.35E±0.08, h16km, mb4.9/52, MS4.7/24, Error ellipse: s-maj=7.4km s-min=5.4km az=22.7*
*NEIC **08** 17:38:05.3±0.2, 49.70S× 117.35E, h10km, mb5.2/29, Error ellipse: s-maj=8.0km s-min=6.2km az=109.0*
*GCMT **08** 17:38:06.3±0.1, 49.68S±0.01× 117.43E±0.02, h12km, MW5.2/106, Moment Tensor Solution. s55,c76; s106,c182; Duration: 1§0 Moment tensor: Scale 10^17 Nm; Mrr=0.81±.01; Mθθ=0.59±.01; Mϕϕ=0.21±.01; Mrθ=0.10±.04; Mrϕ=-0.35±.01; Mθϕ=0.24±.04; Best double couple: M0=0.84300×10^17 NP1:ϕs=137.00000°, δ49.00000°, λ=-68.00000°. NP2:ϕs=285.00000°, δ46.00000°, λ=-113.00000°. Principal axes: T 0.8050, Plg1.0000°, Azm211.0000°; N 0.0780, Plg16.0000°, Azm302.0000°; P -0.8820, Plg74.0000°, Azm117.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 08 17:38:06.3±0.3, 49.81S±0.05× 117.41E±0.07, h16km, n367, σ1§30/346, mb5.0/52, MS4.7/24, 5C-6D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.09**	**350**	T	T	17 57 10.4	
	baz=170,slow=74,SNR=386						
H01W1	**Cape Leeuwin H**	**15.10**	**350**	T	T	17 56 58.6	
	baz=170,slow=74,SNR=368						
H01W3	**Cape Leeuwin H**	**15.11**	**350**	T	T	17 56 52.0	
	baz=170,slow=74,SNR=374						
RKGY	**Rocky Gully**	**15.19**	**359**	P	**Pn**	**17 41 38.8**	**-1.3**
	baz=15,SNR=31						
NWAO	**Narrogin (SRO)**	**16.87**	**359**	Pn	**Pn**	**17 42 01.8**	**+0.2**
	4.6nm,0.3s,baz=52,slow=12,SNR=41						
NWAO				LR	LR	17 46 56.6	
	comp=Z,3μm,18.4s,baz=94,slow=32						
NWAO	**Narrogin (SRO)**	**16.87**	**359**	P	**Pn**	**17 42 00.0**	**-1.7**
	baz=17,SNR=29						
NWAO	**Narrogin (SRO)**	**16.87**	**359**	*e*Pn	**Pn**	**17 41 59.5**	**-2.2**
	586nm,1.7s						
NWAO	**Narrogin (SRO)**	**16.87**	**359**	*e*P	**Pn**	**17 41 59.5**	**-2.2**
NWAO				pmax	pmax		
	comp=Z,586nm,1.7s						
MUN	**Mundaring**	**17.84**	**357**	P	**Pn**	**17 42 11.2**	**-2.5**
	baz=18,SNR=14						
KLBR	**Kellerberrin**	**18.20**	**1**	P	**Pn**	**17 42 15.9**	**-2.3**
	baz=18,SNR=5.4						
BLDU	**Ballidu**	**19.18**	**358**	P	**P**	**17 42 27.4**	**-1.8**
	baz=19,SNR=6.4						
FORT	**Forrest**	**20.63**	**27**	P	**P**	**17 42 45.7**	**+0.8**
	baz=20,SNR=9.5						
FORT	**Forrest**	**20.63**	**27**	*e*P	**P**	**17 42 45.8**	**+0.8**
	comp=Z,69nm,0.9s						
MORW	**Morawa**	**20.74**	**357**	P	**P**	**17 42 44.8**	**-1.3**
	baz=20,SNR=12						
TAU	**Tasmania Unive**	**21.66**	**83**	*e*P	**P**	**17 42 58.8**	**+2.8**
	comp=Z,88nm,1.3s						
TAU	**Tasmania Unive**	**21.66**	**83**	*e*P	**P**	**17 42 58.8**	**+2.8**
TAU				pmax	pmax		
	comp=Z,88nm,1.3s						
BBOO	**Buckleboo**	**21.91**	**46**	P	**P**	**17 42 58.3**	**-0.4**
	baz=22,SNR=11						
BBOO	**Buckleboo**	**21.91**	**46**	*e*P	**P**	**17 42 57.8**	**-1.0**
	comp=Z,95nm,1.2s						
ARPS	**Mount Arapiles**	**21.92**	**63**	P	**P**	**17 42 59.4**	**+0.5**
	baz=22,SNR=5.8						
HTT	**Hallett**	**22.82**	**52**	P	**P**	**17 43 06.9**	**-1.5**
	baz=23,SNR=4.8						
MEEK	**Meekatharra**	**23.15**	**3**	P	**P**	**17 43 10.1**	**-1.9**
	baz=23,SNR=4.9						
TOO	**Toolangi**	**23.55**	**69**	P	**P**	**17 43 16.5**	**+0.6**
	baz=24,SNR=4.3						
STKA	**Stephens Creek**	**25.43**	**54**	P	**P**	**17 43 32.8**	**-0.3**
	comp=Z,15nm,0.9s,baz=199,slow=11,SNR=15						
STKA				PcP	**PcP**	**17 47 04.2**	**-0.8**
	comp=Z,4.6nm,0.8s,baz=341,slow=2.6,SNR=4.5						
STKA				LR	LR	17 51 36.5	
	comp=Z,2μm,21.1s,baz=214,slow=32						
STKA	**Stephens Creek**	**25.43**	**54**	P	**P**	**17 43 32.8**	**-0.3**
	baz=25,SNR=12						
STKA	**Stephens Creek**	**25.43**	**54**	*e*P	**P**	**17 43 32.8**	**-0.3**
	comp=Z,10nm,1.3s						
STKA

URZ Urewera 43.36 98 P P 17 46 06.6 -1.0
comp=Z,14nm,0.8s,baz=235,slow=6.3,SNR=7.0
URZ Urewera 43.36 98 eP P 17 46 07.0 -0.7
comp=Z,19nm,0.8s
LEM Lembang 43.62 346 P P 17 46 10.6 +0.5
comp=Z,6.5nm,0.3s,baz=235,slow=3.5,SNR=7.7
LEM LR LR 18 00 37.9
comp=Z,307nm,19.9s,baz=169,slow=31
LEM Lembang 43.62 346 P P 17 46 11.9 +1.8
BBSI Bau Bau 44.38 7 P P 17 46 24.2 +8.2
BKSI Bulukumba 44.39 4 P P 17 46 24.5 +8.4
BNSI Bone 45.30 4 P P 17 46 30.1 +6.8
SPSI Sidrap Palu 45.72 3 P P 17 46 26.6 -0.1
KBKI Kotabaru 46.35 358 P P 17 46 40.1 +8.5
NLAI Namlea 47.13 13 P P 17 46 45.6 +7.9
PMG Port Moresby 47.26 42 LR LR 18 06 03.0
comp=Z,908nm,18.4s,baz=205,slow=36
FAKI Fak Fak 48.39 20 eP P 17 46 50.2 +2.6
comp=Z,52nm,1.1s
FAKI Fak Fak 48.39 20 P P 17 46 54.8 +7.3
PPBI Pangkal Pinang 48.44 345 P P 17 46 47.2 -0.6
APSI Ampana 48.85 6 P P 17 46 50.6 -0.4
JAY Jayapura 51.12 30 LR LR 18 08 05.6
comp=Z,2µm,21.6s,baz=172,slow=35
SNAA Sanae 51.73 200 P P 17 47 12.2 -0.1
SNAA Sanae 51.73 200 eP P 17 47 12.1 -0.2
comp=Z,18nm,1.0s
SNAA Sanae 51.73 200 eP P 17 47 12.1 -0.2
SNAA pmax pmax
comp=Z,18nm,1.0s
RAO Raoul Island 52.23 92 LR LR 18 05 04.6
comp=Z,814nm,21.4s,baz=160,slow=31
VNA2 Neumayer--Watz 53.29 200 P P 17 47 23.7 -0.1
baz=136,slow=7.5
VNA3 Neumayer Olymp 53.53 199 P P 17 47 25.1 -0.4
VNA1 Neumayer--Stat 53.68 200 P P 17 47 27.2 +0.6
PSI Prapat 54.78 337 P P 17 47 34.1 -1.3
comp=Z,1.6nm,0.3s,baz=0.0,slow=17,SNR=5.1
PSI LR LR 18 05 56.6
comp=Z,353nm,21.7s,baz=171,slow=31
RER Riviere de l'E 55.92 277 eP P 17 47 43.9 +0.3
comp=Z,115nm,1.1s
H08S2 Diego Garcia H 56.26 303 T T 18 48 06.9
baz=147,slow=76,SNR=80
H08S1 Diego Carcia H 56.27 303 T T 18 48 25.6
baz=147,slow=76,SNR=57
H08S3 Diego Garcia H 56.28 303 T T 18 48 28.0
baz=147,slow=76,SNR=78
H08N1 Diego Carcia H 58.15 302 T T 18 50 52.0
baz=122
H08N3 Diego Garcia H 58.16 302 T T 18 50 51.2
baz=122
H08N2 Diego Garcia H 58.17 302 T T 18 50 48.9
baz=122
OPO Ambohidratompo 63.32 273 P P 17 48 34.8 0.0
comp=Z,5.7nm,0.9s,baz=139,slow=4.5,SNR=5.3
PALK Pallekele 65.20 319 eP P 17 48 48.1 +1.2
comp=Z,66nm,1.4s
PALK Pallekele 65.20 319 eP P 17 48 48.1 +1.2
CHAI Chaiyaphum 66.83 344 P P 17 49 03.7 +6.5
comp=Z,4.7nm,1.5s,comp=Z,61nmcomp=Z,0.0nm
PBKT Sadao Pong 67.67 343 eP P 17 49 01.8 -0.6
comp=Z,6.6nm,1.0s
PBKT Sadao Pong 67.67 343 P P 17 49 02.4 -0.1
comp=Z,9.9nm,2.2s,comp=Z,0.0nm
QIZ Qiongzhong 68.86 352 P P 17 49 13.4 +3.5
QIZ LR LR
comp=Z,210nm,20.6s
QIZ LR LR
comp=Z,150nm,17.3s
CMAR Chiang Mai Arr 69.91 341 P P 17 49 15.3 -1.1
comp=Z,4.5nm,0.9s,baz=190,slow=5.5,SNR=12
CMAR LR LR 18 16 08.3
comp=Z,178nm,21.2s,baz=182,slow=33
BOSA Boshof 70.03 249 P P 17 49 16.8 -0.7
comp=Z,5.0nm,0.8s,baz=156,slow=7.8,SNR=7.0
BOSA LR LR 18 14 52.4
comp=Z,277nm,18.4s,baz=189,slow=32
BOSA Boshof 70.03 249 eP P 17 49 17.1 -0.3
comp=Z,34nm,1.4s
BOSA Boshof 70.03 249 eP P 17 49 17.2 -0.3
BOSA pmax pmax
comp=Z,35nm,1.4s
CMMT Chiang Mai 70.25 341 P P 17 49 20.6 +2.1
CHTO Chiang Mai 70.25 341 eP P 17 49 17.8 -0.8
comp=Z,38nm,1.9s
CHTO Chiang Mai 70.25 341 eP P 17 49 17.8 -0.8
CHTO pmax pmax
comp=Z,38nm,1.9s
CHTO Chiang Mai 70.25 341 P P 17 49 20.7 +2.2
comp=Z,39nm,1.8s,comp=Z,0.2nm
HYB Hyderabad 75.22 322 i P P 17 49 48.0 -0.2
KMI Kunming 75.73 346 P P 17 49 51.4 +0.3
KMI pP sP 17 49 59.1 +0.8
KMI sP PcP 17 50 02.3 -1.5
KMI S S 17 59 34.5 +2.3
KMI SS SS 18 04 28.3 +3.7
KMI pmax pmax
comp=Z,21nm,1.8s
KMI pmax pmax
comp=Z,150nm,3.1s
KMI LR LR
comp=Z,260nm,16.5s
KMI LR LR
comp=Z,330nm,14.9s
KMI LR LR
comp=Z,430nm,19.7s
GYA Guiyang 76.53 350 P P 17 49 58.5 +3.0
GYA PP PP 17 52 52.7 +4.7
GYA S S 17 59 45.6 +4.9
GYA SKS SKSac 18 00 05.2 -1.1
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.8s
LSZ Lusaka 78.00 261 eP P 17 50 04.5 +0.3
comp=Z,64nm,1.4s
LSZ Lusaka 78.00 261 eP P 17 50 04.5 +0.3
LSZ pmax pmax
comp=Z,64nm,1.4s
POO Poona 78.18 318 eP P 17 50 03.0 -1.9
SHL Shillong 78.40 337 eP P 17 50 05.4 -0.7
comp=Z,67nm,1.4s
SHL Shillong 78.40 337 eP P 17 50 05.4 -0.7
SHL pmax pmax
comp=Z,67nm,1.4s
SHL Shillong 78.40 337 eP P 17 50 07.5 +1.4
EFI East Falkland 78.82 183⇑ eP P 17 50 09.0 +1.0
EFI pmax pmax
comp=Z,119nm,1.4s
WHN Wuhan 80.04 357 ⇓P P 17 50 11.8 -2.9
WHN S S 18 00 18.6 +0.6
WHN LR LR
comp=Z,1µm,36.4s
RAMN Ramite 81.18 332 eP P 17 50 20.1 -1.1
CD2 Chengdu 81.27 348 P P 17 50 23.2 +1.8
CD2 S S 18 00 36.0 +5.0
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,170nm,5.0s
CD2 LR LR
comp=Z,370nm,15.9s
CD2 LR LR
comp=Z,400nm,17.4s
CD2 LR LR
comp=Z,400nm,19.9s
NJ2 Nanjing 81.51 1 eP P 17 50 23.1 +0.6
NJ2 pmax pmax
comp=Z,7.0nm,0.9s
TSUM Tsumeb 81.69 250 eP P 17 50 24.9 +0.7
comp=Z,46nm,1.4s
JIRN Jiri 81.97 332 eP P 17 50 24.3 -1.3
comp=Z,168nm,1.5s
PKI Pulchoki 82.12 332 eP P 17 50 24.7 -1.6
comp=Z,73nm,1.4s
PKIN Phulchoki 82.14 332 eP P 17 50 24.6 -1.7
comp=Z,46nm,1.2s
DMN Daman 82.25 331 eP P 17 50 25.3 -1.6
comp=Z,54nm,1.3s
GUN Gumba 82.30 332 eP P 17 50 26.1 -1.1
comp=Z,202nm,1.5s
KKN Kakani 82.37 332 eP P 17 50 26.0 -1.4
comp=Z,109nm,1.5s
KMBO Kilima Mbogo 82.79 277 P P 17 50 30.7 +0.6
comp=Z,0.8nm,0.4s,baz=138,slow=5.7,SNR=13
KMBO Kilima Mbogo 82.79 277 eP P 17 50 31.1 +1.0
comp=Z,33nm,1.6s
KMBO Kilima Mbogo 82.79 277 eP P 17 50 31.1 +1.0
KOLN Koldanda 82.88 330 eP P 17 50 28.3 -1.8
comp=Z,106nm,1.5s
DANN Dangsing 83.37 331 eP P 17 50 30.9 -1.8
comp=Z,63nm,0.9s
PYUN Piuthan 83.38 330 eP P 17 50 30.9 -1.8
comp=Z,73nm,1.1s
XAN Xi'an 83.82 353 P P 17 50 33.4 -1.2
XAN pP sP 17 50 41.1 -0.7
XAN pmax pmax
comp=Z,9.0nm,1.2s
TJN Taejon 86.26 8⇓ eP P 17 50 45.2 -1.5
LZH Lanzhou 86.36 349 eP P 17 50 54.1 +6.7
LZH pP sP 17 50 58.5 +3.8
LZH sP pP 17 51 00.6 +7.8
LZH PP PP 17 54 09.6 +0.4
LZH pmax pmax
comp=Z,33nm,1.2s
LZH pmax pmax
comp=Z,180nm,4.9s
LZH LR LR
comp=N,610nm,14.1s
LZH LR LR
comp=E,380nm,11.9s
LZH LR LR
comp=Z,710nm,17.3s
KSAR Wonju Array Be 87.37 8 P P 17 50 51.8 -0.3
KSAR Wonju Array Be 87.37 8 P P 17 50 51.8 -0.3
KSRS Korea Array 87.38 8 P P 17 50 51.8 -0.3
comp=Z,2.4nm,0.9s,baz=183,slow=4.1,SNR=8.3
KS01 Wonju Array Si 87.40 8 eP P 17 50 51.4 -0.8
MAJO Matsushiro 87.93 17⇑ eP P 17 50 52.5 -2.3
MAJO pmax pmax
comp=Z,56nm,2.7s
MJAR Matsushiro Arr 87.93 17 P P 17 50 53.4 -1.4
comp=Z,1.7nm,0.8s,baz=189,slow=4.6,SNR=4.2
BJI Beijing 89.48 359 P P 17 51 01.5 -0.5
BJI sP sP 17 51 08.8 -0.4
BJI pmax pmax
comp=Z,10.0nm,2.1s
PLCA Paso Flores 89.57 174 P P 17 51 03.1 +0.2
comp=Z,6.3nm,0.8s,baz=232,slow=7.4,SNR=12
PLCA LR LR 18 31 46.3
comp=Z,125nm,18.6s,baz=218,slow=36
PLCA Paso Flores 89.57 174 eP P 17 51 03.2 +0.2
comp=Z,32nm,1.2s
PLCA Paso Flores 89.57 174 eP P 17 51 03.2 +0.2
PLCA pmax pmax
comp=Z,32nm,1.2s
GTA Gaotai 90.19 346 ⇓P P 17 51 04.3 -1.2
GTA pP PcP 17 51 08.3 +1.6
GTA sP pP 17 51 11.4 +0.5
GTA SKS SKSac 18 01 34.8 -0.7
GTA S S 18 01 57.2 -1.1
GTA sS pS 18 02 04.4 -0.7
GTA SS SS 18 08 00.2 +1.6
GTA pmax pmax
comp=Z,8.0nm,1.0s
GTA pmax pmax
comp=Z,100nm,7.1s
GTA LR LR
comp=Z,480nm,19.4s
GTA LR LR
comp=Z,260nm,21.6s
GTA LR LR
comp=Z,270nm,20.6s
HHC Hu-ho-hao-te 90.42 356 eP P 17 51 08.8 +2.2
HHC pmax pmax
comp=Z,26nm,0.8s
HHC pmax pmax
comp=Z,120nm,6.5s
CN2 Changchun 93.49 6 eP P 17 51 17.7 -2.8
USRK Ussuriysk Ar. 94.49 10 P P 17 51 25.2 +0.1
comp=Z,1.1nm,0.6s,baz=179,slow=5.8
KSH Kashi 96.15 329 eP P 17 51 33.9 +0.9
RAYN Ar Rayn 96.76 299 eP P 17 51 36.1 0.0
comp=Z,12nm,1.3s
RAYN Ar Rayn 96.76 299 eP P 17 51 36.1 0.0
RAYN pmax pmax
comp=Z,12nm,1.3s
WMQ Urumqi 96.80 339 eP P 17 51 35.3 -0.4
WMQ pP sP 17 51 43.2 +0.2
WMQ pmax pmax
comp=Z,9.0nm,1.5s
WMQ pmax pmax
comp=Z,270nm,4.9s
WMQ LR LR
comp=Z,250nm,19.9s
WMQ LR LR
comp=Z,270nm,32.9s
WMQ LR LR
comp=Z,310nm,24.3s
SONM Songino Array 97.73 353 P P 17 51 37.9 -2.0
comp=Z,0.5nm,0.7s,baz=152,slow=6.5,SNR=3.1
SONM LR LR 18 38 32.5
comp=Z,100nm,19.2s,baz=168,slow=37
SONA1 Songino Array 97.74 353 eP Pdif 17 51 45.3 +5.2
YSS Yuzh-Sakhalins 98.85 17 eP Pdif 17 51 45.9 +1.1
DGZ Jazzator, Alta 102.41 341⇑ eP Pdif 17 52 01.7 +0.9
H10S2 ASCENSION HYDR 108.11 231 T T 19 54 39.3
baz=151,slow=74
H10S3 ASCENSION HYDR 108.13 231 T T 19 54 45.5
baz=151,slow=74
H10S1 ASCENSION HYDR 108.13 231 T T 19 54 31.2
baz=151
TORD Torodi Ar. Bea 116.49 259 PKP PKPdf 17 56 48.4 -1.1
comp=Z,0.9nm,0.9s,baz=137,slow=2.4,SNR=4.4
TIXI Tiksi 121.43 4 ePKPdf PKPdf 17 56 55.6 -1.6
TIXI Tiksi 121.43 4 i PKIKP PKPdf 17 56 55.6 -1.6
BILL Bilibino 123.06 20 i PKIKP PKPdf 17 57 02.8 +2.3
BILL pmax pmax
comp=Z,5.0nm,1.3s
AKASG Malin Array Be 125.09 309 PKP PKPdf 17 57 03.2 -1.6
comp=Z,0.3nm,0.4s,baz=122,slow=1.4,SNR=5.2
KIEV Kiev 125.09 309⇓ ePKIKP PKPdf 17 57 03.9 -1.0
BUR04 Bucovina Ar. S 125.30 304 ePKPdf PKPdf 17 57 04.8 -0.7
DIVS Divibare 126.05 298 ePKPdf PKPdf 17 57 05.8 -1.2
OTAV Otavalo 128.78 159 ePKPdf PKPdf 17 57 14.4 +0.6
OTAV Otavalo 128.78 159 ePKIKP PKPdf 17 57 14.4 +0.6
VYHS Vyhne 129.28 302 ePKIKP PKPdf 17 57 11.9 -1.1
VYHS Vyhne 129.28 302 ePKP PKPdf 17 57 11.9 -1.1
SOKA Soboth 130.40 298 i PKPdf PKPdf 17 57 15.5 +0.2
comp=Z,8.4nm,1.2s
CONA Conrad Observa 130.62 300 i PKPdf PKPdf 17 57 15.2 -0.4
comp=Z,5.9nm,1.6s
MYKA Terra Mystica 131.17 297 i PKPdf PKPdf 17 57 16.9 +0.1
comp=Z,6.5nm,1.0s
MOA Molln 131.47 299 i PKPdf PKPdf 17 57 15.9 -1.3
comp=Z,6.0nm,1.3s
ABTA Abfaltersbach 131.88 297 i PKPdf PKPdf 17 57 18.0 -0.1
comp=Z,5.3nm,1.0s
GEA0 GERESS Array S 132.32 300 ePKPdf PKPdf 17 57 18.1 -0.8
GERES GERESS Array B 132.32 300 PKP PKPdf 17 57 17.6 -1.3
comp=Z,1.3nm,0.7s,baz=94,slow=1.7,SNR=9.9
FINES FINESS Array B 132.48 319 PKP PKPdf 17 57 17.5 -1.1
comp=Z,2.9nm,0.8s,baz=134,slow=5.5,SNR=4.5
WTTA Wattenberg 132.67 297 i PKPdf PKPdf 17 57 19.4 -0.3
comp=Z,4.2nm,0.6s
SQTA Sankt Quirin 132.89 297 i PKPdf PKPdf 17 57 19.3 -0.8
comp=Z,5.1nm,0.8s
MOTA Moosalm 133.02 297 i PKPdf PKPdf 17 57 19.8 -0.5
comp=Z,3.1nm,0.6s
FETA Feichten 133.06 296 i PKPdf PKPdf 17 57 20.9 +0.5
comp=Z,5.4nm,0.8s
PMR Palmer 133.45 41 ePKPdf PKPdf 17 57 21.1 +0.7
PMR Palmer 133.45 41 ePKIKP PKPdf 17 57 21.1 +0.7
IM3 Italian Mountai 133.60 34 ePKPdf PKPdf 17 57 19.0 -1.6
CLL Collm 133.96 302 ePKPdf PKPdf 17 57 22.0 +0.3
CLL e(pPKPdf) 17 57 26.0
CLL Collm 133.96 302 ePKIKP PKPdf 17 57 22.0 +0.3
CLL e 17 57 26.0
MLY Manley 134.31 36 ePKPdf PKPdf 17 57 22.9 +0.9
CCB Clear Creek Bu 135.30 38 ePKPdf PKPdf 17 57 22.2 -1.6
HDA Harding Lake 135.54 38 ePKPdf PKPdf 17 57 24.5 +0.2
IL1 Eielson Array 135.71 38 ePKPdf PKPdf 17 57 23.9 -0.7
ILAR Eielson Array 135.71 38 PKP PKPdf 17 57 22.7 -1.9
comp=Z,1.0nm,0.6s,baz=286,slow=3.5,SNR=12
DOT Dot Lake 136.43 40 ePKPdf PKPdf 17 57 26.0 0.0
JTS JuntasAbangare 136.46 147⇑ ePKIKP PKPdf 17 57 27.3 -0.3
SCRK Sand Creek 136.58 39 ePKPdf PKPdf 17 57 26.2 -0.3
EGAK Eagle 138.01 39 eP PKPdf 17 57 34.8 +5.9
ES19 SONSECA Array 138.11 279 ePKPdf PKPdf 17 57 29.4 -0.5
ESDC Sonseca Array 138.13 279 PKP PKPdf 17 57 29.6 -0.4
comp=Z,0.8nm,0.7s,baz=122,slow=2.4,SNR=5.5
GSC Goldstone, Bar 138.43 89 P PKPdf 17 57 29.0 -1.7
baz=232
DAWY Dawson 138.52 40 ePKPdf PKPdf 17 57 29.6 -0.3
IRM Iron Mountain 138.79 92 P PKPdf 17 57 30.5 -0.8
baz=231
NOA NORSAR Array B 138.88 315 PKP PKPdf 17 57 31.1 +0.5
comp=Z,0.9nm,0.8s,baz=103,slow=2.1,SNR=3.1
NVAR Mina Array Bea 139.30 84 PKP PKPdf 17 57 33.4 +1.0
comp=Z,0.5nm,0.3s,baz=199,slow=4.4,SNR=4.2
KVN Kaiserville 139.78 84 ePKPdf PKPdf 17 57 33.5 +0.3
KVN Kaiserville 139.78 84 ePKIKP PKPdf 17 57 33.5 +0.3
MOD Modoc Plateau 139.92 79 eP PKPdf 17 57 39.9 +6.5
J05D Fort Rock, OR 140.05 76 P PKPdf 17 57 33.4 0.0
baz=240
W13A Hualapai Mount 140.19 92 ePKPdf PKPdf 17 57 34.2 +0.1
EPYK Eagle Plains 140.22 37 P PKPdf 17 57 33.6 +0.7
baz=257
PINE Pine Mountain 140.49 76 ePKPdf PKPdf 17 57 36.7 +2.4
R11A Troy Canyon, C 141.01 86 ePKPdf PKPdf 17 57 35.9 +0.4
R11A Troy Canyon, C 141.01 86 P PKPdf 17 57 34.6 -0.8
baz=235
F05D White Salmon 141.17 72 P PKPdf 17 57 33.2 -2.0
baz=242
INK Inuvik 141.80 35 ePKPdf PKPdf 17 57 34.5 -1.1
INK Inuvik 141.80 35 ePKIKP PKPdf 17 57 34.5 -1.1
B05A Bryant 141.85 69 P PKPdf 17 57 35.2 -1.1
baz=245
G08A Pilot Rock 142.45 75 ePKPdf PKPdf 17 57 36.1 -1.6
121A Cookes Peak, D 142.50 100 P PKPdf 17 57 38.0 -0.3
baz=229
W18A Petrified Fore 142.89 95 ePKPdf PKPdf 17 57 39.3 +0.5
W18A Petrified Fore 142.89 95 P PKPdf 17 57 39.4 +0.5
baz=232
TX31 Lajitas Ar. Si 142.91 108 ePKPpre PKPpre 17 57 35.7
TX31 ePKPdf PKPdf 17 57 37.8 -1.2
TXAR Lajitas Array 142.91 108 PKhKP PKPpre 17 57 35.4
comp=Z,2.0nm,0.9s,baz=195,slow=5.6,SNR=11
D08A Wollman Farm, 143.27 72 ePKPpre PKPpre 17 57 36.1
BMO Blue Mountains 143.28 76 ePKPpre PKPab 17 57 35.5 +0.4
BMO Blue Mountains 143.28 76 ePKIKP PKPab 17 57 35.5 +0.5
MSU Marysvale 143.31 89 ePKPdf PKPdf 17 57 38.2 -1.3
MSU Marysvale 143.31 89 ePKIKP PKPdf 17 57 38.3 -1.3
MNTX Cornudas Mount 143.47 103 ePKPpre PKPpre 17 57 36.8
MNTX Cornudas Mount 143.47 103 P PKPdf 17 57 39.5 -0.3
baz=228
E09A Wood Farm, Sta 143.51 73 ePKPdf PKPdf 17 57 38.3 -1.1
DUG Dugway, Tooele 143.82 86 ePKPdf PKPdf 17 57 41.2 +0.9
DUG Dugway, Tooele 143.82 86 PKIKP PKPdf 17 57 41.2 +0.9
BGU Big Grassy Mou 144.07 85 ePKPdf PKPbc 17 57 39.6 +0.8
NLU North Lily Min 144.17 87 ePKPdf PKPdf 17 57 40.2 -0.8
TMUT Trail Mountain 144.37 88 ePKPdf PKPbc 17 57 40.3 +0.4
ESK Eskdalemuir 144.45 302 i PKIKP PKPdf 17 57 46.3 +5.6
MPU Maple Canyon 144.49 87 ePKPdf PKPdf 17 57 41.2 -0.4
HLID Hailey 144.51 80 ePKPdf PKPab 17 57 40.0 +0.2
HLID Hailey 144.51 80 P PKPab 17 57 38.9 -0.9
baz=241,SNR=14
HVU Hansel Valley 144.68 84 ePKPdf PKPbc 17 57 40.7 0.0
SRU San Rafael Swe 144.71 89 ePKPdf PKPab 17 57 40.7 -0.1
SRU San Rafael Swe 144.71 89 PKIKP PKPab 17 57 40.7 -0.1
P17A Butcher Ranch, 144.77 88 ePKPdf PKPbc 17 57 41.5 +0.5
CTU Camp Tracy 144.77 86 ePKPdf PKPbc 17 57 41.3 +0.3
NEW Newport 144.88 71 ePKPdf PKPab 17 57 40.4 -0.5
NEW Newport 144.88 71 ePKIKP PKPab 17 57 40.4 -0.5
NEW Newport 144.88 71 P PKPab 17 57 39.7 -1.2
baz=247
ANMO Albuquerque 144.89 98 ePKPdf PKPab 17 57 40.9 -0.7
ANMO Albuquerque 144.89 98 ePKIKP PKPab 17 57 40.9 -0.7
ANMO Albuquerque 144.89 98 P PKPab 17 57 41.3 -0.2
baz=231
MVCO Mesa Verde 144.94 93 ePKPdf PKPab 17 57 41.5 -0.3
MVCO Mesa Verde 144.94 93 P PKPab 17 57 40.1 -1.7
baz=234
PV09 Paradox Valley 145.27 91 ePKPbc PKPbc 17 57 43.0 +0.1
HWUT Hardware Ranch 145.37 85 ePKPbc PKPbc 17 57 42.5 -0.4
PV01 Paradox Valley 145.43 92 ePKPbc PKPdf 17 57 43.0 -0.3
JCT Junction City 146.09 111 ePKPdf PKPdf 17 57 44.2 -0.2
JCT Junction City 146.09 111 ePKP2 PKPdf 17 57 44.2 -0.2
JCT Junction City 146.09 111 P PKPdf 17 57 44.1 -0.4
baz=225
MCMT McKenzie Canyo 146.09 79 ePKPdf PKPdf 17 57 43.8 -0.5
AHID Auburn Hatcher 146.24 83 ePKPdf PKPbc 17 57 45.8 +0.1
MSO Missoula 146.27 75 ePKPdf PKPbc 17 57 45.0 -0.5
MSO Missoula 146.27 75 P PKPdf 17 57 42.7 -1.5
baz=246
S22A 4UR Ranch, Cre 146.33 94 ePKPdf PKPbc 17 57 45.9 -0.3
S22A 4UR Ranch, Cre 146.33 94 P PKPbc 17 57 45.9 -0.3
baz=235
DLMT Dillon 146.49 78 ePKPdf PKPdf 17 57 45.2 +0.5
MSTX Muleshoe 146.62 103 ePKPdf PKPdf 17 57 45.5 +0.3
MSTX Muleshoe 146.62 103 P PKPdf 17 57 46.1 +0.8
baz=230,SNR=14
TPAW Teton Pass 146.69 82 ePKPdf PKPdf 17 57 46.1 +0.8
REDW Red Top Meadow 146.69 82 ePKPdf PKPbc 17 57 47.0 0.0
FXWY Fox Creek 146.71 82 ePKPdf PKPdf 17 57 45.3 0.0
O20A White River Ci 146.75 89 ePKPdf PKPbc 17 57 47.5 +0.4
O20A White River Ci 146.75 89 P PKPbc 17 57 46.9 -0.3
baz=238
LRM Limekiln Ridge 146.78 77 ePKPdf PKPbc 17 57 47.0 -0.1
SNOW Snow King Moun 146.80 82 ePKPdf PKPbc 17 57 47.8 +0.5
IMW Indian Meadow 146.88 81 ePKPdf PKPdf 17 57 46.1 +0.4
MOOW Moose Ponds 146.94 82 ePKPdf PKPdf 17 57 46.4 +0.7
LOHW Long Hollow 146.97 82 ePKPdf PKPbc 17 57 47.6 -0.1
QLMT Earthquake Lak 147.00 80 ePKPdf PKPbc 17 57 48.5 +0.7
SMCO Snowmass 147.05 92 ePKPdf PKPbc 17 57 48.7 +0.4
YHB Horse Butte 147.11 80 ePKPdf PKPbc 17 57 47.4 -0.7
FLWY Flagg Ranch 147.12 81 ePKPdf PKPbc 17 57 48.2 0.0
WALA Waterton Lakes 147.15 71 ePKPdf PKPbc 17 57 47.9 0.0
SDCO Great Sand Dun 147.19 95 ePKPdf PKPdf 17 57 46.2 -0.1
SDCO Great Sand Dun 147.19 95 P PKPdf 17 57 47.4 +1.1
baz=235
BOZ Bozeman (W) 147.20 78 ePKPdf PKPbc 17 57 48.4 +0.1
BOZ Bozeman (W) 147.20 78 ePKP2 PKPbc 17 57 48.4 +0.1
BOZ Bozeman (W) 147.20 78 P PKPbc 17 57 48.1 -0.2
baz=245
YMR Madison River 147.22 80 ePKPdf PKPbc 17 57 47.7 -0.7
BW06 Boulder Array 147.24 84 ePKPdf PKPbc 17 57 47.8 -0.8
BW06 Boulder Array 147.24 84 P PKPbc 17 57 47.5 -1.0
baz=241,SNR=9.3
PD31 Pinedale Array 147.24 84 ePKPdf PKPbc 17 57 47.8 -0.8
PDAR Pinedale Array 147.24 84 PKPbc PKPbc 17 57 47.7 -0.8
comp=Z,4.4nm,0.8s,baz=212,slow=2.5,SNR=36
PDAR Pinedale Array 147.24 84 ePKPdf PKPdf 17 57 44.4 -1.8
H17A Grant Village 147.34 81 ePKPdf PKPdf 17 57 47.4 +1.0
H17A Grant Village 147.34 81 P PKPdf 17 57 47.0 +0.6
baz=243
YHH Holmes Hill 147.35 80 ePKPdf PKPdf 17 57 47.3 +0.9
T25A Trinidad 147.54 97 ePKPbc PKPbc 17 57 49.3 -0.2
T25A Trinidad 147.54 97 P PKPbc 17 57 49.1 -0.4
baz=234
HRY Holter Researc 147.54 76 ePKPbc PKPbc 17 57 49.0 -0.1
435B Jarrell 147.64 113 ePKPbc PKPbc 17 57 49.6 -0.1
435B Jarrell 147.64 113 P PKPdf 17 57 47.9 +0.9
baz=224
ABTX Abilene, Hawle 147.68 108 ePKPdf PKPdf 17 57 47.7 +0.7
ABTX Abilene, Hawle 147.68 108 P PKPbc 17 57 48.6 -1.2
baz=227
AMTX Amarillo 147.89 103 ePKPdf PKPbc 17 57 49.1 -1.3
AMTX Amarillo 147.89 103 P PKPbc 17 57 49.5 -0.9
baz=230
HKT Hockley 148.06 116 ePKPbc PKPbc 17 57 52.0 +1.2
HKT Hockley 148.06 116⇑ ePKP2 PKPbc 17 57 49.4 -1.3
DAG Danmarks Havn 148.07 342 i PKIKP PKPdf 17 57 47.1 +0.9
DAG i 17 57 54.9
DAG pmax pmax
comp=Z,14nm,1.0s
Q24A Divide 148.11 93 ePKPbc PKPbc 17 57 51.6 +0.5
Q24A Divide 148.11 93 P PKPbc 17 57 50.9 -0.2
baz=236,SNR=5.6
RWWY Rawlins 148.22 87 ePKPbc PKPbc 17 57 51.6 +0.3
ISCO Idaho Springs 148.27 92 ePKPbc PKPbc 17 57 52.0 +0.5
ISCO Idaho Springs 148.27 92 PKP2 PKPbc 17 57 52.0 +0.5
ISCO Idaho Springs 148.27 92 P PKPbc 17 57 51.4 -0.2
baz=237,SNR=6.8
RLMT Red Lodge 148.50 80 ePKPbc PKPbc 17 57 52.5 +0.7
RLMT Red Lodge 148.50 80 P PKPbc 17 57 52.1 +0.3
baz=245
GCMT Greycliff 148.53 79 ePKPbc PKPbc 17 57 52.5 +0.7
WHTX Lake Whitney, 148.57 111 P PKPbc 17 57 51.1 -1.0
baz=225
N23A Red Feather La 148.64 90 ePKPbc PKPbc 17 57 53.2 +0.8
N23A Red Feather La 148.64 90 P PKPbc 17 57 52.6 +0.2
baz=239,SNR=7.7

K22A	**Casper**	**149.14**	**86**	*e*PKPbc	**PKPbc**	**17 57 53.7**	**+0.2**	
K22A	**Casper**	**149.14**	**86**	P	**PKPbc**	**17 57 53.3**	**-0.2**	
	baz=241							
PHWY	**Pilot Hill**	**149.16**	**89**	*e*PKPbc	**PKPbc**	**17 57 53.8**	**+0.1**	
YKW3	**Yellowknife Ar**	**149.29**	**46**	*e*PKPbc	**PKPbc**	**17 57 52.2**	**-0.7**	
YKA	**Yellowknife Ar**	**149.29**	**46**	PKPbc	**PKPbc**	**17 57 51.9**	**-1.0**	
	comp=Z,10nm,0.6s,baz=278,slow=2.0,SNR=42							
YKB5	**Yellowknife Ar**	**149.29**	**46**	*e*pPKPdf	**PKPbc**	**17 57 51.8**	**-1.1**	
EGMT	**Eagleton**	**149.35**	**75**	*e*PKPbc	**PKPbc**	**17 57 53.4**	**-0.3**	
EGMT	**Eagleton**	**149.35**	**75**	P	**PKPbc**	**17 57 53.3**	**-0.4**	
	baz=249							
WMOK	**Wichita Mounta**	**149.62**	**106**	*e*PKPdf	**PKPdf**	**17 57 49.4**	**-0.7**	
WMOK	**Wichita Mounta**	**149.62**	**106**	P	**PKPbc**	**17 57 53.9**	**-0.8**	
	baz=229							
U32A	**Winter Ranch,**	**150.53**	**103**	*e*PKPbc	**PKPbc**	**17 57 57.4**	**+0.6**	
LAO	**LASA Array**	**151.08**	**79**	*e*PKPbc	**PKPbc**	**17 57 57.7**	**-0.2**	
LAO	**LASA Array**	**151.08**	**79**	P	**PKPbc**	**17 57 57.7**	**-0.2**	
	baz=248							
342A	**Flagon Creek P**	**151.14**	**118**	*e*PKPbc	**PKPbc**	**17 57 59.6**	**+1.2**	
342A	**Flagon Creek P**	**151.14**	**118**	P	**PKPbc**	**17 57 58.1**	**-0.3**	
	baz=222							
OGNE	**Ogallala**	**151.20**	**93**	P	**PKPbc**	**17 57 58.2**	**-0.1**	
	baz=239							
RSSD	**Black Hills**	**151.43**	**85**	*e*PKPbc	**PKPbc**	**17 57 58.6**	**-0.4**	
RSSD	**Black Hills**	**151.43**	**85**	P	**PKPbc**	**17 57 57.9**	**-1.0**	
	baz=244							
CBKS	**Cedar Bluff**	**151.51**	**98**	*e*PKPbc	**PKPbc**	**17 57 59.4**	**+0.3**	
CBKS	**Cedar Bluff**	**151.51**	**98**	*e*PKIKP	**PKPbc**	**17 57 59.4**	**+0.3**	
CBKS	**Cedar Bluff**	**151.51**	**98**	P	**PKPbc**	**17 57 58.4**	**-0.7**	
	baz=235							
X37A	**Clayton**	**151.62**	**110**	*e*PKPbc	**PKPbc**	**17 57 58.8**	**-0.6**	
RES	**Resolute Bay**	**151.63**	**17**	*e*PKPbc	**PKPbc**	**17 57 57.0**	**-1.2**	
RES	**Resolute Bay**	**151.63**	**17**	*e*PKIKP	**PKPbc**	**17 57 57.0**	**-1.2**	
SCO	**Scoresbysund**	**151.97**	**332**	*e*PKIKP	**PKPbc**	**17 57 58.8**	**-0.2**	
TUL1	**Leonard**	**152.24**	**107**	*e*PKPbc	**PKPbc**	**17 58 00.7**	**0.0**	
TUL1	**Leonard**	**152.24**	**107**	P	**PKPbc**	**17 58 00.3**	**-0.4**	
	baz=230							
VBMS	**Vicksburg**	**152.79**	**120**	*e*PKPdf	**PKPdf**	**17 57 56.5**	**+1.6**	
HHAR	**Hobbs**	**153.62**	**109**	*e*PKPbc	**PKPbc**	**17 58 02.4**	**-1.5**	
KSU1	**Kansas State U**	**153.68**	**101**	*e*PKPbc	**PKPbc**	**17 58 03.2**	**-0.6**	
W41B	**Gary Mavity, V**	**153.90**	**113**	*e*PKPbc	**PKPbc**	**17 58 03.9**	**-0.6**	
WHAR	**Wooly Hollow**	**153.96**	**113**	*e*PKPbc	**PKPbc**	**17 58 03.8**	**-0.7**	
ECSD	**EROS Data Cent**	**156.06**	**92**	*e*PKPdf	**PKPdf**	**17 57 58.4**	**-0.8**	
ECSD	**EROS Data Cent**	**156.06**	**92**	P	**PKPdf**	**17 57 57.7**	**-1.5**	
	baz=244							
PLAL	**Pickwick Lake**	**156.20**	**119**	*e*PKPdf	**PKPdf**	**17 58 01.1**	**+1.5**	
X48A	**Hartselle**	**156.39**	**121**	P	**PKPdf**	**17 58 00.1**	**+0.2**	
	baz=222							
254A	**Abbeville**	**156.39**	**131**	P	**PKPdf**	**17 58 00.6**	**+0.6**	
	baz=215							
Q41A	**Truxton**	**156.97**	**107**	P	**PKPdf**	**17 57 59.9**	**-0.6**	
	baz=233							
P44A	**Sand Creek, Wi**	**158.89**	**109**	P	**PKPdf**	**17 58 01.8**	**-1.1**	
	baz=232							
K40A	**Colesburg**	**159.10**	**99**	P	**PKPdf**	**17 58 03.0**	**+0.1**	
	baz=240							
P45A	**Graceland, Par**	**159.46**	**110**	P	**PKPdf**	**17 58 02.9**	**-0.5**	
	baz=232							
WCI	**Wyandotte Cave**	**159.49**	**115**	P	**PKPdf**	**17 58 03.5**	**-0.1**	
	baz=228							

MAN 08 17:38:19.8, 6.80N×124.37E, h33km, mb3.8, ML2.5, MS2.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKMP	**Bagumbayan, Su**	**0.32**	**148**	*e*P	Pn	17 38 29.2	+1.0
PAGZ	**Pagadian**	**1.44**	**317**	*e*P	Pn	17 38 44.0	+0.4
PAGZ				*e*S	Sn	17 39 01.2	0.0
DDMP	**Don Marcelino,**	**1.50**	**117**	*e*P	Pb	17 38 50.2	+3.2
DDMP				*e*S	Sb	17 39 14.1	+8.4

*IDC **08** 17:49:07.4±1.7, 8.69S×124.65E, h0km, mb3.4/1, mb1 3.9/4, mb1mx3.5/38, mbtmp3.7/4, ML3.8/3, Error ellipse: s-maj=33.1km s-min=15.8km az=110.0*
*ISCJB **08** 17:49:10.0±1.1, 8.77S±0.08×124.82E±0.07, h33km, mb3.5/1, Error ellipse: s-maj=13.1km s-min=8.9km az=34.3*
*DJA **08** 17:49:19.3±0.9, 9°S±3°×12°4E±°, h15km±11km, M3.2/6, MLv3.2/6*

ISC 08 17:49:10.5±1.3, 8.65S±0.09×124.82E±0.09, h35km, n10, σ3$49/14, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.23**	**206**	P	**Pn**	**17 49 35.9**	**+4.6**
SOEI				S	**Sn**	**17 49 50.3**	**+3.6**
BATI	**Baumata**	**1.92**	**216**	Pg	**Pn**	**17 49 42.1**	**+1.4**
	123nm,0.3s,baz=72,slow=9.6,SNR=234						
BATI				Lg	Lg	17 50 02.8	
	167nm,0.3s,baz=336,slow=20,SNR=44						
BATI	**Baumata**	**1.92**	**216**	P	**Pn**	**17 49 42.4**	**+1.7**
BATI				S	**Sn**	**17 50 01.6**	**-2.1**
MMRI	**Maumere**	**2.55**	**270**	P	**Pn**	**17 49 50.0**	**+0.6**
MMRI				S	**Sn**	**17 50 13.7**	**-5.5**
EDFI	**Ende, Flores**	**3.09**	**268**	P	**Pn**	**17 49 57.0**	**+0.1**
BBSI	**Bau Bau**	**3.85**	**324**	P	Pn	17 50 16.0	+8.7
FITZ	**Fitzroy Crossi**	**9.43**	**175**	Pn	**Pn**	**17 51 23.8**	**-0.1**
	0.7nm,0.3s,baz=357,slow=9.6,SNR=39						
FITZ				Sn	Sn	17 52 59.3	-9.4
	2.0nm,0.3s,baz=235,slow=6.3,SNR=10						
WRA	**Warramunga Arr**	**14.52**	**142**	Pn	**Pn**	**17 52 35.2**	**+1.6**
	0.4nm,0.3s,baz=314,slow=14,SNR=18						
WRA				Sn	**Sn**	**17 55 08.1**	**-5.4**
	1.2nm,0.3s,baz=303,slow=22,SNR=14						
ASAR	**Alice Springs**	**17.28**	**151**	P	**P**	**17 53 10.7**	**+0.3**
	0.4nm,0.3s,baz=324,slow=12,SNR=18						
ASAR				S	**Sn**	**17 56 15.7**	**-4.9**
	0.4nm,0.3s,baz=318,slow=23,SNR=11						
MKAR	**Makanchi Array**	**66.92**	**330**	P	**P**	**18 00 01.1**	**+1.8**
	0.3nm,0.6s,baz=130,slow=7.6,SNR=2.9						

*MOS **08** 17:56:04.7±1.9, 55.72N×110.20E, h9km, mb4.2/1, Error ellipse: s-maj=20.6km s-min=16.8km az=57.2*

BYKL 08 17:56:04.1±0.3, 55.74N×110.18E, h7km±4km, 8C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIZ	**Nizh Angarsk**	**0.36**	**276**	⇑*i*Pg	Pg	17 56 11.2	0.0
NIZ				*e*Sg	Sg	17 56 16.6	+0.6
NIZ				Pmax			
	90nm,0.3s						
NIZ				Smax			
	785nm,0.5s						
NIZ	**Nizh Angarsk**	**0.36**	**276**	⇑*i*PG	Pg	17 56 11.2	0.0
NIZ				*e*		17 56 16.5	
NIZ				pmax	pmax		
	comp=Z,90nm,0.2s						
NIZ				smax	smax		
	comp=E,783nm,0.5s						
KMO	**Kumora**	**0.59**	**75**	⇑*i*Pg	Pg	17 56 14.4	-1.2
KMO				*e*Sg	Sg	17 56 22.2	-1.1
KMO				Pmax			
	comp=E,78nm,0.3s						
KMO				Smax			
	comp=E,420nm,0.7s						
KMO	**Kumora**	**0.59**	**75**	⇑*i*PG	Pg	17 56 14.4	-1.2
KMO				*e*		17 56 22.4	
KMO				pmax	pmax		
	comp=Z,78nm,0.2s						
KMO				smax	smax		
	comp=N,422nm,0.6s						
YOA	**Uoyan**	**0.95**	**65**	*e*Pg	Pg	17 56 21.4	-1.0
YOA				*e*Sg	Sg	17 56 35.2	+0.4
YOA				Pmax			
	comp=N,145nm,0.1s						
YOA				Smax			
	comp=N,1μm,0.5s						
YOA	**Uoyan**	**0.95**	**65**	*e*PG	Pg	17 56 21.9	-0.5
YOA				*i*		17 56 36.1	
YOA				pmax	pmax		
	comp=Z,78nm,0.2s						
YOA				smax	smax		
	comp=N,891nm,0.2s						
YLYR	**Ulyunkhan**	**1.03**	**147**	⇓*i*Pg	Pg	17 56 22.7	-1.2
YLYR				*e*Sg	Sg	17 56 36.8	-0.4
YLYR				Pmax			
	comp=N,116nm,0.5s						
YLYR				Smax			
	comp=N,567nm,0.3s						
YLYR	**Ulyunkhan**	**1.03**	**147**	⇑*i*PG	Pg	17 56 22.7	-1.2
YLYR				*e*		17 56 36.2	
YLYR				pmax	pmax		
	comp=Z,96nm,0.4s						
YLYR				smax	smax		
	comp=N,553nm,0.1s						
SVKR	**Severomuysk**	**1.94**	**77**	⇑*i*Pg	Pn	17 56 38.4	+0.9
SVKR				*e*Sg	Sb	17 57 04.1	-0.1
SVKR				*e*		17 57 06.7	
SVKR				Pmax			
	comp=N,97nm,0.2s						
SVKR				max			
	comp=N,1μm,0.6s						
SVKR	**Severomuysk**	**1.94**	**77**	*e*PN	Pn	17 56 38.2	+0.7
SVKR				*e*		17 56 39.4	
SVKR				*e*		17 57 03.8	
SVKR				pmax	pmax		
	comp=Z,123nm,0.6s						
SVKR				smax	smax		
	comp=N,1μm,0.7s						
UKT	**Uakit**	**1.97**	**96**	⇑*i*Pn	Pn	17 56 38.9	+0.9
UKT				*e*Pg	Pb	17 56 39.7	-0.6
UKT				*i* Sg	Sb	17 57 05.6	+0.5
UKT				Pmax			
	comp=N,42nm,0.5s						
UKT				Smax			
	comp=N,390nm,0.5s						
SYVR	**Suvo**	**2.09**	**183**	*e*	Pn	17 56 40.6	+1.1
SYVR				⇑*i*Pg	Pb	17 56 41.6	-0.7
SYVR				*e*Sg	Sg	17 57 10.6	-0.5
SYVR				*e*		17 57 11.7	
SYVR				Pmax			
	comp=N,101nm,0.5s						
SYVR				max			
	comp=N,686nm,0.8s						
SYVR	**Suvo**	**2.09**	**183**	*e*PN	Pb	17 56 41.4	-0.9
SYVR				*e*		17 57 09.9	
SYVR				pmax	pmax		
	comp=Z,102nm,0.6s						
SYVR				smax	smax		
	comp=E,702nm,0.7s						
OGRR	**Ongureny**	**2.58**	**217**	*e*Pn	Pb	17 56 48.6	-2.1
OGRR				*e*		17 56 50.9	
OGRR				*e*Pg	Pg	17 56 51.0	-2.5
OGRR				*e*Sg	Sb	17 57 24.2	+1.6
OGRR				Pmax			
	comp=E,26nm,0.9s						
OGRR				Smax			
	comp=E,199nm,0.7s						
MXMB	**Maximikha**	**2.62**	**199**	*e*Pn	Pn	17 56 47.6	+0.8
MXMB				*e*Pg	Pb	17 56 51.7	+0.4
MXMB				*e*Sg	Sg	17 57 26.6	-1.6
BOD	**Bodaibo**	**2.96**	**44**	*e*Pn	Pn	17 56 51.7	+0.2
BOD				*e*Pg	Pb	17 56 56.5	-0.6
BOD				*e*Sn	Sn	17 57 28.0	+0.8
BOD				*e*Sg	Sb	17 57 34.4	+0.9
BOD				Pmax			
	comp=E,9.0nm,0.2s						
BOD				Smax			
	comp=E,105nm,0.4s						
NLYR	**Nelyaty**	**3.18**	**74**	*e*Pn	Pn	17 56 54.8	+0.2
NLYR				*e*Pg	Pb	17 57 01.8	+0.9
NLYR				*e*Sg	Sb	17 57 41.8	+1.9
NLYR				Pmax			
	comp=E,21nm,0.8s						
NLYR				Smax			
	comp=E,88nm,1.0s						
KELR	**Kotokel**	**3.23**	**203**	*e*Pn	Pn	17 56 55.2	0.0
KELR				*e*Pg	Pb	17 57 01.9	+0.2
KELR				*e*Sg	Sb	17 57 43.6	+2.4
UUDB	**Ulan-Yde**	**4.16**	**202**	*e*Sg	Sg	17 58 13.3	-4.2
UUDB				Smax			
	comp=E,56nm,1.0s						
CIT	**Chita**	**4.23**	**150**	*e*Sg	Sb	17 58 13.8	+3.9
CIT				Smax			
	comp=E,130nm,6.9s						
HRMR	**Khuramsha**	**4.54**	**206**	*e*Pn	Pn	17 57 15.0	+1.7
HRMR				*e*Pg	Pb	17 57 24.6	+0.5
HRMR				*e*Sn	Sn	17 58 05.6	-0.7
HRMR				*e*Sg	Sb	17 58 24.4	+5.4
HRMR				Pmax			
	comp=E,22nm,0.6s						
HRMR				Smax			
	comp=E,148nm,0.7s						
CRS	**Chara**	**4.65**	**72**	*e*Pn	Pn	17 57 15.2	+0.5
CRS				*e*Pg	Pb	17 57 28.1	+2.1
CRS				*e*Sn	Sn	17 58 07.8	-1.1
CRS				*e*Sg	Sg	17 58 29.1	-4.2
CRS				Pmax			
	comp=E,12nm,1.2s						
CRS				Smax			
	comp=E,49nm,1.0s						
LSTR	**Listvyanka**	**5.01**	**221**	*e*Sn	Sn	17 58 13.9	-3.8
LSTR				*e*Sg	Sg	17 58 39.1	-5.7
LSTR				Smax			
	comp=E,24nm,1.2s						
IVK	**Ivanovka**	**5.22**	**223**	*e*Sn	Sn	17 58 20.3	-2.6
IVK				*e*Sg	Sg	17 58 45.2	-6.4
IVK				Smax			
	comp=E,18nm,0.7s						
TLY	**Talaya**	**5.62**	**226**	*e*Sn	Sn	17 58 30.8	-2.0
TLY				*e*Sg	Sb	17 58 57.2	+7.2
TLY				Smax			
	comp=E,28nm,0.9s						
TUP	**Tupik**	**5.77**	**99**	*e*Pn	Pn	17 57 29.7	-0.3
TUP				*e*Pg	Pb	17 57 47.2	+2.3
TUP				*e*Sn	Sn	17 58 33.6	-2.8
TUP				*e*Sg	Sg	17 59 02.8	-6.3
TUP				Pmax			
	comp=E,5.0nm,0.7s						
TUP				Smax			
	comp=E,72nm,0.7s						
TUP	**Tupik**	**5.77**	**99**	*e*PN	Pn	17 57 29.4	-0.7
TUP				*e*		17 57 47.0	
TUP				*e*S	Sn	17 58 34.0	-2.4
TUP				*e*		17 59 01.9	
TUP				pmax	pmax		
	comp=Z,10.0nm,0.6s						
TUP				smax	smax		
	comp=N,69nm,0.9s						
ARS	**Arshan**	**5.98**	**233**	*e*Pn	Pn	17 57 32.5	-0.5
ARS				*e*Sn	Sn	17 58 38.7	-2.9
ARS				*e*Sg	Sg	17 59 09.7	-6.1
ARS				Smax			
	comp=N,116nm,0.5s						
KPC	**Khapcheranga**	**6.19**	**167**	*e*Pn	Pn	17 57 35.4	-0.5
KPC				*e*Pg	Pb	17 57 54.9	+2.7
KPC				*e*Sn	Sn	17 58 43.4	-3.6
KPC				*e*Sg	Sg	17 59 14.7	-8.1
KPC				Pmax			
	comp=N,6.0nm,0.8s						
KPC				Smax			
	comp=N,36nm,1.1s						
ZAK	**Zakamensk**	**6.79**	**221**	*e*Sg	Sg	17 59 33.9	-7.9
ZAK				Smax			
	comp=N,13nm,1.0s						
MOY	**Mondy**	**6.81**	**237**	*e*Pn	Pn	17 57 46.1	+1.7
MOY				*e*Sn	Sn	17 58 58.6	-3.6
MOY				*e*Sg	Sb	17 59 33.2	+8.9
MOY				Smax			
	comp=N,36nm,1.5s						
MOY	**Mondy**	**6.81**	**237**	*e*PN	Pn	17 57 46.4	+2.0
MOY				*e*		17 58 07.8	
MOY				*e*S	Sn	17 59 01.1	-1.1
MOY				*e*		17 59 35.0	
MOY				pmax	pmax		
	comp=Z,6.0nm,0.4s						
MOY				smax	smax		
	comp=E,35nm,0.8s						
ORL	**Orlik**	**6.88**	**247**	*e*Pn	Pn	17 57 46.4	+0.9
ORL				*e*Sn	Sn	17 59 00.7	-3.3
ORL				*e*Sg	Sg	17 59 36.1	-8.8
ORL				Smax			
	comp=E,18nm,1.2s						

*IDC **08** 17:56:37.7±0.6, 18.76S×173.34W, h0km, mb4.4/17, mb1 4.6/18, mb1mx4.5/37, mbtmp4.5/18, ML4.4/1, MS4.4/18, Ms1 4.4/18, ms1mx4.3/34, Error ellipse: s-maj=23.9km s-min=13.4km az=147.0*
*NEIC **08** 17:56:38.5±7.3, 18.81S×173.33W, h11km±45km, mb5.1/47, Error ellipse: s-maj=10.5km s-min=7.7km az=155.0*

*BJI **08** 17:56:38.6, 18.65S×173.32W, h15km, mb4.9/25, mB5.5/12, Ms5.3/8, Ms7 5.0/6*
*ISCJB **08** 17:56:40.1±0.2, 18.86S±0.06×173.36W±0.05, h31km, mb4.8/67, MS4.5/20, Error ellipse: s-maj=9.9km s-min=4.8km az=140.4*
*GCMT **08** 17:56:42.5±0.2, 19.02S±0.02×172.61W±0.01, h12km, MW5.1/94, Moment Tensor Solution. s41,c58; s94,c137; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.49±.10; $M_{\theta\theta}$-1.59±.10; $M_{\phi\phi}$-2.90±.09; $M_{r\theta}$1.97±.36; $M_{\theta\phi}$-1.91±.09; $M_{\phi r}$1.10±.33; Best double couple: M_o4.91700×10^{16} NP1:ϕ_S206.00000°,δ33.00000°,λ73.00000°. Principal axes: T 5.1080, Plg74.0000°, Azm345.0000°; N -0.3820, Plg9.0000°, Azm220.0000°; P -4.7260, Plg13.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 17:56:41.9±0.5, 18.61S±0.07×173.30W±0.09, h31km, n198, σ1$80/197, mb5.0/67, MS4.5/20, 15C-7D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**3.22**	**99**	P	Pn	17 57 18.7	-12
	baz=2.8,SNR=18						
AFI	**Afiamalu**	**4.89**	**18**	Pn	**Pn**	**17 57 51.3**	**-2.2**
	6.8nm,0.3s,baz=29,slow=0.9,SNR=9.1						
AFI				Sn	**Sn**	**17 58 46.0**	**-3.1**
	41nm,0.3s,baz=52,slow=16,SNR=6.4						
AFI	**Afiamalu**	**4.89**	**18**	*e*Pn	**Pn**	**17 57 49.3**	**-4.1**
	120nm,0.5s						
AFI				Sn	**Sn**	**17 58 46.0**	**-3.1**
DZM	**Mont Dzumac**	**19.31**	**256**	P	**Pn**	**18 01 05.5**	**-0.3**
	1.1nm,0.3s,baz=88,slow=16,SNR=15						
DZM	**Mont Dzumac**	**19.31**	**256**	*e*P	**Pn**	**18 01 05.4**	**-0.4**
	77nm,0.9s						
DZM				*e*LR	LR	18 06 28.7	
	2μm,20.8s						
DZM	**Mont Dzumac**	**19.31**	**256**	*e*P	**Pn**	**18 01 05.5**	**-0.3**
	150nm,1.6s						
URZ	**Urewera**	**21.29**	**201**	P	**P**	**18 01 24.1**	**-1.8**
	31nm,0.8s,baz=16,slow=5.6,SNR=12						
URZ	**Urewera**	**21.29**	**201**	*e*P	**P**	**18 01 23.3**	**-2.6**
	39nm,0.8s						
BKZ	**Black Stump Fm**	**22.32**	**201**	*e*P	**P**	**18 01 33.7**	**-3.3**
	36nm,1.2s						
PAE	**Paea**	**22.55**	**91**	*e*T	T	18 24 23.2	
	3.5nm,0.3s						
PPT2	**Papeete2**	**22.57**	**91**	*e*S	S	18 05 28.9	-17
	424nm,24.8s						
PPT2				*e*LQ	LQ	18 05 47.6	
	2μm,25.2s						
PPT2				*e*LR	LR	18 06 45.7	
	3μm,27.8s						
TBI	**Tubuai**	**22.74**	**106**	*e*S	S	18 05 34.0	-14
	343nm,27.8s						
TBI				*e*LQ	LQ	18 05 57.4	
	552nm,28.5s						
TBI				*e*LR	LR	18 06 37.9	
	2μm,30.5s						
THZ	**Tophouse**	**25.91**	**204**	*e*P	**P**	**18 02 08.2**	**-3.1**
	29nm,0.7s						
LTZ	**Lake Taylor**	**27.02**	**204**	*e*P	**P**	**18 02 16.8**	**-4.5**
	33nm,0.7s						
HNR	**Honiara**	**27.48**	**286**	LR	LR	18 11 47.5	
	comp=Z,920nm,19.4s,baz=149,slow=33						
OXZ	**Oxford**	**27.58**	**204**	*e*P	**P**	**18 02 23.8**	**-2.4**
	48nm,0.6s						
RPZ	**Rata Peaks**	**28.29**	**204**	P	**P**	**18 02 36.6**	**+4.0**
	22nm,0.6s,baz=24,slow=2.3,SNR=20						
RPZ	**Rata Peaks**	**28.29**	**204**	*e*P	**P**	**18 02 30.9**	**-1.7**
	24nm,0.7s						
FOZ	**Fox Glacier**	**28.64**	**206**	*e*P	**P**	**18 02 34.5**	**-1.1**
	26nm,0.8s						
TAOE	**Nuku Hiva Isla**	**33.57**	**78**	*e*LR	LR	18 11 43.7	
	1μm,26.4s						
ARMA	**Armidale**	**33.88**	**243**	P	**P**	**18 03 21.3**	**-0.8**
	baz=34,SNR=4.8						
MGCD	**Mangrove Creek**	**34.98**	**238**	P	**P**	**18 03 30.3**	**-1.2**
	baz=35,SNR=6.8						
RMQ	**Roma**	**35.81**	**250**	P	**P**	**18 03 38.0**	**-0.7**
	baz=36,SNR=4.9						
CNB	**Canberra Magne**	**36.95**	**236**	P	**P**	**18 03 47.1**	**-1.3**
	baz=37,SNR=11						
CTA	**Charters Tower**	**38.13**	**261**	P	**P**	**18 03 56.3**	**-2.2**
	24nm,0.6s,baz=95,slow=9.7,SNR=47						
CTAO	**Charters Tower**	**38.13**	**261**	*e*P	**P**	**18 03 56.3**	**-2.2**
	28nm,0.8s						
CMSA	**Cobar Meteorol**	**39.09**	**243**	P	**P**	**18 04 04.9**	**-1.6**
	baz=40,SNR=8.7						
QLP	**Quilpie**	**39.86**	**251**	P	**P**	**18 04 11.7**	**-1.2**
	baz=40,SNR=7.5						
MTSU	**Mount Surprise**	**40.16**	**264**	P	**P**	**18 04 15.3**	**-0.2**
	baz=41,SNR=17						
TOO	**Toolangi**	**40.59**	**234**	P	**P**	**18 04 17.3**	**-1.5**
	baz=41,SNR=6.3						
COEN	**Coen**	**41.97**	**270**	P	**P**	**18 04 31.1**	**+0.7**
	baz=42,SNR=10.0						
STKA	**Stephens Creek**	**42.60**	**243**	P	**P**	**18 04 34.0**	**-1.4**
	5.6nm,0.9s,baz=115,slow=12,SNR=7.0						
STKA				LR	LR	18 21 14.5	
	comp=Z,2μm,19.6s,baz=66,slow=35						
STKA	**Stephens Creek**	**42.60**	**243**	P	**P**	**18 04 34.1**	**-1.2**
	baz=43,SNR=6.3						
STKA	**Stephens Creek**	**42.60**	**243**	*e*P	**P**	**18 04 32.7**	**-2.7**
	3.3nm,1.4s						
JAY	**Jayapura**	**47.78**	**284**	P	**P**	**18 05 18.0**	**+1.2**
	9.1nm,1.0s,baz=5.7,slow=10,SNR=3.2						
AS01	**Alice Springs**	**49.24**	**254**	*e*P	**P**	**18 05 25.9**	**-2.1**
WB2	**Warramunga Arr**	**49.27**	**259**	*e*P	**P**	**18 05 26.1**	**-2.1**
WRAB	**Tennant Creek**	**49.27**	**259**	*e*P	**P**	**18 05 26.2**	**-1.9**
	17nm,0.9s						
AS31	**Alice Springs**	**49.28**	**254**	*e*P	**P**	**18 05 26.2**	**-2.0**
	6.3nm,1.0s						
WRA	**Warramunga Arr**	**49.28**	**259**	P	**P**	**18 05 27.1**	**-1.2**
	5.0nm,0.5s,baz=97,slow=8.8,SNR=95						
WRA				S	**S**	**18 12 35.0**	**+2.2**
	1.2nm,0.9s,baz=97,slow=14,SNR=6.6						
WRA				LR	LR	18 26 01.8	
	comp=Z,1μm,19.7s,baz=95,slow=36						
ASAR	**Alice Springs**	**49.28**	**254**	P	**P**	**18 05 27.3**	**-1.0**
	19nm,0.9s,baz=96,slow=7.4,SNR=181						
ASAR				PcP	**PcP**	**18 06 51.9**	**+1.0**
	2.3nm,0.8s,baz=93,slow=5.7,SNR=2.4						
ASAR				S	**S**	**18 12 32.5**	**-0.4**
	0.7nm,0.8s,baz=93,slow=17,SNR=5.1						
KDU	**Kakadu**	**52.40**	**268**	P	**P**	**18 05 50.9**	**-0.9**
	baz=53,SNR=10.0						
MTN	**Manton Dam**	**53.63**	**268**	P	**P**	**18 06 00.0**	**-0.8**
	baz=54,SNR=5.3						
MTN	**Manton Dam**	**53.63**	**268**	*e*P	**P**	**18 05 59.1**	**-1.7**
	16nm,0.8s						
FORT	**Forrest**	**54.11**	**245**	P	**P**	**18 06 03.1**	**-1.1**
	baz=55,SNR=6.9						
FORT	**Forrest**	**54.11**	**245**	*e*P	**P**	**18 06 02.2**	**-2.0**
	16nm,0.7s						
WRKA	**Warakurna**	**54.26**	**252**	P	**P**	**18 06 04.2**	**-1.2**

MAT	Matsushiro	71.45	320	P		P	18 08 01.5	+2.0
QSPA	South Pole Qui	71.45	180	*e*P		P	18 07 57.7	-1.6
	24nm,1.7s							
JNU	Nakatsue	74.06	314	LR		LR	18 37 41.6	
	comp=Z,209nm,18.6s,baz=120,slow=33							
ASAJ	Asahikawa	74.31	329	LR		LR	18 36 33.4	
	comp=Z,264nm,19.3s,baz=187,slow=32							
MONP2	Monument Peak	74.66	47	P		P	18 08 22.6	+3.8
	baz=235							
FRD	Ford Ranch, An	74.87	46	P		P	18 08 23.0	+3.1
	baz=235							
PETK	Petropavlovsk-	75.70	342	P		P	18 08 25.1	+1.1
	5.4nm,0.9s,baz=161,slow=9.4,SNR=3.6							
PETK				LR		LR	18 38 50.8	
	comp=Z,268nm,19.6s,baz=181,slow=33							
BC3	Big Chuckawall	75.75	47	P		P	18 08 25.6	+0.7
	baz=236							
MPMC	Manual Prospec	75.76	44	P		P	18 08 26.6	+1.5
	baz=234							
SBUM	Sibu	76.11	277	*e*P		P	18 08 28.1	+0.8
	6.6nm,1.3s							
IRM	Iron Mountain	76.25	46	P		P	18 08 28.2	+0.6
	baz=236							
NVAR	Mina Array Bea	76.64	41	P		P	18 08 30.9	+0.8
	0.7nm,0.4s,baz=233,slow=8.9,SNR=2.9							
214A	Organ Pipe Nat	76.70	49	P		P	18 08 30.9	+0.6
	baz=238							
NV11	Mina Array Sit	76.74	41	*e*P		P	18 08 31.3	+0.8
	1.1nm,1.3s							
KSM	Kuching	77.59	276	*e*P		P	18 08 36.7	+1.1
	50nm,1.4s							
J05D	Fort Rock, OR	77.93	36	P		P	18 08 37.3	+0.3
	baz=230							
R11A	Troy Canyon, C	78.32	43	*e*P		P	18 08 39.1	-0.3
	8.2nm,1.4s							
R11A	Troy Canyon, C	78.32	43	P		P	18 08 39.7	+0.3
	baz=235							
TUC	Tucson	78.35	50	*e*P		P	18 08 39.6	+0.1
	6.9nm,1.1s							
TUC	Tucson	78.35	50	P		P	18 08 40.4	+0.9
	baz=239							
KSRS	Korea Array	78.52	316	P		P	18 08 43.4	+3.2
	3.7nm,0.8s,baz=135,slow=6.3,SNR=14							
KSRS				LR		LR	18 39 40.7	
	comp=Z,203nm,19.7s,baz=160,slow=33							
KSAR	Wonju Array Be	78.53	316	P		P	18 08 43.4	+3.1
KS01	Wonju Array Si	78.55	316	*e*P		P	18 08 42.5	+2.1
X16A	Lo Mia Camp, P	78.97	48	*e*P		P	18 08 43.2	+0.2
	10nm,1.3s							
KNB	Kanab	79.40	45	*e*P		P	18 08 46.3	+0.9
	39nm,1.8s							
U15A	North Rim	79.44	46	*e*P		P	18 08 46.8	+1.1
	18nm,1.4s							
USRK	Ussuriysk Ar.	80.00	323	LR		LR	18 42 43.4	
	comp=Z,235nm,18.7s,baz=137,slow=34							
G08A	Pilot Rock	80.46	36	*e*P		P	18 08 50.7	-0.1
	32nm,1.9s							
HLID	Hailey	82.04	39	*e*P		P	18 08 60.0	+0.6
	21nm,1.9s							
NJ2	Nanjing	82.18	307	*e*P		P	18 08 58.2	-1.8
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.8s							
TX31	Lajitas Ar. Si	82.32	56	*e*P		P	18 09 00.5	-0.5
TXAR	Lajitas Array	82.32	56	P		P	18 09 02.6	+1.6
	0.7nm,0.7s,baz=206,slow=8.3,SNR=8.0							
TXAR				LR		LR	18 40 23.1	
	comp=Z,169nm,18.0s,baz=0.0,slow=32							
ANMO	Albuquerque	82.78	50	P		P	18 09 04.7	+1.3
	0.6nm,0.5s,baz=268,slow=1.9,SNR=5.4							
ANMO	Albuquerque	82.78	50	*e*P		P	18 09 04.6	+1.2
	28nm,1.9s							
MA2	Magadan	83.24	342	LR		LR	18 44 19.1	
	comp=Z,93nm,18.7s,baz=168,slow=34							
CAST	Castle Rocks	83.43	9	*e*P		P	18 09 07.0	+1.2
	7.2nm,0.8s							
CN2	Changchun	83.60	320	*e*P		P	18 09 04.8	-2.4
CN2				*e*PP		PP	18 12 19.6	-0.7
CN2				*e*S		S	18 19 26.0	-1.3
CN2				pmax		pmax		
	comp=Z,10.0nm,1.5s							
MCMT	McKenzie Canyo	83.68	39	*e*P		P	18 09 08.8	+0.9
S22A	4UR Ranch, Cre	83.87	47	*e*P		P	18 09 10.6	+1.5
	27nm,1.6s							
S22A	4UR Ranch, Cre	83.87	47	P		P	18 09 09.7	+0.6
	baz=241							
RND	Reindeer	83.95	11	*e*P		P	18 09 10.2	+1.6
	24nm,1.6s							
MCK	McKinley	84.24	11	*e*P		P	18 09 10.0	0.0
	20nm,1.4s							
IMW	Indian Meadow	84.32	40	*e*P		P	18 09 11.6	+0.4
	8.6nm,1.3s							
PDAR	Pinedale Array	84.58	42	P		P	18 09 12.7	+0.2
	0.7nm,0.6s,baz=202,slow=3.3,SNR=3.6							
PDAR	Pinedale Array	84.58	42	*e*P		P	18 09 11.8	-0.7
SDCO	Great Sand Dun	84.79	47	P		P	18 09 16.0	+2.2
	baz=242							
MAW	Mawson	84.80	199	LR		LR	18 46 31.0	
	comp=Z,368nm,18.6s,baz=89,slow=35							
BOZ	Bozeman (W)	84.83	38	P		P	18 09 14.1	+0.5
	baz=237							
YHH	Holmes Hill	84.85	39	*e*P		P	18 09 14.2	+0.3
	15nm,1.6s							
MSTX	Muleshoe	85.04	52	*e*P		P	18 09 14.6	-0.3
	41nm,1.4s							
MSTX	Muleshoe	85.04	52	P		P	18 09 15.1	+0.2
	baz=244							
WRH	Wood River Hil	85.07	11	*e*P		P	18 09 14.3	+0.1
	22nm,1.2s							
HDA	Harding Lake	85.22	11	*e*P		P	18 09 15.6	+0.7
	10nm,1.0s							
HDA	Harding Lake	85.22	11	P		P	18 09 16.5	+1.6
	baz=205							
CCB	Clear Creek Bu	85.28	11	*e*P		P	18 09 15.8	+0.6
	29nm,1.8s							
SCRK	Sand Creek	85.40	13	*e*P		P	18 09 16.3	+0.3
	15nm,1.4s							
COLA	College	85.48	11	*e*P		P	18 09 16.8	+0.7
	13nm,0.9s							
MDM	Murphy Dome	85.49	10	*e*P		P	18 09 15.8	-0.5
	22nm,1.4s							
IL1	Eielson Array	85.56	11	*e*P		P	18 09 16.4	-0.2
ILAR	Eielson Array	85.56	11	P		P	18 09 17.2	+0.7
	0.7nm,0.6s,baz=221,slow=5.6,SNR=13							
ILB	Eielson Array	85.56	11	*e*P		P	18 09 16.5	-0.1
IM3	Indian Mountai	85.62	8	*e*P		P	18 09 17.2	+0.3
POKR	Poker Plat Res	85.77	11	P		P	18 09 18.5	+0.8
	baz=204							
DAWY	Dawson	86.49	14	*e*P		P	18 09 22.0	+0.7
	16nm,1.3s							
EGAK	Eagle	86.70	13	*e*P		P	18 09 22.9	+0.6
	13nm,1.3s							
ABTX	Abilene, Hawle	86.84	54	*e*P		P	18 09 23.8	+0.1
	42nm,1.3s							
PLCA	Paso Flores	87.30	132	LR		LR	18 40 39.6	
	comp=Z,294nm,18.6s,baz=226,slow=30							
BJI	Beijing	87.74	314	*e*P		P	18 09 29.1	+1.3
BJI				S		S	18 20 12.5	+4.4
BJI				pmax		pmax		
	comp=Z,14nm,2.3s							
TOLK	Toolik Lake Re	88.69	8	P		P	18 09 32.2	+0.4
	baz=202							
ENH	Enshi	88.72	302	*e*P		P	18 09 33.7	+1.0
	109nm,1.9s							
EPYK	Eagle Plains	89.04	14	P		P	18 09 34.4	+1.0
	baz=214							
SYO	Syowa Base	89.49	191	*e*P		P	18 09 37.0	+1.4
GYA	Guiyang	89.63	298	P		P	18 09 37.6	+0.4
GYA				PP		PP	18 13 11.7	+2.1
GYA				SKS		SKSac	18 20 06.5	+0.6
GYA				S		S	18 20 27.2	+0.4
GYA				pmax		pmax		
	comp=Z,20nm,1.0s							
GYA				pmax		pmax		
	comp=Z,120nm,5.6s							
HHC	Hu-ho-hao-te	91.27	313	*e*P		P	18 09 44.4	-0.1
HHC				SKS		SKSac	18 20 13.0	-1.8
HHC				S		S	18 20 39.8	-1.5
HHC				pmax		pmax		
	comp=Z,19nm,0.8s							
HHC				pmax		pmax		
	comp=Z,190nm,5.6s							
HHC				LR		LR		
	comp=N,150nm,5.2s							
HHC				LR		LR		
	comp=E,240nm,5.0s							
HHC				LR		LR		
	comp=Z,160nm,6.9s							
NNA	Nana	92.23	103	LR		LR	18 42 22.6	
	comp=Z,126nm,21.0s,baz=192,slow=30							
KMI	Kunming	92.50	296	P		P	18 09 49.5	-1.2
KMI				pmax		pmax		
	comp=Z,13nm,1.1s							
KMI				LR		LR		
	comp=N,130nm,19.6s							
KMI				LR		LR		
	comp=E,140nm,19.6s							
CD2	Chengdu	93.56	301	*e*P		P	18 09 54.8	-0.5
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				pmax		pmax		
	comp=Z,120nm,5.0s							
CMAR	Chiang Mai Arr	93.71	288	P		P	18 09 58.4	+2.3
	1.4nm,0.9s,baz=101,slow=2.7,SNR=11							
CMAR				LR		LR	18 50 34.8	
	comp=Z,77nm,19.4s,baz=125,slow=34							
CHTO	Chiang Mai	93.82	288	*e*P		P	18 09 56.7	0.0
	24nm,2.0s							
CHTO	Chiang Mai	93.82	288	P		P	18 10 00.7	+4.0
LZH	Lanzhou	95.19	306	*e*P		P	18 10 03.1	+0.3
LZH				pP		PcP	18 10 07.5	+4.4
LZH				sP		pP	18 10 10.7	-2.1
LZH				LR		LR		
	comp=N,340nm,11.9s							
LZH				LR		LR		
	comp=E,510nm,13.0s							
LZH				LR		LR		
	comp=Z,390nm,11.9s							
TIXI	Tiksi	98.10	344	LR		LR	18 47 40.1	
	comp=Z,92nm,21.6s,baz=78,slow=31							
LPAZ	La Paz	98.62	110	LR		LR	18 46 00.7	
	comp=Z,440nm,20.5s,baz=194,slow=30							
MKAR	Makanchi Array	113.12	314	PKiKP		PKiKP	18 15 16.3	+0.1
	0.5nm,0.6s,baz=215,slow=1.2,SNR=6.7							
AKASG	Malin Array Be	143.31	336	PKP		PKPdf	18 16 12.9	-0.1
	1.6nm,0.7s,baz=40,slow=4.3,SNR=5.4							
RAYN	Ar Rayn	143.54	285	*e*PKPdf		PKPdf	18 16 13.6	-0.8
KMBO	Kilima Mbogo	144.13	240	PKP		PKPdf	18 16 15.1	-0.8
	4.0nm,1.0s,baz=119,slow=5.0,SNR=18							
KMBO	Kilima Mbogo	144.13	240	*e*PKPdf		PKPdf	18 16 15.3	-0.6
SORM	Soroca	145.69	334	*i*P		PKPab	18 16 18.8	+0.9
CLL	Collm	146.99	353	*e*PKPbc		PKPab	18 16 23.0	+0.2
CLL				*e*(pPKiKP)			18 16 29.0	
	comp=Z,10.0nm,1.2s							
CLL				*i*			18 16 36.4	
	comp=Z,16nm,1.0s							
CLL				*e*PP		PP	18 19 48.0	+2.9
BRG	Berggiesshubel	147.30	352	*e*PKP		PKPab	18 16 23.7	-0.3
	comp=Z,42nm,2.0s							
BRG				*e*			18 16 37.6	
	comp=Z,20nm,1.4s							
BURAR	Bucovina Array	147.35	337	*i*P		PKPab	18 16 25.7	+1.2
BIZ	Bicaz	147.56	335	*i*P		PKPab	18 16 25.6	+0.4
MORC	Moravsky Berou	147.71	347	*i*P		PKPab	18 16 28.0	+2.3
MORC	Moravsky Berou	147.71	347	*e*PKP		PKPab	18 16 24.7	-1.0
LANS	Liptovska Anna	147.84	344	*e*PKP		PKPab	18 16 29.4	+3.1
TRPA	Tarpa	147.85	340	*i*P		PKPab	18 16 27.2	+0.9
CFR	Carcaliu	148.06	331	*i*P		PKPab	18 16 34.9	+7.7
ARCR	ARCALIA	148.12	337	*i*P		PKPab	18 16 31.5	+4.1
VRI	Vrincioaia	148.16	333	*i*P		PKPab	18 16 28.9	+1.3
PLOR	Plostina	148.20	333	*i*P		PKPab	18 16 33.4	+5.6
VRAC	Vranov	148.35	348	*i*P		PKPab	18 16 31.3	+3.0
VRAC	Vranov	148.35	348	*e*PKP		PKPab	18 16 28.4	+0.1
HARR	Harsova	148.52	330	*i*P		PKPab	18 16 32.1	+3.0
JAVC	Velka Javorina	148.54	346	*e*PKP		PKPab	18 16 29.8	+0.7
VYHS	Vyhne	148.60	344	*e*PKP		PKPab	18 16 28.6	-0.7
KRUC	Moravsky	148.63	348	*e*PKP		PKPab	18 16 28.2	-1.2
DOPR	Dopca	148.64	335	*i*P		PKPbc	18 16 26.7	+0.7
BRTR	Keskin Array B	148.65	318	PKPbc		PKPbc	18 16 27.8	+1.4
	comp=Z,2.6nm,0.9s,baz=52,slow=2.2,SNR=8.6							
CJR	Cluj-Napoca	148.71	337	*i*P		PKPab	18 16 31.7	+1.8
MLR	Muntele Rosu	148.79	333	*e*PKPdf		PKPdf	18 16 22.6	-0.1
MLR	Muntele Rosu	148.79	333	*i*P		PKPab	18 16 28.6	-1.7
DRGR		148.96	338	*i*P		PKPbc	18 16 27.5	+0.6
KHC	Kasperske Hory	149.05	351	*e*PKPbc		PKPbc	18 16 28.2	+1.3
KHC	Kasperske Hory	149.05	351	*e*PKP		PKPbc	18 16 28.0	+1.0
KHC				*ex*		x	18 16 41.5	
MODS	Modra-Piesok	149.09	346	*e*PKP		PKPab	18 16 30.0	-1.3
ANTO	Ankara	149.10	319	*e*PKPdf		PKPdf	18 16 20.6	-2.7
ANTO	Ankara	149.10	319	*i*P		PKPab	18 16 31.1	-0.6
VOIR		149.21	334	*i*P		PKPab	18 16 29.8	-2.2
GERES	GERESS Array B	149.31	351	PKPbc		PKPbc	18 16 27.7	0.0
	comp=Z,0.7nm,0.6s,baz=52,slow=2.2,SNR=6.1							
GEA0	GERESS Array S	149.32	351	*e*PKPbc		PKPbc	18 16 28.8	+1.1
ARR	Arges	149.43	335	*i*P		PKPbc	18 16 30.4	+2.3
CONA	Conrad Observa	149.81	348	*i* pPKPbc		PKPab	18 16 31.7	-2.7
	comp=Z,12nm,1.5s							
MOA	Molln	150.19	350	*i* P		PKPab	18 16 37.2	+1.4
	comp=Z,9.5nm,1.5s							
BZS	Buzias	150.36	339	*i*P		PKPbc	18 16 30.4	+0.2
HERR	Herculane	150.70	337	*i*P		PKPbc	18 16 32.0	+0.9
KBA	Koelnbreinsper	151.09	351	*i* PKiKP		PKiKP	18 16 33.2	+0.5
	comp=Z,1.5nm,0.5s							
MOTA	Moosalm	151.11	354	*i* pPKPbc		PKPbc	18 16 34.2	+2.0
	comp=Z,4.7nm,0.9s							
SOKA	Soboth	151.18	348	*i* PKiKP		PKiKP	18 16 33.8	+1.0
	comp=Z,7.0nm,1.5s							
PERS	Pernice	151.20	348	*e*PKPdf		PKPab	18 16 37.8	-2.3
PERS	Pernice	151.20	348	*e*PKPdf		PKPab	18 16 37.8	-2.3
SQTA	Sankt Quirin	151.22	354	*i* pPKPbc		PKPbc	18 16 35.4	+3.0
	comp=Z,5.4nm,0.9s							
OBKA	Obir	151.43	349	*i* PKPbc		PKPbc	18 16 32.6	-0.3
	comp=Z,2.9nm,0.6s							
FETA	Feichten	151.47	354	*i* pPKPbc		PKPbc	18 16 35.3	+2.3
	comp=Z,12nm,2.1s							
MYKA	Terra Mystica	151.47	350	*i* PKiKP		PKiKP	18 16 34.7	+1.3
	comp=Z,2.1nm,0.8s							
ABTA	Abfaltersbach	151.53	352	*i* PKiKP		PKiKP	18 16 34.3	+0.8
	comp=Z,4.2nm,1.1s							
BOJS	Bojanci	152.25	347	*i* PKPdf		PKPab	18 16 40.5	-3.9
BOJS	Bojanci	152.25	347	*i* PKPdf		PKPab	18 16 40.5	-3.9

*IDC **08** 18:04:01.0±1.8, 13°.99N×92°.17W, h0km, mb3.7/2, mb1 4.0/5, mb1mx3.7/36, mbtmp3.7/5, ML3.8/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/31, Error ellipse: s-maj=33.0km s-min=16.7km az=172.0*

*MEX **08** 18:04:02.6±0.4, 13°.75N×92°.08W, h19km±49km, MD3.9*

*ISCJB **08** 18:04:04.5±1.1, 13°.94N±0°.09×92°.14W±0°.09, h54km, mb3.8/2, MS2.7/1, Error ellipse: s-maj=16.6km s-min=7.9km az=43.4*

ISC 08 18:04:07.2±1.3, **14°.0N**±0°.1×**92°.11W**±0°.10, **h54**km, **n11,** σ**1§56/14, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**1.87**	**58**	Pn	**Pn**	**18 04 36.0**	**-1.0**
	38nm,0.3s,baz=179,slow=14,SNR=71						
APG				LR	LR	18 04 50.6	
	comp=Z,56nm,20.4s,baz=225,slow=26						
APG				Lg	Lg	18 05 02.3	
	48nm,0.3s,baz=76,slow=20,SNR=6.0						
PCIG		**1.98**	**327**	*e*P	**Pn**	**18 04 35.9**	**-2.4**
PCIG				*i* S	**Sn**	**18 05 01.6**	**-0.5**
CCIG	**Comitan**	**2.24**	**359**	*i* P	**Pn**	**18 04 40.7**	**-1.4**
CCIG				*i* S	**Sn**	**18 05 08.9**	**+0.2**
CMIG	**Matias Romero**	**4.05**	**319**	Pn	**Pn**	**18 05 05.1**	**-1.6**
	5.8nm,0.3s,baz=145,slow=12,SNR=16						
CMIG				Sn	**Sn**	**18 05 54.3**	**+1.4**
	12nm,0.3s,baz=74,slow=15,SNR=6.6						
CMIG	**Matias Romero**	**4.05**	**319**	*e*P	**Pn**	**18 05 04.1**	**-2.6**
CMIG				*e*S	**Sn**	**18 05 53.4**	**+0.4**
JTS	**JuntasAbangare**	**7.92**	**117**	Pn	**Pn**	**18 05 59.0**	**-0.8**
	1.0nm,0.3s,baz=94,slow=19,SNR=3.2						
JTS				Lg	Lg	18 08 03.4	
	0.9nm,0.3s,baz=185,slow=20,SNR=7.7						
TXAR	**Lajitas Array**	**18.61**	**327**	Pn	**Pn**	**18 08 23.0**	**+1.8**
	0.1nm,0.3s,baz=150,slow=13,SNR=12						
TKL	**Tuckaleechee C**	**22.81**	**18**	LR	LR	18 18 28.1	
	comp=Z,33nm,21.7s,baz=343,slow=38						
YKA	**Yellowknife Ar**	**50.98**	**347**	P	**P**	**18 13 03.0**	**-0.1**
	0.8nm,0.7s,baz=145,slow=6.1,SNR=2.8						
ILAR	**Eielson Array**	**62.77**	**337**	P	**P**	**18 14 28.0**	**+1.3**
	1.0nm,1.1s,baz=116,slow=4.1,SNR=5.2						
CMAR	**Chiang Mai Arr**	**145.93**	**341**	PKPbc	**PKPab**	**18 23 42.6**	**+0.4**
	1.6nm,0.8s,baz=337,slow=3.8,SNR=20						

*ISCJB **08** 18:15:20.0±0.9, 57°.0S±0°.1×23°.8W±0°.5, h10km, mb3.8/5, Error ellipse: s-maj=39.0km s-min=11.7km az=154.2*

*IDC **08** 18:15:21.1±1.1, 56°.84S×23°.93W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.9/20, mbtmp3.9/5, Error ellipse: s-maj=44.6km s-min=23.6km az=73.0*

ISC 08 18:15:22.1±1.0, **56°.9S**±0°.2×**23°.8W**±0°.3, **h10**km, **n10,** σ**1§64/10, mb3.8/5, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**15.30**	**160**	P	**Pn**	**18 18 56.4**	**-1.4**
VNA3	**Neumayer Olymp**	**15.56**	**163**	P	**Pn**	**18 18 59.1**	**-2.2**
VNA3				S	Sn	18 21 40.3	-13
VNA2	**Neumayer--Watz**	**15.69**	**160**	P	**Pn**	**18 19 01.1**	**-1.8**
	baz=318,slow=15						
VNA2				S	Sn	18 21 38.4	-18
SNAA	**Sanae**	**17.18**	**157**	P	**Pn**	**18 19 21.4**	**-0.6**
SNAA				S	Sn	18 22 23.2	-10
QSPA	**South Pole Qui**	**33.31**	**180**	P	**P**	**18 21 59.9**	**+0.1**
	0.9nm,0.7s,baz=322,slow=12,SNR=4.5						
CPUP	**Villa Florida**	**38.83**	**308**	P	**P**	**18 22 45.7**	**-1.4**
	2.7nm,0.9s,baz=156,slow=9.9,SNR=5.5						
VNDA	**Vanda**	**45.76**	**182**	P	**P**	**18 23 45.5**	**+2.5**
	0.6nm,0.8s,baz=174,slow=6.9,SNR=4.0						
LPAZ	**La Paz**	**52.43**	**302**	P	**P**	**18 24 35.8**	**+0.3**
	2.8nm,0.7s,baz=159,slow=8.3,SNR=12						
TORD	**Torodi Ar. Bea**	**72.96**	**26**	P	**P**	**18 26 52.0**	**+0.4**
	0.3nm,0.6s,baz=199,slow=5.8,SNR=4.8						
ILAR	**Eielson Array**	**152.12**	**310**	PKPbc	**PKPbc**	**18 35 16.1**	**-0.1**
	1.3nm,0.8s,baz=145,slow=3.6,SNR=12						

*ISCJB **08** 18:31:30.8±0.3, 55°.56N±0°.02×110°.30E±0°.03, h10km, mb3.9/3, Error ellipse: s-maj=4.0km s-min=2.0km az=146.5*

*MOS **08** 18:31:31.6±1.3, 55°.75N×110°.18E, h6km, mb4.2/3, Error ellipse: s-maj=11.6km s-min=8.2km az=69.6*

*BYKL **08** 18:31:32.8±0.2, 55°.72N×110°.19E, h4km±4km*

*IDC **08** 18:31:32.7±2.6, 55°.72N×110°.09E, h0km, mb4.0/2, mb1 3.9/7, mb1mx3.5/38, mbtmp3.8/7, ML3.3/4, Error ellipse: s-maj=43.8km s-min=22.2km az=102.0*

*NEIC **08** 18:31:34.1±1.3, 55°.70N×110°.13E, h10km, mb4.0/1, Error ellipse: s-maj=21.3km s-min=13.9km az=118.0*

ISC 08 18:31:32.7±0.6, **55°.69N**±0°.03×**110°.27E**±0°.02, **h10**km, **n58,** σ**2§97/110, mb4.0/3, 11C, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIZ	**Nizh Angarsk**	**0.42**	**283**	*i*Pg	**Pg**	**18 31 40.3**	**-0.7**
NIZ				*e*Sg	**Sg**	**18 31 45.4**	**-1.2**
NIZ				Pmax			
	406nm,0.2s						
NIZ				Smax			
	5µm,0.5s						
NIZ	**Nizh Angarsk**	**0.42**	**283**	*i*PG	**Pg**	**18 31 40.3**	**-0.7**
NIZ				*e*		18 31 45.6	
NIZ				pmax	pmax		
	comp=Z,403nm,0.2s						
NIZ				smax	smax		
	comp=E,5µm,0.5s						
KMO	**Kumora**	**0.56**	**69**	*i*Pg	**Pb**	**18 31 43.5**	**-1.1**
KMO				*e*Sg	**Sg**	**18 31 51.1**	**+0.1**
KMO				Pmax			
	comp=E,198nm,0.4s						
KMO				Smax			
	comp=E,2µm,1.1s						
KMO	**Kumora**	**0.56**	**69**	*i*PG	**Pb**	**18 31 43.5**	**-1.1**
KMO				*e*		18 31 51.1	
KMO				pmax	pmax		
	comp=Z,112nm,0.2s						
KMO				smax	smax		
	comp=N,2µm,1.0s						
YOA	**Uoyan**	**0.93**	**61**	*e*Pg	**Pb**	**18 31 50.3**	**-0.7**
YOA				*e*Sg	**Sb**	**18 32 03.4**	**0.0**
YOA				Pmax			
	comp=N,244nm,0.2s						
YOA				Smax			
	comp=N,2µm,0.8s						
YOA	**Uoyan**	**0.93**	**61**	*e*PG	**Pg**	**18 31 49.2**	**-1.4**
YOA				*i*		18 32 03.5	
YOA				pmax	pmax		
	comp=Z,117nm,0.2s						
YOA				smax	smax		
	comp=N,2µm,0.5s						
YLYR	**Ulyunkhan**	**0.96**	**148**	*i*Pg	**Pn**	**18 31 51.7**	**-0.5**
YLYR				*e*Sg	**Sn**	**18 32 05.4**	**-0.5**
YLYR				*e*Sb	**Sb**	**18 32 10.0**	**+5.9**
YLYR				Pmax			
	comp=N,361nm,0.5s						
YLYR				max			
	comp=N,1µm,0.2s						
YLYR	**Ulyunkhan**	**0.96**	**148**	*i*PG	**Pn**	**18 31 51.7**	**-0.5**
YLYR				*e*		18 32 06.0	
YLYR				pmax	pmax		
	comp=Z,258nm,0.2s						
YLYR				smax	smax		
	comp=N,1µm,0.3s						
SVKR	**Severomuysk**	**1.90**	**76**	*e*Pg	**Pb**	**18 32 07.5**	**0.0**
SVKR				*e*Sg	**Sg**	**18 32 33.1**	**-0.7**
SVKR				Pmax			
	comp=N,323nm,0.3s						
SVKR				Smax			
	comp=N,2µm,0.6s						
SVKR	**Severomuysk**	**1.90**	**76**	*e*PN	**Pg**	**18 32 07.7**	**-1.4**
SVKR				*e*		18 32 32.4	
SVKR				pmax	pmax		
	comp=Z,324nm,1.3s						
SVKR				smax	smax		
	comp=N,2µm,1.1s						
UKT	**Uakit**	**1.92**	**95**	*i*Pg	**Pb**	**18 32 07.9**	**+0.2**
UKT				*e*Sg	**Sg**	**18 32 33.6**	**-0.6**
UKT				Pmax			
	comp=N,255nm,1.0s						
UKT				Smax			
	comp=N,823nm,0.6s						
UKT	**Uakit**	**1.92**	**95**	*e*PN	**Pb**	**18 32 07.8**	**+0.1**

ZRHB	**Zarechye**	**3.63**	**212**	*e*Sn	**Pg**	**18 32 39.8**	**-2.5**
ZRHB				*e*Sg	**Sg**	**18 33 26.4**	**-2.9**
ZRHB				Smax			
	comp=E,709nm,1.4s						
TRG	**Tyrgan**	**3.73**	**220**	*e*Pn	**Pn**	**18 32 32.3**	**+2.0**
TRG				*e*Sn	**Sn**	**18 33 15.7**	**+1.5**
TRG				*e*Sg	**Sb**	**18 33 27.5**	**+3.7**
TRG				Smax			
	comp=E,295nm,0.6s						
TRG	**Tyrgan**	**3.73**	**220**	*e*PN	**Pn**	**18 32 32.1**	**+1.8**
TRG				*e*		18 32 41.4	
TRG				*e*S	**Sn**	**18 33 15.7**	**+1.5**
TRG				*e*		18 33 28.6	
TRG				pmax	pmax		
	comp=Z,26nm,0.3s						
TRG				smax	smax		
	comp=E,288nm,0.3s						
UUDB	**Ulan-Yde**	**4.13**	**203**	*e*	**Pn**	**18 32 39.1**	**+3.3**
UUDB				*e*Pg	**Pb**	**18 32 46.8**	**+1.4**
UUDB				*e*		18 33 08.9	
UUDB				*e*Sg	**Sb**	**18 33 40.1**	**+4.8**
UUDB				Pmax			
	comp=E,38nm,0.9s						
UUDB				Smax			
	comp=E,190nm,0.9s						
CIT	**Chita**	**4.15**	**151**	*e*Sg	**Sg**	**18 33 43.2**	**-2.8**
CIT				Smax			
	comp=E,270nm,0.2s						
CIT	**Chita**	**4.15**	**151**	*e*PN	**Pb**	**18 32 48.7**	**+2.8**
CIT				*e*S	**Sn**	**18 33 28.5**	**+3.7**
CIT				*e*		18 33 44.5	
CIT				pmax	pmax		
	comp=Z,138nm,0.7s						
CIT				smax	smax		
	comp=E,270nm,0.2s						
KAB	**Kabansk**	**4.22**	**212**	*e*Sg	**Sg**	**18 33 43.8**	**-4.5**
KAB				Smax			
	comp=E,614nm,1.4s						
HRMR	**Khuramsha**	**4.52**	**207**	*e*Pn	**Pn**	**18 32 43.4**	**+2.3**
HRMR				*e*Pg	**Pb**	**18 32 53.9**	**+1.8**
HRMR				*e*Sg	**Sb**	**18 33 51.9**	**+5.4**
HRMR				Pmax			
	comp=E,72nm,0.5s						
HRMR				Smax			
	comp=E,521nm,0.7s						
CRS	**Chara**	**4.62**	**71**	*e*Pg	**Pb**	**18 32 55.8**	**+2.0**
CRS				*e*Sg	**Sg**	**18 33 56.6**	**-4.3**
CRS				Pmax			
	comp=E,71nm,1.0s						
CRS				Smax			
	comp=E,103nm,1.3s						
CRS	**Chara**	**4.62**	**71**	*e*PN	**Pg**	**18 32 58.6**	**-2.5**
CRS				*e*		18 33 54.9	
CRS				pmax	pmax		
	comp=Z,72nm,0.8s						
CRS				smax	smax		
	comp=E,91nm,0.9s						
BGT	**Bolshoye Golou**	**4.65**	**220**	*e*Sn	**Sn**	**18 33 34.1**	**-2.7**
BGT				*e*Sg	**Sg**	**18 33 56.6**	**-5.1**
IRK	**Irkutsk**	**4.94**	**228**	*e*Sn	**Sn**	**18 33 44.5**	**+0.3**
IRK				*e*Sg	**Sg**	**18 34 05.2**	**-6.1**
IRK				Smax			
	comp=E,324nm,0.4s						
LSTR	**Listvyanka**	**5.00**	**222**	*e*Pn	**Pn**	**18 32 48.9**	**+1.1**
LSTR				*e*Sn	**Sn**	**18 33 44.7**	**-0.9**
LSTR				*e*Sg	**Sg**	**18 34 07.4**	**-5.8**
LSTR				Smax			
	comp=E,116nm,1.5s						
IVK	**Ivanovka**	**5.22**	**224**	*e*Pn	**Pn**	**18 32 51.5**	**+0.8**
IVK				*e*Sn	**Sn**	**18 33 49.7**	**-1.2**
IVK				*e*Sg	**Sg**	**18 34 13.8**	**-6.3**
TLY	**Talaya**	**5.62**	**227**	*e*Pn	**Pn**	**18 32 56.9**	**+0.6**
TLY				*e*		18 33 16.0	
TLY				*e*Sn	**Sn**	**18 33 59.1**	**-1.8**
TLY				*e*Sg	**Sg**	**18 34 25.9**	**-7.1**
TLY				max			
	comp=E,16nm,0.7s						
TLY				Smax			
	comp=E,111nm,0.9s						
TUP	**Tupik**	**5.71**	**99**	*e*Pn	**Pn**	**18 32 58.5**	**+1.0**
TUP				*e*Pg	**Pb**	**18 33 15.7**	**+3.4**
TUP				*e*Sn	**Sn**	**18 34 02.4**	**-0.6**
TUP				*e*Sg	**Sg**	**18 34 32.2**	**-3.6**
TUP				Pmax			
	comp=E,18nm,1.0s						
TUP				Smax			
	comp=E,237nm,1.0s						
TUP	**Tupik**	**5.71**	**99**	*e*PN	**Pn**	**18 32 58.8**	**+1.3**
TUP				*e*		18 33 16.1	
TUP				*e*S	**Sn**	**18 34 02.3**	**-0.7**
TUP				*e*		18 34 30.8	
TUP				pmax	pmax		
	comp=Z,18nm,0.6s						
TUP				smax	smax		
	comp=N,223nm,0.9s						
ARS	**Arshan**	**5.99**	**234**⇑	*i*Pn	**Pn**	**18 33 02.2**	**+0.9**
ARS				*e*Sn	**Sn**	**18 34 07.8**	**-2.1**
ARS				*e*Sg	**Sb**	**18 34 36.0**	**+7.2**
ARS				Smax			
	comp=N,520nm,1.0s						
KPC	**Khapcheranga**	**6.13**	**167**	*e*Pn	**Pn**	**18 33 04.9**	**+1.6**
KPC				*e*Pg	**Pb**	**18 33 24.0**	**+4.5**
KPC				*e*		18 33 25.6	
KPC				*e*Sn	**Sb**	**18 34 24.9**	**-7.9**
KPC				*e*Sg	**Sg**	**18 34 44.0**	**-5.2**
KPC				max			
	comp=N,20nm,0.7s						
KPC				Smax			
	comp=N,118nm,1.6s						
KPC	**Khapcheranga**	**6.13**	**167**	*e*PN	**Pn**	**18 33 05.2**	**+1.9**
KPC				*e*		18 33 24.3	
KPC				*e*		18 34 44.2	
KPC				pmax	pmax		
	comp=Z,17nm,0.6s						
KPC				smax	smax		
	comp=E,117nm,0.7s						
ZAK	**Zakamensk**	**6.78**	**221**	*e*Pn	**Pn**	**18 33 14.2**	**+1.9**
ZAK				*e*Sn	**Sn**	**18 34 28.7**	**-0.8**
ZAK				*e*Sg	**Sg**	**18 35 01.4**	**-8.7**
ZAK				Smax			
	comp=E,74nm,1.4s						
ZAK	**Zakamensk**	**6.78**	**221**	*e*PN	**Pn**	**18 33 13.8**	**+1.5**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MOY	**Mondy**	**6.82**	**238**⇑	*i*Pn	**Pn**	**18 33 15.3**	**+2.4**
MOY				*e*		18 33 22.8	
MOY				*e*Sn	**Sn**	**18 34 29.4**	**-1.1**
MOY				*e*Sg	**Sg**	**18 35 03.2**	**-8.3**
MOY				max			
	comp=Z,54nm,0.7s						
MOY				Smax			
	comp=Z,154nm,1.4s						
MOY	**Mondy**	**6.82**	**238**	*e*PN	**Pn**	**18 33 15.4**	**+2.5**
MOY				*e*		18 33 36.8	
MOY				*e*S	**Sn**	**18 34 29.5**	**-1.1**
MOY				*e*		18 35 03.9	
MOY				pmax	pmax		
	comp=Z,15nm,0.7s						
MOY				smax	smax		
	comp=E,154nm,1.5s						
ORL	**Orlik**	**6.91**	**247**⇑	*i*Pn	**Pn**	**18 33 16.1**	**+2.0**
ORL				*e*Sn	**Sn**	**18 34 31.0**	**-1.7**
ORL				*e*Sg	**Sg**	**18 35 06.8**	**-7.5**
ORL				max			
	comp=E,27nm,0.8s						
ORL				Smax			
	comp=E,73nm,0.9s						
SONM	**Songino Array**	**8.22**	**199**	Pn	**Pn**	**18 33 33.0**	**+0.9**
	comp=E,0.1nm,0.3s,baz=11,slow=14,SNR=3.0						
SONM				Pg	Pg	18 34 03.6	-6.4
	comp=E,0.5nm,0.3s,baz=13,slow=18,SNR=5.2						
SONM				Lg	Lg	18 35 52.6	
	comp=E,3.6nm,0.3s,baz=15,slow=26,SNR=12						
YAK	**Yakutsk**	**11.86**	**50**	Lg	Lg	18 37 40.6	
	comp=E,0.0nm,0.3s,baz=0.0,slow=20,SNR=3.2						
KLR	**Kul'dur**	**14.57**	**107**	Lg	Lg	18 39 10.5	
	comp=E,0.1nm,0.3s,baz=352,slow=19,SNR=2.3						
ZALV	**Zalesovo Beam**	**14.75**	**274**	Pn	**Pn**	**18 34 59.9**	**-1.2**
	comp=E,0.1nm,0.3s,baz=72,slow=15,SNR=5.3						
ZALV				Lg	Lg	18 39 10.3	
	baz=81,slow=28,SNR=3.1						
TIXI	**Tiksi**	**17.87**	**19**	P	**P**	**18 35 42.7**	**+1.1**
	comp=E,0.3nm,0.3s,baz=96,slow=11,SNR=3.4						
KURK	**Kurchatov**	**19.49**	**268**	P	**Pn**	**18 36 01.1**	**+0.3**
	comp=E,2.5nm,1.1s						
KURK	**Kurchatov**	**19.49**	**268**	P	**Pn**	**18 36 01.1**	**+0.3**
MKAR	**Makanchi Array**	**19.53**	**255**	P	**Pn**	**18 36 01.2**	**-0.1**
	comp=E,0.4nm,0.3s,baz=61,slow=10.0,SNR=19						
KURBB	**Kurchatov Arra**	**19.59**	**268**	P	**Pn**	**18 36 01.1**	**-0.8**
	comp=E,0.2nm,0.3s,baz=67,slow=12,SNR=14						
BVAR	**Borovoye Array**	**23.17**	**280**	P	**P**	**18 36 39.8**	**+0.7**
	comp=E,1.2nm,0.5s,baz=64,slow=10,SNR=9.3						
BRVK	**Borovoye**	**23.22**	**280**	*e*P	**P**	**18 36 41.6**	**+2.0**
	comp=E,2.3nm,0.5s						
BRVK	**Borovoye**	**23.22**	**280**	*e*P	**P**	**18 36 41.6**	**+2.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	**FINESS Array B**	**41.38**	**314**	P	**P**	**18 39 18.3**	**-0.2**
	comp=Z,5.8nm,1.1s,baz=52,slow=9.1,SNR=5.0						

*IDC **08** 18:43:43.0±5.7, 14.°56N×90.°60W, h0km, mb3.4/1, mb1 3.8/2, mb1mx3.5/31, mbtmp3.4/2, ML3.4/1, MS3.5/1, Ms1 3.5/1, ms1mx2.9/23, Error ellipse: s-maj=385.8km s-min=73.9km az=47.0*

MEX 08 18:43:44.2±0.6, 13.°66N×92.°09W, h95km±42km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**2.31**	**332**	*e*P	Pn	18 44 19.8	-0.9
PCIG				*e*S	Sn	18 44 47.0	-1.5
CCIG	**Comitan**	**2.61**	**359**	*e*P	Pn	18 44 23.5	-1.3
CCIG				*i* S	Sn	18 44 54.8	-1.1
CMIG	**Matias Romero**	**4.35**	**322**	*i* P	Pn	18 44 47.3	-0.7
CMIG				*i* S	Sn	18 45 37.4	-0.2
TXAR	**Lajitas Array**	**18.93**	**327**	P	Pn	18 48 06.5	+7.0
	0.0nm,0.3s,baz=140,slow=12,SNR=6.2						
ATAH	**Atahualpa**	**24.73**	**146**	LR	LR	18 55 57.5	
	comp=Z,114nm,20.3s,baz=132,slow=30						
ILAR	**Eielson Array**	**63.12**	**337**	P	P	18 54 10.6	+9.1
	0.3nm,0.7s,baz=115,slow=4.3,SNR=3.8						
CMAR	**Chiang Mai Arr**	**146.28**	**341**	PKPbc	PKPab	19 03 24.5	+8.9
	1.1nm,0.8s,baz=341,slow=3.3,SNR=9.9						

MAN 08 18:46:51.2, 6.°57N×125.°79E, h29km, mb4.4, ML3.3, MS3.1, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.47**	**190**	*e*P	Pb	18 46 59.7	-1.5
DDMP				*e*S	Sb	18 47 07.4	-0.5
GSPH	**General Santos**	**0.97**	**240**	*e*P	Pn	18 47 05.5	-3.5
GSPH				*e*S	Sn	18 47 16.4	-5.4
SKMP	**Bagumbayan, Su**	**1.24**	**268**	*e*P	Pn	18 47 12.5	-0.2
SKMP				*e*S	Sn	18 47 28.9	+0.3

MEX 08 18:51:23.1±0.4, 13.°76N×92.°44W, h15km±77km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**2.07**	**339**	*e*P	Pn	18 51 54.0	-3.3
PCIG				*i* S	Sn	18 52 18.0	-4.8
CCIG	**Comitan**	**2.52**	**7**	*i* P	Pn	18 52 00.9	-2.8
CCIG				*i* S	Sn	18 52 30.4	-3.8
CMIG	**Matias Romero**	**4.06**	**325**	*e*P	Pn	18 52 21.7	-3.0
CMIG				*i* S	Sn	18 53 08.6	-3.4

*IDC **08** 18:58:14.2±1.0, 13.°46N×91.°94W, h0km, mb4.1/8, mb1 4.3/12, mb1mx4.1/40, mbtmp4.1/12, ML3.6/4, MS4.0/6, Ms1 4.0/6, ms1mx3.5/33, Error ellipse: s-maj=18.8km s-min=14.5km az=25.0*
*ISCJB **08** 18:58:17.3±0.7, 13.°56N±0.°07×92.°00W±0.°06, h37km, mb4.4/17, MS4.0/6, Error ellipse: s-maj=11.4km s-min=6.6km az=36.7*
*MEX **08** 18:58:17.0±0.4, 13.°54N×92.°01W, h5km, MD4.2*
*NEIC **08** 18:58:19.0±0.9, 13.°58N×91.°88W, h35km, mb4.6/8, MD4.2(MEX), Error ellipse: s-maj=20.1km s-min=10.3km az=34.0*

ISC 08 18:58:18.7±0.9, 13.°54N±0.°09×91.°99W±0.°07, h37km, n34, σ1s50/34, mb4.3/17, MS4.1/6, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**2.08**	**45**	Pn	**Pn**	**18 58 51.5**	**+0.2**
	11nm,0.3s,baz=89,slow=24,SNR=8.2						
APG				Lg	Lg	18 59 22.4	
	47nm,0.3s,baz=331,slow=14,SNR=6						
PCIG		**2.46**	**331**	*e*P	**Pn**	**18 58 54.6**	**-1.7**
PCIG		**2.46**	**331**	*e*P	**Pn**	**18 58 54.6**	**-1.7**
PCIG				*i* S	**Sn**	**18 59 23.6**	**-1.5**
CCIG	**Comitan**	**2.73**	**357**	*e*P	**Pn**	**18 59 02.0**	**+1.7**
CCIG	**Comitan**	**2.73**	**357**	*e*P	**Pn**	**18 58 59.6**	**-0.7**
CCIG				*i* S	**Sn**	**18 59 31.6**	**-0.5**
CMIG	**Matias Romero**	**4.50**	**322**	Pn	**Pn**	**18 59 23.8**	**-0.7**
	1.3nm,0.3s,baz=131,slow=11,SNR=10						
CMIG				Sn	**Sn**	**19 00 13.0**	**-2.6**
	4.8nm,0.3s,baz=121,slow=12,SNR=6.8						
CMIG				Lg	Lg	19 00 33.8	
	17nm,0.3s,baz=243,slow=21,SNR=8						
CMIG				LR	LR	19 00 38.9	
	comp=Z,73nm,20.8s,baz=150,slow=32						
CMIG	**Matias Romero**	**4.50**	**322**	*e*P	**Pn**	**18 59 24.0**	**-0.5**
CMIG				*i* S	**Sn**	**19 00 15.6**	**0.0**
HUIG	**Huatulco**	**4.56**	**300**	*e*P	**Pn**	**18 59 24.1**	**-1.1**
HUIG	**Huatulco**	**4.56**	**300**	*e*P	**Pn**	**18 59 24.1**	**-1.1**
HUIG				*i* S	**Sn**	**19 00 16.6**	**-0.4**
JTS	**JuntasAbangare**	**7.61**	**114**	Pn	**Pn**	**19 00 05.4**	**-1.7**
	0.5nm,0.3s,baz=32,slow=19,SNR=2.4						
JTS				Lg	Lg	19 02 13.2	
	0.8nm,0.3s,baz=153,slow=9.0,SNR=3.5						
TXAR	**Lajitas Array**	**19.09**	**327**	P	**Pn**	**19 02 41.2**	**+1.8**
	0.1nm,0.3s,baz=150,slow=10,SNR=22						
LPIG	**La Paz**	**20.25**	**304**	LR	LR	19 10 32.0	
	comp=Z,169nm,18.7s,baz=180,slow=36						
GOGA	**Godfrey**	**21.25**	**20**	*e*P	**P**	**19 03 01.4**	**-0.3**
	7.8nm,0.6s						
SDV	**Santo Domingo**	**21.45**	**100**	P	**P**	**19 03 03.3**	**-0.9**
	2.5nm,0.4s,baz=283,slow=14,SNR=2.8						
MNTX	**Cornudas Mount**	**21.86**	**328**	*e*P	**P**	**19 03 09.1**	**+0.8**
	8.3nm,0.8s						
AMTX	**Amarillo**	**22.99**	**339**	*e*P	**P**	**19 03 19.7**	**-0.6**
	36nm,0.6s						
TKL	**Tuckaleechee C**	**23.24**	**17**	P	**P**	**19 03 21.8**	**-0.9**
	13nm,0.9s,baz=186,slow=11,SNR=7.2						
CCM	**Cathedral Cave**	**24.43**	**1**	*e*P	**P**	**19 03 32.0**	**-1.9**
	27nm,0.6s						
ANMO	**Albuquerque**	**25.01**	**331**	P	**P**	**19 03 41.4**	**+2.0**
	5.4nm,0.7s,baz=153,slow=11,SNR=17						
WCI	**Wyandotte Cave**	**25.11**	**11**	*e*P	**P**	**19 03 38.7**	**-1.3**
	92nm,0.8s						
MVCO	**Mesa Verde**	**27.81**	**331**	*e*P	**P**	**19 04 06.4**	**+1.7**
	14nm,1.1s						
HWUT	**Hardware Ranch**	**32.75**	**332**	*e*P	**P**	**19 04 50.0**	**+1.7**
	15nm,1.3s						
PDAR	**Pinedale Array**	**32.84**	**336**	P	**P**	**19 04 50.9**	**+1.7**
	0.4nm,0.5s,baz=128,slow=7.5,SNR=4.3						
NVAR	**Mina Array Bea**	**34.04**	**322**	P	**P**	**19 05 02.8**	**+3.2**
	1.9nm,0.6s,baz=111,slow=6.8,SNR=5.2						
HLID	**Hailey**	**35.59**	**332**	*e*P	**P**	**19 05 14.7**	**+1.8**
	4.2nm,1.0s						
SIV	**San Ignacio**	**42.37**	**133**	P	**P**	**19 06 10.4**	**+0.7**
	0.9nm,0.6s,baz=294,slow=12,SNR=5.1						
SCHQ	**Schefferville**	**45.65**	**20**	P	**P**	**19 06 33.3**	**-2.3**
	13nm,0.8s,baz=220,slow=5.0,SNR=9.4						
SCHQ				LR	LR	19 26 38.6	
	comp=Z,461nm,19.1s,baz=284,slow=37						
YKA	**Yellowknife Ar**	**51.48**	**347**	P	**P**	**19 07 20.2**	**0.0**
	4.3nm,0.6s,baz=149,slow=7.4,SNR=26						
DLBC	**Dease Lake**	**53.08**	**336**	LR	LR	19 33 40.4	
	comp=Z,284nm,18.7s,baz=90,slow=40						
ILAR	**Eielson Array**	**63.27**	**337**	P	**P**	**19 08 44.4**	**+1.1**
	0.9nm,0.7s,baz=176,slow=5.2,SNR=12						
NOA	**NORSAR Array B**	**84.55**	**28**	LR	LR	19 46 35.3	
	comp=Z,28nm,21.0s,baz=345,slow=34						
PETK	**Petropavlovsk-**	**91.03**	**326**	LR	LR	19 53 05.2	
	comp=Z,33nm,19.5s,baz=49,slow=36						
NRIK	**Noril'sk**	**97.34**	**0**	LR	LR	19 59 56.6	
	comp=Z,145nm,18.4s,baz=334,slow=38						
CMAR	**Chiang Mai Arr**	**146.43**	**341**	PKPbc	**PKPab**	**19 17 57.9**	**+0.3**
	2.4nm,0.8s,baz=334,slow=3.5,SNR=19						

KRSC 08 19:12:43.0±1.4, 50.°68N×157.°94E, h48km±20km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**1.06**	**318**	*e*P	Pn	19 13 03.0	+1.6
PAU				*e*S	Sn	19 13 16.3	+1.3
KDTR	**Khodutka, Kamc**	**1.13**	**4**	*e*P	Pn	19 13 03.8	+1.5
KDTR				*e*S	Sn	19 13 17.8	+1.1
SKR	**Severo-Kuril's**	**1.16**	**271**	*e*P	Pn	19 13 03.4	+0.7
SKR				*e*S	Sn	19 13 16.8	-0.6
RUS	**Russkaya**	**1.79**	**11**	*e*P	Pn	19 13 13.1	+1.8
RUS				*e*S	Sn	19 13 34.6	+1.8
MTVR	**Mutnovka**	**1.81**	**5**	*e*P	Pn	19 13 13.8	+2.0
MTVR				*e*S	Sn	19 13 35.7	+2.1
GRL	**Gorelyy**	**1.87**	**3**	*e*P	Pn	19 13 15.1	+2.5
GRL				*e*S	Sn	19 13 38.3	+3.2
KRMR	**Karymshinskiy**	**2.15**	**3**	*e*P	Pn	19 13 19.1	+2.8
KRMR				*e*S	Sn	19 13 45.4	+3.6
APC	**Apacha**	**2.30**	**348**	*e*P	Pn	19 13 21.2	+2.9
PET	**Petropavlovsk**	**2.38**	**10**	*e*P	Pn	19 13 22.0	+2.5
PET				*e*S	Sn	19 13 49.9	+2.4
DALK	**Dalny**	**2.41**	**12**	*e*P	Pn	19 13 22.3	+2.5
DALK				*e*S	Sn	19 13 50.8	+2.9
UGLR	**Uglovaya**	**2.59**	**12**	*i* P	Pn	19 13 25.8	+3.4
AVH	**Avacha**	**2.63**	**11**	*e*P	Pn	19 13 26.7	+3.7
SMAR	**Somma**	**2.64**	**11**	*e*P	Pn	19 13 27.0	+3.8
KOK	**Koryaka**	**2.65**	**9**	*e*P	Pn	19 13 27.6	+4.4
SDLR	**Sedlovina**	**2.66**	**12**	*e*P	Pn	19 13 26.0	+2.6
KRX	**Arik**	**2.71**	**9**	*e*P	Pn	19 13 28.5	+4.3
KRX				*e*S	Sn	19 14 01.1	+5.3
SPN	**Mys Shipunski**	**2.74**	**27**	P	Pn	19 13 26.2	+1.8
GNL	**Ganaly**	**3.02**	**0**	*e*P	Pn	19 13 31.7	+3.4
KII	**Karymskiy**	**3.48**	**15**	*e*P	Pn	19 13 39.4	+4.8
MKZ	**Mys Kozlova**	**4.51**	**29**	*e*P	Pn	19 13 51.5	+2.8
TUMD	**Tumrok D**	**4.76**	**17**	P	Pn	19 13 56.7	+4.5
KBTR	**Krutoberegovo**	**6.25**	**26**	*i* P	Pn	19 14 16.3	+3.8

*DDA **08** 19:12:57.5, 38.°71N×42.°55E, h7km, Ml2.6*

ISC 08 19:12:57.2±1.4, 38.°72N±0.°05×42.°49E±0.°06, h3km±19km, n5, σ0s75/8, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADCV	**BITLIS_Adilcev**	**0.20**	**63**	*i* P	**Pg**	**19 13 01.0**	**-0.2**
ADCV				*i* S	**Sg**	**19 13 04.7**	**+0.7**
GURO	**Guroymak-BITLI**	**0.40**	**246**	PG	**Pg**	**19 13 04.3**	**-0.6**
EKAR	**Karacoban**	**0.63**	**328**	*i* P	**Pg**	**19 13 09.9**	**+0.4**
EKAR				*i* S	**Sb**	**19 13 20.6**	**+0.1**
SRTM	**Siirt_Merkez**	**0.85**	**212**	*i* P	**Pg**	**19 13 13.6**	**+0.1**
SRTM				*i* S	**Sb**	**19 13 27.4**	**+0.8**
AGRB	**Hanur-Agry**	**0.94**	**24**	*e*PG	**Pb**	**19 13 15.7**	**-0.7**

NNC 08 19:18:17.5±4.3, 38.°72N×69.°63E, h0km, mb3.5, mpv3.2, 3C-2D, Error ellipse: s-maj=33.2km s-min=29.4km az=36.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.27**	**66**	⇑Pn	Pn	19 19 11.0	+0.8
	2.3nm,0.4s						
SFK				⇓Sn	Sn	19 19 50.8	+0.9
	16nm,0.6s						
MNAS	**Manas**	**4.35**	**29**	⇓Pn	Pn	19 19 25.1	0.0
	3.2nm,0.6s						
MNAS				⇑Sn	Sn	19 20 17.6	+1.1
	5.1nm,0.8s						
AAK	**Ala-Archa**	**5.38**	**42**	⇑Pn	Pn	19 19 37.8	-1.4
	1.4nm,0.4s						
AAK				Sn	Sn	19 20 43.8	+1.9
	6.4nm,1.0s						

*DDA **08** 19:25:44.5, 39.°14N×29.°11E, h7km, Ml2.8*
*ISK **08** 19:25:44.7, 39.°15N×29.°18E, h9km, ML2.3/7*
*ISCJB **08** 19:25:45.3±0.6, 39.°13N±0.°03×29.°10E±0.°05, h14km±4km, Error ellipse: s-maj=7.2km s-min=5.4km az=0.2*

ISC 08 19:25:45.1±0.9, 39.°15N±0.°03×29.°17E±0.°04, h13km±7km, n16, σ1s31/23, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMAA	**Simav-Kutahya**	**0.15**	**252**	PG	**Pg**	**19 25 48.6**	**-0.2**
SMAA				SG	**Sg**	**19 25 50.4**	**-1.0**
SIMA	**Simav-Kutahya**	**0.16**	**245**	PG	**Pg**	**19 25 49.9**	**+1.0**
SIMA				SG	**Sg**	**19 25 52.2**	**+0.6**
DEMI	**Demirci**	**0.37**	**253**	*i* P	**Pg**	**19 25 51.3**	**-1.2**
DEMI				*i* S	**Sg**	**19 25 55.7**	**-1.8**
TVSB	**Tavsanli**	**0.38**	**37**	PG	**Pg**	**19 25 52.6**	**-0.1**
DURS	**Dursunbey**	**0.70**	**310**	*i* P	**Pg**	**19 25 57.9**	**-0.8**
DURS				*i* S	**Sn**	**19 26 11.4**	**-0.3**
KULA	**Kula-Manisa**	**0.75**	**212**	PG	**Pg**	**19 25 58.0**	**-1.6**
MANT	**Manisa**	**0.81**	**216**	*i* P	**Pg**	**19 25 59.4**	**-1.4**
MANT				*i* S	**Sg**	**19 26 09.4**	**-2.0**
KHAL	**Karahalli**	**0.82**	**162**	*i* P	**Pg**	**19 26 00.6**	**-0.4**
KHAL				*i* S	**Sg**	**19 26 11.2**	**-0.5**
STEP	**BALIKESIR_Sava**	**1.15**	**282**	*i* P	**Pn**	**19 26 10.6**	**+3.7**
KZIL	**AFYON_Kizioren**	**1.17**	**139**	*i* P	**Pb**	**19 26 07.4**	**+0.1**
KZIL				*i* S	**Sn**	**19 26 24.3**	**+1.0**
CAVI	**Cavuskoy**	**1.18**	**26**	PN	**Pn**	**19 26 07.7**	**+0.4**
KCTX	**Karacabey (Bur**	**1.28**	**331**	PN	**Pb**	**19 26 08.8**	**-0.3**
YLV	**Yalova**	**1.43**	**6**	PN	**Pb**	**19 26 11.4**	**-0.2**
ARMT	**Armutlu**	**1.43**	**351**	PN	**Pb**	**19 26 11.7**	**0.0**
GONE	**Gonen-Balikesi**	**1.45**	**309**	PN	**Pg**	**19 26 12.0**	**-1.0**
GULT	**Gulveren**	**1.65**	**39**	PN	**Pn**	**19 26 14.1**	**+0.2**

MEX 08 19:33:12.5±0.4, 14.°01N×92.°58W, h27km±12km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.79**	**340**	*e*P	Pn	19 33 39.7	-1.9
PCIG				*i* S	Sn	19 34 01.0	-2.5
CCIG	**Comitan**	**2.30**	**11**	*i* P	Pn	19 33 46.6	-2.2
CCIG				*i* S	Sn	19 34 13.5	-2.8
CMIG	**Matias Romero**	**3.78**	**324**	*e*P	Pn	19 34 06.9

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.84**	**116**	P	**Pn**	**19 56 22.5**	**+2.6**
SAUI				S	**Sn**	**19 56 50.2**	**+4.8**
BNDI	**Bandanaira**	**2.65**	**6**	P	**Pn**	**19 56 31.5**	**+1.9**
MSAI	**Masohi**	**3.87**	**350**	P	**Pn**	**19 56 47.8**	**+2.6**
FAKI	**Fak Fak**	**4.96**	**32**	P	**Pn**	**19 56 58.4**	**-1.2**
FAKI				S	**Sn**	**19 57 52.1**	**-4.4**
KMPI	**Kaimana, Papua**	**5.35**	**49**	P	**Pn**	**19 57 03.8**	**-0.9**
SOEI	**Soe**	**5.90**	**244**	P	**Pn**	**19 57 14.1**	**+2.0**
BATI	**Baumata**	**6.63**	**243**	P	**Pn**	**19 57 23.0**	**+1.3**
	5.5nm,0.3s,baz=124,slow=2.2,SNR=10						
BATI				S	**Sn**	**19 58 35.0**	**-1.3**
	9.8nm,0.3s,baz=88,slow=23,SNR=7.7						
BATI	**Baumata**	**6.63**	**243**	P	**Pn**	**19 57 23.6**	**+1.8**
FITZ	**Fitzroy Crossi**	**11.54**	**199**	P	**Pn**	**19 58 25.7**	**-1.2**
	0.7nm,0.3s,baz=22,slow=10,SNR=46						
FITZ				S	Sn	20 00 26.1	-8.4
	1.4nm,0.3s,baz=178,slow=22,SNR=8.3						
WRA	**Warramunga Arr**	**13.49**	**161**	P	**Pn**	**19 58 50.8**	**-1.4**
	0.9nm,0.3s,baz=345,slow=13,SNR=34						
WRA				S	Sn	20 01 12.6	-9.0
	2.1nm,0.3s,baz=332,slow=23,SNR=12						
ASAR	**Alice Springs**	**16.91**	**166**	P	**Pn**	**19 59 35.7**	**+1.2**
	0.5nm,0.3s,baz=341,slow=9.5,SNR=31						
ASAR				S	**S**	**20 02 35.2**	**-7.3**
	0.2nm,0.3s,baz=356,slow=25,SNR=4.5						
CMAR	**Chiang Mai Arr**	**39.56**	**310**	P	**P**	**20 03 04.5**	**+1.1**
	0.4nm,0.5s,baz=137,slow=7.0,SNR=6.0						
MKAR	**Makanchi Array**	**68.17**	**327**	P	**P**	**20 06 33.0**	**+2.3**
	1.0nm,0.5s,baz=117,slow=8.2,SNR=23						

*IDC **08** 20:05:41.9±3.1,9.°19S×118.°52E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/30, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=253.9km s-min=27.2km az=50.0*
*ISCJB **08** 20:05:50.3±0.6, 9.°65S±0.°08×118.°68E±0.°05, h48km, mb3.5/1, Error ellipse: s-maj=11.3km s-min=5.6km az=21.0*
*DJA **08** 20:05:53.1±0.4, 9.°3S±4.°×11.°9E±.°, h56km±5km, M4.1/13, mb4.1/5, mB4.5/1, MLv4.1/13, Mw(mB)3.6/1*
ISC 08 20:05:51.7±1.1, 9.°58S±0.°10×118.°64E±0.°06, h48km, n16, σ2°58/18, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.75**	**95**	P	**Pn**	**20 06 08.4**	**+2.3**
WBSI				S	**Sn**	**20 06 20.3**	**+3.8**
PLAI	**Plampang**	**1.13**	**311**	P	**Pn**	**20 06 12.0**	**+0.8**
PLAI				S	**Sn**	**20 06 27.2**	**+1.5**
TWSI	**Taliwang, Sumb**	**1.93**	**296**	P	**Pn**	**20 06 23.6**	**+1.5**
EDFI	**Ende, Flores**	**3.13**	**75**	P	**Pn**	**20 06 38.6**	**0.0**
IGBI	**Denpasar**	**3.53**	**282**	P	**Pn**	**20 06 44.8**	**+0.7**
MMRI	**Maumere**	**3.68**	**76**	P	**Pn**	**20 06 47.1**	**+1.0**
BKSI	**Bulukumba**	**4.48**	**19**	P	**Pn**	**20 06 56.1**	**-1.1**
JAGI	**Jajag, Banyuwa**	**4.56**	**284**	P	**Pn**	**20 06 57.7**	**-0.6**
BATI	**Baumata**	**4.99**	**98**	P	**Pn**	**20 07 05.5**	**+1.3**
BNSI	**Bone**	**5.35**	**16**	P	**Pn**	**20 07 09.4**	**+0.3**
SOEI	**Soe**	**5.55**	**92**	P	**Pn**	**20 07 13.1**	**+1.1**
BBSI	**Bau Bau**	**5.63**	**44**	P	**Pn**	**20 07 12.9**	**-0.1**
	3.5nm,0.9s,432nm						
PWJI	**Pagerwojo**	**6.93**	**282**	P	**Pn**	**20 07 32.7**	**+1.9**
WRA	**Warramunga Arr**	**18.33**	**126**	P	**P**	**20 10 01.3**	**-1.0**
	0.2nm,0.3s,baz=300,slow=12,SNR=9.2						
WRA				S	Sn	20 13 12.0	-15
	0.1nm,0.3s,baz=308,slow=24,SNR=3.4						
ASAR	**Alice Springs**	**20.22**	**136**	P	**P**	**20 10 22.8**	**-0.2**
	1.1nm,0.6s,baz=313,slow=10.0,SNR=12						
ASAR				S	**S**	**20 13 59.5**	**-8.0**
	1.5nm,0.8s,baz=314,slow=24,SNR=9.2						
MKAR	**Makanchi Array**	**64.81**	**333**	P	P	20 16 19.9	-5.6
	0.2nm,0.4s,baz=154,slow=7.0,SNR=5.8						

IDC 08 20:17:17.8±23.0, 19.°66S×175.°57W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/41, mbtmp4.0/4, ML4.4/1, Error ellipse: s-maj=432.9km s-min=54.7km az=64.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.59**	**197**	P	P	20 21 47.1	-0.4
	1.0nm,0.3s,baz=6.3,slow=9.2,SNR=5.7						
STKA	**Stephens Creek**	**40.21**	**244**	P	P	20 24 57.0	+0.8
	1.3nm,1.0s,baz=105,slow=20,SNR=2.6						
ASAR	**Alice Springs**	**46.94**	**256**	P	P	20 25 50.5	-0.1
	1.8nm,0.6s,baz=93,slow=8.3,SNR=28						
WRA	**Warramunga Arr**	**46.99**	**261**	P	P	20 25 50.2	-0.8
	1.4nm,0.6s,baz=97,slow=8.7,SNR=28						

*ISCJB **08** 20:18:08.0±1.3, 13.°53N±0.°06×42.°4E±0.°1, h10km, Error ellipse: s-maj=15.2km s-min=7.1km az=21.6*
*ARO **08** 20:18:09.8, 13.°N±4.°×4.°2E±.°, h5km, 7km, Ml3.3*
ISC 08 20:18:07.0±1.9, 13.°45N±0.°08×42.°4E±0.°1, h10km, n10, σ0°38/12, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAOD	**Malaho**	**1.35**	**186**	*e*P	**Pg**	**20 18 33.2**	**+0.1**
OBO	**Obock**	**1.71**	**148**	*e*P	**Pb**	**20 18 38.9**	**+0.3**
TRBA	**At Turbah**	**1.72**	**97**	*i* P	**Pb**	**20 18 38.7**	**-0.2**
TRBA				*e*		20 18 39.0	
	baz=246,slow=14						
TRBA				*i* S	**Sn**	**20 18 59.8**	**+0.4**
TRBA				AML	AML	20 19 11.2	
	comp=N,202nm,0.5s						
TDD	**Tadjoura Ara**	**1.72**	**162**	*e*P	**Pb**	**20 18 39.3**	**+0.5**
MCAD	**Moucha**	**1.90**	**154**	*e*P	**Pb**	**20 18 42.1**	**+0.3**
ATD	**Arta Tunnel**	**1.97**	**166**	*e*P	**Pb**	**20 18 43.1**	**+0.1**
ATD	**Arta Tunnel**	**1.97**	**166**	*e*P	**Pb**	**20 18 43.1**	**+0.1**
ATD				*e*S	**Sg**	**20 19 09.7**	**-0.6**
SGH	**Sud-Ghoubbet**	**2.02**	**173**	*e*P	**Pb**	**20 18 43.7**	**-0.2**
ATA	**Atar**	**2.15**	**157**	*e*P	**Pb**	**20 18 45.5**	**-0.5**
HAJJ	**Hajjah**	**2.54**	**28**	*i* S	**Sn**	**20 19 19.5**	**0.0**

*UCR **08** 20:21:57.6±1.2, 13.°57N×90.°76W, h21km±5km, MD4.1, ML4.1*
*MEX **08** 20:22:01.4±0.5, 13.°85N×90.°85W, h16km±20km, MD3.8*
ISC 08 20:21:55.9±2.3, 13.°6N±0.°1×90.°85W±0.°07, h26km±17km, n25, σ1°25/40, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**1.20**	**76**	*e*P	**Pn**	**20 22 18.2**	**+0.1**
CEVE	**Cerro Verde**	**1.21**	**79**	*e*P	**Pn**	**20 22 18.1**	**+0.7**
CEVE				*e*S	**Sb**	**20 22 34.9**	**+1.2**
SBLS	**San Blas**	**1.21**	**79**	*e*P	**Pn**	**20 22 18.1**	**+0.7**
SNJE	**San Jose**	**1.23**	**78**	*e*P	**Pn**	**20 22 18.3**	**+0.7**
COLS	**Colinas**	**1.51**	**88**	*e*P	**Pn**	**20 22 22.3**	**+1.0**
COLS				*e*S	**Sb**	**20 22 41.1**	**-0.9**
BOQS	**Boqueron**	**1.53**	**85**	*e*P	**Pn**	**20 22 22.7**	**+1.0**
BOQS				*e*S	**Sb**	**20 22 42.6**	**-0.2**
UEES	**San Salvador**	**1.56**	**85**	*e*P	**Pn**	**20 22 23.3**	**+1.2**
SNET	**Serv Nac Est T**	**1.57**	**87**	*e*P	**Pn**	**20 22 23.3**	**+1.1**
SNET				*e*S	**Sb**	**20 22 42.7**	**-1.3**
OPAM	**San Salvador**	**1.60**	**86**	*e*P	**Pn**	**20 22 24.1**	**+1.4**
OPAM				*e*S	**Sb**	**20 22 44.0**	**-0.8**
OPAM				IAML		20 22 48.9	
	comp=Z,5μm,0.2s						
CUSC	**San Salvador**	**1.62**	**85**	*e*P	**Pn**	**20 22 24.3**	**+1.5**
CUSC				*e*S	**Sb**	**20 22 45.0**	**-0.2**
MTO3	**Montecristo**	**1.65**	**61**	*e*P	**Pn**	**20 22 24.0**	**+0.7**
MTO3				*e*S	**Sb**	**20 22 46.4**	**+0.2**
SOYA	**Soyapango**	**1.65**	**87**	*e*P	**Pn**	**20 22 24.1**	**+0.8**
SOYA				*e*S	**Sb**	**20 22 45.0**	**-1.2**
LFU	**La Fuente**	**1.69**	**85**	*e*P	**Pn**	**20 22 24.8**	**+0.9**
LFU				*e*S	**Sb**	**20 22 45.9**	**-1.5**
LFRS	**El Faro**	**1.74**	**89**	*e*P	**Pn**	**20 22 25.6**	**+1.1**
LBRS	**Las Brisas**	**1.76**	**86**	*e*P	**Pn**	**20 22 25.9**	**+1.1**
PAVA	**Las Pavas**	**1.86**	**87**	*e*P	**Pn**	**20 22 27.2**	**+1.0**
PAVA				*e*S	**Sb**	**20 22 51.1**	**-1.2**
PAVA				IAML		20 22 55.9	
	comp=Z,1μm,0.3s						
SNVI	**San Vicente**	**1.95**	**90**	*e*P	**Pn**	**20 22 28.9**	**+1.4**
SNVI				*e*S	**Sn**	**20 22 52.8**	**+1.5**
TECA	**Tecapa**	**2.28**	**93**	*e*P	**Pn**	**20 22 33.3**	**+1.2**
LCY	**Lacayo**	**2.49**	**94**	*e*P	**Pn**	**20 22 36.2**	**+1.3**
CCIG	**Comitan**	**2.94**	**335**	*e*P	**Pn**	**20 22 41.7**	**+0.6**
CCIG				*i* S	**Sn**	**20 23 13.5**	**-2.1**
PCIG		**3.10**	**313**	*e*P	**Pn**	**20 22 44.8**	**+1.7**
PCIG				*i* S	**Sn**	**20 23 18.6**	**-0.8**
CRIN	**San Cristobal**	**3.81**	**103**	*e*P	**Pn**	**20 22 54.5**	**+1.6**
MOMN	**Momotombo**	**4.36**	**105**	*e*P	**Pn**	**20 23 00.6**	**0.0**
COPN	**Copaltepe**	**4.39**	**108**	*e*P	**Pn**	**20 23 00.9**	**+0.1**
COPN				*e*S	**Sn**	**20 23 48.1**	**-3.1**
MATN	**Matagalpa**	**4.84**	**97**	*e*P	**Pn**	**20 23 08.9**	**+1.7**
MATN				*e*S	**Sn**	**20 24 02.3**	**-0.1**

*IDC **08** 20:26:46.6±1.9, 13.°80N×92.°22W, h0km, mb3.8/4, mb1 4.0/8, mb1mx3.7/51, mbtmp3.8/8, ML3.7/3, Error ellipse: s-maj=40.4km s-min=22.0km az=19.0*
*ISCJB **08** 20:26:51.1±1.2, 13.°90N±0.°09×92.°26W±0.°07, h46km, mb3.8/4, Error ellipse: s-maj=13.5km s-min=8.7km az=15.5*
*MEX **08** 20:26:51.9±0.4, 13.°88N×92.°36W, h16km±121km, MD3.9*
ISC 08 20:26:53.1±1.3, 14.°0N±0.°1×92.°20W±0.°06, h46km, n11, σ1°86/15, mb3.8/4, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**1.97**	**58**	Pn	**Pn**	**20 27 23.6**	**-0.6**
APG				Sn	**Sn**	**20 27 50.2**	**+2.2**
	31nm,0.3s,baz=238,slow=19,SNR=42						
PCIG		**1.99**	**330**	*e*P	**Pn**	**20 27 21.6**	**-2.7**
PCIG				*i* S	**Sn**	**20 27 44.7**	**-3.4**
CCIG	**Comitan**	**2.31**	**1**	*e*P	**Pn**	**20 27 27.9**	**-0.9**
CCIG				*i* S	**Sn**	**20 27 55.4**	**-0.6**
CMIG	**Matias Romero**	**4.05**	**321**	Pn	**Pn**	**20 27 52.8**	**+0.3**
	6.4nm,0.3s,baz=139,slow=12,SNR=9.7						
CMIG				Sn	**Sn**	**20 28 40.9**	**+2.3**
	14nm,0.3s,baz=62,slow=10,SNR=5.0						
JTS	**JuntasAbangare**	**7.97**	**116**	Pn	**Pn**	**20 28 43.7**	**-2.7**
	0.4nm,0.3s,baz=245,slow=17,SNR=2.0						
TXAR	**Lajitas Array**	**18.62**	**327**	P	**Pn**	**20 31 08.6**	**+1.0**
	baz=143,slow=7.8,SNR=1.6						
ANMO	**Albuquerque**	**24.54**	**331**	P	**P**	**20 32 10.0**	**+1.3**
	1.7nm,0.7s,baz=161,slow=13,SNR=4.7						
YKA	**Yellowknife Ar**	**51.02**	**347**	P	**P**	**20 35 50.0**	**-0.2**
	0.8nm,0.6s,baz=153,slow=6.7,SNR=4.2						
INK	**Inuvik**	**60.42**	**344**	P	**P**	**20 36 58.1**	**+0.7**
	1.2nm,0.7s,baz=153,slow=4.3,SNR=3.9						
ILAR	**Eielson Array**	**62.80**	**337**	P	**P**	**20 37 14.1**	**+0.5**
	0.8nm,1.1s,baz=116,slow=6.3,SNR=3.9						
CMAR	**Chiang Mai Arr**	**145.96**	**341**	PKPbc	**PKPbc**	**20 46 29.1**	**+0.5**
	1.8nm,0.7s,baz=334,slow=3.1,SNR=19						

IDC 08 20:37:11.6±2.0, 21.°64S×169.°85E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/41, mbtmp3.6/4, ML3.7/1, MS3.1/4, Ms1 3.1/4, ms1mx2.8/29, Error ellipse: s-maj=86.9km s-min=33.6km az=159.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.19**	**262**	Pn	Pn	20 38 03.8	+0.7
	8.8nm,0.3s,baz=90,slow=20,SNR=142						
DZM				Sn	Sn	20 38 39.1	-2.8
	12nm,0.3s,baz=316,slow=23,SNR=8.3						
DZM				LR	LR	20 38 54.3	
	comp=Z,102nm,19.0s,baz=72,slow=32						
AFI	**Afiamalu**	**19.10**	**69**	LR	LR	20 48 02.2	
	comp=Z,54nm,18.4s,baz=176,slow=34						
STKA	**Stephens Creek**	**27.14**	**242**	LR	LR	20 52 11.1	
	comp=Z,65nm,19.1s,baz=207,slow=33						
ASAR	**Alice Springs**	**33.18**	**260**	P	P	20 43 49.6	-0.6
	0.8nm,0.6s,baz=75,slow=8.7,SNR=12						
WRA	**Warramunga Arr**	**33.20**	**266**	P	P	20 43 49.0	-1.4
	0.3nm,0.5s,baz=97,slow=8.3,SNR=5.2						
MAW	**Mawson**	**76.44**	**202**	LR	LR	21 20 12.6	
	comp=Z,26nm,18.1s,baz=238,slow=34						
CMAR	**Chiang Mai Arr**	**80.00**	**294**	P	P	20 49 25.0	+1.6
	0.2nm,0.3s,baz=117,slow=5.2,SNR=2.9						
BOSA	**Boshof**	**119.48**	**216**	PKP	PKPdf	20 56 03.8	-0.2
	2.9nm,0.9s,baz=149,slow=5.9,SNR=3.7						
EKA	**Eskdalemuir Ar**	**145.94**	**353**	PKPbc	PKPdf	20 56 51.1	-1.1
	0.3nm,0.3s,baz=355,slow=2.6,SNR=6.7						
GERES	**GERESS Array B**	**146.85**	**331**	PKPbc	PKPbc	20 56 55.2	-0.7
	0.2nm,0.3s,baz=38,slow=1.7,SNR=2.8						

*DSN **08** 20:39:42.0±1.8, 28.°94N×55.°52E, h15km, ML3.6/8, Error ellipse: s-maj=52.6km s-min=13.5km az=69.0*
*IDC **08** 20:39:45.9±2.6, 27.°62N×55.°73E, h0km, mb3.7/6, mb1 3.7/6, mb1mx3.4/50, mbtmp3.7/6, Error ellipse: s-maj=58.3km s-min=26.5km az=158.0*
*THR **08** 20:39:51.2±0.4, 28.°17N×55.°74E, h15km, ML3.5*
*TEH **08** 20:39:51.4, 28.°21N×55.°65E, h7km, ML3.6*
*ISCJB **08** 20:39:53.0±0.3, 28.°17N±0.°03×55.°66E±0.°05, h22km, mb3.7/6, Error ellipse: s-maj=6.1km s-min=3.6km az=163.1*
ISC 08 20:39:53.3±0.8, 28.°17N±0.°04×55.°62E±0.°04, h22km, n60, σ1°76/59, mb3.8/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENO	**Geno**	**0.91**	**147**	*e*Pg	**Pb**	**20 40 10.3**	**-0.2**
GENO				IAMB	IAmb	20 40 29.1	
	comp=N,0.0nm,0.2s						
GENO				IAMB	IAmb	20 40 29.4	
	comp=E,0.0nm,0.3s						
GENO				IAMB	IAmb	20 40 29.8	
	comp=Z,0.0nm,0.2s						
NIAN	**Nian**	**1.23**	**119**	*e*Pg	**Pn**	**20 40 15.3**	**0.0**
NIAN				IAMB	IAmb	20 40 38.3	
	comp=N,0.0nm,0.3s						
NIAN				IAMB	IAmb	20 40 38.6	
	comp=Z,0.0nm,0.2s						
NIAN				IAMB	IAmb	20 40 40.4	
	comp=E,0.0nm,0.2s						
NGRK	**Negar Kerman**	**1.76**	**33**	*e*Pn	**Pn**	**20 40 22.3**	**-0.6**
NGRK				IAMB	IAmb	20 40 49.9	
	comp=E,0.0nm,0.4s						
NGRK				IAMB	IAmb	20 40 50.2	
	comp=N,0.0nm,0.4s						
NGRK				IAMB	IAmb	20 40 52.2	
	comp=Z,0.0nm,0.2s						
JHRM	**Jahrom**	**1.83**	**281**	*e*Pn	**Pb**	**20 40 27.5**	**+1.3**
JHRM				IAMB	IAmb	20 41 00.0	
	comp=E,0.0nm,0.5s						
JHRM				IAMB	IAmb	20 41 01.0	
	comp=Z,0.0nm,0.4s						
JHRM				IAMB	IAmb	20 41 11.4	
	comp=N,0.0nm,0.4s						
KRBR	**Kerman**	**2.06**	**29**	*e*Pn	**Pn**	**20 40 27.1**	**+0.1**
KRBR				IAML		20 40 58.1	
	comp=E,386nm,0.4s						
KRBR				IAML		20 41 04.3	
	comp=N,446nm,0.4s						
KRBR	**Kerman**	**2.06**	**29**	*e*Pn	**Pn**	**20 40 27.1**	**+0.1**
TVBK	**TV Kerman**	**2.07**	**29**	*e*Pn	**Pn**	**20 40 27.8**	**+0.8**
TVBK				IAMB	IAmb	20 40 33.1	
	comp=Z,0.0nm,0.2s						
TVBK				IAMB	IAmb	20 40 58.2	
	comp=E,0.0nm,0.6s						
TVBK				IAMB	IAmb	20 40 58.6	
	comp=N,0.0nm,0.4s						
SHME	**Shamm**	**2.16**	**167**	P	**Pn**	**20 40 29.2**	**+1.2**
SHME	**Shamm**	**2.16**	**167**	*e*Pn	**Pb**	**20 40 31.1**	**-0.7**
BANOM	**Banah**	**2.32**	**165**	*i* P	**Pn**	**20 40 30.7**	**+0.5**
	SNR=23						
BANOM				S	**Sb**	**20 41 08.1**	**+5.4**
KHGB	**Koh Gabri**	**2.32**	**19**	*e*Pn	**Pn**	**20 40 33.0**	**+2.6**
KHGB				IAMB	IAmb	20 40 37.3	
	comp=Z,0.0nm,0.3s						
KHGB				IAMB	IAmb	20 41 06.9	
	comp=E,0.0nm,0.4s						
KHGB				IAMB	IAmb	20 41 08.8	
	comp=N,0.0nm,0.6s						
GHIR	**Ghir-Karzin**	**2.33**	**273**	*e*Pn	**Pb**	**20 40 32.6**	**-2.0**
GHIR				IAML		20 41 15.5	
	comp=E,225nm,0.5s						
GHIR	**Ghir-Karzin**	**2.33**	**273**	*e*Pn	**Pb**	**20 40 32.6**	**-2.0**
CHMN	**Cheshme madani**	**2.38**	**44**	*e*Pn	**Pn**	**20 40 34.2**	**+2.9**
CHMN				IAMB	IAmb	20 41 07.8	
	comp=Z,0.0nm,0.6s						
CHMN				IAMB	IAmb	20 41 07.8	
	comp=E,0.0nm,0.6s						
CHMN				IAMB	IAmb	20 41 08.2	
	comp=N,0.0nm,0.4s						
ISRV	**Sarvestan**	**2.51**	**299**	*e*Pn	**Pb**	**20 40 36.0**	**-1.9**
ISRV				IAMB	IAmb	20 41 21.8	
	comp=N,10μm,0.6s						
ISRV				IAMB	IAmb	20 41 23.4	
	comp=Z,4μm,0.3s						
IPAR	**Pars**	**2.80**	**307**	*e*Pn	**Pn**	**20 40 40.0**	**+2.9**
IPAR				IAMB	IAmb	20 41 33.1	
	comp=N,9μm,1.0s						
IPAR				IAMB	IAmb	20 41 36.6	
	comp=Z,2μm,0.6s						
IPAR				IAMB	IAmb	20 41 40.6	
	comp=E,4μm,0.8s						
MSFE	**Esma-Masafi**	**2.84**	**170**	P	**Pn**	**20 40 37.8**	**+0.4**
MSFE	**Esma-Masafi**	**2.84**	**170**	*e*Pn	**Pn**	**20 40 38.8**	**+1.4**
NAZ	**Nazwa, Dubai**	**3.17**	**179**	*e*Pn	**Pb**	**20 40 47.3**	**-1.6**
UOSS	**Minazif**	**3.25**	**171**	P	**Pn**	**20 40 42.4**	**-0.7**
UOSS	**Minazif**	**3.25**	**171**	*e*Pn	**Pn**	**20 40 43.6**	**+0.6**
IMEH	**Mehriz**	**3.33**	**345**	*e*Pn	**Pn**	**20 40 46.6**	**+2.3**
IMEH				IAMB	IAmb	20 41 00.9	
	comp=Z,778nm,0.3s						
IMEH				IAMB	IAmb	20 41 52.7	
	comp=N,864nm,0.6s						
HATD	**Hatta, Dubai**	**3.36**	**172**	P	**Pn**	**20 40 45.7**	**+1.2**
HATD	**Hatta, Dubai**	**3.36**	**172**	*e*Pn	**Pn**	**20 40 47.6**	**+3.1**
FAQ	**Al Faqa, Dubai**	**3.41**	**180**	P	**Pn**	**20 40 45.5**	**+0.3**
FAQ	**Al Faqa, Dubai**	**3.41**	**180**	*e*Pn	**Pn**	**20 40 47.2**	**+2.0**
ASHO	**Ashiyiah**	**3.49**	**173**	*i* P	**Pn**	**20 40 47.1**	**+0.7**
	SNR=25						
ASHO	**Ashiyiah**	**3.49**	**173**	*e*Pn	**Pn**	**20 40 48.5**	**+2.1**
ASUD	**Al Ashush, Dub**	**3.54**	**184**	*i* P	**Pn**	**20 40 46.9**	**-0.1**
	SNR=10						
ASUD	**Al Ashush, Dub**	**3.54**	**184**	*e*Pn	**Pn**	**20 40 49.3**	**+2.4**
IKAZ	**Kazeroun**	**3.68**	**297**	*e*Pn	**Pn**	**20 40 50.6**	**+1.4**
IKAZ				IAMB	IAmb	20 41 43.6	
	comp=Z,2μm,0.3s						
ALNE	**Al Ain**	**4.10**	**178**	*e*Pn	**Pn**	**20 40 55.5**	**+0.8**
SOHO	**SOHO**	**4.10**	**168**	P	**Pn**	**20 40 53.9**	**-0.8**
ICHK	**Chekchek**	**4.20**	**346**	IAMB	IAmb	20 41 17.4	
	comp=N,383nm,0.3s						
ICHK				IAMB	IAmb	20 42 18.2	
	comp=Z,546nm,0.9s						
ICHK				IAMB	IAmb	20 42 30.7	
	comp=E,449nm,0.6s						
YZKH	**Yazd**	**4.30**	**348**	*e*Pn	**Pn**	**20 40 58.5**	**+1.0**
YZKH	**Yazd**	**4.30**	**348**	*e*Pn	**Pn**	**20 40 58.5**	**+1.0**
KLNJ	**Kolanjah**	**4.51**	**310**	*e*Pn	**Pn**	**20 41 02.0**	**+1.4**
KLNJ				IAMB	IAmb	20 42 31.1	
	comp=Z,0.0nm,0.7s						
KLNJ				IAMB	IAmb	20 42 31.4	
	comp=N,0.0nm,0.5s						
IRAM	**Ramesheh**	**4.59**	**323**	IAMB	IAmb	20 41 06.4	
	comp=Z,324nm,0.3s						
IRAM				*e*Pn	**Pn**	**20 41 02.9**	**+1.3**
IRAM				IAMB	IAmb	20 41 08.0	
	comp=E,478nm,0.3s						
IRAM				IAMB	IAmb	20 41 09.5	
	comp=N,553nm,0.2s						
TPRV	**Parvadeh(Tabas**	**4.93**	**10**	*e*Pn	**Pn**	**20 41 07.9**	**+1.7**
CHBR	**Chabahar**	**5.04**	**119**	*e*Pn	**Pn**	**20 41 07.1**	**-0.5**
CHBR	**Chabahar**	**5.04**	**119**	*e*Pn	**Pn**	**20 41 07.1**	**-0.5**
IKOO	**Kooshah**	**5.15**	**34**	*e*Pn	**Pn**	**20 41 11.3**	**+1.9**
IKOO				IAMB	IAmb	20 42 40.0	
	comp=Z,319nm,0.7s						
IKOO				IAMB	IAmb	20 42 41.3	
	comp=N,477nm,0.5s						
IKOO				IAMB	IAmb	20 42 46.4	
	comp=E,537nm,0.6s						
IGAR	**Gharneh**	**5.23**	**325**	IAMB	IAmb	20 41 13.2	
	comp=Z,461nm,0.2s						
IGAR				IAMB	IAmb	20 41 13.3	
	comp=N,577nm,0.2s						
ANAR	**Anarak**	**5.26**	**342**	*e*Pn	**Pn**	**20 41 12.5**	**+1.7**
ANAR				IAMB	IAmb	20 41 30.7	
	comp=N,0.0nm,0.4s						
ANAR				IAMB	IAmb	20 42 54.6	
	comp=Z,0.0nm,0.5s						
ANAR				IAMB	IAmb	20 43 00.2	
	comp=E,0.0nm,1.0s						
IBRJ	**Brojen**	**5.31**	**316**	*e*Pn	**Pn**	**20 41 13.9**	**+2.4**
IBRJ				IAMB	IAmb	20 41 14.0	
	comp=Z,788nm,0.3s						
ITEG	**Tejag**	**5.43**	**29**	*e*Pn	**Pn**	**20 41 15.3**	**+2.2**
ITEG				IAMB	IAmb	20 43 00.6	
	comp=Z,154nm,0.4s						
IZEF	**Zefreh**	**5.50**	**330**	*e*Pn	**Pn**	**20 41 14.5**	**+0.4**
IZEF				IAMB	IAmb	20 41 21.6	
	comp=Z,105nm,0.3s						
IZEF				IAMB	IAmb	20 41 29.6	
	comp=E,95nm,0.2s						
IZEF				IAMB	IAmb	20 41 38.8	
	comp=N,93nm,0.2s						
TKDS	**Koohdasht(Taba**	**5.58**	**13**	*e*Pn	**Pn**	**20 41 16.4**	**+1.3**
ZNGN	**Zangian**	**5.70**	**315**	*e*Pn	**Pn**	**20 41 19.0**	**+2.0**
ZNGN				IAMB	IAmb	20 41 25.4	
	comp=E,0.0nm,0.2s						
ZNGN				IAMB	IAmb	20 41 43.1	
	comp=N,0.0nm,0.6s						
ZNGN				IAMB	IAmb	20 41 47.1	
	comp=Z,0.0nm,0.6s						
ROKH	**ROKH**	**5.75**	**318**	*e*Pn	**Pn**	**20 41

1.3nm,0.7s,baz=94,slow=7.9,SNR=19
ASAR PcP **PcP** **21 06 05.4 -0.4**
0.4nm,1.0s,baz=101,slow=4.8,SNR=3.5
WRA Warramunga Arr 46.69 261 P **P** **21 04 35.2 -0.9**
0.6nm,0.6s,baz=97,slow=8.7,SNR=15
WRA PcP **PcP** **21 06 06.1 0.0**
0.1nm,0.6s,baz=99,slow=4.2,SNR=3.8
FITZ Fitzroy Crossi 55.11 261 P **P** **21 05 39.1 +0.3**
1.7nm,0.9s,baz=90,slow=7.1,SNR=3.6
BRTR Keskin Array B 147.90 314 PKPbc **PKPab** **21 15 49.3 -2.4**
0.4nm,0.5s,baz=182,slow=3.9,SNR=2.8

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*IDC **08** 21:01:12.9±1.2, 13°.97N×92°.55W, h0km, mb4.1/8, mb1 4.3/12, mb1mx4.0/51, mbtmp4.1/12, ML3.9/4, MS3.6/6, Ms1 3.6/6, ms1mx3.1/32, Error ellipse: s-maj=36.0km s-min=15.1km az=42.0*
*UCR **08** 21:01:13.7±0.6, 14°.37N×92°.60W, h30km, ML4.0, mb4.2(NEIC)*
*ISCJB **08** 21:01:14.3±1.9, 14°.09N±0°.06×92°.51W±0°.06, h17km±15km, mb4.2/13, MS3.4/5, Error ellipse: s-maj=11.0km s-min=4.8km az=31.5*
*NEIC **08** 21:01:17.4±2.7, 14°.00N×92°.51W, h30km±19km, mb4.2/9, MD4.1(MEX), Error ellipse: s-maj=15.3km s-min=6.2km az=221.0*
*MEX **08** 21:01:20.6±0.4, 14°.28N×92°.50W, h6km±42km, MD4.1*
ISC 08 21:01:14.1±2.5, 14°.11N±0°.08×92°.51W±0°.06, h5km±14km, n43, σ1s25/45, mb4.3/13, MS3.5/5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**1.73**	**337**	*eP*		**Pn**		**21 01 45.7**	**+0.9**
PCIG				*eS*		**Sn**		**21 02 04.5**	**-2.8**
PCIG		**1.73**	**337**	*eP*		**Pn**		**21 01 45.7**	**+0.9**
PCIG				*i S*		**Sn**		**21 02 04.8**	**-2.4**
APG	**El Apazote**	**2.17**	**66**	Pn		**Pn**		**21 01 52.0**	**+0.8**
	73nm,0.3s,baz=228,slow=8.5,SNR=374								
APG				Sn		**Sn**		**21 02 16.5**	**-2.1**
	72nm,0.3s,baz=317,slow=16,SNR=5.6								
APG				LR		LR		21 02 58.2	
	comp=Z,1μm,19.0s,baz=286,slow=46								
CCIG	**Comitan**	**2.19**	**9**	*eP*		**Pg**		**21 01 55.4**	**-0.7**
CCIG	**Comitan**	**2.19**	**9**	*eP*		**Pn**		**21 01 53.0**	**+1.7**
CCIG				*i S*		**Sn**		**21 02 16.8**	**-2.1**
RTR	**El Retiro**	**2.79**	**94**	*eP*		**Pn**		**21 01 58.4**	**-1.2**
RTR				*eS*		**Sn**		**21 02 32.8**	**-0.9**
CEVE	**Cerro Verde**	**2.82**	**95**	*eP*		**Pn**		**21 01 59.2**	**-0.8**
CEVE				*eS*		**Sn**		**21 02 35.3**	**+0.8**
CEVE				IAML				21 02 44.5	
	comp=Z,2μm,0.5s								
SBLS	**San Blas**	**2.82**	**95**	*eP*		**Pn**		**21 01 58.9**	**-1.0**
SNJE	**San Jose**	**2.83**	**94**	*eP*		**Pn**		**21 01 58.9**	**-1.2**
MTO3	**Montecristo**	**3.07**	**84**	*eP*		**Pn**		**21 02 02.4**	**-1.1**
BOQS	**Boqueron**	**3.16**	**96**	*eP*		**Pn**		**21 02 03.7**	**-1.0**
BOQS				*eS*		**Sn**		**21 02 43.1**	**+0.2**
LFU	**La Fuente**	**3.32**	**96**	*eP*		**Pn**		**21 02 05.8**	**-0.9**
LFRS	**El Faro**	**3.38**	**98**	*eP*		**Pn**		**21 02 07.3**	**-0.4**
PAVA	**Las Pavas**	**3.49**	**96**	*eP*		**Pn**		**21 02 08.1**	**-1.1**
PAVA				IAML				21 03 09.7	
	comp=Z,239nm,0.5s								
CMIG	**Matias Romero**	**3.75**	**323**	Pn		**Pn**		**21 02 14.0**	**+1.5**
	comp=Z,12nm,0.3s,baz=158,slow=13,SNR=35								
CMIG				Sn		**Sn**		**21 02 55.4**	**-1.6**
	comp=Z,29nm,0.3s,baz=103,slow=14,SNR=6.0								
JTS	**JuntasAbangare**	**8.30**	**116**	Pn		**Pn**		**21 03 15.8**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=348,slow=6.9,SNR=4.1								
JTS	**JuntasAbangare**	**8.30**	**116**	*ePn*		**Pn**		**21 03 15.6**	**+0.3**
	comp=Z,20nm,0.8s								
DWPF	**Disney Wildern**	**17.33**	**35**	Pn		**Pn**		**21 05 17.8**	**+1.0**
	comp=Z,16nm,0.7s								
TXAR	**Lajitas Array**	**18.34**	**328**	P		**Pn**		**21 05 29.7**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=150,slow=9.4,SNR=2.9								
ROSC	**El Rosal**	**20.15**	**115**	P		**P**		**21 05 50.1**	**+0.4**
	comp=Z,5.4nm,0.5s,baz=317,slow=24,SNR=4.2								
MIAR	**Mount Ida**	**20.37**	**357**	P		**P**		**21 05 52.7**	**+1.1**
	comp=Z,1.6nm,0.4s								
OXF	**Oxford**	**20.51**	**7**	P		**P**		**21 05 54.2**	**+1.1**
	comp=Z,4.2nm,0.7s								
MNTX	**Cornudas Mount**	**21.11**	**328**	*eP*		**P**		**21 06 00.8**	**+1.1**
	comp=Z,7.4nm,1.1s								
SDV	**Santo Domingo**	**22.05**	**101**	P		**P**		**21 06 10.8**	**+0.7**
	comp=Z,2.0nm,0.2s,baz=300,slow=15,SNR=2.3								
AMTX	**Amarillo**	**22.28**	**340**	*eP*		**P**		**21 06 13.5**	**+1.2**
	comp=Z,12nm,0.5s								
TKL	**Tuckaleechee C**	**22.85**	**19**	P		**P**		**21 06 18.1**	**-0.2**
	comp=Z,3.4nm,0.6s,baz=207,slow=13,SNR=2.1								
TKL				LR		LR		21 16 53.9	
	comp=Z,172nm,18.7s,baz=214,slow=41								
ANMO	**Albuquerque**	**24.27**	**331**	P		**P**		**21 06 32.8**	**+0.3**
	comp=Z,0.4nm,0.3s								
ATAH	**Atahualpa**	**25.33**	**146**	LR		LR		21 14 32.4	
	comp=Z,110nm,19.6s,baz=346,slow=32								
SJG	**San Juan**	**25.62**	**78**	LR		LR		21 17 07.9	
	comp=Z,90nm,18.8s,baz=262,slow=37								
MVCO	**Mesa Verde**	**27.07**	**331**	*eP*		**P**		**21 06 59.8**	**+1.9**
	comp=Z,4.4nm,0.7s								
SADO	**Sadowa**	**32.61**	**18**	LR		LR		21 22 07.5	
	comp=Z,108nm,20.8s,baz=226,slow=38								
NVAR	**Mina Array Bea**	**33.28**	**321**	P		**P**		**21 07 53.5**	**+0.7**
	comp=Z,1.4nm,0.4s,baz=141,slow=8.8,SNR=4.4								
LPAZ	**La Paz**	**38.63**	**141**	LR		LR		21 23 42.9	
	comp=Z,62nm,18.4s,baz=323,slow=35								
HUMO	**Hull Mountain**	**38.66**	**323**	P		**P**		**21 08 39.8**	**+1.1**
	comp=Z,17nm,1.1s								
SIV	**San Ignacio**	**43.13**	**133**	P		**P**		**21 09 13.3**	**-2.5**
	comp=Z,2.0nm,0.6s,baz=303,slow=6.9,SNR=15								
YKA	**Yellowknife Ar**	**50.81**	**347**	P		**P**		**21 10 15.1**	**-0.1**
	comp=Z,3.6nm,0.7s,baz=151,slow=7.2,SNR=17								
RKT	**Rikitea**	**55.64**	**229**	*eT*		T		22 10 43.8	
	comp=Z,2.5nm,0.3s								
INK	**Inuvik**	**60.20**	**344**	P		**P**		**21 11 23.3**	**+0.6**
	comp=Z,2.7nm,0.7s,baz=138,slow=8.2,SNR=9.8								
ILAR	**Eielson Array**	**62.55**	**337**	P		**P**		**21 11 39.4**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=115,slow=5.4,SNR=6.7								
PPT2	**Papeete2**	**64.51**	**242**	*eLR*		LR		21 30 54.1	
	comp=Z,67nm,27.5s								
BORG	**Borgarnes**	**69.33**	**26**	*eP*		**P**		**21 12 22.6**	**+0.4**
ESK	**Eskdalemuir**	**78.14**	**36**	P		**P**		**21 13 13.7**	**-0.6**
	comp=Z,5.3nm,0.9s								
CMAR	**Chiang Mai Arr**	**145.73**	**340**	PKPbc		**PKPdf**		**21 20 54.7**	**0.0**
	comp=Z,3.6nm,0.8s,baz=332,slow=3.1,SNR=23								

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*NNC **08** 21:01:42.7±5.9, 36°.49N×77°.32E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=38.2km s-min=18.6km az=166.0*
*IDC **08** 21:01:50.5±1.8, 37°.04N×77°.14E, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.3/61, mbtmp3.5/4, ML3.0/2, Error ellipse: s-maj=43.4km s-min=19.7km az=64.0*
ISC 08 21:01:48.8±0.7, 36°.75N±0°.07×76°.88E±0°.10, h10km, n15, σ2s83/17, 9C-5D, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**4.21**	**322**	⇓Pg		**Pg**		**21 03 06.9**	**-2.5**
	3.1nm,0.4s								
SFK				⇑Sn		**Sb**		**21 03 51.2**	**-2.7**
	4.8nm,0.3s								
SFK				⇓Lg		Lg		21 04 06.0	
	29nm,0.7s								
AAK	**Ala-Archa**	**6.17**	**343**	Pn		**Pn**		**21 03 23.2**	**+3.2**
	0.2nm,0.3s,baz=159,slow=8.6,SNR=2.5								
AAK				Sn		**Sn**		**21 04 26.2**	**-4.5**
	0.3nm,0.3s,baz=135,slow=7.1,SNR=2.7								
AAK				Lg		Lg		21 04 57.6	
	0.4nm,0.3s,baz=61,slow=19,SNR=2.8								
AAK	**Ala-Archa**	**6.17**	**343**	⇑Pg		Pg		21 03 40.6	-6.2
	4.8nm,0.8s								
AAK				⇑Lg		Lg		21 05 06.9	
	29nm,1.4s								
TKM2	**Tokmak 2**	**6.25**	**351**	⇑Pg		Pg		21 03 40.9	-7.5
	5.9nm,1.1s								
TKM2				⇓Lg		Lg		21 05 08.6	
	9.6nm,0.8s								
MDOK	**Medeo**	**6.41**	**1**	⇓Pg		Pg		21 03 44.8	-6.7
	6.2nm,0.8s								
MDOK				⇑Lg		Lg		21 05 14.2	
	12nm,1.0s								
MNAS	**Manas**	**6.65**	**331**	⇑Pg		**Pb**		**21 03 47.8**	**+3.2**
	3.9nm,1.2s								
MNAS				⇑Sn		Sn		21 04 50.2	+7.5
	5.0nm,0.8s								
MNAS				⇓Lg		Lg		21 05 25.7	
	3.3nm,0.6s								
PDGK	**Podgornoye**	**6.87**	**16**	⇑Sn		**Sn**		**21 04 49.9**	**+1.8**
	7.8nm,0.7s								
PDGK				⇑Lg		Lg		21 05 27.8	
	16nm,1.1s								
PYUN	**Piuthan**	**10.04**	**147**	*eP*		**Pn**		**21 04 13.1**	**-0.2**
	14nm,0.4s								
PYUN				*eS*		**Sn**		**21 06 03.3**	**-2.9**
DANN	**Dangsing**	**10.18**	**143**	*eP*		**Pn**		**21 04 14.4**	**-0.9**
	6.7nm,0.4s								
KOLN	**Koldanda**	**10.60**	**146**	*eP*		**Pn**		**21 04 20.1**	**-0.8**
	4.9nm,0.4s								
KOLN				*eS*		**Sn**		**21 06 16.1**	**-3.7**
MKAR	**Makanchi Array**	**10.82**	**20**	Pn		**Pn**		**21 04 23.7**	**0.0**
	0.3nm,0.3s,baz=203,slow=13,SNR=20								
MKAR				Sn		**Sn**		**21 06 21.2**	**-3.6**
	0.2nm,0.3s,baz=196,slow=25,SNR=4.0								
GKN	**Gorkha**	**10.90**	**141**	*eP*		**Pn**		**21 04 24.5**	**-0.5**
PKI	**Pulchoki**	**11.65**	**139**	*eP*		**Pn**		**21 04 34.6**	**-0.8**
	3.3nm,0.5s								
CMAR	**Chiang Mai Arr**	**26.61**	**127**	P		**P**		**21 07 30.6**	**+3.1**
	0.7nm,0.7s,baz=308,slow=10,SNR=7.3								
FINES	**FINESS Array B**	**39.98**	**325**	P		**P**		**21 09 26.0**	**+2.9**
	0.9nm,0.7s,baz=104,slow=10,SNR=3.6								

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*ISCJB **08** 21:04:48.7±0.6, 7°.89S±0°.06×123°.34E±0°.08, h263km±5km, mb3.5/2, Error ellipse: s-maj=14.7km s-min=6.2km az=149.2*
*IDC **08** 21:04:50.6±2.1, 8°.13S×123°.01E, h280km±22km, mb3.2/2, mb1 3.6/6, mb1mx3.1/47, mbtmp4.2/6, Error ellipse: s-maj=94.8km s-min=19.8km az=60.0*
*DJA **08** 21:04:50.1±0.6, 8°.53±3°×12°.3E±°, h248km±6km, M4.1/13, mb3.9/6, mB4.4/2, MLv4.1/13, Mw(mB)3.5/2*
ISC 08 21:04:48.5±0.9, 7°.92S±0°.06×123°.37E±0°.10, h265km±8km, n17, σ1s06/25, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.33**	**237**	P		**Pn**		**21 05 27.7**	**+0.6**
MMRI				S		**S**		**21 05 56.3**	**-1.3**
EDFI	**Ende, Flores**	**1.86**	**243**	P		**Pn**		**21 05 31.9**	**+0.7**
SOEI	**Soe**	**2.03**	**154**	P		**Pn**		**21 05 33.9**	**+1.2**
SOEI				S		**S**		**21 06 07.1**	**-0.6**
BATI	**Baumata**	**2.29**	**173**	P		**Pn**		**21 05 36.5**	**+1.6**
	118nm,0.3s,baz=338,slow=2.2,SNR=81								
BATI				S		**S**		**21 06 09.4**	**-2.4**
	37nm,0.3s,baz=43,slow=24,SNR=3.6								
BATI	**Baumata**	**2.29**	**173**	P		**Pn**		**21 05 36.4**	**+1.4**
BATI				S		**S**		**21 06 12.6**	**+0.8**
BBSI	**Bau Bau**	**2.54**	**342**	P		**Pn**		**21 05 37.4**	**+0.1**
BBSI				S		**S**		**21 06 15.1**	**-1.0**
BKSI	**Bulukumba**	**4.13**	**308**	P		**Pn**		**21 05 54.6**	**+0.1**
WBSI	**Waikabubak, Su**	**4.29**	**246**	P		**Pn**		**21 05 57.3**	**+0.9**
BNSI	**Bone**	**4.77**	**317**	P		**Pn**		**21 06 02.9**	**+0.9**
SPSI	**Sidrap Palu**	**5.31**	**317**	P		**Pn**		**21 06 08.9**	**+0.3**
	7.7nm,0.6s,477nm								
PLAI	**Plampang**	**5.61**	**260**	P		**Pn**		**21 06 11.8**	**-0.4**
	48nm,0.9s,1μm								
TWSI	**Taliwang, Sumb**	**6.47**	**262**	P		**Pn**		**21 06 23.0**	**+0.2**
	22nm,1.4s								
FITZ	**Fitzroy Crossi**	**10.36**	**168**	P		**Pn**		**21 07 12.2**	**+0.8**
	0.2nm,0.3s,baz=2.5,slow=12,SNR=7.4								
FITZ				S		**S**		**21 09 07.3**	**-0.5**
	2.5nm,0.3s,baz=104,slow=12,SNR=12								
WRA	**Warramunga Arr**	**16.00**	**139**	P		**Pn**		**21 08 21.0**	**+1.0**
	1.9nm,0.3s,baz=314,slow=12,SNR=79								
WRA				S		**S**		**21 11 11.7**	**-1.3**
	0.1nm,0.3s,baz=329,slow=18,SNR=3.5								
ASAR	**Alice Springs**	**18.64**	**148**	P		**Pn**		**21 08 50.5**	**-0.5**
	1.3nm,0.3s,baz=336,slow=13,SNR=57								
ASAR				S		**S**		**21 12 04.4**	**-1.0**
	baz=318,slow=16,SNR=3.2								
STKA	**Stephens Creek**	**29.26**	**147**	P		**P**		**21 10 26.0**	**-0.4**
	2.2nm,0.7s,baz=321,slow=13,SNR=2.4								
MKAR	**Makanchi Array**	**65.57**	**330**	P		**P**		**21 15 04.9**	**+0.9**
	0.4nm,0.7s,baz=125,slow=6.1,SNR=5.0								

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*PGC **08** 21:07:34.2±4.6, 49°.00N×128°.84W, h10km, MLSn3.8/13, Mw4.4/13, Mw4.7, 213km Wsw of Gold R., Bc Vancouver Island, Canada Region*
*IDC **08** 21:07:35.9±0.9, 49°.18N×128°.03W, h0km, mb3.9/10, mb1 4.1/19, mb1mx4.0/57, mbtmp3.9/19, ML3.4/7, MS3.8/27, Ms1 3.8/27, ms1mx3.7/41, Error ellipse: s-maj=21.7km s-min=8.6km az=64.0*
*NEIC **08** 21:07:41.8±0.3, 49°.38N×128°.14W, h10km, mb4.5/67, MW4.5, MW4.7(OTT), Error ellipse: s-maj=6.9km s-min=2.5km az=51.0, Moment Tensor Solution. s6 Moment tensor: Scale 10^15 Nm; Mrr 0.00; Mθθ -3.71; Mφφ 3.71; Mrθ 4.27; Mrφ -0.74; Mθφ -2.58; Best double couple: Mw 6.3 0000×10^15 NP1: φs 307.0000°, δ 90.0000°, λ -127.00000°. NP2: φs 217.0000°, δ 37.0000°, λ 0.00000°. Principal axes: T 5.8900, Plg 34.0000°, Azm 68.0000°; N 0.6900, Plg 37.0000°, Azm 307.0000°; P -6.5700, Plg 34.0000°, Azm 186.0000°;*
NEIC Felt at Nanaimo.
ISC 08 21:07:39.2±1.7, 49°.32N±0°.05×128°.23W±0°.05, h8km±10km, n208, σ1s91/202, mb4.4/27, MS3.9/19, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**0.91**	**52**	P		**Pb**		**21 07 57.4**	**+0.2**
EDB				S		**Sn**		**21 08 14.4**	**+2.8**
EDB	**Eliza Dome**	**0.91**	**52**	P		**Pb**		**21 07 57.4**	**+0.2**
EDB				S		**Sn**		**21 08 14.4**	**+2.8**
ETB	**Estevan Point**	**1.11**	**87**	P		**Pg**		**21 08 00.1**	**-0.4**
ETB	**Estevan Point**	**1.11**	**87**	P		**Pg**		**21 08 00.1**	**-0.4**
PACB	**Port Alice, BC**	**1.21**	**23**	P		**Pb**		**21 08 01.4**	**-0.9**
PACB				S		**Sn**		**21 08 18.9**	**-0.1**
WOSB	**Woss**	**1.36**	**51**	P		**Pn**		**21 08 04.7**	**+0.1**
WOSB	**Woss**	**1.36**	**51**	P		**Pn**		**21 08 04.7**	**+0.1**
PHC	**Port Hardy**	**1.48**	**20**	P		**Pn**		**21 08 05.3**	**-0.8**
PHC	**Port Hardy**	**1.48**	**20**	P		**Pn**		**21 08 05.3**	**-0.8**
TLCB	**Telegraph Cove**	**1.52**	**36**	P		**Pn**		**21 08 06.5**	**-0.2**
TOFB	**Tofino**	**1.53**	**95**	P		**Pn**		**21 08 05.1**	**-1.7**
TOFB				S		**Sn**		**21 08 27.0**	**+0.2**
SPLB	**Strathcona Par**	**1.77**	**70**	P		**Pn**		**21 08 10.5**	**+0.4**
SPLB				S		**Sg**		**21 08 36.2**	**+0.1**
NCRB	**Newcastle Ridg**	**1.77**	**52**	P		**Pn**		**21 08 11.1**	**+0.8**
NCRB	**Newcastle Ridg**	**1.77**	**52**	P		**Pn**		**21 08 11.1**	**+0.8**
BTB	**Buttle Lake**	**1.77**	**84**	P		**Pn**		**21 08 09.7**	**-0.6**
BTB				S		**Sg**		**21 08 36.0**	**-0.3**
BTB	**Buttle Lake**	**1.77**	**84**	P		**Pn**		**21 08 09.7**	**-0.6**
BTB				S		**Sg**		**21 08 36.0**	**-0.3**
B012	**Ucluelet**	**1.81**	**102**	P		**Pn**		**21 08 08.5**	**-2.1**
B012				S		**Sn**		**21 08 33.0**	**-0.7**
OZB	**Mount Ozzard**	**1.83**	**100**	P		**Pn**		**21 08 09.1**	**-2.0**
OZB				S		**Sn**		**21 08 35.6**	**-0.5**
OZB	**Mount Ozzard**	**1.83**	**100**	P		**Pn**		**21 08 09.1**	**-2.0**
OZB				S		**Sn**		**21 08 35.6**	**-0.5**
MWAB	**Mount Washingt**	**1.95**	**77**	P		**Sn**		**21 08 40.4**	**+0.8**
CBB	**Campbell River**	**1.99**	**68**	P		**Pn**		**21 08 13.6**	**+0.4**
CBB				S		**Sg**		**21 08 42.3**	**-0.9**
CBB	**Campbell River**	**1.99**	**68**	P		**Pn**		**21 08 13.6**	**+0.4**
CBB				S		**Sg**		**21 08 42.3**	**-0.9**
B928	**Bamfield**	**2.09**	**102**	P		**Pn**		**21 08 12.3**	**-2.2**
B928				S		**Sn**		**21 08 40.5**	**-0.2**
B928	**Bamfield**	**2.09**	**102**	P		**Pn**		**21 08 12.3**	**-2.2**
B928				S		**Sn**		**21 08 40.5**	**-0.2**
MGB	**Mount Grey**	**2.34**	**97**	P		**Pn**		**21 08 17.0**	**-1.2**
MGB	**Mount Grey**	**2.34**	**97**	P		**Pn**		**21 08 17.0**	**-1.2**
BBB	**Bella Bella**	**2.87**	**1**	P		**Pn**		**21 08 23.7**	**-1.4**
	22nm,0.3s,baz=198,slow=10,SNR=91								
BBB				LR		LR		21 08 52.7	
	comp=Z,503nm,18.4s,baz=176,slow=26								
BBB				Sn		**Sn**		**21 08 59.0**	**-0.8**
	53nm,0.3s,baz=297,slow=20,SNR=13								
BBB	**Bella Bella**	**2.87**	**1**	*ePn*		**Pn**		**21 08 23.8**	**-1.4**
BBB				Sn		**Sn**		**21 09 00.1**	**+0.4**
BBB	**Bella Bella**	**2.87**	**1**	Pn		**Pn**		**21 08 23.7**	**-1.4**
BBB				Sn		**Sn**		**21 09 00.1**	**+0.4**
PGC	**Sidney**	**3.22**	**100**	*ePn*		**Pn**		**21 08 31.2**	**+1.2**
A05A	**Maple Falls**	**4.05**	**92**	*ePn*		**Pn**		**21 08 43.8**	**+2.4**
E03A	**Lebam**	**4.19**	**130**	*ePn*		**Pn**		**21 08 44.5**	**+1.1**
D05A	**Enumclaw**	**4.68**	**115**	*ePn*		**Pn**		**21 08 53.5**	**+3.3**
DIB	**Dawson Inlet,**	**4.71**	**327**	*ePn*		**Pn**		**21 08 52.7**	**+2.2**
LON	**Longmire**	**5.02**	**118**	*ePn*		**Pn**		**21 08 55.6**	**+0.8**
LTY	**Liberty**	**5.45**	**109**	*ePn*		**Pn**		**21 09 03.2**	**+2.4**
B08A	**Colville Reser**	**5.95**	**96**	*ePn*		**Pn**		**21 09 09.4**	**+1.8**
H04A	**Detroit Lake**	**6.21**	**136**	*ePn*		**Pn**		**21 09 13.8**	**+2.6**
E07A	**Sunnyside**	**6.27**	**113**	*ePn*		**Pn**		**21 09 15.3**	**+3.3**
HAWA	**Hanford**	**6.54**	**113**	*ePn*		**Pn**		**21 09 17.6**	**+1.9**
F07A	**Phinny Hill Vi**	**6.58**	**118**	*ePn*		**Pn**		**21 09 18.2**	**+2.1**
D08A	**Wollman Farm,**	**6.62**	**107**	*ePn*		**Pn**		**21 09 20.2**	**+3.4**
C09A	**Chrisman Ranch**	**6.78**	**99**	*ePn*		**Pn**		**21 09 20.2**	**+1.2**
E08A	**Dider Farm, El**	**6.78**	**111**	*ePn*		**Pn**		**21 09 21.6**	**+2.6**
E09A	**Wood Farm, Sta**	**7.33**	**109**	*ePn*		**Pn**		**21 09 29.7**	**+3.1**
NEW	**Newport**	**7.41**	**94**	Pn		**Pn**		**21 09 23.3**	**-4.4**
	0.2nm,0.3s,baz=358,slow=18,SNR=2.9								
NEW				LR		LR		21 12 30.5	
	comp=Z,2μm,18.2s,baz=287,slow=40								
NEW	**Newport**	**7.41**	**94**	*ePn*		**Pn**		**21 09 29.5**	**+1.8**
PINE	**Pine Mountain**	**7.47**	**135**	*ePn*		**Pn**		**21 09 30.9**	**+2.3**
G08A	**Pilot Rock**	**7.48**	**119**	*ePn*		**Pn**		**21 09 31.2**	**+2.5**
WRAK	**Wrangell Islan**	**7.53**	**342**	*ePn*		**Pn**		**21 09 31.4**	**+2.2**
HUMO	**Hull Mountain**	**7.65**	**149**	*ePn*		**Pn**		**21 09 32.4**	**+1.4**
I07A	**Izee**	**7.96**	**128**	*ePn*		**Pn**		**21 09 38.0**	**+2.7**
F10A	**Beach Ranch, E**	**8.15**	**110**	*ePn*		**Pn**		**21 09 40.7**	**+2.8**
K05A	**Summer Lake**	**8.34**	**140**	*ePn*		**Pn**		**21 09 42.2**	**+1.7**
YBH	**Yreka Blue Hor**	**8.52**	**151**	Pn		Pn		21 09 38.5	-4.4
	0.1nm,0.3s,baz=166,slow=17,SNR=2.3								
YBH				LR		LR		21 12 40.5	
	comp=Z,1μm,18.1s,baz=330,slow=37								
BMO	**Blue Mountains**	**8.69**	**117**	*ePn*		**Pn**		**21 09 46.5**	**+1.2**
J08A	**Circle Bar Ran**	**9.00**	**128**	*ePn*		**Pn**		**21 09 51.9**	**+2.4**
DLBC	**Dease Lake**	**9.19**	**354**	Pn		**Pn**		**21 09 52.8**	**+0.7**
	0.4nm,0.3s,baz=195,slow=11,SNR=10								
DLBC	**Dease Lake**	**9.19**	**354**	*ePn*		**Pn**		**21 09 55.1**	**+3.0**
MOD	**Modoc Plateau**	**9.27**	**140**	*ePn*		**Pn**		**21 09 56.4**	**+3.2**
WDC	**Whiskeytown Da**	**9.62**	**153**	*ePn*		**Pn**		**21 09 58.1**	**+0.1**
BESE	**Bessie Mountai**	**10.06**	**340**	*ePn*		**Pn**		**21 10 04.3**	**+0.5**
ORV	**Oroville**	**10.88**	**151**	*ePn*		**Pn**		**21 10 16.1**	**+0.9**
HOPS	**Hopland Field**	**10.97**	**158**	*ePn*		**Pn**		**21 10 17.0**	**+0.6**
HLID	**Hailey**	**11.13**	**116**	*ePn*		**Pn**		**21 10 19.9**	**+1.2**
MCMT	**McKenzie Canyo**	**11.41**	**107**	*ePn*		**Pn**		**21 10 24.4**	**+1.8**
PAHR	**Pah Rah Range**	**11.49**	**143**	*ePn*		**Pn**		**21 10 25.4**	**+1.7**
AFDM	**Forest Hills D**	**11.60**	**151**	*ePn*		**Pn**		**21 10 27.0**	**+1.9**
BMN	**Battle Mountai**	**11.82**	**135**	*ePn*		**Pn**		**21 10 31.8**	**+3.7**
WHY	**Whitehorse**	**11.98**	**344**	*ePn*		**Pn**		**21 10 32.6**	**+2.4**
YHB	**Horse Butte**	**12.48**	**105**	*ePn*		**Pn**		**21 10 40.7**	**+3.5**
KVN	**Kaiserville**	**12.57**	**141**	*ePn*		**Pn**		**21 10 38.8**	**+2.4**
HYT	**Haines Junctio**	**12.67**	**339**	*ePn*		**Pn**		**21 10 44.1**	**+4.4**
YHH	**Holmes Hill**	**12.68**	**104**	*ePn*		**Pn**		**21 10 42.7**	**+2.6**
RYN	**Ryan**	**12.76**	**143**	*ePn*		**Pn**		**21 10 42.6**	**+1.6**
PCA	**Pinnacle**	**12.81**	**332**	*ePn*		**Pn**		**21 10 43.5**	**+2.0**
NV01	**Mina Array Sit**	**13.02**	**143**	*ePn*		**Pn**		**21 10 46.8**	**+2.2**
NVAR	**Mina Array Bea**	**13.02**	**143**	Pn		**Pn**		**21 10 43.1**	**-1.5**
	0.6nm,0.3s,baz=313,slow=12,SNR=2.1								
NVAR				LR		LR		21 15 38.6	
	comp=Z,668nm,18.1s,baz=295,slow=38								
NV11	**Mina Array Sit**	**13.07**	**143**	*ePn*		**Pn**		**21 10 47.9**	**+2.6**
HVU	**Hansel Valley**	**13.18**	**119**	*ePn*		**Pn**		**21 10

	62nm,1.3s							
CAST	**Castle Rocks**	**19.16**	**326**	*e*P		**Pn**	**21 12 05.7**	**+2.1**
	27nm,1.3s							
BPAW	**Bear Paw Mtn.**	**19.20**	**329**	*e*P		**Pn**	**21 12 05.6**	**+1.5**
	42nm,1.0s							
INK	**Inuvik**	**19.22**	**354**	P		**P**	**21 12 03.5**	**+0.1**
	0.0nm,0.3s,baz=159,slow=8.6,SNR=3.2							
INK				LR		LR	21 19 25.9	
	comp=Z,516nm,21.6s,baz=148,slow=37							
INK	**Inuvik**	**19.22**	**354**	*e*P		**Pn**	**21 12 06.6**	**+2.3**
	47nm,1.5s							
S22A	**4UR Ranch, Cre**	**19.28**	**119**	*e*P		**Pn**	**21 12 06.8**	**+1.2**
	5.7nm,0.8s							
W18A	**Petrified Fore**	**19.65**	**129**	*e*P		**Pn**	**21 12 09.7**	**-0.1**
	24nm,0.8s							
MLY	**Manley**	**19.73**	**331**	*e*P		**Pn**	**21 12 11.0**	**+0.6**
	60nm,1.1s							
X18A	**Snowflake**	**20.01**	**131**	*e*P		Pn	21 12 14.7	+0.5
	28nm,0.8s							
SDCO	**Great Sand Dun**	**20.05**	**117**	*e*P		Pn	21 12 15.3	+0.6
	10nm,1.3s							
OGNE	**Ogallala**	**20.21**	**105**	*e*P		Pn	21 12 17.4	+1.0
	65nm,1.1s							
ULM	**Lac du Bonnet**	**20.83**	**75**	P		**P**	**21 12 18.9**	**-2.0**
	2.1nm,0.5s,baz=281,slow=13,SNR=2.0							
ULM	**Lac du Bonnet**	**20.83**	**75**	*e*P		Pn	21 12 23.8	+0.4
	44nm,1.4s							
KSCO	**Kaye Shedlock'**	**20.96**	**110**	*e*P		Pn	21 12 24.7	-0.5
	88nm,1.3s							
T25A	**Trinidad**	**21.10**	**116**	*e*P		**P**	**21 12 26.6**	**+2.4**
	19nm,1.0s							
COLD	**Coldfoot**	**21.13**	**336**	*e*P		**P**	**21 12 25.9**	**+1.9**
	23nm,1.2s							
AGMN	**Agassiz Nation**	**21.26**	**80**	*e*P		**P**	**21 12 27.0**	**+1.4**
	14nm,0.9s							
IM3	**Indian Mountai**	**21.30**	**331**	*e*P		**P**	**21 12 27.5**	**+1.5**
TUC	**Tucson**	**21.43**	**136**	*e*P		**P**	**21 12 30.1**	**+2.3**
	12nm,1.1s							
ANMO	**Albuquerque**	**21.51**	**124**	P		**P**	**21 12 26.8**	**-1.8**
	2.5nm,0.8s,baz=319,slow=10,SNR=2.4							
ANMO				LR		LR	21 21 20.8	
	comp=Z,84nm,19.0s,baz=308,slow=39							
ANMO	**Albuquerque**	**21.51**	**124**	*e*P		**P**	**21 12 29.9**	**+1.3**
	22nm,1.6s							
LAZ	**Ladron**	**21.55**	**126**	*e*P		**P**	**21 12 33.0**	**+3.9**
LENM	**Lemitar**	**21.82**	**126**	*e*P		**P**	**21 12 33.7**	**+1.8**
LPM	**Los Pinos Moun**	**21.89**	**125**	*e*P		**P**	**21 12 34.9**	**+2.2**
BNM	**Barren Site**	**22.02**	**125**	*e*P		**P**	**21 12 36.4**	**+2.2**
TOLK	**Toolik Lake Re**	**22.04**	**339**	*e*P		**P**	**21 12 34.8**	**+0.8**
	77nm,1.1s							
ECSD	**EROS Data Cent**	**22.35**	**92**	*e*P		**P**	**21 12 39.4**	**+1.9**
	21nm,1.1s							
BGNE	**Belgrade**	**22.45**	**99**	*e*P		**P**	**21 12 41.1**	**+2.6**
	39nm,0.8s							
CBKS	**Cedar Bluff**	**22.88**	**107**	*e*P		**P**	**21 12 45.4**	**+2.3**
	33nm,1.1s							
319A	**Douglas**	**22.91**	**134**	*e*P		**P**	**21 12 45.1**	**+1.5**
	19nm,1.1s							
EYMN	**Ely**	**24.17**	**79**	*e*P		**P**	**21 12 57.1**	**+1.3**
	81nm,1.8s							
MNTX	**Cornudas Mount**	**24.58**	**127**	*e*P		**P**	**21 13 02.8**	**+3.2**
	22nm,1.7s							
I39A	**Houston**	**25.63**	**88**	*e*P		**P**	**21 13 13.3**	**+4.2**
	50nm,1.3s							
TX31	**Lajitas Ar. Si**	**27.35**	**128**	*e*P		**P**	**21 13 25.3**	**+0.5**
TXAR	**Lajitas Array**	**27.35**	**128**	P		**P**	**21 13 22.3**	**-2.5**
	1.0nm,0.9s,baz=326,slow=8.0,SNR=5.4							
N41A	**Harden Midland**	**27.55**	**94**	*e*P		**P**	**21 13 29.4**	**+3.0**
	45nm,1.4s							
LPIG	**La Paz**	**28.84**	**144**	LR		LR	21 25 48.1	
	comp=Z,180nm,18.8s,baz=348,slow=38							
RES	**Resolute Bay**	**29.04**	**18**	P		**P**	**21 13 37.1**	**-2.1**
	1.9nm,0.8s,baz=222,slow=10,SNR=3.4							
RES				LR		LR	21 25 57.6	
	comp=Z,352nm,18.9s,baz=240,slow=38							
SUMG	**Summit**	**43.79**	**26**	*i* P		P	21 15 51.0	+5.7
	52nm,1.1s							
PETK	**Petropavlovsk-**	**44.63**	**304**	LR		LR	21 30 28.8	
	comp=Z,88nm,20.7s,baz=86,slow=31							
NRIK	**Noril'sk**	**58.76**	**346**	LR		LR	21 45 20.0	
	comp=Z,91nm,19.1s,baz=43,slow=38							
H11N2	**WAKE ISLAND Hy**	**58.97**	**264**	T		T	22 21 04.7	
	baz=43,slow=76,SNR=8.6							
H11N3	**WAKE ISLAND Hy**	**58.97**	**264**	T		T	22 21 01.8	
	baz=43,slow=76,SNR=11							
H11N1	**WAKE ISLAND Hy**	**58.98**	**264**	T		T	22 21 06.4	
	baz=43,slow=76,SNR=10							
ROSC	**El Rosal**	**63.42**	**116**	LR		LR	21 51 20.5	
	comp=Z,33nm,18.1s,baz=78,slow=42							
NOA	**NORSAR Array B**	**65.25**	**20**	P		**P**	**21 18 19.9**	**-0.9**
	1.2nm,1.0s,baz=333,slow=6.2,SNR=2.2							
NOA				LR		LR	21 44 47.4	
	comp=Z,121nm,19.1s,baz=350,slow=34							
FINES	**FINESS Array B**	**67.67**	**13**	LR		LR	21 48 39.0	
	comp=Z,115nm,18.5s,baz=323,slow=36							
PPT	**Papeete**	**69.24**	**202**	LR		LR	21 44 41.2	
	comp=Z,55nm,18.5s,baz=0.5,slow=32							
SONM	**Songino Array**	**72.33**	**325**	LR		LR	21 51 30.9	
	comp=Z,117nm,20.7s,baz=5.5,slow=36							
ZALV	**Zalesovo Beam**	**73.39**	**340**	P		**P**	**21 19 12.1**	**+0.8**
	1.2nm,0.8s,baz=6.5,slow=6.4,SNR=6.7							
ZALV				LR		LR	21 55 14.9	
	comp=Z,59nm,18.5s,baz=68,slow=39							
ZALV	**Zalesovo Beam**	**73.39**	**340**	*e*P		**P**	**21 19 13.7**	**+2.4**
HHC	**Hu-ho-hao-te**	**75.94**	**317**	*e*P		**P**	**21 19 27.3**	**+0.9**
HHC				pmax		pmax		
	comp=Z,19nm,0.6s							
HHC				pmax		pmax		
	comp=Z,110nm,8.1s							
AKASG	**Malin Array Be**	**78.50**	**14**	P		**P**	**21 19 39.5**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=2.9,slow=5.6,SNR=2.2							
ESDC	**Sonseca Array**	**78.67**	**41**	P		**P**	**21 19 39.5**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=336,slow=4.2,SNR=2.9							
NJ2	**Nanjing**	**79.45**	**307**	*e*P		**P**	**21 19 49.4**	**+3.4**
NJ2				pmax		pmax		
	comp=Z,12nm,0.5s							
MKAR	**Makanchi Array**	**80.67**	**339**	P		**P**	**21 19 49.9**	**-2.4**
	comp=Z,1.1nm,0.9s,baz=24,slow=3.5,SNR=2.7							
MKAR				LR		LR	21 59 50.5	
	comp=Z,65nm,18.2s,baz=10.0,slow=39							
WMQ	**Urumqi**	**82.05**	**335**	*e*P		**P**	**21 20 03.2**	**+3.4**
WMQ				pP		PcP	21 20 07.7	+2.4
WMQ				pmax		pmax		
	comp=Z,16nm,1.1s							
WMQ				LR		LR		
	comp=N,180nm,19.5s							
WMQ				LR		LR		
	comp=E,160nm,16.5s							
WMQ				LR		LR		
	comp=Z,140nm,17.9s							
LPAZ	**La Paz**	**84.12**	**123**	P		P	21 20 07.0	-4.4
	comp=Z,0.7nm,0.5s,baz=7.6,slow=4.6,SNR=5.3							
LPAZ				LR		LR	22 00 39.8	
	comp=Z,40nm,18.2s,baz=318,slow=38							
KBZ	**Khabaz**	**87.00**	**6**	P		**P**	**21 20 24.1**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=56,slow=3.6,SNR=2.1							
KBZ				LR		LR	22 02 18.7	
	comp=Z,65nm,18.5s,baz=354,slow=38							
BRTR	**Keskin Array B**	**89.89**	**14**	LR		LR	22 04 03.9	
	comp=Z,47nm,18.0s,baz=286,slow=38							
GEYT	**Allbeck**	**92.94**	**355**	LR		LR	22 08 08.6	
	comp=Z,19nm,18.0s,baz=220,slow=39							
BDFB	**Brasilia**	**95.48**	**107**	LR		LR	22 07 22.8	
	comp=Z,18nm,19.9s,baz=51,slow=38							
CPUP	**Villa Florida**	**98.13**	**121**	LR		LR	22 10 07.1	
	comp=Z,38nm,18.1s,baz=26,slow=38							
VNA3	**Neumayer Olymp**	**144.76**	**150**	PKP		**PKPab**	**21 27 10.7**	**-3.3**
VNA2	**Neumayer--Watz**	**145.53**	**150**	PKP		**PKPdf**	**21 27 13.0**	**-3.4**
	baz=265,slow=1.5							
SNAA	**Sanae**	**146.85**	**152**	PKP		**PKPdf**	**21 27 18.1**	**-0.5**

*DRS **08** 21:11:13.1±0.0, 41.°97N×47.°52E, h3km*
*MOS **08** 21:11:13.2±0.0, 41.°94N×47.°92E, h19km, MPVA3.9*
*ISCJB **08** 21:11:14.7±0.6, 41.°98N±0.°04×47.°85E±0.°05, h4km±6km, Error ellipse: s-maj=7.5km s-min=4.8km az=39.1*
*NORS **08** 21:11:14.5±0.0, 41.°95N×47.°90E, h8km, MPVA3.6*
ISC 08 21:11:14.2±1.4, **41.°99N**±0.°04×**47.°92E**±0.°04, **h11**km±11km, **n12**, σ1°**22**/23, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URKR	**Urkarakh**	**0.27**	**310**	*i* Pg		**Pb**	**21 11 21.2**	**-0.1**
URKR				*e*Sg		**Sb**	**21 11 26.4**	**+0.4**
DRN	**Derbent**	**0.31**	**82**	*i* Pg		**Pb**	**21 11 21.3**	**-0.5**
DRN				*e*Sg		**Sb**	**21 11 26.9**	**+0.1**
AKT	**Akhty**	**0.53**	**195**	*i* Pg		**Pb**	**21 11 24.7**	**-0.9**
AKT				*e*Sg		**Sb**	**21 11 31.9**	**-1.4**
KMKR	**Kumukh**	**0.62**	**283**	*e*Pg		**Pn**	**21 11 28.0**	**-1.3**
KMKR				*i* Sg		**Sn**	**21 11 38.5**	**-0.9**
XNZR	**Khunzakh**	**1.05**	**302**	*i* Pg		**Pn**	**21 11 34.6**	**-0.6**
XNZR				*e*Sg		**Sb**	**21 11 48.4**	**-0.1**
KRNR	**Karanay**	**1.12**	**319**	*e*Pg		**Pn**	**21 11 37.0**	**+1.0**
KRNR				*e*Sg		**Sn**	**21 11 52.7**	**+1.2**
BTLR	**Botlikh**	**1.43**	**299**	*e*Pg		**Pg**	**21 11 41.5**	**-0.1**
BTLR				*e*Sg		**Sg**	**21 12 00.2**	**+0.1**
DDFL	**Dedoflistskaro**	**1.45**	**249**	P		**Pg**	**21 11 44.6**	**+2.5**
DDFL				S		Sg	21 12 09.6	+8.7
DVE	**Vedeno**	**1.64**	**307**	*e*Pg		**Pg**	**21 11 44.8**	**-0.9**
DVE				*e*Sg		**Sg**	**21 12 06.0**	**-1.0**
GROC	**Groznyy**	**1.98**	**308**	*e*Pg		**Pb**	**21 11 49.8**	**-0.5**
GROC				*e*Sg		**Sb**	**21 12 15.4**	**+0.4**
KMGR	**Komgaron**	**2.49**	**296**	*e*Pn		**Pn**	**21 11 56.1**	**+1.3**
KMGR				*e*Sn		**Sb**	**21 12 27.3**	**-2.6**
ZEI	**Tsey**	**3.08**	**286**	*e*Pn		**Pn**	**21 12 03.8**	**+0.8**
ZEI				*e*Sn		**Sn**	**21 12 41.5**	**+1.6**

SVSA 08 21:16:13.5±0.5, **38.°26N**×**26.°27W**, **h2**km±3km, **MD3.4, ML2.7, Error ellipse: s-maj=9.6km s-min=1.1km az=35.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSET	**Sete Cidades**	**0.61**	**135**	*e*P		Pg	21 16 24.0	-1.2
PSET				*e*S		Sg	21 16 32.0	-1.1
PSET				A		A	21 16 33.1	
	121nm,0.1s							
PDA	**Ponta Delgada**	**0.70**	**137**	*e*P		Pg	21 16 25.5	-1.4
PDA				*e*S		Sg	21 16 34.3	-1.6
PDA				A		A	21 16 35.0	
	125nm,0.2s							
CMLA	**Cha da Macela**	**0.77**	**130**	*e*P		Pg	21 16 26.6	-1.6
CMLA				*e*S		Sg	21 16 36.1	-2.0
CMLA				A		A	21 16 37.3	
	134nm,0.2s							
PCALD	**Caldeiras da R**	**0.77**	**127**	*e*P		Pg	21 16 26.5	-1.7
PCALD				*e*S		Sg	21 16 36.0	-2.2
PSMN	**Pico do Norte,**	**1.57**	**142**	*e*S		Sn	21 16 55.7	-7.7
PSMN				A		A	21 17 00.3	
	17nm,0.2s							
ROSA	**Rosais**	**1.62**	**287**	*e*P		Pn	21 16 38.0	-5.0
ROSA				A		A	21 16 59.7	
	25nm,0.1s							
PICO	**Pico**	**1.71**	**279**	*e*P		Pn	21 16 39.7	-4.7
PICO				A		A	21 17 02.4	
	38nm,0.2s							

SVSA 08 21:16:16.5±0.3, **38.°20N**×**26.°36W**, **h13**km±3km, **MD3.3, ML2.8, 1C, Error ellipse: s-maj=4.0km s-min=1.7km az=31.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSET	**Sete Cidades**	**0.62**	**126**	*e*P		Pg	21 16 26.4	-2.3
PSET				*e*S		Sg	21 16 34.1	-2.8
PSET				A		A	21 16 35.2	
	240nm,0.1s							
PDA	**Ponta Delgada**	**0.71**	**129**	*e*P		Pg	21 16 27.6	-2.6
PDA				*e*S		Sg	21 16 36.0	-3.5
PDA				A		A	21 16 36.8	
	376nm,0.2s							
GRON	**Grota Negra**	**0.78**	**123**	*e*S		Sg	21 16 40.2	-1.6
GRON				A		A	21 16 44.1	
	40nm,0.2s							
CMLA	**Cha da Macela**	**0.79**	**123**	*e*P		Pg	21 16 28.7	-3.0
CMLA				*e*S		Sg	21 16 38.0	-4.0
CMLA				A		A	21 16 39.5	
	385nm,0.2s							
PCALD	**Caldeiras da R**	**0.79**	**120**	*i*P		Pg	21 16 28.8	-3.0
PCALD				*e*S		Sg	21 16 38.1	-4.1
PSMN	**Pico do Norte,**	**1.57**	**139**	*e*P		Pn	21 16 39.7	-4.4
PSMN				*e*S		Sn	21 16 57.0	-7.4
PSMN				A		A	21 16 58.8	
	21nm,0.2s							
ROSA	**Rosais**	**1.57**	**290**	*e*P		Pn	21 16 39.8	-4.3
ROSA				*e*S		Sn	21 16 57.1	-7.3
ROSA				A		A	21 16 58.5	
	18nm,0.1s							
ROSA	**Rosais**	**1.57**	**290**	*e*S		Sn	21 16 56.8	-7.6
PICO	**Pico**	**1.66**	**281**	*e*P		Pn	21 16 40.9	-4.5
PICO				*e*S		Sn	21 16 59.2	-7.4
PICO				A		A	21 17 00.9	
	32nm,0.3s							
PICO	**Pico**	**1.66**	**281**	*e*S		Sn	21 16 59.2	-7.4

*ISCJB **08** 21:24:34.4±0.4, 14.°01N±0.°03×120.°42E±0.°06, h133km±4km, mb3.6/10, Error ellipse: s-maj=10.2km s-min=4.6km az=172.9*
*IDC **08** 21:24:35.7±0.6, 14.°08N×120.°82E, h135km±5km, mb3.4/10, mb1 3.6/10, mb1mx3.3/40, mbtmp3.9/10, Error ellipse: s-maj=32.3km s-min=12.8km az=66.0*
*MAN **08** 21:24:35.3, 14.°02N×120.°37E, h113km, mb4.7, ML3.6, MS3.5*
ISC 08 21:24:35.5±0.8, **14.°02N**±0.°03×**120.°44E**±0.°06, **h131**km±7km, **n25**, σ1°**15**/35, **mb3.7**/10, **1C-2D, Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TGY	**Tagaytay City**	**0.49**	**80**	P		**Pn**	**21 24 55.2**	**+0.4**
	272nm,0.3s,baz=9.7,slow=23,SNR=8.8							
TGY				S		**Sn**	**21 25 08.8**	**-0.4**
	508nm,0.3s,baz=64,slow=20,SNR=15							
TGY	**Tagaytay City**	**0.49**	**80**	*i*P		**Pn**	**21 24 55.4**	**+0.7**
TGY				*i* S		**Sn**	**21 25 10.0**	**+0.7**
BOAC	**Boac**	**1.47**	**112**	*e*P		**Pn**	**21 25 04.2**	**+0.8**
BOAC				*e*S		**Sn**	**21 25 24.5**	**-0.1**
PCPH	**Palayan**	**1.66**	**22**	*i*P		**Pn**	**21 25 05.0**	**-0.5**
SJMP	**San Jose**	**1.68**	**157**	*e*P		**Pn**	**21 25 05.7**	**-0.1**
SJMP				*e*S		**Sn**	**21 25 27.7**	**-1.3**
SCZP	**Santa Cruz**	**1.82**	**344**	*e*P		**Pn**	**21 25 07.4**	**0.0**
SCZP				*e*S		**Sn**	**21 25 29.6**	**-2.2**
GQP	**Guinayangan**	**1.95**	**93**	*i*P		**Pn**	**21 25 09.7**	**+0.7**
BUSP	**Coron**	**2.02**	**187**	*e*P		**Pn**	**21 25 09.6**	**-0.2**
BUSP				*e*S		**Sn**	**21 25 34.9**	**-1.1**
BALP	**Baler**	**2.03**	**33**	*e*P		**Pn**	**21 25 09.9**	**-0.1**
SMPP	**San Manuel, Pa**	**2.13**	**6**	*e*P		**Pn**	**21 25 10.1**	**-1.1**
SMPP				*e*S		**Sn**	**21 25 36.7**	**-1.9**
OTRP	**Odiongan**	**2.25**	**137**	*e*P		**Pn**	**21 25 12.6**	**-0.1**
OTRP				*e*S		**Sn**	**21 25 39.7**	**-1.5**
BOLP	**Bolinao**	**2.40**	**348**	*e*P		**Pn**	**21 25 14.8**	**+0.2**
BOLP				*e*S		**Sn**	**21 25 43.7**	**-0.9**
ENPP	**El Nido**	**2.97**	**200**	*e*P		**Pn**	**21 25 22.2**	**+0.5**
ENPP				*e*S		**Sn**	**21 25 55.9**	**-1.5**
CAUP	**Cauayan**	**3.20**	**24**	*e*P		**Pn**	**21 25 25.1**	**+0.3**
APYP	**Conner**	**3.90**	**11**	*e*P		**Pn**	**21 25 34.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**21.10**	**285**	P		**P**	**21 29 13.0**	**+3.1**
	0.3nm,0.4s,baz=103,slow=7.9,SNR=3.3							
BATI	**Baumata**	**24.28**	**172**	P		**P**	**21 29 40.9**	**+0.1**
	8.7nm,0.6s,baz=324,slow=3.4,SNR=4.0							
SONM	**Songino Array**	**35.68**	**344**	P		**P**	**21 31 22.1**	**+0.9**
	0.9nm,0.5s,baz=166,slow=8.8,SNR=6.6							
WRA	**Warramunga Arr**	**36.41**	**158**	P		**P**	**21 31 26.0**	**-1.6**
	0.6nm,0.5s,baz=333,slow=9.9,SNR=14							
ASAR	**Alice Springs**	**39.70**	**160**	P		**P**	**21 31 54.8**	**-0.4**
	0.8nm,0.4s,baz=338,slow=6.7,SNR=26							
MKAR	**Makanchi Array**	**45.63**	**324**	P		**P**	**21 32 44.4**	**+1.6**
	0.5nm,0.7s,baz=108,slow=8.5,SNR=9.5							
ZALV	**Zalesovo Beam**	**48.66**	**333**	P		**P**	**21 33 06.8**	**+0.7**
	0.6nm,0.4s,baz=118,slow=7.6,SNR=5.0							
ILAR	**Eielson Array**	**78.58**	**26**	P		**P**	**21 36 20.9**	**-1.4**
	0.2nm,0.4s,baz=270,slow=4.4,SNR=4.3							
FINES	**FINESS Array B**	**79.89**	**331**	P		**P**	**21 36 28.8**	**-0.6**
	3.5nm,0.9s,baz=62,slow=6.5,SNR=4.4							
NOA	**NORSAR Array B**	**86.86**	**333**	P		**P**	**21 37 04.8**	**-0.4**
	0.6nm,0.7s,baz=71,slow=4.5,SNR=2.7							

*ISK **08** 21:31:37.9, 40.°69N×39.°87E, h12km, ML2.6/3*
*ISCJB **08** 21:31:38.7±0.4, 40.°70N±0.°02×39.°90E±0.°03, h4km±4km, Error ellipse: s-maj=4.3km s-min=3.6km az=154.9*
*DDA **08** 21:31:38.1, 40.°92N×39.°82E, h34km, Ml2.8*
ISC 08 21:31:38.9±0.9, **40.°70N**±0.°03×**39.°88E**±0.°03, **h12**km±8km, **n19**, σ0°**62**/29, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MACK	**Trabzon**	**0.26**	**341**	*i* P		**Pg**	**21 31 44.2**	**-0.1**
MACK				*i* S		**Sg**	**21 31 48.2**	**+0.2**
KTUT	**Trabzon**	**0.30**	**343**	PG		**Pg**	**21 31 45.2**	**+0.2**
KTUT				SG		**Sg**	**21 31 49.5**	**+0.3**
BAYT	**Ayd¯–ntepe-Bay**	**0.36**	**147**	PG		**Pg**	**21 31 46.1**	**-0.1**
BAYT				SG		**Sg**	**21 31 51.2**	**+0.1**
GUMT	**Gumushane**	**0.39**	**232**	PG		**Pg**	**21 31 45.7**	**-1.0**
GUMT				SG		**Sg**	**21 31 51.2**	**-0.7**
BAYB	**BAYBURT**	**0.53**	**147**	*i* P		**Pg**	**21 31 49.5**	**+0.2**
BAYB				*i* S		**Sg**	**21 31 56.5**	**+0.2**
KELT	**Kelkit**	**0.73**	**221**	*i* P		**Pg**	**21 31 52.5**	**-0.5**
CHOM	**Cayeli-Rize**	**0.78**	**59**	PG		**Pg**	**21 31 53.6**	**-0.3**
CHOM				SG		**Sb**	**21 32 04.7**	**-0.1**
ESPY	**Espiye-Giresun**	**0.90**	**284**	PG		**Pb**	**21 31 55.4**	**-1.1**
ERZN	**Erzincan**	**1.12**	**186**	PN		**Pb**	**21 31 59.5**	**-0.7**
SUSE	**Susehri**	**1.37**	**250**	*i* P		**Pn**	**21 32 04.0**	**0.0**
SUSE				*i* S		**Sb**	**21 32 22.6**	**+0.5**
DBAD	**Bademkaya**	**1.41**	**76**	*i* P		**Pn**	**21 32 04.2**	**-0.3**
DBAD				*i* S		**Sn**	**21 32 22.5**	**-0.5**
DDEM	**Demirkent**	**1.43**	**82**	*i* P		**Pn**	**21 32 04.8**	**0.0**
DDEM				*i* S		**Sb**	**21 32 24.3**	**+0.5**
DBOC	**Borcka**	**1.50**	**64**	*i* P		**Pn**	**21 32 05.4**	**-0.2**
BCA	**Borcka**	**1.51**	**60**	PN		**Pn**	**21 32 05.7**	**-0.1**
REFA	**Refahiye_ERZ¯**	**1.56**	**214**	*i* P		Pn	21 32 01.2	-5.3
REFA				*i* S		Sn	21 32 15.8	-11
DAGI	**Agillar**	**1.59**	**76**	*i* P		**Pn**	**21 32 07.3**	**+0.4**
ARTV	**Artvin**	**1.62**	**72**	*i* P		**Pb**	**21 32 09.3**	**+0.4**
ARTV				*i* S		**Sb**	**21 32 29.0**	**-0.4**
KEMA	**Kemaliye**	**1.78**	**217**	*i* P		**Pb**	**21 32 12.3**	**+0.8**
CUZAR	**Zara_SİVAS**	**1.81**	**244**	*i* P		**Pb**	**21 32 13.3**	**+1.3**
CUZAR				*i* S		**Sb**	**21 32 36.0**	**+1.4**

*ISK **08** 21:55:49.3, 38.°67N×43.°21E, h5km, ML2.1/4*
*DDA **08** 21:55:50.7, 38.°64N×43.°25E, h8km, Ml2.7*
ISC 08 21:55:50.3±1.0, **38.°63N**±0.°04×**43.°29E**±0.°03, **h16**km±7km, **n13**, σ0°**81**/19, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VANB	**Van**	**0.08**	**112**	PG		**Pg**	**21 55 54.1**	**+0.4**
TVAN	**Van**	**0.13**	**137**	*i* P		**Pg**	**21 55 54.1**	**-0.2**
TVAN				*i* S		**Sg**	**21 55 57.5**	**+0.6**
GEVA	**Gevas**	**0.36**	**210**	*i* P		**Pg**	**21 55 57.4**	**-0.5**
GEVA				*i* S		**Sb**	**21 56 04.4**	**+0.3**
VMUR	**Van-Muradiye**	**0.42**	**31**	*i* P		**Pb**	**21 55 59.5**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.48**	**292**	*i* P		**Pg**	**21 55 59.5**	**-0.5**
ADCV				*i* S		**Sb**	**21 56 07.7**	**+0.2**
CLDR	**Caldiran**	**0.71**	**43**	PG		**Pb**	**21 56 04.5**	**0.0**
CLDR				SG		**Sn**	**21 56 15.7**	**-1.0**
CLDR	**Caldiran**	**0.71**	**43**	*i* P		**Pg**	**21 56 04.7**	**+0.4**
AGRB	**Hanur-Agry**	**0.98**	**346**	PG		**Pb**	**21 56 08.1**	**-0.9**
AGRB				SG		**Sb**	**21 56 21.5**	**-0.3**
GURO	**Guroymak-BITLI**	**0.99**	**266**	PG		**Pb**	**21 56 08.7**	**-0.5**
GURO				SG		**Sg**	**21 56 22.3**	**-0.2**
EKAR	**Karacoban**	**1.15**	**304**	*i* P		**Pg**	**21 56 14.6**	**+2.1**
SRTM	**Siirt_Merkez**	**1.25**	**240**	*i* P		**Pg**	**21 56 14.9**	**+0.5**
SIRT	**Sirnak**	**1.31**	**211**	PN		**Pg**	**21 56 16.6**	**+1.0**
CUKT	**Cukurca**	**1.40**	**170**	PN		**Pg**	**21 56 17.9**	**+0.6**

MEX 08 22:00:15.4±0.4, **14.°22N**×**92.°33W**, **h97**km±16km, **MD4.0, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		**1.71**	**330**	*e*P		Pn	22 00 43.3	-0.9
PCIG				*i* S		Sn	22 01 04.2	-1.8
CCIG	**Comitan**	**2.06**	**5**	*e*P		Pn	22 00 47.6	-1.3
CCIG				*i* S		Sn	22 01 13.3	-1.1

*ISCJB **08** 22:02:06.9±0.6, 50.°28N±0.°04×19.°24E±0.°03, h0km, Error ellipse: s-maj=5.4km s-min=2.8km az=19.5*
*PRU **08** 22:02:08.9±0.0, 50.°20N×19.°28E, h0km*
*WAR **08** 22:02:09.5, 50.°18N×19.°34E, h1km, Mw2.7*
*VIE **08** 22:02:33.0, 50.°06N×18.°09E, h0km, ML2.2/1 27 km NNW of Ostrava Suspected Mining induced.*
ISC 08 22:02:07.1±0.9, **50.

ACLC	**CERRO LA CRUZ**	**2.54**	**318**	*e*P		**Pn**	**22 05 27.9**	**+1.2**
ACLC				*e*S		**Sn**	**22 06 01.5**	**+3.2**
ACLC				*i* Sg		**Sb**	**22 06 04.7**	**+2.2**
CYA	**Choya**	**2.97**	**346**	*i* P		**Pn**	**22 05 35.1**	**+2.8**
CYA				*e*S		**Sn**	**22 06 10.5**	**+1.9**
CYA				*i* Sg		**Sg**	**22 06 18.9**	**-0.8**
CYA				IAML			22 06 28.6	
	comp=Z,159nm,0.4s							
RTLL	**Cerro Villicun**	**2.97**	**269**	*i* P		**Pn**	**22 05 34.0**	**+1.5**
RTLL				*e*Pg		**Pb**	**22 05 37.0**	**-1.0**
RTLL				*e*S		**Sn**	**22 06 09.2**	**+0.5**
RTLL				*e*Sg		**Sb**	**22 06 14.3**	**-0.4**
RTLL				IAML			22 06 16.0	
	comp=Z,267nm,0.4s							
AMOG	**MOGNA**	**3.02**	**277**	*e*P		**Pn**	**22 05 35.9**	**+2.8**
AMOG				*i* Pg		**Pb**	**22 05 38.5**	**-0.2**
AMOG				*i* S		**Sn**	**22 06 11.1**	**+1.2**
AMOG				*e*Sg		**Sb**	**22 06 18.5**	**+2.4**
RTCV	**Cerro Valdivia**	**3.06**	**259**	*e*P		**Pn**	**22 05 35.1**	**+1.4**
RTCV				*i* Pg		**Pb**	**22 05 39.0**	**-0.5**
RTCV				*e*Sg		**Sb**	**22 06 17.7**	**+0.3**
ZON	**Zonda**	**3.15**	**265**	*i* P		**Pn**	**22 05 36.3**	**+1.4**
ZON				*e*S		**Sn**	**22 06 13.3**	**+0.2**
ZON				*e*Sg		**Sb**	**22 06 19.8**	**-0.1**
ZON				IAML			22 06 24.6	
	comp=Z,117nm,0.4s							
ASAL	**Salagasta**	**3.49**	**248**	*e*P		**Pn**	**22 05 42.0**	**+2.4**
ASAL				*i* Pg		**Pb**	**22 05 47.2**	**+0.4**
ASAL				*e*S		**Sb**	**22 06 31.0**	**+1.3**
AGUA	**GUANDACOL**	**3.53**	**301**	*e*P		**Pn**	**22 05 43.5**	**+3.3**
AGUA				*e*S		**Sn**	**22 06 25.7**	**+3.1**
ACCO	**Cerro Coronel**	**3.57**	**281**	*e*P		**Pn**	**22 05 43.5**	**+2.5**
ACCO				*i* S		**Sb**	**22 06 30.6**	**-1.6**
AVIZ	**Vizcacheras**	**3.66**	**233**	*e*P		**Pb**	**22 05 51.4**	**+1.7**
AVIZ				*e*S		**Sb**	**22 06 34.6**	**+0.1**
ARCO	**CERRO ARCO**	**3.66**	**245**	*e*P		**Pn**	**22 05 46.1**	**+4.1**
ARCO				*i* Pg		**Pb**	**22 05 51.5**	**+1.8**
ARCO				*i* S		**Sb**	**22 06 38.4**	**+3.8**
AAGR	**Agrelo**	**3.68**	**241**	*e*P		**Pn**	**22 05 46.4**	**+4.1**
AAGR				*e*Pg		**Pb**	**22 05 52.1**	**+2.1**
AAGR				*e*S		**Sn**	**22 06 24.1**	**-2.2**
AAGR				*i* Sg		**Sb**	**22 06 38.5**	**+3.2**
RTLS	**Leoncito**	**3.69**	**262**	*e*P		**Pn**	**22 05 44.7**	**+2.1**
RTLS				IAML			22 05 51.0	
	comp=Z,79nm,0.3s							
RTLS				*e*S		**Sn**	**22 06 25.2**	**-1.7**
RTLS				*e*Sg		**Sb**	**22 06 38.3**	**+2.5**
VCA	**Vinchina**	**3.80**	**312**	*e*P		**Pn**	**22 05 47.5**	**+3.6**
VCA				IAML			22 06 53.6	
	comp=Z,282nm,0.4s							
AUSP	**Uspallata**	**3.84**	**256**	*e*P		**Pn**	**22 05 46.6**	**+2.0**
AUSP				*e*S		**Sb**	**22 06 39.1**	**-0.8**
AROD	**Rodeo**	**4.02**	**286**	*i* P		**Pb**	**22 05 55.1**	**-0.9**
AROD				*i* S		**Sb**	**22 06 46.0**	**+0.7**
AHML	**Horco Molle**	**4.55**	**356**	*e*P		**Pn**	**22 05 56.6**	**+2.5**
GO04	**Tololo Observa**	**5.12**	**282**		Pn	**Pn**	**22 06 03.0**	**+0.8**
PEL	**Peldehue**	**5.14**	**248**		Pn	**Pn**	**22 06 03.2**	**+0.9**
FSA	**Cafayete**	**5.28**	**350**	*i* P		**Pn**	**22 06 08.0**	**+3.7**
FSA				*e*S		**Sn**	**22 07 06.7**	**+1.0**
ROC1	**El Roble**	**5.36**	**251**		Pn	**Pn**	**22 06 05.5**	**0.0**
ROC1	**El Roble**	**5.36**	**251**	*i* P		**Pn**	**22 06 03.2**	**-2.2**
LCO	**Las Campanas**	**5.45**	**294**	*e*Pn		**Pn**	**22 06 06.9**	**+0.1**
TRQA	**Tornquist**	**7.15**	**160**		Pn	**Pn**	**22 06 28.8**	**-1.0**
ASTB	**Santa Barbara**	**7.38**	**4**	*e*P		**Pn**	**22 06 35.6**	**+2.5**
ALOL	**LOMAS DE OLMED**	**7.55**	**7**	*e*P		**Pn**	**22 06 38.1**	**+2.8**
LVC	**Limon Verde**	**9.36**	**337**		Pn	**Pn**	**22 06 58.7**	**-1.8**
NNA	**Nana**	**22.14**	**328**		P	**P**	**22 09 38.2**	**-3.2**
	comp=Z,6.2nm,0.4s							
SAML	**Samuel**	**22.34**	**5**		P	**P**	**22 09 39.0**	**-4.5**
	comp=Z,3.6nm,1.4s							
OTAV	**Otavalo**	**33.90**	**335**		P	P	22 11 24.7	-4.5
	comp=Z,1.0nm,0.4s							

*IDC **08** 22:12:58.4±2.8, 13°.84N×92°.31W, h0km, mb3.8/3, mb1 3.9/6, mb1mx3.7/52, mbtmp3.7/6, ML3.4/3, Error ellipse: s-maj=51.9km s-min=26.0km az=4.0*
*NEIC **08** 22:13:02.9±0.8, 13°.79N×92°.28W, h35km, mb4.2/6, MD3.9(MEX), Error ellipse: s-maj=19.5km s-min=9.9km az=43.0*
*ISCJB **08** 22:13:03.1±0.8, 13°.94N±0°.07×92°.35W±0°.06, h46km, mb4.1/8, Error ellipse: s-maj=10.5km s-min=7.5km az=30.9*
*MEX **08** 22:13:03.2±0.4, 13°.88N×92°.31W, h25km±26km, MD3.9*
ISC 08 22:13:04.2±0.9, 13°.90N±0°.10×92°.32W±0°.08, h46km, n18, σ1°72/23, mb4.0/8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PCIG							**2.00 334**	*e*P **Pn**	**22 13 33.4**	**-2.0**
PCIG								*e*S **Sn**	**22 13 56.8**	**-2.4**
PCIG							**2.00 334**	*e*P **Pn**	**22 13 33.4**	**-2.0**
PCIG								*e*S **Sn**	**22 13 56.7**	**-2.5**
APG	**El Apazote**	**2.10**	**58**	Pn		**Pn**	**22 13 36.4**	**-0.8**
	17nm,0.3s,baz=238,slow=9.5,SNR=85							
APG					Sn	**Sn**	**22 14 03.1**	**+0.9**
	29nm,0.3s,baz=269,slow=22,SNR=7.2							
CCIG	**Comitan**	**2.37**	**4**	*e*P		**Pn**	**22 13 42.5**	**+1.7**
CCIG	**Comitan**	**2.37**	**4**	*e*P		**Pn**	**22 13 39.3**	**-1.5**
CCIG				*i* S		**Sn**	**22 14 06.2**	**-2.6**
CMIG	**Matias Romero**	**4.02**	**322**	Pn		**Pn**	**22 14 02.4**	**-0.9**
	2.6nm,0.3s,baz=134,slow=11,SNR=12							
CMIG					Sn	**Sn**	**22 14 50.1**	**+0.9**
	6.3nm,0.3s,baz=107,slow=17,SNR=3.0							
JTS	**JuntasAbangare**	**8.04**	**116**	*e*Pn		**Pn**	**22 14 54.8**	**-3.7**
	607nm,0.3s							
TXAR	**Lajitas Array**	**18.61**	**327**	P		**Pn**	**22 17 20.0**	**+1.4**
	0.0nm,0.3s,baz=158,slow=9.7,SNR=3.5							
ANMO	**Albuquerque**	**24.54**	**331**	P		**P**	**22 18 21.3**	**+1.6**
	1.0nm,0.4s,baz=156,slow=10.0,SNR=2.4							
ANMO	**Albuquerque**	**24.54**	**331**	*e*P		**P**	**22 18 20.9**	**+1.2**
	3.4nm,0.1s							
HWUT	**Hardware Ranch**	**32.28**	**332**	P		**P**	**22 19 30.5**	**+1.7**
	1.4nm,0.8s							
HLID	**Hailey**	**35.12**	**332**	P		**P**	**22 19 54.3**	**+0.9**
	2.0nm,1.1s							
LCO	**Las Campanas**	**47.50**	**154**	P		**P**	**22 21 35.1**	**-0.1**
	3.1nm,0.5s							
YKA	**Yellowknife Ar**	**51.05**	**347**	P		**P**	**22 22 01.9**	**+0.4**
	0.8nm,0.5s,baz=150,slow=7.2,SNR=5.9							
INK	**Inuvik**	**60.45**	**344**	P		**P**	**22 23 08.7**	**-0.1**
	0.9nm,0.7s,baz=137,slow=2.6,SNR=3.6							
BORG	**Borgarnes**	**69.43**	**26**	*e*P		**P**	**22 24 08.1**	**+0.9**
	3.7nm,0.7s							
ESK	**Eskdalemuir**	**78.20**	**36**	P		**P**	**22 24 58.8**	**+0.1**
	0.6nm,0.6s							
CMAR	**Chiang Mai Arr**	**145.99**	**341**	PKPbc		**PKPab**	**22 32 40.7**	**+0.4**
	0.8nm,0.4s,baz=331,slow=3.0,SNR=8.9							

IDC 08 22:15:50.3±8.9, 30°.99S×179°.73W, h433km±106km, mb2.6/2, mb1 2.9/3, mb1mx2.7/43, mbtmp3.5/3, Error ellipse: s-maj=101.1km s-min=44.4km az=9.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.70**	**199**		P	P	22 17 42.5	+0.3
	0.6nm,0.3s,baz=0.0,slow=16,SNR=6.7							
URZ					S	S	22 19 13.8	0.0
	0.8nm,0.3s,baz=64,slow=23,SNR=8.2							
ASAR	**Alice Springs**	**41.60**	**268**	P		P	22 22 59.0	+0.1
	0.2nm,0.4s,baz=107,slow=7.7,SNR=1.7							
WRA	**Warramunga Arr**	**42.64**	**274**	P		P	22 23 06.9	-0.3
	0.3nm,0.3s,baz=110,slow=8.1,SNR=9.8							
FINES	**FINESS Array B**	**145.17**	**339**	PKPbc		PKPdf	22 34 36.3	-0.3
	4.9nm,1.1s,baz=48,slow=2.8,SNR=6.9							

*IDC **08** 22:33:14.2±1.1, 35°.23N×27°.75E, h0km, mb3.4/3, mb1 3.6/9, mb1mx3.4/68, mbtmp3.4/9, ML3.4/6, Error ellipse: s-maj=23.5km s-min=15.1km az=171.0*
*ATH **08** 22:33:14.8, 35°.37N×27°.95E, h10km±3km, ML2.9/2, Error ellipse: s-maj=5.1km s-min=1.7km az=344.0*
*ISK **08** 22:33:14.3, 35°.39N×27°.84E, h5km, ML3.2/11*
*ISCJB **08** 22:33:15.3±0.5, 35°.32N±0°.04×27°.90E±0°.03, h10km, mb3.2/3, Error ellipse: s-maj=5.7km s-min=3.6km az=168.9*
*DDA **08** 22:33:21.1, 35°.69N×28°.05E, h29km, Ml3.0*
ISC 08 22:33:16.0±0.8, 35°.38N±0°.06×27°.86E±0°.03, h10km, n48, σ1°50/54, mb3.4/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.59**	**286**		PG	**Pg**	**22 33 26.6**	**-0.9**
KARP					SG	**Sg**	**22 33 35.6**	**+0.3**
KARP	**Karpathos**	**0.59**	**286**	P	P	**Pg**	**22 33 27.3**	**-0.2**
KARP				S		**Sb**	**22 33 37.2**	**+0.3**
KARP					AML	AML	22 33 39.0	
	comp=E,2066μm,0.3s							
KARP					AML	AML	22 33 40.9	
	comp=N,2810μm,0.4s							
ARG	**Arkhangelos**	**0.86**	**15**	PG		**Pg**	**22 33 30.6**	**-2.0**
ARG				SG		**Sg**	**22 33 45.1**	**+1.3**
ARG	**Arkhangelos**	**0.86**	**15**	P		**Pg**	**22 33 31.3**	**-1.4**
ARG					AML	AML	22 33 57.8	
	comp=N,1055μm,0.5s							
ARG					AML	AML	22 33 58.3	
	comp=E,1723μm,0.9s							
MRSB	**Marmaris-Mugla**	**1.36**	**12**	PN		**Pn**	**22 33 41.6**	**+0.5**
DAT	**Datca**	**1.36**	**351**	PN		**Pn**	**22 33 41.3**	**+0.1**
DAT	**Datca**	**1.36**	**351**	*i* P		**Pn**	**22 33 41.6**	**+0.4**
ZKR	**Zakros**	**1.37**	**259**	P		**Pn**	**22 33 41.5**	**+0.3**
DALY	**Dalyan (Mu¨la**	**1.57**	**24**	PN		**Pn**	**22 33 44.5**	**+0.5**
DALY	**Dalyan (Mu¨la**	**1.57**	**24**	*i* P		**Pn**	**22 33 44.8**	**+0.8**
FETY	**Fethiye**	**1.60**	**38**	PN		**Pn**	**22 33 45.0**	**+0.6**
KSL	**Kastellorizon**	**1.60**	**61**	P		**Pn**	**22 33 43.9**	**-0.5**
TURN	**Turunc**	**1.60**	**22**	PN		**Pn**	**22 33 41.9**	**-2.5**
TURN	**Turunc**	**1.60**	**22**	*i* P		**Pn**	**22 33 42.5**	**-1.9**
AKAS	**Kas**	**1.66**	**59**	PN		**Pn**	**22 33 45.9**	**+0.6**
AKAS	**Kas**	**1.66**	**59**	*i* P		**Pn**	**22 33 46.2**	**+0.9**
BODT	**Bodrum**	**1.73**	**345**	PN		**Pn**	**22 33 46.2**	**0.0**
NPS	**Neapolis**	**1.84**	**267**	P		**Pn**	**22 33 49.6**	**+1.9**
MLSB	**Milas**	**1.91**	**358**	PN		**Pn**	**22 33 49.0**	**+0.3**
LAST	**Lasithi**	**1.96**	**264**	P		**Pb**	**22 33 52.0**	**+0.2**
ELL	**Elmali**	**2.15**	**50**	PN		**Pn**	**22 33 53.0**	**+0.9**
TAVA	**DENIZLI_Tavas**	**2.25**	**22**	*i* P		**Pn**	**22 33 54.1**	**+0.7**
AYDN	**Tasoluk**	**2.27**	**0**	*i* P		**Pn**	**22 33 54.5**	**+0.8**
GOLH	**Golhisar**	**2.31**	**36**	*i* P		**Pn**	**22 33 55.6**	**+1.4**
IDI	**Anoyia**	**2.43**	**269**	PN		**Pn**	**22 33 56.5**	**+0.7**
IDI	**Anoyia**	**2.43**	**269**	Pg		**Pn**	**22 33 57.1**	**+1.3**
	comp=E,3.3nm,0.3s,baz=81,slow=17,SNR=8.2							
IDI					Sn	**Sn**	**22 34 25.4**	**-0.2**
	comp=E,2.7nm,0.3s,baz=336,slow=18,SNR=3.1							
SMG	**Samos**	**2.46**	**341**	P		**Pn**	**22 33 57.0**	**+0.7**
DNZL	**Cakiroluk**	**2.49**	**22**	*i* P		**Pn**	**22 33 59.3**	**+2.4**
SIVA	**Sivas**	**2.52**	**263**	P		**Pn**	**22 33 59.7**	**+2.7**
AYDB	**Zeytinkoy-Aydi**	**2.56**	**1**	PN		**Pn**	**22 33 58.6**	**+0.9**
KORT	**Korkueli**	**2.58**	**51**	PN		**Pn**	**22 33 59.5**	**+1.4**
KORT	**Korkueli**	**2.58**	**51**	*i* P		**Pn**	**22 34 01.1**	**+3.1**
BRDR	**BURDUR-Merkez**	**2.91**	**37**	*i* P		**Pn**	**22 34 03.4**	**+0.9**
VAM	**Vamos**	**2.99**	**271**	P		**Pn**	**22 34 05.2**	**+1.8**
SUTC	**Sutluce-Ispart**	**3.29**	**50**	PN		**Pn**	**22 34 08.3**	**+0.6**
KEPZ	**Antalya-Kepez**	**3.39**	**62**	*i* P		**Pn**	**22 34 10.3**	**+1.3**
DEMI	**Demirci**	**3.72**	**10**	*i* P		**Pn**	**22 34 14.0**	**+0.4**
DOGA	**KONYA_Doganhis**	**4.09**	**47**	*i* P		**Pn**	**22 34 23.5**	**+4.7**
KONT	**Konya--Tatoy**	**4.43**	**53**	*i* P		**Pn**	**22 34 25.4**	**+2.0**
BRTR	**Keskin Array B**	**6.32**	**45**	Pn		**Pn**	**22 34 51.1**	**+1.7**
	comp=E,0.2nm,0.3s,baz=256,slow=10,SNR=4.7							
BRTR					Sn	**Sn**	**22 36 01.6**	**0.0**
	comp=E,0.0nm,0.3s,baz=282,slow=14,SNR=2.2							
MMAI	**Mount Meron Ar**	**6.69**	**109**	Pn		**Pn**	**22 34 53.0**	**-1.3**
	comp=E,1.2nm,0.3s,baz=319,slow=10,SNR=7.4							
MMAI					Sn	**Sn**	**22 36 09.9**	**-0.7**
	comp=E,1.2nm,0.3s,baz=308,slow=20,SNR=3.9							
EIL	**Elat**	**8.27**	**132**	Pn		**Pn**	**22 35 15.5**	**-0.5**
	comp=E,0.2nm,0.3s,baz=297,slow=4.6,SNR=5.5							
EIL					Sn	Sn	22 36 41.0	-8.4
	comp=E,0.2nm,0.3s,baz=125,slow=16,SNR=2.4							
MLR	**Muntele Rosu**	**10.20**	**352**	Pn		**Pn**	**22 35 45.8**	**+3.3**
	comp=E,0.1nm,0.3s,baz=299,slow=17,SNR=3.0							
KBZ	**Khabaz**	**14.27**	**50**	Pn		**P**	**22 36 44.5**	**-0.8**
	comp=E,0.0nm,0.3s,baz=162,slow=6.4,SNR=2.4							
GERES	**GERESS Array B**	**17.02**	**327**	Pn		**Pn**	**22 37 14.7**	**+0.5**
	comp=E,0.2nm,0.3s,baz=142,slow=18,SNR=2.5							
ESDC	**Sonseca Array**	**25.52**	**289**	P		**P**	**22 38 44.0**	**-0.8**
	comp=E,0.6nm,0.7s,baz=81,slow=7.9,SNR=4.1							
TORD	**Torodi Ar. Bea**	**32.36**	**233**	P		**P**	**22 39 43.9**	**-1.9**
	comp=E,0.4nm,0.5s,baz=35,slow=7.9,SNR=7.6							
MKAR	**Makanchi Array**	**41.81**	**57**	P		**P**	**22 41 07.5**	**+1.7**
	comp=E,0.2nm,0.5s,baz=272,slow=8.3,SNR=3.5							

*ISCJB **08** 22:37:01.4±1.0, 1°.8N±0°.1×92°.2E±0°.1, h19km, mb3.7/4, Error ellipse: s-maj=22.8km s-min=13.3km az=27.2*
*IDC **08** 22:37:01.0±1.7, 1°.80N×92°.22E, h0km, mb3.6/4, mb1 3.9/7, mb1mx3.5/61, mbtmp3.7/7, ML4.0/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/45, Error ellipse: s-maj=47.3km s-min=22.6km az=48.0*
ISC 08 22:37:03.1±1.3, 1°.8N±0°.2×92°.1E±0°.1, h19km, n10, σ1°97/8, mb3.7/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.92**	**82**	Pn		**Pn**	**22 38 43.2**	**-0.5**
	1.2nm,0.3s,baz=1.9,slow=2.2,SNR=3.9							
PSI					Sn	Sn	22 39 48.0	-14
	1.2nm,0.3s,baz=0.1,slow=17,SNR=3.2							
PSI					LR	LR	22 41 10.6	
	comp=Z,128nm,20.1s,baz=271,slow=37							
PALK	**Pallekele**	**12.55**	**296**	Pn		**Pn**	**22 40 02.6**	**+1.7**
	1.0nm,0.3s,baz=115,slow=12,SNR=8.1							
PALK					Sn	**Sn**	**22 42 17.1**	**-3.2**
	3.8nm,0.3s,baz=116,slow=2.2,SNR=12							
CMAR	**Chiang Mai Arr**	**17.86**	**22**	P		**Pn**	**22 41 09.7**	**-1.0**
	0.3nm,0.3s,baz=213,slow=15,SNR=2.1							
H08S2	**Diego Garcia H**	**21.67**	**244**	T		T	23 02 28.6	
	baz=71,slow=75,SNR=80							
H08S3	**Diego Garcia H**	**21.67**	**244**	T		T	23 02 30.4	
	baz=71,slow=75,SNR=104							
H08S1	**Diego Carcia H**	**21.68**	**244**	T		T	23 02 38.0	
	baz=71,slow=75,SNR=91							
MKAR	**Makanchi Array**	**45.61**	**351**	P		**P**	**22 45 23.2**	**+1.1**
	0.3nm,0.7s,baz=156,slow=7.0,SNR=3.2							
WRA	**Warramunga Arr**	**46.76**	**120**	P		**P**	**22 45 31.1**	**-0.5**
	2.1nm,0.7s,baz=299,slow=8.6,SNR=21							
ASAR	**Alice Springs**	**47.92**	**125**	P		**P**	**22 45 40.1**	**-0.5**
	0.2nm,0.3s,baz=294,slow=7.7,SNR=4.1							
ZALV	**Zalesovo Beam**	**52.31**	**355**	P		**P**	**22 46 15.0**	**+1.7**
	0.4nm,0.4s,baz=152,slow=6.5,SNR=3.1							

*ISCJB **08** 22:39:36.0±1.1, 18°.6N±0°.1×146°.9E±0°.4, h52km, mb3.9/6, Error ellipse: s-maj=59.6km s-min=10.6km az=15.1*
*IDC **08** 22:39:43.5±4.4, 18°.51N×146°.86E, h107km±40km, mb3.5/6, mb1 3.7/7, mb1mx3.4/60, mbtmp4.0/7, Error ellipse: s-maj=67.1km s-min=18.6km az=99.0*
ISC 08 22:39:37.9±1.3, 18°.6N±0°.1×146°.8E±0°.4, h52km, n7, σ0°97/7, mb3.9/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.30**	**201**	P		Pn	22 40 59.7	+5.1
	11nm,0.3s,baz=39,slow=21,SNR=2.2							
GUMO					S	**Sn**	**22 41 55.2**	**+0.8**
	18nm,0.3s,baz=174,slow=22,SNR=2.0							
KLR	**Kul'dur**	**32.91**	**342**	P		**P**	**22 46 08.0**	**+0.9**
	1.8nm,0.5s,baz=168,slow=9.0,SNR=7.7							
WRA	**Warramunga Arr**	**40.19**	**198**	P		**P**	**22 47 08.9**	**-0.5**
	1.0nm,0.7s,baz=22,slow=9.6,SNR=9.0							
FITZ	**Fitzroy Crossi**	**41.97**	**211**	P		**P**	**22 47 23.9**	**-0.2**
	2.0nm,0.7s,baz=37,slow=9.9,SNR=8.0							
ASAR	**Alice Springs**	**43.83**	**197**	P		**P**	**22 47 38.9**	**-0.2**
	0.2nm,0.3s,baz=19,slow=7.8,SNR=4.9							
ILAR	**Eielson Array**	**63.29**	**26**	P		**P**	**22 50 01.7**	**+0.6**
	0.7nm,1.0s,baz=243,slow=8.0,SNR=3.0							
FINES	**FINESS Array B**	**87.44**	**336**	P		**P**	**22 52 18.3**	**-1.3**
	2.2nm,0.9s,baz=46,slow=4.0,SNR=1.8							

*IDC **08** 22:44:39.6±0.7, 13°.94N×144°.88E, h99km±4km, mb3.6/8, mb1 3.8/8, mb1mx3.4/57, mbtmp3.9/8, Error ellipse: s-maj=30.9km s-min=16.1km az=99.0*
*ISCJB **08** 22:44:40.1±0.8, 13°.9N±0°.1×144°.9E±0°.2, h125km, mb3.9/8, Error ellipse: s-maj=32.6km s-min=16.0km az=8.0*
ISC 08 22:44:41.5±0.8, 13°.9N±0°.1×144°.9E±0°.2, h125km, n17, σ2°25/12, mb3.9/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.28**	**192**	P		**Pn**	**22 44 56.1**	**-2.8**
	2μm,0.3s,baz=102,slow=1.5,SNR=561							
GUMO					S	**Sn**	**22 45 07.2**	**-4.9**
	2μm,0.3s,baz=94,slow=19,SNR=60							
H11S3	**WAKE ISLAND Hy**	**21.39**	**75**	T		T	23 10 56.6	
	baz=263,slow=74,SNR=8.5							
H11S1	**WAKE ISLAND Hy**	**21.41**	**75**	T		T	23 11 00.0	
	baz=263,slow=74,SNR=9.9							
H11S2	**WAKE ISLAND Hy**	**21.41**	**75**	T		T	23 11 03.6	
	baz=263,slow=74,SNR=3.5							
H11N1	**WAKE ISLAND Hy**	**21.81**	**72**	T		T	23 12 28.7	
	baz=257,slow=75,SNR=14							
H11N2	**WAKE ISLAND Hy**	**21.82**	**72**	T		T	23 12 33.4	
	baz=257,slow=75,SNR=4.4							
H11N3	**WAKE ISLAND Hy**	**21.82**	**72**	T		T	23 12 30.2	
	baz=257,slow=75,SNR=9.4							
WRA	**Warramunga Arr**	**35.18**	**197**	P		**P**	**22 51 24.1**	**+0.5**
	2.0nm,0.6s,baz=19,slow=9.3,SNR=17							
FITZ	**Fitzroy Crossi**	**37.02**	**211**	P		**P**	**22 51 40.0**	**+0.7**
	0.6nm,0.3s,baz=42,slow=14,SNR=8.4							
ASAR	**Alice Springs**	**38.83**	**196**	P		**P**	**22 51 54.9**	**+0.5**
	0.8nm,0.4s,baz=20,slow=12,SNR=11							
DZM	**Mont Dzumac**	**41.48**	**149**	P		**P**	**22 52 18.8**	**+2.4**
	5.4nm,0.5s,baz=303,slow=17,SNR=7.8							
STKA	**Stephens Creek**	**45.59**	**184**	P		**P**	**22 52 49.6**	**+0.5**
	1.0nm,0.4s,baz=356,slow=14,SNR=3.2							
MKAR	**Makanchi Array**	**61.33**	**316**	P		**P**	**22 54 45.3**	**+1.3**
	0.3nm,0.5s,baz=92,slow=8.0,SNR=7.3							
ILAR	**Eielson Array**	**68.29**	**25**	P		**P**	**22 55 27.6**	**-1.2**
	0.4nm,0.6s,baz=247,slow=6.2,SNR=2.9							
YKA	**Yellowknife Ar**	**82.59**	**27**	P		**P**	**22 56 50.9**	**+0.6**
	0.9nm,0.8s,baz=284,slow=5.2,SNR=3.3							
TORD	**Torodi Ar. Bea**	**134.75**	**305**	PKP		**PKPdf**	**23 03 48.1**	**+1.7**
	0.2nm,0.4s,baz=72,slow=2.0							
LPAZ	**La Paz**	**148.01**	**99**	PKPbc		**PKPab**	**23 04 16.5**	**-0.5**
	0.8nm,0.7s,baz=342,slow=6.4,SNR=4.8							

*IDC **08** 22:44:52.9±1.2, 13°.97N×92°.45W, h0km, mb4.0/4, mb1 4.1/8, mb1mx3.8/53, mbtmp3.9/8, ML3.7/4, MS3.4/3, Ms1 3.4/3, ms1mx2.8/38, Error ellipse: s-maj=33.2km s-min=18.0km az=39.0*
*ISCJB **08** 22:44:56.0±1.6, 14°.08N±0°.06×92°.49W±0°.06, h29km±10km, mb3.9/6, MS3.3/3, Error ellipse: s-maj=11.9km s-min=8.3km az=35.5*
*NEIC **08** 22:44:57.9±0.9, 14°.02N×92°.41W, h35km, mb4.0/4, MD3.9(MEX), Error ellipse: s-maj=19.1km s-min=10.1km az=47.0*
*MEX **08** 22:44:58.1±0.5, 14°.08N×92°.46W, h12km±52km, MD3.9*
ISC 08 22:44:55.1±2.1, 14°.06N±0°.08×92°.45W±0°.07, h13km±11km, n27, σ1°27/32, mb4.0/6, MS3.4/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
THIG							**0.87 12**	*e*P **Pg**	**22 45 12.2**	**+0.2**
THIG							**0.87 12**	*e*P **Pg**	**22 45 12.2**	**+0.2**
THIG								*i* S **Sg**	**22 45 22.4**	**-0.9**
PCIG							**1.80 336**	*e*P **Pn**	**22 45 24.8**	**-1.1**
PCIG							**1.80 336**	*e*P **Pn**	**22 45 24.8**	**-1.1**
PCIG								*i* S **Sn**	**22 45 46.1**	**-2.6**
APG	**El Apazote**	**2.14**	**64**	Pn		**Pn**	**22 45 31.8**	**+0.9**
	34nm,0.3s,baz=208,slow=16,SNR=136							
APG					Sn	**Sn**	**22 45 57.9**	**+0.4**
	48nm,0.3s,baz=331,slow=17,SNR=7.2							
CCIG	**Comitan**	**2.23**	**8**	*e*P		**Pn**	**22 45 34.5**	**+2.4**
CCIG	**Comitan**	**2.23**	**8**	*e*P		**Pn**	**22 45 31.0**	**-1.0**
CCIG				*i* S		**Sn**	**22 45 57.6**	**-2.0**
TGIG							**2.78 347**	*e*P **Pn**	**22 45 39.9**	**+0.3**
TGIG				*e*S		**Sn**	**22 46 11.7**	**-1.4**

*ISCJB **08** 23:11:05.6±0.7, 18°.55N±0°.07×145°.4E±0°.3, h150km, mb3.7/8, Error ellipse: s-maj=42.0km s-min=9.2km az=5.8*
*IDC **08** 23:11:08.0±2.5, 18°.47N×145°.42E, h158km±25km, mb3.5/8, mb1 3.7/9, mb1mx3.4/48, mbtmp4.0/9, Error ellipse: s-maj=46.5km s-min=14.4km az=103.0*

ISC 08 23:11:07.3±0.8, 18°.50N±0°.09×145°.4E±0°.3, h150km, n9, σ0.98/10, mb3.8/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**4.91**	**186**	P		**Pn**	**23 12 18.6**	**-0.9**
	7.1nm,0.3s,baz=236,slow=12,SNR=1.5							
GUMO				S		**Sn**	**23 13 17.6**	**+1.7**
	10nm,0.3s,baz=356,slow=19,SNR=1.6							
PETK	**Petropavlovsk-**	**35.85**	**13**	P		**P**	**23 17 53.3**	**+0.9**
	2.3nm,0.8s,baz=181,slow=11							
WRA	**Warramunga Arr**	**39.71**	**196**	P		**P**	**23 18 24.7**	**-0.5**
	1.1nm,0.5s,baz=15,slow=8.2,SNR=18							
ASAR	**Alice Springs**	**43.38**	**195**	P		**P**	**23 18 55.0**	**-0.1**
	0.8nm,0.4s,baz=25,slow=7.1,SNR=13							
STKA	**Stephens Creek**	**50.22**	**184**	P		**P**	**23 19 48.0**	**0.0**
	1.3nm,0.6s,baz=342,slow=13,SNR=2.9							
MKAR	**Makanchi Array**	**58.37**	**314**	P		**P**	**23 20 47.4**	**+0.4**
	0.3nm,0.8s,baz=106,slow=6.1,SNR=2.3							
ILAR	**Eielson Array**	**63.96**	**26**	P		**P**	**23 21 23.3**	**-0.9**
	0.9nm,0.7s,baz=257,slow=5.7,SNR=8.9							
INK	**Inuvik**	**69.68**	**23**	P		**P**	**23 22 00.9**	**+0.7**
	0.9nm,0.6s,baz=243,slow=2.3,SNR=1.8							
FINES	**FINESS Array B**	**86.93**	**335**	P		**P**	**23 23 34.3**	**-0.7**
	2.7nm,0.9s,baz=58,slow=3.4,SNR=4.4							

MEX 08 23:28:38.6±0.6, 13°.90N×92°.24W, h22km±33km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCIG		**2.02**	**332**	*e*P		Pn	23 29 09.1	-2.3
PCIG				*i* S		Sn	23 29 32.2	-3.8
CCIG	**Comitan**	**2.37**	**2**	*i* P		Pn	23 29 14.3	-2.0
CCIG				*i* S		Sn	23 29 41.7	-3.1
CMIG	**Matias Romero**	**4.07**	**322**	*e*P		Pn	23 29 37.0	-2.5
CMIG				*e*S		Sn	23 30 23.7	-2.7
HUIG	**Huatulco**	**4.17**	**297**	*i* S		Sn	23 30 26.5	-2.6

MEX 08 23:56:26.7±0.4, 13°.74N×92°.90W, h20km±16km, MD4.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCIG		**1.98**	**351**	*e*P		Pn	23 56 56.8	-2.3
PCIG				*i* S		Sn	23 57 19.9	-3.4
CCIG	**Comitan**	**2.63**	**16**	*i* P		Pn	23 57 05.6	-2.6
CCIG				*i* S		Sn	23 57 36.6	-3.2
TGIG		**3.03**	**356**	*i* P		Pn	23 57 11.7	-2.0
TGIG				*i* S		Sn	23 57 46.2	-3.2
CMIG	**Matias Romero**	**3.84**	**330**	*i* P		Pn	23 57 22.0	-2.7
CMIG				*i* S		Sn	23 58 06.2	-3.1

*ISCJB **08** 23:57:57.4±0.2, 31°.87S±0°.02×69°.17W±0°.03, h124km±1km, mb4.6/36, Error ellipse: s-maj=4.1km s-min=3.1km az=14.6*
*GUC **08** 23:57:57.9±0.6, 31°.93S×69°.61W, h161km±11km, ML4.1*
*NEIC **08** 23:57:57.3±0.4, 31°.88S×69°.07W, h107km±3km, mb4.6/27, MD4.3(SJA), ML4.1(GUC), Error ellipse: s-maj=6.5km s-min=3.9km az=88.0*
NEIC Felt [III] at Mendoza and San Juan.
*IDC **08** 23:57:58.7±0.6, 31°.81S×69°.02W, h119km±4km, mb3.9/9, mb1 4.0/12, mb1mx3.8/30, mbtmp4.3/12, MS2.9/3, Ms1 2.8/3, ms1mx2.7/20, Error ellipse: s-maj=20.7km s-min=17.6km az=109.0*
*SJA **08** 23:57:58.4±1.0, 31°.88S×69°.16W, h109km±4km, ML4.2, MW4.3*

ISC 08 23:57:58.4±0.5, 31°.83S±0°.03×69°.20W±0°.03, h118km±4km, h118km:pP-P, n114, σ1.9/12/152, mb4.6/36, 5C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RTLS	**Leoncito**	**0.09**	**290**	*i* P		**Pn**	**23 58 14.7**	**-0.2**
RTLS				IAML			23 58 15.6	
	comp=Z,5μm,0.7s							
RTLS				*i* S		**Sn**	**23 58 27.2**	**-0.1**
AUSP	**Uspallata**	**0.42**	**202**	*i* P		**Pn**	**23 58 15.7**	**-0.4**
ZON	**Zonda**	**0.53**	**57**	*i* P		**Pn**	**23 58 16.4**	**+0.1**
ZON				*e*S		**Sn**	**23 58 29.4**	**-0.4**
RTCV	**Cerro Valdivia**	**0.56**	**93**	*i* P		**Pn**	**23 58 16.5**	**0.0**
SJA	**San Juan**	**0.62**	**61**	*e*P		**Pn**	**23 58 15.7**	**-1.2**
SJA				*e*S		**Sn**	**23 58 30.0**	**-0.9**
RTLL	**Cerro Villicun**	**0.79**	**51**	*i* P		**Pn**	**23 58 18.5**	**+0.2**
RTLL				*e*S		**Sn**	**23 58 32.5**	**-0.9**
RTLL				IAML			23 58 35.5	
	comp=Z,7μm,0.4s							
ASAL	**Salagasta**	**0.82**	**158**	*i* P		**Pn**	**23 58 18.4**	**-0.2**
ARCO	**CERRO ARCO**	**1.03**	**168**	*e*P		**Pn**	**23 58 20.7**	**-0.1**
ARCO				*i* S		**Sn**	**23 58 37.9**	**+0.2**
ARCO				IAML			23 58 39.6	
	comp=Z,3μm,0.3s							
AMOG	**MOGNA**	**1.07**	**34**	*i* P		**Pn**	**23 58 21.6**	**+0.6**
ACCO	**Cerro Coronel**	**1.24**	**5**	*i* P		**Pn**	**23 58 23.9**	**+0.7**
ACCO				*i* S		**Sn**	**23 58 44.0**	**+2.2**
AAGR	**Agrelo**	**1.29**	**166**	*i* P		**Pn**	**23 58 23.3**	**-0.1**
ACDV	**Cuesta del Vie**	**1.66**	**2**	*i* P		**Pn**	**23 58 28.9**	**+1.2**
ACDV				*i* S		**Sn**	**23 58 52.0**	**+2.0**
ACDV				IAML			23 58 52.8	
	comp=Z,2μm,0.5s							
CMCH	**Combarbala**	**1.67**	**293**	↓*i* P		**Pn**	**23 58 28.0**	**+0.2**
CMCH				*i* S		**Sn**	**23 58 50.7**	**+0.5**
AROD	**Rodeo**	**1.68**	**352**	*e*P		**Pn**	**23 58 29.6**	**+1.5**
AROD				*e*S		**Sn**	**23 58 52.4**	**+1.7**
AVIZ	**Vizcacheras**	**1.74**	**161**	*e*P		**Pn**	**23 58 28.3**	**-0.3**
AVIZ				*i* S		**Sn**	**23 58 50.5**	**-1.1**
FCH	**Farellones**	**1.75**	**211**	↑*i* P		**Pn**	**23 58 29.4**	**+0.4**
FCH				*e*S		**Sn**	**23 58 53.4**	**+1.0**
FCH				IAML			23 58 54.3	
	comp=E,854nm,0.3s							
ACAN	**Cantantal**	**1.76**	**105**	*i* P		**Pn**	**23 58 29.0**	**+0.2**
ACAN				*i* S		**Sn**	**23 58 50.9**	**-1.1**
PEL	**Peldehue**	**1.82**	**223**	*e*Pn		**Pn**	**23 58 29.0**	**-0.4**
PEL				*e*Sn		**Sn**	**23 58 53.0**	**-0.2**
PEL	**Peldehue**	**1.82**	**223**	*i* P		**Pn**	**23 58 28.9**	**-0.6**
PEL				*i* S		**Sn**	**23 58 52.6**	**-0.7**
PEL	**Peldehue**	**1.82**	**223**	↑*i*P		**Pn**	**23 58 28.9**	**-0.6**
PEL				*i* S		**Sn**	**23 58 52.5**	**-0.7**
PEL				IAML			23 58 54.0	
	comp=N,2μm,0.2s							
ROCH	**El Roble**	**1.91**	**233**	↑*i*P		**Pn**	**23 58 30.0**	**-0.8**
ROCH				*i* S		**Sn**	**23 58 54.4**	**-1.2**
ROCH				IAML			23 58 56.5	
	comp=E,3μm,0.4s							
ROC1	**El Roble**	**1.92**	**233**	*e*Pn		**Pn**	**23 58 30.0**	**-0.9**
ROC1				*e*Sn		**Sn**	**23 58 54.9**	**-0.9**
ROC1	**El Roble**	**1.92**	**233**	*i* P		**Pn**	**23 58 30.1**	**-0.8**
ROC1				*i* S		**Sn**	**23 58 54.6**	**-1.2**
CLCH	**Cerro Calan**	**1.93**	**216**	*e*P		**Pn**	**23 58 30.9**	**0.0**
CLCH				*i* S		**Sn**	**23 58 55.8**	**0.0**
CLCH				IAML			23 58 57.5	
	comp=E,2μm,0.4s							
ANTU	**Antumapu**	**2.12**	**215**	*e*P		**Pn**	**23 58 32.4**	**-0.8**
ANTU				*i* S		**Sn**	**23 59 00.3**	**+0.4**
ANTU				IAML			23 59 01.4	
	comp=E,2μm,0.3s							
GO04	**Tololo Observa**	**2.15**	**320**	*e*Pn		**Pn**	**23 58 33.9**	**+0.1**
GO04				*e*Sn		**Sn**	**23 59 01.2**	**+0.2**
GO04	**Tololo Observa**	**2.15**	**320**	↑*i*P		**Pn**	**23 58 34.0**	**+0.1**
GO04				*i* S		**Sn**	**23 59 00.7**	**-0.3**
LMEL	**Las Melosas**	**2.18**	**203**	*e*P		**Pn**	**23 58 34.4**	**+0.2**
LMEL				*e*S		**Sn**	**23 59 06.1**	**+4.5**
LMEL				IAML			23 59 10.9	
	comp=E,817nm,0.3s							
AGUA	**GUANDACOL**	**2.41**	**15**	*i* P		**Pn**	**23 58 38.4**	**+1.2**
AGUA				*i* S		**Sn**	**23 59 08.7**	**+1.9**
LSCH	**La Serena**	**2.60**	**317**	*e*P		**Pn**	**23 58 38.9**	**-0.5**
LSCH				*e*S		**Sn**	**23 59 08.7**	**-2.2**
MRA	**San Martin**	**3.01**	**102**	*i* P		**Pn**	**23 58 44.5**	**-0.3**
MRA				*e*S		**Sn**	**23 59 19.0**	**-1.6**
MRA				IAML			23 59 20.4	
	comp=Z,889nm,0.3s							
LCO	**Las Campanas**	**3.10**	**335**	*e*Pn		**Pn**	**23 58 46.0**	**-0.1**
LCO				*e*Sn		**Sn**	**23 59 21.9**	**-1.0**
LCO	**Las Campanas**	**3.10**	**335**	*i* P		**Pn**	**23 58 46.1**	**-0.1**
LCO				*i* S		**Sn**	**23 59 21.9**	**-1.0**
VCA	**Vinchina**	**3.20**	**16**	*e*P		**Pn**	**23 58 48.4**	**+1.0**
VCA				*e*S		**Sn**	**23 59 26.7**	**+1.5**
VCA				IAML			23 59 31.5	
	comp=Z,996nm,0.3s							
GO05	**HualaæØ**	**3.91**	**215**	*e*Pn		**Pn**	**23 58 53.7**	**-2.9**
TCA	**Tanti**	**3.96**	**84**	*i* P		**Pn**	**23 58 56.6**	**-0.8**
TCA				IAML			23 59 59.3	
	comp=Z,518nm,0.6s							
GO03	**Copiap**	**4.32**	**348**	*e*Pn		**Pn**	**23 59 02.0**	**-0.2**
CYA	**Choya**	**4.48**	**42**	*i* P		**Pn**	**23 59 03.2**	**-1.1**
CYA				IAML			23 59 54.7	
	comp=Z,293nm,0.5s							
AHML	**Horco Molle**	**6.05**	**35**	*e*P		**Pn**	**23 59 23.5**	**-2.1**
AHML				IAML			00 01 22.4	
	comp=Z,73nm,0.5s							
FSA	**Cafayete**	**6.36**	**27**	*e*P		**Pn**	**23 59 29.5**	**-0.4**
FSA				IAML			00 00 42.8	
	comp=Z,33nm,0.5s							
GO06	**Curarrehue**	**7.96**	**193**	*e*Pn		**Pn**	**23 59 50.0**	**-1.3**
TRQA	**Tornquist**	**8.58**	**138**	*e*Pn		**Pn**	**23 59 57.8**	**-1.9**
PLCA	**Paso Flores**	**8.95**	**187**	P		**Pn**	**00 00 03.0**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=23,slow=15,SNR=3.4							
LVC	**Limon Verde**	**9.19**	**2**	S		**Sn**	**00 01 44.6**	**-5.5**
	comp=Z,1.0nm,0.3s,baz=186,slow=19,SNR=3.2							
LVC				LR		LR	00 04 27.8	
	comp=Z,33nm,19.4s,baz=203,slow=42							
CPUP	**Villa Florida**	**11.73**	**65**	P		**Pn**	**00 00 38.7**	**-3.4**
	comp=Z,0.5nm,0.3s,baz=230,slow=14,SNR=11							
CPUP				S		**Sn**	**00 02 52.3**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=189,slow=19,SNR=2.2							
CPUP				LR		LR	00 05 16.5	
	comp=Z,60nm,18.2s,baz=248,slow=38							
MNMC	**Minye Minye**	**12.65**	**358**	*e*Pn		**Pn**	**00 00 55.1**	**+0.7**
LPAZ	**La Paz**	**15.50**	**4**	P		**Pn**	**00 01 33.0**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=178,slow=8.4,SNR=25							
LPAZ	**La Paz**	**15.50**	**4**	*e*Pn		**Pn**	**00 01 32.0**	**+0.7**
	comp=Z,8.3nm,1.0s							
SIV	**San Ignacio**	**17.42**	**27**	P		**Pn**	**00 01 54.1**	**0.0**
	comp=Z,0.5nm,0.3s,baz=213,slow=9.6,SNR=16							
GO09	**Cerro Castillo**	**19.56**	**186**	*e*P		**P**	**00 02 16.3**	**-0.5**
	comp=Z,142nm,1.6s							
SAML	**Samuel**	**23.44**	**15**	*e*P		**P**	**00 02 57.4**	**+0.1**
	comp=Z,11nm,0.8s							
BDFB	**Brasilia**	**25.14**	**55**	P		**P**	**00 03 11.9**	**-0.9**
	comp=Z,2.7nm,0.5s,baz=189,slow=5.9,SNR=5.0							
BDFB				LR		LR	00 13 43.3	
	comp=Z,42nm,20.9s,baz=214,slow=38							
BDFB	**Brasilia**	**25.14**	**55**	*e*P		**P**	**00 03 12.2**	**-0.5**
	comp=Z,10nm,0.8s							
PTGA	**Pitinga**	**32.14**	**18**	*e*P		**P**	**00 04 14.7**	**-0.1**
	comp=Z,7.0nm,0.8s							
RUSC	**La Rusia**	**37.69**	**354**	*e*P		**P**	**00 05 04.3**	**+1.2**
HELC	**Santa Helena**	**38.29**	**350**	*e*P		**P**	**00 05 08.1**	**+0.2**
PTBC	**PUERTO BERRIO,**	**38.48**	**352**	*e*P		**P**	**00 05 08.0**	**-1.1**
ZARC	**Zaragoza, Cauc**	**39.47**	**351**	*e*P		**P**	**00 05 16.7**	**-0.7**
SMLC	**San Mart›n de**	**40.67**	**353**	*e*P		**P**	**00 05 25.8**	**-1.4**
VNA3	**Neumayer Olymp**	**50.49**	**159**	P		**P**	**00 06 44.2**	**+0.3**
VNA1	**Neumayer--Stat**	**50.75**	**158**	P		**P**	**00 06 46.6**	**+0.8**
VNA2	**Neumayer--Watz**	**51.10**	**158**	P		**P**	**00 06 48.9**	**+0.4**
	baz=288,slow=8.6							
GTBY	**Guantanamo Bay**	**51.77**	**353**	*e*P		**P**	**00 06 54.2**	**+0.2**
	comp=Z,26nm,1.0s							
SNAA	**Sanae**	**52.71**	**159**	P		**P**	**00 07 00.7**	**+0.3**
SNAA	**Sanae**	**52.71**	**159**	*e*P		**P**	**00 07 00.4**	**-0.1**
	comp=Z,8.8nm,0.9s							
TEIG	**Tepich**	**54.90**	**338**	*e*P		**P**	**00 07 17.5**	**+0.6**
	comp=Z,12nm,0.7s							
QSPA	**South Pole Qui**	**58.40**	**180**	*e*P		**P**	**00 07 42.1**	**+0.8**
	comp=Z,6.8nm,1.1s							
VNDA	**Vanda**	**66.68**	**191**	P		**P**	**00 08 37.4**	**+1.4**
	comp=Z,1.1nm,0.8s,baz=140,slow=5.2,SNR=9.1							
SYO	**Syowa Base**	**67.00**	**158**	↑*e*X		**P**	**00 08 36.7**	**-1.4**
143A	**Socs Landing,**	**67.53**	**340**	*e*P		**P**	**00 08 43.1**	**+1.3**
	comp=Z,30nm,0.8s							
X48A	**Hartselle**	**68.04**	**344**	*e*P		**P**	**00 08 45.4**	**+0.4**
	comp=Z,8.4nm,0.8s							
JCT	**Junction City**	**68.43**	**332**	*e*P		**P**	**00 08 48.7**	**+1.0**
	comp=Z,7.6nm,0.8s							
SWET	**Sewanee**	**68.52**	**345**	*e*P		**P**	**00 08 48.4**	**+0.3**
	comp=Z,13nm,0.8s							
TXAR	**Lajitas Array**	**69.09**	**328**	P		**P**	**00 08 52.7**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=151,slow=8.2,SNR=20							
TX31	**Lajitas Ar. Si**	**69.09**	**328**	*e*P		**P**	**00 08 52.6**	**+0.9**
V48A	**Smith Brothers**	**69.22**	**345**	*e*P		**P**	**00 08 52.6**	**+0.3**
	comp=Z,9.9nm,0.7s							
WVT	**Waverly**	**69.83**	**344**	*e*P		**P**	**00 08 56.2**	**+0.2**
	comp=Z,18nm,0.6s							
ABTX	**Abilene, Hawle**	**70.27**	**333**	*e*P		**P**	**00 08 59.2**	**+0.3**
	comp=Z,10nm,0.9s							
PBMO	**Poplar Bluff**	**71.09**	**342**	*e*P		**P**	**00 09 03.8**	**+0.2**
	comp=Z,14nm,1.1s							
LIC	**Lamto**	**71.81**	**70**	*e*P		**P**	**00 09 08.1**	**-0.5**
	comp=Z,50nm,1.6s							
MNTX	**Cornudas Mount**	**71.87**	**328**	*e*P		**P**	**00 09 08.6**	**+0.1**
	comp=Z,16nm,2.0s							
TIC	**Toumodi**	**72.06**	**70**	*e*P		**P**	**00 09 10.1**	**0.0**
KIC	**Kosan Boka**	**72.12**	**70**	*e*P		**P**	**00 09 10.6**	**+0.2**
	comp=Z,18nm,0.8s							
DBIC	**Dimbokro**	**72.21**	**70**	P		**P**	**00 09 10.7**	**-0.2**
	comp=Z,3.5nm,0.5s,baz=213,slow=5.9,SNR=11							
FVM	**French Village**	**72.22**	**343**	*e*P		**P**	**00 09 11.0**	**+0.5**
	comp=Z,8.6nm,0.8s							
CCM	**Cathedral Cave**	**72.50**	**342**	*e*P		**P**	**00 09 12.7**	**+0.6**
	comp=Z,7.5nm,0.9s							
MSTX	**Muleshoe**	**72.69**	**331**	*e*P		**P**	**00 09 14.2**	**+0.7**
	comp=Z,11nm,0.8s							
MAW	**Mawson**	**74.56**	**163**	P		**P**	**00 09 24.4**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=252,slow=9.6,SNR=3.2							
L40A	**Anamosa**	**76.28**	**343**	*e*P		**P**	**00 09 33.9**	**0.0**
	comp=Z,18nm,0.8s							
X16A	**Lo Mia Camp, P**	**76.96**	**325**	*e*P		**P**	**00 09 40.0**	**+1.8**
	comp=Z,3.7nm,1.1s							
BOSA	**Boshof**	**78.93**	**117**	P		**P**	**00 09 48.5**	**-0.8**
	comp=Z,3.1nm,0.8s,baz=235,slow=8.5,SNR=4.7							
ECSD	**EROS Data Cent**	**79.27**	**340**	*e*P		**P**	**00 09 50.8**	**+0.3**
	comp=Z,6.0nm,0.6s							
CCUT	**Cedar City**	**80.40**	**326**	*e*P		**P**	**00 09 58.4**	**+1.4**
	comp=Z,15nm,1.6s							
TOA0	**Tomodi Ar. Sit**	**81.21**	**69**	*e*P		**P**	**00 10 01.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**81.21**	**69**	P		**P**	**00 09 59.7**	**-1.8**
	comp=Z,3.8nm,0.8s,baz=262,slow=6.5,SNR=22							
TORD				pP		**pP**	**00 10 31.7**	**+0.3**
	baz=256,slow=5.8							
PDAR	**Pinedale Array**	**82.96**	**331**	P		**P**	**00 10 09.3**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=131,slow=4.5,SNR=6.9							
YERR	**Yerington**	**84.42**	**323**	*e*P		**P**	**00 10 18.0**	**+0.2**
	comp=Z,127nm,0.7s							
YHH	**Holmes Hill**	**85.16**	**332**	*e*P		**P**	**00 10 22.5**	**+1.0**
	comp=Z,3.8nm,1.0s							
SCHQ	**Schefferville**	**86.33**	**1**	P		**P**	**00 10 26.4**	**-0.3**
	comp=Z,4.3nm,0.8s,baz=173,slow=8.1,SNR=3.6							
J08A	**Circle Bar Ran**	**87.36**	**326**	*e*P		**P**	**00 10 32.8**	**+0.7**
	comp=Z,6.1nm,0.8s							
ASAR	**Alice Springs**	**120.56**	**205**	PKP		**PKPdf**	**00 16 35.2**	**-1.5**
	comp=Z,0.9nm,0.5s,baz=134,slow=1.4,SNR=9.0							
WB2	**Warramunga Arr**	**123.79**	**207**	*e*PKPdf		**PKPdf**	**00 16 42.1**	**-0.9**
WRA	**Warramunga Arr**	**123.79**	**207**	PKP		**PKPdf**	**00 16 42.0**	**-1.0**
	comp=Z,3.3nm,0.7s,baz=156,slow=1.7,SNR=53							
SEY	**Seymchan**	**139.29**	**332**	PKP		**PKPdf**	**00 17 11.3**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=43,slow=4.2,SNR=4.6							
AAK	**Ala-Archa**	**149.36**	**59**	PKPbc		**PKPbc**	**00 17 34.6**	**+1.0**
	comp=Z,3.5nm,0.5s,baz=194,slow=2.9,SNR=20							
AAK				pPKPbc		**pPKPbc**	**00 18 03.3**	**-1.8**
	comp=Z,4.5nm,0.8s,baz=172,slow=2.5,SNR=6.1							
AAK	**Ala-Archa**	**149.36**	**59**	*e*PKPbc		**PKPbc**	**00 17 34.5**	**+1.0**
AAK				epPKPab		**pPKPbc**	**00 18 06.5**	**+1.4**
KURK	**Kurchatov**	**149.67**	**42**	*e*PKPbc		**PKPbc**	**00 17 34.2**	**+0.4**
NRN	**Naryn**	**150.64**	**61**	*e*PKPbc		**PKPbc**	**00 17 37.1**	**+0.2**
NRN				epPKPab		**pPKPbc**	**00 18 10.1**	**+1.6**
KSH	**Kashi**	**150.82**	**65**	*e*PKPbc		**PKPdf**	**00 17 31.8**	**+0.4**
ZAA0	**Zalesovo Array**	**151.12**	**32**	*e*PKPbc		**PKPbc**	**00 17 37.6**	**+0.5**
ZALV	**Zalesovo Beam**	**151.12**	**32**	PKPbc		**PKPbc**	**00 17 37.5**	**+0.3**
	comp=Z,4.3nm,0.5s,baz=292,slow=3.2,SNR=23							
ZALV				pPKPbc		**pPKPbc**	**00 18 09.2**	**+0.4**
	comp=Z,6.2nm,0.7s,baz=289,slow=3.3,SNR=11							
ZALV	**Zalesovo Beam**	**151.12**	**32**	*e*PKPbc		**PKPbc**	**00 17 37.2**	**0.0**
ZALV				epPKPab		**pPKPbc**	**00 18 09.3**	**+0.5**
MKAR	**Makanchi Array**	**153.54**	**47**	PKPbc		**PKPbc**	**00 17 42.6**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=295,slow=2.2,SNR=7.3							
MKAR				PKPab		**PKPab**	**00 17 55.9**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=300,slow=4.2,SNR=8.8							
MKAR				pPKPbc		**pPKPbc**	**00 18 15.1**	**+0.5**
	comp=Z,2.1nm,0.9s,baz=343,slow=2.5,SNR=6.0							
CMAR	**Chiang Mai Arr**	**162.91**	**138**	PKP		**PKPdf**	**00 17 47.8**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=230,slow=2.8,SNR=5.1							

*ISCJB **09** 00:00:50.3±0.4, 59°.84N±0°.03×152°.84W±0°.07, h109km±4km, mb3.9/1, Error ellipse: s-maj=5.9km s-min=4.5km az=6.3*
*IDC **09** 00:00:50.3±1.9, 59°.89N×152°.99W, h80km±30km, mb3.5/1, mb1 3.6/6, mb1mx3.2/62, mbtmp3.7/6, Error ellipse: s-maj=38.9km s-min=10.6km az=107.0*
*NEIC **09** 00:00:52.6±0.0, 59°.86N×152°.93W, h96km, ML3.2(AEIC), After AEIC.*

ISC 09 00:00:51.5±1.0, 59°.86N±0°.04×152°.87W±0°.05, h101km±7km, n72, σ0.70/79, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ILS	**Iliamna Low So**	**0.14**	**316**	P		**Pn**	**00 01 05.7**	**0.0**
IVE	**Iliamna Volcan**	**0.18**	**336**	P		**Pn**	**00 01 05.8**	**-0.1**
ILW	**Iliamna West**	**0.25**	**327**	P		**Pn**	**00 01 06.0**	**-0.1**
AUL	**Augustine Lava**	**0.56**	**211**	P		**Pn**	**00 01 07.9**	**+0.2**
AUL				S		**Sn**	**00 01 20.1**	**+0.2**
RED	**Redoubt Volcan**	**0.57**	**5**	P		**Pn**	**00 01 08.0**	**0.0**
RED				S		**Sn**	**00 01 19.8**	**-0.4**
RDWB	**Redoubt West**	**0.64**	**1**	P		**Pn**	**00 01 08.5**	**-0.1**
RDWB				S		**Sn**	**00 01 21.0**	**-0.4**
RDT	**Redoubt**	**0.76**	**18**	P		**Pn**	**00 01 09.7**	**+0.2**
CNPM	**China Poot**	**0.89**	**111**	P		**Pn**	**00 01 11.4**	**+0.6**
CNPM				S		**Sn**	**00 01 25.9**	**+0.6**
BRLK	**Bradley Lake**	**1.01**	**94**	P		**Pn**	**00 01 12.4**	**+0.4**
FONW	**Fourpeaked Sta**	**1.16**	**208**	P		**Pn**	**00 01 13.7**	**-0.1**
CKT	**Bend**	**1.39**	**13**	P		**Pn**	**00 01 16.8**	**+0.3**
SPCR	**Spurr Chakacha**	**1.39**	**13**	P		**Pn**	**00 01 16.8**	**+0.3**
SPCR				S		**Sn**	**00 01 35.4**	**0.0**
SPCG	**Spurr Capps Gl**	**1.50**	**16**	P		**Pn**	**00 01 18.3**	**+0.5**
SPNN	**North Nagishla**	**1.52**	**3**	P		**Pn**	**00 01 18.5**	**+0.4**
SEW	**Seward**	**1.74**	**80**	P		**Pn**	**00 01 20.8**	**+0.1**
KAWH	**Katmai**	**1.78**	**215**	P		**Pn**	**00 01 21.3**	**0.0**
SVW2	**Sparrevohn**	**1.83**	**314**	P		**Pn**	**00 01 21.4**	**-0.5**
SUA	**Susitna One**	**1.92**	**32**	P		**Pn**	**00 01 24.1**	**+1.0**
RC01	**Rabbit Creek A**	**1.98**	**50**	P		**Pn**	**00 01 24.6**	**+0.7**
KDAK	**Kodiak Island**	**2.08**	**176**	P		**Pn**	**00 01 24.4**	**-0.7**
	19nm,0.3s,baz=14,slow=9.2,SNR=325							
KDAK				S		**Sn**	**00 01 49.7**	**-1.1**
	26nm,0.3s,baz=144,slow=22,SNR=21							
CAHL	**Cahill**	**2.20**	**216**	P		**Pn**	**00 01 27.2**	**+0.5**
SKT	**Skwentna**	**2.23**	**16**	P		**Pn**	**00 01 27.3**	**+0.3**
PWL	**Port Wells**	**2.47**	**64**	P		**Pn**	**00 01 29.7**	**-0.4**
PMR	**Palmer**	**2.53**	**45**	P		**Pn**	**00 01 31.1**	**+0.2**
OHAK	**Old Harbor**	**2.65**	**185**	P		**Pn**	**00 01 31.6**	**-0.9**
KNK	**Knik Glacier**	**2.68**	**52**	P		**Pn**	**00 01 32.6**	**-0.3**
GHO	**Glory Hole Cre**	**2.73**	**43**	P		**Pn**	**00 01 33.5**	**-0.1**
GLI	**Glacier Island**	**3.05**	**68**	P		**Pn**	**00 01 36.3**	**-1.

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.45**	**237**	*i* P	**Pb**	**00 58 22.8**	**-0.3**
MKZ				*e*S	**Sb**	**00 58 29.3**	**-0.3**
MKZ	**Mys Kozlova**	**0.45**	**237**	PN	**Pb**	**00 58 22.8**	**-0.3**
MKZ				S	**Sb**	**00 58 29.3**	**-0.3**
TUMD	**Tumrok D**	**1.21**	**290**	*e*P	**Pn**	**00 58 34.4**	**-0.4**
TUMD				*e*S	**Sn**	**00 58 50.1**	**-0.1**
KZV	**Kizimen**	**1.24**	**285**	*i* P	**Pn**	**00 58 35.0**	**-0.3**
KZV				*e*S	**Sn**	**00 58 50.6**	**-0.7**
KZV	**Kizimen**	**1.24**	**285**	PN	**Pn**	**00 58 35.0**	**-0.3**
KZV				S	**Sn**	**00 58 50.6**	**-0.7**
TUMR	**Tumrok**	**1.37**	**291**	*i* P	**Pn**	**00 58 37.3**	**+0.2**
TUMR	**Tumrok**	**1.37**	**291**	PN	**Pn**	**00 58 37.3**	**+0.2**
KBTR	**Krutoberegovo**	**1.43**	**10**	*e*P	**Pb**	**00 58 39.1**	**-0.4**
KBTR				*e*S	**Sb**	**00 58 58.9**	**+1.6**
KBTR	**Krutoberegovo**	**1.43**	**10**	PN	**Pb**	**00 58 39.1**	**-0.4**
KBTR				S	**Sb**	**00 58 58.9**	**+1.6**
KBG	**Krutoberegovo**	**1.46**	**7**	*e*P	**Pb**	**00 58 40.0**	**-0.1**
KBG				*e*S	**Sb**	**00 58 58.9**	**+0.6**
KBG	**Krutoberegovo**	**1.46**	**7**	PN	**Pb**	**00 58 40.0**	**-0.1**
KBG				S	**Sb**	**00 58 58.9**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**1.49**	**320**	*e*P	**Pn**	**00 58 39.4**	**+0.7**
BZGR				*e*S	**Sb**	**00 58 58.7**	**-0.5**
BZGR	**Bezymyannyi-Gr**	**1.49**	**320**	PN	**Pn**	**00 58 39.4**	**+0.7**
BZGR				S	**Sb**	**00 58 58.7**	**-0.5**
ZLN	**Zelenaya**	**1.51**	**324**	*e*P	**Pb**	**00 58 39.9**	**-1.1**
ZLN	**Zelenaya**	**1.51**	**324**	PN	**Pb**	**00 58 39.9**	**-1.1**
KMNR	**Kamenistaya**	**1.55**	**309**	*e*P	**Pn**	**00 58 40.1**	**+0.5**
KMNR	**Kamenistaya**	**1.55**	**309**	PN	**Pn**	**00 58 40.1**	**+0.5**
BZMR	**Bezymyannaya**	**1.56**	**317**	*e*P	**Pn**	**00 58 40.5**	**+0.8**
BZMR	**Bezymyannaya**	**1.56**	**317**	PN	**Pn**	**00 58 40.5**	**+0.8**
BZWR	**Bezymyannyi-We**	**1.58**	**318**	*e*P	**Pn**	**00 58 40.7**	**+0.7**
BZWR	**Bezymyannyi-We**	**1.58**	**318**	PN	**Pn**	**00 58 40.7**	**+0.7**
LGNR	**Loginova**	**1.60**	**324**	*i* P	**Pb**	**00 58 42.8**	**+0.1**
LGNR				*e*S	**Sb**	**00 59 02.8**	**+0.2**
LGNR	**Loginova**	**1.60**	**324**	PN	**Pb**	**00 58 42.8**	**+0.1**
LGNR				S	**Sb**	**00 59 02.8**	**+0.2**
CIRR	**Tsirk**	**1.61**	**325**	*e*P	**Pb**	**00 58 41.3**	**-1.4**
CIRR	**Tsirk**	**1.61**	**325**	PN	**Pb**	**00 58 41.3**	**-1.4**
KPT	**Kopyto**	**1.69**	**314**	*e*P	**Pn**	**00 58 42.3**	**+0.8**
KPT	**Kopyto**	**1.69**	**314**	PN	**Pn**	**00 58 42.3**	**+0.8**
KRSR	**Krestovskiy**	**1.75**	**325**	*e*P	**Pn**	**00 58 42.8**	**+0.5**
KRSR				*e*S	**Sb**	**00 59 06.4**	**-0.3**
KRSR	**Krestovskiy**	**1.75**	**325**	PN	**Pn**	**00 58 42.8**	**+0.5**
KRSR				S	**Sb**	**00 59 06.4**	**-0.3**
KLY	**Klyuchi**	**1.80**	**328**	*e*P	**Pn**	**00 58 42.9**	**0.0**
KLY				*e*S	**Sn**	**00 59 06.3**	**+1.5**
KLY	**Klyuchi**	**1.80**	**328**	PN	**Pn**	**00 58 42.9**	**0.0**
KLY				S	**Sn**	**00 59 06.3**	**+1.5**
SMKR	**Semkarok**	**1.85**	**344**	*e*P	**Pn**	**00 58 44.5**	**+0.8**
SMKR	**Semkarok**	**1.85**	**344**	PN	**Pn**	**00 58 44.5**	**+0.8**
KII	**Karymskiy**	**1.88**	**247**	*e*P	**Pn**	**00 58 44.3**	**+0.3**
KII				*e*S	**Sn**	**00 59 07.9**	**+1.1**
KII	**Karymskiy**	**1.88**	**247**	PN	**Pn**	**00 58 44.3**	**+0.3**
KII				S	**Sn**	**00 59 07.9**	**+1.1**
BDR	**Baidarnaya**	**1.89**	**340**	*e*P	**Pn**	**00 58 45.3**	**+1.2**
BDR	**Baidarnaya**	**1.89**	**340**	PN	**Pn**	**00 58 45.3**	**+1.2**
KOZ	**Kozyrevsk**	**1.90**	**312**	*e*P	**Pn**	**00 58 45.5**	**+1.2**
KOZ				*e*S	**Sb**	**00 59 11.2**	**+0.3**
KOZ	**Kozyrevsk**	**1.90**	**312**	PN	**Pn**	**00 58 45.5**	**+1.2**
KOZ				S	**Sb**	**00 59 11.2**	**+0.3**
SRKR	**Sorokina**	**1.98**	**340**	*e*P	**Pn**	**00 58 46.2**	**+0.9**
SRKR	**Sorokina**	**1.98**	**340**	PN	**Pn**	**00 58 46.2**	**+0.9**
BKI	**Bering**	**2.11**	**78**	*e*P	**Pn**	**00 58 47.9**	**+0.9**
BKI				*e*S	**Sn**	**00 59 12.2**	**-0.1**
BKI	**Bering**	**2.11**	**78**	PN	**Pn**	**00 58 47.9**	**+0.9**
BKI				S	**Sn**	**00 59 12.2**	**-0.1**
SPN	**Mys Shipunski**	**2.21**	**220**	*e*P	**Pn**	**00 58 46.9**	**-1.5**
SPN				*e*S	**Sn**	**00 59 11.6**	**-3.2**
SPN	**Mys Shipunski**	**2.21**	**220**	PN	**Pn**	**00 58 46.9**	**-1.5**
SPN				S	**Sn**	**00 59 11.6**	**-3.2**
ESO	**Esso**	**2.38**	**300**	*e*P	**Pn**	**00 58 51.6**	**+0.7**
ESO	**Esso**	**2.38**	**300**	PN	**Pn**	**00 58 51.6**	**+0.7**
NLC	**Nalytchevo**	**2.43**	**229**	*e*P	**Pn**	**00 58 50.9**	**-0.6**
NLC				*e*S	**Sn**	**00 59 21.3**	**+1.1**
NLC	**Nalytchevo**	**2.43**	**229**	PN	**Pn**	**00 58 50.9**	**-0.6**
NLC				S	**Sn**	**00 59 21.3**	**+1.1**
SDLR	**Sedlovina**	**2.57**	**235**	*i* P	**Pn**	**00 58 53.8**	**+0.3**
SDLR	**Sedlovina**	**2.57**	**235**	PN	**Pn**	**00 58 53.8**	**+0.3**
SMAR	**Somma**	**2.62**	**235**	*i* P	**Pn**	**00 58 55.0**	**+0.7**
SMAR	**Somma**	**2.62**	**235**	PN	**Pn**	**00 58 55.0**	**+0.7**
KRX	**Arik**	**2.63**	**238**	*e*P	**Pn**	**00 58 56.3**	**+1.9**
KRX				*e*S	**Sn**	**00 59 28.9**	**+3.4**
KRX	**Arik**	**2.63**	**238**	PN	**Pn**	**00 58 56.3**	**+1.9**
KRX				S	**Sn**	**00 59 28.9**	**+3.4**
UGLR	**Uglovaya**	**2.64**	**234**	*i* P	**Pn**	**00 58 55.4**	**+0.9**
UGLR	**Uglovaya**	**2.64**	**234**	PN	**Pn**	**00 58 55.4**	**+0.9**
AVH	**Avacha**	**2.65**	**236**	*i* P	**Pn**	**00 58 55.8**	**+1.3**
AVH	**Avacha**	**2.65**	**236**	PN	**Pn**	**00 58 55.8**	**+1.3**
KOK	**Koryaka**	**2.68**	**237**	*i* P	**Pn**	**00 58 56.0**	**+1.0**
KOK	**Koryaka**	**2.68**	**237**	PN	**Pn**	**00 58 56.0**	**+1.0**
DALK	**Dalny**	**2.79**	**232**	*e*S	**Sn**	**00 59 30.2**	**+1.1**
GNL	**Ganaly**	**2.83**	**249**	*i* P	**Pn**	**00 58 58.4**	**+1.3**
GNL	**Ganaly**	**2.83**	**249**	PN	**Pn**	**00 58 58.4**	**+1.3**
PET	**Petropavlovsk**	**2.84**	**233**	*i* P	**Pn**	**00 58 57.9**	**+0.8**
PET				*e*S	**Sn**	**00 59 29.5**	**-0.8**
PET	**Petropavlovsk**	**2.84**	**233**	*e*PN	**Pn**	**00 58 58.8**	**+1.7**
PET				*e*S	**Sn**	**00 59 31.8**	**+1.5**
PET				pmax	pmax		
	comp=Z,102nm,0.4s						
PET				smax	smax		
	comp=N,380nm,0.6s						
PET				smax	smax		
	comp=E,321nm,0.4s						
KRMR	**Karymshinskiy**	**3.20**	**234**	*e*P	**Pn**	**00 59 03.6**	**+1.5**
KRMR				*e*S	**Sn**	**00 59 41.7**	**+2.3**
KRMR	**Karymshinskiy**	**3.20**	**234**	PN	**Pn**	**00 59 03.6**	**+1.5**
KRMR				S	**Sn**	**00 59 41.7**	**+2.3**
PETK	**Petropavlovsk-**	**3.25**	**240**	Pn	**Pn**	**00 59 02.8**	**+0.1**
	comp=E,7.8nm,0.3s,baz=68,slow=18,SNR=54						
PETK				Sn	**Sn**	**00 59 41.9**	**+1.4**
	baz=91,slow=19						
PETK				LR	LR	01 00 23.4	
	comp=E,75nm,21.5s,baz=64,slow=42						
RUS	**Russkaya**	**3.31**	**226**	*e*P	**Pn**	**00 59 04.7**	**+1.1**
RUS				*e*S	**Sn**	**00 59 42.5**	**+0.5**
RUS	**Russkaya**	**3.31**	**226**	PN	**Pn**	**00 59 04.7**	**+1.1**
RUS				S	**Sn**	**00 59 42.5**	**+0.5**
MTVR	**Mutnovka**	**3.41**	**229**	*e*P	**Pn**	**00 59 06.3**	**+1.1**
MTVR				*e*S	**Sn**	**00 59 48.3**	**+3.5**
MTVR	**Mutnovka**	**3.41**	**229**	PN	**Pn**	**00 59 06.3**	**+1.1**
MTVR				S	**Sn**	**00 59 48.3**	**+3.5**
APC	**Apacha**	**3.62**	**241**	*e*P	**Pn**	**00 59 11.1**	**+3.3**
APC				*e*S	**Sn**	**00 59 53.5**	**+3.9**
APC	**Apacha**	**3.62**	**241**	PN	**Pn**	**00 59 11.1**	**+3.3**
APC				S	**Sn**	**00 59 53.7**	**+3.9**
KDTR	**Khodutka, Kamc**	**3.96**	**222**	*e*P	**Pn**	**00 59 14.7**	**+2.2**
MA2	**Magadan**	**7.91**	**312**	LR	LR	01 03 26.2	
	comp=E,40nm,21.3s,baz=80,slow=41						
MJAR	**Matsushiro Arr**	**24.67**	**232**	P	**P**	**01 03 32.2**	**+0.2**
	comp=E,1.2nm,0.3s,baz=17,slow=7.2,SNR=4.0						
H11N2	**WAKE ISLAND Hy 35.18**	**173**		T	T	01 42 24.9	
	baz=356,slow=76,SNR=79						
H11N3	**WAKE ISLAND Hy 35.20**	**173**		T	T	01 42 24.3	
	baz=356,slow=76,SNR=82						
H11N1	**WAKE ISLAND Hy 35.20**	**173**		T	T	01 42 24.6	
	baz=356,slow=76,SNR=116						
MKAR	**Makanchi Array**	**48.63**	**296**	P	**P**	**01 06 53.0**	**-1.7**
	comp=E,0.4nm,0.8s,baz=64,slow=6.9,SNR=3.5						
FINES	**FINESS Array B**	**59.07**	**337**	P	**P**	**01 08 09.4**	**-1.3**
	comp=E,2.5nm,0.9s,baz=27,slow=6.1,SNR=11						
AKASG	**Malin Array Be**	**67.82**	**330**	P	**P**	**01 09 07.1**	**-1.6**
	comp=E,0.4nm,0.3s,baz=12,slow=1.4,SNR=2.2						
TXAR	**Lajitas Array**	**68.74**	**69**	P	**P**	**01 09 17.2**	**+2.2**
	comp=E,0.2nm,0.6s,baz=302,slow=5.1,SNR=3.4						
BRTR	**Keskin Array B**	**76.14**	**322**	P	**P**	**01 09 58.7**	**-0.2**
	comp=E,0.7nm,1.0s,baz=52,slow=5.7,SNR=2.8						
WRA	**Warramunga Arr**	**78.22**	**207**	P	**P**	**01 10 10.1**	**-0.4**
	comp=E,0.2nm,0.8s,baz=17,slow=6.1,SNR=3.0						

*ISCJB **09** 01:10:07.9±0.6,39.°14N×29.°06E±0.°05,h2km±7km, Error ellipse: s-maj=6.8km s-min=5.3km az=14.8*
*DDA **09** 01:10:07.8,39.°15N×29.°07E,h7km,Ml2.5*
*ISK **09** 01:10:07.0,39.°08N×29.°18E,h7km,ML2.4/4*

ISC 09 01:10:07.8±1.2, 39.°13N±0.°03×29.°13E±0.°04, h5km±12km, n14, σ0°96/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMAA	**Simav-Kutahya**	**0.12**	**258**	PG	**Pg**	**01 10 10.9**	**+0.7**
GDZ	**Gediz**	**0.28**	**98**	*i* P	**Pn**	**01 10 17.0**	**-1.7**
DEMI	**Demirci**	**0.33**	**256**	*i* P	**Pg**	**01 10 14.3**	**+0.1**
TVSB	**Tavsanli**	**0.41**	**38**	PG	**Pg**	**01 10 16.1**	**+0.3**
TVSB				SG	**Sg**	**01 10 21.8**	**+0.6**
KULA	**Kula-Manisa**	**0.71**	**211**	PG	**Pg**	**01 10 21.0**	**-0.4**
KULA				SG	**Sg**	**01 10 30.7**	**0.0**
MANT	**Manisa**	**0.78**	**215**	*i* P	**Pg**	**01 10 22.6**	**0.0**
KHAL	**Karahalli**	**0.81**	**159**	*i* P	**Pb**	**01 10 24.0**	**-0.3**
KHAL				*i* S	**Sb**	**01 10 35.2**	**-0.3**
KZIL	**AFYON_Kizioren**	**1.17**	**137**	*i* P	**Pn**	**01 10 31.5**	**+0.5**
KZIL				*i* S	**Sn**	**01 10 48.6**	**+1.2**
MDNY	**Mudanya-Bursa**	**1.26**	**351**	PN	**Pn**	**01 10 31.4**	**-0.6**
BORA	**Eskisehir**	**1.27**	**53**	*i* P	**Sn**	**01 10 52.1**	**+2.3**
GONE	**Gonen-Balikesi**	**1.45**	**310**	PN	**Pb**	**01 10 34.8**	**-0.4**
YLV	**Yalova**	**1.45**	**7**	PN	**Pb**	**01 10 35.2**	**-0.1**
ARMT	**Armutlu**	**1.45**	**352**	PN	**Pg**	**01 10 35.2**	**-0.4**
GULT	**Gulveren**	**1.69**	**39**	PN	**Pb**	**01 10 38.3**	**-1.0**

MEX 09 01:40:00.8±0.5, 16.°28N×98.°04W, h9km±5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.14**	**324**	*i* P	Pg	01 40 03.3	-0.6
PNIG				*i* S	Sg	01 40 05.8	-0.2
TLIG	**Tlapa**	**1.37**	**339**	*e*P	Pn	01 40 22.1	-4.2
TLIG				*e*S	Sb	01 40 39.4	-5.0

*DRS **09** 01:49:44.9±0.0,41.°65N×46.°33E,h10km*
*AZER **09** 01:49:45.8±0.5,41.°64N×46.°32E,h8km,ml3.2/24, Error ellipse: s-maj=1.6km s-min=0.6km az=338.0*
*NSSP **09** 01:49:46.1,41.°63N×46.°32E,h8km,Ms3.4*
*MOS **09** 01:49:46.6±0.0,41.°69N×46.°36E,h10km,MPVA4.3*
*NORS **09** 01:49:47.1±0.0,41.°71N×46.°41E,h8km,MPVA4.0*
*TIF **09** 01:49:47.6,41.°83N×46.°39E,h18km*
*DDA **09** 01:49:51.5,41.°66N×46.°04E,h6km,Ml3.3*

ISC 09 01:49:48.3±1.0, 41.°68N±0.°01×46.°34E±0.°01, h3km±8km, n116, σ1°33/193, 37C-24D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LGD	**Lagodekhi**	**0.17**	**335**	P	**Pg**	**01 49 51.9**	**+0.1**
LGD				S	**Sg**	**01 49 55.0**	**+0.9**
ZKTA	**Zakatala**	**0.21**	**100**	PG	**Pg**	**01 49 52.6**	**+0.1**
ZKTA	**Zakatala**	**0.21**	**100**	⇑P	**Pg**	**01 49 52.6**	**+0.1**
	SNR=1968						
ZKTA				⇓S	**Sg**	**01 49 56.3**	**+1.0**
DDFL	**Dedoflistskaro**	**0.28**	**216**	P	**Pb**	**01 49 57.0**	**+0.9**
DDFL				S	**Sb**	**01 50 04.0**	**+2.7**
KMKR	**Kumukh**	**0.72**	**51**	*i* PG	**Pg**	**01 50 01.5**	**-0.8**
KMKR				*i* S	**Sg**	**01 50 12.0**	**+0.3**
KMKR				pmax	pmax		
	comp=Z,470nm,0.2s						
KMKR	**Kumukh**	**0.72**	**51**	*i* Pg	**Pg**	**01 50 01.5**	**-0.8**
KMKR				*i* Sg	**Sg**	**01 50 12.0**	**+0.3**
DGRG	**David-gareji**	**0.76**	**253**	*e*PG	Pn	01 50 12.2	+6.2
SEKA	**Sheki**	**0.80**	**126**	PG	**Pg**	**01 50 03.0**	**-0.6**
SEKA	**Sheki**	**0.80**	**126**	⇑P	**Pg**	**01 50 03.1**	**-0.5**
	SNR=221						
SEKA				⇓S	**Sn**	**01 50 16.2**	**-2.6**
XNZR	**Khunzakh**	**0.91**	**17**	*e*PG	**Pg**	**01 50 05.1**	**-0.7**
XNZR				*e*		01 50 16.9	
XNZR	**Khunzakh**	**0.91**	**17**	*i* Pg	**Pg**	**01 50 05.0**	**-0.7**
XNZR				*e*Sg	**Sg**	**01 50 17.7**	**+0.2**
QZX	**Qazax, Azerbai**	**0.96**	**230**	⇓P	**Pg**	**01 50 06.0**	**-0.7**
	SNR=19						
QZX				⇓S	**Sb**	**01 50 20.3**	**-0.3**
BTLR	**Botlikh**	**0.99**	**355**	*e*PG	**Pg**	**01 50 06.4**	**-0.9**
BTLR				*e*S	**Sg**	**01 50 19.3**	**-0.9**
BTLR	**Botlikh**	**0.99**	**355**	*e*Pg	**Pg**	**01 50 06.4**	**-0.9**
BTLR				*e*Sg	**Sg**	**01 50 19.3**	**-0.9**
GANJ	**Ganja**	**1.03**	**181**	PG	**Pg**	**01 50 07.2**	**-0.8**
GANJ	**Ganja**	**1.03**	**181**	⇓P	**Pg**	**01 50 07.1**	**-1.0**
	SNR=102						
GANJ				⇑S	**Sb**	**01 50 21.8**	**-0.9**
ARKR	**Arakani**	**1.04**	**27**	⇓*i* PG	**Pg**	**01 50 07.5**	**-0.9**
ARKR				*i* S	**Sg**	**01 50 22.0**	**+0.1**
ARKR				pmax	pmax		
	comp=Z,199nm,0.2s						
ARKR	**Arakani**	**1.04**	**27**	*i* Pg	**Pg**	**01 50 07.5**	**-0.9**
ARKR				*i* Sg	**Sg**	**01 50 22.0**	**+0.1**
GDB	**GEDABAY**	**1.05**	**205**	⇑P	**Pg**	**01 50 07.0**	**-1.4**
	SNR=1235						
GDB				⇑S	**Sg**	**01 50 22.4**	**+0.2**
AKT	**Akhty**	**1.06**	**100**	*e*PG	**Pg**	**01 50 07.3**	**-1.3**
AKT				*e*S	**Sn**	**01 50 23.6**	**-1.8**
AKT	**Akhty**	**1.06**	**100**	*e*Pg	**Pg**	**01 50 07.3**	**-1.3**
AKT				*e*Sg	**Sn**	**01 50 23.6**	**-1.8**
MNGR	**Mingechevir, A**	**1.06**	**148**	PG	**Pg**	**01 50 08.5**	**-0.2**
MNGR	**Mingechevir, A**	**1.06**	**148**	⇑P	**Pg**	**01 50 08.3**	**-0.4**
	SNR=17						
MNGR				⇑S	**Sn**	**01 50 25.5**	**+0.2**
URKR	**Urkarakh**	**1.08**	**63**	⇑*i* PG	**Pg**	**01 50 08.4**	**-0.6**
URKR				*e*		01 50 23.4	
URKR	**Urkarakh**	**1.08**	**63**	*i* Pg	**Pg**	**01 50 08.5**	**-0.5**
URKR				*e*Sg	**Sb**	**01 50 23.4**	**-0.9**
SEAG	**Tbilisi Sea**	**1.16**	**275**	P	**Pb**	**01 50 09.9**	**-1.0**
SEAG				S	**Sn**	**01 50 26.0**	**-0.9**
TBLG	**Delisi**	**1.20**	**273**	*e*P	**Pn**	**01 50 09.4**	**-2.6**
TBLG	**Delisi**	**1.20**	**273**	P	**Pn**	**01 50 10.4**	**-1.7**
TBLG				S	**Sn**	**01 50 27.9**	**-1.0**
TBLG	**Delisi**	**1.20**	**273**	*e*PG	**Pn**	**01 50 10.3**	**-1.7**
TBLG				*e*S	**Sn**	**01 50 27.8**	**-1.0**
TBLG	**Delisi**	**1.20**	**273**	*e*Pg	**Pn**	**01 50 10.4**	**-1.7**
TBLG				*e*Sg	**Sn**	**01 50 27.9**	**-1.0**
KRNR	**Karanay**	**1.22**	**20**	*e*PG	**Pn**	**01 50 10.5**	**-1.9**
KRNR				*e*S	**Sn**	**01 50 29.5**	**0.0**
KRNR				pmax	pmax		
	comp=Z,57nm,0.4s						
KRNR	**Karanay**	**1.22**	**20**	*e*Pg	**Pn**	**01 50 10.5**	**-1.9**
KRNR				*e*Sg	**Sn**	**01 50 29.5**	**0.0**
BUJR	**Buynaksk**	**1.28**	**26**	*i* PG	**Pn**	**01 50 12.5**	**-0.6**
BUJR				*e*S	**Sg**	**01 50 31.0**	**+1.5**
BUJR				pmax	pmax		
	comp=Z,136nm,0.2s						
BUJR	**Buynaksk**	**1.28**	**26**	*i* Pg	**Pn**	**01 50 12.5**	**-0.6**
BUJR				*e*Sg	**Sg**	**01 50 31.0**	**+1.5**
DVE	**Vedeno**	**1.29**	**353**	*i* PG	**Pn**	**01 50 11.9**	**-1.3**
DVE				*e*S	**Sb**	**01 50 29.7**	**-0.5**
DVE				pmax	pmax		
	comp=Z,55nm,0.3s						
DVE				smax	smax		
	comp=N,241nm,0.5s						
DVE	**Vedeno**	**1.29**	**353**	*e*Pg	**Pn**	**01 50 12.0**	**-1.3**
DVE				*e*Sg	**Sn**	**01 50 29.9**	**-1.1**
DUS	**Dusheti**	**1.29**	**289**	P	**Pn**	**01 50 12.2**	**-1.1**
DUS				S	**Sg**	**01 50 30.9**	**+1.1**
DUS	**Dusheti**	**1.29**	**289**	*e*Pg	**Pn**	**01 50 12.2**	**-1.1**
DUS				*e*Sg	**Sg**	**01 50 30.9**	**+1.1**
QBL	**Gabala**	**1.34**	**122**	⇑P	**Pn**	**01 50 12.6**	**-1.3**
	SNR=4.8						
QBL				⇑S	**Sg**	**01 50 32.8**	**+1.4**
DBC	**Dubki**	**1.39**	**15**	⇑*i* PG	**Pg**	**01 50 15.8**	**+0.8**
DBC				*i* S	**Sg**	**01 50 34.4**	**+1.4**
DBC				pmax	pmax		
	comp=Z,39nm,0.3s						
DBC	**Dubki**	**1.39**	**15**	*i* Pg	**Pg**	**01 50 15.8**	**+0.8**
DBC				*i* Sg	**Sg**	**01 50 34.4**	**+1.4**
XNQ	**Khinaliq**	**1.44**	**110**	⇑Pn	**Pn**	**01 50 14.2**	**-1.3**
	SNR=9.1						
XNQ				⇑Sn	**Sg**	**01 50 35.8**	**+1.1**
QSAR	**Qusar**	**1.45**	**96**	⇓Pn	**Pn**	**01 50 14.6**	**-0.8**
	SNR=46						
QSAR				⇑Sn	**Sg**	**01 50 38.4**	**+3.5**
KZRT	**Kazreti**	**1.49**	**259**	P	**Pn**	**01 50 14.2**	**-1.7**
KZRT				S	**Sn**	**01 50 34.3**	**-1.5**
DRN	**Derbent**	**1.53**	**76**	⇑*e*PG	**Pg**	**01 50 18.1**	**+0.5**
DRN				*e*		01 50 38.4	
DRN				pmax	pmax		
	comp=Z,101nm,0.6s						
DRN				smax	smax		
	comp=N,188nm,0.6s						
DRN	**Derbent**	**1.53**	**76**	*e*Pg	**Pg**	**01 50 17.1**	**-0.5**
DRN				*e*Sg	**Sg**	**01 50 38.5**	**+1.2**
BRDA	**Brd**	**1.55**	**156**	⇓Pn	**Pb**	**01 50 17.1**	**-0.5**
	SNR=5.0						
BRDA				⇑Sn	**Sg**	**01 50 41.2**	**+3.2**
MAK	**Makhachkala**	**1.55**	**34**	*e*PG	**Pn**	**01 50 14.9**	**-1.7**
MAK				*e*		01 50 40.2	
MAK				pmax	pmax		
	comp=Z,95nm,0.3s						
MAK				smax	smax		
	comp=N,498nm,0.5s						
MAK				smax	smax		
	comp=N,454nm,0.6s						
MAK	**Makhachkala**	**1.55**	**34**	*e*Pg	**Pn**	**01 50 15.0**	**-1.7**
MAK				*e*Sg	**Sg**	**01 50 40.3**	**+2.3**
VADZ	**Vardenis**	**1.57**	**197**	⇓*i* P	**Pb**	**01 50 16.7**	**-0.5**
VADZ				⇑*i* S	**Sg**	**01 50 38.5**	**-0.2**
GROC	**Groznyy**	**1.58**	**345**	*e*PG	**Pg**	**01 50 18.7**	**+0.1**
GROC				*e*S	**Sg**	**01 50 41.0**	**+2.0**
GROC	**Groznyy**	**1.58**	**345**	*e*Pg	**Pg**	**01 50 18.4**	**-0.2**
GROC				*e*Sg	**Sg**	**01 50 40.8**	**+1.8**
IML	**Ismayilli**	**1.64**	**122**	⇓Pn	**Pn**	**01 50 17.6**	**-0.5**
IML				⇓Sn	**Sg**	**01 50 42.5**	**+1.4**
QUBA	**Quba, Azerbaij**	**1.65**	**101**	⇑Pn	**Pb**	**01 50 18.6**	**-0.7**
QUBA				⇑Sn	**Sg**	**01 50 43.6**	**+2.4**
ZRD	**Zardab**	**1.73**	**144**	⇑Pn	**Pb**	**01 50 19.5**	**-1.1**
ZRD				⇓Sn	**Sg**	**01 50 45.3**	**+1.6**
KDMR	**Kurdemir**	**1.91**	**132**	⇑Pn	**Pb**	**01 50 22.2**	**-1.4**
KDMR				⇓Sn	**Sg**	**01 50 49.4**	**-0.1**
PQL	**Pirkuli**	**1.92**	**117**	⇓Pn	**Pb**	**01 50 22.2**	**-1.7**
PQL				⇑Sn	**Sg**	**01 50 50.1**	**+0.2**
GNI	**Garni**	**1.95**	**219**	*e*P	**Pn**	**01 50 22.6**	**+0.1**
GNI	**Garni**	**1.95**	**219**	⇓*i* P	**Pn**	**01 50 22.6**	**+0.2**
GNI				⇑*i* S	**Sb**	**01 50 49.1**	**-0.2**
GNI	**Garni**	**1.95**	**219**	*d i* PN	**Pb**	**01 50 23.3**	**-1.2**
GNI	**Garni**	**1.95**	**219**	*e*Pg	**Pb**	**01 50 23.3**	**-1.2**
SIZA	**Siyzn**	**2.02**	**106**	⇓Pn	**Pn**	**01 50 23.5**	**+0.3**
SIZA				⇓Sn	**Sg**	**01 50 55.6**	**+2.6**
BGD	**Bogdanovka**	**2.10**	**260**	P	**Pn**	**01 50 24.8**	**+0.3**
BGD				S	**Sb**	**01 50 52.6**	**-1.2**
ATGJ	**Altiaghaj**	**2.12**	**112**	⇑Pn	**Pb**	**01 50 25.5**	**-1.8**
ZEI	**Tsey**	**2.13**	**302**	*e*PN	**Pn**	**01 50 25.3**	**+0.4**
ZEI				*e*S	**Sb**	**01 50 54.1**	**-0.3**
ZEI	**Tsey**	**2.13**	**302**	*e*Pg	**Pn**	**01 50 25.3**	**+0.4**
ZEI				*e*Sg	**Sb**	**01 50 54.1**	**-0.3**
ARNR	**Ardon**	**2.14**	**315**	*e*PN	**Pb**	**01 50 27.4**	**-0.3**
ARNR				*e*S	**Sg**	**01 50 57.8**	**+0.7**
ARNR	**Ardon**	**2.14**	**315**	*e*Pg	**Pb**	**01 50 25.9**	**-1.8**
ARNR				*e*Sg	**Sb**	**01 50 54.2**	**-0.4**
AKH	**Akhalkalaki**	**2.15**	**264**	*e*P	**Pn**	**01 50 25.5**	**+0.3**
AKH	**Akhalkalaki**	**2.15**	**264**	P	**Pn**	**01 50 25.5**	**+0.3**
AKH				S	**Sb**	**01 50 54.0**	**-1.3**
AKH	**Akhalkalaki**	**2.15**	**264**	*e*PN	**Pn**	**01 50 25.5**	**+0.3**
AKH				*e*S	**Sb**	**01 50 53.9**	**-1.3**
AKH	**Akhalkalaki**	**2.15**	**264**	*e*Pg	**Pn**	**01 50 25.5**	**+0.3**
AKH				*e*Sg	**Sb**	**01 50 54.0**	**-1.3**
BTKR	**Batakoyurt**	**2.15**	**322**	*e*PN	**Pg**	**01 50 30.5**	**+0.9**
BTKR				*e*S	**Sg**	**

comp=N,7315µm,0.4s
GVD AML AML 02 12 27.9
comp=E,5230µm,0.7s
GVD Gavdhos 1.07 109 P **Pg 02 12 01.8 -0.7**
KYTH Kithira 1.08 8 P **Pg 02 12 02.5 -0.2**
KYTH AML AML 02 12 27.5
comp=E,4784µm,0.7s
KYTH AML AML 02 12 28.5
comp=N,4351µm,0.7s
KYTH Kithira 1.08 8 P **Pg 02 12 02.5 -0.2**
VAM Vamos 1.12 79 P **Pg 02 12 02.6 -0.8**
VAM AML AML 02 12 32.0
comp=E,5648µm,0.6s
VAM AML AML 02 12 33.1
comp=N,7224µm,0.8s
VAM Vamos 1.12 79 P **Pb 02 12 03.0 +0.4**
VAM S **Sn 02 12 19.4 +1.9**
MNVA Monemvasia 1.49 6 P **Pn 02 12 09.3 +1.5**
VLI Veliai 1.52 2 P **Pg 02 12 11.2 +0.2**
VLI S **Sg 02 12 30.5 -0.4**
VLI AML AML 02 12 39.7
comp=N,2699µm,0.5s
VLI AML AML 02 12 41.1
comp=E,3727µm,0.8s
VLI Veliai 1.52 2 P **Pb 02 12 10.5 +1.0**
VLI S **Sg 02 12 32.3 +1.4**
SIVA Sivas 1.61 96 P **Pg 02 12 12.3 -0.5**
SIVA AML AML 02 12 53.0
comp=E,5108µm,0.7s
SIVA AML AML 02 12 53.3
comp=N,4070µm,0.8s
SIVA Sivas 1.61 96 P **Pb 02 12 11.5 +0.5**
DYR Agios Nikonas 1.62 345 P **Pb 02 12 12.9 +1.7**
DYR AML AML 02 12 49.4
comp=N,1118µm,0.9s
DYR AML AML 02 12 49.7
comp=E,1334µm,0.8s
DYR Agios Nikonas 1.62 345 P **Pn 02 12 12.2 +2.7**
DYR S **Sg 02 12 34.6 +0.5**
IDI Anoyia 1.67 86 P **Pb 02 12 12.1 +0.1**
comp=E,16nm,0.3s,baz=280,slow=15,SNR=22
IDI LR LR 02 13 14.4
comp=E,218nm,20.0s,baz=269,slow=57
IDI Anoyia 1.67 86 P **Pb 02 12 12.9 +0.9**
PYL PYLOS 1.92 332 P **Pb 02 12 17.8 +1.5**
PYL PYLOS 1.92 332 P **Pn 02 12 15.8 +2.1**
MHLO Agia Marina, M 1.95 40 P **Pb 02 12 17.6 +0.9**
MHLO Agia Marina, M 1.95 40 P **Pb 02 12 16.5 -0.3**
MHLA Plaka, Milos I 2.00 39 P **Pb 02 12 17.9 +0.3**
ITM Ithomi 2.12 339 P **Pb 02 12 21.1 +1.4**
ITM Ithomi 2.12 339 P **Pn 02 12 19.6 +3.2**
LAST Lasithi 2.15 90 P **Pb 02 12 20.5 +0.2**
VLX Vlachokerasia 2.20 350 P **Pb 02 12 22.3 +1.1**
YDRA Hydra 2.20 13 P **Pb 02 12 22.0 +0.8**
NPS Neapolis 2.25 88 P **Pb 02 12 21.6 -0.4**
DID Didima 2.33 7 P **Pb 02 12 23.7 +0.5**
DID Didima 2.33 7 P **Pn 02 12 22.2 +2.9**
IOSP Ios island 2.49 52 P **Pn 02 12 23.7 +2.2**
AMT Artemida-Makis 2.51 339 P **Pb 02 12 26.9 +0.5**
AMT Artemida-Makis 2.51 339 P **Pn 02 12 25.4 +3.6**
VLY Voula,Athens 2.75 16 P **Pn 02 12 28.3 +3.2**
LTK Loutraki 2.82 2 P **Pn 02 12 29.3 +3.2**
ATH Athens Observa 2.85 14 P **Pn 02 12 30.3 +3.8**
APE Apeiranthos 2.86 48 P **Pn 02 12 29.2 +2.6**
KLV Kalavryta, Ach 2.90 349 P **Pn 02 12 31.2 +4.0**
KLV Kalavryta, Ach 2.90 349 P **Pn 02 12 31.0 +3.8**
DRO Drossia 2.90 342 P **Pn 02 12 30.8 +3.6**
PTL Penteli 2.96 16 P **Pn 02 12 30.9 +2.9**
RLS Riolos of Patr 3.07 339 P **Pn 02 12 33.5 +4.1**
SERG Sergoula 3.27 349 P **Pn 02 12 36.9 +4.6**
EFP Efpalio 3.31 347 P Pn 02 12 37.8 +5.0
LKR Lokris 3.45 2 P **Pn 02 12 38.7 +4.0**
LKR Lokris 3.45 2 P **Pn 02 12 37.5 +2.8**
ANX Ano Chora 3.47 348 P **Pn 02 12 39.5 +4.4**
ANX Ano Chora 3.47 348 P **Pn 02 12 39.0 +3.9**
PVO Paravola 3.58 343 P **Pn 02 12 40.7 +4.3**
EVR Evrytania 3.81 348 P Pn 02 12 44.8 +5.1
AGG Agios Georgios 3.84 354 P **Pn 02 12 44.0 +3.9**
AGG Agios Georgios 3.84 354 P **Pn 02 12 43.2 +3.1**
AOS Alonnisos 4.05 11 P **Pn 02 12 46.2 +3.3**
CHOS Chios island 4.09 38 P **Pn 02 12 47.6 +4.0**
NEO Neokhori 4.11 4 P **Pn 02 12 47.4 +3.6**
BIA Bitola 5.94 349 *i* Pn **Pn 02 13 11.4 +2.5**
BIA *e*Sn **Sn 02 14 18.2 +1.7**
VAY Valandovo 6.12 358 *e*Pn **Pn 02 13 14.3 +3.0**
OHR Ohrid 6.12 345 *i* Pn **Pn 02 13 11.4 0.0**
TIP Timpagrande 6.29 311 ⇓ *i*Pn **Pn 02 13 15.6 +1.9**
KRUS Krusevo 6.29 349 *i* Pn **Pn 02 13 15.5 +1.7**
STIP Stip 6.51 356 *i* Pn **Pn 02 13 20.2 +3.5**
TIR Tirane 6.58 340 ⇑ *i*P **Pn 02 13 17.6 0.0**
SKO Skopje 6.86 351 *i* Pn **Pn 02 13 21.9 +0.4**
MATE Matera 7.30 320 ⇑ *i*P **Pn 02 13 28.4 +0.9**
ULC Ulcinj 7.32 338 ⇓ *i*Pn **Pn 02 13 27.7 -0.2**
ULC *e*Sn **Sn 02 14 46.2 -4.4**
VTS Vitosha 7.39 2 ⇑ *i*P Pn 02 13 36.9 +8.0
SG1 Sgolgore (BA) 7.45 321 *e*P **Pn 02 13 31.3 +1.7**
SG1 S **Sn 02 14 51.9 -1.8**
DRME Dracevica, Mon 7.55 339 ⇑ *i*Pn **Pn 02 13 30.5 -0.4**
DRME *e*Sn **Sn 02 14 51.6 -4.4**
DRME Dracevica, Mon 7.55 339 *e*Pn **Pn 02 13 30.3 -0.6**
BAI Bari 7.55 323 *e*P **Pn 02 13 32.6 +1.7**
PVY Plav 7.72 344 ⇑ *i*Pn **Pn 02 13 33.9 +0.4**
PVY *e*Sn **Sn 02 14 56.1 -4.5**
BUM Brajici-Budva 7.74 338 ⇑ *i*Pn **Pn 02 13 33.1 -0.5**
BUM *e*Sn **Sn 02 14 57.2 -3.7**
PDG Podgorica 7.75 340 ⇑ *i*P **Pn 02 13 34.6 +0.8**
PDG Podgorica 7.75 340 *e*Pn **Pn 02 13 33.5 -0.2**
TTG Podgorica 7.75 340 ⇓ *i*Pn **Pn 02 13 34.5 +0.8**
TTG *e*Sn **Sn 02 14 56.9 -4.1**
CEME Cevo 7.96 338 ⇑ *i*Pn **Pn 02 13 36.4 -0.2**
CEME *e*Sn **Sn 02 15 01.9 -4.3**
HCY Herceg Novi 8.00 336 ⇓ *i*Pn **Pn 02 13 36.9 -0.3**
HCY *e*Sn **Sn 02 15 03.3 -3.9**
HCY Herceg Novi 8.00 336 *e*Pn **Pn 02 13 37.5 +0.3**
IVA Berane 8.00 344 ⇑ *i*Pn **Pn 02 13 37.5 +0.2**
IVA *e*Sn **Sn 02 15 02.8 -4.6**
KOME Kolasin 8.07 342 ⇑ *i*Pn **Pn 02 13 38.6 +0.4**
KOME *e*Sn **Sn 02 15 04.1 -5.0**
NKME Niksic 8.15 339 ⇓ *i*Pn **Pn 02 13 39.1 -0.1**
NKME *e*Sn **Sn 02 15 06.2 -4.7**
NKY Niksic 8.18 340 ⇓ *i*Pn **Pn 02 13 39.7 0.0**
NKY *e*Sn **Sn 02 15 07.3 -4.4**
TREB Trebinje 8.29 336 *e*Pn **Pn 02 13 39.9 -1.2**
BRY Bratogost 8.39 338 ⇓ *i*Pn **Pn 02 13 42.4 -0.3**
BRY *e*Sn **Sn 02 15 12.7 -4.4**
BRY Bratogost 8.39 338 *e*Pn **Pn 02 13 41.0 -1.7**
UPM Unac-Piva 8.56 340 ⇓ *i*Pn **Pn 02 13 45.8 +0.8**
UPM *e*Sn **Sn 02 15 16.2 -5.1**
UPM Unac-Piva 8.56 340 *e*Pn **Pn 02 13 45.5 +0.5**
STON Ston 8.65 334 *e*Pn **Pn 02 13 44.7 -1.3**
STON Sn **Sn 02 15 18.1 -4.9**
BBLS Lazići 9.06 344 *e*Pn **Pn 02 13 50.2 -1.5**
DIVS Divibare 9.16 347 *e*Pn **Pn 02 13 51.8 -1.3**
HAPS Han Pijesak,BI 9.37 342 *e*Pn Pn 02 13 53.1 -3.0
MDVR Moldovita 9.61 355 ⇓ *i*P Pn 02 14 04.3 +5.0
HERR Herculane 9.68 358 ⇑ *i*P **Pn 02 14 04.8 +4.6**
BRTR Keskin Array B 9.69 59 P **Pn 02 14 02.6 +2.2**
comp=E,0.1nm,0.3s,baz=229,slow=13,SNR=10
GZR Gura Zlata 10.19 360 ⇓ *i*P Pn 02 14 12.3 +5.1
FRGS Fruska Gora 10.22 348 *e*Pn **Pn 02 14 08.9 +1.3**
BZS Buzias 10.45 355 ⇑ *i*P Pn 02 14 15.6 +4.9
BLY Banja Luka 10.48 337 ⇑ *i*P **Pn 02 14 09.8 -1.4**
BLY Banja Luka 10.48 337 *e*Pn **Pn 02 14 09.6 -1.6**
MMAI Mount Meron Ar 10.63 98 P **Pn 02 14 13.1 -0.2**
comp=E,1.0nm,0.3s,baz=271,slow=11,SNR=4.4
UDBI Udbina 10.79 332 *e*Pn **Pn 02 14 15.0 -0.5**
NVLJ Novalja 11.18 329 *e*Pn **Pn 02 14 21.3 +0.6**
MORH M¨‡r¨igy, Hung 11.46 345 *e*Pn **Pn 02 14 23.2 -1.3**
CRES Cresnjev 12.01 334 *e*Pn Pn 02 14 29.4 -2.7
CEY Cerknica 12.32 331 *e*Pn **Pn 02 14 34.7 -1.7**
VYHS Vyhne 13.62 349 *e*PN Pn 02 14 59.1 +5.1
WATA Walderalm 14.78 329 *i* P **P 02 15 18.9 +3.0**
comp=E,3.7nm,0.7s
VRAC Vranov 14.84 344 LR LR 02 22 40.1
comp=E,108nm,19.9s,baz=168,slow=44
SQTA Sankt Quirin 14.85 328 *i* P **P 02 15 19.6 +3.0**
comp=E,2.7nm,0.8s
FETA Feichten 14.91 326 *i* P **P 02 15 20.9 +3.4**
comp=E,7.0nm,1.0s
MOTA Moosalm 14.99 328 *i* P **P 02 15 19.8 +1.5**
comp=E,2.3nm,0.9s

GERES GERESS Array B 15.22 336 P **Pn 02 15 15.4 -0.5**
comp=E,0.1nm,0.3s,baz=168,slow=15,SNR=2.3
GERES LR LR 02 23 36.6
comp=E,180nm,18.0s,baz=138,slow=47
KHC Kasperske Hory 15.51 337 *e*P **P 02 15 25.8 +1.9**
DPC Dobruska-Polom 15.88 345 *e*P **P 02 15 29.3 +1.3**
AKASG Malin Array Be 16.17 15 P **Pn 02 15 25.9 -2.1**
comp=E,0.5nm,0.3s,baz=206,slow=12,SNR=4.5
CLL Collm 17.60 339 *e*P **P 02 15 50.0 +3.0**
CLL *i* SP **sP 02 15 53.5 -0.7**
CLL *e*PP **PnPn 02 16 00.0 +3.5**
GNI Garni 18.00 68 LR LR 02 23 55.3
comp=E,58nm,19.6s,baz=279,slow=41
OBN Obninsk 22.06 21 LR LR 02 26 10.2
comp=E,30nm,20.0s,baz=145,slow=39
HFS Hagfors 25.65 349 P **P 02 17 09.8 -0.5**
comp=E,1.8nm,0.4s,baz=156,slow=11,SNR=11
HFS LR LR 02 28 29.2
comp=E,84nm,18.2s,baz=264,slow=39
FINES FINESS Array B 26.35 3 P **P 02 17 15.5 -1.0**
comp=E,2.2nm,0.8s,baz=172,slow=9.5,SNR=5.2
NB2 NORSAR Subarra 26.92 347 P **P 02 17 20.8 -1.0**
comp=Z,0.4nm,0.4s,baz=150,slow=10
NOA NORSAR Array B 26.92 347 P **P 02 17 21.4 -0.3**
comp=Z,0.6nm,0.6s,baz=151,slow=9.1,SNR=7.2
NOA LR LR 02 29 19.7
comp=Z,37nm,18.6s,baz=320,slow=39
EKA Eskdalemuir Ar 26.94 326 P **P 02 17 22.6 +0.6**
comp=Z,2.7nm,0.8s,baz=128,slow=8.0,SNR=3.7
TORD Torodi Ar. Bea 29.11 226 P **P 02 17 42.8 +1.1**
comp=Z,0.4nm,0.6s,baz=31,slow=9.4
AKTO Aktyubinsk 29.62 48 P **P 02 17 44.5 -1.4**
comp=Z,0.8nm,0.6s,baz=262,slow=6.1,SNR=3.7
ARCES ARCESS Array B 34.42 2 P **P 02 18 26.9 -0.9**
comp=Z,3.4nm,0.9s,baz=180,slow=9.9,SNR=3.8
MKAR Makanchi Array 45.32 56 P **P 02 19 57.4 -1.3**
comp=Z,1.3nm,0.5s,baz=270,slow=8.4,SNR=9.0
ZALV Zalesovo Beam 46.34 46 P **P 02 20 04.5 -2.1**
comp=Z,1.6nm,0.4s,baz=266,slow=9.8,SNR=7.1
CMAR Chiang Mai Arr 68.44 82 LR LR 02 56 28.3
comp=Z,42nm,18.4s,baz=206,slow=39
KLR Kul'dur 74.96 40 LR LR 02 58 49.7
comp=Z,17nm,18.8s,baz=329,slow=38
ILAR Eielson Array 80.04 356 P **P 02 23 50.8 +0.9**
comp=Z,0.6nm,0.9s,baz=2.3,slow=4.5,SNR=4.5
ILAR LR LR 03 02 50.1
comp=Z,19nm,18.6s,baz=66,slow=38
NVAR Mina Array Bea 98.39 330 LR LR 03 13 01.0
comp=Z,58nm,18.1s,baz=279,slow=37

IDC 09 02:26:38.0±49.0, **16°.89S**×**178°.84W, h0**km, **mb4.4**/3, **mb1 4.6**/3, **mb1mx3.8**/30, **mbtmp4.4**/3, **Error ellipse: s-maj=899.9km s-min=149.6km az=77.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.77**	**240**	P		02 34 05.0	+0.5
	1.6nm,0.5s,baz=94,slow=10,SNR=5.4						
WRA	**Warramunga Arr**	**44.42**	**259**	P		02 34 50.8	-0.3
	1.3nm,0.3s,baz=95,slow=7.5,SNR=71						
ASAR	**Alice Springs**	**44.68**	**253**	P		02 34 52.6	-0.5
	7.6nm,0.5s,baz=86,slow=8.6,SNR=96						

*ISCJB **09** 02:47:18.4±0.7, 3°.92N±0°.06×95°.20E±0°.08, h51km, mb4.0/7, MS3.1/2, Error ellipse: s-maj=12.8km s-min=7.1km az=149.1*
*DJA **09** 02:47:19.4±1.8, 4°N±3°×9°5E±1°.2, h17km±14km, M4.1/7, mb4.5/2, MLv3.9/7*
*IDC **09** 02:47:20.1±5.8, 4°.11N×95°.39E, h44km±52km, mb3.7/7, mb1 3.9/8, mb1mx3.4/49, mbtmp3.9/8, ML3.0/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/39, Error ellipse: s-maj=77.4km s-min=18.1km az=53.0*
ISC 09 02:47:20.7±0.9, **3°.92N**±0°.06×**95°.3E**±0°.1, **h51**km, **n23, s1$32/19, mb4.0/7, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**1.18**	**73**	P	**Pn**	**02 47 38.8**	**-2.1**
SNSI	**Sinabang, Aceh**	**1.83**	**145**	P	**Pn**	**02 47 49.3**	**-0.5**
SNSI				S	**Sn**	**02 48 11.1**	**-0.7**
TPTI		**2.01**	**109**	P	**Pn**	**02 47 51.1**	**-1.1**
LHMI	**Lhok Sumawe**	**2.12**	**52**	P	**Pn**	**02 47 53.0**	**-0.7**
KCSI	**Kotacane, Aceh**	**2.52**	**99**	P	**Pn**	**02 48 00.3**	**+1.0**
GSI	**Gunungsitoli**	**3.47**	**138**	P	**Pn**	**02 48 13.2**	**+1.0**
PSI	**Prapat**	**3.81**	**107**	P	**Pn**	**02 48 16.2**	**-0.8**
	1.1nm,0.3s,baz=358,slow=2.5,SNR=5.6						
PBSI	**Pulau Batu**	**4.96**	**143**	P	**Pn**	**02 48 32.9**	**+0.2**
PKDT	**Phuket**	**4.99**	**37**	P	Pn	02 48 40.6	+7.5
TRTT	**Trang**	**5.81**	**48**	P	**Pn**	**02 48 47.4**	**+2.2**
PPSI	**Pulau Pagai**	**6.15**	**144**	P	**Pn**	**02 49 16.2**	**-0.3**
PBKT	**Sadao Pong**	**13.76**	**24**	P	**P**	**02 50 43.1**	**+2.8**
	6.5nm,0.6s,2µm						
H08S2	**Diego Garcia H**	**25.47**	**243**	T	T	03 18 46.0	
	baz=65						
H08S3	**Diego Garcia H**	**25.47**	**243**	T	T	03 18 51.2	
	baz=65,slow=74						
H08S1	**Diego Garcia H**	**25.48**	**243**	T	T	03 18 51.6	
	baz=65,slow=74,SNR=44						
MKAR	**Makanchi Array**	**44.17**	**347**	P	**P**	**02 55 23.0**	**-1.5**
	1.2nm,0.4s,baz=160,slow=8.9,SNR=22						
MKAR				LR	LR	03 15 52.6	
	comp=Z,10nm,20.0s,baz=66,slow=39						
WRA	**Warramunga Arr**	**45.11**	**123**	P	**P**	**02 55 32.3**	**-0.1**
	3.8nm,0.6s,baz=301,slow=9.1,SNR=54						
ASAR	**Alice Springs**	**46.56**	**128**	P	**P**	**02 55 44.0**	**+0.1**
	2.2nm,0.7s,baz=302,slow=7.7,SNR=22						
KURBB	**Kurchatov Array**	**48.63**	**346**	P	**P**	**02 55 58.6**	**-0.7**
	0.5nm,0.5s,baz=168,slow=6.8,SNR=5.2						
ZALV	**Zalesovo Beam**	**50.60**	**352**	P	**P**	**02 56 12.7**	**-1.6**
	1.3nm,0.5s,baz=198,slow=6.9,SNR=6.6						
BRTR	**Keskin Array B**	**65.87**	**312**	P	**P**	**02 58 01.1**	**-0.5**
	0.8nm,0.7s,baz=142,slow=7.9,SNR=4.7						
MAW	**Mawson**	**74.92**	**192**	LR	LR	03 25 51.1	
	comp=Z,26nm,21.0s,baz=264,slow=31						
GERES	**GERESS Array B**	**81.52**	**319**	P	**P**	**02 59 33.2**	**+0.2**
	0.6nm,0.5s,baz=108,slow=4.3,SNR=4.3						

*MOS **09** 02:57:59.8±0.0, 41°.71N×46°.40E, h34km, MPVA3.2*
*TIF **09** 02:57:59.5, 41°.96N×46°.41E, h16km±2km*
*ISCJB **09** 02:58:01.3±0.7, 41°.76N±0°.04×46°.40E±0°.04, h13km±7km, Error ellipse: s-maj=6.0km s-min=5.0km az=12.2*
*DRS **09** 02:58:03.9±0.0, 41°.79N×46°.36E, h18km*
ISC 09 02:58:01.4±1.0, **41°.81N**±0°.04×**46°.41E**±0°.03, **h12**km±7km, **n11, s1$50/22, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LGD	**Lagodekhi**	**0.13**	**281**	P	**Pg**	**02 58 04.8**	**+0.1**
LGD				S	**Sg**	**02 58 07.9**	**+0.9**
DDFL	**Dedoflistskaro**	**0.43**	**211**	P	**Pb**	**02 58 10.7**	**-0.2**
DDFL				S	**Sb**	**02 58 19.9**	**+2.6**
KMKR	**Kumukh**	**0.60**	**58**	*e*Pg	**Pn**	**02 58 15.0**	**-1.0**
KMKR				*i* Sg	**Sn**	**02 58 25.0**	**-0.9**
XNZR	**Khunzakh**	**0.76**	**17**	*e*Pg	**Pn**	**02 58 17.7**	**-0.5**
XNZR				*e*Sg	**Sn**	**02 58 30.4**	**+0.7**
BTLR	**Botlikh**	**0.86**	**351**	*e*Pg	**Pn**	**02 58 19.1**	**-0.4**
BTLR				*e*Sg	**Sn**	**02 58 32.6**	**+0.6**
URKR	**Urkarakh**	**0.98**	**68**	*e*Pg	**Pn**	**02 58 21.2**	**+0.2**
URKR				*e*Sg	**Sn**	**02 58 38.3**	**+3.4**
AKT	**Akhty**	**1.04**	**108**	*e*Pg	**Pg**	**02 58 19.9**	**-1.6**
AKT				*e*Sg	**Sg**	**02 58 35.0**	**-0.1**
DVE	**Vedeno**	**1.17**	**350**	*e*Pg	**Pn**	**02 58 24.1**	**+0.5**
DVE				*e*Sg	**Sn**	**02 58 41.6**	**+2.1**
TBLG	**Delisi**	**1.25**	**267**	P	**Pn**	**02 58 23.7**	**-1.1**
TBLG				S	**Sn**	**02 58 41.6**	**0.0**
GROC	**Groznyy**	**1.46**	**342**	*e*Pg	**Pg**	**02 58 28.4**	**-1.2**
GROC				*e*Sg	**Sg**	**02 58 49.7**	**+1.2**
ZEI	**Tsey**	**2.10**	**299**	*e*Pg	**Pb**	**02 58 39.0**	**-0.6**
ZEI				*e*Sg	**Sg**	**02 59 06.4**	**-2.6**

*TIF **09** 03:00:07.3, 42°.48N×43°.59E, h8km±2km*
*NORS **09** 03:00:07.0±0.0, 42°.52N×43°.59E, h10km*
*MOS **09** 03:00:07.5±0.0, 42°.46N×43°.53E, h11km, MPVA3.1*
ISC 09 03:00:07.6±0.9, **42°.48N**±0°.02×**43°.58E**±0°.03, **h12**km±6km, **n16, s1$70/32, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.14**	**320**	P	**Pg**	**03 00 11.0**	**0.0**
ONI				S	**Sg**	**03 00 13.6**	**0.0**
ONI	**Oni**	**0.14**	**320**	*e*Pg	**Pg**	**03 00 11.0**	**0.0**
ONI				*e*Sg	**Sg**	**03 00 13.6**	**0.0**
ZEI	**Tsey**	**0.39**	**38**	*e*Pg	**Pg**	**03 00 15.3**	**-0.1**
ZEI				*e*Sg	**Sb**	**03 00 21.3**	**-1.4**
DIGR	**Digorskoe uzhe**	**0.42**	**0**	*e*Pg	**Pg**	**03 00 15.9**	**0.0**
DIGR				*e*Sg	**Sb**	**03 00 22.4**	**-1.2**
KORR	**Kora**	**0.70**	**31**	*e*Pg	**Pb**	**03 00 22.0**	**+0.2**
KORR				*e*Sg	**Sn**	**03 00 32.7**	**-1.6**
LSNR	**Lesken**	**0.82**	**13**	*e*Pg	**Pb**	**03 00 24.0**	**+0.2**
LSNR				*e*Sg	**Sb**	**03 00 35.3**	**+0.5**
STDR	**Stavd-Durt**	**0.96**	**22**	*e*Pg	**Pn**	**03 00 28.0**	**+1.1**
STDR				*e*Sg	**Sn**	**03 00 41.5**	**+1.0**
NEY	**Neytrino**	**0.99**	**321**	*e*Pg	**Pb**	**03 00 26.8**	**-0.1**
NEY				*e*Sg	**Sn**	**03 00 40.8**	**-0.8**
AKH	**Akhalkalaki**	**1.07**	**183**	P	**Pb**	**03 00 28.2**	**0.0**
AKH				S	**Sn**	**03 00 42.9**	**-0.6**
AKH	**Akhalkalaki**	**1.07**	**183**	*e*Pg	**Pb**	**03 00 28.2**	**0.0**
AKH				*e*Sg	**Sg**	**03 00 41.5**	**-0.7**
TBLG	**Delisi**	**1.14**	**131**	P	**Pn**	**03 00 29.6**	**+0.2**
TBLG				S	**Sn**	**03 00 45.6**	**+0.6**
TBLG	**Delisi**	**1.14**	**131**	*e*Pg	**Pn**	**03 00 29.6**	**+0.2**
TBLG				*e*Sg	**Sn**	**03 00 45.6**	**+0.6**
BGD	**Bogdanovka**	**1.22**	**179**	P	**Pn**	**03 00 30.6**	**0.0**
BGD				S	**Sn**	**03 00 48.4**	**+1.2**
SHA1	**Shidzhatmaz**	**1.43**	**332**	*e*Pg	**Pg**	**03 00 34.9**	**-0.1**
SHA1				*e*Sg	**Sg**	**03 00 54.2**	**+0.6**
BATM	**Batumi**	**1.65**	**239**	P	**Pb**	**03 00 38.1**	**+0.1**
BATM				S	**Sg**	**03 01 01.4**	**+0.6**
LGD	**Lagodekhi**	**2.08**	**107**	*e*Pg	**Pb**	**03 00 46.0**	**+0.7**
LGD				*e*Sg	**Sg**	**03 01 13.8**	**-0.8**

*IDC **09** 03:20:23.7±1.7, 36°.59N×27°.67E, h0km, mb3.5/2, mb1 3.4/3, mb1mx3.2/27, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=234.9km s-min=24.1km az=144.0*
*ATH **09** 03:20:24.4, 36°.64N×27°.97E, h28km±1km, ML3.6/4, Error ellipse: s-maj=2.0km s-min=1.0km az=214.0*
*THE **09** 03:20:24.6, 36°.63N×27°.95E, h1km±1km, ML3.7/2, Error ellipse: s-maj=1.6km s-min=0.5km az=55.0*
*ISK **09** 03:20:24.9, 36°.62N×27°.89E, h8km, ML3.4/13*
*ISCJB **09** 03:20:25.3±0.4, 36°.62N±0°.02×27°.91E±0°.03, h9km±3km, mb3.4/2, Error ellipse: s-maj=4.0km s-min=3.5km az=41.6*
ISC 09 03:20:24.9±1.1, **36°.61N**±0°.02×**27°.92E**±0°.02, **h6**km±9km, **n51, σ0$84/64, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSB	**Marmaris-Mugla**	**0.25**	**65**	PG	**Pg**	**03 20 29.9**	**+0.1**
DATC	**Datca-Mugla**	**0.26**	**305**	PG	**Pb**	**03 20 30.8**	**-1.1**
DATC				SG	**Sg**	**03 20 34.6**	**+1.3**
DAT	**Datca**	**0.30**	**293**	PG	**Pb**	**03 20 31.9**	**-0.8**
ARG	**Arkhangelos**	**0.43**	**157**	PG	**Pb**	**03 20 33.9**	**-0.9**
ARG				SG	**Sb**	**03 20 40.8**	**-0.7**
ARG	**Arkhangelos**	**0.43**	**157**	P	**Pg**	**03 20 33.5**	**+0.4**
ARG				S	**Sb**	**03 20 41.4**	**-0.1**
ARG				AML	AML	03 20 42.4	
	comp=N,17172µm,0.3s						
ARG				AML	AML	03 20 43.8	
	comp=E,18930µm,0.3s						
ARG	**Arkhangelos**	**0.43**	**157**	P	**Pg**	**03 20 33.6**	**+0.4**
ARG				S	**Sb**	**03 20 40.9**	**-0.6**
NIS1	**Nisyros Isl.**	**0.60**	**269**	PG	**Pg**	**03 20 35.9**	**-0.5**
NIS1	**Nisyros Isl.**	**0.60**	**269**	P	**Pb**	**03 20 37.5**	**-0.2**
NIS1				S	**Sb**	**03 20 47.3**	**+0.9**
NIS1				AML	AML	03 20 49.8	
	comp=E,18945µm,0.3s						
NIS1				AML	AML	03 20 54.0	
	comp=N,20910µm,0.4s						
NIS1	**Nisyros Isl.**	**0.60**	**269**	P	**Pb**	**03 20 37.5**	**-0.2**
NIS1				S	**Sb**	**03 20 46.7**	**+0.3**
DALY	**Dalyan (Mu¨la**	**0.62**	**71**	PG	**Pb**	**03 20 37.3**	**-0.9**
BODT	**Bodrum**	**0.66**	**313**	PG	**Pg**	**03 20 38.0**	**+0.3**
BODT				SG	**Sb**	**03 20 47.5**	**-0.8**
BODT	**Bodrum**	**0.66**	**313**	P	**Pg**	**03 20 37.8**	**+0.1**
BODT				S	**Sb**	**03 20 49.0**	**+0.7**
MLSB	**Milas**	**0.69**	**351**	PG	**Pb**	**03 20 38.8**	**-0.6**
FETY	**Fethiye**	**0.94**	**88**	PG	**Pn**	**03 20 43.8**	**-0.8**
GCAM	**G?zelcaml?**	**1.22**	**333**	PN	**Pn**	**03 20 48.4**	**0.0**
KARP	**Karpathos**	**1.23**	**210**	PN	**Pg**	**03 20 48.7**	**+0.3**
KARP				SN	**Sn**	**03 21 05.9**	**+0.5**
KARP	**Karpathos**	**1.23**	**210**	P	**Pn**	**03 20 48.1**	**-0.5**
KARP				S	**Sn**	**03 21 05.8**	**+0.3**
KARP				AML	AML	03 21 08.0	
	comp=N,4023µm,0.4s						
KARP				AML	AML	03 21 09.0	
	comp=E,4511µm,0.7s						
KARP	**Karpathos**	**1.23**	**210**	P	**Pn**	**03 20 48.0**	**-0.5**
KARP				S	**Sn**	**03 21 05.8**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.33**	**359**	PN	**Pn**	**03 20 49.4**	**-0.7**
AYDB				SN	**Sn**	**03 21 09.2**	**+1.0**
SMG	**Samos**	**1.40**	**322**	P	**Pn**	**03 20 49.7**	**-1.1**
SMG				S	**Sg**	**03 21 09.4**	**-0.4**
SMG				AML	AML	03 21 15.0	
	comp=E,2550µm,0.4s						
SMG				AML	AML	03 21 16.0	
	comp=N,1421µm,0.3s						
SMG	**Samos**	**1.40**	**322**	P	**Pn**	**03 20 49.6**	**-1.3**
AKAS	**Kas**	**1.41**	**105**	PN	**Pg**	**03 20 52.6**	**+0.6**
KSL	**Kastellorizon**	**1.42**	**108**	P	**Pb**	**03 20 51.1**	**-0.6**
DENT	**Denizli**	**1.45**	**38**	PN	**Pg**	**03 20 52.4**	**-0.2**
ELL	**Elmali**	**1.60**	**85**	PN	**Pg**	**03 20 55.5**	**-0.2**
AMGA	**Amorgos Island**	**1.64**	**278**	P	**Pn**	**03 20 53.8**	**-0.4**
BLCB	**Balcova**	**1.90**	**339**	PN	**Pn**	**03 20 58.1**	**+0.3**
APE	**Apeiranthos**	**1.97**	**284**	PN	**Pn**	**03 20 59.0**	**+0.2**
APE	**Apeiranthos**	**1.97**	**284**	P	**Pn**	**03 20 58.1**	**-0.7**
APE	**Apeiranthos**	**1.97**	**284**	P	**Pn**	**03 20 58.1**	**-0.7**
KULA	**Kula-Manisa**	**1.99**	**17**	PN	**Pb**	**03 21 00.1**	**-1.4**
KORT	**Korkueli**	**1.99**	**78**	PN	**Pb**	**03 21 00.4**	**-1.1**
ZKR	**Zakros**	**2.04**	**223**	P	**Pn**	**03 20 59.9**	**+0.2**
URLA	**Izmir**	**2.04**	**329**	PN	**Pn**

ϕ_s85.00000°,δ32.00000°,λ15.00000°. Principal axes: T Plg44.0000°, Azm283.0000°; N Plg31.0000°, Azm157.0000°; P Plg30.0000°, Azm47.0000°;
JMA Felt IV J1.
ISCJB **09** 03:51:54.4±0.4,36.86N±0.02×141.28E±0.02,h22km±2km, mb5.2/371,MS4.7/107 Error ellipse: s-maj=2.9km s-min=2.1km az=150.8
GCMT **09** 03:51:55.9±0.2,36.93N±0.01×141.27E±0.01,h12km, MW5.2/113,Moment Tensor Solution. s58,c84; s113,c192; Duration: 1ŝ0 Moment tensor: Scale 10^{16} Nm; M_{rr}-6.39±.10; $M_{\theta\theta}$1.28±.11; $M_{\phi\phi}$5.11±.09; $M_{r\theta}$0.82±.34; $M_{\theta\phi}$2.72±.09; $M_{\phi r}$3.82±.30; Best double couple: $M_0$7.54700×10^{16} NP1:ϕ_s200.00000°,δ61.00000°, λ-98.00000°. NP2:ϕ_s35.00000°,δ30.00000°,λ-76.00000°. Principal axes: T 7.5510, Plg15.0000°, Azm295.0000°; N -0.0080, Plg7.0000°, Azm203.0000°; P -7.5430, Plg73.0000°, Azm90.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
BJI **09** 03:51:55.1,36.82N×141.32E,h35km,mb5.0/71,mB5.1/47, Ms5.1/85,Ms7 5.0/78
MOS **09** 03:51:56.3±1.1,36.93N×141.27E,h35km,mb5.4/99, MS4.7/28,Error ellipse: s-maj=5.8km s-min=3.9km az=102.3
NEIC **09** 03:51:57.9±0.4,36.84N×141.25E,h37km±3km,mb5.2/260, MS4.7/51,Error ellipse: s-maj=2.8km s-min=1.8km az=137.0
NEIC Felt [V] at Hitachi and [III] at Chiba and Tsuchiura. Felt in much of eastern Honshu. Recorded [4 JMA] in Ibaraki.
ISC 09 03:51:56.3±0.4,36.90N±0.03×141.29E±0.03,h28km±2km, h28km:pP-P,n1018,σ1ŝ41/775,mb5.2/371,MS4.8/107, 52C-31D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		
ONAJ	**Iwakimizuishiy**	**0.44**	**297**	⇑P	**Pb**	**03 52 03.7**	**-2.1**
JFK	**Kawauchi**	**0.57**	**324**	⇑P	**Pn**	**03 52 05.7**	**-2.9**
JFK				eS	**Sb**	**03 52 14.1**	**-1.6**
JFFD	**Fukushimafurud**	**0.62**	**288**	⇑P	**Pn**	**03 52 06.4**	**-2.8**
JFFD				eS	**Sb**	**03 52 15.5**	**-1.4**
JHO	**Hitachi**	**0.65**	**244**	⇓P	**Pn**	**03 52 06.6**	**-3.0**
JHO				S	**Sn**	**03 52 16.6**	**-2.4**
JHYU	**Hitachinakayam**	**0.80**	**226**	P	**Pn**	**03 52 08.6**	**-3.0**
JHYU				eS	**Sn**	**03 52 19.8**	**-2.8**
JFT	**Otama**	**0.98**	**309**	⇑P	**Pb**	**03 52 12.9**	**-1.8**
JFT				eS	**Sb**	**03 52 26.5**	**-0.7**
JMM	**Marumori**	**1.04**	**338**	⇑P	**Pn**	**03 52 12.7**	**-2.3**
JMM				eS	**Sn**	**03 52 26.9**	**-1.7**
JSB	**Shiboa**	**1.10**	**274**	⇑P	**Pb**	**03 52 15.2**	**-1.5**
JYT	**Yasato**	**1.11**	**233**	⇓P	**Pn**	**03 52 13.4**	**-2.6**
JYT				eS	**Sn**	**03 52 28.3**	**-2.1**
JFY	**Yanaizu**	**1.37**	**292**	⇑P	**Pb**	**03 52 18.9**	**-2.3**
JFY				eS	**Sb**	**03 52 37.1**	**-1.2**
JOU	**Okura**	**1.54**	**341**	⇑P	**Pb**	**03 52 21.0**	**-3.2**
I30JP	**ISUMI INFRASON**	**1.78**	**207**	Pn	**Pb**	**03 52 29.5**	**+1.3**
	baz=45,slow=19,SNR=1.6						
OFUJ	**Ofunato**	**2.19**	**8**	⇓P	**Pn**	**03 52 28.9**	**-1.9**
MJAR	**Matsushiro Arr**	**2.50**	**263**	Pn	**Pn**	**03 52 35.1**	**0.0**
	48nm,0.3s,baz=92,slow=13,SNR=194						
MJAR				LR	LR	03 53 37.1	
	comp=Z,7μm,19.4s,baz=85,slow=43						
MAJO	**Matsushiro**	**2.51**	**263**	*e*Pn	**Pn**	**03 52 35.7**	**+0.5**
MAJO				*e*Sn	**Sn**	**03 53 05.0**	**+0.2**
MAJO	**Matsushiro**	**2.51**	**263**	*c i*P	**Pn**	**03 52 35.6**	**+0.5**
MAT	**Matsushiro**	**2.51**	**263**	P	**Pn**	**03 52 35.5**	**+0.3**
MAT				eS	**Sb**	**03 53 07.5**	**-3.5**
MJB9	**Matsu-Tunnel**	**2.51**	**263**	*e*Pn	**Pn**	**03 52 35.7**	**+0.5**
MIYJ	**Miyakonagasawa**	**2.70**	**9**	⇓P	**Pn**	**03 52 35.9**	**-1.9**
JAH	**Hinai**	**3.32**	**351**	⇓P	**Pn**	**03 52 46.9**	**+0.6**
INJ	**Inuyama**	**3.79**	**247**	*e*Pn	**Pn**	**03 52 54.0**	**+1.1**
JHJ2	**Mitsune**	**3.97**	**198**	*e*Pn	**Pn**	**03 52 52.7**	**-2.6**
JHJ	**Hachijo jima 2**	**3.97**	**199**	Pn	**Pn**	**03 52 55.5**	**+0.2**
	143nm,0.3s,baz=276,slow=13,SNR=14						
JHJ				Sn	**Sn**	**03 53 40.8**	**-0.2**
	292nm,0.3s,baz=70,slow=21,SNR=4.8						
ERM	**Erimo**	**5.30**	**15**	*e*Pn	**Pn**	**03 53 14.0**	**+0.4**
ERM				*e*Sn	**Sn**	**03 54 15.5**	**+1.8**
ERM	**Erimo**	**5.30**	**15**	*e*P	**Pn**	**03 53 14.0**	**+0.4**
ERM				*e*		03 54 15.5	
ASAJ	**Asahikawa**	**7.27**	**7**	Pn	**Pn**	**03 53 39.0**	**-1.6**
	3.3nm,0.3s,baz=205,slow=9.4,SNR=13						
ASAJ				LR	LR	03 56 34.6	
	comp=Z,1μm,19.4s,baz=181,slow=39						
ASAJ	**Asahikawa**	**7.27**	**7**	*e*Pn	**Pn**	**03 53 41.0**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**7.93**	**25**	*e*P	Pn	03 53 52.0	+2.4
YUK				eS	**Sn**	**03 55 12.8**	**-5.5**
YUK				pmax	pmax		
	comp=Z,365nm,0.6s						
YUK				pmax	pmax		
	comp=E,159nm,0.5s						
YUK				pmax	pmax		
	comp=N,84nm,0.2s						
YUK				MLR	MLR		
	comp=N,2μm,13.0s						
YUK				MLR	MLR		
	comp=E,4μm,13.0s						
YUK				MLR	MLR		
	comp=Z,3μm,13.0s						
SHO	**Shikotan**	**8.14**	**30**	*e*P	Pn	03 53 54.2	+1.7
SHO				eS	**Sn**	**03 55 16.5**	**-7.0**
SHO				pmax	pmax		
	comp=Z,63nm,0.4s						
SHO				pmax	pmax		
	comp=N,50nm,0.3s						
SHO				pmax	pmax		
	comp=E,29nm,0.3s						
SHO				MLR	MLR		
	comp=E,2μm,11.0s						
SHO				MLR	MLR		
	comp=Z,2μm,11.0s						
SHO				MLR	MLR		
	comp=N,2μm,10.0s						
TEY	**Ternei**	**8.86**	**338**	⇓*e*P	Pn	03 54 08.9	+6.5
TEY				eS	Sn	03 55 50.2	+8.9
TEY				pmax	pmax		
	comp=E,30nm,2.4s						
TEY				pmax	pmax		
	comp=Z,60nm,1.1s						
TEY				smax	smax		
	comp=E,40nm,0.9s						
TEY				smax	smax		
	comp=N,20nm,0.9s						
TEY				MLR	MLR		
	comp=Z,6μm,12.6s						
TEY				MLR	MLR		
	comp=N,3μm,10.9s						
JNU	**Nakatsue**	**9.34**	**249**	Pn	**Pn**	**03 54 11.1**	**+2.1**
	comp=N,0.8nm,0.3s,baz=57,slow=8.2,SNR=10						
JNU				LR	LR	03 58 10.8	
	comp=N,3μm,20.7s,baz=74,slow=41						
MSHR	**Mys Shultsa**	**9.64**	**309**	⇑*e*P	Pn	03 54 15.9	+2.8
KUR	**Kuril'sk**	**9.69**	**29**	*e*P	Pn	03 54 15.9	+2.2
KUR				eS	**Sn**	**03 55 54.8**	**-6.6**
KUR				pmax	pmax		
	comp=Z,74nm,0.6s						
KUR				pmax	pmax		
	comp=E,17nm,0.1s						
KUR				pmax	pmax		
	comp=N,50nm,0.7s						
KUR				MLR	MLR		
	comp=E,1μm,13.0s						
KUR				MLR	MLR		
	comp=Z,3μm,13.0s						
KUR				MLR	MLR		
	comp=N,1μm,6.0s						
CBIJ	**Chichi jima**	**9.81**	**175**	*e*Pn	**Pn**	**03 54 11.0**	**-4.4**
JCJ	**Chichijima**	**9.81**	**175**	LR	LR	03 58 34.1	
	comp=N,3μm,18.5s,baz=357,slow=41						
YSS	**Yuzh-Sakhalins**	**10.10**	**6**	*e*Pn	**Pn**	**03 54 20.6**	**+1.3**
YSS	**Yuzh-Sakhalins**	**10.10**	**6**	*e*P	**Pn**	**03 54 20.4**	**+1.0**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS				MLR	MLR		
	comp=Z,4μm,12.0s						
YSS				MLR	MLR		
	comp=N,4μm,13.0s						
USRK	**Ussuriysk Ar.**	**10.16**	**319**	Pn	Pn	03 54 24.4	+4.2
	comp=N,0.7nm,0.3s,baz=138,slow=14,SNR=17						
USRK				LR	LR	03 57 57.1	
	comp=N,5μm,20.2s,baz=126,slow=36						
KSRS	**Korea Array**	**10.69**	**277**	Pn	Pn	03 54 31.5	+4.2
	comp=N,0.7nm,0.3s,baz=89,slow=11,SNR=26						
KSRS				LR	LR	03 58 28.3	
	comp=N,3μm,20.5s,baz=84,slow=37						
KS01	**Wonju Array Si**	**10.71**	**277**	*e*Pn	Pn	03 54 30.2	+2.5
KSAR	**Wonju Array Be**	**10.72**	**277**	Pn	Pn	03 54 31.5	+3.7
KSAR	**Wonju Array Be**	**10.72**	**277**	P	Pn	03 54 31.5	+3.7
TJN	**Taejon**	**11.21**	**271**	⇑*e*P	**Pn**	**03 54 35.4**	**+0.9**
MDJ	**Mudanjiang**	**11.74**	**315**	P	Pn	03 54 46.2	+4.4
MDJ				pP		03 54 54.0	
MDJ				sP		03 55 00.0	
MDJ				S	**Sn**	**03 56 53.9**	**+2.0**
MDJ				PcP	PcP	04 00 35.2	+5.5
MDJ				pmax	pmax		
	comp=N,150nm,1.0s						
MDJ				LR	LR		
	comp=N,6μm,15.9s						
MDJ				LR	LR		
	comp=N,3μm,17.5s						
MDJ				LR	LR		
	comp=N,5μm,24.7s						
MDJ	**Mudanjiang**	**11.74**	**315**	*e*Pn	**Pn**	**03 54 43.5**	**+1.7**
CN2	**Changchun**	**13.90**	**305**	*e*P	**P**	**03 55 15.5**	**-3.7**
CN2				*e*S	**Sn**	**03 57 50.3**	**+5.7**
CN2				pmax	pmax		
	comp=N,20nm,1.4s						
CN2				pmax	pmax		
	comp=N,200nm,3.0s						
CN2				LR	LR		
	comp=N,4μm,12.0s						
CN2				LR	LR		
	comp=N,3μm,12.0s						
CN2				LR	LR		
	comp=N,4μm,12.0s						
TYV	**Tymovskoe**	**13.99**	**4**	*e*P	**P**	**03 55 16.3**	**-3.8**
TYV				*e*S	**Sn**	**03 57 49.1**	**+2.4**
TYV				pmax	pmax		
	comp=Z,46nm,1.2s						
TYV				smax	smax		
	comp=N,37nm,1.3s						
KLR	**Kul'dur**	**14.14**	**334**	Pn	P	03 55 16.7	-5.2
	comp=N,0.2nm,0.3s,baz=141,slow=12,SNR=8.2						
KLR				LR	LR	04 00 31.9	
	comp=N,3μm,18.2s,baz=148,slow=37						
KLR	**Kul'dur**	**14.14**	**334**	⇑*e*P	P	03 55 16.2	-5.6
GRNR	**Gornyy**	**14.29**	**347**	*e*P	**Pn**	**03 55 16.6**	**-0.1**
GRNR				pmax	pmax		
	comp=Z,19nm,1.0s						
SNY	**Shenyang**	**14.55**	**295**	⇑P	**P**	**03 55 25.2**	**-1.2**
SNY				pmax	pmax		
	comp=Z,45nm,2.1s						
SNY				LR	LR		
	comp=Z,7μm,15.3s						
SNY				LR	LR		
	comp=Z,5μm,18.9s						
SNY				LR	LR		
	comp=Z,6μm,16.0s						
DL2	**Dalian**	**15.65**	**283**	⇑*i*P	**P**	**03 55 36.0**	**-2.7**
DL2				S	**Sn**	**03 58 32.2**	**+4.9**
DL2				pmax	pmax		
	comp=Z,67nm,0.9s						
DL2				pmax	pmax		
	comp=Z,990nm,7.7s						
DL2				LR	LR		
	comp=Z,2μm,10.2s						
DL2				LR	LR		
	comp=Z,3μm,10.4s						
DL2				LR	LR		
	comp=Z,4μm,10.2s						
NKL	**Nikolayevsk**	**16.25**	**359**	*e*P	P	03 55 52.0	+6.8
NKL				pmax	pmax		
	comp=Z,40nm,1.0s						
NKL				pmax	pmax		
	comp=Z,800nm,4.0s						
NKL				MLR	MLR		
	comp=N,4μm,13.0s						
NKL				MLR	MLR		
	comp=E,4μm,13.0s						
NKL				MLR	MLR		
	comp=Z,500nm,13.0s						
SSE	**Sheshan**	**17.64**	**257**	P	**P**	**03 55 59.6**	**-1.1**
SSE				S	**Sn**	**03 59 16.7**	**+1.1**
SSE				pmax	pmax		
	comp=Z,15nm,0.7s						
SSE				pmax	pmax		
	comp=Z,270nm,3.8s						
SSE				LR	LR		
	comp=Z,3μm,17.3s						
SSE				LR	LR		
	comp=Z,2μm,16.8s						
NJ2	**Nanjing**	**19.11**	**262**	*e*P	**Pn**	**03 56 15.8**	**-2.1**
NJ2				pP	**sP**	**03 56 25.0**	**-3.0**
NJ2				sP	pP	03 56 30.8	+6.4
NJ2				S	**S**	**03 59 53.7**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,41nm,1.0s						
NJ2				LR	LR		
	comp=Z,3μm,11.9s						
NJ2				LR	LR		
	comp=Z,3μm,14.6s						
NJ2				LR	LR		
	comp=Z,3μm,11.9s						
TIA	**Tai'an**	**19.42**	**275**	P	**Pn**	**03 56 21.7**	**+0.1**
TIA				pmax	pmax		
	comp=Z,260nm,6.5s						
TIA				LR	LR		
	comp=Z,3μm,15.7s						
TIA				LR	LR		
	comp=Z,3μm,12.2s						
TIA				LR	LR		
	comp=Z,4μm,11.8s						
ZEA	**Zeya**	**19.45**	**334**	*e*P	**Pn**	**03 56 20.6**	**-1.2**
ZEA				*e*		03 59 58.0	
ZEA				pmax	pmax		
	comp=N,59nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,76nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,500nm,12.0s						
ZEA				smax	smax		
	comp=E,700nm,6.0s						
ZEA				smax	smax		
	comp=N,1μm,10.0s						
ZEA				MLR	MLR		
	comp=Z,5μm,12.0s						
ZEA				MLR	MLR		
	comp=E,2μm,11.0s						
ZEA				MLR	MLR		
	comp=N,3μm,13.0s						
PETK	**Petropavlovsk-**	**19.85**	**30**	P	**Pn**	**03 56 23.9**	**-2.6**
	comp=N,0.3nm,0.3s,baz=58,slow=12,SNR=3.7						
PETK				LR	LR	04 04 29.3	
	comp=N,452nm,18.6s,baz=214,slow=38						
BJT	**Baijiatuan**	**19.90**	**287**	*e*P	**Pn**	**03 56 26.9**	**-0.4**
	comp=N,71nm,1.0s						
HIA	**Hailar**	**19.93**	**315**	*e*P	**Pn**	**03 56 27.2**	**-0.3**
	comp=N,23nm,1.0s						
HIA	**Hailar**	**19.93**	**315**	*e*P	**Pn**	**03 56 27.2**	**-0.3**
HIA				pmax	pmax		
	comp=Z,23nm,1.0s						
PET	**Petropavlovsk**	**20.18**	**31**	*c i*P	Pn	03 56 30.5	+0.1
PET				*e*S	Sn	04 00 13.0	-3.5
PET				pmax	pmax		
	comp=Z,500nm,11.4s						
PET				MLR	MLR		
	comp=Z,1μm,18.0s						
PET				MLR	MLR		
	comp=Z,2μm,16.0s						
TATO	**Taipei**	**20.69**	**241**	PFAKE		03 56 50.0	+13
TATO				LR	LR		
	comp=Z,1μm,21.0s						
YHNB	**Yeheng**	**20.96**	**240**	*e*P	**P**	**03 56 36.1**	**-1.1**
	comp=Z,46nm,1.0s						
NACB	**Ninganchiao**	**21.14**	**239**	*e*P	**P**	**03 56 35.3**	**-3.7**
	comp=Z,22nm,0.8s						
SSLB	**Suanglung**	**21.83**	**239**	*e*P	**P**	**03 56 46.5**	**+0.1**
	comp=Z,28nm,1.0s						
YULB	**Yu-li**	**21.86**	**238**	*e*P	**P**	**03 56 45.7**	**-1.1**
	comp=Z,22nm,1.0s						
TPUB	**Ta-pu**	**22.37**	**238**	*e*P	**P**	**03 56 52.4**	**0.0**
	comp=Z,44nm,0.8s						
TWG	**Pinlang**	**22.40**	**237**	*e*P	**P**	**03 56 52.1**	**-0.4**
	comp=Z,422nm,1.5s						
QZH	**Quanzhou**	**22.77**	**245**	P	**P**	**03 56 56.8**	**+0.3**
QZH				LR	LR		
	comp=Z,2μm,15.2s						
QZH				LR	LR		
	comp=Z,2μm,16.6s						
QZH				LR	LR		
	comp=Z,1μm,12.5s						
TIY	**Taiyuan**	**22.93**	**281**	*e*P	**P**	**03 57 01.5**	**+3.3**
TIY				S	**S**	**04 01 04.8**	**-1.7**
TIY				pmax	pmax		
	comp=Z,28nm,0.6s						
TIY				LR	LR		
	comp=Z,2μm,14.6s						
TIY				LR	LR		
	comp=Z,2μm,12.1s						
TIY				LR	LR		
	comp=Z,3μm,12.1s						
WHN	**Wuhan**	**23.25**	**262**	⇓P	**P**	**03 57 00.3**	**-1.0**
WHN				S	**S**	**04 01 06.5**	**-5.2**
WHN				LR	LR		
	comp=Z,5μm,12.2s						
WHN				LR	LR		
	comp=Z,8μm,10.7s						
WHN				LR	LR		
	comp=Z,10μm,12.1s						
HHC	**Hu-ho-hao-te**	**23.42**	**289**	*e*P	**P**	**03 57 02.2**	**-0.9**
HHC				PP	**PnPn**	**03 57 31.8**	**+2.0**
HHC				S	**S**	**04 01 09.3**	**-5.4**
HHC				SS	**SnSn**	**04 01 58.5**	**+7.5**
HHC				pmax	pmax		
	comp=Z,18nm,0.7s						
HHC				pmax	pmax		
	comp=Z,200nm,5.2s						
HHC				LR	LR		
	comp=Z,2μm,10.2s						
HHC				LR	LR		
	comp=Z,2μm,10.2s						
HHC				LR	LR		
	comp=Z,2μm,10.6s						
MA2	**Magadan**	**23.50**	**12**	P	**P**	**03 57 03.4**	**-0.1**
	comp=Z,37nm,1.1s,baz=200,slow=5.2,SNR=4.5						
MA2				LR	LR	04 07 22.2	
	comp=Z,1μm,18.3s,baz=204,slow=40						
MA2	**Magadan**	**23.50**	**12**	*e*P	**P**	**03 57 04.2**	**+0.7**
MA2	**Magadan**	**23.50**	**12**	⇓*e*P	**P**	**03 57 04.8**	**+1.2**
MA2				pmax	pmax		
	comp=Z,65nm,1.0s						
BTO	**Baotou**	**24.60**	**288**	*e*P	**P**	**03 57 14.9**	**+0.8**
CIT	**Chita**	**24.71**	**317**	*e*P	**P**	**03 57 15.1**	**+0.2**
CIT				*e*		03 57 28.9	
CIT				*e*		03 57 54.5	
CIT				*e*		03 58 09.4	
YAK	**Yakutsk**	**26.18**	**348**	S	**S**	**04 01 55.8**	**-2.1**
	comp=Z,13nm,0.3s,baz=232,slow=19,SNR=6.6						
YAK				LR	LR	04 07 56.7	
	comp=Z,810nm,20.3s,baz=254,slow=37						
YAK	**Yakutsk**	**26.18**	**348**	*e*P	**P**	**03 57 30.0**	**+2.0**
YAK				S	**S**	**04 01 55.8**	**-2.1**
YAK	**Yakutsk**	**26.18**	**348**	*c i*P	**P**	**03 57 31.4**	**+3.4**
YAK				*e**PP	**sP**	**03 57 42.0**	**+2.4**
YAK				*e*		03 58 06.5	
YAK				*e*S	**S**	**04 01 58.9**	**+1.0**
YAK				*e**SS	**sS**	**04 02 17.5**	**+6.0**
YAK				*e*SS	**SnSn**	**04 02 58.8**	**+1.1**
YAK				pmax	pmax		
	comp=Z,125nm,0.9s						
YAK				pmax	pmax		
	comp=N,43nm,0.9s						
YAK				pmax	pmax		
	comp=E,19nm,1.0s						
YAK				pmax	pmax		
	comp=Z,100nm,1.5s						
YAK				pmax	pmax		
	comp=N,100nm,1.5s						
YAK				pmax	pmax		
	comp=E,80nm,1.6s						
YAK				smax	smax		
	comp=N,1μm,3.0s						
YAK				smax	smax		
	comp=E,589nm,2.8s						
YAK				MLR	MLR		
	comp=Z,1μm,11.0s						
YAK				MLR	MLR		
	comp=N,1μm,11.0s						
YAK				MLR	MLR		
	comp=E,647nm,11.0s						
XAN	**Xi'an**	**26.45**	**274**	P	**P**	**03 57 31.8**	**+0.9**
XAN				pP	pP	03 57 38.9	-0.2
XAN				PP	PP	03 58 18.8	-12
XAN				S	**S**	**04 02 02.3**	**-0.7**
XAN				SS	**SnSn**	**04 03 15.0**	**+10**
XAN				pmax	pmax		
	comp=E,9.0nm,1.4s						
XAN				pmax	pmax		
	comp=E,130nm,3.5s						
XAN				LR	LR		
	comp=E,3μm,16.3s						
XAN				LR	LR		
	comp=E,740nm,16.3s						
XAN				LR	LR		
	comp=E,2μm,11.5s						
SEY	**Seymchan**	**26.94**	**11**	⇓*e*P	**P**	**03 57 35.5**	**+0.6**
ENH	**Enshi**	**27.23**	**265**	*e*P	**P**	**03 57 37.5**	**-0.4**
	comp=E,64nm,0.7s						
ENH				LR	LR		
	comp=Z,2μm,20.0s						
BOD	**Bodaibo**	**27.59**	**328**	*e*P	**P**	**03 57 41.5**	**+0.7**
BOD				pmax	pmax		
	comp=Z,62nm,0.9s						
GZH	**Guangzhou**	**27.73**	**248**	P	**P**	**03 57 38.7**	**-3.7**
GZH				S	**S**	**04 02 17.3**	**-5.8**
GZH				LR	LR		
	comp=Z,2μm,15.9s						
GZH				LR	LR		
	comp=Z,2μm,15.5s						
SONA1	**Songino Array**	**27.78**	**304**	*e*P	**P**	**03 57 43.5**	**+0.8**
SONM	**Songino Array**	**27.78**	**304**	P	**P**	**03 57 41.9**	**-0.9**
	comp=Z,8.0nm,0.6s,baz=112,slow=9.8,SNR=33						
SONM				LR	LR	04 09 06.6	
	comp=Z,2μm,19.1s,baz=102,slow=37						
H11N2	**WAKE ISLAND Hy 28.16**	**120**		T	T	04 27 08.8	
	baz=313,slow=75,SNR=5507						
H11N1	**WAKE ISLAND Hy 28.17**	**120**		T	T	04 27 10.5	
	baz=313,slow=75,SNR=7328						
H11N3	**WAKE ISLAND Hy 28.18**	**120**		T	T	04 27 11.2	
	baz=313,slow=75,SNR=5695						
WAKE	**Wake Island**	**28.30**	**121**	PFAKE		03 58 00.0	+13
WAKE				LR	LR		
	comp=Z,3μm,21.0s						
H11S1	**WAKE ISLAND Hy 28.87**	**123**		T	T	04 28 06.6	
	baz=315,slow=75,SNR=6875						
H11S3	**WAKE ISLAND Hy 28.87**	**123**		T	T	04 28 06.7	
	baz=315,slow=75,SNR=7465						
H11S2	**WAKE ISLAND Hy 28.89**	**123**		T	T	04 28 08.6	
	baz=315,slow=75,SNR=4522						
LZH	**Lanzhou**	**30.00**	**280**	*e*P	P	03 58 06.7	+4.1
LZH				pP	sP	03 58 18.6	+4.3
LZH				*e*S	**S**	**04 03 04.3**	**+5.3**
LZH				pmax	pmax		
	comp=Z,74nm,1.1s						
LZH				pmax	pmax		
	comp=Z,360nm,4.6s						
LZH				LR	LR		
	comp=Z,4μm,12.7s						
LZH				LR	LR		
	comp=Z,5μm,14.6s						
LZH				LR	LR		
	comp=Z,6μm,16.3s						
ZAK	**Zakamensk**	**30.28**	**309**	*e*P	**P**	**03 58 05.1**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,11nm,1.2s						
GYA	**Guiyang**	**31.11**	**260**	⇑*i*P	**P**	**03 58 11.3**	**-1.2**
GYA				pP	sP	03 58 25.4	+1.3
GYA				sP	pP	03 58 30.0	+9.3
GYA				PP	**PP**	**03 59 17.6**	**-5.3**
GYA				PcP	**PcP**	**04 01 09.2**	**+1.7**
GYA				S	**S**	**04 03 14.8**	**-1.6**
GYA				sS	sS	04 03 34.2	+4.2
GYA				ScP	**ScP**	**04 04 47.5**	**-0.8**
GYA				SS	**SnSn**	**04 05 02.8**	**+4.0**
GYA				pmax	pmax		
	comp=Z,80nm,0.8s						
GYA				pmax	pmax		
	comp=Z,140nm,5.0s						
GYA				LR	LR		
	comp=Z,2μm,14.0s						
GYA				LR	LR		
	comp=Z,2μm,13.4s						
GYA				LR	LR		
	comp=Z,3μm,14.3s						
CD2	**Chengdu**	**31.58**	**270**	P	**P**	**03 58 16.2**	**-0.3**

CD2 pP sP 03 58 25.8 -2.4
CD2 sP pP 03 58 30.2 +5.4
CD2 S **S** **04 03 22.9 -0.7**
CD2 pmax pmax
comp=Z,50nm,0.5s
CD2 pmax pmax
comp=Z,160nm,5.8s
CD2 LR LR
comp=Z,4μm,16.5s
CD2 LR LR
comp=Z,3μm,11.7s
CD2 LR LR
comp=Z,3μm,13.5s
GTA Gaotai 32.51 287 P **P** **03 58 25.2 +0.5**
GTA pP sP 03 58 38.7 +2.3
GTA sP pP 03 58 43.6 +11
GTA PP **PP** **03 59 32.8 -5.5**
GTA PcP **PcP** **04 01 12.2 +1.1**
GTA S **S** **04 03 36.5 -1.7**
GTA sS sS 04 03 59.0 +7.2
GTA SS **SnSn** **04 05 34.4 +1.7**
GTA pmax pmax
comp=Z,8.0nm,0.9s
GTA pmax pmax
comp=Z,71nm,7.1s
GTA LR LR
comp=Z,1μm,15.6s
GTA LR LR
comp=Z,960nm,15.2s
GTA LR LR
comp=Z,1μm,14.3s
QIZ Qiongzhong 32.79 246 P **P** **03 58 27.3 +0.2**
QIZ S **S** **04 03 41.6 -0.9**
QIZ LR LR
comp=Z,1μm,15.7s
QIZ LR LR
comp=Z,1μm,16.7s
QIZ LR LR
comp=Z,1μm,12.7s
QIZ Qiongzhong 32.79 246 PFAKE 03 58 40.0 +13
QIZ LR LR
comp=Z,758nm,19.0s
DAV Davao City (W) 32.97 210 LR LR 04 09 45.9
comp=Z,543nm,21.1s,baz=6.5,slow=33
KNGR Kungurtu, Tuv 33.94 308‖ *e*P P 03 58 39.7 +2.6
BILL Bilibino 34.18 16 *e*P **P** **03 58 38.7 -0.1**
comp=Z,19nm,1.3s
BILL LR LR
comp=Z,1μm,20.0s
BILL Bilibino 34.18 16 *de*P **P** **03 58 38.1 -0.6**
BILL *e**PP **pP** **03 58 45.5 -1.5**
BILL *SP **sP** **03 58 52.0 +1.5**
BILL 03 59 54.0
BILL *e* 04 01 16.5
BILL *e*S **S** **04 04 07.9 +4.8**
BILL pmax pmax
comp=Z,22nm,1.7s
BILL MLR MLR
comp=Z,1μm,15.0s
KMI Kunming 34.85 261 P P 03 58 47.7 +2.4
KMI pP sP 03 58 58.5 +1.5
KMI sP pP 03 59 01.8 +8.2
KMI PP **PP** **04 00 04.5 0.0**
KMI S **S** **04 04 13.1 -1.7**
KMI sS sS 04 04 34.4 +6.0
KMI pmax pmax
comp=Z,48nm,1.1s
KMI pmax pmax
comp=Z,260nm,3.1s
KMI LR LR
comp=Z,2μm,15.1s
KMI LR LR
comp=Z,1μm,16.7s
KMI LR LR
comp=Z,2μm,13.9s
TIXI Tiksi 35.41 353 P **P** **03 58 48.5 -0.7**
comp=Z,2.2nm,0.4s,baz=155,slow=4.0,SNR=5.6
TIXI Tiksi 35.41 353 *e*P **P** **03 58 48.6 -0.7**
comp=Z,29nm,1.3s
TIXI LR LR
comp=Z,656nm,19.0s
TIXI Tiksi 35.41 353‖ *e*P P 03 58 51.2 +1.9
TIXI pmax pmax
comp=Z,27nm,1.3s
HVS Khovu-Aksy 36.40 308⇑ *e*P P 03 59 00.2 +2.0
HVS pmax pmax
comp=Z,8.0nm,0.9s
KDM Kudat 37.26 223 P **P** **03 59 07.0 +1.3**
MYLDM Lahad Datu 37.85 219 *e*P **P** **03 59 11.3 +0.6**
comp=Z,58nm,1.0s
TNTI Ternate 38.19 203 *e*P **P** **03 59 13.6 +0.1**
comp=Z,139nm,1.2s
NONG Nongkai 38.38 251 P **P** **03 59 15.9 +0.8**
comp=Z,2.2nm,1.0s,comp=Z,28nm
SKNT Sakolnakorn 38.41 249 P **P** **03 59 16.2 +0.8**
comp=Z,33nm,1.6s
RKPI Ransiki, Papua 38.79 191 P **P** **03 59 18.8 +0.3**
comp=Z,56nm,1.0s,comp=Z,6μm
JAY Jayapura 39.22 181 LR LR 04 14 09.3
comp=Z,526nm,20.1s,baz=5.5,slow=34
PAYA Payao 40.14 256 P P 03 59 37.9 +8.0
DGZ Jazzator, Alta 40.39 306 *c iP* **P** **03 59 33.0 +1.2**
DGZ pmax pmax
comp=Z,18nm,0.8s
MRSI Marisa 40.43 211 P **P** **03 59 32.6 +0.4**
FAKI Fak Fak 40.51 194 *e*P **P** **03 59 32.5 -0.3**
comp=Z,45nm,0.8s
FAKI Fak Fak 40.51 194 P **P** **03 59 32.8 0.0**
UTTA Uttaradit 40.54 253 P **P** **03 59 34.1 +0.9**
comp=Z,8.4nm,1.0s,comp=Z,112nm
CHAI Chaiyaphum 40.57 250 P **P** **03 59 33.6 +0.1**
comp=Z,34nm,1.1s,comp=Z,314nm
LAMP Lampang 40.80 255 P P 03 59 37.4 +2.1
comp=Z,13nm,0.9s,comp=Z,147nm
WMQ Urumqi 40.81 297 P P 03 59 37.2 +1.9
WMQ pP pP 03 59 42.1 -1.6
WMQ sP sP 03 59 54.4 +7.3
WMQ S **S** **04 05 49.3 +4.8**
WMQ SS **SS** **04 08 39.0 -6.9**
WMQ pmax pmax
comp=Z,89nm,1.1s
WMQ pmax pmax
comp=Z,560nm,3.7s
WMQ LR LR
comp=Z,3μm,14.3s
WMQ LR LR
comp=Z,2μm,15.1s
WMQ LR LR
comp=Z,2μm,25.5s
PBKT Sadao Pong 40.93 251 *e*P **P** **03 59 36.8 +0.4**
PBKT Sadao Pong 40.93 251 P **P** **03 59 36.7 +0.3**
comp=Z,78nm,1.7s,comp=Z,962nm
CMMT Chiang Mai 41.16 256 P **P** **03 59 39.5 +1.1**
comp=Z,39nm,1.2s,comp=Z,483nm
CHTO Chiang Mai 41.17 256 *e*P **P** **03 59 38.8 +0.4**
comp=Z,23nm,0.8s
CHTO LR LR
comp=Z,1μm,22.0s
CHTO Chiang Mai 41.17 256 P **P** **03 59 39.1 +0.8**
SNR=20
CHTO Chiang Mai 41.17 256 P **P** **03 59 39.1 +0.8**
SNR=20
CHTO Chiang Mai 41.17 256 *e*P **P** **03 59 38.8 +0.4**
CHTO pmax pmax
comp=Z,23nm,0.8s
CHTO MLR MLR
comp=Z,1μm,22.0s
CHTO Chiang Mai 41.17 256 P **P** **03 59 39.6 +1.2**
comp=Z,173nm,1.2s,comp=Z,2μm
SANI Sanana 41.29 204 P **P** **03 59 38.1 -1.2**
CM31 Chiang Mai Arr 41.37 255 P **P** **03 59 40.8 +0.8**
SNR=13
CM31 Chiang Mai Arr 41.37 255 P **P** **03 59 40.8 +0.8**
SNR=13
CMAR Chiang Mai Arr 41.37 255 P **P** **03 59 40.3 +0.2**
comp=Z,7.6nm,1.0s,baz=48,slow=5.4,SNR=22
CMAR LR LR 04 17 38.0
comp=Z,607nm,19.0s,baz=52,slow=37
CMAR Chiang Mai Arr 41.37 255 P **P** **03 59 40.3 +0.2**
CMAR pmax pmax
comp=Z,6.0nm,0.9s
CMAR MLR MLR
comp=Z,607nm,19.0s
CM01 Chiang Mai Arr 41.38 255 *e*P **P** **03 59 40.0 -0.1**
SUKH Sukhothai 41.41 254 P **P** **03 59 41.1 +0.8**
comp=Z,12nm,0.9s

SRAK Srakaew 41.73 247 P **P** **03 59 40.0 -2.9**
comp=Z,94nm,0.8s
APSI Ampana 41.81 210 P **P** **03 59 43.3 -0.3**
comp=Z,93nm,1.2s,comp=Z,1μm
ZAA0 Zalesovo Array 41.93 312 *e*P **P** **03 59 44.4 +0.2**
comp=Z,70nm,1.0s
ZALV Zalesovo Beam 41.93 312 P **P** **03 59 44.2 0.0**
comp=Z,29nm,0.7s,baz=93,slow=6.7,SNR=56
ZALV LR LR 04 18 06.4
comp=Z,1μm,18.8s,baz=72,slow=38
ZALV Zalesovo Beam 41.93 312 *e*P **P** **03 59 43.7 -0.5**
ZALV Zalesovo Beam 41.93 312 P **P** **03 59 44.2 0.0**
ZALV pmax pmax
comp=Z,30nm,0.7s
ZALV MLR MLR
comp=Z,1μm,18.8s
LSA Lhasa 42.13 275 P P 03 59 49.1 +2.4
LSA Lhasa 42.13 275 *e*P **P** **03 59 46.2 -0.5**
comp=Z,42nm,1.0s
LSA LR LR
comp=Z,271nm,22.0s
LSA Lhasa 42.13 275 P P 03 59 48.9 +2.2
LSA Lhasa 42.13 275 *e*P **P** **03 59 46.2 -0.5**
LSA pmax pmax
comp=Z,43nm,1.0s
LSA MLR MLR
comp=Z,271nm,22.0s
AAI Ambon 42.19 200 P P 03 59 49.3 +2.6
AAI pmax pmax
comp=Z,175nm,0.8s
ZSN Zaisan 42.27 303 *e*P **P** **03 59 48.4 +1.3**
comp=Z,22nm,1.4s
ZSN *e*S **S** **04 06 08.0 +2.0**
ZSN LR LR 04 18 40.4
comp=Z,124nm,11.2s
UTHA Uthaitani 42.70 251 P **P** **03 59 51.9 +1.0**
comp=Z,13nm,1.1s,comp=Z,147nm
UMPA Umpang Tak 42.76 253 P P 03 59 53.5 +2.1
comp=Z,16nm,1.0s,comp=Z,1μm
NVS Novosibirsk 42.86 314 *e*P **P** **03 59 52.4 +0.7**
NVS *e*S **S** **04 06 15.0 +0.7**
NVS *e* 04 09 51.5
NVS pmax pmax
comp=E,60nm,1.3s
NVS pmax pmax
comp=Z,82nm,1.3s
NVS pmax pmax
comp=N,13nm,1.5s
NVS smax smax
comp=N,16nm,2.1s
NVS smax smax
comp=E,30nm,2.2s
PATY Pattaya 43.30 247 P P 04 00 01.1 +5.4
comp=E,9.6nm,0.7s,comp=E,2μm
SHL Shillong 43.31 269 P P 03 59 58.9 +2.9
SHL pmax pmax
comp=Z,23nm,1.2s
SHL Shillong 43.31 269 *e*P **P** **03 59 56.0 0.0**
SHL *e*S **S** **04 06 18.0 -4.0**
NRIK Noril'sk 43.35 335 P **P** **03 59 55.3 -0.2**
comp=Z,5.3nm,0.7s,baz=92,slow=5.2,SNR=6.8
NRIK LR LR 04 18 38.1
comp=Z,1μm,18.4s,baz=108,slow=37
SBUM Sibu 43.50 225 *e*P **P** **03 59 57.9 +0.5**
comp=Z,14nm,1.1s
SBUM Sibu 43.50 225 P **P** **03 59 58.0 +0.6**
RDOG Red Dog Mine 43.66 27 *e*P P 03 59 59.9 +1.8
comp=Z,68nm,1.1s
SRDT SRDT 43.70 250 P **P** **04 00 00.2 +1.3**
comp=Z,102nm,1.3s
MK01 Makanchi Array 44.10 302 *e*P **P** **04 00 01.7 -0.2**
MK31 Makanchi Array 44.11 302 *e*P **P** **04 00 02.4 +0.4**
MK31 Makanchi Array 44.11 302 *e*P **P** **04 00 02.4 +0.4**
MKAR Makanchi Array 44.11 302 P **P** **04 00 02.1 +0.1**
comp=Z,10.0nm,0.6s,baz=89,slow=9.5,SNR=51
MKAR LR LR 04 18 30.7
comp=Z,1μm,21.1s,baz=86,slow=36
MKAR Makanchi Array 44.11 302 P **P** **04 00 02.1 +0.1**
MKAR pmax pmax
comp=Z,36nm,1.0s
MKAR MLR MLR
comp=Z,1μm,21.1s
PHET Kaeng Krachan 44.23 248 P **P** **04 00 04.3 +1.1**
comp=Z,32nm,0.9s,comp=Z,304nm
SEM Semipalatinsk 44.95 308 *e*P **P** **04 00 09.3 +0.5**
comp=Z,80nm,1.2s
SEM *e*S **S** **04 06 45.6 +0.3**
SPSI Sidrap Palu 45.34 211 P **P** **04 00 10.9 -1.1**
KSM Kuching 45.39 226 *e*P **P** **04 00 12.8 +0.3**
comp=Z,388nm,2.0s
KSM Kuching 45.39 226 P **P** **04 00 14.0 +1.5**
SVW2 Sparrevohn 45.68 37 *e*P **P** **04 00 15.1 +0.8**
comp=Z,50nm,1.1s
TAPN Taplejung 45.85 274 *e*P **P** **04 00 16.6 +0.2**
KURK Kurchatov 45.94 308 *e*P **P** **04 00 16.3 -0.1**
KURK LR LR
comp=Z,2μm,21.0s
KURK Kurchatov 45.94 308 P P 04 00 20.0 +3.6
SNR=61
KURK Kurchatov 45.94 308 P P 04 00 20.0 +3.6
SNR=61
KURK Kurchatov 45.94 308 *c iP* **P** **04 00 16.1 -0.3**
KURK pmax pmax
comp=Z,207nm,1.3s
KAPI Kappang 46.30 210 PFAKE 04 00 30.0 +10
KAPI LR LR
comp=Z,271nm,20.0s
ODAN Odare 46.33 274 *e*P **P** **04 00 21.0 +0.9**
comp=Z,99nm,0.8s
PMG Port Moresby 46.39 172 PFAKE 04 00 30.0 +10
PMG LR LR
comp=Z,283nm,20.0s
IM3 Indian Mountai 46.81 31 *e*P **P** **04 00 23.9 +0.9**
SHLS Shalkode 46.81 298 *e*P **P** **04 00 22.0 -1.6**
comp=Z,51nm,1.2s
SHLS *e*S **S** **04 07 09.0 -3.2**
SHLS LR LR 04 21 25.6
comp=Z,509nm,12.7s
RAMN Ramite 46.92 274 *e*P **P** **04 00 25.6 +0.9**
comp=Z,354nm,1.1s
JIRN Jiri 46.93 275 *e*P **P** **04 00 26.1 +1.1**
comp=Z,344nm,1.1s
GUN Gumba 47.07 276 *e*P **P** **04 00 27.0 +0.9**
comp=Z,191nm,0.9s
TDK Taldyqorghan 47.12 300 *e*P **P** **04 00 27.1 +1.3**
TDK LR LR 04 20 13.6
comp=Z,1μm,16.5s
UZB Uzynbulak 47.13 298 *i* P **P** **04 00 26.7 +0.6**
comp=Z,29nm,1.0s
UZB *e*S **S** **04 07 18.1 +1.4**
UZB LR LR 04 21 45.0
comp=Z,207nm,12.7s
KDAK Kodiak Island 47.26 42 PFAKE 04 00 40.0 +13
KDAK LR LR
comp=Z,290nm,19.0s
KPKS Kokpek 47.29 298⇑ *e*P **P** **04 00 28.1 +0.8**
comp=Z,98nm,1.9s
KPKS LR LR 04 21 22.0
comp=Z,1μm,15.5s
PPLA Purkeypile 47.33 35 *e*P P 04 00 28.8 +1.4
comp=Z,65nm,1.4s
SKLT Songkhla 47.36 242 P P 04 00 29.6 +1.6
comp=Z,63nm,1.8s,comp=Z,1μm
CAST Castle Rocks 47.39 34 *e*P P 04 00 29.2 +1.6
comp=Z,17nm,0.8s
ZHN Zhinishke 47.54 298 *e*P **P** **04 00 29.9 +0.7**
comp=Z,39nm,1.5s
TRTT Trang 47.56 243 P **P** **04 00 30.6 +1.1**
comp=Z,26nm,1.5s,comp=Z,389nm
SATY Saty 47.59 298 *i* P **P** **04 00 30.4 +0.8**
comp=Z,27nm,1.6s
SATY *e*S **S** **04 07 24.6 +1.4**
SATY LR LR 04 22 05.6
comp=Z,244nm,12.1s
PKI Pulchoki 47.60 276 *e*P **P** **04 00 30.6 +0.5**
comp=Z,91nm,0.9s
KKN Kakani 47.60 276 *e*P **P** **04 00 30.8 +0.8**
comp=Z,157nm,0.9s
PKIN Phulchoki 47.60 276 *e*P **P** **04 00 30.5 +0.4**
PRZ Przheval'sk 47.74 297 *e*P **P** **04 00 32.2 +1.3**
comp=Z,144nm,1.3s
PRZ Przheval'sk 47.74 297 *e*P **P** **04 00 32.2 +1.3**
PRZ pmax pmax
comp=Z,144nm,1.3s
DMN Daman 47.82 276 *e*P **P** **04 00 32.6 +0.8**
comp=Z,182nm,1.4s

BPAW Bear Paw Mtn. 47.89 33 *e*P **P** **04 00 31.7 +0.2**
comp=Z,18nm,1.1s
MLY Manley 48.01 32 *e*P P 04 00 34.0 +1.6
comp=Z,26nm,0.8s
SUA Susitna One 48.02 37 *e*P P 04 00 33.8 +1.1
comp=Z,31nm,1.0s
TRF Thorofare Moun 48.19 34 *e*P P 04 00 35.2 +1.2
comp=Z,17nm,0.8s
COLD Coldfoot 48.31 29 *e*P P 04 00 36.8 +2.1
comp=Z,12nm,1.1s
PKDT Phuket 48.49 244 P **P** **04 00 37.9 +1.2**
comp=Z,75nm,1.0s
MDOK Medeo 48.52 298 *e*P **P** **04 00 37.3 +0.5**
comp=Z,492nm,1.2s
MDOK *e*S **S** **04 07 37.6 +1.1**
MDOK LR LR 04 20 50.3
comp=Z,1μm,18.1s
RC01 Rabbit Creek A 48.52 37 *e*P **P** **04 00 37.2 +0.8**
comp=Z,42nm,1.0s
BWN Browne 48.55 33 *e*P P 04 00 38.7 +2.1
comp=Z,101nm,1.0s
DANN Dangsing 48.57 277 *e*P **P** **04 00 38.8 +1.2**
comp=Z,375nm,0.9s
TOLK Toolik Lake Re 48.63 27 *e*P **P** **04 00 37.8 +0.6**
comp=Z,40nm,1.0s
TOLK Toolik Lake Re 48.63 27 P P 04 00 38.6 +1.4
baz=266
KULM Kulim 48.67 240 *e*P **P** **04 00 38.8 +0.7**
comp=Z,127nm,1.5s
KULM Kulim 48.67 240 P P 04 00 41.0 +2.9
MMRI Maumere 48.70 205 *e*P **P** **04 00 38.2 -0.1**
comp=Z,66nm,0.7s
KDJ Kajisay 48.71 297 *e*P **P** **04 00 37.4 -0.9**
comp=Z,23nm,0.9s
KDJ Kajisay 48.71 297 *e*P **P** **04 00 37.4 -0.9**
KDJ pmax pmax
comp=Z,23nm,0.9s
PMR Palmer 48.79 37 *e*P **P** **04 00 38.4 0.0**
comp=Z,22nm,0.9s
PMR Palmer 48.79 37 *e*P **P** **04 00 38.4 0.0**
PMR pmax pmax
comp=Z,22nm,0.9s
MCK McKinley 48.79 34 *e*P **P** **04 00 39.2 +0.7**
comp=Z,29nm,1.0s
MCK McKinley 48.79 34 *e*P **P** **04 00 39.2 +0.7**
MCK pmax pmax
comp=Z,29nm,1.0s
KUU Kurty 48.82 300 *e*P **P** **04 00 39.0 0.0**
comp=Z,31nm,1.0s
KUU *e*S **S** **04 07 41.2 +0.7**
KUU LR LR 04 21 33.4
comp=Z,557nm,12.6s
RND Reindeer 48.84 34 *e*P **P** **04 00 39.3 +0.4**
comp=Z,31nm,0.9s
RND Reindeer 48.84 34 *e*P **P** **04 00 39.3 +0.4**
RND pmax pmax
comp=Z,31nm,0.9s
GHO Glory Hole Cre 48.88 36 *e*P **P** **04 00 39.8 +0.6**
comp=Z,39nm,0.9s
KOLN Koldanda 48.95 277 *e*P **P** **04 00 41.4 +1.0**
comp=Z,358nm,1.5s
IPM Ipoh 48.99 239 *e*P **P** **04 00 40.3 -0.3**
comp=Z,96nm,1.2s
MDM Murphy Dome 49.08 32 *e*P P 04 00 42.0 +1.3
comp=Z,52nm,0.9s
SOEI Soe 49.09 202 *e*P **P** **04 00 41.1 -0.3**
comp=Z,230nm,1.0s
MYKOM Kota Tinggi 49.11 234 *e*P **P** **04 00 41.3 -0.1**
comp=Z,167nm,1.7s
MYKOM Kota Tinggi 49.11 234 P P 04 00 44.0 +2.6
WRH Wood River Hil 49.15 33 *e*P P 04 00 42.3 +1.2
comp=Z,17nm,1.0s
SML Sawmill 49.15 36 *e*P P 04 00 42.5 +1.2
comp=Z,31nm,0.8s
SML Sawmill 49.15 36 *e*P P 04 00 42.5 +1.2
SML pmax pmax
comp=Z,31nm,0.8s
TCOL CIGO, UAF Yank 49.23 32 P P 04 00 43.1 +1.3
baz=271
COLA College 49.24 32 *e*P **P** **04 00 42.7 +0.9**
comp=Z,22nm,0.6s
COLA LR LR
comp=Z,208nm,19.0s
COLA College 49.24 32 *e*P **P** **04 00 42.7 +0.9**
COLA pmax pmax
comp=Z,22nm,0.6s
COLA MLR MLR
comp=Z,208nm,19.0s
CCB Clear Creek Bu 49.27 32 *e*P **P** **04 00 43.0 +1.0**
comp=Z,16nm,1.3s
PYUN Piuthan 49.29 277 *e*P **P** **04 00 43.9 +0.9**
comp=Z,402nm,1.1s
HNR Honiara 49.31 155 PFAKE 04 00 50.0 +7.1
HNR LR LR
comp=Z,621nm,19.0s
ULHL Ulahol 49.34 297 P P 04 00 48.5 +5.3
SNR=8.2
POKR Poker Plat Res 49.41 32 P P 04 00 44.7 +1.5
baz=272,SNR=56
DHY Denali Highway 49.52 35 *e*P **P** **04 00 44.7 +0.5**
comp=Z,75nm,1.9s
TKM2 Tokmak 2 49.61 298 P **P** **04 00 46.4 +1.1**
SNR=9.0
SCM Sheep Creek Mo 49.63 36 *e*P **P** **04 00 46.0 +1.0**
comp=Z,34nm,0.9s
HDA Harding Lake 49.64 33 *e*P **P** **04 00 45.7 +0.8**
comp=Z,31nm,0.9s
HDA Harding Lake 49.64 33 P P **04 00 45.4 +0.4**
baz=272,SNR=5.6
ILAR Eielson Array 49.66 32 P **P** **04 00 45.3 +0.3**
comp=Z,22nm,0.8s,baz=269,slow=6.3,SNR=204
ILAR LR LR 04 23 32.7
comp=Z,332nm,18.7s,baz=288,slow=38
ILB Eielson Array 49.66 32 *e*P **P** **04 00 45.4 +0.3**
IL1 Eielson Array 49.66 32 *e*P **P** **04 00 44.5 -0.5**
BATI Baumata 49.70 203 LR LR 04 20 36.5
comp=Z,331nm,21.6s,baz=78,slow=35
NRN Naryn 49.75 296 *e*P **P** **04 00 47.8 +1.3**
comp=Z,19nm,0.9s
NRN Naryn 49.75 296 *e*P **P** **04 00 47.8 +1.3**
NRN pmax pmax
comp=Z,19nm,0.9s
BRZS Berezniki 49.81 308 *e*P **P** **04 00 46.5 +0.1**
comp=Z,31nm,1.2s
BRZS *e*S **S** **04 07 55.1 +1.0**
BRZS LR LR 04 22 13.1
comp=Z,240nm,14.8s
KZA Kyzart 50.10 298 P P 04 00 55.7 +6.4
SNR=6.0
FID Port Fidalgo 50.13 38 *e*P **P** **04 00 49.7 +1.0**
comp=Z,130nm,1.8s
FID *e*pP **sP** **04 01 00.0 -0.6**
KBK Karagaybulak 50.14 298 P P 04 00 54.8 +5.5
SNR=10
CHMS Chumysh 50.18 299 P P 04 00 54.5 +5.1
SNR=5.6
USP Ospenovka 50.28 299 P P 04 00 55.3 +5.1
SNR=12
FRU Bishkek 50.32 299 *e*P P 04 00 54.0 +3.5
FRU *e* 04 02 07.5
FRU *e* 04 08 16.0
FRU pmax pmax
comp=Z,150nm,2.0s
KLU Klutina 50.33 37 *e*P P 04 00 51.4 +1.1
comp=Z,59nm,1.4s
KSH Kashi 50.37 294 P P 04 00 55.7 +4.7
KSH pP sP 04 01 07.7 +4.8
KSH PP PP 04 02 52.2 +5.7
KSH PcS **PcS** **04 06 07.4 +0.8**
KSH S **S** **04 08 06.3 +3.8**
KSH SS **SS** **04 11 38.9 +2.9**
KSH pmax pmax
comp=Z,120nm,1.5s
KSH LR LR
comp=Z,2μm,12.9s
KSH LR LR
comp=Z,2μm,15.0s
KSH LR LR
comp=Z,5μm,16.0s
MTN Manton Dam 50.40 193 *e*P **P** **04 00 50.8 -0.3**
comp=Z,126nm,1.1s
PAX Paxson 50.40 35 *e*P P 04 00 52.2 +1.4
comp=Z,29nm,1.4s
PAX Paxson 50.40 35 *e*P P 04 00 52.2 +1.4
PAX pmax pmax
comp=Z,29nm,1.4s
DIV Divide 50.44 37 *e*P P 04 00 52.5 +1.4

comp=Z,42nm,1.0s
AAK Ala-Archa 50.47 298 LR LR 04 23 35.9
comp=Z,2μm,19.9s,baz=66,slow=38
AAK Ala-Archa 50.47 298 P **P** **04 00 52.6 +0.9**
SNR=8.9
AAK Ala-Archa 50.47 298 *eP* **P** **04 00 52.8 +1.0**
comp=Z,42nm,1.4s
AAK Ala-Archa 50.47 298 P P 04 00 55.5 +3.7
SNR=14
AAK Ala-Archa 50.47 298 P P 04 00 55.5 +3.7
SNR=14
AAK Ala-Archa 50.47 298 *i* P **P** **04 00 52.8 +1.0**
SNR=5.5
AAK Ala-Archa 50.47 298⇑ *eP* **P** **04 00 52.3 +0.6**
AAK pmax pmax
comp=Z,4.0nm,0.9s
EYAK Cordova Ski Ar 50.52 38 *eP* P 04 00 52.8 +1.3
comp=Z,27nm,0.9s
UCH Uchtor 50.58 298 P P 04 00 58.6 +5.7
SNR=8.4
BVAR Borovoye Array 50.59 312 LR LR 04 23 25.9
comp=Z,1μm,18.6s,baz=80,slow=37
HARP HAARP 50.59 35 *eP* P 04 00 53.5 +1.2
comp=Z,143nm,1.8s
COEN Coen 50.62 178 *eP* **P** **04 00 52.7 -0.1**
comp=Z,49nm,1.1s
BRVK Borovoye 50.65 312 *eP* **P** **04 00 52.6 -0.1**
BRVK comp=Z,32nm,1.1s LR LR
comp=Z,737nm,21.0s
BRVK Borovoye 50.65 312⇑ *eP* **P** **04 00 53.0 +0.3**
BRVK pmax pmax
comp=Z,55nm,1.7s
EKS2 Erkin-Say 50.97 299 P P 04 00 59.0 +3.6
SNR=8.2
DOT Dot Lake 50.97 34 *eP* **P** **04 00 55.3 +0.3**
comp=Z,16nm,1.0s
SCRK Sand Creek 50.97 33 *eP* **P** **04 00 55.8 +0.7**
comp=Z,38nm,1.0s
BMRM Bremner River 51.02 37 *eP* **P** **04 00 56.5 +1.0**
comp=Z,48nm,1.1s
RAGM Ragged Mountai 51.06 38 *eP* P 04 00 57.1 +1.3
comp=Z,26nm,0.9s
AML Almayashu 51.19 298 P **P** **04 00 58.4 +0.9**
SNR=9.3
LHMI Lhok Sumawe 51.32 243 *eP* **P** **04 00 58.7 +0.5**
comp=Z,177nm,1.0s
PSI Prapat 51.65 239 *eP* **P** **04 01 00.5 -0.3**
comp=Z,38nm,1.0s
PSI Prapat 51.65 239 *eP* **P** **04 01 00.5 -0.3**
PSI pmax pmax
comp=Z,38nm,1.0s
TGL Tana Glacier 51.91 37 *eP* **P** **04 01 02.8 +0.6**
comp=Z,22nm,1.0s
BALM Baldy 52.10 37 *eP* P 04 01 05.2 +1.6
comp=Z,19nm,1.0s
BALM Baldy 52.10 37 *eP* P 04 01 05.2 +1.6
BALM pmax pmax
comp=Z,19nm,1.0s
EGAK Eagle 52.10 32 *eP* **P** **04 01 04.0 +0.6**
comp=Z,13nm,0.9s
EGAK LR LR
comp=Z,312nm,19.0s
DAWY Dawson 52.96 33 *eP* **P** **04 01 10.9 +1.0**
comp=Z,20nm,1.4s
KK31 Karatay Array 53.11 300 *eP* **P** **04 01 11.8 +0.6**
KK31 Karatay Array 53.11 300 *eP* **P** **04 01 11.9 +0.6**
KKAR Karatay Array 53.11 300 *eP* **P** **04 01 11.8 +0.6**
KKAR Karatay Array 53.11 300 *eP* **P** **04 01 11.9 +0.6**
GSI Gunungsitoli 53.65 239 *eP* **P** **04 01 15.6 +0.1**
comp=Z,305nm,1.0s
EPYK Eagle Plains 53.69 30 P P 04 01 17.0 +1.8
baz=280
HYT Haines Junctio 54.46 37 *eP* P 04 01 22.4 +1.4
comp=Z,71nm,1.2s
INK Inuvik 54.55 27 LR LR 04 28 03.0
comp=Z,300nm,18.5s,baz=268,slow=40
INK Inuvik 54.55 27 *eP* **P** **04 01 22.2 +1.0**
comp=Z,30nm,1.1s
INK Inuvik 54.55 27 *eP* **P** **04 01 22.3 +1.0**
INK pmax pmax
comp=Z,30nm,1.1s
SVE Sverdlovsk 55.18 319⇓ *eP* **P** **04 01 26.9 +0.8**
SVE pmax pmax
comp=Z,119nm,1.1s
SVE MLR MLR
comp=Z,2μm,18.0s
WHY Whitehorse 55.75 36 *eP* P 04 01 31.5 +1.2
comp=Z,24nm,1.0s
SKAG Skagway 55.86 38 *eP* P 04 01 32.1 +1.2
comp=Z,36nm,1.2s
ARU Arti 56.40 319 *eP* **P** **04 01 33.9 -0.9**
ARU LR LR
comp=Z,1μm,20.0s
ARU Arti 56.40 319 *d i* P **P** **04 01 34.7 -0.1**
ARU 04 02 33.6
ARU S **S** **04 09 23.8 +0.3**
ARU SS **SS** **04 13 07.4 -2.7**
ARU pmax pmax
comp=Z,41nm,1.0s
ARU MLR MLR
comp=Z,984nm,17.0s
FITZ Fitzroy Crossi 56.66 198 *eP* **P** **04 01 36.1 -1.0**
comp=Z,71nm,1.4s
JIS Juneau Island 56.67 39 *eP* **P** **04 01 37.7 +1.0**
comp=Z,38nm,1.1s
CTA Charters Tower 56.88 174 LR LR 04 25 33.8
comp=Z,272nm,20.2s,baz=50,slow=36
CTAO Charters Tower 56.88 174 *eP* **P** **04 01 38.6 0.0**
comp=Z,13nm,1.1s
CTAO LR LR
comp=Z,331nm,19.0s
WRAB Tennant Creek 56.91 188 *eP* **P** **04 01 38.2 -0.6**
comp=Z,27nm,0.7s
WRAB Tennant Creek 56.91 188 *d i* P **P** **04 01 38.2 -0.6**
WRAB pmax pmax
comp=Z,55nm,1.1s
WB2 Warramunga Arr 56.92 188 *eP* **P** **04 01 36.9 -1.9**
WRA Warramunga Arr 56.92 188 P **P** **04 01 38.1 -0.7**
comp=Z,40nm,1.0s,baz=5.6,slow=7.0,SNR=97
WRA LR LR 04 24 12.6
comp=Z,241nm,21.7s,baz=10.0,slow=34
WC3 Warramunga Arr 56.93 188 *eP* **P** **04 01 37.5 -1.4**
comp=Z,100nm,1.3s
FUNA Funafuti 57.48 134 PFAKE 04 02 00.0 +17
FUNA LR LR
comp=Z,5μm,19.0s
ABKAR Akbulak array 57.95 310 *eP* **P** **04 01 45.5 -0.4**
HYB Hyderabad 58.10 268 *i* P **P** **04 01 47.5 0.0**
WRAK Wrangell Islan 58.31 41 PFAKE 04 02 00.0 +12
WRAK LR LR
comp=Z,284nm,19.0s
DLBC Dease Lake 58.79 38 P P 04 01 53.5 +1.8
comp=Z,13nm,1.0s,baz=288,slow=8.7,SNR=18
DLBC LR LR 04 30 57.2
comp=Z,104nm,18.7s,baz=326,slow=40
DLBC Dease Lake 58.79 38 *eP* **P** **04 01 52.5 +0.8**
comp=Z,26nm,1.1s
AS01 Alice Springs 60.64 188 *eP* **P** **04 02 03.7 -1.0**
AS31 Alice Springs 60.65 188 *eP* **P** **04 02 04.3 -0.4**
comp=Z,6.3nm,0.9s
ASAR Alice Springs 60.65 188 P **P** **04 02 04.4 -0.3**
comp=Z,20nm,0.9s,baz=9.0,slow=5.2,SNR=133
ASAR LR LR 04 26 05.3
comp=Z,215nm,22.0s,baz=14,slow=34
MBWA Marble Bar 61.23 203 *eP* **P** **04 02 08.9 +0.2**
PALK Pallekele 62.25 258 *eP* **P** **04 02 16.8 +0.9**
PALK Pallekele 62.25 258 *i* P **P** **04 02 15.9 0.0**
SNR=16
PALK Pallekele 62.25 258 *i* P **P** **04 02 17.2 +1.3**
EIDS Eidsvold 62.62 170 *eP* **P** **04 02 18.8 +0.9**
comp=Z,32nm,1.4s
RES Resolute Bay 62.75 14 LR LR 04 32 27.0
comp=Z,259nm,18.3s,baz=318,slow=39
RES Resolute Bay 62.75 14 *eP* **P** **04 02 18.0 -0.3**
comp=Z,27nm,1.1s
RES Resolute Bay 62.75 14 *eP* **P** **04 02 18.0 -0.3**
RES pmax pmax
comp=Z,27nm,1.1s
APA Apatity 62.77 336⇓ *i* P P 04 02 21.6 +3.1
APA pmax pmax
comp=Z,16nm,1.2s
APA MLR MLR
comp=Z,2μm,16.0s
DZM Mont Dzumac 63.28 154 *eP* P 04 02 24.0 +1.5
comp=Z,133nm,1.4s
DZM *eS* **S** **04 10 55.3 +2.5**
comp=Z,239nm,23.6s
DZM Mont Dzumac 63.28 154 *e* LR LR 04 21 12.4
comp=Z,596nm,22.1s
DZM Mont Dzumac 63.28 154 *eP* **P** **04 02 22.6 +0.1**
comp=Z,89nm,1.4s
GEYT Alibeck 63.81 299 P **P** **04 02 26.1 +0.1**
comp=Z,8.2nm,0.9s,baz=45,slow=4.4,SNR=13
GEYT LR LR 04 31 31.4
comp=Z,304nm,20.0s,baz=335,slow=37
GYA0B ALIBECK ARRAY 63.81 299 *eP* **P** **04 02 26.7 +0.7**
comp=Z,57nm,1.1s
YKW3 Yellowknife Ar 63.93 30 *eP* **P** **04 02 26.6 +0.3**
comp=Z,23nm,1.2s
YKA Yellowknife Ar 63.97 30 P **P** **04 02 26.5 0.0**
comp=Z,7.3nm,0.9s,baz=301,slow=6.7,SNR=13
YKB5 Yellowknife Ar 63.97 30 *eP* **P** **04 02 26.7 +0.2**
ARCES ARCESS Array B 64.08 339 P **P** **04 02 28.1 +0.9**
comp=Z,6.7nm,0.8s,baz=61,slow=7.5,SNR=9.0
ARCES LR LR 04 35 57.8
comp=Z,26nm,18.0s,baz=20,slow=41
DAG Danmarks Havn 65.90 355⇓ *i* P **P** **04 02 38.6 -0.3**
comp=Z,24nm,1.0s
DAG Danmarks Havn 65.90 355⇓ *i* P **P** **04 02 38.6 -0.3**
DAG pmax pmax
comp=Z,24nm,1.0s
D03D Eldon 67.26 47 P P 04 02 50.1 +2.1
baz=300
MOS Moscow 67.30 323 *eP* **P** **04 02 47.1 -1.0**
MOS *e* 04 03 13.9
MOS *eS* **S** **04 11 41.7 +0.5**
MOS pmax pmax
comp=Z,146nm,1.4s
MOS MLR MLR
comp=Z,1μm,16.0s
B05A Bryant 67.47 46 P P 04 02 51.0 +1.6
baz=300
VRH Novokhopyorsk 67.61 318 *eP* **P** **04 02 49.5 -0.7**
VRH pmax pmax
comp=Z,70nm,1.2s
ARMA Armidale 67.67 170 *eP* **P** **04 02 51.4 +0.7**
comp=Z,31nm,1.3s
E04D Cinebar 68.06 48 P P 04 02 55.0 +1.9
baz=301
OBN Obninsk 68.14 323 *eP* **P** **04 02 53.4 0.0**
OBN Obninsk 68.14 323 *deP* **P** **04 02 53.1 -0.3**
OBN *e*SP **sP** **04 03 03.7 -1.9**
OBN 04 05 26.0
OBN PPP PPP 04 07 01.0
OBN *i* S **S** **04 11 53.1 +1.7**
OBN *e*SS **SS** **04 16 11.1 -2.3**
OBN pmax pmax
comp=Z,108nm,1.3s
OBN MLR MLR
comp=Z,916nm,15.0s
LPSR Galich'ya Gora 68.34 320 *eP* **P** **04 02 54.4 -0.3**
LPSR pmax pmax
comp=Z,100nm,1.3s
STKA Stephens Creek 68.42 180 P **P** **04 02 55.7 +0.3**
comp=Z,6.9nm,0.9s,baz=344,slow=11,SNR=8.4
STKA LR LR 04 32 24.5
comp=Z,188nm,20.3s,baz=5.2,slow=36
STKA Stephens Creek 68.42 180 *eP* **P** **04 02 55.9 +0.5**
comp=Z,2.2nm,1.0s
STKA Stephens Creek 68.42 180 *eP* **P** **04 02 55.9 +0.5**
STKA pmax pmax
comp=Z,2.0nm,1.0s
FORT Forrest 68.46 192 *eP* **P** **04 02 55.1 -0.5**
comp=Z,64nm,0.8s
LTY Liberty 68.81 46 *eP* P 04 02 59.3 +1.3
comp=Z,22nm,1.4s
FIA1 FINESS Array S 68.88 332 *eP* **P** **04 02 57.6 -0.3**
FINES FINESS Array B 68.89 332 P **P** **04 02 58.0 0.0**
comp=Z,27nm,1.0s,baz=61,slow=9.0,SNR=21
FINES LR LR 04 35 17.1
comp=Z,520nm,18.7s,baz=36,slow=38
VSR Storozhevoye 68.97 319 *eP* **P** **04 02 57.4 -1.3**
VSR pmax pmax
comp=Z,80nm,1.3s
B08A Colville Reser 69.00 45 *eP* **P** **04 02 60.0 +0.9**
comp=Z,61nm,2.0s
H04D Lebanon 69.01 50 P P 04 03 00.9 +1.8
baz=301
VORD Divnogorie 69.04 319 *eP* **P** **04 02 58.7 -0.4**
VORD pmax pmax
comp=Z,50nm,1.1s
I03D Drain, OR 69.06 51 P P 04 03 00.8 +1.3
baz=301
F05D White Salmon 69.07 48 P P 04 03 01.0 +1.5
baz=302
H04A Deer Lake 69.26 49 *eP* **P** **04 03 01.6 +0.9**
comp=Z,52nm,1.4s
K02D Willamette Mer 69.39 52 P P 04 03 03.0 +1.4
baz=302
GROC Groznyy 69.41 309 *eP* **P** **04 03 01.1 -0.5**
GROC *e* 04 03 22.6
GROC S **S** **04 12 06.4 -0.4**
GROC pmax pmax
comp=Z,53nm,1.5s
G05D Wamic, OR 69.49 48 P P 04 03 03.8 +1.7
baz=302
BBOO Buckleboo 69.53 185 *eP* **P** **04 03 02.7 +0.5**
comp=Z,28nm,1.1s
I04A Tendick Farm, 69.59 50 P P 04 03 04.2 +1.4
baz=302
E07A Sunnyside 69.66 47 *eP* **P** **04 03 04.1 +1.0**
comp=Z,89nm,1.9s
L02E Cave Junction 69.71 52 P P 04 03 05.3 +1.8
baz=302
C09A Chrisman Ranch 69.90 45 *eP* P 04 03 05.6 +1.1
comp=Z,19nm,1.3s
D08A Wollman Farm, 69.93 46 *eP* P 04 03 06.1 +1.4
comp=Z,17nm,1.1s
HAWA Hanford 69.94 47 *eP* P 04 03 06.0 +1.2
comp=Z,20nm,1.3s
I05D Terrebonne, OR 69.96 49 P P 04 03 06.5 +1.5
baz=302
F07A Phinny Hill Vi 69.97 47 *eP* **P** **04 03 05.8 +0.8**
comp=Z,13nm,0.8s
J04D Umpqua Nationa 70.07 51 P P 04 03 07.5 +1.5
baz=302
GOF Gofitskoye 70.11 312⇑ *i* P P 04 03 10.6 +4.7
GOF pmax pmax
comp=Z,120nm,1.1s
NEW Newport 70.29 44 *eP* **P** **04 03 06.9 -0.1**
comp=Z,12nm,1.0s
NEW Newport 70.29 44 *eP* **P** **04 03 06.9 -0.1**
NEW pmax pmax
comp=Z,12nm,1.0s
NEW Newport 70.29 44 P P 04 03 08.2 +1.2
baz=304
L04D Klamath Falls 70.50 52 P P 04 03 10.1 +1.6
baz=302
PINE Pine Mountain 70.50 50 *eP* P 04 03 10.0 +1.5
comp=Z,37nm,0.9s
YBH Yreka Blue Hor 70.50 52 *eP* P 04 03 09.7 +1.2
comp=Z,44nm,1.5s
YBH Yreka Blue Hor 70.50 52 *eP* P 04 03 09.7 +1.3
YBH pmax pmax
comp=Z,44nm,1.5s
VSU Vasula 70.52 330 *eP* **P** **04 03 08.5 +0.4**
VSU IAmb IAmb 04 03 13.2
comp=Z,210nm,1.5s
VSU Vasula 70.52 330 *ceP* **P** **04 03 08.4 +0.4**
VSU pmax pmax
comp=Z,302nm,2.5s
J05D Fort Rock, OR 70.59 50 P P 04 03 10.9 +1.8
baz=303
M02C Callahan 70.59 53 P P 04 03 10.8 +1.8
baz=302
NCK Nalchik 70.61 310⇓ *eP* P 04 03 12.7 +3.7
NCK pmax pmax
comp=Z,29nm,1.0s
K04D Chiloquin, OR 70.62 51 P P 04 03 10.9 +1.6
baz=303
E09A Wood Farm, Sta 70.67 46 *eP* P 04 03 11.0 +1.7
comp=Z,18nm,1.1s
ZEI Tsey 70.81 309 *eP* **P** **04 03 08.9 -1.5**
ZEI pmax pmax
comp=Z,23nm,1.1s
WSAR Wadi Sarin 70.81 285 P P 04 03 14.3 +3.8
SNR=8.8
WSAR Wadi Sarin 70.81 285 P P 04 03 14.3 +3.8
SNR=8.8
SUMG Summit 70.81 360 *eP* **P** **04 03 11.3 +1.1**
comp=Z,30nm,1.1s
SUMG Summit 70.81 360 *i* P **P** **04 03 10.9 +0.7**
comp=Z,103nm,1.2s
SUMG Summit 70.81 360 *i* P **P** **04 03 10.9 +0.7**
SUMG pmax pmax
comp=Z,100nm,1.2s
TBLG Delisi 70.85 308 *eP* **P** **04 03 11.6 +1.0**
comp=Z,35nm,1.1s
G08A Pilot Rock 70.87 47 *eP* P 04 03 11.9 +1.2
comp=Z,9.9nm,1.1s
N02D Trinity Center 70.91 53 P P 04 03 12.7 +1.8
baz=303
KBZ Khabaz 70.92 311 P **P** **04 03 11.3 +0.5**
comp=Z,18nm,1.1s,baz=51,slow=3.3,SNR=18
KBZ LR LR 04 38 15.4
comp=Z,553nm,19.2s,baz=54,slow=39
KIV Kislovodsk 70.92 311 *eP* **P** **04 03 12.4 +1.4**
comp=Z,134nm,1.1s
KIV LR LR
comp=Z,601nm,19.0s
KIV Kislovodsk 70.92 311 *i* P **P** **04 03 11.7 +0.7**
SNR=19
KIV Kislovodsk 70.92 311 *eP* **P** **04 03 10.9 -0.1**
KIV pmax pmax
comp=Z,127nm,1.1s
KIV MLR MLR
comp=Z,592nm,18.0s
M04C Macdoel 71.02 52 P P 04 03 13.4 +1.7
baz=303
BIDO Bidbid 71.05 286 P P 04 03 17.0 +5.0
SNR=15
BIDO Bidbid 71.05 286 P P 04 03 17.0 +5.0
SNR=15
K05A Summer Lake 71.10 51 *eP* P 04 03 13.3 +1.1
comp=Z,49nm,1.2s
BANOM Banah 71.16 289 P P 04 03 18.7 +6.0
SNR=12
BANOM Banah 71.16 289 pP P 04 03 18.7 +6.0
SNR=12
BANOM Banah 71.16 289 *i* P **P** **04 03 12.5 -0.1**
SNR=10
SHME Shamm 71.21 289 *i* P **P** **04 03 13.4 +0.5**
SNR=7.4
WDC Whiskeytown Da 71.22 53 *eP* P 04 03 14.6 +1.9
comp=Z,15nm,1.1s
WDC Whiskeytown Da 71.22 53 *eP* P 04 03 14.6 +1.9
WDC pmax pmax
comp=Z,15nm,1.1s
NEY Neytrino 71.28 310⇓ *eP* **P** **04 03 13.1 -0.2**
NEY pmax pmax
comp=Z,1.0nm,0.9s
O02D Mt. Diablo Mer 71.28 54 P P 04 03 15.0 +1.8
baz=303
SMDO Samad 71.36 285 P P 04 03 19.5 +5.6
SNR=6.2
SMDO Samad 71.36 285 P P 04 03 19.5 +5.6
SNR=6.2
F10A Beach Ranch, E 71.50 46 *eP* P 04 03 15.9 +1.4
comp=Z,26nm,1.8s
MSFE Esma-Masafi 71.57 288 *i* P **P** **04 03 15.9 +0.8**
SNR=8.9
GNI Garni 71.71 307 *eP* **P** **04 03 17.0 +1.1**
comp=Z,47nm,1.2s
GNI LR LR
comp=Z,570nm,20.0s
GNI Garni 71.71 307 P P 04 03 21.0 +5.2
SNR=6.0
GNI Garni 71.71 307 P P 04 03 21.0 +5.2
SNR=6.0
GNI Garni 71.71 307 *i* P **P** **04 03 16.1 +0.2**
SNR=5.7
GNI Garni 71.71 307⇓ *eP* **P** **04 03 15.7 -0.2**
GNI pmax pmax
comp=Z,43nm,1.3s
UOSS Minazif 71.76 288 *eP* **P** **04 03 16.5 +0.2**
comp=Z,78nm,1.2s
UOSS Minazif 71.76 288 P P 04 03 20.6 +4.4
SNR=13
UOSS Minazif 71.76 288 P P 04 03 20.6 +4.4
SNR=13
UOSS Minazif 71.76 288 *i* P **P** **04 03 16.4 +0.2**
SNR=11
AKH Akhalkalaki 71.81 308 *eP* **P** **04 03 18.1 +1.6**
comp=Z,34nm,1.2s
AKH Akhalkalaki 71.81 308 *eP* **P** **04 03 18.1 +1.6**
AKH pmax pmax
comp=Z,34nm,1.2s
O03E Paynes Creek 71.85 53 P **P** **04 03 17.6 +1.0**
baz=303
HATD Hatta, Dubai 71.88 288 P P 04 03 21.8 +4.9
SNR=17
HATD Hatta, Dubai 71.88 288 P P 04 03 21.8 +4.9
SNR=17
HATD Hatta, Dubai 71.88 288 *i* P **P** **04 03 17.4 +0.5**
SNR=25
MOD Modoc Plateau 71.92 51 *eP* **P** **04 03 17.3 +0.2**
comp=Z,9.6nm,1.0s
SOHO SOHO 71.94 287 *i* P **P** **04 03 17.4 +0.1**
SNR=12
ASHO Ashiyiah 72.01 288 P P 04 03 21.7 +3.9
SNR=19
ASHO Ashiyiah 72.01 288 P P 04 03 21.7 +3.9
SNR=19
ASHO Ashiyiah 72.01 288 *i* P **P** **04 03 17.9 +0.2**
SNR=11
BMO Blue Mountains 72.09 47 *eP* P 04 03 19.3 +1.3
comp=Z,14nm,1.0s
BMO LR LR
comp=Z,314nm,22.0s
BMO Blue Mountains 72.09 47 *eP* P 04 03 19.3 +1.3
BMO pmax pmax
comp=Z,14nm,1.0s
BMO MLR MLR
comp=Z,314nm,22.0s
NAZ Nazwa, Dubai 72.15 288 P P 04 03 23.2 +4.7
SNR=5.5
NAZ Nazwa, Dubai 72.15 288 P P 04 03 23.2 +4.7
SNR=5.5
BSY Bisya 72.18 285 P P 04 03 23.9 +5.0
SNR=6.2
BSY Bisya 72.18 285 P P 04 03 23.9 +5.0
SNR=6.2
J08A Circle Bar Ran 72.23 49 *eP* P 04 03 20.0 +1.1
comp=Z,20nm,1.1s
FAQ Al Faqa, Dubai 72.33 288 P P 04 03 24.3 +4.7
SNR=5.6
FAQ Al Faqa, Dubai 72.33 288 P P 04 03 24.3 +4.7
SNR=5.6
FAQ Al Faqa, Dubai 72.33 288 *i* P **P** **04 03 19.9 +0.3**
SNR=7.1
ORV Oroville 72.45 54 *eP* **P** **04 03 21.0 +0.8**
comp=Z,58nm,1.8s
ALNE Al Ain 72.58 287 *i* P **P** **04 03 21.2 0.0**
SNR=7.3
ASUD Al Ashush, Dub 72.60 288 P **P** **04 03 21.7 +0.4**
ISAL Salakas 72.63 327 *eP* **P** **04 03 21.6 +0.7**
ISAL IAmb IAmb 04 03 27.6
comp=Z,32nm,1.1s
WVOR Wild Horse Val 72.65 50 *eP* **P** **04 03 20.8 -0.6**
comp=Z,18nm,1.3s
WVOR Wild Horse Val 72.65 50 *eP* **P** **04 03 20.8 -0.6**
WVOR pmax pmax
comp=Z,18nm,1.3s
NACGM Naroch 72.78 327 *e* **P** **04 03 21.0 -0.8**
MSO Missoula 72.88 44 *eP* **P** **04 03 23.7 +1.0**
comp=Z,17nm,1.3s
MSO Missoula 72.88 44 P **P** **04 03 23.5 +0.8**
baz=306
BEKR Beckworth 73.01 53 *eP* P 04 03 24.8 +1.1
comp=Z,22nm,1.1s
NWAO Narrogin (SRO) 73.02 201 *eP* **P** **04 03 22.6 -0.7**
comp=Z,25nm,0.9s
NWAO Narrogin (SRO) 73.02 201 *eP* **P** **04 03 22.6 -0.7**
NWAO pmax pmax
comp=Z,25nm,0.9s
AFDM Forest Hills D 73.13 54 *eP* **P** **04 03 25.0 +0.8**
comp=Z,20nm,1.3s
ANN Anapa 73.55 314 *eP* P 04 03 28.7 +2.2
ANN pmax pmax
comp=Z,145nm,1.5s
PAHR Pah Rah Range 73.72 52 *eP* **P** **04 03 28.3 +0.4**
comp=Z,18nm,1.0s
VCNR Virginia City 73.78 53 *eP* **P** **04 03 29.2 +0.9**
comp=Z,12nm,1.1s
FFC Flin Flon 73.87 33 *eP* **P** **04 03 28.3 +0.1**
comp=Z,21nm,0.9s
FFC Flin Flon 73.87 33 *i* P P 04 03 29.5 +1.3
PNTR Pine Nut 73.94 53 *eP* **P** **04 03 29.7 +0.5**
comp=Z,88nm,2.0s
CMB Columbia Colle 74.02 54 *eP* P 04 03 30.5 +1.0
comp=Z,40nm,1.3s

NC405 NORSAR Array S 74.06 337 eP P 04 03 30.1 +0.8
NC303 NORSAR Array S 74.08 337 eP P 04 03 31.2 +1.9
HRY Holter Researc 74.11 43 eP P 04 03 30.3 +0.4
YERR Yerington 74.22 53 eP P 04 03 32.2 +1.3
comp=Z,30nm,1.0s
NC204 NORSAR Array S 74.23 338 eP P 04 03 30.8 +0.5
NB201 NORSAR Array S 74.24 337 eP P 04 03 30.6 +0.3
NB2 NORSAR Subarra 74.27 337 P P 04 03 30.1 -0.4
comp=Z,2.8nm,0.6s,baz=38,slow=5.9
NOA NORSAR Array B 74.27 337 P P 04 03 30.4 -0.1
comp=Z,15nm,1.0s,baz=39,slow=5.8,SNR=24
NOA LR LR 04 38 47.8
comp=Z,730nm,20.6s,baz=45,slow=38
LRM Limekiln Ridge 74.31 44 eP P 04 03 30.9 -0.4
AKASG Malin Array Be 74.34 322 P P 04 03 30.5 -0.5
comp=Z,4.1nm,0.3s,baz=46,slow=6.3,SNR=28
AKASG LR LR 04 39 11.2
comp=Z,426nm,18.6s,baz=50,slow=38
KIEV Kiev 74.35 322 eP P 04 03 30.6 -0.6
comp=Z,37nm,1.0s
KIEV LR LR
comp=Z,896nm,19.0s
KIEV Kiev 74.35 322 iP P 04 03 30.5 -0.6
SNR=16
KIEV Kiev 74.35 322|| eP P 04 03 30.7 -0.4
KIEV pmax pmax
comp=Z,17nm,1.0s
WAKR Walker 74.37 54 eP P 04 03 32.7 +1.0
comp=Z,21nm,1.2s
NBO00 NORSAR Array S 74.41 337 eP P 04 03 32.1 +0.8
EGMT Eagleton 74.43 41 PFAKE 04 03 40.0 +8.2
EGMT LR LR
comp=Z,192nm,20.0s
EGMT Eagleton 74.43 41 P P 04 03 32.6 +0.8
baz=308
DLMT Dillon 74.50 45 eP P 04 03 33.7 +1.4
comp=Z,27nm,1.1s
HLID Hailey 74.53 47 eP P 04 03 33.9 +1.4
comp=Z,13nm,1.3s
HLID Hailey 74.53 47 P P 04 03 34.1 +1.5
baz=306,SNR=10
MCMT McKenzie Canyo 74.68 45 eP P 04 03 34.7 +1.2
RYN Ryan 74.89 53 eP P 04 03 35.7 +1.1
comp=Z,18nm,1.1s
BOZ Bozeman (W) 74.90 44 eP P 04 03 35.8 +1.2
comp=Z,16nm,1.0s
BOZ Bozeman (W) 74.90 44 P P 04 03 35.8 +1.2
baz=308,SNR=18
KVN Kaiserville 74.91 52 eP P 04 03 36.3 +1.4
comp=Z,26nm,1.1s
KVN Kaiserville 74.91 52 eP P 04 03 36.3 +1.4
KVN pmax pmax
comp=Z,26nm,1.1s
SUW Suwalki 74.95 327 eP P 04 03 34.9 +0.4
SUW Suwalki 74.95 327 eP P 04 03 35.2 +0.7
comp=Z,97nm,1.3s
SUW Suwalki 74.95 327 eP P 04 03 35.2 +0.7
SUW pmax pmax
comp=Z,97nm,1.3s
NV01 Mina Array Sit 75.14 53 eP P 04 03 36.4 +0.2
NVAR Mina Array Bea 75.14 53 P P 04 03 37.8 +1.5
comp=Z,11nm,0.9s,baz=284,slow=6.3,SNR=34
NVAR LR LR 04 35 14.7
comp=Z,95nm,18.5s,baz=278,slow=35
NV11 Mina Array Sit 75.24 53 eP P 04 03 37.2 +0.6
comp=Z,4.7nm,1.8s
SIM Simferopol' 75.35 315 eP P 04 03 40.6 +3.6
SIM pmax pmax
comp=Z,28nm,1.1s
PAGB Antelope Grade 75.42 56 eP P 04 03 38.7 +1.0
comp=Z,67nm,1.3s
QLMT Earthquake Lak 75.48 45 eP P 04 03 39.9 +1.8
YHB Horse Butte 75.66 45 eP P 04 03 40.7 +1.6
comp=Z,16nm,1.1s
SMMC Simmler 75.83 56 P P 04 03 41.4 +1.4
baz=305
YHH Holmes Hill 75.83 44 eP P 04 03 41.1 +0.9
comp=Z,9.4nm,1.1s
YMR Madison River 75.84 44 eP P 04 03 40.8 +0.7
comp=Z,86nm,1.9s
GCMT Greycliff 75.86 43 eP P 04 03 41.4 +1.3
YNR Norris Junctio 75.97 44 eP P 04 03 42.1 +1.2
comp=Z,41nm,1.7s
YFT Old Faithful 76.05 45 eP P 04 03 43.1 +1.8
comp=Z,14nm,0.9s
VES Vestal, Richgr 76.13 56 P P 04 03 42.2 +0.6
baz=306,SNR=8.4
YPP Pitchstone Pla 76.18 45 eP P 04 03 43.6 +1.4
comp=Z,32nm,1.6s
PKM Mcpherson Peak 76.20 57 P P 04 03 43.9 +1.6
baz=305,SNR=5.9
LKWY Lake 76.22 44 eP P 04 03 42.4 +0.1
comp=Z,20nm,1.1s
LKWY LR LR
comp=Z,473nm,20.0s
LKWY Lake 76.22 44 eP P 04 03 42.4 +0.1
LKWY pmax pmax
comp=Z,19nm,1.1s
LKWY MLR MLR
comp=Z,473nm,20.0s
H17A Grant Village 76.23 45 eP P 04 03 44.2 +1.8
comp=Z,24nm,1.0s
H17A Grant Village 76.23 45 P P 04 03 45.4 +3.0
baz=308,SNR=15
IMW Indian Meadow 76.33 45 eP P 04 03 44.3 +1.3
comp=Z,17nm,1.0s
FLWY Flagg Ranch 76.35 45 eP P 04 03 44.7 +1.7
comp=Z,31nm,1.2s
SORM Soroca 76.43 321↑ iP P 04 03 43.0 -0.1
SORM Soroca 76.43 321 P P 04 03 43.0 -0.1
FXWY Fox Creek 76.44 45 eP P 04 03 44.4 +0.8
comp=Z,17nm,1.2s
CWC Cottonwood Cre 76.44 55 P P 04 03 44.7 +1.0
baz=306
RLMT Red Lodge 76.50 43 eP P 04 03 45.4 +1.5
comp=Z,57nm,1.9s
RLMT LR LR
comp=Z,503nm,21.0s
RLMT Red Lodge 76.50 43 P P 04 03 45.2 +1.4
baz=309,SNR=6.1
SBC Santa Barbara 76.52 57 P P 04 03 45.7 +1.9
baz=306
MOOW Moose Ponds 76.53 45 eP P 04 03 45.3 +1.2
comp=Z,52nm,1.8s
HVU Hansel Valley 76.57 48 eP P 04 03 43.0 -1.2
comp=Z,14nm,1.1s
HVU Hansel Valley 76.57 48 eP P 04 03 43.0 -1.2
HVU pmax pmax
comp=Z,14nm,1.1s
TPAW Teton Pass 76.58 45 eP P 04 03 45.2 +0.8
comp=Z,40nm,1.4s
ISA Isabella, Lake 76.64 55 eP P 04 03 44.9 +0.3
comp=Z,25nm,1.6s
ISA Isabella, Lake 76.64 55 eP P 04 03 44.9 +0.3
ISA pmax pmax
comp=Z,25nm,1.6s
ISA Isabella, Lake 76.64 55 P P 04 03 45.1 +0.4
baz=306
LOHW Long Hollow 76.70 45 eP P 04 03 46.2 +1.2
comp=Z,32nm,1.7s
SNOW Snow King Moun 76.71 45 eP P 04 03 46.1 +1.0
comp=Z,17nm,1.1s
REDW Red Top Meadow 76.71 46 eP P 04 03 46.3 +1.1
comp=Z,20nm,1.3s
ARVC Arvin 76.72 56 P P 04 03 46.2 +1.2
baz=306
SCZ2 Santa Cruz Isl 76.83 57 P P 04 03 46.8 +1.1
baz=306
DAC Darwin (Calif) 76.86 55 eP P 04 03 46.3 +0.3
comp=Z,14nm,1.1s
DAC Darwin (Calif) 76.86 55 eP P 04 03 46.3 +0.3
DAC pmax pmax
comp=Z,14nm,1.1s
R11A Troy Canyon, C 76.92 52 eP P 04 03 47.6 +1.4
comp=Z,26nm,1.2s
R11A Troy Canyon, C 76.92 52 P P 04 03 47.7 +1.4
baz=307,SNR=24
KIS Kishinev 76.93 320 eP P 04 03 49.0 +3.1
KIS Kishinev 76.93 320 ePP PP 04 07 04.0 +25
KIS eL L 04 32 58.0
KIS LRM MLR 04 40 24.0
comp=Z,2μm,20.0s
KIS Kishinev 76.93 320 eP P 04 03 49.0 +3.1
KIS MLR MLR
comp=N,1μm,16.0s
KIS MLR MLR
comp=Z,2μm,16.0s
KIS MLR MLR
comp=Z,2μm,20.0s
AHID Auburn Hatcher 76.94 46 eP P 04 03 48.1 +1.7
comp=Z,13nm,1.1s
DGMT Dagmar 77.00 38 eP P 04 03 47.5 +1.2
comp=Z,51nm,1.4s
DGMT Dagmar 77.00 38 P P 04 03 47.3 +0.9
baz=312
MPMC Manual Prospec 77.05 55 P P 04 03 48.1 +1.0
baz=306,SNR=8.9
LAO LASA Array 77.14 41 P P 04 03 48.4 +1.2
baz=311
FURC Furnace Creek, 77.22 54 P P 04 03 48.9 +1.2
baz=306
TPNV Topopah Spring 77.33 53 P P 04 03 49.9 +1.3
baz=307
SNCC San Nicolas Is 77.34 58 P P 04 03 50.0 +1.5
baz=306
HWUT Hardware Ranch 77.39 47 eP P 04 03 50.0 +1.1
comp=Z,87nm,1.8s
EDW2 Edwards Air Fo 77.42 56 P P 04 03 50.0 +1.0
baz=306,SNR=9.4
LVV L'vov 77.43 324 eP P 04 03 53.0 +4.3
LVV MLR MLR
comp=E,640nm,16.0s
LVV MLR MLR
comp=N,320nm,17.0s
LVV MLR MLR
comp=Z,690nm,17.0s
DUG Dugway, Tooele 77.51 49 eP P 04 03 50.4 +0.8
comp=Z,62nm,1.7s
DUG Dugway, Tooele 77.51 49 eP P 04 03 50.4 +0.8
DUG pmax pmax
comp=Z,62nm,1.7s
DUG Dugway, Tooele 77.51 49 P P 04 03 51.2 +1.6
baz=308,SNR=9.2
DECC Green Verdugo 77.56 57 P P 04 03 50.7 +1.0
baz=306
MWC Mount Wilson 77.76 56 eP P 04 03 52.4 +1.4
comp=Z,22nm,0.9s
TCUT Toone Canyon 77.78 48 eP P 04 03 52.4 +1.2
comp=Z,50nm,1.3s
BW06 Boulder Array 77.83 45 eP P 04 03 52.1 +0.7
comp=Z,9.6nm,1.0s
BW06 LR LR
comp=Z,308nm,19.0s
BW06 Boulder Array 77.83 45 P P 04 03 51.9 +0.6
baz=309,SNR=6.8
PD31 Pinedale Array 77.83 45 eP P 04 03 52.4 +1.0
PDAR Pinedale Array 77.83 45 P P 04 03 51.8 +0.5
comp=Z,3.7nm,0.8s,baz=270,slow=3.4,SNR=28
PDAR Pinedale Array 77.83 45 eP P 04 03 50.6 -0.8
PSUT Pine Spring 77.89 51 eP P 04 03 52.4 +0.7
comp=Z,30nm,1.3s
FMP Fort Macarthur 77.90 57 P P 04 03 52.5 +0.9
baz=306
SHOC Shoshone, Teco 77.94 54 P P 04 03 52.8 +1.0
baz=307
GSC Goldstone, Bar 77.95 55 eP P 04 03 52.3 +0.3
comp=Z,62nm,1.9s
GSC Goldstone, Bar 77.95 55 eP P 04 03 52.3 +0.3
GSC pmax pmax
comp=Z,62nm,1.9s
GSC Goldstone, Bar 77.95 55 P P 04 03 53.1 +1.1
baz=307,SNR=5.8
ILGA Ilgaz 77.99 313 eP P 04 03 53.1 +0.9
comp=Z,31nm,0.9s
CIS Catalina Islan 78.01 57 P P 04 03 53.1 +0.9
baz=306
BFSC Mount Baldy Ra 78.02 56 P P 04 03 53.2 +0.8
baz=307
RRX Edison Barstow 78.08 55 P P 04 03 54.0 +1.4
baz=307
JLU Jordanelle 78.08 48 eP P 04 03 53.4 +0.5
comp=Z,13nm,0.8s
NLU North Lily Min 78.11 49 eP P 04 03 53.8 +0.9
comp=Z,21nm,1.2s
KWP Kalwaria Pacla 78.18 324 eP P 04 03 54.0 +1.1
KWP Kalwaria Pacla 78.18 324 eP P 04 03 54.0 +1.1
SHPR Sheep Range 78.30 53 eP P 04 03 54.5 +0.5
comp=Z,64nm,1.8s
MPU Maple Canyon 78.33 49 eP P 04 03 55.4 +1.2
comp=Z,14nm,1.0s
BUR08 Bucovina Ar. S 78.34 322 eP P 04 03 54.2 +0.3
BUR04 Bucovina Ar. S 78.35 322 eP P 04 03 54.2 +0.2
BURAR Bucovina Array 78.35 322↑ iP P 04 03 54.6 +0.6
BURAR Bucovina Array 78.35 322 P P 04 03 54.6 +0.6
BIZ Bicaz 78.36 321↑ iP P 04 03 54.9 +0.9
TUQ Turquoise Moun 78.45 54 P P 04 03 55.9 +1.1
baz=307
CFR Carcaliu 78.48 318|| iP P 04 03 54.5 -0.1
CFR Carcaliu 78.48 318 P P 04 03 54.4 -0.1
BBRC Big Bear Solar 78.49 56 P P 04 03 56.3 +1.1
baz=307
MUD Monsted U'grnd 78.53 335 iP P 04 03 55.5 +0.9
comp=Z,26nm,1.1s
MUD Monsted U'grnd 78.53 335 eP P 04 03 55.5 +0.9
MUD pmax pmax
comp=Z,26nm,1.1s
HEC Hector,Ludlow 78.54 55 P P 04 03 56.5 +1.2
baz=307
MURC Murrieta 78.71 57 P P 04 03 57.1 +1.0
baz=307
TCRU Three Creeks R 78.71 50 eP P 04 03 57.0 +0.6
comp=Z,14nm,0.9s
VRI Vrincioaia 78.76 320↑ iP P 04 03 57.8 +1.6
VRI Vrincioaia 78.76 320 P P 04 03 57.7 +1.5
CCUT Cedar City 78.80 51 eP P 04 03 57.8 +1.0
comp=Z,25nm,1.3s
TIRR Tirgusor 78.81 318 eP P 04 03 56.6 +0.2
comp=Z,21nm,1.1s
TIRR Tirgusor 78.81 318↑ iP P 04 03 56.3 -0.1
TIRR Tirgusor 78.81 318 eP P 04 03 56.6 +0.2
TIRR pmax pmax
comp=Z,21nm,1.1s
PLOR Plostina 78.81 320↑ iP P 04 03 57.2 +0.7
PLOR Plostina 78.81 320 P P 04 03 57.1 +0.6
BR131 Keskin Array S 78.87 311 eP P 04 03 58.0 +0.9
BRTR Keskin Array B 78.87 311 P P 04 03 57.3 +0.2
comp=Z,13nm,1.0s,baz=92,slow=3.7,SNR=13
BRTR LR LR 04 44 53.3
comp=Z,165nm,18.7s,baz=45,slow=40
TLB Topalu 78.92 318↑ iP P 04 03 57.6 +0.6
MSU Marysvale 78.94 50 eP P 04 03 58.6 +1.0
GMRC Granite Mounta 79.01 55 P P 04 03 59.0 +1.1
baz=307,SNR=8.1
TMUT Trail Mountain 79.04 49 eP P 04 03 58.6 +0.4
comp=Z,27nm,1.4s
UZH Uzhgorod 79.07 324 eP P 04 03 58.5 +0.7
UZH i 04 04 06.3
UZH e 04 04 15.0
OJC Ojcow 79.09 326 eP P 04 03 58.5 +0.6
OJC Ojcow 79.09 326 eP P 04 03 58.3 +0.4
comp=Z,76nm,1.2s
OJC Ojcow 79.09 326 eP P 04 03 58.5 +0.6
ARCR ARCALIA 79.14 322↑ iP P 04 04 00.0 +1.8
FRD Ford Ranch, An 79.17 56 P P 04 03 59.9 +1.1
baz=307,SNR=5.7
PFO Pinyon Flats O 79.19 56 eP P 04 03 59.4 +0.5
comp=Z,47nm,1.5s
PFO LR LR
comp=Z,319nm,20.0s
PFO Pinyon Flats O 79.19 56 eP P 04 03 59.4 +0.5
PFO pmax pmax
comp=Z,47nm,1.5s
PFO MLR MLR
comp=Z,319nm,20.0s
PFO Pinyon Flats O 79.19 56 P P 04 03 59.8 +0.9
baz=307
109C Camp Elliot, M 79.19 57 P P 04 03 59.8 +1.1
baz=307
XPFO Pigeon Flat 79.19 56 eP P 04 03 59.8 +0.8
comp=Z,47nm,1.5s
LCMT Little Creek M 79.20 52 eP P 04 04 00.0 +1.1
comp=Z,86nm,1.9s
P17A Butcher Ranch, 79.21 49 eP P 04 04 00.1 +1.1
comp=Z,55nm,1.4s
MTPU Mount Pierson 79.23 50 eP P 04 04 00.6 +1.3
comp=Z,15nm,1.0s
BELC Belle Mtn. Jos 79.26 56 P P 04 03 59.9 +0.6
baz=307
ANTO Ankara 79.28 312 eP P 04 03 59.8 +0.6
comp=Z,46nm,1.3s
ANTO LR LR
comp=Z,298nm,20.0s
ANTO Ankara 79.28 312|| iP P 04 04 01.4 +2.2
ANTO Ankara 79.28 312 eP P 04 03 59.8 +0.6
ANTO pmax pmax
comp=Z,46nm,1.3s
ANTO MLR MLR
comp=Z,298nm,20.0s
TRPA Tarpa 79.31 323↑ iP P 04 04 00.3 +1.2
ISR Istrita 79.36 319↑ iP P 04 04 00.7 +1.2
ISR Istrita 79.36 319 P P 04 04 00.6 +1.1
DOPR Dopca 79.39 320↑ iP P 04 04 01.4 +1.8
P18A Preston Nutter 79.41 48 eP P 04 04 01.3 +1.1
comp=Z,66nm,1.1s
MLR Muntele Rosu 79.42 320 eP P 04 04 00.4 +0.4
comp=Z,30nm,1.4s
MLR Muntele Rosu 79.42 320↑ iP P 04 04 00.4 +0.4
MLR Muntele Rosu 79.42 320 eP P 04 04 00.4 +0.4
MLR pmax pmax
comp=Z,30nm,1.4s
NIE Niedzica 79.44 325 eP P 04 04 01.0 +1.1
NIE Niedzica 79.44 325 eP P 04 04 01.0 +1.1
KNB Kanab 79.47 52 eP P 04 04 01.4 +1.0
comp=Z,53nm,1.3s
KNB Kanab 79.47 52 eP P 04 04 01.4 +1.0
KNB pmax pmax
comp=Z,53nm,1.3s
SRU San Rafael Swe 79.57 49 eP P 04 04 01.5 +0.6
comp=Z,27nm,1.0s
BAR Barrett 79.61 57 eP P 04 04 02.0 +0.9
comp=Z,23nm,1.1s
K22A Casper 79.61 44 eP P 04 04 02.2 +1.1
comp=Z,20nm,1.1s
K22A Casper 79.61 44 P P 04 04 01.8 +0.7
baz=311
MONP2 Monument Peak 79.65 57 P P 04 04 02.5 +1.0
baz=307
ULM Lac du Bonnet 79.66 33 P P 04 04 00.9 -0.1
comp=Z,7.0nm,0.8s,baz=295,slow=5.0,SNR=5.5
ULM LR LR 04 41 56.4
comp=Z,79nm,18.5s,baz=332,slow=38
ULM Lac du Bonnet 79.66 33 eP P 04 04 01.5 +0.5
comp=Z,30nm,1.2s
ULM Lac du Bonnet 79.66 33 eP P 04 04 01.5 +0.5
ULM pmax pmax
comp=Z,30nm,1.2s
MDND Maddock 79.67 37 eP P 04 04 02.4 +1.3
comp=Z,66nm,1.3s
MDND Maddock 79.67 37 P P 04 04 02.0 +0.9
baz=315
NEE2 Needles Airpor 79.70 54 P P 04 04 02.5 +1.0
baz=308
IRM Iron Mountain 79.73 55 P P 04 04 02.8 +1.0
baz=308
BC3 Big Chuckawall 79.83 56 P P 04 04 03.4 +1.0
baz=308
RWWY Rawlins 79.85 45 eP P 04 04 02.6 +0.1
comp=Z,20nm,0.8s
VOIR 79.92 320↑ iP P 04 04 04.3 +1.7
VOIR 79.92 320 P P 04 04 04.2 +1.6
W13A Hualapai Mount 79.97 54 eP P 04 04 04.4 +1.1
comp=Z,30nm,1.6s
RSSD Black Hills 79.99 42 eP P 04 04 03.1 -0.1
comp=Z,9.6nm,0.8s
RSSD Black Hills 79.99 42 eP P 04 04 03.1 -0.1
RSSD pmax pmax
comp=Z,10.0nm,0.8s
RSSD Black Hills 79.99 42 P P 04 04 03.7 +0.6
baz=312
IKP In-Ko-Pah, Jac 80.00 57 P P 04 04 04.4 +1.1
baz=308,SNR=6.9
LANS Liptovska Anna 80.01 325 eP P 04 04 04.5 +1.5
LANS Liptovska Anna 80.01 325 eP P 04 04 04.5 +1.5
KECS Kecovo 80.03 325 eP P 04 04 05.9 +2.9
KECS pmax pmax
comp=Z,20nm,1.3s
KECS Kecovo 80.03 325 eP P 04 04 05.9 +2.9
SWSC Sam W. Stewart 80.03 56 P P 04 04 04.3 +0.9
baz=308
DRGR 80.16 322↑ iP P 04 04 04.4 +0.5
DRGR 80.16 322 P P 04 04 04.4 +0.5
KSP Ksiaz 80.16 328 eP P 04 04 04.2 +0.5
KSP Ksiaz 80.16 328 eP P 04 04 04.2 +0.5
U15A North Rim 80.17 52 eP P 04 04 05.1 +0.7
comp=Z,130nm,2.0s
ARR Arges 80.18 320↑ iP P 04 04 05.5 +1.5
O20A White River Ci 80.27 47 eP P 04 04 06.0 +1.3
comp=Z,16nm,1.0s
O20A White River Ci 80.27 47 P P 04 04 05.9 +1.1
baz=310,SNR=5.8
PDMCI Parker Dam,Lak 80.30 54 P P 04 04 05.8 +1.1
baz=308
Y12C Blythe 80.39 55 eP P 04 04 06.9 +1.7
comp=Z,67nm,1.8s
Y12C Blythe 80.39 55 P P 04 04 06.5 +1.2
baz=308
MORC Moravsky Berou 80.42 327 eP P 04 04 05.1 0.0
comp=Z,51nm,1.3s
MORC Moravsky Berou 80.42 327↑ iP P 04 04 06.0 +0.8
MORC Moravsky Berou 80.42 327 eP P 04 04 05.1 0.0
MORC pmax pmax
comp=Z,51nm,1.3s
MORC Moravsky Berou 80.42 327 eP P 04 04 05.9 +0.8
DPC Dobruska-Polom 80.52 328 eP P 04 04 06.6 +0.9
DPC ePCP pP 04 04 11.4 -3.3
DPC Dobruska-Polom 80.52 328 eP P 04 04 06.6 +0.9
GLA Glamis 80.61 56 P P 04 04 07.8 +1.2
baz=308
RAYN Ar Rayn 80.62 292 eP P 04 04 06.7 0.0
comp=Z,16nm,0.7s
RAYN LR LR
comp=Z,653nm,20.0s
RAYN Ar Rayn 80.62 292 iP P 04 04 06.3 -0.4
SNR=27
RAYN Ar Rayn 80.62 292 eP P 04 04 06.7 0.0
RAYN pmax pmax
comp=Z,16nm,0.7s
RAYN MLR MLR
comp=Z,653nm,20.0s
PSZ Piszkesteto 80.71 324 eP P 04 04 07.9 +1.1
comp=Z,68nm,1.2s
PSZ Piszkesteto 80.71 324 eP P 04 04 07.9 +1.1
PSZ pmax pmax
comp=Z,68nm,1.2s
VYHS Vyhne 80.78 325 eP P 04 04 07.0 -0.1
VYHS pmax pmax
comp=Z,25nm,1.5s
VYHS Vyhne 80.78 325 eP P 04 04 06.9 -0.1
VYHS ePP PP 04 07 05.4 -5.2
PV09 Paradox Valley 80.80 48 eP P 04 04 08.6 +0.9
PV23 Carpenter Ridg 80.90 48 eP P 04 04 10.0 +1.8
comp=Z,52nm,1.1s
PV10 Paradox Valley 80.93 49 eP P 04 04 09.7 +1.3
PV14 Lion Creek, Pa 80.94 49 eP P 04 04 09.9 +1.5
comp=Z,54nm,1.0s
PV22 Blue Mesa, Par 80.98 48 eP P 04 04 10.0 +1.5
comp=Z,24nm,1.0s
PV20 West Nyswonger 81.00 49 eP P 04 04 09.4 +0.7
comp=Z,43nm,1.1s
PV19 Morning Glory 81.01 49 eP P 04 04 09.4 +0.7
comp=Z,37nm,1.1s
JAVC Velka Javorina 81.04 326 eP P 04 04 10.2 +1.7
PV17 East Wray Mesa 81.04 49 eP P 04 04 10.5 +1.5
comp=Z,64nm,1.2s
PV16 Nyswonger Mesa 81.05 49 eP P 04 04 10.5 +1.5
comp=Z,75nm,1.5s
PV11 David Mesa, Pa 81.08 49 eP P 04 04 10.5 +1.4
comp=Z,84nm,1.4s
PV05 Paradox Valley 81.09 49 eP P 04 04 10.4 +1.2
PV18 Skein Mesa, Pa 81.09 49 eP P 04 04 10.2 +1.0
comp=Z,38nm,1.0s
N23A Red Feather La 81.09 45 eP P 04 04 10.4 +1.2
comp=Z,28nm,1.1s
N23A Red Feather La 81.09 45 P P 04 04 10.3 +1.0
baz=312
AGMN Agassiz Nation 81.10 35 eP P 04 04 08.4 -0.4
comp=Z,49nm,1.8s
AGMN Agassiz Nation 81.10 35 P P 04 04 09.7 +0.9
baz=317
PHWY Pilot Hill 81.10 44 eP P 04 04 10.6 +1.3
comp=Z,41nm,1.8s
GZR Gura Zlata 81.11 321↑ iP P 04 04 09.4 +0.5
PV12 Saucer Basin, 81.11 48 eP P 04 04 10.3 +1.0
comp=Z,30nm,1.0s
BRG Berggiesshubel 81.12 329 eP P 04 04 09.5 +0.7
comp=Z,13nm,1.2s
BRG Berggiesshubel 81.12 329 eP P 04 04 09.5 +0.7
BRG pmax pmax
comp=Z,13nm,1.2s
PVCC Panska Ves 81.12 329 eP P 04 04 09.8 +1.0

PVCC Panska Ves 81.12 329 eP P 04 04 09.8 +1.0
PV03 Paradox Valley 81.12 49 eP P 04 04 10.2 +0.8
CLL Collm 81.16 330 eP P 04 04 08.7 -0.4
comp=Z,40nm,1.1s
CLL Collm 81.16 330 eP P 04 04 09.0 0.0
comp=Z,18nm,1.0s
CLL ePmax 04 04 12.0
comp=Z,42nm,1.1s
CLL epP sP 04 04 23.0 +1.7
CLL e 04 04 42.0
CLL eS S 04 14 18.0 +1.1
CLL eSS SS 04 19 48.0 +17
CLL eSSS SSS 04 23 12.0
CLL Collm 81.16 330 eP P 04 04 09.0 0.0
CLL pmax pmax
comp=Z,42nm,1.1s
VRAC Vranov 81.18 327 eP P 04 04 10.0 +0.8
PV13 Radium Mtn., P 81.20 49 eP P 04 04 10.5 +0.7
comp=Z,50nm,1.2s
WUAZ Wupatki 81.32 52 eP P 04 04 11.8 +1.4
comp=Z,27nm,1.0s
WUAZ Wupatki 81.32 52 P P 04 04 11.7 +1.3
baz=309
PV01 Paradox Valley 81.37 48 eP P 04 04 11.8 +1.1
KRUC Moravsky 81.45 327 eP P 04 04 11.3 +0.7
BZS Buzias 81.53 322⇑ iP P 04 04 11.1 0.0
BZS Buzias 81.53 322 P P 04 04 11.0 0.0
MODS Modra-Piesok 81.57 326 eP P 04 04 11.5 +0.2
MODS pmax pmax
comp=Z,40nm,1.3s
MODS Modra-Piesok 81.57 326 eP P 04 04 11.5 +0.2
TREC Trest 81.67 328 eP P 04 04 12.4 +0.6
TREC Trest 81.67 328 eP P 04 04 12.4 +0.6
URZ Urewera 81.78 152 P P 04 04 11.6 -0.6
comp=Z,85nm,0.9s,baz=340,slow=3.6,SNR=4.0
ISCO Idaho Springs 82.01 46 eP P 04 04 14.9 +0.8
comp=Z,11nm,0.4s
ISCO Idaho Springs 82.01 46 eP P 04 04 14.9 +0.8
ISCO pmax pmax
comp=Z,11nm,0.4s
ISCO Idaho Springs 82.01 46 P P 04 04 15.3 +1.1
baz=312
MVCO Mesa Verde 82.01 49 eP P 04 04 14.7 +0.6
comp=Z,19nm,0.6s
MVCO LR LR
comp=Z,360nm,19.0s
MVCO Mesa Verde 82.01 49 P P 04 04 15.2 +1.1
baz=311
MDVR Moldovita 82.07 321⇑ iP P 04 04 14.3 +0.3
NKC Novy Kostel 82.22 330 eP P 04 04 14.8 +0.1
NKC Novy Kostel 82.22 330 eP P 04 04 14.8 +0.1
SUSD Miller 82.40 39 P P 04 04 16.2 +0.5
baz=316
SOP Sopron 82.41 326 P P 04 04 17.5 +1.8
MORH M˙r˙igy, Hung 82.53 324 eP P 04 04 16.0 -0.3
CONA Conrad Observa 82.53 326 iP P 04 04 17.3 +0.9
comp=Z,33nm,1.5s,SNR=13
W18A Petrified Fore 82.60 51 P P 04 04 18.4 +1.3
baz=310
KHC Kasperske Hory 82.60 328 eP P 04 04 17.1 +0.4
comp=Z,12nm,1.1s
KHC Kasperske Hory 82.60 328 eP P 04 04 17.1 +0.4
KHC ePCP PcP 04 04 20.8 -0.9
KHC AMS AMS 04 45 40.0
comp=Z,1µm,24.2s
KHC Kasperske Hory 82.60 328 eP P 04 04 17.1 +0.4
KHC pmax pmax
comp=Z,12nm,1.1s
214A Organ Pipe Nat 82.63 56 P P 04 04 18.4 +1.3
baz=309
S22A 4UR Ranch, Cre 82.66 48 eP P 04 04 19.4 +1.8
comp=Z,25nm,0.5s
S22A 4UR Ranch, Cre 82.66 48 P P 04 04 19.3 +1.7
baz=312
FRGS Fruska Gora 82.74 323 eP P 04 04 17.7 +0.2
GEC2 GERESS Array S 82.77 328 eP P 04 04 18.0 +0.3
comp=Z,19nm,1.2s
GEC2 GERESS Array S 82.77 328 eP P 04 04 18.0 +0.3
GEC2 pmax pmax
comp=Z,19nm,1.2s
GERES GERESS Array B 82.77 328 P P 04 04 17.5 -0.2
comp=Z,2.4nm,0.5s,baz=40,slow=5.8,SNR=24
GERES PP PP 04 07 30.4 +3.3
comp=Z,0.2nm,0.3s,baz=52,slow=8.6,SNR=3.4
GERES LR LR 04 44 35.5
comp=Z,562nm,18.9s,baz=32,slow=38
GEA0 GERESS Array S 82.78 328 eP P 04 04 17.5 -0.2
Q24A Divide 82.84 46 eP P 04 04 20.0 +1.5
comp=Z,35nm,0.6s
Q24A Divide 82.84 46 P P 04 04 19.3 +0.9
baz=312
VTS Vitosha 82.85 319 eP P 04 04 18.9 +0.6
comp=Z,32nm,1.4s
VTS Vitosha 82.85 319⇑ iP P 04 04 18.5 +0.2
VTS Vitosha 82.85 319 eP P 04 04 18.9 +0.6
VTS pmax pmax
comp=Z,32nm,1.4s
GRFO Grafenberg 83.14 330 eP P 04 04 20.1 +0.7
comp=Z,63nm,1.3s
GRFO Grafenberg 83.14 330 eP P 04 04 20.1 +0.7
GRFO pmax pmax
comp=Z,63nm,1.3s
ARSA Arzberg 83.20 326 i P P 04 04 21.0 +1.2
comp=Z,20nm,1.2s,SNR=5.2
OGNE Ogallala 83.24 43 eP P 04 04 20.8 +0.6
comp=Z,104nm,1.7s
OGNE Ogallala 83.24 43 P P 04 04 20.9 +0.6
baz=314
MOA Molln 83.29 327 i PcP PcP 04 04 21.8 -3.0
comp=Z,24nm,1.2s,SNR=8.2
EYMN Ely 83.30 33 eP P 04 04 19.9 -0.4
comp=Z,26nm,1.1s
EYMN Ely 83.30 33 P P 04 04 20.6 +0.3
baz=320
DIVS Divibare 83.42 322 eP P 04 04 21.4 +0.3
comp=Z,32nm,1.3s
DIVS Divibare 83.42 322 eP P 04 04 21.0 -0.1
THZ Tophouse 83.45 157 eP P 04 04 21.5 +0.6
comp=Z,72nm,1.3s
SRS Serrai 83.68 318 P P 04 04 23.5 +1.1
TUC Tucson 83.73 54 eP P 04 04 23.6 +0.7
comp=Z,54nm,2.0s
TUC Tucson 83.73 54 eP P 04 04 23.6 +0.7
TUC pmax pmax
comp=Z,54nm,2.0s
TUC Tucson 83.73 54 P P 04 04 23.8 +0.9
baz=310
SOKA Soboth 83.85 326 i P P 04 04 23.6 +0.3
comp=Z,14nm,0.9s,SNR=26
BBLS Lazići 83.88 322 eP P 04 04 23.6 +0.1
HAPS Han Pijesak,BI 83.94 322 eP P 04 04 23.2 -0.6
STIP Stip 84.02 319 i P P 04 04 23.6 -0.6
ECSD EROS Data Cent 84.08 38 eP P 04 04 25.1 +0.7
comp=Z,15nm,1.0s
ECSD EROS Data Cent 84.08 38 P P 04 04 24.6 +0.2
baz=317
VAY Valandovo 84.08 318 i P P 04 04 25.2 +0.8
OBKA Obir 84.19 326 i P P 04 04 25.2 +0.2
comp=Z,9.6nm,1.0s
PMOR Pomariorio Ree 84.22 113 eT T 05 36 56.0
comp=Z,41nm,0.2s
SKO Skopje 84.22 319 i P P 04 04 26.2 +1.1
KSCO Kaye Shedlock' 84.24 45 P P 04 04 26.2 +0.7
baz=314
E38A The Farm, Brul 84.30 34 eP P 04 04 25.9 +0.4
comp=Z,25nm,1.0s
E38A The Farm, Brul 84.30 34 P P 04 04 25.4 -0.1
baz=320
CRES Cresnjev 84.30 325 eP P 04 04 24.4 -1.1
BLY Banja Luka 84.31 324 eP P 04 04 25.9 +0.4
comp=Z,55nm,1.8s
BLY Banja Luka 84.31 324 eP P 04 04 28.0 +2.5
BEBN Eben Emael 84.35 334 ⇑P P 04 04 25.3 -0.2
MEM Membach 84.38 333 ⇑P P 04 04 25.6 -0.2
MYKA Terra Mystica 84.50 327 i P P 04 04 26.7 +0.1
comp=Z,7.5nm,1.1s
OXZ Oxford 84.61 158 eP P 04 04 26.5 -0.2
comp=Z,56nm,1.2s
UPM Unac-Piva 84.61 322 eP P 04 04 26.8 -0.5
F38A Pierce - Schro 84.65 34 P P 04 04 27.9 +0.7
baz=320
PPT Papeete 84.66 116 LR LR 04 36 29.9
comp=Z,202nm,19.8s,baz=306,slow=32
PPT2 Papeete2 84.67 116 eS S 04 14 54.8 +1.2
comp=Z,617nm,33.2s
PPT2 Papeete2 84.67 116 eLR LR 04 30 51.6
comp=Z,1µm,30.8s,baz=313
PPT2 Papeete2 84.67 116 eT T 05 37 32.9
comp=Z,7.4nm,0.3s
LAZ Ladron 84.69 51 eP P 04 04 29.4 +1.5
PAE Paea 84.72 117 eT T 05 37 35.8
comp=Z,2.2nm,0.3s
ANMO Albuquerque 84.74 50 eP P 04 04 29.0 +0.8
comp=Z,18nm,1.1s
ANMO Albuquerque 84.74 50⇑ eP P 04 04 28.5 +0.3
ANMO pmax pmax
comp=Z,26nm,1.7s
ANMO Albuquerque 84.74 50 P P 04 04 29.7 +1.5
baz=312
KRUS Krusevo 84.75 319 i P P 04 04 28.3 +0.4
SPMN Marine on St. 84.79 35 eP P 04 04 28.6 +0.6
comp=Z,16nm,1.0s
SPMN Marine on St. 84.79 35 P P 04 04 28.5 +0.6
baz=319
BCLA Clavier 84.79 333 ⇑P P 04 04 28.0 +0.1
BCLA ⇑pP sP 04 04 38.6 -1.5
BCLA ⇑sP pP 04 04 41.6 +4.7
TIAR Tiarei 84.82 116 eT T 05 37 43.0
comp=Z,3.2nm,0.2s
CEY Cerknica 84.84 326 eP P 04 04 27.8 -0.4
ABTA Abfaltersbach 84.90 327 i P P 04 04 27.6 -1.0
comp=Z,12nm,1.4s
E39A Mellen 84.92 33 P P 04 04 28.5 0.0
baz=321
BGNE Belgrade 84.98 41 eP P 04 04 29.8 +0.7
comp=Z,39nm,1.0s
BGNE Belgrade 84.98 41 P P 04 04 29.2 +0.2
baz=316
LIT Litokhoron 84.99 318 eP P 04 04 29.1 0.0
comp=Z,64nm,1.1s
PDG Podgorica 85.00 321⇓ iP P 04 04 29.1 0.0
PDG Podgorica 85.00 321 eP P 04 04 28.8 -0.2
TTG Podgorica 85.00 321 eP P 04 04 29.0 0.0
comp=Z,62nm,1.2s
TTG Podgorica 85.00 321 eP P 04 04 29.0 0.0
TTG pmax pmax
comp=Z,62nm,1.2s
BRY Bratogost 85.02 322 eP P 04 04 28.6 -0.7
MOTA Moosalm 85.03 329 i P P 04 04 29.3 0.0
comp=Z,13nm,1.0s,SNR=5.7
RETA Reutte 85.06 329 i P P 04 04 29.5 +0.1
comp=Z,36nm,1.2s,SNR=6.5
SNF Seneffe 85.08 334 ⇓P P 04 04 28.3 -1.0
comp=Z,18nm,0.6s
SQTA Sankt Quirin 85.09 328 i PcP PcP 04 04 30.3 -2.5
comp=Z,19nm,1.6s
FNA Florina 85.10 319 eP P 04 04 29.6 0.0
comp=Z,25nm,1.3s
FNA Florina 85.10 319 eP P 04 04 29.7 0.0
FNA pmax pmax
comp=Z,25nm,1.3s
WLF Walferdange 85.11 333 eP P 04 04 30.6 +1.1
comp=Z,111nm,1.9s
WLF Walferdange 85.11 333 eP P 04 04 30.6 +1.1
WLF pmax pmax
comp=Z,111nm,1.9s
WLF Walferdange 85.11 333 ⇑P P 04 04 30.8 +1.3
comp=Z,32nm,2.0s
F39A Loretta 85.11 34 P P 04 04 29.9 +0.3
baz=321
E40A Wakefield 85.15 33 P P 04 04 30.3 +0.5
baz=321
OHR Ohrid 85.17 319 i P P 04 04 26.1 -3.9
BNM Barren Site 85.17 50 eP P 04 04 30.9 +0.5
DRME Dracevica, Mon 85.22 321 eP P 04 04 26.5 -3.6
DOU Dourbes 85.31 334 ⇓PcP PcP 04 04 33.0 -0.5
BFO Black Forest 85.37 331 eP P 04 04 30.7 -0.2
comp=Z,45nm,1.1s
BFO LR LR
comp=Z,15nm,19.0s
BFO Black Forest 85.37 331 i P P 04 04 31.1 +0.3
HCY Herceg Novi 85.37 321 eP P 04 04 33.4 +2.5
FETA Feichten 85.45 329 i P P 04 04 31.3 -0.1
comp=Z,11nm,1.1s
H38A Maiden Rock 85.45 35 P P 04 04 31.4 +0.2
baz=320
SCHQ Scheffarville 85.49 16 LR LR 04 45 25.4
comp=Z,268nm,20.0s,baz=348,slow=38
121A Cookes Peak, D 85.51 52 P P 04 04 33.4 +1.4
baz=311
E41A Kenton 85.54 32 P P 04 04 32.0 +0.4
baz=322
DAVA Damuels 85.59 329 i P P 04 04 31.5 -0.6
comp=Z,28nm,1.0s
ECH Echery 85.92 331 eP P 04 04 33.7 +0.1
comp=Z,22nm,1.1s
ECH Echery 85.92 331 eP P 04 04 33.7 +0.1
ECH pmax pmax
comp=Z,22nm,1.1s
G40A Rib Lake 85.93 34 eP P 04 04 34.4 +0.7
comp=Z,51nm,1.7s
G40A Rib Lake 85.93 34 P P 04 04 33.8 +0.1
baz=321
FUORN Ofenpass-Fuorn 85.96 329 eP P 04 04 34.6 +0.6
comp=Z,52nm,1.2s
CBKS Cedar Bluff 85.99 43 eP P 04 04 34.0 0.0
comp=Z,28nm,0.5s
CBKS LR LR
comp=Z,291nm,19.0s
CBKS Cedar Bluff 85.99 43 eP P 04 04 34.1 0.0
CBKS pmax pmax
comp=Z,28nm,0.5s
CBKS MLR MLR
comp=Z,291nm,19.0s
CBKS Cedar Bluff 85.99 43 P P 04 04 34.1 0.0
baz=315
F41A Three Lakes 86.05 33 P P 04 04 34.6 +0.3
baz=322
TAOE Nuku Hiva Isla 86.23 104 eS S 04 15 09.0 -0.2
comp=Z,168nm,27.6s
TAOE Nuku Hiva Isla 86.23 104 eLR LR 04 31 41.7
comp=Z,972nm,31.1s
H40A Chili 86.35 34 P P 04 04 36.1 +0.4
baz=321
I39A Houston 86.43 35 eP P 04 04 36.7 +0.6
comp=Z,15nm,0.9s
I39A Houston 86.43 35 P P 04 04 36.1 0.0
baz=320
E43A Lone Tree Farm 86.44 31 P P 04 04 35.9 -0.2
baz=323
TUE Stuetta 86.46 329 eP P 04 04 37.4 +0.9
comp=Z,44nm,1.5s
H41A Junction City 86.69 34 P P 04 04 37.7 +0.3
baz=322
G42A Mountain 86.73 33 P P 04 04 37.7 +0.1
baz=322
J39A Decorah 86.74 36 P P 04 04 37.6 0.0
baz=320
F43A Flat Rock, Esc 86.80 32 P P 04 04 37.8 0.0
baz=323
I41A Arkdale 87.02 34 P P 04 04 38.2 -0.8
baz=321
K39A Oelwein 87.14 36 P P 04 04 39.2 -0.4
baz=320
J40A Soldiers Grove 87.14 35 P P 04 04 39.6 -0.1
baz=321
H42A Shiocton 87.27 33 P P 04 04 40.5 +0.3
baz=322
ITM Ithomi 87.38 316 eP P 04 04 42.0 +1.1
comp=Z,48nm,1.1s
SENIN Lac Senin/Sane 87.38 330 eP P 04 04 43.0 +2.1
comp=Z,40nm,1.8s
KSU1 Kansas State U 87.47 41 eP P 04 04 41.3 0.0
comp=Z,20nm,0.9s
KSU1 Kansas State U 87.47 41 P P 04 04 41.6 +0.3
baz=317
K40A Colesburg 87.50 36 P P 04 04 41.4 0.0
baz=321
J41A Loganville 87.50 35 P P 04 04 41.5 +0.1
baz=321
L39A Vinton 87.53 37 P P 04 04 41.7 +0.2
baz=320
MNTX Cornudas Mount 87.59 52 eP P 04 04 42.7 +0.7
comp=Z,6.1nm,0.8s
MATE Matera 87.61 321⇓ iP P 04 04 42.6 +0.7
AMTX Amarillo 87.65 47 eP P 04 04 42.6 +0.2
comp=Z,16nm,0.6s
AMTX Amarillo 87.65 47 P P 04 04 43.6 +1.2
baz=314
AQU L'Aquila 87.91 324 eP P 04 04 43.4 0.0
comp=Z,22nm,1.0s
AQU L'Aquila 87.91 324 eP P 04 04 43.4 0.0
AQU pmax pmax
comp=Z,22nm,1.0s
AQU L'Aquila 87.91 324 eP P 04 04 42.1 -1.3
M39A Webster 87.94 37 P P 04 04 43.8 +0.4
baz=320
L40A Anamosa 87.95 36 eP P 04 04 44.0 +0.5
comp=Z,22nm,1.1s
L40A Anamosa 87.95 36 P P 04 04 43.6 +0.2
baz=321
N39A Derby Farms, D 88.24 38 eP P 04 04 45.9 +1.0
comp=Z,30nm,1.3s
N39A Derby Farms, D 88.24 38 P P 04 04 45.4 +0.5
baz=320
L41A Preston 88.28 36 P P 04 04 45.0 -0.1
baz=321
M40A Post Highland 88.31 37 P P 04 04 45.6 +0.4
baz=320
TBI Tubuai 88.54 121 eS S 04 15 32.0 +1.2
comp=Z,280nm,37.8s
TBI Tubuai 88.54 121 eLR LR 04 32 29.5
comp=Z,823nm,27.0s,baz=313
TBI Tubuai 88.54 121 eT T 05 42 24.6
comp=Z,119nm,0.3s
VLDQ Val d'Or 88.58 25 eP P 04 04 46.0 -0.4
comp=Z,54nm,1.5s
N40A Mertquake, Sal 88.68 37 P P 04 04 47.5 +0.5
baz=320
K43A Burlington 88.78 34 P P 04 04 48.4 +1.0
baz=322
M41A Milan 88.80 36 P P 04 04 47.1 -0.4
baz=321
E51A G1948 Merrick 89.22 27 P P 04 04 49.1 -0.3
baz=328
D53A Lac Vacive, Po 89.39 25 P P 04 04 50.7 +0.5
baz=330
WMOK Wichita Mounta 89.44 46 eP P 04 04 51.8 +1.1
comp=Z,34nm,1.6s
WMOK Wichita Mounta 89.44 46 eP P 04 04 51.8 +1.1
WMOK pmax pmax
comp=Z,34nm,1.6s
WMOK Wichita Mounta 89.44 46 P P 04 04 51.2 +0.5
baz=316
M43A Waltham Townsh 89.50 35 P P 04 04 51.3 +0.5
baz=322
O41A Passleys Farm, 89.61 37 P P 04 04 51.5 +0.1
baz=321
J47A Summer 89.88 32 P P 04 04 53.0 +0.4
baz=325
F52A Sundridge 89.91 27 P P 04 04 53.0 +0.3
baz=329
I49A Point Hope 90.13 30 P P 04 04 54.8 +1.1
baz=326
J48A Bridge Port 90.27 31 P P 04 04 55.9 +1.5
baz=326
TX31 Lajitas Ar. Si 90.28 52 eP P 04 04 55.6 +0.8
TXAR Lajitas Array 90.28 52 P P 04 04 55.7 +0.9
comp=Z,3.0nm,0.7s,baz=307,slow=3.8,SNR=19
TXAR LR LR 04 41 05.9
comp=Z,106nm,20.4s,baz=0.0,slow=33
P42A Winchester 90.28 37 P P 04 04 55.0 +0.4
baz=321
Q41A Truxton 90.34 38 P P 04 04 55.2 +0.5
baz=321
ABTX Abilene, Hawle 90.45 48 eP P 04 04 55.8 +0.4
comp=Z,19nm,1.1s
ABTX Abilene, Hawle 90.45 48 P P 04 04 56.1 +0.7
baz=316
N45A Kentland 90.63 35 P P 04 04 56.5 +0.4
baz=323
R41A Rosebud 90.77 39 P P 04 04 57.7 +0.9
baz=320
HHAR Hobbs 90.98 42 eP P 04 04 58.3 +0.4
comp=Z,9.8nm,1.0s
CCM Cathedral Cave 91.02 39 eP P 04 04 59.3 +1.3
comp=Z,41nm,1.8s
CCM Cathedral Cave 91.02 39 eP P 04 04 59.3 +1.3
CCM pmax pmax
comp=Z,41nm,1.8s
CCM Cathedral Cave 91.02 39 P P 04 04 58.4 +0.4
baz=321
L48A N Adams 91.11 32 P P 04 04 58.4 0.0
baz=325
K50A Casco 91.18 31 P P 04 04 59.1 +0.5
baz=326
S42A Caledonia 91.47 39 P P 04 05 00.5 +0.4
baz=321
U40A Yellville 91.50 41 P P 04 05 00.4 +0.2
baz=320
T41A Mountain View 91.54 40 P P 04 05 00.6 +0.2
baz=320
JCT Junction City 91.88 49 eP P 04 05 03.1 +1.0
comp=Z,9.4nm,0.9s
JCT Junction City 91.88 49 eP P 04 05 03.1 +1.0
JCT pmax pmax
comp=Z,9.0nm,0.9s
W39A Magazine 91.88 42 P P 04 05 02.1 +0.1
baz=319
T42A Van Buren 91.89 39 eP P 04 05 02.7 +0.7
comp=Z,10.0nm,1.1s
T42A Van Buren 91.89 39 P P 04 05 02.2 +0.2
baz=321
U41A Viola 91.99 40 P P 04 05 02.7 +0.2
baz=320
O48A Farmland 92.17 34 P P 04 05 03.5 +0.3
baz=325
WHTX Lake Whitney, 92.19 47 eP P 04 05 04.2 +0.7
comp=Z,30nm,1.0s
WHTX Lake Whitney, 92.19 47 P P 04 05 03.7 +0.2
baz=317
S44A Carbondale 92.29 38 P P 04 05 04.6 +0.8
baz=322
V41A Mountainview 92.30 41 P P 04 05 03.9 -0.1
baz=320
PBMO Poplar Bluff 92.42 39 eP P 04 05 05.4 +0.9
comp=Z,10nm,1.0s
MIAR Mount Ida 92.48 43 eP P 04 05 05.6 +0.8
comp=Z,20nm,1.1s
MIAR Mount Ida 92.48 43 eP P 04 05 05.6 +0.8
MIAR pmax pmax
comp=Z,20nm,1.1s
MIAR Mount Ida 92.48 43 P P 04 05 05.3 +0.5
baz=319
WHAR Wooly Hollow 92.60 41 eP P 04 05 06.1 +0.7
comp=Z,30nm,1.1s
ACSO Alum Creek Sta 93.14 32 PFAKE 04 05 20.0 +12
ACSO LR LR
comp=Z,417nm,22.0s
ACSO Alum Creek Sta 93.14 32 P P 04 05 08.1 +0.3
baz=326
T46A Princeton 93.47 37 P P 04 05 09.5 +0.2
baz=323
Y41A Eaglette Beard 93.50 42 P P 04 05 09.7 +0.2
baz=320
NATX Nacogdoches 93.96 45 PFAKE 04 05 20.0 +8.3
NATX LR LR
comp=Z,313nm,21.0s
Q51A Peebles 93.97 33 P P 04 05 12.0 +0.4
baz=326
O56A Blue Knob Stat 94.93 29 P P 04 05 16.0 0.0
baz=329
T50A Nancy 94.94 35 P P 04 05 16.5 +0.4
baz=325
KEST Kesra 95.07 323 LR LR 04 52 09.7
comp=Z,285nm,19.2s,baz=1.5,slow=38
U50A Jamestown 95.43 36 P P 04 05 18.9 +0.5
baz=325
ZAIG Zacatecas 95.50 56 eP P 04 05 19.9 +0.6
comp=Z,14nm,1.4s
541A Lake Charles 96.07 45 P P 04 05 20.1 -1.2
baz=319
V51A Loudon 96.16 36 P P 04 05 20.9 -0.8
baz=325
ES19 SONSECA Array 97.32 334 eP Pdif 04 05 27.3 +0.3
ESDC Sonseca Array 97.36 334 P Pdif 04 05 27.3 +0.1
comp=Z,1.2nm,0.9s,baz=30,slow=2.7,SNR=4.8
ESDC PP PP 04 09 25.4 +2.4
comp=Z,0.9nm,0.9s,baz=25,slow=8.4,SNR=5.2
ESDC LR LR 04 52 33.8
comp=Z,324nm,19.8s,baz=65,slow=37
PAB San Pablo 97.61 334 PFAKE 04 05 40.0 +12
PAB LR LR
comp=Z,570nm,20.0s
RKT Rikitea 98.79 112 eLR LR 04 37 09.1
comp=Z,591nm,25.0s
KMBO Kilima Mbogo 101.90 278 PFAKE 04 06 00.0 +12
KMBO LR LR
comp=Z,220nm,20.0s
ABPO Ambohimpanom 104.33 257 PFAKE 04 06 10.0 +12
ABPO LR LR

	comp=Z,99nm,19.0s							
MBAR	**Mbarara**	**106.72**	**282**	PFAKE			04 10 30.0	
MBAR				LR	LR			
	comp=Z,898nm,20.0s							
VNDA	**Vanda**	**114.85**	**175**	PKP	PKPdf		04 10 33.3	+0.4
	comp=Z,1.2nm,0.9s,baz=293,slow=3.8,SNR=7.8							
SBA	**Scott Base**	**115.53**	**174**	PFAKE			04 10 50.0	+16
SBA				LR	LR			
	comp=Z,295nm,19.0s							
JTS	**JuntasAbangare**	**116.07**	**52**	PFAKE			04 10 50.0	+13
JTS				LR	LR			
	comp=Z,285nm,21.0s							
SDDR	**Presa de Saban**	**116.48**	**35**	PFAKE			04 10 50.0	+12
SDDR				LR	LR			
	comp=Z,226nm,20.0s							
TOA0	**Torodi Ar. Sit**	**117.36**	**315**	*e*PKPdf		**PKPdf**	**04 10 38.8**	**-0.9**
TORD	**Torodi Ar. Bea**	**117.36**	**315**	PKP		**PKPdf**	**04 10 38.6**	**-1.1**
TORD				PP		**PP**	**04 11 48.4**	**-1.7**
	comp=Z,5.5nm,1.1s,baz=12,slow=5.3,SNR=6.5							
LSZ	**Lusaka**	**117.40**	**271**	PFAKE			04 10 50.0	+10
LSZ				LR	LR			
	comp=Z,366nm,22.0s							
SJG	**San Juan**	**119.46**	**30**	PFAKE			04 11 00.0	+16
SJG				LR	LR			
	comp=Z,104nm,19.0s							
BCIP	**Isla Barro Col**	**120.10**	**49**	PFAKE			04 11 00.0	+15
BCIP				LR	LR			
	comp=Z,285nm,22.0s							
LBTB	**Lobatse**	**124.53**	**263**	*e*PKPdf		**PKPdf**	**04 10 54.3**	**+1.1**
LBTB	**Lobatse**	**124.53**	**263**	*e*PKIKP		**PKPdf**	**04 10 54.3**	**+1.1**
SDV	**Santo Domingo**	**125.49**	**40**	*e*PKPdf		**PKPdf**	**04 10 56.1**	**+0.6**
SDV				LR	LR			
	comp=Z,166nm,21.0s							
DBIC	**Dimbokro**	**126.32**	**317**	PKP		**PKPdf**	**04 10 56.9**	**0.0**
	comp=Z,5.5nm,0.9s,baz=163,slow=5.7,SNR=3.7							
QSPA	**South Pole Qui**	**126.65**	**180**	*e*PKPdf		**PKPdf**	**04 10 56.1**	**+0.1**
QSPA				LR	LR			
	comp=Z,183nm,21.0s							
TSUM	**Tsumeb**	**128.02**	**274**	PFAKE			04 11 10.0	+10
TSUM				LR	LR			
	comp=Z,216nm,20.0s							
SYO	**Syowa Base**	**128.05**	**207**	*i* PKPdf		**PKPdf**	**04 11 00.0**	**+1.6**
SYO	**Syowa Base**	**128.05**	**207**	*e*pPKPdf		pPKPdf	04 11 12.0	+4.3
NNA	**Nana**	**137.76**	**64**	*i* PKIKP		**PKPdf**	**04 11 19.5**	**+1.1**
PTGA	**Pitinga**	**138.99**	**34**	*e*PKPdf		**PKPdf**	**04 11 21.9**	**+1.2**
SNAA	**Sanae**	**140.60**	**197**	PKP		PKPpre	04 11 13.6	
SNAA	**Sanae**	**140.60**	**197**	*e*PKPpre		PKPpre	04 11 13.9	
SNAA	**Sanae**	**140.60**	**197**	*e*PKHKP		PKPpre	04 11 13.9	
VNA2	**Neumayer--Watz**	**142.17**	**196**	PKP		PKPpre	04 11 19.8	
	baz=101,slow=2.2							
VNA3	**Neumayer Olymp**	**142.41**	**195**	PKP		PKPpre	04 11 19.3	
VNA1	**Neumayer--Stat**	**142.56**	**196**	PKP		PKPpre	04 11 21.3	
ASCN	**Ascension**	**143.65**	**316**	PFAKE			04 11 40.0	+11
ASCN				LR	LR			
	comp=Z,607nm,20.0s							
SAML	**Samuel**	**144.41**	**45**	PFAKE			04 11 40.0	+10
SAML				LR	LR			
	comp=Z,174nm,20.0s							
LPAZ	**La Paz**	**146.84**	**60**	PKPbc		**PKPab**	**04 11 36.8**	**-1.5**
	comp=Z,14nm,0.9s,baz=342,slow=4.9,SNR=42							
LPAZ	**La Paz**	**146.84**	**60**	*e*PKPdf		**PKPab**	**04 11 35.8**	**-2.5**
LPAZ	**La Paz**	**146.84**	**60**	*e*PKP2		**PKPab**	**04 11 35.8**	**-2.5**
MNMC	**Minye Minye**	**147.69**	**65**	*e*PKPbc		**PKPbc**	**04 11 39.6**	**+0.7**
PB11	**IPOC Station P**	**148.04**	**66**	*e*PKPbc		**PKPbc**	**04 11 40.0**	**+0.3**
PB01	**IPOC Station P**	**148.95**	**68**	*e*PKPbc		**PKPbc**	**04 11 41.5**	**-0.4**
LVC	**Limon Verde**	**150.31**	**70**	*e*PKPbc		**PKPbc**	**04 11 46.4**	**+0.8**
LVC	**Limon Verde**	**150.31**	**70**	*e*PKIKP		**PKPbc**	**04 11 46.4**	**+0.8**
LCO	**Las Campanas**	**152.12**	**83**	*e*PKPbc		**PKPbc**	**04 11 50.0**	**+0.5**
LCO				LR	LR			
	comp=Z,463nm,19.0s							
LCO	**Las Campanas**	**152.12**	**83**	*e*PKIKP		**PKPbc**	**04 11 50.0**	**+0.5**
LCO				MLR	MLR			
	comp=Z,463nm,19.0s							
GO04	**Tololo Observa**	**152.51**	**85**	*e*PKPbc		**PKPbc**	**04 11 50.9**	**+0.5**
PEL	**Peldehue**	**153.61**	**91**	*e*PKPbc		**PKPbc**	**04 11 52.8**	**+0.4**
PEL	**Peldehue**	**153.61**	**91**	*e*PKIKP		**PKPbc**	**04 11 52.8**	**+0.4**

JMA 09 03:55:00.1±0.1, 36.88N×141.35E, h33km±1km, M3.9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.49**	**297**	P	Pb	03 55 10.3	-0.3
ONAJ				*e*S	Sb	03 55 17.4	-0.5
JFK	**Kawauchi**	**0.62**	**322**	P	Pn	03 55 12.1	-0.5
JFK				*e*S	Sb	03 55 20.3	-0.9
JFFD	**Fukushimafurud**	**0.67**	**289**	P	Pn	03 55 12.9	-0.3
JFFD				S	Sb	03 55 21.4	-1.1
JHO	**Hitachi**	**0.68**	**247**	P	Pn	03 55 13.2	-0.2
JHO				S	Sb	03 55 22.5	-0.4
JHYU	**Hitachinakayam**	**0.82**	**229**	P	Pn	03 55 15.0	-0.3
JHYU				*e*S	Sn	03 55 26.3	+0.1
JFT	**Otama**	**1.03**	**309**	P	Pb	03 55 19.3	-0.2
JFT				S	Sb	03 55 33.0	+0.3
JMM	**Marumori**	**1.08**	**336**	P	Pb	03 55 19.7	-0.6
JMM				*e*S	Sb	03 55 33.5	-0.6
JYT	**Yasato**	**1.14**	**235**	P	Pn	03 55 20.1	+0.4
JYT				*e*S	Sn	03 55 34.4	+0.3
JFY	**Yanaizu**	**1.42**	**292**	S	Sb	03 55 43.5	-0.2

JMA 09 03:58:26.4±0.1, 36.87N×141.35E, h30km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.50**	**298**	P	Pb	03 58 36.4	-0.5
ONAJ				*e*S	Sb	03 58 43.5	-0.5
JFK	**Kawauchi**	**0.62**	**323**	P	Pb	03 58 38.6	-0.3
JFK				S	Sb	03 58 47.0	-0.4
JFFD	**Fukushimafurud**	**0.67**	**289**	P	Pb	03 58 39.2	-0.4
JFFD				S	Sb	03 58 48.0	-0.6
JHO	**Hitachi**	**0.68**	**248**	P	Pb	03 58 39.3	-0.5
JHO				S	Sb	03 58 48.6	-0.3
JHYU	**Hitachinakayam**	**0.81**	**230**	P	Pn	03 58 41.4	-0.3
JHYU				S	Sn	03 58 52.8	+0.1
JFT	**Otama**	**1.04**	**309**	P	Pb	03 58 45.7	-0.1
JFT				S	Sb	03 58 59.1	+0.1
JMM	**Marumori**	**1.09**	**336**	P	Pn	03 58 45.8	+0.2
JMM				*e*S	Sn	03 59 00.0	+0.3
JYT	**Yasato**	**1.13**	**236**	P	Pn	03 58 46.1	-0.1
JSB	**Shiboa**	**1.15**	**275**	P	Pb	03 58 47.8	+0.1
JSB				S	Sb	03 59 03.3	+1.0
MAT	**Matsushiro**	**2.55**	**264**	P	Pn	03 59 07.7	+2.0
MAT				*e*S	Sb	03 59 42.2	-0.1

MEX 09 03:59:48.8±0.5, 27.88N×111.95W, h6km±7km, MD3.8, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.62**	**205**	*i* P	Pg	03 59 59.9	-0.8
SRIG				*i* S	Sg	04 00 08.9	+0.2
GUYB	**Guaymas**	**0.96**	**89**	*e*P	Pg	04 00 04.8	-2.3
GUYB				*e*S	Sg	04 00 17.5	-2.1

MEX 09 04:01:45.2±4.7, 24.78N×110.90W, h19km, MD3.5, Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**0.86**	**141**	*e*P	Pb	04 01 59.2	-2.3
	baz=347,slow=3.1						
LPIG				*e*S	Sb	04 02 08.5	-4.1
SLBS	**Sierra La Lagu**	**1.39**	**141**	*e*P	Pn	04 02 06.7	-2.9
SLBS				*e*S	Sn	04 02 22.6	-4.9

*JMA **09** 04:03:54.6±0.1, 36.85N×141.37E, h28km±1km, M3.6*
*IDC **09** 04:04:00.3±5.3, 36.81N×141.23E, h52km±50km, mb3.2/3, mb1 3.5/4, mb1mx3.1/54, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=48.0km s-min=29.2km az=99.0*

ISC 09 04:03:54.9±2.0, 36.85N±0.04×141.32E±0.08, h12km±11km, n21, σ0892/22, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.49**	**301**	P	**Pb**	**04 04 05.1**	**-0.4**
JFK	**Kawauchi**	**0.62**	**325**	P	**Pg**	**04 04 07.0**	**-0.1**
JFK				S	**Sb**	**04 04 15.9**	**-0.7**
JHO	**Hitachi**	**0.65**	**248**	P	**Pg**	**04 04 07.6**	**+0.1**
JHO				S	**Sb**	**04 04 17.0**	**-0.3**
JFFD	**Fukushimafurud**	**0.65**	**292**	P	**Pg**	**04 04 07.8**	**+0.2**
JFFD				S	**Sg**	**04 04 16.7**	**+0.5**
JHYU	**Hitachinakayam**	**0.78**	**229**	P	**Pb**	**04 04 09.7**	**-0.8**
JHYU				S	**Sg**	**04 04 19.9**	**-0.3**
JFT	**Otama**	**1.03**	**310**	*e*S	**Sg**	**04 04 28.0**	**-0.1**
JMM	**Marumori**	**1.09**	**338**	*e*S	**Sb**	**04 04 28.5**	**-1.6**
JYT	**Yasato**	**1.10**	**236**	S	**Sb**	**04 04 28.6**	**-1.6**
JSB	**Shiboa**	**1.13**	**276**	P	**Pb**	**04 04 16.1**	**-0.3**
JSB				S	**Sg**	**04 04 31.7**	**+0.4**
JFY	**Yanaizu**	**1.40**	**294**	P	**Pn**	**04 04 20.3**	**-0.1**
JFY				S	**Sb**	**04 04 38.5**	**-0.5**
MJAR	**Matsushiro Arr**	**2.52**	**264**	P	**Pn**	**04 04 37.5**	**+1.8**
	3.8nm,0.3s,baz=78,slow=16,SNR=22						
MAT	**Matsushiro**	**2.52**	**264**	P	**Pn**	**04 04 37.5**	**+1.7**
MAT				*e*S	**Sb**	**04 05 10.1**	**-1.1**
H11N2	**WAKE ISLAND Hy**	**28.12**	**120**	T	T	04 39 10.7	
	baz=313,slow=75,SNR=55						
H11N1	**WAKE ISLAND Hy**	**28.13**	**120**	T	T	04 39 14.8	
	baz=313,slow=75,SNR=50						
H11N3	**WAKE ISLAND Hy**	**28.14**	**120**	T	T	04 39 12.1	
	baz=313,slow=75,SNR=40						
H11S1	**WAKE ISLAND Hy**	**28.82**	**122**	T	T	04 40 04.3	
	baz=315,slow=75,SNR=29						
H11S3	**WAKE ISLAND Hy**	**28.82**	**123**	T	T	04 40 02.8	
	baz=315,slow=75,SNR=60						
H11S2	**WAKE ISLAND Hy**	**28.84**	**122**	T	T	04 40 04.7	
	baz=315,slow=75,SNR=38						
KURBB	**Kurchatov Arra**	**46.05**	**308**	P	**P**	**04 12 18.6**	**+0.2**
	0.3nm,0.3s,baz=83,slow=8.0,SNR=4.3						
ILAR	**Eielson Array**	**49.69**	**32**	P	**P**	**04 12 47.0**	**+0.6**
	0.2nm,0.5s,baz=273,slow=6.5,SNR=6.4						
WRA	**Warramunga Arr**	**56.87**	**188**	P	**P**	**04 13 39.1**	**-0.5**
	0.6nm,0.9s,baz=2.6,slow=7.2,SNR=5.1						

*NIED **09** 04:06:00.36°.90N×141.40E, h5km, Mw4.0 Best double couple: Mo1.19000×10^15 NP1:φs176.00000°, δ47.00000°, λ-125.00000°. NP2:φs41.00000°, δ53.00000°, λ-58.00000°.*
*JMA **09** 04:06:05.8±0.1, 36.87N×141.35E, h35km±1km, M4.2*
JMA Felt II J1.
*NEIC **09** 04:06:10.3±0.5, 36.83N×141.15E, h44km±5km, mb4.2/3, Error ellipse: s-maj=5.2km s-min=4.6km az=97.0*
NEIC Recorded [2 JMA] in Fukushima.
*IDC **09** 04:06:11.1±3.2, 36.82N×141.13E, h50km±28km, mb3.9/17, mb1 4.0/19, mb1mx3.8/54, mbtmp4.1/19, ML3.0/2, Error ellipse: s-maj=20.2km s-min=16.4km az=75.0*

ISC 09 04:06:05.8±1.7, 36.86N±0.04×141.35E±0.06, h11km±9km, n64, σ1821/67, mb4.1/21, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.50**	**299**	P	**Pg**	**04 06 16.1**	**+0.5**
ONAJ				*e*S	**Sg**	**04 06 23.3**	**+1.1**
JFK	**Kawauchi**	**0.63**	**323**	P	**Pg**	**04 06 18.0**	**0.0**
JFK				S	**Sg**	**04 06 26.2**	**-0.1**
JFFD	**Fukushimafurud**	**0.67**	**290**	P	**Pg**	**04 06 18.6**	**-0.1**
JFFD				*e*S	**Sg**	**04 06 27.6**	**+0.1**
JHO	**Hitachi**	**0.67**	**248**	P	**Pg**	**04 06 18.7**	**-0.1**
JHO				*e*S	**Sg**	**04 06 28.2**	**+0.6**
JHYU	**Hitachinakayam**	**0.80**	**230**	P	**Pb**	**04 06 20.7**	**-1.0**
JHYU				*e*S	**Sb**	**04 06 31.7**	**-0.8**
JFT	**Otama**	**1.04**	**309**	P	**Pb**	**04 06 25.1**	**-0.7**
JFT				*e*S	**Sb**	**04 06 38.6**	**-0.8**
JMM	**Marumori**	**1.09**	**336**	P	**Pb**	**04 06 24.6**	**-2.1**
JMM				*e*S	**Sb**	**04 06 39.0**	**-2.0**
JYT	**Yasato**	**1.12**	**236**	P	**Pn**	**04 06 25.4**	**-2.0**
JYT				*e*S	**Sb**	**04 06 39.8**	**-2.0**
JFY	**Yanaizu**	**1.42**	**293**	P	**Pn**	**04 06 31.0**	**-0.5**
JFY				*e*S	**Sn**	**04 06 49.6**	**-0.6**
MJAR	**Matsushiro Arr**	**2.54**	**264**	P	**Pn**	**04 06 47.0**	**+0.1**
	16nm,0.3s,baz=90,slow=15,SNR=17						
MAJO	**Matsushiro**	**2.54**	**264**	*e*Pn	**Pn**	**04 06 47.0**	**0.0**
MAT	**Matsushiro**	**2.54**	**264**	P	**Pn**	**04 06 47.0**	**+0.1**
MAT				*e*S	**Sn**	**04 07 21.4**	**+3.5**
MJB9	**Matsu-Tunnel**	**2.54**	**264**	*e*Pn	**Pn**	**04 06 47.0**	**0.0**
INU	**Inuyama**	**3.82**	**248**	*e*Pn	**Pn**	**04 07 06.1**	**+1.6**
JHJ2	**Mitsune**	**3.95**	**199**	*e*Pn	**Pn**	**04 07 07.2**	**+0.9**
ERM	**Erimo**	**5.33**	**15**	*e*Pn	**Pn**	**04 07 28.4**	**+3.2**
USRK	**Ussuriysk Ar.**	**10.21**	**319**	P	**Pn**	**04 08 34.4**	**+2.1**
	0.3nm,0.3s,baz=136,slow=18,SNR=4.3						
KSRS	**Korea Array**	**10.73**	**277**	P	Pn	04 08 44.1	+4.8
	0.2nm,0.3s,baz=85,slow=14,SNR=4.4						
KSAR	**Wonju Array Be**	**10.76**	**277**	P	**Pn**	**04 08 44.1**	**+4.3**
SONA0	**Songino Array**	**27.84**	**304**	*e*P	**P**	**04 11 54.2**	**-1.0**
SONM	**Songino Array**	**27.84**	**304**	P	**P**	**04 11 54.2**	**-1.0**
	1.3nm,0.6s,baz=110,slow=9.2,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**28.11**	**120**	T	T	04 41 21.7	
	baz=313,slow=75,SNR=139						
H11N1	**WAKE ISLAND Hy**	**28.12**	**120**	T	T	04 41 24.9	
	baz=313,slow=75,SNR=131						
H11N3	**WAKE ISLAND Hy**	**28.13**	**120**	T	T	04 41 24.0	
	baz=313,slow=75,SNR=120						
H11S1	**WAKE ISLAND Hy**	**28.81**	**123**	T	T	04 42 15.9	
	baz=315,slow=75,SNR=109						
H11S3	**WAKE ISLAND Hy**	**28.81**	**123**	T	T	04 42 15.9	
	baz=315,slow=75,SNR=166						
H11S2	**WAKE ISLAND Hy**	**28.83**	**123**	T	T	04 42 16.8	
	baz=315,slow=75,SNR=127						
ZAA0	**Zalesovo Array**	**41.99**	**313**	*e*P	**P**	**04 13 56.3**	**-0.4**
	3.0nm,0.8s						
ZAA1	**Zalesovo Array**	**41.99**	**313**	*e*P	**P**	**04 13 56.0**	**-0.7**
ZALV	**Zalesovo Beam**	**41.99**	**313**	P	**P**	**04 13 56.0**	**-0.7**
	2.1nm,0.5s,baz=94,slow=7.0,SNR=9.6						
RDOG	**Red Dog Mine**	**43.68**	**27**	*e*P	**P**	**04 14 11.0**	**+0.8**
	17nm,1.4s						
MK01	**Makanchi Array**	**44.16**	**302**	*e*P	**P**	**04 14 13.2**	**-1.2**
MK32	**Makanchi Array**	**44.16**	**302**	*e*P	**P**	**04 14 14.0**	**-0.4**
MKAR	**Makanchi Array**	**44.16**	**302**	P	**P**	**04 14 14.0**	**-0.4**
	2.4nm,0.7s,baz=90,slow=10,SNR=13						
KURK	**Kurchatov**	**45.99**	**308**	*e*P	**P**	**04 14 28.0**	**-0.8**
KURBB	**Kurchatov Arra**	**46.06**	**308**	P	**P**	**04 14 28.9**	**-0.5**
	3.3nm,0.8s,baz=84,slow=8.2,SNR=17						
IL1	**Eielson Array**	**49.67**	**32**	*e*P	**P**	**04 14 57.3**	**+0.1**
ILAR	**Eielson Array**	**49.67**	**32**	P	**P**	**04 14 57.5**	**+0.4**
	2.4nm,0.7s,baz=263,slow=5.9,SNR=31						
ILB	**Eielson Array**	**49.67**	**32**	*e*P	**P**	**04 14 57.8**	**+0.6**
AAK	**Ala-Archa**	**50.52**	**298**	*e*P	**P**	**04 15 03.5**	**-0.6**
	1.0nm,0.4s						
BVAR	**Borovoye Array**	**50.65**	**312**	P	**P**	**04 15 05.6**	**+0.9**
	1.2nm,0.6s,baz=126,slow=7.5,SNR=4.4						
BRVK	**Borovoye**	**50.70**	**312**	*e*P	**P**	**04 15 05.0**	**-0.1**
INK	**Inuvik**	**54.56**	**27**	P	**P**	**04 15 34.5**	**+1.1**
	1.8nm,0.8s,baz=313,slow=6.5,SNR=6.0						
WRAB	**Tennant Creek**	**56.87**	**188**	*e*P	**P**	**04 15 49.8**	**-0.7**
	3.7nm,0.9s						
WB2	**Warramunga Arr**	**56.88**	**188**	*e*P	**P**	**04 15 50.3**	**-0.3**
WRA	**Warramunga Arr**	**56.88**	**188**	P	**P**	**04 15 50.0**	**-0.6**
	1.4nm,0.5s,baz=6.6,slow=7.5,SNR=12						
ABKAR	**Akbulak array**	**58.01**	**310**	*e*P	**P**	**04 15 57.6**	**-0.7**
AS01	**Alice Springs**	**60.60**	**188**	*e*P	**P**	**04 16 16.5**	**0.0**
ASAR	**Alice Springs**	**60.61**	**188**	P	**P**	**04 16 16.1**	**-0.4**
	1.2nm,0.8s,baz=5.5,slow=6.0,SNR=9.4						
ARA0	**ARCESS Array S**	**64.14**	**339**	*e*P	**P**	**04 16 39.5**	**-0.2**
ARCES	**ARCESS Array B**	**64.14**	**339**	P	**P**	**04 16 39.5**	**-0.2**
	8.1nm,0.9s,baz=49,slow=8.2,SNR=5.1						
FIA0	**FINESS Array S**	**68.94**	**332**	*e*P	**P**	**04 17 09.8**	**-0.6**
FINES	**FINESS Array B**	**68.94**	**332**	P	**P**	**04 17 09.8**	**-0.6**
	2.3nm,0.6s,baz=51,slow=10.0,SNR=8.1						
KBZ	**Khabaz**	**70.97**	**311**	P	**P**	**04 17 23.2**	**0.0**
	2.1nm,1.0s,baz=177,slow=4.2,SNR=4.8						
NB200	**NORSAR Array S**	**74.32**	**337**	*e*P	**P**	**04 17 42.1**	**-0.8**
NOA	**NORSAR Array B**	**74.32**	**337**	P	**P**	**04 17 42.1**	**-0.8**
	0.9nm,0.6s,baz=40,slow=5.9,SNR=5.4						
AKASG	**Malin Array Be**	**74.40**	**322**	P	**P**	**04 17 42.6**	**-0.9**
	1.2nm,0.3s,baz=46,slow=6.1,SNR=8.7						
AKBB	**Malin Array Si**	**74.40**	**322**	*e*P	**P**	**04 17 42.6**	**-0.9**
NV01	**Mina Array Sit**	**75.14**	**53**	*e*P	**P**	**04 17 49.9**	**+1.6**
NVAR	**Mina Array Bea**	**75.14**	**53**	P	**P**	**04 17 49.9**	**+1.6**
	0.3nm,0.3s,baz=317,slow=4.9,SNR=3.0						
GERES	**GERESS Array B**	**82.83**	**328**	P	**P**	**04 18 29.6**	**-0.5**
	0.5nm,0.4s,baz=35,slow=6.8,SNR=7.4						
LTX	**Lajitas**	**90.27**	**52**	*e*P	**P**	**04 19 07.8**	**+0.8**
TXAR	**Lajitas Array**	**90.27**	**52**	P	**P**	**04 19 07.8**	**+0.8**
	0.3nm,0.5s,baz=317,slow=2.7,SNR=7.1						
LPAZ	**La Paz**	**146.83**	**60**	PKPbc	**PKPbc**	**04 25 49.1**	**-0.2**
	1.5nm,0.6s,baz=1.0,slow=4.3,SNR=8.1						

IDC 09 04:06:54.1±11.0, 18.69N×145.73E, h188km±115km, mb3.3/8, mb1 3.5/8, mb1mx3.2/53, mbtmp3.8/8, Error ellipse: s-maj=44.8km s-min=14.7km az=88.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**24.34**	**324**	P	P	04 11 54.7	+0.1
	0.7nm,0.6s,baz=145,slow=8.1,SNR=3.3						
KLR	**Kul'dur**	**32.48**	**343**	P	P	04 13 07.4	+0.7
	1.0nm,0.4s,baz=113,slow=7.1,SNR=4.1						
WRA	**Warramunga Arr**	**39.99**	**197**	P	P	04 14 10.0	-0.6
	0.9nm,0.6s,baz=19,slow=8.4,SNR=18						
SONM	**Songino Array**	**43.16**	**321**	P	P	04 14 36.1	-0.2
	0.3nm,0.4s,baz=129,slow=8.4,SNR=3.2						
ASAR	**Alice Springs**	**43.66**	**196**	P	P	04 14 41.1	+0.8
	0.4nm,0.5s,baz=22,slow=11,SNR=5.0						
ILAR	**Eielson Array**	**63.64**	**26**	P	P	04 17 04.0	-0.8
	0.3nm,0.4s,baz=256,slow=5.8,SNR=6.4						
YKA	**Yellowknife Ar**	**77.98**	**28**	P	P	04 18 32.0	+0.7
	1.0nm,0.6s,baz=289,slow=5.8,SNR=3.9						
FINES	**FINESS Array B**	**86.90**	**335**	P	P	04 19 16.8	-0.6
	1.6nm,0.8s,baz=59,slow=4.8,SNR=5.5						

*ISCJB **09** 04:12:21.4±1.2, 52.8N±0.1×132.4W±0.2, h10km, mb3.5/4, MS4.2/1, Error ellipse: s-maj=20.5km s-min=7.8km az=135.6*
*IDC **09** 04:12:21.3±1.2, 52.77N×132.40W, h0km, mb3.6/4, mb1 3.8/8, mb1mx3.6/49, mbtmp3.6/8, ML3.8/4, MS3.4/2, Ms1 3.6/2, ms1mx2.8/56, Error ellipse: s-maj=19.5km s-min=6.3km az=64.0*

ISC 09 04:12:23.2±1.4, 52.9N±0.1×132.3W±0.1, h10km, n14, σ1827/11, mb3.7/4, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H02S1	**DAWSON INLET T**	**0.35**	**337**	Pg	**Pg**	**04 12 29.5**	**-0.7**
H02S1				Lg	Lg	04 12 35.7	
	SNR=117						
H02N1	**VAN INLET T-PH**	**0.41**	**335**	Pg	**Pg**	**04 12 30.7**	**-0.7**
H02N1				Lg	Lg	04 12 37.5	
BBB	**Bella Bella**	**2.62**	**104**	Pn	**Pn**	**04 13 05.3**	**-0.2**
	56nm,0.3s,baz=289,slow=17,SNR=90						
BBB				Sn	**Sn**	**04 13 38.7**	**+1.4**
	126nm,0.3s,baz=200,slow=24,SNR=23						
DLBC	**Dease Lake**	**5.71**	**12**	Pn	**Pn**	**04 13 50.2**	**+2.1**
	1.4nm,0.3s,baz=193,slow=13,SNR=12						
DLBC				LR	LR	04 15 21.6	
	comp=Z,87nm,19.3s,baz=114,slow=31						
YKA	**Yellowknife Ar**	**13.44**	**37**	Pn	**Pn**	**04 15 31.4**	**-2.2**
	0.2nm,0.3s,baz=226,slow=12,SNR=3.7						
PDAR	**Pinedale Array**	**18.21**	**115**	P	**P**	**04 16 36.7**	**+0.3**
	0.0nm,0.3s,baz=295,slow=11,SNR=6.4						
TXAR	**Lajitas Array**	**31.52**	**127**	P	**P**	**04 18 45.8**	**+0.3**
	0.3nm,0.7s,baz=333,slow=8.3,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**56.98**	**259**	T	T	05 23 51.7	
	baz=39,slow=76,SNR=2899						
H11N3	**WAKE ISLAND Hy**	**56.98**	**259**	T	T	05 23 51.9	
	baz=39,slow=76,SNR=1882						
H11N1	**WAKE ISLAND Hy**	**56.99**	**259**	T	T	05 23 53.0	
	baz=39,slow=76,SNR=1540						
KURBB	**Kurchatov Arra**	**73.65**	**340**	P	**P**	**04 23 56.5**	**+0.1**
	0.8nm,0.7s,baz=18,slow=5.8,SNR=4.9						
MKAR	**Makanchi Array**	**76.42**	**336**	P	**P**	**04 24 12.3**	**-0.2**
	1.0nm,0.9s,baz=23,slow=5.9,SNR=3.6						
ESDC	**Sonseca Array**	**77.53**	**38**	P	**P**	**04 24 19.6**	**+0.6**
	0.1nm,0.2s,baz=323,slow=1.9,SNR=4.5						
LPAZ	**La Paz**	**88.14**	**120**	LR	LR	05 10 34.4	
	comp=Z,80nm,18.3s,baz=326,slow=40						

*ISCJB **09** 04:17:19.9±0.6, 24.50N±0.05×122.90E±0.02, h81km±6km, Error ellipse: s-maj=8.2km s-min=3.3km az=176.3*
*JMA **09** 04:17:19.4±0.2, 24.49N×122.88E, h86km±1km, M1.5*
*TAP **09** 04:17:20.5, 24.51N×122.88E, h77km, ML2.6, C*

ISC 09 04:17:20.4±1.4, 24.50N±0.06×122.90E±0.03, h79km±8km, n36, σ1801/61, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res

	baz=232							
YUS				*e*S		**Sn**	04 18 17.9	-0.4
	baz=232							
ELDTW	**Lidau**	**2.16**	**233**	*e*P		**Pn**	04 17 54.1	-0.5
	baz=232							
ELDTW				*e*S		**Sn**	04 18 18.9	-1.8
	baz=232							
CHN5	**Tsauling**	**2.22**	**246**	*e*P		**Pn**	04 17 56.2	+0.9
	baz=246							
TPUB	**Ta-pu**	**2.40**	**240**	*e*P		**Pn**	04 17 59.1	+1.5
	baz=239							
TPUB				*e*S		**Sn**	04 18 27.5	+1.4
	baz=239							
CHN4	**Tsaushan**	**2.40**	**242**	*e*P		**Pn**	04 17 59.2	+1.5
	baz=236							
CHN4				*e*S		**Sn**	04 18 29.2	+3.0
	baz=236							
CHN1	**Nanshi**	**2.54**	**239**	*e*P		**Pn**	04 18 01.7	+2.2
	baz=238							
CHN1				*e*S		**Sn**	04 18 30.4	+1.0
	baz=238							
SLGT	**Liugui**	**2.55**	**234**	*e*P		**Pn**	04 18 01.1	+1.4
	baz=242							

IDC 09 04:22:48.5±1.6, 10°.04S×160°.83E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/41, mbtmp3.9/4, Error ellipse: s-maj=30.9km s-min=27.3km az=23.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.06**	**305**	Pn	Pn	04 23 10.7	+0.2
	564nm,0.3s,baz=144,slow=7.6,SNR=50						
HNR				Sn	Sn	04 23 25.8	-0.2
HNR	**Honiara**	**1.06**	**305**	*i* P	Pn	04 23 11.0	+0.5
HNR				*i* S	Sg	04 23 23.0	+0.6
WRA	**Warramunga Arr**	**27.38**	**246**	P	P	04 28 36.0	+0.3
	1.5nm,0.8s,baz=74,slow=9.9,SNR=8.5						
FITZ	**Fitzroy Crossi**	**35.01**	**253**	P	P	04 29 42.4	-0.6
	1.1nm,0.6s,baz=81,slow=15,SNR=3.3						
SONM	**Songino Array**	**75.05**	**325**	P	P	04 34 33.6	+1.4
	0.8nm,0.5s,baz=128,slow=4.7,SNR=4.1						
ILAR	**Eielson Array**	**84.16**	**20**	P	P	04 35 20.3	-0.9
	0.3nm,0.5s,baz=246,slow=5.5,SNR=7.0						

*IDC **09** 04:46:13.3±0.9, 36°.51N×27°.93E, h0km, mb3.9/8, mb1 3.9/14, mb1mx3.7/57, mbtmp3.8/14, ML3.8/6, Error ellipse: s-maj=19.0km s-min=13.8km az=163.0*
*ATH **09** 04:46:14.9, 36°.63N×27°.94E, h28km, ML3.8/7, Error ellipse: s-maj=1.1km s-min=0.7km az=212.0*
*NEIC **09** 04:46:14.8±0.0, 36°.64N×27°.97E, h1km, mb4.0/1, ML3.9(THE), ML4.0(ISK), After THE.*
*ISK **09** 04:46:14.5, 36°.59N×27°.91E, h6km, ML4.0/15*
*THE **09** 04:46:14.8, 36°.64N×27°.97E, h1km, ML3.9/5, Error ellipse: s-maj=1.1km s-min=0.4km az=49.0*
*DDA **09** 04:46:15.0, 36°.64N×27°.93E, h19km, Ml3.9*
*HLW **09** 04:46:15.3, 36°.55N×27°.98E, h11km±14km, Ml4.2*
*ISCJB **09** 04:46:15.1±0.3, 36°.61N±0°.02×27°.92E±0°.02, h14km±2km, mb3.8/9, Error ellipse: s-maj=2.7km s-min=2.2km az=5.0*

ISC 09 04:46:14.6±1.0, 36°.62N±0°.02×27°.96E±0°.02, h8km±7km, n182, σ1§42/213, mb3.8/9, 11C-1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSB	**Marmaris-Mugla**	**0.22**	**63**	PG	**Pg**	**04 46 19.6**	**+0.5**
DATC	**Datca-Mugla**	**0.28**	**301**	PG	**Pg**	**04 46 20.7**	**+0.6**
DAT	**Datca**	**0.32**	**291**	PG	**Pg**	**04 46 21.4**	**+0.4**
DAT				SG	**Sg**	**04 46 26.6**	**+1.2**
DAT	**Datca**	**0.32**	**291**	*i* P	**Pg**	**04 46 21.5**	**+0.4**
DAT				*i* S	**Sb**	**04 46 27.2**	**-0.9**
ARG	**Arkhangelos**	**0.42**	**161**	PG	**Pg**	**04 46 22.9**	**+0.1**
ARG	**Arkhangelos**	**0.42**	**161**	Pg	**Pg**	**04 46 22.9**	**+0.1**
ARG	**Arkhangelos**	**0.42**	**161**	P	**Pb**	**04 46 23.8**	**-0.5**
ARG				S	**Sb**	**04 46 31.3**	**+0.4**
ARG				AML	AML	04 46 32.8	
	comp=N,45069μm,0.4s						
ARG				AML	AML	04 46 33.3	
	comp=E,60058μm,0.4s						
ARG	**Arkhangelos**	**0.42**	**161**	P	**Pb**	**04 46 23.8**	**-0.5**
ARG				S	**Sb**	**04 46 31.2**	**+0.4**
TURN	**Turunc**	**0.58**	**64**	PG	Pg	04 46 20.8	-5.1
TURN	**Turunc**	**0.58**	**64**	*i* P	Pg	04 46 20.8	-5.1
TURN				*i* S	**Sg**	**04 46 26.0**	**-7.4**
DALY	**Dalyan (Mu¨la**	**0.60**	**70**	PG	**Pb**	**04 46 27.5**	**+0.2**
DALY				SG	**Sb**	**04 46 37.5**	**+1.6**
DALY	**Dalyan (Mu¨la**	**0.60**	**70**	*i* P	**Pb**	**04 46 27.0**	**-0.3**
DALY				*i* S	**Sb**	**04 46 37.5**	**+1.6**
NIS1	**Nisyros Isl.**	**0.62**	**269**	PG	**Pg**	**04 46 26.2**	**-0.5**
NIS1	**Nisyros Isl.**	**0.62**	**269**	P	**Pb**	**04 46 27.6**	**-0.2**
NIS1				S	**Sb**	**04 46 37.2**	**+0.4**
NIS1				AML	AML	04 46 40.4	
	comp=E,60708μm,0.5s						
NIS1				AML	AML	04 46 44.0	
	comp=N,56468μm,0.4s						
NIS1	**Nisyros Isl.**	**0.62**	**269**	P	**Pb**	**04 46 27.6**	**-0.2**
NIS1				S	**Sb**	**04 46 37.3**	**+0.6**
NISR	**Nisiros**	**0.67**	**270**	P	**Pb**	**04 46 28.2**	**-0.2**
NISR				S	**Sb**	**04 46 37.8**	**-0.1**
NISR	**Nisiros**	**0.67**	**270**	P	**Pb**	**04 46 28.2**	**-0.2**
BODT	**Bodrum**	**0.68**	**311**	PG	**Pb**	**04 46 28.3**	**-0.5**
BODT				SG	**Sb**	**04 46 38.7**	**+0.3**
BODT	**Bodrum**	**0.68**	**311**	Pg	**Pb**	**04 46 28.3**	**-0.5**
BODT				Sg	**Sb**	**04 46 38.7**	**+0.3**
BODT	**Bodrum**	**0.68**	**311**	P	**Pg**	**04 46 28.1**	**+0.3**
BODT				S	**Sb**	**04 46 38.9**	**+0.5**
MLSB	**Milas**	**0.69**	**348**	PG	**Pg**	**04 46 28.1**	**+0.1**
MLSB				SG	**Sb**	**04 46 38.5**	**-0.2**
MLSB	**Milas**	**0.69**	**348**	Pg	**Pg**	**04 46 28.1**	**+0.1**
MLSB				Sg	**Sb**	**04 46 38.5**	**-0.2**
FETY	**Fethiye**	**0.91**	**88**	PG	**Pb**	**04 46 32.6**	**0.0**
FETY	**Fethiye**	**0.91**	**88**	Pg	**Pb**	**04 46 32.6**	**0.0**
FETY	**Fethiye**	**0.91**	**88**	P	**Pg**	**04 46 32.2**	**+0.1**
AYDN	**Tasoluk**	**1.05**	**357**	*i* P	**Pb**	**04 46 34.9**	**-0.1**
TAVA	**DENIZLI_Tavas**	**1.14**	**42**	*i* P	**Pg**	**04 46 36.7**	**+0.1**
GCAM	**G?zelcami?**	**1.23**	**332**	PN	**Pn**	**04 46 37.5**	**-0.6**
GCAM	**G?zelcami?**	**1.23**	**332**	*i* P	**Pn**	**04 46 37.5**	**-0.6**
KARP	**Karpathos**	**1.25**	**211**	PN	**Pn**	**04 46 37.8**	**-0.5**
KARP	**Karpathos**	**1.25**	**211**	*e*Pn	**Pb**	**04 46 38.5**	**+0.2**
KARP				*e*Sn	**Sb**	**04 46 53.9**	**-0.7**
KARP	**Karpathos**	**1.25**	**211**	P	**Pb**	**04 46 38.5**	**+0.2**
KARP				S	**Sb**	**04 46 54.6**	**0.0**
KARP				AML	AML	04 46 58.3	
	comp=N,11894μm,0.5s						
KARP				AML	AML	04 47 00.5	
	comp=E,14436μm,0.5s						
KARP	**Karpathos**	**1.25**	**211**	P	**Pn**	**04 46 38.3**	**0.0**
KARP				S	**Sn**	**04 46 56.1**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**1.33**	**358**	PN	**Pn**	**04 46 39.5**	**-0.1**
AKAS	**Kas**	**1.39**	**106**	PN	**Pg**	**04 46 42.4**	**+1.2**
AKAS	**Kas**	**1.39**	**106**	*i* P	**Pg**	**04 46 41.8**	**+0.6**
AKAS	**Kas**	**1.39**	**106**	Pn	**Pg**	**04 46 42.9**	**+1.7**
KSL	**Kastellorizon**	**1.39**	**109**	P	**Pg**	**04 46 41.6**	**+0.2**
KSL				S	**Sg**	**04 46 59.7**	**+0.3**
KSL				AML	AML	04 47 09.8	
	comp=N,1668μm,0.5s						
KSL				AML	AML	04 47 15.5	
	comp=E,1888μm,0.9s						
KSL	**Kastellorizon**	**1.39**	**109**	P	**Pg**	**04 46 41.6**	**+0.2**
SMG	**Samos**	**1.41**	**321**	P	**Pn**	**04 46 39.6**	**-1.0**
SMG				S	**Sg**	**04 46 59.7**	**-0.3**
SMG				AML	AML	04 47 05.8	
	comp=E,5553μm,0.4s						
SMG				AML	AML	04 47 10.7	
	comp=N,5309μm,0.5s						
SMG	**Samos**	**1.41**	**321**	P	**Pn**	**04 46 39.8**	**-0.8**
DENT	**Denizli**	**1.43**	**37**	PN	**Pn**	**04 46 41.1**	**+0.2**
DENT	**Denizli**	**1.43**	**37**	Pn	**Pn**	**04 46 41.1**	**+0.2**
GOLH	**Golhisar**	**1.43**	**64**	*i* P	**Pg**	**04 46 43.0**	**+0.9**
ELL	**Elmali**	**1.58**	**85**	PN	**Pg**	**04 46 45.0**	**+0.2**
ELL	**Elmali**	**1.58**	**85**	Pn	**Pg**	**04 46 45.0**	**+0.2**
AMGA	**Amorgos Island**	**1.67**	**278**	P	**Pn**	**04 46 44.3**	**+0.2**
DGB	**¨zmir**	**1.67**	**330**	*i* P	**Pn**	**04 46 43.3**	**-0.8**
GMLD	**Gumuldur**	**1.68**	**331**	PN	**Pn**	**04 46 43.9**	**-0.4**
ANAF	**Anafi Island**	**1.78**	**262**	P	**Pn**	**04 46 45.7**	**+0.1**
ANAF				S	**Sn**	**04 47 08.9**	**+0.5**
ANAF				AML	AML	04 47 20.4	
	comp=N,4457μm,0.6s						
ANAF				AML	AML	04 47 23.5	
	comp=E,7059μm,0.6s						
ANAF	**Anafi Island**	**1.78**	**262**	P	**Pn**	**04 46 45.3**	**-0.4**
BLCB	**Balcova**	**1.91**	**338**	PN	**Pn**	**04 46 48.2**	**+0.7**
BLCB	**Balcova**	**1.91**	**338**	Pn	**Pn**	**04 46 44.0**	**-3.5**
MANT	**Manisa**	**1.93**	**14**	*i* P	**Pn**	**04 46 48.1**	**+0.1**
MANT	**Manisa**	**1.93**	**14**	*e*Pn	**Pg**	**04 46 51.9**	**+0.2**
MANT				*e*Sn	**Sg**	**04 47 16.1**	**-0.6**
KORT	**Korkueli**	**1.96**	**78**	PN	**Pb**	**04 46 50.6**	**-0.1**
KORT	**Korkueli**	**1.96**	**78**	*i* P	**Pg**	**04 46 51.8**	**-0.4**
KORT	**Korkueli**	**1.96**	**78**	Pn	**Pb**	**04 46 51.6**	**+0.9**
KULA	**Kula-Manisa**	**1.98**	**16**	PN	**Pb**	**04 46 49.9**	**-1.0**
KULA	**Kula-Manisa**	**1.98**	**16**	Pn	**Pb**	**04 46 49.9**	**-1.0**
APE	**Apeiranthos**	**2.00**	**284**	PN	**Pn**	**04 46 48.8**	**+0.1**
APE	**Apeiranthos**	**2.00**	**284**	*i* P	**Pn**	**04 46 49.4**	**+0.7**
APE	**Apeiranthos**	**2.00**	**284**	P	**Pn**	**04 46 48.2**	**-0.5**
SANT	**Santorini**	**2.03**	**264**	*e*Pn	**Pb**	**04 46 50.7**	**-1.0**
SANT	**Santorini**	**2.03**	**264**	*e*P	**Pb**	**04 46 50.5**	**-1.2**
URLA	**Izmir**	**2.05**	**329**	PN	**Pb**	**04 46 51.3**	**-0.8**
URLA	**Izmir**	**2.05**	**329**	*i* P	**Pn**	**04 46 49.4**	**0.0**
ZKR	**Zakros**	**2.06**	**224**	P	**Pn**	**04 46 50.5**	**+1.0**
THR6	**Thira Island,**	**2.08**	**264**	P	**Pn**	**04 46 49.8**	**0.0**
KEMT	**Kemer-ANTALYA**	**2.09**	**90**	PN	**Pb**	**04 46 51.6**	**-1.2**
ANTB	**Antalya**	**2.19**	**82**	PN	**Pb**	**04 46 53.5**	**-0.9**
AKHS	**Akhisar**	**2.26**	**357**	*i* P	**Pn**	**04 46 51.8**	**-0.5**
CHOS	**Chios island**	**2.33**	**320**	PN	**Pn**	**04 46 54.3**	**+1.0**
CHOS	**Chios island**	**2.33**	**320**	P	**Pn**	**04 46 52.8**	**-0.5**
CHOS				S	**Sn**	**04 47 21.9**	**-0.2**
CHOS	**Chios island**	**2.33**	**320**	P	**Pn**	**04 46 52.8**	**-0.5**
NPS	**Neapolis**	**2.33**	**235**	P	**Pn**	**04 46 53.7**	**+0.4**
NPS				S	**Sn**	**04 47 21.1**	**-1.0**
NPS	**Neapolis**	**2.33**	**235**	P	**Pn**	**04 46 53.7**	**+0.4**
KZIL	**AFYON_Kizioren**	**2.39**	**46**	*i* P	**Pb**	**04 46 56.2**	**-1.7**
TNSA	**Tinos**	**2.42**	**293**	P	**Pn**	**04 46 55.3**	**+0.9**
TNSA				S	**Sn**	**04 47 23.2**	**-0.9**
LAST	**Lasithi**	**2.48**	**235**	P	**Pn**	**04 46 55.9**	**+0.5**
LAST				S	**Sn**	**04 47 25.2**	**-0.6**
LAST				AML	AML	04 47 35.7	
	comp=N,789μm,0.7s						
LAST				AML	AML	04 47 45.0	
	comp=E,811μm,0.6s						
LAST	**Lasithi**	**2.48**	**235**	P	**Pn**	**04 46 56.1**	**+0.7**
DEMI	**Demirci**	**2.50**	**14**	*i* P	**Pn**	**04 46 56.0**	**+0.4**
DKL	**Dikili**	**2.59**	**342**	PN	**Pn**	**04 46 58.7**	**+1.9**
SIMA	**Simav-Kutahya**	**2.59**	**18**	PN	**Pn**	**04 46 58.9**	**+1.9**
BAGO	**Egridir - ISPA**	**2.64**	**58**	*i* P	**Pn**	**04 46 59.6**	**+1.9**
GEDZ	**Gediz**	**2.69**	**25**	PN	**Pn**	**04 47 00.1**	**+1.9**
PSRA	**Psara**	**2.70**	**316**	P	**Pn**	**04 46 59.5**	**+1.2**
STEP	**BALIKESIR_Sava**	**2.76**	**356**	P	**Pn**	**04 46 59.1**	**-0.2**
IDI	**Anoyia**	**2.82**	**243**	PN	**Pn**	**04 46 59.9**	**-0.1**
IDI	**Anoyia**	**2.82**	**243**	Pn	**Pn**	**04 47 00.2**	**+0.2**
	comp=E,7.7nm,0.3s,baz=59,slow=18,SNR=26						
IDI				Sn	**Sn**	**04 47 34.5**	**+0.4**
	comp=E,25nm,0.3s,baz=307,slow=21,SNR=7.7						
IDI	**Anoyia**	**2.82**	**243**	*e*Pn	**Pn**	**04 47 00.5**	**+0.5**
IDI				*e*Sn	**Sn**	**04 47 33.0**	**-1.2**
IDI	**Anoyia**	**2.82**	**243**	*i* P	**Pn**	**04 47 00.7**	**+0.7**
SERI	**Serifos**	**2.83**	**282**	P	**Pn**	**04 47 00.6**	**+0.4**
PRK	**Paraskevi**	**2.94**	**334**	P	**Pn**	**04 47 01.5**	**-0.1**
PRK	**Paraskevi**	**2.94**	**334**	P	**Pn**	**04 47 01.4**	**-0.3**
DURS	**Dursunbey**	**3.01**	**8**	*i* P	**Pn**	**04 47 02.5**	**-0.1**
SIVA	**Sivas**	**3.01**	**239**	P	**Pn**	**04 47 04.2**	**+1.6**
SIGR	**SIGRI**	**3.08**	**328**	P	**Pn**	**04 47 03.3**	**-0.2**
BOLV	**Bolvadin**	**3.17**	**48**	*i* P	**Pn**	**04 47 07.7**	**+2.7**
VAM	**Vamos**	**3.27**	**250**	P	**Pn**	**04 47 07.9**	**+1.6**
DOGA	**KONYA_Doganhis**	**3.31**	**62**	*i* P	**Pb**	**04 47 12.2**	**-1.5**
IMMV	**Iera Moni Meta**	**3.42**	**251**	P	**Pn**	**04 47 09.6**	**+1.4**
VLY	**Voula,Athens**	**3.54**	**292**	P	**Pn**	**04 47 10.8**	**+0.8**
PTL	**Penteli**	**3.56**	**295**	P	**Pn**	**04 47 10.9**	**+0.7**
PTL	**Penteli**	**3.56**	**295**	P	**Pn**	**04 47 10.7**	**+0.5**
ATHU	**Athens Univers**	**3.59**	**293**	P	**Pn**	**04 47 11.4**	**+0.8**
ATHU	**Athens Univers**	**3.59**	**293**	P	**Pn**	**04 47 11.1**	**+0.5**
EREA	**Eretria**	**3.67**	**301**	P	**Pn**	**04 47 12.4**	**+0.7**
KMER	**Konya-Meram**	**3.71**	**71**	*i* P	**Pn**	**04 47 15.8**	**+3.5**
KONT	**Konya--Tatoy**	**3.76**	**68**	*i* P	**Pn**	**04 47 17.0**	**+4.1**
DID	**Didima**	**3.88**	**285**	P	**Pn**	**04 47 15.2**	**+0.6**
LIA	**Limnos Island**	**3.94**	**327**	P	**Pn**	**04 47 15.3**	**0.0**
LIA	**Limnos Island**	**3.94**	**327**	P	**Pn**	**04 47 15.2**	**-0.1**
VLI	**Veliai**	**4.04**	**273**	P	**Pn**	**04 47 17.4**	**+0.8**
VIL2	**Platees**	**4.06**	**295**	P	**Pn**	**04 47 16.9**	**-1.3**
LTK	**Loutraki**	**4.22**	**291**	P	**Pn**	**04 47 20.2**	**+1.0**
SMTH	**Samothraki Isl**	**4.29**	**334**	P	**Pn**	**04 47 20.3**	**+0.1**
SKIA	**Skiathos**	**4.37**	**307**	P	**Pn**	**04 47 22.3**	**+1.0**
SMIA	**Simia**	**4.39**	**302**	P	**Pn**	**04 47 22.8**	**+1.3**
DYR	**Agios Nikonas**	**4.52**	**274**	P	**Pn**	**04 47 25.3**	**+2.0**
ALN	**Alexandroupoli**	**4.53**	**341**	*e*Pn	**Pn**	**04 47 23.5**	**0.0**
ALN	**Alexandroupoli**	**4.53**	**341**	P	**Pn**	**04 47 23.4**	**0.0**
CSS	**Mathiatis**	**4.67**	**109**	*e*Pn	**Pn**	**04 47 25.8**	**+0.4**
CSS	**Mathiatis**	**4.67**	**109**	P	**Pn**	**04 47 26.1**	**+0.7**
KLV	**Kalavryta, Ach**	**4.84**	**289**	P	**Pn**	**04 47 29.0**	**+1.1**
FYTO	**Fytoko, Volos**	**4.84**	**307**	P	**Pn**	**04 47 28.6**	**+0.8**
ITM	**Ithomi**	**4.86**	**278**	*e*Pn	**Pn**	**04 47 31.2**	**+3.1**
RDO	**Rodhopi**	**4.90**	**338**	P	**Pn**	**04 47 28.7**	**+0.2**
KALE	**Kalithea**	**4.95**	**293**	P	**Pn**	**04 47 31.2**	**+1.9**
BR231	**Keskin MP Arra**	**4.98**	**48**	*e*Pn	**Pn**	**04 47 31.9**	**+2.2**
TRIZ	**Trizonia**	**4.99**	**292**	P	**Pn**	**04 47 31.4**	**+1.6**
ANTO	**Ankara**	**5.01**	**48**	*e*Pn	**Pn**	**04 47 32.5**	**+2.4**
ANTO	**Ankara**	**5.01**	**48**	*i* P	**Pn**	**04 47 32.7**	**+2.6**
LAKA	**Lakka**	**5.03**	**291**	P	**Pn**	**04 47 31.7**	**+1.3**
AGG	**Agios Georgios**	**5.06**	**300**	P	**Pn**	**04 47 32.1**	**+1.3**
EFP	**Efpalio**	**5.14**	**292**	P	**Pn**	**04 47 33.8**	**+2.0**
ANX	**Ano Chora**	**5.18**	**294**	P	**Pn**	**04 47 34.0**	**+1.5**
MAKR	**Makrakomi, Fth**	**5.20**	**299**	P	**Pn**	**04 47 34.4**	**+1.8**
BR101	**Keskin Array S**	**5.45**	**54**	*e*Pn	**Pn**	**04 47 38.8**	**+2.5**
BR131	**Keskin Array S**	**5.45**	**54**	*e*Pn	**Pn**	**04 47 39.0**	**+2.8**
BRTR	**Keskin Array B**	**5.45**	**54**	Pn	**Pn**	**04 47 38.8**	**+2.5**
	comp=E,1.7nm,0.3s,baz=231,slow=14,SNR=75						
LIT	**Litokhoron**	**5.53**	**311**	*e*Pn	**Pn**	**04 47 37.8**	**+0.6**
LIT	**Litokhoron**	**5.53**	**311**	P	**Pn**	**04 47 38.1**	**+0.9**
SLUM	**Salum**	**5.59**	**205**	P	**Pn**	**04 47 37.9**	**-0.2**
	baz=206						
SLUM				AMP		04 48 00.0	
	baz=206						
SLUM				S	**Sn**	**04 48 37.7**	**-4.8**
	baz=206						
FNA	**Florina**	**6.62**	**311**	*e*Pn	**Pn**	**04 47 54.8**	**+2.6**
STIP	**Stip**	**6.77**	**320**	*i* Pn	**Pn**	**04 47 54.2**	**0.0**
STIP				*e*Sn	**Sn**	**04 49 12.9**	**+1.5**
VTS	**Vitosha**	**7.00**	**330**	*e*Pn	**Pn**	**04 48 00.1**	**+2.5**
VTS	**Vitosha**	**7.00**	**330**	‖ *i* P	**Pn**	**04 47 59.1**	**+1.5**
KRUS	**Krusevo**	**7.06**	**314**	*e*Pn	**Pn**	**04 47 59.4**	**+1.1**
MMAI	**Mount Meron Ar**	**7.10**	**118**	Pn	**Pn**	**04 47 58.2**	**-0.6**
	comp=E,11nm,0.3s,baz=304,slow=12,SNR=30						
MMAI				Sn	**Sn**	**04 49 18.2**	**-1.6**
	comp=E,14nm,0.3s,baz=307,slow=22,SNR=10.0						
SWA2		**7.64**	**197**	P	**Pn**	**04 48 06.5**	**+0.2**
	baz=197						
GLL	**Jalalah**	**7.69**	**155**	P	**Pn**	**04 48 06.9**	**0.0**
	baz=154						
TIRR	**Tirgusor**	**7.84**	**2**	‖ *i* P	**Pn**	**04 48 09.6**	**+0.7**
TLB	**Topalu**	**7.96**	**0**	‖ *i* P	**Pn**	**04 48 09.6**	**-1.0**
NBNS	**Bani Suef**	**8.45**	**160**	P	**Pn**	**04 48 17.1**	**-0.2**
	baz=159						
CFR	**Carcaliu**	**8.56**	**1**	‖ *i* P	**Pn**	**04 48 17.8**	**-0.9**
MLR	**Muntele Rosu**	**9.00**	**351**	Pn	**Pn**	**04 48 28.1**	**+3.2**
	comp=E,0.2nm,0.3s,baz=155,slow=20,SNR=5.9						
MLR	**Muntele Rosu**	**9.00**	**351**	‖ *i* P	**Pn**	**04 48 26.3**	**+1.4**
EIL	**Elat**	**9.07**	**138**	Pn	**Pn**	**04 48 26.0**	**+0.1**
	comp=E,2.2nm,0.3s,baz=344,slow=11,SNR=14						
EIL				Sn	**Sn**	**04 50 02.6**	**-5.7**
	comp=E,2.8nm,0.3s,baz=99,slow=17,SNR=5.5						
TIP	**Timpagrande**	**9.21**	**289**	*e*Pn	**Pn**	**04 48 29.0**	**+1.1**
TIP	**Timpagrande**	**9.21**	**289**	‖ *i* P	**Pn**	**04 48 29.4**	**+1.6**
TAMRE	**El Minia**	**9.25**	**163**	P	**Pn**	**04 48 28.7**	**+0.3**
	baz=163						
VRI	**Vrincioaia**	**9.29**	**355**	‖ *i* P	**Pn**	**04 48 30.0**	**+1.2**
MDVR	**Moldovita**	**9.43**	**332**	‖ *i* P	**Pn**	**04 48 31.4**	**+0.6**
HFRF	**Wahat Farafira**	**9.44**	**178**	P	**Pn**	**04 48 30.4**	**-0.6**
	baz=178						
HFRF				S	**Sn**	**04 50 10.2**	**-7.1**
	baz=178						
HHRG	**Al Ghardaqah**	**10.51**	**151**	P	**Pn**	**04 48 48.0**	**+2.5**
	baz=151						
GERES	**GERESS Array B**	**16.06**	**324**	Pn	**Pn**	**04 50 02.3**	**+1.5**
	comp=E,0.1nm,0.3s,baz=138,slow=12,SNR=3.0						
GEYT	**Alibeck**	**23.99**	**78**	P	**P**	**04 51 30.2**	**+0.5**
	comp=E,1.4nm,0.4s,baz=337,slow=6.9,SNR=3.6						
FIA0	**FINESS Array S**	**24.88**	**358**	*e*P	**P**	**04 51 38.2**	**+0.7**
FINES	**FINESS Array B**	**24.88**	**358**	P	**P**	**04 51 38.2**	**+0.7**
	comp=E,0.9nm,0.4s,baz=163,slow=10.0,SNR=6.0						
ESDC	**Sonseca Array**	**25.22**	**287**	P	**P**	**04 51 40.3**	**-0.6**
	comp=E,0.4nm,0.4s,baz=85,slow=9.4,SNR=7.8						
AKTO	**Aktyubinsk**	**25.60**	**48**	P	**P**	**04 51 44.6**	**+0.4**
	comp=E,3.4nm,0.6s,baz=254,slow=7.7,SNR=10						
TOA1	**Torodi Ar. Sit**	**33.16**	**232**	*e*P	**P**	**04 52 50.2**	**-1.5**
TORD	**Torodi Ar. Bea**	**33.17**	**232**	P	**P**	**04 52 50.2**	**-1.6**
	comp=E,0.6nm,0.4s,baz=30,slow=9.0,SNR=18						
AAK	**Ala-Archa**	**35.98**	**66**	*e*P	**P**	**04 53 17.1**	**+0.9**
	comp=E,1.1nm,0.5s						
MK32	**Makanchi Array**	**41.08**	**58**	*e*P	**P**	**04 53 59.0**	**+0.3**
MKAR	**Makanchi Array**	**41.08**	**58**	P	**P**	**04 53 59.0**	**+0.3**
	comp=E,1.5nm,0.8s,baz=289,slow=7.1,SNR=3.0						
MKAR	**Makanchi Array**	**41.08**	**58**	P	**P**	**04 53 59.0**	**+0.3**
ZALV	**Zalesovo Beam**	**42.36**	**47**	P	**P**	**04 54 09.6**	**+0.6**
	comp=E,0.6nm,0.4s,baz=281,slow=9.7,SNR=2.9						
ZAA1	**Zalesovo Array**	**42.36**	**47**	*e*P	**P**	**04 54 09.6**	**+0.6**
SONA0	**Songino Array**	**56.81**	**52**	*e*P	**P**	**04 56 00.2**	**+0.8**
SONM	**Songino Array**	**56.81**	**52**	P	**P**	**04 56 00.2**	**+0.8**
	comp=E,0.8nm,0.5s,baz=284,slow=7.3,SNR=3.2						

*ISCJB **09** 04:47:33.3±0.7, 52°.31N±0°.06×94°.94E±0°.10, h10km, mb3.7/1, Error ellipse: s-maj=9.2km s-min=7.9km az=137.6*
*MOS **09** 04:47:33.7±1.6, 52°.35N×94°.98E, h13km, mb4.0/1, Error ellipse: s-maj=15.8km s-min=14.6km az=68.9*
*IDC **09** 04:47:51.2±2.7, 52°.59N×93°.09E, h0km, mb1 3.3/4, mb1mx3.1/73, mbtmp3.3/4, ML2.8/4, Error ellipse: s-maj=47.4km s-min=22.5km az=12.0*

ISC 09 04:47:34.2±1.1, 52°.23N±0°.09×95°.10E±0°.06, h10km, n13, σ1§64/13, 1C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HVS	**Khovu-Aksy**	**1.39**	**219**	*de*PG	**Pn**	**04 48 00.2**	**+0.5**
HVS				*i* S	**Sn**	**04 48 18.0**	**-0.2**
KNGR	**Kungurtug, Tuv**	**2.22**	**136**	*e*PN	**Pn**	**04 48 13.3**	**+2.1**
LUZB	**Luzhba, Kemero**	**4.01**	**293**	*e*PN	**Pn**	**04 48 36.7**	**+1.0**
LUZB				*i*		04 48 46.3	
BRCR	**Berchikul'**	**5.26**	**313**	*i* PN	**Pn**	**04 48 51.0**	**-1.8**
DGZ	**Jazzator, Alta**	**5.46**	**245**	‖ *e*PN	**Pn**	**04 48 56.1**	**+0.4**
DGZ				*i*		04 49 15.0	
ZALV	**Zalesovo Beam**	**6.43**	**290**	Pn	**Pn**	**04 49 10.2**	**+1.5**
	0.6nm,0.3s,baz=99,slow=12,SNR=7.1						
ZALV				Lg	Lg	04 50 41.1	
	0.7nm,0.3s,baz=105,slow=23,SNR=3.2						
SONM	**Songino Array**	**8.50**	**117**	Pn	Pg	04 50 13.1	-3.6
	0.2nm,0.3s,baz=308,slow=16,SNR=2.5						
SONM				Sn	**Sg**	**04 52 04.0**	**-2.7**
	0.5nm,0.3s,baz=307,slow=22,SNR=7.3						
MKAR	**Makanchi Array**	**9.94**	**242**	Pn

s-maj=19.0km s-min=3.6km az=94.0, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**0.25**	**94**	*i*		05 12 20.0	
	baz=274,slow=334,SNR=64						
USRK	**Ussuriysk Ar.**	**0.26**	**94**	Pg	Pg	05 10 51.5	0.0
	0.6nm,0.3s,baz=278,slow=18,SNR=10.0						
USRK				Lg	Lg	05 10 55.0	
	baz=273,slow=34						
USRK				*i*		05 12 18.6	
	1.9nm,0.3s,baz=268,slow=23,SNR=8.9						
I30JP	**ISUMI INFRASON**	**11.12**	**140**	*i*		06 16 00.0	
	baz=326,slow=321,SNR=0.9						

IDC ***09*** *05:12:59.2±1.0,9.74S×118.09E,h0km,mb4.1/8, mb1 4.2/10,mb1mx3.8/45,mbtmp4.1/10,ML4.0/2,MS3.3/9, Ms1 3.4/9,ms1mx3.0/50,Error ellipse: s-maj=45.3km s-min=17.5km az=63.0*

ISCJB ***09*** *05:13:02.2±0.3,10.00S±0.04×118.11E±0.03,h35km, mb4.3/10,MS3.4/6,Error ellipse: s-maj=6.3km s-min=3.4km az=23.6*

NEIC ***09*** *05:13:05.3±0.7,9.95S×118.12E,h52km±7km,mb4.0/10, Error ellipse: s-maj=9.2km s-min=5.3km az=216.0*

DJA ***09*** *05:13:06.7±0.7,10.S±4°×11.8E±°,h21km±8km,M4.5/15, mb4.6/4,mB4.7/1,MLv4.5/15,Mw(mB)3.9/1*

ISC 09 05:13:04.6±0.6,9.89S±0.07×118.13E±0.04,h35km,n66, σ1°85/62,mb4.4/10,MS3.3/6,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.11**	**342**	P	**Pn**	**05 13 24.2**	**+0.4**
PLAI				S	**Sn**	**05 13 37.3**	**-0.6**
WBSI	**Waikabubak, Su**	**1.27**	**79**	P	**Pn**	**05 13 26.1**	**+0.2**
WBSI				S	**Sn**	**05 13 44.6**	**+2.9**
TWSI	**Taliwang, Sumb**	**1.68**	**313**	P	**Pn**	**05 13 32.6**	**+1.0**
DNP	**Denpasar**	**3.12**	**292**	P	**Pn**	**05 13 54.6**	**+3.2**
IGBI	**Denpasar**	**3.13**	**290**	P	**Pn**	**05 13 53.6**	**+2.1**
SRBI	**Singaraja**	**3.40**	**302**	P	**Pn**	**05 13 58.2**	**+3.1**
EDFI	**Ende, Flores**	**3.69**	**72**	P	**Pn**	**05 14 01.2**	**+1.9**
JAGI	**Jajag, Banyuwa**	**4.17**	**289**	*e*Pn	**Pn**	**05 14 06.5**	**+0.7**
JAGI				*e*Sn	**Sn**	**05 14 55.9**	**+2.4**
JAGI	**Jajag, Banyuwa**	**4.17**	**289**	P	**Pn**	**05 14 06.7**	**+0.8**
MMRI	**Maumere**	**4.24**	**73**	*e*Pn	**Pn**	**05 14 07.7**	**+0.9**
MMRI				*e*Sn	**Sn**	**05 14 57.8**	**+2.6**
MMRI	**Maumere**	**4.24**	**73**	P	**Pn**	**05 14 09.6**	**+2.8**
BKSI	**Bulukumba**	**4.95**	**24**	P	**Pn**	**05 14 18.9**	**+2.3**
BLJI	**Banyuglugur**	**4.96**	**295**	P	**Pn**	**05 14 20.1**	**+3.4**
BATI	**Baumata**	**5.46**	**94**	Pn	**Pn**	**05 14 25.7**	**+2.1**
	16nm,0.3s,baz=258,slow=1.0,SNR=7.2						
BATI				Sn	**Sn**	**05 15 25.7**	**+0.6**
	15nm,0.3s,baz=206,slow=20,SNR=6.1						
BATI	**Baumata**	**5.46**	**94**	P	**Pn**	**05 14 26.9**	**+3.3**
SOEI	**Soe**	**6.05**	**89**	*e*Pn	**Pn**	**05 14 32.2**	**+0.4**
SOEI				*e*Sn	**Sn**	**05 15 41.1**	**+1.2**
PWJI	**Pagerwojo**	**6.52**	**286**	P	**Pn**	**05 14 42.9**	**+4.8**
PCJI	**Pacitan**	**7.07**	**283**	P	**Pn**	**05 14 48.5**	**+2.8**
UGM	**Wanagama**	**7.77**	**284**	*e*Pn	**Pn**	**05 14 57.4**	**+2.0**
UGM				*e*Sn	**Sn**	**05 16 22.6**	**+0.4**
UGM	**Wanagama**	**7.77**	**284**	P	**Pn**	**05 14 59.3**	**+4.0**
FITZ	**Fitzroy Crossi**	**10.94**	**139**	Pn	**Pn**	**05 15 37.7**	**-1.0**
	1.2nm,0.3s,baz=325,slow=7.6,SNR=35						
FITZ				Sn	Sn	05 17 30.7	-9.2
	2.3nm,0.3s,baz=184,slow=20,SNR=8.3						
FITZ				LR	LR	05 19 46.0	
	comp=Z,104nm,20.8s,baz=321,slow=37						
FITZ	**Fitzroy Crossi**	**10.94**	**139**	*e*Pn	**Pn**	**05 15 37.3**	**-1.4**
FITZ				*e*Sn	Sn	05 17 30.4	-9.5
MBWA	**Marble Bar**	**11.31**	**172**	*e*Pn	Pn	05 15 42.0	-1.8
MBWA				*e*Sn	Sn	05 17 37.1	-12
MTN	**Manton Dam**	**13.08**	**104**	*e*Pn	**Pn**	**05 16 06.5**	**-1.6**
MTN				*e*Sn	Sn	05 18 20.9	-12
FAKI	**Fak Fak**	**15.64**	**65**	*e*Pn	**Pn**	**05 16 43.8**	**+1.2**
	8.8nm,0.7s						
SIJI	**Sorong**	**15.84**	**56**	LR	LR	05 22 58.1	
	comp=Z,113nm,19.6s,slon=38						
MYKOM	**Kota Tinggi**	**18.35**	**308**	*e*P	**P**	**05 17 16.4**	**0.0**
	17nm,0.8s						
WRA	**Warramunga Arr**	**18.56**	**124**	P	**P**	**05 17 17.4**	**-1.3**
	0.3nm,0.3s,baz=298,slow=13,SNR=22						
WRA				S	Sn	05 20 30.0	-16
	0.3nm,0.3s,baz=296,slow=23,SNR=4.7						
WRA				LR	LR	05 24 41.8	
	comp=Z,67nm,20.4s,baz=130,slow=38						
WR1	**Warramunga Arr**	**18.56**	**124**	*e*P	**P**	**05 17 17.4**	**-1.3**
	6.3nm,1.1s						
WR1				*e*Sn	Sn	05 20 29.9	-16
WRAB	**Tennant Creek**	**18.57**	**124**	*e*P	**P**	**05 17 19.4**	**+0.7**
	3.4nm,0.9s						
WB2	**Warramunga Arr**	**18.57**	**124**	*e*P	**P**	**05 17 18.1**	**-0.6**
WC3	**Warramunga Arr**	**18.60**	**124**	*e*P	**P**	**05 17 19.2**	**+0.1**
	5.9nm,1.1s						
AS31	**Alice Springs**	**20.36**	**134**	*e*P	**P**	**05 17 37.6**	**-0.7**
	2.2nm,0.8s						
ASAR	**Alice Springs**	**20.36**	**134**	P	**P**	**05 17 39.3**	**+1.0**
	2.9nm,0.9s,baz=311,slow=10,SNR=19						
ASAR				S	S	05 21 15.4	-9.3
	1.3nm,0.6s,baz=308,slow=23,SNR=5.7						
AS01	**Alice Springs**	**20.39**	**134**	*e*P	**P**	**05 17 37.6**	**-1.1**
FORT	**Forrest**	**22.75**	**157**	*e*P	**P**	**05 18 03.0**	**-0.9**
	18nm,1.0s						
PSI	**Prapat**	**22.91**	**302**	*e*P	**P**	**05 18 05.6**	**-0.2**
	4.9nm,0.7s						
STKA	**Stephens Creek**	**30.83**	**139**	LR	LR	05 32 16.6	
	comp=Z,83nm,19.1s,baz=218,slow=37						
CMAR	**Chiang Mai Arr**	**33.34**	**326**	LR	LR	05 34 32.1	
	comp=Z,49nm,18.4s,baz=165,slow=38						
JNU	**Nakatsue**	**44.47**	**15**	LR	LR	05 42 27.5	
	comp=Z,27nm,18.1s,baz=188,slow=40						
H08S2	**Diego Garcia H**	**45.13**	**269**	T	T	06 09 48.1	
	baz=95,slow=75,SNR=5.9						
H08S3	**Diego Garcia H**	**45.15**	**269**	T	T	06 09 53.1	
	baz=95,slow=75,SNR=3.7						
H08S1	**Diego Carcia H**	**45.15**	**269**	T	T	06 09 40.9	
	baz=95,slow=75,SNR=3.1						
KS15	**Wonju Array Si**	**47.96**	**10**	*e*P	**P**	**05 21 39.5**	**-0.4**
KSAR	**Wonju Array Be**	**47.96**	**10**	P	**P**	**05 21 39.8**	**-0.1**
KSRS	**Korea Array**	**47.98**	**10**	P	**P**	**05 21 39.8**	**-0.2**
	3.1nm,0.8s,baz=182,slow=8.2,SNR=9.8						
KS01	**Wonju Array Si**	**48.00**	**10**	*e*P	**P**	**05 21 40.6**	**+0.4**
USA0B	**Ussuriysk Arra**	**55.29**	**12**	*e*P	**P**	**05 22 33.6**	**-0.9**
	4.1nm,0.6s						
USRK	**Ussuriysk Ar.**	**55.29**	**12**	P	**P**	**05 22 33.4**	**-1.2**
	3.4nm,0.5s,baz=190,slow=6.7,SNR=13						
SONA0	**Songino Array**	**58.41**	**351**	*e*P	**P**	**05 22 55.8**	**-1.0**
SONM	**Songino Array**	**58.41**	**351**	P	**P**	**05 22 55.8**	**-1.0**
	1.4nm,0.5s,baz=175,slow=8.3,SNR=6.9						
SONA1	**Songino Array**	**58.42**	**351**	*e*P	**P**	**05 22 55.8**	**-1.1**
KLR	**Kul'dur**	**60.08**	**10**	LR	LR	05 51 25.2	
	comp=Z,18nm,19.0s,baz=232,slow=38						
MK01	**Makanchi Array**	**64.84**	**334**	*e*P	**P**	**05 23 38.2**	**-1.9**
MK31	**Makanchi Array**	**64.86**	**334**	*e*P	**P**	**05 23 40.1**	**-0.2**
MK32	**Makanchi Array**	**64.86**	**334**	*e*P	**P**	**05 23 38.9**	**-1.3**
MKAR	**Makanchi Array**	**64.86**	**334**	P	**P**	**05 23 38.9**	**-1.3**
	0.8nm,0.4s,baz=150,slow=6.5,SNR=13						
MKAR	**Makanchi Array**	**64.86**	**334**	*e*P	**P**	**05 23 40.0**	**-0.2**
	18nm,1.1s						
ZALV	**Zalesovo Beam**	**69.57**	**340**	P	**P**	**05 24 07.1**	**-2.8**
	0.8nm,0.5s,baz=178,slow=3.7,SNR=3.8						
ZALV	**Zalesovo Beam**	**69.57**	**340**	*e*P	**P**	**05 24 07.3**	**-2.6**
ZAA1	**Zalesovo Array**	**69.57**	**340**	*e*P	**P**	**05 24 07.1**	**-2.8**
VNDA	**Vanda**	**71.25**	**171**	P	**P**	**05 24 21.9**	**+2.0**
	0.3nm,0.6s,baz=312,slow=7.7,SNR=5.0						
ATD	**Arta Tunnel**	**77.79**	**284**	LR	LR	05 54 45.8	
	comp=Z,22nm,18.5s,baz=59,slow=32						
ABKAR	**Akbulak array**	**77.80**	**325**	*e*P	**P**	**05 24 56.7**	**-1.6**
NRIK	**Noril'sk**	**81.86**	**349**	LR	LR	06 04 20.7	
	comp=Z,47nm,18.2s,baz=262,slow=38						
KBZ	**Khabaz**	**86.30**	**315**	P	**P**	**05 25 42.7**	**-0.3**
	1.1nm,0.4s,baz=224,slow=5.1,SNR=4.3						

IDC 09 05:14:39.7±999.0,51.10N×114.98E,h0km,Error ellipse: s-maj=691.3km s-min=193.0km az=104.0,East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**13.36**	**115**	*i*		06 34 10.0	
	baz=307,slow=329,SNR=1.9						
I30JP	**ISUMI INFRASON**	**24.12**	**121**	*i*		07 42 50.0	
	baz=320,slow=321,SNR=0.4						
I44RU	**PETROPAVLOVSK**	**26.04**	**69**	*i*		07 54 40.0	
	baz=284,slow=324,SNR=0.4						

IDC ***09*** *05:26:36.1±1.8,14.45N×146.46E,h0km,mb4.0/9, mb1 4.1/9,mb1mx3.8/53,mbtmp4.0/9,MS3.9/1,Ms1 3.9/1, ms1mx2.6/48,Error ellipse: s-maj=50.5km s-min=18.9km az=91.0*

ISCJB ***09*** *05:26:40.4±0.6,14.29N±0.06×146.44E±0.08,h49km, mb4.1/14,MS3.9/1,Error ellipse: s-maj=11.2km s-min=8.0km az=13.1*

NEIC ***09*** *05:26:42.0±0.9,14.33N×146.46E,h45km±9km,mb4.3/6, Error ellipse: s-maj=14.4km s-min=8.0km az=81.0*

ISC 09 05:26:42.4±0.8,14.25N±0.07×146.41E±0.10,h49km,n29, σ1°13/26,mb4.2/14,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.63**	**246**	Pn	**Pn**	**05 27 07.8**	**-0.8**
	343nm,0.3s,baz=61,slow=2.5,SNR=101						
GUMO				Sn	**Sn**	**05 27 26.9**	**-1.6**
	195nm,0.3s,baz=143,slow=9.1,SNR=5.9						
GUMO				LR	LR	05 27 56.7	
	comp=Z,208nm,18.4s,baz=24,slow=46						
ANA2	**Anatahan**	**2.18**	**342**	*e*Pn	**Pn**	**05 27 16.4**	**+0.2**
SARN	**Sarigan**	**2.51**	**346**	*e*Pn	**Pn**	**05 27 20.4**	**-0.4**
PATS	**Pohnpei**	**13.83**	**121**	*e*Pn	**Pn**	**05 29 54.3**	**-1.5**
H11S3	**WAKE ISLAND Hy**	**19.91**	**75**	T	T	05 52 41.3	
	baz=262,slow=74,SNR=5.6						
H11S1	**WAKE ISLAND Hy**	**19.92**	**75**	T	T	05 52 40.8	
	baz=262						
H11S2	**WAKE ISLAND Hy**	**19.93**	**75**	T	T	05 52 40.0	
	baz=262,slow=74,SNR=2.1						
FAKI	**Fak Fak**	**22.09**	**221**	*e*P	**P**	**05 31 35.1**	**+1.5**
	10.0nm,0.8s						
JNU	**Nakatsue**	**23.50**	**326**	*e*P	**P**	**05 31 48.0**	**0.0**
	7.4nm,0.9s						
KSRS	**Korea Array**	**28.36**	**328**	P	**P**	**05 32 31.4**	**-0.4**
	2.1nm,0.7s,baz=142,slow=9.2,SNR=7.8						
KSAR	**Wonju Array Be**	**28.37**	**328**	P	**P**	**05 32 31.4**	**-0.5**
WR1	**Warramunga Arr**	**35.99**	**200**	*e*P	**P**	**05 33 39.6**	**+0.8**
	6.5nm,1.1s						
WRA	**Warramunga Arr**	**35.99**	**200**	P	**P**	**05 33 39.6**	**+0.8**
	0.8nm,0.8s,baz=23,slow=10.0,SNR=6.0						
FITZ	**Fitzroy Crossi**	**38.11**	**213**	*e*P	**P**	**05 33 58.2**	**+1.4**
	3.7nm,1.0s						
ASAR	**Alice Springs**	**39.62**	**198**	P	**P**	**05 34 12.6**	**+3.2**
	0.6nm,0.7s,baz=20,slow=13,SNR=7.7						
CMAR	**Chiang Mai Arr**	**45.64**	**282**	P	**P**	**05 34 58.9**	**+0.5**
	1.0nm,0.5s,baz=76,slow=7.1,SNR=4.0						
SONA0	**Songino Array**	**47.07**	**324**	*e*P	**P**	**05 35 09.8**	**+0.4**
SONM	**Songino Array**	**47.07**	**324**	P	**P**	**05 35 09.8**	**+0.4**
	0.8nm,0.7s,baz=130,slow=8.3,SNR=4.1						
URZ	**Urewera**	**59.64**	**152**	LR	LR	05 59 33.6	
	comp=Z,94nm,19.5s,baz=350,slow=33						
ZALV	**Zalesovo Beam**	**61.96**	**324**	P	**P**	**05 36 56.0**	**-1.1**
	0.8nm,0.3s,baz=103,slow=6.2,SNR=4.4						
ZAA1	**Zalesovo Array**	**61.96**	**324**	*e*P	**P**	**05 36 56.0**	**-1.1**
MK01	**Makanchi Array**	**62.05**	**316**	*e*P	**P**	**05 36 58.2**	**+0.3**
MK31	**Makanchi Array**	**62.06**	**316**	*e*P	**P**	**05 36 58.4**	**-1.6**
MK32	**Makanchi Array**	**62.06**	**316**	*e*P	**P**	**05 36 58.2**	**+0.2**
MKAR	**Makanchi Array**	**62.06**	**316**	P	**P**	**05 36 58.2**	**+0.2**
	1.2nm,0.5s,baz=90,slow=8.7,SNR=11						
MKAR	**Makanchi Array**	**62.06**	**316**	*e*P	**P**	**05 36 56.6**	**-1.4**
	22nm,1.0s						
KURK	**Kurchatov**	**65.05**	**320**	*e*P	**P**	**05 37 17.5**	**-0.1**
	3.0nm,0.8s						
KURBB	**Kurchatov Arra**	**65.09**	**319**	P	**P**	**05 37 17.3**	**-0.5**
	3.8nm,0.6s,baz=99,slow=6.9,SNR=24						
BVAR	**Borovoye Array**	**70.34**	**322**	P	**P**	**05 37 50.9**	**0.0**
	1.5nm,0.6s,baz=95,slow=7.4,SNR=4.8						

MAN 09 05:38:25.5,6.32N×124.67E,h8km,mb4.8,ML3.7,MS3.6, 2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKMP	**Bagumbayan, Su**	**0.23**	**326**	*e*P	Pg	05 38 31.1	+0.9
SKMP				*e*S	Sg	05 38 35.5	+2.0
GSPH	**General Santos**	**0.36**	**130**	*i* P	Pn	05 38 36.9	-0.3
GSPH				*i* S	Sb	05 38 46.4	+6.3
CTBH	**Cotabato--PC H**	**0.99**	**335**	⇓*e*P	Pn	05 38 46.6	+0.9
CTBH				*i* S	Sn	05 38 59.0	-0.9
DDMP	**Don Marcelino,**	**1.05**	**102**	*e*P	Pg	05 38 43.6	-2.2
DDMP				*e*S	Sb	05 39 00.2	+0.2
BUKP	**Musuan**	**1.59**	**14**	*e*P	Pn	05 38 53.9	-0.2
BUKP				*e*S	Sn	05 39 15.1	+0.2
PAGZ	**Pagadian**	**1.99**	**320**	*e*P	Pn	05 38 59.4	0.0
PAGZ				*e*S	Sg	05 39 29.3	-0.1
CGP	**Cagayan de Oro**	**2.12**	**1**	⇓*e*P	Pg	05 39 09.3	+3.1
CGP				*e*S	Sb	05 39 30.1	-0.6

ISCJB ***09*** *05:40:15.9±0.8,37.73N±0.03×36.56E±0.03,h2km±6km, Error ellipse: s-maj=5.0km s-min=3.6km az=144.8*

DDA ***09*** *05:40:15.1,37.80N×36.45E,h5km,Ml3.6*

ISK ***09*** *05:40:16.0,37.73N×36.53E,h10km,ML3.5/16*

ISC 09 05:40:16.2±1.1,37.76N±0.02×36.56E±0.02,h5km±11km, n49,σ1°28/59,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.25**	**224**	*i* P	**Pg**	**05 40 20.5**	**-0.6**
ANDN				*i* S	**Sg**	**05 40 24.5**	**+0.1**
KOZT	**Kozan**	**0.65**	**245**	PG	**Pg**	**05 40 27.6**	**-1.0**
KOZT				SG	**Sg**	**05 40 37.5**	**+0.5**
ELBS	**KAHRAMANMARAS**	**0.72**	**38**	*i* P	**Pg**	**05 40 29.4**	**-0.8**
GAZ	**Gaziantep**	**0.78**	**138**	PG	**Pb**	**05 40 31.8**	**-0.5**
KUZU	**Kuzuini**	**1.06**	**157**	*i* P	**Pn**	**05 40 32.8**	**-0.1**
KUZU				*i* S	**Sn**	**05 40 54.2**	**+1.2**
DARE	**Darende-Malaty**	**1.09**	**41**	PN	**Pn**	**05 40 38.1**	**-0.2**
YURE	**YUREGIR**	**1.19**	**219**	PN	**Pb**	**05 40 38.6**	**-0.7**
YURE	**YUREGIR**	**1.19**	**219**	*i* P	**Pg**	**05 40 39.3**	**+0.3**
AKCD	**Akcadag**	**1.20**	**63**	*i* P	**Pg**	**05 40 39.7**	**+0.5**
AKCD				*i* S	**Sn**	**05 40 58.8**	**+2.1**
BNN	**Bunyan**	**1.23**	**333**	PN	**Pn**	**05 40 38.4**	**-1.9**
ATAB	**Bozova**	**1.40**	**101**	*i* P	**Pn**	**05 40 42.0**	**-0.5**
TAHT	**Tahtakopru-Hat**	**1.41**	**192**	PN	**Pb**	**05 40 42.3**	**-0.8**
TAHT				SN	**Sn**	**05 41 00.2**	**-1.4**
GULE	**Gulek**	**1.50**	**252**	*i* P	**Pb**	**05 40 44.3**	**-0.3**
GULE				*i* S	**Sg**	**05 41 06.0**	**+1.7**
CUALT	**Altinyayla-SIV**	**1.52**	**6**	*i* P	**Pn**	**05 40 43.9**	**-0.4**
CUALT				*i* S	**Sg**	**05 41 07.2**	**+2.0**
NIG	**Nigde**	**1.58**	**283**	PN	**Pn**	**05 40 44.5**	**-0.7**
CUSAR	**Sarkisla-SIVAS**	**1.68**	**352**	*i* P	**Pn**	**05 40 46.5**	**0.0**
AVNS	**Nevsehir-Avano**	**1.71**	**308**	*i* P	**Pn**	**05 40 46.7**	**-0.1**
URFA	**Urfa**	**1.82**	**99**	PN	**Pn**	**05 40 47.6**	**-0.7**
MERS	**Mersin**	**1.85**	**242**	PN	**Pn**	**05 40 48.8**	**0.0**
SURC	**SANLIURFA_SURC**	**1.85**	**118**	*i* P	**Pn**	**05 40 47.9**	**-0.9**
GULA	**Gulagac**	**1.93**	**288**	PN	**Pn**	**05 40 50.0**	**+0.2**
KERG	**Konya-Eregli**	**1.97**	**261**	*i* P	**Pn**	**05 40 50.7**	**+0.3**
SANL	**SANLIURFA_Merk**	**2.02**	**106**	*i* P	**Pn**	**05 40 50.0**	**-0.9**
SANL				*i* S	**Sg**	**05 41 23.9**	**+2.9**
YOZ	**Yozgat**	**2.12**	**333**	PN	**Pn**	**05 40 52.9**	**+0.4**
KEMA	**Kemaliye**	**2.14**	**44**	*i* P	**Pb**	**05 40 53.9**	**-1.6**
KEMA				*i* S	**Sg**	**05 41 28.8**	**+3.8**
SVSK	**Karacayir**	**2.18**	**9**	PN	**Pb**	**05 40 54.3**	**-1.9**
SVRC	**Sivrice-ELAZID**	**2.25**	**73**	PN	**Pn**	**05 40 53.9**	**-0.4**
KIZK	**Mersin**	**2.32**	**237**	PN	**Pn**	**05 40 54.9**	**-0.1**
KIZK	**Mersin**	**2.32**	**237**	*i* P	**Pn**	**05 40 55.9**	**+0.9**
CUZAR	**Zara_SIVAS**	**2.33**	**24**	*i* P	**Pb**	**05 40 57.3**	**-1.5**
AKSY	**AKSARAY - Alti**	**2.38**	**293**	*i* P	**Pn**	**05 40 56.3**	**+0.2**
AKSY				*i* S	**Sg**	**05 41 32.5**	**-0.2**
SULT	**Sultanhani-AKS**	**2.45**	**281**	PN	**Pn**	**05 40 57.3**	**+0.3**
YAYX	**Yaylak**	**2.46**	**299**	PN	**Pn**	**05 40 56.7**	**-0.5**
PTK	**Pertek**	**2.50**	**62**	PN	**Pb**	**05 40 59.4**	**-2.3**
TOKT	**Tokat**	**2.56**	**360**	PN	**Pn**	**05 40 59.2**	**+0.7**
KEBE	**Keben-Mersin**	**2.63**	**241**	PN	**Pn**	**05 40 59.8**	**+0.4**
TNCL	**Tunceli-Merkez**	**2.70**	**59**	*i* P	**Pg**	**05 41 08.2**	**+0.1**
KAMT	**Kaman**	**2.75**	**307**	PN	**Pn**	**05 41 01.9**	**+0.7**
IKL	**Isikli**	**2.76**	**238**	PN	**Pn**	**05 41 00.4**	**-0.7**
SUSE	**Susehri**	**2.76**	**27**	*i* P	**Pb**	**05 41 04.2**	**-2.0**
COAL	**Corum-Alaca**	**2.78**	**334**	*i* P	**Pn**	**05 41 01.7**	**+0.1**
DIYA	**Diyarbakir**	**2.82**	**86**	*i* P	**Pg**	**05 41 09.6**	**-0.7**
TEVE	**Tevekalti-Mers**	**2.82**	**243**	PN	**Pn**	**05 41 02.2**	**+0.1**
GULN	**MERSIN_Gulnar**	**2.88**	**238**	*i* P	**Pn**	**05 41 04.4**	**+1.6**
ERBA	**Erbaa**	**2.92**	**3**	*i* P	**Pb**	**05 41 09.1**	**+0.2**
KELT	**Kelkit**	**3.18**	**40**	*i* P	**Pb**	**05 41 09.9**	**-3.5**
KKUL	**Konya-Kulu**	**3.19**	**297**	*i* P	**Pn**	**05 41 09.2**	**+2.0**
MARD	**Mardin**	**3.38**	**96**	*i* P	**Pn**	**05 41 09.1**	**-0.7**
SVAN	**Silvan-Diyarba**	**3.68**	**82**	*i* P	**Pg**	**05 41 26.5**	**-0.3**

ISCJB ***09*** *05:43:43.7±1.2,36.86N±0.04×141.45E±0.07,h15km±9km, mb3.5/2,MS3.6/1,Error ellipse: s-maj=9.9km s-min=5.9km az=12.1*

IDC ***09*** *05:43:43.7±1.6,36.74N×141.37E,h0km,mb3.4/2, mb1 3.7/3,mb1mx3.3/64,mbtmp3.3/3,ML2.9/1,MS3.5/1, Ms1 3.5/1,ms1mx2.3/35,Error ellipse: s-maj=45.4km s-min=31.4km az=132.0*

JMA ***09*** *05:43:45.3±0.1,36.88N×141.35E,h31km±1km,M3.7*

ISC 09 05:43:44.2±1.8,36.82N±0.05×141.31E±0.07,h11km±11km, n21,σ0°85/25,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.50**	**305**	P	**Pb**	**05 43 55.2**	**+0.1**
ONAJ				S	**Sb**	**05 44 02.4**	**-0.1**
JHO	**Hitachi**	**0.63**	**251**	P	**Pn**	**05 43 58.2**	**-1.0**
JHO				S	**Sn**	**05 44 07.9**	**-1.4**
JFK	**Kawauchi**	**0.65**	**328**	P	**Pb**	**05 43 57.2**	**-0.5**
JFK				S	**Sg**	**05 44 05.4**	**-0.1**
JFFD	**Fukushimafurud**	**0.66**	**295**	P	**Pb**	**05 43 57.9**	**+0.1**
JFFD				S	**Sb**	**05 44 06.9**	**-0.2**
JHYU	**Hitachinakayam**	**0.75**	**231**	P	**Pn**	**05 43 59.9**	**-0.9**
JHYU				S	**Sn**	**05 44 11.2**	**-1.0**
JFT	**Otama**	**1.05**	**312**	P	**Pg**	**05 44 04.5**	**+0.1**
JFT				*e*S	**Sb**	**05 44 17.8**	**-0.4**
JYT	**Yasato**	**1.07**	**237**	P	**Pg**	**05 44 05.0**	**+0.1**
JYT				S	**Sn**	**05 44 19.8**	**-0.4**
JMM	**Marumori**	**1.13**	**339**	P	**Pb**	**05 44 04.6**	**-1.2**
JMM				S	**Sb**	**05 44 18.6**	**-1.9**
JSB	**Shiboa**	**1.13**	**278**	P	**Pg**	**05 44 06.8**	**+0.9**
JSB				S	**Sn**	**05 44 22.2**	**+0.7**
JFY	**Yanaizu**	**1.41**	**295**	P	**Pb**	**05 44 10.5**	**-0.2**
JFY				S	**Sb**	**05 44 28.8**	**+0.1**
MJAR	**Matsushiro Arr**	**2.51**	**265**	Pn	**Pn**	**05 44 25.9**	**+0.9**
	2.3nm,0.3s,baz=89,slow=14,SNR=8.7						
MAT	**Matsushiro**	**2.51**	**265**	P	**Pb**	**05 44 28.8**	**-0.6**
MAT				*e*S	**Sb**	**05 44 59.4**	**-0.9**
H11N2	**WAKE ISLAND Hy**	**28.11**	**120**	T	T	06 19 01.6	
	baz=313,slow=75,SNR=120						
H11N1	**WAKE ISLAND Hy**	**28.11**	**120**	T	T	06 19 01.3	
	baz=313,slow=75,SNR=139						
H11N3	**WAKE ISLAND Hy**	**28.12**	**120**	T	T	06 19 04.3	
	baz=313,slow=75,SNR=98						
H11S1	**WAKE ISLAND Hy**	**28.81**	**122**	T	T	06 19 55.6	
	baz=315,slow=75,SNR=82						
H11S3	**WAKE ISLAND Hy**	**28.81**	**122**	T	T	06 19 57.6	
	baz=315,slow=75,SNR=67						
H11S2	**WAKE ISLAND Hy**	**28.83**	**122**	T	T	06 19 55.1	
	baz=315,slow=75,SNR=62						
ILAR	**Eielson Array**	**49.72**	**32**	P	**P**	**05 52 37.2**	**+1.1**
	0.3nm,0.7s,baz=269,slow=6.9,SNR=4.3						
WRA	**Warramunga Arr**	**56.83**	**188**	P	**P**	**05 53 29.6**	**+0.8**
	0.4nm,0.7s,baz=4.9,slow=7.4,SNR=4.8						
AKTO	**Aktyubinsk**	**58.76**	**312**	LR	LR	06 21 20.0	
	comp=Z,38nm,18.1s,baz=247,slow=38						

IDC ***09*** *05:44:31.8±5.7,36.80N×73.11E,h18km±34km,mb4.0/15, mb1 4.2/21,mb1mx3.9/67,mbtmp4.1/21,ML3.8/5,MS3.3/5, Ms1 3.3/5,ms1mx2.9/49,Error ellipse: s-maj=17.9km s-min=15.2km az=2.0*

ISCJB ***09*** *05:44:32.7±0.2,36.67N±0.02×73.13E±0.04,h42km, mb4.3/43,MS3.1/2,Error ellipse: s-maj=4.9km s-min=2.8km az=163.2*

NNC ***09*** *05:44

comp=N,12nm,0.6s,baz=164,slow=23,SNR=4.1
KK31 Karatay Array 6.67 343 *e*Pn **Pn 05 46 10.5 +0.3**
KK31 Karatay Array 6.67 343 *e*PN **Pn 05 46 10.5 +0.3**
KKAR Karatay Array 6.67 343 *e*Pn **Pn 05 46 10.5 +0.4**
KKAR Karatay Array 6.67 343 *e*PN **Pn 05 46 10.5 +0.4**
PRZ Przheval'sk 7.01 34 *e*Pn **Pn 05 46 16.7 +1.6**
PRZ Przheval'sk 7.01 34 *e*PN **Pn 05 46 16.7 +1.6**
MDOK Medeo 7.07 24 Pg Pn 05 46 39.5 +24
comp=N,20nm,0.7s
MDOK Lg Lg 05 48 10.1
comp=N,54nm,1.0s
DDI Dehra Dun 7.60 146 *e*P **Pn 05 46 24.9 +1.8**
DDI *e*S **Sn 05 47 43.8 -4.1**
DDI IAML 05 47 58.0
comp=E,165nm,0.9s
DDI IAML 05 47 58.7
comp=N,138nm,0.3s
JOSI Joshimath 8.16 137 *e*P **Pn 05 46 31.5 +0.6**
JOSI *ex* x 05 48 03.2
JOSI IAML 05 48 15.1
comp=E,190nm,0.6s
JOSI IAML 05 48 17.3
comp=N,400nm,0.8s
NDI New Delhi 8.74 156 *e*S **Sn 05 48 13.0 -2.8**
KHET Khetri 8.93 165 *ex* **Pn 05 46 40.1 -1.2**
KHET *e*S **Sn 05 48 20.6 -0.1**
KUDL Kundal 9.03 161 *e*P **Pn 05 46 43.1 +0.5**
KUDL *e*S **Sn 05 48 22.7 -0.2**
JASL Jaisalmer 9.98 192 *e*S **Sn 05 48 45.4 -0.9**
PYUN Piuthan 11.96 133 *e*P **Pn 05 47 21.4 -1.6**
comp=N,63nm,0.6s
GEYT Alibeck 12.03 280 Pn **Pn 05 47 21.7 -2.0**
comp=N,1.9nm,0.3s,baz=99,slow=16,SNR=12
GEYT LR LR 05 53 21.7
comp=N,153nm,21.0s,baz=200,slow=44
GYA0B ALIBECK ARRAY 12.03 280 *e*Pn **Pn 05 47 22.0 -1.7**
MK01 Makanchi Array 12.11 31 *e*Pn **Pn 05 47 25.3 +0.6**
MK31 Makanchi Array 12.12 31 *e*Pn **Pn 05 47 25.3 +0.4**
MK31 Makanchi Array 12.12 31 *e*P **Pn 05 47 25.3 +0.4**
MK32 Makanchi Array 12.12 31 *e*Pn **Pn 05 47 25.3 +0.5**
MKAR Makanchi Array 12.12 31 Pn **Pn 05 47 25.3 +0.5**
comp=N,0.2nm,0.3s,baz=203,slow=12,SNR=6.9
DANN Dangsing 12.24 130 *e*P **Pn 05 47 25.4 -1.4**
comp=N,50nm,0.4s
KOLN Koldanda 12.57 132 *e*P **Pn 05 47 29.3 -1.9**
comp=N,19nm,0.4s
KOLN Koldanda 12.57 132 *e*P **Pn 05 47 29.7 -1.5**
comp=N,19nm,0.4s
GKN Gorkha 13.03 129 *e*P **Pn 05 47 35.1 -2.4**
comp=N,1.7nm,0.3s
GKN Gorkha 13.03 129 *e*P **Pn 05 47 35.6 -1.9**
WMQ Urumqi 13.14 53 *e*P **Pn 05 47 41.1 +2.2**
WMQ pP P 05 47 51.6 +3.5
WMQ LR LR
comp=N,440nm,15.7s
WMQ LR LR
comp=N,250nm,18.7s
KKN Kakani 13.59 128 *e*P **Pn 05 47 41.6 -3.5**
comp=N,35nm,0.6s
KKN Kakani 13.59 128 *e*P **Pn 05 47 41.7 -3.4**
comp=N,35nm,0.6s
DMN Daman 13.60 129 *e*P **Pn 05 47 42.1 -3.3**
comp=N,28nm,0.6s
PKIN Phulchoki 13.81 128 *e*P **Pn 05 47 44.5 -3.7**
comp=N,27nm,0.6s
GUN Gumba 13.89 126 *e*P **Pn 05 47 45.4 -4.0**
comp=N,26nm,0.5s
GUN Gumba 13.89 126 *e*P **Pn 05 47 45.6 -3.8**
comp=N,26nm,0.5s
BHPL Bhopal 13.96 164 *e*P Pn 05 47 41.9 -8.1
BHPL *e*S **Sn 05 50 18.2 -5.3**
JIRN Jiri 14.26 126 *e*P **Pn 05 47 50.5 -3.9**
comp=N,46nm,0.3s
JIRN Jiri 14.26 126 *e*P **Pn 05 47 50.6 -3.9**
comp=N,46nm,0.3s
KURBB Kurchatov Arra 14.40 14 Pn **Pn 05 47 52.8 -2.9**
comp=N,0.0nm,0.3s,baz=204,slow=11,SNR=7.0
KURBB Lg Lg 05 52 07.3
comp=N,0.0nm,0.3s,baz=203,slow=29,SNR=5.4
KURBB Kurchatov Arra 14.40 14 ⇓P **Pn 05 47 57.1 +1.3**
comp=N,7.6nm,0.6s
KURK Kurchatov 14.50 14 ⇑P **Pn 05 47 55.9 -1.2**
comp=N,6.7nm,0.7s
KURK Kurchatov 14.50 14 *e*Pn **Pn 05 47 54.2 -3.0**
KURK *e*P **P 05 48 01.8 -1.2**
KURK Lg Lg 05 52 07.3
KURK Kurchatov 14.50 14 *e*P **Pn 05 47 54.2 -3.0**
RAMN Ramite 15.01 127 *e*P **Pn 05 47 58.8 -5.6**
comp=N,26nm,0.4s
RAMN Ramite 15.01 127 *e*P **Pn 05 47 59.7 -4.7**
comp=N,29nm,0.5s
ABKAR Akbulak array 15.77 327 *e*Pn **Pn 05 48 10.4 -3.4**
GTK Tadong 16.10 121 *ex* Pn 05 48 09.8 -8.5
BVAR Borovoye Array 16.39 354 Pn **Pn 05 48 18.5 -3.2**
comp=N,0.5nm,0.3s,baz=163,slow=11,SNR=5.8
BVAR LR LR 05 54 51.3
comp=N,102nm,20.9s,baz=190,slow=38
BRVK Borovoye 16.43 354 *e*Pn **Pn 05 48 19.9 -2.3**
comp=N,9.1nm,1.0s
BRVK Borovoye 16.43 354 *e*P **Pn 05 48 19.9 -2.3**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BOK Bokaro 16.93 136 *e*P **P 05 48 30.9 +0.7**
AKTO Aktyubinsk 17.49 326 LR LR 05 55 45.6
comp=Z,155nm,18.1s,baz=148,slow=39
TURI Tura 18.43 122 *e*P **P 05 48 47.0 +0.3**
GUWA GUWAHATI 18.96 118 *ex* **P 05 48 49.7 -2.7**
ZAA0 Zalesovo Array 19.01 22 *e*P **P 05 48 51.5 -1.3**
comp=Z,9.4nm,0.8s
ZALV Zalesovo Beam 19.01 22 P **P 05 48 51.4 -1.4**
comp=Z,1.0nm,0.3s,baz=212,slow=11,SNR=38
ZAA1 Zalesovo Array 19.01 22 *e*P **P 05 48 51.4 -1.5**
NVS Novosibirsk 19.37 18 *e*P **P 05 48 56.2 -0.6**
NVS pmax pmax
comp=Z,5.0nm,0.8s
NVS pmax pmax
comp=N,9.0nm,0.8s
NVS pmax pmax
comp=E,9.0nm,1.6s
SHL Shillong 19.48 120 *e*P **P 05 48 59.1 +0.7**
comp=E,14nm,1.0s
SHL Shillong 19.48 120 *e*P **P 05 48 59.1 +0.7**
SHL pmax pmax
comp=Z,14nm,1.0s
TEZP TEZPUR 19.49 116 *e*P **P 05 48 58.7 +0.3**
KOHI KOHIMA 20.97 116 *e*P Pn 05 49 19.8 +2.4
GTA Gaotai 21.12 75 ⇑P **P 05 49 17.2 +1.1**
GTA pP sP 05 49 29.4 -2.3
GTA sP pP 05 49 34.7 +8.3
GTA S **S 05 53 07.8 -1.1**
GTA sS sS 05 53 24.2 -1.3
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,130nm,6.5s
GTA LR LR
comp=Z,230nm,14.3s
GTA LR LR
comp=Z,330nm,17.8s
GTA LR LR
comp=Z,160nm,16.5s
BRDH Bariadhala 21.26 126 LR LR 05 59 54.0
comp=Z,68nm,19.6s,baz=207,slow=43
IMP Imphal 21.40 118 *e*P **P 05 49 20.1 +1.1**
SAIH SAIHA 22.28 124 *e*P **P 05 49 30.4 +1.9**
ZEI Tsey 23.21 294 *e*P **P 05 49 41.0 +2.7**
ZEI pmax pmax
comp=Z,4.0nm,0.7s
KBZ Khabaz 24.04 296 LR LR 06 01 01.2
comp=Z,74nm,18.0s,baz=110,slow=41
ZAK Zakamensk 25.52 48 *e*P **P 05 49 59.6 +0.2**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
SONA0 Songino Array 26.77 55 *e*P **P 05 50 11.3 +0.6**
SONM Songino Array 26.77 55 P **P 05 50 11.3 +0.6**
comp=Z,1.1nm,0.8s,baz=247,slow=11,SNR=5.6
SONA1 Songino Array 26.77 55 *e*P **P 05 50 11.3 +0.6**
RAYN Ar Rayn 27.20 249 *e*P **P 05 50 16.3 +1.6**
comp=Z,2.1nm,0.8s
RAYN Ar Rayn 27.20 249 *e*P **P 05 50 16.3 +1.6**
RAYN pmax pmax
comp=Z,2.0nm,0.8s
KMI Kunming 27.78 106 P **P 05 50 18.1 -2.0**
KMI pmax pmax
comp=Z,21nm,0.7s
CMAR Chiang Mai Arr 29.08 122 P **P 05 50 32.8 +1.4**
comp=Z,0.9nm,0.3s,baz=310,slow=11,SNR=4.0
HHC Hu-ho-hao-te 30.05 70 *e*P **P 05 50 40.7 +0.8**
HHC pmax pmax
comp=Z,16nm,0.7s
BR101 Keskin Array S 31.01 288 *e*P **P 05 50 49.8 +1.3**
BR131 Keskin Array S 31.01 288 *e*P **P 05 50 49.5 +1.0**
BRTR Keskin Array B 31.01 288 P **P 05 50 49.8 +1.3**
comp=Z,1.1nm,0.5s,baz=99,slow=8.2,SNR=7.4
BUR04 Bucovina Ar. S 36.62 303 *e*P **P 05 51 37.4 +0.4**
FIA1 FINESS Array S 38.26 325 *e*P **P 05 51 51.3 +0.7**
FIA0 FINESS Array S 38.26 325 *e*P **P 05 51 50.8 +0.3**
FIA0 FINESS Array S 38.26 325 *e*P **P 05 51 50.8 +0.3**
FINES FINESS Array B 38.26 325 P **P 05 51 50.8 +0.3**
comp=Z,2.1nm,0.8s,baz=187,slow=31,SNR=5.8
FINES FINESS Array B 38.26 325 P **P 05 51 50.8 +0.3**
FINES pmax pmax
comp=Z,1.0nm,0.4s
ARA0 ARCESS Array S 41.59 337 *e*P **P 05 52 18.2 +0.1**
ARCES ARCESS Array B 41.59 337 P **P 05 52 18.2 +0.1**
comp=Z,3.7nm,0.7s,baz=111,slow=7.9,SNR=14
ARCES ARCESS Array B 41.59 337 *e*P **P 05 52 18.4 +0.3**
ARCES ARCESS Array B 41.59 337 *e*P **P 05 52 18.4 +0.3**
ARE0 ARCESS Array S 41.59 337 *e*P **P 05 52 18.4 +0.2**
comp=Z,1.4nm,1.4s
KLR Kul'dur 43.59 54 P **P 05 52 34.8 +0.1**
comp=Z,1.5nm,0.5s,baz=275,slow=8.0,SNR=6.8
CLL Collm 44.39 309 *e*P **P 05 52 41.0 0.0**
CLL *es*P **sP 05 53 00.0 +2.3**
CLL Collm 44.39 309 *e*P **P 05 52 41.0 0.0**
TIXI Tiksi 44.90 22 P **P 05 52 44.2 -0.6**
comp=Z,7.4nm,0.8s,baz=251,slow=4.4,SNR=11
NC405 NORSAR Array S 44.99 323 *e*P **P 05 52 46.3 +0.6**
NC303 NORSAR Array S 45.17 323 *e*P **P 05 52 46.9 -0.1**
NB201 NORSAR Array S 45.19 323 *e*P **P 05 52 47.0 -0.3**
NB2 NORSAR Subarra 45.23 323 P **P 05 52 46.8 -0.8**
comp=Z,1.1nm,0.6s,baz=92,slow=7.9
NB200 NORSAR Array S 45.23 323 *e*P **P 05 52 47.1 -0.5**
NOA NORSAR Array B 45.23 323 P **P 05 52 47.1 -0.5**
comp=Z,1.7nm,0.7s,baz=93,slow=7.6,SNR=7.6
NBO00 NORSAR Array S 45.44 323 *e*P **P 05 52 49.3 +0.1**
NC204 NORSAR Array S 45.46 323 *e*P **P 05 52 49.2 -0.3**
DAG Danmarks Havn 54.98 344 *i* P **P 05 54 00.9 -0.3**
comp=Z,2.7nm,0.5s
DAG Danmarks Havn 54.98 344 *i* P **P 05 54 00.9 -0.3**
DAG pmax pmax
comp=Z,2.0nm,0.5s
ESDC Sonseca Array 58.87 298 P **P 05 54 29.2 -0.2**
comp=Z,0.3nm,0.5s,baz=58,slow=7.7,SNR=4.9
SUMG Summit 61.39 341 *e*P **P 05 54 47.1 +0.6**
comp=Z,8.7nm,1.2s
SUMG Summit 61.39 341 *i* P **P 05 54 46.8 +0.3**
comp=Z,11nm,0.6s
SUMG Summit 61.39 341 *e*P **P 05 54 47.1 +0.6**
SUMG pmax pmax
comp=Z,9.0nm,1.2s
TOA1 Torodi Ar. Sit 67.46 270 *e*P **P 05 55 24.9 -1.6**
TOA0 Torodi Ar. Sit 67.46 270 *e*P **P 05 55 25.7 -0.9**
comp=Z,2.3nm,1.2s
TORD Torodi Ar. Bea 67.46 270 P **P 05 55 24.9 -1.6**
comp=Z,0.5nm,0.5s,baz=43,slow=6.2,SNR=11
TOLK Toolik Lake Re 70.23 15 *e*P **P 05 55 43.3 +0.2**
comp=Z,4.1nm,0.8s
IM3 Indian Mountai 71.40 18 *e*P **P 05 55 49.8 -0.3**
INK Inuvik 73.37 10 P **P 05 56 02.0 +0.2**
comp=Z,1.2nm,0.4s,baz=336,slow=4.0,SNR=11
INK Inuvik 73.37 10 *e*P **P 05 56 01.9 +0.2**
comp=Z,4.1nm,1.4s
INK Inuvik 73.37 10 P **P 05 56 02.0 +0.2**
INK pmax pmax
comp=Z,1.0nm,0.4s
BPAW Bear Paw Mtn. 73.62 19 *e*P **P 05 56 03.2 -0.1**
comp=Z,4.7nm,1.2s
CAST Castle Rocks 73.88 19 *e*P **P 05 56 05.3 +0.4**
comp=Z,5.6nm,1.3s
ILAR Eielson Array 74.06 17 P **P 05 56 05.0 -0.9**
comp=Z,1.0nm,0.8s,baz=323,slow=5.9,SNR=12
ILAR Eielson Array 74.06 17 P **P 05 56 05.0 -0.9**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
PPLA Purkeypile 74.28 20 *e*P **P 05 56 07.4 0.0**
comp=Z,17nm,1.4s
TRF Thorofare Moun 74.33 19 *e*P **P 05 56 08.4 +0.7**
comp=Z,6.2nm,1.3s
MCK McKinley 74.44 18 *e*P **P 05 56 08.2 0.0**
comp=Z,2.6nm,0.7s
MCK McKinley 74.44 18 *e*P **P 05 56 08.2 0.0**
MCK pmax pmax
comp=Z,3.0nm,0.7s
RND Reindeer 74.73 18 *e*P **P 05 56 09.4 -0.5**
comp=Z,8.2nm,1.4s
RND Reindeer 74.73 18 *e*P **P 05 56 09.4 -0.5**
RND pmax pmax
comp=Z,8.0nm,1.4s
DHY Denali Highway 75.37 18 *e*P **P 05 56 13.1 -0.6**
comp=Z,3.4nm,0.7s
PAX Paxson 75.92 17 *e*P **P 05 56 16.7 -0.1**
comp=Z,2.3nm,0.6s
PAX Paxson 75.92 17 *e*P **P 05 56 16.7 -0.1**
PAX pmax pmax
comp=Z,2.0nm,0.6s
LBTB Lobatse 76.04 224 *e*P **P 05 56 19.4 +1.4**
comp=Z,8.8nm,1.3s
LBTB Lobatse 76.04 224 *e*P **P 05 56 19.4 +1.4**
LBTB pmax pmax
comp=Z,9.0nm,1.3s
DAWY Dawson 76.27 14 *e*P **P 05 56 18.8 +0.1**
comp=Z,2.7nm,1.1s
RC01 Rabbit Creek A 76.42 20 *e*P **P 05 56 19.5 -0.1**
comp=Z,19nm,1.3s
SCM Sheep Creek Mo 76.44 18 *e*P **P 05 56 19.5 -0.2**
comp=Z,8.6nm,1.0s
SCM Sheep Creek Mo 76.44 18 *e*P **P 05 56 19.5 -0.2**
SCM pmax pmax
comp=Z,9.0nm,1.0s
HARP HAARP 76.48 17 *e*P **P 05 56 20.8 +0.9**
comp=Z,15nm,0.6s
BALM Baldy 78.34 17 *e*P **P 05 56 30.5 +0.1**
comp=Z,12nm,1.4s
BALM Baldy 78.34 17 *e*P **P 05 56 30.5 +0.1**
BALM pmax pmax
comp=Z,12nm,1.4s
HYT Haines Junctio 79.58 15 *e*P **P 05 56 37.8 +0.5**
comp=Z,3.3nm,0.7s
WHY Whitehorse 80.25 14 *e*P **P 05 56 40.1 -0.8**
comp=Z,8.6nm,1.5s
WR1 Warramunga Arr 80.66 123 *e*P **P 05 56 44.3 +0.8**
comp=Z,198nm,1.1s
WRA Warramunga Arr 80.66 123 P **P 05 56 44.3 +0.8**
comp=Z,2.6nm,0.5s,baz=322,slow=4.7,SNR=57
YKA Yellowknife Ar 80.90 4 P **P 05 56 43.9 -0.2**
comp=Z,2.4nm,0.6s,baz=349,slow=5.5,SNR=12
YKA Yellowknife Ar 80.90 4 P **P 05 56 44.0 -0.2**
YKB5 Yellowknife Ar 80.90 4 *e*P **P 05 56 44.1 -0.1**
DLBC Dease Lake 83.20 12 P **P 05 56 57.0 +0.6**
comp=Z,3.0nm,0.9s,baz=288,slow=8.4,SNR=5.0
PLCA Paso Flores 151.55 251 *e*PKPbc **PKPbc 06 04 25.1 +0.9**

*IDC **09** 05:51:40.5±0.5,42.˚77S×124.˚80E,h0km,mb5.0/15, mb1 5.1/16,mb1mx4.9/30,mbtmp5.0/16,ML4.9/1,MS4.4/17, Ms1 4.4/17,ms1mx4.3/25,Error ellipse: s-maj=20.4km s-min=14.5km az=93.0*

*ISCJB **09** 05:51:40.8±0.2,42.˚76S±0.˚03×124.˚76E±0.˚04,h10km, mb5.1/81,MS4.5/20,Error ellipse: s-maj=4.7km s-min=4.2km az=34.7*

*BJI **09** 05:51:40.5,42.˚70S×124.˚70E,h5km,mb5.1/41,mB5.4/29, Ms5.0/18,Ms7 4.7/17*

*GCMT **09** 05:51:41.2±0.1,42.˚94S±0.˚01×124.˚75E±0.˚01,h17km, MW5.3/111,Moment Tensor Solution. s91,c137; s111,c171; Duration: 1ś1 Moment tensor: Scale 10^17 Nm; Mrr0.45±.02; Mθθ0.05±.02; Mϕϕ-0.49±.02; Mrθ-0.13±.05; Mθϕ-1.05±.02; Mϕr-0.62±.06; Best double couple: M◻1.25800×10^17 NP1:ϕ◻179.00000°,δ81.00000°, λ36.00000°. NP2:ϕ◻82.00000°,δ55.00000°,λ168.00000°. Principal axes: T 1.0350, Plg32.0000°, Azm46.0000°; N 0.4460, Plg53.0000°, Azm192.0000°; P -1.4810, Plg17.0000°, Azm306.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MOS **09** 05:51:41.0±1.0,42.˚70S×124.˚75E,h10km,mb5.2/39 Error ellipse: s-maj=13.3km s-min=7.9km az=79.7*

*NEIC **09** 05:51:42.2±0.1,42.˚73S×124.˚72E,h10km,mb5.3/56,Error ellipse: s-maj=4.5km s-min=3.9km az=67.0*

ISC 09 05:51:42.2±0.2,42.˚80S±0.˚05×124.˚74E±0.˚05,h10km,n732, σ1ś11/721,mb5.2/81,MS4.5/20,5C-3D,South of Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKGY	**Rocky Gully**	**10.18**	**321**	P	**Pn**	**05 54 04.0**	**-4.3**
	baz=9.9,SNR=160						
H01W1	**Cape Leeuwin H**	**11.41**	**310**	T	T	06 06 04.2	
	baz=133,slow=73,SNR=15						
H01W2	**Cape Leeuwin H**	**11.42**	**310**	T	T	06 06 15.6	
	baz=133,slow=73,SNR=17						
H01W3	**Cape Leeuwin H**	**11.43**	**310**	T	T	06 06 09.8	
	baz=133,slow=73,SNR=16						
NWAO	**Narrogin (SRO)**	**11.50**	**327**	Pn	**Pn**	**05 54 23.2**	**-3.2**
	52nm,0.3s,baz=11,slow=10.0,SNR=305						
NWAO				Sn	Sn	05 56 24.2	-11
	12nm,0.3s,baz=276,slow=6.5,SNR=4.1						
NWAO				LR	LR	05 58 30.4	
	comp=Z,1μm,18.4s,baz=356,slow=36						
FORT	**Forrest**	**12.29**	**14**	P	**Pn**	**05 54 36.3**	**-0.9**
	baz=12,SNR=41						
FORT	**Forrest**	**12.29**	**14**	*e*Pn	**Pn**	**05 54 35.8**	**-1.4**
KLBR	**Kellerberrin**	**12.49**	**331**	P	**Pn**	**05 54 36.2**	**-3.8**
	baz=12,SNR=109						
MUN	**Mundaring**	**12.75**	**325**	P	**Pn**	**05 54 38.9**	**-4.6**
	baz=12,SNR=28						
BBOO	**Buckleboo**	**13.38**	**46**	P	**Pn**	**05 54 51.1**	**-1.1**
	baz=13,SNR=50						
BBOO	**Buckleboo**	**13.38**	**46**	*e*Pn	**Pn**	**05 54 50.6**	**-1.7**
BLDU	**Ballidu**	**13.75**	**330**	P	Pn	05 54 52.4	-4.8
	baz=14,SNR=30						
ARPS	**Mount Arapiles**	**14.45**	**71**	P	**Pn**	**05 55 06.9**	**+0.1**
	baz=14,SNR=41						
HTT	**Hallett**	**14.55**	**55**	P	**Pn**	**05 55 06.5**	**-1.6**
	baz=14,SNR=94						
MORW	**Morawa**	**15.39**	**330**	P	**Pn**	**05 55 14.6**	**-4.9**
	baz=15,SNR=166						
MOO	**Moorlands**	**16.53**	**96**	P	**P**	**05 55 36.6**	**0.0**
	baz=17,SNR=22						
TAU	**Tasmania Unive**	**16.55**	**98**	*e*Pn	**P**	**05 55 36.8**	**-0.1**
	150nm,0.9s						
TAU	**Tasmania Unive**	**16.55**	**98**	*e*P	**P**	**05 55 36.8**	**-0.1**
TAU				pmax	pmax		
	comp=Z,150nm,0.9s						
TOO	**Toolangi**	**16.68**	**79**	P	**Pn**	**05 55 37.0**	**+1.0**
	baz=17,SNR=21						
TOO	**Toolangi**	**16.68**	**79**	P	**Pn**	**05 55 36.2**	**+0.1**
TOO				pmax	pmax		
	comp=Z,127nm,1.4s						
MEEK	**Meekatharra**	**16.88**	**341**	P	**Pn**	**05 55 33.6**	**-5.0**
	baz=17,SNR=158						
STKA	**Stephens Creek**	**17.25**	**56**	P	**Pn**	**05 55 40.7**	**-2.4**
	comp=Z,2.6nm,0.3s,baz=222,slow=11,SNR=50						
STKA				LR	LR	06 01 28.0	
	comp=Z,4μm,20.6s,baz=215,slow=34						
STKA	**Stephens Creek**	**17.25**	**56**	P	**Pn**	**05 55 41.2**	**-1.9**
	baz=17,SNR=77						
STKA	**Stephens Creek**	**17.25**	**56**	*e*Pn	**Pn**	**05 55 41.4**	**-1.8**
	comp=Z,72nm,1.4s						
STKA	**Stephens Creek**	**17.25**	**56**	*e*P	**Pn**	**05 55 41.3**	**-1.9**
WRKA	**Warakurna**	**17.96**	**11**	P	**Pn**	**05 55 49.6**	**-2.5**
	baz=18,SNR=90						
MILA	**Mila**	**19.55**	**81**	P	**Pn**	**05 56 11.8**	**+0.4**
	baz=20,SNR=7.3						
CMSA	**Cobar Meteorol**	**20.07**	**63**	P	**P**	**05 56 15.8**	**+0.1**
	baz=20,SNR=86						
CAN	**Canberra**	**20.22**	**76**	*e*P	**P**	**05 56 18.1**	**+0.7**
	comp=Z,701nm,2.0s						
CAN	**Canberra**	**20.22**	**76**	*e*P	**P**	**05 56 18.1**	**+0.7**
CAN				pmax	pmax		
	comp=Z,701nm,2.0s						
YNG	**Young**	**20.31**	**73**	P	**P**	**05 56 19.1**	**+0.8**
	baz=20,SNR=15						
CNB	**Canberra Magne**	**20.48**	**77**	P	**P**	**05 56 21.1**	**+0.9**
	baz=20,SNR=5.3						
ASAR	**Alice Springs**	**20.54**	**25**	P	**P**	**05 56 19.9**	**-1.0**
	comp=Z,36nm,0.5s,baz=206,slow=9.6,SNR=106						
ASAR				PcP	**PcP**	**06 00 31.6**	**-0.5**
	comp=Z,11nm,1.1s,baz=56,slow=1.0,SNR=7.8						
ASAR				LR	LR	06 04 08.5	
	comp=Z,3μm,18.9s,baz=204,slow=36						
AS31	**Alice Springs**	**20.54**	**25**	*e*P	**P**	**05 56 19.9**	**-0.9**
	comp=Z,34nm,1.0s						
AS01	**Alice Springs**	**20.55**	**25**	*e*P	**P**	**05 56 19.7**	**-1.4**
GIRL	**Giralia**	**21.92**	**333**	P	**P**	**05 56 35.6**	**-0.1**
	baz=22,SNR=8.9						
MBWA	**Marble Bar**	**21.98**	**347**	*e*P	**P**	**05 56 36.0**	**-0.4**
	comp=Z,257nm,1.4s						
QLP	**Quilpie**	**22.69**	**51**	P	**P**	**05 56 44.5**	**+0.6**
	baz=23,SNR=14						
MGCD	**Mangrove Creek**	**22.80**	**74**	P	**P**	**05 56 46.5**	**+1.4**
	baz=23,SNR=8.0						
WR1	**Warramunga Arr**	**24.18**	**23**	*e*P	**P**	**05 56 57.2**	**-1.6**
	comp=Z,198nm,1.1s						
WRA	**Warramunga Arr**	**24.18**	**23**	P	**P**	**05 56 57.2**	**-1.6**
	comp=Z,115nm,0.9s,baz=198,slow=9.9,SNR=169						
WRA				LR	LR	06 06 13.7	
	comp=Z,2μm,19.2s,baz=195,slow=36						
WB2	**Warramunga Arr**	**24.19**	**23**	*e*P	**P**	**05 56 56.8**	**-2.0**
	comp=Z,187nm,1.0s						
WRAB	**Tennant Creek**	**24.19**	**23**	*e*P	**P**	**05 56 57.4**	**-1.4**
	comp=Z,187nm,1.1s						
WRAB	**Tennant Creek**	**24.19**	**23**	*c i*P	**P**	**05 56 57.5**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,185nm,1.1s						
FITZ	**Fitzroy Crossi**	**24.64**	**2**	P	**P**	**05 57 02.7**	**-0.2**
	comp=Z,22nm,0.8s,baz=196,slow=9.4,SNR=34						
FITZ				LR	LR	06 06 47.9	
	comp=Z,1μm,19.4s,baz=186,slow=37						
FITZ	**Fitzroy Crossi**	**24.64**	**2**	P	**P**	**05 57 02.8**	**-0.2**
	baz=24,SNR=22						
FITZ	**Fitzroy Crossi**	**24.64**	**2**	*e*P	**P**	**05 57 02.8**	**-0.2**
	comp=Z,88nm,1.4s						
ARMA	**Armidale**	**24.76**	**69**	P	**P**	**05 57 04.8**	**+0.7**
	baz=25,SNR=40						
ARMA	**Armidale**	**24.76**	**69**	*e*P	**P**	**05 57 04.2**	**+0.1**
	comp=Z,126nm,0.8s						
CASY	**Casey**	**24.80**	**194**	*e*P	**P**	**05 57 04.7**	**+0.7**
	comp=Z,154nm,1.3s						
QIS	**Mount Isa**	**25.45**	**34**	P	**P**	**05 57 09.9**	**-0.4**
	baz=25,SNR=37						
RMQ	**Roma**	**25.47**	**58**	P	**P**	**05 57 10.7**	**+0.2**
	baz=26,SNR=58						
KNRA	**Kununurra**	**27.25**	**8**	P	**P**	**05 57 25.2**	**-1.3**
	baz=27,SNR=5.2						
EIDS	**Eidsvold**	**27.73**	**60**	P	**P**	**05 57 30.8**	**0.0**
	baz=28,SNR=11						
EIDS	**Eidsvold**	**27.73**	**60**	*e*P	**P**	**05 57 30.3**	**-0.5**
	comp=Z,204nm,1.5s						
CTA	**Charters Tower**	**28.99**	**45**	P	**P**	**05 57 41.4**	**-0.7**
	comp=Z,9.9nm,0.9s,baz=214,slow=11,SNR=8.1						
CTA				LR	LR	06 10 19.7	
	comp=Z,3μm,18.1s,baz=222,slow=39						
CTAO	**Charters Tower**	**28.99**	**45**	*e*P	**P**	**05 57 41.4**	**-0.7**
	comp=Z,45nm,1.4s						
CTAO	**Charters Tower**	**28.99**	**45**	*e*P	**P**	**05 57 41.4**	**-0.7**
CTAO				pmax	pmax		
	comp=Z,45nm,1.4s						
MTSU	**Mount Surprise**	**29.67**	**40**	P	**P**	**05 57 48.5**	**+0.3**
	baz=30,SNR=4.6						
MTN	**Manton Dam**	**30.36**	**12**	P	**P**	**05 57 53.8**	**-0.4**
	baz=30,SNR=5.5						
MTN	**Manton Dam**	**30.36**	**12**	*e*P	**P**	**05 57 53.6**	**-0.6**
	comp=Z,69nm,1.4s						
KDU	**Kakadu**	**30.74**	**15**	P	**P**	**05 57 56.7**	**-0.9**
	baz=31,SNR=13						
WHZ	**Wather Hill Ro**	**30.78**	**111**	*e*P	**P**	**05 57 59.3**	**+1.6**
	comp=Z,36nm,1.0s						
MLZ	**Mavora Lakes**	**30.99**	**110**	*e*P	**P**	**05 57 59.8**	**+0.2**
	comp=Z,154nm,2.0s						
WKZ	**Wanaka**	**31.72**	**109**	*e*P	**P**	**05 58 07.5**	**+1.4**
	comp=Z,50nm,1.1s						
BATI	**Baumata**	**32.48**	**358**	P	**P**	**05 58 14.6**	**+1.6**
FOZ	**Fox Glacier**	**32.58**	**107**	*e*P	**P**	**05 58 13.7**	**+0.1**
	comp=Z,37nm,1.0s						
ODZ	**Otahua Downs**	**32.80**	**110**	*e*P	**P**	**05 58 16.1**	**+0.5**
	comp=Z,20nm,1.0s						
COEN	**Coen**	**32.84**	**34**	P	**P**	**05 58 15.8**	**-0.3**
	baz=33,SNR=12						
COEN	**Coen**	**32.84**	**34**	*e*P	**P**	**05 58 15.4**	**-0.7**
	comp=Z,44nm,1.0s						
SOEI	**Soe**	**32.92**	**359**	*e*P	**P**	**05 58 17.1**	**+0.2**
	comp=Z,149nm,1.8s						
SOEI	**Soe**	**32.92**	**359**	P	**P**	**05 58 18.1**	**+1.2**
RPZ	**Rata Peaks**	**33.40**	**108**	P	**P**	**05 58 20.8**	**0.0**
	comp=Z,28nm,0.9s,baz=238,slow=2.9,SNR=6.9						

RPZ **Rata Peaks** 33.40 108 *e*P P 05 58 20.7 -0.2
comp=Z,33nm,1.0s
EDFI **Ende, Flores** 34.02 355 P P 05 58 26.5 0.0
MMRI **Maumere** 34.10 356 P P 05 58 27.5 +0.5
OXZ **Oxford** 34.20 107 *e*P P 05 58 29.4 +1.6
comp=Z,30nm,1.1s
LTZ **Lake Taylor** 34.51 107 *e*P P 05 58 30.8 +0.3
comp=Z,36nm,0.9s
MQZ **McQueen's Vall** 34.53 108 *e*P P 05 58 32.0 +1.5
comp=Z,65nm,1.0s
THZ **Tophouse** 35.27 105 *e*P P 05 58 35.9 -1.2
comp=Z,87nm,0.9s
BKSI **Bulukumba** 37.55 352 P P 05 58 57.2 +0.6
HIZ **Hauiti** 37.81 101 *e*P P 05 59 00.2 +1.5
comp=Z,252nm,1.8s
VNDA **Vanda** 37.96 168 P P 05 58 59.7 +0.1
comp=Z,12nm,0.7s,baz=316,slow=8.3,SNR=97
VNDA LR LR 06 12 16.4
comp=Z,460nm,18.9s,baz=320,slow=32
VNDA **Vanda** 37.96 168 *e*P P 05 58 59.6 +0.1
comp=Z,13nm,0.8s
BFZ **Birch Farm** 38.00 105 *e*P P 05 59 00.8 +0.5
comp=Z,34nm,0.8s
BNSI **Bone** 38.46 353 P P 05 59 05.7 +1.4
BKZ **Black Stump Fm** 38.74 103 *e*P P 05 59 06.1 -0.5
comp=Z,46nm,0.8s
LEM **Lembang** 38.89 332 P P 05 59 09.7 +1.6
LEM pmax pmax
comp=Z,22nm,1.0s
SPSI **Sidrap Palu** 38.92 352 P P 05 59 09.3 +1.1
SBA **Scott Base** 38.97 167 *e*P P 05 59 08.8 +0.9
comp=Z,8.5nm,0.8s
SBA **Scott Base** 38.97 167 *e*P P 05 59 08.9 +0.9
SBA pmax pmax
comp=Z,8.0nm,0.8s
AAI **Ambon** 39.07 5 P P 05 59 09.7 +0.3
AAI pmax pmax
comp=Z,30nm,0.4s
AAI **Ambon** 39.07 5 P P 05 59 09.6 +0.2
NLAI **Namlea** 39.45 4 P P 05 59 13.0 +0.4
URZ **Urewera** 39.54 102 P P 05 59 12.9 -0.3
comp=Z,38nm,0.8s,baz=224,slow=3.2,SNR=13
URZ **Urewera** 39.54 102 *e*P P 05 59 13.0 -0.2
comp=Z,41nm,0.9s
KBKI **Kotabaru** 40.07 347 P P 05 59 19.5 +1.8
FAKI **Fak Fak** 40.27 12 *e*P P 05 59 19.8 +0.3
comp=Z,38nm,1.0s
FAKI **Fak Fak** 40.27 12 P P 05 59 19.8 +0.3
DZM **Mont Dzumac** 40.30 73 *e*S S 06 05 28.8 +1.3
comp=Z,455nm,30.0s
DZM *e*LR LR 06 10 21.9
comp=Z,2µm,23.9s
DZM **Mont Dzumac** 40.30 73 *e*P P 05 59 20.7 +0.9
comp=Z,43nm,1.4s
SANI **Sanana** 40.59 2 P P 05 59 21.4 -0.6
MAW **Mawson** 40.69 211 PcP PcP 06 01 24.7 +1.0
comp=Z,6.3nm,0.9s,baz=64,slow=2.2,SNR=4.1
MAW LR LR 06 13 22.7
comp=Z,697nm,18.2s,baz=68,slow=32
MAW **Mawson** 40.69 211 P P 05 59 22.6 +0.2
baz=41,SNR=17
MAW **Mawson** 40.69 211 *e*P P 05 59 22.3 0.0
comp=Z,3.3nm,0.4s
MAW PcP PcP 06 01 24.7 +1.0
MAW **Mawson** 40.69 211 *e*P P 05 59 22.3 0.0
MAW 06 01 24.7
MAW pmax pmax
comp=Z,3.0nm,0.4s
BLSI **Bandar Lampung** 41.09 330 P P 05 59 27.3 +1.1
APSI **Ampana** 41.80 355 P P 05 59 31.9 -0.1
RKPI **Ransiki, Papua** 41.97 14 P P 05 59 33.1 -0.3
SRPI **Serui, Papua** 42.03 17 P P 05 59 33.7 -0.2
LBMI **Labuha** 42.05 4 P P 05 59 34.9 +0.9
MDSI **Maura Dua** 42.30 329 P P 05 59 37.0 +0.9
GENI **Genyem** 42.34 23 P P 05 59 36.4 0.0
JAY **Jayapura** 42.57 24 P P 05 59 38.2 -0.2
JAY pmax pmax
comp=Z,29nm,1.4s
JAY **Jayapura** 42.57 24 P P 05 59 38.0 -0.4
SMKI **Samarinda** 42.70 349 P P 05 59 42.2 +2.8
MRSI **Marisa** 43.16 356 P P 05 59 43.1 +0.1
MPSI **Mapaga** 43.16 353 P P 05 59 43.6 +0.5
KMSI **Cibinong** 43.18 359 P P 05 59 44.4 +1.1
PPBI **Pangkal Pinang** 43.74 333 P P 05 59 48.0 +0.2
STKI **Sintang** 44.31 341 P P 05 59 54.3 +2.0
MANU **Manus Island** 45.34 33 *e*P P 06 00 01.0 +0.4
comp=Z,169nm,1.1s
RABL **Rabaul** 45.52 40 *e*P P 06 00 01.4 -0.7
comp=Z,48nm,0.8s
KSM **Kuching** 45.95 340 *e*P P 06 00 05.9 +0.5
comp=Z,15nm,1.1s
SDSI **Sungai Dareh** 46.62 327 P P 06 00 10.7 0.0
PDSI **Padang** 47.04 326 P P 06 00 14.4 +0.4
QSPA **South Pole Qui** 47.32 180 P P 06 00 15.9 0.0
comp=Z,10nm,0.6s,baz=329,slow=1.3,SNR=42
QSPA **South Pole Qui** 47.32 180 *e*P P 06 00 15.7 -0.1
comp=Z,27nm,1.1s
BKNI **Bangkinang** 47.93 327 P P 06 00 21.1 +0.3
MNSI **Mandailing Nat** 48.95 326 P P 06 00 29.0 +0.3
SYO **Syowa Base** 49.16 208 ⇑ *i*P P 06 00 29.0 -0.7
SYO **Syowa Base** 49.16 208 ⇓ *e*X P 06 00 30.6 +0.9
SYO **Syowa Base** 49.16 208 ⇑ *e*PcP PcP 06 01 52.0 -0.8
GSI **Gunungsitoli** 50.26 324 P P 06 00 40.4 +1.7
PSI **Prapat** 51.03 326 *e*P P 06 00 43.4 -1.3
comp=Z,18nm,1.2s
PSI **Prapat** 51.03 326 *e*P P 06 00 43.4 -1.3
PSI pmax pmax
comp=Z,18nm,1.2s
KCSI **Kotacane, Aceh** 52.16 325 P P 06 00 52.6 -0.4
KULM **Kulim** 52.62 329 P P 06 00 57.0 +0.6
MLSI **Meulaboh, Aceh** 53.41 324 P P 06 01 02.2 -0.1
NVL **N'lazarevskaya** 57.06 201 *e*P P 06 01 29.7 +1.8
NVL *e*S S 06 09 19.7 -2.4
NVL pmax pmax
comp=Z,26nm,1.0s
H08S2 **Diego Garcia H** 57.58 292 T T 07 03 40.0
baz=136,slow=75,SNR=9.8
H08S1 **Diego Carcia H** 57.59 292 T T 07 03 45.5
baz=136,slow=75,SNR=6.1
H08S3 **Diego Garcia H** 57.60 292 T T 07 03 42.9
baz=136,slow=75,SNR=9.4
DGAR **Diego Garcia** 57.77 292 *i*P P 06 01 33.1 -0.6
SNAA **Sanae** 59.99 197 P P 06 01 48.3 -0.1
SNAA **Sanae** 59.99 197 *e*P P 06 01 47.9 -0.5
comp=Z,37nm,1.2s
SNAA **Sanae** 59.99 197 *c i*P P 06 01 48.3 -0.1
VNA2 **Neumayer--Watz** 61.51 196 P P 06 01 58.7 0.0
baz=137,slow=6.0
VNA3 **Neumayer Olymp** 61.71 195 P P 06 01 59.7 -0.4
VNA1 **Neumayer--Stat** 61.90 196 P P 06 02 01.5 +0.2
PBKT **Sadao Pong** 62.99 334 *e*P P 06 02 09.8 +0.6
comp=Z,8.2nm,0.9s
CM01 **Chiang Mai Arr** 65.38 333 *e*P P 06 02 25.7 +0.8
CM31 **Chiang Mai Arr** 65.42 333 *e*P P 06 02 26.0 +0.9
CMAR **Chiang Mai Arr** 65.42 333 P P 06 02 26.0 +0.9
comp=Z,4.9nm,0.5s,baz=175,slow=5.5,SNR=34
CMAR LR LR 06 31 32.1
comp=Z,210nm,19.4s,baz=168,slow=37
CMAR **Chiang Mai Arr** 65.42 333 P P 06 02 26.0 +0.9
CMAR pmax pmax
comp=Z,7.0nm,0.7s
CMAR MLR MLR
comp=Z,211nm,19.5s
CHTO **Chiang Mai** 65.75 333 *e*P P 06 02 27.8 +0.5
comp=Z,9.4nm,1.0s
CHTO **Chiang Mai** 65.75 333 *e*P P 06 02 27.8 +0.5
CHTO pmax pmax
comp=Z,9.0nm,1.0s
SSLB **Suanglung** 66.35 356 *e*P P 06 02 31.0 0.0
comp=Z,78nm,1.7s
KMI **Kunming** 70.56 339 P P 06 03 00.4 +2.8
KMI pP sP 06 03 04.5 +2.4
KMI S S 06 12 16.4 +5.1
KMI pmax pmax
comp=Z,26nm,1.0s
KMI pmax pmax
comp=Z,88nm,4.7s
KMI LR LR
comp=Z,230nm,25.1s
KMI LR LR
comp=Z,340nm,18.5s
KMI LR LR
comp=Z,300nm,20.7s
GYA **Guiyang** 70.90 343 P P 06 03 03.2 +3.7
GYA PP PP 06 05 43.6 +6.6
GYA S S 06 12 19.8 +4.9
GYA SKS SKKSac 06 13 01.9 -0.1
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,6.0s
JCJ **Chichijima** 71.38 16 LR LR 06 35 48.3
comp=Z,86nm,18.0s,baz=175,slow=37
TBI **Tubuai** 71.56 105 *e*S S 06 12 21.1 -1.7
comp=Z,349nm,29.0s
TBI **Tubuai** 71.56 105 *e*LR LR 06 24 48.9
comp=Z,226nm,23.5s
HYB **Hyderabad** 73.44 314 *i*P P 06 03 15.0 +0.2
WHN **Wuhan** 73.61 351 ⇓ P P 06 03 16.3 +0.9
ENH **Enshi** 74.05 346 *e*P P 06 03 18.3 +0.1
comp=Z,20nm,1.1s
SHL **Shillong** 74.46 329 *e*P P 06 03 20.8 0.0
comp=Z,25nm,0.8s
SHL **Shillong** 74.46 329 *e*P P 06 03 20.8 0.0
SHL pmax pmax
comp=Z,25nm,0.8s
SHL **Shillong** 74.46 329 *e*P P 06 03 21.0 +0.2
NJ2 **Nanjing** 74.68 355 *e*P P 06 03 22.5 +0.8
NJ2 pmax pmax
comp=Z,17nm,0.7s
PPT2 **Papeete2** 75.16 100 *e*S S 06 13 04.1 +0.2
comp=Z,677nm,28.2s
PPT2 **Papeete2** 75.16 100 *e*LR LR 06 26 31.2
comp=Z,765nm,28.5s,baz=228
PPT **Papeete** 75.17 100 LR LR 06 28 36.2
comp=Z,208nm,22.0s,baz=231,slow=30
JNU **Nakatsue** 75.76 5 LR LR 06 37 34.2
comp=Z,138nm,20.1s,baz=109,slow=36
CD2 **Chengdu** 75.84 341 *e*P P 06 03 30.5 +2.0
CD2 S S 06 13 11.6 +1.0
CD2 SS SS 06 18 08.9 +5.4
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,520nm,16.4s
CD2 LR LR
comp=Z,340nm,16.9s
JHJ **Hachijo jima 2** 76.80 13 LR LR 06 35 37.1
comp=Z,308nm,21.8s,baz=116,slow=34
POO **Poona** 76.90 311 *e*P P 06 03 33.0 -1.7
BOSA **Boshof** 77.53 243 P P 06 03 38.1 -0.4
comp=Z,12nm,0.9s,baz=126,slow=6.9,SNR=10
BOSA **Boshof** 77.53 243 *e*P P 06 03 38.1 -0.4
comp=Z,17nm,1.0s
RAMN **Ramite** 77.79 326 *e*P P 06 03 39.3 -0.5
SUR **Sutherland** 77.82 237 *e*P P 06 03 41.0 +0.8
comp=Z,90nm,1.6s
XAN **Xi'an** 77.83 347 P P 06 03 40.2 +0.6
XAN pmax pmax
comp=Z,23nm,1.1s
LSA **Lhasa** 78.48 331 *e*P P 06 03 44.4 +0.5
comp=Z,25nm,1.0s
LSA **Lhasa** 78.48 331 *e*P P 06 03 44.4 +0.5
LSA pmax pmax
comp=Z,25nm,1.0s
JIRN **Jiri** 78.58 326 *e*P P 06 03 43.9 -0.4
comp=Z,58nm,1.1s
PKI **Pulchoki** 78.83 325 *e*P P 06 03 44.8 -0.9
comp=Z,42nm,1.0s
PKIN **Phulchoki** 78.84 325 *e*P P 06 03 44.8 -0.9
comp=Z,22nm,0.8s
GUN **Gumba** 78.93 326 *e*P P 06 03 45.8 -0.4
comp=Z,76nm,1.1s
TIA **Tai'an** 78.94 354 P P 06 03 46.1 +0.4
TIA pmax pmax
comp=Z,10.0nm,0.9s
DMN **Daman** 78.99 325 *e*P P 06 03 45.9 -0.6
comp=Z,27nm,0.8s
KKN **Kakani** 79.08 325 *e*P P 06 03 46.3 -0.6
LBTB **Lobatse** 79.71 246 *e*P P 06 03 50.1 -0.4
comp=Z,14nm,1.2s
LBTB **Lobatse** 79.71 246 *e*P P 06 03 50.1 -0.4
LBTB pmax pmax
comp=Z,14nm,1.2s
KOLN **Koldanda** 79.78 324 *e*P P 06 03 49.6 -1.1
comp=Z,37nm,1.1s
KS15 **Wonju Array Si** 79.92 3 *e*P P 06 03 51.7 +0.8
KSAR **Wonju Array Be** 79.92 3 P P 06 03 51.2 +0.3
KSAR **Wonju Array Be** 79.92 3 P P 06 03 51.2 +0.3
MAJO **Matsushiro** 79.92 11 *e*P P 06 03 50.4 -0.6
MAJO **Matsushiro** 79.92 11 *i*P P 06 03 50.0 -1.0
MAJO pmax pmax
comp=Z,29nm,1.2s
MJAR **Matsushiro Arr** 79.92 11 P P 06 03 50.4 -0.6
comp=Z,8.1nm,1.0s,baz=193,slow=7.4,SNR=12
MJAR LR LR 06 39 15.3
comp=Z,116nm,19.1s,baz=110,slow=36
KSRS **Korea Array** 79.93 3 P P 06 03 51.2 +0.2
comp=Z,13nm,0.9s,baz=175,slow=6.0,SNR=32
KS01 **Wonju Array Si** 79.95 3 *e*P P 06 03 51.3 +0.2
DANN **Dangsing** 80.22 324 *e*P P 06 03 52.0 -1.1
comp=Z,40nm,0.9s
PYUN **Piuthan** 80.33 323 *e*P P 06 03 52.5 -1.2
comp=Z,46nm,1.1s
LZH **Lanzhou** 80.80 343 *e*P P 06 03 57.8 +1.9
LZH pP sP 06 04 01.3 +0.9
LZH sP PcP 06 04 03.7 +1.2
LZH *e*S S 06 14 07.1 +3.2
LZH sS SKKSac 06 14 19.3 +2.7
LZH pmax pmax
comp=Z,90nm,1.1s
LZH pmax pmax
comp=Z,270nm,5.4s
LZH LR LR
comp=Z,1µm,19.0s
LZH LR LR
comp=Z,2µm,20.1s
RKT **Rikitea** 81.76 114 *e*S S 06 14 13.0 -1.5
comp=Z,540nm,36.0s
RKT **Rikitea** 81.76 114 *e*LQ LQ 06 26 06.0
comp=Z,533nm,36.2s
RKT *e*LR LR 06 29 34.2
comp=Z,620nm,25.5s,baz=229
BJT **Baijiatuau** 82.80 353 *e*P P 06 04 06.9 +0.8
comp=Z,38nm,1.3s
BJT **Baijiatuau** 82.80 353 *e*P P 06 04 06.9 +0.8
BJT pmax pmax
comp=Z,38nm,1.3s
BJI **Beijing** 82.82 353 ⇓ *e*P P 06 04 07.0 +0.8
BJI pP PcP 06 04 11.1 +0.1
BJI S S 06 14 26.1 +1.9
BTO **Baotou** 84.08 349 *e*P P 06 04 11.2 -1.7
HHC **Hu-ho-hao-te** 84.11 350 *e*P P 06 04 15.1 +2.1
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,150nm,5.2s
LSZ **Lusaka** 84.48 254 *e*P P 06 04 15.3 -0.4
comp=Z,27nm,1.0s
LSZ **Lusaka** 84.48 254 *e*P P 06 04 15.3 -0.4
LSZ pmax pmax
comp=Z,27nm,1.0s
GTA **Gaotai** 84.89 341 ⇑ P P 06 04 17.7 +0.6
GTA pP sP 06 04 21.6 0.0
GTA sP pP 06 04 24.4 +4.0
GTA SKS SKSac 06 14 38.0 -3.2
GTA S S 06 14 47.1 +1.7
GTA sS ScS 06 14 56.3 0.0
GTA pmax pmax
comp=Z,11nm,1.3s
GTA pmax pmax
comp=Z,150nm,7.3s
GTA LR LR
comp=Z,230nm,18.7s
GTA LR LR
comp=Z,190nm,17.5s
GTA LR LR
comp=Z,310nm,19.7s
CN2 **Changchun** 86.22 1 *e*P P 06 04 22.8 -0.6
CN2 pmax pmax
comp=Z,20nm,1.1s
USRK **Ussuriysk Ar.** 86.86 5 P P 06 04 26.4 0.0
comp=Z,6.5nm,0.9s,baz=176,slow=4.6,SNR=7.6
WIN **Windhoek** 87.01 242 P P 06 04 30.3 +2.0
WIN pmax pmax
comp=Z,35nm,1.1s
TAOE **Nuku Hiva Isla** 87.78 100 *e*S S 06 15 11.2 -3.6
comp=Z,137nm,26.3s
TAOE *e*SS SS 06 21 03.4 +2.2
comp=Z,245nm,27.1s
TAOE **Nuku Hiva Isla** 87.78 100 *e*LR LR 06 32 21.1
comp=Z,452nm,29.2s
TSUM **Tsumeb** 89.07 245 *e*P P 06 04 39.5 +1.4
comp=Z,9.9nm,1.1s
YSS **Yuzh-Sakhalins** 90.79 12 *e*P P 06 04 44.8 -0.2
SONA0 **Songino Array** 91.69 348 *e*P P 06 04 49.5 +0.2
SONM **Songino Array** 91.69 348 P P 06 04 49.5 +0.2
comp=Z,7.6nm,1.0s,baz=167,slow=3.0,SNR=21
SONA1 **Songino Array** 91.71 348 *e*P P 06 04 49.4 0.0
HIA **Hailar** 91.79 357 *e*P P 06 04 51.0 +1.4
comp=Z,9.7nm,0.5s
HIA **Hailar** 91.79 357 *i*P P 06 04 49.8 +0.2
HIA pmax pmax
comp=Z,24nm,1.9s
KLR **Kul'dur** 91.85 5 *i*P P 06 04 49.4 -0.5
KBL **Kabul** 92.27 317 *e*P P 06 04 52.8 +0.3
comp=Z,6.2nm,0.6s
KBL **Kabul** 92.27 317 *e*P P 06 04 52.8 +0.3
KBL pmax pmax
comp=Z,6.0nm,0.6s
WMQ **Urumqi** 92.40 334 P P 06 04 53.4 +0.7
WMQ pP sP 06 04 59.7 +2.5
WMQ S S 06 15 49.0 -7.0
WMQ SS SS 06 22 07.6 -0.4
WMQ pmax pmax
comp=Z,22nm,1.1s
WMQ LR LR
comp=Z,500nm,24.7s
WMQ LR LR
comp=Z,430nm,29.3s
WMQ LR LR
comp=Z,480nm,27.7s
KSH **Kashi** 93.08 324 *e*P P 06 04 58.1 +2.1
RPN **Rapa Nui** 94.47 134 LR LR 06 38 13.3
comp=Z,110nm,18.1s,baz=248,slow=30
TYV **Tymovskoe** 94.58 11 *e*P P 06 05 02.1 -0.3
TYV pmax pmax
comp=Z,13nm,0.9s
TYV pmax pmax
comp=Z,600nm,4.0s
ZAK **Zakamensk** 94.68 346 *e*P P 06 05 02.4 -0.6
ZAK pmax pmax
comp=Z,6.0nm,1.3s
PDGK **Podgornoye** 94.86 329 P P 06 05 04.6 +0.5
PDGK pmax pmax
comp=Z,5.0nm,1.4s
AAK **Ala-Archa** 96.29 325 *i*P P 06 05 09.1 -1.6
AAK pmax pmax
comp=Z,2.0nm,1.0s
MK32 **Makanchi Array** 96.82 332 *e*P P 06 05 11.9 -0.9
MKAR **Makanchi Array** 96.82 332 P P 06 05 11.9 -0.9
comp=Z,4.6nm,1.1s,baz=126,slow=7.6,SNR=6.5
MKAR LR LR 06 50 24.6
comp=Z,61nm,20.5s,baz=155,slow=36
DGZ **Jazzator, Alta** 97.74 337 *i*P P 06 05 16.4 -0.7
DGZ pmax pmax
comp=Z,1.0nm,0.8s
RAYN **Ar Rayn** 98.19 294 *e*P P 06 05 19.0 -0.6
comp=Z,3.0nm,0.9s
RAYN **Ar Rayn** 98.19 294 *e*P P 06 05 19.0 -0.6
RAYN pmax pmax
comp=Z,3.0nm,0.9s
PETK **Petropavlovsk-** 99.66 19 LR LR 06 47 22.2
comp=Z,103nm,21.6s,baz=198,slow=34
BR101 **Keskin Array S** 116.22 301 *e*PKPdf **PKPdf** 06 10 25.5 -0.1
BRTR **Keskin Array B** 116.22 301 PKP **PKPdf** 06 10 25.5 -0.1
comp=Z,0.6nm,0.7s,baz=129,slow=5.1,SNR=4.1
H10S2 **ASCENSION HYDR** 116.57 226 T T 08 18 36.5
baz=147,slow=75,SNR=9.8
H10S3 **ASCENSION HYDR** 116.58 226 T T 08 18 36.8
baz=147,slow=75,SNR=10
H10S1 **ASCENSION HYDR** 116.58 226 T T 08 18 35.5
baz=147,slow=75,SNR=9.9
OHAK **Old Harbor** 120.81 39 *e*PKPdf **PKPdf** 06 10 33.6 0.0
SVW2 **Sparrevohn** 121.85 34 *e*PKPdf **PKPdf** 06 10 36.3 +0.8
TOA0 **Torodi Ar. Sit** 122.95 257 *e*PKPdf **PKPdf** 06 10 37.5 -1.6
TORD **Torodi Ar. Bea** 122.95 257 PKP **PKPdf** 06 10 38.0 -1.0
comp=Z,2.7nm,0.6s,baz=45,slow=1.1,SNR=18
TOA1 **Torodi Ar. Sit** 122.96 257 *e*PKPdf **PKPdf** 06 10 38.0 -1.0
DBIC **Dimbokro** 122.96 246 PKP **PKPdf** 06 10 38.8 -0.3
comp=Z,2.3nm,0.5s,baz=104,slow=3.7,SNR=4.2
DBIC **Dimbokro** 122.96 246 *e*PKPdf **PKPdf** 06 10 38.7 -0.5
SUA **Susitna One** 124.06 35 *e*PKPdf **PKPdf** 06 10 40.1 +0.2
PPLA **Purkeypile** 124.14 33 *e*PKPdf **PKPdf** 06 10 39.7 -0.3
RC01 **Rabbit Creek A** 124.32 36 *e*PKPdf **PKPdf** 06 10 40.4 +0.2
CAST **Castle Rocks** 124.42 33 *e*PKPdf **PKPdf** 06 10 39.8 -0.6
AKASG **Malin Array Be** 124.57 310 PKhKP PKPpre 06 10 37.1
comp=Z,1.3nm,0.5s,baz=106,slow=1.5,SNR=4.7
AKBB **Malin Array Si** 124.57 310 *e*PKPpre PKPpre 06 10 37.1
KIEV **Kiev** 124.58 310 *e*PKPdf **PKPdf** 06 10 40.9 -0.2
KIEV **Kiev** 124.58 310 *e*PKIKP **PKPdf** 06 10 40.9 -0.2
GHO **Glory Hole Cre** 124.97 35 *e*PKPdf **PKPdf** 06 10 42.1 +0.6
IM3 **Indian Mountai** 124.97 30 *e*PKPdf **PKPdf** 06 10 41.0 -0.3
TRF **Thorofare Moun** 125.16 33 *e*PKPdf **PKPdf** 06 10 41.5 -0.5
BPAW **Bear Paw Mtn.** 125.17 32 *e*PKPdf **PKPdf** 06 10 41.5 -0.3
BUR04 **Bucovina Ar. S** 125.52 305 *e*PKPdf **PKPdf** 06 10 43.9 +0.7
MLY **Manley** 125.67 31 *e*PKPdf **PKPdf** 06 10 42.7 -0.1
RND **Reindeer** 125.72 34 *e*PKPdf **PKPdf** 06 10 42.4 -0.6
RND **Reindeer** 125.72 34 *e*PKIKP **PKPdf** 06 10 42.4 -0.6
MCK **McKinley** 125.82 33 *e*PKPdf **PKPdf** 06 10 42.8 -0.3
MCK **McKinley** 125.82 33 *e*PKIKP **PKPdf** 06 10 42.8 -0.3
WRH **Wood River Hil** 126.47 33 *e*PKPdf **PKPdf** 06 10 43.5 -0.8
BMRM **Bremner River** 126.52 37 *e*PKPdf **PKPdf** 06 10 45.0 +0.4
CCB **Clear Creek Bu** 126.65 32 *e*PKPdf **PKPdf** 06 10 43.4 -1.2
HDA **Harding Lake** 126.90 33 P **PKPdf** 06 10 44.1 -1.0
baz=247
POKR **Poker Plat Res** 126.98 32 P **PKPdf** 06 10 44.7 -0.6
baz=247
IL1 **Eielson Array** 127.06 32 *e*PKPdf **PKPdf** 06 10 43.9 -1.5
ILAR **Eielson Array** 127.06 32 PKP **PKPdf** 06 10 44.0 -1.3
comp=Z,2.0nm,0.6s,baz=290,slow=4.1,SNR=21
ILB **Eielson Array** 127.06 32 *e*PKPdf **PKPdf** 06 10 44.1 -1.3
TOLK **Toolik Lake Re** 127.56 27 P **PKPdf** 06 10 46.4 +0.1
baz=248
SAML **Samuel** 128.00 170 *e*PKPdf **PKPdf** 06 10 48.5 -0.3
SAML **Samuel** 128.00 170 *e*PKIKP **PKPdf** 06 10 48.5 -0.3
FYU **Fort Yukon** 128.36 31 *e*PKPdf **PKPdf** 06 10 48.8 +1.0
VYHS **Vyhne** 129.76 304 *e*PKIKP **PKPdf** 06 10 55.9 +4.8
VYHS **Vyhne** 129.76 304 *e*PKP **PKPdf** 06 10 55.9 +4.8
DAWY **Dawson** 129.88 35 *e*PKPdf **PKPdf** 06 10 51.2 +0.3
SMMC **Simmler** 130.28 76 P **PKPdf** 06 10 52.4 -0.1
baz=241
FIA0 **FINESS Array S** 130.31 321 *e*PKPdf **PKPdf** 06 10 52.7 +1.1
FIA0 **FINESS Array S** 130.31 321 *e*PKIKP **PKPdf** 06 10 52.7 +1.1
FIA1 **FINESS Array S** 130.31 321 *e*PKPdf **PKPdf** 06 10 52.9 +1.3
FINES **FINESS Array B** 130.31 321 PKP **PKPdf** 06 10 52.7 +1.1
comp=Z,1.7nm,0.6s,baz=90,slow=3.8,SNR=4.8
CIS **Catalina Islan** 130.46 79 P **PKPdf** 06 10 52.8 -0.2
baz=240
WHY **Whitehorse** 130.88 40 *e*PKPdf **PKPdf** 06 10 53.8 +0.9
N02D **Trinity Center** 130.99 68 P **PKPdf** 06 10 54.1 +0.4
baz=244
VES **Vestal, Richgr** 131.18 76 P **PKPdf** 06 10 53.7 -0.5
baz=241
AFDM **Forest Hills D** 131.29 71 *e*PKPdf **PKPdf** 06 10 55.5 +1.2
O03E **Paynes Creek** 131.31 69 P **PKPdf** 06 10 54.2 -0.2
baz=244
EDW2 **Edwards Air Fo** 131.50 77 P **PKPdf** 06 10 55.2 +0.3
baz=241
HUMO **Hull Mountain** 131.52 66 *e*PKPdf **PKPdf** 06 10 54.9 +0.3
ISA **Isabella, Lake** 131.53 76 P **PKPdf** 06 10 55.6 +0.7
baz=241
EPYK **Eagle Plains** 131.57 32 P **PKPdf** 06 10 55.3 +1.3
baz=257
MONP2 **Monument Peak** 131.65 81 P **PKPdf** 06 10 55.9 +0.4
baz=240
L04D **Klamath Falls** 131.79 67 P **PKPdf** 06 10 56.7 +1.4
baz=245
PNTR **Pine Nut** 132.31 72 *e*PKPdf **PKPdf** 06 10 58.6 +2.1
J04D **Umpqua Nationa** 132.34 65 P **PKPdf** 06 10 58.0 +1.6
baz=246
DAC **Darwin (Calif)** 132.45 76 *e*PKPdf **PKPdf** 06 10 57.7 +0.9
GSC **Goldstone, Bar** 132.56 77 *e*PKPdf **PKPdf** 06 10 57.5 +0.6
GSC **Goldstone, Bar** 132.56 77 *e*PKIKP **PKPdf** 06 10 57.5 +0.6
GSC **Goldstone, Bar** 132.56 77 P **PKPdf** 06 10 58.5 +1.6
baz=241
HEC **Hector,Ludlow** 132.67 78 P **PKPdf** 06 10 58.5 +1.4
baz=241
OTAV **Otavalo** 132.79 148 *e*PKPdf **PKPdf** 06 10 59.5 +1.0
NVAR **Mina Array Bea** 132.93 73 PKP **PKPdf** 06 10 59.0 +1.3
comp=Z,2.0nm,0.8s,baz=229,slow=5.2,SNR=6.0
J05D **Fort Rock, OR** 132.95 66 P **PKPdf** 06 10 59.2 +1.7
baz=247
MOD **Modoc Plateau** 133.02 68 *e*PKPdf **PKPdf** 06 10 58.1 +0.4

GMRC Granite Mounta 133.13 79 P PKPdf 06 10 59.9 +1.8
baz=241
INK Inuvik 133.17 30 ePKPdf PKPdf 06 10 57.6 +0.7
INK Inuvik 133.17 30 ePKIKP PKPdf 06 10 57.6 +0.7
I05D Terrebonne, OR 133.29 64 P PKPdf 06 10 59.8 +1.9
baz=248
PINE Pine Mountain 133.34 65 ePKPdf PKPdf 06 10 59.1 +0.8
KVN Kaiserville 133.34 72 ePKPdf PKPdf 06 10 59.0 +0.6
KVN Kaiserville 133.34 72 ePKIKP PKPdf 06 10 59.0 +0.6
214A Organ Pipe Nat 133.81 84 P PKPdf 06 11 00.3 +1.0
baz=239
CLL Collm 134.27 305 ePKPdf PKPbc 06 11 02.0 +2.5
CLL ePKiKP sPKPdf 06 11 04.0 -0.1
comp=Z,10.0nm,1.4s
CLL Collm 134.27 305 ePKIKP PKPdf 06 11 02.0 +2.5
CLL e 06 11 04.0
SHPR Sheep Range 134.30 77 ePKPdf PKPdf 06 11 02.6 +2.3
G08A Pilot Rock 135.21 64 ePKPdf PKPdf 06 11 01.7 +0.1
HAWA Hanford 135.22 62 ePKPdf PKPdf 06 11 02.1 +0.7
TUC Tucson 135.47 85 P PKPdf 06 11 04.0 +1.6
baz=240
X16A Lo Mia Camp, P 136.02 82 ePKPdf PKPdf 06 11 03.6 +0.1
CCUT Cedar City 136.05 76 ePKPdf PKPdf 06 11 04.7 +1.1
E09A Wood Farm, Sta 136.16 63 ePKPdf PKPdf 06 11 03.6 +0.4
U15A North Rim 136.32 78 ePKPdf PKPdf 06 11 05.7 +1.5
WUAZ Wupatki 136.58 80 P PKPdf 06 11 06.1 +1.6
baz=243
MTPU Mount Pierson 137.10 76 ePKPdf PKPdf 06 11 07.9 +2.2
DUG Dugway, Tooele 137.53 73 P PKPdf 06 11 07.3 +1.2
baz=247
HLID Hailey 137.66 68 P PKPdf 06 11 07.6 +1.3
baz=250
121A Cookes Peak, D 137.78 86 P PKPdf 06 11 07.2 +0.3
baz=240
MPU Maple Canyon 138.30 74 ePKPdf PKPdf 06 11 08.6 +1.0
P17A Butcher Ranch, 138.72 75 ePKPdf PKPdf 06 11 08.4 +0.1
MSO Missoula 139.01 63 P PKPdf 06 11 08.8 +0.2
baz=254
MNTX Cornudas Mount 139.13 89 ePKPdf PKPdf 06 11 09.5 +0.3
MNTX Cornudas Mount 139.13 89 P PKPdf 06 11 09.4 +0.3
baz=240
LTX Lajitas 139.16 93 ePKPdf PKPdf 06 11 08.2 -1.2
LTX eSKPbc SKPbc 06 14 44.0 -0.5
TX31 Lajitas Ar. Si 139.16 93 ePKPpre PKPpre 06 11 02.1
TX31 ePKPdf PKPdf 06 11 09.8 +0.4
TXAR Lajitas Array 139.16 93 PKP PKPdf 06 11 08.2 -1.2
comp=Z,6.4nm,1.1s,baz=207,slow=2.5,SNR=17
TXAR SKP 06 14 44.0
comp=Z,1.0nm,1.0s,baz=157,slow=6.8,SNR=4.0
MVCO Mesa Verde 139.41 79 P PKPdf 06 11 10.3 +0.5
baz=245
DLMT Dillon 139.48 66 ePKPpre PKPpre 06 11 01.9
ANMO Albuquerque 139.90 84 P PKPdf 06 11 10.7 +0.1
baz=243
BOZ Bozeman (W) 140.20 66 P PKPdf 06 11 11.4 +0.6
baz=253
LOHW Long Hollow 140.29 69 ePKPpre PKPpre 06 11 03.9
YMR Madison River 140.37 68 ePKPdf PKPdf 06 11 12.8 +1.5
YHH Holmes Hill 140.49 67 ePKPdf PKPdf 06 11 12.7 +1.2
YKA Yellowknife Ar 140.70 39 PKhKP PKPpre 06 11 03.4
comp=Z,1.9nm,0.7s,baz=280,slow=3.3,SNR=11
YKB5 Yellowknife Ar 140.70 39 ePKPpre PKPpre 06 11 05.0
YKB5 ePKPdf PKPdf 06 11 11.0 +0.1
PDAR Pinedale Array 140.74 71 PKhKP PKPpre 06 11 04.3
comp=Z,0.4nm,0.7s,baz=270,slow=0.4,SNR=7.3
PDAR Pinedale Array 140.74 71 ePKPpre PKPpre 06 11 04.5
ES19 SONSECA Array 141.75 283 ePKPdf PKPdf 06 11 13.6 -0.1
ESDC Sonseca Array 141.78 283 PKhKP PKPpre 06 11 07.7
comp=Z,0.7nm,0.7s,baz=99,slow=2.2,SNR=3.9
MSTX Muleshoe 142.15 87 P PKPdf 06 11 14.5 -0.2
baz=242
JCT Junction City 142.61 94 ePKPdf PKPdf 06 11 16.1 +0.6
JCT Junction City 142.61 94 P PKPdf 06 11 15.3 -0.2
baz=238
DAG Danmarks Havn 142.64 347 i PKIKP PKPpre 06 11 09.8
DAG pmax pmax
comp=Z,24nm,1.2s
N23A Red Feather La 142.66 75 P PKPdf 06 11 15.7 +0.2
baz=250
K22A Casper 142.82 72 P PKPdf 06 11 15.3 -0.4
baz=252
AMTX Amarillo 143.37 87 P PKPdf 06 11 16.4 -0.4
baz=243
RES Resolute Bay 143.44 17 ePKPpre PKPbc 06 11 12.5 -0.3
RES ePKPdf PKiKP 06 11 18.1 -0.8
RES Resolute Bay 143.44 17 ePKIKP PKPbc 06 11 12.5 -0.3
RES e 06 11 18.1
ABTX Abilene, Hawle 143.81 91 P PKPdf 06 11 17.4 -0.1
baz=241
PESTR Estremoz 144.09 280 ePKPdf PKPbc 06 11 16.7 +0.8
PESTR Estremoz 144.09 280 ePKPdf PKPbc 06 11 15.8 -0.1
LAO LASA Array 144.11 66 P PKPdf 06 11 17.3 -0.4
baz=257
PMRV Marv??o 144.16 281 ePKPdf PKPbc 06 11 16.6 +0.5
MESJ Messejana 144.16 278 ePKPdf PKPbc 06 11 16.8 +0.7
EVO Evora 144.28 279 ePKPdf PKPdf 06 11 19.3 +1.2
TEIG Tepich 144.31 119 ePKPdf PKPdf 06 11 17.9 -0.9
PCBR Castelo Branco 144.37 282 ePKPdf PKPbc 06 11 17.4 +0.8
KSCO Kaye Shedlock' 144.37 80 ePKPdf PKPbc 06 11 16.8 -0.1
KSCO Kaye Shedlock' 144.37 80 P PKPbc 06 11 16.8 -0.1
baz=248
MVO Moncorvo 144.50 284 ePKPdf PKPdf 06 11 17.8 -0.7
PBRG Braganca 144.50 285 ePKPdf PKPbc 06 11 17.3 +0.2
ESK Eskdalemuir 144.50 309 ePKPdf PKPbc 06 11 16.9 +0.3
ESK Eskdalemuir 144.50 309 ePKIKP PKPbc 06 11 16.9 +0.3
MTE Manteigas 144.61 283 ePKPdf PKPdf 06 11 18.3 -0.4
MTE Manteigas 144.61 283 ePKPdf PKPbc 06 11 18.0 +0.5
ALMR Almeirim 144.92 280 ePKPdf PKPdf 06 11 20.0 +0.8
ALMR Almeirim 144.92 280 ePKPdf PKPdf 06 11 20.6 +1.4
PTOM Tomar 144.96 281 ePKPdf PKPdf 06 11 18.9 -0.4
PVIS Viseu 144.97 283 ePKPdf PKPdf 06 11 19.1 -0.2
RSSD Black Hills 144.98 71 ePKPbc PKPbc 06 11 17.8 -1.1
RSSD Black Hills 144.98 71 ePKIKP PKPbc 06 11 17.8 -1.0
RSSD Black Hills 144.98 71 P PKPbc 06 11 18.0 -0.8
baz=255
POLO Lamas de Olo 145.11 284 ePKPdf PKPdf 06 11 19.6 0.0
WHTX Lake Whitney, 145.11 94 ePKPbc PKPbc 06 11 18.6 -0.7
WHTX Lake Whitney, 145.11 94 P PKPbc 06 11 18.5 -0.7
baz=240
PCAS Casmilo, Conde 145.18 282 ePKPdf PKPdf 06 11 19.8 +0.2
PMST Lisbon--Monsan 145.20 279 ePKPdf PKPdf 06 11 20.0 +0.3
HKT Hockley 145.23 98 ePKPbc PKPbc 06 11 19.2 -0.4
HKT Hockley 145.23 98 ePKIKP PKPbc 06 11 19.2 -0.4
PMAFR Mafra 145.35 280 ePKPdf PKPab 06 11 20.3 +0.3
PCAB Cabril 145.38 285 ePKPdf PKPbc 06 11 19.9 0.0
WMOK Wichita Mounta 145.44 89 ePKPdf PKPdf 06 11 19.7 -0.6
WMOK Wichita Mounta 145.44 89 ePKIKP PKPdf 06 11 19.7 -0.6
WMOK Wichita Mounta 145.44 89 P PKPdf 06 11 19.9 -0.4
baz=243
OGNE Ogallala 145.47 77 ePKPdf PKPdf 06 11 20.0 -0.2
OGNE Ogallala 145.47 77 P PKPab 06 11 20.4 -0.1
baz=251
PTO Porto 145.61 283 ePKPdf PKPab 06 11 21.3 +0.4
PGAV Gavieira, Arco 145.63 285 ePKPdf PKPab 06 11 21.2 +0.1
DGMT Dagmar 145.80 63 ePKPdf PKPdf 06 11 20.6 +0.2
DGMT Dagmar 145.80 63 P PKPbc 06 11 21.1 +0.1
baz=261
CBKS Cedar Bluff 146.40 81 ePKPdf PKPab 06 11 23.8 -0.2
CBKS Cedar Bluff 146.40 81 ePKP2 PKPab 06 11 23.8 -0.2
CBKS Cedar Bluff 146.40 81 P PKPbc 06 11 23.2 0.0
baz=249
NATX Nacogdoches 147.04 96 ePKPbc PKPbc 06 11 25.6 +0.5
NATX Nacogdoches 147.04 96 P PKPbc 06 11 25.4 +0.2
baz=239
FFC Flin Flon 147.58 52 ePKPdf PKPbc 06 11 25.2 -0.7
FFC Flin Flon 147.58 52 i PKP2 PKPbc 06 11 25.7 -0.2
441A DeRidder 147.59 99 P PKPbc 06 11 27.5 +0.9
baz=238
542A Morse 147.71 101 P PKPbc 06 11 27.3 +0.3
baz=237
240A Hunter Patters 147.84 97 ePKPbc PKPbc 06 11 27.6 +0.3
240A Hunter Patters 147.84 97 P PKPbc 06 11 27.8 +0.5
baz=239
341A Kurthwood 147.91 98 ePKPbc PKPbc 06 11 28.1 +0.5
341A Kurthwood 147.91 98 P PKPbc 06 11 27.7 +0.2
baz=238,SNR=7.3
TUL1 Leonard 148.15 89 ePKPbc PKPbc 06 11 27.9 -0.2
TUL1 Leonard 148.15 89 P PKPbc 06 11 28.1 +0.1
baz=245
140A Cam and Jess, 148.28 96 ePKPbc PKPbc 06 11 28.9 +0.5
140A Cam and Jess, 148.28 96 P PKPbc 06 11 28.9 +0.5
baz=240,SNR=8.8
BGNE Belgrade 148.40 78 ePKPdf PKPdf 06 11 25.0 -0.1
BGNE ePKPbc PKPbc 06 11 28.7 +0.1
baz=253
BGNE Belgrade 148.40 78 P PKPbc 06 11 28.6 0.0
241A Mo Tay, Goldon 148.45 97 ePKPbc PKPbc 06 11 29.5 +0.6
241A Mo Tay, Goldon 148.45 97 P PKPbc 06 11 29.4 +0.4
baz=239,SNR=5.4
342A Flagon Creek P 148.55 99 ePKPbc PKPbc 06 11 30.3 +1.1
342A Flagon Creek P 148.55 99 P PKPbc 06 11 29.9 +0.7
baz=238,SNR=5.9
SUSD Miller 148.60 72 P PKPbc 06 11 28.4 -0.6
baz=258
Z40A Long Farm, Mag 148.71 95 P PKPbc 06 11 29.7 +0.1
baz=241,SNR=5.8
645A Chauvin 148.75 104 P PKPbc 06 11 29.1 -0.6
baz=235
MDND Maddock 148.75 65 ePKPbc PKPbc 06 11 29.2 0.0
MDND Maddock 148.75 65 P PKPbc 06 11 28.6 -0.6
baz=263
141A Papa Simpson, 148.75 96 P PKPbc 06 11 30.2 +0.5
baz=240
KSU1 Kansas State U 148.78 83 ePKPdf PKPdf 06 11 25.3 -0.4
KSU1 ePKPbc PKPbc 06 11 29.7 +0.1
KSU1 Kansas State U 148.78 83 P PKPbc 06 11 29.4 -0.1
baz=250
242A Grayson 149.03 98 P PKPbc 06 11 30.7 +0.3
baz=239,SNR=5.1
SUMG Summit 149.07 350 ePKPbc PKPbc 06 11 30.4 +0.6
SUMG Summit 149.07 350 i PKP2 PKPbc 06 11 30.7 +0.9
SUMG pmax pmax
comp=Z,110nm,1.2s
WLAR White Oak Lake 149.13 94 ePKPbc PKPbc 06 11 30.5 -0.1
Z41A Richland Creek 149.15 95 ePKPbc PKPbc 06 11 30.6 -0.1
Z41A Richland Creek 149.15 95 P PKPbc 06 11 30.6 -0.1
baz=241
MIAR Mount Ida 149.18 93 ePKPbc PKPbc 06 11 30.4 -0.4
MIAR Mount Ida 149.18 93 ePKP2 PKPbc 06 11 30.4 -0.4
MIAR Mount Ida 149.18 93 P PKPbc 06 11 30.3 -0.4
baz=243,SNR=5.1
W39A Magazine 149.32 91 ePKPbc PKPbc 06 11 30.6 -0.5
W39A Magazine 149.32 91 P PKPbc 06 11 31.3 +0.2
baz=244
142A Monroe 149.43 97 P PKPbc 06 11 31.3 0.0
baz=240
Y41A Eaglette Beard 149.59 94 P PKPbc 06 11 31.5 -0.2
baz=242
HHAR Hobbs 149.67 89 ePKPbc PKPbc 06 11 31.1 -0.8
X40A Basin Creek Fa 149.70 93 P PKPbc 06 11 31.9 -0.1
baz=243
344A Westbrook Farm 149.74 100 ePKPbc PKPbc 06 11 32.7 +0.5
344A ePKPab PKPab 06 11 38.9 +1.4
344A Westbrook Farm 149.74 100 P PKPbc 06 11 32.7 +0.5
baz=238
Z42A Norrel Spur, H 149.78 96 P PKPbc 06 11 31.7 -0.5
baz=241,SNR=6.4
143A Socs Landing, 149.90 97 ePKPbc PKPbc 06 11 33.0 +0.4
143A Socs Landing, 149.90 97 P PKPbc 06 11 31.9 -0.6
baz=240
X41A Kaden, Bauxite 149.94 93 P PKPbc 06 11 32.2 -0.4
baz=243
244A Avery, Jackson 150.09 99 P PKPbc 06 11 32.7 -0.3
baz=239
ECSD EROS Data Cent 150.09 74 ePKPdf PKPdf 06 11 27.5 -0.2
ECSD ePKPbc PKPbc 06 11 32.5 -0.2
ECSD EROS Data Cent 150.09 74 P PKPbc 06 11 32.1 -0.6
baz=257
Y42A Garnett, Star 150.17 95 P PKPbc 06 11 32.8 -0.4
baz=242
UALR University of 150.19 93 ePKPbc PKPbc 06 11 33.1 0.0
CCAR Cane Creek 150.22 95 ePKPbc PKPbc 06 11 33.1 -0.2
VBMS Vicksburg 150.30 99 ePKPbc PKPbc 06 11 33.8 +0.3
VBMS Vicksburg 150.30 99 P PKPbc 06 11 33.2 -0.3
baz=239
446A Poplarville 150.37 103 P PKPbc 06 11 33.4 -0.3
baz=237
W41B Gary Mavity, V 150.44 92 ePKPbc PKPbc 06 11 33.3 -0.5
W41B Gary Mavity, V 150.44 92 P PKPbc 06 11 33.2 -0.5
baz=244
WHAR Wooly Hollow 150.46 92 ePKPbc PKPbc 06 11 33.7 -0.1
U40A Yellville 150.50 90 P PKPbc 06 11 33.3 -0.6
baz=246,SNR=15
X42A Stuttgart 150.62 94 P PKPbc 06 11 33.9 -0.3
baz=243
346A Big Creek Wild 150.62 101 ePKPbc PKPbc 06 11 34.6 +0.3
346A Big Creek Wild 150.62 101 P PKPbc 06 11 34.1 -0.2
baz=238
245A Little AP, Sta 150.65 100 P PKPbc 06 11 34.3 0.0
baz=239
V41A Mountainview 150.77 91 P PKPbc 06 11 33.5 -1.1
baz=245,SNR=11
Y43A Makayla and Ka 150.83 96 P PKPbc 06 11 34.0 -0.7
baz=242
447A Lucedale 150.89 103 ePKPbc PKPbc 06 11 35.5 +0.6
447A Lucedale 150.89 103 P PKPbc 06 11 35.1 +0.2
baz=236
Z44A Pea Ridge, Bel 150.89 97 P PKPbc 06 11 34.2 -0.7
baz=241
145A Houston Renfro 150.92 99 P PKPbc 06 11 34.6 -0.3
baz=240
X43A Marvell 151.15 95 ePKPbc PKPbc 06 11 35.1 -0.3
X43A Marvell 151.15 95 P PKPbc 06 11 35.4 0.0
baz=243
U41A Viola 151.18 90 P PKPbc 06 11 34.4 -1.1
baz=246,SNR=7.9
AGMN Agassiz Nation 151.29 65 ePKPbc PKPbc 06 11 34.3 -1.1
AGMN Agassiz Nation 151.29 65 P PKPbc 06 11 33.8 -1.5
baz=266,SNR=5.4
V42A Cord 151.34 92 P PKPbc 06 11 34.3 -1.6
baz=245,SNR=6.4
ULM Lac du Bonnet 151.37 61 PKPbc PKPbc 06 11 34.5 -1.0
comp=Z,14nm,0.6s,baz=287,slow=2.3,SNR=20
ULM Lac du Bonnet 151.37 61 ePKPbc PKPbc 06 11 34.5 -1.0
ULM ePKPab PKPab 06 11 42.6 -1.2
Y44A Strider, Charl 151.38 96 P PKPbc 06 11 34.8 -1.2
baz=242
Z45A Winona 151.48 98 P PKPbc 06 11 35.3 -0.9
baz=241
146A Union 151.57 100 ePKPbc PKPbc 06 11 36.9 +0.4
146A Union 151.57 100 P PKPbc 06 11 35.5 -1.0
baz=239
T41A Mountain View 151.57 89 P PKPbc 06 11 34.9 -1.4
baz=247,SNR=6.1
X44A Crenshaw 151.68 95 P PKPbc 06 11 35.5 -1.1
baz=243
U42A Reveden 151.68 91 P PKPbc 06 11 35.4 -1.2
baz=246,SNR=8.8
348A Jackson 151.76 103 P PKPbc 06 11 35.1 -1.8
baz=237
HBAR Harrisburg 151.78 93 ePKPbc PKPbc 06 11 36.3 -0.6
S41A Jillco Farms, 151.80 88 P PKPbc 06 11 35.7 -1.2
baz=248,SNR=7.3
Y45A Yeager Farm, C 151.82 97 P PKPbc 06 11 36.2 -0.8
baz=241
T42A Van Buren 152.06 90 ePKPbc PKPbc 06 11 36.2 -1.3
T42A Van Buren 152.06 90 P PKPbc 06 11 36.3 -1.2
baz=247,SNR=11
SCIA State Center 152.09 79 ePKPbc PKPbc 06 11 37.0 -0.4
SCIA State Center 152.09 79 P PKPbc 06 11 36.8 -0.6
baz=255
147A Livingston 152.16 100 ePKPbc PKPbc 06 11 37.2 -0.7
147A Livingston 152.16 100 P PKPbc 06 11 37.1 -0.7
baz=239
X45A UM Field Stati 152.20 96 P PKPbc 06 11 36.6 -1.3
baz=242
349A Repton 152.24 104 P PKPbc 06 11 37.8 -0.2
baz=237
BRAL Brewton 152.24 104 ePKPbc PKPbc 06 11 38.6 +0.6
BRAL Brewton 152.24 104 P PKPbc 06 11 37.8 -0.3
baz=236
248A Dixon Mills 152.25 102 P PKPbc 06 11 37.5 -0.5
baz=238
U43A Rector 152.30 92 P PKPbc 06 11 37.0 -1.0
baz=246
R41A Rosebud 152.33 87 P PKPbc 06 11 37.0 -1.0
baz=249,SNR=8.3
N39A Derby Farms, D 152.33 81 ePKPdf PKPdf 06 11 30.8 -0.4
N39A ePKPbc PKPbc 06 11 37.7 -0.3
N39A Derby Farms, D 152.33 81 P PKPbc 06 11 37.0 -0.9
baz=254
Y46A Houston 152.33 98 P PKPbc 06 11 37.1 -1.1
baz=241
CCM Cathedral Cave 152.34 88 ePKPbc PKPbc 06 11 37.1 -1.0
CCM Cathedral Cave 152.34 88 P PKPbc 06 11 37.5 -0.6
baz=249
450A Crestview 152.37 105 P PKPbc 06 11 38.1 -0.2
baz=236
S42A Caledonia 152.57 88 P PKPbc 06 11 37.7 -0.9
baz=248
Z47A Carrollton 152.57 99 P PKPbc 06 11 37.7 -1.1
baz=240
249A Camden 152.62 103 P PKPbc 06 11 37.9 -1.0
baz=238
SDDR Presa de Saban 152.66 145 ePKPbc PKPbc 06 11 39.0 -0.3
Q41A Truxton 152.66 86 P PKPbc 06 11 38.1 -0.7
baz=250,SNR=7.4
T43A Greenville 152.68 90 P PKPbc 06 11 37.5 -1.3
baz=247
W45A Hickory Valley 152.68 95 P PKPbc 06 11 37.6 -1.3
baz=244
M39A Webster 152.73 80 P PKPbc 06 11 38.0 -0.8
baz=255,SNR=5.7
R42A Luebbering 152.75 87 P PKPbc 06 11 37.8 -1.2
baz=249
451A Vernon 152.85 107 ePKPbc PKPbc 06 11 39.6 +0.1
FVM French Village 152.91 88 ePKPab PKPab 06 11 50.3 -0.3
N40A Mertquake, Sal 153.00 82 P PKPbc 06 11 38.4 -1.1
baz=254
L39A Vinton 153.02 79 P PKPbc 06 11 38.2 -1.2
baz=256,SNR=6.9
S43A Fulton Ridge, 153.02 89 P PKPbc 06 11 38.1 -1.5
baz=248
P41A Barry, Barry 153.02 84 P PKPbc 06 11 38.5 -1.0
baz=252
Z48A Northport 153.03 100 P PKPbc 06 11 38.7 -1.1
baz=240
SPMN Marine on St. 153.05 72 ePKPbc PKPbc 06 11 39.1 -0.3
SPMN Marine on St. 153.05 72 P PKPbc 06 11 38.3 -1.1
baz=262
U44B Burton Farm, H 153.07 92 P PKPbc 06 11 38.5 -1.3
baz=246
Y47A UCPARC, Winfie 153.08 98 P PKPbc 06 11 38.6 -1.2
baz=241
Q42A Golden Eagle 153.16 86 P PKPbc 06 11 38.9 -1.0
baz=250
149A Jones 153.19 102 P PKPbc 06 11 39.1 -1.0
baz=239
T44A Benton 153.19 91 P PKPbc 06 11 38.8 -1.2
baz=247
M40A Post Highland 153.19 81 P PKPbc 06 11 38.9 -0.9
baz=255,SNR=5.1
K39A Oelwein 153.24 78 P PKPbc 06 11 38.4 -1.5
baz=257,SNR=5.5
F37A Hinrichs Farm, 153.24 71 P PKPbc 06 11 38.9 -0.9
baz=263
250A Grady 153.24 104 P PKPbc 06 11 39.2 -1.0
baz=237
W46A Michie 153.26 95 P PKPbc 06 11 38.7 -1.5
baz=243
LRAL Lakeview Retre 153.27 101 ePKPbc PKPbc 06 11 40.3 0.0
LRAL ePKPab PKPab 06 11 52.5 +0.3
LRAL Lakeview Retre 153.27 101 P PKPbc 06 11 39.6 -0.6
baz=239
O41A Passleys Farm, 153.29 84 P PKPbc 06 11 39.0 -1.1
baz=253
CRPR Cabo Rojo, PR 153.31 154 ePKPbc PKPbc 06 11 39.9 -0.9
H38A Maiden Rock 153.33 73 P PKPbc 06 11 38.8 -1.2
baz=261
452A Marianna 153.38 107 P PKPbc 06 11 39.6 -1.0
baz=235
R43A Red Bud 153.38 88 P PKPbc 06 11 39.5 -0.9
baz=249
PLAL Pickwick Lake 153.42 96 ePKPdf PKPdf 06 11 32.3 -0.7
PLAL ePKPbc PKPbc 06 11 39.5 -1.1
PLAL ePKPab PKPab 06 11 52.1 -0.7
MPR Mayaguez 153.50 154 ePKPbc PKPbc 06 11 40.6 -0.5
J39A Decorah 153.50 76 P PKPbc 06 11 39.3 -1.2
baz=259
OBIP Obispado Ponce 153.51 155 ePKPbc PKPbc 06 11 41.5 +0.3
OBIP ePKPab PKPab 06 11 52.8 -0.6
P42A Winchester 153.52 85 P PKPbc 06 11 39.4 -1.3
baz=252
Y48A Jasper 153.58 99 P PKPbc 06 11 39.8 -1.1
baz=241
Z49A Columbiana 153.69 101 P PKPbc 06 11 40.5 -0.6
baz=240
I39A Houston 153.73 75 P PKPbc 06 11 40.1 -0.8
baz=260
V46A Holladay 153.75 94 P PKPbc 06 11 40.2 -1.0
baz=245
K40A Colesburg 153.77 78 P PKPbc 06 11 40.0 -1.1
baz=258
F38A Pierce - Schro 153.79 70 P PKPbc 06 11 40.2 -0.8
baz=264
HUMP Col San Antoni 153.83 157 ePKPbc PKPbc 06 11 41.6 -0.2
HUMP ePKPab PKPab 06 11 54.8 +0.1
MTP Monte Pirata 153.87 157 ePKPbc PKPbc 06 11 41.5 -0.4
M41A Milan 153.89 81 P PKPbc 06 11 40.3 -1.1
baz=255
W47A Westpoint 153.89 96 P PKPbc 06 11 40.3 -1.3
baz=244
O42A Bath 153.90 84 P PKPbc 06 11 40.2 -1.2
baz=253
251A Midway 153.91 104 P PKPbc 06 11 41.0 -0.7
baz=237
352A Blakely 153.92 106 P PKPbc 06 11 41.0 -0.7
baz=236
X48A Hartselle 153.93 98 ePKPbc PKPbc 06 11 40.8 -0.8
X48A ePKPab PKPab 06 11 53.9 -1.1
U46A Springville 153.94 93 P PKPbc 06 11 40.7 -0.9
baz=246
CBYP Canovanas 153.95 157 ePKPbc PKPbc 06 11 41.9 -0.3
H39A Augusta 154.03 73 P PKPbc 06 11 40.4 -1.1
baz=262
E38A The Farm, Brul 154.07 69 P PKPbc 06 11 40.6 -1.0
baz=265
L41A Preston 154.09 79 P PKPbc 06 11 41.1 -0.7
baz=256
WVT Waverly 154.10 94 ePKPbc PKPbc 06 11 40.6 -1.4
WVT Waverly 154.10 94 P PKPbc 06 11 41.0 -1.0
baz=245
Y49A Blount Mountai 154.10 100 ePKPbc PKPbc 06 11 41.5 -0.6
Y49A ePKPab PKPab 06 11 55.0 -0.8
N42A Yates City 154.11 82 P PKPbc 06 11 41.1 -0.7
baz=254
CUPR Culebra, Puert 154.15 158 ePKPbc PKPbc 06 11 43.4 +0.9
Z50A Ashland 154.16 101 ePKPbc PKPbc 06 11 41.4 -0.8
Z50A ePKPab PKPab 06 11 57.4 +1.3
Z50A Ashland 154.16 101 P PKPbc 06 11 41.5 -0.7
baz=240
EYMN Ely 154.19 66 ePKPbc PKPbc 06 11 40.9 -1.0
EYMN Ely 154.19 66 P PKPbc 06 11 40.7 -1.1
baz=268
G39A Holcombe 154.20 72 P PKPbc 06 11 41.0 -0.9
baz=263
W48A Pulaski 154.32 97 P PKPbc 06 11 41.1 -1.4
baz=243
252A Lumpkin 154.34 105 P PKPbc 06 11 41.9 -0.7
baz=237
353A Camilla 154.35 107 P PKPbc 06 11 42.0 -0.6
baz=235
F39A Loretta 154.45 71 P PKPbc 06 11 41.6 -0.8
baz=264
JFWS Jewell Farm 154.46 78 P PKPbc 06 11 41.5 -1.1
baz=258
X49A Woodville 154.48 99 P PKPbc 06 11 41.7 -1.1
baz=242
555A McAlpin 154.50 111 P PKPbc 06 11 41.5 -1.6
baz=233
R45A Skylar, Fairfi 154.60 89 P PKPbc 06 11 42.0 -1.0
baz=249
U47A Clarksville 154.62 94 P PKPbc 06 11 42.3 -0.7
baz=246
J41A Loganville 154.72 77 P PKPbc 06 11 42.8 -0.3
baz=259
E39A Mellen 154.74 70 P PKPbc 06 11 42.6 -0.5
baz=265
P44A Sand Creek, Wi 154.75 86 P PKPbc 06 11 42.3 -0.9
baz=252
N43A Stutzman Famil 154.77 83 P PKPbc 06 11 42.6 -0.6
baz=255
W49A Belvidere 154.80 97 P PKPab 06 11 56.9 -1.8
baz=243
253A Americus 154.81 106 P PKPab 06 11 58.2 -0.6
baz=237
556A Lake Butler 154.81 112 P PKPab 06 11 57.9 -0.9
baz=232
G40A Rib Lake 154.88 72 P PKPab 06 11 57.4 -1.4
baz=263
I41A Arkdale 154.94 75 P PKPab 06 11 58.3 -0.7
baz=261
X50B Fort Payne 154.94 99 P PKPab 06 11 58.0 -1.4
baz=242
T47A Sharon Grove 154.98 93 P PKPab 06 11 58.5 -0.9
baz=247
F40A Park Falls 155.00 71 P PKPab 06 11 58.8 -0.5

baz=265
K42A Prairie Point, 155.08 78 P PKPab 06 11 59.2 -0.5
baz=258
SWET Sewanee 155.09 97 ePKPab PKPab 06 12 00.1 +0.1
Y51A Rockmart 155.10 101 P PKPab 06 11 59.2 -0.8
baz=240
H41A Junction City 155.18 74 ePKPab PKPab 06 11 59.7 -0.4
H41A Junction City 155.18 74 P PKPab 06 11 59.4 -0.7
baz=262
E40A Wakefield 155.20 70 P PKPab 06 12 00.2 +0.1
baz=266
Z52A Williamson 155.20 103 P PKPab 06 12 00.8 +0.4
baz=239
254A Abbeville 155.34 107 P PKPab 06 12 01.1 +0.1
baz=236
J42A Columbus 155.34 77 P PKPab 06 12 01.0 +0.2
baz=260
V49A McMinnville 155.36 96 P PKPab 06 12 00.8 -0.3
baz=244
S47A Hartford 155.38 91 P PKPab 06 12 01.1 0.0
baz=248
P45A Graceland, Par 155.41 87 P PKPab 06 12 01.3 +0.1
baz=252
W50A Signal Mountai 155.53 98 P PKPab 06 12 01.6 -0.3
baz=243
T48A Bowling Green 155.55 93 P PKPab 06 12 01.1 -0.7
baz=247
X51A Calhoun 155.57 100 P PKPab 06 12 01.2 -0.8
baz=242
G41A Antigo 155.58 73 P PKPab 06 12 01.5 -0.3
baz=264
I42A Draeger Farm, 155.59 76 P PKPab 06 12 01.5 -0.3
baz=261
F41A Three Lakes 155.69 71 ePKPab PKPab 06 12 01.6 -0.6
F41A Three Lakes 155.69 71 P PKPab 06 12 01.8 -0.5
baz=265
M44A Midewin, Midew 155.71 82 P PKPab 06 12 01.4 -1.0
baz=256
U49A Red Boiling Sp 155.76 95 P PKPab 06 12 01.6 -1.2
baz=246
K43A Burlington 155.80 79 P PKPab 06 12 01.4 -1.3
baz=259
Y52A Lilburn 155.80 102 P PKPab 06 12 02.4 -0.6
baz=240
P46A Rosedale 155.83 87 P PKPab 06 12 02.2 -0.8
baz=252
154A Montrose 155.83 106 P PKPab 06 12 02.7 -0.4
baz=237
E41A Kenton 155.85 70 P PKPab 06 12 02.8 0.0
baz=267
Z53A Monticello 155.86 104 P PKPab 06 12 02.6 -0.7
baz=239
J43A Natural Harves 155.86 77 P PKPab 06 12 02.7 -0.3
baz=260
R47A Wooly Knot Far 155.90 90 P PKPab 06 12 03.3 0.0
baz=249
V50A Pikevile 155.90 97 P PKPab 06 12 03.2 -0.2
baz=244
W51A Cleveland 155.92 99 P PKPab 06 12 03.0 -0.4
baz=243
GOGA Godfrey 156.00 104 ePKPab PKPab 06 12 04.0 +0.2
GOGA Godfrey 156.00 104 P PKPab 06 12 03.7 -0.2
baz=239
WCI Wyandotte Cave 156.04 90 ePKPdf PKPdf 06 11 35.9 -0.6
WCI Wyandotte Cave 156.04 90 ePKIKP PKPdf 06 11 35.9 -0.6
G42A Mountain 156.12 73 P PKPab 06 12 04.1 0.0
baz=264
SFIN Lafayette 156.14 85 P PKPab 06 12 03.8 -0.5
baz=254
Y53A Monroe 156.14 103 P PKPab 06 12 04.2 -0.3
baz=240
T49A Edmonton 156.18 94 ePKPab PKPab 06 12 04.5 -0.1
T49A Edmonton 156.18 94 P PKPab 06 12 04.3 -0.2
baz=247
Q47A Bedord North L 156.19 89 P PKPab 06 12 04.4 -0.1
baz=251
X52A Dahlonega 156.29 101 P PKPab 06 12 04.9 -0.2
baz=241
155A Kite 156.29 106 P PKPab 06 12 04.8 -0.3
baz=237
256A Glennville 156.34 108 P PKPab 06 12 05.0 -0.3
baz=235
Z54A Sparta 156.35 105 P PKPab 06 12 04.9 -0.5
baz=238
H43A Windswept, Lux 156.49 75 P PKPab 06 12 05.3 -0.4
baz=263
V51A Loudon 156.51 98 P PKPab 06 12 06.0 0.0
baz=244
N46A Monticello 156.54 84 P PKPab 06 12 05.8 -0.2
baz=255
S49A Springfield 156.62 92 P PKPab 06 12 05.7 -0.7
baz=248
T50A Nancy 156.66 94 P PKPab 06 12 06.6 0.0
baz=247
X53A Estanollee 156.67 101 P PKPab 06 12 06.9 +0.2
baz=241
Q48A North Vernon 156.70 89 P PKPab 06 12 06.6 -0.1
baz=251
O47A Sheridan 156.78 86 P PKPab 06 12 06.1 -1.0
baz=254
Y54A Tignall 156.79 103 P PKPab 06 12 06.8 -0.4
baz=239
R49A Shelbyville 156.89 91 P PKPab 06 12 06.9 -0.7
baz=249
M46A Old House Fiel 156.95 83 P PKPab 06 12 07.2 -0.5
baz=256
U51A La Follette 157.00 97 P PKPab 06 12 07.8 -0.4
baz=245
W53A Cullowhee 157.08 100 P PKPab 06 12 08.2 -0.5
baz=242
P48A Milroy 157.09 88 P PKPab 06 12 08.4 -0.1
baz=252
T51A Gray 157.29 95 P PKPab 06 12 08.9 -0.4
baz=246
N47A Urbana 157.30 84 P PKPab 06 12 08.7 -0.6
baz=255
Q49A Aurora 157.34 90 P PKPab 06 12 09.6 +0.1
baz=251
O48A Farmland 157.53 86 P PKPab 06 12 09.7 -0.6
baz=254
V53A Saluda 157.57 99 P PKPab 06 12 10.7 +0.1
baz=243
F44A Big Bay de Noc 157.58 71 P PKPab 06 12 10.4 +0.1
baz=267
K46A Dorr 157.64 80 P PKPab 06 12 10.8 +0.1
baz=259
P49A Miami Univ. Ec 157.64 88 P PKPab 06 12 10.8 0.0
baz=252
N48A Decatur 157.78 85 P PKPab 06 12 11.3 -0.1
baz=255
L47A Sherwood 157.92 82 P PKPab 06 12 11.6 -0.3
baz=258
JSC Jenkinsville 158.02 104 ePKPab PKPab 06 12 12.9 +0.4
JSC Jenkinsville 158.02 104 ePKP2 PKPab 06 12 12.9 +0.4
O49A Covington 158.11 87 ePKPab PKPab 06 12 12.5 -0.3
O49A Covington 158.11 87 P PKPab 06 12 12.6 -0.2
baz=254
KMSC Kings Mountain 158.39 102 P PKPab 06 12 13.2 -1.0
baz=242
N49A Columbus Grove 158.42 85 ePKPab PKPab 06 12 13.6 -0.5
N49A Columbus Grove 158.42 85 P PKPab 06 12 13.4 -0.8
baz=256
J47A Sunmer 158.43 79 P PKPab 06 12 14.1 0.0
baz=261
Q51A Peebles 158.49 91 ePKPdf PKPdf 06 11 39.6 0.0
Q51A Peebles 158.49 91 P PKPab 06 12 14.4 -0.1
baz=251
O50A Cable 158.63 87 P PKPab 06 12 14.5 -0.6
baz=254
M49A Liberty Center 158.70 84 P PKPab 06 12 15.2 -0.1
baz=257
P51A Williamsport 158.84 90 ePKPdf PKPdf 06 11 39.6 -0.4
K48A Perry 158.86 80 P PKPab 06 12 16.0 0.0
baz=260
ACSO Alum Creek Sta 159.12 88 P PKPab 06 12 16.4 -0.8
baz=254
N50A Nevada 159.14 86 P PKPab 06 12 16.6 -0.6
baz=255
D46A Sault St. Mari 159.25 69 P PKPab 06 12 17.1 -0.4
baz=271
Q52A Bidwell 159.26 92 P PKPab 06 12 16.8 -1.0
baz=251
O51A Pataskala 159.37 88 P PKPab 06 12 18.1 -0.2
baz=254
P52A Corning 159.57 90 P PKPab 06 12 18.6 -0.5
baz=252
N51A Ashland 159.75 86 ePKPab PKPab 06 12 19.5 -0.4
N51A Ashland 159.75 86 P PKPab 06 12 19.1 -0.8
baz=256
D47A Chapleau 159.88 68 P PKPab 06 12 20.2 -0.1
baz=272
O52A Adamsville 159.93 89 P PKPab 06 12 20.8 +0.1
baz=254
M51A Elyria 159.98 85 P PKPab 06 12 20.7 -0.2
baz=257
P53A Whipple 160.07 91 ePKPab PKPab 06 12 21.3 0.0
P53A Whipple 160.07 91 P PKPab 06 12 21.6 +0.2
baz=252
D48A Paudash Townsh 160.76 68 P PKPab 06 12 24.2 +0.1
baz=274
N54A Moraine State 161.51 87 ePKPab PKPab 06 12 27.7 +0.1
N54A Moraine State 161.51 87 P PKPab 06 12 27.4 -0.2
baz=256
E50A Wahnapitae 161.53 70 P PKPab 06 12 28.2 +0.7
baz=272
M54A Oil Creek Stat 161.87 86 ePKPab PKPab 06 12 29.6 +0.4
O56A Blue Knob Stat 162.38 90 ePKPab PKPab 06 12 31.3 -0.2
O56A Blue Knob Stat 162.38 90 P PKPab 06 12 30.9 -0.6
baz=254
E51A G1948 Merrick 162.38 69 P PKPab 06 12 30.7 -0.6
baz=274
D51A Lot 18 Range I 162.42 68 P PKPab 06 12 31.3 -0.1
baz=276
F52A Sundridge 162.53 72 P PKPab 06 12 31.9 0.0
baz=272
SADO Sadowa 162.66 75 ePKPab PKPab 06 12 31.9 -0.6
SSPA Standing Stone 162.97 90 ePKPab PKPab 06 12 33.3 -0.7
SSPA Standing Stone 162.97 90 P PKPab 06 12 34.0 -0.1
baz=255
D53A Lac Vacive, Po 163.56 67 P PKPab 06 12 36.1 -0.3
baz=277
E53A Dumoine, Ponti 163.66 70 P PKPab 06 12 36.3 -0.5
baz=275
MVL Millersville 163.93 93 ePKPab PKPab 06 12 38.0 -0.2
PLVO Plevna 164.13 74 ePKPab PKPab 06 12 38.9 0.0
D54A Lac Fusel, La 164.26 67 P PKPab 06 12 39.2 -0.3
baz=278
N59A State Game Lan 164.60 90 P PKPab 06 12 41.0 -0.2
baz=256
BINY Binghamton 164.70 85 P PKPab 06 12 41.7 +0.1
baz=261
KSPA Keystone Colle 164.74 88 ePKPab PKPab 06 12 41.6 -0.2
SCHQ Schefferville 165.77 28 ePKPab PKPab 06 12 44.8 -1.0

JMA 09 06:04:17.4±0.1, 36.87N×141.35E, h32km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	Iwakimizuishiy	0.50	298	P	Pb	06 04 27.4	-0.6
ONAJ				S	Sb	06 04 35.0	-0.2
JFK	Kawauchi	0.62	323	S	Sb	06 04 38.1	-0.5
JFFD	Fukushimafurud	0.67	289	P	Pn	06 04 30.1	-0.6
JFFD				S	Sb	06 04 39.1	-0.7
JHO	Hitachi	0.68	248	P	Pn	06 04 30.4	-0.4
JHO				S	Sb	06 04 39.7	-0.3
JHYU	Hitachinakayam	0.81	230	P	Pn	06 04 32.2	-0.4
JHYU				eS	Sn	06 04 43.1	-0.4
JFT	Otama	1.04	309	P	Pb	06 04 36.6	-0.2
JFT				eS	Sb	06 04 50.0	-0.1
JMM	Marumori	1.09	336	P	Pn	06 04 36.7	+0.3
JYT	Yasato	1.13	236	P	Pn	06 04 37.0	0.0
JYT				eS	Sn	06 04 51.3	-0.1
JSB	Shiboa	1.15	275	P	Pb	06 04 38.8	0.0
JFY	Yanaizu	1.42	293	P	Pb	06 04 42.5	-0.8
MAT	Matsushiro	2.55	264	P	Pb	06 05 00.5	-1.9
MAT				eS	Sb	06 05 33.2	-0.1

*ISCJB **09** 06:04:43.4±0.3, 20.17S±0.03×69.16W±0.07, h111km±4km, mb4.1/13, Error ellipse: s-maj=10.5km s-min=4.3km az=174.9*
*GUC **09** 06:04:43.7±0.6, 20.18S×69.23W, h104km±4km, ML4.3*
*NEIC **09** 06:04:43.0±0.0, 20.18S×69.23W, h104km, mb4.5/7, ML4.3(GUC), After GUC.*
NEIC Felt [II] at Alto Hospicio, Iquique and Pozo Almonte.
*IDC **09** 06:04:45.3±1.1, 20.20S×69.02W, h111km±10km, mb3.6/6, mb1 3.8/10, mb1mx3.5/30, mbtmp4.0/10, Error ellipse: s-maj=21.1km s-min=9.5km az=95.0*

ISC 09 06:04:44.2±0.7, 20.18S±0.03×69.19W±0.07, h98km±6km, n41, σ1§17/55, mb4.2/13, 6C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB11	IPOC Station P	0.61	313	ePn	Pn	06 05 01.1	+0.3
PB11				eSn	Sn	06 05 13.7	+0.4
PB11	IPOC Station P	0.61	313	⇑iP	Pn	06 05 01.0	+0.2
PB11				i S	Sn	06 05 14.1	+0.9
PB01	IPOC Station P	0.90	198	ePn	Pn	06 05 04.0	+0.5
PB01				eSn	Sn	06 05 19.0	+0.9
PB01	IPOC Station P	0.90	198	⇓iP	Pn	06 05 03.9	+0.4
PB01				i S	Sn	06 05 18.9	+0.9
PB01				IAML		06 05 20.2	
	comp=N,18μm,0.2s						
PSGC	Pisagua	1.05	303	⇑iP	Pn	06 05 05.3	+0.1
PSGC				i S	Sn	06 05 21.4	+0.4
MNMC	Minye Minye	1.11	340	ePn	Pn	06 05 07.2	+1.1
MNMC				eSn	Sn	06 05 24.7	+2.2
MNMC	Minye Minye	1.11	340	⇑iP	Pn	06 05 06.7	+0.6
MNMC				i S	Sn	06 05 23.4	+0.9
MNMC				IAML		06 05 26.4	
	comp=N,11μm,0.3s						
PB02	IPOC Station P	1.31	210	⇑iP	Pn	06 05 08.5	+0.3
PB02				i S	Sn	06 05 27.3	+1.0
PB07	IPOC Station P	1.67	203	⇓iP	Pn	06 05 13.2	+0.5
PB07				i S	Sn	06 05 35.9	+1.6
PB07				IAML		06 05 41.3	
	comp=E,3μm,0.2s						
PB12	IPOC Station P	1.89	325	⇓iP	Pn	06 05 15.5	0.0
PB12				i S	Sn	06 05 39.9	+0.7
PB03	IPOC Station P	1.93	196	⇑iP	Pn	06 05 16.1	+0.1
PB03				i S	Sn	06 05 41.7	+1.5
PB03				IAML		06 05 46.4	
	comp=E,2μm,0.4s						
PB04	IPOC Station P	2.32	203	ePn	Pn	06 05 22.2	+1.2
PB04	IPOC Station P	2.32	203	eP	Pn	06 05 21.7	+0.6
PB04				i S	Sn	06 05 50.8	+1.5
PB04				IAML		06 06 01.0	
	comp=N,2μm,0.8s						
LVC	Limon Verde	2.43	174	P	Pn	06 05 23.9	+1.2
	comp=N,34nm,0.3s,baz=12,slow=10,SNR=252						
LVC				S	Sn	06 05 54.0	+1.9
	comp=N,63nm,0.3s,baz=324,slow=23,SNR=6.3						
LVC	Limon Verde	2.43	174	ePn	Pn	06 05 24.1	+1.4
PB06	IPOC Station P	2.54	188	⇑iP	Pn	06 05 24.4	+0.5
PB06				i S	Sn	06 05 56.0	+1.7
PB06				IAML		06 06 03.8	
	comp=E,1μm,0.6s						
PB10	IPOC Station P	3.55	201	ePn	Pn	06 05 36.4	-0.9
LPAZ	La Paz	4.00	15	P	Pn	06 05 46.4	+2.5
	comp=E,4.6nm,0.3s,baz=203,slow=5.8,SNR=115						
LPAZ				S	Sn	06 06 31.9	+1.7
	comp=E,1.5nm,0.3s,baz=199,slow=4.9,SNR=3.8						
LPAZ	La Paz	4.00	15	ePn	Pn	06 05 46.3	+2.3
SIV	San Ignacio	8.77	63	P	Pn	06 06 46.1	-2.2
	comp=E,2.8nm,0.3s,baz=265,slow=10,SNR=103						
CPUP	Villa Florida	12.50	122	P	Pn	06 07 36.2	-2.3
	comp=E,0.2nm,0.3s,baz=314,slow=12,SNR=11						
BDFB	Brasilia	20.64	81	P	P	06 09 14.8	-1.4
	comp=E,3.8nm,0.7s,baz=256,slow=10,SNR=6.5						
BBSR	BB Station	52.43	5	eP	P	06 13 49.1	+2.4
545A	Edgard	53.98	337	eP	P	06 13 57.5	-0.6
Z50A	Ashland	55.49	343	eP	P	06 14 08.9	0.0
	comp=E,8.4nm,1.0s						
MIAR	Mount Ida	59.16	337	eP	P	06 14 34.6	-0.2
	comp=E,1.6nm,0.6s						
TXAR	Lajitas Array	59.40	325	P	P	06 14 36.6	-0.1
	comp=E,0.2nm,0.5s,baz=134,slow=7.2,SNR=4.3						
TX31	Lajitas Ar. Si	59.41	325	eP	P	06 14 36.7	0.0
W39A	Magazine	59.82	337	eP	P	06 14 40.0	+0.7
	comp=E,3.0nm,1.0s						
PBMO	Poplar Bluff	60.10	340	eP	P	06 14 40.4	-0.8
	comp=E,4.7nm,0.7s						
FVM	French Village	61.21	341	eP	P	06 14 48.5	-0.2
	comp=E,12nm,1.1s						
M54A	Oil Creek Stat	62.14	351	eP	P	06 14 55.2	+0.3
	comp=E,3.4nm,0.8s						
SNAA	Sanae	63.60	161	eP	P	06 15 05.2	+0.8
	comp=E,0.3nm,1.0s						
DBIC	Dimbokro	68.62	74	P	P	06 15 35.9	-1.3
	comp=E,1.3nm,0.4s,baz=215,slow=7.8,SNR=3.2						
ULM	Lac du Bonnet	73.99	343	P	P	06 16 08.1	-0.8
	comp=E,1.8nm,0.6s,baz=140,slow=6.3,SNR=2.9						
TOA0	Torodi Ar. Sit	77.16	71	eP	P	06 16 27.4	-0.3
	comp=E,2.6nm,1.0s						
TORD	Torodi Ar. Bea	77.16	71	P	P	06 16 27.0	-0.7
	comp=E,0.3nm,0.3s,baz=253,slow=5.4,SNR=14						
YKA	Yellowknife Ar	89.86	341	P	P	06 17 31.5	-0.1
	comp=E,1.0nm,0.6s,baz=131,slow=4.6,SNR=5.7						
WRA	Warramunga Arr	133.94	211	PKP	PKPdf	06 23 51.1	+0.3
	comp=E,0.3nm,0.7s,baz=162,slow=2.0,SNR=3.9						
MKAR	Makanchi Array	144.71	35	PKP	PKPbc	06 24 08.4	-0.3
	comp=E,0.4nm,0.5s,baz=298,slow=2.2,SNR=5.6						
SONM	Songino Array	152.18	6	PKPbc	PKPbc	06 24 28.3	-0.2
	comp=E,0.4nm,0.3s,baz=279,slow=2.2,SNR=2.9						

*NIED **09** 06:05:00, 36.90N×141.40E, h5km, Mw3.6 Best double couple: M0 2.45000×10^14 NP1:φs 31.00000°, δ 28.00000°, λ -92.00000°. NP2:φs 213.00000°, δ 62.00000°, λ -89.00000°.*

JMA 09 06:05:45.8±0.1, 36.89N×141.36E, h32km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	Iwakimizuishiy	0.50	295	P	Pb	06 05 55.7	-0.6
ONAJ				eS	Sb	06 06 03.2	-0.4
JFK	Kawauchi	0.61	321	P	Pb	06 05 57.7	-0.5
JFK				S	Sb	06 06 05.8	-0.9
JFFD	Fukushimafurud	0.67	288	P	Pn	06 05 58.4	-0.7
JFFD				S	Sb	06 06 07.5	-0.7
JHO	Hitachi	0.69	247	P	Pn	06 05 59.0	-0.4
JHO				S	Sb	06 06 08.5	-0.3
JHYU	Hitachinakayam	0.83	229	P	Pn	06 06 01.2	0.0
JHYU				eS	Sn	06 06 11.9	-0.5
JFT	Otama	1.03	308	P	Pb	06 06 04.9	-0.2
JMM	Marumori	1.07	335	P	Pn	06 06 04.9	+0.3
JYT	Yasato	1.15	235	eS	Sn	06 06 20.1	-0.1
JSB	Shiboa	1.16	274	P	Pb	06 06 07.2	-0.1
JSB				S	Sb	06 06 22.7	+0.7
JFY	Yanaizu	1.42	292	P	Pb	06 06 11.0	-0.7
JFY				S	Sb	06 06 29.3	-0.1
MAT	Matsushiro	2.56	263	P	Pb	06 06 30.0	-1.0
MAT				eS	Sb	06 07 01.3	-0.7

IDC 09 06:08:24.5±2.5, 54.13N×86.46E, h0km, mb1 3.1/2, mb1mx3.0/50, mbtmp3.1/2, ML2.8/2, 5C-1D, Error ellipse: s-maj=20.5km s-min=12.7km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	0.99	260	i		06 14 06.5	
	baz=80,slow=351,SNR=3.3						
ZALV	Zalesovo Beam	0.99	260	Pg	Pg	06 08 41.8	-1.6
	0.8nm,0.3s,baz=82,slow=16,SNR=9.9						
ZALV				Lg	Lg	06 08 57.1	
	0.7nm,0.3s,baz=77,slow=30,SNR=6.2						
ZALV				Rg	Rg	06 09 01.9	
	4.5nm,0.4s,baz=74,slow=27,SNR=5.4						
KURK	Kurchatov	5.89	238	⇑Pn	Pn	06 09 51.9	-1.0
	1.9nm,0.8s						
KURK				⇑Sn	Sn	06 11 02.5	+1.4
	0.8nm,0.7s						
KURK				⇓Lg	Lg	06 11 33.0	
	2.8nm,0.8s						
KURBB	Kurchatov Arra	5.99	237	Pn	Pn	06 09 55.4	+1.1
	0.1nm,0.3s,baz=55,slow=14,SNR=11						
KURBB				Lg	Lg	06 11 37.4	
	0.0nm,0.3s,baz=57,slow=32,SNR=6.7						
KURBB	Kurchatov Arra	5.99	237	⇑Pn	Pn	06 09 54.5	+0.2
	3.7nm,0.7s,baz=61,slow=14						
KURBB				⇑Sn	Sn	06 11 07.6	+4.0
	2.5nm,0.7s,baz=59,slow=29						
KURBB				⇑Lg	Lg	06 11 35.7	
	7.3nm,0.8s,baz=58,slow=29						
MKAR	Makanchi Array	7.81	202	Pn	Pn	06 10 20.3	+1.0
	0.3nm,0.3s,baz=25,slow=14,SNR=12						
MKAR				Lg	Lg	06 12 33.8	
	0.0nm,0.3s,baz=22,slow=31,SNR=2.6						

IDC 09 06:27:30.0±8.6, 50.36N×130.01E, h0km, Error ellipse: s-maj=56.5km s-min=50.1km az=33.0, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLR	Kul'dur	1.59	134	Pg	Pn	06 27 58.9	-0.6
	0.5nm,0.3s,baz=315,slow=17,SNR=7.7						
KLR				Lg	Lg	06 28 20.1	
	0.7nm,0.3s,baz=116,slow=3.0,SNR=14						
I45RU	USSURIYSK INFR	6.30	167	i		07 05 30.0	
	baz=347,slow=330,SNR=2.7						
I30JP	ISUMI INFRASON	16.80	150	i		08 10 30.0	
	baz=337,slow=324,SNR=1.2						
I44RU	PETROPAVLOVSK	17.34	70	i		08 06 30.0	
	baz=278,slow=327,SNR=0.9						

*ISCJB **09** 06:31:44.8±0.3, 33.40S±0.03×67.62W±0.05, h205km±3km, mb3.9/29, Error ellipse: s-maj=7.4km s-min=4.9km az=0.4*
*SJA **09** 06:31:44.7±0.5, 33.33S×67.64W, h216km±6km, ML4.0, MW4.2*
*IDC **09** 06:31:44.2±2.2, 33.44S×67.65W, h179km±21km, mb3.5/9, mb1 3.6/13, mb1mx3.5/34, mbtmp4.0/13, Error ellipse: s-maj=21.1km s-min=12.5km az=84.0*
*NEIC **09** 06:31:44.4±0.5, 33.43S×67.48W, h187km±4km, mb4.1/21, Error ellipse: s-maj=8.7km s-min=4.6km az=87.0*
*GUC **09** 06:31:45.0±0.8, 33.35S×67.36W, h165km±54km, ML4.7*

ISC 09 06:31:45.1±0.7, 33.41S±0.05×67.57W±0.05, h196km±6km, n83, σ1§28/98, mb4.0/29, 5C-1D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAGR	Agrelo	1.10	287	i P	Pn	06 32 16.6	+1.1
ACAN	Cantantal	1.18	16	i P	Pn	06 32 17.3	+1.3
ARCO	CERRO ARCO	1.27	296	i P	Pn	06 32 17.8	+1.0
ARCO				IAML		06 32 46.8	
	comp=Z,360nm,0.6s						
ASAL	Salagasta	1.34	307	i P	Pn	06 32 18.4	+1.1
ASAL				i S	Sn	06 32 43.4	+1.3
RTCV	Cerro Valdivia	1.75	332	i P	Pn	06 32 21.7	+0.7
MRA	San Martin	1.85	58	i P	Pn	06 32 23.5	+1.5
MRA				IAML		06 32 23.6	
	comp=Z,927nm,0.3s						
AUSP	Uspallata	1.93	307	i P	Pn	06 32 24.1	+1.0
AUSP				i S	Sn	06 32 53.1	+0.7
SJA	San Juan	2.06	336	i P	Pn	06 32 24.4	+0.3
SJA				i S	Sn	06 32 53.9	-0.4
SJA				IAML		06 32 56.2	
	comp=Z,892nm,0.2s						
ZON	Zonda	2.08	333	i S	Sn	06 32 54.3	-0.6
ZON				IAML		06 32 57.0	
	comp=Z,869nm,0.5s						
RTLS	Leoncito	2.17	317	i P	Pn	06 32 26.0	+0.5
RTLS				IAML		06 32 27.2	
	comp=Z,812nm,0.4s						
RTLL	Cerro Villicun	2.21	340	eP	Pn	06 32 26.3	+0.5
RTLL				i S	Sn	06 32 56.7	-0.7
FCH	Farellones	2.28	271	⇑iP	Pn	06 32 27.6	+0.9
FCH				i S	Sn	06 32 59.3	+0.4
FCH				IAML		06 33 11.7	
	comp=E,709nm,0.3s						
CLCH	Cerro Calan	2.48	270	⇑iP	Pn	06 32 29.4	+0.8
CLCH				i S	Sn	06 33 03.2	+0.7
ANTU	Antumapu	2.56	266	eP	Pn	06 32 30.3	+0.7
ANTU				i S	Sn	06 33 04.7	+0.5
ANTU				IAML		06 33 05.4	
	comp=N,2μm,0.5s						
PEL	Peldehue	2.62	275	ePn	Pn	06 32 30.3	+0.1
PEL				eSn	Sn	06 33 05.1	-0.3
PEL	Peldehue	2.62	275	⇑iP	Pn	06 32 30.5	+0.2
PEL				i S	Sn	06 33 05.1	-0.3
PEL				IAML		06 33 07.2	
	comp=N,3μm,0.4s						
ROCH	El Roble	2.92	278	eP	Pn	06 32 34.4	+0.5
ROCH				IAML		06 33 12.3	
	comp=N,5μm,0.5s						
ROC1	El Roble	2.92	278	ePn	Pn	06 32 34.1	+0.1
ROC1				eSn	Sn	06 33 09.9	-2.0
CMCH	Combarbala	3.66	307	⇓iP	Pn	06 32 43.0	+0.3

CMCH				*i* S		**Sn**	**06 33 27.0**	**-0.8**
GO05	**HualaæØ**	**3.95**	**245**	*e*Pn		**Pn**	**06 32 43.8**	**-2.4**
GO05				*e*Sn		**Sn**	**06 33 29.6**	**-4.4**
GO04	**Tololo Observa**	**4.24**	**319**	*e*Pn		**Pn**	**06 32 50.2**	**+0.2**
GO04				*e*Sn		**Sn**	**06 33 40.2**	**-0.8**
GO04	**Tololo Observa**	**4.24**	**319**	⇑*i* P		**Pn**	**06 32 50.2**	**+0.2**
GO04				*i* S		**Sn**	**06 33 40.4**	**-0.6**
LCO	**Las Campanas**	**5.14**	**328**	*e*Pn		**Pn**	**06 33 01.8**	**+0.2**
LCO				*e*Sn		**Sn**	**06 33 58.6**	**-3.1**
LCO	**Las Campanas**	**5.14**	**328**	⇑*i* P		**Pn**	**06 33 01.8**	**+0.2**
TRQA	**Tornquist**	**6.49**	**137**	*e*Pn		**Pn**	**06 33 17.9**	**-0.8**
GO06	**Curarrehue**	**6.91**	**206**	*e*Pn		**Pn**	**06 33 22.8**	**-1.4**
PLCA	**Paso Flores**	**7.69**	**197**	P		**Pn**	**06 33 32.6**	**-1.7**
	comp=N,1.4nm,0.3s,baz=35,slow=11,SNR=52							
PLCA	**Paso Flores**	**7.69**	**197**	*e*Pn		**Pn**	**06 33 33.3**	**-1.0**
PB10	**IPOC Station P**	**10.20**	**344**	*e*Pn		**Pn**	**06 34 05.9**	**-1.2**
GO07	**Milladeo Hill,**	**10.80**	**204**	*e*Pn		Pn	06 34 07.9	-6.7
LVC	**Limon Verde**	**10.82**	**353**	P		**Pn**	**06 34 16.1**	**+0.6**
	comp=N,1.3nm,0.3s,baz=163,slow=5.6,SNR=15							
LVC				S		**Sn**	**06 36 11.4**	**-5.0**
	comp=N,0.8nm,0.3s,baz=277,slow=20,SNR=1.9							
LVC	**Limon Verde**	**10.82**	**353**	*e*Pn		**Pn**	**06 34 16.4**	**+0.9**
PB04	**IPOC Station P**	**11.27**	**348**	*e*Pn		**Pn**	**06 34 19.7**	**-1.3**
CPUP	**Villa Florida**	**11.34**	**54**	P		**Pn**	**06 34 18.1**	**-3.6**
	comp=N,0.7nm,0.3s,baz=228,slow=13,SNR=11							
CPUP	**Villa Florida**	**11.34**	**54**	*e*Pn		**Pn**	**06 34 18.7**	**-3.1**
PB01	**IPOC Station P**	**12.44**	**352**	*e*Pn		**Pn**	**06 34 35.9**	**+0.1**
PB11	**IPOC Station P**	**13.72**	**352**	*e*Pn		**P**	**06 34 52.7**	**-1.6**
MNMC	**Minye Minye**	**14.34**	**352**	*e*Pn		**P**	**06 35 00.1**	**-1.2**
CHRN	**Cochrane**	**14.34**	**194**	*e*Pn		**Pn**	**06 34 58.6**	**-0.5**
LPAZ	**La Paz**	**17.06**	**358**	*e*P		**Pn**	**06 35 33.9**	**+0.9**
	comp=N,0.9nm,0.3s,baz=149,slow=5.5,SNR=33							
LPAZ	**La Paz**	**17.06**	**358**	*e*P		**Pn**	**06 35 33.7**	**+0.7**
	comp=N,4.6nm,0.6s							
SIV	**San Ignacio**	**18.31**	**20**	P		**Pn**	**06 35 45.5**	**-1.6**
	comp=N,1.3nm,0.3s,baz=227,slow=9.8,SNR=32							
GO10	**Punta Arenas**	**19.89**	**186**	*e*P		**P**	**06 36 03.3**	**+1.9**
	comp=N,73nm,0.8s							
NNA	**Nana**	**22.95**	**336**	P		**P**	**06 36 34.2**	**+1.7**
	comp=N,9.2nm,0.8s,baz=208,slow=12,SNR=3.2							
BDFB	**Brasilia**	**25.01**	**50**	P		**P**	**06 36 51.3**	**0.0**
	comp=N,3.2nm,0.6s,baz=226,slow=8.3,SNR=5.2							
BDFB	**Brasilia**	**25.01**	**50**	*e*P		**P**	**06 36 51.1**	**-0.2**
	comp=N,3.0nm,1.0s							
VNA3	**Neumayer Olymp**	**48.52**	**159**	P		**P**	**06 40 08.6**	**+0.8**
VNA1	**Neumayer--Stat**	**48.77**	**158**	P		**P**	**06 40 08.4**	**-1.3**
VNA2	**Neumayer--Watz**	**49.13**	**158**	P		**P**	**06 40 13.1**	**+0.7**
	baz=283,slow=8.3							
SNAA	**Sanae**	**50.74**	**158**	P		**P**	**06 40 25.2**	**+0.6**
SNAA	**Sanae**	**50.74**	**158**	*e*P		**P**	**06 40 24.8**	**+0.2**
	comp=N,1.3nm,0.8s							
CRPR	**Cabo Rojo, PR**	**51.13**	**1**	*e*P		**P**	**06 40 27.8**	**-0.2**
	comp=N,27nm,1.0s							
OBIP	**Obispado Ponce**	**51.17**	**1**	*e*P		**P**	**06 40 28.5**	**+0.2**
	comp=N,5.5nm,0.5s							
QSPA	**South Pole Qui**	**56.83**	**180**	*e*P		**P**	**06 41 09.7**	**+0.8**
	comp=N,2.7nm,0.6s							
TEIG	**Tepich**	**56.88**	**337**	*e*P		**P**	**06 41 10.0**	**+0.5**
	comp=N,11nm,1.1s							
VNDA	**Vanda**	**65.38**	**190**	P		**P**	**06 42 06.8**	**+0.8**
	comp=N,0.4nm,0.7s,baz=135,slow=4.3,SNR=3.0							
Z50A	**Ashland**	**68.52**	**344**	*e*P		**P**	**06 42 26.5**	**+0.3**
	comp=N,4.9nm,1.1s							
LRAL	**Lakeview Retre**	**68.58**	**343**	*e*P		**P**	**06 42 27.4**	**+0.9**
	comp=N,2.9nm,1.0s							
X48A	**Hartselle**	**69.94**	**343**	*e*P		**P**	**06 42 35.3**	**+0.4**
	comp=N,2.2nm,0.8s							
V53A	**Saluda**	**70.19**	**347**	*e*P		**P**	**06 42 36.7**	**+0.3**
	comp=N,3.3nm,0.9s							
W50A	**Signal Mountai**	**70.25**	**345**	*e*P		**P**	**06 42 37.5**	**+0.6**
	comp=N,2.2nm,0.9s							
TKL	**Tuckaleechee C**	**70.36**	**346**	*e*P		**P**	**06 42 37.5**	**+0.1**
	comp=N,3.9nm,1.1s							
SWET	**Sewanee**	**70.40**	**344**	*e*P		**P**	**06 42 37.9**	**+0.1**
	comp=N,4.9nm,0.9s							
OXF	**Oxford**	**70.61**	**341**	*e*P		**P**	**06 42 39.1**	**+0.1**
	comp=N,4.4nm,0.5s							
PLAL	**Pickwick Lake**	**70.70**	**342**	*e*P		**P**	**06 42 39.5**	**+0.1**
	comp=N,3.5nm,1.0s							
TX31	**Lajitas Ar. Si**	**71.15**	**327**	*e*P		**P**	**06 42 43.1**	**+0.6**
TXAR	**Lajitas Array**	**71.15**	**327**	P		**P**	**06 42 42.9**	**+0.4**
	comp=N,2.0nm,0.4s,baz=154,slow=6.3,SNR=7.6							
TZTN	**Tazewell**	**71.18**	**346**	*e*P		**P**	**06 42 42.3**	**0.0**
	comp=N,4.7nm,1.0s							
WVT	**Waverly**	**71.73**	**343**	*e*P		**P**	**06 42 46.0**	**+0.4**
T49A	**Edmonton**	**72.13**	**345**	*e*P		**P**	**06 42 48.0**	**-0.1**
W39A	**Magazine**	**72.53**	**338**	*e*P		**P**	**06 42 51.2**	**+0.8**
	comp=N,0.5nm,0.6s							
MAW	**Mawson**	**72.64**	**162**	P		**P**	**06 42 51.2**	**+0.4**
	comp=N,0.7nm,0.3s,baz=236,slow=11,SNR=3.3							
PBMO	**Poplar Bluff**	**73.02**	**341**	*e*P		**P**	**06 42 53.5**	**+0.2**
	comp=N,3.3nm,0.6s							
CCM	**Cathedral Cave**	**74.44**	**341**	*e*P		**P**	**06 43 01.9**	**+0.5**
	comp=N,0.4nm,0.6s							
BOSA	**Boshof**	**77.01**	**116**	P		**P**	**06 43 18.9**	**+2.3**
	comp=N,2.8nm,0.4s,baz=238,slow=4.2,SNR=9.9							
ANMO	**Albuquerque**	**77.15**	**328**	P		**P**	**06 43 18.4**	**+1.2**
	comp=N,0.5nm,0.4s,baz=106,slow=11,SNR=2.6							
TORD	**Torodi Ar. Bea**	**80.53**	**67**	P		**P**	**06 43 37.4**	**+1.6**
	comp=N,0.2nm,0.5s,baz=253,slow=4.4							
ECSD	**EROS Data Cent**	**81.23**	**339**	*e*P		**P**	**06 43 39.3**	**+0.5**
	comp=N,1.4nm,0.8s							
CRZF	**Crozet Islands**	**83.60**	**143**	*e*P		**P**	**06 43 49.6**	**-1.6**
	comp=N,43nm,1.0s							
PDAR	**Pinedale Array**	**85.01**	**330**	P		**P**	**06 43 59.6**	**+1.1**
	comp=N,0.4nm,0.8s,baz=204,slow=2.0,SNR=3.6							
RLMT	**Red Ledge**	**86.84**	**332**	*e*P		**P**	**06 44 08.5**	**+1.1**
WB2	**Warramunga Arr**	**122.97**	**205**	*e*PKPdf		**PKPdf**	**06 50 18.1**	**-0.4**
WRA	**Warramunga Arr**	**122.97**	**205**	PKP		**PKPdf**	**06 50 18.0**	**-0.6**
	comp=N,0.2nm,0.3s,baz=159,slow=1.6,SNR=10							

*IDC **09** 06:33:37.6±0.8, 10.03N×126.56E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.7/48, mbtmp3.8/9, Error ellipse: s-maj=69.7km s-min=16.3km az=71.0*
*MAN **09** 06:33:40.2, 10.09N×126.80E, h32km, mb4.9, ML3.8, MS3.8*
*ISCJB **09** 06:33:41.4±0.7, 10.05N±0.05×126.72E±0.08, h42km, mb3.7/9, Error ellipse: s-maj=11.3km s-min=6.9km az=3.8*
ISC 09 06:33:43.4±0.7, 10.02N±0.06×126.74E±0.09, h42km, n16, σ1s57/20, mb3.7/9, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BUTP	**Butuan**	**1.52**	**227**	*e*P		**Pn**	**06 34 06.0**	**-2.2**
BUTP				*e*S		**Sn**	**06 34 26.9**	**+0.1**
MSLP	**Maasin**	**1.86**	**274**	*e*P		**Pn**	**06 34 10.7**	**-2.0**
MSLP				*e*S		**Sn**	**06 34 38.6**	**+3.5**
BIPH	**Bislig**	**1.87**	**192**	⇑*i* P		**Pn**	**06 34 11.8**	**-1.0**
BIPH				*i* S		**Sn**	**06 34 33.8**	**-1.4**
PLP	**Palo**	**2.07**	**303**	⇓*e*P		**Pn**	**06 34 13.0**	**-2.7**
BUKP	**Musuan**	**2.70**	**218**	*e*P		**Pn**	**06 34 24.1**	**-0.3**
RCP	**Roxas**	**4.21**	**292**	⇓*e*P		**Pn**	**06 34 44.4**	**-0.8**
WRA	**Warramunga Arr**	**30.70**	**166**	P		**P**	**06 39 53.4**	**-1.1**
	0.2nm,0.4s,baz=345,slow=9.4,SNR=4.0							
ASAR	**Alice Springs**	**34.21**	**168**	P		**P**	**06 40 24.9**	**-0.3**
	0.3nm,0.5s,baz=354,slow=7.5,SNR=4.4							
ASAR				PcP		**PcP**	**06 43 02.5**	**+1.1**
	0.4nm,0.7s,baz=348,slow=3.1,SNR=4.8							
SONM	**Songino Array**	**41.41**	**339**	P		**P**	**06 41 26.4**	**+0.6**
	0.5nm,0.4s,baz=146,slow=8.7,SNR=3.5							
STKA	**Stephens Creek**	**44.02**	**162**	P		**P**	**06 41 48.8**	**+1.8**
	0.8nm,0.5s,baz=316,slow=9.7,SNR=3.6							
MKAR	**Makanchi Array**	**52.50**	**323**	P		**P**	**06 42 51.3**	**-1.1**
	0.6nm,0.7s,baz=120,slow=8.7,SNR=3.8							
ZALV	**Zalesovo Beam**	**55.06**	**331**	P		**P**	**06 43 10.8**	**-0.1**
	0.5nm,0.3s,baz=124,slow=8.6,SNR=3.3							
ILAR	**Eielson Array**	**79.46**	**26**	P		**P**	**06 45 45.5**	**+0.4**
	0.3nm,0.7s,baz=249,slow=5.0,SNR=4.3							
ARCES	**ARCESS Array B**	**84.58**	**340**	P		**P**	**06 46 11.4**	**-0.6**
	3.6nm,1.0s,baz=75,slow=6.4,SNR=6.6							
FINES	**FINESS Array B**	**86.33**	**332**	P		**P**	**06 46 20.3**	**-0.5**
	0.8nm,0.4s,baz=46,slow=4.5,SNR=5.8							
PLCA	**Paso Flores**	**145.80**	**156**	PKPbc		**PKPab**	**06 53 20.1**	**+1.3**
	1.9nm,0.9s,baz=309,slow=6.3,SNR=5.7							

MEX 09 06:39:44.0±0.4, 14.10N×92.44W, h30km±11km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
THIG		**0.82**	**12**	*e*P		Pn	06 39 57.2	-2.3
THIG				*i* S		Sb	06 40 07.6	-3.0
PCIG		**1.77**	**335**	*e*P		Pn	06 40 10.9	-1.6
PCIG				*e*S		Sn	06 40 31.1	-2.9
CCIG	**Comitan**	**2.19**	**8**	*e*P		Pn	06 40 16.2	-2.3
CCIG				*i* S		Sn	06 40 42.4	-2.4
TGIG		**2.74**	**346**	*e*P		Pn	06 40 25.1	-1.0
TGIG				*i* S		Sn	06 40 55.6	-2.7

*ISCJB **09** 06:40:15.5±0.4, 23.00S±0.03×68.83W±0.05, h103km±3km, mb4.2/45, Error ellipse: s-maj=7.7km s-min=5.4km az=171.6*
*GUC **09** 06:40:16.5±0.6, 22.98S×68.92W, h98km±2km, ML4.5*
*IDC **09** 06:40:16.8±0.4, 22.80S×68.74W, h98km±3km, mb3.9/12, mb1 4.0/15, mb1mx3.9/28, mbtmp4.2/15, Error ellipse: s-maj=14.5km s-min=11.9km az=68.0*
*NEIC **09** 06:40:16.0±0.0, 22.98S×68.92W, h98km, mb4.3/43, ML4.5(GUC), After GUC.*
NEIC Felt [III] at Sierra Gorda and [II] at Oficina Maria Elena.
ISC 09 06:40:16.8±0.4, 23.01S±0.04×68.84W±0.05, h100km±3km, h100km:pP-P, n110, σ1s07/138, mb4.3/45, 8C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LVC	**Limon Verde**	**0.41**	**351**	P		**Pn**	**06 40 31.8**	**-0.6**
	1μm,0.3s,baz=117,slow=7.2							
LVC				LR		LR	06 40 37.4	
	comp=Z,135nm,20.4s,baz=142,slow=83							
LVC				S		**Sn**	**06 40 43.2**	**-0.8**
	2μm,0.3s,baz=165,slow=6.5,SNR=201							
LVC	**Limon Verde**	**0.41**	**351**	*e*Pn		**Pn**	**06 40 31.9**	**-0.5**
LVC				*e*Sn		**Sn**	**06 40 43.5**	**-0.6**
LVC	**Limon Verde**	**0.41**	**351**	⇓*i* P		**Pn**	**06 40 32.0**	**-0.5**
LVC				*i* S		**Sn**	**06 40 43.3**	**-0.7**
PB15	**IPOC Station P**	**0.61**	**251**	⇑*i* P		**Pn**	**06 40 33.2**	**-0.5**
PB15				*i* S		**Sn**	**06 40 45.7**	**-0.6**
PB06	**IPOC Station P**	**0.74**	**294**	⇑*i* P		**Pn**	**06 40 34.2**	**-0.6**
PB06				*i* S		**Sn**	**06 40 47.4**	**-0.9**
PB06				IAML			06 40 47.8	
	comp=E,45μm,0.2s							
PB05	**IPOC Station P**	**1.27**	**277**	⇑*i* P		**Pn**	**06 40 39.4**	**-0.9**
PB05				*i* S		**Sn**	**06 40 56.9**	**-1.3**
PB05				IAML			06 40 57.8	
	comp=E,6μm,0.3s							
PB03	**IPOC Station P**	**1.28**	**318**	⇑*i* P		**Pn**	**06 40 40.1**	**-0.5**
PB03				*i* S		**Sn**	**06 40 57.7**	**-0.8**
PB03				IAML			06 40 58.4	
	comp=E,9μm,0.1s							
PB04	**IPOC Station P**	**1.39**	**299**	*e*Pn		**Pn**	**06 40 41.2**	**-0.7**
PB04				*e*Sn		**Sn**	**06 40 59.8**	**-1.0**
PB04	**IPOC Station P**	**1.39**	**299**	⇑*i* P		**Pn**	**06 40 41.1**	**-0.7**
PB04				*i* S		**Sn**	**06 40 59.6**	**-1.2**
PB04				IAML			06 41 03.9	
	comp=N,8μm,0.4s							
PB07	**IPOC Station P**	**1.60**	**323**	⇑*i* P		**Pn**	**06 40 44.2**	**-0.4**
PB07				*i* S		**Sn**	**06 41 04.6**	**-1.0**
PB07				IAML			06 41 06.8	
	comp=E,6μm,0.3s							
PB10	**IPOC Station P**	**1.65**	**252**	*e*Pn		**Pn**	**06 40 43.7**	**-1.2**
PB10				*e*Sn		**Sn**	**06 41 04.2**	**-2.2**
PB10	**IPOC Station P**	**1.65**	**252**	⇑*i* P		**Pn**	**06 40 43.8**	**-1.2**
PB02	**IPOC Station P**	**1.95**	**330**	⇑*i* P		**Pn**	**06 40 48.4**	**-0.4**
PB02				*i* S		**Sn**	**06 41 12.5**	**-0.7**
PB02				IAML			06 41 20.5	
	comp=E,5μm,0.3s							
PB01	**IPOC Station P**	**2.05**	**343**	*e*Pn		**Pn**	**06 40 49.8**	**-0.3**
PB01				*e*Sn		**Sn**	**06 41 14.5**	**-1.1**
PB01	**IPOC Station P**	**2.05**	**343**	⇓*i* P		**Pn**	**06 40 49.8**	**-0.3**
PB01				*i* S		**Sn**	**06 41 15.1**	**-0.4**
PB01				IAML			06 41 19.7	
	comp=E,2μm,0.2s							
PB11	**IPOC Station P**	**3.32**	**347**	*e*Pn		**Pn**	**06 41 05.5**	**-1.6**
PB11				*e*Sn		Sn	06 41 34.3	-12
MNMC	**Minye Minye**	**3.93**	**350**	*e*Pn		**Pn**	**06 41 13.7**	**-1.5**
MNMC				*e*Sn		Sn	06 41 45.1	-15
MNMC	**Minye Minye**	**3.93**	**350**	*e*P		**Pn**	**06 41 13.9**	**-1.4**
MNMC				*i* S		**Sn**	**06 41 59.0**	**-1.5**
MNMC				IAML			06 42 25.2	
	comp=N,776nm,0.2s							
LCO	**Las Campanas**	**6.20**	**195**	*e*Pn		**Pn**	**06 41 42.2**	**-3.8**
LPAZ	**La Paz**	**6.72**	**6**	P		**Pn**	**06 41 53.5**	**0.0**
	comp=N,0.7nm,0.3s,baz=205,slow=7.3,SNR=20							
LPAZ	**La Paz**	**6.72**	**6**	*e*Pn		**Pn**	**06 41 53.9**	**+0.3**
GO04	**Tololo Observa**	**7.34**	**193**	*e*Pn		**Pn**	**06 41 58.0**	**-3.5**
SIV	**San Ignacio**	**10.12**	**48**	P		**Pn**	**06 42 35.4**	**-3.8**
	comp=N,1.9nm,0.3s,baz=247,slow=10,SNR=30							
SIV				S		Sn	06 44 21.2	-10
	comp=N,0.8nm,0.3s,baz=319,slow=23,SNR=6.0							
CPUP	**Villa Florida**	**10.97**	**110**	P		**Pn**	**06 42 51.9**	**+1.1**
	comp=N,0.2nm,0.3s,baz=289,slow=14,SNR=8.0							
CPUP	**Villa Florida**	**10.97**	**110**	*e*Pn		**Pn**	**06 42 52.3**	**+1.5**
SAML	**Samuel**	**15.00**	**22**	*e*P		**P**	**06 43 45.2**	**-1.4**
	comp=N,2.6nm,1.0s							
TRQA	**Tornquist**	**16.11**	**160**	*e*Pn		**Pn**	**06 43 57.0**	**-0.3**
	comp=N,7.3nm,1.1s							
PLCA	**Paso Flores**	**17.73**	**184**	P		**Pn**	**06 44 19.9**	**+2.7**
	comp=N,0.1nm,0.3s,baz=20,slow=13,SNR=4.6							
SPB	**Sao Paulo**	**19.67**	**96**	*e*P		**P**	**06 44 37.3**	**-0.7**
	comp=N,28nm,1.0s							
GO07	**Milladeo Hill,**	**20.44**	**190**	*e*P		**P**	**06 44 46.0**	**-0.1**
	comp=N,20nm,0.6s							
BDFB	**Brasilia**	**20.96**	**73**	P		**P**	**06 44 50.6**	**-1.5**
	comp=N,13nm,0.8s,baz=245,slow=12,SNR=15							
BDFB	**Brasilia**	**20.96**	**73**	*e*P		**P**	**06 44 50.9**	**-1.1**
	comp=N,18nm,0.7s							
PTGA	**Pitinga**	**23.77**	**22**	P		**P**	**06 45 18.7**	**-1.5**
	comp=N,4.8nm,0.4s,baz=302,slow=22,SNR=14							
PTGA	**Pitinga**	**23.77**	**22**	*e*P		**P**	**06 45 19.1**	**-1.2**
	comp=N,7.5nm,1.0s							
AOPR	**Arecibo Observ**	**41.16**	**3**	*e*P		**P**	**06 47 51.1**	**-0.3**
	comp=N,0.8nm,0.7s							
TEIG	**Tepich**	**46.97**	**335**	*e*P		**P**	**06 48 38.1**	**+0.2**
	comp=N,12nm,1.1s							
ZAIG	**Zacatecas**	**56.10**	**322**	*e*P		**P**	**06 49 46.3**	**0.0**
	comp=N,5.5nm,1.0s							
352A	**Blakely**	**56.33**	**343**	*e*P		**P**	**06 49 46.5**	**-0.9**
	comp=N,9.3nm,0.9s							
Z50A	**Ashland**	**58.28**	**343**	*e*P		**P**	**06 50 00.4**	**-0.6**
	comp=N,6.3nm,0.8s							
VNA3	**Neumayer Olymp**	**58.63**	**161**	P		**P**	**06 50 03.5**	**+0.4**
VNA1	**Neumayer--Stat**	**58.84**	**160**	P		**P**	**06 49 57.5**	**-7.0**
VNA2	**Neumayer--Watz**	**59.21**	**160**	P		**P**	**06 50 07.6**	**+0.6**
	baz=288,slow=7.9							
SWET	**Sewanee**	**60.14**	**344**	*e*P		**P**	**06 50 13.3**	**-0.6**
	comp=N,13nm,1.2s							
V52A	**Sevierville**	**60.18**	**346**	*e*P		**P**	**06 50 13.8**	**-0.3**
	comp=N,3.0nm,0.8s							
SNAA	**Sanae**	**60.84**	**161**	P		**P**	**06 50 18.7**	**+0.4**
SNAA	**Sanae**	**60.84**	**161**	*e*P		**P**	**06 50 18.2**	**0.0**
	comp=N,2.2nm,0.7s							
V48A	**Smith Brothers**	**60.86**	**343**	*e*P		**P**	**06 50 18.0**	**-0.7**
	comp=N,3.5nm,0.6s							
WLAR	**White Oak Lake**	**60.94**	**337**	*e*P		**P**	**06 50 20.1**	**+0.8**
	comp=N,14nm,0.7s							
WVT	**Waverly**	**61.50**	**343**	*e*P		**P**	**06 50 22.0**	**-1.1**
	comp=N,6.1nm,0.8s							
MIAR	**Mount Ida**	**61.88**	**337**	*e*P		**P**	**06 50 24.5**	**-1.1**
	comp=N,2.7nm,0.7s							
LTX	**Lajitas**	**61.90**	**326**	*e*P		**P**	**06 50 26.0**	**-0.1**
LTX				*e*sP		**sP**	**06 51 01.8**	**+0.1**
TXAR	**Lajitas Array**	**61.90**	**326**	P		**P**	**06 50 26.0**	**0.0**
	comp=N,0.4nm,0.8s,baz=146,slow=9.1,SNR=4.0							
TXAR				sP		**sP**	**06 51 01.8**	**+0.1**
	comp=N,0.4nm,0.7s,baz=157,slow=6.8,SNR=4.3							
TX31	**Lajitas Ar. Si**	**61.91**	**326**	*e*P		**P**	**06 50 26.1**	**+0.1**
W39A	**Magazine**	**62.54**	**337**	*e*P		**P**	**06 50 30.2**	**+0.2**
	comp=N,3.8nm,1.0s							
FVM	**French Village**	**63.98**	**341**	*e*P		**P**	**06 50 38.6**	**-0.8**
	comp=N,7.7nm,1.0s							
QSPA	**South Pole Qui**	**67.19**	**180**	P		**P**	**06 51 00.9**	**+1.0**
	comp=N,2.6nm,0.5s,baz=172,slow=1.7,SNR=22							
QSPA				pP		**pP**	**06 51 25.9**	**+0.8**
	comp=N,3.0nm,0.5s,baz=216,slow=0.9,SNR=6.1							
HAL	**Halifax**	**67.49**	**4**	*e*P		**P**	**06 51 02.2**	**+0.4**
	comp=N,11nm,1.0s							
FRNY	**Flat Rock**	**67.66**	**356**	*e*P		**P**	**06 51 03.7**	**+0.8**
ANMO	**Albuquerque**	**67.80**	**327**	*e*P		**P**	**06 51 04.7**	**+0.5**
	comp=N,0.9nm,0.9s							
PKME	**Peaks-Kenny Pk**	**67.95**	**360**	*e*P		**P**	**06 51 05.3**	**+0.6**
	comp=N,7.2nm,1.1s							
JFWS	**Jewell Farm**	**68.50**	**343**	*e*P		**P**	**06 51 07.4**	**-0.9**
	comp=N,5.5nm,0.8s							
LMN	**Caledonia Moun**	**68.63**	**3**	*e*P		**P**	**06 51 09.2**	**+0.2**
DBIC	**Dimbokro**	**69.11**	**73**	P		**P**	**06 51 13.5**	**+0.8**
	comp=N,4.1nm,0.9s,baz=195,slow=6.9,SNR=3.7							
DBIC	**Dimbokro**	**69.11**	**73**	*e*P		**P**	**06 51 13.1**	**+0.4**
	comp=N,8.2nm,1.1s							
SDCO	**Great Sand Dun**	**69.58**	**330**	*e*P		**P**	**06 51 16.6**	**+1.2**
	comp=N,0.9nm,0.8s							
BGNE	**Belgrade**	**69.62**	**337**	*e*P		**P**	**06 51 15.0**	**-0.3**
	comp=N,19nm,0.9s							
SYO	**Syowa Base**	**75.07**	**159**	⇓*e*P		**P**	**06 51 47.6**	**+0.3**
VNDA	**Vanda**	**75.38**	**190**	P		**P**	**06 51 50.9**	**+1.9**
	comp=N,0.6nm,0.8s,baz=348,slow=2.1,SNR=4.1							
VNDA	**Vanda**	**75.38**	**190**	*e*P		**P**	**06 51 50.3**	**+1.3**
PDAR	**Pinedale Array**	**75.45**	**330**	P		**P**	**06 51 50.2**	**+0.2**
	comp=N,0.3nm,0.4s,baz=126,slow=6.9,SNR=5.8							
PDAR				pP		**pP**	**06 52 17.3**	**+1.6**
	comp=N,0.2nm,0.4s,baz=150,slow=6.8,SNR=2.0							
PDAR	**Pinedale Array**	**75.45**	**330**	*e*P		**P**	**06 51 49.6**	**-0.4**
PDAR				pP		**pP**	**06 52 17.3**	**+1.6**
HWUT	**Hardware Ranch**	**75.50**	**328**	*e*P		**P**	**06 51 50.9**	**+0.6**
	comp=N,2.6nm,1.0s							
AHID	**Auburn Hatcher**	**76.16**	**329**	*e*P		**P**	**06 51 53.8**	**-0.3**
	comp=N,4.3nm,1.0s							
REDW	**Red Top Meadow**	**76.51**	**330**	*e*P		**P**	**06 51 57.0**	**+0.9**
	comp=N,2.2nm,1.0s							
LOHW	**Long Hollow**	**76.59**	**330**	*e*P		**P**	**06 51 57.5**	**+1.0**
NVAR	**Mina Array Bea**	**76.72**	**322**	P		**P**	**06 51 57.7**	**+0.3**
	comp=N,0.6nm,0.7s,baz=141,slow=5.8,SNR=2.8							
MOOW	**Moose Ponds**	**76.76**	**330**	*e*P		**P**	**06 51 58.1**	**+0.7**
	comp=N,0.7nm,0.8s							
ULM	**Lac du Bonnet**	**76.77**	**343**	P		**P**	**06 51 56.5**	**-0.5**
	comp=N,3.3nm,0.5s,baz=154,slow=7.3,SNR=7.3							
ULM				pP		**pP**	**06 52 22.6**	**-0.1**
	comp=N,1.5nm,0.5s,baz=130,slow=21,SNR=1.7							
ULM	**Lac du Bonnet**	**76.77**	**343**	*e*P		**P**	**06 51 56.7**	**-0.4**
	comp=N,8.3nm,1.1s							
ULM				pP		**pP**	**06 52 22.6**	**-0.1**
FXWY	**Fox Creek**	**76.80**	**330**	*e*P		**P**	**06 51 58.1**	**+0.4**
	comp=N,1.2nm,0.9s							
FLWY	**Flagg Ranch**	**77.00**	**330**	*e*P		**P**	**06 52 00.2**	**+1.4**
	comp=N,4.4nm,0.8s							
RLMT	**Red Ledge**	**77.17**	**332**	*e*P		**P**	**06 52 00.6**	**+0.8**
	comp=N,2.2nm,0.6s							
YHH	**Holmes Hill**	**77.61**	**331**	*e*P		**P**	**06 52 03.9**	**+1.6**
	comp=N,2.3nm,0.9s							
TOA0	**Torodi Ar. Sit**	**77.81**	**70**	*e*P		**P**	**06 52 03.0**	**-0.7**
	comp=N,4.0nm,

BRTR	**Keskin Array B**	**32.03**	**326**	LR	LR	07 15 29.8	
	comp=Z,63nm,19.6s,baz=114,slow=39						
AAK	**Ala-Archa**	**32.09**	**26**	*e*P	**P**	**07 01 13.5**	**+1.8**
	5.4nm,1.1s						
AKTO	**Aktyubinsk**	**35.84**	**2**	P	**P**	**07 01 44.9**	**+0.9**
	0.4nm,0.3s,baz=295,slow=16,SNR=2.4						
MK32	**Makanchi Array**	**38.80**	**29**	*e*P	**P**	**07 02 10.7**	**+1.4**
MKAR	**Makanchi Array**	**38.80**	**29**	P	**P**	**07 02 10.7**	**+1.4**
	0.7nm,0.8s,baz=216,slow=8.9,SNR=3.8						
MKAR				LR	LR	07 20 42.8	
	comp=Z,172nm,18.9s,baz=221,slow=40						
CMAR	**Chiang Mai Arr**	**40.98**	**79**	P	**P**	**07 02 27.3**	**-0.5**
	1.4nm,0.3s,baz=281,slow=9.7,SNR=7.3						
CMAR				LR	LR	07 18 41.6	
	comp=Z,22nm,19.6s,baz=249,slow=35						
AKASG	**Malin Array Be**	**42.22**	**334**	P	**P**	**07 02 38.5**	**+1.1**
	1.3nm,0.7s,baz=135,slow=7.6,SNR=3.1						
AKASG				LR	LR	07 23 48.0	
	comp=Z,92nm,20.4s,baz=210,slow=41						
AKBB	**Malin Array Si**	**42.22**	**334**	*e*P	**P**	**07 02 38.5**	**+1.1**
MATP	**Matopo**	**44.21**	**219**	P	**P**	**07 02 53.0**	**-1.0**
	6.4nm,1.1s,baz=54,slow=9.9,SNR=4.8						
ZAA0	**Zalesovo Array**	**45.24**	**23**	*e*P	**P**	**07 03 01.5**	**-0.2**
	3.3nm,0.9s						
ZALV	**Zalesovo Beam**	**45.24**	**23**	P	**P**	**07 03 01.2**	**-0.5**
	0.9nm,0.6s,baz=208,slow=8.0,SNR=3.9						
ZALV				LR	LR	07 22 45.2	
	comp=Z,113nm,21.4s,baz=248,slow=37						
ZALV	**Zalesovo Beam**	**45.24**	**23**	*e*P	**P**	**07 03 01.4**	**-0.2**
ZAA1	**Zalesovo Array**	**45.24**	**23**	*e*P	**P**	**07 03 01.2**	**-0.5**
FINES	**FINESS Array B**	**51.64**	**342**	LR	LR	07 27 29.9	
	comp=Z,101nm,18.1s,baz=70,slow=38						
BOSA	**Boshof**	**52.37**	**215**	P	**P**	**07 03 56.5**	**-0.4**
	2.6nm,0.8s,baz=64,slow=5.5,SNR=3.1						
BOSA				LR	LR	07 26 17.5	
	comp=Z,104nm,18.2s,baz=28,slow=36						
SONM	**Songino Array**	**52.91**	**40**	LR	LR	07 29 46.8	
	comp=Z,98nm,18.8s,baz=312,slow=40						
TORD	**Torodi Ar. Bea**	**52.96**	**276**	LR	LR	07 24 57.8	
	comp=Z,92nm,18.3s,baz=325,slow=34						
ES19	**SONSECA Array**	**58.02**	**308**	*e*P	**P**	**07 04 37.9**	**+0.3**
ESDC	**Sonseca Array**	**58.06**	**308**	P	**P**	**07 04 39.2**	**+1.4**
	0.9nm,0.6s,baz=95,slow=5.4,SNR=6.3						
NRIK	**Noril'sk**	**58.20**	**13**	LR	LR	07 32 45.6	
	comp=Z,83nm,20.2s,baz=204,slow=39						
DBIC	**Dimbokro**	**60.50**	**269**	LR	LR	07 30 42.8	
	comp=Z,43nm,18.9s,baz=6.0,slow=36						
KSAR	**Wonju Array Be**	**66.75**	**55**	P	**P**	**07 05 38.5**	**+2.6**
KSRS	**Korea Array**	**66.78**	**55**	P	**P**	**07 05 38.5**	**+2.4**
	2.5nm,0.8s,baz=274,slow=7.4,SNR=8.4						
KSRS				LR	LR	07 36 48.8	
	comp=Z,32nm,18.9s,baz=294,slow=38						
JOW	**Kunigami**	**67.66**	**67**	*e*P	**P**	**07 05 41.9**	**-0.1**
	132nm,0.4s						
USRK	**Ussuriysk Ar.**	**69.78**	**48**	P	P	07 06 00.6	+5.8
	1.9nm,0.7s,baz=285,slow=3.7,SNR=4.4						
MAW	**Mawson**	**82.04**	**177**	LR	LR	07 35 17.6	
	comp=Z,45nm,18.5s,baz=62,slow=30						
WR1	**Warramunga Arr**	**83.99**	**112**	*e*P	**P**	**07 07 13.1**	**-2.2**
	2.5nm,0.8s						
WRA	**Warramunga Arr**	**83.99**	**112**	P	**P**	**07 07 13.1**	**-2.3**
	1.4nm,0.8s,baz=299,slow=4.1,SNR=9.3						
ASAR	**Alice Springs**	**84.75**	**116**	P	**P**	**07 07 17.4**	**-1.8**
	0.9nm,0.8s,baz=293,slow=5.2,SNR=9.9						
JAY	**Jayapura**	**85.19**	**94**	LR	LR	07 48 25.8	
	comp=Z,44nm,18.2s,baz=38,slow=38						
PETK	**Petropavlovsk-**	**85.19**	**36**	LR	LR	07 49 22.3	
	comp=Z,36nm,18.8s,baz=348,slow=38						
STKA	**Stephens Creek**	**93.61**	**122**	LR	LR	07 46 28.0	
	comp=Z,48nm,21.2s,baz=207,slow=33						
ILAR	**Eielson Array**	**98.99**	**10**	LR	LR	07 59 01.5	
	comp=Z,102nm,18.3s,baz=98,slow=39						
PDAR	**Pinedale Array**	**121.53**	**348**	PKP	**PKPdf**	**07 13 39.9**	**+1.2**
	0.4nm,0.7s,baz=15,slow=1.0,SNR=4.3						
NVAR	**Mina Array Bea**	**127.08**	**355**	PKP	**PKPdf**	**07 13 49.9**	**+0.5**
	0.7nm,0.8s,baz=44,slow=2.9,SNR=2.7						

*IDC **09** 07:27:44.4±3.5, 13.°94N×91.°94W, h0km, mb4.1/2, mb1 4.2/4, mb1mx3.8/25, mbtmp3.9/4, ML2.8/2, MS3.7/2, Ms1 3.7/2, ms1mx3.0/27, Error ellipse: s-maj=162.6km s-min=30.0km az=44.0*

*ISCJB **09** 07:27:50.6±0.8, 14.°02N±0.°06×92.°54W±0.°08, h46km, mb4.3/8, MS3.8/2, Error ellipse: s-maj=11.0km s-min=8.0km az=158.7*

*MEX **09** 07:27:50.4±0.5, 13.°92N×92.°77W, h27km±15km, MD3.9*

*NEIC **09** 07:27:51.1±1.1, 13.°93N×92.°57W, h35km, mb4.4/6, MD3.9(MEX), Error ellipse: s-maj=21.0km s-min=12.2km az=213.0*

ISC 09 07:27:52.0±1.0, **13.°99N**±0.°09×**92.°66W**±0.°09, **h46**km, **n25,** σ1§**75**/27, **mb4.4**/8, **Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.98**	**23**	*e*P	**Pn**	**07 28 07.7**	**-1.7**
THIG		**0.98**	**23**	*e*P	**Pn**	**07 28 07.7**	**-1.7**
THIG				*i* S	**Sn**	**07 28 21.1**	**-1.1**
PCIG		**1.79**	**342**	*e*P	**Pn**	**07 28 17.9**	**-2.4**
PCIG				*i* S	**Sn**	**07 28 39.3**	**-2.6**
PCIG		**1.79**	**342**	*e*P	**Pn**	**07 28 17.9**	**-2.4**
PCIG				*i* S	**Sn**	**07 28 39.3**	**-2.6**
CCIG	**Comitan**	**2.33**	**12**	*e*Pn	**Pn**	**07 28 29.6**	**+1.6**
CCIG	**Comitan**	**2.33**	**12**	*e*P	**Pn**	**07 28 27.3**	**-0.8**
CCIG				*e*S	**Sn**	**07 28 54.5**	**-1.0**
TGIG		**2.80**	**351**	*e*P	**Pn**	**07 28 33.1**	**-1.3**
TGIG				*e*S	**Sn**	**07 29 05.1**	**-2.0**
ESTN	**Estel**	**6.18**	**98**	*e*Pn	**Pn**	**07 29 18.4**	**-2.4**
TEIG	**Tepich**	**7.48**	**33**	*e*Pn	**Pn**	**07 29 38.7**	**+0.2**
LTX	**Lajitas**	**18.36**	**328**	*e*P	**Pn**	**07 32 05.3**	**+2.0**
TXAR	**Lajitas Array**	**18.36**	**328**	P	**Pn**	**07 32 05.3**	**+2.0**
	0.0nm,0.3s,baz=146,slow=12,SNR=7.2						
TX31	**Lajitas Ar. Si**	**18.36**	**328**	*e*P	**Pn**	**07 32 04.8**	**+1.4**
ROSC	**El Rosal**	**20.23**	**115**	P	P	07 32 14.6	-9.2
	1.4nm,0.3s,baz=221,slow=23,SNR=5.4						
AMTX	**Amarillo**	**22.34**	**340**	*e*P	**P**	**07 32 46.5**	**+0.4**
	10.0nm,0.7s						
MTPU	**Mount Pierson**	**29.56**	**328**	*e*P	**P**	**07 33 52.4**	**-0.5**
	5.6nm,0.6s						
I39A	**Houston**	**29.77**	**2**	*e*P	**P**	**07 33 53.6**	**-0.6**
	5.4nm,1.0s						
REDW	**Red Top Meadow**	**33.18**	**335**	*e*P	**P**	**07 34 26.4**	**+1.8**
	6.0nm,1.1s						
SNOW	**Snow King Moun**	**33.22**	**336**	*e*P	**P**	**07 34 26.6**	**+1.7**
	7.4nm,1.1s						
MCMT	**McKenzie Canyo**	**35.20**	**335**	*e*P	**P**	**07 34 44.6**	**+2.6**
PTGA	**Pitinga**	**35.53**	**112**	*e*P	**P**	**07 34 44.6**	**-0.3**
	3.3nm,0.8s						
SCHQ	**Schefferville**	**45.45**	**21**	LR	LR	07 55 27.9	
	comp=Z,70nm,18.7s,baz=347,slow=37						
YKA	**Yellowknife Ar**	**50.89**	**347**	P	**P**	**07 36 48.6**	**+0.5**
	3.5nm,0.7s,baz=151,slow=7.5,SNR=11						
ILAR	**Eielson Array**	**62.59**	**337**	P	**P**	**07 38 12.2**	**+1.0**
	1.0nm,0.9s,baz=119,slow=5.9,SNR=10						
AFI	**Afiamalu**	**83.08**	**254**	LR	LR	08 07 30.4	
	comp=Z,57nm,20.4s,baz=186,slow=28						
CMAR	**Chiang Mai Arr**	**145.79**	**340**	PKPbc	**PKPbc**	**07 47 26.4**	**-0.6**
	1.5nm,0.3s,baz=354,slow=4.5,SNR=5.5						

IDC 09 07:46:17.5±7.4, **3.°31N×96.°25E, h175**km±47km, **mb3.0**/2, **mb1 3.3**/4, **mb1mx2.9**/52, **mbtmp3.5**/4, **Error ellipse: s-maj=111.0km s-min=33.8km az=60.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.71**	**101**	P	Pn	07 47 03.3	+0.7
	baz=360,slow=13,SNR=7.7						
PSI				S	Sn	07 47 38.3	+0.7
	0.4nm,0.3s,baz=360,slow=10.0,SNR=1.7						
CMAR	**Chiang Mai Arr**	**15.28**	**10**	P	Pn	07 49 44.1	-0.3
	0.4nm,0.3s,baz=200,slow=12,SNR=5.0						
WRA	**Warramunga Arr**	**43.96**	**123**	P	P	07 54 07.8	+0.2
	0.3nm,0.4s,baz=302,slow=8.9,SNR=10						
ASAR	**Alice Springs**	**45.42**	**128**	P	P	07 54 18.6	-0.5
	0.4nm,0.6s,baz=296,slow=8.0,SNR=7.8						

IDC 09 07:49:46.9±1.8, **57.°52S×145.°95E, h0**km, **mb3.6**/4, **mb1 3.9**/4, **mb1mx3.8**/25, **mbtmp3.7**/4, **MS3.4**/2, **Ms1 3.4**/2, **ms1mx2.9**/25, **Error ellipse: s-maj=236.2km s-min=26.3km az=78.0, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**20.83**	**170**	P	P	07 54 29.7	+0.1
	0.7nm,0.9s,baz=337,slow=11,SNR=2.8						
STKA	**Stephens Creek**	**25.81**	**351**	P	P	07 55 20.6	+1.0
	3.0nm,0.8s,baz=192,slow=6.1,SNR=5.1						
URZ	**Urewera**	**28.03**	**60**	LR	LR	08 05 27.9	
	comp=Z,91nm,18.7s,baz=235,slow=34						
H01W1	**Cape Leeuwin H**	**31.08**	**303**	T	T	08 29 42.8	
	baz=144,slow=75,SNR=13						
H01W2	**Cape Leeuwin H**	**31.08**	**303**	T	T	08 29 31.3	
	baz=144,slow=75,SNR=3.7						
H01W3	**Cape Leeuwin H**	**31.10**	**303**	T	T	08 29 39.7	
	baz=144,slow=75,SNR=14						
ASAR	**Alice Springs**	**34.92**	**340**	P	P	07 56 40.6	+0.4
	0.7nm,0.9s,baz=164,slow=9.7,SNR=5.6						
MAW	**Mawson**	**36.62**	**220**	LR	LR	08 10 39.5	
	comp=Z,61nm,22.0s,baz=59,slow=34						
WRA	**Warramunga Arr**	**38.49**	**342**	P	P	07 57 09.3	-1.3
	1.9nm,1.1s,baz=166,slow=7.2,SNR=8.0						
H08S2	**Diego Garcia H**	**74.72**	**280**	T	T	09 24 30.0	
	baz=147,slow=76,SNR=8.4						
H08S1	**Diego Garcia H**	**74.73**	**280**	T	T	09 24 36.8	
	baz=147,slow=76,SNR=8.3						
H08S3	**Diego Garcia H**	**74.74**	**280**	T	T	09 24 24.5	
	baz=147,slow=76,SNR=4.4						

MEX 09 07:58:12.4±0.7, **18.°90N×105.°28W, h17**km±999km, **MD3.7, Off coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela**	**0.63**	**20**	*e*P	Pg	07 58 22.8	-2.2
CJM				*i* S	Sg	07 58 30.6	-2.7
R15V		**1.25**	**77**	*e*P	Pn	07 58 31.0	-4.2
R15V				*e*S	Sb	07 58 46.7	-4.7
EZ5V		**1.68**	**70**	*e*P	Pn	07 58 38.8	-2.5
EZ5V				*e*S	Sn	07 58 57.8	-4.8
MMIG	**Aquila**	**1.93**	**108**	*i* P	Pn	07 58 40.8	-3.6
MMIG				*i* S	Sn	07 59 03.4	-5.0

WEL 09 08:06:42.8, 38.°8S±0.°7×**177.°3E**±0.°8, **h6**km, **ML3.5/7, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNGZ	**Shannon Statio**	**0.04**	**98**	P	Pg	08 06 44.4	+0.3
SNGZ				S	Sg	08 06 45.9	+0.9
RAHZ	**Arahi**	**0.21**	**229**	P	Pg	08 06 48.2	+1.2
RAHZ				S	Sg	08 06 52.8	+2.9
RTZ	**Ruatahuna**	**0.29**	**303**	P	Pb	08 06 49.6	-0.9
RAGZ	**Rawiri**	**0.30**	**19**	P	Pg	08 06 49.4	+0.8
WHHZ	**Waihua**	**0.30**	**189**	P	Pb	08 06 50.1	-0.6
MTHZ	**Maungataniwha**	**0.36**	**258**	P	Pb	08 06 50.9	-0.8
MTHZ				S	Sb	08 06 57.3	-0.3
RIGZ	**Rimuhau**	**0.37**	**79**	P	Pb	08 06 51.5	-0.4
KNZ	**Kokohu**	**0.39**	**130**	P	Pb	08 06 51.6	-0.5
KNZ				S	Sb	08 06 57.8	-0.5
MWZ	**Matawai**	**0.48**	**23**	P	Pg	08 06 52.7	+0.7
PRGZ	**Paritu Road**	**0.48**	**108**	P	Pg	08 06 53.7	+1.6
PRGZ				P	Pb	08 06 53.6	-0.2
NMHZ	**Naumai**	**0.50**	**230**	P	Pb	08 06 53.8	-0.2
MUGZ	**Murupara**	**0.51**	**306**	P	Pb	08 06 53.5	-0.7
URZ	**Urewera**	**0.54**	**345**	P	Pg	08 06 53.8	+0.7
ARHZ	**Arapoaonui**	**0.54**	**205**	P	Pb	08 06 54.9	+0.1
TKGZ	**Te Karaka**	**0.55**	**52**	P	Pb	08 06 55.0	+0.1
MHGZ	**Mahia Peninsul**	**0.61**	**128**	P	Pb	08 06 56.7	+0.8
MRHZ	**Matea Rd**	**0.69**	**265**	P	Pb	08 06 56.8	-0.4
BKZ	**Black Stump Fm**	**0.73**	**238**	P	Pb	08 06 57.9	-0.2
RRRZ	**Republican Roa**	**0.75**	**305**	P	Pb	08 06 58.2	-0.2
PRRZ	**Plateau Road**	**0.76**	**291**	P	Pb	08 06 58.3	-0.2
ALRZ	**Allen Road**	**0.77**	**286**	P	Pb	08 06 58.7	0.0
CNGZ	**Carnagh Statio**	**0.77**	**68**	P	Pn	08 07 00.2	-0.1
EDRZ	**Edgecumbe**	**0.80**	**327**	P	Pb	08 06 59.0	-0.2
TWGZ	**Tauwhareparae**	**0.81**	**42**	P	Pn	08 07 00.4	-0.5
TWGZ				P	Pn	08 07 00.4	-0.5
MCHZ	**McNeill Hill**	**0.81**	**215**	P	Pn	08 07 00.2	-0.7
MCHZ				P	Pb	08 07 00.1	+0.7
TARZ	**Mount Tarawera**	**0.82**	**311**	P	Pb	08 06 59.8	+0.4
RUAZ	**Raukumara Rang**	**0.86**	**21**	P	Pg	08 06 59.8	+0.4
RUGZ				P	Pg	08 06 59.8	+0.4
HRRZ	**Handcock Road**	**0.88**	**296**	P	Pn	08 07 01.5	-0.3
CKHZ	**Cape Kidnapper**	**0.90**	**191**	P	Pn	08 07 01.6	-0.5
MKRZ	**Makatiti**	**0.91**	**314**	P	Pn	08 07 01.9	-0.4
WPRZ	**Whakapapatarin**	**0.92**	**286**	P	Pb	08 07 01.6	+0.3
MARZ	**Manawahe**	**0.93**	**328**	P	Pb	08 07 01.4	+0.1
KWHZ	**Kaweka Forest**	**0.94**	**226**	P	Pb	08 07 01.9	+0.3
HSRZ	**Hossack Road**	**0.94**	**299**	P	Pn	08 07 02.9	+0.2
WHRZ	**Whale Island**	**0.95**	**345**	P	Pb	08 07 01.8	0.0
OMRZ	**Omania**	**0.98**	**313**	P	Pb	08 07 02.7	+0.4
PUZ	**Puketiti**	**1.03**	**47**	P	Pn	08 07 03.6	-0.3
PUZ				P	Pn	08 07 03.6	-0.3
KAHZ	**Kahuranaki**	**1.07**	**197**	P	Pn	08 07 04.4	0.0
PKGZ	**Pakihiroa**	**1.08**	**35**	P	Pn	08 07 04.9	+0.3
PKGZ				P	Pb	08 07 04.9	+0.9
HAZ	**Te Kaha**	**1.09**	**21**	P	Pb	08 07 03.9	+0.2
OPNZ	**Ohinepanea**	**1.10**	**328**	P	Pb	08 07 04.2	0.0
KARZ	**Kaharoa**	**1.12**	**312**	P	Pb	08 07 04.7	+0.1
KRHZ	**Kereru**	**1.12**	**219**	P	Pn	08 07 05.4	+0.2
RATZ	**Rangitukua**	**1.19**	**265**	P	Pn	08 07 06.3	+0.2
BHHZ	**Black Hill Sta**	**1.19**	**233**	P	Pb	08 07 05.8	-0.1
PXZ	**Pawanui**	**1.30**	**195**	P	Pg	08 07 09.0	+1.4
WMGZ	**Waiomatatini S**	**1.30**	**43**	P	Pn	08 07 07.4	-0.2
KRVZ	**Karewarewa**	**1.33**	**256**	P	Pn	08 07 07.9	-0.2
MOVZ	**Moawhango**	**1.35**	**242**	P	Pg	08 07 08.8	+0.1
TUVZ	**Tukino**	**1.37**	**248**	P	Pg	08 07 09.1	+0.1
WTVZ	**West Tongariro**	**1.37**	**255**	P	Pg	08 07 09.2	+0.1
NGZ	**Ngauruhoe**	**1.38**	**253**	P	Pg	08 07 09.3	+0.1
PNHZ	**Pukenui**	**1.42**	**216**	P	Pn	08 07 09.0	-0.3
WHVZ	**Whangaehu Hut**	**1.42**	**249**	P	Pg	08 07 10.1	0.0
COVZ	**Chateau Observ**	**1.43**	**252**	P	Pg	08 07 10.4	+0.2
FWVZ	**Far West T-bar**	**1.44**	**250**	P	Pg	08 07 11.1	+0.7
WPHZ	**Waipukurau**	**1.45**	**207**	P	Pn	08 07 09.4	-0.2
MXZ	**Matakaoa Point**	**1.45**	**34**	P	Pg	08 07 11.0	+0.4
PRHZ	**Porangahau**	**1.57**	**199**	P	Pn	08 07 10.2	-1.1
PKOZ	**Pokaka**	**1.60**	**251**	P	Pg	08 07 13.6	+0.1
TSZ	**Takapari Road**	**1.64**	**218**	P	Pn	08 07 12.0	-0.3
DVHZ	**Dannevirke**	**1.75**	**209**	P	Pn	08 07 13.1	-0.7
BFZ	**Birch Farm**	**2.07**	**203**	P	Pn	08 07 16.7	-1.4
MRZ	**Mangatainoka R**	**2.30**	**215**	P	Pn	08 07 19.9	-1.4

*NIED **09** 08:32:00, 33.°20N×140.°80E, h20km, Mw3.6 Best double couple: M₀3.20000×10¹⁴ NP1:φ₉127.00000°, δ74.00000°, λ174.00000°. NP2:φ₉219.00000°, δ84.00000°, λ16.00000°.*

*IDC **09** 08:32:08.2±1.0, 32.°59N×139.°21E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.4/43, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=26.3km s-min=14.5km az=119.0*

*JMA **09** 08:32:10.1±0.1, 33.°20N×140.°80E, h59km±4km, M3.7*

ISC 09 08:32:06.2±1.6, **33.°18N**±0.°05×**140.°95E**±0.°06, **h14**km±10km, **n28,** σ1§**50**/34, **mb3.6**/3, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.95**	**267**	P	**Pn**	**08 32 26.2**	**+1.1**
JHJ2				*e*S	**Sb**	**08 32 37.6**	**+0.7**
JHCJ	**Hachijojimakas**	**0.97**	**264**	P	**Pn**	**08 32 26.2**	**+0.8**
JHCJ				*e*S	**Sg**	**08 32 37.1**	**-0.6**
JHJ	**Hachijo jima 2**	**0.98**	**267**	Pn	**Pn**	**08 32 26.4**	**+0.8**
	327nm,0.3s,baz=325,slow=18,SNR=37						
JHJ				LR	LR	08 32 35.0	
	comp=Z,113nm,19.9s,baz=106,slow=37						
JHJ				Sn	**Sg**	**08 32 37.3**	**-0.7**
	605nm,0.3s,baz=88,slow=22,SNR=33						
JAOM	**Aogashimamukai**	**1.22**	**235**	P	**Pb**	**08 32 30.0**	**+0.9**
JMKN	**Mikurajimanish**	**1.34**	**303**	P	**Pb**	**08 32 31.4**	**+0.3**
JMKN				*e*S	**Sb**	**08 32 46.5**	**-1.6**
BSO1	**Boso 1**	**1.48**	**1**	P	**Pg**	**08 32 34.5**	**0.0**
BSO1				*e*S	**Sg**	**08 32 52.7**	**-1.0**
BSO3	**Boso 3**	**1.66**	**347**	P	**Pb**	**08 32 36.8**	**+0.3**
BSO3				*e*S	**Sb**	**08 32 57.3**	**+0.2**
JKO	**Kozu shima**	**1.82**	**304**	P	**Pn**	**08 32 38.3**	**+1.3**
JKO				*e*S	**Sn**	**08 32 59.0**	**-0.8**
BSO4	**Boso 4**	**1.88**	**345**	P	**Pb**	**08 32 40.3**	**0.0**
JTHY	**Toshimahigashi**	**1.93**	**315**	P	**Pn**	**08 32 39.9**	**+1.3**
JTHY				*e*S	**Sn**	**08 33 01.8**	**-0.8**
JIM2	**Oshima 3**	**1.99**	**321**	P	**Pn**	**08 32 40.6**	**+1.2**
JIM2				*e*S	**Sn**	**08 33 03.1**	**-1.1**
JOD2	**Odawara 2**	**2.59**	**324**	P	**Pn**	**08 32 49.0**	**+1.3**
TK02	**Tokai 2**	**2.77**	**287**	P	**Pn**	**08 32 51.5**	**+1.5**
TK04	**Tokai 4**	**2.83**	**296**	P	**Pn**	**08 32 52.8**	**+1.9**
SHZ3	**Shizuoka 3**	**2.95**	**310**	P	**Pn**	**08 32 55.3**	**+2.6**
SHZ3				*e*S	**Sn**	**08 33 29.3**	**+1.3**
JYN	**Shimob**	**3.05**	**320**	P	**Pn**	**08 32 56.6**	**+2.5**
JYN				*e*S	**Sn**	**08 33 31.3**	**+0.8**
MJAR	**Matsushiro Arr**	**4.04**	**327**	Pn	**Pn**	**08 33 10.0**	**+2.3**
	2.0nm,0.3s,baz=163,slow=12,SNR=15						
MJAR				Sn	**Sn**	**08 33 56.0**	**+1.2**
	1.7nm,0.3s,baz=176,slow=31,SNR=7.6						
MAT	**Matsushiro**	**4.05**	**327**	P	**Pn**	**08 33 11.2**	**+3.5**
MAT				S	**Sn**	**08 33 54.8**	**-0.1**
JCJ	**Chichijima**	**6.15**	**170**	Pn	**Pn**	**08 33 38.3**	**+1.6**
H11N2	**WAKE ISLAND Hy**	**26.73**	**114**	T	T	09 06 37.5	
	baz=306,slow=75,SNR=38						
H11N1	**WAKE ISLAND Hy**	**26.73**	**114**	T	T	09 06 34.0	
	baz=306,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hy**	**26.74**	**114**	T	T	09 06 38.7	
	baz=306,slow=75,SNR=27						
H11S3	**WAKE ISLAND Hy**	**27.30**	**116**	T	T	09 07 15.4	
	baz=307,slow=75,SNR=5.7						
H11S1	**WAKE ISLAND Hy**	**27.30**	**116**	T	T	09 07 16.5	
	baz=307,slow=75,SNR=4.0						
H11S2	**WAKE ISLAND Hy**	**27.31**	**116**	T	T	09 07 18.4	
	baz=307,slow=75,SNR=4.3						
MKAR	**Makanchi Array**	**45.94**	**305**	P	**P**	**08 40 25.8**	**-2.8**
	0.7nm,0.9s,baz=89,slow=8.5,SNR=2.5						
WRA	**Warramunga Arr**	**53.20**	**188**	P	P	08 41 21.3	-2.7
	0.5nm,0.5s,baz=4.8,slow=7.5,SNR=9.7						
ASAR	**Alice Springs**	**56.92**	**188**	P	**P**	**08 41 51.0**	**0.0**
	0.1nm,0.4s,baz=3.5,slow=6.1,SNR=3.2						

*ISCJB **09** 08:49:03.0±0.9, 61.°12N±0.°04×28.°7E±0.°1, h0km, Error ellipse: s-maj=8.3km s-min=4.3km az=27.9*

*MOS **09** 08:49:03.0, 61.°02N×28.°91E, M1.9, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

*HEL **09** 08:49:04.9±0.2, 61.°01N×28.°91E, h0km, ML2.2, Explosion*

*IDC **09** 08:49:05.9±2.1, 60.°94N×28.°87E, h0km, mb1 3.5/2, mb1mx3.1/36, mbtmp3.3/2, ML2.6/2, Error ellipse: s-maj=18.4km s-min=10.9km az=162.0*

ISC 09 08:49:04.1±1.0, **61.°10N**±0.°04×**28.°83E**±0.°05, **h0**km, **n16,** σ1§**46**/24, **Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**0.84**	**229**	PG	**Pg**	**08 49 19.5**	**-0.7**
	baz=52						
VJF				SB	**Sg**	**08 49 31.6**	**+0.5**
FIA0	**FINESS Array S**	**1.38**	**286**	PG	**Pn**	**08 49 30.5**	**0.0**
	baz=108						
FINES	**FINESS Array B**	**1.38**	**286**	Pg	**Pb**	**08 49 30.8**	**+0.1**
	3.2nm,0.3s,baz=113,slow=16,SNR=61						
FINES				Lg	Lg	08 49 51.4	
	11nm,0.3s,baz=98,slow=30,SNR=30						
FINES				Rg	Rg	08 49 58.4	
	78nm,0.9s,baz=107,slow=33,SNR=33						
PVF	**Pernaja**	**1.56**	**250**	PG	**Pn**	**08 49 32.4**	**-0.6**
	baz=68						
PVF				MSG		08 49 51.8	
	comp=Z,18nm,0.2s						
PVF				SN	**Sg**	**08 49 56.7**	**+2.6**
SUF	**Sumiainen**	**2.06**	**323**	PG	**Pg**	**08 49 43.4**	**-0.2**
	baz=138						
SUF				MSG		08 50 08.9	
	comp=Z,14nm,0.2s						
SUF				SG	**Sg**	**08 50 12.2**	**+2.0**
JOF	**Joensuu**	**2.17**	**32**	PB	**Pb**	**08 49 43.3**	**-0.9**
JOF				SN	**Sb**	**08 50 10.7**	**-0.9**
KEF	**Keuruu**	**2.17**	**301**	PG	**Pb**	**08 49 44.6**	**+0.3**
KEF				SG	**Sg**	**08 50 15.8**	**+1.9**
ARBE	**Arbavere**	**2.19**	**222**	PG	**Pb**	**

	29nm,0.9s									
JCT	**Junction City**	17.80	338		*e*Pn		P	08 56 19.5	+2.4
	4.7nm,0.8s									
241A	**Mo Tay, Goldon**	17.94	358		*e*P		P	08 56 19.5	+1.0
	11nm,0.7s									
HPIG		17.95	318		*e*Pn		P	08 56 20.4	+1.6
	5.5nm,0.8s									
240A	**Hunter Patters**	18.00	356		*e*P		P	08 56 20.2	+1.0
	25nm,0.5s									
555A	**McAlpin**	18.20	27		*e*P		Pn	08 56 22.1	+0.6
	41nm,0.8s									
VBMS	**Vicksburg**	18.20	5		*e*P		Pn	08 56 21.7	+0.1
	19nm,0.8s									
LTX	**Lajitas**	18.54	327		*e*P		Pn	08 56 27.5	+1.7
TX31	**Lajitas Ar. Si**	18.54	327		*e*P		Pn	08 56 26.9	+1.0
TXAR	**Lajitas Array**	18.54	327		P		Pn	08 56 27.5	+1.7
	0.2nm,0.3s,baz=156,slow=11,SNR=28									
TXAR					LR		LR	09 04 57.3		
	comp=Z,84nm,19.0s,baz=0.0,slow=41									
143A	**Socs Landing,**	18.63	2		*e*P		Pn	08 56 29.3	+2.5
	20nm,1.0s									
352A	**Blakely**	18.65	20		*e*P		Pn	08 56 28.1	+1.0
	32nm,1.0s									
TIGA	**Tifton**	19.10	23		*e*P		Pn	08 56 31.9	-0.5
	29nm,1.0s									
Z41A	**Richland Creek**	19.17	359		*e*P		P	08 56 32.0	0.0
	22nm,0.8s									
SOTA	**Rioblanco**	19.47	126		*e*P		Pn	08 56 41.4	+4.0
LRAL	**Lakeview Retre**	19.54	13		*e*P		P	08 56 36.3	+0.2
	11nm,0.9s									
ABTX	**Abilene, Hawle**	19.71	341		*e*P		Pn	08 56 40.2	+0.4
	8.4nm,0.8s									
LPIG	**La Paz**	19.76	303		LR		LR	09 04 43.4		
	comp=Z,202nm,18.1s,baz=130,slow=38									
ROSC	**El Rosal**	19.90	116		P		Pn	08 56 42.0	-0.5
	0.5nm,0.3s,baz=252,slow=20,SNR=3.4									
PRAC	**Prado**	19.98	119		*e*P		P	08 56 38.8	-2.3
Z50A	**Ashland**	20.02	16		*e*P		P	08 56 42.2	+0.9
	8.2nm,1.0s									
154A	**Montrose**	20.33	23		*e*P		P	08 56 44.0	-0.7
	33nm,1.0s									
MIAR	**Mount Ida**	20.48	357		*e*P		P	08 56 46.7	+0.3
	10nm,1.0s									
CHIC	**Chingaza**	20.52	115		*e*P		P	08 56 47.8	+0.5
RUSC	**La Rusia**	20.54	111		*e*P		P	08 56 46.8	-0.9
FLOC	**Florencia**	20.56	125	ǁ	*e*P		Pn	08 56 48.9	-1.0
UALR	**University of**	20.68	360		*e*P		P	08 56 49.2	+0.8
	16nm,0.8s									
X48A	**Hartselle**	20.90	12		*e*P		P	08 56 50.6	-0.2
	9.8nm,0.8s									
GOGA	**Godfrey**	20.91	21		*e*P		P	08 56 50.2	-0.8
	13nm,0.9s									
W41B	**Gary Mavity, V**	21.08	0		*e*P		P	08 56 55.4	+2.7
	12nm,1.0s									
Y52A	**Lilburn**	21.13	19		*e*P		P	08 56 54.6	+1.3
	14nm,1.0s									
WHAR	**Wooly Hollow**	21.19	360		*e*P		P	08 56 53.9	0.0
	8.7nm,0.9s									
GDL2	**Guadalupe Moun**	21.22	331		*e*P		P	08 56 56.1	+1.7
PLAL	**Pickwick Lake**	21.23	10		*e*P		P	08 56 54.5	+0.1
	4.8nm,0.7s									
MNTX	**Cornudas Mount**	21.32	328		*e*P		P	08 56 56.3	+0.9
	6.2nm,0.8s									
WMOK	**Wichita Mounta**	21.46	345		*e*P		P	08 56 57.3	+0.4
	4.0nm,0.8s									
SDV	**Santo Domingo**	21.81	101		P		P	08 56 58.3	-2.7
	1.9nm,0.3s,baz=259,slow=5.9,SNR=4.8									
SWET	**Sewanee**	21.88	14		*e*P		P	08 57 00.6	-0.8
	8.9nm,1.1s									
W50A	**Signal Mountai**	22.02	15		*e*P		P	08 57 02.2	-0.6
	13nm,1.1s									
MSTX	**Muleshoe**	22.04	336		*e*P		P	08 57 03.6	+0.4
	10nm,0.6s									
TUL1	**Leonard**	22.04	352		*e*P		P	08 57 03.9	+0.8
	6.8nm,0.7s									
V48A	**Smith Brothers**	22.19	12		*e*P		P	08 57 05.0	+0.3
	8.8nm,0.9s									
HHAR	**Hobbs**	22.23	356		*e*P		P	08 57 03.8	-1.4
	3.3nm,0.9s									
WVT	**Waverly**	22.39	9		*e*P		P	08 57 05.0	-1.8
	6.9nm,1.0s									
AMTX	**Amarillo**	22.45	339		*e*P		P	08 57 07.8	+0.2
	20nm,0.8s									
CPCT	**Cooper Cave**	22.46	17		*e*P		P	08 57 06.8	-0.9
	13nm,1.2s									
BG3	**Lake Jocassee**	22.53	20		*e*P		P	08 57 07.6	-0.9
	6.6nm,0.9s									
PBMO	**Poplar Bluff**	22.74	4		*e*P		P	08 57 08.2	-2.3
	9.2nm,0.9s									
V51A	**Loudon**	22.84	17		*e*P		P	08 57 11.0	-0.6
	9.5nm,0.8s									
TKL	**Tuckaleechee C**	22.88	18		P		P	08 57 11.1	-0.9
	4.2nm,0.8s,baz=186,slow=11,SNR=6.1									
TKL					LR		LR	09 07 47.0		
	comp=Z,314nm,18.3s,baz=203,slow=41									
TKL	**Tuckaleechee C**	22.88	18		*e*P		P	08 57 11.3	-0.7
	8.3nm,0.9s									
V52A	**Sevierville**	23.10	18		*e*P		P	08 57 14.6	+0.4
	7.7nm,0.8s									
V53A	**Saluda**	23.19	20		*e*P		P	08 57 15.1	-0.1
	6.8nm,0.9s									
KMSC	**Kings Mountain**	23.24	23		*e*P		P	08 57 16.1	+0.5
	8.2nm,1.0s									
319A	**Douglas**	23.29	321		*e*P		P	08 57 17.7	+1.4
	9.2nm,1.1s									
T47A	**Sharon Grove**	23.35	10		*e*P		P	08 57 15.4	-1.3
	9.1nm,0.8s									
TZTN	**Tazewell**	23.77	18		*e*P		P	08 57 18.8	-1.9
	6.5nm,0.9s									
SIUC	**Southern Illin**	23.77	6		*e*P		P	08 57 19.4	-1.3
	23nm,0.8s									
T49A	**Edmonton**	23.78	13		*e*P		P	08 57 20.1	-0.6
	6.0nm,0.8s									
BNM	**Barren Site**	23.90	330		*e*P		P	08 57 23.9	+1.7
CCM	**Cathedral Cave**	23.97	2		*e*P		P	08 57 21.2	-1.3
	4.7nm,1.0s									
LPM	**Los Pinos Moun**	24.03	330		*e*P		P	08 57 25.8	+2.4
LAZ	**Ladron**	24.36	329		*e*P		P	08 57 28.6	+2.3
ANMO	**Albuquerque**	24.46	331		P		P	08 57 28.7	+1.4
	1.2nm,0.5s,baz=147,slow=11,SNR=11									
ANMO	**Albuquerque**	24.46	331		*e*P		P	08 57 28.9	+1.6
	4.4nm,1.0s									
WCI	**Wyandotte Cave**	24.70	11		*e*P		P	08 57 27.8	-1.5
	18nm,0.8s									
S51A	**Beattyville**	24.77	17		*e*P		P	08 57 28.4	-1.5
	5.7nm,0.8s									
OLIL	**Olney**	24.91	8		*e*P		P	08 57 30.1	-0.9
	18nm,0.8s									
ATAH	**Atahualpa**	25.12	146		LR		LR	09 05 55.5		
	comp=Z,187nm,20.4s,baz=317,slow=33									
SJG	**San Juan**	25.43	77		LR		LR	09 07 15.7		
	comp=Z,141nm,20.8s,baz=266,slow=36									
T25A	**Trinidad**	25.45	337		*e*P		P	08 57 38.6	+2.3
	5.9nm,0.7s									
Q51A	**Peebles**	26.14	16		*e*P		P	08 57 41.2	-1.1
	9.4nm,1.1s									
SDCO	**Great Sand Dun**	26.41	336		*e*P		P	08 57 47.0	+2.0
	2.9nm,0.9s									
S22A	**4UR Ranch, Cre**	26.95	334		*e*P		P	08 57 52.1	+2.1
	3.7nm,0.9s									
MVCO	**Mesa Verde**	27.26	331		*e*P		P	08 57 54.2	+1.6
	6.2nm,0.8s									
O52A	**Adamsville**	27.58	17		*e*P		P	08 57 53.7	-1.5
	4.9nm,0.8s									
SABA	**Saba**	28.15	79		*e*P		P	08 57 57.9	-2.7
	76nm,1.1s									
PV05	**Paradox Valley**	28.24	331		*e*P		P	08 57 58.8	-2.7
PV10	**Paradox Valley**	28.46	332		*e*P		P	08 58 04.6	+1.3
PV23	**Carpenter Ridg**	28.50	332		*e*P		P	08 58 04.8	+1.0
	10nm,0.8s									
NNA	**Nana**	30.02	149		LR		LR	09 07 48.0		
	comp=Z,123nm,22.0s,baz=325,slow=32									
P17A	**Butcher Ranch,**	30.13	331		*e*P		P	08 58 20.1	+2.1
P17A					*ep*P		P	08 58 21.1	+3.0
R11A	**Troy Canyon, C**	31.84	324		*e*P		P	08 58 31.4	-1.8
	1.9nm,1.0s									
PDAR	**Pinedale Array**	32.30	336		P		P	08 58 37.9	+0.7
	0.5nm,0.7s,baz=164,slow=7.7,SNR=4.4									
PDAR					PcP		PcP	09 01 26.2	+1.6
	0.4nm,0.6s,baz=148,slow=6.5,SNR=3.8									
PDAR					LR		LR	09 13 35.6		
	comp=Z,76nm,18.0s,baz=166,slow=40									
BGU	**Big Grassy Mou**	32.36	330		*e*P		P	08 58 41.4	+3.7
	7.0nm,1.1s									
REDW	**Red Top Meadow**	33.32	335		*e*P		P	08 58 47.4	+1.2
	7.7nm,0.8s									
SNOW	**Snow King Moun**	33.37	335		*e*P		P	08 58 48.0	+1.4
	11nm,0.6s									
NV11	**Mina Array Sit**	33.41	321		*e*P		P	08 58 49.7	+2.8
	0.2nm,0.8s									
LOHW	**Long Hollow**	33.43	336		*e*P		P	08 58 48.1	+1.1
	2.2nm,0.8s									
TPAW	**Teton Pass**	33.47	335		*e*P		P	08 58 48.8	+1.3
	4.6nm,1.0s									
NV01	**Mina Array Sit**	33.50	321		*e*P		P	08 58 50.0	+2.3
NVAR	**Mina Array Bea**	33.50	321		P		P	08 58 50.0	+2.3
	2.7nm,0.7s,baz=139,slow=8.7,SNR=15									
NVAR					PcP		PcP	09 01 29.1	+1.0
	0.5nm,0.5s,baz=101,slow=4.7,SNR=3.0									
NVAR					LR		LR	09 14 12.8		
	comp=Z,176nm,18.1s,baz=113,slow=40									
MOOW	**Moose Ponds**	33.60	335		*e*P		P	08 58 49.4	+0.8
	1.9nm,0.8s									
FXWY	**Fox Creek**	33.62	335		*e*P		P	08 58 50.5	+1.7
	1.4nm,0.8s									
IMW	**Indian Meadow**	33.80	335		*e*P		P	08 58 51.8	+1.4
	2.5nm,0.9s									
GCMT	**Greycliff**	34.92	339		*e*P		P	08 59 00.3	+0.4
HLID	**Hailey**	35.04	332		*e*P		P	08 59 03.1	+2.1
	3.0nm,0.8s									
PTGA	**Pitinga**	35.19	112		*e*P		P	08 59 01.6	-0.8
	5.7nm,0.8s									
MCMT	**McKenzie Canyo**	35.35	334		*e*P		P	08 59 06.1	+2.4
EGMT	**Eagleton**	36.89	340		*e*P		P	08 59 17.3	+0.7
	8.4nm,1.1s									
J08A	**Circle Bar Ran**	36.89	328		*e*P		P	08 59 18.3	+1.5
	8.7nm,0.7s									
F10A	**Beach Ranch, E**	38.17	332		*e*P		P	08 59 28.4	+0.9
	7.8nm,0.8s									
LPAZ	**La Paz**	38.41	141		LR		LR	09 14 39.6		
	comp=Z,92nm,19.6s,baz=300,slow=35									
LON	**Longmire**	40.94	329		*e*P		P	08 59 51.5	+0.9
	11nm,1.1s									
SIV	**San Ignacio**	42.89	133		P		P	09 00 04.8	-2.0
	1.5nm,0.7s,baz=313,slow=9.6,SNR=10.0									
SIV					PcP		PcP	09 01 56.2	-1.0
	0.8nm,0.8s,baz=272,slow=13,SNR=3.6									
SCHQ	**Schefferville**	45.31	20		LR		LR	09 21 26.4		
	comp=Z,234nm,18.0s,baz=246,slow=39									
YKA	**Yellowknife Ar**	50.96	347		P		P	09 01 08.3	-0.7
	5.0nm,0.7s,baz=150,slow=7.4,SNR=14									
YKW3	**Yellowknife Ar**	51.02	347		*e*P		P	09 01 10.0	+0.5
	5.8nm,0.9s									
DLBC	**Dease Lake**	52.54	336		*e*P		P	09 01 23.3	+2.3
	6.2nm,1.1s									
CPUP	**Villa Florida**	52.56	140		LR		LR	09 21 60.0		
	comp=Z,59nm,20.6s,baz=3.5,slow=34									
TAOE	**Nuku Hiva Isla**	52.65	247		*e*LR		LR	09 16 10.2		
	94nm,28.2s									
RKT	**Rikitea**	55.74	229		*e*T		T	10 01 38.4		
	2.6nm,0.3s									
PLCA	**Paso Flores**	58.07	161		LR		LR	09 22 05.3		
	comp=Z,115nm,18.2s,baz=338,slow=31									
RCBR	**Riuhuelo**	59.30	106		*e*P		P	09 02 09.7	-0.5
	11nm,1.0s									
DAWY	**Dawson**	59.57	338		*e*P		P	09 02 11.6	+0.4
	1.0nm,0.9s									
BMRM	**Bremner River**	60.04	334		*e*P		P	09 02 15.9	+1.4
	7.6nm,0.9s									
INK	**Inuvik**	60.36	344		*e*P		P	09 02 16.7	+0.3
	6.6nm,1.0s									
HARP	**HAARP**	60.95	335		*e*P		P	09 02 22.1	+1.5
	9.6nm,1.2s									
PAX	**Paxson**	61.34	335		*e*P		P	09 02 24.1	+0.8
	4.9nm,1.0s									
SCM	**Sheep Creek Mo**	61.60	334		*e*P		P	09 02 26.2	+1.1
	17nm,1.2s									
SEW	**Seward**	61.85	331		*e*P		P	09 02 27.2	+0.5
	19nm,1.2s									
GHO	**Glory Hole Cre**	62.27	333		*e*P		P	09 02 30.5	+0.9
	12nm,0.9s									
PMR	**Palmer**	62.29	333		*e*P		P	09 02 30.0	+0.4
	10nm,1.2s									
RC01	**Rabbit Creek A**	62.36	332		*e*P		P	09 02 30.8	+0.7
	16nm,1.1s									
BRLK	**Bradley Lake**	62.40	331		*e*P		P	09 02 31.7	+1.2
	2.2nm,0.7s									
IL1	**Eielson Array**	62.73	337		*e*P		P	09 02 32.4	-0.1
ILAR	**Eielson Array**	62.73	337		P		P	09 02 32.4	-0.2
	1.4nm,0.9s,baz=130,slow=4.3,SNR=16									
ILAR					LR		LR	09 32 10.2		
	comp=Z,70nm,18.1s,baz=140,slow=38									
ILB	**Eielson Array**	62.73	337		*e*P		P	09 02 32.9	+0.4
OHAK	**Old Harbor**	62.76	328		*e*P		P	09 02 35.0	+2.2
	14nm,1.2s									
RND	**Reindeer**	62.91	335		*e*P		P	09 02 35.0	+1.2
	6.0nm,0.8s									
MDM	**Murphy Dome**	63.33	337		*e*P		P	09 02 36.5	-0.1
	1.6nm,0.9s									
SKT	**Skwentna**	63.49	333		*e*P		P	09 02 37.9	+0.3
	8.4nm,1.0s									
TRF	**Thorfare Moun**	63.52	335		*e*P		P	09 02 38.9	+0.9
	5.5nm,0.7s									
BPAW	**Bear Paw Mtn.**	64.06	335		*e*P		P	09 02 41.2	-0.2
	4.5nm,0.9s									
PPLA	**Purkeypile**	64.11	334		*e*P		P	09 02 41.7	-0.2
	7.5nm,1.0s									
KEKH	**Kekaha**	64.20	288		*e*P		P	09 02 44.2	+1.2
	121nm,1.1s									
CAST	**Castle Rocks**	64.25	334		*e*P		P	09 02 42.2	-0.4
	4.3nm,0.9s									
MLY	**Manley**	64.32	336		*e*P		P	09 02 43.5	+0.3
	8.1nm,1.1s									
PPT2	**Papeete2**	64.66	243		*e*LR		LR	09 22 04.7		
	88nm,24.2s									
IM3	**Indian Mountai**	65.85	337		*e*P		P	09 02 52.3	-0.6
TBI	**Tubuai**	67.13	237		*e*LR		LR	09 23 14.0		
	92nm,27.5s									
RAR	**Rarotonga**	74.92	243		LR		LR	09 30 36.5		
	comp=Z,158nm,18.0s,baz=126,slow=31									
NOA	**NORSAR Array B**	84.27	28		LR		LR	09 40 55.0		
	comp=Z,28nm,19.8s,baz=330,slow=35									
TIXI	**Tiksi**	90.19	348		P		P	09 05 06.6	-1.0
	3.0nm,0.7s,baz=18,slow=5.9,SNR=8.1									
TIXI	**Tiksi**	90.19	348		*e*P		P	09 05 06.9	-0.7
	3.0nm,0.7s									
FINES	**FINESS Array B**	90.61	25		LR		LR	09 46 33.5		
	comp=Z,29nm,18.8s,baz=304,slow=36									
NRIK	**Norilʹsk**	96.87	0		LR		LR	09 54 00.9		
	comp=Z,101nm,18.2s,baz=32,slow=38									
HHC	**Hu-ho-hao-te**	121.12	339		*e*P		PKPdf	09 11 00.3	-0.4
KSH	**Kashi**	125.64	11		*e*PKP		PKPdf	09 11 11.2	+1.7
WB2	**Warramunga Arr**	135.12	256		*e*PKPdf		PKPdf	09 11 28.2	+0.5
WR1	**Warramunga Arr**	135.13	256		*e*PKPdf		PKPdf	09 11 27.5	-0.3
WRA	**Warramunga Arr**	135.13	256		PKP		PKPdf	09 11 27.5	-0.3
	0.3nm,0.7s,baz=88,slow=2.6,SNR=6.2									
ASAR	**Alice Springs**	135.41	250		PKP		PKPdf	09 11 25.7	-2.5
	0.3nm,0.8s,baz=90,slow=2.8,SNR=2.9									
CM31	**Chiang Mai Arr**	145.90	341		*e*PKPdf		PKPbc	09 11 47.9	+0.1
CMAR	**Chiang Mai Arr**	145.90	341		PKPbc		PKPbc	09 11 47.7	-0.1
	6.8nm,0.8s,baz=337,slow=3.6,SNR=30									
CM01	**Chiang Mai Arr**	145.93	341		*e*PKPdf		PKPdf	09 11 47.5	+0.2
PBKT	**Sadao Pong**	146.92	336		*e*PKPdf		PKPbc	09 11 50.3	-0.5
JAGI	**Jajag, Banyuwa**	153.51	279		*e*PKPdf		PKPdf	09 11 57.1	-2.3

IDC ***09*** *08:59:01.8±3.2, 64°.75N×33°.37E, h0km, mb1 3.1/3, mb1mx3.0/43, mbtmp3.0/3, ML2.5/3, Error ellipse: s-maj=39.8km s-min=10.4km az=106.0*
ISCJB ***09*** *08:59:07.9±0.7, 64°.79N±0°.03×30°.58E±0°.09, h0km, Error ellipse: s-maj=6.5km s-min=4.1km az=34.0*
UPP ***09*** *08:59:07.9±2.7, 64°.54N×30°.80E, h0km, ML1.7*
KOLA ***09*** *08:59:08.9, 64°.71N×30°.66E, h0km*
HEL ***09*** *08:59:09.3±0.2, 64°.82N×30°.74E, h0km, ML2.1, Explosion*
ISC 09 08:59:08.5±1.2, 64°.78N±0°.04×30°.69E±0°.06, h0km, n29, σ1°08/40, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KU6	**Riekki**	1.30	345	*e*P		Pg	08 59 32.0	-1.4
KU6				*e*S		Sg	08 59 48.5	-1.7
MSF	**Maaselka**	1.33	329	*e*P		Pg	08 59 32.5	-1.5
MSF				*e*S		Sg	08 59 50.5	-0.7
JOF	**Joensuu**	1.89	171	*e*P		Pn	08 59 41.3	-0.7
OUL	**Oulu**	2.06	281	*e*P		Pn	08 59 45.3	+0.9
OUL				*e*S		Sn	09 00 11.4	+0.6
OUF	**Merijarvi**	2.60	264	*e*SG		Sg	09 00 31.4	-0.7
OUF				MSG			09 00 34.4	
	comp=Z,9.8nm,0.1s							
RNF	**Rovaniemi**	2.67	316	*e*P		Pn	08 59 53.2	+0.5
SUF	**Sumiainen**	2.89	226	*e*P		Pn	08 59 57.2	+1.5
SUF				*e*SG		Sg	09 00 39.9	-1.3
SUF				MSG			09 00 41.2	
	comp=Z,5.0nm,0.1s							
TOF	**Tornio**	2.96	299	*e*P		Pn	08 59 57.3	+0.6
TOF				*e*SG		Sb	09 00 40.3	+1.5
TOF				MSG			09 00 45.6	
	comp=Z,4.7nm,0.2s							
APA0	**Apatity Array**	2.99	17	P		Pn	08 59 57.8	+0.7
APA0				S		Sn	09 00 34.5	+0.9
APA	**Apatity**	3.01	20	P		Pn	08 59 58.2	+0.8
APA				S		Sn	09 00 35.0	+0.9
SGF	**Sodankyl**	3.17	330	*e*P		Pn	09 00 00.0	+0.5
KALU	**Kalix**	3.26	293	P		Pn	09 00 02.1	+1.3
KALU				S		Sn	09 00 42.4	+2.1
SJUU	**Sjulsmark**	3.91	285	P		Pn	09 00 09.7	0.0
ERTU	**Ertsjaerv**	3.94	301	P		Pn	09 00 10.9	+0.7
FINES	**FINESS Array B**	3.95	214	Pn		Pn	09 00 11.1	+0.8
	comp=Z,0.2nm,0.3s,baz=38,slow=9.7,SNR=7.4							
FINES				Sn		Sb	09 01 08.5	+1.4
	comp=Z,0.7nm,0.3s,baz=36,slow=25,SNR=6.7							
FINES				Lg		Lg	09 01 32.3	
	comp=Z,0.4nm,0.3s,baz=28,slow=22,SNR=10							
BURU	**Burvik**	4.00	271	P		Pn	09 00 10.9	-0.1
HARU	**Harads**	4.28	293	P		Pn	09 00 15.8	+1.0
ODEU	**Stanfors**	4.31	270	P		Pn	09 00 14.7	-0.6
MASU	**Masugnsbyn**	4.44	311	P		Pn	09 00 19.0	+1.9
UMAU	**Umeaa**	4.45	263	P		Pn	09 00 16.2	-0.9
LILU	**Lilltraesk**	4.62	281	P		Pn	09 00 19.4	-0.1
DUNU	**Dundret**	4.76	304	P		Pn	09 00 22.6	+1.2
SVAU	**Svanoeiden**	4.79	272	P		Pn	09 00 21.4	-0.4
SVAU				S		Sn	09 01 17.4	-0.5
LANU	**Lannavaara**	4.79	317	P		Pn	09 00 22.4	+0.5
ARCES	**ARCESS Array B**	5.18	339	Pn		Pn	09 00 26.9	-0.4
	comp=Z,0.6nm,0.3s,baz=151,slow=13,SNR=17							
ARCES				Sn		Sn	09 01 26.8	-0.9
	comp=Z,0.6nm,0.3s,baz=151,slow=23,SNR=3.7							
RATU	**Laukkuluspa**	5.42	309	P		Pn	09 00 31.3	+0.8
SALU	**Saltoluokta**	5.60	303	P		Pn	09 00 33.9	+0.9
NIKU	**Nikkaluokta**	5.62	309	P		Pn	09 00 33.6	+0.3
NOA	**NORSAR Array B**	9.62	256	Pn		Pn	09 01 30.2	+2.1
	comp=Z,0.0nm,0.3s,baz=58,slow=19,SNR=4.0							

ISK ***09*** *09:00:04.3, 37°.87N×28°.90E, h6km, ML1.9/2*
DDA ***09*** *09:00:05.2, 37°.89N×29°.06E, h7km, Ml2.7*
ISC 09 09:00:04.6±1.1, 37°.94N±0°.03×28°.96E±0°.05, h5km±12km, n9, σ0°69/17, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
DENT	**Denizli**	0.19	162	PG		Pg	09 00 08.1	-0.3
DENT				SG		Sg	09 00 10.7	-0.3
DNZL	**Cakiroluk**	0.26	164	*i* P		Pg	09 00 10.2	+0.5
DNZL				*i* S		Sg	09 00 13.6	+0.5
TAVA	**DENIZLI_Tavas**	0.47	184	*i* P		Pg	09 00 13.2	-0.5
TAVA				*i* S		Sg	09 00 20.2	+0.3
KHAL	**Karahalli**	0.60	44	*i* P		Pg	09 00 15.9	-0.4
KHAL				*i* S		Sg	09 00 24.4	+0.3
KULA	**Kula-Manisa**	0.62	338	PG		Pb	09 00 17.9	-0.2
KULA				SG		Sb	09 00 27.3	+0.2
MANT	**Manisa**	0.64	330	*i* P		Pb	09 00 18.9	+0.5
MANT				*i* S		Sn	09 00 30.2	-1.0
BRDR	**BURDUR-Merkez**	0.91	105	*i* P		Pg	09 00 20.9	-1.1
BRDR				*i* S		Sn	09 00 37.0	-0.5
KZIL	**AFYON_Kizioren**	0.99	71	*i* P		Pg	09 00 23.4	-0.2
KZIL				*i* S		Sn	09 00 41.0	+1.4
TVSB	**Tavsanli**	1.56	14	PN		Pg	09 00 34.6	0.0

MEX 09 09:02:06.0±0.5, 14°.05N×92°.39W, h27km±51km, MD3.9, Near coast of Chiapas

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

QSPA PcP **PcP** **10 03 46.2 0.0**
comp=Z,18nm,0.8s,baz=219,slow=5.7,SNR=7.2
QSPA ScP **ScP** **10 07 18.7 -1.1**
comp=Z,16nm,0.9s,baz=242,slow=1.1,SNR=13
QSPA LR LR 10 13 50.0
comp=Z,586nm,21.9s,baz=224,slow=34
QSPA South Pole Qui 33.78 180 *e*P **P** **10 01 11.5 +1.6**
comp=Z,443nm,1.5s
QSPA *e*PcP **PcP** **10 03 46.2 0.0**
GO05 HualaæØ 36.81 287 *e*P **P** **10 01 35.4 -0.6**
comp=Z,78nm,1.5s
CPUP Villa Florida 36.95 312 P **P** **10 01 37.0 -0.2**
comp=Z,7.8nm,0.6s,baz=153,slow=7.1,SNR=22
CPUP PcP **PcP** **10 03 56.3 +0.4**
comp=Z,10nm,0.8s,baz=148,slow=2.4,SNR=5.4
CPUP ScP **ScP** **10 07 30.4 -1.3**
comp=Z,10nm,1.0s,baz=127,slow=3.1,SNR=6.9
CPUP LR LR 10 16 56.2
comp=Z,207nm,18.4s,baz=176,slow=36
CPUP Villa Florida 36.95 312 *e*P **P** **10 01 36.8 -0.3**
comp=Z,27nm,1.0s
CPUP *e*PcP **PcP** **10 03 56.3 +0.4**
CPUP Villa Florida 36.95 312 *e*P **P** **10 01 36.8 -0.3**
CPUP *e* 10 03 56.3
CPUP pmax pmax
comp=Z,27nm,1.0s
PEL Peldehue 37.60 290 P **P** **10 01 44.4 +1.8**
PEL pmax pmax
comp=Z,31nm,0.7s
ROC1 El Roble 37.90 290 *e*P **P** **10 01 46.5 +1.1**
comp=Z,30nm,0.6s
MAW Mawson 39.92 143 P **P** **10 02 02.2 +0.7**
comp=Z,13nm,0.3s,baz=230,slow=7.7,SNR=72
MAW PcP **PcP** **10 04 05.3 +0.8**
comp=Z,9.7nm,0.8s,baz=220,slow=7.2,SNR=3.2
MAW ScP **ScP** **10 07 42.9 +0.5**
comp=Z,5.7nm,0.8s,baz=248,slow=4.9,SNR=7.0
MAW LR LR 10 16 47.5
comp=Z,187nm,19.2s,baz=245,slow=33
MAW Mawson 39.92 143 *e*P **P** **10 02 01.9 +0.4**
comp=Z,7.1nm,0.8s
GO04 Tololo Observa 40.01 293 *e*P **P** **10 02 03.2 +0.2**
comp=Z,23nm,0.8s
LCO Las Campanas 40.90 294 *ce*P **P** **10 02 14.2 +3.8**
SUR Sutherland 40.93 75 P **P** **10 02 10.8 +0.3**
comp=Z,8.5nm,0.8s,baz=193,slow=8.1,SNR=3.7
SUR LR LR 10 15 29.0
comp=Z,237nm,18.1s,baz=218,slow=31
SUR Sutherland 40.93 75 *e*P **P** **10 02 10.7 +0.2**
comp=Z,52nm,1.6s
BDFB Brasilia 43.63 331 P **P** **10 02 33.3 +0.9**
comp=Z,12nm,0.9s,baz=166,slow=5.0,SNR=11
BDFB ScP **ScP** **10 07 58.6 +0.5**
comp=Z,1.7nm,0.4s,baz=170,slow=12,SNR=2.3
BDFB LR LR 10 19 40.2
comp=Z,290nm,18.2s,baz=216,slow=34
BDFB Brasilia 43.63 331 *e*P **P** **10 02 33.1 +0.7**
comp=Z,41nm,1.2s
SHEL Horse Pasture 43.69 31 *i* P **P** **10 02 34.7 +1.9**
LVC Limon Verde 45.35 301 P **P** **10 02 47.4 +1.0**
comp=Z,9.6nm,0.4s,baz=144,slow=4.7,SNR=19
LVC Limon Verde 45.35 301 *e*P **P** **10 02 47.3 +1.0**
comp=Z,25nm,0.8s
LVC Limon Verde 45.35 301 *ce*P **P** **10 02 48.1 +1.8**
LVC pmax pmax
comp=Z,15nm,0.7s
PB10 IPOC Station P 45.38 298 *e*P **P** **10 02 46.0 -0.2**
comp=Z,25nm,1.0s
SBA Scott Base 45.65 184 *e*P **P** **10 02 49.8 +2.2**
comp=Z,72nm,1.1s
SBA Scott Base 45.65 184 *e*P **P** **10 02 49.8 +2.2**
SBA pmax pmax
comp=Z,72nm,1.1s
VNDA Vanda 46.15 183 P **P** **10 02 53.4 +1.9**
comp=Z,38nm,0.7s,baz=186,slow=6.9,SNR=270
VNDA ScP **ScP** **10 08 07.4 -0.1**
comp=Z,2.6nm,0.8s,baz=204,slow=2.3,SNR=5.4
VNDA LR LR 10 22 49.1
comp=Z,63nm,18.1s,baz=170,slow=36
VNDA Vanda 46.15 183 *e*P **P** **10 02 53.2 +1.7**
comp=Z,64nm,1.0s
PB04 IPOC Station P 46.18 300 *e*P **P** **10 02 53.8 +1.2**
comp=Z,53nm,1.2s
BOSA Boshof 46.26 76 P **P** **10 02 52.0 -1.1**
comp=Z,6.4nm,0.8s,baz=205,slow=7.7,SNR=6.5
BOSA ScP **ScP** **10 08 08.1 -0.8**
comp=Z,5.6nm,1.0s,baz=205,slow=9.6,SNR=4.0
BOSA LR LR 10 19 11.8
comp=Z,251nm,18.3s,baz=206,slow=32
BOSA Boshof 46.26 76 *e*P **P** **10 02 52.6 -0.5**
BOSA Boshof 46.26 76 *e*P **P** **10 02 52.6 -0.5**
PB01 IPOC Station P 46.96 301 *e*P **P** **10 02 59.6 +0.9**
comp=Z,26nm,0.8s
PB11 IPOC Station P 48.15 302 *e*P **P** **10 03 08.7 +0.8**
comp=Z,58nm,1.0s
H10S2 ASCENSION HYDR 48.46 17 T T 10 55 34.1
baz=189,slow=75
H10S3 ASCENSION HYDR 48.46 17 T T 10 55 34.4
baz=189,slow=75
H10S1 ASCENSION HYDR 48.47 17 T T 10 55 35.5
baz=189,slow=75
MNMC Minye Minye 48.66 302 *e*P **P** **10 03 13.0 +1.1**
comp=Z,37nm,0.7s
LBTB Lobatse 49.31 73 *e*P **P** **10 03 16.0 -0.7**
comp=Z,63nm,1.4s
LBTB Lobatse 49.31 73 *e*P **P** **10 03 16.0 -0.7**
LBTB pmax pmax
comp=Z,63nm,1.4s
TSUM Tsumeb 50.05 61 *e*P **P** **10 03 22.0 -0.3**
comp=Z,28nm,1.3s
LPAZ La Paz 50.47 306 P **P** **10 03 27.1 +1.0**
comp=Z,20nm,0.5s,baz=117,slow=5.1,SNR=128
LPAZ ScP **ScP** **10 08 25.3 -2.2**
comp=Z,1.3nm,0.5s,baz=73,slow=3.8,SNR=3.5
LPAZ La Paz 50.47 306 *e*P **P** **10 03 26.6 +0.5**
comp=Z,23nm,0.6s
CASY Casey 53.58 160 *e*P **P** **10 03 49.1 +1.4**
comp=Z,64nm,0.9s
SAML Samuel 54.97 315 *e*P **P** **10 03 58.3 -0.1**
comp=Z,32nm,1.2s
SAML Samuel 54.97 315 *ce*P **P** **10 03 58.7 +0.3**
SAML pmax pmax
comp=Z,13nm,1.7s
LSZ Lusaka 58.70 69 *e*P **P** **10 04 24.5 -0.4**
comp=Z,31nm,0.9s
LSZ Lusaka 58.70 69 *e*P **P** **10 04 24.5 -0.4**
LSZ pmax pmax
comp=Z,31nm,0.9s
PTGA Pitinga 61.39 322 *e*P **P** **10 04 43.8 +0.7**
comp=Z,5.4nm,0.9s
LIC Lamto 65.16 25 *e*P **P** **10 05 07.1 -0.8**
comp=Z,26nm,0.5s
KIC Kosan Boka 65.36 25 *e*P **P** **10 05 09.3 +0.1**
comp=Z,78nm,1.4s
TIC Toumodi 65.56 25 *e*P **P** **10 05 10.5 -0.1**
DBIC Dimbokro 65.63 25 P **P** **10 05 11.2 +0.2**
comp=Z,6.0nm,0.4s,baz=177,slow=7.3,SNR=15
DBIC LR LR 10 28 06.9
comp=Z,241nm,19.3s,baz=166,slow=31
DBIC Dimbokro 65.63 25 *e*P **P** **10 05 11.1 +0.2**
comp=Z,11nm,0.9s
ABPO Ambohimpanom 65.95 88 *e*P **P** **10 05 15.0 +1.7**
comp=Z,16nm,1.0s
ABPO Ambohimpanom 65.95 88 *e*P **P** **10 05 15.0 +1.7**
ABPO pmax pmax
comp=Z,16nm,1.0s
FLOC Florencia 69.67 307 *e*P **P** **10 05 35.8 -0.6**
OTAV Otavalo 69.73 304 *e*P **P** **10 05 38.8 +1.5**
comp=Z,39nm,1.4s
OTAV Otavalo 69.73 304 *e*P **P** **10 05 39.3 +2.0**
OTAV Otavalo 69.73 304 *ce*P **P** **10 05 39.3 +2.0**
OTAV pmax pmax
comp=Z,23nm,1.3s
CRUC La Cruz 70.23 306 *e*P **P** **10 05 44.7 +4.5**
SOTA Rioblanco 70.58 307 *e*P **P** **10 05 43.8 +1.3**
CHIC Chingaza 71.57 311 *e*P **P** **10 05 48.1 -0.3**
ROSC El Rosal 72.01 310 P **P** **10 05 53.1 +2.2**
comp=Z,5.5nm,0.3s,baz=134,slow=22,SNR=3.6
ROSC LR LR 10 38 12.2
comp=Z,66nm,20.1s,baz=109,slow=36
RUSC La Rusia 72.44 312 *e*P **P** **10 05 53.3 -0.4**
BARC Barichara 73.11 312 *e*P **P** **10 05 55.5 -1.8**
TOA0 Torodi Ar. Sit 73.51 30 *e*P **P** **10 05 59.8 +0.5**
TORD Torodi Ar. Bea 73.51 30 P **P** **10 05 58.0 -1.3**
comp=Z,17nm,0.6s,baz=199,slow=6.8
TORD pP **pP** **10 06 26.8 -1.6**
comp=Z,30nm,0.9s,baz=189,slow=6.4,SNR=16
TORD LR LR 10 33 37.8
comp=Z,181nm,18.4s,baz=260,slow=32
TOA1 Torodi Ar. St 73.52 30 *e*P **P** **10 05 58.0 -1.3**
TOA1 *e*pP **pP** **10 06 26.8 -1.6**
SDV Santo Domingo 74.17 315 *e*P **P** **10 06 05.3 +1.9**
comp=Z,14nm,0.8s
ZARC Zaragoza, Cauc 74.62 311 *e*P **P** **10 06 04.7 -1.1**
DBBC Dabeiba 74.77 309 *e*P **P** **10 06 06.4 -0.4**
KMBO Kilima Mbogo 75.36 69 P **P** **10 06 14.1 +3.6**
comp=Z,1.0nm,0.3s,baz=227,slow=5.5,SNR=7.2
KMBO pP **pP** **10 06 42.2 +2.6**
comp=Z,0.9nm,0.3s,baz=192,slow=7.3,SNR=1.6
KMBO LR LR 10 37 33.4
comp=Z,56nm,18.6s,baz=90,slow=34
KMBO Kilima Mbogo 75.36 69 *e*P **P** **10 06 14.1 +3.6**
comp=Z,15nm,1.4s
SMLC San Mart›n de 75.47 312 *e*P **P** **10 06 09.8 -0.8**
WHZ Wether Hill Ro 77.18 191 *e*P **P** **10 06 20.7 +0.6**
comp=Z,73nm,1.2s
MLZ Mavora Lakes 77.69 191 *e*P **P** **10 06 23.1 +0.2**
comp=Z,80nm,1.4s
RPZ Rata Peaks 78.96 194 P **P** **10 06 30.5 +0.5**
comp=Z,42nm,1.0s,baz=130,slow=5.0,SNR=5.0
RPZ Rata Peaks 78.96 194 *e*P **P** **10 06 31.0 +1.0**
OXZ Oxford 79.21 194 *e*P **P** **10 06 32.5 +1.2**
comp=Z,79nm,1.5s
LTZ Lake Taylor 79.72 195 *e*P **P** **10 06 35.1 +1.0**
comp=Z,86nm,1.1s
KHZ Kahutara 79.89 196 *e*P **P** **10 06 35.3 +0.4**
comp=Z,73nm,1.3s
RKT Rikitea 80.12 243 *e*T T 11 35 21.2
comp=Z,0.7nm,0.2s
THZ Tophouse 80.62 195 *e*P **P** **10 06 40.2 +1.2**
comp=Z,115nm,1.4s
TAU Tasmania Unive 80.89 176 *e*P **P** **10 06 41.0 +0.7**
comp=Z,166nm,1.6s
TAU Tasmania Unive 80.89 176 *e*P **P** **10 06 41.0 +0.7**
TAU pmax pmax
comp=Z,166nm,1.6s
JTS JuntasAbangare 81.58 303 *i* P **P** **10 06 44.3 +0.1**
BKZ Black Stump Fm 82.58 199 *e*P **P** **10 06 50.5 +1.2**
comp=Z,295nm,0.2s
URZ Urewera 83.35 199 P **P** **10 06 54.1 +0.9**
comp=Z,19nm,1.0s,baz=26,slow=1.5,SNR=7.2
URZ Urewera 83.35 199 *e*P **P** **10 06 54.1 +0.9**
comp=Z,522nm,0.4s
NWAO Narrogin (SRO) 86.05 151 P **P** **10 07 06.7 -0.2**
comp=Z,5.6nm,0.7s,baz=158,slow=21,SNR=2.2
NWAO LR LR 10 41 44.2
comp=Z,80nm,19.6s,baz=230,slow=33
OUZ Omahuta 86.92 197 *e*P **P** **10 07 11.8 +0.7**
comp=Z,60nm,0.8s
BBOO Buckleboo 89.98 166 *e*P **P** **10 07 25.8 +0.2**
comp=Z,32nm,0.8s
FORT Forrest 90.65 159 *e*P **P** **10 07 29.7 +1.0**
comp=Z,57nm,1.0s
MDT Midelt 91.05 19 LR LR 10 45 40.0
comp=Z,167nm,18.3s,baz=208,slow=34
STKA Stehens Creek 91.52 171 P **P** **10 07 33.4 +0.6**
comp=Z,11nm,0.8s,baz=156,slow=4.7,SNR=15
STKA LR LR 10 44 58.3
comp=Z,111nm,21.8s,baz=195,slow=33
STKA Stephens Creek 91.52 171 *e*P **P** **10 07 33.1 +0.4**
comp=Z,2.5nm,0.9s
PPT2 Papeete2 91.78 234 *e*LR LR 10 37 29.0
comp=Z,273nm,29.5s
PPT Papeete 91.80 234 LR LR 10 41 59.4
comp=Z,43nm,18.3s,baz=152,slow=31
ASAR Alice Springs 98.64 163 P **P** **10 08 05.1 -0.3**
comp=Z,13nm,0.8s,baz=188,slow=4.3,SNR=95
ASAR PP **PP** **10 12 03.2 -3.4**
comp=Z,2.4nm,0.7s,baz=190,slow=7.1,SNR=9.8
ASAR PKiKP **PKiKP** **10 12 37.2 +1.0**
comp=Z,0.7nm,0.8s,baz=181,slow=1.2,SNR=4.5
ASAR LR LR 10 50 25.3
comp=Z,106nm,19.5s,baz=184,slow=34
AS31 Alice Springs 98.65 163 *e*P **P** **10 08 05.2 -0.2**
comp=Z,4.4nm,0.8s
AS31 *e*PKiKP **PKiKP** **10 12 37.2 +1.0**
AS01 Alice Springs 98.66 163 *e*P **P** **10 08 04.9 -0.5**
WR1 Warramunga Arr 102.36 163 *e*Pdif **Pdif** **10 08 21.2 -0.7**
WR1 *e*PP **PP** **10 12 36.3 +1.6**
WRA Warramunga Arr 102.36 163 P **Pdif** **10 08 21.2 -0.7**
comp=Z,3.8nm,0.8s,baz=193,slow=4.2,SNR=28
WRA PP **PP** **10 12 36.3 +1.6**
comp=Z,4.2nm,0.9s,baz=188,slow=5.7,SNR=8.6
WB2 Warramunga Arr 102.37 163 *e*Pdif **Pdif** **10 08 21.9 -0.1**
WRAB Tennant Creek 102.38 163 *i* P **Pdif** **10 08 20.5 -1.5**
WRAB pmax pmax
comp=Z,3.0nm,0.7s
LTX Lajitas 106.82 298 *e*PKiKP **PKiKP** **10 12 50.9 0.0**
LTX *e*PP **PP** **10 13 09.0 0.0**
TXAR Lajitas Array 106.82 298 PKiKP **PKiKP** **10 12 50.9 0.0**
comp=Z,0.7nm,0.8s,baz=197,slow=2.7,SNR=7.2
TXAR PP **PP** **10 13 09.0 0.0**
comp=Z,0.4nm,0.8s,baz=189,slow=7.3,SNR=3.5
S22A 4UR Ranch, Cre 115.18 301 *e*PKPdf **PKPdf** **10 13 07.6 +1.0**
KIV Kislovodsk 116.09 49 *i* PKIKP **PKPdf** **10 13 08.3 +0.4**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,55nm,21.0s
KIEV Kiev 116.64 37 *i* PKIKP **PKPdf** **10 13 06.0 -2.6**
SRU San Rafael Swe 118.03 299 *e*PKPdf **PKPdf** **10 13 11.9 -0.1**
SRU San Rafael Swe 118.03 299 *e*PKIKP **PKPdf** **10 13 11.9 -0.1**
SHPR Sheep Range 118.31 294 *e*PKPdf **PKPdf** **10 13 13.7 +1.1**
MSU Marysvale 118.38 297 *e*PKPdf **PKPdf** **10 13 13.9 +1.2**
TMUT Trail Mountain 118.51 299 *e*PKPdf **PKPdf** **10 13 13.9 +0.8**
FAKI Fak Fak 118.56 157 *e*PKPdf **PKPdf** **10 13 13.5 -0.1**
K22A Casper 118.91 304 *e*PKPdf **PKPdf** **10 13 13.5 0.0**
RSSD Black Hills 118.94 307 *e*PKPdf **PKPdf** **10 13 13.1 -0.5**
RSSD Black Hills 118.94 307 *e*PKIKP **PKPdf** **10 13 13.1 -0.5**
PSUT Pine Spring 119.22 296 *e*PKPdf **PKPdf** **10 13 15.8 +1.5**
MPU Maple Canyon 119.28 299 *e*PKPdf **PKPdf** **10 13 15.3 +1.0**
ISA Isabella, Lake 119.36 291 *e*PKPdf **PKPdf** **10 13 15.7 +1.2**
ISA Isabella, Lake 119.36 291 *e*PKIKP **PKPdf** **10 13 15.7 +1.2**
SIJI Sorong 120.32 155 PKP **PKPdf** **10 13 16.9 -0.1**
comp=Z,8.8nm,0.6s,baz=318,slow=5.0,SNR=10
PD31 Pinedale Array 120.41 302 *e*PKPdf **PKPdf** **10 13 15.4 -1.0**
PDAR Pinedale Array 120.41 302 PKP **PKPdf** **10 13 15.4 -1.0**
comp=Z,1.4nm,0.7s,baz=115,slow=4.3,SNR=10.0
PDAR Pinedale Array 120.41 302 *e*PKPdf **PKPdf** **10 13 14.6 -1.9**
ULM Lac du Bonnet 120.42 316 PKP **PKPdf** **10 13 14.9 -1.0**
comp=Z,4.1nm,0.7s,baz=341,slow=4.8,SNR=3.0
JAY Jayapura 120.43 166 PKP **PKPdf** **10 13 17.5 +0.3**
comp=Z,12nm,0.9s,baz=308,slow=9.2,SNR=2.8
HWUT Hardware Ranch 120.47 300 *e*PKPdf **PKPdf** **10 13 16.8 +0.3**
HFS Hagfors 120.75 23 PKP **PKPdf** **10 13 15.0 -1.2**
comp=Z,2.3nm,0.7s,baz=187,slow=6.7,SNR=3.7
HFS Hagfors 120.75 23 PKIKP **PKPdf** **10 13 15.0 -1.2**
HFS pmax pmax
comp=Z,2.0nm,0.7s
NB2 NORSAR Subarra 121.07 21 PKPdf **PKPdf** **10 13 16.5 -0.4**
comp=Z,11nm,1.2s,baz=202,slow=1.9
NB2 NORSAR Subarra 121.07 21 PKPdf **PKPdf** **10 13 16.5 -0.4**
baz=202,slow=1.9
NB200 NORSAR Array S 121.07 21 *e*PKPdf **PKPdf** **10 13 16.5 -0.4**
NOA NORSAR Array B 121.07 21 PKP **PKPdf** **10 13 16.5 -0.4**
comp=Z,2.2nm,0.8s,baz=202,slow=1.8,SNR=6.5
NV11 Mina Array Sit 121.31 293 *e*PKPdf **PKPdf** **10 13 19.1 +0.8**
NV01 Mina Array Sit 121.39 293 *e*PKPdf **PKPdf** **10 13 19.2 +0.7**
NVAR Mina Array Bea 121.39 293 PKP **PKPdf** **10 13 19.7 +1.2**
comp=Z,3.1nm,0.7s,baz=145,slow=3.4,SNR=16
SNOW Snow King Moun 121.50 302 *e*PKPdf **PKPdf** **10 13 19.0 +0.4**
LOHW Long Hollow 121.55 302 *e*PKPdf **PKPdf** **10 13 18.7 +0.1**
TPAW Teton Pass 121.62 302 *e*PKPdf **PKPdf** **10 13 19.5 +0.6**
MOOW Moose Ponds 121.72 302 *e*PKPdf **PKPdf** **10 13 19.4 +0.4**
KVN Kaiserville 121.75 294 *e*PKPdf **PKPdf** **10 13 20.2 +1.1**
KVN Kaiserville 121.75 294 *e*PKIKP **PKPdf** **10 13 20.2 +1.1**
FXWY Fox Creek 121.76 302 *e*PKPdf **PKPdf** **10 13 19.5 +0.5**
LAO LASA Array 121.90 307 *e*PKPdf **PKPdf** **10 13 19.3 +0.3**
FLWY Flagg Ranch 121.95 303 *e*PKPdf **PKPdf** **10 13 20.1 +0.8**
WAKR Walker 122.02 292 *e*PKPdf **PKPdf** **10 13 21.2 +1.6**
CMB Columbia Colle 122.16 291 *e*PKPdf **PKPdf** **10 13 20.8 +1.1**
YFT Old Faithful 122.29 303 *e*PKPdf **PKPdf** **10 13 22.0 +2.0**
BMN Battle Mountai 122.35 295 *e*PKPdf **PKPdf** **10 13 20.2 0.0**
BMN Battle Mountai 122.35 295 *e*PKIKP **PKPdf** **10 13 20.2 0.0**
DGMT Dagmar 122.39 310 *e*PKPdf **PKPdf** **10 13 20.1 +0.3**
YMR Madison River 122.52 303 *e*PKPdf **PKPdf** **10 13 21.5 +1.1**
YHH Holmes Hill 122.55 303 *e*PKPdf **PKPdf** **10 13 21.6 +0.9**
OBN Obninsk 122.79 38‖ *e*PKIKP **PKPdf** **10 13 19.2 -1.0**
OBN *e* 10 13 48.4
OBN 10 13 58.0
OBN *e* 10 26 26.4
OBN pmax pmax
comp=Z,6.0nm,0.4s
PAHR Pah Rah Range 122.90 293 *e*PKPdf **PKPdf** **10 13 22.4 +1.1**
AFDM Forest Hills D 123.15 292 *e*PKPdf **PKPdf** **10 13 22.6 +1.1**
HLID Hailey 123.32 300 *e*PKPdf **PKPdf** **10 13 23.0 +1.0**
BEKR Beckworth 123.52 293 *e*PKPdf **PKPdf** **10 13 23.6 +1.1**
DLMT Dillon 123.80 302 *e*PKPdf **PKPdf** **10 13 24.0 +1.2**
ORV Oroville 123.87 292 *e*PKPdf **PKPdf** **10 13 23.7 +0.8**
LRM Limekiln Ridge 124.08 303 *e*PKPdf **PKPdf** **10 13 24.5 +1.0**
SFJD Kangerlussuaq 124.35 349 PKP **PKPdf** **10 13 22.0 -0.9**
comp=Z,11nm,0.9s,baz=162,slow=10,SNR=2.9
SFJD Kangerlussuaq 124.35 349 PKIKP **PKPdf** **10 13 22.0 -0.9**
SFJD pmax pmax
comp=Z,11nm,0.9s
HRY Holter Researc 124.45 304 *e*PKPdf **PKPdf** **10 13 24.9 +1.0**
EGMT Eagleton 124.48 306 *e*PKPdf **PKPdf** **10 13 23.0 -0.9**
PBKT Sadao Pong 124.55 114 *e*PKPdf **PKPdf** **10 13 25.2 +0.4**
WVOR Wild Horse Val 124.55 296 *e*PKPdf **PKPdf** **10 13 24.9 +0.6**
FIA0 FINESS Array S 124.84 28 *e*PKPdf **PKPdf** **10 13 23.8 -0.2**
FIA0 *e*pPKPdf **pPKPdf** **10 13 54.3 -1.1**
FIA0 FINESS Array S 124.84 28 *e*PKIKP **PKPdf** **10 13 23.8 -0.2**
FIA0 *e* 10 13 54.3
FINES FINESS Array B 124.84 28 PKP **PKPdf** **10 13 23.8 -0.2**
comp=Z,6.4nm,0.6s,baz=245,slow=1.3,SNR=24
FINES pPKP **pPKPdf** **10 13 54.3 -1.1**
comp=Z,3.8nm,0.8s,baz=8.5,slow=3.9,SNR=3.2
MOD Modoc Plateau 125.00 294 *e*PKPdf **PKPdf** **10 13 26.4 +1.2**
CM01 Chiang Mai Arr 125.07 111 *e*PKPdf **PKPdf** **10 13 25.4 -0.4**
CM31 Chiang Mai Arr 125.09 111 *e*PKPdf **PKPdf** **10 13 25.8 -0.2**
CM31 *ep*PKPdf **pPKPdf** **10 13 53.5 -3.7**
CMAR Chiang Mai Arr 125.09 111 PKP **PKPdf** **10 13 25.8 -0.2**
comp=Z,5.1nm,0.9s,baz=232,slow=3.7,SNR=26
CMAR pPKP **pPKPdf** **10 13 53.5 -3.7**
comp=Z,5.6nm,1.0s,baz=235,slow=3.5,SNR=4.0
J08A Circle Bar Ran 125.15 297 *e*PKPdf **PKPdf** **10 13 25.2 -0.2**
WDC Whiskeytown Da 125.17 292 *e*PKPdf **PKPdf** **10 13 25.6 +0.3**
WDC Whiskeytown Da 125.17 292 *e*PKIKP **PKPdf** **10 13 25.6 +0.3**
MSO Missoula 125.52 303 *e*PKPdf **PKPdf** **10 13 26.3 +0.3**
BMO Blue Mountains 125.67 299 *e*PKPdf **PKPdf** **10 13 26.8 +0.5**
BMO Blue Mountains 125.67 299 *e*PKIKP **PKPdf** **10 13 26.8 +0.5**
K05A Summer Lake 125.90 295 *e*PKPdf **PKPdf** **10 13 28.4 +1.4**
F10A Beach Ranch, E 126.45 300 *e*PKPdf **PKPdf** **10 13 27.6 -0.1**
PINE Pine Mountain 126.70 296 *e*PKPdf **PKPdf** **10 13 30.0 +1.5**
G08A Pilot Rock 126.80 298 *e*PKPdf **PKPdf** **10 13 29.2 +0.7**
HUMO Hull Mountain 126.86 293 *e*PKPdf **PKPdf** **10 13 30.0 +1.5**
E09A Wood Farm, Sta 127.28 300 *e*PKPdf **PKPdf** **10 13 29.8 +0.6**
E08A Dider Farm, El 127.71 299 *e*PKPdf **PKPdf** **10 13 30.9 +0.9**
AKTO Aktyubinsk 127.73 54 PKP **PKPdf** **10 13 30.2 +0.3**
comp=Z,9.4nm,0.9s,baz=177,slow=3.3,SNR=15
AKTO SKPbc SKPbc 10 16 35.0
comp=Z,1.8nm,0.7s,baz=179,slow=7.5,SNR=3.7
ABKAR Akbulak array 127.76 56 *e*PKPdf **PKPdf** **10 13 30.0 0.0**
HAWA Hanford 127.87 299 *e*PKPdf **PKPdf** **10 13 31.4 +1.0**
D08A Wollman Farm, 128.04 300 *e*PKPdf **PKPdf** **10 13 31.6 +0.9**
KK31 Karatay Array 128.55 68 *e*PKPdf **PKPdf** **10 13 31.8 0.0**
KK31 Karatay Array 128.55 68 *e*PKIKP **PKPdf** **10 13 31.8 0.0**
KKAR Karatay Array 128.55 68 *e*PKPdf **PKPdf** **10 13 31.8 0.0**
KKAR Karatay Array 128.55 68 *e*PKIKP **PKPdf** **10 13 31.8 0.0**
KSH Kashi 128.86 75 PKP **PKPdf** **10 13 32.5 -0.1**
KSH PP **PP** **10 15 42.3 +0.6**
KSH PKS **PKSdf** **10 17 07.5 -1.7**
KSH SS SS 10 32 46.5 -4.6
KSH AMB AMB
comp=Z,230nm,4.5s
KSH LR LR
comp=Z,370nm,7.5s
KSH LR LR
comp=Z,420nm,5.7s
KSH LR LR
comp=Z,450nm,7.6s
SUMG Summit 128.98 356 *i* PKIKP **PKPdf** **10 13 32.7 +0.5**
B08A Colville Reser 129.16 301 *e*PKPdf **PKPdf** **10 13 33.2 +0.4**
LON Longmire 129.23 298 *e*PKPdf **PKPdf** **10 13 33.4 +0.4**
LON Longmire 129.23 298 *e*PKIKP **PKPdf** **10 13 33.4 +0.4**
D05A Enumclaw 129.63 298 *e*PKPdf **PKPdf** **10 13 34.7 +1.1**
AAK Ala-Archa 130.29 71 *e*PKPdf **PKPdf** **10 13 35.7 +0.4**
AAK Ala-Archa 130.29 71⇑ *i*PKIKP **PKPdf** **10 13 34.3 -1.0**
AAK pmax pmax
comp=Z,14nm,0.7s
KDJ Kajisay 131.36 73 *e*PKPdf **PKPdf** **10 13 38.4 +1.0**
KDJ Kajisay 131.36 73 *e*PKIKP **PKPdf** **10 13 38.4 +1.0**
ARA0 ARCESS Array S 131.40 22 *e*PKPdf **PKPdf** **10 13 36.1 -0.3**
ARCES ARCESS Array B 131.40 22 PKP **PKPdf** **10 13 36.1 -0.3**
comp=Z,6.8nm,0.8s,baz=207,slow=2.7,SNR=12
ARCES SKPbc **SKPbc** **10 16 48.0 -2.6**
comp=Z,4.1nm,0.7s,baz=180,slow=3.0,SNR=6.4
ARU Arti 132.12 48 PKP **PKPdf** **10 13 38.4 +0.4**
comp=Z,5.0nm,0.2s
ARU Arti 132.12 48 *i* PKIKP **PKPdf** **10 13 38.0 0.0**
ARU 10 16 01.2
ARU SS SS 10 33 31.1 +0.8
DAG Danmarks Havn 133.10 3 *i* PKIKP **PKPdf** **10 13 38.6 -0.7**
DAG pmax pmax
comp=Z,26nm,1.3s
BRVK Borovoye 135.13 58 *e*PKPdf **PKPdf** **10 13 44.3 +0.5**
BRVK Borovoye 135.13 58 *i* PKIKP **PKPdf** **10 13 43.6 -0.2**
GYA Guiyang 135.68 113 *e*Pdif **Pdif** **10 10 50.1 +0.2**
GYA PKP **PKPdf** **10 13 46.6 +0.7**
GYA PP **PP** **10 16 29.2 +4.1**
GYA AMB AMB
comp=Z,130nm,7.9s
YKA Yellowknife Ar 136.35 318 PKP **PKPdf** **10 13 45.8 +0.1**
comp=Z,5.9nm,0.8s,baz=130,slow=2.2,SNR=22
YKA SKPbc **SKPbc** **10 17 05.2 -1.8**
comp=Z,3.2nm,0.6s,baz=131,slow=3.4,SNR=12
YKB5 Yellowknife Ar 136.35 318 *e*PKPdf **PKPdf** **10 13 45.6 -0.1**
MK01 Makanchi Array 137.19 72 *e*PKPdf **PKPdf** **10 13 46.9 -1.0**
MK32 Makanchi Array 137.20 72 *e*PKPdf **PKPdf** **10 13 47.0 -0.9**
MKAR Makanchi Array 137.20 72 PKP **PKPdf** **10 13 47.0 -0.9**
comp=Z,2.2nm,0.8s,baz=103,slow=1.6,SNR=7.8
MKAR SKPbc **SKPbc** **10 17 06.2 -3.9**
comp=Z,2.8nm,0.8s,baz=231,slow=3.9,SNR=7.7
CD2 Chengdu 137.73 106 PKP **PKPdf** **10 13 50.0 +0.5**
KURK Kurchatov 137.75 65 *i* PKIKP **PKPdf** **10 13 50.2 +1.5**
WMQ Urumqi 138.17 79 *e*PKP **PKPdf** **10 13 52.2 +2.3**
WMQ LR LR
comp=Z,110nm,20.5s
WMQ LR LR
comp=Z,110nm,18.7s
WMQ LR LR
comp=Z,83nm,29.9s
RES Resolute Bay 138.18 338 PKP **PKPdf** **10 13 49.0 +0.2**
comp=Z,9.3nm,0.9s,baz=135,slow=3.0,SNR=9.1
RES SKPbc **SKPbc** **10 17 11.6 -0.4**
comp=Z,13nm,1.0s,baz=323,slow=5.1,SNR=7.4
RES Resolute Bay 138.18 338 *e*PKPdf **PKPdf** **10 13 49.6 +0.7**
TWG Pinlang 139.28 133 *e*PKPdf **PKPdf** **10 13 52.6 +0.1**
DLBC Dease Lake 140.41 306 PKP **PKPdf** **10 13 54.0 +0.5**
comp=Z,4.1nm,0.9s,baz=95,slow=7.9,SNR=7.1
DLBC SKPbc **SKPbc** **10 17 18.4 -0.3**
comp=Z,13nm,1.0s,baz=100,slow=4.8,SNR=9.4
DGZ Jazzator, Alta 141.69 72 *i* PKHKP PKPpre 10 13 51.2
LZH Lanzhou 141.72 101 *e*PKP **PKPdf** **10 14 01.0 +4.3**
LZH sPKP 10 14 40.2
LZH LR LR
comp=Z,680nm,14.4s
LZH LR LR
comp=Z,480nm,16.3s
LZH LR LR
comp=Z,230nm,17.9s
GTA Gaotai 141.89 94⇑ PKP **PKPdf** **10 13 56.7 -0.2**
GTA sPKP 10 14 39.1
GTA PP **PP** **10 17 07.6 +4.0**
GTA SKKS 10 23 47.3
GTA SS **SS** **10 35 31.2 +4.4**
GTA AMB AMB
comp=Z,110nm,7.0s
GTA LR LR
comp=Z,180nm,20.9s
GTA LR LR
comp=Z,140nm,21.0s
GTA LR LR
comp=Z,130nm,19.7s
NVS Novosibirsk 142.41 62 *e*PKHKP PKPpre 10 13 52.4
ZALV Zalesovo Beam 142.72 65 PKhKP PKPpre 10 13 53.2
comp=Z,1.4nm,0.4s,baz=252,slow=3.0,SNR=6.8
ZALV Zalesovo Beam 142.72 65 *e*PKPpre PKPpre 10 13 52.9
ZALV Zalesovo Beam 142.72 65 *e*PKHKP PKPpre 10 13 52.9
ZAA1 Zalesovo Array 142.72 65 *e*PKPpre PKPpre 10 13 53.2
XAN Xi'an 142.89 108 PKP **PKPdf** **10 13 55.3 -3.4**
WHY Whitehorse 143.66 308 *e*PKPpre PKPpre 10 13 57.4
DHAK Deception Hill 144.46 304 *e*PKPdf **PKPdf** **10 14 00.7 +0.1**
JOW Kunigami 145.67 140 *e*PKPdf **PKPab** **10 14 04.8 +0.1**
PCA Pinnacle 145.83 305 *e*PKPdf **PKPab** **10 14 04.8 +0.3**

INK	**Inuvik**	**146.00 320**	*e*PKPdf	**PKPdf**	**10 14 03.3**	**+0.4**
INK	**Inuvik**	**146.00 320**	*e*PKP2	**PKPdf**	**10 14 03.3**	**+0.4**
NJ2	**Nanjing**	**146.28 122**	*e*PKPbc	**PKPbc**	**10 14 05.3**	**-0.6**
NJ2			pPKP	**pPKPdf**	**10 14 33.7**	**-2.2**
DAWY	**Dawson**	**146.93 312**	*e*PKPdf	**PKPbc**	**10 14 06.2**	**-0.7**
EGAK	**Eagle**	**147.88 312**	*e*PKPbc	**PKPbc**	**10 14 09.4**	**+0.1**
BMRM	**Bremner River**	**148.15 305**	*e*PKPbc	**PKPdf**	**10 14 05.8**	**-0.9**
BTO	**Baotou**	**148.33 102**	*e*PKPbc	**PKPbc**	**10 14 10.2**	**-1.2**
EYAK	**Cordova Ski Ar**	**148.53 303**	*e*PKPbc	**PKPbc**	**10 14 12.3**	**+1.2**
DIV	**Divide**	**148.74 305**	*e*PKPbc	**PKPbc**	**10 14 12.4**	**+0.6**
DOT	**Dot Lake**	**148.77 310**	*e*PKPbc	**PKPbc**	**10 14 12.5**	**+0.8**
TIA	**Tai'an**	**148.80 115**	PKPbc	**PKPbc**	**10 14 12.6**	**0.0**
SCRK	**Sand Creek**	**148.83 310**	*e*PKPdf	**PKPdf**	**10 14 06.8**	**-1.1**
HARP	**HAARP**	**148.87 307**	*e*PKPbc	**PKPbc**	**10 14 12.9**	**+0.9**
KLU	**Klutina**	**148.92 305**	*e*PKPbc	**PKPbc**	**10 14 13.7**	**+1.4**
FID	**Port Fidalgo**	**148.93 304**	*e*PKPbc	**PKPbc**	**10 14 13.3**	**+1.1**
RIDG	**Independ'e Rid**	**149.13 310**	*e*PKPbc	**PKPbc**	**10 14 14.0**	**+1.3**
PAX	**Paxson**	**149.18 308**	*e*PKPbc	**PKPbc**	**10 14 13.1**	**+0.3**
GLI	**Glacier Island**	**149.26 304**	*e*PKPbc	**PKPbc**	**10 14 13.8**	**+0.8**
HHC	**Hu-ho-hao-te**	**149.34 103**	*e*PKPbc	**PKPbc**	**10 14 12.0**	**-2.0**
NRIK	**Noril'sk**	**149.45 39**	PKPbc	**PKPbc**	**10 14 13.4**	**+0.2**
	comp=Z,14nm,0.8s,baz=128,slow=0.0,SNR=9.2					
SCM	**Sheep Creek Mo**	**149.67 305**	*e*PKPdf	**PKPdf**	**10 14 07.6**	**-1.7**
SCM	**Sheep Creek Mo**	**149.67 305**	*e*PKIKP	**PKPdf**	**10 14 07.6**	**-1.7**
CBIJ	**Chichi jima**	**149.73 162**	*e*PKPbc	**PKPbc**	**10 14 14.5**	**-0.7**
JCJ	**Chichijima**	**149.73 162**	PKPbc	**PKPbc**	**10 14 14.3**	**-0.9**
FYU	**Fort Yukon**	**149.95 315**	*e*PKPbc	**PKPbc**	**10 14 15.4**	**+0.9**
MOY	**Mondy**	**150.01 77**	*e*PKP2	**PKPbc**	**10 14 15.1**	**-0.1**
MOY			pmax	pmax		
	comp=Z,51nm,1.5s					
DHY	**Denali Highway**	**150.04 308**	*e*PKPbc	**PKPbc**	**10 14 15.8**	**+0.8**
SEW	**Seward**	**150.11 301**	*e*PKPbc	**PKPbc**	**10 14 15.7**	**+0.7**
SML	**Sawmill**	**150.12 305**	*e*PKPbc	**PKPbc**	**10 14 15.9**	**+0.8**
HDA	**Harding Lake**	**150.19 310**	*e*PKPbc	**PKPbc**	**10 14 15.5**	**+0.4**
ILAR	**Eielson Array**	**150.25 311**	PKP	**PKPdf**	**10 14 07.4**	**-2.6**
	comp=Z,3.1nm,0.9s,baz=320,slow=1.2,SNR=28					
ILAR			PKPbc	**PKPbc**	**10 14 15.1**	**-0.2**
	comp=Z,74nm,0.9s,baz=112,slow=0.5,SNR=232					
ILB	**Eielson Array**	**150.25 311**	*e*PKPbc	**PKPbc**	**10 14 15.3**	**0.0**
GHO	**Glory Hole Cre**	**150.38 305**	*e*PKPbc	**PKPbc**	**10 14 16.2**	**+0.4**
PMR	**Palmer**	**150.42 304**	*e*PKPbc	**PKPbc**	**10 14 16.1**	**+0.4**
RC01	**Rabbit Creek A**	**150.55 303**	*e*PKPbc	**PKPbc**	**10 14 17.1**	**+1.0**
ZAK	**Zakamensk**	**150.60 81**	*e*PKIKP	**PKPbc**	**10 14 15.5**	**-1.2**
ZAK			pmax	pmax		
	comp=Z,29nm,1.2s					
CCB	**Clear Creek Bu**	**150.61 311**	*e*PKPbc	**PKPbc**	**10 14 15.8**	**-0.3**
CCB			*e*PKPab	**PKPab**	**10 14 23.9**	**+0.5**
COLA	**College**	**150.68 311**	*e*PKPbc	**PKPbc**	**10 14 16.3**	**+0.1**
BRLK	**Bradley Lake**	**150.68 300**	*e*PKPbc	**PKPbc**	**10 14 17.0**	**+0.6**
WRH	**Wood River Hil**	**150.69 310**	*e*PKPdf	**PKPdf**	**10 14 07.9**	**-2.8**
WRH			*e*PKPbc	**PKPbc**	**10 14 16.3**	**0.0**
CNPM	**China Poot**	**150.77 300**	*e*PKPbc	**PKPbc**	**10 14 17.5**	**+0.8**
RND	**Reindeer**	**150.78 308**	*e*PKPbc	**PKPbc**	**10 14 17.1**	**+0.5**
KDAK	**Kodiak Island**	**150.83 296**	PKPbc	**PKPbc**	**10 14 17.4**	**+0.6**
	comp=Z,58nm,0.7s,baz=155,slow=2.0,SNR=48					
MDM	**Murphy Dome**	**150.85 311**	*e*PKPbc	**PKPbc**	**10 14 16.3**	**-0.4**
MDM			*e*PKPab	**PKPab**	**10 14 24.8**	**+0.2**
MCK	**McKinley**	**150.89 309**	*e*PKPbc	**PKPbc**	**10 14 17.3**	**+0.5**
SONA0	**Songino Array**	**150.94 87**	*e*PKPdf	**PKPdf**	**10 14 10.2**	**-1.6**
SONA0			*e*PKPbc	**PKPbc**	**10 14 17.4**	**-0.2**
SONA0			*ep*PKPdf	**pPKPdf**	**10 14 44.5**	**+1.3**
SONM	**Songino Array**	**150.94 87**	PKP	**PKPdf**	**10 14 10.2**	**-1.6**
	comp=Z,1.1nm,0.8s,baz=174,slow=1.3,SNR=4.8					
SONM			PKPbc	**PKPbc**	**10 14 17.4**	**-0.2**
	comp=Z,20nm,0.8s,baz=224,slow=2.4,SNR=59					
SONM			pPKPbc	**pPKPdf**	**10 14 44.5**	**+1.3**
	comp=Z,12nm,1.0s,baz=241,slow=2.9,SNR=4.5					
SONA1	**Songino Array**	**150.95 87**	*e*PKPdf	**PKPdf**	**10 14 10.9**	**-0.9**
SONA1			*e*PKPbc	**PKPbc**	**10 14 17.2**	**-0.4**
SONA1			*e*PKPab	**PKPab**	**10 14 25.3**	**-0.3**
OHAK	**Old Harbor**	**150.98 295**	*e*PKPbc	**PKPbc**	**10 14 17.8**	**+0.6**
OHAK			*e*PKPab	**PKPab**	**10 14 28.5**	**+3.3**
HOM	**Homer**	**151.01 300**	*e*PKPbc	**PKPbc**	**10 14 18.2**	**+1.1**
SUA	**Susitna One**	**151.12 304**	*e*PKPbc	**PKPbc**	**10 14 18.5**	**+1.0**
BJT	**Baijiatuan**	**151.20 109**	*e*PKPdf	**PKPdf**	**10 14 12.4**	**+0.2**
BJT			*e*PKPbc	**PKiKP**	**10 14 18.5**	**-0.2**
BJT	**Baijiatuan**	**151.20 109**	*e*PKIKP	**PKPdf**	**10 14 12.4**	**+0.2**
BWN	**Browne**	**151.21 309**	*e*PKPbc	**PKPbc**	**10 14 18.3**	**+0.8**
TRF	**Thorofare Moun**	**151.41 308**	*e*PKPbc	**PKPbc**	**10 14 18.6**	**+0.3**
TLY	**Talaya**	**151.46 79**	*e*PKIKP	**PKPbc**	**10 14 18.0**	**-0.5**
TLY			pmax	pmax		
	comp=Z,31nm,1.2s					
SKT	**Skwentna**	**151.62 305**	*e*PKPbc	**PKPbc**	**10 14 18.9**	**+0.3**
MLY	**Manley**	**151.91 311**	*e*PKPbc	**PKPbc**	**10 14 18.9**	**-0.3**
MLY			*e*PKPab	**PKPab**	**10 14 29.2**	**+0.2**
PPLA	**Purkeypile**	**152.13 306**	*e*PKPbc	**PKPbc**	**10 14 20.3**	**+0.4**
PPLA			*e*PKPab	**PKPab**	**10 14 31.4**	**+1.3**
CAST	**Castle Rocks**	**152.19 307**	*e*PKPbc	**PKPbc**	**10 14 19.4**	**-0.4**
CAST			*e*PKPab	**PKPab**	**10 14 30.2**	**0.0**
JNU	**Nakatsue**	**152.31 138**	PKPbc	**PKPbc**	**10 14 20.7**	**-0.4**
	comp=Z,20nm,0.7s,baz=90,slow=0.2,SNR=17					
JNU	**Nakatsue**	**152.31 138**	*e*PKPbc	**PKPbc**	**10 14 21.1**	**0.0**
IM3	**Indian Mountai**	**153.28 313**	*e*PKPbc	**PKPbc**	**10 14 22.7**	**+0.6**
IM3			*e*PKPab	**PKPab**	**10 14 34.6**	**0.0**
KS15	**Wonju Array Si**	**154.86 129**	*e*PKPdf	**PKPdf**	**10 14 15.7**	**-1.9**
KS15			*e*PKPab	**PKPab**	**10 14 41.5**	**-0.7**
KSRS	**Korea Array**	**154.89 129**	PKP	**PKPdf**	**10 14 17.2**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=191,slow=1.3,SNR=5.4					
KSRS			PKPbc	**PKiKP**	**10 14 26.4**	**0.0**
	comp=Z,2.1nm,0.9s,baz=207,slow=1.4,SNR=5.7					
KSRS			PKPab	**PKPab**	**10 14 42.0**	**-0.2**
	comp=Z,4.4nm,0.8s,baz=214,slow=3.8,SNR=9.0					
KS01	**Wonju Array Si**	**154.89 129**	*e*PKPdf	**PKPdf**	**10 14 15.2**	**-2.5**
KS01			*e*PKPbc	**PKPbc**	**10 14 26.0**	**-0.4**
KS01			*e*PKPab	**PKPab**	**10 14 42.2**	**0.0**
MJAR	**Matsushiro Arr**	**157.87 148**	PKP	**PKPdf**	**10 14 21.4**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=253,slow=1.3,SNR=4.8					
MJAR			PKPab	**PKPab**	**10 14 54.4**	**-0.7**
	comp=Z,2.5nm,0.8s,baz=122,slow=44,SNR=2.8					
MAJO	**Matsushiro**	**157.87 148**	*e*PKPdf	**PKPdf**	**10 14 21.4**	**-0.2**
MAJO			*e*PKPab	**PKPab**	**10 14 54.4**	**-0.7**
MAJO	**Matsushiro**	**157.87 148**	*e*PKIKP	**PKPdf**	**10 14 21.4**	**-0.2**
MAJO			*e*		10 14 54.4	
BOD	**Bodaibo**	**159.27 70**	*e*PKIKP	**PKPdf**	**10 14 21.0**	**-1.5**
BOD			pmax	pmax		
	comp=Z,9.0nm,1.6s					
USRK	**Ussuriysk Ar.**	**162.15 125**	PKPab	**PKPab**	**10 15 12.7**	**-0.9**
	comp=Z,4.7nm,0.8s,baz=202,slow=2.1,SNR=5.3					
BILL	**Bilibino**	**166.78 337**	*e*PKIKP	**PKPdf**	**10 14 24.9**	**-4.5**
BILL			pmax	pmax		
	comp=Z,9.0nm,1.5s					
GRNR	**Gornyy**	**168.90 114**	*e*PKP2	**PKPab**	**10 15 43.7**	**+0.4**
GRNR			pmax	pmax		
	comp=Z,20nm,1.1s					
PETK	**Petropavlovsk-**	**175.47 224**	PKP	**PKPdf**	**10 14 33.2**	**-1.1**
	comp=Z,7.6nm,0.9s,baz=189,slow=3.8,SNR=5.7					
PETK			PKPab	**PKPab**	**10 16 12.3**	**0.0**
	comp=Z,9.7nm,1.1s,baz=66,slow=3.6,SNR=4.0					
PEA1	**Petropavlovsk-**	**175.48 224**	*e*PKPdf	**PKPdf**	**10 14 33.2**	**-1.1**
PEA1			*e*PKPbc	**PKPab**	**10 16 12.3**	**0.0**

ISC 09 10:05:35.1±1.3, 48°39N±0.05×17°25E±0.05, h4km±8km, n6, σ0.5°74/10, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MODS	**Modra-Piesok**	**0.02**	**128**	*e*PG	**Pg**	**10 05 35.5**	**-0.5**
MODS				*e*SG	**Sg**	**10 05 37.2**	**+0.6**
MODS				*e*LG	Lg	10 05 38.2	
ZST	**Bratislava**	**0.21**	**208**	*e*PG	**Pg**	**10 05 38.8**	**-0.5**
ZST				*e*SG	**Sg**	**10 05 42.8**	**+0.7**
JAVC	**Velka Javorina**	**0.55**	**30**	*e*PG	**Pg**	**10 05 45.4**	**-0.3**
JAVC				*e*SG	**Sb**	**10 05 54.4**	**-1.3**
KRUC	**Moravsky**	**0.88**	**320**	*e*PG	**Pg**	**10 05 52.3**	**+0.2**
VRAC	**Vranov**	**1.02**	**335**	*e*PG	**Pg**	**10 05 54.8**	**+0.1**
VYHS	**Vyhne**	**1.06**	**84**	*e*PG	**Pg**	**10 05 55.7**	**+0.3**
VYHS				*e*SG	**Sb**	**10 06 10.6**	**+0.3**
VYHS				*e*LG	Lg	10 06 15.7	

*IDC **09** 10:08:56.5±1.4, 37°.05S×177°.46E, h281km±11km, mb3.6/3, mb1 3.7/5, mb1mx3.4/28, mbtmp4.3/5, Error ellipse: s-maj=34.6km s-min=32.7km az=20.0*
*ISCJB **09** 10:08:57.4±0.6, 37°.05S±0°.04×177°.17E±0°.07, h288km±4km, mb3.8/3, Error ellipse: s-maj=9.0km s-min=6.0km az=161.3*
*WEL **09** 10:09:01.3±0.8, 37°S±7°×17°7E±°, h244km±6km*
ISC 09 10:08:57.9±0.9, 37°.10S±0°.05×177°.05E±0°.06, h282km±6km, n168, σ1§69/183, mb3.9/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYRZ	**Mayor Island**	**0.67**	**254**	P	**Pn**	**10 09 35.6**	**+0.6**
WHRZ	**Whale Island**	**0.76**	**185**	P	**Pn**	**10 09 36.0**	**+0.8**
OPRZ	**Ohinepanea**	**0.84**	**208**	P	**Pn**	**10 09 36.0**	**+0.5**
HAZ	**Te Kaha**	**0.87**	**139**	P	**Pn**	**10 09 35.3**	**-0.3**
HAZ				S	**S**	**10 10 02.5**	**-3.1**
TGRZ	**Tauranga**	**0.89**	**225**	P	**Pn**	**10 09 36.6**	**+0.9**
MARZ	**Manawahe**	**0.93**	**199**	P	**Pn**	**10 09 36.8**	**+0.8**
RUGZ	**Raukumara Rang**	**0.99**	**150**	P	**Pn**	**10 09 36.0**	**-0.4**
RUGZ				S	**S**	**10 10 03.6**	**-3.3**
EDRZ	**Edgecumbe**	**1.03**	**194**	P	**Pn**	**10 09 37.6**	**+1.1**
LIRZ	**Lichensteins R**	**1.05**	**210**	P	**Pn**	**10 09 38.2**	**+1.7**
MXZ	**Matakaoa Point**	**1.10**	**115**	P	**Pn**	**10 09 36.4**	**-0.4**
MXZ				S	**S**	**10 10 04.6**	**-3.0**
KARZ	**Kaharoa**	**1.12**	**215**	P	**Pn**	**10 09 38.0**	**+1.1**
KUZ	**Kuaotunu**	**1.13**	**288**	P	**Pn**	**10 09 36.5**	**-0.5**
KUZ				S	**S**	**10 10 05.2**	**-2.7**
PKGZ	**Pakihiroa**	**1.13**	**134**	P	**Pn**	**10 09 37.4**	**+0.4**
PKGZ				S	**S**	**10 10 06.1**	**-1.9**
MKRZ	**Makatiti**	**1.14**	**204**	P	**Pn**	**10 09 39.2**	**+2.1**
OMRZ	**Omania**	**1.14**	**208**	P	**Pn**	**10 09 38.5**	**+1.5**
KMRZ	**Kaimai**	**1.16**	**230**	P	**Pn**	**10 09 38.6**	**+1.4**
URZ	**Urewera**	**1.16**	**178**	P	**Pn**	**10 09 37.4**	**+0.4**
	164nm,0.3s,baz=260,slow=3.6,SNR=1207						
URZ				S	**S**	**10 10 07.5**	**-0.6**
	109nm,0.3s,baz=351,slow=23,SNR=24						
URZ	**Urewera**	**1.16**	**178**	P	**Pn**	**10 09 37.4**	**+0.4**
URZ				S	**S**	**10 10 07.3**	**-0.8**
NGRZ	**Ngongotaha**	**1.21**	**214**	P	**Pn**	**10 09 39.0**	**+1.6**
TARZ	**Mount Tarawera**	**1.21**	**201**	P	**Pn**	**10 09 39.1**	**+1.6**
UTU	**Utuhina**	**1.27**	**212**	P	**Pn**	**10 09 39.8**	**+2.1**
HLRZ	**Highlands Stat**	**1.28**	**206**	P	**Pn**	**10 09 39.6**	**+1.7**
MWZ	**Matawai**	**1.29**	**163**	P	**Pn**	**10 09 38.6**	**+0.7**
MWZ				S	**S**	**10 10 09.6**	**0.0**
WMGZ	**Waiomatatini S**	**1.30**	**124**	P	**Pn**	**10 09 38.2**	**+0.3**
WMGZ				S	**S**	**10 10 08.0**	**-1.7**
TWGZ	**Tauwhareparae**	**1.30**	**146**	P	**Pn**	**10 09 39.1**	**+1.1**
RRRZ	**Republican Roa**	**1.31**	**199**	P	**Pn**	**10 09 39.3**	**+1.3**
PUZ	**Puketiti**	**1.36**	**136**	P	**Pn**	**10 09 38.7**	**+0.4**
PUZ				S	**S**	**10 10 08.9**	**-1.6**
HSRZ	**Hossack Road**	**1.37**	**208**	P	**Pn**	**10 09 40.4**	**+2.0**
MUGZ	**Murupara**	**1.39**	**189**	P	**Pn**	**10 09 39.3**	**+0.8**
MUGZ				S	**S**	**10 10 09.8**	**-1.0**
RAGZ	**Rawiri**	**1.42**	**168**	P	**Pn**	**10 09 39.6**	**+0.8**
RAGZ				S	**S**	**10 10 11.2**	**0.0**
HRRZ	**Handcock Road**	**1.42**	**205**	P	**Pn**	**10 09 40.4**	**+1.7**
GRRZ	**Galatos Road**	**1.45**	**211**	P	**Pn**	**10 09 40.8**	**+1.9**
TKGZ	**Te Karaka**	**1.48**	**155**	P	**Pn**	**10 09 40.0**	**+1.0**
PRRZ	**Plateau Road**	**1.49**	**200**	P	**Pn**	**10 09 40.5**	**+1.3**
PRRZ				S	**S**	**10 10 13.2**	**+1.3**
MKAZ	**Moumakai**	**1.51**	**269**	P	**Pn**	**10 09 40.1**	**+0.8**
RTZ	**Ruatahuna**	**1.51**	**182**	P	**Pn**	**10 09 40.2**	**+0.8**
RTZ				S	**S**	**10 10 12.0**	**-0.3**
GRZ	**Great Barrier**	**1.54**	**303**	P	**Pn**	**10 09 38.5**	**-1.1**
ALRZ	**Allen Road**	**1.56**	**201**	P	**Pn**	**10 09 41.1**	**+1.5**
WIAZ	**Waiheke Island**	**1.57**	**281**	P	**Pn**	**10 09 40.1**	**+0.4**
WPRZ	**Whakapapatarin**	**1.58**	**206**	P	**Pn**	**10 09 41.6**	**+1.8**
CNGZ	**Carnagh Statio**	**1.66**	**147**	P	**Pn**	**10 09 41.6**	**+1.3**
SNGZ	**Shannon Statio**	**1.69**	**172**	P	**Pn**	**10 09 41.9**	**+1.3**
SNGZ				S	**S**	**10 10 14.5**	**-0.1**
KUTZ	**Kaahu Road**	**1.69**	**215**	P	**Pn**	**10 09 42.7**	**+2.1**
RIGZ	**Rimuhau**	**1.70**	**161**	P	**Pn**	**10 09 42.0**	**+1.4**
ETAZ	**East Tamaki Re**	**1.71**	**274**	P	**Pn**	**10 09 41.6**	**+0.8**
TLZ	**Tolley Road**	**1.72**	**224**	P	**Pn**	**10 09 42.9**	**+2.1**
KBAZ	**Karaka Road Bo**	**1.73**	**270**	P	**Pn**	**10 09 42.1**	**+1.2**
MTHZ	**Maungataniwha**	**1.76**	**185**	P	**Pn**	**10 09 42.1**	**+1.0**
MTHZ	**Maungataniwha**	**1.76**	**185**	P	**S**	**10 10 12.0**	**-3.5**
MBAZ	**Motutapu North**	**1.76**	**280**	P	**Pn**	**10 09 41.7**	**+0.6**
WHTZ	**Whakaora**	**1.79**	**209**	P	**Pn**	**10 09 43.6**	**+2.3**
MRHZ	**Matea Rd**	**1.80**	**196**	P	**Pn**	**10 09 42.6**	**+1.1**
RAHZ	**Arahi**	**1.81**	**179**	P	**Pn**	**10 09 43.1**	**+1.6**
RAHZ	**Arahi**	**1.81**	**179**	P	**S**	**10 10 17.3**	**+1.1**
ABAZ	**Army Bay**	**1.85**	**285**	P	**Pn**	**10 09 42.3**	**+0.4**
HBAZ	**Herne Bay Bore**	**1.88**	**277**	P	**Pn**	**10 09 42.7**	**+0.7**
WATZ	**Wairara**	**1.91**	**213**	P	**Pn**	**10 09 44.3**	**+1.9**
AWAZ	**Awhitu Peninsu**	**1.93**	**270**	P	**Pn**	**10 09 43.3**	**+0.8**
PRGZ	**Paritu Road**	**1.93**	**160**	P	**Pn**	**10 09 43.6**	**+1.1**
HATZ	**Hinemaiaia**	**1.94**	**203**	P	**Pn**	**10 09 44.0**	**+1.5**
WHHZ	**Waihua**	**1.98**	**176**	P	**Pn**	**10 09 44.5**	**+1.7**
WHHZ	**Waihua**	**1.98**	**176**	P	**S**	**10 10 18.0**	**+1.4**
KNZ	**Kohu**	**1.98**	**166**	P	**Pn**	**10 09 43.9**	**+1.2**
WTAZ	**Waiatarua**	**1.99**	**274**	P	**Pn**	**10 09 43.8**	**+0.8**
NMHZ	**Naumai**	**2.00**	**186**	P	**Pn**	**10 09 45.0**	**+1.9**
NMHZ	**Naumai**	**2.00**	**186**	P	**S**	**10 10 14.2**	**-4.8**
RVAZ	**Riverhead Bore**	**2.01**	**279**	P	**Pn**	**10 09 43.5**	**+0.3**
RATZ	**Rangitukua**	**2.03**	**209**	P	**Pn**	**10 09 45.0**	**+1.7**
RITZ	**Rihia Road**	**2.10**	**206**	P	**Pn**	**10 09 45.7**	**+1.8**
BKZ	**Black Stump Fm**	**2.11**	**192**	P	**Pn**	**10 09 45.0**	**+1.0**
KATZ	**Kakaramea**	**2.16**	**209**	P	**Pn**	**10 09 46.2**	**+1.8**
MHGZ	**Mahia Peninsul**	**2.16**	**162**	P	**Pn**	**10 09 45.9**	**+1.6**
ARHZ	**Aropaoanui**	**2.16**	**181**	P	**Pn**	**10 09 46.1**	**+1.8**
HIZ	**Hauiti**	**2.24**	**230**	P	**Pn**	**10 09 47.7**	**+2.6**
KRVZ	**Karewarewa**	**2.28**	**209**	P	**Pn**	**10 09 47.1**	**+1.5**
WTVZ	**West Tongariro**	**2.32**	**209**	P	**Pn**	**10 09 47.4**	**+1.6**
TWVZ	**Taurewa**	**2.34**	**212**	P	**Pn**	**10 09 47.8**	**+1.7**
MCHZ	**McNeill Hill**	**2.36**	**187**	P	**Pn**	**10 09 48.0**	**+1.9**
MCHZ	**McNeill Hill**	**2.36**	**187**	P	**S**	**10 10 22.1**	**-2.4**
NGZ	**Ngauruhoe**	**2.37**	**208**	P	**Pn**	**10 09 48.1**	**+1.7**
KWHZ	**Kaweka Forest**	**2.37**	**192**	P	**Pn**	**10 09 47.8**	**+1.5**
KWHZ	**Kaweka Forest**	**2.37**	**192**	P	**S**	**10 10 26.4**	**+1.6**
COVZ	**Chateau Observ**	**2.41**	**209**	P	**Pn**	**10 09 48.2**	**+1.5**
TUVZ	**Tukino**	**2.43**	**207**	P	**Pn**	**10 09 48.4**	**+1.5**
FWVZ	**Far West T-bar**	**2.45**	**208**	P	**Pn**	**10 09 49.0**	**+1.7**
WHVZ	**Whangaehu Hut**	**2.46**	**207**	P	**Pn**	**10 09 48.9**	**+1.5**
DRZ	**Dome Shelter**	**2.47**	**208**	P	**Pn**	**10 09 49.2**	**+1.7**
WCZ	**Waipu Caves**	**2.47**	**297**	P	**Pn**	**10 09 46.9**	**-0.4**
TRVZ	**Turoa**	**2.49**	**208**	P	**Pn**	**10 09 49.4**	**+1.8**
BHHZ	**Black Hill Sta**	**2.51**	**198**	P	**Pn**	**10 09 48.7**	**+1.1**
MOVZ	**Moawhango**	**2.52**	**204**	P	**Pn**	**10 09 48.8**	**+1.1**
CKHZ	**Cape Kidnapper**	**2.55**	**180**	P	**Pn**	**10 09 49.6**	**+1.7**
PKVZ	**Pokaka**	**2.56**	**211**	P	**Pn**	**10 09 49.7**	**+1.6**
KRHZ	**Kereru**	**2.59**	**192**	P	**Pn**	**10 09 49.5**	**+1.2**
MTVZ	**Mangateitei**	**2.60**	**208**	P	**Pn**	**10 09 50.1**	**+1.6**
KAHZ	**Kahuranaki**	**2.69**	**183**	P	**Pn**	**10 09 51.0**	**+1.7**
KAHZ	**Kahuranaki**	**2.69**	**183**	P	**S**	**10 10 26.2**	**-4.1**
VRZ	**Vera Road**	**2.71**	**221**	P	**Pn**	**10 09 51.7**	**+2.3**
PNHZ	**Pukenui**	**2.89**	**193**	P	**Pn**	**10 09 52.3**	**+1.1**
PNHZ	**Pukenui**	**2.89**	**193**	P	**S**	**10 10 30.6**	**-3.1**
PXZ	**Pawanui**	**2.93**	**183**	P	**Pn**	**10 09 52.9**	**+1.3**
PXZ	**Pawanui**	**2.93**	**183**	P	**S**	**10 10 31.7**	**-2.7**
WPHZ	**Waipukurau**	**3.00**	**189**	P	**Pn**	**10 09 53.6**	**+1.3**
WPHZ	**Waipukurau**	**3.00**	**189**	P	**S**	**10 10 34.4**	**-1.3**
DREZ	**Durham Road**	**3.07**	**226**	P	**Pn**	**10 09 55.8**	**+2.8**
TSZ	**Takapari Road**	**3.07**	**196**	P	**Pn**	**10 09 54.1**	**+0.9**
TSZ	**Takapari Road**	**3.07**	**196**	P	**S**	**10 10 35.4**	**-1.7**
WAZ	**Wanganui**	**3.11**	**211**	P	**Pn**	**10 09 55.0**	**+1.6**
LREZ	**Lake Rotokare**	**3.15**	**221**	P	**Pn**	**10 09 56.7**	**+2.9**
PRHZ	**Porangahau**	**3.18**	**186**	P	**Pn**	**10 09 55.6**	**+1.5**
PRHZ	**Porangahau**	**3.18**	**186**	P	**S**	**10 10 34.7**	**-4.4**
PREZ	**Palmer Road**	**3.19**	**225**	P	**Pn**	**10 09 57.4**	**+3.0**
PKE	**Pukeiti**	**3.19**	**228**	P	**Pn**	**10 09 57.8**	**+3.4**
KHEZ	**Kahui Hut**	**3.24**	**227**	P	**Pn**	**10 09 58.1**	**+3.1**
DVHZ	**Dannevirke**	**3.27**	**192**	P	**Pn**	**10 09 56.2**	**+1.1**
DVHZ	**Dannevirke**	**3.27**	**192**	P	**S**	**10 10 36.7**	**-4.1**
NBEZ	**Newall Road No**	**3.31**	**228**	P	**Pn**	**10 09 58.8**	**+3.2**
OUZ	**Omahuta**	**3.37**	**303**	P	**Pn**	**10 09 55.7**	**-0.6**
ANWZ	**Angora Road**	**3.38**	**187**	P	**Pn**	**10 09 57.8**	**+1.5**
ANWZ	**Angora Road**	**3.38**	**187**	P	**S**	**10 10 40.6**	**-2.4**
OHWZ	**Ohakea**	**3.38**	**203**	P	**Pn**	**10 09 58.1**	**+1.8**
OHWZ	**Ohakea**	**3.38**	**203**	P	**S**	**10 10 38.3**	**-4.7**
NMEZ	**Namu Road**	**3.40**	**226**	P	**Pn**	**10 09 59.8**	**+3.3**
POWZ	**Post Office Ro**	**3.44**	**197**	P	**Pn**	**10 09 58.1**	**+1.2**
PRWZ	**Pori Road**	**3.55**	**193**	P	**Pn**	**10 09 59.9**	**+1.8**
BFZ	**Birch Farm**	**3.63**	**190**	P	**Pn**	**10 09 60.0**	**+1.0**
MRZ	**Mangatainoka R**	**3.74**	**197**	P	**Pn**	**10 10 00.6**	**+0.5**
TIWZ	**Tintock**	**3.78**	**194**	P	**Pn**	**10 10 02.5**	**+1.9**
CPWZ	**Castlepoint**	**3.86**	**190**	P	**Pn**	**10 10 04.1**	**+2.6**
HOWZ	**Holdsworth Sta**	**3.98**	**197**	P	**Pn**	**10 10 03.4**	**+0.6**
OGWZ	**Otaki Gorge**	**3.99**	**201**	P	**Pn**	**10 10 03.6**	**+0.6**
TMWZ	**Te Maipa**	**4.10**	**192**	P	**Pn**	**10 10 05.3**	**+1.1**
KIW	**Kapiti Island**	**4.11**	**203**	P	**Pn**	**10 10 05.1**	**+1.0**
MTW	**Mount Morrison**	**4.23**	**196**	P	**Pn**	**10 10 06.5**	**+0.9**
CAW	**Cannon Point**	**4.29**	**201**	P	**Pn**	**10 10 06.6**	**+0.3**
TRWZ	**Traveller**	**4.42**	**193**	P	**Pn**	**10 10 09.1**	**+1.3**
DUWZ	**D'Urville Isla**	**4.43**	**212**	P	**Pn**	**10 10 08.1**	**+0.2**
PAWZ	**Paruwai Farm**	**4.46**	**196**	P	**Pn**	**10 10 09.1**	**+0.8**
MSWZ	**Moikau Station**	**4.53**	**197**	P	**Pn**	**10 10 09.4**	**+0.2**
BHW	**Baring Head**	**4.62**	**201**	P	**Pn**	**10 10 10.9**	**+0.8**

TCW	**Tory Channel**	**4.64 207**	P		**Pn**	**10 10 11.1**	**+0.7**
PLWZ	**Palliser**	**4.67 197**	P		**Pn**	**10 10 11.5**	**+0.7**
TUWZ	**Tuamarina**	**4.95 208**	P		**Pn**	**10 10 14.7**	**+0.6**
NNZ	**Nelson**	**5.00 214**	P		**Pn**	**10 10 14.6**	**0.0**
QRZ	**Quartz Range**	**5.12 222**	P		**Pn**	**10 10 15.9**	**-0.2**
BSWZ	**Blackbirch Sta**	**5.22 207**	P		**Pn**	**10 10 18.3**	**+1

43nm,0.3s,baz=284,slow=23,SNR=10
BSO3 **Boso 3** 10.50 359 P **Pn** 11 30 27.1 +0.6
BSO3 *eS* **Sn** 11 32 19.1 -3.4
JHO **Hitachi** 12.30 359 P **Pn** 11 30 49.9 -0.5
KSRS **Korea Array** 17.10 323 P Pn 11 31 57.6 +7.4
0.2nm,0.3s,baz=136,slow=11,SNR=2.7
WRA **Warramunga Arr** 44.38 189 P **P** 11 35 53.8 -2.1
1.2nm,0.7s,baz=7.4,slow=8.4,SNR=23
ASAR **Alice Springs** 48.10 188 P **P** 11 36 23.9 -1.0
0.3nm,0.7s,baz=15,slow=13,SNR=5.5
MKAR **Makanchi Array** 51.29 311 P **P** 11 36 51.4 +2.5
0.5nm,0.4s,baz=92,slow=10.0,SNR=5.7

*ISCJB **09** 11:40:08.2±1.3, 14°.01S±0°.09×167°.0E±0°.2, h200km, mb4.0/5, Error ellipse: s-maj=31.0km s-min=12.2km az=176.8*
*IDC **09** 11:40:09.5±5.8, 13°.91S×167°.04E, h201km±56km, mb3.9/5, mb1 4.0/6, mb1mx3.4/39, mbtmp4.3/6, Error ellipse: s-maj=56.0km s-min=25.7km az=154.0*
ISC 09 11:40:09.2±1.1, 14°.05S±0°.1×167°.1E±0°.2, h200km, n9, σ1§39/11, mb4.2/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.02**	**185**	P	**Pn**		**Pn**	**11 42 04.9**	**+2.0**
	0.2nm,0.3s,baz=288,slow=20,SNR=3.8								
DZM				S	**Sn**		**Sn**	**11 43 31.1**	**-2.2**
	0.2nm,0.3s,baz=90,slow=19,SNR=1.7								
STKA	**Stephens Creek**	**29.35**	**228**	P	**P**		**P**	**11 45 54.1**	**+0.6**
	3.7nm,0.5s,baz=54,slow=9.4,SNR=16								
WRA	**Warramunga Arr**	**31.87**	**255**	P	**P**		**P**	**11 46 15.1**	**-0.8**
	2.3nm,0.4s,baz=85,slow=9.5,SNR=70								
ASAR	**Alice Springs**	**32.80**	**248**	P	**P**		**P**	**11 46 23.2**	**-0.8**
	2.9nm,0.4s,baz=77,slow=9.5,SNR=79								
ASAR				PcP	**PcP**		**PcP**	**11 49 03.7**	**-0.6**
	0.2nm,0.4s,baz=85,slow=2.0,SNR=4.5								
ILAR	**Eielson Array**	**85.91**	**18**	P	**P**		**P**	**11 52 24.8**	**-1.4**
	0.6nm,0.7s,baz=238,slow=4.9,SNR=7.6								
MKAR	**Makanchi Array**	**96.61**	**316**	P	**P**		**P**	**11 53 17.6**	**+1.2**
	0.8nm,0.7s,baz=78,slow=6.0,SNR=4.1								
ARCES	**ARCESS Array B**	**119.55**	**345**	PKP	**PKPdf**		**PKPdf**	**11 58 34.2**	**-0.3**
	1.5nm,0.6s,baz=63,slow=1.8,SNR=8.0								
FINES	**FINESS Array B**	**125.03**	**338**	PKP	**PKPdf**		**PKPdf**	**11 58 44.9**	**-0.3**
	1.7nm,0.9s,baz=101,slow=4.9,SNR=3.6								
GERES	**GERESS Array B**	**138.97**	**333**	PKP	**PKPdf**		**PKPdf**	**11 59 12.9**	**+0.9**
	0.3nm,0.5s,baz=61,slow=4.6,SNR=2.5								

WEL 09 11:53:16.5, 43°S±1°×172°.8E±0°.8, h15km±1km, ML3.7/7, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.19**	**232**	P			Pb	11 53 22.0	+0.4
CRLZ				S			Sb	11 53 25.3	+0.2
MQZ	**McQueen's Vall**	**0.28**	**207**	P			Pb	11 53 23.5	+0.3
MQZ				S			Sb	11 53 28.0	+0.3
AMCZ	**Amberley**	**0.31**	**335**	P			Pb	11 53 23.9	+0.3
AMCZ				S			Sb	11 53 29.0	+0.5
OKCZ	**Okains Bay**	**0.32**	**148**	P			Pb	11 53 24.4	+0.6
OKCZ				S			Sb	11 53 29.7	+1.0
EYCZ	**Eyrewell**	**0.35**	**276**	P			Pb	11 53 25.0	+0.7
AKCZ	**Akaroa Harbour**	**0.42**	**172**	P			Pb	11 53 26.3	+0.7
OXZ	**Oxford**	**0.59**	**280**	P			Pb	11 53 29.2	+0.7
LTZ	**Lake Taylor**	**0.79**	**329**	P			Pb	11 53 32.8	-0.2
KHZ	**Kahutara**	**1.16**	**27**	P			Pb	11 53 38.5	+0.2
INZ	**Inchbonnie**	**1.25**	**305**	P			Pb	11 53 39.9	+0.2
RPZ	**Rata Peaks**	**1.31**	**258**	P			Pb	11 53 40.9	0.0
WVZ	**Waitaha Valley**	**1.57**	**283**	P			Pb	11 53 45.7	+0.5
THZ	**Tophouse**	**1.69**	**2**	P			Pn	11 53 46.0	+0.4
DSZ	**Denniston Nort**	**1.87**	**336**	P			Pn	11 53 49.0	+1.0
BSWZ	**Blackbirch Sta**	**1.91**	**24**	P			Pn	11 53 48.8	+0.5
TUWZ	**Tuamarina**	**2.19**	**23**	P			Pn	11 53 52.4	+0.2
FOZ	**Fox Glacier**	**2.19**	**267**	P			Pb	11 53 54.6	-1.2
ODZ	**Otahua Downs**	**2.23**	**224**	P			Pn	11 53 53.5	+0.7
NNZ	**Nelson**	**2.27**	**11**	P			Pn	11 53 54.4	+0.9
BHW	**Baring Head**	**2.54**	**37**	P			Pn	11 53 56.7	-0.5
PLWZ	**Palliser**	**2.60**	**44**	P			Pn	11 53 57.3	-0.7
QRZ	**Quartz Range**	**2.64**	**355**	P			Pn	11 53 59.7	+1.2
MSWZ	**Moikau Station**	**2.71**	**42**	P			Pn	11 53 58.7	-0.9
DUWZ	**D'Urville Isla**	**2.77**	**17**	P			Pn	11 54 01.1	+0.8
CAW	**Cannon Point**	**2.88**	**36**	P			Pn	11 54 01.1	-0.6
HHSZ	**Highcliff Hill**	**2.90**	**212**	P			Pn	11 54 02.7	+0.6
JCZ	**Jackson Bay**	**2.99**	**257**	P			Pn	11 54 04.9	+1.5
WKZ	**Wanaka**	**3.07**	**242**	P			Pn	11 54 05.4	+1.0
EAZ	**Earnscleugh**	**3.09**	**234**	P			Pn	11 54 05.3	+0.7
OGWZ	**Otaki Gorge**	**3.16**	**34**	P			Pn	11 54 05.0	-0.6
HOWZ	**Holdsworth Sta**	**3.25**	**39**	P			Pn	11 54 06.1	-0.7
TUZ	**Tuapeka**	**3.38**	**221**	P			Pn	11 54 09.3	+0.7
MSZ	**Milford Sound**	**3.74**	**249**	P			Pn	11 54 15.0	+1.5
BFZ	**Birch Farm**	**3.76**	**44**	P			Pn	11 54 12.3	-1.6
MLZ	**Mavora Lakes**	**3.88**	**239**	P			Pn	11 54 16.5	+1.0
SYZ	**Scrubby Hill**	**4.04**	**219**	P			Pn	11 54 18.8	+1.1
TSZ	**Takapari Road**	**4.13**	**36**	P			Pn	11 54 18.8	-0.1
WHZ	**Wether Hill Ro**	**4.25**	**233**	P			Pn	11 54 20.2	-0.4
NBEZ	**Newall Road No**	**4.26**	**11**	P			Pn	11 54 22.6	+1.9
VRZ	**Vera Road**	**4.57**	**19**	P			Pn	11 54 27.2	+2.2
TRVZ	**Turoa**	**4.63**	**27**	P			Pn	11 54 27.7	+1.6
BHHZ	**Black Hill Sta**	**4.65**	**33**	P			Pn	11 54 26.3	+0.2
WHVZ	**Whangaehu Hut**	**4.66**	**27**	P			Pn	11 54 28.0	+1.6
FWVZ	**Far West T-bar**	**4.67**	**27**	P			Pn	11 54 28.4	+1.8
TUVZ	**Tukino**	**4.69**	**28**	P			Pn	11 54 28.3	+1.4
KAHZ	**Kahuranaki**	**4.75**	**41**	P			Pn	11 54 27.5	0.0
NGZ	**Ngauruhoe**	**4.76**	**27**	P			Pn	11 54 28.6	+0.8
APZ	**The Paps**	**4.81**	**224**	P			Pn	11 54 28.9	+0.7

*IDC **09** 12:14:30.4±1.8, 13°.87N×92°.13W, h0km, mb3.8/4, mb1 4.1/7, mb1mx3.8/45, mbtmp3.8/7, ML3.6/3, MS3.3/3, Ms1 3.3/3, ms1mx2.7/37, Error ellipse: s-maj=30.2km s-min=16.1km az=172.0*
*ISCJB **09** 12:14:32.1±1.5, 13°.96N±0°.05×92°.13W±0°.06, h14km±9km, mb3.9/7, MS3.2/2, Error ellipse: s-maj=11.2km s-min=6.4km az=145.6*
*MEX **09** 12:14:32.8±0.4, 13°.79N×92°.17W, h15km, MD3.9*
*NEIC **09** 12:14:34.7±1.3, 13°.78N×92°.12W, h35km, mb3.9/6, MD4.0(MEX), Error ellipse: s-maj=25.3km s-min=10.3km az=210.0*
ISC 09 12:14:31.1±2.2, 13°.91N±0°.08×92°.11W±0°.07, h4km±12km, n35, σ1§54/42, mb3.9/7, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THIG			**1.00**	**351**	*e*Pn		**Pg**	**12 14 50.1**	**-0.3**
THIG					*e*Sn		**Sb**	**12 15 03.9**	**-0.7**
THIG			**1.00**	**351**	*e*P		**Pg**	**12 14 50.1**	**-0.3**
THIG					*e*S		**Sb**	**12 15 03.7**	**-1.0**
APG	**El Apazote**	**1.93**	**56**	Pn			**Pg**	**12 15 06.1**	**-2.1**
	48nm,0.3s,baz=179,slow=10,SNR=182								
APG				Lg			Lg	12 15 32.9	
	41nm,0.3s,baz=344,slow=23,SNR=5.8								
PCIG			**2.08**	**329**	*e*Pn		**Pn**	**12 15 05.2**	**-1.7**
PCIG					*e*Sn		**Sn**	**12 15 30.4**	**-2.8**
PCIG			**2.08**	**329**	*e*P		**Pn**	**12 15 05.2**	**-1.7**
PCIG					*e*S		**Sn**	**12 15 30.4**	**-2.8**
CCIG	**Comitan**		**2.36**	**359**	*e*Pn		**Pb**	**12 15 13.8**	**-0.5**
CCIG					*e*Sg		**Sg**	**12 15 48.6**	**+1.7**
CCIG	**Comitan**		**2.36**	**359**	*e*P		**Pn**	**12 15 09.2**	**-1.7**
CCIG					*i* S		**Sn**	**12 15 38.8**	**-1.6**
SNET	**Serv Nac Est T**	**2.81**	**94**		*e*Pn		**Pn**	**12 15 17.5**	**+0.6**
TGIG			**3.01**	**341**	*e*P		**Pn**	**12 15 19.3**	**-0.5**
TGIG					*i* S		**Sn**	**12 15 54.1**	**-2.2**
CMIG	**Matias Romero**	**4.14**	**320**	Pn			**Pn**	**12 15 35.0**	**-0.2**
	2.7nm,0.3s,baz=141,slow=9.6,SNR=12								
CMIG					Sn		**Sn**	**12 16 24.3**	**+0.2**
	8.5nm,0.3s,baz=98,slow=10,SNR=4.3								
TGUH	**Tegucigalpa,Un**	**4.70**	**88**		*e*Pn		**Pn**	**12 15 44.9**	**+2.0**
ESTN	**Estel**	**5.64**	**98**		*e*Pn		**Pn**	**12 15 55.5**	**-0.5**
TEIG	**Tepich**	**7.27**	**30**		*e*Pn		**Pn**	**12 16 20.2**	**+2.0**
JTS	**JuntasAbangare**	**7.87**	**116**	Pn			**Pn**	**12 16 26.4**	**-0.1**
	0.9nm,0.3s,baz=297,slow=18,SNR=4.5								
JTS				Lg			Lg	12 18 28.2	
	baz=285,slow=20,SNR=3.3								
JTS	**JuntasAbangare**	**7.87**	**116**		*e*Pn		**Pn**	**12 16 23.6**	**-3.0**
WHTX	**Lake Whitney,**	**18.65**	**346**		*e*P		**Pn**	**12 18 53.8**	**+3.5**
	5.5nm,0.6s								
LTX	**Lajitas**	**18.71**	**327**		*e*P		**Pn**	**12 18 51.6**	**+0.4**
TXAR	**Lajitas Array**	**18.71**	**327**	P			**Pn**	**12 18 51.6**	**+0.4**
	0.1nm,0.3s,baz=145,slow=10.0,SNR=14								
TXAR				LR			LR	12 27 23.2	
	comp=Z,55nm,20.6s,baz=0.0,slow=41								
TX31	**Lajitas Ar. Si**	**18.71**	**327**		*e*P		**Pn**	**12 18 53.1**	**+1.9**
Z50A	**Ashland**	**20.06**	**15**		*e*P		**Pn**	**12 19 08.8**	**+1.4**
	4.8nm,0.9s								
MNTX	**Cornudas Mount**	**21.48**	**328**		*e*P		**P**	**12 19 21.1**	**+0.1**
	4.8nm,1.0s								
MSTX	**Muleshoe**	**22.19**	**336**		*e*P		**P**	**12 19 29.0**	**+0.4**
	4.1nm,1.0s								
AMTX	**Amarillo**	**22.60**	**339**		*e*P		**P**	**12 19 33.1**	**+0.1**
	9.0nm,0.4s								
TKL	**Tuckaleechee C**	**22.92**	**18**	P			**P**	**12 19 36.1**	**0.0**
	1.7nm,0.3s,baz=41,slow=17,SNR=5.5								
TKL						LR	LR	12 29 52.5	
	comp=Z,102nm,18.1s,baz=192,slow=40								
TKL	**Tuckaleechee C**	**22.92**	**18**		*e*P		**P**	**12 19 36.2**	**0.0**
	5.7nm,1.0s								
BNM	**Barren Site**	**24.07**	**329**		*e*P		**P**	**12 19 49.8**	**+1.9**
LPM	**Los Pinos Moun**	**24.20**	**330**		*e*P		**P**	**12 19 50.8**	**+1.7**
LENM	**Lemitar**	**24.25**	**329**		*e*P		**P**	**12 19 51.5**	**+1.9**
ANMO	**Albuquerque**	**24.62**	**331**	P			**P**	**12 19 53.1**	**+0.1**
	1.8nm,0.7s,baz=155,slow=14,SNR=11								
ATAH	**Atahualpa**	**24.95**	**146**	LR			LR	12 28 09.7	
	comp=Z,71nm,19.0s,baz=319,slow=33								
NVAR	**Mina Array Bea**	**33.67**	**321**	P			**P**	**12 21 15.0**	**+1.5**
	0.8nm,0.6s,baz=138,slow=8.0,SNR=4.1								
ILAR	**Eielson Array**	**62.88**	**337**	P			**P**	**12 24 57.5**	**-0.7**
	1.3nm,1.1s,baz=130,slow=4.4,SNR=6.8								
ILB	**Eielson Array**	**62.88**	**337**		*e*P		**P**	**12 24 57.5**	**-0.7**
CM31	**Chiang Mai Arr**	**146.04**	**341**		*e*PKPdf		**PKPdf**	**12 34 11.8**	**-0.8**
CMAR	**Chiang Mai Arr**	**146.04**	**341**		PKPbc		**PKPdf**	**12 34 11.8**	**-0.8**
	1.7nm,0.7s,baz=342,slow=4.2,SNR=12								

*ISCJB **09** 12:19:05.4±0.3, 8°.53S±0°.03×74°.31W±0°.04, h147km, mb4.4/38, Error ellipse: s-maj=5.9km s-min=4.0km az=160.2*
*IDC **09** 12:19:06.7±0.7, 8°.56S×74°.29W, h143km±6km, mb3.7/12, mb1 3.9/19, mb1mx3.8/37, mbtmp4.3/19, Error ellipse: s-maj=13.5km s-min=9.9km az=38.0*
*NEIC **09** 12:19:07.2±0.7, 8°.60S×74°.32W, h152km±8km, mb4.6/26, Error ellipse: s-maj=8.7km s-min=5.3km az=78.0*
ISC 09 12:19:06.7±0.4, 8°.61S±0°.05×74°.31W±0°.06, h147km, n94, σ1§37/102, mb4.4/38, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.18**	**216**	P			**Pn**	**12 20 10.0**	**+0.7**
	13nm,0.3s,baz=108,slow=4.6,SNR=40								
NNA				S			**Sn**	**12 20 55.6**	**-2.5**
	74nm,0.3s,baz=192,slow=16,SNR=14								
NNA	**Nana**	**4.18**	**216**		*e*Pn		**Pn**	**12 20 09.5**	**+0.1**
NNA					*e*Sn		**Sn**	**12 20 53.5**	**-4.6**
ATAH	**Atahualpa**	**4.31**	**290**	P			**Pn**	**12 20 11.4**	**+0.1**
	28nm,0.3s,baz=356,slow=3.7,SNR=215								
ATAH				S			**Sn**	**12 21 00.0**	**-1.4**
	23nm,0.3s,baz=258,slow=21,SNR=12								
OTAV	**Otavalo**	**9.71**	**335**		*e*Pn		**Pn**	**12 21 23.9**	**+0.6**
LPAZ	**La Paz**	**9.73**	**142**	P			**Pn**	**12 21 24.3**	**+0.6**
	0.7nm,0.3s,baz=337,slow=11,SNR=13								
LPAZ	**La Paz**	**9.73**	**142**		*e*Pn		**Pn**	**12 21 25.0**	**+1.3**
FLOC	**Florencia**	**10.21**	**352**		*e*P		**Pn**	**12 21 28.8**	**-0.9**
CRUC	**La Cruz**	**10.45**	**345**		*e*P		**Pn**	**12 21 30.9**	**-2.2**
SOTA	**Rioblanco**	**10.91**	**348**		*e*P		**Pn**	**12 21 37.2**	**-2.2**
SAML	**Samuel**	**11.00**	**93**		*e*Pn		**Pn**	**12 21 39.4**	**-0.6**
MNMC	**Minye Minye**	**11.42**	**157**		*e*Pn		**Pn**	**12 21 46.2**	**+0.5**
PB11	**IPOC Station P**	**11.97**	**158**		*e*Pn		**Pn**	**12 21 53.4**	**+0.5**
YOTC	**Yotoco, Valle**	**12.67**	**351**		*e*P		**P**	**12 22 06.6**	**-0.9**
CHIC	**Chingaza**	**13.16**	**3**		*e*P		**Pn**	**12 22 10.1**	**+1.5**
PB01	**IPOC Station P**	**13.21**	**160**		*e*Pn		**Pn**	**12 22 09.1**	**+0.3**
ROSC	**El Rosal**	**13.36**	**360**	P			**Pn**	**12 22 13.0**	**+2.0**
	0.9nm,0.3s,baz=73,slow=19,SNR=1.7								
PLMC	**San Jos¨ del**	**13.57**	**352**		*e*P		**P**	**12 22 18.5**	**+1.1**
PB04	**IPOC Station P**	**14.22**	**164**		*e*Pn		**Pn**	**12 22 22.5**	**+0.7**
RUSC	**La Rusia**	**14.46**	**5**		*e*P		**P**	**12 22 28.3**	**+0.6**
LVC	**Limon Verde**	**14.86**	**160**	P			**Pn**	**12 22 31.0**	**+1.1**
	0.8nm,0.3s,baz=325,slow=9.4,SNR=6.6								
LVC	**Limon Verde**	**14.86**	**160**		*e*Pn		**P**	**12 22 31.1**	**-0.9**
SIV	**San Ignacio**	**14.86**	**121**	P			**P**	**12 22 31.3**	**-0.4**
	0.8nm,0.3s,baz=312,slow=13,SNR=23								
BARC	**Barichara**	**15.14**	**4**		*e*P		**P**	**12 22 35.3**	**+0.3**
BRRC	**Barranca, Sant**	**15.62**	**2**		*e*P		**P**	**12 22 41.6**	**+1.5**
GIRC	**Giron, Santand**	**15.62**	**4**		*e*P		**P**	**12 22 41.6**	**+1.3**
PAMC	**Pamplona, Colo**	**15.92**	**6**		*e*P		**P**	**12 22 45.1**	**+1.2**
ZARC	**Zaragoza, Cauc**	**16.00**	**358**		*e*P		**P**	**12 22 45.1**	**+0.8**
PTGA	**Pitinga**	**16.28**	**62**	P			**P**	**12 22 48.2**	**+0.7**
	3.0nm,0.3s,baz=250,slow=13,SNR=19								
PTGA				S			**S**	**12 25 41.5**	**-7.0**
	1.0nm,0.3s,baz=336,slow=19,SNR=4.0								
PTGA	**Pitinga**	**16.28**	**62**		*e*Pn		**P**	**12 22 48.2**	**+0.7**
	14nm,1.0s								
OCAC	**Ocana**	**16.76**	**3**		*e*P		**P**	**12 22 51.4**	**-1.5**
SMLC	**San Mart¨n de**	**17.29**	**1**		*e*P		**P**	**12 22 57.0**	**-1.6**
MOTC	**Monteria, Cord**	**17.32**	**355**		*e*P		**P**	**12 22 58.4**	**-0.5**
SDV	**Santo Domingo**	**17.76**	**12**	P			**Pn**	**12 23 05.0**	**-0.1**
	6.4nm,0.3s,baz=155,slow=10,SNR=19								
SDV	**Santo Domingo**	**17.76**	**12**		*e*P		**Pn**	**12 23 04.9**	**-0.1**
	16nm,0.6s								
SMRC	**Santa Marta, M**	**19.64**	**0**		*e*P		**P**	**12 23 22.9**	**-1.2**
URIC	**Uribia, Colomb**	**20.31**	**7**		*e*P		**P**	**12 23 27.8**	**-3.5**
PCRV	**Puerto La Cruz**	**21.00**	**27**	P			**P**	**12 23 38.9**	**+0.2**
	5.9nm,0.4s,baz=347,slow=13,SNR=4.2								
CPUP	**Villa Florida**	**23.88**	**140**	P			**P**	**12 24 07.2**	**+0.4**
	2.0nm,0.7s,baz=312,slow=9.0,SNR=4.6								
CPUP	**Villa Florida**	**23.88**	**140**		*e*P		**P**	**12 24 06.1**	**-0.8**
	2.7nm,0.8s								
ROC1	**El Roble**	**24.44**	**173**		*e*P		**P**	**12 24 12.5**	**+0.4**
	15nm,1.0s								
BDFB	**Brasilia**	**26.62**	**108**	P			**P**	**12 24 31.1**	**-0.7**
	3.1nm,0.5s,baz=268,slow=17,SNR=4.2								
BDFB				pP			**pP**	**12 25 05.7**	**+3.0**
	5.6nm,0.7s,baz=276,slow=12,SNR=4.2								
BANI	**BANI**	**27.11**	**8**		*e*P		**P**	**12 24 37.3**	**+1.2**
ICMP	**Isla Caja de M**	**27.42**	**16**		*e*P		**P**	**12 24 37.9**	**-0.9**
	36nm,1.0s								
OBIP	**Obispado Ponce**	**27.55**	**16**		*e*P		**P**	**12 24 40.5**	**+0.6**
	31nm,1.0s								
SJG	**San Juan**	**27.74**	**17**	P			**P**	**12 24 41.3**	**-0.3**
	23nm,0.5s,baz=158,slow=9.1,SNR=12								
HUMP	**Col San Antoni**	**27.86**	**17**		*e*P		**P**	**12 24 42.9**	**+0.2**
	19nm,0.6s								
MTP	**Monte Pirata**	**27.91**	**18**		*e*P		**P**	**12 24 43.3**	**+0.2**
	18nm,0.7s								
CBYP	**Canovanas**	**27.98**	**17**		*e*P		**P**	**12 24 43.8**	**0.0**
	26nm,0.8s								
CUPR	**Culebra, Puert**	**28.19**	**18**		*e*P		**P**	**12 24 44.8**	**-0.7**
	28nm,0.8s								
STVI	**Saint Thomas**	**28.33**	**19**		*e*P		**P**	**12 24 46.5**	**-0.3**
	15nm,0.5s								
ABVI	**Anegada Island**	**28.89**	**20**		*e*P		**P**	**12 24 52.5**	**+0.7**
	45nm,1.0s								
ANWB	**Willy Bob**	**28.89**	**25**		*e*P		**P**	**12 24 50.9**	**-1.0**
	43nm,0.6s								
PLCA	**Paso Flores**	**32.17**	**175**	P			**P**	**12 25 21.5**	**+0.9**
	1.3nm,0.7s,baz=17,slow=6.5,SNR=3.4								
Z50A	**Ashland**	**43.07**	**346**		*e*P		**P**	**12 26 51.9**	**-0.2**
	5.9nm,0.9s								
241A	**Mo Tay, Goldon**	**44.14**	**337**		*e*P		**P**	**12 27 00.1**	**-0.5**
	16nm,0.6s								
TXAR	**Lajitas Array**	**47.15**	**324**	P			**P**	**12 27 25.5**	**+1.0**
	0.7nm,0.5s,baz=153,slow=8.6,SNR=22								
TXAR				pP			**pP**	**12 27 59.0**	**+1.2**
	0.5nm,0.7s,baz=138,slow=9.7,SNR=3.8								
LTX	**Lajitas**	**47.15**	**324**		*e*P		**P**	**12 27 23.2**	**-1.3**
TX31	**Lajitas Ar. Si**	**47.15**	**324**		*e*P		**P**	**12 27 25.6**	**+1.0**
W39A	**Magazine**	**47.29**	**338**		*e*P		**P**	**12 27 25.4**	**0.0**
	0.8nm,0.7s								
T42A	**Van Buren**	**48.05**	**342**		*e*P		**P**	**12 27 29.3**	**-1.9**
	3.3nm,0.9s								
P45A	**Graceland, Par**	**49.49**	**346**		*e*P		**P**	**12 27 41.6**	**-0.5**
	11nm,1.0s								
N49A	**Columbus Grove**	**50.12**	**350**		*e*P		**P**	**12 27 46.0**	**-0.8**
	14nm,1.1s								
SFIN	**Lafayette**	**50.15**	**347**		*e*P		**P**	**12 27 45.8**	**-1.3**
	12nm,0.6s								
BINY	**Binghamton**	**50.58**	**358**		*e*P		**P**	**12 27 51.7**	**+1.3**
	0.9nm,0.3s								
ECSD	**EROS Data Cent**	**55.89**	**341**		*e*P		**P**	**12 28 28.8**	**-0.3**
	2.5nm,0.8s								
DRLN	**Deer Lake**	**59.47**	**13**		*e*P		**P**	**12 28 54.5**	**+0.5**
	24nm,1.1s								
PDAR	**Pinedale Array**	**60.39**	**331**	P			**P**	**12 29 00.2**	**-0.5**
	0.3nm,0.4s,baz=99,slow=9.2,SNR=4.1								
PDAR	**Pinedale Array**	**60.39**	**331**		*e*P		**P**	**12 29 02.2**	**+1.5**
ULM	**Lac du Bonnet**	**61.55**	**344**		*e*P		**P**	**12 29 07.6**	**-0.5**
	3.5nm,0.9s								
FXWY	**Fox Creek**	**61.76**	**330**		*e*P		**P**	**12 29 11.9**	**+2.0**
RLMT	**Red Lodge**	**62.05**	**333**		*e*P		**P**	**12 29 11.4**	**-0.4**
YHH	**Holmes Hill**	**62.53**	**331**		*e*P		**P**	**12 29 13.4**	**-1.7**
	2.2nm,0.9s								
GCMT	**Greycliff**	**62.74**	**333**		*e*P		**P**	**12 29 17.1**	**+0.8**
SCHQ	**Schefferville**	**63.51**	**5**	P			**P**	**12 29 21.4**	**+0.3**
	2.1nm,0.6s,baz=204,slow=10.0,SNR=2.6								
LIC	**Lamto**	**70.62**	**80**		*e*PKP1		**P**	**12 30 07.3**	**+0.5**
	34nm,1.0s								
TIC	**Tomodi**	**70.71**	**80**		*e*PKP1		**P**	**12 30 07.7**	**+0.4**
DBIC	**Dimbokro**	**70.87**	**80**	P			**P**	**12 30 08.0**	**-0.3**
	5.4nm,0.5s,baz=254,slow=3.9,SNR=11								
KIC	**Kosan Boka**	**70.92**	**80**		*e*PKP1		**P**	**12 30 08.4**	**-0.2**
	10nm,0.6s								
VNA3	**Neumayer Olymp**	**73.88**	**162**	P			**P**	**12 30 24.0**	**-1.1**
VNA2	**Neumayer--Watz**	**74.46**	**162**	P			**P**	**12 30 29.8**	**+1.4**
	baz=292,slow=6.5								
SNAA	**Sanae**		**76.09**	**162**	P		**P**	**12 30 38.9**	**+1.1**
SNAA	**Sanae**		**76.09**	**162**	*e*P		**P**	**12 30 38.7**	**+0.9**
	2.2nm,0.7s								
YKA	**Yellowknife Ar**	**77.38**	**342**	P			**P**	**12 30 44.9**	**-0.1**
	0.5nm,0.5s,baz=141,slow=6.0,SNR=7.0								
TOA0	**Torodi Ar. Sit**	**78.50**	**75**		*e*P		**P**	**12 30 52.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**78.50**	**75**	P			**P**	**12 30 51.3**	**-0.9**
	0.8nm,0.3s,baz=251,slow=5.6,SNR=15								
TORD					pP		**pP**	**12 31 27.2**	**-1.4**
	0.8nm,0.5s,baz=270,slow=4.6,SNR=5.6								
ESDC	**Sonseca Array**	**80.67**	**47**	P			**P**	**12 31 04.9**	**+1.4**
	0.8nm,0.5s,baz=229,slow=5.7,SNR=4.5								
QSPA	**South Pole Qui**	**81.51**	**180**		*e*P		**P**	**12 31 06.8**	**-0.7**
	3.9nm,0.8s								
VNDA	**Vanda**	**88.55**	**190**	P			**P**	**12 31 43.9**	**+1.6**
	0.7nm,0.7s,baz=107,slow=3.1,SNR=4.9								
ASAR	**Alice Springs**	**137.70**	**220**		PKhKP		PKPpre	12 38 05.2	
	0.4nm,0.8s,baz=144,slow=2.8,SNR=4.1								
ASAR					PKP		**PKPdf**	**12 38 14.4**	**0.0**
	0.7nm,0.7s,baz=122,slow=2.6,SNR=7.2								
ASAR					pPKP		pPKPdf	12 38 52.0	-1.4
	0.7nm,0.8s,baz=122,slow=1.

0.3nm,0.3s,baz=276,slow=5.2,SNR=7.7

URZ					Sn	Sn	12 38 53.9	+0.8
	1.5nm,0.3s,baz=81,slow=22,SNR=10							
STKA	**Stephens Creek**	**35.95**	**256**	P		P	12 41 39.1	+1.9
	2.6nm,1.1s,baz=90,slow=11,SNR=3.7							
ASAR	**Alice Springs**	**44.51**	**266**	P		P	12 42 47.6	-0.7
	0.4nm,0.6s,baz=101,slow=7.4,SNR=9.7							
WRA	**Warramunga Arr**	**45.45**	**271**	P		P	12 42 55.2	-0.5
	0.6nm,0.7s,baz=110,slow=8.0,SNR=9.3							

KRSC 09 12:41:59.1±2.9, 48°97N×157°27E, h22km±55km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.87**	**337**	*eP*		Pn	12 42 29.6	-0.2
SKR				*eS*		Sn	12 42 52.8	+0.1
PAU	**Pauzhetka**	**2.52**	**354**	*eS*		Sb	12 43 11.9	-2.2
KDTR	**Khodutka, Kamc**	**2.89**	**10**	P		Pb	12 42 47.5	-2.4
KDTR				S		Sb	12 43 23.2	-1.6
MTVR	**Mutnovka**	**3.57**	**9**	P		Pb	12 42 57.6	-3.9
DALK	**Dalny**	**4.18**	**12**	*eP*		Pn	12 43 05.6	+4.2
AVH	**Avacha**	**4.40**	**12**	*iP*		Pn	12 43 09.9	+5.3
SMAR	**Somma**	**4.41**	**12**	*eP*		Pn	12 43 10.0	+5.2
KOK	**Koryaka**	**4.42**	**11**	*iP*		Pn	12 43 10.0	+5.2
SDLR	**Sedlovina**	**4.44**	**13**	*iP*		Pn	12 43 09.0	+3.9
GNL	**Ganaly**	**4.75**	**5**	*iP*		Pn	12 43 14.9	+5.4
MKZ	**Mys Kozlova**	**6.25**	**25**	*eP*		Pn	12 43 33.8	+4.0

IDC ***09*** *12:43:00.4±1.4, 13°.80N×92°.49W, h0km, mb4.0/6, mb1 4.3/9, mb1mx3.9/51, mbtmp3.9/9, ML3.2/3, MS3.2/4, Ms1 3.2/4, ms1mx2.8/39, Error ellipse: s-maj=37.8km s-min=21.8km az=41.0*

ISCJB ***09*** *12:43:05.8±0.6, 13°.97N±0°.05×92°.46W±0°.06, h46km, mb4.3/29, MS3.5/1, Error ellipse: s-maj=8.9km s-min=7.2km az=163.6*

MEX ***09*** *12:43:05.5±0.5, 13°.87N×92°.64W, h15km, MD4.0*

NEIC ***09*** *12:43:05.5±4.1, 13°.85N×92°.48W, h33km±27km, mb4.3/24, MD4.0(MEX), Error ellipse: s-maj=20.0km s-min=9.3km az=205.0*

ISC 09 12:43:07.0±0.9, 13°96N±0°.09×92°55W±0°.07, h46km, n54, σ1°43/56, mb4.4/29, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
THIG		**0.99**	**16**	*eP*	n	**Pn**	**12 43 23.3**	**-1.1**
THIG		**0.99**	**16**	*eP*		**Pn**	**12 43 23.3**	**-1.1**
THIG				*eS*		**Sn**	**12 43 35.1**	**-2.1**
PCIG		**1.85**	**340**	*eP*	n	**Pn**	**12 43 34.5**	**-1.9**
PCIG				*eS*	n	**Sn**	**12 43 56.0**	**-2.6**
PCIG		**1.85**	**340**	*eP*		**Pn**	**12 43 34.5**	**-1.9**
PCIG				*iS*		**Sn**	**12 43 56.0**	**-2.6**
APG	**El Apazote**	**2.28**	**63**	Pn		**Pn**	**12 43 41.9**	**-0.4**
	5.0nm,0.3s,baz=240,slow=7.9,SNR=89							
APG				Lg		Lg	12 44 12.2	
	17nm,0.3s,baz=123,slow=17,SNR=6.9							
APG				LR		LR	12 44 42.6	
	comp=Z,531nm,19.5s,baz=196,slow=44							
CCIG	**Comitan**	**2.35**	**10**	*eP*	n	**Pn**	**12 43 44.8**	**+1.5**
CCIG	**Comitan**	**2.35**	**10**	*eP*		**Pn**	**12 43 42.1**	**-1.1**
CCIG				*iS*		**Sn**	**12 44 10.1**	**-0.9**
TGIG		**2.86**	**349**	*eP*	n	**Pn**	**12 43 50.0**	**-0.2**
TGIG		**2.86**	**349**	*eP*		**Pn**	**12 43 49.6**	**-0.6**
TGIG				*iS*		**Sn**	**12 44 23.2**	**-0.2**
CMIG	**Matias Romero**	**3.84**	**325**	Pn		**Pn**	**12 44 02.5**	**-1.2**
	0.7nm,0.3s,baz=142,slow=9.6,SNR=7.9							
TEIG	**Tepich**	**7.46**	**33**	*eP*	n	**Pn**	**12 44 53.2**	**0.0**
JTS	**JuntasAbangare**	**8.28**	**115**	Lg		Lg	12 47 14.2	
	0.5nm,0.3s,baz=183,slow=19,SNR=2.0							
LTX	**Lajitas**	**18.44**	**328**	*eP*		**Pn**	**12 47 21.4**	**+2.0**
TXAR	**Lajitas Array**	**18.44**	**328**	P		**Pn**	**12 47 21.4**	**+2.0**
	0.0nm,0.3s,baz=153,slow=14,SNR=11							
TXAR				LR		LR	12 55 59.0	
	comp=Z,44nm,19.4s,baz=0.0,slow=42							
TX31	**Lajitas Ar. Si**	**18.44**	**328**	*eP*		**Pn**	**12 47 21.1**	**+1.7**
LPIG	**La Paz**	**19.56**	**304**	LR		LR	12 55 04.2	
	comp=Z,39nm,19.5s,baz=78,slow=37							
ABTX	**Abilene, Hawle**	**19.68**	**342**	*eP*		**P**	**12 47 33.4**	**+1.1**
	8.3nm,0.7s							
152A	**Waverly Hall**	**19.95**	**20**	*eP*		**Pn**	**12 47 38.0**	**+0.7**
MIAR	**Mount Ida**	**20.52**	**358**	*eP*		**P**	**12 47 43.3**	**+1.9**
	6.6nm,0.9s							
MNTX	**Cornudas Mount**	**21.22**	**328**	*eP*		**P**	**12 47 50.5**	**+1.5**
	6.4nm,1.1s							
WMOK	**Wichita Mounta**	**21.44**	**346**	*eP*		**P**	**12 47 53.0**	**+1.6**
	3.7nm,1.0s							
MSTX	**Muleshoe**	**21.98**	**337**	*eP*		**P**	**12 47 58.3**	**+1.1**
	8.9nm,1.0s							
V48A	**Smith Brothers**	**22.30**	**12**	*eP*		**P**	**12 47 59.1**	**-1.4**
	6.6nm,0.9s							
AMTX	**Amarillo**	**22.41**	**340**	*eP*		**P**	**12 48 02.6**	**+0.8**
	22nm,0.8s							
GLAT	**Glass**	**22.41**	**7**	*eP*		**P**	**12 48 01.6**	**-0.2**
	166nm,0.6s							
TKL	**Tuckaleechee C**	**23.01**	**19**	P		**P**	**12 48 07.3**	**-0.7**
	8.7nm,1.2s,baz=193,slow=7.6,SNR=3.5							
TKL				LR		LR	12 58 38.9	
	comp=Z,144nm,18.3s,baz=219,slow=41							
BNM	**Barren Site**	**23.81**	**330**	*eP*		**P**	**12 48 17.9**	**+1.9**
SIUC	**Southern Illin**	**23.85**	**7**	*eP*		**P**	**12 48 15.4**	**-0.6**
	13nm,0.8s							
T25A	**Trinidad**	**25.40**	**337**	*eP*		**P**	**12 48 33.8**	**+3.3**
	7.6nm,1.0s							
BBSR	**BB Station**	**31.34**	**49**	*eP*		**P**	**12 49 22.7**	**-0.6**
	31nm,1.1s							
BW06	**Boulder Array**	**32.24**	**336**	*eP*		P	12 49 37.2	+5.9
	4.6nm,0.8s							
PDAR	**Pinedale Array**	**32.24**	**336**	P		**P**	**12 49 32.0**	**+0.7**
	1.5nm,1.0s,baz=130,slow=6.0,SNR=5.6							
PDAR	**Pinedale Array**	**32.24**	**336**	*eP*		**P**	**12 49 31.8**	**+0.5**
REDW	**Red Top Meadow**	**33.26**	**335**	*eP*		**P**	**12 49 41.8**	**+1.6**
	10nm,1.1s							
SNOW	**Snow King Moun**	**33.30**	**336**	*eP*		**P**	**12 49 42.1**	**+1.5**
	12nm,1.1s							
LOHW	**Long Hollow**	**33.37**	**336**	*eP*		**P**	**12 49 41.8**	**+0.6**
	4.1nm,1.0s							
NV01	**Mina Array Sit**	**33.37**	**322**	*eP*		**P**	**12 49 40.4**	**-0.9**
NVAR	**Mina Array Bea**	**33.37**	**322**	P		**P**	**12 49 44.0**	**+2.8**
	1.5nm,0.8s,baz=134,slow=9.1,SNR=10.0							
TPAW	**Teton Pass**	**33.40**	**335**	*eP*		**P**	**12 49 42.5**	**+0.9**
	4.7nm,0.9s							
FXWY	**Fox Creek**	**33.56**	**335**	*eP*		**P**	**12 49 43.9**	**+1.1**
	1.8nm,1.1s							
HLID	**Hailey**	**34.96**	**332**	*eP*		**P**	**12 49 56.2**	**+1.3**
	3.2nm,1.1s							
PTGA	**Pitinga**	**35.42**	**112**	*eP*		**P**	**12 49 58.9**	**-0.1**
	4.3nm,0.8s							
DLMT	**Dillon**	**35.61**	**335**	*eP*		**P**	**12 50 02.0**	**+1.6**
	7.5nm,1.1s							
J08A	**Circle Bar Ran**	**36.79**	**328**	*eP*		**P**	**12 50 12.0**	**+1.5**
	5.2nm,1.1s							
F10A	**Beach Ranch, E**	**38.09**	**332**	*eP*		**P**	**12 50 22.5**	**+1.1**
	6.1nm,0.9s							
SIV	**San Ignacio**	**43.05**	**133**	P		**P**	**12 51 00.6**	**-2.1**
	0.6nm,0.4s,baz=284,slow=11,SNR=5.0							
YKA	**Yellowknife Ar**	**50.95**	**347**	P		**P**	**12 52 02.9**	**-0.7**
	4.5nm,0.8s,baz=150,slow=7.6,SNR=9.9							
IL1	**Eielson Array**	**62.67**	**337**	*eP*		**P**	**12 53 27.6**	**+0.9**
ILAR	**Eielson Array**	**62.67**	**337**	P		**P**	**12 53 27.1**	**+0.4**
	1.8nm,1.0s,baz=147,slow=3.8,SNR=14							
ILB	**Eielson Array**	**62.67**	**337**	*eP*		**P**	**12 53 27.7**	**+1.0**
RND	**Reindeer**	**62.84**	**335**	*eP*		**P**	**12 53 29.3**	**+1.4**
	9.1nm,1.2s							
MDM	**Murphy Dome**	**63.27**	**337**	*eP*		**P**	**12 53 29.9**	**-0.8**
	2.5nm,1.1s							
BWN	**Browne**	**63.41**	**336**	*eP*		**P**	**12 53 31.4**	**-0.2**
	18nm,0.8s							
CMAR	**Chiang Mai Arr**	**145.86**	**340**	PKPbc		**PKPbc**	**13 02 43.0**	**+0.8**
	3.5nm,0.9s,baz=336,slow=3.7,SNR=14							

ISN ***09*** *12:50:10.3±0.8, 37°.16N×42°.77E, h15km, ML2.6*

ISK 09 12:50:08.7, 37°20N×42°75E, h10km, ML2.6/6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SIRT	**Sirnak**	**0.39**	**320**	PG		Pb	12 50 17.3	-0.4
SIRT				SG		Sg	12 50 22.4	+0.8
CUKT	**Cukurca**	**0.69**	**86**	PG		Pg	12 50 22.3	+0.3
GURO	**Guroymak-BITLI**	**1.46**	**337**	PN		Pb	12 50 36.1	0.0
SVAN	**Silvan-Diyarba**	**1.55**	**308**	PN		Pb	12 50 37.3	-0.3
MAZI	**Mazidag**	**1.85**	**279**	PN		Pn	12 50 41.4	+0.8
SVRC	**Sivrice-ELAZID**	**2.97**	**294**	PN		Pn	12 50 56.7	+0.7

IDC ***09*** *12:54:54.5±1.2, 13°.86N×92°.48W, h0km, mb4.0/5, mb1 4.2/9, mb1mx3.9/48, mbtmp3.9/9, ML3.4/4, MS3.4/11, Ms1 3.4/11, ms1mx3.2/39, Error ellipse: s-maj=24.3km s-min=16.3km az=11.0*

NEIC ***09*** *12:54:59.9±1.0, 13°.90N×92°.55W, h35km, mb4.4/9, MD3.8(MEX), Error ellipse: s-maj=18.4km s-min=14.5km az=209.0*

NEIC Felt at Villa Comaltitlan.

MEX ***09*** *12:54:59.5±0.5, 13°.93N×92°.65W, h16km±109km, MD3.9*

ISCJB ***09*** *12:55:00.4±0.7, 14°.07N±0°.05×92°.50W±0°.07, h46km, mb4.3/15, MS3.6/8, Error ellipse: s-maj=9.3km s-min=7.6km az=163.2*

ISC 09 12:55:01.1±0.9, 14°02N±0°.09×92°57W±0°.07, h46km, n40, σ1°74/35, mb4.3/15, MS3.6/8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
THIG		**0.94**	**18**	*eP*		**Pn**	**12 55 15.7**	**-2.2**
THIG				*iS*		**Sn**	**12 55 28.5**	**-1.7**
PCIG		**1.79**	**340**	*ePn*		**Pn**	**12 55 27.4**	**-2.3**
PCIG		**1.79**	**340**	*eP*		**Pn**	**12 55 27.4**	**-2.3**
PCIG				*iS*		**Sn**	**12 55 48.1**	**-3.1**
APG	**El Apazote**	**2.27**	**64**	Pn		**Pn**	**12 55 34.9**	**-1.5**
	3.6nm,0.3s,baz=221,slow=7.5,SNR=48							
APG				Lg		Lg	12 56 06.3	
	14nm,0.3s,baz=108,slow=20,SNR=5.0							
APG				LR		LR	12 56 35.5	
	comp=Z,565nm,19.2s,baz=206,slow=45							
CCIG	**Comitan**	**2.29**	**10**	*ePn*		**Pn**	**12 55 38.4**	**+1.8**
CCIG	**Comitan**	**2.29**	**10**	*iP*		**Pn**	**12 55 35.5**	**-1.1**
CCIG				*eS*		**Sn**	**12 56 02.6**	**-1.1**
TGIG		**2.80**	**349**	*ePn*		**Pn**	**12 55 42.0**	**-1.5**
TGIG		**2.80**	**349**	*eP*		**Pn**	**12 55 42.0**	**-1.5**
TGIG				*iS*		**Sn**	**12 56 15.1**	**-1.0**
CMIG	**Matias Romero**	**3.78**	**324**	Pn		**Pn**	**12 55 55.4**	**-1.6**
	1.3nm,0.3s,baz=141,slow=11,SNR=9.1							
CMIG				Sn		**Sn**	**12 56 41.4**	**+1.1**
	4.6nm,0.3s,baz=98,slow=19,SNR=4.4							
CMIG				LR		LR	12 57 15.9	
	comp=Z,112nm,19.9s,baz=147,slow=36							
TEIG	**Tepich**	**7.42**	**33**	*ePn*		**Pn**	**12 56 47.3**	**+0.4**
JTS	**JuntasAbangare**	**8.32**	**116**	Pn		Pn	12 56 52.6	-6.6
	2.3nm,0.3s,baz=90,slow=20,SNR=5.9							
LTX	**Lajitas**	**18.38**	**328**	*eP*		**Pn**	**12 59 14.7**	**+1.9**
TXAR	**Lajitas Array**	**18.38**	**328**	P		**Pn**	**12 59 14.7**	**+1.9**
	0.0nm,0.3s,baz=150,slow=10,SNR=12							
TXAR				LR		LR	13 06 19.8	
	comp=Z,55nm,21.2s,baz=0.0,slow=37							
AMTX	**Amarillo**	**22.35**	**340**	*eP*		**P**	**12 59 55.6**	**+0.4**
	19nm,0.8s							
TKL	**Tuckaleechee C**	**22.96**	**19**	LR		LR	13 10 12.2	
	comp=Z,188nm,19.5s,baz=214,slow=40							
ATAH	**Atahualpa**	**25.29**	**145**	LR		LR	13 08 36.8	
	comp=Z,92nm,20.3s,baz=350,slow=33							
SJG	**San Juan**	**25.70**	**77**	LR		LR	13 11 17.7	
	comp=Z,177nm,18.1s,baz=264,slow=38							
NNA	**Nana**	**30.18**	**148**	LR		LR	13 11 52.2	
	comp=Z,42nm,21.6s,baz=334,slow=34							
PDAR	**Pinedale Array**	**32.18**	**336**	P		**P**	**13 01 25.1**	**+0.2**
	1.1nm,1.0s,baz=168,slow=7.6,SNR=4.6							
REDW	**Red Top Meadow**	**33.20**	**335**	*eP*		**P**	**13 01 36.0**	**+2.2**
	9.1nm,1.1s							
SNOW	**Snow King Moun**	**33.24**	**336**	*eP*		**P**	**13 01 35.8**	**+1.6**
	11nm,1.1s							
LOHW	**Long Hollow**	**33.30**	**336**	*eP*		**P**	**13 01 36.2**	**+1.5**
	4.9nm,1.1s							
NV01	**Mina Array Sit**	**33.31**	**322**	*eP*		**P**	**13 01 37.2**	**+2.4**
NVAR	**Mina Array Bea**	**33.31**	**322**	P		**P**	**13 01 37.5**	**+2.7**
	1.9nm,0.8s,baz=135,slow=8.9,SNR=11							
YMR	**Madison River**	**34.33**	**336**	*eP*		**P**	**13 01 46.0**	**+2.3**
	7.6nm,1.2s							
HLID	**Hailey**	**34.90**	**332**	*eP*		**P**	**13 01 50.7**	**+2.2**
	2.5nm,1.0s							
DLMT	**Dillon**	**35.55**	**335**	*eP*		**P**	**13 01 55.9**	**+1.9**
	3.4nm,1.0s							
J08A	**Circle Bar Ran**	**36.73**	**328**	*eP*		**P**	**13 02 05.9**	**+1.8**
	2.3nm,0.8s							
D05A	**Enumclaw**	**41.18**	**329**	*eP*		P	13 02 46.5	+5.3
	9.9nm,1.1s							
SIV	**San Ignacio**	**43.11**	**133**	P		**P**	**13 02 56.1**	**-1.1**
	1.5nm,0.9s,baz=302,slow=12,SNR=4.7							
SCHQ	**Schefferville**	**45.40**	**21**	LR		LR	13 23 18.4	
	comp=Z,164nm,19.2s,baz=190,slow=37							
YKA	**Yellowknife Ar**	**50.88**	**347**	P		**P**	**13 03 57.4**	**+0.1**
	3.7nm,0.8s,baz=145,slow=8.0,SNR=11							
YKB5	**Yellowknife Ar**	**50.88**	**347**	*eP*		**P**	**13 03 57.3**	**+0.1**
HLK	**Haleakala**	**60.82**	**286**	*eP*		**P**	**13 05 07.8**	**-1.7**
	93nm,1.2s							
ILAR	**Eielson Array**	**62.61**	**337**	P		**P**	**13 05 21.2**	**+0.8**
	1.7nm,1.0s,baz=120,slow=4.8,SNR=11							
NOA	**NORSAR Array B**	**84.40**	**28**	LR		LR	13 43 37.9	
	comp=Z,18nm,21.3s,baz=275,slow=35							
GERES	**GERESS Array B**	**89.34**	**39**	LR		LR	13 46 48.3	
	comp=Z,29nm,20.3s,baz=304,slow=35							
NRIK	**Norilʹsk**	**96.86**	**360**	LR		LR	13 56 55.1	
	comp=Z,50nm,18.3s,baz=39,slow=38							
CM31	**Chiang Mai Arr**	**145.79**	**340**	*ePKPdf*		**PKPdf**	**13 14 35.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**145.79**	**340**	PKPbc		**PKPdf**	**13 14 35.4**	**-0.3**
	1.6nm,0.9s,baz=346,slow=4.1,SNR=12							

ISCJB ***09*** *13:01:52.6±0.6, 6°.12S±0°.06×128°.55E±0°.08, h350km, mb3.1/1, Error ellipse: s-maj=12.5km s-min=5.3km az=30.3*

IDC ***09*** *13:01:54.7±1.6, 6°.45S×128°.92E, h316km±16km, mb3.0/1, mb1 2.9/5, mb1mx2.7/31, mbtmp3.5/5, Error ellipse: s-maj=28.5km s-min=14.2km az=76.0*

DJA ***09*** *13:01:54.6±0.9, 6°.S±5°×12°.9E±°, h322km±17km, M4.0/8, mb3.9/3, MLv4.0/8*

ISC 09 13:01:52.4±0.9, 6°20S±0°.07×128°64E±0°.09, h350km, n13, σ2°50/19, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BNDI	**Bandanaira**	**2.09**	**37**	P		**Pn**	**13 02 45.9**	**+1.5**
MSAI	**Masohi**	**2.85**	**6**	P		**Pn**	**13 02 51.2**	**+0.7**
SAUI	**Saumlaki**	**3.18**	**124**	P		**Pn**	**13 02 52.6**	**-0.8**
FAKI	**Fak Fak**	**4.86**	**48**	P		**Pn**	**13 03 11.3**	**+0.8**
FAKI				S		**S**	**13 04 09.0**	**-4.6**
SOEI	**Soe**	**5.59**	**230**	P		**Pn**	**13 03 19.4**	**+0.7**
SIJI	**Sorong**	**5.91**	**26**	P		**Pn**	**13 03 23.4**	**+1.1**
	2.3nm,0.3s,baz=233,slow=20,SNR=3.2							
SIJI				S		**S**	**13 04 31.9**	**-3.2**
	4.4nm,0.3s,baz=254,slow=23,SNR=9.3							
BATI	**Baumata**	**6.33**	**231**	P		**Pn**	**13 03 28.1**	**+1.0**
	18nm,0.3s,baz=76,slow=1.4,SNR=16							
BATI				S		**S**	**13 04 40.6**	**-3.3**
	9.0nm,0.3s,baz=136,slow=9.0,SNR=9.0							
BATI	**Baumata**	**6.33**	**231**	P		**Pn**	**13 03 28.4**	**+1.3**
RKPI	**Ransiki, Papua**	**7.23**	**50**	P		**Pn**	**13 03 40.6**	**+3.1**
RKPI				S		**S**	**13 05 01.8**	**-1.2**
FITZ	**Fitzroy Crossi**	**12.18**	**194**	P		**P**	**13 04 35.2**	**-0.9**
	0.1nm,0.3s,baz=18,slow=13,SNR=3.1							
FITZ				S		**S**	**13 06 51.4**	**-0.1**
	0.1nm,0.3s,baz=76,slow=19,SNR=1.9							
WRA	**Warramunga Arr**	**14.74**	**158**	P		**Pn**	**13 05 05.7**	**-0.7**
	0.1nm,0.3s,baz=333,slow=13,SNR=16							
WRA				S		S	13 07 54.2	+11
	0.1nm,0.3s,baz=336,slow=22,SNR=3.2							
ASAR	**Alice Springs**	**18.09**	**164**	P		**P**	**13 05 42.8**	**+2.3**
	0.1nm,0.3s,baz=347,slow=12,SNR=11							
ASAR				S		**S**	**13 08 49.5**	**0.0**
	0.0nm,0.3s,baz=344,slow=20,SNR=6.2							
ASAR				ScP		**ScP**	**13 13 04.0**	**+5.6**
	0.1nm,0.3s,baz=350,slow=2.0,SNR=7.5							
CMAR	**Chiang Mai Arr**	**38.18**	**310**	P		P	13 08 48.9	+9.0
	0.7nm,0.6s,baz=141,slow=7.0,SNR=6.9							

IDC ***09*** *13:06:04.5±2.8, 13°.70N×92°.68W, h0km, mb3.7/2, mb1 3.8/5, mb1mx3.5/39, mbtmp3.4/5, ML2.9/2, Error ellipse: s-maj=60.2km s-min=32.7km az=20.0*

MEX ***09*** *13:06:07.9±0.4, 13°.73N×92°.71W, h24km±22km, MD3.9*

ISC 09 13:06:11.0±1.6, 14°0N±0°.1×92°58W±0°.08, h35km, n10, σ1°50/15, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
THIG		**1.00**	**18**	*iP*		**Pn**	**13 06 27.8**	**-0.7**
THIG				*iS*		**Sn**	**13 06 42.2**	**+0.9**
PCIG		**1.85**	**341**	*eP*		**Pn**	**13 06 38.2**	**-2.0**
PCIG				*iS*		**Sn**	**13 07 01.7**	**-0.7**

APG	**El Apazote**	**2.30**	**63**	Pn		**Pn**	**13 06 46.5**	**-0.2**
	3.2nm,0.3s,baz=250,slow=7.3,SNR=27							
CCIG	**Comitan**	**2.35**	**10**	*iP*		**Pn**	**13 06 45.6**	**-1.8**
CCIG				*iS*		**Sn**	**13 07 16.9**	**+1.8**
TGIG		**2.86**	**350**	*iP*		**Pn**	**13 06 53.6**	**-0.5**
TGIG				*iS*		**Sn**	**13 07 27.2**	**-0.2**
CMIG	**Matias Romero**	**3.83**	**325**	Pn		**Pn**	**13 07 06.8**	**-0.6**
	0.7nm,0.3s,baz=165,slow=13,SNR=6.0							
CMIG				Sn		**Sn**	**13 07 55.0**	**+3.7**
	2.5nm,0.3s,baz=100,slow=12,SNR=3.3							
TXAR	**Lajitas Array**	**18.43**	**328**	P		**Pn**	**13 10 24.7**	**+0.9**
	baz=152,slow=12,SNR=2.9							
YKA	**Yellowknife Ar**	**50.94**	**347**	P		**P**	**13 15 08.6**	**-0.1**
	1.1nm,0.7s,baz=168,slow=6.2,SNR=5.0							
ILAR	**Eielson Array**	**62.66**	**337**	P		**P**	**13 16 31.6**	**-0.2**
	0.5nm,0.9s,baz=114,slow=4.0,SNR=3.8							
CMAR	**Chiang Mai Arr**	**145.85**	**340**	PKPbc		**PKPbc**	**13 25 47.3**	**-0.3**
	0.8nm,0.9s,baz=343,slow=2.8,SNR=3.6							

NIED ***09*** *13:22:00, 37°.30N×141°.40E, h53km, Mw4.0 Best double couple: Mo1.00000×10¹⁵ NP1:ϕ=132.00000°, δ38.00000°, λ-24.00000°. NP2:ϕ=241.00000°, δ76.00000°, λ-126.00000°.*

ISCJB ***09*** *13:22:23.9±0.8, 37°.27N±0°.03×141°.53E±0°.06, h39km±8km, mb3.7/11, MS3.1/1, Error ellipse: s-maj=8.7km s-min=5.1km az=15.1*

JMA ***09*** *13:22:26.0±0.1, 37°.34N×141°.35E, h49km±1km, M4.1*

JMA Felt II J1.

IDC ***09*** *13:22:26.4±0.6, 37°.24N×141°.51E, h46km±5km, mb3.5/11, mb1 3.8/18, mb1mx3.6/56, mbtmp3.9/18, MS2.9/7, Ms1 2.9/7, ms1mx2.7/34, Error ellipse: s-maj=13.7km s-min=8.9km az=152.0*

ISC 09 13:22:26.1±0.6, 37°29N±0°.04×141°48E±0°.06, h43km±5km, n40, σ1°39/50, mb3.9/12, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**0.49**	**280**	P		**Pn**	**13 22 35.8**	**-1.2**
JFK				*eS*		**Sn**	**13 22 42.5**	**-2.2**
ONAJ	**Iwakimizuishiy**	**0.58**	**252**	P		**Pn**	**13 22 37.2**	**-0.9**
ONAJ				S		**Sn**	**13 22 44.9**	**-1.7**
JFFD	**Fukushimafurud**	**0.76**	**255**	P		**Pn**	**13 22 39.5**	**-1.0**
JFFD				S		**Sn**	**13 22 48.9**	**-2.0**
JMM	**Marumori**	**0.80**	**317**	P		**Pn**	**13 22 39.5**	**-1.5**
JMM				S		**Sn**	**13 22 49.1**	**-2.7**
JFT	**Otama**	**0.94**	**285**	P		**Pn**	**13 22 42.1**	**-0.9**
JFT				S		**Sn**	**13 22 53.4**	**-1.9**
JHO	**Hitachi**	**1.00**	**228**	P		**Pn**	**13 22 42.7**	**-1.0**
JHO				*eS*		**Sn**	**13 22 54.5**	**-2.1**
JIO	**Ouri**	**1.17**	**355**	P		**Pn**	**13 22 45.0**	**-1.1**
JIO				S		**Sn**	**13 22 58.6**	**-2.3**
JOU	**Okura**	**1.26**	**329**	P		**Pn**	**13 22 46.0**	**-1.3**
JOU				S		**Sn**	**13 23 01.3**	**-1.7**
JFY	**Yanaizu**	**1.42**	**275**	P		**Pn**	**13 22 48.5**	**-1.1**
JFY				S		**Sn**	**13 23 05.4**	**-1.7**
JYS	**Shirataka**	**1.46**	**310**	P		**Pn**	**13 22 49.0**	**-1.1**
JYS				S		**Sn**	**13 23 06.5**	**-1.5**
MJAR	**Matsushiro Arr**	**2.73**	**255**	P		**Pn**	**13 23 07.3**	**-0.2**
	13nm,0.3s,baz=140,slow=8.2,SNR=92							
MJAR				S		**Sn**	**13 23 40.7**	**+1.4**
	21nm,0.3s,baz=272,slow=32,SNR=7.7							
MJAR				LR		LR	13 24 19.4	
	comp=Z,193nm,21.4s,baz=65,slow=42							
MAT	**Matsushiro**	**2.73**	**255**	P		**Pn**	**13 23 07.6**	**+0.1**
MAT				*eS*		**Sn**	**13 23 40.9**	**+1.6**
JHJ	**Hachijo jima 2**	**4.38**	**199**	P		**Pn**	**13 23 29.6**	**-0.5**
	36nm,0.3s,baz=105,slow=22,SNR=7.2							
JHJ				S		**Sn**	**13 24 17.7**	**-2.3**
	99nm,0.3s,baz=87,slow=22,SNR=7.6							
ASAJ	**Asahikawa**	**6.88**	**7**	P	

20nm,0.3s,baz=36,slow=7.4,SNR=8.1
PCIG **2.01 326** *e*P **Pn** **13 25 49.4 -2.0**
PCIG *e*S **Sn** **13 26 14.8 -0.6**
CCIG **Comitan** **2.23 358** *i* P **Pn** **13 25 53.7 -1.0**
CCIG *i* S **Sn** **13 26 23.3 +2.1**
TGIG **2.92 339** *i* P **Pn** **13 26 02.1 -1.9**
TGIG *i* S **Sn** **13 26 40.1 +2.2**
CMIG **Matias Romero** **4.09 318** Pn **Pn** **13 26 20.4 +0.3**
1.2nm,0.3s,baz=150,slow=16,SNR=7.6
CMIG Sn **Sn** **13 27 10.1 +3.5**
1.9nm,0.3s,baz=100,slow=19,SNR=3.7
TXAR **Lajitas Array** **18.64 327** P **P** **13 29 33.9 -1.0**
0.0nm,0.3s,baz=145,slow=8.9,SNR=6.0
TKL **Tuckaleechee C** **22.78 18** LR LR 13 40 13.0
comp=Z,57nm,18.1s,baz=348,slow=39
NVAR **Mina Array Bea** **33.61 321** P **P** **13 31 58.7 +1.2**
0.6nm,0.9s,baz=152,slow=7.8,SNR=2.9
CMAR **Chiang Mai Arr** **145.94 341** PKPbc **PKPdf** **13 44 55.6 -0.5**
1.0nm,0.8s,baz=341,slow=3.8,SNR=6.1

*IDC **09** 13:29:18.2±1.6, 13°.46S×166°.66E, h0km, mb3.9/6, mb1 4.2/8, mb1mx3.9/38, mbtmp4.0/8, ML3.9/2, MS3.5/10, Ms1 3.5/10, ms1mx3.2/29, Error ellipse: s-maj=33.1km s-min=26.4km az=106.0*
*ISCJB **09** 13:29:22.1±1.2, 13°.61S±0°.08×166°.5E±0°.1, h39km, mb3.9/5, MS3.5/8, Error ellipse: s-maj=20.4km s-min=8.3km az=152.4*
ISC 09 13:29:23.7±1.4, 13°.56S±0°.09×166°.6E±0°.2, h39km, n14, σ1s17/12, mb4.0/5, MS3.5/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.73**	**301**	Pn	**Pn**	**13 31 12.3**	**-1.4**
	3.1nm,0.3s,baz=202,slow=11,SNR=2.2						
HNR				Sn	**Sn**	**13 32 40.1**	**+0.1**
	2.5nm,0.3s,baz=166,slow=12,SNR=2.1						
HNR				LR	LR	13 34 02.7	
	comp=Z,323nm,20.5s,baz=156,slow=37						
DZM	**Mont Dzumac**	**8.47**	**181**	Pn	**Pn**	**13 31 24.3**	**+0.3**
	0.7nm,0.3s,baz=48,slow=4.2,SNR=13						
DZM				Sn	**Sn**	**13 32 56.4**	**-2.0**
	baz=325,slow=18,SNR=1.8						
DZM				LR	LR	13 34 21.4	
	comp=Z,330nm,20.0s,baz=31,slow=35						
DZM	**Mont Dzumac**	**8.47**	**181**	*e*Pn	**Pn**	**13 31 24.9**	**+0.9**
	9.2nm,0.3s						
DZM				*e*Sn	**Sn**	**13 32 57.7**	**-0.7**
	4.6nm,0.3s						
DZM				*e*LR	LR	13 33 27.8	
	428nm,24.8s						
CTA	**Charters Tower**	**20.55**	**249**	P	**P**	**13 33 60.0**	**+0.9**
	1.9nm,0.8s,baz=47,slow=15,SNR=3.9						
JAY	**Jayapura**	**27.88**	**291**	LR	LR	13 46 41.7	
	comp=Z,92nm,19.4s,baz=16,slow=37						
STKA	**Stephens Creek**	**29.30**	**227**	P	**P**	**13 35 23.8**	**+1.2**
	2.4nm,0.7s,baz=37,slow=10,SNR=7.5						
STKA				LR	LR	13 46 12.1	
	comp=Z,137nm,19.0s,baz=26,slow=34						
WRA	**Warramunga Arr**	**31.53**	**254**	P	**P**	**13 35 42.0**	**-0.4**
	1.1nm,0.6s,baz=85,slow=9.2,SNR=14						
WRA				LR	LR	13 48 35.6	
	comp=Z,236nm,18.9s,baz=65,slow=37						
ASAR	**Alice Springs**	**32.53**	**247**	P	**P**	**13 35 50.5**	**-0.8**
	1.3nm,0.6s,baz=74,slow=9.5,SNR=31						
PPT2	**Papeete2**	**42.31**	**101**	*e*LR	LR	13 49 24.8	
	115nm,27.2s						
CMAR	**Chiang Mai Arr**	**73.91**	**294**	P	**P**	**13 40 56.5**	**+1.3**
	2.0nm,0.9s,baz=121,slow=4.5,SNR=15						
CMAR				LR	LR	14 16 21.5	
	comp=Z,6.6nm,18.0s,baz=305,slow=38						
SONM	**Songino Array**	**81.19**	**324**	LR	LR	14 14 49.1	
	comp=Z,15nm,20.0s,baz=15,slow=34						
MAW	**Mawson**	**82.73**	**202**	LR	LR	14 12 33.7	
	comp=Z,22nm,21.1s,baz=70,slow=31						
ILAR	**Eielson Array**	**85.61**	**18**	P	**P**	**13 41 57.0**	**-0.6**
	0.4nm,0.6s,baz=231,slow=4.6,SNR=5.6						
ILAR				LR	LR	14 15 08.9	
	comp=Z,32nm,20.2s,baz=260,slow=32						
PDAR	**Pinedale Array**	**94.61**	**47**	LR	LR	14 22 50.8	
	comp=Z,22nm,18.2s,baz=211,slow=34						

*IDC **09** 13:35:21.7±3.1, 13°.89N×92°.32W, h0km, mb3.4/2, mb1 3.8/5, mb1mx3.6/40, mbtmp3.5/5, ML3.3/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/25, Error ellipse: s-maj=57.5km s-min=17.3km az=167.0*
*MEX **09** 13:35:25.8±0.5, 14°.00N×92°.49W, h23km±40km, MD3.9*
ISC 09 13:35:29.0±1.6, 14°.2N±0°.1×92°.37W±0°.08, h35km, n11, σ1s77/15, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.68**	**9**	*i* P	**Pn**	**13 35 40.2**	**-2.0**
THIG				*i* S	**Sn**	**13 35 52.5**	**+0.9**
PCIG		**1.68**	**331**	*e*P	**Pn**	**13 35 53.4**	**-2.5**
PCIG				*i* S	**Sn**	**13 36 15.2**	**-1.0**
APG	**El Apazote**	**2.00**	**67**	Pn	**Pn**	**13 36 00.2**	**-0.3**
	11nm,0.3s,baz=230,slow=8.3,SNR=116						
APG				Lg	Lg	13 36 28.4	
	21nm,0.3s,baz=301,slow=24,SNR=11						
CCIG	**Comitan**	**2.05**	**6**	*e*P	**Pn**	**13 36 00.4**	**-0.8**
CCIG				*i* S	**Sn**	**13 36 27.5**	**+1.8**
TGIG		**2.63**	**344**	*i* P	**Pn**	**13 36 07.4**	**-1.6**
TGIG				*i* S	**Sn**	**13 36 40.0**	**+0.2**
CMIG	**Matias Romero**	**3.73**	**320**	Pn	**Pn**	**13 36 24.2**	**0.0**
	1.4nm,0.3s,baz=115,slow=12,SNR=13						
CMIG				Sn	**Sn**	**13 37 09.9**	**+3.0**
	6.4nm,0.3s,baz=109,slow=15,SNR=8.2						
JTS	**JuntasAbangare**	**8.24**	**118**	LR	LR	13 40 17.4	
	comp=Z,97nm,19.1s,baz=154,slow=37						
TXAR	**Lajitas Array**	**18.30**	**327**	P	**Pn**	**13 39 42.5**	**+2.1**
	0.0nm,0.3s,baz=150,slow=13,SNR=9.1						
NVAR	**Mina Array Bea**	**33.26**	**321**	P	**P**	**13 42 04.6**	**+1.3**
	0.2nm,0.5s,baz=130,slow=9.9,SNR=2.8						
YKA	**Yellowknife Ar**	**50.72**	**347**	P	**P**	**13 44 23.9**	**-1.1**
	0.4nm,0.5s,baz=151,slow=7.3,SNR=3.2						
CMAR	**Chiang Mai Arr**	**145.66**	**341**	PKPbc	**PKPdf**	**13 55 03.1**	**-1.6**
	0.4nm,0.6s,baz=338,slow=1.4,SNR=5.3						

IDC 09 13:46:49.8±50.0, 16°.67S×179°.33W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/27, mbtmp3.8/3, Error ellipse: s-maj=909.7km s-min=158.3km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.47**	**240**	P	P	13 54 14.2	+0.5
	2.0nm,1.1s,baz=83,slow=8.1,SNR=3.0						
WRA	**Warramunga Arr**	**44.00**	**258**	P	P	13 54 59.0	-0.4
	0.1nm,0.3s,baz=94,slow=8.0,SNR=13						
ASAR	**Alice Springs**	**44.29**	**253**	P	P	13 55 01.4	-0.3
	2.1nm,0.6s,baz=87,slow=8.1,SNR=28						

MEX 09 13:49:17.3±21.0, 24°.79N×110°.92W, h20km±999km, MD3.6, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**0.89**	**141**	*e*P	Pb	13 49 31.7	-2.3
	baz=41,slow=3.3						
LPIG				*i* S	Sb	13 49 41.3	-4.1
SLBS	**Sierra La Lagu**	**1.42**	**141**	*e*P	Pn	13 49 39.3	-2.7
SLBS				*e*S	Sn	13 49 55.9	-4.3

*IDC **09** 14:05:46.8±3.3, 36°.54N×71°.54E, h154km±29km, mb3.4/5, mb1 3.5/12, mb1mx3.2/46, mbtmp3.9/12, Error ellipse: s-maj=26.0km s-min=18.5km az=25.0*
*NNC **09** 14:05:54.1±2.3, 37°.07N×71°.24E, h179km±31km, mb3.3, mpv4.3, Error ellipse: s-maj=23.4km s-min=22.4km az=85.0*
ISC 09 14:05:49.9±1.7, 36°.9N±0°.1×71°.14E±0°.08, h150km, n48, σ1s55/37, mb3.7/5, 4C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.66**	**30**	⇓P	**Pn**	**14 06 48.1**	**+2.2**
	104nm,0.3s						
SFK				⇑S	**Sn**	**14 07 31.2**	**+1.9**
	71nm,0.2s						
AML	**Almayashu**	**5.63**	**20**	P	**Pn**	**14 07 13.2**	**+1.3**
	SNR=192						
MNAS	**Manas**	**5.72**	**10**	⇑P	**Pn**	**14 07 14.8**	**+1.9**
	9.4nm,0.3s						
MNAS				⇑S	**Sn**	**14 08 18.5**	**+0.6**
	83nm,0.5s						
UCH	**Uchtor**	**5.97**	**25**	P	**Pn**	**14 07 17.4**	**+0.9**
	SNR=84						
KZA	**Kyzart**	**6.11**	**30**	P	**Pn**	**14 07 18.4**	**+0.1**
	SNR=15						
EKS2	**Erkin-Say**	**6.15**	**18**	P	**Pn**	**14 07 20.0**	**+1.4**
	SNR=25						
DHRM	**DHARAMSHALA**	**6.26**	**136**	*e*P	Pn	14 07 16.8	-3.4
DHRM				*e*S	Sn	14 08 21.7	-9.2
DHRM				IAML		14 08 27.0	
	comp=E,214nm,0.3s						
DHRM				IAML		14 08 27.4	
	comp=N,193nm,0.3s						
KK31	**Karatay Array**	**6.26**	**356**	⇓P	**Pn**	**14 07 22.6**	**+2.6**
	comp=N,3.5nm,0.2s,baz=174,slow=13,SNR=82						
KK31				⇓S	**Sn**	**14 08 31.5**	**+0.9**
	comp=N,30nm,0.5s,baz=179,slow=23,SNR=3.7						
AAK	**Ala-Archa**	**6.33**	**23**	P	**Pn**	**14 07 22.2**	**+1.3**
	comp=N,11nm,0.3s,baz=175,slow=7.2,SNR=70						
AAK				S	**Sn**	**14 08 32.4**	**0.0**
	comp=N,3.4nm,0.3s,baz=138,slow=23,SNR=13						
AAK	**Ala-Archa**	**6.33**	**23**	⇓P	**Pn**	**14 07 23.3**	**+2.3**
	comp=N,15nm,0.4s						
AAK				⇓S	**Sn**	**14 08 32.4**	**0.0**
	comp=N,29nm,0.5s						
AAK	**Ala-Archa**	**6.33**	**23**	P	**Pn**	**14 07 22.3**	**+1.3**
	SNR=43						
KBK	**Karagaybulak**	**6.50**	**26**	P	**Pn**	**14 07 24.9**	**+1.7**
	SNR=7.2						
ULHL	**Ulahol**	**6.67**	**35**	P	**Pn**	**14 07 25.4**	**-0.2**
	SNR=18						
CHMS	**Chumysh**	**6.74**	**23**	P	**Pn**	**14 07 27.5**	**+1.2**
	SNR=17						
USP	**Ospenovka**	**6.90**	**21**	P	**Pn**	**14 07 29.2**	**+0.6**
	SNR=5.5						
TKM2	**Tokmak 2**	**6.96**	**28**	⇓P	**Pn**	**14 07 30.1**	**+0.6**
	comp=N,8.9nm,0.6s						
TKM2				⇓S	**Sn**	**14 08 46.6**	**-1.0**
	comp=N,9.3nm,0.8s						
TKM2	**Tokmak 2**	**6.96**	**28**	P	**Pn**	**14 07 30.5**	**+1.0**
	SNR=18						
SMLA	**Simla**	**7.59**	**137**	*e*P	Pn	14 07 33.8	-3.9
SMLA				*e*S	Sn	14 08 51.1	-11
SMLA				IAML		14 08 55.8	
	comp=N,75nm,0.3s						
SMLA				IAML		14 08 57.0	
	comp=E,76nm,0.3s						
MDOK	**Medeo**	**7.76**	**34**	⇓P	**Pn**	**14 07 40.3**	**+0.2**
	comp=E,14nm,0.5s						
JOSI	**Joshimath**	**9.41**	**129**	*e*P	Pn	14 07 57.3	-5.0
JOSI				*e*S	Sn	14 09 35.1	-12
JOSI				IAML		14 09 38.1	
	comp=E,47nm,0.6s						
JOSI				IAML		14 09 38.2	
	comp=N,62nm,0.3s						
KHET	**Khetri**	**9.60**	**154**	*e*P	Pn	14 07 58.4	-6.2
KHET				*e*S	Sn	14 09 36.5	-14
KUDL	**Kundal**	**9.79**	**151**	*e*P	Pn	14 08 01.0	-6.0
KUDL				*e*S	Sn	14 09 40.2	-15
JASL	**Jaisalmer**	**9.90**	**181**	*e*S	Sn	14 09 39.7	-19
SONA	**Sohna**	**9.93**	**148**	*e*S	Sn	14 09 44.3	-15
GEYT	**Alibeck**	**10.42**	**280**	P	**Pn**	**14 08 16.3**	**+0.9**
	comp=N,0.6nm,0.3s,baz=105,slow=14,SNR=8.3						
GEYT				S	**Sn**	**14 10 08.9**	**-1.7**
	comp=N,0.7nm,0.3s,baz=137,slow=15,SNR=6.8						
MKAR	**Makanchi Array**	**12.94**	**36**	P	**Pn**	**14 08 46.8**	**-1.3**
	comp=N,0.3nm,0.3s,baz=217,slow=12,SNR=10						
PYUN	**Piuthan**	**13.27**	**128**	*e*P	Pn	14 08 45.6	-7.0
	comp=N,12nm,0.2s						
DANN	**Dangsing**	**13.59**	**125**	*e*P	Pn	14 08 50.3	-6.6
	comp=N,14nm,0.2s						
KOLN	**Koldanda**	**13.88**	**127**	*e*P	Pn	14 08 53.5	-7.0
	comp=N,7.4nm,0.3s						
GKN	**Gorkha**	**14.40**	**124**	*e*P	Pn	14 09 01.8	-5.2
	comp=N,1.0nm,0.2s						
BHPL	**Bhopal**	**14.61**	**156**	*e*P	Pn	14 09 08.9	-0.6
BHPL				*ex*	x	14 11 35.0	
KURBB	**Kurchatov Arra**	**14.75**	**19**	P	**Pn**	**14 09 08.8**	**-2.1**
	comp=N,0.1nm,0.3s,baz=206,slow=11,SNR=12						
AB31	**Akbulak array**	**14.83**	**330**	⇓P	**Pn**	**14 09 12.6**	**+0.7**
	comp=N,0.5nm,0.3s,baz=135,slow=12,SNR=38						
KKN	**Kakani**	**14.97**	**123**	*e*P	Pn	14 09 09.2	-4.9
	comp=N,26nm,0.5s						
DMN	**Daman**	**14.97**	**124**	*e*P	Pn	14 09 09.5	-4.7
	comp=N,9.1nm,0.3s						
PKIN	**Phulchoki**	**15.19**	**123**	*e*P	Pn	14 09 12.0	-4.9
	comp=N,10.0nm,0.3s						
PKI	**Pulchoki**	**15.20**	**123**	*e*P	Pn	14 09 11.9	-5.2
	comp=N,24nm,0.6s						
GUN	**Gumba**	**15.30**	**121**	*e*P	Pn	14 09 13.1	-5.2
	comp=N,13nm,0.3s						
BVAR	**Borovoye Array**	**16.18**	**358**	P	**Pn**	**14 09 28.1**	**-0.4**
	comp=N,0.5nm,0.3s,baz=155,slow=10,SNR=9.6						
AKTO	**Aktyubinsk**	**16.53**	**329**	P	**Pn**	**14 09 34.9**	**+2.0**
	comp=N,0.9nm,0.3s,baz=143,slow=12,SNR=12						
AKTO				S	**S**	**14 12 32.0**	**-4.4**
	comp=N,0.1nm,0.3s,baz=139,slow=20,SNR=2.6						
AKTO	**Aktyubinsk**	**16.53**	**329**	⇑P	**Pn**	**14 09 34.9**	**+2.0**
	comp=N,4.0nm,0.6s						
ZALV	**Zalesovo Beam**	**19.55**	**25**	P	**P**	**14 10 04.0**	**-1.6**
	comp=N,0.7nm,0.3s,baz=214,slow=11,SNR=9.1						
FINES	**FINESS Array B**	**37.26**	**326**	P	**P**	**14 12 46.9**	**+0.3**
	comp=N,0.6nm,0.4s,baz=121,slow=11,SNR=8.1						
ARCES	**ARCESS Array B**	**40.86**	**337**	P	**P**	**14 13 16.8**	**+0.2**
	comp=N,3.4nm,1.0s,baz=103,slow=7.8,SNR=5.2						
NB2	**NORSAR Subarra**	**44.17**	**323**	P	**P**	**14 13 42.9**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.17**	**323**	P	**P**	**14 13 42.9**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=105,slow=7.1,SNR=5.2						
WRA	**Warramunga Arr**	**82.08**	**122**	P	P	14 17 48.0	-5.7
	comp=Z,0.3nm,0.5s,baz=324,slow=4.9,SNR=10						
ASAR	**Alice Springs**	**84.36**	**125**	P	P	14 17 59.3	-6.0
	comp=Z,0.4nm,0.6s,baz=315,slow=5.9,SNR=9.4						

*ARO **09** 14:26:35.0, 13°.N±2°.4°.2E±°, h8km±3km, Ml3.3*
ISC 09 14:26:31.9±2.9, 13°.0N±0°.1×42°.1E±0°.2, h10km, n12, σ0s88/15, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAOD	**Malaho**	**0.94**	**171**	*e*P	**Pg**	**14 26 49.7**	**-0.4**
TDD	**Tadjoura Ara**	**1.47**	**146**	*e*P	**Pn**	**14 26 59.0**	**+0.5**
LDLD	**Lac de Lave**	**1.50**	**164**	*e*P	**Pn**	**14 26 58.8**	**-0.1**
OBO	**Obock**	**1.58**	**131**	*e*P	**Pb**	**14 27 00.8**	**-0.4**
ATD	**Arta Tunnel**	**1.67**	**153**	*e*P	**Pb**	**14 27 02.4**	**-0.5**
ATD	**Arta Tunnel**	**1.67**	**153**	*e*P	**Pb**	**14 27 02.4**	**-0.5**
ATD				*e*S	**Sb**	**14 27 23.9**	**-0.1**
SGH	**Sud-Ghoubbet**	**1.68**	**161**	*e*P	**Pn**	**14 27 01.6**	**+0.2**
MCAD	**Moucha**	**1.70**	**139**	*e*P	**Pb**	**14 27 02.9**	**-0.4**
GBR	**Grand-Bara**	**1.91**	**169**	*e*P	**Pn**	**14 27 05.3**	**+0.7**
ATA	**Atar**	**1.92**	**145**	*e*P	**Pn**	**14 27 05.8**	**+1.2**
TRBA	**At Turbah**	**1.99**	**84**	*i* P	**Pb**	**14 27 07.8**	**-0.7**
TRBA				*e*		14 27 07.9	
	baz=246,slow=8.6						
TRBA				*i* S	**Sb**	**14 27 32.1**	**-1.3**
TRBA				AML	AML	14 27 44.3	
	comp=N,186nm,0.4s						
BDHA	**Al Bayda'**	**3.52**	**74**	*i* P	**Pn**	**14 27 27.1**	**+0.2**
BDHA				*i* S	**Sn**	**14 28 10.7**	**+2.0**
BDHA				AML	AML	14 28 26.3	
	comp=Z,31nm,0.5s						

*ISCJB **09** 14:27:49.4±0.3, 24°.43N±0°.01×122°.04E±0°.01, h0km±3km, Error ellipse: s-maj=2.3km s-min=1.9km az=144.5*
*TAP **09** 14:27:49.9, 24°.44N×121°.98E, h14km, ML3.2, B*
*JMA **09** 14:27:50.0±0.1, 24°.40N×121°.96E, h23km, M2.7*
ISC 09 14:27:49.9±0.9, 24°.46N±0°.02×122°.01E±0°.02, h15km±6km, n86, σ0s71/153, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.14**	**49**	P	**Pb**	**14 27 54.5**	**+0.3**
	baz=43						
EOS1				S	**Sb**	**14 27 58.0**	**+0.9**
	baz=43						
TWC	**Suao**	**0.21**	**315**	P	**Pg**	**14 27 54.6**	**-0.1**
	baz=326						
TWC				S	**Sg**	**14 27 58.2**	**+0.3**
	baz=326						
NANB	**Nanao**	**0.24**	**263**	*e*P	**Pg**	**14 27 54.7**	**-0.5**
	baz=273						
NANB				*e*S	**Sg**	**14 27 57.8**	**-1.0**
	baz=273						
ENA	**Nanau**	**0.25**	**263**	*i* P	**Pg**	**14 27 54.8**	**-0.5**
	baz=273						
ENA				S	**Sg**	**14 27 58.0**	**-1.0**
	baz=273						
ILA	**Ilan**	**0.39**	**322**	P	**Pb**	**14 27 58.4**	**-0.2**
	baz=319						
ILA				*e*S	**Sb**	**14 28 04.0**	**-0.4**
	baz=319						
EGS		**0.39**	**349**	P	**Pb**	**14 27 58.5**	**-0.1**
	baz=347						
EGS				S	**Sb**	**14 28 03.7**	**-0.8**
	baz=347						
TWE	**Neicheng**	**0.41**	**310**	P	**Pb**	**14 27 58.3**	**-0.6**
	baz=318						
TWE				S	**Sb**	**14 28 04.2**	**-0.8**
	baz=318						
NTC	**Toucheng**	**0.43**	**337**	P	**Pb**	**14 27 59.0**	**-0.3**
	baz=340						
NTC				*e*S	**Sb**	**14 28 06.3**	**+0.8**
	baz=340						
ENTT	**Nioudou**	**0.45**	**294**	P	**Pg**	**14 27 58.8**	**0.0**
	baz=297						
ENTT				S	**Sg**	**14 28 04.2**	**-0.7**
	baz=297						
SLBB	**Yuanshan**	**0.45**	**311**	P	**Pb**	**14 27 59.4**	**-0.2**
	baz=317						
SLBB				*e*S	**Sb**	**14 28 05.8**	**-0.4**
	baz=317						
NACB	**Ninganchiao**	**0.48**	**234**	P	**Pg**	**14 27 58.7**	**-0.6**
	baz=234						
NACB				*e*S	**Sg**	**14 28 05.2**	**-0.6**
	baz=234						
TWD	**Chiawan**	**0.54**	**225**	P	**Pg**	**14 27 59.8**	**-0.7**
	baz=231						
TWD				S	**Sg**	**14 28 07.2**	**-0.4**
	baz=231						
TWB1	**Santiao Chiao**	**0.55**	**358**	P	**Pb**	**14 28 01.8**	**+0.5**
	baz=353						
TWB1				S	**Sb**	**14 28 09.3**	**+0.3**
	baz=353						
NWLT	**Wulai**	**0.56**	**304**	P	**Pb**	**14 28 01.2**	**-0.4**
	baz=308						
NNSB	**Datong**	**0.58**	**267**	P	**Pg**	**14 28 00.9**	**-0.4**
	baz=269						
NNSB				S	**Sg**	**14 28 08.6**	**-0.4**
	baz=269						
NNS	**Nan Shan**	**0.58**	**268**	P	**Pg**	**14 28 00.9**	**-0.5**
	baz=270						
NNS				S	**Sg**	**14 28 08.8**	**-0.4**
	baz=270						
YHNB	**Yeheng**	**0.62**	**290**	*e*P	**Pg**	**14 28 02.1**	**0.0**
	baz=297						
YHNB				*e*S	**Sg**	**14 28 09.5**	**-0.8**
	baz=297						
NSK	**Sanguang**	**0.64**	**290**	P	**Pg**	**14 28 02.4**	**0.0**
	baz=297						
NSK				*e*S	**Sg**	**14 28 10.0**	**-0.8**
	baz=297						
NWF	**Wu-fen Shan**	**0.65**	**341**	*e*P	**Pn**	**14 28 03.8**	**-0.9**
	baz=332						
NWF				*e*S	**Sb**	**14 28 12.7**	**+0.8**
	baz=332						
WFSB	**Wu-fen Shan**	**0.65**	**341**	*e*P	**Pn**	**14 28 03.5**	**-1.1**
	baz=332						
WFSB				*e*S	**Sb**	**14 28 12.5**	**+0.7**
	baz=332						
TWA	**Mucha**	**0.65**	**323**	*e*P	**Pb**	**14 28 03.3**	**+0.3**
	baz=326						
TWA				*e*S	**Sb**	**14 28 12.5**	**+0.5**
	baz=326						
ENLB	**Shoufeng**	**0.67**	**214**	*e*S	**Sn**	**14 28 14.2**	**-0.9**
	baz=221						
WHF	**Hehuan Shan**	**0.75**	**246**	P	**Pg**	**14 28 04.0**	**-0.6**
	baz=256						
WHF				*e*S	**Sg**	**14 28 14.4**	**-0.2**
	baz=256						
TWT	**Tachien**	**0.79**	**255**	P	**Pg**	**14 28 05.3**	**-0.1**
	baz=256						
TWT				S	**Sb**	**14 28 15.9**	**-0.2**
	baz=256						
YM01	**YM01**	**0.80**	**330**	*e*P	**Pn**	**14 28 07.6**	**+0.9**
	baz=331						
YM01				*e*S	**Sn**	**14 28 17.0**	**-1.3**
	baz=331						
WLTB	**Daxi**	**0.80**	**300**	*e*P	**Pn**	**14 28 05.8**	**-0.9**
	baz=301						
WLTB				*e*S	**Sg**	**14 28 16.4**	**+0.6**
	baz=301						
YM07	**YM07**	**0.80**	**333**	*e*P	**Pn**	**14 28 06.2**	**-0.5**
	baz=335						
YM07				*e*S	**Sn**	**14 28 16.9**	**-1.6**
	baz=335						
TDCB	**Techi**	**0.81**	**255**	*e*P	**Pb**	**14 28 05.3**	**-0.4**
	baz=257						
TDCB				*e*S	**Sg**	**14 28 15.5**	**-0.7**
	baz=257						
YM10	**YM10**	**0.81**	**329**	*e*P	**Pn**	**14 28 06.7**	**-0.2**
	baz=331						
YM10				*e*S	**Sn**	**14 28 17.4**	**-1.3**
	baz=331						
YM11	**YM11**	**0.81**	**330**	*e*P	**Pn**	**14 28 06.7**	**-0.3**
	baz=332						
YM11				*e*S	**Sn**	**14 28 17.9**	**-0.9**
	baz=332						
YM05	**YM05**	**0.81**	**330**	*e*P	**Pn**	**14 28 06.5**	**-0.5**
	baz=331						
YM05				*e*S	**Sn**	**14 28 17.5**	**-1.3**
	baz=331						
YM04	**YM04**	**0.82**	**328**	*e*P	**Pn**	**14 28 06.8**	**-0.2**
	baz=337						
YM04				*e*S	**Sn**	**14 28 17.9**	**-1.0**
	baz=337						
YM08	**YM08**	**0.82**	**332**	P	**Pn**	**14 28 06.8**	**-0.3**
	baz=333						
YM08				*e*S	**Sn**	**14 28 18.7**	**-0.3**
	baz=333						
YM12	**YM12**	**0.82**	**331**	P	**Pn**	**14 28 06.6**	**-0.5**
	baz=333						
ESL	**Shilin**	**0.83**	**220**	P	**Pb**	**14 28 05.3**	**-0.8**
	baz=226						
YM03	**YM03**	**0.84**	**329**	*e*P	**Pn**	**14 28 07.0**	**-0.3**
	baz=330						
YM03				*e*S	**Sn**	**14 28 18.4**	**-1.1**
	baz=330						
TWS1	**Kuangyinshan**	**0.84**	**320**	*e*P	**Pn**	**14 28 07.7**	**+0.4**
	baz=314						
TWS1				*e*S	**Sn**	**14 28 19.0**	**-0.3**
	baz=314						
JYNG	**Yonagunijimaku**	**0.85**	**90**	P	**Pn**	**14 28 06.8**	**-0.6**
JYNG				*e*S	**Sg**	**14 28 18.0**	**+0.5**
CHGB	**Renai**	**0.86**	**243**	P	**Pb**	**14 28

baz=285
HSN Hsinchu 1.01 290 *e*S **Sn 14 28 23.4 -0.2**
baz=288
HGSD Ruisui 1.10 209 *e*P **Pg 14 28 11.3 +0.1**
baz=210
HGSD *e*S **Sg 14 28 26.9 +1.3**
baz=210
NMLH Miaoli 1.12 274 *e*P **Pg 14 28 11.9 +0.4**
baz=275
NMLH *e*S **Sg 14 28 26.9 +0.9**
baz=275
TWQ1 Liyutan 1.14 265 *e*P **Pg 14 28 12.7 +0.8**
baz=266
TWQ1 *e*S **Sn 14 28 26.3 -0.5**
baz=266
EHY Hungye 1.14 214 P **Pn 14 28 10.8 -0.6**
baz=225
EHY *e*S **Sg 14 28 27.4 +0.6**
baz=225
PCYT Pengchaiyu 1.17 3 *e*P **Pg 14 28 12.3 -0.2**
baz=3.0
PCYT *e*S **Sg 14 28 27.9 +0.2**
baz=3.0
SMLT Sun Moon Lake 1.17 241 *e*P **Pb 14 28 12.1 +0.2**
baz=248
SMLT *e*S **Sb 14 28 26.8 -0.2**
baz=248
SSLB Suanglung 1.18 236 *e*P **Pb 14 28 11.8 -0.2**
baz=243
SSLB *e*S **Sb 14 28 26.6 -0.5**
baz=243
TYC Yuchr 1.19 243 *e*P **Pb 14 28 12.2 -0.1**
baz=243
PTSB Yuanli 1.19 270 *e*P **Pg 14 28 14.0 +1.1**
baz=282
YULB Yu-li 1.25 212 *e*P **Pn 14 28 12.9 0.0**
baz=210
TWF1 Yuli 1.28 211 *e*P **Pn 14 28 12.9 -0.5**
baz=225
WJS Zhushan 1.33 242 *e*P **Pg 14 28 16.3 +0.7**
baz=235
WNT Mingjian 1.34 245 *e*P **Pg 14 28 16.4 +0.6**
baz=248
WNT *e*S **Sg 14 28 35.3 +2.0**
baz=248
YUS Yu-Shan 1.37 225 *e*P **Pb 14 28 15.9 +0.3**
baz=227
YUS *e*S **Sg 14 28 34.0 -0.2**
baz=227
FULB Fuli 1.42 208 *e*P **Pb 14 28 15.8 -0.3**
baz=226
FULB *e*S **Sg 14 28 35.1 -0.5**
baz=226
WGK Gukeng 1.53 240 *e*P **Pg 14 28 19.4 -0.1**
baz=243
WGK *e*S **Sg 14 28 40.5 +1.1**
baz=243
WDLH Douliu 1.55 241 *e*P **Pg 14 28 19.7 -0.1**
baz=244
WDLH *e*S **Sg 14 28 41.5 +1.5**
baz=244
ELDTW Lidau 1.56 216 *e*P **Pn 14 28 17.7 +0.5**
baz=215
IRIF Iriomote-Funau 1.57 94 P **Pn 14 28 16.7 -0.6**
IRIF S **Sn 14 28 36.9 -0.5**
RLNB Erlin 1.61 250 *e*S **Sg 14 28 41.0 -0.9**
baz=264
HATJ Hateruma jima 1.68 103 P **Pn 14 28 19.4 +0.5**
TPUB Ta-pu 1.71 228 *e*P **Pb 14 28 21.6 +0.4**
baz=231
TPUB *e*S **Sb 14 28 43.9 +1.3**
baz=231
STYT Tauyuan 1.73 222 *e*P **Pb 14 28 21.0 -0.5**
baz=224
STYT *e*S **Sb 14 28 43.9 +0.8**
baz=224
WTP Ta-pu 1.76 227 *e*P **Pb 14 28 21.9 -0.1**
baz=230
WTP *e*S **Sb 14 28 45.3 +1.4**
baz=230
JKRS Kuro-shima 1.83 96 P **Pn 14 28 21.2 +0.3**
JKRS S **Sn 14 28 43.6 -0.3**
TWK Hsinying 1.83 230 *e*P **Pb 14 28 23.1 -0.2**
baz=234
TWK *e*S **Sg 14 28 47.9 -1.1**
baz=234
CHN1 Nanshi 1.86 227 *e*P **Pb 14 28 24.2 +0.5**
baz=231
CHN1 *e*S **Sg 14 28 48.5 -1.3**
baz=231
SGST Jiashian 1.90 224 *e*P **Pb 14 28 24.8 +0.6**
baz=226
SGST *e*S **Sg 14 28 50.3 -0.7**
baz=226
JIJ Ishigaki jima 1.94 92 P **Pn 14 28 22.5 +0.1**
JIJ S **Sn 14 28 45.2 -1.4**
JISG Ishigakijimahi 2.10 86 P **Pn 14 28 24.5 0.0**
JISG S **Sn 14 28 49.6 -0.8**
SSD Sandimen 2.12 217 *e*P **Pb 14 28 27.9 -0.3**
baz=197
MASBT Mashibuluo 2.23 215 *e*P **Pn 14 28 28.1 +1.6**
baz=216
MASBT *e*S **Sb 14 28 57.7 +0.2**
baz=216
VWUC VWUC 2.39 283 *e*P **Pn 14 28 29.2 +0.6**
baz=284
JTJ Tarama 2.45 85 P **Pn 14 28 29.9 +0.4**
JTJ S **Sn 14 28 59.5 +0.3**
WDGT Dungji 2.46 242 *e*P **Pn 14 28 30.8 +1.2**
baz=244
MATB Ma-tsu 2.52 312 *e*P **Pn 14 28 32.2 +1.9**
baz=312
JIRB Irabujima 2.90 82 P **Pn 14 28 36.4 +0.8**

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*DDA **09** 14:28:55.5, 36.˚58N×38.˚49E, h7km, Ml2.5*
*ISCJB **09** 14:28:57.2±1.9, 36.˚7N±0.˚1×38.˚47E±0.˚09, h7km, Error ellipse: s-maj=17.0km s-min=5.7km az=149.5*
*ISK **09** 14:29:02.4, 37.˚15N×38.˚20E, h5km, ML2.3/4*

ISC 09 14:28:58.7±1.6, 36.˚8N±0.˚1×38.˚41E±0.˚06, h7km, n8, σ0s94/11, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SURC	**SANLIURFA_SURC**	**0.18**	**65**	*i* P	**Pg**	**14 29 02.0**	**-0.4**
SANL	**SANLIURFA_Merk**	**0.59**	**52**	*i* S	**Sb**	**14 29 20.0**	**+0.1**
ATAB	**Bozova**	**0.67**	**352**	*i* P	**Pb**	**14 29 12.8**	**+0.1**
ATAB				*i* S	**Sn**	**14 29 25.9**	**+0.4**
URFA	**Urfa**	**0.71**	**27**	PG	**Pb**	**14 29 13.9**	**+0.3**
URFA				SG	**Sb**	**14 29 24.1**	**+0.5**
GAZ	**Gaziantep**	**1.03**	**291**	PG	**Pb**	**14 29 18.3**	**-0.6**
KUZU	**Kuzuini**	**1.07**	**269**	*i* P	**Pg**	**14 29 18.5**	**-0.8**
KUZU				*i* S	**Sn**	**14 29 34.1**	**-1.4**
SVRC	**Sivrice-ELAZID**	**1.72**	**24**	PN	**Pg**	**14 29 31.7**	**-0.1**
TAHT	**Tahtakopru-Hat**	**1.84**	**257**	PN	**Pg**	**14 29 35.9**	**+1.9**

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*IDC **09** 14:35:31.1±2.7, 18.˚44S×168.˚68E, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.8/46, mbtmp4.1/5, ML3.6/1, Error ellipse: s-maj=62.7km s-min=43.3km az=137.0*

ISC 09 14:35:37.3±2.7, 18.˚8S±0.˚2×168.˚7E±0.˚4, h37km, n6, σ1s13/7, mb4.0/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.83**	**212**	Pn	**Pn**	**14 36 34.9**	**+1.1**
	3.5nm,0.3s,baz=51,slow=13,SNR=110						
DZM				Sn	**Sn**	**14 37 16.2**	**-1.3**
	22nm,0.3s,baz=143,slow=20,SNR=13						
CTA	**Charters Tower**	**21.15**	**263**	P	**P**	**14 40 19.5**	**+0.1**
	1.7nm,0.6s,baz=62,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**32.35**	**262**	P	**P**	**14 42 02.5**	**-0.9**
	0.6nm,0.4s,baz=88,slow=8.5,SNR=20						
ASAR	**Alice Springs**	**32.69**	**255**	P	**P**	**14 42 06.1**	**-0.3**
	8.9nm,0.5s,baz=83,slow=8.6,SNR=239						
FITZ	**Fitzroy Crossi**	**40.73**	**264**	P	**P**	**14 43 15.3**	**+0.5**
	2.2nm,0.6s,baz=124,slow=7.8,SNR=9.7						
ARCES	**ARCESS Array B**	**124.54**	**345**	PKP	**PKPdf**	**14 54 31.0**	**-1.0**
	3.6nm,0.9s,baz=70,slow=1.1,SNR=3.7						

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*ISK **09** 14:39:59.7, 38.˚89N×43.˚91E, h15km, ML2.6/2*
*DDA **09** 14:40:00.9, 39.˚01N×43.˚65E, h14km, Ml3.2*
*ISCJB **09** 14:40:01.1±0.6, 39.˚03N±0.˚04×43.˚66E±0.˚06, h13km±6km, Error ellipse: s-maj=9.5km s-min=5.3km az=34.8*

ISC 09 14:39:59.1±1.0, 39.˚00N±0.˚05×43.˚67E±0.˚04, h18km±4km, n10, σ1s00/17, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.08**	**266**	*i* P	**Pb**	**14 40 03.1**	**+0.4**
VMUR				*i* S	**Sb**	**14 40 06.3**	**+1.1**
CLDR	**Caldiran**	**0.24**	**52**	PG	**Pb**	**14 40 05.8**	**+0.6**
CLDR				SG	**Sb**	**14 40 09.6**	**+0.4**
CLDR	**Caldiran**	**0.24**	**52**	*i* P	**Pb**	**14 40 05.8**	**+0.6**
CLDR				*i* S	**Sb**	**14 40 11.0**	**+1.9**
ERCV	**ERCIS-VAN**	**0.26**	**276**	PG	**Pn**	**14 40 09.5**	**+1.2**
VANB	**Van**	**0.46**	**209**	PG	**Pn**	**14 40 10.8**	**-0.1**
TVAN	**Van**	**0.51**	**204**	*i* P	**Pn**	**14 40 10.7**	**-1.1**
TVAN				*i* S	**Sn**	**14 40 19.9**	**-0.2**
DYDN	**Diyadin**	**0.55**	**2**	*i* P	**Pn**	**14 40 12.1**	**-0.2**
DYDN				*i* S	**Sn**	**14 40 19.9**	**-1.3**
ADCV	**BITLIS_Adilcev**	**0.76**	**256**	*i* P	**Pn**	**14 40 16.0**	**+0.8**
ADCV				*i* S	**Sn**	**14 40 26.4**	**0.0**
TUTA	**Tutak**	**0.78**	**302**	*i* P	**Pb**	**14 40 14.7**	**+0.4**
TUTA				*i* S	**Sb**	**14 40 23.8**	**-0.9**
GNI	**Garni**	**1.42**	**35**	PN	**Pg**	**14 40 25.5**	**-1.1**

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*UCR **09** 14:42:29.8±1.5, 15.˚54N×92.˚75W, h31km±999km, mb4.6(NEIC)*
*ISCJB **09** 14:42:41.4±0.4, 14.˚15N±0.˚04×92.˚23W±0.˚04, h46km, mb4.4/19, MS4.0/21, Error ellipse: s-maj=6.9km s-min=3.1km az=40.4*
*MEX **09** 14:42:42.2±0.6, 14.˚03N×92.˚40W, h13km±999km, MD4.2*
*NEIC **09** 14:42:42.5±0.6, 14.˚06N×92.˚25W, h35km, mb4.6/9, MD4.3(MEX), Error ellipse: s-maj=15.6km s-min=7.0km az=220.0*
*IDC **09** 14:42:42.4±3.6, 14.˚19N×92.˚06W, h35km±27km, mb4.1/10, mb1 4.4/13, mb1mx4.0/39, mbtmp4.3/13, ML4.0/3, MS3.9/23, Ms1 3.9/23, ms1mx3.7/41, Error ellipse: s-maj=33.1km s-min=12.8km az=51.0*

ISC 09 14:42:43.1±0.6, 14.˚11N±0.˚07×92.˚27W±0.˚07, h46km, n186, σ1s36/176, mb4.3/19, MS3.9/21, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.80**	**0**	*i* P	**Pn**	**14 42 56.7**	**-1.3**
THIG				*i* S	**Sn**	**14 43 07.7**	**-1.1**
IXG	**Ixpaco**	**1.76**	**88**	*e*P	**Pn**	**14 43 10.3**	**-1.0**
PCIG		**1.83**	**330**	*e*P	**Pn**	**14 43 09.7**	**-2.5**
PCIG		**1.83**	**330**	*e*P	**Pn**	**14 43 09.7**	**-2.5**
PCIG				*e*S	**Sn**	**14 43 32.3**	**-1.8**
APG	**El Apazote**	**1.96**	**63**	Pg	**Pn**	**14 43 14.9**	**+0.8**
	112nm,0.3s,baz=234,slow=7.8,SNR=925						
APG				Lg	Lg	14 43 44.0	
	132nm,0.3s,baz=152,slow=10.0,SNR=7.1						
CCIG	**Comitan**	**2.17**	**3**	*e*Pn	**Pn**	**14 43 19.6**	**+2.7**
CCIG	**Comitan**	**2.17**	**3**	*e*P	**Pn**	**14 43 15.5**	**-1.4**
CCIG				*e*S	**Sn**	**14 43 42.0**	**-0.7**
RTR	**El Retiro**	**2.56**	**94**	*e*P	**Pn**	**14 43 22.0**	**-0.2**
CEVE	**Cerro Verde**	**2.58**	**96**	*e*P	**Pn**	**14 43 21.7**	**-0.9**
SBLS	**San Blas**	**2.58**	**96**	*e*P	**Pn**	**14 43 22.5**	**-0.2**
SNJE	**San Jose**	**2.60**	**95**	*e*P	**Pn**	**14 43 22.3**	**-0.5**
MRL	**Marmol**	**2.67**	**69**	*e*P	Pn	14 43 14.9	-8.9
TGIG		**2.78**	**343**	*e*P	**Pn**	**14 43 24.8**	**-0.4**
TGIG		**2.78**	**343**	*e*P	**Pn**	**14 43 24.8**	**-0.4**
TGIG				*e*S	**Sn**	**14 43 57.3**	**-0.2**
MTO3	**Montecristo**	**2.84**	**84**	*e*P	**Pn**	**14 43 25.9**	**-0.2**
BQCS	**Boqueron**	**2.93**	**97**	*e*P	**Pn**	**14 43 27.2**	**-0.1**
UEES	**San Salvador**	**2.96**	**97**	*e*P	**Pn**	**14 43 27.5**	**-0.2**
LFU	**La Fuente**	**3.09**	**96**	*e*P	**Pn**	**14 43 29.1**	**-0.2**
LFRS	**El Faro**	**3.15**	**98**	*e*P	**Pn**	**14 43 29.8**	**-0.5**
LBRS	**Las Brisas**	**3.16**	**96**	*e*P	**Pn**	**14 43 30.2**	**-0.1**
PAVA	**Las Pavas**	**3.26**	**96**	*e*P	**Pn**	**14 43 31.5**	**-0.3**
PACA	**Pacayal**	**3.89**	**99**	*e*P	**Pn**	**14 43 40.1**	**-0.3**
PACA				*e*S	Sn	14 44 35.0	+10
CMIG	**Matias Romero**	**3.89**	**320**	Pn	**Pn**	**14 43 38.8**	**-1.6**
	9.8nm,0.3s,baz=162,slow=14,SNR=32						
CMIG				Sn	**Sn**	**14 44 23.2**	**-1.6**
	34nm,0.3s,baz=164,slow=14,SNR=7.9						
CMIG				LR	LR	14 45 27.1	
	comp=Z,1μm,20.5s,baz=132,slow=42						
ESTN	**Estel**	**5.83**	**99**	*e*Pn	**Pn**	**14 44 06.9**	**-0.1**
BOAB	**BOACO BROADBAN**	**6.64**	**104**	*e*Pn	**Pn**	**14 44 16.9**	**-1.2**
TLIG	**Tlapa**	**6.96**	**300**	*e*Pn	**Pn**	**14 44 26.2**	**+3.5**
TEIG	**Tepich**	**7.18**	**32**	*e*Pn	**Pn**	**14 44 26.2**	**+0.6**
JTS	**JuntasAbangare**	**8.10**	**117**	Pn	**Pn**	**14 44 37.1**	**-1.0**
	2.0nm,0.3s,baz=13,slow=13,SNR=7.5						
JTS				Lg	Lg	14 46 37.2	
	0.9nm,0.3s,baz=100,slow=23,SNR=9.8						
JTS	**JuntasAbangare**	**8.10**	**117**	*e*Pn	**Pn**	**14 44 39.9**	**+1.7**
JTS				Lg	Lg	14 46 37.2	
556A	**Lake Butler**	**18.25**	**28**	P	**Pn**	**14 46 54.1**	**+1.1**
	baz=212						
TX31	**Lajitas Ar. Si**	**18.46**	**327**	*e*P	**Pn**	**14 46 57.8**	**+2.1**
TXAR	**Lajitas Array**	**18.46**	**327**	P	**Pn**	**14 46 56.7**	**+1.0**
	0.1nm,0.3s,baz=155,slow=15,SNR=32						
TXAR				LR	LR	14 55 34.0	
	comp=Z,177nm,19.1s,baz=0.0,slow=42						
353A	**Camilla**	**18.69**	**22**	P	**Pn**	**14 46 57.9**	**-0.4**
	baz=205						
251A	**Midway**	**18.97**	**18**	P	**P**	**14 47 00.6**	**0.0**
	baz=201						
150A	**Eclectic**	**19.28**	**16**	P	**Pn**	**14 47 05.2**	**-0.1**
	baz=198						
151A	**Opelika**	**19.40**	**18**	P	**Pn**	**14 47 06.6**	**-0.2**
	baz=200						
LRAL	**Lakeview Retre**	**19.45**	**13**	P	**P**	**14 47 06.0**	**+0.2**
	baz=195						
ABTX	**Abilene, Hawle**	**19.62**	**341**	P	**Pn**	**14 47 09.7**	**+0.2**
	baz=158						
Z48A	**Northport**	**19.66**	**12**	P	**Pn**	**14 47 08.7**	**-1.1**
	baz=194						
LPIG	**La Paz**	**19.71**	**303**	LR	LR	14 53 50.0	
	comp=Z,223nm,20.6s,baz=128,slow=34						
152A	**Waverly Hall**	**19.72**	**19**	P	**Pn**	**14 47 09.9**	**-0.7**
	baz=202						
Z50A	**Ashland**	**19.92**	**16**	P	**P**	**14 47 10.9**	**-0.1**
	baz=198						
Y46A	**Houston**	**19.93**	**8**	P	**Pn**	**14 47 11.9**	**-1.1**
	baz=190						
ROSC	**El Rosal**	**19.94**	**116**	P	**P**	**14 47 13.1**	**+1.3**
	0.8nm,0.3s,baz=44,slow=3.8,SNR=14						
Y47A	**UCPARC, Winfie**	**20.11**	**11**	P	**P**	**14 47 13.3**	**+0.3**
	baz=192						
Y48A	**Jasper**	**20.25**	**12**	P	**P**	**14 47 15.2**	**+0.6**
	baz=194						
Z52A	**Williamson**	**20.30**	**19**	P	**P**	**14 47 14.7**	**-0.4**
	baz=202						
Y49A	**Blount Mountai**	**20.37**	**14**	P	**P**	**14 47 15.3**	**-0.6**
	baz=196						
MIAR	**Mount Ida**	**20.38**	**357**	P	**P**	**14 47 16.8**	**+0.8**
	baz=176						
OXF	**Oxford**	**20.48**	**7**	P	**P**	**14 47 16.8**	**-0.2**
	baz=188						
155A	**Kite**	**20.49**	**24**	P	**P**	**14 47 16.5**	**-0.6**
	baz=208						
Y50A	**Piedmont**	**20.57**	**16**	P	**P**	**14 47 17.4**	**-0.6**
	baz=198						
X47A	**Russelville**	**20.71**	**10**	P	**P**	**14 47 19.8**	**+0.2**
	baz=192						
X48A	**Hartselle**	**20.80**	**12**	P	**P**	**14 47 20.9**	**+0.4**
	baz=194						
GOGA	**Godfrey**	**20.82**	**21**	P	**P**	**14 47 19.6**	**-1.1**
	baz=204						
Z54A	**Sparta**	**20.89**	**23**	P	**P**	**14 47 20.8**	**-0.7**
	baz=206						
X49A	**Woodville**	**21.02**	**14**	P	**P**	**14 47 22.7**	**-0.1**
	baz=196						
W39A	**Magazine**	**21.04**	**357**	P	**P**	**14 47 23.9**	**+0.8**
	baz=176						
X50B	**Fort Payne**	**21.13**	**15**	P	**P**	**14 47 23.7**	**-0.5**
	baz=198						
MNTX	**Cornudas Mount**	**21.23**	**328**	*e*P	**P**	**14 47 26.2**	**+1.0**
	11nm,0.9s						
MNTX	**Cornudas Mount**	**21.23**	**328**	P	**P**	**14 47 26.1**	**+0.9**
	baz=143,SNR=18						
WMOK	**Wichita Mounta**	**21.37**	**345**	*e*P	**P**	**14 47 27.4**	**+0.8**
	8.2nm,0.9s						
WMOK	**Wichita Mounta**	**21.37**	**345**	P	**P**	**14 47 27.5**	**+0.8**
	baz=162,SNR=6.2						
W47A	**Westpoint**	**21.47**	**11**	P	**P**	**14 47 26.9**	**-0.8**
	baz=192						
W48A	**Pulaski**	**21.49**	**12**	P	**P**	**14 47 26.7**	**-1.2**
	baz=194						
Y54A	**Tignall**	**21.50**	**22**	P	**P**	**14 47 26.9**	**-1.2**
	baz=206						
V41A	**Mountainview**	**21.59**	**0**	P	**P**	**14 47 28.4**	**-0.5**
	baz=180						
W49A	**Belvidere**	**21.61**	**13**	P	**P**	**14 47 28.7**	**-0.6**
	baz=196						
V42A	**Cord**	**21.62**	**2**	P	**P**	**14 47 29.2**	**-0.1**
	baz=182						
SDV	**Santo Domingo**	**21.82**	**101**	P	**P**	**14 47 30.2**	**-1.6**
	5.0nm,0.7s,baz=332,slow=14,SNR=5.9						
SDV				LR	LR	14 57 03.7	
	comp=Z,244nm,20.6s,baz=191,slow=40						
X53A	**Estanollee**	**21.87**	**20**	P	**P**	**14 47 30.8**	**-1.2**
	baz=204						
V46A	**Holladay**	**21.92**	**9**	P	**P**	**14 47 31.5**	**-1.1**
	baz=191						
MSTX	**Muleshoe**	**21.95**	**336**	*e*P	**P**	**14 47 33.7**	**+0.7**
	26nm,1.2s						
MSTX	**Muleshoe**	**21.95**	**336**	P	**P**	**14 47 32.9**	**-0.1**
	baz=152,SNR=7.7						
V47A	**Nunnelly**	**22.05**	**10**	P	**P**	**14 47 32.4**	**-1.5**
	baz=192						
V48A	**Smith Brothers**	**22.09**	**12**	P	**P**	**14 47 33.2**	**-1.1**
	baz=194						
U40A	**Yellville**	**22.16**	**359**	P	**P**	**14 47 32.6**	**-2.5**
	baz=178						
U42A	**Revenden**	**22.17**	**2**	P	**P**	**14 47 32.7**	**-2.5**
	baz=183						
WVT	**Waverly**	**22.29**	**10**	P	**P**	**14 47 36.0**	**-0.5**
	baz=191						
V49A	**McMinnville**	**22.32**	**14**	P	**P**	**14 47 35.7**	**-1.1**
	baz=196						
AMTX	**Amarillo**	**22.36**	**339**	*e*P	**P**	**14 47 37.6**	**+0.2**
	37nm,0.9s						
AMTX	**Amarillo**	**22.36**	**339**	P	**P**	**14 47 37.8**	**+0.4**
	baz=155						
V50A	**Pikevile**	**22.42**	**15**	P	**P**	**14 47 36.6**	**-1.3**
	baz=188						
U46A	**Springville**	**22.46**	**9**	P	**P**	**14 47 36.9**	**-1.4**
	baz=190						
U47A	**Clarksville**	**22.68**	**10**	P	**P**	**14 47 39.4**	**-1.3**
	baz=192						
V51A	**Loudon**	**22.75**	**17**	P	**P**	**14 47 39.6**	**-1.8**
	baz=200						
TKL	**Tuckaleechee C**	**22.78**	**18**	P	**P**	**14 47 41.6**	**-0.1**
	6.5nm,0.8s,baz=194,slow=11,SNR=5.8						
TKL				LR	LR	14 58 16.5	
	comp=Z,352nm,18.7s,baz=200,slow=41						
T41A	**Mountain View**	**22.85**	**1**	P	**P**	**14 47 41.3**	**-1.1**
	baz=181						
T42A	**Van Buren**	**22.85**	**2**	P	**P**	**14 47 41.2**	**-1.3**
	baz=183						
T43A	**Greenville**	**22.95**	**4**	P	**P**	**14 47 41.8**	**-1.6**
	baz=185						
V52A	**Sevierville**	**23.00**	**18**	P	**P**	**14 47 42.0**	**-2.0**
	baz=202						
T44A	**Benton**	**23.01**	**5**	P	**P**	**14 47 42.4**	**-1.7**
	baz=187						
V53A	**Saluda**	**23.09**	**20**	P	**P**	**14 47 43.2**	**-1.8**
	baz=204						
121A	**Cookes Peak, D**	**23.17**	**325**	P	**P**	**14 47 47.1**	**+1.1**
	baz=139,SNR=8.3						
T46A	**Princeton**	**23.17**	**9**	P	**P**	**14 47 44.2**	**-1.4**
	baz=191						
U50A	**Jamestown**	**23.19**	**15**	P	**P**	**14 47 44.6**	**-1.3**
	baz=198,SNR=9.2						
T47A	**Sharon Grove**	**23.25**	**11**	P	**P**	**14 47 45.2**	**-1.2**
	baz=193						
U51A	**La Follette**	**23.38**	**17**	P	**P**	**14 47 46.4**	**-1.4**
	baz=200,SNR=6.8						
S41A	**Jillco Farms,**	**23.39**	**1**	P	**P**	**14 47 46.7**	**-1.1**
	baz=181						
T48A	**Bowling Green**	**23.50**	**12**	P	**P**	**14 47 47.4**	**-1.4**
	baz=194						
S42A	**Caledonia**	**23.61**	**3**	P	**P**	**14 47 49.1**	**-0.7**
	baz=184						
S44A	**Carbondale**	**23.64**	**6**	P	**P**	**14 47 49.5**	**-0.7**
	baz=187						
TZTN	**Tazewell**	**23.67**	**18**	P	**P**	**14 47 48.6**	**-1.8**
	baz=201						
T49A	**Edmonton**	**23.68**	**14**	P	**P**	**14 47 49.3**	**-1.3**
	baz=196,SNR=5.1						
T50A	**Nancy**	**23.77**	**15**	P	**P**	**14 47 50.1**	**-1.2**
	baz=198						
U53A	**Fall Branch**	**23.81**	**20**	P	**P**	**14 47 50.3**	**-1.4**
	baz=204						
S46A	**Don Dixon Farm**	**23.83**	**9**	P	**P**	**14 47 50.8**	**-1.1**
	baz=191						
CCM	**Cathedral Cave**	**23.87**	**2**	P	**P**	**14 47 51.2**	**-1.1**
	baz=182						
R41A	**Rosebud**	**24.11**	**2**	P	**P**	**14 47 54.2**	**-0.3**
	baz=182						
R43A	**Red Bud**	**24.16**	**5**	P	**P**	**14 47 54.3**	**-0.7**
	baz=186						
R45A	**Skylar, Fairfi**	**24.35**	**8**	P	**P**	**14 47 55.6**	**-1.1**
	baz=189						
ANMO	**Albuquerque**	**24.38**	**331**	P	**P**	**14 47 58.7**	**+1.5**
	4.0nm,0.8s,baz=150,slow=11,SNR=11						
ANMO	**Albuquerque**	**24.38**	**331**	*e*P	**P**	**14 47 59.1**	**+1.9**
	7.8nm,1.1s						
ANMO	**Albuquerque**	**24.38**	**331**	P	**P**	**14 47 57.7**	**+0.4**
	baz=145						
S49A	**Springfield**	**24.39**	**13**	P	**P**	**14 47 55.6**	**-1.4**
	baz=196						
S50A	**Richmond**	**24.50**	**15**	P	**P**	**14 47 56.5**	**-1.6**
	baz=198						
WCI	**Wyandotte Cave**	**24.61**	**11**	P	**P**	**14 47 58.5**	**-0.5**
	baz=194						
R47A	**Wooly Knot Far**	**24.63**	**11**	P	**P**	**14 47 58.1**	**-1.0**
	baz=193						
Q41A	**Truxton**	**24.77**	**2**	P	**P**	**14 47 59.4**	**-1.0**
	baz=182						
Q44A	**Meyer Farm, Va**	**24.87**	**6**	P	**P**	**14 48 00.8**	**-0.6**
	baz=187						
R49A	**Shelbyville**	**24.90**	**13**	P	**P**	**14 48 00.2**	**-1.4**
	baz=196						
Q45A	**Warren Harvey,**	**24.96**	**8**	P	**P**	**14 48 01.3**	**-0.9**
	baz=189						
R50A	**Paris**	**25.09**	**15**	P	**P**	**14 48 01.7**	**-1.7**
	baz=198						
ATAH	**Atahualpa**	**25.20**	**146**	P	**P**	**14 48 05.6**	**+0.5**
	7.9nm,0.8s,baz=289,slow=1.7,SNR=5.1						
ATAH				LR	LR	14 56 41.4	
	comp=Z,193nm,18.1s,baz=298,slow=33						
Q47A	**Bedord North L**	**25.27**	**11**	P	**P**	**14 48 04.1**	**-0.9**
	baz=193						
T25A	**Trinidad**	**25.37**	**337**	P	**P**	**14 48 07.6**	**+1.4**
	baz=152						
SJG	**San Juan**	**25.40**	**77**	LR	LR	14 58 00.9	
	comp=Z,269nm,21.7s,baz=252,slow=36						
CBKS	**Cedar Bluff**	**25.48**	**346**	P	**P**	**14 48 06.3**	**-0.7**
	baz=163						
P45A	**Graceland, Par**	**25.64**	**8**	P	**P**	**14 48 07.2**	**-1.1**
	baz=190						
Q50A	**Georgetown**	**25.71**	**15**	P	**P**	**14 48 07.1**	**-1.9**
	baz=199						
P46A	**Rosedale**	**25.80**	**9**	P	**P**	**14 48 08.2**	**-1.7**
	baz=191						
SDCO	**Great Sand Dun**	**26.32**	**336**	P	**P**	**14 48 15.5**	**+0.6**
	baz=150						
S22A	**4UR Ranch, Cre**	**26.87**	**334**	P	**P**	**14 48 20.7**	**+0.8**
	baz=147,SNR=10						
MVCO	**Mesa Verde**	**27.18**	**331**	*e*P	**P**	**14 48 24.4**	**+1.8**
	22nm,1.0s						
MVCO	**Mesa Verde**	**27.18**	**331**	P	**P**	**14 48 23.9**	**+1.3**
	baz=144,SNR=11						
Q24A	**Divide**	**27.25**	**338**	P	**P**	**14 48 23.3**	**0.0**
	baz=152						
N48A	**Decatur**	**27.39**	**12**	P	**P**	**14 48 22.3**	**-1.8**
	baz=195						
ISCO	**Idaho Springs**	**28.15**	**338**	P	**P**	**14 48 31.4**	**+0.1**
	baz=152						
MONP2	**Monument Peak**	**28.87**	**315**	P	**P**	**14 48 37.8**	**+0.1**
	baz=125,SNR=5.5						
NNA	**Nana**	**30.10**	**149**	LR	LR	14 58 46.6	
	comp=Z,119nm,19.0s,baz=315,slow=32						
MPMC	**Manual Prospec**	**31.44**	**319**	P	**P**	**14 49 00.7**	**+0.3**
	baz=128						
R11A	**Troy Canyon, C**	**31.77**	**324**	P	**P**	**14

NVAR PcP **PcP** **14 51 60.0 +1.5**
1.4nm,0.9s,baz=134,slow=3.9,SNR=3.7
NVAR LR LR 15 04 31.7
comp=Z,472nm,18.1s,baz=131,slow=39
HLID **Hailey** **34.96 331** P **P** **14 49 32.0 +1.1**
baz=140,SNR=12
PTGA **Pitinga** **35.22 112** *eP* **P** **14 49 31.5 -1.8**
12nm,0.9s
D54A **Lac Fusel, La** **35.44 18** P **P** **14 49 32.7 -2.1**
baz=207
ULM **Lac du Bonnet** **36.16 356** LR LR 15 07 48.8
comp=Z,149nm,18.8s,baz=216,slow=42
MSO **Missoula** **37.33 335** P **P** **14 49 51.0 -0.1**
baz=144
YBH **Yreka Blue Hor** **38.12 322** LR LR 15 08 07.3
comp=Z,375nm,18.2s,baz=146,slow=40
LPAZ **La Paz** **38.48 141** LR LR 15 05 07.5
comp=Z,102nm,20.7s,baz=320,slow=35
NEW **Newport** **39.78 334** LR LR 15 09 10.5
comp=Z,251nm,19.1s,baz=142,slow=40
D03D **Eldon** **42.04 329** P **P** **14 50 28.4 -1.6**
baz=132
SIV **San Ignacio** **42.95 133** P **P** **14 50 37.1 -0.9**
6.8nm,0.7s,baz=307,slow=8.0,SNR=29
SIV PcP **PcP** **14 52 27.8 -0.2**
1.9nm,0.7s,baz=297,slow=4.5,SNR=4.5
SCHQ **Schefferville** **45.22 20** LR LR 15 12 06.4
comp=Z,243nm,18.5s,baz=258,slow=39
YKA **Yellowknife Ar** **50.86 347** P **P** **14 51 38.9 -0.1**
7.7nm,0.7s,baz=149,slow=7.4,SNR=21
YKA PcP **PcP** **14 52 53.5 -1.5**
1.8nm,0.8s,baz=150,slow=4.3,SNR=4.6
CPUP **Villa Florida** **52.63 140** LR LR 15 13 11.1
comp=Z,77nm,18.3s,baz=346,slow=35
BDFB **Brasilia** **52.80 122** LR LR 15 13 31.5
comp=Z,111nm,18.6s,baz=48,slow=35
RKT **Rikitea** **55.81 229** *e*LR LR 15 08 34.0
179nm,29.0s
RKT **Rikitea** **55.81 229** *e*T T 15 52 04.8
2.4nm,0.2s
PLCA **Paso Flores** **58.16 161** LR LR 15 12 32.4
comp=Z,101nm,19.1s,baz=5.0,slow=31
EPYK **Eagle Plains** **59.95 341** P **P** **14 52 43.6 -0.8**
baz=128
INK **Inuvik** **60.26 344** P **P** **14 52 46.7 +0.3**
baz=122,slow=7.3
INK **Inuvik** **60.26 344** *e*P **P** **14 52 46.2 -0.2**
11nm,1.0s
HDA **Harding Lake** **62.50 336** P **P** **14 53 00.1 -1.5**
baz=117
IL1 **Eielson Array** **62.64 337** *e*P **P** **14 53 02.7 +0.2**
ILAR **Eielson Array** **62.64 337** P **P** **14 53 03.0 +0.4**
3.7nm,0.9s,baz=125,slow=5.2,SNR=24
ILAR LR LR 15 22 19.4
comp=Z,136nm,19.6s,baz=129,slow=38
POKR **Poker Plat Res** **63.00 337** P **P** **14 53 04.0 -1.0**
baz=117
PPT2 **Papeete2** **64.71 243** *e*LR LR 15 12 35.2
122nm,24.2s
TOLK **Toolik Lake Re** **65.33 340** P **P** **14 53 18.6 -1.6**
baz=116
ESDC **Sonseca Array** **79.86 52** P **P** **14 54 44.0 -3.2**
0.3nm,0.5s,baz=305,slow=4.5,SNR=4.6
NOA **NORSAR Array B** **84.18 28** LR LR 15 31 26.1
comp=Z,39nm,20.9s,baz=295,slow=35
DBIC **Dimbokro** **85.91 84** LR LR 15 27 41.7
comp=Z,56nm,20.1s,baz=274,slow=32
TORD **Torodi Ar. Bea** **90.61 76** LR LR 15 33 47.8
comp=Z,51nm,20.4s,baz=295,slow=34
NRIK **Noril'sk** **96.77 0** *e*LR LR 15 44 39.1
comp=Z,73nm,18.6s,baz=26,slow=38
DZM **Mont Dzumac** **105.46 251** *e*LR LR 15 31 46.4
329nm,22.6s
LZH **Lanzhou** **127.81 343** *e*PKP **PKPdf** **15 01 48.2 +3.9**
LZH sPKP 15 02 05.8
LZH PP **PP** **15 03 50.9 +5.8**
LZH SKS **SKSdf** **15 08 58.0 +5.2**
LZH SKKS **SKKSac** **15 10 39.3 -1.2**
LZH **Lanzhou** **127.81 343** SS SS 15 20 49.6 -3.9
LZH AMB AMB
comp=Z,260nm,5.4s
LZH LR LR
comp=N,600nm,13.3s
LZH LR LR
comp=E,500nm,13.6s
LZH LR LR
comp=Z,600nm,13.8s
WRA **Warramunga Arr** **135.16 256** PKP **PKPdf** **15 01 57.6 -0.8**
comp=Z,0.5nm,0.7s,baz=89,slow=1.9,SNR=6.9
CM31 **Chiang Mai Arr** **145.81 341** *e*PKPdf **PKPab** **15 02 19.1 +0.6**
CMAR **Chiang Mai Arr** **145.81 341** PKPbc **PKPbc** **15 02 18.6 +0.4**
comp=Z,9.5nm,0.8s,baz=341,slow=3.7,SNR=49
CM01 **Chiang Mai Arr** **145.84 341** *e*PKPdf **PKPdf** **15 02 18.0 +0.3**
HYB **Hyderabad** **147.39 16** *i* PKP **PKPbc** **15 02 23.0 +0.2**

*MAN **09** 14:42:52.7, 7.°45N×126.°75E, h1km, mb5.2, ML4.2, MS4.3*
*IDC **09** 14:42:55.9±1.8, 7.°57N×126.°74E, h33km±14km, mb4.2/27, mb1 4.4/29, mb1mx4.2/49, mbtmp4.5/29, ML4.8/2, MS3.4/9, Ms1 3.4/9, ms1mx3.1/51, Error ellipse: s-maj=14.4km s-min=7.8km az=80.0*
*ISCJB **09** 14:42:56.3±0.5, 7.°50N±0.°02×126.°81E±0.°04, h50km±5km, mb4.3/49, MS3.6/8, Error ellipse: s-maj=6.4km s-min=3.6km az=164.3*
*DJA **09** 14:43:00.8±0.5, 7°N±4′×12°7E±′, h52km±5km, M4.9/31, mb5.2/11, mb4.8/31, MLv5.3/5, Mw(mB)4.6/11*
*NEIC **09** 14:43:00.4±0.9, 7.°47N×126.°73E, h76km±8km, mb4.4/11, Error ellipse: s-maj=9.4km s-min=5.5km az=68.0*
NEIC Felt [II PIVS] at Davao.
ISC 09 14:42:58.4±0.8, 7.°46N±0.°03×126.°75E±0.°05, h52km±7km,
n125, σ2§05/132, **mb4.4**/49, **MS3.5**/8, **2C-4D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.81**	**332**	ǁ*eP*	**Pn**	**14 43 10.2**	**-3.4**
BIPH				*eS*	**Sn**	**14 43 20.2**	**-4.6**
DAV	**Davao City (W)**	**1.23**	**251**	Pg	**Pn**	**14 43 18.3**	**-0.9**
	1μm,0.3s,baz=21,slow=1.6,SNR=54						
DAV				Lg	Lg	14 43 38.4	
	1μm,0.3s,baz=98,slow=22,SNR=20						
DAV	**Davao City (W)**	**1.23**	**251**	*e*Pn	**Pn**	**14 43 18.5**	**-0.7**
DDMP	**Don Marcelino,**	**1.70**	**217**	*eP*	**Pn**	**14 43 22.6**	**-3.0**
DDMP				*eS*	**Sn**	**14 43 45.5**	**-0.8**
BUKP	**Musuan**	**1.72**	**284**	*eP*	**Pn**	**14 43 25.0**	**-1.0**
BUTP	**Butuan**	**1.87**	**323**	*eP*	**Pn**	**14 43 26.5**	**-1.4**
BUTP				*eS*	**Sn**	**14 43 53.8**	**+3.4**
GSPH	**General Santos**	**2.25**	**233**	*eP*	**Pn**	**14 43 31.3**	**-2.0**
GSPH				*eS*	**Sn**	**14 43 58.4**	**-1.6**
CGP	**Cagayan de Oro**	**2.26**	**296**ǁ	*eP*	**Pn**	**14 43 33.7**	**+0.4**
CGP				*i* S	**Sn**	**14 44 01.2**	**+1.1**
SKMP	**Bagumbayan, Su**	**2.38**	**247**	*eP*	**Pn**	**14 43 32.9**	**-2.2**
CTBH	**Cotabato--PC H**	**2.50**	**265**	*eP*	**Pn**	**14 43 35.9**	**-0.7**
CTBH				*i* S	**Sn**	**14 44 04.3**	**-1.4**
MSLP	**Maasin**	**3.25**	**325**	*eP*	**Pn**	**14 43 45.4**	**-1.4**
PAGZ	**Pagadian**	**3.36**	**277**	*eP*	**Pn**	**14 43 47.3**	**-1.1**
DCPH	**Dipolog City**	**3.54**	**289**ǁ	*eP*	Pn	14 43 56.8	+5.9
SGSI	**Sangihe**	**3.94**	**198**	P	**Pn**	**14 43 57.9**	**+1.4**
LLP	**Lapu-Lapu**	**3.95**	**316**ǁ	*eP*	**Pn**	**14 43 57.1**	**+0.6**
LLP				*eS*	**Sn**	**14 44 43.7**	**+2.1**
PLP	**Palo**	**4.07**	**335**ǁ	*eP*	**Pn**	**14 43 57.5**	**-0.7**
BESP	**Borongan**	**4.31**	**343**	*eP*	**Pn**	**14 44 03.7**	**+2.2**
BESP				*eS*	**Sn**	**14 44 56.0**	**+5.5**
GUIM	**Jordan**	**5.17**	**308**	*eP*	**Pn**	**14 44 13.0**	**-0.2**
RCP	**Roxas**	**5.67**	**316**ǁ	*eP*	**Pn**	**14 44 21.1**	**+1.0**
PVCP	**Virac**	**6.61**	**337**	*eP*	**Pn**	**14 44 32.2**	**-0.7**
TNTI	**Ternate**	**6.68**	**175**	*e*Pn	**Pn**	**14 44 36.3**	**+2.3**
TNTI	**Ternate**	**6.68**	**175**	P	**Pn**	**14 44 36.1**	**+2.2**
	109nm,0.8s,1μm						
KMSI	**Cibinong**	**7.38**	**202**	P	**Pn**	**14 44 45.3**	**+1.7**
	263nm,0.8s,4μm1.4nm						
MRSI	**Marisa**	**8.44**	**215**	P	**Pn**	**14 44 58.5**	**+0.5**
	78nm,0.6s,756nm						
MYLDM	**Lahad Datu**	**8.51**	**255**	*e*Pn	Pn	14 45 04.0	+4.9
TGY	**Tagaytay City**	**8.72**	**320**	Pn	**Pn**	**14 45 05.1**	**+3.1**
	14nm,0.3s,baz=48,slow=12,SNR=2.6						
LUWI	**Luwuk**	**9.34**	**205**	P	**Pn**	**14 45 13.4**	**+3.0**
	183nm,0.6s,2μm						
SIJI	**Sorong**	**9.43**	**151**	Pn	**Pn**	**14 45 10.8**	**-0.9**
	5.1nm,0.3s,baz=16,slow=6.6,SNR=12						
SIJI				Sn	**Sn**	**14 46 52.0**	**-4.3**
	0.6nm,0.3s,baz=197,slow=20,SNR=5.3						
SIJI				LR	LR	14 50 29.3	
	comp=Z,127nm,18.6s,baz=313,slow=48						
SANI	**Sanana**	**9.48**	**185**	P	**Pn**	**14 45 10.1**	**-2.3**
	62nm,0.7s,854nm						
APSI	**Ampana**	**9.75**	**212**	P	**Pn**	**14 45 18.6**	**+2.5**
MPSI	**Mapaga**	**9.84**	**224**	P	Pn	14 45 22.5	+5.2
NLAI	**Namlea**	**10.64**	**178**	P	**Pn**	**14 45 27.6**	**-0.6**
	61nm,0.6s						
MSAI	**Masohi**	**10.96**	**168**	P	**Pn**	**14 45 34.8**	**+2.2**
	10nm,0.8s,144nm						
RKPI	**Ransiki, Papua**	**11.59**	**140**	P	**Pn**	**14 45 42.6**	**+1.3**
	24nm,0.4s,2μm						
FAKI	**Fak Fak**	**11.68**	**152**	*e*Pn	**Pn**	**14 45 42.5**	**-0.1**
FAKI	**Fak Fak**	**11.68**	**152**	P	**Pn**	**14 45 42.6**	**+0.1**
	63nm,1.0s						
SPSI	**Sidrap Palu**	**13.32**	**212**	P	**Pn**	**14 46 07.5**	**+2.6**
BNSI	**Bone**	**13.52**	**210**	P	**Pn**	**14 46 09.8**	**+2.2**
	44nm,1.1s,492nm						
BKSI	**Bulukumba**	**14.32**	**208**	P	**Pn**	**14 46 18.9**	**+0.5**
	9.5nm,1.1s						
SMPI	**Sarmi**	**15.19**	**128**	P	**Pn**	**14 46 30.8**	**+1.1**
SBUM	**Sibu**	**15.30**	**252**	*e*Pn	**Pn**	**14 46 31.9**	**+0.6**
	15nm,0.7s						
MMRI	**Maumere**	**16.61**	**196**	pP	**P**	**14 46 54.9**	**+5.3**
GENI	**Genyem**	**16.71**	**126**	P	**P**	**14 46 52.8**	**+2.1**
	56nm,0.7s						
EDFI	**Ende, Flores**	**16.88**	**197**	P	**P**	**14 46 53.8**	**+1.1**
STKI	**Sintang**	**16.91**	**245**	P	P	14 47 05.9	+13
JAY	**Jayapura**	**17.09**	**125**	P	**P**	**14 46 56.7**	**+1.6**
	0.8nm,0.3s,baz=326,slow=7.3,SNR=6.3						
JAY	**Jayapura**	**17.09**	**125**	P	**P**	**14 46 56.6**	**+1.6**
SOEI	**Soe**	**17.28**	**188**	P	**P**	**14 46 58.4**	**+1.2**
KSM	**Kuching**	**17.43**	**251**	*e*Pn	**P**	**14 46 59.2**	**+0.5**
	11nm,0.6s						
BATI	**Bamata**	**17.82**	**190**	P	**P**	**14 47 03.8**	**+0.8**
	5.5nm,0.3s,baz=59,slow=2.0,SNR=11						
BATI				S	**Sn**	**14 50 22.7**	**+1.9**
	0.7nm,0.3s,baz=324,slow=19,SNR=1.9						
BATI	**Baumata**	**17.82**	**190**	P	**P**	**14 47 03.5**	**+0.5**
	45nm,0.8s						
GUMO	**Guam**	**18.82**	**70**	LR	LR	14 52 32.3	
	comp=Z,150nm,21.2s,baz=246,slow=31						
JOW	**Kunigami**	**19.32**	**4**	P	**Pn**	**14 47 21.1**	**+0.3**
	2.2nm,0.3s,baz=201,slow=8.6,SNR=9.8						
JOW				LR	LR	14 56 02.4	
	comp=Z,82nm,18.1s,baz=96,slow=41						
MTN	**Manton Dam**	**20.64**	**168**	*eP*	**P**	**14 47 34.0**	**+0.2**
	23nm,0.6s						
KPJI	**Karang Pucung**	**23.06**	**231**	P	P	14 48 10.8	+11
DSRI	**Dabo**	**23.48**	**251**	P	P	14 48 13.8	+10
SKNT	**Sakolnakorn**	**24.15**	**295**	P	**P**	**14 48 10.9**	**+1.0**
	9.3nm,1.0s						
CBJI	**Citeko**	**24.17**	**236**	P	P	14 48 24.9	+15
SRAK	**Srakaew**	**25.12**	**287**	P	**P**	**14 48 16.2**	**-2.5**
	30nm,0.8s,250nm						
NONG	**Nongkai**	**25.28**	**297**	P	**P**	**14 48 21.5**	**+1.4**
	0.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**25.42**	**182**	P	**P**	**14 48 22.0**	**+0.7**
	3.7nm,0.6s,baz=16,slow=8.1,SNR=22						
FITZ	**Fitzroy Crossi**	**25.42**	**182**	*eP*	**P**	**14 48 21.8**	**+0.5**
	11nm,0.8s						
MDSI	**Maura Dua**	**25.46**	**243**	P	P	14 48 33.4	+12
JNU	**Nakatsue**	**25.82**	**8**	P	**P**	**14 48 23.6**	**-1.3**
	12nm,0.8s,baz=266,slow=5.8,SNR=8.1						
PMG	**Port Moresby**	**26.35**	**129**	P	**P**	**14 48 29.8**	**0.0**
	22nm,0.7s,baz=22,slow=7.6,SNR=7.5						
PBKT	**Sadao Pong**	**26.76**	**292**	P	**P**	**14 48 35.4**	**+1.9**
	11nm,0.9s,846nm						
PHET	**Kaeng Krachan**	**27.22**	**284**	P	**P**	**14 48 42.3**	**+4.6**
	8.3nm,0.9s						
UTTA	**Uttaradit**	**27.49**	**294**	P	**P**	**14 48 45.0**	**+4.9**
	2.8nm,0.9s						
UTHA	**Uthitani**	**27.91**	**289**	P	**P**	**14 48 47.0**	**+3.1**
	3.8nm,0.8s,111nm						
SRDT	**SRDT**	**27.96**	**287**	P	**P**	**14 48 50.3**	**+6.0**
	9.0nm,0.9s,2μm						
WRAB	**Tennant Creek**	**28.23**	**165**	*eP*	**P**	**14 48 45.9**	**-0.7**
	8.5nm,0.7s						
WRA	**Warramunga Arr**	**28.24**	**165**	P	**P**	**14 48 45.5**	**-1.2**
	4.4nm,0.6s,baz=350,slow=9.8,SNR=40						
WRA				PcP	**PcP**	**14 51 59.8**	**+0.4**
	2.5nm,0.6s,baz=336,slow=2.6,SNR=6.6						
WRA				ScP	**ScP**	**14 55 38.8**	**+2.6**
	0.8nm,0.8s,baz=337,slow=3.5,SNR=5.1						
WRA				LR	LR	15 02 05.7	
	comp=Z,77nm,19.6s,baz=225,slow=41						
WB2	**Warramunga Arr**	**28.24**	**165**	*eP*	**P**	**14 48 45.9**	**-0.8**
	10nm,0.8s						
UMPA	**Umpang Tak**	**28.61**	**290**	P	P	14 48 56.5	+6.3
	1.7nm,0.7s,182nm						
PAYA	**Payao**	**28.64**	**297**	P	P	14 48 56.1	+5.7
	5.0nm,0.8s,56nm						
CMAR	**Chiang Mai Arr**	**29.17**	**295**	P	**P**	**14 48 55.3**	**+0.2**
	0.8nm,0.6s,baz=105,slow=9.4,SNR=8.9						
CMAR				PcP	**PcP**	**14 52 02.0**	**+0.2**
	0.3nm,0.6s,baz=143,slow=1.4,SNR=4.6						
CMAR				LR	LR	15 00 17.2	
	comp=Z,75nm,20.6s,baz=139,slow=36						
CMMT	**Chiang Mai**	**29.28**	**295**	P	**P**	**14 48 58.5**	**+2.5**
	4.5nm,1.2s						
CHTO	**Chiang Mai**	**29.28**	**295**	P	**P**	**14 48 58.6**	**+2.5**
	21nm,1.2s						
KSAR	**Wonju Array Be**	**29.86**	**2**	P	**P**	**14 49 00.0**	**-0.9**
KSRS	**Korea Array**	**29.87**	**2**	P	**P**	**14 49 00.0**	**-1.0**
	2.0nm,0.8s,baz=174,slow=11,SNR=8.6						
KSRS				LR	LR	15 02 44.9	
	comp=Z,51nm,18.4s,baz=182,slow=40						
MAT	**Matsushiro**	**30.77**	**18**	P	**P**	**14 49 07.6**	**-1.5**
MAT				*eS*	**S**	**14 54 12.8**	**+4.0**
MJAR	**Matsushiro Arr**	**30.77**	**18**	P	**P**	**14 49 07.2**	**-1.8**
	4.0nm,0.7s,baz=198,slow=10,SNR=11						
MJAR				LR	LR	15 01 00.1	
	comp=Z,53nm,19.5s,baz=160,slow=35						
AS31	**Alice Springs**	**31.72**	**167**	*eP*	**P**	**14 49 17.2**	**-0.3**
	2.7nm,0.8s						
ASAR	**Alice Springs**	**31.72**	**167**	P	**P**	**14 49 17.0**	**-0.5**
	4.4nm,0.7s,baz=355,slow=8.2,SNR=82						
ASAR				PcP	**PcP**	**14 52 08.5**	**+0.2**
	5.4nm,0.5s,baz=346,slow=2.5,SNR=21						
ASAR				S	**S**	**14 54 22.9**	**-0.9**
	1.0nm,0.8s,baz=348,slow=14,SNR=5.1						
AS01	**Alice Springs**	**31.73**	**167**	*eP*	**P**	**14 49 16.9**	**-0.7**
CTA	**Charters Tower**	**33.44**	**145**	P	**P**	**14 49 32.2**	**-0.4**
	4.7nm,0.7s,baz=326,slow=9.2,SNR=13						
HHC	**Hu-ho-hao-te**	**35.90**	**340**	*eP*	**P**	**14 49 56.1**	**+2.4**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,91nm,4.9s						
USA0B	**Ussuriysk Arra**	**36.88**	**6**	*eP*	**P**	**14 50 02.2**	**+0.4**
	comp=Z,21nm,0.8s						
USRK	**Ussuriysk Ar.**	**36.88**	**6**	P	**P**	**14 50 01.6**	**-0.3**
	comp=Z,20nm,0.8s,baz=191,slow=8.6,SNR=32						
ASAJ	**Asahikawa**	**39.05**	**18**	P	**P**	**14 50 21.4**	**+1.3**
	comp=Z,27nm,1.0s,baz=222,slow=9.5,SNR=6.9						
GTA	**Gaotai**	**39.96**	**327**	*eP*	**P**	**14 50 27.7**	**-0.3**
GTA				pP	pP	14 50 43.6	+2.0
GTA				sP	sP	14 50 50.5	+2.8
GTA				PcP	**PcP**	**14 52 33.1**	**+0.5**
GTA				S	**S**	**14 56 27.1**	**-2.8**
GTA				sS	sS	14 56 52.2	-0.5
GTA				SS	**SS**	**14 59 20.4**	**-8.0**
GTA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,25nm,6.7s						
GTA				LR	LR		
	comp=N,200nm,17.5s						
GTA				LR	LR		
	comp=E,140nm,17.8s						
GTA				LR	LR		
	comp=Z,180nm,18.7s						
NWAO	**Narrogin (SRO)**	**41.17**	**192**	P	**P**	**14 50 38.7**	**+0.8**
	comp=Z,9.4nm,0.9s,baz=266,slow=10,SNR=6.7						
STKA	**Stephens Creek**	**41.61**	**161**	P	**P**	**14 50 41.1**	**-0.4**
	comp=Z,19nm,0.8s,baz=334,slow=8.2,SNR=36						
STKA	**Stephens Creek**	**41.61**	**161**	*eP*	**P**	**14 50 41.1**	**-0.4**
	comp=Z,5.0nm,0.9s						
KLR	**Kul'dur**	**41.84**	**5**	P	**P**	**14 50 41.1**	**-2.0**
	comp=Z,1.6nm,0.7s,baz=190,slow=3.8,SNR=5.2						
SONM	**Songino Array**	**43.80**	**340**	LR	LR	15 10 39.0	
	comp=Z,92nm,18.4s,baz=193,slow=38						
DZM	**Mont Dzumac**	**48.73**	**128**	P	**P**	**14 51 38.6**	**+0.3**
	comp=Z,4.1nm,0.6s,baz=233,slow=14,SNR=5.0						
WMQ	**Urumqi**	**49.73**	**323**	*eP*	**P**	**14 51 46.9**	**+1.3**
WMQ				LR	LR		
	comp=N,280nm,21.7s						
WMQ				LR	LR		
	comp=E,140nm,29.5s						
WMQ				LR	LR		
	comp=Z,170nm,20.1s						
PETK	**Petropavlovsk-**	**52.00**	**23**	P	**P**	**14 52 03.7**	**+1.3**
	comp=Z,6.2nm,0.8s,baz=208,slow=5.8,SNR=7.3						
MK01	**Makanchi Array**	**54.53**	**324**	*eP*	**P**	**14 52 19.9**	**-1.2**
MKAR	**Makanchi Array**	**54.55**	**324**	P	**P**	**14 52 20.4**	**-0.9**
	comp=Z,2.5nm,0.7s,baz=124,slow=8.2,SNR=10						
MKAR				PcP	**PcP**	**14 53 22.6**	**-1.4**
	comp=Z,2.7nm,0.7s,baz=96,slow=4.3,SNR=4.4						
KSH	**Kashi**	**55.47**	**313**	*eP*	**P**	**14 52 30.4**	**+2.2**
KDJ	**Kajisay**	**55.62**	**317**	*eP*	**P**	**14 52 30.1**	**+0.7**
	comp=Z,2.5nm,0.8s						
ZALV	**Zalesovo Beam**	**57.30**	**332**	P	**P**	**14 52 38.6**	**-2.2**
	comp=Z,1.6nm,0.6s,baz=122,slow=5.5,SNR=6.3						
ZALV	**Zalesovo Beam**	**57.30**	**332**	*eP*	**P**	**14 52 38.4**	**-2.4**
AAK	**Ala-Archa**	**57.65**	**316**	P	**P**	**14 52 41.1**	**-2.7**
	comp=Z,0.9nm,0.7s,baz=119,slow=6.5,SNR=4.2						
KK31	**Karatay Array**	**60.56**	**316**	*eP*	**P**	**14 53 02.5**	**-1.1**
RPZ	**Rata Peaks**	**64.81**	**146**	P	**P**	**14 53 32.0**	**+0.1**
	comp=Z,6.8nm,0.8s,baz=25,slow=5.0,SNR=5.3						
NRIK	**Noril'sk**	**66.83**	**346**	P	**P**	**14 53 43.3**	**-1.2**
	comp=Z,2.0nm,0.7s,baz=116,slow=6.7,SNR=3.6						
GEYT	**Alibeck**	**68.61**	**308**	P	**P**	**14 53 55.8**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=104,slow=12,SNR=4.6						
AKTO	**Aktyubinsk**	**70.78**	**321**	LR	LR	15 26 42.9	
	comp=Z,44nm,21.0s,baz=100,slow=37						
KDAK	**Kodiak Island**	**78.75**	**33**	P	**P**	**14 54 55.0**	**-0.2**
	comp=Z,6.0nm,0.7s,baz=248,slow=5.7,SNR=6.1						
IM3	**Indian Mountai**	**78.95**	**24**	*eP*	**P**	**14 54 56.4**	**+0.2**
RAYN	**Ar Rayn**	**79.06**	**292**	*eP*	**P**	**14 54 57.0**	**-0.8**
	comp=Z,7.4nm,0.8s						
ILAR	**Eielson Array**	**81.75**	**26**	P	**P**	**14 55 10.7**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=247,slow=4.5,SNR=24						
IL1	**Eielson Array**	**81.75**	**26**	*eP*	**P**	**14 55 10.3**	**-1.0**
INK	**Inuvik**	**86.70**	**22**	P	**P**	**14 55 35.3**	**-1.0**
	comp=Z,1.8nm,0.8s,baz=302,slow=4.0,SNR=5.7						
VNDA	**Vanda**	**87.10**	**173**	P	**P**	**14 55 38.2**	**+0.2**
	comp=Z,3.8nm,0.8s,baz=314,slow=6.2,SNR=28						
BRTR	**Keskin Array B**	**87.57**	**310**	P	**P**	**14 55 40.2**	**-1.7**
	comp=Z,8.8nm,0.6s,baz=126,slow=5.2,SNR=4.4						
FINES	**FINESS Array B**	**88.57**	**332**	P	**P**	**14 55 43.0**	**-2.5**
	comp=Z,1.7nm,0.7s,baz=43,slow=3.4,SNR=6.2						
AKASG	**Malin Array Be**	**89.03**	**321**	P	**P**	**14 55 46.6**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=66,slow=4.6,SNR=4.9						
TXAR	**Lajitas Array**	**119.26**	**50**	PKP	**PKPdf**	**15 01 43.2**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=293,slow=0.6,SNR=8.5						
TORD	**Torodi Ar. Bea**	**121.71**	**290**	PKP	**PKPdf**	**15 01 46.5**	**-1.1**
	comp=Z,1.5nm,0.9s,baz=90,slow=3.0,SNR=6.4						
PLCA	**Paso Flores**	**143.45**	**158**	PKP	PKPbc	15 02 25.9	+1.0
	comp=Z,2.2nm,0.8s,baz=307,slow=4.5,SNR=5.1						
LPAZ	**La Paz**	**163.01**	**122**	PKP	**PKPdf**	**15 02 55.3**	**-1.4**
	comp=Z,1.4nm,0.8s,baz=114,slow=3.6,SNR=4.8						
LPAZ				PKPab	**PKPab**	**15 03 48.2**	**+1.7**
	comp=Z,2.5nm,0.9s,baz=203,slow=7.8,SNR=6.3						

*IDC **09** 15:07:45.7±0.3, 7.°94S×117.°51E, h0km, mb5.0/33, mb1 5.0/35, mb1mx5.0/43, mbtmp5.0/35, ML4.3/2, MS3.9/31, Ms1 3.9/31, ms1mx3.8/52, Error ellipse: s-maj=14.3km s-min=9.4km az=64.0*
*ISCJB **09** 15:07:49.4±0.1, 7.°92S±0.°02×117.°62E±0.°02, h33km, mb5.1/128, MS4.1/39, Error ellipse: s-maj=3.0km s-min=2.2km az=29.1*
*BJI **09** 15:07:49.0, 7.°90S×117.°60E, h31km, mb5.1/62, mB5.2/42, Ms4.6/31, Ms7 4.3/28*
*DJA **09** 15:07:50.8±0.3, 8°S±2′×11°8E±′, h19km±3km, M5.0/71, mB5.5/46, mb5.3/71, MLv5.3/31, Mw(mB)5.0/46, Mwp6.1/2*
*GCMT **09** 15:07:50.0±0.3, 7.°96S±0.°02×117.°55E±0.°04, h21km, MW4.9/67, Moment Tensor Solution. s33,c43; s67,c92; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.33±.16; Mθθ-2.59±.09; Mφφ0.25±.11; Mrθ-0.08±.15; Mθφ-0.25±.07; Mφr0.23±.28; Best double couple: M◎2.48500×10^16 NP1:φs272.00000°, δ46.00000°, λ99.00000°. NP2: φs79.00000°, δ45.00000°, λ81.00000°. Principal axes: T 2.3580, Plg83.0000°, Azm259.0000°; N 0.2500, Plg7.0000°, Azm85.0000°; P -2.6120, Plg1.0000°, Azm355.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **09** 15:07:50.2±1.0, 7.°89S×117.°57E, h43km, mb5.5/41 Error ellipse: s-maj=8.7km s-min=5.8km az=111.7*
*KLM **09** 15:07:51.0, 7.°97S×117.°65E, h40km, mb5.2*
*NEIC **09** 15:07:51.0±0.2, 7.°95S×117.°61E, h35km, mb5.3/33, Error ellipse: s-maj=6.8km s-min=4.1km az=221.0*
ISC 09 15:07:50.6±0.2, 8.°01S±0.°03×117.°59E±0.°04, h35km, **n362,**
σ1§63/351, **mb5.2**/126, **MS4.1**/40, **15C-5D, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.83**	**167**	P	**Pn**	**15 08 06.2**	**+0.4**
PLAI				S	**Sn**	**15 08 19.4**	**+2.5**
TWSI	**Taliwang, Sumb**	**1.00**	**224**	P	**Pn**	**15 08 08.7**	**+0.5**
SRBI	**Singaraja**	**2.35**	**268**	P	**Pn**	**15 08 26.6**	**-0.1**
WBSI	**Waikabubak, Su**	**2.41**	**132**	P	**Pn**	**15 08 28.3**	**+0.8**
DNP	**Denpasar**	**2.44**	**254**	P	**Pn**	**15 08

1µm,0.9s,17µm
STKI **Sintang** 10.07 323 P Pn 15 10 13.2 +0.3
94nm,0.8s
SANI **Sanana** 10.25 55 P Pn 15 10 16.1 +0.9
49nm,0.8s,650nm
NLAI **Namlea** 10.58 64 P Pn 15 10 34.9 +15
CBJI **Citeko** 10.77 278 P Pn 15 10 24.2 +1.8
198nm,0.8s,4µm
AAI **Ambon** 11.39 68 P Pn 15 10 34.8 +3.9
90nm,0.8s,1µm
SBUM **Sibu** 11.69 333 P Pn 15 10 36.0 +1.0
CGJI **Cibinong** 11.88 276 P Pn 15 10 40.0 +2.4
125nm,1.0s,2µm
KSM **Kuching** 11.89 322 P Pn 15 10 38.0 +0.2
BNDI **Bandanaira** 12.72 75 P P 15 11 02.6 +2.8
FITZ **Fitzroy Crossi** 12.72 143 Pn Pn 15 10 48.4 -0.7
1.7nm,0.3s,baz=332,slow=7.4,SNR=44
FITZ Sn Sn 15 13 04.6 -5.0
4.8nm,0.3s,baz=238,slow=14,SNR=5.9
FITZ LR LR 15 16 32.9
comp=Z,973nm,18.2s,baz=318,slow=41
FITZ **Fitzroy Crossi** 12.72 143 P Pn 15 10 48.4 -0.7
baz=13,SNR=20
FITZ **Fitzroy Crossi** 12.72 143 *e*Pn Pn 15 10 48.1 -1.0
FITZ Sn Sn 15 13 04.6 -5.0
PPBI **Pangkal Pinang** 12.80 296 P Pn 15 10 51.6 +1.4
15nm,0.8s,6µm
KLI **Kotabumi** 13.03 283 P P 15 11 09.2 +6.0
KASI **Kota Agung** 13.23 280 P Pn 15 10 57.4 +1.3
219nm,1.0s,1µm
MBWA **Marble Bar** 13.23 171 *e*Pn Pn 15 10 55.0 -1.1
KNRA **Kununurra** 13.32 126 P Pn 15 10 56.4 -0.9
baz=13,SNR=50
LWLI **Liwa** 13.77 282 P P 15 11 07.4 -4.2
81nm,0.9s,5µm
MDSI **Maura Dua** 13.78 284 P P 15 11 07.1 -4.5
38nm,1.6s,657nm
MTN **Manton Dam** 14.16 111 P Pn 15 11 06.6 -2.1
baz=14,SNR=17
MTN **Manton Dam** 14.16 111 *e*Pn Pn 15 11 06.5 -2.2
GIRL **Giralia** 14.90 192 P Pn 15 11 18.4 -0.3
baz=15,SNR=13
DSRI **Dabo** 14.97 299 P P 15 11 23.0 -1.8
98nm,1.0s,3µm
KDU **Kakadu** 15.36 109 P Pn 15 11 23.6 -1.3
baz=15
SWI **Sorong** 15.36 63 P P 15 11 26.3 -2.9
152nm,0.7s
SIJI **Sorong** 15.36 63 Pn P 15 11 25.4 -3.8
0.7nm,0.3s,baz=243,slow=5.7,SNR=12
FAKI **Fak Fak** 15.44 72 P P 15 11 28.1 -2.0
509nm,0.7s,4µm
TPRI **Tanjung Pinang** 15.76 304 P P 15 11 35.9 +2.3
MASI **Maura Aman, Be** 16.02 287 P P 15 11 37.3 +0.8
356nm,1.0s,4µm
KMPI **Kaimana, Papua** 16.60 76 P P 15 11 40.3 -2.6
258nm,1.1s
MYKOM **Kota Tinggi** 16.81 305 P P 15 11 46.0 +0.8
DAV **Davao City (W)** 16.97 28 LR LR 15 20 14.4
comp=Z,674nm,18.1s,baz=228,slow=44
KRJI **Kerinci** 17.10 289 P P 15 11 50.2 +1.6
784nm,0.8s,7µm
SDSI **Sungai Dareh** 17.57 293 P P 15 11 55.6 +1.9
76nm,1.1s,4µm
RKPI **Ransiki, Papua** 17.74 69 P P 15 11 55.3 -0.3
PPSI **Pulau Pagai** 18.26 286 P Pn 15 12 01.8 +0.5
351nm,1.0s,4µm
BKNI **Bangkinang** 18.46 296 *e*P Pn 15 12 06.4 +2.6
353nm,1.2s
BKNI **Bangkinang** 18.46 296 P Pn 15 12 06.5 +2.7
282nm,1.2s,4µm
PDSI **Padang** 18.46 292 P Pn 15 12 03.9 0.0
41nm,0.9s,701nm
MEEK **Meekatharra** 18.55 177 P Pn 15 12 06.3 +1.5
baz=19,SNR=9.3
PPI **Padang Panjang** 18.70 293 P Pn 15 12 06.4 -0.4
65nm,1.3s,2µm
WRKA **Warakurna** 19.78 150 P Pn 15 12 20.0 +0.4
baz=20,SNR=78
MNSI **Mandailing Nat** 19.97 295 P Pn 15 12 21.1 -0.9
54nm,0.4s
WRA **Warramunga Arr** 20.10 128 P Pn 15 12 21.7 -1.7
19nm,0.8s,baz=302,slow=12,SNR=104
WRA S S 15 16 00.1 -5.4
7.8nm,0.7s,baz=308,slow=23,SNR=5.1
WRAB **Tennant Creek** 20.10 128 *e*P Pn 15 12 21.8 -1.6
92nm,0.8s
WRAB **Tennant Creek** 20.10 128 *i* P Pn 15 12 20.4 -3.0
WRAB pmax pmax
comp=Z,22nm,0.9s
WB2 **Warramunga Arr** 20.11 128 *e*P Pn 15 12 21.9 -1.6
MORW **Morawa** 21.00 184 P P 15 12 33.2 +2.2
baz=21
PSI **Prapat** 21.49 299 P P 15 12 34.9 -1.8
comp=Z,83nm,1.0s,baz=180,slow=5.0,SNR=51
PSI LR LR 15 21 47.5
comp=Z,778nm,19.3s,baz=91,slow=39
PSI **Prapat** 21.49 299 *e*P P 15 12 37.1 +0.5
comp=Z,157nm,1.1s
PSI **Prapat** 21.49 299 *e*P P 15 12 37.1 +0.5
PSI pmax pmax
comp=Z,157nm,1.1s
GSI **Gunungsitoli** 22.00 294 P P 15 12 40.2 -1.7
comp=Z,100nm,1.1s
AS31 **Alice Springs** 22.07 137 *e*P P 15 12 44.0 +1.3
comp=Z,22nm,0.5s
ASAR **Alice Springs** 22.07 137 P P 15 12 43.8 +1.1
comp=Z,31nm,0.5s,baz=307,slow=9.0,SNR=136
ASAR S S 15 16 44.0 -0.2
comp=Z,2.7nm,1.0s,baz=315,slow=1.6,SNR=5.7
ASAR LR LR 15 22 30.1
comp=Z,381nm,18.2s,baz=310,slow=40
AS01 **Alice Springs** 22.10 137 *e*P P 15 12 43.5 +0.6
TSI **Tuntungan** 22.16 300 P P 15 12 46.3 +2.7
comp=Z,620nm,1.1s,comp=Z,6µm
TGY **Tagaytay City** 22.22 9 P P 15 12 43.0 -1.3
comp=Z,227nm,0.7s,baz=132,slow=2.5,SNR=7.2
TGY **Tagaytay City** 22.22 9 P P 15 12 43.0 -1.3
BLDU **Ballidu** 22.50 182 P P 15 12 48.2 +1.0
baz=23,SNR=14
SKLT **Songkhla** 22.66 311 P P 15 12 52.8 +3.7
comp=Z,55nm,0.9s,comp=Z,799nm
KCSI **Kotacane, Aceh** 22.85 299 P P 15 12 50.8 -0.2
comp=Z,56nm,0.8s,comp=Z,1µm
GENI **Genyem** 23.11 78 P P 15 12 52.7 -1.0
comp=Z,146nm,1.3s
TPTI **23.23 298** P P 15 12 55.1 +0.2
comp=Z,156nm,1.5s,comp=Z,2µm
KLBR **Kellerberrin** 23.46 180 P P 15 12 58.1 +1.1
baz=24,SNR=13
JAY **Jayapura** 23.65 78 P P 15 12 60.0 +1.0
comp=Z,9.1nm,0.8s,baz=232,slow=12,SNR=3.3
JAY **Jayapura** 23.65 78 P P 15 13 00.0 +1.0
JAY **Jayapura** 23.65 78 P P 15 13 00.0 +1.0
JAY **Jayapura** 23.65 78 P P 15 13 00.0 +1.0
comp=Z,320nm,0.9s
TRTT **Trang** 23.79 311 P P 15 13 02.0 +1.7
comp=Z,22nm,1.2s,comp=Z,385nm
MUN **Mundaring** 23.88 183 P P 15 13 03.5 +2.5
baz=24,SNR=5.0
MLSI **Meulaboh, Aceh** 24.40 299 P P 15 13 05.6 -0.3
comp=Z,131nm,0.8s
KRAB **Krabi** 24.41 311 P P 15 13 07.9 +1.9
comp=Z,62nm,0.9s,comp=Z,681nm
LHMI **Lhok Sumawe** 24.43 302 *e*P P 15 13 06.9 +0.7
comp=Z,128nm,0.9s
LHMI **Lhok Sumawe** 24.43 302 P P 15 13 06.8 +0.6
comp=Z,183nm,1.0s
QIS **Mount Isa** 24.67 123 P P 15 13 09.8 +1.4
baz=25,SNR=40
FORT **Forrest** 24.68 158 P P 15 13 10.3 +2.0
baz=25,SNR=14
FORT **Forrest** 24.68 158 *e*P P 15 13 09.5 +1.2
comp=Z,120nm,0.8s
NWAO **Narrogin (SRO)** 24.80 181 P P 15 13 11.1 +1.8
comp=Z,31nm,0.8s,baz=315,slow=8.6,SNR=19
NWAO S S 15 17 39.0 +9.4
comp=Z,6.0nm,0.5s,baz=41,slow=20,SNR=4.0
NWAO LR LR 15 22 54.5
comp=Z,535nm,21.0s,baz=246,slow=36
NWAO **Narrogin (SRO)** 24.80 181 P P 15 13 11.1 +1.8
baz=25,SNR=16
NWAO **Narrogin (SRO)** 24.80 181 *e*P P 15 13 10.7 +1.4
comp=Z,41nm,0.8s
NWAO S S 15 17 39.0 +9.4
NWAO **Narrogin (SRO)** 24.80 181 *e*P P 15 13 10.7 +1.4
NWAO pmax pmax
comp=Z,41nm,0.8s
PKDT **Phuket** 24.86 309 P P 15 13 11.7 +1.6
comp=Z,28nm,1.0s
COEN **Coen** 25.79 105 P P 15 13 19.3 +0.7
baz=26,SNR=17
COEN **Coen** 25.79 105 *e*P P 15 13 19.1 +0.5
comp=Z,129nm,0.8s
RKGY **Rocky Gully** 26.48 181 P P 15 13 27.4 +2.8
baz=27
PATY **Pattaya** 26.62 321 P P 15 13 27.9 +1.9
comp=Z,16nm,0.9s
SRAK **Srakaew** 26.77 325 P P 15 13 25.2 -2.2
comp=Z,99nm,1.0s,comp=Z,922nm
PHET **Kaeng Krachan** 27.39 319 P P 15 13 35.2 +2.2
comp=Z,9.2nm,1.0s,comp=Z,136nm
MTSU **Mount Surprise** 27.87 114 P P 15 13 38.7 +1.3
baz=28,SNR=17
SKNT **Sakolnakorn** 28.24 332 P P 15 13 41.5 +1.0
comp=Z,15nm,0.7s
CHAI **Chaiyaphum** 28.34 327 P P 15 13 43.0 +1.6
comp=Z,14nm,0.7s,comp=Z,122nm
SRDT **SRDT** 28.80 320 P P 15 13 47.4 +1.9
comp=Z,34nm,1.2s,comp=Z,695nm
PMG **Port Moresby** 29.26 95 LR LR 15 28 07.6
comp=Z,199nm,18.2s,baz=250,slow=42
PBKT **Sadao Pong** 29.44 326 *e*P P 15 13 52.8 +1.6
comp=Z,34nm,1.0s
PBKT **Sadao Pong** 29.44 326 P P 15 13 52.3 +1.1
comp=Z,35nm,1.2s,comp=Z,596nm
UTHA **Uthaitani** 29.52 322 P P 15 13 53.5 +1.6
comp=Z,22nm,0.9s,comp=Z,202nm
NONG **Nongkai** 29.57 331 P P 15 13 53.1 +0.7
comp=Z,0.6nm,1.0s,comp=Z,36nm
BBOO **Buckleboo** 30.04 148 P P 15 13 58.3 +1.9
baz=30,SNR=10
CTA **Charters Tower** 30.23 116 P P 15 13 59.8 +1.6
comp=Z,7.9nm,0.7s,baz=290,slow=12,SNR=9.7
CTAO **Charters Tower** 30.23 116 *e*P P 15 14 00.2 +2.0
comp=Z,49nm,0.9s
CTAO **Charters Tower** 30.23 116 *e*P P 15 14 00.2 +2.0
CTAO pmax pmax
comp=Z,49nm,0.9s
UMPA **Umpang Tak** 30.38 322 P P 15 14 00.2 +0.7
comp=Z,18nm,1.0s
UTTA **Uttaradit** 30.63 327 P P 15 14 03.7 +2.0
comp=Z,14nm,1.0s,comp=Z,132nm
SUKH **Sukhothai** 30.93 325 P P 15 14 06.3 +2.0
comp=Z,14nm,0.8s
QLP **Quilpie** 31.32 129 P P 15 14 10.0 +2.2
baz=31,SNR=11
LAMP **Lampang** 31.77 326 P P 15 14 13.7 +2.0
comp=Z,11nm,1.1s,comp=Z,107nm
CM01 **Chiang Mai Arr** 32.06 325 *e*P P 15 14 15.6 +1.3
HTT **Hallett** 32.07 145 P P 15 14 16.4 +2.1
baz=32,SNR=18
CM31 **Chiang Mai Arr** 32.10 325 *e*P P 15 14 15.6 +0.9
CM31 **Chiang Mai Arr** 32.10 325 P P 15 14 16.2 +1.5
SNR=24
CMAR **Chiang Mai Arr** 32.10 325 P P 15 14 15.8 +1.1
comp=Z,21nm,1.0s,baz=150,slow=6.6,SNR=64
CMAR LR LR 15 28 23.8
comp=Z,476nm,18.0s,baz=166,slow=39
PAYA **Payao** 32.32 327 P P 15 14 18.2 +1.6
comp=Z,21nm,0.8s,comp=Z,162nm
CMMT **Chiang Mai** 32.38 326 P P 15 14 18.4 +1.3
comp=Z,26nm,1.1s
CHTO **Chiang Mai** 32.38 326 *e*P P 15 14 18.3 +1.1
comp=Z,25nm,1.0s
CHTO **Chiang Mai** 32.38 326 P P 15 14 18.3 +1.1
SNR=12
CHTO **Chiang Mai** 32.38 326 *e*P P 15 14 18.3 +1.1
CHTO pmax pmax
comp=Z,25nm,1.0s
CHTO **Chiang Mai** 32.38 326 P P 15 14 18.5 +1.3
comp=Z,116nm,1.1s
STKA **Stephens Creek** 32.60 140 P P 15 14 20.4 +1.4
comp=Z,20nm,0.8s,baz=311,slow=10,SNR=36
STKA LR LR 15 28 14.1
comp=Z,181nm,18.6s,baz=322,slow=38
STKA **Stephens Creek** 32.60 140 P P 15 14 20.7 +1.8
baz=33,SNR=8.8
STKA **Stephens Creek** 32.60 140 *e*P P 15 14 20.8 +1.8
comp=Z,3.7nm,0.8s
STKA **Stephens Creek** 32.60 140 *e*P P 15 14 20.8 +1.8
STKA pmax pmax
comp=Z,4.0nm,0.8s
GUMO **Guam** 34.56 52 LR LR 15 30 34.7
comp=Z,44nm,18.5s,baz=212,slow=40
RMQ **Roma** 34.83 126 P P 15 14 41.0 +2.6
baz=35,SNR=4.7
CMSA **Cobar Meteorol** 35.12 136 P P 15 14 43.0 +2.2
baz=35,SNR=16
GYA **Guiyang** 35.87 343⇑ *i*P P 15 14 48.1 +0.7
GYA pP sP 15 15 00.2 -1.6
GYA PP **PP** 15 16 13.0 +3.6
GYA S **S** 15 20 27.4 +4.2
GYA sS sS 15 20 41.8 +1.8
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,5.2s
GYA LR LR
comp=Z,320nm,14.6s
GYA LR LR
comp=Z,340nm,15.2s
GYA LR LR
comp=Z,310nm,14.7s
KMI **Kunming** 35.97 337 P P 15 14 51.2 +2.8
KMI pP sP 15 15 00.5 -2.3
KMI sP pP 15 15 03.0 +4.4
KMI S **S** 15 20 27.0 +2.0
KMI sS sS 15 20 43.2 +1.4
KMI SS **SnSn** 15 22 51.5 +0.5
KMI pmax pmax
comp=Z,22nm,1.1s
KMI pmax pmax
comp=Z,91nm,3.4s
KMI LR LR
comp=Z,130nm,14.3s
KMI LR LR
comp=Z,400nm,14.0s
KMI LR LR
comp=Z,380nm,13.8s
ARPS **Mount Arapiles** 36.14 146 P P 15 14 52.2 +2.7
baz=36,SNR=9.2
WHN **Wuhan** 38.46 356⇓ P P 15 15 09.4 +0.2
WHN LR LR
comp=Z,540nm,16.0s
YNG **Young** 38.57 137 P P 15 15 13.1 +2.8
baz=39,SNR=6.2
TOO **Toolangi** 38.78 144 P P 15 15 15.3 +3.3
baz=39,SNR=6.0
ENH **Enshi** 38.85 349 *e*P P 15 15 12.6 0.0
comp=Z,24nm,0.9s
ARMA **Armidale** 38.86 130 P P 15 15 15.9 +3.0
baz=39,SNR=6.6
PALK **Pallekele** 39.79 291 LR LR 15 33 13.4
comp=Z,176nm,18.2s,baz=116,slow=38
MGCD **Mangrove Creek** 39.85 134 P P 15 15 23.1 +2.1
baz=40,SNR=5.8
NJ2 **Nanjing** 39.86 2 *e*P P 15 15 21.7 +0.9
NJ2 pmax pmax
comp=Z,17nm,1.0s
CD2 **Chengdu** 40.91 342 P P 15 15 30.5 +0.8
CD2 PP **PnPn** 15 17 05.6 -3.3
CD2 S **S** 15 21 41.7 +2.6
CD2 pmax pmax
comp=Z,50nm,0.4s
CD2 pmax pmax
comp=Z,220nm,5.4s
CD2 LR LR
comp=Z,500nm,14.4s
CD2 LR LR
comp=Z,550nm,12.9s
CD2 LR LR
comp=Z,480nm,13.9s
SHL **Shillong** 41.71 324 *e*P P 15 15 37.2 +0.7
comp=Z,91nm,0.9s
SHL **Shillong** 41.71 324 *e*P P 15 15 37.2 +0.7
SHL pmax pmax
comp=Z,91nm,0.9s
HNR **Honiara** 41.88 95 P P 15 15 37.6 -0.3
comp=Z,120nm,1.0s,baz=200,slow=15,SNR=4.7
XAN **Xi'an** 42.62 349 P P 15 15 44.0 +0.4
XAN pP sP 15 15 58.8 +0.7
XAN pmax pmax
comp=Z,11nm,1.0s
XAN pmax pmax
comp=Z,150nm,6.6s
XAN LR LR
comp=Z,230nm,12.5s
XAN LR LR
comp=Z,280nm,13.1s
XAN LR LR
comp=Z,240nm,16.9s
TIA **Tai'an** 43.99 359 P P 15 15 54.8 +0.2
TIA pmax pmax
comp=Z,24nm,0.9s
H08S2 **Diego Garcia H** 44.66 267 T T 16 03 11.0
baz=95,slow=75,SNR=6.1
H08S3 **Diego Garcia H** 44.67 267 T T 16 03 10.0
baz=95,slow=75,SNR=4.2
H08S1 **Diego Garcia H** 44.68 267 T T 16 03 12.2
baz=95,slow=75,SNR=7.0
DGAR **Diego Garcia** 44.72 268 *i* P P 15 15 57.8 -3.0
TJN **Taejon** 45.10 11 *ce*P P 15 16 04.0 +0.6
LSA **Lhasa** 45.31 327 P P 15 16 07.5 +1.7
LSA pmax pmax
comp=Z,35nm,0.8s
LSA **Lhasa** 45.31 327 *e*P P 15 16 06.5 +0.7
comp=Z,68nm,1.0s
LSA **Lhasa** 45.31 327 *e*P P 15 16 06.5 +0.7
LSA pmax pmax
comp=Z,68nm,1.0s
LZH **Lanzhou** 45.73 344 *e*P P 15 16 10.5 +1.8
LZH pP sP 15 16 20.3 -2.9
LZH sP pP 15 16 24.6 +5.6
LZH *e*S S 15 22 53.4 +3.6
LZH pmax pmax
comp=Z,65nm,1.1s
LZH pmax pmax
comp=Z,410nm,4.1s
LZH LR LR
comp=Z,2µm,13.3s
LZH LR LR
comp=Z,2µm,12.7s
LZH LR LR
comp=Z,2µm,13.8s
JHJ **Hachijo jima 2** 46.03 26 LR LR 15 32 58.1
comp=Z,154nm,20.5s,baz=118,slow=33
HYB **Hyderabad** 46.11 303 *i* P P 15 16 11.0 -0.8
KS15 **Wonju Array Si** 46.23 11 *e*P P 15 16 13.0 +0.6
KSAR **Wonju Array Be** 46.23 11 P P 15 16 13.3 +1.0
KSAR **Wonju Array Be** 46.23 11 P P 15 16 13.4 +1.0
KSRS **Korea Array** 46.25 11 P P 15 16 13.3 +0.9
comp=Z,17nm,0.9s,baz=192,slow=8.6,SNR=21
KSRS LR LR 15 36 57.5
comp=Z,78nm,18.9s,baz=172,slow=38
KS01 **Wonju Array Si** 46.27 11 *e*P P 15 16 12.4 -0.2
GUN **Gumba** 47.07 321 *e*P P 15 16 20.7 +1.2
comp=Z,199nm,0.7s
PKI **Pulchoki** 47.13 320 *e*P P 15 16 20.6 +0.6
PKIN **Phulchoki** 47.14 320 *e*P P 15 16 20.5 +0.5
DMN **Daman** 47.35 320 *e*P P 15 16 22.5 +0.9
comp=Z,283nm,1.0s
KKN **Kakani** 47.36 320 *e*P P 15 16 22.5 +0.8
comp=Z,137nm,1.0s
BJT **Baijiatuau** 47.81 359 P P 15 16 23.9 -0.6
comp=Z,15nm,0.6s
BJT **Baijiatuau** 47.81 359 P P 15 16 24.0 -0.6
BJT pmax pmax
comp=Z,15nm,0.6s
BJI **Beijing** 47.83 359⇑ *i*P P 15 16 25.0 +0.2
BJI pmax pmax
comp=Z,24nm,1.1s
GKN **Gorkha** 47.92 320 *e*P P 15 16 26.7 +0.8
MAJO **Matsushiro** 48.36 22 *e*P P 15 16 27.8 -1.3
comp=Z,41nm,1.1s
MAJO **Matsushiro** 48.36 22 *i* P P 15 16 28.1 -0.9
MAJO pmax pmax
comp=Z,29nm,1.1s
MAT **Matsushiro** 48.36 22 P P 15 16 27.7 -1.3
MAT *e*S S 15 23 23.8 -3.3
MJAR **Matsushiro Arr** 48.36 22 P P 15 16 28.1 -1.0
comp=Z,21nm,1.0s,baz=198,slow=8.4,SNR=25
MJAR LR LR 15 39 07.4
comp=Z,76nm,18.7s,baz=200,slow=39
MJB9 **Matsu-Tunnel** 48.37 22 *e*P P 15 16 28.6 -0.4
comp=Z,44nm,1.2s
KOLN **Koldanda** 48.44 319 *e*P P 15 16 30.6 +0.6
comp=Z,283nm,1.0s
DANN **Dangsing** 48.72 319 *e*P P 15 16 33.0 +0.7
comp=Z,427nm,0.9s
BTO **Baotou** 48.88 352 *e*P P 15 16 34.2 +1.2
HHC **Hu-ho-hao-te** 48.93 354 *e*P P 15 16 36.1 +2.6
HHC pmax pmax
comp=Z,7.0nm,0.9s
HHC pmax pmax
comp=Z,120nm,5.2s
DZM **Mont Dzumac** 48.99 112 P P 15 16 34.9 +0.7
comp=Z,17nm,0.9s,baz=199,slow=12,SNR=4.4
DZM **Mont Dzumac** 48.99 112 *e*P P 15 16 35.1 +0.8
comp=Z,157nm,1.1s
DZM **Mont Dzumac** 48.99 112 *e*LR LR 15 30 32.4
comp=Z,329nm,22.6s
DZM **Mont Dzumac** 48.99 112 *e*P P 15 16 36.5 +2.2
comp=Z,54nm,0.9s
PYUN **Piuthan** 49.06 318 *e*P P 15 16 35.1 +0.3
comp=Z,326nm,1.0s
GTA **Gaotai** 49.98 342 ⇑P P 15 16 42.8 +1.3
GTA pP sP 15 16 52.2 -3.9
GTA sP pP 15 16 56.6 +4.6
GTA PcP **PcP** 15 18 00.0 -1.3
GTA S **S** 15 23 52.1 +2.2
GTA sS sS 15 24 09.6 +2.4
GTA pmax pmax
comp=Z,20nm,1.0s
GTA pmax pmax
comp=Z,100nm,7.9s
GTA LR LR
comp=Z,280nm,20.0s
GTA LR LR
comp=Z,280nm,19.4s
GTA LR LR
comp=Z,200nm,16.5s
MSHR **Mys Shultsa** 51.85 13 *ce*P P 15 16 55.9 +0.6
CN2 **Changchun** 52.06 7 *e*P P 15 17 00.7 +3.8
CN2 pmax pmax
comp=Z,10.0nm,0.6s
MDJ **Mudanjiang** 53.49 11 P P 15 17 07.8 +0.4
MDJ pP pP 15 17 16.2 -1.8
MDJ sP sP 15 17 19.7 -2.4
MDJ PP **PP** 15 19 09.5 +1.1
MDJ S **S** 15 24 41.5 +3.7
MDJ sS sS 15 24 56.7 +1.5
MDJ pmax pmax
comp=Z,55nm,0.8s
MDJ pmax pmax
comp=Z,330nm,4.0s
MDJ LR LR
comp=Z,360nm,39.8s
MDJ LR LR
comp=Z,350nm,23.9s
MDJ **Mudanjiang** 53.49 11 *e*P P 15 17 06.3 -1.1
comp=Z,46nm,1.0s
USRK **Ussuriysk Ar.** 53.58 13 P P 15 17 08.6 +0.5
comp=Z,30nm,0.7s,baz=188,slow=7.4,SNR=53
USRK LR LR 15 39 20.6
comp=Z,58nm,21.6s,baz=175,slow=35
SONM **Songino Array** 56.48 351 P P 15 17 29.9 +0.8
comp=Z,39nm,0.8s,baz=170,slow=8.7,SNR=114
SONM LR LR 15 45 00.7
comp=Z,77nm,18.5s,baz=194,slow=40
SONA1 **Songino Array** 56.49 351 *e*P P 15 17 29.9 +0.6
WMQ **Urumqi** 58.27 335 P P 15 17 43.0 +1.2
WMQ pP pP 15 17 50.5 -1.9
WMQ SS SS 15 29 27.7 -6.4
WMQ pmax pmax
comp=Z,94nm,0.9s
WMQ pmax pmax
comp=Z,440nm,3.7s
WMQ LR LR
comp=Z,150nm,20.9s
WMQ LR LR
comp=Z,200nm,23.7s
WMQ LR LR
comp=Z,250nm,36.3s
KLR **Kul'dur** 58.34 11 *c i*P P 15 17 41.8 -0.2
RPZ **Rata Peaks** 58.48 137 *e*P P 15 17 44.5 +1.2
comp=Z,45nm,0.8s
YSS **Yuzh-Sakhalins** 59.12 20 *e*P P 15 17 49.2 +1.7
ZAK **Zakamensk** 59.47 349 *e*P P 15 17 48.3 -1.7
ZAK pmax pmax

comp=Z,15nm,1.0s
TLY Talaya 60.65 350 *e*P P 15 17 56.5 -1.6
comp=Z,20nm,0.8s
TLY Talaya 60.65 350 *e*P P 15 17 58.5 +0.5
TLY pmax pmax
comp=Z,19nm,0.8s
TLY MLR MLR
comp=Z,155nm,19.0s
GRNR Gornyy 60.77 14 *e*P P 15 18 00.9 +2.1
GRNR pmax pmax
comp=Z,39nm,1.0s
KSH Kashi 60.99 324 P P 15 18 00.7 0.0
KSH pP pP 15 18 10.7 -0.7
KSH PP PP **15 20 17.3 +1.9**
KSH S S **15 26 11.6 -5.4**
KSH sS pS 15 26 29.0 -0.9
KSH SS SS **15 30 13.1 -4.0**
KSH pmax pmax
comp=Z,130nm,0.8s
KSH pmax pmax
comp=Z,470nm,5.2s
KSH LR LR
comp=Z,290nm,9.1s
KSH LR LR
comp=Z,200nm,8.6s
KSH LR LR
comp=Z,280nm,15.9s
BKZ Black Stump Fm 61.01 130 *e*P P 15 18 02.7 +1.9
comp=Z,27nm,0.8s
MOY Mondy 61.13 348 *e*P P 15 18 02.3 +0.9
MOY pmax pmax
comp=Z,21nm,1.5s
PDGK Podgornoye 61.70 329 P P 15 18 06.0 +0.5
PDGK pmax pmax
comp=Z,51nm,1.7s
ZEA Zeya 62.05 6 *e*P P 15 18 07.8 +0.4
ZEA pmax pmax
comp=N,59nm,1.0s
ZEA pmax pmax
comp=Z,65nm,0.9s
ZEA MLR MLR
comp=Z,200nm,13.0s
NRN Naryn 62.24 326 *e*P P 15 18 09.7 +0.3
comp=Z,29nm,0.8s
NRN Naryn 62.24 326 *e*P P 15 18 09.7 +0.3
NRN pmax pmax
comp=Z,29nm,0.8s
HVS Khovu-Aksy 62.42 343 *i*P P 15 18 10.0 0.0
HVS pmax pmax
comp=Z,25nm,1.0s
ULHL Ulahol 62.66 326 P P 15 18 12.6 +0.6
SNR=9.9
SFK Sufi-Kurgan 62.76 323 P P 15 18 13.5 +0.7
SFK pmax pmax
comp=Z,20nm,1.0s
MK01 Makanchi Array 62.93 334 *e*P P 15 18 13.9 +0.4
MK31 Makanchi Array 62.95 334 *e*P P 15 18 14.2 +0.6
MK31 Makanchi Array 62.95 334 *e*P P 15 18 14.2 +0.6
MKAR Makanchi Array 62.95 334 P P 15 18 14.5 +0.9
comp=Z,43nm,0.6s,baz=150,slow=7.1,SNR=217
MKAR LR LR 15 47 58.6
comp=Z,117nm,19.4s,baz=151,slow=38
BOOM Boomskoye usch 62.99 327 P P 15 18 14.7 +0.6
BOOM pmax pmax
comp=Z,79nm,1.2s
KZA Kyzart 63.09 326 P P 15 18 16.1 +1.0
SNR=53
DGZ Jazzator, Alta 63.21 339*c i*P P 15 18 16.2 +0.8
DGZ pmax pmax
comp=Z,18nm,1.0s
TKM2 Tokmak 2 63.46 327 P P 15 18 17.4 +0.1
SNR=46
UCH Uchtor 63.60 326 P P 15 18 19.3 +0.7
SNR=23
KBK Karagaybulak 63.64 326 P P 15 18 20.1 +1.6
SNR=28
AAK Ala-Archa 63.88 326 P P 15 18 21.1 +1.1
SNR=50
AAK Ala-Archa 63.88 326 P P 15 18 20.9 +0.9
SNR=31
AAK Ala-Archa 63.88 326*c i*P P 15 18 19.4 -0.6
AAK pmax pmax
comp=Z,55nm,1.0s
FRU Bishkek 63.94 326 *e*P P 15 18 20.5 +0.2
FRU *e* 15 18 40.0
FRU pmax pmax
comp=Z,110nm,2.0s
CHMS Chumysh 63.98 326 P P 15 18 21.2 +0.7
SNR=8.0
AML Almayashu 64.00 325 P P 15 18 21.6 +0.5
SNR=74
NKL Nikolayevsk 64.01 15 *e*P P 15 18 21.0 +0.6
NKL pmax pmax
comp=Z,43nm,1.0s
USP Ospenovka 64.29 326 P P 15 18 22.9 +0.3
SNR=26
EKS2 Erkin-Say 64.30 325 P P 15 18 24.2 +1.5
SNR=69
MNAS Manas 64.91 325 P P 15 18 27.5 +0.8
MNAS pmax pmax
comp=Z,80nm,1.1s
BOD Bodaibo 65.67 358 *e*P P 15 18 31.9 +0.8
BOD pmax pmax
comp=Z,43nm,1.6s
KURBB Kurchatov Arra 67.47 334 P P 15 18 43.2 +0.4
comp=Z,23nm,0.8s,baz=148,slow=5.4,SNR=14
KURK Kurchatov 67.50 334 P P 15 18 43.2 +0.3
SNR=27
KURK Kurchatov 67.50 334*ce*P P 15 18 43.1 +0.1
KURK pmax pmax
comp=Z,131nm,1.7s
ZAA0 Zalesovo Array 67.63 340 *e*P P 15 18 43.3 -0.4
comp=Z,37nm,0.8s
ZALV Zalesovo Beam 67.63 340 P P 15 18 43.4 -0.4
comp=Z,31nm,0.6s,baz=144,slow=4.8,SNR=104
ZALV PKP2bc 15 47 07.9
comp=Z,2.1nm,1.1s,baz=66,slow=3.6,SNR=3.7
ZALV LR LR 15 49 43.4
comp=Z,96nm,20.8s,baz=34,slow=37
NVS Novosibirsk 68.90 340 *e*P P 15 18 51.6 0.0
NVS pmax pmax
comp=E,21nm,1.3s
NVS pmax pmax
comp=Z,41nm,1.3s
NVS pmax pmax
comp=N,19nm,1.2s
MAW Mawson 69.69 199 P P 15 18 58.1 +1.7
comp=N,8.1nm,0.8s,baz=36,slow=5.1,SNR=12
MAW LR LR 15 43 43.1
comp=N,69nm,22.0s,baz=56,slow=31
MAW Mawson 69.69 199 P P 15 18 59.0 +2.6
baz=70,SNR=5.9
PETK Petropavlovsk- 69.75 24 P P 15 18 57.7 +0.7
comp=N,27nm,1.0s,baz=193,slow=6.1,SNR=14
PETK LR LR 15 50 26.7
comp=N,41nm,19.9s,baz=11,slow=37
PET Petropavlovsk 70.08 25 *e*P P 15 18 58.2 -0.8
PET pmax pmax
comp=Z,46nm,1.4s
YAK Yakutsk 70.46 6 P P 15 19 01.5 +0.4
comp=Z,69nm,0.9s,baz=169,slow=3.0,SNR=20
YAK Yakutsk 70.46 6*c i*P P 15 19 01.3 +0.2
YAK *e**PP **pP** 15 19 09.1 -2.9
YAK *e* 15 19 22.0
YAK *e* 15 21 41.0
YAK *e*S S **15 28 12.4 +1.0**
YAK *e**SS **SKiKP** 15 28 35.2 -7.6
YAK *e* 15 28 56.5
YAK *e*SS SS **15 32 43.4 +0.2**
YAK pmax pmax
comp=Z,125nm,0.9s
YAK pmax pmax
comp=N,53nm,1.2s
YAK pmax pmax
comp=E,9.0nm,1.0s
YAK pmax pmax
comp=Z,37nm,2.0s
YAK pmax pmax
comp=N,45nm,2.1s
YAK pmax pmax
comp=E,70nm,2.0s
YAK smax smax
comp=E,108nm,3.3s
YAK smax smax
comp=N,125nm,3.0s
GEYT Alibeck 71.76 314 P P 15 19 09.4 -0.2
comp=N,10nm,1.1s,baz=116,slow=6.8,SNR=22
GEYT PP **PP** 15 21 50.1 +0.8
comp=N,0.4nm,0.3s,baz=168,slow=15,SNR=3.3
MA2 Magadan 72.38 17 *i*P P 15 19 12.9 +0.1
MA2 pmax pmax
comp=Z,47nm,1.0s
BVAR Borovoye Array 72.78 332 P P 15 19 15.8 +0.6
comp=Z,29nm,0.8s,baz=140,slow=7.7,SNR=128
BRVK Borovoye 72.85 332 *e*P P 15 19 16.2 +0.5
comp=Z,67nm,1.2s
BRVK Borovoye 72.85 332 P P 15 19 15.8 +0.2
SNR=21
BRVK Borovoye 72.85 332*ce*P P 15 19 15.7 0.0
BRVK pmax pmax
comp=Z,69nm,1.3s
VNDA Vanda 73.18 171 P P 15 19 19.2 +1.9
comp=Z,1.6nm,0.5s,baz=315,slow=7.1,SNR=31
VNDA LR LR 15 49 37.7
comp=Z,111nm,20.5s,baz=341,slow=34
VNDA Vanda 73.18 171 *e*P P 15 19 19.2 +1.9
comp=Z,5.1nm,0.8s
VNDA Vanda 73.18 171 *e*P P 15 19 19.2 +1.9
VNDA pmax pmax
comp=Z,5.0nm,0.8s
SBA Scott Base 74.19 170 *e*P P 15 19 26.0 +2.8
comp=Z,7.7nm,1.0s
SBA Scott Base 74.19 170 *e*P P 15 19 26.0 +2.8
SBA pmax pmax
comp=Z,8.0nm,1.0s
SEY Seymchan 75.59 16*ce*P P 15 19 32.5 +1.1
RAYN Ar Rayn 77.02 296 *e*P P 15 19 38.5 -2.0
comp=Z,3.3nm,0.8s
RAYN Ar Rayn 77.02 296 *e*P P 15 19 38.5 -2.0
RAYN pmax pmax
comp=Z,3.0nm,0.8s
AKTO Aktyubinsk 77.62 326 P P 15 19 43.5 +0.3
comp=Z,36nm,0.8s,baz=116,slow=6.8,SNR=83
AKTO LR LR 15 58 26.7
comp=Z,78nm,19.9s,baz=134,slow=39
SYO Syowa Base 78.27 201‖ *e*P P 15 19 47.8 +1.3
SYO Syowa Base 78.27 201‖ *e*PcP **PcP** 15 19 56.0 +0.2
SVE Sverdlovsk 79.56 332 *e*P P 15 19 54.0 +0.3
SVE pmax pmax
comp=Z,42nm,1.1s
TIXI Tiksi 79.84 4 P P 15 19 54.4 -0.6
comp=Z,35nm,0.9s,baz=161,slow=3.0,SNR=100
TIXI Tiksi 79.84 4 *e*P P 15 19 54.4 -0.6
comp=Z,54nm,1.0s
TIXI Tiksi 79.84 4*ce*P P 15 19 54.3 -0.6
TIXI pmax pmax
comp=Z,74nm,1.3s
NRIK Noril'sk 79.93 350 P P 15 19 55.1 -0.4
comp=Z,8.0nm,0.8s,baz=134,slow=5.3,SNR=10.0
KMBO Kilima Mbogo 80.28 270 P P 15 19 59.0 +0.1
comp=Z,13nm,1.0s,baz=63,slow=8.0,SNR=17
KMBO LR LR 15 50 25.8
comp=Z,106nm,20.6s,baz=93,slow=32
KMBO Kilima Mbogo 80.28 270 P P 15 19 59.1 +0.1
SNR=5.7
ARU Arti 80.33 331 P P 15 19 58.0 +0.1
ARU Arti 80.33 331*d i*P P 15 19 56.7 -1.2
ARU 15 23 00.9
ARU SS SS 15 35 17.8 +4.7
ARU pmax pmax
comp=Z,21nm,1.0s
BILL Bilibino 83.24 17‖ *e*P P 15 20 11.5 -1.6
BILL *PP **pP** 15 20 23.0 -1.1
BILL *SP **sP** 15 20 31.0 +2.9
BILL pmax pmax
comp=Z,12nm,2.0s
ZEI Tsey 83.62 315 *e*P P 15 20 13.5 -2.3
ZEI pmax pmax
comp=Z,20nm,1.5s
NEY Neytrino 84.58 315 *i*P P 15 20 18.3 -2.4
NEY pmax pmax
comp=Z,1.0nm,1.0s
KBZ Khabaz 84.60 315 P P 15 20 19.8 -0.6
comp=Z,3.3nm,0.8s,baz=156,slow=2.1,SNR=6.8
KIV Kislovodsk 84.81 316 *e*P P 15 20 17.9 -3.8
KIV pmax pmax
comp=Z,5.0nm,1.0s
GOF Gofitskoye 84.87 317 *e*P P 15 20 21.2 -0.7
GOF pmax pmax
comp=Z,40nm,1.6s
MBAR Mbarara 86.80 270 *i*P P 15 20 30.0 -2.3
LSZ Lusaka 87.35 255 P P 15 20 35.1 +0.2
SNR=5.3
VRH Novokhopyorsk 87.45 322 *e*P P 15 20 33.1 -1.3
VRH pmax pmax
comp=Z,20nm,0.8s
NVL N'lazarevskaya 87.62 199 *i*P P 15 20 40.8 +5.9
NVL *e*S S 15 31 02.6 -11
NVL pmax pmax
comp=Z,3.0nm,0.5s
MMAI Mount Meron Ar 87.82 304 LR LR 16 05 02.6
comp=Z,70nm,18.1s,baz=145,slow=39
BOSA Boshof 88.25 242 P P 15 20 38.2 -0.8
comp=Z,10nm,0.9s,baz=93,slow=4.8,SNR=9.4
BOSA LR LR 15 53 22.5
comp=Z,118nm,21.4s,baz=38,slow=31
BOSA Boshof 88.25 242 *e*P P 15 20 39.0 +0.1
comp=Z,16nm,1.0s
BOSA Boshof 88.25 242 *e*P P 15 20 39.1 +0.1
BOSA pmax pmax
comp=Z,16nm,1.0s
LBTB Lobatse 88.45 245 *e*P P 15 20 40.6 +0.6
comp=Z,24nm,0.9s
LBTB Lobatse 88.45 245 *e*P P 15 20 40.6 +0.6
LBTB pmax pmax
comp=Z,24nm,0.9s
VSR Storozhevoye 89.00 322 *e*P P 15 20 39.7 -2.1
VSR pmax pmax
comp=Z,20nm,1.4s
PAE Paea 90.28 108 *e*P P 15 20 47.0 -1.5
comp=Z,4.6nm,0.7s
PPT2 Papeete2 90.29 108 *e*P P 15 20 47.2 -1.5
comp=Z,51nm,1.3s
PPT2 Papeete2 90.29 108 *e*LR LR 15 49 49.6
comp=Z,85nm,25.2s
BRTR Keskin Array B 90.44 310 P P 15 20 48.4 -0.5
comp=Z,1.9nm,0.8s,baz=136,slow=7.0,SNR=9.6
BRTR LR LR 16 06 44.1
comp=Z,31nm,18.1s,baz=192,slow=39
TIAR Tiarei 90.52 108 *e*P P 15 20 47.7 -2.0
comp=Z,13nm,0.9s
TVO Taravao 90.57 108 *e*P P 15 20 48.2 -1.8
comp=Z,17nm,1.0s
OBN Obninsk 91.40 325 LR LR 16 05 08.9
comp=Z,27nm,20.5s,baz=192,slow=38
OBN Obninsk 91.40 325‖ *i*P P 15 20 51.8 -1.0
OBN *SP **sP** 15 21 06.0 -2.0
OBN SSS SSS 15 41 35.0
OBN pmax pmax
comp=Z,7.0nm,1.0s
OBN MLR MLR
comp=Z,98nm,19.0s
SNAA Sanae 91.57 196 P P 15 20 55.4 +1.9
SNAA Sanae 91.57 196 *e*P P 15 20 54.8 +1.3
comp=Z,11nm,1.1s
SNAA Sanae 91.57 196 *e*P P 15 20 54.8 +1.3
SNAA pmax pmax
comp=Z,11nm,1.1s
PMOR Pomariorio Ree 92.28 105 *e*P P 15 20 55.8 -2.0
comp=Z,106nm,1.1s
VAH Vaihoa 92.50 106 *e*P P 15 20 57.0 -1.8
comp=Z,98nm,1.4s
VNA2 Neumayer--Watz 93.20 196 P P 15 21 02.3 +1.3
baz=116,slow=3.4
VNA1 Neumayer--Stat 93.60 196 P P 15 21 05.9 +3.1
VNA3 Neumayer Olymp 93.61 195 P P **15 21 04.0 +1.1**
AKASG Malin Array Be 95.10 320 PP PP 15 24 57.6 -2.3
comp=Z,0.5nm,0.5s,baz=82,slow=6.9,SNR=5.5
AKASG LR LR 16 12 28.3
comp=Z,24nm,18.9s,baz=310,slow=41
APA Apatity 95.13 337‖ *i*P P 15 21 14.5 +4.7
APA pmax pmax
comp=Z,9.0nm,1.1s
APA MLR MLR
comp=Z,1μm,16.0s
IM3 Indian Mountai 96.71 24 *e*P P **15 21 16.5 -0.5**
IDI Anoyia 96.76 305 LR LR 16 09 55.1
comp=Z,13nm,18.3s,baz=105,slow=39
FINES FINESS Array B 97.70 331 P Pdif 15 21 20.0 -1.6
comp=Z,2.6nm,0.9s,baz=101,slow=7.2,SNR=3.1
FINES LR LR 16 12 24.9
comp=Z,81nm,18.3s,baz=88,slow=40
FINES FINESS Array B 97.70 331 P Pdif 15 21 20.0 -1.6
ILAR Eielson Array 99.55 26 P **Pdif** **15 21 28.1 -1.7**
comp=Z,0.2nm,0.7s,baz=227,slow=5.3,SNR=4.8
ILAR PKKPbc **PKKPbc** **15 37 51.9 -2.8**
comp=Z,0.3nm,0.6s,baz=111,slow=1.8,SNR=4.6
NOA NORSAR Array B 104.88 331 PKKPab PKKPab 15 37 48.8 -5.7
comp=Z,1.1nm,0.9s,baz=292,slow=5.3,SNR=3.3
GERES GERESS Array B 105.13 318 PP PP 15 26 04.8 -11
comp=Z,0.6nm,0.8s,baz=114,slow=4.8,SNR=4.3
TORD Torodi Ar. Bea 116.91 281 PKP **PKPdf** **15 26 31.5 -1.1**
comp=Z,0.9nm,0.6s,baz=43,slow=2.0,SNR=8.7
TORD PKKPab **PKKPab** **15 37 07.3 +5.1**
comp=Z,0.5nm,0.9s,baz=183,slow=9.9,SNR=3.5
NVAR Mina Array Bea 121.46 50 PKP **PKPdf** **15 26 41.3 +0.3**
comp=Z,0.9nm,0.6s,baz=278,slow=1.6,SNR=7.7
NVAR PP **PP** **15 28 11.9 -0.8**
comp=Z,1.1nm,0.8s,baz=281,slow=8.5,SNR=4.4
DBIC Dimbokro 122.94 273 PKP **PKPdf** **15 26 42.7 -1.6**
comp=Z,3.7nm,0.9s,baz=172,slow=0.6,SNR=3.1
PDAR Pinedale Array 126.14 42 PKP **PKPdf** **15 26 48.8 -1.1**
comp=Z,0.7nm,0.8s,baz=243,slow=6.0,SNR=5.1
PDAR PP **PP** **15 28 41.9 -2.0**
comp=Z,1.3nm,1.0s,baz=246,slow=2.6,SNR=4.1
SCHQ Schefferville 133.17 4 PKP **PKPdf** **15 27 03.3 +0.7**
comp=Z,3.8nm,0.8s,baz=305,slow=12,SNR=2.8
TXAR Lajitas Array 135.86 56 PKhKP PKPpre 15 26 56.2
comp=Z,0.2nm,0.5s,baz=239,slow=3.4,SNR=4.2
TXAR PKP **PKiKP** **15 27 09.3 -0.8**
comp=Z,1.0nm,0.9s,baz=142,slow=1.2,SNR=4.9
CPUP Villa Florida 145.51 188 PKPbc **PKPab** **15 27 26.9 +0.8**
comp=Z,9.5nm,0.7s,baz=182,slow=2.0,SNR=23
LVC Limon Verde 148.91 168 PKPbc **PKPab** **15 27 37.4 -2.5**
comp=Z,15nm,0.9s,baz=236,slow=3.9,SNR=9.3
BDFB Brasilia 152.51 211 PKP **PKPdf** **15 27 37.5 0.0**
comp=Z,1.9nm,0.5s,baz=106,slow=15,SNR=3.0
BDFB PKPbc **PKiKP** **15 27 43.7 -0.9**
comp=Z,7.7nm,0.8s,baz=162,slow=5.2,SNR=9.0
LPAZ La Paz 155.20 167 PKP **PKPdf** **15 27 41.3 -0.6**
comp=Z,2.1nm,0.9s,baz=288,slow=3.1,SNR=7.0
LPAZ PKPab **PKPab** **15 28 08.0 +1.5**
comp=Z,5.1nm,0.8s,baz=156,slow=4.2,SNR=7.7
SIV San Ignacio 156.12 183 PKP **PKPdf** **15 27 42.6 +0.1**
comp=Z,3.8nm,1.0s,baz=191,slow=6.2,SNR=8.0

MEX 09 15:14:28.0±0.9, 16°.23N×98°.25W, h4km±5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.20**	**36**	*e*P			Pg	15 14 31.1	-0.8
PNIG				*e*S			Sg	15 14 34.9	+0.3
TLIG	**Tlapa**	**1.36**	**347**	*e*P			Pn	15 14 49.8	-4.0
TLIG				*e*S			Sg	15 15 06.9	-4.9
VHO	**Vista Hermosa**	**1.68**	**60**	*e*P			Pn	15 14 55.1	-3.2
VHO				*e*S			Sn	15 15 16.1	-4.3
CAIG	**El Cayaco**	**2.10**	**293**	*e*P			Pn	15 15 00.6	-3.3
CAIG				*i* S			Sn	15 15 25.1	-5.3

*IDC **09** 15:29:37.7±1.2, 59°.93S×26°.85W, h0km, mb4.2/8, mb1 4.4/9, mb1mx4.0/35, mbtmp4.3/9, ML4.3/1, Error ellipse: s-maj=33.8km s-min=26.9km az=69.0*
*ISCJB **09** 15:29:38.1±0.7, 60°.7S±0°.2×27°.0W±0°.4, h35km, mb4.2/8, Error ellipse: s-maj=36.5km s-min=8.9km az=143.7*
ISC 09 15:29:40.2±0.9, 60°.6S±0°.2×27°.0W±0°.2, h35km, n17, σ0s49/12, mb4.2/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.61**	**151**	P			Pn	**15 32 37.2**	**+0.5**
VNA3	**Neumayer Olymp**	**12.72**	**154**	P			Pn	**15 32 38.1**	**-0.1**
VNA3				S			Sn	15 34 47.1	-11
VNA2	**Neumayer--Watz**	**13.01**	**151**	P			**Pn**	**15 32 41.8**	**-0.4**
	baz=314,slow=16								
SNAA	**Sanae**	**14.62**	**149**	P			**Pn**	**15 33 03.9**	**-0.3**
PMSA	**Palmer Station**	**17.32**	**240**	P			P	15 33 47.5	+7.6
	1.0nm,0.3s,baz=78,slow=10,SNR=5.4								
QSPA	**South Pole Qui**	**29.62**	**180**	P			P	15 35 51.1	+9.3
	1.7nm,0.9s,baz=205,slow=4.1,SNR=4.0								
PLCA	**Paso Flores**	**33.17**	**287**	P			**P**	**15 36 13.4**	**+0.2**
	2.1nm,0.9s,baz=90,slow=18,SNR=2.8								
CPUP	**Villa Florida**	**40.03**	**315**	P			**P**	**15 37 11.4**	**-0.1**
	1.6nm,0.4s,baz=169,slow=6.4,SNR=6.7								
LVC	**Limon Verde**	**47.81**	**304**	P			**P**	**15 38 15.0**	**+0.6**
	5.7nm,0.7s,baz=156,slow=5.7,SNR=6.0								
SIV	**San Ignacio**	**50.88**	**316**	P			**P**	**15 38 36.8**	**-0.7**
	1.9nm,0.4s,baz=187,slow=7.6,SNR=9.3								
H10S2	**ASCENSION HYDR**	**52.37**	**15**	T			T	16 35 21.2	
	baz=188,slow=74,SNR=3.3								
H10S3	**ASCENSION HYDR**	**52.38**	**15**	T			T	16 35 22.9	
	baz=188,slow=74,SNR=3.6								
H10S1	**ASCENSION HYDR**	**52.39**	**15**	T			T	16 35 21.2	
	baz=188,slow=74,SNR=2.8								
LPAZ	**La Paz**	**53.19**	**308**	P			**P**	**15 38 55.8**	**+0.4**
	2.4nm,0.5s,baz=130,slow=4.7,SNR=12								
TORD	**Torodi Ar. Bea**	**77.01**	**29**	P			**P**	**15 41 29.4**	**+0.3**
	0.6nm,0.5s,baz=191,slow=7.2,SNR=5.6								
SDV	**Santo Domingo**	**77.34**	**316**	P			**P**	**15 41 30.7**	**-0.6**
	2.0nm,0.3s,baz=214,slow=3.6,SNR=3.6								
ILAR	**Eielson Array**	**153.04**	**305**	PKPbc			**PKPbc**	**15 49 32.5**	**+0.4**
	0.6nm,0.7s,baz=130,slow=3.0,SNR=7.4								

*IDC **09** 15:34:18.0±2.9, 8°.86N×92°.58E, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.4/47, mbtmp3.9/3, ML4.0/1, Error ellipse: s-maj=77.4km s-min=43.2km az=86.0*
*ISCJB **09** 15:34:28.1±1.1, 8°.9N±0°.1×93°.9E±0°.2, h31km, mb4.0/2, Error ellipse: s-maj=29.9km s-min=13.3km az=145.0*
ISC 09 15:34:29.1±1.4, 8°.8N±0°.2×93°.9E±0°.2, h31km, n13, σ1s80/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.81**	**27**	Pn			**Pn**	**15 37 01.9**	**+0.1**
	0.3nm,0.3s,baz=225,slow=15,SNR=9.7								
PKI	**Pulchoki**	**20.32**	**338**	*e*P			**P**	**15 39 01.6**	**-1.5**
	7.8nm,0.3s								
PKIN	**Phulchoki**	**20.34**	**338**	*e*P			**P**	**15 39 01.7**	**-1.5**
	11nm,0.4s								
DMN	**Daman**	**20.47**	**337**	*e*P			**P**	**15 39 03.4**	**-1.3**
	7.7nm,0.3s								
GKN	**Gorkha**	**21.01**	**337**	*e*P			**P**	**15 39 10.7**	**+0.3**
	1.2nm,0.2s								
KOLN	**Koldanda**	**21.23**	**334**	*e*P			**P**	**15 39 13.6**	**+0.8**
	5.7nm,0.2s								
DANN	**Dangsing**	**21.67**	**335**	*e*P			**P**	**15 39 19.8**	**+2.2**
	10nm,0.4s								
PYUN	**Piuthan**	**21.78**	**333**	*e*P			**P**	**15 39 20.9**	**+2.2**
	14nm,0.3s								
H08S3	**Diego Garcia H**	**26.83**	**233**	T			T	16 06 59.1	
	baz=49,slow=74,SNR=12								
H08S2	**Diego Garcia H**	**26.83**	**233**	T			T	16 06 58.5	
	baz=49								
H08S1	**Diego Carcia H**	**26.84**	**233**	T			T	16 06 59.1	
	baz=49,slow=74,SNR=10								
WRA	**Warramunga Arr**	**49.01**	**126**	P			**P**	**15 43 14.8**	**+1.4**
	2.1nm,0.5s,baz=306,slow=8.5,SNR=52								
WRA				PcP			**PcP**	**15 44 34.6**	**-2.5**
	0.4nm,0.8s,baz=319,slow=2.9,SNR=4.3								
ASAR	**Alice Springs**	**50.71**	**130**	P			**P**	**15 43 27.3**	**+1.0**
	0.5nm,0.5s,baz=304,slow=6.7,SNR=11								
ASAR				PcP			**PcP**	**15 44 41.5**	**-1.8**
	0.4nm,0.7s,baz=314,slow=3.3,SNR=4.7								

*IDC **09** 15:36:31.3±1.6, 13°.99N×92°.21W, h0km, mb3.6/3, mb1 3.9/6, mb1mx3.7/40, mbtmp3.6/6, ML3.4/3, MS3.5/4, Ms1 3.5/4, ms1mx2.9/40, Error ellipse: s-maj=26.5km s-min=14.6km az=4.0*
*MEX **09** 15:36:32.1±0.3, 13°.72N×92°.15W, h15km, MD4.1*
*ISCJB **09** 15:36:34.8±1.0, 13°.96N±0°.07×92°.14W±0°.08, h54km, mb3.6/3, MS3.5/4, Error ellipse: s-maj=13.8km s-min=7.3km az=139.6*
ISC 09 15:36:37.7±1.3, 14°.1N±0°.1×92°.14W±0°.09, h54km, n16, σ1s54/17, mb3.6/3, MS3.6/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THIG		**0.84**	**352**	*e*P			**Pn**	**15 36 50.4**	**-3.2**
THIG				*i* S			**Sn**	**15 37 04.7**	**-0.4**
APG	**El Apazote**	**1.87**	**60**	Pn			**Pn**	**15 37 06.5**	**-1.1**
	23nm,0.3s,baz=235,slow=10,SNR=284								
APG				Lg			Lg	15 37 33.6	
	23nm,0.3s,baz=233,slow=20,SNR=11								

PCIG		**1.93**	**327**	*e*P		**Pn**	**15 37 05.3**	**-2.9**
PCIG				*i* S		**Sn**	**15 37 32.0**	**+0.6**
CCIG	**Comitan**	**2.20**	**0**	*e*P		**Pn**	**15 37 10.5**	**-1.6**
CCIG				*i* S		**Sn**	**15 37 39.4**	**+1.1**
TGIG		**2.86**	**341**	*e*P		**Pn**	**15 37 19.9**	**-1.0**
TGIG				*i* S		**Sn**	**15 37 55.0**	**+0.9**
CMIG	**Matias Romero**	**4.00**	**319**	Pn		**Pn**	**15 37 35.8**	**-0.8**
	1.1nm,0.3s,baz=148,slow=14,SNR=4.6							
CMIG				Sn		**Sn**	**15 38 22.6**	**+0.3**
	4.2nm,0.3s,baz=145,slow=22,SNR=6.7							
CMIG				Lg		Lg	15 38 37.0	
	12nm,0.3s,baz=232,slow=17,SNR=7.0							
JTS	**JuntasAbangare**	**7.96**	**117**	Pn		**Pn**	**15 38 29.3**	**-1.6**
	0.5nm,0.3s,baz=353,slow=19,SNR=2.2							
JTS				Lg		Lg	15 40 31.4	
	0.3nm,0.3s,baz=230,slow=18,SNR=3.2							
TXAR	**Lajitas Array**	**18.57**	**327**	P		**Pn**	**15 40 51.9**	**+0.7**
	0.0nm,0.3s,baz=141,slow=12,SNR=6.5							
TKL	**Tuckaleechee C**	**22.78**	**18**	LR		LR	15 51 52.4	
	comp=Z,132nm,18.5s,baz=220,slow=40							
ANMO	**Albuquerque**	**24.48**	**331**	P		**P**	**15 41 52.0**	**0.0**
	1.3nm,0.6s,baz=153,slow=12,SNR=4.5							
NNA	**Nana**	**30.00**	**149**	LR		LR	15 52 44.3	
	comp=Z,30nm,20.6s,baz=324,slow=32							
NVAR	**Mina Array Bea**	**33.53**	**321**	P		**P**	**15 43 14.5**	**+1.9**
	0.4nm,0.5s,baz=133,slow=8.8,SNR=4.6							
SCHQ	**Schefferville**	**45.21**	**20**	LR		LR	16 05 00.4	
	comp=Z,132nm,18.6s,baz=301,slow=38							
ILAR	**Eielson Array**	**62.73**	**337**	P		**P**	**15 46 57.3**	**+0.4**
	0.5nm,0.8s,baz=133,slow=7.5,SNR=4.6							
MDT	**Midelt**	**80.47**	**59**	LR		LR	16 19 10.3	
	comp=Z,36nm,19.4s,baz=139,slow=32							
CMAR	**Chiang Mai Arr**	**145.88**	**341**	PKPbc		**PKPab**	**15 56 12.6**	**+0.1**
	2.1nm,0.7s,baz=337,slow=3.5,SNR=20							

IDC 09 15:48:53.6±10.0**, 15°80'S**×**165°31'E, h0**km**, mb3.8/4, mb1 4.0/5, mb1mx3.7/36, mbtmp3.8/5, ML3.7/1, Error ellipse: s-maj=188.2km s-min=32.3km az=54.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.33**	**170**	Pn		Pn	15 50 28.3	0.0
	1.5nm,0.3s,baz=54,slow=18,SNR=41							
DZM				Sn		Sn	15 51 42.8	+1.5
	0.4nm,0.3s,baz=307,slow=20,SNR=2.9							
STKA	**Stephens Creek**	**26.86**	**229**	P		P	15 54 36.4	+0.2
	0.5nm,0.4s,baz=75,slow=12,SNR=3.2							
WRA	**Warramunga Arr**	**29.73**	**257**	P		P	15 55 01.9	-0.1
	0.3nm,0.4s,baz=90,slow=8.5,SNR=11							
ASAR	**Alice Springs**	**30.52**	**250**	P		P	15 55 09.1	+0.1
	0.6nm,0.4s,baz=74,slow=9.3,SNR=18							
FITZ	**Fitzroy Crossi**	**37.96**	**261**	P		P	15 56 13.0	-0.4
	2.2nm,0.9s,baz=80,slow=8.5,SNR=9.6							

*ISCJB **09** 15:53:21.9±0.3, 51°.49N±0°.01×16°.23E±0°.03, h0km, Error ellipse: s-maj=2.6km s-min=2.1km az=159.0*
*BGR **09** 15:53:24.9±0.6, 51°.46N×16°.23E, h1km, ML3.1/10, Error ellipse: s-maj=8.9km s-min=4.4km az=30.0*
*IDC **09** 15:53:25.2±0.7, 51°.43N×16°.08E, h0km, mb1 3.4/8, mb1mx3.3/45, mbtmp3.3/8, ML3.1/7, Error ellipse: s-maj=10.3km s-min=7.0km az=107.0*
*PRU **09** 15:53:26.4±0.0, 51°.39N×16°.13E, h0km*
*UPP **09** 15:53:27.1±3.0, 51°.62N×15°.69E, h0km, ML2.1*
*VIE **09** 15:53:27.4±0.6, 51°.23N×16°.28E, h0km, mb2.6/6, ml3.1/6, Error ellipse: s-maj=7.5km s-min=5.3km az=88.0 52 km WNW of Wroclaw Suspected Mining induced.*
*WAR **09** 15:53:29.8, 51°.02N×15°.80E, h1km, Mw2.8*

ISC 09 15:53:23.2±0.6**, 51°52N**±0°.03×**16°20E**±0°.02**, h0**km**, n66, σ1§38/114, Poland**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.68**	**175**	*i* Pg		**Pg**	**15 53 36.6**	**+0.4**
KSP				*i* Sg		**Sg**	**15 53 44.1**	**-1.1**
KSP	**Ksiaz**	**0.68**	**175**	*i* Pg		**Pg**	**15 53 36.6**	**+0.4**
KSP				*i* Sg		**Sg**	**15 53 44.1**	**-1.1**
KSP	**Ksiaz**	**0.68**	**175**	*e*Pg		**Pg**	**15 53 36.7**	**+0.4**
KSP				*e*Sg		**Sg**	**15 53 44.6**	**-0.6**
DPC	**Dobruska-Polom**	**1.18**	**176**	*e*PG		**Pg**	**15 53 45.6**	**-0.1**
DPC				*e*SG		**Sg**	**15 53 59.7**	**-1.3**
	comp=Z,112nm,0.4s							
DPC	**Dobruska-Polom**	**1.18**	**176**	*e*Pg		**Pg**	**15 53 45.7**	**-0.1**
DPC				*e*Sg		**Sg**	**15 53 59.9**	**-1.1**
PVCC	**Panska Ves**	**1.43**	**227**	*e*PG		**Pg**	**15 53 51.2**	**+0.5**
PVCC				*e*SG		**Sg**	**15 54 09.9**	**+0.7**
	comp=Z,341nm,0.3s							
KRLC	**Kraliky**	**1.50**	**166**	*e*PG		**Pg**	**15 53 51.3**	**-0.1**
KRLC				*e*SG		**Sg**	**15 54 10.4**	**-0.8**
	comp=Z,16nm,0.4s							
BRG	**Berggiesshubel**	**1.56**	**246**	PN		**Pn**	**15 53 52.1**	**-0.1**
BRG				PG		**Pb**	**15 53 53.1**	**+0.1**
BRG				SG		**Sb**	**15 54 14.0**	**+0.8**
	122nm,0.4s							
BRG	**Berggiesshubel**	**1.56**	**246**	*e*Pn		**Pn**	**15 53 52.3**	**+0.1**
BRG				*e*Pg		**Pg**	**15 53 53.9**	**+0.7**
BRG				*e*Sg		**Sn**	**15 54 13.3**	**+0.1**
PRA	**Prague**	**1.84**	**218**	*e*SG		**Sn**	**15 54 21.0**	**+1.1**
	comp=Z,43nm,0.5s							
FBE	**Freiberg**	**1.89**	**252**	*e*Pn		**Pg**	**15 54 00.3**	**+0.9**
FBE				*e*Sg		**Sb**	**15 54 24.0**	**+1.4**
MORC	**Moravsky Berou**	**1.95**	**153**	*e*Pn		**Pn**	**15 53 57.5**	**-0.1**
MORC	**Moravsky Berou**	**1.95**	**153**	*e*PN		**Pn**	**15 53 57.3**	**-0.2**
MORC				*e*SG		**Sn**	**15 54 23.4**	**+0.7**
CLL	**Collm**	**2.01**	**265**	*e*Pn		**Pn**	**15 53 59.0**	**+0.6**
CLL				*e*Pg		**Pb**	**15 54 02.0**	**+1.3**
CLL				*e*Sg		**Sg**	**15 54 29.0**	**+1.1**
	comp=Z,44nm,0.6s							
CLL	**Collm**	**2.01**	**265**	*e*Pn		**Pn**	**15 53 58.9**	**+0.4**
OKC	**Ostrava-Krasne**	**2.09**	**143**	*e*PN		**Pn**	**15 53 59.0**	**-0.5**
OKC				*e*PG		**Pb**	**15 54 02.9**	**+0.9**
OKC				*e*SG		**Sb**	**15 54 28.4**	**-0.1**
OKC	**Ostrava-Krasne**	**2.09**	**143**	*e*Pn		**Pn**	**15 53 59.5**	**-0.1**
OKC				*e*Sg		**Sb**	**15 54 28.5**	**-0.1**
VRAC	**Vranov**	**2.23**	**173**	Pn		**Pn**	**15 54 02.1**	**+0.7**
	comp=Z,5.4nm,0.3s,baz=345,slow=14,SNR=17							
VRAC				Lg		Lg	15 54 32.4	
	comp=Z,12nm,0.3s,baz=260,slow=21,SNR=9.8							
VRAC	**Vranov**	**2.23**	**173**	*e*PN		**Pn**	**15 54 01.5**	**+0.1**
VRAC				*e*SG		**Sb**	**15 54 32.8**	**+0.2**
TREC	**Trest**	**2.28**	**192**	*e*PN		**Pn**	**15 54 03.4**	**+1.3**
TREC				*e*PG		**Pb**	**15 54 05.7**	**+0.5**
TREC				*e*SG		**Sb**	**15 54 34.3**	**+0.4**
	comp=Z,38nm,0.3s							
KRUC	**Moravsky**	**2.47**	**177**	*e*PN		**Pn**	**15 54 05.3**	**+0.6**
KRUC				*e*SG		**Sb**	**15 54 40.5**	**+1.2**
TANN	**Tannenbergstha**	**2.61**	**246**	*e*Pn		**Pn**	**15 54 07.7**	**+1.0**
OJC	**Ojcow**	**2.63**	**118**	*e*Pg		**Pg**	**15 54 13.4**	**-0.1**
OJC				*e*SG		**Sg**	**15 54 48.9**	**+1.4**
OJC	**Ojcow**	**2.63**	**118**	*e*Pg		**Pg**	**15 54 13.4**	**-0.1**
OJC				*e*SG		**Sg**	**15 54 48.9**	**+1.4**
NKC	**Novy Kostel**	**2.71**	**243**	*e*PN		**Pn**	**15 54 08.8**	**+0.8**
NKC				*e*PG		**Pg**	**15 54 15.6**	**+0.6**
NKC				*e*SG		**Sg**	**15 54 50.8**	**+0.7**
	comp=Z,54nm,0.3s							
JAVC	**Velka Javorina**	**2.83**	**160**	*e*PN		**Pn**	**15 54 11.4**	**+1.7**
KHC	**Kasperske Hory**	**2.93**	**216**	*e*PN		**Pn**	**15 54 10.9**	**-0.1**
KHC				*e*PG		**Pb**	**15 54 17.7**	**+1.5**
KHC				*e*SN		**Sn**	**15 54 46.2**	**-0.7**
KHC				*e*SG		**Sb**	**15 54 54.4**	**+1.8**
	comp=Z,29nm,0.4s							
MANZ	**Manzenberg**	**3.02**	**241**	*e*Pn		**Pn**	**15 54 13.2**	**+0.9**
MOX	**Moxa**	**3.02**	**255**	*e*Pn		**Pn**	**15 54 13.5**	**+1.2**
ROTZ	**Rotzenmuhle**	**3.09**	**237**	*e*Pn		**Pn**	**15 54 14.3**	**+1.1**
GEC2	**GERESS Array S**	**3.12**	**212**	*e*Pn		**Pn**	**15 54 14.9**	**+1.1**
GEC2				*e*Pg		**Pb**	**15 54 21.2**	**+1.5**
GERES	**GERESS Array B**	**3.12**	**212**	Pn		**Pn**	**15 54 14.1**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=33,slow=13,SNR=30							
GERES				Pg		**Pb**	**15 54 20.4**	**+0.8**
	comp=Z,12nm,0.3s,baz=32,slow=22,SNR=88							
GERES				Lg		Lg	15 55 00.3	
	comp=Z,10nm,0.3s,baz=29,slow=30,SNR=13							
LANS	**Liptovska Anna**	**3.17**	**137**	*e*PG		**Pg**	**15 54 24.2**	**+0.3**
LANS				*e*SG		**Sg**	**15 55 07.2**	**+2.3**
WET	**Wettzell**	**3.19**	**223**	*e*Pn		**Pn**	**15 54 15.5**	**+0.8**
WET				*e*Pg		**Pb**	**15 54 21.5**	**+0.7**
MODS	**Modra-Piesok**	**3.23**	**167**	*e*PG		**Pb**	**15 54 23.1**	**+1.7**
MODS				*e*SG		**Sg**	**15 55 04.1**	**-2.8**
MODS				*e*LG		Lg	15 55 11.0	
NIE	**Niedzica**	**3.36**	**127**	*e*P		**Pg**	**15 54 29.3**	**+1.8**
NIE				*e*S		**Sg**	**15 55 14.3**	**+3.2**
NIE	**Niedzica**	**3.36**	**127**	*e*P		**Pg**	**15 54 29.3**	**+1.8**
NIE				*e*S		**Sg**	**15 55 14.3**	**+3.2**
ZST	**Bratislava**	**3.38**	**170**	*e*SG		**Sb**	**15 55 08.1**	**+2.5**
VYHS	**Vyhne**	**3.48**	**150**	*e*PG		**Pg**	**15 54 29.7**	**-0.1**
VYHS				*e*SG		**Sg**	**15 55 15.1**	**+0.3**
VYHS				*e*LG		Lg	15 55 28.9	
CONA	**Conrad Observa**	**3.61**	**184**	*i* Pn		**Pn**	**15 54 21.0**	**+0.6**
	comp=Z,1.3nm,0.2s							
CONA				*e*Sg		**Sg**	**15 55 16.9**	**-2.1**
	comp=Z,19nm,0.3s							
BSD	**Bornholm Skovb**	**3.68**	**348**	*i* P		**Pn**	**15 54 22.2**	**+0.9**
BSD				*i* S		**Sn**	**15 55 03.4**	**-1.9**
BSD	**Bornholm Skovb**	**3.68**	**348**	*e*P		**Pn**	**15 54 22.2**	**+0.9**
BSD				*e*S		**Sn**	**15 55 05.2**	**-0.2**
BSD				AML		AML	15 55 06.3	
	comp=N,9.3nm,1.7s							
BSD				AML		AML	15 55 45.3	
	comp=E,0.9nm,0.7s							
BSD				AML		AML	15 55 48.2	
	comp=Z,0.9nm,0.5s							
MOA	**Molln**	**3.89**	**200**	*i* Pn		**Pn**	**15 54 24.6**	**+0.4**
	comp=Z,5.0nm,0.4s							
MOA				Sg		**Sg**	**15 55 27.4**	**-0.6**
	comp=Z,11nm,0.3s							
KECS	**Kecovo**	**4.11**	**136**	*e*PG		**Pg**	**15 54 44.2**	**+2.3**
KECS				*e*SG		**Sg**	**15 55 38.0**	**+2.8**
KECS				*e*LG		Lg	15 55 43.4	
ARSA	**Arzberg**	**4.30**	**186**	*e*Pn		**Pn**	**15 54 31.0**	**+1.2**
	comp=Z,2.0nm,0.3s							
ARSA				Sg		**Sg**	**15 55 40.6**	**-0.6**
	comp=Z,25nm,0.6s							
LUNU	**Lund**	**4.43**	**339**	P		**Pn**	**15 54 32.0**	**+0.4**
LUNU				S		**Sn**	**15 55 24.4**	**+0.5**
BLEU	**Blekinge**	**4.80**	**357**	P		**Pn**	**15 54 37.8**	**+1.2**
BLEU				S		**Sn**	**15 55 30.1**	**-2.7**
KBA	**Koelnbreinsper**	**4.83**	**204**	*i* Pn		**Pn**	**15 54 38.3**	**+1.0**
	comp=Z,2.1nm,0.3s							
BJUU	**Bjuv**	**4.93**	**339**	P		**Pn**	**15 54 38.7**	**+0.2**
DEL	**Delary**	**5.14**	**345**	P		**Pn**	**15 54 42.0**	**+0.6**
VXJU	**Vaexsjoe**	**5.46**	**353**	P		**Pn**	**15 54 47.0**	**+1.3**
OSKU	**Oskarshamn**	**5.68**	**359**	P		**Pn**	**15 54 50.1**	**+1.4**
BYXU	**Byxelkrok**	**5.80**	**4**	P		**Pn**	**15 54 52.1**	**+1.8**
FABU	**Falkenberg**	**5.86**	**341**	P		**Pn**	**15 54 51.7**	**+0.6**
ASPU	**Aespoe**	**5.91**	**2**	P		**Pn**	**15 54 53.9**	**+1.9**
GNOU	**Gnosjoe**	**5.95**	**347**	P		**Pn**	**15 54 53.6**	**+1.1**
EKSU	**Eksjoe**	**6.08**	**355**	P		**Pn**	**15 54 55.6**	**+1.3**
DAVOX	**Davos/Dischmat**	**6.30**	**224**	Pn		**Pn**	**15 54 58.3**	**+0.8**
DAVOX				Lg		Lg	15 56 17.7	
AKASG	**Malin Array Be**	**8.24**	**91**	Pn		**Pn**	**15 55 24.3**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=286,slow=12,SNR=4.3							
AKASG				Sn		**Sn**	**15 56 52.9**	**-4.7**
	comp=Z,0.8nm,0.3s,baz=273,slow=24,SNR=3.2							
AKASG				Lg		Lg	15 57 43.8	
	comp=Z,1.0nm,0.3s,baz=312,slow=20,SNR=5.6							
MTSE	**Matsula**	**8.42**	**28**	*e*P		**Pn**	**15 55 28.1**	**+1.8**
MTSE				*e*S		**Sn**	**15 56 59.5**	**-2.5**
HFS	**Hagfors**	**8.74**	**352**	Pn		**Pn**	**15 55 31.8**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=165,slow=13,SNR=6.8							
MEF	**Metsahovi**	**9.85**	**25**	*e*P		**Pn**	**15 55 48.2**	**+2.4**
MEF				AML		AML	15 55 49.8	
	comp=Z,3.9nm,0.9s							
MEF				AML		AML	15 55 58.7	
	comp=N,2.4nm,0.4s							
MEF				*e*S		**Sn**	**15 57 32.9**	**-4.1**
MEF				AML		AML	15 57 36.7	
	comp=E,1.7nm,0.8s							
NOA	**NORSAR Array B**	**9.93**	**346**	Pn		**Pn**	**15 55 46.5**	**-0.6**
	comp=E,0.0nm,0.3s,baz=157,slow=12,SNR=5.4							
FINES	**FINESS Array B**	**11.33**	**25**	Pn		**Pn**	**15 56 05.0**	**-1.1**
	comp=E,0.3nm,0.3s,baz=211,slow=12,SNR=9.8							
FINES				Sn		Sn	15 58 03.2	-10
	comp=E,0.1nm,0.3s,baz=207,slow=21,SNR=2.8							
EKA	**Eskdalemuir Ar**	**12.15**	**296**	Pn		**Pn**	**15 56 16.1**	**-1.3**
	baz=102,slow=14,SNR=3.0							
ARCES	**ARCESS Array B**	**18.60**	**10**	Pn		**P**	**15 57 39.2**	**-2.5**
	comp=E,0.4nm,0.3s,baz=196,slow=12,SNR=11							

*IDC **09** 15:53:40.8±0.8, 5°.74S×151°.88E, h0km, mb4.3/12, mb1 4.5/13, mb1mx4.2/45, mbtmp4.3/13, ML2.4/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/27, Error ellipse: s-maj=26.9km s-min=18.3km az=122.0*
*ISCJB **09** 15:53:46.0±0.7, 5°.8S±0°.1×151°.7E±0°.1, h45km, mb4.2/13, MS3.1/1, Error ellipse: s-maj=20.9km s-min=9.8km az=41.9*
*NEIC **09** 15:53:46.2±0.6, 5°.76S×151°.81E, h35km, mb4.3/1, Error ellipse: s-maj=19.6km s-min=10.0km az=126.0*

ISC 09 15:53:47.8±0.8**, 5°8S**±0°.1×**151°8E**±0°.1**, h45**km**, n18, σ1§74/20, mb4.1/13, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.81**	**231**	Pn		**Pn**	**15 55 12.0**	**+0.5**
	5.7nm,0.3s,baz=40,slow=9.3,SNR=29							
PMG				Sn		**Sn**	**15 56 16.0**	**-0.8**
	2.7nm,0.3s,baz=90,slow=19,SNR=3.0							
HNR	**Honiara**	**8.89**	**115**	LR		LR	15 58 57.0	
	comp=Z,178nm,19.7s,baz=278,slow=36							
SIJI	**Sorong**	**21.03**	**283**	P		**P**	**15 58 29.1**	**+1.2**
	5.9nm,0.9s,baz=112,slow=13,SNR=3.9							
WRAB	**Tennant Creek**	**22.01**	**229**	*e*P		**P**	**15 58 37.5**	**-0.9**
	9.1nm,0.7s							
WRA	**Warramunga Arr**	**22.02**	**229**	P		**P**	**15 58 38.1**	**-0.5**
	16nm,0.8s,baz=53,slow=9.9,SNR=48							
WRA				PcP		**PcP**	**16 02 34.9**	**-0.9**
	0.5nm,0.8s,baz=54,slow=3.1,SNR=3.9							
WRA				ScP		**ScP**	**16 06 13.7**	**+4.1**
	0.3nm,0.8s,baz=39,slow=2.8,SNR=3.6							
ASAR	**Alice Springs**	**24.73**	**222**	P		**P**	**15 59 05.0**	**-0.2**
	8.8nm,0.7s,baz=57,slow=8.9,SNR=73							
ASAR				ScP		**ScP**	**16 06 21.8**	**+4.9**
	1.1nm,1.2s,baz=76,slow=3.9,SNR=4.4							
STKA	**Stephens Creek**	**27.65**	**199**	P		**P**	**15 59 29.8**	**-1.6**
	3.6nm,0.9s,baz=353,slow=7.3,SNR=4.9							
BATI	**Baumata**	**28.16**	**259**	P		**P**	**15 59 36.5**	**+0.3**
	16nm,0.8s,baz=53,slow=5.1,SNR=3.2							
FITZ	**Fitzroy Crossi**	**28.28**	**242**	P		**P**	**15 59 36.9**	**-0.3**
	16nm,0.9s,baz=77,slow=7.2,SNR=56							
DAV	**Davao City (W)**	**29.08**	**296**	LR		LR	16 10 46.7	
	comp=Z,47nm,18.1s,baz=320,slow=35							
CMAR	**Chiang Mai Arr**	**57.37**	**296**	P		**P**	**16 03 31.8**	**-0.2**
	0.7nm,0.3s,baz=116,slow=4.2,SNR=4.1							
VNDA	**Vanda**	**71.89**	**178**	P		**P**	**16 05 06.4**	**+0.7**
	1.9nm,0.9s,baz=327,slow=6.4,SNR=14							
ZALV	**Zalesovo Beam**	**81.40**	**327**	P		**P**	**16 05 58.4**	**-1.4**
	0.6nm,0.6s,baz=99,slow=5.9,SNR=2.7							
ILAR	**Eielson Array**	**83.45**	**22**	P		**P**	**16 06 10.0**	**-0.3**
	1.5nm,0.8s,baz=250,slow=5.4,SNR=20							
BVAR	**Borovoye Array**	**89.41**	**323**	P		**P**	**16 06 39.6**	**-0.1**
	0.4nm,0.5s,baz=55,slow=5.5,SNR=2.7							
NVAR	**Mina Array Bea**	**93.50**	**52**	P		**P**	**16 06 59.0**	**-0.3**
	0.5nm,0.9s,baz=256,slow=7.1,SNR=2.3							
GERES	**GERESS Array B**	**124.34**	**328**	PKP		**PKPdf**	**16 12 42.1**	**0.0**
	0.3nm,0.6s,baz=352,slow=2.1,SNR=2.3							
TORD	**Torodi Ar. Bea**	**149.60**	**286**	PKPbc		**PKPbc**	**16 13 32.3**	**-1.2**
	1.9nm,0.7s,baz=40,slow=2.5,SNR=11							

*JMA **09** 15:55:54.4±0.1, 22°.45N×121°.60E, h17km±5km, M3.6*
*TAP **09** 15:55:54.4, 22°.31N×121°.45E, h29km, ML3.5, C*

ISC 09 15:55:52.1±1.2**, 22°32N**±0°.03×**121°55E**±0°.03**, h9**km±9km**, n103, σ0§99/175, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TTN	**Taitung**	**0.57**	**320**	*i* P		**Pb**	**15 56 05.2**	**+1.0**
	baz=331							
TTN				*i* S		**Sb**	**15 56 13.9**	**+1.4**
	baz=331							
TAW	**Tawu**	**0.60**	**274**	*i* P		**Pg**	**15 56 04.4**	**+0.7**
	baz=274							
TAW				*i* S		**Sg**	**15 56 12.0**	**+0.4**
	baz=274							
ECL	**Taimali**	**0.61**	**297**	*i* P		**Pb**	**15 56 04.9**	**-0.1**
	baz=290							
ECL				S		**Sb**	**15 56 13.5**	**-0.2**
	baz=290							
EAST	**Anshuo**	**0.65**	**276**	*i* P		**Pg**	**15 56 05.2**	**+0.6**
	baz=277							
EAST				S		**Sg**	**15 56 13.1**	**0.0**
	baz=277							
TWGBT	**Beinan**	**0.66**	**319**	P		**Pb**	**15 56 06.2**	**+0.5**
	baz=313							
TWGBT				S		**Sb**	**15 56 15.1**	**+0.1**
	baz=313							
TWG	**Pinlang**	**0.66**	**319**	P		**Pb**	**15 56 06.2**	**+0.3**
	baz=313							
TWG				S		**Sb**	**15 56 15.1**	**-0.1**
	baz=313							
TSEB	**Hengchuen, Pin**	**0.73**	**235**	P		**Pb**	**15 56 07.2**	**+0.3**
	baz=241							
TSEB				S		**Sb**	**15 56 17.4**	**+0.3**
	baz=241							
TWKBT	**Hengchun**	**0.78**	**241**	P		**Pg**	**15 56 07.2**	**+0.2**
	baz=243							
TWKBT				S		**Sg**	**15 56 16.7**	**-0.5**
	baz=243							
TWK1	**Hengchun**	**0.78**	**242**	P		**Pg**	**15 56 07.4**	**+0.2**
	baz=243							
TWK1				S		**Sg**	**15 56 16.8**	**-0.5**
	baz=243							
CHKT	**Chengkung**	**0.79**	**348**	P		**Pb**	**15 56 08.1**	**0.0**
	baz=1.0							
CHKT				S		**Sb**	**15 56 19.3**	**+0.3**
	baz=1.0							
HEN	**Hengchun**	**0.81**	**248**	P		**Pg**	**15 56 07.8**	**+0.1**
	baz=238							
HEN				S		**Sg**	**15 56 17.6**	**-0.6**
	baz=238							
SCZT	**Fangliau**	**0.86**	**274**	*i* P		**Pg**	**15 56 08.5**	**-0.1**
	baz=279							
SCZT				*e*S		**Sg**	**15 56 18.9**	**-0.9**
	baz=279							
MASBT	**Mashibuluo**	**0.89**	**289**	*e*P		**Pg**	**15 56 09.0**	**-0.3**
	baz=291							
FULB	**Fuli**	**0.91**	**345**	*e*P		**Pb**	**15 56 10.1**	**0.0**
	baz=337							
FULB				*e*S		**Sn**	**15 56 23.9**	**-0.4**
	baz=337							
SSD	**Sandimen**	**0.95**	**297**	P		**Pg**	**15 56 10.0**	**-0.2**
	baz=305							
ELDTW	**Lidau**	**0.99**	**331**	*i* P		**Pg**	**15 56 10.9**	**-0.3**
	baz=328							
ELDTW				*e*S		**Sg**	**15 56 22.6**	**-1.5**
	baz=328							
TWF1	**Yuli**	**1.05**	**347**	P		**Pg**	**15 56 12.5**	**+0.1**
	baz=340							
TWF1				*e*S		**Sg**	**15 56 26.1**	**+0.1**
	baz=340							
SGLT	**Jiouru**	**1.05**	**293**	*e*P		**Pn**	**15 56 13.4**	**+0.3**
	baz=291							
SGLT				S		**Sg**	**15 56 26.2**	**+0.2**
	baz=291							
WLCH	**Liuqiu**	**1.08**	**272**	*e*P		**Pn**	**15 56 15.4**	**+1.9**
	baz=257							
WLCH				*e*S		**Sn**	**15 56 28.4**	**-0.2**
	baz=257							
YULB	**Yu-li**	**1.09**	**348**	*e*P		**Pg**	**15 56 12.8**	**-0.2**
	baz=342							
TWP	**Hsiaoliuchiu**	**1.10**	**272**	*e*P		**Pn**	**15 56 15.3**	**+1.7**
	baz=257							
TWP				*e*S		**Sg**	**15 56 26.1**	**-1.2**
	baz=257							
STYT	**Tauyuan**	**1.11**	**319**	P		**Pg**	**15 56 13.6**	**+0.1**
	baz=329							
STYT				*e*S		**Sg**	**15 56 27.4**	**-0.5**
	baz=329							
TWM1	**Shoushan**	**1.15**	**296**	*e*P		**Pn**	**15 56 15.3**	**+0.8**
	baz=298							
TWM1				*e*S		**Sn**	**15 56 31.0**	**+0.6**
	baz=298							
SGST	**Jiashian**	**1.17**	**311**	P		**Pn**	**15 56 15.3**	**+0.7**
	baz=314							
SGST				*e*S		**Sb**	**15 56 30.3**	**+0.5**
	baz=314							
KAU	**Kaohsiung**	**1.17**	**282**	*e*P		**Pn**	**15 56 15.6**	**+1.0**
	baz=283							
HGSD	**Ruisui**	**1.17**	**355**	*e*P		**Pb**	**15 56 14.0**	**-0.5**
	baz=9.0							
EHY	**Hungye**	**1.20**	**350**	*e*P		**Pb**	**15 56 14.6**	**-0.5**
	baz=344							
WTP	**Ta-pu**	**1.26**	**317**	P		**Pg**	**15 56 16.8**	**+0.5**
	baz=320							
WTP				*e*S		**Sn**	**15 56 33.2**	**+0.1**
	baz

WTCT	**Ta-ch'eng**	**1.93**	**323**	*e*P		**Pn**	**15 56 26.0**	**+0.8**
	baz=324							
WTCT				*e*S		**Sn**	**15 56 50.0**	**+0.5**
	baz=324							
TWT	**Tachien**	**1.96**	**350**	*e*P		**Pb**	**15 56 26.9**	**-1.1**
	baz=2.0							
TWT				*e*S		**Sn**	**15 56 50.6**	**+0.2**
	baz=2.0							
TDCB	**Techi**	**1.96**	**350**	*e*P		**Pn**	**15 56 26.6**	**+0.9**
	baz=1.0							
WDGT	**Dungji**	**1.98**	**299**	P		**Pn**	**15 56 25.5**	**-0.3**
	baz=297							
WDGT				*e*S		**Sn**	**15 56 48.2**	**-2.5**
	baz=297							
TCU	**Taichung**	**1.99**	**336**	*e*P		**Pb**	**15 56 28.4**	**-0.1**
	baz=322							
TCU				*e*S		**Sb**	**15 56 53.2**	**-0.1**
	baz=322							
NNSB	**Datong**	**2.10**	**356**	*e*P		**Pn**	**15 56 28.5**	**+0.9**
	baz=359							
NNSB				*e*S		**Sn**	**15 56 55.2**	**+1.1**
	baz=359							
ENA	**Nanau**	**2.11**	**5**	*e*P		**Pn**	**15 56 28.1**	**+0.5**
	baz=355							
ENA				*e*S		**Sn**	**15 56 55.2**	**+1.2**
	baz=355							
NANB	**Nanao**	**2.11**	**5**	*e*P		**Pn**	**15 56 28.2**	**+0.6**
	baz=7.0							
NNS	**Nan Shan**	**2.12**	**356**	*e*P		**Pn**	**15 56 29.2**	**+1.3**
	baz=359							
NNS				*e*S		**Sn**	**15 56 55.5**	**+1.1**
	baz=359							
TWQ1	**Liyutan**	**2.14**	**341**	*e*P		**Pb**	**15 56 31.0**	**-0.1**
	baz=325							
TWQ1				*e*S		**Sb**	**15 56 57.4**	**-0.4**
	baz=325							
VCHM	**Qimei**	**2.14**	**295**	*e*P		**Pn**	**15 56 27.4**	**-0.7**
	baz=293							
VCHM				*e*S		**Sn**	**15 56 52.4**	**-2.4**
	baz=293							
PHUB	**P'eng-hu**	**2.17**	**304**	*e*P		**Pn**	**15 56 27.4**	**-1.1**
	baz=302							
PHUB				*e*S		**Sn**	**15 56 52.9**	**-2.7**
	baz=302							
NSY	**Sanyi**	**2.21**	**341**	P		**Pb**	**15 56 32.2**	**0.0**
	baz=327							
NSY				*e*S		**Sb**	**15 56 59.5**	**-0.2**
	baz=327							
PNG	**Penghu**	**2.22**	**304**	*e*P		**Pn**	**15 56 28.5**	**-0.5**
	baz=303							
PNG				*e*S		**Sn**	**15 56 53.9**	**-2.7**
	baz=303							
PTSB	**Yuanli**	**2.25**	**340**	*e*P		**Pb**	**15 56 31.9**	**-1.1**
	baz=325							
PTSB				*e*S		**Sb**	**15 57 00.0**	**-1.1**
	baz=325							
EOS1	**EOS1**	**2.28**	**13**	*e*P		**Pn**	**15 56 31.1**	**+1.2**
	baz=26							
EOS1				*e*S		**Sn**	**15 56 59.0**	**+0.8**
	baz=26							
TWC	**Suao**	**2.30**	**7**	*e*P		**Pn**	**15 56 31.4**	**+1.3**
	baz=19							
TWC				*e*S		**Sn**	**15 56 59.4**	**+0.7**
	baz=19							
ENTT	**Nioudou**	**2.31**	**0**	*e*P		**Pn**	**15 56 31.4**	**+1.1**
	baz=3.0							
NMLH	**Miaoli**	**2.31**	**343**	*e*P		**Pb**	**15 56 33.1**	**-1.0**
	baz=326							
NMLH				*e*S		**Sb**	**15 57 01.6**	**-1.2**
	baz=326							
YHNB	**Yeheng**	**2.34**	**356**	*e*P		**Pn**	**15 56 32.4**	**+1.5**
	baz=9.0							
YHNB				*e*S		**Sn**	**15 57 01.0**	**+1.0**
	baz=9.0							
NSK	**Sanguang**	**2.35**	**356**	P		**Pb**	**15 56 33.0**	**-1.7**
	baz=8.0							
NSK				*e*S		**Sn**	**15 57 01.0**	**+0.9**
	baz=8.0							
NSTT	**Nanjuang**	**2.35**	**348**	*e*P		**Pb**	**15 56 33.5**	**-1.2**
	baz=333							
NSTT				*e*S		**Sb**	**15 57 02.4**	**-1.5**
	baz=333							
LIOB	**Emei**	**2.37**	**348**	*e*P		**Pb**	**15 56 33.5**	**-1.4**
	baz=333							
LIOB				*e*S		**Sb**	**15 57 02.4**	**-1.9**
	baz=333							
TWE	**Neicheng**	**2.39**	**3**	*e*P		**Pn**	**15 56 32.4**	**+0.9**
	baz=356							
JYNG	**Yonagunijimaku**	**2.48**	**31**	P		**Pn**	**15 56 33.4**	**+0.7**
JYNG				*e*S		**Sn**	**15 57 02.9**	**-0.3**
YOJ	**Yonaguni jima**	**2.52**	**32**	*e*P		**Pn**	**15 56 35.1**	**+1.8**
	baz=47							
YOJ				*e*S		**Sn**	**15 57 05.3**	**+1.1**
	baz=47							
YOJ	**Yonaguni jima**	**2.52**	**32**	P		**Pn**	**15 56 34.7**	**+1.4**
YOJ				*e*S		**Sn**	**15 57 03.6**	**-0.6**
NTC	**Toucheng**	**2.54**	**6**	*e*P		**Pn**	**15 56 35.5**	**+2.0**
	baz=357							
EGS		**2.54**	**8**	*e*P		**Pb**	**15 56 36.0**	**-1.9**
	baz=19							
HATJ	**Hateruma jima**	**2.71**	**50**	P		**Pn**	**15 56 37.1**	**+1.3**
HATJ				S		**Sn**	**15 57 07.3**	**-1.4**
YM04	**YM04**	**2.82**	**360**	*e*P		**Pn**	**15 56 39.7**	**+2.2**
	baz=2.0							
YM10	**YM10**	**2.82**	**0**	*e*P		**Pn**	**15 56 38.9**	**+1.4**
	baz=2.0							
YM05	**YM05**	**2.83**	**0**	*e*P		**Pn**	**15 56 39.0**	**+1.4**
	baz=2.0							
IRIF	**Iriomote-Funau**	**2.84**	**45**	P		**Pn**	**15 56 39.1**	**+1.5**
YM07	**YM07**	**2.84**	**1**	*e*P		**Pn**	**15 56 39.7**	**+1.9**
	baz=3.0							
YM03	**YM03**	**2.85**	**360**	*e*P		**Pn**	**15 56 39.8**	**+2.0**
	baz=2.0							
JKRS	**Kuro-shima**	**2.96**	**49**	P		**Pn**	**15 56 41.0**	**+1.7**
JKRS				*e*S		**Sn**	**15 57 13.8**	**-1.2**
JIJ	**Ishigaki jima**	**3.14**	**49**	P		**Pn**	**15 56 42.9**	**+1.2**
JIJ				*e*S		**Sn**	**15 57 17.1**	**-2.3**
VWUC	**VWUC**	**3.28**	**325**	*e*P		**Pn**	**15 56 44.7**	**+0.9**
	baz=324							
JISG	**Ishigakijimahi**	**3.40**	**48**	P		**Pn**	**15 56 46.1**	**+0.8**
JISG				*e*S		**Sn**	**15 57 24.9**	**-0.9**
PTMZ	**Houxiangcun**	**3.50**	**321**	*e*P		**Pn**	**15 56 47.6**	**+0.8**
	baz=320							
KNMB	**Chin-men Tao**	**3.60**	**307**	*e*S		**Sn**	**15 57 29.0**	**-1.8**
	baz=302							
JTJ	**Tarama**	**3.71**	**51**	P		**Pn**	**15 56 51.0**	**+1.4**
JTJ				*e*S		**Sn**	**15 57 32.8**	**-0.6**
ZPLA	**Ao Xicun**	**3.84**	**295**	*e*P		**Pn**	**15 56 51.5**	**0.0**
	baz=292							
MATB	**Ma-tsu**	**4.08**	**339**	*e*P		**Pn**	**15 56 56.7**	**+1.9**
	baz=324							
JIRB	**Irabujima**	**4.16**	**52**	P		**Pn**	**15 56 57.2**	**+1.4**
JIRB				S		**Sn**	**15 57 43.6**	**-1.0**
JMJ	**Miyako jima 2**	**4.24**	**53**	*e*S		**Sn**	**15 57 47.0**	**+0.4**
JIKM	**Ikemajima**	**4.27**	**52**	P		**Pn**	**15 56 58.9**	**+1.6**
JIKM				*e*S		**Sn**	**15 57 46.6**	**-0.8**
JOGS	**Gusukube**	**4.30**	**55**	P		**Pn**	**15 56 58.9**	**+1.2**
JOGS				*e*S		**Sn**	**15 57 47.5**	**-0.5**
LYJJ	**Jianjiangzhen**	**4.52**	**339**	*e*P		**Pn**	**15 57 02.9**	**+2.2**
	baz=326							

*ISCJB **09** 16:01:28.7±0.3,51.˚49N±0.˚02×16.˚21E±0.˚03,h0km, Error ellipse: s-maj=2.9km s-min=2.2km az=35.9*

*IDC **09** 16:01:31.3±0.8,51.˚37N×16.˚33E,h0km,mb1 3.4/6, mb1mx3.2/55,mbtmp3.3/6,ML2.8/5, Error ellipse: s-maj=17.5km s-min=7.1km az=101.0*

*BGR **09** 16:01:32.9±0.5,51.˚40N×16.˚19E,h1km,ML3.2/12, Error ellipse: s-maj=8.9km s-min=4.4km az=25.0*

*PRU **09** 16:01:32.9±0.0,51.˚40N×16.˚15E,h0km*

*UPP **09** 16:01:34.3±3.0,51.˚67N×16.˚05E,h0km, ML2.2*

*VIE **09** 16:01:34.2±0.9,51.˚24N×16.˚31E,h0km, mb2.4/4, ml3.1/6, Error ellipse: s-maj=8.9km s-min=6.1km az=52.0 51 km WNW of Wroclaw Suspected Mining induced.*

*WAR **09** 16:01:36.7,51.˚02N×15.˚79E,h1km, Mw2.7*

ISC 09 16:01:30.3±0.7,51.˚50N±0.˚03×16.˚20E±0.˚02,h0km,n54, σ1§26/101,Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.66**	**175**	*i* Pg		**Pg**	**16 01 43.6**	**+0.6**
KSP				*e*Sg		**Sg**	**16 01 51.5**	**-0.1**
KSP	**Ksiaz**	**0.66**	**175**	*i* Pg		**Pg**	**16 01 43.6**	**+0.6**
KSP				*e*Sg		**Sg**	**16 01 51.5**	**-0.1**
KSP	**Ksiaz**	**0.66**	**175**	*e*Pg		**Pg**	**16 01 43.6**	**+0.6**
KSP				*e*Sg		**Sg**	**16 01 52.4**	**-0.2**
DPC	**Dobruska-Polom**	**1.16**	**176**	*e*PG		**Pg**	**16 01 52.7**	**+0.3**
DPC				*e*SG		**Sg**	**16 02 06.3**	**-1.1**
	comp=Z,69nm,0.3s							
DPC	**Dobruska-Polom**	**1.16**	**176**	*e*Pg		**Pg**	**16 01 52.5**	**+0.1**
DPC				*e*Sg		**Sg**	**16 02 06.5**	**-0.9**
PVCC	**Panska Ves**	**1.42**	**227**	*e*PG		**Pb**	**16 01 58.2**	**+0.6**
PVCC				*e*SG		**Sg**	**16 02 16.4**	**+0.6**
	comp=Z,404nm,0.3s							
KRLC	**Kraliky**	**1.48**	**165**	*e*PG		**Pn**	**16 01 58.2**	**0.0**
KRLC				*e*SG		**Sg**	**16 02 17.1**	**-0.6**
	comp=Z,17nm,0.3s							
BRG	**Berggiesshubel**	**1.55**	**247**	PN		**Pn**	**16 01 59.7**	**+0.6**
BRG				PG		**Pg**	**16 02 01.4**	**+1.4**
BRG				SG		**Sg**	**16 02 21.3**	**+1.2**
	126nm,0.5s							
BRG	**Berggiesshubel**	**1.55**	**247**	*e*Pn		**Pn**	**16 01 59.1**	**-0.1**
BRG				*e*Pg		**Pg**	**16 02 00.7**	**+0.7**
BRG				*e*Sg		**Sg**	**16 02 21.0**	**+0.9**
PRA	**Prague**	**1.82**	**219**	*e*PN		**Pn**	**16 02 02.9**	**+0.1**
PRA				*e*SG		**Sn**	**16 02 26.7**	**+0.2**
	comp=Z,56nm,0.3s							
FBE	**Freiberg**	**1.88**	**253**	*e*Pg		**Pg**	**16 02 07.0**	**+0.7**
FBE				*e*Sg		**Sg**	**16 02 30.9**	**+0.3**
MORC	**Moravsky Berou**	**1.93**	**153**	*e*Pn		**Pn**	**16 02 04.4**	**0.0**
MORC	**Moravsky Berou**	**1.93**	**153**	*e*PN		**Pn**	**16 02 04.2**	**-0.2**
MORC				*e*SG		**Sn**	**16 02 28.9**	**-0.5**
CLL	**Collm**	**2.01**	**266**	*e*Pn		**Pn**	**16 02 06.0**	**+0.6**
CLL				*e*Pg		**Pb**	**16 02 08.0**	**+0.3**
CLL				*e*Sg		**Sg**	**16 02 35.0**	**+0.2**
	comp=Z,49nm,0.5s							
CLL	**Collm**	**2.01**	**266**	*e*Pn		**Pn**	**16 02 05.7**	**+0.2**
CLL				*e*Sg		**Sg**	**16 02 36.6**	**+1.8**
OKC	**Ostrava-Krasne**	**2.08**	**143**	*e*PG		**Pb**	**16 02 09.6**	**+0.8**
OKC				*e*SG		**Sb**	**16 02 35.1**	**-0.1**
	comp=Z,46nm,0.4s							
OKC	**Ostrava-Krasne**	**2.08**	**143**	*e*Pg		**Pb**	**16 02 09.7**	**+0.8**
OKC				*e*Sg		**Sb**	**16 02 35.2**	**0.0**
CHZP	**Chorzow**	**2.15**	**123**	*e*Pg		**Pg**	**16 02 14.6**	**+3.2**
CHZP				*e*Sg		**Sg**	**16 02 41.4**	**+2.2**
CHZP	**Chorzow**	**2.15**	**123**	*e*Pg		**Pg**	**16 02 14.6**	**+3.2**
CHZP				*e*Sg		**Sg**	**16 02 41.4**	**+2.2**
VRAC	**Vranov**	**2.21**	**173**	Pg		**Pn**	**16 02 09.6**	**+1.3**
	comp=Z,4.0nm,0.3s,baz=346,slow=17,SNR=17							
VRAC				Lg		Lg	16 02 36.1	
	comp=Z,1.6nm,0.3s,baz=75,slow=18,SNR=3.6							
VRAC	**Vranov**	**2.21**	**173**	*e*PN		**Pn**	**16 02 08.7**	**+0.5**
VRAC				*e*SG		**Sb**	**16 02 38.5**	**-0.6**
KRUC	**Moravsky**	**2.45**	**177**	*e*PN		**Pn**	**16 02 12.5**	**+1.0**
KRUC				*e*SG		**Sb**	**16 02 46.4**	**+0.6**
TANN	**Tannenbergstha**	**2.60**	**247**	*e*Pn		**Pn**	**16 02 14.4**	**+0.7**
TANN				*e*Pg		**Pg**	**16 02 21.2**	**+1.1**
TANN				*e*Sg		**Sg**	**16 02 53.7**	**-0.1**
OJC	**Ojcow**	**2.62**	**118**	*e*Pg		**Pg**	**16 02 22.1**	**+1.6**
OJC				*e*Sg		**Sg**	**16 02 55.8**	**+1.3**
OJC	**Ojcow**	**2.62**	**118**	*e*Pg		**Pg**	**16 02 22.1**	**+1.6**
OJC				*e*Sg		**Sg**	**16 02 55.8**	**+1.3**
NKC	**Novy Kostel**	**2.69**	**243**	*e*PN		**Pn**	**16 02 15.2**	**+0.3**
NKC				*e*PG		**Pg**	**16 02 22.6**	**+0.7**
NKC				*e*SG		**Sg**	**16 02 56.6**	**-0.1**
	comp=Z,110nm,0.3s							
JAVC	**Velka Javorina**	**2.81**	**160**	*e*PN		**Pn**	**16 02 17.3**	**+0.8**
JAVC				*e*SG		**Sg**	**16 03 00.7**	**+0.1**
KHC	**Kasperske Hory**	**2.91**	**216**	*e*PN		**Pn**	**16 02 18.5**	**+0.7**
KHC				*e*PG		**Pb**	**16 02 24.0**	**+1.0**
KHC				*e*SN		**Sn**	**16 02 51.1**	**-2.4**
KHC				*e*SG		**Sb**	**16 03 00.9**	**+1.8**
	comp=Z,27nm,0.4s							
MANZ	**Manzenberg**	**3.01**	**241**	*e*Pn		**Pn**	**16 02 21.0**	**+1.8**
MANZ				*e*Pg		**Pg**	**16 02 29.0**	**+1.1**
MOX	**Moxa**	**3.01**	**255**	*e*Sg		**Sg**	**16 03 07.6**	**+0.5**
ROTZ	**Rotzenmuhle**	**3.08**	**237**	*e*Pn		**Pn**	**16 02 21.1**	**+0.9**
GEC2	**GERESS Array S**	**3.11**	**212**	*e*Pn		**Pn**	**16 02 21.7**	**+1.1**
GEC2				*e*Pg		**Pb**	**16 02 28.0**	**+1.6**
GEC2				*e*Sg		**Sb**	**16 03 07.2**	**+2.3**
GERES	**GERESS Array B**	**3.11**	**212**	Pn		**Pn**	**16 02 22.0**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=29,slow=14,SNR=10							
GERES				Pg		**Pb**	**16 02 27.4**	**+0.9**
	comp=Z,3.9nm,0.3s,baz=29,slow=16,SNR=20							
GERES				Lg		Lg	16 03 04.9	
	comp=Z,13nm,0.3s,baz=30,slow=27,SNR=20							
LANS	**Liptovska Anna**	**3.15**	**137**	*e*PG		**Pg**	**16 02 31.7**	**+1.0**
LANS				*e*SG		**Sg**	**16 03 10.3**	**-1.2**
WET	**Wettzell**	**3.18**	**223**	*e*Pn		**Pn**	**16 02 22.3**	**+0.7**
MODS	**Modra-Piesok**	**3.21**	**167**	*e*PG		**Pg**	**16 02 31.3**	**-0.5**
MODS				*e*SG		**Sg**	**16 03 11.3**	**-2.1**
MODS				*e*LG		Lg	16 03 22.0	
ZST	**Bratislava**	**3.36**	**170**	*e*SG		**Sg**	**16 03 17.5**	**-0.7**
VYHS	**Vyhne**	**3.46**	**149**	*e*PG		**Pg**	**16 02 37.9**	**+1.3**
VYHS				*e*SG		**Sg**	**16 03 19.9**	**-1.5**
VYHS				*e*LG		Lg	16 03 26.0	
CONA	**Conrad Observa**	**3.58**	**184**	*i* Pn		**Pn**	**16 02 28.5**	**+1.3**
	comp=Z,1.0nm,0.2s							
CONA				Sg		**Sg**	**16 03 23.1**	**-2.3**
	comp=Z,26nm,0.4s							
BSD	**Bornholm Skovb**	**3.70**	**349**	*i* P		**Pn**	**16 02 29.0**	**+0.4**
BSD				*i* S		**Sn**	**16 03 11.6**	**-1.3**
MOA	**Molln**	**3.87**	**200**	*i* Pn		**Pn**	**16 02 31.8**	**+0.8**
	comp=Z,1.6nm,0.2s							
MOA				Sg		**Sg**	**16 03 32.6**	**-1.8**
	comp=Z,14nm,0.3s							
KECS	**Kecovo**	**4.10**	**136**	*e*PG		**Pg**	**16 02 49.5**	**+0.7**
KECS				*e*SG		**Sg**	**16 03 40.0**	**-1.9**
KECS				*e*LG		Lg	16 03 45.8	
ARSA	**Arzberg**	**4.28**	**186**	Sg		**Sg**	**16 03 46.9**	**-0.8**
	comp=Z,30nm,0.6s							
KBA	**Koelnbreinsper**	**4.80**	**204**	*i* Pn		**Pn**	**16 02 45.4**	**+1.3**
	comp=Z,0.9nm,0.3s							
BJUU	**Bjuv**	**4.95**	**339**	P		**Pn**	**16 02 45.6**	**-0.2**
BJUU				S		**Sn**	**16 03 41.9**	**-1.9**
DEL	**Delary**	**5.16**	**346**	P		**Pn**	**16 02 49.1**	**+0.3**
DEL				S		**Sn**	**16 03 45.6**	**-3.3**
FABU	**Falkenberg**	**5.87**	**341**	P		**Pn**	**16 02 58.2**	**-0.3**
FABU				S		**Sn**	**16 04 04.0**	**-2.4**
GNOU	**Gnosjoe**	**5.97**	**347**	P		**Pn**	**16 03 00.4**	**+0.6**
DAVOX	**Davos/Dischmat**	**6.28**	**224**	Pn		**Pn**	**16 03 05.0**	**+0.6**
DAVOX				Lg		Lg	16 04 47.5	
ONAU	**Onsala**	**6.41**	**339**	P		**Pn**	**16 03 07.4**	**+1.5**
HFS	**Hagfors**	**8.76**	**352**	Pn		**Pn**	**16 03 37.7**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=174,slow=15,SNR=4.3							
NOA	**NORSAR Array B**	**9.95**	**346**	Pn		**Pn**	**16 03 54.2**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=156,slow=20,SNR=4.3							
FINES	**FINESS Array B**	**11.35**	**25**	Pn		**Pn**	**16 04 12.4**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=211,slow=11,SNR=8.2							
FINES				Sn		Sn	16 06 09.6	-11
	comp=Z,0.1nm,0.3s,baz=214,slow=24,SNR=2.6							
ARCES	**ARCESS Array B**	**18.62**	**10**	Pn		**P**	**16 05 45.5**	**-3.5**
	comp=Z,0.3nm,0.3s,baz=200,slow=12,SNR=7.4							

*IDC **09** 16:18:40.4±1.6, 10.˚19S×161.˚18E,h52km±13km,mb4.5/23, mb1 4.6/26,mb1mx4.5/35,mbtmp4.7/26,ML2.1/1,MS4.1/14, Ms1 4.1/14,ms1mx3.9/30,Error ellipse: s-maj=14.7km s-min=9.5km az=67.0*

*GCMT **09** 16:18:40.9±0.5, 10.˚19S±0.˚03×160.˚97E±0.˚03,h43km±1km, MW4.9/48,Moment Tensor Solution. s38,c53; s48,c62; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.99±.17; $M_{\theta\theta}$-0.16±.11; $M_{\phi\phi}$-2.83±.11; $M_{r\theta}$-0.77±.12; $M_{\theta\phi}$0.36±.11; $M_{\phi r}$-0.51±.12; Best double couple: $M_0$3.06300×10^{16} NP1:ϕ_S186.00000°,δ51.00000°,λ108.00000°. NP2: ϕ_S339.00000°,δ43.00000°,λ69.00000°. Principal axes: T 3.2210, Plg76.0000°, Azm158.0000°; N -0.3120, Plg14.0000°, Azm355.0000°; P -2.9060, Plg4.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*ISCJB **09** 16:18:41.1±0.2, 10.˚17S±0.˚04×160.˚99E±0.˚03,h67km, mb4.7/79 Error ellipse: s-maj=5.3km s-min=4.5km az=139.2*

*NEIC **09** 16:18:41.9±1.0, 10.˚12S×161.˚13E,h64km±8km,mb5.0/34, Error ellipse: s-maj=6.8km s-min=5.1km az=83.0*

*BJI **09** 16:18:42.3,9.˚60S×161.˚03E,h59km, mb4.8/39,mB5.1/28, Ms4.9/11,Ms7 4.6/4*

*MOS **09** 16:18:42.2±0.9, 10.˚04S×160.˚99E,h76km,mb5.1/19, Error ellipse: s-maj=9.4km s-min=8.8km az=101.5*

ISC 09 16:18:42.5±0.3,10.˚23S±0.˚05×161.˚10E±0.˚06,h67km,n196, σ1§39/194,mb4.9/78,3C,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**1.38**	**305**	P		**Pn**	**16 19 03.5**	**-2.3**
	2μm,0.3s,baz=154,slow=4.1,SNR=929							
HNR				S		**Sn**	**16 19 21.7**	**-1.7**
	6μm,0.3s,baz=180,slow=20,SNR=22							
HNR	**Honiara**	**1.38**	**305**	*i* P		**Pn**	**16 19 04.0**	**-1.8**
HNR				*i* S		**Sn**	**16 19 25.0**	**+1.7**
DZM	**Mont Dzumac**	**12.85**	**157**	P		**Pn**	**16 21 42.3**	**-0.1**
	5.7nm,0.3s,baz=0.9,slow=5.8,SNR=124							
DZM				S		Sn	16 23 54.0	-10
	0.4nm,0.3s,baz=30,slow=20,SNR=2.0							
DZM				LR		LR	16 25 39.0	
	comp=Z,1μm,21.4s,baz=14,slow=33							
DZM	**Mont Dzumac**	**12.85**	**157**	*e*Pn		**Pn**	**16 21 42.6**	**+0.2**
	24nm,0.3s							
DZM				*e*Sn		Sn	16 23 53.6	-10
	11nm,0.3s							
DZM				*e*LR		LR	16 24 36.7	
	2μm,23.1s							
DZM	**Mont Dzumac**	**12.85**	**157**	*e*Pn		**Pn**	**16 21 42.9**	**+0.4**
DZM				S		Sn	16 23 54.0	-10
PMG	**Port Moresby**	**13.76**	**272**	P		**Pn**	**16 21 54.0**	**-0.6**
	0.4nm,0.3s,baz=68,slow=16,SNR=5.2							
PMG				LR		LR	16 26 49.3	
	comp=Z,2μm,21.8s,baz=114,slow=35							
CTA	**Charters Tower**	**17.35**	**234**	P		**P**	**16 22 42.2**	**+1.4**
	1.0nm,0.3s,baz=61,slow=13,SNR=17							
CTA				S		**Sn**	**16 25 48.6**	**-4.2**
	0.2nm,0.3s,baz=92,slow=11,SNR=2.9							
CTAO	**Charters Tower**	**17.35**	**234**	*e*Pn		**P**	**16 22 42.9**	**+2.1**
	20nm,0.9s							
CTAO	**Charters Tower**	**17.35**	**234**	*e*P		**P**	**16 22 42.9**	**+2.1**
CTAO				pmax		pmax		
	comp=Z,21nm,0.9s							
EIDS	**Eidsvold**	**17.81**	**211**	*e*P		**Pn**	**16 22 47.2**	**+1.3**
	comp=Z,18nm,0.8s							
COEN	**Coen**	**17.91**	**256**	*e*P		**Pn**	**16 22 48.3**	**+1.0**
	comp=Z,40nm,1.3s							
JAY	**Jayapura**	**21.65**	**289**	P		**P**	**16 23 28.9**	**+1.1**
	comp=Z,5.9nm,0.5s,baz=84,slow=4.2,SNR=6.3							
JAY	**Jayapura**	**21.65**	**289**	P		**P**	**16 23 28.8**	**+1.1**
ARMA	**Armidale**	**21.94**	**202**	*e*P		**P**	**16 23 32.6**	**+1.9**
	comp=Z,21nm,1.0s							
SMPI	**Sarmi**	**23.70**	**289**	P		**P**	**16 23 47.3**	**-1.2**
WRAB	**Tennant Creek**	**27.53**	**246**	*e*P		**P**	**16 24 22.3**	**-0.9**
	comp=Z,13nm,0.9s							
WRAB	**Tennant Creek**	**27.53**	**246**	*e*P		**P**	**16 24 22.3**	**-0.9**
WRAB				pmax		pmax		
	comp=Z,13nm,0.9s							
WB2	**Warramunga Arr**	**27.53**	**246**	*e*P		**P**	**16 24 22.9**	**-0.3**
WRA	**Warramunga Arr**	**27.54**	**246**	P		**P**	**16 24 23.2**	**-0.1**
	comp=Z,6.4nm,0.6s,baz=73,slow=9.4,SNR=65							
WRA				PcP		**PcP**	**16 27 38.6**	**-1.4**
	comp=Z,1.8nm,0.7s,baz=73,slow=3.1,SNR=6.2							
WRA				ScP		**ScP**	**16 31 17.0**	**+2.0**
	comp=Z,0.8nm,0.7s,baz=76,slow=3.9,SNR=4.2							
WRA				LR		LR	16 34 46.6	
	comp=Z,449nm,21.8s,baz=65,slow=35							
STKA	**Stephens Creek**	**28.11**	**217**	P		**P**	**16 24 28.1**	**-0.1**
	comp=Z,8.5nm,0.9s,baz=44,slow=13,SNR=19							
STKA				LR		LR	16 35 40.8	
	comp=Z,415nm,18.6s,baz=38,slow=36							
STKA	**Stephens Creek**	**28.11**	**217**	*e*P		**P**	**16 24 28.6**	**+0.4**
	comp=Z,2.5nm,0.8s							
STKA	**Stephens Creek**	**28.11**	**217**	*e*P		**P**	**16 24 28.6**	**+0.4**
STKA				pmax		pmax		
	comp=Z,3.0nm,0.8s							
H11S2	**WAKE ISLAND Hy**	**29.07**	**11**	T		T	16 55 31.6	
	baz=190,slow=74,SNR=76							
H11S3	**WAKE ISLAND Hy**	**29.07**	**11**	T		T	16 55 33.1	
	baz=190,SNR=34							
H11S1	**WAKE ISLAND Hy**	**29.08**	**11**	T		T	16 55 31.6	
	baz=190,slow=74,SNR=39							
AS01	**Alice Springs**	**29.13**	**239**	*e*P		**P**	**16 24 37.4**	**0.0**
AS31	**Alice Springs**	**29.17**	**239**	*e*P		**P**	**16 24 37.4**	**-0.4**
	comp=Z,1.9nm,1.0s							
ASAR	**Alice Springs**	**29.17**	**239**	P		**P**	**16 24 37.0**	**-0.9**
	comp=Z,3.9nm,0.6s,baz=64,slow=10,SNR=64							
ASAR				PcP		**PcP**	**16 27 43.0**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=46,slow=4.0,SNR=4.0							
ASAR				ScP		**ScP**	**16 31 22.9**	**+2.9**
	comp=Z,0.5nm,0.8s,baz=81,slow=2.9,SNR=2.8							
ASAR				LR		LR	16 36 18.7	
	comp=

PETK	**Petropavlovsk-**	**63.15**	**358**	P		**P**		**16 29 02.6**	**-0.6**
	comp=Z,6.5nm,0.8s,baz=161,slow=9.4,SNR=6.9								
PETK				LR		LR		16 51 33.7	
	comp=Z,136nm,21.8s,baz=151,slow=31								
GYA	**Guiyang**	**64.21**	**306**	*e*P		**P**		**16 29 12.0**	**+1.1**
GYA				pP		pP		16 29 28.4	-0.3
GYA				sP		sP		16 29 34.2	-1.9
GYA				PP		**PP**		**16 31 36.0**	**+3.0**
GYA				S		**S**		**16 37 44.8**	**+1.2**
GYA				sS		sS		16 38 10.5	-3.2
GYA				pmax		pmax			
	comp=Z,20nm,1.0s								
GYA				pmax		pmax			
	comp=Z,120nm,5.3s								
GRNR	**Gornyy**	**64.42**	**343**	*e*P		**P**		**16 29 11.9**	**+0.3**
GRNR				pmax		pmax			
	comp=Z,13nm,1.0s								
KLR	**Kul'dur**	**64.58**	**339**	*i* P		**P**		**16 29 11.7**	**-1.0**
XAN	**Xi'an**	**66.23**	**314**	P		**P**		**16 29 23.4**	**-0.4**
XAN				pmax		pmax			
	comp=Z,18nm,0.7s								
KMI	**Kunming**	**66.82**	**303**	P		**P**		**16 29 24.5**	**-3.4**
KMI				pmax		pmax			
	comp=Z,9.0nm,1.3s								
KMI				LR		LR			
	comp=Z,110nm,19.2s								
KMI				LR		LR			
	comp=Z,140nm,20.4s								
VNDA	**Vanda**	**67.28**	**180**	P		**P**		**16 29 30.3**	**+0.6**
	comp=Z,7.4nm,0.7s,baz=342,slow=6.4,SNR=52								
VNDA				LR		LR		16 53 07.5	
	comp=Z,73nm,21.9s,baz=346,slow=31								
VNDA	**Vanda**	**67.28**	**180**	*e*P		**P**		**16 29 30.0**	**+0.4**
	comp=Z,8.8nm,0.8s								
VNDA	**Vanda**	**67.28**	**180**	*e*P		**P**		**16 29 30.0**	**+0.4**
VNDA				pmax		pmax			
	comp=Z,9.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**67.61**	**295**	P		**P**		**16 29 33.1**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=132,slow=5.1,SNR=6.0								
SBA	**Scott Base**	**67.68**	**179**	*e*P		**P**		**16 29 33.6**	**+1.5**
	comp=Z,6.9nm,0.9s								
SBA	**Scott Base**	**67.68**	**179**	*e*P		**P**		**16 29 33.7**	**+1.5**
SBA				pmax		pmax			
	comp=Z,7.0nm,0.9s								
HHC	**Hu-ho-hao-te**	**68.30**	**322**	*e*P		**P**		**16 29 38.4**	**+1.6**
HHC				pmax		pmax			
	comp=Z,5.0nm,0.9s								
HHC				pmax		pmax			
	comp=Z,86nm,5.2s								
CD2	**Chengdu**	**68.50**	**309**	*e*P		**P**		**16 29 38.0**	**-0.2**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CD2				pmax		pmax			
	comp=Z,120nm,5.0s								
HIA	**Hailar**	**69.47**	**332**	*e*P		**P**		**16 29 42.6**	**-1.1**
	comp=Z,24nm,0.8s								
HIA	**Hailar**	**69.47**	**332**	*c i*P		**P**		**16 29 42.9**	**-0.8**
HIA				pmax		pmax			
	comp=Z,20nm,0.8s								
ZEA	**Zeya**	**69.89**	**339**	*e*P		**P**		**16 29 46.4**	**+0.2**
ZEA				pmax		pmax			
	comp=Z,26nm,0.8s								
LZH	**Lanzhou**	**70.86**	**314**	*e*P		**P**		**16 29 54.3**	**+1.6**
LZH				pP		pP		16 30 11.4	+0.6
LZH				sP		sP		16 30 18.8	+0.6
LZH				pmax		pmax			
	comp=Z,21nm,1.0s								
LZH				pmax		pmax			
	comp=Z,210nm,4.9s								
LZH				LR		LR			
	comp=Z,220nm,14.9s								
LZH				LR		LR			
	comp=Z,320nm,16.5s								
SEY	**Seymchan**	**73.25**	**356**	*i* P		**P**		**16 30 06.0**	**-0.2**
GTA	**Gaotai**	**75.23**	**315**	⇑P		**P**		**16 30 19.3**	**+0.8**
GTA				pP		pP		16 30 35.3	-1.3
GTA				sP		sP		16 30 40.6	-3.4
GTA				S		**S**		**16 39 53.9**	**+1.3**
GTA				SKS		**SKSac**		**16 40 18.5**	**-3.8**
GTA				pmax		pmax			
	comp=Z,9.0nm,1.1s								
GTA				pmax		pmax			
	comp=Z,92nm,7.1s								
GTA				LR		LR			
	comp=Z,140nm,20.3s								
GTA				LR		LR			
	comp=Z,190nm,18.4s								
SONM	**Songino Array**	**75.35**	**325**	P		**P**		**16 30 19.3**	**+0.3**
	comp=Z,21nm,0.7s,baz=142,slow=5.7,SNR=45								
SONA1	**Songino Array**	**75.35**	**325**	*e*P		**P**		**16 30 18.9**	**-0.1**
YAK	**Yakutsk**	**76.08**	**345**	*e*P		**P**		**16 30 21.4**	**-1.2**
	comp=Z,42nm,0.7s								
YAK	**Yakutsk**	**76.08**	**345**	*e*P		**P**		**16 30 22.4**	**-0.2**
YAK				*e*				16 30 35.9	
YAK				*e*'PP		**sP**		**16 30 48.3**	**+0.1**
YAK				eS		**S**		**16 40 05.3**	**+4.6**
YAK				*e*'SS		**pS**		**16 40 24.8**	**+1.7**
YAK				*e*				16 40 36.0	
YAK				*e*SS		**SS**		**16 44 57.9**	**+2.5**
YAK				pmax		pmax			
	comp=Z,41nm,0.9s								
YAK				pmax		pmax			
	comp=N,7.0nm,0.9s								
YAK				pmax		pmax			
	comp=E,3.0nm,0.9s								
YAK				pmax		pmax			
	comp=Z,98nm,3.5s								
YAK				pmax		pmax			
	comp=N,116nm,3.2s								
YAK				pmax		pmax			
	comp=E,118nm,3.3s								
YAK				smax		smax			
	comp=E,42nm,2.3s								
YAK				smax		smax			
	comp=N,23nm,2.0s								
BOD	**Bodaibo**	**77.90**	**336**	*e*P		**P**		**16 30 31.7**	**-1.2**
BOD				pmax		pmax			
	comp=Z,12nm,1.5s								
BILL	**Bilibino**	**78.15**	**2**	*e*P		**P**		**16 30 33.7**	**-0.4**
	comp=Z,32nm,1.0s								
BILL	**Bilibino**	**78.15**	**2**	*c i*P		**P**		**16 30 33.5**	**-0.6**
BILL								16 30 43.0	
BILL				*SP		**pP**		**16 30 52.0**	**-0.4**
BILL				*e*				16 40 28.3	
BILL				*e*				16 41 16.0	
BILL				pmax		pmax			
	comp=Z,28nm,1.0s								
BILL				MLR		MLR			
	comp=Z,146nm,22.0s								
ZAK	**Zakamensk**	**78.45**	**326**	*e*P		**P**		**16 30 35.3**	**-1.0**
ZAK				pmax		pmax			
	comp=Z,10.0nm,1.1s								
SVW2	**Sparrevohn**	**78.83**	**20**	*e*P		**P**		**16 30 37.9**	**-0.1**
	comp=Z,35nm,0.9s								
QSPA	**South Pole Qui**	**79.77**	**180**	*e*P		**P**		**16 30 43.0**	**-0.4**
	comp=Z,61nm,0.8s								
SUA	**Susitna One**	**80.76**	**21**	*e*P		**P**		**16 30 48.0**	**-0.6**
	comp=Z,31nm,1.1s								
CAST	**Castle Rocks**	**81.63**	**19**	*e*P		**P**		**16 30 49.2**	**-3.9**
	comp=Z,20nm,0.8s								
RDOG	**Red Dog Mine**	**82.19**	**13**	*e*P		**P**		**16 30 53.9**	**-1.9**
	comp=Z,22nm,1.2s								
TRF	**Thorofare Moun**	**82.25**	**20**	*e*P		**P**		**16 30 54.3**	**-2.1**
	comp=Z,14nm,0.8s								
DIV	**Divide**	**82.39**	**23**	*e*P		**P**		**16 30 56.2**	**-0.9**
	comp=Z,12nm,0.9s								
BPAW	**Bear Paw Mtn.**	**82.46**	**19**	*e*P		**P**		**16 30 57.1**	**-0.3**
	comp=Z,7.6nm,0.9s								
MCK	**McKinley**	**82.89**	**20**	*e*P		**P**		**16 30 59.0**	**-0.6**
	comp=Z,47nm,0.9s								
MCK	**McKinley**	**82.89**	**20**	*e*P		**P**		**16 30 59.0**	**-0.6**
MCK				pmax		pmax			
	comp=Z,47nm,0.9s								
IM3	**Indian Mountai**	**82.92**	**17**	*e*P		**P**		**16 30 59.1**	**-0.6**
BALM	**Baldy**	**83.69**	**24**	*e*P		**P**		**16 31 04.3**	**+0.4**
	comp=Z,20nm,0.8s								
BALM	**Baldy**	**83.69**	**24**	*e*P		**P**		**16 31 04.3**	**+0.4**
BALM				pmax		pmax			
	comp=Z,20nm,0.8s								
MAW	**Mawson**	**83.75**	**202**	P		**P**		**16 31 04.5**	**+0.5**
	comp=Z,11nm,0.8s,baz=103,slow=7.0,SNR=17								
CCB	**Clear Creek Bu**	**83.86**	**20**	*e*P		**P**		**16 31 03.5**	**-1.0**
	comp=Z,10nm,0.8s								
TCOL	**CIGO, UAF Yank**	**83.99**	**20**	P		**P**		**16 31 04.9**	**-0.3**
	baz=230								
COLA	**College**	**83.99**	**20**	P		**P**		**16 31 04.5**	**-0.7**

HDA	**Harding Lake**	**84.00**	**20**	P		**P**		**16 31 04.9**	**-0.3**
	baz=231								
IL1	**Eielson Array**	**84.25**	**20**	*e*P		**P**		**16 31 04.9**	**-1.6**
ILAR	**Eielson Array**	**84.25**	**20**	P		**P**		**16 31 05.4**	**-1.1**
	comp=Z,7.9nm,1.0s,baz=240,slow=4.7,SNR=66								
ILAR				LR		LR		17 02 53.4	
	comp=Z,114nm,21.8s,baz=245,slow=32								
ILB	**Eielson Array**	**84.25**	**20**	*e*P		**P**		**16 31 05.7**	**-0.8**
POKR	**Poker Flat Res**	**84.28**	**19**	P		**P**		**16 31 06.0**	**-0.7**
	baz=231								
TIXI	**Tiksi**	**84.46**	**350**	*i* P		**P**		**16 31 05.9**	**-1.5**
TIXI				pmax		pmax			
	comp=Z,8.0nm,1.0s								
WMQ	**Urumqi**	**85.31**	**316**	*e*P		**P**		**16 31 12.8**	**+0.4**
WMQ				LR		LR			
	comp=Z,180nm,16.3s								
WMQ				LR		LR			
	comp=Z,75nm,17.3s								
TOLK	**Toolik Lake Re**	**85.94**	**16**	P		**P**		**16 31 15.1**	**+0.1**
	baz=228								
O02D	**Mt. Diablo Mer**	**86.12**	**48**	P		**P**		**16 31 16.8**	**+0.2**
	baz=253								
K02D	**Willamette Mer**	**86.23**	**46**	P		**P**		**16 31 17.9**	**+0.9**
	baz=252								
N02D	**Trinity Center**	**86.41**	**47**	P		**P**		**16 31 18.6**	**+0.6**
	baz=253								
M02C	**Callahan**	**86.42**	**47**	P		**P**		**16 31 19.3**	**+1.3**
	baz=253								
DAWY	**Dawson**	**86.49**	**22**	*e*P		**P**		**16 31 18.2**	**+0.5**
	comp=Z,25nm,1.4s								
PKM	**Mcpherson Peak**	**86.98**	**54**	P		**P**		**16 31 21.8**	**+0.7**
	baz=255								
L04D	**Klamath Falls**	**87.06**	**46**	P		**P**		**16 31 21.9**	**+0.8**
	baz=254								
M04C	**Macdoel**	**87.27**	**47**	P		**P**		**16 31 22.6**	**+0.4**
	baz=254								
DGZ	**Jazzator, Alta**	**87.38**	**321**	*i* P		**P**		**16 31 21.0**	**-1.6**
DGZ				pmax		pmax			
	comp=Z,1.0nm,1.0s								
J05D	**Fort Rock, OR**	**88.11**	**46**	P		**P**		**16 31 26.9**	**+0.7**
	baz=254								
EDW2	**Edwards Air Fo**	**88.43**	**54**	P		**P**		**16 31 28.3**	**+0.5**
	baz=256								
EPYK	**Eagle Plains**	**88.64**	**21**	P		**P**		**16 31 28.7**	**+0.7**
	baz=240								
CWC	**Cottonwood Cre**	**88.72**	**53**	P		**P**		**16 31 29.4**	**+0.2**
	baz=256								
LRMC	**Laurel Mtn Rad**	**88.81**	**54**	P		**P**		**16 31 30.9**	**+1.3**
	baz=257								
NV01	**Mina Array Sit**	**89.02**	**51**	*e*P		**P**		**16 31 30.8**	**+0.1**
NVAR	**Mina Array Bea**	**89.02**	**51**	P		**P**		**16 31 31.2**	**+0.5**
	comp=Z,5.9nm,0.7s,baz=239,slow=6.8,SNR=35								
NVAR				LR		LR		17 07 06.8	
	comp=Z,112nm,18.6s,baz=272,slow=33								
MPMC	**Manual Prospec**	**89.10**	**53**	P		**P**		**16 31 32.0**	**+0.9**
	baz=257								
PFO	**Pinyon Flats O**	**89.38**	**56**	P		**P**		**16 31 31.0**	**-1.3**
	baz=257								
FURC	**Furnace Creek,**	**89.69**	**53**	P		**P**		**16 31 34.2**	**+0.7**
	baz=257								
WVOR	**Wild Horse Val**	**89.73**	**47**	P		**P**		**16 31 36.0**	**+2.2**
WVOR				pmax		pmax			
	comp=Z,22nm,1.2s								
HEC	**Hector,Ludlow**	**89.75**	**55**	P		**P**		**16 31 34.3**	**+0.3**
	baz=257								
SWSC	**Sam W. Stewart**	**89.78**	**57**	P		**P**		**16 31 34.6**	**+0.5**
	baz=256								
MK01	**Makanchi Array**	**89.81**	**318**	*e*P		**P**		**16 31 34.0**	**+0.1**
MKAR	**Makanchi Array**	**89.82**	**318**	P		**P**		**16 31 33.2**	**-0.8**
	comp=Z,1.7nm,0.4s,baz=92,slow=6.8,SNR=18								
BELC	**Belle Mtn. Jos**	**89.84**	**56**	P		**P**		**16 31 35.0**	**+0.5**
	baz=258								
BC3	**Big Chuckawall**	**90.21**	**56**	P		**P**		**16 31 36.8**	**+0.6**
	baz=258								
ZALV	**Zalesovo Beam**	**90.24**	**325**	P		**P**		**16 31 34.8**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=134,slow=4.3,SNR=4.9								
TPNV	**Topopah Spring**	**90.27**	**53**	P		**P**		**16 31 37.0**	**+0.5**
	baz=258								
GMRC	**Granite Mounta**	**90.28**	**55**	P		**P**		**16 31 37.4**	**+0.8**
	baz=258								
IRM	**Iron Mountain**	**90.56**	**56**	P		**P**		**16 31 38.7**	**+1.0**
	baz=258								
GLA	**Glamis**	**90.60**	**57**	P		**P**		**16 31 39.2**	**+1.3**
	baz=258								
PDGK	**Podgornoye**	**90.90**	**314**	P		**P**		**16 31 40.5**	**+1.3**
PDGK				pmax		pmax			
	comp=Z,4.0nm,1.6s								
Y12C	**Blythe**	**90.99**	**56**	P		**P**		**16 31 41.4**	**+1.7**
	baz=258								
R11A	**Troy Canyon, C**	**91.08**	**51**	*e*P		**P**		**16 31 40.8**	**+0.5**
	comp=Z,7.3nm,1.0s								
R11A	**Troy Canyon, C**	**91.08**	**51**	P		**P**		**16 31 40.9**	**+0.6**
	baz=258								
NEW	**Newport**	**92.13**	**41**	P		**P**		**16 31 45.7**	**+1.0**
NEW				pmax		pmax			
	comp=Z,16nm,2.8s								
NEW	**Newport**	**92.13**	**41**	P		**P**		**16 31 44.8**	**+0.1**
	baz=257								
KSH	**Kashi**	**92.70**	**310**	*e*P		**P**		**16 31 49.7**	**+2.1**
HLID	**Hailey**	**93.00**	**46**	P		**P**		**16 31 49.4**	**+0.3**
	baz=259								
KURK	**Kurchatov**	**93.11**	**321**	*i* P		**P**		**16 31 47.3**	**-1.8**
KURK				pmax		pmax			
	comp=Z,4.0nm,1.0s								
TUC	**Tucson**	**93.81**	**58**	P		**P**		**16 31 53.8**	**+0.9**
	baz=260								
AAK	**Ala-Archa**	**94.36**	**312**	*i* P		**P**		**16 31 53.5**	**-1.8**
AAK				pmax		pmax			
	comp=Z,1.0nm,1.0s								
H17A	**Grant Village**	**95.88**	**46**	P		**P**		**16 32 04.0**	**+1.7**
	baz=262								
YKA	**Yellowknife Ar**	**96.36**	**28**	P		**P**		**16 32 02.5**	**-1.1**
	comp=Z,5.0nm,0.7s,baz=260,slow=4.8,SNR=13								
PDAR	**Pinedale Array**	**96.38**	**48**	P		**P**		**16 32 04.6**	**0.0**
	comp=Z,1.3nm,0.8s,baz=236,slow=4.8,SNR=7.7								
PDAR				LR		LR		17 13 49.6	
	comp=Z,46nm,18.1s,baz=280,slow=34								
NVL	**N'lazarevskaya**	**96.55**	**190**	*e*P		P		16 32 13.7	+9.2
NVL				pmax		pmax			
	comp=Z,9.0nm,0.8s								
EGMT	**Eagleton**	**96.94**	**43**	P		**P**		**16 32 06.4**	**-0.4**
	baz=262								
SNAA	**Sanae**	**97.58**	**185**	P		Pdif		16 32 09.4	+0.1
SNAA	**Sanae**	**97.58**	**185**	*i* P		Pdif		16 32 10.7	+1.4
ANMO	**Albuquerque**	**97.76**	**56**	*i* P		**P**		**16 32 10.1**	**-0.9**
ANMO				pmax		pmax			
	comp=Z,2.0nm,0.9s								
ANMO	**Albuquerque**	**97.76**	**56**	P		Pdif		16 32 11.5	+0.5
	baz=263								
S22A	**4UR Ranch, Cre**	**97.80**	**53**	P		Pdif		16 32 11.9	+0.6
	baz=263								
VNA3	**Neumayer Olymp**	**98.48**	**183**	P		**P**		**16 32 11.2**	**-2.1**
BRVK	**Borovoye**	**98.57**	**322**	*i* P		**P**		**16 32 11.8**	**-2.1**
BRVK				pmax		pmax			
	comp=Z,2.0nm,1.1s								
VNA2	**Neumayer--Watz**	**98.66**	**184**	P		**P**		**16 32 13.5**	**-0.5**
TXAR	**Lajitas Array**	**99.46**	**62**	P		**Pdif**		**16 32 17.8**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=230,slow=6.9,SNR=3.6								
TXAR				LR		LR		17 09 46.7	
	comp=Z,142nm,20.1s,baz=0.0,slow=31								
ARCES	**ARCESS Array B**	**114.36**	**344**	PKP		PKPdf		16 37 12.9	-1.3
	comp=Z,2.7nm,0.8s,baz=72,slow=1.7,SNR=13								
FINES	**FINESS Array B**	**119.29**	**337**	PKP		**PKPdf**		**16 37 22.1**	**-1.7**
	comp=Z,2.3nm,1.0s,baz=64,slow=6.3,SNR=2.7								
AKASG	**Malin Array Be**	**123.64**	**325**	PKP		**PKPdf**		**16 37 30.7**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=48,slow=2.9,SNR=3.2								
SDV	**Santo Domingo**	**129.01**	**87**	*e*PKPdf		**PKPdf**		**16 37 44.1**	**0.0**
GERES	**GERESS Array B**	**132.86**	**331**	PKP		**PKPdf**		**16 37 49.9**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=64,slow=4.5,SNR=3.6								
MVO	**Moncorvo**	**147.45**	**343**	*e*PKPdf		**PKPbc**		**16 38 20.1**	**+0.8**
POLO	**Lamas de Olo**	**147.46**	**344**	*e*PKPdf		**PKPbc**		**16 38 19.7**	**+0.3**
ES19	**SONSECA Array**	**147.75**	**338**	*e*PKPbc		**PKPbc**		**16 38 20.3**	**+0.1**
ESDC	**Sonseca Array**	**147.79**	**338**	PKPbc		**PKPbc**		**16 38 19.9**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=25,slow=3.0,SNR=8.3								
MTE	**Manteigas**	**148.30**	**343**	*e*PKPdf		**PKPbc**		**16 38 22.0**	**+0.4**
PCBR	**Castelo Branco**	**148.80**	**343**	*e*PKPdf		**PKPbc**		**16 38 23.0**	**+0.2**
PMRV	**Marv??o**	**149.16**	**342**	*e*PKPdf		**PKPbc**		**16 38 24.0**	**+0.2**
EVO	**Evora**	**150.17**	**343**	*e*PKPdf		**PKPbc**		**16 38 28.4**	**+2.1**
PBEJ	**Beja**	**150.59**	**342**	*e*PKPdf		**PKPbc**		**16 38 28.9**	**+1.6**
MESJ	**Messejana**	**150.87**	**342**	*e*PKPdf		**PKPbc**		**16 38 28.7**	**+0.8**
PVAQ	**Vaqueiros**	**151.12**	**341**	*e*PKPab		**PKPab**		**16 38 42.7**	**+6.4**
PTEO	**Sao Teotonio**	**151.29**	**343**	*e*PKPdf		**PKPbc**		**16 38 29.4**	**+0.5**
TORD	**Torodi Ar. Bea**	**159.62**	**280**	PKP		**PKPdf**		**16 38 33.5**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=65,slow=2.0,SNR=3.8								

IDC 09 16:23:43.3±3.3, 5.73S×152.16E, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.5/32, mbtmpg3.8/3, ML1.6/1, Error ellipse: s-maj=146.3km s-min=43.5km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.15**	**233**	Pn	Pn	16 25 16.4	+0.9
	0.9nm,0.3s,baz=36,slow=8.7,SNR=4.6						
WRA	**Warramunga Arr**	**22.35**	**229**	P	P	16 28 42.0	-1.1
	1.9nm,0.8s,baz=54,slow=10.0,SNR=7.9						
ASAR	**Alice Springs**	**25.03**	**223**	P	P	16 29 09.7	+0.3
	1.9nm,0.8s,baz=54,slow=9.8,SNR=6.5						
TORD	**Torodi Ar. Bea**	**149.97**	**286**	PKPbc	PKPbc	16 43 36.6	-0.2
	baz=70,slow=2.8						

IDC 09 16:24:51.9±1.8, 4.55S×150.34E, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.6/29, mbtmpg3.7/4, ML1.8/1, Error ellipse: s-maj=113.0km s-min=23.5km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.77**	**213**	Pn	Pn	16 26 20.9	+2.2
	1.6nm,0.3s,baz=90,slow=1.0,SNR=5.1						
PMG				Sn	Sn	16 27 26.8	+1.1
	0.5nm,0.3s,baz=54,slow=3.9,SNR=2.0						
WRA	**Warramunga Arr**	**21.84**	**224**	P	P	16 29 46.9	+0.7
	1.6nm,0.5s,baz=50,slow=10,SNR=5.6						
ASAR	**Alice Springs**	**24.75**	**218**	P	P	16 30 14.2	-1.2
	1.4nm,0.8s,baz=55,slow=9.8,SNR=7.5						
ILAR	**Eielson Array**	**82.86**	**23**	P	P	16 37 18.4	+0.4
	0.5nm,0.8s,baz=252,slow=5.2,SNR=3.4						
TORD	**Torodi Ar. Bea**	**147.89**	**287**	PKPbc	PKPbc	16 44 39.0	-1.2
	baz=56,slow=2.2						

*ISCJB **09** 16:29:40.6±0.3, 47.26N±0.02×11.38E±0.02, h0km±3km, Error ellipse: s-maj=2.8km s-min=2.0km az=1.8*
*VIE **09** 16:29:41.2±0.2, 47.21N×11.38E, h9km±2km, mb2.0/13, ml2.7/17, Error ellipse: s-maj=1.5km s-min=1.1km az=170.0 6 km S of Innsbruck felt 4-5 ems98 at Mutters / Tyrol*
*ROM **09** 16:29:41.8±0.1, 47.184N±0.006×11.428E±0.009, h9km, ML2.1/15*
*LDG **09** 16:29:42.1±0.2, 47.14N×11.45E, h2km, Ml2.5/4, Error ellipse: s-maj=5.4km s-min=4.7km az=44.0*
*BGR **09** 16:29:42.4±0.4, 47.21N×11.39E, h5km, ML2.5/7, Error ellipse: s-maj=5.6km s-min=3.3km az=4.0*
BGR Many people felt strong vibrations in buidings.
*PRU **09** 16:29:44.5±0.0, 47.25N×11.53E, h5km*
*STR **09** 16:29:46.1±0.8, 47°N±10°×1°1E±°, h0km, M3.3/3, MLv3.3/3*

ISC 09 16:29:42.3±0.8, 47.21N±0.02×11.39E±0.01, h10km±5km, n65, σ1°s47/97, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SQTA	**Sankt Quirin**	**0.12**	**273**	*i* Pg	**Pg**	**16 29 44.4**	**-0.9**
	726nm,0.1s,SNR=791						
SQTA				*i* Sg	**Sg**	**16 29 46.3**	**-1.2**
	396nm,0.1s						
WTTA	**Wattenberg**	**0.17**	**73**	*i* Pg	**Pg**	**16 29 45.6**	**-0.5**
	94nm,0.0s,SNR=198						
WTTA				*e*Sg	**Sg**	**16 29 48.3**	**-0.5**
	126nm,0.1s						
WTTA	**Wattenberg**	**0.17**	**73**	*e*Pg	**Pg**	**16 29 45.8**	**-0.3**
WTTA				*e*Sg	**Sg**	**16 29 48.5**	**-0.3**
WTTA	**Wattenberg**	**0.17**	**73**	P	**Pg**	**16 29 45.8**	**-0.3**
WTTA				S	**Sg**	**16 29 48.5**	**-0.3**
WTTA				AML	AML		
	comp=E,1065μm,0.4s						
WTTA				AML	AML		
	comp=N,762μm,0.3s						
WTTA				AML	AML		
	comp=E,1065μm,0.4s						
WTTA				AML	AML		
	comp=N,762μm,0.3s						
WTTA				AML	AML		
	comp=N,762μm,0.3s						
WTTA				AML	AML		
	comp=E,1065μm,0.4s						
WATA	**Walderalm**	**0.18**	**46**	*e*Pg	**Pg**	**16 29 45.5**	**-0.7**
	comp=E,179nm,0.1s,SNR=294						
WATA				*e*Sg	**Sg**	**16 29 48.3**	**-0.5**
	comp=E,350nm,0.1s						
MOTA	**Moosalm**	**0.23**	**304**	*e*Pg	**Pg**	**16 29 46.2**	**-1.0**
	comp=E,52nm,0.1s,SNR=135						
MOTA				*e*Sg	**Sg**	**16 29 49.7**	**-0.8**
	comp=E,254nm,0.1s						
ROSI	**Rosskopf**	**0.29**	**177**	P	**Pg**	**16 29 47.6**	**-0.5**
ROSI				S	**Sg**	**16 29 52.0**	**0.0**
ROSI				AML	AML		
	comp=E,753μm,0.2s						
ROSI				AML	AML		
	comp=N,1092μm,0.4s						
ROSI				AML	AML		
	comp=E,753μm,0.2s						
ROSI				AML	AML		
	comp=N,1092μm,0.4s						
ROSI				AML	AML		
	comp=E,753μm,0.2s						
ROSI				AML	AML		
	comp=N,1092μm,0.4s						
ABSI	**Aberstueckl**	**0.49**	**186**	P	**Pg**	**16 29 51.3**	**-0.5**
ABSI				S	**Sg**	**16 29 58.2**	**-0.1**
ABSI				AML	AML		
	comp=E,378μm,0.9s						
ABSI				AML	AML		
	comp=N,392μm,0.2s						
ABSI				AML	AML		
	comp=E,378μm,0.9s						
ABSI				AML	AML		
	comp=N,392μm,0.

KOSI AML AML
comp=N,87µm,0.8s
MOSI Grossmontoni 0.83 224 P **Pg 16 29 57.6 -0.7**
MOSI AML AML
comp=E,254µm,0.7s
MOSI AML AML
comp=N,370µm,0.4s
MOSI AML AML
comp=E,254µm,0.7s
MOSI AML AML
comp=N,370µm,0.4s
MOSI AML AML
comp=E,254µm,0.7s
MOSI AML AML
comp=N,370µm,0.4s
ABTA Abfaltersbach 0.90 121 *e*Pg **Pg 16 29 58.8 -0.8**
comp=N,16nm,0.2s,SNR=40
ABTA *e*Sg **Sg 16 30 10.4 -0.9**
comp=N,25nm,0.2s
FUR Furstenfeldbru 0.95 355 *e*Pg **Pb 16 30 01.2 +0.2**
FUORN Ofenpass-Fuorn 0.97 233 P **Pg 16 29 60.0 -1.1**
FUORN AML AML
comp=E,48µm,1.5s
FUORN AML AML
comp=N,75µm,0.8s
FUORN AML AML
comp=E,48µm,1.5s
FUORN AML AML
comp=N,75µm,0.8s
DAVA Damuels 1.03 275 *e*Pg **Pg 16 30 00.3 -1.8**
comp=N,6.7nm,0.2s,SNR=17
DAVA *e*Sg **Sb 16 30 16.9 +0.9**
comp=N,60nm,0.2s
DAVA Damuels 1.03 275 *e*Pg **Pg 16 30 01.1 -1.0**
AGOR Agordo 1.03 154 AML AML
comp=E,135µm,0.7s
AGOR AML AML
comp=N,134µm,1.0s
AGOR AML AML
comp=N,134µm,1.0s
AGOR AML AML
comp=E,135µm,0.7s
RJOB Jochberg 1.09 61 *e*Pg **Pb 16 30 03.3 +0.1**
DAVOX Davos/Dischmat 1.12 248 P **Pg 16 30 02.2 -1.6**
DAVOX AML AML
comp=E,175µm,0.4s
DAVOX AML AML
comp=N,173µm,0.4s
DAVOX AML AML
comp=E,175µm,0.4s
DAVOX AML AML
comp=N,173µm,0.4s
MABI Malga Bissina 1.31 208 P **Pn 16 30 06.1 -0.7**
MABI AML AML
comp=E,30µm,0.3s
MABI AML AML
comp=N,46µm,0.8s
MABI AML AML
comp=E,30µm,0.3s
MABI AML AML
comp=N,46µm,0.8s
KBA Koelnbreinsper 1.34 95 *e*Pg **Pn 16 30 06.4 -0.8**
comp=N,5.9nm,0.2s,SNR=19
KBA *e*Sg **Sg 16 30 23.9 -1.5**
comp=N,14nm,0.2s
KBA Koelnbreinsper 1.34 95 *e*Pn **Pn 16 30 06.5 -0.8**
KBA *e*Sg **Sg 16 30 24.2 -1.2**
PLONS Plons/SG 1.38 264 P **Pn 16 30 07.6 -0.1**
PLONS AML AML
comp=E,45µm,1.6s
PLONS AML AML
comp=N,64µm,0.7s
PLONS AML AML
comp=N,64µm,0.7s
PLONS AML AML
comp=E,45µm,1.6s
PTCC Patocco-Chiusa 1.57 120 AML AML
comp=N,74µm,0.7s
PTCC AML AML
comp=E,61µm,1.6s
PTCC AML AML
comp=N,74µm,0.7s
PTCC AML AML
comp=E,61µm,1.6s
TUE Stuetta 1.59 243 P **Pn 16 30 10.2 -0.5**
TUE AML AML
comp=E,39µm,0.7s
TUE AML AML
comp=N,39µm,0.3s
TUE AML AML
comp=E,39µm,0.7s
TUE AML AML
comp=N,39µm,0.3s
ACOM Acomizza, Ital 1.60 114 AML AML
comp=N,116µm,1.0s
ACOM AML AML
comp=E,93µm,1.2s
ACOM AML AML
comp=N,116µm,1.0s
ACOM AML AML
comp=E,93µm,1.2s
MYKA Terra Mystica 1.65 110 *e*Pg **Pb 16 30 12.7 -0.2**
comp=E,2.2nm,0.2s,SNR=4.4
MYKA Sn **Sn 16 30 33.3 +0.6**
comp=E,8.5nm,0.3s
GORS Gorjuse 2.00 116 *i* Pn **Pb 16 30 19.3 +0.4**
GORS *i* Sn **Sg 16 30 46.9 +0.3**
comp=Z,6.0nm,0.3s
GORS Gorjuse 2.00 116 *i* Pn **Pb 16 30 19.3 +0.4**
GORS *i* Sn **Sg 16 30 46.9 +0.3**
comp=Z,6.0nm,0.3s
MOA Molln 2.05 71 *e*Pg **Pb 16 30 19.9 +0.3**
comp=Z,4.6nm,0.3s
MOA *e*Sg **Sg 16 30 48.0 -0.1**
comp=Z,8.3nm,0.3s
MOA Molln 2.05 71 *e*Pg **Pg 16 30 20.5 -1.1**
MOA *e*Sg **Sg 16 30 48.2 +0.1**
WET Wettzell 2.17 27 *e*Pn **Pn 16 30 18.7 +0.1**
WET *e*Sg **Sg 16 30 51.1 -1.0**
GEC2 GERESS Array S 2.25 43 *e*Pn **Pn 16 30 19.9 +0.2**
GEC2 *e*Sg **Sg 16 30 53.5 -1.2**
OBKA Obir 2.28 107 *e*Pg **Pb 16 30 23.1 -0.5**
comp=Z,7.1nm,0.5s,SNR=4.9
OBKA *e*Sg **Sg 16 30 55.3 -0.2**
comp=Z,9.8nm,0.4s
BFO Black Forest 2.35 300 *e*Pn **Pn 16 30 21.4 +0.5**
BFO *e*Pg **Pb 16 30 26.5 +1.8**
BFO *e*Sg **Sb 16 30 56.4 +2.7**
KHC Kasperske Hory 2.41 37 *e*PN **Pb 16 30 27.0 +1.2**
KHC *e*PG **Pg 16 30 29.5 +1.0**
KHC *e*SG **Sg 16 30 57.9 -1.9**
comp=Z,12nm,0.6s
KIZ Kirchzarten 2.46 289 Pn **Pn 16 30 23.4 +0.8**
KIZ Sg **Sb 16 30 60.0 +2.9**
GRF Grafenberg Arr 2.48 357 *e*Sg **Sg 16 31 01.0 -1.0**
OPP Oppenau 2.51 302 Pn **Pn 16 30 23.8 +0.6**
OPP Sg **Sb 16 31 00.9 +2.5**
IMOL Imola, Italy 2.87 175 AML AML
comp=N,712µm,0.1s
IMOL AML AML
comp=E,848µm,0.1s
IMOL AML AML
comp=E,848µm,0.1s
IMOL AML AML
comp=N,712µm,0.1s
CDF Champ du Feu 3.02 295 *e*Pn **Pn 16 30 30.5 +0.2**
CDF Champ du Feu 3.02 295 *e*Pg **Pb 16 30 38.5 +2.3**
CDF *e*Sg **Sg 16 31 18.5 -0.8**
comp=N,6.2nm,0.4s
ECH Echery 3.03 291 Pn **Pn 16 30 30.9 +0.6**
ECH Sg **Sb 16 31 17.4 +4.1**
CONA Conrad Observa 3.11 75 *i* Sn **Sn 16 31 09.8 +1.0**
comp=N,0.5nm,0.1s
HINF Hinteralfeld 3.13 283 *e*Pn **Pn 16 30 32.3 +0.5**
HINF Hinteralfeld 3.13 283 *e*Pg **Pg 16 30 42.0 -0.3**
HINF *e*Sn **Sn 16 31 07.5 -1.8**
HINF *e*Sg **Sg 16 31 22.0 -0.9**
comp=N,4.3nm,0.3s
CHMF Charmoille 3.23 272 Pn **Pn 16 30 34.5 +1.4**
LPG La Plagne 3.64 244 *e*P **Pn 16 30 41.5 +2.5**
LPL La Plagne 3.64 244 *e*Pg **Pb 16 30 49.8 +2.9**
CABF La Chapelle 3.68 263 *e*Pn **Pn 16 30 38.7 -0.7**
CABF La Chapelle 3.68 263 *e*Pg **Pg 16 30 51.0 -1.8**
ABH Alteburg 3.69 318 Pn **Pn 16 30 41.1 +1.6**
KRUC Moravsky 3.83 59 *e*SN **Sn 16 31 26.7 +0.4**
KRUC *e*SG **Sg 16 31 43.0 -2.1**

VRAC Vranov 4.06 57 *e*SG **Sg 16 31 50.7 -1.8**
MBDF Montbardon 4.07 234 *e*P **Pn 16 30 47.4 +2.7**
CLL Collm 4.23 14 *e*Sg **Sg 16 31 56.0 -2.1**
ORIF Oris-en-Rattie 4.47 241 *e*P **Pn 16 30 52.7 +2.5**
ORIF *e*Sn **Sn 16 31 38.4 -3.9**
comp=N,2.0nm,0.4s
MORC Moravsky Berou 4.83 56 *e*SG **Sg 16 32 15.8 -1.4**
VIVF Saint-Julien-l 5.24 246 *e*Pn **Pn 16 30 59.2 -1.5**
BGF Bois d'Agland 5.89 267 *e*Pn **Pn 16 31 10.1 +0.4**
LASF Ste Croix 6.14 242 *e*Sn **Sn 16 32 17.5 -5.9**
comp=N,0.3nm,0.2s
TCF Toulx Ste Croi 6.38 265 *e*Pn **Pn 16 31 16.9 +0.6**

DJA 09 16:42:01.1±1.0, 5°S±5°×113°4E±°, h10km, M4.0/6, mb4.4/5, mB4.5/2, MLv3.9/6, Mw(mB)3.6/2, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.28**	**316**	P	Pn	16 42 38.7	-0.2
FAKI				S	Sn	16 43 07.8	+0.7
BNDI	**Bandanaira**	**3.91**	**271**	P	Pn	16 43 01.4	+0.1
MSAI	**Masohi**	**5.04**	**284**	P	Pn	16 43 17.0	+0.2
AAI	**Ambon**	**5.69**	**279**	P	Pn	16 43 25.0	-0.8
SANI	**Sanana**	**8.22**	**288**	P	Pn	16 43 58.0	-2.6

*IDC **09** 16:54:45.9±2.4, 36°.38N×70°.27E, h197km±22km, mb3.5/10, mb1 3.6/16, mb1mx3.4/53, mbtmp4.1/16, Error ellipse: s-maj=18.6km s-min=14.2km az=10.0*
*ISCJB **09** 16:54:46.1±0.4, 36°.50N±0°.03×70°.39E±0°.06, h213km, mb3.6/9, Error ellipse: s-maj=6.6km s-min=4.0km az=170.0*
*NNC **09** 16:54:46.6±4.9, 36°.99N×69°.82E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=41.9km s-min=31.4km az=161.0*
ISC 09 16:54:47.1±0.5, 36.53N±0°.05×70.38E±0°.07, h213km, n48, σ1§46/55, mb3.5/9, 6C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.97**	**155**	P	**Pn**	**16 55 37.2**	**-0.2**
CEP				S	**S**	**16 56 15.0**	**-1.3**
CHCP	**Chirah Chowk**	**3.71**	**140**	P	**Pn**	**16 55 46.4**	**+0.4**
THW	**Thamme Wali**	**3.89**	**163**	P	**Pn**	**16 55 47.6**	**-0.5**
SFK	**Sufi-Kurgan**	**4.26**	**34**	⇑Pn	**Pn**	**16 55 53.2**	**+0.4**
	12nm,0.4s						
SFK				⇓Sn	**S**	**16 56 43.5**	**-0.7**
	168nm,0.5s						
SARP	**Sargodha**	**4.97**	**157**	P	**Pn**	**16 56 00.3**	**-1.2**
AML	**Almayashu**	**6.16**	**24**	P	**Pn**	**16 56 16.9**	**0.0**
	SNR=122						
MNAS	**Manas**	**6.17**	**15**	⇑Pn	**Pn**	**16 56 17.0**	**+0.1**
	8.1nm,0.5s						
MNAS				⇑Sn	**S**	**16 57 25.0**	**-3.0**
	150nm,0.5s						
UCH	**Uchtor**	**6.53**	**28**	P	**Pn**	**16 56 22.0**	**+0.3**
	SNR=121						
KK31	**Karatay Array**	**6.57**	**1**	⇓Pn	**Pn**	**16 56 21.5**	**-0.3**
	15nm,0.5s,baz=182,slow=13						
KK31				⇑Sn	**S**	**16 57 31.3**	**-5.7**
	29nm,0.5s,baz=189,slow=26						
EKS2	**Erkin-Say**	**6.66**	**22**	P	**Pn**	**16 56 23.6**	**+0.5**
	SNR=17						
KZA	**Kyzart**	**6.71**	**33**	P	**Pn**	**16 56 23.9**	**-0.1**
	SNR=14						
AAK	**Ala-Archa**	**6.88**	**26**	P	**Pn**	**16 56 26.5**	**+0.6**
	4.5nm,0.3s,baz=194,slow=6.5,SNR=86						
AAK				S	**S**	**16 57 41.7**	**-2.8**
	5.8nm,0.3s,baz=284,slow=5.6,SNR=7.4						
AAK	**Ala-Archa**	**6.88**	**26**	Pn	**Pn**	**16 56 26.5**	**+0.6**
	13nm,0.6s						
AAK				⇓Sn	**S**	**16 57 42.1**	**-2.4**
	94nm,0.6s						
AAK	**Ala-Archa**	**6.88**	**26**	P	**Pn**	**16 56 25.9**	**0.0**
	SNR=24						
KBK	**Karagaybulak**	**7.06**	**29**	P	**Pn**	**16 56 29.1**	**+0.7**
	SNR=13						
CHMS	**Chumysh**	**7.29**	**26**	P	**Pn**	**16 56 31.4**	**+0.3**
	SNR=12						
TKM2	**Tokmak 2**	**7.54**	**31**	⇑Pn	**Pn**	**16 56 35.0**	**+0.4**
	22nm,0.6s						
TKM2				⇓Sn	**S**	**16 57 58.0**	**-2.2**
	32nm,0.8s						
TKM2	**Tokmak 2**	**7.54**	**31**	P	**Pn**	**16 56 35.2**	**+0.6**
	SNR=9.6						
PDGK	**Podgornoye**	**9.75**	**43**	⇓P	**Pn**	**16 57 03.7**	**+0.7**
	1.3nm,0.6s						
GEYT	**Alibeck**	**9.88**	**282**	P	**Pn**	**16 57 02.3**	**-2.4**
	0.7nm,0.3s,baz=99,slow=15,SNR=11						
GEYT				S	S	16 58 48.5	-6.9
	0.3nm,0.3s,baz=83,slow=24,SNR=2.6						
PYUN	**Piuthan**	**13.57**	**125**	*e*P	**Pn**	**16 57 49.6**	**-1.9**
	53nm,0.6s						
MKAR	**Makanchi Array**	**13.57**	**37**	P	**Pn**	**16 57 52.1**	**+1.0**
	0.9nm,0.3s,baz=215,slow=10,SNR=12						
DANN	**Dangsing**	**13.92**	**122**	*e*P	**Pn**	**16 57 54.5**	**-1.5**
	24nm,0.4s						
KOLN	**Koldanda**	**14.19**	**124**	*e*P	**Pn**	**16 57 57.8**	**-1.3**
	14nm,0.4s						
AB31	**Akbulak array**	**14.82**	**332**	⇓P	**Pn**	**16 58 07.3**	**+0.8**
	3.4nm,0.3s						
KURBB	**Kurchatov Arra**	**15.26**	**20**	P	**Pn**	**16 58 11.9**	**+0.1**
	0.1nm,0.3s,baz=211,slow=10,SNR=12						
DMN	**Daman**	**15.31**	**121**	*e*P	**Pn**	**16 58 12.2**	**-0.7**
	48nm,0.6s						
KKN	**Kakani**	**15.32**	**120**	*e*P	**Pn**	**16 58 12.4**	**-0.5**
	40nm,0.5s						
PKIN	**Phulchoki**	**15.53**	**121**	*e*P	**P**	**16 58 14.7**	**-0.7**
	72nm,0.5s						
PKI	**Pulchoki**	**15.54**	**121**	*e*P	**P**	**16 58 15.0**	**-0.6**
	124nm,0.6s						
GUN	**Gumba**	**15.66**	**119**	*e*P	**P**	**16 58 16.2**	**-0.7**
BVAR	**Borovoye Array**	**16.50**	**0**	P	**Pn**	**16 58 27.2**	**+0.7**
	1.1nm,0.3s,baz=175,slow=9.5,SNR=18						
AKTO	**Aktyubinsk**	**16.51**	**331**	P	**P**	**16 58 27.1**	**+1.4**
	1.0nm,0.3s,baz=142,slow=10,SNR=26						
AKTO	**Aktyubinsk**	**16.51**	**331**	⇑P	**P**	**16 58 27.1**	**+1.4**
	19nm,1.0s						
ZALV	**Zalesovo Beam**	**20.10**	**25**	P	**P**	**16 59 05.5**	**+1.1**
	5.6nm,0.4s,baz=215,slow=10,SNR=30						
HYB	**Hyderabad**	**20.36**	**157**	*e*P	**P**	**16 59 10.5**	**+2.9**
ARU	**Arti**	**21.45**	**342**	P	**P**	**16 59 19.9**	**+1.4**
BRTR	**Keskin Array B**	**28.95**	**288**	P	**P**	**17 00 27.4**	**+0.6**
	0.7nm,0.6s,baz=106,slow=8.1,SNR=4.4						
CMAR	**Chiang Mai Arr**	**30.91**	**118**	P	**P**	**17 00 45.0**	**+1.0**
	0.7nm,0.6s,baz=298,slow=8.3,SNR=11						
AKASG	**Malin Array Be**	**32.54**	**309**	P	**P**	**17 00 58.7**	**+0.8**
	0.8nm,0.5s,baz=82,slow=7.2,SNR=5.0						
FINES	**FINESS Array B**	**37.18**	**326**	P	**P**	**17 01 38.5**	**+1.1**
	3.5nm,0.7s,baz=111,slow=9.9,SNR=12						
ARCES	**ARCESS Array B**	**40.93**	**338**	P	**P**	**17 02 09.8**	**+1.5**
	4.4nm,0.5s,baz=114,slow=8.2,SNR=27						
NB2	**NORSAR Subarra**	**44.06**	**323**	P	**P**	**17 02 34.2**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.06**	**323**	P	**P**	**17 02 34.4**	**+0.8**
	comp=Z,2.0nm,0.8s,baz=98,slow=7.8,SNR=6.2						
TORD	**Torodi Ar. Bea**	**65.22**	**269**	P	**P**	**17 05 04.4**	**-1.7**
	comp=Z,0.6nm,0.5s,baz=49,slow=5.5,SNR=8.0						
ILAR	**Eielson Array**	**74.89**	**16**	P	**P**	**17 06 04.7**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=294,slow=4.3,SNR=7.0						
YKA	**Yellowknife Ar**	**81.24**	**2**	P	**P**	**17 06 39.9**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=349,slow=5.7,SNR=2.7						
PLCA	**Paso Flores**	**149.37**	**250**	PKPbc	**PKPbc**	**17 14 11.3**	**+0.6**
	comp=Z,3.1nm,1.1s,baz=62,slow=5.9,SNR=3.2						

*ISCJB **09** 16:54:49.6±0.6, 51°.41N±0°.03×16°.21E±0°.04, h0km, Error ellipse: s-maj=5.0km s-min=2.8km az=21.1*
*IDC **09** 16:54:51.5±1.2, 51°.50N×16°.07E, h0km, mb1 3.6/3, mb1mx3.3/57, mbtmp3.4/3, ML2.7/3, Error ellipse: s-maj=38.8km s-min=9.9km az=117.0*
*PRU **09** 16:54:52.3±0.0, 51°.41N×16°.18E, h0km*
*WAR **09** 16:54:56.0, 51°.02N×15°.79E, h1km, Mw2.5*
*VIE **09** 16:54:57.1±1.3, 50°.96N×16°.10E, h0km, mb2.3/3, ml2.2/4, Error ellipse: s-maj=11.5km s-min=8.3km az=82.0 65 km WSW of Wroclaw Suspected Mining induced.*
ISC 09 16:54:49.7±0.8, 51°.52N±0°.03×16°.20E±0°.03, h0km, n27, σ1§12/53, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.69**	**175**	*i* Pg	**Pg**	**16 55 02.9**	**+0.1**
KSP				*e*Sg	**Sg**	**16 55 11.0**	**-0.6**
KSP	**Ksiaz**	**0.69**	**175**	*i* Pg	**Pg**	**16 55 02.9**	**+0.1**
KSP				*e*Sg	**Sg**	**16 55 11.0**	**-0.4**
DPC	**Dobruska-Polom**	**1.18**	**176**	*e*PG	**Pg**	**16 55 11.8**	**-0.4**
DPC				*e*SG	**Sg**	**16 55 25.8**	**-1.6**
	comp=Z,23nm,0.5s						
PVCC	**Panska Ves**	**1.43**	**226**	*e*PG	**Pb**	**16 55 17.7**	**+0.5**
PVCC				*e*SG	**Sg**	**16 55 36.1**	**+0.5**
	comp=Z,116nm,0.3s						
KRLC	**Kraliky**	**1.50**	**165**	*e*PG	**Pn**	**16 55 17.5**	**-0.3**
BRG	**Berggiesshubel**	**1.56**	**246**	PN	**Pb**	**16 55 19.6**	**+0.3**
BRG				PG	**Pg**	**16 55 20.4**	**+0.9**
BRG				SG	**Sg**	**16 55 40.5**	**+0.8**
	27nm,0.4s						
PRA	**Prague**	**1.83**	**218**	*e*PG	**Pb**	**16 55 24.6**	**+0.5**
MORC	**Moravsky Berou**	**1.95**	**153**	*e*PN	**Pn**	**16 55 23.6**	**-0.4**
MORC				*e*SG	**Sn**	**16 55 49.4**	**+0.2**
CLL	**Collm**	**2.01**	**265**	*e*Pg	**Pb**	**16 55 28.0**	**+0.9**
CLL				*e*Sg	**Sg**	**16 55 55.0**	**+0.8**
	comp=Z,17nm,0.6s						
OKC	**Ostrava-Krasne**	**2.10**	**143**	*e*PG	**Pb**	**16 55 29.1**	**+0.6**
OKC				*e*SG	**Sn**	**16 55 53.6**	**+0.8**
VRAC	**Vranov**	**2.23**	**173**	*e*PN	**Pn**	**16 55 28.4**	**+0.5**
VRAC				*e*SG	**Sb**	**16 55 59.1**	**+0.1**
TREC	**Trest**	**2.28**	**192**	*e*PG	**Pb**	**16 55 31.8**	**+0.2**
KRUC	**Moravsky**	**2.47**	**177**	*e*PN	**Pn**	**16 55 31.7**	**+0.6**
KRUC				*e*SG	**Sb**	**16 56 06.9**	**+1.1**
OJC	**Ojcow**	**2.63**	**118**	*e*Pg	**Sg**	**16 55 41.4**	**+1.4**
OJC				*e*SG	**Sg**	**16 56 15.8**	**+1.7**
OJC	**Ojcow**	**2.63**	**118**	*e*Pg	**Pg**	**16 55 41.4**	**+1.4**
OJC				*e*SG	**Sg**	**16 56 15.8**	**+1.7**
NKC	**Novy Kostel**	**2.70**	**243**	*e*PN	**Pn**	**16 55 34.8**	**+0.4**
NKC				*e*PG	**Pg**	**16 55 41.5**	**+0.1**
NKC				*e*SG	**Sg**	**16 56 18.8**	**+2.4**
	comp=Z,17nm,0.3s						
JAVC	**Velka Javorina**	**2.83**	**160**	*e*PN	**Pn**	**16 55 37.7**	**+1.5**
JAVC				*e*SG	**Sg**	**16 56 20.1**	**-0.5**
KHC	**Kasperske Hory**	**2.92**	**216**	*e*PN	**Pn**	**16 55 37.6**	**+0.2**
KHC				*e*PG	**Pb**	**16 55 43.5**	**+0.8**
KHC				*e*SN	**Sn**	**16 56 12.0**	**-1.3**
KHC				*e*SG	**Sg**	**16 56 22.2**	**-1.3**
	comp=Z,6.9nm,0.4s						
GERES	**GERESS Array B**	**3.12**	**212**	Pn	**Pn**	**16 55 41.1**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=33,slow=13,SNR=10						
GERES				Pg	**Pb**	**16 55 47.3**	**+1.2**
	comp=Z,3.6nm,0.3s,baz=29,slow=18,SNR=59						
GERES				Lg	Lg	16 56 27.8	
	comp=Z,2.8nm,0.3s,baz=28,slow=28,SNR=9.5						
LANS	**Liptovska Anna**	**3.17**	**137**	*e*PG	**Pg**	**16 55 50.4**	**0.0**
LANS				*e*SG	**Sg**	**16 56 31.3**	**-0.1**
MODS	**Modra-Piesok**	**3.23**	**167**	*e*PG	**Pb**	**16 55 49.6**	**+1.7**
MODS				*e*SG	**Sg**	**16 56 32.8**	**-0.6**
VYHS	**Vyhne**	**3.48**	**150**	*e*PG	**Pg**	**16 55 57.4**	**+1.1**
VYHS				*e*SG	**Sg**	**16 56 38.8**	**-2.5**
CONA	**Conrad Observa**	**3.61**	**184**	*i* Pn	**Pn**	**16 55 47.0**	**+0.1**
	comp=Z,0.6nm,0.2s						
CONA				*e*Sg	**Sb**	**16 56 36.6**	**-2.0**
	comp=Z,3.4nm,0.3s						
BSD	**Bornholm Skovb**	**3.68**	**348**	*i* P	**Pn**	**16 55 48.3**	**+0.6**
BSD				*i* S	**Sn**	**16 56 30.7**	**-1.0**
MOA	**Molln**	**3.88**	**200**	*i* Pn	**Pn**	**16 55 51.1**	**+0.5**
	comp=Z,1.3nm,0.3s						
MOA				Sg	**Sb**	**16 56 47.6**	**+1.0**
	comp=Z,5.5nm,0.4s						
FINES	**FINESS Array B**	**11.33**	**25**	Pn	**Pn**	**16 57 30.4**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=210,slow=14,SNR=3.5						
ARCES	**ARCESS Array B**	**18.60**	**10**	Pn	**P**	**16 59 05.8**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=196,slow=13,SNR=3.3						

*IDC **09** 16:56:40.3±0.5, 24°.94S×69°.91E, h0km, mb4.3/17, mb1 4.4/17, mb1mx4.2/38, mbtmp4.3/17, MS3.9/19, Ms1 3.9/19, ms1mx3.8/40, Error ellipse: s-maj=19.9km s-min=15.3km az=40.0*
*ISCJB **09** 16:56:41.9±0.3, 25°.03S±0°.07×69°.98E±0°.08, h19km, mb4.6/34, MS4.0/20, Error ellipse: s-maj=11.1km s-min=10.1km az=169.3*
*NEIC **09** 16:56:41.9±0.4, 24°.97S×69°.98E, h10km, mb4.3/2, Error ellipse: s-maj=13.0km s-min=9.1km az=198.0*
*GCMT **09** 16:56:43.9±0.3, 24°.58S±0°.04×69°.89E±0°.02, h12km, MW4.9/70, Moment Tensor Solution. s11,c12; s70,c90; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.93±.07; Mθθ0.24±.08; Mϕϕ1.70±.07; Mrθ1.54±.31; Mϕθ-0.78±.06; Mϕr0.91±.28; Best double couple: Mo2.53700×10¹⁶ NP1:ϕs186.00000°, δ57.00000°, λ-52.00000°. NP2: ϕs312.00000°, δ48.00000°, λ-133.00000°. Principal axes: T 2.0560, Plg5.0000°, Azm251.0000°; N 0.9690, Plg31.0000°, Azm344.0000°; P -3.0170, Plg59.0000°, Azm152.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 09 16:56:43.6±0.5, 25.0S±0°.1×69.9E±0°.1, h19km, n93, σ0§80/79, mb4.6/34, MS4.0/20, 19C-3D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**17.42**	**9**	T	T	17 18 30.0	
	baz=189,slow=76,SNR=87						
H08S2	**Diego Garcia H**	**17.42**	**9**	T	T	17 18 29.0	
	baz=189,slow=76,SNR=249						
H08S3	**Diego Garcia H**	**17.44**	**9**	T	T	17 18 30.3	
	baz=189,slow=76,SNR=135						
ABPO	**Ambohimpanom**	**21.84**	**281**	P	**P**	**17 01 36.4**	**+1.0**
OPO	**Ambohidratompo**	**22.03**	**282**	P	**P**	**17 01 38.0**	**+0.7**
	9.1nm,0.9s,baz=80,slow=11,SNR=3.0						
H01W2	**Cape Leeuwin H**	**39.30**	**115**	T	T	17 45 51.5	
	baz=272,slow=75,SNR=12						
H01W3	**Cape Leeuwin H**	**39.30**	**115**	T	T	17 45 52.8	
	baz=272,slow=75,SNR=14						
H01W1	**Cape Leeuwin H**	**39.32**	**115**	T	T	17 45 56.9	
	baz=272,slow=75,SNR=13						
KMBO	**Kilima Mbogo**	**39.46**	**302**	P	**P**	**17 04 11.8**	**-1.5**
	1.9nm,0.3s,baz=115,slow=5.2,SNR=8.0						
KMBO				LR	LR	17 16 57.2	
	comp=Z,117nm,20.7s,baz=92,slow=31						
KMBO	**Kilima Mbogo**	**39.46**	**302**	P	**P**	**17 04 14.2**	**+0.9**
	1.4nm,0.4s						
BOSA	**Boshof**	**39.85**	**255**	LR	LR	17 17 56.6	
	comp=Z,294nm,19.8s,baz=110,slow=32						
MAW	**Mawson**	**42.85**	**184**	LR	LR	17 18 18.5	
	comp=Z,192nm,21.9s,baz=44,slow=30						
PBKT	**Sadao Pong**	**51.21**	**39**	P	**P**	**17 05 46.9**	**+0.9**
	7.5nm,2.1s,1µm						
CMAR	**Chiang Mai Arr**	**51.61**	**36**	P	**P**	**17 05 49.2**	**+0.2**
	4.0nm,1.1s,baz=221,slow=7.0,SNR=20						
CMAR				LR	LR	17 24 04.5	
	comp=Z,100nm,21.8s,baz=208,slow=32						
CHTO	**Chiang Mai**	**51.91**	**36**	P	**P**	**17 05 52.8**	**+1.6**
	9.8nm,1.2s						
CMMT	**Chiang Mai**	**51.91**	**36**	P	**P**	**17 05 52.7**	**+1.5**
FITZ	**Fitzroy Crossi**	**51.99**	**94**	LR	LR	17 25 24.0	
	comp=Z,132nm,18.8s,baz=293,slow=33						
BATI	**Baumata**	**52.97**	**84**	LR	LR	17 25 28.3	
	comp=Z,124nm,20.2s,baz=256,slow=33						
RAYN	**Ar Rayn**	**53.72**	**332**	*e*P	**P**	**17 06 03.6**	**-1.0**
	8.4nm,1.2s						
ASAR	**Alice Springs**	**57.82**	**103**	P	**P**	**17 06 33.3**	**-0.9**
	1.6nm,0.6s,baz=250,slow=6.2,SNR=8.8						
ASAR				PcP	**PcP**	**17 07 25.7**	**-1.0**
	1.1nm,0.9s,baz=255,slow=3.6,SNR=2.7						
ASAR				LR	LR	17 29 13.9	
	comp=Z,102nm,18.6s,baz=296,slow=34						
WRA	**Warramunga Arr**	**59.27**	**99**	P	**P**	**17 06 44.0**	**-0.3**
	1.6nm,0.8s,baz=256,slow=6.8,SNR=10						
SNAA	**Sanae**	**61.08**	**200**	P	**P**	**17 06 56.6**	**+0.6**
STKA	**Stephens Creek**	**62.39**	**114**	LR	LR	17 30 11.4	
	comp=Z,170nm,20.8s,baz=216,slow=32						
VNA2	**Neumayer--Watz**	**62.47**	**201**	P	**P**	**17 07 06.2**	**+0.9**
	baz=72,slow=5.8						
VNA1	**Neumayer--Stat**	**62.74**	**202**	P	**P**	**17 07 07.1**	**+0.1**
VNA3	**Neumayer Olymp**	**63.22**	**201**	P	**P**	**17 07 11.1**	**+0.9**
GEYT	**Alibeck**	**63.56**	**350**	LR	LR	17 31 43.6	
	comp=Z,64nm,19.0s,baz=220,slow=33						
QSPA	**South Pole Qui**	**65.14**	**180**	P	**P**	**17 07 23.4**	**+0.3**
	12nm,1.0s,baz=264,slow=2.6,SNR=18						
QSPA	**South Pole Qui**	**65.14**	**180**	*e*P

	comp=Z,84nm,6.5s								
GTA				LR	LR				
	comp=N,190nm,21.3s								
GTA				LR	LR				
	comp=E,160nm,21.3s								
GTA				LR	LR				
	comp=Z,200nm,21.9s								
MKAR	**Makanchi Array**	**72.31**	**9**	P	**P**		**17 08 07.0**	**-0.7**	
	comp=Z,3.1nm,0.7s,baz=192,slow=5.6,SNR=10								
MKAR				LR	LR		17 38 56.3		
	comp=Z,59nm,19.1s,baz=182,slow=35								
BRTR	**Keskin Array B**	**72.73**	**331**	P	**P**		**17 08 09.5**	**-1.1**	
	comp=Z,3.9nm,1.1s,baz=162,slow=4.8,SNR=12								
KBZ	**Khabaz**	**72.74**	**340**	LR	LR		17 37 13.9		
	comp=Z,50nm,21.0s,baz=73,slow=34								
JOW	**Kunigami**	**76.30**	**52**	LR	LR		17 39 08.9		
	comp=Z,59nm,19.3s,baz=158,slow=33								
TORD	**Torodi Ar. Bea**	**76.52**	**292**	P	**P**		**17 08 32.5**	**-0.4**	
	comp=Z,4.4nm,1.0s,baz=122,slow=3.9,SNR=13								
TORD				LR	LR		17 40 35.1		
	comp=Z,103nm,20.4s,baz=285,slow=34								
TIRR	**Tirgusor**	**78.84**	**331**	⇑*i*P	**P**		**17 08 45.3**	**+0.1**	
TLB	**Topalu**	**79.11**	**331**	⇑*i*P	**P**		**17 08 46.1**	**-0.5**	
DBIC	**Dimbokro**	**79.14**	**283**	P	**P**		**17 08 47.1**	**-0.4**	
	comp=Z,6.5nm,1.1s,baz=142,slow=8.1,SNR=3.6								
DBIC				LR	LR		17 42 14.8		
	comp=Z,167nm,18.4s,baz=99,slow=35								
HARR	**Harsova**	**79.24**	**331**	⇑*i*P	**P**		**17 08 48.0**	**+0.7**	
CFR	**Carcaliu**	**79.53**	**331**	⇑*i*P	**P**		**17 08 49.3**	**+0.4**	
SONM	**Songino Array**	**79.56**	**24**	P	**P**		**17 08 49.9**	**+0.6**	
	comp=Z,1.2nm,0.7s,baz=193,slow=5.8,SNR=4.4								
SONM				LR	LR		17 42 37.7		
	comp=Z,106nm,20.6s,baz=196,slow=35								
ZALV	**Zalesovo Beam**	**79.66**	**9**	P	**P**		**17 08 48.8**	**-0.6**	
	comp=Z,2.3nm,0.7s,baz=197,slow=5.5,SNR=8.3								
ZALV				LR	LR		17 43 51.6		
	comp=Z,44nm,19.0s,baz=246,slow=36								
ISR	**Istrita**	**80.19**	**330**	⇑*i*P	**P**		**17 08 53.4**	**+0.8**	
VRI	**Vrincioaia**	**80.69**	**331**	⇓*i*P	**P**		**17 08 55.9**	**+0.7**	
PLOR	**Plostina**	**80.71**	**331**	⇑*i*P	**P**		**17 08 55.5**	**+0.1**	
MLR	**Muntele Rosu**	**80.74**	**330**	⇑*i*P	**P**		**17 08 56.5**	**+0.8**	
TIP	**Timpagrande**	**80.87**	**321**	⇑*i*P	**P**		**17 08 56.8**	**+0.4**	
VOIR		**81.11**	**330**	⇑*i*P	**P**		**17 08 57.2**	**-0.3**	
ARR	**Arges**	**81.25**	**330**	⇑*i*P	**P**		**17 08 58.2**	**-0.1**	
DOPR	**Dopca**	**81.36**	**330**	⇑*i*P	**P**		**17 08 58.8**	**0.0**	
PDG	**Podgorica**	**81.75**	**325**	⇑*i*P	**P**		**17 09 00.8**	**-0.1**	
SORM	**Soroca**	**81.78**	**333**	⇑*i*P	**P**		**17 09 00.3**	**-0.6**	
GZR	**Gura Zlata**	**82.13**	**329**	⇓*i*P	**P**		**17 09 03.1**	**+0.2**	
MDVR	**Moldovita**	**82.19**	**328**	⇓*i*P	**P**		**17 09 00.2**	**-3.0**	
KSRS	**Korea Array**	**82.63**	**43**	LR	LR		17 45 07.3		
	comp=Z,54nm,18.6s,baz=236,slow=35								
BURAR	**Bucovina Array**	**82.70**	**321**	⇑*i*P	**P**		**17 09 06.2**	**+0.3**	
BZS	**Buzias**	**82.85**	**328**	⇑*i*P	**P**		**17 09 07.0**	**+0.4**	
KEST	**Kesra**	**83.19**	**314**	P	**P**		**17 09 09.2**	**+0.5**	
	comp=Z,5.8nm,0.9s,baz=136,slow=6.7,SNR=4.3								
DRGR		**83.20**	**329**	⇑*i*P	**P**		**17 09 08.8**	**+0.3**	
SIRR	**Siria**	**83.30**	**329**	⇑*i*P	**P**		**17 09 09.2**	**+0.2**	
AKASG	**Malin Array Be**	**83.49**	**335**	P	**P**		**17 09 08.8**	**-0.9**	
	comp=Z,1.6nm,0.6s,baz=136,slow=4.7,SNR=6.2								
TRPA	**Tarpa**	**84.27**	**330**	⇑*i*P	**P**		**17 09 14.1**	**+0.3**	
VYHS	**Vyhne**	**86.24**	**329**	*e*P	**P**		**17 09 24.1**	**+0.4**	
VYHS				*es*P	**pP**		**17 09 29.7**	**-0.3**	
LANS	**Liptovska Anna**	**86.41**	**330**	*e*P	**P**		**17 09 26.0**	**+1.4**	
LANS				*es*P	**pP**		**17 09 31.4**	**+0.5**	
SOKA	**Soboth**	**86.86**	**326**	*e*P	**P**		**17 09 27.1**	**+0.3**	
	comp=Z,4.6nm,1.1s								
MODS	**Modra-Piesok**	**86.90**	**328**	*e*P	**P**		**17 09 26.0**	**-0.9**	
OBKA	**Obir**	**86.99**	**325**	*e*P	**P**		**17 09 27.9**	**+0.4**	
	comp=Z,7.1nm,1.2s								
JAVC	**Velka Javorina**	**87.05**	**328**	*e*P	**P**		**17 09 28.9**	**+1.2**	
CONA	**Conrad Observa**	**87.28**	**327**	*e*P	**P**		**17 09 29.2**	**+0.3**	
	comp=Z,14nm,1.3s								
MORC	**Moravsky Berou**	**87.74**	**329**	⇑*i*P	**P**		**17 09 30.8**	**-0.2**	
MORC	**Moravsky Berou**	**87.74**	**329**	*e*P	**P**		**17 09 31.1**	**+0.1**	
KRUC	**Moravsky**	**87.79**	**328**	*e*P	**P**		**17 09 31.2**	**0.0**	
VRAC	**Vranov**	**87.87**	**328**	*e*P	**P**		**17 09 30.5**	**-1.1**	
MOA	**Molln**	**88.03**	**326**	*i* P	**P**		**17 09 32.7**	**+0.3**	
	comp=Z,20nm,1.5s								
ABTA	**Abfaltersbach**	**88.21**	**325**	*e*P	**P**		**17 09 34.1**	**+0.7**	
	comp=Z,16nm,1.2s								
MJAR	**Matsushiro Arr**	**88.78**	**48**	LR	LR		17 49 13.8		
	comp=Z,37nm,18.5s,baz=225,slow=36								
GERES	**GERESS Array B**	**88.97**	**327**	P	**P**		**17 09 36.0**	**-0.9**	
	comp=Z,1.1nm,0.9s,baz=145,slow=4.9,SNR=8.7								
WTTA	**Wattenberg**	**89.00**	**325**	*e*P	**P**		**17 09 37.4**	**+0.2**	
	comp=Z,7.2nm,0.8s								
WATA	**Walderalm**	**89.08**	**325**	*e*P	**P**		**17 09 37.5**	**0.0**	
	comp=Z,8.3nm,1.1s								
SQTA	**Sankt Quirin**	**89.20**	**324**	*e*P	**P**		**17 09 38.4**	**+0.3**	
	comp=Z,12nm,0.9s								
KHC	**Kasperske Hory**	**89.22**	**327**	*e*P	**P**		**17 09 36.5**	**-1.5**	
FETA	**Feichten**	**89.33**	**324**	*e*P	**P**		**17 09 39.4**	**+0.6**	
	comp=Z,16nm,0.9s								
MOTA	**Moosalm**	**89.33**	**324**	*e*P	**P**		**17 09 38.8**	**0.0**	
	comp=Z,8.1nm,0.7s								
RETA	**Reutte**	**89.60**	**324**	*e*P	**P**		**17 09 40.4**	**+0.4**	
	comp=Z,6.0nm,0.8s								
DAVA	**Damuels**	**89.95**	**324**	*e*P	**P**		**17 09 42.0**	**+0.4**	
	comp=Z,11nm,0.9s								
BRG	**Berggiesshuber**	**90.19**	**328**	*e*P	**P**		**17 09 43.9**	**+1.5**	
	comp=Z,16nm,1.5s								
BRG				*e*			17 09 50.2		
	comp=Z,5.2nm,1.1s								
ESDC	**Sonseca Array**	**94.16**	**312**	P	**P**		**17 10 01.1**	**-0.1**	
	comp=Z,0.9nm,0.8s,baz=107,slow=4.5,SNR=5.8								
NRIK	**Noril'sk**	**94.92**	**6**	LR	LR		17 53 15.3		
	comp=Z,74nm,19.4s,baz=202,slow=36								
ULM	**Lac du Bonnet**	**152.48**	**340**	PKPbc	**PKPbc**		**17 16 37.3**	**-1.0**	
	comp=Z,7.0nm,0.8s,baz=331,slow=7.6,SNR=3.4								
PDAR	**Pinedale Array**	**162.26**	**359**	PKP	**PKPdf**		**17 16 44.0**	**-0.3**	
	comp=Z,0.3nm,0.8s,baz=130,slow=2.3,SNR=4.1								
NVAR	**Mina Array Bea**	**164.89**	**26**	PKPab	**PKPab**		**17 17 43.7**	**+0.7**	
	comp=Z,0.3nm,0.5s,baz=337,slow=2.1,SNR=2.2								
TXAR	**Lajitas Array**	**172.83**	**309**	PKPab	**PKPab**		**17 18 18.6**	**+0.3**	
	comp=Z,0.7nm,1.0s,baz=64,slow=2.9,SNR=4.4								

*IDC **09** 17:04:50.9±2.6, 13°.61N×92°.06W, h0km, mb3.6/4, mb1 4.0/7, mb1mx3.7/49, mbtmp3.6/7, ML3.6/3, MS3.1/2, Ms1 3.1/2, ms1mx2.7/35, Error ellipse: s-maj=46.6km s-min=26.6km az=179.0*

*MEX **09** 17:04:57.3±0.5, 13°.95N×92°.10W, h4km±104km, MD3.9*

ISC 09 17:04:58.9±1.5, 14°.0N±0°.1×92°.09W±0°.07, h35km, n13, σ2.9s07/18, mb3.6/4, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.93**	**350**	*e*P	**Pn**	**17 05 13.8**	**-1.8**
THIG				*i* S	**Sn**	**17 05 26.6**	**-1.1**
APG	**El Apazote**	**1.88**	**57**	Pn	**Pn**	**17 05 28.1**	**-0.5**
	18nm,0.3s,baz=226,slow=9.0,SNR=68						
APG				Sn	**Sn**	**17 05 54.4**	**+3.1**
	40nm,0.3s,baz=313,slow=17,SNR=18						
APG				LR	LR	17 05 59.8	
	comp=Z,72nm,19.9s,baz=207,slow=33						
PCIG		**2.03**	**328**	*e*P	**Pn**	**17 05 29.2**	**-1.4**
PCIG				*i* S	**Sn**	**17 05 54.3**	**-0.4**
CCIG	**Comitan**	**2.29**	**359**	*i* P	**Pn**	**17 05 33.7**	**-0.6**
CCIG				*i* S	**Sn**	**17 06 02.0**	**+0.7**
TGIG		**2.95**	**340**	*e*P	**Pn**	**17 05 43.1**	**-0.3**
TGIG				*e*S	**Sn**	**17 06 18.4**	**+0.9**
CMIG	**Matias Romero**	**4.10**	**319**	Pn	**Pn**	**17 05 59.0**	**-0.1**
	1.8nm,0.3s,baz=170,slow=10.0,SNR=12						
CMIG				Sn	**Sn**	**17 06 51.8**	**+6.0**
	3.3nm,0.3s,baz=49,slow=9.4,SNR=4.6						
CMIG				Lg	Lg	17 07 02.5	
	5.4nm,0.3s,baz=249,slow=22,SNR=6.3						
TXAR	**Lajitas Array**	**18.66**	**327**	P	**Pn**	**17 09 16.0**	**+1.5**
	0.1nm,0.3s,baz=143,slow=13,SNR=11						
ANMO	**Albuquerque**	**24.57**	**331**	P	**P**	**17 10 14.1**	**-1.7**
	2.2nm,1.0s,baz=135,slow=2.9,SNR=4.1						
PDAR	**Pinedale Array**	**32.40**	**336**	P	**P**	**17 11 26.2**	**+0.6**
	0.1nm,0.3s,baz=152,slow=8.1,SNR=2.2						
NVAR	**Mina Array Bea**	**33.63**	**321**	P	**P**	**17 11 37.7**	**+1.3**
	0.6nm,0.7s,baz=128,slow=8.4,SNR=4.7						
ILAR	**Eielson Array**	**62.82**	**337**	P	**P**	**17 15 19.1**	**-1.7**
	1.4nm,1.1s,baz=137,slow=4.5,SNR=5.8						
PETK	**Petropavlovsk-**	**90.61**	**326**	LR	LR	17 59 10.7	
	comp=Z,53nm,19.6s,baz=214,slow=36						
CMAR	**Chiang Mai Arr**	**145.98**	**341**	PKPbc	**PKPdf**	**17 24 34.3**	**-0.8**
	1.1nm,0.8s,baz=334,slow=3.7,SNR=11						

NNC 09 17:14:03.0±5.2, 38°.35N×70°.36E, h0km, mb3.6, mpv3.2, 6C-3D, Error ellipse: s-maj=38.1km s-min=30.5km

az=27.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.95**	**55**	⇓Pg	Pn	17 14 54.0	+2.6
	6.9nm,0.3s						
SFK				⇑Lg	Lg	17 15 34.1	
	18nm,0.7s						
MNAS	**Manas**	**4.44**	**21**	⇑Pn	Pn	17 15 10.9	-0.9
	1.3nm,0.5s						
MNAS				⇑Pg	Pb	17 15 23.7	+1.7
	3.6nm,0.6s						
MNAS				⇓Sn	Sn	17 16 06.0	+1.7
	1.9nm,0.5s						
KK31	**Karatay Array**	**4.75**	**1**	⇑Pn	Pn	17 15 15.8	0.0
	0.4nm,0.3s,baz=178,slow=11,SNR=14						
KK31				⇑Sn	Sn	17 16 11.6	0.0
	2.0nm,0.5s						
KK31				Lg	Lg	17 16 30.6	
	2.0nm,0.5s,baz=183,slow=31,SNR=5.7						
AAK	**Ala-Archa**	**5.31**	**35**	Pn	Pn	17 15 26.0	+2.2
	3.5nm,0.8s						
AAK				Lg	Lg	17 16 52.1	
	2.4nm,0.6s						
TKM2	**Tokmak 2**	**6.06**	**39**	⇓Pn	Pn	17 15 36.1	+2.1
	3.7nm,0.8s						
TKM2				⇑Sn	Sn	17 16 49.8	+5.6
	1.6nm,0.7s						

*BJI **09** 17:20:24.0, 20°.60S×177°.00W, h265km, mb4.5/26, mb4.9/16*

*ISCJB **09** 17:20:25.8±0.1, 20°.75S±0°.02×177°.05W±0°.04, h289km, mb4.7/118, Error ellipse: s-maj=5.4km s-min=2.7km az=16.8*

*NEIC **09** 17:20:25.3±1.1, 20°.70S×177°.05W, h274km±11km, mb4.8/87, Error ellipse: s-maj=6.2km s-min=4.5km az=139.0*

*IDC **09** 17:20:25.9±2.6, 20°.68S×176°.98W, h276km±24km, mb4.3/32, mb1 4.4/32, mb1mx4.2/46, mbtmp4.9/32, Error ellipse: s-maj=12.3km s-min=9.8km az=142.0*

*WEL **09** 17:20:32.9±1.0, 22°.5±12°×17°6W±4°6, h311km±11km*

ISC 09 17:20:26.7±0.3, 20°.83S±0°.04×176°.99W±0°.06, h289km, n275, σ1s54/326, mb4.7/117, 27C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.43**	**186**	S	**S**	**17 23 54.2**	**-7.5**
	205nm,0.3s,baz=73,slow=20,SNR=3.0						
GLKZ	**Green Lake**	**8.44**	**186**	P	**Pn**	**17 22 24.4**	**-1.2**
GLKZ				S	**S**	**17 23 58.7**	**-3.2**
AFI	**Afiamalu**	**8.49**	**37**	P	Pn	17 22 19.1	-7.3
	11nm,0.3s,baz=182,slow=3.7,SNR=10						
AFI				S	S	17 23 45.0	-19
	26nm,0.3s,baz=37,slow=20,SNR=5.8						
AFI	**Afiamalu**	**8.49**	**37**	*e*Pn	Pn	17 22 18.9	-7.6
AFI				*e*S	S	17 23 46.5	-17
FUNA	**Funafuti**	**12.78**	**343**	*e*Pn	**Pn**	**17 23 16.7**	**-2.3**
DZM	**Mont Dzumac**	**15.48**	**262**	P	**Pn**	**17 23 53.0**	**+1.7**
	13nm,0.3s,baz=90,slow=14,SNR=75						
DZM	**Mont Dzumac**	**15.48**	**262**	*e*P	**Pn**	**17 23 52.7**	**+1.5**
	183nm,0.7s						
RAR	**Rarotonga**	**16.08**	**94**	P	**Pn**	**17 23 58.6**	**+0.4**
	2.2nm,0.3s,baz=285,slow=5.9,SNR=12						
RAR	**Rarotonga**	**16.08**	**94**	*e*P	**Pn**	**17 23 58.0**	**-0.3**
	117nm,0.9s						
OUZ	**Touhahuta**	**16.56**	**208**	P	**Pn**	**17 24 04.6**	**+1.0**
WCZ	**Waipu Caves**	**16.86**	**205**	P	**Pn**	**17 24 07.6**	**+0.4**
KUZ	**Kuaotunu**	**17.09**	**200**	P	**Pn**	**17 24 09.3**	**-0.5**
MXZ	**Matakaoa Point**	**17.17**	**193**	P	**Pn**	**17 24 10.1**	**-0.7**
MXZ				S	**S**	**17 27 06.5**	**-5.1**
WMGZ	**Waiomatatini S**	**17.39**	**192**	P	**Pn**	**17 24 12.3**	**-1.1**
WMGZ				S	**S**	**17 27 12.4**	**-3.6**
HAZ	**Te Kaha**	**17.47**	**194**	P	**P**	**17 24 12.0**	**+0.8**
HAZ				S	**S**	**17 27 12.4**	**-5.1**
PKGZ	**Pakihiroa**	**17.53**	**193**	P	**P**	**17 24 12.7**	**+0.8**
PKGZ				S	**S**	**17 27 13.9**	**-5.0**
PUZ	**Puketiti**	**17.67**	**192**	P	**P**	**17 24 14.5**	**+1.1**
PUZ				S	**S**	**17 27 16.9**	**-4.7**
RUGZ	**Raukumara Rang**	**17.69**	**194**	P	**P**	**17 24 14.5**	**+0.8**
RUGZ				S	**S**	**17 27 16.3**	**-5.9**
TWGZ	**Tauwhareparae**	**17.83**	**193**	P	**Pn**	**17 24 17.4**	**-1.1**
TWGZ				S	**S**	**17 27 22.4**	**-2.3**
MWZ	**Matawai**	**18.08**	**194**	P	**P**	**17 24 18.0**	**+0.2**
MWZ				S	**S**	**17 27 23.5**	**-6.1**
URZ	**Urewera**	**18.10**	**195**	P	**P**	**17 24 16.2**	**-1.8**
	3.9nm,0.3s,baz=270,slow=3.4,SNR=22						
URZ				S	**S**	**17 27 26.6**	**-3.4**
	12nm,0.3s,baz=221,slow=22,SNR=18						
URZ	**Urewera**	**18.10**	**195**	P	**P**	**17 24 15.3**	**-2.7**
URZ				S	**S**	**17 27 27.1**	**-3.0**
RAGZ	**Rawiri**	**18.26**	**194**	P	**P**	**17 24 19.2**	**-0.5**
RAGZ				S	**S**	**17 27 30.9**	**-2.3**
RIGZ	**Rimuhau**	**18.38**	**193**	P	**P**	**17 24 21.7**	**+0.6**
RIGZ				S	**S**	**17 27 33.5**	**-2.1**
MUGZ	**Murupara**	**18.39**	**196**	P	**P**	**17 24 22.6**	**+1.5**
MUGZ				S	**S**	**17 27 36.8**	**+1.0**
RTZ	**Ruatahuna**	**18.47**	**195**	P	**P**	**17 24 23.4**	**+1.3**
RTZ				S	**S**	**17 27 36.4**	**-1.0**
KNTN	**Kanton**	**18.67**	**17**	*e*P	**P**	**17 24 20.9**	**-3.4**
	162nm,0.9s						
MTHZ	**Maungataniwha**	**18.73**	**195**	P	**P**	**17 24 26.3**	**+1.5**
MTHZ				S	**S**	**17 27 42.7**	**+0.3**
RATZ	**Rangitukua**	**19.03**	**198**	P	**Pn**	**17 24 31.0**	**-1.4**
BKZ	**Black Stump Fm**	**19.12**	**196**	*e*P	**P**	**17 24 29.3**	**+0.4**
	15nm,0.6s						
BKZ	**Black Stump Fm**	**19.12**	**196**	P	**P**	**17 24 29.7**	**+0.8**
BKZ				S	**S**	**17 27 50.1**	**+0.2**
WTVZ	**West Tongariro**	**19.31**	**198**	P	**P**	**17 24 32.2**	**+1.1**
TWVZ	**Taurewa**	**19.31**	**198**	P	**Pn**	**17 24 33.4**	**-2.3**
MCHZ	**McNeill Hill**	**19.33**	**195**	P	**P**	**17 24 32.3**	**+1.2**
MCHZ				S	**S**	**17 27 55.2**	**+1.4**
NGZ	**Ngauruhoe**	**19.36**	**198**	P	**P**	**17 24 33.2**	**+1.6**
NGZ				S	**S**	**17 27 57.8**	**+3.0**
KWHZ	**Kaweka Forest**	**19.38**	**196**	P	**P**	**17 24 32.9**	**+1.2**
KWHZ				S	**S**	**17 27 55.2**	**+0.3**
COVZ	**Chateau Observ**	**19.40**	**198**	P	**Pn**	**17 24 35.7**	**-1.1**
PKVZ	**Pokaka**	**19.54**	**198**	P	**P**	**17 24 35.3**	**+1.9**
KRHZ	**Kereru**	**19.60**	**195**	P	**P**	**17 24 34.2**	**+0.2**
KRHZ				S	**S**	**17 27 58.9**	**-0.1**
KAHZ	**Kahuranaki**	**19.62**	**194**	P	**P**	**17 24 36.6**	**+2.4**
KAHZ				S	**S**	**17 28 01.2**	**+1.7**
BFZ	**Birch Farm**	**20.61**	**195**	*e*P	**P**	**17 24 44.6**	**+0.1**
	53nm,1.2s						
BFZ				*e*S	**S**	**17 28 15.1**	**-1.4**
THZ	**Tophouse**	**22.55**	**200**	*e*P	**P**	**17 25 02.9**	**+0.3**
	20nm,0.8s						
THZ				*e*S	**S**	**17 28 46.7**	**-1.2**
KHZ	**Kahutara**	**22.95**	**198**	*e*P	**P**	**17 25 06.1**	**+0.1**
	27nm,0.8s						
KHZ				*e*S	**S**	**17 28 57.2**	**+3.1**
LTZ	**Lake Taylor**	**23.67**	**200**	*e*P	**P**	**17 25 12.9**	**+0.2**
	33nm,0.5s						
TARA	**Tarawa**	**24.16**	**335**	*e*P	**P**	**17 25 14.1**	**-3.2**
	677nm,1.4s						
OXZ	**Oxford**	**24.24**	**200**	*e*P	**P**	**17 25 18.1**	**+0.3**
	43nm,0.7s						
OXZ				*e*S	**S**	**17 29 18.4**	**+3.9**
RPZ	**Rata Peaks**	**24.91**	**201**	P	**P**	**17 25 25.1**	**+1.4**
	21nm,0.6s,baz=7.9,slow=1.7,SNR=17						
RPZ	**Rata Peaks**	**24.91**	**201**	*e*P	**P**	**17 25 24.9**	**+1.1**
	21nm,0.6s						
HNR	**Honiara**	**24.94**	**294**	P	**P**	**17 25 24.6**	**+0.2**
	64nm,0.8s,baz=140,slow=3.9,SNR=3.8						
PAE	**Paea**	**26.05**	**88**	*e*P	**P**	**17 25 34.7**	**+0.4**
	9.3nm,1.0s						
PAE	**Paea**	**26.05**	**88**	*e*T	T	17 51 44.3	
	6.6nm,0.3s						
PPT2	**Papeete2**	**26.07**	**88**	*e*P	**P**	**17 25 35.0**	**+0.4**
	75nm,1.3s						
PPT	**Papeete**	**26.08**	**88**	P	**P**	**17 25 34.8**	**+0.3**
	49nm,0.9s,baz=304,slow=7.7,SNR=4.8						
DCZ	**Deep Cove**	**27.82**	**204**	*e*P	**P**	**17 25 50.4**	**+0.7**
	21nm,0.8s						
WHZ	**Wether Hill Ro**	**27.89**	**203**	*e*P	**P**	**17 25 50.7**	**+0.4**
	75nm,1.2s						
EIDS	**Eidsvold**	**29.68**	**255**	*e*P	**P**	**17 26 06.8**	**+0.4**
	36nm,1.8s						
CTA	**Charters Tower**	**34.40**	**265**	P	**P**	**17 26 48.2**	**+0.8**
	16nm,0.4s,baz=91,slow=11,SNR=107						
CTAO	**Charters Tower**	**34.40**	**265**	*e*P	**P**	**17 26 48.2**	**+0.8**
	18nm,0.5s						
PMG	**Port Moresby**	**36.34**	**283**	P	**P**	**17 27 04.3**	**+0.4**
	15nm,0.9s,baz=72,slow=9.6,SNR=3.5						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.50**	**245**	P	**P**	**17 27 22.5**	**+0.8**
	7.6nm,0.6s,baz=98,slow=11,SNR=16						
STKA	**Stephens Creek**	**38.50**	**245**	*e*P	**P**	**17 27 22.2**	**+0.5**
	1.8nm,0.7s						
BBOO	**Buckleboo**	**43.25**	**244**	*e*P	**P**	**17 28 00.7**	**+0.4**
	85nm,1.6s						
JAY	**Jayapura**	**45.05**	**288**	P	**P**	**17 28 14.6**	**-0.2**
	baz=162,slow=3.7,SNR=20						
AS01	**Alice Springs**	**45.32**	**257**	*e*P	**P**	**17 28 16.4**	**-0.5**
AS31	**Alice Springs**	**45.37**	**257**	*e*P	**P**	**17 28 16.8**	**-0.3**
	4.4nm,0.4s						
AS31				*e*S	**S**	**17 34 33.6**	**-2.3**
ASAR	**Alice Springs**	**45.37**	**257**	P	**P**	**17 28 17.1**	**0.0**
	7.6nm,0.4s,baz=90,slow=8.4,SNR=409						
ASAR				S	**S**	**17 34 33.6**	**-2.3**
	1.3nm,0.9s,baz=93,slow=16,SNR=7.5						
WB2	**Warramunga Arr**	**45.48**	**262**	*e*P	**P**	**17 28 16.1**	**-1.9**
WRAB	**Tennant Creek**	**45.48**	**262**	*e*P	**P**	**17 28 17.4**	**-0.6**
	7.5nm,0.4s						
WR1	**Warramunga Arr**	**45.49**	**262**	*e*P	**P**	**17 28 17.3**	**-0.8**
	8.4nm,0.5s						
WR1				*e*S	**S**	**17 34 31.7**	**-6.0**
WRA	**Warramunga Arr**	**45.49**	**262**	P	**P**	**17 28 17.3**	**-0.8**
	4.7nm,0.3s,baz=96,slow=7.7,SNR=234						
WRA				S	**S**	**17 34 31.7**	**-6.1**
	0.4nm,0.6s,baz=94,slow=15,SNR=3.8						
FORT	**Forrest**	**50.03**	**247**	*e*P	**P**	**17 28 52.6**	**0.0**
	36nm,0.6s						
MTN	**Manton Dam**	**50.11**	**270**	*e*P	**P**	**17 28 52.9**	**-0.5**
	62nm,1.9s						
GUMO	**Guam**	**50.74**	**309**	P	**P**	**17 28 58.0**	**0.0**
	132nm,0.9s,baz=210,slow=3.1,SNR=4.4						
FITZ	**Fitzroy Crossi**	**53.92**	**262**	P	**P**	**17 29 21.8**	**+0.5**
	2.2nm,0.3s,baz=56,slow=7.1,SNR=31						
FITZ	**Fitzroy Crossi**	**53.92**	**262**	*e*P	**P**	**17 29 21.6**	**+0.3**
	20nm,1.5s						
SOEI	**Soe**	**57.46**	**272**	*e*P	**P**	**17 29 47.9**	**+1.4**
	36nm,0.5s						
SBA	**Scott Base**	**57.61**	**184**	*e*P	**P**	**17 29 50.5**	**+4.1**
	15nm,1.6s						
VNDA	**Vanda**	**57.67**	**185**	P	**P**	**17 29 48.4**	**+1.6**
	0.9nm,0.8s,baz=359,slow=6.8,SNR=5.6						
VNDA				ScP	**ScP**	**17 34 11.3**	**+3.3**
	2.1nm,0.8s,baz=329,slow=3.3,SNR=11						
VNDA	**Vanda**	**57.67**	**185**	*e*P	**P**	**17 29 50.4**	**+3.6**
	2.1nm,0.6s						
VNDA				*e*ScP	**ScP**	**17 34 11.5**	**+3.4**
BATI	**Baumata**	**57.88**	**271**	P	**P**	**17 29 51.3**	**+1.9**
	23nm,0.5s,baz=138,slow=3.7,SNR=7.4						
TNTI	**Ternate**	**58.46**	**284**	*e*P	**P**	**17 29 53.0**	**-0.2**
	13nm,0.8s						
NWAO	**Narrogin (SRO)**	**59.07**	**243**	P	**P**	**17 29 57.7**	**+0.5**
	6.4nm,0.6s,baz=340,slow=9.4,SNR=6.7						
MYLDM	**Lahad Datu**	**68.33**	**285**	*e*P	**P**	**17 30 58.3**	**+0.6**
	12nm,0.9s						
QSPA	**South Pole Qui**	**69.24**	**180**	*e*P	**P**	**17 31 04.4**	**+1.9**
	6.3nm,1.0s						
MJAR	**Matsushiro Arr**	**71.04**	**323**	P	**P**	**17 31 12.8**	**-0.8**
	12nm,0.7s,baz=164,slow=6.0,SNR=29						
MAJO	**Matsushiro**	**71.04**	**323**	*e*P	**P**	**17 31 13.0**	**-0.6**
	14nm,0.7s						
MAT

	35nm,0.8s								
SYO	**Syowa Base**	**86.61**	**192**	⇑	*e*P		**P**	17 32 38.6	**+1.3**
RND	**Reindeer**	**86.81**	**12**		*e*P		**P**	17 32 37.6	**-0.7**
	53nm,0.9s								
DHY	**Denali Highway**	**86.82**	**13**		*e*P		**P**	17 32 37.7	**-0.7**
	54nm,1.7s								
ANMO	**Albuquerque**	**86.87**	**51**		P		**P**	17 32 40.3	**+0.9**
	0.8nm,0.3s,baz=243,slow=2.3,SNR=3.5								
SEY	**Seymchan**	**86.91**	**347**		P		**P**	17 32 37.8	**-0.8**
	7.0nm,0.9s,baz=146,slow=5.6,SNR=9.1								
ENH	**Enshi**	**87.01**	**304**		*e*P		**P**	17 32 39.9	**-0.1**
	11nm,0.9s								
NEW	**Newport**	**87.09**	**35**		P		**P**	17 32 39.8	**-0.1**
	4.4nm,0.9s,baz=329,slow=12,SNR=3.6								
MCK	**McKinley**	**87.09**	**12**		*e*P		**P**	17 32 38.9	**-0.7**
	35nm,0.9s								
PAX	**Paxson**	**87.14**	**14**		*e*P		**P**	17 32 39.2	**-0.7**
	13nm,1.0s								
GYA	**Guiyang**	**87.64**	**299**		*e*P		**P**	17 32 43.2	**+0.1**
GYA					pP		pP	17 33 47.4	-4.5
GYA					sP		sP	17 34 14.0	-8.1
GYA					PP		**PP**	**17 36 13.8**	**+0.6**
GYA					SKS		**SKSac**	**17 42 43.6**	**+0.2**
GYA					S		**S**	**17 43 00.2**	**0.0**
GYA					pmax		pmax		
	comp=Z,10.0nm,1.0s								
VNA3	**Neumayer Olymp**	**87.75**	**176**		P		**P**	17 32 44.0	**+1.2**
WRH	**Wood River Hil**	**87.92**	**12**		*e*P		**P**	17 32 42.5	**-0.8**
	22nm,0.8s								
MLY	**Manley**	**87.94**	**11**		*e*P		**P**	17 32 41.8	**-1.7**
	29nm,1.6s								
DLBC	**Dease Lake**	**87.99**	**23**		P		**P**	17 32 44.5	**+0.5**
	3.3nm,0.7s,baz=220,slow=6.6,SNR=7.7								
DLBC	**Dease Lake**	**87.99**	**23**		*e*P		**P**	17 32 44.0	**+0.1**
	30nm,1.9s								
WHY	**Whitehorse**	**88.05**	**19**		*e*P		**P**	17 32 43.6	**-0.6**
	22nm,1.4s								
DOT	**Dot Lake**	**88.05**	**14**		*e*P		**P**	17 32 44.4	**+0.3**
	12nm,0.8s								
HDA	**Harding Lake**	**88.09**	**13**		*e*P		**P**	17 32 43.6	**-0.6**
	16nm,0.5s								
CCB	**Clear Creek Bu**	**88.13**	**12**		*e*P		**P**	17 32 43.4	**-1.0**
	17nm,0.6s								
VNA2	**Neumayer--Watz**	**88.20**	**177**		P		**P**	17 32 46.4	**+1.6**
	baz=194,slow=3.9								
IM3	**Indian Mountai**	**88.32**	**9**		*e*P		**P**	17 32 44.4	**-0.8**
COLA	**College**	**88.33**	**12**		*e*P		**P**	17 32 44.3	**-1.0**
	30nm,0.8s								
MDM	**Murphy Dome**	**88.33**	**12**		*e*P		**P**	17 32 44.0	**-1.4**
	18nm,0.9s								
SCRK	**Sand Creek**	**88.35**	**14**		*e*P		**P**	17 32 45.2	**-0.4**
	8.4nm,0.8s								
IL1	**Eielson Array**	**88.43**	**12**		*e*P		**P**	17 32 44.8	**-1.0**
ILAR	**Eielson Array**	**88.43**	**12**		P		**P**	17 32 44.6	**-1.1**
	4.9nm,0.7s,baz=218,slow=6.0,SNR=78								
ILAR					PP		**PP**	**17 36 15.7**	**-2.9**
	1.6nm,0.9s,baz=220,slow=7.9,SNR=5.8								
ILB	**Eielson Array**	**88.43**	**12**		*e*P		**P**	17 32 44.4	**-1.3**
PD31	**Pinedale Array**	**88.56**	**43**		*e*P		**P**	17 32 46.9	**-0.3**
PDAR	**Pinedale Array**	**88.56**	**43**		P		**P**	17 32 47.1	**-0.1**
	1.5nm,0.9s,baz=236,slow=4.5,SNR=5.7								
PBKT	**Sadao Pong**	**88.62**	**288**		*e*P		**P**	17 32 48.0	**+0.3**
	5.8nm,1.1s								
PBKT	**Sadao Pong**	**88.62**	**288**		P		**P**	17 32 49.7	**+1.9**
	6.7nm,1.2s								
XAN	**Xi'an**	**89.08**	**307**		P		**P**	17 32 50.4	**+0.7**
XAN					pmax		pmax		
	comp=Z,14nm,0.9s								
DAWY	**Dawson**	**89.52**	**16**		*e*P		**P**	17 32 51.0	**+0.1**
	22nm,0.8s								
EGAK	**Eagle**	**89.68**	**15**		*e*P		**P**	17 32 51.4	**-0.2**
	23nm,0.8s								
RLMT	**Red Lodge**	**89.92**	**41**		*e*P		**P**	17 32 54.5	**+1.0**
	5.6nm,1.0s								
COLD	**Coldfoot**	**90.03**	**10**		*e*P		**P**	17 32 54.2	**+1.0**
	10nm,1.4s								
HHC	**Hu-ho-hao-te**	**90.26**	**314**		*e*P		**P**	17 32 56.6	**+1.6**
HHC					pmax		pmax		
	comp=Z,8.0nm,0.7s								
HHC					pmax		pmax		
	comp=Z,110nm,6.0s								
KMI	**Kunming**	**90.34**	**297**		P		**P**	17 32 57.5	**+1.6**
KMI					pmax		pmax		
	comp=Z,13nm,0.8s								
CMAR	**Chiang Mai Arr**	**91.12**	**289**		P		**P**	17 33 00.2	**+0.9**
	3.8nm,0.9s,baz=123,slow=3.0,SNR=23								
CHTO	**Chiang Mai**	**91.25**	**290**		*e*P		**P**	17 33 01.1	**+1.1**
	5.7nm,0.7s								
CHTO	**Chiang Mai**	**91.25**	**290**		P		**P**	17 33 01.1	**+1.1**
CHTO	**Chiang Mai**	**91.25**	**290**		P		**P**	17 33 01.1	**+1.1**
CD2	**Chengdu**	**91.76**	**302**		*e*P		**P**	17 33 02.0	**-0.2**
CD2					pmax		pmax		
	comp=Z,10.0nm,0.5s								
RSSD	**Black Hills**	**92.74**	**44**		*e*P		**P**	17 33 06.3	**-0.3**
	8.1nm,1.0s								
LZH	**Lanzhou**	**93.72**	**307**		*e*P		**P**	17 33 14.6	**+3.4**
LZH					pP		pP	17 34 16.3	-4.1
LZH					sP		sP	17 34 45.2	-5.3
LZH					PP		**PP**	**17 37 02.6**	**+1.6**
LZH					SKS		**SKSac**	**17 43 21.8**	**+4.0**
LZH					*e*S		**ScS**	**17 43 57.4**	**+1.3**
LZH					SS		**SS**	**17 50 22.4**	**+1.0**
LZH					pmax		pmax		
	comp=Z,38nm,1.1s								
LZH					pmax		pmax		
	comp=Z,200nm,4.6s								
INK	**Inuvik**	**94.35**	**15**		P		**P**	17 33 12.5	**-0.5**
	7.1nm,0.9s,baz=218,slow=3.6,SNR=12								
INK	**Inuvik**	**94.35**	**15**		*e*P		**P**	17 33 12.5	**-0.5**
	13nm,1.1s								
YKA	**Yellowknife Ar**	**96.42**	**24**		P		**P**	17 33 22.4	**-0.2**
	1.2nm,0.7s,baz=239,slow=4.8,SNR=4.0								
YKB5	**Yellowknife Ar**	**96.42**	**24**		*e*P		**P**	17 33 22.1	**-0.5**
TIXI	**Tiksi**	**99.31**	**345**		P		**Pdif**	17 33 34.2	**-1.1**
	1.2nm,0.3s,baz=251,slow=1.7,SNR=9.6								
ZALV	**Zalesovo Beam**	**111.34**	**321**		PP		PP	17 39 14.3	+2.8
	0.4nm,0.3s,baz=64,slow=6.6,SNR=5.0								
ZAA1	**Zalesovo Array**	**111.34**	**321**		*e*PP		PP	17 39 14.3	+2.8
MK32	**Makanchi Array**	**112.11**	**313**		*e*PKiKP		**PKiKP**	**17 38 26.2**	**-1.6**
MKAR	**Makanchi Array**	**112.11**	**313**		PKiKP		**PKiKP**	**17 38 26.2**	**-1.6**
	0.4nm,0.5s,baz=26,slow=0.1,SNR=7.2								
KSH	**Kashi**		**115.85**	**305**	*e*PKP		**PKPdf**	**17 38 33.0**	**-2.4**
ARA0	**ARCESS Array S**	**129.41**	**350**		*e*PKPdf		**PKPdf**	**17 39 00.0**	**-0.3**
ARCES	**ARCESS Array B**	**129.41**	**350**		PKP		**PKPdf**	**17 39 00.0**	**-0.3**
	1.7nm,0.5s,baz=34,slow=3.4,SNR=12								
FIA0	**FINESS Array S**	**136.35**	**344**		*e*PKPpre		PKPpre	17 39 08.9	
FIA0					*e*PKPdf		**PKPdf**	**17 39 13.4**	**-0.1**
FINES	**FINESS Array B**	**136.35**	**344**		PKhKP		PKPpre	17 39 08.9	
	0.4nm,0.4s,baz=34,slow=3.5,SNR=5.7								
FINES					PKP		**PKPdf**	**17 39 13.4**	**-0.1**
	0.9nm,0.5s,baz=38,slow=2.5,SNR=7.1								
KMBO	**Kilima Mbogo**	**140.02**	**241**		PKP		**PKPdf**	**17 39 22.7**	**+0.7**
	2.3nm,0.2s,baz=291,slow=21,SNR=5.0								
AKASG	**Malin Array Be**	**143.76**	**332**		PKhKP		PKPpre	17 39 23.6	
	5.7nm,0.6s,baz=42,slow=4.4,SNR=24								
AKBB	**Malin Array Si**	**143.76**	**332**		*e*PKPpre		PKPpre	17 39 23.6	
KIEV	**Kiev**	**143.77**	**332**		*e*PKPpre		PKPpre	17 39 23.8	
KIEV					*e*PKPdf		**PKPdf**	**17 39 27.7**	**+0.5**
SORM	**Soroca**		**145.97**	**329**	⇑*i*P		**PKPdf**	**17 39 31.5**	**+0.4**
KWP	**Kalwaria Pacla**	**147.27**	**336**		*e*PKPbc		**PKPbc**	**17 39 35.6**	**-0.5**
TLCR			**147.73**	**325**	⇑*i*P		**PKPbc**	**17 39 38.8**	**+1.4**
BR101	**Keskin Array S**	**147.76**	**313**		*e*PKPbc		**PKPbc**	**17 39 37.1**	**-0.7**
BRTR	**Keskin Array B**	**147.76**	**313**		PKPbc		**PKPbc**	**17 39 37.1**	**-0.7**
	1.3nm,0.6s,baz=156,slow=5.9,SNR=8.8								
BUR08	**Bucovina Ar. S**	**147.79**	**331**		*e*PKPdf		**PKPdf**	**17 39 34.4**	**0.0**
BUR08					*e*PKPbc		**PKPbc**	**17 39 37.1**	**-0.5**
BUR04	**Bucovina Ar. S**	**147.81**	**331**		*e*PKPdf		**PKPdf**	**17 39 33.9**	**-0.5**
BUR04					*e*PKPbc		**PKPbc**	**17 39 37.7**	**0.0**
BURAR	**Bucovina Array**	**147.81**	**331**	⇑	*i*P		**PKPbc**	**17 39 37.0**	**-0.7**
BIZ	**Bicaz**	**147.90**	**330**	⇑	*i*P		**PKPbc**	**17 39 38.2**	**+0.4**
KSP	**Ksiaz**	**148.28**	**344**		*e*PKP		**PKPbc**	**17 39 38.7**	**0.0**
VRI	**Vrincioaia**	**148.35**	**328**	⇓	*i*P		**PKPbc**	**17 39 38.9**	**-0.1**
HARR	**Harsova**	**148.53**	**325**	⇑	*i*P		**PKPbc**	**17 39 39.1**	**-0.4**
TLB	**Topalu**	**148.53**	**325**	⇑	*i*P		**PKPbc**	**17 39 38.1**	**-1.4**
TRPA	**Tarpa**	**148.55**	**335**	⇑	*i*P		**PKPbc**	**17 39 39.0**	**-0.4**
CLL	**Collm**	**148.59**	**348**		*e*PKPdf		**PKPdf**	**17 39 34.9**	**-0.5**
CLL					*e*PKPbc		**PKPbc**	**17 39 39.1**	**-0.3**
CLL	**Collm**	**148.59**	**348**	⇓	*i*PKPbc		**PKPbc**	**17 39 39.1**	**-0.3**
	comp=Z,17nm,0.6s								
CLL					*i* PKPab		**PKPab**	**17 39 42.8**	**-1.0**
	comp=Z,8.0nm,0.7s								
OKC	**Ostrava-Krasne**	**148.66**	**341**	⇑	*e*PKP		**PKPbc**	**17 39 39.4**	**-0.2**
DPC	**Dobruska-Polom**	**148.72**	**343**	⇑	*e*PKP		**PKPbc**	**17 39 39.9**	**0.0**
DPC					*e*PKPAB		**PKPab**	**17 39 44.3**	**-0.2**
BRG	**Berggiesshubel**	**148.81**	**347**		*i* PKP		**PKPbc**	**17 39 39.8**	**-0.1**
	comp=Z,9.0nm,0.6s								
BRG					*i*			17 39 44.0	
	comp=Z,6.8nm,0.8s								
LANS	**Liptovska Anna**	**148.83**	**339**		*e*PKP		**PKPbc**	**17 39 40.9**	**+0.7**
LANS					*e*			17 39 45.4	
KRLC	**Kraliky**	**148.84**	**343**	⇑	*e*PKP		**PKPbc**	**17 39 40.3**	**+0.1**
KRLC					*e*PKPAB		**PKPab**	**17 39 44.8**	**-0.2**
MORC	**Moravsky Berou**	**148.89**	**342**	⇑	*i*P		**PKPbc**	**17 39 40.2**	**-0.1**
MORC	**Moravsky Berou**	**148.89**	**342**		*e*PKP		**PKPbc**	**17 39 40.2**	**-0.1**
PVCC	**Panska Ves**	**148.99**	**346**	⇑	*e*PKP		**PKPbc**	**17 39 40.4**	**-0.1**
MLR	**Muntele Rosu**	**149.01**	**328**		*e*PKPdf		**PKPdf**	**17 39 35.5**	**-1.0**
MLR					*e*PKPbc		**PKPbc**	**17 39 40.5**	**-0.4**
MLR	**Muntele Rosu**	**149.01**	**328**	⇑	*i*P		**PKPbc**	**17 39 40.2**	**-0.7**
VOIR			**149.49**	**329**	⇓ *i*P		**PKPbc**	**17 39 41.8**	**-0.2**
DRGR			**149.54**	**333**	⇑ *i*P		**PKPbc**	**17 39 42.7**	**+0.7**
VRAC	**Vranov**	**149.59**	**342**	⇑	*i*P		**PKPbc**	**17 39 42.3**	**+0.3**
VRAC	**Vranov**	**149.59**	**342**		*e*PKP		**PKPbc**	**17 39 42.0**	**0.0**
VYHS	**Vyhne**	**149.61**	**339**		*e*PKP		**PKPbc**	**17 39 41.8**	**-0.3**
VYHS					*e*			17 39 47.9	
JAVC	**Velka Javorina**	**149.67**	**341**		*e*PKP		**PKPbc**	**17 39 43.4**	**+1.1**
NKC	**Novy Kostel**	**149.72**	**348**	⇑	*e*PKP		**PKPbc**	**17 39 41.6**	**-0.7**
ARR	**Arges**	**149.74**	**329**	⇑	*i*P		**PKPbc**	**17 39 43.1**	**+0.5**
KRUC	**Moravsky**	**149.87**	**342**		*e*PKP		**PKPbc**	**17 39 42.6**	**0.0**
TREC	**Trest**	**149.90**	**344**	⇑	*e*PKP		**PKPbc**	**17 39 42.7**	**-0.1**
MEM	**Membach**	**150.19**	**356**	⇑	PKPbc		**PKPbc**	**17 39 42.7**	**-0.6**
MODS	**Modra-Piesok**	**150.22**	**341**		*e*PKP		**PKPbc**	**17 39 42.9**	**-0.6**
MODS					*e*			17 39 49.9	
SIRR	**Siria**	**150.40**	**333**	⇓	*i*P		**PKPbc**	**17 39 44.0**	**0.0**
KHC	**Kasperske Hory**	**150.53**	**346**		*e*PKPdf		**PKPdf**	**17 39 37.8**	**-0.8**
KHC					*e*PKPbc		**PKPbc**	**17 39 44.3**	**+0.1**
KHC					*e*PKPab		**PKPab**	**17 39 51.5**	**-0.5**
KHC	**Kasperske Hory**	**150.53**	**346**	⇑	*e*PKP		**PKPbc**	**17 39 44.4**	**+0.1**
KHC					*e*PKPAB		**PKPab**	**17 39 51.0**	**-1.0**
GZR	**Gura Zlata**	**150.59**	**331**	⇑	*i*P		**PKPbc**	**17 39 43.8**	**-0.8**
GEC2	**GERESS Array S**	**150.76**	**345**		*e*PKPbc		**PKPbc**	**17 39 44.7**	**-0.2**
GERES	**GERESS Array B**	**150.76**	**345**		PKPbc		**PKPbc**	**17 39 44.5**	**-0.4**
	comp=Z,3.4nm,0.7s,baz=40,slow=2.3,SNR=28								
DOU	**Dourbes**		**150.77**	**358**	⇓PKPbc		**PKPbc**	**17 39 44.6**	**-0.2**
GEA0	**GERESS Array S**	**150.77**	**345**		*e*PKPdf		**PKPdf**	**17 39 37.7**	**-1.4**
GEA0					*e*PKPbc		**PKPbc**	**17 39 44.3**	**-0.6**
BZS	**Buzias**	**150.93**	**333**	⇑	*i*P		**PKPbc**	**17 39 45.0**	**-0.3**
CONA	**Conrad Observa**	**151.04**	**342**		*i* PKiKP		**PKPbc**	**17 39 45.6**	**0.0**
	comp=Z,5.5nm,0.7s								
CONA					*e*PKPab		**PKPab**	**17 39 54.2**	**-0.1**
	comp=Z,6.1nm,0.8s								
WLF	**Walferdange**	**151.12**	**356**	⇑	PKPbc		**PKPbc**	**17 39 44.8**	**-0.8**
WLF					⇓PKPab		**PKPab**	**17 39 53.6**	**-0.7**
HERR	**Herculane**	**151.15**	**331**	⇑	*i*P		**PKPbc**	**17 39 45.3**	**-0.5**
MDVR	**Moldovita**	**151.54**	**331**	⇑	*i*P		**PKPbc**	**17 39 46.3**	**-0.5**
MOA	**Molln**	**151.55**	**344**		*i* PKPbc		**PKPbc**	**17 39 46.2**	**-0.5**
	comp=Z,0.5nm,0.3s								
MOA					*e*PKPab		**PKPab**	**17 39 55.9**	**-0.4**
	comp=Z,7.0nm,1.3s								
SOKA	**Soboth**	**152.41**	**342**		*i* PKPab		**PKPab**	**17 39 59.7**	**-0.3**
	comp=Z,3.9nm,0.6s								
VTS	**Vitosha**	**152.46**	**327**	⇑	*i*P		**PKPdf**	**17 39 44.6**	**+2.7**
MYKA	**Terra Mystica**	**152.84**	**344**		*e*PKPbc		**PKPbc**	**17 39 48.3**	**-1.3**
	comp=Z,1.4nm,0.5s								
MYKA					*e*PKPab		**PKPab**	**17 40 00.5**	**-1.3**
	comp=Z,3.2nm,0.6s								
ABTA	**Abfaltersbach**	**153.01**	**346**		*e*PKPbc		**PKPbc**	**17 39 49.0**	**-1.1**
	comp=Z,4.3nm,0.6s,SNR=4.2								
FETA	**Feichten**	**153.13**	**348**		*e*PKPbc		**PKPbc**	**17 39 49.8**	**-0.6**
	comp=Z,3.3nm,0.7s								
PBRG	**Braganca**	**157.52**	**19**		*e*PKPab		**PKPab**	**17 40 22.1**	**+0.1**
POLO	**Lamas de Olo**	**157.56**	**22**		*e*PKPab		**PKPab**	**17 40 22.4**	**+0.2**
PVIS	**Viseu**	**158.11**	**23**		*e*PKPab		**PKPab**	**17 40 24.6**	**0.0**
PCAS	**Casmilo, Conde**	**158.46**	**25**		*e*PKPab		**PKPab**	**17 40 25.6**	**-0.4**
MTE	**Manteigas**	**158.51**	**22**		*e*PKPab		**PKPab**	**17 40 25.6**	**-0.7**
PTOM	**Tomar**	**158.87**	**25**		*e*PKPab		**PKPab**	**17 40 27.8**	**0.0**
PCBR	**Castelo Branco**	**159.03**	**23**		*e*PKPab		**PKPab**	**17 40 28.3**	**-0.2**
PMRV	**Marv??o**	**159.42**	**23**		*e*PKPab		**PKPab**	**17 40 30.3**	**0.0**
PESTR	**Estremoz**	**159.84**	**25**		*e*PKPab		**PKPab**	**17 40 31.6**	**-0.5**
ES19	**SONSECA Array**	**160.28**	**16**		*e*PKPdf		**PKPdf**	**17 39 51.5**	**-0.5**
ES19					*e*PKPab		**PKPab**	**17 40 32.2**	**-1.8**
ESDC	**Sonseca Array**	**160.29**	**16**		PKPab		**PKPab**	**17 40 33.8**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=328,slow=4.0,SNR=6.9								
TORD	**Torodi Ar. Bea**	**172.26**	**170**		PKP		**PKPdf**	**17 40 00.6**	**-1.3**
	comp=Z,0.7nm,0.8s,baz=157,slow=7.9,SNR=3.7								
TORD					PKPab		**PKPab**	**17 41 28.5**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=204,slow=3.3,SNR=3.5								
TOA1	**Torodi Ar. Sit**	**172.26**	**170**		*e*PKPdf		**PKPdf**	**17 40 00.6**	**-1.3**
TOA1					*e*PKPab		**PKPab**	**17 41 28.5**	**+1.2**

MEX 09 17:32:02.5±0.5, 14°.17N×92°.28W, h15km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
THIG		**0.73**	**1**	*i*	P	Pg	17 32 15.2	-1.6
THIG				*i*	S	Sg	17 32 23.2	-3.2
PCIG		**1.77**	**329**	*e*	P	Pn	17 32 29.9	-2.7
PCIG				*i*	S	Sn	17 32 49.7	-5.3
TGIG		**2.71**	**343**	*i*	P	Pn	17 32 43.2	-2.5
TGIG				*i*	S	Sn	17 33 13.8	-4.5

*ISK **09** 17:42:08.7, 37°.35N×37°.15E, h8km±1km, ML2.0/5*
*ISCJB **09** 17:42:09.4±0.7, 37°.31N±0°.05×37°.13E±0°.06, h7km±10km, Error ellipse: s-maj=10.7km s-min=6.0km az=41.9*
*DDA **09** 17:42:09.4, 37°.29N×37°.20E, h7km, Ml3.1*
ISC 09 17:42:09.2±1.2, 37°.34N±0°.05×37°.16E±0°.04, h8km±10km, n10, σ0s71/15, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
GAZ	**Gaziantep**	**0.17**	**165**		PG	**Pg**	**17 42 12.8**	**+0.1**
GAZ					SG	**Sg**	**17 42 15.4**	**+0.2**
KUZU	**Kuzuini**	**0.56**	**187**	*i*	P	**Pg**	**17 42 20.1**	**0.0**
KUZU				*i*	S	**Sn**	**17 42 31.8**	**-1.3**
ANDN	**Andirin**	**0.69**	**291**	*i*	P	**Pg**	**17 42 21.6**	**-0.8**
ANDN				*i*	S	**Sb**	**17 42 34.7**	**+1.5**
KOZT	**Kozan**	**1.07**	**278**		PG	**Pg**	**17 42 29.3**	**-0.4**
AKCD	**Akcadag**	**1.14**	**32**	*i*	P	**Pn**	**17 42 31.6**	**+0.1**
AKCD				*i*	S	**Sn**	**17 42 47.8**	**+0.5**
TAHT	**Tahtakopru-Hat**	**1.23**	**219**		PN	**Pg**	**17 42 33.0**	**+0.2**
SURC	**SANLIURFA_SURC**	**1.25**	**111**	*i*	P	**Pb**	**17 42 32.6**	**-0.5**
SURC				*i*	S	**Sn**	**17 42 50.0**	**0.0**
DARE	**Darende-Malaty**	**1.26**	**12**		PN	**Pn**	**17 42 33.3**	**+0.1**
URFA	**Urfa**	**1.33**	**85**		PN	**Pg**	**17 42 34.3**	**-0.4**
SVRC	**Sivrice-ELAZID**	**2.00**	**58**		PN	**Pn**	**17 42 43.6**	**+0.2**

MAN 09 17:48:33.0, 17°.21N×121°.71E, h48km, mb4.5, ML3.4, MS3.2, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
APYP	**Conner**	**0.79**	**325**	*e*	P	Pn	17 48 49.8	+2.0
APYP				*e*	S	Sn	17 49 03.8	+5.2
ABRA	**Dolores**	**1.05**	**294**	*e*	P	Pn	17 48 51.5	+0.1
ABRA				*e*	S	Sn	17 49 06.7	+1.7
SGCP	**Mt. Cagua**	**1.07**	**17**	*e*	P	Pn	17 48 52.9	+1.2
SGCP				*e*	S	Sn	17 49 06.5	+1.0

*ISCJB **09** 17:50:26.8±2.0, 3°.45N±0°.06×78°.92W±0°.06, h14km±14km, mb3.6/5, Error ellipse: s-maj=11.1km s-min=8.5km az=39.4*
*RSNC **09** 17:50:27.8±0.8, 3°.42N×78°.95W, h10km±5km, ML3.1, Mw3.2*
*IDC **09** 17:50:28.1±1.6, 0°.95N×82°.24W, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.7/32, mbtmp3.6/5, Error ellipse: s-maj=172.4km s-min=25.6km az=55.0*
ISC 09 17:50:28.1±2.0, 3°.41N±0°.07×78°.87W±0°.07, h14km±12km, n15, σ1s31/19, mb3.6/5, 1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
GRGC	**Isla de Gorgon**	**0.81**	**120**	*e*	P	**Pg**	**17 50 43.5**	**-0.3**
GRGC				*e*	S	**Sg**	**17 50 55.0**	**+0.6**
GRGC				*i*			17 50 56.0	
	comp=Z,372nm,0.7s							
MALC	**Bahia Malaga**	**1.65**	**69**	*e*	P	**Pn**	**17 50 56.3**	**-0.3**
MALC				*e*	S	**Sn**	**17 51 18.8**	**+1.3**
MALC				*i*			17 51 19.4	
	comp=Z,418nm,0.3s							
POPC	**Popayan, Colom**	**2.35**	**111**	*e*	P	**Pn**	**17 51 05.4**	**-1.2**
POPC				*e*	S	**Sn**	**17 51 32.2**	**-3.2**
POPC				*i*			17 51 33.9	
	comp=Z,81nm,0.4s							
YOTC	**Yotoco, Valle**	**2.58**	**77**	*e*	P	**Pn**	**17 51 08.8**	**-0.8**
YOTC				*e*	S	**Sn**	**17 51 39.3**	**-1.6**
YOTC				*i*			17 51 42.1	
	comp=Z,49nm,0.7s							
SOTA	**Rioblanco**	**2.59**	**119**	*e*	P	**Pn**	**17 51 10.0**	**0.0**
SOTA				*e*	S	**Sn**	**17 51 42.8**	**+1.3**
SOTA				*i*			17 51 50.1	
	comp=Z,192nm,0.8s							
CRUC	**La Cruz**	**2.65**	**134**	*e*	P	**Pn**	**17 51 11.4**	**+0.7**
CRUC				*e*	S	**Sn**	**17 51 44.4**	**+1.6**
GCUF	**Volcan Galeras**	**2.65**	**145**	*e*	P	**Pn**	**17 51 10.8**	**-0.1**
GCUF				*i*			17 51 53.7	
	comp=Z,48nm,0.4s							
MARP	**Paez Belalcaza**	**2.96**	**101**	*e*	P	**Pn**	**17 51 16.5**	**+1.6**
MARP				*e*	S	**Sn**	**17 51 50.3**	**-0.2**
MARP				*i*			17 51 53.6	
	comp=Z,72nm,0.4s							
OTAV	**Otavalo**	**3.18**	**172**	⇓	*e*P	**Pn**	**17 51 16.9**	**-1.1**
OTAV					*i*		17 51 55.8	
	comp=Z,29nm,0.5s							
LPAZ	**La Paz**	**22.27**	**152**		P	**P**	**17 55 25.2**	**-0.4**
	comp=Z,3.8nm,0.7s,baz=336,slow=12,SNR=17							
TXAR	**Lajitas Array**	**34.91**	**320**		P	**P**	**17 57 20.0**	**+0.4**
	comp=Z,0.3nm,0.9s,baz=125,slow=7.8,SNR=2.5							
NVAR	**Mina Array Bea**	**50.05**	**319**		P	**P**	**17 59 23.0**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=115,slow=6.1,SNR=2.9							
YKA	**Yellowknife Ar**	**64.63**	**343**		P	P	18 01 15.4	+10
	comp=Z,0.7nm,0.7s,baz=147,slow=6.5,SNR=2.4							
ILAR	**Eielson Array**	**77.67**	**336**		P	P	18 02 33.0	+9.1
	comp=Z,0.3nm,0.7s,baz=136,slow=4.2,SNR=4.2							
WRA	**Warramunga Arr**	**143.68**	**240**		PKP	PKPab	18 09 59.1	-1.3
	comp=Z,0.7nm,0.8s,baz=108,slow=3.2,SNR=5.6							

*ISCJB **09** 18:02:08.7±0.3, 67°.07N±0°.02×20°.92E±0°.06, h0km, Error ellipse: s-maj=3.2km s-min=2.7km az=21.9*
*UPP **09** 18:02:09.3±0.1, 67°.08N×20°.94E, h0km, ML2.2*
*HEL **09** 18:02:09.9±0.0, 67°.09N×20°.92E, h0km, ML2.

comp=Z,0.0nm,0.3s,baz=63,slow=14,SNR=2.9

NRA0	**NORESS Array S** baz=31,slow=14	7.60	217	Pn	Pn	18 04 01.1	-0.1
NRA0	**NORESS Array S** baz=31,slow=14	7.60	217	Pn	Pn	18 04 01.1	-0.1
HFS	**Hagfors** comp=Z,0.1nm,0.3s,baz=31,slow=13,SNR=6.1	7.69	208	Pn	Pn	18 04 00.8	-1.7
HFS	**Hagfors** baz=28,slow=14	7.69	208	Pn	Pn	18 04 01.8	-0.6
HFS	**Hagfors** baz=28,slow=14	7.69	208	Pn	Pn	18 04 01.8	-0.6

*IDC **09** 18:07:39.5±1.0, 9.29S×122.04E, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.6/25, mbtmp3.8/6, ML3.9/2, Error ellipse: s-maj=103.3km s-min=20.1km az=60.0*
*ISCJB **09** 18:07:45.1±0.4, 9.59S±0.05×122.23E±0.06, h44km, mb4.3/8, Error ellipse: s-maj=9.3km s-min=4.8km az=142.5*
*NEIC **09** 18:07:47.7±1.0, 9.47S×122.13E, h72km±12km, mb4.5/9, Error ellipse: s-maj=16.4km s-min=9.4km az=59.0*
*DJA **09** 18:07:49.5±0.8, 9.5S×12.2E±°, h29km±9km, M3.6/7, MLv3.6/7*

ISC 09 18:07:46.3±0.6, 9.63S±0.05×122.19E±0.06, h44km, n37, σ2s73/41, mb4.6/8, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	0.99	3	ePn	Pn	18 08 06.1	+2.3
MMRI				eSn	Sn	18 08 17.8	+1.2
MMRI	**Maumere**	0.99	3	P	Pn	18 08 06.4	+2.7
MMRI				S	Sn	18 08 17.6	+1.1
EDFI	**Ende, Flores**	1.00	331	P	Pn	18 08 04.5	+0.5
EDFI				S	Sn	18 08 15.8	-1.2
BATI	**Baumata**	1.56	112	P	Pn	18 08 18.3	+6.6
SOEI	**Soe**	2.06	94	ePn	Pn	18 08 26.2	+7.7
SOEI	**Soe**	2.06	94	P	Pn	18 08 28.4	+8.3
WBSI	**Waikabubak, Su**	2.76	269	P	Pn	18 08 28.2	+0.1
BKSI	**Bulukumba**	4.74	334	P	Pn	18 08 56.5	+1.2
LUWI	**Luwuk**	8.55	4	ePn	Pn	18 09 44.6	-3.0
FITZ	**Fitzroy Crossi**	9.06	159	ePn	Pn	18 09 58.3	+3.7
FITZ				eSn	Sn	18 11 30.5	-4.9
MTN	**Manton Dam**	9.34	111	ePn	Pn	18 10 01.1	+2.7
MTN				eSn	Sn	18 11 41.1	-1.1
MBWA	**Marble Bar**	11.71	191	ePn	Pn	18 10 33.3	+2.5
SMRI	**Semarang**	11.90	282	ePn	Pn	18 10 33.0	-0.5
FAKI	**Fak Fak**	12.02	57	ePn	Pn	18 10 34.4	-0.7
WR1	**Warramunga Arr** 24nm,1.7s	15.59	133	ePn	Pn	18 11 23.3	+0.2
WR1				eSn	Sn	18 14 09.3	-5.5
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=306,slow=14,SNR=22	15.59	133	Pn	Pn	18 11 23.3	+0.2
WRA	0.3nm,0.3s,baz=299,slow=27,SNR=6.4			Sn	Sn	18 14 09.3	-5.5
WRAB	**Tennant Creek** 30nm,1.8s	15.59	132	ePn	Pn	18 11 23.0	-0.1
WB2	**Warramunga Arr**	15.59	132	ePn	Pn	18 11 22.3	-0.9
WC3	**Warramunga Arr** 16nm,1.7s	15.62	132	ePn	Pn	18 11 22.5	-1.0
ASAR	**Alice Springs** 0.4nm,0.3s,baz=326,slow=14,SNR=21	17.90	143	P	P	18 11 53.9	+1.6
ASAR	0.1nm,0.3s,baz=312,slow=22,SNR=6.0			S	Sn	18 15 05.0	-5.9
AS01	**Alice Springs**	17.92	143	eP	P	18 11 54.6	+2.0
COEN	**Coen** 56nm,1.8s	20.99	104	eP	Pn	18 12 27.6	-1.5
NWAO	**Narrogin (SRO)** 74nm,1.7s	23.63	190	eP	P	18 12 54.5	+1.0
BBOO	**Buckleboo** 72nm,1.8s	26.39	153	eP	P	18 13 21.2	+2.5
STKA	**Stephens Creek** 2.3nm,1.0s,baz=315,slow=11,SNR=2.6	28.53	144	P	P	18 13 41.1	+3.3
KDJ	**Kajisay** 12nm,1.9s	65.95	325	eP	P	18 18 26.0	-2.3
MK01	**Makanchi Array**	66.46	331	eP	P	18 18 28.7	-2.5
MK31	**Makanchi Array**	66.48	331	eP	P	18 18 28.5	-2.8
MK32	**Makanchi Array**	66.48	331	eP	P	18 18 28.8	-2.6
MKAR	**Makanchi Array** 0.7nm,0.7s,baz=144,slow=7.6,SNR=8.2	66.48	331	P	P	18 18 28.8	-2.6
MKAR	**Makanchi Array** 23nm,1.0s	66.48	331	eP	P	18 18 28.4	-3.0
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=138,slow=8.5,SNR=2.7	70.78	338	P	P	18 18 55.2	-2.7
ZALV	**Zalesovo Beam**	70.78	338	eP	P	18 18 55.0	-2.9
ZAA1	**Zalesovo Array**	70.78	338	eP	P	18 18 55.2	-2.7
VNDA	**Vanda** 0.3nm,0.5s,baz=314,slow=9.2,SNR=5.9	70.89	172	P	P	18 18 59.9	+1.6
VNDA	**Vanda**	70.89	172	eP	P	18 18 59.1	+0.7
KURK	**Kurchatov** 15nm,2.0s	70.98	332	eP	P	18 18 55.3	-3.9

*IDC **09** 18:32:12.3±1.8, 13.27N×92.57W, h0km, mb3.9/7, mb1 4.1/11, mb1mx3.9/38, mbtmp3.8/11, ML3.6/4, MS3.4/2, Ms1 3.3/2, ms1mx2.6/35, Error ellipse: s-maj=45.9km s-min=19.6km az=29.0*
*NEIC **09** 18:32:16.6±4.2, 13.58N×92.49W, h18km±27km, mb4.4/35, Error ellipse: s-maj=15.3km s-min=8.3km az=211.0*
*MEX **09** 18:32:29.2±0.8, 14.29N×92.60W, h16km±999km, MD3.7*

ISC 09 18:32:18.5±2.1, 13.77N±0.08×92.45W±0.07, h26km±14km, n64, σ2s10/65, mb4.4/32, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.15	9	eP	Pb	18 32 41.1	+1.3
THIG				eS	Sn	18 32 48.7	-5.1
PCIG		2.07	339	eP	Pn	18 32 51.7	+0.1
PCIG				i S	Sn	18 33 10.8	-5.6
APG	**El Apazote** 17nm,0.3s,baz=220,slow=7.8,SNR=104	2.28	57	Pn	Pb	18 32 57.5	-1.7
APG	4.2nm,0.3s,baz=299,slow=10.0,SNR=3.6			Sn	Sb	18 33 26.3	-0.8
CCIG	**Comitan**	2.52	7	ePn	Pb	18 33 02.6	-0.6
CCIG				eSn	Sb	18 33 35.7	+1.9
CCIG	**Comitan**	2.52	7	eP	Pn	18 33 00.1	+2.2
CCIG				i S	Sn	18 33 23.8	-4.1
TGIG		3.06	348	i P	Pn	18 33 07.7	+2.4
TGIG				i S	Sn	18 33 35.5	-5.7
SNET	**Serv Nac Est T**	3.13	91	ePn	Pn	18 33 06.2	+0.1
CMIG	**Matias Romero** 2.1nm,0.3s,baz=143,slow=8.4,SNR=12	4.06	325	Pn	Pn	18 33 18.5	-0.4
CMIG	3.3nm,0.3s,baz=123,slow=17,SNR=6.4			Sn	Sn	18 33 60.0	-5.6
TGUH	**Tegucigalpa,Un**	5.03	86	ePn	Pn	18 33 30.7	-1.7
TLIG	**Tlapa**	7.00	303	ePn	Pn	18 33 57.5	-2.0
TEIG	**Tepich**	7.56	31	ePn	Pn	18 34 09.9	+2.8
JTS	**JuntasAbangare** 0.8nm,0.3s,baz=299,slow=19,SNR=2.1	8.10	114	Pn	Pn	18 34 09.1	-5.5
JTS	**JuntasAbangare**	8.10	114	ePn	Pn	18 34 12.3	-2.3
LTX	**Lajitas**	18.66	328	eP	Pn	18 36 37.8	+2.8
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=152,slow=14,SNR=7.0	18.66	328	P	Pn	18 36 37.8	+2.8
TX31	**Lajitas Ar. Si**	18.66	328	eP	P	18 36 32.7	-2.0
LRAL	**Lakeview Retre** 87nm,1.3s	19.82	14	eP	Pn	18 36 49.2	+0.4
ABTX	**Abilene, Hawle** 11nm,0.9s	19.89	342	eP	P	18 36 48.8	+0.8
152A	**Waverly Hall** 13nm,0.6s	20.10	19	eP	Pn	18 36 52.7	+0.5
Z50A	**Ashland** 8.2nm,0.9s	20.29	16	eP	Pn	18 36 54.8	+0.4
MIAR	**Mount Ida** 33nm,1.9s	20.71	357	eP	P	18 36 58.4	+1.5
Y49A	**Blount Mountai** 8.3nm,0.7s	20.74	14	eP	P	18 36 58.5	+1.3
OXF	**Oxford** 30nm,0.4s	20.84	7	eP	P	18 36 59.2	+1.0
UALR	**University of** 6.6nm,0.6s	20.92	0	eP	Pn	18 37 02.5	+0.8
X48A	**Hartselle** 8.7nm,0.8s	21.17	12	eP	P	18 37 02.4	+0.6
GOGA	**Godfrey** 8.3nm,0.9s	21.20	21	eP	P	18 37 02.1	0.0
Y52A	**Lilburn** 8.3nm,0.8s	21.41	19	eP	P	18 37 05.6	+1.2
PLAL	**Pickwick Lake** 38nm,1.8s	21.49	10	eP	P	18 37 04.3	-1.0
WMOK	**Wichita Mounta** 26nm,1.8s	21.65	346	eP	P	18 37 06.9	-0.1
SDV	**Santo Domingo** 7.4nm,0.5s,baz=182,slow=1.2,SNR=8.5	21.93	100	P	P	18 37 08.8	-1.5
SDV	**Santo Domingo** 20nm,1.0s	21.93	100	eP	P	18 37 10.2	-0.1
SWET	**Sewanee** 19nm,1.1s	22.15	14	eP	P	18 37 12.6	+0.1
W50A	**Signal Mountai** 8.4nm,0.8s	22.29	16	eP	P	18 37 13.6	-0.3
V48A	**Smith Brothers** 16nm,0.9s	22.46	12	eP	P	18 37 15.9	+0.2
WVT	**Waverly** 9.1nm,1.4s	22.65	10	eP	P	18 37 18.0	+0.3
JSC	**Jenkinsville** 11nm,1.1s	22.80	24	eP	P	18 37 19.4	+0.1
BG3	**Lake Jocassee** 13nm,1.2s	22.82	20	eP	P	18 37 20.8	+1.3
TKL	**Tuckaleechee C** 8.1nm,0.9s,baz=191,slow=14,SNR=4.0	23.16	18	P	P	18 37 23.6	+0.7
TKL	**Tuckaleechee C** 35nm,1.5s	23.16	18	eP	P	18 37 22.8	-0.1
V53A	**Saluda** 11nm,1.1s	23.47	20	eP	P	18 37 27.2	+1.1
KMSC	**Kings Mountain** 15nm,1.0s	23.53	23	eP	P	18 37 27.3	+0.7
T47A	**Sharon Grove** 11nm,0.9s	23.61	11	eP	P	18 37 27.5	+0.1
SIUC	**Southern Illin** 26nm,0.7s	24.02	6	eP	P	18 37 31.6	+0.3
TZTN	**Tazewell** 8.0nm,0.8s	24.04	18	eP	P	18 37 31.7	+0.2
T49A	**Edmonton** 24nm,1.3s	24.05	14	eP	P	18 37 31.8	+0.3
WCI	**Wyandotte Cave** 14nm,0.7s	24.97	12	eP	P	18 37 41.0	+1.0
S51A	**Beattyville** 25nm,1.4s	25.05	17	eP	P	18 37 42.4	+1.7
OLIL	**Olney** 28nm,1.0s	25.17	8	eP	P	18 37 41.8	+0.1
T25A	**Trinidad** 6.3nm,0.8s	25.61	337	eP	P	18 37 51.1	+5.0
Q51A	**Peebles** 12nm,0.9s	26.42	16	eP	P	18 37 54.4	+1.3
M44A	**Midewin, Midew** 22nm,0.8s	27.79	7	eP	P	18 38 05.6	+0.3
PD31	**Pinedale Array**	32.45	336	eP	P	18 38 48.3	+1.4
PDAR	**Pinedale Array** 0.3nm,0.6s,baz=118,slow=11,SNR=3.9	32.45	336	P	P	18 38 49.0	+2.1
NV01	**Mina Array Sit**	33.58	322	eP	P	18 38 56.1	-0.7
NVAR	**Mina Array Bea** 1.1nm,0.7s,baz=125,slow=8.3,SNR=5.7	33.58	322	P	P	18 38 57.0	+0.2
PTGA	**Pitinga** 8.2nm,0.9s	35.26	112	eP	P	18 39 13.1	+1.7
ULM	**Lac du Bonnet** comp=Z,23nm,18.1s,baz=69,slow=42	36.49	356	LR	LR	18 58 22.0	
F10A	**Beach Ranch, E** 6.1nm,1.0s	38.31	332	eP	P	18 39 39.8	+2.8
YKA	**Yellowknife Ar** 2.9nm,0.8s,baz=148,slow=7.6,SNR=9.1	51.15	347	P	P	18 41 20.7	+1.7
YKB5	**Yellowknife Ar**	51.15	347	eP	P	18 41 20.6	+1.6
ILAR	**Eielson Array** 0.4nm,0.8s,baz=149,slow=6.1,SNR=3.7	62.88	337	P	P	18 42 42.1	+0.1
GERES	**GERESS Array B** 0.2nm,0.5s,baz=232,slow=1.1,SNR=3.1	90.06	39	P	P	18 45 16.8	+0.5
NRIK	**Noril'sk** comp=Z,32nm,18.1s,baz=54,slow=38	97.11	360	LR	LR	19 34 22.2	
CMAR	**Chiang Mai Arr** 0.8nm,0.8s,baz=333,slow=2.8,SNR=8.2	146.07	340	PKPbc	PKPdf	18 51 54.8	-1.4

*MEX **09** 18:36:13.8±0.7, 13.42N×92.10W, h15km, MD3.7*
*IDC **09** 18:36:13.5±2.9, 13.59N×92.21W, h0km, mb3.6/1, mb1 3.9/4, mb1mx3.5/45, mbtmp3.5/4, ML3.1/3, MS3.2/4, Ms1 3.2/4, ms1mx2.7/33, Error ellipse: s-maj=50.6km s-min=27.7km az=178.0*

ISC 09 18:36:19.6±1.8, 13.8N±0.1×92.24W±0.07, h35km, n12, σ2s03/15, MS3.0/3, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.16	359	i P	Pn	18 36 35.8	-3.5
THIG				eS	Sn	18 36 54.4	+0.5
APG	**El Apazote** 11nm,0.3s,baz=230,slow=11,SNR=16	2.13	54	Pn	Pn	18 36 51.6	-1.3
APG	21nm,0.3s,baz=292,slow=16,SNR=12			Sn	Sn	18 37 20.5	+2.3
APG	comp=Z,258nm,18.3s,baz=188,slow=43			LR	LR	18 37 48.5	
PCIG		2.17	334	eP	Pn	18 36 51.1	-2.1
PCIG				i S	Sn	18 37 20.3	+1.5
CCIG	**Comitan**	2.52	2	eP	Pn	18 36 56.3	-1.9
CCIG				i S	Sn	18 37 28.5	+0.6
TGIG		3.13	344	eP	Pn	18 37 05.7	-0.9
TGIG				i S	Sn	18 37 44.7	+1.9
CMIG	**Matias Romero** 0.3nm,0.3s,baz=132,slow=12,SNR=1.4	4.19	323	Pn	Pn	18 37 18.9	-2.1
CMIG	0.8nm,0.3s,baz=92,slow=16,SNR=1.8			Sn	Sn	18 38 12.0	+3.2
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=151,slow=11,SNR=7.3	18.78	328	P	Pn	18 40 37.3	+0.6
SJG	**San Juan** comp=Z,22nm,18.1s,baz=262,slow=39	25.45	77	LR	LR	18 52 54.8	
NNA	**Nana** comp=Z,42nm,21.1s,baz=345,slow=33	29.78	148	LR	LR	18 52 29.0	
NVAR	**Mina Array Bea** 0.6nm,0.7s,baz=144,slow=7.7,SNR=3.3	33.72	322	P	P	18 42 58.6	+0.6
FRB	**Frobisher Bay** comp=Z,70nm,18.3s,baz=190,slow=38	52.61	13	LR	LR	19 09 39.7	
CMAR	**Chiang Mai Arr** 1.1nm,0.8s,baz=337,slow=2.8,SNR=7.8	146.16	341	PKPbc	PKPdf	18 55 56.0	-0.1

IDC 09 18:50:37.2±4.0, 29.99S×137.29E, h0km, mb1 3.0/3, mb1mx3.0/33, mbtmp2.8/3, ML2.7/3, Error ellipse: s-maj=82.2km s-min=22.8km az=47.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 0.2nm,0.3s,baz=306,slow=13,SNR=4.4	4.15	118	Pn	Pn	18 51 41.9	+0.1
STKA	0.7nm,0.3s,baz=309,slow=9.0,SNR=6.7			Sn	Sn	18 52 30.9	-0.2
ASAR	**Alice Springs** 0.1nm,0.3s,baz=157,slow=11,SNR=9.0	6.99	334	Pn	Pn	18 52 21.9	+1.1
ASAR	0.1nm,0.3s,baz=156,slow=23,SNR=6.7			Sn	Sn	18 53 40.4	-0.7
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=165,slow=13,SNR=10	10.35	344	Pn	Pn	18 53 07.2	+0.1
WRA	0.1nm,0.3s,baz=166,slow=26,SNR=2.0			Sn	Sn	18 55 03.4	-0.5

*ISK **09** 18:56:10.2, 40.06N×38.28E, h7km, ML3.6/34*
*DDA **09** 18:56:10.1, 40.03N×38.25E, h1km, Ml3.4*

ISC 09 18:56:10.8±1.2, 40.05N±0.03×38.27E±0.02, h3km±11km, n48, σ1s24/63, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUZAR	**Zara_SIVAS**	0.42	247	i P	Pg	18 56 19.1	+0.3
CUZAR				i S	Sb	18 56 25.7	-2.0
ILIC	**ilic-Erzincan**	0.64	159	PG	Pg	18 56 23.3	+0.2
ILIC				SG	Sb	18 56 32.7	-1.4
ESPY	**Espiye-Giresun**	0.93	22	PG	Pg	18 56 28.9	+0.1
ESPY				SG	Sb	18 56 41.9	-0.6
SVSK	**Karacayir**	0.99	263	PG	Pg	18 56 29.0	-0.7
SVSK				SG	Sb	18 56 43.9	0.0
ORDU	**Ordu-Boztepe**	0.99	342	i P	Pb	18 56 30.2	-0.5
ORDU				i S	Sb	18 56 44.6	+0.5
GUMT	**Gumushane**	1.01	66	PG	Pg	18 56 29.0	-1.3
EUZM	**Uzumlu**	1.15	107	i P	Pg	18 56 30.9	-2.0
EUZM				i S	Sg	18 56 47.1	-0.7
ERZN	**Erzincan**	1.21	112	PN	Pg	18 56 33.3	-0.7
ERBA	**Erbaa**	1.32	299	i P	Pg	18 56 35.4	-0.8
ERBA				i S	Sn	18 56 53.9	-0.4
TOKT	**Tokat**	1.35	282	PN	Pg	18 56 36.0	-0.7
TNCL	**Tunceli-Merkez**	1.36	133	i P	Pb	18 56 36.8	-0.1
TNCL				i S	Sn	18 56 55.4	+0.2
CUALT	**Altinyayla-SIV**	1.40	237	i P	Pn	18 56 36.3	-1.1
CUALT				i S	Sn	18 56 58.4	+1.9
PTK	**Pertek**	1.45	143	PN	Pn	18 56 37.2	-0.8
BAYT	**Ayd¨–ntepe-Bay**	1.47	76	PN	Pn	18 56 36.7	-1.7
KTUT	**Trabzon**	1.48	50	PN	Pn	18 56 37.9	-0.4
DARE	**Darende-Malaty**	1.60	203	PN	Pn	18 56 39.8	-0.2
CUSAR	**Sarkisla-SIVAS**	1.68	249	i P	Pn	18 56 40.9	-0.4
CUSAR				i S	Sg	18 57 05.7	+0.7
AKCD	**Akcadag**	1.77	189	i P	Pn	18 56 42.1	-0.4
AKCD				i S	Sg	18 57 07.3	-0.5
SVRC	**Sivrice-ELAZID**	1.85	154	PN	Pn	18 56 43.3	-0.3
YEDI	**Yedisu-Bingol**	1.86	108	PN	Pn	18 56 43.2	-0.5
CHAY	**Cayeli-Rize**	2.14	60	PN	Pn	18 56 47.3	-0.1
BNGB	**Bing¶l**	2.14	119	PN	Pn	18 56 47.4	-0.1
CHOM	**Cayeli-Rize**	2.17	60	PN	Pn	18 56 47.3	-0.5
BNN	**Bunyan**	2.23	238	PN	Pn	18 56 48.8	+0.1
YOZ	**Yozgat**	2.31	261	PN	Pn	18 56 49.9	+0.1
HANI	**Diyarbakir_Han**	2.32	134	i P	Pb	18 56 52.5	-0.9
HANI				i S	Sb	18 57 22.1	-0.4
COAL	**Corum-Alaca**	2.52	276	i P	Pn	18 56 53.7	+0.9
COAL				i S	Sg	18 57 31.3	-0.7
VRTB	**Varto-Mus**	2.62	109	PN	Pn	18 56 53.7	-0.4
URFA	**Urfa**	2.64	170	PN	Pn	18 56 54.4	0.0
DIKM	**Dikmen**	2.79	306	PN	Pn	18 56 56.6	+0.3
CORM	**Corum**	2.79	274	PN	Pn	18 56 56.8	+0.3
BCA	**Borcka**	2.90	60	PN	Pn	18 56 57.7	-0.2
DAGI	**Agillar**	2.96	69	i P	Pb	18 57 02.8	-1.5
DAGI				i S	Sb	18 57 42.0	+1.2
SVAN	**Silvan-Diyarba**	2.96	129	PN	Pn	18 56 59.0	+0.2
GAZ	**Gaziantep**	2.99	196	PN	Pn	18 56 59.7	+0.5
EKAR	**Karacoban**	3.03	104	i P	Pb	18 57 05.6	0.0
EKAR				i S	Sg	18 57 55.7	+7.3
MAZI	**Mazidag**	3.10	146	PN	Pn	18 57 00.9	+0.2
SENK	**Senkaya-Erzuru**	3.16	79	PN	Pn	18 57 01.8	+0.1
KOZT	**Kozan**	3.20	217	PN	Pn	18 57 02.7	+0.7
GURO	**Guroymak-BITLI**	3.28	116	PN	Pn	18 57 03.4	+0.2
GULA	**Gulagac**	3.57	243	PN	Pn	18 57 07.6	+0.5
KAMT	**Kaman**	3.58	261	PN	Pn	18 57 07.9	+0.6
YAYX	**Yaylak**	3.62	254	PN	Pn	18 57 08.1	+0.2
AGRB	**Hanur-Agry**	3.67	96	PN	Pn	18 57 08.8	+0.2
SERE	**Serefiikochisa**	3.80	255	PN	Pn	18 57 11.1	+0.7
AFSR	**Af˙ar-Bala (A**	4.05	263	PN	Pn	18 57 14.8	+1.0
SULT	**Sultanhani-AKS**	4.13	245	PN	Pn	18 57 15.8	+0.9
ANTO	**Ankara**	4.21	269	PN	Pn	18 57 16.7	+0.7

IDC 09 18:59:32.6±13.0, 50.44S×120.32E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.7/25, mbtmp3.6/4, MS3.6/1, Ms1 3.6/1, ms1mx2.7/24, Error ellipse: s-maj=292.8km s-min=69.6km az=159.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H** baz=164,slow=73,SNR=17	16.18	341	T	T	19 19 20.0	
H01W1	**Cape Leeuwin H** baz=164,slow=73,SNR=16	16.18	342	T	T	19 19 20.4	
H01W3	**Cape Leeuwin H** baz=164,slow=73,SNR=19	16.19	341	T	T	19 19 21.4	
ASAR	**Alice Springs** 0.9nm,0.8s,baz=203,slow=8.9,SNR=8.8	28.74	27	P	P	19 05 31.5	-0.2
WRA	**Warramunga Arr** 0.2nm,0.8s,baz=198,slow=7.9,SNR=1.6	32.40	25	P	P	19 06 03.8	-0.2
FITZ	**Fitzroy Crossi** 1.6nm,0.9s,baz=207,slow=9.0,SNR=1.8	32.55	9	P	P	19 06 05.8	+0.6
PMG	**Port Moresby** comp=Z,66nm,18.0s,baz=316,slow=36	46.54	38	LR	LR	19 27 48.9	
CMAR	**Chiang Mai Arr** 0.3nm,0.4s,baz=187,slow=6.3,SNR=2.8	71.14	339	P	P	19 10 52.8	0.0

IDC 09 19:15:02.6±3.7, 3.13S×100.37E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/39, mbtmp3.6/4, Error ellipse: s-maj=168.1km s-min=28.0km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.4nm,0.5s,baz=184,slow=10,SNR=9.2	21.50	356	P	P	19 19 53.2	0.0
H08S2	**Diego Garcia H** baz=81,slow=74	28.10	260	T	T	19 50 02.4	
H08S3	**Diego Garcia H** baz=81	28.11	260	T	T	19 50 24.6	
H08S1	**Diego Carcia H** baz=81,slow=74	28.12	260	T	T	19 49 50.4	
H01W3	**Cape Leeuwin H** baz=335,slow=76,SNR=9.7	34.09	160	T	T	19 57 39.9	
H01W2	**Cape Leeuwin H** baz=335,slow=76,SNR=9.3	34.10	160	T	T	19 57 48.8	
H01W1	**Cape Leeuwin H** baz=335,slow=76,SNR=9.4	34.10	160	T	T	19 57 37.5	
ASAR	**Alice Springs** 0.1nm,0.5s,baz=295,slow=7.8,SNR=3.8	38.30	125	P	P	19 22 24.6	-0.6
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=145,slow=8.7,SNR=5.4	52.21	344	P	P	19 24 14.8	-0.5
ZALV	**Zalesovo Beam** 1.0nm,0.6s,baz=162,slow=6.1,SNR=5.1	58.34	349	P	P	19 24 59.0	-0.4
TXAR	**Lajitas Array** 0.5nm,0.6s,baz=292,slow=1.1,SNR=7.5	145.36	39	PKPbc	PKPdf	19 34 43.6	+0.1

*ISCJB **09** 19:18:59.2±0.4, 7.95S±0.03×128.27E±0.03, h100km, mb4.3/6, Error ellipse: s-maj=5.0km s-min=4.3km az=28.1*
*DJA **09** 19:18:59.2±0.4, 8.5S±4×12.8E±°, h10km, M4.2/10, mB4.7/5, mb4.5/10, MLv4.2/8, Mw(mB)4.0/5*
*NEIC **09** 19:19:01.3±1.0, 7.97S×128.17E, h123km±27km, mb4.2/3, Error ellipse: s-maj=19.0km s-min=11.7km az=164.0*
*IDC **09** 19:19:01.2±1.7, 8.01S×128.20E, h98km±22km, mb3.4/2, mb1 3.8/6, mb1mx3.4/32, mbtmp4.0/6, Error ellipse: s-maj=20.7km s-min=13.9km az=116.0*

ISC 09 19:18:59.8±0.6, 7.99S±0.05×128.22E±0.05, h100km, n37, σ2s68/44, mb4.7/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	3.05	90	ePn	Pn	19 19 50.0	+3.7
BNDI	**Bandanaira**	3.83	26	P	Pn	19 19 53.6	-3.2
SOEI	**Soe**	4.28	246	ePn	Pn	19 20 05.0	+2.0
SOEI				eSn	Sn	19 20 55.6	+3.7
SOEI	**Soe**	4.28	246	P	Pn	19 20 04.7	+1.8
AAI	**Ambon**	4.28	360	P	Pn	19 20 01.7	-1.1
BATI	**Baumata** 25nm,0.3s,baz=122,slow=2.3,SNR=23	5.00	244	P	Pn	19 20 14.8	+2.2
BATI	16nm,0.3s,baz=273,slow=20,SNR=6.2			S	Sn	19 21 11.1	+1.7
BATI	**Baumata** 40nm,0.5s,0.2nm	5.00	244	P	Pn	19 20 14.7	+2.0
MTN	**Manton Dam**	5.61	149	ePn	Pn	19 20 24.1	+3.2
MTN				eSn	Sn	19 21 27.3	+3.3
MMRI	**Maumere**	5.95	263	ePn	Pn	19 20 26.6	+1.1
MMRI	**Maumere**	5.95	263	P	Pn	19 20 26.4	+0.9
BBSI	**Bau Bau**	6.13	294	P	Pn	19 20 29.5	+1.5
FAKI	**Fak Fak**	6.44	39	ePn	Pn	19 20 32.7	+0.5
FAKI				eSn	Sn	19 21 43.2	-1.2
EDFI	**Ende, Flores**	6.50	263	P	Pn	19 20 34.6	+1.5
SIJI	**Sorong** 3.3nm,0.3s,baz=9.6,slow=24,SNR=13	7.70	23	P	Pn	19 20 51.6	+2.3
SIJI	0.4nm,0.3s,baz=267,slow=24,SNR=3.7			S	Sn	19 22

NJ2	**Nanjing**	**40.81**	**348**	*e*P	P	19 26 24.4	-7.2
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s						
KMI	**Kunming**	**41.22**	**324**	P	**P**	**19 26 31.7**	**-3.6**
KMI				pmax	pmax		
	comp=Z,11nm,1.1s						
CD2	**Chengdu**	**45.23**	**330**	*e*P	**P**	**19 27 05.8**	**-1.5**
LZH	**Lanzhou**	**49.48**	**334**	*e*P	**P**	**19 27 37.3**	**-3.0**
LZH				pP	sP	19 28 15.0	-0.4
LZH				sP	pP	19 28 31.2	+27
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
HHC	**Hu-ho-hao-te**	**50.96**	**344**	*e*P	P	19 27 47.4	-4.0
HHC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,5.2s						
WMQ	**Urumqi**	**63.28**	**328**	*e*P	P	19 29 13.5	-4.6
MKAR	**Makanchi Array**	**68.10**	**328**	P	**P**	**19 29 50.1**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=121,slow=8.5,SNR=5.4						

*ISCJB **09** 19:28:32.4±0.4,39°.12N±0°.03×29°.02E±0°.04,h10km±3km, Error ellipse: s-maj=5.3km s-min=4.7km az=15.8*
*ISK **09** 19:28:32.1,39°.16N×29°.03E,h9km,ML1.9/10*
*DDA **09** 19:28:32.0,39°.12N×29°.02E,h7km,Ml2.5*
ISC 09 19:28:32.3±0.9,39°.13N±0°.03×29°.02E±0°.03,h12km±6km, n18,σ0s31/25,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMAA	**Simav-Kutahya**	**0.04**	**229**	PG	**Pg**	**19 28 34.5**	**-0.2**
SMAA				SG	**Sg**	**19 28 36.4**	**+0.1**
DEMI	**Demirci**	**0.25**	**251**	*i* P	**Pg**	**19 28 37.6**	**0.0**
DEMI				*i* S	**Sg**	**19 28 41.2**	**0.0**
GEDZ	**Gediz**	**0.32**	**105**	PG	**Pg**	**19 28 38.9**	**+0.1**
GEDZ				SG	**Sg**	**19 28 43.8**	**+0.7**
TVSB	**Tavsanli**	**0.47**	**47**	PG	**Pg**	**19 28 41.3**	**-0.3**
DURS	**Dursunbey**	**0.64**	**319**	*i* P	**Pg**	**19 28 44.8**	**+0.1**
DURS				*i* S	**Sb**	**19 28 53.9**	**-0.4**
KULA	**Kula-Manisa**	**0.67**	**205**	PG	**Pg**	**19 28 45.4**	**0.0**
MANT	**Manisa**	**0.73**	**210**	*i* P	**Pg**	**19 28 46.2**	**-0.3**
MANT				*i* S	**Sg**	**19 28 55.8**	**-0.3**
KHAL	**Karahalli**	**0.84**	**154**	*i* P	**Pn**	**19 28 49.9**	**-0.1**
KHAL				*i* S	**Sg**	**19 28 59.3**	**-0.3**
BALB	**Balikesir**	**1.02**	**301**	PG	**Pg**	**19 28 51.7**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.04**	**284**	*i* P	**Pb**	**19 28 52.3**	**0.0**
STEP				*i* S	**Sn**	**19 29 07.7**	**+0.5**
KCTX	**Karacabey (Bur**	**1.25**	**336**	PN	**Pg**	**19 28 56.1**	**-0.2**
CAVI	**Cavuskoy**	**1.25**	**30**	PN	**Pg**	**19 28 55.9**	**-0.4**
BORA	**Eskisehir**	**1.34**	**55**	PN	**Pb**	**19 28 57.3**	**-0.1**
GONE	**Gonen-Balikesi**	**1.38**	**312**	PN	**Pb**	**19 28 57.9**	**-0.1**
ARMT	**Armutlu**	**1.44**	**355**	PN	**Pb**	**19 28 58.9**	**-0.2**
YLV	**Yalova**	**1.47**	**11**	PN	**Pn**	**19 28 58.9**	**+0.3**
EDC	**Edincik**	**1.51**	**324**	PN	**Pn**	**19 28 59.5**	**+0.3**
GULT	**Gulveren**	**1.74**	**41**	PN	**Pn**	**19 29 02.8**	**+0.4**

*ISCJB **09** 19:54:26.3±0.2,25°.39N±0°.03×102°.54E±0°.03,h10km, mb4.3/47,Error ellipse: s-maj=4.6km s-min=4.3km az=179.0*
*IDC **09** 19:54:26.5±0.6,25°.45N×102°.54E,h0km,mb4.0/18, mb1 4.1/19,mb1mx4.0/45,mbtmp3.9/19,ML3.2/1,Error ellipse: s-maj=19.1km s-min=12.7km az=62.0*
*BJI **09** 19:54:27.9,25°.36N×102°.37E,h6km,mb4.5/16,mB4.5/11, ML4.0/10,Ms3.9/22,Ms7 3.8/20*
*NEIC **09** 19:54:29.5±1.2,25°.37N×102°.56E,h21km±9km,mb4.7/21, ML4.0(BJI),Error ellipse: s-maj=7.1km s-min=6.1km az=88.0*
NEIC Felt at Kunming.
ISC 09 19:54:28.6±0.4,25°.44N±0°.03×102°.55E±0°.04,h10km,n121, σ1s99/137,mb4.5/47,10C-3D,Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**0.36**	**151**	Pg	**Pg**	**19 54 34.7**	**-1.1**
KMI				Sg	**Sg**	**19 54 40.4**	**-0.2**
KMI				smax	smax		
	comp=N,16μm,0.6s						
KMI				smax	smax		
	comp=E,21μm,0.5s						
KMI	**Kunming**	**0.36**	**151**	Pg	**Pg**	**19 54 34.7**	**-1.1**
KMI				Sg	**Sg**	**19 54 40.4**	**-0.2**
GYA	**Guiyang**	**3.84**	**74⇑**	*i*Pn	**Pn**	**19 55 30.1**	**+2.2**
GYA				Pg	**Pg**	**19 55 40.8**	**-1.5**
GYA				Sn	**Sn**	**19 56 16.2**	**+2.9**
GYA				Sg	**Sb**	**19 56 24.6**	**+1.3**
GYA				smax	smax		
	comp=N,210nm,0.7s						
GYA				smax	smax		
	comp=E,210nm,0.8s						
GYA				LR	LR		
	comp=N,780nm,8.7s						
GYA				LR	LR		
	comp=E,1μm,8.4s						
GYA				LR	LR		
	comp=Z,1μm,9.9s						
GYA	**Guiyang**	**3.84**	**74⇑**	*i*Pn	**Pn**	**19 55 30.1**	**+2.2**
GYA				Pg	**Pg**	**19 55 40.8**	**-1.5**
GYA				Sn	**Sn**	**19 56 16.2**	**+2.9**
GYA				Sg	**Sb**	**19 56 24.6**	**+1.3**
CD2	**Chengdu**	**5.56**	**11**	Pn	**Pn**	**19 55 55.2**	**+3.8**
CD2				Sn	**Sn**	**19 56 55.0**	**-0.4**
CD2				Sg	**Sg**	**19 57 23.0**	**-4.0**
CD2				smax	smax		
	comp=N,160nm,0.7s						
CD2				smax	smax		
	comp=E,240nm,0.9s						
CD2				LR	LR		
	comp=N,760nm,6.6s						
CD2				LR	LR		
	comp=Z,730nm,6.2s						
CD2	**Chengdu**	**5.56**	**11**	Pn	**Pn**	**19 55 55.2**	**+3.8**
CD2				Sn	**Sn**	**19 56 55.0**	**-0.4**
CD2				Sg	**Sg**	**19 57 23.0**	**-4.0**
PAYA	**Payao**	**6.54**	**203**	P	Pn	19 56 12.5	+7.6
NANT	**Nan**	**6.82**	**195**	P	**Pb**	**19 56 27.2**	**-0.1**
NONG	**Nongkai**	**7.36**	**176**	P	**Pg**	**19 56 50.5**	**+0.9**
CHTO	**Chiang Mai**	**7.39**	**208**	*e*Pn	**Pn**	**19 56 16.8**	**+0.2**
CM31	**Chiang Mai Arr**	**7.71**	**206**	*e*Pn	**Pn**	**19 56 19.7**	**-1.3**
CM31				eLg	Lg	19 58 32.5	
CMAR	**Chiang Mai Arr**	**7.71**	**206**	Pn	**Pn**	**19 56 21.5**	**+0.5**
	0.1nm,0.3s,baz=14,slow=15,SNR=6.8						
CMAR				Pg	Pg	19 56 49.9	-6.3
	0.3nm,0.3s,baz=20,slow=16,SNR=5.7						
CMAR				Lg	Lg	19 58 33.2	
	0.2nm,0.3s,baz=16,slow=24,SNR=3.2						
CM01	**Chiang Mai Arr**	**7.74**	**206**	*e*Pn	**Pn**	**19 56 21.2**	**-0.1**
ENH	**Enshi**	**7.80**	**50**	*e*Pn	**Pn**	**19 56 22.0**	**-0.3**
ENH				*e*Sn	**Sn**	**19 57 55.1**	**+4.4**
SKNT	**Sakolnakorn**	**8.53**	**171**	P	**Pg**	**19 57 15.0**	**+3.1**
	1.4nm,1.1s,0.0nm						
PBKT	**Sadao Pong**	**8.95**	**190**	*e*Pn	**Pn**	**19 56 35.5**	**-2.4**
XAN	**Xi'an**	**10.20**	**31**	P	**Pn**	**19 56 55.9**	**+0.7**
XAN				S	**Sn**	**19 58 47.8**	**-1.9**
LZH	**Lanzhou**	**10.67**	**6**	*e*P	Pn	19 57 09.0	+7.3
LZH				pP		19 57 15.9	
LZH				sP		19 57 18.6	
LZH				pmax	pmax		
	comp=Z,26nm,1.2s						
LZH				pmax	pmax		
	comp=Z,97nm,4.6s						
LZH				LR	LR		
	comp=N,550nm,10.3s						
LZH				LR	LR		
	comp=E,1μm,10.6s						
LZH				LR	LR		
	comp=Z,340nm,10.6s						
LSA	**Lhasa**	**10.96**	**295**	*e*Pn	**Pn**	**19 57 06.8**	**+0.8**
WHN	**Wuhan**	**11.60**	**61**	⇓P	**Pn**	**19 57 17.2**	**+2.9**
WHN				LR	LR		
	comp=E,590nm,5.1s						
WHN				LR	LR		
	comp=Z,1μm,4.5s						
GTA	**Gaotai**	**14.12**	**351**	*e*P	**Pn**	**19 57 50.6**	**+1.8**
GTA				pP	P	19 57 54.5	-2.0
GTA				sP		19 57 57.6	
GTA				S	**Sn**	**20 00 31.9**	**+6.2**
GTA				pmax	pmax		
	comp=Z,45nm,5.4s						
GTA				LR	LR		
	comp=E,240nm,16.5s						
GTA				LR	LR		
	comp=Z,200nm,16.2s						
GUN	**Gumba**	**15.10**	**283**	*e*P	**P**	**19 58 06.6**	**-1.1**
	25nm,0.9s						
PKI	**Pulchoki**	**15.49**	**282**	*e*P	**Pn**	**19 58 10.7**	**+3.2**
	29nm,0.7s						
PKIN	**Phulchoki**	**15.50**	**282**	*e*P	**Pn**	**19 58 10.7**	**+3.1**
	20nm,0.7s						
KKN	**Kakani**	**15.62**	**282**	*e*P	**Pn**	**19 58 12.3**	**+3.2**
	18nm,0.9s						
NJ2	**Nanjing**	**15.74**	**62**	*e*P	**Pn**	**19 58 10.2**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,16nm,0.8s						
DMN	**Daman**	**15.76**	**282**	*e*P	**Pn**	**19 58 12.9**	**+1.9**
	19nm,0.9s						
DANN	**Dangsing**	**17.01**	**284**	*e*P	**Pn**	**19 58 27.3**	**+0.4**
	15nm,0.6s						
KOLN	**Koldamda**	**17.10**	**282**	*e*P	**Pn**	**19 58 26.5**	**-1.6**
	9.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**17.11**	**24**	*e*P	**Pn**	**19 58 29.2**	**+1.3**
HHC				pmax	pmax		
	comp=Z,160nm,6.1s						
PYUN	**Piuthan**	**17.66**	**283**	*e*P	**Pn**	**19 58 32.2**	**-2.8**
	12nm,0.8s						
WMQ	**Urumqi**	**21.98**	**330**	*e*P	**P**	**19 59 24.9**	**+2.2**
WMQ				pP	sP	19 59 32.0	+5.1
WMQ				sP	pP	19 59 35.2	+10
WMQ				pmax	pmax		
	comp=Z,24nm,0.7s						
WMQ				LR	LR		
	comp=N,250nm,25.7s						
WMQ				LR	LR		
	comp=E,160nm,17.1s						
WMQ				LR	LR		
	comp=Z,270nm,17.1s						
SONA0	**Songino Array**	**22.56**	**7**	*e*P	**P**	**19 59 29.9**	**+0.9**
SONM	**Songino Array**	**22.56**	**7**	P	**P**	**19 59 29.9**	**+0.9**
	2.0nm,1.0s,baz=185,slow=9.8,SNR=3.7						
SONA1	**Songino Array**	**22.57**	**7**	*e*P	**P**	**19 59 29.4**	**+0.3**
KSAR	**Wonju Array Be**	**24.63**	**55**	P	**P**	**19 59 47.9**	**-1.3**
KSRS	**Korea Array**	**24.66**	**55**	P	**P**	**19 59 47.9**	**-1.6**
	1.4nm,0.6s,baz=243,slow=9.9,SNR=6.7						
KSH	**Kashi**	**26.33**	**309**	P	**P**	**20 00 07.8**	**+3.0**
KSH				pP	sP	20 00 16.9	+7.8
KSH				PcP	**PcP**	**20 03 31.4**	**+0.6**
KSH				S	**S**	**20 04 38.2**	**+0.3**
KSH				sS	sS	20 04 53.3	+10
KSH				SS	**SnSn**	**20 05 48.9**	**+11**
KSH				pmax	pmax		
	comp=Z,15nm,0.8s						
KSH				LR	LR		
	comp=N,470nm,11.9s						
KSH				LR	LR		
	comp=E,700nm,7.1s						
KSH				LR	LR		
	comp=Z,500nm,9.7s						
NIL	**Nilore**	**26.70**	**295**	*e*P	**P**	**20 00 06.3**	**-1.8**
	22nm,0.9s						
MK01	**Makanchi Array**	**26.70**	**328**	*e*P	**P**	**20 00 07.1**	**-0.9**
KDJ	**Kajisay**	**26.72**	**315**	*e*P	**P**	**20 00 09.9**	**+1.6**
	22nm,1.9s						
MK31	**Makanchi Array**	**26.72**	**328**	*e*P	**P**	**20 00 08.9**	**+0.8**
MK32	**Makanchi Array**	**26.72**	**328**	*e*P	**P**	**20 00 08.5**	**+0.3**
MKAR	**Makanchi Array**	**26.72**	**328**	P	**P**	**20 00 08.5**	**+0.3**
	1.8nm,0.7s,baz=138,slow=9.7,SNR=6.4						
NRN	**Naryn**	**27.15**	**313**	*e*P	**P**	**20 00 13.9**	**+1.5**
	2.5nm,1.0s						
AAK	**Ala-Archa**	**28.70**	**314**	P	**P**	**20 00 26.5**	**+0.4**
	2.1nm,0.8s,baz=129,slow=4.1,SNR=8.5						
USRK	**Ussuriysk Ar.**	**30.33**	**44**	P	**P**	**20 00 41.1**	**+0.8**
	1.4nm,0.6s,baz=248,slow=1.1						
KURBB	**Kurbokov Arra**	**31.20**	**330**	P	**P**	**20 00 47.0**	**-0.8**
	1.9nm,0.8s,baz=139,slow=8.8,SNR=9.5						
KURK	**Kurchatov**	**31.22**	**330**	*e*P	**P**	**20 00 47.0**	**-1.0**
ZAA0	**Zalesovo Array**	**31.39**	**340**	*e*P	**P**	**20 00 49.1**	**-0.4**
	3.3nm,1.2s						
ZALV	**Zalesovo Beam**	**31.39**	**340**	P	**P**	**20 00 48.2**	**-1.3**
	0.7nm,0.4s,baz=148,slow=8.7,SNR=4.0						
ZALV	**Zalesovo Beam**	**31.39**	**340**	*e*P	**P**	**20 00 48.0**	**-1.5**
ZAA1	**Zalesovo Array**	**31.39**	**340**	*e*P	**P**	**20 00 48.2**	**-1.3**
BRVK	**Borovoye**	**36.67**	**327**	*e*P	**P**	**20 01 34.8**	**-0.6**
	5.2nm,0.5s						
GEYT	**Alibeck**	**39.46**	**299**	P	**P**	**20 01 59.3**	**+0.1**
	1.0nm,0.6s,baz=99,slow=19,SNR=6.0						
ARU	**Arti**	**44.22**	**326**	P	**P**	**20 02 37.4**	**-0.4**
ARU	**Arti**	**44.22**	**326**	*e*P	**P**	**20 02 38.1**	**+0.3**
	3.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**48.76**	**150**	P	**P**	**20 03 12.9**	**-0.9**
	1.7nm,0.9s,baz=351,slow=13,SNR=3.9						
FITZ	**Fitzroy Crossi**	**48.76**	**150**	*e*P	**P**	**20 03 10.8**	**-3.0**
	27nm,1.8s						
MBWA	**Marble Bar**	**49.23**	**159**	*e*P	**P**	**20 03 15.8**	**-1.6**
	63nm,1.8s						
GNI	**Garni**	**49.94**	**302**	*e*P	**P**	**20 03 21.5**	**-1.4**
	6.3nm,0.8s						
RAYN	**Ar Rayn**	**51.61**	**281**	*e*P	**P**	**20 03 33.3**	**-2.3**
	5.7nm,0.8s						
WRA	**Warramunga Arr**	**54.68**	**143**	P	**P**	**20 03 57.5**	**-0.5**
	3.1nm,0.5s,baz=332,slow=8.3,SNR=47						
WR1	**Warramunga Arr**	**54.68**	**143**	*e*P	**P**	**20 03 57.5**	**-0.5**
	40nm,2.0s						
WB2	**Warramunga Arr**	**54.69**	**143**	*e*P	**P**	**20 03 56.3**	**-1.8**
ASAR	**Alice Springs**	**57.49**	**146**	P	**P**	**20 04 18.0**	**-0.2**
	1.2nm,0.6s,baz=323,slow=7.0,SNR=18						
AS01	**Alice Springs**	**57.52**	**146**	*e*P	**P**	**20 04 14.9**	**-3.5**
BR101	**Keskin Array S**	**58.47**	**302**	*e*P	**P**	**20 04 23.8**	**-1.3**
BRTR	**Keskin Array B**	**58.47**	**302**	P	**P**	**20 04 23.8**	**-1.3**
	0.5nm,0.6s,baz=128,slow=5.8,SNR=4.1						
AKASG	**Malin Array Be**	**60.35**	**315**	P	**P**	**20 04 36.2**	**-1.5**
	1.7nm,0.6s,baz=74,slow=7.1,SNR=5.0						
AKBB	**Malin Array S**	**60.35**	**315**	*e*P	**P**	**20 04 36.2**	**-1.5**
FIA1	**FINESS Array S**	**61.56**	**328**	*e*P	**P**	**20 04 44.8**	**-0.9**
FIA0	**FINESS Array S**	**61.56**	**328**	*e*P	**P**	**20 04 44.9**	**-0.8**
FINES	**FINESS Array B**	**61.56**	**328**	P	**P**	**20 04 44.9**	**-0.8**
	1.1nm,0.6s,baz=88,slow=9.9,SNR=8.5						
ARA0	**ARCESS Array S**	**61.89**	**337**	*e*P	**P**	**20 04 46.7**	**-1.2**
ARCES	**ARCESS Array B**	**61.89**	**337**	P	**P**	**20 04 46.7**	**-1.2**
	3.5nm,0.8s,baz=91,slow=7.2,SNR=4.5						
ARCES	**ARCESS Array B**	**61.89**	**337**	*e*P	**P**	**20 04 49.1**	**+1.3**
VRI	**Vricioaia**	**62.59**	**310⇓**	*i*P	**P**	**20 04 52.8**	**-0.2**
PLOR	**Plostina**	**62.64**	**310⇓**	*i*P	**P**	**20 04 52.0**	**-1.4**
BIZ	**Bicaz**	**62.85**	**312⇓**	*i*P	**P**	**20 04 53.4**	**-1.2**
MLR	**Muntele Rosu**	**63.19**	**310**	*e*P	**P**	**20 04 56.6**	**-0.5**
	5.1nm,0.9s						
MLR	**Muntele Rosu**	**63.19**	**310⇑**	*i*P	**P**	**20 04 57.1**	**0.0**
BURAR	**Bucovina Array**	**63.34**	**312⇑**	*i*P	**P**	**20 04 56.7**	**-1.3**
BUR04	**Bucovina Ar. S**	**63.34**	**312**	*e*P	**P**	**20 04 56.9**	**-1.1**
BUR08	**Bucovina Ar. S**	**63.34**	**312**	*e*P	**P**	**20 04 57.1**	**-1.0**
ARR	**Arges**	**64.12**	**310⇓**	*i*P	**P**	**20 05 05.1**	**+1.9**
RER	**Riviere de l'E**	**64.89**	**229**	*e*P	**P**	**20 05 07.8**	**-0.6**
DRGR		**65.16**	**312⇑**	*i*P	**P**	**20 05 09.9**	**-0.1**
VTS	**Vitosha**	**65.69**	**307⇑**	*i*P	**P**	**20 05 13.1**	**-0.5**
HERR	**Herculane**	**65.76**	**310⇑**	*i*P	**P**	**20 05 16.3**	**+2.6**
MDVR	**Moldovita**	**66.27**	**310⇑**	*i*P	**P**	**20 05 16.9**	**-0.2**
VYHS	**Vyhne**	**67.36**	**314**	*e*P	**P**	**20 05 25.8**	**+1.8**
NC405	**NORSAR Array S**	**68.46**	**329**	*e*P	**P**	**20 05 29.3**	**-1.4**
NB201	**NORSAR Array S**	**68.68**	**329**	*e*P	**P**	**20 05 30.4**	**-1.7**
NB2	**NORSAR Subarra**	**68.72**	**329**	P	**P**	**20 05 30.3**	**-2.0**
	comp=Z,9nm,0.7s,baz=76,slow=6.5						
NB200	**NORSAR Array S**	**68.72**	**329**	*e*P	**P**	**20 05 30.4**	**-2.0**
NOA	**NORSAR Array B**	**68.72**	**329**	P	**P**	**20 05 30.4**	**-2.0**
	comp=Z,1.6nm,0.7s,baz=75,slow=6.5,SNR=5.1						
NC204	**NORSAR Array S**	**68.87**	**329**	*e*P	**P**	**20 05 32.1**	**-1.2**
CONA	**Conrad Observa**	**69.43**	**314**	*e*P	**P**	**20 05 38.0**	**+1.0**
	comp=Z,2.4nm,0.7s						
CLL	**Collm**	**70.30**	**318**	*e*P	**P**	**20 05 43.0**	**+0.8**
MOA	**Molln**	**70.49**	**314**	*e*P	**P**	**20 05 44.5**	**+1.0**
	comp=Z,3.0nm,1.1s						
GEC2	**GERESS Array S**	**70.56**	**316**	*e*P	**P**	**20 05 42.9**	**-1.0**
	comp=Z,14nm,1.9s						
GERES	**GERESS Array B**	**70.56**	**316**	P	**P**	**20 05 43.3**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=69,slow=5.8,SNR=10						
GEA0	**GERESS Array S**	**70.57**	**316**	*e*P	**P**	**20 05 43.5**	**-0.5**
KBA	**Koelnbreinsper**	**71.31**	**314**	*e*P	**P**	**20 05 48.1**	**-0.6**
	comp=Z,2.4nm,0.7s						
CUC	**Castrocucco**	**71.75**	**306**	*e*P	**P**	**20 05 51.3**	**0.0**
	comp=Z,5.5nm,1.0s						
ABTA	**Abfaltersbach**	**71.95**	**314**	*i* P	**P**	**20 05 53.1**	**+0.7**
	comp=Z,3.6nm,0.8s						
IM3	**Indian Mountai**	**72.42**	**25**	*e*P	**P**	**20 05 51.8**	**-2.9**
SQTA	**Sankt Quirin**	**72.65**	**314**	*i* P	**P**	**20 05 57.8**	**+1.2**
	comp=Z,4.0nm,0.6s						
MOTA	**Moosalm**	**72.68**	**315**	*i* P	**P**	**20 05 57.7**	**+0.9**
	comp=Z,3.7nm,0.8s						
RETA	**Reutte**	**72.85**	**315**	*e*P	**P**	**20 05 59.1**	**+1.3**
	comp=Z,6.5nm,1.2s						
FETA	**Feichten**	**73.03**	**314**	*e*P	**P**	**20 06 00.4**	**+1.5**
	comp=Z,3.4nm,0.8s						
MLY	**Manley**	**73.95**	**25**	*e*P	**P**	**20 06 02.9**	**-1.0**
	comp=Z,20nm,1.9s						
TUE	**Stuetta**	**74.11**	**314**	*e*P	**P**	**20 06 07.2**	**+1.9**
	comp=Z,7.1nm,1.3s						
CAST	**Castle Rocks**	**74.12**	**27**	*e*P	**P**	**20 06 05.9**	**+1.1**
	comp=Z,32nm,2.0s						
BPAW	**Bear Paw Mtn.**	**74.26**	**26**	*e*P	**P**	**20 06 05.8**	**+0.1**
	comp=Z,44nm,2.0s						
PPLA	**Purkeypile**	**74.30**	**27**	*e*P	**P**	**20 06 06.4**	**+0.4**
	comp=Z,66nm,1.7s						
MDM	**Murphy Dome**	**74.94**	**25**	*e*P	**P**	**20 06 09.6**	**0.0**
	comp=Z,4.8nm,0.8s						
SENIN	**Lac Senin/Sane**	**75.47**	**315**	*e*P	**P**	**20 06 15.0**	**+1.8**
	comp=Z,19nm,1.7s						
IL1	**Eielson Array**	**75.53**	**24**	*e*P	**P**	**20 06 10.3**	**-2.7**
ILAR	**Eielson Array**	**75.53**	**24**	P	**P**	**20 06 11.7**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=287,slow=4.4,SNR=5.4						

*ISCJB **09** 19:54:38.1±0.6,24°.02N±0°.01×122°.43E±0°.01,h11km±4km, Error ellipse: s-maj=2.3km s-min=2.0km az=137.3*
*JMA **09** 19:54:38.9±0.2,24°.02N×122°.42E,h19km±3km,M2.6*
*TAP **09** 19:54:39.3,24°.09N×122°.42E,h27km,ML3.0,D*
ISC 09 19:54:37.4±1.1,24°.03N±0°.02×122°.42E±0°.02,h7km±9km, n98,σ0s71/174,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.59**	**333**	P	**Pb**	**19 54 50.4**	**+0.5**
	baz=324						
EOS1				S	**Sb**	**19 54 58.2**	**-0.3**
	baz=324						
JYNG	**Yonagunijimaku**	**0.64**	**48**	P	**Pb**	**19 54 51.2**	**+0.4**
JYNG				S	**Sb**	**19 54 59.6**	**-0.3**
YOJ	**Yonaguni jima**	**0.69**	**51**	P	**Pb**	**19 54 52.1**	**+0.4**
	baz=62						
YOJ				*e*S	**Sb**	**19 55 01.9**	**+0.4**
	baz=62						
YOJ	**Yonaguni jima**	**0.69**	**51**	P	**Pb**	**19 54 52.3**	**+0.6**
YOJ				S	**Sb**	**19 55 01.1**	**-0.3**
NANB	**Nanao**	**0.73**	**303**	*e*P	**Pb**	**19 54 52.8**	**+0.4**
	baz=299						
NANB				*e*S	**Sb**	**19 55 02.9**	**+0.2**
	baz=299						
ENA	**Nanau**	**0.74**	**303**	*e*P	**Pb**	**19 54 53.4**	**+0.8**
	baz=298						
ENA				*e*S	**Sb**	**19 55 02.3**	**-0.6**
	baz=298						
TWD	**Chiawan**	**0.76**	**274**	*e*P	**Pb**	**19 54 53.5**	**+0.7**
	baz=269						
TWD				*e*S	**Sb**	**19 55 03.5**	**+0.1**
	baz=269						
NACB	**Ninganchiao**	**0.77**	**281**	*e*P	**Pb**	**19 54 53.6**	**+0.5**
	baz=260						
NACB				*e*S	**Sb**	**19 55 04.0**	**+0.2**
	baz=260						
TWC	**Suao**	**0.78**	**318**	P	**Pb**	**19 54 53.2**	**-0.1**
	baz=315						
TWC				*e*S	**Sg**	**19 55 02.5**	**-0.2**
	baz=315						
EGS		**0.93**	**331**	*e*P	**Pn**	**19 54 56.6**	**-0.3**
	baz=317						
EGS				*e*S	**Sg**	**19 55 07.0**	**-0.4**
	baz=317						
ESL	**Shilin**	**0.93**	**257**	*e*P	**Pb**	**19 54 55.9**	**+0.1**
	baz=244						
ESL				*e*S	**Sb**	**19 55 08.4**	**0.0**
	baz=244						
TWE	**Neicheng**	**0.98**	**315**	P	**Pb**	**19 54 57.1**	**+0.4**
	baz=312						
TWE				*e*S	**Sb**	**19 55 09.1**	**-0.6**
	baz=312						
EGFH	**Guangfu**	**0.98**	**249**	*e*P	**Pb**	**19 54 56.9**	**+0.3**
	baz=245						
EGFH				*e*S	**Sg**	**19 55 09.7**	**+0.8**
	baz=245						
NTC	**Toucheng**	**0.99**	**327**	*e*P	**Pb**	**19 54 57.0**	**+0.2**
	baz=324						
NTC				*e*S	**Sb**	**19 55 09.6**	**-0.4**
	baz=324						
ENTT	**Nioudou**	**0.99**	**308**	*e*P	**Pb**	**19 54 57.2**	**+0.3**
	baz=304						
ENTT				*e*S	**Sb**	**19 55 09.9**	**-0.3**
	baz=304						
NNSB	**Datong**	**1.03**	**293**	*e*P	**Pb**	**19 54 57.9**	**+0.2**
	baz=289						
NNSB				*e*S	**Sb**	**19 55 11.2**	**-0.2**
	baz=289						
NNS	**Nan Shan**	**1.04**	**293**	*e*P	**Pb**	**19 54 58.3**	**+0.4**
	baz=289						
NNS				S	**Sb**	**19 55 12.2**	**+0.4**
	baz=289						
TWB1	**Santiao Chiao**	**1.06**	**338**	*e*P	**Pb**	**19 54 57.8**	**-0.1**
	baz=353						
TWB1				*e*S	**Sg**	**19 55 10.7**	**-0.7**
	baz=353						
HGSD	**Ruisui**	**1.06**	**240**	P	**Pg**	**19 54 57.6**	**-0.1**
	baz=236						
HGSD				*e*S	**Sg**	**19 55 12.1**	**+0.6**
	baz=236						
WHF	**Hehuan Shan**	**1.07**	**277**	P	**Pb**	**19 54 58.5**	**+0.1**
	baz=272						
WHF				*e*S	**Sb**	**19 55 12.7**	**0.0**
	baz=272

CHKT	**Chengkung**	**1.34**	**227**	*e*P		**Pn**	**19 55 01.1**	**-1.3**
	baz=223								
CHKT				*e*S		**Sb**	**19 55 17.4**	**-2.7**
	baz=223								
YM07	**YM07**	**1.36**	**328**	*e*P		**Pn**	**19 55 02.6**	**-0.2**
	baz=325								
YM07				*e*S		**Sb**	**19 55 19.8**	**-1.0**
	baz=325								
YM01	**YM01**	**1.36**	**325**	*e*P		**Pg**	**19 55 04.3**	**+0.8**
	baz=323								
YM01				*e*S		**Sn**	**19 55 21.4**	**+0.3**
	baz=323								
SSLB	**Suanglung**	**1.37**	**260**	*e*P		**Pn**	**19 55 03.2**	**+0.3**
	baz=257								
SSLB				*e*S		**Sb**	**19 55 20.1**	**-0.8**
	baz=257								
YM10	**YM10**	**1.37**	**325**	*e*P		**Pn**	**19 55 03.2**	**+0.2**
	baz=323								
YM10				*e*S		**Sn**	**19 55 21.3**	**-0.1**
	baz=323								
YM11	**YM11**	**1.37**	**326**	*e*P		**Pn**	**19 55 03.0**	**-0.1**
	baz=323								
YM05	**YM05**	**1.38**	**326**	*e*P		**Pn**	**19 55 02.1**	**-0.9**
	baz=323								
YM04	**YM04**	**1.38**	**324**	*e*P		**Pn**	**19 55 02.6**	**-0.5**
	baz=337								
YM04				*e*S		**Sb**	**19 55 20.2**	**-1.2**
	baz=337								
YM08	**YM08**	**1.38**	**327**	*e*P		**Pn**	**19 55 03.1**	**0.0**
	baz=324								
YM12	**YM12**	**1.39**	**326**	*e*P		**Pn**	**19 55 03.0**	**-0.2**
	baz=324								
YM12				*e*S		**Sb**	**19 55 21.4**	**-0.3**
	baz=324								
SMLT	**Sun Moon Lake**	**1.40**	**265**	*e*P		**Pn**	**19 55 03.2**	**-0.2**
	baz=261								
SMLT				*e*S		**Sb**	**19 55 20.9**	**-1.1**
	baz=261								
YM03	**YM03**	**1.40**	**325**	*e*P		**Pn**	**19 55 03.4**	**0.0**
	baz=322								
LIOB	**Emei**	**1.43**	**296**	*e*P		**Pb**	**19 55 04.5**	**+0.2**
	baz=292								
LIOB				*e*S		**Sn**	**19 55 22.8**	**+0.1**
	baz=292								
NSTT	**Nanjuang**	**1.43**	**295**	*e*P		**Pb**	**19 55 04.3**	**-0.1**
	baz=292								
NSTT				*e*S		**Sb**	**19 55 22.6**	**-0.1**
	baz=292								
TYC	**Yuchr**	**1.44**	**266**	*e*P		**Pn**	**19 55 04.4**	**+0.6**
	baz=262								
TYC				*e*S		**Sb**	**19 55 21.5**	**-1.5**
	baz=262								
NTST	**Danshui**	**1.44**	**322**	*e*P		**Pn**	**19 55 04.1**	**+0.3**
	baz=334								
YUS	**Yu-Shan**	**1.45**	**249**	*e*P		**Pn**	**19 55 04.7**	**+0.3**
	baz=245								
YUS				*e*S		**Sb**	**19 55 22.4**	**-1.4**
	baz=245								
JKRS	**Kuro-shima**	**1.46**	**81**	P		**Pg**	**19 55 05.6**	**+0.1**
JKRS				*e*S		**Sn**	**19 55 23.9**	**+0.3**
ELDTW	**Lidau**	**1.54**	**237**	*e*P		**Pn**	**19 55 04.5**	**-0.8**
	baz=235								
ELDTW				*e*S		**Sn**	**19 55 22.9**	**-2.6**
	baz=235								
TWQ1	**Liyutan**	**1.54**	**282**	*e*P		**Pb**	**19 55 06.7**	**+0.5**
	baz=279								
TWQ1				*e*S		**Sg**	**19 55 26.5**	**-0.4**
	baz=279								
WJS	**Zhushan**	**1.56**	**263**	*e*P		**Pg**	**19 55 07.4**	**0.0**
	baz=260								
WJS				*e*S		**Sg**	**19 55 28.6**	**+0.9**
	baz=260								
NSY	**Sanyi**	**1.57**	**285**	*e*S		**Sb**	**19 55 27.2**	**+0.5**
	baz=281								
ALS	**Alishan**	**1.57**	**251**	*e*P		**Pn**	**19 55 06.6**	**+0.7**
	baz=248								
ALS				*e*S		**Sn**	**19 55 25.8**	**-0.9**
	baz=248								
NMLH	**Miaoli**	**1.57**	**289**	*e*S		**Sn**	**19 55 25.5**	**-0.9**
	baz=286								
WNT	**Mingjian**	**1.60**	**265**	*e*P		**Pb**	**19 55 07.7**	**+0.4**
	baz=262								
WNT				*e*S		**Sb**	**19 55 28.4**	**+0.8**
	baz=262								
TCU	**Taichung**	**1.60**	**275**	*e*P		**Pg**	**19 55 08.1**	**0.0**
	baz=272								
TCU				*e*S		**Sb**	**19 55 28.4**	**+0.7**
	baz=272								
JIJ	**Ishigaki jima**	**1.60**	**78**	P		**Pn**	**19 55 06.5**	**+0.4**
JIJ				S		**Sn**	**19 55 26.6**	**-0.5**
PCYT	**Pengchaiyu**	**1.63**	**349**	*e*P		**Pn**	**19 55 06.4**	**0.0**
	baz=348								
CHN5	**Tsauling**	**1.66**	**255**	*e*P		**Pb**	**19 55 08.6**	**+0.3**
	baz=242								
CHN5				*e*S		**Sn**	**19 55 29.2**	**+0.8**
	baz=242								
WCHH	**Zhanghua**	**1.71**	**272**	*e*S		**Sb**	**19 55 31.2**	**+0.5**
	baz=269								
TWGBT	**Beinan**	**1.72**	**226**	*e*P		**Pn**	**19 55 07.5**	**-0.3**
	baz=236								
TWGBT				*e*S		**Sn**	**19 55 27.6**	**-2.4**
	baz=236								
WGK	**Gukeng**	**1.74**	**259**	*e*P		**Pb**	**19 55 10.4**	**+0.8**
	baz=257								
WGK				*e*S		**Sb**	**19 55 31.9**	**+0.3**
	baz=257								
STYT	**Tauyuan**	**1.75**	**241**	*e*P		**Pn**	**19 55 08.9**	**+0.7**
	baz=228								
STYT				*e*S		**Sn**	**19 55 30.9**	**0.0**
	baz=228								
WDLH	**Douliu**	**1.76**	**259**	*e*P		**Pn**	**19 55 09.3**	**+1.1**
	baz=257								
WDLH				*e*S		**Sb**	**19 55 33.4**	**+1.2**
	baz=257								
TPUB	**Ta-pu**	**1.80**	**247**	*e*P		**Pn**	**19 55 10.2**	**+1.4**
	baz=244								
TPUB				*e*S		**Sn**	**19 55 32.6**	**+0.7**
	baz=244								
CHN4	**Tsaushan**	**1.81**	**249**	*e*P		**Pb**	**19 55 11.2**	**+0.4**
	baz=246								
CHN4				*e*S		**Sb**	**19 55 34.8**	**+1.2**
	baz=246								
JISG	**Ishigakijimahi**	**1.81**	**72**	P		**Pn**	**19 55 09.2**	**+0.3**
JISG				S		**Sn**	**19 55 31.2**	**-0.9**
WTP	**Ta-pu**	**1.83**	**245**	*e*P		**Pb**	**19 55 10.9**	**-0.3**
	baz=242								
WTP				*e*S		**Sb**	**19 55 34.4**	**0.0**
	baz=242								
RLNB	**Erlin**	**1.89**	**266**	*e*P		**Pn**	**19 55 11.4**	**+1.3**
	baz=264								
RLNB				*e*S		**Sb**	**19 55 36.1**	**0.0**
	baz=264								
SLGT	**Liugui**	**1.93**	**238**	*e*P		**Pb**	**19 55 12.9**	**+0.1**
	baz=227								
SLGT				*e*S		**Sn**	**19 55 36.1**	**+1.1**
	baz=227								
TWK	**Hsinying**	**1.93**	**247**	*e*P		**Pb**	**19 55 12.4**	**-0.4**
	baz=245								
TWK				*e*S		**Sb**	**19 55 37.4**	**+0.2**
	baz=245								
CHN1	**Nanshi**	**1.93**	**245**	*e*P		**Pb**	**19 55 13.0**	**+0.1**
	baz=243								
CHN1				*e*S		**Sb**	**19 55 37.1**	**0.0**
	baz=243								
SGST	**Jiashian**	**1.93**	**241**	*e*P		**Pb**	**19 55 12.9**	**0.0**
	baz=239								
SGST				*e*S		**Sb**	**19 55 37.1**	**-0.1**
	baz=239								
WTCT	**Ta-ch'eng**	**1.97**	**266**	*e*S		**Sb**	**19 55 38.3**	**+0.1**
	baz=276								
WSF	**Szhu**	**2.05**	**260**	*e*S		**Sn**	**19 55 39.9**	**+1.8**
	baz=257								
SSD	**Sandimen**	**2.08**	**233**	*e*P		**Pb**	**19 55 14.7**	**-0.8**
	baz=224								
SSD				*e*S		**Sn**	**19 55 39.4**	**+0.5**
	baz=224								
LAY	**Lan-yu**	**2.13**	**202**	*e*P		**Pn**	**19 55 13.1**	**-0.3**
	baz=200								
LAY				*e*S		**Sn**	**19 55 39.7**	**-0.5**
	baz=200								
JTJ	**Tarama**	**2.17**	**73**	*e*S		**Sn**	**19 55 40.2**	**-0.7**
MASBT	**Mashibuluo**	**2.17**	**230**	*e*P		**Pn**	**19 55 14.3**	**+0.5**
	baz=221								
MASBT				*e*S		**Sn**	**19 55 42.9**	**+1.9**
	baz=221								
EAST	**Anshuo**	**2.19**	**222**	*e*P		**Pn**	**19 55 14.1**	**0.0**
	baz=220								
SCZT	**Fangliau**	**2.34**	**226**	*e*P		**Pn**	**19 55 17.3**	**+1.1**
	baz=224								
HEN	**Hengchun**	**2.54**	**218**	*e*P		**Pn**	**19 55 19.8**	**+0.8**
	baz=216								
HEN				*e*S		**Sn**	**19 55 51.8**	**+1.7**
	baz=216								
TWKBT	**Hengchun**	**2.55**	**216**	*e*P		**Pn**	**19 55 21.4**	**+2.2**
	baz=213								
TWKBT				*e*S		**Sn**	**19 55 50.1**	**-0.4**
	baz=213								
WDGT	**Dungji**	**2.65**	**254**	*e*P		**Pn**	**19 55 21.0**	**+0.6**
	baz=241								
WDGT				*e*S		**Sn**	**19 55 51.8**	**-1.0**
	baz=241								
PHUB	**P'eng-hu**	**2.66**	**260**	*e*P		**Pn**	**19 55 21.4**	**+0.8**
	baz=272								
PHUB				*e*S		**Sn**	**19 55 52.9**	**-0.3**
	baz=272								
PNG	**Penghu**	**2.67**	**261**	*e*P		**Pn**	**19 55 21.4**	**+0.7**
	baz=259								
PNG				*e*S		**Sn**	**19 55 52.7**	**-0.6**
	baz=259								
VWUC	**VWUC**	**2.88**	**290**	*e*P		**Pn**	**19 55 22.8**	**-0.8**
	baz=287								
MATB	**Ma-tsu**	**3.09**	**314**	*e*P		**Pn**	**19 55 25.9**	**-0.7**
	baz=298								
PTMZ	**Houxiangcun**	**3.17**	**289**	*e*P		**Pn**	**19 55 27.1**	**-0.5**
	baz=287								
XPSS	**Dashiqiu**	**3.53**	**326**	*e*P		**Pn**	**19 55 32.1**	**-0.4**
	baz=321								

*BJI **09** 19:59:42.1, 0.˝74N×97.˝55E, h13km, mb5.0/72, mB5.1/59, Ms5.3/72, Ms7 5.1/69*
*IDC **09** 19:59:42.6±0.4, 0.˝90N×97.˝44E, h0km, mb4.7/33, mb1 4.8/36, mb1mx4.7/40, mbtmp4.7/36, ML4.5/3, MS4.6/32, Ms1 4.6/32, ms1mx4.4/46, Error ellipse: s-maj=13.4km s-min=9.9km az=43.0*
*ISCJB **09** 19:59:45.2±0.1, 0.˝87N±0.˝02×97.˝49E±0.˝02, h27km, mb5.1/222, MS4.9/56, Error ellipse: s-maj=3.4km s-min=2.2km az=135.0*
*NEIC **09** 19:59:46.0±1.3, 0.˝89N×97.˝46E, h22km±8km, mb5.2/124, Error ellipse: s-maj=4.4km s-min=2.9km az=46.0*
NEIC Felt [III] on Pulau Nias.
*KLM **09** 19:59:46.0, 0.˝91N×97.˝39E, h10km, mb5.1*
*MOS **09** 19:59:47.1±1.1, 0.˝94N×97.˝54E, h40km, mb5.3/83, MS4.7/20, Error ellipse: s-maj=7.1km s-min=4.4km az=113.1*
*GCMT **09** 19:59:48.0±0.2, 0.˝83N±0.˝02×97.˝33E±0.˝02, h20km±1km, MW5.2/75, Moment Tensor Solution. s67,c92; s75,c109; Duration: 1ś0 Moment tensor: Scale 10^16 Nm; Mrr 4.56±.19; Mθθ -1.78±.13; Mϕϕ -2.78±.15; Mrθ 3.42±.34; Mθϕ 1.95±.11; Mϕr -5.88±.46; Best double couple: Ms 8.11400×10^16 NP1:ϕs 148.00000°, δ 74.00000°, λ 93.00000°. NP2:ϕs 317.00000°, δ 17.00000°, λ 79.00000°. Principal axes: T 8.2730, Plg61.0000°, Azm63.0000°; N -0.3170, Plg3.0000°, Azm328.0000°; P -7.9560, Plg28.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **09** 19:59:49.1±0.7, 1.˝N±2.˝9×97.˝7E±.˝, h40km±5km, M5.0/59, mB5.4/35, mb5.2/59, MLv5.6/22, Mw(mB)4.9/35*
ISC 09 19:59:46.8±0.2, 0.˝82N±0.˝03×97.˝44E±0.˝04, h27km, n579, σ1ś70/603, mb5.1/235, MS4.8/57, 45C-16D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**1.21**	**136**	P	**Pn**	**20 00 08.5**	**+0.5**
SNSI	**Sinabang, Aceh**	**1.93**	**325**	P	**Pn**	**20 00 17.2**	**-0.7**
MNSI	**Mandailing Nat**	**2.15**	**91**	P	**Pn**	**20 00 21.2**	**+0.3**
PSI	**Prapat**	**2.47**	**37**	Pn	**Pn**	**20 00 24.8**	**-0.6**
	53nm,0.3s,baz=180,slow=8.9,SNR=65						
PSI				Sn	**Sb**	**20 00 59.1**	**-1.6**
	114nm,0.3s,baz=180,slow=21,SNR=11						
PSI	**Prapat**	**2.47**	**37**	*e*Pn	**Pn**	**20 00 24.5**	**-1.0**
PSI				*e*Sn	**Sb**	**20 00 59.2**	**-1.6**
PSI	**Prapat**	**2.47**	**37**	*e*P	**Pn**	**20 00 24.5**	**-1.0**
KCSI	**Kotacane, Aceh**	**2.71**	**7**	P	**Pn**	**20 00 27.5**	**-1.2**
TSI	**Tuntungan**	**2.90**	**23**	P	**Pn**	**20 00 31.2**	**0.0**
PDSI	**Padang**	**3.48**	**120**	P	**Pn**	**20 00 39.6**	**+0.3**
MLSI	**Meulaboh, Aceh**	**3.58**	**343**	P	**Pn**	**20 00 41.3**	**+0.7**
BKNI	**Bangkinang**	**3.64**	**98**	*e*Pn	**Pn**	**20 00 42.9**	**+1.5**
BKNI	**Bangkinang**	**3.64**	**98**	P	**Pn**	**20 00 43.0**	**+1.5**
SDSI	**Sungai Dareh**	**4.35**	**113**	P	**Pn**	**20 00 53.7**	**+2.4**
PPSI	**Pulau Pagai**	**4.39**	**144**	P	**Pn**	**20 00 51.8**	**0.0**
LHMI	**Lhok Sumawe**	**4.41**	**354**	*e*Pn	**Pn**	**20 00 51.4**	**-0.7**
KRJI	**Kerinci**	**4.96**	**126**	P	**Pn**	**20 01 01.5**	**+1.9**
IPM	**Ipoh**	**5.11**	**45**	*e*Pn	**Pn**	**20 01 01.9**	**+0.2**
KULM	**Kulim**	**5.48**	**36**	*e*Pn	**Pn**	**20 01 06.1**	**-0.7**
KULM	**Kulim**	**5.48**	**36**	P	**Pn**	**20 01 07.0**	**+0.2**
MASI	**Maura Aman, Be**	**6.21**	**129**	P	**Pn**	**20 01 18.5**	**+1.7**
	813nm,0.8s,8μm8.9nm						
MYKOM	**Kota Tinggi**	**6.49**	**81**	*e*Pn	**Pn**	**20 01 21.1**	**+0.5**
MYKOM	**Kota Tinggi**	**6.49**	**81**	P	**Pn**	**20 01 22.0**	**+1.4**
SKLT	**Songkhla**	**7.07**	**27**	P	**Pn**	**20 01 29.2**	**+0.6**
	350nm,1.0s,3μm1.1nm						
CMBY	**CAMPBELL BAY**	**7.08**	**330**	*e*P	**Pn**	**20 01 27.7**	**-1.1**
PKDT	**Phuket**	**7.09**	**7**	P	**Pn**	**20 01 29.1**	**+0.2**
	31nm,0.6s,628nm0.2nm						
TPRI	**Tanjung Pinang**	**7.09**	**89**	P	**Pn**	**20 01 30.6**	**+1.7**
	103nm,0.8s,2μm1.4nm						
TRTT	**Trang**	**7.33**	**18**	P	**Pn**	**20 01 31.1**	**-1.1**
	76nm,1.4s,925nm0.3nm						
MNAI	**Manna**	**7.54**	**133**	*e*Pn	**Pn**	**20 01 35.5**	**+0.4**
MNAI				*e*Sn	**Sn**	**20 02 55.5**	**-4.3**
MNAI	**Manna**	**7.54**	**133**	P	**Pn**	**20 01 35.3**	**+0.2**
	520nm,0.6s,12μm3.8nm						
MDSI	**Maura Dua**	**8.55**	**128**	P	**Pn**	**20 01 48.7**	**-0.3**
	197nm,0.7s,2μm						
LWLI	**Liwa**	**8.79**	**131**	P	**Pn**	**20 01 53.8**	**+1.4**
	169nm,0.7s,10μm						
PPBI	**Pangkal Pinang**	**9.19**	**109**	P	**Pn**	**20 01 59.9**	**+2.2**
KLI	**Kotabumi**	**9.32**	**127**	P	**Pn**	**20 01 59.8**	**+0.3**
KASI	**Kota Agung**	**9.46**	**132**	P	**Pn**	**20 02 00.5**	**-0.9**
	212nm,0.8s,2μm						
CGJI	**Cibinong**	**11.06**	**132**	P	Pn	20 02 29.6	+6.2
	72nm,1.0s						
PBA	**Port Blair**	**11.73**	**337**	*e*Pn	Pn	20 02 30.6	-2.0
PHET	**Kaeng Krachan**	**12.21**	**10**	P	**Pn**	**20 02 40.9**	**+1.8**
	6.9nm,0.8s,110nm						
PATY	**Pattaya**	**12.50**	**16**	P	**Pn**	**20 02 44.3**	**+1.2**
	9.1nm,0.8s						
LEM	**Lembang**	**12.68**	**127**	Pn	**Pn**	**20 02 44.8**	**-0.9**
	1.9nm,0.3s,baz=202,slow=21,SNR=5.7						
LEM				Sn	**Sn**	**20 05 13.8**	**+7.6**
	2.8nm,0.3s,baz=120,slow=23,SNR=2.1						
KSM	**Kuching**	**12.89**	**87**	*e*Pn	**Pn**	**20 02 48.5**	**+0.2**
KSM	**Kuching**	**12.89**	**87**	P	**Pn**	**20 02 51.0**	**+2.6**
CISI	**Cisompet, Garu**	**13.28**	**129**	*e*Pn	**Pn**	**20 02 49.2**	**-4.6**
CISI	**Cisompet, Garu**	**13.28**	**129**	P	**Pn**	**20 02 52.3**	**-1.5**
	96nm,0.6s,1μm						
SRDT	**SRDT**	**13.55**	**7**	P	**P**	**20 03 02.6**	**-3.6**
	23nm,1.1s						
SRAK	**Srakaew**	**13.88**	**19**	P	**Pn**	**20 03 05.8**	**+3.8**
	255nm,1.1s,2μm						
KPJI	**Karang Pucung**	**14.04**	**125**	P	**Pn**	**20 03 05.1**	**+1.0**
	66nm,0.6s						
STKI	**Sintang**	**14.06**	**93**	P	**P**	**20 03 09.4**	**-2.5**
	174nm,0.9s,2μm						
PBKI	**Pangkalan Bun**	**14.65**	**104**	P	**P**	**20 03 19.4**	**+0.9**
UTHA	**Uthaitani**	**14.78**	**8**	P	**P**	**20 03 17.0**	**-2.9**
	10nm,0.9s,106nm						
SBUM	**Sibu**	**14.87**	**84**	*e*Pn	**Pn**	**20 03 16.0**	**+0.6**
SBUM	**Sibu**	**14.87**	**84**	P	**Pn**	**20 03 18.0**	**+2.6**
SMRI	**Semarang**	**15.15**	**121**	*e*Pn	**Pn**	**20 03 15.6**	**-3.6**
	124nm,1.0s						
SMRI	**Semarang**	**15.15**	**121**	P	**P**	**20 03 25.3**	**+1.3**
UMPA	**Umpang Tak**	**15.36**	**5**	P	**P**	**20 03 25.1**	**-1.2**
	14nm,1.0s,101nm						
CHAI	**Chaiyaphum**	**15.65**	**16**	P	**Pn**	**20 03 25.7**	**0.0**
	13nm,1.0s,101nm						
UGM	**Wanagama**	**15.67**	**124**	*e*Pn	**Pn**	**20 03 23.4**	**-2.6**
	750nm,2.0s						
PBKT	**Sadao Pong**	**16.04**	**12**	*e*Pn	**Pn**	**20 03 28.3**	**-2.4**
	34nm,0.9s						
PBKT	**Sadao Pong**	**16.04**	**12**	P	**Pn**	**20 03 31.1**	**+0.5**
	43nm,1.0s						
NGJI	**Ngawi**	**16.18**	**120**	P	**P**	**20 03 39.2**	**+3.7**
SUKH	**Sukhothai**	**16.70**	**7**	P	**P**	**20 03 42.0**	**+0.8**
	17nm,0.9s						
UTTA	**Uttaradit**	**17.10**	**10**	P	**P**	**20 03 46.7**	**+1.1**
	6.1nm,0.9s,61nm						
SKNT	**Sakolnakorn**	**17.30**	**22**	P	**Pn**	**20 03 46.0**	**-0.7**
	22nm,1.0s,1μm						
MTKI	**Muara Teweh, K**	**17.55**	**96**	P	**P**	**20 03 51.1**	**+0.4**
	117nm,0.9s,8μm						
CM01	**Chiang Mai Arr**	**17.56**	**5**	*e*Pn	**Pn**	**20 03 46.7**	**-3.1**
CM31	**Chiang Mai Arr**	**17.59**	**5**	*e*Pn	**Pn**	**20 03 46.5**	**-3.8**
CMAR	**Chiang Mai Arr**	**17.59**	**5**	P	**Pn**	**20 03 48.2**	**-2.1**
	1.1nm,0.3s,baz=195,slow=12,SNR=47						
CMAR				LR	LR	20 11 23.7	
	comp=Z,3μm,19.9s,baz=200,slow=40						
LAMP	**Lampang**	**17.73**	**7**	P	**P**	**20 03 52.8**	**+0.2**
	13nm,0.9s,102nm						
PALK	**Pallekele**	**17.87**	**291**	P	**P**	**20 03 54.7**	**+0.4**
	0.9nm,0.3s,baz=115,slow=13,SNR=11						
PALK				S	Sn	20 06 56.5	-16
	0.9nm,0.3s,baz=297,slow=2.4,SNR=7.3						
PALK				LR	LR	20 10 06.1	
	comp=Z,3μm,18.9s,baz=115,slow=35						
PALK	**Pallekele**	**17.87**	**291**	*e*Pn	**P**	**20 03 54.5**	**+0.2**
	38nm,1.1s						
PALK				*e*Sn	Sn	20 06 56.5	-16
CMMT	**Chiang Mai**	**17.95**	**5**	P	**Pn**	**20 03 53.9**	**-0.7**
	35nm,1.0s,642nm						
CHTO	**Chiang Mai**	**17.95**	**5**	*e*Pn	**Pn**	**20 03 51.0**	**-3.6**
	30nm,0.9s						
CHTO	**Chiang Mai**	**17.95**	**5**	*e*P	**Pn**	**20 03 51.0**	**-3.6**
CHTO				pmax	pmax		
	comp=Z,30nm,0.9s						
CHTO	**Chiang Mai**	**17.95**	**5**	P	**Pn**	**20 03 54.0**	**-0.6**
	comp=Z,154nm,1.1s,comp=Z,3μm						
NONG	**Nongkai**	**18.04**	**18**	P	**Pn**	**20 03 54.2**	**-1.5**
	comp=Z,0.6nm,1.1s						
KMMI	**Kalianget**	**18.25**	**116**	P	**Pn**	**20 03 58.1**	**-0.3**
	comp=Z,50nm,0.7s						
PAYA	**Payao**	**18.58**	**7**	P	**Pn**	**20 04 03.2**	**+0.8**
	comp=Z,17nm,1.0s,comp=Z,142nm						
KBKI	**Kotabaru**	**19.16**	**102**	P	**Pn**	**20 04 10.9**	**+1.4**
	comp=Z,14nm,1.0s,comp=Z,209nm						
KKM	**Kota Kinabalu**	**19.45**	**74**	*e*P	**P**	**20 04 11.7**	**0.0**
	comp=Z,208nm,1.0s						
BKB	**Balikpapan**	**19.57**	**96**	P	**Pn**	**20 04 15.1**	**+0.8**
	comp=Z,377nm,1.1s,comp=Z,3μm						
SRBI	**Singaraja**	**19.81**	**117**	P	Pn	20 04 28.2	+11
SGKI	**Sangatta, Kali**	**20.21**	**94**	P	Pn	20 04 29.1	+7.1
MYLDM	**Lahad Datu**	**21.47**	**78**	*e*P	**P**	**20 04 33.2**	**-0.4**
	comp=Z,124nm,0.9s						
TWSI	**Taliwang, Sumb**	**21.58**	**116**	P	**P**	**20 04 35.3**	**+0.7**
	comp=Z,59nm,1.1s						
QIZ	**Qiongzhong**	**21.81**	**33**	P	**P**	**20 04 36.5**	**-0.6**
QIZ				S	**S**	**20 08 39.2**	**+2.1**
QIZ				pmax	pmax		
	comp=Z,30nm,1.4s						
QIZ				pmax	pmax		
	comp=Z,350nm,6.1s						
QIZ				LR	LR		
	comp=Z,2μm,14.1s						
QIZ				LR	LR		
	comp=Z,2μm,13.1s						
QIZ				LR	LR		
	comp=Z,2μm,13.2s						
SAIH	**SAIHA**	**21.97**	**349**	*e*P	**P**	**20 04 38.4**	**-0.6**
BRDH	**Bariadhala**	**22.45**	**346**	P	**P**	**20 04 43.4**	**-0.5**
	comp=Z,127nm,0.4s,baz=105,slow=7.8,SNR=8.5						
MPSI	**Mapaga**	**22.47**	**91**	P	**P**	**20 04 43.9**	**-0.3**
	comp=Z,41nm,1.2s,comp=Z,440nm						
SPSI	**Sidrap Palu**	**22.82**	**102**	P	**P**	**20 04 47.4**	**-0.6**
	comp=Z,20nm,0.9s,comp=Z,361nm						
BELO	**BELONIA**	**23.05**	**346**	*e*P	**P**	**20 04 50.0**	**-0.2**
BNSI	**Bone**	**23.24**	**103**	P	**P**	**20 04 52.3**	**+0.1**
	comp=Z,80nm,1.1s,comp=Z,1μm						
BKSI	**Bulukumba**	**23.46**	**105**	P	**P**	**20 04 53.9**	**-0.6**
	comp=Z,48nm,0.9s,comp=Z,529nm						
WBSI	**Waikabubak, Su**	**24.20**	**116**	P	**P**	**20 04 57.5**	**-4.0**
	comp=Z,130nm,1.1s						
APSI	**Ampana**	**24.27**	**94**	P	**P**	**20 05 01.8**	**-0.3**
	comp=Z,122nm,1.1s,comp=Z,1μm						
MRSI	**Marisa**	**24.51**	**91**	P	**P**	**20 05 04.5**	**+0.2**
	comp=Z,94nm,0.9s,comp=Z,802nm						
KMI	**Kunming**	**24.70**	**12**	P	**P**	**20 05 06.3**	**+0.1**
KMI				pP	pP	20 05 14.2	+0.1
KMI				sP	sP	20 05 18.1	+0.7
KMI				S	**S**	**20 09 26.4**	**-0.3**
KMI				sS	sS	20 09 39.8	+0.1
KMI				pmax	pmax		
	comp=Z,90nm,1.2s						
KMI				pmax	pmax		
	comp=Z,330nm,4.9s						
KMI				LR	LR		
	comp=Z,4μm,12.8s						
KMI				LR	LR		
	comp=Z,4μm,13.9s						
KMI				LR	LR		
	comp=Z,5μm,13.9s						
HYB	**Hyderabad**	**24.84**	**313**	*i* P	**P**	**20 05 10.0**	**+2.7**
KOHI	**KOHIMA**	**24.97**	**353**	*e*P	**P**	**20 05 07.2**	**-1.3**
KOHI				IAmb	IAmb	20 05 12.3	
	comp=Z,149nm,1.2s						
SHL	**Shillong**	**25.18**	**348**	*e*P	**P**	**20 05 09.0**	**-1.4**
	comp=Z,91nm,1.2s						
SHL	**Shillong**	**25.18**	**348**	*e*P	**P**	**20 05 09.0**	**-1.4**
SHL				pmax	pmax		
	comp=Z,91nm,1.2s						
SHL	**Shillong**	**25.18**	**348**	*e*P	**P**	**20 05 09.5**	**-0.9**
SHL				*e*P	**P**	**20 05 11.0**	**+0.6**
SHL				IAmb	IAmb	20 05 13.2	
	comp=Z,31nm,0.8s						
SHL				*e*S	**S**	**20 09 35.0**	**+0.7**
MNCI	**Minicoy**	**25.39**	**288**	*e*P	**P**	**20 05 12.9**	**+0.7**
	comp=Z,93nm,1.

BATI LR LR 20 19 07.6
comp=Z,4μm,18.9s,baz=286,slow=41
BATI Baumata 28.30 113 P **P** **20 05 35.1 -3.4**
comp=Z,18nm,1.0s
SANI Sanana 28.69 96 P **P** **20 05 40.5 -1.5**
comp=Z,31nm,1.0s
SOEI Soe 28.70 112 *e*P **P** **20 05 38.5 -3.7**
comp=Z,109nm,1.0s
SOEI Soe 28.70 112 P **P** **20 05 37.4 -4.8**
comp=Z,109nm,1.0s
DAV Davao City (W) 28.74 77 P **P** **20 05 43.4 +1.0**
comp=Z,106nm,0.4s,baz=66,slow=5.3,SNR=6.8
DAV LR LR 20 18 31.0
comp=Z,2μm,19.5s,baz=211,slow=39
DAV Davao City (W) 28.74 77 *e*P **P** **20 05 43.0 +0.6**
comp=Z,180nm,0.4s
JIRN Jiri 28.79 339 *e*P **P** **20 05 44.0 +0.9**
comp=Z,175nm,1.1s
PKI Pulchoki 29.00 338 *e*P **P** **20 05 45.4 +0.5**
comp=Z,186nm,1.4s
PKIN Phulchoki 29.01 338 *e*P **P** **20 05 45.4 +0.5**
comp=Z,84nm,1.2s
GUN Gumba 29.13 339 *e*P **P** **20 05 46.4 +0.3**
comp=Z,192nm,1.0s
KKN Kakani 29.24 338 *e*P **P** **20 05 47.2 +0.3**
comp=Z,104nm,1.1s
LSA Lhasa 29.34 349 P **P** **20 05 48.1 0.0**
LSA pmax pmax
comp=Z,7.0nm,1.0s
LSA Lhasa 29.34 349 *e*P **P** **20 05 47.8 -0.3**
comp=Z,36nm,1.1s
LSA *e*S **S** **20 10 41.0 +0.6**
LSA Lhasa 29.34 349 *e*P **P** **20 05 47.8 -0.3**
LSA *e*S **S** **20 10 41.0 +0.6**
LSA pmax pmax
comp=Z,36nm,1.1s
BHPL Bhopal 29.57 320 *e*P **P** **20 05 51.1 +1.4**
BHPL IAmb IAmb 20 06 02.3
comp=Z,6.8nm,0.4s
KOLN Koldanda 29.90 335 *e*P **P** **20 05 53.3 +0.5**
comp=Z,60nm,1.0s
DANN Dangsing 30.34 336 *e*P **P** **20 05 56.8 0.0**
PYUN Piuthan 30.45 334 *e*P **P** **20 05 57.9 +0.2**
CD2 Chengdu 30.52 11 ⇑P **P** **20 05 57.7 -0.4**
CD2 pP pP 20 06 01.6 -4.4
CD2 S **S** **20 11 00.1 +2.0**
CD2 sS pS 20 11 06.8 -0.5
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,270nm,5.4s
CD2 LR LR
comp=Z,7μm,13.3s
CD2 LR LR
comp=Z,5μm,14.9s
CD2 LR LR
comp=Z,8μm,14.1s
MBWA Marble Bar 30.86 136 *e*P **P** **20 06 01.4 +0.3**
comp=Z,25nm,1.0s
AAI Ambon 31.07 98 P **P** **20 06 02.8 -0.2**
comp=Z,76nm,1.0s,comp=Z,856nm
ENH Enshi 31.45 20 *e*P **P** **20 06 03.6 -2.7**
comp=Z,41nm,1.0s
QZH Quanzhou 31.52 39 ⇑*i*P **P** **20 06 06.5 -0.3**
QZH S **S** **20 11 19.6 +5.9**
QZH pmax pmax
comp=Z,30nm,1.0s
QZH LR LR
comp=Z,2μm,14.9s
QZH LR LR
comp=Z,2μm,13.5s
QZH LR LR
comp=Z,3μm,15.2s
TWG Pinlang 31.72 45 *e*P **P** **20 06 07.9 -0.8**
comp=Z,113nm,0.9s
TPUB Ta-pu 31.73 44 *e*P **P** **20 06 08.0 -0.7**
comp=Z,130nm,1.0s
MSAI Masohi 31.75 98 P **P** **20 06 09.0 0.0**
comp=Z,14nm,1.1s,comp=Z,914nm
YULB Yu-li 32.25 44 *e*P **P** **20 06 13.2 -0.2**
comp=Z,62nm,0.9s
SSLB Suanglung 32.27 43 *e*P **P** **20 06 12.3 -1.3**
comp=Z,132nm,1.0s
NACB Ninganchiao 32.97 43 *e*P **P** **20 06 19.3 -0.2**
comp=Z,81nm,0.9s
YHNB Yeheng 33.14 42 *e*P **P** **20 06 20.7 -0.5**
comp=Z,36nm,0.9s
TATO Taipei 33.42 42 *e*P **P** **20 06 23.9 +0.4**
comp=Z,75nm,1.0s
FITZ Fitzroy Crossi 33.51 125 P **P** **20 06 24.1 -0.3**
comp=Z,16nm,0.8s,baz=309,slow=6.0,SNR=30
FITZ Fitzroy Crossi 33.51 125 *e*P **P** **20 06 24.1 -0.3**
comp=Z,26nm,0.8s
WHN Wuhan 33.65 27 ⇑P **P** **20 06 25.5 +0.1**
WHN LR LR
comp=Z,8μm,14.5s
WHN LR LR
comp=Z,2μm,9.2s
WHN LR LR
comp=Z,9μm,13.3s
SIJI Sorong 33.87 93 P **P** **20 06 25.9 -1.8**
comp=Z,15nm,0.9s,baz=299,slow=7.6,SNR=13
MEEK Meekatharra 34.08 145 P P 20 06 35.1 +5.8
baz=34,SNR=4.1
YOJ Yonaguni jima 34.13 45 *e*P **P** **20 06 27.8 -1.9**
comp=Z,104nm,1.2s
YOJ Yonaguni jima 34.13 45 *e*P **P** **20 06 27.8 -1.9**
YOJ pmax pmax
comp=Z,104nm,1.2s
DDI Dehra Dun 34.64 330 *e*P **P** **20 06 35.9 +1.7**
DDI IAmb IAmb 20 06 46.0
comp=Z,18nm,0.7s
XAN Xi'an 34.76 17 P **P** **20 06 33.4 -1.7**
XAN pP pP 20 06 41.1 -2.0
XAN S **S** **20 12 12.4 +8.4**
XAN pmax pmax
comp=Z,22nm,0.5s
XAN pmax pmax
comp=Z,270nm,5.0s
XAN LR LR
comp=Z,2μm,13.4s
XAN LR LR
comp=Z,2μm,14.4s
XAN LR LR
comp=Z,3μm,13.4s
FAKI Fak Fak 35.00 96 *e*P **P** **20 06 35.8 -1.6**
comp=Z,37nm,0.9s
FAKI Fak Fak 35.00 96 P **P** **20 06 36.5 -0.9**
comp=Z,43nm,1.0s
KNRA Kununurra 35.02 119 P **P** **20 06 36.4 -1.1**
baz=35,SNR=4.6
LZH Lanzhou 35.59 9 *e*P **P** **20 06 42.8 +0.4**
LZH pP pP 20 06 47.2 -3.2
LZH sP sP 20 06 49.4 -4.3
LZH PP **PnPn** **20 08 00.4 -1.7**
LZH *e*S **S** **20 12 23.6 +6.6**
LZH sS sS 20 12 32.0 +1.8
LZH pmax pmax
comp=Z,46nm,1.1s
LZH pmax pmax
comp=Z,220nm,4.3s
LZH LR LR
comp=Z,3μm,16.5s
LZH LR LR
comp=Z,5μm,16.0s
LZH LR LR
comp=Z,4μm,17.6s
SMLA Simla 35.74 329 *e*P **P** **20 06 43.2 -0.3**
SMLA IAmb IAmb 20 06 45.5
comp=Z,17nm,0.3s
MTN Manton Dam 36.08 113 P **P** **20 06 45.6 -1.0**
baz=36,SNR=7.0
MTN Manton Dam 36.08 113 *e*P **P** **20 06 45.0 -1.6**
comp=Z,32nm,1.2s
NJ2 Nanjing 37.07 31 *e*P **P** **20 06 53.7 -1.1**
NJ2 S **S** **20 12 42.6 +3.3**
NJ2 pmax pmax
comp=Z,27nm,1.2s
NJ2 LR LR
comp=Z,2μm,14.1s
NJ2 LR LR
comp=Z,1μm,15.2s
NJ2 LR LR
comp=Z,2μm,11.9s
DHRM DHARAMSHALA 37.08 330 *e*P **P** **20 06 54.9 -0.3**
DHRM IAmb IAmb 20 07 06.6
comp=Z,51nm,1.2s

MUN Mundaring 37.15 153 P P 20 07 02.2 +6.7
baz=38,SNR=5.1
KDU Kakadu 37.26 112 P **P** **20 06 55.3 -1.4**
baz=37,SNR=3.9
NWAO Narrogin (SRO) 38.41 153 P **P** **20 07 06.7 +0.5**
comp=Z,22nm,1.0s,baz=167,slow=7.7,SNR=4.6
NWAO LR LR 20 22 36.0
comp=Z,1μm,20.0s,baz=212,slow=36
GTA Gaotai 38.47 3 ⇑P **P** **20 07 05.9 -0.9**
GTA pP pP 20 07 10.6 -4.3
GTA sP sP 20 07 13.1 -5.0
GTA PP **PnPn** **20 08 39.3 +2.2**
GTA PcP **PcP** **20 09 19.1 -0.5**
GTA S **S** **20 13 02.2 +1.5**
GTA sS pS 20 13 10.5 +0.5
GTA SS **SnSn** **20 15 45.7 -2.7**
GTA pmax pmax
comp=Z,11nm,1.5s
GTA pmax pmax
comp=Z,200nm,7.1s
GTA LR LR
comp=Z,1μm,13.3s
GTA LR LR
comp=Z,1μm,14.3s
GTA LR LR
comp=Z,1μm,14.3s
H01W3 Cape Leeuwin H 38.80 158 T T 20 48 28.0
baz=333,slow=76,SNR=212
H01W2 Cape Leeuwin H 38.82 158 T T 20 48 28.9
baz=333,slow=76,SNR=203
H01W1 Cape Leeuwin H 38.82 158 T T 20 48 29.2
baz=333,slow=76,SNR=145
TIY Taiyuan 39.23 19 *e*P **P** **20 07 12.7 -0.4**
TIY PP **PnPn** **20 08 48.1 +1.9**
TIY S **S** **20 13 14.1 +2.0**
TIY SS **SS** **20 15 55.1 -11**
TIY pmax pmax
comp=Z,170nm,6.7s
TIY LR LR
comp=Z,3μm,11.8s
TIY LR LR
comp=Z,2μm,12.9s
TIY LR LR
comp=Z,3μm,12.4s
JOW Kunigami 39.33 46 P **P** **20 07 13.1 -0.9**
comp=Z,35nm,0.6s,baz=267,slow=10,SNR=6.6
JOW Kunigami 39.33 46 *e*P **P** **20 07 13.8 -0.2**
comp=Z,128nm,1.3s
TIA Tai'an 39.67 25 P **P** **20 07 16.9 +0.2**
TIA pmax pmax
comp=Z,12nm,1.1s
TIA LR LR
comp=Z,3μm,14.0s
TIA LR LR
comp=Z,1μm,14.1s
TIA LR LR
comp=Z,4μm,14.9s
NIL Nilore 39.77 328 *e*P **P** **20 07 17.1 -0.5**
comp=Z,20nm,0.8s
NIL Nilore 39.77 328 *e*P **P** **20 07 17.1 -0.5**
NIL pmax pmax
comp=Z,20nm,0.8s
BTO Baotou 41.22 15 *e*P **P** **20 07 28.6 -1.0**
WR1 Warramunga Arr 41.63 122 *e*P **P** **20 07 32.4 -0.8**
comp=Z,43nm,0.9s
WR1 *e*S **S** **20 13 43.3 -5.0**
WRA Warramunga Arr 41.63 122 P **P** **20 07 32.4 -0.8**
comp=Z,23nm,1.0s,baz=302,slow=9.1,SNR=79
WRA S **S** **20 13 43.3 -5.0**
comp=Z,0.9nm,0.9s,baz=298,slow=14,SNR=3.2
WRA LR LR 20 28 45.4
comp=Z,832nm,18.7s,baz=290,slow=42
WRAB Tennant Creek 41.64 122 *e*P **P** **20 07 32.3 -0.9**
comp=Z,45nm,0.8s
WRAB Tennant Creek 41.64 122 *ce*P **P** **20 07 33.4 +0.2**
WRAB pmax pmax
comp=Z,37nm,1.0s
WB2 Warramunga Arr 41.64 122 *e*P **P** **20 07 31.9 -1.4**
HHC Hu-ho-hao-te 41.86 16 *e*P **P** **20 07 35.5 +0.7**
HHC S **S** **20 13 57.6 +6.4**
HHC pmax pmax
comp=Z,26nm,1.2s
HHC pmax pmax
comp=Z,150nm,8.7s
HHC LR LR
comp=Z,2μm,15.6s
HHC LR LR
comp=Z,2μm,16.5s
HHC LR LR
comp=Z,2μm,13.8s
BJT Baijiatuan 42.59 21 *e*P **P** **20 07 40.3 -0.3**
comp=Z,86nm,1.0s
BJT Baijiatuan 42.59 21 *e*P **P** **20 07 40.3 -0.3**
BJT pmax pmax
comp=Z,86nm,1.0s
FORT Forrest 42.83 140 *e*P **P** **20 07 42.4 -0.4**
comp=Z,50nm,0.8s
AS31 Alice Springs 42.98 127 *e*P **P** **20 07 43.0 -1.2**
comp=Z,7.7nm,1.0s
AS31 *e*S **S** **20 14 05.3 -2.8**
ASAR Alice Springs 42.98 127 P **P** **20 07 43.6 -0.5**
comp=Z,19nm,0.9s,baz=302,slow=7.5,SNR=120
ASAR S **S** **20 14 05.3 -2.8**
comp=Z,1.8nm,0.8s,baz=289,slow=12,SNR=7.4
ASAR LR LR 20 27 12.5
comp=Z,735nm,21.0s,baz=302,slow=38
AS01 Alice Springs 43.01 127 *e*P **P** **20 07 43.3 -1.1**
KSH Kashi 43.22 336 P **P** **20 07 45.9 0.0**
KSH PP **PP** **20 09 28.9 +2.3**
KSH PcS **PcS** **20 13 25.1 -2.5**
KSH S **S** **20 14 11.4 +0.1**
KSH SS **SS** **20 17 17.4 -7.6**
KSH pmax pmax
comp=Z,20nm,1.1s
KSH pmax pmax
comp=Z,260nm,5.9s
KSH LR LR
comp=Z,590nm,10.1s
KSH LR LR
comp=Z,1μm,16.2s
KSH LR LR
comp=Z,2μm,19.4s
JAY Jayapura 43.38 94 P **P** **20 07 47.5 -0.1**
comp=Z,14nm,0.9s,baz=36,slow=14,SNR=3.1
WMQ Urumqi 43.69 350 P **P** **20 07 50.1 +0.5**
WMQ pP pP 20 07 55.5 -2.2
WMQ PcP **PcP** **20 09 39.0 +2.6**
WMQ S **S** **20 14 24.5 +6.5**
WMQ ScS **ScS** **20 17 47.5 +0.2**
WMQ pmax pmax
comp=Z,50nm,1.3s
WMQ pmax pmax
comp=Z,770nm,5.1s
WMQ LR LR
comp=Z,1μm,18.9s
WMQ LR LR
comp=Z,2μm,23.9s
WMQ LR LR
comp=Z,2μm,23.9s
WSAR Wadi Sarin 43.76 304 P **P** **20 07 53.0 +2.6**
comp=Z,3.3nm,1.0s,baz=34,slow=11,SNR=2.1
WSAR LR LR 20 24 29.1
comp=Z,273nm,20.3s,baz=126,slow=34
DL2 Dalian 43.91 27 P **P** **20 07 52.0 +0.7**
DL2 S **S** **20 14 25.5 +4.4**
DL2 pmax pmax
comp=Z,97nm,1.1s
DL2 pmax pmax
comp=Z,250nm,4.5s
DL2 LR LR
comp=Z,1μm,15.9s
DL2 LR LR
comp=Z,930nm,17.7s
DL2 LR LR
comp=Z,2μm,14.3s
NRN Naryn 44.83 337 *e*P **P** **20 07 58.8 -0.3**
comp=Z,25nm,1.1s
NRN Naryn 44.83 337 *e*P **P** **20 07 58.8 -0.3**
NRN pmax pmax
comp=Z,25nm,1.1s
JNU Nakatsue 44.94 41 P **P** **20 07 57.4 -2.3**
comp=Z,41nm,0.9s,baz=246,slow=5.1,SNR=21
JNU Nakatsue 44.94 41 *e*P **P** **20 07 58.4 -1.3**
comp=Z,73nm,1.0s
TJN Taejon 44.95 35 *c i*P **P** **20 07 58.4 -1.3**
KDJ Kajisay 44.99 339 *e*P **P** **20 08 00.8 +0.6**
comp=Z,32nm,1.0s
KDJ Kajisay 44.99 339 *e*P **P** **20 08 00.8 +0.6**
KDJ pmax pmax
comp=Z,32nm,1.0s
BTK Batken 45.96 331 P **P** **20 08 08.8 +1.1**
BTK pmax pmax
comp=Z,78nm,1.6s
KS15 Wonju Array Si 46.00 34 *e*P **P** **20 08 07.3 -0.7**
KSAR Wonju Array Be 46.00 34 P **P** **20 08 07.5 -0.4**
KSAR Wonju Array Be 46.00 34 P **P** **20 08 07.6 -0.4**
KS01 Wonju Array Si 46.03 34 *e*P **P** **20 08 07.4 -0.8**
KSRS Korea Array 46.03 34 P **P** **20 08 07.5 -0.7**
comp=Z,22nm,0.8s,baz=220,slow=8.4,SNR=35
KSRS LR LR 20 29 05.5
comp=Z,700nm,18.2s,baz=221,slow=38
UCH Uchtor 46.09 336 P **P** **20 08 09.6 +0.4**
SNR=17
RER Riviere de l'E 46.22 239 *e*P **P** **20 08 11.9 +1.8**
comp=Z,204nm,1.6s
TKM2 Tokmak 2 46.26 338 P **P** **20 08 11.9 +1.7**
SNR=14
KBK Karagaybulak 46.28 337 P **P** **20 08 11.6 +1.2**
SNR=15
AML Almayashu 46.35 336 P **P** **20 08 11.5 +0.4**
SNR=13
QIS Mount Isa 46.41 120 P **P** **20 08 12.3 +0.8**
baz=46,SNR=6.1
AAK Ala-Archa 46.45 337 P **P** **20 08 11.9 +0.2**
comp=Z,1.0nm,0.5s,baz=156,slow=9.7,SNR=7.8
AAK PP **PP** **20 10 01.1 0.0**
comp=Z,5.9nm,0.8s,baz=148,slow=6.5,SNR=4.6
AAK Ala-Archa 46.45 337 *e*P **P** **20 08 12.1 +0.4**
comp=Z,23nm,1.5s
AAK *e*PP **PP** **20 10 01.1 0.0**
AAK Ala-Archa 46.45 337 *ce*P **P** **20 08 10.8 -0.8**
AAK pmax pmax
comp=Z,40nm,2.5s
UOSS Minazif 46.48 304 *e*P **P** **20 08 10.9 -1.1**
comp=Z,5.8nm,0.9s
FRU Bishkek 46.56 337 *e*P **P** **20 08 12.0 -0.4**
FRU *e* 20 08 23.0
FRU *e* 20 10 00.0
EKS2 Erkin-Say 46.76 336 P **P** **20 08 14.8 +0.8**
SNR=8.5
USP Ospenovka 46.98 337 P **P** **20 08 16.2 +0.6**
SNR=18
SNY Shenyang 47.14 27 ⇑P **P** **20 08 17.1 +0.3**
SNY pmax pmax
comp=Z,41nm,0.9s
SNY LR LR
comp=Z,1μm,16.4s
SNY LR LR
comp=Z,2μm,16.4s
SNY LR LR
comp=Z,3μm,14.6s
SONA0 Songino Array 47.48 8 *e*P **P** **20 08 18.8 -0.8**
SONM Songino Array 47.48 8 P **P** **20 08 18.8 -0.8**
comp=Z,12nm,0.8s,baz=196,slow=6.1,SNR=38
SONM LR LR 20 30 42.4
comp=Z,2μm,19.0s,baz=193,slow=39
SONA1 Songino Array 47.49 8 *e*P **P** **20 08 18.2 -1.5**
COEN Coen 47.62 110 P **P** **20 08 20.6 -0.4**
baz=47,SNR=4.6
COEN Coen 47.62 110 *e*P **P** **20 08 19.7 -1.3**
comp=Z,91nm,1.8s
MK01 Makanchi Array 47.64 346 *e*P **P** **20 08 19.9 -0.8**
MK31 Makanchi Array 47.67 346 *e*P **P** **20 08 20.3 -0.6**
MK31 Makanchi Array 47.67 346 *e*P **P** **20 08 20.3 -0.6**
MK32 Makanchi Array 47.67 346 *e*P **P** **20 08 20.9 0.0**
MKAR Makanchi Array 47.67 346 P **P** **20 08 20.9 0.0**
comp=Z,16nm,0.7s,baz=161,slow=8.8,SNR=118
MKAR LR LR 20 32 09.8
comp=Z,651nm,19.8s,baz=156,slow=41
MKAR Makanchi Array 47.67 346 *e*P **P** **20 08 20.7 -0.3**
comp=Z,134nm,0.6s
KK31 Karatay Array 48.50 334 *e*P **P** **20 08 27.6 +0.1**
KK31 Karatay Array 48.50 334 *e*P **P** **20 08 27.6 +0.1**
KKAR Karatay Array 48.50 334 *e*P **P** **20 08 27.6 +0.1**
KKAR Karatay Array 48.50 334 *e*P **P** **20 08 27.6 +0.1**
BBOO Buckleboo 49.44 136 P **P** **20 08 36.1 +1.3**
baz=50,SNR=6.9
BBOO Buckleboo 49.44 136 *e*P **P** **20 08 35.1 +0.3**
comp=Z,28nm,0.9s
DGZ Jazzator, Alta 49.45 351 *c i*P **P** **20 08 34.7 0.0**
DGZ pmax pmax
comp=Z,10.0nm,1.0s
CN2 Changchun 49.54 27 *e*P **P** **20 08 35.0 -0.3**
CN2 *es*P pP 20 08 42.0 -1.6
CN2 *e*S **S** **20 15 41.6 0.0**
CN2 *e*SS **SS** **20 19 09.9 -4.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,2μm,16.0s
CN2 LR LR
comp=Z,930nm,16.0s
CN2 LR LR
comp=Z,3μm,15.0s
KNGR Kungurtug, Tuv 49.60 0 *i*P **P** **20 08 36.7 +0.8**
ZAK Zakamensk 49.63 5 *e*P **P** **20 08 33.3 -2.8**
ZAK pmax pmax
comp=Z,8.0nm,1.3s
MTSU Mount Surprise 49.79 115 P **P** **20 08 38.8 +1.0**
baz=50,SNR=7.4
SARN Sarigan 50.14 69 *e*P **P** **20 08 38.9 -1.5**
comp=Z,49nm,1.1s
HVS Khovu-Aksy 50.24 357 *i*P **P** **20 08 40.1 -0.5**
HVS pmax pmax
comp=Z,21nm,1.2s
CBIJ Chichi jima 50.25 55 *e*P **P** **20 08 38.7 -2.3**
comp=Z,314nm,1.8s
JCJ Chichijima 50.25 55 LR LR 20 26 41.4
comp=Z,444nm,21.3s,baz=270,slow=32
TLY Talaya 50.95 5 *e*P **P** **20 08 47.4 +1.5**
TLY *e*S S 20 16 16.2 +15
TLY *e*SSS SSS 20 21 10.0
TLY pmax pmax
comp=Z,15nm,1.3s
TLY MLR MLR
comp=Z,1μm,14.0s
GEYT Alibeck 51.66 320 P **P** **20 08 51.8 +0.2**
comp=Z,0.9nm,0.7s,baz=82,slow=10,SNR=5.2
GEYT LR LR 20 34 46.5
comp=Z,186nm,18.0s,baz=250,slow=41
GYA0B ALIBECK ARRAY 51.66 320 *e*P **P** **20 08 49.6 -1.9**
comp=Z,9.8nm,0.8s
HTT Hallett 51.78 135 P **P** **20 08 53.7 +1.2**
baz=52,SNR=11
MAJO Matsushiro 51.81 42 *e*P **P** **20 08 52.5 -0.2**
comp=Z,45nm,1.4s
MAJO Matsushiro 51.81 42 *ce*P **P** **20 08 53.0 +0.3**
MAJO pmax pmax
comp=Z,33nm,1.7s
MAT Matsushiro 51.81 42 P **P** **20 08 52.0 -0.7**
MAT S **S** **20 16 11.6 -1.9**
MJB9 Matsu-Tunnel 51.81 42 *e*P **P** **20 08 52.0 -0.6**
comp=Z,48nm,1.4s
MJAR Matsushiro Arr 51.82 42 P **P** **20 08 52.5 -0.2**
comp=Z,17nm,1.1s,baz=226,slow=8.4,SNR=19
MJAR LR LR 20 33 17.6
comp=Z,508nm,18.1s,baz=240,slow=39
HIA Hailar 51.93 18 *e*P **P** **20 08 52.8 -0.5**
comp=Z,20nm,0.9s
HIA Hailar 51.93 18 *e*P **P** **20 08 52.8 -0.5**
HIA pmax pmax
comp=Z,20nm,0.9s
MDJ Mudanjiang 52.09 29 P **P** **20 08 55.4 +0.9**
MDJ pP pP 20 08 57.0 -5.8
MDJ PP **PP** **20 10 53.4 +0.4**
MDJ PcS **PcS** **20 14 05.4 +1.0**
MDJ S **S** **20 16 20.7 +3.8**
MDJ pmax pmax
comp=Z,17nm,1.2s
MDJ pmax pmax
comp=Z,260nm,4.1s
MDJ LR LR
comp=Z,3μm,16.7s
MDJ LR LR
comp=Z,2μm,14.3s
MDJ LR LR
comp=Z,3μm,14.7s
MDJ Mudanjiang 52.09 29 *e*P **P** **20 08 54.9 +0.3**
comp=Z,27nm,1.1s
CTAO Charters Tower 52.12 116 *e*P **P** **20 08 55.1 -0.1**

comp=Z,30nm,1.3s
KURK Kurchatov 52.22 345 *e*P **P 20 08 54.6 -0.8**
comp=Z,25nm,1.0s
KURK Kurchatov 52.22 345*ce*P **P 20 08 55.3 -0.1**
KURK pmax pmax
comp=Z,222nm,1.3s
QLP Quilpie 52.65 125 P **P 20 08 59.9 +0.9**
baz=53,SNR=23
CIT Chita 52.79 12 *e*P **P 20 09 00.0 +0.3**
CIT *e* 20 09 06.7
STKA Stephens Creek 52.93 132 P **P 20 09 02.0 +1.0**
comp=Z,24nm,0.9s,baz=312,slow=7.6,SNR=40
STKA LR LR 20 33 34.4
comp=Z,944nm,21.8s,baz=295,slow=38
STKA Stephens Creek 52.93 132 P **P 20 09 02.6 +1.6**
baz=53,SNR=28
STKA Stephens Creek 52.93 132 *e*P **P 20 09 01.8 +0.8**
comp=Z,6.5nm,0.9s
STKA Stephens Creek 52.93 132 *e*P **P 20 09 01.8 +0.8**
STKA pmax pmax
comp=Z,7.0nm,0.9s
USA0B Ussuriysk Arra 52.98 31 *e*P **P 20 09 00.4 -0.7**
comp=Z,75nm,1.0s
USRK Ussuriysk Ar. 52.98 31 P **P 20 09 01.1 0.0**
comp=Z,58nm,1.0s,baz=228,slow=5.3,SNR=52
USRK LR LR 20 32 59.2
comp=Z,935nm,19.6s,baz=215,slow=38
OPO Ambohidratompo 52.98 246 P **P 20 09 03.5 +1.7**
comp=Z,6.9nm,1.1s,baz=81,slow=17,SNR=3.2
ABPO Ambohimpanom 53.07 245 *e*P **P 20 09 04.2 +1.7**
comp=Z,52nm,1.8s
ABPO Ambohimpanom 53.07 245 *e*P **P 20 09 04.2 +1.7**
ABPO pmax pmax
comp=Z,53nm,1.8s
ZAA0 Zalesovo Array 53.97 351 *e*P **P 20 09 07.4 -0.8**
comp=Z,39nm,0.9s
ZALV Zalesovo Beam 53.97 351 P **P 20 09 07.8 -0.5**
comp=Z,12nm,0.4s,baz=173,slow=7.0,SNR=62
ZALV LR LR 20 35 27.2
comp=Z,558nm,19.4s,baz=218,slow=40
ZAA1 Zalesovo Array 53.98 351 *e*P **P 20 09 07.8 -0.5**
DAMY Dhamar 54.16 287 *e*P **P 20 09 08.4 -2.2**
comp=Z,30nm,1.0s
NVS Novosibirsk 55.09 350 *e*P **P 20 09 15.7 -0.6**
NVS *e* 20 09 30.4
NVS *e*S **S 20 16 53.7 -3.6**
NVS pmax pmax
comp=N,18nm,1.3s
NVS pmax pmax
comp=Z,20nm,1.3s
NVS pmax pmax
comp=E,11nm,1.2s
NVS smax smax
comp=N,8.0nm,1.6s
NVS smax smax
comp=E,15nm,1.9s
RAYN Ar Rayn 55.14 298 *e*P **P 20 09 18.2 +0.8**
comp=E,7.5nm,0.8s
RAYN Ar Rayn 55.14 298 *e*P **P 20 09 18.2 +0.8**
RAYN pmax pmax
comp=Z,8.0nm,0.8s
PAF Port-aux-Franc 55.20 201 *e*P **P 20 09 18.7 +1.5**
comp=Z,368nm,1.6s
PAF Port-aux-Franc 55.20 201 *e*P **P 20 09 18.7 +1.5**
PAF pmax pmax
comp=Z,368nm,1.6s
ATD Arta Tunnel 55.20 283 P **P 20 09 17.2 -0.7**
comp=Z,3.7nm,0.7s,baz=107,slow=20,SNR=2.3
ATD Arta Tunnel 55.20 283 *e*P **P 20 09 17.4 -0.5**
comp=Z,27nm,1.3s
CMSA Cobar Meteorol 55.87 130 P **P 20 09 23.8 +1.4**
baz=56,SNR=35
RMQ Roma 56.38 123 P **P 20 09 28.3 +2.2**
baz=56,SNR=13
KLR Kul'dur 56.49 26*ce*P **P 20 09 26.3 -0.2**
BRVK Borovoye 56.75 341 *e*P **P 20 09 27.0 -1.3**
comp=Z,12nm,0.9s
BRVK Borovoye 56.75 341*ce*P **P 20 09 26.3 -2.0**
BRVK pmax pmax
comp=Z,35nm,1.3s
ABKAR Akbulak array 57.96 332 *e*P **P 20 09 35.6 -1.3**
EIDS Eidsvold 57.98 121 P **P 20 09 38.2 +0.7**
baz=58,SNR=5.8
EIDS Eidsvold 57.98 121 *e*P **P 20 09 37.2 -0.3**
comp=Z,22nm,0.8s
ERM Erimo 58.02 39 *e*P **P 20 09 37.9 +0.5**
comp=Z,530nm,1.8s
ERM Erimo 58.02 39 *e*P **P 20 09 37.9 +0.5**
ERM pmax pmax
comp=Z,530nm,1.8s
ZEA Zeya 58.21 20 *e*P **P 20 09 38.6 0.0**
ZEA pmax pmax
comp=Z,12nm,1.0s
ZEA MLR MLR
comp=N,1μm,16.0s
ZEA MLR MLR
comp=E,1μm,16.0s
ZEA MLR MLR
comp=Z,2μm,16.0s
BOD Bodaibo 58.34 10 *e*P **P 20 09 39.1 -0.3**
BOD pmax pmax
comp=Z,34nm,1.2s
ASAJ Asahikawa 58.83 37 *e*P **P 20 09 43.2 +0.1**
comp=Z,212nm,1.7s
FURI Furi 59.03 280 *e*P **P 20 09 46.7 +1.3**
comp=Z,13nm,1.0s
YNG Young 59.11 131 P **P 20 09 47.6 +2.4**
baz=59,SNR=6.3
GRNR Gornyy 59.70 28 *e*P **P 20 09 51.2 +2.2**
GRNR pmax pmax
comp=Z,41nm,1.2s
CAN Canberra 59.99 132 *e*P **P 20 09 51.3 0.0**
comp=Z,27nm,1.0s
CAN Canberra 59.99 132 *e*P **P 20 09 51.3 0.0**
CAN pmax pmax
comp=Z,27nm,1.0s
ARMA Armidale 60.12 126 P **P 20 09 54.9 +2.5**
baz=60,SNR=10
ARMA Armidale 60.12 126 *e*P **P 20 09 52.4 0.0**
comp=Z,38nm,1.0s
KMBO Kilima Mbogo 60.21 268 P **P 20 09 52.7 -0.7**
comp=Z,1.0nm,0.4s,baz=56,slow=3.6,SNR=3.9
KMBO LR LR 20 34 12.1
comp=Z,397nm,18.6s,baz=96,slow=34
KMBO Kilima Mbogo 60.21 268 *e*P **P 20 09 54.1 +0.6**
comp=Z,8.0nm,1.2s
KMBO Kilima Mbogo 60.21 268 *e*P **P 20 09 54.1 +0.6**
KMBO pmax pmax
comp=Z,8.0nm,1.2s
YSS Yuzh-Sakhalins 60.53 34 *e*P **P 20 09 54.3 -0.4**
comp=Z,119nm,1.2s
YSS Yuzh-Sakhalins 60.53 34 *e*P **P 20 09 56.7 +2.0**
YSS *e* 20 10 05.7
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,800nm,15.0s
YSS MLR MLR
comp=N,600nm,16.0s
YSS MLR MLR
comp=E,600nm,14.0s
PATS Pohnpei 60.99 83 *e*P **P 20 09 59.1 +0.6**
comp=E,570nm,2.0s
GNI Garni 61.73 316 *e*P **P 20 10 04.0 +0.7**
comp=E,14nm,0.9s
GNI Garni 61.73 316*ce*P **P 20 10 04.5 +1.3**
GNI pmax pmax
comp=Z,41nm,1.3s
TAU Tasmania Unive 62.37 141 *e*P **P 20 10 07.1 -0.1**
comp=Z,109nm,1.6s
TAU Tasmania Unive 62.37 141 *e*P **P 20 10 07.1 -0.1**
TAU pmax pmax
comp=Z,109nm,1.6s
GROC Groznyy 62.39 320 *e*P **P 20 10 05.1 -2.3**
GROC *e* 20 10 43.9
GROC *e*S **S 20 18 33.6 +1.0**
GROC pmax pmax
comp=Z,43nm,1.4s
TBLG Delisi 62.42 318 *e*P **P 20 10 06.9 -0.7**
comp=Z,31nm,1.2s
TBLG Delisi 62.42 318 *e*P **P 20 10 06.9 -0.7**
TBLG pmax pmax
comp=Z,31nm,1.2s
TYV Tymovskoe 62.79 30 *e*P **P 20 10 11.8 +1.9**
TYV *e*S **S 20 18 44.4 +7.1**
TYV pmax pmax
comp=Z,24nm,1.3s
TYV pmax pmax
comp=Z,700nm,4.3s
TYV smax smax
comp=N,400nm,4.4s
TYV MLR MLR
comp=Z,1μm,16.4s
HNR Honiara 63.06 101 *e*P **P 20 10 10.6 -1.7**
comp=Z,106nm,0.9s
HNR Honiara 63.06 101 *e*P **P 20 10 10.6 -1.7**
HNR pmax pmax
comp=Z,106nm,0.9s
KARS Kars 63.09 316 P **P 20 10 13.2 +0.9**
KARS pmax pmax
comp=Z,38nm,0.7s
AKH Akhalkalaki 63.13 317 *e*P **P 20 10 13.1 +0.6**
comp=Z,14nm,1.1s
AKH Akhalkalaki 63.13 317 *e*P **P 20 10 13.1 +0.6**
AKH pmax pmax
comp=Z,14nm,1.1s
SVE Sverdlovsk 63.13 338⇓ *e*P **P 20 10 12.6 +0.6**
SVE pmax pmax
comp=Z,30nm,1.3s
NKL Nikolayevsk 63.26 28 *e*P **P 20 10 14.0 +1.1**
NKL *e* 20 18 54.0
NKL pmax pmax
comp=Z,43nm,1.0s
NKL MLR MLR
comp=N,700nm,12.0s
NKL MLR MLR
comp=E,1μm,12.0s
NKL MLR MLR
comp=Z,2μm,12.0s
ZEI Tsey 63.45 319 *e*P **P 20 10 14.8 +0.1**
ZEI pmax pmax
comp=Z,10.0nm,1.0s
NCK Nalchik 63.96 319*ce*P **P 20 10 17.9 +0.1**
NCK pmax pmax
comp=Z,8.0nm,0.9s
NEY Neytrino 64.42 319 *i*P **P 20 10 22.4 +1.3**
KBZ Khabaz 64.51 319 P **P 20 10 20.1 -1.3**
comp=Z,7.6nm,0.9s,baz=152,slow=4.0,SNR=11
KIV Kislovodsk 64.75 319 *e*P **P 20 10 22.9 -0.1**
comp=Z,33nm,1.2s
KIV Kislovodsk 64.75 319 *e*P **P 20 10 22.8 -0.3**
KIV pmax pmax
comp=Z,15nm,1.0s
GOF Gofitskoye 65.00 321 *e*P **P 20 10 25.5 +0.9**
MBAR Mbarara 66.71 269 *e*P **P 20 10 36.8 +0.4**
comp=Z,11nm,1.0s
MBAR Mbarara 66.71 269 *i*P **P 20 10 38.0 +1.6**
CASY Casey 67.60 174 *e*P **P 20 10 40.0 -0.8**
comp=Z,51nm,1.4s
CSS Mathiatis 68.49 307 *e*P **P 20 10 46.8 -0.2**
comp=Z,30nm,1.1s
VRH Novokhopyorsk 68.57 326 *e*P **P 20 10 46.0 -1.2**
VRH pmax pmax
comp=Z,20nm,1.0s
NRIK Noril'sk 68.73 356 P **P 20 10 46.7 -1.1**
comp=Z,7.9nm,0.6s,baz=154,slow=2.4,SNR=8.1
NRIK LR LR 20 43 58.1
comp=Z,489nm,18.8s,baz=180,slow=39
BR101 Keskin Array S 69.54 312 *e*P **P 20 10 52.5 -1.1**
BR131 Keskin Array S 69.54 312 *e*P **P 20 10 52.5 -1.1**
BRTR Keskin Array B 69.54 312 P **P 20 10 52.5 -1.1**
comp=Z,5.1nm,1.0s,baz=134,slow=6.3,SNR=13
BRTR Keskin Array B 69.54 312 P **P 20 10 52.6 -1.1**
BRTR pmax pmax
comp=Z,6.0nm,1.0s
VORD Divnogorie 69.84 325 *e*P **P 20 10 54.6 -0.4**
VORD pmax pmax
comp=Z,10.0nm,0.9s
ILGA Ilgaz 69.87 314 *e*P **P 20 10 55.1 -0.7**
comp=Z,41nm,1.6s
VSR Storozhevoye 70.02 325 *e*P **P 20 10 54.6 -1.5**
VSR pmax pmax
comp=Z,10.0nm,0.9s
ANTO Ankara 70.21 312 *e*P **P 20 10 57.3 -0.4**
comp=Z,57nm,1.9s
ANTO Ankara 70.21 312 *e*P **P 20 10 57.3 -0.4**
ANTO pmax pmax
comp=Z,57nm,1.9s
LSZ Lusaka 70.23 254 *e*P **P 20 10 58.9 +0.6**
comp=Z,21nm,1.8s
LSZ Lusaka 70.23 254 *e*P **P 20 10 58.9 +0.6**
LSZ pmax pmax
comp=Z,21nm,1.8s
LPSR Galich'ya Gora 70.74 327 *e*P **P 20 11 00.4 -0.1**
LPSR pmax pmax
comp=Z,30nm,1.4s
SIM Simferopol' 70.81 318 P P 20 11 09.4 +8.3
SIM *e*S **S 20 20 17.0 +2.5**
SIM pmax pmax
comp=Z,13nm,0.7s
DZM Mont Dzumac 70.92 114 *e*LR LR 20 32 35.7
comp=Z,634nm,23.4s
DZM Mont Dzumac 70.92 114 *e*P **P 20 11 01.5 -0.8**
comp=Z,46nm,1.3s
MA2 Magadan 71.58 25 *e*P **P 20 11 04.4 -1.1**
comp=Z,134nm,1.7s
MA2 Magadan 71.58 25 *i*P **P 20 11 04.3 -1.1**
MA2 pmax pmax
comp=Z,33nm,1.1s
PEA0B Petropavlovsk- 71.92 33 *e*P **P 20 11 07.1 -0.6**
comp=Z,44nm,1.3s
PETK Petropavlovsk- 71.92 33 P **P 20 11 08.3 +0.6**
comp=Z,5.5nm,0.9s,baz=244,slow=2.2,SNR=5.1
PETK LR LR 20 46 41.5
comp=Z,397nm,18.1s,baz=240,slow=39
PETK Petropavlovsk- 71.92 33 *e*P **P 20 11 07.2 -0.5**
PETK Petropavlovsk- 71.92 33 *e*P **P 20 11 07.2 -0.5**
PEA1 Petropavlovsk- 71.92 33 *e*P **P 20 11 08.3 +0.6**
MAW Mawson 72.39 193 P **P 20 11 11.8 +1.7**
comp=Z,0.8nm,0.2s,baz=310,slow=5.7,SNR=2.0
MAW LR LR 20 39 20.6
comp=Z,494nm,18.1s,baz=52,slow=33
MAW Mawson 72.39 193 *e*P **P 20 11 11.4 +1.2**
comp=Z,4.4nm,1.3s
MAW Mawson 72.39 193 *e*P **P 20 11 11.4 +1.2**
MAW pmax pmax
comp=Z,4.0nm,1.3s
PET Petropavlovsk 72.42 34 *e*P **P 20 11 09.9 -0.7**
comp=Z,40nm,1.0s
PET Petropavlovsk 72.42 34 *i*P **P 20 11 10.2 -0.4**
PET pmax pmax
comp=Z,39nm,1.1s
MOS Moscow 72.78 329 *e*P **P 20 11 11.3 -1.4**
MOS *e* 20 11 22.3
MOS *e* 20 11 29.1
MOS pmax pmax
comp=Z,17nm,0.6s
OBN Obninsk 73.07 328 LR LR 20 47 33.2
comp=Z,49nm,20.3s,baz=126,slow=39
OBN Obninsk 73.07 328 *e*P **P 20 11 14.1 -0.3**
comp=Z,49nm,1.5s
OBN Obninsk 73.07 328*de*P **P 20 11 13.8 -0.6**
OBN *e* 20 11 21.5
OBN 20 14 01.0
OBN *e*S **S 20 20 38.4 -1.6**
OBN SS **SS 20 25 19.0 -2.3**
OBN SSS SSS 20 28 37.0
OBN pmax pmax
comp=Z,47nm,2.5s
OBN MLR MLR
comp=Z,239nm,18.0s
TIXI Tiksi 73.52 10 *e*P **P 20 11 15.3 -1.5**
comp=Z,27nm,1.1s
TIXI Tiksi 73.52 10*ce*P **P 20 11 14.5 -2.3**
TIXI pmax pmax
comp=Z,21nm,1.0s
LBTB Lobatse 73.93 244 *e*P **P 20 11 20.2 -0.1**
comp=Z,12nm,1.0s
LBTB Lobatse 73.93 244 *e*P **P 20 11 20.2 -0.1**
LBTB pmax pmax
comp=Z,12nm,1.0s
SEY Seymchan 74.02 23 *i*P **P 20 11 19.2 -0.7**
TIRR Tirgusor 74.56 316 *e*P **P 20 11 22.6 -0.8**
comp=Z,8.7nm,0.9s
TIRR Tirgusor 74.56 316⇑ *i*P **P 20 11 23.2 -0.2**
TIRR Tirgusor 74.56 316⇑ P **P 20 11 23.2 -0.2**
BOSA Boshof 74.79 240 P **P 20 11 25.3 0.0**
comp=Z,2.0nm,0.8s,baz=0.0,slow=2.0,SNR=3.5
BOSA LR LR 20 40 45.1
comp=Z,444nm,18.1s,baz=70,slow=33
BOSA Boshof 74.79 240 *e*P **P 20 11 24.9 -0.4**
comp=Z,65nm,2.0s
CFR Carcaliu 74.93 317⇑ *i*P **P 20 11 26.7 +1.2**
CFR Carcaliu 74.93 317⇑ P **P 20 11 26.7 +1.2**
HARR Harsova 74.95 316⇓ *i*P **P 20 11 27.7 +2.0**
HARR Harsova 74.95 316⇓ P **P 20 11 27.7 +2.0**
ALN Alexandroupoli 75.46 312 *e*P **P 20 11 28.5 -0.2**
comp=Z,8.4nm,1.2s
TARA Tarawa 75.47 89 *e*P **P 20 11 28.8 -0.6**
comp=Z,310nm,1.5s
SORM Soroca 75.55 320⇓ *i*P **P 20 11 28.3 -0.7**
SORM Soroca 75.55 320⇓ P **P 20 11 28.3 -0.7**
AKASG Malin Array Be 75.70 322 P **P 20 11 27.9 -1.9**
comp=Z,4.3nm,0.7s,baz=89,slow=4.8,SNR=14
AKASG LR LR 20 49 42.2
comp=Z,105nm,19.0s,baz=50,slow=40
AKBB Malin Array Si 75.70 322 *e*P **P 20 11 27.9 -2.0**
AKBB Malin Array Si 75.70 322 *e*P **P 20 11 27.9 -2.0**
KIEV Kiev 75.71 322 *e*P **P 20 11 29.1 -0.8**
comp=Z,12nm,0.9s
KIEV Kiev 75.71 322*ce*P **P 20 11 29.9 0.0**
KIEV pmax pmax
comp=Z,9.0nm,1.0s
VRI Vrincioaia 76.06 317⇓ *i*P **P 20 11 32.5 +0.4**
VRI Vrincioaia 76.06 317⇓ P **P 20 11 32.5 +0.4**
PLOR Plostina 76.11 317⇓ *i*P **P 20 11 34.1 +1.7**
PLOR Plostina 76.11 317⇓ P **P 20 11 34.1 +1.7**
DCZ Deep Cove 76.47 137 *e*P **P 20 11 34.9 +0.5**
comp=Z,155nm,2.0s
MLR Muntele Rosu 76.51 317 LR LR 20 49 48.6
comp=Z,168nm,20.1s,baz=99,slow=39
MLR Muntele Rosu 76.51 317 *e*P **P 20 11 35.2 +0.5**
comp=Z,24nm,1.2s
MLR Muntele Rosu 76.51 317⇑ *i*P **P 20 11 35.6 +0.8**
MLR Muntele Rosu 76.51 317⇑ P **P 20 11 35.6 +0.8**
BIZ Bicaz 76.72 318⇑ *i*P **P 20 11 36.7 +0.9**
DOPR Dopca 76.99 317⇑ *i*P **P 20 11 38.8 +1.4**
VOIR 77.11 316⇑ *i*P **P 20 11 39.2 +1.1**
VOIR 77.11 316⇑ P **P 20 11 39.2 +1.1**
ARR Arges 77.38 316⇑ *i*P **P 20 11 39.6 0.0**
BURAR Bucovina Array 77.47 319⇑ *i*P **P 20 11 40.7 +0.6**
BURAR Bucovina Array 77.47 319⇑ P **P 20 11 40.7 +0.6**
BUR04 Bucovina Ar. S 77.47 319 *e*P **P 20 11 40.0 -0.1**
BUR08 Bucovina Ar. S 77.48 319 *e*P **P 20 11 40.0 -0.1**
VTS Vitosha 77.86 313 *e*P **P 20 11 41.6 -0.9**
comp=Z,11nm,1.3s
VTS Vitosha 77.86 313⇑ *i*P **P 20 11 42.5 0.0**
VTS Vitosha 77.86 313⇑ P **P 20 11 42.5 0.0**
AGG Agios Georgios 77.93 310 *e*P **P 20 11 39.5 -3.3**
comp=Z,45nm,1.9s
AGG Agios Georgios 77.93 310 *e*P **P 20 11 39.5 -3.3**
AGG pmax pmax
comp=Z,45nm,1.9s
LIT Litokhoron 77.98 311 *e*P **P 20 11 41.5 -1.5**
comp=Z,29nm,1.5s
LIT Litokhoron 77.98 311 *e*P **P 20 11 41.5 -1.5**
LIT pmax pmax
comp=Z,29nm,1.5s
LVV L'vov 78.71 321 *e*P **P 20 11 47.0 +0.2**
RPZ Rata Peaks 78.77 135 *e*P **P 20 11 46.6 -0.7**
comp=Z,28nm,1.0s
DRGR 78.97 318⇓ *i*P **P 20 11 49.3 +0.9**
DRGR 78.97 318⇓ P **P 20 11 49.3 +0.9**
SUR Sutherland 79.15 237 *e*P **P 20 11 50.8 +0.9**
comp=Z,44nm,1.2s
TRPA Tarpa 79.34 319⇑ *i*P **P 20 11 49.8 -0.4**
TRPA Tarpa 79.34 319⇑ *e*PKiKP **P 20 11 51.7 +1.5**
OXZ Oxford 79.39 134 *e*P **P 20 11 51.8 +1.1**
comp=Z,24nm,1.1s
BZS Buzias 79.51 316⇑ *i*P **P 20 11 51.9 +0.6**
BZS Buzias 79.51 316⇑ P **P 20 11 51.9 +0.6**
KWP Kalwaria Pacla 79.51 320 *e*P **P 20 11 53.6 +2.4**
KWP Kalwaria Pacla 79.51 320 *e*P **P 20 11 51.6 +0.5**
comp=Z,223nm,1.2s
KWP Kalwaria Pacla 79.51 320 *e*P **P 20 11 51.7 +0.5**
KWP pmax pmax
comp=Z,223nm,1.2s
APA Apatity 79.57 339⇓ *i*P **P 20 11 55.1 +4.0**
APA pmax pmax
comp=Z,8.0nm,1.3s
APA MLR MLR
comp=Z,2μm,16.0s
UZH Uzhgorod 79.59 319 *e*P **P 20 11 52.9 +1.3**
UZH *e* 20 11 58.9
SIRR Siria 79.59 317⇑ *i*P **P 20 11 51.9 +0.2**
SYO Syowa Base 79.71 198⇑ *e*P **P 20 11 55.2 +3.4**
SYO Syowa Base 79.71 198⇓ *e*sP sP 20 12 00.9 -2.8
THZ Tophouse 79.73 133 *e*P **P 20 11 53.9 +1.2**
comp=Z,23nm,0.9s
CRLZ Canterbury Las 79.86 134 *e*P **P 20 11 53.2 0.0**
comp=Z,150nm,1.8s
MQZ McQueen's Vall 79.91 135 *e*P **P 20 11 52.9 -0.5**
comp=Z,48nm,1.4s
SUW Suwalki 80.12 325 *e*P **P 20 11 55.2 +0.8**
SUW Suwalki 80.12 325 *e*P **P 20 11 53.7 -0.7**
comp=Z,35nm,0.9s
SUW Suwalki 80.12 325 *e*P **P 20 11 53.7 -0.7**
SUW pmax pmax
comp=Z,35nm,0.9s
KHZ Kahutara 80.31 133 *e*P **P 20 11 55.4 -0.3**
comp=Z,135nm,1.9s
DIVS Divibare 80.42 315 *e*P **P 20 11 55.7 -0.7**
comp=Z,9.8nm,1.1s
FIA1 FINESS Array S 80.44 333 *e*P **P 20 11 55.1 -0.9**
FIA0 FINESS Array S 80.45 333 *e*P **P 20 11 55.3 -0.6**
FIA0 FINESS Array S 80.45 333 *e*P **P 20 11 55.3 -0.6**
FINES FINESS Array B 80.45 333 P **P 20 11 55.3 -0.6**
comp=Z,1.7nm,0.5s,baz=107,slow=6.5,SNR=15
FINES LR LR 20 50 36.7
comp=Z,430nm,20.8s,baz=104,slow=38
HZ Hauiti 80.67 129 *e*P **P 20 11 58.4 +0.6**
comp=Z,55nm,1.1s
TSUM Tsumeb 80.68 251 *e*P **P 20 11 57.3 -1.0**
comp=Z,9.7nm,1.2s
TTG Podgorica 80.73 313 *e*P **P 20 11 57.6 -0.3**
comp=Z,16nm,1.0s
TTG Podgorica 80.73 313 *e*P **P 20 11 57.6 -0.3**
TTG pmax pmax
comp=Z,16nm,1.0s
PSZ Piszkesteto 81.05 318 *e*P **P 20 11 59.7 +0.1**
comp=Z,10nm,1.0s
PSZ Piszkesteto 81.05 318 *e*PKiKP **P 20 12 00.6 +1.0**
PSZ Piszkesteto 81.05 318 *e*P **P 20 11 59.7 +0.1**
PSZ pmax pmax
comp=Z,10.0nm,1.0s
BILL Bilibino 81.44 21*ce*P **P 20 12 00.7 -0.4**
BILL 20 12 08.0
BILL *e* 20 23 09.3
BILL pmax pmax
comp=Z,3.0nm,1.4s
BILL MLR MLR
comp=Z,643nm,22.0s
OJC Ojcow 81.47 321 *e*P **P 20 12 01.1 -0.6**
comp=Z,8.0nm,1.0s
OJC Ojcow 81.47 321 *e*P **P 20 12 01.1 -0.6**
OJC pmax pmax
comp=Z,8.0nm,1.0s
LANS Liptovska Anna 81.52 320 *e*P **P 20 12 03.5 +1.5**
LANS Liptovska Anna 81.52 320 *e*P **P 20 12 03.5 +1.5**
MORH M⁻‡r¯igy, Hung 81.66 316⇓ *e*PKiKP **P 20 12 03.3 +0.6**
VYHS Vyhne 81.83 319 *e*P **P 20 12 04.6 +0.9**
VYHS pmax pmax
comp=Z,5.0nm,1.3s
VYHS Vyhne 81.83 319 *e*P **P 20 12 04.6 +0.9**
BKZ Black Stump Fm 82.03 130 *e*P **P 20 12 05.7 +0.7**
comp=Z,38nm,0.9s
BFZ Birch Farm 82.05 131 *e*P **P 20 12 05.7 +0.7**
comp=Z,135nm,1.8s
TIP Timpagrande 82.25 309 *e*P **P 20 12 06.4 +0.2**
comp=Z,13nm,1.3s
URZ Urewera 82.39 129 *e*P **P 20 12 05.5 -1.2**
comp=Z,31nm,1.3s
BLY Banja Luka 82.50 315⇓ *i*P **P 20 12 08.8 +1.6**
comp=Z,13nm,1.0s
BLY Banja Luka 82.50 315⇓ P **P 20 12 08.8 +1.6**
JAVC Velka Javorina 82.65 319 *e*P **P 20 12 09.5 +1.5**
MORC Moravsky Berou 82.85 320 *e*P **P 20 12 08.8 -0.1**
comp=Z,14nm,1.2s
MORC Moravsky Berou 82.85 320⇑ *i*P **P 20 12 09.5 +0.5**
MORC Moravsky Berou 82.85 320⇑ P **P 20 12 09.5 +0.5**
MORC Moravsky Berou 82.85 320 *e*P **P 20 12 10.0 +1.0**
MODS Modra-Piesok 82.85 319 *e*P **P 20 12 10.0 +1.0**
MODS pmax pmax
comp=Z,19nm,1.4s
MODS Modra-Piesok 82.85 319 *e*P **P 20 12 10.0 +1.0**
ARA0 ARCESS Array S 82.97 340 *e*P **P 20 12 08.9 -0.3**
ARCES ARCESS Array B 82.97 340 P **P 20 12 08.9 -0.3**
comp=Z,4.2nm,0.8s,baz=96,slow=5.0,SNR=15

ARCES				LR	LR	20 53 05.2		
	comp=Z,22nm,19.8s,baz=118,slow=39							
ARCES	**ARCESS Array B**	**82.97**	**340**	*eP*	**P**	**20 12 07.7**	**-1.5**	
ARE0	**ARCESS Array S**	**82.97**	**340**	*eP*	**P**	**20 12 07.4**	**-1.8**	
	comp=Z,9.3nm,1.8s							
KRLC	**Kraliky**	**83.37**	**320**	*eP*	**P**	**20 12 11.8**	**+0.1**	
KRLC	**Kraliky**	**83.37**	**320**	*eP*	**P**	**20 12 11.8**	**+0.1**	
KRUC	**Moravsky**	**83.51**	**319**	*eP*	**P**	**20 12 13.2**	**+0.8**	
DPC	**Dobruska-Polom**	**83.69**	**320**	*eP*	**P**	**20 12 13.8**	**+0.4**	
DPC				*ex*	x	20 12 21.7		
DPC	**Dobruska-Polom**	**83.69**	**320**	*eP*	**P**	**20 12 13.8**	**+0.4**	
DPC				*e*		20 12 21.7		
CONA	**Conrad Observa**	**83.74**	**318**	*eP*	**P**	**20 12 14.5**	**+0.8**	
	comp=Z,7.1nm,1.3s							
ARSA	**Arzberg**	**83.90**	**317**	*eP*	**P**	**20 12 15.6**	**+1.1**	
	comp=Z,8.5nm,1.0s							
SOKA	**Soboth**	**84.19**	**317**	*eP*	**P**	**20 12 17.2**	**+1.2**	
	comp=Z,12nm,1.2s							
OBKA	**Obir**	**84.50**	**316**	*e*PcP	**P**	**20 12 18.8**	**+1.2**	
	comp=Z,7.0nm,1.1s							
MOA	**Molln**	**84.80**	**318**	*eP*	**P**	**20 12 19.6**	**+0.6**	
	comp=Z,7.0nm,1.3s							
AQU	**L'Aquila**	**85.03**	**312**	*eP*	**P**	**20 12 19.1**	**-1.2**	
	comp=Z,19nm,0.9s							
AQU	**L'Aquila**	**85.03**	**312**	*eP*	**P**	**20 12 19.2**	**-1.2**	
AQU				pmax	pmax			
	comp=Z,19nm,0.9s							
MYKA	**Terra Mystica**	**85.14**	**317**	*eP*	**P**	**20 12 21.7**	**+0.9**	
	comp=Z,4.2nm,1.0s							
BRG	**Berggiesshubel**	**85.25**	**321**	*eP*	**P**	**20 12 22.7**	**+1.5**	
	comp=Z,6.8nm,1.1s							
BRG	**Berggiesshubel**	**85.25**	**321**	*eP*	**P**	**20 12 22.7**	**+1.5**	
BRG				pmax	pmax			
	comp=Z,7.0nm,1.1s							
GEA0	**GERESS Array S**	**85.25**	**319**	*eP*	**P**	**20 12 21.0**	**-0.3**	
GEC2	**GERESS Array S**	**85.25**	**319**	*eP*	**P**	**20 12 22.5**	**+1.2**	
	comp=Z,16nm,1.2s							
GERES	**GERESS Array B**	**85.25**	**319**	P	**P**	**20 12 20.9**	**-0.5**	
	comp=Z,7.0nm,1.0s,baz=102,slow=5.6,SNR=33							
KHC	**Kasperske Hory**	**85.36**	**319**	*eP*	**P**	**20 12 25.5**	**+3.7**	
KHC	**Kasperske Hory**	**85.36**	**319**	*eP*	**P**	**20 12 25.5**	**+3.7**	
KBA	**Koelnbreinsper**	**85.37**	**317**	*eP*	**P**	**20 12 20.9**	**-1.2**	
	comp=Z,5.9nm,1.3s							
VNDA	**Vanda**	**85.41**	**169**	P	**P**	**20 12 22.4**	**+1.0**	
	comp=Z,0.9nm,1.1s,baz=307,slow=4.1,SNR=3.7							
VNDA				LR	LR	20 48 56.7		
	comp=Z,392nm,18.0s,baz=312,slow=35							
VNDA	**Vanda**	**85.41**	**169**	*eP*	**P**	**20 12 22.3**	**+0.9**	
VNDA				*e*PcP	**PcP**	**20 12 23.3**	**-1.0**	
CLL	**Collm**	**85.88**	**321**	*eP*	**P**	**20 12 25.0**	**+0.8**	
CLL				*es*P	**pP**	**20 12 33.0**	**0.0**	
CLL				*eS*	**S**	**20 22 58.0**	**+2.1**	
CLL				LmV		20 58 00.0		
	comp=Z,200nm,18.9s							
CLL	**Collm**	**85.88**	**321**	*eP*	**P**	**20 12 25.0**	**+0.8**	
CLL				*e*		20 12 33.0		
CLL				*eS*	**S**	**20 22 58.0**	**+2.1**	
ABTA	**Abfaltersbach**	**85.92**	**317**	*eP*	**P**	**20 12 24.7**	**0.0**	
	comp=Z,5.5nm,1.1s							
MOTA	**Moosalm**	**86.91**	**317**	*eP*	**P**	**20 12 29.0**	**-0.7**	
	comp=Z,6.3nm,0.9s							
FETA	**Feichten**	**87.16**	**317**	*eP*	**P**	**20 12 30.4**	**-0.4**	
	comp=Z,7.0nm,1.3s							
NC303	**NORSAR Array S**	**87.39**	**331**	*eP*	**P**	**20 12 31.1**	**-0.3**	
NB2	**NORSAR Subarra**	**87.45**	**331**	P	**P**	**20 12 31.3**	**-0.5**	
	comp=Z,1.3nm,0.8s,baz=96,slow=4.6							
NB200	**NORSAR Array S**	**87.45**	**331**	*eP*	**P**	**20 12 31.2**	**-0.6**	
NOA	**NORSAR Array B**	**87.45**	**331**	P	**P**	**20 12 31.2**	**-0.6**	
	comp=Z,3.7nm,1.0s,baz=94,slow=5.1,SNR=4.6							
NOA				LR	LR	20 54 48.5		
	comp=Z,249nm,22.0s,baz=100,slow=38							
FUORN	**Ofenpass-Fuorn**	**87.46**	**316**	*eP*	**P**	**20 12 31.5**	**-1.0**	
	comp=Z,9.4nm,1.0s							
DAVA	**Damuels**	**87.74**	**317**	*e*PcP	**P**	**20 12 33.8**	**+0.1**	
	comp=Z,11nm,1.3s							
KEST	**Kesra**	**87.97**	**306**	P	**P**	**20 12 36.0**	**+1.0**	
	comp=Z,5.0nm,0.9s,baz=291,slow=3.0,SNR=5.4							
KEST				LR	LR	20 52 44.8		
	comp=Z,185nm,21.5s,baz=328,slow=36							
KEST	**Kesra**	**87.97**	**306**	*eP*	**P**	**20 12 33.9**	**-1.1**	
	comp=Z,11nm,1.2s							
PGF	**Pioggiola**	**88.30**	**312**	*eP*	**P**	**20 12 36.8**	**+0.5**	
PGF				pmax	pmax			
	comp=Z,36nm,1.4s							
NVL	**N'lazarevskaya**	**89.31**	**199**	*eP*	P	20 12 50.3	+10	
NVL				*eS*	S	20 23 18.9	-9.1	
NVL				pmax	pmax			
	comp=Z,16nm,1.0s							
SBF	**Sospel**	**89.44**	**314**	*eP*	**P**	**20 12 41.7**	**+0.1**	
SBF				pmax	pmax			
	comp=Z,11nm,0.9s							
LPL	**La Plagne**	**89.92**	**315**	*eP*	**P**	**20 12 45.3**	**+1.3**	
LPL				pmax	pmax			
	comp=Z,11nm,1.1s							
CABF	**La Chapelle**	**90.34**	**316**	*eP*	**P**	**20 12 46.4**	**+0.6**	
CABF				pmax	pmax			
	comp=Z,42nm,1.8s							
ORIF	**Oris-en-Rattie**	**90.53**	**315**	*eP*	**P**	**20 12 47.4**	**+0.6**	
ORIF				pmax	pmax			
	comp=Z,12nm,1.2s							
VIVF	**Saint-Julien-l**	**91.39**	**315**	*eP*	**P**	**20 12 54.0**	**+3.3**	
VIVF				pmax	pmax			
	comp=Z,7.0nm,1.2s							
BAIF	**Baives**	**91.46**	**320**	*eP*	**P**	**20 12 52.6**	**+1.8**	
BAIF				pmax	pmax			
	comp=Z,20nm,1.2s							
LOR	**Lormes**	**91.84**	**317**	*eP*	**P**	**20 12 54.0**	**+1.3**	
LOR				pmax	pmax			
	comp=Z,17nm,1.3s							
SMF	**Signal de Mont**	**91.89**	**317**	*eP*	**P**	**20 12 54.1**	**+1.2**	
SMF				pmax	pmax			
	comp=Z,15nm,1.2s							
AVF	**Avril sur Loir**	**92.21**	**317**	*eP*	**P**	**20 12 55.6**	**+1.2**	
AVF				pmax	pmax			
	comp=Z,10.0nm,1.2s							
CAF	**Calviac**	**93.24**	**315**	*eP*	**P**	**20 13 01.0**	**+1.8**	
CAF				pmax	pmax			
	comp=Z,13nm,1.4s							
TORD	**Torodi Ar. Bea**	**95.41**	**283**	LR	LR	20 54 45.0		
	comp=Z,241nm,19.1s,baz=55,slow=35							
IM3	**Indian Mountai**	**96.84**	**23**	*eP*	**P**	**20 13 14.4**	**-0.7**	
ILAR	**Eielson Array**	**99.96**	**23**	PP	PP	20 17 35.8	+1.8	
	comp=Z,0.7nm,1.0s,baz=283,slow=7.1,SNR=4.0							
ILAR				LR	LR	21 01 11.1		
	comp=Z,154nm,18.9s,baz=322,slow=37							
TBI	**Tubuai**	**111.48**	**115**	*e*LR	LR	20 51 23.3		
	comp=Z,414nm,24.8s							
PPT2	**Papeete2**	**112.13**	**109**	*e*PS	PS	20 28 36.4	-3.2	
	comp=Z,100nm,24.2s							
PPT2	**Papeete2**	**112.13**	**109**	*e*LR	LR	20 51 38.6		
	comp=Z,356nm,24.8s							
F10A	**Beach Ranch, E**	**124.29**	**29**	*e*PKPdf	**PKPdf**	**20 18 44.8**	**+1.1**	
RKT	**Rikitea**	**124.55**	**118**	*e*LR	LR	20 57 26.2		
	comp=Z,420nm,29.8s							
J08A	**Circle Bar Ran**	**125.52**	**32**	*e*PKPdf	**PKPdf**	**20 18 47.4**	**+1.3**	
DLMT	**Dillon**	**126.89**	**26**	*e*PKPdf	**PKPdf**	**20 18 50.1**	**+1.4**	
NV01	**Mina Array Sit**	**128.95**	**36**	*e*PKPdf	**PKPdf**	**20 18 54.2**	**+1.2**	
NVAR	**Mina Array Bea**	**128.95**	**36**	PKP	**PKPdf**	**20 18 54.0**	**+1.1**	
	comp=Z,3.8nm,1.0s,baz=283,slow=2.7,SNR=13							
NV11	**Mina Array Sit**	**129.04**	**36**	*e*PKPdf	**PKPdf**	**20 18 53.7**	**+0.7**	
PD31	**Pinedale Array**	**130.28**	**26**	*e*PKPdf	**PKPdf**	**20 18 55.6**	**+0.2**	
PDAR	**Pinedale Array**	**130.28**	**26**	PKP	**PKPdf**	**20 18 56.3**	**+0.9**	
	comp=Z,0.6nm,0.6s,baz=277,slow=2.4,SNR=4.7							
PDAR	**Pinedale Array**	**130.28**	**26**	*e*PKPdf	**PKPdf**	**20 18 55.4**	**0.0**	
R11A	**Troy Canyon, C**	**130.58**	**34**	*e*PKPdf	**PKPdf**	**20 18 57.0**	**+1.0**	
O20A	**White River Ci**	**132.99**	**27**	*e*PKPdf	**PKPdf**	**20 18 55.4**	**-5.1**	
ANMO	**Albuquerque**	**137.98**	**30**	PKP	**PKPdf**	**20 19 11.0**	**+1.0**	
	comp=Z,0.7nm,0.4s,baz=337,slow=4.0,SNR=3.2							
ANMO	**Albuquerque**	**137.98**	**30**	*e*PKPdf	**PKPdf**	**20 19 10.2**	**+0.2**	
ANMO	**Albuquerque**	**137.98**	**30**	*c i*PKIKP	**PKPdf**	**20 19 10.4**	**+0.4**	
ANMO				pmax	pmax			
	comp=Z,9.0nm,2.5s							
MNTX	**Cornudas Mount**	**141.10**	**32**	*e*PKPdf	**PKPdf**	**20 19 16.0**	**+0.5**	
TX31	**Lajitas Ar. Si**	**143.87**	**32**	*e*PKPdf	PKPbc	20 19 18.9	+0.6	
LTX	**Lajitas**	**143.87**	**32**	*e*PKPdf	PKPbc	20 19 19.2	+1.0	
LTX	**Lajitas**	**143.87**	**32**	*e*PKIKP	PKPbc	20 19 19.3	+1.0	
TXAR	**Lajitas Array**	**143.87**	**32**	PKP	PKPbc	20 19 19.2	+1.0	
	comp=Z,1.8nm,0.8s,baz=291,slow=3.5,SNR=17							
HPIG		**144.56**	**37**	*e*PKPdf	PKPbc	20 19 21.2	+0.6	
X48A	**Hartselle**	**144.67**	**6**	*e*PKPdf	**PKPab**	**20 19 19.7**	**-0.6**	
JCT	**Junction City**	**144.82**	**26**	*e*PKPdf	PKPbc	20 19 21.4	+0.2	
JCT	**Junction City**	**144.82**	**26**	*e*PKIKP	PKPbc	20 19 21.4	+0.3	
CPUP	**Villa Florida**	**144.88**	**222**	PKP	**PKPdf**	**20 19 22.6**	**+0.3**	
	comp=Z,10nm,0.9s,baz=119,slow=4.6,SNR=15							
CPUP	**Villa Florida**	**144.88**	**222**	*e*PKPbc	**PKPdf**	**20 19 23.6**	**+1.3**	
Y49A	**Blount Mountai**	**145.32**	**6**	*e*PKPbc	**PKPab**	**20 19 22.6**	**-0.1**	
Y52A	**Lilburn**	**145.47**	**2**	*e*PKPbc	**PKPbc**	**20 19 22.9**	**-0.2**	
GOGA	**Godfrey**	**145.94**	**1**	*e*PKPdf	**PKPab**	**20 19 25.1**	**+0.1**	
GOGA	**Godfrey**	**145.94**	**1**	*e*PKP2	**PKPab**	**20 19 25.1**	**+0.1**	
Z50A	**Ashland**	**145.97**	**5**	*e*PKPdf	**PKPdf**	**20 19 24.0**	**0.0**	
LRAL	**Lakeview Retre**	**146.07**	**7**	*e*PKPdf	**PKPdf**	**20 19 24.2**	**0.0**	
147A	**Livingston**	**146.26**	**9**	*e*PKPdf	**PKPbc**	**20 19 25.2**	**-0.3**	
HKT	**Hockley**	**146.89**	**21**	*e*PKP2	**PKPab**	**20 19 30.2**	**+1.5**	
HKT				pmax	pmax			
	comp=Z,46nm,1.7s							
LCO	**Las Campanas**	**149.76**	**201**	*c i*PKP2	**PKPab**	**20 19 38.3**	**-2.3**	
CMIG	**Matias Romero**	**158.46**	**34**	PKP	**PKPdf**	**20 19 43.2**	**+0.4**	
	comp=Z,1.3nm,0.3s,baz=313,slow=17,SNR=2.8							
LPAZ	**La Paz**	**159.05**	**222**	PKP	**PKPdf**	**20 19 44.0**	**-0.3**	
	comp=Z,1.5nm,0.8s,baz=19,slow=3.0,SNR=5.0							
LPAZ				PP	**PP**	**20 24 00.4**	**-0.4**	
	comp=Z,1.2nm,0.9s,baz=163,slow=5.2,SNR=3.6							

IDC ***09*** *20:17:14.0±1.4, 0.°75N×97.°43E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.7/46, mbtmp3.8/8, ML3.0/2, Error ellipse: s-maj=41.7km s-min=21.2km az=60.0*

ISCJB ***09*** *20:17:15.5±0.5, 0.°73N±0.°06×97.°40E±0.°07, h27km, mb4.5/14, Error ellipse: s-maj=10.6km s-min=7.2km az=153.2*

NEIC ***09*** *20:17:17.3±3.4, 0.°75N×97.°43E, h24km±23km, mb4.8/8, Error ellipse: s-maj=15.8km s-min=6.6km az=63.0*

DJA ***09*** *20:17:27.0±0.5, 1.°N±4.°×9.°8E±.°, h88km±12km, M3.8/10, mb3.7/2, MLv3.9/10*

ISC 09 20:17:17.8±0.7, 0.°82N±0.°07×97.°48E±0.°09, h27km, n50, σ1°19/42, mb4.6/14, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**1.18**	**137**	P		**Pn**	**Sn**	**20 17 51.6**	**-2.1**
MNSI	**Mandailing Nat**	**2.10**	**91**	P		**Pn**	**Pn**	**20 17 53.3**	**+2.1**
PSI	**Prapat**	**2.45**	**36**	Pn		**Pn**	**Pn**	**20 17 56.9**	**+0.8**
	2.0nm,0.3s,baz=0.5,slow=3.0,SNR=9.2								
PSI				Lg		Lg	Lg	20 18 36.3	
	9.6nm,0.3s,baz=180,slow=22,SNR=9.4								
KCSI	**Kotacane, Aceh**	**2.70**	**6**	P		**Pn**	**Pn**	**20 17 59.5**	**0.0**
TSI	**Tuntungan**	**2.88**	**22**	P		**Pb**	**Pb**	**20 18 05.8**	**-2.7**
PDSI	**Padang**	**3.44**	**120**	P		**Pb**	**Pb**	**20 18 16.7**	**-1.4**
MLSI	**Meulaboh, Aceh**	**3.59**	**343**	P		**Pb**	**Pb**	**20 18 18.6**	**-2.0**
BKNI	**Bangkinang**	**3.60**	**98**	P		Pb	Pb	20 18 30.0	+9.3
KRJI	**Kerinci**	**4.92**	**126**	P		Pb	Pb	20 18 48.4	+5.1
IPM	**Ipoh**	**5.08**	**44**	*e*Pn		**Pn**	**Pn**	**20 18 34.1**	**+1.9**
IPM				*e*Lg		Lg	Lg	20 20 05.2	
KULM	**Kulim**	**5.46**	**35**	*e*Pn		**Pn**	**Pn**	**20 18 38.0**	**+0.6**
KULM				*e*Lg		Lg	Lg	20 20 12.9	
MYKOM	**Kota Tinggi**	**6.45**	**81**	*e*Pn		**Pn**	**Pn**	**20 18 52.2**	**+1.2**
MNAI	**Manna**	**7.51**	**133**	*e*Pn		**Pn**	**Pn**	**20 19 05.0**	**-0.6**
SRAK	**Srakaew**	**13.87**	**19**	P		**P**	**P**	**20 20 43.7**	**+3.0**
PBKT	**Sadao Pong**	**16.03**	**12**	*e*Pn		**P**	**P**	**20 21 03.8**	**-0.8**
	12nm,1.9s								
CM01	**Chiang Mai Arr**	**17.56**	**5**	*e*Pn		**P**	**P**	**20 21 22.5**	**+0.9**
CM31	**Chiang Mai Arr**	**17.59**	**5**	*e*Pn		**Pn**	**Pn**	**20 21 20.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**17.59**	**5**	P		**Pn**	**Pn**	**20 21 19.7**	**-1.5**
	0.0nm,0.3s,baz=195,slow=11,SNR=12								
CHTO	**Chiang Mai**	**17.94**	**5**	*e*Pn		**Pn**	**Pn**	**20 21 24.3**	**-1.2**
	3.2nm,0.9s								
CHTO	**Chiang Mai**	**17.94**	**5**	P		**P**	**P**	**20 21 26.7**	**+0.8**
	19nm,1.0s								
CMMT	**Chiang Mai**	**17.94**	**5**	P		**P**	**P**	**20 21 26.6**	**+0.7**
H08S2	**Diego Garcia H**	**26.30**	**251**	T		T	T	20 49 59.8	
	baz=72,slow=76,SNR=151								
H08S3	**Diego Garcia H**	**26.30**	**251**	T		T	T	20 50 04.9	
	baz=72,slow=76,SNR=156								
H08S1	**Diego Garcia H**	**26.31**	**251**	T		T	T	20 50 03.2	
	baz=72,slow=76,SNR=197								
SSLB	**Sanglung**	**32.24**	**43**	*e*P		**P**	**P**	**20 23 44.5**	**+0.3**
	9.7nm,0.9s								
H01W3	**Cape Leeuwin H**	**38.79**	**158**	T		T	T	21 05 58.9	
	baz=333,slow=76,SNR=17								
H01W2	**Cape Leeuwin H**	**38.80**	**158**	T		T	T	21 05 57.4	
	baz=333,slow=76,SNR=17								
H01W1	**Cape Leeuwin H**	**38.80**	**158**	T		T	T	21 05 57.2	
	baz=333,slow=76,SNR=20								
WRA	**Warramunga Arr**	**41.60**	**122**	P		**P**	**P**	**20 25 03.6**	**-0.2**
	0.9nm,1.0s,baz=307,slow=8.6,SNR=5.0								
WR1	**Warramunga Arr**	**41.60**	**122**	*e*P		**P**	**P**	**20 25 03.6**	**-0.2**
	28nm,1.9s								
ASAR	**Alice Springs**	**42.94**	**127**	P		**P**	**P**	**20 25 15.2**	**+0.5**
	0.4nm,0.6s,baz=299,slow=7.4,SNR=7.8								
MK01	**Makanchi Array**	**47.66**	**346**	*e*P		**P**	**P**	**20 25 52.6**	**+0.9**
MK31	**Makanchi Array**	**47.68**	**346**	*e*P		**P**	**P**	**20 25 52.4**	**+0.5**
MK32	**Makanchi Array**	**47.68**	**346**	*e*P		**P**	**P**	**20 25 52.8**	**+0.8**
MKAR	**Makanchi Array**	**47.68**	**346**	P		**P**	**P**	**20 25 52.8**	**+0.8**
	1.5nm,0.7s,baz=161,slow=8.8,SNR=11								
MKAR	**Makanchi Array**	**47.68**	**346**	*e*P		**P**	**P**	**20 25 52.3**	**+0.3**
	43nm,1.3s								
KK31	**Karatay Array**	**48.52**	**334**	*e*P		**P**	**P**	**20 25 59.3**	**+0.8**
KKAR	**Karatay Array**	**48.52**	**334**	*e*P		**P**	**P**	**20 25 59.1**	**+0.6**
MDJ	**Mudanjiang**	**52.07**	**29**	*e*P		**P**	**P**	**20 26 25.1**	**-0.2**
	13nm,1.4s								
KURK	**Kurchatov**	**52.23**	**345**	*e*P		**P**	**P**	**20 26 27.0**	**+0.6**
	11nm,1.8s								
USRK	**Ussuriysk Ar.**	**52.96**	**31**	P		**P**	**P**	**20 26 32.4**	**+0.5**
	2.1nm,0.8s,baz=225,slow=7.1								
ZAA0	**Zalesovo Array**	**53.98**	**351**	*e*P		**P**	**P**	**20 26 39.4**	**+0.2**
	2.6nm,0.8s								
ZALV	**Zalesovo Beam**	**53.98**	**351**	P		**P**	**P**	**20 26 39.8**	**+0.6**
	1.4nm,0.5s,baz=184,slow=5.9,SNR=8.7								
ZALV	**Zalesovo Beam**	**53.98**	**351**	*e*P		**P**	**P**	**20 26 39.4**	**+0.2**
ZAA1	**Zalesovo Array**	**53.98**	**351**	*e*P		**P**	**P**	**20 26 39.8**	**+0.6**
PAF	**Port-aux-Franc**	**55.21**	**201**	*e*P		**P**	**P**	**20 26 47.9**	**-0.3**
	521nm,1.8s								
EIDS	**Eidsvold**	**57.95**	**121**	*e*P		**P**	**P**	**20 27 06.8**	**-1.4**
	25nm,1.5s								
ABKAR	**Akbulak array**	**57.98**	**332**	*e*P		**P**	**P**	**20 27 06.9**	**-1.0**
PET	**Petropavlovsk**	**72.39**	**34**	*e*P		**P**	**P**	**20 28 42.1**	**+0.7**
	59nm,1.3s								
GERES	**GERESS Array B**	**85.28**	**319**	P		**P**	**P**	**20 29 53.7**	**+1.3**
	0.4nm,0.7s,baz=89,slow=4.1,SNR=4.0								

ISCJB ***09*** *20:20:22:46.3±0.5, 10.°26S±0.°06×161.°09E±0.°07, h67km, mb4.2/19, Error ellipse: s-maj=10.4km s-min=8.8km az=155.8*

NEIC ***09*** *20:22:46.3±1.1, 10.°21S×161.°12E, h52km±9km, mb4.4/5, Error ellipse: s-maj=9.5km s-min=7.7km az=113.0*

IDC ***09*** *20:22:47.1±2.3, 10.°22S×161.°18E, h61km±19km, mb3.9/13, mb1 4.0/14, mb1mx3.8/37, mbtmp4.2/14, Error ellipse: s-maj=21.1km s-min=14.4km az=84.0*

ISC 09 20:22:47.9±0.6, 10.°23S±0.°09×161.°09E±0.°10, h67km, n34, σ0°88/34, mb4.3/19, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.37**	**305**	P		**Pn**	**Pn**	**20 23 09.4**	**-1.7**
	398nm,0.3s,baz=156,slow=3.7,SNR=107								
HNR				S			**Sn**	**20 23 29.2**	**+0.8**
	789nm,0.3s,baz=77,slow=7.9,SNR=7.9								
HNR				LR		LR	LR	20 23 54.6	
	comp=Z,310nm,19.6s,baz=134,slow=47								
HNR	**Honiara**	**1.37**	**305**	*e*Pn		**Pn**	**Pn**	**20 23 08.9**	**-2.2**
HNR				*e*Sn		**Sn**	**Sn**	**20 23 28.8**	**+0.3**
HNR				*e*				20 23 54.6	
DZM	**Mont Dzumac**	**12.85**	**157**	P		**Pn**	**Pn**	**20 25 47.8**	**-0.1**
	0.9nm,0.3s,baz=3.4,slow=9.3,SNR=13								
DZM	**Mont Dzumac**	**12.85**	**157**	*e*Pn		**Pn**	**Pn**	**20 25 46.6**	**-1.3**
WB2	**Warramunga Arr**	**27.52**	**246**	*e*P		**P**	**P**	**20 28 27.7**	**-0.8**
WR1	**Warramunga Arr**	**27.53**	**246**	*e*P		**P**	**P**	**20 28 28.9**	**+0.3**
	16nm,1.6s								
WRA	**Warramunga Arr**	**27.53**	**246**	P		**P**	**P**	**20 28 28.9**	**+0.3**
	0.9nm,0.4s,baz=73,slow=9.3,SNR=18								
STKA	**Stephens Creek**	**28.10**	**217**	P		**P**	**P**	**20 28 33.5**	**+0.1**
	1.6nm,0.8s,baz=44,slow=16,SNR=2.9								
STKA	**Stephens Creek**	**28.10**	**217**	*e*P		**P**	**P**	**20 28 33.5**	**+0.1**
	4.3nm,1.5s								
AS31	**Alice Springs**	**29.16**	**239**	*e*P		**P**	**P**	**20 28 42.8**	**-0.3**
	1.2nm,1.2s								
ASAR	**Alice Springs**	**29.16**	**239**	P		**P**	**P**	**20 28 43.0**	**-0.1**
	0.3nm,0.4s,baz=62,slow=10.0,SNR=6.0								
BBOO	**Buckleboo**	**32.20**	**222**	*e*P		**P**	**P**	**20 29 10.8**	**+1.1**
	110nm,1.9s								
FITZ	**Fitzroy Crossi**	**35.20**	**253**	*e*P		**P**	**P**	**20 29 36.1**	**+0.2**
	27nm,1.8s								
BATI	**Baumata**	**36.82**	**267**	P		**P**	**P**	**20 29 50.9**	**+1.1**
	5.0nm,0.5s,baz=64,slow=3.6,SNR=3.4								
MBWA	**Marble Bar**	**41.15**	**250**	*e*P		**P**	**P**	**20 30 26.5**	**+0.5**
	30nm,1.4s								
USRK	**Ussuriysk Ar.**	**60.26**	**336**	P		**P**	**P**	**20 32 49.6**	**+0.3**
	1.8nm,0.7s,baz=186,slow=9.4,SNR=4.2								
PETK	**Petropavlovsk**	**63.15**	**358**	P		**P**	**P**	**20 33 08.3**	**-0.2**
	3.6nm,0.8s,baz=180,slow=4.3								
PEA1	**Petropavlovsk**	**63.15**	**358**	*e*P		**P**	**P**	**20 33 08.3**	**-0.3**
VNDA	**Vanda**	**67.28**	**180**	P		**P**	**P**	**20 33 34.8**	**-0.2**
	0.7nm,0.7s,baz=344,slow=6.6,SNR=7.3								
VNDA	**Vanda**	**67.28**	**180**	*e*P		**P**	**P**	**20 33 34.5**	**-0.5**
SONA0	**Songino Array**	**75.35**	**325**	*e*P		**P**	**P**	**20 34 24.7**	**+0.5**
SONM	**Songino Array**	**75.35**	**325**	P		**P**	**P**	**20 34 24.7**	**+0.5**
	3.3nm,0.6s,baz=136,slow=5.1,SNR=13								
SONA1	**Songino Array**	**75.35**	**325**	*e*P		**P**	**P**	**20 34 25.1**	**+0.8**
QSPA	**South Pole Qui**	**79.77**	**180**	P		**P**	**P**	**20 34 49.0**	**+0.3**
	1.5nm,0.7s,baz=247,slow=0.8,SNR=4.1								
ILAR	**Eielson Array**	**84.25**	**20**	P		**P**	**P**	**20 35 11.2**	**-0.7**
	0.6nm,0.4s,baz=241,slow=4.8,SNR=15								
ILB	**Eielson Array**	**84.25**	**20**	*e*P		**P**	**P**	**20 35 11.7**	**-0.2**
DOT	**Dot Lake**	**84.55**	**22**	*e*P		**P**	**P**	**20 35 16.2**	**+2.8**
	38nm,1.5s								
NV01	**Mina Array Sit**	**89.03**	**51**	*e*P		**P**	**P**	**20 35 35.8**	**-0.3**
NVAR	**Mina Array Bea**	**89.03**	**51**	P		**P**	**P**	**20 35 36.6**	**+0.6**
	0.8nm,0.7s,baz=243,slow=6.0,SNR=4.5								
MK32	**Makanchi Array**	**89.81**	**318**	*e*P		**P**	**P**	**20 35 39.1**	**-0.2**
MKAR	**Makanchi Array**	**89.81**	**318**	P		**P**	**P**	**20 35 39.1**	**-0.2**
	0.3nm,0.4s,baz=91,slow=6.1,SNR=6.2								
YKA	**Yellowknife Ar**	**96.37**	**28**	P		**P**	**P**	**20 36 08.4**	**-0.6**
	0.8nm,0.6s,baz=257,slow=5.0,SNR=3.0								
ARA0	**ARCESS Array S**	**114.35**	**344**	*e*PKiKP		PKPdf	PKPdf	20 41 18.8	-0.7
ARCES	**ARCESS Array B**	**114.35**	**344**	PKP		PKPdf	PKPdf	20 41 18.8	-0.7
	4.0nm,1.0s,baz=75,slow=1.0,SNR=5.0								

MAN 09 20:41:50.6, 9.°17N×126.°83E, h10km, mb4.7, ML3.5, MS3.4, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.08**	**205**	*i*P		P	Pb	20 42 10.2

comp=N,70nm,0.3s
GRPR AMB AMB 21 17 10.0
comp=N,10.0nm,0.3s
GRPR *i* S **Sn** **21 17 53.0 +0.7**
GRPR A A 21 17 57.0
comp=N,60nm,0.3s
GRPR A A 21 17 57.0
comp=N,20nm,0.3s
GRPR Tuman 4.29 243 *e*PN **Pn** **21 17 06.1 +2.7**
GRPR *i* S **Sn** **21 17 53.7 +1.4**
GRPR pmax pmax
comp=N,73nm,0.2s
GRPR pmax pmax
comp=E,73nm,0.2s
GRPR pmax pmax
comp=Z,119nm,0.2s
GRPR smax smax
comp=N,578nm,0.3s
GRPR smax smax
comp=E,244nm,0.4s
GLVR Golovnino 4.58 242 *i* P **Pn** **21 17 09.0 +1.7**
GLVR *i* S **Sn** **21 18 00.0 +0.7**
GLVR A A 21 18 06.0
comp=E,80nm,0.3s
GLVR A A 21 18 06.0
comp=E,50nm,0.3s
GLVR Golovnino 4.58 242*c i*PN **Pn** **21 17 09.6 +2.3**
GLVR *i* S **Sn** **21 18 00.6 +1.3**
GLVR smax smax
comp=N,806nm,0.2s
GLVR smax smax
comp=E,456nm,0.3s
NEM2 Nemuro 2 4.66 237 P **Pn** **21 17 09.2 +0.9**
NEM2 *e*S **Sn** **21 17 58.5 -2.7**
JNK Nakash 5.15 244 P **Pn** **21 17 17.2 +2.1**
JAK Akkeshi 5.49 238 P **Pn** **21 17 20.2 +0.5**
JAK *e*S **Sn** **21 18 19.3 -2.1**
JTKR Abashiri--Toko 5.49 250 P **Pn** **21 17 23.1 +3.4**
YSS Yuzh-Sakhalins 5.81 282 *e*P Pn 21 17 34.4 +10
YSS AMB AMB 21 17 36.2
comp=E,20nm,1.0s
YSS AMB AMB 21 17 36.2
comp=E,4µm,1.0s
JMP Maruseppu 5.84 252 P **Pn** **21 17 27.5 +3.1**
JAR Ashorobuto 5.89 245 P **Pn** **21 17 27.6 +2.5**
JOB Onbets 6.06 241 P **Pn** **21 17 28.6 +1.2**
JOB *e*S **Sn** **21 18 33.3 -2.1**
HRK Horoka 6.22 248 *e*P **Pn** **21 17 32.1 +2.5**
JKK2 Kamakawa 2 6.30 253 P **Pn** **21 17 33.7 +3.1**
JKA Kamikawa-asahi 6.30 255 *e*P **Pn** **21 17 33.7 +3.0**
ASAJ Asahikawa 6.31 255 P **Pn** **21 17 33.7 +3.0**
comp=E,3.4nm,0.3s,baz=50,slow=25,SNR=18
ASAJ LR LR 21 19 25.7
comp=E,56nm,18.8s,baz=16,slow=32
ASAJ Asahikawa 6.31 255 P **Pn** **21 17 34.0 +3.2**
JCH Churui 6.51 241 P **Pn** **21 17 34.2 +0.7**
JCH *e*S **Sn** **21 18 43.2 -3.1**
MYR Moyori 6.75 239 *e*P **Pn** **21 17 37.5 +0.8**
MYR *e*S **Sn** **21 18 49.2 -2.8**
JEM Erimo 6.99 237 P **Pn** **21 17 41.8 +1.8**
JBT2 Biratori 2 7.04 245 P **Pn** **21 17 43.0 +2.2**
JNBK Urakawa-nobuka 7.07 241 P **Pn** **21 17 41.5 +0.3**
JNB Noboribetsu 8.04 247 P **Pn** **21 17 55.4 +1.0**
JNB *e*S **Sn** **21 19 20.7 -2.9**
PETK Petropavlovsk- 8.26 29 P **Pn** **21 17 57.8 +0.5**
comp=E,0.3nm,0.3s,baz=209,slow=12,SNR=5.7
PETK LR LR 21 20 49.0
comp=E,52nm,18.9s,baz=3.1,slow=35
JKB Kayabe 8.35 244 P **Pn** **21 17 58.7 +0.1**
JKB *e*S **Sn** **21 19 25.3 -5.8**
JSH Shimam 8.61 251 P **Pn** **21 18 03.2 +1.2**
JYM2 Yakumo 2 8.65 247 P **Pn** **21 18 02.8 +0.2**
JSR Shiriuchi 8.93 243 P **Pn** **21 18 05.7 -0.8**
JTM Tenmabayashi 8.98 238 P Pn 21 18 05.6 -1.5
JTM *e*S Sn 21 19 38.7 -7.8
JANG Nango 8.99 234 P Pn 21 18 05.4 -1.9
JANG *e*S Sn 21 19 38.9 -7.9
JRG Rokugo 10.16 233 P **Pn** **21 18 22.4 -0.7**
KLR Kul'dur 13.40 291 P **Pn** **21 19 06.1 -0.3**
comp=E,0.1nm,0.3s,baz=94,slow=14,SNR=14
MJAR Matsushiro Arr 13.54 230 P **Pn** **21 19 08.4 +0.1**
comp=E,0.3nm,0.3s,baz=26,slow=13,SNR=7.5
USRK Ussuriysk Ar. 13.60 269 P **Pn** **21 19 09.9 +0.9**
comp=E,0.8nm,0.3s,baz=69,slow=13,SNR=13
KSRS Korea Array 19.24 252 P **P** **21 20 18.2 +1.6**
comp=E,0.3nm,0.3s,baz=57,slow=11,SNR=13
KSRS LR LR 21 26 39.2
comp=E,46nm,18.9s,baz=10.0,slow=33
JNU Nakatsue 20.15 237 P **P** **21 20 27.6 +1.0**
comp=E,16nm,1.0s,baz=37,slow=2.4,SNR=6.7
H11N2 WAKE ISLAND Hy 29.31 148 T T 21 53 34.5
baz=338,slow=76,SNR=160
H11N1 WAKE ISLAND Hy 29.33 148 T T 21 53 37.4
baz=338,slow=76,SNR=122
H11N3 WAKE ISLAND Hy 29.33 148 T T 21 53 38.1
baz=338,slow=76,SNR=124
H11S1 WAKE ISLAND Hy 30.37 150 T T 21 54 56.6
baz=339,slow=76,SNR=124
H11S3 WAKE ISLAND Hy 30.38 150 T T 21 54 57.3
baz=339,slow=76,SNR=143
H11S2 WAKE ISLAND Hy 30.38 150 T T 21 54 52.8
baz=339,slow=76,SNR=106
KDAK Kodiak Island 35.63 50 P **P** **21 22 47.7 -0.5**
comp=E,6.8nm,0.9s,baz=216,slow=9.4,SNR=4.2
ILAR Eielson Array 37.97 38 P **P** **21 23 07.8 -0.1**
comp=E,0.8nm,0.5s,baz=266,slow=7.1,SNR=16
INK Inuvik 42.99 32 P **P** **21 23 49.7 +0.6**
comp=E,2.0nm,0.5s,baz=266,slow=7.0,SNR=14
MKAR Makanchi Array 46.00 297 P **P** **21 24 11.2 -2.3**
comp=E,1.1nm,0.6s,baz=72,slow=7.9,SNR=10
CMMT Chiang Mai 50.58 255 P **P** **21 24 49.9 +1.0**
comp=E,6.5nm,1.0s
CHTO Chiang Mai 50.58 255 P **P** **21 24 50.0 +1.1**
comp=E,28nm,1.1s
CMAR Chiang Mai Arr 50.83 255 P **P** **21 24 52.1 +1.3**
comp=E,2.4nm,0.8s,baz=38,slow=7.3,SNR=22
YKA Yellowknife Ar 52.32 36 P **P** **21 25 01.7 +0.4**
comp=E,1.8nm,0.7s,baz=295,slow=6.7,SNR=4.1
GUN Gumba 53.65 274 *e*P **P** **21 25 11.9 -0.1**
comp=E,17nm,0.4s
PKI Pulchoki 54.18 274 *e*P **P** **21 25 15.7 -0.2**
comp=E,18nm,0.7s
PKIN Phulchoki 54.19 274 *e*P **P** **21 25 15.6 -0.2**
comp=E,10nm,0.5s
DMN Daman 54.37 274 *e*P **P** **21 25 17.4 +0.3**
comp=E,20nm,0.6s
GKN Gorkha 54.45 275 *e*P **P** **21 25 17.7 +0.1**
comp=E,0.9nm,0.3s
DANN Dangsing 54.85 276 *e*P **P** **21 25 21.0 +0.4**
comp=E,48nm,0.6s
KOLN Koldanda 55.31 276 *e*P **P** **21 25 24.1 +0.2**
PYUN Piuthan 55.53 276 *e*P **P** **21 25 25.6 +0.1**
comp=E,69nm,1.0s
AKTO Aktyubinsk 58.13 311 P **P** **21 25 40.9 -2.4**
comp=E,0.6nm,0.5s,baz=90,slow=5.1,SNR=3.5
NVAR Mina Array Bea 64.01 61 P **P** **21 26 24.6 +1.2**
comp=E,1.2nm,0.5s,baz=301,slow=7.4,SNR=9.3
FINES FINESS Array B 64.05 334 P **P** **21 26 20.3 -2.7**
comp=E,2.1nm,0.8s,baz=79,slow=4.1,SNR=6.2
GEYT Alibeck 65.74 300 P **P** **21 26 33.0 -1.4**
comp=E,1.3nm,0.6s,baz=29,slow=3.4,SNR=3.9
PDAR Pinedale Array 66.29 53 P **P** **21 26 38.9 +0.8**
comp=E,0.7nm,0.6s,baz=293,slow=2.7,SNR=3.5
WRA Warramunga Arr 67.42 197 P **P** **21 26 46.1 +1.1**
comp=E,0.6nm,0.6s,baz=13,slow=6.8,SNR=4.1
NB2 NORSAR Subarra 68.41 340 P **P** **21 26 49.6 -1.3**
comp=Z,0.7nm,0.6s,baz=261,slow=6.5
NOA NORSAR Array B 68.41 340 P **P** **21 26 48.6 -2.4**
comp=Z,1.0nm,0.6s,baz=30,slow=6.6,SNR=6.0
HFS Hagfors 68.60 339 P **P** **21 26 50.3 -1.7**
comp=Z,1.8nm,0.6s,baz=111,slow=3.3,SNR=9.1
ASAR Alice Springs 71.12 197 P **P** **21 27 09.8 +2.0**
comp=Z,0.5nm,0.6s,baz=5.9,slow=5.1,SNR=9.1
AKASG Malin Array Be 71.32 325 P **P** **21 27 07.7 -1.2**
comp=Z,0.6nm,0.4s,baz=38,slow=6.5,SNR=2.8
EKA Eskdalemuir Ar 76.66 345 P **P** **21 27 38.6 -1.2**
comp=Z,0.8nm,0.4s,baz=20,slow=5.4,SNR=8.2
MLR Muntele Rosu 76.80 324 P **P** **21 27 41.0 0.0**
comp=Z,1.6nm,0.6s,baz=338,slow=5.4
MLR Muntele Rosu 76.80 324 P **P** **21 27 41.0 0.0**
MLR pmax pmax
comp=Z,2.0nm,0.6s
BRTR Keskin Array B 77.91 316 P **P** **21 27 46.1 -1.2**
comp=Z,0.7nm,0.8s,baz=64,slow=5.6,SNR=4.1
KHC Kasperske Hory 78.23 333 *e*P **P** **21 27 47.5 -1.3**
KHC Kasperske Hory 78.23 333 *e*P **P** **21 27 47.5 -1.3**

GERES GERESS Array B 78.44 333 P **P** **21 27 49.0 -1.0**
comp=Z,1.0nm,0.5s,baz=42,slow=6.4,SNR=8.7
GERES GERESS Array B 78.44 333 P **P** **21 27 49.0 -1.0**
GERES pmax pmax
comp=Z,1.0nm,0.5s
CONA Conrad Observa 78.53 331 *i* P **P** **21 27 50.4 -0.1**
comp=Z,1.7nm,0.6s
TXAR Lajitas Array 79.06 59 P **P** **21 27 54.5 +0.8**
comp=Z,1.3nm,0.5s,baz=297,slow=4.0,SNR=26
KBA Koelnbreinsper 80.11 332 *i* P **P** **21 27 59.0 -0.2**
comp=Z,2.3nm,0.5s
OBKA Obir 80.21 331 *i* P **P** **21 28 00.1 +0.4**
comp=Z,2.9nm,0.6s
WATA Walderalm 80.44 333 *i* P **P** **21 28 00.5 -0.5**
comp=Z,2.4nm,0.5s
MOTA Moosalm 80.58 334 *i* P **P** **21 28 01.1 -0.6**
comp=Z,1.9nm,0.7s
SQTA Sankt Quirin 80.66 334 *e*P **P** **21 28 02.3 +0.1**
comp=Z,4.0nm,1.1s
ABTA Abfaltersbach 80.67 333 *i* P **P** **21 28 01.4 -0.8**
comp=Z,5.3nm,1.6s
DAVOX Davos/Dischmat 81.46 334 P **P** **21 28 05.6 -0.8**
comp=Z,1.5nm,0.6s,baz=21,slow=14,SNR=5.1
MMAI Mount Meron Ar 82.20 310 P **P** **21 28 10.0 -0.4**
comp=Z,1.5nm,0.4s,baz=48,slow=6.8,SNR=13
PLCA Paso Flores 149.55 95 PKPbc **PKPdf** **21 35 38.6 +5.6**
comp=Z,1.3nm,0.6s,baz=284,slow=3.9,SNR=5.3

MEX 09 21:19:14.1±0.4,**14°22N**×**92°64W**,**h16**km±73km,**MD3.8,**
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.77**	**28**	*i* P	Pb	21 19 25.9	-3.3
THIG				*i* S	Sg	21 19 35.3	-4.2
PCIG		**1.58**	**339**	*e*P	Pn	21 19 38.0	-3.5
PCIG				*e*S	Sn	21 19 56.4	-5.3
CCIG	**Comitan**	**2.11**	**13**	*i* P	Pn	21 19 45.7	-3.2
CCIG				*e*S	Sn	21 20 10.1	-4.8
TGIG		**2.59**	**350**	*e*P	Pn	21 19 52.9	-2.5
TGIG				*e*S	Sn	21 20 22.6	-4.0

*IDC **09** 21:25:59.3±1.6,40°.93N×50°.17E,h0km,mb3.7/3,*
mb1 3.5/5,mb1mx3.3/55,mbtmp3.5/5,ML2.5/2,MS3.2/2,
Ms1 3.2/2,ms1mx2.6/50,Error ellipse: s-maj=45.7km
s-min=17.1km az=15.0
ISC 09 21:26:04.7±0.9,**41°2N**±0°.2×**50°34E**±0°.1,**h35**km,**n10,**
σ2s68/10,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LGD	**Lagodekhi**	**3.15**	**284**	P	**Pn**	**21 26 53.8**	**+2.0**
DDFL	**Dedoflistskaro**	**3.19**	**276**	P	**Pn**	**21 26 56.2**	**+3.8**
TBLG	**Delisi**	**4.25**	**280**	P	**Pn**	**21 27 07.9**	**+1.1**
KBZ	**Khabaz**	**6.07**	**297**	Pn	**Pn**	**21 27 32.5**	**+0.6**
	0.1nm,0.3s,baz=162,slow=3.2,SNR=2.5						
KBZ				Sn	**Sn**	**21 28 36.6**	**-3.5**
	0.1nm,0.3s,baz=264,slow=9.2,SNR=3.0						
GEYT	**Alibeck**	**6.82**	**116**	Pn	**Pn**	**21 27 39.3**	**-2.9**
	0.2nm,0.3s,baz=282,slow=16,SNR=4.0						
GEYT				Sn	**Sn**	**21 29 00.0**	**+1.3**
	0.4nm,0.3s,baz=289,slow=27,SNR=3.7						
AAK	**Ala-Archa**	**18.03**	**77**	LR	LR	21 39 08.5	
	comp=Z,49nm,18.2s,baz=304,slow=43						
IDI	**Anoyia**	**20.80**	**262**	P	**P**	**21 30 41.5**	**-1.4**
	4.0nm,0.6s,baz=49,slow=20,SNR=3.5						
MKAR	**Makanchi Array**	**23.57**	**65**	P	**P**	**21 31 14.1**	**+2.2**
	0.8nm,0.6s,baz=259,slow=9.0,SNR=9.9						
FINES	**FINESS Array B**	**25.07**	**332**	P	**P**	**21 31 26.6**	**+1.1**
	1.4nm,0.8s,baz=133,slow=11,SNR=4.3						
PETK	**Petropavlovsk-**	**67.21**	**39**	LR	LR	22 10 22.5	
	comp=Z,23nm,18.4s,baz=88,slow=40						

*NIED **09** 21:27:00,25°.20N×124°.90E,h5km,Mw3.6 Best double*
couple: M₀3.16000×10¹⁴ NP1:φs319.00000°,δ50.00000°,
λ-48.00000°. NP2:φs84.00000°,δ56.00000°,
λ-129.00000°.
JMA 09 21:27:56.7±0.2,**25°16N**×**124°93E**,**h0**km,**M3.7,Northeast**
of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKM	**Ikemajima**	**0.37**	**129**	P	Pg	21 28 04.6	+0.8
JIKM				S	Sg	21 28 09.8	+1.1
JIRB	**Irabujima**	**0.40**	**146**	P	Pg	21 28 04.7	+0.4
JIRB				S	Sg	21 28 10.4	+0.9
JMJ	**Miyako jima 2**	**0.48**	**136**	P	Pg	21 28 06.3	+0.5
JMJ				S	Sg	21 28 13.4	+1.4
JTJ	**Tarama**	**0.56**	**202**	S	Sb	21 28 16.7	-1.1
JOGS	**Gusukube**	**0.59**	**133**	P	Pg	21 28 08.7	+0.7
JOGS				S	Sg	21 28 17.1	+1.5
JISG	**Ishigakijimahi**	**0.80**	**225**	P	Pg	21 28 12.5	+0.4
JISG				S	Sg	21 28 23.1	+0.6
JIJ	**Ishigaki jima**	**1.07**	**222**	S	Sg	21 28 30.7	-0.3
JKRS	**Kuro-shima**	**1.24**	**223**	S	Sg	21 28 36.8	+0.1

*NIED **09** 21:30:00,39°.20N×142°.40E,h59km,Mw3.7 Best double*
couple: M₀4.41000×10¹⁴ NP1:φs45.00000°,δ46.00000°,
λ-65.00000°. NP2:φs191.00000°,δ49.00000°,
λ-113.00000°.
*ISCJB **09** 21:30:22.7±1.1,39°.19N±0°.04×142°.3E±0°.1,h44km±9km,*
mb3.7/6,Error ellipse: s-maj=14.1km s-min=5.5km
az=14.5
*JMA **09** 21:30:22.3±0.1,39°.22N×142°.38E,h33km±1km,M4.0*
JMA Felt I J1.
*IDC **09** 21:30:26.2±2.5,39°.15N×142°.39E,h66km±23km,mb3.5/6,*
mb1 3.6/9,mb1mx3.3/60,mbtmp3.7/9,Error ellipse:
s-maj=26.2km s-min=15.0km az=101.0
ISC 09 21:30:22.8±1.7,**39°16N**±0°.04×**142°31E**±0°.09,**h29**km±10km,
n26,σ2s02/31,mb3.7/6,Near east coast of eastern
Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.50**	**261**	P	**Pn**	**21 30 33.8**	**-0.2**
OFUJ				S	**Sb**	**21 30 41.8**	**+1.4**
MIYJ	**Miyakonagasawa**	**0.56**	**318**	P	**Pb**	**21 30 33.5**	**-0.7**
MIYJ				*e*S	**Sb**	**21 30 41.3**	**-0.7**
JKMT	**Kesennumamotoy**	**0.74**	**242**	P	**Pb**	**21 30 37.2**	**+0.1**
JKMT				S	**Sb**	**21 30 47.9**	**+1.0**
JOM	**Ohasama**	**0.85**	**292**	P	**Pn**	**21 30 38.6**	**-0.1**
JOM				S	**Sb**	**21 30 50.4**	**+0.4**
JTH	**Tanohata**	**0.85**	**336**	P	**Pb**	**21 30 37.5**	**-1.5**
JTH				*e*S	**Sb**	**21 30 48.2**	**-1.8**
JMK	**Ichinoseki**	**0.87**	**256**	P	**Pn**	**21 30 39.3**	**+0.3**
JMK				S	**Sn**	**21 30 51.7**	**+1.0**
JIO	**Ouri**	**1.03**	**227**	P	**Pn**	**21 30 41.1**	**-0.1**
JIO				*e*S	**Sn**	**21 30 54.9**	**+0.3**
JKZ	**Kuzumaki**	**1.12**	**318**	P	**Pn**	**21 30 42.4**	**-0.1**
JKZ				*e*S	**Sn**	**21 30 56.5**	**-0.4**
JANG	**Nango**	**1.36**	**333**	P	**Pn**	**21 30 45.0**	**-0.7**
JANG				S	**Sn**	**21 31 02.2**	**-0.5**
MJAR	**Matsushiro Arr**	**4.17**	**232**	P	**Pn**	**21 31 28.7**	**+4.3**
	1.5nm,0.3s,baz=15,slow=18,SNR=16						
MAT	**Matsushiro**	**4.17**	**232**	P	**Pn**	**21 31 28.7**	**+4.3**
MAT				*e*S	**Sb**	**21 32 20.1**	**-5.2**
ASAJ	**Asahikawa**	**4.96**	**2**	P	**Pn**	**21 31 37.0**	**+1.9**
	1.2nm,0.3s,baz=210,slow=13,SNR=5.3						
ASAJ				S	**Sn**	**21 32 34.8**	**+3.4**
	baz=72,slow=18,SNR=2.1						
USRK	**Ussuriysk Ar.**	**9.21**	**306**	P	**Pn**	**21 32 37.4**	**+3.9**
	0.2nm,0.3s,baz=116,slow=16,SNR=5.5						
H11N2	**WAKE ISLAND Hy 28.71 125**			T	T	22 06 39.1	
	baz=318,slow=76,SNR=128						
H11N1	**WAKE ISLAND Hy 28.72 125**			T	T	22 06 39.8	
	baz=318,slow=76,SNR=150						
H11N3	**WAKE ISLAND Hy 28.73 125**			T	T	22 06 41.4	
	baz=318,slow=76,SNR=130						
H11S1	**WAKE ISLAND Hy 29.50 127**			T	T	22 07 51.7	
	baz=319,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy 29.50 127**			T	T	22 07 42.5	
	baz=319,slow=76,SNR=28						
H11S2	**WAKE ISLAND Hy 29.52 127**			T	T	22 07 41.2	
	baz=319,slow=76,SNR=19						
ZALV	**Zalesovo Beam**	**41.04**	**311**	P	**P**	**21 38 02.9**	**-0.2**
	0.8nm,0.4s,baz=83,slow=8.9,SNR=4.2						
MKAR	**Makanchi Array**	**43.62**	**300**	P	**P**	**21 38 24.5**	**+0.2**
	1.1nm,0.9s,baz=87,slow=10,SNR=5.4						
KURBB	**Kurchatov Arra**	**45.28**	**306**	P	**P**	**21 38 36.8**	**-0.6**
	0.9nm,0.3s,baz=80,slow=7.8,SNR=4.4						
ILAR	**Eielson Array**	**47.33**	**33**	P	**P**	**21 38 53.1**	**-0.3**
	0.4nm,0.6s,baz=258,slow=6.0,SNR=9.6						
BVAR	**Borovoye Array**	**49.69**	**311**	P	**P**	**21 39 11.6**	**-0.1**
	baz=60,slow=6.7						
WRA	**Warramunga Arr**	**59.27**	**189**	P	**P**	**21 40 19.5**	**-2.0**
	0.8nm,0.7s,baz=5.6,slow=7.0,SNR=5.8						
ASAR	**Alice Springs**	**62.99**	**189**	P	**P**	**21 40 46.7**	**-0.1**
	0.4nm,0.8s,baz=11,slow=7.2,SNR=3.7						

*IDC **09** 21:33:38.9±1.1,56°.05S×26°.26W,h0km,mb4.1/6,*
mb1 4.2/6,mb1mx3.9/25,mbtmp4.1/6,MS3.4/1,Ms1 3.4/1,
ms1mx2.7/28,Error ellipse: s-maj=35.7km s-min=26.2km
az=62.0
*ISCJB **09** 21:33:42.4±0.5,56°.01S±0°.08×26°.5W±0°.2,h35km,*
mb4.3/14,MS3.1/1,Error ellipse: s-maj=17.2km
s-min=9.1km az=150.2
*NEIC **09** 21:33:43.9±0.3,56°.05S×26°.43W,h35km,mb4.3/6,Error*
ellipse: s-maj=12.3km s-min=8.6km az=50.0
ISC 09 21:33:44.0±0.6,**56°.0S**±0°.1×**26°.4W**±0°.1,**h35**km,**n27,**
σ1s32/19,mb4.0/13,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**16.66**	**159**	P	**P**	**21 37 41.0**	**+4.5**
VNA3	**Neumayer Olymp**	**16.87**	**161**	P	**P**	**21 37 38.6**	**-0.3**
VNA2	**Neumayer--Watz**	**17.05**	**159**	P	**P**	**21 37 40.3**	**-0.6**
	baz=319,slow=14						
SNAA	**Sanae**	**18.59**	**157**	P	**Pn**	**21 37 58.0**	**-0.3**
PMSA	**Palmer Station**	**20.25**	**229**	LR	LR	21 44 27.4	
	comp=Z,89nm,18.5s,baz=130,slow=32						
TRQA	**Tornquist**	**29.71**	**292**	P	**P**	**21 39 46.1**	**-0.5**
	2.0nm,0.7s						
CPUP	**Villa Florida**	**37.12**	**310**	P	**P**	**21 40 51.1**	**0.0**
	1.0nm,0.4s,baz=148,slow=7.7,SNR=3.8						
SUR	**Sutherland**	**40.21**	**74**	P	**P**	**21 41 16.8**	**-0.4**
	17nm,1.3s						
SHEL	**Horse Pasture**	**42.99**	**30**	P	**P**	**21 41 40.1**	**+0.3**
	9.0nm,0.8s						
LVC	**Limon Verde**	**45.67**	**299**	P	**P**	**21 42 03.3**	**+1.8**
	2.7nm,0.4s,baz=119,slow=5.2,SNR=6.5						
LVC	**Limon Verde**	**45.67**	**299**	*e*P	**P**	**21 42 01.9**	**+0.3**
	1.5nm,0.5s						
SBA	**Scott Base**	**46.14**	**184**	P	**P**	**21 42 04.4**	**+0.2**
	0.1nm,0.3s						
VNDA	**Vanda**	**46.62**	**182**	P	**P**	**21 42 07.8**	**-0.2**
	0.9nm,0.7s,baz=184,slow=4.8,SNR=11						
H10S2	**ASCENSION HYDR47.85**		**16**	T	T	22 35 06.5	
	baz=189,slow=75,SNR=26						
H10S3	**ASCENSION HYDR47.85**		**16**	T	T	22 35 06.7	
	baz=189,slow=75,SNR=19						
H10S1	**ASCENSION HYDR47.87**		**16**	T	T	22 35 07.7	
	baz=189,slow=75,SNR=20						
SIV	**San Ignacio**	**47.88**	**312**	P	**P**	**21 42 18.4**	**-0.1**
	0.6nm,0.4s,baz=138,slow=8.7,SNR=4.6						
H10N1	**ASCENSION HYDR48.97**		**16**	T	T	22 35 58.2	
	baz=188,slow=75,SNR=2.5						
H10N3	**ASCENSION HYDR48.97**		**16**	T	T	22 36 24.5	
	baz=188,slow=75,SNR=23						
H10N2	**ASCENSION HYDR48.99**		**16**	T	T	22 36 26.7	
	baz=188,slow=75,SNR=10.0						
LPAZ	**La Paz**	**50.72**	**304**	P	**P**	**21 42 41.5**	**+0.6**
	3.0nm,0.5s,baz=121,slow=5.9,SNR=16						
CASY	**Casey**	**53.79**	**160**	P	**P**	**21 43 01.2**	**-1.1**
	2.8nm,0.7s						
SAML	**Samuel**	**55.10**	**314**	P	**P**	**21 43 11.3**	**-1.1**
	0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**72.82**	**29**	P	**P**	**21 45 09.3**	**+0.5**
	0.5nm,0.4s,baz=201,slow=6.2,SNR=15						
NWAO	**Narrogin (SRO)**	**86.14**	**150**	P	**P**	**21 46 20.9**	**-0.3**
	46nm,1.2s						
COCO	**West Island**	**97.32**	**124**	P	Pdif	21 47 13.8	+0.3
	60nm,0.4s						
ILAR	**Eielson Array**	**150.42**	**312**	PKPbc	**PKPbc**	**21 53 29.9**	**-0.3**
	1.1nm,0.8s,baz=130,slow=2.0,SNR=12						

*DRS **09** 21:37:30.9±0.0,41°.80N×46°.29E,h10km*
*MOS **09** 21:37:30.8±0.0,41°.83N×46°.36E,h28km,MPVA3.2*
*ISCJB **09** 21:37:33.9±0.6,41°.85N±0°.03×46°.37E±0°.04,h24km±6km,*
Error ellipse: s-maj=5.9km s-min=5.3km az=138.3
ISC 09 21:37:32.6±1.4,**41°83N**±0°.04×**46°32E**±0°.04,**h23**km±15km,
n11,σ1s21/22,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDFL	**Dedoflistskaro**	**0.42**	**201**	P	**Pn**	**21 37 42.8**	**-0.4**
DDFL				S	**Sn**	**21 37 51.5**	**+1.2**
KMKR	**Kumukh**	**0.65**	**63**	*e*Pg	**Pb**	**21 37 45.0**	**-1.3**
KMKR				*e*Sg	**Sn**	**21 37 55.0**	**-1.3**
GNBR	**Gunib**	**0.73**	**41**	*e*Pg	**Pb**	**21 37 46.1**	**-0.6**
GNBR				*e*Sg	**Sn**	**21 37 56.9**	**-1.2**
XNZR	**Khunzakh**	**0.76**	**22**	*e*Pg	**Pb**	**21 37 46.6**	**-0.7**
XNZR				*e*Sg	**Sn**	**21 37 58.0**	**-1.0**
BTLR	**Botlikh**	**0.83**	**355**	*e*Pg	**Pn**	**21 37 48.1**	**-0.9**
BTLR				*e*Sg	**Sn**	**21 38 00.2**	**-0.4**
URKR	**Urkarakh**	**1.03**	**71**	*e*Pg	**Pn**	**21 37 52.9**	**+1.1**
URKR				*e*Sg	**Sn**	**21 38 08.2**	**+2.6**
AKT	**Akhty**	**1.12**	**108**	*e*Pg	**Pn**	**21 37 52.2**	**-0.7**
AKT				*e*Sg	**Sn**	**21 38 07.5**	**0.0**
DVE	**Vedeno**	**1.13**	**353**	*e*Pg	**Pb**	**21 37 53.5**	**0.0**
DVE				*e*Sg	**Sn**	**21 38 09.5**	**+1.6**
GROC	**Groznyy**	**1.42**	**344**	*e*Pg	**Pb**	**21 37 58.2**	**-0.2**
GROC				*e*Sg	**Sb**	**21 38 17.9**	**+1.9**
DRN	**Derbent**	**1.51**	**82**	*e*Pg	**Pb**	**21 37 58.9**	**-1.1**
DRN				*e*Sg	**Sb**	**21 38 19.5**	**+0.8**
LACR	**Lac**	**1.80**	**304**	*e*Pg	**Pb**	**21 38 03.6**	**-1.2**
LACR				*e*Sg	**Sb**	**21 38 27.7**	**+0.7**

*NNC **09** 21:54:49.3±5.2,36°.88N×70°.17E,h0km,mb4.0,mpv3.8,*
Error ellipse: s-maj=43.4km s-min=33.8km az=153.0
ISC 09 21:54:46.1±3.4,**36°.5N**±0°.2×**70°.0E**±0°.1,**h35**km,**n13,**
σ1s49/18,4C-6D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.49**	**37**	⇓Pn	**Pn**	**21 55 54.5**	**+2.6**
	3.2nm,0.2s						
SFK				⇑Sn	**Sn**	**21 56 44.8**	**+2.0**
	9.4nm,0.3s						
MNAS	**Manas**	**6.30**	**17**	⇓Pn	**Pn**	**21 56 18.6**	**+1.9**
	2.3nm,0.4s						
MNAS				⇑Sn	**Sn**	**21 57 27.3**	**-0.2**
	4.9nm,0.5s						
AML	**Almayashu**	**6.33**	**26**	P	**Pn**	**21 56 18.2**	**+0.9**
	SNR=78						
KK31	**Karatay Array**	**6.62**	**3**	Pn	**Pn**	**21 56 22.9**	**+1.9**
	3.0nm,0.4s,baz=178,slow=12,SNR=76						
KK31				⇓Sn	**Sn**	**21 57 35.5**	**+0.4**
	1.6nm,0.5s,baz=176,slow=21						
UCH	**Uchtor**	**6.73**	**30**	P	**Pn**	**21 56 23.3**	**+0.5**
	SNR=30						
EKS2	**Erkin-Say**	**6.83**	**24**	P	**Pn**	**21 56 25.0**	**+1.1**
	SNR=9.9						
KZA	**Kyzart**	**6.92**	**35**	P	**Pn**	**21 56

HAZ	**Te Kaha**	**3.19**	**203**	P	Pn	22 03 19.3 +1.2
HAZ				S	Sn	22 03 57.1 +2.2
PKGZ	**Pakihiroa**	**3.23**	**199**	P	Pn	22 03 18.7 0.0
PKGZ				S	Sn	22 03 56.6 +0.6
PUZ	**Puketiti**	**3.36**	**195**	P	Pn	22 03 19.9 -0.5
PUZ				S	Sn	22 03 59.2 0.0
RUGZ	**Raukumara Rang**	**3.41**	**203**	P	Pn	22 03 21.7 +0.4
RUGZ				S	Sn	22 04 01.4 +0.7
TWGZ	**Tauwhareparae**	**3.52**	**198**	P	Pn	22 03 22.9 +0.2
TWGZ				S	Sn	22 04 05.2 +2.0
KUZ	**Kuaotunu**	**3.53**	**236**	P	Pn	22 03 23.3 +0.5
CNGZ	**Carnagh Statio**	**3.76**	**194**	P	Pn	22 03 25.4 -0.6
MWZ	**Matawai**	**3.80**	**203**	P	Pn	22 03 25.9 -0.6
MWZ				S	Sn	22 04 10.1 0.0
URZ	**Urewera**	**3.88**	**207**	P	Pn	22 03 26.4 -1.1
URZ				S	Sn	22 04 11.8 -0.1
RAGZ	**Rawiri**	**3.98**	**203**	P	Pn	22 03 28.4 -0.7
RAGZ				S	Sn	22 04 14.6 -0.1
RTZ	**Ruatahuna**	**4.24**	**206**	P	Pn	22 03 30.8 -1.8
RTZ				S	Sn	22 04 18.9 -2.1
WCZ	**Waipu Caves**	**4.26**	**254**	P	Pn	22 03 32.3 -0.5
SNGZ	**Shannon Statio**	**4.27**	**202**	P	Pn	22 03 32.3 -0.6
SNGZ				S	Sn	22 04 20.9 -0.7
KNZ	**Kokohu**	**4.40**	**198**	P	Pn	22 03 32.1 -2.6
MTHZ	**Maungataniwha**	**4.50**	**206**	P	Pn	22 03 34.2 -2.0
MTHZ				S	Sn	22 04 26.5 -0.8
BKZ	**Black Stump Fm**	**4.90**	**207**	P	Pn	22 03 39.7 -2.0
NGZ	**Ngauruhoe**	**5.28**	**214**	P	Pn	22 03 46.6 -0.4
BHHZ	**Black Hill Sta**	**5.35**	**209**	P	Pn	22 03 45.6 -2.2
KRHZ	**Kereru**	**5.37**	**206**	P	Pn	22 03 44.9 -3.2
FWVZ	**Far West T-bar**	**5.37**	**214**	P	Pn	22 03 47.6 -0.7
MOVZ	**Moawhango**	**5.41**	**211**	P	Pn	22 03 47.3 -1.4
PNHZ	**Pukenui**	**5.67**	**206**	P	Pn	22 03 48.5 -3.7
BFZ	**Birch Farm**	**6.34**	**202**	P	Pn	22 03 56.3 -5.2

NIED ***09*** *22:03:00.25±20.20N×124°39.90E, h5km, Mw3.7 Best double couple: M○3.85000×10^14 NP1:φs95.00000°, δ40.00000°, λ-119.00000°. NP2:φs310.00000°, δ56.00000°, λ-68.00000°.*

JMA 09 22:03:03.8±0.3, 25°23.N×124°32.92E, h4km, M3.9, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKM	**Ikemajima**	**0.43**	**136**	P	Pg	22 03 12.2	+0.2
JIKM				S	Sg	22 03 18.1	+0.6
JIRB	**Irabujima**	**0.46**	**150**	P	Pg	22 03 12.6	-0.1
JIRB				S	Sg	22 03 18.8	+0.1
JMJ	**Miyako jima 2**	**0.54**	**141**	P	Pg	22 03 14.6	+0.5
JMJ				S	Sg	22 03 21.6	+0.6
JTJ	**Tarama**	**0.62**	**199**	P	Pg	22 03 16.0	+0.3
JTJ				S	Sb	22 03 25.5	-0.7
JOGS	**Gusukube**	**0.64**	**137**	P	Pg	22 03 16.6	+0.4
JOGS				S	Sg	22 03 25.3	+0.8
JISG	**Ishigakijimahi**	**0.85**	**221**	P	Pg	22 03 20.0	0.0
JISG				S	Sg	22 03 31.3	+0.3
JIJ	**Ishigaki jima**	**1.11**	**219**	P	Pg	22 03 24.3	-0.9
JIJ				S	Sg	22 03 39.0	-0.7
JKRS	**Kuro-shima**	**1.29**	**220**	P	Pg	22 03 27.4	-1.1
JKRS				S	Sg	22 03 45.1	-0.2
IRIF	**Iriomote-Funau**	**1.40**	**231**	P	Pn	22 03 29.3	-0.8
IRIF				S	Sb	22 03 48.6	-0.2

IDC 09 22:04:07.8±3.8, 5°60S×153°00E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.3/42, mbtmp3.3/2, Error ellipse: s-maj=181.3km s-min=47.3km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.08**	**230**	P	P	22 09 15.7	+0.4
	0.2nm,0.4s,baz=54,slow=9.9,SNR=6.8						
ASAR	**Alice Springs**	**25.70**	**224**	P	P	22 09 39.4	-0.7
	0.2nm,0.7s,baz=57,slow=8.7,SNR=3.2						
TORD	**Torodi Ar. Bea**	**150.74**	**287**	PKPbc	PKPbc	22 24 03.2	0.0
	baz=68,slow=3.7						

JMA 09 22:18:24.2±0.2, 38°38N×144°64E, h44km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.43**	**288**	P	Pn	22 19 02.9	+1.6
OFUJ				S	Sn	22 19 31.9	+2.1
JIKH	**Ishinomakikobu**	**2.50**	**269**	P	Pn	22 19 03.6	+1.3
JIKH				S	Sn	22 19 32.8	+1.3
MIYJ	**Miyakonagasawa**	**2.50**	**299**	P	Pn	22 19 03.7	+1.3
MIYJ				*e*S	Sn	22 19 32.4	+0.7
JKMT	**Kesennumamotoy**	**2.52**	**281**	P	Pn	22 19 04.2	+1.6
JKMT				*e*S	Sn	22 19 33.5	+1.5
JMK	**Ichinoseki**	**2.74**	**283**	P	Pn	22 19 07.4	+1.8
JMK				S	Sn	22 19 39.8	+2.4
JOM	**Ohasama**	**2.83**	**294**	P	Pn	22 19 08.7	+1.8
JOM				*e*S	Sn	22 19 42.2	+2.5
JANG	**Nango**	**3.13**	**310**	P	Pn	22 19 12.5	+1.4
JANG				*e*S	Sn	22 19 49.0	+1.7
JYK	**Kaneyama**	**3.40**	**280**	P	Pn	22 19 17.1	+2.5
JYK				*e*S	Sn	22 19 56.4	+2.8
JFT	**Otama**	**3.51**	**257**	P	Pn	22 19 18.8	+2.6
JFT				S	Sn	22 19 58.5	+2.0
JOT	**Ohata**	**4.08**	**318**	P	Pn	22 19 26.8	+2.8
JCH	**Churui**	**4.34**	**347**	P	Pn	22 19 28.5	+0.9
JCH				*e*S	Sn	22 20 15.8	-1.1
NEM2	**Nemuro 2**	**5.05**	**9**	P	Pn	22 19 35.9	-1.4
NEM2				*e*S	Sn	22 20 29.9	-4.4
JRY	**Ryogami san**	**5.15**	**245**	P	Pn	22 19 40.3	+1.5
JRY				*e*S	Sn	22 20 35.7	-1.3
JOD2	**Odawara 2**	**5.43**	**237**	*e*S	Sn	22 20 40.7	-3.2
JTKR	**Abashiri--Toko**	**5.61**	**355**	P	Pn	22 19 44.9	-0.1
JTKR				*e*S	Sn	22 20 45.5	-2.7

NIED ***09*** *22:35:00.38°.90N×141°.60E, h74km, Mw4.4 Best double couple: M○4.66000×10^15 NP1:φs12.00000°, δ35.00000°, λ92.00000°. NP2:φs189.00000°, δ55.00000°, λ88.00000°.*
BJI ***09*** *22:35:12.4, 38°.72N×141°.67E, h98km, mb4.8/53, mB4.9/33*
ISCJB ***09*** *22:35:13.7±0.2, 38°.89N±0°.02×141°.49E±0°.03, h83km±1km, mb4.5/131, Error ellipse: s-maj=4.3km s-min=3.1km az=143.7*
MOS ***09*** *22:35:13.1±1.0, 38°.99N×141°.49E, h78km, mb4.8/44, Error ellipse: s-maj=7.0km s-min=5.6km az=92.5*
JMA ***09*** *22:35:14.2, 38°.87N×141°.57E, h76km±1km, M4.3 Broadband fault plane solution: P waves. NP1: φs165.00000°, δ52.00000°, λ81.00000°. NP2:φs0.00000°, δ39.00000°, λ102.00000°. Principal axes: T Plg80.0000°, Azm34.0000°; N Plg7.0000°, Azm171.0000°; P Plg7.0000°, Azm262.0000°;*
JMA Felt III J1.
NEIC ***09*** *22:35:15.9±0.5, 38°.86N×141°.45E, h89km±4km, mb4.6/75 Error ellipse: s-maj=5.0km s-min=3.5km az=137.0*
NEIC Recorded [3 JMA] in Iwate and Miyagi.
IDC ***09*** *22:35:16.3±2.1, 38°.84N×141°.45E, h98km±19km, mb4.2/24, mb1 4.3/28, mb1mx4.2/45, mbtmp4.5/28, MS3.1/18, Ms1 3.2/18, ms1mx3.1/39, Error ellipse: s-maj=14.1km s-min=11.0km az=112.0*

ISC 09 22:35:13.7±0.4, 38°.84N±0°.03×141°.63E±0°.04, h75km±3km, h75km:pP-P,n405,σ1§54/434, mb4.7/131, 11C-11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKMT	**Kesennumamotoy**	**0.12**	**255**	P	**Pn**	**22 35 25.3**	**+0.7**
JKMT				S	**Sn**	**22 35 33.3**	**+0.7**
OFUJ	**Ofunato**	**0.24**	**8**	⇑P	**Pn**	**22 35 25.7**	**+0.6**
OFUJ				S	**Sn**	**22 35 34.0**	**+0.5**
JMK	**Ichinoseki**	**0.33**	**289**	⇑P	**Pn**	**22 35 25.9**	**+0.3**
JMK				S	**Sn**	**22 35 34.4**	**-0.1**
JIO	**Ouri**	**0.44**	**209**	⇑P	**Pn**	**22 35 27.1**	**+0.6**
JIO				S	**Sn**	**22 35 36.4**	**+0.5**
JOM	**Ohasama**	**0.68**	**338**	⇑P	**Pn**	**22 35 29.0**	**+0.2**
JOM				S	**Sn**	**22 35 39.8**	**-0.1**
JOU	**Okura**	**0.89**	**238**	⇑P	**Pn**	**22 35 31.8**	**+0.7**
JOU				S	**Sn**	**22 35 44.5**	**+0.3**
JRG	**Rokugo**	**0.95**	**306**	⇑P	**Pn**	**22 35 32.1**	**+0.3**
JRG				S	**Sn**	**22 35 45.5**	**+0.2**
JYK	**Kaneyama**	**0.99**	**275**	⇓P	**Pn**	**22 35 32.6**	**+0.3**
JYK				S	**Sn**	**22 35 46.1**	**-0.1**
JMM	**Marumori**	**1.17**	**214**	⇓P	**Pn**	**22 35 34.8**	**+0.2**
JMM				S	**Sn**	**22 35 50.2**	**-0.1**
JYS	**Shirataka**	**1.37**	**244**	⇓P	**Pn**	**22 35 37.8**	**+0.7**
JYS				S	**Sn**	**22 35 55.8**	**+1.0**
JYA	**Atsumi**	**1.52**	**261**	⇓P	**Pn**	**22 35 39.4**	**+0.4**
JYA				S	**Sn**	**22 35 58.7**	**+0.6**
JANG	**Nango**	**1.53**	**357**	⇓P	**Pn**	**22 35 38.9**	**-0.3**
JANG				S	**Sn**	**22 35 58.1**	**-0.4**
JAH	**Hinai**	**1.55**	**331**	⇓P	**Pn**	**22 35 40.1**	**+0.7**
JAH				*e*S	**Sn**	**22 35 59.2**	**+0.4**
JFK	**Kawauchi**	**1.59**	**202**	⇓P	**Pn**	**22 35 40.6**	**+0.6**
JFK				S	**Sn**	**22 36 00.1**	**+0.2**
ERM	**Erimo**	**3.38**	**20**	*e*Pn	**Pn**	**22 36 03.7**	**-0.3**
ERM	**Erimo**	**3.38**	**20**	*e*P	**Pn**	**22 36 03.7**	**-0.3**
MAJO	**Matsushiro**	**3.55**	**231**	*e*Pn	**Pn**	**22 36 08.6**	**+2.2**
MAJO	**Matsushiro**	**3.55**	**231**	*d* iP	**Pn**	**22 36 08.1**	**+1.6**
MAT	**Matsushiro**	**3.55**	**231**	P	**Pn**	**22 36 08.5**	**+2.0**
MAT				*e*S	**Sn**	**22 36 49.9**	**+2.6**
MJAR	**Matsushiro Arr**	**3.55**	**231**	P	**Pn**	**22 36 08.3**	**+1.9**
	18nm,0.3s,baz=34,slow=11,SNR=244						
MJAR	**Matsushiro Arr**	**3.55**	**231**	P	**Pn**	**22 36 08.3**	**+1.9**
MJAR				pmax	pmax		
	comp=Z,18nm,0.3s						
MJB9	**Matsu-Tunnel**	**3.55**	**231**	*e*Pn	**Pn**	**22 36 08.7**	**+2.2**
INU	**Inuyama**	**5.07**	**228**	*e*Pn	**Pn**	**22 36 29.2**	**+2.1**
ASAJ	**Asahikawa**	**5.32**	**8**	P	**Pn**	**22 36 29.9**	**-0.5**
	comp=Z,3.9nm,0.3s,baz=252,slow=7.4,SNR=10						
ASAJ				S	**Sn**	**22 37 36.6**	**+6.2**
	comp=Z,2.1nm,0.3s,baz=108,slow=20,SNR=2.1						
ASAJ				LR	LR	22 38 58.4	
	comp=Z,51nm,21.8s,baz=154,slow=42						
ASAJ	**Asahikawa**	**5.32**	**8**	*e*Pn	**Pn**	**22 36 30.3**	**-0.2**
ASAJ				S	**Sn**	**22 37 36.6**	**+6.2**
ASAJ	**Asahikawa**	**5.32**	**8**	P	**Pn**	**22 36 30.0**	**-0.5**
ASAJ				S	**Sn**	**22 37 36.6**	**+6.2**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,2.0nm,0.3s						
JHJ	**Hachijo jima 2**	**5.90**	**195**	P	**Pn**	**22 36 37.0**	**-1.5**
	comp=N,20nm,0.3s,baz=77,slow=19,SNR=4.7						
JHJ				S	**Sn**	**22 37 40.5**	**-4.3**
	comp=N,54nm,0.3s,baz=73,slow=19,SNR=4.6						
JHJ				LR	LR	22 38 48.7	
	comp=N,163nm,21.2s,baz=314,slow=36						
YUK	**Yuzh-Kuril'sk**	**6.09**	**30**	*c* iP	**Pn**	**22 36 39.8**	**-1.1**
YUK				*i* S	**Sn**	**22 37 43.9**	**-5.2**
YUK				pmax	pmax		
	comp=N,311nm,0.3s						
YUK				pmax	pmax		
	comp=Z,331nm,0.3s						
YUK				pmax	pmax		
	comp=E,204nm,0.8s						
YUK				smax	smax		
	comp=E,960nm,0.4s						
YUK				smax	smax		
	comp=N,482nm,0.2s						
SHO	**Shikotan**	**6.37**	**36**	*c* iP	**Pn**	**22 36 43.3**	**-1.5**
SHO				*i* S	**Sn**	**22 37 48.0**	**-8.0**
SHO				pmax	pmax		
	comp=E,20nm,0.2s						
SHO				pmax	pmax		
	comp=Z,35nm,0.2s						
SHO				pmax	pmax		
	comp=N,6.0nm,0.1s						
SHO				smax	smax		
	comp=N,486nm,0.3s						
SHO				smax	smax		
	comp=E,705nm,0.2s						
TEY	**Ternei**	**7.23**	**330**	⇑*e*P	**Pn**	**22 37 00.6**	**+4.0**
TEY				pmax	pmax		
	comp=N,70nm,0.6s						
TEY				pmax	pmax		
	comp=Z,70nm,0.6s						
KUR	**Kuril'sk**	**7.89**	**34**	*e*P	**Pn**	**22 37 05.5**	**-0.1**
KUR				*e*S	**Sn**	**22 38 27.5**	**-5.8**
KUR				pmax	pmax		
	comp=Z,46nm,0.3s						
KUR				pmax	pmax		
	comp=N,33nm,0.2s						
KUR				pmax	pmax		
	comp=E,21nm,0.2s						
KUR				smax	smax		
	comp=N,232nm,0.2s						
KUR				smax	smax		
	comp=E,116nm,0.3s						
YSS	**Yuzh-Sakhalins**	**8.15**	**5**	*e*P	Pn	22 37 16.6	+7.5
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
MSHR	**Mys Shultsa**	**8.78**	**298**	*i* P	**Pn**	**22 37 18.2**	**+0.5**
USRK	**Ussuriysk Ar.**	**8.99**	**310**	P	**Pn**	**22 37 22.0**	**+1.4**
	comp=Z,3.5nm,0.3s,baz=115,slow=14,SNR=70						
USRK				LR	LR	22 40 24.5	
	comp=Z,145nm,22.0s,baz=168,slow=35						
USA0B	**Ussuriysk Arra**	**8.99**	**310**	*e*Pn	**Pn**	**22 37 22.2**	**+1.6**
JNU	**Nakatsue**	**10.41**	**240**	P	**Pn**	**22 37 39.5**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=165,slow=1.9,SNR=5.7						
JNU				LR	LR	22 41 54.9	
	comp=Z,103nm,18.8s,baz=56,slow=39						
MDJ	**Mudanjiang**	**10.68**	**307**	P	**Pn**	**22 37 45.6**	**+2.0**
MDJ				pmax	pmax		
	comp=Z,17nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,200nm,3.9s						
MDJ	**Mudanjiang**	**10.68**	**307**	*e*Pn	**Pn**	**22 37 46.9**	**+3.2**
	comp=Z,11nm,0.7s						
KSRS	**Korea Array**	**10.88**	**267**	P	**Pn**	**22 37 48.2**	**+1.9**
	comp=Z,1.3nm,0.3s,baz=82,slow=14,SNR=32						
KSRS				LR	LR	22 41 44.5	
	comp=Z,70nm,18.6s,baz=75,slow=36						
KSRS	**Korea Array**	**10.88**	**267**	P	**Pn**	**22 37 48.3**	**+1.9**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KS01	**Wonju Array Si**	**10.90**	**267**	*e*Pn	**Pn**	**22 37 49.0**	**+2.3**
KS15	**Wonju Array Si**	**10.91**	**267**	*e*Pn	**Pn**	**22 37 50.2**	**+3.4**
KSAR	**Wonju Array Be**	**10.91**	**267**	P	**Pn**	**22 37 48.2**	**+1.4**
KSAR	**Wonju Array Be**	**10.91**	**267**	P	**Pn**	**22 37 48.3**	**+1.4**
TJN	**Taejon**	**11.58**	**262**	*i* P	**Pn**	**22 37 55.7**	**-0.2**
CBIJ	**Chichi jima**	**11.72**	**178**	P	**Pn**	**22 37 54.6**	**-3.4**
CBIJ				S	Sn	22 39 56.6	-10
JCJ	**Chichijima**	**11.72**	**178**	P	**Pn**	**22 37 54.6**	**-3.4**
	comp=Z,4.6nm,0.3s,baz=299,slow=19,SNR=3.5						
JCJ				S	Sn	22 39 56.6	-10
	comp=Z,7.2nm,0.3s,baz=285,slow=20,SNR=4.5						
JCJ				LR	LR	22 42 52.3	
	comp=Z,27nm,20.7s,baz=6.0,slow=39						
KLR	**Kul'dur**	**12.57**	**329**	P	**Pn**	**22 38 07.6**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=131,slow=15,SNR=5.2						
KLR				LR	LR	22 43 05.6	
	comp=Z,39nm,18.8s,baz=146,slow=38						
KLR	**Kul'dur**	**12.57**	**329**	*i* P	**Pn**	**22 38 09.1**	**-0.2**
CN2	**Changchun**	**13.12**	**297**	*e*P	**P**	**22 38 20.7**	**-3.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
JOW	**Kunigami**	**16.39**	**227**	LR	LR	22 44 29.9	
	comp=Z,117nm,21.8s,baz=308,slow=34						
ZEA	**Zeya**	**17.85**	**331**	*e*P	**P**	**22 39 14.8**	**-1.7**
ZEA				pmax	pmax		
	comp=N,36nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,36nm,0.8s						
PETK	**Petropavlovsk-**	**18.06**	**33**	LR	LR	22 46 28.2	
	comp=Z,22nm,19.0s,baz=226,slow=37						
TIA	**Tai'an**	**19.60**	**270**	P	**P**	**22 39 34.5**	**-1.2**
TIA				pmax	pmax		
	comp=Z,27nm,0.9s						
BJT	**Baijiatuau**	**19.68**	**281**	P	**P**	**22 39 35.0**	**-1.6**
BJT				pmax	pmax		
	comp=Z,20nm,0.7s						
NJ2	**Nanjing**	**19.72**	**257**	*e*P	**P**	**22 39 35.6**	**-1.5**
NJ2				pmax	pmax		
	comp=Z,21nm,0.6s						
MA2	**Magadan**	**21.55**	**13**	P	**P**	**22 39 57.7**	**+1.2**
	comp=Z,19nm,0.6s,baz=208,slow=9.2,SNR=6.7						
MA2	**Magadan**	**21.55**	**13**	*i* P	**P**	**22 39 55.8**	**-0.8**
MA2				pmax	pmax		
	comp=Z,26nm,0.9s						
SSLB	**Suanglung**	**23.10**	**236**	*e*P	**P**	**22 40 10.3**	**-2.9**
	comp=Z,9.1nm,1.0s						
HHC	**Hu-ho-hao-te**	**23.12**	**285**	*e*P	**P**	**22 40 12.9**	**-0.4**
HHC				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC				pmax	pmax		
	comp=Z,190nm,6.1s						
TPUB	**Ta-pu**	**23.65**	**235**	*e*P	**P**	**22 40 17.6**	**-0.7**
	comp=Z,87nm,1.7s						
TWG	**Pinlang**	**23.72**	**234**	*e*P	**P**	**22 40 18.7**	**-0.1**
	comp=Z,102nm,1.2s						
WHN	**Wuhan**	**23.84**	**258**	⇓P	**P**	**22 40 19.4**	**-0.5**
YAK	**Yakutsk**	**24.35**	**346**	P	**P**	**22 40 23.8**	**-0.3**
	comp=Z,19nm,0.3s,baz=51,slow=4.4,SNR=5.8						
YAK				LR	LR	22 49 42.2	
	comp=Z,54nm,18.1s,baz=75,slow=36						
YAK	**Yakutsk**	**24.35**	**346**	*e*P	**P**	**22 40 23.2**	**-0.9**
YAK				*e*		22 40 48.7	
YAK				*e*S	**S**	**22 44 34.2**	**-3.7**
YAK				*e**SS	**sS**	**22 45 05.9**	**-2.1**
YAK				*e*		22 51 13.3	
YAK				pmax	pmax		
	comp=Z,16nm,0.8s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,38nm,0.9s						
YAK				pmax	pmax		
	comp=N,21nm,1.1s						
YAK				pmax	pmax		
	comp=E,25nm,1.3s						
YAK				smax	smax		
	comp=N,198nm,5.3s						
YAK				smax	smax		
	comp=E,253nm,5.9s						
SEY	**Seymchan**	**24.99**	**12**	P	**P**	**22 40 31.0**	**+1.1**
	comp=E,11nm,0.9s,baz=218,slow=6.0,SNR=12						
SEY	**Seymchan**	**24.99**	**12**	*i* P	**P**	**22 40 30.1**	**+0.2**
BOD	**Bodaibo**	**26.11**	**326**	*e*P	**P**	**22 40 39.2**	**-1.0**
BOD				pmax	pmax		
	comp=Z,10.0nm,0.7s						
XAN	**Xi'an**	**26.66**	**270**	P	**P**	**22 40 44.8**	**-0.6**
XAN				pmax	pmax		
	comp=Z,14nm,0.6s						
SONA1	**Songino Array**	**26.95**	**301**	*e*P	**P**	**22 40 48.2**	**+0.2**
SONM	**Songino Array**	**26.96**	**301**	P	**P**	**22 40 47.9**	**-0.2**
	comp=Z,3.8nm,0.7s,baz=98,slow=8.2,SNR=12						
SONM				LR	LR	22 51 58.5	
	comp=Z,46nm,18.3s,baz=18,slow=37						
SONM	**Songino Array**	**26.96**	**301**	P	**P**	**22 40 47.9**	**-0.2**
SONM				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,46nm,18.3s						
ENH	**Enshi**	**27.70**	**262**	*e*P	**P**	**22 40 53.7**	**-1.1**
	comp=Z,33nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.97**	**124**	T	T	23 11 41.0	
	baz=317,slow=75,SNR=2251						
H11N1	**WAKE ISLAND Hy**	**28.98**	**124**	T	T	23 11 40.7	
	baz=317,slow=75,SNR=4052						
H11N3	**WAKE ISLAND Hy**	**28.99**	**124**	T	T	23 11 41.2	
	baz=317,slow=75,SNR=2420						
ZAK	**Zakamensk**	**29.31**	**306**	*e*P	**P**	**22 41 08.4**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
H11S1	**WAKE ISLAND Hy**	**29.74**	**126**	T	T	23 12 40.3	
	baz=319,slow=76,SNR=474						
H11S3	**WAKE ISLAND Hy**	**29.74**	**126**	T	T	23 12 38.7	
	baz=319,slow=76,SNR=500						
H11S2	**WAKE ISLAND Hy**	**29.76**	**126**	T	T	23 12 40.9	
	baz=319,slow=76,SNR=362						
LZH	**Lanzhou**	**29.98**	**277**	*e*P	**P**	**22 41 17.3**	**+2.2**
LZH				pP	sP	22 41 39.9	-1.7
LZH				sP	pP	22 41 49.4	+17
LZH				*e*S	**S**	**22 46 10.0**	**+2.5**
LZH				sS	sS	22 46 44.2	+6.2
LZH				SS	**SnSn**	**22 47 44.2**	**-2.0**
LZH				pmax	pmax		
	comp=Z,38nm,1.1s						
LZH				pmax	pmax		
	comp=Z,250nm,4.1s						
CD2	**Chengdu**	**31.88**	**267**	*e*P	**P**	**22 41 31.5**	**-0.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
GTA	**Gaotai**	**32.23**	**284**	⇑P	**P**	**22 41 33.6**	**-1.3**
GTA				PcP	**PcP**	**22 44 22.2**	**+0.5**
GTA				S	**S**	**22 46 38.7**	**-4.0**
GTA				ScP	**ScP**	**22 47 57.6**	**-1.0**
GTA				SS	**SnSn**	**22 48 35.8**	**-5.0**
GTA				pmax	pmax		
	comp=Z,65nm,6.0s						
GTA				LR	LR		
	comp=Z,190nm,18.1s						
GTA				LR	LR		
	comp=Z,160nm,18.7s						
GTA				LR	LR		
	comp=Z,130nm,18.4s						
BILL	**Bilibino**	**32.25**	**17**	⇓*e*P	**P**	**22 41 34.1**	**-0.4**
BILL				*e**PP	**pP**	**22 41 53.1**	**+0.8**
BILL				*SP	**sP**	**22 42 06.0**	**+4.9**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KNGR	**Kungurtug, Tuv**	**33.00**	**305**	*i* P	**P**	**22 41 40.5**	**-0.9**
TIXI	**Tiksi**	**33.52**	**353**	*i* P	**P**	**22 41 44.2**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s						
HVS	**Khovu-Aksy**	**35.44**	**306**	*i* P	**P**	**22 42 01.3**	**-1.1**
HVS				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KMI	**Kunming**	**35.44**	**259**	P	**P**	**22 42 02.3**	**-0.6**
KMI				pmax	pmax		
	comp=Z,22nm,1.0s						
KMI				pmax	pmax		
	comp=Z,110nm,3.9s						
KMI				LR	LR		
	comp=Z,170nm,22.6s						
KWAJ	**Kwajalein Atol**	**37.93**	**135**	*e*P	**P**	**22 42 24.7**	**+0.8**
	comp=Z,979nm,1.7s						
KWAJ	**Kwajalein Atol**	**37.93**	**135**	*e*P	**P**	**22 42 24.7**	**+0.8**
KWAJ				pmax	pmax		
	comp=Z,979nm,1.7s						
NONG	**Nongkai**	**39.28**	**249**	P	P	22 42 40.0	+4.9
	comp=Z,0.2nm,0.9s						
DGZ	**Jazzator, Alta**	**39.49**	**304**	*d* iP	**P**	**22 42 37.2**	**+0.4**
DGZ				pmax	pmax		
	comp=Z,19nm,0.9s						
WMQ	**Urumqi**	**40.20**	**295**	P	**P**	**22 42 43.0**	**+0.4**
WMQ				pP	sP	22 43 07.4	-2.2
WMQ				pmax	pmax		
	comp=Z,52nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,420nm,5.3s						
**Z

CMAR pmax pmax
comp=Z,2.0nm,0.5s
CMAR MLR MLR
comp=Z,28nm,20.4s
LSA Lhasa 42.24 273 *e*P **P 22 43 00.7 +0.7**
comp=Z,7.1nm,0.6s
LSA Lhasa 42.24 273 *e*P **P 22 43 00.7 +0.7**
LSA pmax pmax
comp=Z,7.0nm,0.6s
SRAK Srakaew 42.74 246 P **P 22 43 07.4 +3.8**
comp=Z,11nm,0.6s
MK01 Makanchi Array 43.32 300 *e*P **P 22 43 07.8 -0.3**
MK31 Makanchi Array 43.32 301 *e*P **P 22 43 08.1 +0.1**
MK31 Makanchi Array 43.32 301 *e*P **P 22 43 08.1 +0.1**
MKAR Makanchi Array 43.32 301 P **P 22 43 07.8 -0.2**
comp=Z,19nm,0.8s,baz=86,slow=9.6,SNR=69
MKAR LR LR 23 01 05.8
comp=Z,45nm,19.2s,baz=2.0,slow=36
MKAR Makanchi Array 43.32 301 *e*P **P 22 43 08.1 +0.1**
comp=Z,137nm,0.8s
MKAR Makanchi Array 43.32 301 P **P 22 43 07.8 -0.2**
MKAR pmax pmax
comp=Z,19nm,0.8s
MKAR MLR MLR
comp=Z,45nm,19.2s
KURK Kurchatov 44.97 307 *e*P **P 22 43 20.6 -0.4**
comp=Z,33nm,0.8s
KURK Kurchatov 44.97 307 *i* P **P 22 43 20.4 -0.6**
KURK pmax pmax
comp=Z,32nm,0.9s
IM3 Indian Mountai 45.02 32 *e*P **P 22 43 22.0 +0.8**
PHET Kaeng Krachan 45.20 247 P **P 22 43 25.3 +2.0**
comp=Z,5.0nm,0.8s
CAST Castle Rocks 45.65 35 *e*P **P 22 43 27.9 +1.6**
comp=Z,8.0nm,1.0s
KDAK Kodiak Island 45.66 43 P **P 22 43 26.6 +0.3**
comp=Z,18nm,1.0s,baz=343,slow=14,SNR=3.7
KDAK Kodiak Island 45.66 43 P **P 22 43 26.6 +0.3**
KDAK pmax pmax
comp=Z,18nm,1.0s
PDGK Podgornoye 46.10 296 *i* P **P 22 43 29.7 -0.6**
PDGK pmax pmax
comp=Z,11nm,0.7s
BPAW Bear Paw Mtn. 46.13 34 *e*P **P 22 43 31.2 +1.1**
comp=Z,34nm,1.8s
MLY Manley 46.24 33 *e*P **P 22 43 32.8 +1.8**
comp=Z,6.1nm,0.8s
TOLK Toolik Lake Re 46.79 28 *e*P **P 22 43 36.7 +1.4**
comp=Z,7.6nm,0.9s
TOLK Toolik Lake Re 46.79 28 P **P 22 43 36.9 +1.6**
baz=268
RND Reindeer 47.10 35 *e*P **P 22 43 38.6 +0.9**
comp=Z,13nm,1.1s
RND Reindeer 47.10 35 *e*P **P 22 43 38.6 +0.9**
RND pmax pmax
comp=Z,13nm,1.1s
GUN Gumba 47.17 274 *e*P **P 22 43 39.3 +0.2**
comp=Z,56nm,0.6s
GHO Glory Hole Cre 47.17 37 *e*P **P 22 43 39.5 +1.2**
comp=Z,57nm,1.6s
MDM Murphy Dome 47.30 33 *e*P **P 22 43 40.4 +1.2**
comp=Z,11nm,1.1s
MDM *e*pP **sP 22 44 07.9 +1.4**
POKR Poker Plat Res 47.63 33 P **P 22 43 43.2 +1.4**
baz=273,SNR=6.6
KKN Kakani 47.69 274 *e*P **P 22 43 42.8 -0.2**
comp=Z,44nm,0.6s
PKI Pulchoki 47.70 274 *e*P **P 22 43 42.6 -0.6**
comp=Z,12nm,0.5s
PKIN Phulchoki 47.70 274 *e*P **P 22 43 42.7 -0.4**
HDA Harding Lake 47.88 34 P **P 22 43 44.4 +0.7**
baz=274
IL1 Eielson Array 47.89 33 *e*P **P 22 43 43.8 +0.1**
IL1 *e*pP **sP 22 44 11.2 +0.2**
ILAR Eielson Array 47.89 33 P **P 22 43 44.2 +0.6**
comp=Z,7.0nm,0.7s,baz=266,slow=6.0,SNR=79
ILAR Eielson Array 47.89 33 P **P 22 43 44.3 +0.6**
ILAR pmax pmax
comp=Z,7.0nm,0.7s
ILB Eielson Array 47.89 33 *e*P **P 22 43 44.3 +0.6**
DMN Daman 47.91 274 *e*P **P 22 43 44.6 -0.2**
DANN Dangsing 48.61 276 *e*P **P 22 43 50.3 +0.2**
comp=Z,136nm,0.7s
TKM2 Tokmak 2 48.94 297 *i* P **P 22 43 51.7 -0.7**
TKM2 pmax pmax
comp=Z,9.0nm,0.7s
KOLN Koldanda 49.01 275 *e*P **P 22 43 53.0 -0.1**
comp=Z,31nm,0.9s
SCRK Sand Creek 49.21 34 *e*P **P 22 43 54.9 +0.8**
comp=Z,8.4nm,0.7s
SCRK *e*pP **sP 22 44 22.0 +0.6**
DOT Dot Lake 49.22 35 *e*P **P 22 43 55.9 +1.9**
comp=Z,23nm,1.4s
PYUN Piuthan 49.33 276 *e*P **P 22 43 55.5 0.0**
comp=Z,75nm,0.9s
BRVK Borovoye 49.55 311 *e*P **P 22 43 56.6 -0.1**
comp=Z,3.3nm,0.8s
BRVK Borovoye 49.55 311 *i* P **P 22 43 56.5 -0.1**
BRVK pmax pmax
comp=Z,2.0nm,0.8s
AAK Ala-Archa 49.80 297 *e*P **P 22 43 59.1 +0.2**
comp=Z,3.4nm,0.6s
AAK Ala-Archa 49.80 297 *i* P **P 22 43 58.1 -0.8**
AAK pmax pmax
comp=Z,2.0nm,0.8s
KSH Kashi 49.84 293 P **P 22 44 03.1 +3.9**
KSH pP sP 22 44 27.1 +0.5
KSH PP **PP 22 46 01.5 +7.2**
KSH S **S 22 51 04.3 +0.9**
KSH sS sS 22 51 45.5 +10
KSH SS **SS 22 54 36.1 -0.4**
KSH pmax pmax
comp=Z,9.0nm,0.6s
KSH LR LR
comp=Z,210nm,5.8s
KSH LR LR
comp=Z,360nm,6.3s
KSH LR LR
comp=Z,680nm,6.3s
MNAS Manas 51.23 298 *i* P **P 22 44 08.5 -1.1**
MNAS pmax pmax
comp=Z,8.0nm,0.8s
SFK Sufi-Kurgan 51.43 294 *i* P **P 22 44 10.3 -1.0**
SFK pmax pmax
comp=Z,5.0nm,0.7s
EPYK Eagle Plains 51.88 30 P **P 22 44 15.3 +1.3**
baz=281
KK31 Karatay Array 52.38 299 *e*P **P 22 44 18.0 0.0**
KK31 Karatay Array 52.38 299 *e*P **P 22 44 18.0 0.0**
KKAR Karatay Array 52.38 299 *e*P **P 22 44 18.0 0.0**
KKAR Karatay Array 52.38 299 *e*P **P 22 44 18.0 0.0**
INK Inuvik 52.71 28 P **P 22 44 20.8 +0.8**
comp=Z,4.2nm,0.5s,baz=288,slow=6.6,SNR=22
INK Inuvik 52.71 28 *e*P **P 22 44 21.2 +1.2**
comp=Z,4.4nm,0.6s
INK Inuvik 52.71 28 *e*P **P 22 44 21.2 +1.2**
INK pmax pmax
comp=Z,4.0nm,0.6s
HYT Haines Junctio 52.76 37 *e*P **P 22 44 23.2 +2.5**
comp=Z,18nm,1.0s
SVE Sverdlovsk 53.91 318 *e*P **P 22 44 30.0 +1.0**
ARU Arti 55.13 318 *e*P **P 22 44 37.6 -0.2**
comp=Z,40nm,2.0s
ARU Arti 55.13 318*c i*P **P 22 44 37.6 -0.2**
ARU *PP **pP 22 44 57.9 +1.0**
ARU 22 46 42.3
ARU S **S 22 52 15.6 +0.9**
ARU SS **SS 22 55 58.9 -0.1**
ARU pmax pmax
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 56.91 309 *e*P **P 22 44 50.2 -0.5**
DLBC Dease Lake 57.11 39 P **P 22 44 53.4 +1.4**
comp=Z,2.6nm,0.7s,baz=279,slow=8.6,SNR=6.5
SPA0 Spitsbergen Ar 58.78 349 *e*P **P 22 45 04.6 +1.2**
WRAB Tennant Creek 58.86 188 *e*P **P 22 45 04.4 -0.2**
comp=Z,8.3nm,0.6s
WRAB Tennant Creek 58.86 188 *i* P **P 22 45 03.5 -1.0**
WRAB pmax pmax
comp=Z,7.0nm,0.9s
WB2 Warramunga Arr 58.87 188 *e*P **P 22 45 04.2 -0.4**
WRA Warramunga Arr 58.87 188 P **P 22 45 04.2 -0.4**
comp=Z,12nm,0.7s,baz=6.1,slow=7.1,SNR=84
WRA Warramunga Arr 58.87 188 P **P 22 45 04.2 -0.4**
WRA pmax pmax
comp=Z,12nm,0.7s
ARCES ARCESS Array B 62.37 339 P **P 22 45 27.2 -0.6**
comp=Z,5.7nm,1.1s,baz=64,slow=8.1,SNR=4.3
ARCES ARCESS Array B 62.37 339 P **P 22 45 27.2 -0.6**
ARCES pmax pmax
comp=Z,6.0nm,1.1s
AS01 Alice Springs 62.59 188 *e*P **P 22 45 29.7 -0.1**
AS31 Alice Springs 62.60 188 *e*P **P 22 45 29.8 -0.1**
comp=Z,1.6nm,0.6s
ASAR Alice Springs 62.60 188 P **P 22 45 29.9 0.0**
comp=Z,4.6nm,0.7s,baz=13,slow=6.8,SNR=40
ASAR Alice Springs 62.60 188 P **P 22 45 29.9 0.0**
ASAR pmax pmax
comp=Z,5.0nm,0.7s
A04D Lummi Island 65.36 46 P **P 22 45 49.0 +1.2**
baz=301
D03D Eldon 65.76 48 P **P 22 45 52.1 +1.7**
baz=302
B05A Bryant 65.94 47 P **P 22 45 52.9 +1.4**
baz=302
E04D Cinebar 66.58 48 P **P 22 45 56.7 +1.1**
baz=302
FINES FINESS Array B 67.30 332 P **P 22 45 59.3 -0.6**
comp=Z,1.7nm,0.7s,baz=35,slow=7.1,SNR=8.0
FINES LR LR 23 20 50.3
comp=Z,36nm,18.4s,baz=292,slow=41
FINES FINESS Array B 67.30 332 P **P 22 45 59.3 -0.6**
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES MLR MLR
comp=Z,36nm,18.4s
I04A Tendick Farm, 68.16 51 P **P 22 46 07.2 +1.4**
baz=303
L02E Cave Junction 68.32 53 P **P 22 46 08.2 +1.4**
baz=303
C09A Chrisman Ranch 68.35 46 *e*P **P 22 46 08.0 +1.1**
comp=Z,8.9nm,0.6s
D08A Wollman Farm, 68.40 46 *e*P **P 22 46 08.6 +1.4**
comp=Z,6.3nm,0.8s
J04D Umpua Nationa 68.65 51 P **P 22 46 10.0 +1.0**
baz=304
NEW Newport 68.72 45 *e*P **P 22 46 10.5 +1.3**
comp=Z,7.4nm,0.9s
NEW Newport 68.72 45 *e*P **P 22 46 10.5 +1.3**
NEW pmax pmax
comp=Z,7.0nm,0.9s
NEW Newport 68.72 45 P **P 22 46 10.2 +1.0**
baz=305
PINE Pine Mountain 69.05 50 *e*P **P 22 46 13.7 +2.2**
comp=Z,21nm,1.1s
L04D Klamath Falls 69.09 52 P **P 22 46 13.2 +1.4**
baz=304
E09A Wood Farm, Sta 69.15 47 *e*P **P 22 46 13.3 +1.5**
comp=Z,10.0nm,1.1s
J05D Fort Rock, OR 69.16 51 P **P 22 46 13.7 +1.6**
baz=304
M02C Callahan 69.21 53 P **P 22 46 13.8 +1.4**
baz=304
N02D Trinity Center 69.54 54 P **P 22 46 15.5 +1.1**
baz=304
M04C Macdoel 69.63 52 P **P 22 46 16.4 +1.4**
baz=304
K05A Summer Lake 69.68 51 *e*P **P 22 46 17.6 +2.2**
comp=Z,17nm,1.0s
KIV Kislovodsk 69.85 311 *e*P **P 22 46 14.0 -2.3**
KIV pmax pmax
comp=Z,15nm,1.1s
KBZ Khabaz 69.86 310 P **P 22 46 16.1 -0.1**
comp=Z,2.6nm,0.8s,baz=38,slow=6.8,SNR=4.9
KBZ LR LR 23 20 32.9
comp=Z,48nm,18.1s,baz=350,slow=39
KBZ Khabaz 69.86 310 P **P 22 46 16.1 -0.1**
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KBZ MLR MLR
comp=Z,48nm,18.1s
STKA Stephens Creek 70.36 180 P **P 22 46 19.6 +0.4**
comp=Z,1.2nm,0.5s,baz=319,slow=10,SNR=3.9
STKA Stephens Creek 70.36 180 P **P 22 46 19.6 +0.4**
STKA pmax pmax
comp=Z,1.0nm,0.5s
O03E Paynes Creek 70.49 54 P **P 22 46 21.1 +0.8**
baz=305
MOD Modoc Plateau 70.50 52 *e*P **P 22 46 21.6 +1.2**
comp=Z,4.5nm,0.6s
J08A Circle Bar Ran 70.77 50 *e*P **P 22 46 23.9 +1.9**
comp=Z,9.3nm,1.0s
ORV Oroville 71.10 54 *e*P **P 22 46 24.7 +0.8**
comp=Z,5.2nm,0.8s
ORV Oroville 71.10 54 *e*P **P 22 46 24.7 +0.8**
ORV pmax pmax
comp=Z,5.0nm,0.8s
WVOR Wild Horse Val 71.21 50 *e*P **P 22 46 26.0 +1.4**
comp=Z,26nm,1.9s
WVOR Wild Horse Val 71.21 50 *e*P **P 22 46 26.0 +1.4**
WVOR pmax pmax
comp=Z,27nm,1.9s
MSO Missoula 71.31 45 P **P 22 46 25.3 +0.1**
baz=307
PAHR Pah Rah Range 72.34 53 *e*P **P 22 46 32.5 +1.0**
comp=Z,7.7nm,0.9s
HRY Holter Researc 72.53 44 *e*P **P 22 46 33.9 +1.4**
PNTR Pine Nut 72.57 54 *e*P **P 22 46 34.8 +1.8**
comp=Z,11nm,0.9s
NB2 NORSAR Subarra 72.59 337 P **P 22 46 31.6 -0.8**
comp=Z,0.9nm,0.6s,baz=38,slow=6.2
NOA NORSAR Array B 72.59 337 P **P 22 46 32.1 -0.3**
comp=Z,0.9nm,0.7s,baz=34,slow=6.3,SNR=5.2
NOA LR LR 23 20 48.9
comp=Z,19nm,21.9s,baz=255,slow=38
NOA NORSAR Array B 72.59 337 P **P 22 46 32.1 -0.3**
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA MLR MLR
comp=Z,19nm,21.9s
CMB Columbia Colle 72.69 55 *e*P **P 22 46 35.0 +1.5**
comp=Z,6.0nm,0.9s
CMB Columbia Colle 72.69 55 P **P 22 46 35.0 +1.5**
CMB pmax pmax
comp=Z,6.0nm,1.0s
LRM Limekiln Ridge 72.74 45 *e*P **P 22 46 34.2 +0.3**
EGMT Eagleton 72.81 42 *e*P **P 22 46 35.1 +1.1**
comp=Z,17nm,0.9s
EGMT Eagleton 72.81 42 P **P 22 46 34.7 +0.7**
baz=309,SNR=5.0
YERR Yerington 72.86 54 *e*P **P 22 46 36.1 +1.5**
comp=Z,12nm,0.9s
DLMT Dillon 72.95 45 *e*P **P 22 46 36.4 +1.4**
comp=Z,10nm,0.7s
AKASG Malin Array Be 72.97 322 P **P 22 46 34.0 -0.8**
comp=Z,0.7nm,0.4s,baz=44,slow=6.1,SNR=5.4
AKASG Malin Array Be 72.97 322 P **P 22 46 34.0 -0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
KIEV Kiev 72.98 322 *i* P **P 22 46 33.2 -1.7**
KIEV pmax pmax
comp=Z,2.0nm,0.9s
HLID Hailey 73.02 48 *e*P **P 22 46 37.1 +1.6**
comp=Z,3.6nm,0.9s
HLID Hailey 73.02 48 P **P 22 46 36.8 +1.2**
baz=308
KVN Kaiserville 73.53 53 *e*P **P 22 46 40.1 +1.5**
comp=Z,10nm,0.8s
KVN Kaiserville 73.53 53 *e*P **P 22 46 40.1 +1.5**
KVN pmax pmax
comp=Z,11nm,0.8s
NV01 Mina Array Sit 73.78 54 *e*P **P 22 46 41.4 +1.3**
NVAR Mina Array Bea 73.78 54 P **P 22 46 41.5 +1.5**
comp=Z,6.1nm,0.8s,baz=290,slow=5.9,SNR=24
NV11 Mina Array Sit 73.87 54 *e*P **P 22 46 42.3 +1.8**
comp=Z,0.4nm,1.1s
YHH Holmes Hill 74.27 45 *e*P **P 22 46 44.5 +1.5**
comp=Z,4.0nm,0.9s
GCMT Greycliff 74.28 44 *e*P **P 22 46 44.4 +1.6**
YMR Madison River 74.28 45 *e*P **P 22 46 44.7 +1.8**
comp=Z,7.1nm,0.8s
YPP Pitchstone Pla 74.62 45 *e*P **P 22 46 47.1 +2.1**
comp=Z,3.1nm,0.8s
LKWY Lake 74.66 45 *e*P **P 22 46 46.6 +1.4**
comp=Z,9.9nm,0.9s
LKWY Lake 74.66 45 *e*P **P 22 46 46.6 +1.4**
LKWY pmax pmax
comp=Z,10.0nm,0.9s
H17A Grant Village 74.67 45 *e*P **P 22 46 48.1 +2.9**
comp=Z,17nm,0.9s
H17A Grant Village 74.67 45 P **P 22 46 47.5 +2.2**
baz=310,SNR=11
IMW Indian Meadow 74.79 46 *e*P **P 22 46 48.1 +2.2**
comp=Z,8.7nm,0.9s
FLWY Flagg Ranch 74.80 45 *e*P **P 22 46 48.4 +2.4**
comp=Z,9.6nm,1.1s
VES Vestal, Richgr 74.83 56 P **P 22 46 46.5 +0.5**
baz=307
FXWY Fox Creek 74.90 46 *e*P **P 22 46 48.6 +2.0**
comp=Z,5.8nm,0.8s
RLMT Red Lodge 74.92 44 *e*P **P 22 46 48.0 +1.4**
comp=Z,6.0nm,0.7s
RLMT Red Lodge 74.92 44 P **P 22 46 47.8 +1.2**
baz=310,SNR=7.3
MOOW Moose Ponds 74.99 46 *e*P **P 22 46 49.2 +2.2**
comp=Z,9.5nm,1.2s
TPAW Teton Pass 75.04 46 *e*P **P 22 46 49.5 +2.1**
comp=Z,4.7nm,0.7s
HVU Hansel Valley 75.08 48 *e*P **P 22 46 49.3 +1.8**
HVU Hansel Valley 75.08 48 *e*P **P 22 46 49.3 +1.8**
CWC Cottonwood Cre 75.12 55 P **P 22 46 48.5 +0.6**
baz=308
LOHW Long Hollow 75.16 46 *e*P **P 22 46 49.2 +1.2**
comp=Z,7.0nm,1.3s
REDW Red Top Meadow 75.17 46 *e*P **P 22 46 49.6 +1.5**
comp=Z,5.5nm,0.6s
R11A Troy Canyon, C 75.52 52 *e*P **P 22 46 51.4 +1.2**
comp=Z,7.4nm,1.0s
R11A Troy Canyon, C 75.52 52 P **P 22 46 51.3 +1.2**
baz=308,SNR=14
MPMC Manual Prospec 75.73 55 P **P 22 46 52.0 +0.7**
baz=308
FURC Furnace Creek, 75.88 55 P **P 22 46 54.0 +2.1**
baz=308
HWUT Hardware Ranch 75.89 48 *e*P **P 22 46 53.9 +1.7**
comp=Z,15nm,0.7s
TPNV Topopah Spring 75.97 54 *e*P **P 22 46 53.9 +1.2**
comp=Z,12nm,1.0s
TPNV Topopah Spring 75.97 54 *e*P **P 22 46 53.9 +1.2**
TPNV pmax pmax
comp=Z,12nm,1.0s
TPNV Topopah Spring 75.97 54 P **P 22 46 53.8 +1.1**
baz=308,SNR=9.4
DUG Dugway, Tooele 76.05 49 *e*P **P 22 46 54.9 +1.8**
comp=Z,52nm,1.1s
DUG Dugway, Tooele 76.05 49 *e*P **P 22 46 54.9 +1.8**
DUG pmax pmax
comp=Z,52nm,1.1s
DUG Dugway, Tooele 76.05 49 P **P 22 46 54.3 +1.3**
baz=309
EDW2 Edwards Air Fo 76.12 56 P **P 22 46 54.4 +1.0**
baz=308
BW06 Boulder Array 76.28 46 *e*P **P 22 46 55.2 +0.8**
comp=Z,5.1nm,0.7s
BW06 Boulder Array 76.28 46 P **P 22 46 55.0 +0.6**
baz=311
PD31 Pinedale Array 76.28 46 *e*P **P 22 46 55.2 +0.7**
PDAR Pinedale Array 76.28 46 P **P 22 46 55.1 +0.7**
comp=Z,4.0nm,0.6s,baz=261,slow=2.0,SNR=54
PDAR Pinedale Array 76.28 46 *e*P **P 22 46 54.7 +0.2**
TCUT Toone Canyon 76.29 48 *e*P **P 22 46 56.1 +1.5**
comp=Z,64nm,0.4s
PSUT Pine Spring 76.47 51 *e*P **P 22 46 57.1 +1.6**
comp=Z,9.2nm,0.9s
JLU Jordanelle 76.59 48 *e*P **P 22 46 57.9 +1.6**
comp=Z,35nm,0.4s
NLU North Lily Min 76.64 49 *e*P **P 22 46 58.2 +1.7**
comp=Z,33nm,0.5s
MPU Maple Canyon 76.86 49 *e*P **P 22 46 59.5 +1.7**
comp=Z,13nm,0.8s
SHPR Sheep Range 76.93 54 *e*P **P 22 46 60.0 +1.9**
comp=Z,7.6nm,1.0s
BUR08 Bucovina Ar. S 76.99 322 *e*P **P 22 46 58.3 +0.1**
CCUT Cedar City 77.39 52 *e*P **P 22 47 02.4 +1.6**
comp=Z,4.9nm,0.8s
GMRC Granite Mounta 77.69 55 P **P 22 47 03.3 +1.0**
baz=309,SNR=5.1
P17A Butcher Ranch, 77.74 49 *e*P **P 22 47 04.1 +1.5**
comp=Z,11nm,0.7s
BRTR Keskin Array B 77.78 311 P **P 22 47 02.5 -0.3**
comp=Z,0.6nm,0.5s,baz=120,slow=3.1,SNR=5.6
BRTR Keskin Array B 77.78 311 P **P 22 47 02.5 -0.3**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
LCMT Little Creek M 77.81 52 *e*P **P 22 47 04.9 +1.9**
comp=Z,7.1nm,0.7s
BELC Belle Mtn. Jos 77.96 56 P **P 22 47 05.6 +1.7**
baz=309
K22A Casper 78.04 44 P **P 22 47 05.0 +0.7**
baz=312
SRU San Rafael Swe 78.10 49 *e*P **P 22 47 06.2 +1.5**
comp=Z,13nm,0.8s
SRU San Rafael Swe 78.10 49 *e*P **P 22 47 06.2 +1.5**
SRU pmax pmax
comp=Z,13nm,0.8s
RSSD Black Hills 78.37 42 P **P 22 47 06.7 +0.6**
baz=314
IRM Iron Mountain 78.41 55 P **P 22 47 07.3 +1.1**
baz=309
IKP In-Ko-Pah, Jac 78.73 57 P **P 22 47 09.9 +1.9**
baz=309
DGAR Diego Garcia 78.74 251 *i* P **P 22 47 06.5 -1.6**
O20A White River Ci 78.76 47 P **P 22 47 08.8 +0.6**
baz=312
PDMCI Parker Dam,Lak 78.96 55 P **P 22 47 10.4 +1.2**
baz=310
DPC Dobruska-Polom 79.02 328 *e*P **P 22 47 13.0 +3.7**
DPC Dobruska-Polom 79.02 328 *e*P **P 22 47 13.0 +3.7**
Y12C Blythe 79.07 55 P **P 22 47 11.7 +1.9**
baz=310
VYHS Vyhne 79.33 325 *e*P **P 22 47 11.7 +0.7**
PV10 Paradox Valley 79.46 49 *e*P **P 22 47 13.1 +0.9**
PV22 Blue Mesa, Par 79.50 49 *e*P **P 22 47 13.8 +1.5**
comp=Z,11nm,1.1s
PV20 West Nyswonger 79.52 49 *e*P **P 22 47 14.2 +1.8**
comp=Z,16nm,0.7s
PV19 Morning Glory 79.53 49 *e*P **P 22 47 14.2 +1.6**
comp=Z,11nm,0.8s
N23A Red Feather La 79.55 45 P **P 22 47 13.9 +1.2**
baz=313
PV17 East Wray Mesa 79.57 49 *e*P **P 22 47 14.1 +1.4**
CLL Collm 79.61 330 *e*P **P 22 47 12.0 -0.4**
PV13 Radium Mtn., P 79.73 49 *e*P **P 22 47 15.3 +1.7**
comp=Z,21nm,1.0s
ISCO Idaho Springs 80.47 46 *e*P **P 22 47 19.2 +1.5**
comp=Z,3.3nm,0.8s
ISCO Idaho Springs 80.47 46 *e*P **P 22 47 19.2 +1.5**
ISCO pmax pmax
comp=Z,3.0nm,0.8s
ISCO Idaho Springs 80.47 46 P **P 22 47 18.9 +1.2**
baz=313
MVCO Mesa Verde 80.55 50 *e*P **P 22 47 19.6 +1.5**
comp=Z,4.9nm,0.8s
MVCO Mesa Verde 80.55 50 P **P 22 47 19.2 +1.1**
baz=312
X16A Lo Mia Camp, P 80.60 53 *e*P **P 22 47 20.3 +2.0**
comp=Z,6.8nm,1.1s
SUSD Miller 80.73 39 P **P 22 47 19.0 +0.4**
baz=317
KHC Kasperske Hory 81.09 328 *e*P **P 22 47 20.7 +0.2**
KHC Kasperske Hory 81.09 328 *e*P **P 22 47 20.7 +0.2**
S22A 4UR Ranch, Cre 81.17 48 *e*P **P 22 47 23.4 +2.0**
comp=Z,6.3nm,1.2s
S22A 4UR Ranch, Cre 81.17 48 P **P 22 47 23.1 +1.6**
baz=313
GERES GERESS Array B 81.27 328 P **P 22 47 21.1 -0.4**
comp=Z,0.3nm,0.3s,baz=51,slow=7.0,SNR=3.7
GERES GERESS Array B 81.27 328 P **P 22 47 21.1 -0.4**
Q24A Divide 81.31 46 P **P 22 47 23.0 +0.8**
baz=314
214A Organ Pipe Nat 81.32 56 P **P 22 47 23.1 +1.1**
baz=311
SDCO Great Sand Dun 81.94 48 P **P 22 47 26.2 +0.6**
baz=314
ECSD EROS Data Cent 82.40 38 P **P 22 47 27.3 -0.1**
baz=318
F38A Pierce - Schro 82.90 34 P **P 22 47 30.1 +0.1**
baz=321
T25A Trinidad 82.99 47 *e*P **P 22 47 32.2 +1.3**
comp=Z,5.3nm,0.7s
T25A Trinidad 82.99 47 P **P 22 47 31.7 +0.8**
baz=314
E39A Mellen 83.15 33 P **P 22 47 31.1 -0.2**
baz=322
ANMO Albuquerque 83.30 50 *e*P **P 22 47 34.1 +1.6**
comp=Z,5.1nm,1.0s
ANMO Albuquerque 83.30 50 *e*P **P 22 47 34.1 +1.6**
ANMO pmax pmax
comp=Z,5.0nm,1.0s
ANMO Albuquerque 83.30 50 P **P 22 47 33.7 +1.2**
baz=313

H38A	**Maiden Rock**	**83.72**	**35**	P		**P**	**22 47 34.0**	**-0.2**
	baz=321							
E41A	**Kenton**	**83.76**	**32**	P		**P**	**22 47 34.3**	**-0.1**
	baz=323							
121A	**Cookes Peak, D**	**84.13**	**53**	P		**P**	**22 47 38.0**	**+1.3**
	baz=313							
H39A	**Augusta**	**84.16**	**35**	P		**P**	**22 47 36.6**	**+0.1**
	baz=321							
G40A	**Rib Lake**	**84.18**	**34**	P		**P**	**22 47 36.6**	**0.0**
	baz=322							
F41A	**Three Lakes**	**84.28**	**33**	P		**P**	**22 47 37.2**	**+0.2**
	baz=323							
H40A	**Chili**	**84.60**	**34**	P		**P**	**22 47 38.4**	**-0.3**
	baz=322							
I39A	**Houston**	**84.70**	**36**	P		**P**	**22 47 38.5**	**-0.7**
	baz=321							
H41A	**Junction City**	**84.93**	**34**	P		**P**	**22 47 40.3**	**0.0**
	baz=322							
F44A	**Big Bay de Noc**	**85.21**	**31**	P		**P**	**22 47 41.4**	**-0.2**
	baz=325							
G43A	**Wallace**	**85.26**	**33**	P		**P**	**22 47 42.1**	**+0.1**
	baz=324							
D46A	**Sault St. Mari**	**85.40**	**29**	P		**P**	**22 47 41.9**	**-0.8**
	baz=326							
K39A	**Oelwein**	**85.42**	**36**	P		**P**	**22 47 42.0**	**-0.8**
	baz=321							
D47A	**Chapleau**	**85.61**	**29**	P		**P**	**22 47 42.7**	**-1.0**
	baz=327							
J41A	**Loganville**	**85.76**	**35**	P		**P**	**22 47 43.8**	**-0.7**
	baz=322							
K40A	**Colesburg**	**85.77**	**36**	P		**P**	**22 47 44.1**	**-0.4**
	baz=322							
L39A	**Vinton**	**85.82**	**37**	P		**P**	**22 47 44.6**	**-0.2**
	baz=321							
I42A	**Draeger Farm,**	**85.83**	**34**	P		**P**	**22 47 45.2**	**+0.3**
	baz=323							
MSTX	**Muleshoe**	**86.16**	**49**	P		**P**	**22 47 46.8**	**0.0**
	baz=315							
I43A	**Langenfeld Bro**	**86.17**	**34**	P		**P**	**22 47 46.2**	**-0.3**
	baz=324							
MNTX	**Cornudas Mount**	**86.18**	**52**	P		**P**	**22 47 47.4**	**+0.6**
	baz=314							
J42A	**Columbus**	**86.19**	**35**	P		**P**	**22 47 46.4**	**-0.2**
	baz=323							
K41A	**Shullsburg**	**86.23**	**36**	P		**P**	**22 47 46.5**	**-0.3**
	baz=322							
L40A	**Anamosa**	**86.23**	**36**	P		**P**	**22 47 46.9**	**+0.1**
	baz=322							
J43A	**Natural Harves**	**86.45**	**34**	P		**P**	**22 47 47.7**	**-0.2**
	baz=323							
N39A	**Derby Farms, D**	**86.55**	**38**	P		**P**	**22 47 48.7**	**+0.3**
	baz=321							
N42A	**Yates City**	**87.75**	**37**	P		**P**	**22 47 54.0**	**-0.2**
	baz=322							
M43A	**Waltham Townsh**	**87.77**	**36**	P		**P**	**22 47 53.8**	**-0.5**
	baz=323							
D54A	**Lac Fusel, La**	**87.81**	**25**	P		**P**	**22 47 55.1**	**+0.7**
	baz=331							
WMOK	**Wichita Mounta**	**87.90**	**46**	P		**P**	**22 47 55.7**	**+0.7**
	baz=317							
J47A	**Sunmer**	**88.10**	**32**	P		**P**	**22 47 56.1**	**+0.3**
	baz=326							
P41A	**Barry, Barry**	**88.17**	**38**	P		**P**	**22 47 56.8**	**+0.6**
	baz=322							
P42A	**Winchester**	**88.59**	**38**	P		**P**	**22 47 58.3**	**+0.1**
	baz=322							
Q41A	**Truxton**	**88.66**	**38**	P		**P**	**22 47 58.8**	**+0.3**
	baz=322							
J49A	**Marlette**	**88.69**	**31**	P		**P**	**22 47 58.9**	**+0.3**
	baz=327							
K48A	**Perry**	**88.75**	**32**	P		**P**	**22 47 59.4**	**+0.5**
	baz=326							
TX31	**Lajitas Ar. Si**	**88.89**	**53**	*e*P		**P**	**22 48 00.8**	**+0.9**
TXAR	**Lajitas Array**	**88.89**	**53**	P		**P**	**22 48 00.7**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=295,slow=3.4,SNR=25							
TXAR	**Lajitas Array**	**88.89**	**53**	P		**P**	**22 48 00.7**	**+0.8**
TXAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
L47A	**Sherwood**	**88.98**	**33**	P		**P**	**22 48 00.4**	**+0.4**
	baz=326							
Q42A	**Golden Eagle**	**89.03**	**38**	P		**P**	**22 48 00.9**	**+0.7**
	baz=322							
L48A	**N Adams**	**89.33**	**32**	P		**P**	**22 48 01.9**	**+0.3**
	baz=326							
CCM	**Cathedral Cave**	**89.35**	**39**	*e*P		**P**	**22 48 02.0**	**+0.2**
	comp=Z,8.1nm,0.9s							
CCM	**Cathedral Cave**	**89.35**	**39**	*e*P		**P**	**22 48 02.0**	**+0.2**
CCM				pmax		pmax		
	comp=Z,8.0nm,0.9s							
CCM	**Cathedral Cave**	**89.35**	**39**	P		**P**	**22 48 01.8**	**0.0**
	baz=322							
S41A	**Jilco Farms,**	**89.47**	**40**	P		**P**	**22 48 02.6**	**+0.2**
	baz=321							
L49A	**Milan**	**89.47**	**32**	P		**P**	**22 48 02.8**	**+0.5**
	baz=326							
N47A	**Urbana**	**89.67**	**34**	P		**P**	**22 48 03.0**	**-0.3**
	baz=325							
S42A	**Caledonia**	**89.80**	**39**	P		**P**	**22 48 04.1**	**+0.2**
	baz=322							
U40A	**Yellville**	**89.86**	**41**	P		**P**	**22 48 04.3**	**+0.1**
	baz=321							
T41A	**Mountain View**	**89.88**	**40**	P		**P**	**22 48 04.5**	**+0.2**
	baz=321							
T42A	**Van Buren**	**90.23**	**40**	P		**P**	**22 48 06.6**	**+0.7**
	baz=322							
JCT	**Junction City**	**90.41**	**49**	P		**P**	**22 48 07.2**	**+0.2**
	baz=317							
S44A	**Carbondale**	**90.61**	**38**	P		**P**	**22 48 07.8**	**+0.1**
	baz=323							
V41A	**Mountainview**	**90.66**	**41**	P		**P**	**22 48 07.8**	**-0.2**
	baz=321							
O49A	**Covington**	**90.82**	**33**	P		**P**	**22 48 08.7**	**+0.1**
	baz=326							
MIAR	**Mount Ida**	**90.88**	**43**	P		**P**	**22 48 09.5**	**+0.6**
	baz=320							
Q47A	**Bedord North L**	**90.93**	**35**	P		**P**	**22 48 09.0**	**-0.1**
	baz=325							
WVT	**Waverly**	**92.54**	**38**	P		**P**	**22 48 16.9**	**+0.3**
	baz=324							
Z42A	**Norrel Spur, H**	**92.72**	**42**	P		**P**	**22 48 18.0**	**+0.5**
	baz=321							
S50A	**Richmond**	**92.87**	**35**	P		**P**	**22 48 18.3**	**+0.2**
	baz=326							
U49A	**Red Boiling Sp**	**93.20**	**36**	P		**P**	**22 48 20.0**	**+0.3**
	baz=325							
T50A	**Nancy**	**93.21**	**36**	P		**P**	**22 48 20.0**	**+0.3**
	baz=326							
U52A	**Thorn Hill**	**94.39**	**35**	P		**P**	**22 48 25.3**	**0.0**
	baz=327							
V51A	**Loudon**	**94.44**	**36**	P		**P**	**22 48 25.4**	**0.0**
	baz=326							
X49A	**Woodville**	**94.57**	**38**	P		**P**	**22 48 26.0**	**0.0**
	baz=325							
757A	**Oxford**	**101.20**	**38**	P		**Pdif**	**22 48 57.4**	**+1.6**
	baz=327							
LPAZ	**La Paz**	**145.61**	**58**	PKPbc		**PKPbc**	**22 54 44.8**	**+0.1**
	comp=Z,8.6nm,0.8s,baz=351,slow=4.4,SNR=36							
LPAZ	**La Paz**	**145.61**	**58**	PKP2		**PKPbc**	**22 54 44.8**	**+0.1**
LPAZ				pmax		pmax		
	comp=Z,9.0nm,0.9s							

*ISCJB **09** 22:36:16.7±0.6,20.6S×178.1W±0.1,h534km, mb3.9/12,Error ellipse: s-maj=17.9km s-min=13.8km az=37.8*

*IDC **09** 22:36:19.6±2.7,20.75S×177.95W,h565km,31km, mb3.5/12,mb1 3.7/13,mb1mx3.5/33,mbtmp4.4/13,Error ellipse: s-maj=25.0km s-min=14.4km az=147.0*

ISC 09 22:36:17.1±0.7, 20.6S±0.1×178.0W±0.1, h534km, n26, σ0.98/27, mb4.0/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.08**	**193**	P	**P**	**22 39 55.3**	**-1.1**
	1.4nm,0.3s,baz=272,slow=2.9,SNR=10.0						
STKA	**Stephens Creek**	**37.75**	**244**	P	**P**	**22 42 48.2**	**+0.5**
	1.8nm,0.5s,baz=98,slow=14,SNR=5.0						
JAY	**Jayapura**	**44.10**	**289**	P	**P**	**22 43 39.2**	**+0.8**
	14nm,0.6s,baz=104,slow=3.6,SNR=8.3						
ASAR	**Alice Springs**	**44.51**	**257**	P	**P**	**22 43 42.0**	**+0.6**
	8.2nm,0.8s,baz=88,slow=8.3,SNR=62						
ASAR				PcP	**PcP**	**22 45 13.2**	**-0.1**
	1.3nm,1.1s,baz=96,slow=4.8,SNR=5.8						
ASAR				S	**S**	**22 49 36.0**	**-2.1**
	0.4nm,0.7s,baz=85,slow=16,SNR=5.7						
WRA	**Warramunga Arr**	**44.60**	**262**	P	**P**	**22 43 42.1**	**-0.1**
	4.4nm,0.7s,baz=96,slow=7.8,SNR=36						
MJAR	**Matsushiro Arr**	**70.32**	**324**	P	**P**	**22 46 36.8**	**-0.3**
	4.5nm,0.8s,baz=161,slow=6.3,SNR=8.6						
PETK	**Petropavlovsk-**	**76.40**	**345**	P	**P**	**22 47 11.3**	**0.0**
	2.2nm,0.7s,baz=148,slow=5.3						
USRK	**Ussuriysk Ar.**	**79.08**	**326**	P	**P**	**22 47 27.4**	**+1.4**
	3.2nm,0.8s,baz=131,slow=5.3,SNR=5.4						
NVAR	**Mina Array Bea**	**81.10**	**43**	P	**P**	**22 47 38.2**	**+1.2**
	1.2nm,0.8s,baz=222,slow=9.0,SNR=3.7						
SEY	**Seymchan**	**86.50**	**347**	P	**P**	**22 48 02.1**	**-0.7**
	3.4nm,0.7s,baz=126,slow=3.5,SNR=4.6						
VNA3	**Neumayer Olymp**	**88.02**	**176**	P	**P**	**22 48 10.8**	**+0.7**
ILAR	**Eielson Array**	**88.43**	**13**	P	**P**	**22 48 10.4**	**-1.4**
	1.8nm,0.9s,baz=220,slow=6.0,SNR=10.0						
VNA2	**Neumayer--Watz**	**88.46**	**177**	P	**P**	**22 48 13.4**	**+1.3**
	baz=206,slow=4.6						
PDAR	**Pinedale Array**	**89.04**	**43**	P	**P**	**22 48 15.4**	**-0.2**
	0.3nm,0.6s,baz=222,slow=2.0,SNR=3.5						
CMAR	**Chiang Mai Arr**	**90.17**	**290**	P	**P**	**22 48 22.4**	**+1.4**
	1.3nm,0.5s,baz=125,slow=3.0,SNR=12						
MKAR	**Makanchi Array**	**111.30**	**313**	PKiKP	**PKiKP**	**22 53 49.3**	**-1.0**
	0.5nm,0.7s,baz=104,slow=1.3,SNR=3.7						
FINES	**FINESS Array B**	**135.90**	**344**	PKP	**PKPdf**	**22 54 35.9**	**-0.8**
	2.4nm,0.8s,baz=53,slow=3.6,SNR=3.3						
AKASG	**Malin Array Be**	**143.13**	**331**	PKP	PKPab	22 54 47.2	-0.6
	5.0nm,0.6s,baz=42,slow=4.4,SNR=21						
BRTR	**Keskin Array B**	**146.94**	**312**	PKPbc	**PKPbc**	**22 54 59.8**	**-0.4**
	1.2nm,0.7s,baz=134,slow=4.7,SNR=7.7						
GERES	**GERESS Array B**	**150.32**	**344**	PKPbc	**PKPbc**	**22 55 08.0**	**-0.1**
	1.7nm,0.9s,baz=45,slow=2.1,SNR=12						
CONA	**Conrad Observa**	**150.55**	**341**	*e*PKPdf	**PKPbc**	**22 55 08.9**	**+0.2**
	3.4nm,0.7s						
SOKA	**Soboth**	**151.92**	**341**	*i* PKPdf	**PKPbc**	**22 55 11.3**	**-0.5**
	2.2nm,0.8s						
KBA	**Koelnbreinsper**	**152.05**	**343**	*i* PKPdf	**PKPbc**	**22 55 10.9**	**-1.3**
	4.3nm,1.5s						
WTTA	**Wattenberg**	**152.30**	**346**	*i* PKPdf	**PKPbc**	**22 55 12.5**	**-0.2**
	2.0nm,0.5s						
MYKA	**Terra Mystica**	**152.38**	**343**	*e*PKPdf	**PKPbc**	**22 55 11.6**	**-1.2**
	3.8nm,0.9s						
ABTA	**Abfaltersbach**	**152.57**	**344**	*e*PKPdf	**PKPbc**	**22 55 12.3**	**-0.9**
	4.8nm,0.8s						

IDC 09 22:39:34.0±3.3, 15.73S×173.20W, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.8/32, mbtmp3.9/4, ML4.1/1, MS3.2/4, Ms1 3.2/4, ms1mx2.8/41, Error ellipse: s-maj=178.9km s-min=24.0km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.27**	**37**	Pn	Pn	22 40 11.8	-1.1
	48nm,0.3s,baz=138,slow=2.0,SNR=5.5						
AFI				Sn	Sn	22 40 33.0	-8.6
	153nm,0.3s,baz=229,slow=23,SNR=3.7						
AFI				LR	LR	22 40 47.2	
	comp=Z,214nm,18.2s,baz=122,slow=32						
DZM	**Mont Dzumac**	**20.26**	**249**	LR	LR	22 50 30.5	
	comp=Z,133nm,19.2s,baz=256,slow=32						
URZ	**Urewera**	**24.02**	**199**	LR	LR	22 53 25.7	
	comp=Z,70nm,18.5s,baz=18,slow=35						
WRA	**Warramunga Arr**	**49.96**	**257**	P	P	22 48 29.6	-0.6
	0.5nm,0.6s,baz=96,slow=7.8,SNR=6.2						
ASAR	**Alice Springs**	**50.20**	**252**	P	P	22 48 32.0	0.0
	2.7nm,0.6s,baz=87,slow=7.9,SNR=24						
MJAR	**Matsushiro Arr**	**69.31**	**320**	LR	LR	23 16 35.5	
	comp=Z,18nm,20.2s,baz=215,slow=32						
NVAR	**Mina Array Bea**	**74.44**	**42**	P	P	22 51 14.8	+0.4
	0.2nm,0.4s,baz=233,slow=6.7,SNR=3.6						
BRTR	**Keskin Array B**	**146.53**	**321**	PKPbc	PKPbc	22 59 17.6	-0.2
	0.8nm,0.7s,baz=120,slow=2.1,SNR=4.8						

MEX 09 22:58:10.0±0.4, 14.21N×92.61W, h17km±77km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.77**	**26**	*e*P	Pb	22 58 22.5	-2.5
THIG				*i* S	Sb	22 58 32.2	-2.9
PCIG		**1.60**	**339**	*e*P	Pn	22 58 34.0	-3.5
PCIG				*i* S	Sn	22 58 53.2	-4.5
CCIG	**Comitan**	**2.11**	**12**	*i* P	Pn	22 58 42.4	-2.3
CCIG				*i* S	Sn	22 59 06.7	-3.9
TGIG		**2.60**	**349**	*e*P	Pn	22 58 48.8	-2.5
TGIG				*i* S	Sn	22 59 19.3	-3.2

KRSC 09 23:00:23.4±2.6, 50.31N×157.11E, h42km±22km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.73**	**301**	*e*P	Pn	23 00 37.4	+0.2
SKR				*e*S	Sn	23 00 46.3	-1.0
PAU	**Pauzhetka**	**1.17**	**351**	*e*P	Pn	23 00 44.8	+1.5
PAU				*e*S	Sn	23 00 59.1	+1.1
KDTR	**Khodutka, Kamc**	**1.62**	**22**	*e*P	Pn	23 00 51.5	+2.1
KDTR				*e*S	Sn	23 01 11.1	+2.1
MTVR	**Mutnovka**	**2.28**	**17**	*e*P	Pn	23 01 01.3	+2.7
MTVR				*e*S	Sn	23 01 28.8	+3.4
RUS	**Russkaya**	**2.30**	**22**	*e*P	Pn	23 01 01.3	+2.6
RUS				*e*S	Sn	23 01 27.6	+1.8
KRMR	**Karymshinskiy**	**2.60**	**14**	*e*S	Sn	23 01 40.5	+7.3
PET	**Petropavlovsk**	**2.88**	**19**	*e*S	Sn	23 01 43.9	+3.8
UGLR	**Uglovaya**	**3.09**	**20**	*e*P	Pn	23 01 13.8	+4.1
AVH	**Avacha**	**3.13**	**18**	*e*P	Pn	23 01 15.2	+5.0
KOK	**Koryaka**	**3.13**	**17**	*e*P	Pn	23 01 15.0	+4.7
SMAR	**Somma**	**3.14**	**19**	*e*P	Pn	23 01 15.1	+4.7
SDLR	**Sedlovina**	**3.17**	**20**	*e*P	Pn	23 01 14.0	+3.2
SDLR				*e*S	Sn	23 01 52.1	+4.7
NLC	**Nalytchevo**	**3.18**	**25**	*e*S	Sn	23 01 48.9	+1.4
KRX	**Arik**	**3.20**	**17**	*e*S	Sn	23 01 54.3	+6.2
SPN	**Mys Shipunski**	**3.33**	**32**	*e*S	Sn	23 01 54.0	+2.9
GNL	**Ganaly**	**3.43**	**8**	*e*P	Pn	23 01 17.9	+3.6
MKZ	**Mys Kozlova**	**5.11**	**32**	*e*P	Pn	23 01 40.2	+3.0

*ISCJB **09** 23:08:19.1±0.3, 63.23N×151.52W±0.06, h11km, mb3.6/9, MS2.9/1, Error ellipse: s-maj=3.7km s-min=3.0km az=6.8*

*IDC **09** 23:08:19.1±0.7, 63.30N×151.68W, h0km, mb3.7/9, mb1 3.8/14, mb1mx3.6/53, mbtmp3.6/14, ML3.3/4, MS2.7/2, Ms1 2.7/2, ms1mx2.4/59, Error ellipse: s-maj=12.6km s-min=11.0km az=157.0*

*NEIC **09** 23:08:20.1±0.0, 63.17N×151.51W, h14km, ML3.6(AEIC), After AEIC.*

ISC 09 23:08:20.0±0.6, 63.22N±0.04×151.51W±0.04, h11km, n98, σ1.06/97, mb3.8/9, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAST	**Castle Rocks**	**0.33**	**308**	*e*Pg	**Pb**	**23 08 27.5**	**-0.4**
PPLA	**Purkeypile**	**0.45**	**224**	*e*Pg	**Pg**	**23 08 28.0**	**-0.8**
TRF	**Thorofare Moun**	**0.60**	**66**	*e*Pg	**Pg**	**23 08 31.9**	**+0.3**
CHUM	**Lake Minchumin**	**0.76**	**332**	P	**Pn**	**23 08 36.0**	**-0.6**
HUR	**Hurricane**	**0.88**	**105**	P	**Pg**	**23 08 36.3**	**-0.6**
BPAW	**Bear Paw Mtn.**	**0.92**	**14**	*e*Pg	**Pn**	**23 08 38.3**	**-0.5**
RND	**Reindeer**	**1.21**	**80**	*e*Pn	**Pn**	**23 08 42.5**	**-0.4**
SKT	**Skwentna**	**1.24**	**181**	*e*Pn	**Pn**	**23 08 41.8**	**-1.4**
MCK	**McKinley**	**1.27**	**65**	*e*Pn	**Pn**	**23 08 43.7**	**+0.1**
BWN	**Browne**	**1.32**	**43**	*e*Pn	**Pb**	**23 08 44.9**	**+0.1**
NEA	**Nenana**	**1.74**	**37**	P	**Pn**	**23 08 49.5**	**-0.5**
SUA	**Susitna One**	**1.79**	**168**	*e*Pn	**Pn**	**23 08 50.6**	**-0.3**
MLY	**Manley**	**1.85**	**10**	*e*Pn	**Pn**	**23 08 49.4**	**-2.2**
GHO	**Glory Hole Cre**	**1.88**	**139**	*e*Pn	**Pn**	**23 08 51.4**	**-0.7**
DHY	**Denali Highway**	**1.88**	**92**	*e*Pn	**Pn**	**23 08 52.4**	**+0.2**
SPNN	**North Nagishla**	**1.94**	**197**	P	**Pn**	**23 08 52.8**	**-0.1**
SPCG	**Spurr Capps Gl**	**1.95**	**187**	P	**Pn**	**23 08 52.6**	**-0.4**
PMR	**Palmer**	**1.97**	**145**	*e*Pn	**Pn**	**23 08 53.1**	**-0.1**
WRH	**Wood River Hil**	**1.97**	**49**	*e*Pn	**Pn**	**23 08 52.6**	**-0.6**
SML	**Sawmill**	**2.04**	**132**	*e*Pn	**Pn**	**23 08 53.8**	**-0.5**
CKT	**Bend**	**2.05**	**190**	P	**Pn**	**23 08 54.4**	**0.0**
SPCR	**Spurr Chakacha**	**2.05**	**190**	P	**Pn**	**23 08 54.4**	**0.0**
TT01	**Tatalina**	**2.08**	**263**	P	**Pn**	**23 08 53.9**	**-0.8**
FIB	**Fire Island**	**2.15**	**163**	P	**Pn**	**23 08 56.8**	**+1.1**
CCB	**Clear Creek Bu**	**2.17**	**47**	*e*Pn	**Pn**	**23 08 55.5**	**-0.6**
MDM	**Murphy Dome**	**2.27**	**38**	*e*Pn	**Pn**	**23 08 56.9**	**-0.4**
RC01	**Rabbit Creek A**	**2.29**	**158**	*e*Pn	**Pn**	**23 08 58.5**	**+0.8**
KNK	**Knik Glacier**	**2.30**	**140**	P	**Pn**	**23 08 57.6**	**-0.2**
COLA	**College**	**2.31**	**42**	*e*Pn	**Pn**	**23 08 57.6**	**-0.4**
HDA	**Harding Lake**	**2.35**	**57**	*e*Pn	**Pn**	**23 08 57.9**	**-0.6**
SCM	**Sheep Creek Mo**	**2.38**	**124**	*e*Pn	**Pn**	**23 08 58.6**	**-0.4**
IL1	**Eielson Array**	**2.56**	**50**	*e*Pn	**Pn**	**23 09 00.4**	**-1.0**
ILAR	**Eielson Array**	**2.56**	**50**	Pn	**Pn**	**23 09 00.8**	**-0.6**
	2.8nm,0.3s,baz=238,slow=14,SNR=104						
ILAR				Lg	Lg	23 09 40.3	
	38nm,0.3s,baz=230,slow=30,SNR=14						
ILB	**Eielson Array**	**2.56**	**50**	*e*Pn	**Pn**	**23 09 00.9**	**-0.6**
RDT	**Redoubt**	**2.69**	**190**	P	**Pn**	**23 09 03.2**	**0.0**
PAX	**Paxson**	**2.76**	**92**	*e*Pn	**Pn**	**23 09 05.0**	**+0.9**
PS06	**TAPS Pump Stn6**	**2.76**	**15**	P	**Pn**	**23 09 04.7**	**+0.7**
PWL	**Port Wells**	**2.80**	**146**	P	**Pn**	**23 09 04.9**	**+0.3**
RDWB	**Redoubt West**	**2.81**	**194**	P	**Pn**	**23 09 05.2**	**+0.2**
SVW2	**Sparrevohn**	**2.86**	**224**	*e*Pn	**Pn**	**23 09 05.1**	**-0.4**
RED	**Redoubt Volcan**	**2.87**	**193**	P	**Pn**	**23 09 06.4**	**+0.7**
IM3	**Indian Mountai**	**2.94**	**342**	*e*Pn	**Pn**	**23 09 07.2**	**+0.6**
PS11	**TAPS Pump St11**	**3.01**	**110**	P	**Pn**	**23 09 09.0**	**+1.5**
HARP	**HAARP**	**3.03**	**103**	*e*Pn	**Pn**	**23 09 09.4**	**+1.7**
RIDG	**Independ'e Rid**	**3.04**	**77**	*e*Pn	**Pb**	**23 09 11.6**	**-2.4**
KLU	**Klutina**	**3.12**	**121**	*e*Pn	**Pn**	**23 09 10.3**	**+1.1**
GLI	**Glacier Island**	**3.13**	**136**	*e*Pn	**Pn**	**23 09 10.3**	**+1.1**
JPK	**Jack Peak**	**3.16**	**131**	P	**Pn**	**23 09 10.4**	**+0.7**
ILW	**Iliamna West**	**3.26**	**195**	P	**Pn**	**23 09 12.1**	**+0.9**
SEW	**Seward**	**3.27**	**162**	*e*Pn	**Pn**	**23 09 14.4**	**+3.3**
DOT	**Dot Lake**	**3.37**	**79**	*e*Pn	**Pn**	**23 09 14.5**	**+2.0**
DIV	**Divide**	**3.41**	**125**	*e*Pn	**Pn**	**23 09 13.6**	**+0.5**
FID	**Port Fidalgo**	**3.43**	**134**	*e*Pn	**Pn**	**23 09 14.3**	**+1.0**
SCRK	**Sand Creek**	**3.44**	**74**	*e*Pn	**Pn**	**23 09 13.9**	**+0.3**
BRLK	**Bradley Lake**	**3.48**	**175**	*e*Pn	**Pn**	**23 09 15.9**	**+1.9**
PRP	**Porcupine Dome**	**3.48**	**46**	P	**Pn**	**23 09 14.1**	**0.0**
CNPM	**China Poot**	**3.71**	**178**	*e*Pn	**Pn**	**23 09 18.9**	**+1.8**
EYAK	**Cordova Ski Ar**	**3.82**	**132**	*e*Pn	**Pn**	**23 09 20.4**	**+1.8**
BMRM	**Bremner River**	**3.95**	**122**	*e*Pn	**Pn**	**23 09 21.4**	**+0.9**
GLB	**Gilahina Butte**	**4.01**	**113**	P	**Pn**	**23 09 22.6**	**+1.3**
SGAM	**Sherman Glacie**	**4.04**	**130**	P	**Pn**	**23 09 22.3**	**+0.6**
COLD	**Coldfoot**	**4.07**	**7**	*e*Pn	**Pn**	**23 09 24.4**	**+2.4**
VRDI	**Verde Repeater**	**4.26**	**114**	P	**Pn**	**23 09 25.6**	**+0.6**
RAGM	**Ragged Mountai**	**4.31**	**128**	*e*Pn	**Pn**	**23 09 26.0**	**+0.6**
BCA3	**Beaver Creek A**	**4.41**	**88**	P	**Pn**	**23 09 27.6**	**+0.8**
EGAK	**Eagle**	**4.82**	**66**	*e*Pn	**Pn**	**23 09 34.1**	**+1.8**
BALM	**Baldy**	**4.82**	**113**	*e*Pn	**Pn**	**23 09 33.3**	**+0.8**
KIAG	**Kiagna River**	**4.88**	**114**	P	**Pn**	**23 09 33.6**	**+0.3**
BARN	**Barnard Glacie**	**5.10**	**111**	P	**Pn**	**23 09 37.7**	**+1.3**
BM3	**Burnt Mountain**	**5.11**	**31**	P	**Pn**	**23 09 36.0**	**-0.4**
KULT	**Kultieth River**	**5.13**	**122**	P	**Pn**	**23 09 37.3**	**+0.6**
YAH	**Yahtse**	**5.44**	**117**	P	**Pn**	**23 09 41.4**	**+0.3**
DAWY	**Dawson**	**5.47**	**76**	*e*Pn	**Pn**	**23 09 41.6**	**+0.4**
KDAK	**Kodiak Island**	**5.48**	**186**	Pn	**Pn**	**23 09 40.7**	**-0.7**
	2.1nm,0.3s,baz=50,slow=7.0,SNR=15						
KDAK				Sn	**Sn**	**23 10 42.4**	**-1.9**
	baz=130,slow=15,SNR=2.1						
TOLK	**Toolik Lake Re**	**5.50**	**7**	*e*Pn	**Pn**	**23 09 44.1**	**+2.3**
PCA	**Pinnacle**	**6.20**	**115**	*e*Pn	**Pn**	**23 09 52.8**	**+1.4**
BCPM	**Bancas Point**	**6.54**	**115**	P	**Pn**	**23 09 56.8**	**+0.8**
HYT	**Haines Junctio**	**7.01**	**104**	*e*Pn	**Pn**	**23 10 04.6**	**+2.1**
DHAK	**Deception Hill**	**7.64**	**117**	*e*Pn	**Pn**	**23 10 11.9**	**+0.9**
CHGN	**Chignik**	**7.76**	**210**	*e*Pn	Pn	23 10 07.8	-4.9
WHY	**Whitehorse**	**8.24**	**101**	*e*Pn	**Pn**	**23 10 20.2**	**+0.8**
INK	**Inuvik**	**8.96**	**47**	Pn	**Pn**	**23 10 28.8**	**-0.3**
	0.6nm,0.3s,baz=235,slow=14,SNR=5.3						
INK				Lg	Lg	23 13 05.2	
	0.3nm,0.3s,baz=229,slow=11,SNR=2.4						
INK	**Inuvik**	**8.96**	**47**	*e*Pn	**Pn**	**23 10 29.7**	**+0.6**
BESE	**Bessie Mountai**	**9.34**	**112**	*e*Pn	**Pn**	**23 10 33.8**	**-0.6**
JIS	**Juneau Island**	**9.72**	**113**	*e*Pn	**Pn**	**23 10 39.9**	**+0.4**
DLBC	**Dease Lake**	**11.49**	**105**	Pn	**Pn**	**23 11 06.2**	**+2.4**
	baz=192,slow=20,SNR=1.8						
DLBC				Lg	Lg	23 14 29.4	
	baz=4.0,slow=11,SNR=3.1						
YKA	**Yellowknife Ar**	**16.71**	**76**

CCIG	**Comitan**	**2.42**	**350**	*i* P	Pn	23 29 56.0	-2.0
CCIG				*e*S	Sn	23 30 24.5	-2.2
TGIG		**3.18**	**335**	*i* P	Pn	23 30 06.8	-1.6
TGIG				*i* S	Sn	23 30 43.0	-2.4

*ISCJB **09** 23:48:36.6±0.5, 50.°26N×0.°03×18.°77E±0.°03, h0km, Error ellipse: s-maj=4.6km s-min=2.4km az=7.1*
*WAR **09** 23:48:38.4, 50.°24N×18.°89E, h1km, Mw2.5*
*PRU **09** 23:48:38.2±0.0, 50.°25N×18.°82E, h0km*
*VIE **09** 23:48:40.5±1.1, 49.°81N×18.°83E, h0km, mb2.1/2, ml2.2/4, Error ellipse: s-maj=15.1km s-min=8.9km az=155.0 42 km E of Ostrava Suspected Mining induced.*

ISC 09 23:48:37.6±0.8, 50.°21N±0.°04×18.°81E±0.°02, h0km, n23, σ0s63/42, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.14**	**55**	*e*Pg	**Pg**	**23 48 40.4**	**0.0**
CHZP				*e*Sg	**Sg**	**23 48 42.0**	**-0.2**
CHZP	**Chorzow**	**0.14**	**55**	*e*Pg	**Pg**	**23 48 40.4**	**0.0**
CHZP				*e*Sg	**Sg**	**23 48 42.0**	**-0.2**
OKC	**Ostrava-Krasne**	**0.57**	**229**	*e*PG	**Pb**	**23 48 50.1**	**-0.3**
OKC				*e*SG	**Sb**	**23 48 58.1**	**-0.9**
	comp=Z,18nm,0.5s						
OJC	**Ojcow**	**0.64**	**89**	*e*Pg	**Pg**	**23 48 49.5**	**-0.3**
OJC				*e*Sg	**Sg**	**23 48 57.9**	**-0.2**
OJC	**Ojcow**	**0.64**	**89**	*e*Pg	**Pg**	**23 48 49.5**	**-0.3**
OJC				*e*Sg	**Sg**	**23 48 57.9**	**-0.2**
MORC	**Moravsky Berou**	**0.93**	**243**	*e*PG	**Pg**	**23 48 56.1**	**+0.8**
MORC				*e*SG	**Sb**	**23 49 09.4**	**0.0**
LANS	**Liptovska Anna**	**1.14**	**158**	*e*PG	**Pb**	**23 49 00.4**	**+0.1**
LANS				*e*SG	**Sb**	**23 49 16.4**	**+0.7**
NIE	**Niedzica**	**1.25**	**129**	*e*Pg	**Pg**	**23 49 01.8**	**+0.2**
NIE				*e*Sg	**Sb**	**23 49 19.0**	**+0.3**
NIE	**Niedzica**	**1.25**	**129**	*e*Pg	**Pg**	**23 49 01.8**	**+0.2**
NIE				*e*Sg	**Sb**	**23 49 19.0**	**+0.3**
KRLC	**Kraliky**	**1.31**	**265**	*e*PG	**Pg**	**23 49 02.5**	**-0.2**
KRLC				*e*SG	**Sg**	**23 49 19.9**	**+0.2**
	comp=Z,3.4nm,0.4s						
DPC	**Dobruska-Polom**	**1.60**	**276**	*e*PG	**Pn**	**23 49 07.3**	**+0.1**
DPC				*e*SG	**Sg**	**23 49 30.0**	**+0.9**
	comp=Z,22nm,0.7s						
VRAC	**Vranov**	**1.70**	**239**	*e*PN	**Pb**	**23 49 09.7**	**0.0**
VRAC				*e*SG	**Sb**	**23 49 32.1**	**+0.5**
VYHS	**Vyhne**	**1.72**	**179**	*e*PN	**Pn**	**23 49 08.5**	**-0.3**
VYHS				*e*SN	**Sb**	**23 49 32.9**	**+0.7**
VYHS				eLG	Lg	23 49 40.2	
KSP	**Ksiaz**	**1.73**	**293**	*e*Pg	**Pg**	**23 49 10.7**	**0.0**
KSP				*e*Sg	**Sg**	**23 49 33.9**	**+0.8**
KSP	**Ksiaz**	**1.73**	**293**	*e*Pg	**Sg**	**23 49 10.7**	**0.0**
KSP				*e*Sg	**Sg**	**23 49 33.9**	**+0.8**
KRUC	**Moravsky**	**1.94**	**235**	*e*PN	**Pn**	**23 49 11.3**	**-0.6**
KRUC				*e*SG	**Sb**	**23 49 39.7**	**+1.0**
TREC	**Trest**	**2.34**	**248**	*e*SG	**Sg**	**23 49 52.8**	**0.0**
	comp=Z,6.2nm,0.3s						
PVCC	**Panska Ves**	**2.73**	**278**	*e*SG	**Sg**	**23 50 06.5**	**+1.1**
	comp=Z,11nm,0.4s						
CONA	**Conrad Observa**	**2.99**	**221**	Pn	**Pn**	**23 49 26.7**	**+0.3**
	0.3nm,0.3s						
BRG	**Berggiesshubel**	**3.17**	**284**	SG	**Sg**	**23 50 19.4**	**-0.1**
	2.7nm,0.5s						
KHC	**Kasperske Hory**	**3.56**	**254**	*e*PN	**Pn**	**23 49 33.5**	**-0.7**
KHC				*e*PG	**Pg**	**23 49 44.0**	**-1.9**
KHC				*e*SG	**Sg**	**23 50 31.5**	**-0.6**
	comp=Z,6.9nm,0.4s						
MOA	**Molln**	**3.81**	**233**	*i* Pn	**Pn**	**23 49 38.7**	**+1.1**
	0.3nm,0.2s						
MOA				*e*Sg	**Sg**	**23 50 39.0**	**-0.9**
	1.3nm,0.3s						
CLL	**Collm**	**3.85**	**289**	*e*Sg	**Sg**	**23 50 41.0**	**-0.2**

*IDC **10** 00:02:36.0±1.1, 34.°08N×25.°14E, h0km, mb3.8/9, mb1 3.8/13, mb1mx3.6/56, mbtmp3.7/13, ML4.0/4, Error ellipse: s-maj=18.8km s-min=17.5km az=5.0*
*ISCJB **10** 00:02:37.4±1.0, 33.°74N×0.°07×25.°05E±0.°05, h54km±8km, mb3.6/9, Error ellipse: s-maj=11.4km s-min=6.2km az=12.2*
*THE **10** 00:02:38.1, 33.°91N×25.°11E, h0km±4km, ML3.4/5, Error ellipse: s-maj=8.9km s-min=1.7km az=186.0*
*ATH **10** 00:02:38.4, 33.°98N×25.°13E, h25km±4km, ML3.1/2, Error ellipse: s-maj=6.2km s-min=3.3km az=344.0*

ISC 10 00:02:39.8±1.2, 33.°89N±0.°09×25.°18E±0.°05, h38km±2km, n44, σ1s84/57, mb3.6/9, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.17**	**345**	P	**Pn**	**00 02 58.8**	**-0.8**
SIVA	**Sivas**	**1.17**	**345**	P	**Pn**	**00 02 58.8**	**-0.8**
SIVA				S	**Sn**	**00 03 16.8**	**+2.5**
LAST	**Lasithi**	**1.29**	**11**	P	**Pn**	**00 03 01.1**	**-0.3**
LAST				S	**Sn**	**00 03 19.3**	**+1.7**
LAST				AML	AML	00 03 27.7	
	comp=N,1047μm,0.7s						
LAST				AML	AML	00 03 28.1	
	comp=E,918μm,0.6s						
LAST	**Lasithi**	**1.29**	**11**	P	**Pn**	**00 03 01.1**	**-0.3**
LAST				S	**Sn**	**00 03 20.5**	**+2.9**
GVD	**Gavdhos**	**1.31**	**317**	P	**Pn**	**00 03 02.3**	**+0.7**
GVD				S	**Sn**	**00 03 18.0**	**+0.1**
GVD				AML	AML	00 03 30.9	
	comp=N,1549μm,0.5s						
GVD				AML	AML	00 03 31.1	
	comp=E,2128μm,0.4s						
GVD	**Gavdhos**	**1.31**	**317**	P	**Pn**	**00 03 02.2**	**+0.7**
IACM	**Heraklion**	**1.42**	**356**	P	**Pn**	**00 03 03.8**	**+0.8**
IACM				S	**Sn**	**00 03 23.9**	**+3.5**
IDI	**Anoyia**	**1.42**	**350**	Pn	**Pn**	**00 03 02.5**	**-0.6**
	comp=E,31nm,0.3s,baz=172,slow=16,SNR=171						
IDI				Sn	**Sn**	**00 03 19.2**	**-1.3**
	comp=E,45nm,0.3s,baz=0.2,slow=21,SNR=7.7						
IDI				LR	LR	00 03 47.4	
	comp=E,139nm,18.3s,baz=102,slow=58						
IDI	**Anoyia**	**1.42**	**350**	P	**Pn**	**00 03 01.6**	**-1.5**
NPS	**Neapolis**	**1.42**	**14**	P	**Pn**	**00 03 03.5**	**+0.4**
NPS	**Neapolis**	**1.42**	**14**	P	**Pn**	**00 03 03.3**	**+0.2**
NPS				S	**Sn**	**00 03 22.9**	**+2.4**
ZKR	**Zakros**	**1.50**	**35**	P	**Pn**	**00 03 05.5**	**+1.4**
STIA	**Sitia Lasithi**	**1.51**	**30**	P	**Pn**	**00 03 06.5**	**+2.2**
STIA				S	**Sn**	**00 03 27.7**	**+4.9**
VAM	**Vamos**	**1.72**	**332**	P	**Pn**	**00 03 07.4**	**+0.2**
VAM	**Vamos**	**1.72**	**332**	P	**Pn**	**00 03 07.7**	**+0.5**
VAM				S	**Sn**	**00 03 29.0**	**+1.1**
IMMV	**Iera Moni Meta**	**1.85**	**328**	P	**Pn**	**00 03 09.6**	**+0.6**
IMMV	**Iera Moni Meta**	**1.85**	**328**	P	**Pn**	**00 03 09.5**	**+0.4**
KARP	**Karpathos**	**2.33**	**44**	P	**Pn**	**00 03 17.9**	**+2.3**
KARP				S	**Sn**	**00 03 45.5**	**+2.6**
ANKY	**Antikythira Is**	**2.51**	**323**	P	**Pn**	**00 03 18.6**	**+0.6**
ANKY	**Antikythira Is**	**2.51**	**323**	P	**Pn**	**00 03 18.9**	**+0.9**
THR5	**Thira Island,**	**2.53**	**3**	P	**Pn**	**00 03 17.9**	**-0.4**
THR2	**Thira island,**	**2.56**	**5**	P	**Pn**	**00 03 18.8**	**0.0**
IOSP	**Ios island**	**2.83**	**2**	P	**Pn**	**00 03 21.5**	**-1.0**
MHLO	**Agia Marina, M**	**2.87**	**347**	P	**Pn**	**00 03 22.0**	**-1.0**
KTHR	**Kythira**	**2.96**	**324**	P	**Pn**	**00 03 25.4**	**+1.1**
KTHR				S	**Sn**	**00 04 01.1**	**+2.5**
DID	**Didima**	**3.94**	**337**	P	**Pn**	**00 03 36.9**	**-0.9**
EVGI	**Lefkada island**	**5.97**	**324**	P	**Pn**	**00 04 06.5**	**+0.9**
MMAI	**Mount Meron Ar**	**8.59**	**93**	Pn	**Pn**	**00 04 42.8**	**+1.2**
	comp=E,2.1nm,0.3s,baz=274,slow=11,SNR=14						
MMAI				Sn	**Sn**	**00 06 13.9**	**-3.4**
	comp=E,2.8nm,0.3s,baz=275,slow=18,SNR=8.9						
BRTR	**Keskin Array B**	**8.94**	**47**	Pn	**Pn**	**00 04 47.1**	**+0.6**
	comp=E,0.1nm,0.3s,baz=218,slow=14,SNR=2.5						
VAE	**Valguarnera**	**9.46**	**295**	Sn	**Sn**	**00 06 37.5**	**-1.1**
	comp=E,0.5nm,0.3s,baz=12,slow=9.3,SNR=2.5						
ASF	**Jabal al Asfar**	**9.99**	**97**	Pn	**Pn**	**00 05 01.8**	**+1.0**
	comp=E,0.1nm,0.3s,baz=266,slow=13,SNR=3.2						
ASF				Sn	**Sn**	**00 06 47.0**	**-4.6**
	comp=E,0.3nm,0.3s,baz=0.0,slow=12,SNR=3.8						
STON	**Ston**	**10.71**	**329**	*e*Pn	**Pn**	**00 05 06.7**	**-3.9**
UDBI	**Udbina**	**12.88**	**328**	*e*Pn	**Pn**	**00 05 37.8**	**-2.4**
AKASG	**Malin Array Be**	**17.06**	**9**	Pn	**Pn**	**00 06 34.4**	**-0.9**
	comp=E,1.1nm,0.3s,baz=201,slow=11,SNR=3.8						
GERES	**GERESS Array B**	**17.22**	**334**	P	**Pn**	**00 06 36.0**	**-1.3**
	comp=E,0.3nm,0.3s,baz=149,slow=12,SNR=15						
ESDC	**Sonseca Array**	**23.98**	**292**	P	**P**	**00 07 51.9**	**+1.0**
	comp=E,0.3nm,0.6s,baz=84,slow=9.2,SNR=3.9						
HFS	**Hagfors**	**27.32**	**347**	P	**P**	**00 08 20.6**	**-0.1**
	comp=E,1.7nm,0.6s,baz=153,slow=9.7,SNR=3.4						
FINES	**FINESS Array B**	**27.58**	**1**	P	**P**	**00 08 21.3**	**-1.7**
	comp=E,0.6nm,0.4s,baz=169,slow=12,SNR=6.7						
NOA	**NORSAR Array B**	**28.63**	**346**	P	**P**	**00 08 31.5**	**-1.0**
	comp=E,0.5nm,0.6s,baz=149,slow=7.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**29.70**	**232**	P	**P**	**00 08 44.9**	**+2.5**
	comp=E,0.3nm,0.5s,baz=39,slow=9.3,SNR=20						
ARCES	**ARCESS Array B**	**35.70**	**0**	P	**P**	**00 09 32.5**	**-1.8**
	comp=E,5.3nm,1.1s,baz=171,slow=8.6,SNR=5.2						
KURBB	**Kurchatov Arra**	**41.92**	**50**	P	**P**	**00 10 27.9**	**+1.4**
	comp=E,0.4nm,0.6s,baz=273,slow=8.8,SNR=3.8						
MKAR	**Makanchi Array**	**44.47**	**55**	P	**P**	**00 10 48.3**	**+1.0**
	comp=E,0.8nm,0.5s,baz=273,slow=7.3,SNR=14						
ZALV	**Zalesovo Beam**	**45.88**	**45**	P	**P**	**00 10 58.9**	**+0.6**
	comp=E,0.8nm,0.5s,baz=273,slow=10,SNR=3.4						

*IDC **10** 00:15:37.8±1.3, 10.°26N×86.°09W, h0km, mb3.7/6, mb1 4.1/7, mb1mx3.7/39, mbtmp3.8/7, ML4.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/28, Error ellipse: s-maj=30.1km s-min=11.0km az=16.0*
*ISCJB **10** 00:15:40.8±0.9, 10.°2N±0.°1×86.°0W±0.°1, h33km, mb3.5/6, Error ellipse: s-maj=25.1km s-min=12.4km az=43.0*

ISC 10 00:15:42.6±1.2, 10.°4N±0.°2×85.°9W±0.°1, h33km, n8, σ0s82/8, mb3.6/6, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**0.91**	**94**	Pg	**Pb**	**00 15 59.4**	**-0.6**
	27nm,0.3s,baz=180,slow=20,SNR=108						
JTS				Lg	Lg	00 16 14.4	
	80nm,0.3s,baz=336,slow=19,SNR=12						
ATAH	**Atahualpa**	**18.90**	**156**	P	**P**	**00 20 00.8**	**-0.1**
	0.4nm,0.3s,baz=356,slow=14,SNR=3.3						
ATAH				LR	LR	00 26 02.4	
	comp=Z,70nm,19.9s,baz=354,slow=33						
TXAR	**Lajitas Array**	**25.17**	**321**	P	**P**	**00 21 05.2**	**0.0**
	0.7nm,0.6s,baz=136,slow=10,SNR=9.6						
TKL	**Tuckaleechee C**	**25.27**	**4**	P	**P**	**00 21 07.0**	**+1.1**
	3.3nm,0.8s,baz=164,slow=7.4,SNR=3.7						
PTGA	**Pitinga**	**28.03**	**112**	P	**P**	**00 21 32.2**	**+1.2**
	1.6nm,0.8s,baz=310,slow=9.5,SNR=4.9						
PDAR	**Pinedale Array**	**38.34**	**332**	P	**P**	**00 23 00.3**	**-0.5**
	0.4nm,0.7s,baz=149,slow=9.3,SNR=3.3						
NVAR	**Mina Array Bea**	**40.29**	**319**	P	**P**	**00 23 16.9**	**-0.2**
	1.3nm,0.9s,baz=133,slow=7.4,SNR=4.8						
ILAR	**Eielson Array**	**68.56**	**336**	P	**P**	**00 26 41.3**	**-0.5**
	0.2nm,0.5s,baz=149,slow=4.2,SNR=2.8						

*ISCJB **10** 00:24:28.8±0.8, 21.°24S±0.°06×67.°4W±0.°1, h187km±11km, mb3.6/2, Error ellipse: s-maj=16.0km s-min=9.4km az=5.9*
*IDC **10** 00:24:28.3±1.0, 21.°42S×66.°98W, h166km±12km, mb3.5/2, mb1 3.5/5, mb1mx3.2/24, mbtmp3.8/5, Error ellipse: s-maj=24.7km s-min=10.9km az=120.0*
*GUC **10** 00:24:30.6±0.7, 21.°22S×67.°80W, h210km±9km, ML3.0*

ISC 10 00:24:29.7±1.0, 21.°19S±0.°07×67.°37W±0.°10, h179km±10km, n16, σ2s04/28, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.85**	**250**	*e*P	**Pn**	**00 25 06.2**	**+1.0**
PB09				*i* S	**Sn**	**00 25 33.4**	**+0.6**
PB09				IAML		00 25 35.2	
	comp=N,53nm,0.6s						
PB08	**IPOC Station P**	**1.97**	**302**	*e*P	**Pn**	**00 25 08.3**	**+1.6**
PB08				*i* S	**Sn**	**00 25 36.9**	**+1.5**
PB08				IAML		00 25 38.7	
	comp=N,102nm,0.2s						
PB01	**IPOC Station P**	**1.98**	**274**	*e*P	**Pn**	**00 25 06.9**	**+0.3**
PB01				*i* S	**Sn**	**00 25 34.7**	**-0.5**
PB01				IAML		00 25 37.6	
	comp=E,167nm,0.2s						
LVC	**Limon Verde**	**2.01**	**225**	P	**Pn**	**00 25 07.8**	**+0.6**
	comp=E,2.4nm,0.3s,baz=52,slow=8.6,SNR=50						
LVC				S	**Sn**	**00 25 35.9**	**-0.4**
	comp=E,6.5nm,0.3s,baz=203,slow=20,SNR=32						
PB02	**IPOC Station P**	**2.36**	**266**	*e*P	**Pn**	**00 25 11.2**	**+0.4**
PB02				*i* S	**Sn**	**00 25 41.5**	**-1.3**
PB03	**IPOC Station P**	**2.38**	**248**	*e*P	**Pn**	**00 25 11.2**	**+0.2**
PB03				*i* S	**Sn**	**00 25 41.7**	**-1.5**
PB07	**IPOC Station P**	**2.41**	**257**	*e*P	**Pn**	**00 25 11.5**	**+0.1**
PB07				*i* S	**Sn**	**00 25 42.3**	**-1.5**
PB06	**IPOC Station P**	**2.54**	**233**	*e*P	**Pn**	**00 25 13.1**	**+0.1**
PB06				*i* S	**Sn**	**00 25 46.0**	**-0.7**
MNMC	**Minye Minye**	**2.92**	**314**	*e*P	**Pn**	**00 25 18.9**	**+1.2**
MNMC				*i* S	**Sn**	**00 25 55.4**	**+0.4**
PSGC	**Pisagua**	**3.03**	**301**	*e*P	**Pn**	**00 25 18.3**	**-0.4**
PSGC				*i* S	**Sn**	**00 25 54.9**	**-2.1**
LPAZ	**La Paz**	**4.92**	**351**	P	**Pn**	**00 25 45.4**	**+2.0**
	comp=E,1.9nm,0.3s,baz=163,slow=6.7,SNR=49						
LPAZ				S	**Sn**	**00 26 46.8**	**+5.8**
	baz=46,slow=18,SNR=1.3						
SIV	**San Ignacio**	**7.89**	**50**	P	**Pn**	**00 26 19.5**	**-2.2**
	comp=E,1.2nm,0.3s,baz=242,slow=11,SNR=24						
SIV				S	**Sn**	**00 27 44.5**	**-5.9**
	comp=E,0.1nm,0.3s,baz=225,slow=10,SNR=5.4						
TORD	**Torodi Ar. Bea**	**75.90**	**70**	P	**P**	**00 35 55.5**	**-1.5**
	comp=E,0.6nm,0.4s,baz=251,slow=5.1,SNR=14						
YKA	**Yellowknife Ar**	**91.38**	**340**	P	**P**	**00 37 15.7**	**+1.0**
	comp=E,0.3nm,0.5s,baz=130,slow=4.7,SNR=3.4						
WRA	**Warramunga Arr**	**133.94**	**209**	PKP	**PKPdf**	**00 43 26.9**	**+0.6**
	comp=E,0.1nm,0.4s,baz=150,slow=1.9,SNR=3.0						
MKAR	**Makanchi Array**	**144.53**	**37**	PKP	**PKPdf**	**00 43 44.6**	**-0.2**
	comp=E,0.7nm,0.4s,baz=320,slow=2.9,SNR=12						

MEX 10 00:32:37.6±0.4, 13.°89N×92.°44W, h23km±14km, MD3.7, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.03**	**10**	*e*P	Pn	00 32 53.9	-2.7
THIG				*e*S	Sb	00 33 06.1	-3.8
PCIG		**1.96**	**338**	*e*P	Pn	00 33 06.8	-2.6
PCIG				*e*S	Sn	00 33 30.3	-3.0
CCIG	**Comitan**	**2.40**	**7**	*e*P	Pn	00 33 13.0	-2.7
CCIG				*i* S	Sn	00 33 41.7	-2.8
TGIG		**2.95**	**347**	*i* P	Pn	00 33 20.9	-2.2
TGIG				*i* S	Sn	00 33 54.9	-3.0

MEX 10 00:49:24.9±0.5, 15.°66N×97.°01W, h5km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.88**	**83**	*e*P	Pg	00 49 39.9	-1.9
HUIG				*i* S	Sg	00 49 51.7	-1.5
PNIG	**Pinotepa**	**1.29**	**304**	*e*P	Pn	00 49 45.4	-4.3
PNIG				*e*S	Sg	00 50 02.6	-4.0
VHO	**Vista Hermosa**	**1.43**	**11**	*e*P	Pn	00 49 47.8	-4.0
VHO				*e*S	Sb	00 50 07.0	-3.8
TLIG	**Tlapa**	**2.41**	**322**	*e*P	Pn	00 50 02.4	-2.7
TLIG				*i* S	Sn	00 50 31.4	-3.7
CMIG	**Matias Romero**	**2.49**	**55**	*e*P	Pn	00 50 03.2	-2.9
CMIG				*i* S	Sn	00 50 32.4	-4.6
TPIG	**Tehuac#an**	**2.77**	**353**	*i* P	Pb	00 50 14.8	-0.2
TPIG				*i* S	Sb	00 50 48.4	-0.9
PCIG		**3.66**	**89**	*e*P	Pn	00 50 19.1	-3.0
PCIG				*i* S	Sn	00 51 02.9	-2.8

*IDC **10** 01:14:08.4±1.9, 0.°72N×97.°35E, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.5/45, mbtmp3.7/6, ML2.9/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/33, Error ellipse: s-maj=54.8km s-min=22.8km az=62.0*
*ISCJB **10** 01:14:11.5±1.0, 0.°81N±0.°09×97.°3E±0.°1, h29km, MS3.6/1, Error ellipse: s-maj=20.3km s-min=6.6km az=145.7*
*DJA **10** 01:14:13.6±1.4, 1.°N±8.°×97.°E±.°, h27km±24km, MS3.7/7, MLv3.7/7*

ISC 10 01:14:12.1±1.2, 0.°68N±0.°08×97.°3E±0.°1, h29km, n18, σ1s27/14, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**1.22**	**127**	P	**Pb**	**01 14 34.6**	**0.0**
PBSI				S	**Sb**	**01 14 50.6**	**+0.7**
SNSI	**Sinabang, Aceh**	**1.97**	**330**	P	**Pn**	**01 14 42.4**	**-1.2**
MNSI	**Mandailing Nat**	**2.28**	**87**	P	**Pn**	**01 14 47.7**	**-0.1**
TPTI		**2.56**	**357**	P	**Pn**	**01 14 51.3**	**-0.4**
PSI	**Prapat**	**2.65**	**38**	Pn	**Pn**	**01 14 51.5**	**-1.5**
	2.6nm,0.3s,baz=180,slow=9.9,SNR=6.9						
PSI				LR	LR	01 15 39.1	
	comp=Z,76nm,22.0s,baz=270,slow=36						
KCSI	**Kotacane, Aceh**	**2.86**	**9**	P	**Pn**	**01 14 54.1**	**-1.7**
KCSI				S	**Sb**	**01 15 39.4**	**+2.4**
MLSI	**Meulaboh, Aceh**	**3.67**	**346**	P	**Pn**	**01 15 07.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**17.74**	**5**	P	**Pn**	**01 18 15.3**	**-1.8**
	baz=194,slow=11,SNR=5.4						
H08S2	**Diego Garcia H**	**26.09**	**251**	T	T	01 47 00.7	
	baz=72,slow=76,SNR=342						
H08S3	**Diego Garcia H**	**26.09**	**251**	T	T	01 46 54.8	
	baz=72,slow=76,SNR=338						
H08S1	**Diego Garcia H**	**26.11**	**251**	T	T	01 46 59.5	
	baz=72,slow=76,SNR=435						
H01W3	**Cape Leeuwin H**	**38.73**	**158**	T	T	02 02 56.3	
	baz=333,slow=75,SNR=9.3						
H01W2	**Cape Leeuwin H**	**38.74**	**158**	T	T	02 02 56.2	
	baz=333,slow=75,SNR=10						
H01W1	**Cape Leeuwin H**	**38.75**	**158**	T	T	02 02 52.4	
	baz=333,slow=75,SNR=10						
WRA	**Warramunga Arr**	**41.67**	**122**	P	**P**	**01 21 58.6**	**+0.1**
	0.4nm,0.5s,baz=305,slow=8.6,SNR=3.5						
ASAR	**Alice Springs**	**43.00**	**127**	P	**P**	**01 22 09.7**	**+0.4**
	0.3nm,0.6s,baz=294,slow=8.5,SNR=5.3						
MKAR	**Makanchi Array**	**47.77**	**346**	P	**P**	**01 22 47.4**	**+0.7**
	0.8nm,0.6s,baz=160,slow=8.9,SNR=11						
ZALV	**Zalesovo Beam**	**54.08**	**351**	P	**P**	**01 23 34.4**	**+0.3**
	1.0nm,0.5s,baz=171,slow=10,SNR=5.2						
ZALV				LR	LR	01 48 40.6	
	comp=Z,48nm,18.0s,baz=77,slow=38						

*IDC **10** 01:18:51.0±0.9, 9.°51N×127.°38E, h0km, mb3.9/9, mb1 4.1/11, mb1mx3.8/42, mbtmp4.0/11, ML4.6/2, MS3.1/2, Ms1 3.2/2, ms1mx2.6/37, Error ellipse: s-maj=42.8km s-min=16.0km az=86.0*
*NEIC **10** 01:18:52.6±0.5, 9.°53N×127.°27E, h10km, mb4.4/4, Error ellipse: s-maj=21.9km s-min=8.9km az=85.0*
*MAN **10** 01:18:54.3, 9.°32N×126.°81E, h6km, mb5.1, ML4.1, MS4.2*

ISC 10 01:18:53.5±1.9, 9.°25N±0.°06×126.°90E±0.°07, h14km±11km, n33, σ1s71/38, mb4.2/12, 3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.19**	**207**	*i* P	**Pg**	**01 19 17.7**	**+1.2**
BIPH				*i* S	**Sb**	**01 19 24.9**	**-6.1**
BUTP	**Butuan**	**1.29**	**258**	*e*P	**Pn**	**01 19 16.2**	**-1.0**
BUTP				*e*S	**Sn**	**01 19 34.6**	**+0.3**
MSLP	**Maasin**	**2.19**	**294**	*e*P	**Pn**	**01 19 30.5**	**+0.9**
BUKP	**Musuan**	**2.27**	**233**	*e*P	**Pn**	**01 19 32.6**	**-1.8**
BUKP				*e*S	**Sb**	**01 20 03.1**	**+0.8**
CGP	**Cagayan de Oro**	**2.32**	**250**	*e*P	**Pn**	**01 19 32.8**	**+1.5**
CGP				*e*S	**Sb**	**01 20 01.6**	**-2.1**
DAV	**Davao City (W)**	**2.53**	**211**	Pn	**Pg**	**01 19 41.7**	**-0.4**
	58nm,0.3s,baz=67,slow=7.7,SNR=2.5						
DAV				Sn	**Sg**	**01 20 14.6**	**-0.3**
	baz=258,slow=23,SNR=6.1						
DAV	**Davao City (W)**	**2.53**	**211**	*e*Pn	**Pg**	**01 19 41.7**	**-0.4**
DAV				*e*Sn	**Sg**	**01 20 15.5**	**+0.6**
BESP	**Borongan**	**2.74**	**329**	*e*P	**Pn**	**01 19 37.9**	**+0.8**
DDMP	**Don Marcelino,**	**3.34**	**201**	*e*P	**Pb**	**01 19 51.7**	**-0.9**
PAGZ	**Pagadian**	**3.75**	**248**	*e*P	**Pn**	**01 19 52.5**	**+1.5**
PAGZ				*e*S	**Sn**	**01 20 37.6**	**+2.7**
RCP	**Roxas**	**4.69**	**300**	*i* P	**Pn**	**01 20 06.0**	**+2.2**
BATI	**Baumata**	**19.60**	**190**	P	**Pn**	**01 23 25.7**	**+2.8**
	2.7nm,0.3s,baz=156,slow=6.7,SNR=4.1						
JCJ	**Chichijima**	**22.89**	**37**	LR	LR	01 31 32.5	
	comp=Z,47nm,21.8s,baz=330,slow=34						
FITZ	**Fitzroy Crossi**	**27.20**	**183**	P	**P**	**01 24 38.1**	**+1.1**
	2.2nm,0.8s,baz=5.0,slow=12,SNR=4.9						
FITZ	**Fitzroy Crossi**	**27.20**	**183**	*e*P	**P**	**01 24 38.1**	**+1.1**
	11nm,1.4s						
CMAR	**Chiang Mai Arr**	**28.61**	**292**	LR	LR	01 35 35.2	
	comp=Z,40nm,18.7s,baz=194,slow=35						
WRA	**Warramunga Arr**	**29.32**	**166**	P	**P**	**01 25 02.0**	**+0.7**
	0.4nm,0.8s,baz=349,slow=9.4,SNR=3.2						
ASAR	**Alice Springs**	**33.43**	**168**	P	**P**	**01 25 33.2**	**+1.1**
	0.2nm,0.4s,baz=348,slow=7.4,SNR=4.8						
NWAO	**Narrogin (SRO)**	**42.94**	**192**	P	**P**	**01 26 54.1**	**+2.0**
	3.7nm,0.7s,baz=328,slow=15,SNR=2.4						
MK32	**Makanchi Array**	**53.

WTVZ	**West Tongariro**	**1.25**	**295**	P	Pn	01 20 38.0	+1.2	
PRRZ	**Plateau Road**	**1.26**	**336**	P	Pn	01 20 37.4	+0.6	
RATZ	**Rangitukua**	**1.27**	**308**	P	Pn	01 20 37.9	+1.0	
WHTZ	**Whakaora**	**1.30**	**319**	P	Pn	01 20 38.3	+0.9	
WPRZ	**Whakapapatarin**	**1.33**	**328**	P	Pn	01 20 38.3	+0.6	
TKGZ	**Te Karaka**	**1.36**	**27**	P	Pn	01 20 38.1	0.0	
MWZ	**Matawai**	**1.37**	**16**	P	Pn	01 20 38.1	-0.1	
PKVZ	**Pokaka**	**1.37**	**285**	P	Pn	01 20 39.4	+1.1	
RRRZ	**Republican Roa**	**1.38**	**342**	P	Pn	01 20 38.9	+0.6	
TWVZ	**Taurewa**	**1.38**	**294**	P	Pn	01 20 39.2	+0.7	
URZ	**Urewera**	**1.39**	**2**	P	Pn	01 20 38.6	+0.1	
WATZ	**Wairara**	**1.39**	**312**	P	Pn	01 20 39.1	+0.5	
HRRZ	**Handcock Road**	**1.39**	**334**	P	Pn	01 20 39.6	+0.9	
CPWZ	**Castlepoint**	**1.42**	**207**	P	Pn	01 20 38.9	0.0	
CNGZ	**Carnagh Statio**	**1.47**	**38**	P	Pn	01 20 40.5	+0.9	
TARZ	**Mount Tarawera**	**1.48**	**343**	P	Pn	01 20 40.5	+0.7	
HSRZ	**Hossack Road**	**1.48**	**335**	P	Pn	01 20 40.8	+1.0	
KUTZ	**Kaahu Road**	**1.50**	**320**	P	Pn	01 20 40.8	+0.7	
MRZ	**Mangatainoka R**	**1.52**	**228**	P	Pn	01 20 40.2	0.0	
EDRZ	**Edgecumbe**	**1.56**	**351**	P	Pn	01 20 41.7	+0.7	
WAZ	**Wanganui**	**1.60**	**266**	P	Pn	01 20 43.3	+1.9	
OMRZ	**Omania**	**1.63**	**341**	P	Pn	01 20 42.1	+0.2	
TWGZ	**Tauwhareparae**	**1.64**	**26**	P	Pn	01 20 42.2	+0.2	
TWGZ				P	Pn	01 20 42.2	+0.2	
TMWZ	**Te Maipa**	**1.70**	**211**	P	Pn	01 20 42.3	-0.6	
HOWZ	**Holdsworth Sta**	**1.71**	**223**	P	Pn	01 20 42.5	-0.5	
RUGZ	**Raukumara Rang**	**1.75**	**16**	P	Pn	01 20 43.6	0.0	
TLZ	**Tolley Road**	**1.77**	**318**	P	Pn	01 20 44.3	+0.5	
PUZ	**Puketiti**	**1.83**	**31**	P	Pn	01 20 44.2	-0.5	
OPRZ	**Ohinepanea**	**1.84**	**348**	P	Pn	01 20 45.5	+0.8	
OGWZ	**Otaki Gorge**	**1.85**	**230**	P	Pn	01 20 44.8	-0.1	
VRZ	**Vera Road**	**1.85**	**286**	P	Pn	01 20 46.0	+1.1	
MTW	**Mount Morrison**	**1.92**	**318**	P	Pn	01 20 44.6	-1.1	
PKGZ	**Pakihiroa**	**1.93**	**25**	P	Pn	01 20 44.7	-1.4	
HAZ	**Te Kaha**	**1.98**	**17**	P	Pn	01 20 46.2	-0.3	
TRWZ	**Traveller**	**2.03**	**210**	P	Pn	01 20 46.0	-1.4	
KIW	**Kapiti Island**	**2.04**	**233**	P	Pn	01 20 46.4	-1.0	
HIZ	**Hauiti**	**2.05**	**303**	P	Pn	01 20 47.9	+0.3	
WMGZ	**Waiomatatini S**	**2.12**	**31**	P	Pn	01 20 48.0	-0.5	
PAWZ	**Paruwai Farm**	**2.13**	**215**	P	Pn	01 20 47.7	-1.0	
MSWZ	**Moikau Station**	**2.24**	**217**	P	Pn	01 20 48.5	-1.6	
PLWZ	**Palliser**	**2.36**	**215**	P	Pn	01 20 50.1	-1.7	
TCW	**Tory Channel**	**2.63**	**233**	P	Pn	01 20 54.6	-0.9	
DUWZ	**D'Urville Isla**	**2.66**	**243**	P	Pn	01 20 55.7	-0.3	
MKAZ	**Moumakai**	**2.95**	**329**	P	Pn	01 21 01.0	+1.1	
BSWZ	**Blackbirch Sta**	**3.18**	**229**	P	Pn	01 21 02.0	-1.0	
AWAZ	**Awhitu Peninsu**	**3.20**	**323**	P	Pn	01 21 04.7	+1.3	
MBAZ	**Motutapu North**	**3.34**	**329**	P	Pn	01 21 06.7	+1.4	
RVAZ	**Riverhead Bore**	**3.47**	**325**	P	Pn	01 21 08.5	+1.5	
QRZ	**Quartz Range**	**3.66**	**250**	P	Pn	01 21 08.7	-0.9	
THZ	**Tophouse**	**3.79**	**235**	P	Pn	01 21 10.2	-1.4	
KHZ	**Kahutara**	**3.83**	**223**	P	Pn	01 21 10.5	-1.5	
WCZ	**Waipu Caves**	**4.28**	**329**	P	Pn	01 21 19.6	+1.4	
OKCZ	**Okains Bay**	**5.05**	**215**	P	Pn	01 21 26.4	-2.3	
MQZ	**McQueen's Vall**	**5.22**	**218**	P	Pn	01 21 28.4	-2.6	
AKCZ	**Akaroa Harbour**	**5.23**	**215**	P	Pn	01 21 28.7	-2.5	
CTZ	**Chatham Island**	**6.25**	**133**	P	Pn	01 21 45.7	+0.6	

IDC 10 01:30:17.2±1.2, 15°24N×45°01W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.6/33, mbtmp3.9/5, ML3.8/1, MS3.0/5, Ms1 3.0/5, ms1mx2.8/32, Error ellipse: s-maj=44.2km s-min=25.2km az=138.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**12.56**	**217**	Pn	Pn	01 33 17.5	+0.1
	0.6nm,0.3s,baz=23,slow=16,SNR=6.3						
MDP				Sn	Sn	01 35 26.7	-11
	0.4nm,0.3s,baz=288,slow=23,SNR=5.6						
MDP				LR	LR	01 37 20.8	
	comp=Z,53nm,18.1s,baz=67,slow=34						
SJG	**San Juan**	**20.45**	**281**	LR	LR	01 40 45.2	
	comp=Z,38nm,20.1s,baz=89,slow=31						
PTGA	**Pitinga**	**21.69**	**224**	P	P	01 35 10.0	+0.1
	3.6nm,0.9s,baz=43,slow=12,SNR=5.3						
PTGA				LR	LR	01 42 34.6	
	comp=Z,30nm,19.0s,baz=45,slow=34						
H10N3	**ASCENSION HYDR**	**37.95**	**125**	T	T	02 17 46.2	
	baz=307,slow=75,SNR=6.9						
H10N2	**ASCENSION HYDR**	**37.95**	**125**	T	T	02 17 47.1	
	baz=307,slow=75,SNR=5.9						
H10N1	**ASCENSION HYDR**	**37.97**	**125**	T	T	02 17 49.2	
	baz=307,slow=75,SNR=6.7						
H10S3	**ASCENSION HYDR**	**38.50**	**127**	T	T	02 18 33.3	
	baz=308,slow=75,SNR=6.8						
H10S1	**ASCENSION HYDR**	**38.50**	**127**	T	T	02 18 33.4	
	baz=308,slow=75,SNR=7.2						
H10S2	**ASCENSION HYDR**	**38.52**	**127**	T	T	02 18 31.2	
	baz=308,slow=75,SNR=5.5						
LPAZ	**La Paz**	**38.76**	**217**	P	P	01 37 44.1	-0.2
	1.1nm,0.8s,baz=50,slow=8.8,SNR=4.5						
LPAZ				LR	LR	01 52 33.7	
	comp=Z,23nm,18.3s,baz=24,slow=34						
TORD	**Torodi Ar. Bea**	**45.26**	**86**	P	P	01 38 36.8	-0.1
	0.7nm,0.7s,baz=287,slow=7.8,SNR=7.0						
TXAR	**Lajitas Array**	**55.55**	**295**	LR	LR	02 05 16.9	
	comp=Z,15nm,18.1s,baz=0.0,slow=38						
ILAR	**Eielson Array**	**81.32**	**335**	P	P	01 42 35.4	0.0
	0.9nm,0.8s,baz=85,slow=3.8,SNR=7.8						

*ISCJB **10** 01:46:16.2±1.7, 36°88N±0°04×141°45E±0°07, h15km±13km, mb3.4/3, Error ellipse: s-maj=9.0km s-min=6.0km az=8.9*
*IDC **10** 01:46:16.1±1.6, 36°67N×141°55E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/27, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=35.9km s-min=28.5km az=161.0*
*JMA **10** 01:46:17.4±0.1, 36°90N×141°36E, h32km±1km, M3.4*

ISC 10 01:46:15.9±2.3, 36°86N±0°05×141°39E±0°08, h8km±13km, n20, σ1§09/24, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.53**	**298**	P	**Pb**	**01 46 27.3**	**-0.2**
ONAJ				S	**Sg**	**01 46 34.4**	**+1.2**
JFK	**Kawauchi**	**0.65**	**321**	P	**Pb**	**01 46 29.2**	**-0.3**
JFK				S	**Sg**	**01 46 37.4**	**+0.4**
JFFD	**Fukushimafurud**	**0.70**	**290**	P	**Pb**	**01 46 30.0**	**-0.3**
JFFD				S	**Sg**	**01 46 39.0**	**+0.4**
JHO	**Hitachi**	**0.70**	**250**	P	**Pn**	**01 46 30.6**	**-1.5**
JHO				S	**Sb**	**01 46 40.2**	**+0.1**
JHYU	**Hitachinakayam**	**0.82**	**232**	P	**Pn**	**01 46 32.8**	**-0.9**
JHYU				S	**Sb**	**01 46 43.8**	**+0.2**
JFT	**Otama**	**1.07**	**309**	P	**Pn**	**01 46 36.4**	**-0.7**
JFT				S	**Sb**	**01 46 50.0**	**-0.7**
JMM	**Marumori**	**1.11**	**335**	P	**Pn**	**01 46 36.4**	**-1.3**
JMM				S	**Sb**	**01 46 50.4**	**-1.6**
JYT	**Yasato**	**1.15**	**237**	P	**Pn**	**01 46 37.2**	**-1.0**
JYT				S	**Sb**	**01 46 51.8**	**-1.1**
JSB	**Shiboa**	**1.18**	**276**	P	**Pg**	**01 46 38.8**	**+0.3**
JSB				S	**Sb**	**01 46 54.3**	**+0.3**
MJAR	**Matsushiro Arr**	**2.57**	**264**	Pn	**Pn**	**01 46 59.2**	**+1.3**
	5.5nm,0.3s,baz=86,slow=7.0,SNR=36						
MJAR				Sn	**Sb**	**01 47 32.4**	**-1.7**
	3.2nm,0.3s,baz=78,slow=12,SNR=5.8						
MAT	**Matsushiro**	**2.58**	**264**	P	**Pb**	**01 47 00.3**	**-2.0**
MAT				eS	**Sn**	**01 47 30.4**	**+1.1**
H11N2	**WAKE ISLAND Hy**	**28.08**	**120**	T	T	02 21 34.7	
	baz=313,slow=75,SNR=102						
H11N1	**WAKE ISLAND Hy**	**28.08**	**120**	T	T	02 21 33.6	
	baz=313,slow=75,SNR=152						
H11N3	**WAKE ISLAND Hy**	**28.09**	**120**	T	T	02 21 36.2	
	baz=313,slow=75,SNR=104						
H11S1	**WAKE ISLAND Hy**	**28.78**	**123**	T	T	02 22 25.1	
	baz=315,slow=76,SNR=55						
H11S3	**WAKE ISLAND Hy**	**28.78**	**123**	T	T	02 22 22.6	
	baz=315,slow=76,SNR=40						
H11S2	**WAKE ISLAND Hy**	**28.80**	**123**	T	T	02 22 26.6	
	baz=315,slow=76,SNR=35						
ZALV	**Zalesovo Beam**	**42.02**	**313**	P	P	01 54 12.3	+4.8
	0.6nm,0.5s,baz=82,slow=10,SNR=2.6						
ILAR	**Eielson Array**	**49.66**	**32**	P	**P**	**01 55 08.7**	**+1.1**
	0.2nm,0.6s,baz=265,slow=6.9,SNR=3.6						
WRA	**Warramunga Arr**	**56.88**	**188**	P	**P**	**01 56 01.7**	**+0.5**
	0.2nm,0.5s,baz=5.0,slow=7.2,SNR=3.5						

*IDC **10** 02:10:34.9±1.7, 52°53N×132°37W, h0km, mb3.6/1, mb1 3.6/6, mb1mx3.5/44, mbtmp3.2/6, ML3.3/4, MS2.9/4, Ms1 2.9/4, ms1mx2.6/54, Error ellipse: s-maj=20.8km s-min=6.9km az=59.0*
*ISCJB **10** 02:10:37.5±1.0, 52°8N±0°1×131°9W±0°2, h18km, mb3.5/1, MS3.2/1, Error ellipse: s-maj=27.0km s-min=7.9km az=137.5*

ISC 10 02:10:37.7±1.5, 52°7N±0°2×132°2W±0°2, h18km, n10, σ1§05/8, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H02S1	**DAWSON INLET T**	**0.55**	**343**	Pg	**Pb**	**02 10 48.7**	**0.0**
H02S1				Lg	Lg	02 10 57.4	
H02N1	**VAN INLET T-PH**	**0.60**	**341**	Pg	**Pn**	**02 10 50.1**	**-1.4**
H02N1				Lg	Lg	02 10 59.6	
BBB	**Bella Bella**	**2.56**	**100**	Pn	**Pn**	**02 11 16.8**	**-1.5**
	1.6nm,0.3s,baz=285,slow=10.0,SNR=12						
BBB				Lg	Lg	02 11 59.6	
	14nm,0.3s,baz=40,slow=8.9,SNR=3.7						
BBB				LR	LR	02 12 22.4	
	comp=Z,178nm,18.1s,baz=20,slow=41						
DLBC	**Dease Lake**	**5.90**	**11**	Pn	**Pn**	**02 12 04.6**	**+0.4**
	baz=182,slow=14,SNR=1.9						
DLBC				Lg	Lg	02 13 47.5	
	0.8nm,0.3s,baz=335,slow=19,SNR=3.1						
DLBC				LR	LR	02 14 05.3	
	comp=Z,58nm,18.6s,baz=209,slow=35						
NEW	**Newport**	**10.58**	**109**	LR	LR	02 16 54.7	
	comp=Z,58nm,18.2s,baz=349,slow=36						
ILAR	**Eielson Array**	**14.26**	**334**	Pn	**Pn**	**02 13 58.5**	**0.0**
	0.0nm,0.3s,baz=156,slow=14,SNR=3.1						
NVAR	**Mina Array Bea**	**17.22**	**140**	P	**Pn**	**02 14 37.6**	**+0.2**
	0.1nm,0.3s,baz=328,slow=12,SNR=3.6						
PDAR	**Pinedale Array**	**18.11**	**114**	P	**P**	**02 14 48.8**	**0.0**
	0.1nm,0.3s,baz=295,slow=6.2,SNR=6.8						
RES	**Resolute Bay**	**26.69**	**21**	LR	LR	02 27 21.8	
	comp=Z,70nm,19.9s,baz=349,slow=38						
TXAR	**Lajitas Array**	**31.39**	**127**	P	**P**	**02 16 58.7**	**+1.1**
	0.7nm,0.8s,baz=330,slow=5.2,SNR=6.8						

DJA 10 02:12:12.7±0.8, 1°S±3°×12°0E±°, h11km±6km, M3.6/7, MLv3.6/7, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.65**	**74**	P	Pn	02 12 39.9	-1.8
APSI				S	Sn	02 13 02.1	-0.8
MPSI	**Mapaga**	**1.70**	**355**	P	Pn	02 12 40.6	-1.8
SPSI	**Sidrap Palu**	**2.59**	**186**	P	Pn	02 12 54.9	+0.3
MRSI	**Marisa**	**2.63**	**46**	P	Pn	02 12 55.0	-0.1
MRSI				S	Sn	02 13 28.2	+1.2
MRSI				Sg	Sg	02 13 36.7	-0.5
LUWI	**Luwuk**	**2.73**	**83**	P	Pn	02 12 56.9	+0.4
BNSI	**Bone**	**3.01**	**179**	P	Pn	02 13 01.3	+0.9
BKSI	**Bulukumba**	**3.93**	**179**	P	Pb	02 13 22.2	+0.2

*ISCJB **10** 02:22:08.5±0.5, 34°55N±0°03×140°32E±0°05, h62km±5km, mb3.7/5, Error ellipse: s-maj=6.7km s-min=5.8km az=8.4*
*JMA **10** 02:22:08.7±0.2, 34°57N×140°34E, h60km±2km, M3.3*
*IDC **10** 02:22:10.1±2.0, 34°50N×140°22E, h62km±22km, mb3.4/5, mb1 3.7/6, mb1mx3.4/41, mbtmp3.6/6, ML3.4/1, Error ellipse: s-maj=37.5km s-min=6.5km az=78.0*

ISC 10 02:22:09.4±0.9, 34°56N±0°04×140°33E±0°05, h54km±8km, n26, σ0§70/32, mb3.8/5, 4C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.29**	**31**	⇑P	**Pn**	**02 22 18.6**	**0.0**
BSO4	**Boso 4**	**0.43**	**1**	⇑P	**Pn**	**02 22 20.3**	**+0.1**
BSO4				X		02 22 28.7	
BSO1	**Boso 1**	**0.54**	**79**	⇑P	**Pn**	**02 22 20.8**	**-0.1**
KTR	**Katsuura**	**0.59**	**359**	⇑P	**Pn**	**02 22 21.7**	**-0.3**
KTR				S	**Sn**	**02 22 30.9**	**-0.3**
TATJ	**Tateyama 2**	**0.60**	**323**	⇓P	**Pn**	**02 22 22.5**	**+0.4**
TATJ				S	**Sn**	**02 22 32.8**	**+1.5**
JKUC	**kamogawauchiur**	**0.61**	**350**	P	**Pn**	**02 22 21.9**	**-0.4**
JKUC				S	**Sn**	**02 22 31.6**	**0.0**
JIM2	**Oshima 3**	**0.76**	**283**	⇓P	**Pn**	**02 22 23.9**	**-0.2**
JIM2				S	**Sn**	**02 22 34.4**	**-0.5**
JTHY	**Toshimahigashi**	**0.86**	**268**	P	**Pn**	**02 22 25.8**	**+0.4**
JTHY				S	**Sn**	**02 22 37.6**	**+0.5**
JMKN	**Mikurajimanish**	**0.90**	**223**	⇓P	**Pn**	**02 22 26.3**	**+0.3**
JMKN				eS	**Sn**	**02 22 38.6**	**+0.5**
KTJ3	**Kamata3**	**1.10**	**290**	⇓P	**Pn**	**02 22 28.2**	**-0.4**
KTJ3				S	**Sn**	**02 22 41.5**	**-1.4**
JIZS	**Izushimoda**	**1.21**	**278**	⇓P	**Pn**	**02 22 30.0**	**0.0**
JIZS				S	**Sn**	**02 22 45.3**	**-0.1**
JOD2	**Odawara 2**	**1.24**	**305**	⇓P	**Pn**	**02 22 30.1**	**-0.4**
JOD2				S	**Sn**	**02 22 45.0**	**-1.2**
JHJ	**Hachijo jima 2**	**1.50**	**198**	P	**Pn**	**02 22 34.6**	**+0.6**
	83nm,0.3s,baz=33,slow=8.9,SNR=12						
JHJ				S	**Sn**	**02 22 51.4**	**-1.1**
	157nm,0.3s,baz=178,slow=23,SNR=12						
MJAR	**Matsushiro Arr**	**2.63**	**320**	P	**Pn**	**02 22 49.7**	**+0.2**
	6.7nm,0.3s,baz=155,slow=12,SNR=32						
MJAR				S	**Sn**	**02 23 20.5**	**+0.3**
	10nm,0.3s,baz=221,slow=21,SNR=11						
MAT	**Matsushiro**	**2.63**	**320**	P	**Pn**	**02 22 50.7**	**+1.2**
MAT				S	**Sn**	**02 23 20.6**	**+0.4**
H11N2	**WAKE ISLAND Hy**	**27.76**	**115**	T	T	02 57 40.6	
	baz=310						
H11N1	**WAKE ISLAND Hy**	**27.77**	**115**	T	T	02 57 41.2	
	baz=310,slow=74						
H11N3	**WAKE ISLAND Hy**	**27.78**	**115**	T	T	02 57 42.0	
	baz=310,slow=74						
H11S3	**WAKE ISLAND Hy**	**28.38**	**118**	T	T	02 58 27.0	
	baz=310,slow=76,SNR=9.2						
H11S1	**WAKE ISLAND Hy**	**28.38**	**118**	T	T	02 58 27.3	
	baz=310,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**28.39**	**118**	T	T	02 58 28.5	
	baz=310,slow=76,SNR=7.3						
ILAR	**Eielson Array**	**52.06**	**31**	P	**P**	**02 31 12.6**	**-0.7**
	0.4nm,0.9s,baz=266,slow=6.1,SNR=4.3						
WRA	**Warramunga Arr**	**54.49**	**187**	P	**P**	**02 31 30.9**	**-0.7**
	2.1nm,0.8s,baz=4.6,slow=7.7,SNR=12						
ASAR	**Alice Springs**	**58.22**	**187**	P	**P**	**02 31 57.8**	**-0.4**
	0.6nm,0.8s,baz=20,slow=13,SNR=4.8						
NVAR	**Mina Array Bea**	**77.19**	**52**	P	**P**	**02 33 59.1**	**+1.2**
	0.4nm,0.6s,baz=272,slow=4.2,SNR=3.9						
TXAR	**Lajitas Array**	**92.34**	**52**	P	**P**	**02 35 14.4**	**+0.1**
	0.3nm,0.8s,baz=278,slow=2.6,SNR=2.1						

*NIED **10** 02:22:00, 22°60N×121°20E, h5km, Mw4.0 Best double couple: M0 1.07000×10^15 NP1:φs195.00000°, δ42.00000°, λ-36.00000°. NP2:φs313.00000°, δ67.00000°, λ-126.00000°.*
*IDC **10** 02:22:30.4±0.9, 22°69N×121°41E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/41, mbtmp3.8/8, MS3.1/7, Ms1 3.2/7, ms1mx2.8/49, Error ellipse: s-maj=38.9km s-min=19.4km az=66.0*
*TAP **10** 02:22:31.8, 22°64N×120°87E, h7km, ML4.1, B*
*JMA **10** 02:22:31.0±0.1, 22°57N×121°22E, h0km, M3.9*
*ASIES **10** 02:22:31.8, 22°64N×120°88E, h21km, MW3.6*
*ISCJB **10** 02:22:32.4±0.2, 22°60N±0°01×120°88E±0°02, h3km±2km, mb3.7/7, MS3.2/4, Error ellipse: s-maj=2.5km s-min=2.1km az=28.0*

ISC 10 02:22:31.6±0.8, 22°58N±0°02×121°00E±0°02, h13km±4km, n129, σ1§38/175, mb3.8/8, MS3.3/4, 16C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECL	**Taimali**	**0.04**	**300**	⇑*i*P	**Pb**	**02 22 34.6**	**+0.6**
	baz=114						
ECL				*i* S	**Sg**	**02 22 36.0**	**+0.3**
	baz=114						
TTN	**Taitung**	**0.23**	**38**	⇑P	**Pb**	**02 22 39.0**	**+1.4**
	baz=61						
TTN				S	**Sb**	**02 22 43.6**	**+1.9**
	baz=61						
EAST	**Anshuo**	**0.23**	**216**	⇓*i*P	**Pb**	**02 22 37.4**	**-0.4**
	baz=173						
EAST				S	**Sb**	**02 22 41.0**	**-0.9**
	baz=173						
TAW	**Tawu**	**0.23**	**203**	⇓P	**Pb**	**02 22 37.8**	**+0.1**
	baz=174						
TAW				S	**Sb**	**02 22 41.5**	**-0.4**
	baz=174						
TWGBT	**Beinan**	**0.25**	**18**	⇑P	**Pb**	**02 22 37.8**	**-0.3**
	baz=47						
TWGBT				S	**Sb**	**02 22 41.2**	**-1.3**
	baz=47						
TWG	**Pinlang**	**0.26**	**16**	⇑*i*P	**Pb**	**02 22 37.8**	**-0.3**
	baz=47						
TWG				S	**Sb**	**02 22 41.2**	**-1.3**
	baz=47						
MASBT	**Mashibuluo**	**0.34**	**276**	⇑P	**Pg**	**02 22 36.7**	**-1.8**
	baz=258						
MASBT				*e*S	**Sg**	**02 22 39.6**	**-3.5**
	baz=258						
SSD	**Sandimen**	**0.38**	**297**	⇑*i*P	**Pg**	**02 22 37.1**	**-2.1**
	baz=303						
SSD				*i* S	**Sg**	**02 22 40.1**	**-4.1**
	baz=303						
SCZT	**Fangliau**	**0.40**	**240**	⇑*i*P	**Pg**	**02 22 39.1**	**-0.6**
	baz=225						
SCZT				S	**Sg**	**02 22 43.8**	**-1.3**
	baz=225						
SGLT	**Jiouru**	**0.49**	**288**	⇑*i*P	**Pg**	**02 22 40.4**	**-0.8**
	baz=284						
SGLT				S	**Sg**	**02 22 45.7**	**-2.1**
	baz=284						
TWM1	**Shoushan**	**0.58**	**295**	⇑*i*P	**Pg**	**02 22 42.6**	**-0.4**
	baz=295						
ELDTW	**Lidau**	**0.61**	**2**	P	**Pg**	**02 22 43.2**	**-0.4**
	baz=15						
ELDTW				*e*S	**Sg**	**02 22 50.5**	**-1.3**
	baz=15						
WLCH	**Liuqiu**	**0.61**	**249**	*e*P	**Pn**	**02 22 45.5**	**-0.5**
	baz=231						
HEN	**Hengchun**	**0.61**	**203**	*e*P	**Pn**	**02 22 45.2**	**-0.9**
	baz=189						
CHKT	**Chengkung**	**0.62**	**33**	⇑P	**Pn**	**02 22 45.2**	**-1.0**
	baz=61						
CHKT				S	**Sn**	**02 22 53.9**	**-2.2**
	baz=61						
STYT	**Tauyuan**	**0.63**	**339**	⇓P	**Pg**	**02 22 42.7**	**-1.2**
	baz=355						
STYT				*e*S	**Sg**	**02 22 49.6**	**-2.5**
	baz=355						
TWP	**Hsiaoliuchiu**	**0.63**	**249**	⇑*e*P	**Pn**	**02 22 46.1**	**-0.1**
	baz=231						
SGST	**Jiashian**	**0.63**	**323**	⇓*i*P	**Pg**	**02 22 43.0**	**-0.9**
	baz=335						
SGST				S	**Sg**	**02 22 50.2**	**-2.1**
	baz=335						
KAU	**Kaohsiung**	**0.64**	**270**	*e*P	**Pn**	**02 22 45.7**	**-0.7**
	baz=263						
TWK1	**Hengchun**	**0.65**	**196**	*e*P	**Pn**	**02 22 45.8**	**-0.8**
	baz=172						
TWKBT	**Hengchun**	**0.65**	**195**	⇓P	**Pn**	**02 22 45.9**	**-0.7**
	baz=173						
TWKBT				*e*S	**Sn**	**02 22 55.3**	**-1.5**
	baz=173						
TSEB	**Hengchuen, Pin**	**0.68**	**188**	⇓P	**Pn**	**02 22 46.9**	**0.0**
	baz=180						
FULB	**Fuli**	**0.68**	**24**	⇑*i*P	**Pn**	**02 22 45.7**	**-1.3**
	baz=26						
FULB				*e*S	**Sn**	**02 22 55.8**	**-1.8**
	baz=26						
CHN1	**Nanshi**	**0.74**	**325**	*e*P	**Pg**	**02 22 45.7**	**-0.4**
	baz=333						
CHN1				*e*S	**Sg**	**02 22 55.4**	**-0.5**
	baz=333						
WTP	**Ta-pu**	**0.76**	**332**	⇓P	**Pg**	**02 22 45.6**	**-0.7**
	baz=339						
WTP				*e*S	**Sg**	**02 22 55.9**	**-0.4**
	baz=339						
TPUB	**Ta-pu**	**0.80**	**335**	*e*P	**Pg**	**02 22 46.6**	**-0.5**
	baz=341						
TPUB				S	**Sg**	**02 22 56.9**	**-0.7**
	baz=341						
TWF1	**Yuli**	**0.82**	**20**	⇑*e*P	**Pn**	**02 22 47.1**	**-1.9**
	baz=22						
TWF1				S	**Sb**	**02 22 57.5**	**-1.4**
	baz=22						
TWK	**Hsinying**	**0.83**	**326**	P	**Pb**	**02 22 47.7**	**-0.3**
	baz=332						
TWK				*e*S	**Sg**	**02 22 58.4**	**-0.3**
	baz=332						
TAI1	**Yung-k'ang**	**0.85**	**303**	*e*P	**Pb**	**02 22 47.7**	**-0.5**
	baz=305						
CHN4	**Tsaushan**	**0.86**	**334**	⇓P	**Pb**	**02 22 48.0**	**-0.4**
	baz=341						
CHN4				S	**Sb**	**02 22 59.4**	**-0.5**
	baz=341						
YULB	**Yu-li**	**0.86**	**19**	⇑P	**Pb**	**02 22 47.5**	**-0.9**
	baz=28						
YULB				*e*S	**Sg**	**02 22 58.5**	**-1.1**
	baz=28						
YUS	**Yu-Shan**	**0.91**	**357**	⇓P	**Pg**	**02 22 48.5**	**-0.8**
	baz=6.0						
YUS				*e*S	**Sg**	**02 23 01.3**	**-0.1**
	baz=6.0						
ALS	**Alishan**	**0.95**	**349**	*e*P	**Pb**	**02 22 49.5**	**-0.6**
	baz=3.0						
SCLT	**Jiali**	**0.95**	**309**	*e*P	**Pg**	**02 22 50.2**	**+0.3**
	baz=311						
SCLT				*e*S	**Sb**	**02 23 02.8**	**+0.3**
	baz=311						
EHY	**Hungye**	**0.97**	**18**	*e*P	**Pn**	**02 22 50.2**	**-0.8**
	baz=26						
EHY				*e*S	**Sb**	**02 23 01.6**	**-1.6**
	baz=26						
HGSD	**Ruisui**	**0.99**	**

WCHH	**Zhanghua** baz=350	**1.55**	**345**	*e*P		**Pg**	**02 23 00.5**	**-1.0**
VCHM	**Qimei** baz=293	**1.58**	**294**	⇑P		**Pn**	**02 22 58.1**	**-1.2**
VCHM	baz=293			*e*S		**Sn**	**02 23 16.4**	**-3.2**
WHF	**Hehuan Shan** baz=21	**1.58**	**9**	*e*P		**Pg**	**02 23 01.2**	**-0.9**
WHF	baz=21			*e*S		**Sg**	**02 23 23.1**	**+0.4**
TCU	**Taichung** baz=336	**1.59**	**349**	*e*P		**Pg**	**02 23 01.1**	**-1.1**
TWD	**Chiawan** baz=25	**1.60**	**20**	*e*P		**Pg**	**02 23 00.5**	**-1.9**
PHUB	**P'eng-hu** baz=305	**1.61**	**306**	P		**Pn**	**02 22 58.6**	**-1.2**
PHUB	baz=305			*e*S		**Sn**	**02 23 17.1**	**-3.3**
PNG	**Penghu** baz=306	**1.65**	**307**	*e*P		**Pn**	**02 22 59.2**	**-1.1**
PNG	baz=306			*e*S		**Sn**	**02 23 18.9**	**-2.6**
TDCB	**Techi** baz=5.0	**1.68**	**5**	*e*P		**Pg**	**02 23 02.8**	**-1.1**
TDCB	baz=5.0			*e*S		**Sg**	**02 23 25.3**	**-0.4**
TWT	**Tachien** baz=21	**1.68**	**6**	*e*P		**Pg**	**02 23 03.6**	**-0.3**
TWT	baz=21			*e*S		**Sg**	**02 23 26.4**	**+0.6**
NACB	**Ninganchiao** baz=32	**1.68**	**19**	*e*P		**Pb**	**02 23 01.1**	**-1.4**
NACB	baz=32			*e*S		**Sg**	**02 23 24.4**	**-1.5**
TWQ1	**Liyutan** baz=358	**1.78**	**353**	*e*P		**Pb**	**02 23 04.0**	**-0.1**
TWQ1	baz=358			*e*S		**Sg**	**02 23 28.4**	**-0.5**
NSY	**Sanyi** baz=358	**1.85**	**353**	*e*P		**Pg**	**02 23 06.2**	**-0.8**
NSY	baz=358			*e*S		**Sg**	**02 23 30.3**	**-0.7**
NNSB	**Datong** baz=15	**1.88**	**11**	*e*P		**Pg**	**02 23 06.5**	**-1.2**
NNSB	baz=15			*e*S		**Sg**	**02 23 31.4**	**-0.8**
PTSB	**Yuanli** baz=336	**1.88**	**352**	*e*P		**Pg**	**02 23 06.9**	**-0.9**
PTSB	baz=336			*e*S		**Sb**	**02 23 30.6**	**+1.2**
NNS	**Nan Shan** baz=15	**1.89**	**11**	*e*P		**Pg**	**02 23 06.9**	**-1.0**
NNS	baz=15			*e*S		**Sg**	**02 23 31.7**	**-0.8**
ENA	**Nanau** baz=24	**1.97**	**20**	*e*P		**Pg**	**02 23 07.7**	**-1.7**
NANB	**Nanao** baz=24	**1.97**	**20**	*e*P		**Pb**	**02 23 07.0**	**-0.4**
NSTT	**Nanjuang** baz=345	**2.05**	**0**	*e*P		**Pb**	**02 23 08.8**	**+0.1**
LIOB	**Emei** baz=6.0	**2.06**	**1**	*e*P		**Pb**	**02 23 08.7**	**-0.3**
LIOB	baz=6.0			*e*S		**Sb**	**02 23 35.0**	**+0.4**
YHNB	**Yeheng** baz=14	**2.12**	**9**	*e*P		**Pb**	**02 23 09.3**	**-0.6**
YHNB	baz=14			*e*S		**Sg**	**02 23 37.3**	**-2.4**
NSK	**Sanguang** baz=13	**2.12**	**9**	*e*P		**Pg**	**02 23 10.6**	**-1.7**
ENTT	**Nioudou** baz=29	**2.12**	**14**	*e*P		**Pg**	**02 23 10.3**	**-2.0**
ENTT	baz=29			*e*S		**Sg**	**02 23 38.1**	**-1.8**
TWC	**Suao** baz=24	**2.17**	**21**	*e*P		**Pg**	**02 23 10.8**	**-2.5**
SBCB	**Hsinchu** baz=344	**2.21**	**360**	*e*P		**Pb**	**02 23 09.0**	**-2.4**
EOS1	**EOS1** baz=43	**2.22**	**28**	*e*P		**Pb**	**02 23 10.0**	**-1.7**
TWE	**Neicheng** baz=35	**2.22**	**16**	*e*P		**Pg**	**02 23 12.0**	**-2.3**
WLTB	**Daxi** baz=18	**2.28**	**6**	*e*P		**Pg**	**02 23 14.9**	**-0.5**
EGS	baz=24	**2.42**	**21**	*e*P		**Pg**	**02 23 16.2**	**-1.8**
TATO	**Taipei** baz=22	**2.43**	**11**	*e*P		**Pg**	**02 23 16.1**	**-2.2**
TWA	**Mucha** baz=26	**2.46**	**13**	*e*P		**Pg**	**02 23 16.8**	**-2.0**
TWA	baz=26			*e*S		**Sg**	**02 23 47.6**	**-3.0**
TIPB	**Shuangxi** baz=32	**2.50**	**18**	*e*P		**Pb**	**02 23 15.2**	**-1.4**
TIPB	baz=32			*e*S		**Sb**	**02 23 47.1**	**-0.2**
JYNG	**Yonagunijimaku**	**2.59**	**43**	P		**Pb**	**02 23 14.6**	**-3.3**
NWF	**Wu-fen Shan** baz=30	**2.59**	**16**	*e*P		**Pb**	**02 23 16.4**	**-1.6**
WFSB	**Wu-fen Shan** baz=31	**2.59**	**16**	*e*P		**Pb**	**02 23 16.7**	**-1.2**
YM01	**YM01** baz=1.0	**2.61**	**11**	*e*P		**Pb**	**02 23 18.6**	**+0.2**
YM10	**YM10** baz=1.0	**2.62**	**11**	*e*P		**Pb**	**02 23 18.2**	**-0.3**
YM05	**YM05** baz=1.0	**2.63**	**11**	*e*P		**Pb**	**02 23 17.2**	**-1.5**
YOJ	**Yonaguni jima** baz=61	**2.64**	**44**	*e*P		**Pb**	**02 23 15.4**	**-3.4**
YOJ	**Yonaguni jima**	**2.64**	**44**	P		**Pb**	**02 23 15.8**	**-2.9**
YM07	**YM07** baz=32	**2.65**	**12**	*e*P		**Pb**	**02 23 16.9**	**-2.2**
VWUC	**VWUC** baz=331	**2.79**	**330**	*e*P		**Pn**	**02 23 16.8**	**+0.8**
HATJ	**Hateruma jima**	**2.97**	**60**	P		Pb	02 23 19.6	-4.9
KNM	**Kinmen** baz=306	**2.98**	**308**	*e*P		**Pn**	**02 23 19.9**	**+1.3**
PTMZ	**Houxiangcun** baz=326	**3.00**	**325**	*e*P		**Pn**	**02 23 19.0**	**+0.2**
JKRS	**Kuro-shima**	**3.23**	**59**	P		**Pn**	**02 23 22.5**	**+0.5**
ZPLA	**Ao Xicun** baz=294	**3.27**	**295**	*e*P		**Pn**	**02 23 21.9**	**-0.8**
JIJ	**Ishigaki jima**	**3.40**	**58**	P		**Pn**	**02 23 25.2**	**+0.9**
JIJ				*e*S		**Sn**	**02 24 04.0**	**-0.5**
AXDP	**Jialang** baz=310	**3.61**	**310**	*e*P		**Pn**	**02 23 26.8**	**-0.5**
ZZJH	**Jiuhuzhen** baz=301	**3.62**	**302**	*e*P		**Pn**	**02 23 26.8**	**-0.6**
JISG	**Ishigakijimahi**	**3.64**	**56**	P		**Pn**	**02 23 28.5**	**+0.8**
JISG				*e*S		**Sn**	**02 24 11.0**	**+0.4**
MATB	**Ma-tsu** baz=348	**3.69**	**345**	*e*P		**Pn**	**02 23 28.2**	**-0.2**
MHZQ	**Yeshan** baz=335	**3.94**	**333**	*e*P		**Pn**	**02 23 31.8**	**0.0**
JTJ	**Tarama**	**3.97**	**58**	*e*S		**Sn**	**02 24 19.1**	**+0.3**
LYJJ	**Jianjiangzhen** baz=347	**4.12**	**344**	*e*P		**Pn**	**02 23 34.4**	**+0.2**
XPSS	**Dashiqiu** baz=355	**4.40**	**351**	*e*P		**Pn**	**02 23 38.5**	**+0.4**
JNU	**Nakatsue** comp=Z,60nm,20.1s,baz=266,slow=41	**13.66**	**38**	LR		LR	02 31 37.4	
KSRS	**Korea Array** comp=Z,34nm,19.0s,baz=196,slow=40	**15.99**	**20**	LR		LR	02 32 51.1	
JCJ	**Chichijima** comp=Z,46nm,21.2s,baz=335,slow=33	**19.75**	**73**	LR		LR	02 33 10.2	
CMAR	**Chiang Mai Arr** 1.0nm,0.3s,baz=72,slow=8.0,SNR=5.2	**21.05**	**263**	P		**P**	**02 27 20.4**	**+4.8**
CMAR	comp=Z,48nm,21.0s,baz=80,slow=34			LR		LR	02 34 43.8	
SONM	**Songino Array** comp=Z,76nm,19.4s,baz=225,slow=39	**27.79**	**339**	LR		LR	02 40 28.2	
KLR	**Kul'dur** comp=Z,68nm,18.7s,baz=205,slow=40	**27.93**	**15**	LR		LR	02 40 46.7	
MKAR	**Makanchi Array** 0.6nm,0.7s,baz=111,slow=9.9,SNR=3.1	**39.38**	**317**	P		**P**	**02 30 02.8**	**+1.8**
ZALV	**Zalesovo Beam** 1.9nm,0.7s,baz=111,slow=8.1,SNR=6.2	**41.51**	**328**	P		**P**	**02 30 19.8**	**+1.3**
H11N1	**WAKE ISLAND Hy 42.78** baz=282,slow=75,SNR=11	**85**		T		T	03 16 10.6	
H11N2	**WAKE ISLAND Hy 42.78** baz=282,slow=75,SNR=19	**85**		T		T	03 16 12.0	
H11N3	**WAKE ISLAND Hy 42.79** baz=282,slow=75,SNR=20	**85**		T		T	03 16 14.6	
H11S3	**WAKE ISLAND Hy 42.86** baz=284,slow=75,SNR=48	**87**		T		T	03 16 20.2	
H11S1	**WAKE ISLAND Hy 42.87** baz=284,slow=75,SNR=37	**87**		T		T	03 16 17.6	
H11S2	**WAKE ISLAND Hy 42.88**	**87**		T		T	03 16 18.3	

	baz=284,slow=75,SNR=27								
WRA	**Warramunga Arr** 0.9nm,0.6s,baz=344,slow=8.7,SNR=8.8	**44.22**	**162**	P		**P**	**02 30 40.9**	**+0.1**
ASAR	**Alice Springs** 0.5nm,0.3s,baz=343,slow=7.2,SNR=14	**47.65**	**164**	P		**P**	**02 31 09.0**	**+1.2**
NRIK	**Noril'sk** comp=Z,36nm,18.9s,baz=74,slow=36	**50.91**	**345**	LR		LR	02 52 58.3	
ILAR	**Eielson Array** 0.3nm,0.8s,baz=290,slow=5.9,SNR=2.7	**70.72**	**27**	P		**P**	**02 33 46.2**	**-0.9**
FINES	**FINESS Array B** 1.3nm,0.7s,baz=44,slow=8.3,SNR=2.2	**72.74**	**330**	P		**P**	**02 34 01.4**	**+2.0**
NOA	**NORSAR Array B** 0.8nm,0.7s,baz=60,slow=5.2,SNR=3.0	**79.56**	**332**	P		**P**	**02 34 39.2**	**+1.0**

IDC ***10*** *02:33:33.9±1.2, 18.°60N×121.°62E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/54, mbtmp3.8/5, Error ellipse: s-maj=61.6km s-min=19.3km az=56.0*
MAN ***10*** *02:33:42.0, 18.°76N×121.°22E, h54km, mb4.9, ML3.8, MS3.8*

ISC 10 02:33:40.4±1.4, 18.°83N±0.°04×121.°15E±0.°06, h24km±12km, n15, σ1°57/24, mb3.7/5, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.97**	**175**	*e*P			**Pn**	**02 33 59.5**	**+1.0**
APYP				*e*S			**Sn**	**02 34 12.6**	**+1.1**
SGCP	**Mt. Cagua**	**1.03**	**125**	*e*P			**Pb**	**02 34 00.2**	**+0.5**
SGCP				*e*S			**Sn**	**02 34 13.9**	**+0.9**
ABRA	**Dolores**	**1.25**	**200**	*e*P			**Pn**	**02 34 02.3**	**-0.1**
ABRA				*e*S			**Sb**	**02 34 19.8**	**+0.8**
CVP	**Callao Caves**	**1.29**	**150**	⇑*i*P			**Pb**	**02 34 04.3**	**+0.2**
CVP				*i* S			**Sn**	**02 34 19.2**	**-0.3**
BBP	**Basco**	**1.77**	**25**	*e*P			**Pb**	**02 34 11.6**	**-0.7**
BBP				*e*S			**Sb**	**02 34 34.1**	**+0.1**
CAUP	**Cauayan**	**1.99**	**161**	*e*P			**Pb**	**02 34 14.9**	**-0.9**
CAUP				*e*S			**Sb**	**02 34 42.4**	**+2.2**
PALP	**Palanan**	**2.14**	**145**	*e*P			**Pn**	**02 34 15.2**	**+0.6**
PALP				*e*S			**Sb**	**02 34 42.3**	**-2.3**
SMPP	**San Manuel, Pa**	**2.71**	**190**	*e*P			**Pn**	**02 34 22.8**	**+0.3**
SMPP				*e*S			**Sn**	**02 34 55.0**	**+0.5**
BOLP	**Bolinao**	**2.71**	**206**	*e*P			**Pn**	**02 34 24.4**	**+1.9**
BOLP				*e*S			**Sb**	**02 34 58.0**	**-3.1**
BALP	**Baler**	**3.10**	**172**	*e*P			**Pn**	**02 34 28.7**	**+0.9**
CMAR	**Chiang Mai Arr** 1.0nm,0.3s,baz=85,slow=8.4,SNR=5.2	**21.05**	**273**	P			**P**	**02 38 24.8**	**+2.0**
WRA	**Warramunga Arr** 1.0nm,0.5s,baz=342,slow=9.2,SNR=20	**40.65**	**161**	P			P	02 41 12.7	-6.2
WRA				PcP			**PcP**	**02 43 16.9**	**-3.6**
MKAR	**Makanchi Array** 0.3nm,0.8s,baz=327,slow=3.4,SNR=3.1	**42.28**	**320**	P			**P**	**02 41 32.6**	**+0.6**
ASAR	**Alice Springs** 0.8nm,0.7s,baz=110,slow=9.9,SNR=3.6	**44.04**	**163**	P			P	02 41 40.7	-5.7
ASAR	0.5nm,0.5s,baz=339,slow=6.5,SNR=13			PcP			**PP**	**02 43 28.0**	**-1.4**
KURBB	**Kurchatov Arra** 0.6nm,0.5s,baz=119,slow=7.6,SNR=4.3	**46.27**	**323**	P			**P**	**02 42 04.4**	**+0.6**

ISCJB ***10*** *02:33:40.0±0.6, 28.°61N±0.°05×128.°58E±0.°08, h153km±5km, mb3.3/3, Error ellipse: s-maj=12.6km s-min=4.8km az=32.2*
JMA ***10*** *02:33:41.5±0.2, 28.°65N×128.°44E, h138km±3km, M3.4*
IDC ***10*** *02:33:41.5±4.9, 28.°33N×128.°73E, h172km±111km, mb3.1/3, mb1 3.4/3, mb1mx2.9/51, mbtmp3.6/3, Error ellipse: s-maj=173.8km s-min=35.2km az=4.0*

ISC 10 02:33:40.7±0.9, 28.°62N±0.°05×128.°53E±0.°07, h150km±7km, n20, σ0°88/34, mb3.4/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAMN	**Amaminishikomi**	**0.68**	**123**	P			**Pn**	**02 34 03.2**	**+0.1**
JAMN				*e*S			**Sn**	**02 34 19.4**	**-0.6**
JTAJ	**Takarajima**	**0.79**	**48**	P			**Pn**	**02 34 04.0**	**+0.2**
JTAJ				*e*S			**Sn**	**02 34 20.8**	**-0.7**
JTK	**Tokunoshima**	**0.91**	**156**	P			**Pn**	**02 34 05.1**	**+0.3**
JTK				*e*S			**Sn**	**02 34 23.2**	**+0.1**
JAM	**Amami Oshima**	**0.96**	**102**	P			**Pn**	**02 34 05.4**	**+0.2**
JAM				S			**Sn**	**02 34 22.8**	**-1.0**
JOKE	**Okinoerabujima**	**1.25**	**179**	P			**Pn**	**02 34 08.2**	**+0.4**
JOKE				S			**Sn**	**02 34 28.4**	**-0.1**
JZK	**Kikaishima**	**1.30**	**103**	P			**Pn**	**02 34 09.8**	**+1.6**
JZK				S			**Sn**	**02 34 30.8**	**+1.5**
JYRO	**Yoronjima**	**1.59**	**183**	P			**Pn**	**02 34 11.5**	**+0.2**
JYRO				S			**Sn**	**02 34 33.8**	**-0.8**
JIH	**Iheya**	**1.66**	**198**	P			**Pn**	**02 34 12.4**	**+0.4**
JIH				S			**Sn**	**02 34 35.5**	**-0.4**
JOW	**Kunigami** 38nm,0.3s,baz=101,slow=10,SNR=64	**1.79**	**187**	P			**Pn**	**02 34 13.8**	**+0.3**
JOW	73nm,0.3s,baz=153,slow=28,SNR=29			S			**Sn**	**02 34 37.6**	**-1.0**
JOW	**Kunigami**	**1.79**	**187**	P			**Pn**	**02 34 13.7**	**+0.2**
JOW				S			**Sn**	**02 34 38.0**	**-0.7**
JAGN	**Aguni-jima**	**2.33**	**210**	P			**Pn**	**02 34 19.8**	**+0.1**
JAGN				*e*S			**Sn**	**02 34 49.3**	**-0.4**
JKC	**Kuchinoerabu**	**2.34**	**38**	*e*S			**Sn**	**02 34 49.7**	**-0.3**
JYAK	**Yakushimahirau**	**2.36**	**46**	*e*S			**Sn**	**02 34 48.7**	**-1.8**
JJT3	**Tamagusuku3**	**2.55**	**195**	P			**Pn**	**02 34 24.0**	**+1.5**
JJT3				*e*S			**Sn**	**02 34 54.8**	**0.0**
JMTN	**Minamitane**	**2.72**	**49**	P			**Pn**	**02 34 25.1**	**+0.6**
JMTN				*e*S			**Sn**	**02 34 58.0**	**-0.4**
JKE	**Kume jima 2**	**2.76**	**215**	P			**Pn**	**02 34 24.9**	**-0.2**
JMZ	**Minamidaito 2**	**3.67**	**139**	P			**Pn**	**02 34 37.4**	**+0.7**
JMZ				*e*S			**Sn**	**02 35 17.9**	**-2.3**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=92,slow=9.0,SNR=3.0	**40.18**	**310**	P			**P**	**02 41 03.4**	**+1.2**
ILAR	**Eielson Array** 0.3nm,0.5s,baz=292,slow=9.6,SNR=6.3	**62.22**	**29**	P			**P**	**02 43 45.5**	**-0.6**
YKA	**Yellowknife Ar** 0.7nm,0.5s,baz=307,slow=5.7,SNR=4.5	**76.25**	**25**	P			**P**	**02 45 11.9**	**-0.5**

MEX 10 02:36:12.9±0.3, 13.°78N×92.°63W, h6km±134km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		**1.18**	**18**	*i* P			Pg	02 36 31.2	-4.3
THIG				*i* S			Sg	02 36 47.1	-3.7
PCIG		**1.99**	**344**	*i* P			Pn	02 36 43.7	-3.4
PCIG				*i* S			Sn	02 37 07.8	-4.7
CCIG	**Comitan**	**2.53**	**11**	*i* P			Pn	02 36 51.5	-3.3
CCIG				*e*S			Sn	02 37 21.4	-4.6
TGIG		**3.02**	**351**	*e*P			Pn	02 36 59.1	-2.2
TGIG				*e*S			Sn	02 37 35.0	-2.8

KRNET ***10*** *02:46:39.0±0.1, 40.°78N×71.°31E, h14km, mb2.9*
NNC ***10*** *02:46:39.8±1.7, 40.°79N×71.°30E, h1km±9km, mb3.2, mpv2.8, Error ellipse: s-maj=12.8km s-min=6.2km az=53.0*
SOME ***10*** *02:46:40.4, 40.°78N×71.°35E, h10km*
ISCJB ***10*** *02:46:41.1±0.5, 40.°68N±0.°03×71.°34E±0.°04, h10km, Error ellipse: s-maj=5.1km s-min=3.8km az=148.4*

ISC 10 02:46:40.4±0.9, 40.°76N±0.°03×71.°31E±0.°03, h10km, n32, σ2°28/60, 33C-10D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BTK	**Batken** baz=8.0	**0.80**	**209**	⇑*i*P			**Pg**	**02 46 54.9**	**-0.8**
BTK	baz=8.0			⇑*i*S			**Sb**	**02 47 05.8**	**-1.4**
ARSB	**Arslanbob** baz=66	**1.38**	**65**	⇑*i*P			**Pn**	**02 47 05.2**	**-0.7**
ARSB	baz=66			⇑*i*S			**Sb**	**02 47 24.3**	**+0.1**
SFK	**Sufi-Kurgan** 1.3nm,0.4s	**1.83**	**113**	⇑Pn			**Pb**	**02 47 13.0**	**-1.2**
SFK	41nm,0.4s			⇓Lg			Lg	02 47 37.5	
SFK	**Sufi-Kurgan** baz=14	**1.83**	**113**	⇑*i*P			**Pb**	**02 47 13.1**	**-1.0**
SFK	baz=14			⇑*i*S			**Sb**	**02 47 38.3**	**+1.1**
MNAS	**Manas** 3.5nm,0.3s	**1.94**	**27**	⇓Pn			**Pn**	**02 47 13.7**	**+0.1**
MNAS	40nm,0.7s			⇓Lg			Lg	02 47 41.0	
MNAS	**Manas** baz=27	**1.94**	**27**	⇑*i*P			**Pb**	**02 47 14.9**	**-1.1**
MNAS	baz=27			⇑*i*S			**Sb**	**02 47 41.2**	**+0.8**

CHM	**Chimkent** 158nm,0.1s	**2.02**	**321**	*e*P			**Pg**	**02 47 17.7**	**-1.4**
CHM	382nm,0.3s			*e*S			**Sg**	**02 47 45.3**	**-0.1**
DZA	**Taraz** 76nm,0.1s	**2.13**	**0**	*e*P			**Pb**	**02 47 18.9**	**-0.2**
DZA	355nm,0.2s			*e*S			**Sg**	**02 47 47.2**	**-1.7**
AML	**Almayashu** baz=52	**2.25**	**52**	⇑*i*P			**Pn**	**02 47 19.6**	**+1.5**
AML	baz=52			⇑*i*S			**Sb**	**02 47 49.7**	**+0.1**
KK31	**Karatay Array** 2.0nm,0.3s,baz=170,slow=19,SNR=22	**2.42**	**346**	⇓Pg			**Pb**	**02 47 23.1**	**-1.0**
KK31	7.1nm,0.3s,baz=149,slow=24,SNR=15			Lg			Lg	02 47 54.9	
MRKS	**Merke** 16nm,0.2s	**2.45**	**35**	*e*P			**Pb**	**02 47 24.2**	**-0.4**
MRKS	28nm,0.2s			*e*S			**Sb**	**02 47 56.4**	**+1.6**
BRLS	**Borolday** 0.4nm,0.2s	**2.52**	**335**	*e*P			**Pn**	**02 47 22.7**	**+1.2**
BRLS	23nm,0.3s			*e*S			**Sn**	**02 47 53.4**	**+1.1**
EKS2	**Erkin-Say** baz=44	**2.65**	**43**	⇑*i*P			**Pn**	**02 47 24.8**	**+1.5**
EKS2	baz=44			⇑*i*S			**Sb**	**02 47 58.5**	**-2.2**
UCH	**Uchtor** baz=58	**2.82**	**58**	⇑*i*P			**Pn**	**02 47 27.7**	**+1.8**
UCH	baz=58			⇑*i*S			**Sb**	**02 48 03.2**	**-2.6**
AAK	**Ala-Archa** 1.1nm,0.4s	**3.03**	**51**	⇓Pn			**Pn**	**02 47 29.3**	**+0.7**
AAK	3.1nm,0.6s			⇓Pg			**Pb**	**02 47 36.2**	**+1.6**
AAK	3.3nm,0.2s			⇑Lg			Lg	02 48 14.5	
AAK	**Ala-Archa** baz=51	**3.03**	**51**	⇑*i*P			**Pn**	**02 47 30.5**	**+1.9**
AAK	baz=51			⇑*i*S			**Sn**	**02 48 07.7**	**+2.6**
KZA	**Kyzart** baz=65	**3.24**	**65**	⇑*i*P			**Pn**	**02 47 33.4**	**+1.7**
KZA	baz=65			⇑*i*S			**Sn**	**02 48 13.1**	**+2.5**
KBK	**Karagaybulak** baz=54	**3.32**	**54**	⇓*i*P			**Pn**	**02 47 34.6**	**+2.1**
KBK	baz=54			⇓*i*S			**Sn**	**02 48 15.0**	**+2.9**
CHMS	**Chumysh** baz=48	**3.41**	**48**	⇑*i*P			**Pn**	**02 47 35.5**	**+1.9**
CHMS	baz=48			⇑*i*S			**Sn**	**02 48 16.6**	**+2.5**
USP	**Ospenovka** baz=43	**3.45**	**42**	⇑*i*P			**Pn**	**02 47 36.1**	**+1.8**
USP	baz=43			⇑*i*S			**Sn**	**02 48 18.1**	**+2.8**
NRN	**Naryn** baz=78	**3.61**	**78**	⇑*i*P			**Pn**	**02 47 38.4**	**+1.8**
NRN	baz=78			⇑*i*S			**Sn**	**02 48 21.3**	**+1.9**
TKM2	**Tokmak 2** 1.4nm,0.7s	**3.86**	**55**	⇑Pn			**Pn**	**02 47 40.2**	**+0.2**
TKM2	3.5nm,0.5s			⇓Pg			**Pg**	**02 47 51.6**	**-2.8**
TKM2	4.0nm,0.5s			⇓Lg			Lg	02 48 40.5	
TKM2	**Tokmak 2** baz=55	**3.86**	**55**	⇑*i*P			**Pn**	**02 47 42.2**	**+2.1**
TKM2	baz=55			⇑*i*S			**Sn**	**02 48 28.0**	**+2.4**
BOOM	**Boomskoye usch** baz=62	**3.88**	**62**	⇑*i*P			**Pn**	**02 47 42.4**	**+2.2**
BOOM	baz=62			⇑*i*S			**Sn**	**02 48 28.2**	**+2.3**
ULHL	**Ulahol** baz=67	**3.99**	**67**	⇑*i*P			**Pn**	**02 47 44.1**	**+2.3**
ULHL	baz=67			⇑*i*S			**Sn**	**02 48 31.2**	**+2.5**
DGS	**Degeres** 3.5nm,0.4s	**4.15**	**52**	*e*P			**Pb**	**02 47 56.1**	**+2.6**
DGS	9.0nm,0.6s			*e*S			**Sg**	**02 48 50.8**	**-2.8**
KST	**Kastek** 2.9nm,0.5s	**4.15**	**55**	*e*P			**Pb**	**02 47 54.0**	**+0.3**
KST	6.2nm,0.7s			*e*S			**Sb**	**02 48 46.9**	**+3.0**
IZV	**Izvestkoviy** 4.0nm,0.6s	**4.56**	**58**	*e*P			**Pb**	**02 48 04.0**	**+3.3**
IZV	8.6nm,0.7s			*e*S			**Sg**	**02 49 04.1**	**-2.8**
TNSS	**Tian-Shan** 3.3nm,0.2s	**4.78**	**60**	*e*P			**Pb**	**02 48 07.9**	**+3.4**
TNSS	3.0nm,0.5s			*e*S			**Sg**	**02 49 10.6**	**-3.4**
KUU	**Kurty** 1.4nm,0.7s	**4.87**	**48**	*e*P			**Pb**	**02 48 07.8**	**+2.0**
KUU	3.5nm,0.5s			*e*S			**Sg**	**02 49 10.7**	**-6.0**
KTBS	**Karatobe** 2.4nm,0.6s	**4.96**	**52**	*e*P			**Pb**	**02 48 09.9**	**+2.6**
KTBS	4.4nm,0.5s			*e*S			**Sg**	**02 49 14.5**	**-5.1**
ARXS	**Arharly** 1.9nm,0.5s	**5.92**	**52**	*e*P			Pb	02 48 28.6	+4.8
ARXS	3.9nm,0.6s			*e*S			**Sg**	**02 49 46.4**	**-4.1**

NIED ***10*** *02:47:00, 34.°60N×140.°40E, h62km, Mw3.7 Best double couple: M0 3.44000×10^14 NP1:φ=224.00000°, δ=22.00000°, λ=170.00000°. NP2:φ=324.00000°, δ=86.00000°, λ=69.00000°.*
ISCJB ***10*** *02:47:41.9±0.2, 34.°56N±0.°03×140.°32E±0.°05, h62km±6km, mb3.6/2, Error ellipse: s-maj=7.5km s-min=5.6km az=171.8*
JMA ***10*** *02:47:41.9±0.2, 34.°57N×140.°34E, h59km±2km, M3.4*
JMA Felt I J1.
IDC ***10*** *02:47:41.4±1.3, 33.°96N×138.°60E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.3/48, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=41.1km s-min=17.9km az=48.0*

ISC 10 02:47:42.7±1.1, 34.°56N±0.°04×140.°32E±0.°05, h53km±10km, n24, σ0°65/29, 4C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.29**	**33**	⇑P			**Pn**	**02 47 51.8**	**+0.1**
BSO3				X				02 47 59.8	
BSO4	**Boso 4**	**0.43**	**2**	⇑P			**Pn**	**02 47 53.5**	**+0.2**
BSO1	**Boso 1**	**0.55**	**80**	⇑P			**Pn**	**02 47 54.0**	**-0.2**
KTR	**Katsuura**	**0.59**	**359**	⇑P			**Pn**	**02 47 54.9**	**-0.3**
KTR				S			**Sn**	**02 48 04.2**	**0.0**
TATJ	**Tateyama 2**	**0.59**	**323**	⇓P			**Pn**	**02 47 55.8**	**+0.6**
TATJ				*e*S			**Sn**	**02 48 05.7**	**+1.4**
JKUC	**kamogawauchiur**	**0.61**	**350**	P			**Pn**	**02 47 55.1**	**-0.3**
JKUC				S			**Sn**	**02 48 04.7**	**0.0**
JIM2	**Oshima 3**	**0.75**	**282**	⇓P			**Pn**	**02 47 57.1**	**-0.2**
JIM2				S			**Sn**	**02 48 07.4**	**-0.5**
JMKN	**Mikurajimanish**	**0.90**	**222**	⇓P			**Pn**	**02 47 59.5**	**+0.3**
JMKN				S			**Sn**	**02 48 11.7**	**+0.4**
JKO	**Kozu shima**	**1.05**	**250**	P			**Pn**	**02 48 01.6**	**+0.5**
KTJ3	**Kamata3**	**1.10**	**290**	⇓P			**Pn**	**02 48 01.4**	**-0.4**
KTJ3				S			**Sn**	**02 48 14.8**	**-1.1**
JIZS	**Izushimoda**	**1.20**	**278**	⇓P			**Pn**	**02 48 03.1**	**-0.1**
JIZS				S			**Sn**	**02 48 18.5**	**0.0**
JOD2	**Odawara 2**	**1.23**	**305**

H11S3	**WAKE ISLAND Hy**	**28.38**	**118**	T	T	03 24 02.4	
	baz=310,slow=74,SNR=3.3						
H11S1	**WAKE ISLAND Hy**	**28.38**	**118**	T	T	03 24 04.5	
	baz=310,slow=74,SNR=7.2						
H11S2	**WAKE ISLAND Hy**	**28.40**	**118**	T	T	03 24 02.7	
	baz=310						
MKAR	**Makanchi Array**	**44.72**	**304**	P	**P**	**02 55 49.9**	**-0.6**
	1.0nm,0.9s,baz=80,slow=7.9,SNR=2.9						
ASAR	**Alice Springs**	**58.23**	**187**	P	**P**	**02 57 31.7**	**+0.2**
	0.4nm,0.6s,baz=16,slow=12,SNR=6.3						

*ISK **10** 02:47:48.7,37.38N×37.01E,h5km,ML2.2/5*
*ISCJB **10** 02:47:49.1±0.6,37.36N±0.03×37.00E±0.04,h5km±6km, Error ellipse: s-maj=5.9km s-min=4.3km az=28.4*
*DDA **10** 02:47:49.9,37.36N×37.11E,h7km,Ml3.0*
ISC 10 02:47:49.2±1.1,37.38N±0.03×37.04E±0.03,h9km±10km, n14,σ0961/22,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.25**	**146**	PG	**Pg**	**02 47 54.4**	**0.0**
GAZ				SG	**Sg**	**02 47 58.6**	**+0.8**
ANDN	**Andirin**	**0.58**	**290**	*i* P	**Pg**	**02 47 59.7**	**-0.9**
ANDN				*i* S	**Sg**	**02 48 07.8**	**-0.5**
KUZU	**Kuzuini**	**0.61**	**177**	*i* P	**Pg**	**02 48 01.4**	**+0.3**
ELBS	**KAHRAMANMARAS**	**0.94**	**5**	*i* P	**Pb**	**02 48 08.5**	**+0.6**
ELBS				*i* S	**Sn**	**02 48 22.5**	**0.0**
KOZT	**Kozan**	**0.97**	**276**	PG	**Pg**	**02 48 07.2**	**-0.6**
KOZT				SG	**Sg**	**02 48 20.9**	**+0.5**
ATAB	**Bozova**	**1.01**	**85**	*i* P	**Pb**	**02 48 08.9**	**0.0**
ATAB				*i* S	**Sb**	**02 48 22.4**	**+0.1**
AKCD	**Akcadag**	**1.15**	**37**	*i* P	**Pg**	**02 48 11.0**	**-0.3**
AKCD				*i* S	**Sn**	**02 48 27.6**	**0.0**
TAHT	**Tahtakopru-Hat**	**1.22**	**214**	PN	**Pg**	**02 48 12.3**	**-0.3**
TAHT				SN	**Sn**	**02 48 29.2**	**+0.2**
DARE	**Darende-Malaty**	**1.24**	**16**	PN	**Pg**	**02 48 12.8**	**-0.2**
SURC	**SANLIURFA_SURC**	**1.36**	**111**	*i* P	**Pn**	**02 48 13.1**	**-1.4**
SURC				*i* S	**Sg**	**02 48 32.4**	**-0.5**
URFA	**Urfa**	**1.42**	**87**	PN	**Pb**	**02 48 16.1**	**+0.1**
SANL	**SANLIURFA_Merk**	**1.57**	**97**	*i* P	**Pg**	**02 48 18.8**	**-0.6**
BNN	**Bunyan**	**1.74**	**328**	PN	**Pn**	**02 48 20.3**	**+0.5**
SVRC	**Sivrice-ELAZID**	**2.05**	**60**	PN	**Pn**	**02 48 25.1**	**+1.0**

IDC 10 02:53:56.7±3.6,6.93S×127.52E,h453km±45km,mb3.0/2, mb1 3.3/4,mb1mx2.8/29,mbtmp4.0/4,Error ellipse: s-maj=109.5km s-min=18.3km az=68.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.53**	**154**	P	P	02 57 02.4	-0.5
	1.7nm,0.3s,baz=332,slow=10,SNR=87						
WRA				S	S	02 59 34.8	-1.8
	0.2nm,0.3s,baz=328,slow=20,SNR=5.1						
ASAR	**Alice Springs**	**17.74**	**160**	P	P	02 57 36.7	0.0
	0.9nm,0.3s,baz=340,slow=12,SNR=53						
ASAR				S	S	03 00 37.9	+0.4
	0.1nm,0.3s,baz=338,slow=17,SNR=6.2						
MKAR	**Makanchi Array**	**66.84**	**328**	P	P	03 04 02.4	+0.1
	0.3nm,0.4s,baz=117,slow=7.2,SNR=5.1						
ZALV	**Zalesovo Beam**	**70.45**	**335**	P	P	03 04 23.3	-0.7
	0.5nm,0.4s,baz=116,slow=6.6,SNR=2.2						
TORD	**Torodi Ar. Bea**	**126.38**	**281**	PKP	PKPdf	03 12 08.5	+0.3
	0.2nm,0.6s,baz=87,slow=1.1						

*GUC **10** 03:17:04.7±0.5,31.61S×71.52W,h20km±13km,ML3.1*
*SJA **10** 03:17:04.2±0.8,31.71S×72.03W,h27km±17km,ML3.1, MW3.5*
ISC 10 03:17:03.1±2.5,31.63S±0.04×71.8W±0.1,h6km±13km,n11, σ0995/20,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**1.50**	**154**	*e*P	**Pn**	**03 17 31.0**	**+0.2**
ROCH				*i* S	**Sg**	**03 17 51.4**	**0.0**
ROCH				IAML		03 17 58.2	
	comp=N,326nm,0.5s						
ROC1	**El Roble**	**1.50**	**154**	*e*P	**Pg**	**03 17 31.8**	**-0.2**
ROC1				*e*S	**Sg**	**03 17 53.0**	**+1.6**
GO04	**Tololo Observa**	**1.69**	**31**	*e*P	**Pn**	**03 17 33.5**	**+0.1**
GO04				*i* S	**Sn**	**03 17 55.3**	**-0.2**
GO04				IAML		03 17 59.5	
	comp=N,817nm,0.6s						
CLCH	**Cerro Calan**	**2.06**	**149**	*e*P	**Pn**	**03 17 39.5**	**+1.0**
CLCH				*i* S	**Sb**	**03 18 05.7**	**-1.4**
FCH	**Farellones**	**2.13**	**143**	*e*P	**Pb**	**03 17 40.9**	**-1.4**
FCH				*i* S	**Sb**	**03 18 07.9**	**-1.1**
AUSP	**Uspallata**	**2.14**	**107**	*e*P	**Pg**	**03 17 44.0**	**-0.2**
AUSP				*e*S	**Sg**	**03 18 12.8**	**+0.9**
RTLS	**Leoncito**	**2.15**	**95**	*e*P	**Pg**	**03 17 43.9**	**-0.4**
RTLS				*e*S	**Sg**	**03 18 12.9**	**+0.8**
RTLS				IAML		03 18 14.1	
	comp=Z,94nm,0.5s						
AROD	**Rodeo**	**2.48**	**55**	*e*P	**Pb**	**03 17 48.6**	**+0.4**
ACCO	**Cerro Coronel**	**2.57**	**67**	*e*P	**Pb**	**03 17 50.6**	**+0.8**
ACCO				*e*S	**Sg**	**03 18 24.9**	**-0.8**
LMEL	**Las Melosas**	**2.59**	**149**	*e*P	**Pn**	**03 17 46.9**	**+1.1**
LMEL				*i* S	**Sn**	**03 18 18.8**	**+1.0**
LMEL				IAML		03 18 33.5	
	comp=N,100nm,0.4s						
AMOG	**MOGNA**	**2.92**	**77**	*e*P	**Pb**	**03 17 54.8**	**-0.8**

*SAR **10** 03:21:05.9±0.7,41.64N×19.60E,h6km±2km,ML2.9/1*
*TIR **10** 03:21:05.5,41.73N×19.50E,h8km,Md2.9/4*
*ISCJB **10** 03:21:06.3±0.4,41.73N±0.02×19.57E±0.02,h2km±2km, Error ellipse: s-maj=4.1km s-min=2.5km az=33.6*
*PDG **10** 03:21:07.1±0.2,41.75N×19.57E,h3km,MD2.9/1, ML2.8/10,Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
*BEO **10** 03:21:08.1±0.3,41.74N×19.60E,h4km±2km,ML2.4/17*
ISC 10 03:21:06.7±1.1,41.74N±0.02×19.56E±0.02,h1km±10km, n73,σ1912/125,10C-16D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULC	**Ulcinj**	**0.33**	**314**	↑*i*Pg	**Pg**	**03 21 13.3**	**+0.4**
ULC				*e*Sg	**Sg**	**03 21 18.4**	**+1.2**
PUK	**Puka**	**0.39**	**39**	*i* SG	**Sg**	**03 21 14.4**	**-4.9**
PUK				*i* PG	**Pn**	**03 21 21.3**	**+1.7**
TIR	**Tirane**	**0.45**	**150**	*e*Pg	**Pg**	**03 21 15.2**	**-0.1**
TIR				*e*Sg	**Sb**	**03 21 23.3**	**-1.3**
TIR	**Tirane**	**0.45**	**150**	↓*i*P	**Pg**	**03 21 15.8**	**+0.5**
TIR	**Tirane**	**0.45**	**150**	S	**Sb**	**03 21 23.6**	**-1.0**
TIR	**Tirane**	**0.45**	**150**	*i* Pg	**Pg**	**03 21 15.3**	**-0.1**
TIR				*i* SG	**Sg**	**03 21 22.6**	**+1.5**
DRME	**Dracevica, Mon**	**0.53**	**328**	↑*i*Pg	**Pg**	**03 21 17.0**	**+0.2**
DRME				*e*Sg	**Sg**	**03 21 25.2**	**+1.5**
DRME	**Dracevica, Mon**	**0.53**	**328**	↑*i*Pg	**Pg**	**03 21 16.8**	**0.0**
DRME				*e*Sg	**Sb**	**03 21 26.6**	**-0.3**
PHP	**Peshkopia**	**0.66**	**94**	*i* PG	**Pg**	**03 21 19.5**	**+0.1**
PHP				*i* SG	**Sb**	**03 21 30.3**	**-0.5**
PDG	**Podgorica**	**0.73**	**342**	*e*Pg	**Pg**	**03 21 20.4**	**-0.2**
PDG				*e*Sg	**Sb**	**03 21 32.5**	**-0.1**
PDG	**Podgorica**	**0.73**	**342**	↓*i*P	**Pg**	**03 21 20.6**	**0.0**
PDG	**Podgorica**	**0.73**	**342**	S	**Sb**	**03 21 32.0**	**-0.6**
PDG	**Podgorica**	**0.73**	**342**	↑*i*Pg	**Pg**	**03 21 20.4**	**-0.2**
PDG				*e*Sg	**Sb**	**03 21 32.6**	**-0.1**
TTG	**Podgorica**	**0.73**	**342**	↑*i*Pg	**Pg**	**03 21 20.4**	**-0.2**
TTG				*e*Sg	**Sb**	**03 21 31.7**	**-0.9**
BCI	**Bajram Curri**	**0.73**	**31**	*i* PG	**Pg**	**03 21 20.4**	**-0.3**
BCI				*i* SG	**Sg**	**03 21 31.2**	**+1.0**
BUM	**Brajici-Budva**	**0.75**	**319**	↓*i*Pg	**Pg**	**03 21 21.0**	**-0.1**
BUM				*e*Sg	**Sb**	**03 21 32.7**	**-0.7**
PVY	**Plav**	**0.91**	**19**	↓*i*Pg	**Pg**	**03 21 23.4**	**-0.6**
PVY				*e*Sg	**Sb**	**03 21 37.3**	**-0.6**
CEME	**Cevo**	**0.94**	**330**	↓*i*Pg	**Pg**	**03 21 23.9**	**-0.8**
CEME				*e*Sg	**Sb**	**03 21 38.8**	**0.0**
HCY	**Herceg Novi**	**1.06**	**312**	↓*i*Pg	**Pg**	**03 21 26.4**	**-0.7**
HCY				*e*Sg	**Sn**	**03 21 43.6**	**-0.6**
HCY	**Herceg Novi**	**1.06**	**312**	*e*Pg	**Pg**	**03 21 26.4**	**-0.7**
HCY				*e*Sg	**Sb**	**03 21 42.9**	**+0.6**
KOME	**Kolasin**	**1.11**	**358**	↑*i*Pg	**Pg**	**03 21 27.4**	**-0.6**
KOME				*e*Sg	**Sn**	**03 21 44.6**	**-0.9**
OHR	**Ohrid**	**1.12**	**124**	*i* Pg	**Pg**	**03 21 27.4**	**-0.8**
OHR				*i* Sg	**Sn**	**03 21 44.7**	**-0.9**
NKME	**Niksic**	**1.12**	**337**	↓*i*Pg	**Pg**	**03 21 27.5**	**-0.7**
NKME				*e*Sg	**Sn**	**03 21 45.1**	**-0.6**
NKY	**Niksic**	**1.15**	**339**	↓*i*Pg	**Pg**	**03 21 28.3**	**-0.5**
NKY				*e*Sg	**Sn**	**03 21 46.2**	**-0.4**
IVA	**Berane**	**1.16**	**12**	↓*i*Pg	**Pg**	**03 21 28.5**	**-0.4**
IVA				*e*Sg	**Sn**	**03 21 46.2**	**-0.5**
TREB	**Trebinje**	**1.33**	**318**	*e*Pg	**Pg**	**03 21 31.5**	**-0.6**
TREB				*e*Sg	**Sn**	**03 21 51.4**	**+0.7**
TREB	**Trebinje**	**1.33**	**318**	*e*Pg	**Pg**	**03 21 31.0**	**-1.1**
TREB				*e*Sg	**Sn**	**03 21 51.4**	**+0.7**
BRY	**Bratogost**	**1.39**	**327**	↑*i*Pg	**Pn**	**03 21 32.2**	**-1.1**
BRY				*e*Sg	**Sn**	**03 21 54.3**	**+1.9**
BRY	**Bratogost**	**1.39**	**327**	*e*Pg	**Pn**	**03 21 32.1**	**-1.2**
BRY				*e*Sg	**Sn**	**03 21 53.5**	**+1.1**
SKO	**Skopje**	**1.42**	**80**	*e*Pg	**Pn**	**03 21 32.8**	**-0.9**
SKO				*e*Sg	**Sn**	**03 21 53.1**	**+0.1**
SKO	**Skopje**	**1.42**	**80**	*i* Pg	**Pb**	**03 21 34.1**	**+0.1**
SKO				*i* Sg	**Sn**	**03 21 53.5**	**+0.4**
UPM	**Unac-Piva**	**1.54**	**342**	↑*i*Pg	**Pn**	**03 21 32.8**	**-0.7**
UPM				*e*Sg	**Sg**	**03 21 59.5**	**+3.3**
UPM	**Unac-Piva**	**1.54**	**342**	↓*i*Pn	**Pn**	**03 21 34.7**	**-0.7**
UPM				*e*Sn	**Sg**	**03 21 57.2**	**+1.0**
SJES	**Sjenica**	**1.55**	**11**	*e*Pg	**Pn**	**03 21 35.4**	**-0.2**
SJES				*e*Sg	**Sg**	**03 21 58.0**	**+1.4**
PLE	**Pljevlja**	**1.60**	**355**	↓*i*Pn	**Pn**	**03 21 36.4**	**+0.2**
PLE				*e*Sn	**Sg**	**03 22 01.1**	**+3.1**
STON	**Ston**	**1.79**	**310**	*e*Pn	**Pn**	**03 21 38.7**	**+0.1**
STON				Sn	**Sg**	**03 22 04.4**	**+0.4**
SELS	**Selova**	**1.88**	**37**	*e*Pg	**Pb**	**03 21 40.7**	**-1.1**
SELS				*e*Sg	**Sb**	**03 22 06.1**	**+0.4**
IVAS	**Ivanjica**	**1.89**	**13**	*e*Pn	**Pn**	**03 21 39.6**	**-0.5**
IVAS				*e*Sn	**Sb**	**03 22 05.9**	**-0.2**
STIP	**Stip**	**1.97**	**90**	*i* Pn	**Pg**	**03 21 45.5**	**+1.1**
BARS	**Barje**	**1.99**	**56**	*e*Pn	**Pn**	**03 21 41.8**	**+0.3**
BARS				*e*Sn	**Sn**	**03 22 06.9**	**-0.1**
BBLS	**Lazići**	**2.13**	**357**	*e*Pn	**Pn**	**03 21 45.0**	**-1.1**
BBLS				*e*Sn	**Sb**	**03 22 12.1**	**-1.0**
BBLS	**Lazići**	**2.13**	**357**	*e*Pn	**Pn**	**03 21 44.0**	**+0.5**
BBLS				*e*Sn	**Sn**	**03 22 11.3**	**+0.7**
GRUS	**Gruza**	**2.31**	**21**	*e*Pn	**Pn**	**03 21 46.9**	**+1.0**
GRUS				*e*Sn	**Sn**	**03 22 15.1**	**+0.1**
DIVS	**Divibare**	**2.38**	**7**	*e*Pn	**Pn**	**03 21 48.0**	**+1.1**
DIVS				*e*Sn	**Sn**	**03 22 17.2**	**+0.5**
DIVS	**Divibare**	**2.38**	**7**	*e*Pn	**Pn**	**03 21 47.4**	**+0.5**
DIVS				*e*Sn	**Sn**	**03 22 17.3**	**+0.5**
HAPS	**Han Pijesak,Bl**	**2.39**	**349**	*e*Pn	**Pn**	**03 21 47.8**	**+0.7**
HAPS				*e*Sn	**Sn**	**03 22 17.7**	**+0.7**
HAPS	**Han Pijesak,Bl**	**2.39**	**349**	*e*Pn	**Pn**	**03 21 46.8**	**-0.3**
HAPS				*e*Sn	**Sn**	**03 22 17.8**	**+0.7**
MATE	**Matera**	**2.41**	**244**	↓*i*P	**Pg**	**03 21 53.0**	**+0.1**
MATE	**Matera**	**2.41**	**244**	S	**Sg**	**03 22 25.7**	**+1.5**
BOVS	**Bovan**	**2.47**	**39**	*e*Pn	**Pn**	**03 21 49.4**	**+1.4**
BOVS				*e*Sn	**Sn**	**03 22 19.1**	**+0.3**
TRUS	**Trudelj**	**2.56**	**14**	*e*Pn	**Pn**	**03 21 51.0**	**+1.7**
TRUS				*e*Sn	**Sn**	**03 22 21.6**	**+0.5**
ZAPS	**Zavoj**	**2.74**	**55**	*e*Pn	**Pn**	**03 21 53.3**	**+1.5**
ZAPS				*e*Sn	**Sn**	**03 22 25.8**	**+0.2**
VTS	**Vitosha**	**2.84**	**71**	↓*i*P	**Pb**	**03 21 55.6**	**-2.7**
VTS	**Vitosha**	**2.84**	**71**	S	**Sn**	**03 22 30.5**	**+2.2**
KUBS	**Kucevo**	**3.09**	**29**	*e*Pn	**Pn**	**03 21 56.6**	**0.0**
KUBS				*e*Sn	**Sn**	**03 22 32.8**	**-1.4**
FRGS	**Fruska Gora**	**3.42**	**3**	*e*Pn	**Pn**	**03 22 02.7**	**+1.5**
FRGS	**Fruska Gora**	**3.42**	**3**	*e*Pn	**Pn**	**03 22 01.3**	**+0.1**
FRGS				*e*Sn	**Sn**	**03 22 42.7**	**+0.3**
MDVR	**Moldovita**	**3.42**	**27**	↓*i*P	**Pn**	**03 22 02.0**	**+0.8**
MDVR	**Moldovita**	**3.42**	**27**	S	**Sn**	**03 22 42.9**	**+0.4**
BLY	**Banja Luka**	**3.48**	**331**	↑*i*P	**Pg**	**03 22 12.7**	**-0.5**
BLY	**Banja Luka**	**3.48**	**331**	S	**Sb**	**03 22 53.0**	**+1.3**
BLY	**Banja Luka**	**3.48**	**331**	*e*Pn	**Pn**	**03 22 02.0**	**+0.1**
BLY				*e*Sn	**Sn**	**03 22 43.3**	**-0.3**
UDBI	**Udbina**	**3.94**	**316**	*e*Pn	**Pn**	**03 22 09.3**	**+1.6**
UDBI				Sn	**Sn**	**03 22 57.4**	**+2.3**
BZS	**Buzias**	**4.15**	**20**	↑*i*P	**Pn**	**03 22 12.5**	**+1.3**
BZS	**Buzias**	**4.15**	**20**	S	**Sn**	**03 23 00.4**	**0.0**
GZR	**Gura Zlata**	**4.34**	**32**	↓*i*P	**Pn**	**03 22 15.6**	**+1.8**
GZR	**Gura Zlata**	**4.34**	**32**	S	**Sn**	**03 23 07.9**	**+2.9**
NVLJ	**Novalja**	**4.44**	**311**	*i* Pn	**Pn**	**03 22 15.2**	**+0.1**
NVLJ				Sn	**Sn**	**03 23 07.0**	**-0.5**
MORH	**M¨‡r¨igy, Hung**	**4.53**	**352**	*e*Pn	**Pn**	**03 22 16.0**	**-0.3**
MORH				*e*Sn	**Sn**	**03 23 08.4**	**-1.1**
SIRR	**Siria**	**4.78**	**18**	↓*i*P	**Pn**	**03 22 20.7**	**+1.0**
CRES	**Cresnjev**	**5.05**	**325**	*e*Pn	**Pn**	**03 22 23.3**	**-0.3**
SGRR	**Singureni**	**5.32**	**60**	S	**Sn**	**03 23 29.5**	**+0.4**
CEY	**Cerknica**	**5.46**	**319**	*e*Pn	**Pn**	**03 22 28.8**	**-0.4**
CEY				*e*Sn	**Sn**	**03 23 30.2**	**-2.5**

MEX 10 03:25:33.2±0.5,15.28N×93.04W,h91km±5km,MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.46**	**338**	*e*P	Pn	03 25 46.4	-1.4
PCIG				*e*S	Sn	03 25 57.1	-1.5
THIG		**0.83**	**116**	*i* P	Pn	03 25 49.1	-2.0
THIG				*e*S	Sn	03 26 03.7	-0.9
CCIG	**Comitan**	**1.32**	**41**	*i* P	Pn	03 25 56.5	-0.5
CCIG				*i* S	Sn	03 26 13.7	-1.3
TGIG		**1.49**	**357**	*e*P	Pn	03 25 58.3	-0.7
TGIG				*e*S	Sn	03 26 16.6	-1.9

MEX 10 03:33:07.6±0.5,16.32N×98.22W,h12km±2km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.11**	**52**	*i* P	Pg	03 33 09.8	-0.9
PNIG				*i* S	Sg	03 33 12.5	-0.3
TLIG	**Tlapa**	**1.28**	**345**	*e*P	Pn	03 33 27.8	-3.6
TLIG				*e*S	Sb	03 33 44.1	-4.0
VHO	**Vista Hermosa**	**1.61**	**62**	*e*P	Pn	03 33 31.6	-4.4
VHO				*e*S	Sn	03 33 52.7	-4.1

MEX 10 03:40:25.5±0.6,14.11N×92.66W,h17km±999km,MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.88**	**26**	*e*P	Pb	03 40 39.7	-2.6
THIG				*i* S	Sb	03 40 50.0	-3.7
PCIG		**1.67**	**341**	*e*P	Pn	03 40 50.1	-4.0
PCIG				*i* S	Sn	03 41 10.5	-4.7
CCIG	**Comitan**	**2.21**	**13**	*e*P	Pn	03 40 58.9	-2.8
CCIG				*e*S	Sn	03 41 25.2	-3.6
TGIG		**2.69**	**350**	*e*P	Pn	03 41 06.2	-1.9
TGIG				*e*S	Sn	03 41 37.2	-3.1

DJA 10 03:45:46.3±2.8,11°S±8°×11°4E±°,h28km±42km,M4.2/11, mb4.8/1,MLv3.9/11,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**2.40**	**7**	P	Pn	03 46 24.1	+0.4
JAGI				S	Sn	03 46 52.8	+0.7
IGBI	**Denpasar**	**2.40**	**32**	P	Pn	03 46 23.9	+0.1
DNP	**Denpasar**	**2.56**	**32**	P	Pn	03 46 26.3	+0.4
SRBI	**Singaraja**	**3.07**	**26**	P	Pn	03 46 33.5	+0.5
SRBI				S	Sn	03 47 11.3	+2.5
SRBI				Sg	Sb	03 47 32.8	+15
PWJI	**Pagerwojo**	**3.46**	**324**	P	Pn	03 46 36.4	-2.0
PWJI				S	Sn	03 47 17.0	-1.5
TWSI	**Taliwang, Sumb**	**3.67**	**55**	P	Pn	03 46 41.6	+0.4
TWSI				S	Sn	03 47 21.1	-2.4
PCJI	**Pacitan**	**3.73**	**315**	P	Pn	03 46 41.9	-0.2
PLAI	**Plampang**	**4.37**	**63**	P	Pn	03 46 50.6	-0.3
PLAI				S	Sn	03 47 36.9	-4.1

IDC 10 03:57:36.9±1.8,4.97S×143.20E,h0km,mb3.3/2, mb1 3.8/3,mb1mx3.5/29,mbtmp3.5/3,ML3.6/2,Error ellipse: s-maj=51.8km s-min=29.4km az=102.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**3.48**	**314**	Pn	Pn	03 58 32.6	+0.2
	2.0nm,0.3s,baz=102,slow=19,SNR=9.3						
JAY				Sn	Sn	03 59 08.1	-6.3
	4.6nm,0.3s,baz=103,slow=23,SNR=5.3						
WRA	**Warramunga Arr**	**17.20**	**209**	P	Pn	04 01 38.4	-0.4
	0.3nm,0.3s,baz=30,slow=12,SNR=3.6						
ASAR	**Alice Springs**	**20.64**	**205**	P	P	04 02 18.2	0.0
	0.7nm,0.7s,baz=33,slow=10,SNR=5.4						
ILAR	**Eielson Array**	**86.05**	**24**	P	P	04 10 19.3	0.0
	0.3nm,0.6s,baz=261,slow=5.1,SNR=7.3						

*SJA **10** 04:12:12.8±0.5,31.73S×69.24W,h100km±3km,ML2.7, MW3.2*
*ISCJB **10** 04:12:13.1±0.9,31.72S±0.03×69.20W±0.05,h108km±8km, Error ellipse: s-maj=7.3km s-min=5.1km az=11.4*
*GUC **10** 04:12:13.2±0.5,31.72S×69.39W,h123km±3km,ML2.8*
ISC 10 04:12:14.1±1.8,31.72S±0.04×69.22W±0.06, h100km±13km,n19,σ0965/31,1C-1D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**0.10**	**220**	*e*P	**Pn**	**04 12 28.2**	**-0.2**
RTLS				*e*S	**Sn**	**04 12 39.7**	**+0.6**
RTLS				IAML		04 12 40.6	
	comp=Z,189nm,0.2s						
AUSP	**Uspallata**	**0.52**	**196**	*e*P	**Pn**	**04 12 30.1**	**-0.3**
AUSP				*e*S	**Sn**	**04 12 42.6**	**+0.1**
RTCV	**Cerro Valdivia**	**0.60**	**104**	*e*P	**Pn**	**04 12 30.1**	**-0.5**
RTCV				*e*S	**Sn**	**04 12 43.3**	**+0.3**
RTLL	**Cerro Villicun**	**0.75**	**59**	*e*P	**Pn**	**04 12 31.6**	**-0.4**
RTLL				*e*S	**Sn**	**04 12 45.5**	**+0.1**
RTLL				AMSG		04 12 46.2	
	comp=N,15μm,0.3s						
RTLL				IAML		04 12 46.7	
	comp=Z,304nm,0.2s						
RTLL	**Cerro Villicun**	**0.75**	**59**	↓*i*P	**Pn**	**04 12 31.5**	**-0.4**
RTLL				*i* S	**Sn**	**04 12 45.4**	**+0.1**
ASAL	**Salagasta**	**0.93**	**159**	*e*P	**Pn**	**04 12 33.3**	**-0.5**
ASAL				*e*S	**Sn**	**04 12 48.7**	**+0.1**
AMOG	**MOGNA**	**1.00**	**39**	*e*P	**Pn**	**04 12 34.4**	**-0.1**
ACCO	**Cerro Coronel**	**1.14**	**7**	*e*P	**Pn**	**04 12 36.5**	**+0.1**
ACCO				*e*S	**Sn**	**04 12 54.0**	**+0.8**
ARCO	**CERRO ARCO**	**1.14**	**168**	*e*P	**Pn**	**04 12 35.8**	**-0.5**
ARCO				IAML		04 12 54.2	
	comp=Z,127nm,0.4s						
AROD	**Rodeo**	**1.56**	**352**	*e*P	**Pn**	**04 12 42.2**	**+0.7**
CMCH	**Combarbala**	**1.62**	**289**	*e*P	**Pn**	**04 12 41.7**	**-0.1**
CMCH				*i* S	**Sn**	**04 13 02.9**	**0.0**
FCH	**Farellones**	**1.84**	**209**	*e*P	**Pn**	**04 12 45.8**	**+0.9**
FCH				*i* S	**Sn**	**04 13 10.2**	**+1.9**
FCH				IAML		04 13 13.0	
	comp=E,53nm,0.3s						
PEL	**Peldehue**	**1.88**	**221**	*e*P	**Pn**	**04 12 45.1**	**-0.1**
PEL				*i* S	**Sn**	**04 13 09.0**	**+0.1**
PEL				IAML		04 13 11.2	
	comp=E,83nm,0.3s						
ROCH	**El Roble**	**1.96**	**230**	*e*P	**Pn**	**04 12 45.6**	**-0.8**
ROCH				*i* S	**Sn**	**04 13 10.5**	**-0.5**
ROCH				IAML		04 13 14.2	
	comp=N,98nm,0.5s						
CLCH	**Cerro Calan**	**2.01**	**213**	*e*P	**Pn**	**04 12 46.4**	**-0.4**
CLCH				*i* S	**Sn**	**04 13 12.4**	**+0.6**
CLCH				IAML		04 13 15.7	
	comp=E,112nm,0.6s						
GO04	**Tololo Observa**	**2.06**	**318**	↑*i*P	**Pn**	**04 12 47.5**	**-0.2**
GO04				*i* S	**Sn**	**04 13 13.9**	**+0.8**
LSCH	**La Serena**	**2.51**	**316**	*e*P	**Pn**	**04 12 52.4**	**-0.9**
LSCH				*e*S	**Sn**	**04 13 22.3**	**-1.1**
APLL	**PUNTA DE LOS L**	**2.66**	**61**	IAML		04 13 28.4	
	comp=Z,15nm,0.3s						
MRA	**San Martin**	**3.05**	**104**	IAML		04 12 59.1	
	comp=Z,18nm,0.3s						

*ISCJB **10** 04:13:23.0±0.3,46.66N±0.02×81.32W±0.02,h0km,Error ellipse: s-maj=2.7km s-min=2.2km az=4.4*
*ANF **10** 04:13:23.1±0.2,46.66N×81.36W,ML2.5/13,Error ellipse: s-maj=2.7km s-min=1.8km az=13.0*
*OTT **10** 04:13:24.3±0.1,46.67N×81.34W,h1km,MN3.0/13, Mining related event, Sudbury, On 5km northeast from Onaping Falls, On Mining induced.*
ISC 10 04:13:23.4±0.8,46.67N±0.02×81.34W±0.02,h0km,n41, σ0986/68,1D,Ontario

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUNO	**Sudbury Onapin**	**0.03**	**186**	↓PG	**Pg**	**04 13 25.1**	**+1.2**
SUNO				SG	**

baz=34
SADO **Sadowa** 2.45 140 PN **Pn** 04 14 04.8 +0.3
SADO SN **Sn** 04 14 34.8 -0.4
SADO Trac 04 14 39.5
comp=Z,19nm,0.1s
SADO LG Lg 04 14 39.5
D53A Lac Vacive, Po 2.53 79 Pb **Pb** 04 14 09.3 -0.4
baz=262
D53A S **Sn** 04 14 36.7 -0.6
baz=262
F46A Macinaw City C 2.54 251 Sb **Sb** 04 14 42.4 +0.9
baz=68
E53A Dumoine, Ponti 2.56 95 P **Pn** 04 14 07.2 +1.1
baz=278,SNR=22
E53A S **Sn** 04 14 38.6 +0.7
baz=278
BASO Ashfield 2.67 185 PN **Pn** 04 14 07.8 +0.3
BASO SN **Sn** 04 14 40.4 -0.2
BASO LG Lg 04 14 46.0
BASO Trac 04 14 47.6
comp=Z,18nm,0.2s
BASO Ashfield 2.67 185 P **Pn** 04 14 07.9 +0.3
baz=4.5,SNR=14
CRLO Chalk River 2.81 102 PN **Pn** 04 14 10.1 +0.5
CRLO SN **Sn** 04 14 42.3 -1.9
CRLO Trac 04 14 52.5
comp=Z,10nm,0.1s
E54A Lac Daplat, Po 2.88 93 P **Pn** 04 14 11.6 +1.1
baz=276,SNR=31
E54A S **Sn** 04 14 46.7 +1.0
baz=276
KAPO Kapuskasing 2.89 345 PN **Pn** 04 14 10.7 +0.1
KAPO SN **Sn** 04 14 47.6 +1.6
KAPO LG Lg 04 14 52.4
KAPO Trac 04 14 52.6
comp=Z,12nm,0.1s
BANO Bancroft 2.90 123 P **Pn** 04 14 11.1 +0.2
baz=306,SNR=8.3
I49A Point Hope 2.92 202 P **Pn** 04 14 11.3 +0.2
baz=20,SNR=16
I49A S **Sn** 04 14 46.9 -0.1
baz=20
VLDQ Val d'Or 3.01 60 PN **Pn** 04 14 10.4 -1.9
VLDQ SN **Sn** 04 14 46.3 -2.7
VLDQ LG Lg 04 14 52.4
VLDQ Trac 04 14 53.9
comp=Z,9.1nm,0.1s
PEMO Pembroke 3.01 108 PN **Pn** 04 14 12.9 +0.5
PEMO SN **Sn** 04 14 48.8 -0.3
PEMO Trac 04 15 04.5
comp=Z,11nm,0.2s
PEMO Pembroke 3.01 108 P **Pn** 04 14 13.0 +0.7
baz=290,SNR=17
D54A Lac Fusel, La 3.25 80 P **Pn** 04 14 15.4 -0.1
baz=263
PLVO Plevna 3.40 117 P **Pn** 04 14 18.1 +0.5
baz=300,SNR=8.2

NEIC ***10*** *04:24:13.1±1.5,30.11N×88.10W,h11km±11km, MN2.6, Error ellipse: s-maj=9.2km s-min=4.2km az=193.0*
NEIC Felt [III] on Dauphin Island and [II] at Gulf Shores.
CERI ***10*** *04:24:13.0,30.11N×88.10W,h11km*
ANF ***10*** *04:24:15.0±0.5,30.19N×88.07W,h10km±3km, ML3.5/29, Error ellipse: s-maj=2.7km s-min=1.9km az=167.0*
ISC 10 04:24:14.7±1.1**,30°20N**±0.03**×88°10W**±0.02**,h15**km±9km**, n63,σ1s33**/97**, Mississippi**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
448A	**Bay Minette**	**0.75**	**16**	P		**Pg**		**04 24 29.5**	**+0.1**
baz=194,SNR=20									
448A				S		**Sb**		**04 24 41.4**	**+1.9**
baz=194									
447A	**Lucedale**	**0.76**	**321**	*e*Pg		**Pg**		**04 24 29.2**	**-0.4**
447A	**Lucedale**	**0.76**	**321**	P		**Pb**		**04 24 29.6**	**0.0**
baz=145,SNR=45									
447A				S		**Sb**		**04 24 41.6**	**+1.7**
baz=145									
449A	**Pace**	**0.94**	**54**	P		**Pn**		**04 24 33.2**	**-0.1**
baz=230									
449A				S		**Sn**		**04 24 47.4**	**+0.9**
baz=230									
348A	**Jackson**	**1.22**	**8**	*e*Pn		**Pn**		**04 24 37.3**	**+0.1**
348A				*e*Sg		**Sg**		**04 24 55.2**	**+1.1**
348A	**Jackson**	**1.22**	**8**	P		**Pb**		**04 24 37.7**	**+0.2**
baz=187,SNR=42									
348A				S		**Sg**		**04 24 55.2**	**+1.1**
baz=187									
446A	**Poplarville**	**1.24**	**298**	P		**Pg**		**04 24 38.4**	**-0.2**
baz=122									
446A				S		**Sg**		**04 24 56.1**	**+1.2**
baz=122									
347A	**Saraland**	**1.25**	**342**	P		**Pb**		**04 24 38.6**	**+0.6**
baz=163,SNR=70									
347A				S		**Sg**		**04 24 57.2**	**+1.9**
baz=163									
BRAL	**Brewton**	**1.32**	**43**	*e*Pn		**Pn**		**04 24 38.8**	**+0.3**
BRAL				*e*Sn		**Sn**		**04 24 56.5**	**+0.6**
BRAL	**Brewton**	**1.32**	**43**	P		**Pb**		**04 24 39.4**	**+0.2**
baz=221									
BRAL				S		**Sg**		**04 24 57.7**	**+0.4**
baz=221									
349A	**Repton**	**1.38**	**34**	P		**Pb**		**04 24 40.1**	**-0.2**
baz=212									
349A				S		**Sg**		**04 24 59.9**	**+0.5**
baz=212									
546A	**Slidell**	**1.41**	**272**	P		**Pg**		**04 24 41.3**	**-0.4**
baz=95									
546A				S		**Sg**		**04 25 01.8**	**+1.8**
baz=95									
450A	**Crestview**	**1.43**	**65**	Pb		**Pb**		**04 24 41.4**	**+0.3**
baz=242									
450A				Sb		**Sg**		**04 25 01.2**	**+0.3**
baz=242									
346A	**Big Creek Wild**	**1.67**	**315**	*e*Pn		**Pb**		**04 24 45.1**	**0.0**
346A				*e*Sn		**Sb**		**04 25 06.8**	**+0.8**
346A	**Big Creek Wild**	**1.67**	**315**	Pb		**Pg**		**04 24 45.9**	**-0.9**
baz=137,SNR=36									
346A				Sb		**Sg**		**04 25 09.2**	**+0.7**
baz=137									
247A	**Quitman**	**1.90**	**347**	Sb		**Sb**		**04 25 15.2**	**+2.7**
baz=167									
248A	**Dixon Mills**	**1.91**	**9**	P		**Pb**		**04 24 49.1**	**-0.1**
baz=189,SNR=17									
248A				Sb		**Sb**		**04 25 15.9**	**+3.1**
baz=189									
249A	**Camden**	**1.95**	**25**	P		**Pn**		**04 24 48.8**	**+1.5**
baz=204,SNR=36									
249A				Sb		**Sb**		**04 25 16.7**	**+2.5**
baz=204									
345A	**Thompson Farm,**	**2.00**	**304**	Pb		**Pb**		**04 24 51.2**	**+0.5**
baz=125									
345A				Sb		**Sg**		**04 25 19.1**	**+0.1**
baz=125									
445A	**Amite**	**2.01**	**286**	Pb		**Pg**		**04 24 51.5**	**-1.7**
baz=107									
445A				Sb		**Sg**		**04 25 19.8**	**+0.5**
baz=107									
451A	**Vernon**	**2.07**	**78**	*e*Pn		**Pn**		**04 24 48.1**	**-0.8**
451A	**Vernon**	**2.07**	**78**	P		**Pn**		**04 24 48.9**	**+0.1**
baz=257									
451A				Sb		**Sg**		**04 25 19.4**	**-1.9**
baz=257									
250A	**Grady**	**2.36**	**41**	*e*Pn		**Pn**		**04 24 52.6**	**-0.3**
250A	**Grady**	**2.36**	**41**	P		**Pn**		**04 24 53.8**	**+0.8**
baz=220									
245A	**Little AP, Sta**	**2.39**	**320**	P		**Pn**		**04 24 53.8**	**+0.5**
baz=141									
351A	**Pinckard**	**2.40**	**63**	Sb		**Sb**		**04 25 29.6**	**+2.7**
baz=242									
552A	**Lynn Haven**	**2.43**	**91**	P		**Pn**		**04 24 53.7**	**-0.1**
baz=270									
147A	**Livingston**	**2.47**	**357**	*e*Pn		**Pn**		**04 24 54.7**	**+0.3**
147A	**Livingston**	**2.47**	**357**	Pb		**Pb**		**04 24 59.4**	**+0.6**
baz=177									
148A	**Greensboro**	**2.48**	**10**	P		**Pn**		**04 24 55.2**	**+0.7**
baz=190									
146A	**Union**	**2.56**	**342**	*e*Pn		**Pn**		**04 24 55.2**	**-0.4**
146A	**Union**	**2.56**	**342**	P		**Pn**		**04 24 56.2**	**+0.5**
baz=162									
344A	**Westbrook Farm**	**2.59**	**299**	*e*Pn		**Pn**		**04 24 55.6**	**-0.4**
344A				*e*Pg		**Pg**		**04 25 02.9**	**-1.4**
344A				*e*Sn		**Sg**		**04 25 37.1**	**-0.7**
344A	**Westbrook Farm**	**2.59**	**299**	P		**Pn**		**04 24 56.8**	**+0.8**
baz=120									
452A	**Marianna**	**2.59**	**75**	P		**Pn**		**04 24 56.2**	**+0.1**
baz=254									
149A	**Jones**	**2.64**	**25**	Pb		**Pb**		**04 25 02.8**	**+1.2**
baz=204									
149A				Sb		**Sb**		**04 25 36.9**	**+3.1**
baz=204									
VBMS	**Vicksburg**	**2.89**	**315**	*e*Pn		**Pn**		**04 25 01.0**	**+0.9**
LRAL	**Lakeview Retre**	**2.98**	**18**	*e*Pn		**Pn**		**04 25 00.8**	**-0.6**
LRAL				*e*Sn		**Sn**		**04 25 35.5**	**-1.2**
LRAL	**Lakeview Retre**	**2.98**	**18**	P		**Pn**		**04 25 01.0**	**-0.3**
baz=198,SNR=8.6									
352A	**Blakely**	**3.01**	**64**	*e*Pn		**Pn**		**04 25 01.0**	**-0.8**
352A				*e*Pg		**Pb**		**04 25 09.4**	**+1.5**
352A				*e*Sn		**Sb**		**04 25 45.6**	**+1.1**
553A	**Crawfordville**	**3.17**	**89**	P		**Pn**		**04 25 04.5**	**+0.5**
baz=270									
453A	**Whigham**	**3.32**	**78**	*e*Pn		**Pn**		**04 25 05.6**	**-0.5**
Z45A	**Winona**	**3.44**	**337**	*e*Pn		**Pn**		**04 25 06.7**	**-1.1**
Z50A	**Ashland**	**3.56**	**31**	*e*Pn		**Pn**		**04 25 09.4**	**0.0**
Z50A				*e*Sn		**Sn**		**04 25 49.0**	**-2.2**
143A	**Socs Landing,**	**3.77**	**312**	*e*Pn		**Pn**		**04 25 11.2**	**-1.0**
152A	**Waverly Hall**	**3.79**	**49**	*e*Pn		**Pn**		**04 25 12.5**	**-0.1**
152A				*e*Sn		**Sn**		**04 25 54.2**	**-2.6**
342A	**Flagon Creek P**	**3.82**	**289**	*e*Pn		**Pn**		**04 25 11.9**	**-1.1**
253A	**Americus**	**3.87**	**60**	*e*Pn		**Pn**		**04 25 13.4**	**-0.3**
253A				*e*Pb		**Pb**		**04 25 24.3**	**+1.6**
Y49A	**Blount Mountai**	**3.92**	**21**	*e*Pn		**Pn**		**04 25 13.3**	**-0.9**
Y49A				*e*Pb		**Pb**		**04 25 26.3**	**+2.9**
Y49A				*e*Sg		**Sg**		**04 26 19.3**	**-1.1**
X48A	**Hartselle**	**4.33**	**12**	*e*Pn		**Pn**		**04 25 19.9**	**-0.1**
X48A				*e*Sn		**Sn**		**04 26 07.5**	**-2.6**
OXF	**Oxford**	**4.44**	**346**	*e*Pn		**Pn**		**04 25 21.5**	**0.0**
555A	**McAlpin**	**4.44**	**90**	*e*Pn		**Pn**		**04 25 19.8**	**-1.7**
241A	**Mo Tay, Goldon**	**4.52**	**295**	*e*Pn		**Pn**		**04 25 22.2**	**-0.3**
PLAL	**Pickwick Lake**	**4.77**	**0**	*e*Pn		**Pn**		**04 25 26.2**	**+0.3**
154A	**Montrose**	**4.89**	**59**	*e*Pn		**Pn**		**04 25 27.6**	**-0.1**
GOGA	**Godfrey**	**5.08**	**50**	*e*Pn		**Pn**		**04 25 31.1**	**+0.9**
255A	**Hazlehurst**	**5.12**	**69**	*e*Pn		**Pn**		**04 25 30.7**	**-0.1**
957A	**Wimauma**	**5.72**	**115**	*e*Pn		**Pn**		**04 25 36.4**	**-2.7**
957A				*e*Pg		**Pb**		**04 25 57.2**	**+3.0**
957A				*e*Sb		**Sb**		**04 27 03.3**	**+0.7**
WVT	**Waverly**	**5.92**	**2**	*e*Pn		**Pn**		**04 25 42.3**	**+0.5**
W41B	**Gary Mavity, V**	**6.07**	**326**	*e*Pn		**Pn**		**04 25 43.1**	**-0.7**
V51A	**Loudon**	**6.41**	**28**	*e*Pn		**Pn**		**04 25 47.1**	**-1.4**
V51A				*e*Pg		Pg		04 26 12.8	-4.6
V51A				*e*Sg		**Sg**		**04 27 36.1**	**-4.3**
T47A	**Sharon Grove**	**6.82**	**7**	*e*Pn		**Pn**		**04 25 53.1**	**-1.0**
JSC	**Jenkinsville**	**7.07**	**53**	*e*Pn		**Pn**		**04 25 57.4**	**-0.2**

IDC 10 04:35:28.4±5.0**,18°88S×137°91E,h0**km**,mb1 3.2**/3**, mb1mx3.1**/26**,mbtmp3.0**/3**,ML2.8**/3**,Error ellipse: s-maj=42.3km s-min=31.9km az=51.0,Northern Territory**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**3.53**	**252**	Pn		Pn	Pn	04 36 24.3	-0.3
0.2nm,0.3s,baz=72,slow=12,SNR=21									
WRA				Sn		Sn	Sn	04 37 09.2	+2.2
0.3nm,0.3s,baz=76,slow=20,SNR=4.3									
WRA				Lg		Lg	Lg	04 37 27.4	
0.8nm,0.3s,baz=73,slow=28,SNR=7.5									
ASAR	**Alice Springs**	**6.05**	**217**	Pn		Pn	Pn	04 36 58.2	-1.0
0.2nm,0.3s,baz=44,slow=15,SNR=10.0									
ASAR				Sn		Sn	Sn	04 38 11.1	+1.9
0.3nm,0.3s,baz=35,slow=28,SNR=5.5									
ASAR				Lg		Lg	Lg	04 38 41.6	
0.1nm,0.3s,baz=38,slow=32,SNR=3.5									
STKA	**Stephens Creek**	**13.36**	**166**	Pn		Pn	Pn	04 38 40.0	+0.6
0.1nm,0.3s,baz=0.0,slow=20,SNR=1.8									

NIED ***10*** *04:42:00,23.30N×121.80E,h32km,Mw3.6 Best double couple: M₀2.57000×10¹⁴ NP1:φ₀281.00000°,δ14.00000°, λ178.00000°. NP2:φ₀13.00000°,δ90.00000°,λ76.00000°.*
JMA ***10*** *04:42:52.9±0.2,23.30N×121.81E,h0km,M4.0*
ISCJB ***10*** *04:42:55.0±0.3,23.32N±0.01×121.71E±0.02,h23km±2km, Error ellipse: s-maj=2.6km s-min=1.8km az=39.5*
TAP ***10*** *04:42:56.1,23.34N×121.64E,h27km,ML4.0,C*
ASIES ***10*** *04:42:56.1,23.32N×121.67E,h25km,MW3.3*
ISC 10 04:42:53.9±1.0**,23.32N**±0.02**×121.70E**±0.02**,h16**km±8km**, n122,σ0s79**/196**,4C-29D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.31**	**304**	⇓P			**Pb**	**04 43 02.2**	**+1.1**
baz=313									
HGSD				*e*S			**Sb**	**04 43 06.7**	**+0.7**
baz=313									
TWF1	**Yuli**	**0.38**	**275**	⇓*i*P			**Pn**	**04 43 03.6**	**-1.1**
baz=267									
TWF1				*i* S			**Sb**	**04 43 09.1**	**+1.2**
baz=267									
CHKT	**Chengkung**	**0.38**	**235**	⇑*i*P			**Pn**	**04 43 03.7**	**-1.1**
baz=217									
CHKT				S			**Sb**	**04 43 08.9**	**+1.0**
baz=217									
YULB	**Yu-li**	**0.38**	**281**	⇓P			**Pb**	**04 43 03.6**	**+1.2**
baz=279									
YULB				S			**Sb**	**04 43 09.7**	**+1.6**
baz=279									
FULB	**Fuli**	**0.39**	**253**	⇓*i*P			**Pb**	**04 43 03.7**	**+1.1**
baz=238									
FULB				S			**Sb**	**04 43 09.4**	**+1.0**
baz=238									
EHY	**Hungye**	**0.40**	**298**	⇓*i*P			**Pb**	**04 43 03.7**	**+1.1**
baz=299									
EHY				S			**Sb**	**04 43 09.5**	**+1.0**
baz=299									
EGFH	**Guangfu**	**0.43**	**324**	*e*P			**Pb**	**04 43 04.5**	**+1.2**
baz=336									
EGFH				S			**Sb**	**04 43 10.9**	**+1.4**
baz=336									
ESL	**Shilin**	**0.55**	**333**	⇓*i*P			**Pb**	**04 43 06.1**	**+0.8**
baz=327									
ESL				S			**Sb**	**04 43 13.2**	**+0.2**
baz=327									
ELDTW	**Lidau**	**0.64**	**259**	⇓*e*P			**Pb**	**04 43 07.4**	**+0.5**
baz=245									
ELDTW				*e*S			**Sg**	**04 43 14.8**	**-0.4**
baz=245									
HWA	**Hwalien**	**0.66**	**352**	*e*P			**Pn**	**04 43 08.1**	**-0.6**
baz=7.0									
HWA				*e*S			**Sb**	**04 43 17.2**	**+1.1**
baz=7.0									
YUS	**Yu-Shan**	**0.71**	**284**	⇓*i*P			**Pb**	**04 43 09.1**	**+0.8**
baz=283									
YUS				*e*S			**Sb**	**04 43 17.9**	**-0.1**
baz=283									
TTN	**Taitung**	**0.76**	**223**	*e*P			**Pn**	**04 43 10.1**	**0.0**
baz=206									
TWGBT	**Beinan**	**0.76**	**229**	⇑P			**Pb**	**04 43 09.2**	**+0.4**
baz=235									
TWGBT				*e*S			**Sb**	**04 43 18.9**	**0.0**
baz=235									
TWG	**Pinlang**	**0.76**	**230**	⇑*i*P			**Pb**	**04 43 09.2**	**+0.3**
baz=235									
TWG				S			**Sg**	**04 43 18.7**	**-0.2**
baz=235									
TWD	**Chiawan**	**0.77**	**353**	⇓*i*P			**Pb**	**04 43 09.5**	**+0.5**
baz=7.0									
TWD				S			**Sg**	**04 43 19.1**	**+0.1**
baz=7.0									
SSLB	**Suanglung**	**0.83**	**304**	⇓P			**Pb**	**04 43 10.5**	**+0.4**
baz=305									
SSLB				*e*S			**Sg**	**04 43 20.4**	**-0.7**
baz=305									
NACB	**Ninganchiao**	**0.86**	**353**	⇓P			**Pb**	**04 43 10.7**	**+0.2**
baz=344									
NACB				*e*S			**Sg**	**04 43 21.3**	**-0.7**
baz=344									
STYT	**Tauyuan**	**0.88**	**260**	⇓*i*P			**Pn**	**04 43 11.6**	**-0.3**
baz=251									
STYT				*e*S			**Sb**	**04 43 22.3**	**-0.3**
baz=251									
CHGB	**Renai**	**0.88**	**327**	⇓*i*P			**Pn**	**04 43 11.7**	**-0.3**
baz=329									
CHGB				*e*S			**Sg**	**04 43 21.0**	**-1.9**
baz=329									
WHF	**Hehuan Shan**	**0.92**	**334**	⇓*i*P			**Pg**	**04 43 11.8**	**0.0**
baz=337									
WHF				*e*S			**Sg**	**04 43 22.4**	**-1.5**
baz=337									
SMLT	**Sun Moon Lake**	**0.93**	**308**	⇓*i*P			**Pn**	**04 43 12.4**	**-0.1**
baz=309									
SMLT				*e*S			**Sb**	**04 43 23.5**	**-0.4**
baz=309									
TYC	**Yuchr**	**0.97**	**307**	⇓*i*P			**Pn**	**04 43 13.1**	**+0.1**
baz=308									
TYC				S			**Sb**	**04 43 25.3**	**+0.3**
baz=308									
CHN5	**Tsauling**	**0.98**	**287**	⇓P			**Pn**	**04 43 13.9**	**+0.7**
baz=292									
CHN5				S			**Sn**	**04 43 26.9**	**+0.1**
baz=292									
TPUB	**Ta-pu**	**0.99**	**269**	⇓P			**Pn**	**04 43 13.8**	**+0.6**
baz=267									
TPUB				*e*S			**Sg**	**04 43 26.1**	**+0.1**
baz=267									
ECL	**Taimali**	**0.99**	**224**	*e*P			**Pb**	**04 43 12.2**	**-0.6**
baz=229									
WTP	**Ta-pu**	**1.00**	**266**	⇓*i*P			**Pn**	**04 43 14.1**	**+0.6**
baz=263									
WTP				S			**Sg**	**04 43 26.6**	**0.0**
baz=263									
CHN4	**Tsaushan**	**1.02**	**272**	⇓*i*P			**Pn**	**04 43 14.6**	**+0.9**
baz=270									
CHN4				S			**Sn**	**04 43 27.7**	**0.0**
baz=270									
WJS	**Zhushan**	**1.03**	**300**	P			**Pn**	**04 43 14.8**	**+1.1**
baz=300									
WJS				S			**Sn**	**04 43 28.1**	**+0.3**
baz=300									
TWT	**Tachien**	**1.05**	**333**	P			**Pn**	**04 43 14.6**	**+0.4**
baz=334									
TWT				S			**Sb**	**04 43 26.5**	**-1.0**
baz=334									
SGST	**Jiashian**	**1.06**	**257**	⇓*i*P			**Pg**	**04 43 15.4**	**+1.0**
baz=246									
SGST				*e*S			**Sn**	**04 43 29.0**	**+0.4**
baz=246									
TDCB	**Techi**	**1.06**	**332**	⇓P			**Pg**	**04 43 14.6**	**+0.1**
baz=334									
TDCB				S			**Sb**	**04 43 26.5**	**-1.1**
baz=334									
CHN1	**Nanshi**	**1.09**	**263**	⇓P			**Pg**	**04 43 15.8**	**+0.8**
baz=260									
CHN1				*e*S			**Sn**	**04 43 30.0**	**+0.6**
baz=260									
WNT	**Mingjian**	**1.09**	**301**	*e*P			**Pg**	**04 43 15.8**	**+0.8**
baz=301									
NANB	**Nanao**	**1.11**	**2**	⇓P			**Pb**	**04 43 14.7**	**0.0**
baz=6.0									
NANB				*e*S			**Sb**	**04 43 27.9**	**-1.1**
baz=6.0									
ENA	**Nanau**	**1.11**	**2**	*e*P			**Pb**	**04 43 14.7**	**-0.1**
baz=6.0									
ENA				*e*S			**Sb**	**04 43 28.9**	**-0.1**
baz=6.0									
WGK	**Gukeng**	**1.11**	**290**	P			**Pg**	**04 43 15.9**	**+0.5**
baz=289									
WGK				*e*S			**Sg**	**04 43 29.9**	**0.0**
baz=289									
WDLH	**Douliu**	**1.13**	**289**	P			**Pg**	**04 43 16.3**	**+0.5**
baz=288									
SSD	**Sandimen**	**1.14**	**240**	*e*P			**Pb**	**04 43 15.3**	**0.0**
baz=230									
NNSB	**Datong**	**1.15**	**345**	P			**Pb**	**04 43 15.4**	**-0.1**
baz=348									
NNSB				*e*S			**Sb**	**04 43 29.2**	**-1.0**
baz=348									
NNS	**Nan Shan**	**1.16**	**345**	*e*P			**Pn**	**04 43 15.7**	**0.0**
baz=348									
CHY	**Chiayi**	**1.19**	**279**	*e*P			**Pg**	**04 43 16.7**	**-0.2**
baz=290									
CHY				*e*S			**Sg**	**04 43 32.6**	**+0.2**
baz=290									
MASBT	**Mashibuluo**	**1.21**	**235**	*e*P			**Pn**	**04 43 16.2**	**0.0**
baz=228									
MASBT				*e*S			**Sb**	**04 43 30.7**	**-1.2**
baz=228									
TAW	**Tawu**	**1.21**	**218**	*e*P			**Pn**	**04 43 15.9**	**-0.3**
baz=215									
EAST	**Anshuo**	**1.22**	**220**	⇑P			**Pn**	**04 43 15.8**	**-0.6**
baz=206									
EAST				*e*S			**Sb**	**04 43 30.8**	**-1.5**
baz=206									
TCU	**Taichung**	**1.25**	**312**	⇓P			**Pg**	**04 43 18.5**	**+0.4**
baz=313									
TCU				*e*S			**Sb**	**04 43 33.5**	**+0.3**
baz=313									
SGLT	**Jiouru**	**1.26**	**242**	*e*P			**Pg**	**04 43 19.6**	**+1.4**
baz=238									
TWM1	**Shoushan**	**1.28**	**248**	*e*P			**Pg**	**04 43 19.6**	**+1.0**
baz=244									
EOS1	**EOS1**	**1.29**	**18**	*e*P			**Pb**	**04 43 18.1**	**+0.3**
baz=33									
EOS1				*e*S			**Sb**	**04 43 34.4**	**+0.3**
baz=33									
TWC	**Suao**	**1.29**	**6**	*e*P			**Pb**	**04 43 18.0**	**+0.1**
baz=9.0									
TWC				*e*S			**Sb**	**04 43 33.6**	**-0.7**
baz=9.0									
WCHH	**Zhanghua**	**1.29**	**306**	*e*P			**Pg**	**04 43 18.9**	**0.0**
baz=306									
WLGB	**Puzi**	**1.30**	**277**	*e*P			**Pb**	**04 43 18.2**	**+0.2**
baz=276									
WLGB				*e*S			**Sg**	**04 43 35.8**	**-0.1**
baz=276									
ENTT	**Nioudou**	**1.32**	**355**	*e*P			**Pn**	**04 43 18.2**	**+0.3**
baz=357									
TWQ1	**Liyutan**	**1.33**	**321**	⇓*i*P			**Pg**	**04 43 19.9**	**+0.3**
baz=322									
TWQ1				*e*S			**Sb**	**04 43 36.1**	**+0.5**
baz=322									
RLNB	**Erlin**	**1.36**	**295**	*e*P			**Pg**	**04 43 19.8**	**-0.3**
baz=295									
RLNB				*e*S			**Sb**	**04 43 36.8**	**+0.6**
baz=295									
CHN8	**Yiju**	**1.37**	**272**	*e*P			**Pg**	**04 43 19.9**	**-0.4**
baz=270									
CHN8				*e*S			**Sg**	**04 43 37.4**	**-0.8**
baz=270									
SCZT	**Fangliau**	**1.37**	**227**	*e*P			**Pb**	**04 43 19.0**	**-0.3**
baz=212									
SCZT				*e*S			**Sg**	**04 43 38.0**	**-0.3**
baz=212									
YHNB	**Yeheng**	**1.38**	**348**	⇓P			**Pb**	**04 43 19.2**	**-0.2**
baz=350									
YHNB				*e*S			**Sn**	**04 43 35.0**	**-1.7**
baz=350									
TAI1	**Yung-k'ang**	**1.39**	**259**	*e*P			**Pb**	**04 43 19.7**	**+0.3**
baz=255									
NSK	**Sanguang**	**1.39**	**347**	⇓*i*P			**Pn**	**04 43 19.4**	**+0.6**
baz=350									
NSK				*e*S			**Sn**	**04 43 34.7**	**-2.2**
baz=350									
NSY	**Sanyi**	**1.39**	**322**	*e*P			**Pg**	**04 43 20.8**	**0.0**
baz=339									
NSY				*e*S			**Sb**	**04 43 37.8**	**+0.5**
baz=339									
SCLT	**Jiali**	**1.40**	**264**	*e*P			**Pb**	**04 43 20.0**	**+0.4**
baz=262									
SCLT				*e*S			**Sg**	**04 43 38.4**	**-0.5**
baz=262									
WSF	**Szhu**	**1.40**	**284**	*e*P			**Pb**	**04 43 20.0**	**+0.3**
baz=

NTC	**Toucheng**	**1.54**	**4**	*e*P		**Pb**	**04 43 21.8**	**-0.3**
	baz=353							
WLCH	**Liuqiu**	**1.56**	**232**	*e*P		**Pg**	**04 43 25.1**	**+1.2**
	baz=230							
TWP	**Hsiaoliuchiu**	**1.57**	**232**	*e*P		**Pg**	**04 43 24.0**	**-0.1**
	baz=230							
HEN	**Hengchun**	**1.58**	**215**	*e*P		**Pg**	**04 43 23.9**	**-0.5**
	baz=204							
WLTB	**Daxi**	**1.58**	**345**	*e*P		**Pb**	**04 43 23.1**	**+0.2**
	baz=355							
WLTB				*e*S		**Sn**	**04 43 41.6**	**0.0**
	baz=355							
TSEB	**Hengchuen, Pin**	**1.59**	**208**	*e*P		**Pb**	**04 43 23.4**	**+0.4**
	baz=206							
TSEB				*e*S		**Sn**	**04 43 41.5**	**-0.4**
	baz=206							
TWKBT	**Hengchun**	**1.60**	**211**	*e*P		**Pn**	**04 43 21.7**	**+0.1**
	baz=208							
TWKBT				*e*S		**Sn**	**04 43 40.9**	**-1.0**
	baz=208							
TWK1	**Hengchun**	**1.60**	**211**	*e*P		**Pb**	**04 43 22.5**	**-0.6**
	baz=208							
TWK1				*e*S		**Sn**	**04 43 40.3**	**-1.7**
	baz=208							
JYNG	**Yonagunijimaku**	**1.60**	**45**	P		**Pb**	**04 43 23.2**	**0.0**
JYNG				*e*S		**Sn**	**04 43 42.5**	**+0.5**
SBCB	**Hsinchu**	**1.61**	**336**	*e*P		**Pb**	**04 43 23.1**	**-0.2**
	baz=338							
TIPB	**Shuangxi**	**1.65**	**4**	P		**Pb**	**04 43 23.7**	**-0.4**
	baz=354							
TIPB				S		**Sn**	**04 43 43.4**	**+0.1**
	baz=354							
YOJ	**Yonaguni jima**	**1.65**	**46**	P		**Pb**	**04 43 23.7**	**-0.3**
	baz=48							
YOJ	**Yonaguni jima**	**1.65**	**46**	P		**Pb**	**04 43 23.8**	**-0.3**
YOJ				*e*S		**Sn**	**04 43 43.9**	**+0.6**
TWA	**Mucha**	**1.66**	**356**	*e*P		**Pb**	**04 43 23.7**	**-0.5**
	baz=359							
TWA				*e*S		**Sn**	**04 43 43.1**	**-0.4**
	baz=359							
TATO	**Taipei**	**1.66**	**353**	*e*P		**Pn**	**04 43 22.1**	**-0.3**
	baz=355							
TWB1	**Santiao Chiao**	**1.70**	**9**	*e*P		**Pb**	**04 43 24.3**	**-0.6**
	baz=11							
NCU	**National Centr**	**1.71**	**344**	*e*P		**Pb**	**04 43 24.5**	**-0.6**
	baz=346							
NWF	**Wu-fen Shan**	**1.75**	**2**	*e*P		**Pb**	**04 43 25.1**	**-0.6**
	baz=351							
WFSB	**Wu-fen Shan**	**1.75**	**2**	*e*P		**Pn**	**04 43 24.2**	**+0.6**
	baz=351							
TWS1	**Kuangyinshan**	**1.79**	**352**	*e*P		**Pb**	**04 43 26.5**	**0.0**
	baz=5.0							
TWS1				*e*S		**Sn**	**04 43 47.3**	**+0.5**
	baz=5.0							
YM01	**YM01**	**1.82**	**356**	*e*P		**Pb**	**04 43 26.5**	**-0.6**
	baz=358							
YM04	**YM04**	**1.83**	**355**	*e*P		**Pb**	**04 43 26.5**	**-0.7**
	baz=357							
YM10	**YM10**	**1.83**	**356**	*e*P		**Pb**	**04 43 26.6**	**-0.6**
	baz=358							
YM05	**YM05**	**1.84**	**356**	*e*P		**Pb**	**04 43 26.8**	**-0.5**
	baz=358							
YM11	**YM11**	**1.84**	**356**	*e*P		**Pb**	**04 43 26.6**	**-0.8**
	baz=358							
YM07	**YM07**	**1.85**	**358**	*e*P		**Pn**	**04 43 26.2**	**+1.1**
	baz=359							
WDGT	**Dungji**	**1.88**	**269**	⫴P		**Pn**	**04 43 26.3**	**+0.9**
	baz=266							
WDGT				S		**Sn**	**04 43 47.5**	**-1.4**
	baz=266							
TWY	**Chenhua**	**1.95**	**357**	*e*P		**Pb**	**04 43 28.6**	**-0.6**
	baz=359							
PHUB	**P'eng-hu**	**1.97**	**276**	*e*P		**Pn**	**04 43 27.3**	**+0.6**
	baz=275							
PHUB				*e*S		**Sn**	**04 43 49.2**	**-1.8**
	baz=275							
PNG	**Penghu**	**1.99**	**278**	*e*P		**Pn**	**04 43 27.9**	**+0.9**
	baz=277							
PNG				*e*S		**Sn**	**04 43 50.6**	**-1.0**
	baz=277							
HATJ	**Hateruma jima**	**2.06**	**69**	P		**Pn**	**04 43 29.4**	**+1.4**
HATJ				S		**Sn**	**04 43 53.6**	**+0.2**
VCHM	**Qimei**	**2.09**	**267**	*e*P		**Pn**	**04 43 29.0**	**+0.6**
	baz=264							
IRIF	**Iriomote-Funau**	**2.12**	**61**	P		**Pb**	**04 43 30.5**	**-1.4**
IRIF				S		**Sn**	**04 43 56.0**	**+1.3**
JKRS	**Kuro-shima**	**2.30**	**66**	P		**Pn**	**04 43 33.0**	**+1.7**
JKRS				S		**Sn**	**04 44 00.2**	**+0.9**
JIJ	**Ishigaki jima**	**2.46**	**65**	P		**Pn**	**04 43 35.1**	**+1.6**
JIJ				S		**Sn**	**04 44 03.3**	**-0.1**
VWUC	**VWUC**	**2.65**	**309**	*e*P		**Pn**	**04 43 36.3**	**+0.3**
	baz=312							
JISG	**Ishigakijimahi**	**2.70**	**62**	P		**Pn**	**04 43 37.9**	**+1.1**
JISG				*e*S		**Sn**	**04 44 08.5**	**-0.6**
PTTC	**Pingtan**	**2.80**	**321**	*e*P		**Pn**	**04 43 38.5**	**+0.4**
	baz=324							
PTMZ	**Houxiangcun**	**2.92**	**307**	*e*P		**Pn**	**04 43 40.3**	**+0.6**
	baz=309							
JTJ	**Tarama**	**3.04**	**64**	P		**Pn**	**04 43 42.9**	**+1.4**
JTJ				*e*S		**Sn**	**04 44 19.6**	**+2.0**
KNM	**Kinmen**	**3.19**	**291**	*e*P		**Pn**	**04 43 45.6**	**+2.2**
	baz=290							
KNMB	**Chin-men Tao**	**3.24**	**291**	*e*P		**Pn**	**04 43 43.7**	**-0.5**
	baz=292							
MATB	**Ma-tsu**	**3.24**	**331**	*e*P		**Pn**	**04 43 44.4**	**+0.2**
	baz=333							
QZH	**Quanzhou**	**3.27**	**300**		Pn	**Pn**	**04 43 44.6**	**0.0**
QZH					Sn	**Sn**	**04 44 20.2**	**-3.0**
QZH					smax	smax		
	comp=N,120nm,0.6s							
QZH					smax	smax		
	comp=E,120nm,0.5s							
JIRB	**Irabujima**	**3.51**	**64**	S		**Sn**	**04 44 28.3**	**-0.8**
JMJ	**Miyako jima 2**	**3.60**	**65**	S		**Sn**	**04 44 31.4**	**-0.1**
JIKM	**Ikemajima**	**3.61**	**63**	S		**Sn**	**04 44 31.3**	**-0.4**
LYJJ	**Jianjiangzhen**	**3.67**	**332**	*e*P		**Pn**	**04 43 50.2**	**+0.1**
	baz=335							
ZPLA	**Ao Xicun**	**3.68**	**280**	*e*P		**Pn**	**04 43 50.4**	**+0.2**
	baz=280							
MHZQ	**Yeshan**	**3.69**	**319**	*e*P		**Pn**	**04 43 50.6**	**+0.3**
	baz=323							
AXDP	**Jialang**	**3.76**	**296**	*e*P		**Pn**	**04 43 51.6**	**+0.3**
	baz=297							
XPSS	**Dashiqiu**	**3.85**	**339**	*e*P		**Pn**	**04 43 52.9**	**+0.3**
	baz=342							
ZZJH	**Jiuhuzhen**	**3.90**	**288**	*e*P		**Pn**	**04 43 53.1**	**-0.2**
	baz=288							

IDC 10 04:48:45.6±3.8, 18°.61S×176°.04W, h0km, mb4.4/5, mb1 4.5/6, mb1mx4.0/42, mbtmp4.4/6, ML4.2/1, Error ellipse: s-maj=160.8km s-min=32.1km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.21**	**42**	Pn	Pn	04 50 18.8	+0.2
	5.9nm,0.3s,baz=231,slow=15,SNR=6.4						
AFI				Sn	Sn	04 51 16.9	-14
	15nm,0.3s,baz=263,slow=5.1,SNR=8.9						
CTA	**Charters Tower**	**35.56**	**261**	P	P	04 55 46.3	+1.3
	1.1nm,0.4s,baz=86,slow=13,SNR=3.2						
STKA	**Stephens Creek**	**40.29**	**242**	P	P	04 56 25.1	+0.3
	0.6nm,0.3s,baz=68,slow=6.4,SNR=3.0						
WRA	**Warramunga Arr**	**46.73**	**260**	P	P	04 57 16.3	-0.5
	3.8nm,0.4s,baz=97,slow=7.8,SNR=34						
ASAR	**Alice Springs**	**46.78**	**255**	P	P	04 57 17.0	-0.3
	16nm,0.6s,baz=92,slow=7.8,SNR=148						
FITZ	**Fitzroy Crossi**	**55.14**	**261**	P	P	04 58 19.3	-1.0
	1.5nm,0.4s,baz=89,slow=9.7,SNR=2.5						

IDC 10 04:51:54.3±2.8, 7°.12S×129°.72E, h102km±39km, mb3.3/1, mb1 3.7/5, mb1mx3.4/37, mbtmp4.0/5, Error ellipse: s-maj=67.9km s-min=22.1km az=91.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.40**	**14**	P	Pn	04 53 26.1	0.0
	2.6nm,0.3s,baz=221,slow=20,SNR=18						
SIJI				S	Sn	04 54 32.5	-5.3
	3.4nm,0.3s,baz=307,slow=20,SNR=4.9						
FITZ	**Fitzroy Crossi**	**11.61**	**200**	P	Pn	04 54 37.3	+0.5
	0.9nm,0.3s,baz=20,slow=12,SNR=56						
FITZ				S	Sn	04 56 39.7	-4.7
	0.3nm,0.3s,baz=195,slow=20,SNR=3.4						
WRA	**Warramunga Arr**	**13.51**	**161**	P	Pn	04 55 00.7	-1.1
	0.8nm,0.3s,baz=342,slow=13,SNR=30						
WRA				S	Sn	04 57 24.1	-6.5
	0.8nm,0.3s,baz=341,slow=22,SNR=8.3						
ASAR	**Alice Springs**	**16.93**	**167**	P	P	04 55 45.6	+0.2
	0.5nm,0.3s,baz=344,slow=9.6,SNR=24						
ASAR				S	Sn	04 58 43.4	-10
	0.1nm,0.3s,baz=356,slow=27,SNR=3.1						
MKAR	**Makanchi Array**	**68.17**	**327**	P	P	05 02 43.7	0.0
	0.3nm,0.5s,baz=116,slow=8.4,SNR=4.6						

TRN 10 04:53:39.1, 16°.25N×61°.11W, h18km, MD3.8, 7C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEG	**La Desirade**	**0.08**	**34**	*e*P	Pg	04 53 43.8	+1.1
DEG				*e*S	Sg	04 53 45.9	+0.9
SFG	**Saint Francois**	**0.09**	**273**	⫴*i*P	Pg	04 53 45.1	+2.4
MAGL	**Barre de l'ile**	**0.34**	**210**	⇑*e*P	Pn	04 53 49.1	-0.2
MAGL				*e*S	Sn	04 53 54.9	-0.9
MGG	**Marie-Galante**	**0.39**	**212**	*e*P	Pn	04 53 49.9	+0.1
MGG				*e*S	Sn	04 53 56.8	0.0
ABD	**La Joyeuse, An**	**0.43**	**301**	⇑*e*P	Pn	04 53 49.8	-0.7
ABD				*e*S	Sn	04 53 58.6	+0.7
CBE	**F"f", Capest**	**0.51**	**250**	⇑*e*P	Pn	04 53 52.1	+0.4
CBE				*e*S	Sn	04 54 00.6	+0.5
LKG	**Breislack**	**0.57**	**249**	*e*P	Pn	04 53 53.0	+0.5
SSG	**Sans Toucher**	**0.57**	**254**	⇑*i*P	Pn	04 53 52.9	+0.3
TDBA	**Terre de Bas,**	**0.65**	**232**	*e*P	Pn	04 53 54.0	+0.5
TDBA				*e*S	Sn	04 54 03.7	+0.4
LZG	**Guadaloupe-1**	**0.65**	**261**	⇑*i*P	Pn	04 53 54.0	+0.4
TBG	**Guadaloupe-3**	**0.65**	**233**	*e*P	Pn	04 53 54.2	+0.7
MDPV	**Dominica, Penn**	**0.69**	**206**	*e*P	Pn	04 53 54.8	+0.7
MDPV				*e*S	Sn	04 54 07.3	+3.0
MDVC	**Dominica, Viel**	**0.69**	**205**	*e*P	Pn	04 53 54.7	+0.6
MDVC				*e*S	Sn	04 54 06.9	+2.5
MDPO	**Dominica; Chan**	**0.75**	**206**	*e*P	Pn	04 53 55.2	+0.4
BBL	**Barber's Block**	**0.80**	**206**	*e*P	Pn	04 53 56.1	+0.5
BBL				*e*S	Sn	04 54 08.7	+1.6
DLPL	**La Plaine**	**0.92**	**189**	*e*	Pn	04 53 57.6	+0.4
DLPL	**La Plaine**	**0.92**	**189**	*e*P	Pn	04 53 59.3	+2.0
DLPL	**La Plaine**	**0.92**	**189**	*e*	Pn	04 54 10.1	+13
DLPL				*e*S	Sn	04 54 14.2	+4.1
MDN	**Morne-Daniel**	**0.97**	**197**	*e*P	Pg	04 53 59.7	+1.8
MDN				*e*S	Sn	04 54 13.9	+2.8
BPA	**Boggy Peak**	**1.07**	**318**	*e*P	Pg	04 54 01.4	+1.5
BPA				*e*S	Sg	04 54 16.0	+2.0
MLYT	**Lee's Yard**	**1.14**	**294**	*e*P	Pg	04 54 02.1	+0.8
MLYT				*e*S	Sg	04 54 18.2	+1.9
BAMF	**Morne Balai**	**1.43**	**182**	*e*P	Pn	04 54 04.5	+0.2
PCM	**Pelee Case Pet**	**1.43**	**184**	*e*P	Pn	04 54 04.7	+0.5
CXM	**Morne La Croix**	**1.43**	**182**	*e*P	Pb	04 54 05.2	-0.2
CXM				*e*S	Sb	04 54 23.9	+0.5
GBMF	**Grand Be**	**1.45**	**182**	*e*P	Pn	04 54 04.7	+0.2
PML	**Morne Lenard**	**1.46**	**183**	*e*P	Pn	04 54 05.0	+0.3
FDF	**Fort de France**	**1.51**	**182**	*e*P	Pb	04 54 07.2	+0.6
FDF	**Fort de France**	**1.51**	**182**	*e*	Pg	04 54 23.7	+15
FDF				*e*S	Sg	04 54 28.4	+0.5
ANWB	**Willy Bob**	**1.56**	**335**	*e*	Pn	04 54 06.2	+0.3
ANWB	**Willy Bob**	**1.56**	**335**	*e*P	Pg	04 54 08.5	-0.6
ANWB				*e*S	Sg	04 54 28.5	-0.9
NEV	**Hard Times**	**1.66**	**302**	*e*P	Pg	04 54 10.3	-0.8
NEV				*e*S	Sb	04 54 30.6	+0.8
ZAM	**Aeronautique**	**1.67**	**177**	⇑*e*P	Pn	04 54 08.0	+0.5
LPMF	**Morne Lapointe**	**1.67**	**175**	⇑*e*P	Pn	04 54 07.7	+0.2
MVM	**Montagne Vaucl**	**1.70**	**173**	⇑*e*P	Pn	04 54 08.8	+0.9
TRMF	**Trois Ilets**	**1.70**	**178**	*e*P	Pn	04 54 08.6	+0.6
SKI	**Saint Kitts**	**1.90**	**305**	*e*P	Pb	04 54 14.1	+0.7
SKI				*e*S	Sb	04 54 38.1	+1.3
SEUS	**St. Eustatius**	**2.18**	**305**	*e*P	Pb	04 54 18.4	+0.3
SEUS				*e*S	Sb	04 54 43.4	-1.5
SLW	**Petit Monier**	**2.22**	**176**	*e*P	Pb	04 54 17.9	-0.9
SLW				*e*S	Sb	04 54 45.1	-0.9
SLPA	**Patience**	**2.39**	**176**	*e*S	Sb	04 54 48.7	-2.1
SLB	**Belfond**	**2.41**	**179**	*e*P	Pb	04 54 20.4	-1.6
SLB				*e*S	Sb	04 54 49.5	-1.9
SLDE	**Delcer**	**2.43**	**179**	*e*P	Pb	04 54 20.9	-1.5
SLDE				*e*S	Sn	04 54 49.6	+2.2
SABA	**Saba**	**2.46**	**304**	*e*P	Pn	04 54 18.9	+0.5
SABA				*e*S	Sb	04 54 50.9	-2.0
MCLT	**Moule a Chique**	**2.53**	**176**	*e*P	Pn	04 54 21.4	+2.0
MCLT				*e*S	Sn	04 54 52.2	+2.4
SVV	**Soufriere Volc**	**2.92**	**182**	*e*P	Pn	04 54 25.6	+0.9
SVCV	**St. Vincent, C**	**2.96**	**181**	*e*P	Pn	04 54 25.0	+2.7
SVB	**Belmont**	**2.96**	**183**	*e*P	Pn	04 54 28.3	+2.9
SVB				*e*S	Sn	04 55 03.4	+2.8
FCV	**Fort Charlotte**	**3.08**	**183**	*e*P	Pn	04 54 29.8	+2.8
FCV				*e*S	Sn	04 55 05.9	+2.6

SJA 10 05:00:09.6±0.6, 28°.38S×67°.71W, h133km±4km, ML2.6, MW3.6, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VCA	**Vinchina**	**0.56**	**230**	*e*P	Pn	05 00 30.4	+0.8
VCA				*e*S	Sn	05 00 45.3	+0.6
ACLC	**CERRO LA CRUZ**	**1.24**	**148**	*e*S	Sn	05 00 55.6	+0.7
AGUA	**GUANDACOL**	**1.30**	**211**	*e*P	Pn	05 00 36.9	+1.0
AGUA				*e*S	Sn	05 00 56.4	+0.5
CYA	**Choya**	**1.68**	**93**	*e*P	Pn	05 00 41.1	+1.1
CYA				*e*S	Sn	05 01 03.7	+0.5
CYA				IAML		05 01 04.4	
	comp=Z,46nm,0.3s						
AROD	**Rodeo**	**2.36**	**220**	*e*P	Pn	05 00 49.8	+1.3
AROD				*e*S	Sn	05 01 19.6	+1.3
FSA	**Cafayete**	**2.73**	**35**	*e*P	Pn	05 00 54.0	+1.0

MEX 10 05:03:11.2±0.4, 13°.58N×92°.38W, h16km±25km, MD3.7, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.32**	**5**	*i* P	Pn	05 03 31.1	-3.9
THIG				*e*S	Sn	05 03 47.4	-4.9
PCIG		**2.26**	**339**	*e*P	Pn	05 03 44.7	-3.2
PCIG				*i* S	Sn	05 04 10.2	-5.3
CCIG	**Comitan**	**2.69**	**5**	*i* P	Pn	05 03 51.4	-2.6
CCIG				*e*S	Sn	05 04 22.1	-4.3
TGIG		**3.25**	**347**	*i* P	Pn	05 03 59.1	-2.5
TGIG				*i* S	Sn	05 04 36.1	-4.0

MEX 10 05:13:29.4±0.5, 14°.72N×93°.73W, h16km±999km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.10**	**26**	*e*P	Pb	05 13 46.0	-4.0
PCIG				*e*S	Sb	05 13 59.6	-4.5
THIG		**1.43**	**82**	*e*P	Pn	05 13 50.7	-3.9
THIG				*e*S	Sn	05 14 07.5	-5.6
TGIG		**2.13**	**16**	*e*P	Pn	05 14 01.9	-2.5
TGIG				*e*S	Sn	05 14 26.2	-4.4
CCIG	**Comitan**	**2.18**	**44**	*e*P	Pn	05 14 02.5	-2.7
CCIG				*i* S	Sn	05 14 27.8	-4.2

NNC 10 05:41:08.3±4.2, 54°.19N×86°.37E, h0km, mb3.9, mpv3.2, 2C-6D, Error ellipse: s-maj=59.8km s-min=23.9km az=175.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**0.95**	**256**	⫴P	Pg	05 41 26.2	-0.1
	1.3nm,0.2s						
ZAA0				⫴S	Sg	05 41 39.6	+0.9
	17nm,0.8s						
KURK	**Kurchatov**	**5.88**	**237**	⇑Pn	Pn	05 42 38.3	+1.8
	3.6nm,1.0s						
KURK				⫴Lg	Lg	05 44 15.9	
	9.2nm,0.9s						
KURBB	**Kurchatov Arra**	**5.98**	**237**	⇑Pn	Pn	05 42 40.0	+2.0
	5.8nm,0.7s						
KURBB				⫴Sn	Sn	05 43 47.6	+0.5
	3.3nm,0.5s						
KURBB				⫴Lg	Lg	05 44 19.6	
	8.7nm,0.7s						
MK31	**Makanchi Array**	**7.85**	**201**	Pn	Pn	05 43 04.7	+1.1
	1.5nm,0.7s,baz=26,slow=14,SNR=11						
MK31				⫴Lg	Lg	05 45 18.8	
	4.7nm,0.8s,baz=26,slow=24,SNR=4.3						

*ISCJB **10** 05:41:31.2±0.4, 50°.21N±0°.03×18°.99E±0°.03, h0km, mb3.1/2, MS3.0/1, Error ellipse: s-maj=4.1km s-min=2.7km az=10.8*
*PRU **10** 05:41:32.5±0.0, 50°.22N×19°.01E, h0km*
*WAR **10** 05:41:33.3, 50°.21N×19°.12E, h1km, Mw2.9*
*IDC **10** 05:41:34.4±0.8, 50°.13N×18°.82E, h0km, mb3.4/2, mb1 3.4/7, mb1mx3.3/52, mbtmp3.3/7, ML2.7/5, MS3.1/2, Ms1 3.0/2, ms1mx2.3/41, Error ellipse: s-maj=15.4km s-min=6.7km az=145.0*
*VIE **10** 05:41:35.6±1.1, 49°.74N×18°.99E, h0km, mb2.2/3, ml2.7/4, Error ellipse: s-maj=9.0km s-min=6.0km az=21.0 54 km E of Ostrava Suspected Mining induced.*

ISC 10 05:41:32.0±0.6, 50°.16N±0°.03×19°.03E±0°.02, h0km, n35, σ1°.48/61, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.13**	**350**	*e*Pg	**Pg**	**05 41 35.7**	**+1.2**
CHZP				*e*Sg	**Sg**	**05 41 38.2**	**+1.9**
CHZP	**Chorzow**	**0.13**	**350**	*e*Pg	**Pg**	**05 41 35.7**	**+1.2**
CHZP				*e*Sg	**Sg**	**05 41 38.2**	**+1.9**
OJC	**Ojcow**	**0.50**	**83**	*i* Pg	**Pg**	**05 41 41.6**	**0.0**
OJC				*e*Sg	**Sg**	**05 41 48.5**	**+0.4**
OJC	**Ojcow**	**0.50**	**83**	*i* Pg	**Pg**	**05 41 41.6**	**0.0**
OJC				*e*Sg	**Sg**	**05 41 48.5**	**+0.4**
OKC	**Ostrava-Krasne**	**0.65**	**240**	⫴*e*PG	**Pg**	**05 41 45.0**	**+0.5**
OKC				*e*SG	**Sg**	**05 41 53.0**	**0.0**
	comp=Z,58nm,0.4s						
MORC	**Moravsky Berou**	**1.03**	**249**	*e*PG	**Pb**	**05 41 52.9**	**+0.1**
MORC				*e*SG	**Sb**	**05 42 07.6**	**+0.7**
LANS	**Liptovska Anna**	**1.05**	**164**	*e*PG	**Pn**	**05 41 53.8**	**-0.3**
LANS				*e*SG	**Sn**	**05 42 08.6**	**-0.9**
NIE	**Niedzica**	**1.11**	**132**	*e*Pg	**Pb**	**05 41 53.9**	**-0.3**
NIE				*e*Sg	**Sb**	**05 42 09.9**	**+0.7**
NIE	**Niedzica**	**1.11**	**132**	*e*Pg	**Pb**	**05 41 53.9**	**-0.3**
NIE				*e*Sg	**Sb**	**05 42 09.9**	**+0.7**
KRLC	**Kraliky**	**1.45**	**267**	*e*PG	**Pn**	**05 41 59.5**	**0.0**
KRLC				*e*SG	**Sn**	**05 42 19.1**	**-0.1**
	comp=Z,15nm,0.3s						
KOLL	**Kolacno**	**1.64**	**195**	*e*PG	**Pg**	**05 42 04.4**	**+1.0**
VYHS	**Vyhne**	**1.68**	**184**	*e*PG	**Pn**	**05 42 02.9**	**+0.3**
VYHS				*e*SN	**Sb**	**05 42 25.5**	**+0.1**
VYHS				*e*LG	Lg	05 42 30.2	
DPC	**Dobruska-Polom**	**1.75**	**277**	*e*PG	**Pn**	**05 42 04.1**	**+0.5**
DPC				*e*SG	**Sg**	**05 42 28.2**	**+0.1**
	comp=Z,30nm,0.2s						
VRAC	**Vranov**	**1.79**	**242**	Pg	**Pn**	**05 42 04.7**	**+0.5**
	6.4nm,0.3s,baz=56,slow=12,SNR=28						
VRAC				Lg	Lg	05 42 28.1	
	7.5nm,0.3s,baz=156,slow=20,SNR=14						
VRAC	**Vranov**	**1.79**	**242**	*e*PN	**Pb**	**05 42 05.2**	**-0.6**
VRAC				*e*SG	**Sg**	**05 42 30.6**	**+0.9**
KSP	**Ksiaz**	**1.87**	**292**	*e*Pb	**Pn**	**05 42 05.9**	**+0.6**
KSP				*e*Pg	**Pg**	**05 42 08.2**	**+0.3**
KSP				*e*Sg	**Sg**	**05 42 32.9**	**+0.7**
KSP	**Ksiaz**	**1.87**	**292**	*e*Pb	**Pn**	**05 42 05.9**	**+0.6**
KSP				*e*Pg	**Pg**	**05 42 08.2**	**+0.3**
KSP				*e*Sg	**Sg**	**05 42 32.9**	**+0.7**
KRUC	**Moravsky**	**2.04**	**238**	*e*PN	**Pn**	**05 42 07.6**	**+0.1**
KRUC				*e*SG	**Sg**	**05 42 38.7**	**+1.3**
PSZ	**Piszkesteto**	**2.32**	**165**	*e*PKKPdf	**Pn**	**05 42 12.0**	**+0.5**
PSZ				*e*PKKPbc	**Sn**	**05 42 40.5**	**-0.2**
CONA	**Conrad Observa**	**3.06**	**224**	*e*Pn	**Pn**	**05 42 22.1**	**+0.5**
	0.4nm,0.2s						
CONA				*e*Sn	**Sn**	**05 42 56.2**	**-2.7**
	5.0nm,0.3s						
BRG	**Berggiesshubel**	**3.32**	**284**	PG	**Pg**	**05 42 35.5**	**-0.1**
BRG				SG	**Sg**	**05 43 19.7**	**+1.0**
	11nm,0.6s						
KHC	**Kasperske Hory**	**3.69**	**256**	*e*PN	**Pn**	**05 42 30.6**	**+0.3**
KHC				*e*PG	**Pb**	**05 42 38.3**	**+0.3**
KHC				*e*SG	**Sg**	**05 43 27.7**	**-2.7**
	comp=Z,12nm,0.4s						
GERES	**GERESS Array B**	**3.71**	**251**	Pn	**Pn**	**05 42 31.8**	**+1.1**
	0.4nm,0.3s,baz=63,slow=14,SNR=13						
GERES				Pg	**Pb**	**05 42 39.6**	**+1.1**
	0.7nm,0.3s,baz=68,slow=14,SNR=11						
GERES				Sn	**Sn**	**05 43 14.7**	**-0.5**
	0.8nm,0.3s,baz=56,slow=24,SNR=4.2						
GERES				Lg	Lg	05 43 26.9	
	2.5nm,0.3s,baz=66,slow=23,SNR=10.0						
MOA	**Molln**	**3.90**	**235**	*e*Pn	**Pn**	**05 42 33.5**	**+0.4**
	0.6nm,0.2s						
MOA				*e*Sg	**Sg**	**05 43 35.4**	**-1.8**
	4.8nm,0.4s						
CLL	**Collm**	**3.99**	**289**	*e*Pg	**Pg**	**05 42 51.0**	**+2.5**
CLL				*e*Sg	**Sg**	**05 43 39.0**	**-1.3**
	comp=Z,8.0nm,0.6s						
BSD	**Bornholm Skovb**	**5.55**	**335**	*i* P	**Pn**	**05 42 55.4**	**-0.4**
BSD				*e*S	**Sn**	**05 43 54.8**	**-5.5**
AKASG	**Malin Array Be**	**6.54**	**81**	Pn	**Pn**	**05 43 11.2**	**+1.8**
	comp=Z

az=33.3

NEIC ***10*** *06:05:27.2◦0.6, 7.37S◦106.67E, h50km±5km, mb5.1/86, Error ellipse: s-maj=6.5km s-min=3.8km az=223.0*

NEIC Felt [II] at Bandung and Cianjur. Also felt at Batujajar, Caringin, Cimenyan, Parongpong and Parung.

KLM ***10*** *06:05:27.0, 7.87S◦106.55E, h48km, mb5.0*

GCMT ***10*** *06:05:28.2±0.3, 7.94S±0.02◦106.68E±0.02, h48km±1km, MW5.0/59, Moment Tensor Solution. s51,c71; s59,c77; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.04±.20; Mθθ-4.59±.14; Mφφ1.56±.19; Mrθ1.85±.12; Mθφ0.08±.13; Mrφ0.10±.15; Best double couple: Mo4.24400×10^16 NP1:φ=88.00000°, δ=58.00000°, λ=86.00000°. NP2: φ=275.00000°, δ=32.00000°, λ=96.00000°. Principal axes: T 3.4720, Plg77.0000°, Azm345.0000°; N 1.5540, Plg3.0000°, Azm90.0000°; P -5.0150, Plg13.0000°, Azm181.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***10*** *06:05:29.9◦0.9, 7.36S◦106.72E, h78km±6km, mb4.7/47, mb1 4.7/47, mb1mx4.7/53, mbtmp5.0/47, MS4.0/28, Ms1 4.0/28, ms1mx3.9/39 Error ellipse: s-maj=10.4km s-min=8.0km az=51.0*

ISC 10 06:05:27.6±0.6, 7.51S±0.04◦106.67E±0.03, h60km±4km, n1127, σ1838/1167, mb5.1/159, MS4.1/40, 27C-31D, Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res	ISC
SKJI	**Sukabumi**	**0.51**	**348**	P		**Pn**	**06 05 39.4**	**-0.3**	
CISI	**Cisompet, Garu**	**1.14**	**93**	*e*Pn		**Pn**	**06 05 47.0**	**-0.6**	
CISI				*e*Sn		**Sn**	**06 06 01.8**	**-0.6**	
CISI	**Cisompet, Garu**	**1.14**	**93**	P		**Pn**	**06 05 46.4**	**-1.2**	
LEM	**Lembang**	**1.16**	**55**	P		**Pn**	**06 05 48.9**	**+0.9**	
	18μm,0.3s,baz=282,slow=1.5,SNR=726								
LEM				S		**Sn**	**06 06 04.7**	**+1.7**	
	12μm,0.3s,baz=89,slow=21,SNR=27								
LEM				LR		LR	06 06 26.0		
	comp=Z,11μm,19.1s,baz=260,slow=54								
LEM	**Lembang**	**1.16**	**55**	P		**Pn**	**06 05 49.9**	**+1.9**	
LEM				S		**Sn**	**06 06 10.6**	**+7.5**	
CGJI	**Cibinong**	**1.31**	**312**	P		**Pn**	**06 05 48.5**	**-1.3**	
CGJI				S		**Sn**	**06 06 05.9**	**-0.5**	
SBJI	**Serang**	**1.48**	**339**	P		**Pn**	**06 05 53.2**	**+1.2**	
CMJI	**Cimerak**	**1.79**	**99**	P		**Pn**	**06 05 55.1**	**-1.1**	
CMJI				S		**Sn**	**06 06 15.8**	**-2.1**	
JCJI	**Jatiwangi**	**1.89**	**58**	P		**Pn**	**06 05 58.4**	**+0.9**	
KPJI	**Karang Pucung**	**2.25**	**86**	P		**Pn**	**06 06 03.5**	**+0.9**	
BLSI	**Bandar Lampung**	**2.55**	**326**	P		**Pn**	**06 06 08.2**	**+1.6**	
KASI	**Kota Agung**	**2.92**	**312**	P		**Pn**	**06 06 12.2**	**+0.5**	
KLI	**Kotabumi**	**3.18**	**325**	P		**Pn**	**06 06 17.5**	**+2.2**	
KLI	**Kotabumi**	**3.18**	**325**	P		**Pn**	**06 06 17.5**	**+2.2**	
LWLI	**Liwa**	**3.58**	**313**	P		**Pn**	**06 06 22.0**	**+1.2**	
SMRI	**Semarang**	**3.77**	**83**	*e*Pn		**Pn**	**06 06 25.8**	**+2.4**	
SMRI	**Semarang**	**3.77**	**83**	P		**Pn**	**06 06 25.9**	**+2.5**	
UGM	**Wanagama**	**3.84**	**96**	*e*Pn		**Pn**	**06 06 24.5**	**+0.1**	
UGM				*e*Sn		**Sn**	**06 07 08.3**	**-0.1**	
UGM	**Wanagama**	**3.84**	**96**	P		**Pn**	**06 06 24.2**	**-0.2**	
MDSI	**Maura Dua**	**3.89**	**320**	P		**Pn**	**06 06 26.2**	**+1.3**	
WOJI	**Wonogiri, Jawa**	**4.23**	**95**	P		**Pn**	**06 06 30.6**	**+0.9**	
PCJI	**Pacitan**	**4.52**	**99**	P		**Pn**	**06 06 33.8**	**+0.2**	
NGJI	**Ngawi**	**4.76**	**89**	P		**Pn**	**06 06 40.7**	**+3.9**	
MNAI	**Manna**	**4.83**	**310**	*e*Pn		**Pn**	**06 06 38.0**	**+0.1**	
MNAI	**Manna**	**4.83**	**310**	P		**Pn**	**06 06 38.7**	**+0.8**	
PMBI	**Palembang**	**4.92**	**337**	P		**Pn**	**06 06 43.5**	**+4.4**	
	2μm,0.9s,57μm6.4nm								
PWJI	**Pagerwojo**	**5.12**	**96**	P		**Pn**	**06 06 42.2**	**+0.4**	
	1μm,0.7s,11μm8.4nm								
TBJI	**Tambak Boyo**	**5.19**	**83**	P		Pn	06 06 49.6	+6.9	
PPBI	**Pangkal Pinang**	**5.33**	**354**	P		**Pn**	**06 06 47.6**	**+2.8**	
	228nm,0.6s,1.0nm								
GRJI	**Gresik**	**5.80**	**85**	P		**Pn**	**06 06 52.4**	**+1.3**	
	295nm,0.6s,4μm1.1nm								
MASI	**Maura Aman, Be**	**6.18**	**314**	P		**Pn**	**06 06 57.4**	**+1.0**	
	757nm,1.0s,7μm3.2nm								
BLJI	**Banyuglugur**	**6.87**	**92**	P		**Pn**	**06 07 06.7**	**+0.9**	
PBKI	**Pangkalan Bun**	**6.90**	**47**	P		**Pn**	**06 07 10.0**	**+3.8**	
KMMI	**Kalianget**	**7.26**	**87**	P		Pn	06 07 19.3	+8.2	
DSRI	**Dabo**	**7.28**	**343**	P		**Pn**	**06 07 12.7**	**+1.2**	
KRJI	**Kerinci**	**7.47**	**316**	P		**Pn**	**06 07 14.8**	**+0.7**	
	207nm,0.8s,1.2nm								
JAGI	**Jajag, Banyuwa**	**7.48**	**98**	*e*Pn		**Pn**	**06 07 16.3**	**+2.2**	
JAGI				*e*Sn		**Sn**	**06 08 35.8**	**-1.8**	
JAGI	**Jajag, Banyuwa**	**7.48**	**98**	P		**Pn**	**06 07 16.5**	**+2.4**	
	599nm,0.4s,16μm3.3nm								
PPSI	**Pulau Pagai**	**8.13**	**305**	P		**Pn**	**06 07 21.8**	**-1.3**	
	1μm,0.7s,12μm4.1nm								
SRBI	**Singaraja**	**8.49**	**94**	P		**Pn**	**06 07 30.3**	**+2.3**	
	452nm,0.8s,6μm1.8nm								
IGBI	**Denpasar**	**8.49**	**99**	P		**Pn**	**06 07 29.6**	**+1.5**	
	726nm,0.8s,14μm3.3nm								
DNP	**Denpasar**	**8.54**	**98**	P		**Pn**	**06 07 31.5**	**+2.9**	
DNP				pmax		pmax			
	comp=Z,858nm,0.4s								
DNP	**Denpasar**	**8.54**	**98**	P		**Pn**	**06 07 31.6**	**+2.9**	
TPRI	**Tanjung Pinang**	**8.64**	**346**	P		**Pn**	**06 07 33.5**	**+3.5**	
	comp=Z,101nm,0.6s								
STKI	**Sintang**	**8.92**	**33**	P		**Pn**	**06 07 37.8**	**+3.9**	
	comp=Z,120nm,1.0s,comp=Z,17μm								
PDSI	**Padang**	**9.01**	**316**	P		**Pn**	**06 07 33.5**	**-1.6**	
	comp=Z,68nm,0.6s,comp=Z,3μm								
BKNI	**Bangkinang**	**9.59**	**324**	*e*Pn		**Pn**	**06 07 42.4**	**-0.7**	
BKNI	**Bangkinang**	**9.59**	**324**	P		**Pn**	**06 07 42.7**	**-0.4**	
	comp=Z,94nm,0.7s,comp=Z,4μm								
KSM	**Kuching**	**9.63**	**22**	*e*Pn		**Pn**	**06 07 48.0**	**+4.3**	
KSM	**Kuching**	**9.63**	**22**	P		Pn	06 07 49.0	+5.4	
MYKOM	**Kota Tinggi**	**9.65**	**343**	*e*Pn		Pn	06 07 49.9	+6.0	
MYKOM	**Kota Tinggi**	**9.65**	**343**	P		**Pn**	**06 07 48.0**	**+4.1**	
TWSI	**Taliwang, Sumb**	**10.19**	**98**	P		**Pn**	**06 07 50.5**	**-0.7**	
	comp=Z,200nm,0.8s,comp=Z,3μm								
KBKI	**Kotabaru**	**10.34**	**67**	P		**Pn**	**06 07 57.2**	**+3.9**	
	comp=Z,11nm,0.9s,comp=Z,969nm								
MTKI	**Muara Teweh, K**	**10.48**	**52**	P		Pn	06 08 00.4	+5.2	
	comp=Z,137nm,0.5s,comp=Z,8um								
COCO	**West Island**	**10.74**	**244**	*e*Pn		**Pn**	**06 07 55.7**	**-3.1**	
COCO	**West Island**	**10.74**	**244**	*e*P		**Pn**	**06 07 55.7**	**-3.1**	
MNSI	**Mandailing Nat**	**10.86**	**319**	P		**Pn**	**06 07 57.8**	**-2.6**	
	comp=Z,57nm,0.7s								
PLAI	**Plampang**	**11.08**	**98**	P		**Pn**	**06 08 02.0**	**-1.4**	
	comp=Z,278nm,0.8s,comp=Z,2μm								
PBSI	**Pulau Batu**	**11.17**	**311**	P		**Pn**	**06 08 00.9**	**-3.7**	
	comp=Z,145nm,0.9s								
SBUM	**Sibu**	**11.34**	**29**	*e*Pn		Pn	06 08 13.2	+6.2	
SBUM	**Sibu**	**11.34**	**29**	P		Pn	06 08 13.0	+6.1	
GSI	**Gunungsitoli**	**12.60**	**314**	*e*Pn		Pn	06 08 18.7	-5.5	
WBSI	**Waikabubak, Su**	**12.76**	**100**	P		**Pn**	**06 08 26.6**	**+0.2**	
	comp=Z,144nm,0.8s								
PSI	**Prapat**	**12.82**	**323**	P		Pn	06 08 21.7	-5.7	
	comp=Z,0.8nm,0.3s,baz=180,slow=11,SNR=10								
PSI				LR		LR	06 14 22.3		
	comp=Z,576nm,18.3s,baz=91,slow=42								
PSI	**Prapat**	**12.82**	**323**	*e*Pn		Pn	06 08 21.5	-5.8	
IPM	**Ipoh**	**13.17**	**335**	*e*Pn		**Pn**	**06 08 31.7**	**-0.3**	
SPSI	**Sidrap Palu**	**13.50**	**76**	P		**P**	**06 08 41.0**	**-2.7**	
	comp=Z,17nm,1.1s								
BKSI	**Bulukumba**	**13.55**	**82**	P		**Pn**	**06 08 39.3**	**+2.2**	
	comp=Z,59nm,0.9s,comp=Z,477nm								
BNSI	**Bone**	**13.72**	**78**	P		**Pn**	**06 08 42.5**	**+3.1**	
	comp=Z,56nm,1.0s,comp=Z,869nm								
KULM	**Kulim**	**14.06**	**335**	*e*Pn		**Pn**	**06 08 42.1**	**-1.8**	
KCSI	**Kotacane, Aceh**	**14.10**	**321**	P		**Pn**	**06 08 45.9**	**+1.4**	
	comp=Z,33nm,1.0s								
TPTI		**14.28**	**318**	P		**Pn**	**06 08 49.4**	**+2.5**	
	comp=Z,23nm,0.5s								
EDFI	**Ende, Flores**	**14.93**	**96**	P		Pn	06 08 50.4	-5.0	
	comp=Z,84nm,0.5s,comp=Z,1μm								
MPSI	**Mapaga**	**15.32**	**60**	P		**P**	**06 09 04.5**	**+0.5**	
	comp=Z,42nm,1.0s,comp=Z,1μm								
MMRI	**Maumere**	**15.46**	**95**	*e*Pn		**Pn**	**06 09 01.7**	**-0.5**	
	comp=Z,246nm,0.6s								
MMRI	**Maumere**	**15.46**	**95**	P		**P**	**06 09 04.6**	**-0.9**	
	comp=Z,348nm,0.7s,comp=Z,3μm								
KKM	**Kota Kinabalu**	**16.49**	**36**	*e*P		**P**	**06 09 18.6**	**+1.5**	
	comp=Z,90nm,1.0s								
KKM	**Kota Kinabalu**	**16.49**	**36**	P		**P**	**06 09 20.0**	**+3.0**	
TRTT	**Trang**	**16.75**	**335**	P		**Pn**	**06 09 16.9**	**-1.5**	
	comp=Z,9.8nm,0.7s								
BATI	**Baumata**	**17.01**	**100**	P		**Pn**	**06 09 18.8**	**-2.9**	
	comp=Z,5.7nm,0.3s,baz=248,slow=16,SNR=3.1								
BATI				S		**Sn**	**06 12 20.4**	**-10**	
	comp=Z,6.5nm,0.3s,baz=285,slow=20,SNR=3.5								
BATI	**Baumata**	**17.01**	**100**	P		**P**	**06 09 25.1**	**+2.4**	
	comp=Z,131nm,0.9s,comp=Z,1μm								
MRSI	**Marisa**	**17.17**	**63**	P		**P**	**06 09 26.5**	**+2.0**	
MYLDM	**Lahad Datu**	**17.27**	**43**	*e*Pn		**P**	**06 09 30.4**	**+4.8**	
	comp=Z,97nm,0.8s								
SOEI	**Soe**	**17.55**	**99**	*e*Pn		**Pn**	**06 09 25.6**	**-2.8**	
	comp=Z,131nm,0.8s								
SOEI	**Soe**	**17.55**	**99**	P		**Pn**	**06 09 26.5**	**-1.9**	
	comp=Z,248nm,1.0s,comp=Z,2μm								
SURA	**Surathani**	**17.98**	**337**	P		Pn	06 09 44.5	+11	
MBWA	**Marble Bar**	**18.54**	**138**	*e*P		**P**	**06 09 38.6**	**-0.9**	
	comp=Z,19nm,0.6s								
SANI	**Sanana**	**20.00**	**75**	P		**P**	**06 09 55.1**	**-0.4**	
	comp=Z,74nm,0.9s,comp=Z,520nm								
PATY	**Pattaya**	**21.10**	**344**	P		**P**	**06 10 12.0**	**+4.7**	
	comp=Z,9.7nm,0.5s,comp=Z,9μm								
FITZ	**Fitzroy Crossi**	**21.26**	**121**	P		**P**	**06 10 08.9**	**-0.2**	
	comp=Z,26nm,0.7s,baz=261,slow=4.8,SNR=26								
FITZ				S		S	06 13 49.8	-13	
	comp=Z,5.3nm,0.7s,baz=128,slow=14,SNR=3.5								
FITZ				LR		LR	06 18 31.5		
	comp=Z,373nm,20.9s,baz=313,slow=37								
FITZ	**Fitzroy Crossi**	**21.26**	**121**	P		**P**	**06 10 09.2**	**+0.1**	
	baz=22,SNR=30								
FITZ	**Fitzroy Crossi**	**21.26**	**121**	*e*P		**P**	**06 10 08.8**	**-0.4**	
	comp=Z,32nm,0.8s								
FITZ				S		S	06 13 49.8	-13	
PHET	**Kaeng Krachan**	**21.45**	**341**	P		**P**	**06 10 09.7**	**-1.4**	
	comp=Z,8.8nm,0.6s,comp=Z,147nm								
AAI	**Ambon**	**21.76**	**81**	P		**P**	**06 10 17.1**	**+2.6**	
	comp=Z,258nm,0.6s,comp=Z,2μm								
SRAK	**Srakaew**	**21.86**	**348**	P		**P**	**06 10 16.3**	**+0.8**	
	comp=Z,58nm,0.6s,comp=Z,683nm								
MEEK	**Meekatharra**	**22.16**	**151**	P		**P**	**06 10 19.5**	**+0.8**	
	baz=22,SNR=3.8								
TNTI	**Ternate**	**22.22**	**69**	*e*P		**P**	**06 10 21.6**	**+2.1**	
	comp=Z,94nm,1.1s								
TNTI	**Ternate**	**22.22**	**69**	P		**P**	**06 10 23.6**	**+4.1**	
	comp=Z,66nm,0.8s,comp=Z,4μm								
ENPP	**El Nido**	**22.51**	**34**	*e*P		**P**	**06 10 22.4**	**-0.2**	
SRDT	**SRDT**	**22.97**	**341**	P		**P**	**06 10 26.8**	**-0.5**	
	comp=Z,16nm,0.5s								
KNRA	**Kununurra**	**23.10**	**113**	P		**P**	**06 10 27.8**	**-0.8**	
	baz=23,SNR=20								
CUYO	**Cuyo Island**	**23.16**	**38**	*e*P		**P**	**06 10 30.4**	**+1.1**	
MORW	**Morawa**	**23.20**	**159**	P		**P**	**06 10 30.5**	**+1.1**	
	baz=23,SNR=4.5								
DDMP	**Don Marcelino,**	**23.32**	**55**	*e*P		**P**	**06 10 30.5**	**-0.3**	
CHAI	**Chaiyaphum**	**23.71**	**349**	P		**P**	**06 10 32.9**	**-1.4**	
	comp=Z,11nm,0.8s,comp=Z,132nm								
DAV	**Dao City (W)**	**23.78**	**53**	LR		LR	06 20 30.6		
	comp=Z,426nm,19.9s,baz=146,slow=38								
SKNT	**Sakolnakorn**	**24.47**	**354**	P		**P**	**06 10 40.7**	**-0.5**	
	comp=Z,6.9nm,0.9s,comp=Z,789nm								
MTN	**Manton Dam**	**24.65**	**104**	P		**P**	**06 10 42.3**	**-0.6**	
	baz=25,SNR=24								
MTN	**Manton Dam**	**24.65**	**104**	*e*P		**P**	**06 10 42.5**	**-0.5**	
	comp=Z,39nm,0.6s								
RCP	**Roxas**	**24.79**	**40**	*e*P		**P**	**06 10 45.9**	**+1.7**	
SIJI	**Sorong**	**25.39**	**76**	P		**P**	**06 10 49.2**	**-0.5**	
	comp=Z,36nm,0.6s,baz=198,slow=7.1,SNR=4.4								
TGY	**Tagaytay City**	**25.72**	**33**	LR		LR	06 22 19.5		
	comp=Z,484nm,20.7s,baz=121,slow=40								
FAKI	**Fak Fak**	**25.87**	**81**	*e*P		**P**	**06 10 52.2**	**-1.9**	
	comp=Z,26nm,0.8s								
KDU	**Kakadu**	**25.91**	**104**	P		**P**	**06 10 53.4**	**-1.0**	
	baz=26,SNR=17								
QIZ	**Qiongzhong**	**26.55**	**7**	P		**P**	**06 10 58.8**	**-1.3**	
QIZ				LR		LR			
	comp=Z,510nm,21.6s								
QIZ				LR		LR			
	comp=Z,340nm,16.2s								
QIZ				LR		LR			
	comp=Z,580nm,20.1s								
CM01	**Chiang Mai Arr**	**26.86**	**344**	*e*P		**P**	**06 11 00.8**	**-2.0**	
CM01				*e*PcP		**PcP**	**06 14 25.5**	**+1.3**	
CM31	**Chiang Mai Arr**	**26.90**	**344**	*e*P		**P**	**06 11 01.5**	**-1.7**	
CMAR	**Chiang Mai Arr**	**26.90**	**344**	P		**P**	**06 11 01.4**	**-1.8**	
	comp=Z,16nm,0.6s,baz=180,slow=8.6,SNR=72								
CMAR				PcP		**PcP**	**06 14 24.5**	**+0.1**	
	comp=Z,4.7nm,0.7s,baz=208,slow=3.1,SNR=8.6								
CMAR				ScP		**ScP**	**06 17 58.8**	**-0.8**	
	comp=Z,3.3nm,0.8s,baz=197,slow=3.6,SNR=11								
CMAR				LR		LR	06 23 43.7		
	comp=Z,310nm,19.1s,baz=174,slow=41								
CMAR	**Chiang Mai Arr**	**26.90**	**344**	P		**P**	**06 11 01.4**	**-1.8**	
CMAR							06 14 24.5		
CMAR				pmax		pmax			
	comp=Z,12nm,0.6s								
CMAR				MLR		MLR			
	comp=Z,310nm,19.1s								
WRKA	**Warakurna**	**27.04**	**133**	P		**P**	**06 11 04.3**	**-0.2**	
	baz=27,SNR=6.7								
NWAO	**Narrogin (SRO)**	**27.13**	**160**	P		**P**	**06 11 02.9**	**-2.3**	
	comp=Z,5.4nm,0.7s,baz=194,slow=8.3,SNR=2.2								
NWAO				LR		LR	06 20 36.5		
	comp=Z,832nm,21.8s,baz=246,slow=33								
NWAO	**Narrogin (SRO)**	**27.13**	**160**	*e*P		**P**	**06 11 04.4**	**-0.8**	
	comp=Z,10.0nm,0.9s								
NWAO	**Narrogin (SRO)**	**27.13**	**160**	*e*P		**P**	**06 11 04.4**	**-0.8**	
NWAO				pmax		pmax			
	comp=Z,10.0nm,0.9s								
CMMT	**Chiang Mai**	**27.24**	**344**	P		**P**	**06 11 04.5**	**-1.8**	
CHTO	**Chiang Mai**	**27.24**	**344**	*e*P		**P**	**06 11 04.0**	**-2.3**	
	comp=Z,9.8nm,0.8s								
CHTO	**Chiang Mai**	**27.24**	**344**	*e*P		**P**	**06 11 04.0**	**-2.3**	
CHTO				pmax		pmax			
	comp=Z,10.0nm,0.8s								
CHTO	**Chiang Mai**	**27.24**	**344**	P		**P**	**06 11 04.6**	**-1.7**	
SMPP	**San Manuel, Pa**	**27.29**	**30**	*e*P		**P**	**06 11 06.6**	**-0.2**	
H01W3	**Cape Leeuwin H**	**28.10**	**167**	T		T	06 40 44.5		
	baz=348,slow=76,SNR=218								
H01W1	**Cape Leeuwin H**	**28.11**	**167**	T		T	06 40 47.3		
	baz=348,slow=76,SNR=166								
H01W2	**Cape Leeuwin H**	**28.11**	**167**	T		T	06 40 46.3		
	baz=348,slow=76,SNR=231								
WRA	**Warramunga Arr**	**29.53**	**118**	P		**P**	**06 11 26.6**	**-0.2**	
	comp=Z,5.7nm,0.4s,baz=288,slow=12,SNR=53								
WRA				PcP		**PcP**	**06 14 30.8**	**-0.1**	
	comp=Z,4.9nm,0.7s,baz=297,slow=2.2,SNR=7.4								
WRA				ScP		**ScP**	**06 18 06.7**	**-1.2**	
	comp=Z,4.1nm,1.0s,baz=315,slow=2.5,SNR=7.4								
WRA				PKiKP		**PKiKP**	**06 22 03.1**	**-1.2**	
	comp=Z,0.7nm,1.0s,baz=299,slow=1.3,SNR=4.4								
WRA				LR		LR	06 24 17.3		
	comp=Z,256nm,20.8s,baz=275,slow=38								
WR1	**Warramunga Arr**	**29.53**	**118**	*e*P		**P**	**06 11 26.6**	**-0.1**	
	comp=Z,15nm,0.7s								
WR1				*e*PcP		**PcP**	**06 14 30.8**	**-0.1**	
WR1				*e*ScP		**ScP**	**06 18 06.7**	**-1.2**	
WR1				*e*ScS		**ScS**	**06 22 03.1**	**+0.2**	
WRAB	**Tennant Creek**	**29.54**	**118**	*e*P		**P**	**06 11 26.5**	**-0.3**	
	comp=Z,16nm,0.7s								
WRAB	**Tennant Creek**	**29.54**	**118**	*c i*P		**P**	**06 11 26.8**	**0.0**	
WRAB				pmax		pmax			
	comp=Z,22nm,1.3s								
WB2	**Warramunga Arr**	**29.54**	**118**	*e*P		**P**	**06 11 26.5**	**-0.3**	
	comp=Z,22nm,1.0s								
PALK	**Pallekele**	**29.76**	**299**	P		**P**	**06 11 30.9**	**+2.0**	
	comp=Z,18nm,1.0s,baz=116,slow=9.8,SNR=5.7								
PALK				LR		LR	06 22 19.3		
	comp=Z,172nm,21.2s,baz=116,slow=34								
PALK	**Pallekele**	**29.76**	**299**	P		**P**	**06 11 30.6**	**+1.7**	
FORT	**Forrest**	**30.61**	**142**	*e*P		**P**	**06 11 35.6**	**-0.5**	
	comp=Z,27nm,0.8s								
AS31	**Alice Springs**	**30.67**	**125**	*e*P		**P**	**06 11 36.7**	**-0.1**	
	comp=Z,2.9nm,0.6s								
ASAR	**Alice Springs**	**30.67**	**125**	P		**P**	**06 11 36.5**	**-0.3**	
	comp=Z,5.7nm,0.7s,baz=302,slow=8.3,SNR=42								
ASAR				PcP		**PcP**	**06 14 34.2**	**+0.3**	
	comp=Z,4.7nm,0.7s,baz=314,slow=2.3,SNR=12								
ASAR				ScP		**ScP**	**06 18 10.8**	**-0.7**	
	comp=Z,6.7nm,1.0s,baz=305,slow=3.3,SNR=15								
ASAR				PKiKP		**PKiKP**	**06 22 04.1**	**-0.9**	
	comp=Z,0.8nm,0.8s,baz=48,slow=1.4,SNR=4.2								
ASAR				LR		LR	06 24 26.4		
	comp=Z,375nm,20.8s,baz=300,slow=37								
AS01	**Alice Springs**	**30.71**	**125**	*e*P		**P**	**06 11 36.5**	**-0.7**	
AS01				*e*PcP		**PcP**	**06 14 34.6**	**+0.7**	
PALU	**Palau**	**31.41**	**63**	P		**P**	**06 11 42.9**	**-0.5**	
	baz=32,SNR=6.1								
KMI	**Kunming**	**32.66**	**353**	P		P	06 12 00.2	+5.8	
KMI				pmax		pmax			
	comp=Z,20nm,0.7s								
KMI				pmax		pmax			
	comp=Z,55nm,3.7s								
KMI				LR		LR			
	comp=Z,380nm,17.8s								
KMI				LR		LR			
	comp=Z,410nm,15.0s								
KMI				LR		LR			
	comp=Z,830nm,12.5s								
TPUB	**Ta-pu**	**33.52**	**24**	*e*P		**P**	**06 12 02.6**	**+0.8**	
	comp=Z,17nm,0.9s								
GYA	**Guiyang**	**33.76**	**360**	*i*P		**P**	**06 12 04.0**	**+0.1**	
GYA				pP		pP	06 12 20.4	+1.6	
GYA				sP		sP	06 12 26.6	+0.7	
GYA				PP		**PP**	**06 13 22.8**	**+1.4**	
GYA				S		**S**	**06 17 27.0**	**+3.5**	
GYA				sS		sS	06 17 50.4	+1.5	
GYA				pmax		pmax			
	comp=Z,20nm,0.8s								
GYA				pmax		pmax			
	comp=Z,120nm,4.8s								
GYA				LR		LR			
	comp=Z,400nm,14.8s								
GYA				LR		LR			
	comp=Z,430nm,15.0s								
GYA				LR		LR			
	comp=Z,410nm,15.2s								
H08S2	**Diego Garcia H**	**33.87**	**267**	T		T	06 47 30.8		
	baz=92,slow=75,SNR=506								
YULB	**Yu-li**	**33.88**	**25**	*e*P		**P**	**06 12 05.7**	**+0.8**	
	comp=Z,27nm,0.9s								
H08S3	**Diego Garcia H**	**33.88**	**267**	T		T	06 47 29.2		
	baz=92,slow=75,SNR=364								
H08S1	**Diego Garcia H**	**33.89**	**267**	T		T	06 47 29.6		
	baz=92,slow=75,SNR=321								
SSLB	**Suanglung**	**34.09**	**24**	*e*P		**P**	**06 12 07.0**	**+0.4**	
	comp=Z,27nm,1.0s								
JAY	**Jayapura**	**34.26**	**83**	P		**P**	**06 12 06.4**	**-2.0**	
	comp=Z,27nm,0.7s,baz=313,slow=12,SNR=16								
QIS	**Mount Isa**	**34.40**	**116**	P		**P**	**06 12 09.9**	**+0.4**	
	baz=35,SNR=9.4								
YOJ	**Yonaguni jima**	**35.55**	**26**	*e*P		**P**	**06 12 19.0**	**-0.2**	
	comp=Z,65nm,0.9s								
YOJ	**Yonaguni jima**	**35.55**	**26**	*e*P		**P**	**06 12 19.0**	**-0.2**	
YOJ				pmax		pmax			
	comp=Z,65nm,0.9s								
COEN	**Coen**	**36.41**	**103**	P		**P**	**06 12 26.3**	**-0.4**	
	baz=37,SNR=23								
COEN	**Coen**	**36.41**	**103**	*e*P		**P**	**06 12 26.2**	**-0.5**	
	comp=Z,18nm,0.8s								
BBOO	**Buckleboo**	**37.11**	**137**	P		**P**	**06 12 31.8**	**-0.7**	
	baz=37,SNR=10.0								
BBOO	**Buckleboo**	**37.11**	**137**	*e*P		**P**	**06 12 31.8**	**-0.7**	
	comp=Z,13nm,1.1s								
HYB	**Hyderabad**	**37.22**	**312**	*i*P		**P**	**06 12 33.0**	**-0.6**	
	comp=Z,100nm,1.0s								
MTSU	**Mount Surprise**	**38.12**	**110**	P		**P**	**06 12 42.1**	**+0.8**	
	baz=38,SNR=22								
CD2	**Chengdu**	**38.30**	**356**	*e*P		**P**	**06 12 43.0**	**+0.5**	
CD2				S		**S**	**06 18 35.4**	**+2.8**	
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CD2				pmax		pmax			
	comp=Z,120nm,4.8s								
CD2				LR		LR			
	comp=Z,630nm,14.4s								
CD2				LR		L

GTA LR LR
comp=Z,390nm,20.3s
GTA LR LR
comp=Z,410nm,20.3s
CAN Canberra 47.62 132 *e*P **P 06 13 59.1 +1.2**
comp=Z,18nm,0.7s
CAN Canberra 47.62 132 *e*P **P 06 13 59.1 +1.2**
CAN pmax pmax
comp=Z,18nm,0.7s
TJN Taejon 47.78 23⇑ *e*P **P 06 13 58.7 -0.3**
ARMA Armidale 47.82 125 P **P 06 14 00.9 +1.3**
baz=48,SNR=5.0
ARMA Armidale 47.82 125 *e*P **P 06 13 59.7 0.0**
comp=Z,12nm,1.1s
HHC Hu-ho-hao-te 48.33 5 *e*P **P 06 14 07.3 +4.0**
HHC S **S 06 21 04.2 +5.1**
HHC pmax pmax
comp=Z,10.0nm,1.1s
HHC pmax pmax
comp=Z,41nm,5.6s
HHC LR LR
comp=Z,220nm,12.2s
HHC LR LR
comp=Z,230nm,11.8s
HHC LR LR
comp=Z,400nm,13.1s
CBIJ Chichi jima 48.65 44 *e*P **P 06 14 06.4 +0.5**
comp=Z,115nm,1.0s
JCJ Chichijima 48.65 44 P **P 06 14 04.0 -1.8**
comp=Z,71nm,0.6s,baz=288,slow=20,SNR=3.9
KS15 Wonju Array Si 48.92 22 *e*P **P 06 14 08.1 +0.4**
KSAR Wonju Array Be 48.92 22 P **P 06 14 07.7 0.0**
KSAR PcP **PcP 06 15 30.7 -0.6**
KSAR ScP **ScP 06 19 19.8 -1.6**
KSAR Wonju Array Be 48.92 22 P **P 06 14 07.7 0.0**
KSAR 06 15 30.7
KSRS Korea Array 48.94 22 P **P 06 14 07.7 -0.2**
comp=Z,16nm,0.8s,baz=211,slow=8.5,SNR=31
KSRS PcP **PcP 06 15 30.7 -0.7**
comp=Z,5.2nm,0.9s,baz=215,slow=3.3,SNR=6.4
KSRS ScP **ScP 06 19 19.8 -1.7**
comp=Z,0.6nm,0.5s,baz=318,slow=8.9,SNR=2.7
KSRS LR LR 06 37 12.7
comp=Z,58nm,19.8s,baz=240,slow=39
KS01 Wonju Array Si 48.95 22 *e*P **P 06 14 07.6 -0.4**
KS01 *e*PcP **PcP 06 15 31.9 +0.5**
INU Inuyama 51.34 32 *e*P **P 06 14 24.1 -2.0**
comp=Z,12nm,0.7s
MAJO Matsushiro 52.87 32 *e*P **P 06 14 35.2 -2.3**
comp=Z,6.1nm,0.7s
MAJO *e*PcP **PcP 06 15 46.2 +0.1**
MAJO Matsushiro 52.87 32⇓ *i*P **P 06 14 35.4 -2.1**
MAJO pmax pmax
comp=Z,34nm,1.7s
MAT Matsushiro 52.87 32 P **P 06 14 35.0 -2.5**
MAT *e*S **S 06 22 02.0 -0.1**
MJAR Matsushiro Arr 52.87 32 P **P 06 14 35.2 -2.3**
comp=Z,5.0nm,0.5s,baz=214,slow=8.7,SNR=21
MJAR PcP **PcP 06 15 46.2 +0.1**
comp=Z,3.3nm,0.7s,baz=201,slow=4.5,SNR=4.7
MJAR LR LR 06 40 59.3
comp=Z,32nm,18.0s,baz=215,slow=40
MJB9 Matsu-Tunnel 52.87 32 *e*P **P 06 14 35.3 -2.3**
comp=Z,6.3nm,0.8s
CN2 Changchun 53.83 17 ⇑P **P 06 14 42.8 -1.6**
CN2 *e*sP pP 06 15 02.9 +2.7
CN2 *e*S **S 06 22 13.8 -1.0**
CN2 pmax pmax
comp=Z,40nm,0.9s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,300nm,16.0s
WMQ Urumqi 53.90 343 P **P 06 14 44.7 -0.3**
WMQ pP pP 06 15 01.6 +0.8
WMQ PcP **PcP 06 15 52.2 +2.4**
WMQ pmax pmax
comp=Z,420nm,7.1s
WMQ LR LR
comp=Z,220nm,23.5s
WMQ LR LR
comp=Z,300nm,26.1s
WMQ LR LR
comp=Z,290nm,23.5s
MSHR Mys Shultsa 54.62 22⇑ *e*P **P 06 14 48.9 -1.2**
KSH Kashi 54.74 331 P **P 06 14 49.0 -2.2**
KSH pP pP 06 15 01.0 -6.1
KSH PP **PP 06 16 52.7 -1.9**
KSH S **S 06 22 19.3 -8.2**
KSH SS **SKiKP 06 26 02.9 +8.7**
KSH pmax pmax
comp=Z,20nm,0.6s
KSH pmax pmax
comp=Z,380nm,4.5s
KSH LR LR
comp=Z,490nm,6.2s
KSH LR LR
comp=Z,420nm,7.4s
KBL Kabul 54.90 322 *e*P **P 06 14 51.2 -1.3**
comp=Z,30nm,0.8s
KBL Kabul 54.90 322 *e*P **P 06 14 51.3 -1.3**
KBL pmax pmax
comp=Z,31nm,0.8s
SONA0 Songino Array 55.10 360 *e*P **P 06 14 53.1 -0.6**
SONA0 *e*PcP **PcP 06 15 54.5 +0.1**
SONA0 *e*ScP **ScP 06 19 46.3 -1.8**
SONM Songino Array 55.10 360 P **P 06 14 53.1 -0.6**
comp=Z,9.1nm,1.0s,baz=182,slow=9.3,SNR=15
SONM PcP **PcP 06 15 54.5 +0.1**
comp=Z,17nm,0.7s,baz=179,slow=3.7,SNR=16
SONM ScP **ScP 06 19 46.3 -1.8**
comp=Z,0.5nm,0.5s,baz=283,slow=13,SNR=2.4
SONM LR LR 06 40 46.8
comp=Z,338nm,19.4s,baz=179,slow=38
SONA1 Songino Array 55.11 360 *e*P **P 06 14 52.8 -1.0**
MDJ Mudanjiang 55.85 20 *e*P **P 06 14 58.1 -0.9**
comp=Z,24nm,0.8s
WSAR Wadi Sarin 56.02 304 P **P 06 15 01.7 +1.1**
comp=Z,16nm,0.7s,baz=156,slow=6.4,SNR=27
WSAR Wadi Sarin 56.02 304 P **P 06 15 01.7 +1.1**
SNR=9.8
NRN Naryn 56.24 333 *e*P **P 06 15 00.3 -1.9**
comp=Z,7.4nm,0.7s
NRN Naryn 56.24 333 *e*P **P 06 15 00.3 -1.9**
NRN pmax pmax
comp=Z,7.0nm,0.7s
KDJ Kajisay 56.27 334 *e*P **P 06 15 02.1 -0.2**
comp=Z,18nm,0.9s
KDJ Kajisay 56.27 334 *e*P **P 06 15 02.1 -0.2**
KDJ pmax pmax
comp=Z,18nm,0.9s
USA0B Ussuriysk Arra 56.32 22 *e*P **P 06 15 01.4 -0.9**
comp=Z,24nm,0.8s
USRK Ussuriysk Ar. 56.32 22 P **P 06 15 01.6 -0.8**
comp=Z,18nm,0.6s,baz=200,slow=6.2,SNR=49
USRK PcP **PcP 06 15 59.7 +0.6**
baz=225,slow=3.9
USRK LR LR 06 41 04.2
comp=Z,60nm,20.1s,baz=188,slow=38
BIDO Bidbid 56.56 304 P **P 06 15 06.0 +1.5**
SNR=20
RBK Rabkut 57.47 296 P **P 06 15 12.4 +1.4**
HIA Hailar 57.68 10 *e*P **P 06 15 10.9 -1.0**
comp=Z,20nm,1.1s
HIA Hailar 57.68 10 *e*P **P 06 15 10.9 -1.0**
HIA pmax pmax
comp=Z,20nm,1.1s
ZAK Zakamensk 57.72 357 *e*P **P 06 15 09.4 -2.9**
ZAK *e* 06 16 02.8
ZAK pmax pmax
comp=Z,4.0nm,1.1s
ZAK pmax pmax
comp=Z,15nm,1.1s
AAK Ala-Archa 57.88 332 P **P 06 15 12.6 -0.9**
comp=Z,1.9nm,0.4s,baz=188,slow=4.5,SNR=7.3
AAK PcP **PcP 06 16 05.0 -0.4**
comp=Z,8.4nm,0.6s,baz=158,slow=5.0,SNR=8.0
AAK Ala-Archa 57.88 332 *e*P **P 06 15 12.8 -0.8**
comp=Z,5.7nm,0.9s
AAK Ala-Archa 57.88 332 P **P 06 15 12.2 -1.3**
AAK Ala-Archa 57.88 332⇓ *e*P **P 06 15 13.3 -0.3**
AAK pmax pmax
comp=Z,9.0nm,1.4s
FRU Bishkek 57.97 333 *e*P **P 06 15 12.0 -2.1**
SOHO SOHO 58.13 304 *i*P **P 06 15 15.1 -0.5**
SNR=11
MK01 Makanchi Array 58.22 341 *e*P **P 06 15 13.7 -2.1**
MK31 Makanchi Array 58.25 341 *e*P **P 06 15 14.1 -1.8**
MK31 Makanchi Array 58.25 341 *e*P **P 06 15 14.1 -1.8**
MK32 Makanchi Array 58.25 341 *e*P **P 06 15 14.2 -1.7**
MKAR Makanchi Array 58.25 341 P **P 06 15 14.2 -1.7**
comp=Z,12nm,0.5s,baz=150,slow=8.5,SNR=100
MKAR LR LR 06 44 14.9
comp=Z,137nm,18.2s,baz=154,slow=40
MKAR Makanchi Array 58.25 341 *e*P **P 06 15 14.0 -1.9**
comp=Z,98nm,0.4s
MNAS Manas 58.70 331 *i*P **P 06 15 18.0 -1.3**
MNAS pmax pmax
comp=Z,12nm,0.5s
ALNE Al Ain 58.74 304 *i*P **P 06 15 20.1 +0.3**
SNR=5.6
UOSS Minazif 58.76 305 *e*P **P 06 15 20.2 +0.3**
comp=Z,18nm,0.8s
UOSS Minazif 58.76 305 P **P 06 15 20.7 +0.8**
SNR=9.5
UOSS Minazif 58.76 305 *i*P **P 06 15 19.9 0.0**
SNR=13
ASHO Ashiyiah 58.77 305 P **P 06 15 20.9 +0.9**
SNR=6.6
ASHO Ashiyiah 58.77 305 *i*P **P 06 15 20.3 +0.3**
SNR=16
HATD Hatta, Dubai 58.77 305 P **P 06 15 21.0 +1.0**
SNR=14
HATD Hatta, Dubai 58.77 305 *i*P **P 06 15 20.6 +0.7**
SNR=12
MSFE Esma-Masafi 58.98 305 *i*P **P 06 15 22.1 +0.6**
SNR=14
TLY Talaya 59.01 358 *e*P **P 06 15 20.1 -1.0**
TLY *e* 06 16 10.3
TLY pmax pmax
comp=Z,5.0nm,0.7s
TLY MLR MLR
comp=Z,165nm,13.0s
BANOM Banah 59.13 306 P **P 06 15 24.7 +2.2**
SNR=5.4
BANOM Banah 59.13 306 *i*P **P 06 15 22.2 -0.3**
SNR=12
MOY Mondy 59.14 356 *e*P **P 06 15 23.1 +1.0**
MOY pmax pmax
comp=Z,11nm,1.7s
FAQ Al Faqa, Dubai 59.17 305 P **P 06 15 23.6 +0.9**
SNR=17
FAQ Al Faqa, Dubai 59.17 305 *i*P **P 06 15 23.2 +0.5**
SNR=19
NAZ Nazwa, Dubai 59.22 305 P **P 06 15 23.1 0.0**
SNR=9.7
NAZ Nazwa, Dubai 59.22 305 *i*P **P 06 15 22.6 -0.5**
SNR=5.5
DZM Mont Dzumac 59.24 111 P **P 06 15 23.4 -0.1**
comp=Z,11nm,1.1s,baz=297,slow=9.4,SNR=3.7
DZM LR LR 06 41 04.4
comp=Z,101nm,20.5s,baz=228,slow=36
DZM Mont Dzumac 59.24 111 *e*LR LR 06 33 05.3
comp=Z,236nm,25.6s
DZM Mont Dzumac 59.24 111 *e*P **P 06 15 24.2 +0.8**
comp=Z,11nm,1.1s
SHME Shamm 59.31 306 *i*P **P 06 15 24.1 +0.4**
SNR=10
ASUD Al Ashush, Dub 59.34 304 P **P 06 15 24.7 +0.8**
ASUD Al Ashush, Dub 59.34 304 *i*P **P 06 15 24.7 +0.8**
SNR=11
DGZ Jazzator, Alta 59.39 346 *ce*P **P 06 15 22.7 -1.3**
DGZ pmax pmax
comp=Z,26nm,0.5s
HVS Khovu-Aksy 59.47 351⇓ *e*P **P 06 15 24.7 +0.3**
HVS pmax pmax
comp=Z,2.0nm,0.3s
ERM Erimo 59.50 31 *e*P **P 06 15 24.3 -0.4**
comp=Z,50nm,0.9s
ERM Erimo 59.50 31 *e*P **P 06 15 24.3 -0.4**
ERM pmax pmax
comp=Z,50nm,0.9s
KK31 Karatay Array 60.13 330 *e*P **P 06 15 27.6 -1.4**
KK31 Karatay Array 60.13 330 *e*P **P 06 15 27.6 -1.4**
KKAR Karatay Array 60.13 330 *e*P **P 06 15 27.6 -1.4**
KKAR Karatay Array 60.13 330 *e*P **P 06 15 27.6 -1.4**
KLR Kul'dur 60.61 19 P **P 06 15 30.7 -1.4**
comp=Z,32nm,0.7s,baz=216,slow=4.8,SNR=95
KLR PcP **PcP 06 16 15.6 -0.3**
comp=Z,8.7nm,0.7s,baz=240,slow=2.3,SNR=4.0
KLR Kul'dur 60.61 19 *c*P **P 06 15 30.6 -1.5**
ASAJ Asahikawa 60.77 29 P **P 06 15 32.2 -1.2**
comp=Z,7.9nm,0.6s,baz=176,slow=16,SNR=3.9
ASAJ Asahikawa 60.77 29 *e*P **P 06 15 32.5 -0.9**
comp=Z,15nm,0.9s
NFK Norfolk Island 61.32 119 P **P 06 15 38.4 +1.0**
baz=62,SNR=3.8
KURBB Kurchatov Arra 62.81 340 P **P 06 15 45.4 -1.5**
comp=Z,8.7nm,0.5s,baz=151,slow=6.1,SNR=109
KURBB PcP **PcP 06 16 25.2 +0.4**
comp=Z,7.3nm,0.7s,baz=154,slow=3.4,SNR=5.9
KURK Kurchatov 62.86 340 *e*P **P 06 15 45.9 -1.3**
comp=Z,21nm,0.8s
KURK *e*PcP **PcP 06 16 25.2 +0.2**
KURK Kurchatov 62.86 340 P **P 06 15 45.4 -1.8**
SNR=11
KURK Kurchatov 62.86 340 *e*P **P 06 15 45.9 -1.3**
KURK *e* 06 16 25.2
KURK pmax pmax
comp=Z,21nm,0.8s
YSS Yuzh-Sakhalins 62.98 27 *e*P **P 06 15 47.5 -0.6**
comp=Z,51nm,0.9s
YSS Yuzh-Sakhalins 62.98 27 *e*P **P 06 15 47.1 -0.9**
YSS pmax pmax
comp=Z,50nm,0.9s
OTUK Ortayu 63.20 335 P **P 06 15 47.1 -2.5**
OTUK pmax pmax
comp=Z,21nm,1.1s
ZEA Zeya 63.45 14 *e*P **P 06 15 50.0 -1.0**
ZEA pmax pmax
comp=N,47nm,1.0s
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=Z,49nm,0.9s
GRNR Gornyy 63.49 21 *e*P **P 06 15 51.1 -0.3**
GRNR *e* 06 16 28.7
GRNR pmax pmax
comp=Z,21nm,1.0s
GEYT Alibeck 63.92 319 P **P 06 15 53.3 -1.3**
comp=Z,11nm,0.4s,baz=133,slow=4.9,SNR=23
GEYT LR LR 06 47 55.4
comp=Z,42nn,18.8s,baz=75,slow=40
GYA0B ALIBECK ARRAY 63.92 319 *e*P **P 06 15 54.2 -0.4**
comp=Z,46nn,1.1s
ZAA0 Zalesovo Array 63.94 346 *e*P **P 06 15 52.3 -2.0**
comp=Z,20nn,1.1s
ZALV Zalesovo Beam 63.94 346 P **P 06 15 52.2 -2.0**
comp=Z,6.1nn,0.4s,baz=162,slow=5.3,SNR=33
ZALV PcP **PcP 06 16 29.0 -0.4**
comp=Z,5.8nn,0.7s,baz=152,slow=2.7,SNR=4.9
ZALV LR LR 06 46 04.8
comp=Z,151nm,18.1s,baz=250,slow=38
ZALV Zalesovo Beam 63.94 346 *e*P **P 06 15 51.9 -2.4**
ZALV PcP **PcP 06 16 29.0 -0.4**
ZAA1 Zalesovo Array 63.94 346 *e*P **P 06 15 52.2 -2.1**
ZAA1 *e*PcP **PcP 06 16 29.0 -0.4**
BOD Bodaibo 65.38 4 *e*P **P 06 16 01.1 -2.5**
BOD pmax pmax
comp=Z,16nm,1.4s
RPZ Rata Peaks 66.41 134 LR LR 06 44 32.0
comp=Z,396nm,20.8s,baz=209,slow=35
MAW Mawson 66.79 197 P **P 06 16 13.4 +0.8**
comp=Z,9.5nm,0.7s,baz=44,slow=6.8,SNR=11
MAW LR LR 06 39 13.4
comp=Z,81nm,21.5s,baz=40,slow=30
MAW Mawson 66.79 197 P **P 06 16 13.6 +1.1**
baz=67,SNR=7.5
MAW Mawson 66.79 197 *e*P **P 06 16 13.3 +0.8**
comp=Z,1.9nm,0.8s
NKL Nikolayevsk 66.96 21 *e*P **P 06 16 12.2 -1.5**
NKL pmax pmax
comp=N,10.0nm,1.0s
NKL pmax pmax
comp=Z,43nm,1.0s
RAYN Ar Rayn 67.20 299 *e*P **P 06 16 16.1 0.0**
comp=Z,12nm,0.9s
RAYN Ar Rayn 67.20 299 *i*P **P 06 16 15.6 -0.4**
SNR=8.9
RAYN Ar Rayn 67.20 299 *e*P **P 06 16 16.1 0.0**
RAYN pmax pmax
comp=Z,12nm,0.9s
THZ Tophouse 67.36 132 *e*P **P 06 16 17.9 +1.1**
comp=Z,13nm,0.7s
BRVK Borovoye 67.77 337 *e*P **P 06 16 17.5 -1.4**
comp=Z,23nm,0.9s
BRVK Borovoye 67.77 337 P **P 06 16 17.9 -1.0**
SNR=9.6
BRVK Borovoye 67.77 337 *d*P **P 06 16 17.9 -1.0**
BRVK pmax pmax
comp=Z,57nm,1.7s
KMBO Kilima Mbogo 69.44 272 P **P 06 16 31.4 +0.9**
comp=Z,1.2nm,0.3s,baz=61,slow=9.4,SNR=5.5
BKZ Black Stump Fm 69.67 129 *e*P **P 06 16 31.4 +0.2**
comp=Z,33nm,1.2s
AB31 Akbulak array 69.68 329 *i*P **P 06 16 29.7 -1.2**
AB31 pmax pmax
comp=Z,53nm,0.6s
ABKAR Akbulak array 69.68 329 *e*P **P 06 16 29.9 -1.0**
URZ Urewera 70.05 128 *e*P **P 06 16 35.3 +1.8**
comp=Z,8.8nm,0.8s
AKTO Aktyubinsk 71.39 330 P **P 06 16 40.5 -0.8**
AKTO pmax pmax
comp=Z,35nm,1.0s
YAK Yakutsk 71.59 11 P **P 06 16 40.9 -1.3**
comp=Z,64nm,0.8s,baz=150,slow=0.6,SNR=20
YAK Yakutsk 71.59 11 *e*P **P 06 16 40.5 -1.7**
comp=Z,92nm,0.9s
YAK Yakutsk 71.59 11 *e*P **P 06 16 38.1 -4.1**
YAK *e* 06 16 55.3
YAK *e**PP **PcP 06 17 00.8 -0.4**
YAK *e* 06 19 17.8
YAK *e*PPP PPP 06 21 04.7
YAK *e*S SKiKP 06 26 33.8 +18
YAK *e*SS **SS 06 30 32.8 -0.4**
YAK pmax pmax
comp=Z,78nm,0.9s
YAK pmax pmax
comp=E,11nm,1.3s
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,22nm,1.4s
YAK smax smax
comp=N,33nm,3.1s
YAK smax smax
comp=E,77nm,3.2s
GNI Garni 74.08 315 P **P 06 16 58.2 +0.5**
comp=E,9.7nm,0.6s,baz=240,slow=20,SNR=2.2
PEA0B Petropavlovsk- 74.19 29 *e*P **P 06 16 58.0 +0.1**
comp=E,12nm,0.8s
PETK Petropavlovsk- 74.19 29 P **P 06 16 57.1 -0.8**
comp=E,5.0nm,0.6s,baz=187,slow=4.9,SNR=19
PETK Petropavlovsk- 74.19 29 *e*P **P 06 16 56.9 -1.0**
PEA1 Petropavlovsk- 74.19 29 *e*P **P 06 16 57.1 -0.8**
SVE Sverdlovsk 74.33 336 *d*P **P 06 16 59.0 +0.4**
SVE pmax pmax
comp=Z,134nm,1.2s
PET Petropavlovsk 74.61 30 *e*P P 06 16 54.8 -5.4
PET *e*S **S 06 26 27.9 -3.3**
TBLG Delisi 74.74 317 *e*P **P 06 17 01.8 +0.5**
comp=Z,22nm,0.8s
TBLG Delisi 74.74 317 *e*P **P 06 17 01.8 +0.5**
TBLG pmax pmax
comp=Z,22nm,0.8s
SYO Syowa Base 74.92 200⇓ *e*P **P 06 17 02.0 +0.2**
SYO Syowa Base 74.92 200⇓ *e*PcP **PcP 06 17 14.4 -1.0**
ARU Arti 74.93 335 P **P 06 17 01.9 -0.2**
comp=Z,32nm,0.5s,baz=101,slow=6.0,SNR=46
ARU Arti 74.93 335 *e*P **P 06 17 01.8 -0.2**
comp=Z,33nm,0.5s
KARS Kars 75.43 315 P **P 06 17 06.4 +0.9**
KARS pmax pmax
comp=Z,94nm,0.6s
AKH Akhalkalaki 75.46 316⇑ *i*P P 06 17 11.9 +6.2
MA2 Magadan 75.48 21 P **P 06 17 04.4 -0.8**
comp=Z,11nm,0.7s,baz=210,slow=8.6,SNR=5.7
MA2 Magadan 75.48 21 *e*P **P 06 17 04.9 -0.3**
comp=Z,26nm,0.9s
MA2 Magadan 75.48 21⇓ *e*P **P 06 17 04.2 -1.0**
MA2 pmax pmax
comp=Z,35nm,1.0s
VNDA Vanda 75.53 169 P **P 06 17 05.9 +0.7**
comp=Z,4.0nm,0.9s,baz=314,slow=5.6,SNR=22
VNDA LR LR 06 46 05.9
comp=Z,132nm,19.9s,baz=324,slow=32
VNDA Vanda 75.53 169 *e*P **P 06 17 05.8 +0.5**
comp=Z,6.5nm,0.9s
ZEI Tsey 75.75 318 *e*P **P 06 17 07.0 -0.3**
ZEI pmax pmax
comp=Z,16nm,0.6s
NCK Nalchik 76.24 318⇓ *e*P **P 06 17 10.6 +0.7**
NCK pmax pmax
comp=Z,31nm,0.7s
SBA Scott Base 76.61 169 *e*P **P 06 17 12.9 +1.5**
comp=Z,6.9nm,1.0s
SBA Scott Base 76.61 169 *e*P **P 06 17 12.9 +1.5**
SBA pmax pmax
comp=Z,7.0nm,1.0s
NEY Neytrino 76.72 318⇑ *e*P **P 06 17 12.3 -0.5**
NEY pmax pmax
comp=Z,3.0nm,1.3s
KBZ Khabaz 76.80 318 P **P 06 17 12.2 -0.8**
comp=Z,15nm,0.9s,baz=151,slow=4.3,SNR=20
LSZ Lusaka 76.99 256 *e*P **P 06 17 14.9 +0.1**
comp=Z,11nm,0.9s
LSZ Lusaka 76.99 256 *e*P **P 06 17 14.9 +0.1**
LSZ pmax pmax
comp=Z,11nm,0.9s
KIV Kislovodsk 77.03 318 *e*P **P 06 17 15.0 +0.6**
comp=Z,16nm,0.6s
KIV Kislovodsk 77.03 318 *e*P **P 06 17 14.8 +0.3**
KIV pmax pmax
comp=Z,21nm,1.0s
NRIK Noril'sk 77.81 353 P **P 06 17 17.3 -0.8**
comp=Z,6.4nm,0.5s,baz=149,slow=7.3,SNR=9.5
NRIK LR LR 06 54 42.8
comp=Z,238nm,19.2s,baz=182,slow=38
SEY Seymchan 78.39 20 P **P 06 17 20.6 -0.8**
comp=Z,6.7nm,0.7s,baz=244,slow=1.3,SNR=13
SEY Seymchan 78.39 20⇓ *e*P **P 06 17 21.1 -0.3**
LBTB Lobatse 78.80 246 *e*P **P 06 17 26.6 +1.8**
comp=Z,5.2nm,0.8s
LBTB Lobatse 78.80 246 *e*P **P 06 17 26.6 +1.8**
LBTB pmax pmax
comp=Z,5.0nm,0.8s
BOSA Boshof 78.93 242 P **P 06 17 26.4 +1.0**
comp=Z,1.9nm,0.4s,baz=100,slow=3.7,SNR=10
BOSA LR LR 06 45 14.3
comp=Z,56nm,21.6s,baz=47,slow=30
TIXI Tiksi 80.34 7 P **P 06 17 30.3 -1.6**
comp=Z,25nm,0.7s,baz=170,slow=3.1,SNR=77
TIXI Tiksi 80.34 7 *ce*P **P 06 17 30.1 -1.8**
TIXI pmax pmax
comp=Z,20nm,0.6s
VRH Novokhopyorsk 80.60 325 *e*P **P 06 17 33.6 -0.1**
VRH pmax pmax
comp=Z,50nm,0.6s
CSS Mathiatis 80.82 307 *e*P **P 06 17 35.3 0.0**
comp=Z,38nm,0.9s
VORD Divnogorie 81.91 324 *e*P **P 06 17 39.4 -1.3**
VORD pmax pmax
comp=Z,20nm,0.7s
BR101 Keskin Array S 81.92 312 *e*P **P 06 17 40.8 -0.4**
BR131 Keskin Array S 81.92 312 *e*P **P 06 17 40.6 -0.5**
BR131 Keskin Array S 81.92 312 P **P 06 17 40.7 -0.4**
SNR=6.5
BRTR Keskin Array B 81.92 312 P **P 06 17 40.8 -0.4**
comp=Z,9.5nm,0.8s,baz=153,slow=7.8,SNR=40
BRTR LR LR 06 54 43.1
comp=Z,48nm,22.0s,baz=94,slow=36
VSR Storozhevoye 82.08 324 *e*P **P 06 17 39.9 -1.7**
VSR pmax pmax
comp=Z,50nm,0.5s
QSPA South Pole Qui 82.49 180 P **P 06 17 43.9 +0.2**
comp=Z,3.6nm,0.5s,baz=127,slow=1.0,SNR=21
QSPA South Pole Qui 82.49 180 *e*P **P 06 17 43.8 +0.2**
comp=Z,11nm,1.1s
SUR Sutherland 82.54 238 *e*P **P 06 17 47.4 +2.7**
comp=Z,12nm,1.1s
ANTO Ankara 82.58 312 *e*P **P 06 17 45.2 +0.6**
comp=Z,12nm,0.9s

ANTO **Ankara** 82.58 312⇑ *i*P P 06 17 46.8 +2.2
ANTO **Ankara** 82.58 312 *e*P P 06 17 45.2 +0.6
ANTO pmax pmax
comp=Z,13nm,0.9s
LPSR **Galich'ya Gora** 82.75 325 *e*P P 06 17 44.7 -0.3
LPSR pmax pmax
comp=Z,30nm,0.8s
SIM **Simferopol'** 83.12 317 *e*P P 06 17 47.8 +0.7
SIM S S 06 27 52.0 -10
SIM pmax pmax
comp=Z,22nm,0.9s
SIM MLR MLR
comp=Z,100nm,16.0s
OBN **Obninsk** 84.97 327 P P 06 17 56.0 -0.2
comp=Z,10nm,0.7s,baz=122,slow=12,SNR=6.6
OBN **Obninsk** 84.97 327 *c*eP P 06 17 56.4 +0.2
OBN *e* 06 21 13.2
OBN *e*PPP PPP 06 23 08.3
OBN pmax pmax
comp=Z,105nm,1.7s
KARP **Karpathos** 85.86 306 *e*P P 06 18 02.6 +1.3
comp=Z,90nm,0.9s
BILL **Bilibino** 86.07 19 *c*eP P 06 18 01.8 +0.3
BILL *e* 06 21 21.7
BILL *e*PPP PPP 06 23 20.5
BILL pmax pmax
comp=Z,10.0nm,1.7s
TSUM **Tsumeb** 86.71 251 *e*P P 06 18 06.4 +0.5
comp=Z,10nm,1.1s
CFR **Carcaliu** 87.26 316⇓ *i*P P 06 18 08.4 +0.6
CFR **Carcaliu** 87.26 316 ⇓P P 06 18 08.4 +0.6
LEOM **Leova** 87.49 317⇓ *i*P P 06 18 09.8 +0.9
LEOM **Leova** 87.49 317 ⇓P P 06 18 09.8 +0.9
IDI **Anoyia** 87.63 306⇓ *i*P P 06 18 11.4 +1.5
ADK **Adak** 87.70 37 *e*P P 06 18 09.1 -0.6
comp=Z,19nm,0.8s
ADK **Adak** 87.70 37 *e*P P 06 18 09.1 -0.6
ADK pmax pmax
comp=Z,19nm,0.8s
SORM **Soroca** 87.81 319⇓ *i*P P 06 18 10.4 0.0
SORM **Soroca** 87.81 319 ⇓P P 06 18 10.4 0.0
ALN **Alexandroupoli** 87.83 312 *e*P P 06 18 11.2 +0.6
comp=Z,6.6nm,0.7s
AKASG **Malin Array Be** 87.88 322 P P 06 18 09.6 -1.0
comp=Z,7.1nm,0.5s,baz=85,slow=4.8,SNR=21
AKASG PP PP 06 21 36.0 -1.4
comp=Z,1.5nm,0.7s,baz=92,slow=6.1,SNR=4.9
AKASG LR LR 07 02 18.6
comp=Z,47nm,18.6s,baz=225,slow=39
AKBB **Malin Array Si** 87.88 322 *e*P P 06 18 09.6 -1.0
AKBB *e*PP PP 06 21 36.0 -1.4
AKBB **Malin Array Si** 87.88 322 *e*P P 06 18 09.6 -1.0
AKBB *e* 06 21 36.0
KIEV **Kiev** 87.89 322 *e*P P 06 18 10.0 -0.6
comp=Z,16nm,0.7s
KIEV **Kiev** 87.89 322 *i* P P 06 18 10.1 -0.6
SNR=8.7
KIEV **Kiev** 87.89 322⇓ *e*P P 06 18 10.1 -0.6
KIEV pmax pmax
comp=Z,16nm,0.7s
VRI **Vrincioaia** 88.38 317⇓ *i*P P 06 18 14.3 +1.1
VRI **Vrincioaia** 88.38 317 ⇓P P 06 18 14.3 +1.1
PLOR **Plostina** 88.43 316⇓ *i*P P 06 18 14.5 +1.0
PLOR **Plostina** 88.43 316 ⇓P P 06 18 14.5 +1.0
MLR **Muntele Rosu** 88.84 316 *e*P P 06 18 15.9 +0.4
comp=Z,26nm,0.9s
MLR **Muntele Rosu** 88.84 316⇑ *i*P P 06 18 16.1 +0.6
MLR **Muntele Rosu** 88.84 316 ⇑P P 06 18 16.1 +0.6
SNAA **Sanae** 88.95 197 P P 06 18 16.8 +1.3
SNAA **Sanae** 88.95 197 *e*P P 06 18 16.5 +1.0
comp=Z,6.5nm,0.9s
SNAA **Sanae** 88.95 197⇓ *e*P P 06 18 16.5 +1.0
PRAR **RASCA** 89.04 318⇓ *i*P P 06 18 17.9 +1.7
ATKA **Atka Island** 89.27 37 *e*P P 06 18 16.4 -0.7
comp=Z,45nm,1.1s
DOPR **Dopca** 89.32 316⇓ *i*P P 06 18 17.9 +0.3
VOIR 89.45 316⇓ *i*P P 06 18 18.3 0.0
VOIR 89.45 316 ⇓P P 06 18 18.3 0.0
ARR **Arges** 89.72 316⇑ *i*P P 06 18 19.6 0.0
BURAR **Bucovina Array** 89.76 318⇓ *i*P P 06 18 21.1 +1.4
BURAR **Bucovina Array** 89.76 318 ⇓P P 06 18 21.1 +1.4
BUR04 **Bucovina Ar. S** 89.76 318 *e*P P 06 18 20.2 +0.4
BUR08 **Bucovina Ar. S** 89.78 318 *e*P P 06 18 20.2 +0.4
VTS **Vitosha** 90.23 313 *e*P P 06 18 21.9 -0.2
comp=Z,8.1nm,0.9s
VTS **Vitosha** 90.23 313⇑ *i*P P 06 18 22.4 +0.3
VTS **Vitosha** 90.23 313 ⇑P P 06 18 22.4 +0.3
AGG **Agios Georgios** 90.29 309 *e*P P 06 18 21.9 -0.4
comp=Z,23nm,1.1s
AGG **Agios Georgios** 90.29 309 *e*P P 06 18 21.9 -0.4
AGG pmax pmax
comp=Z,23nm,1.1s
LIT **Litokhoron** 90.35 310 *e*P P 06 18 22.6 +0.1
comp=Z,32nm,0.8s
LIT **Litokhoron** 90.35 310 *e*P P 06 18 22.6 +0.1
LIT pmax pmax
comp=Z,32nm,0.8s
APA **Apatity** 90.59 338⇓ *i*P P 06 18 19.6 -3.4
APA pmax pmax
comp=Z,8.0nm,0.9s
APA MLR MLR
comp=Z,1μm,16.0s
VNA2 **Neumayer--Watz** 90.59 197 P P 06 18 24.9 +1.9
baz=104,slow=3.7
VNA1 **Neumayer--Stat** 90.97 198 P P 06 18 27.6 +2.8
GZR **Gura Zlata** 91.01 316⇑ *i*P P 06 18 25.7 +0.1
GZR **Gura Zlata** 91.01 316 ⇑P P 06 18 25.7 +0.1
VSU **Vasula** 91.10 329⇑ *e*P P 06 18 25.0 -0.5
VSU pmax pmax
comp=Z,45nm,0.7s
VNA3 **Neumayer Olymp** 91.12 197 P P 06 18 26.0 +0.5
MDVR **Moldovita** 91.66 315⇑ *i*P P 06 18 28.7 +0.1
UZH **Uzhgorod** 91.87 319 *e*P P 06 18 32.3 +3.0
SIRR **Siria** 91.92 316⇑ *i*P P 06 18 29.8 +0.1
FIA1 **FINESS Array S** 92.06 332 *e*P P 06 18 30.9 +1.0
comp=Z,9.2nm,0.6s
FIA0 **FINESS Array S** 92.06 332 *e*P P 06 18 29.7 -0.2
FIA0 **FINESS Array S** 92.06 332 *e*P P 06 18 29.7 -0.2
FINES **FINESS Array B** 92.06 332 P P 06 18 29.7 -0.2
comp=Z,8.9nm,0.7s,baz=113,slow=5.0,SNR=34
FINES PKiKP PKiKP 06 23 20.0 +0.3
comp=Z,0.9nm,0.6s,baz=116,slow=3.2,SNR=6.0
FINES LR LR 07 07 30.6
comp=Z,69nm,18.9s,baz=66,slow=40
SUW **Suwalki** 92.20 324 *e*P P 06 18 31.7 +1.0
comp=Z,50nm,0.9s
SUW **Suwalki** 92.20 324 *e*P P 06 18 31.7 +1.0
SUW pmax pmax
comp=Z,50nm,0.9s
DIVS **Divibare** 92.78 314 *e*P P 06 18 34.1 +0.3
comp=Z,6.4nm,0.9s
ARA0 **ARCESS Array S** 93.89 340 *e*P P 06 18 37.6 -0.6
ARCES **ARCESS Array B** 93.89 340 P P 06 18 37.6 -0.6
comp=Z,11nm,0.9s,baz=103,slow=6.0,SNR=14
ARCES **ARCESS Array B** 93.89 340 *e*P P 06 18 38.7 +0.5
ARCES **ARCESS Array B** 93.89 340 *e*P P 06 18 38.7 +0.5
ARE0 **ARCESS Array S** 93.89 340 *e*P P 06 18 38.3 0.0
comp=Z,2nm,1.1s
KLNR **Kaliningrad** 94.01 324⇑ *e*P P 06 18 38.7 -0.3
KLNR pmax pmax
comp=Z,130nm,1.0s
VYHS **Vyhne** 94.12 318 *e*P P 06 18 41.5 +1.7
VYHS **Vyhne** 94.12 318 *e*P P 06 18 41.5 +1.7
UNV **Unalaska Valle** 94.13 36 *e*P P 06 18 39.1 -0.5
comp=Z,25nm,0.7s
MORC **Moravsky Berou** 95.10 319⇑ *i*P P 06 18 46.8 +2.5
MORC **Moravsky Berou** 95.10 319 ⇑P P 06 18 46.8 +2.5
ANM **Nome** 95.84 26 *e*P P 06 18 48.5 +1.3
comp=Z,33nm,1.2s
ANM **Nome** 95.84 26 *e*P P 06 18 48.5 +1.3
ANM pmax pmax
comp=Z,33nm,1.2s
SPITS **Spitsbergen Ar** 97.36 348 P P 06 18 52.7 -1.2
comp=Z,16nm,0.8s,baz=106,slow=8.8,SNR=9.3
GEA0 **GERESS Array S** 97.54 318 *e*P Pdif 06 18 58.4 +2.9
GERES **GERESS Array B** 97.54 318 P Pdif 06 18 57.3 +1.7
comp=Z,0.5nm,0.5s,baz=98,slow=6.0,SNR=4.7
GERES PP PP 06 22 53.4 -0.2
comp=Z,0.2nm,0.3s,baz=72,slow=4.3,SNR=5.7
HFS **Hagfors** 97.94 330 P P 06 18 56.6 -0.2
comp=Z,2.5nm,0.7s,baz=160,slow=4.7,SNR=8.4
NB200 **NORSAR Array S** 99.16 331 *e*P Pdif 06 19 01.1 -1.2
NOA **NORSAR Array B** 99.16 331 P Pdif 06 19 01.1 -1.2
comp=Z,1.1nm,0.8s,baz=92,slow=4.5,SNR=3.3
NOA LR LR 07 08 34.6
comp=Z,68nm,21.9s,baz=250,slow=38
TBI **Tubuai** 99.64 115 *e*LR LR 06 51 38.2
comp=Z,141nm,23.8s
PPT2 **Papeete2** 100.72 109 *e*LR LR 06 52 17.4
comp=Z,101nm,24.8s
IM3 **Indian Mountai** 100.72 24 *e*Pdif Pdif 06 19 09.3 +0.2
TOLK **Toolik Lake Re** 101.95 21 *e*Pdif Pdif 06 19 14.7 +0.1
TOLK **Toolik Lake Re** 101.95 21 P Pdif 06 19 15.4 +0.8
baz=280
ILAR **Eielson Array** 103.74 25 Pdiff Pdif 06 19 21.2 -1.5
comp=Z,0.3nm,0.7s,baz=284,slow=3.6,SNR=3.2
ILAR PKiKP PP 06 23 39.5 -0.2
comp=Z,0.4nm,0.6s,baz=288,slow=3.7,SNR=5.7
TORD **Torodi Ar. Bea** 106.19 282 PKiKP PKiKP 06 23 45.8 -0.4
comp=Z,0.8nm,0.7s,baz=149,slow=3.5,SNR=5.3
TOA1 **Torodi Ar. Sit** 106.19 282 *e*PKiKP PKiKP 06 23 45.8 -0.4
EPYK **Eagle Plains** 107.33 22 P PKiKP 06 23 46.8 -0.2
baz=292
INK **Inuvik** 107.68 20 PKiKP PKiKP 06 23 47.1 -0.4
comp=Z,1.4nm,0.7s,baz=339,slow=2.4,SNR=4.6
RES **Resolute Bay** 111.72 6 PKiKP PKiKP 06 23 55.1 +0.2
comp=Z,4.8nm,0.9s,baz=273,slow=5.3,SNR=4.9
YKA **Yellowknife Ar** 117.45 20 PKP PKPdf 06 24 05.6 -0.6
comp=Z,1.3nm,0.4s,baz=315,slow=3.0,SNR=14
YKB5 **Yellowknife Ar** 117.45 20 *e*PKPdf PKPdf 06 24 06.5 +0.2
D03D **Eldon** 121.97 38 P PKPdf 06 24 16.9 +1.5
baz=297
E03A **Tebam** 122.12 39 *e*PKPdf PKPdf 06 24 16.9 +1.2
B05A **Bryant** 122.23 36 P PKPdf 06 24 16.7 +0.9
baz=298,SNR=6.3
NRS **Narsarsuaq** 122.57 344 *e*PKPdf PKPdf 06 24 16.7 +0.6
NRS **Narsarsuaq** 122.57 344 *e*PKIKP PKPdf 06 24 16.7 +0.6
E04D **Cinebar** 122.73 38 P PKPdf 06 24 18.3 +1.3
baz=297
D05A **Enumclaw** 122.80 38 *e*PKPdf PKPdf 06 24 18.6 +1.6
LON **Longmire** 123.11 38 *e*PKPdf PKPdf 06 24 18.7 +1.0
LON **Longmire** 123.11 38 *e*PKIKP PKPdf 06 24 18.7 +1.0
IVI **Ivigtut** 123.23 346 *e*PKPdf PKPdf 06 24 17.7 +0.3
J01E **Myrtle Point** 123.30 43 P PKPdf 06 24 17.6 -0.4
baz=294
I03D **Drain, OR** 123.47 42 P PKPdf 06 24 19.4 +1.0
baz=295,SNR=5.5
H04D **Lebanon** 123.52 41 P PKPdf 06 24 20.0 +1.5
baz=296,SNR=5.9
K02D **Willamette Mer** 123.66 43 P PKPdf 06 24 20.0 +1.1
baz=294
B08A **Colville Reser** 123.78 35 *e*PKPdf PKPdf 06 24 19.6 +0.6
H04A **Detroit Lake** 123.80 40 *e*PKPdf PKPdf 06 24 19.8 +0.7
I04A **Tendick Farm,** 124.04 41 P PKPdf 06 24 20.1 +0.5
baz=296
HUMO **Hull Mountain** 124.18 43 *e*PKPdf PKPdf 06 24 21.3 +1.4
KHMM **Horse Mountain** 124.33 45 *e*PKPdf PKPdf 06 24 22.1 +1.8
J04D **Umpqua Nationa** 124.48 42 P PKPdf 06 24 21.8 +1.1
baz=295,SNR=6.2
I05D **Terrebonne, OR** 124.50 40 P PKPdf 06 24 21.3 +0.8
baz=297
HAWA **Hanford** 124.66 37 *e*PKPdf PKPdf 06 24 21.5 +0.8
F07A **Phinny Hill Vi** 124.66 38 *e*PKPdf PKPdf 06 24 21.9 +1.3
C09A **Chrisman Ranch** 124.68 35 *e*PKPdf PKPdf 06 24 21.5 +0.9
D08A **Wollman Farm,** 124.69 36 *e*PKPdf PKPdf 06 24 21.6 +1.0
YBH **Yreka Blue Hor** 124.70 44 PKP PKPdf 06 24 21.8 +0.8
comp=Z,2.5nm,0.8s,baz=298,slow=5.7,SNR=5.4
M02C **Callahan** 124.74 44 P PKPdf 06 24 22.3 +1.2
baz=294
L04D **Klamath Falls** 124.78 43 P PKPdf 06 24 22.4 +1.2
baz=295
E08A **Dider Farm, El** 124.89 37 *e*PKPdf PKPdf 06 24 22.3 +1.2
K04D **Chiloquin, OR** 124.98 42 P PKPdf 06 24 22.5 +1.0
baz=295
PINE **Pine Mountain** 125.00 41 *e*PKPdf PKPdf 06 24 23.1 +1.5
N02D **Trinity Center** 125.00 45 P PKPdf 06 24 22.5 +1.0
baz=293
J05D **Fort Rock, OR** 125.04 41 P PKPdf 06 24 22.8 +1.1
baz=296,SNR=8.1
NEW **Newport** 125.09 34 PKP PKPdf 06 24 22.4 +1.0
comp=Z,4.6nm,0.8s,baz=332,slow=2.5,SNR=3.2
NEW **Newport** 125.09 34 *e*PKPdf PKPdf 06 24 22.8 +1.3
O02D **Mt. Diablo Mer** 125.26 45 P PKPdf 06 24 22.8 +0.8
baz=293
M04C **Macdoel** 125.27 43 P PKPdf 06 24 22.6 +0.5
baz=295
WDC **Whiskeytown Da** 125.27 45 *e*PKPdf PKPdf 06 24 22.7 +0.7
WDC **Whiskeytown Da** 125.27 45 *e*PKIKP PKPdf 06 24 22.7 +0.7
K05A **Summer Lake** 125.51 42 *e*PKPdf PKPdf 06 24 24.2 +1.6
G08A **Pilot Rock** 125.55 38 *e*PKPdf PKPdf 06 24 23.1 +0.5
O03E **Paynes Creek** 125.91 45 P PKPdf 06 24 23.9 +0.6
baz=294
F10A **Beach Ranch, E** 126.25 37 *e*PKPdf PKPdf 06 24 24.7 +0.9
MOD **Modoc Plateau** 126.26 43 *e*PKPdf PKPdf 06 24 24.4 +0.4
ORV **Oroville** 126.41 46 *e*PKPdf PKPdf 06 24 24.8 +0.6
ORV **Oroville** 126.41 46 *e*PKIKP PKPdf 06 24 24.8 +0.6
BMO **Blue Mountains** 126.78 38 *e*PKPdf PKPdf 06 24 25.0 +0.1
BMO **Blue Mountains** 126.78 38 *e*PKIKP PKPdf 06 24 25.0 +0.1
J08A **Circle Bar Ran** 126.79 40 *e*PKPdf PKPdf 06 24 26.4 +1.5
AFDM **Forest Hills D** 127.03 46 *e*PKPdf PKPdf 06 24 26.3 +0.8
BEKR **Beckworth** 127.09 45 *e*PKPdf PKPdf 06 24 26.6 +0.8
WVOR **Wild Horse Val** 127.12 41 *e*PKPdf PKPdf 06 24 27.3 +1.6
FFC **Flin Flon** 127.62 21 *e*PKPdf PKPdf 06 24 27.2 +1.2
FFC **Flin Flon** 127.62 21 *e*PKIKP PKPdf 06 24 27.2 +1.2
MSO **Missoula** 127.68 34 *e*PKPdf PKPdf 06 24 27.4 +0.9
MSO **Missoula** 127.68 34 P PKPdf 06 24 26.8 +0.3
baz=306
CMB **Columbia Colle** 127.81 47 *e*PKPdf PKPdf 06 24 27.4 +0.4
CMB **Columbia Colle** 127.81 47 *e*PKIKP PKPdf 06 24 27.4 +0.4
VCNR **Virginia City** 127.83 45 *e*PKPdf PKPdf 06 24 29.2 +2.0
PAHR **Pah Rah Range** 127.84 45 *e*PKPdf PKPdf 06 24 28.9 +1.7
PNTR **Pine Nut** 127.95 45 *e*PKPdf PKPdf 06 24 29.5 +2.0
YERR **Yerington** 128.25 45 *e*PKPdf PKPdf 06 24 29.7 +1.7
HRY **Holter Researc** 128.91 33 *e*PKPdf PKPdf 06 24 30.4 +1.5
KVN **Kaiserville** 129.02 45 *e*PKPdf PKPdf 06 24 30.5 +1.0
KVN **Kaiserville** 129.02 45 *e*PKIKP PKPdf 06 24 30.5 +1.0
LRM **Limekiln Ridge** 129.10 35 *e*PKPdf PKPdf 06 24 30.7 +1.2
NV01 **Mina Array Sit** 129.11 46 *e*PKPdf PKPdf 06 24 31.1 +1.4
NVAR **Mina Array Bea** 129.15 46 PKP PKPdf 06 24 31.3 +1.5
comp=Z,3.1nm,0.7s,baz=274,slow=2.2,SNR=22
NVAR SKPbc SKPbc 06 27 47.3 +1.2
comp=Z,1.4nm,0.7s,baz=258,slow=5.3,SNR=8.4
EGMT **Eagleton** 129.18 31 *e*PKPdf PKPdf 06 24 30.6 +1.3
EGMT **Eagleton** 129.18 31 P PKPdf 06 24 30.4 +1.1
baz=311
HLID **Hailey** 129.23 38 *e*PKPdf PKPdf 06 24 31.4 +1.7
HLID **Hailey** 129.23 38 P PKPdf 06 24 31.5 +1.7
baz=303
DLMT **Dillon** 129.29 35 *e*PKPdf PKPdf 06 24 31.5 +1.8
CWC **Cottonwood Cre** 130.14 48 P PKPdf 06 24 32.9 +1.3
baz=294
ISA **Isabella, Lake** 130.16 49 P PKPdf 06 24 33.6 +2.1
baz=293
YHB **Horse Butte** 130.45 35 *e*PKPdf PKPdf 06 24 34.8 +2.7
DAC **Darwin (Calif)** 130.56 48 *e*PKPdf PKPdf 06 24 34.8 +2.3
DAC **Darwin (Calif)** 130.56 48 *e*PKIKP PKPdf 06 24 34.8 +2.3
YHH **Holmes Hill** 130.63 35 *e*PKPdf PKPdf 06 24 34.7 +2.2
YMR **Madison River** 130.63 35 *e*PKPdf PKPdf 06 24 35.0 +2.6
GCMT **Greycliff** 130.66 33 *e*PKPdf PKPdf 06 24 34.2 +1.9
MPMC **Manual Prospec** 130.73 48 P PKPdf 06 24 34.5 +1.7
baz=294
YNR **Norris Junctio** 130.77 35 *e*PKPdf PKPdf 06 24 35.2 +2.5
EDW2 **Edwards Air Fo** 130.82 50 P PKPdf 06 24 34.3 +1.5
baz=293
YFT **Old Faithful** 130.84 35 *e*PKPdf PKPdf 06 24 36.7 +3.9
FURC **Furnace Creek,** 131.02 47 P PKPdf 06 24 34.9 +1.8
baz=295
R11A **Troy Canyon, C** 131.09 45 *e*PKPdf PKPdf 06 24 35.4 +2.0
R11A **Troy Canyon, C** 131.09 45 P PKPdf 06 24 34.8 +1.3
baz=298
HVU **Hansel Valley** 131.21 39 *e*PKPdf PKPdf 06 24 35.0 +1.6
HVU **Hansel Valley** 131.21 39 *e*PKIKP PKPdf 06 24 35.1 +1.6
FXWY **Fox Creek** 131.21 36 *e*PKPdf PKPdf 06 24 35.4 +1.8
TPNV **Topopah Spring** 131.25 47 *e*PKPdf PKPdf 06 24 36.1 +2.4
TPNV **Topopah Spring** 131.25 47 *e*PKIKP PKPdf 06 24 36.1 +2.4
TPNV **Topopah Spring** 131.25 47 P PKPdf 06 24 34.9 +1.2
baz=296
RLMT **Red Lodge** 131.30 34 *e*PKPdf PKPdf 06 24 36.0 +2.4
RLMT **Red Lodge** 131.30 34 P PKPdf 06 24 35.1 +1.4
baz=309
MOOW **Moose Ponds** 131.31 36 *e*PKPdf PKPdf 06 24 35.6 +1.9
TPAW **Teton Pass** 131.35 36 *e*PKPdf PKPdf 06 24 35.5 +1.6
LOHW **Long Hollow** 131.48 36 *e*PKPdf PKPdf 06 24 36.1 +2.1
SNOW **Snow King Moun** 131.48 36 *e*PKPdf PKPdf 06 24 36.4 +2.4
REDW **Red Top Meadow** 131.48 36 *e*PKPdf PKPdf 06 24 35.9 +1.8
BGU **Big Grassy Mou** 131.51 40 *e*PKPdf PKPdf 06 24 35.3 +1.2
GSC **Goldstone, Bar** 131.55 49 *e*PKPdf PKPdf 06 24 37.2 +3.0
GSC **Goldstone, Bar** 131.55 49 P PKPdf 06 24 35.9 +1.7
baz=294
SPUT **South Promonto** 131.68 40 *e*PKPdf PKPdf 06 24 36.6 +2.2
AHID **Auburn Hatcher** 131.68 37 *e*PKPdf PKPdf 06 24 36.3 +1.9
SHOC **Shoshone, Teco** 131.69 48 P PKPdf 06 24 36.1 +1.7
baz=296
LAO **LASA Array** 131.86 30 *e*PKPdf PKPdf 06 24 36.2 +1.8
LAO **LASA Array** 131.86 30 P PKPdf 06 24 35.8 +1.4
baz=314
PLCA **Paso Flores** 131.93 183 PKP PKPdf 06 24 36.5 +1.6
comp=Z,1.5nm,0.7s,baz=284,slow=3.1,SNR=4.3
PLCA **Paso Flores** 131.93 183 *e*PKPdf PKPdf 06 24 37.5 +2.6
PLCA **Paso Flores** 131.93 183 *e*PKIKP PKPdf 06 24 37.5 +2.6
DUG **Dugway, Tooele** 132.04 41 *e*PKPdf PKPdf 06 24 36.6 +1.5
DUG **Dugway, Tooele** 132.04 41 *e*PKIKP PKPdf 06 24 36.6 +1.5
DUG **Dugway, Tooele** 132.04 41 P PKPdf 06 24 36.4 +1.4
baz=302
HWUT **Hardware Ranch** 132.06 39 *e*PKPdf PKPdf 06 24 37.2 +2.0
PSUT **Pine Spring** 132.19 43 *e*PKPdf PKPdf 06 24 37.9 +2.3
SHPR **Sheep Range** 132.24 47 *e*PKPdf PKPdf 06 24 38.0 +2.4
FRD **Ford Ranch, An** 132.42 51 P PKPdf 06 24 37.9 +2.0
baz=293
TCUT **Toone Canyon** 132.44 39 *e*PKPdf PKPdf 06 24 38.1 +2.2
CTU **Camp Tracy** 132.46 40 *e*PKPdf PKPdf 06 24 38.4 +2.5
PFO **Pinyon Flats O** 132.49 51 *e*PKPdf PKPdf 06 24 38.3 +2.2
XPFO **Piæon Flat** 132.49 51 *e*PKPdf PKPdf 06 24 38.5 +2.4
SCHQ **Schefferville** 132.52 355 PKP PKPdf 06 24 36.6 +1.2
comp=Z,5.8nm,0.6s,baz=343,slow=1.6,SNR=15
SCHQ **Schefferville** 132.52 355 *e*PKPdf PKPdf 06 24 37.0 +1.7
BW06 **Boulder Array** 132.60 36 *e*PKPdf PKPdf 06 24 37.2 +1.1
BW06 **Boulder Array** 132.60 36 P PKPdf 06 24 37.3 +1.1
baz=308
PD31 **Pinedale Array** 132.60 36 *e*PKPdf PKPdf 06 24 37.4 +1.3
PDAR **Pinedale Array** 132.60 36 PKP PKPdf 06 24 36.7 +0.5
comp=Z,3.0nm,0.6s,baz=33,slow=1.4,SNR=21
PDAR **Pinedale Array** 132.60 36 *e*PKPdf PKPdf 06 24 36.9 +0.8
GMRC **Granite Mounta** 132.62 49 P PKPdf 06 24 37.8 +1.5
baz=295
MPU **Maple Canyon** 132.90 41 *e*PKPdf PKPdf 06 24 39.1 +2.3
CCUT **Cedar City** 133.01 44 *e*PKPdf PKPdf 06 24 40.5 +3.3
TCRU **Three Creeks R** 133.11 43 *e*PKPdf PKPdf 06 24 40.4 +3.1
SZCU **Shurtz Canyon** 133.18 44 *e*PKPdf PKPdf 06 24 39.3 +1.8
MSU **Marysvale** 133.34 43 *e*PKPdf PKPdf 06 24 39.7 +2.0
LCMT **Little Creek M** 133.36 45 *e*PKPdf PKPdf 06 24 38.4 +0.7
ULM **Lac du Bonnet** 133.43 20 PKP PKPdf 06 24 37.9 +0.7
comp=Z,8.5nm,0.8s,baz=24,slow=3.3,SNR=5.1
ULM **Lac du Bonnet** 133.43 20 *e*PKPdf PKPdf 06 24 38.2 +1.0
ULM **Lac du Bonnet** 133.43 20 *e*PKIKP PKPdf 06 24 38.2 +1.0
TRQA **Tornquist** 133.45 192 *e*PKPdf PKPdf 06 24 39.4 +1.7
TRQA **Tornquist** 133.45 192 *e*PKIKP PKPdf 06 24 39.4 +1.7
TMUT **Trail Mountain** 133.57 41 *e*PKPdf PKPdf 06 24 40.9 +2.7
P17A **Butcher Ranch,** 133.77 41 *e*PKPdf PKPdf 06 24 40.6 +2.2
W13A **Hualapai Mount** 133.79 48 *e*PKPdf PKPdf 06 24 41.9 +3.3
PKCU **Pink Cliffs** 133.79 44 *e*PKPdf PKPdf 06 24 41.5 +2.8
P18A **Preston Nutter** 134.00 40 *e*PKPdf PKPdf 06 24 40.7 +1.7
MDND **Maddock** 134.01 24 *e*PKPdf PKPdf 06 24 40.4 +2.0
MDND **Maddock** 134.01 24 P PKPdf 06 24 39.9 +1.5
baz=323
SRU **San Rafael Swe** 134.11 41 *e*PKPdf PKPdf 06 24 41.1 +2.1
U15A **North Rim** 134.31 45 *e*PKPdf PKPdf 06 24 41.7 +2.1
K22A **Casper** 134.41 34 *e*PKPdf PKPdf 06 24 41.3 +1.8
K22A **Casper** 134.41 34 P PKPdf 06 24 40.7 +1.2
baz=311
RSSD **Black Hills** 134.75 31 *e*PKPdf PKPdf 06 24 40.8 +0.6
RSSD **Black Hills** 134.75 31 *e*PKIKP PKPdf 06 24 40.8 +0.6
RSSD **Black Hills** 134.75 31 P PKPdf 06 24 40.7 +0.6
baz=315
O20A **White River Ci** 134.97 38 *e*PKPdf PKPdf 06 24 42.1 +1.3
O20A **White River Ci** 134.97 38 P PKPdf 06 24 42.0 +1.3
baz=307
PV10 **Paradox Valley** 135.49 41 *e*PKPdf PKPdf 06 24 45.0 +3.2
X16A **Lo Mia Camp, P** 135.89 47 *e*PKPdf PKPdf 06 24 46.4 +3.8
MVCO **Mesa Verde** 136.49 42 *e*PKPdf PKPdf 06 24 47.3 +3.6
MVCO **Mesa Verde** 136.49 42 P PKPdf 06 24 46.1 +2.5
baz=304
ISCO **Idaho Springs** 136.77 37 P PKPdf 06 24 46.2 +2.0
baz=310
EYMN **Ely** 136.84 18 *e*PKPdf PKPdf 06 24 46.3 +2.6
C40A **Isle Royale Na** 137.54 16 *e*PKPdf PKPdf 06 24 47.4 +2.5
C40A **Isle Royale Na** 137.54 16 P PKPdf 06 24 47.0 +2.1
baz=336
CHGQ **Chibougamau** 137.73 1 P PKPdf 06 24 44.3 -0.9
baz=358
MATQ **Matagami** 137.73 4 P PKPdf 06 24 44.5 -0.7
baz=354
LSQQ **Lebel-sur-Quev** 138.47 4 P PKPdf 06 24 46.2 -0.4
baz=355
F38A **Pierce - Schro** 138.48 20 P PKPdf 06 24 49.4 +2.7
baz=332
E39A **Mellen** 138.53 18 P PKPdf 06 24 49.4 +2.5
baz=334
ECSD **EROS Data Cent** 138.56 26 *e*PKPdf PKPdf 06 24 46.2 -0.7
ECSD **EROS Data Cent** 138.56 26 P PKPdf 06 24 49.3 +2.4
baz=324
E40A **Wakefield** 138.67 17 P PKPdf 06 24 49.3 +2.2
baz=335
LAZ **Ladron** 138.96 44 *e*PKPdf PKPdf 06 24 52.2 +4.0
F40A **Park Falls** 139.08 18 P PKPdf 06 24 50.3 +2.4
baz=334
ANMO **Albuquerque** 139.13 43 PKP PKPdf 06 24 49.7 +1.2
comp=Z,5.5nm,0.9s,baz=249,slow=2.9,SNR=14
ANMO SKPbc SKiKP 06 28 21.1 -0.9
comp=Z,4.5nm,1.0s,baz=266,slow=19,SNR=6.0
ANMO **Albuquerque** 139.13 43 *e*PKPdf PKPdf 06 24 52.6 +4.1
ANMO eSKPbc SKiKP 06 28 21.7 -0.3
ANMO **Albuquerque** 139.13 43 P PKPdf 06 24 50.2 +1.7
baz=304
T25A **Trinidad** 139.17 39 *e*PKPdf PKPdf 06 24 51.7 +3.2
T25A **Trinidad** 139.17 39 P PKPdf 06 24 49.8 +1.2
baz=309
LENM **Lemitar** 139.20 45 *e*PKPdf PKPdf 06 24 53.1 +4.4
COWI **Conover** 139.21 17 *e*PKPdf PKPdf 06 24 50.7 +2.6
G39A **Holcombe** 139.31 19 P PKPdf 06 24 49.7 +1.4
baz=332
H38A **Maiden Rock** 139.47 21 P PKPdf 06 24 51.0 +2.5
baz=330
121A **Cookes Peak, D** 139.47 47 P PKPdf 06 24 50.2 +1.0
baz=301
E43A **Lone Tree Farm** 139.53 15 *e*PKPpre PKPpre 06 24 42.4
E43A *e*PKPdf PKiKP 06 24 51.6 +0.6
F41A **Three Lakes** 139.54 17 *e*PKPpre PKPpre 06 24 41.5
F41A *e*PKPdf PKiKP 06 24 51.2 +0.2
F41A **Three Lakes** 139.54 17 P PKPdf 06 24 50.0 +1.3
baz=336
G40A **Rib Lake** 139.64 18 P PKPdf 06 24 50.0 +1.2
baz=334
BGNE **Belgrade** 139.68 29 *e*PKPdf PKPdf 06 24 49.5 +0.4
BGNE **Belgrade** 139.68 29 P PKPdf 06 24 48.9 -0.2
baz=320
D46A **Sault St. Mari** 139.70 11 P PKPdf 06 24 50.3 +1.3
baz=344
D47A **Chapleau** 139.71 10 P PKPdf 06 24 50.3 +1.4
baz=345
H39A **Augusta** 139.81 20 P PKPdf 06 24 51.6 +2.4
baz=332
D48A **Paudash Townsh** 139.81 9 P PKPdf 06 24 49.0 -0.1
baz=347
E45A **Wooded Hills,** 139.97 13 P PKPdf 06 24 50.1 +0.7
baz=342
H40A **Chili** 140.15 19 P PKPdf 06 24 51.9 +2.1
baz=333
I39A **Houston** 140.45 21 *e*PKPpre PKPpre 06 24 45.3
I39A *e*PKPdf PKiKP 06 24 53.0 0.0
I39A **Houston** 140.45 21 P PKPdf 06 24 52.6 +2.2
baz=331
E50A **Wahnapitae** 140.70 8 P PKPdf 06 24 52.7 +2.0
baz=348
PQI **Presque Isle** 140.71 354 *e*PKPpre PKPpre 06 24 44.7
PQI *e*PKPdf PKiKP 06 24 53.6 +0.2
J39A **Decorah** 140.84 21 P PKPdf 06 24 53.0 +1.9
baz=330
I42A **Draeger Farm,** 141.28 18 *e*PKPpre PKPpre 06 24 46.0
PEMO **Pembroke** 141.82 4 P PKPdf 06 24 52.0 -0.7
baz=354
L40A **Anamosa** 142.12 22 *e*PKPdf PKPdf 06 24 56.2 +2.8
KSU1 **Kansas State U** 142.21 30 *e*PKPpre PKPpre 06 24 49.4
MOQ **Mont Orford** 142.32 359 *e*PKPpre PKPpre 06 24 49.2
PLVO **Plevna** 142.47 4 *e*PKPpre PKPpre 06 24 49.0
SADO **Sadowa** 142.54 7 *e*PKPdf PKPdf 06 24 52.4 -1.7
WVL **Waterville** 142.94 356 *e*PKPdf PKPdf 06 24 58.2 +3.5
CPUP **Villa Florida** 142.95 204 PKhKP PKPpre 06 24 52.5
comp=Z,2.8nm,0.7s,baz=206,slow=2.3,SNR=6.9
CPUP **Villa Florida** 142.95 204 *e*PKPpre PKPpre 06 24 52.3
CPUP **Villa Florida** 142.95 204 *e*PKHKP PKPpre 06 24 52.3
LONY **Lake Ozonia** 143.01 1 *e*PKPpre PKPpre 06 24 51.3

J48A Bridge Port 143.19 13 P PKPbc 06 24 52.2 -0.1
baz=343
J49A Marlette 143.26 12 P PKPbc 06 24 52.7 +0.2
baz=344
K46A Dorr 143.28 15 P PKPbc 06 24 53.0 +0.5
baz=339
N41A Harden Midland 143.43 23 P PKPab 06 24 52.5 +0.5
baz=330
M43A Waltham Townsh 143.47 20 P PKPab 06 24 52.1 0.0
baz=334
K47A Vermontville 143.50 15 P PKPab 06 24 51.8 -0.4
baz=340
K48A Perry 143.58 13 P PKPbc 06 24 53.0 -0.4
baz=342
N42A Yates City 143.63 22 P PKPbc 06 24 53.2 -0.4
baz=332
NCB Newcomb 143.67 1 ePKPpre PKPpre 06 24 53.5
K49A Clarkson 143.75 13 P PKPbc 06 24 53.7 -0.3
baz=343
L46A Eue Claire 143.77 16 P PKPab 06 24 52.9 -0.4
baz=338
ELFO Elginfield 143.77 10 P PKPbc 06 24 53.8 -0.1
baz=347
M44A Midewin, Midew 143.81 19 ePKPdf PKPbc 06 24 54.5 +0.3
M44A Midewin, Midew 143.81 19 P PKPbc 06 24 53.8 -0.3
baz=335
N43A Stutzman Famil 143.84 21 P PKPbc 06 24 54.1 -0.1
baz=333
O41A Passleys Farm, 143.93 23 P PKPab 06 24 54.2 +0.2
baz=330
K50A Casco 143.93 12 P PKPab 06 24 54.0 +0.2
baz=344
HNH Hanover 143.93 359 ePKPdf PKPbc 06 24 54.9 +0.5
TYNO Tyneside 144.09 8 P PKPbc 06 24 54.7 -0.2
baz=349
L47A Sherwood 144.10 15 P PKPbc 06 24 54.9 -0.1
baz=340
HDIL Hopedale 144.13 21 ePKPdf PKPbc 06 24 55.2 +0.1
HDIL Hopedale 144.13 21 P PKPab 06 24 54.8 +0.1
baz=332
TX31 Lajitas Ar. Si 144.15 49 ePKPdf PKPdf 06 24 56.9 -0.6
LTX Lajitas 144.15 49 ePKPdf PKPdf 06 24 57.0 -0.5
LTX eSKPbc SKiKP 06 28 33.8 +1.5
TXAR Lajitas Array 144.15 49 PKP PKPdf 06 24 57.0 -0.5
comp=Z,7.5nm,0.8s,baz=287,slow=0,SNR=64
TXAR SKPbc SKiKP 06 28 33.8 +1.5
comp=Z,1.8nm,0.8s,baz=3.2,slow=4.8,SNR=6.0
AAM Ann Arbor 144.16 13 ePKPdf PKPdf 06 24 56.1 -0.9
O42A Bath 144.16 22 P PKPbc 06 24 55.1 -0.2
baz=331
WMOK Wichita Mounta 144.19 37 ePKPdf PKPbc 06 24 55.9 +0.4
WMOK Wichita Mounta 144.19 37 ePKIKP PKPbc 06 24 55.9 +0.3
WMOK Wichita Mounta 144.19 37 P PKPbc 06 24 55.5 -0.1
baz=314
MEDO Medina 144.20 6 P PKPab 06 24 55.0 +0.2
baz=351
P41A Barry, Barry 144.24 24 P PKPab 06 24 55.3 +0.2
baz=329
ACCN Adirondack Com 144.26 0 ePKPdf PKPbc 06 24 55.3 -0.2
M46A Old House Fiel 144.31 17 ePKPdf PKPab 06 24 55.5 +0.1
M46A Old House Fiel 144.31 17 P PKPbc 06 24 55.9 +0.3
baz=338
N44A Piper City 144.32 19 P PKPbc 06 24 55.8 +0.1
baz=334
L48A N Adams 144.32 14 P PKPbc 06 24 55.8 +0.1
baz=341
L49A Milan 144.32 13 P PKPbc 06 24 55.7 0.0
baz=342
O43A Sugar Creek Fa 144.37 21 P PKPbc 06 24 56.1 +0.2
baz=332
N45A Kentland 144.47 19 P PKPbc 06 24 56.6 +0.4
baz=335
M47A Cromwell 144.56 16 P PKPbc 06 24 56.7 +0.2
baz=339
P42A Winchester 144.59 23 ePKPdf PKPab 06 24 56.2 -0.2
P42A Winchester 144.59 23 P PKPab 06 24 56.5 +0.1
baz=330
N46A Monticello 144.67 18 P PKPbc 06 24 57.3 +0.5
baz=337
M48A Edgerton 144.68 15 ePKPdf PKPab 06 24 56.4 -0.3
M48A Edgerton 144.68 15 P PKPbc 06 24 56.8 -0.1
baz=340
MMNY Mt. Morris Dam 144.68 6 ePKPdf PKPab 06 24 56.3 -0.4
Q41A Truxton 144.78 25 P PKPbc 06 24 57.3 +0.1
baz=328
O44A Mansfield 144.78 20 P PKPab 06 24 57.2 0.0
baz=334
P43A Skaggs, Pawnee 144.86 22 P PKPab 06 24 57.4 0.0
baz=332
M49A Liberty Center 144.88 14 P PKPab 06 24 57.1 -0.3
baz=342
O45A Potomac 144.95 19 P PKPdf 06 24 58.2 -0.3
baz=335
N47A Urbana 144.99 16 P PKPbc 06 24 57.6 -0.3
baz=338
ERPA Erie 145.03 9 ePKPbc PKPbc 06 24 57.9 0.0
ERPA Erie 145.03 9 P PKPbc 06 24 57.9 0.0
baz=348
SFIN Lafayette 145.03 18 ePKPbc PKPbc 06 24 58.0 0.0
SFIN Lafayette 145.03 18 P PKPab 06 24 58.2 +0.2
baz=336
TUL1 Leonard 145.05 33 ePKPbc PKPab 06 24 58.4 +0.1
TUL1 Leonard 145.05 33 P PKPab 06 24 58.3 +0.1
baz=319
ABTX Abilene, Hawle 145.05 41 ePKPbc PKPdf 06 24 59.1 +0.2
ABTX Abilene, Hawle 145.05 41 P PKPdf 06 24 59.1 +0.2
baz=310
Q42A Golden Eagle 145.10 24 P PKPbc 06 24 58.1 -0.1
baz=329
HRV Adam Dziewonsk 145.11 358 ePKPbc PKPbc 06 24 57.9 -0.3
HRV Adam Dziewonsk 145.11 358 ePKIKP PKPbc 06 24 57.9 -0.3
HRV Adam Dziewonsk 145.11 358 P PKPab 06 24 58.4 +0.2
baz=3.1
M50A Fremont 145.16 13 ePKPbc PKPbc 06 24 58.1 -0.2
M50A Fremont 145.16 13 P PKPbc 06 24 58.4 0.0
baz=343
N48A Decatur 145.19 16 P PKPbc 06 24 58.2 -0.3
baz=340
R41A Rosebud 145.27 25 P PKPab 06 24 58.9 -0.1
baz=328
P44A Sand Creek, Wi 145.34 21 P PKPbc 06 24 59.0 0.0
baz=333
N49A Columbus Grove 145.35 15 ePKPbc PKPbc 06 24 58.7 -0.3
N49A Columbus Grove 145.35 15 P PKPbc 06 24 58.7 -0.3
baz=341
QUA2 Belchertown 145.36 359 ePKPbc PKPdf 06 24 59.1 0.0
BINY Binghamton 145.37 3 ePKPdf PKPbc 06 24 58.8 -0.3
BINY Binghamton 145.37 3 P PKPab 06 24 59.4 +0.1
baz=355
Q43A New Douglas 145.40 23 P PKPbc 06 24 59.0 -0.3
baz=331
M51A Elyria 145.41 12 P PKPbc 06 24 58.4 -0.7
baz=344
O47A Sheridan 145.44 17 P PKPdf 06 24 59.3 0.0
baz=337
SLM Saint Louis 145.46 24 ePKPdf PKPdf 06 24 59.3 -0.1
SLM Saint Louis 145.46 24 ePKIKP PKPdf 06 24 59.3 -0.1
ALLY Alegheny Colle 145.46 9 ePKPdf PKPdf 06 24 58.9 -0.4
R42A Luebbering 145.53 25 P PKPbc 06 24 59.6 0.0
baz=328
CCM Cathedral Cave 145.53 25 ePKPdf PKPdf 06 24 59.5 0.0
CCM Cathedral Cave 145.53 25 ePKIKP PKPdf 06 24 59.5 0.0
CCM Cathedral Cave 145.53 25 P PKPbc 06 24 59.8 +0.1
baz=328
P45A Graceland, Par 145.59 20 ePKPdf PKPbc 06 24 59.9 +0.1
P45A Graceland, Par 145.59 20 P PKPab 06 25 00.3 +0.2
baz=334
M54A Oil Creek Stat 145.68 8 ePKPdf PKPbc 06 24 59.9 -0.1
M54A Oil Creek Stat 145.68 8 P PKPdf 06 24 59.7 0.0
baz=349
P46A Rosedale 145.69 19 P PKPab 06 25 00.6 +0.1
baz=335
BRYW Bryant College 145.69 358 ePKPdf PKPab 06 25 01.4 +0.9
Q44A Meyer Farm, Va 145.69 22 P PKPdf 06 24 59.7 0.0
baz=332
S41A Jillco Farms, 145.71 26 P PKPbc 06 25 00.2 -0.1
baz=326
O48A Farmland 145.72 16 P PKPdf 06 24 59.8 0.0
baz=339
HHAR Hobbs 145.73 30 ePKPdf PKPdf 06 25 00.1 +0.1
N50A Nevada 145.74 13 P PKPdf 06 24 60.0 +0.2
baz=343
N51A Ashland 145.76 12 ePKPdf PKPdf 06 25 00.0 +0.2
N51A Ashland 145.76 12 P PKPdf 06 24 59.9 0.0
baz=344
R43A Red Bud 145.89 24 P PKPbc 06 25 00.5 -0.3
baz=330
FVM French Village 145.94 24 ePKPdf PKPbc 06 25 01.0 0.0
FVM French Village 145.94 24 ePKIKP PKPbc 06 25 01.0 0.0
S42A Caledonia 145.97 25 P PKPdf 06 25 00.6 +0.3
baz=328
BDFB Brasilia 145.97 227 PKPbc PKPab 06 25 02.1 -0.2
comp=Z,11nm,0.8s,baz=107,slow=2.5,SNR=14
O49A Covington 146.00 15 ePKPdf PKPbc 06 25 01.0 0.0
O49A Covington 146.00 15 P PKPbc 06 25 00.9 -0.2
baz=340
Q45A Warren Harvey, 146.01 21 P PKPbc 06 25 01.2 0.0
baz=333
KSPA Keystone Colle 146.02 3 ePKPdf PKPbc 06 25 01.3 +0.2
P47A Martinsville 146.10 18 P PKPbc 06 25 01.3 -0.1
baz=337
T41A Mountain View 146.15 27 P PKPbc 06 25 01.7 0.0
baz=326
N54A Moraine State 146.16 9 ePKPdf PKPbc 06 25 01.5 0.0
N54A Moraine State 146.16 9 P PKPbc 06 25 01.1 -0.5
baz=348
Q46A CEJHS Indians, 146.17 20 P PKPbc 06 25 01.5 -0.1
baz=335
OLIL Olney 146.18 21 ePKPdf PKPab 06 25 02.1 -0.3
U40A Yellville 146.20 29 P PKPdf 06 25 01.0 +0.3
baz=324
O50A Cable 146.22 14 P PKPbc 06 25 01.2 -0.5
baz=342
R44A Waltonville 146.24 23 P PKPbc 06 25 01.4 -0.5
baz=331
X37A Clayton 146.26 34 ePKPdf PKPbc 06 25 02.2 +0.1
JCT Junction City 146.28 44 ePKPdf PKPbc 06 25 02.4 +0.1
JCT Junction City 146.28 44 ePKP2 PKPbc 06 25 02.4 +0.1
JCT Junction City 146.28 44 P PKPbc 06 25 02.3 +0.1
baz=308
ACSO Alum Creek Sta 146.29 13 ePKPdf PKPbc 06 25 01.9 -0.1
ACSO Alum Creek Sta 146.29 13 P PKPbc 06 25 01.7 -0.2
baz=343
BLO Bloomington 146.31 19 ePKPdf PKPbc 06 25 02.0 0.0
BLO Bloomington 146.31 19 ePKP2 PKPbc 06 25 02.0 0.0
P48A Milroy 146.38 17 P PKPdf 06 25 01.1 +0.2
baz=338
S43A Fulton Ridge, 146.43 24 P PKPdf 06 25 01.0 0.0
baz=329
O51A Pataskala 146.45 13 P PKPbc 06 25 02.2 -0.2
baz=343
T42A Van Buren 146.46 26 ePKPdf PKPbc 06 25 02.8 +0.3
T42A Van Buren 146.46 26 P PKPdf 06 25 01.3 +0.2
baz=327
R45A Skylar, Fairfi 146.50 22 P PKPbc 06 25 02.3 -0.3
baz=333
P49A Miami Univ. Ec 146.51 16 P PKPbc 06 25 02.6 0.0
baz=339
ODNJ Ogdensburg 146.54 2 ePKPdf PKPbc 06 25 02.4 -0.3
Q47A Bedord North L 146.56 19 P PKPbc 06 25 02.8 0.0
baz=336
PAL Palisades 146.64 1 ePKPdf PKPbc 06 25 02.9 0.0
PAL Palisades 146.64 1 ePKP2 PKPbc 06 25 02.9 0.0
PAL Palisades 146.64 1 P PKPdf 06 25 01.7 +0.4
baz=359
O52A Adamsville 146.65 12 ePKPdf PKPbc 06 25 02.7 -0.3
O52A Adamsville 146.65 12 P PKPbc 06 25 02.2 -0.8
baz=345
U41A Viola 146.65 28 P PKPbc 06 25 03.4 +0.3
baz=325
W39A Magazine 146.65 31 ePKPdf PKPbc 06 25 02.5 -0.6
W39A Magazine 146.65 31 P PKPdf 06 25 01.9 +0.4
baz=321
SIUC Southern Illin 146.65 23 ePKPdf PKPdf 06 25 02.2 +0.7
N59A State Game Lan 146.66 3 ePKPdf PKPbc 06 25 02.8 -0.2
N59A State Game Lan 146.66 3 P PKPbc 06 25 03.2 +0.1
baz=356
S44A Carbondale 146.66 23 P PKPbc 06 25 02.5 -0.6
baz=330
P50A Jamestown 146.68 15 P PKPbc 06 25 02.5 -0.6
baz=341
SSPA Standing Stone 146.76 6 ePKPdf PKPbc 06 25 02.9 -0.3
SSPA Standing Stone 146.76 6 P PKPbc 06 25 02.6 -0.7
baz=352
T43A Greenville 146.76 25 P PKPdf 06 25 01.6 0.0
baz=328
Q48A North Vernon 146.78 18 P PKPbc 06 25 03.4 0.0
baz=334
R46A Gibon Southern 146.85 21 P PKPbc 06 25 03.7 +0.1
baz=334
CPNY Central Park 146.85 1 ePKPdf PKPbc 06 25 02.9 -0.6
WHTX Lake Whitney, 146.86 39 ePKPbc PKPab 06 25 04.8 -0.4
WHTX Lake Whitney, 146.86 39 P PKPbc 06 25 04.1 +0.2
baz=312
S45A Carrier Mills 146.93 22 P PKPbc 06 25 03.9 0.0
baz=332
Q49A Aurora 146.95 17 P PKPbc 06 25 03.8 -0.1
baz=339
PBMO Poplar Bluff 146.96 26 ePKPdf PKPdf 06 25 02.1 +0.1
PBMO ePKPbc PKPbc 06 25 03.8 -0.1
U42A Revenden 146.96 27 P PKPbc 06 25 03.6 -0.4
baz=326
P51A Williamsport 146.98 14 ePKPdf PKPbc 06 25 03.7 -0.2
P51A Williamsport 146.98 14 P PKPbc 06 25 03.7 -0.2
baz=342
V41A Mountainview 147.00 29 P PKPbc 06 25 03.9 -0.2
baz=324
USIN University of 147.01 21 ePKPbc PKPbc 06 25 03.9 -0.2
O56A Blue Knob Stat 147.04 7 ePKPdf PKPdf 06 25 02.3 +0.2
O56A ePKPbc PKPbc 06 25 04.3 +0.1
O56A Blue Knob Stat 147.04 7 P PKPbc 06 25 03.1 -1.0
baz=350
P52A Corning 147.05 13 P PKPbc 06 25 03.8 -0.3
baz=344
R47A Wooly Knot Far 147.11 19 P PKPdf 06 25 02.7 +0.5
baz=336
R48A Northridge Ran 147.22 18 P PKPdf 06 25 03.5 +1.1
baz=337
WCI Wyandotte Cave 147.24 19 ePKPdf PKPdf 06 25 03.0 +0.6
WCI ePKPbc PKPbc 06 25 05.0 +0.2
WCI Wyandotte Cave 147.24 19 ePKIKP PKPdf 06 25 03.0 +0.6
WCI e 06 25 05.0
WCI Wyandotte Cave 147.24 19 P PKPdf 06 25 03.2 +0.8
baz=336
S46A Don Dixon Farm 147.25 21 P PKPbc 06 25 04.3 -0.4
baz=333
MIAR Mount Ida 147.26 32 ePKPbc PKPbc 06 25 05.3 +0.4
MIAR Mount Ida 147.26 32 P PKPbc 06 25 03.9 -1.0
baz=321
PAGS Pennsylvania G 147.28 5 ePKPdf PKPbc 06 25 04.1 -0.7
U43A Rector 147.31 26 P PKPbc 06 25 04.2 -0.8
baz=328
WHAR Wooly Hollow 147.33 29 ePKPdf PKPdf 06 25 03.1 +0.5
V42A Cord 147.34 28 P PKPdf 06 25 03.0 +0.3
baz=326
PARMO Parma 147.34 25 ePKPdf PKPdf 06 25 03.8 +1.1
PARMO ePKPbc PKPbc 06 25 05.4 +0.4
P53A Whipple 147.34 12 ePKPbc PKPbc 06 25 05.0 0.0
P53A Whipple 147.34 12 P PKPbc 06 25 04.6 -0.3
baz=345
Q51A Peebles 147.35 15 ePKPbc PKPbc 06 25 04.8 -0.2
Q50A Georgetown 147.36 16 P PKPbc 06 25 04.5 -0.6
baz=340
W41B Gary Mavity, V 147.44 30 ePKPbc PKPbc 06 25 05.3 -0.1
W41B Gary Mavity, V 147.44 30 P PKPdf 06 25 03.7 +0.9
baz=324
MCWV Mont Chateau 147.46 9 ePKPbc PKPbc 06 25 05.3 +0.1
MCWV Mont Chateau 147.46 9 P PKPbc 06 25 05.1 -0.2
baz=348
U44A Portageville 147.50 25 P PKPbc 06 25 05.4 0.0
baz=329
MVL Millersville 147.53 4 ePKPdf PKPdf 06 25 04.1 +1.3
MVL ePKPbc PKPbc 06 25 06.0 +0.5
R49A Shelbyville 147.53 18 P PKPbc 06 25 05.3 -0.2
baz=338
PVMO Portageville 147.58 25 ePKPbc PKPbc 06 25 05.8 +0.1
435B Jarrell 147.58 41 ePKPdf PKPbc 06 25 04.9 -1.0
435B Jarrell 147.58 41 P PKPbc 06 25 05.8 -0.1
baz=311
S47A Hartford 147.62 20 P PKPbc 06 25 05.3 -0.5
baz=334
PSUB Penn St. - Bra 147.66 3 ePKPdf PKPdf 06 25 03.0 0.0
PSUB ePKPbc PKPbc 06 25 05.5 -0.3
Q52A Bidwell 147.66 13 P PKPbc 06 25 05.5 -0.3
baz=343
W42A Bald Knob 147.71 29 P PKPbc 06 25 06.0 -0.1
baz=325
UALR University of 147.71 30 ePKPdf PKPdf 06 25 03.7 +0.4
UALR ePKPbc PKPbc 06 25 06.2 +0.1
V43A Jonesboro 147.74 27 P PKPbc 06 25 06.4 +0.3
baz=327
T46A Princeton 147.75 22 P PKPbc 06 25 06.7 +0.5
baz=332
R50A Paris 147.79 16 P PKPbc 06 25 06.1 -0.2
baz=339
U44B Burton Farm, H 147.79 25 P PKPbc 06 25 06.7 +0.5
baz=329
833A Chaparral WMA, 147.84 47 ePKPdf PKPbc 06 25 05.4 -1.3
833A Chaparral WMA, 147.84 47 P PKPbc 06 25 05.6 -1.0
baz=335
S48A Wiedeman Farm, 147.84 19 P PKPbc 06 25 06.4 +0.1
baz=336
X41A Kaden, Bauxite 147.85 31 P PKPbc 06 25 06.8 +0.3
baz=322
GLAT Glass 147.87 25 ePKPbc PKPbc 06 25 06.8 +0.3
HBAR Harrisburg 147.88 27 ePKPbc PKPbc 06 25 06.7 +0.2
S49A Springfield 147.97 18 P PKPbc 06 25 06.2 -0.6
baz=337
R51A Hillsboro 147.97 15 P PKPbc 06 25 05.5 -1.2
baz=341
UTMT University of 147.98 24 ePKPbc PKPbc 06 25 06.9 +0.1
U45A Rockin P Farm, 148.02 24 P PKPbc 06 25 07.0 +0.1
baz=330
ZAIG Zacatecas 148.06 58 ePKPdf PKPdf 06 25 06.0 +1.4
SDMD Soldier's Deli 148.08 5 ePKPbc PKPbc 06 25 06.6 -0.4
T47A Sharon Grove 148.09 21 ePKPbc PKPbc 06 25 07.0 0.0
T47A Sharon Grove 148.09 21 P PKPbc 06 25 07.1 0.0
baz=334
HALT Halls 148.16 25 ePKPbc PKPbc 06 25 07.0 -0.3
WLAR White Oak Lake 148.17 32 ePKPbc PKPbc 06 25 08.1 +0.7
R52A Catlettsburg 148.17 14 P PKPbc 06 25 07.0 -0.3
baz=342
T48A Bowling Green 148.22 20 P PKPbc 06 25 07.3 -0.1
baz=335
U46A Springville 148.24 23 P PKPbc 06 25 07.8 +0.4
baz=331
X42A Stuttgart 148.25 29 P PKPbc 06 25 07.7 +0.2
baz=324
Y41A Eaglette Beard 148.28 31 P PKPbc 06 25 08.2 +0.5
baz=322
S50A Richmond 148.33 17 P PKPbc 06 25 07.3 -0.4
baz=339
Z40A Long Farm, Mag 148.34 33 P PKPbc 06 25 08.9 +1.0
baz=320
U47A Clarksville 148.51 22 P PKPbc 06 25 08.1 0.0
baz=333
T49A Edmonton 148.51 19 ePKPbc PKPbc 06 25 07.8 -0.4
T49A ePKPab PKPab 06 25 11.6 0.0
T49A Edmonton 148.51 19 P PKPbc 06 25 07.5 -0.7
baz=336
WVT Waverly 148.58 23 ePKPdf PKPdf 06 25 04.9 +0.2
WVT ePKPbc PKPbc 06 25 08.7 +0.4
WVT Waverly 148.58 23 ePKIKP PKPdf 06 25 04.9 +0.2
WVT e 06 25 08.7
WVT Waverly 148.58 23 P PKPbc 06 25 08.7 +0.4
baz=332
S51A Beattyville 148.59 16 ePKPdf PKPdf 06 25 04.5 -0.1
S51A ePKPbc PKPbc 06 25 08.0 -0.4
S51A Beattyville 148.59 16 P PKPbc 06 25 08.2 -0.1
baz=340
X43A Marvell 148.63 29 ePKPbc PKPbc 06 25 09.1 +0.5
X43A Marvell 148.63 29 P PKPbc 06 25 09.1 +0.5
baz=325
Z41A Richland Creek 148.66 32 ePKPbc PKPbc 06 25 09.4 +0.7
Z41A Richland Creek 148.66 32 P PKPbc 06 25 09.3 +0.6
baz=321
CCAR Cane Creek 148.68 30 ePKPbc PKPbc 06 25 09.5 +0.8
S52A Salyersville 148.69 15 P PKPbc 06 25 08.6 0.0
baz=341
140A Cam and Jess, 148.71 34 ePKPbc PKPbc 06 25 09.6 +0.8
140A Cam and Jess, 148.71 34 P PKPbc 06 25 09.9 +1.1
baz=319
U48A Cassie Pea, Po 148.71 21 P PKPbc 06 25 08.7 0.0
baz=334
NATX Nacogdoches 148.73 37 ePKPbc PKPbc 06 25 10.0 +1.1
NATX Nacogdoches 148.73 37 P PKPbc 06 25 09.9 +1.0
baz=316
Y42A Garnett, Star 148.74 31 P PKPbc 06 25 09.1 +0.3
baz=323
V46A Holladay 148.75 24 P PKPbc 06 25 08.5 -0.3
baz=331
T50A Nancy 148.81 18 P PKPbc 06 25 08.4 -0.6
baz=338
W45A Hickory Valley 148.87 26 P PKPbc 06 25 08.8 -0.3
baz=325
V47A Nunnelly 148.96 23 P PKPbc 06 25 09.1 -0.3
baz=332
U49A Red Boiling Sp 148.97 20 P PKPbc 06 25 09.5 +0.1
baz=336
X44A Crenshaw 148.99 28 P PKPbc 06 25 09.9 +0.4
baz=326
240A Hunter Patters 149.05 35 ePKPdf PKPdf 06 25 03.5 -2.1
240A ePKPbc PKiKP 06 25 10.9 0.0
240A Hunter Patters 149.05 35 P PKPbc 06 25 10.8 +1.2
baz=318
Z42A Norrel Spur, H 149.10 31 P PKPbc 06 25 10.4 +0.7
baz=322
Y43A Makayla and Ka 149.10 29 P PKPbc 06 25 10.4 +0.7
baz=324
141A Papa Simpson, 149.11 33 P PKPbc 06 25 10.8 +1.0
baz=320
T51A Gray 149.12 17 P PKPbc 06 25 09.8 +0.1
baz=339
CBN Corbin Frederi 149.22 6 ePKPbc PKPbc 06 25 10.0 +0.1
CBN ePKPab PKPab 06 25 14.6 +0.2
CBN Corbin Frederi 149.22 6 P PKPbc 06 25 10.1 +0.1
baz=352
W46A Michie 149.22 25 P PKPbc 06 25 09.9 -0.1
baz=330
T52A Hallie 149.25 15 P PKPbc 06 25 09.9 -0.2
baz=341
HKT Hockley 149.26 41 ePKPbc PKPbc 06 25 11.6 +1.4
V48A Smith Brothers 149.30 22 ePKPbc PKPbc 06 25 10.0 -0.3
V48A ePKPab PKPab 06 25 14.9 +0.1
V48A Smith Brothers 149.30 22 P PKPbc 06 25 10.1 -0.1
baz=333
OXF Oxford 149.31 27 ePKPbc PKPbc 06 25 10.0 -0.2
OXF Oxford 149.31 27 ePKP2 PKPbc 06 25 10.0 -0.2
OXF Oxford 149.31 27 P PKPbc 06 25 10.3 0.0
baz=328
U50A Jamestown 149.36 18 P PKPbc 06 25 10.4 +0.1
baz=337
X45A UM Field Stati 149.39 27 P PKPbc 06 25 10.0 -0.4
baz=328
R58B Mineral 149.40 7 P PKPbc 06 25 10.6 +0.2
baz=351
W47A Westpoint 149.44 23 P PKPbc 06 25 10.5 -0.1
baz=332
PLAL Pickwick Lake 149.48 24 ePKPdf PKPdf 06 25 05.7 -0.5
PLAL ePKPbc PKPbc 06 25 10.2 -0.5
PLAL ePKPab PKPab 06 25 14.9 -0.6
241A Mo Tay, Goldon 149.54 34 ePKPbc PKPbc 06 25 10.9 0.0
241A Mo Tay, Goldon 149.54 34 P PKPbc 06 25 11.7 +0.8
baz=319
V49A McMinnville 149.61 20 P PKPbc 06 25 11.1 +0.1
baz=335
LNIG Linares 149.63 52 ePKPdf PKPdf 06 25 06.8 +0.1
LNIG ePKPbc PKPbc 06 25 11.4 +0.1
TZTN Tazewell 149.63 16 ePKPdf PKPdf 06 25 06.8 +0.4
TZTN ePKPbc PKPbc 06 25 11.2 +0.2
TZTN Tazewell 149.63 16 P PKPbc 06 25 10.9 -0.2
baz=340
X46A Booneville 149.63 25 P PKPbc 06 25 11.0 0.0
baz=329
U51A La Follette 149.65 17 P PKPbc 06 25 11.3 +0.2
baz=339
BLA Blacksburg 149.74 11 ePKPbc PKPbc 06 25 11.4 +0.1
BLA Blacksburg 149.74 11 P PKPbc 06 25 11.4 +0.1
baz=346
LVC Limon Verde 149.76 188 ePKPbc PKPbc 06 25 13.9 +1.7
W48A Pulaski 149.79 23 P PKPbc 06 25 11.0 -0.4
baz=333
Y45A Yeager Farm, C 149.79 27 P PKPbc 06 25 12.2 +0.8
baz=327
U52A Thorn Hill 149.82 16 P PKPbc 06 25 11.8 +0.2
baz=340
143A Socs Landing, 149.83 31 ePKPbc PKPbc 06 25 12.1 +0.5
143A Socs Landing, 149.83 31 P PKPbc 06 25 12.5 +1.0
baz=322
Z44A Pea Ridge, Bel 149.86 29 P PKPbc 06 25 12.7 +1.1
baz=325
341A Kurthwood 149.91 35 ePKPbc PKPbc 06 25 13.1 +1.3
341A Kurthwood 149.91 35 P PKPbc 06 25 12.8 +1.0
baz=318
242A Grayson 149.93 33 P PKPbc 06 25 12.2 +0.4
baz=321
V50A Pikevile 149.96 19 P PKPbc 06 25 12.1 +0.3
baz=336

X47A	Russelville	149.97	24	P		PKPbc	06 25 11.5	-0.4
	baz=330							
W49A	Belvidere	150.06	22	P		PKPbc	06 25 11.8	-0.3
	baz=334							
U53A	Fall Branch	150.06	15	P		PKPbc	06 25 11.9	-0.2
	baz=342							
V51A	Loudon	150.08	18	ePKPbc		PKPbc	06 25 12.2	+0.1
V51A	Loudon	150.08	18	P		PKPbc	06 25 12.2	+0.1
	baz=338							
Y46A	Houston	150.09	27	P		PKPbc	06 25 12.3	+0.1
	baz=328							
SWET	Sewanee	150.09	21	ePKPbc		PKPbc	06 25 11.8	-0.4
Z45A	Winona	150.13	28	ePKPbc		PKPbc	06 25 13.1	+0.7
Z45A	Winona	150.13	28	P		PKPbc	06 25 13.0	+0.7
	baz=326							
V52A	Sevierville	150.27	17	ePKPdf		PKPdf	06 25 08.1	+0.7
V52A				ePKPbc		PKPbc	06 25 13.1	+0.5
V52A	Sevierville	150.27	17	P		PKPbc	06 25 13.2	+0.5
	baz=339							
W50A	Signal Mountai	150.32	20	ePKPbc		PKPbc	06 25 12.6	-0.1
W50A				ePKPab		PKPab	06 25 19.2	+0.1
W50A	Signal Mountai	150.32	20	P		PKPbc	06 25 12.8	0.0
	baz=336							
441A	DeRidder	150.33	36	P		PKPbc	06 25 14.3	+1.5
	baz=317							
CPCT	Cooper Cave	150.35	19	ePKPdf		PKPdf	06 25 08.3	+0.7
CPCT				ePKPbc		PKPbc	06 25 12.6	-0.2
CPCT				ePKPab		PKPab	06 25 18.6	-0.5
X48A	Hartselle	150.35	23	ePKPdf		PKPdf	06 25 07.8	+0.3
X48A				ePKPbc		PKPbc	06 25 12.4	-0.4
X48A	Hartselle	150.35	23	P		PKPbc	06 25 12.4	-0.4
	baz=332							
342A	Flagon Creek P	150.36	34	ePKPbc		PKPbc	06 25 13.1	+0.2
342A	Flagon Creek P	150.36	34	P		PKPbc	06 25 13.3	+0.4
	baz=320							
TKL	Tuckaleechee C	150.39	17	ePKPbc		PKPbc	06 25 13.2	+0.3
MOIG	Morelia	150.40	63	ePKPbc		PKPbc	06 25 14.7	+1.1
Y47A	UCPARC, Winfie	150.51	25	P		PKPbc	06 25 12.7	-0.5
	baz=330							
W51A	Cleveland	150.54	19	P		PKPbc	06 25 13.6	+0.4
	baz=337							
X49A	Woodville	150.58	22	P		PKPbc	06 25 13.4	+0.1
	baz=333							
Z46A	Louisville	150.63	27	P		PKPbc	06 25 14.6	+1.1
	baz=327							
145A	Houston Renfro	150.65	29	P		PKPbc	06 25 14.3	+0.7
	baz=325							
V53A	Saluda	150.65	16	ePKPbc		PKPbc	06 25 13.5	-0.1
V53A	Saluda	150.65	16	P		PKPbc	06 25 13.8	+0.2
	baz=341							
VBMS	Vicksburg	150.67	31	ePKPbc		PKPbc	06 25 14.2	+0.6
VBMS	Vicksburg	150.67	31	P		PKPbc	06 25 14.5	+0.9
	baz=324							
JRQG	Juriquilla Cam	150.68	61	ePKPbc		PKPbc	06 25 15.5	+1.2
244A	Avery, Jackson	150.72	31	P		PKPbc	06 25 14.5	+0.8
	baz=323							
Y48A	Jasper	150.78	24	P		PKPbc	06 25 13.7	-0.2
	baz=331							
W52A	Murphy	150.87	18	ePKPbc		PKPbc	06 25 14.4	+0.4
W52A	Murphy	150.87	18	P		PKPbc	06 25 14.3	+0.2
	baz=338							
X50B	Fort Payne	150.87	21	P		PKPbc	06 25 13.8	-0.2
	baz=334							
Z47A	Carrollton	151.01	26	P		PKPbc	06 25 14.6	+0.2
	baz=329							
W53A	Cullowhee	151.02	17	P		PKPbc	06 25 15.3	+0.7
	baz=340							
146A	Union	151.04	28	ePKPbc		PKPbc	06 25 15.4	+0.9
146A	Union	151.04	28	P		PKPbc	06 25 15.3	+0.9
	baz=327							
X51A	Calhoun	151.05	20	ePKPbc		PKPbc	06 25 14.6	+0.2
X51A				ePKPab		PKPab	06 25 22.0	-0.1
X51A	Calhoun	151.05	20	P		PKPbc	06 25 15.1	+0.6
	baz=336							
Z48A	Northport	151.08	25	P		PKPbc	06 25 14.3	-0.2
	baz=330							
Y49A	Blount Mountai	151.12	23	ePKPbc		PKPbc	06 25 14.7	0.0
Y49A	Blount Mountai	151.12	23	P		PKPbc	06 25 14.9	+0.2
	baz=332							
245A	Little AP, Sta	151.13	30	P		PKPbc	06 25 15.5	+0.8
	baz=324							
344A	Westbrook Farm	151.16	32	ePKPbc		PKPbc	06 25 15.5	+0.7
344A	Westbrook Farm	151.16	32	P		PKPbc	06 25 15.9	+1.1
	baz=322							
BG3	Lake Jocassee	151.25	17	ePKPbc		PKPbc	06 25 15.5	+0.6
X52A	Dahlonega	151.33	18	P		PKPbc	06 25 15.9	+0.7
	baz=338							
Y50A	Piedmont	151.35	22	P		PKPbc	06 25 15.2	0.0
	baz=334							
147A	Livingston	151.37	27	ePKPbc		PKPbc	06 25 15.4	+0.2
147A				ePKPab		PKPab	06 25 23.9	+0.5
147A	Livingston	151.37	27	P		PKPbc	06 25 15.7	+0.5
	baz=328							
KMSC	Kings Mountain	151.53	14	ePKPdf		PKPdf	06 25 10.0	+0.7
KMSC				ePKPbc		PKPbc	06 25 15.6	0.0
KMSC				ePKPab		PKPab	06 25 23.5	-0.5
KMSC	Kings Mountain	151.53	14	P		PKPbc	06 25 15.7	+0.1
	baz=343							
Y51A	Rockmart	151.59	21	P		PKPbc	06 25 15.9	+0.1
	baz=335							
X53A	Estanollee	151.60	17	P		PKPbc	06 25 16.4	+0.7
	baz=339							
LRAL	Lakeview Retre	151.61	25	ePKPdf		PKPdf	06 25 09.6	+0.1
LRAL				ePKPbc		PKPbc	06 25 15.7	-0.1
LRAL	Lakeview Retre	151.61	25	P		PKPbc	06 25 15.5	-0.3
	baz=331							
345A	Thompson Farm,	151.64	31	P		PKPbc	06 25 16.9	+1.0
	baz=323							
Z49A	Columbiana	151.66	24	P		PKPbc	06 25 15.8	-0.1
	baz=332							
148A	Greensboro	151.70	26	P		PKPbc	06 25 16.2	+0.2
	baz=329							
PAULI	Pauline	151.72	15	ePKPdf		PKPdf	06 25 10.1	+0.5
PAULI				ePKPbc		PKPbc	06 25 15.9	0.0
247A	Quitman	151.73	28	P		PKPbc	06 25 17.1	+1.0
	baz=327							
Z50A	Ashland	151.85	23	ePKPdf		PKPdf	06 25 10.3	+0.4
Z50A				ePKPbc		PKPbc	06 25 16.3	-0.1
Z50A				ePKPab		PKPab	06 25 25.5	+0.1
Z50A	Ashland	151.85	23	P		PKPbc	06 25 16.6	+0.2
	baz=333							
346A	Big Creek Wild	151.87	30	ePKPbc		PKPbc	06 25 17.1	+0.7
346A	Big Creek Wild	151.87	30	P		PKPbc	06 25 16.8	+0.4
	baz=324							
Y52A	Lilburn	151.96	19	ePKPdf		PKPdf	06 25 10.0	0.0
Y52A				ePKPbc		PKiKP	06 25 17.2	+0.3
Y52A	Lilburn	151.96	19	P		PKPbc	06 25 17.5	+1.0
	baz=337							
Z51A	Franklin	152.07	22	P		PKPbc	06 25 17.4	+0.5
	baz=334							
149A	Jones	152.07	25	P		PKPbc	06 25 16.9	0.0
	baz=331							
CNNC	Cliffs of the	152.08	8	ePKPbc		PKPbc	06 25 17.4	+0.6
CNNC				ePKPab		PKPab	06 25 26.5	+0.2
CNNC	Cliffs of the	152.08	8	P		PKPbc	06 25 17.6	+0.8
	baz=350							
248A	Dixon Mills	152.10	27	P		PKPbc	06 25 17.3	+0.4
	baz=328							
Y53A	Monroe	152.12	18	P		PKPbc	06 25 17.5	+0.6
	baz=338							
HODGE	Hodges	152.16	16	ePKPbc		PKPbc	06 25 17.5	+0.5
HODGE				ePKPab		PKPab	06 25 26.4	-0.2
347A	Saraland	152.31	29	P		PKPbc	06 25 18.1	+0.7
	baz=326							
JSC	Jenkinsville	152.37	14	ePKPdf		PKPdf	06 25 11.3	+0.8
JSC				ePKPbc		PKiKP	06 25 17.9	+0.2
JSC	Jenkinsville	152.37	14	ePKIKP		PKPdf	06 25 11.4	+0.8
150A	Eclectic	152.38	24	P		PKPbc	06 25 17.6	+0.1
	baz=332							
Y54A	Tignall	152.38	17	P		PKPbc	06 25 17.8	+0.3
	baz=340							
Z52A	Williamson	152.46	20	P		PKPbc	06 25 18.5	+0.8
	baz=336							
249A	Camden	152.47	26	P		PKPbc	06 25 18.7	+0.9
	baz=330							
GOGA	Godfrey	152.57	19	ePKPdf		PKPdf	06 25 11.5	+0.6
GOGA				ePKPbc		PKiKP	06 25 18.4	+0.2
GOGA				ePKPab		pPKPdf	06 25 28.2	-0.4
GOGA	Godfrey	152.57	19	ePKIKP		PKPdf	06 25 11.5	+0.6
GOGA				e			06 25 28.2	
GOGA	Godfrey	152.57	19	P		PKPbc	06 25 18.2	+0.3
	baz=338							
348A	Jackson	152.60	28	ePKPdf		PKPdf	06 25 12.6	+1.5
348A				ePKPbc		PKPbc	06 25 19.2	+1.1
348A				ePKPab		PKPab	06 25 29.9	+1.4
	baz=327							
Z53A	Monticello	152.65	19	P		PKPbc	06 25 18.4	+0.3
	baz=338							
PB11	IPOC Station P	152.66	188	ePKPdf		PKPdf	06 25 12.9	+1.2
PB11				ePKPbc		PKiKP	06 25 19.9	+0.9
151A	Opelika	152.72	23	P		PKPbc	06 25 18.7	+0.4
	baz=334							
447A	Lucedale	152.75	30	P		PKPbc	06 25 19.4	+1.0
	baz=325							
152A	Waverly Hall	152.82	21	ePKPdf		PKPdf	06 25 11.8	+0.4
152A				ePKPbc		PKPbc	06 25 19.0	+0.5
152A	Waverly Hall	152.82	21	P		PKPbc	06 25 19.1	+0.5
	baz=335							
250A	Grady	152.83	25	ePKPbc		PKPbc	06 25 19.1	+0.5
250A				ePKPab		PKPab	06 25 30.2	+0.6
250A	Grady	152.83	25	P		PKPbc	06 25 19.3	+0.8
	baz=331							
Z54A	Sparta	152.92	18	P		PKPbc	06 25 19.4	+0.7
	baz=339							
349A	Repton	152.97	27	P		PKPbc	06 25 20.0	+1.1
	baz=329							
251A	Midway	153.07	23	P		PKPbc	06 25 19.8	+0.7
	baz=333							
Z55A	Blythe	153.14	16	P		PKPbc	06 25 20.0	+0.8
	baz=340							
153A	Fort Valley	153.15	20	P		PKPbc	06 25 20.0	+0.7
	baz=337							
BRAL	Brewton	153.19	27	ePKPdf		PKPdf	06 25 13.2	+1.3
BRAL				ePKPbc		PKiKP	06 25 20.4	+0.8
BRAL				ePKPab		PKPab	06 25 32.3	+1.2
BRAL	Brewton	153.19	27	P		PKPbc	06 25 20.7	+1.3
	baz=329							
MNMC	Minye Minye	153.28	188	ePKPbc		PKPbc	06 25 21.5	+1.2
350A	Dozier	153.29	25	P		PKPbc	06 25 20.6	+1.0
	baz=330							
154A	Montrose	153.42	19	ePKPbc		PKPbc	06 25 20.3	+0.5
154A				ePKPab		PKPab	06 25 32.0	+0.1
154A	Montrose	153.42	19	P		PKPbc	06 25 20.5	+0.7
	baz=338							
252A	Lumpkin	153.42	22	P		PKPbc	06 25 20.5	+0.7
	baz=334							
253A	Americus	153.58	21	ePKPbc		PKPbc	06 25 20.1	-0.1
253A				ePKPab		PKPab	06 25 33.3	+0.6
253A	Americus	153.58	21	P		PKPbc	06 25 20.8	+0.6
	baz=336							
155A	Kite	153.61	18	P		PKPbc	06 25 20.4	+0.2
	baz=339							
450A	Crestview	153.71	26	P		PKPbc	06 25 21.8	+1.3
	baz=329							
351A	Pinckard	153.72	24	P		PKPbc	06 25 21.3	+0.8
	baz=335							
NHSC	New Hope	153.75	13	ePKPbc		PKPbc	06 25 21.2	+0.7
352A	Blakely	153.81	23	ePKPbc		PKPbc	06 25 21.3	+0.6
352A				ePKPab		PKPab	06 25 34.0	+0.4
352A	Blakely	153.81	23	P		PKPbc	06 25 21.6	+0.9
	baz=333							
156A	Sylvania	153.85	16	P		PKPbc	06 25 21.4	+0.6
	baz=342							
CSU	Charleston Sou	153.89	13	ePKPbc		PKPbc	06 25 21.5	+0.7
RGRS	Roger Stewart	153.93	13	ePKPbc		PKPbc	06 25 21.7	+0.8
254A	Abbeville	153.97	20	P		PKPbc	06 25 21.8	+0.8
	baz=337							
353A	Camilla	154.19	22	P		PKPbc	06 25 22.6	+1.1
	baz=335							
451A	Vernon	154.23	25	ePKPab		PKPab	06 25 36.7	+1.2
451A	Vernon	154.23	25	P		PKPbc	06 25 22.9	+1.3
	baz=331							
255A	Hazlehurst	154.25	18	ePKPab		PKPab	06 25 35.4	-0.1
452A	Marianna	154.26	24	P		PKPbc	06 25 22.7	+1.0
	baz=332							
TIGA	Tifton	154.33	21	ePKPbc		PKPbc	06 25 22.6	+0.7
TIGA				ePKPab		PKPab	06 25 36.1	+0.2
TIGA	Tifton	154.33	21	P		PKPbc	06 25 22.7	+0.8
	baz=336							
256A	Glennville	154.38	17	P		PKPbc	06 25 23.1	+1.2
	baz=340							
453A	Whigham	154.60	22	ePKPab		PKPab	06 25 37.9	+0.9
453A	Whigham	154.60	22	P		PKPbc	06 25 23.5	+1.1
	baz=334							
355A	Pearson	154.67	19	P		PKPbc	06 25 23.5	+0.9
	baz=338							
552A	Lynn Haven	154.85	25	P		PKPbc	06 25 23.7	+0.8
	baz=331							
553A	Crawfordville	155.15	23	P		PKPdf	06 25 23.9	+9.2
	baz=333							
455A	Stateville	155.16	20	P		PKPdf	06 25 24.7	+10
	baz=337							
456A	Hilliard	155.51	18	ePKPab		PKPab	06 25 41.7	+0.8
456A	Hilliard	155.51	18	P		PKPdf	06 25 24.8	+10
	baz=339							
555A	McAlpin	155.75	21	ePKPab		PKPab	06 25 43.0	+1.1
LPAZ	La Paz	155.81	192	PKP		PKPdf	06 25 17.5	+0.8
	comp=Z,2.2nm,0.9s,baz=304,slow=3.1,SNR=7.1							
LPAZ	La Paz	155.81	192	ePKPdf		PKPdf	06 25 18.2	+1.5
LPAZ	La Paz	155.81	192	ePKIKP		PKPdf	06 25 18.2	+1.5
656A	Willston	156.59	21	ePKPab		PKPab	06 25 46.6	+1.0
DWPF	Disney Wildern	158.12	20	ePKPab		PKPab	06 25 53.1	+0.9
SAML	Samuel	160.78	212	ePKPdf		PKPdf	06 25 22.8	+0.8
SAML	Samuel	160.78	212	ePKIKP		PKPdf	06 25 22.8	+0.8
ROSC	El Rosal	177.18	160	PKP		PKPdf	06 25 32.7	-0.2
	comp=Z,1.8nm,0.3s,baz=287,slow=13,SNR=3.2							

*ISCJB **10** 06:09:51.8±0.7,23°.22N±0°.09×93°.95E±0°.07,h150km, mb3.7/6, Error ellipse: s-maj=14.0km s-min=6.7km az=31.1*

*IDC **10** 06:09:53.4±4.5,23°.00N×94°.04E,h145km±47km, mb3.5/6, mb1 3.6/7,mb1mx3.2/64,mbtmp3.9/7, Error ellipse: s-maj=68.1km s-min=16.3km az=56.0*

ISC 10 06:09:54.2±1.1,23°.2N±0°.1×93°.8E±0°.1,h150km,n19, σ1§61/27,mb3.7/6,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRDH	Bariadhala	2.09	256	P		Pn	06 10 30.3	-0.1
	9.6nm,0.3s,baz=108,slow=8.9,SNR=8.4							
BRDH				S		Sn	06 11 00.6	+2.5
	108nm,0.3s,baz=250,slow=20,SNR=25							
SHL	Shillong	2.96	323	ePN		Pn	06 10 40.0	-1.2
SHL				eSN		Sn	06 11 12.5	-5.1
RAMN	Ramite	7.55	301	ePn		Pn	06 11 41.2	-0.7
JIRN	Jiri	8.22	304	ePn		Pn	06 11 49.5	-1.4
JIRN				eSn		Sn	06 13 22.4	-0.1
	118nm,0.3s							
GUN	Gumba	8.58	305	ePn		Pn	06 11 55.0	-0.7
GUN				eSn		Sn	06 13 31.6	+0.3
	54nm,0.3s							
PKI	Pulchoki	8.78	302	ePn		Pn	06 11 57.1	-1.2
PKI				eSn		Sn	06 13 36.0	0.0
	18nm,0.3s							
PKIN	Phulchoki	8.79	302	ePn		Pn	06 11 56.9	-1.5
KKN	Kakani	8.98	302	ePn		Pn	06 12 00.2	-0.7
KKN				eSn		Sn	06 13 41.5	+0.8
	22nm,0.2s							
DMN	Daman	9.03	301	ePn		Pn	06 12 00.6	-1.0
GKN	Gorkha	9.58	302	ePn		Pn	06 12 08.8	-0.1
GKN				eSn		Sn	06 13 54.9	-0.2
	3.7nm,0.2s							
KOLN	Koldanda	10.31	298	ePn		Pn	06 12 17.2	-1.3
KOLN				eSn		Sn	06 14 09.6	-3.1
	29nm,0.5s							
DANN	Dangsing	10.43	302	ePn		Pn	06 12 18.7	-1.5
PYUN	Piuthan	10.93	299	ePn		Pn	06 12 25.0	-1.8
PYUN				eSn		Sn	06 14 25.0	-2.8
	26nm,0.5s							
MKAR	Makanchi Array	25.32	341	P		P	06 15 08.8	+1.9
	0.5nm,0.4s,baz=150,slow=10,SNR=7.4							
WRA	Warramunga Arr	58.30	134	P		P	06 19 31.2	-2.4
	0.3nm,0.5s,baz=319,slow=7.7,SNR=3.5							
ASAR	Alice Springs	60.71	137	P		P	06 19 48.4	-1.7
	0.6nm,0.5s,baz=319,slow=6.5,SNR=5.9							
ARCES	ARCESS Array B	60.91	338	P		P	06 19 52.8	+2.0
	3.7nm,0.9s,baz=103,slow=7.0,SNR=3.6							
HFS	Hagfors	65.30	327	P		P	06 20 22.1	+2.3
	1.4nm,0.5s,baz=104,slow=6.1,SNR=5.0							
NOA	NORSAR Array B	66.44	328	P		P	06 20 27.4	+0.2
	0.7nm,0.8s,baz=98,slow=5.7,SNR=2.7							

MAN 10 06:12:51.7,11°.70N×125°.37E,h24km,mb4.3,ML3.1, MS2.9,1D,Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BESP	Borongan	0.11	145	eP		Pn	06 12 57.3	-0.7
BESP				eS		Sb	06 13 03.7	+4.3
PLP	Palo	0.65	216	eP		Pn	06 13 05.0	-0.4
PLP				eS		Sn	06 13 15.2	+0.2
MSLP	Maasin	1.63	198	eP		Pn	06 13 19.4	+0.5
MSLP				eS		Sb	06 13 41.2	0.0

*IDC **10** 06:17:33.7±0.9,52°.30N×131°.63W,h0km,mb3.8/8, mb1 3.9/15,mb1mx3.8/57,mbtmp3.7/15,ML3.9/6,MS3.1/4, Ms1 3.1/4,ms1mx2.7/42, Error ellipse: s-maj=14.5km s-min=6.1km az=35.0*

*ISCJB **10** 06:17:34.2±0.7,52°.43N±0°.08×131°.5W±0°.1,h10km, mb3.8/8,Error ellipse: s-maj=14.8km s-min=5.9km az=38.0*

ISC 10 06:17:36.0±0.9,52°.47N±0°.09×131°.46W±0°.09,h10km,n22, σ1§53/20,mb3.8/8,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H02S1	DAWSON INLET T	0.96	320	Pg	Pg	06 17 53.8	-0.6
H02S1				Lg	Lg	06 18 06.5	
H02N1	VAN INLET T-PH	1.02	320	Pg	Pg	06 17 54.8	-0.9
H02N1				Lg	Lg	06 18 09.5	
BBB	Bella Bella	2.07	97	Pn	Pn	06 18 09.3	-1.4
	47nm,0.3s,baz=277,slow=5.5,SNR=322						
BBB				Sn	Sn	06 18 34.3	-2.3
	123nm,0.3s,baz=28,slow=15,SNR=7.4						
BBB				Lg	Lg	06 18 40.8	
	472nm,0.3s,baz=170,slow=22,SNR=26						
DLBC	Dease Lake	6.04	7	Pn	Pn	06 19 09.0	+3.7
	4.8nm,0.3s,baz=204,slow=8.6,SNR=65						
DLBC				Sn	Sn	06 20 11.7	-2.7
	1.2nm,0.3s,baz=143,slow=20,SNR=1.7						
DLBC				Lg	Lg	06 20 47.1	
	2.9nm,0.3s,baz=298,slow=15,SNR=9.5						
NEW	Newport	10.08	109	Pn	Pn	06 20 02.5	+1.9
	0.3nm,0.3s,baz=304,slow=13,SNR=4.2						
NEW				Lg	Lg	06 22 45.6	
	0.1nm,0.3s,baz=223,slow=4.9,SNR=3.0						
NEW				LR	LR	06 23 09.2	
	comp=Z,44nm,18.8s,baz=294,slow=33						
KDAK	Kodiak Island	13.18	302	LR	LR	06 24 29.8	
	comp=Z,126nm,18.8s,baz=88,slow=32						
YKA	Yellowknife Ar	13.48	35	Pn	Pn	06 20 47.5	+0.5
	0.2nm,0.3s,baz=227,slow=12,SNR=5.5						
YKA				Lg	Lg	06 24 41.3	
	baz=231,slow=25,SNR=2.9						
ILAR	Eielson Array	14.66	333	Pn	Pn	06 21 03.1	0.0
	baz=148,slow=10,SNR=2.7						
ILAR				LR	LR	06 26 28.6	
	comp=Z,114nm,19.7s,baz=172,slow=36						
INK	Inuvik	15.92	357	Pn	Pn	06 21 20.2	+0.5
	0.0nm,0.3s,baz=156,slow=5.5,SNR=1.9						
INK				LR	LR	06 26 49.9	
	comp=Z,38nm,18.2s,baz=108,slow=35						
NVAR	Mina Array Bea	16.76	142	Pn	Pn	06 21 29.4	-1.6
	0.1nm,0.3s,baz=310,slow=10,SNR=2.3						
PDAR	Pinedale Array	17.60	115	P	P	06 21 42.8	+0.3
	0.3nm,0.3s,baz=324,slow=9.8,SNR=17						
ULM	Lac du Bonnet	22.19	81	P	P	06 22 33.4	+1.3
	6.0nm,1.0s,baz=305,slow=11,SNR=2.6						
ANMO	Albuquerque	24.97	125	P	P	06 23 00.1	+0.4
	1.3nm,0.8s,baz=309,slow=7.0,SNR=4.9						
TXAR	Lajitas Array	30.89	128	P	P	06 23 53.1	+0.4
	0.7nm,0.7s,baz=327,slow=7.5,SNR=10						
H11N2	WAKE ISLAND Hy	57.38	260	T	T	07 29 31.9	
	baz=40,slow=76,SNR=3874						
H11N3	WAKE ISLAND Hy	57.38	260	T	T	07 29 31.9	
	baz=40,slow=76,SNR=2548						
H11N1	WAKE ISLAND Hy	57.39	260	T	T	07 29 30.8	
	baz=40,slow=76,SNR=3157						
USRK	Ussuriysk Ar.	60.04	304	P	P	06 27 41.7	-1.0
	2.2nm,0.8s,baz=36,slow=8.0,SNR=4.4						
ZALV	Zalesovo Beam	69.72	338	P	P	06 28 45.2	-0.3
	0.7nm,0.4s,baz=15,slow=6.0,SNR=3.4						
KURBB	Kurchatov Arra	74.20	341	P	P	06 29 11.7	-0.8
	0.8nm,0.7s,baz=17,slow=5.7,SNR=5.1						
GERES	GERESS Array B	74.80	23	P	P	06 29 16.8	+0.7
	0.7nm,0.9s,baz=348,slow=9.1,SNR=3.0						
MKAR	Makanchi Array	76.98	337	P	P	06 29 28.1	-0.4
	0.3nm,0.6s,baz=53,slow=6.2,SNR=3.7						

*IDC **10** 06:21:48.0±2.4,7°.46S×129°.94E,h88km±28km, mb3.5/1, mb1 3.7/6,mb1mx3.4/43,mbtmp3.9/6, Error ellipse: s-maj=40.3km s-min=23.0km az=93.0*

ISC 10 06:21:44.7±0.9,7°.52S±0°.06×130°.00E±0°.10,h50km,n6, σ3§86/11,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	Sorong	6.73	11	P	Pn	06 23 23.4	+2.5
	1.2nm,0.3s,baz=195,slow=20,SNR=4.9						
SIJI				S	Sn	06 24 31.1	-5.3
	1.2nm,0.3s,baz=53,slow=20,SNR=2.6						
BATI	Baumata	6.81	246	P	Pn	06 23 25.4	+3.3
	2.8nm,0.3s,baz=117,slow=4.5,SNR=2.3						
BATI				S	Sn	06 24 35.5	-2.9
	7.2nm,0.3s,baz=252,slow=3.2,SNR=2.0						
FITZ	Fitzroy Crossi	11.34	202	P	Pn	06 24 27.0	+2.9
	0.6nm,0.3s,baz=24,slow=11,SNR=26						
FITZ				S	Sn	06 26 24.6	-4.8
	1.7nm,0.3s,baz=120,slow=16,SNR=8.4						
WRA	Warramunga Arr	13.04	162	P	Pn	06 24 50.5	+3.0
	0.8nm,0.3s,baz=335,slow=14,SNR=39						
WRA				S	Sn	06 27 08.0	-3.2
	1.4nm,0.3s,baz=338,slow=21,SNR=11						
ASAR	Alice Springs	16.49

YBH LR LR 06 32 17.5
comp=Z,791nm,19.3s,baz=332,slow=36
YBH Yreka Blue Hor 8.55 151 *e*Pn **Pn 06 29 20.7 -1.2**
BMO Blue Mountains 8.68 117 *e*Pn **Pn 06 29 23.1 -0.6**
J08A Circle Bar Ran 9.01 128 *e*Pn **Pn 06 29 28.8 +0.5**
DLBC Dease Lake 9.14 354 Pn **Pn 06 29 30.3 +0.4**
0.4nm,0.3s,baz=195,slow=12,SNR=4.5
DLBC LR LR 06 32 58.9
comp=Z,550nm,21.2s,baz=151,slow=37
DLBC Dease Lake 9.14 354 *e*Pn **Pn 06 29 31.9 +2.0**
WVOR Wild Horse Val 9.61 133 *e*Pn **Pn 06 29 37.2 +0.7**
JIS Juneau Island 9.63 340 *e*Pn **Pn 06 29 36.7 +0.2**
WDC Whiskeytown Da 9.66 154 *e*Pn **Pn 06 29 38.3 +1.3**
BEKR Beckworth 11.02 147 *e*Pn **Pn 06 29 57.0 +1.2**
PAHR Pah Rah Range 11.52 144 *e*Pn **Pn 06 30 02.8 +0.1**
AFDM Forest Hills D 11.63 151 *e*Pn **Pn 06 30 04.3 +0.2**
VCNR Virginia City 11.78 146 *e*Pn **Pn 06 30 06.5 +0.3**
YERR Yerington 12.20 145 *e*Pn **Pn 06 30 13.3 +1.3**
WAKR Walker 12.55 147 *e*Pn **Pn 06 30 18.0 +1.2**
NV01 Mina Array Sit 13.04 143 *e*Pn **Pn 06 30 23.2 -0.3**
NVAR Mina Array Bea 13.04 143 Pn **Pn 06 30 22.7 -0.8**
0.1nm,0.3s,baz=311,slow=12,SNR=7.9
NVAR LR LR 06 35 15.2
comp=Z,354nm,20.7s,baz=323,slow=37
NV11 Mina Array Sit 13.10 143 *e*Pn **Pn 06 30 27.0 +2.8**
FXWY Fox Creek 13.12 109 *e*Pn Pn 06 30 29.9 +5.3
REDW Red Top Meadow 13.38 110 *e*Pn **Pn 06 30 28.8 +0.8**
RLMT Red Lodge 13.52 101 *e*Pn **Pn 06 30 33.0 +2.9**
DUG Dugway, Tooele 14.23 124 *e*P **P 06 30 47.6 +0.7**
BW06 Boulder Array 14.50 110 *e*Pn **Pn 06 30 45.2 +1.8**
PD31 Pinedale Array 14.50 110 *e*Pn **Pn 06 30 44.9 +1.6**
PDAR Pinedale Array 14.50 110 Pn **Pn 06 30 43.7 +0.4**
0.0nm,0.3s,baz=310,slow=9.3,SNR=10
PDAR LR LR 06 36 47.4
comp=Z,331nm,18.5s,baz=306,slow=39
PDAR Pinedale Array 14.50 110 *e*Pn **Pn 06 30 44.8 +1.5**
NLU North Lily Min 14.80 123 *e*Pn **Pn 06 30 48.9 +1.3**
PAGB Antelope Grade 14.82 154 *e*Pn **Pn 06 30 47.9 +0.3**
PSUT Pine Spring 14.94 131 *e*Pn **P 06 30 54.4 -0.3**
YKA Yellowknife Ar 15.13 25 Pn **Pn 06 30 49.4 -2.1**
0.1nm,0.3s,baz=217,slow=10,SNR=2.8
TPNV Topopah Spring 15.14 141 *e*Pn **P 06 30 57.3 +0.4**
22nm,1.0s
ISA Isabella, Lake 15.44 149 *e*Pn **P 06 30 59.9 -0.3**
8.6nm,1.1s
MSU Marysvale 15.80 127 *e*Pn **P 06 31 04.8 +0.4**
P17A Butcher Ranch, 15.88 122 *e*Pn **P 06 31 04.0 -1.1**
15nm,1.2s
DAWY Dawson 15.91 342 *e*Pn **P 06 31 05.7 +0.5**
5.8nm,1.1s
CCUT Cedar City 15.95 132 *e*Pn **P 06 31 05.3 -0.6**
8.7nm,1.0s
P18A Preston Nutter 16.05 121 *e*Pn **P 06 31 08.1 +1.0**
11nm,1.2s
SZCU Shurtz Canyon 16.05 132 *e*Pn **P 06 31 06.3 -0.8**
20nm,1.2s
MTPU Mount Pierson 16.15 129 *e*Pn **Pn 06 31 06.8 +1.6**
18nm,1.2s
SRU San Rafael Swe 16.25 123 *e*Pn **P 06 31 09.0 -0.3**
13nm,1.1s
GSC Goldstone, Bar 16.36 145 *e*Pn **P 06 31 09.8 -0.6**
17nm,1.1s
LCMT Little Creek M 16.43 133 *e*Pn **P 06 31 10.8 -0.5**
25nm,1.1s
K22A Casper 16.45 106 *e*Pn **Pn 06 31 09.1 +0.3**
13nm,1.1s
PKCU Pink Cliffs 16.55 130 *e*Pn **P 06 31 13.3 +0.6**
25nm,1.1s
KNB Kanab 16.63 132 *e*Pn **P 06 31 14.4 +0.9**
11nm,1.2s
KDAK Kodiak Island 16.68 310 LR LR 06 35 40.9
comp=Z,318nm,21.6s,baz=118,slow=30
DOT Dot Lake 16.69 335 *e*Pn **Pn 06 31 11.0 -0.6**
8.2nm,1.2s
O20A White River Ci 16.86 116 *e*Pn **P 06 31 17.6 +1.5**
4.7nm,0.9s
FFC Flin Flon 16.92 62 *e*Pn **P 06 31 18.5 +2.1**
74nm,1.0s
SCRK Sand Creek 16.93 336 *e*Pn **P 06 31 16.7 +0.2**
9.7nm,1.1s
RSSD Black Hills 17.32 99 *e*P **P 06 31 22.1 +0.9**
8.2nm,1.1s
U15A North Rim 17.36 132 *e*Pn **P 06 31 21.5 -0.1**
15nm,1.0s
PV17 East Wray Mesa 17.70 122 *e*Pn **Pn 06 31 25.2 +0.6**
22nm,0.7s
W13A Hualapai Mount 17.72 138 *e*Pn **Pn 06 31 25.5 +0.7**
8.8nm,0.9s
PV11 David Mesa, Pa 17.74 121 *e*Pn **Pn 06 31 25.1 0.0**
15nm,0.8s
RND Reindeer 18.00 329 *e*Pn **Pn 06 31 27.4 -0.5**
14nm,1.2s
IL1 Eielson Array 18.35 334 *e*Pn **P 06 31 31.7 -0.4**
ILAR Eielson Array 18.35 334 P **P 06 31 30.5 -1.6**
0.0nm,0.3s,baz=142,slow=11,SNR=11
ILAR LR LR 06 37 49.6
comp=Z,340nm,20.6s,baz=144,slow=34
WRH Wood River Hil 18.49 332 *e*P **P 06 31 33.4 -0.2**
18nm,1.1s
CCB Clear Creek Bu 18.53 333 *e*P **P 06 31 33.6 -0.4**
16nm,1.2s
WUAZ Wupatki 18.53 132 *e*P **Pn 06 31 35.5 +0.7**
12nm,1.0s
COLA College 18.71 333 *e*P **P 06 31 35.3 -0.7**
6.1nm,0.9s
MVCO Mesa Verde 18.72 123 *e*P **P 06 31 37.1 +0.5**
17nm,1.1s
MDM Murphy Dome 18.88 333 *e*P **P 06 31 37.2 -0.7**
11nm,1.2s
CAST Castle Rocks 19.13 326 *e*P **P 06 31 38.6 -2.1**
8.1nm,1.0s
BPAW Bear Paw Mtn. 19.17 329 *e*P **P 06 31 40.9 -0.2**
15nm,1.2s
INK Inuvik 19.17 354 P **P 06 31 41.1 +0.1**
0.0nm,0.3s,baz=168,slow=14,SNR=1.9
INK LR LR 06 39 15.8
comp=Z,382nm,21.9s,baz=168,slow=37
MLY Manley 19.70 331 *e*P **P 06 31 46.4 -0.4**
13nm,1.1s
SDCO Great Sand Dun 20.04 117 *e*P **P 06 31 50.6 -0.5**
15nm,1.1s
ULM Lac du Bonnet 20.78 75 P **P 06 31 58.5 -0.2**
3.0nm,0.5s,baz=273,slow=9.9,SNR=5.9
ULM LR LR 06 40 32.6
comp=Z,471nm,18.3s,baz=287,slow=38
ULM Lac du Bonnet 20.78 75 *e*P **P 06 31 59.2 +0.5**
28nm,1.1s
KSCO Kaye Shedlock' 20.95 110 *e*P **P 06 32 01.8 +1.0**
38nm,1.0s
COLD Coldfoot 21.09 336 *e*P **P 06 32 02.0 +0.1**
5.6nm,1.1s
T25A Trinidad 21.09 117 *e*P **P 06 32 02.9 +0.5**
11nm,1.0s
IM3 Indian Mountai 21.27 331 *e*P **P 06 32 02.6 -1.3**
ANMO Albuquerque 21.51 124 P **P 06 32 05.1 -1.8**
1.1nm,0.9s,baz=318,slow=6.5,SNR=4.6
ANMO LR LR 06 40 50.5
comp=Z,116nm,18.2s,baz=310,slow=38
LENM Lemitar 21.82 126 *e*P **P 06 32 10.9 +0.7**
LPM Los Pinos Moun 21.89 125 *e*P **P 06 32 11.3 +0.3**
TOLK Toolik Lake Re 22.00 339 *e*P **P 06 32 11.2 -0.5**
32nm,1.1s
BNM Barren Site 22.02 126 *e*P **P 06 32 12.9 +0.5**
ECSD EROS Data Cent 22.32 93 *e*P **P 06 32 16.2 +0.9**
4.9nm,0.9s
BGNE Belgrade 22.43 99 *e*P **P 06 32 17.4 +0.9**
32nm,0.9s
EYMN Ely 24.12 79 *e*P **P 06 32 34.0 +0.6**
17nm,0.8s
KSU1 Kansas State U 24.67 103 *e*P **P 06 32 39.7 +1.3**
14nm,0.8s
TX31 Lajitas Ar. Si 27.36 128 *e*P **P 06 33 04.2 +1.4**
LTX Lajitas 27.36 128 *e*P **P 06 33 01.7 -1.2**
TXAR Lajitas Array 27.36 128 P **P 06 33 01.7 -1.2**
0.7nm,0.9s,baz=334,slow=8.3,SNR=4.5
TXAR LR LR 06 44 42.2
comp=Z,106nm,19.2s,baz=0.0,slow=38
E44A Grand Marais A 28.14 79 *e*P **P 06 33 10.9 +1.3**
77nm,0.9s
RES Resolute Bay 28.97 18 LR LR 06 45 54.2
comp=Z,86nm,19.5s,baz=206,slow=38
PARMO Parma 30.49 100 *e*P **P 06 33 31.3 +0.7**
56nm,0.6s
SADO Sadowa 33.23 79 LR LR 06 47 47.2
comp=Z,553nm,18.1s,baz=314,slow=37
SCHQ Schefferville 36.99 58 LR LR 06 50 17.6
comp=Z,322nm,18.7s,baz=304,slow=37

H11N2 WAKE ISLAND Hy 59.01 264 T T 07 40 35.0
baz=44,slow=75,SNR=16
H11N3 WAKE ISLAND Hy 59.03 264 T T 07 40 38.2
baz=44,slow=75,SNR=17
H11N1 WAKE ISLAND Hy 59.03 264 T T 07 40 36.2
baz=44,slow=75,SNR=12
MJAR Matsushiro Arr 65.45 298 LR LR 07 03 55.7
comp=Z,17nm,22.0s,baz=60,slow=34
SONM Songino Array 72.30 325 LR LR 07 09 55.7
comp=Z,103nm,19.4s,baz=0.5,slow=35
ZALV Zalesovo Beam 73.35 340 LR LR 07 14 55.3
comp=Z,30nm,18.9s,baz=70,slow=39
HHC Hu-ho-hao-te 75.92 318 *e*P **P 06 39 04.1 -0.1**
HHC pmax pmax
comp=Z,10.0nm,1.1s
MKAR Makanchi Array 80.62 339 LR LR 07 18 58.1
comp=Z,80nm,18.1s,baz=357,slow=38
WMQ Urumqi 82.02 335 *e*P **P 06 39 39.6 +2.1**
LPAZ La Paz 84.12 123 P **P 06 39 46.8 -2.4**
comp=Z,1.1nm,0.8s,baz=344,slow=7.4,SNR=3.2
CPUP Villa Florida 98.13 121 LR LR 07 33 10.9
comp=Z,31nm,21.1s,baz=174,slow=40
VNA3 Neumayer Olymp 144.79 150 PKP **PKPdf 06 46 54.1 +1.3**
VNA2 Neumayer--Watz 145.56 150 PKP **PKPab 06 46 56.1 +1.4**
SNAA Sanae 146.89 152 PKP **PKPbc 06 46 58.4 0.0**

MAN 10 06:28:52.5, 7.75N×127.17E, h17km, mb4.8, ML3.8, MS3.7, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.91**	**299**	↓*i* P		Pb	06 29 07.6	-2.3
BIPH				*i* S		Sb	06 29 16.2	-5.5
BUTP	**Butuan**	**1.96**	**309**	*e*P		Pn	06 29 24.9	-0.1
BUTP				*e*S		Sn	06 29 49.8	+0.6
BUKP	**Musuan**	**2.09**	**274**	*e*P		Pn	06 29 27.3	+0.5
BUKP				*e*S		Sn	06 29 53.6	+1.0
DDMP	**Don Marcelino,**	**2.18**	**222**	*e*P		Pn	06 29 29.4	+1.4
DDMP				*e*S		Sn	06 29 56.1	+1.5
CGP	**Cagayan de Oro**	**2.55**	**286**	*e*P		Pn	06 29 34.5	+1.3
SKMP	**Bagumbayan, Su**	**2.88**	**245**	*e*P		Pn	06 29 37.8	+0.2

MEX 10 06:57:43.2±0.5, 13.94N×91.72W, h24km±20km, MD3.7, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THIG		**1.10**	**332**	*e*P		Pn	06 58 00.1	-3.0
THIG				*i* S		Sb	06 58 13.6	-3.9
PCIG		**2.28**	**321**	*e*P		Pn	06 58 17.7	-1.6
CCIG	**Comitan**	**2.37**	**350**	*e*P		Pn	06 58 18.5	-2.2
CCIG				*i* S		Sn	06 58 45.7	-3.4
TGIG		**3.13**	**335**	*i* P		Pn	06 58 29.0	-2.1
TGIG				*i* S		Sn	06 59 04.7	-3.1

MEX 10 07:35:32.1±0.3, 14.08N×92.30W, h32km±10km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THIG		**0.82**	**2**	*e*P		Pn	07 35 45.5	-1.9
THIG				*i* S		Sn	07 35 55.5	-3.0
PCIG		**1.84**	**331**	*e*P		Pn	07 35 59.6	-1.9
PCIG				*i* S		Sn	07 36 20.8	-2.9
CCIG	**Comitan**	**2.19**	**4**	*e*P		Pn	07 36 05.0	-1.6
CCIG				*i* S		Sn	07 36 30.2	-2.5
TGIG		**2.79**	**344**	*i* P		Pn	07 36 12.7	-2.0
TGIG				*i* S		Sn	07 36 45.3	-2.0

IDC 10 07:41:31.6±6.8, 20.17S×177.64W, h318km±93km, mb3.2/3, mb1 3.4/4, mb1mx3.0/28, mbtmp3.9/4, Error ellipse: s-maj=75.5km s-min=38.4km az=126.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**9.04**	**182**	P		Pn	07 43 38.3	+0.3
	176nm,0.3s,baz=72,slow=20,SNR=5.3							
URZ	**Urewera**	**18.59**	**193**	P		P	07 45 26.1	-0.4
	0.6nm,0.3s,baz=336,slow=19,SNR=5.4							
ASAR	**Alice Springs**	**44.93**	**256**	P		P	07 49 16.1	0.0
	1.4nm,0.8s,baz=93,slow=8.1,SNR=18							
WRA	**Warramunga Arr**	**44.98**	**262**	P		P	07 49 16.2	-0.3
	0.4nm,0.3s,baz=96,slow=7.6,SNR=37							
MJAR	**Matsushiro Arr**	**70.15**	**323**	P		P	07 52 10.2	-0.1
	0.7nm,0.5s,baz=128,slow=7.0,SNR=3.4							

*IDC **10** 07:57:51.8±1.0, 5.64S×152.24E, h0km, mb4.2/9, mb1 4.5/9, mb1mx4.1/42, mbtmp4.2/9, MS3.5/14, Ms1 3.5/14, ms1mx3.3/38, Error ellipse: s-maj=33.3km s-min=19.6km az=115.0*
*ISCJB **10** 07:57:56.9±0.4, 5.72S±0.05×152.18E±0.10, h45km, mb4.4/26, MS3.5/13, Error ellipse: s-maj=14.5km s-min=6.1km az=21.9*
*NEIC **10** 07:57:57.0±3.0, 5.69S×152.21E, h33km±21km, mb4.5/15, Error ellipse: s-maj=12.3km s-min=5.1km az=114.0*
ISC 10 07:57:58.3±0.6, 5.70S±0.08×152.2E±0.2, h45km, n46, σ0.76/38, mb4.4/26, MS3.4/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.50**	**0**	*e*Pn		**Pn**	**07 58 21.8**	**-1.0**
RABL				*e*Sn		**Sn**	**07 58 41.8**	**+0.6**
HNR	**Honiara**	**8.56**	**116**	LR		LR	08 03 10.8	
	comp=Z,161nm,19.5s,baz=271,slow=37							
GUMO	**Guam**	**20.48**	**339**	LR		LR	08 11 30.2	
	comp=Z,74nm,18.3s,baz=133,slow=40							
DZM	**Mont Dzumac**	**21.35**	**141**	LR		LR	08 08 03.9	
	comp=Z,38nm,21.7s,baz=245,slow=29							
MTN	**Manton Dam**	**21.92**	**250**	*e*P		**P**	**08 02 47.9**	**-0.1**
	15nm,0.6s							
WRAB	**Tennant Creek**	**22.36**	**229**	*e*P		**P**	**08 02 53.1**	**+0.3**
	14nm,0.8s							
WB2	**Warramunga Arr**	**22.37**	**229**	*e*P		**P**	**08 02 53.1**	**+0.2**
WR1	**Warramunga Arr**	**22.38**	**229**	*e*P		**P**	**08 02 53.8**	**+0.8**
	28nm,1.2s							
WRA	**Warramunga Arr**	**22.38**	**229**	P		**P**	**08 02 53.8**	**+0.8**
	9.9nm,0.7s,baz=52,slow=9.9,SNR=62							
WRA				LR		LR	08 11 55.9	
	comp=Z,92nm,20.1s,baz=20,slow=38							
AS01	**Alice Springs**	**25.03**	**223**	*e*P		**P**	**08 03 18.6**	**+0.2**
AS31	**Alice Springs**	**25.06**	**223**	*e*P		**P**	**08 03 19.2**	**+0.5**
	7.1nm,0.9s							
ASAR	**Alice Springs**	**25.06**	**223**	P		**P**	**08 03 19.9**	**+1.2**
	19nm,0.8s,baz=56,slow=9.0,SNR=130							
ASAR				LR		LR	08 14 05.6	
	comp=Z,79nm,18.3s,baz=50,slow=39							
STKA	**Stephens Creek**	**27.86**	**200**	P		**P**	**08 03 43.5**	**-0.3**
	2.3nm,0.8s,baz=6.4,slow=7.4,SNR=5.2							
STKA				LR		LR	08 14 42.1	
	comp=Z,106nm,19.1s,baz=24,slow=36							
STKA	**Stephens Creek**	**27.86**	**200**	*e*P		**P**	**08 03 43.1**	**-0.7**
	0.2nm,0.8s							
WAKE	**Wake Island**	**28.64**	**30**	*e*P		**P**	**08 03 50.6**	**-0.2**
	92nm,0.9s							
FITZ	**Fitzroy Crossi**	**28.67**	**242**	P		**P**	**08 03 51.1**	**-0.1**
	6.7nm,0.8s,baz=66,slow=6.1,SNR=13							
FITZ				LR		LR	08 16 51.8	
	comp=Z,92nm,18.0s,baz=53,slow=40							
FITZ	**Fitzroy Crossi**	**28.67**	**242**	*e*P		**P**	**08 03 51.0**	**-0.2**
	5.7nm,0.8s							
FORT	**Forrest**	**33.69**	**219**	*e*P		**P**	**08 04 35.5**	**+0.3**
	15nm,0.9s							
RPZ	**Rata Peaks**	**41.36**	**159**	LR		LR	08 20 29.4	
	comp=Z,133nm,21.1s,baz=270,slow=33							
MLZ	**Mavora Lakes**	**41.89**	**163**	*e*P		**P**	**08 05 43.4**	**-0.9**
	15nm,1.2s							
INU	**Inuyama**	**43.24**	**342**	*e*P		**P**	**08 05 53.9**	**-1.5**
	5.4nm,1.2s							
MJAR	**Matsushiro Arr**	**44.00**	**344**	LR		LR	08 22 50.2	
	comp=Z,30nm,20.8s,baz=170,slow=34							
CMAR	**Chiang Mai Arr**	**57.69**	**296**	P		**P**	**08 07 45.6**	**+0.8**
	0.6nm,0.2s,baz=98,slow=5.6,SNR=3.6							
PETK	**Petropavlovsk-**	**58.77**	**4**	LR		LR	08 29 07.6	
	comp=Z,51nm,19.9s,baz=211,slow=32							
SONA0	**Songino Array**	**66.74**	**328**	*e*P		**P**	**08 08 45.1**	**0.0**
SONM	**Songino Array**	**66.74**	**328**	P		**P**	**08 08 45.1**	**0.0**
	1.3nm,0.7s,baz=142,slow=5.9,SNR=6.4							
SONA1	**Songino Array**	**66.75**	**328**	*e*P		**P**	**08 08 44.7**	**-0.4**
VNDA	**Vanda**	**71.96**	**178**	P		**P**	**08 09 17.1**	**+0.4**
	0.9nm,0.9s,baz=354,slow=3.3,SNR=4.4							
VNDA	**Vanda**	**71.96**	**178**	*e*P		**P**	**08 09 16.8**	**+0.1**
CNPM	**China Poot**	**78.80**	**26**	*e*P		**P**	**08 09 57.1**	**+0.9**
	42nm,1.0s							
RDOG	**Red Dog Mine**	**80.02**	**16**	*e*P		**P**	**08 10 02.4**	**-0.2**
	7.1nm,0.6s							
SUA	**Susitna One**	**80.03**	**24**	*e*P		**P**	**08 10 04.3**	**+1.3**
	16nm,1.1s							
CAST	**Castle Rocks**	**80.57**	**22**	*e*P		**P**	**08 10 05.8**	**+0.1**
	6.6nm,1.1s							
TRF	**Thorofare Moun**	**81.27**	**23**	*e*P		**P**	**08 10 09.6**	**0.0**
	1.9nm,0.9s							
IM3	**Indian Mountai**	**81.44**	**20**	*e*P		**P**	**08 10 10.8**	**+0.5**
KDJ	**Kajisay**	**82.77**	**314**	*e*P		**P**	**08 10 19.2**	**+1.2**
	6.2nm,1.1s							
CCB	**Clear Creek Bu**	**82.82**	**22**	*e*P		**P**	**08 10 18.3**	**+0.7**
	2.9nm,1.0s							
IL1	**Eielson Array**	**83.23**	**22**	*e*P		**P**	**08 10 18.9**	**-0.8**
ILAR	**Eielson Array**	**83.23**	**22**	P		**P**	**08 10 19.4**	**-0.3**
	1.0nm,0.7s,baz=243,slow=5.2,SNR=12							
AAK	**Ala-Archa**	**84.82**	**314**	LR		LR	08 48 09.5	
	comp=Z,34nm,18.6s,baz=50,slow=36							
HYT	**Haines Junctio**	**85.52**	**28**	*e*P		**P**	**08 10 32.5**	**+1.0**
	3.0nm,0.9s							
DAWY	**Dawson**	**85.86**	**24**	*e*P		**P**	**08 10 33.5**	**+0.4**
	0.4nm,0.8s							
BVAR	**Borovoye Array**	**89.57**	**323**	LR		LR	08 52 42.1	
	comp=Z,33nm,18.5s,baz=338,slow=37							
NVAR	**Mina Array Bea**	**93.14**	**52**	P		**P**	**08 11 09.6**	**+1.4**
	0.6nm,0.8s,baz=235,slow=3.2,SNR=4.3							
NVAR				LR		LR	08 48 35.7	
	comp=Z,45nm,18.7s,baz=308,slow=33							
PDAR	**Pinedale Array**	**99.92**	**48**	LR		LR	08 57 27.0	
	comp=Z,29nm,18.1s,baz=344,slow=36							
TORD	**Torodi Ar. Bea**	**149.96**	**286**	PKPbc		**PKPbc**	**08 17 43.2**	**-1.7**
	3.7nm,0.7s,baz=80,slow=3.2,SNR=20							

MAN 10 08:00:03.2, 12.61N×124.93E, h18km, mb5.1, ML4.0, MS4.1, 1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.28**	**250**	*e*P		Pn	08 00 11.2	-1.2
CNP				*e*S		Sn	08 00 18.3	+0.1
BESP	**Borongan**	**1.12**	**154**	*e*P		Pn	08 00 22.6	-1.4
BESP				*e*S		Sn	08 00 39.1	+0.2
PVCP	**Virac**	**1.24**	**322**	*e*P		Pn	08 00 24.2	-1.4
PVCP				*e*S		Sg	08 00 42.9	-0.6
PLP	**Palo**	**1.44**	**178**	↓*e*P		Pn	08 00 27.8	-0.6
PLP				*i* S		Sb	08 00 47.3	-0.2
OCLP	**Ormoc**	**1.58**	**192**	*e*P		Pb	08 00 32.2	+0.3
RCP	**Roxas**	**2.38**	**244**	↑*e*P		Pn	08 00 42.4	+1.0
RCP				*e*S		Sn	08 01 11.6	+1.5
MSLP	**Maasin**	**2.46**	**182**	*e*P		Pn	08 00 43.5	+1.0
LLP	**Lapu-Lapu**	**2.47**	**203**	*e*P		Pb	08 00 48.8	+1.7
LLP				*e*S		Sg	08 01 30.1	+7.5
OTRP	**Odiongan**	**2.85**	**265**	*e*P		Pn	08 00 47.6	-0.2
BUTP	**Butuan**	**3.68**	**169**	*e*P		Pn	08 01 02.0	+2.7
BUTP				*e*S		Sn	08 01 44.3	+2.0
BUKP	**Musuan**	**4.70**	**178**	*e*P		Pn	08 01 14.9	+1.6

*IDC **10** 08:00:38.7±0.8, 10.58N×126.39E, h0km, mb4.1/11, mb1 4.2/11, mb1mx4.0/45, mbtmp4.1/11, Error ellipse: s-maj=57.8km s-min=14.9km az=65.0*
*NEIC **10** 08:00:39.9±0.3, 10.74N×126.75E, h10km, mb4.5/15, Error ellipse: s-maj=10.7km s-min=5.3km az=70.0*
*ISCJB **10** 08:00:42.5±0.4, 10.72N±0.06×126.77E±0.10, h44km, mb4.3/24, Error ellipse: s-maj=14.8km s-min=6.9km az=159.0*
ISC 10 08:00:44.5±0.6, 10.7N±0.1×126.7E±0.1, h44km, n49, σ0.73/48, mb4.4/24, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**19.46**	**70**	*e*P		**P**	**08 05 07.2**	**-0.5**
	28nm,1.0s							
SOEI	**Soe**	**20.48**	**187**	*e*P		Pn	08 05 20.6	-0.7
	22nm,0.9s							
MTN	**Manton Dam**	**23.81**	**169**	*e*P		**P**	**08 05 52.9**	**-0.6**
	21nm,0.8s							
MYKOM	**Kota Tinggi**	**24.36**	**250**	*e*P		**P**	**08 05 59.5**	**+0.8**
	6.4nm,0.7s							
ENH	**Enshi**	**25.20**	**323**	*e*P		**P**	**08 06 06.7**	**+0.5**
	9.9nm,0.9s							
CMAR	**Chiang Mai Arr**	**27.91**	**289**	P		**P**	**08 06 28.5**	**-2.2**
	0.8nm,0.4s,baz=118,slow=9.4,SNR=3.3							
MNAI	**Manna**	**27.98**	**239**	*e*P		**P**	**08 06 31.5**	**+0.1**
	249nm,1.1s							
FITZ	**Fitzroy Crossi**	**28.65**	**182**	*e*P		**P**	**08 06 37.9**	**+0.7**
	3.4nm,0.8s							
WRA	**Warramunga Arr**	**31.38**	**166**	P		**P**	**08 06 59.3**	**-2.1**
	1.0nm,0.8s,baz=349,slow=9.2,SNR=3.8							
WRA				PcP		**PcP**	**08 09 55.1**	**+0.7**
	0.8nm,0.7s,baz=340,slow=3.0,SNR=6.1							
WR1	**Warramunga Arr**	**31.38**	**166**	*e*P		**P**	**08 06 59.3**	**-2.1**
	3.7nm,1.1s							
WR1				*e*PcP		**PcP**	**08 09 55.1**	**+0.7**
WB2	**Warramunga Ar**	**31.38**	**166**	*e*P		**P**	**08 07 01.2**	**-0.1**
ASAR	**Alice Springs**	**34.89**	**168**	P		**P**	**08 07 31.6**	**-0.4**
	1.3nm,0.6s,baz=352,slow=5.8,SNR=7.8							
ASAR				PcP		**PcP**	**08 10 05.0**	**+0.7**
	0.8nm,0.6s,baz=342,slow=2.4,SNR=7.9							
H11N1	**WAKE ISLAND Hy**	**39.72**	**72**	T		T	08 51 04.9	
	baz=266,slow=75,SNR=28							
H11N2	**WAKE ISLAND Hy**	**39.73**	**72**	T		T	08 51 04.1	
	baz=266,slow=75,SNR=23							
H11N3	**WAKE ISLAND Hy**	**39.74**	**72**	T		T	08 51 06.2	
	baz=266,slow=75,SNR=26							
SONA0	**Songino Array**	**40.76**	**339**	*e*P		**P**	**08 08 21.0**	**-0.4**
SONM	**Songino Array**	**40.76**	**339**	P		**P**	**08 08 21.0**	**-0.4**
	0.4nm,0.5s,baz=132,slow=6.2,SNR=2.6							
BBOO	**Buckleboo**	**44.19**	**169**	*e*P		**P**	**08 08 49.6**	**+0.3**
	19nm,1.0s							
STKA	**Stephens Creek**	**44.69**	**162**	P		**P**	**08 08 53.3**	**0.0**
	2.7nm,0.5s,baz=348,slow=6.9,SNR=11							
STKA	**Stephens Creek**	**44.69**	**162**	*e*P		**P**	**08 08 52.7**	**-0.6**
	0.6nm,0.6s							
MK01	**Makanchi Array**	**51.92**	**322**	*e*P		**P**	**08 09 49.4**	**+0.5**
MK31	**Makanchi Array**	**51.93**	**322**	*e*P		**P**	**08 09 49.3**	**+0.3**
MK32	**Makanchi Array**	**51.93**	**322**	*e*P		**P**	**08 09 49.6**	**+0.6**
MKAR	**Makanchi Array**	**51.93**	**322**	P		**P**	**08 09 49.6**	**+0.6**
	3.3nm,0.8s,baz=124,slow=8.1,SNR=11							
MKAR	**Makanchi Array**	**51.93**	**322**	*e*P		**P**	**08 09 49.6**	**+0.6**
	21nm,0.8s							
KDJ	**Kajisay**	**53.27**	**315**	*e*P		**P**	**08 09 59.0**	**-0.2**
	4.2nm,0.8s							
NIL	**Nilore**	**53.84**	**304**	*e*P		**P**	**08 10 03.1**	**-0.2**
	5.1nm,0.8s							
NRN	**Naryn**	**53.85**	**314**	*e*P		**P**	**08 10 04.1**	**+0.5**
	2.3nm,0.6s							
ZALV	**Zalesovo Beam**	**54.44**	**331**	P		**P**	**08 10 07.3**	**0.0**
	1.2nm,0.6s,baz=111,slow=8.1,SNR=4.1							
ZALV	**Zalesovo Beam**	**54.44**	**331**	*e*P		**P**	**08 10 07.4**	**+0.1**
ZAA1	**Zalesovo Array**	**54.45**	**331**	*e*P		**P**

NIED ***10*** *08:13:00,41.00N×142.80E,h32km,Mw3.6 Best double couple: M0 3.23000×10^14 NP1:φ171.00000°,δ19.00000°, λ62.00000°. NP2:φ21.00000°,δ73.00000°,λ100.00000°.*
JMA ***10*** *08:13:54.8±0.2,40.98N×142.85E,h9km±4km,M3.5*
IDC ***10*** *08:13:57.0±3.0,40.98N×143.17E,h56km±23km,mb3.5/4, mb1 3.5/6,mb1mx3.2/41,mbtmp3.6/6,ML3.2/2,MS2.9/1, Ms1 2.9/1,ms1mx2.2/34,Error ellipse: s-maj=54.9km s-min=16.3km az=93.0*

ISC 10 08:13:55.2±1.3,40.97N±0.04×142.90E±0.06,h28km±10km, n22,σ1§28/35,mb3.6/4,1C,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.07**	**10**	P		**Pb**		**08 14 14.8**	**-0.2**
JEM				*e*S		**Sb**		**08 14 29.2**	**+0.7**
JARK	**Aomorirokkasho**	**1.17**	**273**	P		**Pn**		**08 14 15.8**	**+0.3**
JARK				*e*S		**Sn**		**08 14 30.7**	**+0.2**
JKEN	**Kujiedanarisaw**	**1.19**	**231**	P		**Pb**		**08 14 16.2**	**-0.8**
JKEN				*e*S		**Sb**		**08 14 32.4**	**+0.5**
JANG	**Nango**	**1.21**	**241**	P		**Pb**		**08 14 16.8**	**-0.6**
JAHD	**Aomorihigashid**	**1.22**	**285**	P		**Pn**		**08 14 16.6**	**+0.3**
JAHD				*e*S		**Sn**		**08 14 31.7**	**-0.2**
JNBK	**Urakawa-nobuka**	**1.32**	**355**	P		**Pb**		**08 14 18.6**	**-0.6**
JNBK				*e*S		**Sb**		**08 14 36.9**	**+1.2**
JTM	**Tenmabayashi**	**1.40**	**263**	⇑P		**Pb**		**08 14 20.1**	**-0.6**
JTM				S		**Sn**		**08 14 37.5**	**+1.1**
JOT	**Ohata**	**1.46**	**287**	P		**Pn**		**08 14 20.3**	**+0.7**
JOT				*e*S		**Sn**		**08 14 38.8**	**+1.0**
JKB	**Kayabe**	**1.68**	**304**	P		**Pn**		**08 14 23.5**	**+0.9**
JKB				S		**Sn**		**08 14 43.3**	**+0.1**
JCH	**Churui**	**1.68**	**12**	P		**Pb**		**08 14 23.5**	**-1.9**
JCH				*e*S		**Sb**		**08 14 44.2**	**-2.0**
JIAM	**Iburiatsuma**	**1.81**	**336**	P		**Pb**		**08 14 27.5**	**-0.1**
JIAM				*e*S		**Sb**		**08 14 50.8**	**+0.9**
JBT2	**Biratori 2**	**1.85**	**348**	P		**Pb**		**08 14 27.5**	**-0.9**
JAH	**Hinai**	**1.89**	**247**	P		**Pb**		**08 14 27.8**	**-1.2**
JAH				S		**Sb**		**08 14 51.9**	**-0.3**
JOM	**Ohasama**	**1.94**	**220**	P		**Pb**		**08 14 28.7**	**-1.0**
JOM				*e*S		**Sb**		**08 14 53.8**	**+0.3**
JEW	**Eniwo**	**2.16**	**330**	P		**Pb**		**08 14 31.8**	**-1.8**
JEW				S		**Sn**		**08 14 57.4**	**+2.2**
ASAJ	**Asahikawa** 2.6nm,0.3s,baz=196,slow=12,SNR=16	**3.16**	**356**	P		**Pn**		**08 14 45.1**	**+2.2**
ASAJ				S		**Sn**		**08 15 20.9**	**+1.3**
MJAR	**Matsushiro Arr** 1.9nm,0.3s,baz=54,slow=4.3,SNR=4.6	**5.74**	**221**	P		**Pn**		**08 15 22.1**	**+3.5**
YAK	**Yakutsk** 0.4nm,0.3s,baz=23,slow=12,SNR=3.9	**22.55**	**344**	LR		LR		08 28 22.2	
	comp=Z,36nm,21.1s,baz=90,slow=38								
SONM	**Songino Array** 0.2nm,0.3s,baz=78,slow=9.4,SNR=3.5	**26.79**	**297**	P		**P**		**08 19 33.2**	**+0.5**
WRA	**Warramunga Arr** 0.1nm,0.4s,baz=7.0,slow=6.8,SNR=4.5	**61.12**	**189**	P		**P**		**08 24 05.1**	**-1.7**
FINES	**FINESS Array B** 1.4nm,0.6s,baz=29,slow=9.5,SNR=8.3	**65.89**	**332**	P		**P**		**08 24 37.1**	**-0.7**
AKASG	**Malin Array Be** 0.5nm,0.4s,baz=46,slow=6.1,SNR=3.3	**71.90**	**322**	P		**P**		**08 25 15.0**	**-0.5**

MEX 10 08:14:50.1±0.7,13.97N×92.25W,h73km±33km,MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THIG		**0.94**	**359**	*i* P			Pn	08 15 07.3	-0.7
THIG				*e*S			Sn	08 15 18.9	-2.4
PCIG		**1.97**	**332**	*e*P			Pn	08 15 20.1	-1.3
PCIG				*i* S			Sn	08 15 43.6	-1.6
CCIG	**Comitan**	**2.30**	**3**	*e*P			Pn	08 15 29.1	+3.0
CCIG				*i* S			Sn	08 15 56.8	+3.2
TGIG		**2.92**	**343**	*e*P			Pn	08 15 33.0	-1.3
TGIG				*i* S			Sn	08 16 06.7	-1.7

NNC 10 08:18:12.3±1.8,35.84N×78.05E,h0km,mb3.9,mpv3.5, 5C-5D,Error ellipse: s-maj=20.8km s-min=12.6km az=34.0,Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan** 2.6nm,0.6s	**5.50**	**321**	⇓Pn			Pn	08 19 35.8	+0.1
SFK				⇑Pg			Pb	08 19 52.6	+3.2
	5.9nm,0.7s								
SFK				⇑Sn			Sn	08 20 41.2	+1.3
	4.5nm,0.4s								
SFK				⇑Lg			Lg	08 21 05.1	
	8.8nm,0.7s								
TKM2	**Tokmak 2** 2.4nm,0.6s	**7.32**	**346**	⇓Pg			Pb	08 20 26.3	+6.0
TKM2				⇑Lg			Lg	08 22 05.1	
	7.5nm,1.1s								
AAK	**Ala-Archa** 1.7nm,0.5s	**7.33**	**339**	Pn			Pn	08 20 02.0	+1.3
AAK				⇓Pg			Pb	08 20 24.8	+4.4
	3.7nm,0.9s								
AAK				⇓Lg			Lg	08 22 07.4	
	12nm,0.9s								
MK31	**Makanchi Array** 4.7nm,1.1s,baz=199,slow=13,SNR=14	**11.40**	**15**	⇑Pn			Pn	08 20 55.3	-1.0
AB31	**Akbulak array** 1.2nm,0.8s,baz=132,slow=11,SNR=6.5	**18.85**	**321**	Pn			P	08 22 33.5	-0.2
AKTO	**Aktyubinsk** 5.8nm,1.4s	**20.56**	**321**	⇓Pn			Pn	08 22 54.4	-0.1

ISK ***10*** *08:24:00.3,38.73N×39.95E,h12km,ML2.3/6*
DDA ***10*** *08:24:01.1,38.68N×39.99E,h7km,Ml2.6*

ISC 10 08:24:01.0±1.1,38.71N±0.03×39.96E±0.03,h11km±11km, n18,σ0§65/25,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HANI	**Diyarbakir_Han**	**0.46**	**131**	*i* P			**Pg**	**08 24 09.9**	**-0.1**
PTK	**Pertek**	**0.48**	**292**	PG			**Pg**	**08 24 09.8**	**-0.6**
PTK				SG			**Sg**	**08 24 16.9**	**+0.1**
TNCL	**Tunceli-Merkez**	**0.52**	**321**	*i* P			**Pb**	**08 24 12.3**	**+0.2**
TNCL				*i* S			**Sb**	**08 24 19.8**	**+0.1**
SVRC	**Sivrice-ELAZID**	**0.61**	**237**	PG			**Pg**	**08 24 12.5**	**-0.4**
SVRC				SG			**Sb**	**08 24 22.0**	**-0.5**
BNGB	**Bing¯Ìl**	**0.62**	**63**	PG			**Pg**	**08 24 13.2**	**0.0**
DIYA	**Diyarbakir**	**0.80**	**171**	*i* P			**Pg**	**08 24 15.4**	**-1.0**
YEDI	**Yedisu-Bingol**	**0.85**	**32**	PG			**Pg**	**08 24 16.9**	**-0.6**
ERZN	**Erzincan**	**0.89**	**348**	PG			**Pg**	**08 24 17.3**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.12**	**120**	PN			**Pn**	**08 24 22.4**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.12**	**120**	*i* P			**Pn**	**08 24 22.5**	**-0.2**
KEMA	**Kemaliye**	**1.27**	**296**	*i* P			**Pn**	**08 24 24.0**	**-0.7**
MAZI	**Mazidag**	**1.31**	**163**	PN			**Pn**	**08 24 25.2**	**-0.1**
BTMN	**Batman**	**1.32**	**128**	*i* P			**Pn**	**08 24 25.4**	**0.0**
BTMN				*i* S			**Sg**	**08 24 43.3**	**-0.1**
KELT	**Kelkit**	**1.53**	**339**	*i* P			**Pg**	**08 24 30.8**	**+0.3**
MARD	**Mardin**	**1.54**	**155**	*i* P			**Pb**	**08 24 29.6**	**0.0**
MARD				*i* S			**Sn**	**08 24 48.5**	**0.0**
URFA	**Urfa**	**1.56**	**216**	PN			**Pn**	**08 24 28.5**	**+0.1**
AKCD	**Akcadag**	**1.65**	**256**	*i* P			**Pg**	**08 24 32.6**	**-0.1**
AKCD				*i* S			**Sg**	**08 24 56.3**	**+2.1**
SRTM	**Siirt_Merkez**	**1.70**	**114**	*i* P			**Pn**	**08 24 31.1**	**+0.4**
SRTM				*i* S			**Sg**	**08 24 56.4**	**+0.7**

ISCJB ***10*** *08:33:57.3±0.8,35.08N±0.04×33.95E±0.05,h58km±8km, Error ellipse: s-maj=8.1km s-min=6.3km az=141.7*
NIC ***10*** *08:33:57.9±0.3,35.23N×33.87E,h50km,ML3.0*
ISK ***10*** *08:33:57.0,35.06N×34.02E,h31km,ML3.0/11*
DDA ***10*** *08:34:00.1,35.29N×33.68E,h8km,Ml2.7*

ISC 10 08:33:58.2±1.5,35.08N±0.05×33.94E±0.04,h52km±9km, n25,σ0§83/35,Cyprus region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PHNC	**Paralimni** baz=329	**0.11**	**134**	P			**Pn**	**08 34 06.3**	**+0.1**
PHNC				S			**Sn**	**08 34 14.1**	**+2.1**
LFK	**Lefkose**	**0.39**	**301**	PG			**Pn**	**08 34 07.6**	**-0.8**
AKIN	**Ak¯nc¯–lar- K**	**0.39**	**261**	PG			**Pn**	**08 34 07.6**	**-0.8**
AKIN				SG			**Sn**	**08 34 15.5**	**-0.2**
EREN	**Erenkoy**	**0.49**	**23**	PG			**Pn**	**08 34 08.4**	**-1.0**
CSS	**Mathiatis** baz=58	**0.51**	**257**	P			**Pn**	**08 34 09.2**	**-0.5**
CSS				S			**Sn**	**08 34 18.2**	**+0.2**
MAMC	**Mammari** baz=83	**0.60**	**279**	P			**Pn**	**08 34 09.4**	**-1.3**
AKDN	**Akdeniz- K¯–br**	**0.82**	**286**	PG			**Pn**	**08 34 13.9**	**+0.3**
AKDN				SG			**Sn**	**08 34 25.5**	**+0.6**
LEF	**Lefka**	**0.86**	**273**	PG			**Pn**	**08 34 14.4**	**+0.3**
SZAC	**Souni** baz=59	**0.93**	**250**	P			**Pn**	**08 34 15.2**	**+0.2**
SZAC				S			**Sn**	**08 34 28.2**	**+0.9**
ALFC	**Alefka** baz=85	**1.10**	**274**	P			**Pn**	**08 34 16.8**	**-0.5**
ALFC				S			**Sn**	**08 34 30.4**	**-1.1**
AKKU	**Akkuyu-Mersin**	**1.12**	**344**	PN			**Pn**	**08 34 17.5**	**-0.1**
GULN	**MERSIN_Gulnar**	**1.15**	**344**	*i* P			**Pn**	**08 34 17.5**	**-0.5**
GULN				*i* S			**Sn**	**08 34 31.6**	**-1.0**
YORU	**Yoruktepe-Mers**	**1.16**	**338**	PN			**Pn**	**08 34 18.2**	**+0.1**
IKL	**Isikli**	**1.18**	**350**	PN			**Pn**	**08 34 18.1**	**-0.2**
TEKE	**Tekeli-Mersin**	**1.26**	**328**	PN			**Pn**	**08 34 18.9**	**-0.5**
KEBE	**Keben-Mersin**	**1.38**	**352**	PN			**Pn**	**08 34 21.1**	**0.0**
BERE	**Bereket-Mersin**	**1.39**	**336**	PN			**Pn**	**08 34 21.3**	**-0.1**
KIZK	**Mersin**	**1.41**	**7**	PN			**Pn**	**08 34 21.3**	**-0.2**
KIZK	**Mersin**	**1.41**	**7**	*i* P			**Pn**	**08 34 22.6**	**+1.1**
KIZK				*i* S			**Sn**	**08 34 37.6**	**-1.3**
TEVE	**Tevekalti-Mers**	**1.41**	**344**	PN			**Pn**	**08 34 21.7**	**+0.1**
GAZI	**Gazipasa**	**1.75**	**312**	PN			**Pn**	**08 34 26.9**	**+0.7**
GAZI	**Gazipasa**	**1.75**	**312**	*i* P			**Pn**	**08 34 27.5**	**+1.3**
GAZI				*i* S			**Sn**	**08 34 47.1**	**-0.3**
TAHT	**Tahtakopru-Hat**	**2.24**	**54**	PN			**Pn**	**08 34 32.2**	**-0.6**
KERG	**Konya-Eregli**	**2.34**	**4**	*i* P			**Pn**	**08 34 35.1**	**+0.9**
KERG				*i* S			**Sn**	**08 35 03.0**	**+1.2**
MMLI	**Mount Malkishu**	**2.91**	**154**	PN			**Pn**	**08 34 41.4**	**-0.6**

ISCJB ***10*** *08:35:06.7±0.8,24.00S±0.07×67.04W±0.04,h178km, mb3.3/1,Error ellipse: s-maj=9.4km s-min=5.3km az=7.2*
IDC ***10*** *08:35:08.0±1.7,23.93S×66.95W,h172km±23km,mb3.3/1, mb1 3.5/6,mb1mx3.2/23,mbtmp3.9/6,Error ellipse: s-maj=25.8km s-min=23.0km az=2.0*
GUC ***10*** *08:35:09.3±0.6,23.89S×67.69W,h231km±9km,ML4.0*

ISC 10 08:35:06.4±1.0,24.03S±0.09×67.07W±0.06,h178km,n15, σ1§69/27,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde** 29nm,0.3s,baz=127,slow=8.6,SNR=102	**2.20**	**309**	P			**Pn**	**08 35 48.4**	**+2.5**
LVC				S			**Sn**	**08 36 18.1**	**+1.5**
	56nm,0.3s,baz=17,slow=23,SNR=33								
PB15	**IPOC Station P**	**2.35**	**290**	*e*P			**Pn**	**08 35 49.6**	**+2.1**
PB15				*i* S			**Sn**	**08 36 20.3**	**+1.1**
PB06	**IPOC Station P**	**2.65**	**299**	*e*P			**Pn**	**08 35 53.0**	**+2.1**
PB06				*i* S			**Sn**	**08 36 26.1**	**+0.6**
PB09	**IPOC Station P**	**2.99**	**318**	*e*P			**Pn**	**08 35 57.6**	**+2.6**
PB09				*i* S			**Sn**	**08 36 34.6**	**+1.8**
PB09				IAML				08 36 36.5	
	comp=N,368nm,0.5s								
PB05	**IPOC Station P**	**3.11**	**291**	*e*P			**Pn**	**08 35 57.5**	**+1.2**
PB05				*i* S			**Sn**	**08 36 34.0**	**-1.3**
PB05				IAML				08 36 38.2	
	comp=E,388nm,0.4s								
PB03	**IPOC Station P**	**3.16**	**308**	*e*P			**Pn**	**08 35 58.7**	**+1.7**
PB03				*i* S			**Sn**	**08 36 36.4**	**-0.2**
PB10	**IPOC Station P**	**3.23**	**278**	*e*P			**Pn**	**08 35 59.0**	**+1.2**
PB10				*i* S			**Sn**	**08 36 35.9**	**-2.0**
PB10				IAML				08 36 42.0	
	comp=E,193nm,0.5s								
PB04	**IPOC Station P**	**3.30**	**300**	*e*P			**Pn**	**08 36 00.0**	**+1.3**
PB04				*i* S			**Sn**	**08 36 38.9**	**-0.7**
PB07	**IPOC Station P**	**3.46**	**311**	*e*P			**Pn**	**08 36 02.1**	**+1.3**
PB07				*i* S			**Sn**	**08 36 42.6**	**-0.7**
PB02	**IPOC Station P**	**3.75**	**315**	*e*P			**Pn**	**08 36 05.8**	**+1.4**
PB02				*i* S			**Sn**	**08 36 48.5**	**-1.2**
LPAZ	**La Paz** comp=E,0.5nm,0.3s,baz=174,slow=8.0,SNR=15	**7.76**	**352**	P			**Pn**	**08 36 59.5**	**+2.3**
LPAZ				S			**Sn**	**08 38 24.1**	**-0.6**
	comp=E,0.2nm,0.3s,baz=245,slow=17,SNR=4.5								
CPUP	**Villa Florida** comp=E,0.2nm,0.3s,baz=300,slow=14,SNR=3.4	**9.12**	**107**	P			**Pn**	**08 37 14.3**	**0.0**
SIV	**San Ignacio** comp=E,0.4nm,0.3s,baz=230,slow=13,SNR=15	**9.78**	**36**	P			**Pn**	**08 37 22.1**	**-1.1**
SIV				S			**Sn**	**08 39 10.9**	**-1.3**
	comp=E,0.1nm,0.3s,baz=186,slow=17,SNR=3.4								
BDFB	**Brasilia** comp=E,0.8nm,0.3s,baz=247,slow=11,SNR=20	**19.76**	**69**	P			**P**	**08 39 24.1**	**+1.2**
TORD	**Torodi Ar. Bea** comp=E,0.4nm,0.5s,baz=243,slow=5.5,SNR=3.5	**76.64**	**69**	P			**P**	**08 46 38.9**	**+1.0**

BJI ***10*** *09:06:50.4,8.90S×120.60E,h10km,mb4.9/47,mB5.0/33, Ms4.6/22,Ms7 4.4/17*
MOS ***10*** *09:06:51.9±1.4,8.79S×120.84E,h25km,mb5.1/28,Error ellipse: s-maj=11.2km s-min=6.3km az=119.5*
NEIC ***10*** *09:06:51.3±0.2,8.89S×120.68E,h10km,mb5.0/39,Error ellipse: s-maj=6.2km s-min=4.1km az=41.0*
NEIC Felt [III] at Ruteng. Also felt [III] at Waingapu, Sumba.
ISCJB ***10*** *09:06:52.1±0.2,8.95S±0.02×120.69E±0.02,h26km, mb4.8/94,MS4.1/28,Error ellipse: s-maj=3.8km s-min=2.8km az=30.0*
DJA ***10*** *09:06:55.3±1.0,9°S±2°×12°1E±°,h11km±8km,M5.1/43, mB5.5/24,mb5.2/43,MLv5.4/24,Mw(mB)5.0/24*
KLM ***10*** *09:06:56.0,9.24S×120.69E,h53km,mb5.2*
GCMT ***10*** *09:06:57.3±0.3,9.06S±0.02×120.71E±0.03,h25km±1km, MW5.0/77,Moment Tensor Solution. s27,c31; s77,c113; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr 1.54±.20; Mθθ -1.42±.12; Mϕϕ -0.11±.15; Mrθ 1.28±.27; Mϕθ 2.53±.08; Mϕr 1.31±.32; Best double couple: M0 3.45600×10^16 NP1:φ91.00000°,δ64.00000°,λ35.00000°. NP2: φ344.00000°,δ59.00000°,λ149.00000°. Principal axes: T 3.5200, Plg43.0000°, Azm309.0000°; N -0.1270, Plg47.0000°, Azm124.0000°; P -3.3920, Plg3.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***10*** *09:06:59.1±1.5,8.80S×120.76E,h72km±13km,mb4.4/27, mb1 4.4/31,mb1mx4.4/47,mbtmp4.7/31,MS4.0/24, Ms1 4.0/24,ms1mx3.9/40 Error ellipse: s-maj=13.5km s-min=9.3km az=71.0*

ISC 10 09:06:53.7±0.2,8.99S±0.04×120.65E±0.03,h26km,n360, σ1§79/367,mb4.9/94,MS4.1/28,11C-10D,Flores region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**1.06**	**77**	P			**Pn**	**09 07 12.8**	**-0.2**
EDFI				S			**Sn**	**09 07 27.3**	**+0.4**
WBSI	**Waikabubak, Su**	**1.40**	**242**	P			**Pn**	**09 07 17.1**	**-0.5**
MMRI	**Maumere**	**1.61**	**77**	*e*Pn			**Pn**	**09 07 20.7**	**+0.2**
MMRI				*e*Sn			**Sb**	**09 07 46.0**	**+3.2**
MMRI	**Maumere**	**1.61**	**77**	P			**Pb**	**09 07 22.3**	**-0.5**
PLAI	**Plampang**	**2.84**	**273**	P			**Pn**	**09 07 39.6**	**+2.1**
BATI	**Baumata** 64nm,0.3s,baz=272,slow=2.9,SNR=15	**3.21**	**112**	P			**Pn**	**09 07 46.5**	**+4.0**
BATI				S			**Sb**	**09 08 27.3**	**-1.4**
	158nm,0.3s,baz=14,slow=20,SNR=3.9								
BATI				LR			LR	09 09 02.8	
	comp=Z,1μm,21.6s,baz=335,slow=39								
BATI	**Baumata**	**3.21**	**112**	P			**Pn**	**09 07 45.0**	**+2.5**
SOEI	**Soe**	**3.65**	**102**	*e*Pn			**Pn**	**09 07 49.5**	**+0.8**
SOEI				*e*Sn			**Sn**	**09 08 27.7**	**-3.3**
SOEI	**Soe**	**3.65**	**102**	P			**Pn**	**09 07 51.5**	**+2.8**
BKSI	**Bulukumba**	**3.69**	**352**	P			**Pn**	**09 07 51.5**	**+2.5**
TWSI	**Taliwang, Sumb**	**3.73**	**274**	P			**Pn**	**09 07 52.6**	**+2.9**
BBSI	**Bau Bau**	**3.97**	**29**	P			**Pn**	**09 07 57.0**	**+4.0**
BNSI	**Bone**	**4.59**	**353**	P			**Pn**	**09 08 05.7**	**+4.1**
SPSI	**Sidrap Palu** 203nm,0.8s,2μm1.0nm	**5.07**	**350**	P			**Pn**	**09 08 12.1**	**+4.0**
DNP	**Denpasar**	**5.38**	**273**	P			**Pn**	**09 08 16.7**	**+4.3**
IGBI	**Denpasar** 3μm,0.9s,33μm16nm	**5.44**	**271**	P			**Pn**	**09 08 16.5**	**+3.3**
SRBI	**Singaraja** 204nm,0.8s,3μm2.0nm	**5.45**	**279**	P			Pn	09 08 19.6	+6.3
JAGI	**Jajag, Banyuwa**	**6.44**	**274**	*e*Pn			**Pn**	**09 08 25.3**	**-1.7**
JAGI				*e*Sn			**Sn**	**09 09 40.4**	**+0.7**
JAGI	**Jajag, Banyuwa** 662nm,0.9s,7μm2.4nm	**6.44**	**274**	P			**Pn**	**09 08 29.5**	**+2.5**
KMMI	**Kalianget** 115nm,0.7s,2μm0.6nm	**6.89**	**286**	P			Pn	09 08 39.6	+6.4
BLJI	**Banyuglugur** 241nm,0.5s,5μm1.2nm	**7.09**	**280**	P			Pn	09 08 41.9	+6.1
KBKI	**Kotabaru** 30nm,1.0s,0.1nm	**7.20**	**322**	P			**Pn**	**09 08 40.5**	**+3.1**
APSI	**Ampana** 46nm,0.8s,801nm	**8.09**	**7**	P			**Pn**	**09 08 52.5**	**+2.9**
LUWI	**Luwuk**	**8.18**	**15**	*e*Pn			**Pn**	**09 08 49.2**	**-1.6**
LUWI	**Luwuk** 245nm,0.7s,8μm0.9nm	**8.18**	**15**	P			Pn	09 08 56.5	+5.7
GRJI	**Gresik**	**8.35**	**284**	P			**Pn**	**09 08 57.2**	**+4.0**
BKB	**Balikpapan** 322nm,0.9s,3μm1.2nm	**8.54**	**334**	P			Pn	09 09 03.2	+7.4
SANI	**Sanana** 25nm,0.9s,612nm0.2nm	**8.71**	**38**	P			Pn	09 09 03.3	+5.2
PWJI	**Pagerwojo**	**8.80**	**276**	P			**Pn**	**09 09 03.5**	**+4.1**
SMKI	**Samarinda** 148nm,1.0s,3μm	**9.16**	**338**	P			Pn	09 09 10.1	+5.8
NGJI	**Ngawi**	**9.24**	**279**	P			Pn	09 09 10.3	+5.0
MPSI	**Mapaga** 11nm,1.0s	**9.30**	**355**	P			Pn	09 09 11.5	+5.3
PCJI	**Pacitan** 161nm,0.7s	**9.40**	**274**	P			**Pn**	**09 09 10.9**	**+3.3**
MRSI	**Marisa** 59nm,1.0s	**9.50**	**8**	P			**Pn**	**09 09 12.7**	**+3.8**
WOJI	**Wonogiri, Jawa**	**9.69**	**276**	P			**Pn**	**09 09 14.9**	**+3.3**
MSAI	**Masohi**	**9.96**	**56**	P			**Pn**	**09 09 18.8**	**+3.5**
UGM	**Wanagama**	**10.07**	**275**	*e*Pn			**Pn**	**09 09 17.9**	**+1.0**
UGM				*e*Sn			**Sn**	**09 11 06.4**	**-2.7**
FITZ	**Fitzroy Crossi** 4.4nm,0.3s,baz=334,slow=8.5,SNR=50	**10.27**	**152**	P			**Pn**	**09 09 19.0**	**-0.5**
FITZ				S			**Sn**	**09 11 06.5**	**-7.3**
	16nm,0.3s,baz=218,slow=15,SNR=7.6								
FITZ				LR			LR	09 14 29.7	
	comp=Z,408nm,18.1s,baz=326,slow=43								
FITZ	**Fitzroy Crossi** baz=10,SNR=41	**10.27**	**152**	P			**Pn**	**09 09 19.1**	**-0.5**
FITZ	**Fitzroy Crossi**	**10.27**	**152**	*e*Pn			**Pn**	**09 09 19.0**	**-0.5**
FITZ				*e*Sn			Sn	09 11 06.1	-7.7
KNRA	**Kununurra** baz=10,SNR=77	**10.34**	**131**	P			**Pn**	**09 09 19.7**	**-0.7**
SAUI	**Saumlaki**	**10.58**	**85**	*e*Pn			**Pn**	**09 09 23.8**	**-0.1**
MTN	**Manton Dam**	**10.98**	**111**	*e*Pn			**Pn**	**09 09 28.1**	**-1.2**
KPJI	**Karang Pucung** 93nm,0.5s	**11.72**	**277**	P			**Pn**	**09 09 41.8**	**+2.5**
MBWA	**Marble Bar**	**12.13**	**184**	*e*Pn			**Pn**	**09 09 42.3**	**-2.6**
KDU	**Kakadu** baz=12,SNR=35	**12.18**	**109**	P			**Pn**	**09 09 44.9**	**-0.7**
CISI	**Cisompet, Garu**	**12.78**	**275**	*e*Pn			**Pn**	**09 09 55.4**	**+1.4**
CISI				*e*Sn			**Sn**	**09 12 17.2**	**+1.6**
CISI	**Cisompet, Garu** 134nm,0.6s,2μm	**12.78**	**275**	P			**Pn**	**09 09 55.3**	**+1.3**
STKI	**Sintang** 41nm,0.5s	**12.82**	**314**	P			**Pn**	**09 09 58.9**	**+4.4**
FAKI	**Fak Fak**	**13.02**	**63**	*e*Pn			**Pn**	**09 09 56.4**	**-0.7**
FAKI	**Fak Fak** 74nm,0.7s,917nm	**13.02**	**63**	P			**Pn**	**09 10 00.8**	**+3.7**
LEM	**Lembang** 5.7nm,0.3s,baz=109,slow=18,SNR=3.1	**13.09**	**279**	P			**P**	**09 10 03.9**	**-4.4**
LEM				LR			LR	09 15 49.9	
	comp=Z,1μm,21.1s,baz=83,slow=40								
SIJI	**Sorong** 3.8nm,0.3s,baz=227,slow=7.0,SNR=12	**13.30**	**53**	P			**Pn**	**09 10 02.8**	**+1.8**
SIJI				LR			LR	09 15 22.8	
	comp=Z,899nm,20.2s,baz=205,slow=38								
CBJI	**Citeko**	**13.91**	**280**	P			**Pn**	**09 10 11.7**	**+2.4**
SBJI	**Serang**	**14.67**	**280**	P			**P**	**09 10 30.1**	**+4.4**
GIRL	**Giralia** baz=15,SNR=32	**14.90**	**204**	P			**Pn**	**09 10 20.7**	**-2.1**
CGJI	**Cibinong**	**15.00**	**278**	P			**P**	**09 10 32.2**	**+2.8**
RKPI	**Ransiki, Papua**	**15.38**	**62**	P			P	09 10 44.5	+11
PPBI	**Pangkal Pinang** 25nm,0.9s,17μm	**15.95**	**294**	P			**P**	**09 10 41.4**	**+1.5**
KASI	**Kota Agung** 155nm,1.1s,2μm	**16.39**	**281**	P			**P**	**09 10 44.8**	**0.0**
DAV	**Davao City (W)** comp=Z,556nm,20.1s,baz=201,slow=41	**16.70**	**17**	LR			LR	09 18 09.0	
MDSI	**Maura Dua** 28nm,0.9s,875nm	**16.95**	**284**	P			**P**	**09 10 52.5**	**+1.4**
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=303,slow=14,SNR=46	**17.14**	**131**	P			**Pn**	**09 10 49.0**	**-2.6**
WRA				S			Sn	09 13 47.8	-14
	2.3nm,0.3s,baz=304,slow=24,SNR=9.4								
WRA				ScP			**ScP**	**09 19 07.8**	**-1.1**
	0.3nm,0.3s,baz=321,slow=2.1,SNR=6.6								
WRA				LR			LR	09 19 09.8	
	comp=Z,537nm,18.6s,baz=305,slow=42								
WRA	**Warramunga Arr**	**17.14**	**131**	P			**Pn**	**09 10 49.0**	**-2.6**
WRAB	**Tennant Creek** 33nm,0.7s	**17.14**	**131**	*e*Pn			**Pn**	**09 10 48.9**	**-2.7**
WRAB	**Tennant Creek**

GSI Gunungsitoli 25.16 293 *e*P **P** **09 12 16.9 -0.3**
comp=Z,30nm,0.8s
RKGY Rocky Gully 25.72 187 P **P** **09 12 24.1 +2.1**
baz=26,SNR=6.1
KCSI Kotacane, Aceh 25.97 298 P **P** **09 12 22.1 -2.5**
TRTT Trang 26.75 308 P **P** **09 12 32.2 +0.7**
comp=Z,5.6nm,1.0s,comp=Z,2µm
CTA Charters Tower 27.08 117 P **P** **09 12 35.4 +0.8**
comp=Z,12nm,0.9s,baz=283,slow=12,SNR=10
CTA ScP **ScP** **09 19 32.2 -1.9**
comp=Z,4.0nm,0.9s,baz=282,slow=12,SNR=4.7
CTAO Charters Tower 27.08 117 *e*P **P** **09 12 35.2 +0.6**
comp=Z,19nm,1.1s
CTAO Charters Tower 27.08 117 *e*P **P** **09 12 35.2 +0.6**
CTAO pmax pmax
comp=Z,19nm,1.1s
BBOO Buckleboo 27.66 151 P **P** **09 12 40.7 +1.2**
baz=28,SNR=25
BBOO Buckleboo 27.66 151 *e*P **P** **09 12 38.9 -0.7**
comp=Z,23nm,0.8s
QLP Quilpie 28.38 131 P **P** **09 12 47.5 +1.4**
baz=28,SNR=3.2
PATY Pattaya 29.33 318 P P 09 13 04.2 +10
SRAK Srakaew 29.38 321 P **P** **09 12 52.7 -2.3**
HTT Hallett 29.59 148 P **P** **09 12 58.6 +1.8**
baz=30,SNR=35
STKA Stephens Creek 29.94 142 P **P** **09 13 01.3 +1.4**
comp=Z,14nm,0.5s,baz=313,slow=9.0,SNR=27
STKA LR LR 09 26 43.7
comp=Z,442nm,18.5s,baz=345,slow=39
STKA Stephens Creek 29.94 142 P **P** **09 13 01.5 +1.6**
baz=30,SNR=22
STKA Stephens Creek 29.94 142 *e*P **P** **09 13 00.7 +0.8**
comp=Z,4.4nm,0.6s
STKA Stephens Creek 29.94 142 *e*P **P** **09 13 00.7 +0.8**
STKA pmax pmax
comp=Z,4.0nm,0.6s
PHET Kaeng Krachan 30.16 316 P **P** **09 13 06.2 +4.3**
comp=Z,4.7nm,0.9s
SKNT Sakolnakorn 30.62 327 P **P** **09 13 07.8 +1.9**
comp=Z,7.8nm,0.9s
CHAI Chaiyaphum 30.88 323 P **P** **09 13 09.9 +1.7**
comp=Z,9.9nm,0.9s,comp=Z,101nm
SRDT SRDT 31.53 317 P **P** **09 13 17.1 +3.1**
comp=Z,20nm,1.0s,comp=Z,3µm
NONG Nongkai 31.96 327 P **P** **09 13 19.5 +1.7**
comp=Z,0.5nm,0.8s,comp=Z,90nm
PBKT Sadao Pong 32.00 322 *e*P **P** **09 13 18.4 +0.3**
PBKT Sadao Pong 32.00 322 P **P** **09 13 19.1 +1.0**
comp=Z,27nm,1.0s
TPUB Ta-pu 32.09 360 *e*P **P** **09 13 18.6 -0.4**
comp=Z,21nm,0.9s
UTHA Uthaitani 32.19 319 P **P** **09 13 21.2 +1.4**
comp=Z,8.0nm,1.1s,comp=Z,76nm
YULB Yu-li 32.19 1 *e*P **P** **09 13 18.2 -1.6**
comp=Z,19nm,1.3s
CMSA Cobar Meteorol 32.32 137 P **P** **09 13 23.6 +2.7**
baz=32,SNR=12
SSLB Suanglung 32.58 1 *e*P **P** **09 13 22.9 -0.3**
comp=Z,45nm,1.7s
GUMO Guam 32.89 47 LR LR 09 28 58.4
comp=Z,69nm,18.0s,baz=199,slow=40
UMPA Umpang Tak 33.05 319 P **P** **09 13 28.2 +0.9**
comp=Z,8.0nm,1.2s,comp=Z,1µm
YHNB Yeheng 33.47 1 *e*P **P** **09 13 30.7 -0.2**
comp=Z,20nm,0.9s
SUKH Sukhothai 33.52 322 P **P** **09 13 33.1 +1.7**
comp=Z,8.7nm,0.9s
ARPS Mount Arapiles 33.68 148 P **P** **09 13 34.8 +2.2**
baz=34,SNR=28
TATO Taipei 33.77 1 *e*P **P** **09 13 32.8 -0.7**
comp=Z,243nm,2.0s
LAMP Lampang 34.32 323 P **P** **09 13 40.3 +1.9**
comp=Z,12nm,0.8s,comp=Z,102nm
CM01 Chiang Mai Arr 34.64 322 *e*P **P** **09 13 41.1 -0.1**
CM31 Chiang Mai Arr 34.68 322 *e*P **P** **09 13 41.5 -0.1**
CMAR Chiang Mai Arr 34.68 322 P **P** **09 13 42.6 +1.1**
comp=Z,6.8nm,0.7s,baz=149,slow=6.9,SNR=41
CMAR PcP **PcP** **09 16 15.4 -0.1**
comp=Z,2.1nm,0.6s,baz=179,slow=3.1,SNR=5.1
CMAR ScP **ScP** **09 19 57.6 -1.6**
comp=Z,1.7nm,0.7s,baz=156,slow=3.6,SNR=6.8
CMAR LR LR 09 30 25.9
comp=Z,448nm,18.1s,baz=162,slow=41
PAYA Payao 34.83 324 P **P** **09 13 44.2 +1.4**
comp=Z,14nm,0.8s,comp=Z,96nm
CMMT Chiang Mai 34.95 322 P **P** **09 13 44.9 +1.0**
comp=Z,26nm,1.0s
CHTO Chiang Mai 34.95 322 *e*P **P** **09 13 44.2 +0.4**
comp=Z,20nm,0.8s
CHTO Chiang Mai 34.95 322 *e*P **P** **09 13 44.3 +0.4**
CHTO pmax pmax
comp=Z,20nm,0.8s
CHTO Chiang Mai 34.95 322 P **P** **09 13 45.0 +1.1**
comp=Z,116nm,1.1s
YNG Young 35.82 139 P **P** **09 13 54.1 +2.9**
baz=36,SNR=12
TOO Toolangi 36.24 146 P **P** **09 13 58.0 +3.2**
baz=36,SNR=12
JOW Kunigami 36.37 12 LR LR 09 30 16.6
comp=Z,118nm,19.9s,baz=143,slow=39
GYA Guiyang 37.77 339 P **P** **09 14 07.9 -0.1**
GYA PP **PnPn** **09 15 38.4 +2.7**
GYA S **S** **09 20 00.2 +2.9**
GYA SS **SnSn** **09 22 35.4 -3.3**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,100nm,5.0s
KMI Kunming 38.14 333 P **P** **09 14 12.0 +0.8**
KMI pP pP 09 14 14.6 -4.4
KMI sP sP 09 14 17.0 -5.2
KMI pmax pmax
comp=Z,25nm,0.5s
KMI LR LR
comp=Z,280nm,15.2s
KMI LR LR
comp=Z,320nm,17.8s
KMI LR LR
comp=Z,290nm,21.6s
WHN Wuhan 39.77 351 ⇑P P 09 14 34.2 +10
ENH Enshi 40.49 345 *e*P **P** **09 14 29.8 -0.7**
comp=Z,12nm,0.6s
MOO Moorlands 40.66 149 P **P** **09 14 33.2 +1.3**
baz=41,SNR=4.4
NJ2 Nanjing 40.85 358 *e*P **P** **09 14 34.7 +1.3**
NJ2 pmax pmax
comp=Z,31nm,0.5s
CD2 Chengdu 42.86 338 *e*P **P** **09 14 50.5 +0.5**
CD2 S **S** **09 21 16.4 +3.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.8s
CD2 LR LR
comp=Z,310nm,14.9s
CD2 LR LR
comp=Z,440nm,19.4s
PALK Pallekele 42.96 291 LR LR 09 34 41.4
comp=Z,336nm,18.1s,baz=116,slow=39
JNU Nakatsue 43.00 13 P **P** **09 14 49.0 -2.0**
comp=Z,9.1nm,1.0s,baz=201,slow=14
XAN Xi'an 44.22 346 P **P** **09 15 02.0 +1.1**
XAN pP pP 09 15 08.7 -0.1
XAN sP sP 09 15 12.0 0.0
XAN pmax pmax
comp=Z,14nm,0.9s
XAN pmax pmax
comp=Z,190nm,4.9s
XAN LR LR
comp=Z,250nm,20.6s
XAN LR LR
comp=Z,220nm,22.8s
SHL Shillong 44.32 322 *e*P **P** **09 15 01.1 -0.9**
comp=Z,51nm,0.9s
SHL Shillong 44.32 322 *e*P **P** **09 15 01.1 -0.9**
SHL pmax pmax
comp=Z,51nm,0.9s
DZM Mont Dzumac 45.82 112 *e*LR LR 09 28 08.0
comp=Z,544nm,22.3s
KSAR Wonju Array Be 46.69 8 P **P** **09 15 17.8 -2.5**
KSAR PcP **PcP** **09 16 53.5 -0.3**
KSAR Wonju Array Be 46.69 8 P **P** **09 15 17.8 -2.5**
KSAR 09 16 53.5
KSRS Korea Array 46.70 8 P **P** **09 15 17.8 -2.6**
comp=Z,2.1nm,0.7s,baz=181,slow=8.3,SNR=2.9
KSRS PcP **PcP** **09 16 53.5 -0.3**
comp=Z,1.2nm,0.6s,baz=186,slow=3.4,SNR=5.4
KSRS LR LR 09 36 16.5
comp=Z,135nm,19.7s,baz=173,slow=38
LZH Lanzhou 47.55 341 *e*P **P** **09 15 30.9 +3.6**
LZH pP pP 09 15 34.4 -0.9
LZH sP sP 09 15 36.6 -1.8
LZH PP **PP** **09 17 15.6 -3.5**
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,96nm,4.5s
LZH LR LR
comp=Z,590nm,10.0s
LZH LR LR
comp=Z,810nm,13.8s
LZH LR LR
comp=Z,560nm,16.8s
LSA Lhasa 47.81 325 P **P** **09 15 30.2 +0.4**
LSA pmax pmax
comp=Z,51nm,0.8s
LSA Lhasa 47.81 325 *e*P **P** **09 15 30.4 +0.5**
comp=Z,54nm,0.9s
LSA Lhasa 47.81 325 *e*P **P** **09 15 30.4 +0.5**
LSA pmax pmax
comp=Z,54nm,0.9s
MJAR Matsushiro Arr 48.21 19 P **P** **09 15 30.8 -1.4**
comp=Z,1.2nm,0.5s,baz=200,slow=7.7,SNR=6.1
MJAR LR LR 09 35 44.8
comp=Z,88nm,20.9s,baz=205,slow=36
RAMN Ramite 48.65 318 *e*P **P** **09 15 35.8 -0.3**
BJT Baijiatuan 48.94 355 *e*P **P** **09 15 36.0 -1.8**
comp=Z,12nm,0.6s
BJT Baijiatuan 48.94 355 *e*P **P** **09 15 36.0 -1.8**
BJT pmax pmax
comp=Z,12nm,0.6s
HYB Hyderabad 49.18 302 *i* P **P** **09 15 38.5 -1.6**
JIRN Jiri 49.40 319 *e*P **P** **09 15 41.5 -0.5**
GUN Gumba 49.77 319 *e*P **P** **09 15 44.2 -0.6**
comp=Z,72nm,0.8s
HMDM Hanimaadhoo 49.83 287 *e*P **P** **09 15 44.3 -0.7**
comp=Z,45nm,0.8s
PKI Pulchoki 49.85 318 *e*P **P** **09 15 44.2 -1.2**
comp=Z,36nm,0.9s
PKIN Phulchoki 49.87 318 *e*P **P** **09 15 44.2 -1.2**
comp=Z,14nm,0.5s
DMN Daman 50.08 318 *e*P **P** **09 15 46.2 -0.8**
KKN Kakani 50.09 318 *e*P **P** **09 15 46.1 -0.9**
comp=Z,38nm,0.9s
HHC Hu-ho-hao-te 50.30 351 *e*P **P** **09 15 49.8 +1.6**
HHC pmax pmax
comp=Z,7.0nm,1.1s
HHC pmax pmax
comp=Z,93nm,5.6s
HHC LR LR
comp=Z,180nm,14.1s
HHC LR LR
comp=Z,200nm,14.7s
HHC LR LR
comp=Z,550nm,14.3s
MNCI Minicoy 50.42 289 *e*P **P** **09 15 48.5 -1.0**
comp=Z,66nm,0.7s
KOLN Koldanda 51.20 317 *e*P **P** **09 15 54.3 -1.1**
comp=Z,39nm,0.9s
DANN Dangsing 51.46 317 *e*P **P** **09 15 56.4 -1.1**
comp=Z,70nm,0.7s
PYUN Piuthan 51.82 317 *e*P **P** **09 15 59.0 -1.1**
comp=Z,76nm,1.0s
GTA Gaotai 51.90 340 P **P** **09 16 02.0 +1.7**
GTA pP pP 09 16 07.8 -0.5
GTA sP sP 09 16 10.1 -1.4
GTA S **S** **09 23 27.2 +5.5**
GTA sS sS 09 23 34.8 -0.1
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA pmax pmax
comp=Z,87nm,5.2s
GTA LR LR
comp=Z,260nm,19.2s
GTA LR LR
comp=Z,230nm,19.6s
GTA LR LR
comp=Z,190nm,21.6s
CN2 Changchun 52.72 4 *e*P **P** **09 16 08.6 +2.4**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
POO Poona 53.66 301 *e*P **P** **09 16 11.0 -2.6**
USRK Ussuriysk Ar. 53.93 10 P **P** **09 16 13.5 -1.5**
comp=Z,1.4nm,0.4s,baz=196,slow=6.4,SNR=7.4
USRK LR LR 09 38 33.2
comp=Z,82nm,21.9s,baz=167,slow=35
RPZ Rata Peaks 55.70 137 P **P** **09 16 28.3 +0.2**
comp=Z,14nm,0.8s,baz=315,slow=8.6,SNR=2.8
SONM Songino Array 57.97 349 P **P** **09 16 43.2 -0.9**
comp=Z,11nm,0.6s,baz=155,slow=8.4,SNR=58
SONM ScP **ScP** **09 21 33.7 -0.9**
comp=Z,1.5nm,0.8s,baz=146,slow=3.8,SNR=4.8
SONM LR LR 09 43 25.7
comp=Z,154nm,19.7s,baz=184,slow=38
SONA1 Songino Array 57.98 349 *e*P **P** **09 16 43.5 -0.8**
KLR Kul'dur 58.79 8 P **P** **09 16 48.8 -0.8**
comp=Z,1.6nm,0.7s,baz=262,slow=6.4,SNR=4.7
KLR Kul'dur 58.79 8‖ *e*P **P** **09 16 49.5 -0.1**
YSS Yuzh-Sakhalins 59.08 17‖ *e*P **P** **09 16 52.2 +0.5**
YSS pmax pmax
comp=Z,35nm,1.6s
WMQ Urumqi 60.47 333 P **P** **09 17 02.1 +0.7**
WMQ pP pP 09 17 08.5 -1.1
WMQ sP sP 09 17 14.7 +2.0
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,250nm,4.5s
WMQ LR LR
comp=Z,190nm,24.9s
WMQ LR LR
comp=Z,220nm,24.9s
TLY Talaya 62.18 348 *e*P **P** **09 17 11.9 -0.9**
comp=Z,13nm,0.8s
TLY Talaya 62.18 348 *e*P **P** **09 17 12.7 -0.1**
TLY pmax pmax
comp=Z,10.0nm,0.6s
TLY MLR MLR
comp=Z,99nm,16.0s
ZEA Zeya 62.74 4 *e*P **P** **09 17 16.0 -0.4**
ZEA pmax pmax
comp=Z,17nm,1.0s
MOY Mondy 62.75 346 *e*P **P** **09 17 17.9 +1.2**
MOY pmax pmax
comp=Z,22nm,1.8s
KSH Kashi 63.58 323 P **P** **09 17 21.1 -1.4**
KSH sP pP 09 17 30.0 -0.7
KSH PP **PP** **09 19 42.2 -0.4**
KSH S **S** **09 25 50.1 -4.8**
KSH SS **SS** **09 29 58.9 -3.9**
KSH pmax pmax
comp=Z,37nm,1.0s
KSH pmax pmax
comp=Z,250nm,5.8s
KSH LR LR
comp=Z,350nm,12.4s
KSH LR LR
comp=Z,460nm,6.3s
KSH LR LR
comp=Z,370nm,12.5s
HVS Khovu-Aksy 64.27 342‖ *e*P **P** **09 17 26.5 -0.2**
HVS pmax pmax
comp=Z,25nm,1.5s
KDJ Kajisay 64.56 325 *e*P **P** **09 17 29.4 +0.5**
comp=Z,4.9nm,0.8s
KDJ Kajisay 64.56 325 *e*P **P** **09 17 29.5 +0.5**
KDJ pmax pmax
comp=Z,5.0nm,0.8s
NRN Naryn 64.78 324 *e*P **P** **09 17 29.6 -1.0**
comp=Z,8.0nm,1.0s
NRN Naryn 64.78 324 *e*P **P** **09 17 29.6 -1.0**
NRN pmax pmax
comp=Z,8.0nm,1.0s
MK01 Makanchi Array 65.18 332 *e*P **P** **09 17 31.6 -1.0**
MK31 Makanchi Array 65.20 332 *e*P **P** **09 17 31.6 -1.2**
MK31 Makanchi Array 65.20 332 *e*P **P** **09 17 31.6 -1.2**
MKAR Makanchi Array 65.20 332 P **P** **09 17 32.1 -0.7**
comp=Z,17nm,0.7s,baz=140,slow=7.8,SNR=104
MKAR Makanchi Array 65.20 332 *e*P **P** **09 17 31.8 -1.0**
comp=Z,115nm,0.8s
MKAR Makanchi Array 65.20 332 *e*P **P** **09 17 31.8 -1.0**
MKAR pmax pmax
comp=Z,115nm,0.8s
DGZ Jazzator, Alta 65.26 337 *de*P **P** **09 17 33.4 +0.1**
DGZ pmax pmax
comp=Z,9.0nm,0.8s
AAK Ala-Archa 66.41 324 *e*P **P** **09 17 39.9 -1.0**
comp=Z,6.0nm,0.8s
AAK Ala-Archa 66.41 324 *c i*P **P** **09 17 39.7 -1.2**
AAK pmax pmax
comp=Z,6.0nm,0.8s
BOD Bodaibo 66.80 356 *e*P **P** **09 17 38.9 -3.9**
BOD pmax pmax
comp=Z,7.0nm,1.0s
PEA0B Petropavlovsk- 69.43 23 *e*P **P** **09 17 59.0 -0.4**
comp=Z,37nm,1.4s
PETK Petropavlovsk- 69.43 23 P **P** **09 17 58.4 -1.0**
comp=Z,4.2nm,0.5s,baz=193,slow=4.9,SNR=19
PETK Petropavlovsk- 69.43 23 *e*P **P** **09 17 58.6 -0.8**
ZAA0 Zalesovo Array 69.62 338 *e*P **P** **09 17 58.9 -1.7**
comp=Z,16nm,1.0s
ZALV Zalesovo Beam 69.62 338 P **P** **09 17 58.8 -1.8**
comp=Z,8.5nm,0.5s,baz=146,slow=4.5,SNR=44
ZALV Zalesovo Beam 69.62 338 *e*P **P** **09 17 58.4 -2.2**
ZALV Zalesovo Beam 69.62 338 *e*P **P** **09 17 58.4 -2.2**
KURK Kurchatov 69.72 333 *e*P **P** **09 17 60.0 -1.3**
comp=Z,20nm,0.8s
KURK Kurchatov 69.72 333 *c i*P **P** **09 18 00.0 -1.3**
KURK pmax pmax
comp=Z,23nm,0.9s
MAW Mawson 69.80 200 P **P** **09 18 02.1 +0.6**
comp=Z,8.0nm,1.1s,baz=35,slow=5.4,SNR=4.3
MAW LR LR 09 46 22.0
comp=Z,153nm,18.8s,baz=52,slow=34
MAW Mawson 69.80 200 *e*P **P** **09 18 03.5 +2.0**
comp=Z,14nm,1.8s
MAW Mawson 69.80 200 *e*P **P** **09 18 03.5 +2.0**
MAW pmax pmax
comp=Z,14nm,1.8s
YAK Yakutsk 71.16 4 P **P** **09 18 08.0 -1.7**
comp=Z,9.1nm,0.5s,baz=285,slow=3.3,SNR=5.2
YAK Yakutsk 71.16 4 *e*P **P** **09 18 07.2 -2.6**
YAK pmax pmax
comp=Z,12nm,0.8s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.1s
VNDA Vanda 71.74 171 P **P** **09 18 14.7 +1.5**
comp=E,2.5nm,0.5s,baz=312,slow=7.4,SNR=46
VNDA LR LR 09 50 18.4
comp=E,211nm,18.1s,baz=328,slow=36
VNDA Vanda 71.74 171 *e*P **P** **09 18 14.2 +1.0**
comp=E,15nm,1.6s
VNDA Vanda 71.74 171 *e*P **P** **09 18 14.3 +1.0**
VNDA pmax pmax
comp=E,15nm,1.6s
MA2 Magadan 72.47 16‖ *e*P **P** **09 18 19.0 +1.2**
MA2 pmax pmax
comp=Z,21nm,1.0s
SBA Scott Base 72.73 171 *e*P **P** **09 18 23.1 +4.0**
comp=Z,15nm,1.1s
SBA Scott Base 72.73 171 *e*P **P** **09 18 23.1 +4.0**
SBA pmax pmax
comp=Z,15nm,1.1s
GEYT Alibeck 74.62 313 P **P** **09 18 29.6 -1.3**
comp=Z,3.7nm,0.8s,baz=112,slow=6.6,SNR=6.7
GYA0B ALIBECK ARRAY 74.62 313 *e*P **P** **09 18 30.4 -0.5**
comp=Z,11nm,1.1s
BRVK Borovoye 75.14 331 *e*P **P** **09 18 32.6 -0.9**
comp=Z,10nm,0.9s
BRVK Borovoye 75.14 331 *ce*P **P** **09 18 32.4 -1.1**
BRVK pmax pmax
comp=Z,10.0nm,0.9s
SEY Seymchan 75.74 14‖ *i*P **P** **09 18 37.1 +0.3**
SYO Syowa Base 78.45 201⇑ *e*P **P** **09 18 54.5 +2.5**
SYO Syowa Base 78.45 201⇑ *e*PcP **PcP** **09 19 05.2 +4.1**
ABKAR Akbulak array 78.50 324 *e*P **P** **09 18 51.2 -1.3**
RAYN Ar Rayn 80.16 296 *e*P **P** **09 19 01.7 -0.6**
comp=Z,7.0nm,0.9s
TIXI Tiksi 80.65 3 *e*P **P** **09 19 01.6 -2.3**
comp=Z,8.8nm,1.0s
TIXI Tiksi 80.65 3‖ *i*P **P** **09 19 01.5 -2.3**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
SVE Sverdlovsk 81.85 331⇑ *e*P **P** **09 19 09.3 -1.2**
SVE pmax pmax
comp=Z,22nm,1.4s
ARU Arti 82.66 330 *c i*P **P** **09 19 13.1 -1.6**
ARU S **S** **09 29 29.6 -0.9**
ARU SS **SS** **09 34 46.2 -6.8**
ARU pmax pmax
comp=Z,15nm,1.7s
KMBO Kilima Mbogo 83.30 270 P **P** **09 19 19.9 +0.5**
comp=Z,2.0nm,0.5s,baz=123,slow=17,SNR=5.8
BILL Bilibino 83.34 16⇑ *e*P **P** **09 19 18.5 +0.5**
BILL *e* 09 22 25.7
BILL *e*PPP PPP 09 24 20.9
BILL pmax pmax
comp=Z,13nm,2.5s
BILL MLR MLR
comp=Z,86nm,21.0s
GNI Garni 85.14 312‖ *e*P **P** **09 19 27.9 -0.1**
GNI pmax pmax
comp=Z,73nm,1.8s
TBI Tubuai 86.39 113 *e*LR LR 09 46 57.9
comp=Z,181nm,25.8s
ZEI Tsey 86.47 314 *e*P **P** **09 19 30.4 -4.2**
ZEI pmax pmax
comp=Z,8.0nm,0.8s
NCK Nalchik 86.87 315‖ *e*P **P** **09 19 35.8 -0.5**
NCK pmax pmax
comp=Z,7.0nm,0.6s
PPT2 Papeete2 87.11 107 *e*LR LR 09 47 18.5
comp=Z,163nm,26.0s
PPT Papeete 87.12 107 LR LR 10 00 01.5
comp=Z,17nm,18.0s,baz=284,slow=37
KBZ Khabaz 87.42 315 P **P** **09 19 38.6 -0.3**
comp=Z,3.5nm,0.7s,baz=128,slow=3.4,SNR=6.7
MATP Matopo 88.90 250 P **P** **09 19 47.6 +0.9**
comp=Z,5.6nm,0.6s,baz=122,slow=5.2,SNR=18
LSZ Lusaka 90.02 255 P **P** **09 19 53.6 +1.6**
comp=Z,2.1nm,0.6s,baz=82,slow=3.9,SNR=4.5
BOSA Boshof 90.44 241 P **P** **09 19 55.2 +1.5**
comp=Z,5.6nm,0.7s,baz=80,slow=3.4,SNR=14
BOSA Boshof 90.44 241 *e*P **P** **09 19 55.7 +2.0**
comp=Z,10nm,1.1s
BOSA Boshof 90.44 241 *e*P **P** **09 19 55.7 +2.0**
BOSA pmax pmax
comp=Z,10.0nm,1.1s
SNAA Sanae 91.44 195 P **P** **09 19 59.6 +2.2**
SNAA Sanae 91.44 195 *e*P **P** **09 19 59.9 +2.4**
comp=Z,6.1nm,1.1s
SNAA Sanae 91.44 195‖ *e*P **P** **09 19 59.3 +1.9**
VNA2 Neumayer--Watz 93.06 195 P **P** **09 20 04.9 0.0**
BRTR Keskin Array B 93.39 310 P **P** **09 20 05.5 -1.6**
comp=Z,1.1nm,0.8s,baz=121,slow=2.9,SNR=5.2
BRTR LR LR 10 07 27.8
comp=Z,60nm,18.9s,baz=84,slow=39
OBN Obninsk 93.93 325⇑ *e*P **P** **09 20 08.0 -1.0**
OBN *e* 09 23 49.7
OBN *e*PPP PPP 09 25 53.6
OBN pmax pmax
comp=Z,37nm,2.0s
OBN MLR MLR
comp=Z,103nm,18.0s
AKASG Malin Array Be 97.79 320 P **P** **09 20 24.6 -2.1**
comp=Z,0.9nm,0.5s,baz=84,slow=4.5,SNR=3.2
AKASG LR LR 10 10 38.7
comp=Z,59nm,19.5s,baz=305,slow=39
YKA Yellowknife Ar 113.51 25 PKiKP **PKiKP** **09 25 28.2 -1.0**
comp=Z,1.3nm,0.5s,baz=305,slow=2.1,SNR=6.7
NV01 Mina Array Sit 119.75 51 *e*PKPdf **PKPdf** **09 25 43.0 +0.7**
NVAR Mina Array Bea 119.75 51 PKP **PKPdf** **09 25 42.2 0.0**
comp=Z,0.9nm,0.7s,baz=244,slow=2.8,SNR=7.0
KVN Kaiserville 119.77 50 *e*Pdif **Pdif** **09 22 04.8 -0.2**
KVN Kaiserville 119.77 50 *e*P **Pdif** **09 22 04.9 -0.2**
NV11 Mina Array Sit 119.87 51 *e*Pdif **Pdif** **09 22 02.7 -2.8**
TORD Torodi Ar. Bea 120.06 280 PKP **PKPdf** **09 25 42.0 -1.2**
comp=Z,2.0nm,0.6s,baz=70,slow=1.8,SNR=14
CWC Cottonwood Cre 120.36 53 P **PKPdf** **09 25 43.7 +0.3**
baz=282
CIS Catalina Islan 120.66 57 P **PKPdf** **09 25 45.5 +1.6**
baz=280
EDW2 Edwards Air Fo 120.73 55 P **PKPdf** **09 25 44.6 +0.6**
baz=281
GRAC Grapevine Rang 120.80 52 P **PKPdf** **09 25 44.8 +0.7**
baz=283

LRMC	Laurel Mtn Rad baz=282	120.87	54	P	PKPdf	09 25 45.5	+1.1
MPMC	Manual Prospec baz=282	120.90	53	P	PKPdf	09 25 45.6	+1.0
HLID	Hailey	121.19	44	ePKPdf	PKPdf	09 25 46.0	+1.2
HLID	Hailey baz=289	121.19	44	P	PKPdf	09 25 45.7	+0.9
FURC	Furnace Creek, baz=283	121.31	53	P	PKPdf	09 25 45.7	+0.7
GSC	Goldstone, Bar baz=282	121.60	54	P	PKPdf	09 25 45.9	+0.2
TPNV	Topopah Spring baz=284	121.68	52	P	PKPdf	09 25 46.6	+0.6
R11A	Troy Canyon, C baz=285	121.85	50	P	PKPdf	09 25 47.2	+0.9
ES19	SONSECA Array	122.07	311	ePKPdf	PKPdf	09 25 47.1	+0.7
ESDC	Sonseca Array comp=Z,1.1nm,0.7s,baz=10,slow=3.0,SNR=6.9	122.13	311	PKP	PKPdf	09 25 47.2	+0.6
EGMT	Eagleton baz=296	122.53	38	P	PKPdf	09 25 47.3	+0.1
GMRC	Granite Mounta baz=283	122.63	54	P	PKPdf	09 25 49.1	+1.3
IRM	Iron Mountain baz=283	123.18	55	P	PKPdf	09 25 49.8	+1.0
DUG	Dugway, Tooele baz=288	123.39	47	P	PKPdf	09 25 49.6	+0.5
FXWY	Fox Creek	123.47	43	ePKPdf	PKPdf	09 25 49.7	+0.4
REDW	Red Top Meadow	123.69	43	ePKPdf	PKPdf	09 25 50.3	+0.6
SNOW	Snow King Moun	123.72	43	ePKPdf	PKPdf	09 25 50.9	+1.1
MSU	Marysvale	124.37	49	ePdif	Pdif	09 22 25.7	+0.1
MSU	Marysvale	124.37	49	eP	Pdif	09 22 25.7	+0.1
PDAR	Pinedale Array comp=Z,0.6nm,0.7s,baz=228,slow=1.1,SNR=4.8	124.80	44	PKP	PKPdf	09 25 51.4	-0.5
TMUT	Trail Mountain	124.85	48	ePKPdf	PKPdf	09 25 54.1	+1.9
LAO	LASA Array baz=298	125.28	38	P	PKPdf	09 25 52.9	+0.5
WUAZ	Wupatki baz=286	125.85	53	P	PKPdf	09 25 55.1	+1.1
O20A	White River Ci baz=292	126.70	46	P	PKPdf	09 25 56.4	+0.9
PV10	Paradox Valley	126.75	48	ePKPdf	PKPdf	09 25 56.9	+1.1
PV19	Morning Glory	126.81	48	ePdif	Pdif	09 22 37.5	+1.1
TUC	Tucson baz=284	127.17	56	P	PKPdf	09 25 57.1	+0.6
MVCO	Mesa Verde baz=290	127.55	50	P	PKPdf	09 25 58.3	+1.0
RSSD	Black Hills baz=298	127.85	40	P	PKPdf	09 25 57.8	+0.2
ULM	Lac du Bonnet comp=Z,3.9nm,0.9s,baz=284,slow=4.2,SNR=2.3	128.96	29	PKP	PKPdf	09 25 58.5	-0.8
PLCA	Paso Flores comp=Z,1.0nm,0.6s,baz=194,slow=4.2,SNR=2.4	129.45	169	PKP	PKPdf	09 26 01.1	+0.4
ANMO	Albuquerque baz=290	129.86	52	P	PKPdf	09 26 02.2	+0.5
MNTX	Cornudas Mount	131.75	55	ePKPdf	PKPdf	09 26 06.6	+1.5
MNTX	Cornudas Mount baz=288	131.75	55	P	PKPdf	09 26 06.5	+1.3
F37A	Hinrichs Farm, baz=312	133.58	32	P	PKPdf	09 26 08.6	+0.5
TXAR	Lajitas Array comp=Z,0.2nm,0.6s,baz=318,slow=1.2,SNR=2.8	133.86	58	PKhKP	PKPpre	09 25 59.9	
TXAR	comp=Z,0.4nm,0.6s,baz=270,slow=2.5,SNR=3.5			PKP	PKPdf	09 26 09.0	-0.3
TXAR	comp=Z,1.7nm,0.9s,baz=258,slow=2.7,SNR=11			SKP		09 29 35.6	
J39A	Decorah baz=311	135.65	34	P	PKPdf	09 26 12.2	+0.1
L39A	Vinton baz=310	136.27	35	P	PKPdf	09 26 13.8	+0.5
JCT	Junction City	136.66	55	ePKPdf	PKPdf	09 26 16.1	+1.7
JCT	Junction City	136.66	55	ePKIKP	PKPdf	09 26 16.1	+1.7
JFWS	Jewell Farm baz=312	136.73	33	P	PKPdf	09 26 14.7	+0.6
D46A	Sault St. Mari baz=323	136.77	25	P	PKPdf	09 26 14.7	+0.6
WVT	Waverly	142.57	39	ePKPpre	PKPpre	09 26 20.2	
T49A	Edmonton	143.32	36	ePKPpre	PKPpre	09 26 23.4	
W50A	Signal Mountai	144.74	38	ePKPdf	PKPab	09 26 26.4	-1.2
CPUP	Villa Florida comp=Z,4.3nm,0.9s,baz=210,slow=3.2,SNR=5.1	144.83	183	PKPbc	PKPbc	09 26 29.0	+0.8
CPUP	Villa Florida	144.83	183	ePKPdf	PKPdf	09 26 31.5	+2.3
TZTN	Tazewell	144.86	35	ePKPdf	PKPab	09 26 27.3	-0.6
Y49A	Blount Mountai	144.90	41	ePKPdf	PKPab	09 26 27.8	-0.5
V51A	Loudon	144.91	37	ePKPdf	PKPab	09 26 27.1	-1.0
LRAL	Lakeview Retre	145.02	43	ePKPdf	PKPab	09 26 27.9	-0.7
N59A	State Game Lan	145.03	22	ePKPdf	PKPab	09 26 27.8	-0.7
CPCT	Cooper Cave	145.05	37	ePKPbc	PKPbc	09 26 28.1	-0.6
PAGS	Pennsylvania G	145.26	24	ePKPbc	PKPbc	09 26 27.9	-1.3
V52A	Sevierville	145.32	36	ePKPbc	PKPbc	09 26 29.0	-0.5
TKL	Tuckaleechee C	145.35	36	ePKPbc	PKPbc	09 26 29.0	-0.7
TKL	Tuckaleechee C	145.35	36	ePKIKP	PKPbc	09 26 29.0	-0.7
X51A	Calhoun	145.44	39	ePKPbc	PKPbc	09 26 29.0	-1.0
Z50A	Ashland	145.60	42	ePKPdf	PKPdf	09 26 29.3	-1.1
MVL	Millersville	145.60	23	ePKPdf	PKPdf	09 26 29.5	-0.6
PAL	Palisades	145.60	20	ePKPdf	PKPdf	09 26 29.7	-0.4
PAL	Palisades	145.60	20	ePKIKP	PKPdf	09 26 29.7	-0.4
W52A	Murphy	145.65	37	ePKPdf	PKPdf	09 26 29.9	-0.5
V53A	Saluda	145.90	35	ePKPdf	PKPdf	09 26 30.8	-0.1
SDMD	Soldier's Deli	145.91	25	ePKPdf	PKPdf	09 26 30.6	-0.1
PSUB	Penn St. - Bra	146.01	22	ePKPdf	PKPdf	09 26 30.4	-0.3
BLA	Blacksburg	146.04	31	ePKPdf	PKPdf	09 26 31.3	+0.3
BLA	Blacksburg	146.04	31	ePKP2	PKPdf	09 26 31.3	+0.3
BRAL	Brewton	146.07	46	ePKPdf	PKPab	09 26 32.4	-0.2
BG3	Lake Jocassee	146.31	36	ePKPdf	PKPbc	09 26 32.6	0.0
Y52A	Lilburn	146.39	39	ePKPdf	PKPbc	09 26 32.8	-0.1
152A	Waverly Hall	146.75	41	ePKPdf	PKPbc	09 26 33.4	-0.7
GOGA	Godfrey	147.06	39	ePKPdf	PKPbc	09 26 34.5	-0.3
GOGA	Godfrey	147.06	39	ePKP2	PKPbc	09 26 34.5	-0.3
PAULI	Pauline	147.07	35	ePKPdf	PKPbc	09 26 34.3	-0.5
KMSC	Kings Mountain	147.11	34	ePKPdf	PKPbc	09 26 34.1	-0.8
JSC	Jenkinsville	147.78	35	ePKPdf	PKPbc	09 26 36.4	-0.4
JSC	Jenkinsville	147.78	35	ePKP2	PKPbc	09 26 36.4	-0.4
255A	Hazlehurst	148.68	40	epPKPdf	PKPbc	09 26 39.1	-0.1
PB11	IPOC Station P	149.68	161	ePKPdf	PKPdf	09 26 39.4	+1.8
LPAZ	La Paz comp=Z,1.8nm,1.0s,baz=259,slow=5.2,SNR=5.8	153.42	161	PKPbc	PKPbc	09 26 49.7	-1.9
LPAZ	comp=Z,5.4nm,0.8s,baz=198,slow=4.5,SNR=7.9			PKPab	PKPab	09 27 05.0	+1.5

*IDC **10** 09:10:22.2±0.6, 15°.29S×173°.33W, h0km, mb4.3/12, mb1 4.5/13, mb1mx4.3/47, mbtmp4.3/13, ML5.0/1, MS3.7/10, Ms1 3.7/10, ms1mx3.4/39, Error ellipse: s-maj=28.9km s-min=15.2km az=131.0*

*ISCJB **10** 09:10:24.9±0.3, 15°.30S±0°.05×173°.24W±0°.06, h29km, mb4.5/37, MS3.7/10, Error ellipse: s-maj=10.2km s-min=5.5km az=36.3*

*BJI **10** 09:10:25.3, 15.64S×173°.20W, h21km, mb4.9/9, mB5.4/4, Ms4.9/1, Ms7 4.6/1*

*NEIC **10** 09:10:27.3±0.2, 15°.31S×173°.24W, h35km, mb4.5/26, Error ellipse: s-maj=9.3km s-min=4.8km az=125.0*

ISC 10 09:10:26.5±0.4, 15°.34S±0°.06×173.09W±0°.07, h29km, n92, σ1s31/74, mb4.5/37, MS3.8/10, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
AFI	Afiamalu	1.90	42	Pn	Pn		09 10 58.5	+1.4
	502nm,0.3s,baz=194,slow=3.5,SNR=1834							
AFI				Sn	Sn		09 11 19.0	-1.2
	2um,0.3s,baz=46,slow=23,SNR=18							
AFI	Afiamalu	1.90	42	ePn	Pn		09 10 58.8	+1.7
AFI				eSn	Sn		09 11 19.4	-0.7
FUNA	Funafuti	10.14	311	ePn	Pn		09 12 51.3	+1.1
FUNA				eSn	Sn		09 14 40.1	-2.9
KNTN	Kanton	12.55	6	ePn	Pn		09 13 23.0	-0.3
KNTN				eSn	Sn		09 15 38.7	-3.5
RAR	Rarotonga	13.93	117	Pn	Pn		09 13 40.9	-1.1
	4.1nm,0.3s,baz=141,slow=1.7,SNR=6.1							
RAR				Sn	Sn		09 16 01.0	-15
	1.4nm,0.3s,baz=355,slow=17,SNR=1.8							
RAR	Rarotonga	13.93	117	ePn	Pn		09 13 38.6	-3.4
RAR				eSn	Sn		09 16 01.0	-15
DZM	Mont Dzumac	20.50	248	P	P		09 15 01.1	-1.4
	5.1nm,0.8s,baz=95,slow=17,SNR=2.3							
DZM				LR	LR		09 21 11.5	
	comp=Z,257nm,20.5s,baz=48,slow=32							
DZM	Mont Dzumac	20.50	248	eP	Pn		09 15 07.7	+2.9
	69nm,1.1s							
DZM	Mont Dzumac	20.50	248	eP	Pn		09 15 07.8	+3.0
	69nm,1.1s							
DZM				eLR	LR		09 20 09.7	
	594nm,27.9s							
PAE	Paea	22.66	99	eT	T		09 38 46.5	
	2.4nm,0.3s							
PPT	Papeete	22.66	99	LR	LR		09 21 42.3	
	comp=Z,53nm,21.4s,baz=266,slow=30							
PPT2	Papeete2	22.66	99	eLQ	LQ		09 19 48.1	
	469nm,25.8s							
PPT2				eLR	LR		09 20 33.7	
	277nm,28.0s							
PPT2	Papeete2	22.66	99	eT	T		09 38 47.5	
	2.5nm,0.3s							
TVO	Taravao	22.98	99	eT	T		09 39 10.5	
	0.9nm,0.3s							
OUZ	Omahuta	23.13	209	eP	P		09 15 30.3	0.0
	23nm,1.1s							
TBI	Tubuai	23.65	113	eLQ	LQ		09 20 02.7	
	499nm,28.5s							
TBI				eLR	LR		09 21 06.6	
	262nm,29.5s							
TBI	Tubuai	23.65	113	eT	T		09 40 02.3	
	6.4nm,0.3s							
PMOR	Pomariorio Ree	24.32	93	eT	T		09 40 50.8	
	3.4nm,0.2s							
URZ	Urewera	24.42	199	P	P		09 15 41.7	-0.9
	6.3nm,0.3s,baz=312,slow=2.7,SNR=24							
URZ				LR	LR		09 22 42.9	
	comp=Z,121nm,20.1s,baz=19,slow=30							
URZ	Urewera	24.42	199	eP	P		09 15 42.3	-0.3
BKZ	Black Stump Fm	25.44	199	eP	P		09 15 52.4	+0.5
	14nm,1.2s							
BFZ	Birch Farm	26.91	198	eP	P		09 16 05.3	+0.3
	52nm,1.1s							
THZ	Tophouse	28.98	202	eP	P		09 16 24.6	+0.9
	13nm,0.9s							
KHZ	Kahutara	29.34	200	eP	P		09 16 26.7	-0.1
	10nm,0.9s							
TAOE	Nuku Hiva Isla	32.82	83	eLR	LR		09 25 19.0	
	245nm,28.6s							
TAOE	Nuku Hiva Isla	32.82	83	eT	T		09 51 26.6	
	35nm,0.2s							
WHZ	Wether Hill Ro	34.37	204	eP	P		09 17 11.6	+0.7
	19nm,1.1s							
RKT	Rikitea	36.73	108	eT	T		09 56 21.8	
	3.5nm,0.2s							
H11S2	WAKE ISLAND Hy	39.06	329	T	T		09 58 40.0	
	baz=146,slow=76							
H11S3	WAKE ISLAND Hy	39.08	329	T	T		09 58 35.5	
	baz=146,slow=76							
H11S1	WAKE ISLAND Hy	39.08	329	T	T		09 58 41.8	
	baz=146,slow=76							
H11N3	WAKE ISLAND Hy	40.01	330	T	T		10 00 22.1	
	baz=145							
H11N1	WAKE ISLAND Hy	40.01	330	T	T		10 00 37.0	
	baz=145,slow=74							
H11N2	WAKE ISLAND Hy	40.02	330	T	T		10 00 05.2	
	baz=145,slow=74							
WR1	Warramunga Arr	50.15	257	eP	P		09 19 17.6	-2.2
	7.2nm,0.9s							
WRA	Warramunga Arr	50.15	257	P	P		09 19 17.6	-2.2
	0.9nm,0.4s,baz=96,slow=6.2,SNR=6.5							
AS31	Alice Springs	50.41	252	eP	P		09 19 19.7	-2.1
	2.1nm,0.6s							
ASAR	Alice Springs	50.41	252	P	P		09 19 19.7	-2.1
	4.8nm,0.8s,baz=90,slow=7.4,SNR=14							
ASAR				LR	LR		09 39 46.2	
	comp=Z,88nm,18.1s,baz=79,slow=35							
SBA	Scott Base	63.34	185	eP	P		09 20 53.3	+0.8
	15nm,1.1s							
VNDA	Vanda	63.47	186	P	P		09 20 54.3	+1.0
	4.9nm,0.9s,baz=3.8,slow=5.9,SNR=8.0							
VNDA	Vanda	63.47	186	eP	P		09 20 52.7	-0.7
	5.5nm,0.8s							
NV01	Mina Array Sit	74.08	42	eP	P		09 22 00.2	-0.1
NVAR	Mina Array Bea	74.08	42	P	P		09 22 01.3	+1.0
	2.8nm,1.0s,baz=227,slow=9.2,SNR=9.8							
NVAR				LR	LR		09 46 46.8	
	comp=Z,116nm,20.7s,baz=256,slow=29							
KVN	Kaiserville	74.57	41	eP	P		09 22 02.7	-0.4
	3.2nm,1.1s							
QSPA	South Pole Qui	74.71	180	P	P		09 22 03.8	+0.3
	12nm,1.0s,baz=12,slow=3.0,SNR=8.8							
QSPA	South Pole Qui	74.71	180	eP	P		09 22 03.7	+0.3
	14nm,1.0s							
MOD	Modoc Plateau	74.89	38	eP	P		09 22 04.1	-0.7
	6.6nm,1.0s							
SHPR	Sheep Range	75.10	45	eP	P		09 22 06.4	+0.2
	4.4nm,1.1s							
PINE	Pine Mountain	75.67	36	eP	P		09 22 09.8	+0.5
	14nm,1.0s							
WVOR	Wild Horse Val	76.20	38	eP	P		09 22 12.2	-0.1
	5.3nm,1.0s							
KSRS	Korea Array	76.32	315	LR	LR		09 48 34.6	
	comp=Z,5.5nm,20.3s,baz=136,slow=30							
X16A	Lo Mia Camp, P	76.65	48	eP	P		09 22 14.9	-0.2
	4.2nm,0.9s							
PSUT	Pine Spring	77.06	44	eP	P		09 22 18.2	+0.9
	3.6nm,1.0s							
G08A	Pilot Rock	77.71	36	eP	P		09 22 21.6	+0.9
	4.9nm,1.1s							
MSU	Marysvale	78.17	44	eP	P		09 22 24.8	+1.2
TMUT	Trail Mountain	79.22	44	eP	P		09 22 29.5	+0.1
	7.1nm,1.2s							
HLID	Hailey	79.39	39	eP	P		09 22 30.4	+0.3
	4.3nm,1.0s							
P17A	Butcher Ranch,	79.62	44	eP	P		09 22 30.9	-0.6
	3.4nm,1.0s							
PV10	Paradox Valley	80.25	46	eP	P		09 22 34.7	-0.3
PV19	Morning Glory	80.26	46	eP	P		09 22 35.4	+0.4
	5.4nm,0.9s							
PV20	West Nyswonger	80.28	46	eP	P		09 22 35.6	+0.5
	5.4nm,1.0s							
PV03	Paradox Valley	80.33	46	eP	P		09 22 36.1	+0.7
LTX	Lajitas	80.33	56	eP	P		09 22 37.0	+1.6
TXAR	Lajitas Array	80.33	56	P	P		09 22 37.0	+1.6
	1.2nm,1.0s,baz=209,slow=5.6,SNR=6.9							
NJ2	Nanjing	80.37	307	eP	P		09 22 37.4	+2.0
NJ2				pmax	pmax			
	comp=Z,14nm,0.5s							
ANMO	Albuquerque	80.53	50	LR	LR		09 49 24.2	
	comp=Z,75nm,21.7s,baz=242,slow=29							
CN2	Changchun	81.23	320	eP	P		09 22 43.0	+3.2
TPAW	Teton Pass	81.49	41	eP	P		09 22 42.2	+0.7
	3.3nm,1.1s							
PD31	Pinedale Array	82.02	42	eP	P		09 22 43.1	-1.2
PDAR	Pinedale Array	82.02	42	P	P		09 22 44.5	+0.2
	1.2nm,1.0s,baz=156,slow=1.5,SNR=6.1							
PDAR				LR	LR		09 51 37.2	
	comp=Z,57nm,20.4s,baz=265,slow=30							
PDAR	Pinedale Array	82.02	42	eP	P		09 22 44.1	-0.2
IL1	Eielson Array	82.33	11	eP	P		09 22 45.2	+0.2
ILAR	Eielson Array	82.33	11	P	P		09 22 44.8	-0.3
	0.7nm,0.9s,baz=222,slow=5.8,SNR=5.0							
ILB	Eielson Array	82.33	11	eP	P		09 22 45.1	0.0
IM3	Indian Mountai	82.37	8	eP	P		09 22 45.3	0.0
MAW	Mawson	87.95	199	P	P		09 23 13.1	-0.2
	2.7nm,0.5s,baz=104,slow=5.6,SNR=4.3							
MAW	Mawson	87.95	199	eP	P		09 23 12.9	-0.5
	0.8nm,1.0s							
HHC	Hu-ho-hao-te	89.20	313	eP	P		09 23 22.4	+2.5
HHC				pmax	pmax			
	comp=Z,11nm,1.1s							
HHC				pmax	pmax			
	comp=Z,140nm,5.2s							
CD2	Chengdu	92.03	301	eP	P		09 23 33.5	+0.3
SYO	Syowa Base	92.72	191	eP	P		09 23 34.2	-1.4
CM31	Chiang Mai Arr	92.88	288	eP	P		09 23 36.4	-0.9
CMAR	Chiang Mai Arr	92.88	288	P	P		09 23 36.4	-0.9
	0.6nm,0.4s,baz=118,slow=5.3,SNR=4.3							
CMAR				LR	LR		10 00 45.2	
	comp=Z,11nm,21.4s,baz=355,slow=33							
LZH	Lanzhou	93.43	306	eP	P		09 23 42.6	+2.9
LZH				pP	pP		09 23 50.4	+1.4
LZH				sP	sP		09 23 54.1	+1.7
LZH				pmax	pmax			
	comp=Z,25nm,1.3s							
ULM	Lac du Bonnet	93.69	39	LR	LR		09 58 25.5	
	comp=Z,86nm,20.2s,baz=324,slow=31							
KSH	Kashi	115.68	307	ePKP	PKPdf		09 29 07.1	+0.6
KMBO	Kilima Mbogo	145.83	244	PKPbc	PKPbc		09 30 04.5	+0.1
	0.9nm,0.3s,baz=80,slow=6.1,SNR=3.3							
KMBO	Kilima Mbogo	145.83	244	ePKPdf	PKPdf		09 30 02.0	-1.9
KHC	Kasperske Hory	145.86	352	ePKP	PKPdf		09 30 02.5	-0.1
KHC				epPKP	pPKPab		09 30 14.0	+1.0
GERES	GERESS Array B	146.12	352	PKPbc	PKPdf		09 30 03.3	+0.2
	0.6nm,0.6s,baz=35,slow=3.6,SNR=5.3							
BR101	Keskin Array S	146.29	321	ePKPdf	PKPbc		09 30 05.0	+0.1
BR131	Keskin Array S	146.30	321	ePKPdf	PKPdf		09 30 01.8	-2.0
BRTR	Keskin Array B	146.30	321	PKPbc	PKPbc		09 30 05.0	+0.1
	2.2nm,0.9s,baz=176,slow=3.2,SNR=6.4							

*NIED **10** 09:17:00, 35°.50N×143°.70E, h5km, Mw4.3 Best double couple: M₀2.97000×10¹⁵ NP1:ϕ₁46.00000°, δ22.00000°, λ-69.00000°. NP2:ϕ₂203.00000°, δ69.00000°, λ-98.00000°.*

*IDC **10** 09:17:30.5±0.6, 35°.28N×143°.91E, h0km, mb3.9/13, mb1 4.1/19, mb1mx4.0/52, mbtmp4.0/19, ML3.6/5, MS3.1/5, Ms1 3.1/5, ms1mx2.8/40, Error ellipse: s-maj=16.7km s-min=16.3km az=125.0*

*NEIC **10** 09:17:32.0±0.3, 35°.35N×143°.93E, h10km, mb4.6/6, Error ellipse: s-maj=6.1km s-min=5.5km az=144.0*

*ISCJB **10** 09:17:33.5±0.4, 35°.42N±0°.04×143°.77E±0°.04, h33km, mb4.1/18, MS4.4/1, Error ellipse: s-maj=5.6km s-min=4.2km az=172.6*

*JMA **10** 09:17:34.2±0.5, 35°.49N×143°.72E, h67km, M3.9*

ISC 10 09:17:35.9±0.6, 35°.53N±0°.06×143°.84E±0°.06, h35km, n77, σ2s41/82, mb4.1/18, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
CHOJ	Chosi	2.44	275	P	Pn		09 18 11.8	-1.4
CHOJ				eS	Sn		09 18 39.4	-2.3
BSO1	Boso 1	2.50	250	P	Pn		09 18 11.1	-2.5
BSO1				S	Sn		09 18 40.3	-2.4
JIHU	Itakohorinouch	2.73	280	P	Pn		09 18 16.8	-0.4
JHYU	Hitachinakayam	2.76	288	P	Pn		09 18 16.1	-1.5
JHYU				eS	Sn		09 18 46.9	-2.8
BSO3	Boso 3	2.82	256	P	Pn		09 18 16.9	-1.4
JHO	Hitachi	2.86	293	P	Pn		09 18 16.8	-2.2
JHO				eS	Sn		09 18 49.0	-3.2
JOD2	Odawara 2	3.89	267	P	Pn		09 18 31.2	-2.0
JOD2				eS	Sn		09 19 14.0	-3.7
JMK	Ichinoseki	4.00	329	P	Pn		09 18 33.5	-1.2
JMK				eS	Sn		09 19 17.7	-2.7
JRY	Ryogami san	4.04	278	P	Pn		09 18 34.4	-0.9
JHJ2	Mitsune	4.11	235	ePn	Pn		09 18 33.5	-2.8
JHJ2	Mitsune	4.11	235	P	Pn		09 18 33.4	-2.8
JHJ	Hachijo jima 2	4.13	236	Pn	Pn		09 18 33.4	-3.1
	14nm,0.3s,baz=155,slow=24,SNR=19							
JHJ				Sn	Sn		09 19 16.6	-7.0
	27nm,0.3s,baz=255,slow=21,SNR=1.6							
MJAR	Matsushiro Arr	4.67	284	Pn	Pn		09 18 43.2	-0.7
	3.1nm,0.3s,baz=104,slow=8.9,SNR=40							
MJAR				Sn	Sn		09 19 37.4	+0.5
	1.6nm,0.3s,baz=92,slow=18,SNR=5.0							
MJAR				LR	LR		09 20 57.9	
	comp=Z,82nm,18.9s,baz=140,slow=44							
MAJO	Matsushiro	4.67	284	ePn	Pn		09 18 44.2	+0.2
MAJO				eSn	Sn		09 19 37.5	+0.4
MAT	Matsushiro	4.67	284	P	Pn		09 18 43.4	-0.6
MAT				eS	Sn		09 19 31.6	-5.4
MJB9	Matsu-Tunnel	4.68	284	ePn	Pn		09 18 44.2	+0.1
INU	Inuyama	5.57	270	ePn	Pn		09 18 55.9	-0.4
JOT	Ohata	6.24	340	P	Pn		09 19 05.1	-0.3
ERM	Erimo	6.50	355	ePn	Pn		09 19 06.9	-2.0
ERM				eSn	Sn		09 20 16.2	-5.6
JKB	Kayabe	6.71	342	P	Pn		09 19 11.5	-0.4
JKB				eS	Sn		09 20 24.8	-2.4
JCH	Churui	7.08	357	P	Pn		09 19 14.4	-2.6
JCH				eS	Sn		09 20 29.1	-7.1
NEM2	Nemuro 2	7.96	10	P	Pn		09 19 24.8	-4.2
NEM2				eS	Sn		09 20 48.3	-9.5
CBIJ	Chichi jima	8.53	190	ePn	Pn		09 19 29.6	-7.3
CBIJ				eSn	Sn		09 20 58.8	-13
JCJ	Chichijima	8.53	190	Pn	Pn		09 19 30.6	-6.3
	2.1nm,0.3s,baz=329,slow=5.9,SNR=4.4							
JCJ				Sn	Sn		09 20 58.8	-13
	4.8nm,0.3s,baz=252,slow=21,SNR=1.4							
ASAJ	Asahikawa	8.63	354	Pn	Pn		09 19 37.0	-1.1
	4.7nm,0.3s,baz=221,slow=7.9,SNR=36							
ASAJ				Sn	Sn		09 21 07.6	-6.6
	0.7nm,0.3s,baz=313,slow=9.4,SNR=3.8							
ASAJ				LR	LR		09 23 31.9	
	comp=Z,107nm,20.6s,baz=166,slow=41							
ASAJ	Asahikawa	8.63	354	ePn	Pn		09 19 39.0	+0.8
ASAJ				Sn	Sn		09 21 07.6	-6.6
ASAJ				eSn	Sn		09 21 15.4	+1.2
JNU	Nakatsue	10.98	261	ePn	Pn		09 20 09.9	-0.7
YSS	Yuzh-Sakhalins	11.44	356	ePn	Pn		09 20 18.4	+1.7
USA0B	Ussuriysk Arra	12.55	317	ePn	Pn		09 20 32.4	+0.5
USRK	Ussuriysk Ar.	12.55	317	Pn	Pn		09 20 34.6	+2.7
	0.1nm,0.3s,baz=119,slow=13,SNR=6.3							
USRK				LR	LR		09 24 58.8	
	comp=Z,152nm,21.0s,baz=121,slow=35							
KSRS	Korea Array	12.95	283	Pn	Pn		09 20 38.0	+0.6
	0.1nm,0.3s,baz=99,slow=14,SNR=2.7							
KSRS				LR	LR		09 25 30.7	
	comp=Z,75nm,21.1s,baz=118,slow=37							
KS15	Wonju Array Si	12.98	283	ePn	Pn		09 20 38.7	+0.9
KSAR	Wonju Array Be	12.98	283	Pn	Pn		09 20 38.0	+0.2

	0.3nm,0.5s,baz=295,slow=2.6,SNR=5.5								
LPAZ	**La Paz**	**145.67**	**64**	PKPbc	**PKPdf**	**09 37 12.0**	**+0.2**
	2.4nm,0.8s,baz=341,slow=0.5,SNR=9.2								
LPAZ	**La Paz**	**145.67**	**64**	*e*PKPdf	**PKPbc**	**09 37 12.7**	**+0.5**

JMA 10 09:20:40.1±0.3, 35°36N×143°61E, h52km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**2.27**	**279**	*e*S	Sn	09 21 42.8	+0.9
JHYU	**Hitachinakayam**	**2.64**	**293**	P	Pn	09 21 21.5	+1.3
JHYU				S	Sn	09 21 52.8	+1.7
JHO	**Hitachi**	**2.76**	**298**	P	Pn	09 21 23.1	+1.2
JHO				*e*S	Sn	09 21 54.2	+0.1
JFT	**Otama**	**3.41**	**310**	P	Pn	09 21 32.1	+1.4
JFT				*e*S	Sn	09 22 10.0	+0.1
JAG	**Ashikaga**	**3.54**	**289**	P	Pn	09 21 34.1	+1.6
JAG				*e*S	Sn	09 22 14.0	+0.9
JOD2	**Odawara 2**	**3.70**	**270**	P	Pn	09 21 36.7	+1.9
JOD2				*e*S	Sn	09 22 18.8	+1.7
JHJ2	**Mitsune**	**3.86**	**236**	P	Pn	09 21 38.0	+1.1
JHJ2				*e*S	Sn	09 22 22.4	+1.4
JRY	**Ryogami san**	**3.89**	**281**	P	Pn	09 21 39.7	+2.3
JRY				*e*S	Sn	09 22 24.9	+3.1
JMK	**Ichinoseki**	**4.06**	**333**	P	Pn	09 21 39.4	-0.3
JMK				S	Sn	09 22 23.2	-2.7

*ISCJB **10** 09:23:57.9±0.4, 9°10N±0°02×126°16E±0°04, h115km±2km, mb4.2/48, Error ellipse: s-maj=7.4km s-min=3.5km az=165.0*
*MAN **10** 09:23:58.5, 9°07N×126°03E, h113km, mb5.0, ML4.0, MS4.0*
*IDC **10** 09:24:00.1±1.4, 9°12N×126°06E, h115km±11km, mb3.9/22, mb1 4.0/24, mb1mx3.9/48, mbtmp4.3/24, Error ellipse: s-maj=18.8km s-min=9.6km az=74.0*
*NEIC **10** 09:24:01.4±0.8, 9°03N×126°18E, h136km±7km, mb4.5/24, Error ellipse: s-maj=6.9km s-min=4.2km az=61.0*
*DJA **10** 09:24:01.6±1.5, 9°N±11 ×12°6E±°, h127km±9km, M4.8/12, mb4.6/12, MLv4.9/2*
ISC 10 09:23:59.3±0.7, 9°09N±0°03×126°10E±0°05, h111km±6km, n112, σ1s59/137, mb4.3/48, 4C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.49**	**256**	*e*P	**Pn**	**09 24 15.8**	**-0.4**
BUTP				*e*S	**Sn**	**09 24 29.7**	**+0.9**
BIPH	**Bislig**	**0.94**	**164**	⇓*e*P	**Pn**	**09 24 20.2**	**+0.3**
BIPH				*e*S	**Sn**	**09 24 35.3**	**-0.2**
CGP	**Cagayan de Oro**	**1.52**	**246**	⇑*e*P	**Pn**	**09 24 25.5**	**-1.0**
CGP				*i* S	**Sn**	**09 24 42.4**	**-4.7**
BUKP	**Musuan**	**1.58**	**221**	*e*P	**Pn**	**09 24 27.1**	**-0.1**
BUKP				*e*S	**Sn**	**09 24 48.3**	**0.0**
MSLP	**Maasin**	**1.60**	**310**	*e*P	**Pn**	**09 24 27.0**	**-0.4**
MSLP				*e*S	**Sn**	**09 24 48.9**	**+0.1**
DAV	**Davao City (W)**	**2.07**	**194**	P	**Pn**	**09 24 35.2**	**+2.0**
	81nm,0.3s,baz=57,slow=18,SNR=3.0						
DAV				S	**Sn**	**09 25 01.3**	**+2.1**
	73nm,0.3s,baz=327,slow=23,SNR=5.1						
DAV	**Davao City (W)**	**2.07**	**194**	*e*Pn	**Pn**	**09 24 36.1**	**+2.8**
DAV				*e*Sn	**Sn**	**09 25 02.2**	**+3.0**
TBP	**Tagbilaran**	**2.29**	**285**	*e*P	**Pn**	**09 24 35.7**	**-0.2**
PLP	**Palo**	**2.34**	**332**	⇓*e*P	**Pn**	**09 24 37.0**	**+0.4**
PLP				*e*S	**Sn**	**09 25 04.3**	**-1.1**
LLP	**Lapu-Lapu**	**2.43**	**300**	⇑*e*P	**Pn**	**09 24 38.0**	**+0.2**
LLP				*e*S	**Sn**	**09 25 06.9**	**-0.6**
OCLP	**Ormoc**	**2.44**	**323**	*e*P	**Pn**	**09 24 38.4**	**+0.4**
OCLP				*e*S	**Sn**	**09 25 10.0**	**+2.3**
BESP	**Borongan**	**2.58**	**345**	*e*P	**Pn**	**09 24 40.3**	**+0.5**
BESP				*e*S	**Sn**	**09 25 09.6**	**-1.3**
DCPH	**Dipolog City**	**2.76**	**260**	⇑*i*P	**Pn**	**09 24 43.1**	**+1.0**
PAGZ	**Pagadian**	**2.96**	**246**	*e*P	**Pn**	**09 24 44.1**	**-0.6**
PAGZ				*e*S	**Sn**	**09 25 18.1**	**-1.7**
SKMP	**Bagumbayan, Su**	**2.98**	**211**	*e*P	**Pn**	**09 24 43.8**	**-1.3**
DDMP	**Don Marcelino,**	**2.99**	**187**	*e*P	**Pn**	**09 24 44.2**	**-1.0**
DDMP				*e*S	**Sn**	**09 25 19.7**	**-0.9**
CNP	**Catarman**	**3.68**	**338**	*e*P	**Pn**	**09 24 54.2**	**-0.2**
CNP				*e*S	**Sn**	**09 25 36.2**	**-0.8**
IPIL	**Ipil**	**3.72**	**250**	*e*P	**Pn**	**09 24 54.3**	**-0.7**
RCP	**Roxas**	**4.11**	**307**	⇑*e*P	**Pn**	**09 25 00.7**	**+0.5**
PVCP	**Virac**	**4.87**	**337**	*e*P	**Pn**	**09 25 13.1**	**+2.7**
SGSI	**Sangihe**	**5.40**	**186**	P	**Pn**	**09 25 19.9**	**+2.4**
MYLDM	**Lahad Datu**	**8.48**	**243**	*e*Pn	**Pn**	**09 26 03.3**	**+4.0**
MRSI	**Marisa**	**9.50**	**206**	P	**Pn**	**09 26 15.9**	**+2.7**
LUWI	**Luwuk**	**10.60**	**198**	*e*Pn	**Pn**	**09 26 28.2**	**+0.3**
SANI	**Sanana**	**11.06**	**181**	P	**Pn**	**09 26 31.4**	**-2.9**
	34nm,0.8s						
SIJI	**Sorong**	**11.15**	**152**	P	**Pn**	**09 26 36.9**	**+1.3**
	0.6nm,0.3s,baz=337,slow=17,SNR=2.3						
SIJI				S	**Sn**	**09 28 32.1**	**-6.1**
	0.5nm,0.3s,baz=195,slow=23,SNR=1.4						
FAKI	**Fak Fak**	**13.41**	**153**	*e*Pn	**Pn**	**09 27 04.0**	**-1.3**
BNSI	**Bone**	**14.67**	**204**	P	**Pn**	**09 27 23.1**	**+1.7**
SBUM	**Sibu**	**15.30**	**245**	*e*Pn	**Pn**	**09 27 30.2**	**+0.9**
	25nm,1.6s						
SKNT	**Sakolnakorn**	**22.91**	**292**	P	**P**	**09 28 54.3**	**+0.4**
	5.1nm,1.2s						
MYKOM	**Kota Tinggi**	**23.29**	**253**	*e*P	**P**	**09 28 54.0**	**-3.4**
	10nm,0.8s						
DSRI	**Dabo**	**23.45**	**247**	P	**P**	**09 29 00.3**	**+1.4**
	48nm,1.1s						
SRAK	**Srakaew**	**24.06**	**284**	P	**P**	**09 29 01.7**	**-2.7**
	15nm,0.8s						
CHAI	**Chaiyaphum**	**24.48**	**288**	P	**P**	**09 29 10.0**	**+1.8**
	5.3nm,0.8s,86nm						
CISI	**Cisompet, Garu**	**24.60**	**228**	*e*P	**P**	**09 29 09.0**	**-0.4**
	56nm,1.2s						
IPM	**Ipoh**	**25.31**	**261**	*e*P	**P**	**09 29 16.9**	**+1.0**
	25nm,1.0s						
KULM	**Kulim**	**25.52**	**263**	*e*P	**P**	**09 29 18.1**	**+0.4**
	21nm,1.2s						
PBKT	**Sadao Pong**	**25.58**	**289**	*e*P	**P**	**09 29 19.8**	**+1.6**
	15nm,1.0s						
PBKT	**Sadao Pong**	**25.58**	**289**	P	**P**	**09 29 19.9**	**+1.6**
	16nm,1.4s,811nm						
MDSI	**Maura Dua**	**25.68**	**239**	P	**P**	**09 29 20.0**	**+0.9**
	11nm,1.0s						
PHET	**Kaeng Krachan**	**26.25**	**281**	P	**P**	**09 29 28.3**	**+4.0**
	3.9nm,0.7s						
UTHA	**Uthaitani**	**26.80**	**287**	P	**P**	**09 29 31.1**	**+1.8**
	3.3nm,0.9s,111nm						
FITZ	**Fitzroy Crossi**	**27.02**	**181**	P	**P**	**09 29 31.2**	**+0.2**
	0.4nm,0.3s,baz=16,slow=10,SNR=3.4						
FITZ	**Fitzroy Crossi**	**27.02**	**181**	*e*P	**P**	**09 29 30.6**	**-0.5**
	8.0nm,1.3s						
SUKH	**Sukhothai**	**27.05**	**291**	P	**P**	**09 29 36.5**	**+5.1**
	3.4nm,0.9s						
UMPA	**Umpang Tak**	**27.48**	**288**	P	**P**	**09 29 41.8**	**+6.5**
PSI	**Prapat**	**27.73**	**259**	P	**P**	**09 29 38.4**	**+0.7**
	16nm,0.8s,baz=360,slow=1.6,SNR=14						
PSI	**Prapat**	**27.73**	**259**	*e*P	**P**	**09 29 38.6**	**+1.0**
	30nm,1.0s						
CM01	**Chiang Mai Arr**	**27.91**	**292**	*e*P	**P**	**09 29 40.2**	**+1.1**
CM31	**Chiang Mai Arr**	**27.93**	**292**	*e*P	**P**	**09 29 40.5**	**+1.2**
CM31				*e*PcP	**PcP**	**09 32 54.1**	**+1.8**
CMAR	**Chiang Mai Arr**	**27.93**	**292**	P	**P**	**09 29 40.5**	**+1.2**
	1.3nm,0.4s,baz=87,slow=6.4,SNR=11						
CMAR				PcP	**PcP**	**09 32 54.1**	**+1.8**
	1.0nm,0.3s,baz=87,slow=2.0,SNR=5.8						
CHTO	**Chiang Mai**	**28.03**	**293**	*e*P	**P**	**09 29 40.9**	**+0.7**
	6.7nm,1.3s						
KCSI	**Kotacane, Aceh**	**28.68**	**261**	P	**P**	**09 29 47.1**	**+1.0**
	22nm,1.1s						
MAJO	**Matsushiro**	**29.46**	**20**	*e*P	**P**	**09 29 52.0**	**-0.7**
	18nm,1.6s						
WRAB	**Tennant Creek**	**29.96**	**164**	*e*P	**P**	**09 29 56.4**	**-0.9**
	2.8nm,0.9s						
WR1	**Warramunga Arr**	**29.97**	**164**	*e*P	**P**	**09 29 56.7**	**-0.6**
	16nm,1.5s						
WR1				*e*PcP	**PcP**	**09 32 58.4**	**+1.0**
WRA	**Warramunga Arr**	**29.97**	**164**	P	**P**	**09 29 56.7**	**-0.6**
	1.4nm,0.7s,baz=349,slow=9.3,SNR=13						
WRA				PcP	**PcP**	**09 32 58.4**	**+1.0**
	0.6nm,0.5s,baz=340,slow=3.1,SNR=5.3						
WRA				ScP	**ScP**	**09 36 30.1**	**+0.6**
	0.3nm,0.7s,baz=341,slow=3.7,SNR=4.4						
WB2	**Warramunga Arr**	**29.97**	**164**	*e*P	**P**	**09 29 56.3**	**-1.0**
	17nm,1.6s						
MBWA	**Marble Bar**	**30.70**	**192**	*e*P	**P**	**09 30 03.3**	**-0.4**
	30nm,1.4s						
BJT	**Baijiatuau**	**32.05**	**346**	*e*P	**P**	**09 30 17.0**	**+1.6**
	5.2nm,0.8s						
AS31	**Alice Springs**	**33.44**	**167**	*e*P	**P**	**09 30 26.9**	**-0.8**
	0.8nm,0.3s						
AS31				*e*PcP	**PcP**	**09 33 06.3**	**-0.4**
ASAR	**Alice Springs**	**33.44**	**167**	P	**P**	**09 30 27.7**	**0.0**
	1.1nm,0.5s,baz=349,slow=7.1,SNR=28						
ASAR				PcP	**PcP**	**09 33 06.3**	**-0.4**
	0.6nm,0.7s,baz=339,slow=3.1,SNR=6.7						
ASAR				ScP	**ScP**	**09 36 41.2**	**+0.1**
	0.4nm,0.7s,baz=350,slow=3.2,SNR=4.0						
AS01	**Alice Springs**	**33.45**	**167**	*e*P	**P**	**09 30 27.5**	**-0.3**
USRK	**Ussuriysk Ar.**	**35.35**	**7**	P	**P**	**09 30 44.8**	**+0.9**
	3.5nm,0.7s,baz=189,slow=8.0,SNR=15						
SHL	**Shillong**	**36.39**	**301**	*e*P	**P**	**09 30 53.5**	**+0.2**
	16nm,0.8s						
KLR	**Kul'dur**	**40.29**	**6**	P	**P**	**09 31 25.6**	**+0.2**
	0.5nm,0.4s,baz=226,slow=4.1,SNR=3.8						
ODAN	**Odan**	**40.63**	**301**	*e*P	**P**	**09 31 29.5**	**+0.7**
	41nm,0.7s						
RAMN	**Ramite**	**41.32**	**301**	*e*P	**P**	**09 31 35.4**	**+0.8**
	11nm,0.5s						
JIRN	**Jiri**	**41.89**	**302**	*e*P	**P**	**09 31 40.0**	**+0.7**
	28nm,0.4s						
GUN	**Gumba**	**42.23**	**302**	*e*P	**P**	**09 31 42.5**	**+0.4**
	28nm,0.7s						
PKI	**Pulchoki**	**42.52**	**301**	*e*P	**P**	**09 31 44.0**	**-0.4**
	7.9nm,0.5s						
PKIN	**Phulchoki**	**42.53**	**301**	*e*P	**P**	**09 31 44.3**	**-0.1**
BBOO	**Buckleboo**	**42.73**	**168**	*e*P	**P**	**09 31 45.8**	**+0.2**
	9.3nm,0.7s						
DMN	**Daman**	**42.79**	**301**	*e*P	**P**	**09 31 47.5**	**+1.0**
STKA	**Stephens Creek**	**43.35**	**161**	P	**P**	**09 31 51.5**	**+1.0**
	7.0nm,0.4s,baz=333,slow=9.0,SNR=18						
STKA	**Stephens Creek**	**43.35**	**161**	*e*P	**P**	**09 31 48.7**	**-1.8**
	1.7nm,0.7s						
KOLN	**Koldanda**	**44.11**	**301**	*e*P	**P**	**09 31 57.4**	**+0.3**
	22nm,0.7s						
DANN	**Dangsing**	**44.15**	**302**	*e*P	**P**	**09 31 57.5**	**+0.1**
	15nm,0.5s						
PYUN	**Piuthan**	**44.73**	**301**	*e*P	**P**	**09 32 02.4**	**+0.5**
	23nm,0.8s						
MK32	**Makanchi Array**	**52.86**	**323**	*e*P	**P**	**09 33 03.9**	**+0.3**
MK32				*e*PcP	**PcP**	**09 34 10.5**	**-0.9**
MKAR	**Makanchi Array**	**52.86**	**323**	P	**P**	**09 33 03.9**	**+0.3**
	1.7nm,0.7s,baz=118,slow=9.4,SNR=4.6						
MKAR				PcP	**PcP**	**09 34 10.5**	**-0.9**
	1.1nm,0.6s,baz=110,slow=6.4,SNR=2.0						
NIL	**Nilore**	**54.26**	**305**	*e*P	**P**	**09 33 14.1**	**+0.1**
	9.9nm,0.6s						
ZALV	**Zalesovo Beam**	**55.58**	**332**	P	**P**	**09 33 22.2**	**-0.9**
	2.4nm,0.7s,baz=130,slow=7.9,SNR=3.4						
ZAA1	**Zalesovo Array**	**55.58**	**332**	*e*P	**P**	**09 33 22.2**	**-0.9**
KURK	**Kurchatov**	**56.94**	**326**	*e*P	**P**	**09 33 32.3**	**-0.6**
KURBB	**Kurchatov Arra**	**56.95**	**326**	P	**P**	**09 33 32.3**	**-0.6**
	1.9nm,0.6s,baz=124,slow=7.1,SNR=4.6						
BVAR	**Borovoye Array**	**62.54**	**326**	P	**P**	**09 34 11.4**	**+0.2**
	1.2nm,0.7s,baz=104,slow=7.9,SNR=2.9						
NRIK	**Noril'sk**	**65.11**	**346**	P	**P**	**09 34 27.7**	**0.0**
	5.0nm,0.8s,baz=143,slow=5.1,SNR=4.5						
GEYT	**Alibeck**	**67.12**	**307**	P	**P**	**09 34 41.4**	**+0.1**
	2.0nm,0.6s,baz=92,slow=16,SNR=4.1						
ABKAR	**Akbulak array**	**67.66**	**320**	*e*P	**P**	**09 34 43.9**	**-0.5**
AKTO	**Aktyubinsk**	**69.12**	**321**	P	**P**	**09 34 52.8**	**-0.7**
	1.0nm,0.5s,baz=90,slow=7.1,SNR=3.8						
RAYN	**Ar Rayn**	**77.85**	**292**	*e*P	**P**	**09 35 44.8**	**-0.4**
	7.6nm,0.7s						
ILAR	**Eielson Array**	**80.57**	**26**	P	**P**	**09 36 00.7**	**+1.5**
	0.3nm,0.6s,baz=244,slow=5.3,SNR=9.0						
ILB	**Eielson Array**	**80.57**	**26**	*e*P	**P**	**09 35 58.1**	**-1.1**
ARA0	**ARCESS Array S**	**85.24**	**340**	*e*P	**P**	**09 36 22.8**	**-0.3**
ARCES	**ARCESS Array B**	**85.24**	**340**	P	**P**	**09 36 22.8**	**-0.3**
	1.8nm,0.7s,baz=64,slow=6.1,SNR=7.0						
BR101	**Keskin Array S**	**86.15**	**309**	*e*P	**P**	**09 36 27.8**	**-0.6**
BRTR	**Keskin Array B**	**86.15**	**309**	P	**P**	**09 36 27.8**	**-0.6**
	0.5nm,0.5s,baz=104,slow=3.5,SNR=3.8						
FIA0	**FINESS Array S**	**86.84**	**332**	*e*P	**P**	**09 36 30.5**	**-0.6**
FINES	**FINESS Array B**	**86.84**	**332**	P	**P**	**09 36 30.5**	**-0.6**
	1.0nm,0.4s,baz=78,slow=4.0,SNR=17						
VNDA	**Vanda**	**88.79**	**173**	P	**P**	**09 36 41.0**	**+1.0**
	3.1nm,0.6s,baz=318,slow=6.5,SNR=35						
VNDA	**Vanda**	**88.79**	**173**	*e*P	**P**	**09 36 38.2**	**-1.8**
	3.3nm,0.6s						
KMBO	**Kilima Mbogo**	**89.04**	**269**	P	**P**	**09 36 43.7**	**+0.8**
	1.4nm,0.4s,baz=31,slow=9.8,SNR=4.4						
KMBO	**Kilima Mbogo**	**89.04**	**269**	*e*P	**P**	**09 36 41.7**	**-1.2**
	2.6nm,1.1s						
DLBC	**Dease Lake**	**89.49**	**31**	P	**P**	**09 36 44.3**	**+0.4**
	2.5nm,0.8s,baz=256,slow=17,SNR=3.6						
DLBC	**Dease Lake**	**89.49**	**31**	*e*P	**P**	**09 36 42.8**	**-1.1**
	9.1nm,1.2s						
LTX	**Lajitas**	**118.72**	**49**	*e*PKPdf	**PKPdf**	**09 42 35.0**	**-0.2**
TXAR	**Lajitas Array**	**118.72**	**49**	PKP	**PKPdf**	**09 42 35.0**	**-0.2**
	0.1nm,0.6s,baz=294,slow=0.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	**120.54**	**291**	PKP	**PKPdf**	**09 42 37.4**	**-1.5**
	0.6nm,0.6s,baz=26,slow=3.4,SNR=4.9						
TOA1	**Torodi Ar. Sit**	**120.54**	**291**	*e*PKPdf	**PKPdf**	**09 42 37.4**	**-1.5**
PLCA	**Paso Flores**	**145.19**	**158**	PKPbc	**PKPdf**	**09 43 25.4**	**+1.2**
	2.2nm,0.7s,baz=256,slow=4.8,SNR=8.1						
PLCA	**Paso Flores**	**145.19**	**158**	*e*PKPbc	**PKPbc**	**09 43 22.6**	**-1.5**

*ISCJB **10** 09:24:21.3±0.4, 50°44N±0°06×96°42E±0°05, h10km, mb4.0/16, MS3.1/1, Error ellipse: s-maj=9.4km s-min=3.9km az=10.4*
*MOS **10** 09:24:21.7±2.1, 50°39N×96°42E, h13km, mb4.1/12, Error ellipse: s-maj=8.3km s-min=6.2km az=36.5*
*IDC **10** 09:24:22.2±0.8, 50°32N×96°37E, h0km, mb3.8/8, mb1 3.8/13, mb1mx3.7/52, mbtmp3.7/13, ML3.2/5, MS3.2/5, Ms1 3.2/5, ms1mx2.9/46, Error ellipse: s-maj=27.7km s-min=11.2km az=17.0*
*ASRS **10** 09:24:24.0±2.9, 50°70N×96°20E, h15km, Ms4.1/2*
*BJI **10** 09:24:27.5, 50°09N×96°33E, h15km, mb4.3/4, mB4.0/1, ML4.2/2, Ms4.2/1*
*NNC **10** 09:24:34.0±3.1, 51°00N×95°45E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=26.8km s-min=20.7km az=112.0*
ISC 10 09:24:23.0±0.5, 50°46N±0°06×96°44E±0°03, h10km, n78, σ2s05/64, mb3.9/17, 13C-12D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNGR	**Kungurtug, Tuv**	**0.70**	**77**	*de*PG	**Pb**	**09 24 36.7**	**-0.8**
ERNS	**Erzin**	**0.84**	**257**	*e*PG	**Pg**	**09 24 37.7**	**-1.6**
KZLR	**Kyzyl**	**1.77**	**316**	*e*Pg	**Pn**	**09 24 50.8**	**-2.9**
KZLR	**Kyzyl**	**1.77**	**316**	*e*PN	**Pn**	**09 24 50.8**	**-2.9**
HVS	**Khovu-Aksy**	**1.86**	**292**	*de*PN	**Pn**	**09 24 53.3**	**-1.8**
ARDR	**Aradan**	**2.84**	**320**	*e*PN	**Pn**	**09 25 09.0**	**+0.5**
ORL	**Orlik**	**2.97**	**44**	*e*PN	**Pb**	**09 25 13.6**	**-2.4**
ORL				*e*		09 25 51.4	
ORL				pmax	pmax		
	comp=Z,237nm,0.6s						
ORL				smax	smax		
	comp=E,1μm,0.8s						
MOY	**Mondy**	**3.12**	**65**	*e*PN	**Pb**	**09 25 16.6**	**-2.0**
MOY				*e*		09 25 58.3	
MOY				pmax	pmax		
	comp=Z,320nm,0.3s						
MOY				smax	smax		
	comp=N,2μm,0.8s						
CERR	**Cheremushki**	**3.94**	**309**	*e*PN	**Pn**	**09 25 24.4**	**+0.8**
ARS	**Arshan**	**4.04**	**66**	*e*PN	**Pb**	**09 25 34.3**	**0.0**
ARS				*e*		09 26 28.3	
ARS				pmax	pmax		
	comp=Z,153nm,0.5s						
ARS				smax	smax		
	comp=E,2μm,0.6s						
ZAK	**Zakamensk**	**4.38**	**88**	*e*PN	**Pb**	**09 25 41.4**	**+1.4**
ZAK				pmax	pmax		
	comp=Z,104nm,0.5s						
MINR	**Mina**	**4.66**	**344**	*e*PN	Pn	09 25 37.9	+4.5
TLY	**Talaya**	**4.71**	**72**	*e*PN	**Pb**	**09 25 47.1**	**+1.5**
VEH	**Verkhnyaya Baz**	**4.71**	**309**	*e*PN	**Pn**	**09 25 34.9**	**+0.6**
CUR	**Chagan-Uzun**	**5.20**	**269**	*e*PN	**Pn**	**09 25 41.1**	**+0.1**
IRK	**Irkutsk**	**5.22**	**67**	*e*PN	**Pb**	**09 25 55.8**	**+1.4**
IRK				*e*		09 27 02.3	
IRK				pmax	pmax		
	comp=Z,136nm,0.3s						
IRK				smax	smax		
	comp=N,2μm,1.2s						
ULGR	**Ulagan, Altay**	**5.41**	**275**	*e*PN	**Pn**	**09 25 44.5**	**+0.7**
AKAR	**Aktash**	**5.64**	**272**	*e*Pg	Pg	09 26 04.9	-6.1
AKAR				*e*Sg	**Sb**	**09 27 10.9**	**+1.6**
AKAR	**Aktash**	**5.64**	**272**	*e*PN	Pg	09 26 04.9	-6.1
AKAR				*e*		09 27 10.9	
LUZB	**Luzhba, Kemero**	**5.65**	**308**	*e*PN	**Pn**	**09 25 47.4**	**+0.4**
CHBI	**Chibit, Altay**	**5.72**	**272**	*e*PN	**Pn**	**09 25 48.4**	**+0.4**
TASR	**Tashtagol**	**5.81**	**297**	*e*Pg	**Pb**	**09 26 04.9**	**+0.5**
TASR				*e*Sg	**Sg**	**09 27 21.6**	**-7.8**
TASR	**Tashtagol**	**5.81**	**297**	*e*PN	**Pb**	**09 26 04.9**	**+0.5**
TASR				*e*		09 27 21.6	
DGZ	**Jazzator, Alta**	**5.85**	**266**	*c i*PN	**Pn**	**09 25 50.4**	**+0.5**
ARTR	**Artybash**	**5.92**	**287**	*e*Pg	**Pb**	**09 26 05.6**	**-0.7**
ARTR	**Artybash**	**5.92**	**287**	*e*PN	**Pb**	**09 26 05.6**	**-0.7**
TRG	**Tyrgan**	**6.59**	**66**	*e*PN	**Pn**	**09 26 00.0**	**0.0**
TRG				*e*		09 26 20.2	
TRG				*e*		09 27 43.2	
TRG				pmax	pmax		
	comp=Z,42nm,0.6s						
TRG				smax	smax		
	comp=N,336nm,1.3s						
ELT	**Eltsovka**	**6.91**	**298**	*e*Pg	**Pb**	**09 26 23.6**	**+0.5**
ELT				*e*Sg	**Sb**	**09 27 51.4**	**+5.7**
ELT	**Eltsovka**	**6.91**	**298**	*e*PN	Pb	09 26 16.9	-6.2
SONM	**Songino Array**	**7.04**	**108**	Pn	**Pn**	**09 26 07.3**	**+1.1**
	comp=N,1.9nm,0.3s,baz=297,slow=15,SNR=23						
SONM				Pg	Pg	09 26 30.1	-7.6
	comp=N,6.5nm,0.3s,baz=298,slow=18,SNR=21						
SONM				Sn	**Sn**	**09 27 29.5**	**+3.2**
	comp=N,3.9nm,0.3s,baz=291,slow=20,SNR=3.2						
SONM				Lg	Lg	09 28 06.3	
	comp=N,15nm,0.3s,baz=293,slow=27,SNR=11						
SONM				LR	LR	09 29 05.1	
	comp=N,230nm,19.1s,baz=328,slow=40						
BRCR	**Berchikul'**	**7.13**	**320**	*e*PN	**Pn**	**09 26 08.1**	**+0.8**
UKR	**Ust'-Kan**	**7.43**	**278**	*e*Pg	Pg	09 26 39.0	-6.1
UKR				*e*Sg	Sg	09 28 10.4	-11
ZAA0	**Zalesovo Array**	**7.95**	**301**	⇓Pn	**Pn**	**09 26 19.2**	**+0.7**
	comp=N,2.0nm,0.7s						
ZAA0				⇓Pg	Pb	09 26 44.6	+3.9
	comp=N,7.0nm,0.7s						
ZAA0				⇑Lg	Lg	09 28 19.6	
	comp=N,82nm,0.8s						
ZALV	**Zalesovo Beam**	**7.95**	**301**	Pn	**Pn**	**09 26 18.3**	**-0.2**
	comp=N,0.4nm,0.3s,baz=112,slow=13,SNR=5.2						
ZALV				Sn	**Sn**	**09 27 51.3**	**+2.9**
	comp=N,0.8nm,0.3s,baz=116,slow=23,SNR=3.1						
ZALV				Lg	Lg	09 28 19.6	
	comp=N,2.6nm,0.3s,baz=114,slow=22,SNR=5.3						
ZALV				LR	LR	09 29 19.5	
	comp=N,141nm,20.1s,baz=68,slow=37						
WMQ	**Urumqi**	**8.91**	**225**	Pn	Pg	09 27 06.8	-6.8
WMQ				Sn	Sn	09 28 34.1	+22
WMQ				Sg	**Sg**	**09 29 04.0**	**-4.9**
WMQ				smax	smax		
	comp=N,82nm,0.5s						
WMQ				smax	smax		
	comp=E,79nm,0.5s						
NVS	**Novosibirsk**	**9.14**	**304**	*e*Pg	Pn	09 27 04.8	+30
NVS				*e*Sg	Sn	09 28 58.0	+40
MK31	**Makanchi Array**	**10.06**	**254**	⇓Pn	Pn	09 26 54.1	+6.6
	comp=E,1.4nm,0.6s						
MK31				⇑Pg		09 27 29.3	
	comp=E,4.4nm,0.6s,baz=82,slow=16,SNR=2.6						
MK31				⇑Lg	Lg	09 29 39.7	
	comp=E,45nm,0.8s,baz=80,slow=36,SNR=4.7						
MK31	**Makanchi Array**	**10.06**	**254**	P	Pn	09 26 54.1	+6.6
MK31				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**10.06**	**254**	Pn	**Pn**	**09 26 47.6**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=71,slow=18,SNR=5.0						
MKAR				Lg	Lg	09 29 35.1	
	comp=Z,0.6nm,0.3s,baz=47,slow=22,SNR=3.7						
MKAR				LR	LR	09 30 51.3	
	comp=Z,103nm,19.6s,baz=78,slow=39						
KURK	**Kurchatov**	**11.33**	**278**	⇓Lg	Lg	09 30 12.5	
	comp=Z,76nm,0.9s						
KURK	**

*ISCJB **10** 09:24:38.0±0.7,39.07N±0.04×29.18E±0.06,h11km±6km, Error ellipse: s-maj=8.6km s-min=4.9km az=38.4*
*DDA **10** 09:24:37.4,39.11N×29.15E,h7km,Ml2.5*
*ISK **10** 09:24:38.4,39.14N×29.20E,h5km,ML2.3/5*

ISC 10 09:24:38.0±1.0,**39.09N**±0.03×**29.18E**±0.04,**h17**km±9km, **n13**,σ0**92**/18,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.15**	**268**	PG	**Pg**	**09 24 42.9**	**+0.6**
SIMA				SG	**Sg**	**09 24 45.4**	**+0.3**
DEMI	**Demirci**	**0.36**	**263**	*i* P	**Pg**	**09 24 44.8**	**-0.8**
DEMI				*i* S	**Sg**	**09 24 49.3**	**-1.5**
TVSB	**Tavsanli**	**0.42**	**31**	PG	**Pg**	**09 24 45.9**	**-0.7**
TVSB				SG	**Sg**	**09 24 51.9**	**-0.6**
DURS	**Dursunbey**	**0.75**	**313**	*i* P	**Pg**	**09 24 51.9**	**-0.8**
KHAL	**Karahalli**	**0.76**	**161**	*i* P	**Pg**	**09 24 52.6**	**-0.2**
KHAL				*i* S	**Sg**	**09 25 02.7**	**-0.2**
MANT	**Manisa**	**0.77**	**219**	*i* P	**Pg**	**09 24 52.2**	**-0.9**
MANT				*i* S	**Sg**	**09 25 02.1**	**-1.3**
CAVI	**Cavuskoy**	**1.22**	**25**	PN	**Pb**	**09 25 01.2**	**+0.5**
BORA	**Eskisehir**	**1.26**	**51**	PN	**Pb**	**09 25 01.9**	**+0.4**
BORA	**Eskisehir**	**1.26**	**51**	*i* P	**Pg**	**09 25 01.3**	**-1.1**
MDNY	**Mudanya-Bursa**	**1.30**	**350**	PN	**Pn**	**09 25 02.8**	**+1.4**
YLV	**Yalova**	**1.48**	**6**	PN	**Pg**	**09 25 05.8**	**-0.8**
ARMT	**Armutlu**	**1.50**	**351**	PN	**Pb**	**09 25 05.7**	**+0.3**
GULT	**Gulveren**	**1.69**	**37**	PN	**Pb**	**09 25 08.7**	**0.0**

MEX 10 09:36:25.0±0.6,**16.27N**×**98.84W**,**h17**km±7km,**MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.69**	**80**	*i* P	Pb	09 36 36.3	-2.3
PNIG				*i* S	Sg	09 36 44.4	-3.5
CAIG	**El Cayaco**	**1.57**	**300**	*e*P	Pn	09 36 48.6	-3.5
CAIG				*i* S	Sn	09 37 07.6	-4.5
VHO	**Vista Hermosa**	**2.17**	**68**	*e*P	Pn	09 36 57.4	-3.1
VHO				*i* S	Sn	09 37 23.5	-3.6

*IDC **10** 09:41:28.0±1.3,58.74N×153.20W,h52km±16km,mb3.7/12, mb1 4.0/16,mb1mx3.7/52,mbtmp4.0/16,ML4.2/4,MS3.0/1, Ms1 3.0/1,ms1mx2.4/36,Error ellipse: s-maj=17.9km s-min=11.2km az=108.0*
*ISCJB **10** 09:41:28.2±0.2,58.59N±0.02×153.10W±0.04,h83km±3km, mb3.8/12, Error ellipse: s-maj=4.0km s-min=2.6km az=137.1*
*NEIC **10** 09:41:30.7±0.0,58.59N×153.15W,h60km,ML3.7(AEIC), After AEIC.*

ISC 10 09:41:28.9±0.8,**58.61N**±0.04×**153.11W**±0.04,**h69**km±7km, **n146**,σ1**20**/159,**mb3.8**/12,**Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FONW	**Fourpeaked Sta**	**0.48**	**298**	P	**Pn**	**09 41 41.6**	**+0.1**
AUI	**Augustine Isla**	**0.74**	**348**	P	**Pn**	**09 41 45.1**	**+0.9**
AUI				S	**Sn**	**09 41 56.1**	**+0.6**
AUE	**Augustine Isla**	**0.76**	**350**	P	**Pn**	**09 41 45.6**	**+1.2**
KAHG	**Katmai Hook Gl**	**0.76**	**262**	P	**Pn**	**09 41 44.6**	**+0.2**
AUW	**Augustine West**	**0.78**	**346**	P	**Pn**	**09 41 45.7**	**+1.0**
AUL	**Augustine Lava**	**0.79**	**348**	P	**Pn**	**09 41 46.0**	**+1.3**
AUL				S	**Sn**	**09 41 57.5**	**+1.0**
KARR	**Katmai Rainbow**	**0.84**	**263**	P	**Pn**	**09 41 45.6**	**+0.3**
KDAK	**Kodiak Island**	**0.88**	**161**	P	**Pn**	**09 41 46.8**	**+1.0**
	458nm,0.3s,baz=54,slow=6.2,SNR=6867						
KDAK				S	**Sn**	**09 41 59.2**	**+1.0**
	225nm,0.3s,baz=307,slow=24,SNR=9.9						
KDAK				LR	LR	09 42 24.1	
	comp=Z,129nm,19.1s,baz=59,slow=56						
KAWH	**Katmai**	**0.91**	**256**	P	**Pn**	**09 41 46.3**	**0.0**
KBM	**Katmai Bkd Mtn**	**1.15**	**254**	P	**Pn**	**09 41 49.4**	**+0.2**
KABU	**Katmai Buttres**	**1.19**	**254**	P	**Pn**	**09 41 50.3**	**+0.4**
KABU				S	**Sn**	**09 42 06.8**	**+1.3**
CAHL	**Cahill**	**1.28**	**245**	P	**Pn**	**09 41 51.3**	**+0.3**
HOM	**Homer**	**1.29**	**35**	P	**Pn**	**09 41 53.0**	**+1.9**
HOM				S	**Sn**	**09 42 10.3**	**+2.6**
ANCK	**Angle Creek**	**1.32**	**253**	P	**Pn**	**09 41 51.9**	**+0.4**
CNPM	**China Poot**	**1.33**	**46**	P	**Pn**	**09 41 53.3**	**+1.7**
ILS	**Iliamna Low So**	**1.35**	**1**	P	**Pn**	**09 41 52.9**	**+0.9**
OHAK	**Old Harbor**	**1.40**	**184**	P	**Pn**	**09 41 53.0**	**+0.6**
OHAK				S	**Sn**	**09 42 09.8**	**-0.3**
IVE	**Iliamna Volcan**	**1.41**	**2**	P	**Pn**	**09 41 53.7**	**+1.0**
KJL	**Kejulik**	**1.41**	**248**	P	**Pn**	**09 41 53.2**	**+0.5**
ILW	**Iliamna West**	**1.45**	**360**	P	**Pn**	**09 41 54.2**	**+0.9**
ILW				S	**Sn**	**09 42 12.1**	**+0.4**
CNTC	**Contact Creek**	**1.50**	**258**	P	**Pn**	**09 41 54.2**	**+0.3**
BRLK	**Bradley Lake**	**1.63**	**44**	P	**Pn**	**09 41 56.7**	**+1.1**
RED	**Redoubt Volcan**	**1.82**	**5**	P	**Pn**	**09 41 59.3**	**+1.1**
RED				S	**Sn**	**09 42 21.5**	**+1.1**
RDWB	**Redoubt West**	**1.89**	**4**	P	**Pn**	**09 42 00.3**	**+1.2**
RDWB				S	**Sn**	**09 42 22.2**	**+0.1**
PLK2	**Peulik 2**	**1.90**	**245**	P	**Pn**	**09 41 59.9**	**+0.8**
PLK3	**Peulik 3**	**1.91**	**242**	P	**Pn**	**09 42 00.0**	**+0.7**
RDN	**Redoubt North**	**1.92**	**5**	P	**Pn**	**09 42 01.1**	**+1.6**
PLK4	**Peulik 4**	**1.98**	**242**	P	**Pn**	**09 42 01.1**	**+0.7**
RDJH	**Redoubt Jeurge**	**1.99**	**4**	P	**Pn**	**09 42 02.2**	**+1.7**
RDT	**Redoubt**	**2.00**	**10**	P	**Pn**	**09 42 02.0**	**+1.5**
PLK1	**Peulik 1**	**2.02**	**248**	P	**Pn**	**09 42 01.6**	**+0.9**
PLK5	**Peulik 5**	**2.08**	**254**	P	**Pn**	**09 42 02.4**	**+0.8**
SII	**Sitkinak Islan**	**2.14**	**196**	P	**Pn**	**09 42 02.7**	**+0.4**
SII				S	**Sn**	**09 42 26.6**	**-1.3**
PLBL	**Peulik Blue Cr**	**2.17**	**247**	P	**Pn**	**09 42 04.1**	**+1.3**
NKA	**Nikishka**	**2.34**	**23**	P	**Pn**	**09 42 08.3**	**+3.3**
SEW	**Seward**	**2.40**	**50**	P	**Pn**	**09 42 06.5**	**+0.6**
CKT	**Bend**	**2.64**	**10**	P	**Pn**	**09 42 10.8**	**+1.6**
SPCR	**Spurr Chakacha**	**2.64**	**10**	P	**Pn**	**09 42 10.8**	**+1.6**
SPCG	**Spurr Capps Gl**	**2.75**	**11**	P	**Pn**	**09 42 12.4**	**+1.7**
SPNN	**North Nagishla**	**2.77**	**4**	P	**Pn**	**09 42 12.9**	**+1.8**
SVW2	**Sparrevohn**	**2.79**	**335**	P	**Pn**	**09 42 11.6**	**+0.5**
FIB	**Fire Island**	**2.96**	**29**	P	**Pn**	**09 42 15.7**	**+2.3**
RC01	**Rabbit Creek A**	**3.01**	**33**	P	**Pn**	**09 42 15.7**	**+1.5**
PTE	**Portage**	**3.06**	**41**	P	**Pn**	**09 42 15.8**	**+0.9**
SUA	**Susitna One**	**3.10**	**22**	P	**Pn**	**09 42 17.1**	**+1.6**
ANNE	**Aniakchak Nort**	**3.15**	**239**	P	**Pn**	**09 42 16.7**	**+0.5**
ANPK	**Aniakchak Peak**	**3.22**	**239**	P	**Pn**	**09 42 18.1**	**+1.0**
PWL	**Port Wells**	**3.31**	**45**	P	**Pn**	**09 42 19.0**	**+0.8**
SKT	**Skwentna**	**3.47**	**12**	P	**Pn**	**09 42 21.6**	**+1.2**
PMR	**Palmer**	**3.59**	**32**	P	**Pn**	**09 42 22.6**	**+0.6**
MID	**Middleton Isla**	**3.60**	**74**	P	**Pn**	**09 42 23.2**	**+1.1**
KNK	**Knik Glacier**	**3.66**	**38**	P	**Pn**	**09 42 23.6**	**+0.6**
GHO	**Glory Hole Cre**	**3.80**	**32**	P	**Pn**	**09 42 25.5**	**+0.6**
GLI	**Glacier Island**	**3.80**	**51**	P	**Pn**	**09 42 25.0**	**0.0**
HIN	**Hinchinbrook I**	**3.81**	**59**	P	**Pn**	**09 42 26.5**	**+1.3**
FID	**Port Fidalgo**	**3.99**	**55**	P	**Pn**	**09 42 27.3**	**+0.2**
SML	**Sawmill**	**4.00**	**35**	P	**Pn**	**09 42 28.5**	**+0.9**
VNSG	**Veniaminof 6**	**4.08**	**235**	P	**Pn**	**09 42 29.5**	**+0.7**
JPK	**Jack Peak**	**4.10**	**51**	P	**Pn**	**09 42 29.5**	**+0.4**
VNSS	**Veniaminof 8**	**4.18**	**238**	P	**Pn**	**09 42 30.0**	**-0.3**
VMT	**TAPS Tl Valdez**	**4.21**	**51**	P	**Pn**	**09 42 31.1**	**+0.6**
EYAK	**Cordova Ski Ar**	**4.22**	**59**	P	**Pn**	**09 42 31.3**	**+0.6**
PPLA	**Purkeypile**	**4.32**	**6**	P	**Pn**	**09 42 33.7**	**+1.5**
SCM	**Sheep Creek Mo**	**4.33**	**39**	P	**Pn**	**09 42 33.5**	**+1.2**
SGAM	**Sherman Glacie**	**4.45**	**61**	P	**Pn**	**09 42 34.6**	**+0.8**
DIV	**Divide**	**4.48**	**53**	P	**Pn**	**09 42 34.9**	**+0.7**
TT01	**Tatalina**	**4.54**	**343**	P	**Pn**	**09 42 35.8**	**+0.8**
RAGM	**Ragged Mountai**	**4.65**	**64**	P	**Pn**	**09 42 37.5**	**+0.9**
HUR	**Hurricane**	**4.70**	**20**	P	**Pn**	**09 42 38.6**	**+1.4**
HMT	**Hamilton**	**4.83**	**65**	P	**Pn**	**09 42 40.3**	**+1.2**
CAST	**Castle Rocks**	**4.85**	**5**	P	**Pn**	**09 42 40.6**	**+1.3**
BMRM	**Bremner River**	**4.91**	**58**	P	**Pn**	**09 42 40.4**	**+0.4**
PS12	**TAPS Pump St12**	**4.92**	**51**	P	**Pn**	**09 42 41.2**	**+0.9**
NICHA	**Nichawak Mount**	**4.95**	**67**	P	**Pn**	**09 42 41.7**	**+1.1**
TRF	**Thorofare Moun**	**5.05**	**15**	P	**Pn**	**09 42 43.7**	**+1.6**
BERG	**Berg Lake**	**5.12**	**66**	P	**Pn**	**09 42 43.8**	**+0.9**
PS11	**TAPS Pump St11**	**5.15**	**44**	P	**Pn**	**09 42 44.7**	**+1.4**
SDPT	**Sand Point**	**5.19**	**234**	P	**Pn**	**09 42 44.5**	**+0.7**
RND	**Reindeer**	**5.24**	**21**	P	**Pn**	**09 42 45.7**	**+1.1**
GRIN	**Grindle Hills**	**5.27**	**67**	P	**Pn**	**09 42 46.3**	**+1.3**
DHY	**Denali Highway**	**5.29**	**30**	P	**Pn**	**09 42 46.5**	**+1.2**
CHUM	**Lake Minchumin**	**5.30**	**4**	P	**Pn**	**09 42 46.7**	**+1.3**
KHIT	**Khitrov Hills**	**5.35**	**66**	P	**Pn**	**09 42 47.0**	**+0.9**
GLB	**Gilahina Butte**	**5.46**	**55**	P	**Pn**	**09 42 48.5**	**+0.9**
HARP	**HAARP**	**5.47**	**43**	P	**Pn**	**09 42 49.1**	**+1.3**
SNH	**Sunshine Point**	**5.48**	**69**	P	**Pn**	**09 42 49.2**	**+1.3**
MCK	**McKinley**	**5.52**	**20**	P	**Pn**	**09 42 49.5**	**+1.1**
VRDI	**Verde Repeater**	**5.52**	**58**	P	**Pn**	**09 42 49.2**	**+0.6**
KULT	**Kultieth River**	**5.55**	**68**	P	**Pn**	**09 42 50.1**	**+1.1**
BPAW	**Bear Paw Mtn.**	**5.60**	**10**	P	**Pn**	**09 42 50.9**	**+1.3**
WAZA	**Wrangell Mount**	**5.64**	**48**	P	**Pn**	**09 42 50.4**	**+0.1**
BARK	**Barkley Ridge**	**5.70**	**67**	P	**Pn**	**09 42 52.2**	**+1.3**
PAX	**Paxson**	**5.75**	**37**	P	**Pn**	**09 42 52.5**	**+0.8**
ISLE	**Juniper Island**	**5.82**	**65**	P	**Pn**	**09 42 53.7**	**+1.0**
KIAG	**Kiagna River**	**5.91**	**62**	P	**Pn**	**09 42 54.6**	**+0.8**
BAGL	**Bagley Icefiel**	**5.91**	**67**	P	**Pn**	**09 42 55.2**	**+1.5**
MESA	**MESA**	**5.92**	**70**	P	**Pn**	**09 42 55.5**	**+1.5**
BALM	**Baldy**	**5.95**	**61**	P	**Pn**	**09 42 55.1**	**+0.7**
YAH	**Yahtse**	**6.05**	**68**	P	**Pn**	**09 42 57.5**	**+1.6**
DT1	**Dutton Round H**	**6.13**	**239**	P	**Pn**	**09 42 57.5**	**+0.8**
DRIA	**Deer Island**	**6.21**	**238**	P	**Pn**	**09 42 59.3**	**+1.4**
BARN	**Barnard Glacie**	**6.27**	**62**	P	**Pn**	**09 42 59.9**	**+1.0**
CHX	**Chaix Hills**	**6.31**	**72**	P	**Pn**	**09 43 00.8**	**+1.6**
WRH	**Wood River Hil**	**6.35**	**20**	P	**Pn**	**09 42 59.8**	**+0.1**
TABL	**Table Mountain**	**6.36**	**68**	P	**Pn**	**09 43 01.7**	**+1.6**
GCSA	**Galena City Sc**	**6.41**	**345**	P	**Pn**	**09 43 00.5**	**0.0**
SAMH	**Samovar Hills**	**6.49**	**71**	P	**Pn**	**09 43 03.7**	**+2.0**
HDA	**Harding Lake**	**6.52**	**24**	P	**Pn**	**09 43 02.7**	**+0.7**
MLY	**Manley**	**6.54**	**9**	P	**Pn**	**09 43 03.5**	**+1.1**
CCB	**Clear Creek Bu**	**6.56**	**20**	P	**Pn**	**09 43 02.8**	**+0.2**
PCA	**Pinnacle**	**6.74**	**72**	P	**Pn**	**09 43 05.8**	**+0.7**
COLA	**College**	**6.76**	**19**	P	**Pn**	**09 43 05.7**	**+0.4**
MDM	**Murphy Dome**	**6.78**	**18**	P	**Pn**	**09 43 05.8**	**+0.3**
ILAR	**Eielson Array**	**6.85**	**23**	P	**Pn**	**09 43 06.2**	**-0.3**
	2.4nm,0.3s,baz=212,slow=14,SNR=101						
ILAR				S	**Sn**	**09 44 18.6**	**-4.4**
	4.6nm,0.3s,baz=211,slow=21,SNR=13						
ILB	**Eielson Array**	**6.85**	**23**	P	**Pn**	**09 43 06.4**	**-0.2**
BCPM	**Bancas Point**	**7.04**	**73**	P	**Pn**	**09 43 09.9**	**+0.8**
BCA3	**Beaver Creek A**	**7.11**	**46**	P	**Pn**	**09 43 11.1**	**+1.0**
PNL	**Peninsula**	**7.14**	**76**	P	**Pn**	**09 43 11.3**	**+0.8**
IM3	**Indian Mountai**	**7.41**	**358**	P	**Pn**	**09 43 15.2**	**+1.1**
DHAK	**Deception Hill**	**7.74**	**80**	P	**Pn**	**09 43 19.7**	**+0.8**
PRP	**Porcupine Dome**	**7.79**	**24**	P	**Pn**	**09 43 19.9**	**+0.4**
ANM	**Nome**	**8.35**	**321**	P	**Pn**	**09 43 27.8**	**+0.9**
EGAK	**Eagle**	**8.39**	**37**	*e*Pn	**Pn**	**09 43 28.7**	**+1.2**
	6.2nm,0.5s						
DAWY	**Dawson**	**8.56**	**45**	*e*Pn	**Pn**	**09 43 31.6**	**+1.7**
	14nm,0.4s						
COLD	**Coldfoot**	**8.75**	**7**	P	**Pn**	**09 43 31.1**	**-1.4**
UNV	**Unalaska Valle**	**8.85**	**243**	P	**Pn**	**09 43 33.3**	**-0.6**
BESE	**Bessie Mountai**	**9.53**	**82**	P	**Pn**	**09 43 45.5**	**+0.2**
SIT	**Sitka**	**9.61**	**92**	P	**Pn**	**09 43 43.7**	**-0.6**
BM3	**Burnt Mountain**	**9.63**	**20**	P	**Pn**	**09 43 43.7**	**-0.9**
JIS	**Juneau Island**	**9.82**	**84**	P	**Pn**	**09 43 48.1**	**+1.0**
DLBC	**Dease Lake**	**12.05**	**81**	P	**Pn**	**09 44 18.1**	**+0.5**
	1.6nm,0.3s,baz=305,slow=7.7,SNR=25						
DLBC				S	**Sn**	**09 46 26.4**	**-3.7**
	0.4nm,0.3s,baz=304,slow=26,SNR=2.4						
DLBC				LR	LR	09 49 02.4	
	comp=Z,74nm,20.1s,baz=330,slow=38						
INK	**Inuvik**	**13.01**	**34**	P	**Pn**	**09 44 30.5**	**+0.1**
	0.3nm,0.3s,baz=231,slow=12,SNR=11						
INK				S	**Sn**	**09 46 49.2**	**-3.9**
	baz=312,slow=4.8,SNR=2.8						
YKA	**Yellowknife Ar**	**19.12**	**62**	P	**Pn**	**09 45 47.8**	**+0.4**
	1.1nm,0.3s,baz=276,slow=9.9,SNR=27						
PETK	**Petropavlovsk-**	**27.62**	**280**	P	**P**	**09 47 09.5**	**-0.1**
	0.7nm,0.4s,baz=80,slow=10.0						
PDAR	**Pinedale Array**	**31.15**	**101**	P	**P**	**09 47 43.0**	**+1.8**
	0.4nm,0.6s,baz=300,slow=4.5,SNR=5.0						
KLR	**Kul'gun**	**42.99**	**292**	P	**P**	**09 49 20.7**	**-0.3**
	1.2nm,0.4s,baz=45,slow=6.3,SNR=6.0						
ARCES	**ARCESS Array B**	**52.15**	**1**	P	**P**	**09 50 30.7**	**-0.9**
	4.7nm,0.9s,baz=18,slow=5.8,SNR=5.5						
SONM	**Songino Array**	**55.57**	**307**	P	**P**	**09 50 58.2**	**+1.2**
	0.9nm,0.5s,baz=34,slow=5.9,SNR=3.9						
ZALV	**Zalesovo Beam**	**58.46**	**324**	P	**P**	**09 51 17.0**	**-0.2**
	0.5nm,0.4s,baz=46,slow=6.2,SNR=2.7						
FINES	**FINESS Array B**	**60.28**	**0**	P	**P**	**09 51 29.4**	**-0.1**
	2.8nm,0.8s,baz=350,slow=9.7,SNR=6.2						
MKAR	**Makanchi Array**	**65.48**	**322**	P	**P**	**09 52 04.0**	**-0.4**
	0.2nm,0.3s,baz=42,slow=8.0,SNR=4.9						
AKASG	**Malin Array Be**	**71.03**	**358**	P	**P**	**09 52 38.3**	**-0.6**
	1.0nm,0.4s,baz=2.2,slow=5.8,SNR=3.9						
GERES	**GERESS Array B**	**72.36**	**9**	P	**P**	**09 52 47.9**	**+0.8**
	0.3nm,0.6s,baz=338,slow=3.2,SNR=5.4						
ESDC	**Sonseca Array**	**78.75**	**24**	P	**P**	**09 53 24.6**	**+0.9**
	0.4nm,0.6s,baz=342,slow=5.2,SNR=3.1						
BRTR	**Keskin Array B**	**81.86**	**355**	P	**P**	**09 53 40.4**	**-0.1**
	0.7nm,0.7s,baz=2.6,slow=4.9,SNR=2.8						
BOSA	**Boshof**	**149.99**	**3**	PKPbc	**PKPbc**	**10 01 11.4**	**+0.3**
	1.2nm,0.6s,baz=44,slow=5.8,SNR=5.2						

*ISCJB **10** 09:48:47.7±0.5,33.32S±0.08×14.74W±0.1,h10km, mb4.6/15,MS4.1/12,Error ellipse: s-maj=15.9km s-min=9.7km az=26.9*
*IDC **10** 09:48:48.0±0.9,33.38S×14.32W,h0km,mb4.2/8, mb1 4.2/8,mb1mx4.0/25,mbtmp4.2/8,MS4.1/12, Ms1 4.1/12,ms1mx3.8/21,Error ellipse: s-maj=27.0km s-min=20.8km az=146.0*
*NEIC **10** 09:48:49.5±0.3,33.31S×14.40W,h10km,mb4.5/6,Error ellipse: s-maj=10.8km s-min=7.1km az=120.0*
*GCMT **10** 09:48:53.5±0.3,33.48S±0.04×14.28W±0.02,h18km±1km, MW5.0/74,Moment Tensor Solution. s28,c30; s74,c97; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.62±.21; Mθθ-0.20±.16; Mφφ2.82±.14; Mrθ2.91±.56; Mθφ0.79±.09; Mφr0.66±.29; Best double couple: Mo4.00100×10^16 NP1:φs228.00000°,δ68.00000°,λ-60.00000°. NP2: φs351.00000°,δ37.00000°,λ-141.00000°. Principal axes: T 3.4390, Plg17.0000°, Azm296.0000°; N 1.1240, Plg28.0000°, Azm36.0000°; P -4.5640, Plg56.0000°, Azm178.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 09:48:49.6±0.7,**33.3S**±0.1×**14.4W**±0.1,**h10**km,**n40**, σ0**62**/23,**mb4.6**/15,**MS4.1**/12,**Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H09N1	**TRISTAN DA CUN**	**4.10**	**156**	T	T	09 53 57.6	
H09W1	**TRISTAN DA CUN**	**4.12**	**157**	T	T	09 54 11.2	
SHEL	**Horse Pasture**	**18.97**	**26**	*e*P	**P**	**09 53 11.3**	**+0.1**
	130nm,1.4s						
H10S2	**ASCENSION HYDR**	**24.25**	**359**	T	T	10 19 47.1	
	baz=179,slow=75,SNR=43						
H10S3	**ASCENSION HYDR**	**24.25**	**359**	T	T	10 19 47.6	
	baz=179,slow=75,SNR=46						
H10S1	**ASCENSION HYDR**	**24.27**	**359**	T	T	10 19 28.5	
	baz=179,slow=75,SNR=58						
ASCN	**Ascension**	**25.27**	**0**	*e*P	**P**	**09 54 15.6**	**-0.4**
	99nm,1.0s						
H10N1	**ASCENSION HYDR**	**25.35**	**360**	T	T	10 21 06.8	
	baz=180,slow=72,SNR=5.9						
H10N3	**ASCENSION HYDR**	**25.36**	**360**	T	T	10 21 10.3	
	baz=180,slow=72,SNR=16						
H10N2	**ASCENSION HYDR**	**25.37**	**360**	T	T	10 21 07.1	
	baz=180,slow=72,SNR=4.2						
HOPE	**Hope Point**	**26.13**	**210**	*e*P	**P**	**09 54 24.1**	**+0.6**
	171nm,1.4s						
SPB	**Sao Paulo**	**30.52**	**280**	*e*P	**P**	**09 55 01.9**	**-1.2**
	52nm,1.5s						
BOSA	**Boshof**	**34.17**	**93**	LR	LR	10 07 10.0	
	comp=Z,612nm,18.4s,baz=224,slow=32						
BDFB	**Brasilia**	**35.10**	**292**	P	**P**	**09 55 43.6**	**+0.3**
	5.1nm,0.7s,baz=133,slow=5.6,SNR=5.8						
BDFB				LR	LR	10 07 57.3	
	comp=Z,521nm,18.6s,baz=43,slow=33						
BDFB	**Brasilia**	**35.10**	**292**	*e*P	**P**	**09 55 43.2**	**-0.1**
	11nm,1.0s						
CPUP	**Villa Florida**	**37.70**	**269**	LR	LR	10 08 49.0	
	comp=Z,462nm,21.9s,baz=122,slow=32						
MATP	**Matopo**	**40.09**	**82**	P	**P**	**09 56 25.0**	**-0.6**
	10nm,0.9s,baz=248,slow=7.6,SNR=17						
LIC	**Lamto**	**40.32**	**14**	*e*P	**P**	**09 56 28.4**	**+1.1**
	55nm,1.6s						
KIC	**Kosan Boka**	**40.51**	**15**	*e*P	**P**	**09 56 27.7**	**-1.2**
	36nm,1.1s						
TIC	**Toumodi**	**40.73**	**14**	*e*P	**P**	**09 56 31.7**	**+1.0**
DBIC	**Dimbokro**	**40.79**	**15**	P	**P**	**09 56 31.1**	**0.0**
	6.4nm,0.8s,baz=182,slow=8.6,SNR=5.4						
DBIC	**Dimbokro**	**40.79**	**15**	*e*P	**P**	**09 56 31.1**	**0.0**
	8.3nm,0.9s						
LSZ	**Lusaka**	**42.42**	**75**	P	**P**	**09 56 44.6**	**-0.1**
	2.5nm,0.7s,baz=243,slow=6.8,SNR=3.0						
LSZ	**Lusaka**	**42.42**	**75**	*e*P	**P**	**09 56 44.4**	**-0.4**
	9.3nm,1.5s						
PLCA	**Paso Flores**	**44.79**	**244**	P	**P**	**09 57 04.0**	**+0.4**
	1.4nm,0.7s,baz=152,slow=7.6,SNR=5.8						
PLCA				LR	LR	10 13 46.4	
	comp=Z,148nm,19.2s,baz=137,slow=33						
PLCA	**Paso Flores**	**44.79**	**244**	*e*P	**P**	**09 57 03.5**	**-0.1**
	11nm,1.4s						
TOA0	**Torodi Ar. Sit**	**48.69**	**21**	*e*P	**P**	**09 57 33.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**48.69**	**21**	P	**P**	**09 57 34.3**	**+0.1**
	8.3nm,1.0s,baz=191,slow=6.5,SNR=27						
TOA1	**Torodi Ar. Sit**	**48.70**	**21**	*e*P	**P**	**09 57 34.3**	**+0.1**
LPAZ	**La Paz**	**51.10**	**276**	LR	LR	10 18 26.9	
	comp=Z,247nm,19.7s,baz=129,slow=35						
MAW	**Mawson**	**54.84**	**153**	LR	LR	10 16 21.0	
	comp=Z,136nm,21.0s,baz=256,slow=30						
QSPA	**South Pole Qui**	**56.92**	**180**	*e*P	**P**	**09 58 34.5**	**-0.1**
	5.7nm,1.0s						
KMBO	**Kilima Mbogo**	**57.98**	**68**	LR	LR	10 22 41.6	
	comp=Z,120nm,18.2s,baz=286,slow=35						
ROSC	**El Rosal**	**68.15**	**292**	LR	LR	10 28 17.2	
	comp=Z,216nm,19.0s,baz=114,slow=35						
SBA	**Scott Base**	**69.08**	**180**	*e*P	**P**	**09 59 55.7**	**+0.6**
	4.4nm,0.9s						
VNDA	**Vanda**	**69.39**	**179**	P	**P**	**09 59 56.7**	**-0.4**
	0.7nm,0.8s,baz=207,slow=4.5,SNR=6.6						
VNDA				LR	LR	10 28 01.8	
	comp=Z,88nm,18.3s,baz=176,slow=34						
ESDC	**Sonseca Array**	**73.27**	**8**	P	**P**	**10 00 21.6**	**+0.7**
	0.2nm,0.3s,baz=200,slow=4.0,SNR=3.7						
NOA	**NORSAR Array B**	**96.33**	**12**	LR	LR	10 44 33.0	
	comp=Z,22nm,19.3s,baz=285,slow=35						
GEYT	**Alibeck**	**97.80**	**50**	LR	LR	10 47 23.6	
	comp=Z,43nm,18.7s,baz=255,slow=36						
SCHQ	**Schefferville**	**98.67**	**332**	LR	LR	10 38 48.8	
	comp=Z,61nm,20.9s,baz=270,slow=30						

*ISCJB **10** 09:54:24.4±0.8,50.21N±0.05×19.22E±0.04,h0km,Error ellipse: s-maj=6.6km s-min=3.6km az=5.1*
*WAR **10** 09:54:26.7,50.18N×19.34E,h1km,Mw2.5*
*PRU **10** 09:54:26.2±0.0,50.18N×19.27E,h0km*

ISC 10 09:54:25.2±1.0,**50.12N**±0.05×**19.26E**±0.03,**h0**km,**n12**, σ0**43**/18,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.36**	**73**	*e*Pg	**Pg**	**09 54 32.3**	**+0.2**
OJC				*e*Sg	**Sg**	**09 54 36.8**	**0.0**
OJC	**Ojcow**	**0.36**	**73**	*e*Pg	**Pg**	**09 54 32.3**	**+0.2**
OJC				*e*Sg	**Sg**	**09 54 36.8**	**0.0**
OKC	**Ostrava-Krasne**	**0.77**	**249**	*e*SG	**Sb**	**09 54 52.4**	**-0.2**
	comp=Z,16nm,0.6s						
LANS	**Liptovska Anna**	**0.98**	**172**	*e*PG	**Pn**	**09 54 46.1**	**-0.1**
LANS				*e*SG	**Sn**	**09 55 00.6**	**-0.2**
MORC	**Moravsky Berou**	**1.16**

DIV	**Divide**	**3.35**	**124**	P	**Pn**	**10 02 15.2 +1.1**
FID	**Port Fidalgo**	**3.36**	**133**	P	**Pn**	**10 02 15.2 +1.0**
DOT	**Dot Lake**	**3.39**	**78**	P	**Pn**	**10 02 15.4 +0.8**
SCRK	**Sand Creek**	**3.47**	**72**	P	**Pn**	**10 02 15.8 0.0**
PRP	**Porcupine Dome**	**3.54**	**45**	P	**Pn**	**10 02 16.5 -0.3**
CNPM	**China Poot**	**3.61**	**178**	P	**Pn**	**10 02 18.6 +1.0**
PS05	**TAPS Pump Stn5**	**3.73**	**5**	P	**Pn**	**10 02 19.6 +0.5**
BMRM	**Bremner River**	**3.90**	**121**	P	**Pn**	**10 02 22.6 +1.1**
GLB	**Gilahina Butte**	**3.96**	**112**	P	**Pn**	**10 02 23.5 +0.9**
VRDI	**Verde Repeater**	**4.22**	**113**	P	**Pn**	**10 02 27.3 +1.1**
BCA3	**Beaver Creek A**	**4.41**	**86**	P	**Pn**	**10 02 30.0 +1.3**
KIAG	**Kiagna River**	**4.83**	**113**	P	**Pn**	**10 02 35.5 +0.9**
EGAK	**Eagle**	**4.85**	**65**	*e*Pn	**Pn**	**10 02 34.8 +0.2**
WAX	**Waxell Ridge**	**4.90**	**119**	P	**Pn**	**10 02 36.4 +1.1**
BARN	**Barnard Glacie**	**5.06**	**110**	P	**Pn**	**10 02 39.2 +1.5**
BM3	**Burnt Mountain**	**5.19**	**31**	P	**Pn**	**10 02 38.7 -0.7**
KDAK	**Kodiak Island**	**5.38**	**186**	Pn	**Pn**	**10 02 42.5 +0.6**
	0.8nm,0.3s,baz=12,slow=13,SNR=11					
KDAK				Sn	**Sn**	**10 03 41.3 -2.8**
	0.6nm,0.3s,baz=242,slow=23,SNR=1.5					
YAH	**Yahtse**	**5.39**	**116**	P	**Pn**	**10 02 43.5 +1.2**
DAWY	**Dawson**	**5.49**	**75**	*e*Pn	**Pn**	**10 02 43.5 +0.1**
	14nm,0.6s					
DAWY				*e*Sg	**Sg**	**10 04 16.4 -0.7**
TOLK	**Toolik Lake Re**	**5.60**	**7**	P	**Pn**	**10 02 46.6 +1.7**
PCA	**Pinnacle**	**6.16**	**114**	P	**Pn**	**10 02 52.7 +0.1**
YKA	**Yellowknife Ar**	**16.73**	**76**	Pn	**Pn**	**10 05 14.1 -1.7**
	baz=286,slow=10,SNR=3.1					
NVAR	**Mina Array Bea**	**31.78**	**125**	P	**P**	**10 07 47.8 +1.6**
	0.2nm,0.5s,baz=321,slow=7.0,SNR=2.9					
TXAR	**Lajitas Array**	**45.52**	**115**	P	**P**	**10 09 42.2 +0.8**
	0.3nm,0.6s,baz=331,slow=7.2,SNR=6.6					
TXAR				PcP	**PcP**	**10 11 19.4 -0.7**
	0.3nm,0.7s,baz=352,slow=2.7,SNR=3.7					

*ISCJB **10** 10:11:54.8±0.8, 7°.88S±0°.08×106°.49E±0°.04, h35km, mb3.8/8, Error ellipse: s-maj=11.3km s-min=5.7km az=15.1*
*DJA **10** 10:11:56.0±1.2, 8°S±9°×10°7E±°, h23km±9km, M4.6/12, mb5.2/1, MLv4.2/12*
*IDC **10** 10:12:04.2±4.1, 6°.04S×108°.28E, h76km±49km, mb3.5/8, mb1 3.6/8, mb1mx3.3/40, mbtmp3.8/8, Error ellipse: s-maj=68.1km s-min=18.6km az=47.0*
ISC 10 10:11:55.5±0.9, 7°.7S±0°.1×106°.49E±0°.06, h35km, n23, σ2s07/26, mb3.9/8, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKJI	**Sukabumi**	**0.71**	**5**	P	**Pn**	**10 12 10.6**	**+1.4**
CISI	**Cisompet, Garu**	**1.32**	**83**	P	**Pn**	**10 12 18.3**	**+0.7**
CISI				S	**Sn**	**10 12 33.2**	**-0.8**
CGJI	**Cibinong**	**1.36**	**324**	P	**Pn**	**10 12 20.0**	**+2.0**
LEM	**Lembang**	**1.43**	**52**	P	**Pn**	**10 12 22.0**	**+2.9**
	baz=132,slow=19						
LEM				S	**Sn**	**10 12 38.6**	**+1.8**
	baz=313,slow=19						
LEM				LR	LR	10 12 57.4	
	comp=Z,302nm,18.3s,baz=254,slow=52						
LEM	**Lembang**	**1.43**	**52**	P	**Pn**	**10 12 21.1**	**+2.0**
SBJI	**Serang**	**1.63**	**347**	P	**Pn**	**10 12 24.8**	**+3.0**
CMJI	**Cimerak**	**1.94**	**92**	P	**Pn**	**10 12 26.5**	**+0.5**
JCJI	**Jatiwangi**	**2.15**	**55**	P	**Pn**	**10 12 29.2**	**+0.3**
KPJI	**Karang Pucung**	**2.45**	**81**	P	**Pn**	**10 12 34.8**	**+1.8**
KPJI				S	**Sn**	**10 13 03.5**	**+1.8**
KASI	**Kota Agung**	**2.95**	**318**	P	**Pn**	**10 12 42.9**	**+3.0**
MDSI	**Maura Dua**	**3.95**	**324**	P	**Pn**	**10 12 57.2**	**+3.5**
UGM	**Wanagama**	**4.00**	**93**	P	**Pn**	**10 12 55.7**	**+1.3**
PCJI	**Pacitan**	**4.66**	**96**	P	**Pn**	**10 13 04.6**	**+1.1**
PPSI	**Pulau Pagai**	**8.12**	**307**	P	**Pn**	**10 13 52.7**	**+1.7**
CMAR	**Chiang Mai Arr**	**27.06**	**344**	P	**P**	**10 17 32.1**	**-2.8**
	1.3nm,0.4s,baz=174,slow=9.0,SNR=2.9						
WRA	**Warramunga Arr**	**29.58**	**117**	P	**P**	**10 17 57.1**	**-0.4**
	0.3nm,0.5s,baz=292,slow=11,SNR=2.8						
STKA	**Stephens Creek**	**40.54**	**131**	P	**P**	**10 19 33.1**	**+1.4**
	1.3nm,0.8s,baz=306,slow=8.7,SNR=3.4						
MKAR	**Makanchi Array**	**58.39**	**341**	P	**P**	**10 21 45.0**	**-2.6**
	0.5nm,0.5s,baz=139,slow=7.8,SNR=6.8						
KURBB	**Kurchatov Arra**	**62.95**	**340**	P	**P**	**10 22 16.8**	**-1.7**
	0.4nm,0.5s,baz=151,slow=5.6,SNR=3.8						
ZALV	**Zalesovo Beam**	**64.10**	**346**	P	**P**	**10 22 22.7**	**-3.3**
	0.4nm,0.4s,baz=150,slow=7.4,SNR=3.2						
BVAR	**Borovoye Array**	**67.83**	**337**	P	**P**	**10 22 48.4**	**-1.6**
	0.8nm,0.4s,baz=120,slow=7.5,SNR=5.9						
AKTO	**Aktyubinsk**	**71.49**	**330**	P	**P**	**10 23 12.4**	**-0.2**
	0.7nm,0.5s,baz=129,slow=6.5,SNR=3.6						
TXAR	**Lajitas Array**	**144.42**	**49**	PKP	**PKPdf**	**10 31 29.2**	**+0.3**
	0.2nm,0.7s,baz=254,slow=3.4,SNR=3.6						

*NIED **10** 10:31:00, 25°.20N×124°.90E, h5km, Mw3.5 Best double couple: M0 2.32000×10^14 NP1:ϕ,δ,λ 116.00000°, 43.00000°, λ=85.00000°. NP2:ϕ,δ,λ 289.00000°, 47.00000°, λ=95.00000°.*
JMA 10 10:31:01.3±0.2, 25°.18N×124°.91E, h2km, M3.7, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKM	**Ikemajima**	**0.40**	**130**	P	Pg	10 31 09.3	+0.3
JIKM				S	Sg	10 31 15.1	+1.0
JIRB	**Irabujima**	**0.42**	**146**	P	Pg	10 31 09.6	+0.2
JIRB				S	Sg	10 31 15.3	+0.4
JMJ	**Miyako jima 2**	**0.50**	**136**	P	Pg	10 31 11.6	+0.6
JMJ				S	Sg	10 31 18.1	+0.6
JTJ	**Tarama**	**0.57**	**199**	P	Pg	10 31 12.6	+0.4
JTJ				S	Sg	10 31 20.8	+1.2
JOGS	**Gusukube**	**0.61**	**133**	P	Pg	10 31 13.4	+0.3
JOGS				S	Sg	10 31 22.2	+1.1
JISG	**Ishigakijimahi**	**0.80**	**223**	P	Pg	10 31 16.9	+0.2
JISG				S	Sb	10 31 29.1	-0.2
JIJ	**Ishigaki jima**	**1.07**	**221**	P	Pg	10 31 21.7	-0.1
JIJ				S	Sg	10 31 36.0	+0.3
JKRS	**Kuro-shima**	**1.25**	**221**	P	Pg	10 31 24.5	-0.7
JKRS				S	Sb	10 31 41.8	-0.2

MEX 10 10:33:43.1±0.4, 14°.01N×92°.34W, h24km±19km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.90**	**4**	*e*P	Pb	10 33 57.6	-2.5
THIG				*e*S	Sb	10 34 08.3	-3.3
PCIG		**1.89**	**333**	*e*P	Pn	10 34 11.6	-2.4
PCIG				*i* S	Sn	10 34 33.6	-3.5
CCIG	**Comitan**	**2.27**	**5**	*e*P	Pn	10 34 17.7	-1.7
CCIG				*i* S	Sn	10 34 43.8	-2.9
TGIG		**2.86**	**345**	*i* P	Pn	10 34 24.5	-2.8
TGIG				*e*S	Sn	10 34 57.9	-3.1

*ISK **10** 10:38:11.4, 39°.04N×35°.15E, h5km, ML2.2/6*
*ISCJB **10** 10:38:12.3±0.6, 39°.03N±0°.04×35°.19E±0°.04, h7km, Error ellipse: s-maj=6.8km s-min=4.3km az=151.2*
*DDA **10** 10:38:12.1, 39°.05N×35°.22E, h7km, Ml2.5*
ISC 10 10:38:11.7±1.1, 39°.03N±0°.06×35°.20E±0°.03, h7km, n13, σ0s48/17, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AVNS	**Nevsehir-Avano**	**0.35**	**230**	*i* P	**Pb**	**10 38 20.4**	**0.0**
BNN	**Bunyan**	**0.54**	**109**	PG	**Pb**	**10 38 23.8**	**+0.3**
YOZ	**Yozgat**	**0.61**	**9**	PG	**Pg**	**10 38 23.9**	**+0.3**
YOZ				SG	**Sb**	**10 38 34.1**	**+0.3**
CDAG	**Cicekdag**	**0.87**	**313**	*i* P	**Pg**	**10 38 27.2**	**-1.2**
CUSAR	**Sarkisla-SIVAS**	**0.90**	**64**	*i* P	**Pg**	**10 38 28.2**	**-0.9**
CUSAR				*i* S	**Sb**	**10 38 41.9**	**-0.1**
YAYX	**Yaylak**	**1.08**	**266**	PG	**Pg**	**10 38 32.9**	**+0.1**
YAYX				SG	**Sn**	**10 38 48.3**	**-0.4**
AKSY	**AKSARAY - Alti**	**1.18**	**252**	*i* P	**Pb**	**10 38 34.6**	**+0.1**
KAMT	**Kaman**	**1.20**	**287**	PN	**Pb**	**10 38 34.9**	**+0.1**
CORM	**Corum**	**1.23**	**339**	PN	**Pn**	**10 38 35.7**	**+0.3**
COAL	**Corum-Alaca**	**1.23**	**353**	*i* P	**Pn**	**10 38 35.6**	**+0.2**
COAL				*i* S	**Sn**	**10 38 52.3**	**-0.1**
SERE	**Sereflikochisa**	**1.27**	**267**	PN	**Pg**	**10 38 36.5**	**+0.4**
SVSK	**Karacayir**	**1.65**	**57**	PN	**Pb**	**10 38 42.9**	**+0.5**
KKUL	**Konya-Kulu**	**1.78**	**275**	*i* P	**Pg**	**10 38 45.8**	**0.0**

*ISCJB **10** 10:47:10.6±0.7, 17°.32N±0°.04×122°.73E±0°.06, h55km±8km, mb3.6/2, Error ellipse: s-maj=9.3km s-min=5.6km az=159.1*
*MAN **10** 10:47:11.9, 17°.26N×122°.66E, h38km, mb4.8, ML3.7, MS3.6*
*IDC **10** 10:48:04.4±5.1, 10°.55N×124°.59E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.4/60, mbtmp3.8/3, Error ellipse: s-maj=293.2km s-min=31.8km az=90.0*
ISC 10 10:47:11.8±1.2, 17°.33N±0°.04×122°.69E±0°.06, h50km±11km, n14, σ1s12/25, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALP	**Palanan**	**0.36**	**224**	*e*P	**Pn**	**10 47 21.6**	**+0.1**
PALP				*e*S	**Sn**	**10 47 38.4**	**0.0**
CVP	**Callao Caves**	**0.91**	**295**	⇓*i*P	**Pn**	**10 47 28.1**	**-0.2**
CVP				*i* S	**Sn**	**10 47 39.3**	**-1.0**
CAUP	**Cauayan**	**0.91**	**245**	*e*P	**Sn**	**10 47 28.8**	**+0.5**
CAUP				*e*S	**Sn**	**10 47 40.7**	**+0.3**
SGCP	**Mt. Cagua**	**1.10**	**326**	*e*P	**Sn**	**10 47 31.6**	**+0.8**
APYP	**Conner**	**1.48**	**291**	*e*P	**Pn**	**10 47 36.8**	**+0.9**
APYP				*e*S	**Sn**	**10 47 55.1**	**+0.9**
BALP	**Baler**	**1.90**	**214**	*e*P	**Pn**	**10 47 42.0**	**+0.2**
BALP				*e*S	**Sn**	**10 48 03.9**	**-0.7**
ABRA	**Dolores**	**1.91**	**280**	*e*P	**Pn**	**10 47 42.2**	**+0.3**
ABRA				*e*S	**Sn**	**10 48 05.6**	**+0.8**
SMPP	**San Manuel, Pa**	**2.25**	**239**	*e*P	**Pn**	**10 47 45.3**	**-1.3**
SMPP				*e*S	**Sn**	**10 48 09.7**	**-3.5**
BOLP	**Bolinao**	**2.82**	**251**	*e*P	**Pn**	**10 47 55.6**	**+1.3**
BOLP				*e*S	**Sn**	**10 48 27.9**	**+0.9**
BBP	**Basco**	**3.17**	**348**	*e*P	**Pn**	**10 47 59.2**	**0.0**
BBP				*e*S	**Sn**	**10 48 34.6**	**-1.3**
GQP	**Guinayangan**	**3.41**	**184**	⇓*e*P	**Pn**	**10 48 04.0**	**+1.5**
GQP				*e*S	**Sn**	**10 48 41.7**	**0.0**
PVCP	**Virac**	**3.97**	**159**	*e*P	**Pn**	**10 48 10.8**	**+0.6**
PVCP				*e*S	**Sn**	**10 48 54.7**	**-0.8**
WRA	**Warramunga Arr**	**38.76**	**162**	P	**P**	**10 54 31.2**	**-0.4**
	2.2nm,0.8s,baz=342,slow=9.4,SNR=9.2						
ASAR	**Alice Springs**	**42.19**	**165**	P	**P**	**10 55 00.0**	**+0.2**
	0.7nm,0.7s,baz=355,slow=7.9,SNR=4.6						

*DDA **10** 10:51:19.5, 38°.80N×35°.78E, h7km, Ml2.5*
*ISK **10** 10:51:19.0, 38°.89N×35°.83E, h6km, ML2.2/6*
ISC 10 10:51:19.3±1.0, 38°.85N±0°.03×35°.79E±0°.03, h5km±8km, n16, σ0s57/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNN	**Bunyan**	**0.05**	**83**	PG	**Pg**	**10 51 20.7**	**-0.1**
BNN				SG	**Sg**	**10 51 21.9**	**+0.1**
CUSAR	**Sarkisla-SIVAS**	**0.67**	**32**	*i* P	**Pg**	**10 51 32.5**	**+0.2**
AVNS	**Nevsehir-Avano**	**0.73**	**267**	*i* P	**Pg**	**10 51 34.0**	**+0.6**
YOZ	**Yozgat**	**0.87**	**336**	PG	**Pg**	**10 51 35.8**	**-0.3**
YOZ				SG	**Sg**	**10 51 47.8**	**+0.4**
ANDN	**Andirin**	**1.34**	**161**	*i* P	**Pn**	**10 51 44.4**	**-0.4**
DARE	**Darende-Malaty**	**1.35**	**101**	PN	**Pb**	**10 51 44.8**	**-0.5**
KOZT	**Kozan**	**1.36**	**179**	PN	**Pb**	**10 51 45.3**	**0.0**
SVSK	**Karacayir**	**1.42**	**41**	PN	**Pn**	**10 51 45.1**	**-0.7**
COAL	**Corum-Alaca**	**1.54**	**337**	*i* P	**Pg**	**10 51 49.3**	**+0.5**
YAYX	**Yaylak**	**1.54**	**274**	PN	**Pb**	**10 51 48.3**	**-0.2**
KMRS	**Kahramanmaras**	**1.60**	**146**	PN	**Pb**	**10 51 49.1**	**-0.3**
CORM	**Corum**	**1.60**	**326**	PN	**Pn**	**10 51 48.4**	**0.0**
KAMT	**Kaman**	**1.70**	**289**	PN	**Pb**	**10 51 50.4**	**-0.7**
GULE	**Gulek**	**1.75**	**207**	*i* P	**Pn**	**10 51 50.8**	**+0.3**
GULE				*i* S	**Sg**	**10 52 15.3**	**-0.4**
AKCD	**Akcadag**	**1.76**	**108**	*i* P	**Pg**	**10 51 52.9**	**-0.3**
AKCD				*i* S	**Sg**	**10 52 17.5**	**+1.6**
KEMA	**Kemaliye**	**2.15**	**78**	*i* P	**Pb**	**10 51 59.3**	**+0.5**

*ISCJB **10** 10:57:21.6±1.2, 13°.87S±0°.08×167°.0E±0°.2, h250km, mb3.6/6, Error ellipse: s-maj=26.7km s-min=11.5km az=175.0*
*IDC **10** 10:57:22.6±6.1, 13°.97S×167°.02E, h250km±63km, mb3.3/7, mb1 3.5/8, mb1mx3.2/42, mbtmp3.9/8, Error ellipse: s-maj=52.2km s-min=27.0km az=167.0*
ISC 10 10:57:22.5±1.2, 13°.95S±0°.10×167°.1E±0°.2, h250km, n10, σ0s91/11, mb3.7/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.10**	**184**	P	**Pn**	**10 59 17.5**	**+0.3**
	0.2nm,0.3s,baz=122,slow=19,SNR=1.9						
DZM				S	**S**	**11 00 49.3**	**-0.2**
	0.1nm,0.3s,baz=38,slow=16,SNR=1.2						
CTA	**Charters Tower**	**20.81**	**250**	P	**P**	**11 01 45.1**	**-0.1**
	2.0nm,0.7s,baz=76,slow=12,SNR=2.3						
STKA	**Stephens Creek**	**29.36**	**228**	P	**P**	**11 03 03.2**	**+0.7**
	2.4nm,0.6s,baz=66,slow=11,SNR=5.6						
WRA	**Warramunga Arr**	**31.83**	**255**	P	**P**	**11 03 23.2**	**-1.2**
	0.6nm,0.6s,baz=84,slow=9.0,SNR=12						
ASAR	**Alice Springs**	**32.77**	**248**	P	**P**	**11 03 31.4**	**-1.2**
	1.2nm,0.5s,baz=74,slow=9.4,SNR=37						
CMAR	**Chiang Mai Arr**	**74.45**	**294**	P	**P**	**11 08 35.6**	**+1.7**
	0.4nm,0.3s,baz=146,slow=7.3,SNR=4.3						
ILAR	**Eielson Array**	**85.85**	**18**	P	**P**	**11 09 33.1**	**-0.5**
	0.4nm,0.9s,baz=191,slow=7.3,SNR=3.3						
MKAR	**Makanchi Array**	**96.50**	**316**	P	**P**	**11 10 23.4**	**-0.2**
	0.3nm,0.6s,baz=116,slow=3.0,SNR=2.7						
ARCES	**ARCESS Array B**	**119.45**	**345**	PKP	**PKPdf**	**11 15 41.4**	**-0.3**
	3.2nm,0.9s,baz=35,slow=3.3,SNR=3.2						
FINES	**FINESS Array B**	**124.93**	**338**	PKP	**PKPdf**	**11 15 52.1**	**-0.3**
	3.2nm,0.9s,baz=72,slow=4.5,SNR=3.3						

*AZER **10** 11:00:24.5±3.5, 38°.30N×42°.10E, h15km, ml3.9/6, Error ellipse: s-maj=45.1km s-min=12.1km az=3.0*
*ISK **10** 11:00:30.9, 38°.67N×43°.16E, h5km, ML3.8/15*
*NEIC **10** 11:00:31.0±0.0, 38°.67N×43°.17E, h5km, mb4.1/6, ML3.8(ISK), ML4.0(DDA), After ISK.*
*DDA **10** 11:00:31.7, 38°.68N×43°.16E, h18km, Ml4.0*
*IDC **10** 11:00:33.2±1.1, 38°.57N×43°.63E, h0km, mb3.7/4, mb1 3.8/9, mb1mx3.5/47, mbtmp3.6/9, ML3.9/4, Error ellipse: s-maj=17.7km s-min=11.0km az=140.0*
ISC 10 11:00:31.9±1.1, 38°.70N±0°.02×43°.14E±0°.02, h2km±8km, n88, σ2s08/106, mb3.9/7, 9C-20D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.22**	**118**	PG	**Pg**	**11 00 37.2**	**+1.1**
VANB				SG	**Sg**	**11 00 41.7**	**+2.8**
TVAN	**Van**	**0.27**	**129**	⇓*i*P	**Pg**	**11 00 37.1**	**+0.1**
TVAN				*i* S	**Sg**	**11 00 41.6**	**+1.1**
ADCV	**BITLIS_Adilcev**	**0.35**	**289**	⇓*i*P	**Pb**	**11 00 39.8**	**-1.1**
ADCV				*i* S	**Sb**	**11 00 46.0**	**-0.9**
ERCV	**ERCIS-VAN**	**0.36**	**25**	PG	**Pb**	**11 00 39.3**	**-1.8**
GEVA	**Gevas**	**0.39**	**190**	⇓*i*P	**Pb**	**11 00 39.0**	**-2.6**
GEVA				*i* S	**Sb**	**11 00 46.4**	**-1.7**
VMUR	**Van-Muradiye**	**0.44**	**49**	⇓*i*P	**Pb**	**11 00 41.2**	**-1.3**
VMUR				*i* S	**Sb**	**11 00 48.2**	**-1.5**
TUTA	**Tutak**	**0.75**	**340**	⇓*i*P	**Pb**	**11 00 46.6**	**-1.2**
TUTA				*i* S	**Sg**	**11 00 56.7**	**+0.7**
CLDR	**Caldiran**	**0.75**	**53**	PG	**Pb**	**11 00 46.3**	**-1.5**
CLDR				SG	**Sn**	**11 00 58.5**	**-3.3**
CLDR	**Caldiran**	**0.75**	**53**	⇓*i*P	**Pb**	**11 00 46.1**	**-1.7**
CLDR				*i* S	**Sn**	**11 00 58.3**	**-3.5**
AGRB	**Hanur-Agry**	**0.89**	**352**	PG	**Pb**	**11 00 49.0**	**-1.1**
DYDN	**Diyadin**	**0.95**	**26**	⇓*i*P	**Pg**	**11 00 49.4**	**-0.6**
DYDN				*i* S	**Sn**	**11 01 08.6**	**+2.0**
EKAR	**Karacoban**	**1.01**	**304**	⇓*i*P	**Pn**	**11 00 51.8**	**-1.5**
EKAR				*i* S	**Sn**	**11 01 12.9**	**+4.8**
SRTM	**Siirt_Merkez**	**1.19**	**234**	⇑*i*P	**Pg**	**11 00 54.5**	**-0.2**
SRTM				*i* S	**Sn**	**11 01 12.8**	**+0.4**
EATA	**Eleskirt**	**1.27**	**337**	⇓*i*P	**Pg**	**11 00 56.0**	**-0.2**
EATA				*i* S	**Sn**	**11 01 15.7**	**+0.9**
SIRT	**Sirnak**	**1.32**	**205**	PN	**Pg**	**11 00 56.8**	**-0.3**
SIRN	**S¨–rnak**	**1.33**	**206**	⇑*i*P	**Pg**	**11 00 56.3**	**-1.0**
SIRN				*i* S	**Sg**	**11 01 17.0**	**+2.4**
IGDI	**IGDIR**	**1.38**	**32**	*i* P	**Pb**	**11 00 56.8**	**-1.6**
IGDI				*i* S	**Sg**	**11 01 17.4**	**+1.2**
VRTB	**Varto-Mus**	**1.40**	**290**	PN	**Pg**	**11 00 58.5**	**-0.1**
VRTB	**Varto-Mus**	**1.40**	**290**	*i* P	**Pb**	**11 00 57.5**	**-1.3**
VRTB				*i* S	**Sg**	**11 01 17.2**	**+4.5**
YOVA	**Hakkari_Y¨…kse**	**1.43**	**140**	*i* P	**Pb**	**11 00 57.5**	**-1.8**
CUKT	**Cukurca**	**1.49**	**166**	PN	**Pg**	**11 00 58.9**	**-1.6**
CUKT	**Cukurca**	**1.49**	**166**	⇓*i*P	**Pg**	**11 00 58.9**	**-1.6**
CUKT				*i* S	**Sg**	**11 01 21.3**	**+1.4**
TASB	**TASBURUN-IGDIR**	**1.54**	**33**	PN	**Pg**	**11 01 01.3**	**-0.1**
BNGL	**BINGOL**	**1.58**	**280**	⇑*i*P	**Pb**	**11 01 00.5**	**-1.5**
BNGL				*i* S	**Sg**	**11 01 23.7**	**+1.1**
SVAN	**Silvan-Diyarba**	**1.62**	**251**	PN	**Pg**	**11 01 02.0**	**-1.0**
SVAN	**Silvan-Diyarba**	**1.62**	**251**	⇓*i*P	**Pg**	**11 01 02.0**	**-1.0**
SVAN				*i* S	**Sg**	**11 01 23.6**	**-0.4**
HOMI	**Horasan**	**1.65**	**325**	⇓*i*P	**Pg**	**11 01 02.8**	**-0.8**
HOMI				*i* S	**Sg**	**11 01 26.9**	**+1.9**
HYR	**Heyderabad**	**1.67**	**52**	⇑P	**Pg**	**11 01 04.8**	**+0.8**
HYR				⇓S	Sg	11 01 35.8	+10
BTMN	**Batman**	**1.68**	**242**	⇓*i*P	**Pg**	**11 01 03.1**	**-0.9**
BTMN				*i* S	**Sg**	**11 01 27.0**	**+1.1**
DIGO	**Kars**	**1.73**	**6**	⇑*i*P	**Pg**	**11 01 04.4**	**-0.5**
NAX	**Nakhchivan**	**1.90**	**75**	⇑P	**Pg**	**11 01 07.9**	**-0.3**
NAX				⇓S	Sg	11 01 43.3	+10
GNI	**Garni**	**1.91**	**40**	PN	**Pb**	**11 01 05.7**	**-1.8**
GNI	**Garni**	**1.91**	**40**	Pg	**Pb**	**11 01 06.5**	**-1.0**
	16nm,0.3s,baz=6.2,slow=3.2,SNR=14						
GNI				Lg	Lg	11 01 32.4	
	11nm,0.3s,baz=202,slow=17,SNR=5.7						
ECAT	**Cat-ERZURUM**	**1.92**	**299**	*i* P	**Pg**	**11 01 08.0**	**-0.6**
KARS	**Kars**	**1.93**	**359**	PN	**Pb**	**11 01 06.4**	**-1.5**
BNGB	**Bing¨ll**	**1.95**	**279**	PN	**Pb**	**11 01 06.9**	**-1.2**
BGOL	**Bingol**	**1.95**	**279**	*i* P	**Pb**	**11 01 05.9**	**-2.4**
BGOL				*i* S	**Sg**	**11 01 35.2**	**+0.6**
AKDA	**Akdag**	**1.97**	**316**	*i* P	**Pb**	**11 01 08.2**	**-0.3**
SBZ	**Shahbuz**	**2.00**	**69**	⇓P	**Pg**	**11 01 08.7**	**-1.6**
SBZ				⇑S	**Sg**	**11 01 43.7**	**+7.5**
EAK	**Akyaka**	**2.02**	**10**	*i* P	**Pg**	**11 01 10.2**	**-0.4**
YEDI	**Yedisu-Bingol**	**2.15**	**291**	PN	**Pb**	**11 01 09.7**	**-2.0**
HANI	**Diyarbakir_Han**	**2.17**	**263**	*i* P	**Pb**	**11 01 10.9**	**-1.0**
ORD	**Ordubad**	**2.24**	**83**	⇓P	**Pb**	**11 01 11.7**	**-1.4**
ORD				⇓S	**Sg**	**11 01 49.5**	**+5.7**
DDEM	**Demirkent**	**2.44**	**334**	*i* P	**Pb**	**11 01 16.7**	**+0.1**
MAZI	**Mazidag**	**2.46**	**241**	PN	**Pn**	**11 01 12.9**	**-0.2**
DIYA	**Diyarbakir**	**2.50**	**253**	*i* P	**Pb**	**11 01 16.3**	**-1.2**
DAGI	**Agillar**	**2.56**	**339**	*i* P	**Pg**	**11 01 19.5**	**-1.5**
DBAD	**Bademkaya**	**2.57**	**335**	*i* P	**Pg**	**11 01 20.0**	**-1.2**
ARTV	**Artvin**	**2.66**	**340**	*i* P	**Pb**	**11 01 19.8**	**-0.5**
AKH	**Akhalkalaki**	**2.72**	**6**	*e*Pn	**Pg**	**11 01 22.4**	**-1.7**
ERZN	**Erzincan**	**2.81**	**290**	PN	**Pb**	**11 01 19.1**	**-3.7**
EPOS	**Posof**	**2.82**	**354**	*i* P	**Pb**	**11 01 20.2**	**-2.8**
TNCL	**Tunceli-Merkez**	**2.84**	**280**	*i* P	**Pg**	**11 01 24.6**	**-1.7**
GDB	**GEDABAY**	**2.85**	**44**	⇑P	**Pb**	**11 01 21.6**	**-2.0**
	SNR=11						
GDB				⇓S	**Sg**	**11 02 04.2**	**+0.6**
BAYT	**Ayd¨–ntepe-Bay**	**2.87**	**307**	PN	**Pb**	**11 01 20.4**	**-3.6**
QZX	**Qazax, Azerbai**	**2.92**	**35**	⇑P	**Pb**	**11 01 22.7**	**-1.9**
QZX				⇓S	**Sg**	**11 02 03.8**	**-1.7**
PTK	**Pertek**	**2.94**	**275**	PN	**Pn**	**11 01 20.8**	**+1.0**
SVRC	**Sivrice-ELAZID**	**3.03**	**265**	PN	**Pn**	**11 01 22.0**	**+1.0**
TBLG	**Delisi**	**3.27**	**21**	*e*Pn	**Pg**	**11 01 31.7**	**-2.8**
URFA	**Urfa**	**3.63**	**251**	PN	**Pn**	**11 01 30.6**	**+1.4**
KBZ	**Khabaz**	**5.03**	**358**	Pg	**Pg**	**11 02 06.5**	**-1.7**
	0.2nm,0.3s,baz=198,slow=17,SNR=3.6						
BR101	**Keskin Array S**	**7.45**	**281**	*e*Pn	Pn	11 02 29.6	+7.9
BRTR	**Keskin Array B**	**7.45**	**281**	Pn	Pn	11 02 29.6	+7.9
	0.1nm,0.3s,baz=101,slow=15,SNR=3.1						
ANTO	**Ankara**	**8.11**	**282**	*e*Pn	**Pn**	**11 02 33.2**	**+2.5**
ASF	**Jabal al

THIG		**0.84**	**30**	*e*P	**Pg**	**11 23 51.9**	**+0.2**
THIG				*i* S	**Sg**	**11 24 02.3**	**-0.4**
PCIG		**1.60**	**342**	*e*P	**Pn**	**11 24 03.3**	**0.0**
PCIG				*e*S	**Sn**	**11 24 24.2**	**+0.4**
CCIG	**Comitan**	**2.16**	**15**	*e*P	**Pn**	**11 24 10.8**	**-0.5**
CCIG				*e*S	**Sn**	**11 24 37.3**	**-0.8**
APG	**El Apazote**	**2.32**	**69**	Pn	**Pn**	**11 24 13.6**	**+0.1**
	baz=222,slow=18						
APG				Sn	**Sn**	**11 24 44.0**	**+1.9**
	72nm,0.3s,baz=104,slow=17,SNR=3.0						
APG				LR	LR	11 25 22.6	
	comp=Z,472nm,19.6s,baz=275,slow=47						
TGIG		**2.62**	**351**	*e*P	**Pn**	**11 24 18.8**	**+1.4**
TGIG				*e*S	**Sn**	**11 24 50.1**	**+1.0**
CMIG	**Matias Romero**	**3.58**	**324**	Pn	**Pn**	**11 24 31.4**	**+0.8**
	6.4nm,0.3s,baz=148,slow=12,SNR=19						
CMIG				Sn	**Sn**	**11 25 13.1**	**+0.3**
	16nm,0.3s,baz=101,slow=13,SNR=6.3						
CMIG				Lg	Lg	11 25 25.2	
	33nm,0.3s,baz=198,slow=20,SNR=6.9						
CMIG				LR	LR	11 25 42.4	
	comp=Z,41nm,21.6s,baz=140,slow=36						
YKA	**Yellowknife Ar**	**50.70**	**347**	P	**P**	**11 32 33.7**	**-0.8**
	1.9nm,0.6s,baz=150,slow=7.2,SNR=3.5						
ILAR	**Eielson Array**	**62.41**	**337**	P	**P**	**11 33 58.0**	**+0.2**
	0.8nm,1.0s,baz=108,slow=5.8,SNR=3.6						
CMAR	**Chiang Mai Arr**	**145.60**	**340**	PKPbc	**PKPdf**	**11 43 13.5**	**-1.0**
	0.7nm,0.6s,baz=344,slow=3.1,SNR=4.5						

*IDC **10** 11:24:47.9±1.9,27°.88N×112°.11W, h0km, mb3.5/2, mb1 3.8/7, mb1mx3.7/43, mbtmp3.5/7, ML3.6/5, MS3.4/12, Ms1 3.4/12, ms1mx3.2/29, Error ellipse: s-maj=29.2km s-min=15.3km az=28.0*

*ISCJB **10** 11:24:48.0±0.7,27°.96N±0°.05×112°.02W±0°.06, h10km, mb3.3/1, MS3.4/7, Error ellipse: s-maj=8.2km s-min=6.6km az=29.4*

*MEX **10** 11:24:48.5±0.5,28°.01N×112°.10W, h5km, MD3.8*

ISC 10 11:24:49.7±0.8, 27°.90N±0°.06×111°.95W±0°.06, h10km, n15, σ1°23/11, MS3.4/7, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.64**	**204**	*e*P	**Pg**	**11 25 00.9**	**-1.1**
SRIG				*e*S	**Sg**	**11 25 10.6**	**+0.2**
GUYB	**Guaymas**	**0.96**	**90**	*e*P	**Pg**	**11 25 06.4**	**-1.7**
GUYB				*e*S	**Sg**	**11 25 20.9**	**+0.3**
LPIG	**La Paz**	**4.07**	**158**	Pn	**Pn**	**11 25 53.0**	**+1.0**
	2.5nm,0.3s,baz=270,slow=1.0,SNR=2.2						
LPIG				LR	LR	11 27 30.6	
	comp=Z,408nm,18.4s,baz=292,slow=40						
TXAR	**Lajitas Array**	**7.42**	**77**	Pn	**Pn**	**11 26 39.7**	**+1.4**
	1.3nm,0.3s,baz=253,slow=14,SNR=32						
TXAR				Lg	Lg	11 28 45.9	
	1.4nm,0.3s,baz=254,slow=26,SNR=4.5						
TXAR				LR	LR	11 29 42.1	
	comp=Z,398nm,21.1s,baz=0.0,slow=39						
ANMO	**Albuquerque**	**8.44**	**32**	Pn	**Pn**	**11 26 53.4**	**+1.1**
	0.2nm,0.3s,baz=210,slow=14,SNR=3.7						
ANMO				Lg	Lg	11 29 14.7	
	0.3nm,0.3s,baz=93,slow=16,SNR=4.4						
ANMO				LR	LR	11 30 22.6	
	comp=Z,600nm,19.0s,baz=63,slow=39						
NVAR	**Mina Array Bea**	**11.76**	**335**	Pn	**Pn**	**11 27 37.0**	**-0.8**
	0.1nm,0.3s,baz=158,slow=15,SNR=2.8						
NVAR				LR	LR	11 31 50.8	
	comp=Z,144nm,20.1s,baz=146,slow=36						
PDAR	**Pinedale Array**	**14.96**	**7**	Pn	**P**	**11 28 27.5**	**+0.4**
	0.0nm,0.3s,baz=182,slow=9.0,SNR=7.4						
YBH	**Yreka Blue Hor**	**16.36**	**330**	LR			
	comp=Z,133nm,18.5s,baz=178,slow=34				LR	11 34 07.1	
NEW	**Newport**	**20.72**	**350**	P	**P**	**11 29 31.7**	**+1.4**
	2.4nm,0.9s,baz=155,slow=13,SNR=4.0						
NEW				LR	LR	11 37 27.3	
	comp=Z,73nm,19.2s,baz=184,slow=37						
TKL	**Tuckaleechee C**	**25.11**	**65**	LR	LR	11 40 39.4	
	comp=Z,162nm,19.0s,baz=314,slow=38						
BBB	**Bella Bella**	**27.10**	**338**	LR	LR	11 40 45.2	
	comp=Z,94nm,18.6s,baz=141,slow=35						
ILAR	**Eielson Array**	**42.98**	**339**	P	**P**	**11 32 48.1**	**-0.7**
	0.5nm,0.9s,baz=149,slow=6.0,SNR=6.0						
ILAR				LR	LR	11 49 45.9	
	comp=Z,25nm,18.2s,baz=154,slow=35						
SJG	**San Juan**	**43.06**	**93**	LR	LR	11 52 31.5	
	comp=Z,39nm,21.2s,baz=251,slow=38						
SFJD	**Kangerlussuaq**	**53.49**	**25**	LR	LR	11 57 45.9	
	comp=Z,155nm,18.2s,baz=248,slow=37						
RPN	**Rapa Nui**	**54.77**	**177**	LR	LR	11 52 22.8	
	comp=Z,40nm,18.7s,baz=80,slow=30						

MEX 10 11:39:20.8±0.6, 13°.73N×92°.63W, h27km±74km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.22**	**17**	*i* P	Pn	11 39 39.3	-2.9
THIG				*i* S	Sn	11 39 54.6	-3.2
PCIG		**2.05**	**344**	*e*P	Pn	11 39 51.8	-1.7
PCIG				*i* S	Sn	11 40 14.9	-3.2
TGIG		**3.07**	**351**	*i* P	Pn	11 40 05.6	-2.0
TGIG				*i* S	Sn	11 40 40.9	-2.6

*IDC **10** 11:45:15.9±2.3, 13°.94N×92°.27W, h0km, mb3.9/7, mb1 4.1/10, mb1mx3.9/46, mbtmp3.9/10, ML3.7/3, MS3.1/2, Ms1 3.1/2, ms1mx2.6/36, Error ellipse: s-maj=45.4km s-min=24.1km az=175.0*

*ISCJB **10** 11:45:19.3±1.3, 14°.16N±0°.05×92°.25W±0°.04, h22km±9km, mb4.1/14, MS3.4/1, Error ellipse: s-maj=10.5km s-min=3.9km az=35.4*

*UCR **10** 11:45:21.7±1.2, 14°.19N×92°.17W, h34km±999km, ML4.1, mb4.2(NEIC)*

*MEX **10** 11:45:22.8±0.5, 14°.19N×92°.39W, h17km±69km, MD3.9*

*NEIC **10** 11:45:22.9±0.0, 14°.17N×92°.37W, h16km, mb4.2/12, MD3.9(MEX), After MEX.*

ISC 10 11:45:18.6±2.5, 14°.08N±0°.10×92°.33W±0°.07, h10km±12km, n59, σ1°52/44, mb4.2/14, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.82**	**4**	*e*Pg	**Pg**	**11 45 34.9**	**+0.4**
THIG				*e*Sn	**Sg**	**11 45 43.7**	**-1.6**
THIG		**0.82**	**4**	*e*P	**Pg**	**11 45 34.9**	**+0.4**
THIG				*e*S	**Sg**	**11 45 43.2**	**-2.1**
IXG	**Ixpaco**	**1.82**	**87**	*e*P	Pn	11 45 48.2	-2.0
PCIG		**1.83**	**332**	*e*Pn	Pn	11 45 48.3	-1.9
PCIG				*e*Sn	Sn	11 46 08.5	-4.9
PCIG		**1.83**	**332**	*e*P	Pn	11 45 48.3	-1.9
PCIG				*i* S	Sn	11 46 08.5	-4.9
APG	**El Apazote**	**2.03**	**63**	Pn	Pn	11 45 53.2	+0.1
	30nm,0.3s,baz=221,slow=8.2,SNR=175						
APG				Sn	**Sn**	**11 46 18.4**	**-0.3**
	80nm,0.3s,baz=191,slow=16,SNR=10						
CCIG	**Comitan**	**2.19**	**5**	*e*Pn	Pn	11 45 57.0	+1.6
CCIG				*e*Sn	**Sn**	**11 46 23.3**	**+0.5**
CCIG	**Comitan**	**2.19**	**5**	*e*P	Pn	11 45 53.9	-1.5
CCIG				*e*S	Sn	11 46 18.7	-4.1
RTR	**El Retiro**	**2.61**	**94**	*e*P	Pn	11 46 00.6	-0.6
CEVE	**Cerro Verde**	**2.64**	**95**	*e*P	Pn	11 46 00.8	-0.9
CEVE				*e*S	**Sn**	**11 46 31.1**	**-2.8**
CEVE				IAML		11 46 42.7	
	comp=Z,2μm,0.3s						
SBLS	**San Blas**	**2.64**	**95**	*e*P	Pn	11 46 00.4	-1.2
SBLS				*e*S	**Sn**	**11 46 31.8**	**-2.1**
SNJE	**San Jose**	**2.65**	**94**	*e*P	Pn	11 46 00.8	-1.0
TGIG		**2.79**	**344**	*e*Pn	Pn	11 46 03.0	-0.4
TGIG				*e*Sn	**Sn**	**11 46 34.7**	**-2.5**
TGIG		**2.79**	**344**	*e*P	Pn	11 46 03.0	-0.4
TGIG				*i* S	Sn	11 46 33.5	-3.7
MTO3	**Montecristo**	**2.90**	**83**	*e*P	Pn	11 46 04.3	-0.8
BOQS	**Boqueron**	**2.98**	**96**	*e*P	Pn	11 46 05.5	-0.8
SNET	**Serv Nac Est T**	**3.04**	**97**	*e*Pn	Pn	11 46 05.2	-1.7
LFRS	**El Faro**	**3.21**	**98**	*e*P	Pn	11 46 08.2	-1.1
LFRS				*e*S	Sn	11 46 44.1	-3.6
CMIG	**Matias Romero**	**3.87**	**321**	Pn	Pn	11 46 17.6	-0.8
	comp=Z,2.6nm,0.3s,baz=162,slow=12,SNR=21						
CMIG				Sn	**Sn**	**11 47 02.1**	**-1.9**
	comp=Z,15nm,0.3s,baz=91,slow=12,SNR=3.5						
CMIG				LR	LR	11 47 57.2	
	comp=Z,87nm,18.4s,baz=98,slow=40						
TGUH	**Tegucigalpa,Un**	**4.91**	**90**	*e*Pn	Pn	11 46 31.3	-1.2
ESTN	**Estel**	**5.88**	**99**	*e*Pn	Pn	11 46 44.3	-1.7
BOAB	**BOACO BROADBAN**	**6.69**	**103**	*e*Pn	Pn	11 46 57.8	+0.8
LVIG	**Laguna Verde**	**6.84**	**326**	*e*Pn	Pn	11 46 57.9	-1.2
LVIG				*e*Sn	**Sn**	**11 48 14.3**	**-2.8**
TEIG	**Tepich**	**7.23**	**32**	*e*Pn	Pn	11 47 05.3	+0.8
MYIG	**MÖrida**	**7.27**	**20**	*e*Pn	Pn	11 47 04.8	-0.2
656A	**Willston**	**17.71**	**29**	*e*Pn	**P**	**11 49 28.2**	**+1.8**
	comp=Z,29nm,0.9s						
LTX	**Lajitas**	**18.45**	**327**	*e*P	**Pn**	**11 49 36.0**	**+1.2**
TXAR	**Lajitas Array**	**18.45**	**327**	P	**Pn**	**11 49 36.0**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=147,slow=12,SNR=11						
TX31	**Lajitas Ar. Si**	**18.45**	**327**	*e*P	**Pn**	**11 49 35.6**	**+0.8**
352A	**Blakely**	**18.60**	**20**	*e*P	**Pn**	**11 49 38.8**	**+2.4**
	comp=Z,22nm,1.3s						
OXF	**Oxford**	**20.51**	**7**	*e*P	Pn	11 49 58.7	-0.5
	comp=Z,27nm,1.5s						
MNTX	**Cornudas Mount**	**21.22**	**328**	*e*P	**P**	**11 50 05.1**	**+0.3**
	comp=Z,2.2nm,0.8s						
NHSC	**New Hope**	**21.93**	**28**	*e*P	**P**	**11 50 13.9**	**+1.5**
	comp=Z,54nm,1.4s						
AMTX	**Amarillo**	**22.36**	**339**	*e*P	**P**	**11 50 17.1**	**-0.1**
	comp=Z,6.3nm,0.8s						
TKL	**Tuckaleechee C**	**22.82**	**18**	P	**P**	**11 50 20.4**	**-1.5**
	comp=Z,1.8nm,0.6s,baz=179,slow=18,SNR=5.3						
TKL	**Tuckaleechee C**	**22.82**	**18**	*e*P	**P**	**11 50 20.6**	**-1.2**
	comp=Z,43nm,1.9s						
BNM	**Barren Site**	**23.81**	**330**	*e*P	**P**	**11 50 34.2**	**+2.1**
LPM	**Los Pinos Moun**	**23.94**	**330**	*e*P	**P**	**11 50 35.2**	**+1.8**
LENM	**Lemitar**	**23.99**	**329**	*e*P	**P**	**11 50 35.5**	**+1.7**
LAZ	**Ladron**	**24.26**	**329**	*e*P	**P**	**11 50 37.2**	**+0.8**
ANMO	**Albuquerque**	**24.37**	**331**	P	**P**	**11 50 37.5**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=141,slow=12,SNR=6.0						
ANMO	**Albuquerque**	**24.37**	**331**	*e*P	**P**	**11 50 36.9**	**-0.4**
	comp=Z,6.6nm,1.6s						
SDCO	**Great Sand Dun**	**26.32**	**336**	*e*P	**P**	**11 50 55.9**	**+0.9**
	comp=Z,5.5nm,1.0s						
MVCO	**Mesa Verde**	**27.17**	**331**	*e*P	**P**	**11 51 03.9**	**+1.2**
	comp=Z,3.2nm,0.8s						
P17A	**Butcher Ranch,**	**30.04**	**331**	*e*P	**P**	**11 51 28.7**	**+0.6**
	comp=Z,2.2nm,0.8s						
NV01	**Mina Array Sit**	**33.41**	**321**	*e*P	**P**	**11 51 59.1**	**+1.2**
NVAR	**Mina Array Bea**	**33.41**	**321**	P	**P**	**11 51 59.1**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=137,slow=9.4,SNR=7.0						
NVAR				LR	LR	12 06 52.4	
	comp=Z,68nm,18.9s,baz=68,slow=39						
ULM	**Lac du Bonnet**	**36.18**	**356**	P	**P**	**11 52 23.1**	**+1.7**
	comp=Z,8.7nm,1.0s,baz=143,slow=10,SNR=3.3						
J08A	**Circle Bar Ran**	**36.80**	**328**	*e*P	**P**	**11 52 27.7**	**+0.8**
	comp=Z,3.9nm,0.6s						
DLBC	**Dease Lake**	**52.45**	**336**	P	**P**	**11 54 32.2**	**+0.7**
	comp=Z,1.8nm,0.8s,baz=34,slow=16,SNR=3.9						
DLBC	**Dease Lake**	**52.45**	**336**	*e*P	**P**	**11 54 32.2**	**+0.7**
	comp=Z,10nm,1.3s						
INK	**Inuvik**	**60.27**	**344**	P	**P**	**11 55 25.0**	**-2.0**
	comp=Z,0.8nm,0.5s,baz=91,slow=5.9,SNR=6.4						
INK	**Inuvik**	**60.27**	**344**	*e*P	**P**	**11 55 25.0**	**-2.0**
	comp=Z,24nm,2.0s						
ILAR	**Eielson Array**	**62.64**	**337**	P	**P**	**11 55 42.2**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=133,slow=5.3,SNR=6.3						
ILB	**Eielson Array**	**62.64**	**337**	*e*P	**P**	**11 55 42.2**	**-0.9**
WR1	**Warramunga Arr**	**135.10**	**256**	*e*PKPdf	**PKPdf**	**12 04 38.1**	**-1.2**
WRA	**Warramunga Arr**	**135.10**	**256**	PKP	**PKPdf**	**12 04 38.1**	**-1.2**
	comp=Z,0.2nm,0.9s,baz=88,slow=3.3,SNR=2.7						
CM31	**Chiang Mai Arr**	**145.81**	**341**	*e*PKPdf	**PKPdf**	**12 04 57.4**	**-1.3**
CMAR	**Chiang Mai Arr**	**145.81**	**341**	PKPbc	**PKPdf**	**12 04 57.4**	**-1.3**
	comp=Z,2.0nm,0.8s,baz=339,slow=3.7,SNR=13						

MEX 10 11:53:19.7±0.4, 14°.66N×92°.93W, h9km±23km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.69**	**68**	*e*P	Pg	11 53 31.5	-1.5
THIG				*i* S	Sg	11 53 41.5	-0.5
PCIG		**1.08**	**345**	*e*P	Pg	11 53 37.3	-3.2
PCIG				*e*S	Sg	11 53 50.7	-3.9
CCIG	**Comitan**	**1.79**	**25**	*e*P	Pn	11 53 46.8	-4.2
CCIG				*i* S	Sn	11 54 09.4	-4.5
TGIG		**2.12**	**355**	*e*P	Pn	11 53 52.5	-3.0
TGIG				*i* S	Sn	11 54 17.2	-4.7

*IDC **10** 11:54:40.9±1.4, 55°.78N×153°.43W, h0km, mb3.5/4, mb1 3.8/7, mb1mx3.6/43, mbtmp3.6/7, ML3.6/3, MS2.8/1, Ms1 2.8/1, ms1mx2.3/29, Error ellipse: s-maj=29.5km s-min=22.1km az=45.0*

*ISCJB **10** 11:54:43.2±0.7, 56°.05N±0°.05×152°.51W±0°.06, h33km, Error ellipse: s-maj=7.4km s-min=4.6km az=171.2*

*NEIC **10** 11:54:45.7±0.0, 56°.13N×152°.72W, h14km, ML3.5(AEIC), After AEIC.*

ISC 10 11:54:46.7±0.9, 56°.17N±0°.08×152°.68W±0°.05, h35km, n52, σ1°08/53, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SII	**Sitkinak Islan**	**0.92**	**296**	P	**Pn**	**11 55 01.8**	**-1.4**
SII				S	**Sn**	**11 55 15.2**	**0.0**
OHAK	**Old Harbor**	**1.11**	**343**	P	**Pn**	**11 55 04.9**	**-0.8**
KDAK	**Kodiak Island**	**1.62**	**2**	Pn	**Pn**	**11 55 12.6**	**-0.2**
	28nm,0.3s,baz=14,slow=16,SNR=575						
KDAK				Sn	**Sn**	**11 55 32.3**	**0.0**
	24nm,0.3s,baz=83,slow=23,SNR=17						
KDAK				LR	LR	11 56 13.7	
	comp=Z,214nm,20.2s,baz=119,slow=45						
CAHL	**Cahill**	**2.37**	**324**	P	**Pn**	**11 55 22.8**	**-0.3**
KJL	**Kejulik**	**2.46**	**321**	P	**Pn**	**11 55 24.3**	**-0.1**
KAWH	**Katmai**	**2.50**	**333**	P	**Pn**	**11 55 25.0**	**0.0**
FONW	**Fourpeaked Sta**	**2.75**	**346**	P	**Pn**	**11 55 29.2**	**+0.8**
ANNE	**Aniakchak Nort**	**3.07**	**286**	P	**Pn**	**11 55 32.6**	**-0.2**
ANPK	**Aniakchak Peak**	**3.09**	**285**	P	**Pn**	**11 55 32.9**	**-0.2**
AZAC	**Aniakchak**	**3.16**	**286**	P	**Pn**	**11 55 33.9**	**-0.1**
CNPM	**China Poot**	**3.45**	**12**	P	**Pn**	**11 55 37.9**	**-0.1**
CNPM				S	**Sn**	**11 56 18.9**	**+1.2**
HOM	**Homer**	**3.54**	**9**	P	**Pn**	**11 55 39.5**	**+0.3**
BRLK	**Bradley Lake**	**3.73**	**14**	P	**Pn**	**11 55 40.9**	**-0.8**
BRLK				S	**Sn**	**11 56 25.0**	**+0.6**
RED	**Redoubt Volcan**	**4.26**	**359**	P	**Pn**	**11 55 49.6**	**+0.4**
RED				S	**Sn**	**11 56 41.1**	**+3.5**
SEW	**Seward**	**4.30**	**22**	P	**Pn**	**11 55 49.9**	**+0.3**
RDWB	**Redoubt West**	**4.33**	**359**	P	**Pn**	**11 55 50.6**	**+0.4**
SDPT	**Sand Point**	**4.48**	**263**	P	**Pn**	**11 55 51.2**	**-0.8**
SPWE	**Spurr West**	**5.12**	**1**	P	**Pn**	**11 56 01.3**	**+0.4**
SPCG	**Spurr Capps Gl**	**5.15**	**4**	P	**Pn**	**11 56 01.6**	**+0.3**
SVW2	**Sparrevohn**	**5.17**	**344**	P	**Pn**	**11 56 02.0**	**+0.5**
EYAK	**Cordova Ski Ar**	**5.71**	**37**	P	**Pn**	**11 56 08.2**	**-0.7**
SKT	**Skwentna**	**5.86**	**5**	P	**Pn**	**11 56 10.6**	**-0.4**
GHO	**Glory Hole Cre**	**5.95**	**18**	P	**Pn**	**11 56 12.6**	**+0.3**
SCM	**Sheep Creek Mo**	**6.32**	**24**	P	**Pn**	**11 56 17.1**	**-0.2**
BMRM	**Bremner River**	**6.40**	**38**	P	**Pn**	**11 56 17.7**	**-0.7**
KHIT	**Khitrov Hills**	**6.56**	**45**	P	**Pn**	**11 56 19.7**	**-0.9**
KULT	**Kultieth River**	**6.66**	**48**	P	**Pn**	**11 56 21.6**	**-0.4**
WAX	**Waxell Ridge**	**6.72**	**46**	P	**Pn**	**11 56 22.3**	**-0.6**
BARK	**Barkley Ridge**	**6.84**	**47**	P	**Pn**	**11 56 24.3**	**-0.3**
TT01	**Tatalina**	**6.97**	**347**	P	**Pn**	**11 56 26.4**	**+0.2**
BAGL	**Bagley Icefiel**	**7.06**	**48**	P	**Pn**	**11 56 27.2**	**-0.2**
YAH	**Yahtse**	**7.13**	**49**	P	**Pn**	**11 56 28.3**	**-0.4**
KIAG	**Kiagna River**	**7.20**	**44**	P	**Pn**	**11 56 29.5**	**0.0**
BALM	**Baldy**	**7.27**	**44**	P	**Pn**	**11 56 29.8**	**-0.6**
TRF	**Thorofare Moun**	**7.40**	**8**	P	**Pn**	**11 56 31.9**	**-0.4**
BARN	**Barnard Glacie**	**7.55**	**45**	P	**Pn**	**11 56 33.7**	**-0.7**
PCA	**Pinnacle**	**7.66**	**54**	P	**Pn**	**11 56 35.3**	**-0.5**
BCPM	**Bancas Point**	**7.89**	**56**	P	**Pn**	**11 56 38.4**	**-0.4**
PNL	**Peninsula**	**7.89**	**58**	P	**Pn**	**11 56 38.6**	**-0.3**
ILAR	**Eielson Array**	**9.09**	**16**	Pn	**Pn**	**11 56 55.4**	**+0.1**
	0.3nm,0.3s,baz=203,slow=14,SNR=15						
ILAR				Sn	**Sn**	**11 58 33.1**	**-3.1**
	0.2nm,0.3s,baz=198,slow=25,SNR=4.4						
DLBC	**Dease Lake**	**12.44**	**70**	Pn	**Pn**	**11 57 40.9**	**-0.3**
	0.1nm,0.3s,baz=243,slow=4.5,SNR=3.0						
DLBC				Sn	**Sn**	**11 59 54.5**	**-3.9**
	0.1nm,0.3s,baz=174,slow=18,SNR=2.1						
INK	**Inuvik**	**14.99**	**28**	Pn	**P**	**11 58 20.7**	**0.0**
	0.2nm,0.3s,baz=232,slow=11,SNR=8.5						
PDAR	**Pinedale Array**	**30.52**	**98**	P	**P**	**12 00 58.1**	**+1.5**
	0.2nm,0.5s,baz=289,slow=6.5,SNR=2.7						
TXAR	**Lajitas Array**	**43.59**	**107**	P	**P**	**12 02 49.7**	**+2.3**
	0.1nm,0.6s,baz=309,slow=5.7,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**47.21**	**236**	T	T	12 54 01.6	
	baz=29,slow=76,SNR=7.8						
H11N3	**WAKE ISLAND Hy**	**47.22**	**236**	T	T	12 54 04.3	
	baz=29,slow=76,SNR=9.8						
H11N1	**WAKE ISLAND Hy**	**47.23**	**236**	T	T	12 54 09.4	
	baz=29,slow=76,SNR=10						
H11S1	**WAKE ISLAND Hy**	**48.36**	**236**	T	T	12 55 32.7	
	baz=29,slow=76,SNR=25						
H11S2	**WAKE ISLAND Hy**	**48.38**	**236**	T	T	12 55 28.5	
	baz=29,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy**	**48.38**	**236**	T	T	12 55 27.2	
	baz=29,slow=76,SNR=19						
SONM	**Songino Array**	**57.24**	**308**	P	**P**	**12 04 28.9**	**-1.4**
	0.6nm,0.8s,baz=31,slow=6.7,SNR=3.3						
ZALV	**Zalesovo Beam**	**60.59**	**325**	P	**P**	**12 04 53.4**	**+0.1**
	1.1nm,0.6s,baz=68,slow=9.4,SNR=4.2						

IDC 10 12:02:44.2±48.0, 8°.29S×67°.84E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/34, mbtmp3.5/3, MS3.4/1, Ms1 3.3/1, ms1mx2.7/32, Error ellipse: s-maj=1424.0km s-min=50.6km az=69.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08N3	**Diego Garcia H**	**3.67**	**58**	Pn	Pn	12 03 27.1	-15
H08N3				T	T	12 06 36.9	
	baz=243,slow=75						
H08N2	**Diego Garcia H**	**3.69**	**58**	Pn	Pn	12 03 27.6	-15
H08N2				T	T	12 06 40.0	
	baz=243,slow=75						
H08N1	**Diego Garcia H**	**3.69**	**59**	Pn	Pn	12 03 28.3	-14
H08N1				T	T	12 06 36.6	
	baz=243,slow=75						
H08S1	**Diego Garcia H**	**4.63**	**82**	Pn	Pn	12 03 47.7	-7.6
	baz=296,slow=16,SNR=12						
H08S3	**Diego Garcia H**	**4.64**	**82**	Pn	Pn	12 03 48.1	-7.3
	baz=296,slow=16,SNR=11						
H08S2	**Diego Garcia H**	**4.65**	**82**	Pn	Pn	12 03 47.6	-7.9
	baz=296,slow=16,SNR=15						
BOSA	**Boshof**	**44.85**	**238**	LR	LR	12 28 55.6	
	comp=Z,38nm,18.1s,baz=211,slow=35						
H01W3	**Cape Leeuwin H**	**49.93**	**129**	T	T	13 05 28.7	
	baz=292,slow=75						
H01W2	**Cape Leeuwin H**	**49.93**	**129**	T	T	13 05 27.1	
	baz=292,slow=75,SNR=30						
H01W1	**Cape Leeuwin H**	**49.95**	**129**	T	T	13 05 28.1	
	baz=292,slow=75,SNR=27						
ASAR	**Alice Springs**	**64.83**	**112**	P	P	12 13 25.5	-0.1
	0.1nm,0.3s,baz=268,slow=5.5,SNR=3.6						
WRA	**Warramunga Arr**	**65.17**	**108**	P	P	12 13 27.9	+0.1
	0.5nm,0.8s,baz=278,slow=6.4,SNR=5.9						
SONM	**Songino Array**	**65.44**	**27**	P	P	12 13 29.1	0.0
	0.5nm,0.8s,baz=228,slow=5.6,SNR=2.4						

*ISCJB **10** 12:02:58.4±0.7, 39°.92N±0°.04×40°.81E±0°.04, h7km±7km, Error ellipse: s-maj=6.2km s-min=5.4km az=175.9*

*DDA **10** 12:02:58.4, 40°.28N×40°.81E, h4km, Ml2.8*

*ISK **10** 12:02:58.4, 39°.92N×40°.76E, h9km, ML2.1/3*

ISC 10 12:02:58.4±1.2, 39°.97N±0°.06×40°.77E±0°.06, h7km±14km, n11, σ0°74/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKDA	**Akdag**	**0.48**	**73**	*i* P	**Pg**	**12 03 07.8**	**+0.2**
AKDA				*i* S	**Sg**	**12 03 14.3**	**+0.4**
BAYB	**BAYBURT**	**0.49**	**307**	*i* P	**Pg**	**12 03 09.0**	**-0.5**
BAYB				*i* S	**Sg**	**12 03 17.9**	**+1.0**
YEDI	**Yedisu-Bingol**	**0.56**	**198**	PG	**Pg**	**12 03 08.4**	**-0.8**
YEDI				SG	**Sg**	**12 03 16.3**	**-0.2**
BAYT	**Ayd¨–ntepe-Bay**	**0.64**	**312**	PG	**Pb**	**12 03 11.7**	**-0.4**
BAYT				SG	**Sb**	**12 03 21.2**	**-0.1**
HOMI	**Horasan**	**0.88**	**85**	*i* P	**Pg**	**12 03 15.3**	**0.0**
KELT	**Kelkit**	**1.18**	**279**	*i* P	**Pb**	**12 03 20.7**	**-0.5**
KELT				*i* S	**Sn**	**12 03 37.3**	**-0.6**
PTK	**Pertek**	**1.51**	**225**	PN	**Pn**	**12 03 25.8**	**-0.3**
PTK				SN	**Sn**	**12 03 45.6**	**-0.6**
BCA	**Borcka**	**1.61**	**23**	PN	**Pb**

JMM Marumori 1.11 337 ⇑P **Pb 12 36 06.9 -2.6**
JMM eS **Sb 12 36 20.8 -3.2**
MJAR Matsushiro Arr 2.53 264 Pn **Pn 12 36 29.3 -0.1**
8.5nm,0.3s,baz=86,slow=14,SNR=63
MJAR Sn **Sn 12 37 01.7 +1.4**
36nm,0.3s,baz=35,slow=32,SNR=7.1
MJAR LR LR 12 37 31.4
comp=Z,301nm,18.8s,baz=80,slow=42
MAJO Matsushiro 2.54 264 eP **Pn 12 36 30.1 +0.7**
MAJO eSn **Sn 12 37 01.6 +1.4**
MAJO Matsushiro 2.54 264 *d* iP **Pn 12 36 29.6 +0.2**
MAT Matsushiro 2.54 264 P **Pn 12 36 29.6 +0.2**
MAT S **Sn 12 37 01.3 +1.0**
MJB9 Matsu-Tunnel 2.54 264 *e*Pn **Pn 12 36 30.1 +0.7**
MJB9 eSn **Sn 12 37 01.5 +1.2**
INU Inuyama 3.81 248 *e*Pn **Pn 12 36 48.6 +1.7**
JHJ2 Mitsune 3.93 199 *e*Pn **Pn 12 36 46.9 -1.7**
JHJ Hachijo jima 2 3.93 199 Pn **Pn 12 36 50.6 +2.0**
14nm,0.3s,baz=60,slow=20,SNR=5.2
JHJ Sn **Sn 12 37 37.2 +2.5**
28nm,0.3s,baz=75,slow=20,SNR=3.0
ERM Erimo 5.35 15 *e*Pn **Pn 12 37 11.0 +2.9**
ERM Erimo 5.35 15 *e*P **Pn 12 37 11.0 +2.9**
ASAJ Asahikawa 7.33 7 Pn **Pn 12 37 33.0 -2.2**
1.2nm,0.3s,baz=193,slow=16,SNR=13
ASAJ Sn **Sn 12 38 53.5 -4.8**
baz=300,slow=20,SNR=2.3
ASAJ LR LR 12 40 27.6
comp=Z,63nm,18.1s,baz=189,slow=39
SHO Shikotan 8.17 29 *e*P **Pn 12 37 48.8 +2.0**
JNU Nakatsue 9.35 250 Pn **Pn 12 38 04.0 +0.9**
0.1nm,0.3s,baz=123,slow=18,SNR=1.9
JNU LR LR 12 42 04.9
comp=Z,111nm,20.6s,baz=116,slow=40
JNU Nakatsue 9.35 250 *e*Pn **Pn 12 38 01.6 -1.4**
MSHR Mys Shultsa 9.71 309⇑*e*P **Pn 12 38 08.7 +0.8**
CBIJ Chichi jima 9.75 176 *e*Pn **Pn 12 38 06.3 -2.1**
CBIJ Sn **Sn 12 39 53.6 -4.3**
JCJ Chichijima 9.75 176 Pn **Pn 12 38 07.0 -1.5**
5.5nm,0.3s,baz=73,slow=19,SNR=5.5
JCJ Sn **Sn 12 39 53.6 -4.3**
1.7nm,0.3s,baz=294,slow=20,SNR=2.7
YSS Yuzh-Sakhalins 10.16 6 *e*P **Pn 12 38 16.5 +2.5**
YSS *e*S **Sn 12 40 07.5 -0.3**
YSS MLR MLR
comp=Z,300nm,15.0s
USA0B Ussuriysk Arra 10.22 319 *e*Pn **Pn 12 38 17.5 +2.6**
USRK Ussuriysk Ar. 10.22 319 Pn **Pn 12 38 18.5 +3.5**
baz=148,slow=44
USRK LR LR 12 41 50.6
comp=Z,218nm,19.4s,baz=144,slow=36
KSRS Korea Array 10.73 277 Pn **Pn 12 38 24.9 +3.0**
comp=Z,0.1nm,0.3s,baz=93,slow=14,SNR=3.4
KSRS LR LR 12 42 31.1
comp=Z,137nm,18.2s,baz=80,slow=38
KSAR Wonju Array Be 10.76 277 Pn **Pn 12 38 24.9 +2.6**
KSAR Wonju Array Be 10.76 277 P **Pn 12 38 24.9 +2.6**
CN2 Changchun 13.96 305 *e*P **Pn 12 39 08.3 +2.3**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
KLR Kul'dur 14.21 334 LR LR 12 44 15.9
comp=Z,112nm,20.6s,baz=148,slow=36
KLR Kul'dur 14.21 334⇑*e*P **Pn 12 39 13.1 +3.7**
NJ2 Nanjing 19.14 262 *e*P **P 12 40 10.4 -1.0**
NJ2 pmax pmax
comp=Z,25nm,0.5s
ZEA Zeya 19.52 334 *e*P **P 12 40 15.9 +0.4**
ZEA pmax pmax
comp=Z,13nm,0.8s
ZEA MLR MLR
comp=Z,300nm,12.0s
PEA0B Petropavlovsk- 19.88 30 *e*P **P 12 40 19.6 +0.2**
comp=Z,21nm,1.1s
PETK Petropavlovsk- 19.88 30 LR LR 12 48 04.1
comp=Z,25nm,19.5s,baz=194,slow=37
PETK Petropavlovsk- 19.88 30 *e*P **P 12 40 19.8 +0.4**
PETK Petropavlovsk- 19.88 30 *e*P **P 12 40 19.8 +0.4**
HHC Hu-ho-hao-te 23.48 289 *e*P **P 12 40 58.7 +0.7**
HHC pmax pmax
comp=Z,9.0nm,1.1s
HHC pmax pmax
comp=Z,64nm,5.4s
YAK Yakutsk 26.24 348 P **P 12 41 22.9 -0.1**
comp=Z,5.5nm,0.4s,baz=228,slow=3.0,SNR=3.7
YAK LR LR 12 51 50.7
comp=Z,60nm,19.0s,baz=262,slow=37
YAK Yakutsk 26.24 348 *e*P **P 12 41 22.8 -0.3**
comp=Z,14nm,0.6s
YAK Yakutsk 26.24 348 *e*P **P 12 41 24.6 +1.6**
YAK pmax pmax
comp=Z,17nm,1.3s
YAK pmax pmax
comp=N,5.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.1s
SEY Seymchan 26.99 11⇑*e*P **P 12 41 34.1 +4.3**
BOD Bodaibo 27.66 328 *e*P **P 12 41 31.5 -4.4**
BOD pmax pmax
comp=Z,80nm,2.2s
SONA1 Songino Array 27.84 304 *e*P **P 12 41 37.8 0.0**
SONM Songino Array 27.84 304 P **P 12 41 36.0 -1.8**
comp=Z,0.7nm,0.6s,baz=82,slow=11,SNR=2.8
SONM LR LR 12 52 59.7
comp=Z,101nm,18.6s,baz=13,slow=37
SONM Songino Array 27.84 304 P **P 12 41 36.0 -1.8**
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM MLR MLR
comp=Z,101nm,18.6s
H11N2 WAKE ISLAND Hy 28.10 120 T T 13 11 05.1
baz=313,slow=75,SNR=862
H11N1 WAKE ISLAND Hy 28.11 120 T T 13 11 05.9
baz=313,slow=75,SNR=1140
H11N3 WAKE ISLAND Hy 28.12 120 T T 13 11 09.7
baz=313,slow=75,SNR=1063
H11S1 WAKE ISLAND Hy 28.81 122 T T 13 12 35.2
baz=314,slow=76,SNR=1039
H11S3 WAKE ISLAND Hy 28.81 123 T T 13 12 34.5
baz=314,slow=76,SNR=701
H11S2 WAKE ISLAND Hy 28.82 123 T T 13 12 35.1
baz=314,slow=76,SNR=594
LZH Lanzhou 30.04 280 *e*P **P 12 41 56.2 -1.3**
LZH pP sP 12 42 07.2 +4.8
LZH sP pP 12 42 10.9 +10
LZH pmax pmax
comp=Z,25nm,1.1s
LZH LR LR
comp=Z,340nm,12.7s
LZH LR LR
comp=Z,380nm,12.7s
LZH LR LR
comp=Z,390nm,16.3s
TLY Talaya 30.41 311 *e*P **P 12 42 03.2 +2.8**
TLY pmax pmax
comp=Z,7.0nm,1.0s
TLY MLR MLR
comp=Z,74nm,14.0s
CD2 Chengdu 31.61 270 *e*P **P 12 42 10.0 -1.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.0s
GTA Gaotai 32.56 287 *e*P **P 12 42 24.0 +4.4**
GTA pP sP 12 42 35.0 +10
GTA sP pP 12 42 39.0 +16
GTA S **S 12 47 35.0 0.0**
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,140nm,5.3s
GTA LR LR
comp=Z,430nm,20.3s
GTA LR LR
comp=Z,240nm,19.9s
BILL Bilibino 34.23 16 *e*P **P 12 42 35.9 +2.3**
BILL *e* 12 43 52.0
BILL *e* 12 45 12.3
BILL pmax pmax
comp=Z,1.0nm,1.0s
KMI Kunming 34.87 262 P **P 12 42 39.8 -0.2**
KMI pmax pmax
comp=Z,7.0nm,0.5s
TIXI Tiksi 35.47 353⇓*i* P **P 12 42 47.6 +3.3**
TIXI pmax pmax
comp=Z,3.0nm,1.1s
NONG Nongkai 38.39 251 P **P 12 43 14.1 +4.3**
comp=Z,0.2nm,1.1s
JAY Jayapura 39.16 181 LR LR 13 00 07.2
comp=Z,47nm,18.8s,baz=244,slow=37
DGZ Jazzator, Alta 40.45 306*c i*P **P 12 43 26.7 -0.2**
DGZ pmax pmax
comp=Z,4.0nm,0.8s
CHAI Chaiyaphum 40.59 250 P **P 12 43 29.6 +1.5**
comp=Z,3.9nm,0.9s,comp=Z,106nm
WMQ Urumqi 40.87 297 *e*P **P 12 43 31.2 +0.9**
WMQ pmax pmax
comp=Z,37nm,1.3s
WMQ LR LR
comp=Z,100nm,18.3s
WMQ LR LR
comp=Z,54nm,18.3s
WMQ LR LR
comp=Z,130nm,24.5s
PBKT Sadao Pong 40.94 251 *e*P **P 12 43 29.0 -2.0**
comp=Z,5.8nm,0.9s
PBKT Sadao Pong 40.94 251 P **P 12 43 35.2 +4.2**
CMAR Chiang Mai Arr 41.39 255 P **P 12 43 35.5 +0.8**
comp=Z,0.5nm,0.4s,baz=62,slow=6.5,SNR=3.7
CMAR LR LR 13 00 51.6
comp=Z,22nm,19.5s,baz=36,slow=36
CM01 Chiang Mai Arr 41.40 255 *e*P **P 12 43 33.7 -1.1**
ZAA0 Zalesovo Array 42.00 313 *e*P **P 12 43 38.0 -1.3**
ZALV Zalesovo Beam 42.00 313 P **P 12 43 38.7 -0.6**
comp=Z,5.2nm,0.8s,baz=93,slow=6.4,SNR=15
ZALV LR LR 13 00 32.2
comp=Z,55nm,21.1s,baz=66,slow=35
ZALV Zalesovo Beam 42.00 313 *e*P **P 12 43 38.2 -1.1**
NRIK Noril'sk 43.41 335 LR LR 13 02 11.1
comp=Z,51nm,19.2s,baz=34,slow=37
MK01 Makanchi Array 44.17 302 *e*P **P 12 43 55.9 -1.1**
MK31 Makanchi Array 44.17 302 *e*P **P 12 43 56.0 -1.0**
MK31 Makanchi Array 44.17 302 *e*P **P 12 43 56.0 -1.0**
MKAR Makanchi Array 44.17 302 P **P 12 43 56.5 -0.5**
comp=Z,3.6nm,0.8s,baz=92,slow=8.6,SNR=14
MKAR LR LR 13 02 00.3
comp=Z,76nm,20.2s,baz=68,slow=36
MKAR Makanchi Array 44.17 302 *e*P **P 12 43 57.0 0.0**
comp=Z,26nm,0.8s
PHET Kaeng Krachan 44.24 248 P P 12 44 03.4 +5.6
comp=Z,4.9nm,0.8s
SVW2 Sparrevohn 45.71 37 *e*P **P 12 44 10.1 +1.1**
comp=Z,13nm,1.4s
KURK Kurchatov 46.00 308 *e*P **P 12 44 11.0 -0.5**
comp=Z,14nm,0.9s
KURK Kurchatov 46.00 308*d i*P **P 12 44 11.1 -0.4**
KURK pmax pmax
comp=Z,20nm,1.3s
IM3 Indian Mountai 46.84 31 *e*P **P 12 44 18.9 +1.0**
PPLA Purkeypile 47.36 35 *e*P **P 12 44 23.0 +0.9**
comp=Z,13nm,1.3s
CAST Castle Rocks 47.42 34 *e*P **P 12 44 23.2 +0.8**
comp=Z,1.7nm,0.9s
KRAB Krabi 47.65 244 P P 12 44 30.2 +5.4
BPAW Bear Paw Mtn. 47.92 33 *e*P **P 12 44 26.6 +0.3**
comp=Z,12nm,1.4s
MLY Manley 48.04 32 *e*P **P 12 44 27.6 +0.4**
comp=Z,4.0nm,1.1s
TRF Thorofare Moun 48.22 34 *e*P **P 12 44 29.0 +0.2**
comp=Z,8.4nm,1.2s
RND Reindeer 48.87 34 *e*P **P 12 44 33.4 -0.3**
comp=Z,8.1nm,1.3s
RND Reindeer 48.87 34 *e*P **P 12 44 33.4 -0.3**
RND pmax pmax
comp=Z,8.0nm,1.3s
GHO Glory Hole Cre 48.90 36 *e*P **P 12 44 35.2 +1.2**
comp=Z,28nm,1.5s
MDM Murphy Dome 49.11 32 *e*P **P 12 44 35.5 +0.1**
comp=Z,7.2nm,1.0s
DHY Denali Highway 49.55 35 *e*P **P 12 44 39.8 +0.8**
comp=Z,7.5nm,1.4s
SCM Sheep Creek Mo 49.66 36 *e*P **P 12 44 41.0 +1.3**
comp=Z,24nm,1.4s
HDA Harding Lake 49.67 33 *e*P **P 12 44 39.4 -0.4**
comp=Z,4.2nm,0.9s
ILAR Eielson Array 49.69 32 P **P 12 44 39.3 -0.5**
comp=Z,2.1nm,0.8s,baz=269,slow=6.3,SNR=22
ILB Eielson Array 49.69 32 *e*P **P 12 44 39.6 -0.2**
IL1 Eielson Array 49.69 32 *e*P **P 12 44 39.9 +0.1**
KSH Kashi 50.43 294 *e*P **P 12 44 48.7 +2.7**
AAK Ala-Archa 50.53 298 LR LR 13 07 18.9
comp=Z,131nm,19.2s,baz=68,slow=38
AAK Ala-Archa 50.53 298⇑*e*P **P 12 44 46.1 -0.6**
AAK pmax pmax
comp=Z,3.0nm,1.6s
BVAR Borovoye Array 50.66 312 LR LR 13 05 18.2
comp=Z,57nm,18.2s,baz=190,slow=35
BRVK Borovoye 50.71 312⇓*i* P **P 12 44 47.7 -0.1**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
KK31 Karatay Array 53.17 300 *e*P **P 12 45 04.6 -1.7**
KK31 Karatay Array 53.17 300 *e*P **P 12 45 04.6 -1.7**
KKAR Karatay Array 53.17 300 *e*P **P 12 45 04.8 -1.5**
KKAR Karatay Array 53.17 300 *e*P **P 12 45 04.8 -1.5**
INK Inuvik 54.58 27 P **P 12 45 15.9 -0.2**
comp=Z,2.0nm,1.0s,baz=303,slow=13,SNR=2.5
ARU Arti 56.46 319 *e*P **P 12 45 28.8 -1.1**
comp=Z,13nm,1.1s
ARU Arti 56.46 319*c i*P **P 12 45 29.3 -0.6**
ARU 12 46 24.9
ARU 12 47 30.5
ARU S **S 12 53 18.1 -2.5**
ARU SS **SS 12 57 05.3 -1.9**
ARU pmax pmax
comp=Z,6.0nm,1.0s
WRAB Tennant Creek 56.85 188 *e*P **P 12 45 31.9 -1.1**
comp=Z,8.6nm,1.1s
WRAB Tennant Creek 56.85 188⇓*e*P **P 12 45 32.5 -0.5**
WRAB pmax pmax
comp=Z,18nm,2.5s
WB2 Warramunga Arr 56.86 188 *e*P **P 12 45 31.7 -1.4**
comp=Z,8.9nm,1.1s
WRA Warramunga Arr 56.86 188 P **P 12 45 32.5 -0.6**
comp=Z,4.0nm,1.0s,baz=5.7,slow=7.3,SNR=26
WC3 Warramunga Arr 56.88 188 *e*P **P 12 45 31.8 -1.4**
comp=Z,3.6nm,0.8s
ABKAR Akbulak array 58.02 310 *e*P **P 12 45 39.6 -1.3**
AKTO Aktyubinsk 58.76 312 LR LR 13 11 20.1
comp=Z,46nm,20.0s,baz=45,slow=36
AS01 Alice Springs 60.59 188 *e*P **P 12 45 57.0 -2.0**
ASAR Alice Springs 60.59 188 P **P 12 45 59.0 0.0**
comp=Z,2.1nm,0.9s,baz=9.7,slow=5.2,SNR=18
OBN Obninsk 68.21 323 *e*P **P 12 46 49.0 +0.5**
OBN *e* 12 47 13.4
OBN *e* 12 49 14.2
OBN pmax pmax
comp=Z,6.0nm,1.0s
FINES FINESS Array B 68.95 332 P **P 12 46 52.6 -0.5**
comp=Z,3.6nm,0.8s,baz=79,slow=7.2,SNR=3.2
FINES LR LR 13 17 33.5
comp=Z,69nm,18.7s,baz=240,slow=36
NCK Nalchik 70.68 310⇑*e*P **P 12 47 04.7 +0.6**
NCK pmax pmax
comp=Z,5.0nm,0.2s
KIV Kislovodsk 70.98 311 *e*P **P 12 47 06.2 +0.2**
KIV pmax pmax
comp=Z,10.0nm,1.0s
NOA NORSAR Array B 74.34 337 P **P 12 47 27.0 +1.4**
comp=Z,1.2nm,0.8s,baz=39,slow=5.9,SNR=2.9
NOA LR LR 13 22 41.9
comp=Z,34nm,20.5s,baz=300,slow=38
NOA NORSAR Array B 74.34 337 P **P 12 47 27.0 +1.4**
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA MLR MLR
comp=Z,34nm,20.5s
AKASG Malin Array Be 74.41 322 P **P 12 47 24.8 -1.3**
comp=Z,0.7nm,0.3s,baz=44,slow=5.6,SNR=6.2
AKASG LR LR 13 23 13.2
comp=Z,46nm,19.4s,baz=320,slow=38
KIEV Kiev 74.42 322⇑*i* P **P 12 47 25.0 -1.2**
KIEV pmax pmax
comp=Z,7.0nm,1.7s
NVAR Mina Array Bea 75.15 53 P **P 12 47 32.3 +1.4**
comp=Z,1.1nm,0.9s,baz=289,slow=6.5,SNR=6.4
PDAR Pinedale Array 77.84 45 P **P 12 47 46.7 +0.5**
comp=Z,0.4nm,0.9s,baz=275,slow=2.3,SNR=2.7
BRTR Keskin Array B 78.93 312 P **P 12 47 50.1 -2.0**
comp=Z,0.8nm,0.8s,baz=71,slow=11,SNR=2.6
CLL Collm 81.23 330 *e*P **P 12 48 04.0 -0.1**
CLL *e* 12 48 08.0
CLL Collm 81.23 330 *e*P **P 12 48 04.0 -0.1**
GERES GERESS Array B 82.84 328 P **P 12 48 11.5 -1.3**
comp=Z,0.4nm,0.5s,baz=52,slow=6.6,SNR=3.0
ANMO Albuquerque 84.75 50⇑*i*P **P 12 48 24.0 +1.1**
ANMO pmax pmax
comp=Z,11nm,2.5s
TXAR Lajitas Array 90.28 52 P **P 12 48 49.9 +0.4**
comp=Z,0.5nm,0.9s,baz=305,slow=4.3,SNR=4.6
LPAZ La Paz 146.84 60 PKPbc **PKPbc 12 55 31.7 -0.1**
comp=Z,2.2nm,1.0s,baz=336,slow=6.2,SNR=5.7

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*ISCJB **10** 12:40:11.8±0.8,23°.92N±0°.02×122°.62E±0°.02,h12km±5km,*
Error ellipse: s-maj=3.2km s-min=2.5km az=135.7
*TAP **10** 12:40:11.6,23°.95N×122°.64E,h17km±1km,ML2.4,D*
*JMA **10** 12:40:12.1±0.2,23°.98N×122°.58E,h15km,M1.6*
ISC 10 12:40:11.8±1.0,23°.97N±0°.02×122°.61E±0°.02,h15km±8km,
n65,σ0s59/114,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.57**	**32**	P		P	**Pb**	**12 40 23.5**	**-0.1**
JYNG				S		S	**Sg**	**12 40 30.8**	**0.0**
YOJ	**Yonaguni jima**	**0.62**	**37**	*e*P		**Pg**		**12 40 23.9**	**0.0**
	baz=32								
YOJ				*e*S		**Sb**		**12 40 32.8**	**0.0**
	baz=32								
YOJ	**Yonaguni jima**	**0.62**	**37**	P		**Pg**		**12 40 23.9**	**0.0**
YOJ				S		**Sb**		**12 40 32.6**	**-0.2**
EOS1	**EOS1**	**0.73**	**323**	*e*P		**Pn**		**12 40 27.1**	**-0.4**
	baz=321								
EOS1				*e*S		**Sn**		**12 40 38.2**	**-0.1**
	baz=321								
NANB	**Nanao**	**0.91**	**301**	*e*P		**Pg**		**12 40 29.4**	**0.0**
	baz=300								
NANB				*e*S		**Sn**		**12 40 43.2**	**+0.3**
	baz=300								
ENA	**Nanau**	**0.92**	**300**	P		**Pg**		**12 40 29.8**	**+0.3**
	baz=300								
ENA				*e*S		**Sn**		**12 40 42.9**	**-0.2**
	baz=300								
TWD	**Chiawan**	**0.93**	**277**	P		**Pb**		**12 40 29.6**	**-0.1**
	baz=277								
TWD				*e*S		**Sn**		**12 40 43.8**	**+0.4**
	baz=277								
TWC	**Suao**	**0.94**	**313**	*e*P		**Pb**		**12 40 29.7**	**-0.2**
	baz=312								
TWC				*e*S		**Sn**		**12 40 44.1**	**+0.4**
	baz=312								
NACB	**Ninganchiao**	**0.95**	**283**	*e*P		**Pb**		**12 40 29.7**	**-0.2**
	baz=282								
NACB				*e*S		**Sg**		**12 40 42.8**	**+0.2**
	baz=282								
EGS		**1.07**	**325**	P		**Pn**		**12 40 32.4**	**+0.1**
	baz=324								
EGS				*e*S		**Sn**		**12 40 47.8**	**+0.9**
	baz=324								
ESL	**Shilin**	**1.09**	**262**	*e*P		**Pb**		**12 40 32.3**	**0.0**
	baz=262								
ESL				S		**Sb**		**12 40 45.9**	**-0.4**
	baz=262								
IRIF	**Iriomote-Funau**	**1.09**	**70**	P		**Pg**		**12 40 32.7**	**-0.1**
IRIF				*e*S		**Sn**		**12 40 47.4**	**+0.1**
ILA	**Ilan**	**1.12**	**316**	*e*P		**Pg**		**12 40 33.3**	**-0.1**
	baz=315								
EGFH	**Guangfu**	**1.12**	**255**	*e*S		**Sg**		**12 40 49.1**	**+1.0**
	baz=255								
NTC	**Toucheng**	**1.13**	**321**	*e*P		**Pg**		**12 40 34.2**	**+0.5**
	baz=320								
TWE	**Neicheng**	**1.14**	**311**	P		**Pb**		**12 40 33.3**	**0.0**
	baz=311								
TWE				*e*S		**Sg**		**12 40 49.8**	**+1.1**
	baz=311								
ENTT	**Nioudou**	**1.16**	**305**	P		**Pb**		**12 40 33.8**	**+0.2**
	baz=305								
ENTT				*e*S		**Sg**		**12 40 49.7**	**+0.2**
	baz=305								
TWB1	**Santiao Chiao**	**1.18**	**332**	P		**Pn**		**12 40 33.8**	**0.0**
	baz=330								
TWB1				S		**Sn**		**12 40 49.6**	**0.0**
	baz=330								
HGSD	**Ruisui**	**1.18**	**247**	*e*P		**Pg**		**12 40 34.8**	**+0.2**
	baz=247								
HGSD				*e*S		**Sg**		**12 40 50.2**	**+0.2**
	baz=247								
NNSB	**Datong**	**1.21**	**293**	*e*P		**Pn**		**12 40 34.0**	**-0.3**
	baz=292								
NNSB				*e*S		**Sn**		**12 40 50.5**	**0.0**
	baz=292								
NNS	**Nan Shan**	**1.22**	**293**	P		**Pn**		**12 40 34.3**	**-0.2**
	baz=292								
NNS				S		**Sg**		**12 40 51.4**	**0.0**
	baz=292								
TIPB	**Shuangxi**	**1.23**	**325**	P		**Pg**		**12 40 35.2**	**-0.3**
	baz=323								
TIPB				S		**Sn**		**12 40 51.0**	**+0.2**
	baz=323								
WHF	**Hehuan Shan**	**1.24**	**279**	*i* P		**Pn**		**12 40 34.3**	**-0.7**
	baz=278								
WHF				*i* S		**Sb**		**12 40 51.2**	**0.0**
	baz=278								
EHY	**Hungye**	**1.26**	**249**	*e*P		**Pn**		**12 40 34.5**	**-0.4**
	baz=249								
EHY				S		**Sb**		**12 40 50.9**	**-0.5**
	baz=249								
NWLT	**Wulai**	**1.29**	**309**	*e*P		**Pg**		**12 40 36.6**	**-0.1**
	baz=308								
NWLT				*e*S		**Sg**		**12 40 53.6**	**+0.1**
	baz=308								
JKRS	**Kuro-shima**	**1.31**	**78**	P		**Pg**		**12 40 37.2**	**+0.2**
JKRS				S		**Sg**		**12 40 54.4**	**+0.3**
CHGB	**Renai**	**1.31**	**274**	*e*P		**Pn**		**12 40 35.6**	**-0.2**
	baz=274								
CHGB				*e*S		**Sb**		**12 40 52.8**	**-0.3**
	baz=274								
YHNB	**Yeheng**	**1.32**	**302**	*e*P		**Pn**		**12 40 36.0**	**+0.1**
	baz=301								
YHNB				*e*S		**Sg**		**12 40 54.5**	**-0.1**
	baz=301								
YULB	**Yu-li**	**1.33**	**245**	*e*P		**Pn**		**12 40 35.2**	**-0.6**
	baz=245								
YULB				*e*S		**Sn**		**12 40 52.3**	**-1.0**
	baz=245								
YULB	**Yu-li**	**1.33**	**245**	*e*P		**Pn**		**12 40 35.4**	**-0.5**
	14nm,1.3s								
NWF	**Wu-fen Shan**	**1.33**	**326**	*e*S		**Sg**		**12 40 54.4**	**-0.5**
	baz=324								
WFSB	**Wu-fen Shan**	**1.33**	**326**	*e*S		**Sg**		**12 40 54.5**	**-0.4**
	baz=324								
TWT	**Tachien**	**1.34**	**283**	*e*P		**Pb**		**12 40 36.5**	**-0.2**
	baz=282								
TWT				*e*S		**Sb**		**12 40 54.5**	**+0.7**
	baz=282								
TWF1	**Yuli**	**1.35**	**243**	*e*P		**Pn**		**12 40 35.9**	**-0.2**
	baz=243								
TWF1				S		**Sb**		**12 40 54.1**	**+0.3**
	baz=243								
TDCB	**Techi**	**1.35**	**283**	*e*P		**Pn**		**12 40 36.4**	**0.0**
	baz=282								
TDCB				*e*S		**Sb**		**12 40 54.2**	**0.0**
	baz=282								
TWA	**Mucha**	**1.38**	**317**	*e*P		**Pb**		**12 40 36.9**	**-0.4**
	baz=316								
TWA				*e*S		**Sb**		**12 40 54.6**	**0.0**
	baz=316								
FULB	**Fuli**	**1.43**	**238**	*e*P		**Pn**		**12 40 36.6**	**-0.6**
	baz=238								
FULB				*e*S		**Sn**		**12 40 55.0**	**-0.7**
	baz=238								
JIJ	**Ishigaki jima**	**1.46**	**74**	P		**Pn**		**12 40 37.7**	**+0.1**
JIJ				*e*S		**Sn**		**12 40 56.3**	**-0.1**
SSLB	**Suanglung**	**1.52**	**264**	*e*P		**Pn**		**12 40 38.9**	**+0.3**
	baz=263								
SSLB				*e*S		**Sn**		**12 40 58.3**	**+0.1**
	baz=263								
SSLB	**Suanglung**	**1.52**	**264**	*e*P		**Pb**		**12 40 39.4**	**-0.4**
	6.0nm,0.8s								
YM04	**YM04**	**1.53**	**321**	*e*S		**Sb**		**12 40 59.1**	**-0.1**
	baz=319								
SMLT	**Sun Moon Lake**	**1.56**	**267**	*e*P		**Pn**		**12 40 39.4**	**+0.2**
	baz=267								
SMLT				*e*S		**Sn**		**12 40 59.6**	**+0.4**
	baz=267								
TWS1	**Kuangyinshan**	**1.57**	**316**	*e*P		**Pb**		**12 40 39.8**	**-0.7**
	baz=315								
TWS1				*e*S		**Sn**		**12 40 59.2**	**+0.1**
	baz=315								
TWY	**Chenhua**	**1.59**	**325**	*e*P		**Pn**		**12 40 40.0**	**+0.6**
	baz=324								

LIOB	**Emei**	**1.60**	**295**	P		**Pb**	**12 40 40.6**	**-0.5**
	baz=294								
LIOB				*e*S		**Sb**	**12 41 00.8**	**-0.4**
	baz=294								
TYC	**Yuchr**	**1.60**	**268**	*e*P		**Pb**	**12 40 40.5**	**-0.6**
	baz=268								
TYC				*e*S		**Sn**	**12 41 00.5**	**+0.5**
	baz=268								
NSTT	**Nanjuang**	**1.61**	**295**	*e*P		**Pb**	**12 40 40.6**	**-0.6**
	baz=294								
NSTT				*e*S		**Sb**	**12 41 01.1**	**-0.3**
	baz=294								
TWH	**Lutao**	**1.62**	**220**	*e*S		**Sb**	**12 41 01.9**	**+0.1**
	baz=219								
ELDTW	**Lidau**	**1.65**	**242**	*e*P		**Pn**	**12 40 39.8**	**-0.5**
	baz=242								
ELDTW				*e*S		**Sn**	**12 40 59.8**	**-1.6**
	baz=242								
TWQ1	**Liyutan**	**1.72**	**283**	*e*S		**Sn**	**12 41 03.4**	**+0.4**
	baz=282								
CHN5	**Tsauling**	**1.81**	**259**	*e*P		**Pb**	**12 40 43.7**	**-1.0**
	baz=258								
CHN5				*e*S		**Sb**	**12 41 06.6**	**-0.5**
	baz=258								
TWGBT	**Beinan**	**1.81**	**231**	*e*S		**Sn**	**12 41 04.1**	**-1.0**
	baz=231								
STYT	**Tauyuan**	**1.88**	**245**	*e*P		**Pn**	**12 40 44.0**	**+0.5**
	baz=245								
TPUB	**Ta-pu**	**1.93**	**250**	*e*P		**Pn**	**12 40 45.2**	**+1.1**
	baz=250								
TPUB				*e*S		**Sb**	**12 41 09.5**	**-1.2**
	baz=250								
TPUB	**Ta-pu**	**1.93**	**250**	*e*P		**Pb**	**12 40 45.6**	**-1.2**
	20nm,1.3s								
CHN4	**Tsaushan**	**1.95**	**252**	*e*P		**Pn**	**12 40 45.5**	**+1.2**
	baz=252								
CHN4				*e*S		**Sb**	**12 41 10.0**	**-1.1**
	baz=252								
WTP	**Ta-pu**	**1.96**	**249**	*e*P		**Pn**	**12 40 45.3**	**+0.7**
	baz=249								
WTP				*e*S		**Sn**	**12 41 09.4**	**+0.4**
	baz=249								
SLGT	**Liugui**	**2.04**	**242**	*e*P		**Pn**	**12 40 46.7**	**+1.0**
	baz=242								
SLGT				*e*S		**Sn**	**12 41 11.5**	**+0.6**
	baz=242								
CHN1	**Nanshi**	**2.06**	**248**	*e*P		**Pn**	**12 40 46.9**	**+1.0**
	baz=248								
CHN1				*e*S		**Sn**	**12 41 12.7**	**+1.4**
	baz=248								
TWK	**Hsinying**	**2.06**	**251**	*e*P		**Pn**	**12 40 45.7**	**-0.3**
	baz=250								
TWK				*e*S		**Sn**	**12 41 12.4**	**+0.9**
	baz=250								
WTCT	**Ta-ch'eng**	**2.13**	**268**	*e*P		**Pn**	**12 40 47.1**	**+0.2**
	baz=267								
WLGB	**Puzi**	**2.17**	**258**	*e*S		**Sn**	**12 41 15.5**	**+1.5**
	baz=257								
SSD	**Sandimen**	**2.18**	**237**	*e*P		**Pn**	**12 40 48.4**	**+0.8**
	baz=236								
SSD				*e*S		**Sn**	**12 41 14.4**	**0.0**
	baz=236								
EAST	**Anshuo**	**2.26**	**226**	*e*P		**Pn**	**12 40 49.3**	**+0.7**
	baz=226								
EAST				*e*S		**Sn**	**12 41 17.4**	**+1.1**
	baz=226								
MASBT	**Mashibuluo**	**2.26**	**234**	*e*P		**Pb**	**12 40 52.0**	**-0.4**
	baz=234								
MASBT				*e*S		**Sn**	**12 41 18.1**	**+1.9**
	baz=234								

ISCJB ***10*** *13:04:07.4±0.3, 36°.74N±0°.02×71°.27E±0°.04, h200km, mb3.9/26, Error ellipse: s-maj=4.3km s-min=3.2km az=170.0*

MOS ***10*** *13:04:07.0±0.9, 36°.67N×71°.31E, h206km, mb4.0/19, Error ellipse: s-maj=11.1km s-min=4.8km az=79.8*

BJI ***10*** *13:04:08.2, 36°.78N×71°.39E, h201km, mb4.3/12, mB4.7/5*

IDC ***10*** *13:04:08.3±1.7, 36°.67N×71°.38E, h207km±16km, mb3.5/15, mb1 3.7/23, mb1mx3.5/54, mbtmp4.1/23, Error ellipse: s-maj=12.2km s-min=10.3km az=155.0*

NEIC ***10*** *13:04:10.0±0.9, 36°.89N×71°.29E, h226km±10km, mb4.1/4, Error ellipse: s-maj=13.2km s-min=6.6km az=151.0*

NNC ***10*** *13:04:13.6±2.1, 37°.13N×71°.41E, h226km±18km, mb3.4, mpv4.7, Error ellipse: s-maj=21.2km s-min=19.0km az=16.0*

ISC 10 13:04:08.4±0.4,**36°.77N**±0°.04×**71°.25E**±0°.05,**h200**km,**n111**, σ1**s20**/124,**mb4.0**/26,**14C-15D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CEP	**Cherat**	**2.99**	**169**	P		**Pn**	**13 04 57.9**	**-0.2**
CEP				S		**Sn**	**13 05 36.0**	**-0.9**
BTK	**Batken**	**3.30**	**354**	PN		**Pn**	**13 05 02.3**	**+0.7**
BTK				S		**Sn**	**13 05 43.5**	**+0.1**
CHCP	**Chirah Chowk**	**3.51**	**151**	P		**Pn**	**13 05 04.7**	**+0.5**
SFK	**Sufi-Kurgan**	**3.69**	**28**	⇑P		**Pn**	**13 05 07.2**	**+0.8**
	50nm,0.2s							
SFK				⇑S		**Sn**	**13 05 52.7**	**+0.6**
	124nm,0.5s							
SFK	**Sufi-Kurgan**	**3.69**	**28**	*e*PN		**Pn**	**13 05 07.1**	**+0.6**
THW	**Thamme Wali**	**3.99**	**174**	P		**Pn**	**13 05 09.5**	**-0.6**
SARP	**Sargodha**	**4.98**	**166**	P		**Pn**	**13 05 21.5**	**-1.0**
AML	**Almayashu**	**5.68**	**19**	P		**Pn**	**13 05 32.3**	**+0.6**
	SNR=672							
MNAS	**Manas**	**5.79**	**9**	⇓P		**Pn**	**13 05 33.6**	**+0.7**
	84nm,0.8s							
MNAS				⇓S		**Sn**	**13 06 39.3**	**-0.6**
	57nm,0.4s							
MNAS	**Manas**	**5.79**	**9**	*i* PN		**Pn**	**13 05 33.6**	**+0.7**
MNAS				pmax		pmax		
	comp=Z,49nm,0.4s							
UCH	**Uchtor**	**6.00**	**24**	P		**Pn**	**13 05 36.6**	**+0.6**
	SNR=228							
KZA	**Kyzart**	**6.14**	**29**	P		**Pn**	**13 05 37.8**	**+0.1**
	SNR=29							
EKS2	**Erkin-Say**	**6.20**	**18**	P		**Pn**	**13 05 39.0**	**+0.8**
	SNR=80							
KK31	**Karatay Array**	**6.35**	**355**	⇑P		**Pn**	**13 05 40.4**	**+0.3**
	comp=Z,9.4nm,0.3s,baz=174,slow=12,SNR=359							
KK31				S		**Sn**	**13 06 49.4**	**-3.4**
	comp=Z,58nm,0.3s,baz=189,slow=24,SNR=21							
KK31	**Karatay Array**	**6.35**	**355**	*e*Pn		**Pn**	**13 05 40.3**	**+0.2**
KK31				eS		**Sn**	**13 06 47.5**	**-5.4**
KK31	**Karatay Array**	**6.35**	**355**	PN		**Pn**	**13 05 40.4**	**+0.3**
KK31				pmax		pmax		
	comp=Z,9.0nm,0.3s							
KKAR	**Karatay Array**	**6.35**	**355**	*e*Pn		**Pn**	**13 05 40.4**	**+0.3**
KKAR	**Karatay Array**	**6.35**	**355**	*e*PN		**Pn**	**13 05 40.4**	**+0.3**
AAK	**Ala-Archa**	**6.37**	**22**	P		**Pn**	**13 05 41.2**	**+0.8**
	comp=Z,32nm,0.3s,baz=191,slow=5.9,SNR=345							
AAK				S		**Sn**	**13 06 53.5**	**0.0**
	comp=Z,2.1nm,0.3s,baz=318,slow=23,SNR=6.9							
AAK	**Ala-Archa**	**6.37**	**22**	⇑P		**Pn**	**13 05 40.8**	**+0.4**
	comp=Z,60nm,0.5s							
AAK				⇓S		**Sn**	**13 06 53.1**	**-0.4**
	comp=Z,26nm,0.5s							
AAK	**Ala-Archa**	**6.37**	**22**	P		**Pn**	**13 05 41.2**	**+0.8**
	SNR=175							
AAK	**Ala-Archa**	**6.37**	**22**	*d i* PN		**Pn**	**13 05 41.1**	**+0.6**
KBK	**Karagaybulak**	**6.53**	**25**	P		**Pn**	**13 05 43.4**	**+0.9**
	SNR=151							
FRU1	**Bishkek**	**6.57**	**22**	*e*Pn		**Pn**	**13 05 43.7**	**+0.8**
FRU1	**Bishkek**	**6.57**	**22**	*e*PN		**Pn**	**13 05 43.7**	**+0.8**
FRU	**Bishkek**	**6.58**	**22**	*e*PN		**Pn**	**13 05 44.0**	**+0.9**
FRU				*i* S		**Sn**	**13 06 57.0**	**-1.3**
FRU				pmax		pmax		
	comp=Z,100nm,1.0s							
FRU				smax		smax		
	comp=E,100nm,1.8s							
ULHL	**Ulahol**	**6.69**	**34**	P		**Pn**	**13 05 44.5**	**-0.1**
	SNR=31							
BOOM	**Boomskoye usch**	**6.76**	**31**	PN		**Pn**	**13 05 45.7**	**+0.2**
CHMS	**Chumysh**	**6.78**	**22**	P		**Pn**	**13 05 45.9**	**+0.3**
	SNR=49							
USP	**Ospenovka**	**6.95**	**20**	P		**Pn**	**13 05 48.2**	**+0.3**
	SNR=31							
TKM2	**Tokmak 2**	**6.99**	**27**	P		**Pn**	**13 05 48.8**	**+0.2**
	SNR=237							
KDJ	**Kajisay**	**7.05**	**39**	*e*Pn		**Pn**	**13 05 50.1**	**+0.8**
KDJ	**Kajisay**	**7.05**	**39**	*e*PN		**Pn**	**13 05 50.1**	**+0.8**
MDOK	**Medeo**	**7.78**	**33**	⇑P		**Pn**	**13 05 59.3**	**+0.5**
	comp=E,32nm,0.6s							
MDOK	**Medeo**	**7.78**	**33**	PN		**Pn**	**13 05 59.3**	**+0.5**
MDOK				pmax		pmax		
	comp=Z,32nm,0.6s							
KNDC	**Almaty**	**7.79**	**32**	⇓P		**Pn**	**13 05 59.6**	**+0.8**
	comp=Z,133nm,1.1s							
PRZ	**Przheval'sk**	**7.93**	**42**	*e*Pn		**Pn**	**13 06 01.5**	**+0.7**
PRZ	**Przheval'sk**	**7.93**	**42**	*e*PN		**Pn**	**13 06 01.5**	**+0.7**
PDGK	**Podgornoye**	**9.10**	**41**	⇓P		**Pn**	**13 06 14.8**	**-1.1**
	comp=Z,13nm,0.7s							
PDGK	**Podgornoye**	**9.10**	**41**	P		**Pn**	**13 06 14.8**	**-1.1**
PDGK				pmax		pmax		
	comp=Z,13nm,0.7s							
GEYT	**Alibeck**	**10.52**	**280**	P		**Pn**	**13 06 33.7**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=128,slow=11,SNR=5.5							
GEYT				S		**Sn**	**13 08 30.9**	**-0.9**
	comp=Z,1.2nm,0.3s,baz=84,slow=13,SNR=6.4							
GYA0B	**ALIBECK ARRAY**	**10.52**	**280**	⇓P		**P**	**13 06 43.4**	**+1.9**
	comp=Z,4.9nm,0.7s							
GYA0B	**ALIBECK ARRAY**	**10.52**	**280**	*e*Pn		**Pn**	**13 06 35.5**	**+1.1**
OTUK	**Ortayu**	**11.49**	**4**	⇑P		**Pn**	**13 06 46.0**	**-0.6**
	comp=Z,11nm,0.9s							
OTUK	**Ortayu**	**11.49**	**4**	P		**Pn**	**13 06 45.1**	**-1.6**
OTUK				pmax		pmax		
	comp=Z,11nm,0.9s							
MK01	**Makanchi Array**	**12.94**	**36**	*e*Pn		**Pn**	**13 07 04.2**	**-0.8**
MK31	**Makanchi Array**	**12.95**	**36**	P		**Pn**	**13 07 05.0**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=224,slow=10,SNR=14							
MK31	**Makanchi Array**	**12.95**	**36**	*e*Pn		**Pn**	**13 07 04.3**	**-0.8**
MK31	**Makanchi Array**	**12.95**	**36**	*i* P		**Pn**	**13 07 05.0**	**-0.1**
MK31				pmax		pmax		
	comp=Z,1.0nm,0.4s							
MKAR	**Makanchi Array**	**12.95**	**36**	P		**Pn**	**13 07 05.5**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=233,slow=18,SNR=14							
MKAR	**Makanchi Array**	**12.95**	**36**	*e*Pn		**Pn**	**13 07 04.0**	**-1.1**
MKAR	**Makanchi Array**	**12.95**	**36**	*e*P		**Pn**	**13 07 04.0**	**-1.1**
PYUN	**Piuthan**	**13.14**	**128**	*e*P		**Pn**	**13 07 06.3**	**-1.6**
	comp=Z,6.9nm,0.3s							
PYUN				*e*S		S	13 09 21.6	-13
DANN	**Dangsing**	**13.47**	**125**	*e*P		**Pn**	**13 07 11.2**	**-0.8**
	comp=Z,8.6nm,0.2s							
KOLN	**Koldanda**	**13.76**	**127**	*e*P		**Pn**	**13 07 14.7**	**-0.8**
	comp=Z,6.3nm,0.3s							
WMQ	**Urumqi**	**14.38**	**56**	*e*P		**Pn**	**13 07 22.5**	**-0.4**
WMQ				pmax		pmax		
	comp=Z,18nm,0.7s							
KURBB	**Kurchatov Arra**	**14.80**	**18**	P		**Pn**	**13 07 27.4**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=203,slow=11,SNR=15							
KKN	**Kakani**	**14.85**	**123**	*e*P		**Pn**	**13 07 28.8**	**-0.2**
	comp=Z,6.7nm,0.3s							
DMN	**Daman**	**14.85**	**124**	*e*P		**Pn**	**13 07 29.2**	**+0.1**
	comp=Z,4.3nm,0.2s							
KURK	**Kurtov**	**14.91**	**18**	⇓P		**Pn**	**13 07 28.9**	**-0.3**
	comp=Z,6.3nm,1.1s							
KURK	**Kurchatov**	**14.91**	**18**	*e*Pn		**Pn**	**13 07 27.4**	**-1.8**
KURK	**Kurchatov**	**14.91**	**18**	⇑*e*P		**Pn**	**13 07 28.6**	**-0.6**
AB31	**Akbulak array**	**14.95**	**330**	⇓P		**P**	**13 07 31.4**	**+1.0**
	comp=Z,1.0nm,0.3s,baz=143,slow=12,SNR=60							
AB31				⇑S		**S**	**13 10 12.1**	**-3.5**
	comp=Z,2.0nm,0.6s,baz=150,slow=24,SNR=5.3							
AB31	**Akbulak array**	**14.95**	**330**	*e*P		**P**	**13 07 31.0**	**+0.5**
AB31				pmax		pmax		
	comp=Z,1.0nm,0.4s							
ABKAR	**Akbulak array**	**14.95**	**330**	*e*Pn		**Pn**	**13 07 29.1**	**-0.6**
PKIN	**Phulchoki**	**15.07**	**123**	*e*P		**Pn**	**13 07 32.1**	**+0.4**
	comp=Z,5.2nm,0.2s							
PKI	**Pulchoki**	**15.08**	**123**	*e*P		**Pn**	**13 07 32.4**	**+0.5**
	comp=Z,6.0nm,0.2s							
GUN	**Gumba**	**15.18**	**121**	*e*P		**Pn**	**13 07 33.6**	**+0.5**
	comp=Z,10nm,0.3s							
BVAR	**Borovoye Array**	**16.27**	**358**	P		**Pn**	**13 07 46.9**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=166,slow=11,SNR=7.7							
BRVK	**Borovoye**	**16.30**	**358**	*e*P		**P**	**13 07 44.4**	**-1.0**
	comp=Z,5.7nm,0.6s							
BRVK	**Borovoye**	**16.30**	**358**	*i* eP		**P**	**13 07 45.6**	**+0.3**
BRVK				pmax		pmax		
	comp=Z,4.0nm,0.7s							
AKTO	**Aktyubinsk**	**16.65**	**329**	P		**Pn**	**13 07 51.3**	**+1.0**
	comp=Z,3.3nm,0.3s,baz=138,slow=9.0,SNR=44							
AKTO				S		**Sn**	**13 10 50.0**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=69,slow=21,SNR=1.6							
AKTO	**Aktyubinsk**	**16.65**	**329**	⇓P		**Pn**	**13 07 50.9**	**+0.6**
	comp=Z,8.3nm,0.5s							
AKTO	**Aktyubinsk**	**16.65**	**329**	P		**Pn**	**13 07 50.8**	**+0.6**
AKTO				pmax		pmax		
	comp=Z,8.0nm,0.5s							
WSAR	**Wadi Sarin**	**17.34**	**222**	P		**P**	**13 07 55.0**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=278,slow=15,SNR=2.0							
DGZ	**Jazzator, Alta**	**17.44**	**37**	⇑*e*P		**Pn**	**13 07 59.4**	**-0.4**
UOSS	**Minazif**	**17.46**	**232**	*e*P		**P**	**13 07 59.3**	**+1.0**
	comp=Z,6.9nm,0.9s							
ZAA0	**Zalesovo Array**	**19.58**	**24**	⇓P		**P**	**13 08 20.9**	**-0.1**
	comp=Z,3.1nm,0.3s							
ZAA0	**Zalesovo Array**	**19.58**	**24**	*e*P		**P**	**13 08 20.0**	**-1.0**
	comp=Z,5.2nm,0.6s							
ZALV	**Zalesovo Beam**	**19.58**	**24**	P		**P**	**13 08 21.1**	**+0.1**
	comp=Z,3.4nm,0.3s,baz=214,slow=11,SNR=30							
ZALV				S		**S**	**13 11 47.2**	**-3.7**
	comp=Z,0.2nm,0.3s,baz=216,slow=14,SNR=2.8							
ZALV	**Zalesovo Beam**	**19.58**	**24**	*e*P		**P**	**13 08 19.4**	**-1.6**
NVS	**Novosibirsk**	**19.86**	**21**	*e*P		**P**	**13 08 24.8**	**+0.9**
NVS				pmax		pmax		
	comp=N,4.0nm,0.7s							
NVS				pmax		pmax		
	comp=Z,4.0nm,0.7s							
ARU	**Arti**	**21.44**	**340**	*e*P		**P**	**13 08 40.1**	**-0.5**
	comp=Z,3.3nm,0.6s							
ARU	**Arti**	**21.44**	**340**	⇑*i* P		**P**	**13 08 41.6**	**+0.9**
ARU				pmax		pmax		
	comp=Z,4.0nm,0.7s							
HVS	**Khovu-Aksy**	**21.50**	**41**	⇓*e*P		**P**	**13 08 42.2**	**+0.8**
HVS				pmax		pmax		
	comp=Z,7.0nm,1.1s							
NCK	**Nalchik**	**22.12**	**296**	⇑*e*P		**P**	**13 08 48.7**	**+1.1**
NCK				pmax		pmax		
	comp=Z,10.0nm,1.3s							
KNGR	**Kungurtug, Tuv**	**23.34**	**45**	⇑*e*P		**P**	**13 09 00.0**	**+1.4**
SONM	**Songino Array**	**28.01**	**56**	P		**P**	**13 09 41.7**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=269,slow=7.0,SNR=4.7							
KMI	**Kunming**	**29.27**	**104**	P		**P**	**13 09 53.7**	**+1.5**
KMI				pmax		pmax		
	comp=Z,6.0nm,0.6s							
BRTR	**Keskin Array B**	**29.55**	**287**	P		**P**	**13 09 56.6**	**+2.2**
	comp=Z,0.6nm,0.7s,baz=104,slow=9.2,SNR=3.0							
OBN	**Obninsk**	**29.87**	**319**	⇓*i* P		**P**	**13 09 57.0**	**+0.2**
OBN				pmax		pmax		
	comp=Z,14nm,0.6s							
CMAR	**Chiang Mai Arr**	**30.41**	**119**	P		**P**	**13 10 01.4**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=299,slow=9.2,SNR=4.6							
HHC	**Hu-ho-hao-te**	**31.48**	**70**	*e*P		**P**	**13 10 12.9**	**+1.6**
HHC				pmax		pmax		
	comp=Z,7.0nm,1.1s							
AKASG	**Malin Array Be**	**32.94**	**308**	P		**P**	**13 10 24.8**	**+1.0**
	comp=Z,1.3nm,0.4s,baz=79,slow=7.2,SNR=5.7							
KIEV	**Kiev**	**32.95**	**308**	⇓*e*P		**P**	**13 10 24.8**	**+1.0**
KIEV				pmax		pmax		
	comp=Z,10.0nm,1.7s							
NRIK	**Noril'sk**	**33.82**	**10**	P		**P**	**13 10 32.5**	**+1.3**
	comp=Z,2.3nm,0.4s,baz=231,slow=6.5,SNR=2.9							
FINES	**FINESS Array B**	**37.37**	**326**	P		**P**	**13 11 02.5**	**+1.0**
	comp=Z,2.0nm,0.4s,baz=123,slow=10.0,SNR=20							
ARCES	**ARCESS Array B**	**40.97**	**337**	P		**P**	**13 11 32.2**	**+1.1**
	comp=Z,3.1nm,0.4s,baz=117,slow=8.9,SNR=42							
CN2	**Changchun**	**41.30**	**63**	*e*P		**P**	**13 11 34.3**	**+0.1**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
YAK	**Yakutsk**	**43.63**	**36**	⇓*e*P		**P**	**13 11 52.4**	**-0.2**
YAK				pmax		pmax		
	comp=Z,4.0nm,0.5s							
NB2	**NORSAR Subarra**	**44.29**	**323**	P		**P**	**13 11 58.5**	**+0.6**
	comp=Z,2.3nm,0.4s,baz=96,slow=7.9							
NOA	**NORSAR Array B**	**44.29**	**323**	P		**P**	**13 11 58.5**	**+0.6**
	comp=Z,3.4nm,0.7s,baz=96,slow=7.8,SNR=12							
TIXI	**Tiksi**	**45.45**	**22**	⇑*e*P		**P**	**13 12 07.1**	**+0.3**
TIXI				pmax		pmax		
	comp=Z,4.0nm,0.9s							
ESDC	**Sonseca Array**	**57.51**	**298**	P		**P**	**13 13 37.4**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=52,slow=7.7,SNR=7.5							
BILL	**Bilibino**	**58.27**	**26**	*e*P		**P**	**13 13 41.8**	**+0.3**
BILL				*e*			13 14 31.7	
BILL				*e*			13 15 57.0	
BILL				pmax		pmax		
	comp=Z,2.0nm,1.0s							
TORD	**Torodi Ar. Bea**	**65.93**	**269**	P		**P**	**13 14 31.1**	**-2.1**
	comp=Z,1.6nm,0.9s,baz=50,slow=5.2,SNR=7.1							
INK	**Inuvik**	**73.61**	**9**	P		**P**	**13 15 19.8**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=335,slow=6.2,SNR=14							
ILAR	**Eielson Array**	**74.46**	**16**	P		**P**	**13 15 23.4**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=308,slow=4.5,SNR=8.1							
YKA	**Yellowknife Ar**	**80.97**	**3**	P		**P**	**13 15 59.4**	**-0.7**
	comp=Z,1.9nm,0.5s,baz=352,slow=5.4,SNR=9.7							
WRA	**Warramunga Arr**	**81.96**	**122**	P		**P**	**13 16 03.3**	**-2.7**
	comp=Z,0.8nm,0.8s,baz=325,slow=4.7,SNR=9.2							
ASAR	**Alice Springs**	**84.24**	**125**	P		**P**	**13 16 15.2**	**-2.4**
	comp=Z,0.9nm,0.8s,baz=314,slow=5.3,SNR=12							

IDC ***10*** *13:05:45.5±1.2, 13°.97N×92°.69W, h0km, mb4.1/6, mb1 4.2/9, mb1mx3.9/44, mbtmp3.9/9, ML3.2/3, MS3.1/2, Ms1 3.0/2, ms1mx2.5/47, Error ellipse: s-maj=35.2km s-min=16.8km az=38.0*

ISCJB ***10*** *13:05:47.5±1.8, 14°.02N±0°.06×92°.75W±0°.07, h24km±12km, mb4.1/6, MS3.3/1, Error ellipse: s-maj=13.1km s-min=8.6km az=145.5*

MEX ***10*** *13:05:50.1±0.4, 14°.00N×92°.75W, h22km±80km, MD3.9*

ISC 10 13:05:48.9±2.3,**14°.08N**±0°.07×**92°.67W**±0°.06,**h20**km±10km, **n15**,σ1**s02**/20,**mb4.1**/6,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
THIG		**0.91**	**26**	*i* P		**Pb**	**13 06 05.5**	**-0.6**
THIG				*i* S		**Sg**	**13 06 18.8**	**-0.1**
PCIG		**1.70**	**342**	*e*P		**Pn**	**13 06 16.4**	**-1.0**
PCIG				*i* S		**Sn**	**13 06 37.9**	**-0.7**
CCIG	**Comitan**	**2.25**	**13**	*e*P		**Pn**	**13 06 25.5**	**+0.3**
CCIG				*i* S		**Sn**	**13 06 53.1**	**+0.6**
APG	**El Apazote**	**2.33**	**67**	Pn		**Pn**	**13 06 26.9**	**+0.6**
	5.3nm,0.3s,baz=237,slow=9.2,SNR=82							
APG				Sn		**Sb**	**13 06 58.9**	**+0.1**
	10nm,0.3s,baz=172,slow=15,SNR=2.7							
APG				LR		LR	13 07 28.4	
	comp=Z,204nm,19.6s,baz=126,slow=43							
TGIG		**2.72**	**351**	*e*P		**Pn**	**13 06 31.1**	**-0.5**
TGIG				*i* S		**Sn**	**13 07 02.9**	**-0.9**
CMIG	**Matias Romero**	**3.67**	**325**	Pn		**Pn**	**13 06 44.1**	**-0.5**
	1.0nm,0.3s,baz=144,slow=9.0,SNR=12							
CMIG				Sn		**Sn**	**13 07 28.8**	**+1.3**
	5.0nm,0.3s,baz=45,slow=17,SNR=4.4							
TXAR	**Lajitas Array**	**18.27**	**328**	P		**P**	**13 10 03.6**	**+2.0**
	0.0nm,0.3s,baz=150,slow=13,SNR=7.0							
NVAR	**Mina Array Bea**	**33.20**	**322**	P		**P**	**13 12 26.1**	**+1.4**
	0.6nm,0.6s,baz=136,slow=9.0,SNR=7.0							
PTGA	**Pitinga**	**35.58**	**112**	P		**P**	**13 12 44.0**	**-1.3**
	1.3nm,0.3s,baz=85,slow=14,SNR=7.9							
SIV	**San Ignacio**	**43.22**	**133**	P		**P**	**13 13 49.0**	**-0.1**
	1.2nm,0.8s,baz=302,slow=6.2,SNR=4.0							
SCHQ	**Schefferville**	**45.38**	**21**	LR		LR	13 35 45.9	
	comp=Z,35nm,19.4s,baz=141,slow=40							
YKA	**Yellowknife Ar**	**50.80**	**347**	P		**P**	**13 14 47.1**	**-0.5**
	4.3nm,0.7s,baz=151,slow=7.1,SNR=6.4							
INK	**Inuvik**	**60.18**	**344**	P		**P**	**13 15 54.1**	**-0.9**
	3.2nm,0.9s,baz=121,slow=2.1,SNR=5.4							
ILAR	**Eielson Array**	**62.51**	**337**	P		**P**	**13 16 12.2**	**+1.3**
	0.9nm,0.9s,baz=115,slow=5.9,SNR=7.2							
CMAR	**Chiang Mai Arr**	**145.70**	**340**	PKPbc		**PKPdf**	**13 25 26.3**	**-0.7**
	1.6nm,0.7s,baz=333,slow=3.4,SNR=9.3							

NIED ***10*** *13:10:00, 36°.90N×141°.40E, h8km, Mw3.7 Best double couple: M0 3.41000×10^14 NP1:φ±26.00000°, δ42.00000°, λ-88.00000°. NP2:φ±203.00000°, δ48.00000°, λ-92.00000°.*

IDC ***10*** *13:10:32.9±0.8, 36°.87N×141°.41E, h0km, mb3.5/7, mb1 3.8/9, mb1mx3.6/34, mbtmp3.5/9, ML3.3/2, MS3.2/2, Ms1 3.2/2, ms1mx2.5/42, Error ellipse: s-maj=22.9km s-min=19.1km az=144.0*

JMA ***10*** *13:10:34.9±0.1, 36°.89N×141°.36E, h33km±1km, M3.7*

ISC 10 13:10:33.1±2.1,**36°.90N**±0°.04×**141°.31E**±0°.06,**h3**km±13km, **n28**,σ1**s00**/30,**mb3.6**/7,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.46**	**296**	P		**Pn**	**13 10 44.9**	**-1.8**
ONAJ				*e*S		**Sb**	**13 10 52.0

TWC				S	Sg	13 21 34.4	0.0		
	baz=4.0								
NNSB	**Datong**	**0.45**	**305**	⇓P	Pg	13 21 28.8	+0.1		
	baz=304								
NNSB				S	Sg	13 21 34.3	-0.3		
	baz=304								
NNS	**Nan Shan**	**0.46**	**306**	⇓*i*P	Pg	13 21 28.9	+0.1		
	baz=304								
NNS				S	Sg	13 21 34.9	-0.2		
	baz=304								
WHF	**Hehuan Shan**	**0.47**	**267**	⇓*i*P	Pb	13 21 29.5	-0.8		
	baz=265								
WHF				S	Sg	13 21 35.9	+0.3		
	baz=265								
ESL	**Shilin**	**0.48**	**222**	⇓P	Pb	13 21 29.6	-0.4		
	baz=226								
ESL				*e*S	Sb	13 21 36.5	-0.5		
	baz=226								
EOS1	**EOS1**	**0.49**	**40**	*e*P	Pb	13 21 30.4	+0.1		
	baz=33								
EOS1				*e*S	Sb	13 21 38.0	+0.7		
	baz=33								
ENTT	**Nioudou**	**0.51**	**337**	⇓*i*P	Pg	13 21 29.8	+0.1		
	baz=337								
ENTT				S	Sg	13 21 36.5	0.0		
	baz=337								
TWE	**Neicheng**	**0.56**	**349**	⇓*i*P	Pg	13 21 30.8	+0.1		
	baz=351								
TWE				S	Sg	13 21 38.0	-0.1		
	baz=351								
CHGB	**Renai**	**0.57**	**259**	⇓P	Pb	13 21 31.4	-0.3		
	baz=249								
CHGB				S	Sb	13 21 38.9	-0.9		
	baz=249								
TDCB	**Techi**	**0.58**	**278**	⇓P	Pb	13 21 31.6	-0.2		
	baz=276								
TDCB				S	Sg	13 21 38.7	-0.1		
	baz=276								
ILA	**Ilan**	**0.59**	**357**	P	Pb	13 21 31.7	-0.3		
	baz=353								
ILA				*e*S	Sb	13 21 39.9	-0.5		
	baz=353								
SLBB	**Yuanshan**	**0.59**	**347**	⇓P	Pb	13 21 31.7	-0.4		
	baz=347								
SLBB				*e*S	Sg	13 21 39.5	+0.1		
	baz=347								
EGFH	**Guangfu**	**0.60**	**213**	*e*P	Pb	13 21 32.2	+0.2		
	baz=219								
YHNB	**Yeheng**	**0.62**	**323**	⇓P	Pb	13 21 32.2	-0.4		
	baz=323								
YHNB				S	Sg	13 21 40.1	0.0		
	baz=323								
NSK	**Sanguang**	**0.63**	**322**	⇓*i*P	Pb	13 21 32.3	-0.4		
	baz=322								
NSK				*i* S	Sg	13 21 40.3	-0.2		
	baz=322								
NTC	**Toucheng**	**0.68**	**4**	⇓*e*P	Pg	13 21 33.1	+0.1		
	baz=4.0								
EGS		**0.68**	**11**	⇓*e*P	Pg	13 21 33.3	+0.2		
	baz=18								
EGS				*e*S	Sg	13 21 42.1	0.0		
	baz=18								
HGSD	**Ruisui**	**0.75**	**206**	⇓P	Pn	13 21 35.5	-0.6		
	baz=194								
HGSD				*e*S	Sn	13 21 47.3	-0.1		
	baz=194								
EHY	**Hungye**	**0.79**	**213**	*e*P	Pg	13 21 34.7	-0.2		
	baz=223								
TIPB	**Shuangxi**	**0.80**	**3**	⇓P	Pg	13 21 35.3	0.0		
	baz=3.0								
TIPB				S	Sg	13 21 45.1	-0.7		
	baz=3.0								
TWA	**Mucha**	**0.83**	**347**	*e*P	Pb	13 21 36.0	-0.1		
	baz=347								
TWA				*e*S	Sg	13 21 46.3	-0.3		
	baz=347								
WLTB	**Daxi**	**0.83**	**325**	*e*P	Pn	13 21 36.7	-0.5		
	baz=324								
WLTB				*e*S	Sb	13 21 47.5	+0.3		
	baz=324								
LIOB	**Emei**	**0.84**	**304**	*e*P	Pn	13 21 36.7	-0.7		
	baz=303								
LIOB				*e*S	Sb	13 21 47.9	+0.3		
	baz=303								
TATO	**Taipei**	**0.84**	**342**	⇓P	Pb	13 21 36.4	+0.1		
	baz=341								
TATO				S	Sg	13 21 46.9	-0.3		
	baz=341								
NSTT	**Nanjuang**	**0.85**	**303**	*e*P	Pb	13 21 36.5	+0.2		
	baz=302								
NSTT				*e*S	Sb	13 21 47.3	-0.4		
	baz=302								
SSLB	**Suanglung**	**0.85**	**243**	⇑P	Pb	13 21 36.4	0.0		
	baz=252								
SSLB				S	Sg	13 21 47.0	-0.3		
	baz=252								
TWB1	**Santiao Chiao**	**0.85**	**13**	*e*P	Pg	13 21 36.3	0.0		
	baz=8.0								
SMLT	**Sun Moon Lake**	**0.86**	**251**	⇑*i*P	Pb	13 21 36.7	+0.1		
	baz=250								
SMLT				*i* S	Sb	13 21 48.0	0.0		
	baz=250								
TYC	**Yuchr**	**0.89**	**253**	P	Pb	13 21 37.2	+0.2		
	baz=245								
TYC				*e*S	Sb	13 21 48.4	-0.3		
	baz=245								
YULB	**Yu-li**	**0.89**	**210**	⇓*e*P	Pg	13 21 36.2	-0.9		
	baz=220								
YULB				*e*S	Sb	13 21 49.8	+0.8		
	baz=220								
NWF	**Wu-fen Shan**	**0.90**	**360**	⇓P	Pb	13 21 37.3	+0.1		
	baz=353								
NWF				*e*S	Sg	13 21 48.2	-0.6		
	baz=353								
WFSB	**Wu-fen Shan**	**0.90**	**360**	⇓P	Pb	13 21 37.4	+0.2		
	baz=353								
WFSB				S	Sg	13 21 48.4	-0.4		
	baz=353								
TWF1	**Yuli**	**0.93**	**209**	*e*P	Pg	13 21 36.9	-0.8		
	baz=223								
TWQ1	**Liyutan**	**0.94**	**281**	*e*P	Pn	13 21 38.8	+0.2		
	baz=280								
TWQ1				*e*S	Sn	13 21 50.9	-1.1		
	baz=280								
SBCB	**Hsinchu**	**0.95**	**311**	*e*P	Pn	13 21 39.4	+0.5		
	baz=310								
SBCB				*e*S	Sn	13 21 51.7	-0.6		
	baz=310								
NCUH	**Zhongli**	**0.96**	**326**	*e*P	Pn	13 21 39.3	+0.3		
	baz=321								
NCU	**National Centr**	**0.96**	**326**	*e*P	Pn	13 21 39.3	+0.3		
	baz=326								
NCU				*e*S	Sn	13 21 53.3	+0.7		
	baz=326								
NSY	**Sanyi**	**0.96**	**285**	*e*P	Pn	13 21 39.4	+0.4		
	baz=284								
HSN	**Hsinchu**	**0.97**	**310**	*e*P	Pn	13 21 39.3	+0.2		
	baz=304								
HSN				*e*S	Sn	13 21 51.8	-1.0		
	baz=304								
NMLH	**Miaoli**	**0.97**	**292**	*e*P	Pn	13 21 40.0	+0.8		
	baz=292								
TWS1	**Kuangyinshan**	**0.98**	**340**	*e*P	Pn	13 21 39.6	+0.3		
	baz=340								
TWS1				*e*S	Sb	13 21 51.9	+0.3		
	baz=340								
YM01	**YM01**	**0.99**	**349**	*e*P	Pn	13 21 40.1	+0.7		
	baz=348								
YM01				*e*S	Sb	13 21 52.0	+0.2		
	baz=348								
YM10	**YM10**	**1.00**	**348**	*e*P	Pn	13 21 39.5	-0.1		
	baz=348								
YM10				*e*S	Sb	13 21 52.7	+0.6		
	baz=348								
YM04	**YM04**	**1.00**	**347**	*e*P	Pn	13 21 39.4	-0.2		
	baz=347								
YM05	**YM05**	**1.01**	**349**	*e*P	Pg	13 21 39.2	-0.1		
	baz=348								
YM11	**YM11**	**1.01**	**349**	*e*P	Pg	13 21 39.3	+0.1		
	baz=349								
TCU	**Taichung**	**1.01**	**269**	*e*P	Pn	13 21 40.8	+1.1		
	baz=269								
YM07	**YM07**	**1.01**	**352**	*e*P	Pn	13 21 39.6	-0.1		
	baz=351								
YUS	**Yu-Shan**	**1.02**	**228**	*e*P	Pb	13 21 39.6	0.0		
	baz=228								
PTSB	**Yuanli**	**1.02**	**286**	*e*P	Pn	13 21 40.9	+1.0		
	baz=285								
PTSB				*e*S	Sn	13 21 53.7	-0.3		
	baz=285								
WJS	**Zhushan**	**1.03**	**250**	*e*P	Pn	13 21 40.5	+0.6		
	baz=244								
YM08	**YM08**	**1.03**	**350**	*e*P	Pg	13 21 39.5	-0.1		
	baz=350								
YM08				*e*S	Sb	13 21 52.6	-0.3		
	baz=350								
YM03	**YM03**	**1.03**	**348**	*e*P	Pn	13 21 39.8	-0.2		
	baz=347								
YM03				*e*S	Sb	13 21 52.6	-0.4		
	baz=347								
NTST	**Danshui**	**1.03**	**343**	*e*P	Pg	13 21 39.8	0.0		
	baz=342								
WNT	**Mingjian**	**1.05**	**254**	*e*P	Pn	13 21 41.1	+1.0		
	baz=251								
WNT				*e*S	Sn	13 21 56.0	+1.3		
	baz=251								
FULB	**Fuli**	**1.07**	**205**	⇓*e*P	Pb	13 21 39.9	-0.3		
	baz=219								
JYNG	**Yonagunijimaku**	**1.10**	**75**	P	Pn	13 21 41.1	+0.3		
TWY	**Chenhua**	**1.11**	**351**	*e*P	Pg	13 21 41.2	0.0		
	baz=336								
WCHH	**Zhanghua**	**1.12**	**266**	*e*P	Pg	13 21 42.4	+1.0		
	baz=265								
CHKT	**Chengkung**	**1.13**	**200**	*e*P	Pb	13 21 40.6	-0.6		
	baz=192								
YOJ	**Yonaguni jima**	**1.16**	**75**	⇓*e*P	Pn	13 21 41.8	+0.1		
	baz=65								
YOJ	**Yonaguni jima**	**1.16**	**75**	P	Pn	13 21 41.9	+0.2		
ELDTW	**Lidau**	**1.20**	**216**	*e*P	Pn	13 21 41.6	-0.9		
	baz=202								
WGK	**Gukeng**	**1.22**	**247**	*e*P	Pg	13 21 43.8	+0.6		
	baz=247								
WDLH	**Douliu**	**1.24**	**247**	*e*P	Pg	13 21 43.9	+0.3		
	baz=248								
RLNB	**Erlin**	**1.33**	**258**	*e*P	Pg	13 21 45.5	+0.2		
	baz=259								
CHN2	**Minshiung**	**1.36**	**242**	*e*P	Pg	13 21 46.6	+0.8		
	baz=243								
TPUB	**Ta-pu**	**1.37**	**231**	*e*P	Pg	13 21 45.9	-0.2		
	baz=232								
TPUB				*e*S	Sg	13 22 04.5	+0.7		
	baz=232								
STYT	**Tauyuan**	**1.38**	**223**	*e*P	Pb	13 21 45.2	-0.1		
	baz=224								
STYT				*e*S	Sg	13 22 03.6	-0.5		
	baz=224								
WTCT	**Ta-ch'eng**	**1.41**	**258**	*e*P	Pb	13 21 45.6	-0.3		
	baz=258								
WTCT				*e*S	Sg	13 22 05.9	+0.8		
	baz=258								
WTP	**Ta-pu**	**1.41**	**230**	*e*P	Pg	13 21 46.5	-0.4		
	baz=230								
WTP				*e*S	Sg	13 22 06.7	+1.5		
	baz=230								
TWK	**Hsinying**	**1.49**	**233**	⇑*e*P	Pg	13 21 47.9	-0.5		
	baz=234								
TWK				*e*S	Sg	13 22 07.6	-0.1		
	baz=234								
TWG	**Pinlang**	**1.49**	**206**	*e*P	Pn	13 21 46.1	-0.2		
	baz=191								
TWGBT	**Beinan**	**1.49**	**206**	*e*P	Pn	13 21 46.2	-0.2		
	baz=191								
CHN1	**Nanshi**	**1.51**	**230**	⇓*e*P	Pg	13 21 48.2	-0.6		
	baz=222								
CHN1				*e*S	Sg	13 22 09.2	+0.7		
	baz=222								
WSF	**Szhu**	**1.52**	**250**	*e*P	Pb	13 21 48.2	+0.3		
	baz=251								
WSF				*e*S	Sg	13 22 10.1	+1.2		
	baz=251								
SGST	**Jiashian**	**1.54**	**226**	*e*P	Pg	13 21 48.8	-0.6		
	baz=227								
CHN8	**Yiju**	**1.66**	**241**	*e*P	Pb	13 21 49.9	-0.3		
	baz=242								
CHN8				*e*S	Sg	13 22 13.7	+0.6		
	baz=242								
ECL	**Taimali**	**1.74**	**206**	*e*P	Pn	13 21 50.1	+0.4		
	baz=193								
SSD	**Sandimen**	**1.77**	**217**	*e*P	Pb	13 21 51.9	-0.2		
	baz=230								
IRIF	**Iriomote-Funau**	**1.79**	**84**	P	Pn	13 21 50.8	+0.5		
IRIF				*e*S	Sb	13 22 14.5	-0.1		
HATJ	**Hateruma jima**	**1.85**	**93**	P	Pn	13 21 52.0	+0.8		
MASBT	**Mashibuluo**	**1.88**	**214**	*e*P	Pn	13 21 52.2	+0.6		
	baz=215								
EAST	**Anshuo**	**1.98**	**206**	*e*P	Pb	13 21 54.4	-1.2		
	baz=195								
JKRS	**Kuro-shima**	**2.03**	**88**	P	Pn	13 21 55.0	+1.3		
SCZT	**Fangliau**	**2.09**	**211**	*e*P	Pb	13 21 56.2	-1.3		
	baz=196								
PNG	**Penghu**	**2.13**	**254**	*e*P	Pn	13 21 56.0	+1.0		
	baz=258								
PNG				*e*S	Sn	13 22 21.7	+0.4		
	baz=258								
PHUB	**P'eng-hu**	**2.13**	**253**	*e*P	Pn	13 21 55.9	+0.9		
	baz=256								
PHUB				*e*S	Sb	13 22 22.9	-1.6		
	baz=256								
WDGT	**Dungji**	**2.15**	**245**	*e*P	Pn	13 21 56.1	+0.9		
	baz=248								
WDGT				*e*S	Sb	13 22 24.5	-0.6		
	baz=248								
JIJ	**Ishigaki jima**	**2.16**	**84**	P	Pn	13 21 55.8	+0.3		
JIJ				*e*S	Sn	13 22 22.8	+0.6		
PTTC	**Pingtan**	**2.26**	**306**	*e*P	Pn	13 21 56.3	-0.5		
	baz=305								
VWUC	**VWUC**	**2.28**	**291**	*e*P	Pn	13 21 56.9	-0.2		
	baz=280								
JISG	**Ishigakijimahi**	**2.34**	**79**	P	Pn	13 21 58.4	+0.4		
JISG				*e*S	Sn	13 22 26.6	0.0		
VCHM	**Qimei**	**2.36**	**247**	*e*P	Pn	13 21 59.2	+1.0		
	baz=232								
VCHM				*e*S	Sb	13 22 29.6	-1.7		
	baz=232								
TWKBT	**Hengchun**	**2.39**	**202**	*e*P	Pn	13 22 00.3	+1.6		
	baz=192								
PTMZ	**Houxiangcun**	**2.57**	**290**	*e*P	Pn	13 22 01.0	-0.1		
	baz=290								
MATB	**Ma-tsu**	**2.58**	**320**	*e*P	Pn	13 22 01.0	-0.3		
	baz=317								
LYJJ	**Lanjiangzhen**	**2.99**	**323**	*e*P	Pn	13 22 07.3	+0.4		
	baz=320								
KNM	**Kinmen**	**3.07**	**275**	*e*P	Pn	13 22 10.2	+2.3		
	baz=275								
XPSS	**Dashiqiu**	**3.10**	**333**	*e*P	Pn	13 22 08.7	+0.3		
	baz=329								
KNMB	**Chin-men Tao**	**3.11**	**276**	*e*P	Pn	13 22 08.8	+0.3		
	baz=276								
MHZQ	**Yeshan**	**3.15**	**308**	*e*P	Pn	13 22 09.1	0.0		
	baz=306								
AXDP	**Jialang**	**3.55**	**283**	*e*P	Pn	13 22 14.9	+0.4		
	baz=282								
ZPLA	**Ao Xicun**	**3.69**	**267**	*e*P	Pn	13 22 16.8	+0.2		
	baz=268								

*TIR **10** 13:25:02.5, 42.11N×19.07E, h7km, Md2.8/3*
*ISCJB **10** 13:25:03.4±0.5, 42.13N±0.02×19.10E±0.03, h10km±3km, Error ellipse: s-maj=4.5km s-min=3.2km az=39.7*
*BEO **10** 13:25:03.9±0.9, 42.14N×19.19E, h12km±3km, ML2.0/6*
*PDG **10** 13:25:03.6±0.1, 42.14N×19.10E, h15km, MD2.4/3, ML2.4/11, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*
*SAR **10** 13:25:04.2±0.8, 42.13N×19.12E, h6km±1km, ML2.2/6*

ISC 10 13:25:02.7±1.0, 42°10N±0.03×19°09E±0.03, h20km±3km, n35, σ1§29/66, 13C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DRME	**Dracevica, Mon**	**0.11**	**40**	⇓*i*Pg	**Pg**		**13 25 06.7**	**-0.1**
DRME				*e*Sg	**Sg**		**13 25 09.2**	**-0.3**
DRME	**Dracevica, Mon**	**0.11**	**40**	⇓*i*Pg	**Pg**		**13 25 06.6**	**-0.2**
DRME				*e*Sg	**Sg**		**13 25 08.8**	**-0.7**
ULC	**Ulcinj**	**0.18**	**140**	⇑*i*Pg	**Pg**		**13 25 08.2**	**+0.6**
ULC				*e*Sg	**Sg**		**13 25 11.7**	**+0.8**
BUM	**Brajici-Budva**	**0.25**	**324**	⇑*i*Pg	**Pg**		**13 25 08.8**	**+0.2**
BUM				*e*Sg	**Sg**		**13 25 12.7**	**0.0**
PDG	**Podgorica**	**0.35**	**20**	*e*Pg	**Pg**		**13 25 09.9**	**-0.4**
PDG				*e*Sg	**Sg**		**13 25 15.0**	**-0.5**
PDG	**Podgorica**	**0.35**	**20**	⇑*i*Pg	**Pg**		**13 25 09.9**	**-0.4**
PDG				*e*Sg	**Sg**		**13 25 14.9**	**-0.5**
TTG	**Podgorica**	**0.35**	**20**	⇑*i*Pg	**Pg**		**13 25 10.1**	**-0.2**
TTG				*e*Sg	**Sg**		**13 25 15.2**	**-0.2**
CEME	**Cevo**	**0.46**	**344**	⇑*i*Pg	**Pg**		**13 25 11.9**	**-0.4**
CEME				*e*Sg	**Sb**		**13 25 18.8**	**0.0**
HCY	**Herceg Novi**	**0.56**	**308**	⇓*i*Pg	**Pg**		**13 25 14.1**	**+0.1**
HCY				*e*Sg	**Sn**		**13 25 23.0**	**-1.3**
HCY	**Herceg Novi**	**0.56**	**308**	⇑*i*Pg	**Pg**		**13 25 13.9**	**-0.1**
HCY				*e*Sg	**Sn**		**13 25 23.1**	**-1.3**
PUK	**Puka**	**0.60**	**95**	*i* SG	**Sb**		**13 25 14.9**	**-7.7**
PUK				*i* PG	Pn		13 25 24.4	+8.1
NKME	**Niksic**	**0.67**	**351**	⇓*i*Pg	**Pb**		**13 25 15.4**	**-0.4**
NKME				*e*Sg	**Sg**		**13 25 25.9**	**+0.8**
NKY	**Niksic**	**0.71**	**354**	⇓*i*Pg	**Pb**		**13 25 16.1**	**-0.5**
NKY				*e*Sg	**Sn**		**13 25 27.4**	**-0.9**
BCI	**Bajram Curri**	**0.77**	**70**	*i* PG	**Pg**		**13 25 18.0**	**+0.1**
BCI				*i* SG	**Sg**		**13 25 29.5**	**+1.2**
PVY	**Plav**	**0.81**	**52**	⇑*i*Pg	**Pb**		**13 25 18.4**	**+0.2**
PVY				*e*Sg	**Sn**		**13 25 30.8**	**+0.1**
KOME	**Kolasin**	**0.81**	**23**	⇑*i*Pg	**Pb**		**13 25 18.2**	**0.0**
KOME				*e*Sg	**Sn**		**13 25 30.6**	**-0.1**
TREB	**Trebinje**	**0.82**	**319**	*e*Pg	**Pb**		**13 25 18.1**	**-0.3**
TREB				*e*Sg	**Sn**		**13 25 31.9**	**+1.0**
TREB	**Trebinje**	**0.82**	**319**	⇑*i*Pg	**Pg**		**13 25 18.2**	**-0.7**
TREB				*e*Sg	**Sn**		**13 25 30.9**	**0.0**
BRY	**Bratogost**	**0.90**	**333**	⇓*i*Pg	**Pg**		**13 25 19.7**	**-0.6**
BRY				*e*Sg	**Sn**		**13 25 33.8**	**+0.9**
IVA	**Berane**	**0.97**	**37**	⇑*i*Pg	**Pn**		**13 25 21.4**	**0.0**
IVA				*e*Sg	**Sn**		**13 25 36.2**	**+1.5**
PHP	**Peshkopia**	**1.09**	**112**	*i* PG	**Pg**		**13 25 24.2**	**+0.2**
PHP				*i* SG	**Sg**		**13 25 40.7**	**+2.4**
UPM	**Unac-Piva**	**1.11**	**353**	⇑*i*Pg	**Pb**		**13 25 23.3**	**-0.1**
UPM				*e*Sg	**Sg**		**13 25 40.8**	**+1.8**
UPM	**Unac-Piva**	**1.11**	**353**	⇑*i*Pg	**Pn**		**13 25 22.9**	**-0.5**
UPM				*e*Sg	**Sg**		**13 25 38.7**	**-0.3**
PLE	**Pljevlja**	**1.25**	**10**	⇑*i*Pg	**Pg**		**13 25 26.4**	**-0.5**
PLE				*e*Sg	**Sg**		**13 25 45.5**	**+2.2**
STON	**Ston**	**1.28**	**307**	*e*Pn	**Pb**		**13 25 26.3**	**+0.1**
STON				Sn	**Sg**		**13 25 46.3**	**+1.9**
SJES	**Sjenica**	**1.33**	**29**	*e*Pg	**Pb**		**13 25 26.8**	**-0.3**
SJES				*e*Sg	**Sb**		**13 25 44.8**	**+1.1**
IVAS	**Ivanjica**	**1.67**	**28**	*e*Pg	**Pb**		**13 25 33.5**	**+0.7**
IVAS				*e*Sg	**Sb**		**13 25 53.9**	**+0.5**
KRUS	**Krusevo**	**1.77**	**114**	*i* Pn	**Pg**		**13 25 36.9**	**0.0**
BBLS	**Lazići**	**1.78**	**7**	*e*Pg	**Pg**		**13 25 35.8**	**-1.2**
BBLS				*e*Sg	**Sg**		**13 25 59.6**	**-0.6**
BBLS	**Lazići**	**1.78**	**7**	*e*Pn	**Pb**		**13 25 35.1**	**+0.4**
BBLS				*e*Sn	**Sb**		**13 25 57.7**	**+1.1**
SELS	**Selova**	**1.87**	**53**	*e*Pg	**Pb**		**13 25 36.3**	**+0.1**
SELS				*e*Sg	**Sb**		**13 26 00.3**	**+1.2**
HAPS	**Han Pijesak,Bl**	**1.99**	**357**	*e*Sn	**Sb**		**13 26 02.8**	**+0.2**
DIVS	**Divibare**	**2.10**	**18**	*e*Pn	**Pn**		**13 25 37.9**	**+1.0**
DIVS				*e*Sn	**Sn**		**13 26 03.2**	**+0.7**
DIVS	**Divibare**	**2.10**	**18**	*e*Pn	**Pb**		**13 25 39.6**	**-0.6**
DIVS				*e*Sn	**Sb**		**13 26 05.3**	**-0.7**
TEKS	**Tekeris**	**2.47**	**7**	*e*Sn	**Sb**		**13 26 14.8**	**-1.6**

*JMA **10** 13:34:06.5±0.4, 26.12N×143.38E, h0km, M4.0*
*ISCJB **10** 13:34:10.7±1.1, 26.2N±0.1×143.4E±0.1, h33km, mb3.8/5, Error ellipse: s-maj=21.3km s-min=8.7km az=140.8*
*IDC **10** 13:34:10.1±1.9, 26.07N×142.72E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.6/55, mbtmp3.8/6, ML3.0/1, Error ellipse: s-maj=64.0km s-min=23.0km az=81.0*

ISC 10 13:34:13.6±1.3, 26.1N±0.1×143.1E±0.2, h35km, n14, σ1§61/10, mb4.2/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**1.00**	**301**	P	**Pn**		**13 34 29.4**	**-1.8**
JHHJ				*e*S	**Sn**		**13 34 46.3**	**+2.2**
CBIJ	**Chichi jima**	**1.30**	**319**	P	**Pn**		**13 34 33.9**	**-1.4**
CBIJ				*e*S	**Sn**		**13 34 53.2**	**+1.8**
MJAR	**Matsushiro Arr**	**11.21**	**339**	Pn	**Pn**		**13 36 51.1**	**-0.3**
	0.1nm,0.3s,baz=156,slow=9.7,SNR=3.6							
H11N2	**WAKE ISLAND Hy**	**22.77**	**101**	T	T		14 02 58.9	
	baz=290,slow=74,SNR=30							
H11N1	**WAKE ISLAND Hy**	**22.77**	**101**	T	T		14 02 58.9	
	baz=290,slow=74,SNR=22							
H11N3	**WAKE ISLAND Hy**	**22.79**	**101**	T	T		14 03 00.1	
	baz=290,slow=74,SNR=26							
H11S3	**WAKE ISLAND Hy**	**23.05**	**104**	T	T		14 03 24.1	
	baz=294							
H11S1	**WAKE ISLAND Hy**	**23.05**	**104**	T	T		14 03 24.3	
	baz=294							
H11S2	**WAKE ISLAND Hy**	**23.07**	**104**	T	T		14 03 26.0	
	baz=294							
CMAR	**Chiang Mai Arr**	**41.44**	**269**	P	**P**		**13 41 55.7**	**-1.5**
	0.6nm,0.6s,baz=70,slow=5.9,SNR=5.7							
WRA	**Warramunga Arr**	**46.57**	**191**	P	**P**		**13 42 38.1**	**-0.1**
	2.2nm,0.7s,baz=9.1,slow=8.7,SNR=28							
FITZ	**Fitzroy Crossi**	**47.12**	**203**	P	**P**		**13 42 43.1**	**+0.6**
	2.1nm,0.7s,baz=21,slow=8.6,SNR=5.6							
ASAR	**Alice Springs**	**50.29**	**191**	P	**P**		**13 43 08.0**	**+1.2**
	0.1nm,0.4s,baz=15,slow=12,SNR=3.0							
FINES	**FINESS Array B**	**79.20**	**334**	P	**P**		**13 46 15.6**	**+0.9**
	2.0nm,0.7s,baz=57,slow=5.3,SNR=7.6							

*NIED **10** 13:39:00, 20.50N×122.40E, h8km, Mw4.4 Best double couple: M0=5.24000×10^15 NP1:φ=107.00000°, δ=36.00000°, λ=-23.00000°. NP2:φ=216.00000°, δ=77.00000°, λ=-124.00000°.*
*MAN **10** 13:39:44.8, 20.50N×122.48E, h31km, mb5.5, ML4.5, MS4.8*
*NEIC **10** 13:39:47.9±0.6, 20.47N×122.39E, h10km, mb4.2/4, Error ellipse: s-maj=12.0km s-min=6.4km az=104.0*
NEIC Felt [IV PIVS] at Uyugan and [III PIVS] at Basco.
*TAP **10** 13:39:47.8, 20.50N±122.6E, h53km±1km, ML5.1, D*
*IDC **10** 13:39:47.9±1.4, 20.62N×122.30E, h0km, mb4.0/10, mb1 4.1/12, mb1mx3.9/55, mbtmp4.1/12, ML4.8/2, MS3.4/6, Ms1 3.4/6, ms1mx3.1/46, Error ellipse: s-maj=31.0km s-min=20.1km az=127.0*
*JMA **10** 13:39:49.4±0.4, 20.

TWG	**Pinlang**	**2.72**	**330**	*e*P		**Pn**	13 40 30.3	**-0.1**
	baz=328								
TWG				*e*S		**Sn**	13 41 01.4	**-2.3**
	baz=328								
TWG	**Pinlang**	**2.72**	**330**	*e*Pn		**Pn**	13 40 30.0	**-0.4**
TWG				*e*Sn		**Sn**	13 41 02.3	**-1.4**
TWP	**Hsiaoliuchiu**	**2.77**	**313**	*e*P		**Pn**	13 40 32.1	**+1.1**
	baz=311								
TWP				*e*S		**Sn**	13 41 03.4	**-1.3**
	baz=311								
MASBT	**Mashibuluo**	**2.78**	**321**	*e*P		**Pn**	13 40 31.5	**+0.3**
	baz=318								
MASBT				*e*S		**Sn**	13 41 05.1	**-0.1**
	baz=318								
CVP	**Callao Caves**	**2.82**	**194**⇑	*i*P		**Pn**	13 40 29.6	**-2.1**
CVP				*i*S		**Sn**	13 41 02.5	**-3.5**
CHKT	**Chengkung**	**2.85**	**338**	*e*P		**Pn**	13 40 31.0	**-1.1**
	baz=335								
CHKT				*e*S		**Sn**	13 41 03.3	**-3.5**
	baz=335								
APYP	**Conner**	**2.85**	**206**	*e*P		**Pn**	13 40 29.2	**-2.9**
APYP				*e*S		**Sn**	13 41 00.8	**-6.0**
SSD	**Sandimen**	**2.89**	**323**	*e*P		**Pn**	13 40 33.3	**+0.6**
	baz=320								
SSD				*e*S		**Sn**	13 41 06.6	**-1.2**
	baz=320								
SGLT	**Jiouru**	**2.95**	**320**	*e*P		**Pn**	13 40 35.0	**+1.4**
	baz=318								
FULB	**Fuli**	**2.96**	**337**	*e*P		**Pn**	13 40 32.5	**-1.3**
	baz=335								
FULB				*e*S		**Sn**	13 41 07.4	**-2.4**
	baz=335								
ELDTW	**Lidau**	**3.07**	**333**	*e*P		**Pn**	13 40 34.9	**-0.3**
	baz=331								
ELDTW				*e*S		**Sn**	13 41 09.8	**-2.6**
	baz=331								
TWM1	**Shoushan**	**3.07**	**321**	*e*P		**Pn**	13 40 36.5	**+1.3**
	baz=318								
SLGT	**Liugui**	**3.08**	**326**	*e*P		**Pn**	13 40 36.8	**+1.5**
	baz=323								
TWF1	**Yuli**	**3.10**	**339**	*e*P		**Pn**	13 40 34.9	**-0.7**
	baz=336								
TWF1				*e*S		**Sn**	13 41 10.5	**-2.7**
	baz=336								
YULB	**Yu-li**	**3.14**	**339**	*e*P		**Pn**	13 40 35.3	**-0.9**
	baz=336								
YULB				*e*S		**Sn**	13 41 11.8	**-2.3**
	baz=336								
YULB	**Yu-li**	**3.14**	**339**	*e*Pn		**Pn**	13 40 35.5	**-0.7**
YULB				*e*Sn		**Sn**	13 41 12.1	**-2.0**
STYT	**Tauyuan**	**3.16**	**329**	*e*P		**Pn**	13 40 37.0	**+0.6**
	baz=327								
SGST	**Jiashian**	**3.18**	**326**	*e*P		**Pn**	13 40 38.2	**+1.5**
	baz=323								
HGSD	**Ruisui**	**3.19**	**341**	*e*P		**Pn**	13 40 35.5	**-1.4**
	baz=339								
HGSD				*e*S		**Sn**	13 41 12.0	**-3.4**
	baz=339								
EHY	**Hungye**	**3.24**	**340**	*e*P		**Pn**	13 40 36.8	**-0.7**
	baz=338								
EHY				*e*S		**Sn**	13 41 14.4	**-2.1**
	baz=338								
ABRA	**Dolores**	**3.28**	**212**	*e*P		**Pn**	13 40 35.4	**-2.7**
ABRA				*e*S		**Sn**	13 41 13.7	**-3.7**
CHN1	**Nanshi**	**3.30**	**326**	*e*P		**Pn**	13 40 39.9	**+1.6**
	baz=324								
WTP	**Ta-pu**	**3.30**	**328**	*e*P		**Pn**	13 40 40.0	**+1.6**
	baz=325								
WTP				*e*S		**Sn**	13 41 18.1	**0.0**
	baz=325								
TPUB	**Ta-pu**	**3.34**	**328**⇑	*e*P		**Pn**	13 40 40.5	**+1.6**
	baz=326								
TPUB				*e*S		**Sn**	13 41 18.6	**-0.4**
	baz=326								
TPUB	**Ta-pu**	**3.34**	**328**	*e*Pn		**Pn**	13 40 40.5	**+1.6**
YUS	**Yu-Shan**	**3.36**	**334**	*e*P		**Pn**	13 40 39.4	**-0.2**
	baz=332								
YUS				*e*S		**Sn**	13 41 18.2	**-1.9**
	baz=332								
EGFH	**Guangfu**	**3.36**	**342**	*e*P		**Pn**	13 40 38.8	**-0.4**
	baz=340								
PALP	**Palanan**	**3.37**	**182**	*e*P		**Pn**	13 40 37.1	**-2.2**
TWK	**Hsinying**	**3.38**	**326**	*e*P		**Pn**	13 40 41.0	**+1.5**
	baz=324								
TWK				*e*S		**Sn**	13 41 19.5	**-0.6**
	baz=324								
ALS	**Alishan**	**3.44**	**333**⇑	*e*P		**Pn**	13 40 41.6	**+1.1**
	baz=330								
ALS				*e*S		**Sn**	13 41 20.1	**-1.7**
	baz=330								
ESL	**Shilin**	**3.50**	**343**	*e*P		**Pn**	13 40 40.9	**-0.2**
	baz=341								
ESL				*e*S		**Sn**	13 41 18.5	**-4.3**
	baz=341								
CAUP	**Cauayan**	**3.56**	**191**	*e*P		**Pn**	13 40 41.8	**0.0**
CAUP				*e*S		**Sn**	13 41 23.5	**-0.8**
CHN5	**Tsauling**	**3.57**	**332**	*e*P		**Pn**	13 40 44.1	**+2.0**
	baz=329								
CHY	**Chiayi**	**3.61**	**328**	*e*P		**Pn**	13 40 44.0	**+1.5**
	baz=325								
CHY				*e*S		**Sn**	13 41 23.8	**-1.7**
	baz=325								
CHN2	**Minshiung**	**3.61**	**328**	*e*P		**Pn**	13 40 44.4	**+1.8**
	baz=326								
SSLB	**Suanglung**	**3.63**	**336**	⇑P		**Pn**	13 40 43.4	**+0.5**
	baz=334								
SSLB				*e*S		**Sn**	13 41 23.3	**-2.8**
	baz=334								
SSLB	**Suanglung**	**3.63**	**336**	*e*Pn		**Pn**	13 40 43.1	**+0.2**
SSLB				*e*Sn		**Sn**	13 41 27.9	**+1.7**
WLGB	**Puzi**	**3.66**	**326**	*e*P		**Pn**	13 40 44.8	**+1.6**
	baz=324								
WGK	**Gukeng**	**3.70**	**331**	*e*P		**Pn**	13 40 44.9	**+1.0**
	baz=329								
TWD	**Chiawan**	**3.71**	**347**	*e*P		**Pn**	13 40 43.3	**-0.7**
	baz=345								
TWD				*e*S		**Sn**	13 41 24.4	**-3.7**
	baz=345								
SMLT	**Sun Moon Lake**	**3.73**	**336**	*e*P		**Pn**	13 40 45.9	**+1.4**
	baz=334								
SMLT				*e*S		**Sn**	13 41 26.9	**-2.0**
	baz=334								
WJS	**Zhushan**	**3.75**	**334**	*e*P		**Pn**	13 40 45.9	**+1.4**
	baz=332								
TYC	**Yuchr**	**3.77**	**336**	*e*P		**Pn**	13 40 46.4	**+1.6**
	baz=334								
TYC				*e*S		**Sn**	13 41 28.3	**-1.3**
	baz=334								
HATJ	**Hateruma jima**	**3.77**	**18**	P		**Pn**	13 40 46.0	**+1.2**
HATJ				*e*S		**Sn**	13 41 27.7	**-2.0**
NACB	**Ninganchiao**	**3.80**	**347**	*e*P		**Pn**	13 40 43.6	**-1.7**
	baz=345								
NACB				*e*S		**Sn**	13 41 25.7	**-4.7**
	baz=345								
NACB	**Ninganchiao**	**3.80**	**347**	*e*Pn		**Pn**	13 40 44.4	**-0.9**
CHGB	**Renai**	**3.81**	**341**	*e*P		**Pn**	13 40 45.5	**0.0**
	baz=339								
WNT	**Mingjian**	**3.82**	**334**	*e*P		**Pn**	13 40 46.9	**+1.4**
	baz=332								
WSF	**Szhu**	**3.83**	**326**	*e*P		**Pn**	13 40 46.4	**+0.9**
	baz=324								
WSF				*e*S		**Sn**	13 41 28.6	**-2.4**
	baz=324								
WHF	**Hehuan Shan**	**3.86**	**343**	*e*P		**Pn**	13 40 45.2	**-1.2**
	baz=341								
WDGT	**Dungji**	**3.86**	**317**	*e*P		**Pn**	13 40 45.8	**-0.3**
	baz=315								
WDGT				*e*S		**Sn**	13 41 28.2	**-3.7**
	baz=315								
TDCB	**Techi**	**3.99**	**342**	*e*P		**Pn**	13 40 48.0	**0.0**
	baz=340								
JYNG	**Yonagunijimaku**	**4.00**	**5**	P		**Pn**	13 40 49.6	**+1.7**
JYNG				S		**Sn**	13 41 35.3	**+0.1**
JKRS	**Kuro-shima**	**4.01**	**20**	P		**Pn**	13 40 49.6	**+1.6**
JKRS				S		**Sn**	13 41 34.4	**-1.0**
YOJ	**Yonaguni jima**	**4.01**	**6**	*e*Pn		**Pn**	13 40 49.9	**+1.8**
YOJ	**Yonaguni jima**	**4.01**	**6**	P		**Pn**	13 40 49.6	**+1.5**
YOJ				*e*S		**Sn**	13 41 35.0	**-0.6**
IRIF	**Iriomote-Funau**	**4.02**	**16**	P		**Pn**	13 40 49.2	**+1.0**
IRIF				S		**Sn**	13 41 34.6	**-1.1**
NANB	**Nanao**	**4.02**	**350**	*e*P		**Pn**	13 40 47.3	**-0.9**
	baz=348								
NANB				*e*S		**Sn**	13 41 31.9	**-3.9**
	baz=348								
ENA	**Nanau**	**4.02**	**350**	*e*P		**Pn**	13 40 48.3	**0.0**
	baz=348								
TCU	**Taichung**	**4.06**	**335**	*e*P		**Pn**	13 40 51.1	**+2.3**
	baz=333								
NNSB	**Datong**	**4.10**	**345**	*e*P		**Pn**	13 40 49.5	**+0.1**
	baz=343								
JIJ	**Ishigaki jima**	**4.17**	**21**	P		**Pn**	13 40 51.6	**+1.4**
JIJ				S		**Sn**	13 41 37.0	**-2.4**
YHNB	**Yeheng**	**4.33**	**346**	*e*Pn		**Pn**	13 40 53.3	**+0.7**
JISG	**Ishigakijimahi**	**4.43**	**21**	P		**Pn**	13 40 54.9	**+1.0**
JISG				*e*S		**Sn**	13 41 44.4	**-1.4**
TATO	**Taipei**	**4.60**	**348**	*e*Pn		**Pn**	13 40 57.8	**+1.6**
JTJ	**Tarama**	**4.62**	**25**	P		**Pn**	13 40 58.8	**+2.3**
JTJ				S		**Sn**	13 41 50.2	**-0.4**
SMPP	**San Manuel, Pa**	**4.63**	**203**	*e*P		**Pn**	13 40 54.2	**-2.4**
SMPP				*e*S		**Sn**	13 41 45.2	**-5.6**
BOLP	**Bolinao**	**4.75**	**212**	*e*P		**Pn**	13 40 57.3	**-1.0**
BOLP				*e*S		**Sn**	13 41 51.5	**-2.4**
BALP	**Baler**	**4.77**	**191**	*e*P		**Pn**	13 40 56.7	**-1.9**
BALP				*e*S		**Sn**	13 41 49.8	**-4.5**
JIRB	**Irabujima**	**4.99**	**29**	P		**Pn**	13 41 03.2	**+1.6**
JIRB				S		**Sn**	13 41 58.8	**-0.9**
JMJ	**Miyako jima 2**	**5.03**	**30**	P		**Pn**	13 41 04.7	**+2.5**
JMJ				S		**Sn**	13 42 01.0	**+0.2**
JOGS	**Gusukube**	**5.04**	**31**	P		**Pn**	13 41 04.4	**+2.1**
JOGS				*e*S		**Sn**	13 42 00.9	**0.0**
JIKM	**Ikemajima**	**5.11**	**29**	P		**Pn**	13 41 03.5	**+0.3**
JIKM				*e*S		**Sn**	13 42 02.1	**-0.4**
SCZP	**Santa Cruz**	**5.28**	**209**	*e*P		**Pn**	13 41 04.4	**-1.1**
SCZP				*e*S		**Sn**	13 42 03.5	**-3.3**
TGY	**Tagaytay City**	**6.50**	**194**	Pn		**Pn**	13 41 24.5	**+2.1**
	57nm,0.3s,baz=184,slow=1.3,SNR=6.7								
TGY				Sn		**Sn**	13 42 44.0	**+7.0**
	56nm,0.3s,baz=232,slow=17,SNR=2.4								
GQP	**Guinayangan**	**6.51**	**181**⇓	*e*P		**Pn**	13 41 21.9	**-0.6**
GQP				*e*S		**Sn**	13 42 31.1	**-6.1**
BOAC	**Boac**	**6.99**	**186**	*e*P		**Pn**	13 41 27.5	**-1.5**
JKE	**Kume jima 2**	**7.03**	**33**	P		**Pn**	13 41 30.6	**+1.0**
JKE				*e*S		**Sn**	13 42 45.8	**-4.1**
JJT3	**Tamagusuku3**	**7.44**	**39**	P		**Pn**	13 41 36.4	**+1.2**
JJT3				*e*S		**Sn**	13 42 55.4	**-4.7**
JAGN	**Aguni-jima**	**7.48**	**34**	P		**Pn**	13 41 36.8	**+1.0**
JAGN				*e*S		**Sn**	13 42 58.9	**-2.1**
JNTH	**Nagotoyohara**	**7.86**	**39**	P		**Pn**	13 41 43.2	**+2.2**
JIH	**Iheya**	**8.23**	**36**	P		**Pn**	13 41 46.1	**+0.1**
JIH				*e*S		**Sn**	13 43 13.1	**-6.3**
JOW	**Kunigami**	**8.25**	**39**	Pn		**Pn**	13 41 47.2	**+0.9**
	17nm,0.3s,baz=144,slow=19,SNR=19								
JOW				Sn		**Sn**	13 43 12.5	**-7.4**
	5.3nm,0.3s,baz=102,slow=20,SNR=3.4								
JOW	**Kunigami**	**8.25**	**39**	P		**Pn**	13 41 47.3	**+1.0**
JOW				*e*S		**Sn**	13 43 13.9	**-6.0**
JYRO	**Yoronjima**	**8.49**	**39**	P		**Pn**	13 41 50.4	**+0.7**
JYRO				*e*S		**Sn**	13 43 19.0	**-7.0**
JTK	**Tokunoshima**	**9.36**	**38**	P		**Pn**	13 42 01.7	**+0.1**
JTK				*e*S		**Sn**	13 43 38.9	**-8.4**
JMZ	**Minamidaito 2**	**9.61**	**55**	P		**Pn**	13 42 03.9	**-1.1**
JMZ				S		Sn	13 43 43.1	-10
JAMN	**Amaminishikomi**	**9.84**	**37**	P		**Pn**	13 42 08.1	**0.0**
JNU	**Nakatsue**	**14.64**	**29**	LR		LR	13 48 47.3	
	comp=Z,112nm,20.0s,baz=121,slow=37								
MYLDM	**Lahad Datu**	**15.68**	**195**	*e*Pn		**Pn**	13 43 28.0	**+0.3**
	68nm,2.0s								
KSAR	**Wonju Array Be**	**17.56**	**14**	P		**P**	13 43 52.7	**+0.1**
KSRS	**Korea Array**	**17.58**	**14**	P		**P**	13 43 52.7	**-0.1**
	0.1nm,0.3s,baz=199,slow=11,SNR=3.6								
SBUM	**Sibu**	**20.53**	**211**	*e*P		**P**	13 44 24.2	**-1.2**
	7.1nm,0.7s								
MJAR	**Matsushiro Arr**	**21.09**	**37**	P		P	13 44 41.8	+10
	2.4nm,0.8s,baz=231,slow=9.4,SNR=5.3								
MJAR				LR		LR	13 53 07.6		
	comp=Z,75nm,19.6s,baz=240,slow=38								
CHTO	**Chiang Mai**	**22.28**	**270**	*e*P		**P**	13 44 43.7	**-0.5**
	5.6nm,1.0s								
CM01	**Chiang Mai Arr**	**22.32**	**269**	*e*P		**P**	13 44 43.9	**-0.8**
CMAR	**Chiang Mai Arr**	**22.33**	**269**	P		**P**	13 44 45.8	**+1.0**
	1.1nm,0.7s,baz=72,slow=9.0,SNR=13								
USRK	**Ussuriysk Ar.**	**24.95**	**16**	P		**P**	13 45 12.6	**+2.3**
	2.1nm,1.0s,baz=196,slow=9.8								
BRDH	**Bariadhala**	**28.79**	**280**	LR		LR	13 58 30.4		
	comp=Z,72nm,18.6s,baz=144,slow=39								
ASAJ	**Asahikawa**	**28.91**	**31**	LR		LR	13 56 59.9		
	comp=Z,96nm,21.7s,baz=238,slow=36								
KLR	**Kul'dur**	**29.64**	**12**	P		**P**	13 45 53.3	**+1.0**
	2.1nm,0.7s,baz=242,slow=5.5,SNR=7.6								
SONM	**Songino Array**	**30.28**	**338**	P		**P**	13 45 57.5	**-0.7**
	1.9nm,1.1s,baz=154,slow=10,SNR=6.3								
H11N1	**WAKE ISLAND Hy**	**41.57**	**83**	T		T	14 32 40.1		
	baz=278,slow=75,SNR=34								
H11N2	**WAKE ISLAND Hy**	**41.57**	**83**	T		T	14 32 51.6		
	baz=278,slow=75,SNR=18								
H11S3	**WAKE ISLAND Hy**	**41.58**	**85**	T		T	14 32 41.2		
	baz=281,slow=74,SNR=55								
H11N3	**WAKE ISLAND Hy**	**41.59**	**83**	T		T	14 32 42.3		
	baz=278,slow=75,SNR=15								
H11S1	**WAKE ISLAND Hy**	**41.59**	**85**	T		T	14 32 45.4		
	baz=281,slow=74,SNR=52								
H11S2	**WAKE ISLAND Hy**	**41.60**	**85**	T		T	14 32 38.7		
	baz=281,slow=74,SNR=49								
MK01	**Makanchi Array**	**41.90**	**318**	*e*P		**P**	13 47 37.7	**+0.4**
MK31	**Makanchi Array**	**41.91**	**318**	*e*P		**P**	13 47 37.8	**+0.3**
MKAR	**Makanchi Array**	**41.91**	**318**	P		**P**	13 47 38.1	**+0.7**
	1.8nm,0.8s,baz=108,slow=9.7,SNR=11								
ZAA0	**Zalesovo Array**	**44.05**	**329**	*e*P		**P**	13 47 55.0	**+0.3**
	3.8nm,0.6s								
ZALV	**Zalesovo Beam**	**44.05**	**329**	P		**P**	13 47 54.3	**-0.4**
	1.3nm,0.6s,baz=116,slow=10,SNR=5.9								
ZALV				LR		LR	14 06 58.9		
	comp=Z,56nm,18.6s,baz=60,slow=37								
ZALV	**Zalesovo Beam**	**44.05**	**329**	*e*P		**P**	13 47 54.5	**-0.2**
KURK	**Kurchatov**	**45.77**	**322**	P		**P**	13 48 08.2	**-0.1**
KURBB	**Kurchatov Arra**	**45.78**	**322**	P		**P**	13 48 08.3	**-0.2**
	3.6nm,0.2s,baz=111,slow=8.1								
AKTO	**Aktyubinsk**	**58.33**	**317**	LR		LR	14 16 51.2		
	comp=Z,61nm,20.4s,baz=216,slow=38								
ILAR	**Eielson Array**	**71.95**	**27**	P		**P**	13 51 13.7	**+3.5**
	0.4nm,0.9s,baz=280,slow=6.0,SNR=3.0								
ARCES	**ARCESS Array B**	**73.45**	**339**	P		**P**	13 51 21.5	**+2.4**
	1.8nm,0.9s,baz=82,slow=6.5,SNR=3.3								
FINES	**FINESS Array B**	**75.29**	**330**	P		**P**	13 51 31.1	**+1.3**
	2.9nm,0.9s,baz=90,slow=5.7,SNR=3.4								

BJI ***10*** *13:43:29.4,5.˚06S×134.˚19E,h17km,mb4.9/47,mB5.2/31, Ms4.7/18,Ms7 4.4/14*

NEIC ***10*** *13:43:31.6±0.2,4.˚96S×134.˚02E,h10km,mb4.9/35,Error ellipse: s-maj=6.3km s-min=4.2km az=87.0*

IDC ***10*** *13:43:31.5±0.4,4.˚75S×133.˚94E,h0km,mb4.6/22, mb1 4.7/27,mb1mx4.6/41,mbtmp4.6/27,ML4.7/5,MS4.1/18, Ms1 4.1/18,ms1mx3.9/34,Error ellipse: s-maj=16.2km s-min=10.8km az=66.0*

ISCJB ***10*** *13:43:32.5±0.2,4.˚99S±0.˚03×134.˚06E±0.˚03,h28km, mb4.7/86,MS4.2/22,Error ellipse: s-maj=4.2km s-min=3.7km az=19.3*

GCMT ***10*** *13:43:33.6±0.3,4.˚63S±0.˚03×133.˚90E±0.˚02,h18km±1km, MW5.0/62,Moment Tensor Solution. s24,c27; s62,c78; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.46±.21; Mθθ=0.38±.12; Mϕϕ2.84±.14; Mrθ1.87±.49; Mθϕ0.59±.08; Mϕr0.58±.27; Best double couple: M₀3.34100×10¹⁶ NP1:ϕs218.00000°,δ61.00000°,λ-58.00000°. NP2: ϕs345.00000°,δ42.00000°,λ-134.00000°. Principal axes: T 3.1150, Plg11.0000°, Azm285.0000°; N 0.4490, Plg28.0000°, Azm21.0000°; P -3.5680, Plg60.0000°, Azm176.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MOS ***10*** *13:43:34.3±1.1,4.˚80S×133.˚96E,h33km,mb5.1/31 Error ellipse: s-maj=10.7km s-min=6.1km az=116.5*

DJA ***10*** *13:43:35.2±0.7,5.˚5S±2.˚3×137.˚4E±.˚,h22km±7km,M4.9/19, mb4.8/19,mB5.2/7,MLv5.2/3,Mw(mB)4.6/7*

ISC 10 13:43:34.9±0.3,4.˚92S±0.˚04×133.˚94E±0.˚04,h28km,n204,
σ1°62/208,mb4.8/86,MS4.2/22,10C-5D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**1.27**	**349**	P		**Pb** 13 43 58.2	**0.0**
FAKI	**Fak Fak**	**2.61**	**320**	*e*Pn		**Pn** 13 44 13.9	**-1.3**
FAKI	**Fak Fak**	**2.61**	**320**	P		**Pn** 13 44 13.8	**-1.4**
FAKI				S		**Sn** 13 44 43.1	**-2.8**
RKPI	**Ransiki, Papua**	**3.39**	**4**	P		**Pn** 13 44 24.5	**-1.5**
RKPI				S		**Sn** 13 45 02.6	**-2.7**
SRPI	**Serui, Papua**	**3.80**	**37**	P		**Pn** 13 44 29.9	**-1.7**
SAUI	**Saumlaki**	**4.02**	**221**	*e*Pn		**Pn** 13 44 37.5	**+2.8**
BNDI	**Bandanaira**	**4.04**	**275**	P		**Pn** 13 44 37.5	**+2.5**
SIJI	**Sorong**	**4.83**	**326**	Pn		**Pn** 13 44 44.0	**-1.8**
	31nm,0.3s,baz=6.6,slow=21,SNR=61						
SIJI				Sn		**Sn** 13 45 32.8	**-8.0**
	20nm,0.3s,baz=104,slow=9.0,SNR=6.8						
SIJI				LR		LR 13 46 43.4	
	comp=Z,2μm,20.7s,baz=145,slow=41						
SWI	**Sorong**	**4.84**	**326**	P		**Pn** 13 44 45.5	**-0.4**
MSAI	**Masohi**	**5.24**	**287**	P		**Pn** 13 44 52.8	**+1.4**
SMPI	**Sarmi**	**5.58**	**59**	P		**Pn** 13 44 54.6	**-1.4**
SMPI				S		**Sn** 13 45 57.5	**-1.7**
AAI	**Ambon**	**5.86**	**282**	P		**Pn** 13 44 59.5	**-0.5**
AAI				pmax		pmax	
	comp=Z,302nm,0.7s						
AAI	**Ambon**	**5.86**	**282**	P		**Pn** 13 45 01.0	**+1.0**
JAY	**Jayapura**	**7.16**	**71**	Pn		**Pn** 13 45 16.9	**-0.9**
	comp=Z,4.7nm,0.3s,baz=232,slow=12,SNR=14						
JAY				Sn		**Sn** 13 46 37.6	**-0.7**
	comp=Z,3.3nm,0.3s,baz=108,slow=20,SNR=2.7						
JAY				LR		LR 13 48 59.7	
	comp=Z,1μm,19.1s,baz=228,slow=46						
JAY	**Jayapura**	**7.16**	**71**	P		**Pn** 13 45 16.3	**-1.5**
LBMI	**Labuha**	**7.71**	**303**	P		**Pn** 13 45 28.4	**+3.0**
MTN	**Manton Dam**	**8.35**	**199**	*e*Pn		**Pn** 13 45 34.7	**+0.5**
MTN				*e*Sn		**Sn** 13 47 05.9	**-1.7**
SANI	**Sanana**	**8.44**	**289**	P		**Pn** 13 45 33.4	**-1.9**
	comp=Z,83nm,1.0s,comp=Z,1μm						
TNTI	**Ternate**	**8.66**	**311**	*e*Pn		**Pn** 13 45 38.7	**+0.2**
TNTI	**Ternate**	**8.66**	**311**	P		**Pn** 13 45 39.3	**+0.8**
SOEI	**Soe**	**10.73**	**243**	*e*Pn		**Pn** 13 46 07.8	**+0.9**
SOEI	**Soe**	**10.73**	**243**	P		**Pn** 13 46 10.3	**+3.4**
	comp=Z,80nm,0.8s						
BBSI	**Bau Bau**	**11.34**	**267**	P		Pn 13 46 21.3	+6.1
KMSI	**Cibinong**	**11.35**	**298**	P		Pn 13 46 28.2	+13
BATI	**Baumata**	**11.46**	**242**	Pn		**Pn** 13 46 17.6	**+0.7**
	comp=Z,14nm,0.3s,baz=289,slow=1.9,SNR=9.4						
BATI				Sn		**Sn** 13 48 22.0	**-2.1**
	comp=Z,9.4nm,0.3s,baz=177,slow=19,SNR=4.3						
BATI	**Baumata**	**11.46**	**242**	P		Pn 13 46 32.7	+16
LUWI	**Luwuk**	**11.80**	**289**	*e*Pn		**Pn** 13 46 20.2	**-1.3**
EDFI	**Ende, Flores**	**12.75**	**252**	P		**P** 13 46 43.7	**-1.6**
COEN	**Coen**	**12.79**	**135**	*e*Pn		Pn 13 46 29.7	-5.3
APSI	**Ampana**	**12.90**	**288**	P		**Pn** 13 46 37.6	**+1.0**
	comp=Z,80nm,1.2s,comp=Z,912nm						
MRSI	**Marisa**	**13.13**	**284**	P		**Pn** 13 46 41.5	**+1.8**
	comp=Z,27nm,1.2s,comp=Z,387nm						
BKSI	**Bulukumba**	**13.77**	**268**	P		**Pn** 13 46 50.9	**+2.5**
	comp=Z,13nm,0.9s						
WRAB	**Tennant Creek**	**14.93**	**179**	*e*Pn		**Pn** 13 47 01.4	**-2.9**
WRAB	**Tennant Creek**	**14.93**	**179**⇑	*e*P		**Pn** 13 47 01.3	**-2.9**
WRAB				pmax		pmax	
	comp=Z,10.0nm,0.7s						
WRA	**Warramunga Arr**	**14.94**	**179**	Pn		**Pn** 13 47 00.8	**-3.6**
	comp=Z,3.6nm,0.3s,baz=356,slow=13,SNR=41						
WRA				Sn		Sn 13 49 40.4	-8.7
	comp=Z,1.3nm,0.3s,baz=2.7,slow=22,SNR=5.1						
WRA				Lg		Lg 13 51 27.6	
	baz=0.1,slow=31,SNR=4.9						
WRA				LR		LR 13 54 00.0	
	comp=Z,671nm,19.7s,baz=5.0,slow=42						
WB2	**Warramunga Arr**	**14.94**	**179**	*e*Pn		**Pn** 13 47 01.4	**-3.0**
MPSI	**Mapaga**	**14.97**	**290**	P		**P** 13 47 10.9	**+1.0**
FITZ	**Fitzroy Crossi**	**15.41**	**211**	Pn		**Pn** 13 47 07.8	**-2.7**
	comp=Z,3.1nm,0.3s,baz=39,slow=9.5,SNR=45						
FITZ				Sn		Sn 13 49 48.9	-12
	comp=Z,3.7nm,0.3s,baz=150,slow=13,SNR=8.5						
FITZ	**Fitzroy Crossi**	**15.41**	**211**	*e*Pn		**Pn** 13 47 07.4	**-3.2**
	comp=Z,13nm,0.6s						
FITZ				Sn		Sn 13 49 48.9	-12
AS01	**Alice Springs**	**18.64**	**180**	*e*P		**P** 13 47 50.0	**-0.6**
AS31	**Alice Springs**	**18.64**	**180**	*e*P		**P** 13 47 50.1	**-0.5**
	com

XAN pmax pmax
comp=Z,12nm,1.5s
XAN LR LR
comp=Z,210nm,18.4s
XAN LR LR
comp=Z,150nm,16.3s
CD2 Chengdu 45.83 323 *e*P **P 13 51 55.4 +0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
MSHR Mys Shultsa 47.34 357⇑ *e*P **P 13 52 06.9 +0.7**
BJT Baijiatuau 47.61 341 P **P 13 52 09.6 +1.2**
BJT pmax pmax
comp=Z,27nm,1.1s
USA0B Ussuriysk Arra 48.92 358 *e*P **P 13 52 18.0 -0.4**
comp=Z,6.8nm,0.9s
USRK Ussuriysk Ar. 48.92 358 P **P 13 52 18.5 +0.1**
comp=Z,5.6nm,0.8s,baz=175,slow=6.4,SNR=13
USRK LR LR 14 12 02.0
comp=Z,78nm,19.5s,baz=168,slow=35
CN2 Changchun 49.09 352 *e*P **P 13 52 22.5 +2.7**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
ASAJ Asahikawa 49.43 8 P **P 13 52 20.2 -2.1**
comp=Z,6.5nm,0.8s,baz=333,slow=2.3,SNR=3.5
LZH Lanzhou 49.59 328 *e*P **P 13 52 24.1 +0.2**
LZH pP pP 13 52 30.2 -2.2
LZH sP sP 13 52 33.0 -2.8
LZH *e*S **S 13 59 34.4 +3.8**
LZH sS sS 13 59 44.6 0.0
LZH SS **SS 14 02 57.6 -5.6**
LZH pmax pmax
comp=Z,54nm,1.3s
LZH pmax pmax
comp=Z,220nm,5.4s
LZH LR LR
comp=Z,1μm,14.9s
LZH LR LR
comp=Z,1μm,15.7s
HHC Hu-ho-hao-te 49.95 338 *e*P **P 13 52 29.6 +3.1**
HHC S **S 13 59 39.4 +4.0**
HHC pmax pmax
comp=Z,8.0nm,1.1s
HHC pmax pmax
comp=Z,82nm,5.5s
HHC LR LR
comp=Z,220nm,15.3s
HHC LR LR
comp=Z,160nm,14.1s
HHC LR LR
comp=Z,800nm,15.3s
SHL Shillong 50.83 309 *e*P **P 13 52 33.2 -0.4**
comp=Z,9.6nm,0.6s
SHL Shillong 50.83 309 *e*P **P 13 52 33.2 -0.4**
SHL pmax pmax
comp=Z,10.0nm,0.6s
BKZ Black Stump Fm 51.38 138 *e*P **P 13 52 35.3 -2.0**
comp=Z,4.1nm,0.9s
YSS Yuzh-Sakhalins 52.23 8 *e*P **P 13 52 43.0 -0.4**
YSS MLR MLR
comp=Z,300nm,16.0s
YSS MLR MLR
comp=N,300nm,15.0s
LSA Lhasa 53.55 313 P **P 13 52 55.8 +1.8**
LSA pmax pmax
comp=Z,8.0nm,0.8s
KLR Kul'dur 53.96 358 P **P 13 52 56.0 -0.1**
comp=Z,3.0nm,0.7s,baz=211,slow=5.8,SNR=9.8
KLR Kul'dur 53.96 358‖ *e*P **P 13 52 56.5 +0.4**
GTA Gaotai 54.19 328 P **P 13 52 59.2 +1.1**
GTA pP pP 13 53 05.3 -1.5
GTA sP sP 13 53 08.4 -1.7
GTA PcP **PcP 13 54 03.6 +1.2**
GTA pmax pmax
comp=Z,21nm,1.1s
GTA pmax pmax
comp=Z,86nm,5.7s
GTA LR LR
comp=Z,330nm,17.2s
GTA LR LR
comp=Z,240nm,17.3s
GTA LR LR
comp=Z,160nm,18.6s
PALK Pallekele 54.49 282 LR LR 14 19 00.3
comp=Z,144nm,19.1s,baz=119,slow=39
TYV Tymovskoe 56.06 7 *e*P **P 13 53 10.7 -0.5**
TYV pmax pmax
comp=Z,200nm,3.5s
TYV pmax pmax
comp=Z,11nm,1.6s
SONM Songino Array 57.84 338 P **P 13 53 24.7 +0.6**
comp=Z,2.4nm,0.9s,baz=155,slow=7.8,SNR=11
SONA1 Songino Array 57.85 338 *e*P **P 13 53 24.5 +0.3**
ZEA Zeya 58.71 355 *e*P **P 13 53 30.0 +0.1**
ZEA pmax pmax
comp=Z,46nm,1.4s
ZAK Zakamensk 61.10 338 *e*P **P 13 53 46.4 -0.1**
ZAK pmax pmax
comp=Z,5.0nm,1.8s
PETK Petropavlovsk- 61.19 16 P **P 13 53 45.0 -2.0**
comp=Z,1.9nm,0.7s,baz=225,slow=14
PETK LR LR 14 18 22.3
comp=Z,60nm,21.8s,baz=193,slow=34
PETK Petropavlovsk- 61.19 16 P **P 13 53 45.0 -2.0**
KNGR Kungurtug, Tuv 63.56 335‖ *e*P **P 13 54 03.9 +0.9**
WMQ Urumqi 63.90 324 P **P 13 54 06.7 +1.4**
WMQ pP pP 13 54 13.8 -0.3
WMQ pmax pmax
comp=Z,87nm,1.3s
WMQ pmax pmax
comp=Z,230nm,4.5s
WMQ LR LR
comp=Z,220nm,19.9s
WMQ LR LR
comp=Z,190nm,15.5s
WMQ LR LR
comp=Z,100nm,15.5s
BOD Bodaibo 64.57 348 *e*P **P 13 54 08.8 -0.6**
BOD pmax pmax
comp=Z,21nm,1.5s
HVS Khovu-Aksy 65.60 333‖ *e*P **P 13 54 17.3 +1.0**
HVS pmax pmax
comp=Z,20nm,1.2s
YAK Yakutsk 66.84 358 *e*P **P 13 54 24.1 +0.2**
comp=Z,59nm,0.9s
YAK Yakutsk 66.84 358 *e*P **P 13 54 22.1 -1.7**
YAK *e**PP **pP 13 54 29.6 -3.0**
YAK *e* 13 54 48.9
YAK *e* 13 56 53.4
YAK *e*S **S 14 03 16.3 +1.9**
YAK *e**SS **sS 14 03 34.2 +5.3**
YAK pmax pmax
comp=Z,44nm,0.9s
YAK pmax pmax
comp=N,17nm,1.5s
YAK pmax pmax
comp=E,7.0nm,1.4s
YAK pmax pmax
comp=Z,5.0nm,0.6s
YAK pmax pmax
comp=N,3.0nm,0.7s
YAK smax smax
comp=N,114nm,7.8s
YAK smax smax
comp=E,84nm,3.9s
YAK MLR MLR
comp=Z,140nm,16.0s
YAK MLR MLR
comp=N,145nm,23.0s
DGZ Jazzator, Alta 67.64 329 *d i*P **P 13 54 30.1 +0.7**
DGZ pmax pmax
comp=Z,9.0nm,1.1s
PDGK Podgornoye 68.62 320 P **P 13 54 36.7 +1.0**
PDGK pmax pmax
comp=Z,14nm,1.1s
MK01 Makanchi Array 68.70 325 *e*P **P 13 54 36.3 +0.2**
MK31 Makanchi Array 68.72 325 *e*P **P 13 54 36.3 +0.1**
MK31 Makanchi Array 68.72 325 *e*P **P 13 54 36.3 +0.1**
MKAR Makanchi Array 68.72 325 P **P 13 54 36.7 +0.5**
comp=Z,11nm,0.7s,baz=122,slow=7.4,SNR=54
MKAR Makanchi Array 68.72 325 *e*P **P 13 54 35.9 -0.3**
comp=Z,117nm,1.0s
MKAR Makanchi Array 68.72 325 *e*P **P 13 54 35.9 -0.3**
MKAR pmax pmax
comp=Z,117nm,1.0s

PRZ Przheval'sk 68.92 319 *e*P **P 13 54 38.1 +0.4**
comp=Z,26nm,1.1s
PRZ Przheval'sk 68.92 319 *e*P **P 13 54 38.1 +0.4**
PRZ pmax pmax
comp=Z,26nm,1.1s
SEY Seymchan 69.10 9⇑ *i*P **P 13 54 38.9 +0.8**
KSH Kashi 69.22 315 P **P 13 54 41.2 +1.7**
KSH pP pP 13 54 47.2 -1.1
KSH S **S 14 03 44.0 -0.1**
KSH SS **SS 14 08 14.3 +3.2**
KSH pmax pmax
comp=Z,23nm,0.8s
KSH pmax pmax
comp=Z,260nm,3.5s
KSH LR LR
comp=Z,330nm,7.1s
KSH LR LR
comp=Z,210nm,8.0s
KSH LR LR
comp=Z,490nm,7.3s
KDJ Kajisay 69.55 318 *e*P **P 13 54 41.9 +0.3**
comp=Z,12nm,0.9s
KDJ Kajisay 69.55 318 *e*P **P 13 54 41.9 +0.3**
KDJ pmax pmax
comp=Z,12nm,0.9s
BOOM Boomskoye usch 70.54 318 P **P 13 54 48.3 +0.7**
BOOM pmax pmax
comp=Z,15nm,1.1s
KZA Kyzart 70.82 318 P **P 13 54 51.2 +1.6**
SNR=10
TKM2 Tokmak 2 70.95 319 P **P 13 54 51.3 +1.1**
SNR=9.2
SFK Sufi-Kurgan 71.16 315 P **P 13 54 53.0 +1.5**
SFK pmax pmax
comp=Z,8.0nm,2.0s
UCH Uchtor 71.38 318 P **P 13 54 54.2 +1.1**
SNR=12
ZAA0 Zalesovo Array 71.53 332 *e*P **P 13 54 52.2 -0.9**
comp=Z,6.7nm,1.0s
ZALV Zalesovo Beam 71.53 332 P **P 13 54 52.6 -0.5**
comp=Z,4.1nm,0.8s,baz=108,slow=5.2,SNR=16
ZALV Zalesovo Beam 71.53 332 *e*P **P 13 54 51.9 -1.3**
ZALV Zalesovo Beam 71.53 332 *e*P **P 13 54 51.9 -1.3**
AAK Ala-Archa 71.56 318 P **P 13 54 54.9 +1.1**
comp=Z,6.1nm,0.9s,baz=136,slow=4.4,SNR=8.5
AAK LR LR 14 29 03.9
comp=Z,53nm,21.3s,baz=104,slow=38
AAK Ala-Archa 71.56 318 P **P 13 54 55.2 +1.3**
SNR=7.8
AAK Ala-Archa 71.56 318 *e*P **P 13 54 54.2 +0.4**
comp=Z,10.0nm,1.0s
AAK Ala-Archa 71.56 318 *d i*P **P 13 54 54.7 +0.9**
AAK pmax pmax
comp=Z,12nm,1.1s
USP Ospenovka 71.83 319 P **P 13 54 56.2 +1.0**
SNR=12
AML Almayashu 71.89 317 P **P 13 54 57.8 +1.7**
SNR=15
NVS Novosibirsk 72.81 332⇑ *i*P **P 13 55 00.8 0.0**
NVS pmax pmax
comp=Z,12nm,1.3s
NVS pmax pmax
comp=N,6.0nm,1.2s
NVS pmax pmax
comp=E,7.0nm,1.4s
MNAS Manas 72.84 317 P **P 13 55 02.8 +1.4**
MNAS pmax pmax
comp=Z,13nm,1.1s
KURK Kurchatov 72.86 327 *e*P **P 13 55 00.8 -0.4**
comp=Z,22nm,1.1s
KURK Kurchatov 72.86 327 *c i*P **P 13 55 01.9 +0.7**
KURK pmax pmax
comp=Z,27nm,1.2s
KURBB Kurchatov Arra 72.86 327 P **P 13 55 01.2 0.0**
comp=Z,12nm,1.0s,baz=123,slow=5.5,SNR=28
BTK Batken 73.08 314 P **P 13 55 02.6 -0.2**
BTK pmax pmax
comp=Z,8.0nm,1.1s
VNDA Vanda 74.06 174 P **P 13 55 09.2 +1.3**
comp=Z,4.1nm,0.9s,baz=320,slow=6.3,SNR=15
VNDA LR LR 14 26 46.8
comp=Z,258nm,19.9s,baz=354,slow=35
VNDA Vanda 74.06 174 *e*P **P 13 55 07.3 -0.5**
comp=Z,8.0nm,1.1s
VNDA Vanda 74.06 174 *e*P **P 13 55 07.3 -0.5**
VNDA pmax pmax
comp=Z,8.0nm,1.1s
KK31 Karatay Array 74.43 317 *e*P **P 13 55 09.9 -0.7**
KK31 Karatay Array 74.43 317 *e*P **P 13 55 09.9 -0.7**
KKAR Karatay Array 74.43 317 *e*P **P 13 55 10.0 -0.6**
KKAR Karatay Array 74.43 317 *e*P **P 13 55 10.0 -0.6**
SBA Scot Base 74.90 173 *e*P **P 13 55 11.9 -0.8**
comp=Z,8.9nm,1.1s
SBA Scott Base 74.90 173 *e*P **P 13 55 11.9 -0.8**
SBA pmax pmax
comp=Z,9.0nm,1.1s
OTUK Ortayu 75.32 323 P **P 13 55 16.6 +0.9**
OTUK pmax pmax
comp=Z,14nm,1.0s
PPT2 Papeete2 75.66 107 *e*SS SS 14 09 49.7 -0.5
comp=Z,92nm,24.8s
PPT2 *e*LR LR 14 18 37.8
comp=Z,354nm,36.8s
PPT Papeete 75.66 107 LR LR 14 27 16.6
comp=Z,48nm,20.1s,baz=278,slow=35
TBI Tubuai 75.77 113 *e*LR LR 14 18 44.7
comp=Z,176nm,26.2s
BILL Bilibino 76.24 12 *e*P **P 13 55 19.4 -1.1**
BILL *e* 13 55 29.4
BILL *e* 13 58 12.5
BILL *e*PPP PPP 14 00 00.5
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL MLR MLR
comp=Z,117nm,18.0s
TIXI Tiksi 76.49 358⇑ *i*P **P 13 55 21.3 -0.5**
TIXI pmax pmax
comp=Z,17nm,1.0s
MAW Mawson 78.32 202 P **P 13 55 34.9 +2.8**
comp=Z,7.8nm,1.0s,baz=68,slow=8.4,SNR=5.5
MAW LR LR 14 28 13.1
comp=Z,256nm,19.2s,baz=58,slow=34
WSAR Wadi Sarin 78.52 295 P **P 13 55 35.5 +1.3**
comp=Z,2.2nm,0.9s,baz=84,slow=7.6,SNR=4.2
BRVK Borovoye 78.52 326 *e*P **P 13 55 32.4 -1.2**
comp=Z,13nm,0.9s
BRVK Borovoye 78.52 326 *e*P **P 13 55 32.4 -1.2**
BRVK pmax pmax
comp=Z,13nm,0.9s
NRIK Noril'sk 80.54 345 P **P 13 55 44.8 +0.6**
comp=Z,9.6nm,0.8s,baz=126,slow=5.4,SNR=8.0
NRIK LR LR 14 32 49.7
comp=Z,207nm,20.7s,baz=140,slow=37
GEYT Alibeck 81.90 309 P **P 13 55 53.1 +0.9**
comp=Z,4.7nm,1.0s,baz=115,slow=2.5,SNR=9.4
GYA0B ALIBECK ARRAY 81.90 309 *e*P **P 13 55 52.1 -0.1**
comp=Z,10nm,1.0s
ABKAR Akbulak array 83.36 321 *e*P **P 13 55 58.4 -1.0**
SYO Syowa Base 87.01 201‖ *i*P **P 13 56 19.0 +1.7**
PPLA Purkeypile 87.07 26 *e*P **P 13 56 17.8 -0.1**
comp=Z,9.7nm,1.2s
SKT Skwentna 87.11 27 *e*P **P 13 56 17.2 -0.7**
comp=Z,14nm,1.1s
CAST Castle Rocks 87.27 26 *e*P **P 13 56 18.4 -0.3**
comp=Z,7.4nm,0.9s
SUA Susitna One 87.33 28 *e*P **P 13 56 18.6 -0.6**
comp=Z,20nm,1.0s
IM3 Indian Mountai 87.35 23 *e*P **P 13 56 19.2 +0.2**
SEW Seward 87.60 29 *e*P **P 13 56 19.6 -0.6**
comp=Z,28nm,1.2s
BPAW Bear Paw Mtn. 87.92 25 *e*P **P 13 56 20.8 -1.0**
comp=Z,6nm,1.0s
TRF Thorofare Moun 88.05 26 *e*P **P 13 56 21.9 -0.7**
GHO Glory Hole Cre 88.25 28 *e*P **P 13 56 22.8 -0.7**
comp=Z,14nm,1.0s
MLY Manley 88.27 24 *e*P **P 13 56 23.9 +0.4**
comp=Z,8.6nm,1.0s
SML Sawmill 88.53 28 *e*P **P 13 56 24.8 0.0**
comp=Z,33nm,1.0s
RND Reindeer 88.67 26 *e*P **P 13 56 24.7 -0.7**
comp=Z,14nm,0.9s
RND Reindeer 88.67 26 *e*P **P 13 56 24.7 -0.7**
RND pmax pmax
comp=Z,14nm,0.9s
WRH Wood River Hil 89.24 25 *e*P **P 13 56 27.5 -0.4**
comp=Z,11nm,1.1s

CCB Clear Creek Bu 89.40 25 *e*P **P 13 56 28.0 -0.7**
comp=Z,9.8nm,1.0s
TOLK Toolik Lake Re 89.65 21 *e*P **P 13 56 30.4 +0.5**
comp=Z,9.9nm,1.1s
IL1 Eielson Array 89.81 25 *e*P **P 13 56 28.9 -1.7**
ILAR Eielson Array 89.81 25 P **P 13 56 29.6 -1.1**
comp=Z,3.1nm,1.0s,baz=273,slow=4.7,SNR=19
ILB Eielson Array 89.81 25 *e*P **P 13 56 29.4 -1.3**
RAYN Ar Rayn 90.51 293 *e*P **P 13 56 35.9 +1.0**
comp=Z,8.6nm,1.1s
RAYN Ar Rayn 90.51 293 *e*P **P 13 56 35.9 +1.0**
RAYN pmax pmax
comp=Z,9.0nm,1.1s
KIV Kislovodsk 94.28 314 *e*P **P 13 56 49.7 -2.3**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KMBO Kilima Mbogo 96.57 268 LR LR 14 37 43.7
comp=Z,65nm,20.8s,baz=92,slow=34
OBN Obninsk 98.23 325‖ *e*P **P 13 57 08.9 -0.6**
OBN *e* 14 01 12.1
OBN *e*PPP PPP 14 03 12.4
OBN pmax pmax
comp=Z,13nm,1.2s
SNAA Sanae 98.57 193 *de*P **P 13 57 11.7 +0.9**
ARCES ARCESS Array B 100.98 340 P **Pdif 13 57 21.9 +0.4**
comp=Z,3.9nm,1.0s,baz=95,slow=6.4,SNR=2.5
TXAR Lajitas Array 120.50 59 PKP **PKPdf 14 02 25.3 +0.6**
comp=Z,0.5nm,0.8s,baz=268,slow=3.1,SNR=4.1
TORD Torodi Ar. Bea 132.21 283 PKP **PKPdf 14 02 47.8 +0.5**
comp=Z,0.3nm,0.7s,baz=347,slow=5.9,SNR=3.6
NNA Nana 145.08 119 PKPbc **PKPdf 14 03 11.9 +1.1**
comp=Z,26nm,0.8s,baz=246,slow=8.0,SNR=8.9
NNA Nana 145.08 119 *c i*PKIKP **PKPdf 14 03 12.7 +1.8**
ATAH Atahualpa 145.58 110 PKPbc **PKPab 14 03 15.0 +2.3**
comp=Z,17nm,0.7s,baz=312,slow=3.7,SNR=11
CPUP Villa Florida 147.07 161 PKPbc **PKPbc 14 03 16.6 +0.7**
comp=Z,11nm,1.1s,baz=229,slow=3.4,SNR=9.6
LPAZ La Paz 149.66 134 PKPbc **PKPbc 14 03 25.7 +1.9**
comp=Z,6.4nm,0.9s,baz=22,slow=1.6,SNR=7.9
ROSC El Rosal 151.84 89 PKPbc **PKPbc 14 03 29.4 +0.6**
comp=Z,14nm,0.8s,baz=162,slow=3.1,SNR=6.6

AZER ***10*** *13:48:07.1±0.1,38.34N×46.50E,h10km,ml4.3/25,Error ellipse: s-maj=3.4km s-min=1.1km az=30.0*
TEH ***10*** *13:48:09.5,38.49N×46.62E,h4km,ML4.0*
THR ***10*** *13:48:11.9±0.6,38.49N×46.73E,h14km±7km,ML3.9*
IDC ***10*** *13:48:11.0±0.9,38.58N×46.63E,h0km,mb3.7/6, mb1 3.9/11,mb1mx3.7/48,mbtmp3.7/11,ML3.2/3,MS3.3/5, Ms1 3.2/5,ms1mx2.8/56,Error ellipse: s-maj=19.0km s-min=9.5km az=29.0*
NNC ***10*** *13:48:15.6±4.0,39.08N×46.89E,h0km,mb4.0,mpv4.2, Error ellipse: s-maj=42.8km s-min=24.8km az=62.0*
ISC 10 13:48:10.9±1.1,38.49N±0.02×46.63E±0.02,h4km±8km, n82,σ1s85/111,mb3.7/6,25C-24D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IHRS	**Heris**	**0.37**	**117**	*e*Pg	**Pg**	**Pg**	**13 48 17.6**	**-0.4**
IHRS					IAMB	IAmb	13 48 24.7	
	comp=E,1968μm,0.2s							
IHRS					IAMB	IAmb	13 48 24.8	
	comp=Z,1290μm,0.3s							
IHRS					IAMB	IAmb	13 48 25.3	
	comp=N,2μm,0.1s							
ITBZ	**Tabriz**	**0.45**	**236**	*e*Pg	**Pg**	**Pg**	**13 48 18.4**	**-1.2**
ITBZ					IAMB	IAmb	13 48 25.4	
	comp=N,13μm,0.3s							
ITBZ					IAMB	IAmb	13 48 27.1	
	comp=Z,66μm,0.2s							
ITBZ					IAMB	IAmb	13 48 27.9	
	comp=E,85μm,0.3s							
ORD	**Ordubad**	**0.66**	**312**	⇑P	**Pg**	**Pg**	**13 48 22.2**	**-1.3**
ORD				⇓S	**Sg**	**Sg**	**13 48 31.9**	**-0.3**
IMRD	**Marand**	**0.76**	**288**	*e*Pg	**Pg**	**Pg**	**13 48 23.8**	**-1.6**
IMRD					IAMB	IAmb	13 48 40.9	
	comp=N,82nm,0.2s							
IMRD					IAMB	IAmb	13 48 41.9	
	comp=Z,62μm,0.4s							
IMRD					IAMB	IAmb	13 48 44.5	
	comp=E,21μm,0.4s							
IBST	**Bostanabad**	**0.81**	**165**	*e*Pg	**Pg**	**Pg**	**13 48 24.7**	**-1.8**
IBST					IAMB	IAmb	13 48 37.3	
	comp=Z,3μm,0.4s							
IBST					IAMB	IAmb	13 48 39.1	
	comp=N,49μm,0.4s							
IBST					IAMB	IAmb	13 48 39.5	
	comp=E,44μm,0.2s							
ISHB	**Shabestar**	**0.82**	**256**	*e*Pg	**Pg**	**Pg**	**13 48 25.1**	**-1.5**
ISHB					IAMB	IAmb	13 48 44.4	
	comp=E,56μm,0.6s							
ISHB					IAMB	IAmb	13 48 46.3	
	comp=Z,33μm,0.7s							
ISHB					IAMB	IAmb	13 48 48.1	
	comp=N,52μm,0.6s							
IAZR	**Azarshahr**	**0.95**	**212**	*e*Pg	**Pg**	**Pg**	**13 48 27.9**	**-1.3**
IAZR					IAMB	IAmb	13 48 48.0	
	comp=E,68μm,0.2s							
IAZR					IAMB	IAmb	13 48 49.6	
	comp=N,61μm,0.3s							
IAZR					IAMB	IAmb	13 48 51.5	
	comp=E,84μm,0.5s							
GRMI	**Germi**	**1.04**	**72**	*e*Pg	**Pg**	**Pg**	**13 48 30.0**	**-0.9**
GRMI				*e*Sg	**Sg**	**Sg**	**13 48 43.5**	**-0.9**
GRMI	**Germi**	**1.04**	**72**	*e*Pn	**Pg**	**Pg**	**13 48 30.0**	**-0.9**
ISRB	**Sarab**	**1.05**	**129**	*e*Pg	**Pg**	**Pg**	**13 48 29.7**	**-1.4**
ISRB					IAMB	IAmb	13 48 47.7	
	comp=Z,82μm,0.3s							
ISRB					IAMB	IAmb	13 48 48.3	
	comp=E,28μm,0.2s							
ISRB					IAMB	IAmb	13 48 51.1	
	comp=N,40μm,0.3s							
NAX	**Nakhchivan**	**1.12**	**308**	⇓P	**Pg**	**Pg**	**13 48 30.9**	**-1.3**
	SNR=69							
NAX				⇑S	**Sb**	**Sb**	**13 48 47.7**	**-0.1**
SBZ	**Shahbuz**	**1.23**	**318**	⇓P	**Pg**	**Pg**	**13 48 33.4**	**-1.1**
SBZ				⇓S	**Sn**	**Sn**	**13 48 54.0**	**+1.9**
LRK	**Lerik**	**1.35**	**83**	⇑P	**Pn**	**Pn**	**13 48 36.3**	**-0.4**
	SNR=190							
LRK				⇑S	**Sn**	**Sn**	**13 48 56.5**	**+1.4**
GLBA	**Clilabad**	**1.57**	**61**	⇑P	**Pb**	**Pb**	**13 48 40.4**	**-0.1**
GLBA				⇓S	**Sg**	**Sg**	**13 49 04.8**	**+3.4**
ASTR	**Astara**	**1.70**	**87**	P	**Pn**	**Pn**	**13 48 41.9**	**+0.6**
	SNR=90							
ASTR				⇑S	**Sg**	**Sg**	**13 49 06.6**	**+1.1**
LKRN	**Lenkeran, Azer**	**1.70**	**82**	P	**Pn**	**Pn**	**13 48 41.8**	**+0.5**
	SNR=34							
LKRN				⇑S	**Sg**	**Sg**	**13 49 07.6**	**+2.0**
BRDA	**Brd**	**1.82**	**13**	P	**Pb**	**Pb**	**13 48 44.6**	**-0.1**
	SNR=10.0							
BRDA				⇑S	**Sg**	**Sg**	**13 49 12.1**	**+2.6**
HYR	**Heyderabad**	**1.85**	**312**	⇓P	**Pn**	**Pn**	**13 48 43.1**	**-0.3**
HYR				⇑S	**Sg**	**Sg**	**13 49 09.7**	**-0.5**
SAAT	**Saatly**	**1.96**	**45**	⇑S	**Sg**	**Sg**	**13 49 13.0**	**-0.8**
ZRD	**Zardab**	**1.97**	**24**	⇓P	**Pb**	**Pb**	**13 48 46.6**	**-0.6**
	SNR=11							
ZRD				⇑S	**Sg**	**Sg**	**13 49 16.6**	**+2.5**
YOVA	**Hakkari_Y`...kse**	**2.05**	**245**	*i* P	**Pb**	**Pb**	**13 48 48.7**	**-0.1**
GANJ	**Ganja**	**2.17**	**354**	P	**Pn**	**Pn**	**13 48 48.6**	**+0.9**
	SNR=20							
GANJ				⇓S	**Sb**	**Sb**	**13 49 17.5**	**-0.5**
GNI	**Garni**	**2.21**	**319**	Pg	**Pb**	**Pb**	**13 48 50.5**	**-1.0**
	comp=N,34nm,0.3s,baz=140,slow=5.9,SNR=60							
GNI				Lg	Lg	Lg	13 49 21.0	
	comp=N,40nm,0.3s,baz=194,slow=23,SNR=8.5							
GNI				LR	LR	LR	13 49 55.6	
	comp=N,540nm,19.9s,baz=182,slow=49							
CLDR	**Caldiran**	**2.21**	**288**	*i* P	**Pb**	**Pb**	**13 48 50.3**	**-1.3**
KDMR	**Kurdemir**	**2.24**	**32**	⇓P	**Pb**	**Pb**	**13 48 50.5**	**-1.4**
	SNR=4.7							
KDMR				⇓S	**Sg**	**Sg**	**13 49 23.4**	**+0.6**
MNGR	**Mingechevir, A**	**2.31**	**9**	P	**Pb**	**Pb**	**13 48 51.9**	**-1.2**
	SNR=6.5							
MNGR				⇑S	**Sg**	**Sg**	**13 49 25.8**	**+0.7**
GDB	**GEDABAY**	**2.33**	**343**	⇓P	**Pn**	**Pn**	**13 48 51.3**	**+1.2**
	SNR=70							
GDB				⇑S	**Sb**	**Sb**	**13 49 24.0**	**+1.3**
ALIB	**Äli-Bayra**	**2.36**	**51**	⇓P	**Pb**	**Pb**	**13 48 53.8**	**-0.1**
	SNR=9.9							
ALIB				⇓S	**Sg**	**Sg**	**13 49 28.1**	**+1.4**
IGDI	**IGDIR**	**2.41**	**306**	*i* P	**Pn**	**Pn**	**13 48 53.1**	**+2.0**
VMUR	**Van-Muradiye**	**2.44**	**283**	*i* P	**Pb**	**Pb**	**13 48 55.3**	**-0.1**
ZNJK	**Zanjan**	**2.44**	**137**	*e*Pn	**Pn**	**Pn**	**13 48 52.8**	**+1.0**

ZNJK				*e*Sg		**Sb**	**13 49 27.2**	**+1.1**
ZNJK	**Zanjan**	**2.44**	**137**	*e*Pn		**Pn**	**13 48 52.8**	**+1.0**
DYDN	**Diyadin**	**2.52**	**296**	*i* P		**Pb**	**13 48 56.1**	**-0.7**
CUKT	**Cukurca**	**2.69**	**244**	*i* P		**Pg**	**13 49 03.0**	**+0.6**
GBS	**Qobustan**	**2.72**	**41**	⇓P		**Pn**	**13 48 57.3**	**+1.9**
	SNR=4.4							
GBS				⇑S		**Sb**	**13 49 33.8**	**0.0**
QZX	**Qazax, Azerbai**	**2.74**	**340**	P		**Pb**	**13 49 00.1**	**-0.4**
	SNR=28							
QZX				⇑S		**Sn**	**13 49 32.0**	**+2.7**
SEKA	**Sheki**	**2.75**	**9**	P		**Pn**	**13 48 57.3**	**+1.4**
	SNR=9.6							
SEKA				⇑S		**Sb**	**13 49 34.4**	**-0.4**
PQL	**Pirkuli**	**2.75**	**33**	P		**Pb**	**13 48 58.6**	**-2.1**
	SNR=7.8							
PQL				⇑S		**Sb**	**13 49 35.2**	**+0.2**
GEVA	**Gevas**	**2.81**	**268**	*i* P		**Pb**	**13 49 02.6**	**+0.9**
XNQ	**Khinaliq**	**2.92**	**23**	P		**Pn**	**13 48 59.2**	**+0.8**
	SNR=24							
XNQ				⇑S		**Sb**	**13 49 39.2**	**-0.7**
ATGJ	**Altiaghaj**	**2.97**	**36**	⇓P		**Pn**	**13 49 01.5**	**+2.7**
	SNR=4.5							
ATGJ				⇓S		**Sb**	**13 49 41.5**	**+0.5**
DDFL	**Dedoflistskaro**	**2.98**	**353**	P		**Pb**	**13 49 05.9**	**+1.4**
DDFL				S		**Sg**	**13 49 49.0**	**+2.4**
ADCV	**BITLIS_Adilcev**	**3.07**	**277**	*i* P		**Pg**	**13 49 10.3**	**+0.6**
SIZA	**Siyzn**	**3.12**	**33**	⇓P		**Pn**	**13 49 02.7**	**+1.8**
	SNR=9.5							
SIZA				⇑S		**Sb**	**13 49 45.2**	**-0.3**
ZKTA	**Zakatala**	**3.15**	**360**	⇑P		**Pn**	**13 49 03.9**	**+2.7**
	SNR=5.7							
ZKTA				⇓S		**Sb**	**13 49 44.4**	**-1.6**
QSAR	**Qusar**	**3.27**	**22**	⇓P		**Pn**	**13 49 04.2**	**+1.2**
	SNR=17							
QSAR				⇑S		**Sb**	**13 49 49.3**	**-0.5**
KZRT	**Kazreti**	**3.36**	**330**	P		**Pb**	**13 49 11.2**	**+0.2**
SNGE	**Sanandaj**	**3.44**	**170**	*e*Pn		**Pn**	**13 49 07.4**	**+2.0**
SNGE				*e*Sg		**Sg**	**13 49 58.2**	**-3.1**
SNGE	**Sanandaj**	**3.44**	**170**	*e*Pn		**Pn**	**13 49 07.4**	**+2.0**
EATA	**Eleskirt**	**3.49**	**294**	*i* P		**Pb**	**13 49 14.4**	**+1.0**
IGZV	**Ghazvin**	**3.55**	**125**	*e*Pn		**Pn**	**13 49 09.0**	**+2.1**
TBLG	**Delisi**	**3.55**	**337**	P		**Pb**	**13 49 13.8**	**-0.3**
TBLG				S		**Sg**	**13 50 01.7**	**-3.1**
HKZM	**Kohzaman**	**3.60**	**149**	*e*Pn		**Pn**	**13 49 10.0**	**+2.3**
BGD	**Bogdanovka**	**3.62**	**321**	P		**Pb**	**13 49 15.7**	**+0.1**
BGD				S		**Sg**	**13 50 05.4**	**-1.8**
QABG	**Abgarm-Qazvin**	**3.65**	**139**	*e*Pn		**Pn**	**13 49 09.6**	**+1.3**
QABG				IAMB	IAmb		13 50 12.2	
	comp=N,0.0nm,0.5s							
QABG				IAMB	IAmb		13 50 15.4	
	comp=E,0.0nm,0.7s							
QABG				IAMB	IAmb		13 50 23.2	
	comp=Z,0.0nm,1.3s							
AKH	**Akhalkalaki**	**3.78**	**321**	P		**Pb**	**13 49 18.8**	**+0.5**
QALM	**Alamut, Qazvin**	**3.80**	**121**	*e*Pn		**Pn**	**13 49 12.3**	**+1.9**
QALM				IAMB	IAmb		13 50 23.4	
	comp=Z,0.0nm,0.8s							
QALM				IAMB	IAmb		13 50 24.6	
	comp=E,0.0nm,0.9s							
QALM				IAMB	IAmb		13 50 27.4	
	comp=N,0.0nm,1.6s							
IVIS	**Veis**	**3.96**	**177**	*e*Pn		**Pb**	**13 49 17.5**	**-3.7**
IVIS				IAMB	IAmb		13 50 29.4	
	comp=E,2µm,0.4s							
IVIS				IAMB	IAmb		13 50 29.6	
	comp=N,2µm,0.5s							
IVIS				IAMB	IAmb		13 50 30.2	
	comp=Z,3µm,0.8s							
IRAZ	**Razeghan**	**4.06**	**138**	*e*Pn		**Pn**	**13 49 15.4**	**+1.5**
IRAZ				IAMB	IAmb		13 50 24.9	
	comp=E,4µm,0.6s							
IRAZ				IAMB	IAmb		13 50 26.9	
	comp=N,1µm,0.4s							
IRAZ				IAMB	IAmb		13 50 28.8	
	comp=Z,5µm,1.0s							
THKV	**Tehran--Karaj**	**4.26**	**126**	IAML			13 50 28.7	
	comp=N,172nm,0.4s							
THKV				IAML			13 50 30.7	
	comp=E,121nm,0.4s							
ONI	**Oni**	**4.76**	**330**	P		**Pb**	**13 49 34.9**	**+0.1**
ONI				S		**Sb**	**13 50 36.8**	**+4.3**
KBZ	**Khabaz**	**5.94**	**333**	Pg		**Pb**	**13 49 55.2**	**+0.2**
	comp=E,0.2nm,0.3s,baz=138,slow=11,SNR=3.4							
KBZ				Lg	Lg		13 51 20.6	
	comp=E,0.3nm,0.3s,baz=256,slow=22,SNR=3.9							
KBZ				LR	LR		13 52 23.7	
	comp=E,210nm,18.7s,baz=142,slow=43							
KVAR	**Kislovodsk Arr**	**6.21**	**333**	LR	LR		13 52 10.8	
	comp=E,171nm,18.8s,baz=244,slow=39							
GEYT	**Alibeck**	**9.06**	**90**	Pn		**Pn**	**13 50 21.2**	**-1.3**
	comp=E,0.9nm,0.3s,baz=297,slow=9.5,SNR=12							
GEYT				Sn		**Sn**	**13 52 06.1**	**+1.1**
	comp=E,0.3nm,0.3s,baz=262,slow=20,SNR=2.4							
GYA0B	**ALIBECK ARRAY**	**9.06**	**90**	⇓Pn		**Pn**	**13 50 24.7**	**+2.2**
	comp=E,5.0nm,0.5s							
GYA0B				⇑Sn		**Sn**	**13 52 07.3**	**+2.3**
	comp=E,13nm,0.6s							
BRTR	**Keskin Array B**	**10.17**	**281**	Pn		Pn	13 50 43.0	+5.2
	comp=E,0.0nm,0.3s,baz=113,slow=14,SNR=8.2							
AB31	**Akbulak array**	**14.40**	**37**	⇑Pn		**Pn**	**13 51 34.4**	**-1.0**
	comp=E,1.5nm,0.5s,baz=228,slow=16,SNR=25							
AB31				⇑Sn		**Sn**	**13 54 07.4**	**-8.1**
	comp=E,1.4nm,0.5s,baz=220,slow=21,SNR=5.7							
AKTO	**Aktyubinsk**	**14.43**	**30**	⇑Pn		**Pn**	**13 51 34.4**	**-1.3**
	comp=E,4.6nm,0.7s							
AKTO				⇓Sn		**Sn**	**13 54 08.5**	**-7.6**
	comp=E,4.8nm,0.6s							
MLR	**Muntele Rosu**	**16.87**	**301**	Pn		**P**	**13 52 11.5**	**+1.5**
	baz=160,slow=7.3,SNR=3.0							
AKASG	**Malin Array Be**	**17.34**	**320**	P		**P**	**13 52 14.9**	**-0.2**
	baz=122,slow=12,SNR=3.3							
IDI	**Anoyia**	**17.67**	**266**	LR	LR		14 00 28.1	
	comp=E,58nm,19.5s,baz=73,slow=42							
WSAR	**Wadi Sarin**	**18.34**	**143**	P		**P**	**13 52 28.5**	**+2.2**
	comp=E,0.1nm,0.3s,baz=0.0,slow=8.1,SNR=3.1							
KK31	**Karatay Array**	**18.64**	**68**	⇓Pn		**Pn**	**13 52 30.3**	**+0.5**
	comp=E,1.3nm,0.5s,baz=278,slow=8.5,SNR=13							
SFK	**Sufi-Kurgan**	**20.85**	**77**	⇓Pn		Pn	13 52 58.9	+2.6
	comp=E,2.1nm,0.6s							
OTUK	**Ortayu**	**21.00**	**54**	⇓Pn		**P**	**13 52 55.4**	**+0.2**
	comp=E,5.4nm,0.6s							
AAK	**Ala-Archa**	**21.53**	**70**	P		**P**	**13 53 03.4**	**+2.3**
	comp=E,1.1nm,0.6s,baz=204,slow=12,SNR=3.0							
KURBB	**Kurchatov Arra**	**25.56**	**51**	P		**P**	**13 53 41.1**	**+0.5**
	comp=E,1.6nm,0.6s,baz=259,slow=10,SNR=7.9							
GERES	**GERESS Array B**	**25.78**	**304**	P		**P**	**13 53 43.1**	**+0.3**
	comp=E,1.4nm,0.6s,baz=96,slow=8.2,SNR=8.6							
MKAR	**Makanchi Array**	**27.33**	**61**	P		**P**	**13 53 57.5**	**+0.8**
	comp=E,0.7nm,0.7s,baz=275,slow=8.2,SNR=3.5							
HFS	**Hagfors**	**29.98**	**327**	LR	LR		14 08 24.9	
	comp=E,122nm,19.5s,baz=288,slow=41							
TORD	**Torodi Ar. Bea**	**47.05**	**250**	P		**P**	**13 56 42.9**	**-0.9**
	comp=E,0.2nm,0.6s,baz=40,slow=8.2							
CMAR	**Chiang Mai Arr**	**49.43**	**99**	P		**P**	**13 57 02.6**	**+0.5**
	comp=E,1.9nm,0.8s,baz=302,slow=8.2,SNR=18							

IDC 10 13:48:16.6±999.0, 44°10N×43°65E, h0km, Error ellipse: s-maj=4450.0km s-min=232.0km az=53.0, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**11.62**	**52**	*i*		14 58 20.0	
	baz=244,slow=364,SNR=1.5						
I46RU	**ZALESOVO INFRA**	**28.36**	**55**	*i*		16 43 05.8	
	baz=264,slow=373,SNR=1.8						
I34MN	**SONGINO INFRAS**	**42.73**	**62**	*i*		18 09 20.0	
	baz=290,slow=385,SNR=0.6						

*IDC **10** 13:50:35.0±2.8, 13°91N×92°44W, h0km, mb3.6/4, mb1 3.9/7, mb1mx3.7/45, mbtmp3.6/7, ML3.6/3, MS2.7/1, Ms1 2.7/1, ms1mx2.3/31, Error ellipse: s-maj=54.6km s-min=24.6km az=5.0*

*MEX **10** 13:50:41.0±0.8, 14°22N×92°36W, h80km±18km, MD3.9*

ISC 10 13:50:38.0±3.4, 14°2N±0°1×92°33W±0°10, h11km±23km, n12, σ1°961/18, mb3.6/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.71**	**5**	*e*P	**Pn**	**13 50 55.0**	**+0.9**
THIG				*e*S	**Sn**	**13 51 06.8**	**+1.8**
PCIG		**1.73**	**330**	*e*P	**Pn**	**13 51 07.4**	**-0.6**
PCIG				*e*S	**Sn**	**13 51 28.4**	**-1.7**
APG	**El Apazote**	**1.98**	**66**	Pn	**Pb**	**13 51 14.1**	**-0.1**
	18nm,0.3s,baz=254,slow=7.4,SNR=241						
APG				Sn	**Sg**	**13 51 41.1**	**-0.6**
	30nm,0.3s,baz=108,slow=9.9,SNR=4.6						
APG				LR	LR	13 52 18.5	
	comp=Z,162nm,18.1s,baz=305,slow=47						
CCIG	**Comitan**	**2.08**	**5**	*e*P	**Pn**	**13 51 13.5**	**+0.4**
CCIG				*i* S	**Sn**	**13 51 37.6**	**-1.5**
TGIG		**2.67**	**344**	*i* P	**Pn**	**13 51 21.4**	**+0.2**
TGIG				*i* S	**Sn**	**13 51 50.9**	**-2.8**
CMIG	**Matias Romero**	**3.78**	**320**	Pn	**Pn**	**13 51 35.6**	**-0.7**
	3.5nm,0.3s,baz=144,slow=11,SNR=18						
CMIG				Sn	**Sn**	**13 52 23.1**	**+2.2**
	14nm,0.3s,baz=93,slow=15,SNR=6.3						
TXAR	**Lajitas Array**	**18.35**	**327**	P	**P**	**13 54 55.2**	**+2.3**
	0.1nm,0.3s,baz=154,slow=11,SNR=12						
ANMO	**Albuquerque**	**24.27**	**331**	P	**P**	**13 55 57.8**	**+2.1**
	0.5nm,0.3s,baz=154,slow=16,SNR=2.8						
NVAR	**Mina Array Bea**	**33.31**	**321**	P	**P**	**13 57 17.1**	**+0.8**
	0.5nm,0.7s,baz=134,slow=10,SNR=3.5						
YKA	**Yellowknife Ar**	**50.76**	**347**	P	**P**	**13 59 36.9**	**-1.1**
	1.0nm,0.6s,baz=155,slow=7.4,SNR=3.2						
ILAR	**Eielson Array**	**62.53**	**337**	P	**P**	**14 01 01.1**	**-0.5**
	0.4nm,0.7s,baz=132,slow=2.7,SNR=3.2						
CMAR	**Chiang Mai Arr**	**145.70**	**341**	PKPbc	**PKPdf**	**14 10 16.6**	**-1.2**
	0.6nm,0.6s,baz=332,slow=3.5,SNR=5.8						

*ISCJB **10** 13:52:51.7±0.5, 6°86S±0°10×155°08E±0°07, h35km, mb4.3/22, Error ellipse: s-maj=15.2km s-min=8.5km az=28.9*

*IDC **10** 13:52:56.6±3.3, 6°94S×155°32E, h82km±31km, mb3.9/13, mb1 4.0/14, mb1mx3.8/40, mbtmp4.2/14, Error ellipse: s-maj=20.2km s-min=16.6km az=130.0*

ISC 10 13:52:52.4±0.6, 6°7S±0°1×155°07E±0°09, h35km, n43, σ2°33/42, mb4.4/22, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.52**	**119**	P	**Pn**	**13 54 13.0**	**+0.8**
	4.7nm,0.3s,baz=267,slow=8.5,SNR=3.5						
HNR				S	**Sn**	**13 55 18.0**	**+3.4**
	5.8nm,0.3s,baz=288,slow=20,SNR=3.2						
HNR	**Honiara**	**5.52**	**119**	*e*P	**Pn**	**13 54 13.0**	**+0.8**
WRA	**Warramunga Arr**	**24.03**	**235**	P	**P**	**13 58 04.5**	**+0.1**
	4.3nm,0.7s,baz=57,slow=9.2,SNR=9.1						
WRA				PcP	**PcP**	**14 01 44.9**	**-0.9**
	0.4nm,0.5s,baz=64,slow=2.5,SNR=4.7						
SIJI	**Sorong**	**24.45**	**283**	P	**P**	**13 58 10.0**	**+1.7**
	11nm,0.8s,baz=291,slow=19,SNR=4.9						
ASAR	**Alice Springs**	**26.40**	**228**	P	**P**	**13 58 24.9**	**-1.0**
	1.4nm,0.9s,baz=58,slow=10.0,SNR=8.1						
H11S3	**WAKE ISLAND Hy**	**27.57**	**24**	T	T	14 26 44.3	
	baz=204,slow=76,SNR=28						
H11S2	**WAKE ISLAND Hy**	**27.57**	**24**	T	T	14 26 44.5	
	baz=204,slow=76,SNR=28						
H11S1	**WAKE ISLAND Hy**	**27.58**	**24**	T	T	14 26 48.9	
	baz=204,slow=76,SNR=20						
STKA	**Stephens Creek**	**28.00**	**205**	P	**P**	**13 58 38.9**	**-1.2**
	1.6nm,0.7s,baz=225,slow=19,SNR=3.0						
FITZ	**Fitzroy Crossi**	**30.83**	**246**	P	**P**	**13 59 06.0**	**+0.6**
	4.8nm,0.7s,baz=74,slow=6.3,SNR=7.6						
SKNT	**Sakolnakorn**	**55.72**	**296**	P	**P**	**14 02 29.8**	**+3.8**
NONG	**Nongkai**	**56.85**	**297**	P	**P**	**14 02 36.3**	**+2.2**
NONG	**Nongkai**	**56.85**	**297**	P	**P**	**14 02 36.3**	**+2.2**
	0.3nm,0.9s						
PBKT	**Sadao Pong**	**58.30**	**294**	P	**P**	**14 02 47.4**	**+3.1**
PBKT	**Sadao Pong**	**58.30**	**294**	P	**P**	**14 02 47.4**	**+3.1**
	4.7nm,0.6s,1µm						
UTTA	**Uttaradit**	**59.06**	**295**	P	**P**	**14 02 52.6**	**+3.0**
UTTA	**Uttaradit**	**59.06**	**295**	P	**P**	**14 02 52.6**	**+3.0**
	4.1nm,0.8s						
NANT	**Nan**	**59.28**	**296**	P	**P**	**14 02 53.4**	**+2.3**
NANT	**Nan**	**59.28**	**296**	P	**P**	**14 02 53.4**	**+2.3**
	5.4nm,1.1s						
UTHA	**Uthaitani**	**59.38**	**292**	P	**P**	**14 02 54.7**	**+2.9**
UTHA	**Uthaitani**	**59.38**	**292**	P	**P**	**14 02 54.7**	**+2.9**
	3.3nm,0.7s						
PETK	**Petropavlovsk-**	**59.66**	**2**	P	**P**	**14 02 53.3**	**+0.3**
	7.4nm,0.9s,baz=136,slow=7.9						
SUKH	**Sukhothai**	**59.81**	**295**	P	**P**	**14 02 58.1**	**+3.4**
SUKH	**Sukhothai**	**59.81**	**295**	P	**P**	**14 02 58.1**	**+3.4**
	4.5nm,0.8s						
LAMP	**Lampang**	**60.15**	**296**	P	**P**	**14 03 00.0**	**+2.9**
LAMP	**Lampang**	**60.15**	**296**	P	**P**	**14 03 00.0**	**+2.9**
	5.8nm,0.8s						
PAYA	**Payao**	**60.21**	**297**	P	**P**	**14 03 00.0**	**+2.5**
PAYA	**Payao**	**60.21**	**297**	P	**P**	**14 03 00.0**	**+2.5**
	6.2nm,0.7s,56nm						
CMAR	**Chiang Mai Arr**	**60.74**	**295**	P	**P**	**14 03 03.7**	**+2.6**
	5.7nm,0.8s,baz=121,slow=5.2,SNR=44						
CMMT	**Chiang Mai**	**60.85**	**296**	P	**P**	**14 03 04.1**	**+2.2**
CMMT	**Chiang Mai**	**60.85**	**296**	P	**P**	**14 03 04.1**	**+2.2**
CHTO	**Chiang Mai**	**60.86**	**296**	P	**P**	**14 03 04.2**	**+2.3**
CHTO	**Chiang Mai**	**60.86**	**296**	P	**P**	**14 03 04.2**	**+2.3**
	33nm,0.9s						
SONM	**Songino Array**	**69.16**	**327**	P	**P**	**14 03 56.8**	**+1.3**
	1.4nm,0.8s,baz=126,slow=7.5,SNR=7.1						
VNDA	**Vanda**	**70.84**	**178**	P	**P**	**14 04 03.1**	**-2.1**
	0.7nm,0.9s,baz=299,slow=5.0,SNR=4.0						
ILAR	**Eielson Array**	**83.11**	**21**	P	**P**	**14 05 12.2**	**-2.2**
	0.7nm,0.5s,baz=244,slow=5.7,SNR=19						
MKAR	**Makanchi Array**	**83.26**	**319**	P	**P**	**14 05 16.0**	**+0.4**
	1.5nm,0.7s,baz=98,slow=7.5,SNR=7.4						
ZALV	**Zalesovo Beam**	**84.01**	**326**	P	**P**	**14 05 18.2**	**-1.0**
	0.5nm,0.3s,baz=119,slow=6.5,SNR=3.3						
PDAR	**Pinedale Array**	**98.47**	**48**	P	**P**	**14 06 25.3**	**-2.5**
	0.3nm,0.8s,baz=249,slow=7.5,SNR=2.9						
GERES	**GERESS Array B**	**126.87**	**329**	PKP	**PKPdf**	**14 11 52.3**	**-0.5**
	0.5nm,0.6s,baz=66,slow=4.5,SNR=4.6						
EKA	**Eskdalemuir Ar**	**128.51**	**344**	PKP	**PKPdf**	**14 11 54.9**	**-0.7**
	0.4nm,0.4s,baz=12,slow=2.8,SNR=3.6						
BDFB	**Brasilia**	**148.11**	**134**	PKPbc	**PKPdf**	**14 12 33.0**	**+0.5**
	2.7nm,0.5s,baz=105,slow=1.6,SNR=7.6						
TORD	**Torodi Ar. Bea**	**153.03**	**286**	PKPbc	**PKPbc**	**14 12 45.2**	**-2.1**
	0.3nm,0.4s,baz=118,slow=2.1,SNR=4.8						

MEX 10 14:04:09.8±0.6, 13°89N×92°43W, h12km±165km, MD3.7, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.03**	**9**	*e*P	Pb	14 04 26.8	-2.7
THIG				*i* S	Sb	14 04 39.4	-3.6
PCIG		**1.96**	**337**	*e*P	Pn	14 04 39.4	-3.5
PCIG				*i* S	Sn	14 05 03.0	-4.5
CCIG	**Comitan**	**2.40**	**7**	*e*P	Pn	14 04 46.0	-3.1
CCIG				*i* S	Sn	14 05 13.6	-4.9
TGIG		**2.95**	**347**	*e*P	Pn	14 04 54.4	-2.2
TGIG				*e*S	Sn	14 05 28.8	-3.3

IDC 10 14:09:26.4±2.3, 6°91S×155°55E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.4/39, mbtmp3.3/4, Error ellipse: s-maj=77.1km s-min=32.5km az=128.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.31**	**236**	P	P	14 14 46.2	+0.2
	0.3nm,0.6s,baz=59,slow=9.7,SNR=4.9						
ASAR	**Alice Springs**	**26.64**	**229**	P	P	14 15 06.6	-0.4
	0.4nm,1.1s,baz=61,slow=9.7,SNR=1.9						
CMAR	**Chiang Mai Arr**	**61.24**	**295**	P	P	14 19 44.3	+0.4
	0.4nm,0.5s,baz=121,slow=5.4,SNR=5.2						
ILAR	**Eielson Array**	**83.10**	**21**	P	P	14 21 53.5	-0.3
	0.2nm,0.7s,baz=241,slow=5.0,SNR=4.5						

*ISCJB **10** 14:11:25.1±0.5, 0°46N±0°08×99°6E±0°1, h150km, mb3.4/6, Error ellipse: s-maj=17.1km s-min=6.4km az=146.4*

*IDC **10** 14:11:25.4±3.4, 0°40N×99°76E, h128km±21km, mb3.3/6, mb1 3.4/7, mb1mx3.1/53, mbtmp3.7/7, Error ellipse: s-maj=102.7km s-min=15.9km az=54.0*

*DJA **10** 14:11:27.1±1.0, 0°N±4°×10°0E±°, h120km±13km, M3.5/3, MLv3.5/3*

ISC 10 14:11:26.8±0.8, 0°46N±0°08×99°54E±0°09, h150km, n20, σ1°70/19, mb3.5/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.34**	**6**	P	**Pn**	**14 11 44.9**	**-2.6**
PPI	**Padang Panjang**	**1.25**	**137**	P	**Pn**	**14 11 52.1**	**-1.8**
PBSI	**Pulau Batu**	**1.36**	**248**	P	**Pn**	**14 11 53.1**	**-1.9**
BKNI	**Bangkinang**	**1.50**	**95**	P	Pn	14 12 08.0	+12
PDSI	**Padang**	**1.64**	**146**	P	**Pn**	**14 11 56.8**	**-1.2**
GSI	**Gunungsitoli**	**2.14**	**293**	P	**Pn**	**14 12 01.9**	**-1.7**
SDSI	**Sungai Dareh**	**2.34**	**126**	P	**Pn**	**14 12 04.4**	**-1.6**
PSI	**Prapat**	**2.41**	**345**	P	**Pn**	**14 12 05.7**	**-1.3**
	10nm,0.3s,baz=180,slow=10,SNR=37						
PSI				S	**Sn**	**14 12 35.5**	**-2.4**
	1.0nm,0.3s,baz=0.0,slow=19,SNR=3.5						
KRJI	**Kerinci**	**3.18**	**143**	P	**Pn**	**14 12 16.0**	**-0.6**
KCSI	**Kotacane, Aceh**	**3.52**	**330**	P	**Pn**	**14 12 20.3**	**-0.6**
MDSI	**Maura Dua**	**6.75**	**137**	P	**Pn**	**14 13 03.1**	**-0.5**
H08S2	**Diego Garcia H**	**28.15**	**253**	T	T	14 45 15.1	
	baz=73,slow=76,SNR=9.8						
H08S3	**Diego Garcia H**	**28.15**	**253**	T	T	14 45 17.7	
	baz=73,slow=76,SNR=7.8						
H08S1	**Diego Carcia H**	**28.17**	**253**	T	T	14 45 19.9	
	baz=73,slow=76,SNR=8.3						
WRA	**Warramunga Arr**	**39.66**	**123**	P	**P**	**14 18 43.0**	**-1.5**
	0.3nm,0.9s,baz=302,slow=9.2,SNR=3.6						
WRA				PcP	**PcP**	**14 20 49.5**	**+1.0**
	0.2nm,0.5s,baz=316,slow=2.5,SNR=12						
ASAR	**Alice Springs**	**41.09**	**128**	P	**P**	**14 18 54.3**	**-1.9**
	0.3nm,0.7s,baz=295,slow=7.6,SNR=6.0						
ASAR				PcP	**PcP**	**14 20 54.5**	**+1.4**
	0.5nm,0.7s,baz=305,slow=3.0,SNR=6.8						
MKAR	**Makanchi Array**	**48.55**	**344**	P	**P**	**14 19 56.5**	**+1.6**
	0.3nm,0.3s,baz=161,slow=8.2,SNR=6.1						
ZALV	**Zalesovo Beam**	**54.68**	**349**	P	**P**	**14 20 41.5**	**+1.4**
	0.7nm,0.3s,baz=165,slow=6.4,SNR=4.3						
BVAR	**Borovoye Array**	**57.73**	**340**	P	**P**	**14 21 02.7**	**+0.8**
	0.3nm,0.4s,baz=147,slow=8.6,SNR=4.2						
ARCES	**ARCESS Array B**	**84.02**	**340**	P	**P**	**14 23 42.0**	**+1.9**
	1.6nm,0.6s,baz=93,slow=4.9,SNR=9.5						

MEX 10 14:13:15.4±0.5, 16°31N×98°05W, h9km±5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.11**	**318**	*i* P	Pg	14 13 17.4	-0.7
PNIG				*i* S	Sg	14 13 19.9	-0.1
TLIG	**Tlapa**	**1.34**	**338**	*e*P	Pn	14 13 36.4	-4.1
TLIG				*i* S	Sb	14 13 52.9	-5.3
VHO	**Vista Hermosa**	**1.47**	**59**	*e*P	Pn	14 13 38.2	-4.1
VHO				*i* S	Sn	14 13 56.1	-5.7

IDC 10 14:15:48.4±5.3, 51°16N×134°22W, h0km, mb3.3/1, mb1 3.7/3, mb1mx3.4/48, mbtmp3.3/3, ML4.2/1, Error ellipse: s-maj=179.2km s-min=32.8km az=51.0, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**15.16**	**339**	Pn	Pn	14 19 24.5	+0.9
	baz=150,slow=11,SNR=6.7						
PDAR	**Pinedale Array**	**18.74**	**107**	P	P	14 20 08.6	-0.2
	0.1nm,0.3s,baz=299,slow=6.9,SNR=5.4						
TXAR	**Lajitas Array**	**31.55**	**122**	P	P	14 22 12.5	0.0
	0.4nm,0.9s,baz=330,slow=10,SNR=3.4						

*ISCJB **10** 14:19:30.5±0.2, 29°37N±0°02×105°29E±0°04, h10km, mb4.2/30, MS3.2/6, Error ellipse: s-maj=4.5km s-min=3.2km az=165.7*

*IDC **10** 14:19:30.5±0.5, 29°33N×105°34E, h0km, mb4.2/24, mb1 4.3/26, mb1mx4.2/49, mbtmp4.2/26, ML3.6/2, MS3.4/8, Ms1 3.4/8, ms1mx3.1/51, Error ellipse: s-maj=17.4km s-min=11.1km az=60.0*

*BJI **10** 14:19:33.6, 29°32N×105°22E, h25km, mb4.4/14, mB4.6/5, ML4.4/26, Ms4.2/15, Ms7 3.9/11*

*NEIC **10** 14:19:35.8±0.2, 29°31N×105°29E, h35km, mb4.3/2, ML4.4(BJI), Error ellipse: s-maj=5.7km s-min=4.9km az=70.0*

ISC 10 14:19:32.9±0.4, 29°40N±0°03×105°24E±0°04, h10km, n70, σ2°22/96, mb4.4/30, MS3.3/7, 2C, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.98**	**320**	Pn	**Pn**	**14 20 08.3**	**+1.9**
CD2				Pg	**Pb**	**14 20 09.6**	**+0.7**
CD2				Sn	**Sn**	**14 20 28.2**	**-3.1**
CD2				Sg	**Sb**	**14 20 37.3**	**+3.7**
CD2				smax	smax		
	comp=N,6µm,0.6s						
CD2				smax	smax		
	comp=E

GTA					sP			14 22 18.9	
GTA					S		**Sn**	**14 24 17.4**	**+5.3**
GTA					sS			14 24 23.6	
GTA					SS		**SnSn**	**14 24 30.4**	**+6.2**
GTA					pmax	pmax			
	comp=Z,4.0nm,1.4s								
GTA					LR	LR			
	comp=N,210nm,14.1s								
GTA					LR	LR			
	comp=E,280nm,12.0s								
PAYA	**Payao**	**11.13**	**207**		P		**Pn**	**14 22 13.6**	**+1.5**
	9.0nm,0.8s,71nm								
NONG	**Nongkai**	**11.45**	**190**		P		**Pn**	**14 22 19.7**	**+3.2**
LAMP	**Lampang**	**11.98**	**207**		P		**Pn**	**14 22 27.6**	**+3.8**
	4.5nm,1.1s								
CMMT	**Chiang Mai**	**12.00**	**210**		P		**Pn**	**14 22 25.9**	**+1.8**
	4.2nm,1.1s								
CHTO	**Chiang Mai**	**12.00**	**210**		P		**Pn**	**14 22 25.9**	**+1.8**
	19nm,1.0s								
LSA	**Lhasa**	**12.27**	**275**		*e*Pn		**Pn**	**14 22 29.1**	**+1.0**
	6.0nm,0.7s								
CMAR	**Chiang Mai Arr**	**12.32**	**209**		Pn		**Pn**	**14 22 28.5**	**+0.1**
	0.1nm,0.3s,baz=20,slow=12,SNR=40								
CMAR					Lg		Lg	14 26 04.7	
	0.2nm,0.3s,baz=21,slow=23,SNR=3.2								
CMAR					LR		LR	14 27 40.0	
	comp=Z,224nm,19.3s,baz=36,slow=40								
PBKT	**Sadao Pong**	**13.36**	**198**		P		**Pn**	**14 22 43.5**	**+0.9**
	5.4nm,1.2s								
BRDH	**Bariadhala**	**13.93**	**244**		LR		LR	14 29 28.5	
	comp=Z,65nm,20.6s,baz=356,slow=43								
UTHA	**Uthaitani**	**14.78**	**202**		P		**P**	**14 23 09.3**	**+1.3**
PATY	**Pattaya**	**16.89**	**195**		P		**Pn**	**14 23 32.6**	**+3.1**
GUN	**Gumba**	**17.06**	**270**		*e*P		**Pn**	**14 23 28.1**	**-3.8**
PKI	**Pulchoki**	**17.53**	**269**		*e*P		**Pn**	**14 23 33.2**	**-4.6**
	5.2nm,0.5s								
KKN	**Kakani**	**17.60**	**270**		*e*P		**Pn**	**14 23 34.6**	**-4.0**
	12nm,0.7s								
DMN	**Daman**	**17.79**	**269**		*e*P		**Pn**	**14 23 37.2**	**-3.7**
SONM	**Songino Array**	**18.43**	**2**		P		**P**	**14 23 49.1**	**+0.7**
	0.2nm,0.3s,baz=189,slow=12,SNR=24								
SONM					Lg		Lg	14 29 15.7	
	0.1nm,0.3s,baz=169,slow=26,SNR=4.0								
DANN	**Dangsing**	**18.84**	**272**		*e*P		**P**	**14 23 51.2**	**-2.1**
	26nm,0.7s								
KOLN	**Koldanda**	**19.07**	**270**		*e*P		**P**	**14 23 51.7**	**-4.1**
	16nm,1.0s								
PYUN	**Piuthan**	**19.55**	**272**		*e*P		**P**	**14 23 59.2**	**-1.8**
	74nm,0.9s								
WMQ	**Urumqi**	**20.07**	**321**		*e*P		**P**	**14 24 08.7**	**+2.3**
WMQ					pmax	pmax			
	comp=Z,17nm,1.5s								
WMQ					LR	LR			
	comp=N,90nm,24.7s								
WMQ					LR	LR			
	comp=E,170nm,15.9s								
KSAR	**Wonju Array Be**	**20.50**	**61**		P		**P**	**14 24 11.0**	**0.0**
KSRS	**Korea Array**	**20.53**	**61**		P		**P**	**14 24 11.0**	**-0.4**
	2.5nm,0.8s,baz=241,slow=12,SNR=6.9								
KSRS					LR		LR	14 32 35.8	
	comp=Z,118nm,19.5s,baz=268,slow=38								
JNU	**Nakatsue**	**22.21**	**74**		LR		LR	14 33 28.7	
	comp=Z,119nm,19.3s,baz=297,slow=38								
MKAR	**Makanchi Array**	**24.91**	**320**		P		**P**	**14 24 56.3**	**+0.3**
	8.3nm,0.8s,baz=119,slow=10.0,SNR=34								
MKAR					PcP		**PcP**	**14 28 31.0**	**-0.5**
	1.5nm,0.8s,baz=113,slow=3.2,SNR=4.5								
MKAR					LR		LR	14 36 01.5	
	comp=Z,87nm,20.3s,baz=130,slow=40								
USRK	**Ussuriysk Ar.**	**25.87**	**48**		P		**P**	**14 25 03.6**	**-1.1**
	2.5nm,0.8s,baz=251,slow=11,SNR=5.1								
USRK					LR		LR	14 36 41.3	
	comp=Z,89nm,19.2s,baz=206,slow=40								
AAK	**Ala-Archa**	**27.99**	**306**		P		**P**	**14 25 24.8**	**+0.8**
	2.0nm,0.9s,baz=86,slow=3.5,SNR=6.2								
KLR	**Kul'dur**	**28.27**	**38**		LR		LR	14 38 16.0	
	comp=Z,64nm,19.1s,baz=239,slow=40								
MJAR	**Matsushiro Arr**	**28.46**	**67**		LR		LR	14 38 15.8	
	comp=Z,52nm,19.0s,baz=275,slow=40								
ZALV	**Zalesovo Beam**	**28.67**	**335**		P		**P**	**14 25 29.9**	**+0.2**
	4.5nm,0.8s,baz=133,slow=8.2,SNR=16								
KURBB	**Kurchatov Arra**	**29.18**	**324**		P		**P**	**14 25 34.4**	**+0.1**
	4.6nm,0.8s,baz=131,slow=9.1,SNR=45								
KURBB					PcP		**PcP**	**14 28 40.5**	**-0.9**
	0.6nm,0.7s,baz=123,slow=2.3,SNR=4.3								
KURK	**Kurchatov**	**29.19**	**324**		P		**P**	**14 25 34.4**	**0.0**
KURK					PcP		**PcP**	**14 28 40.5**	**-1.0**
GEYT	**Alibeck**	**39.78**	**295**		P		**P**	**14 27 07.8**	**+1.7**
	1.5nm,0.9s,baz=219,slow=3.8,SNR=4.8								
NRIK	**Noril'sk**	**41.26**	**351**		P		**P**	**14 27 18.5**	**+0.7**
	8.1nm,0.8s,baz=142,slow=7.2,SNR=7.9								
TIXI	**Tiksi**	**44.23**	**10**		*e*P		**P**	**14 27 41.6**	**-0.3**
	1.6nm,0.4s								
FITZ	**Fitzroy Crossi**	**51.16**	**155**		P		P	14 28 33.2	-3.0
	0.7nm,0.6s,baz=356,slow=13,SNR=3.7								
WRAB	**Tennant Creek**	**56.52**	**147**		*e*P		P	14 29 12.9	-2.6
	2.2nm,0.6s								
WRA	**Warramunga Arr**	**56.52**	**147**		P		**P**	**14 29 14.0**	**-1.5**
	5.3nm,1.0s,baz=336,slow=7.7,SNR=21								
BRTR	**Keskin Array B**	**58.44**	**301**		P		**P**	**14 29 28.8**	**-0.3**
	2.1nm,0.9s,baz=96,slow=6.6,SNR=8.1								
ARCES	**ARCESS Array B**	**59.21**	**336**		P		**P**	**14 29 33.6**	**-0.1**
	3.8nm,0.8s,baz=81,slow=6.4,SNR=11								
AKASG	**Malin Array Be**	**59.27**	**314**		P		**P**	**14 29 34.1**	**-0.3**
	1.9nm,0.5s,baz=70,slow=6.6,SNR=10								
FINES	**FINESS Array B**	**59.52**	**327**		P		**P**	**14 29 35.7**	**-0.3**
	5.3nm,0.8s,baz=96,slow=7.4,SNR=17								
ASAR	**Alice Springs**	**59.53**	**149**		P		**P**	**14 29 35.4**	**-1.2**
	1.9nm,0.6s,baz=332,slow=6.7,SNR=31								
ASAR					PcP		**PcP**	**14 30 23.0**	**-1.0**
	1.1nm,0.6s,baz=336,slow=3.9,SNR=11								
CTA	**Charters Tower**	**63.12**	**136**		P		**P**	**14 29 59.1**	**-1.9**
	1.7nm,0.2s,baz=302,slow=7.9,SNR=3.2								
VYHS	**Vyhne**	**66.35**	**314**		*e*P		**P**	**14 30 22.2**	**+0.4**
NOA	**NORSAR Array B**	**66.62**	**328**		P		**P**	**14 30 22.2**	**-1.1**
	2.2nm,0.9s,baz=87,slow=9.0,SNR=3.6								
ARSA	**Arzberg**	**68.87**	**313**		*e*P		**P**	**14 30 37.3**	**-0.4**
	2.2nm,0.7s								
CLL	**Collm**	**68.97**	**318**		*e*P		**P**	**14 30 38.0**	**-0.2**
CLL					*e*PP		**PP**	**14 33 11.0**	**+0.9**
SOKA	**Soboth**	**69.39**	**313**		*e*P		**P**	**14 30 40.3**	**-0.7**
	7.4nm,1.1s								
GERES	**GERESS Array B**	**69.44**	**315**		P		**P**	**14 30 41.2**	**-0.1**
	1.7nm,0.9s,baz=75,slow=7.1,SNR=12								
STKA	**Stephens Creek**	**70.05**	**148**		P		**P**	**14 30 43.6**	**-1.4**
	4.1nm,1.0s,baz=345,slow=9.3,SNR=5.2								
STKA					PP		**PP**	**14 33 15.6**	**-4.8**
	1.8nm,0.9s,baz=327,slow=17,SNR=3.5								
ILAR	**Eielson Array**	**70.94**	**26**		P		**P**	**14 30 49.1**	**-1.0**
	1.2nm,0.9s,baz=303,slow=5.3,SNR=7.7								
KMBO	**Kilima Mbogo**	**71.49**	**258**		P		**P**	**14 30 53.5**	**-1.0**
	1.0nm,0.3s,baz=56,slow=8.2,SNR=4.3								
SQTA	**Sankt Quirin**	**71.60**	**314**		*e*P		**P**	**14 30 53.9**	**-0.7**
	5.5nm,0.8s								
MOTA	**Moosalm**	**71.62**	**314**		*i* P		**P**	**14 30 54.7**	**0.0**
	8.5nm,1.2s								
FETA	**Feichten**	**71.98**	**314**		*e*P		**P**	**14 30 57.0**	**0.0**
	8.4nm,0.9s								
YKA	**Yellowknife Ar**	**83.02**	**17**		P		**P**	**14 31 57.9**	**-0.2**
	2.9nm,0.8s,baz=326,slow=5.5,SNR=4.0								
ESDC	**Sonseca Array**	**84.89**	**313**		P		**P**	**14 32 07.8**	**-0.4**
	0.2nm,0.4s,baz=59,slow=5.0,SNR=3.4								
TORD	**Torodi Ar. Bea**	**95.09**	**288**		P		**P**	**14 32 55.4**	**-1.3**
	0.4nm,0.9s,baz=64,slow=3.4								

IDC 10 14:20:35.8±2.2, 6°40S×148°52E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.6/37, mbtmp3.8/5, ML3.5/1, MS3.8/2, Ms1 3.8/2, ms1mx2.9/31, Error ellipse: s-maj=63.6km s-min=24.6km az=104.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**18.07**	**287**	LR	LR	14 31 40.6	
	comp=Z,36nm,19.1s,baz=91,slow=37						
WRA	**Warramunga Arr**	**19.26**	**224**	P	P	14 25 01.5	-0.7
	0.2nm,0.3s,baz=51,slow=10,SNR=12						
ASAR	**Alice Springs**	**22.19**	**218**	P	P	14 25 33.2	-0.7
	1.2nm,0.5s,baz=56,slow=9.1,SNR=46						
FITZ	**Fitzroy Crossi**	**25.17**	**240**	P	P	14 26 02.8	-0.4
	1.6nm,0.4s,baz=60,slow=9.5,SNR=20						
STKA	**Stephens Creek**	**26.16**	**193**	P	P	14 26 13.4	+1.4
	1.2nm,0.6s,baz=15,slow=8.6,SNR=5.1						
AFI	**Afiamalu**	**39.74**	**104**	LR	LR	14 41 15.7	
	comp=Z,1μm,21.2s,baz=98,slow=31						
MJAR	**Matsushiro Arr**	**43.80**	**348**	P	P	14 28 43.3	-0.2
	0.7nm,0.5s,baz=181,slow=8.2,SNR=6.9						

MEX 10 14:32:25.7±0.3, 14°25N×92°78W, h10km±52km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.82**	**37**	*e*P	Pg	14 32 39.5	-2.0
THIG				*i* S	Sg	14 32 50.2	-2.0
PCIG		**1.51**	**344**	*e*P	Pn	14 32 48.9	-3.9
PCIG				*i* S	Sn	14 33 07.5	-4.9
CCIG	**Comitan**	**2.11**	**17**	*i* P	Pn	14 32 58.1	-3.1
CCIG				*i* S	Sn	14 33 22.7	-4.9
TGIG		**2.53**	**352**	*e*P	Pn	14 33 04.0	-2.9
TGIG				*i* S	Sn	14 33 33.9	-4.0

IDC 10 14:39:39.2±8.4, 54°20N×34°31W, h0km, mb3.7/1, mb1 3.7/1, mb1mx3.1/36, mbtmp3.7/1, Error ellipse: s-maj=870.5km s-min=97.4km az=144.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**65.97**	**42**	P	P	14 50 26.9	0.0
	0.5nm,0.5s,baz=313,slow=5.6,SNR=4.8						
WRA	**Warramunga Arr**	**144.72**	**19**	PKP	PKPdf	14 59 17.8	+0.1
	0.3nm,0.8s,baz=336,slow=2.6,SNR=3.2						
ASAR	**Alice Springs**	**148.25**	**21**	PKPbc	PKPbc	14 59 25.9	-1.0
	0.8nm,0.8s,baz=351,slow=2.2,SNR=12						

*IGIL **10** 14:49:11.2, 37°25N×12°71W, h0km, ML2.8*
*MDD **10** 14:49:12.1±1.4, 37°26N×12°71W, h0km, mb4.3/24, Error ellipse: s-maj=13.0km s-min=10.4km az=68.0, PRXIMO*
*LDG **10** 14:49:13.5±0.4, 37°21N×12°88W, h20km, Ml3.4/3, Error ellipse: s-maj=8.1km s-min=6.6km az=50.0*
*INMG **10** 14:49:13.2±1.9, 37°07N×13°10W, h10km, ML2.8, Error ellipse: s-maj=6.3km s-min=4.1km az=112.0*
*CNRM **10** 14:49:18.9, 37°18N×12°29W, h126km*

ISC 10 14:49:09.9±3.2, 37°30N±0°09×12°8W±0°1, h10km, n80, σ2s30/139, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**3.13**	**92**	*e*Pn	**Pn**	**14 49 59.8**	**+0.4**
PFVI				*e*Sn	**Sn**	**14 50 36.1**	**-0.7**
PFVI				A	A	14 50 45.2	
	8.9nm,0.5s						
PFVI	**Vila Bisbo**	**3.13**	**92**	P	**Pn**	**14 49 59.8**	**+0.4**
	2.9nm,0.0s,SNR=6.0						
PFVI				S	**Sn**	**14 50 36.2**	**-0.7**
	4.3nm,0.1s,SNR=7.9						
PMST	**Lisbon--Monsan**	**3.16**	**62**	*e*Pn	**Pn**	**14 50 02.1**	**+2.4**
PMST				*e*Sn	**Sn**	**14 50 38.7**	**+1.3**
PMST				A	A	14 50 41.7	
	34nm,0.2s						
LIS	**Lisbon**	**3.17**	**62**	*e*P	**Pn**	**14 50 00.4**	**+0.5**
LIS	**Lisbon**	**3.17**	**62**	P	**Pn**	**14 50 00.4**	**+0.5**
PMAFR	**Mafra**	**3.19**	**58**	*e*Pn	**Pn**	**14 50 02.5**	**+2.3**
PMAFR				*e*Sn	**Sn**	**14 50 40.3**	**+2.0**
PMAFR				A	A	14 50 49.0	
	37nm,0.4s						
PMAFR	**Mafra**	**3.19**	**58**	P	**Pn**	**14 50 02.5**	**+2.3**
	14nm,0.1s,SNR=14						
PMAFR				S	**Sn**	**14 50 39.8**	**+1.5**
	13nm,0.1s,SNR=10						
PTEO	**Sao Teotonio**	**3.21**	**84**	*e*Pn	**Pn**	**14 50 02.1**	**+1.7**
PTEO				*e*Sn	**Sn**	**14 50 37.9**	**-0.8**
PTEO				A	A	14 50 42.3	
	13nm,0.7s						
PTEO	**Sao Teotonio**	**3.21**	**84**	P	**Pn**	**14 50 02.1**	**+1.7**
PTEO				S	**Sn**	**14 50 37.9**	**-0.8**
	6.3nm,0.7s						
MORF	**Marmelete**	**3.27**	**89**	*e*P	**Pn**	**14 50 01.1**	**-0.2**
MORF	**Marmelete**	**3.27**	**89**	*e*Pn	**Pn**	**14 50 03.5**	**+2.3**
MORF				*e*Sn	**Sn**	**14 50 39.7**	**-0.5**
MORF				A	A	14 50 44.7	
	11nm,0.5s						
MORF	**Marmelete**	**3.27**	**89**	P	**Pn**	**14 50 03.5**	**+2.3**
MORF				S	**Sn**	**14 50 39.7**	**-0.5**
	11nm,0.5s						
MESJ	**Messejana**	**3.64**	**80**	*e*S	**Sn**	**14 50 47.3**	**-1.9**
MESJ				AML	AML	14 50 53.1	
	comp=N,19nm,0.1s						
MESJ	**Messejana**	**3.64**	**80**	*e*Pn	**Pn**	**14 50 08.0**	**+1.7**
MESJ				*e*Sn	**Sn**	**14 50 49.0**	**-0.2**
MESJ				A	A	14 50 52.7	
	comp=N,11nm,0.6s						
MESJ	**Messejana**	**3.64**	**80**	P	**Pn**	**14 50 08.0**	**+1.7**
MESJ				S	**Sn**	**14 50 49.0**	**-0.2**
	comp=N,11nm,0.6s						
ALMR	**Almeirim**	**3.77**	**59**	*e*S	**Sn**	**14 50 50.8**	**-1.8**
ALMR				AML	AML	14 50 55.8	
	comp=E,30nm,0.2s						
ALMR	**Almeirim**	**3.77**	**59**	*e*Pn	**Pn**	**14 50 11.8**	**+3.7**
ALMR				*e*Sn	**Sn**	**14 50 54.9**	**+2.4**
ALMR				A	A	14 51 00.9	
	comp=E,45nm,0.4s						
ALMR	**Almeirim**	**3.77**	**59**	P	**Pn**	**14 50 11.8**	**+3.7**
ALMR				S	**Sn**	**14 50 54.9**	**+2.4**
	comp=E,22nm,0.4s						
PBDV	**Barranco-do-Ve**	**3.84**	**89**	*e*Pn	**Pn**	**14 50 10.8**	**+1.7**
PBDV				*e*Sn	**Sn**	**14 50 55.6**	**+1.2**
PBDV				A	A	14 50 59.9	
	comp=E,10nm,0.8s						
PBDV	**Barranco-do-Ve**	**3.84**	**89**	P	**Pn**	**14 50 10.8**	**+1.7**
PBDV				S	**Sn**	**14 50 55.6**	**+1.2**
	comp=E,10nm,0.8s						
EVO	**Evora**	**3.94**	**70**	*e*Pn	**Pn**	**14 50 14.0**	**+3.5**
EVO				*e*Sn	**Sn**	**14 50 58.4**	**+1.7**
EVO				A	A	14 51 06.0	
	comp=E,15nm,0.3s						
EVO	**Evora**	**3.94**	**70**	P	**Pn**	**14 50 14.0**	**+3.5**
EVO				S	**Sn**	**14 50 58.4**	**+1.7**
	comp=E,15nm,0.3s						
PBEJ	**Beja**	**3.94**	**78**	*e*Pn	**Pn**	**14 50 13.8**	**+3.3**
PBEJ				*e*Sn	**Sn**	**14 50 56.9**	**+0.2**
PBEJ				A	A	14 51 02.7	
	comp=E,16nm,0.3s						
PBEJ	**Beja**	**3.94**	**78**	P	**Pn**	**14 50 13.8**	**+3.3**
PBEJ				S	**Sn**	**14 50 56.9**	**+0.2**
	comp=E,7.8nm,0.3s						
PVAQ	**Vaqueiros**	**4.01**	**87**	*e*Pn	**Pn**	**14 50 13.1**	**+1.7**
PVAQ				*e*Sn	**Sn**	**14 50 57.8**	**-0.6**
PVAQ				A	A	14 51 04.8	
	comp=E,10nm,0.1s						
PVAQ	**Vaqueiros**	**4.01**	**87**	P	**Pn**	**14 50 13.1**	**+1.7**
PVAQ				S	**Sn**	**14 50 57.8**	**-0.6**
	comp=E,10nm,0.1s						
PVAQ	**Vaqueiros**	**4.01**	**87**	P	**Pn**	**14 50 13.1**	**+1.7**
PTOM	**Tomar**	**4.12**	**54**	*e*Pn	**Pn**	**14 50 15.6**	**+2.7**
PTOM				*e*Sn	**Sn**	**14 51 02.1**	**+1.1**
PTOM				A	A	14 51 08.8	
	comp=E,20nm,0.6s						
PTOM	**Tomar**	**4.12**	**54**	P	**Pn**	**14 50 15.6**	**+2.7**
PTOM				S	**Sn**	**14 51 02.1**	**+1.1**
	comp=E,10nm,0.6s						
EGRO	**El Granado**	**4.20**	**85**	P	**Pn**	**14 50 15.8**	**+1.8**
	comp=E,6.5nm,0.2s,SNR=34						
EGRO				S	**Sn**	**14 51 01.6**	**-1.4**
	comp=E,0.6nm,0.1s,SNR=5.3						
PCAS	**Casmilo, Conde**	**4.31**	**49**	*e*Pn	**Pn**	**14 50 18.1**	**+2.5**
PCAS				*e*Sn	**Sn**	**14 51 06.3**	**+0.4**
PCAS				A	A	14 51 11.8	
	comp=E,8.2nm,0.4s						
PESTR	**Estremoz**	**4.36**	**67**	*e*Pn	**Pn**	**14 50 17.1**	**+0.9**
PESTR				*e*Sn	**Sn**	**14 51 06.7**	**-0.4**
PESTR				A	A	14 51 13.4	
	comp=E,9.8nm,0.7s						
PESTR	**Estremoz**	**4.36**	**67**	P	**Pn**	**14 50 20.0**	**+3.8**
PESTR	**Estremoz**	**4.36**	**67**	S	**Sn**	**14 51 06.9**	**-0.2**
PMRV	**Marv??o**	**4.71**	**62**	*e*Pn	**Pn**	**14 50 22.8**	**+1.7**
PMRV				*e*Sn	**Sn**	**14 51 15.4**	**-0.5**
PMRV				A	A	14 51 22.5	
	comp=E,13nm,0.4s						
PMRV	**Marv??o**	**4.71**	**62**	P	**Pn**	**14 50 22.8**	**+1.7**
PMRV				S	**Sn**	**14 51 15.4**	**-0.5**
	comp=E,13nm,0.4s						
EBAD	**Badajoz**	**4.75**	**70**	P	**Pn**	**14 50 23.2**	**+1.5**
	comp=E,2.3nm,0.1s,SNR=28						
EBAD				S	**Sn**	**14 51 15.3**	**-1.5**
	comp=E,5.3nm,0.2s						
PCBR	**Castelo Branco**	**4.84**	**57**	*e*Pn	**Pn**	**14 50 25.3**	**+2.4**
PCBR				*e*Sn	**Sn**	**14 51 18.6**	**-0.4**
PCBR				A	A	14 51 23.8	
	comp=E,7.3nm,0.3s						
PCBR	**Castelo Branco**	**4.84**	**57**	P	**Pn**	**14 50 25.3**	**+2.4**
PCBR				S	**Sn**	**14 51 18.6**	**-0.4**
	comp=E,3.7nm,0.3s						
EMIN	**Mina Concepcio**	**4.85**	**83**	P	**Pn**	**14 50 24.7**	**+1.7**
	comp=E,1.8nm,0.2s,SNR=22						
EMIN				S	**Sn**	**14 51 17.0**	**-2.2**
	comp=E,0.3nm,0.1s						
PVIS	**Viseu**	**5.09**	**46**	*e*Pn	**Pn**	**14 50 28.6**	**+2.3**
PVIS				*e*Sn	**Sn**	**14 51 23.5**	**-1.7**
PVIS				A	A	14 51 27.1	
	comp=E,6.3nm,0.4s						
PVIS	**Viseu**	**5.09**	**46**	P	**Pn**	**14 50 28.6**	**+2.3**
PVIS				S	**Sn**	**14 51 23.5**	**-1.7**
	comp=E,3.2nm,0.4s						
MTE	**Manteigas**	**5.11**	**51**	*e*Pn	**Pn**	**14 50 28.6**	**+2.1**
MTE				*e*Sn	**Sn**	**14 51 26.2**	**+0.6**
MTE				A	A	14 51 34.6	
	comp=E,12nm,0.6s						
MTE	**Manteigas**	**5.11**	**51**	P	**Pn**	**14 50 28.6**	**+2.1**
MTE				S	**Sn**	**14 51 26.2**	**+0.6**
	comp=E,5.9nm,0.6s						
PVRL	**Vila Real**	**5.57**	**43**	*e*Sn	**Sn**	**14 51 37.2**	**+0.3**
PVRL	**Vila Real**	**5.57**	**43**	S	**Sn**	**14 51 37.2**	**+0.3**
POLO	**Lamas de Olo**	**5.59**	**42**	*e*Pn	**Pn**	**14 50 35.1**	**+1.8**
POLO				*e*Sn	**Sn**	**14 51 35.7**	**-1.9**
POLO				A	A	14 51 47.3	
	comp=E,2.1nm,0.7s						
PMAR	**Madeira**	**5.70**	**218**	*e*Sn	Sn	14 51 22.4	-18
PGAV	**Gavieira, Arco**	**5.80**	**35**	*e*Pn	**Pn**	**14 50 39.3**	**+3.2**
PGAV				*e*Sn	**Sn**	**14 51 41.2**	**-1.5**
PGAV				A	A	14 51 48.4	
	comp=E,7.0nm,0.7s						
ELOB	**Lobios**	**5.82**	**37**	P	**Pn**	**14 50 38.5**	**+2.2**
	comp=E,0.5nm,0.1s,SNR=6.2						
ELOB				S	**Sn**	**14 51 40.7**	**-2.5**
	comp=E,1.2nm,0.1s						
ECAB	**El Cabril**	**5.86**	**80**	P	**Pn**	**14 50 38.4**	**+1.4**
	comp=E,2.2nm,0.1s,SNR=47						
ECAB				S	**Sn**	**14 51 41.4**	**-2.9**
	comp=E,0.1nm,0.1s						
MVO	**Moncorvo**	**5.88**	**47**	*e*Pn	**Pn**	**14 50 38.9**	**+1.7**
MVO				*e*Sn	**Sn**	**14 51 42.5**	**-2.1**
MVO				A	A	14 51 51.1	
	comp=E,9.1nm,0.5s						
MVO	**Moncorvo**	**5.88**	**47**	P	**Pn**	**14 50 39.2**	**+2.1**
	comp=E,4.5nm,0.2s,SNR=10						
MVO				S	**Sn**	**14 51 42.6**	**-2.1**
	comp=E,1.1nm,0.1s						
EPLA	**Plasencia**	**5.90**	**60**	P	**Pn**	**14 50 39.7**	**+2.3**
	comp=E,3.5nm,0.2s,SNR=24						
EPLA				S	**Sn**	**14 51 44.0**	**-1.1**
	comp=E,0.2nm,0.0s						
HORN	**Hornachuelos**	**5.97**	**82**	P	**Pn**	**14 50 39.3**	**+0.9**
HORN	**Hornachuelos**	**5.97**	**82**	S	**Sn**	**14 51 44.7**	**-2.2**
EMAZ	**Mazaricos**	**6.34**	**26**	P	**Pn**	**14 50 45.3**	**+1.9**
	comp=E,2.7nm,0.1s,SNR=7.9						
EMAZ				S	**Sn**	**14 51 50.1**	**-5.7**
	comp=E,1.1nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**6.46**	**44**	*e*Pn	**Pn**	**14 50 47.2**	**+2.1**
PBRG				*e*Sn	**Sn**	**14 51 56.9**	**-2.0**
PBRG				A	A	14 52 09.4	
	comp=E,2.9nm,0.6s						
PBRG	**Braganca**	**6.46**	**44**	P	**Pn**	**14 50 47.2**	**+2.1**
PBRG				S	**Sn**	**14 51 56.9**	**-2.0**
	comp=E,1.4nm,0.6s						
EADA	**Adamuz**	**6.53**	**80**	P	**Pn**	**14 50 47.9**	**+1.8**
	comp=E,1.5nm,0.1s,SNR=24						
EADA				S	**Sn**	**14 51 57.2**	**-3.5**
	comp=E,0.2nm,0.1s						
EAGO	**Agolada(Pontev**	**6.55**	**32**	P	**Pn**	**14 50 47.6**	**+1.2**
	comp=E,1.2nm,0.1s,SNR=7.9						
EAGO				S	**Sn**	**14 51 55.6**	**-5.5**
	comp=E,2.5nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**6.56**	**43**	P	**Pn**	**14 50 48.2**	**+1.7**
	comp=E,5.3nm,0.3s,SNR=7.9						
ECAL				S	**Sn**	**14 52 00.6**	**-0.7**
	comp=E,1.0nm,0.2s,SNR=7.9						
EGOR	**Sierra Gorda,**	**6.90**	**89**	S	**Sn**	**14 52 03.9**	**-5.9**
	comp=E,0.1nm,0.1s,SNR=4.0						
PAB	**San Pablo**	**6.96**	**69**	P	**Pn**	**14 50 53.8**	**+1.8**
	comp=E,1.8nm,0.2s,SNR=7.9						
PAB				S	**Sn**	**14 52 08.6**	**-2.7**
	comp=E,0.5nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**7.29

DUG	**Dugway, Tooele**	**20.61**	**353**	*e*P	**P**	**14 57 35.7**	**-1.5**
	29nm,1.2s						
HWUT	**Hardware Ranch**	**21.89**	**356**	*e*P	**P**	**14 57 51.3**	**+0.2**
	12nm,1.1s						
PDAR	**Pinedale Array**	**22.98**	**360**	P	**P**	**14 58 02.7**	**0.0**
	1.3nm,0.8s,baz=167,slow=9.1,SNR=10						
WVOR	**Wild Horse Val**	**23.93**	**343**	P	**P**	**14 58 09.6**	**-2.2**
	13nm,1.1s						
MOD	**Modoc Plateau**	**23.94**	**340**	P	**P**	**14 58 11.5**	**-0.4**
	21nm,1.1s						
HLID	**Hailey**	**24.13**	**351**	*e*P	**P**	**14 58 13.5**	**-0.2**
	3.2nm,0.8s						
NEW	**Newport**	**29.14**	**350**	P	**P**	**14 58 59.1**	**+0.5**
	1.7nm,0.7s,baz=149,slow=12,SNR=3.9						
ILAR	**Eielson Array**	**51.40**	**341**	P	**P**	**15 02 03.2**	**+1.1**
	2.3nm,0.8s,baz=152,slow=6.5,SNR=25						
WRA	**Warramunga Arr**	**120.28**	**258**	PKP	**PKPdf**	**15 11 48.6**	**-0.5**
	0.3nm,0.7s,baz=76,slow=2.2,SNR=8.1						
ASAR	**Alice Springs**	**121.36**	**254**	PKP	**PKPdf**	**15 11 51.0**	**-0.2**
	0.3nm,0.7s,baz=72,slow=2.0,SNR=5.1						

ISK ***10*** *14:54:19.6,38.67N×43.12E,h7km,ML2.5/6*
ISCJB ***10*** *14:54:20.9±0.4,38.67N±0.03×43.15E±0.04,h16km±10km, Error ellipse: s-maj=5.3km s-min=5.0km az=3.6*
DDA ***10*** *14:54:20.6,38.68N×43.17E,h7km,Ml2.7*

ISC 10 14:54:20.3±1.1,38.67N±0.03×43.15E±0.03,h18km±4km, n15,σ0≧61/23,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.20**	**112**	PG	**Pg**	**14 54 25.5**	**+0.1**
VANB				SG	**Sg**	**14 54 30.0**	**+1.2**
TVAN	**Van**	**0.24**	**125**	*i* P	**Pg**	**14 54 25.2**	**-0.8**
TVAN				*i* S	**Sg**	**14 54 30.3**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.36**	**292**	*i* P	**Pb**	**14 54 28.1**	**-0.2**
ADCV				*i* S	**Sb**	**14 54 34.2**	**+0.4**
GEVA	**Gevas**	**0.36**	**192**	*i* P	**Pg**	**14 54 27.4**	**-0.7**
GEVA				*i* S	**Sb**	**14 54 34.7**	**+0.9**
VMUR	**Van-Muradiye**	**0.46**	**46**	*i* P	**Pb**	**14 54 29.7**	**-0.3**
VMUR				*i* S	**Sb**	**14 54 37.1**	**+0.5**
CLDR	**Caldiran**	**0.76**	**51**	PG	**Pg**	**14 54 35.1**	**-0.2**
CLDR				SG	**Sn**	**14 54 46.7**	**-0.9**
CLDR	**Caldiran**	**0.76**	**51**	*i* P	**Pb**	**14 54 34.7**	**-0.5**
CLDR				*i* S	**Sg**	**14 54 45.9**	**+0.5**
TUTA	**Tutak**	**0.78**	**340**	*i* P	**Pb**	**14 54 34.8**	**-0.6**
GURO	**Guroymak-BITLI**	**0.89**	**263**	PG	**Pb**	**14 54 36.7**	**-0.5**
GURO				SG	**Sg**	**14 54 48.9**	**-0.4**
AGRB	**Hanur-Agry**	**0.91**	**352**	PG	**Pb**	**14 54 37.4**	**-0.4**
EKAR	**Karacoban**	**1.03**	**305**	*i* P	**Pg**	**14 54 41.2**	**+0.8**
EATA	**Eleskirt**	**1.30**	**337**	*i* P	**Pb**	**14 54 44.5**	**+0.1**
SIRT	**Sirnak**	**1.30**	**206**	PN	**Pb**	**14 54 44.2**	**0.0**
CUKT	**Cukurca**	**1.47**	**166**	PN	**Pb**	**14 54 47.5**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.62**	**252**	PN	**Pb**	**14 54 49.4**	**-0.3**

ISCJB ***10*** *14:57:47.7±0.4,8.79S±0.01×75.15W±0.02,h114km±3km, mb6.0/498,Error ellipse: s-maj=3.4km s-min=2.1km az=152.6*
MOS ***10*** *14:57:47.0±0.9,8.78S×75.16W,h104km,mb6.1/98,Error ellipse: s-maj=6.1km s-min=4.1km az=87.2*
BJI ***10*** *14:57:47.7,8.91S×75.12W,h120km,mB6.0/53*
NEIC ***10*** *14:57:49.0±0.0,8.71S×74.64W,h120km,Moment Tensor Solution. s49 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.15; $M_{\theta\theta}$0.33; $M_{\phi\phi}$0.82; $M_{r\theta}$0.02; $M_{r\phi}$0.48; $M_{\theta\phi}$0.14; Best double couple: $M_0$1.10000×10^{18} NP1:ϕ_s209.00000°, δ48.00000°,λ-93.00000°. NP2:ϕ_s34.00000°,δ42.00000°, λ-85.00000°. Principal axes: T 1.1200, Plg3.0000°, Azm301.0000°; N 0.0300, Plg2.0000°, Azm211.0000°; P -1.1600, Plg85.0000°, Azm79.0000°;*
ARE ***10*** *14:57:49.0±0.0,8.88S×75.19W,h135km*
IDC ***10*** *14:57:50.7±0.3,8.86S×75.10W,h127km±2km,mb5.5/44, mb1 5.5/52,mb1mx5.5/56,mbtmp5.8/52,MS4.9/15, Ms1 4.9/15,ms1mx4.6/43,Error ellipse: s-maj=6.9km s-min=5.2km az=70.0*
NEIC ***10*** *14:57:50.7±0.1,8.87S×75.07W,h129km,mb5.9/299, ME5.8,MW6.0,MW6.0,MW6.0,ML6.0(ARE),Error ellipse: s-maj=3.3km s-min=2.0km az=67.0,Moment Tensor Solution. s56 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.04; $M_{\theta\theta}$0.03; $M_{\phi\phi}$1.01; $M_{r\theta}$-0.02; $M_{r\phi}$0.30; $M_{\theta\phi}$0.31; Best double couple: $M_0$1.10000×10^{18} NP1:ϕ_s21.00000°, δ38.00000°,λ-81.00000°. NP2:ϕ_s190.00000°,δ53.00000°, λ-97.00000°. Principal axes: T 1.1400, Plg8.0000°, Azm285.0000°; N -0.0500, Plg6.0000°, Azm194.0000°; P -1.0900, Plg81.0000°, Azm68.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s12.00000°,δ40.00000°, λ-96.00000°. NP2:ϕ_s200.00000°,δ50.00000°, λ-85.00000°. Principal axes: T Plg5.0000°, Azm286.0000°; N Plg0.0000°, Azm0.0000°; P Plg84.0000°, Azm145.0000°; Depth from synthetics of broadband displacement seismograms. Apparent Stress 0.62 MPa. Energy computed from BB mechanism.*
NEIC *Felt [V] at Aguaytia and Campoverde; [IV] at Huanuco; [III] at Cerro de Pasco and Lima. Felt in much of central Peru and as far as Chiclayo and the Cusco area. Also felt at Cruzeiro do Sul, Brazil.*
GCMT ***10*** *14:57:50.7±0.1,8.88S±0.01×75.17W±0.01,h133km, MW6.0/139,Moment Tensor Solution. s139,c283; s138,c382; Duration: 2s5 Moment tensor: Scale 10^{18} Nm; M_{rr}-1.24±.01; $M_{\theta\theta}$0.15±.01; $M_{\phi\phi}$1.09±.01; $M_{r\theta}$-0.03±.01; $M_{r\phi}$0.56±.01; $M_{\theta\phi}$0.32±.01; Best double couple: $M_0$1.33500×10^{18} NP1:ϕ_s198.00000°,δ51.00000°, λ-100.00000°. NP2:ϕ_s33.00000°,δ39.00000°, λ-78.00000°. Principal axes: T 1.3800, Plg6.0000°, Azm294.0000°; N -0.0860, Plg7.0000°, Azm204.0000°; P -1.2900, Plg80.0000°, Azm63.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
NEIC ***10*** *14:58:05.7±0.0,8.96S×74.81W,h105km,Moment Tensor Solution. s69 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.24; $M_{\theta\theta}$0.07; $M_{\phi\phi}$1.17; $M_{r\theta}$0.03; $M_{r\phi}$0.28; $M_{\theta\phi}$0.26; Best double couple: $M_0$1.30000×10^{18} NP1:ϕ_s192.00000°, δ51.00000°,λ-92.00000°. NP2:ϕ_s15.00000°,δ39.00000°, λ-88.00000°. Principal axes: T 1.2600, Plg6.0000°, Azm283.0000°; N 0.0100, Plg1.0000°, Azm193.0000°; P -1.2700, Plg84.0000°, Azm91.0000°;*

ISC 10 14:57:50.2±0.2,8.94S±0.03×75.09W±0.03,h129km±1km, h129km:pP-P,n1947,σ1≧49/2207,mb6.0/532,48C-150D, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**3.49**	**209**	P	**Pn**	**14 58 42.6**	**-0.6**
	442nm,0.3s,baz=129,slow=1.5,SNR=236						
NNA				S	**Sn**	**14 59 22.8**	**-1.5**
	6μm,0.3s,baz=316,slow=22,SNR=22						
NNA	**Nana**	**3.49**	**209**	*e*Pn	**Pn**	**14 58 42.7**	**-0.6**
NNA				*e*Sn	**Sn**	**14 59 23.3**	**-1.0**
NNA	**Nana**	**3.49**	**209**	*e*P	**Pn**	**14 58 42.8**	**-0.5**
ATAH	**Atahualpa**	**3.73**	**298**	P	**Pn**	**14 58 45.2**	**-1.6**
	2μm,0.3s,baz=98,slow=5.1,SNR=3117						
ATAH				S	**Sn**	**14 59 29.6**	**-0.9**
	1μm,0.3s,baz=351,slow=7.8,SNR=5.6						
OTAV	**Otavalo**	**9.71**	**340**	*e*Pn	**Pn**	**15 00 04.9**	**-2.3**
OTAV	**Otavalo**	**9.71**	**340**	*e*P	**Pn**	**15 00 04.9**	**-2.3**
LPAZ	**La Paz**	**9.97**	**138**	P	**Pn**	**15 00 11.2**	**+0.3**
	11nm,0.3s,baz=326,slow=12,SNR=428						
LPAZ				S	**Sn**	**15 02 02.2**	**+0.9**
	17nm,0.3s,baz=172,slow=18,SNR=1.8						
LPAZ				LR	LR	15 04 46.7	
	comp=Z,11μm,20.9s,baz=326,slow=42						
LPAZ	**La Paz**	**9.97**	**138**	*e*Pn	**Pn**	**15 00 10.3**	**-0.5**
LPAZ				S	**Sn**	**15 02 02.2**	**+0.9**
GCUF	**Volcan Galeras**	**10.34**	**347**	*e*P	**Pn**	**15 00 13.0**	**-2.8**
FLOC	**Florencia**	**10.46**	**357**	*e*P	**Pn**	**15 00 13.8**	**-3.1**
MNMC	**Minye Minye**	**11.45**	**153**	*e*Pn	**Pn**	**15 00 28.1**	**-2.1**
POPC	**Popayan, Colom**	**11.51**	**352**	*e*P	**Pn**	**15 00 29.2**	**-1.8**
BETC	**Betania**	**11.55**	**358**	*e*P	**Pn**	**15 00 30.6**	**-0.8**
MARP	**Paez Belalcaza**	**11.73**	**356**	*e*P	**Pn**	**15 00 31.6**	**-2.4**
SAML	**Samuel**	**11.76**	**91**	*e*Pn	**Pn**	**15 00 31.5**	**-2.6**
SAML	**Samuel**	**11.76**	**91**	*e*P	**Pn**	**15 00 31.5**	**-2.6**
PB11	**IPOC Station P**	**11.98**	**155**	*e*Pn	**Pn**	**15 00 34.5**	**-2.6**
GRGC	**Isla de Gorgon**	**12.25**	**345**	*e*P	**Pn**	**15 00 37.9**	**-2.6**
HORQ	**Saladito**	**12.43**	**353**	*e*P	**Pn**	**15 00 41.9**	**-1.3**
YOTC	**Yotoco, Valle**	**12.90**	**354**	*e*P	**Pn**	**15 00 47.9**	**-1.2**
VILC	**Villavicencio,**	**13.04**	**6**	*e*P	**Pn**	**15 00 49.2**	**-1.7**
MALC	**Bahia Malaga**	**13.06**	**350**	*e*P	**Pn**	**15 00 52.7**	**+1.7**
PB01	**IPOC Station P**	**13.19**	**156**	*e*Pn	**Pn**	**15 00 51.2**	**-1.6**
ANIL	**Santa Ana**	**13.34**	**359**	*e*P	**Pn**	**15 00 54.0**	**-0.9**
TOLC	**Tolima**	**13.44**	**359**	*e*P	**Pn**	**15 00 57.8**	**+1.6**
CHIC	**Chingaza**	**13.54**	**6**	*e*P	**Pn**	**15 00 54.7**	**-3.0**
ROSC	**El Rosal**	**13.71**	**3**	P	**Pn**	**15 01 00.1**	**+0.3**
	3.0nm,0.3s,baz=198,slow=6.0,SNR=42						
ROSC				LR	LR	15 06 58.6	
	comp=Z,6μm,18.0s,baz=235,slow=40						
ROSC	**El Rosal**	**13.71**	**3**	*e*Pn	**P**	**15 01 03.8**	**-0.3**
ROSC	**El Rosal**	**13.71**	**3**	*e*P	**P**	**15 01 02.5**	**-1.6**
RREF	**El Recreo**	**13.75**	**359**	*e*P	**P**	**15 01 03.1**	**-1.6**
GUYC	**Guyana, Colomb**	**14.07**	**359**	*e*P	**P**	**15 01 10.7**	**+2.5**
PB04	**IPOC Station P**	**14.14**	**161**	*e*Pn	**Pn**	**15 01 04.1**	**-1.0**
NORC	**Norcasia**	**14.41**	**1**	*e*P	**Pn**	**15 01 06.4**	**-2.0**
LVC	**Limon Verde**	**14.83**	**157**	P	**Pn**	**15 01 14.5**	**+0.5**
	5.1nm,0.3s,baz=342,slow=9.7,SNR=46						
LVC				S	**Sn**	**15 03 56.2**	**-2.1**
	0.5nm,0.3s,baz=181,slow=18,SNR=2.0						
RUSC	**La Rusia**	**14.87**	**8**	*e*P	**Pn**	**15 01 15.1**	**+0.6**
HELC	**Santa Helena**	**15.03**	**358**	*e*P	**Pn**	**15 01 14.3**	**-2.2**
PB10	**IPOC Station P**	**15.13**	**164**	*e*Pn	**Pn**	**15 01 17.3**	**0.0**
	275nm,0.8s						
SOLC	**Bahia Solano**	**15.24**	**351**	*e*P	**P**	**15 01 20.4**	**-0.3**
SIV	**San Ignacio**	**15.37**	**119**	P	**Pn**	**15 01 20.3**	**-0.1**
	65nm,0.3s,baz=299,slow=11,SNR=515						
SIV				S	**Sn**	**15 04 04.2**	**-6.8**
	35nm,0.3s,baz=221,slow=20,SNR=1.9						
PTBC	**PUERTO BERRIO,**	**15.39**	**2**	*e*P	**Pn**	**15 01 21.1**	**+0.5**
BARC	**Barichara**	**15.54**	**7**	*e*P	**P**	**15 01 24.2**	**-0.1**
TAMC	**Tame, Arauca**	**15.62**	**12**	*e*P	**P**	**15 01 25.1**	**+0.1**
DBBC	**Dabeiba**	**15.89**	**356**	*e*P	**P**	**15 01 30.3**	**+2.3**
BRRC	**Barranca, Sant**	**16.00**	**5**	*e*P	**Pn**	**15 01 27.6**	**-0.5**
GIRC	**Giron, Santand**	**16.02**	**7**	*e*P	**P**	**15 01 29.6**	**+0.1**
ZARC	**Zaragoza, Cauc**	**16.32**	**1**	*e*P	**Pn**	**15 01 32.4**	**+0.2**
PAMC	**Pamplona, Colo**	**16.34**	**8**	*e*P	**P**	**15 01 34.4**	**+1.0**
HJA	**Humahuaca**	**16.95**	**148**	*e*P	**P**	**15 01 39.5**	**-0.5**
PTGA	**Pitinga**	**17.12**	**62**	P	**P**	**15 01 40.3**	**-1.2**
	24nm,0.3s,baz=243,slow=12,SNR=149						
PTGA				S	Sn	15 04 41.5	-12
	28nm,0.3s,baz=321,slow=21,SNR=8.5						
PTGA				LR	LR	15 08 36.9	
	comp=Z,10μm,18.7s,baz=248,slow=38						
PTGA	**Pitinga**	**17.12**	**62**	*e*P	**P**	**15 01 41.4**	**-0.1**
	898nm,1.0s						
PTGA				S	Sn	15 04 41.5	-12
OCAC	**Ocana**	**17.15**	**6**	*e*P	**P**	**15 01 41.1**	**-0.9**
PAYG	**Puerto Ayora**	**17.21**	**298**	*e*P	**P**	**15 01 41.8**	**-0.8**
	1μm,1.6s						
PAYG	**Puerto Ayora**	**17.21**	**298**	*e*P	**P**	**15 01 41.7**	**-0.8**
PAYG	**Puerto Ayora**	**17.21**	**298**	*e*P	**P**	**15 01 42.0**	**-0.5**
AZU	**Azuero**	**17.40**	**343**	*e*P	**Pn**	**15 01 46.6**	**+1.4**
AZU	**Azuero**	**17.40**	**343**	*e*P	**Pn**	**15 01 46.2**	**+1.0**
MOTC	**Monteria, Cord**	**17.61**	**358**	*e*P	**P**	**15 01 47.1**	**+0.3**
UPD2	**Meteti**	**17.61**	**350**	*e*P	**P**	**15 01 46.3**	**-0.5**
SMLC	**San Martˆn de**	**17.65**	**3**	*e*P	**P**	**15 01 46.3**	**-1.0**
AZAP	**Zapla**	**17.97**	**149**	*e*P	**P**	**15 01 51.1**	**+0.1**
SLA	**San Lorenzo**	**18.16**	**151**	*i* P	**Pn**	**15 01 54.8**	**+0.4**
ALOL	**LOMAS DE OLMED**	**18.21**	**146**	*i* P	**P**	**15 01 52.1**	**-1.3**
SDV	**Santo Domingo**	**18.25**	**14**	P	**Pn**	**15 01 54.9**	**-0.7**
	36nm,0.3s,baz=196,slow=11,SNR=45						
SDV				S	**S**	**15 05 18.0**	**+1.3**
	99nm,0.3s,baz=195,slow=20,SNR=3.2						
SDV	**Santo Domingo**	**18.25**	**14**	*e*P	**Pn**	**15 01 55.4**	**-0.2**
	709nm,1.0s						
SDV				S	**S**	**15 05 18.0**	**+1.3**
SDV	**Santo Domingo**	**18.25**	**14**	*e*P	**Pn**	**15 01 55.1**	**-0.5**
FLAM	**Flamenco Islan**	**18.28**	**346**	*e*P	**Pn**	**15 01 55.5**	**-0.1**
UPA	**Univ. de Panam**	**18.34**	**346**	*e*P	**P**	**15 01 54.3**	**-0.6**
ZANG	**Zanguenga, Cho**	**18.40**	**345**	*e*P	**Pn**	**15 01 56.8**	**-0.3**
BCIP	**Isla Barro Col**	**18.59**	**345**	*e*P	**Pn**	**15 01 59.0**	**-0.4**
	907nm,1.3s						
BCIP	**Isla Barro Col**	**18.59**	**345**	*e*P	**Pn**	**15 01 58.7**	**-0.8**
ICCO	**Coco Island**	**18.69**	**320**	*e*P	**P**	**15 01 57.9**	**-0.8**
CODC	**Agustˆn Codaz**	**18.82**	**5**	*e*P	**P**	**15 01 59.1**	**-1.0**
GO03	**Copiap**	**19.12**	**167**	*e*P	**Pn**	**15 02 05.1**	**-0.4**
	244nm,1.0s						
FSA	**Cafayete**	**19.15**	**154**	*i* P	**Pn**	**15 02 05.5**	**-0.5**
BRU2	**Volcan**	**19.17**	**337**	*e*P	**Pn**	**15 02 05.3**	**-1.1**
PTJ1	**Puerto Jim¨ne**	**19.19**	**335**	*e*Pn	**Pn**	**15 02 06.5**	**+0.1**
DRK0	**Durika**	**19.82**	**336**	*e*P	**P**	**15 02 12.1**	**+0.9**
SMRC	**Santa Marta, M**	**19.99**	**2**	*e*P	**P**	**15 02 11.6**	**-1.2**
AHML	**Horco Molle**	**20.01**	**154**	*i* P	**P**	**15 02 14.4**	**+1.4**
LCO	**Las Campanas**	**20.39**	**169**	*e*P	**P**	**15 02 18.6**	**+1.3**
	305nm,0.9s						
LCO	**Las Campanas**	**20.39**	**169**	*e*P	**P**	**15 02 18.6**	**+1.3**
LCO				pmax	pmax		
	comp=Z,305nm,0.9s						
URSC	**Urasca**	**20.56**	**335**	*e*P	**P**	**15 02 20.1**	**+1.0**
LCR2	**La Lucha 2**	**20.57**	**334**	*e*P	**P**	**15 02 20.5**	**+1.2**
CVTR	**Volcan Turrial**	**20.72**	**335**	*e*P	**P**	**15 02 22.6**	**+1.6**
URIC	**Uribia, Colomb**	**20.73**	**9**	*e*P	**P**	**15 02 17.6**	**-3.2**
VCA	**Vinchina**	**20.73**	**163**	⇑*i*P	Pn	15 02 22.9	-1.7
SRA1	**San Ram‡n**	**21.08**	**333**	*e*P	**P**	**15 02 25.3**	**+0.7**
CYA	**Choya**	**21.28**	**157**	*i* P	**P**	**15 02 28.4**	**+1.7**
JTS	**JuntasAbangare**	**21.48**	**333**	P	**P**	**15 02 28.4**	**-0.4**
	comp=Z,49nm,0.9s,baz=7.9,slow=15,SNR=8.4						
JTS				S	**S**	**15 06 18.7**	**-0.7**
	comp=Z,22nm,1.1s,baz=306,slow=13,SNR=1.4						
JTS	**JuntasAbangare**	**21.48**	**333**	*e*P	**P**	**15 02 21.7**	**-7.1**
JTS				P	**P**	**15 02 28.4**	**-0.4**
JTS				S	**S**	**15 06 18.7**	**-0.7**
JTS	**JuntasAbangare**	**21.48**	**333**	*c* P	**P**	**15 02 29.8**	**+1.0**
JTS	**JuntasAbangare**	**21.48**	**333**	*e*P	**P**	**15 02 29.8**	**+1.0**
GO04	**Tololo Observa**	**21.51**	**170**	*e*P	**P**	**15 02 30.6**	**+1.4**
	comp=Z,457nm,0.9s						
ARE1	**Arenal 1**	**21.52**	**333**	*e*P	**P**	**15 02 30.8**	**+1.5**
PCRV	**Puerto La Cruz**	**21.65**	**29**	P	**P**	**15 02 31.0**	**+0.3**
	comp=Z,508nm,0.9s,baz=204,slow=7.5,SNR=58						
PCRV				S	**S**	**15 06 22.5**	**-0.1**
	comp=Z,38nm,0.7s,baz=47,slow=19,SNR=5.3						
ACLC	**CERRO LA CRUZ**	**21.77**	**161**	*i* P	**P**	**15 02 34.5**	**+2.6**
AROD	**Rodeo**	**21.77**	**167**	*i* P	**P**	**15 02 35.1**	**+3.0**
ACDV	**Cuesta del Vie**	**21.85**	**166**	*i* P	**P**	**15 02 35.7**	**+2.9**
BUEV	**Buena Vista**	**22.13**	**332**	*e*P	**P**	**15 02 35.3**	**-0.4**
ACCO	**Cerro Coronel**	**22.26**	**166**	*i* P	**P**	**15 02 40.0**	**+2.8**
AMOG	**MOGNA**	**22.74**	**165**	*i* P	**P**	**15 02 43.6**	**+2.1**
APLL	**PUNTA DE LOS L**	**22.80**	**161**	*i* P	**P**	**15 02 43.0**	**+0.9**
ESPN	**Las Esperanzas**	**22.90**	**336**	*e*P	**P**	**15 02 44.0**	**+0.9**
	comp=Z,675nm,1.5s						
ESPN				*e*PcP	**PcP**	**15 06 27.8**	**-1.9**
ESPN	**Las Esperanzas**	**22.90**	**336**	*e*P	**P**	**15 02 44.2**	**+1.1**
ACON	**Acoyapa**	**23.06**	**334**	*e*P	**P**	**15 02 45.0**	**+0.4**
RTLL	**Cerro Villicun**	**23.12**	**165**	*i* P	**P**	**15 02 47.9**	**+2.8**
RTLS	**Leoncito**	**23.38**	**167**	*i* P	**P**	**15 02 52.8**	**+5.0**
TPP	**Pointe-a-Pierr**	**23.45**	**36**	*e*P	**P**	**15 02 49.8**	**+1.5**
TCE	**Chacachacare**	**23.59**	**35**	*e*	**S**	**15 06 47.5**	**-7.0**
RTCV	**Cerro Valdivia**	**23.61**	**166**	*i* P	**P**	**15 02 52.2**	**+2.6**
MGAN	**Managua**	**23.70**	**332**	*e*P	**P**	**15 02 51.6**	**+1.1**
BOAB	**BOACO BROADBA**	**23.70**	**334**	*e*P	**P**	**15 02 51.2**	**+0.7**
TRN	**Trinidad (W)**	**23.75**	**35**	*e*P	**P**	**15 02 51.9**	**+1.0**
TRN	**Trinidad (W)**	**23.75**	**35**	*e*	**S**	**15 07 02.0**	**+5.1**
TRN	**Trinidad (W)**	**23.75**	**35**	*e*	**S**	**15 07 02.0**	**+5.1**
AUSP	**Uspallata**	**23.77**	**168**	*i* P	**P**	**15 02 55.2**	**+3.9**
TBH	**Brigand Hill**	**23.81**	**36**	*e*P	**P**	**15 02 52.8**	**+1.3**
CPUP	**Villa Florida**	**24.15**	**138**	P	**P**	**15 02 55.2**	**+0.8**
	comp=Z,48nm,0.5s,baz=321,slow=10.0,SNR=91						
CPUP				pP	**pP**	**15 03 22.4**	**+1.4**
	comp=Z,564nm,0.9s,baz=319,slow=10,SNR=26						
CPUP				PcP	**PcP**	**15 06 33.4**	**+1.2**
	comp=Z,62nm,0.8s,baz=317,slow=3.9,SNR=4.1						
CPUP				S	**S**	**15 07 05.0**	**+1.8**
	comp=Z,15nm,0.8s,baz=156,slow=20,SNR=1.4						
CPUP	**Villa Florida**	**24.15**	**138**	*e*P	**P**	**15 02 55.2**	**+0.8**
	comp=Z,526nm,0.9s						
CPUP				pP	**pP**	**15 03 22.4**	**+1.4**
CPUP				*e*PcP	**PcP**	**15 06 34.0**	**+1.8**
CPUP				S	**S**	**15 07 05.0**	**+1.8**
ROC1	**El Roble**	**24.22**	**172**	*e*P	**P**	**15 02 55.5**	**+0.2**
	comp=Z,276nm,0.8s						
ROC1				*e*PcP	**PcP**	**15 06 33.1**	**+0.6**
ROC1	**El Roble**	**24.22**	**172**	*i* P	**P**	**15 02 56.4**	**+1.1**
CNGN	**Cerro Negro**	**24.22**	**331**	*e*P	**P**	**15 02 54.3**	**-0.9**
ASAL	**Salagasta**	**24.24**	**167**	*i* P	**P**	**15 03 00.1**	**+4.8**
MATN	**Matagalpa**	**24.25**	**333**	*e*P	**P**	**15 02 56.1**	**+0.6**
MATN				IAmb	IAmb	15 03 41.7	
	comp=N,2μm,1.9s						
TCA	**Tanti**	**24.34**	**158**	*i* P	**P**	**15 02 57.0**	**+0.8**
ACAN	**Cantantal**	**24.35**	**164**	*i* P	**P**	**15 02 58.9**	**+2.6**
PEL	**Peldehue**	**24.43**	**171**	*e*P	**P**	**15 02 58.3**	**+1.3**
	comp=N,308nm,0.9s						
PEL	**Peldehue**	**24.43**	**171**	*e*P	**P**	**15 02 58.3**	**+1.3**
PEL				pmax	pmax		
	comp=Z,309nm,0.9s						
ARCO	**CERRO ARCO**	**24.46**	**167**	*i* P	**P**	**15 02 59.5**	**+2.1**
TPR	**Prospect**	**24.54**	**36**	*e*P	**P**	**15 02 58.4**	**+0.3**
TPR	**Prospect**	**24.54**	**36**	*e*P	**P**	**15 03 01.1**	**+3.0**
TPR	**Prospect**	**24.54**	**36**	*e*	**S**	**15 07 07.8**	**-1.8**
BOT	**Bacolet**	**24.56**	**36**	*e*P	**P**	**15 02 58.5**	**+0.2**
ESTN	**Estel**	**24.59**	**333**	*e*P	**P**	**15 02 59.4**	**+0.7**
	comp=Z,194nm,0.6s						
ESTN	**Estel**	**24.59**	**333**	*e*P	**P**	**15 03 00.2**	**+1.5**
AAGR	**Agrelo**	**24.72**	**167**	*i* P	**P**	**15 03 01.3**	**+1.6**
TOSP	**Speyside**	**24.77**	**36**	*e*P	**P**	**15 03 00.5**	**+0.3**
TOSP	**Speyside**	**24.77**	**36**	*e*	**S**	**15 07 13.6**	**+0.3**
TGUH	**Tegucigalpa,Un**	**25.85**	**332**	*e*PcP	**PcP**	**15 06 37.1**	**+1.0**
SVB	**Belmont**	**25.99**	**32**	*e*P	**P**	**15 03 10.9**	**-0.4**
	comp=Z,1μm,0.4s						
SVB	**Belmont**	**25.99**	**32**	*e*P	**P**	**15 03 10.4**	**-0.9**
SVB	**Belmont**	**25.99**	**32**	*e*	**S**	**15 07 39.0**	**+6.4**
SVB	**Belmont**	**25.99**	**32**	*e*	**S**	**15 07 43.3**	**+11**
SVCV	**St. Vincent, C**	**26.05**	**32**	*e*P	**P**	**15 03 09.8**	**-2.0**
SVCV	**St. Vincent, C**	**26.05**	**32**	*e*	**S**	**15 07 40.1**	**+6.6**
SVCV	**St. Vincent, C**	**26.05**	**32**	*e*	**S**	**15 07 43.0**	**+10**
SVV	**Soufriere Volc**	**26.05**	**32**	*e*P	**P**	**15 03 10.3**	**-1.5**
SVV	**Soufriere Volc**	**26.05**	**32**	*e*	**S**	**15 07 42.0**	**+8.5**
SUCO	**SUCO**	**26.05**	**160**	*i* P	**P**	**15 03 12.9**	**+1.2**
SSV	**Crater Summit**	**26.07**	**32**	*e*P	**P**	**15 03 10.2**	**-1.2**
SSV	**Crater Summit**	**26.07**	**32**	*e*P	**P**	**15 03 15.2**	**+3.1**
SSV	**Crater Summit**	**26.07**	**32**	*e*	**S**	15 07 45.7	+12
GO05	**HualaaøÖ**	**26.11**	**174**	*e*P	**P**	**15 03 13.2**	**+1.1**
	comp=Z,133nm,0.9s						
GO05				*e*PcP	**PcP**	**15 06 37.5**	**+1.0**
SFAN	**Fancy Village**	**26.13**	**32**	*e*P	**P**	**15 03 10.8**	**-1.7**
MDP	**Montagnes des**	**26.37**	**59**	P	**P**	**15 03 14.0**	**-0.7**
	comp=Z,31nm,0.4s,baz=242,slow=8.3,SNR=32						
MDP				PcP	**PcP**	**15 06 38.7**	**+1.3**
	comp=Z,100nm,1.1s,baz=248,slow=5.4,SNR=4.3						
MDP				S	**S**	**15 07 30.0**	**-8.6**
	comp=Z,60nm,1.0s,baz=145,slow=16,SNR=2.4						
MDP				LR	LR	15 14 07.0	
	comp=Z,5μm,21.4s,baz=228,slow=37						
MCLT	**Moule a Chique**	**26.52**	**32**	*e*P	**P**	**15 03 12.9**	**-3.1**
MCLT	**Moule a Chique**	**26.52**	**32**	*e*	**S**	**15 07 33.2**	**-7.8**
SLDE	**Delcer**	**26.54**	**32**	*e*P	**P**	**15 03 15.8**	**-0.3**
SLB	**Belfond**	**26.57**	**32**	*e*P	**P**	**15 03 14.6**

comp=Z,2µm,1.6s
ANWB Willy Bob 29.52 26 eP P 15 03 41.2 -1.4
comp=Z,973nm,1.2s
ANWB Willy Bob 29.52 26 eP P 15 03 40.3 -2.3
ANWB Willy Bob 29.52 26 e S 15 08 21.4 -6.6
SPB Sao Paulo 30.20 122 eP P 15 03 47.7 -0.9
comp=Z,143nm,0.7s
CCIG Comitan 30.21 326 eP P 15 03 50.1 +1.1
LPA La Plata 30.25 151 eP P 15 03 54.0 +5.0
LPA ePP **PnPn 15 04 54.0 +1.2**
LPA eS **S 15 08 41.0 +1.7**
GRTK Grand Turk 30.51 7 eP P 15 03 52.0 +0.7
GO06 Curarrehue 30.69 175 eP P 15 03 53.7 +0.8
comp=Z,229nm,0.8s
GO06 ePcP **PcP 15 06 49.3 +1.4**
TRQA Tornquist 31.31 160 eP P 15 03 58.8 +0.5
comp=Z,159nm,0.8s
TRQA ePcP **PcP 15 06 51.1 +1.7**
TRQA Tornquist 31.31 160 eP P 15 03 58.8 +0.5
TRQA e 15 06 51.1
TRQA pmax pmax
comp=Z,159nm,0.8s
TEIG Tepich 31.75 336 eP P 15 04 03.1 +0.8
comp=Z,134nm,0.8s
PLCA Paso Flores 31.92 173 P P 15 04 04.6 +0.9
comp=Z,134nm,0.8s,baz=12,slow=9.5,SNR=409
PLCA pP **pP 15 04 32.3 +0.7**
comp=Z,97nm,0.9s,baz=343,slow=8.3,SNR=5.4
PLCA PcP **PcP 15 06 52.4 +1.3**
comp=Z,96nm,0.7s,baz=5.3,slow=3.7,SNR=14
PLCA S **S 15 09 03.2 -2.2**
comp=Z,8.0nm,1.1s,baz=25,slow=14,SNR=1.6
PLCA PKiKP **PKiKP 15 14 19.4 -0.1**
comp=Z,3.2nm,0.9s,baz=81,slow=4.8,SNR=3.1
PLCA Paso Flores 31.92 173 eP P 15 04 04.9 +1.2
comp=Z,156nm,0.8s
PLCA pP **pP 15 04 32.3 +0.7**
PLCA ePcP **PcP 15 06 53.0 +1.9**
PLCA S **S 15 09 03.2 -2.2**
PLCA PKiKP **PKiKP 15 14 19.4 -0.1**
PLCA Paso Flores 31.92 173 eP P 15 04 04.9 +1.2
PLCA *PP **pP 15 04 32.3 +0.7**
PLCA e 15 06 53.0
PLCA S **S 15 09 03.2 -2.2**
PLCA i 15 14 19.4
PLCA pmax pmax
comp=Z,156nm,0.8s
CMIG Matias Romero 32.43 323 P P 15 04 09.1 +0.8
comp=Z,59nm,0.8s,baz=128,slow=5.6,SNR=59
CMIG PcP **PcP 15 06 53.1 +0.4**
comp=Z,32nm,0.9s,baz=88,slow=0.6,SNR=4.2
CMIG S **S 15 09 12.7 -0.9**
comp=Z,1.2nm,0.3s,baz=49,slow=19,SNR=3.7
MYIG MÖrida 33.01 334 eP P 15 04 13.4 +0.1
comp=Z,297nm,0.8s
062Z Marathon 33.96 350 P P 15 04 22.1 +0.7
baz=169
061Z Ochoppi 35.05 351 eP P 15 04 32.5 +1.7
comp=Z,1µm,1.4s
061Z Ochoppi 35.05 351 P P 15 04 31.8 +1.0
baz=170,SNR=7.0
LVIG Laguna Verde 35.39 324 eP P 15 04 34.8 +1.0
comp=Z,67nm,0.9s
060Z West Palm Beac 35.53 352 P P 15 04 36.2 +1.3
baz=171
059Z Ave Maria 35.60 350 P P 15 04 36.4 +0.9
baz=169
060A Indiantown 36.12 352 P P 15 04 40.7 +0.7
baz=171
059A Moore Haven 36.17 351 P P 15 04 41.1 +0.7
baz=170,SNR=11
058A Arcadia 36.37 350 P P 15 04 42.8 +0.7
baz=169,SNR=7.5
959A Okeechobee 36.68 351 P P 15 04 45.3 +0.6
baz=170,SNR=6.0
958A Wauchula 36.88 350 P P 15 04 47.0 +0.6
baz=169
957A Wimauma 37.04 349 P P 15 04 48.3 +0.5
baz=168
RPN Rapa Nui 37.07 236 P P 15 04 48.1 0.0
comp=Z,38nm,0.8s,baz=63,slow=2.3,SNR=2.2
RPN PcP **PcP 15 07 08.4 +2.2**
comp=Z,62nm,0.7s,baz=323,slow=1.3,SNR=6.6
RPN S **S 15 10 26.6 +1.8**
comp=Z,10.0nm,0.4s,baz=312,slow=12,SNR=2.1
RPN LR LR 15 15 32.8
comp=Z,2µm,21.5s,baz=66,slow=29
859A Kempfer Cattle 37.20 351 P P 15 04 49.6 +0.5
baz=170,SNR=10
DWPF Disney Wildern 37.34 351 eP P 15 04 51.5 +1.2
comp=Z,1µm,1.7s
DWPF Disney Wildern 37.34 351 P P 15 04 50.7 +0.5
baz=170
858A St. Cloud 37.42 351 P P 15 04 51.2 +0.2
baz=170
857A Zephyrhills 37.62 350 P P 15 04 52.9 +0.2
baz=168,SNR=10
758A Lake Helen 38.14 351 P P 15 04 57.5 +0.6
baz=170,SNR=10.0
CHRN Cochrane 38.24 177 eP P 15 04 59.3 +1.6
comp=Z,180nm,0.8s
757A Oxford 38.25 350 P P 15 04 58.2 +0.3
baz=169,SNR=12
JRQG Juriquilla Cam 38.59 320 eP P 15 05 03.5 +2.3
658A Bunnell 38.60 351 eP P 15 05 01.7 +0.9
comp=Z,236nm,0.6s
658A Bunnell 38.60 351 P P 15 05 01.3 +0.5
baz=170,SNR=9.7
656A Willston 38.75 350 eP P 15 05 02.8 +0.7
comp=Z,1µm,1.9s
656A ePcP **PcP 15 07 12.3 +1.1**
656A Willston 38.75 350 P P 15 05 01.9 -0.3
baz=168,SNR=16
657A Interlachen 38.85 351 P P 15 05 03.1 +0.1
baz=169,SNR=14
RCBR Riachuelo 38.97 88 P P 15 05 03.9 -0.4
comp=Z,142nm,0.8s,baz=269,slow=0.0,SNR=5.2
RCBR pP **pP 15 05 33.1 +0.2**
comp=Z,166nm,1.0s,baz=254,slow=4.1,SNR=3.3
RCBR P4KP 15 46 21.0
comp=Z,85nm,0.8s,baz=207,slow=0.7,SNR=3.8
RCBR Riachuelo 38.97 88 eP P 15 05 04.4 +0.1
comp=Z,128nm,1.0s
RCBR pP **pP 15 05 33.1 +0.2**
RCBR P4KP 15 46 21.0
RCBR Riachuelo 38.97 88 eP P 15 05 04.4 +0.1
RCBR *PP **pP 15 05 33.1 +0.2**
RCBR pmax pmax
comp=Z,128nm,1.0s
655A Horseshoe Beac 39.02 349 P P 15 05 04.4 0.0
baz=167,SNR=5.4
557A Orange Park 39.25 351 P P 15 05 06.0 -0.2
baz=170,SNR=7.9
556A Lake Butler 39.35 350 P P 15 05 07.1 0.0
baz=169,SNR=18
555A McAlpin 39.56 349 eP P 15 05 08.9 0.0
comp=Z,128nm,0.8s
555A McAlpin 39.56 349 P P 15 05 08.9 0.0
baz=168,SNR=11
554A Perry 39.67 348 P P 15 05 09.6 -0.1
baz=167,SNR=5.9
457A Yulee 39.82 351 P P 15 05 11.6 +0.7
baz=170,SNR=8.2
553A Crawfordville 39.92 347 P P 15 05 12.5 +0.7
baz=166,SNR=16
456A Hilliard 39.99 351 eP P 15 05 13.3 +1.0
456A Hilliard 39.99 351 P P 15 05 12.9 +0.6
baz=169,SNR=5.4
552A Lynn Haven 40.06 346 P P 15 05 12.9 -0.1
baz=164
455A Stateville 40.18 349 P P 15 05 13.6 -0.4
baz=168,SNR=14
453A Whigham 40.54 348 eP P 15 05 17.1 +0.2
comp=Z,261nm,1.1s
453A Whigham 40.54 348 P P 15 05 16.8 -0.1
baz=166,SNR=15
356A Blackshear 40.60 351 P P 15 05 17.7 +0.3
baz=169,SNR=5.8
357A Townsend 40.60 352 P P 15 05 17.3 -0.1
baz=170,SNR=10
451A Vernon 40.64 346 P P 15 05 17.6 -0.1
baz=164
452A Marianna 40.73 347 P P 15 05 18.3 -0.2
baz=165,SNR=17
355A Pearson 40.74 350 P P 15 05 18.3 -0.2
baz=168,SNR=12
TIGA Tifton 40.96 349 P P 15 05 20.0 -0.4
baz=167
353A Camilla 41.00 348 P P 15 05 20.2 -0.4
baz=166,SNR=12
450A Crestview 41.02 345 P P 15 05 20.5 -0.4
baz=163
257A Skidaway Islan 41.07 352 eP P 15 05 21.7 +0.5
comp=Z,1µm,1.6s
257A Skidaway Islan 41.07 352 P P 15 05 21.6 +0.3
baz=171,SNR=8.6
449A Pace 41.15 344 P P 15 05 21.9 0.0
baz=162
LNIG Linares 41.18 325 eP P 15 05 23.0 +0.7
comp=Z,135nm,0.8s
LNIG ePcP **PcP 15 07 19.9 +0.7**
256A Glennville 41.20 351 P P 15 05 22.5 +0.2
baz=170,SNR=20
351A Pinckard 41.23 346 P P 15 05 22.3 -0.3
baz=164,SNR=13
255A Hazlehurst 41.24 350 eP P 15 05 22.5 -0.1
comp=Z,400nm,1.3s
255A Hazlehurst 41.24 350 P P 15 05 22.6 -0.1
baz=169,SNR=24
352A Blakely 41.28 347 eP P 15 05 22.6 -0.4
comp=Z,397nm,1.5s
352A Blakely 41.28 347 P P 15 05 22.5 -0.5
baz=165,SNR=10
254A Abbeville 41.40 349 P P 15 05 23.9 -0.1
baz=168,SNR=32
448A Bay Minette 41.49 343 P P 15 05 24.7 0.0
baz=161,SNR=6.5
BRAL Brewton 41.49 344 eP P 15 05 24.6 -0.1
BRAL Brewton 41.49 344 P P 15 05 25.0 +0.3
baz=162,SNR=7.0
350A Dozier 41.55 345 P P 15 05 25.0 -0.1
baz=163,SNR=8.6
447A Lucedale 41.59 342 eP P 15 05 25.9 +0.3
447A Lucedale 41.59 342 P P 15 05 25.6 +0.1
baz=160,SNR=5.5
253A Americus 41.67 348 eP P 15 05 25.6 -0.5
comp=Z,376nm,1.4s
253A Americus 41.67 348 P P 15 05 25.7 -0.5
baz=166,SNR=10
349A Repton 41.70 344 P P 15 05 26.4 0.0
baz=162,SNR=22
252A Lumpkin 41.73 348 P P 15 05 26.2 -0.5
baz=166,SNR=18
156A Sylvania 41.81 352 P P 15 05 27.6 +0.4
baz=170,SNR=32
446A Poplarville 41.81 341 P P 15 05 27.6 +0.4
baz=159
RGRS Roger Stewart 41.89 354 eP P 15 05 28.8 +0.9
comp=Z,1µm,0.6s
155A Kite 41.92 351 P P 15 05 28.1 -0.1
baz=169,SNR=46
348A Jackson 41.96 344 eP P 15 05 28.6 +0.2
348A Jackson 41.96 344 P P 15 05 28.1 -0.4
baz=161
CSU Charleston Sou 41.96 354 eP P 15 05 28.9 +0.5
251A Midway 41.97 347 P P 15 05 28.0 -0.6
baz=165,SNR=58
154A Montrose 42.02 350 eP P 15 05 28.9 -0.1
comp=Z,467nm,1.0s
154A Montrose 42.02 350 P P 15 05 28.9 -0.1
baz=168,SNR=20
250A Grady 42.06 346 eP P 15 05 28.6 -0.8
comp=Z,381nm,1.4s
250A Grady 42.06 346 P P 15 05 28.6 -0.8
baz=163,SNR=20
445A Amite 42.07 340 P P 15 05 29.9 +0.5
baz=157,SNR=6.4
NHSC New Hope 42.09 354 eP P 15 05 29.5 0.0
NHSC New Hope 42.09 354 P P 15 05 30.4 +0.9
baz=172,SNR=32
347A Saraland 42.13 343 P P 15 05 29.6 -0.3
baz=160,SNR=14
153A Fort Valley 42.19 349 P P 15 05 30.0 -0.3
baz=167,SNR=12
444A Pine Grove 42.19 340 P P 15 05 31.3 +0.9
baz=157,SNR=5.2
BBSR BB Station 42.26 13 eP P 15 05 31.2 +0.3
GO09 Cerro Castillo 42.27 177 eP P 15 05 32.8 +2.0
comp=Z,319nm,0.9s
249A Camden 42.28 345 P P 15 05 30.6 -0.5
baz=162,SNR=30
151A Opelika 42.37 347 P P 15 05 30.9 -1.0
baz=165,SNR=30
152A Waverly Hall 42.38 348 eP P 15 05 31.6 -0.3
comp=Z,96nm,0.6s
152A Waverly Hall 42.38 348 P P 15 05 31.2 -0.7
baz=166,SNR=59
346A Big Creek Wild 42.39 342 P P 15 05 31.9 -0.1
baz=159,SNR=6.9
Z55A Blythe 42.46 351 P P 15 05 32.5 0.0
baz=170,SNR=18
KVTX Kingsville 42.46 329 P P 15 05 32.4 -0.3
comp=Z,289nm,0.7s
345A Thompson Farm, 42.50 341 P P 15 05 32.9 0.0
baz=158,SNR=6.0
248A Dixon Mills 42.55 344 P P 15 05 32.8 -0.5
baz=161,SNR=16
Z54A Sparta 42.58 350 P P 15 05 32.9 -0.6
baz=169,SNR=49
443A Delano Plantat 42.60 339 P P 15 05 34.4 +0.7
baz=155
150A Eclectic 42.61 346 P P 15 05 33.3 -0.5
baz=164,SNR=33
Z53A Monticello 42.75 350 P P 15 05 34.6 -0.3
baz=168,SNR=42
247A Quitman 42.76 343 P P 15 05 34.4 -0.5
baz=160,SNR=5.9
149A Jones 42.78 345 P P 15 05 34.3 -0.9
baz=163,SNR=10
442A Mamou 42.79 338 P P 15 05 36.5 +1.2
baz=154
Z52A Williamson 42.82 348 P P 15 05 35.1 -0.3
baz=166,SNR=48
GOGA Godfrey 42.86 350 eP P 15 05 35.6 -0.2
comp=Z,509nm,1.8s
GOGA Godfrey 42.86 350 eP P 15 05 35.6 -0.2
GOGA pmax pmax
comp=Z,509nm,1.8s
GOGA Godfrey 42.86 350 P P 15 05 35.7 -0.1
baz=166,SNR=42
344A Westbrook Farm 42.86 340 eP P 15 05 36.1 +0.3
comp=Z,218nm,1.3s
344A Westbrook Farm 42.86 340 P P 15 05 36.2 +0.3
baz=157,SNR=10
246A Jackson Lee, B 42.88 342 P P 15 05 35.2 -0.7
baz=159
343A Vidalia 43.01 339 P P 15 05 37.5 +0.5
baz=166
148A Greensboro 43.03 345 P P 15 05 36.3 -0.9
baz=162,SNR=15
Z51A Franklin 43.10 348 P P 15 05 37.0 -0.7
baz=165,SNR=6.9
441A DeRidder 43.12 337 P P 15 05 38.5 +0.7
baz=153,SNR=6.8
245A Little AP, Sta 43.13 341 P P 15 05 37.4 -0.5
baz=158,SNR=5.3
Y54A Tignall 43.17 351 P P 15 05 37.7 -0.6
baz=169,SNR=68
Z50A Ashland 43.20 347 eP P 15 05 37.8 -0.8
comp=Z,329nm,1.5s
Z50A Ashland 43.20 347 P P 15 05 37.8 -0.8
baz=164,SNR=39
147A Livingston 43.25 344 eP P 15 05 38.0 -0.9
comp=Z,311nm,1.5s
147A Livingston 43.25 344 P P 15 05 38.0 -0.9
baz=161,SNR=8.8
LRAL Lakeview Retre 43.25 345 eP P 15 05 38.0 -1.0
comp=Z,64nm,0.8s
LRAL Lakeview Retre 43.25 345 P P 15 05 37.8 -1.1
baz=163,SNR=28
Z49A Columbiana 43.29 346 P P 15 05 38.2 -1.0
baz=163,SNR=34
Y53A Monroe 43.31 350 P P 15 05 39.0 -0.5
baz=168,SNR=43
342A Flagon Creek P 43.35 338 eP P 15 05 40.2 +0.5
comp=Z,1µm,1.8s
342A Flagon Creek P 43.35 338 P P 15 05 40.2 +0.5
baz=155,SNR=24
JSC Jenkinsville 43.38 353 eP P 15 05 39.8 -0.1
comp=Z,185nm,1.5s
JSC ePP **PcP 15 07 27.2 +1.0**
JSC Jenkinsville 43.38 353 eP P 15 05 39.8 -0.1
JSC e 15 07 27.2
JSC pmax pmax
comp=Z,185nm,1.5s
244A Avery, Jackson 43.39 341 P P 15 05 39.5 -0.5
baz=157,SNR=9.5
Y52A Lilburn 43.41 349 eP P 15 05 39.5 -0.7
comp=Z,206nm,1.4s
Y52A ePcP **PcP 15 07 26.7 +0.3**
Y52A Lilburn 43.41 349 P P 15 05 39.7 -0.5
baz=167,SNR=20
146A Union 43.44 343 eP P 15 05 40.1 -0.3
comp=Z,564nm,1.9s
146A Union 43.44 343 P P 15 05 40.0 -0.3
baz=160,SNR=8.0
HODGE Hodges 43.47 351 eP P 15 05 40.8 +0.2
comp=Z,46nm,0.9s
VBMS Vicksburg 43.50 341 P P 15 05 40.4 -0.5
baz=158
243A Waterproof 43.51 340 P P 15 05 40.7 -0.3
baz=156
HKT Hockley 43.51 333 eP P 15 05 40.9 -0.1
comp=Z,102nm,1.1s
HKT Hockley 43.51 333 eP P 15 05 40.9 -0.1
HKT pmax pmax
comp=Z,102nm,1.1s
341A Kurthwood 43.63 337 eP P 15 05 42.2 +0.3
comp=Z,600nm,1.7s
341A Kurthwood 43.63 337 P P 15 05 42.3 +0.3
baz=154,SNR=15
Y51A Rockmart 43.64 348 P P 15 05 41.3 -0.7
baz=166,SNR=58
145A Houston Renfro 43.67 342 P P 15 05 41.7 -0.5
baz=158,SNR=6.7
Z47A Carrollton 43.69 344 P P 15 05 41.7 -0.7
baz=161,SNR=12
Z48A Northport 43.72 345 P P 15 05 41.9 -0.7
baz=162,SNR=33
Y50A Piedmont 43.77 347 P P 15 05 42.3 -0.9
baz=165,SNR=19
144A Alexander Plac 43.85 341 P P 15 05 43.3 -0.4
baz=158
833A Chaparral WMA, 43.86 328 eP P 15 05 44.5 +0.6
comp=Z,86nm,0.8s
833A Chaparral WMA, 43.86 328 P P 15 05 44.8 +0.9
baz=144,SNR=14
X53A Estanollee 43.90 350 P P 15 05 43.6 -0.4
baz=168,SNR=33
Y49A Blount Mountai 43.90 346 eP P 15 05 43.3 -0.8
comp=Z,57nm,0.6s
Y49A Blount Mountai 43.90 346 P P 15 05 43.0 -1.1
baz=164,SNR=35
242A Grayson 43.91 339 P P 15 05 44.3 +0.1
baz=155,SNR=5.4
Z46A Louisville 43.92 343 P P 15 05 44.1 -0.2
baz=160,SNR=18
PAULI Pauline 43.98 352 eP P 15 05 44.7 -0.1
comp=Z,283nm,1.4s
CNNC Cliffs of the 44.02 357 eP P 15 05 45.4 +0.4
comp=Z,692nm,1.3s
CNNC Cliffs of the 44.02 357 P P 15 05 45.4 +0.4
baz=176,SNR=15
X52A Dahlonega 44.10 350 P P 15 05 45.2 -0.5
baz=168,SNR=32
Y48A Jasper 44.13 346 P P 15 05 44.7 -1.3
baz=163,SNR=22
241A Mo Tay, Goldon 44.15 338 P P 15 05 46.6 +0.5
baz=154
143A Socs Landing, 44.23 340 P P 15 05 46.2 -0.5
baz=157
KMSC Kings Mountain 44.23 353 eP P 15 05 46.7 0.0
comp=Z,448nm,1.5s
KMSC Kings Mountain 44.23 353 P P 15 05 47.1 +0.4
baz=171,SNR=43
X51A Calhoun 44.24 348 eP P 15 05 45.9 -0.9
comp=Z,128nm,1.0s
X51A ePcP **PcP 15 07 29.3 +0.1**
X51A Calhoun 44.24 348 P P 15 05 46.1 -0.7
baz=166,SNR=23
142A Monroe 44.28 339 P P 15 05 47.1 0.0
baz=156
Y47A UCPARC, Winfie 44.29 345 P P 15 05 46.1 -1.1
baz=162,SNR=54
X50B Fort Payne 44.31 347 P P 15 05 46.0 -1.4
baz=165,SNR=45
Z45A Winona 44.31 342 eP P 15 05 46.9 -0.5
comp=Z,196nm,1.0s
Z45A Winona 44.31 342 P P 15 05 47.0 -0.4
baz=159,SNR=8.8
BG3 Lake Jocassee 44.32 351 eP P 15 05 47.2 -0.2
comp=Z,228nm,1.4s
BG3 ePcP **PcP 15 07 30.3 +0.8**
Z44A Pea Ridge, Bel 44.45 342 P P 15 05 48.0 -0.5
baz=158,SNR=7.6
240A Hunter Patters 44.48 337 eP P 15 05 49.9 +1.1
240A Hunter Patters 44.48 337 P P 15 05 49.2 +0.4
baz=153
X49A Woodville 44.50 347 P P 15 05 48.1 -0.8
baz=164,SNR=30
W53A Cullowhee 44.53 351 P P 15 05 49.2 0.0
baz=169,SNR=82
Y46A Houston 44.55 344 P P 15 05 48.2 -1.0
baz=160,SNR=30
W52A Murphy 44.58 350 eP P 15 05 49.0 -0.5
W52A Murphy 44.58 350 P P 15 05 49.4 -0.2
baz=168,SNR=20
NATX Nacogdoches 44.59 336 eP P 15 05 50.4 +0.7
NATX Nacogdoches 44.59 336 P P 15 05 50.7 +1.1
baz=152,SNR=20
X48A Hartselle 44.61 346 eP P 15 05 48.5 -1.3
comp=Z,42nm,0.8s
X48A Hartselle 44.61 346 P P 15 05 48.8 -1.0
baz=163,SNR=17
141A Papa Simpson, 44.67 338 P P 15 05 50.5 +0.2
baz=155,SNR=7.3
Y45A Yeager Farm, C 44.73 343 P P 15 05 50.3 -0.4
baz=160,SNR=13
W51A Cleveland 44.80 349 P P 15 05 51.0 -0.3
baz=166,SNR=47
EFI East Falkland 44.84 165 eP P 15 05 52.8 +1.4
comp=Z,273nm,0.8s
EFI ePcP **PcP 15 07 32.1 +1.2**
EFI East Falkland 44.84 165 *d* **iP P 15 05 52.7 +1.4**
EFI pmax pmax
comp=Z,288nm,0.8s
X47A Russellville 44.88 345 P P 15 05 50.4 -1.5
baz=162,SNR=17
Z42A Norrel Spur, H 44.94 340 P P 15 05 51.7 -0.7
baz=156,SNR=6.0
140A Cam and Jess, 44.95 338 P P 15 05 52.8 +0.4
baz=154,SNR=6.6
W50A Signal Mountai 44.95 348 eP P 15 05 51.7 -0.8
comp=Z,422nm,1.7s
W50A Signal Mountai 44.95 348 P P 15 05 51.6 -0.9
baz=166,SNR=40
V53A Saluda 44.96 351 eP P 15 05 52.5 -0.1
comp=Z,87nm,0.9s
V53A Saluda 44.96 351 P P 15 05 52.1 -0.5
baz=169,SNR=39
435B Jarrell 45.01 332 eP P 15 05 53.9 +0.9
comp=Z,413nm,1.6s
435B Jarrell 45.01 332 P P 15 05 53.6 +0.6
baz=148,SNR=9.4
Y44A Strider, Charl 45.01 342 P P 15 05 52.1 -0.9
baz=159,SNR=6.9
CPCT Cooper Cave 45.04 349 eP P 15 05 52.7 -0.4
comp=Z,295nm,1.7s
CPCT ePcP **PcP 15 07 31.9 0.0**
W49A Belvidere 45.07 347 P P 15 05 52.4 -1.0
baz=164,SNR=20
SWET Sewanee 45.09 347 eP P 15 05 52.3 -1.3
comp=Z,96nm,1.0s
TKL Tuckaleechee C 45.10 350 P P 15 05 52.7 -1.0
comp=Z,90nm,1.1s,baz=160,slow=7.5,SNR=36
TKL Tuckaleechee C 45.10 350 eP P 15 05 53.0 -0.7
comp=Z,230nm,1.4s
TKL Tuckaleechee C 45.10 350 eP P 15 05 53.0 -0.7
TKL pmax pmax
comp=Z,230nm,1.4s
X46A Booneville 45.11 344 P P 15 05 52.3 -1.4
baz=161
X45A UM Field Stati 45.20 343 P P 15 05 53.1 -1.4
baz=160,SNR=9.1
Z41A Richland Creek 45.22 339 eP P 15 05 54.5 -0.2
Z41A Richland Creek 45.22 339 P P 15 05 54.6 0.0
baz=155,SNR=12
W48A Pulaski 45.24 346 P P 15 05 53.8 -1.0
baz=163,SNR=39
V52A Sevierville 45.25 350 eP P 15 05 54.0 -0.9
comp=Z,508nm,1.5s
V52A Sevierville 45.25 350 P P 15 05 54.0 -0.9
baz=168,SNR=76

OXF **Oxford** 45.29 343 *e*P P 15 05 53.6 -1.5
comp=Z,122nnn,0.8s
OXF **Oxford** 45.29 343 *e*P P 15 05 53.6 -1.5
OXF pmax pmax
comp=Z,122nnn,0.8s
OXF **Oxford** 45.29 343 P P 15 05 54.2 -0.9
baz=160,SNR=11
V51A **Loudon** 45.35 349 *e*P P 15 05 54.6 -1.0
comp=Z,403nnn,1.5s
V51A **Loudon** 45.35 349 P P 15 05 54.9 -0.7
baz=167,SNR=42
V50A **Pikevile** 45.36 349 P P 15 05 54.9 -0.8
baz=166,SNR=36
PLAL **Pickwick Lake** 45.38 345 *e*P P 15 05 53.9 -1.9
comp=Z,72nnn,0.9s
PLAL *e*PcP PcP 15 07 32.5 -0.6
Y42A **Garnett, Star** 45.40 340 P P 15 05 55.5 -0.5
baz=156,SNR=16
Z40A **Long Farm, Mag** 45.44 338 P P 15 05 56.6 +0.3
baz=154
X44A **Crenshaw** 45.49 342 P P 15 05 56.2 -0.5
baz=159
W47A **Westpoint** 45.51 346 P P 15 05 55.5 -1.4
baz=163,SNR=27
W46A **Michie** 45.60 345 P P 15 05 55.6 -1.9
baz=162,SNR=5.5
U53A **Fall Branch** 45.61 352 P P 15 05 57.3 -0.3
baz=170,SNR=36
V49A **McMinnville** 45.62 348 P P 15 05 56.5 -1.2
baz=165,SNR=26
Y41A **Eaglette Beard** 45.72 340 P P 15 05 58.2 -0.3
baz=156,SNR=8.4
X43A **Marvell** 45.73 342 *e*P P 15 05 58.4 -0.2
X43A **Marvell** 45.73 342 P P 15 05 58.1 -0.5
baz=158
U52A **Thorn Hill** 45.76 351 P P 15 05 58.1 -0.7
baz=169,SNR=51
V48A **Smith Brothers** 45.79 347 *e*P P 15 05 58.4 -0.7
comp=Z,569nnn,1.6s
V48A **Smith Brothers** 45.79 347 P P 15 05 58.1 -1.0
baz=164,SNR=63
JCT **Junction City** 45.82 330 *e*P P 15 05 55.7 -3.7
comp=Z,44nnn,0.8s
JCT **Junction City** 45.82 330 *e*P P 15 05 55.7 -3.7
JCT pmax pmax
comp=Z,44nnn,0.8s
JCT **Junction City** 45.82 330 P P 15 05 59.4 0.0
baz=145,SNR=15
W45A **Hickory Valley** 45.84 344 P P 15 05 58.0 -1.4
baz=160,SNR=5.4
U51A **La Follette** 45.85 350 P P 15 05 58.7 -0.8
baz=168,SNR=33
TZTN **Tazewell** 45.93 351 *e*P P 15 05 59.6 -0.5
comp=Z,70nnn,0.8s
TZTN **Tazewell** 45.93 351 P P 15 05 59.5 -0.7
baz=168,SNR=29
WHTX **Lake Whitney,** 45.97 333 *e*P P 15 06 00.1 -0.4
comp=Z,127nnn,0.8s
WHTX **Lake Whitney,** 45.97 333 P P 15 06 00.8 +0.2
baz=148,SNR=14
W44A **Shelby Farms P** 45.99 343 P P 15 05 59.6 -1.0
baz=160
X42A **Stuttgart** 46.00 341 P P 15 05 60.0 -0.8
baz=157,SNR=7.3
U50A **Jamestown** 46.03 349 P P 15 06 00.0 -1.0
baz=167,SNR=43
V47A **Nunnelly** 46.04 346 P P 15 05 59.0 -2.0
baz=163,SNR=16
V46A **Holladay** 46.16 345 P P 15 05 59.7 -2.3
baz=162,SNR=12
BLA **Blacksburg** 46.18 354 *e*P P 15 06 02.5 +0.3
comp=Z,823nnn,1.6s
BLA **Blacksburg** 46.18 354 P P 15 06 02.6 +0.5
baz=173,SNR=53
W43A **Forest City** 46.21 342 P P 15 06 01.5 -0.8
baz=158
X41A **Kaden, Bauxite** 46.24 340 P P 15 06 02.0 -0.6
baz=156,SNR=28
U49A **Red Boiling Sp** 46.31 348 P P 15 06 01.8 -1.3
baz=165,SNR=15
V45A **Humboldt** 46.32 344 P P 15 06 01.3 -1.9
baz=161,SNR=5.7
HPIG **Waverly** 46.38 321 *e*P P 15 06 03.1 -1.0
comp=Z,53nnn,0.7s
T52A **Hallie** 46.40 351 P P 15 06 03.3 -0.5
baz=169,SNR=51
WVT **Waverly** 46.40 346 *e*P P 15 06 02.0 -1.8
comp=Z,152nnn,1.4s
WVT **Waverly** 46.40 346 *e*P P 15 06 02.0 -1.8
WVT pmax pmax
comp=Z,152nnn,1.4s
WVT **Waverly** 46.40 346 P P 15 06 02.0 -1.8
baz=162
T51A **Gray** 46.41 350 P P 15 06 03.4 -0.5
baz=168,SNR=80
UALR **University of** 46.44 340 *e*P P 15 06 03.3 -0.8
comp=Z,225nnn,0.8s
U48A **Cassie Pea, Po** 46.47 347 P P 15 06 03.0 -1.3
baz=164,SNR=20
U47A **Clarksville** 46.57 346 P P 15 06 03.2 -1.9
baz=163,SNR=13
T50A **Nancy** 46.62 349 P P 15 06 04.3 -1.2
baz=167,SNR=19
W42A **Bald Knob** 46.63 341 P P 15 06 04.6 -1.0
baz=157
MIAR **Mount Ida** 46.66 339 *e*P P 15 06 05.0 -0.9
comp=Z,84nnn,1.0s
MIAR **Mount Ida** 46.66 339 *e*P P 15 06 05.0 -0.9
MIAR pmax pmax
comp=Z,84nnn,1.0s
MIAR **Mount Ida** 46.66 339 P P 15 06 05.5 -0.4
baz=154,SNR=33
V44A **Blytheville** 46.66 343 P P 15 06 04.0 -1.8
baz=160
R58B **Mineral** 46.73 357 P P 15 06 07.2 +0.8
baz=176,SNR=96
W41B **Gary Mavity, V** 46.77 341 *e*P P 15 06 06.2 -0.5
comp=Z,136nnn,0.8s
W41B **Gary Mavity, V** 46.77 341 P P 15 06 06.3 -0.5
baz=156,SNR=58
V43A **Jonesboro** 46.81 343 P P 15 06 06.2 -0.8
baz=159
T49A **Edmonton** 46.84 349 *e*P P 15 06 05.7 -1.5
comp=Z,278nnn,1.4s
T49A **Edmonton** 46.84 349 P P 15 06 06.0 -1.2
baz=166,SNR=48
U45A **Rockin P Farm,** 46.84 345 P P 15 06 05.9 -1.4
baz=161
WHAR **Wooly Hollow** 46.89 341 *e*P P 15 06 07.0 -0.7
comp=Z,180nnn,0.9s
CBN **Corbin Frederi** 46.94 358 *e*P P 15 06 08.6 +0.7
comp=Z,289nnn,0.6s
CBN **Corbin Frederi** 46.94 358 P P 15 06 08.7 +0.7
baz=177,SNR=17
TXAR **Lajitas Array** 46.97 325 P P 15 06 08.5 0.0
comp=Z,48nnn,0.6s,baz=148,slow=8.8,SNR=611
TXAR pP pP 15 06 38.7 +0.6
comp=Z,19nnn,0.7s,baz=147,slow=8.5,SNR=4.5
TXAR PcP PcP 15 07 39.3 +0.3
comp=Z,35nnn,0.9s,baz=145,slow=9.0,SNR=5.3
TXAR S S 15 12 45.4 -5.0
comp=Z,1.0nnn,0.8s,baz=107,slow=3.1,SNR=2.2
TXAR PKPPKP P'P'df 15 37 23.9 -2.1
comp=Z,0.9nnn,0.9s,baz=7.7,slow=1.5,SNR=3.5
TXAR PKP2ab 15 38 26.8
comp=Z,1.1nnn,0.9s,baz=318,slow=1.7,SNR=3.9
TXAR P4KPbc 15 43 49.9
comp=Z,0.3nnn,0.8s,baz=158,slow=8.1,SNR=3.4
S52A **Salyersville** 46.97 351 P P 15 06 07.7 -0.5
baz=169,SNR=48
TX31 **Lajitas Ar. Si** 46.97 325 *e*P P 15 06 08.9 +0.3
U44B **Burton Farm, H** 46.99 344 P P 15 06 07.0 -1.4
baz=161
S51A **Beattyville** 47.01 351 *e*P P 15 06 08.1 -0.4
comp=Z,114nnn,0.8s
S51A **Beattyville** 47.01 351 P P 15 06 07.8 -0.8
baz=168,SNR=36
T48A **Bowling Green** 47.02 348 P P 15 06 07.3 -1.3
baz=165,SNR=20
T47A **Sharon Grove** 47.05 347 P P 15 06 07.4 -1.5
baz=164,SNR=17
V42A **Cord** 47.08 342 P P 15 06 07.9 -1.3
baz=158,SNR=23
S50A **Richmond** 47.18 350 P P 15 06 09.2 -0.7
baz=167,SNR=72
U44A **Portageville** 47.24 344 P P 15 06 09.3 -1.0
baz=160
T46A **Princeton** 47.29 346 P P 15 06 09.0 -1.7
baz=163,SNR=20
V41A **Mountainview** 47.30 341 P P 15 06 09.7 -1.2
baz=157,SNR=88
U43A **Rector** 47.31 343 P P 15 06 09.7 -1.2
baz=159,SNR=10
W39A **Magazine** 47.32 339 *e*P P 15 06 11.5 +0.6
comp=Z,741nnn,1.6s
W39A **Magazine** 47.32 339 P P 15 06 11.0 0.0
baz=154,SNR=68
X37A **Clayton** 47.36 337 *e*P P 15 06 12.0 +0.7
comp=Z,175nnn,0.9s
S49A **Springfield** 47.45 349 P P 15 06 10.8 -1.2
baz=166,SNR=39
T45A **Paducah** 47.45 345 *e*P P 15 06 09.6 -2.3
T45A **Paducah** 47.45 345 P P 15 06 10.2 -1.8
baz=162
S48A **Wiedeman Farm,** 47.47 348 P P 15 06 10.4 -1.7
baz=165,SNR=22
ABTX **Abilene, Hawle** 47.50 332 *e*P P 15 06 12.8 +0.3
comp=Z,214nnn,0.8s
ABTX **Abilene, Hawle** 47.50 332 P P 15 06 12.8 +0.3
baz=146,SNR=56
U42A **Revenden** 47.54 342 P P 15 06 11.2 -1.5
baz=158,SNR=45
R52A **Catlettsburg** 47.55 352 P P 15 06 12.0 -0.8
baz=170,SNR=16
S47A **Hartford** 47.59 347 P P 15 06 10.9 -2.1
baz=164,SNR=21
R51A **Hillsboro** 47.66 351 P P 15 06 12.6 -0.9
baz=169,SNR=42
PBMO **Poplar Bluff** 47.70 343 *e*P P 15 06 12.4 -1.5
comp=Z,108nnn,0.9s
U41A **Viola** 47.74 342 P P 15 06 12.7 -1.5
baz=157,SNR=88
R50A **Paris** 47.76 350 P P 15 06 13.4 -0.9
baz=168,SNR=49
S46A **Don Dixon Farm** 47.86 346 P P 15 06 13.1 -2.0
baz=163,SNR=11
R49A **Shelbyville** 47.92 349 P P 15 06 14.3 -1.3
baz=166,SNR=28
T43A **Greenville** 47.95 344 P P 15 06 14.4 -1.3
baz=160,SNR=50
U40A **Yellville** 48.05 341 P P 15 06 15.9 -0.8
baz=156,SNR=76
S45A **Carrier Mills** 48.06 346 P P 15 06 15.1 -1.6
baz=162,SNR=5.5
WCI **Wyandotte Cave** 48.07 348 *e*P P 15 06 15.5 -1.2
comp=Z,78nnn,0.6s
WCI **Wyandotte Cave** 48.07 348 *e*P P 15 06 15.5 -1.2
WCI pmax pmax
comp=Z,79nnn,0.6s
WCI **Wyandotte Cave** 48.07 348 P P 15 06 15.3 -1.4
baz=165
Q52A **Bidwell** 48.12 352 P P 15 06 16.7 -0.3
baz=170,SNR=45
SDMD **Soldier's Deli** 48.13 358 *e*P P 15 06 17.6 +0.4
T42A **Van Buren** 48.13 343 *e*P P 15 06 15.8 -1.4
comp=Z,86nnn,0.6s
T42A **Van Buren** 48.13 343 P P 15 06 15.6 -1.6
baz=159,SNR=80
R48A **Northridge Ran** 48.15 349 P P 15 06 15.9 -1.4
baz=166,SNR=13
R47A **Wooly Knot Far** 48.19 348 P P 15 06 16.0 -1.6
baz=158,SNR=14
S44A **Carbondale** 48.24 345 P P 15 06 16.5 -1.6
baz=161,SNR=30
Q50A **Georgetown** 48.25 351 P P 15 06 17.0 -1.1
baz=168,SNR=37
SIUC **Southern Illin** 48.25 345 *e*P P 15 06 16.6 -1.5
comp=Z,594nnn,1.7s
R46A **Gibon Southern** 48.32 347 P P 15 06 16.9 -1.7
baz=164,SNR=13
Q51A **Peebles** 48.33 351 *e*P P 15 06 17.7 -1.0
comp=Z,167nnn,1.0s
Q51A **Peebles** 48.33 351 P P 15 06 18.0 -0.8
baz=169,SNR=28
T41A **Mountain View** 48.34 342 P P 15 06 17.6 -1.3
baz=158,SNR=40
S43A **Fulton Ridge,** 48.34 344 P P 15 06 17.4 -1.5
baz=160,SNR=27
HHAR **Hobbs** 48.35 340 *e*P P 15 06 18.1 -0.8
comp=Z,555nnn,1.6s
P53A **Whipple** 48.53 353 *e*P P 15 06 20.5 +0.3
comp=Z,973nnn,1.4s
P53A **Whipple** 48.53 353 P P 15 06 20.0 -0.2
baz=172,SNR=87
MCWV **Mont Chateau** 48.55 355 P P 15 06 20.6 +0.2
baz=174,SNR=46
Q49A **Aurora** 48.56 350 P P 15 06 19.5 -1.0
baz=167,SNR=20
R45A **Skylar, Fairfi** 48.57 346 P P 15 06 19.4 -1.2
baz=162,SNR=24
PSUB **Penn St. - Bra** 48.62 360 *e*P P 15 06 21.5 +0.6
comp=Z,428nnn,1.2s
PSUB *e*PcP PcP 15 07 45.3 +0.8
Q48A **North Vernon** 48.64 349 P P 15 06 19.8 -1.3
baz=166,SNR=23
TUL1 **Leonard** 48.69 338 *e*P P 15 06 21.4 -0.2
comp=Z,646nnn,1.5s
TUL1 **Leonard** 48.69 338 P P 15 06 21.5 0.0
baz=152,SNR=42
MVL **Millersville** 48.70 359 *e*P P 15 06 22.2 +0.7
comp=Z,682nnn,1.1s
MVL *e*PcP PcP 15 07 45.5 +0.8
R44A **Waltonville** 48.72 345 P P 15 06 20.4 -1.3
baz=162,SNR=15
S42A **Caledonia** 48.73 343 P P 15 06 19.9 -1.9
baz=159,SNR=36
P51A **Williamsport** 48.74 352 P P 15 06 20.8 -1.0
baz=170
P52A **Corning** 48.76 353 P P 15 06 21.1 -0.9
baz=171,SNR=80
Q47A **Bedord North L** 48.78 348 P P 15 06 21.0 -1.2
baz=165,SNR=57
S41A **Jillco Farms,** 48.84 342 P P 15 06 21.3 -1.4
baz=158,SNR=52
WMOK **Wichita Mounta** 48.89 334 *e*P P 15 06 22.7 -0.4
comp=Z,55nnn,0.7s
WMOK **Wichita Mounta** 48.89 334 *e*P P 15 06 22.7 -0.4
WMOK pmax pmax
comp=Z,55nnn,0.7s
WMOK **Wichita Mounta** 48.89 334 P P 15 06 22.8 -0.3
baz=148,SNR=22
PAGS **Pennsylvania G** 48.94 358 *e*P P 15 06 23.7 +0.3
R43A **Red Bud** 48.97 344 P P 15 06 22.4 -1.2
baz=160,SNR=26
P50A **Jamestown** 48.97 351 P P 15 06 22.3 -1.3
baz=169,SNR=57
BLO **Bloomington** 49.03 348 *e*P P 15 06 22.8 -1.3
comp=Z,677nnn,1.5s
BLO **Bloomington** 49.03 348 *e*P P 15 06 22.8 -1.3
BLO pmax pmax
comp=Z,677nnn,1.5s
P49A **Miami Univ. Ec** 49.05 350 P P 15 06 22.8 -1.4
baz=167,SNR=36
Q46A **CEJHS Indians,** 49.06 347 P P 15 06 22.9 -1.4
baz=164
O56A **Blue Knob Stat** 49.06 356 *e*P P 15 06 24.8 +0.4
comp=Z,219nnn,0.8s
O56A **Blue Knob Stat** 49.06 356 P P 15 06 25.1 +0.8
baz=175,SNR=72
P48A **Milroy** 49.10 349 P P 15 06 22.8 -1.8
baz=166,SNR=23
Q45A **Warren Harvey,** 49.12 347 P P 15 06 23.0 -1.7
baz=163,SNR=14
CCM **Cathedral Cave** 49.12 343 *e*P P 15 06 23.7 -1.1
CCM *e*PcP PcP 15 07 46.4 0.0
CCM **Cathedral Cave** 49.12 343 *e*P P 15 06 23.7 -1.1
CCM *e* 15 07 46.4
CCM **Cathedral Cave** 49.12 343 P P 15 06 23.2 -1.6
baz=159
O52A **Adamsville** 49.20 353 *e*P P 15 06 24.9 -0.5
comp=Z,294nnn,0.8s
O52A **Adamsville** 49.20 353 P P 15 06 24.5 -0.9
baz=171,SNR=64
R42A **Luebbering** 49.21 344 P P 15 06 24.1 -1.3
baz=159,SNR=47
P47A **Martinsville** 49.28 349 P P 15 06 24.4 -1.5
baz=165,SNR=36
Q44A **Meyer Farm, Va** 49.33 346 P P 15 06 24.9 -1.4
baz=162,SNR=30
O51A **Pataskala** 49.33 352 P P 15 06 25.3 -1.0
baz=170,SNR=48
R41A **Rosebud** 49.39 343 P P 15 06 25.3 -1.5
baz=159,SNR=73
SSPA **Standing Stone** 49.39 357 *e*P P 15 06 27.4 +0.6
comp=Z,145nnn,0.9s
SSPA **Standing Stone** 49.39 357 P P 15 06 27.2 +0.5
baz=176
ACSO **Alum Creek Sta** 49.46 352 *e*P P 15 06 26.6 -0.7
comp=Z,336nnn,0.9s
ACSO **Alum Creek Sta** 49.46 352 P P 15 06 26.5 -0.9
baz=170,SNR=83
O50A **Cable** 49.47 351 P P 15 06 26.4 -1.0
baz=169,SNR=52
CPNY **Central Park** 49.49 1 *e*P P 15 06 27.6 +0.1
comp=Z,520nnn,1.3s
Q43A **New Douglas** 49.53 345 P P 15 06 26.5 -1.4
baz=161,SNR=12
P46A **Rosedale** 49.60 348 P P 15 06 26.8 -1.5
baz=164,SNR=23
N59A **State Game Lan** 49.61 359 *e*P P 15 06 29.6 +1.2
comp=Z,519nnn,0.9s
N59A **State Game Lan** 49.61 359 P P 15 06 29.3 +0.8
baz=179,SNR=142
O49A **Covington** 49.62 351 *e*P P 15 06 27.6 -1.0
comp=Z,537nnn,1.3s
O49A **Covington** 49.62 351 P P 15 06 27.4 -1.1
baz=168,SNR=45
P45A **Graceland, Par** 49.63 347 *e*P P 15 06 27.9 -0.6
comp=Z,389nnn,1.2s
P45A *e*PcP PcP 15 07 48.2 0.0
P45A **Graceland, Par** 49.63 347 P P 15 06 26.9 -1.7
baz=164,SNR=33
PAL **Palisades** 49.70 1 *e*P P 15 06 29.1 0.0
comp=Z,655nnn,1.2s
PAL **Palisades** 49.70 1 *e*P P 15 06 29.1 0.0
PAL pmax pmax
comp=Z,655nnn,1.2s
PAL **Palisades** 49.70 1 P P 15 06 29.3 +0.2
baz=182,SNR=60
MNTX **Cornudas Mount** 49.72 326 *e*P P 15 06 29.6 +0.1
comp=Z,172nnn,1.6s
MNTX **Cornudas Mount** 49.72 326 P P 15 06 29.0 -0.5
baz=139,SNR=58
Q42A **Golden Eagle** 49.73 344 P P 15 06 28.3 -1.1
baz=160,SNR=22
P44A **Sand Creek, Wi** 49.77 346 P P 15 06 28.4 -1.3
baz=162,SNR=25
ODNJ **Ogdensburg** 49.77 0 *e*P P 15 06 29.9 +0.2
comp=Z,129nnn,0.8s
O48A **Farmland** 49.82 350 P P 15 06 28.8 -1.3
baz=167,SNR=113
N54A **Moraine State** 49.85 355 *e*P P 15 06 30.3 0.0
comp=Z,757nnn,1.3s
N54A **Moraine State** 49.85 355 P P 15 06 30.4 0.0
baz=174,SNR=67
Q41A **Truxton** 49.96 344 P P 15 06 30.2 -0.9
baz=159,SNR=64
O47A **Sheridan** 49.99 349 P P 15 06 29.9 -1.4
baz=166,SNR=85
N50A **Nevada** 50.02 352 P P 15 06 30.4 -1.1
baz=170,SNR=58
YLE **Yale** 50.04 2 *e*P P 15 06 32.2 +0.6
comp=Z,886nnn,1.0s
N51A **Ashland** 50.06 353 *e*P P 15 06 30.9 -0.9
comp=Z,756nnn,1.5s
N51A **Ashland** 50.06 353 P P 15 06 30.6 -1.3
baz=171,SNR=44
MSTX **Muleshoe** 50.11 330 *e*P P 15 06 32.0 -0.5
comp=Z,93nnn,0.7s
MSTX **Muleshoe** 50.11 330 P P 15 06 32.1 -0.5
baz=143,SNR=47
P43A **Skaggs, Pawnee** 50.15 345 P P 15 06 31.4 -1.2
baz=161,SNR=57
KSPA **Keystone Colle** 50.25 359 *e*P P 15 06 34.1 +0.9
comp=Z,670nnn,1.4s
P42A **Winchester** 50.31 345 *e*P P 15 06 32.4 -1.4
comp=Z,384nnn,1.4s
P42A **Winchester** 50.31 345 P P 15 06 32.6 -1.2
baz=160,SNR=28
SFIN **Lafayette** 50.31 348 *e*P P 15 06 32.1 -1.6
comp=Z,1µm,1.5s
SFIN **Lafayette** 50.31 348 P P 15 06 32.1 -1.6
baz=164,SNR=60
N49A **Columbus Grove** 50.31 351 *e*P P 15 06 32.6 -1.1
comp=Z,1µm,1.4s
N49A **Columbus Grove** 50.31 351 P P 15 06 32.8 -1.0
baz=168,SNR=118
O45A **Potomac** 50.31 347 P P 15 06 32.1 -1.7
baz=164,SNR=36
AMTX **Amarillo** 50.32 331 *e*P P 15 06 32.2 -1.8
comp=Z,78nnn,0.6s
AMTX **Amarillo** 50.32 331 P P 15 06 33.4 -0.7
baz=145
M54A **Oil Creek Stat** 50.37 356 *e*P P 15 06 34.1 -0.1
comp=Z,509nnn,1.0s
M54A **Oil Creek Stat** 50.37 356 P P 15 06 34.1 -0.1
baz=174,SNR=66
U32A **Winter Ranch,** 50.38 335 *e*P P 15 06 34.3 0.0
comp=Z,250nnn,0.9s
O44A **Mansfield** 50.39 347 P P 15 06 32.8 -1.5
baz=163,SNR=18
N48A **Decatur** 50.39 350 P P 15 06 33.1 -1.2
baz=167,SNR=52
M51A **Elyria** 50.44 353 P P 15 06 33.5 -1.2
baz=171,SNR=19
N47A **Urbana** 50.52 350 P P 15 06 33.7 -1.6
baz=166,SNR=85
ALLY **Alegheny Colle** 50.55 355 *e*P P 15 06 35.1 -0.4
comp=Z,890nnn,1.4s
P41A **Barry, Barry** 50.58 344 P P 15 06 34.4 -1.4
baz=159,SNR=57
M50A **Fremont** 50.62 352 *e*P P 15 06 35.2 -0.8
comp=Z,515nnn,0.8s
M50A **Fremont** 50.62 352 P P 15 06 35.1 -1.0
baz=170,SNR=66
BRYW **Bryant College** 50.71 3 *e*P P 15 06 37.0 +0.3
comp=Z,559nnn,1.1s
O43A **Sugar Creek Fa** 50.71 346 P P 15 06 35.3 -1.4
baz=162,SNR=10
N46A **Monticello** 50.73 349 P P 15 06 35.5 -1.4
baz=165,SNR=54
O42A **Bath** 50.81 345 P P 15 06 36.4 -1.1
baz=161,SNR=18
M49A **Liberty Center** 50.82 351 P P 15 06 36.6 -1.0
baz=169,SNR=91
N45A **Kentland** 50.84 348 P P 15 06 36.0 -1.8
baz=164,SNR=14
BINY **Binghamton** 50.89 359 *e*P P 15 06 38.8 +0.7
comp=Z,1µm,1.4s
BINY **Binghamton** 50.89 359 P P 15 06 38.9 +0.8
baz=179,SNR=110
N44A **Piper City** 50.93 347 P P 15 06 36.4 -1.9
baz=163,SNR=37
SRIG **Santa Rosalia** 50.94 316 *e*P P 15 06 39.5 +0.8
M48A **Edgerton** 50.95 351 *e*P P 15 06 37.1 -1.4
M48A **Edgerton** 50.95 351 P P 15 06 37.1 -1.4
baz=168,SNR=6.4
O41A **Passleys Farm,** 50.95 344 P P 15 06 37.1 -1.4
baz=160,SNR=40
HDIL **Hopedale** 50.96 346 *e*P P 15 06 37.1 -1.5
comp=Z,2µm,1.6s
HDIL **Hopedale** 50.96 346 P P 15 06 37.4 -1.3
baz=162,SNR=29
M47A **Cromwell** 50.98 350 P P 15 06 37.2 -1.5
baz=167,SNR=17
ERPA **Erie** 51.00 355 *e*P P 15 06 38.5 -0.4
comp=Z,743nnn,1.3s
ERPA **Erie** 51.00 355 P P 15 06 38.6 -0.3
baz=174,SNR=49
QUA2 **Belchertown** 51.03 3 *e*P P 15 06 39.0 0.0
comp=Z,293nnn,1.2s
M46A **Old House Fiel** 51.16 349 P P 15 06 38.7 -1.4
baz=166,SNR=7.4
WES **Weston** 51.19 4 *e*P P 15 06 40.4 +0.2
comp=Z,306nnn,1.1s
WES **Weston** 51.19 4 *e*P P 15 06 40.4 +0.2
WES pmax pmax
comp=Z,306nnn,1.1s
HRV **Adam Dziewonsk** 51.29 3 *e*P P 15 06 41.5 +0.4
comp=Z,429nnn,1.0s
HRV **Adam Dziewonsk** 51.29 3 *e*P P 15 06 41.5 +0.4
HRV pmax pmax
comp=Z,429nnn,1.0s
HRV **Adam Dziewonsk** 51.29 3 P P 15 06 41.7 +0.6
baz=184
N43A **Stutzman Famil** 51.30 346 P P 15 06 39.6 -1.5
baz=162,SNR=39
M45A **Boilermakers S** 51.31 348 P P 15 06 39.6 -1.6
baz=165,SNR=8.9
L48A **N Adams** 51.35 351 P P 15 06 40.3 -1.2
baz=168,SNR=44
N42A **Yates City** 51.40 345 P P 15 06 40.6 -1.3
baz=161,SNR=45
L49A **Milan** 51.41 352 P P 15 06 41.1 -0.8

baz=169,SNR=40
TRY Troy 51.43 1 *e*P P 15 06 42.8 +0.7
comp=Z,450nm,1.0s
TRY *e*PcP PcP 15 07 55.5 +0.7
M44A Midewin, Midew 51.48 348 *e*P P 15 06 40.3 -2.2
M44A Midewin, Midew 51.48 348 P P 15 06 40.5 -1.9
baz=164,SNR=13
MMNY Mt. Morris Dam 51.48 357 *e*P P 15 06 42.3 -0.1
comp=Z,375nm,1.2s
MMNY *e*PcP PcP 15 07 54.8 -0.1
N41A Harden Midland 51.49 345 *e*P P 15 06 41.2 -1.4
N41A Harden Midland 51.49 345 P P 15 06 40.9 -1.7
baz=160,SNR=16
L47A Sherwood 51.51 350 P P 15 06 41.3 -1.4
baz=167,SNR=33
AAM Ann Arbor 51.59 352 *e*P P 15 06 42.1 -1.2
AAM Ann Arbor 51.59 352 *e*P P 15 06 42.1 -1.2
AAM Ann Arbor 51.59 352 P P 15 06 42.3 -0.9
baz=169,SNR=16
121A Cookes Peak, D 51.70 324 P P 15 06 45.7 +1.1
baz=137,SNR=40
M43A Waltham Townsh 51.72 347 P P 15 06 42.6 -1.6
baz=162,SNR=42
L46A Eue Claire 51.73 349 P P 15 06 42.3 -2.0
baz=166,SNR=10
319A Douglas 51.75 322 *e*P P 15 06 45.4 +0.6
comp=Z,144nm,0.8s
KSU1 Kansas State U 51.81 339 *e*P P 15 06 44.3 -0.6
comp=Z,326nm,1.4s
KSU1 Kansas State U 51.81 339 P P 15 06 44.4 -0.6
baz=153,SNR=17
N40A Mertquake, Sal 51.85 344 P P 15 06 43.8 -1.4
baz=159,SNR=24
K50A Casco 51.92 353 P P 15 06 44.4 -1.3
baz=170,SNR=15
M42A Sheffield 51.93 346 P P 15 06 44.5 -1.3
baz=162
MEDO Medina 51.94 357 P P 15 06 45.5 -0.3
baz=176,SNR=28
TYNO Tyneside 51.96 356 P P 15 06 45.2 -0.9
baz=174
STCO Saint Catharin 52.03 356 P P 15 06 46.2 -0.3
baz=175,SNR=18
K49A Clarkson 52.03 352 P P 15 06 45.2 -1.4
baz=170,SNR=18
M41A Milan 52.04 345 P P 15 06 45.1 -1.5
baz=160,SNR=10.0
N39A Derby Farms, D 52.10 343 *e*P P 15 06 45.7 -1.4
comp=Z,373nm,1.4s
N39A Derby Farms, D 52.10 343 P P 15 06 45.8 -1.3
baz=158,SNR=26
K48A Perry 52.15 352 P P 15 06 46.0 -1.4
baz=169,SNR=42
K47A Vermontville 52.15 351 P P 15 06 45.9 -1.5
baz=168,SNR=32
ELFO Elginfield 52.19 354 P P 15 06 46.3 -1.4
baz=172,SNR=23
L44A Lake County Fo 52.20 348 P P 15 06 45.7 -2.2
baz=164,SNR=8.2
BNM Barren Site 52.26 327 *e*P P 15 06 48.8 +0.1
K46A Dorr 52.30 350 P P 15 06 46.3 -2.1
baz=167,SNR=15
M40A Post Highland 52.32 344 P P 15 06 47.3 -1.4
baz=159,SNR=18
LPM Los Pinos Moun 52.38 327 *e*P P 15 06 49.7 +0.1
L43A Garden Prairie 52.39 347 P P 15 06 47.7 -1.5
baz=163,SNR=49
L42A Oliver, Polo 52.42 346 *e*P P 15 06 47.7 -1.8
comp=Z,541nm,1.5s
L42A Oliver, Polo 52.42 346 P P 15 06 47.7 -1.8
baz=162,SNR=20
HNH Hanover 52.45 3 *e*P P 15 06 50.3 +0.7
comp=Z,281nm,1.1s
ACTO Acton 52.49 355 P P 15 06 49.2 -0.8
baz=174,SNR=15
J49A Marlette 52.56 353 P P 15 06 48.7 -1.7
baz=170,SNR=15
M39A Webster 52.57 344 P P 15 06 49.4 -1.2
baz=159
J48A Bridge Port 52.59 352 P P 15 06 49.0 -1.6
baz=169,SNR=32
DRWO Darlington Wes 52.66 357 P P 15 06 50.8 -0.3
baz=176,SNR=19
NCB Newcomb 52.66 1 *e*P P 15 06 51.7 +0.5
comp=Z,605nm,1.4s
DRCO St. Marys Ceme 52.66 357 P P 15 06 50.9 -0.2
baz=176,SNR=14
J47A Sunmer 52.68 351 P P 15 06 49.8 -1.5
baz=168,SNR=34
L41A Preston 52.69 346 P P 15 06 49.6 -1.8
baz=161,SNR=42
LAZ Ladron 52.73 327 *e*P P 15 06 52.5 +0.4
CBKS Cedar Bluff 52.76 336 *e*P P 15 06 52.1 0.0
comp=Z,195nm,0.9s
CBKS Cedar Bluff 52.76 336 *e*P P 15 06 52.1 0.0
CBKS pmax pmax
comp=Z,195nm,0.9s
CBKS Cedar Bluff 52.76 336 P P 15 06 52.1 0.0
baz=149,SNR=20
ANMO Albuquerque 52.77 328 P P 15 06 52.4 0.0
comp=Z,39nm,1.0s,baz=143,slow=9.0,SNR=78
ANMO PKPPKP P'P'df 15 37 23.8 +5.7
comp=Z,2.3nm,0.9s,baz=6.2,slow=2.0,SNR=4.6
ANMO Albuquerque 52.77 328 *e*P P 15 06 52.3 -0.1
comp=Z,51nm,0.9s
ANMO P'P' 15 37 23.8
ANMO Albuquerque 52.77 328 *d i*P P 15 06 52.3 -0.1
ANMO pmax pmax
comp=Z,73nm,1.1s
ANMO Albuquerque 52.77 328 P P 15 06 52.6 +0.2
baz=140
PKRO Pickering 52.77 356 P P 15 06 51.6 -0.4
baz=175,SNR=22
K43A Burlington 52.80 348 *e*P P 15 06 50.5 -1.7
comp=Z,489nm,1.3s
K43A Burlington 52.80 348 P P 15 06 50.4 -1.7
baz=164,SNR=12
L40A Anamosa 52.86 345 *e*P P 15 06 52.8 +0.1
comp=Z,346nm,1.3s
L40A Anamosa 52.86 345 P P 15 06 51.0 -1.7
baz=160,SNR=29
J46A Howard City 52.91 350 P P 15 06 51.3 -1.7
baz=167,SNR=5.3
LBNH Lisbon 53.00 3 *e*P P 15 06 54.3 +0.6
comp=Z,334nm,0.9s
LBNH Lisbon 53.00 3 *e*P P 15 06 54.3 +0.6
LBNH pmax pmax
comp=Z,334nm,0.9s
LBNH Lisbon 53.00 3 P P 15 06 54.5 +0.9
baz=184,SNR=45
BASO Ashfield 53.04 354 P P 15 06 52.8 -1.1
baz=172,SNR=11
BWLO Walkerton 53.09 355 P P 15 06 53.4 -0.9
baz=172,SNR=29
K42A Prairie Point, 53.09 347 P P 15 06 52.7 -1.7
baz=162,SNR=39
I49A Point Hope 53.09 353 P P 15 06 52.7 -1.6
baz=170,SNR=7.0
L39A Vinton 53.12 344 P P 15 06 52.5 -2.1
baz=159,SNR=16
J45A Montague 53.13 350 P P 15 06 52.8 -1.8
baz=166
K41A Shullsburg 53.15 346 P P 15 06 53.0 -1.8
baz=161,SNR=26
BRCO Bruce Peninsul 53.24 354 P P 15 06 54.7 -0.7
baz=172,SNR=10
DELO Deloro Mine 53.25 358 P P 15 06 55.2 -0.3
baz=177,SNR=58
SCIA State Center 53.26 343 *e*P P 15 06 54.3 -1.2
SCIA State Center 53.26 343 P P 15 06 54.4 -1.2
baz=158,SNR=6.8
LONY Lake Ozonia 53.31 0 *e*P P 15 06 56.2 +0.3
comp=Z,717nm,1.5s
LONY Lake Ozonia 53.31 0 P P 15 06 55.9 -0.1
baz=181,SNR=65
TUC Tucson 53.32 322 *e*P P 15 06 56.4 +0.1
comp=Z,44nm,0.8s
TUC Tucson 53.32 322 P P 15 06 56.4 +0.1
TUC pmax pmax
comp=Z,80nm,0.9s
TUC Tucson 53.32 322 P P 15 06 56.2 -0.1
baz=134
CLWO Collingwood 53.34 355 P P 15 06 55.2 -1.0
baz=174,SNR=22
I47A Gladwin 53.39 352 P P 15 06 55.2 -1.4
baz=168
JFWS Jewell Farm 53.42 346 *e*P P 15 06 55.2 -1.6
comp=Z,960nm,1.9s
JFWS Jewell Farm 53.42 346 *e*P P 15 06 55.2 -1.6
JFWS pmax pmax
comp=Z,960nm,1.9s
JFWS Jewell Farm 53.42 346 P P 15 06 54.7 -2.1
baz=161,SNR=26
K40A Colesburg 53.44 345 P P 15 06 54.8 -2.1
baz=160,SNR=44
T25A Trinidad 53.44 331 *e*P P 15 06 57.6 +0.3
comp=Z,158nm,0.8s
T25A Trinidad 53.44 331 P P 15 06 57.0 -0.3
baz=143,SNR=38
I48A Sherman Twp 53.45 352 P P 15 06 54.9 -2.0
baz=169
I46A Reed City 53.46 351 P P 15 06 54.6 -2.4
baz=167
J43A Natural Harves 53.46 348 P P 15 06 55.2 -1.9
baz=164,SNR=14
WVL Waterville 53.48 5 *e*P P 15 06 57.8 +0.7
comp=Z,332nm,1.1s
FRNY Flat Rock 53.54 1 *e*P P 15 06 57.9 +0.4
comp=Z,1000nm,1.2s
J42A Columbus 53.55 347 P P 15 06 56.1 -1.6
baz=163,SNR=21
BMRO Meriville Lake 53.57 355 P P 15 06 56.6 -1.2
baz=172,SNR=11
SADO Sadowa 53.58 356 *e*P P 15 06 57.0 -0.9
comp=Z,438nm,1.4s
K39A Oelwein 53.63 345 P P 15 06 56.3 -2.1
baz=159,SNR=28
I45A Fountain 53.68 350 P P 15 06 56.6 -2.1
baz=166
PLVO Plevna 53.76 358 *e*P P 15 06 58.9 -0.2
comp=Z,165nm,0.9s
PLVO Plevna 53.76 358 P P 15 06 59.1 -0.1
baz=178,SNR=33
BANO Bancroft 53.77 358 P P 15 06 58.7 -0.6
baz=176,SNR=13
J41A Loganville 53.80 347 P P 15 06 58.1 -1.4
baz=162,SNR=36
EMMW East Machias 53.84 7 *e*P P 15 07 00.1 +0.4
comp=Z,309nm,1.4s
I43A Langenfeld Bro 53.89 348 P P 15 06 58.8 -1.4
baz=164,SNR=29
H48A Harrisville 53.90 353 P P 15 06 58.8 -1.5
baz=170
H47A Mio 53.92 352 P P 15 06 58.8 -1.6
baz=169
G55A Calabogie 53.96 359 P P 15 07 00.5 -0.1
baz=178
J40A Soldiers Grove 54.00 346 P P 15 06 59.3 -1.7
baz=161,SNR=45
H46A Fife Lake 54.01 351 P P 15 06 59.3 -1.7
baz=168
I42A Draeger Farm, 54.05 348 *e*P P 15 07 00.5 -0.9
comp=Z,366nm,0.9s
I42A Draeger Farm, 54.05 348 P P 15 07 00.3 -1.1
baz=163
MOQ Mont Orford 54.06 2 *e*P P 15 07 01.9 +0.5
ORIO Orleans, Innes 54.14 360 P P 15 07 01.9 0.0
baz=180,SNR=38
KSCO Kaye Shedlock' 54.14 334 *e*P P 15 07 02.4 +0.1
comp=Z,203nm,0.9s
KSCO Kaye Shedlock' 54.14 334 P P 15 07 02.4 +0.1
baz=146,SNR=16
J39A Decorah 54.18 345 P P 15 07 00.5 -1.8
baz=160,SNR=53
GLMI Grayling 54.20 352 *e*P P 15 06 60.0 -2.4
comp=Z,373nm,1.3s
GLMI Grayling 54.20 352 P P 15 07 00.9 -1.5
baz=168,SNR=8.9
PKME Peaks-Kenny Pk 54.20 5 *e*P P 15 07 02.9 +0.5
comp=Z,480nm,1.1s
PKME Peaks-Kenny Pk 54.20 5 P P 15 07 03.3 +0.9
baz=187,SNR=35
H45A Beulah 54.22 350 P P 15 07 00.7 -1.9
baz=167
TOBO Tobermory, Bru 54.22 354 P P 15 07 01.3 -1.2
baz=172,SNR=8.0
KLBO Killbear Provi 54.24 356 P P 15 07 00.6 -2.1
baz=174,SNR=27
BUKO Buck Lake 54.27 356 P P 15 07 01.9 -0.9
baz=175,SNR=50
ALFO Alfred 54.31 0 P P 15 07 03.5 +0.3
baz=180,SNR=43
GGN Saint George 54.32 7 *e*P P 15 07 03.7 +0.5
comp=Z,284nm,1.0s
HAL Halifax 54.33 10 *e*P P 15 07 04.1 +0.8
HAL *e*PcP PcP 15 08 06.7 +1.1
HAL Halifax 54.33 10 *e*P P 15 07 04.1 +0.8
HAL *e* 15 08 06.7
214A Organ Pipe Nat 54.34 320 P P 15 07 04.4 +0.7
baz=132,SNR=41
H43A Windswept, Lux 54.38 349 P P 15 07 02.1 -1.6
baz=164,SNR=10
X18A Snowflake 54.39 325 *e*P P 15 07 04.7 +0.4
comp=Z,82nm,0.8s
PEMO Pembroke 54.40 358 P P 15 07 03.5 -0.3
baz=177,SNR=33
BGNE Belgrade 54.40 339 *e*P P 15 07 04.0 0.0
comp=Z,551nm,1.0s
BGNE Belgrade 54.40 339 P P 15 07 03.3 -0.6
baz=152,SNR=20
I41A Arkdale 54.42 347 P P 15 07 02.7 -1.4
baz=162,SNR=44
I40A Norwalk 54.44 346 P P 15 07 02.7 -1.4
baz=161,SNR=46
SDCO Great Sand Dun 54.45 330 P P 15 07 05.0 +0.3
baz=142,SNR=20
F55A Otter Lake 54.53 359 P P 15 07 04.4 -0.4
baz=178
G45A Suttons Bay 54.57 351 P P 15 07 03.6 -1.5
baz=167
H42A Shiocton 54.57 348 P P 15 07 03.7 -1.4
baz=164,SNR=39
F52A Sundridge 54.61 356 P P 15 07 04.3 -1.1
baz=175,SNR=19
I39A Houston 54.62 345 *e*P P 15 07 04.5 -1.0
comp=Z,268nm,0.8s
I39A Houston 54.62 345 P P 15 07 04.1 -1.4
baz=160,SNR=58
W18A Petrified Fore 54.69 325 *e*P P 15 07 06.8 +0.4
comp=Z,157nm,0.9s
W18A Petrified Fore 54.69 325 P P 15 07 06.8 +0.4
baz=137,SNR=51
ALGO Algonquin Park 54.70 357 P P 15 07 05.4 -0.6
baz=176,SNR=43
F51A Arnstein 54.79 356 P P 15 07 05.3 -1.3
baz=174,SNR=19
H41A Junction City 54.91 347 *e*P P 15 07 06.3 -1.2
comp=Z,1µm,1.5s
H41A Junction City 54.91 347 P P 15 07 06.5 -1.0
baz=162,SNR=72
E52A Mattawa 55.06 357 P P 15 07 07.9 -0.7
baz=176
H40A Chili 55.08 347 P P 15 07 07.7 -1.0
baz=162,SNR=91
S22A 4UR Ranch, Cre 55.11 329 *e*P P 15 07 09.5 +0.1
comp=Z,270nm,1.8s
S22A 4UR Ranch, Cre 55.11 329 P P 15 07 09.6 +0.1
baz=141
E53A Dumoine, Ponti 55.11 358 P P 15 07 08.2 -0.8
baz=177,SNR=21
G43A Wallace 55.12 349 *e*P P 15 07 07.6 -1.5
comp=Z,329nm,1.1s
G43A Wallace 55.12 349 P P 15 07 07.6 -1.5
baz=165,SNR=18
F46A Macinaw City C 55.15 352 P P 15 07 07.8 -1.4
baz=168,SNR=7.9
E54A Lac Daplat, Po 55.15 358 P P 15 07 08.8 -0.4
baz=178,SNR=30
F45A CMU Biological 55.17 351 P P 15 07 07.8 -1.6
baz=167,SNR=7.2
X16A Lo Mia Camp, P 55.18 323 *e*P P 15 07 10.4 +0.4
comp=Z,91nm,0.8s
Q24A Divide 55.25 332 *e*P P 15 07 10.4 -0.1
comp=Z,60nm,0.9s
Q24A Divide 55.25 332 P P 15 07 10.4 -0.1
baz=143,SNR=22
G42A Mountain 55.25 349 *e*P P 15 07 08.7 -1.3
comp=Z,698nm,1.4s
G42A Mountain 55.25 349 P P 15 07 08.6 -1.3
baz=164,SNR=30
LMN Caledonia Moun 55.31 9 *e*P P 15 07 10.3 -0.1
comp=Z,345nm,1.0s
H39A Augusta 55.34 346 P P 15 07 09.5 -1.1
baz=160,SNR=55
E50A Wahnapitae 55.34 355 P P 15 07 09.0 -1.6
baz=173,SNR=13
E51A G1948 Merrick 55.36 356 P P 15 07 09.9 -0.8
baz=175,SNR=57
G41A Antigo 55.37 348 P P 15 07 09.7 -1.2
baz=163
GBN Guysborough 55.46 12 *e*P P 15 07 12.0 +0.6
comp=Z,184nm,0.8s
113A Mohawk Valley, 55.48 320 *e*P P 15 07 12.1 +0.3
comp=Z,55nm,0.7s
OGNE Ogallala 55.50 335 *e*P P 15 07 11.8 -0.2
comp=Z,163nm,0.7s
OGNE Ogallala 55.50 335 P P 15 07 12.1 +0.1
baz=147,SNR=32
MVCO Mesa Verde 55.56 328 *e*P P 15 07 12.5 -0.2
comp=Z,239nm,1.8s
MVCO Mesa Verde 55.56 328 P P 15 07 12.4 -0.2
baz=139,SNR=34
H38A Maiden Rock 55.58 345 P P 15 07 11.2 -1.1
baz=159,SNR=40
F43A Flat Rock, Esc 55.59 350 P P 15 07 10.8 -1.6
baz=166,SNR=24
F44A Big Bay de Noc 55.60 350 P P 15 07 11.0 -1.5
baz=166,SNR=9.3
E47A Iron Bridge 55.62 353 P P 15 07 11.2 -1.4
baz=170
G40A Rib Lake 55.65 347 *e*P P 15 07 11.5 -1.3
comp=Z,108nm,0.9s
G40A Rib Lake 55.65 347 P P 15 07 11.7 -1.1
baz=162,SNR=22
F42A Maple Grove Fa 55.69 349 P P 15 07 11.9 -1.2
baz=164,SNR=20
PQI Presque Isle 55.72 6 *e*P P 15 07 13.6 +0.4
comp=Z,366nm,1.1s
E45A Wooded Hills, 55.78 352 P P 15 07 12.4 -1.3
baz=168,SNR=16
D53A Lac Vacive, Po 55.81 358 P P 15 07 13.7 -0.3
baz=177,SNR=31
D54A Lac Fusel, La 55.85 359 P P 15 07 13.6 -0.7
baz=178,SNR=42
F41A Three Lakes 55.86 348 *e*P P 15 07 13.3 -1.0
comp=Z,568nm,1.5s
F41A Three Lakes 55.86 348 P P 15 07 13.4 -1.0
baz=163,SNR=33
G39A Holcombe 55.88 346 P P 15 07 13.4 -1.1
baz=161,SNR=83
D51A Lot 18 Range I 55.91 356 P P 15 07 13.2 -1.4
baz=175,SNR=11
WUAZ Wupatki 55.91 324 *e*P P 15 07 15.8 +0.7
comp=Z,159nm,0.8s
WUAZ Wupatki 55.91 324 P P 15 07 15.6 +0.5
baz=135,SNR=84
ECSD EROS Data Cent 55.95 341 *e*P P 15 07 14.0 -1.0
comp=Z,211nm,1.3s
ECSD EROS Data Cent 55.95 341 P P 15 07 14.1 -1.0
baz=154,SNR=90
D50A G1974 Best Tow 56.01 356 P P 15 07 14.4 -1.0
baz=174
E43A Lone Tree Farm 56.08 350 *e*P P 15 07 14.3 -1.6
comp=Z,204nm,0.8s
E43A Lone Tree Farm 56.08 350 P P 15 07 14.6 -1.3
baz=166,SNR=23
LATQ La Tuque 56.11 2 P P 15 07 16.4 +0.4
baz=183,SNR=52
ISCO Idaho Springs 56.13 332 *e*P P 15 07 16.8 0.0
ISCO *e*PcP PcP 15 08 14.1 +0.9
ISCO Idaho Springs 56.13 332 *e*P P 15 07 16.8 0.0
ISCO *e* 15 08 14.1
ISCO Idaho Springs 56.13 332 P P 15 07 16.4 -0.4
baz=143,SNR=41
E44A Grand Marais A 56.15 351 P P 15 07 15.4 -0.9
baz=167,SNR=5.9
D46A Sault St. Mari 56.15 353 P P 15 07 14.5 -1.8
baz=169
D48A Paudash Townsh 56.18 354 P P 15 07 14.6 -2.0
baz=172,SNR=23
D47A Chapleau 56.20 353 P P 15 07 15.0 -1.7
baz=170,SNR=27
COWI Conover 56.22 348 *e*P P 15 07 16.0 -0.9
comp=Z,752nm,1.6s
SPMN Marine on St. 56.22 345 *e*P P 15 07 16.2 -0.7
comp=Z,346nm,1.0s
SPMN Marine on St. 56.22 345 P P 15 07 15.9 -1.0
baz=159,SNR=78
F40A Park Falls 56.25 347 P P 15 07 16.0 -1.1
baz=162,SNR=52
PMSA Palmer Station 56.29 174 P P 15 07 19.3 +2.2
comp=Z,129nm,0.7s,baz=4.9,slow=5.0,SNR=36
PMSA PcP PcP 15 08 13.9 +0.9
comp=Z,67nm,0.8s,baz=4.7,slow=5.3,SNR=5.0
PMSA Palmer Station 56.29 174 *e*P P 15 07 16.4 -0.7
comp=Z,572nm,0.9s
PMSA PcP PcP 15 08 13.9 +0.9
PV01 Paradox Valley 56.29 328 *e*P P 15 07 17.6 -0.2
E42A Champion 56.30 349 P P 15 07 15.9 -1.5
baz=165,SNR=13
GLA Glamis 56.34 320 P P 15 07 18.4 +0.4
baz=131,SNR=9.5
F39A Loretta 56.42 347 P P 15 07 16.9 -1.4
baz=161,SNR=45
E41A Kenton 56.53 349 P P 15 07 17.7 -1.4
baz=164,SNR=26
Y12C Blythe 56.60 321 P P 15 07 20.4 +0.6
baz=131,SNR=19
F37A Hinrichs Farm, 56.65 345 P P 15 07 19.0 -0.9
baz=159,SNR=20
F38A Pierce - Schro 56.68 346 P P 15 07 19.2 -1.0
baz=160,SNR=119
E40A Wakefield 56.70 348 P P 15 07 19.4 -0.9
baz=162,SNR=84
PDMCI Parker Dam,Lak 56.73 321 P P 15 07 21.2 +0.5
baz=132,SNR=12
E39A Mellen 56.78 347 P P 15 07 20.0 -0.8
baz=162,SNR=57
VLDQ Val d'Or 56.84 358 *e*P P 15 07 20.7 -0.5
comp=Z,107nm,0.9s
SWSC Sam W. Stewart 56.89 319 P P 15 07 22.4 +0.5
baz=130
IKP In-Ko-Pah, Jac 56.91 319 P P 15 07 22.8 +0.7
baz=129
D41A Chassel 57.03 349 *e*P P 15 07 21.5 -1.0
comp=Z,220nm,0.8s
D41A Chassel 57.03 349 P P 15 07 21.6 -1.0
baz=164,SNR=11
W13A Hualapai Mount 57.11 322 *e*P P 15 07 24.3 +0.6
comp=Z,71nm,1.0s
BC3 Big Chuckawall 57.13 320 P P 15 07 24.0 +0.3
baz=130,SNR=38
N23A Red Feather La 57.16 332 *e*P P 15 07 23.9 -0.1
comp=Z,70nm,0.9s
N23A Red Feather La 57.16 332 P P 15 07 24.2 +0.2
baz=143,SNR=24
E38A The Farm, Brul 57.22 347 P P 15 07 23.2 -0.7
baz=161,SNR=33
IRM Iron Mountain 57.26 321 P P 15 07 25.3 +0.8
baz=131,SNR=122
PHWY Pilot Hill 57.26 333 *e*P P 15 07 24.5 -0.2
comp=Z,174nm,1.4s
NEE2 Needles Airpor 57.33 322 P P 15 07 25.2 +0.2
baz=132,SNR=12
SUSD Miller 57.35 340 P P 15 07 24.3 -0.6
baz=152,SNR=29
O20A White River Ci 57.65 330 *e*P P 15 07 27.3 0.0
comp=Z,124nm,1.1s
O20A White River Ci 57.65 330 P P 15 07 27.5 +0.1
baz=140,SNR=48
BELC Belle Mtn. Jos 57.70 320 P P 15 07 28.1 +0.4
baz=130,SNR=29
XPFO Piæon Flat 57.74 319 *e*P P 15 07 28.8 +0.8
comp=Z,57nm,0.8s
PFO Pinyon Flats O 57.74 319 *e*P P 15 07 28.9 +0.9
comp=Z,57nm,0.8s
PFO Pinyon Flats O 57.74 319 *e*P P 15 07 28.9 +0.9
PFO pmax pmax
comp=Z,57nm,0.8s
PFO Pinyon Flats O 57.74 319 P P 15 07 28.4 +0.4
baz=130,SNR=23
FRD Ford Ranch, An 57.76 319 P P 15 07 28.8 +0.7
baz=129,SNR=26
LSQQ Lebel-sur-Quev 57.77 359 P P 15 07 27.1 -0.6
baz=178
KNB Kanab 57.80 325 *e*P P 15 07 29.8 +1.4
comp=Z,148nm,0.7s
KNB Kanab 57.80 325 *e*P P 15 07 29.8 +1.4
KNB pmax pmax
comp=Z,148nm,0.7s
PKCU Pink Cliffs 57.81 325 *e*P P 15 07 29.4 +0.8
comp=Z,113nm,1.0s
LDFC Landfair 57.84 321 *e*P P 15 07 30.1 +1.5
comp=Z,102nm,0.7s

GMRC **Granite Mounta** 57.99 321 P P 15 07 30.2 +0.5
baz=131,SNR=59
LCMT **Little Creek M** 58.04 324 eP P 15 07 30.9 +0.9
comp=Z,78nm,0.8s
SRU **San Rafael Swe** 58.04 328 eP P 15 07 30.2 +0.2
comp=Z,86nm,0.9s
SRU **San Rafael Swe** 58.04 328 eP P 15 07 30.2 +0.2
SRU pmax pmax
comp=Z,87nm,0.9s
MTPU **Mount Pierson** 58.16 326 eP P 15 07 31.5 +0.3
comp=Z,51nm,0.8s
MURC **Murrieta** 58.21 319 P P 15 07 31.7 +0.5
baz=129,SNR=15
P18A **Preston Nutter** 58.28 328 eP P 15 07 31.9 0.0
comp=Z,83nm,0.9s
SZCU **Shurtz Canyon** 58.35 325 eP P 15 07 32.8 +0.5
comp=Z,56nm,0.9s
RWWY **Rawlins** 58.37 332 eP P 15 07 32.5 +0.1
comp=Z,177nm,1.0s
P17A **Butcher Ranch,** 58.42 328 eP P 15 07 32.5 -0.2
comp=Z,101nm,0.9s
HEC **Hector,Ludlow** 58.44 320 P P 15 07 33.7 +0.9
baz=130,SNR=30
EYMN **Ely** 58.47 347 eP P 15 07 31.4 -1.3
comp=Z,431nm,1.3s
EYMN **Ely** 58.47 347 P P 15 07 31.3 -1.4
baz=161,SNR=20
CCUT **Cedar City** 58.48 325 eP P 15 07 34.6 +1.4
comp=Z,68nm,0.9s
MATQ **Matagami** 58.49 358 P P 15 07 32.0 -0.7
baz=177,SNR=44
MSU **Marysvale** 58.49 326 eP P 15 07 34.3 +1.0
MSU eP cP **cP** 15 08 23.7 +1.3
MSU **Marysvale** 58.49 326 eP P 15 07 34.3 +1.0
MSU e 15 08 23.7
TUQ **Turquoise Moun** 58.58 321 P P 15 07 34.5 +0.7
baz=131,SNR=25
CHGQ **Chibougamau** 58.60 1 P P 15 07 33.3 -0.2
baz=181,SNR=64
K22A **Casper** 58.82 333 eP P 15 07 35.9 +0.5
comp=Z,218nm,1.3s
K22A **Casper** 58.82 333 P P 15 07 35.6 +0.3
baz=143,SNR=24
SHPR **Sheep Range** 58.82 323 eP P 15 07 36.4 +0.9
comp=Z,63nm,0.8s
RKT **Rikitea** 58.89 248 eP P 15 07 37.4 +1.3
comp=Z,82nm,1.0s
RKT eS S 15 15 31.8 -0.5
comp=Z,6µm,27.5s
RKT eLQ LQ 15 22 41.4
comp=Z,4µm,33.2s
RKT eLR LR 15 25 08.4
comp=Z,3µm,36.8s
BFSC **Mount Baldy Ra** 58.91 319 P P 15 07 36.4 +0.3
baz=129,SNR=15
RSSD **Black Hills** 58.96 336 eP P 15 07 36.8 +0.4
comp=Z,140nm,1.1s
RSSD **Black Hills** 58.96 336 eP P 15 07 36.8 +0.4
RSSD pmax pmax
comp=Z,140nm,1.1s
RSSD **Black Hills** 58.96 336 P P 15 07 36.8 +0.4
baz=146
GSC **Goldstone, Bar** 59.04 321 eP P 15 07 37.6 +0.6
comp=Z,56nm,0.9s
GSC **Goldstone, Bar** 59.04 321 eP P 15 07 37.6 +0.6
GSC pmax pmax
comp=Z,56nm,0.9s
GSC **Goldstone, Bar** 59.04 321 P P 15 07 37.6 +0.6
baz=130,SNR=41
SHOC **Shoshone, Teco** 59.10 321 P P 15 07 37.2 0.0
baz=131,SNR=22
MPU **Maple Canyon** 59.28 328 eP P 15 07 38.8 +0.1
comp=Z,56nm,0.9s
DECC **Green Verdugo** 59.36 319 P P 15 07 39.8 +0.7
baz=128
PSUT **Pine Spring** 59.44 325 eP P 15 07 40.7 +0.9
comp=Z,128nm,0.7s
NLU **North Lily Min** 59.47 328 eP P 15 07 40.2 +0.2
comp=Z,54nm,1.0s
EDW2 **Edwards Air Fo** 59.53 320 P P 15 07 40.4 +0.1
baz=129,SNR=28
JLU **Jordanelle** 59.62 328 eP P 15 07 41.6 +0.5
comp=Z,98nm,0.9s
LRMC **Laurel Mtn Rad** 59.70 320 P P 15 07 42.0 +0.4
baz=129
TPNV **Topopah Spring** 59.77 322 eP P 15 07 43.0 +1.0
comp=Z,102nm,0.8s
TPNV **Topopah Spring** 59.77 322 eP P 15 07 43.0 +1.0
TPNV pmax pmax
comp=Z,102nm,0.8s
TPNV **Topopah Spring** 59.77 322 P P 15 07 42.5 +0.5
baz=131,SNR=132
FURC **Furnace Creek,** 59.83 322 P P 15 07 43.1 +1.0
baz=130,SNR=70
OSI **Osito Audit: C** 59.83 319 P P 15 07 42.8 +0.5
baz=128
CTU **Camp Tracy** 59.84 328 eP P 15 07 42.5 +0.1
comp=Z,60nm,0.9s
AGMN **Agassiz Nation** 59.87 344 eP P 15 07 42.0 -0.3
comp=Z,186nm,0.8s
AGMN **Agassiz Nation** 59.87 344 P P 15 07 41.8 -0.5
baz=156,SNR=68
MPMC **Manual Prospec** 59.95 321 P P 15 07 43.3 0.0
baz=130,SNR=48
DRLN **Deer Lake** 59.97 13 eP P 15 07 43.4 +0.5
comp=Z,838nm,1.1s
TCUT **Toone Canyon** 59.98 329 eP P 15 07 43.9 +0.4
comp=Z,315nm,0.7s
ASCN **Ascension** 60.02 94 P P 15 07 42.9 -1.1
comp=Z,494nm,1.0s
DUG **Dugway, Tooele** 60.04 327 eP P 15 07 44.6 +0.8
comp=Z,155nm,0.8s
DUG **Dugway, Tooele** 60.04 327 eP P 15 07 44.6 +0.8
DUG pmax pmax
comp=Z,155nm,0.8s
DUG **Dugway, Tooele** 60.04 327 P P 15 07 44.3 +0.5
baz=136,SNR=159
DAC **Darwin (Calif)** 60.16 321 eP P 15 07 44.8 +0.1
comp=Z,31nm,0.8s
DAC **Darwin (Calif)** 60.16 321 eP P 15 07 44.8 +0.1
DAC pmax pmax
comp=Z,31nm,0.8s
ARVC **Arvin** 60.22 319 P P 15 07 45.4 +0.5
baz=128,SNR=8.7
BW06 **Boulder Array** 60.30 331 eP P 15 07 44.8 -0.9
comp=Z,112nm,1.3s
BW06 **Boulder Array** 60.30 331 P P 15 07 45.2 -0.4
baz=140,SNR=52
PD31 **Pinedale Array** 60.30 331 eP P 15 07 45.3 -0.3
PDAR **Pinedale Array** 60.30 331 P P 15 07 44.8 -0.9
comp=Z,33nm,0.9s,baz=134,slow=6.4,SNR=148
PDAR PcP **PcP** 15 08 28.9 -0.7
comp=Z,16nm,0.6s,baz=113,slow=6.9,SNR=7.0
PDAR PKPPKP **P'P'df** 15 37 07.2 +0.6
comp=Z,1.7nm,0.9s,baz=39,slow=1.4,SNR=5.7
PDAR P4KPbc 15 44 48.1
comp=Z,1.6nm,0.9s,baz=145,slow=5.4,SNR=9.2
PDAR **Pinedale Array** 60.30 331 eP P 15 07 45.4 -0.3
PDAR PcP **PcP** 15 08 28.9 -0.7
PDAR P'P' 15 37 07.2
PDAR e 15 44 48.1
R11A **Troy Canyon, C** 60.30 324 eP P 15 07 46.8 +1.1
comp=Z,75nm,0.7s
R11A **Troy Canyon, C** 60.30 324 P P 15 07 46.6 +0.9
baz=132,SNR=195
ISA **Isabella, Lake** 60.32 320 eP P 15 07 46.4 +0.7
comp=Z,43nm,0.6s
ISA **Isabella, Lake** 60.32 320 eP P 15 07 46.4 +0.7
ISA pmax pmax
comp=Z,43nm,0.6s
ISA **Isabella, Lake** 60.32 320 P P 15 07 46.2 +0.5
baz=129,SNR=44
HWUT **Hardware Ranch** 60.42 329 eP P 15 07 46.6 +0.2
comp=Z,169nm,0.7s
GRAC **Grapevine Rang** 60.48 322 P P 15 07 47.4 +0.7
baz=130,SNR=38
CWC **Cottonwood Cre** 60.56 321 P P 15 07 47.7 +0.3
baz=129
MDND **Maddock** 60.56 341 eP P 15 07 47.7 +0.7
comp=Z,2µm,1.4s
MDND **Maddock** 60.56 341 P P 15 07 47.3 +0.3
baz=152,SNR=94
BGU **Big Grassy Mou** 60.68 328 eP P 15 07 48.3 +0.1
comp=Z,70nm,0.9s
PKM **Mcpherson Peak** 60.71 318 P P 15 07 48.7 +0.2
baz=127,SNR=12
VES **Vestal, Richgr** 60.82 320 P P 15 07 49.2 +0.2
baz=128,SNR=16

TIN **Tinemaha, Big** 61.04 321 P P 15 07 50.9 +0.2
baz=130,SNR=13
AHID **Auburn Hatcher** 61.04 330 eP P 15 07 50.1 -0.5
comp=Z,88nm,0.8s
SMMC **Simmler** 61.09 319 P P 15 07 51.4 +0.5
baz=127,SNR=29
HVU **Hansel Valley** 61.16 329 eP P 15 07 50.9 -0.5
comp=Z,84nm,0.9s
HVU **Hansel Valley** 61.16 329 eP P 15 07 50.9 -0.5
HVU pmax pmax
comp=Z,84nm,0.9s
REDW **Red Top Meadow** 61.37 331 eP P 15 07 52.9 0.0
comp=Z,466nm,1.9s
SNOW **Snow King Moun** 61.40 331 eP P 15 07 53.0 -0.1
comp=Z,340nm,1.9s
LOHW **Long Hollow** 61.44 331 eP P 15 07 52.9 -0.4
comp=Z,57nm,0.9s
TPAW **Teton Pass** 61.52 331 eP P 15 07 53.6 -0.3
comp=Z,40nm,0.8s
MOOW **Moose Ponds** 61.61 331 eP P 15 07 54.3 -0.2
comp=Z,164nm,1.6s
ULM **Lac du Bonnet** 61.66 345 eP P 15 07 53.2 -1.2
comp=Z,237nm,0.7s,baz=158,slow=6.7,SNR=176
ULM pP **pP** 15 08 24.6 -0.8
comp=Z,88nm,0.8s,baz=158,slow=11,SNR=4.0
ULM PKP2bc 15 37 10.6
comp=Z,8.7nm,0.8s,baz=332,slow=3.5,SNR=6.4
ULM P4KPbc 15 44 54.3
comp=Z,5.5nm,1.0s,baz=159,slow=8.6,SNR=3.5
ULM **Lac du Bonnet** 61.66 345 eP P 15 07 53.5 -0.8
comp=Z,354nm,0.9s
ULM pP **pP** 15 08 24.6 -0.8
ULM ⇑e 15 37 10.6
ULM e 15 44 54.3
ULM **Lac du Bonnet** 61.66 345 eP P 15 07 53.5 -0.8
ULM pmax pmax
comp=Z,354nm,0.9s
FXWY **Fox Creek** 61.66 331 eP P 15 07 54.7 -0.1
comp=Z,218nm,1.8s
MLAC **Mammoth, Mammo** 61.78 321 P P 15 07 56.1 +0.4
baz=129,SNR=12
IMW **Indian Meadow** 61.82 331 eP P 15 07 55.6 -0.3
comp=Z,104nm,1.0s
FLWY **Flagg Ranch** 61.84 332 eP P 15 07 56.3 +0.3
comp=Z,186nm,1.0s
NV11 **Mina Array Sit** 61.88 323 eP P 15 07 56.7 +0.5
comp=Z,3.6nm,0.9s
LAO **LASA Array** 61.95 336 P P 15 07 56.4 0.0
baz=145,SNR=11
NV01 **Mina Array Sit** 61.97 322 eP P 15 07 57.6 +0.7
NVAR **Mina Array Bea** 61.97 322 P P 15 07 57.2 +0.3
comp=Z,36nm,0.7s,baz=135,slow=7.3,SNR=273
NVAR pP **pP** 15 08 28.8 +0.8
comp=Z,18nm,0.7s,baz=144,slow=6.2,SNR=4.5
NVAR sP **sP** 15 08 42.2 +0.2
comp=Z,24nm,0.7s,baz=143,slow=9.2,SNR=3.8
NVAR PKP2bc 15 37 09.9
comp=Z,7.4nm,1.0s,baz=292,slow=1.4,SNR=8.8
NVAR P4KPbc 15 44 58.2
comp=Z,0.2nm,0.5s,baz=107,slow=5.0,SNR=4.9
LHV **Little Huntoon** 61.97 322 eP P 15 07 57.6 +1.0
RLMT **Red Lodge** 61.99 333 eP P 15 07 56.6 -0.3
comp=Z,71nm,0.8s
RLMT **Red Lodge** 61.99 333 P P 15 07 57.0 +0.1
baz=141,SNR=41
H17A **Grant Village** 62.02 332 eP P 15 07 57.6 +0.4
comp=Z,276nm,1.8s
H17A **Grant Village** 62.02 332 P P 15 07 57.8 +0.5
baz=140,SNR=34
LKWY **Lake** 62.07 332 eP P 15 07 58.6 +1.0
comp=Z,80nm,0.9s
LKWY **Lake** 62.07 332 eP P 15 07 58.6 +1.0
LKWY pmax pmax
comp=Z,80nm,0.9s
RYN **Ryan** 62.23 323 eP P 15 07 58.9 +0.3
comp=Z,29nm,0.9s
BMN **Battle Mountai** 62.64 325 eP P 15 08 01.8 +0.5
comp=Z,82nm,0.7s
BMN **Battle Mountai** 62.64 325 eP P 15 08 01.8 +0.5
BMN pmax pmax
comp=Z,82nm,0.7s
DGMT **Dagmar** 62.66 339 eP P 15 08 01.9 +0.8
comp=Z,254nm,1.0s
DGMT **Dagmar** 62.66 339 P P 15 08 01.5 +0.4
baz=147,SNR=40
GCMT **Greencliff** 62.68 333 eP P 15 08 01.8 +0.4
WAKR **Walker** 62.70 322 eP P 15 08 02.6 +0.8
comp=Z,59nm,0.9s
YERR **Yerington** 62.88 322 eP P 15 08 03.8 +0.8
comp=Z,66nm,0.9s
H07S1 **FLORES T-PHASE** 62.97 37 eP P 15 08 03.3 -0.1
CMB **Columbia Colle** 62.99 321 eP P 15 08 04.0 +0.4
comp=Z,25nm,0.9s
CMB **Columbia Colle** 62.99 321 eP P 15 08 04.0 +0.4
CMB pmax pmax
comp=Z,25nm,0.9s
HLID **Hailey** 63.28 329 eP P 15 08 05.7 +0.1
comp=Z,68nm,0.9s
HLID **Hailey** 63.28 329 P P 15 08 06.0 +0.5
baz=136,SNR=100
VCNR **Virginia City** 63.33 322 eP P 15 08 06.8 +0.8
comp=Z,95nm,0.8s
PAHR **Pah Rah Range** 63.43 323 eP P 15 08 07.1 +0.6
comp=Z,114nm,1.0s
DLMT **Dillon** 63.70 331 eP P 15 08 08.2 +0.1
comp=Z,156nm,1.4s
LCCM **Lewis and Clar** 63.72 332 eP P 15 08 08.3 0.0
SCHQ **Schefferville** 63.91 5 P P 15 08 08.8 -0.4
comp=Z,225nm,1.0s,baz=192,slow=4.8,SNR=43
SCHQ pP **pP** 15 08 40.7 +0.3
comp=Z,82nm,0.8s,baz=188,slow=5.1,SNR=3.8
SCHQ **Schefferville** 63.91 5 eP P 15 08 09.1 -0.1
comp=Z,396nm,1.2s
SCHQ pP **pP** 15 08 40.7 +0.3
AFDM **Forest Hills D** 63.92 321 eP P 15 08 09.7 +0.1
comp=Z,43nm,0.9s
CALA **Caldeira** 64.00 39 eP P 15 08 10.1 -0.1
PCED **Cedros** 64.03 39 eP P 15 08 10.4 +0.1
comp=Z,562nm,1.4s
PCAN **Candelaria** 64.07 39 eP P 15 08 10.7 +0.1
comp=Z,334nm,0.9s
BEKR **Beckworth** 64.11 323 eP P 15 08 11.6 +0.5
comp=Z,80nm,0.9s
PICO **Pico** 64.13 39 eP P 15 08 11.0 0.0
comp=Z,363nm,1.6s
TAOE **Nuku Hiva Isla** 64.19 264 eS S 15 16 38.1 -1.6
comp=Z,8µm,27.4s
TAOE **Nuku Hiva Isla** 64.19 264 eLR LR 15 27 32.2
comp=Z,4µm,30.1s
ROSA **Rosais** 64.38 39 eP P 15 08 12.6 0.0
comp=Z,685nm,1.1s
PMAN **Manadas** 64.42 39 eP P 15 08 13.2 +0.4
comp=Z,512nm,1.4s
EGMT **Eagleton** 64.46 335 eP P 15 08 13.1 +0.1
comp=Z,361nm,1.4s
EGMT **Eagleton** 64.46 335 P P 15 08 13.0 +0.1
baz=142,SNR=52
ORV **Oroville** 64.61 322 eP P 15 08 15.1 +1.0
comp=Z,160nm,0.9s
ORV **Oroville** 64.61 322 eP P 15 08 15.1 +1.0
ORV pmax pmax
comp=Z,160nm,0.9s
PGRA **Graciosa** 64.72 39 eP P 15 08 15.5 +0.7
comp=Z,551nm,1.4s
ADH **Angra Heroismo** 64.97 40 eP P 15 08 16.6 +0.2
comp=Z,619nm,1.3s
O03E **Paynes Creek** 65.25 322 P P 15 08 17.7 -0.6
baz=128,SNR=28
J08A **Circle Bar Ran** 65.28 327 eP P 15 08 18.7 +0.2
comp=Z,46nm,0.7s
LBCM **Butte Creek Ri** 65.31 323 eP P 15 08 18.8 0.0
MOD **Modoc Plateau** 65.36 324 eP P 15 08 19.6 +0.5
comp=Z,117nm,0.8s
PSMA **Santa Maria** 65.39 42 eP P 15 08 19.1 0.0
comp=Z,189nm,0.8s
MSO **Missoula** 65.41 332 eP P 15 08 20.2 +1.0
comp=Z,307nm,1.1s
MSO **Missoula** 65.41 332 P P 15 08 19.4 +0.2
baz=137,SNR=99
PSMN **Pico do Norte,** 65.44 42 eP P 15 08 19.5 0.0
comp=Z,235nm,2.0s
PDA **Ponta Delgada** 65.46 41 eP P 15 08 18.1 -1.4
comp=Z,761nm,1.4s
PSET **Sete Cidades** 65.46 41 eP P 15 08 19.8 +0.1
comp=Z,771nm,1.6s
CMLA **Cha da Macela** 65.56 41 eP P 15 08 18.7 -1.5
comp=Z,482nm,0.7s

CMLA **Cha da Macela** 65.56 41 eP P 15 08 19.4 -0.8
comp=Z,147nm,0.8s
CMLA **Cha da Macela** 65.56 41 iP P 15 08 21.4 +1.2
PCALD **Caldeiras da R** 65.60 41 eP P 15 08 19.6 -0.9
comp=Z,459nm,1.6s
BMO **Blue Mountains** 65.67 328 eP P 15 08 20.9 0.0
comp=Z,42nm,1.0s
BMO **Blue Mountains** 65.67 328 eP P 15 08 20.9 0.0
BMO pmax pmax
comp=Z,42nm,1.0s
O02D **Mt. Diablo Mer** 65.78 322 P P 15 08 21.3 -0.4
baz=127,SNR=9.7
BART **Pico Bartolome** 65.80 42 eP P 15 08 21.9 0.0
comp=Z,951nm,1.4s
WDC **Whiskeytown Da** 65.87 322 eP P 15 08 21.0 -1.2
comp=Z,42nm,0.6s
WDC **Whiskeytown Da** 65.87 322 eP P 15 08 21.0 -1.2
WDC pmax pmax
comp=Z,42nm,0.6s
M04C **Macdoel** 66.18 323 P P 15 08 24.5 +0.2
baz=128,SNR=57
N02D **Trinity Center** 66.20 322 P P 15 08 23.5 -0.9
baz=127,SNR=15
K05A **Summer Lake** 66.22 325 eP P 15 08 25.7 +1.0
comp=Z,1µm,1.9s
JTMT **Jette** 66.24 332 eP P 15 08 25.4 +0.9
comp=Z,109nm,0.9s
I07A **Izee** 66.32 327 eP P 15 08 25.8 +0.6
comp=Z,126nm,0.8s
KMRM **Mail Ridge** 66.37 321 eP P 15 08 25.4 -0.1
comp=Z,108nm,0.9s
F10A **Beach Ranch, E** 66.40 329 eP P 15 08 26.0 +0.4
comp=Z,208nm,1.3s
M02C **Callahan** 66.55 323 P P 15 08 26.1 -0.5
baz=127,SNR=16
BSMT **Bassoo Peak** 66.55 332 eP P 15 08 27.1 +0.5
K04D **Chiloquin, OR** 66.65 324 P P 15 08 27.7 +0.5
baz=128,SNR=24
YBH **Yreka Blue Hor** 66.67 323 P P 15 08 26.2 -1.1
comp=Z,52nm,0.8s,baz=120,slow=4.7,SNR=106
YBH PKP2bc 15 37 01.6
comp=Z,1.5nm,0.6s,baz=1.9,slow=1.9,SNR=4.5
YBH **Yreka Blue Hor** 66.67 323 eP P 15 08 26.3 -1.1
comp=Z,54nm,0.8s
YBH ⇑e 15 37 01.6
YBH **Yreka Blue Hor** 66.67 323 eP P 15 08 26.3 -1.1
YBH pmax pmax
comp=Z,54nm,0.8s
L04D **Klamath Falls** 66.72 324 P P 15 08 27.6 -0.1
baz=128,SNR=54
KHMM **Horse Mountain** 66.77 322 eP P 15 08 28.9 +0.8
comp=Z,141nm,0.8s
J05D **Fort Rock, OR** 66.77 325 P P 15 08 28.4 +0.3
baz=129,SNR=50
G08A **Pilot Rock** 66.83 328 eP P 15 08 28.5 +0.2
comp=Z,56nm,0.9s
JCC **Jacoby Creek,** 66.92 322 eP P 15 08 30.1 +1.3
comp=Z,146nm,1.0s
PINE **Pine Mountain** 66.93 326 eP P 15 08 29.8 +0.7
comp=Z,154nm,0.8s
E09A **Wood Farm, Sta** 67.23 329 eP P 15 08 30.8 0.0
comp=Z,60nm,0.9s
J04D **Umpqua Nationa** 67.24 325 P P 15 08 31.4 +0.4
baz=128,SNR=37
KRMB **Red Mountain** 67.26 322 eP P 15 08 32.0 +0.8
comp=Z,113nm,0.9s
FFC **Flin Flon** 67.33 343 eP P 15 08 31.0 -0.1
comp=Z,135nm,0.9s
FFC **Flin Flon** 67.33 343 iP P 15 08 30.7 -0.4
HUMO **Hull Mountain** 67.34 324 eP P 15 08 30.8 -0.7
comp=Z,24nm,0.6s
L02E **Cave Junction** 67.45 323 P P 15 08 32.5 +0.3
baz=127,SNR=18
I05D **Terrebonne, OR** 67.50 326 P P 15 08 32.9 +0.5
baz=129,SNR=53
I04A **Tendick Farm,** 67.75 325 P P 15 08 33.8 -0.3
baz=128,SNR=24
K02D **Willamette Mer** 67.81 323 P P 15 08 35.1 +0.6
baz=127,SNR=36
KBO **Bosley Butte** 67.86 323 eP P 15 08 36.0 +1.1
comp=Z,935nm,2.0s
HAWA **Hanford** 67.86 328 eP P 15 08 34.6 -0.1
comp=Z,290nm,1.8s
NEW **Newport** 67.94 331 P P 15 08 34.9 -0.3
comp=Z,47nm,0.9s,baz=136,slow=6.8,SNR=66
NEW PKP2bc 15 36 57.0
comp=Z,2.7nm,0.8s,baz=4.7,slow=2.0,SNR=4.8
NEW **Newport** 67.94 331 eP P 15 08 34.8 -0.3
comp=Z,71nm,0.9s
NEW ⇑e 15 36 57.0
NEW **Newport** 67.94 331 P P 15 08 35.2 0.0
baz=134,SNR=40
G05D **Wamic, OR** 68.06 327 P P 15 08 37.0 +1.0
baz=130,SNR=30
H04A **Detroit Lake** 68.18 326 eP P 15 08 36.9 +0.1
comp=Z,106nm,0.8s
I03D **Drain, OR** 68.23 324 P P 15 08 37.1 +0.1
baz=128,SNR=16
J01E **Myrtle Point** 68.25 324 P P 15 08 38.0 +0.9
baz=127,SNR=8.2
KEBM **Edson Butte** 68.31 323 eP P 15 08 38.6 +1.0
comp=Z,200nm,1.0s
H04D **Lebanon** 68.39 325 P P 15 08 37.7 -0.3
baz=128,SNR=11
F05D **White Salmon** 68.55 327 P P 15 08 39.8 +0.8
baz=130,SNR=14
COR **Corvallis** 68.75 325 eP P 15 08 41.5 +1.3
comp=Z,216nm,0.9s
COR **Corvallis** 68.75 325 eP P 15 08 41.5 +1.3
COR pmax pmax
comp=Z,216nm,0.9s
I02D **Swisshome** 68.77 324 P P 15 08 41.6 +1.3
baz=127
PMOZ **Porto Moniz, M** 68.97 50⇓iP P 15 08 42.6 +0.6
comp=Z,765nm,1.0s
PMOZ eS S 15 17 40.3 +3.7
PMOZ **Porto Moniz, M** 68.97 50 P P 15 08 42.8 +0.9
LTY **Liberty** 69.02 329 eP P 15 08 42.3 +0.3
comp=Z,328nm,1.9s
B08A **Colville Reser** 69.08 330 eP P 15 08 42.5 +0.2
comp=Z,71nm,0.9s
G03D **McMinnville, O** 69.11 326 P P 15 08 43.5 +1.0
baz=128
FUL **Funchal** 69.12 50 eP P 15 08 43.6 +0.9
comp=Z,324nm,2.3s
PMAR **Madeira** 69.14 50⇓iP P 15 08 43.3 +0.2
comp=Z,462nm,1.1s
PMAR iP pP **pP** 15 09 14.7 0.0
FCC **Fort Churchill** 69.20 350 eP P 15 08 42.4 -0.2
comp=Z,594nm,1.2s
FCC **Fort Churchill** 69.20 350 eP P 15 08 42.4 -0.2
FCC pmax pmax
comp=Z,594nm,1.2s
LON **Longmire** 69.29 328 eP P 15 08 43.3 -0.3
comp=Z,48nm,0.9s
LON **Longmire** 69.29 328 eP P 15 08 43.3 -0.3
LON pmax pmax
comp=Z,48nm,0.9s
F04D **Rainier, OR** 69.51 327 P P 15 08 45.8 +1.0
baz=128,SNR=8.1
E04D **Cinebar** 69.57 327 P P 15 08 45.1 -0.1
baz=129,SNR=15
C06D **Leavenworth** 69.57 329 P P 15 08 45.6 +0.3
baz=131
D05A **Enumclaw** 69.66 328 eP P 15 08 46.0 +0.2
comp=Z,230nm,0.9s
PMPS **Porto Santo** 69.72 50⇓iP P 15 08 47.0 +0.6
comp=Z,750nm,1.5s
PMPS iP pP **pP** 15 09 17.7 -0.4
D04E **Lakebay** 70.07 328 P P 15 08 49.0 +0.7
baz=129,SNR=13
E03A **Lebam** 70.10 327 eP P 15 08 49.3 +0.9
comp=Z,182nm,1.1s
B06A **Marblemount** 70.26 329 eP P 15 08 49.2 -0.2
comp=Z,136nm,0.8s
B05A **Bryant** 70.41 329 P P 15 08 50.0 -0.3
baz=130,SNR=34
D03D **Eldon** 70.46 328 P P 15 08 51.1 +0.5
baz=129,SNR=32
HDW **Hoodsport** 70.51 328 eP P 15 08 51.6 +0.5
VAH **Vaihoa** 70.94 257 eP P 15 08 55.1 +0.9
comp=Z,87nm,0.9s
VAH epP **pP** 15 09 24.7 -1.3
comp=Z,170nm,1.2s
A04D **Lummi Island** 71.01 329 P P 15 08 54.3 +0.4
baz=130,SNR=8.8
PMOR **Pomariorio Ree** 71.22 257 eP P 15 08 57.1 +1.2
comp=Z,141nm,0.9s

PMOR ePP pP 15 09 26.5 -1.1
comp=Z,300nm,1.3s
PGC Sidney 71.35 328 eP P 15 08 56.7 +0.7
LIC Lamto 71.44 80 eP P 15 08 55.6 -1.7
TIC Toumodi 71.53 80 eP P 15 08 56.6 -1.2
DBIC Dimbokro 71.69 80 P P 15 08 59.2 +0.5
comp=Z,238nm,0.6s,baz=240,slow=4.9,SNR=365
DBIC S S 15 18 07.3 -1.4
comp=Z,8.5nm,0.9s,baz=53,slow=18,SNR=15
KIC Kosan Boka 71.74 80 eP P 15 08 57.1 -2.0
comp=Z,911nm,0.9s
TBI Tubuai 72.22 248 eS S 15 18 14.0 -0.5
comp=Z,2µm,27.8s
TBI eLQ LQ 15 27 55.3
comp=Z,2µm,31.5s
TBI eLR LR 15 31 19.4
comp=Z,4µm,31.5s
PAE Paea 72.64 254 eP P 15 09 05.5 +1.2
comp=Z,9.7nm,0.8s
PAE epP pP 15 09 34.9 -1.3
comp=Z,22nm,1.2s
PPT2 Papeete2 72.64 254 eS S 15 18 17.7 -1.9
comp=Z,3µm,27.0s
PPT2 Papeete2 72.64 254 eLR LR 15 31 30.0
comp=Z,7µm,27.8s
PPT Papeete 72.64 254 P P 15 09 05.9 +1.5
comp=Z,35nm,0.8s,baz=238,slow=23,SNR=4.0
PPT LR LR 15 33 56.4
comp=Z,856nm,19.8s,baz=94,slow=30
IVI Ivigtut 73.05 13 eP P 15 09 06.1 +0.3
comp=Z,552nm,1.1s
NRS Narsarsuaq 73.66 14⇓iP P 15 09 09.4 0.0
comp=Z,256nm,1.0s
NRS Narsarsuaq 73.66 14⇓iP P 15 09 09.4 0.0
NRS pmax pmax
comp=Z,260nm,1.0s
VNA3 Neumayer Olymp 73.80 162 P P 15 09 11.3 +1.1
CGR Cap Guir 73.81 55 P P 15 09 13.0 +2.0
VNA1 Neumayer--Stat 74.03 161 P P 15 09 13.2 +1.7
VNA2 Neumayer--Watz 74.39 162 P P 15 09 15.0 +1.4
baz=295,slow=6.5
TTIG Tnine Tigouga, 74.94 55 P P 15 09 19.2 +1.5
OUK Oukaimeden 75.63 55 P P 15 09 24.0 +2.1
BBB Bella Bella 75.86 330 eP P 15 09 23.2 +0.9
comp=Z,141nm,1.0s
SNAA Sanae 76.01 162 P P 15 09 24.1 +1.1
SNAA Sanae 76.01 162 eP P 15 09 24.5 +1.5
comp=Z,266nm,0.8s
SNAA Sanae 76.01 162 dⅈP P 15 09 23.9 +0.9
AVE Averroes 76.70 53 P P 15 09 29.6 +2.1
AVE Averroes 76.70 53⇓iP P 15 09 28.2 +0.7
PFVI Vila Bisbo 76.99 49⇓iP P 15 09 30.8 +1.7
comp=Z,567nm,1.3s
PFVI iⅈpP pP 15 10 02.3 +1.1
PFVI eS S 15 19 09.3 +2.2
PFVI Vila Bisbo 76.99 49 P P 15 09 30.7 +1.7
MORF Marmelete 77.19 49 eP P 15 09 29.7 -0.5
MORF AMb AMB 15 09 35.3
comp=Z,714nm,2.2s
MORF eS S 15 19 09.9 +0.5
MORF Marmelete 77.19 49⇓iP P 15 09 32.0 +1.8
comp=Z,747nm,1.8s
MORF iⅈpP pP 15 10 03.5 +1.1
MORF Marmelete 77.19 49 eP P 15 09 29.7 -0.5
MORF eS S 15 19 09.8 +0.5
PTEO Sao Teotonio 77.22 48⇓iP P 15 09 32.0 +1.7
comp=Z,626nm,1.7s
PTEO iⅈpP pP 15 10 03.3 +0.8
PMST Lisbon--Monsan 77.33 47⇓iP P 15 09 32.3 +1.4
comp=Z,412nm,2.4s
PMST iⅈpP pP 15 10 02.0 -1.1
PMAFR Mafra 77.34 47⇓iP P 15 09 32.0 +1.0
comp=Z,383nm,2.3s
PMAFR iⅈpP pP 15 10 02.3 -0.9
PMAFR eS S 15 19 11.5 +0.6
LIS Lisbon 77.35 47 eP P 15 09 30.5 -0.5
LIS AMb AMB 15 09 33.2
comp=Z,273nm,1.8s
LIS Lisbon 77.35 47 eP P 15 09 30.4 -0.5
RTC Rabat Centre 77.38 52 P P 15 09 33.2 +2.0
YKA Yellowknife Ar 77.45 342 P P 15 09 30.4 -0.6
comp=Z,70nm,0.8s,baz=136,slow=6.0,SNR=129
YKA pP pP 15 10 03.1 -0.2
comp=Z,30nm,0.7s,baz=139,slow=5.6,SNR=5.3
YKA PKiKP PKiKP 15 15 09.5 -0.6
comp=Z,2.2nm,0.6s,baz=149,slow=1.6,SNR=5.4
YKA Yellowknife Ar 77.45 342 P P 15 09 30.4 -0.6
YKA pmax pmax
comp=Z,97nm,0.9s
YKW3 Yellowknife Ar 77.51 342 eP P 15 09 30.7 -0.6
comp=Z,213nm,1.1s
PBDV Barranco-do-Ve 77.70 49⇓iP P 15 09 34.8 +1.8
comp=Z,366nm,1.4s
PBDV iⅈpP pP 15 10 05.7 +0.5
PBDV eS S 15 19 17.3 +2.5
MESJ Messejana 77.70 48 eP P 15 09 32.6 -0.4
MESJ AMb AMB 15 09 36.9
comp=Z,165nm,2.2s
MESJ eS S 15 19 15.4 +0.7
MESJ Messejana 77.70 48⇓iP P 15 09 34.2 +1.2
comp=Z,170nm,2.1s
MESJ iⅈpP pP 15 10 05.7 +0.5
MESJ Messejana 77.70 48 eP P 15 09 32.5 -0.4
MESJ eS S 15 19 15.4 +0.7
SFJD Kangerlussuaq 77.79 10 P P 15 09 31.9 -0.8
comp=Z,110nm,0.9s,baz=197,slow=8.0,SNR=8.4
SFJD pP pP 15 10 04.3 -0.8
comp=Z,49nm,0.8s,baz=217,slow=4.7,SNR=2.6
SFJD Kangerlussuaq 77.79 10 P P 15 09 29.0 -3.7
comp=Z,234nm,1.1s
SFJD pP pP 15 10 04.3 -0.8
SFJD Kangerlussuaq 77.79 10⇓iP P 15 09 32.3 -0.5
comp=Z,275nm,1.2s
SFJD Kangerlussuaq 77.79 10⇓iP P 15 09 32.3 -0.5
SFJD pmax pmax
comp=Z,280nm,1.2s
PVAQ Vaqueiros 77.91 49⇓iP P 15 09 35.8 +1.6
comp=Z,270nm,1.8s
PVAQ iⅈpP pP 15 10 06.4 0.0
PVAQ eS S 15 19 18.2 +1.2
PVAQ Vaqueiros 77.91 49 P P 15 09 35.9 +1.8
ALMR Almeirim 77.93 47 eP P 15 09 33.7 -0.5
ALMR AMb AMB 15 09 37.9
comp=Z,319nm,1.3s
ALMR Almeirim 77.93 47⇓iP P 15 09 36.9 +2.7
comp=Z,411nm,2.0s
ALMR iⅈpP pP 15 10 07.3 +0.8
ALMR Almeirim 77.93 47 eP P 15 09 33.6 -0.5
PBEJ Beja 78.03 48⇓iP P 15 09 37.1 +2.3
comp=Z,214nm,2.2s
PBEJ iⅈpP pP 15 10 03.3 -3.8
EVO Evora 78.11 48⇓iP P 15 09 38.4 +3.2
comp=Z,207nm,1.1s
EVO iⅈpP pP 15 10 07.7 +0.2
EVO Evora 78.11 48 eP P 15 09 37.9 +2.7
PTOM Tomar 78.22 46⇓iP P 15 09 36.5 +0.7
comp=Z,296nm,1.7s
PTOM iⅈpP pP 15 10 08.4 +0.3
PCAS Casmilo, Conde 78.32 46⇓iP P 15 09 37.3 +0.9
comp=Z,271nm,1.8s
PCAS iⅈpP pP 15 10 07.7 -1.0
RSA Sarsar 78.47 52 P P 15 09 40.0 +2.6
PESTR Estremoz 78.54 47⇓iP P 15 09 38.7 +1.1
comp=Z,426nm,2.3s
PESTR iⅈpP pP 15 10 09.7 -0.2
PESTR Estremoz 78.54 47 eP P 15 09 38.6 +1.1
comp=Z,192nm,1.2s
PESTR Estremoz 78.54 47 P P 15 09 39.3 +1.7
IFR Ifrane 78.58 53⇓iP P 15 09 38.6 +0.5
PTO Porto 78.66 45 eP P 15 09 39.0 +0.8
comp=Z,347nm,2.1s
SFS San Fernando 78.72 50 eP P 15 09 39.4 +0.8
SFS eS S 15 19 30.1 +4.4
MDT Midelt 78.77 54 P P 15 09 40.6 +1.5
comp=Z,123nm,0.9s,baz=268,slow=5.1,SNR=132
MDT LR LR 15 40 59.3
comp=Z,835nm,21.7s,baz=286,slow=33
CNIL Conil 78.80 50 eP P 15 09 42.0 +3.0
PMRV Marv??o 78.88 47⇓iP P 15 09 39.9 +0.4
comp=Z,160nm,1.7s
PMRV iⅈpP pP 15 10 10.8 -1.0
PMRV eS S 15 19 36.3 +8.9
PCBR Castelo Branco 78.97 46⇓iP P 15 09 40.4 +0.5
comp=Z,227nm,2.2s
PCBR iⅈpP pP 15 10 11.4 -0.8

PVIS Viseu 79.00 46⇓iP P 15 09 40.4 +0.3
comp=Z,277nm,1.4s
PVIS iⅈpP pP 15 10 11.7 -0.8
GIBL Gibalbin 79.02 50 eP P 15 09 42.5 +2.2
MTE Manteigas 79.13 46⇓iP P 15 09 41.3 +0.5
comp=Z,229nm,2.6s
MTE iⅈpP pP 15 10 12.4 -0.8
MTE eS SKSac 15 19 49.4 +4.3
MTE Manteigas 79.13 46 eP P 15 09 41.4 +0.5
comp=Z,156nm,1.1s
ALJ Aljibe 79.16 50 eP P 15 09 44.0 +2.9
CEU Ceuta 79.16 51⇓iP P 15 09 41.7 +0.7
CEUT Ceuta 79.19 51 P P 15 09 43.4 +2.2
PGAV Gavieira, Arco 79.21 44 eP P 15 09 41.9 +0.6
comp=Z,229nm,1.6s
PGAV eS S 15 19 37.7 +6.8
PCAB Cabril 79.28 45⇓iP P 15 09 41.9 +0.3
comp=Z,240nm,1.2s
PCAB iⅈpP pP 15 10 13.4 -0.6
POLO Lamas de Olo 79.31 45⇓iP P 15 09 42.5 +0.6
comp=Z,105nm,2.6s
POLO iⅈpP pP 15 10 12.1 -2.1
TOA0 Torodi Ar. Sit 79.33 75 eP P 15 09 43.1 +0.7
TOA0 Torodi Ar. Sit 79.33 75 P P 15 09 42.7 +0.4
SNR=108
TORD Torodi Ar. Bea 79.33 75 P P 15 09 41.3 -1.1
comp=Z,372nm,0.9s,baz=18,slow=0.5,SNR=327
TORD S S 15 19 30.5 -2.4
comp=Z,8.2nm,1.1s,baz=271,slow=4.0,SNR=8.9
TORD PKKPbc PKKPbc 15 28 32.2 +0.7
comp=Z,1.5nm,0.9s,baz=20,slow=2.6,SNR=5.1
TORD PKPPKP P'P'df 15 36 29.3 -7.3
comp=Z,1.3nm,0.9s,baz=96,slow=2.7,SNR=4.4
TORD LR LR 15 43 54.7
comp=Z,1µm,20.4s,baz=280,slow=35
LIJA Lijar 79.47 50 eP P 15 09 44.5 +1.7
ILULI Ilulissat 79.74 8⇓iP P 15 09 43.0 -0.4
comp=Z,446nm,1.2s
ILULI ⅈ 15 10 15.2
ILULI Ilulissat 79.74 8⇓iP P 15 09 43.0 -0.4
ILULI pmax pmax
comp=Z,450nm,1.2s
PVLZ Peæn de 79.75 52⇓iP P 15 09 44.0 -0.2
MVO Moncorvo 79.77 45⇓iP P 15 09 45.1 +0.8
comp=Z,228nm,2.1s
MVO iⅈpP pP 15 10 15.4 -1.3
MVO eS S 15 19 44.7 +7.9
HORN Hornachuelos 79.90 49 P P 15 09 46.9 +1.9
MPAL Palemas 80.05 52 P P 15 09 48.0 +2.1
EMAL Malaga-Limoner 80.17 50⇓iP P 15 09 47.9 +1.5
EMAL eS S 15 19 43.7 +2.8
PBRG Braganca 80.21 45⇓iP P 15 09 47.3 +0.7
comp=Z,217nm,2.0s
PBRG iⅈpP pP 15 10 17.1 -1.9
WRAK Wrangell Islan 80.29 332 eP P 15 09 46.8 +0.2
comp=Z,76nm,0.8s
DLBC Dease Lake 80.37 334 PKKPbc PKKPbc 15 28 30.1 -1.6
comp=Z,3.8nm,0.8s,baz=290,slow=3.0,SNR=6.2
DLBC Dease Lake 80.37 334 eP P 15 09 47.9 +0.8
comp=Z,181nm,1.3s
DLBC PKKPbc PKKPbc 15 28 30.1 -1.6
NVL N'lazarevskaya 80.61 160⇓iP P 15 09 47.4 -0.8
NVL e 15 12 52.1
NVL iS S 15 19 41.1 -3.3
NVL e 15 20 31.0
NVL e 15 28 24.9
NVL pmax pmax
comp=Z,292nm,0.7s
MELI Melilla 80.86 52⇓iP P 15 09 50.7 +0.6
PAB San Pablo 81.13 48 eP P 15 09 53.4 +1.7
comp=Z,218nm,1.0s
PAB San Pablo 81.13 48 eP P 15 09 53.4 +1.7
PAB pmax pmax
comp=Z,218nm,1.0s
QSPA South Pole Qui 81.18 180 P P 15 09 52.8 +1.3
comp=Z,200nm,0.7s,baz=151,slow=2.1,SNR=460
QSPA S S 15 19 52.3 +1.6
comp=Z,1.8nm,1.0s,baz=110,slow=17,SNR=3.4
QSPA PKKPbc PKKPbc 15 28 24.8 -5.1
comp=Z,4.6nm,0.6s,baz=300,slow=2.9,SNR=13
QSPA South Pole Qui 81.18 180 eP P 15 09 53.2 +1.8
comp=Z,260nm,0.9s
QSPA S S 15 19 52.3 +1.6
QSPA PKKPbc PKKPbc 15 28 24.8 -5.1
ESDC Sonseca Array 81.46 48 P P 15 09 54.6 +1.2
comp=Z,101nm,0.9s,baz=258,slow=5.4,SNR=276
ESDC pP pP 15 10 26.3 +0.4
comp=Z,16nm,0.7s,baz=252,slow=6.1,SNR=2.7
ESDC LR LR 15 43 36.7
comp=Z,531nm,18.4s,baz=240,slow=34
ESLA Sonseca Array 81.46 48 eP P 15 09 54.7 +1.4
comp=Z,210nm,1.1s
ES19 SONSECA Array 81.51 48 eP P 15 09 55.1 +1.5
RAR Rarotonga 81.90 250 P P 15 09 57.1 +1.1
comp=Z,29nm,0.9s,baz=134,slow=7.0,SNR=4.9
SESP Santiago Espad 82.02 49 P P 15 09 58.1 +1.6
VAL Valentia 82.02 34⇓iP P 15 09 58.1 +2.2
VAL Valentia 82.02 34⇓iS S 15 19 59.1 -0.3
UCM Universidad Co 82.18 47 eP P 15 09 57.9 +0.8
UCM eS S 15 20 03.3 +1.5
JIS Juneau Island 82.21 333 eP P 15 09 57.6 +0.9
comp=Z,257nm,1.2s
BESE Bessie Mountai 82.58 333 eP P 15 09 59.8 +1.0
comp=Z,261nm,1.0s
CART Cartagena 83.02 50 eP P 15 10 00.8 -0.6
SKAG Skagway 83.24 333 eP P 15 10 02.5 +0.5
comp=Z,225nm,1.4s
BORG Borgarnes 83.62 20 P P 15 10 05.3 +1.4
comp=Z,391nm,0.9s,baz=244,slow=3.9,SNR=43
BORG pP pP 15 10 37.2 +0.7
comp=Z,80nm,0.8s,baz=213,slow=4.4,SNR=2.3
BORG Borgarnes 83.62 20 P P 15 09 59.5 -4.3
comp=Z,1µm,1.1s
BORG P P 15 10 05.3 +1.4
BORG pP pP 15 10 37.2 +0.7
WHY Whitehorse 83.66 335 eP P 15 10 04.5 +0.1
comp=Z,93nm,1.0s
HMH Humu'ula Sheep 84.03 291 eP P 15 10 08.2 +0.8
comp=Z,266nm,1.0s
KULLO Kullorsuaq 84.09 5⇓iP P 15 10 05.9 -0.2
comp=Z,84nm,0.8s
KULLO ⅈ 15 10 36.0
KULLO Kullorsuaq 84.09 5⇓iP P 15 10 05.9 -0.2
KULLO ⅈ 15 10 36.0
KULLO pmax pmax
comp=Z,84nm,0.8s
POHA Pohakuloa 84.11 291 eP P 15 10 08.1 +0.5
comp=Z,193nm,1.1s
EANR `Ain N'Sour 84.19 52 P P 15 10 09.4 +1.9
ETRT Tiaret 84.20 53 P P 15 10 10.0 +2.3
CCA1 Carnmenellis 84.23 37⇓eP P 15 10 08.2 +0.9
CCA1 IAmb IAmb 15 10 09.2
comp=Z,659nm,1.1s
RES Resolute Bay 84.36 355 PKKPbc PKKPbc 15 28 20.2 -2.5
comp=Z,9.6nm,0.7s,baz=356,slow=2.6,SNR=16
RES Resolute Bay 84.36 355 eP P 15 10 07.6 +0.2
comp=Z,113nm,1.1s
RES PKKPbc PKKPbc 15 28 20.2 -2.5
RES Resolute Bay 84.36 355 eP P 15 10 07.6 +0.2
RES pmax pmax
comp=Z,113nm,1.1s
KHLU Kahalu'u 84.41 291 eP P 15 10 09.9 +0.8
comp=Z,438nm,0.8s
ECHA Ech Chlef 84.45 52 P P 15 10 11.0 +2.3
SJPF Ste Jean 84.49 45 eP P 15 10 09.6 +0.8
SJPF pmax pmax
comp=Z,529nm,1.0s
EBNR Beni Rached 84.62 52 P P 15 10 12.0 +2.3
DSB Dublin 84.71 34 eP P 15 10 10.3 +0.6
comp=Z,216nm,1.0s
QUIF Quistinic 84.72 40 eP P 15 10 09.7 -0.1
QUIF pmax pmax
comp=Z,429nm,1.4s
SUMG Summit 84.74 10 eP P 15 10 10.8 +0.8
comp=Z,681nm,1.0s
SUMG Summit 84.74 10⇓iP P 15 10 10.5 +0.6
comp=Z,2µm,1.1s
SUMG ⅈ 15 10 42.9
SUMG Summit 84.74 10⇓iP P 15 10 10.5 +0.6
SUMG ⅈ 15 10 42.9
SUMG pmax pmax
comp=Z,2µm,1.1s
ROSF Rostrenen 84.79 40 eP P 15 10 10.1 -0.1
ROSF pmax pmax
comp=Z,416nm,1.2s

HYT Haines Junctio 84.86 334 eP P 15 10 11.5 +1.1
comp=Z,112nm,1.0s
TAM Tamanrasset 84.88 66 eP P 15 10 13.0 +1.6
comp=Z,325nm,0.9s
TAM Tamanrasset 84.88 66 eP P 15 10 13.0 +1.6
TAM pmax pmax
comp=Z,325nm,0.9s
ETSF Etsaut 84.89 45 eP P 15 10 11.7 +0.8
ETSF pmax pmax
comp=Z,220nm,1.2s
HTL Hartland 84.97 37⇓eP P 15 10 11.6 +0.6
HTL IAmb IAmb 15 10 12.2
comp=Z,234nm,1.1s
RSBS Rosebush, Pemb 85.16 36 eP P 15 10 11.8 -0.1
RSBS IAmb IAmb 15 10 12.7
comp=Z,141nm,1.1s
SGMF Saint Gilles 85.22 40 eP P 15 10 12.1 -0.2
SGMF pmax pmax
comp=Z,355nm,1.3s
HEX Exmoor 85.39 37 eP P 15 10 13.3 +0.2
TULEG Thule 85.41 1 eP P 15 10 13.1 +0.4
comp=Z,432nm,1.1s
CLGH Cloghs, Cushen 85.55 33⇓eP P 15 10 14.4 +0.6
CLGH IAmb IAmb 15 10 15.5
comp=Z,254nm,1.2s
EMHD Djebel Mahouad 85.71 53 P P 15 10 16.0 +0.8
YRC Rhoscolyn 85.72 35⇓eP P 15 10 14.9 +0.3
JSA Saint Aubin 85.76 39⇓eP P 15 10 15.1 +0.2
JSA IAmb IAmb 15 10 16.0
comp=Z,252nm,1.1s
YLL Llanberis 85.91 35⇓eP P 15 10 15.8 +0.2
ABA Alger-Bouzarea 85.92 52 P P 15 10 20.0 +3.9
WME Myndd Eilian 85.92 35⇓eP P 15 10 15.7 +0.1
WIM Isle of Man 85.98 34⇓eP P 15 10 16.4 +0.5
IOMK Kirk Michael 86.08 34⇓eP P 15 10 16.9 +0.5
IOMK IAmb IAmb 15 10 18.3
comp=Z,556nm,1.4s
LLW Llanuwychllyn 86.09 35 eP P 15 10 16.3 -0.2
WPM1 Penmaenmawr 86.10 35⇓eP P 15 10 16.5 0.0
MCH1 Michaelchurch 86.18 36 eP P 15 10 17.2 +0.2
MCH1 IAmb IAmb 15 10 18.4
comp=Z,536nm,1.9s
MFF Saint Martin d 86.26 42 eP P 15 10 16.8 -0.7
MFF pmax pmax
comp=Z,456nm,1.4s
GRR Gorron 86.33 40 eP P 15 10 17.4 -0.4
GRR pmax pmax
comp=Z,343nm,1.2s
RRH Rhenigidale 86.35 30⇓eP P 15 10 17.9 +0.2
LAWE Loch Âwe, Argy 86.37 32 eP P 15 10 18.0 +0.2
LAWE IAmb IAmb 15 10 18.7
comp=Z,314nm,1.2s
LFF La Frestale 86.38 44 eP P 15 10 18.0 -0.1
LFF pmax pmax
comp=Z,113nm,0.6s
HLM1 Long Mynd 86.43 36 eP P 15 10 18.1 0.0
HLM1 IAmb IAmb 15 10 19.6
comp=Z,239nm,1.8s
STRD Stroud 86.60 37⇓eP P 15 10 18.7 -0.3
KPL Plockton 86.65 31⇓eP P 15 10 19.2 +0.1
KPL IAmb IAmb 15 10 20.6
comp=Z,403nm,1.0s
FLN La Foliniere 86.69 40 eP P 15 10 19.2 -0.3
FLN pmax pmax
comp=Z,344nm,1.2s
PGBU Glenifferbraes 86.69 32 eP P 15 10 19.4 +0.1
RRR Rubha Reidh 86.77 30⇓eP P 15 10 19.9 +0.2
LDF La Druitiere 86.86 40 eP P 15 10 20.0 -0.4
LDF pmax pmax
comp=Z,300nm,1.2s
KAC Achnashellach 86.88 30⇓eP P 15 10 20.6 +0.3
EAB Aberfoyle 86.89 32⇓eP P 15 10 20.3 -0.1
SCO Scoresbysund 86.91 16 eP P 15 10 21.1 +1.0
comp=Z,103nm,0.8s
SCO Scoresbysund 86.91 16⇓iP P 15 10 20.9 +0.8
comp=Z,118nm,0.9s
SCO Scoresbysund 86.91 16 eP P 15 10 21.1 +1.0
SCO pmax pmax
comp=Z,103nm,0.8s
KESW Keswick, Cumbr 87.00 34⇓eP P 15 10 21.4 +0.5
KESW IAmb IAmb 15 10 22.6
comp=Z,344nm,1.1s
RJF Les Rejaudoux 87.01 43 eP P 15 10 20.7 -0.5
SBA Scott Base 87.02 191 eP P 15 10 22.0 +1.4
comp=Z,114nm,1.4s
BALM Baldy 87.07 333 eP P 15 10 21.8 +0.6
comp=Z,153nm,0.9s
BHH Howats Hill 87.11 33⇓eP P 15 10 21.3 -0.1
INVG Invergeldie, C 87.13 32⇓eP P 15 10 21.9 +0.4
INVG IAmb IAmb 15 10 23.0
comp=Z,1µm,2.2s
DAWY Dawson 87.15 337 eP P 15 10 21.5 0.0
comp=Z,229nm,1.3s
INK Inuvik 87.19 342 PKKPbc PKKPbc 15 28 13.3 -2.5
comp=Z,1.9nm,0.6s,baz=310,slow=3.4,SNR=6.8
INK Inuvik 87.19 342 eP P 15 10 21.6 +0.2
comp=Z,350nm,1.1s
INK PKKPbc PKKPbc 15 28 13.3 -2.5
INK Inuvik 87.19 342 eP P 15 10 21.7 +0.2
INK pmax pmax
comp=Z,351nm,1.1s
ESK Eskdalemuir 87.19 33 eP P 15 10 22.4 +0.6
comp=Z,193nm,1.1s
ESK Eskdalemuir 87.19 33 eP P 15 10 21.6 -0.2
ESK Eskdalemuir 87.19 33 iP P 15 10 22.5 +0.7
EKA Eskdalemuir Ar 87.22 33 P P 15 10 22.1 +0.2
comp=Z,88nm,0.9s,baz=240,slow=5.1,SNR=102
EKA PKKPbc PKKPbc 15 28 13.9 -1.3
comp=Z,2.2nm,0.5s,baz=47,slow=2.3,SNR=16
EPYK Eagle Plains 87.25 339 P P 15 10 21.4 -0.5
baz=120,SNR=76
RSC Scourie 87.26 30⇓eP P 15 10 22.6 +0.5
CAF Calviac 87.28 44 eP P 15 10 20.6 -2.0
CAF pmax pmax
comp=Z,108nm,0.6s
MDO Dochfour 87.33 31⇓eP P 15 10 22.8 +0.4
LBWR Ladybower, Pea 87.38 35 eP P 15 10 23.1 +0.4
LBWR IAmb IAmb 15 10 24.5
comp=Z,228nm,1.3s
CWF Charnwood Fore 87.41 36 eP P 15 10 22.8 -0.1
CWF IAmb IAmb 15 10 24.5
comp=Z,869nm,2.4s
EDI Edinburgh 87.41 32 eP P 15 10 22.8 0.0
EDI IAmb IAmb 15 10 24.4
comp=Z,508nm,1.6s
MAHO Mahon 87.60 49 eP P 15 10 24.2 +0.1
HPK Haverah Park 87.61 35⇓eP P 15 10 24.2 +0.3
HPK IAmb IAmb 15 10 25.5
comp=Z,618nm,1.7s
SET Setif 87.63 53 P P 15 10 26.0 +1.5
CKHR Kef el Ahmar 87.68 53 P P 15 10 26.0 +1.2
EDMD Edmundbyers 87.70 34⇓eP P 15 10 24.7 +0.4
EDMD IAmb IAmb 15 10 25.9
comp=Z,349nm,1.0s
ESY Stoneypath 87.71 32⇓eP P 15 10 24.3 0.0
EDU Dundee 87.71 32⇓eP P 15 10 25.1 +0.8
TCF Toulx Ste Croi 87.74 43 eP P 15 10 23.9 -0.8
TCF pmax pmax
comp=Z,154nm,0.9s
HMNX Herstmonceux 87.81 38⇓eP P 15 10 25.4 +0.6
HMNX IAmb IAmb 15 10 26.1
comp=Z,261nm,0.8s
BIGH Upper Bighouse 87.93 30⇓eP P 15 10 25.8 +0.6
BIGH IAmb IAmb 15 10 26.6
comp=Z,329nm,0.9s
MCD Coleburn Disti 87.94 31⇓eP P 15 10 25.8 +0.4
BMRM Bremner River 88.06 333 eP P 15 10 26.2 +0.3
comp=Z,316nm,1.3s
DFRA Djebel Bou Aff 88.08 53 P P 15 10 28.4 +1.7
VNDA Vanda 88.09 191 P P 15 10 27.0 +1.2
comp=Z,21nm,0.8s,baz=126,slow=5.0,SNR=126
VNDA pP pP 15 10 58.9 +0.2
comp=Z,16nm,0.9s,baz=105,slow=5.1,SNR=5.9
VNDA PKKP PKKPdf 15 28 09.3 +3.0
comp=Z,1.7nm,0.9s,baz=283,slow=3.6,SNR=6.7
VNDA PKPPKP P'P'df 15 36 13.9 -4.1
comp=Z,1.1nm,0.9s,baz=282,slow=2.7,SNR=6.4
VNDA Vanda 88.09 191 eP P 15 10 27.2 +1.5
comp=Z,53nm,1.0s
VNDA pP pP 15 10 58.9 +0.2
VNDA PKKP PKKPdf 15 28 09.3 +3.0
VNDA P'P' 15 36 13.9
VNDA Vanda 88.09 191 eP P 15 10 27.3 +1.5
VNDA *PP pP 15 10 58.9 +0.2
VNDA pmax pmax

comp=Z,53nm,1.0s
DRUM Mains of Drumt 88.11 32 *e*P **P** 15 10 26.1 0.0
DRUM IAmb IAmb 15 10 27.8
comp=Z,332nm,1.2s
EGAK Eagle 88.15 337 *e*P **P** 15 10 26.3 +0.1
comp=Z,400nm,1.1s
GDLE Glaisdale, N Y 88.21 34 *e*P **P** 15 10 26.9 +0.3
GDLE IAmb IAmb 15 10 28.4
comp=Z,247nm,1.1s
BGF Bois d'Agland 88.23 42 *e*P **P** 15 10 26.4 -0.6
BGF pmax pmax
comp=Z,261nm,0.8s
ELSH Elham, Standar 88.38 38⇓*e*P **P** 15 10 28.0 +0.5
ELSH IAmb IAmb 15 10 29.0
comp=Z,604nm,1.0s
CTEI Djebel Teioual 88.40 53 P **P** 15 10 29.0 +0.8
EYAK Cordova Ski Ar 88.42 332 *e*P **P** 15 10 28.0 +0.5
comp=Z,92nm,1.0s
CASM Ain Smara 88.51 53 P **P** 15 10 29.5 +0.9
WACR West Acre 88.52 36⇓*e*P **P** 15 10 28.2 +0.1
WACR IAmb IAmb 15 10 30.3
comp=Z,353nm,0.9s
WIN Windhoek 88.62 112 P **P** 15 10 30.3 +0.6
WIN pmax pmax
comp=Z,90nm,1.0s
AVF Avril sur Loir 88.63 42 *e*P **P** 15 10 28.0 -0.8
AVF pmax pmax
comp=Z,164nm,1.0s
DIV Divide 88.64 333 *e*P **P** 15 10 28.7 0.0
comp=Z,188nm,0.8s
CKFL Kef-Lekhel 88.72 53 P **P** 15 10 30.8 +1.1
FID Port Fidalgo 88.83 332 *e*P **P** 15 10 29.7 +0.3
comp=Z,126nm,0.9s
HARP HAARP 88.84 334 *e*P **P** 15 10 29.8 +0.3
comp=Z,604nm,1.8s
DOT Dot Lake 88.85 335 *e*P **P** 15 10 29.5 0.0
comp=Z,216nm,0.9s
CAEH 'Ain El Ouahch 88.90 53 P **P** 15 10 31.2 +0.8
SCRK Sand Creek 88.94 336 *e*P **P** 15 10 30.1 0.0
comp=Z,180nm,1.0s
VIVF Saint-Julien-l 89.06 44 *e*P **P** 15 10 31.0 0.0
VIVF pmax pmax
comp=Z,122nm,1.0s
SSB Saint Sauveur 89.07 44 *e*P **P** 15 10 31.5 +0.5
comp=Z,208nm,1.0s
SSB Saint Sauveur 89.07 44 *e*P **P** 15 10 31.5 +0.5
SSB pmax pmax
comp=Z,208nm,1.0s
LOR Lormes 89.08 42 *e*P **P** 15 10 30.1 -0.9
LOR pmax pmax
comp=Z,131nm,0.9s
GLI Glacier Island 89.16 332 *e*P **P** 15 10 30.9 -0.1
comp=Z,199nm,1.0s
RIDG Independ'e Rid 89.20 335 *e*P **P** 15 10 31.3 0.0
comp=Z,339nm,1.1s
ABSA Djebel Ababsia 89.29 53 P **P** 15 10 33.1 +0.8
CMAH Djebel Manchou 89.31 53 P **P** 15 10 33.1 +0.7
SCM Sheep Creek Mo 89.59 333 *e*P **P** 15 10 33.4 +0.3
comp=Z,955nm,1.8s
SCM Sheep Creek Mo 89.59 333 *e*P **P** 15 10 33.4 +0.3
SCM pmax pmax
comp=Z,955nm,1.8s
ORIF Oris-en-Rattie 89.91 45 *e*P **P** 15 10 35.3 +0.3
ORIF pmax pmax
comp=Z,206nm,0.7s
SEW Seward 90.01 331 *e*P **P** 15 10 34.6 -0.4
comp=Z,142nm,1.0s
DHY Denali Highway 90.03 334 *e*P **P** 15 10 35.7 +0.4
SML Sawmill 90.03 333 *e*P **P** 15 10 35.3 +0.2
comp=Z,288nm,0.9s
SML Sawmill 90.03 333 *e*P **P** 15 10 35.3 +0.2
SML pmax pmax
comp=Z,288nm,0.9s
SNF Seneffe 90.14 39 ⇑P **P** 15 10 35.8 +0.1
comp=Z,177nm,1.0s
FRF La Foret Royal 90.16 46 *e*P **P** 15 10 35.8 -0.3
FRF pmax pmax
comp=Z,199nm,1.0s
SUR Sutherland 90.21 123 *e*P **P** 15 10 38.0 +1.1
comp=Z,45nm,0.8s
DOU Dourbes 90.23 39 ⇓P **P** 15 10 36.7 +0.4
comp=Z,214nm,1.0s
DOU ⇑*e*P **pP** 15 11 08.1 -1.2
UCC Uccle 90.25 39 ⇓P **P** 15 10 36.5 +0.2
UCC ⇑*e*P **pP** 15 11 08.9 -0.5
SYO Syowa Base 90.27 161⇑*i*P **P** 15 10 36.4 +0.3
GHO Glory Hole Cre 90.29 333 *e*P **P** 15 10 36.2 -0.1
comp=Z,228nm,1.1s
HDA Harding Lake 90.31 336 *e*P **P** 15 10 36.4 +0.1
comp=Z,180nm,1.2s
HDA Harding Lake 90.31 336 P **P** 15 10 35.9 -0.4
baz=110
PMR Palmer 90.32 333 *e*P **P** 15 10 36.0 -0.4
PMR Palmer 90.32 333 *e*P **P** 15 10 36.0 -0.4
IL1 Eielson Array 90.41 336 *e*P **P** 15 10 36.6 -0.1
ILAR Eielson Array 90.41 336 P **P** 15 10 36.5 -0.3
comp=Z,41nm,0.9s,baz=146,slow=3.5,SNR=215
ILAR pP **pP** 15 11 09.3 -0.5
comp=Z,28nm,0.9s,baz=134,slow=3.0,SNR=7.4
ILAR PP **PP** 15 14 11.2 -1.8
comp=Z,5.7nm,0.8s,baz=105,slow=7.0,SNR=6.6
ILAR PKKP **PKKPdf** 15 28 03.6 +0.2
comp=Z,1.8nm,0.7s,baz=287,slow=3.4,SNR=14
ILAR PKPPKP **P'P'df** 15 36 09.3 -3.7
comp=Z,1.0nm,1.0s,baz=298,slow=3.4,SNR=5.6
ILAR LR LR 15 57 11.7
comp=Z,440nm,18.2s,baz=114,slow=39
ILAR Eielson Array 90.41 336 P **P** 15 10 36.5 -0.3
ILAR 15 14 11.2
ILAR pmax pmax
comp=Z,38nm,0.9s
ILB Eielson Array 90.41 336 *e*P **P** 15 10 37.1 +0.3
CABF La Chapelle 90.42 43 *e*P **P** 15 10 37.0 -0.3
BNI Bardonecchia 90.49 45 *e*P **P** 15 10 38.3 +0.5
comp=Z,116nm,1.2s
BNI Bardonecchia 90.49 45 *e*P **P** 15 10 38.3 +0.5
BNI pmax pmax
comp=Z,116nm,1.2s
BRLK Bradley Lake 90.60 331 *e*P **P** 15 10 37.7 -0.1
comp=Z,368nm,1.4s
LPL La Plagne 90.62 44 *e*P **P** 15 10 38.8 +0.3
LPL pmax pmax
comp=Z,251nm,0.9s
LPG La Plagne 90.63 44 *e*P **P** 15 10 39.0 +0.4
LPG pmax pmax
comp=Z,35nm,1.0s
KEST Kesra 90.67 54 P **P** 15 10 39.5 +0.8
comp=Z,106nm,0.8s,baz=226,slow=2.2,SNR=46
KEST PKKPbc **PKKPbc** 15 28 07.2 +1.4
comp=Z,6.1nm,0.7s,baz=241,slow=7.7,SNR=6.3
KEST Kesra 90.67 54 *e*P **P** 15 10 39.5 +0.8
comp=Z,129nm,0.9s
KEST PKKPbc **PKKPbc** 15 28 07.2 +1.4
CNPM China Poot 90.70 330 *e*P **P** 15 10 38.4 +0.1
comp=Z,191nm,1.4s
CCB Clear Creek Bu 90.74 336 *e*P **P** 15 10 38.0 -0.3
comp=Z,146nm,1.1s
POKR Poker Plat Res 90.75 336 P **P** 15 10 38.5 +0.1
baz=110
BCLA Clavier 90.75 39 ⇓P **P** 15 10 38.9 +0.3
comp=Z,113nm,1.4s
BCLA ⇓*e*P **pP** 15 11 11.7 0.0
RND Reindeer 90.77 334 *e*P **P** 15 10 39.1 +0.5
comp=Z,172nm,0.8s
WRH Wood River Hil 90.80 336 *e*P **P** 15 10 38.4 -0.2
comp=Z,108nm,1.0s
TCOL CIGO, UAF Yank 90.84 336 P **P** 15 10 38.9 +0.2
baz=109
MCK McKinley 90.91 335 *e*P **P** 15 10 38.7 -0.5
comp=Z,84nm,0.9s
MCK McKinley 90.91 335 *e*P **P** 15 10 38.7 -0.5
MCK pmax pmax
comp=Z,84nm,0.9s
MDM Murphy Dome 91.01 336 *e*P **P** 15 10 39.8 +0.2
comp=Z,683nm,1.3s
SUA Susitna One 91.02 332 *e*P **P** 15 10 40.4 +0.6
comp=Z,118nm,1.0s
BEBN Eben Emael 91.07 39 ⇓P **P** 15 10 40.8 +0.7
comp=Z,25nm,1.3s
BEBN ⇑*e*P **pP** 15 11 12.5 -0.7
WLF Walferdange 91.12 40 *e*P **P** 15 10 41.1 +0.7
comp=Z,395nm,1.1s
WLF Walferdange 91.12 40 *e*P **P** 15 10 41.1 +0.7
WLF pmax pmax
comp=Z,395nm,1.1s
WLF Walferdange 91.12 40 ⇑P **P** 15 10 41.0 +0.6
comp=Z,288nm,1.4s
WLF ⇑*e*P **pP** 15 11 13.7 +0.2
OHAK Old Harbor 91.12 328 *e*P **P** 15 10 40.6 +0.4
comp=Z,274nm,1.1s
HINF Hinteralfeld 91.18 42 *e*P **P** 15 10 40.0 -0.8
HINF pmax pmax
comp=Z,303nm,1.8s
SENIN Lac Senin/Sane 91.19 43 *e*P **P** 15 10 41.3 +0.3
comp=Z,74nm,1.1s
HGN Heimansgroeve 91.22 39 *i* P **P** 15 10 41.3 +0.5
comp=Z,427nm,1.2s
HGN Heimansgroeve 91.22 39 *e*S **SKSac** 15 20 58.5 -2.5
MEM Membach 91.23 39 P **P** 15 10 41.4 +0.5
MEM Membach 91.23 39 ⇓P **P** 15 10 41.2 +0.4
comp=Z,82nm,1.5s
MEM ⇑*e*P **pP** 15 11 13.1 -0.8
BWN Browne 91.27 335 *e*P **P** 15 10 40.8 0.0
comp=Z,328nm,1.1s
DAG Danmarks Havn 91.40 11⇓*i*P **P** 15 10 41.0 -0.1
comp=Z,160nm,1.0s
DAG *i* 15 11 13.3
DAG Danmarks Havn 91.40 11⇓*i*P **P** 15 10 41.0 -0.1
DAG *i* 15 11 13.3
DAG pmax pmax
comp=Z,160nm,1.0s
TRF Thorofare Moun 91.40 334 *e*P **P** 15 10 41.5 -0.1
comp=Z,173nm,1.3s
ECH Echery 91.47 42 *e*P **P** 15 10 42.2 +0.1
comp=Z,167nm,1.1s
ECH Echery 91.47 42 *e*P **P** 15 10 42.2 +0.1
ECH pmax pmax
comp=Z,167nm,1.1s
SKT Skwentna 91.53 333 *e*P **P** 15 10 42.1 0.0
comp=Z,203nm,0.9s
BPAW Bear Paw Mtn. 91.89 335 *e*P **P** 15 10 43.4 -0.3
comp=Z,186nm,1.0s
WTSB Winterswijk 92.00 38 *i* P **P** 15 10 45.1 +0.7
comp=Z,799nm,1.4s
MLY Manley 92.05 336 *e*P **P** 15 10 43.8 -0.6
comp=Z,64nm,0.9s
PPLA Purkeypile 92.07 333 *e*P **P** 15 10 44.5 -0.2
comp=Z,131nm,0.9s
CAST Castle Rocks 92.17 334 *e*P **P** 15 10 44.7 -0.3
comp=Z,186nm,1.1s
BFO Black Forest 92.26 42 *e*P **P** 15 10 45.5 -0.2
comp=Z,57nm,1.3s
BFO Black Forest 92.26 42 *i* P **P** 15 10 46.0 +0.3
SLE Schleitheim 92.26 42 P **P** 15 10 46.1 +0.3
SLE pmax pmax
comp=Z,212nm,1.4s
COLD Coldfoot 92.48 338 *e*P **P** 15 10 46.9 +0.5
comp=Z,50nm,1.1s
TUE Stuetta 92.60 44 *e*P **P** 15 10 48.1 +0.5
comp=Z,516nm,2.0s
TOLK Toolik Lake Re 92.68 339 *e*P **P** 15 10 47.1 -0.1
comp=Z,55nm,0.9s
TOLK Toolik Lake Re 92.68 339 P **P** 15 10 47.2 -0.1
baz=108
TNS Transmits Mts 92.68 40 P **P** 15 10 48.3 +0.6
STU Stuttgart 92.90 41 P **P** 15 10 49.3 +0.6
STU pmax pmax
comp=Z,114nm,1.8s
ASK Askoy 92.95 29 *e*P **P** 15 10 49.6 +1.1
BER Bergen 93.00 29 *e*P **P** 15 10 49.6 +0.8
DAVOX Davos/Dischmat 93.01 43 P **P** 15 10 50.3 +0.8
comp=Z,64nm,0.8s
DAVA Damuels 93.10 43 *i* PcP **P** 15 10 50.4 +0.6
comp=Z,102nm,1.1s,SNR=25
SVW2 Sparrevohn 93.19 331 *e*P **P** 15 10 48.4 -1.3
comp=Z,55nm,1.0s
BLS5 Blasjo 93.35 30 *e*P **P** 15 10 52.2 +1.7
SNART Snartemo 93.51 32 *e*P **P** 15 10 53.0 +1.8
IM3 Indian Mountai 93.51 336 *e*P **P** 15 10 50.8 -0.3
ODD1 Odda 93.53 30 *e*P **P** 15 10 53.2 +1.8
FETA Feichten 93.63 43 *i* PcP **P** 15 10 52.9 +0.6
comp=Z,143nm,1.4s,SNR=32
RETA Reutte 93.72 43 *i* PcP **P** 15 10 53.0 +0.4
comp=Z,131nm,1.9s,SNR=26
MOTA Moosalm 93.93 43 *i* PcP **P** 15 10 54.0 +0.3
comp=Z,95nm,1.0s,SNR=42
SQTA Sankt Quirin 93.98 43 *i* PcP **P** 15 10 54.5 +0.7
comp=Z,156nm,1.3s,SNR=45
AKN Aaknes 94.16 28 *e*P **P** 15 10 55.6 +1.5
FUR Furstenfeldbru 94.17 42 P **P** 15 10 55.7 +1.2
MUD Monsted U'grnd 94.22 34⇓*i*P **P** 15 10 56.0 +1.5
MUD Monsted U'grnd 94.22 34⇓*i*P **P** 15 10 56.0 +1.5
WATA Walderalm 94.25 43 *i* PcP **P** 15 10 56.0 +0.9
comp=Z,60nm,1.0s,SNR=20
WTTA Wattenberg 94.28 43 *i* PcP **P** 15 10 56.0 +0.8
comp=Z,120nm,1.1s,SNR=29
GRF Grafenberg Arr 94.36 41 P **P** 15 10 56.9 +1.5
GRC1 Grafenberg Arr 94.45 41 P **P** 15 10 56.4 +0.6
BOSA Boshof 94.73 120 P **P** 15 10 58.4 +0.6
comp=Z,27nm,0.8s,baz=261,slow=4.0,SNR=42
BOSA PKKP **PKKPdf** 15 27 54.4 +0.1
comp=Z,6.0nm,0.6s,baz=88,slow=2.6,SNR=14
BOSA LR LR 15 52 21.1
comp=Z,617nm,18.3s,baz=260,slow=34
BOSA Boshof 94.73 120 *e*P **P** 15 10 58.3 +0.6
comp=Z,43nm,0.9s
BOSA PKKP **PKKPdf** 15 27 54.4 +0.1
MOX Moxa 94.75 40 P **P** 15 10 57.9 +0.8
MOX pmax pmax
comp=Z,66nm,2.1s
ABTA Abfaltersbach 94.80 44 *i* PcP **P** 15 10 58.2 +0.7
comp=Z,167nm,1.0s,SNR=40
KONO Kongsberg 94.96 30⇓*e*P **P** 15 10 58.0 +0.2
KONO pmax pmax
comp=Z,107nm,1.5s
VAE Valguarnera 94.97 53 P **P** 15 10 59.6 +1.1
comp=Z,21nm,0.5s,baz=56,slow=19,SNR=7.4
DOMB Dombas 95.09 28 *e*P **P** 15 10 59.5 +1.1
NKC Novy Kostel 95.22 40 *e*P **P** 15 11 00.3 +1.0
NKC Novy Kostel 95.22 40 *e*P **P** 15 11 00.3 +1.0
WET Wettzell 95.36 41 P **P** 15 11 00.6 +0.6
WET pmax pmax
comp=Z,59nm,2.1s
KBA Koelnbreinsper 95.41 43 *i* PcP **P** 15 11 00.8 +0.4
comp=Z,98nm,1.0s,SNR=24
KBA Koelnbreinsper 95.41 43 P **P** 15 11 00.7 +0.3
KBA pmax pmax
comp=Z,117nm,1.1s
ROBS Robic 95.41 44 *i* P **P** 15 11 00.8 +0.5
ROBS Robic 95.41 44 *i* P **P** 15 11 00.8 +0.5
TRI Trieste 95.52 45 P **P** 15 11 02.3 +1.6
TRI pmax pmax
comp=Z,88nm,1.1s
MYKA Terra Mystica 95.55 44 *i* PcP **P** 15 11 01.6 +0.6
comp=Z,107nm,0.9s,SNR=27
CLL Collm 95.71 39⇓*i*P **P** 15 11 02.2 +0.8
comp=Z,77nm,1.1s
CLL *e*pP **pP** 15 11 34.0 -0.6
CLL *e*PP **PP** 15 14 51.0 -3.7
CLL *e*sPP 15 15 36.0
CLL *e*PPP PPP 15 17 06.0
CLL *e*SKSac **SKSac** 15 21 25.0 -0.6
CLL *e*SKKSac **SKKSac** 15 21 52.0 +2.0
CLL *e*S **S** 15 22 06.0 -1.8
CLL *e*sS **sS** 15 23 01.0 -4.5
CLL *e*SP **SP** 15 23 25.0 -1.6
CLL *e*PS **PS** 15 23 54.0 +11
CLL *e*SPP SPP 15 24 06.0
CLL *e*PPS PPS 15 24 24.0
CLL *e*sPPS 15 25 01.0
CLL *e*PKKPdf **PKKPbc** 15 27 52.0 -1.2
CLL *e*SS **SS** 15 28 42.0 +1.8
CLL *e*sSS 15 29 30.0
CLL *e*SSS SSS 15 32 24.0
CLL *e*sSSS 15 33 18.0
CLL *e*SSSS 15 35 54.0
CLL Collm 95.71 39⇓*i*P **P** 15 11 02.2 +0.8
CLL *e**PP **pP** 15 11 34.0 -0.6
CLL *e* 15 21 25.0
CLL *e*S **S** 15 22 06.0 -1.8
CLL pmax pmax
comp=Z,77nm,1.1s
JAVS Javornik 95.75 45 *e*P **P** 15 11 02.8 +0.9
JAVS *i* pP **pP** 15 11 34.8 -0.3
JAVS Javornik 95.75 45 *e*P **P** 15 11 02.8 +0.9
JAVS *i* pP **pP** 15 11 34.8 -0.3
NAO01 NORSAR Array S 95.77 29 *e*P **P** 15 11 02.6 +1.1
NAO01 NORSAR Array S 95.77 29 *e*P **P** 15 11 02.7 +1.2
KHC Kasperske Hory 95.81 41 *e*P **P** 15 11 02.4 +0.4
KHC *ex* x 15 11 21.3
KHC *e*SKS **SKSac** 15 21 26.0 -0.3
KHC *ex* x 15 29 09.3
KHC AMS AMS 15 55 40.0
comp=Z,900nm,23.8s
KHC Kasperske Hory 95.81 41 *e*P **PKKPbc** 15 27 48.0 -4.9
KHC Kasperske Hory 95.81 41 *e*P **P** 15 11 02.4 +0.4
KHC *e* 15 21 26.0
KHC MLR MLR
comp=Z,900nm,23.8s
LBTB Lobatse 95.81 116 *e*P **P** 15 11 03.6 +0.8
comp=Z,36nm,0.8s
GEC2 GERESS Array S 95.86 42 *e*P **P** 15 11 02.7 +0.3
comp=Z,34nm,1.0s
GEC2 GERESS Array S 95.86 42 *e*P **P** 15 11 02.7 +0.3
GEC2 pmax pmax
comp=Z,34nm,1.0s
GERES GERESS Array B 95.86 42 P **P** 15 11 02.7 +0.3
comp=Z,17nm,0.9s,baz=242,slow=2.9,SNR=42
GERES pP **pP** 15 11 35.6 +0.1
comp=Z,5.1nm,0.8s,baz=258,slow=4.7,SNR=2.5
GERES sP **sP** 15 11 49.7 +0.7
comp=Z,6.3nm,0.8s,baz=241,slow=2.7,SNR=2.5
GERES PP **PP** 15 14 53.5 -2.6
comp=Z,6.8nm,1.1s,baz=253,slow=7.7,SNR=5.0
GERES PKKPbc **PKKPbc** 15 27 51.9 -1.0
comp=Z,5.7nm,0.7s,baz=72,slow=1.9,SNR=27
GERES PKPPKP **P'P'df** 15 36 03.2 -0.7
comp=Z,1.3nm,0.9s,baz=75,slow=1.5,SNR=5.5
GERES LR LR 15 53 28.1
comp=Z,221nm,18.7s,baz=262,slow=35
COP Copenhagen 95.91 35 *i* P **P** 15 11 03.6 +1.4
comp=Z,82nm,1.1s
COP Copenhagen 95.91 35 *i* P **P** 15 11 03.6 +1.4
COP pmax pmax
comp=Z,82nm,1.1s
NB2 NORSAR Subarra 95.96 29 P **P** 15 11 03.3 +0.9
comp=Z,203nm,1.2s,baz=263,slow=4.6
NB2 NORSAR Subarra 95.96 29 P **P** 15 11 03.3 +0.9
baz=263,slow=4.6
NOA NORSAR Array B 95.96 29 P **P** 15 11 03.5 +1.0
comp=Z,54nm,0.9s,baz=268,slow=4.9,SNR=59
NOA pP **pP** 15 11 35.9 +0.3
comp=Z,10nm,0.9s,baz=259,slow=4.5,SNR=3.2
NOA PKKPbc **PKKPbc** 15 27 50.5 -2.5
comp=Z,3.9nm,0.8s,baz=70,slow=1.4,SNR=12
NOA PKPPKP **P'P'df** 15 36 02.6 -0.3
comp=Z,1.7nm,0.9s,baz=75,slow=2.8,SNR=6.1
NOA LR LR 15 51 23.8
comp=Z,351nm,20.9s,baz=275,slow=34
CEY Cerknica 95.99 45⇓*i*P **P** 15 11 03.5 +0.6
NB201 NORSAR Array S 96.00 29 *e*P **P** 15 11 04.2 +1.7
NC303 NORSAR Array S 96.06 29 *e*P **P** 15 11 03.9 +1.1
LJU Ljubljana 96.09 44⇓*i*P **P** 15 11 03.8 +0.5
MOA Molln 96.12 43 *i* PcP **P** 15 11 04.0 +0.6
comp=Z,112nm,1.1s,SNR=44
OBKA Obir 96.16 44 *i* PcP **P** 15 11 04.4 +0.7
comp=Z,68nm,0.9s,SNR=16
NVLJ Novalja 96.17 46 P **P** 15 11 03.2 -0.4
BRG Berggiesshubel 96.25 40⇓*i*P **P** 15 11 04.9 +1.0
comp=Z,119nm,1.3s
BRG *e*pP **pP** 15 11 37.4 +0.4
comp=Z,53nm,1.6s
BRG *e*PP **PP** 15 14 52.2 -6.7
comp=Z,13nm,1.4s
BRG S **S** 15 22 13.0 +0.5
BRG *e*PKKP **PKKPbc** 15 27 50.6 -1.1
comp=Z,8.5nm,0.9s
BRG SS **SS** 15 28 55.0 +7.2
BRG *e*PKPPKP **P'P'df** 15 36 03.4 +0.4
comp=Z,3.6nm,0.7s
BRG Berggiesshubel 96.25 40⇓*i*P **P** 15 11 04.9 +1.0
BRG *e**PP **pP** 15 11 37.4 +0.4
BRG S **S** 15 22 13.0 +0.5
BRG SS **SS** 15 28 55.0 +7.2
BRG pmax pmax
comp=Z,119nm,1.3s
VISS Visnje 96.28 45 *i* P **P** 15 11 04.6 +0.4
VISS *i* pP **pP** 15 11 37.1 -0.3
VISS *e*PP **PP** 15 14 58.8 -0.5
VISS Visnje 96.28 45 *i* P **P** 15 11 04.6 +0.4
VISS *i* pP **pP** 15 11 37.1 -0.3
VISS *e*PP **PP** 15 14 58.8 -0.5
SOKA Soboth 96.51 44 *i* PcP **P** 15 11 05.6 +0.3
comp=Z,47nm,1.1s,SNR=14
BOJS Bojanci 96.54 45 *e*P **P** 15 11 06.0 +0.7
BOJS *i* pP **pP** 15 11 38.2 -0.3
BOJS *e*PP **PP** 15 14 58.3 -3.0
BOJS Bojanci 96.54 45 *e*P **P** 15 11 06.0 +0.7
BOJS *i* pP **pP** 15 11 38.2 -0.3
BOJS *e*PP **PP** 15 14 58.3 -3.0
PERS Pernice 96.56 44 *e*P **P** 15 11 05.8 +0.3
PERS *e*pP **pP** 15 11 37.0 -1.7
PERS Pernice 96.56 44 *e*P **P** 15 11 05.8 +0.3
PERS *e*pP **pP** 15 11 37.0 -1.7
PVCC Panska Ves 96.61 40 *e*P **P** 15 11 06.6 +1.1
PVCC Panska Ves 96.61 40 *e*P **P** 15 11 06.6 +1.1
CRES Cresnjev 96.71 45⇓*i*P **P** 15 11 06.8 +0.6
NSS Namsos 96.73 26 *e*P **P** 15 11 06.4 +0.6
UDBI Udbina 96.80 46 P **P** 15 11 07.6 +0.9
ARSA Arzberg 96.90 43 *i* PcP **P** 15 11 07.6 +0.5
comp=Z,94nm,1.1s,SNR=40
TIP Timpagrande 97.00 52 *e*P **P** 15 11 06.7 -1.0
comp=Z,41nm,1.1s
TIP Timpagrande 97.00 52⇑*i*P **P** 15 11 07.5 -0.2
HFS Hagfors 97.07 30 P Pdif 15 11 08.0 +0.5
comp=Z,80nm,0.9s,baz=222,slow=2.0,SNR=45
HFS pP pP 15 11 40.5 -0.1
comp=Z,14nm,0.8s,baz=166,slow=0.6,SNR=2.4
HFS PP **PP** 15 15 05.6 +0.6
comp=Z,5.6nm,1.0s,baz=240,slow=7.8,SNR=3.8
TREC Trest 97.07 41 *e*P Pdif 15 11 09.1 +1.3
TREC Trest 97.07 41 *e*P Pdif 15 11 09.1 +1.3
MATE Matera 97.10 50⇑*i*P **P** 15 11 08.0 0.0
CONA Conrad Observa 97.19 43 *i* PcP Pdif 15 11 09.2 +0.7
comp=Z,98nm,1.1s,SNR=46
BSD Bornholm Skovb 97.26 35 *i* P Pdif 15 11 09.2 +0.8
BSD Bornholm Skovb 97.26 35 *e*P Pdif 15 11 09.2 +0.8
KRUC Moravsky 97.65 42 P Pdif 15 11 11.1 +0.8
KRUC pmax pmax
comp=Z,86nm,1.9s
KRUC Moravsky 97.65 42⇓*i*P Pdif 15 11 11.1 +0.8
KRUC *e* 15 11 43.6
KRUC *e*PKKP **PKKPbc** 15 27 47.4 -0.5
BEHE Becsehely 97.69 44⇓*e*PKiKP Pdif 15 11 12.3 +1.7
BEHE Becsehely 97.69 44⇓*i*P Pdif 15 11 11.8 +1.2
DPC Dobruska-Polom 97.71 40 *e*P Pdif 15 11 11.7 +1.1
DPC Dobruska-Polom 97.71 40 *e*P Pdif 15 11 11.7 +1.1
KSP Ksiaz 97.73 40 *e*P Pdif 15 11 12.0 +1.4
KSP Ksiaz 97.73 40 *e*P Pdif 15 11 12.0 +1.4
VRAC Vranov 97.80 41 P Pdif 15 11 11.7 +0.7
comp=Z,36nm,1.0s,baz=264,slow=5.9,SNR=44
VRAC pP pP 15 11 44.3 +0.1
comp=Z,6.9nm,0.9s,baz=287,slow=5.6,SNR=1.8
VRAC Vranov 97.80 41⇑*i*P Pdif 15 11 12.5 +1.5
VRAC Vranov 97.80 41 ⇑P Pdif 15 11 12.5 +1.5
VRAC Vranov 97.80 41⇓*i*P Pdif 15 11 11.7 +0.7
VRAC *e* 15 11 44.3
BLY Banja Luka 97.83 46⇑*i*P Pdif 15 11 12.8 +1.6
BLY Banja Luka 97.83 46⇓*i*P Pdif 15 11 11.9 +0.7
MOR8 Moi Rana 97.92 24 *e*P Pdif 15 11 11.9 +0.8
MAW Mawson 97.97 165 P Pdif 15 11 12.2 +0.8
comp=Z,18nm,0.9s,baz=228,slow=6.4,SNR=26
MAW PKKPbc **PKKPbc** 15 27 44.4 -2.9
comp=Z,5.8nm,0.9s,baz=93,slow=6.4,SNR=5.0
MAW LR LR 15 54 27.9
comp=Z,332nm,21.0s,baz=236,slow=35
MAW Mawson 97.97 165 *e*P Pdif 15 11 12.4 +1.0
comp=Z,8.6nm,1.0s
MAW PKKPbc **PKKPbc** 15 27 44.4 -2.9
MAW Mawson 97.97 165 *e*P Pdif 15 11 12.4 +1.0
MAW pmax pmax
comp=Z,9.0nm,1.0s
KRLC Kraliky 97.98 41 *e*P Pdif 15 11 13.7 +1.9
KRLC Kraliky 97.98 41 *e*P Pdif 15 11 13.7 +1.9
MODS Modra-Piesok 98.18 42 *e*P **P** 15 11 12.1 -0.6
MODS Modra-Piesok 98.18 42 *e* **P** 15 11 12.1 -0.6
URZ Urewera 98.20 229 PKKPbc PKKPbc 15 27 43.3 -2.3
comp=Z,13nm,0.7s,baz=264,slow=6.3,SNR=9.2
MORC Moravsky Berou 98.45 41⇑*i*P Pdif 15 11 15.8 +1.9
MORC Moravsky Berou 98.45 41 ⇑P Pdif 15 11 15.8 +1.9
MORC Moravsky Berou 98.45 41⇓*i*P Pdif 15 11 15.2 +1.3
MORC *e* 15 11 47.7
MORC *e*PKKP **PKKPbc** 15 27 45.3 -0.4
JAVC Velka Javorina 98.47 42⇓*i*P Pdif 15 11 15.7 +1.6
GKP Gorka Klasztor 98.48 37 *e*P Pdif 15 11 15.4 +1.5

GKP Gorka Klasztor 98.48 37 *e*P Pdif 15 11 15.4 +1.5
TIH Tihany 98.49 44⇓*e*PKiKP Pdif 15 11 15.6 +1.5
TREB Trebinje 98.51 48 *e*P Pdif 15 11 14.7 +0.4
HCY Herceg Novi 98.60 48⇓*i*P Pdif 15 11 15.4 +0.7
BRY Bratogost 98.66 48⇓*i*P Pdif 15 11 15.9 +0.7
UPM Unac-Piva 98.95 48⇓*i*P Pdif 15 11 17.4 +0.9
MORH M¨‡r¨gy, Hung 98.96 45⇓*e*PKiKP Pdif 15 11 17.5 +1.3
MORH M¨‡r¨gy, Hung 98.96 45⇓*i*P Pdif 15 11 17.1 +0.9
SPITS Spitsbergen Ar 98.99 12 P Pdif 15 11 15.9 +0.2
comp=Z,17nm,0.9s,baz=182,slow=4.8,SNR=6.1
SPITS PKKPbc **PKKPbc 15 27 42.2 -2.8**
comp=Z,12nn,0.7s,baz=110,slow=6.6,SNR=10
HAPS Han Pijesak,BI 99.04 47 *e*P **Pdif 15 11 16.9 +0.1**
DRME Dracevica, Mon 99.09 49⇓*i*P **Pdif 15 11 18.3 +1.4**
PDG Podgorica 99.16 48⇑*i*P **Pdif 15 11 18.8 +1.6**
PDG Podgorica 99.16 48⇓*i*P **Pdif 15 11 18.1 +0.9**
VYHS Vyhne 99.22 42 *e*P **Pdif 15 11 18.2 +0.8**
VYHS Vyhne 99.22 42 *e*PDIFF **Pdif 15 11 18.2 +0.8**
BUD Budapest 99.29 43⇓*e*PKiKP **Pdif 15 11 18.6 +0.9**
BUD Budapest 99.29 43 P **Pdif 15 11 19.1 +1.4**
BUD pmax pmax
comp=Z,48nm,1.9s
BBLS Lazići 99.36 47⇓*i*P **Pdif 15 11 19.3 +1.1**
LANS Liptovska Anna 99.67 42 *e*P **Pdif 15 11 21.4 +2.0**
LANS Liptovska Anna 99.67 42 *e*PDIFF **Pdif 15 11 21.4 +2.0**
FRGS Fruska Gora 99.72 46⇓*i*P **Pdif 15 11 20.4 +0.7**
IGT Igumenitsa 99.79 51 P **Pdif 15 11 21.0 +0.9**
DIVS Divibare 99.79 47⇓*i*P **Pdif 15 11 21.1 +1.0**
PSZ Piszkesteto 99.90 43⇑*i*P **Pdif 15 11 21.9 +1.4**
PSZ Piszkesteto 99.90 43⇑P **Pdif 15 11 21.9 +1.4**
OJC Ojcow 99.92 41 *e*P **Pdif 15 11 21.4 +1.0**
OJC Ojcow 99.92 41 *e*P **Pdif 15 11 21.4 +1.0**
NIE Niedzica 100.22 41 *e*P **Pdif 15 11 23.8 +2.0**
NIE Niedzica 100.22 41 *e*P **Pdif 15 11 23.8 +2.0**
LSZ Lusaka 100.29 107 Pdiff **Pdif 15 11 24.5 +1.5**
SNR=10
KECS Kecovo 100.31 42 *e*P **Pdif 15 11 22.5 +0.3**
KECS Kecovo 100.31 42 *e*PDIFF **Pdif 15 11 22.5 +0.3**
KRUS Krusevo 100.58 50 *i*P **Pdif 15 11 24.2 +0.5**
BEL Belsk 100.59 39 *e*P **Pdif 15 11 25.2 +1.9**
BEL Belsk 100.59 39 *e*P **Pdif 15 11 25.2 +1.9**
BIA Bitola 100.63 50 *e*P **Pdif 15 11 25.3 +1.4**
FNA Florina 100.66 50 P **Pdif 15 11 24.9 +0.9**
FNA pmax pmax
comp=Z,29nm,0.8s
SKO Skopje 100.75 49 *i*P **Pdif 15 11 25.1 +0.8**
BZS Buzias 101.00 45⇑*i*P **Pdif 15 11 26.9 +1.6**
BZS Buzias 101.00 45⇑P **Pdif 15 11 26.9 +1.6**
LTVH L¨tav¨rtes, 101.24 43⇓*e*PKiKP **Pdif 15 11 28.1 +1.8**
STIP Stip 101.30 49 *i*P **Pdif 15 11 27.6 +0.9**
VAF Ylistaro 101.43 27 P **Pdif 15 11 28.6 +1.8**
VAF pmax pmax
comp=Z,55nm,1.1s
GRG Griva 101.44 50 P **Pdif 15 11 28.8 +1.4**
GRG pmax pmax
comp=Z,22nm,1.8s
UZH Uzhgorod 101.52 42*c i*P **Pdif 15 11 27.5 0.0**
UZH *e* 15 15 40.9
VAY Valandovo 101.58 50 *i*P **Pdif 15 11 27.7 -0.2**
DRGR 101.79 44 P **Pdif 15 11 30.5 +1.6**
DRGR pmax pmax
comp=Z,42nm,2.2s
KWP Kalwaria Pacla 101.79 41 *e*P **Pdif 15 11 29.9 +1.0**
KWP Kalwaria Pacla 101.79 41 *e*P **Pdif 15 11 29.8 +1.0**
GZR Gura Zlata 101.82 45⇑*i*P **Pdif 15 11 30.3 +1.2**
GZR Gura Zlata 101.82 45⇑P **Pdif 15 11 30.3 +1.2**
KNT Kendrikon 101.82 50 P **Pdif 15 11 31.0 +1.9**
KNT pmax pmax
comp=Z,22nm,1.9s
ARCES ARCESS Array B 102.03 21 P **Pdif 15 11 29.7 +0.4**
comp=Z,4.4nm,0.9s,baz=261,slow=3.2,SNR=10
ARCES PP **PP 15 15 39.0 -3.2**
comp=Z,7.6nm,0.9s,baz=303,slow=7.1,SNR=5.0
ARCES PKKPbc **PKKPbc 15 27 33.5 -2.6**
comp=Z,6.5nm,0.5s,baz=94,slow=4.1,SNR=30
SUW Suwalki 102.03 37 *e*P **Pdif 15 11 30.7 +1.0**
SUW Suwalki 102.03 37 *e*P **Pdif 15 11 30.7 +1.0**
VTS Vitosha 102.08 48⇑*i*P **Pdif 15 11 31.8 +1.4**
VTS Vitosha 102.08 48⇑P **Pdif 15 11 31.8 +1.4**
SOH Sokhos 102.16 50 P **Pdif 15 11 32.4 +1.7**
SOH pmax pmax
comp=Z,16nm,1.9s
SRS Serrai 102.34 50 P **Pdif 15 11 32.4 +1.0**
CJR Cluj-Napoca 102.40 44⇑*i*P **Pdif 15 11 32.5 +0.9**
CJR Cluj-Napoca 102.40 44⇑P **Pdif 15 11 32.5 +0.9**
SGF Sodankyl 102.66 23 P **Pdif 15 11 33.5 +1.3**
SGF pmax pmax
comp=Z,34nm,1.2s
OUL Oulu 102.68 25 P **Pdif 15 11 34.7 +2.4**
OUL pmax pmax
comp=Z,44nm,2.2s
ARR Arges 103.12 46⇓*i*P **Pdif 15 11 36.4 +1.5**
FINES FINESS Array B 103.14 29 Pdiff **Pdif 15 11 35.4 +0.9**
comp=Z,12nn,1.1s,baz=189,slow=11,SNR=7.5
FINES PKiKP **PKiKP 15 15 54.2 +0.8**
comp=Z,9.7nm,1.1s,baz=297,slow=6.1,SNR=3.0
FINES PKKPbc **PKKPbc 15 27 30.3 -2.2**
comp=Z,8.8nm,0.5s,baz=101,slow=3.9,SNR=45
IDI Anoyia 103.23 56 Pdiff **Pdif 15 11 36.6 +1.0**
comp=Z,45nm,0.9s,baz=278,slow=3.9,SNR=7.2
IDI PKiKP **PKiKP 15 15 55.4 +0.9**
comp=Z,20nm,0.9s,baz=340,slow=8.6,SNR=3.2
IDI Anoyia 103.23 56⇑*i*P **Pdif 15 11 37.1 +1.5**
VOIR 103.42 45⇑*i*P **Pdif 15 11 37.3 +1.1**
VOIR 103.42 45⇑P **Pdif 15 11 37.3 +1.1**
BUR04 Bucovina Ar. S 103.48 43 *e*Pdif **Pdif 15 11 38.0 +1.5**
BURAR Bucovina Array 103.49 43⇑*i*P **Pdif 15 11 39.4 +2.9**
BURAR Bucovina Array 103.49 43⇑P **Pdif 15 11 39.4 +2.9**
MLR Muntele Rosu 104.05 45 Pdiff **Pdif 15 11 39.3 +0.2**
comp=Z,4.6nm,0.8s,baz=161,slow=7.0,SNR=6.2
MLR PP PKiKP 15 15 47.6 -8.2
comp=Z,38nm,1.4s,baz=276,slow=5.4,SNR=4.9
MLR PKKPbc **PKKPbc 15 27 29.3 -0.2**
comp=Z,5.4nm,0.7s,baz=277,slow=4.5,SNR=6.9
MLR Muntele Rosu 104.05 45⇑*i*P **Pdif 15 11 40.4 +1.3**
MLR Muntele Rosu 104.05 45⇑P **Pdif 15 11 40.4 +1.3**
BIZ Bicaz 104.11 44⇑*i*P **Pdif 15 11 37.4 -1.8**
JOF Joensuu 105.36 27 P **Pdif 15 11 45.5 +1.2**
KIEV Kiev 105.92 40 *e*PKPdf **PKiKP 15 15 57.3 -1.5**
KIEV Kiev 105.92 40 PKiKP **PKiKP 15 15 59.0 +0.2**
AKASG Malin Array Be 105.93 40 Pdiff **Pdif 15 11 47.0 -0.1**
comp=Z,1.2nm,0.6s,baz=269,slow=3.7,SNR=5.1
AKASG PKiKP **PKiKP 15 15 58.6 -0.2**
comp=Z,2.8nm,0.6s,baz=270,slow=3.0,SNR=9.3
AKASG PKKPbc **PKKPbc 15 27 22.3 -1.4**
comp=Z,10nm,0.8s,baz=79,slow=3.4,SNR=21
AKASG PKPPKP **P'P'df 15 35 43.6 -0.9**
comp=Z,0.8nm,0.5s,baz=82,slow=2.3,SNR=4.4
AKASG Malin Array Be 105.93 40 P **Pdif 15 11 47.0 -0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
KIS Kishinev 105.97 44⇓*i*P **PP 15 16 09.0 -3.2**
comp=Z,200nm,2.0s
KIS LRM MLR 15 27 30.0
comp=Z,500nm,17.0s
OBN Obninsk 109.62 35 PKiKP **PKiKP 15 16 06.2 +0.6**
comp=Z,3.5nm,0.5s,baz=220,slow=23,SNR=4.5
OBN PP **PP 15 16 36.3 -2.1**
comp=Z,4.1nm,0.4s,baz=288,slow=19,SNR=10
OBN PKKPbc **PKKPbc 15 27 12.4 +0.1**
comp=Z,2.8nm,0.4s,baz=6.1,slow=23,SNR=5.3
BRTR Keskin Array B 110.05 51 Pdiff **Pdif 15 12 03.2 -2.7**
comp=Z,0.7nm,0.8s,baz=284,slow=5.8,SNR=3.5
BRTR pPdiff **pPdif 15 12 39.1 0.0**
comp=Z,2.4nm,0.9s,baz=298,slow=2.7,SNR=5.2
BRTR PKiKP **PKiKP 15 16 07.8 +0.7**
comp=Z,7.4nm,0.9s,baz=190,slow=3.0,SNR=17
BRTR PKKPbc **PKKPbc 15 27 09.6 -1.0**
comp=Z,2.1nm,0.7s,baz=144,slow=5.6,SNR=8.5
BRTR PKKPab **PKKPab 15 27 20.8 +0.1**
comp=Z,2.1nm,1.0s,baz=94,slow=7.4,SNR=4.8
LPSR Galich'ya Gora 111.57 37 *e*PKIKP **PKiKP 15 16 09.1 -0.3**
LPSR pmax pmax
comp=Z,30nm,0.8s
KMBO Kilima Mbogo 111.87 95 PKiKP **PKiKP 15 16 13.1 +1.6**
comp=Z,1.8nm,0.4s,baz=21,slow=3.0,SNR=6.6
KMBO PKKPbc **PKKPbc 15 27 06.4 +2.5**
comp=Z,0.6nm,0.4s,baz=50,slow=7.9,SNR=3.6
MMAI Mount Meron Ar 111.98 58 PKiKP **PKiKP 15 16 11.9 +1.0**
comp=Z,3.5nm,0.5s,baz=76,slow=4.5,SNR=18
VSR Storozhevoye 112.04 38 *e*PKIKP **PKiKP 15 16 08.3 -2.0**
VSR pmax pmax
comp=Z,30nm,1.0s
ANN Anapa 112.20 45 *i* PKIKP **PKiKP 15 16 09.7 -1.1**
ANN *e* 15 16 41.3
ANN *e* 15 22 40.5
ANN pmax pmax
comp=Z,45nm,1.2s
DZM Mont Dzumac 112.28 242 PKiKP **PKiKP 15 16 12.6 +0.8**
comp=Z,7.7nm,0.8s,baz=103,slow=14,SNR=3.6
DZM Mont Dzumac 112.28 242 *e*PP PP 15 16 55.4 -3.1
comp=Z,258nm,25.9s
DZM Mont Dzumac 112.28 242 *e*PS PS 15 26 34.8 +0.4
comp=Z,666nm,24.1s
DZM Mont Dzumac 112.28 242 *e*LR LR 15 49 53.3
comp=Z,1µm,26.6s
ASF Jabal al Asfar 113.30 59 PKiKP **PKiKP 15 16 14.6 +1.2**
comp=Z,13nm,0.8s,baz=118,slow=3.2,SNR=9.8
VRH Novokhopyorsk 113.60 38 *e*PKIKP **PKiKP 15 16 13.5 +0.2**
VRH pmax pmax
comp=Z,30nm,0.8s
TIXI 115.62 352 *e*PKPdf **PKPdf 15 16 15.8 -0.8**
TIXI Tiksi 115.62 352⇓*i*PKIKP **PKPdf 15 16 15.2 -1.4**
TIXI pmax pmax
comp=Z,8.0nm,0.8s
GOF Gofitskoye 116.04 44 *e*PKIKP **PKPdf 15 16 18.8 +0.6**
GOF pmax pmax
comp=Z,50nm,1.0s
KIV Kislovodsk 116.06 45 PKiKP **PKiKP 15 16 18.7 +0.3**
KIV Kislovodsk 116.06 45 *i* PKIKP **PKPdf 15 16 18.5 +0.1**
KIV pmax pmax
comp=Z,26nm,1.1s
KIV MLR MLR
comp=Z,323nm,22.0s
KVAR Kislovodsk Arr 116.06 45 PKP **PKPdf 15 16 19.9 +1.5**
comp=Z,3.9nm,0.4s,baz=304,slow=3.6,SNR=4.5
NEY Neytrino 116.24 46⇑*i*PKIKP **PKPdf 15 16 19.5 +0.6**
KBZ Khabaz 116.26 46 PKP **PKPdf 15 16 19.4 +0.8**
comp=Z,50nm,0.8s,baz=216,slow=2.2,SNR=59
KBZ pPKP pPKPdf 15 16 51.4 -1.7
comp=Z,14nm,0.8s,baz=219,slow=5.9,SNR=2.8
KBZ PKKPbc **PKKPbc 15 26 49.5 0.0**
comp=Z,5.0nm,0.7s,baz=128,slow=4.8,SNR=9.7
SEY Seymchan 116.28 338⇓*i*PKIP **PKPdf 15 16 18.1 0.0**
ABPO Ambohimpanom 116.73 116 *e*PKPdf **PKPdf 15 16 21.9 +1.4**
ABPO Ambohimpanom 116.73 116 *e*PKIKP **PKPdf 15 16 21.9 +1.4**
NCK Nalchik 116.81 46⇓*i*PKIKP **PKPdf 15 16 20.5 +0.7**
ZEI Tsey 117.19 46 *i* PKIKP **PKPdf 15 16 17.3 -3.5**
ZEI pmax pmax
comp=Z,17nm,0.8s
GNI Garni 118.41 49 *i* PKiKP **PKiKP 15 16 24.1 +0.9**
SNR=7.5
GNI Garni 118.41 49*d i*PKIKP **PKPdf 15 16 24.0 +0.9**
GNI pmax pmax
comp=Z,77nm,0.8s
PET Petropavlovsk 118.42 326 *e*PKIKP **PKPdf 15 16 21.7 -0.8**
PET *e* 15 17 42.0
PET SP SP 15 27 08.6 -4.5
PET *e*SS **SS 15 33 44.0 -3.0**
PET *e*SSS SSS 15 38 16.2
PET pmax pmax
comp=Z,18nm,1.1s
PET pmax pmax
comp=Z,400nm,6.1s
PET pmax pmax
comp=Z,200nm,13.8s
NRIK Noril'sk 118.62 7 PKP **PKPdf 15 16 22.8 +0.4**
comp=Z,8.2nm,0.8s,baz=45,slow=2.5,SNR=14
NRIK PP **PP 15 17 37.8 -3.5**
comp=Z,2.0nm,0.5s,baz=350,slow=11,SNR=3.7
NRIK PKKPbc **PKKPab 15 26 39.4 -2.5**
comp=Z,10.0nm,0.7s,baz=189,slow=2.1,SNR=3.9
PETK Petropavlovsk- 118.91 327 PKP **PKPdf 15 16 23.4 -0.1**
comp=Z,22nn,1.0s,baz=150,slow=3.5,SNR=31
PETK pPKP **pPKPdf 15 16 58.1 +0.1**
comp=Z,4.2nm,0.6s,baz=135,slow=1.9,SNR=5.9
PETK PKKPbc **PKKPab 15 26 41.5 +0.4**
comp=Z,2.9nm,0.7s,baz=204,slow=5.9,SNR=4.5
ATD Arta Tunnel 118.97 82 PKP **PKPdf 15 16 27.0 +2.3**
comp=Z,35nn,0.9s,baz=289,slow=1.7,SNR=16
ATD pPKP **pPKPdf 15 16 59.0 -0.3**
comp=Z,15nn,0.8s,baz=289,slow=2.2,SNR=3.1
ARU Arti 120.48 28 *e*PKPdf **PKPdf 15 16 26.6 +0.3**
ARU Arti 120.48 28 *i* PKIKP **PKPdf 15 16 26.6 +0.3**
ARU 15 17 54.4
ARU 15 23 27.0
ARU SP SP 15 27 28.9 -2.3
ARU SS **SS 15 34 16.2 +3.1**
SVE Sverdlovsk 121.19 27 *e*PKIKP **PKPdf 15 16 28.2 +0.5**
SVE pmax pmax
comp=Z,28nm,1.0s
RAYN Ar Rayn 121.52 68 *i* PKiKP **PKiKP 15 16 30.1 +0.6**
SNR=50
AKTO Aktyubinsk 123.39 34 PKP **PKPdf 15 16 33.0 +0.8**
comp=Z,49nn,0.8s,baz=326,slow=0.9,SNR=116
AKTO pPKP **pPKPdf 15 17 05.4 -1.3**
comp=Z,19nn,0.7s,baz=347,slow=2.6,SNR=4.3
AKTO PP **PP 15 18 13.0 -1.5**
comp=Z,12nn,1.1s,baz=313,slow=3.2,SNR=4.5
AKTO PKKPbc **PKKPab 15 26 22.0 +0.4**
comp=Z,11nn,0.7s,baz=110,slow=4.1,SNR=28
AKTO SKKPbc SKKPbc 15 30 10.1 +7.9
comp=Z,4.8nm,0.9s,baz=93,slow=4.3,SNR=7.3
YAK Yakutsk 123.99 346 *e*PKIKP **PKPdf 15 16 31.9 -1.0**
YAK *e**SS 15 28 02.0
YAK pmax pmax
comp=Z,88nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=Z,37nm,1.8s
YAK pmax pmax
comp=E,46nm,2.4s
YAK pmax pmax
comp=N,28nm,1.9s
AB31 Akbulak array 125.07 34 *i* PKIKP **PKPdf 15 16 36.0 +0.6**
AB31 pmax pmax
comp=Z,69nm,0.7s
ABKAR Akbulak array 125.07 34 *e*PKPdf **PKPdf 15 16 37.0 +1.6**
STKA Stephens Creek 126.37 219 PKP **PKPdf 15 16 39.0 +0.5**
comp=Z,85nn,0.7s,baz=107,slow=2.4,SNR=148
STKA PKKP **PKKPdf 15 26 55.4 +0.1**
comp=Z,2.8nm,0.7s,baz=347,slow=2.2,SNR=5.7
STKA SKKPbc SKKPbc 15 29 55.2 +5.0
comp=Z,2.6nm,0.8s,baz=318,slow=5.4,SNR=4.0
STKA Stephens Creek 126.37 219 PKIKP **PKPdf 15 16 39.0 +0.5**
STKA pmax pmax
comp=Z,85nm,0.7s
NKL Nikolayevsk 127.30 334 *i* PKIKP **PKPdf 15 16 39.5 0.0**
NKL *e* 15 17 14.0
NKL *e* 15 18 42.0
NKL pmax pmax
comp=Z,120nm,1.0s
NKL pmax pmax
comp=Z,600nm,8.0s
BRVK Borovoye 127.86 26 *e*PKPdf **PKPdf 15 16 42.3 +1.6**
BRVK Borovoye 127.86 26 PKiKP **PKiKP 15 16 41.1 -0.2**
SNR=21
BRVK Borovoye 127.86 26*d i*PKIKP **PKiKP 15 16 41.0 -0.2**
BVAR Borovoye Array 127.93 26 PKP **PKPdf 15 16 41.7 +0.9**
comp=Z,58nn,0.8s,baz=270,slow=1.5,SNR=130
BVAR pPKP **pPKPdf 15 17 14.2 -1.1**
comp=Z,31nn,0.8s,baz=343,slow=4.6,SNR=7.2
BVAR PKKPbc PKKPbc 15 26 02.1
comp=Z,1.4nm,0.7s,baz=108,slow=3.3,SNR=5.0
BVAR PKKP **PKKPdf 15 26 51.4 -1.5**
comp=Z,2.8nm,0.8s,baz=139,slow=2.5,SNR=6.9
BVAR SKKPbc SKKPbc 15 30 01.7 +15
comp=Z,2.9nm,0.9s,baz=134,slow=4.2,SNR=3.7
KUR Kuril'sk 128.33 322*de*PKIKP **PKPdf 15 16 41.3 -0.4**
MZR Muzera 128.87 68 *i* PKiKP **PKiKP 15 16 44.0 -0.1**
SNR=8.6
BBOO Buckleboo 128.97 214 *e*PKPdf **PKPdf 15 16 44.1 +0.7**
GEYT Alibeck 129.00 48 PKP **PKPdf 15 16 43.8 +0.4**
comp=Z,28nn,0.8s,baz=272,slow=12,SNR=27
GEYT pPKP **pPKPdf 15 17 16.9 -1.0**
comp=Z,9.0nm,0.6s,baz=83,slow=4.6,SNR=3.9
GEYT SKKPbc SKKPbc 15 29 55.5 +13
comp=Z,2.6nm,0.9s,baz=235,slow=5.2,SNR=5.2
GYA0B ALIBECK ARRAY 129.00 48 *e*PKPdf **PKPdf 15 16 44.6 +1.2**
AJN Ajban 130.01 65 *i* PKiKP **PKiKP 15 16 46.2 -0.2**
SNR=14
CTA Charters Tower 130.13 234 PKP **PKPdf 15 16 46.5 +0.5**
comp=Z,49nn,0.8s,baz=208,slow=1.2,SNR=48
CTA pPKP **pPKPdf 15 17 19.4 -1.1**
comp=Z,39nn,0.9s,baz=83,slow=1.1,SNR=8.2
CTA SKKPbc SKKPbc 15 29 46.8 +10
comp=Z,9.3nm,0.8s,baz=289,slow=3.9,SNR=7.3
CTAO Charters Tower 130.13 234 *e*PKPdf **PKPdf 15 16 46.4 +0.4**
YUK Yuzh-Kuril'sk 130.18 322 *e*PKIKP PKPpre 15 16 36.1
YUK *e* 15 18 55.4
YUK *e* 15 23 41.0
YSS Yuzh-Sakhalins 130.31 327 *e*PKPdf **PKPdf 15 16 46.3 +0.9**
YSS Yuzh-Sakhalins 130.31 327 *i* PKIKP **PKPdf 15 16 45.5 0.0**
YSS *e* 15 17 20.0
YSS pmax pmax
comp=Z,100nm,0.8s
ASUD Al Ashush, Dub 130.31 65 PKiKP **PKiKP 15 16 47.1 +0.1**
SNR=12
ASUD SKPdf **SKiKP 15 20 12.3 +1.0**
ASUD Al Ashush, Dub 130.31 65 *i* PKiKP **PKiKP 15 16 47.5 +0.5**
SNR=17
UMQ Umm Al-Quwin 130.46 64 *i* PKiKP **PKiKP 15 16 47.4 +0.2**
SNR=5.3
FAQ Al Faqa, Dubai 130.53 65 PKiKP **PKiKP 15 16 47.1 -0.3**
SNR=27
FAQ SKPdf **SKiKP 15 20 11.2 -0.5**
FAQ Al Faqa, Dubai 130.53 65 *i* PKiKP **PKiKP 15 16 47.1 -0.3**
SNR=20
NAZ Nazwa, Dubai 130.55 65 PKiKP **PKiKP 15 16 47.1 -0.4**
SNR=14
NAZ SKPdf **SKiKP 15 20 11.6 -0.2**
NAZ Nazwa, Dubai 130.55 65 *i* PKiKP **PKiKP 15 16 47.4 -0.1**
SNR=9.7
BOD Bodaibo 130.73 354 *e*PKIKP **PKPdf 15 16 44.7 -1.2**
BOD pmax pmax
comp=Z,71nm,1.7s
ALNE Al Ain 130.78 66 *i* PKiKP **PKPdf 15 16 47.5 +0.4**
SNR=20
SHME Shamm 130.78 63 *i* PKiKP **PKPdf 15 16 47.4 +0.4**
SNR=18
GRNR Gornyy 130.85 334 *e*PKIKP **PKPdf 15 16 40.0 -6.4**
GRNR *e* 15 17 23.0
GRNR pmax pmax
comp=Z,13nm,1.0s
MSFE Esma-Masafi 130.93 64 *i* PKiKP **PKPdf 15 16 47.8 +0.4**
SNR=22
BANOM Banah 130.95 63 PKiKP **PKiKP 15 16 48.7 +0.4**
SNR=13
BANOM Banah 130.95 63 *i* PKiKP **PKPdf 15 16 47.4 +0.1**
SNR=20
ASHO Ashiyiah 130.96 65 PKiKP **PKPdf 15 16 47.4 -0.1**
SNR=27
ASHO SKPdf **SKiKP 15 20 12.2 -0.5**
ASHO Ashiyiah 130.96 65 *i* PKiKP **PKiKP 15 16 48.3 -0.1**
SNR=5.6
HATD Hatta, Dubai 131.00 65 PKiKP **PKPdf 15 16 47.7 +0.2**
SNR=29
HATD SKPdf **SKiKP 15 20 12.3 -0.4**
HATD Hatta, Dubai 131.00 65 *i* PKiKP **PKiKP 15 16 48.4 0.0**
SNR=24
UOSS Minazif 131.04 65 PKiKP **PKPdf 15 16 47.4 -0.2**
SNR=21
UOSS SKPdf **SKiKP 15 20 12.3 -0.5**
UOSS Minazif 131.04 65 *i* PKiKP **PKPdf 15 16 47.7 +0.2**
SNR=13
NVS Novosibirsk 131.07 16⇑*i*PKIKP **PKPdf 15 16 47.6 +0.9**
NVS *i* 15 17 20.9
NVS pmax pmax
comp=Z,126nm,1.1s
NVS pmax pmax
comp=N,9.0nm,0.9s
NVS pmax pmax
comp=E,38nm,1.2s
BRZS Berezniki 131.10 27 *i* PKP **PKPdf 15 16 47.1 +0.2**
comp=E,141nm,2.5s
BRZS *i* pPKP **pPKPdf 15 17 21.8 +0.3**
SOHO SOHO 131.48 66 *i* PKiKP **PKiKP 15 16 49.0 -0.4**
SNR=21
ZEA Zeya 131.84 342 *e*PKIKP **PKPdf 15 16 47.8 -0.4**
ZEA *e* 15 17 20.0
ZEA *e* 15 19 07.0
ZEA pmax pmax
comp=N,140nm,1.8s
ZEA pmax pmax
comp=Z,160nm,1.6s
ZEA pmax pmax
comp=Z,800nm,3.0s
ZEA pmax pmax
comp=Z,700nm,7.0s
OTUK Ortayu 132.17 29 PKIKP **PKPdf 15 16 47.7 -1.3**
OTUK pmax pmax
comp=Z,50nm,1.1s
ZALV Zalesovo Beam 132.30 16 PKP **PKPdf 15 16 49.8 +0.8**
comp=Z,160nn,0.8s,baz=324,slow=2.8,SNR=160
ZALV pPKP **pPKPdf 15 17 22.6 -1.0**
comp=Z,58nn,0.7s,baz=270,slow=2.4,SNR=4.8
ZALV SKPab **SKPab 15 20 05.7 +0.6**
comp=Z,14nn,1.1s,baz=329,slow=3.8,SNR=3.5
ZALV SKKPbc SKKPbc 15 29 05.5 -26
comp=Z,2.3nm,0.9s,baz=148,slow=3.6,SNR=3.8
BSY Bisya 132.30 67 PKiKP **PKPdf 15 16 50.5 +0.5**
SNR=8.8
BIDO Bidbid 133.02 66 PKiKP **PKiKP 15 16 51.9 -0.6**
SNR=24
KURK Kurchatov 133.02 23 PKP **PKPdf 15 16 51.6 +1.2**
KURK pPKP **pPKPdf 15 17 24.0 -1.1**
KURK PP **PP 15 19 13.4 -3.7**
KURK SKPab **SKPab 15 20 09.6 +1.2**
KURK PKKPbc PKKPbc 15 25 45.5
KURK PKKP **PKKPdf 15 26 40.5 -2.5**
KURK SKKPbc **SKKPbc 15 29 23.1 -5.6**
KURK Kurchatov 133.02 23*de*PKIKP **PKPdf 15 16 49.2 -1.3**
SMDO Samad 133.03 67 PKiKP **PKPdf 15 16 51.9 +0.4**
SNR=8.3
KURBB Kurchatov Arra 133.06 23 PKP **PKPdf 15 16 51.6 +1.1**
comp=Z,76nm,0.9s,baz=312,slow=2.6,SNR=24
KURBB pPKP **pPKPdf 15 17 24.0 -1.1**
comp=Z,48nm,1.0s,baz=314,slow=2.6,SNR=6.7
KURBB PP **PP 15 19 13.4 -3.9**
comp=Z,9.9nm,1.0s,baz=321,slow=7.5,SNR=4.4
KURBB SKPab **SKPab 15 20 09.6 +1.0**
comp=Z,9.1nm,1.1s,baz=290,slow=7.3,SNR=4.1
KURBB PKKPbc PKKPbc 15 25 45.5
comp=Z,0.7nm,0.7s,baz=140,slow=3.6,SNR=5.6
KURBB PKKP **PKKPdf 15 26 40.5 -2.5**
comp=Z,2.3nm,1.0s,baz=135,slow=1.4,SNR=6.9
KURBB SKKPbc **SKKPbc 15 29 23.1 -5.4**
comp=Z,2.4nm,0.8s,baz=137,slow=4.5,SNR=6.0
WSAR Wadi Sarin 133.52 66 PKiKP **PKiKP 15 16 53.0 -0.6**
SNR=26
SEM Semipalatinsk 133.88 22⇓*i*PKP **PKPdf 15 16 53.1 +0.7**
comp=Z,234nm,2.5s
SEM *i* pPKP **pPKPdf 15 17 28.2 +1.2**
KLR Kul'dur 133.98 336*d i*PKIKP **PKPdf 15 16 51.9 -0.5**
CHM Chimkent 134.55 37 *e*PKP **PKPdf 15 16 54.6 +1.0**
comp=Z,250nm,2.2s
KK31 Karatay Array 134.60 36 *i* PKIKP **PKPdf 15 16 49.8 -3.9**
KK31 pmax pmax
comp=Z,7.0nm,0.7s
TEY Ternei 134.82 328⇑*e*PKIKP **PKPdf 15 16 53.9 -0.1**
TEY pmax pmax
comp=Z,60nm,1.0s
TEY pmax pmax
comp=Z,200nm,4.3s
IUG luzhnay 134.91 37⇓*i*PKP **PKPdf 15 16 55.8 +1.3**
comp=Z,201nm,2.2s
IUG *i* pPKP **pPKPdf 15 17 30.6 +1.6**
DZA Taraz 135.20 35⇓*i*PKP **PKPdf 15 16 55.8 +0.9**
comp=Z,158nm,2.4s
MNAS Manas 136.12 35 PKHKP PKPpre 15 16 49.1
MNAS pmax pmax
comp=Z,70nm,0.7s
CIT Chita 136.46 352 *e*PKIKP **PKPdf 15 16 57.9 +0.9**
CIT *e* 15 17 30.6
CIT pmax pmax
comp=Z,166nm,1.9s
USP Ospenovka 136.70 33 P **PKPdf 15 16 59.3 +1.6**
SNR=16
EKS2 Erkin-Say 136.72 34 P PKPpre 15 16 47.3
SNR=6.8
IRK Irkutsk 136.82 1 *e*PKIKP **PKPdf 15 16 56.8 -0.8**
IRK pmax pmax
comp=Z,217nm,3.7s
DGZ Jazzator, Alta 136.83 17*d i*PKIKP **PKPdf 15 16 58.5 +0.6**
HVS Khovu-Aksy 136.92 10*d i*PKIKP **PKPdf 15 16 58.2 +0.3**
ASAR Alice Springs 136.95 221 PKhKP PKPpre 15 16 47.8
comp=Z,5.8nm,0.7s,baz=126,slow=3.6,SNR=44
ASAR PKP **PKPdf 15 16 59.1 +0.3**
comp=Z,84nm,0.8s,baz=124,slow=1.8,SNR=62
ASAR pPKP pPKPdf 15 17 33.3 -0.1
comp=Z,50nm,0.9s,baz=130,slow=2.2,SNR=4.2
ASAR SKPab **SKPab 15 20 29.4 +2.8**
comp=Z,5.5nm,0.8s,baz=144,slow=1.7,SNR=4.1

ASAR PKKP **PKKPdf** **15 26 34.5 -0.5**
comp=Z,1.0nm,0.5s,baz=319,slow=1.4,SNR=7.9
ASAR SKKPbc **SKKPbc** **15 29 12.8 +0.6**
comp=Z,3.2nm,0.9s,baz=328,slow=5.7,SNR=5.4
CHMS **Chumysh** **137.02** **33** P **PKPdf** **15 16 59.8 +1.5**
SNR=17
AML **Almayashu** **137.03** **34** P PKPpre 15 16 48.9
SNR=6.2
FRU **Bishkek** **137.06** **33**⇓*e*PKIKP **PKPdf** **15 16 59.0 +0.6**
FRU *i* 15 17 30.0
FRU pmax pmax
comp=Z,280nm,2.0s
AAK **Ala-Archa** **137.13** **33** P **PKPdf** **15 17 00.3 +1.6**
SNR=15
AAK **Ala-Archa** **137.13** **33** PKiKP **PKiKP** **15 17 00.2 -0.4**
SNR=26
AAK **Ala-Archa** **137.13** **33** *i* PKiKP **PKiKP** **15 17 00.6 0.0**
SNR=16
AAK **Ala-Archa** **137.13** **33***c* *i*PKIKP **PKPdf** **15 16 59.6 +0.9**
KUU **Kurty** **137.22** **31**⇓*i*PKP **PKPdf** **15 16 59.6 +1.0**
comp=Z,348nm,2.6s
MOY **Mondy** **137.28** **4** *e*PKIKP **PKPdf** **15 16 59.8 +1.2**
MOY *e* 15 17 34.6
MOY *e* 15 19 41.5
MOY pmax pmax
comp=Z,267nm,2.9s
KBK **Karagaybulak** **137.36** **33** P PKPpre 15 16 48.7
SNR=5.1
TLY **Talaya** **137.37** **1***d* *i*PKIKP **PKPdf** **15 16 59.4 +0.8**
TLY *e* 15 19 41.3
TLY *e*PPS PPS 15 31 39.7
TLY pmax pmax
comp=Z,56nm,1.7s
TLY MLR MLR
comp=Z,233nm,17.0s
UCH **Uchtor** **137.42** **34** P PKPpre 15 16 48.8
SNR=7.3
TKM2 **Tokmak 2** **137.52** **32** P **PKPdf** **15 17 01.4 +1.9**
SNR=15
MK31 **Makanchi Array** **137.62** **23** *e*PKPdf **PKPdf** **15 17 00.3 +1.0**
MK31 **Makanchi Array** **137.62** **23** *i* PKHKP PKPpre 15 16 50.9
MK31 pmax pmax
comp=Z,30nm,0.7s
MKAR **Makanchi Array** **137.62** **23** PKhKP PKPpre 15 16 50.0
comp=Z,4.3nm,0.8s,baz=327,slow=3.0,SNR=10
MKAR PKP **PKPdf** **15 16 59.7 +0.5**
comp=Z,54nm,0.8s,baz=305,slow=2.3,SNR=65
MKAR pPKP pPKPdf 15 17 34.0 +0.1
comp=Z,30nm,0.8s,baz=345,slow=1.7,SNR=5.4
MKAR PKKP **PKKPdf** **15 26 32.4 -1.7**
comp=Z,0.9nm,0.8s,baz=193,slow=1.9,SNR=5.4
MKAR SKKPbc SKKPbc 15 28 60.0 -11
comp=Z,6.4nm,0.9s,baz=142,slow=6.9,SNR=4.0
MK01 **Makanchi Array** **137.65** **23** *e*PKPdf **PKPdf** **15 17 00.2 +0.9**
USA0B **Ussuriysk Arra** **137.73** **331** *e*PKPdf **PKPdf** **15 17 00.4 +1.0**
USRK **Ussuriysk Ar.** **137.73** **331** PKhKP PKPpre 15 16 46.8
comp=Z,3.1nm,0.6s,baz=34,slow=2.1,SNR=11
USRK PKP **PKPdf** **15 16 59.9 +0.4**
comp=Z,49nm,0.9s,baz=57,slow=3.5,SNR=12
USRK SKPbc **SKPbc** **15 20 22.7 +1.2**
comp=Z,8.3nm,0.9s,baz=36,slow=3.7,SNR=7.6
KZA **Kyzart** **137.92** **33** P **PKPdf** **15 17 01.3 +0.9**
SNR=10.0
HIA **Hailar** **137.92** **346** *e*PKPdf **PKPdf** **15 17 00.8 +1.1**
AAA **Alma-Ata** **138.00** **31** *e*PKP **PKPdf** **15 17 01.6 +1.5**
comp=Z,599nm,3.3s
KNGR **Kungurtug, Tuv** **138.01** **7***d* *i*PKIKP **PKPdf** **15 17 01.0 +1.0**
ZSN **Zaisan** **138.01** **20**⇓*i*PKP **PKPdf** **15 17 00.7 +0.7**
comp=Z,118nm,3.9s
ZSN *i* pPKP **pPKPdf** **15 17 35.5 +0.9**
MDOK **Medeo** **138.10** **31** *i* PKP **PKPdf** **15 17 01.9 +1.4**
comp=Z,2μm,3.3s
ULHL **Ulahol** **138.34** **32** P PKPpre 15 16 52.4
SNR=11
MDJ **Mudanjiang** **138.52** **333** PKP **PKPdf** **15 17 00.9 0.0**
MDJ sPKP 15 17 42.5
MDJ PP **PP** **15 19 52.3 +0.5**
MDJ SKS **SKSdf** **15 24 01.1 +1.4**
MDJ AMB AMB
comp=Z,470nm,4.2s
MDJ LR LR
comp=Z,690nm,20.3s
MDJ LR LR
comp=Z,340nm,14.7s
MDJ LR LR
comp=Z,880nm,20.3s
ZAK **Zakamensk** **138.66** **2** *e*PKHKP PKPpre 15 16 48.5
ZAK pmax pmax
comp=Z,155nm,1.0s
KPKS **Kokpek** **138.69** **29**⇓*i*PKP **PKPdf** **15 17 02.8 +1.4**
comp=Z,385nm,2.4s
KPKS *i* pPKP **pPKPdf** **15 17 37.6 +1.6**
ZHN **Zhinishke** **138.79** **30**⇓*e*PKP **PKPdf** **15 17 02.6 +1.0**
comp=Z,226nm,3.7s
SATY **Saty** **138.85** **30**⇓*i*PKP **PKPdf** **15 17 02.9 +1.1**
comp=Z,227nm,3.3s
SATY *i* pPKP **pPKPdf** **15 17 37.3 +1.0**
UZB **Uzynbulak** **139.09** **29**⇓*i*PKP **PKPdf** **15 17 03.4 +1.2**
comp=Z,180nm,2.6s
MAJO **Matsushiro** **139.16** **317***de*PKIKP **PKPdf** **15 17 01.1 -1.3**
MAT **Matsushiro** **139.16** **317** PKP PKPpre 15 16 51.0
MJAR **Matsushiro Arr** **139.16** **317** PKhKP PKPpre 15 16 51.5
comp=Z,15nm,0.9s,baz=95,slow=1.7,SNR=30
MJAR PKP **PKPdf** **15 17 02.7 +0.3**
comp=Z,30nm,0.8s,baz=95,slow=1.1,SNR=19
MJAR SKPbc **SKPbc** **15 20 25.8 -0.1**
comp=Z,12nm,1.0s,baz=216,slow=1.0,SNR=6.0
WRAB **Tennant Creek** **139.22** **225***de*PKIKP **PKPdf** **15 17 01.7 -1.3**
WRA **Warramunga Arr** **139.22** **225** PKhKP PKPpre 15 16 54.9
comp=Z,17nm,0.8s,baz=130,slow=2.8,SNR=67
WRA PKP **PKPdf** **15 17 03.5 +0.6**
comp=Z,115nm,0.7s,baz=124,slow=2.0,SNR=75
WRA pPKP pPKPdf 15 17 37.9 +0.3
comp=Z,60nm,0.8s,baz=122,slow=2.0,SNR=5.4
WRA PP **PP** **15 19 54.7 -2.1**
comp=Z,6.0nm,1.0s,baz=129,slow=4.3,SNR=5.8
WRA PKKP **PKKPdf** **15 26 31.3 +0.7**
comp=Z,1.0nm,0.9s,baz=318,slow=1.6,SNR=4.9
WRA SKKPbc SKKPbc 15 28 56.4 -6.9
comp=Z,4.5nm,0.9s,baz=318,slow=5.6,SNR=5.6
SHLS **Shalkode** **139.29** **29**⇓*i*PKP **PKPdf** **15 17 04.6 +2.1**
comp=Z,192nm,2.1s
SHLS *i* pPKP **pPKPdf** **15 17 39.4 +2.3**
MSHR **Mys Shultsa** **139.34** **330***c* *i*PKIKP **PKPdf** **15 17 02.6 +0.1**
KSH **Kashi** **140.05** **36** PKP **PKPdf** **15 16 56.6 -7.5**
KSH SKS **SKSdf** **15 23 54.9 -7.9**
KSH AMB AMB
comp=Z,940nm,6.5s
KSH LR LR
comp=Z,1μm,23.5s
CBIJ **Chichi jima** **140.43** **302** PKPpre PKPpre 15 16 55.4
JCJ **Chichijima** **140.43** **302** PKhKP PKPpre 15 16 55.4
comp=Z,59nm,0.7s,baz=313,slow=10,SNR=6.9
GUMO **Guam** **140.57** **280** PKhKP PKPpre 15 16 57.5
comp=Z,71nm,0.7s,baz=25,slow=6.3,SNR=2.2
GUMO PKP **PKiKP** **15 17 06.8 -1.3**
comp=Z,172nm,1.1s,baz=166,slow=14,SNR=4.3
SONM **Songino Array** **141.21** **358** PKhKP PKPpre 15 16 59.6
comp=Z,14nm,0.6s,baz=332,slow=2.7,SNR=49
SONM PP **PP** **15 20 08.0 +0.1**
comp=Z,20nm,1.1s,baz=344,slow=4.5,SNR=7.5
SONM SKKPbc SKKPbc 15 28 41.6 -16
comp=Z,2.4nm,0.9s,baz=172,slow=4.6,SNR=3.8
WMQ **Urumqi** **142.15** **20** PKP **PKPdf** **15 17 05.1 -2.5**
WMQ pPKP pPKPdf 15 17 38.8 -3.4
WMQ PP **PP** **15 20 12.3 -1.5**
WMQ PKS **PKSdf** **15 20 43.4 0.0**
WMQ AMB AMB
comp=Z,1μm,7.1s
WMQ LR LR
comp=Z,750nm,29.1s
WMQ LR LR
comp=Z,1μm,33.3s
WMQ LR LR
comp=Z,1μm,29.1s
JAY **Jayapura** **142.55** **254** PKhKP PKPpre 15 17 03.8
comp=Z,29nm,0.9s,baz=151,slow=4.2,SNR=8.7
SNY **Shenyang** **143.33** **336** ⇓PKP PKPab 15 17 04.0 -1.8
SNY PP **PP** **15 20 24.1 +3.2**
BHJ **Bhuj** **143.38** **63** *e*P PKPbc 15 17 08.8 +1.0
DGAR **Diego Garcia** **143.81** **116***de*PKIKP PKPbc 15 17 10.1 +0.8
DHRM **DHARAMSHALA** **144.78** **45** *e*P PKPbc 15 17 12.2 +0.1
KSRS **Korea Array** **144.80** **327** PKP **PKPab** **15 17 11.6 0.0**
comp=Z,140nm,0.8s,baz=47,slow=2.7,SNR=192
KSRS pPKP **pPKPdf** **15 17 45.5 -1.4**
comp=Z,45nm,0.8s,baz=47,slow=3.7,SNR=3.3
KSRS SKP 15 20 35.4
comp=Z,6.6nm,0.9s,baz=40,slow=1.4,SNR=4.1
KS15 **Wonju Array Si** **144.83** **327** *e*PKPdf **PKPdf** **15 17 12.3 -0.1**
KSAR **Wonju Array Be** **144.83** **327** PKP **PKPab** **15 17 11.6 -0.1**
KSAR pPKP **pPKPdf** **15 17 45.5 -1.5**
KSAR SKP 15 20 35.4
KSAR **Wonju Array Be** **144.83** **327** PKiKP **PKPab** **15 17 11.6 -0.1**
KSAR 15 17 45.5
KSAR 15 20 35.4
TJN **Taejon** **145.90** **327***d* *i*PKIKP **PKPdf** **15 17 14.0 -0.3**
SMLA **Simla** **146.02** **46** *e*P **PKPdf** **15 17 14.8 +0.2**
SMLA IAmb IAmb 15 17 17.9
comp=Z,30μm,3.4s
MTN **Manton Dam** **146.14** **231** *e*PKPdf **PKPbc** **15 17 16.2 -0.2**
FITZ **Fitzroy Crossi** **146.23** **217** PKPbc **PKPbc** **15 17 16.1 -0.5**
comp=Z,695nm,0.8s,baz=199,slow=1.3,SNR=777
FITZ **Fitzroy Crossi** **146.23** **217** *e*PKPdf **PKPbc** **15 17 16.6 +0.1**
DL2 **Dalian** **146.60** **336** PKPbc **PKPdf** **15 17 15.6 +0.2**
DL2 PP **PP** **15 20 40.8 +0.4**
DL2 SS SS 15 39 30.8 +3.0
DL2 AMB AMB
comp=Z,890nm,3.9s
MBWA **Marble Bar** **146.74** **206** *e*PKPdf **PKPbc** **15 17 17.1 -0.9**
MBWA **Marble Bar** **146.74** **206** PKPbc **PKPdf** **15 17 16.4 +0.3**
SNR=36
DDI **Dehra Dun** **147.11** **46** *e*P **PKPdf** **15 17 17.5 +0.9**
BOM **Bombay** **147.36** **69** *e*P PKPpre 15 17 09.9
NDI **New Delhi** **147.39** **49** *e*P **PKPdf** **15 17 17.0 0.0**
BJT **Baijiatuau** **147.46** **344** *e*PKPdf **PKPbc** **15 17 18.3 -1.1**
BJT **Baijiatuau** **147.46** **344** *e*PKIKP **PKPbc** **15 17 18.3 -1.1**
HHC **Hu-ho-hao-te** **147.67** **351** *e*PKPbc **PKPdf** **15 17 18.6 +1.3**
HHC pPKP pPKPdf 15 17 45.2 -6.7
HHC sPKP 15 17 56.0
HHC PP **PP** **15 20 51.9 +5.4**
HHC SKKS 15 27 30.1
HHC SS **SS** **15 39 45.1 +5.5**
HHC AMB AMB
comp=Z,170nm,5.9s
BTO **Baotou** **148.14** **353** *e*PKPbc **PKPdf** **15 17 18.4 +0.4**
POO **Poona** **148.40** **69** *e*P **PKPdf** **15 17 18.3 -0.7**
HMDM **Hanimaadhoo** **148.50** **92** *e*PKPdf **PKPdf** **15 17 20.6 +1.3**
MNCI **Minicoy** **148.50** **89** *e*PKPbc **PKPbc** **15 17 24.8 +1.8**
KMPI **Kaimana, Papua** **148.69** **248** PKP **PKPbc** **15 17 25.1 +1.6**
GTA **Gaotai** **149.31** **8** ⇓PKPbc **PKPdf** **15 17 20.9 +0.9**
GTA pPKP pPKPdf 15 17 51.7 -3.0
GTA sPKP 15 18 03.7
GTA PP **PP** **15 20 56.6 +0.6**
GTA SKKS 15 27 35.1
GTA SS **SS** **15 39 54.8 -3.1**
GTA AMB AMB
comp=Z,810nm,5.9s
GTA LR LR
comp=Z,420nm,22.7s
GTA LR LR
comp=Z,230nm,21.0s
GTA LR LR
comp=Z,600nm,20.6s
BHPL **Bhopal** **150.08** **58** *e*P **PKPdf** **15 17 20.3 -1.3**
FAKI **Fak Fak** **150.31** **248** *e*PKPbc **PKPbc** **15 17 28.6 +1.1**
TIA **Tai'an** **150.66** **340** PKPbc **PKPdf** **15 17 23.0 +0.9**
JOW **Kunigami** **151.61** **312** PKP **PKPdf** **15 17 25.0 +1.2**
comp=Z,37nm,0.9s,baz=265,slow=6.6,SNR=4.9
JOW PKPbc **PKiKP** **15 17 30.5 0.0**
comp=Z,206nm,0.9s,baz=337,slow=1.7,SNR=22
JOW pPKPbc **pPKPbc** **15 18 05.0 +0.5**
comp=Z,90nm,0.7s,baz=39,slow=2.7,SNR=3.1
JOW **Kunigami** **151.61** **312** PKP **PKPdf** **15 17 25.0 +1.2**
JOW *e*PKPbc **PKiKP** **15 17 31.0 +0.5**
JOW pPKPbc **pPKPbc** **15 18 05.0 +0.5**
PYUN **Piuthan** **151.89** **44** *e*P **PKPdf** **15 17 25.1 +0.6**
SIJI **Sorong** **152.00** **251** PKP **PKPdf** **15 17 25.3 +0.5**
comp=Z,15nm,1.0s,baz=64,slow=2.9,SNR=26
SIJI PKPbc **PKiKP** **15 17 31.9 +0.2**
comp=Z,68nm,0.6s,baz=15,slow=2.8,SNR=52
SIJI pPKPbc **pPKPbc** **15 18 06.3 +0.5**
comp=Z,85nm,0.6s,baz=60,slow=5.1,SNR=6.3
SWI **Sorong** **152.00** **251** PKP **PKPbc** **15 17 32.6 +1.2**
DANN **Dangsing** **152.26** **43** *e*P **PKPdf** **15 17 26.1 +1.0**
NGP **Nagpur** **152.28** **61** *e*P **PKPdf** **15 17 25.6 +0.7**
KOLN **Koldanda** **152.52** **44** *e*P **PKPdf** **15 17 25.7 +0.3**
LZH **Lanzhou** **152.96** **2** *e*PKPbc **PKPdf** **15 17 27.0 +1.3**
LZH PKPab **PKPab** **15 17 45.1 +0.5**
LZH pPKP pPKPdf 15 17 52.2 -8.2
LZH SKKS 15 27 57.9
LZH SS **SS** **15 40 36.6 -1.5**
LZH AMB AMB
comp=Z,2μm,4.6s
LZH LR LR
comp=Z,890nm,16.3s
LZH LR LR
comp=Z,510nm,17.9s
LZH LR LR
comp=Z,1μm,18.4s
HYB **Hyderabad** **153.01** **69**⇓*i*PKP **PKPdf** **15 17 26.0 -0.1**
HYB *e* 15 17 34.5
HYB *e* 15 17 46.5
HYB *e* 15 18 07.5
HYB *e*PP **PP** **15 21 18.0 -1.2**
GKN **Gorkha** **153.07** **43** *e*P **PKPdf** **15 17 26.6 +0.5**
SOEI **Soe** **153.24** **227** *e*PKPbc **PKPbc** **15 17 36.1 +1.8**
BATI **Baumata** **153.35** **225** PKP **PKPdf** **15 17 28.0 +1.2**
comp=Z,47nm,0.9s,baz=291,slow=1.9,SNR=6.8
BATI PKPbc **PKiKP** **15 17 35.5 +1.0**
comp=Z,147nm,0.8s,baz=312,slow=0.6,SNR=20
NJ2 **Nanjing** **153.61** **333** *e*PKPbc **PKPdf** **15 17 26.7 +0.2**
KKN **Kakani** **153.64** **42** *e*P **PKPdf** **15 17 27.4 +0.4**
DMN **Daman** **153.64** **43** *e*P **PKPdf** **15 17 27.4 +0.3**
PKIN **Phulchoki** **153.86** **42** *e*P **PKPdf** **15 17 27.3 -0.1**
PKI **Pulchoki** **153.87** **42** *e*P **PKPdf** **15 17 27.5 0.0**
GUN **Gumba** **153.95** **41** *e*P **PKPdf** **15 17 28.0 +0.4**
XAN **Xi'an** **154.75** **352** PKPbc **PKPdf** **15 17 28.4 +0.2**
XAN PP **PP** **15 21 23.8 -3.0**
XAN AMB AMB
comp=Z,830nm,8.2s
XAN LR LR
comp=Z,450nm,23.9s
XAN LR LR
comp=Z,330nm,21.7s
XAN LR LR
comp=Z,520nm,23.9s
LSA **Lhasa** **155.65** **30** PKP **PKPdf** **15 17 31.1 +1.0**
LSA **Lhasa** **155.65** **30** PKPdf **PKPdf** **15 17 31.1 +1.0**
PALK **Pallekele** **155.98** **92** PKPdf **PKPdf** **15 17 29.9 -0.5**
GTK **Tadong** **156.08** **38** *e*P **PKPdf** **15 17 30.6 +0.3**
BOK **Bokaro** **156.56** **49** *e*P **PKPdf** **15 17 29.9 -0.9**
WHN **Wuhan** **156.76** **339** PKP **PKPdf** **15 17 31.2 +0.3**
WHN PKPab **PKPab** **15 18 00.3 -0.5**
WHN PP **PP** **15 21 38.1 -0.1**
WHN LR LR
comp=Z,2μm,28.5s
TAWA **Tawang** **157.72** **32** *e*P **PKPdf** **15 17 32.1 -0.6**
CD2 **Chengdu** **158.11** **3** PKP **PKPdf** **15 17 31.2 -1.4**
CD2 pPKP PKPab 15 18 03.3 -3.3
CD2 sPKP 15 18 15.7
CD2 PP **PP** **15 21 45.7 +0.3**
CD2 SKS **SKSdf** **15 24 26.0 -0.9**
CD2 SKKS **SKKSac** **15 28 22.7 -1.1**
CD2 SS **SS** **15 41 35.8 +2.4**
CD2 AMB AMB
comp=Z,2μm,6.1s
CD2 LR LR
comp=Z,670nm,25.8s
CD2 LR LR
comp=Z,780nm,31.8s
BWNR **Bhubaneshwar** **158.37** **56** *e*P **PKPdf** **15 17 33.7 +0.6**
TURI **Tura** **158.43** **38** *e*P **PKPdf** **15 17 32.9 -0.3**
ZIRO **ZIRO** **158.76** **28** *e*P **PKPdf** **15 17 32.9 -0.7**
TEZP **TEZPUR** **159.00** **32** *e*P **PKPdf** **15 17 33.4 -0.3**
ITAN **ITANAGAR** **159.02** **29** *e*P **PKPdf** **15 17 33.1 -0.6**
SHL **Shillong** **159.33** **35** *e*P **PKPdf** **15 17 33.2 -1.2**
QZH **Quanzhou** **159.42** **322**⇓*i*PKP **PKPdf** **15 17 35.2 +0.9**
QZH PP **PP** **15 21 58.7 +5.3**
QZH SKKS 15 28 30.0
QZH SS **SS** **15 41 46.7 -2.2**
QZH AMB AMB
comp=Z,360nm,6.1s
DAV **Davao City (W)** **159.45** **266** PKP **PKPdf** **15 17 35.0 +0.4**
comp=Z,158nm,0.3s,baz=76,slow=8.3,SNR=3.0
DAV PKPab **PKPab** **15 18 14.1 +0.9**
comp=Z,219nm,0.4s,baz=42,slow=15,SNR=3.7
DAV **Davao City (W)** **159.45** **266**⇓*i*P **PKPdf** **15 17 32.6 -2.0**
JORH **JORHAT** **159.61** **28** *e*P **PKPdf** **15 17 32.6 -1.9**
LUWI **Luwuk** **159.63** **242** PKP **PKPdf** **15 17 36.0 +1.2**
LKP **Lekhapani** **159.79** **24** *e*P **PKPdf** **15 17 34.1 -0.5**
LKP IAMs_20 IAMs_20 15 49 57.1
comp=Z,824nm,12.5s
MOKO **MOKOCHONG** **160.09** **28** *e*P **PKPdf** **15 17 34.9 -0.3**
AGT **Agartala** **160.21** **40** *e*P **PKPdf** **15 17 35.1 -0.1**
KOHI **KOHIMA** **160.40** **30** *e*P **PKPdf** **15 17 35.3 -0.3**
SILR **SILCHAR** **160.47** **35** *e*P **PKPdf** **15 17 34.5 -1.0**
BELO **BELONIA** **160.79** **41** *e*P **PKPdf** **15 17 35.2 -0.6**
IMP **Imphal** **161.05** **32** *e*P **PKPdf** **15 17 36.1 -0.1**
SAIH **SAIHA** **162.32** **39** *e*P **PKPdf** **15 17 37.6 -0.1**
GYA **Guiyang** **162.49** **355** *i* PKP **PKPdf** **15 17 37.6 -0.1**
GYA pPKP pPKPdf 15 18 08.2 -4.2
GYA sPKP 15 18 20.5
GYA PKPab **PKPab** **15 18 26.4 +0.5**
GYA PKS **PKSdf** **15 21 07.0 -4.1**
GYA PP **PP** **15 22 11.6 +2.6**
GYA SKKS 15 28 45.4
GYA SS **SS** **15 42 20.0 +0.4**
GYA AMB AMB
comp=Z,190nm,8.2s
GYA LR LR
comp=Z,420nm,21.2s
GYA LR LR
comp=Z,450nm,21.9s
GYA LR LR
comp=Z,380nm,21.4s
MPSI **Mapaga** **162.80** **241** PKP **PKPdf** **15 17 38.1 -0.1**
TGY **Tagaytay City** **163.48** **290** PKP **PKPdf** **15 17 39.6 +0.8**
comp=Z,106nm,0.3s,baz=231,slow=10,SNR=2.9
TGY PKPab **PKPab** **15 18 32.2 +1.4**
comp=Z,67nm,0.3s,baz=70,slow=6.2,SNR=5.7
TGY pPKPab **pPKPab** **15 19 07.2 +3.2**
comp=Z,47nm,0.3s,baz=332,slow=16,SNR=1.7
KMI **Kunming** **163.77** **7** PKP **PKPdf** **15 17 39.6 +0.5**
KMI pPKP pPKPdf 15 18 13.9 +0.1
GZH **Guangzhou** **163.77** **331** PKP **PKPdf** **15 17 38.3 -0.5**
HKC **Hong Kong Obse** **164.01** **327** ⇓P **PKPdf** **15 17 40.0 +1.0**
LEM **Lembang** **164.11** **190** PP PP 15 22 24.4 +6.8
comp=Z,27nm,0.7s,baz=145,slow=18,SNR=4.3
MCO **Taipa Grande** **164.48** **329** P **PKPab** **15 18 34.0 -0.6**
PAYA **Payao** **168.54** **25** PKP **PKPdf** **15 17 42.8 +0.1**
CHTO **Chiang Mai** **168.60** **30** PKPdf **PKPdf** **15 17 43.0 +0.3**
SNR=38
CHTO **Chiang Mai** **168.60** **30** PKP **PKPdf** **15 17 42.5 -0.3**
CHTO **Chiang Mai** **168.60** **30** P **PKPab** **15 18 53.4 +0.5**
comp=Z,557nm,1.9s,comp=Z,12μm
CMMT **Chiang Mai** **168.60** **30** PKP **PKPdf** **15 17 42.4 -0.4**
CMMT **Chiang Mai** **168.60** **30** P **PKPab** **15 18 53.3 +0.4**
comp=Z,123nm,1.6s,comp=Z,3μm
QIZ **Qiongzhong** **168.89** **335** PKP **PKPdf** **15 17 43.4 +0.5**
QIZ pPKP **pPKPdf** **15 18 18.0 +0.3**
QIZ PP **PP** **15 22 44.3 +1.9**
QIZ SS SS 15 43 28.6 +3.5
CM31 **Chiang Mai Arr** **168.90** **31** *e*PKPdf **PKPdf** **15 17 43.5 +0.5**
CM31 **Chiang Mai Arr** **168.90** **31** PKPdf **PKPdf** **15 17 43.1 +0.1**
SNR=52
CMAR **Chiang Mai Arr** **168.90** **31** PKP **PKPdf** **15 17 43.2 +0.3**
comp=Z,36nm,0.9s,baz=278,slow=1.7,SNR=245
CMAR pPKP **pPKPdf** **15 18 18.2 +0.4**
comp=Z,12nm,0.8s,baz=285,slow=1.9,SNR=4.1
CMAR PKPab **PKPab** **15 18 55.2 +0.9**
comp=Z,90nm,0.9s,baz=317,slow=5.9,SNR=45
CMAR pPKPab **pPKPab** **15 19 28.0 +0.5**
comp=Z,24nm,0.9s,baz=319,slow=6.1,SNR=3.1
CMAR PP **PP** **15 22 42.5 -0.3**
comp=Z,7.9nm,1.1s,baz=321,slow=5.4,SNR=4.2
LAMP **Lampang** **169.18** **28** PKP **PKPdf** **15 17 43.6 +0.5**
SUKH **Sukhothai** **170.07** **31** PKP **PKPdf** **15 17 44.0 +0.4**
SUKH **Sukhothai** **170.07** **31** P **PKPab** **15 19 00.4 +1.0**
UTTA **Uttaradit** **170.27** **25** PKP **PKPdf** **15 17 43.9 +0.2**
UMPA **Umpang Tak** **170.67** **39** PKP **PKPdf** **15 17 44.5 +0.5**
NONG **Nongkai** **170.77** **11** PKP **PKPdf** **15 17 44.1 +0.1**
NONG **Nongkai** **170.77** **11** P **PKPab** **15 19 02.1 -0.3**
KSM **Kuching** **170.84** **216** *e*PKPdf **PKPdf** **15 17 44.7 +0.5**
PSI **Prapat** **171.48** **135** PP PP 15 22 56.9 +0.6
comp=Z,11nm,0.8s,baz=180,slow=6.0,SNR=4.3
UTHA **Uthaitani** **171.52** **39** PKP **PKPdf** **15 17 44.6 +0.2**
SKNT **Sakolnakorn** **171.96** **6** PKP **PKPdf** **15 17 44.7 +0.1**
SKNT **Sakolnakorn** **171.96** **6** P **PKPab** **15 19 07.6 -0.1**
comp=Z,48nm,1.4s,comp=Z,1μm
SRDT **SRDT** **172.18** **46** PKP **PKPdf** **15 17 44.7 -0.1**
CHAI **Chaiyaphum** **172.51** **22** PKP **PKPdf** **15 17 45.0 +0.1**
PKDT **Phuket** **173.41** **99** PKP **PKPdf** **15 17 45.3 -0.1**
PHET **Kaeng Krachan** **173.48** **52** PKP **PKPdf** **15 17 45.6 +0.3**
SRAK **Srakaew** **174.22** **29** PKP **PKPdf** **15 17 45.9 +0.3**
KRAB **Krabi** **174.30** **97** PKP **PKPdf** **15 17 45.4 -0.3**
PATY **Pattaya** **174.39** **45** PKP **PKPdf** **15 17 46.0 +0.4**
KULM **Kulim** **174.43** **130** *e*PKPdf **PKPdf** **15 17 45.3 -0.5**
TRTT **Trang** **174.72** **102** PKP **PKPdf** **15 17 45.1 -0.7**
SKLT **Songkhla** **175.40** **112** PKP **PKPdf** **15 17 45.9 -0.1**

MDD ***10*** *14:58:46.7±2.9, 37°.25N×12°.60W, h0km, mb3.5/7, Error ellipse: s-maj=24.3km s-min=23.2km az=125.0, PRXIMO*
ISC 10 14:58:46.4±4.2, 37°.3N±0°.1×12°.5W±0°.2, h10km, n29,
σ1§86/50, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**3.05**	**83**	*e*Pn	**Pn**	**Pn**	**14 59 35.5**	**+0.8**
PTEO				*e*Sn	**Sn**	**Sn**	**15 00 12.3**	**+1.0**
PTEO	**Sao Teotonio**	**3.05**	**83**	P	**Pn**	**Pn**	**14 59 35.5**	**+0.8**
PTEO				S	**Sn**	**Sn**	**15 00 12.3**	**+1.0**
PMAFR	**Mafra**	**3.08**	**56**	*e*Pn	**Pn**	**Pn**	**14 59 36.6**	**+1.5**
PMAFR				*e*Sn	**Sn**	**Sn**	**15 00 13.5**	**+1.5**
PMAFR				A	A	A	15 00 20.6	
16nm,0.7s								
PMAFR	**Mafra**	**3.08**	**56**	P	**Pn**	**Pn**	**14 59 33.6**	**-1.5**
2.8nm,0.2s,SNR=7.9								
PMAFR				S	**Sn**	**Sn**	**15 00 12.1**	**+0.1**
0.6nm,0.0s,SNR=7.9								
MORF	**Marmelete**	**3.10**	**88**	*e*Pn	**Pn**	**Pn**	**14 59 37.7**	**+2.2**
MORF				*e*Sn	**Sn**	**Sn**	**15 00 15.5**	**+2.9**
MORF				A	A	A	15 00 20.7	
2.6nm,0.1s								
MORF	**Marmelete**	**3.10**	**88**	P	**Pn**	**Pn**	**14 59 37.7**	**+2.2**
MORF				S	**Sn**	**Sn**	**15 00 15.5**	**+2.9**
2.6nm,0.1s								
MESJ	**Messejana**	**3.48**	**79**	*e*Pn	**Pn**	**Pn**	**14 59 42.2**	**+1.6**
MESJ				*e*Sn	**Sn**	**Sn**	**15 00 21.6**	**-0.3**
MESJ				A	A	A	15 00 25.9	
2.6nm,0.6s								
MESJ	**Messejana**	**3.48**	**79**	P	**Pn**	**Pn**	**14 59 42.2**	**+1.6**
MESJ				S	**Sn**	**Sn**	**15 00 21.6**	**-0.3**
2.6nm,0.6s								
ALMR	**Almeirim**	**3.65**	**58**	*e*Pn	**Pn**	**Pn**	**14 59 46.4**	**+3.4**
ALMR	**Almeirim**	**3.65**	**58**	P	**Pn**	**Pn**	**14 59 46.4**	**+3.4**
PBDV	**Barranco-do-Ve**	**3.68**	**89**	*e*Pn	**Pn**	**Pn**	**14 59 42.6**	**-0.8**
PBDV				*e*Sn	**Sn**	**Sn**	**15 00 28.2**	**+1.4**
PBDV				A	A	A	15 00 31.6	
2.9nm,0.6s								
PBDV	**Barranco-do-Ve**	**3.68**	**89**	P	**Pn**	**Pn**	**14 59 42.6**	**-0.8**
PBDV				S	**Sn**	**Sn**	**15 00 28.2**	**+1.4**
2.9nm,0.6s								
EVO	**Evora**	**3.80**	**69**	*e*Pn	**Pn**	**Pn**	**14 59 48.4**	**+3.4**
EVO				A	A	A	15 00 39.7	
3.1nm,0.7s								
EVO	**Evora**	**3.80**	**69**	P	**Pn**	**Pn**	**14 59 48.4**	**+3.4**
PVAQ	**Vaqueiros**	**3.84**	**86**	*e*Pn	**Pn**	**Pn**	**14 59 45.8**	**+0.1**
PVAQ				*e*Sn	**Sn**	**Sn**	**15 00 30.8**	**-0.1**
PVAQ				A	A	A	15 00 37.4	
2.5nm,0.1s								
PVAQ	**Vaqueiros**	**3.84**	**86**	P	**Pn**	**Pn**	**14 59 45.8**	**+0.1**
PVAQ				S	**Sn**	**Sn**	**15 00 30.8**	**-0.1**
2.5nm,0.1s								
PTOM	**Tomar**	**4.01**	**53**	*e*Pn	**Pn**	**Pn**	**14 59 49.4**	**+1.5**
PTOM				*e*Sn	**Sn**	**Sn**	**15 00 36.2**	**+1.3**
PTOM				A	A	A	15 00 44.6	
5.9nm,0.6s								
PTOM	**Tomar**	**4.01**	**53**	P	**Pn**	**Pn**	**14 59 49.4**	**+1.5**
PTOM				S	**Sn**	**Sn**	**15 00 36.2**	**+1.3**
3.0nm,0.6s								
EGRO	**El Granado**	**4.04**	**85**	P	**Pn**	**Pn**	**14 59 46.3**	**-1.9**
1.1nm,0.2s,SNR=7.9								
EGRO				S	**Sn**	**Sn**	**15 00 34.6**	**-1.0**
0.2nm,0.1s,SNR=7.9								
PCAS	**Casmilo, Conde**	**4.22**	**47**	*e*Sn	**Sn**	**Sn**	**15 00 40.0**	**-0.1**
PESTR	**Estremoz**	**4.22**	**66**	*e*

	1.4nm,0.4s							
PMRV	**Marv??o**	**4.59**	**60**	P	**Pn**	**14 59 56.9**	**+1.0**
PMRV				S	**Sn**	**15 00 48.0**	**-1.3**
	1.4nm,0.4s							
EBAD	**Badajoz**	**4.61**	**69**	P	**Pn**	**14 59 54.4**	**-1.8**
	0.3nm,0.1s,SNR=7.9							
EBAD				S	**Sn**	**15 00 46.8**	**-3.1**
	0.2nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**4.69**	**82**	P	**Pn**	**14 59 55.4**	**-1.9**
	0.4nm,0.2s,SNR=7.9							
EMIN				S	**Sn**	**15 00 49.9**	**-1.9**
	0.1nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**5.71**	**80**	P	**Pn**	**15 00 09.4**	**-1.9**
	0.4nm,0.2s,SNR=7.2							
ECAB				S	**Sn**	**15 01 14.9**	**-1.9**
	0.0nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**5.76**	**36**	S	**Sn**	**15 01 14.3**	**-3.9**
	0.2nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**6.38**	**79**	P	**Pn**	**15 00 18.6**	**-1.9**
	0.4nm,0.1s,SNR=7.9							
PAB	**San Pablo**	**6.83**	**68**	P	**Pn**	**15 00 24.8**	**-1.9**
	0.2nm,0.1s,SNR=7.9							

*IDC **10** 15:15:14.7±1.2, 13°.80N×92°.40W, h0km, mb4.0/8, mb1 4.2/11, mb1mx4.0/57, mbtmp4.0/11, ML3.7/3, Error ellipse: s-maj=28.2km s-min=19.9km az=35.0*
*ISCJB **10** 15:15:19.1±0.9, 13°.88N±0°.09×92°.48W±0°.07, h46km, mb4.0/8, Error ellipse: s-maj=14.0km s-min=7.8km az=23.5*

ISC 10 15:15:21.3±0.9, 13°.9N±0°.1×92°.44W±0°.08, h46km, n14, σ1§40/16, mb4.0/8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**2.20**	**60**	Pn	**Pn**	**15 15 53.9**	**-1.7**
	23nm,0.3s,baz=224,slow=8.2,SNR=187						
APG				Sn	**Sn**	**15 16 21.9**	**+0.2**
	56nm,0.3s,baz=328,slow=14,SNR=6.7						
CMIG	**Matias Romero**	**3.93**	**324**	Pn	**Pn**	**15 16 17.1**	**-2.1**
	3.7nm,0.3s,baz=136,slow=10.0,SNR=19						
CMIG				Sn	**Sn**	**15 17 02.4**	**-1.7**
	10nm,0.3s,baz=108,slow=12,SNR=5.2						
JTS	**JuntasAbangare**	**8.16**	**115**	Pn	**Pn**	**15 17 17.0**	**-0.4**
	1.0nm,0.3s,baz=302,slow=9.4,SNR=3.6						
JTS				Lg	Lg	15 19 19.4	
	0.4nm,0.3s,baz=2.2,slow=18,SNR=3.9						
TXAR	**Lajitas Array**	**18.53**	**328**	P	**Pn**	**15 19 36.3**	**+1.5**
	0.1nm,0.3s,baz=150,slow=12,SNR=13						
TKL	**Tuckaleechee C**	**23.01**	**18**	P	**P**	**15 20 21.1**	**-1.3**
	2.4nm,0.7s,baz=192,slow=13,SNR=4.1						
ANMO	**Albuquerque**	**24.46**	**331**	P	**P**	**15 20 37.9**	**+1.7**
	0.6nm,0.4s,baz=112,slow=11,SNR=2.8						
NVAR	**Mina Array Bea**	**33.46**	**322**	P	**P**	**15 21 58.2**	**+1.8**
	1.2nm,0.7s,baz=136,slow=8.9,SNR=6.2						
SIV	**San Ignacio**	**42.95**	**133**	P	**P**	**15 23 15.1**	**-1.0**
	11nm,1.1s,baz=283,slow=18,SNR=3.3						
YKA	**Yellowknife Ar**	**51.00**	**347**	P	**P**	**15 24 17.9**	**-0.4**
	1.7nm,0.7s,baz=148,slow=7.4,SNR=3.9						
SFJD	**Kangerlussuaq**	**59.72**	**18**	P	**P**	**15 25 22.5**	**+1.6**
	11nm,1.0s,baz=243,slow=17,SNR=2.4						
INK	**Inuvik**	**60.39**	**344**	P	**P**	**15 25 26.2**	**+0.7**
	1.3nm,0.8s,baz=140,slow=5.3,SNR=3.2						
ILAR	**Eielson Array**	**62.74**	**337**	P	**P**	**15 25 41.6**	**+0.1**
	0.5nm,0.9s,baz=111,slow=4.9,SNR=4.7						
WRA	**Warramunga Arr**	**134.96**	**256**	PKP	**PKPdf**	**15 34 35.7**	**-0.5**
	0.3nm,0.8s,baz=68,slow=0.6,SNR=2.9						
CMAR	**Chiang Mai Arr**	**145.92**	**340**	PKPbc	**PKPdf**	**15 34 55.5**	**-0.6**
	0.8nm,0.8s,baz=328,slow=3.0,SNR=4.9						

MEX 10 15:16:17.5±0.6, 19°.08N×104°.17W, h5km, MD3.7, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
R15V		**0.20**	**63**	*e*P	Pg	15 16 21.2	-0.3
R15V				*i* S	Sg	15 16 24.6	+0.4
EZ5V		**0.67**	**53**	*e*S	Pg	15 16 29.7	-0.8
EZ5V				*i* S	Sg	15 16 39.5	+0.3
CJM	**Chamela**	**0.92**	**297**	*e*P	Pg	15 16 33.0	-2.2
CJM				*e*S	Sg	15 16 45.6	-1.6
MMIG	**Aquila**	**1.11**	**135**	*e*P	Pg	15 16 36.1	-2.7
MMIG				*e*S	Sg	15 16 50.9	-2.3

*IDC **10** 15:22:17.6±0.8, 29°.67N×142°.05E, h0km, mb3.8/9, mb1 3.9/11, mb1mx3.6/76, mbtmp3.8/11, ML3.4/3, Error ellipse: s-maj=32.2km s-min=15.0km az=81.0*
*ISCJB **10** 15:22:19.8±0.6, 29°.74N±0°.05×142°.1E±0°.2, h30km, mb3.8/9, Error ellipse: s-maj=21.1km s-min=5.8km az=165.6*

ISC 10 15:22:21.8±0.8, 29°.71N±0°.06×142°.1E±0°.2, h30km, n13, σ1§48/16, mb3.8/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.60**	**177**	Pn	**Pn**	**15 23 00.6**	**-1.2**
	4.6nm,0.3s,baz=288,slow=22,SNR=6.1						
JCJ				Sn	**Sn**	**15 23 32.5**	**+0.1**
	13nm,0.3s,baz=303,slow=22,SNR=6.3						
JHJ	**Hachijo jima 2**	**3.92**	**331**	Pn	**Pn**	**15 23 19.2**	**-0.7**
	12nm,0.3s,baz=213,slow=13,SNR=2.3						
JHJ				Sn	**Sn**	**15 24 03.9**	**-1.0**
	18nm,0.3s,baz=50,slow=17,SNR=2.7						
MJAR	**Matsushiro Arr**	**7.54**	**336**	Pn	**Pn**	**15 24 06.9**	**-2.8**
	0.4nm,0.3s,baz=164,slow=12,SNR=11						
MJAR				Sn	**Sn**	**15 25 35.1**	**+1.0**
	0.5nm,0.3s,baz=162,slow=12,SNR=4.3						
ASAJ	**Asahikawa**	**14.39**	**2**	Pn	**Pn**	**15 25 40.2**	**-3.1**
	0.4nm,0.3s,baz=222,slow=14,SNR=4.4						
MKAR	**Makanchi Array**	**48.75**	**308**	P	**P**	**15 31 04.3**	**+0.6**
	0.9nm,0.9s,baz=79,slow=9.5,SNR=2.6						
WRA	**Warramunga Arr**	**49.91**	**189**	P	**P**	**15 31 12.6**	**-0.2**
	1.4nm,0.7s,baz=6.7,slow=7.7,SNR=12						
KURBB	**Kurchatov Arra**	**51.16**	**313**	P	**P**	**15 31 22.7**	**+0.8**
	0.7nm,0.6s,baz=88,slow=6.7,SNR=6.5						
ASAR	**Alice Springs**	**53.64**	**189**	P	**P**	**15 31 40.4**	**-0.2**
	0.4nm,0.4s,baz=1.2,slow=5.1,SNR=11						
ILAR	**Eielson Array**	**55.50**	**29**	P	**P**	**15 31 53.5**	**-0.1**
	0.2nm,0.7s,baz=263,slow=6.3,SNR=3.3						
BVAR	**Borovoye Array**	**56.06**	**316**	P	**P**	**15 31 59.1**	**+1.3**
	0.8nm,0.5s,baz=99,slow=8.4,SNR=4.2						
INK	**Inuvik**	**60.72**	**25**	P	**P**	**15 32 30.5**	**+0.5**
	1.7nm,1.0s,baz=297,slow=4.5,SNR=4.1						
BRTR	**Keskin Array B**	**84.15**	**313**	P	**P**	**15 34 51.2**	**+0.9**
	1.0nm,0.8s,baz=68,slow=3.9,SNR=4.3						
TXAR	**Lajitas Array**	**94.14**	**53**	P	**P**	**15 35 39.9**	**+1.9**
	0.2nm,0.8s,baz=311,slow=4.7,SNR=2.5						

MEX 10 15:39:22.9±0.4, 17°.33N×101°.52W, h6km±6km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.28**	**10**	*e*P	Pg	15 39 28.0	-0.4
ZIIG				*i* S	Sg	15 39 32.4	+0.1
ARIG	**Puente Sto Nin**	**1.46**	**49**	*e*P	Pn	15 39 46.3	-3.5
ARIG				*i* S	Sn	15 40 04.0	-5.3
MEIG	**Mezcala**	**1.90**	**71**	*e*P	Pn	15 39 52.1	-3.9
MEIG				*e*S	Sn	15 40 15.8	-4.5
MOIG	**Morelia**	**2.36**	**8**	*e*P	Pn	15 39 58.8	-3.6
MOIG				*i* S	Sn	15 40 27.8	-4.0

IDC 10 15:51:47.2±3.8, 18°.05S×175°.25W, h147km±53km, mb3.6/5, mb1 3.7/6, mb1mx3.4/33, mbtmp4.0/6, Error ellipse: s-maj=46.0km s-min=27.0km az=56.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.30**	**40**	P	Pn	15 53 04.7	0.0
	2.7nm,0.3s,baz=211,slow=12,SNR=3.3						
AFI				S	Sn	15 53 58.4	-6.8
	7.3nm,0.3s,baz=263,slow=2.7,SNR=6.6						
URZ	**Urewera**	**21.21**	**197**	P	P	15 56 21.3	0.0
	12nm,1.1s,baz=8.1,slow=7.1,SNR=3.9						
WRA	**Warramunga Arr**	**47.56**	**259**	P	P	16 00 08.2	-0.1
	0.7nm,0.4s,baz=96,slow=8.0,SNR=38						
ASAR	**Alice Springs**	**47.64**	**254**	P	P	16 00 08.9	0.0
	3.1nm,0.6s,baz=90,slow=7.7,SNR=56						
FITZ	**Fitzroy Crossi**	**55.96**	**260**	P	P	16 01 10.3	-0.3
	1.1nm,0.8s,baz=83,slow=8.1,SNR=3.7						
VNDA	**Vanda**	**60.58**	**186**	P	P	16 01 41.6	0.0
	0.5nm,0.4s,baz=9.3,slow=8.0,SNR=11						

NNC 10 15:58:35.6±3.5, 36°.91N×70°.04E, h0km, mb3.5, mpv3.2, 3C-1D, Error ellipse: s-maj=38.6km s-min=22.8km az=145.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.12**	**40**	⇑P	Pn	15 59 40.4	+0.3
	1.1nm,0.3s						
SFK				⇓S	Sn	16 00 31.3	+2.2
	1.8nm,0.2s						
MNAS	**Manas**	**5.88**	**18**	P	Pn	16 00 04.8	+0.6
	1.6nm,0.7s						
MNAS				⇑S	Sn	16 01 13.4	+1.0
	4.8nm,1.1s						
KK31	**Karatay Array**	**6.20**	**3**	P	Pn	16 00 10.1	+1.8
	0.3nm,0.2s,baz=174,slow=12,SNR=11						
AAK	**Ala-Archa**	**6.67**	**30**	P	Pn	16 00 13.7	-1.3
	1.3nm,0.6s						
AAK				S	Sn	16 01 31.0	-0.8
	3.6nm,1.0s						
TKM2	**Tokmak 2**	**7.37**	**34**	⇑P	Pn	16 00 22.5	-2.1
	2.0nm,0.5s						
AB31	**Akbulak array**	**14.36**	**332**	P	Pn	16 01 59.8	-0.2
	0.2nm,0.3s,baz=150,slow=13,SNR=12						

*ISCJB **10** 16:10:10.2±1.7, 37°.95N±0°.09×29°.4E±0°.1, h11km, Error ellipse: s-maj=17.6km s-min=9.1km az=39.6*
*DDA **10** 16:10:10.2, 37°.96N×29°.35E, h7km, Ml2.5*

ISC 10 16:10:09.8±1.6, 37°.97N±0°.07×29°.39E±0°.09, h11km, n6, σ0§71/7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHL	**Karahalli**	**0.36**	**17**	*e*PG	**Pb**	**16 10 18.5**	**+0.1**
TAVA	**DENIZLI_Tavas**	**0.63**	**217**	*i* P	**Pg**	**16 10 22.1**	**-0.1**
KULA	**Kula-Manisa**	**0.79**	**313**	*e*PG	**Pb**	**16 10 26.7**	**+1.1**
MANT	**Manisa**	**0.83**	**309**	*i* P	**Pg**	**16 10 25.4**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.18**	**269**	*e*PG	**Pb**	**16 10 32.5**	**+0.1**
AYDN	**Tasoluk**	**1.23**	**256**	*i* P	**Pn**	**16 10 33.3**	**+0.2**
AYDN				*i* S	**Sb**	**16 10 48.5**	**-0.7**

*NIC **10** 16:11:50.5±0.1, 35°.50N×33°.18E, h25km, ML3.2*
*ISK **10** 16:11:51.8, 35°.25N×33°.10E, h30km, ML2.2/4*

ISC 10 16:11:53.3±1.1, 35°.35N±0°.03×33°.15E±0°.04, h13km±12km, n9, σ1§11/15, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAMC	**Mammari**	**0.19**	**163**	P	**Pg**	**16 11 57.7**	**+0.1**
	baz=355						
LEF	**Lefka**	**0.31**	**223**	PG	**Pg**	**16 11 59.2**	**-0.5**
LEF				SG	**Sg**	**16 12 04.9**	**+0.8**
LFK	**Lefkose**	**0.32**	**102**	PG	**Pb**	**16 12 00.9**	**0.0**
LFK				SG	**Sb**	**16 12 07.3**	**+1.3**
CSS	**Mathiatis**	**0.41**	**159**	PG	**Pg**	**16 11 59.8**	**-1.8**
CSS				SG	**Sg**	**16 12 06.8**	**-0.3**
CSS	**Mathiatis**	**0.41**	**159**	P	**Pg**	**16 12 01.1**	**-0.5**
	baz=347						
CSS				S	**Sb**	**16 12 09.1**	**+0.5**
ALFC	**Alefka**	**0.49**	**247**	P	**Pg**	**16 12 01.5**	**-1.5**
	baz=53						
ALFC				S	**Sg**	**16 12 10.1**	**+0.5**
TEKE	**Tekeli-Mersin**	**0.79**	**358**	PG	**Pg**	**16 12 08.4**	**-0.3**
TEKE				SG	**Sb**	**16 12 20.8**	**+1.2**
AKKU	**Akkuyu-Mersin**	**0.87**	**22**	PG	**Pg**	**16 12 09.3**	**-0.9**
IKL	**Isikli**	**0.99**	**26**	PN	**Pg**	**16 12 10.9**	**-1.5**

*IDC **10** 16:22:43.6±3.4, 13°.86N×92°.32W, h0km, mb3.2/1, mb1 3.6/4, mb1mx3.4/39, mbtmp3.3/4, ML3.5/3, MS3.8/1, Ms1 3.8/1, ms1mx2.8/19, Error ellipse: s-maj=64.2km s-min=26.2km az=178.0*
*MEX **10** 16:22:52.7±0.5, 14°.97N×92°.08W, h100km±4km, MD3.9*
*ISCJB **10** 16:22:55.5±1.1, 15°.11N±0°.07×92°.11W±0°.08, h67km±10km, mb3.2/1, Error ellipse: s-maj=14.0km s-min=10.7km az=139.4*

ISC 10 16:22:57.8±1.1, 15°.16N±0°.07×92°.13W±0°.06, h55km±11km, n10, σ2§97/15, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.29**	**208**	*e*P	**Pn**	**16 23 05.9**	**-1.5**
THIG				*e*S	**Sn**	**16 23 15.4**	**+1.2**
CCIG	**Comitan**	**1.11**	**360**	*e*P	**Pn**	**16 23 15.3**	**-2.1**
CCIG				*i* S	**Sn**	**16 23 33.1**	**+1.2**
PCIG		**1.18**	**297**	*e*P	**Pn**	**16 23 15.7**	**-2.5**
PCIG				*i* S	**Sn**	**16 23 32.9**	**-0.4**
APG	**El Apazote**	**1.61**	**95**	Pn	**Pn**	**16 23 21.2**	**-3.0**
	11nm,0.3s,baz=230,slow=8.2,SNR=64						
APG				Sn	**Sn**	**16 23 48.1**	**+4.1**
	32nm,0.3s,baz=295,slow=15,SNR=12						
TGIG		**1.87**	**329**	*i* P	**Pn**	**16 23 25.4**	**-2.1**
TGIG				*e*S	**Sn**	**16 23 50.3**	**+0.2**
CMIG	**Matias Romero**	**3.27**	**306**	Pn	**Pn**	**16 23 44.8**	**-1.8**
	3.9nm,0.3s,baz=134,slow=10,SNR=15						
CMIG				Sn	**Sn**	**16 24 29.1**	**+4.8**
	3.3nm,0.3s,baz=103,slow=7.3,SNR=3.7						
TXAR	**Lajitas Array**	**17.67**	**325**	P	**P**	**16 27 03.5**	**+2.9**
	0.0nm,0.3s,baz=157,slow=12,SNR=2.5						
NNA	**Nana**	**30.93**	**150**	LR	LR	16 39 16.3	
	comp=Z,168nm,19.0s,baz=232,slow=33						
NVAR	**Mina Array Bea**	**32.70**	**320**	P	**P**	**16 29 26.8**	**+1.5**
	0.2nm,0.5s,baz=154,slow=6.8,SNR=2.7						
CMAR	**Chiang Mai Arr**	**144.86**	**342**	PKPbc	**PKPab**	**16 42 24.8**	**-3.9**
	0.3nm,0.3s,baz=350,slow=4.6,SNR=4.8						

*NNC **10** 16:26:34.8±5.3, 54°.41N×89°.57E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=42.9km s-min=37.4km az=156.0, Suspected Mining explosion.*

KRAR 10 16:26:32.0±0.1, 54°.00N×89°.92E, M1.9, 6C-2D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**3.01**	**271**	⇓Pg	Pb	16 27 26.4	-0.1
	3.4nm,0.6s,baz=76,slow=15						
ZAA0				⇑Lg	Lg	16 28 07.6	
	5.7nm,0.3s,baz=88,slow=27						
KURK	**Kurchatov**	**7.66**	**249**	⇑Pn	Pn	16 28 28.6	+3.9
	1.8nm,0.8s						
KURK				⇑Sn	Sn	16 29 53.6	+1.4
	1.6nm,0.7s						
KURK				⇑Lg	Lg	16 30 36.8	
	5.1nm,0.9s						
KURBB	**Kurchatov Arra**	**7.76**	**249**	⇑Pn	Pn	16 28 28.3	+2.3
	1.3nm,0.4s						
KURBB				⇑Sn	Sn	16 29 56.4	+1.9
	6.1nm,0.7s						
KURBB				⇓Lg	Lg	16 30 39.0	
	8.5nm,0.7s						

*IDC **10** 16:43:19.9±2.4, 9°.64S×122°.93E, h0km, mb3.6/1, mb1 3.4/3, mb1mx3.2/23, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=250.1km s-min=32.9km az=54.0*
*DJA **10** 16:43:33.5±1.5, 9°.5S×122°.4E±°, h32km±29km, M3.2/6, MLv3.2/6*

ISC 10 16:43:29.8±1.3, 8°.9S±0°.1×124°.0E±0°.1, h74km, n9, σ2§09/10, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.86**	**161**	P	**Pn**	**16 43 49.6**	**+2.6**
SOEI				S	**Sn**	**16 44 02.0**	**+2.3**
BATI	**Baumata**	**1.30**	**194**	P	**Pn**	**16 43 52.4**	**0.0**
BATI				S	**Sn**	**16 44 09.6**	**+0.4**
MMRI	**Maumere**	**1.75**	**280**	P	**Pn**	**16 43 59.3**	**+1.1**
EDFI	**Ende, Flores**	**2.27**	**275**	P	**Pn**	**16 44 06.0**	**+0.7**
BBSI	**Bau Bau**	**3.70**	**338**	P	Pn	16 44 30.1	+5.4
WBSI	**Waikabubak, Su**	**4.58**	**261**	P	**Pn**	**16 44 37.8**	**+1.1**
WRA	**Warramunga Arr**	**14.83**	**139**	Pn	**Pn**	**16 46 53.1**	**-2.6**
	0.1nm,0.3s,baz=312,slow=15,SNR=11						
WRA				Sn	Sn	16 49 26.3	-13
	0.3nm,0.3s,baz=279,slow=17,SNR=11						
ASAR	**Alice Springs**	**17.45**	**148**	P	**Pn**	**16 47 25.6**	**-3.0**
	0.1nm,0.3s,baz=316,slow=12,SNR=6.1						
ASAR				S	Sn	16 50 31.1	-11
	0.1nm,0.3s,baz=320,slow=23,SNR=6.9						
MKAR	**Makanchi Array**	**66.75**	**330**	P	**P**	**16 54 13.7**	**+0.4**
	0.3nm,0.5s,baz=128,slow=9.5,SNR=4.5						

*IDC **10** 17:08:11.2±0.4, 37°.14N×82°.88W, h0km, mb4.1/23, mb1 4.3/27, mb1mx4.1/73, mbtmp4.1/27, ML3.7/4, MS4.0/3, Ms1 3.9/3, ms1mx3.1/53, Error ellipse: s-maj=14.4km s-min=5.0km az=115.0*
*ANF **10** 17:08:14.0±0.2, 37°.13N×83°.09W, h12km±1km, ML5.2/36, Error ellipse: s-maj=2.3km s-min=1.7km az=101.0*
*NEIC **10** 17:08:14.3±0.0, 37°.14N×83°.05W, h17km, mb4.3/56, MW4.2, Moment Tensor Solution. s50 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.75; $M_{\theta\theta}$ 1.76; $M_{\phi\phi}$-1.01; $M_{r\theta}$-0.84; $M_{\theta\phi}$ 1.30; $M_{\phi r}$ 0.54; Best double couple: M_o2.20000×10^{15} NP1:ϕ_s207.00000°, δ58.00000°, λ-163.00000°. NP2: ϕ_s108.00000°, δ75.00000°, λ-33.00000°. Principal axes: T 2.3800, Plg11.0000°, Azm161.0000°; N -0.3300, Plg54.0000°, Azm267.0000°; P -2.0600, Plg33.0000°, Azm63.0000°; After CERI.*
NEIC Felt [V] at Ermine, Evarts, Happy, Jeremiah, Kings Mountain and Orlando and [IV] in the Versailles-Prestonburg-Middlesboro area. Also felt [IV] at Appalachia and Dryden, Virginia; at Delbarton, Glenwood, Logan, Salt Rock and Williamstown, West Virginia; at Andrews and North Wilkesboro, North Carolina; at Decatur, Kingston and Rossville, Georgia; at Benton, Bloomington Springs, Blountville, Byrdstown, Huntsville, Jacksboro, Jamestown, Pall Mall, Pioneer and Sunbright, Tennessee; at Oak Hill and Ripley, Ohio. Felt widely in the eastern U.S. from Columbus, Ohio to Alanta, Georgia and from Roanoke, Virginia to Evansville, Indiana and Nashville, Tennessee.
*CERI **10** 17:08:14.3, 37°.14N×83°.05W, h17km, MB4.3(NEIC), MW4.2(USGS)*

ISC 10 17:08:13.4±0.6, 37°.15N±0°.01×83°.08W±0°.02, h17km±4km, n597, σ1§78/700, mb4.2/42, Kentucky

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T52A	**Hallie**	**0.08**	**120**	P	**Pg**	**17 08 16.9**	**+0.1**
	baz=300,SNR=1000						
T52A				S	**Sg**	**17 08 19.6**	**+0.5**
	baz=300						
S52A	**Salyersville**	**0.53**	**360**	P	**Pb**	**17 08 24.2**	**0.0**
	baz=178						
S52A				S	**Sb**	**17 08 32.0**	**+0.4**
	baz=178						
S51A	**Beattyville**	**0.64**	**320**	*e*Pg	**Pb**	**17 08 26.3**	**+0.2**
S51A				*e*Pn	Pn	17 08 34.9	+7.2
S51A	**Beattyville**	**0.64**	**320**	P	**Pb**	**17 08 26.3**	**+0.2**
	baz=139,SNR=1000						
S51A				S	**Sb**	**17 08 35.2**	**+0.5**
	baz=139						
TZTN	**Tazewell**	**0.71**	**212**	*e*Pb	**Pb**	**17 08 27.1**	**-0.3**
TZTN				*e*Sn	**Sb**	**17 08 36.8**	**-0.1**
TZTN	**Tazewell**	**0.71**	**212**	P	**Pb**	**17 08 27.1**	**-0.3**
	baz=34,SNR=1000						
TZTN				S	**Sb**	**17 08 37.5**	**+0.6**
	baz=34						
T51A	**Gray**	**0.72**	**255**	P	**Pb**	**17 08 27.5**	**0.0**
	baz=76,SNR=1000						
T51A				S	**Sb**	**17 08 37.4**	**+0.4**
	baz=76						
U52A	**Thorn Hill**	**0.79**	**197**	P	**Pb**	**17 08 28.6**	**-0.1**
	baz=18,SNR=1000						
U52A				S	**Sb**	**17 08 39.5**	**+0.4**
	baz=18						
U53A	**Fall Branch**	**0.88**	**153**	P	**Pb**	**17 08 29.7**	**-0.5**
	baz=334,SNR=1000						
U53A				S	**Sb**	**17 08 41.7**	**0.0**
	baz=334						
U51A	**La Follette**	**1.08**	**225**	P	**Pn**	**17 08 33.8**	**+0.1**
	baz=45,SNR=1000						
U51A				S	**Sn**	**17 08 49.3**	**+1.0**
	baz=45						
S50A	**Richmond**	**1.18**	**297**	P	**Pn**	**17 08 35.5**	**+0.4**
	baz=116,SNR=1000						
R51A	**Hillsboro**	**1.22**	**341**	P	**Pn**	**17 08 35.6**	**0.0**
	baz=160,SNR=1000						
R51A				S	**Sn**	**17 08 52.9**	**+1.2**
	baz=160						
R52A	**Catlettsburg**	**1.23**	**16**	P	**Pb**	**17 08 36.0**	**-0.3**
	baz=195						
R52A				S	**Sn**	**17 08 53.0**	**+0.9**
	baz=195						
V52A	**Sevierville**	**1.37**	**198**	*e*Pn	**Pb**	**17 08 38.2**	**-0.4**
V52A				*e*Sn	**Sg**	**17 08 56.3**	**-1.4**
V52A	**Sevierville**	**1.37**	**198**	P	**Pb**	**17 08 38.1**	**-0.4**
	baz=18,SNR=1000						
V52A				S	**Sg**	**17 08 57.0**	**-0.7**
	baz=18						
T50A	**Nancy**	**1.42**	**265**	P	**Pb**	**17 08 39.2**	**-0.2**
	baz=85,SNR=1000						
T50A				S	**Sb**	**17 08 58.1**	**+1.0**
	baz=85						
V53A	**Saluda**	**1.49**	**172**	*e*Pn	**Pb**	**17 08 40.4**	**-0.3**
V53A				*e*Sn	**Sb**	**17 08 59.5**	**+0.2**
V53A	**Saluda**	**1.49**	**172**	P	**Pb**	**17 08 40.4**	**-0.3**
	baz=352,SNR=1000						
V53A				S	**Sg**	**17 09 00.2**	**-1.4**
	baz=352						
R50A	**Paris**	**1.50**	**319**	P	**Pb**	**17 08 40.5**	**-0.3**
	baz=138,SNR=647						
R50A				S	**Sb**	**17 09 00.4**	**+0.7**
	baz=138						
TKL	**Tuckaleechee C**	**1.59**	**201**	Pg	**Pb**	**17 08 42.2**	**-0.2**
	545nm,0.3s,baz=46,slow=12,SNR=1801						
TKL				Lg	Lg	17 09 02.7	
	3µm,0.3s,baz=306,slow=23,SNR=56						
TKL	**Tuckaleechee C**	**1.59**	**201**	*e*Pn	**Pb**	**17 08 41.9**	**-0.5**
TKL				*e*Sn	**Sg**	**17 09 03.0**	**-1.7**
U50A	**Jamestown**	**1.60**	**243**	P	**Pb**	**17 08 41.9**	**-0.5**
	baz=63,SNR=1000						
U50A				Sb	**Sg**	**17 09 04.3**	**-0.6**
	baz=63						
V51A	**Loudon**	**1.69**	**218**	*e*Pn	**Pb**	**17 08 43.9**	**-0.1**
V51A				*e*Sn	**Sg**	**17 09 07.2**	**-0.7**
V51A	**Loudon**	**1.69**	**218**	P	**Pb**	**17 08 44.1**	**+0.1**
	baz=38,SNR=1000						
V51A				Sb	**Sg**	**17 09 07.6**	**-0.3**
	ba

W52A Sb Sg 17 09 21.0 -2.0
baz=19
V50A Pikevile 2.20 228 P Pb 17 08 51.2 -1.5
baz=48,SNR=1000
V50A Sb Sg 17 09 22.6 -1.6
baz=48
U49A Red Boiling Sp 2.26 254 P Pb 17 08 52.6 -1.1
baz=73,SNR=1000
U49A Sb Sg 17 09 24.2 -1.9
baz=73
P51A Williamsport 2.33 0 ePn Pb 17 08 53.1 -1.8
P51A eSn Sb 17 09 23.3 -0.1
P51A Williamsport 2.33 0 P Pb 17 08 53.0 -1.8
baz=180,SNR=316
Q49A Aurora 2.34 323 P Pb 17 08 53.7 -1.4
baz=142,SNR=984
W51A Cleveland 2.41 215 P Pn 17 08 53.7 +1.7
baz=34,SNR=830
S48A Wiedeman Farm, 2.43 283 P Pb 17 08 54.7 -1.9
baz=101,SNR=759
KMSC Kings Mountain 2.45 144 ePn Pn 17 08 53.4 +0.9
KMSC eSn Sb 17 09 28.6 +1.7
KMSC Kings Mountain 2.45 144 P Pn 17 08 53.5 +0.9
baz=326,SNR=506
P50A Jamestown 2.52 347 P Pb 17 08 56.3 -1.9
baz=166,SNR=1000
PAULI Pauline 2.54 156 ePn Pn 17 08 55.2 +1.4
PAULI eSn Sb 17 09 31.2 +1.8
R48A Northridge Ran 2.54 300 P Pb 17 08 56.6 -1.9
baz=119,SNR=602
P52A Corning 2.59 16 P Pn 17 08 56.2 +1.7
baz=196,SNR=505
X52A Dahlonega 2.63 195 P Pn 17 08 56.5 +1.4
baz=15,SNR=789
X53A Estanollee 2.65 184 P Pn 17 08 57.0 +1.8
baz=4.3,SNR=365
T48A Bowling Green 2.65 270 P Pb 17 08 58.1 -2.3
baz=88
W50A Signal Mountai 2.66 224 ePn Pn 17 08 57.3 +1.9
W50A eSg Sg 17 09 36.6 -2.2
W50A Signal Mountai 2.66 224 P Pn 17 08 57.4 +1.9
baz=43,SNR=1000
V49A McMinnville 2.66 240 P Pn 17 08 57.8 +2.3
baz=58,SNR=809
P53A Whipple 2.68 29 ePn Pn 17 08 57.8 +2.0
P53A eSn Sb 17 09 35.9 +2.3
P53A Whipple 2.68 29 P Pn 17 08 57.3 +1.5
baz=210
P49A Miami Univ. Ec 2.71 332 P Pn 17 08 58.4 +2.3
baz=151,SNR=578
Q48A North Vernon 2.75 311 P Pn 17 08 59.2 +2.5
baz=130,SNR=433
WCI Wyandotte Cave 2.77 294 ePn Pn 17 08 59.1 +2.1
WCI eSg Sb 17 09 38.5 +2.4
WCI Wyandotte Cave 2.77 294 P Pn 17 08 59.3 +2.4
baz=112
U48A Cassie Pea, Po 2.85 258 P Pn 17 09 00.4 +2.4
baz=76,SNR=855
P48A Milroy 2.96 322 P Pn 17 09 01.7 +2.1
baz=140,SNR=407
X51A Calhoun 2.96 210 ePn Pn 17 09 01.0 +1.5
X51A eSg Sb 17 09 43.5 +2.1
X51A Calhoun 2.96 210 P Pn 17 09 01.1 +1.5
baz=29,SNR=54
R47A Wooly Knot Far 2.96 294 P Pn 17 09 02.2 +2.5
baz=112,SNR=512
HODGE Hodges 2.99 167 ePn Pn 17 09 01.4 +1.4
HODGE eSg Sg 17 09 45.9 -3.4
SWET Sewanee 3.01 231 ePn Pn 17 09 02.3 +2.0
SWET eSg Sg 17 09 46.5 -3.6
O51A Pataskala 3.02 7 P Pn 17 09 02.1 +1.8
baz=187,SNR=190
O50A Cable 3.02 352 P Pn 17 09 03.0 +2.6
baz=172,SNR=385
S47A Hartford 3.06 279 P Pn 17 09 03.4 +2.5
baz=97,SNR=102
ACSO Alum Creek Sta 3.08 1 ePn Pn 17 09 03.0 +1.8
ACSO eSn Sb 17 09 46.0 +1.0
ACSO Alum Creek Sta 3.08 1 P Pn 17 09 03.3 +2.1
baz=181,SNR=57
O52A Adamsville 3.12 18 ePn Pn 17 09 03.4 +1.7
O52A eSg Sb 17 09 47.6 +1.6
O52A Adamsville 3.12 18 P Pn 17 09 03.5 +1.7
baz=198,SNR=126
O49A Covington 3.19 342 ePn Pn 17 09 04.7 +1.9
O49A Covington 3.19 342 P Pn 17 09 04.7 +1.9
baz=161,SNR=152
Q47A Bedord North L 3.19 305 P Pn 17 09 05.2 +2.5
baz=123,SNR=47
JSC Jenkinsville 3.22 152 ePn Pn 17 09 03.6 +0.4
JSC eSg Sb 17 09 51.1 +2.0
T47A Sharon Grove 3.23 268 ePn Pn 17 09 05.9 +2.7
T47A Sharon Grove 3.23 268 P Pn 17 09 06.1 +2.9
baz=86,SNR=190
W49A Belvidere 3.28 233 P Pn 17 09 05.8 +1.8
baz=51,SNR=296
Y54A Tignall 3.30 174 P Pn 17 09 05.5 +1.3
baz=355,SNR=1000
Y53A Monroe 3.31 187 P Pn 17 09 05.5 +1.0
baz=7.3,SNR=230
V48A Smith Brothers 3.33 246 ePn Pn 17 09 07.1 +2.4
V48A Smith Brothers 3.33 246 P Pn 17 09 07.0 +2.3
baz=64,SNR=284
Y52A Lilburn 3.38 194 ePn Pn 17 09 06.4 +1.1
Y52A ePb Pb 17 09 13.6 +0.9
Y52A eSg Sb 17 09 55.8 +2.3
Y52A Lilburn 3.38 194 P Pn 17 09 06.6 +1.3
baz=14,SNR=104
BLO Bloomington 3.38 308 ePn Pn 17 09 07.7 +2.3
BLO eSg Sg 17 09 59.8 -2.3
X50B Fort Payne 3.40 219 P Pn 17 09 06.8 +1.1
baz=37,SNR=341
P47A Martinsville 3.43 314 P Pn 17 09 07.8 +1.8
baz=132,SNR=221
U47A Clarksville 3.45 259 P Pn 17 09 08.9 +2.5
baz=77,SNR=650
O48A Farmland 3.50 333 P Pn 17 09 08.3 +1.3
baz=152,SNR=581
MCWV Mont Chateau 3.56 44 ePn Pn 17 09 08.6 +0.7
MCWV eSg Sb 17 10 02.1 +3.1
MCWV Mont Chateau 3.56 44 P Pn 17 09 09.2 +1.3
baz=226
N50A Nevada 3.62 359 P Pn 17 09 10.8 +2.2
baz=179,SNR=232
Y51A Rockmart 3.63 207 P Pn 17 09 10.4 +1.6
baz=26,SNR=14
R46A Gibon Southern 3.67 288 P Pn 17 09 11.6 +2.2
baz=106,SNR=11
W48A Pulaski 3.71 238 P Pn 17 09 11.7 +1.8
baz=56,SNR=64
X49A Woodville 3.73 226 P Pn 17 09 11.6 +1.5
baz=44,SNR=120
S46A Don Dixon Farm 3.73 280 P Pn 17 09 12.5 +2.3
baz=97,SNR=10
USIN University of 3.74 284 ePn Pn 17 09 11.8 +1.6
USIN eSg Sg 17 10 09.5 -3.9
GOGA Godfrey 3.74 185 ePn Pn 17 09 10.8 +0.4
GOGA ePb Pb 17 09 20.2 +1.2
GOGA eSg Sg 17 10 09.3 -4.3
GOGA Godfrey 3.74 185 P Pn 17 09 10.8 +0.4
baz=5.0,SNR=49
N51A Ashland 3.80 8 ePn Pn 17 09 12.5 +1.3
N51A eSg Sb 17 10 09.4 +3.6
N51A Ashland 3.80 8 P Pn 17 09 12.6 +1.5
baz=188,SNR=95
V47A Nunnelly 3.82 251 P Pn 17 09 13.8 +2.5
baz=69,SNR=58
Q46A CEJHS Indians, 3.86 300 P Pn 17 09 14.2 +2.2
baz=118
N49A Columbus Grove 3.86 347 ePn Pn 17 09 13.7 +1.7
N49A eSg Sb 17 10 12.3 +4.8
N49A Columbus Grove 3.86 347 P Pn 17 09 13.6 +1.6
baz=167,SNR=114
Z53A Monticello 3.88 186 P Pn 17 09 13.0 +0.8
baz=6.1,SNR=33
Y50A Piedmont 3.91 214 P Pn 17 09 14.2 +1.6
baz=33,SNR=138
Z54A Sparta 3.91 177 P Pn 17 09 13.4 +0.8
baz=358,SNR=42
O47A Sheridan 3.92 323 P Pn 17 09 14.1 +1.4
baz=141,SNR=38
WVT Waverly 3.96 257 ePn Pn 17 09 14.9 +1.6
WVT eSg Sb 17 10 14.5 +4.3
WVT Waverly 3.96 257 P Pn 17 09 15.4 +2.2
baz=74
Z55A Blythe 4.00 169 P Pn 17 09 14.3 +0.5
baz=349
N48A Decatur 4.00 338 P Pn 17 09 15.2 +1.3
baz=157,SNR=56
P46A Rosedale 4.08 308 P Pn 17 09 17.2 +2.3
baz=126,SNR=68
Z52A Williamson 4.10 196 P Pn 17 09 17.0 +1.8
baz=15,SNR=30
W47A Westpoint 4.12 244 P Pn 17 09 17.7 +2.2
baz=61
U46A Springville 4.17 261 P Pn 17 09 18.9 +2.7
baz=78,SNR=18
Z51A Franklin 4.19 205 P Pn 17 09 17.7 +1.2
baz=24,SNR=69
X48A Hartselle 4.20 231 ePn Pn 17 09 18.5 +1.8
X48A eSg Sg 17 10 22.9 -5.4
X48A Hartselle 4.20 231 P Pn 17 09 18.5 +1.8
baz=49,SNR=67
R58B Mineral 4.21 77 P Pn 17 09 17.5 +0.8
baz=260
M51A Elyria 4.23 9 P Pn 17 09 18.3 +1.2
baz=189,SNR=13
N47A Urbana 4.25 332 P Pn 17 09 18.4 +1.2
baz=150,SNR=20
M50A Fremont 4.25 0 ePn Pn 17 09 19.1 +1.8
M50A eSg Sb 17 10 24.0 +5.4
M50A Fremont 4.25 0 P Pn 17 09 19.3 +2.0
baz=180
Y49A Blount Mountai 4.26 221 ePn Pn 17 09 18.7 +1.2
Y49A eSg Sg 17 10 25.0 -5.4
Y49A Blount Mountai 4.26 221 P Pn 17 09 18.9 +1.3
baz=39,SNR=166
OLIL Olney 4.27 293 ePn Pn 17 09 19.6 +2.0
V46A Holladay 4.28 253 P Pn 17 09 19.8 +2.1
baz=70,SNR=60
R45A Skylar, Fairfi 4.28 287 P Pn 17 09 20.0 +2.3
baz=104,SNR=29
P45A Graceland, Par 4.37 304 ePn Pn 17 09 21.1 +2.2
P45A Graceland, Par 4.37 304 P Pn 17 09 21.2 +2.2
baz=221,SNR=21
Q45A Warren Harvey, 4.37 295 P Pn 17 09 21.1 +2.1
baz=112,SNR=37
M49A Liberty Center 4.38 351 P Pn 17 09 20.9 +1.9
baz=170
S45A Carrier Mills 4.41 279 P Pn 17 09 21.7 +2.1
baz=95,SNR=12
T45A Paducah 4.45 270 ePn Pn 17 09 21.6 +1.5
T45A Paducah 4.45 270 P Pn 17 09 23.0 +2.9
baz=87
N54A Moraine State 4.50 31 ePn Pn 17 09 21.9 +1.0
N54A Moraine State 4.50 31 P Pn 17 09 21.8 +1.0
baz=213
SFIN Lafayette 4.50 317 ePn Pn 17 09 22.4 +1.7
SFIN ePb Pb 17 09 31.1 -0.8
SFIN Lafayette 4.50 317 P Pn 17 09 22.4 +1.7
baz=134,SNR=40
M48A Edgerton 4.51 344 ePn Pn 17 09 22.0 +1.1
M48A ePb Pb 17 09 31.4 -0.7
M48A Edgerton 4.51 344 P Pn 17 09 22.0 +1.1
baz=163,SNR=28
154A Montrose 4.53 180 ePn Pn 17 09 21.4 +0.3
154A Montrose 4.53 180 P Pn 17 09 21.6 +0.4
baz=0.5,SNR=15
Z50A Ashland 4.53 212 ePn Pn 17 09 22.1 +0.9
Z50A eSg Sb 17 10 30.2 +3.4
Z50A Ashland 4.53 212 P Pn 17 09 22.2 +1.0
baz=30,SNR=96
155A Kite 4.54 173 P Pn 17 09 21.7 +0.3
baz=354,SNR=20
PLAL Pickwick Lake 4.59 243 ePn Pn 17 09 23.7 +1.7
CNNC Cliffs of the 4.61 113 ePn Pn 17 09 22.5 +0.3
CNNC eSg Sb 17 10 32.8 +3.9
CNNC Cliffs of the 4.61 113 P Pn 17 09 23.2 +1.0
baz=296
U45A Rockin P Farm, 4.64 262 P Pn 17 09 24.9 +2.3
baz=78,SNR=25
Y48A Jasper 4.64 227 P Pn 17 09 23.7 +1.0
baz=45,SNR=37
CBN Corbin Frederi 4.64 75 ePn Pn 17 09 23.6 +0.9
CBN ePb Pb 17 09 34.5 +0.2
CBN Corbin Frederi 4.64 75 P Pn 17 09 23.3 +0.5
baz=258
M47A Cromwell 4.64 336 P Pn 17 09 23.6 +0.8
baz=154,SNR=17
156A Sylvania 4.67 163 P Pn 17 09 23.5 +0.4
baz=344,SNR=29
152A Waverly Hall 4.67 197 ePn Pn 17 09 23.8 +0.7
NHSC New Hope 4.68 149 ePn Pn 17 09 22.8 -0.5
NHSC ePb Pb 17 09 38.0 +3.0
NHSC New Hope 4.68 149 P Pn 17 09 22.7 -0.5
baz=331,SNR=7.7
X47A Russelville 4.69 237 P Pn 17 09 24.8 +1.4
baz=55,SNR=53
N46A Monticello 4.70 324 P Pn 17 09 24.7 +1.2
baz=142,SNR=30
O56A Blue Knob Stat 4.71 47 ePn Pn 17 09 24.4 +0.7
O56A ePb Pb 17 09 35.0 -0.4
O56A eSg Sb 17 10 35.6 +3.8
O56A Blue Knob Stat 4.71 47 P Pn 17 09 24.8 +1.2
baz=230
UTMT University of 4.72 262 ePn Pn 17 09 25.2 +1.5
UTMT ePb Pb 17 09 37.2 +1.6
UTMT eSg Sg 17 10 40.1 -4.7
W46A Michie 4.74 246 P Pn 17 09 25.7 +1.6
baz=63,SNR=50
O45A Potomac 4.77 312 P Pn 17 09 26.3 +1.8
baz=129,SNR=9.1
CSU Charleston Sou 4.83 148 ePn Pn 17 09 25.0 -0.2
CSU ePb Pb 17 09 40.7 +3.2
RGRS Roger Stewart 4.85 150 ePn Pn 17 09 24.8 -0.7
RGRS ePb Pb 17 09 40.0 +2.2
Z49A Columbiana 4.86 217 P Pn 17 09 26.5 +0.8
baz=35,SNR=63
R44A Waltonville 4.89 285 P Pn 17 09 28.2 +2.2
baz=101,SNR=17
L48A N Adams 4.90 348 P Pn 17 09 27.9 +1.6
baz=67,SNR=56
SIUC Southern Illin 4.92 278 ePn Pn 17 09 28.2 +1.7
SIUC ePb Pb 17 09 41.5 +2.5
P44A Sand Creek, Wi 4.94 300 P Pn 17 09 28.3 +1.6
baz=116,SNR=9.0
S44A Carbondale 4.95 278 P Pn 17 09 28.7 +1.8
baz=94,SNR=53
M46A Old House Fiel 4.95 330 ePn Pn 17 09 26.4 -0.6
M46A Old House Fiel 4.95 330 P Pn 17 09 28.0 +1.0
baz=148,SNR=16
151A Opelika 4.97 203 P Pn 17 09 29.0 +1.8
baz=21
Q44A Meyer Farm, Va 5.01 292 P Pn 17 09 29.4 +1.7
baz=109,SNR=29
ALLY Alegheny Colle 5.03 26 ePn Pn 17 09 28.1 +0.1
ALLY eSg Sb 17 10 46.4 +5.1
Y47A UCPARC, Winfie 5.06 232 P Pn 17 09 29.5 +1.0
baz=49,SNR=39
GLAT Glass 5.07 262 ePn Pn 17 09 30.3 +1.7
GLAT ePb Pb 17 09 42.8 +1.3
GLAT eSg Sg 17 10 50.5 -5.5
L47A Sherwood 5.09 342 P Pn 17 09 29.4 +0.6
baz=160,SNR=28
M54A Oil Creek Stat 5.09 30 ePn Pn 17 09 29.9 +1.0
M54A eSg Sb 17 10 49.4 +6.5
M54A Oil Creek Stat 5.09 30 P Pn 17 09 29.9 +1.0
baz=212
U44B Burton Farm, H 5.10 263 P Pn 17 09 30.9 +1.8
baz=79,SNR=19
150A Eclectic 5.14 209 P Pn 17 09 30.3 +0.8
baz=27,SNR=22
253A Americus 5.15 190 ePn Pn 17 09 30.6 +0.9
253A ePb Pb 17 09 44.3 +1.3
253A eSg Sb 17 10 50.0 +5.5
253A Americus 5.15 190 P Pn 17 09 30.5 +0.8
baz=9.6,SNR=10
AAM Ann Arbor 5.16 355 ePn Pn 17 09 31.0 +1.1
AAM eSb Sb 17 10 48.8 +3.8
AAM Ann Arbor 5.16 355 P Pn 17 09 31.5 +1.6
baz=175,SNR=9.0
X46A Booneville 5.17 242 P Pn 17 09 31.6 +1.7
baz=58
O44A Mansfield 5.18 307 P Pn 17 09 32.0 +2.0
baz=124,SNR=14
HALT Halls 5.19 258 ePn Pn 17 09 31.7 +1.4
HALT eSg Sg 17 10 53.7 -6.3
254A Abbeville 5.20 182 P Pn 17 09 30.5 +0.2
baz=2.1,SNR=51
LRAL Lakeview Retre 5.21 219 ePn Pn 17 09 31.3 +0.7
LRAL ePb Pb 17 09 45.6 +1.5
LRAL eSg Sb 17 10 52.4 +6.0
LRAL Lakeview Retre 5.21 219 P Pn 17 09 31.5 +0.9
baz=37,SNR=36
255A Hazlehurst 5.23 174 ePn Pn 17 09 31.2 +0.4
255A ePb Pb 17 09 46.0 +1.5
255A eSg Sb 17 10 53.4 +6.4
255A Hazlehurst 5.23 174 P Pn 17 09 31.3 +0.4
baz=355,SNR=85
256A Glennville 5.25 169 P Pn 17 09 31.5 +0.4
baz=350,SNR=90
Z48A Northport 5.25 226 P Pn 17 09 32.0 +0.9
baz=43,SNR=32
252A Lumpkin 5.32 195 P Pn 17 09 33.1 +1.1
baz=15
W45A Hickory Valley 5.33 250 P Pn 17 09 33.5 +1.4
baz=66
SSPA Standing Stone 5.34 48 ePn Pn 17 09 32.8 +0.5
SSPA ePb Pb 17 09 45.5 -0.7
SSPA eSb Sb 17 10 52.9 +2.9
SSPA Standing Stone 5.34 48 P Pn 17 09 33.2 +1.0
baz=231
N44A Piper City 5.36 314 P Pn 17 09 34.4 +1.8
baz=131,SNR=11
PVMO Portageville 5.37 264 ePn Pn 17 09 34.0 +1.4
PVMO ePb Pb 17 09 48.1 +1.5
PVMO eSg Sg 17 11 00.9 -4.8
PARMO Parma 5.37 267 ePn Pn 17 09 34.0 +1.3
PARMO ePb Pb 17 09 48.9 +2.1
251A Midway 5.40 202 P Pn 17 09 34.7 +1.6
baz=20,SNR=41
SDMD Soldier's Deli 5.40 63 ePn Pn 17 09 33.7 +0.6
SDMD ePb Pb 17 09 48.6 +1.4
257A Skidaway Islan 5.43 161 ePn Pn 17 09 33.8 +0.3
257A Skidaway Islan 5.43 161 P Pn 17 09 34.0 +0.5
baz=343,SNR=5.9
L46A Eue Claire 5.46 334 P Pn 17 09 35.0 +1.1
baz=152,SNR=5.9
149A Jones 5.47 215 P Pn 17 09 35.1 +1.0
baz=33,SNR=41
ERPA Erie 5.50 25 ePn Pn 17 09 34.7 +0.2
ERPA eSn Sn 17 10 33.6 -3.8
ERPA Erie 5.50 25 P Pn 17 09 35.9 +1.4
baz=206,SNR=27
Q43A New Douglas 5.53 291 P Pn 17 09 36.6 +1.8
baz=107
R43A Red Bud 5.55 284 P Pn 17 09 36.7 +1.5
baz=100
S43A Fulton Ridge, 5.59 276 P Pn 17 09 37.6 +1.9
baz=92,SNR=46
K50A Casco 5.63 3 P Pn 17 09 38.1 +1.8
baz=184
K49A Clarkson 5.63 357 P Pn 17 09 38.2 +1.9
baz=177
P43A Skaggs, Pawnee 5.64 298 P Pn 17 09 38.0 +1.6
baz=114,SNR=49
K47A Vermontville 5.71 346 P Pn 17 09 37.4 +0.1
baz=164,SNR=23
GNAR Gosnell 5.71 260 ePn Pn 17 09 39.0 +1.6
GNAR eSg Sg 17 11 11.7 -4.9
TIGA Tifton 5.71 184 ePn Pn 17 09 37.9 +0.4
TIGA Tifton 5.71 184 P Pn 17 09 38.2 +0.7
baz=4.3,SNR=20
M44A Midewin, Midew 5.72 319 ePn Pn 17 09 38.8 +1.3
M44A Midewin, Midew 5.72 319 P Pn 17 09 39.0 +1.5
baz=136,SNR=77
Y46A Houston 5.73 237 P Pn 17 09 38.6 +1.0
baz=54,SNR=50
T43A Greenville 5.76 272 P Pn 17 09 40.7 +2.6
baz=87,SNR=12
OXF Oxford 5.78 245 ePn Pn 17 09 39.4 +1.0
OXF eSg Sb 17 11 10.3 +7.7
OXF Oxford 5.78 245 P Pn 17 09 40.1 +1.8
baz=61,SNR=17
250A Grady 5.79 208 ePn Pn 17 09 38.9 +0.3
250A ePb Pb 17 09 54.3 +0.3
250A Grady 5.79 208 P Pn 17 09 39.3 +0.8
baz=26,SNR=19
355A Pearson 5.79 178 P Pn 17 09 38.9 +0.4
baz=358,SNR=21
O43A Sugar Creek Fa 5.79 305 P Pn 17 09 40.0 +1.5
baz=121
X45A UM Field Stati 5.81 244 P Pn 17 09 40.1 +1.4
baz=60,SNR=46
148A Greensboro 5.81 221 P Pn 17 09 39.6 +0.8
baz=38,SNR=61
PAGS Pennsylvania G 5.84 56 ePn Pn 17 09 39.2 0.0
PAGS ePb Pb 17 09 53.8 -1.0
PAGS eSg Sb 17 11 10.4 +5.9
SLM Saint Louis 5.85 287 ePn Pn 17 09 41.2 +1.9
SLM ePb Pb 17 09 53.7 -1.3
352A Blakely 5.86 196 ePn Pn 17 09 39.8 +0.3
352A Blakely 5.86 196 P Pn 17 09 40.2 +0.7
baz=15,SNR=12
357A Townsend 5.86 167 P Pn 17 09 39.4 0.0
baz=348
356A Blackshear 5.86 172 P Pn 17 09 39.4 0.0
baz=353,SNR=11
353A Camilla 5.86 190 P Pn 17 09 40.0 +0.5
baz=9.1,SNR=16
FVM French Village 5.90 280 ePn Pn 17 09 41.4 +1.4
FVM ePb Pb 17 09 58.5 +2.8
PBMO Poplar Bluff 5.90 269 ePn Pn 17 09 41.9 +1.9
PBMO ePb Pb 17 09 59.1 +3.4
MET Memphis--Engin 5.91 252 ePn Pn 17 09 41.5 +1.5
MET ePb Pb 17 09 55.8 0.0
K46A Dorr 5.91 340 P Pn 17 09 40.0 -0.1
baz=158,SNR=16
HDIL Hopedale 5.92 307 ePn Pn 17 09 41.8 +1.5
HDIL Hopedale 5.92 307 P Pn 17 09 41.7 +1.3
baz=123,SNR=11
U43A Rector 5.94 265 P Pn 17 09 42.7 +2.2
baz=80
MVL Millersville 5.99 60 ePn Pn 17 09 41.7 +0.5
N43A Stutzman Famil 6.07 310 P Pn 17 09 43.6 +1.4
baz=127,SNR=32
249A Camden 6.15 214 P Pn 17 09 44.7 +1.3
baz=32,SNR=20
J48A Bridge Port 6.17 355 P Pn 17 09 45.1 +1.5
baz=175,SNR=25
S42A Caledonia 6.17 278 P Pn 17 09 45.5 +1.8
baz=94,SNR=51
147A Livingston 6.18 225 ePn Pn 17 09 44.4 +0.7
147A eSg Sg 17 11 24.6 -7.0
147A Livingston 6.18 225 P Pn 17 09 44.9 +1.1
baz=42
ELFO Elginfield 6.18 12 P Pn 17 09 44.2 +0.3
baz=193,SNR=58
J49A Marlette 6.20 360 P Pn 17 09 45.7 +1.6
baz=179,SNR=19
P42A Winchester 6.21 295 ePn Pn 17 09 45.1 +0.9
P42A ePb Pb 17 10 00.5 -0.5
P42A Winchester 6.21 295 P Pn 17 09 45.6 +1.4
baz=111
Z46A Louisville 6.22 232 P Pn 17 09 45.8 +1.5
baz=49
351A Pinckard 6.22 200 P Pn 17 09 45.7 +1.3
baz=19
R42A Luebbering 6.22 283 P Pn 17 09 46.4 +2.0
baz=98,SNR=17
L44A Lake County Fo 6.25 325 P Pn 17 09 46.6 +1.8
baz=142
M43A Waltham Townsh 6.25 315 P Pn 17 09 46.5 +1.6
baz=131,SNR=12
HBAR Harrisburg 6.32 258 ePn Pn 17 09 47.2 +1.5
X44A Crenshaw 6.32 247 P Pn 17 09 47.8 +2.0
baz=63
453A Whigham 6.36 190 ePn Pn 17 09 46.3 0.0
455A Stateville 6.39 180 P Pn 17 09 47.1 +0.3
baz=360,SNR=20
T42A Van Buren 6.41 271 ePn Pn 17 09 48.7 +1.8
T42A Van Buren 6.41 271 P Pn 17 09 48.8 +1.8
baz=87,SNR=72
TYNO Tyneside 6.43 21 P Pn 17 09 47.2 0.0
baz=203,SNR=11
456A Hilliard 6.47 172 ePn Pn 17 09 47.7 -0.1
456A Hilliard 6.47 172 P Pn 17 09 47.9 +0.1
baz=353,SNR=9.6
452A Marianna 6.52 196 P Pn 17 09 49.0 +0.4
baz=15,SNR=30
N42A Yates City 6.55 306 P Pn 17 09 50.2 +1.3
baz=122,SNR=26
CCM Cathedral Cave 6.55 280 ePn Pn 17 09 50.5 +1.7
PSUB Penn St. - Bra 6.59 63 ePn Pn 17 09 49.2 -0.2
PSUB ePb Pb 17 10 07.9 +0.5
Z45A Winona 6.59 237 ePn Pn 17 09 50.9 +1.4

U42A **Revenden** 6.60 266 P Pn 17 09 51.7 +2.1
baz=81,SNR=41
457A **Yulee** 6.63 169 P Pn 17 09 50.3 +0.2
baz=350,SNR=6.9
L43A **Garden Prairie** 6.66 321 P Pn 17 09 52.0 +1.6
baz=137,SNR=20
146A **Union** 6.66 229 *e*Pn Pn 17 09 51.5 +1.0
146A **Union** 6.66 229 P Pn 17 09 51.6 +1.1
baz=46,SNR=8.8
R41A **Rosebud** 6.68 282 P Pn 17 09 52.0 +1.3
baz=97,SNR=46
Q41A **Truxton** 6.68 288 P Pn 17 09 53.8 +3.0
baz=103,SNR=23
STCO **Saint Catharin** 6.75 25 P Pn 17 09 52.3 +0.7
baz=207
P41A **Barry, Barry** 6.76 294 P Pn 17 09 53.0 +1.3
baz=110,SNR=23
I49A **Point Hope** 6.79 2 P Pn 17 09 52.9 +0.7
baz=182,SNR=40
BRAL **Brewton** 6.81 210 *e*Pn Pn 17 09 53.4 +0.9
N59A **State Game Lan** 6.82 54 *e*Pn Pn 17 09 53.1 +0.5
N59A **State Game Lan** 6.82 54 P Pn 17 09 53.2 +0.6
baz=239
247A **Quitman** 6.83 224 P Pn 17 09 54.0 +1.2
baz=40,SNR=13
V42A **Cord** 6.83 261 P Pn 17 09 54.1 +1.3
baz=76,SNR=18
MMNY **Mt. Morris Dam** 6.84 34 *e*Pn Pn 17 09 53.4 +0.5
ACTO **Acton** 6.85 19 P Pn 17 09 52.7 -0.3
baz=200,SNR=22
K43A **Burlington** 6.86 326 *e*Pn Pn 17 09 53.5 +0.4
X43A **Marvell** 6.86 250 *e*Pn Pn 17 09 54.3 +1.1
451A **Vernon** 6.88 200 *e*Pn Pn 17 09 54.2 +0.7
S41A **Jillco Farms,** 6.92 276 P Pn 17 09 55.6 +1.6
baz=91,SNR=15
BASO **Ashfield** 6.94 8 P Pn 17 09 54.7 +0.5
baz=189,SNR=32
T41A **Mountain View** 6.94 272 P Pn 17 09 55.9 +1.6
baz=87,SNR=51
I47A **Gladwin** 6.95 351 P Pn 17 09 55.3 +1.0
baz=170
MEDO **Medina** 6.97 29 P Pn 17 09 55.5 +0.8
baz=212,SNR=15
348A **Jackson** 6.98 216 *e*Pn Pn 17 09 55.2 +0.4
555A **McAlpin** 7.01 179 *e*Pn Pn 17 09 55.7 +0.5
555A **McAlpin** 7.01 179 P Pn 17 09 56.3 +1.0
baz=359,SNR=40
N41A **Harden Midland** 7.03 303 *e*Pn Pn 17 09 56.0 +0.6
N41A **Harden Midland** 7.03 303 P Pn 17 09 56.3 +0.8
baz=118,SNR=7.8
L42A **Oliver, Polo** 7.03 316 *e*Pn Pn 17 09 56.1 +0.6
553A **Crawfordville** 7.03 190 P Pn 17 09 57.4 +1.8
baz=9.0,SNR=6.5
554A **Perry** 7.07 184 P Pn 17 09 56.5 +0.5
baz=4.1,SNR=37
BWLO **Walkerton** 7.11 11 P Pn 17 09 56.7 +0.1
baz=192,SNR=21
U41A **Viola** 7.15 266 P Pn 17 09 58.7 +1.6
baz=81,SNR=35
556A **Lake Butler** 7.15 175 P Pn 17 09 57.5 +0.3
baz=356,SNR=16
M41A **Milan** 7.17 308 P Pn 17 09 58.0 +0.7
baz=124,SNR=8.6
KSPA **Keystone Colle** 7.17 50 *e*Pn Pn 17 09 57.1 -0.3
557A **Orange Park** 7.20 171 P Pn 17 09 57.7 -0.2
baz=352
347A **Saraland** 7.30 220 P Pn 17 10 00.6 +1.3
baz=37,SNR=5.2
K42A **Prairie Point,** 7.40 321 P Pn 17 10 01.1 +0.6
baz=137,SNR=16
BINY **Binghamton** 7.44 45 *e*Pn Pn 17 10 01.2 +0.1
BINY **Binghamton** 7.44 45 P Pn 17 10 01.8 +0.7
baz=229
V41A **Mountainview** 7.44 262 P Pn 17 10 02.1 +0.9
baz=77,SNR=36
J43A **Natural Harves** 7.44 328 P Pn 17 10 02.4 +1.2
baz=145,SNR=12
144A **Alexander Plac** 7.53 235 P Pn 17 10 03.9 +1.5
baz=51
BMRO **Meriville Lake** 7.57 10 P Pn 17 10 03.6 +0.8
baz=191,SNR=61
CLWO **Collingwood** 7.59 15 P Pn 17 10 03.1 -0.1
baz=197,SNR=32
655A **Horseshoe Beac** 7.62 181 P Pn 17 10 04.1 +0.5
baz=1.2,SNR=27
ODNJ **Ogdensburg** 7.67 57 *e*Pn Pn 17 10 04.5 +0.3
WHAR **Wooly Hollow** 7.67 259 *e*Pn Pn 17 10 05.1 +0.7
W41B **Gary Mavity, V** 7.68 258 *e*Pn Pn 17 10 05.4 +1.1
W41B **Gary Mavity, V** 7.68 258 P Pn 17 10 05.3 +0.9
baz=72,SNR=16
J42A **Columbus** 7.70 325 P Pn 17 10 06.5 +1.8
baz=141,SNR=11
GLMI **Grayling** 7.75 352 *e*Pn Pn 17 10 06.1 +0.7
I43A **Langenfeld Bro** 7.75 332 P Pn 17 10 06.4 +1.0
baz=148,SNR=25
656A **Willston** 7.77 177 *e*Pn Pn 17 10 05.8 +0.1
656A **Willston** 7.77 177 P Pn 17 10 06.7 +0.9
baz=357
K41A **Shullsburg** 7.78 317 P Pn 17 10 06.9 +1.1
baz=132,SNR=21
CCAR **Cane Creek** 7.79 248 *e*Pn Pn 17 10 07.1 +1.2
346A **Big Creek Wild** 7.81 224 *e*Pn Pn 17 10 07.0 +0.8
346A **Big Creek Wild** 7.81 224 P Pn 17 10 07.5 +1.3
baz=41
447A **Lucedale** 7.85 218 *e*Pn Pn 17 10 06.4 -0.3
658A **Bunnell** 7.86 168 *e*Pn Pn 17 10 06.1 -0.7
VBMS **Vicksburg** 7.86 233 *e*Pn Pn 17 10 06.4 -0.4
UALR **University of** 7.88 255 *e*Pn Pn 17 10 08.0 +0.8
JFWS **Jewell Farm** 7.96 319 *e*Pn Pn 17 10 08.6 +0.3
JFWS **Jewell Farm** 7.96 319 P Pn 17 10 09.9 +1.6
baz=134,SNR=26
L40A **Anamosa** 7.97 310 *e*Pn Pn 17 10 08.2 -0.2
L40A **Anamosa** 7.97 310 P Pn 17 10 10.2 +1.8
baz=125,SNR=5.1
CPNY **Central Park** 7.98 60 *e*Pn Pn 17 10 07.6 -0.8
I42A **Draeger Farm,** 8.07 328 *e*Pn Pn 17 10 08.8 -0.9
I42A **Draeger Farm,** 8.07 328 P Pn 17 10 10.5 +0.8
baz=145,SNR=23
PAL **Palisades** 8.10 59 *e*Pn Pn 17 10 10.2 0.0
PAL **Palisades** 8.10 59 P Pn 17 10 10.4 +0.2
baz=244,SNR=29
H43A **Windswept, Lux** 8.13 336 *e*Pn Pn 17 10 11.0 +0.4
143A **Socs Landing,** 8.15 239 *e*Pn Pn 17 10 11.1 +0.2
TOBO **Tobermory, Bru** 8.15 8 P Pn 17 10 10.8 0.0
baz=189,SNR=18
J41A **Loganville** 8.16 322 P Pn 17 10 12.2 +1.2
baz=137,SNR=17
SADO **Sadowa** 8.17 20 Pn Pn 17 10 09.4 -1.8
4.8nm,0.3s,baz=212,slow=13,SNR=70
SADO Pg Pb 17 10 36.2 +1.8
16nm,0.3s,baz=226,slow=17,SNR=24
SADO Sn Sn 17 11 40.2 -2.9
50nm,0.3s,baz=120,slow=11,SNR=5.6
SADO Lg Lg 17 12 21.1
92nm,0.3s,baz=296,slow=20,SNR=15
SADO LR LR 17 13 23.7
comp=Z,362nm,18.3s,baz=250,slow=38
SADO **Sadowa** 8.17 20 *e*Pn Pn 17 10 09.3 -1.8
SADO *e*Pb Pb 17 10 37.4 +3.0
SADO *e*Sn Sn 17 11 40.5 -2.5
SADO *e*Lg Lg 17 12 20.9
N39A **Derby Farms, D** 8.23 300 *e*Pn Pn 17 10 11.7 -0.2
757A **Oxford** 8.23 174 P Pn 17 10 12.2 +0.3
baz=354,SNR=17
K40A **Colesburg** 8.31 314 P Pn 17 10 15.4 +2.3
baz=129
Y41A **Eaglette Beard** 8.43 250 P Pn 17 10 16.3 +1.5
baz=64
H42A **Shiocton** 8.43 332 *e*Pn Pn 17 10 15.7 +1.0
DELO **Deloro Mine** 8.44 28 P Pn 17 10 15.2 +0.4
baz=211
KLBO **Killbear Provi** 8.48 14 P Pn 17 10 14.1 -1.2
baz=196,SNR=65
344A **Westbrook Farm** 8.51 230 *e*Pn Pn 17 10 17.0 +1.2
J40A **Soldiers Grove** 8.55 319 P Pn 17 10 17.6 +1.2
baz=134,SNR=10
I41A **Arkdale** 8.62 325 *e*Pn Pn 17 10 18.2 +1.0
F45A **CMU Biological** 8.72 349 P Pn 17 10 18.1 -0.6
baz=167,SNR=17
BUKO **Buck Lake** 8.73 17 P Pn 17 10 17.6 -1.3
baz=200,SNR=67
HHAR **Hobbs** 8.77 268 *e*Pn Pn 17 10 20.8 +1.4
BANO **Bancroft** 8.77 25 P Pn 17 10 18.6 -0.8
baz=208,SNR=14
445A **Amite** 8.79 225 P Pn 17 10 20.9 +1.1
baz=41

G43A **Wallace** 8.81 338 *e*Pn Pn 17 10 18.3 -1.6
I40A **Norwalk** 8.85 322 P Pn 17 10 20.5 +0.1
baz=137,SNR=42
Z41A **Richland Creek** 8.86 247 *e*Pn Pn 17 10 21.0 +0.5
Z41A **Richland Creek** 8.86 247 P Pn 17 10 21.2 +0.7
baz=61
W39A **Magazine** 8.88 261 *e*Pn Pn 17 10 21.7 +0.9
W39A **Magazine** 8.88 261 P Pn 17 10 21.8 +1.0
baz=74
857A **Zephyrhills** 8.89 175 P Pn 17 10 20.7 -0.3
baz=356,SNR=10
YLE **Yale** 8.90 59 *e*Pn Pn 17 10 20.1 -0.9
MIAR **Mount Ida** 8.91 256 *e*Pn Pn 17 10 21.9 +0.6
MIAR **Mount Ida** 8.91 256 P Pn 17 10 22.2 +0.8
baz=70,SNR=30
H41A **Junction City** 8.97 328 *e*Pn Pn 17 10 22.8 +0.7
H41A **Junction City** 8.97 328 P Pn 17 10 22.6 +0.6
baz=144,SNR=9.6
858A **St. Cloud** 9.03 170 P Pn 17 10 23.2 +0.2
baz=351
G42A **Mountain** 9.03 335 *e*Pn Pn 17 10 21.0 -2.0
F52A **Sundridge** 9.08 17 P Pn 17 10 23.7 0.0
baz=199,SNR=26
F51A **Arnstein** 9.09 14 P Pn 17 10 23.7 +0.1
baz=196,SNR=112
PLVO **Plevna** 9.09 28 *e*Pn Pn 17 10 23.3 -0.4
PLVO **Plevna** 9.09 28 P Pn 17 10 22.8 -0.9
baz=212,SNR=110
DWPF **Disney Wildern** 9.12 171 *e*Pn Pn 17 10 24.2 0.0
TRY **Troy** 9.12 49 *e*Pn Pn 17 10 23.8 -0.4
SCIA **State Center** 9.16 304 *e*Pn Pn 17 10 24.5 -0.2
F44A **Big Bay de Noc** 9.16 345 P Pn 17 10 23.9 -0.8
baz=163,SNR=26
I39A **Houston** 9.28 319 *e*Pn Pn 17 10 26.6 +0.2
I39A **Houston** 9.28 319 P Pn 17 10 27.4 +1.0
baz=133,SNR=12
E50A **Wahnapitae** 9.43 10 P Pn 17 10 27.5 -0.9
baz=191,SNR=25
957A **Wimauma** 9.48 175 *e*Pn Pn 17 10 28.5 -0.6
ACCN **Adirondack Com** 9.51 46 *e*Pn Pn 17 10 28.5 -1.0
ALGO **Algonquin Park** 9.57 22 P Pn 17 10 29.4 -0.9
baz=205,SNR=11
342A **Flon Creek P** 9.58 236 *e*Pn Pn 17 10 30.9 +0.5
PEMO **Pembroke** 9.58 25 P Pn 17 10 29.6 -0.8
baz=209,SNR=76
NCB **Newcomb** 9.58 42 *e*Pn Pn 17 10 29.3 -1.1
241A **Mo Tay, Goldon** 9.59 241 *e*Pn Pn 17 10 30.9 +0.3
E43A **Lone Tree Farm** 9.67 344 *e*Pn Pn 17 10 29.8 -1.9
E44A **Grand Marais A** 9.70 348 *e*Pn Pn 17 10 31.0 -1.1
F41A **Three Lakes** 9.70 334 *e*Pn Pn 17 10 30.2 -1.9
QUA2 **Belchertown** 9.72 55 *e*Pn Pn 17 10 31.2 -1.2
G40A **Rib Lake** 9.72 329 *e*Pn Pn 17 10 30.8 -1.6
140A **Cam and Jess,** 9.72 246 *e*Pn Pn 17 10 31.8 -0.6
E51A **G1948 Merrick** 9.75 15 P Pn 17 10 32.3 -0.4
baz=197,SNR=66
959A **Ohoobee** 9.78 168 P Pn 17 10 32.9 -0.2
baz=350,SNR=6.3
LONY **Lake Ozonia** 9.85 38 *e*Pn Pn 17 10 33.4 -0.7
LONY **Lake Ozonia** 9.85 38 P Pn 17 10 33.7 -0.4
baz=223,SNR=52
D47A **Chapleau** 9.90 360 P Pn 17 10 34.5 -0.3
baz=180,SNR=29
COWI **Conover** 10.02 335 *e*Pn Pn 17 10 35.9 -0.7
ORIO **Orleans, Innes** 10.05 32 P Pn 17 10 36.0 -0.9
baz=217,SNR=9.4
D48A **Paudash Towns** 10.06 5 P Pn 17 10 36.6 -0.5
baz=196,SNR=12
E53A **Dumoine, Ponti** 10.06 22 P Pn 17 10 36.3 -0.8
baz=205,SNR=62
BRYW **Bryant College** 10.10 58 *e*Pn Pn 17 10 35.8 -1.8
543A **St. Martinvill** 10.15 229 *e*Pn Pn 17 10 38.5 +0.2
341A **Kurthwood** 10.17 238 *e*Pn Pn 17 10 38.8 +0.2
240A **Hunter Patters** 10.17 243 *e*Pn Pn 17 10 39.1 +0.5
F40A **Park Falls** 10.22 331 P Pn 17 10 39.9 +0.6
baz=146,SNR=13
E54A **Lac Daplat, Po** 10.26 23 P Pn 17 10 38.9 -0.9
baz=207,SNR=173
059A **Moore Haven** 10.28 170 *e*Pn Pn 17 10 39.9 -0.3
X37A **Clayton** 10.30 259 *e*Pn Pn 17 10 41.2 +0.8
D51A **Lot 18 Range I** 10.30 14 P Pn 17 10 38.9 -1.5
baz=197,SNR=16
TUL1 **Leonard** 10.31 267 *e*Pn Pn 17 10 41.8 +1.3
HRV **Adam Dziewonsk** 10.35 55 *e*Pn Pn 17 10 39.2 -1.7
WES **Weston** 10.45 56 *e*Pn Pn 17 10 40.3 -2.0
ALFO **Alfred** 10.46 33 P Pn 17 10 41.4 -1.1
baz=219,SNR=68
FRNY **Flat Rock** 10.50 40 *e*Pn Pn 17 10 42.1 -0.9
HNH **Hanover** 10.51 48 *e*Pn Pn 17 10 41.8 -1.3
BCX **Boston College** 10.53 57 *e*Pn Pn 17 10 41.7 -1.7
VT1 **Waterbury** 10.61 44 *e*Pn Pn 17 10 42.7 -1.9
D53A **Lac Vave, Po** 10.69 20 P Pn 17 10 44.3 -1.4
baz=204,SNR=111
D41A **Chassel** 10.71 339 *e*Pn Pn 17 10 43.3 -2.6
FFD **Franklin Falls** 10.76 51 *e*Pn Pn 17 10 46.0 -0.6
E39A **Mellen** 10.77 331 P Pn 17 10 46.5 -0.3
baz=146,SNR=23
KSU1 **Kansas State U** 10.84 284 *e*Pn Pn 17 10 47.8 +0.1
SPMN **Marine on St.** 10.89 321 *e*Pn Pn 17 10 46.3 -2.1
NATX **Nacogdoches** 10.97 244 *e*Pn Pn 17 10 48.2 -1.3
541A **Lake Charles** 11.00 233 *e*Pn Pn 17 10 51.1 +1.2
LBNH **Lisbon** 11.03 47 *e*Pn Pn 17 10 48.9 -1.4
LBNH **Lisbon** 11.03 47 P Pn 17 10 48.9 -1.4
baz=234,SNR=20
D54A **Lac Fusel, La** 11.07 23 P Pn 17 10 49.4 -1.4
baz=208,SNR=79
E38A **The Farm, Brul** 11.36 329 *e*Pn Pn 17 10 54.3 -0.5
E38A **The Farm, Brul** 11.36 329 P Pn 17 10 54.4 -0.4
baz=143,SNR=8.8
061Z **Ochoppi** 11.40 170 *e*Pn Pn 17 10 54.5 -1.0
MOQ **Mont Orford** 11.52 42 *e*Pn Pn 17 10 55.8 -1.2
MOQ *e*Sn Sn 17 12 58.3 -6.9
VLDQ **Val d'Or** 11.71 19 *e*Pn Pn 17 10 57.2 -2.3
VLDQ *e*Sn Sn 17 13 02.1 -7.6
ECSD **EROS Data Cent** 12.22 307 *e*Pn Pn 17 11 05.4 -1.3
BGNE **Belgrade** 12.43 295 *e*Pn Pn 17 11 09.8 +0.3
EYMN **Ely** 12.44 333 *e*Pn Pn 17 11 05.3 -4.2
WVL **Waterville** 12.56 50 *e*Pn Pn 17 11 07.8 -3.4
U32A **Winter Ranch,** 12.80 271 *e*Pn Pn 17 11 13.7 -0.9
HKT **Hockley** 12.83 240 *e*Pn Pn 17 11 13.3 -1.6
WHTX **Lake Whitney,** 12.92 251 *e*Pn Pn 17 11 15.6 -0.6
WMOK **Wichita Mounta** 12.95 264 *e*Pn Pn 17 11 17.2 +0.6
WMOK **Wichita Mounta** 12.95 264 P Pn 17 11 17.5 +0.9
baz=75
PKME **Peaks-Kenny Pk** 13.16 48 *e*Pn Pn 17 11 16.9 -2.4
CBKS **Cedar Bluff** 13.25 282 *e*Pn Pn 17 11 21.2 +0.5
435B **Jarrell** 13.61 246 *e*Pn Pn 17 11 24.9 -0.7
EMMW **East Machias** 14.00 53 *e*Pn Pn 17 11 29.6 -1.3
ABTX **Abilene, Hawle** 14.32 257 *e*Pn Pn 17 11 36.0 +0.6
AGMN **Agassiz Nation** 14.55 324 *e*Pn Pn 17 11 37.5 -0.9
GGN **Saint George** 14.58 52 *e*Pn Pn 17 11 37.0 -1.8
PQI **Presque Isle** 14.68 45 *e*Pn Pn 17 11 37.8 -2.3
OGNE **Ogallala** 15.21 290 *e*Pn Pn 17 11 47.5 +0.2
42nm,0.4s
AMTX **Amarillo** 15.23 267 *e*Pn Pn 17 11 46.6 -1.1
30nm,0.6s
JCT **Junction City** 15.40 249 *e*Pn Pn 17 11 50.3 +0.4
24nm,0.8s
KSCO **Kaye Shedlock'** 15.51 283 *e*Pn Pn 17 11 50.7 -0.7
39nm,0.6s
BBSR **BB Station** 15.84 102 *e*Pn Pn 17 11 54.5 -1.0
113nm,1.5s
ULM **Lac du Bonnet** 16.00 329 Pn Pn 17 11 53.4 -4.1
1.0nm,0.3s,baz=154,slow=11,SNR=9.7
ULM Sn Sn 17 14 43.5 -11
2.5nm,0.3s,baz=142,slow=18,SNR=2.1
ULM Lg Lg 17 16 26.9
3.7nm,0.3s,baz=252,slow=21,SNR=3.4
ULM **Lac du Bonnet** 16.00 329 *e*Pn Pn 17 11 53.7 -3.8
42nm,1.0s
ULM Sn Sn 17 14 43.5 -11
ULM Lg Lg 17 16 26.9
MDND **Maddock** 16.18 317 *e*Pn Pn 17 11 57.1 -2.7
56nm,0.7s
833A **Chaparral WMA,** 16.29 242 *e*Pn Pn 17 11 59.5 -1.9
23nm,1.0s
MSTX **Muleshoe** 16.34 265 *e*Pn Pn 17 11 59.3 -2.8
16nm,0.7s
T25A **Trinidad** 17.01 276 *e*Pn Pn 17 12 08.9 -1.7
11nm,0.8s
RSSD **Black Hills** 17.34 300 *e*Pn Pn 17 12 11.0 -3.7
18nm,0.4s
Q24A **Divide** 17.48 283 *e*Pn Pn 17 12 16.7 +0.2
17nm,0.6s
SDCO **Great Sand Dun** 17.82 279 *e*Pn Pn 17 12 19.8 -1.0

27nm,1.4s
PHWY **Pilot Hill** 17.82 290 *e*Pn Pn 17 12 19.5 -1.3
11nm,0.6s
ISCO **Idaho Springs** 17.84 285 *e*Pn Pn 17 12 18.1 -2.9
10nm,0.6s
LNIG **Linares** 18.58 234 *e*P Pn 17 12 31.1 +1.2
44nm,2.0s
LNIG *e*Sn Sn 17 15 46.0 -11
K22A **Casper** 18.79 294 *e*P P 17 12 30.3 -1.6
13nm,0.8s
S22A **4UR Ranch, Cre** 18.86 279 *e*P P 17 12 31.2 -1.8
10nm,1.1s
LTX **Lajitas** 18.88 252 *e*P Pn 17 12 35.0 +1.4
TXAR **Lajitas Array** 18.88 252 P Pn 17 12 35.0 +1.4
0.3nm,0.3s,baz=76,slow=11,SNR=20
TX31 **Lajitas Ar. Si** 18.88 252 *e*P P 17 12 32.7 -0.3
SMCO **Snowmass** 18.89 283 *e*P P 17 12 32.9 -0.5
7.2nm,0.8s
ANMO **Albuquerque** 19.03 270 P Pn 17 12 37.3 +1.9
0.1nm,0.3s,baz=72,slow=11,SNR=6.0
ANMO Lg Lg 17 18 09.5
0.6nm,0.3s,baz=98,slow=4.7,SNR=5.2
ANMO **Albuquerque** 19.03 270 *e*P P 17 12 33.7 -1.0
5.4nm,0.8s
DGMT **Dagmar** 19.12 313 *e*P P 17 12 35.6 +0.2
35nm,0.8s
RWWY **Rawlins** 19.17 291 *e*P P 17 12 35.4 -0.9
13nm,0.9s
MNTX **Cornudas Mount** 19.17 260 *e*P Pn 17 12 37.0 -0.1
7.8nm,0.8s
BNM **Barren Site** 19.36 268 *e*P P 17 12 36.8 -1.6
PV01 **Paradox Valley** 20.20 281 *e*P Pn 17 12 49.5 +0.1
PV02 **Paradox Valley** 20.32 281 *e*P Pn 17 12 50.3 -0.6
8.8nm,0.8s
PV22 **Blue Mesa, Par** 20.34 282 *e*P Pn 17 12 52.5 +1.5
11nm,0.8s
PV13 **Radium Mtn., P** 20.39 281 *e*P P 17 12 48.8 -0.9
14nm,0.9s
PV03 **Paradox Valley** 20.41 281 *e*P P 17 12 49.6 -0.2
PV11 **David Mesa, Pa** 20.42 281 *e*P P 17 12 49.2 -0.7
20nm,1.2s
PV16 **Nyswonger Mesa** 20.45 281 *e*P P 17 12 49.6 -0.7
15nm,1.1s
PV18 **Skein Mesa, Pa** 20.45 281 *e*P P 17 12 48.5 -1.7
7.6nm,0.9s
PV21 **Cone Mtn., Par** 20.48 282 *e*P Pn 17 12 52.5 -0.2
9.7nm,0.8s
PV17 **East Wray Mesa** 20.49 281 *e*P P 17 12 51.1 +0.5
6.6nm,0.8s
PV19 **Morning Glory** 20.51 281 *e*P P 17 12 50.5 -0.4
7.4nm,0.8s
SCHQ **Schefferville** 20.89 27 P P 17 12 55.4 +0.8
8.9nm,0.7s,baz=210,slow=10.0,SNR=4.5
SCHQ LR LR 17 20 55.1
comp=Z,259nm,18.5s,baz=310,slow=37
SCHQ **Schefferville** 20.89 27 *e*P P 17 12 54.6 0.0
30nm,1.1s
LVIG **Laguna Verde** 20.91 218 *e*P P 17 12 56.5 +1.4
93nm,1.8s
LVIG *e*S S 17 16 46.2 -1.4
BW06 **Boulder Array** 21.02 294 *e*P P 17 12 57.4 +1.1
25nm,1.4s
PD31 **Pinedale Array** 21.02 294 *e*P P 17 12 57.4 +1.1
PDAR **Pinedale Array** 21.02 294 P P 17 12 57.9 +1.5
2.3nm,0.6s,baz=88,slow=13,SNR=11
PDAR Lg Lg 17 19 08.7
7.8nm,0.9s,baz=89,slow=30,SNR=3.8
PDAR **Pinedale Array** 21.02 294 *e*P P 17 12 57.0 +0.7
PDAR Lg Lg 17 19 08.7
RLMT **Red Lodge** 21.21 300 *e*P P 17 12 59.3 +1.0
14nm,0.8s
SRU **San Rafael Swe** 21.65 284 *e*P P 17 13 05.2 +2.1
5.8nm,0.7s
P17A **Butcher Ranch,** 21.80 285 *e*P P 17 13 11.6 +6.9
8.9nm,1.1s
FFC **Flin Flon** 21.83 330 *e*P P 17 13 05.7 +1.0
22nm,0.8s
LOHW **Long Hollow** 21.88 296 *e*P P 17 13 05.6 0.0
5.4nm,0.8s
MOOW **Moose Ponds** 22.00 296 *e*P P 17 13 06.3 -0.6
4.6nm,0.8s
REDW **Red Top Meadow** 22.03 295 *e*P P 17 13 07.8 +0.6
31nm,1.8s
TPAW **Teton Pass** 22.12 295 *e*P P 17 13 08.8 +0.6
5.5nm,0.9s
IMW **Indian Meadow** 22.16 296 *e*P P 17 13 16.1 +7.4
6.1nm,0.7s
FXWY **Fox Creek** 22.19 296 *e*P P 17 13 09.2 +0.3
5.8nm,0.8s
YHH **Holmes Hill** 22.24 299 *e*P P 17 13 09.5 -0.1
13nm,1.4s
TCUT **Toone Canyon** 22.29 289 *e*P P 17 13 16.9 +6.9
9.9nm,0.7s
HWUT **Hardware Ranch** 22.42 290 *e*P P 17 13 11.3 0.0
8.9nm,1.0s
CMIG **Matias Romero** 22.54 211 P P 17 13 13.7 +1.1
2.7nm,0.6s,baz=4.8,slow=7.4,SNR=4.3
WUAZ **Wupatki** 22.82 274 *e*P P 17 13 23.2 +7.5
10nm,0.9s
APG **El Apazote** 23.02 199 P P 17 13 19.3 +1.5
8.4nm,0.8s,baz=1.7,slow=20,SNR=6.2
PSUT **Pine Spring** 24.29 283 *e*P P 17 13 30.7 +0.6
8.7nm,0.9s
HLID **Hailey** 24.63 295 *e*P P 17 13 39.9 +6.8
4.6nm,0.9s
NV01 **Mina Array Sit** 27.77 284 *e*P P 17 14 02.2 +0.7
NVAR **Mina Array Bea** 27.77 284 P P 17 14 03.1 +1.6
0.3nm,0.6s,baz=80,slow=10,SNR=3.2
YKA **Yellowknife Ar** 31.92 333 P P 17 14 40.3 +2.6
4.5nm,0.9s,baz=127,slow=8.5,SNR=4.8
ROSC **El Rosal** 33.14 164 LR LR 17 28 51.2
comp=Z,696nm,19.9s,baz=322,slow=38
ILAR **Eielson Array** 46.02 328 P P 17 16 35.9 +0.4
0.8nm,0.8s,baz=100,slow=6.0,SNR=4.0
ILB **Eielson Array** 46.02 328 *e*P P 17 16 36.4 +0.9
CCB **Clear Creek Bu** 46.40 327 *e*P P 17 16 38.1 -0.4
8.3nm,1.0s
TRF **Thorofare Moun** 47.45 326 *e*P P 17 16 52.3 +5.4
SAML **Samuel** 49.51 154 *e*P P 17 17 03.2 +0.1
2.7nm,0.8s
LPAZ **La Paz** 54.99 162 P P 17 17 43.9 -0.6
3.1nm,0.8s,baz=23,slow=8.9,SNR=12
LPAZ **La Paz** 54.99 162 *e*P P 17 17 43.7 -0.8
4.4nm,1.0s
EKA **Eskdalemuir Ar** 55.01 43 P P 17 17 43.0 -0.6
3.4nm,0.8s,baz=289,slow=7.6,SNR=9.0
SIV **San Ignacio** 56.78 154 P P 17 17 56.6 0.0
1.3nm,0.8s,baz=357,slow=6.9,SNR=2.8
ESDC **Sonseca Array** 60.08 61 P P 17 18 19.2 -0.5
0.4nm,0.5s,baz=296,slow=8.4,SNR=4.1
NB200 **NORSAR Array S** 60.25 34 *e*P P 17 18 19.6 -0.9
NOA **NORSAR Array B** 60.25 34 P P 17 18 19.6 -0.9
1.3nm,0.8s,baz=296,slow=7.0,SNR=4.0
ARA0 **ARCESS Array S** 61.75 22 *e*P P 17 18 31.0 +0.6
ARCES **ARCESS Array B** 61.75 22 P P 17 18 31.0 +0.6
1.5nm,0.8s,baz=289,slow=5.5,SNR=4.9
CLL **Collm** 65.48 43 *e*P P 17 18 56.0 +0.7
CLL *e*sP sP 17 19 04.0 +1.1
CLL *e*PP PP 17 21 20.0 +1.0
FIA0 **FINESS Array S** 66.33 30 *e*P P 17 19 01.1 +0.4
FINES **FINESS Array B** 66.33 30 P P 17 19 01.1 +0.4
4.5nm,1.0s,baz=292,slow=7.6,SNR=3.9
GERES **GERESS Array B** 67.10 45 P P 17 19 06.5 +0.6
1.0nm,0.5s,baz=305,slow=5.0,SNR=9.1
VRAC **Vranov** 68.48 44 P P 17 19 15.1 +0.6
4.7nm,0.8s,baz=297,slow=5.5,SNR=5.6
VYHS **Vyhne** 70.17 44 *e*P P 17 19 25.2 +0.3
KECS **Kecovo** 71.08 43 *e*P P 17 19 29.0 -1.5
DIVS **Divibare** 73.33 47 *e*P P 17 19 43.9 -0.3
4.6nm,0.9s
AKASG **Malin Array Be** 74.26 38 P P 17 19 49.3 0.0
2.6nm,0.7s,baz=305,slow=5.7,SNR=7.7
AKBB **Malin Array Si** 74.26 38 *e*P P 17 19 49.3 0.0
PEA1 **Petropavlovsk-** 75.84 327 *e*P P 17 19 59.2 +0.7
PETK **Petropavlovsk-** 75.84 327 P P 17 19 59.2 +0.7
1.7nm,0.9s,baz=77,slow=11
TOA1 **Torodi Ar. Sit** 78.06 83 *e*P P 17 20 11.6 +0.1
TORD **Torodi Ar. Bea** 78.06 83 P P 17 20 11.6 +0.1
1.5nm,1.0s,baz=292,slow=7.8,SNR=4.9
PLCA **Paso Flores** 78.35 170 P P 17 20 12.9 +0.4
2.0nm,0.9s,baz=221,slow=9.8,SNR=2.9
PLCA **Paso Flores** 78.35 170 *e*P P 17 20 12.5 0.0
16nm,1.6s
BR101 **Keskin Array S** 83.93 44 *e*P P 17 20 44.0 +1.3
BRTR **Keskin Array B** 83.93 44 P P 17 20 44.0 +1.3
1.9nm,0.9s,baz=215,slow=1.5,SNR=5.9
ZAA1 **Zalesovo Array** 88.67 7 *e*P P 17 21 06.3 +0.9

ZALV	**Zalesovo Beam**	**88.67**	**7**	P		**P**	**17 21 06.3**	**+0.9**
	1.9nm,0.6s,baz=332,slow=6.4,SNR=8.8							
ZALV	**Zalesovo Beam**	**88.67**	**7**	*e*P		**P**	**17 21 05.6**	**+0.1**
KURK	**Kurchatov**	**91.03**	**12**	*e*P		**P**	**17 21 16.8**	**+0.2**
KURBB	**Kurchatov Arra**	**91.11**	**12**	P		**P**	**17 21 16.8**	**-0.1**
	0.4nm,0.5s,baz=337,slow=7.1,SNR=4.8							
WMQ	**Urumqi**	**98.97**	**7**	*e*P	Pdif		17 21 54.6	+1.5
HHC	**Hu-ho-hao-te**	**101.22**	**349**	*e*P	**Pdif**		**17 22 04.0**	**+0.8**
HHC				pmax	pmax			
	comp=Z,8.0nm,1.0s							
KSH	**Kashi**	**101.31**	**16**	*e*P	**Pdif**		**17 22 06.0**	**+2.4**
STKA	**Stephens Creek**	**143.08**	**265**	PKP	**PKPdf**		**17 27 47.0**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=82,slow=6.6,SNR=7.9							
STKA	**Stephens Creek**	**143.08**	**265**	*e*PKPdf	**PKPdf**		**17 27 47.5**	**+1.2**
WR1	**Warramunga Arr**	**143.22**	**287**	*e*PKPpre	PKPpre		17 27 44.1	
WR1				*e*PKPdf	**PKPdf**		**17 27 48.2**	**+1.3**
WRA	**Warramunga Arr**	**143.22**	**287**	PKhKP	PKPpre		17 27 44.1	
	comp=Z,0.5nm,0.7s,baz=56,slow=4.1,SNR=6.5							
WRA				PKP	**PKPdf**		**17 27 48.2**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=56,slow=3.8,SNR=12							
ASAR	**Alice Springs**	**145.61**	**282**	PKPbc	**PKPab**		**17 27 52.1**	**+0.5**
	comp=Z,3.2nm,0.7s,baz=63,slow=2.9,SNR=36							

*HEL **10** 17:13:15.4±0.3,67.87N×33.61E,h0km,ML2.1,Explosion*
*KOLA **10** 17:13:15.4,67.67N×33.78E,M1.7,Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*ISCJB **10** 17:13:16.3±0.5,67.61N±0.04×33.07E±0.09,h0km, Error ellipse: s-maj=6.7km s-min=4.1km az=29.5*
*NAO **10** 17:13:17.0±1.8,67.72N×33.36E,ML2.8*
*IDC **10** 17:13:17.3±1.7,67.73N×33.46E,h0km,mb1 3.6/5, mb1mx3.2/69,mbtmp3.6/5,ML2.7/5, Error ellipse: s-maj=18.2km s-min=10.4km az=80.0*
ISC 10 17:13:16.9±0.9,67.54N±0.03×33.22E±0.03,h0km,n38, σ1ᵍ43/57,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.07**	**69**	P	**Pg**	**17 13 18.5**	**+0.2**
APA				S	**Sg**	**17 13 20.8**	**+1.6**
APA0	**Apatity Array**	**0.11**	**306**	P	**Pg**	**17 13 20.9**	**+2.0**
APA0				S	**Sg**	**17 13 24.9**	**+4.5**
VRF	**Varrio**	**1.40**	**280**	PN	**Pb**	**17 13 43.6**	**-0.2**
	baz=87						
VRF				MSG		17 14 01.0	
	comp=Z,16nm,0.2s						
VRF				SN	**Sn**	**17 14 04.2**	**+1.5**
KU6	**Riekki**	**2.02**	**222**	PN	**Pb**	**17 13 54.2**	**-0.1**
KU6				SN	**Sg**	**17 14 24.2**	**+2.7**
KU6				MSG		17 14 25.1	
	comp=Z,11nm,0.2s						
MSF	**Maaselka**	**2.33**	**227**	PN	**Pb**	**17 13 59.2**	**-0.5**
MSF				SB	**Sg**	**17 14 34.5**	**+2.8**
SGF	**Sodankyl**	**2.58**	**271**	PN	**Pn**	**17 14 00.6**	**+0.8**
SGF				SG	**Sg**	**17 14 39.4**	**-0.2**
RNF	**Rovaniemi**	**2.97**	**255**	PN	**Pn**	**17 14 06.8**	**+1.6**
RNF				SN	**Sb**	**17 14 46.5**	**-1.0**
KEV	**Kevo**	**3.18**	**317**	Pn	**Pn**	**17 14 07.8**	**-0.2**
KEV				Sn	**Sn**	**17 14 46.6**	**0.0**
KEV				Lg	Lg	17 14 53.4	
KEV	**Kevo**	**3.18**	**317**	PB	**Pn**	**17 14 07.7**	**-0.3**
KEV				MSG		17 14 45.3	
	comp=Z,7.4nm,0.2s						
KEV				SB	**Sn**	**17 14 46.1**	**-0.5**
KEV	**Kevo**	**3.18**	**317**	Pn	**Pn**	**17 14 07.8**	**-0.2**
KEV				Sn	**Sn**	**17 14 46.6**	**0.0**
KEV				Sg	**Sb**	**17 14 53.4**	**0.0**
ARA0	**ARCESS Array S**	**3.47**	**309**	Pn	**Pn**	**17 14 11.4**	**-0.7**
	baz=122,slow=16						
ARA0				Sn	**Sn**	**17 14 52.1**	**-1.7**
	baz=117,slow=28						
ARA0				Lg	Lg	17 15 03.7	
	baz=116,slow=37						
ARA0	**ARCESS Array S**	**3.47**	**309**	Pn	**Pn**	**17 14 11.4**	**-0.7**
	baz=122,slow=16						
ARA0				Sn	**Sn**	**17 14 52.1**	**-1.7**
	baz=117,slow=28						
ARA0				Sg	**Sb**	**17 15 03.7**	**+2.0**
	baz=116,slow=37						
ARCES	**ARCESS Array B**	**3.47**	**309**	Pn	**Pn**	**17 14 11.6**	**-0.4**
	comp=Z,2.8nm,0.3s,baz=122,slow=15,SNR=279						
ARCES				Sn	**Sn**	**17 14 52.8**	**-1.0**
	comp=Z,1.7nm,0.3s,baz=117,slow=26,SNR=12						
ARCES				Lg	Lg	17 15 04.5	
	comp=Z,5.2nm,0.3s,baz=114,slow=31,SNR=17						
ARE0	**ARCESS Array S**	**3.47**	**309**	PN	**Pn**	**17 14 11.4**	**-0.7**
ARE0				SN	**Sn**	**17 14 52.6**	**-1.2**
ARE0	**ARCESS Array S**	**3.47**	**309**	*e*P	**Pn**	**17 14 11.7**	**-0.4**
HEF	**Hetta**	**3.71**	**288**	PN	**Pn**	**17 14 15.4**	**+0.1**
	baz=97						
HEF	**Hetta**	**3.71**	**288**	*e*P	**Pn**	**17 14 15.4**	**+0.1**
TOF	**Tornio**	**3.81**	**252**	PG	**Pg**	**17 14 28.4**	**-1.4**
OUL	**Oulu**	**3.85**	**234**	PB	**Pb**	**17 14 24.2**	**-1.3**
	baz=46						
KTK1	**Kautokeino**	**3.99**	**296**	*e*P	**Pn**	**17 14 19.4**	**+0.2**
KALU	**Kalix**	**4.27**	**251**	PG	**Pg**	**17 14 36.4**	**-2.1**
	baz=56						
LANU	**Lannavaara**	**4.29**	**282**	PN	**Pn**	**17 14 22.8**	**-0.5**
LANU				SN	**Sn**	**17 15 09.7**	**-4.4**
ERTU	**Ertsjaerv**	**4.43**	**262**	PN	**Pn**	**17 14 25.8**	**+0.6**
ERTU				SN	**Sn**	**17 15 19.8**	**+2.4**
HAMF	**Hammerfest**	**4.62**	**317**	*e*P	**Pn**	**17 14 26.7**	**-1.1**
KIF	**Kilpisjarvi**	**4.84**	**293**	Pn	**Pn**	**17 14 30.9**	**0.0**
KIF				Sn	**Sn**	**17 15 26.0**	**-1.6**
KIF	**Kilpisjarvi**	**4.84**	**293**	*e*P	**Pn**	**17 14 30.6**	**-0.3**
KIF				Pn	Pb	17 14 30.9	-12
KIF				Sn	**Sn**	**17 15 26.0**	**-1.6**
FIA0	**FINESS Array S**	**6.85**	**210**	Pn	**Pn**	**17 14 59.0**	**+0.6**
	baz=27,slow=14						
FIA0				Sn	**Sn**	**17 16 17.6**	**+0.7**
	baz=30,slow=22						
FIA0	**FINESS Array S**	**6.85**	**210**	Pn	**Pn**	**17 14 59.0**	**+0.6**
	baz=27,slow=14						
FIA0				Sn	**Sn**	**17 16 17.6**	**+0.7**
	baz=30,slow=22						
FINES	**FINESS Array B**	**6.85**	**210**	Pn	**Pn**	**17 14 58.8**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=26,slow=14,SNR=6.6						
FINES				Lg	Lg	17 16 51.1	
	comp=Z,0.9nm,0.3s,baz=19,slow=28,SNR=7.0						
HFS	**Hagfors**	**11.33**	**238**	Pn	**Pn**	**17 15 58.9**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=64,slow=13,SNR=3.3						
HFS				Lg	Lg	17 19 16.0	
	comp=Z,0.2nm,0.3s,baz=43,slow=28,SNR=3.0						
NB2	**NORSAR Subarra**	**11.51**	**246**	Pn	**Pn**	**17 16 02.1**	**-0.2**
NB2	**NORSAR Subarra**	**11.51**	**246**	Pn	**Pn**	**17 16 02.1**	**-0.2**
NOA	**NORSAR Array B**	**11.51**	**246**	Pn	**Pn**	**17 16 01.3**	**-0.9**
	comp=Z,0.0nm,0.3s,baz=41,slow=12,SNR=3.4						
NOA				Lg	Lg	17 19 21.6	
	comp=Z,0.0nm,0.3s,baz=45,slow=27,SNR=4.3						
NRA0	**NORESS Array S**	**11.61**	**244**	Pn	**Pn**	**17 16 02.2**	**-1.4**
	baz=44,slow=12						
NRA0	**NORESS Array S**	**11.61**	**244**	Pn	**Pn**	**17 16 02.2**	**-1.4**
	baz=44,slow=12						
SPA0	**Spitsbergen Ar**	**11.70**	**343**	Pn	Pn	17 15 59.5	-5.2
	baz=146,slow=16						
SPA0	**Spitsbergen Ar**	**11.70**	**343**	Pn	Pn	17 15 59.5	-5.2
	baz=146,slow=16						
SPITS	**Spitsbergen Ar**	**11.70**	**343**	Pn	Pn	17 15 59.5	-5.2
	baz=129,slow=15,SNR=5.4						

*GCMT **10** 17:15:07.9±0.2,13.79N±0.01×92.65W±0.02,h12km, MW5.2/99,Moment Tensor Solution. s49,c70; s99,c151; Duration: 1ᵍ0 Moment tensor: Scale 10¹⁶Nm; Mrr6.31±.14; Mθθ-4.64±.12; Mϕϕ-1.66±.14; Mrθ3.46±.40; Mθϕ2.60±.11; Mϕr-3.86±.49; Best double couple: Mo8.09700×10¹⁶ NP1:ϕs131.00000°,δ65.00000°, λ99.00000°. NP2:ϕs290.00000°,δ27.00000°,λ71.00000°. Principal axes: T 8.2970, Plg69.0000°, Azm59.0000°; N -0.3890, Plg8.0000°, Azm307.0000°; P -7.8980, Plg20.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*UCR **10** 17:15:09.0±1.3,15.42N×91.86W,h36km,ML4.3, mb5.2(NEIC)*
*NEIC **10** 17:15:09.9±0.4,13.82N×92.22W,h42km±3km,mb5.1/153, MD5.2(MEX),Error ellipse: s-maj=4.6km s-min=2.7km az=223.0*
*MOS **10** 17:15:09.1±1.1,13.96N×92.20W,h42km,mb5.2/33,Error ellipse: s-maj=11.8km s-min=5.2km az=114.1*
*ISCJB **10** 17:15:09.0±0.4,13.83N±0.02×92.27W±0.02,h49km±3km, mb5.0/134,MS4.7/38,Error ellipse: s-maj=4.8km s-min=2.6km az=44.8*
*IDC **10** 17:15:09.2±2.9,13.96N×92.05W,h33km±20km,mb4.4/23, mb1 4.6/26,mb1mx4.4/58,mbtmp4.6/26,ML4.4/3,MS4.5/34, Ms1 4.5/34,ms1mx4.4/42,Error ellipse: s-maj=22.0km s-min=9.6km az=55.0*
*BJI **10** 17:15:10.1,13.80N×92.20W,h39km,mB5.5/9,Ms5.5/10, Ms7 5.2/10*
*MEX **10** 17:15:15.5±0.7,14.23N×92.50W,h17km±103km,MD5.2*
ISC 10 17:15:09.6±0.4,13.94N±0.05×92.29W±0.05,h38km±1km, n575,σ1ᵍ63/550,mb5.0/132,MS4.6/39,7C-5D,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.97**	**2**	*e*P	**Pn**	**17 15 27.3**	**+0.7**
THIG				*i* S	**Sn**	**17 15 35.9**	**-3.3**
THIG		**0.97**	**2**	*e*P	**Pn**	**17 15 27.3**	**+0.7**
THIG				*i* S	**Sn**	**17 15 35.5**	**-3.6**
IXG	**Ixpaco**	**1.80**	**82**	*e*P	**Pn**	**17 15 38.0**	**-0.1**
PCIG		**1.97**	**333**	*i* P	**Pn**	**17 15 39.4**	**-1.1**
PCIG		**1.97**	**333**	*i* P	**Pn**	**17 15 39.4**	**-1.1**
PCIG				*i* S	**Sn**	**17 15 59.4**	**-4.5**
APG	**El Apazote**	**2.06**	**59**	Pg	**Pn**	**17 15 44.4**	**+2.5**
	59nm,0.3s,baz=218,slow=10,SNR=358						
CCIG	**Comitan**	**2.34**	**4**	*e*Pn	**Pn**	**17 15 48.9**	**+3.3**
CCIG	**Comitan**	**2.34**	**4**	*e*P	**Pn**	**17 15 46.5**	**+0.9**
CCIG				*i* S	**Sn**	**17 16 10.9**	**-2.3**
RTR	**El Retiro**	**2.57**	**91**	*e*P	**Pn**	**17 15 50.1**	**+1.3**
CEVE	**Cerro Verde**	**2.59**	**92**	*e*P	**Pn**	**17 15 50.4**	**+1.2**
CEVE				*e*S	**Sn**	**17 16 23.7**	**+4.0**
CEVE				IAML		17 16 40.9	
	comp=Z,4μm,0.5s						
SBLS	**San Blas**	**2.59**	**92**	*e*P	**Pn**	**17 15 50.2**	**+1.0**
SNJE	**San Jose**	**2.61**	**91**	*e*P	**Pn**	**17 15 50.6**	**+1.2**
MRL	**Marmol**	**2.76**	**66**	*e*P	Pn	17 15 43.2	-8.2
BOQS	**Boqueron**	**2.93**	**94**	*e*P	**Pn**	**17 15 54.4**	**+0.6**
TGIG		**2.94**	**344**	*i* P	**Pn**	**17 15 54.9**	**+1.1**
TGIG		**2.94**	**344**	*i* P	**Pn**	**17 15 54.9**	**+1.1**
TGIG				*i* S	**Sn**	**17 16 24.7**	**-3.2**
SNET	**Serv Nac Est T**	**2.98**	**94**	*e*Pn	**Pn**	**17 15 53.9**	**-0.5**
SNET	**Serv Nac Est T**	**2.98**	**94**	*e*S	**Sn**	**17 16 31.3**	**+2.3**
LFU	**La Fuente**	**3.09**	**93**	*e*P	**Pn**	**17 15 56.9**	**+1.0**
LFRS	**El Faro**	**3.15**	**95**	*e*P	**Pn**	**17 15 58.6**	**+1.8**
LBRS	**Las Brisas**	**3.16**	**93**	*e*P	**Pn**	**17 15 56.4**	**-0.5**
TECA	**Tecapa**	**3.71**	**96**	*e*P	**Pn**	**17 16 05.7**	**+1.2**
CMIG	**Matias Romero**	**4.01**	**322**	Pn	**Pn**	**17 16 08.7**	**+0.2**
	comp=Z,16nm,0.3s,baz=150,slow=10,SNR=58						
CMIG				LR	LR	17 18 03.5	
	comp=Z,5μm,20.6s,baz=142,slow=42						
LCND	**La Ca¨ada**	**4.33**	**98**	*e*P	**Pn**	**17 16 13.6**	**+0.8**
LCND				*e*S	**Sn**	**17 17 03.6**	**+1.6**
LCND				IAML		17 17 08.0	
	comp=Z,471nm,0.5s						
TGUH	**Tegucigalpa,Un**	**4.87**	**88**	*e*Pn	**Pn**	**17 16 20.8**	**+0.5**
ESTN	**Estel**	**5.82**	**97**	*e*Pn	**Pn**	**17 16 33.1**	**-0.3**
ESTN	**Estel**	**5.82**	**97**	*e*P	**Pn**	**17 16 33.5**	**0.0**
MATN	**Matagalpa**	**6.28**	**98**	*e*P	**Pn**	**17 16 39.1**	**-0.6**
MATN				IAML		17 16 56.2	
	comp=E,324nm,0.5s						
BOAB	**BOACO BROADBAN**	**6.62**	**102**	*e*Pn	**Pn**	**17 16 43.1**	**-1.3**
BOAB	**BOACO BROADBAN**	**6.62**	**102**	*e*P	**Pn**	**17 16 43.5**	**-0.8**
LVIG	**Laguna Verde**	**6.98**	**326**	*e*Pn	**Pn**	**17 16 52.9**	**+3.6**
TLIG	**Tlapa**	**7.04**	**302**	*e*Pn	**Pn**	**17 16 50.8**	**+0.6**
TEIG	**Tepich**	**7.34**	**31**	*e*Pn	**Pn**	**17 16 55.6**	**+1.4**
MYIG	**MÐrida**	**7.40**	**19**	*e*Pn	**Pn**	**17 16 57.2**	**+2.2**
ESPN	**Las Esperanzas**	**7.98**	**102**	*e*Pn	**Pn**	**17 17 02.9**	**-0.1**
ESPN	**Las Esperanzas**	**7.98**	**102**	*e*P	**Pn**	**17 17 02.6**	**-0.3**
JTS	**JuntasAbangare**	**8.04**	**116**	Pn	**Pn**	**17 17 02.2**	**-1.6**
	comp=E,2.2nm,0.3s,baz=358,slow=13,SNR=8.5						
JTS				Lg	Lg	17 19 12.6	
	comp=E,0.7nm,0.3s,baz=180,slow=17,SNR=6.2						
JTS	**JuntasAbangare**	**8.04**	**116**	*e*Pn	**Pn**	**17 17 02.8**	**-1.1**
JTS	**JuntasAbangare**	**8.04**	**116**	*e*P	**Pn**	**17 17 05.4**	**+1.5**
UNM	**Universidad Na**	**8.50**	**310**	*e*Pn	**Pn**	**17 17 12.8**	**+2.4**
UNM	**Universidad Na**	**8.50**	**310**	*e*P	**Pn**	**17 17 12.9**	**+2.4**
MOIG	**Morelia**	**10.25**	**305**	*e*Pn	**Pn**	**17 17 36.9**	**+2.5**
JRQG	**Jurtila Cam**	**10.29**	**312**	*e*Pn	**Pn**	**17 17 37.5**	**+2.6**
LNIG	**Linares**	**12.83**	**329**	*e*Pn	**Pn**	**17 18 12.3**	**+2.8**
BCIP	**Isla Barro Col**	**13.09**	**110**	*e*Pn	**Pn**	**17 18 12.7**	**-0.4**
ZAIG	**Zacatecas**	**13.12**	**314**	*e*Pn	**Pn**	**17 18 15.7**	**+2.0**
KVTX	**Kingsville**	**14.52**	**340**	*e*Pn	**Pn**	**17 18 34.0**	**+1.6**
PAYG	**Puerto Ayora**	**14.65**	**172**	*e*Pn	**Pn**	**17 18 31.8**	**-2.4**
MTDJ	**Mount Denham**	**14.81**	**71**	*e*Pn	**Pn**	**17 18 36.2**	**-0.3**
833A	**Chaparral WMA,**	**15.77**	**336**	*e*Pn	**Pn**	**17 18 50.0**	**+1.1**
	comp=E,77nm,1.0s						
833A	**Chaparral WMA,**	**15.77**	**336**	P	**P**	**17 18 54.7**	**+2.4**
	baz=154						
HKT	**Hockley**	**16.27**	**349**	*e*Pn	**Pn**	**17 18 55.8**	**+0.6**
	comp=E,115nm,1.8s						
HKT	**Hockley**	**16.27**	**349**	*e*P	**Pn**	**17 18 55.8**	**+0.6**
HKT				pmax	pmax		
	comp=Z,115nm,1.8s						
058A	**Arcadia**	**16.32**	**35**	P	**P**	**17 18 58.6**	**+0.1**
	baz=218						
957A	**Wimauma**	**16.57**	**33**	*e*Pn	**Pn**	**17 18 58.6**	**-0.5**
	comp=Z,232nm,1.3s						
857A	**Zephyrhills**	**17.06**	**32**	P	**P**	**17 19 08.9**	**+2.2**
	baz=215						
MOTC	**Monteria, Cord**	**17.08**	**106**	*e*P	**Pn**	**17 19 05.5**	**-0.1**
447A	**Lucedale**	**17.11**	**11**	P	**P**	**17 19 10.2**	**+3.0**
	baz=192						
060A	**Indiantown**	**17.15**	**39**	*e*Pn	**Pn**	**17 19 02.6**	**-3.7**
	comp=Z,570nm,1.4s						
DBBC	**Dabeiba**	**17.24**	**112**	*e*P	**Pn**	**17 19 06.8**	**-0.8**
341A	**Kurthwood**	**17.34**	**357**	*e*Pn	**P**	**17 19 09.9**	**+0.3**
	comp=Z,218nm,1.8s						
341A	**Kurthwood**	**17.34**	**357**	P	**P**	**17 19 12.8**	**+3.2**
	baz=177						
DWPF	**Disney Wildern**	**17.35**	**34**	*e*Pn	**Pn**	**17 19 09.0**	**+0.2**
	comp=Z,164nm,1.2s						
DWPF	**Disney Wildern**	**17.35**	**34**	P	**P**	**17 19 12.5**	**+2.6**
	baz=217						
342A	**Flagon Creek P**	**17.36**	**360**	*e*Pn	**P**	**17 19 10.3**	**+0.4**
	comp=Z,166nm,1.4s						
342A	**Flagon Creek P**	**17.36**	**360**	P	**P**	**17 19 12.1**	**+2.2**
	baz=180						
448A	**Bay Minette**	**17.40**	**13**	P	**P**	**17 19 12.0**	**+1.6**
	baz=194						
435B	**Jarrell**	**17.46**	**345**	*e*Pn	**Pn**	**17 19 10.4**	**+0.2**
	comp=Z,40nm,0.8s						
858A	**St. Cloud**	**17.47**	**34**	P	**P**	**17 19 13.5**	**+2.4**
	baz=217						
344A	**Westbrook Farm**	**17.50**	**4**	P	**P**	**17 19 14.5**	**+3.0**
	baz=185						
346A	**Big Creek Wild**	**17.56**	**8**	*e*Pn	**P**	**17 19 11.8**	**-0.4**
	comp=Z,105nm,0.9s						
346A	**Big Creek Wild**	**17.56**	**8**	P	**P**	**17 19 15.2**	**+3.0**
	baz=189						
859A	**Kempfer Cattle**	**17.61**	**35**	P	**P**	**17 19 16.9**	**+4.3**
	baz=219						
655A	**Horseshoe Beac**	**17.61**	**27**	P	**P**	**17 19 16.5**	**+3.7**
	baz=210						
451A	**Vernon**	**17.66**	**19**	*e*Pn	**P**	**17 19 13.8**	**+0.5**
	comp=Z,157nm,1.1s						
757A	**Oxford**	**17.69**	**31**	P	**P**	**17 19 15.5**	**+1.9**
	baz=214						
553A	**Crawfordville**	**17.73**	**23**	P	**P**	**17 19 18.4**	**+4.4**
	baz=205						
BRAL	**Brewton**	**17.82**	**15**	*e*Pn	**P**	**17 19 16.4**	**+1.4**
	comp=Z,198nm,1.1s						
BRAL	**Brewton**	**17.82**	**15**	P	**P**	**17 19 18.3**	**+3.4**
	baz=196						
656A	**Willston**	**17.82**	**29**	*e*Pn	**P**	**17 19 17.0**	**+2.0**
	comp=Z,220nm,1.1s						
656A	**Willston**	**17.82**	**29**	P	**P**	**17 19 18.1**	**+3.1**
	baz=212						
348A	**Jackson**	**17.86**	**12**	*e*P	**P**	**17 19 18.4**	**+2.9**
	comp=Z,229nm,1.3s						
348A	**Jackson**	**17.86**	**12**	P	**P**	**17 19 17.7**	**+2.3**
	baz=194						
JCT	**Junction City**	**17.86**	**338**	*e*P	**P**	**17 19 17.3**	**+1.7**
	comp=Z,38nm,0.8s						
JCT	**Junction City**	**17.86**	**338**	*e*P	**P**	**17 19 17.3**	**+1.7**
JCT				pmax	pmax		
	comp=Z,38nm,0.8s						
NATX	**Nacogdoches**	**17.88**	**353**	*e*P	**P**	**17 19 16.2**	**+0.6**
	comp=Z,95nm,1.3s						
NATX	**Nacogdoches**	**17.88**	**353**	P	**P**	**17 19 17.5**	**+1.9**
	baz=172						
243A	**Waterproof**	**17.88**	**2**	P	**P**	**17 19 17.7**	**+2.1**
	baz=182						
349A	**Repton**	**17.96**	**14**	P	**P**	**17 19 18.2**	**+1.7**
	baz=196						
HPIG		**17.99**	**318**	*e*P	**P**	**17 19 18.3**	**+1.2**
	comp=Z,39nm,1.0s						
241A	**Mo Tay, Goldon**	**18.01**	**358**	*e*P	**P**	**17 19 17.9**	**+0.8**
	comp=Z,149nm,1.1s						
241A	**Mo Tay, Goldon**	**18.01**	**358**	P	**P**	**17 19 19.9**	**+2.8**
	baz=178						
242A	**Grayson**	**18.04**	**0**	P	**P**	**17 19 19.8**	**+2.4**
	baz=180						
452A	**Marianna**	**18.06**	**20**	P	**P**	**17 19 23.9**	**+6.2**
	baz=202						
240A	**Hunter Patters**	**18.07**	**356**	*e*P	**P**	**17 19 18.9**	**+1.2**
	comp=Z,169nm,1.5s						
240A	**Hunter Patters**	**18.07**	**356**	P	**P**	**17 19 20.3**	**+2.5**
	baz=175						
244A	**Avery, Jackson**	**18.08**	**4**	P	**P**	**17 19 20.3**	**+2.4**
	baz=185						
245A	**Little AP, Sta**	**18.15**	**7**	P	**P**	**17 19 21.1**	**+2.5**
	baz=187						
HELC	**Santa Helena**	**18.20**	**113**	*e*P	**P**	**17 19 18.3**	**-1.4**
555A	**McAlpin**	**18.27**	**27**	*e*P	**Pn**	**17 19 21.8**	**+1.7**
	comp=Z,385nm,1.5s						
555A	**McAlpin**	**18.27**	**27**	P	**Pn**	**17 19 22.5**	**+2.5**
	baz=210						
VBMS	**Vicksburg**	**18.27**	**5**	*e*P	**Pn**	**17 19 22.9**	**+2.7**
	comp=Z,86nm,0.9s						
VBMS	**Vicksburg**	**18.27**	**5**	P	**Pn**	**17 19 22.2**	**+2.1**
	baz=185						
ZARC	**Zaragoza, Cauc**	**18.28**	**109**	*e*P	**P**	**17 19 19.2**	**-1.0**
351A	**Pinckard**	**18.32**	**18**	P	**Pn**	**17 19 22.9**	**+2.1**
	baz=201						
657A	**Interlachen**	**18.32**	**30**	P	**Pn**	**17 19 22.0**	**+1.3**
	baz=214						
247A	**Quitman**	**18.35**	**10**	P	**Pn**	**17 19 24.2**	**+3.1**
	baz=191						
453A	**Whigham**	**18.37**	**22**	*e*P	**Pn**	**17 19 23.4**	**+2.1**
	comp=Z,87nm,0.8s						
453A	**Whigham**	**18.37**	**22**	P	**Pn**	**17 19 24.5**	**+3.2**
	baz=205						
556A	**Lake Butler**	**18.41**	**28**	P	**Pn**	**17 19 27.0**	**+5.1**
	baz=211						
658A	**Bunnell**	**18.49**	**32**	*e*P	**Pn**	**17 19 25.4**	**+2.6**
	comp=Z,80nm,0.8s						
658A	**Bunnell**	**18.49**	**32**	P	**Pn**	**17 19 27.3**	**+4.5**
	baz=215						
248A	**Dixon Mills**	**18.55**	**12**	P	**Pn**	**17 19 27.2**	**+3.7**
	baz=194						
249A	**Camden**	**18.57**	**14**	P	**Pn**	**17 19 27.6**	**+3.8**
	baz=196						
WHTX	**Lake Whitney,**	**18.59**	**346**	*e*P	**Pn**	**17 19 26.5**	**+2.5**
	comp=Z,55nm,1.1s						
WHTX	**Lake Whitney,**	**18.59**	**346**	P	**Pn**	**17 19 27.0**	**+3.1**
	baz=164						
141A	**Papa Simpson,**	**18.59**	**358**	P	**Pn**	**17 19 26.9**	**+2.8**
	baz=178						
LTX	**Lajitas**	**18.60**	**327**	*e*P	**Pn**	**17 19 25.5**	**+1.3**
LTX	**Lajitas**	**18.60**	**327**	*e*P	**Pn**	**17 19 25.5**	**+1.3**
TX31	**Lajitas Ar. Si**	**18.60**	**327**	*e*P	**Pn**	**17 19 26.0**	**+1.8**
TXAR	**Lajitas Array**	**18.60**	**327**	P	**Pn**	**17 19 25.5**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=158,slow=14,SNR=5.5						
TXAR				LR	LR	17 27 41.6	
	comp=Z,642nm,20.5s,baz=0.0,slow=40						
HORQ	**Saladito**	**18.63**	**122**	*e*P	**P**	**17 19 19.2**	**-5.2**
140A	**Cam and Jess,**	**18.66**	**357**	*e*P	**Pn**	**17 19 27.6**	**+2.8**
	comp=Z,143nm,1.3s						
140A	**Cam and Jess,**	**18.66**	**357**	P	**Pn**	**17 19 28.2**	**+3.4**
	baz=176						
144A	**Alexander Plac**	**18.69**	**5**	P	**Pn**	**17 19 28.4**	**+3.2**
	baz=185						
143A	**Socs Landing,**	**18.70**	**2**	*e*P	**Pn**	**17 19 25.3**	**-0.1**
	comp=Z,105nm,1.1s						
145A	**Houston Renfro**	**18.71**	**6**	P	**Pn**	**17 19 27.8**	**+2.4**
	baz=187						
352A	**Blakely**	**18.73**	**20**	*e*P	**Pn**	**17 19 26.6**	**+0.9**
	comp=Z,142nm,1.0s						
352A	**Blakely**	**18.73**	**20**	P	**Pn**	**17 19 28.4**	**+2.8**
	baz=202						
557A	**Orange Park**	**18.74**	**30**	P	**Pn**	**17 19 27.4**	**+1.6**
	baz=213						
250A	**Grady**	**18.79**	**16**	P	**Pn**	**17 19 29.2**	**+2.8**
	baz=198						
353A	**Camilla**	**18.85**	**22**	P	**Pn**	**17 19 29.8**	**+2.7**
	baz=204						
CODC	**Agust¨n Codaz**	**18.86**	**100**	*e*P	**P**	**17 19 24.1**	**-2.6**

CCAR **Cane Creek** 19.90 1 *e*P Pn 17 19 39.5 -0.2
comp=Z,107nm,1.1s
PRAC **Prado** 19.95 119 *e*P Pn 17 19 40.5 -0.1
Y45A **Yeager Farm, C** 20.00 7 P Pn 17 19 42.5 +1.7
baz=188
255A **Hazlehurst** 20.04 25 *e*P P 17 19 38.5 -0.9
comp=Z,94nm,1.1s
255A **Hazlehurst** 20.04 25 P Pn 17 19 42.3 +1.0
baz=208
BETC **Betania** 20.05 122 *e*P P 17 19 39.6 -0.1
Z50A **Ashland** 20.09 16 *e*P P 17 19 40.8 +0.9
comp=Z,54nm,1.0s
Z50A **Ashland** 20.09 16 P Pn 17 19 42.5 +0.6
baz=198
Y46A **Houston** 20.10 8 P Pn 17 19 44.8 +2.8
baz=190
BARC **Barichara** 20.16 109 *e*P P 17 19 42.2 +1.2
Y47A **UCPARC, Winfie** 20.28 11 P Pn 17 19 46.0 +1.9
baz=192
PAMC **Pamplona, Colo** 20.33 107 *e*P P 17 19 43.6 +0.4
256A **Glennville** 20.33 26 P Pn 17 19 44.4 -0.4
baz=210,SNR=6.8
154A **Montrose** 20.40 23 *e*P Pn 17 19 45.1 -0.4
comp=Z,123nm,0.8s
154A **Montrose** 20.40 23 P Pn 17 19 47.0 +1.4
baz=206
CHIC **Chingaza** 20.50 115 *e*P Pn 17 19 46.7 -0.6
FLOC **Florencia** 20.53 125 *e*P P 17 19 45.8 +0.9
X43A **Marvell** 20.53 3 *e*P Pn 17 19 46.2 -0.8
comp=Z,296nm,1.3s
X43A **Marvell** 20.53 3 P Pn 17 19 51.0 +4.0
baz=184
Y49A **Blount Mountai** 20.54 14 *e*P P 17 19 45.3 +0.5
comp=Z,43nm,0.9s
MIAR **Mount Ida** 20.55 357 *e*P P 17 19 46.0 +1.1
comp=Z,80nm,0.9s
MIAR **Mount Ida** 20.55 357 *e*P P 17 19 46.0 +1.1
MIAR pmax pmax
comp=Z,80nm,0.9s
MIAR **Mount Ida** 20.55 357 P Pn 17 19 49.7 +2.4
baz=176
155A **Kite** 20.65 24 P Pn 17 19 47.4 -1.1
baz=208
257A **Skidaway Islan** 20.71 28 *e*P P 17 19 47.3 +0.7
comp=Z,151nm,1.1s
X37A **Clayton** 20.75 353 *e*P P 17 19 47.0 0.0
comp=Z,177nm,1.3s
SDDR **Presa de Saban** 20.75 73 *e*P P 17 19 46.4 -0.9
comp=Z,148nm,1.9s
VILC **Villavicencio,** 20.78 116 *e*P P 17 19 48.5 +0.8
Z53A **Monticello** 20.83 21 P P 17 19 48.5 +0.6
baz=204
X47A **Russelville** 20.88 10 P P 17 19 49.1 +0.6
baz=192
Y51A **Rockmart** 20.93 17 P Pn 17 19 51.2 -0.6
baz=200
X48A **Hartselle** 20.97 12 *e*P P 17 19 49.0 -0.5
comp=Z,190nm,1.9s
GOGA **Godfrey** 20.99 21 *e*P Pn 17 19 51.5 -0.9
comp=Z,33nm,0.9s
GOGA **Godfrey** 20.99 21 *e*P Pn 17 19 51.5 -0.8
GOGA pmax pmax
comp=Z,33nm,0.9s
GOGA **Godfrey** 20.99 21 P Pn 17 19 52.0 -0.3
baz=204
Z54A **Sparta** 21.05 23 P P 17 19 53.5 +3.2
baz=206,SNR=5.1
156A **Sylvania** 21.08 26 P P 17 19 52.2 +1.6
baz=210
CLNB **Carlsbad** 21.10 332 *e*P P 17 19 51.0 0.0
W41B **Gary Mavity, V** 21.15 0 *e*P P 17 19 51.4 +0.1
comp=Z,43nm,1.0s
X49A **Woodville** 21.19 14 P P 17 19 53.6 +1.8
baz=196
Y52A **Lilburn** 21.20 19 *e*P P 17 19 53.2 +1.3
comp=Z,67nm,0.9s
Y52A **Lilburn** 21.20 19 P P 17 19 54.0 +2.1
baz=202
W39A **Magazine** 21.21 357 *e*P P 17 19 52.9 +0.9
comp=Z,194nm,1.6s
WHAR **Wooly Hollow** 21.26 0 *e*P P 17 19 53.6 +1.0
comp=Z,65nm,1.1s
GDL2 **Guadalupe Moun** 21.27 331 *e*P P 17 19 54.3 +1.5
X50B **Fort Payne** 21.30 15 P P 17 19 55.1 +2.1
baz=198
Y53A **Monroe** 21.35 20 P P 17 19 55.8 +2.3
baz=203
MNTX **Cornudas Mount** 21.37 328 *e*P P 17 19 55.0 +1.3
comp=Z,70nm,1.1s
WMOK **Wichita Mounta** 21.53 345 *e*P P 17 19 55.6 +0.2
comp=Z,140nm,1.8s
WMOK **Wichita Mounta** 21.53 345 *e*P P 17 19 55.6 +0.2
WMOK pmax pmax
comp=Z,140nm,1.8s
X51A **Calhoun** 21.61 17 P P 17 19 59.3 +2.9
baz=200
W48A **Pulaski** 21.66 12 P P 17 19 57.0 +0.2
baz=194
Y54A **Tignall** 21.67 22 P P 17 19 57.7 +0.8
baz=206
CPRX **Cap Rock** 21.74 333 *e*P P 17 19 59.2 +1.3
W49A **Belvidere** 21.78 13 P P 17 19 59.1 +1.0
baz=196
V42A **Cord** 21.79 2 P P 17 19 58.0 -0.2
baz=182
SDV **Santo Domingo** 21.81 101 LR LR 17 29 57.6
comp=Z,705nm,18.8s,baz=314,slow=41
X52A **Dahlonega** 21.93 19 P P 17 20 00.7 +0.9
baz=202
X53A **Estanollee** 22.04 20 P P 17 20 02.0 +1.1
baz=204
NHSC **New Hope** 22.05 28 *e*P P 17 20 02.8 +1.8
comp=Z,148nm,1.2s
NHSC **New Hope** 22.05 28 P P 17 20 02.6 +1.7
baz=212
MSTX **Muleshoe** 22.10 336 *e*P P 17 20 02.3 +0.7
MSTX **Muleshoe** 22.10 336 P P 17 20 03.4 +1.7
baz=152,SNR=8.2
W51A **Cleveland** 22.20 17 P P 17 20 03.3 +0.7
baz=199
V47A **Nunnelly** 22.22 10 P P 17 20 02.7 -0.1
baz=192
V48A **Smith Brothers** 22.26 12 *e*P P 17 20 02.1 -1.2
comp=Z,43nm,0.9s
V48A **Smith Brothers** 22.26 12 P P 17 20 03.9 +0.6
baz=194
W52A **Murphy** 22.38 18 P P 17 20 05.4 +0.8
baz=201
V49A **McMinnville** 22.48 14 P P 17 20 06.9 +1.2
baz=196
AMTX **Amarillo** 22.52 339 *e*P P 17 20 07.0 +0.9
comp=Z,158nm,0.7s
AMTX **Amarillo** 22.52 339 P P 17 20 07.1 +1.0
baz=156
W53A **Cullowhee** 22.69 20 P P 17 20 09.3 +1.3
baz=203
V51A **Loudon** 22.92 17 P P 17 20 10.3 +0.1
baz=200
TKL **Tuckaleechee C** 22.95 18 P P 17 20 10.7 +0.1
comp=Z,21nm,0.8s,baz=155,slow=5.5,SNR=4.4
TKL LR LR 17 30 50.9
comp=Z,4μm,18.4s,baz=212,slow=41
TKL **Tuckaleechee C** 22.95 18 *e*P P 17 20 09.7 -0.8
comp=Z,84nm,1.2s
TKL **Tuckaleechee C** 22.95 18 *e*P P 17 20 09.7 -0.8
TKL pmax pmax
comp=Z,84nm,1.2s
V52A **Sevierville** 23.17 18 P P 17 20 13.1 +0.3
baz=202
U49A **Red Boiling Sp** 23.23 13 P P 17 20 13.5 +0.1
baz=196,SNR=5.8
V53A **Saluda** 23.26 20 P P 17 20 13.9 +0.2
baz=204
KMSC **Kings Mountain** 23.32 23 *e*P P 17 20 13.9 -0.3
comp=Z,31nm,0.8s
KMSC **Kings Mountain** 23.32 23 P P 17 20 14.6 +0.4
baz=207
319A **Douglas** 23.33 321 *e*P P 17 20 10.4 -4.2
comp=Z,152nm,1.4s
T46A **Princeton** 23.34 9 P P 17 20 15.0 +0.5
baz=191
U50A **Jamestown** 23.36 15 P P 17 20 15.1 +0.4
baz=198,SNR=5.7
T47A **Sharon Grove** 23.42 10 P P 17 20 15.3 0.0
baz=192
U51A **La Follette** 23.55 17 P P 17 20 17.8 +1.3
baz=200,SNR=6.0
S44A **Carbondale** 23.82 6 P P 17 20 19.6 +0.6
baz=187
T49A **Edmonton** 23.85 13 P P 17 20 18.9 -0.4
baz=196
T50A **Nancy** 23.93 15 P P 17 20 20.4 +0.3
baz=198
ANMO **Albuquerque** 24.52 331⇑ *e*P P 17 20 26.8 +1.1
ANMO pmax pmax
comp=Z,16nm,1.0s
R45A **Skylar, Fairfi** 24.52 8 P P 17 20 26.0 +0.6
baz=189
R46A **Gibon Southern** 24.55 9 P P 17 20 26.7 +1.0
baz=191
S49A **Springfield** 24.56 13 P P 17 20 25.8 0.0
baz=196
S50A **Richmond** 24.67 15 P P 17 20 27.1 +0.3
baz=198
WCI **Wyandotte Cave** 24.77 11 P P 17 20 27.5 -0.3
WCI pmax pmax
comp=Z,130nm,0.8s
WCI **Wyandotte Cave** 24.77 11 P P 17 20 27.9 +0.1
baz=194
R47A **Wooly Knot Far** 24.80 11 P P 17 20 27.3 -0.7
baz=193
TUC **Tucson** 24.90 320 *e*P P 17 20 29.4 +0.3
comp=Z,34nm,1.1s
TUC **Tucson** 24.90 320 *e*P P 17 20 29.4 +0.3
TUC pmax pmax
comp=Z,34nm,1.1s
TUC **Tucson** 24.90 320 P P 17 20 29.8 +0.7
baz=133
Q42A **Golden Eagle** 24.93 3 P P 17 20 29.8 +0.7
baz=184
Q41A **Truxton** 24.94 2 P P 17 20 30.1 +0.9
baz=182
R48A **Northridge Ran** 25.02 12 P P 17 20 30.2 +0.2
baz=195
R49A **Shelbyville** 25.07 13 P P 17 20 30.4 0.0
baz=196
ATAH **Atahualpa** 25.07 146 P P 17 20 31.8 +0.7
comp=Z,18nm,1.0s,baz=340,slow=12,SNR=6.1
ATAH LR LR 17 28 00.0
comp=Z,744nm,21.9s,baz=335,slow=31
Q45A **Warren Harvey,** 25.13 8 P P 17 20 32.2 +1.3
baz=189
SJG **San Juan** 25.46 77 LR LR 17 31 25.4
comp=Z,3μm,19.4s,baz=256,slow=39
CBKS **Cedar Bluff** 25.64 346 P P 17 20 37.5 +1.8
baz=163
S22A **4UR Ranch, Cre** 27.01 334 P P 17 20 51.1 +2.8
baz=148,SNR=5.3
PDMCI **Parker Dam,Lak** 28.32 320 P P 17 21 02.3 +2.5
baz=131
PV12 **Saucer Basin,** 28.36 332 *e*P P 17 21 01.9 +1.6
comp=Z,448nm,2.0s
W13A **Hualapai Mount** 28.69 321 *e*P P 17 21 04.6 +1.3
comp=Z,23nm,1.3s
BC3 **Big Chuckawall** 28.77 317 P P 17 21 06.4 +2.5
baz=128,SNR=10
IRM **Iron Mountain** 28.87 318 P P 17 21 07.0 +2.3
baz=129
BELC **Belle Mtn. Jos** 29.34 317 P P 17 21 11.1 +2.1
baz=127
PFO **Pinyon Flats O** 29.41 316 P P 17 21 11.3 +1.7
baz=126
LDFC **Landfair** 29.43 320 *e*P P 17 21 12.6 +2.8
comp=Z,19nm,0.9s
GMRC **Granite Mounta** 29.60 319 P P 17 21 13.3 +2.0
baz=129
NNA **Nana** 29.96 149 LR LR 17 30 52.4
comp=Z,453nm,20.6s,baz=322,slow=32
CCUT **Cedar City** 30.08 325 *e*P P 17 21 14.3 -1.4
comp=Z,18nm,0.9s
TUQ **Turquoise Moun** 30.17 319 P P 17 21 18.3 +2.0
baz=129
SHPR **Sheep Range** 30.40 322 *e*P P 17 21 17.3 -1.1
comp=Z,47nm,1.9s
PSUT **Pine Spring** 31.06 326 *e*P P 17 21 23.1 -1.1
comp=Z,34nm,1.4s
TPNV **Topopah Spring** 31.34 321 *e*P P 17 21 27.0 +0.2
comp=Z,26nm,1.5s
TPNV **Topopah Spring** 31.34 321 *e*P P 17 21 27.0 +0.2
TPNV pmax pmax
comp=Z,26nm,1.5s
TPNV **Topopah Spring** 31.34 321 P P 17 21 29.6 +2.9
baz=131,SNR=5.7
MPMC **Manual Prospec** 31.56 319 P P 17 21 30.9 +2.2
baz=128,SNR=7.5
DAC **Darwin (Calif)** 31.76 319 *e*P P 17 21 31.4 +1.0
comp=Z,11nm,1.2s
DAC **Darwin (Calif)** 31.76 319 *e*P P 17 21 31.4 +1.0
DAC pmax pmax
comp=Z,11nm,1.2s
R11A **Troy Canyon, C** 31.89 324 *e*P P 17 21 33.4 +1.9
comp=Z,21nm,1.4s
R11A **Troy Canyon, C** 31.89 324 P P 17 21 34.4 +2.8
baz=134,SNR=6.9
ISA **Isabella, Lake** 31.96 317 P P 17 21 34.0 +1.9
baz=126
BMRO **Meriville Lake** 31.98 15 P P 17 21 31.4 -0.7
baz=200
GRAC **Grapevine Rang** 32.06 320 P P 17 21 35.5 +2.6
baz=129,SNR=7.5
CLWO **Collingwood** 32.09 16 P P 17 21 32.1 -0.8
baz=202
PD31 **Pinedale Array** 32.36 336 *e*P P 17 21 36.4 +0.7
PDAR **Pinedale Array** 32.36 336 P P 17 21 37.1 +1.5
comp=Z,5.5nm,1.0s,baz=138,slow=9.6,SNR=3.8
PDAR LR LR 17 38 21.9
comp=Z,513nm,18.8s,baz=154,slow=43
VES **Vestal, Richgr** 32.47 317 P P 17 21 38.4 +2.0
baz=126
TIN **Tinemaha, Big** 32.64 320 P P 17 21 40.2 +2.2
baz=128
DELO **Deloro Mine** 32.95 19 P P 17 21 39.3 -1.2
baz=207
KLBO **Killbear Provi** 32.95 16 P P 17 21 38.5 -2.0
baz=202
BUKO **Buck Lake** 33.25 17 P P 17 21 42.0 -1.2
baz=203
BANO **Bancroft** 33.30 19 P P 17 21 42.6 -0.9
baz=206
REDW **Red Top Meadow** 33.38 335 *e*P P 17 21 46.3 +1.7
comp=Z,113nm,1.0s
SNOW **Snow King Moun** 33.42 335 *e*P P 17 21 46.7 +1.7
comp=Z,94nm,0.8s
NV11 **Mina Array Sit** 33.46 322 *e*P P 17 21 47.5 +2.3
comp=Z,1.7nm,0.9s
OMMB **Old Mammoth Mi** 33.47 320 *e*P P 17 21 46.9 +1.4
comp=Z,11nm,1.1s
MDPB **Devils Postpil** 33.53 320 *e*P P 17 21 47.2 +1.2
comp=Z,16nm,1.0s
TPAW **Teton Pass** 33.53 335 *e*P P 17 21 48.1 +2.2
comp=Z,103nm,1.4s
NV01 **Mina Array Sit** 33.54 321 *e*P P 17 21 48.4 +2.3
NV01 *e*PcP PcP 17 24 27.3 +1.1
NVAR **Mina Array Bea** 33.54 321 P P 17 21 48.8 +2.7
comp=Z,15nm,0.7s,baz=135,slow=8.7,SNR=108
NVAR PcP PcP 17 24 27.6 +1.4
comp=Z,2.5nm,0.8s,baz=132,slow=4.6,SNR=5.0
NVAR LR LR 17 37 14.5
comp=Z,2μm,18.1s,baz=134,slow=40
PLVO **Plevna** 33.59 20 P P 17 21 45.2 -0.8
baz=207
RYN **Ryan** 33.80 322 *e*P P 17 21 50.2 +2.0
comp=Z,13nm,1.1s
KVN **Kaiserville** 33.82 322 *e*P P 17 21 49.9 +1.4
comp=Z,17nm,1.0s
KVN **Kaiserville** 33.82 322 *e*P P 17 21 49.9 +1.4
KVN pmax pmax
comp=Z,17nm,1.0s
IMW **Indian Meadow** 33.86 335 *e*P P 17 21 48.8 0.0
comp=Z,20nm,0.9s
IMW *e*PcP PcP 17 24 27.5 +0.4
PEMO **Pembroke** 34.10 19 P P 17 21 49.8 -0.7
baz=206
ALGO **Algonquin Park** 34.11 18 P P 17 21 49.3 -1.2
baz=205
BMN **Battle Mountai** 34.24 325 *e*P P 17 21 54.5 +2.5
BMN **Battle Mountai** 34.24 325 *e*P P 17 21 54.5 +2.5
YFT **Old Faithful** 34.28 336 *e*P P 17 21 54.9 +2.5
comp=Z,60nm,1.5s
WAKR **Walker** 34.28 321 *e*P P 17 21 54.7 +2.2
comp=Z,24nm,1.4s
YERR **Yerington** 34.46 321 *e*P P 17 21 56.6 +2.6
comp=Z,74nm,1.9s
CMB **Columbia Colle** 34.59 319 *e*P P 17 21 55.6 +0.6
comp=Z,8.6nm,1.1s
CMB **Columbia Colle** 34.59 319 *e*P P 17 21 55.6 +0.6
CMB pmax pmax
comp=Z,9.0nm,1.1s
PNTR **Pine Nut** 34.75 321 *e*P P 17 21 59.1 +2.6
comp=Z,22nm,1.0s
PAHR **Pah Rah Range** 35.01 322 *e*P P 17 22 00.9 +2.3
comp=Z,11nm,0.9s
HLID **Hailey** 35.10 332 *e*P P 17 22 01.3 +1.9
comp=Z,25nm,1.0s
HLID **Hailey** 35.10 332 P P 17 22 01.8 +2.4
baz=141,SNR=8.7
PTGA **Pitinga** 35.18 112 P P 17 22 00.2 0.0
comp=Z,29nm,0.9s,baz=305,slow=12
PTGA LR LR 17 38 20.5
comp=Z,463nm,18.5s,baz=290,slow=40
PTGA **Pitinga** 35.18 112 *e*P P 17 21 59.7 -0.5
comp=Z,48nm,1.0s
DLMT **Dillon** 35.74 335 *e*P P 17 22 07.2 +2.3
comp=Z,61nm,1.3s
ORV **Oroville** 36.20 320 *e*P P 17 22 09.1 +0.4
comp=Z,12nm,1.2s
ORV **Oroville** 36.20 320 *e*P P 17 22 09.1 +0.4
ORV pmax pmax
comp=Z,12nm,1.2s
ULM **Lac du Bonnet** 36.33 356 LR LR 17 40 42.0
comp=Z,473nm,18.8s,baz=183,slow=42
WVOR **Wild Horse Val** 36.39 326 *e*P P 17 22 10.2 -0.2
comp=Z,20nm,0.9s
WVOR **Wild Horse Val** 36.39 326 *e*P P 17 22 10.2 -0.2
WVOR pmax pmax
comp=Z,20nm,0.9s
SAML **Samuel** 36.76 127 *e*P P 17 22 11.8 -2.0
comp=Z,8.2nm,0.8s
SAML **Samuel** 36.76 127 *ce*P P 17 22 12.3 -1.4
SAML pmax pmax
comp=Z,5.0nm,1.3s
O03E **Paynes Creek** 36.83 321 P P 17 22 16.3 +2.2
baz=127
J08A **Circle Bar Ran** 36.94 328 *e*P P 17 22 17.3 +2.2
comp=Z,52nm,0.9s
MOD **Modoc Plateau** 36.95 324 *e*P P 17 22 16.7 +1.4
comp=Z,27nm,1.3s
LATQ **La Tuque** 37.11 22 P P 17 22 15.6 -0.7
baz=212
LSQQ **Lebel-sur-Quev** 37.23 17 P P 17 22 16.4 -0.9
baz=205
BMO **Blue Mountains** 37.43 330 *e*P P 17 22 18.8 -0.5
comp=Z,18nm,1.4s
BMO **Blue Mountains** 37.43 330 *e*P P 17 22 18.8 -0.5
BMO pmax pmax
comp=Z,18nm,1.4s
MSO **Missoula** 37.48 335 P P 17 22 21.2 +1.6
baz=144
MATQ **Matagami** 37.69 16 P P 17 22 19.4 -1.8
baz=204
I07A **Izee** 37.98 328 *e*P P 17 22 24.6 +0.7
comp=Z,13nm,1.0s
F10A **Beach Ranch, E** 38.23 332 *e*P P 17 22 27.4 +1.4
comp=Z,54nm,0.8s
YBH **Yreka Blue Hor** 38.24 322 P P 17 22 26.6 +0.5
comp=Z,1.8nm,0.6s,baz=146,slow=4.0,SNR=7.6
LPAZ **La Paz** 38.37 141 P P 17 22 27.4 -0.5
comp=Z,2.2nm,0.7s,baz=326,slow=8.4,SNR=7.6
LPAZ **La Paz** 38.37 141 *e*P P 17 22 26.5 -1.5
comp=Z,10nm,1.4s
LPAZ **La Paz** 38.37 141 *e*P P 17 22 26.5 -1.5
LPAZ pmax pmax
comp=Z,11nm,1.4s
J05D **Fort Rock, OR** 38.38 325 P P 17 22 28.4 +1.1
baz=131
PINE **Pine Mountain** 38.55 326 *e*P P 17 22 29.9 +1.1
comp=Z,17nm,1.1s
G08A **Pilot Rock** 38.56 329 *e*P P 17 22 29.7 +1.0
comp=Z,33nm,1.8s
J04D **Umpqua Nationa** 38.83 325 P P 17 22 33.6 +2.4
baz=130
E09A **Wood Farm, Sta** 39.06 331 *e*P P 17 22 33.6 +0.9
comp=Z,11nm,0.9s
MNMC **Minye Minye** 39.74 145 *e*P P 17 22 38.7 -0.4
comp=Z,32nm,1.1s
H04A **Detroit Lake** 39.81 326 *e*P P 17 22 40.4 +1.3
comp=Z,38nm,1.0s
D08A **Wollman Farm,** 39.82 331 *e*P P 17 22 41.5 +2.4
comp=Z,50nm,1.8s
NEW **Newport** 39.93 334 P P 17 22 40.2 +0.2
comp=Z,7.7nm,0.7s,baz=189,slow=20,SNR=5.8
NEW **Newport** 39.93 334 *e*P P 17 22 41.5 +1.5
comp=Z,12nm,0.8s
NEW **Newport** 39.93 334 *e*P P 17 22 41.5 +1.5
NEW pmax pmax
comp=Z,12nm,0.8s
NEW **Newport** 39.93 334 P P 17 22 41.9 +1.8
baz=141
MDP **Montagnes des** 40.02 99 LR LR 17 40 51.7
comp=Z,357nm,18.1s,baz=316,slow=39
PB11 **IPOC Station P** 40.22 146 *e*P P 17 22 41.1 -1.7
comp=Z,19nm,1.0s
F05D **White Salmon** 40.23 328 P P 17 22 44.4 +1.8
baz=133
LTY **Liberty** 40.79 330 *e*P P 17 22 48.2 +1.0
comp=Z,83nm,1.8s
B08A **Colville Reser** 40.97 332 *e*P P 17 22 49.4 +0.8
comp=Z,43nm,1.5s
LON **Longmire** 41.00 329 *e*P P 17 22 50.0 +1.0
comp=Z,16nm,0.8s
LON **Longmire** 41.00 329 *e*P P 17 22 50.0 +1.0
LON pmax pmax
comp=Z,16nm,0.8s
PB01 **IPOC Station P** 41.35 147 *e*P P 17 22 50.4 -1.8
comp=Z,53nm,0.2s
C06D **Leavenworth** 41.37 331 P P 17 22 54.0 +2.1
baz=135
D05A **Enumclaw** 41.39 329 *e*P P 17 22 53.1 +1.1
comp=Z,33nm,1.1s
B06A **Marblemount** 42.07 331 *e*P P 17 22 58.5 +0.9
comp=Z,18nm,0.7s
D03D **Eldon** 42.17 329 P P 17 23 00.2 +1.8
baz=132
B05A **Bryant** 42.18 330 P P 17 22 59.7 +1.2
baz=134
SIV **San Ignacio** 42.85 133 P P 17 23 03.7 -0.7
comp=Z,16nm,1.0s,baz=308,slow=8.4,SNR=35
LVC **Ibn Verde** 42.94 147 P P 17 23 04.8 -0.5
comp=Z,10.0nm,1.0s,baz=13,slow=8.3,SNR=3.8
LVC **Limon Verde** 42.94 147 *e*P P 17 23 06.3 +0.9
SCHQ **Schefferville** 45.38 20 LR LR 17 43 18.9
comp=Z,3μm,20.5s,baz=256,slow=37
BBB **Bella Bella** 47.68 331 LR LR 17 47 24.8
comp=Z,672nm,18.1s,baz=120,slow=40
YKA **Yellowknife Ar** 51.02 347 P P 17 24 07.8 +0.3
comp=Z,34nm,0.7s,baz=150,slow=7.4,SNR=34
YKB5 **Yellowknife Ar** 51.02 347 *e*P P 17 24 07.9 +0.4
YKW3 **Yellowknife Ar** 51.09 347 *e*P P 17 24 08.5 +0.5
comp=Z,46nm,0.8s
FRB **Frobisher Bay** 52.44 13 LR LR 17 48 33.2
comp=Z,3μm,18.2s,baz=196,slow=38
CPUP **Villa Florida** 52.52 140 P P 17 24 16.7 -2.4
comp=Z,6.9nm,1.1s,baz=324,slow=6.3,SNR=6.5
CPUP LR LR 17 46 09.0
comp=Z,170nm,18.4s,baz=332,slow=36
CPUP **Villa Florida** 52.52 140 *e*P P 17 24 17.1 -2.1
comp=Z,44nm,1.8s
CPUP **Villa Florida** 52.52 140 *e*P P 17 24 17.1 -2.1
CPUP pmax pmax
comp=Z,44nm,1.8s
DLBC **Dease Lake** 52.60 336 LR LR 17 51 16.9
comp=Z,768nm,18.3s,baz=138,slow=41
DLBC **Dease Lake** 52.60 336 *e*P P 17 24 22.1 +2.7
comp=Z,33nm,0.8s
BDFB **Brasilia** 52.73 122 P P 17 24 18.2 -2.9
comp=Z,11nm,0.9s,baz=286,slow=7.3,SNR=8.6
BDFB LR LR 17 46 52.4
comp=Z,408nm,18.1s,baz=237,slow=36
RKT **Rikitea** 55.69 229 *e*S S 17 32 30.2 +3.9
comp=Z,418nm,26.8s
RKT *e*LR LR 17 41 01.7
comp=Z,655nm,27.5s
RKT **Rikitea** 55.69 229 *e*T T 18 24 25.0
comp=Z,2.7nm,0.3s
WHY **Whitehorse** 55.92 336 *e*P P 17 24 45.3 +1.7
comp=Z,13nm,0.8s
HYT **Haines Junctio** 57.06 336 *e*P P 17 24 54.2 +2.4
PLCA **Paso Flores** 58.01 161 P P 17 24 57.3 -1.3
comp=Z,6.5nm,1.1s,baz=353,slow=7.5,SNR=6.3
PLCA LR LR 17 45 06.4
comp=Z,409nm,19.1s,baz=16,slow=31
PLCA **Paso Flores** 58.01 161 *e*P P 17 24 57.7 -0.9
comp=Z,44nm,1.9s
PLCA **Paso Flores** 58.01 161 *e*P P 17 24 57.7 -0.9

PLCA pmax pmax
comp=Z,44nm,1.9s
TRQA Tornquist 59.02 152 *ce*P **P 17 25 05.6 0.0**
TRQA pmax pmax
comp=Z,23nm,1.7s
BALM Baldy 59.17 334 *e*P **P 17 25 08.7 +2.2**
comp=Z,40nm,1.2s
BALM Baldy 59.17 334 *e*P **P 17 25 08.7 +2.2**
BALM pmax pmax
comp=Z,40nm,1.2s
RCBR Riachuelo 59.30 105 *e*P **P 17 25 08.5 +0.4**
comp=Z,71nm,1.4s
RCBR Riachuelo 59.30 105 *e*P **P 17 25 08.5 +0.4**
RCBR pmax pmax
comp=Z,71nm,1.4s
DAWY Dawson 59.63 338 *e*P **P 17 25 10.4 +0.8**
comp=Z,6.2nm,0.8s
SFJD Kangerlussuaq 59.66 18 LR LR 17 51 57.4
comp=Z,2µm,18.8s,baz=223,slow=37
BMRM Bremner River 60.10 334 *e*P **P 17 25 15.1 +2.2**
comp=Z,94nm,1.5s
INK Inuvik 60.42 344 P **P 17 25 15.7 +0.9**
baz=127,slow=7.1
INK Inuvik 60.42 344 *e*P **P 17 25 15.8 +0.9**
comp=Z,49nm,1.1s
INK Inuvik 60.42 344 *e*P **P 17 25 15.8 +0.9**
INK pmax pmax
comp=Z,49nm,1.1s
EGAK Eagle 60.67 338 *e*P **P 17 25 17.7 +1.1**
comp=Z,11nm,0.8s
DIV Divide 60.68 333 *e*P **P 17 25 18.5 +1.7**
comp=Z,60nm,1.2s
RES Resolute Bay 60.76 359 P **P 17 25 16.2 -0.9**
comp=Z,3.0nm,0.6s,baz=244,slow=4.5,SNR=6.9
RES LR LR 17 53 39.6
comp=Z,443nm,21.5s,baz=169,slow=38
HARP HAARP 61.01 335 *e*P **P 17 25 21.2 +2.3**
comp=Z,343nm,2.0s
DOT Dot Lake 61.16 336 *e*P **P 17 25 21.5 +1.5**
comp=Z,18nm,0.9s
SCRK Sand Creek 61.30 337 *e*P **P 17 25 22.6 +1.6**
comp=Z,28nm,1.5s
PAX Paxson 61.40 335 *e*P **P 17 25 22.7 +1.0**
comp=Z,20nm,0.9s
PAX Paxson 61.40 335 *e*P **P 17 25 22.7 +1.0**
PAX pmax pmax
comp=Z,20nm,0.9s
RIDG Independ'e Rid 61.51 336 *e*P **P 17 25 23.9 +1.4**
comp=Z,27nm,1.1s
SCM Sheep Creek Mo 61.66 334 *e*P **P 17 25 24.7 +1.2**
comp=Z,30nm,0.9s
SCM Sheep Creek Mo 61.66 334 *e*P **P 17 25 24.7 +1.2**
SCM pmax pmax
comp=Z,30nm,0.9s
SML Sawmill 62.09 334 *e*P **P 17 25 27.1 +0.9**
comp=Z,86nm,1.4s
SML Sawmill 62.09 334 *e*P **P 17 25 27.2 +0.9**
SML pmax pmax
comp=Z,86nm,1.4s
GHO Glory Hole Cre 62.33 333 *e*P **P 17 25 29.5 +1.5**
comp=Z,51nm,0.9s
PMR Palmer 62.34 333 *e*P **P 17 25 29.3 +1.4**
PMR Palmer 62.34 333 *e*P **P 17 25 29.3 +1.4**
KDAK Kodiak Island 62.62 328 LR LR 17 53 31.7
comp=Z,289nm,18.3s,baz=124,slow=37
HDA Harding Lake 62.65 336 *e*P **P 17 25 30.8 +0.8**
comp=Z,63nm,1.7s
HDA Harding Lake 62.65 336 P **P 17 25 31.0 +1.1**
baz=117,SNR=7.2
IL1 Eielson Array 62.79 337 *e*P **P 17 25 31.7 +0.8**
ILAR Eielson Array 62.79 337 P **P 17 25 31.9 +1.0**
ILAR LR LR 17 55 35.3
comp=Z,18nm,1.0s,baz=138,slow=4.4,SNR=82
comp=Z,311nm,19.6s,baz=132,slow=39
ILB Eielson Array 62.79 337 *e*P **P 17 25 31.7 +0.8**
RND Reindeer 62.97 335 *e*P **P 17 25 33.6 +1.4**
comp=Z,47nm,0.9s
RND Reindeer 62.97 335 *e*P **P 17 25 33.6 +1.4**
RND pmax pmax
comp=Z,47nm,0.9s
SUA Susitna One 63.01 333 *e*P **P 17 25 34.1 +1.6**
comp=Z,169nm,1.8s
WRH Wood River Hil 63.12 336 *e*P **P 17 25 33.8 +0.7**
comp=Z,14nm,1.2s
MCK McKinley 63.14 335 *e*P **P 17 25 34.2 +0.9**
comp=Z,31nm,1.1s
MCK McKinley 63.14 335 *e*P **P 17 25 34.2 +0.9**
MCK pmax pmax
comp=Z,31nm,1.1s
POKR Poker Plat Res 63.15 337 P **P 17 25 34.2 +0.9**
baz=117
COLA College 63.20 337 *e*P **P 17 25 34.3 +0.8**
comp=Z,18nm,0.9s
COLA College 63.20 337 *e*P **P 17 25 34.1 +0.5**
TCOL CIGO, UAF Yank 63.21 337 P **P 17 25 34.9 +1.2**
baz=116
MDM Murphy Dome 63.38 337 *e*P **P 17 25 35.1 +0.2**
comp=Z,60nm,1.9s
BWN Browne 63.53 336 *e*P **P 17 25 37.0 +1.2**
comp=Z,114nm,0.9s
SKT Skwentna 63.55 333 *e*P **P 17 25 37.6 +1.6**
comp=Z,37nm,1.0s
TRF Thorofare Moun 63.58 335 *e*P **P 17 25 36.5 +0.2**
comp=Z,232nm,2.0s
BPAW Bear Paw Mtn. 64.11 335 *e*P **P 17 25 40.3 +0.6**
comp=Z,23nm,1.0s
PPLA Purkeypile 64.16 334 *e*P **P 17 25 41.2 +1.0**
comp=Z,36nm,1.2s
CAST Castle Rocks 64.31 334 *e*P **P 17 25 41.6 +0.6**
comp=Z,25nm,1.0s
MLY Manley 64.38 336 *e*P **P 17 25 42.6 +1.1**
comp=Z,28nm,0.8s
PPT Papeete 64.61 243 LR LR 17 45 35.7
comp=Z,340nm,21.8s,baz=36,slow=28
PPT2 Papeete2 64.62 243 *e*S **S 17 34 25.0 +3.7**
comp=Z,571nm,29.2s
PPT2 Papeete2 64.62 243 *e*LR LR 17 44 52.4
comp=Z,580nm,25.2s,baz=56
COLD Coldfoot 65.09 339 *e*P **P 17 25 47.3 +1.4**
comp=Z,63nm,2.0s
TOLK Toolik Lake Re 65.48 340 *e*P **P 17 25 49.8 +1.2**
comp=Z,13nm,0.7s
TOLK Toolik Lake Re 65.48 340 P **P 17 25 50.2 +1.6**
baz=116,SNR=12
IM3 Indian Mountai 65.91 337 *e*P **P 17 25 51.2 0.0**
TBI Tubuai 67.08 237 *e*LR LR 17 46 00.2
comp=Z,548nm,29.2s,baz=61
RDOG Red Dog Mine 69.95 338 *e*P **P 17 26 17.7 +1.0**
comp=Z,30nm,1.4s
EFI East Falkland 71.78 158 ‖ *e*P **P 17 26 28.4 +0.5**
EFI pmax pmax
comp=Z,308nm,2.6s
DAG Danmarks Havn 72.79 13 P **P 17 26 32.7 -0.9**
DAG pmax pmax
comp=Z,12nm,1.4s
ESK Eskdalemuir 78.16 36 *i*P **P 17 27 04.4 -0.4**
EKA Eskdalemuir Ar 78.18 36 P **P 17 27 03.4 -1.6**
comp=Z,10nm,0.7s,baz=276,slow=5.7,SNR=29
ESDC Sonseca Array 79.98 52 P **P 17 27 13.3 -1.8**
comp=Z,3.2nm,0.8s,baz=288,slow=5.5,SNR=14
ESDC LR LR 17 56 43.2
comp=Z,197nm,21.6s,baz=280,slow=31
ES19 SONSECA Array 80.02 52 *e*P **P 17 27 13.4 -2.0**
BILL Bilibino 81.41 338 *e*P **P 17 27 23.4 +1.2**
comp=Z,22nm,0.8s
BILL Bilibino 81.41 338 *e*P **P 17 27 23.1 +0.9**
BILL *e* 17 30 29.5
BILL *e*PPP PPP 17 32 21.2
BILL pmax pmax
comp=Z,20nm,0.7s
BILL MLR MLR
comp=Z,318nm,21.0s
NB2 NORSAR Subarra 84.34 28 P **P 17 27 37.0 -0.6**
comp=Z,11nm,1.0s,baz=289,slow=5.6
NB200 NORSAR Array S 84.34 28 *e*P **P 17 27 36.6 -0.9**
NOA NORSAR Array B 84.34 28 P **P 17 27 36.6 -0.9**
comp=Z,1.1nm,0.7s,baz=289,slow=5.1,SNR=5.4
NOA LR LR 18 03 48.4
comp=Z,304nm,22.0s,baz=295,slow=35
TIC Toumodi 85.79 84 *e*P **P 17 27 46.1 +0.4**
LIC Lamto 85.88 85 *e*P **P 17 27 44.1 -2.1**
comp=Z,95nm,1.5s
DBIC Dimbokro 85.94 84 P **P 17 27 46.1 -0.4**
comp=Z,5.9nm,0.9s,baz=225,slow=5.5,SNR=5.8
DBIC LR LR 18 02 52.4
comp=Z,196nm,20.3s,baz=268,slow=33
DBIC Dimbokro 85.94 84 *e*P **P 17 27 46.1 -0.4**
comp=Z,23nm,1.3s
DBIC Dimbokro 85.94 84 *e*P **P 17 27 46.1 -0.4**
DBIC pmax pmax
comp=Z,23nm,1.3s
KIC Kosan Boka 86.13 84 *e*P **P 17 27 48.0 +0.6**
comp=Z,88nm,1.7s
ARCES ARCESS Array B 86.29 18 LR LR 18 05 38.6
comp=Z,29nm,22.0s,baz=320,slow=35
SENIN Lac Senin/Sane 86.53 43 *e*P **P 17 27 48.7 -0.4**
comp=Z,11nm,0.9s
TUE Stuetta 87.85 43 *e*P **P 17 27 55.0 -0.3**
comp=Z,58nm,2.0s
CLL Collm 88.54 37 *e*P **P 17 28 00.0 +1.7**
CLL Collm 88.54 37 *e*P **P 17 28 00.0 +1.7**
WET Wettzell 89.22 39 P **P 17 28 01.8 +0.2**
WET pmax pmax
comp=Z,7.0nm,1.8s
KHC Kasperske Hory 89.65 39 *e*P **P 17 28 04.7 +1.1**
KHC Kasperske Hory 89.65 39 *e*P **P 17 28 04.7 +1.1**
GERES GERESS Array B 89.83 39 P **P 17 28 03.4 -1.2**
comp=Z,1.1nm,0.9s,baz=304,slow=3.1,SNR=5.8
GERES LR LR 18 06 26.1
comp=Z,480nm,20.6s,baz=291,slow=34
TIXI Tiksi 90.26 348 *e*P **P 17 28 05.9 0.0**
comp=Z,24nm,1.1s
TIXI Tiksi 90.26 348 ‖ *e*P **P 17 28 06.3 +0.4**
TIXI pmax pmax
comp=Z,18nm,1.1s
TOA1 Torodi Ar. Sit 90.67 76 *e*P **P 17 28 07.9 -1.0**
TORD Torodi Ar. Bea 90.67 76 P **P 17 28 07.9 -1.0**
comp=Z,1.4nm,0.8s,baz=264,slow=3.0,SNR=7.0
TORD LR LR 18 07 51.6
comp=Z,126nm,19.4s,baz=290,slow=35
DPC Dobruska-Polom 90.85 37 *e*P **P 17 28 09.6 +0.4**
DPC Dobruska-Polom 90.85 37 *e*P **P 17 28 09.6 +0.4**
KEST Kesra 91.16 53 LR LR 18 04 45.3
comp=Z,157nm,18.2s,baz=286,slow=33
VRAC Vranov 91.42 38 P **P 17 28 10.9 -0.9**
comp=Z,1.4nm,0.6s,baz=95,slow=2.1,SNR=3.5
TAM Tamanrasset 91.70 66 P **P 17 28 14.8 +1.0**
TAM pmax pmax
comp=Z,3.0nm,1.5s
VYHS Vyhne 93.10 38 *e*P **P 17 28 20.9 +1.3**
VYHS Vyhne 93.10 38 *e*P **P 17 28 20.9 +1.3**
NRIK Noril'sk 96.94 0 LR LR 18 17 05.4
comp=Z,917nm,18.7s,baz=16,slow=38
YAK Yakutsk 97.43 341 ‖ *e*P Pdif 17 28 41.7 +2.6
YAK pmax pmax
comp=Z,4.0nm,0.7s
KIEV Kiev 97.93 33 ‖ *e*P **P 17 28 39.4 -2.1**
KIEV pmax pmax
comp=Z,6.0nm,1.7s
AKASG Malin Array Be 97.94 33 LR LR 18 16 14.6
comp=Z,204nm,18.2s,baz=315,slow=38
OBN Obninsk 98.87 27 *e*P Pdif 17 28 45.9 +0.3
OBN *e* 17 32 48.3
OBN *e*PPP PPP 17 34 54.4
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN MLR MLR
comp=Z,340nm,18.0s
DZM Mont Dzumac 105.39 251 *e*LR LR 18 04 04.6
comp=Z,191nm,27.8s
KURK Kurchatov 115.14 6 *e*PKPdf **PKPdf 17 33 47.5 +0.7**
KURK Kurchatov 115.14 6 *e*PKIKP **PKPdf 17 33 47.5 +0.7**
KNGR Kungurtug, Tuv 115.17 353 ‖ *e*PKIKP **PKPdf 17 33 45.7 -1.3**
KURBB Kurchatov Arra 115.22 6 PKP **PKPdf 17 33 47.5 +0.6**
comp=Z,1.3nm,0.7s,baz=348,slow=2.1,SNR=13
SONA0 Songino Array 116.29 346 *e*PKPdf **PKPdf 17 33 49.3 0.0**
SONM Songino Array 116.29 346 PKP **PKPdf 17 33 49.3 0.0**
comp=Z,0.9nm,0.8s,baz=294,slow=3.1,SNR=6.0
DGZ Jazzator, Alta 116.64 0 ‖ *i*PKIKP **PKPdf 17 33 50.7 +0.7**
MK32 Makanchi Array 119.36 4 *e*PKPdf **PKPdf 17 33 55.2 +0.1**
MKAR Makanchi Array 119.36 4 PKP **PKPdf 17 33 55.2 +0.1**
comp=Z,1.1nm,0.8s,baz=14,slow=1.5,SNR=6.7
BOSA Boshof 120.59 115 PKP **PKPdf 17 33 57.1 -0.9**
comp=Z,5.2nm,0.9s,baz=212,slow=2.7,SNR=6.7
HHC Hu-ho-hao-te 121.18 339 *e*PKP **PKPdf 17 33 59.5 +0.6**
MNAS Manas 122.14 13 PKIKP **PKPdf 17 34 02.3 +1.6**
AAK Ala-Archa 122.41 12 PKP **PKPdf 17 34 02.2 +0.9**
comp=Z,0.6nm,0.4s,baz=313,slow=4.3,SNR=4.7
AAK Ala-Archa 122.41 12 ‖ *i*PKIKP **PKPdf 17 34 01.5 +0.2**
WMQ Urumqi 122.53 0 *e*PKP **PKPdf 17 34 01.5 +0.2**
WMQ LR LR
comp=Z,460nm,30.3s
WMQ LR LR
comp=Z,640nm,24.9s
WMQ LR LR
comp=Z,510nm,27.7s
PRZ Przheval'sk 123.21 8 *e*PKPdf **PKPdf 17 34 03.8 +0.9**
PRZ Przheval'sk 123.21 8 *e*PKIKP **PKPdf 17 34 03.8 +0.9**
KDJ Kajisay 123.38 9 *e*PKPdf **PKPdf 17 34 04.3 +1.2**
KDJ Kajisay 123.38 9 *e*PKIKP **PKPdf 17 34 04.4 +1.2**
NRN Naryn 123.86 11 *e*PKPdf **PKPdf 17 34 04.5 +0.2**
NRN Naryn 123.86 11 *e*PKIKP **PKPdf 17 34 04.5 +0.2**
NJ2 Nanjing 125.40 327 *e*PKP **PKPdf 17 34 06.7 -0.3**
KSH Kashi 125.71 11 *e*PKP **PKPdf 17 34 09.1 +1.5**
KSH PP PP 17 36 06.4 +8.0
KSH AMB AMB
comp=Z,260nm,4.6s
KSH LR LR
comp=Z,230nm,9.4s
KSH LR LR
comp=Z,570nm,10.8s
KSH LR LR
comp=Z,600nm,19.7s
GTA Gaotai 125.74 348 PKP **PKPdf 17 34 08.7 +1.0**
GTA sPKP 17 34 28.5
GTA PP **PP 17 36 00.8 +2.1**
GTA SS SS 17 52 57.7 +2.2
GTA AMB AMB
comp=Z,120nm,5.7s
GTA LR LR
comp=Z,320nm,18.9s
GTA LR LR
comp=Z,330nm,18.6s
GTA LR LR
comp=Z,320nm,21.3s
STKA Stephens Creek 127.78 240 PKP **PKPdf 17 34 11.1 -0.4**
comp=Z,3.3nm,0.8s,baz=315,slow=19,SNR=6.0
STKA Stephens Creek 127.78 240 *e*PKPdf **PKPdf 17 34 10.8 -0.7**
STKA Stephens Creek 127.78 240 *e*PKIKP **PKPdf 17 34 10.8 -0.7**
LZH Lanzhou 127.96 343 *e*PKP **PKPdf 17 34 13.3 +1.2**
LZH sPKP 17 34 29.8
LZH SS SS 17 53 23.9 +0.5
LZH LR LR
comp=Z,800nm,16.0s
LZH LR LR
comp=Z,570nm,15.7s
LZH LR LR
comp=Z,800nm,19.5s
XAN Xi'an 128.19 338 PKP **PKPdf 17 34 12.9 +0.5**
XAN LR LR
comp=Z,480nm,20.6s
XAN LR LR
comp=Z,550nm,23.9s
ENH Enshi 131.30 335 *e*PKPdf **PKPdf 17 34 18.9 +0.5**
CD2 Chengdu 132.82 341 PKP **PKPdf 17 34 20.0 -1.3**
CD2 SS SS 17 54 24.1 +1.2
CD2 AMB AMB
comp=Z,140nm,5.0s
CD2 LR LR
comp=Z,460nm,16.9s
CD2 LR LR
comp=Z,570nm,16.4s
WB2 Warramunga Arr 135.09 256 *e*PKPdf **PKPdf 17 34 25.6 -0.1**
WRAB Tennant Creek 135.09 256 ‖ *i*PKIKP **PKPdf 17 34 25.4 -0.3**
WR1 Warramunga Arr 135.10 256 *e*PKPdf **PKPdf 17 34 25.6 -0.1**
WRA Warramunga Arr 135.10 256 PKP **PKPdf 17 34 25.6 -0.1**
comp=Z,2.2nm,0.7s,baz=79,slow=2.0,SNR=24
ASAR Alice Springs 135.38 250 PKP **PKPdf 17 34 26.1 -0.1**
comp=Z,1.1nm,0.8s,baz=105,slow=1.8,SNR=8.8
GYA Guiyang 135.82 335 *e*Pdif **Pdif 17 31 29.0 -1.8**
GYA PKP **PKPdf 17 34 26.0 -1.1**
GYA PP **PP 17 37 06.8 +2.6**
GYA AMB AMB
comp=Z,120nm,7.9s
LSA Lhasa 136.49 356 *e*PKPdf **PKPdf 17 34 27.7 -1.0**
LSA Lhasa 136.49 356 *e*PKIKP **PKPdf 17 34 27.7 -1.0**
SHL Shillong 140.53 354 *e*PKPdf **PKPdf 17 34 35.8 -0.1**
SHL Shillong 140.53 354 *e*PKIKP **PKPdf 17 34 35.8 -0.1**
MYLDM Lahad Datu 144.02 300 *e*PKPdf **PKPdf 17 34 41.7 -0.4**
CHTO Chiang Mai 145.63 341 *e*PKPdf **PKPdf 17 34 44.5 -0.3**
CHTO Chiang Mai 145.63 341 *e*PKP2 **PKPdf 17 34 44.5 -0.3**
CM31 Chiang Mai Arr 145.96 341 *e*PKPdf **PKPab 17 34 46.5 0.0**
CMAR Chiang Mai Arr 145.96 341 PKPbc **PKPab 17 34 47.0 +0.5**
comp=Z,26nm,0.8s,baz=341,slow=4.2,SNR=114
CMAR Chiang Mai Arr 145.96 341 PKP2 **PKPab 17 34 47.0 +0.5**
CM01 Chiang Mai Arr 145.99 341 *e*PKPdf **PKPbc 17 34 45.9 -0.2**
PBKT Sadao Pong 146.98 336 *e*PKPdf **PKPbc 17 34 48.7 -0.4**
HYB Hyderabad 147.56 16 *i* PKP **PKPbc 17 34 50.0 -0.7**
HYB *e* 17 35 00.0
SBUM Sibu 150.75 302 *e*PKPbc **PKPbc 17 34 58.7 -0.2**
KSM Kuching 152.87 303 *e*PKPdf **PKPdf 17 34 54.8 -1.7**
KSM *e*PKPbc **PKPbc 17 35 03.9 +0.2**
KSM *e*PKPab **PKPab 17 35 14.4 -0.4**

IDC 10 17:17:32.6±7.7, 32°34S×179°70E, h443km±95km, mb2.5/2, mb1 3.0/3, mb1mx2.7/37, mbtmp3.6/3, Error ellipse: s-maj=110.7km s-min=37.4km az=7.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.27**	**199**	P	P	17 19 10.3	+1.0
	4.8nm,0.3s,baz=271,slow=5.3,SNR=41						
URZ				S	S	17 20 27.8	-0.6
	8.4nm,0.3s,baz=248,slow=23,SNR=17						
ASAR	**Alice Springs**	**41.09**	**270**	P	P	17 24 37.0	+0.5
	0.2nm,0.6s,baz=110,slow=7.8,SNR=7.4						
WRA	**Warramunga Arr**	**42.26**	**276**	P	P	17 24 45.2	-0.6
	0.3nm,0.3s,baz=111,slow=8.1,SNR=20						
FINES	**FINESS Array B**	**146.23**	**337**	PKPbc	PKPbc	17 36 20.8	-0.9
	1.0nm,0.4s,baz=54,slow=4.1,SNR=15						

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*IDC **10** 17:23:52.3±3.2, 13°.84N×92°.44W, h0km, mb3.3/1, mb1 3.7/4, mb1mx3.4/46, mbtmp3.3/4, ML3.0/3, Error ellipse: s-maj=63.9km s-min=26.6km az=179.0*
*MEX **10** 17:23:59.5±0.6, 14°.11N×92°.47W, h16km±999km, MD3.9*
ISC 10 17:23:54.6±3.0, 14°2N±0°.1×92°40W±0°.07, h4km±19km, n9, σ1°36/14, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.75**	**10**	*e*P	**Pn**	**17 24 12.9**	**+1.0**
THIG				*i* S	**Sn**	**17 24 22.7**	**-0.9**
PCIG		**1.72**	**333**	*i* P	**Pb**	**17 24 25.7**	**-1.0**
PCIG				*i* S	**Sn**	**17 24 45.7**	**-2.0**
APG	**El Apazote**	**2.05**	**66**	Pn	**Pn**	**17 24 30.5**	**+0.5**
	3.9nm,0.3s,baz=212,slow=16,SNR=25						
APG				Sn	**Sg**	**17 25 00.2**	**-0.3**
	10nm,0.3s,baz=38,slow=12,SNR=6.6						
CCIG	**Comitan**	**2.12**	**7**	*e*P	**Pb**	**17 24 33.2**	**-0.4**
CCIG				*i* S	**Sn**	**17 24 58.0**	**+0.3**
TGIG		**2.69**	**345**	*i* P	**Pn**	**17 24 39.2**	**+0.6**
TGIG				*i* S	**Sn**	**17 25 12.4**	**+0.8**
CMIG	**Matias Romero**	**3.77**	**321**	Pn	**Pn**	**17 24 54.4**	**+1.0**
	0.4nm,0.3s,baz=218,slow=19,SNR=2.8						
TXAR	**Lajitas Array**	**18.34**	**327**	P	**P**	**17 28 12.8**	**+2.6**
	0.0nm,0.3s,baz=155,slow=11,SNR=2.2						
NVAR	**Mina Array Bea**	**33.30**	**321**	P	**P**	**17 30 33.0**	**-0.6**
	0.2nm,0.5s,baz=129,slow=8.3,SNR=3.6						
CMAR	**Chiang Mai Arr**	**145.71**	**341**	PKPbc	**PKPab**	**17 43 34.6**	**-1.3**
	1.0nm,0.7s,baz=335,slow=3.1,SNR=14						

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*ISCJB **10** 17:25:47.7±1.0, 67°.59N±0°.03×33°.3E±0°.1, h0km, Error ellipse: s-maj=7.9km s-min=4.2km az=178.3*
*HEL **10** 17:25:47.3±0.4, 67°.60N×33°.93E, h0km, ML2.4, Explosion*
*NAO **10** 17:25:49.5±1.7, 67°.74N×33°.50E, ML2.9*
*IDC **10** 17:25:50.5±1.8, 67°.77N×33°.43E, h0km, mb1 3.7/5, mb1mx3.2/53, mbtmp3.7/5, ML2.6/4, Error ellipse: s-maj=19.9km s-min=9.6km az=83.0*
ISC 10 17:25:47.3±1.7, 67°.62N±0°.04×33°.59E±0°.09, h0km, n33, σ1°43/57, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VRF	**Varrio**	**1.53**	**277**	PG	**Pb**	**17 26 16.8**	**+0.4**
VRF				MSG		17 26 36.8	
	comp=Z,50nm,0.2s						
VRF				SG	**Sn**	**17 26 37.2**	**+0.9**
KU6	**Riekki**	**2.17**	**224**	PG	**Pb**	**17 26 27.2**	**-0.2**
	baz=47						
KU6				MSG		17 26 53.9	
	comp=Z,13nm,0.2s						
KU6				SG	**Sg**	**17 26 57.2**	**+0.3**
MSF	**Maaselka**	**2.49**	**229**	PB	**Pb**	**17 26 31.9**	**-0.9**
MSF				SG	**Sg**	**17 27 07.8**	**+0.7**
SGF	**Sodankyl**	**2.72**	**270**	PN	**Pn**	**17 26 34.2**	**+2.0**
SGF				SG	**Sg**	**17 27 12.7**	**-1.9**
RNF	**Rovaniemi**	**3.13**	**255**	PN	**Pn**	**17 26 39.9**	**+2.1**
	baz=71						
RNF				SN	**Sb**	**17 27 20.0**	**-2.4**
KEV	**Kevo**	**3.22**	**315**	Pn	**Pn**	**17 26 40.9**	**+1.8**
KEV				Sn	**Sn**	**17 27 19.5**	**+1.4**
KEV				Lg	Lg	17 27 26.6	
KEV	**Kevo**	**3.22**	**315**	PN	**Pn**	**17 26 40.6**	**+1.6**
	baz=127						
KEV				SN	**Sn**	**17 27 19.5**	**+1.4**
KEV	**Kevo**	**3.22**	**315**	Pn	**Pn**	**17 26 40.9**	**+1.8**
KEV				Sn	**Sn**	**17 27 19.5**	**+1.4**
KEV				Sg	**Sb**	**17 27 26.6**	**+1.6**
ARA0	**ARCESS Array S**	**3.54**	**307**	Pn	**Pn**	**17 26 44.7**	**+1.3**
	baz=122,slow=16						
ARA0				Sn	**Sn**	**17 27 25.7**	**-0.2**
	baz=119,slow=28						
ARA0				Lg	Lg	17 27 36.3	
	baz=109,slow=37						
ARA0	**ARCESS Array S**	**3.54**	**307**	Pn	**Pn**	**17 26 44.7**	**+1.3**
	baz=122,slow=16						
ARA0				Sn	**Sn**	**17 27 25.7**	**-0.2**
	baz=119,slow=28						
ARA0				Sg	**Sb**	**17 27 36.3**	**+2.3**
	baz=109,slow=37						
ARCES	**ARCESS Array B**	**3.54**	**307**	Pn	**Pn**	**17 26 44.8**	**+1.4**
	comp=Z,2.9nm,0.3s,baz=116,slow=15,SNR=375						
ARCES				Sn	**Sn**	**17 27 25.4**	**-0.5**
	comp=Z,4.3nm,0.3s,baz=120,slow=24,SNR=19						
ARCES				Lg	Lg	17 27 35.7	
	comp=Z,4.6nm,0.3s,baz=120,slow=28,SNR=5.2						
ARE0	**ARCESS Array S**	**3.54**	**307**	PN	**Pn**	**17 26 44.7**	**+1.3**
	baz=117						
ARE0				SN	**Sn**	**17 27 25.7**	**-0.1**
ARE0	**ARCESS Array S**	**3.54**	**307**	*e*P	**Pn**	**17 26 44.9**	**+1.5**
HEF	**Hetta**	**3.82**	**287**	PN	**Pn**	**17 26 48.6**	**+1.3**
HEF				SN	**Sn**	**17 27 34.4**	**+1.6**
HEF	**Hetta**	**3.82**	**287**	*e*P	**Pn**	**17 26 48.7**	**+1.5**
HEF				*e*S	**Sn**	**17 27 33.4**	**+0.6**
TOF	**Tornio**	**3.97**	**251**	PN	**Pn**	**17 26 50.7**	**+1.3**
TOF				SN	**Sn**	**17 27 38.4**	**+1.9**
OUL	**Oulu**	**4.01**	**234**	PB	**Pb**	**17 26 58.5**	**-0.2**
KTK1	**Kautokeino**	**4.09**	**295**	*e*P	**Pn**	**17 26 52.7**	**+1.8**
KTK1				*e*S	**Sn**	**17 27 39.1**	**-0.3**
LANU	**Lannavaara**	**4.42**	**281**	PN	**Pn**	**17 26 56.2**	**+0.7**
	baz=90						
ERTU	**Ertsjaerv**	**4.58**	**262**	PN	**Pn**	**17 26 58.9**	**+1.2**
HAMF	**Hammerfest**	**4.66**	**315**	*e*P	**Pn**	**17 26 59.9**	**+1.1**
HAMF				*e*S	**Sn**	**17 27 52.5**	**-1.1**
KIF	**Kilpisjarvi**	**4.94**	**292**	Pn	**Pn**	**17 27 04.2**	**+1.6**
KIF				Sn	**Sn**	**17 27 58.6**	**-1.8**
KIF	**Kilpisjarvi**	**4.94**	**292**	*e*P	**Pn**	**17 27 02.8**	**+0.2**
KIF				Sn	**Sn**	**17 27 58.6**	**-1.8**
FIA0	**FINESS Array S**	**6.99**	**211**	Pn	**Pn**	**17 27 31.3**	**+0.6**
	baz=19,slow=16						
FIA0				Sn	**Sn**	**17 28 51.0**	**+0.2**
	baz=27,slow=22						
FIA0	**FINESS Array S**	**6.99**	**211**	Pn	**Pn**	**17 27 31.3**	**+0.6**
	baz=19,slow=16						
FIA0				Sn	**Sn**	**17 28 51.0**	**+0.2**
	baz=27,slow=22						
FINES	**FINESS Array B**	**6.99**	**211**	Pn	**Pn**	**17 27 32.2**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=213,slow=20,SNR=5.4						
FINES				Sn	**Sn**	**17 28 50.9**	**0.0**
	comp=Z,0.4nm,0.3s,baz=23,slow=22,SNR=6.0						
FINES				Lg	Lg	17 29 26.9	
	comp=Z,1.7nm,0.3s,baz=26,slow=28,SNR=6.7						
HFS	**Hagfors**	**11.49**	**239**	Pn	**Pn**	**17 28 33.2**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=35,slow=13,SNR=3.5						
HFS				Lg	Lg	17 31 50.7	
	comp=Z,0.3nm,0.3s,baz=50,slow=23,SNR=4.1						
SPA0	**Spitsbergen Ar**	**11.67**	**342**	Pn	**Pn**	**17 28 32.2**	**-2.5**
	baz=142,slow=16						
SPA0	**Spitsbergen Ar**	**11.67**	**342**	Pn	**Pn**	**17 28 32.2**	**-2.5**
	baz=142,slow=16						
SPITS	**Spitsbergen Ar**	**11.67**	**342**	Pn	**Pn**	**17 28 31.6**	**-3.1**
	baz=141,slow=16,SNR=6.2						

NOA	**NORSAR Array B**	**11.67**	**246**	Pn	**Pn**	**17 28 34.2**	**-0.6**
	comp=Z,0.0nm,0.3s,baz=46,slow=11,SNR=2.8						
NOA				Lg	Lg	17 31 52.2	
	comp=Z,0.0nm,0.3s,baz=334,slow=18,SNR=4.4						
NRA0	**NORESS Array S**	**11.77**	**245**	Pn	**Pn**	**17 28 35.3**	**-0.9**
	baz=55,slow=12						
NRA0	**NORESS Array S**	**11.77**	**245**	Pn	**Pn**	**17 28 35.3**	**-0.9**
	baz=55,slow=12						

IDC 10 17:43:51.5±2.3, 52°67N×131°25W, h0km, mb3.5/1, mb1 3.7/4, mb1mx3.4/46, mbtmp3.3/4, ML3.4/3, Error ellipse: s-maj=38.8km s-min=12.8km az=47.0, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBB	**Bella Bella**	**1.98**	**103**	Pn	Pn	17 44 24.9	-1.2
	2.0nm,0.3s,baz=280,slow=15,SNR=8.8						
BBB				Sn	Sn	17 44 52.4	+0.7
	9.7nm,0.3s,baz=285,slow=11,SNR=4.6						
DLBC	**Dease Lake**	**5.82**	**6**	Pn	Pn	17 45 19.8	+0.8
	0.3nm,0.3s,baz=177,slow=19,SNR=3.2						
ILAR	**Eielson Array**	**14.54**	**333**	Pn	Pn	17 47 19.2	+1.0
	0.1nm,0.3s,baz=145,slow=11,SNR=8.1						
PDAR	**Pinedale Array**	**17.58**	**116**	P	P	17 47 59.2	+0.1
	0.1nm,0.3s,baz=302,slow=8.5,SNR=5.4						
TXAR	**Lajitas Array**	**30.92**	**128**	P	P	17 50 10.3	+0.4
	0.6nm,0.9s,baz=325,slow=7.6,SNR=5.2						

*IDC **10** 17:46:35.5±1.0, 10°65S×114°13E, h0km, mb4.0/8, mb1 4.1/10, mb1mx3.9/32, mbtmp4.0/10, ML4.0/2, Error ellipse: s-maj=39.5km s-min=10.6km az=44.0*
*NEIC **10** 17:46:36.7±0.5, 10°84S×113°80E, h10km, mb4.3/10, Error ellipse: s-maj=17.3km s-min=5.7km az=221.0*
*ISCJB **10** 17:46:38.0±0.4, 10°91S±0°04×113°86E±0°05, h33km, mb4.1/16, Error ellipse: s-maj=6.6km s-min=5.1km az=155.8*
*DJA **10** 17:46:39.6±2.9, 11°S±6°×117°4E±°, h31km±42km, M4.5/12, mb4.6/1, MLv4.5/12*

ISC 10 17:46:40.0±0.6, 10°89S±0°06×113°88E±0°05, h35km, n41, σ1s91/51, mb4.2/16, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGBI	**Denpasar**	**2.40**	**31**	P	**Pn**	**17 47 16.2**	**-0.6**
IGBI				S	**Sn**	**17 47 46.1**	**+1.1**
JAGI	**Jajag, Banyuwa**	**2.41**	**6**	*e*Pn	**Pn**	**17 47 16.5**	**-0.5**
JAGI	**Jajag, Banyuwa**	**2.41**	**6**	P	**Pn**	**17 47 16.3**	**-0.7**
JAGI				S	**Sn**	**17 47 46.7**	**+1.3**
DNP	**Denpasar**	**2.55**	**31**	P	**Pn**	**17 47 18.1**	**-0.8**
DNP				S	**Sn**	**17 47 49.4**	**+0.6**
SRBI	**Singaraja**	**3.08**	**25**	P	**Pn**	**17 47 25.7**	**-0.4**
BLJI	**Banyuglugur**	**3.13**	**355**	P	**Pn**	**17 47 26.9**	**0.0**
PWJI	**Pagerwojo**	**3.51**	**324**	P	**Pn**	**17 47 31.0**	**-1.0**
TWSI	**Taliwang, Sumb**	**3.65**	**54**	P	**Pn**	**17 47 33.2**	**-0.7**
PCJI	**Pacitan**	**3.78**	**315**	P	**Pn**	**17 47 36.5**	**+0.7**
KMMI	**Kalianget**	**3.81**	**1**	P	**Pn**	**17 47 36.5**	**+0.3**
WOJI	**Wonogiri, Jawa**	**4.21**	**316**	P	**Pn**	**17 47 42.0**	**+0.3**
NGJI	**Ngawi**	**4.24**	**325**	P	**Pn**	**17 47 42.7**	**+0.6**
PLAI	**Plampang**	**4.35**	**62**	P	**Pn**	**17 47 42.9**	**-0.7**
UGM	**Wanagama**	**4.44**	**311**	*e*Sn	**Sn**	**17 48 32.7**	**-2.8**
WBSI	**Waikabubak, Su**	**5.56**	**78**	P	**Pn**	**17 47 58.9**	**-1.4**
CISI	**Cisompet, Garu**	**6.84**	**298**	*e*Sn	**Sn**	**17 49 31.1**	**-3.7**
BATI	**Baumata**	**9.64**	**87**	Pn	**Pn**	**17 48 54.0**	**-2.3**
	6.2nm,0.3s,baz=81,slow=3.3,SNR=16						
BATI				Sn	**Sn**	**17 50 35.6**	**-7.9**
	6.9nm,0.3s,baz=348,slow=20,SNR=9.0						
MBWA	**Marble Bar**	**11.66**	**152**	*e*Pn	**Pn**	**17 49 23.1**	**-0.8**
MBWA				*e*Sn	Sn	17 51 20.1	-13
FITZ	**Fitzroy Crossi**	**13.45**	**124**	Pn	**Pn**	**17 49 47.7**	**-0.8**
	0.2nm,0.3s,baz=306,slow=7.5,SNR=17						
FITZ				Sn	Sn	17 52 04.8	-12
	0.8nm,0.3s,baz=154,slow=23,SNR=7.8						
IPM	**Ipoh**	**19.92**	**319**	*e*P	**Pn**	**17 51 10.7**	**0.0**
	8.1nm,0.7s						
WR1	**Warramunga Arr**	**21.66**	**117**	*e*P	**P**	**17 51 28.3**	**+0.6**
	33nm,1.9s						
WR1				*e*S	**S**	**17 55 26.0**	**+0.2**
WRA	**Warramunga Arr**	**21.66**	**117**	P	**P**	**17 51 28.3**	**+0.6**
	4.1nm,0.6s,baz=291,slow=12,SNR=41						
WRA				S	**S**	**17 55 26.0**	**+0.2**
	0.3nm,0.5s,baz=274,slow=22,SNR=4.7						
WRAB	**Tennant Creek**	**21.66**	**117**	*e*P	**P**	**17 51 31.0**	**+3.3**
	4.1nm,0.5s						
WB2	**Warramunga Arr**	**21.67**	**117**	*e*P	**P**	**17 51 30.5**	**+2.7**
	4.6nm,0.6s						
ASAR	**Alice Springs**	**22.92**	**126**	P	**P**	**17 51 42.6**	**+1.5**
	2.1nm,0.5s,baz=304,slow=9.2,SNR=74						
ASAR				PcP	**PcP**	**17 55 30.9**	**0.0**
	0.9nm,1.0s,baz=286,slow=3.1,SNR=4.6						
ASAR				S	**S**	**17 55 53.4**	**+4.5**
	0.8nm,0.6s,baz=299,slow=23,SNR=5.6						
AS31	**Alice Springs**	**22.92**	**126**	*e*P	**P**	**17 51 43.1**	**+2.0**
	1.0nm,0.8s						
AS31				*e*PcP	**PcP**	**17 55 30.9**	**0.0**
AS31				*e*S	**S**	**17 55 53.4**	**+4.5**
CM31	**Chiang Mai Arr**	**32.67**	**333**	*e*P	**P**	**17 53 09.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**32.67**	**333**	P	**P**	**17 53 09.7**	**+0.6**
	0.7nm,0.5s,baz=162,slow=7.9,SNR=7.1						
STKA	**Stephens Creek**	**33.03**	**133**	P	**P**	**17 53 12.7**	**+0.6**
	2.9nm,0.8s,baz=284,slow=7.5,SNR=5.4						
SONA0	**Songino Array**	**58.84**	**354**	*e*P	**P**	**17 56 34.0**	**-1.2**
SONM	**Songino Array**	**58.84**	**354**	P	**P**	**17 56 34.0**	**-1.2**
	1.2nm,0.7s,baz=177,slow=8.6,SNR=8.3						
MK32	**Makanchi Array**	**63.99**	**336**	*e*P	**P**	**17 57 10.1**	**+0.2**
MKAR	**Makanchi Array**	**63.99**	**336**	P	**P**	**17 57 10.1**	**+0.2**
	1.0nm,0.5s,baz=149,slow=7.5,SNR=19						
AAK	**Ala-Archa**	**64.31**	**329**	*e*P	**P**	**17 57 13.6**	**+1.4**
	3.0nm,0.9s						
KURK	**Kurchatov**	**68.59**	**337**	*e*P	**P**	**17 57 39.5**	**+0.3**
	3.6nm,0.8s						
ZAA0	**Zalesovo Array**	**69.14**	**342**	*e*P	**P**	**17 57 42.4**	**-0.1**
	2.6nm,0.7s						
ZALV	**Zalesovo Beam**	**69.14**	**342**	P	**P**	**17 57 42.0**	**-0.6**
	3.0nm,0.6s,baz=155,slow=4.3,SNR=14						
ZAA1	**Zalesovo Array**	**69.14**	**342**	*e*P	**P**	**17 57 42.0**	**-0.6**
VNDA	**Vanda**	**70.96**	**170**	P	**P**	**17 57 55.0**	**+1.5**
	0.5nm,0.7s,baz=282,slow=5.0,SNR=3.8						
ABKAR	**Akbulak array**	**76.29**	**327**	*e*P	**P**	**17 58 25.8**	**+0.7**
TIXI	**Tiksi**	**82.96**	**5**	*e*P	**P**	**17 59 00.7**	**-0.2**
	3.6nm,0.8s						

*IDC **10** 17:51:50.5±3.0, 13°73N×92°25W, h0km, mb4.0/6, mb1 4.4/8, mb1mx4.0/35, mbtmp4.0/8, ML3.4/2, MS3.7/9, Ms1 3.7/9, ms1mx3.4/25, Error ellipse: s-maj=56.1km s-min=25.5km az=172.0*
*ISCJB **10** 17:51:53.9±0.4, 13°84N±0°04×92°20W±0°04, h37km, mb4.5/60, MS3.9/7, Error ellipse: s-maj=7.1km s-min=4.3km az=41.3*
*MEX **10** 17:51:54.6±0.4, 13°73N×92°38W, h15km, MD3.9*
*NEIC **10** 17:51:56.6±0.6, 13°92N×92°16W, h40km±5km, mb4.5/76, MD3.9(MEX), Error ellipse: s-maj=7.7km s-min=4.4km az=213.0*

ISC 10 17:51:55.6±0.8, 13°81N±0°08×92°32W±0°08, h37km, n122, σ1s20/119, mb4.5/60, MS4.0/7, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.09**	**3**	*e*P	**Pn**	**17 52 13.0**	**-1.3**
THIG				*e*S	**Sn**	**17 52 27.8**	**-0.4**
THIG		**1.09**	**3**	*e*P	**Pn**	**17 52 13.0**	**-1.3**
THIG				*i* S	**Sn**	**17 52 26.6**	**-1.6**
PCIG		**2.07**	**335**	*e*P	Pn	17 52 24.1	-3.8
PCIG		**2.07**	**335**	*e*P	**Pn**	**17 52 26.4**	**-1.5**
PCIG				*i* S	**Sn**	**17 52 51.5**	**-1.0**
APG	**El Apazote**	**2.15**	**56**	Pg	**Pn**	**17 52 30.4**	**+1.3**
	14nm,0.3s,baz=237,slow=11,SNR=144						
CCIG	**Comitan**	**2.46**	**4**	*e*Pn	**Pn**	**17 52 34.7**	**+1.3**
CCIG	**Comitan**	**2.46**	**4**	*e*P	**Pn**	**17 52 32.4**	**-1.0**
CCIG				*i* S	**Sn**	**17 53 02.3**	**0.0**
SNET	**Serv Nac Est T**	**3.00**	**92**	*e*Pn	**Pn**	**17 52 39.6**	**-1.1**
TGIG		**3.05**	**345**	*e*P	**Pn**	**17 52 40.6**	**-0.8**
TGIG		**3.05**	**345**	*e*P	**Pn**	**17 52 40.6**	**-0.8**
TGIG				*e*S	**Sn**	**17 53 17.1**	**+0.4**
CMIG	**Matias Romero**	**4.09**	**323**	Pn	**Pn**	**17 52 55.1**	**-0.5**
	2.1nm,0.3s,baz=134,slow=11,SNR=12						
CMIG				LR	LR	17 54 10.2	
	comp=Z,200nm,20.7s,baz=138,slow=33						
TGUH	**Tegucigalpa,Un**	**4.91**	**87**	*e*Pn	**Pn**	**17 53 06.5**	**-0.4**
ESTN	**Estel**	**5.83**	**96**	*e*Pn	**Pn**	**17 53 18.8**	**-0.8**
LVIG	**Laguna Verde**	**7.07**	**327**	*e*Pn	**Pn**	**17 53 38.2**	**+1.7**
TLIG	**Tlapa**	**7.08**	**303**	*e*Pn	**Pn**	**17 53 36.8**	**0.0**
TEIG	**Tepich**	**7.46**	**31**	*e*Pn	**Pn**	**17 53 43.3**	**+1.4**
JTS	**JuntasAbangare**	**8.01**	**115**	*e*Pn	**Pn**	**17 53 48.3**	**-1.2**
LNIG	**Linares**	**12.92**	**330**	*e*Pn	**Pn**	**17 54 59.6**	**+2.9**
BCIP	**Isla Barro Col**	**13.07**	**109**	*e*Pn	**Pn**	**17 54 58.2**	**-0.7**
344A	**Westbrook Farm**	**17.62**	**4**	*e*Pn	**Pn**	**17 55 58.1**	**-0.2**
	26nm,0.9s						
BRAL	**Brewton**	**17.94**	**15**	*e*Pn	**P**	**17 56 03.3**	**+0.8**
	347nm,1.9s						
JCT	**Junction City**	**17.97**	**339**	*e*Pn	**Pn**	**17 56 01.3**	**-1.3**
	8.3nm,1.1s						
348A	**Jackson**	**17.98**	**12**	*e*Pn	**Pn**	**17 56 02.7**	**0.0**
NATX	**Nacogdoches**	**17.99**	**354**	*e*Pn	**Pn**	**17 56 01.7**	**-1.2**
	50nm,0.3s						
HPIG		**18.06**	**318**	*e*P	**Pn**	**17 56 04.8**	**+0.9**
	25nm,1.6s						
LTX	**Lajitas**	**18.68**	**328**	*e*P	**P**	**17 56 12.2**	**+1.4**
TXAR	**Lajitas Array**	**18.68**	**328**	P	**P**	**17 56 12.2**	**+1.4**
	0.0nm,0.3s,baz=155,slow=12,SNR=16						
TXAR				LR	LR	18 04 27.6	
	comp=Z,87nm,19.1s,baz=0.0,slow=40						
TX31	**Lajitas Ar. Si**	**18.68**	**328**	*e*P	**P**	**17 56 12.2**	**+1.3**
143A	**Socs Landing,**	**18.82**	**2**	*e*P	**P**	**17 56 10.8**	**-1.4**
	19nm,0.6s						
147A	**Livingston**	**19.14**	**10**	*e*P	**P**	**17 56 14.7**	**-1.0**
	36nm,1.1s						
OTAV	**Otavalo**	**19.25**	**133**	*e*P	**Pn**	**17 56 17.8**	**-0.9**
	6.3nm,1.3s						
TIGA	**Tifton**	**19.29**	**23**	*e*P	**P**	**17 56 15.9**	**-1.4**
	34nm,1.1s						
Z41A	**Richland Creek**	**19.36**	**359**	*e*P	**P**	**17 56 16.6**	**-1.5**
	31nm,1.2s						
LRAL	**Lakeview Retre**	**19.74**	**13**	*e*P	**P**	**17 56 22.3**	**+0.1**
	24nm,1.3s						
ROSC	**El Rosal**	**19.86**	**115**	*e*P	**P**	**17 56 23.9**	**-0.2**
	12nm,1.0s						
ABTX	**Abilene, Hawle**	**19.89**	**342**	*e*P	**P**	**17 56 23.9**	**0.0**
	18nm,1.2s						
152A	**Waverly Hall**	**20.01**	**19**	*e*P	**P**	**17 56 25.9**	**+0.7**
	8.3nm,0.8s						
255A	**Hazlehurst**	**20.16**	**25**	*e*P	**P**	**17 56 27.3**	**+0.5**
	101nm,1.8s						
Z50A	**Ashland**	**20.21**	**16**	*e*P	**P**	**17 56 26.4**	**-1.0**
	12nm,1.0s						
154A	**Montrose**	**20.52**	**23**	*e*P	**P**	**17 56 31.3**	**+0.6**
	44nm,1.0s						
MIAR	**Mount Ida**	**20.67**	**357**	*e*P	Pn	17 56 35.7	+0.8
	24nm,1.0s						
X37A	**Clayton**	**20.87**	**353**	*e*P	**P**	**17 56 36.0**	**+1.5**
	46nm,1.5s						
UALR	**University of**	**20.87**	**360**	*e*P	**P**	**17 56 34.8**	**+0.3**
	19nm,0.9s						
X48A	**Hartselle**	**21.10**	**12**	*e*P	**P**	**17 56 36.0**	**-0.9**
	12nm,1.0s						
GOGA	**Godfrey**	**21.11**	**21**	*e*P	**P**	**17 56 36.8**	**-0.3**
	16nm,1.0s						
Y52A	**Lillian**	**21.32**	**19**	*e*P	**P**	**17 56 39.5**	**+0.1**
	19nm,0.9s						
GDL2	**Guadalupe Moun**	**21.37**	**331**	*e*P	**P**	**17 56 41.6**	**+1.6**
MNTX	**Cornudas Mount**	**21.46**	**328**	*e*P	**P**	**17 56 40.8**	**-0.1**
	14nm,1.3s						
WMOK	**Wichita Mounta**	**21.64**	**345**	*e*P	**P**	**17 56 42.8**	**0.0**
	34nm,1.9s						
X51A	**Calhoun**	**21.74**	**17**	*e*P	**P**	**17 56 43.1**	**-0.7**
	43nm,1.5s						
SWET	**Sewanee**	**22.08**	**14**	*e*P	**P**	**17 56 46.3**	**-1.2**
	12nm,0.9s						
NHSC	**New Hope**	**22.17**	**28**	*e*P	**P**	**17 56 47.6**	**-0.8**
	24nm,1.0s						
MSTX	**Muleshoe**	**22.20**	**336**	*e*P	**P**	**17 56 49.6**	**+0.7**
	16nm,0.8s						
V48A	**Smith Brothers**	**22.39**	**12**	*e*P	**P**	**17 56 49.2**	**-1.6**
	16nm,1.0s						
WVT	**Waverly**	**22.59**	**9**	*e*P	**P**	**17 56 49.6**	**-3.3**
	9.9nm,1.4s						
AMTX	**Amarillo**	**22.62**	**340**	*e*P	**P**	**17 56 53.0**	**-0.4**
	32nm,0.9s						
CPCT	**Cooper Cave**	**22.66**	**17**	*e*P	**P**	**17 56 53.0**	**-0.8**
	6.9nm,0.9s						
BG3	**Lake Jocassee**	**22.73**	**20**	*e*P	**P**	**17 56 53.2**	**-1.2**
	34nm,1.8s						
PBMO	**Poplar Bluff**	**22.93**	**4**	*e*P	**P**	**17 56 54.6**	**-1.9**
	13nm,1.1s						
V51A	**Loudon**	**23.04**	**17**	*e*P	**P**	**17 56 55.6**	**-2.0**
	14nm,1.0s						
TKL	**Tuckaleechee C**	**23.07**	**18**	P	**P**	**17 56 57.6**	**-0.3**
	2.6nm,0.5s,baz=137,slow=1.6,SNR=5.4						
TKL	**Tuckaleechee C**	**23.07**	**18**	*e*P	**P**	**17 56 56.1**	**-1.8**
	19nm,1.1s						
V52A	**Sevierville**	**23.30**	**18**	*e*P	**P**	**17 56 59.2**	**-1.0**
	26nm,1.3s						
V53A	**Saluda**	**23.39**	**20**	*e*P	**P**	**17 57 00.2**	**-0.9**
	20nm,1.3s						
KMSC	**Kings Mountain**	**23.44**	**23**	*e*P	**P**	**17 57 00.6**	**-1.0**
	11nm,1.1s						
T47A	**Sharon Grove**	**23.55**	**10**	*e*P	**P**	**17 56 59.7**	**-2.9**
	25nm,1.4s						
T49A	**Edmonton**	**23.98**	**13**	*e*P	**P**	**17 57 04.2**	**-2.4**
	16nm,1.2s						
T49A				*e*Sn	S	18 01 43.7	+23
BNM	**Barren Site**	**24.05**	**330**	*e*P	**P**	**17 57 07.0**	**-0.6**
CCM	**Cathedral Cave**	**24.16**	**2**	*e*P	**P**	**17 57 07.1**	**-1.3**
	35nm,1.9s						
ANMO	**Albuquerque**	**24.61**	**331**	P	**P**	**17 57 14.5**	**+1.7**
	2.6nm,1.0s,baz=143,slow=12,SNR=4.1						
ANMO	**Albuquerque**	**24.61**	**331**	*e*P	**P**	**17 57 12.6**	**-0.2**
	4.1nm,0.9s						
WCI	**Wyandotte Cave**	**24.90**	**11**	*e*P	**P**	**17 57 13.6**	**-1.5**
	19nm,0.9s						
T25A	**Trinidad**	**25.62**	**337**	*e*P	**P**	**17 57 22.5**	**+0.6**
	16nm,1.0s						
Q51A	**Peebles**	**26.34**	**16**	*e*P	**P**	**17 57 26.0**	**-2.1**
	15nm,1.1s						
S22A	**4UR Ranch, Cre**	**27.11**	**334**	*e*P	**P**	**17 57 36.8**	**+1.4**
	7.8nm,1.1s						
MVCO	**Mesa Verde**	**27.41**	**331**	*e*P	**P**	**17 57 39.2**	**+1.1**
	12nm,1.0s						
PV18	**Skein Mesa, Pa**	**28.44**	**332**	*e*P	**P**	**17 57 48.1**	**+0.9**
	17nm,1.2s						
PV12	**Saucer Basin,**	**28.45**	**332**	*e*P	**P**	**17 57 47.1**	**-0.3**
	11nm,0.9s						
PV11	**David Mesa, Pa**	**28.47**	**332**	*e*P	**P**	**17 57 48.3**	**+0.9**
	25nm,1.4s						
PV19	**Morning Glory**	**28.53**	**332**	*e*P	**P**	**17 57 47.0**	**-1.0**
	17nm,1.3s						
PV14	**Lion Creek, Pa**	**28.60**	**332**	*e*P	**P**	**17 57 50.7**	**+2.0**
	24nm,0.8s						
PV10	**Paradox Valley**	**28.61**	**332**	*e*P	**P**	**17 57 51.5**	**+2.7**
PV22	**Blue Mesa, Par**	**28.62**	**332**	*e*P	**P**	**17 57 50.1**	**+1.3**
	13nm,1.3s						
PV23	**Carpenter Ridg**	**28.66**	**332**	*e*P	**P**	**17 57 49.6**	**+0.4**
	8.7nm,0.9s						
CCUT	**Cedar City**	**30.16**	**325**	*e*P	**P**	**17 58 03.2**	**+0.7**
	4.5nm,1.2s						
P17A	**Butcher Ranch,**	**30.28**	**331**	*e*P	**P**	**17 58 04.1**	**+0.7**
	4.0nm,0.9s						
TCUT	**Toone Canyon**	**31.89**	**332**	*e*P	**P**	**17 58 19.0**	**+1.2**
	13nm,1.0s						
HWUT	**Hardware Ranch**	**32.36**	**332**	*e*P	**P**	**17 58 23.3**	**+1.5**
	9.8nm,1.3s						
PD31	**Pinedale Array**	**32.46**	**336**	*e*P	**P**	**17 58 22.9**	**+0.2**
PDAR	**Pinedale Array**	**32.46**	**336**	P	**P**	**17 58 23.1**	**+0.4**
	1.0nm,1.0s,baz=145,slow=8.1,SNR=4.8						
HVU	**Hansel Valley**	**33.05**	**331**	*e*P	**P**	**17 58 28.6**	**+0.8**
	5.2nm,0.9s						
REDW	**Red Top Meadow**	**33.48**	**335**	*e*P	**P**	**17 58 32.3**	**+0.7**
	21nm,1.1s						
SNOW	**Snow King Moun**	**33.52**	**335**	*e*P	**P**	**17 58 33.0**	**+0.9**
	18nm,0.9s						
LOHW	**Long Hollow**	**33.59**	**336**	*e*P	**P**	**17 58 33.2**	**+0.7**
	4.4nm,0.9s						
NV01	**Mina Array Sit**	**33.62**	**322**	*e*P	**P**	**17 58 33.8**	**+0.8**
NVAR	**Mina Array Bea**	**33.62**	**322**	P	**P**	**17 58 35.2**	**+2.3**
	2.2nm,0.9s,baz=140,slow=9.5,SNR=10						
NVAR				LR	LR	18 13 51.6	
	comp=Z,153nm,21.9s,baz=134,slow=39						
TPAW	**Teton Pass**	**33.63**	**335**	*e*P	**P**	**17 58 34.0**	**+1.1**
	15nm,1.4s						
MOOW	**Moose Ponds**	**33.76**	**336**	*e*P	**P**	**17 58 34.9**	**+0.8**
	5.8nm,1.2s						
FXWY	**Fox Creek**	**33.78**	**335**	*e*P	**P**	**17 58 35.1**	**+0.8**
	4.9nm,1.2s						
KVN	**Kaiserville**	**33.90**	**323**	*e*P	**P**	**17 58 37.0**	**+1.6**
	5.5nm,1.3s						
PTGA	**Pitinga**	**35.16**	**112**	*e*P	**P**	**17 58 45.5**	**-0.7**
	8.0nm,0.9s						
HLID	**Hailey**	**35.19**	**332**	*e*P	**P**	**17 58 47.7**	**+1.3**
	5.8nm,1.1s						
DLMT	**Dillon**	**35.84**	**335**	*e*P	**P**	**17 58 52.8**	**+0.9**
	10.0nm,1.3s						
ULM	**Lac du Bonnet**	**36.45**	**356**	LR	LR	18 15 10.0	
	comp=Z,73nm,20.4s,baz=250,slow=38						
J08A	**Circle Bar Ran**	**37.03**	**328**	*e*P	**P**	**17 59 02.5**	**+0.5**
F10A	**Beach Ranch, E**	**38.33**	**332**	*e*P	**P**	**17 59 13.2**	**+0.2**
	13nm,0.9s						
SCHQ	**Schefferville**	**45.51**	**20**	LR	LR	18 20 16.3	
	comp=Z,347nm,19.0s,baz=225,slow=37						
YKA	**Yellowknife Ar**	**51.14**	**347**	P	**P**	**18 00 54.9**	**+0.4**
	4.6nm,0.7s,baz=149,slow=7.2,SNR=6.4						
DLBC	**Dease Lake**	**52.70**	**336**	*e*P	**P**	**18 01 08.0**	**+1.6**
	8.6nm,1.0s						
INK	**Inuvik**	**60.53**	**344**	*e*P	**P**	**18 02 01.4**	**-0.3**
	7.7nm,1.0s						
IL1	**Eielson Array**	**62.89**	**337**	*e*P	**P**	**18 02 17.5**	**-0.3**
ILAR	**Eielson Array**	**62.89**	**337**	P	**P**	**18 02 18.1**	**+0.4**
	2.7nm,1.0s,baz=133,slow=5.0,SNR=13						
ILB	**Eielson Array**	**62.89**	**337**	*e*P	**P**	**18 02 17.9**	**+0.2**
RND	**Reindeer**	**63.07**	**335**	*e*P	**P**	**18 02 19.9**	**+0.9**
	43nm,1.7s						
MLY	**Manley**	**64.48**	**336**	*e*P	**P**	**18 02 28.0**	**-0.3**
	7.9nm,1.2s						
PPT	**Papeete**	**64.53**	**243**	LR	LR	18 24 38.5	
	comp=Z,39nm,19.7s,baz=11,slow=30						
NOA	**NORSAR Array B**	**84.46**	**28**	LR	LR	18 40 34.8	
	comp=Z,70nm,20.7s,baz=295,slow=35						
FINES	**FINESS Array B**	**90.80**	**25**	LR	LR	18 45 35.7	
	comp=Z,56nm,18.1s,baz=263,slow=36						
NRIK	**Noril'sk**	**97.06**	**0**	LR	LR	18 53 43.1	
	comp=Z,98nm,18.1s,baz=17,slow=38						
LZH	**Lanzhou**	**128.07**	**343**	*e*PKP	**PKPdf**	**18 10 56.6**	**-1.9**
LZH				sPKP		18 11 09.2	
CM31	**Chiang Mai Arr**	**146.07**	**341**	*e*PKPdf	**PKPbc**	**18 11 33.1**	**+0.5**
CMAR	**Chiang Mai Arr**	**146.07**	**341**	PKPbc	**PKPbc**	**18 11 33.0**	**+0.4**
	4.0nm,0.8s,baz=349,slow=3.9,SNR=20						

*KRNET **10** 17:57:10.3±0.1, 43°02N×70°37E, mb2.3*
*NNC **10** 17:57:11.3±0.1, 43°16N×70°49E, h0km, mb3.0, mpv2.9, Error ellipse: s-maj=0.6km s-min=0.6km az=144.0*

ISC 10 17:57:09.2±3.6, 43°2N±0°2×70°5E±0°1, h5km±20km, n14, σ0s66/27, 23C-5D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK09	**Karatay Array**	**0.12**	**179**	⇑P	**Pg**	**17 57 11.9**	**+0.3**
KK09				⇓S	**Sg**	**17 57 12.8**	**-0.4**
KK05	**Karatay Array**	**0.12**	**171**	⇑P	**Pg**	**17 57 12.3**	**+0.5**
KK05				⇑S	**Sg**	**17 57 13.2**	**-0.2**
KK04	**Karatay Array**	**0.13**	**177**	⇑P	**Pg**	**17 57 12.3**	**+0.5**
KK04				⇑S	**Sg**	**17 57 13.3**	**-0.4**
KK01	**Karatay Array**	**0.13**	**177**	⇑P	**Pg**	**17 57 12.5**	**+0.6**
KK01				⇓S	**Sg**	**17 57 13.5**	**-0.3**
KK08	**Karatay Array**	**0.13**	**183**	⇑P	**Pg**	**17 57 12.2**	**+0.3**
KK08				⇑S	**Sg**	**17 57 13.3**	**-0.5**
KK02	**Karatay Array**	**0.14**	**176**	⇑P	**Pg**	**17 57 12.6**	**+0.6**
KK02				⇑S	**Sg**	**17 57 13.5**	**-0.3**
KK03	**Karatay Array**	**0.14**	**179**	⇑P	**Pg**	**17 57 12.5**	**+0.5**
KK03				⇑S	**Sg**	**17 57 13.4**	**-0.4**
KK31	**Karatay Array**	**0.14**	**176**	⇑P	**Pg**	**17 57 12.5**	**+0.5**
	24nm,0.4s,baz=349,slow=20,SNR=3579						
KK31				⇑S	**Sg**	**17 57 13.3**	**-0.5**
	79nm,0.3s						
KK06	**Karatay Array**	**0.14**	**172**	⇑P	**Pg**	**17 57 12.8**	**+0.6**
KK06				⇑S	**Sg**	**17 57 13.8**	**-0.3**
KK07	**Karatay Array**	**0.15**	**179**	⇑P	**Pg**	**17 57 12.6**	**+0.4**
KK07				⇑S	**Sg**	**17 57 13.7**	**-0.5**
MNAS	**Manas**	**1.66**	**116**	⇑Pg	**Pg**	**17 57 40.7**	**-0.2**
	9.5nm,0.9s						
MNAS				⇓Lg	Lg	17 58 03.6

PMRV	**Marv??o**	**4.53**	**60**	*e*Pn		**Pn**	**19 46 37.8**	**+0.6**
PMRV				*e*Sn		**Sn**	**19 47 29.9**	**0.0**
PMRV				A		A	19 47 38.6	
	2.2nm,0.4s							
PMRV	**Marv??o**	**4.53**	**60**	P		**Pn**	**19 46 37.8**	**+0.6**
PMRV				S		**Sn**	**19 47 29.9**	**0.0**
	2.2nm,0.4s							
EBAD	**Badajoz**	**4.55**	**70**	P		**Pn**	**19 46 37.2**	**-0.3**
	0.7nm,0.1s,SNR=7.9							
EBAD				S		**Sn**	**19 47 29.7**	**-0.7**
	0.7nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**4.64**	**82**	P		**Pn**	**19 46 38.8**	**+0.1**
	1.0nm,0.3s,SNR=7.9							
EMIN				S		**Sn**	**19 47 30.9**	**-1.6**
	0.1nm,0.1s,SNR=7.9							
PVIS	**Viseu**	**4.94**	**45**	*e*Sn		**Sn**	**19 47 38.8**	**-1.2**
PVIS	**Viseu**	**4.94**	**45**	S		**Sn**	**19 47 38.8**	**-1.2**
ECAB	**El Cabril**	**5.65**	**80**	P		**Pn**	**19 46 52.2**	**-0.5**
	0.4nm,0.2s,SNR=7.9							
ECAB				S		**Sn**	**19 47 55.9**	**-1.7**
	0.2nm,0.3s,SNR=7.9							
ELOB	**Lobios**	**5.70**	**35**	S		**Sn**	**19 47 55.6**	**-3.1**
	0.8nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**5.72**	**59**	P		**Pn**	**19 46 53.8**	**+0.3**
	1.0nm,0.3s,SNR=7.9							
EPLA				S		**Sn**	**19 47 58.3**	**-0.9**
	0.0nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**5.73**	**46**	S		**Sn**	**19 47 57.9**	**-1.6**
	0.7nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**6.32**	**80**	P		**Pn**	**19 47 01.9**	**+0.1**
	1.3nm,0.4s,SNR=7.9							
EADA				S		**Sn**	**19 48 09.5**	**-4.6**
	0.1nm,0.1s,SNR=7.9							
ESDC	**Sonseca Array**	**7.09**	**68**	P		**Pn**	**19 47 12.7**	**+0.4**
	0.9nm,0.1s,baz=253,slow=13,SNR=4.6							

IDC ***10*** *19:46:17.9±1.8, 13°.90N×92°.19W, h0km, mb3.5/3, mb1 3.8/7, mb1mx3.6/41, mbtmp3.6/7, ML3.5/4, MS2.9/3, Ms1 2.9/3, ms1mx2.6/24, Error ellipse: s-maj=33.4km s-min=16.0km az=171.0*

MEX ***10*** *19:46:21.3±0.4, 14°.00N×92°.17W, h79km±12km, MD3.9*

ISCJB ***10*** *19:46:23.2±1.2, 14°.14N±0°.08×92°.17W±0°.09, h54km, mb3.6/3, MS3.1/2, Error ellipse: s-maj=13.9km s-min=9.6km az=43.7*

ISC 10 19:46:25.4±1.3, 14°.2N±0°.1×92°.10W±0°.09, h54km, n14, σ2s 00/17, mb3.6/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
THIG		**0.72**	**347**	*e*P		**Pn**	**19 46 38.0**	**-1.6**
THIG				*e*S		**Sn**	**19 46 50.7**	**+0.8**
APG	**El Apazote**	**1.77**	**63**	Pn		**Pn**	**19 46 53.3**	**-0.5**
	29nm,0.3s,baz=214,slow=8.5,SNR=118							
APG				Lg		Lg	19 47 21.6	
	47nm,0.3s,baz=297,slow=11,SNR=19							
PCIG		**1.85**	**324**	*e*P		**Pn**	**19 46 51.3**	**-3.4**
PCIG				*i* S		**Sn**	**19 47 15.6**	**-1.3**
CCIG	**Comitan**	**2.07**	**359**	*i* P		**Pn**	**19 46 55.2**	**-2.7**
CCIG				*i* S		**Sn**	**19 47 22.6**	**+0.1**
TGIG		**2.75**	**339**	*e*P		**Pn**	**19 47 05.0**	**-2.0**
TGIG				*i* S		**Sn**	**19 47 38.7**	**-0.3**
CMIG	**Matias Romero**	**3.93**	**317**	Pn		**Pn**	**19 47 20.7**	**-2.6**
	1.5nm,0.3s,baz=138,slow=11,SNR=11							
CMIG				Sn		**Sn**	**19 48 08.1**	**-0.1**
	2.6nm,0.3s,baz=111,slow=17,SNR=3.6							
CMIG				LR		LR	19 48 18.5	
	comp=Z,36nm,20.6s,baz=181,slow=29							
JTS	**JuntasAbangare**	**7.99**	**118**	Pn		**Pn**	**19 48 15.4**	**-3.6**
	0.5nm,0.3s,baz=37,slow=20,SNR=3.0							
JTS				Lg		Lg	19 50 23.4	
	0.2nm,0.3s,baz=259,slow=11,SNR=9.0							
TXAR	**Lajitas Array**	**18.48**	**326**	P		**Pn**	**19 50 39.2**	**+1.5**
	0.1nm,0.3s,baz=153,slow=11,SNR=7.4							
TKL	**Tuckaleechee C**	**22.64**	**18**	LR		LR	20 00 35.7	
	comp=Z,48nm,18.4s,baz=5.5,slow=37							
ANMO	**Albuquerque**	**24.38**	**330**	P		**P**	**19 51 40.4**	**+1.6**
	1.2nm,0.5s,baz=134,slow=12,SNR=5.8							
SJG	**San Juan**	**25.21**	**78**	LR		LR	20 01 51.9	
	comp=Z,68nm,18.4s,baz=131,slow=37							
NVAR	**Mina Array Bea**	**33.46**	**321**	P		**P**	**19 53 01.2**	**+1.6**
	0.4nm,0.7s,baz=125,slow=8.9,SNR=3.8							
ILAR	**Eielson Array**	**62.62**	**337**	P		**P**	**19 56 44.8**	**+0.9**
	0.5nm,0.9s,baz=146,slow=4.0,SNR=3.5							
CMAR	**Chiang Mai Arr**	**145.77**	**341**	PKPbc		**PKPbc**	**20 05 59.1**	**-0.2**
	0.9nm,0.7s,baz=337,slow=3.4,SNR=9.8							

NIED ***10*** *19:59:00, 22°.20N×121°.70E, h32km, Mw4.1 Best double couple: Mo1.52000×10^15 NP1:φs218.00000°, δ42.00000°, λ89.00000°. NP2:φs39.00000°, δ48.00000°, λ91.00000°.*

IDC ***10*** *19:59:15.8±0.8, 21°.77N×121°.45E, h0km, mb3.8/12, mb1 4.0/13, mb1mx3.8/39, mbtmp3.8/13, ML3.3/1, MS3.2/6, Ms1 3.3/6, ms1mx3.0/42, Error ellipse: s-maj=24.7km s-min=18.0km az=72.0*

ISCJB ***10*** *19:59:16.0±0.5, 21°.90N±0°.02×121°.72E±0°.02, h15km±3km, mb3.9/21, MS3.2/5, Error ellipse: s-maj=3.8km s-min=3.0km az=154.8*

NEIC ***10*** *19:59:17.3±0.4, 21°.91N×121°.50E, h10km, mb4.3/10, ML4.9(TAP), Error ellipse: s-maj=10.1km s-min=7.1km az=93.0*

NEIC Recorded [4 TAP] in Taitung.

TAP ***10*** *19:59:17.4, 21°.95N×121°.60E, h15km, ML3.9, C*

JMA ***10*** *19:59:18.3±0.2, 22°.15N×121°.71E, h8km, M3.9*

ASIES ***10*** *19:59:18.7, 22°.05N×121°.57E, h33km, MW3.6*

ISC 10 19:59:17.5±1.0, 22°.00N±0°.03×121°.67E±0°.03, h11km±6km, n171, σ1s 30/196, mb3.9/21, MS3.3/5, 2C-5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.11**	**291**	⇑P		**Pg**	**19 59 20.9**	**+0.5**
	baz=335							
LAY				S		**Sg**	**19 59 23.2**	**+0.7**
	baz=335							
TSEB	**Hengchuen, Pin**	**0.72**	**262**	*e*P		**Pb**	**19 59 31.6**	**-0.4**
	baz=267							
TSEB				*e*S		**Sb**	**19 59 41.6**	**-0.2**
	baz=267							
TWKBT	**Hengchun**	**0.79**	**266**	⇓P		**Pg**	**19 59 31.8**	**-1.0**
	baz=285							
TWKBT				*e*S		**Sb**	**19 59 43.4**	**-0.7**
	baz=285							
TAW	**Tawu**	**0.80**	**297**	*e*P		**Pg**	**19 59 31.9**	**-1.1**
	baz=303							
TWK1	**Hengchun**	**0.80**	**266**	*e*P		**Pg**	**19 59 31.9**	**-1.1**
	baz=285							
EAST	**Anshuo**	**0.85**	**297**	⇓*i*P		**Pg**	**19 59 32.8**	**-1.1**
	baz=303							
HEN	**Hengchun**	**0.86**	**271**	*e*P		**Pg**	**19 59 32.9**	**-1.2**
	baz=287							
ECL	**Taimali**	**0.89**	**312**	P		**Pg**	**19 59 33.5**	**-1.1**
	baz=318							
TTN	**Taitung**	**0.89**	**328**	*e*P		**Pg**	**19 59 34.5**	**-0.2**
	baz=344							
TWGBT	**Beinan**	**0.98**	**327**	P		**Pg**	**19 59 35.2**	**-1.2**
	baz=316							
TWGBT				*e*S		**Sg**	**19 59 48.1**	**-1.0**
	baz=316							
TWG	**Pinlang**	**0.99**	**326**	⇓*i*P		**Pg**	**19 59 35.4**	**-1.2**
	baz=316							
TWG				*e*S		**Sg**	**19 59 47.9**	**-1.4**
	baz=316							
TWG	**Pinlang**	**0.99**	**326**	*e*Pg		**Pg**	**19 59 35.2**	**-1.3**
SCZT	**Fangliau**	**1.04**	**291**	*e*P		**Pb**	**19 59 35.8**	**-1.7**
	baz=306							
CHKT	**Chengkung**	**1.13**	**346**	⇑*i*P		**Pb**	**19 59 37.5**	**-1.6**
	baz=349							
CHKT				S		**Sb**	**19 59 52.0**	**-1.8**
	baz=349							
MASBT	**Mashibuluo**	**1.14**	**303**	⇓P		**Pb**	**19 59 37.3**	**-1.8**
	baz=317							
SSD	**Sandimen**	**1.21**	**308**	*e*P		**Pn**	**19 59 38.8**	**-1.6**
	baz=321							
FULB	**Fuli**	**1.24**	**344**	*e*P		**Pn**	**19 59 39.5**	**-1.4**
	baz=357							
FULB				*e*S		**Sb**	**19 59 56.1**	**-1.0**
	baz=357							
WLCH	**Liuqiu**	**1.24**	**287**	*e*P		**Pg**	**19 59 42.2**	**+0.8**
	baz=290							
TWP	**Hsiaoliuchiu**	**1.26**	**286**	*e*P		**Pg**	**19 59 41.8**	**+0.1**
	baz=290							
SGLT	**Jiouru**	**1.31**	**304**	*e*P		**Pb**	**19 59 41.7**	**-0.3**
	baz=315							
ELDTW	**Lidau**	**1.33**	**333**	*e*P		**Pn**	**19 59 41.3**	**-0.8**
	baz=337							
TWF1	**Yuli**	**1.39**	**346**	*e*P		**Pn**	**19 59 42.3**	**-0.6**
	baz=358							
TWM1	**Shoushan**	**1.41**	**306**	*e*P		**Pg**	**19 59 44.8**	**+0.1**
	baz=319							
YULB	**Yu-li**	**1.43**	**346**	*e*P		**Pn**	**19 59 42.9**	**-0.5**
	baz=358							
YULB	**Yu-li**	**1.43**	**346**	*e*Pn		**Pn**	**19 59 42.4**	**-1.0**
STYT	**Tauyuan**	**1.43**	**324**	*e*P		**Pn**	**19 59 43.6**	**+0.1**
	baz=336							
SGST	**Jiashian**	**1.47**	**317**	*e*P		**Pb**	**19 59 44.8**	**-0.2**
	baz=321							
SGST				*e*S		**Sn**	**20 00 03.2**	**-0.1**
	baz=321							
HGSD	**Ruisui**	**1.50**	**352**	*e*P		**Pn**	**19 59 43.3**	**-1.1**
	baz=2.0							
EHY	**Hungye**	**1.54**	**348**	*e*P		**Pn**	**19 59 44.0**	**-0.9**
	baz=358							
WTP	**Ta-pu**	**1.58**	**322**	*e*P		**Pb**	**19 59 46.6**	**-0.1**
	baz=326							
WTP				*e*S		**Sg**	**20 00 07.7**	**-0.6**
	baz=326							
CHN1	**Nanshi**	**1.58**	**319**	*e*P		**Pb**	**19 59 46.4**	**-0.4**
	baz=322							
CHN1				*e*S		**Sb**	**20 00 07.4**	**+0.5**
	baz=322							
TPUB	**Ta-pu**	**1.61**	**324**	*e*P		**Pn**	**19 59 46.4**	**+0.5**
	baz=327							
TPUB				*e*S		**Sb**	**20 00 08.4**	**+0.7**
	baz=327							
YUS	**Yu-Shan**	**1.62**	**336**	*e*P		**Pn**	**19 59 47.0**	**+0.5**
	baz=330							
TWK	**Hsinying**	**1.67**	**320**	*e*P		**Pb**	**19 59 47.5**	**-0.8**
	baz=323							
TWK				*e*S		**Sb**	**20 00 09.0**	**-0.3**
	baz=323							
CHN4	**Tsaushan**	**1.67**	**324**	*e*P		**Pn**	**19 59 47.5**	**+0.7**
	baz=338							
CHN4				*e*S		**Sg**	**20 00 10.6**	**-0.8**
	baz=338							
EGFH	**Guangfu**	**1.68**	**353**	*e*P		**Pn**	**19 59 47.5**	**+0.7**
	baz=2.0							
ALS	**Alishan**	**1.70**	**332**	*e*P		**Pb**	**19 59 48.3**	**-0.7**
	baz=335							
SCLT	**Jiali**	**1.80**	**311**	*e*P		**Pn**	**19 59 47.6**	**-0.8**
	baz=314							
ESL	**Shilin**	**1.82**	**353**	*e*P		**Pn**	**19 59 48.3**	**-0.5**
	baz=2.0							
CHN5	**Tsauling**	**1.83**	**330**	*e*P		**Pb**	**19 59 50.6**	**-0.5**
	baz=333							
CHN5				*e*S		**Sg**	**20 00 16.1**	**-0.4**
	baz=333							
CHN2	**Minshiung**	**1.88**	**325**	*e*P		**Pn**	**19 59 50.3**	**+0.7**
	baz=310							
CHY	**Chiayi**	**1.88**	**323**	*e*P		**Pn**	**19 59 50.5**	**+0.9**
	baz=309							
CHN8	**Yiju**	**1.90**	**315**	*e*P		**Pn**	**19 59 50.7**	**+0.8**
	baz=318							
SSLB	**Suanglung**	**1.90**	**340**	*e*P		**Pn**	**19 59 51.0**	**+1.1**
	baz=353							
SSLB	**Suanglung**	**1.90**	**340**	*e*Pn		**Pn**	**19 59 50.6**	**+0.7**
WLGB	**Puzi**	**1.94**	**320**	*e*P		**Pn**	**19 59 51.3**	**+0.9**
	baz=322							
WLGB				*e*S		**Sb**	**20 00 16.4**	**-0.7**
	baz=322							
WGK	**Gukeng**	**1.96**	**329**	*e*P		**Pb**	**19 59 52.0**	**-1.3**
	baz=331							
WGK				*e*S		**Sb**	**20 00 16.7**	**-1.1**
	baz=331							
WDLH	**Douliu**	**1.98**	**329**	*e*P		**Pn**	**19 59 52.2**	**+1.3**
	baz=314							
SMLT	**Sun Moon Lake**	**2.00**	**340**	*e*P		**Pb**	**19 59 53.1**	**-0.9**
	baz=352							
WJS	**Zhushan**	**2.01**	**335**	*e*P		**Pb**	**19 59 53.5**	**-0.6**
	baz=321							
TYC	**Yuchr**	**2.04**	**339**	*e*P		**Pb**	**19 59 53.4**	**-1.1**
	baz=325							
TYC				*e*S		**Sb**	**20 00 20.8**	**+0.9**
	baz=325							
TWD	**Chiawan**	**2.07**	**358**	*e*P		**Pn**	**19 59 51.6**	**-0.6**
	baz=9.0							
TWD				*e*S		**Sn**	**20 00 16.2**	**-1.9**
	baz=9.0							
WNT	**Mingjian**	**2.08**	**334**	*e*P		**Pb**	**19 59 54.5**	**-0.8**
	baz=319							
WNT				*e*S		**Sb**	**20 00 21.8**	**+0.7**
	baz=319							
CHGB	**Renai**	**2.10**	**348**	*e*P		**Pn**	**19 59 53.6**	**+0.7**
	baz=359							
WSF	**Szhu**	**2.11**	**321**	*e*P		**Pn**	**19 59 52.5**	**-0.2**
	baz=324							
WSF				*e*S		**Sn**	**20 00 19.6**	**+0.7**
	baz=324							
NACB	**Ninganchiao**	**2.17**	**358**	*e*P		**Pn**	**19 59 52.6**	**-0.9**
	baz=9.0							
NACB	**Ninganchiao**	**2.17**	**358**	*e*Pn		**Pn**	**19 59 52.1**	**-1.5**
WHF	**Hehuan Shan**	**2.17**	**350**	*e*P		**Pn**	**19 59 54.2**	**+0.3**
	baz=352							
RLNB	**Erlin**	**2.24**	**328**	*e*P		**Pn**	**19 59 53.6**	**-0.9**
	baz=329							
RLNB				*e*S		**Sn**	**20 00 23.3**	**+1.2**
	baz=329							
WDGT	**Dungji**	**2.24**	**305**	*e*P		**Pn**	**19 59 54.0**	**-0.5**
	baz=308							
WDGT				*e*S		**Sn**	**20 00 21.4**	**-0.8**
	baz=308							
TWT	**Tachien**	**2.29**	**349**	*e*P		**Pn**	**19 59 56.5**	**+1.0**
	baz=359							
TDCB	**Techi**	**2.29**	**348**	*e*P		**Pn**	**19 59 56.4**	**+1.0**
	baz=350							
WCHH	**Zhanghua**	**2.31**	**334**	*e*P		**Pn**	**19 59 56.8**	**+1.3**
	baz=320							
TCU	**Taichung**	**2.33**	**337**	*e*P		**Pn**	**19 59 57.4**	**+1.7**
	baz=322							
VCHM	**Qimei**	**2.39**	**301**	*e*P		**Pn**	**19 59 55.3**	**-1.3**
	baz=303							
ENA	**Nanau**	**2.42**	**2**	*e*P		**Pn**	**19 59 57.1**	**0.0**
	baz=11							
NANB	**Nanao**	**2.42**	**2**	*e*P		**Pn**	**19 59 56.7**	**-0.3**
	baz=11							
NNSB	**Datong**	**2.43**	**354**	*e*P		**Pn**	**19 59 58.0**	**+0.7**
	baz=5.0							
NNS	**Nan Shan**	**2.45**	**354**	*e*P		**Pn**	**19 59 59.1**	**+1.6**
	baz=5.0							
PHUB	**P'eng-hu**	**2.45**	**308**	*e*P		**Pn**	**19 59 56.5**	**-1.0**
	baz=311							
TWQ1	**Liyutan**	**2.48**	**341**	*e*P		**Pb**	**20 00 00.2**	**-1.9**
	baz=327							
PNG	**Penghu**	**2.50**	**309**	*e*P		**Pn**	**19 59 57.4**	**-0.6**
	baz=312							
NSY	**Sanyi**	**2.55**	**341**	*e*P		**Pn**	**19 59 59.8**	**+1.0**
	baz=327							
EOS1	**EOS1**	**2.58**	**9**	*e*P		**Pn**	**19 59 60.0**	**+0.8**
	baz=10.0							
PTSB	**Yuanli**	**2.59**	**340**	*e*P		**Pn**	**19 59 59.9**	**+0.4**
	baz=326							
TWC	**Suao**	**2.61**	**4**	*e*P		**Pn**	**20 00 00.7**	**+1.1**
	baz=14							
TWC				*e*S		**Sn**	**20 00 31.3**	**+0.1**
	baz=14							
ENTT	**Nioudou**	**2.63**	**358**	*e*P		**Pn**	**20 00 00.8**	**+0.9**
	baz=359							
NMLH	**Miaoli**	**2.65**	**343**	*e*P		**Pb**	**20 00 03.9**	**-1.2**
	baz=327							
YHNB	**Yeheng**	**2.67**	**354**	⇓P		**Pn**	**20 00 01.8**	**+1.2**
	baz=4.0							
YHNB				*e*S		**Sn**	**20 00 34.5**	**+1.4**
	baz=4.0							
YHNB	**Yeheng**	**2.67**	**354**	*e*Pn		**Pn**	**20 00 01.4**	**+0.8**
NSK	**Sanguang**	**2.68**	**354**	*e*P		**Pn**	**20 00 01.7**	**+1.0**
	baz=4.0							
NSTT	**Nanjuang**	**2.69**	**347**	*e*P		**Pn**	**20 00 03.2**	**+2.4**
	baz=332							
LIOB	**Emei**	**2.70**	**347**	*e*P		**Pn**	**20 00 03.0**	**+2.0**
	baz=331							
JYNG	**Yonagunijimaku**	**2.71**	**25**	P		**Pn**	**20 00 00.6**	**-0.4**
TWE	**Neicheng**	**2.71**	**0**	*e*P		**Pn**	**20 00 02.7**	**+1.7**
	baz=10.0							
YOJ	**Yonaguni jima**	**2.75**	**27**	*e*P		**Pn**	**20 00 02.2**	**+0.8**
	baz=26							
YOJ	**Yonaguni jima**	**2.75**	**27**	*e*Pn		**Pn**	**20 00 02.3**	**+0.8**
YOJ	**Yonaguni jima**	**2.75**	**27**	P		**Pn**	**20 00 01.0**	**-0.5**
YOJ				*e*S		**Sn**	**20 00 32.7**	**-2.0**
HATJ	**Hateruma jima**	**2.84**	**43**	P		**Pn**	**20 00 03.1**	**+0.3**
HATJ				*e*S		**Sn**	**20 00 37.0**	**-0.1**
EGS		**2.85**	**5**	*e*P		**Pn**	**20 00 03.1**	**+0.2**
	baz=14							
WLTB	**Daxi**	**2.87**	**352**	*e*P		**Pn**	**20 00 04.4**	**+1.2**
	baz=2.0							
TATO	**Taipei**	**2.97**	**357**	*e*P		**Pn**	**20 00 06.0**	**+1.4**
	baz=6.0							
TATO	**Taipei**	**2.97**	**357**	*e*Pn		**Pn**	**20 00 05.5**	**+1.0**
TWA	**Mucha**	**2.97**	**359**	*e*P		**Pn**	**20 00 06.5**	**+1.9**
	baz=359							
IRIF	**Iriomote-Funau**	**3.00**	**39**	P		**Pn**	**20 00 05.4**	**+0.4**
IRIF				*e*S		**Sn**	**20 00 41.1**	**0.0**
NWF	**Wu-fen Shan**	**3.06**	**2**	*e*P		**Pn**	**20 00 07.4**	**+1.5**
	baz=12							
WFSB	**Wu-fen Shan**	**3.06**	**2**	*e*P		**Pn**	**20 00 07.2**	**+1.4**
	baz=12							
TWS1	**Kuangyinshan**	**3.10**	**356**	*e*P		**Pn**	**20 00 07.4**	**+1.0**
	baz=6.0							
JKRS	**Kuro-shima**	**3.10**	**44**	P		**Pn**	**20 00 06.9**	**+0.5**
JKRS				*e*S		**Sn**	**20 00 43.8**	**+0.3**
YM01	**YM01**	**3.14**	**358**	*e*P		**Pn**	**20 00 10.0**	**+3.1**
	baz=358							
YM04	**YM04**	**3.15**	**358**	*e*P		**Pn**	**20 00 09.9**	**+2.9**
	baz=358							
YM10	**YM10**	**3.15**	**358**	*e*P		**Pn**	**20 00 08.6**	**+1.5**
	baz=358							
YM05	**YM05**	**3.15**	**358**	*e*P		**Pn**	**20 00 08.5**	**+1.3**
	baz=358							
YM11	**YM11**	**3.15**	**358**	*e*P		**Pn**	**20 00 09.9**	**+2.7**
	baz=358							
YM07	**YM07**	**3.16**	**359**	*e*P		**Pn**	**20 00 08.7**	**+1.4**
	baz=359							
YM03	**YM03**	**3.17**	**358**	*e*P		**Pn**	**20 00 09.4**	**+2.0**
	baz=358							
YM08	**YM08**	**3.18**	**359**	*e*P		**Pn**	**20 00 08.8**	**+1.3**
	baz=359							
JIJ	**Ishigaki jima**	**3.28**	**44**	P		**Pn**	**20 00 08.6**	**-0.2**
JIJ				S		**Sn**	**20 00 45.8**	**-2.0**
JISG	**Ishigakijimahi**	**3.54**	**43**	P		**Pn**	**20 00 12.5**	**0.0**
JISG				*e*S		**Sn**	**20 00 53.3**	**-1.1**
VWUC	**VWUC**	**3.61**	**326**	*e*P		**Pn**	**20 00 13.7**	**+0.4**
	baz=327							
PTMZ	**Houxiangcun**	**3.83**	**323**	*e*P		**Pn**	**20 00 16.3**	**-0.1**
	baz=324							
KNM	**Kinmen**	**3.83**	**310**	*e*P		**Pn**	**20 00 17.0**	**+0.7**
	baz=310							
JTJ	**Tarama**	**3.84**	**46**	P		**Pn**	**20 00 17.1**	**+0.6**
JTJ				S		**Sn**	**20 01 00.7**	**-0.9**
KNMB	**Chin-men Tao**	**3.89**	**310**	*e*P		**Pn**	**20 00 16.6**	**-0.5**
	baz=311							
ZPLA	**Ao Xicun**	**4.09**	**299**	*e*P		**Pn**	**20 00 18.2**	**-1.8**
	baz=301							
JIRB	**Irabujima**	**4.28**	**48**	P		**Pn**	**20 00 22.6**	**0.0**
JIRB				S		**Sn**	**20 01 11.5**	**-1.1**
JMJ	**Miyako jima 2**	**4.36**	**49**	*e*S		**Sn**	**20 01 14.4**	**0.0**
JIKM	**Ikemajima**	**4.39**	**48**	*e*S		**Sn**	**20 01 14.8**	**-0.6**
MATB	**Ma-tsu**	**4.42**	**340**	*e*P		**Pn**	**20 00 25.9**	**+1.4**
	baz=327							
AXDP	**Jialang**	**4.46**	**311**	*e*P		**Pn**	**20 00 24.5**	**-0.5**
	baz=312							
MHZQ	**Yeshan**	**4.74**	**330**	*e*P		**Pn**	**20 00 29.0**	**+0.1**
	baz=329							
VDOS	**Pratas Island**	**4.78**	**255**	*e*P		**Pn**	**20 00 29.2**	**-0.3**
	baz=257							
LYJJ	**Jianjiangzhen**	**4.86**	**339**	*e*P		**Pn**	**20 00 31.0**	**+0.5**
	baz=327							
XPSS	**Dashiqiu**	**5.09**	**345**	*e*P		**Pn**	**20 00 34.5**	**+0.8**
	baz=343							
JOW	**Kunigami**	**7.71**	**50**	*e*Pn		**Pn**	**20 01 11.0**	**+1.3**
QIZ	**Qiongzhong**	**11.46**	**257**	*e*Pn		**Pn**	**20 02 03.1**	**+1.9**
KS15	**Wonju Array Si**	**16.30**	**18**	*e*Pn		**P**	**20 03 10.1**	**+0.7**
KSAR	**Wonju Array Be**	**16.30**	**18**	Pn		**P**	**20 03 09.5**	**+0.1**
KSRS	**Korea Array**	**16.33**	**18**	Pn		**P**	**20 03 09.5**	**-0.1**
	0.1nm,0.3s,baz=196,slow=13,SNR=3.7							
KSRS				LR		LR	20 09 21.8	
	comp=Z,68nm,18.9s,baz=206,slow=37							
PBKT	**Sadao Pong**	**20.26**	**258**	*e*P		Pn	20 03 58.4	+3.4
	6.3nm,1.0s							
MAJO	**Matsushiro**	**20.41**	**41**	*e*P		Pn	20 03 58.5	+1.9
MJAR	**Matsushiro Arr**	**20.41**	**41**	P		Pn	20 03 58.5	+1.8
	1.4nm,0.9s,baz=244,slow=11,SNR=3.8							
MJAR				LR		LR	20 12 30.5	
	comp=Z,37nm,18.3s,baz=70,slow=38							
CMMT	**Chiang Mai**	**21.52**	**266**	P		**P**	**20 04 13.0**	**+6.2**
	4.1nm,1.5s							
CHTO	**Chiang Mai**	**21.53**	**266**	P		**P**	**20 04 13.1**	**+6.3**
	18nm,1.5s							
CM01	**Chiang Mai Arr**	**21.60**	**265**	*e*P		**P**	**20 04 07.3**	**-0.3**
CM31	**Chiang Mai Arr**	**21.61**	**265**	*e*P		**P**	**20 04 06.9**	**-0.7**
CMAR	**Chiang Mai Arr**	**21.61**	**265**	P		**P**	**20 04 05.5**	**-2.1**
	0.2nm,0.5s,baz=75,slow=4.8,SNR=2.8							
CMAR				LR		LR	20 14 08.4	
	comp=Z,39nm,18.4s,baz=71,slow=42							
KSM	**Kuching**	**23.20**	**210**	*e*P		**P**	**20 04 22.7**	**-1.9**
	3.7nm,0.9s							
ASAJ	**Asahikawa**	**28.03**	**33**	P		**P**	**20 05 12.1**	**+3.4**
	6.3nm,0.7s,baz=200,slow=7.8,SNR=5.7							
ASAJ	**Asahikawa**	**28.03**	**33**	*e*P		**P**	**20 05 10.1**	**+1.4**
	101nm,1.9s							
SONA0	**Songino Array**	**28.55**	**338**	*e*P		**P**	**20 05 13.6**	**+0.2**
SONM	**Songino Array**	**28.55**	**338**	P		**P**	**20 05 13.6**	**+0.2**
	0.4nm,0.5s,baz=157,slow=8.8,SNR=4.4

	baz=239							
YUS	**Yu-Shan**	**0.26**	**10**	P		Pg	19 59 38.2	+0.6
	baz=21							
YUS				*e*S		Sg	19 59 42.4	+1.4
	baz=21							
TPUB	**Ta-pu**	**0.26**	**284**	P		Pb	19 59 38.7	-1.1
	baz=285							
TPUB				S		Sg	19 59 42.7	+1.7
	baz=285							
TPUB	**Ta-pu**	**0.26**	**284**	*e*Pn		Pn	19 59 42.6	-0.6
WTP	**Ta-pu**	**0.27**	**272**	P		Pb	19 59 38.9	-1.1
	baz=267							
WTP				S		Sb	19 59 43.2	-1.7
	baz=267							
ALS	**Alishan**	**0.29**	**341**	P		Pg	19 59 38.9	+0.8
	baz=343							
ALS				S		Sg	19 59 42.9	+0.8
	baz=343							
CHN4	**Tsaushan**	**0.31**	**292**	⇓*i*P		Pb	19 59 39.8	-0.8
	baz=292							
CHN4				*i* S		Sb	19 59 44.8	-1.3
	baz=292							
SGST	**Jiashian**	**0.33**	**243**	*e*P		Pb	19 59 40.2	-0.8
	baz=242							
CHN1	**Nanshi**	**0.35**	**262**	*e*P		Pb	19 59 40.9	-0.5
	baz=263							
TWF1	**Yuli**	**0.38**	**72**	*e*P		Pg	19 59 40.8	+1.0
	baz=71							
YULB	**Yu-li**	**0.39**	**67**	*e*P		Pg	19 59 40.8	+0.7
	baz=65							
CHN5	**Tsauling**	**0.41**	**330**	*e*P		Pb	19 59 41.8	-0.7
	baz=331							
CHN5				*e*S		Sb	19 59 47.7	-1.5
	baz=331							
SSLB	**Suanglung**	**0.55**	**5**	*e*P		Pg	19 59 43.2	+0.1
	baz=5.0							

NNC 10 20:02:18.1±3.6, 36°97N×70°76E, h0km, mb3.6, mpv3.2, 2C-2D, Error ellipse: s-maj=29.1km s-min=25.9km az=132.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.72**	**34**	P	Pn	20 03 17.3	+0.2
	1.8nm,0.4s						
SFK				⇓S	Sn	20 04 03.9	+2.2
	1.7nm,0.2s						
MNAS	**Manas**	**5.67**	**13**	P	Pn	20 03 43.8	0.0
	0.8nm,0.4s						
MNAS				⇑S	Sn	20 04 49.7	+0.1
	2.0nm,0.3s						
KK31	**Karatay Array**	**6.13**	**358**	P	Pn	20 03 50.5	+0.6
	1.1nm,0.2s,baz=176,slow=12,SNR=91						
KK31				⇑S	Sn	20 05 03.1	+2.4
	1.3nm,0.4s,baz=185,slow=23,SNR=7.7						
AAK	**Ala-Archa**	**6.34**	**26**	P	Pn	20 03 51.8	-1.3
	1.0nm,0.3s						
AAK				⇓S	Sn	20 05 05.3	-1.0
	3.8nm,1.1s						

MEX 10 20:02:25.9±0.5, 14°11N×92°57W, h24km±37km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.84**	**20**	*e*P	Pb	20 02 39.3	-2.6
THIG				*e*S	Sb	20 02 48.8	-4.0
PCIG		**1.70**	**339**	*e*P	Pn	20 02 51.5	-2.7
PCIG				*i* S	Sn	20 03 11.9	-3.3
CCIG	**Comitan**	**2.20**	**11**	*i* P	Pn	20 02 58.5	-2.6
CCIG				*i* S	Sn	20 03 25.1	-2.6
TGIG		**2.70**	**349**	*e*P	Pn	20 03 05.9	-2.1
TGIG				*i* S	Sn	20 03 36.6	-3.5

*IDC **10** 20:22:08.3±1.1, 13°.91N×92°.52W, h0km, mb3.9/8, mb1 4.2/11, mb1mx3.9/50, mbtmp4.0/11, ML3.9/3, MS3.6/9, Ms1 3.6/9, ms1mx3.2/38, Error ellipse: s-maj=29.3km s-min=16.3km az=39.0*
*NEIC **10** 20:22:09.5±1.6, 13°.92N×92°.47W, h6km±10km, mb4.5/30, MD4.0(MEX), Error ellipse: s-maj=8.8km s-min=4.8km az=207.0*
*ISCJB **10** 20:22:12.1±1.3, 14°.07N±0°.05×92°.39W±0°.04, h33km±9km, mb4.3/29, MS3.7/7, Error ellipse: s-maj=9.6km s-min=4.5km az=39.4*
*MEX **10** 20:22:13.7±0.4, 14°.10N×92°.40W, h68km±15km, MD3.9*
ISC 10 20:22:14.7±0.9, 14°17N±0°08×92°39W±0°06, h38km±2km, n76, σ1s82/79, mb4.4/29, MS3.8/7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.74**	**9**	*e*P	**Pn**	**20 22 28.4**	**-0.2**
THIG				*e*S	**Sn**	**20 22 40.1**	**+1.4**
THIG		**0.74**	**9**	*e*P	**Pn**	**20 22 28.4**	**-0.2**
THIG				*e*S	**Sn**	**20 22 40.3**	**+1.5**
PCIG		**1.72**	**332**	*e*P	**Pn**	**20 22 40.9**	**-1.2**
PCIG		**1.72**	**332**	*e*P	**Pn**	**20 22 40.9**	**-1.2**
PCIG				*e*S	**Sn**	**20 23 02.6**	**-0.3**
APG	**El Apazote**	**2.04**	**66**	Pn	**Pn**	**20 22 47.6**	**+0.9**
	38nm,0.3s,baz=237,slow=8.0,SNR=467						
APG				Sn	**Sn**	**20 23 16.2**	**+5.1**
	98nm,0.3s,baz=319,slow=12,SNR=10.0						
CCIG	**Comitan**	**2.12**	**7**	*e*Pn	**Pn**	**20 22 50.6**	**+2.9**
CCIG	**Comitan**	**2.12**	**7**	*e*P	**Pn**	**20 22 46.9**	**-0.8**
CCIG				*i* S	**Sn**	**20 23 12.2**	**-0.6**
TGIG		**2.69**	**345**	*e*P	**Pn**	**20 22 56.6**	**+1.1**
TGIG		**2.69**	**345**	*e*P	**Pn**	**20 22 55.4**	**-0.1**
TGIG				*i* S	**Sn**	**20 23 26.6**	**-0.3**
SNET	**Serv Nac Est T**	**3.10**	**98**	*e*Pn	**Pn**	**20 22 59.3**	**-1.9**
SNET				*e*Sn	**Sn**	**20 23 35.8**	**-1.3**
CMIG	**Matias Romero**	**3.77**	**321**	Pn	**Pn**	**20 23 09.9**	**-0.4**
	4.7nm,0.3s,baz=147,slow=14,SNR=26						
CMIG				Sn	**Sn**	**20 23 56.9**	**+3.5**
	34nm,0.3s,baz=100,slow=13,SNR=6.7						
CMIG				LR	LR	20 24 48.4	
	comp=Z,443nm,21.1s,baz=148,slow=41						
TGUH	**Tegucigalpa,Un**	**4.97**	**91**	*e*Pn	**Pn**	**20 23 26.1**	**-0.6**
ESTN	**Estel**	**5.95**	**100**	*e*Pn	**Pn**	**20 23 39.4**	**-1.0**
LVIG	**Laguna Verde**	**6.73**	**326**	*e*Pn	**Pn**	**20 23 50.1**	**-0.9**
LVIG				*e*Sn	**Sn**	**20 25 04.6**	**-1.9**
BOAB	**BOACO BROADBAN**	**6.76**	**104**	*e*Pn	**Pn**	**20 23 49.3**	**-2.2**
TLIG	**Tlapa**	**6.83**	**300**	*e*Pn	**Pn**	**20 23 52.7**	**+0.1**
TLIG				*e*Sn	**Sn**	**20 25 16.8**	**+7.7**
TEIG	**Tepich**	**7.19**	**33**	*e*Pn	**Pn**	**20 23 59.1**	**+1.8**
ESPN	**Las Esperanzas**	**8.12**	**103**	*e*Pn	**Pn**	**20 24 08.4**	**-1.6**
JTS	**JuntasAbangare**	**8.23**	**117**	*e*Pn	**Pn**	**20 24 13.4**	**+1.8**
MOIG	**Morelia**	**10.04**	**304**	*e*Pn	**Pn**	**20 24 35.6**	**-1.1**
JRQG	**Juriquilla Cam**	**10.06**	**311**	*e*Pn	**Pn**	**20 24 36.6**	**-0.3**
TXAR	**Lajitas Array**	**18.35**	**327**	P	**Pn**	**20 26 26.3**	**0.0**
	0.1nm,0.3s,baz=150,slow=8.2,SNR=10						
TXAR				S	**Sn**	**20 29 46.5**	**-3.9**
	0.1nm,0.3s,baz=3.5,slow=23,SNR=3.0						
LTX	**Lajitas**	**18.35**	**327**	*e*P	**Pn**	**20 26 26.3**	**0.0**
LTX				*e*Sn	**Sn**	**20 29 46.5**	**-3.9**
TX31	**Lajitas Ar. Si**	**18.35**	**327**	*e*P	**Pn**	**20 26 28.0**	**+1.7**
LRAL	**Lakeview Retre**	**19.41**	**14**	*e*P	**Pn**	**20 26 39.5**	**+0.5**
	10nm,1.1s						
LPIG	**La Paz**	**19.58**	**303**	LR	LR	20 33 09.6	
	comp=Z,73nm,19.7s,baz=216,slow=34						
Z50A	**Ashland**	**19.89**	**16**	*e*P	**Pn**	**20 26 44.0**	**-0.7**
	10nm,1.0s						
ROSC	**El Rosal**	**20.07**	**116**	P	**P**	**20 26 45.9**	**+0.5**
	5.5nm,0.5s,baz=158,slow=8.9,SNR=9.3						
ROSC	**El Rosal**	**20.07**	**116**	*e*P	**P**	**20 26 45.5**	**+0.2**
	20nm,1.3s						
MIAR	**Mount Ida**	**20.32**	**357**	*e*P	**P**	**20 26 48.3**	**+0.8**
	14nm,0.9s						
UALR	**University of**	**20.52**	**0**	*e*P	Pn	20 26 53.6	+1.6
	24nm,1.0s						
GOGA	**Godfrey**	**20.80**	**21**	*e*P	Pn	20 26 55.5	+0.1
	14nm,1.1s						
Y52A	**Lilburn**	**21.01**	**20**	*e*P	**P**	**20 26 58.2**	**+3.2**
	19nm,1.1s						
V48A	**Smith Brothers**	**22.05**	**12**	*e*P	**P**	**20 27 04.9**	**-1.3**
	30nm,1.8s						
TKL	**Tuckaleechee C**	**22.76**	**18**	P	**P**	**20 27 14.1**	**+0.4**
	5.1nm,1.0s,baz=175,slow=9.8,SNR=3.9						
TKL				LR	LR	20 38 04.1	
	comp=Z,166nm,18.0s,baz=253,slow=42						
TKL	**Tuckaleechee C**	**22.76**	**18**	*e*P	**P**	**20 27 13.5**	**-0.1**
	68nm,2.0s						
V53A	**Saluda**	**23.08**	**20**	*e*P	**P**	**20 27 16.7**	**-0.3**
	70nm,2.0s						

T49A	**Edmonton**	**23.65**	**14**	*e*P		**P**	**20 27 21.4**	**-1.1**
	40nm,2.0s							
ANMO	**Albuquerque**	**24.27**	**331**	P		**P**	**20 27 30.1**	**+1.6**
	1.0nm,0.6s,baz=138,slow=17,SNR=2.1							
ANMO	**Albuquerque**	**24.27**	**331**	*e*P		**P**	**20 27 29.2**	**+0.7**
	2.5nm,0.8s							
WCI	**Wyandotte Cave**	**24.57**	**12**	*e*P		**P**	**20 27 30.9**	**0.0**
	11nm,0.8s							
TUC	**Tucson**	**24.66**	**320**	*e*P		**P**	**20 27 34.6**	**+2.6**
	4.4nm,0.9s							
PV03	**Paradox Valley**	**28.07**	**332**	*e*P		**P**	**20 28 04.5**	**+1.6**
PV12	**Saucer Basin,**	**28.11**	**332**	*e*P		**P**	**20 28 05.1**	**+2.0**
	39nm,1.5s							
PV22	**Blue Mesa, Par**	**28.27**	**332**	*e*P		**P**	**20 28 06.2**	**+1.6**
	14nm,1.4s							
CCUT	**Cedar City**	**29.83**	**325**	*e*P		**P**	**20 28 20.5**	**+2.0**
	7.3nm,1.5s							
MGG	**Marie Galante**	**30.05**	**83**	*e*P		P	20 28 27.5	+7.2
MAGL	**Barre de l'ile**	**30.08**	**83**	*e*P		P	20 28 28.3	+7.6
TCUT	**Toone Canyon**	**31.55**	**332**	*e*P		**P**	**20 28 35.6**	**+1.9**
	30nm,1.5s							
R11A	**Troy Canyon, C**	**31.65**	**324**	*e*P		**P**	**20 28 35.5**	**+1.1**
	5.0nm,1.5s							
PDAR	**Pinedale Array**	**32.11**	**336**	P		**P**	**20 28 40.0**	**+1.4**
	0.8nm,0.9s,baz=134,slow=3.9,SNR=3.7							
PDAR				LR		LR	20 43 51.6	
	comp=Z,40nm,21.3s,baz=130,slow=40							
SADO	**Sadowa**	**32.52**	**18**	LR		LR	20 43 37.5	
	comp=Z,153nm,18.1s,baz=240,slow=39							
HVU	**Hansel Valley**	**32.70**	**331**	*e*P		**P**	**20 28 45.4**	**+1.7**
	22nm,1.8s							
REDW	**Red Top Meadow**	**33.13**	**335**	*e*P		**P**	**20 28 48.5**	**+1.0**
	26nm,1.4s							
SNOW	**Snow King Moun**	**33.17**	**335**	*e*P		**P**	**20 28 48.5**	**+0.6**
	15nm,1.0s							
NV11	**Mina Array Sit**	**33.22**	**321**	*e*P		**P**	**20 28 48.3**	**+0.1**
	1.0nm,1.5s							
LOHW	**Log Hollow**	**33.24**	**336**	*e*P		**P**	**20 28 49.7**	**+1.3**
	12nm,1.4s							
TPAW	**Teton Pass**	**33.28**	**335**	*e*P		**P**	**20 28 50.0**	**+1.2**
	9.8nm,1.1s							
NV01	**Mina Array Sit**	**33.30**	**321**	*e*P		**P**	**20 28 50.7**	**+1.7**
NVAR	**Mina Array Bea**	**33.30**	**321**	P		**P**	**20 28 48.1**	**-1.0**
	1.2nm,0.7s,baz=163,slow=11,SNR=6.4							
NVAR				LR		LR	20 44 03.8	
	comp=Z,211nm,20.6s,baz=99,slow=40							
HLID	**Hailey**	**34.85**	**332**	*e*P		**P**	**20 29 03.9**	**+1.6**
	4.3nm,1.2s							
MCMT	**McKenzie Canyo**	**35.16**	**334**	*e*P		**P**	**20 29 06.3**	**+1.2**
DLMT	**Dillon**	**35.49**	**335**	*e*P		**P**	**20 29 09.4**	**+1.6**
	26nm,1.8s							
MSO	**Missoula**	**37.22**	**335**	*e*P		**P**	**20 29 23.0**	**+0.4**
	15nm,1.4s							
F10A	**Beach Ranch, E**	**37.98**	**332**	*e*P		**P**	**20 29 29.2**	**+0.3**
	5.8nm,0.8s							
E09A	**Wood Farm, Sta**	**38.81**	**331**	*e*P		**P**	**20 29 37.1**	**+1.4**
	4.7nm,1.1s							
SIV	**San Ignacio**	**43.08**	**133**	P		**P**	**20 30 08.8**	**-2.6**
	1.3nm,0.5s,baz=327,slow=8.0,SNR=7.6							
SCHQ	**Schefferville**	**45.20**	**21**	LR		LR	20 51 28.2	
	comp=Z,110nm,18.8s,baz=304,slow=39							
YKA	**Yellowknife Ar**	**50.78**	**347**	P		**P**	**20 31 11.4**	**+0.6**
	2.2nm,0.6s,baz=152,slow=7.4,SNR=6.5							
ILAR	**Eielson Array**	**62.54**	**337**	P		**P**	**20 32 34.6**	**+0.4**
	0.8nm,0.9s,baz=138,slow=5.7,SNR=6.3							
NOA	**NORSAR Array B**	**84.18**	**28**	LR		LR	21 11 47.8	
	comp=Z,36nm,18.2s,baz=265,slow=35							
NRIK	**Noril'sk**	**96.71**	**0**	LR		LR	21 23 29.7	
	comp=Z,68nm,18.1s,baz=120,slow=38							
WR1	**Warramunga Arr**	**135.07**	**256**	*e*PKPdf		**PKPdf**	**20 41 29.8**	**-1.0**
WRA	**Warramunga Arr**	**135.07**	**256**	PKP		**PKPdf**	**20 41 29.8**	**-1.0**
	0.1nm,0.5s,baz=85,slow=2.6,SNR=3.2							
CM31	**Chiang Mai Arr**	**145.71**	**341**	*e*PKPdf		**PKPdf**	**20 41 49.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**145.71**	**341**	PKPbc		**PKPdf**	**20 41 49.8**	**-0.2**
	2.0nm,0.9s,baz=339,slow=3.2,SNR=14							

*NEIC **10** 20:27:18.5±1.2, 17°.38S×174°.33W, h61km±11km, mb4.9/13, Error ellipse: s-maj=9.5km s-min=6.5km az=127.0*
*IDC **10** 20:27:21.1±3.1, 17°.48S×174°.22W, h84km±27km, mb3.8/11, mb1 4.0/12, mb1mx3.7/44, mbtmp4.1/12, Error ellipse: s-maj=23.4km s-min=13.5km az=121.0*
*ISCJB **10** 20:27:25.7±0.5, 17°.44S±0°.08×174°.43W±0°.09, h139km, mb4.5/27, Error ellipse: s-maj=12.6km s-min=10.2km az=36.8*
ISC 10 20:27:27.3±0.6, 17°42S±0°10×174°4W±0°1, h139km, n42, σ1s09/46, mb4.7/27, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.28**	**36**	P	Pn	20 28 22.9	-8.2
	4.9nm,0.3s,baz=176,slow=1.1,SNR=6.1						
AFI				S	Sn	20 29 04.3	-16
	12nm,0.3s,baz=220,slow=23,SNR=12						
AFI	**Afiamalu**	**4.28**	**36**	*e*Pn	Pn	20 28 20.6	-10
AFI				*e*Sn	Sn	20 29 04.5	-16
URZ	**Urewera**	**22.07**	**198**	P	**P**	**20 32 09.0**	**-2.0**
	2.4nm,0.4s,baz=230,slow=3.4,SNR=3.9						
URZ				S	**S**	**20 36 06.5**	**+1.7**
	7.7nm,1.0s,baz=85,slow=24,SNR=2.8						
URZ	**Urewera**	**22.07**	**198**	*e*P	**P**	**20 32 07.5**	**-3.5**
	18nm,1.2s						
URZ				*e*S	**S**	**20 36 06.5**	**+1.7**
BKZ	**Black Stump Fm**	**23.09**	**198**	*e*P	**P**	**20 32 19.4**	**-1.5**
	85nm,2.0s						
PPT	**Papeete**	**23.63**	**94**	*e*P	**P**	**20 32 24.9**	**-1.0**
THZ	**Tophouse**	**26.61**	**202**	*e*P	**P**	**20 32 50.9**	**-1.9**
	143nm,1.6s						
KHZ	**Kahutara**	**26.98**	**200**	*e*P	**P**	**20 32 55.8**	**-0.1**
	30nm,1.2s						
STKA	**Stephens Creek**	**42.26**	**242**	P	**P**	**20 35 07.4**	**+0.3**
	2.2nm,0.6s,baz=96,slow=8.9,SNR=6.3						
STKA	**Stephens Creek**	**42.26**	**242**	*e*P	**P**	**20 35 07.5**	**+0.3**
	3.7nm,1.6s						
BBOO	**Buckleboo**	**47.03**	**241**	*e*P	**P**	**20 35 44.6**	**-0.3**
	26nm,1.4s						
WB2	**Warramunga Arr**	**48.51**	**259**	*e*P	**P**	**20 35 55.8**	**-0.7**
WR1	**Warramunga Arr**	**48.52**	**259**	*e*P	**P**	**20 35 56.1**	**-0.5**
	27nm,1.9s						
WR1				*e*PcP	**PcP**	**20 37 21.3**	**+0.8**
WRA	**Warramunga Arr**	**48.52**	**259**	P	**P**	**20 35 56.1**	**-0.5**
	2.2nm,0.4s,baz=97,slow=6.9,SNR=102						
WRA				PcP	**PcP**	**20 37 21.3**	**+0.8**
	0.3nm,0.6s,baz=88,slow=3.7,SNR=3.0						
AS01	**Alice Springs**	**48.60**	**254**	*e*P	**P**	**20 35 57.0**	**-0.2**
AS01				*e*PcP	**PcP**	**20 37 21.3**	**+0.5**
AS31	**Alice Springs**	**48.64**	**254**	*e*P	**P**	**20 35 57.2**	**-0.3**
	2.7nm,0.6s						
ASAR	**Alice Springs**	**48.64**	**254**	P	**P**	**20 35 57.5**	**0.0**
	9.8nm,0.5s,baz=90,slow=8.1,SNR=242						
ASAR				PcP	**PcP**	**20 37 21.9**	**+1.0**
	0.5nm,0.5s,baz=93,slow=4.3,SNR=3.5						
FORT	**Forrest**	**53.71**	**244**	*e*P	**P**	**20 36 33.8**	**-1.4**
	183nm,1.9s						
FAKI	**Fak Fak**	**54.30**	**279**	*e*P	**P**	**20 36 38.2**	**-1.4**
	17nm,1.0s						
SIJI	**Sorong**	**55.92**	**281**	P	**P**	**20 36 52.6**	**+1.3**
	8.8nm,0.9s,baz=114,slow=8.4,SNR=4.0						
FITZ	**Fitzroy Crossi**	**56.92**	**259**	*e*P	**P**	**20 36 58.3**	**0.0**
	25nm,1.8s						
SOEI	**Soe**	**59.95**	**269**	*e*P	**P**	**20 37 18.8**	**-0.8**
	16nm,1.0s						
SBA	**Scott Base**	**61.18**	**184**	*e*P	**P**	**20 37 28.5**	**+1.8**
	16nm,1.9s						
VNDA	**Vanda**	**61.29**	**186**	P	**P**	**20 37 28.1**	**+0.6**
	0.3nm,0.6s,baz=4.4,slow=8.3,SNR=3.8						
VNDA	**Vanda**	**61.29**	**186**	*e*P	**P**	**20 37 28.6**	**+1.1**
MBWA	**Marble Bar**	**61.94**	**255**	*e*P	**P**	**20 37 32.2**	**-0.6**
	68nm,1.9s						
NIKH	**Nikolski High**	**70.26**	**4**	*e*P	**P**	**20 38 25.5**	**+0.4**
	194nm,1.3s						
QSPA	**South Pole Qui**	**72.64**	**180**	*e*P	**P**	**20 38 40.1**	**+0.5**
	16nm,1.8s						
UGM	**Wanagama**	**73.53**	**267**	*e*P	**P**	**20 38 46.0**	**+0.3**
	355nm,1.5s						
PETK	**Petropavlovsk-**	**74.27**	**343**	P	**P**	**20 38 49.0**	**+0.1**
	3.6nm,0.9s,baz=115,slow=8.3,SNR=6.0						
PEA1	**Petropavlovsk-**	**74.28**	**343**	*e*P	**P**	**20 38 49.0**	**0.0**
NVAR	**Mina Array Bea**	**76.43**	**42**	P	**P**	**20 39 02.9**	**+1.0**
	0.3nm,0.6s,baz=234,slow=5.5,SNR=3.5						
PDAR	**Pinedale Array**	**84.37**	**42**	P	**P**	**20 39 43.6**	**-0.7**
	0.7nm,0.6s,baz=211,slow=2.6,SNR=8.3						
ILAR	**Eielson Array**	**84.59**	**11**	P	**P**	**20 39 44.4**	**-0.2**
	0.4nm,0.5s,baz=224,slow=6.0,SNR=14						
ILB	**Eielson Array**	**84.59**	**11**	*e*P	**P**	**20 39 44.7**	**+0.1**
MAW	**Mawson**	**85.60**	**199**	P	**P**	**20 39 50.4**	**+0.7**

	1.0nm,0.5s,baz=146,slow=3.6,SNR=3.0							
LZH	**Lanzhou**	**93.68**	**307**	*e*P		**P**	**20 40 27.8**	**-0.7**
LZH				pP		PcP	20 40 37.7	+8.7
LZH				sP		pP	20 40 41.9	-22
LZH				pmax		pmax		
	comp=Z,23nm,1.0s							
BR101	**Keskin Array S**	**147.09**	**318**	*e*PKPbc		**PKPbc**	**20 46 55.0**	**+0.6**
BRTR	**Keskin Array B**	**147.09**	**318**	PKPbc		**PKPbc**	**20 46 55.0**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=134,slow=5.5,SNR=5.1							
GERES	**GERESS Array B**	**147.37**	**350**	PKPbc		**PKPbc**	**20 46 56.4**	**0.0**
	comp=Z,0.5nm,0.7s,baz=29,slow=3.0,SNR=4.5							
TORD	**Torodi Ar. Bea**	**174.29**	**138**	PKPab		**PKPab**	**20 48 53.0**	**-1.1**
	baz=248,slow=3.9							
TOA1	**Torodi Ar. Sit**	**174.29**	**137**	*e*PKPab		**PKPab**	**20 48 53.0**	**-1.1**

IDC 10 20:28:08.9±1.7, 23°33N×142°30E, h257km±23km, mb3.1/7, mb1 3.1/9, mb1mx2.9/58, mbtmp3.7/9, Error ellipse: s-maj=73.1km s-min=16.9km az=77.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.75**	**358**	P	Pn	20 29 11.5	+1.4
JCJ				S	S	20 29 58.6	-0.3
	14nm,0.3s,baz=123,slow=23,SNR=14						
KSRS	**Korea Array**	**18.73**	**322**	P	P	20 32 10.4	+1.6
	0.2nm,0.3s,baz=147,slow=9.0,SNR=1.8						
SONM	**Songino Array**	**37.57**	**320**	P	P	20 34 58.8	-0.1
	0.2nm,0.5s,baz=135,slow=8.5,SNR=4.9						
WRA	**Warramunga Arr**	**43.70**	**191**	P	P	20 35 48.7	-0.2
	0.1nm,0.3s,baz=6.9,slow=8.7,SNR=12						
ZALV	**Zalesovo Beam**	**52.43**	**321**	P	P	20 36 54.9	-0.3
	0.2nm,0.4s,baz=91,slow=6.1,SNR=3.7						
MKAR	**Makanchi Array**	**53.00**	**312**	P	P	20 36 59.1	-0.4
	0.2nm,0.5s,baz=84,slow=9.9,SNR=4.6						
KURBB	**Kurchatov Arra**	**55.78**	**316**	P	P	20 37 19.0	-0.3
	0.8nm,0.5s,baz=93,slow=7.7,SNR=12						
BVAR	**Borovoye Array**	**60.91**	**319**	P	P	20 37 54.6	0.0
	1.3nm,0.4s,baz=84,slow=6.5,SNR=14						
FINES	**FINESS Array B**	**81.36**	**334**	P	P	20 39 57.0	+0.4
	2.9nm,1.0s,baz=68,slow=5.9,SNR=10						

*SJA **10** 20:36:29.1±0.8, 31°.91S×72°.15W, h66km±12km, ML3.6, MW3.9*
*GUC **10** 20:36:29.3±0.6, 31°.77S×71°.77W, h23km±10km, ML3.5*
ISC 10 20:36:23.1±2.3, 31°73S±0°04×72°2W±0°1, h9km±16km, n21, σ1s25/35, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Cambarbala**	**1.19**	**63**	*e*P	**Pb**	**20 36 46.8**	**+0.8**
CMCH				*e*S	**Sb**	**20 36 59.4**	**-2.2**
CMCH				IAML		20 37 01.5	
	comp=E,6µm,0.7s						
ROCH	**El Roble**	**1.62**	**140**	*e*P	**Pg**	**20 36 54.6**	**+0.4**
ROCH				*i* S	**Sb**	**20 37 13.9**	**-0.1**
ROCH				IAML		20 37 17.6	
	comp=N,966nm,0.3s						
ROC1	**El Roble**	**1.62**	**141**	*e*P	**Pg**	**20 36 54.6**	**+0.4**
ROC1				*e*S	**Sb**	**20 37 14.0**	**0.0**
PEL	**Peldehue**	**1.93**	**137**	*e*P	**Pb**	**20 36 59.0**	**+0.5**
PEL				*e*S	**Sb**	**20 37 20.9**	**-1.8**
PEL	**Peldehue**	**1.93**	**137**	*e*P	**Pb**	**20 36 58.8**	**+0.3**
PEL				*e*S	**Sb**	**20 37 21.1**	**-1.6**
PEL				IAML		20 37 27.4	
	comp=E,679nm,0.8s						
GO04	**Tololo Observa**	**1.98**	**39**	*e*P	**Pb**	**20 36 59.7**	**+0.2**
GO04	**Tololo Observa**	**1.98**	**39**	⇑*i*P	**Pb**	**20 36 59.7**	**+0.2**
GO04				*e*S	**Sb**	**20 37 25.3**	**+0.8**
CLCH	**Cerro Calan**	**2.20**	**140**	*e*P	**Pb**	**20 37 03.1**	**-0.1**
CLCH				*e*S	**Sb**	**20 37 29.3**	**-1.2**
CLCH				IAML		20 37 36.4	
	comp=E,802nm,0.4s						
FCH	**Farellones**	**2.29**	**135**	*e*P	**Pb**	**20 37 04.1**	**-0.8**
FCH				*i* S	**Sn**	**20 37 30.3**	**+0.3**
AUSP	**Uspallata**	**2.47**	**102**	*e*P	**Pb**	**20 37 08.2**	**+0.3**
AUSP				*e*S	**Sb**	**20 37 37.3**	**-1.4**
RTLS	**Leoncito**	**2.51**	**92**	*e*P	**Pb**	**20 37 08.5**	**0.0**
RTLS				*i* S	**Sb**	**20 37 38.6**	**-1.0**
RTLS				IAML		20 37 39.6	
	comp=Z,188nm,0.3s						
LMEL	**Las Melosas**	**2.72**	**141**	*e*P	**Pb**	**20 37 10.8**	**-1.3**
LMEL				*e*S	**Sn**	**20 37 41.7**	**+1.3**
AROD	**Rodeo**	**2.84**	**57**	*i* P	**Pb**	**20 37 14.1**	**-0.1**
AROD			

CNG	**Changalane**	**5.27**	**47**	*e*P		**Pn**	**20 48 00.8**	**-0.5**
CNG				*e*S		**Sn**	**20 48 58.9**	**-2.9**
CNG				AML	AML		20 49 17.5	
	comp=Z,8.1nm,0.4s							
LBTB	**Lobatse**	**5.36**	**337**	*e*P		**Pn**	**20 48 04.1**	**+1.5**
LBTB				*e*S		**Sn**	**20 49 01.9**	**-2.2**
LBTB				AML	AML		20 49 35.5	
	comp=Z,31nm,0.5s							
CVNA	**Calvinia**	**7.17**	**256**	*e*P		**Pn**	**20 48 29.6**	**+2.1**
CVNA				*e*S		**Sn**	**20 49 45.9**	**-2.9**
CVNA				AML	AML		20 50 39.3	
	comp=Z,12nm,0.4s							
KOMG	**Komaggas**	**9.05**	**269**	*e*P		**Pn**	**20 48 55.8**	**+2.5**
KOMG				*e*S		**Sn**	**20 50 30.3**	**-4.7**
KOMG				AML	AML		20 51 40.5	
	comp=Z,8.6nm,0.7s							
MATP	**Matopo**	**9.53**	**3**	*i* P		**Pn**	**20 49 01.8**	**+1.9**
MATP				*i* S		**Sn**	**20 50 44.2**	**-2.7**
MATP	**Matopo**	**9.53**	**3**	*i* P		**Pn**	**20 49 01.8**	**+1.9**
MATP				*i* S		**Sn**	**20 50 44.2**	**-2.7**
BLWY	**Bulawayo**	**9.82**	**4**	*i* P		**Pn**	**20 49 05.8**	**+1.9**
BLWY				*i* S		**Sn**	**20 50 51.7**	**-2.4**
BLWY	**Bulawayo**	**9.82**	**4**	*i* P		**Pn**	**20 49 05.8**	**+1.9**
BLWY				*i* S		**Sn**	**20 50 51.7**	**-2.4**

IDC 10 20:49:22.1±29.0, 15°.95S×179°.11W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/38, mbtmp3.8/4, Error ellipse: s-maj=558.8km s-min=143.6km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.02**	**239**	P	P	20 56 49.9	-0.7
	0.6nm,0.4s,baz=76,slow=10,SNR=3.9						
WRA	**Warramunga Arr**	**44.35**	**258**	P	P	20 57 34.7	+0.1
	0.2nm,0.4s,baz=90,slow=8.4,SNR=5.2						
ASAR	**Alice Springs**	**44.70**	**252**	P	P	20 57 37.0	-0.3
	1.7nm,0.5s,baz=89,slow=8.0,SNR=33						
FITZ	**Fitzroy Crossi**	**52.71**	**259**	P	P	20 58 39.3	+0.4
	1.4nm,1.1s,baz=67,slow=7.7,SNR=3.0						

*IGIL **10** 20:51:33.7, 37°.25N×12°.75W, h0km, ML2.1*
*MDD **10** 20:51:34.4±1.8, 37°.24N×12°.70W, h0km, mb4.0/10, Error ellipse: s-maj=15.7km s-min=13.1km az=50.0, PRXIMO*
*INMG **10** 20:51:35.8±1.2, 37°.06N×13°.09W, h10km, ML2.4, Error ellipse: s-maj=7.6km s-min=5.4km az=93.0*

ISC 10 20:51:30.8±3.5, 37°.26N±0°.10×12°.9W±0°.2, h10km, n52, σ2s28/94, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.25**	**91**	*e*Pn	**Pn**	**20 52 22.5**	**+0.7**
PFVI				*e*Sn	**Sn**	**20 52 58.4**	**-2.0**
PFVI				A	A	20 53 03.6	
	8.3nm,1.0s						
PFVI	**Vila Bisbo**	**3.25**	**91**	P	**Pn**	**20 52 22.5**	**+0.7**
	1.2nm,0.1s,SNR=6.1						
PFVI				S	**Sn**	**20 52 58.1**	**-2.4**
	4.4nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**3.31**	**58**	*e*Pn	**Pn**	**20 52 24.8**	**+2.2**
PMAFR				*e*Sn	**Sn**	**20 53 02.5**	**+0.5**
PMAFR				A	A	20 53 28.9	
	19nm,0.6s						
PMAFR	**Mafra**	**3.31**	**58**	P	**Pn**	**20 52 25.3**	**+2.6**
	8.7nm,0.2s,SNR=9.1						
PMAFR				S	**Sn**	**20 53 02.0**	**0.0**
	9.2nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**3.33**	**84**	*e*Pn	**Pn**	**20 52 24.2**	**+1.3**
PTEO				*e*Sn	**Sn**	**20 53 00.9**	**-1.6**
PTEO				A	A	20 53 13.2	
	8.5nm,0.5s						
PTEO	**Sao Teotonio**	**3.33**	**84**	P	**Pn**	**20 52 24.2**	**+1.3**
PTEO				S	**Sn**	**20 53 00.9**	**-1.6**
	4.2nm,0.5s						
MORF	**Marmelete**	**3.38**	**88**	*e*P	**Pn**	**20 52 24.3**	**+0.6**
MORF	**Marmelete**	**3.38**	**88**	*e*Pn	**Pn**	**20 52 24.9**	**+1.3**
MORF				*e*Sn	**Sn**	**20 53 02.0**	**-1.8**
MORF				A	A	20 53 09.5	
	5.5nm,0.3s						
MORF	**Marmelete**	**3.38**	**88**	P	**Pn**	**20 52 24.3**	**+0.6**
MORF				S	**Sn**	**20 53 02.0**	**-1.8**
	5.5nm,0.3s						
MESJ	**Messejana**	**3.75**	**80**	*e*S	**Sn**	**20 53 10.3**	**-2.7**
MESJ				AML	AML	20 53 17.4	
	comp=N,5.5nm,0.3s						
MESJ	**Messejana**	**3.75**	**80**	*e*Pn	**Pn**	**20 52 31.2**	**+2.5**
MESJ				*e*Sn	**Sn**	**20 53 10.7**	**-2.3**
MESJ				A	A	20 53 25.9	
	comp=N,3.1nm,0.6s						
MESJ	**Messejana**	**3.75**	**80**	P	**Pn**	**20 52 31.2**	**+2.5**
MESJ				S	**Sn**	**20 53 10.3**	**-2.7**
	comp=N,5.5nm,0.3s						
ALMR	**Almeirim**	**3.89**	**60**	*e*Pn	**Pn**	**20 52 34.6**	**+4.0**
ALMR				*e*Sn	**Sn**	**20 53 17.2**	**+0.9**
ALMR				A	A	20 53 23.5	
	comp=N,11nm,0.2s						
ALMR	**Almeirim**	**3.89**	**60**	P	**Pn**	**20 52 34.6**	**+4.0**
ALMR				S	**Sn**	**20 53 17.2**	**+0.9**
	comp=N,5.4nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.96**	**89**	*e*Pn	**Pn**	**20 52 33.1**	**+1.6**
PBDV				*e*Sn	**Sn**	**20 53 18.1**	**+0.1**
PBDV				A	A	20 53 22.2	
	comp=N,3.3nm,0.4s						
PBDV	**Barranco-do-Ve**	**3.96**	**89**	P	**Pn**	**20 52 33.1**	**+1.6**
PBDV				S	**Sn**	**20 53 18.1**	**+0.1**
	comp=N,3.3nm,0.4s						
PBEJ	**Beja**	**4.06**	**78**	*e*Pn	**Pn**	**20 52 35.8**	**+2.9**
PBEJ				*e*Sn	**Sn**	**20 53 19.2**	**-1.3**
PBEJ				A	A	20 53 24.8	
	comp=N,4.7nm,0.2s						
PBEJ	**Beja**	**4.06**	**78**	P	**Pn**	**20 52 35.8**	**+2.9**
PBEJ				S	**Sn**	**20 53 19.2**	**-1.3**
	comp=N,2.3nm,0.2s						
EVO	**Evora**	**4.06**	**70**	*e*Pn	**Pn**	**20 52 37.4**	**+4.5**
EVO				*e*Sn	**Sn**	**20 53 20.9**	**+0.4**
EVO				A	A	20 53 27.7	
	comp=N,4.9nm,0.1s						
EVO	**Evora**	**4.06**	**70**	P	**Pn**	**20 52 37.4**	**+4.5**
EVO				S	**Sn**	**20 53 20.9**	**+0.4**
	comp=N,4.9nm,0.1s						
PVAQ	**Vaqueiros**	**4.12**	**86**	*e*Pn	**Pn**	**20 52 35.4**	**+1.6**
PVAQ				*e*Sn	**Sn**	**20 53 20.4**	**-1.7**
PVAQ				A	A	20 53 23.5	
	comp=N,4.4nm,0.9s						
PVAQ	**Vaqueiros**	**4.12**	**86**	P	**Pn**	**20 52 35.4**	**+1.6**
PVAQ				S	**Sn**	**20 53 20.4**	**-1.7**
	comp=N,4.4nm,0.9s						
PTOM	**Tomar**	**4.23**	**55**	*e*Pn	**Pn**	**20 52 38.1**	**+2.8**
PTOM				*e*Sn	**Sn**	**20 53 25.0**	**+0.3**
PTOM				A	A	20 53 29.4	
	comp=N,7.5nm,0.4s						
PTOM	**Tomar**	**4.23**	**55**	P	**Pn**	**20 52 38.1**	**+2.8**
PTOM				S	**Sn**	**20 53 25.0**	**+0.3**
	comp=N,3.8nm,0.4s						
EGRO	**El Granado**	**4.31**	**85**	P	**Pn**	**20 52 37.8**	**+1.4**
	comp=N,1.5nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**20 53 25.2**	**-1.5**
	comp=N,1.6nm,0.1s,SNR=7.9						
PCAS	**Casmilo, Conde**	**4.42**	**50**	*e*Pn	**Pn**	**20 52 40.6**	**+2.6**
PCAS				*e*Sn	**Sn**	**20 53 28.4**	**-1.2**
PCAS				A	A	20 53 42.0	
	comp=N,4.0nm,0.8s						
PESTR	**Estremoz**	**4.48**	**67**	*e*Pn	**Pn**	**20 52 40.7**	**+2.0**
PESTR				*e*Sn	**Sn**	**20 53 29.1**	**-1.8**
PESTR				A	A	20 53 35.2	
	comp=N,2.3nm,0.4s						
PMRV	**Marv??o**	**4.83**	**62**	*e*Pn	**Pn**	**20 52 45.5**	**+1.9**
PMRV				*e*Sn	**Sn**	**20 53 37.8**	**-1.8**
PMRV				A	A	20 53 43.1	
	comp=N,2.8nm,0.3s						
PMRV	**Marv??o**	**4.83**	**62**	P	**Pn**	**20 52 45.5**	**+1.9**
PMRV				S	**Sn**	**20 53 37.8**	**-1.8**
	comp=N,2.8nm,0.3s						
EBAD	**Badajoz**	**4.88**	**70**	P	**Pn**	**20 52 46.1**	**+2.0**
	comp=N,1.0nm,0.1s,SNR=10						
EBAD				S	**Sn**	**20 53 37.5**	**-3.1**
	comp=N,0.8nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**4.96**	**57**	*e*Pn	**Pn**	**20 52 47.8**	**+2.5**
PCBR				*e*Sn	**Sn**	**20 53 40.7**	**-2.1**
PCBR				A	A	20 53 47.0	
	comp=N,2.4nm,0.8s						
PCBR	**Castelo Branco**	**4.96**	**57**	P	**Pn**	**20 52 47.8**	**+2.5**
PCBR				S	**Sn**	**20 53 40.7**	**-2.1**
	comp=N,1.2nm,0.8s						
EMIN	**Mina Concepcio**	**4.97**	**82**	P	**Pn**	**20 52 46.9**	**+1.5**
	comp=N,0.9nm,0.1s,SNR=78						
EMIN				S	**Sn**	**20 53 40.8**	**-2.2**
	comp=N,0.4nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**5.20**	**47**	*e*Pn	**Pn**	**20 52 50.8**	**+2.1**
PVIS				*e*Sn	**Sn**	**20 53 45.9**	**-2.8**
PVIS				A	A	20 53 49.9	
	comp=N,3.7nm,0.7s						
PVIS	**Viseu**	**5.20**	**47**	P	**Pn**	**20 52 50.8**	**+2.1**
PVIS				S	**Sn**	**20 53 45.9**	**-2.8**
	comp=N,1.9nm,0.7s						
MTE	**Manteigas**	**5.22**	**51**	*e*Pn	Pn	20 52 44.9	-4.0
MTE	**Manteigas**	**5.22**	**51**	P	Pn	20 52 44.9	-4.0
POLO	**Lamas de Olo**	**5.70**	**42**	*e*Pn	**Pn**	**20 52 57.0**	**+1.5**
POLO				*e*Sn	**Sn**	**20 53 58.3**	**-2.8**
POLO				A	A	20 54 13.9	
	comp=N,1.5nm,0.9s						
EZAM	**Zamans**	**5.86**	**32**	S	**Sn**	**20 54 02.8**	**-2.0**
	comp=N,0.8nm,0.1s,SNR=7.9						
PGAV	**Gavieira, Arco**	**5.90**	**36**	*e*Sn	**Sn**	**20 54 03.0**	**-3.0**
PGAV				A	A	20 54 10.5	
	comp=N,6.1nm,0.9s						
ELOB	**Lobios**	**5.92**	**38**	P	**Pn**	**20 53 01.4**	**+2.8**
	comp=N,0.4nm,0.1s,SNR=4.0						
ELOB				S	**Sn**	**20 54 03.7**	**-2.8**
	comp=N,0.7nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**5.98**	**80**	P	**Pn**	**20 53 01.0**	**+1.6**
	comp=N,0.8nm,0.1s,SNR=6.4						
ECAB				S	**Sn**	**20 54 05.3**	**-2.7**
	comp=N,0.2nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.99**	**48**	*e*Pn	**Pn**	**20 53 01.3**	**+1.8**
MVO				*e*Sn	**Sn**	**20 54 06.0**	**-2.2**
MVO				A	A	20 54 23.6	
	comp=N,3.8nm,0.7s						
MVO	**Moncorvo**	**5.99**	**48**	P	**Pn**	**20 53 01.9**	**+2.3**
	comp=N,1.4nm,0.2s,SNR=4.0						
MVO				S	**Sn**	**20 54 05.3**	**-3.0**
	comp=N,0.4nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**6.02**	**60**	P	**Pn**	**20 53 02.2**	**+2.3**
	comp=N,2.1nm,0.3s,SNR=6.2						
EPLA				S	**Sn**	**20 54 06.4**	**-2.5**
	comp=N,0.8nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.42**	**27**	S	**Sn**	**20 54 14.2**	**-4.6**
	comp=N,6.1nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**6.57**	**44**	*e*Pn	**Pn**	**20 53 09.3**	**+1.8**
PBRG				*e*Sn	**Sn**	**20 54 22.0**	**-0.4**
PBRG	**Braganca**	**6.57**	**44**	P	**Pn**	**20 53 09.3**	**+1.8**
PBRG				S	**Sn**	**20 54 22.0**	**-0.4**
EAGO	**Agolada(Pontev**	**6.65**	**32**	P	**Pn**	**20 53 09.6**	**+1.1**
	comp=N,0.5nm,0.1s,SNR=7.9						
EAGO				S	**Sn**	**20 54 19.0**	**-5.3**
	comp=N,0.6nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.65**	**80**	P	**Pn**	**20 53 10.1**	**+1.6**
	comp=N,0.5nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**20 54 20.9**	**-3.6**
	comp=N,0.6nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**6.66**	**44**	P	**Pn**	**20 53 10.9**	**+2.1**
	comp=N,2.1nm,0.3s,SNR=7.9						
ECAL				S	**Sn**	**20 54 21.1**	**-3.7**
	comp=N,0.4nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**7.08**	**69**	P	**Pn**	**20 53 16.1**	**+1.5**
	comp=N,0.9nm,0.3s,SNR=4.0						

MEX 10 20:53:09.8±0.4, 16°.33N×98°.27W, h11km±1km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.15**	**65**	*i* P	Pg	20 53 12.6	-0.7
PNIG				*i* S	Sg	20 53 15.4	-0.3
TLIG	**Tlapa**	**1.26**	**347**	*i* P	Pn	20 53 29.7	-3.8
TLIG				*i* S	Sb	20 53 45.1	-4.8

*ISN **10** 21:14:18.9±0.9, 31°.30N×47°.41E, h38km±24km, ML3.0*

TEH 10 21:14:18.1, 31°.37N×47°.48E, h10km, ML3.1, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**2.17**	**8**	*e*Pn	Pb	21 14 56.1	-1.3
IKFM				IAMB	IAmb	21 15 32.9	
	comp=N,0.0nm,0.7s						
IKFM				IAMB	IAmb	21 15 40.1	
	comp=Z,0.0nm,0.8s						
IKFM				IAMB	IAmb	21 15 51.0	
	comp=E,0.0nm,1.0s						
IKMR	**Kamar-syah**	**2.27**	**19**	*e*Pn	Pb	21 14 57.4	-1.8
IKMR				IAMB	IAmb	21 15 43.8	
	comp=Z,0.0nm,0.6s						
IKOM	**Komasi**	**2.79**	**0**	*e*Pn	Pb	21 15 05.9	-2.3
IKOM				IAMB	IAmb	21 15 58.2	
	comp=N,0.0nm,0.7s						
ZNGN	**Zangian**	**2.97**	**75**	*e*Pn	Pn	21 15 07.4	+1.9
ZNGN				IAMB	IAmb	21 16 02.0	
	comp=Z,0.0nm,0.8s						
ZNGN				IAMB	IAmb	21 16 05.2	
	comp=E,0.0nm,0.9s						
ZNGN				IAMB	IAmb	21 16 06.7	
	comp=N,0.0nm,0.6s						
HSAM	**Samen**	**2.98**	**18**	*e*Pn	Pn	21 15 07.5	+1.8
ROKH	**ROKH**	**3.17**	**71**	*e*Pn	Pn	21 15 10.7	+2.4
ROKH				IAMB	IAmb	21 16 06.1	
	comp=Z,0.0nm,0.9s						
ROKH				IAMB	IAmb	21 16 06.3	
	comp=E,0.0nm,1.1s						
ROKH				IAMB	IAmb	21 16 11.8	
	comp=N,0.0nm,0.6s						
IPIR	**Pirpir**	**3.18**	**65**	*e*Pn	Pn	21 15 10.9	+2.5
IPIR				IAMB	IAmb	21 15 22.0	
	comp=Z,496nm,0.4s						
IPIR				IAMB	IAmb	21 15 28.8	
	comp=E,504nm,0.5s						
IPIR				IAMB	IAmb	21 16 09.7	
	comp=N,466nm,0.5s						
IVIS	**Veis**	**3.19**	**351**	*e*Pn	Pn	21 15 10.3	+1.9
IVIS				IAMB	IAmb	21 15 51.5	
	comp=Z,230nm,0.3s						
IVIS				IAMB	IAmb	21 15 54.5	
	comp=E,272nm,0.4s						
IVIS				IAMB	IAmb	21 16 04.8	
	comp=N,487nm,0.6s						
IKLH	**Kolahrood**	**3.97**	**60**	*e*Pn	Pn	21 15 21.2	+1.9
IKLH				IAMB	IAmb	21 15 38.2	
	comp=Z,195nm,0.3s						
IKLH				IAMB	IAmb	21 16 10.1	
	comp=N,338nm,0.3s						
IKLH				IAMB	IAmb	21 16 45.1	
	comp=E,383nm,0.9s						
IGAR	**Gharneh**	**4.01**	**74**	*e*Pn	Pn	21 15 22.2	+2.4
IGAR				IAMB	IAmb	21 16 13.8	
	comp=N,615nm,0.1s						
IGAR				IAMB	IAmb	21 16 14.2	
	comp=Z,215nm,0.2s						
IKAZ	**Kazeroun**	**4.08**	**112**	*e*Pn	Pn	21 15 22.7	+1.8
IKAZ				IAMB	IAmb	21 16 13.1	
	comp=Z,337nm,0.5s						
IRAM	**Ramesheh**	**4.20**	**83**	*e*Pn	Pn	21 15 24.5	+2.0
IRAM				IAMB	IAmb	21 16 16.2	
	comp=E,230nm,0.4s						
IRAM				IAMB	IAmb	21 16 16.9	
	comp=N,383nm,0.3s						
IRAM				IAMB	IAmb	21 16 17.1	
	comp=Z,165nm,0.4s						
IZEF	**Zefreh**	**4.38**	**68**	*e*Pn	Pn	21 15 27.2	+2.2
IZEF				IAMB	IAmb	21 15 40.8	
	comp=Z,101nm,0.6s						
IZEF				IAMB	IAmb	21 16 39.3	
	comp=N,85nm,0.4s						
IZEF				IAMB	IAmb	21 16 49.1	
	comp=E,83nm,0.6s						
KRSH	**Karshahi**	**4.70**	**55**	*e*Pn	Pn	21 15 31.1	+1.8
KRSH				IAMB	IAmb	21 15 47.1	
	comp=N,0.0nm,0.6s						
KRSH				IAMB	IAmb	21 16 27.6	
	comp=Z,0.0nm,0.6s						
KRSH				IAMB	IAmb	21 16 37.2	
	comp=E,0.0nm,0.7s						
ISAD	**Sadrabad**	**5.32**	**83**	IAMB	IAmb	21 16 43.9	
	comp=E,102nm,0.4s						
ISAD				IAMB	IAmb	21 16 49.0	
	comp=N,97nm,0.3s						
ANAR	**Anarak**	**5.59**	**69**	*e*Pn	Pn	21 15 43.4	+1.9
ANAR				IAMB	IAmb	21 15 55.5	
	comp=Z,0.0nm,0.2s						
ANAR				IAMB	IAmb	21 16 45.8	
	comp=N,0.0nm,0.4s						
ANAR				IAMB	IAmb	21 17 33.2	
	comp=E,0.0nm,0.7s						

*IDC **10** 21:21:48.2±1.6, 1°.34N×97°.00E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.5/62, mbtmp3.6/9, ML4.4/1, MS2.8/1, Ms1 3.0/1, ms1mx2.4/37, Error ellipse: s-maj=44.8km s-min=20.6km az=57.0*
*ISCJB **10** 21:21:49.8±1.0, 1°.15N±0°.08×96°.97E±0°.07, h30km, mb3.5/7, Error ellipse: s-maj=11.9km s-min=10.0km az=32.5*
*DJA **10** 21:21:59.3±0.3, 2°.N±2°.×98°.8E±°, h10km, M3.0/4, MLv3.0/4*

ISC 10 21:21:52.6±1.3, 1°.32N±0°.09×97°.1E±0°.1, h30km, n15, σ1s06/15, mb3.7/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.49**	**91**	P	**Pn**	**21 22 03.2**	**-0.4**
GSI				S	**Sn**	**21 22 10.0**	**-1.1**
SNSI	**Sinabang, Aceh**	**1.32**	**325**	P	Pb	21 22 26.5	+10
SNSI				S	Sb	21 22 46.6	+13
TPTI		**1.93**	**3**	P	**Pb**	**21 22 28.9**	**+1.7**
TPTI				S	**Sb**	**21 22 51.6**	**+0.6**
KCSI	**Kotacane, Aceh**	**2.30**	**17**	P	**Pn**	**21 22 28.1**	**-0.4**
PSI	**Prapat**	**2.36**	**51**	Pn	**Pn**	**21 22 29.1**	**-0.3**
	1.9nm,0.3s,baz=181,slow=21,SNR=8.1						
MNSI	**Mandailing Nat**	**2.55**	**102**	P	**Pb**	**21 22 39.3**	**+1.7**
TSI	**Tuntungan**	**2.63**	**34**	P	Pb	21 22 50.7	+12
CMAR	**Chiang Mai Arr**	**17.13**	**6**	P	**Pn**	**21 25 49.2**	**-0.8**
	0.5nm,0.3s,baz=192,slow=13,SNR=4.6						
CMAR				LR	LR	21 32 31.0	
	comp=Z,29nm,19.2s,baz=204,slow=38						
WRA	**Warramunga Arr**	**42.19**	**122**	P	**P**	**21 29 42.5**	**-0.6**
	0.2nm,0.5s,baz=302,slow=9.0,SNR=4.9						
ASAR	**Alice Springs**	**43.56**	**127**	P	**P**	**21 29 55.9**	**+1.7**
	0.3nm,0.8s,baz=295,slow=7.7,SNR=3.1						
SONM	**Songino Array**	**47.03**	**9**	P	**P**	**21 30 21.6**	**+0.1**
	0.6nm,0.7s,baz=191,slow=8.5,SNR=5.0						
MKAR	**Makanchi Array**	**47.10**	**346**	P	**P**	**21 30 21.8**	**-0.1**
	0.4nm,0.5s,baz=150,slow=8.4,SNR=7.4						
USRK	**Ussuriysk Ar.**	**52.73**	**31**	P	**P**	**21 31 03.4**	**-1.2**
	1.7nm,0.9s,baz=207,slow=8.1,SNR=4.0						
ZALV	**Zalesovo Beam**	**53.43**	**351**	P	**P**	**21 31 09.7**	**+0.1**
	0.9nm,0.4s,baz=175,slow=7.9,SNR=7.2						
BVAR	**Borovoye Array**	**56.10**	**341**	P	**P**	**21 31 28.5**	**-0.5**
	0.3nm,0.5s,baz=156,slow=11,SNR=4.6						

*GII **10** 21:29:56.3±0.0, 37°.89N×20°.87E, h2km*
*ISCJB **10** 21:29:59.6±0.4, 37°.89N±0°.01×20°.78E±0°.01, h9km±3km, mb4.2/31, MS3.3/5, Error ellipse: s-maj=2.5km s-min=1.7km az=30.7*
*IDC **10** 21:29:59.1±0.6, 37°.97N×20°.96E, h0km, mb4.0/15, mb1 4.1/23, mb1mx3.9/47, mbtmp4.0/23, ML3.7/7, MS3.3/8, Ms1 3.4/8, ms1mx2.9/52, Error ellipse: s-maj=13.7km s-min=12.2km az=178.0*
*PDG **10** 21:29:59.7±0.6, 37°.92N×20°.84E, h4km±1km, ML4.0/10, Error ellipse: s-maj=0.7km s-min=1.0km az=0.0*
*ATH **10** 21:30:00.2, 37°.89N×20°.90E, h13km, ML3.9/43, Error ellipse: s-maj=1.2km s-min=0.7km az=42.0*
*MOS **10** 21:30:00.1±1.4, 37°.84N×20°.75E, h16km, mb4.3/24, Error ellipse: s-maj=7.1km s-min=3.4km az=77.4*
*NEIC **10** 21:30:00.2±0.0, 37°.89N×20°.90E, h13km, mb4.3/6, MW4.2, ML3.9(ATH), ML4.0(THE), Moment Tensor Solution. s21 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.35; $M_{\theta\theta}$2.45; $M_{\phi\phi}$-2.10; $M_{r\theta}$0.03; $M_{\theta\phi}$-0.14; $M_{r\phi}$-0.92; Best double couple: M_w2.50000×10^{15} NP1:ϕ_s314.00000°, δ75.00000°, λ-18.00000°. NP2:ϕ_s49.00000°, δ73.00000°, λ-164.00000°. Principal axes: T 2.4500, Plg1.0000°, Azm2.0000°; N 0.0400, Plg67.0000°, Azm95.0000°; P -2.4900, Plg23.0000°, Azm271.0000°; After ATH.*
NEIC Felt at Katastarion, Greece.
*THE **10** 21:30:01.4, 37°.92N×20°.94E, h0km±2km, ML4.0/24 Error ellipse: s-maj=2.0km s-min=0.7km az=245.0*
*TIR **10** 21:30:06.7, 37°.85N×21°.83E, h33km, Md4.0/5*
*HLW **10** 21:30:18.0, 36°.84N×22°.43E, h10km±37km, MI3.7*

ISC 10 21:30:00.7±0.9, 37°.91N±0°.02×20°.90E±0°.02, h8km±5km, n417, σ1s95/483, mb4.2/31, MS3.3/5, 24C-23D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTN	**Vitineika**	**0.23**	**87**	P	**Pg**	**21 30 05.4**	**+0.2**
VTN				S	**Sb**	**21 30 09.3**	**+1.0**
VTN	**Vitineika**	**0.23**	**87**	P	**Pg**	**21 30 05.4**	**+0.2**
VLS	**Valsamata**	**0.37**	**318**	P	**Pg**	**21 30 08.1**	**+0.2**
VLS				S	**Sg**	**21 30 13.8**	**+1.1**
VLS				AML	AML	21 30 16.1	
	comp=E,65921μm,0.3s						
VLS				AML	AML	21 30 16.6	
	comp=N,49896μm,0.2s						
VLS	**Valsamata**	**0.37**	**318**	P	**Pg**	**21 30 08.1**	**+0.2**
VLS				S	**Sb**	**21 30 14.9**	**-0.5**
VLS	**Valsamata**	**0.37**	**318**	P	**Pg**	**21 30 08.1**	**+0.2**
VLS				S	**Sb**	**21 30 14.9**	**-0.5**
RLS	**Riolos of Patr**	**0.47**	**71**	P	**Pg**	**21 30 09.3**	**-0.6**
RLS				S	**Sg**	**21 30 16.1**	**-0.1**
RLS				AML	AML	21 30 18.9	
	comp=N,26097μm,0.4s						
RLS				AML	AML	21 30 19.0	
	comp=E,36997μm,0.3s						
RLS	**Riolos of Patr**	**0.47**	**71**	P	**Pg**	**21 30 09.2**	**-0.6**
RLS				S	**Sg**	**21 30 16.2**	**+0.1**
FSK	**Fiskardo**	**0.61**	**334**	P	**Pg**	**21 30 12.0**	**-0.6**
DRO	**Drossia**	**0.64**	**86**	P	**Pg**	**21 30 12.8**	**-0.4**
DRO				S	**Sb**	**21 30 22.2**	**-1.1**
DRO				AML	AML	21 30 23.2	
DRO				AML	AML	21 30 23.6	
	comp=N,91728μm,0.3s						
DRO	**Drossia**	**0.64**	**86**	P	**Pg**	**21 30 12.3**	**-0.8**
DRO				S	**Sb**	**21 30 22.6**	**-0.7**
EVGI	**Lefkada island**	**0.74**	**345**	P	**Pg**	**21 30 14.4**	**-0.6**
EVGI	**Lefkada island**	**0.74**

EFP	**Efpalio**	**0.95**	**56**	P	**Pg**	**21 30 17.7**	**-1.2**
EFP				S	**Sn**	**21 30 32.5**	**-1.5**
EFP				AML	AML	21 30 33.5	
	comp=E,32610µm,0.6s						
EFP				AML	AML	21 30 34.1	
	comp=N,51402µm,0.8s						
EFP	**Efpalio**	**0.95**	**56**	P	**Pg**	**21 30 17.6**	**-1.3**
EFP				S	**Sn**	**21 30 32.3**	**-1.7**
KLV	**Kalavryta, Ach**	**1.00**	**82**	P	**Pb**	**21 30 18.5**	**-1.8**
KLV				S	**Sb**	**21 30 33.1**	**-0.5**
KLV				AML	AML	21 30 39.5	
	comp=E,10477µm,0.5s						
KLV				AML	AML	21 30 39.7	
	comp=N,13567µm,1.0s						
KLV	**Kalavryta, Ach**	**1.00**	**82**	P	**Pb**	**21 30 17.9**	**-2.4**
KLV				S	**Sb**	**21 30 32.9**	**-0.7**
ALIK	**Aliki, Aigiali**	**1.02**	**69**	P	**Pb**	**21 30 19.1**	**-1.5**
TRIZ	**Trizonia**	**1.03**	**63**	P	**Pb**	**21 30 19.1**	**-1.7**
TRIZ				S	**Sn**	**21 30 34.8**	**-1.3**
TRIZ	**Trizonia**	**1.03**	**63**	P	**Pb**	**21 30 18.8**	**-2.0**
TRIZ				S	**Sg**	**21 30 33.8**	**-0.2**
SERG	**Sergoula**	**1.04**	**61**	P	**Pb**	**21 30 18.9**	**-2.1**
SERG				S	**Sn**	**21 30 35.1**	**-1.3**
ANX	**Ano Chora**	**1.06**	**49**	P	**Pb**	**21 30 19.5**	**-1.8**
ANX				S	**Sg**	**21 30 35.1**	**+0.3**
ITM	**Ithomi**	**1.09**	**131**	PG	**Pb**	**21 30 18.6**	**-3.2**
ITM	**Ithomi**	**1.09**	**131**	*e*Pg	**Pb**	**21 30 20.6**	**-1.2**
ITM				*e*Sn	**Sn**	**21 30 38.4**	**+0.9**
ITM	**Ithomi**	**1.09**	**131**	P	**Pg**	**21 30 21.0**	**-0.7**
ITM				S	**Sg**	**21 30 35.3**	**-0.5**
ITM				AML	AML	21 30 42.2	
	comp=N,17187µm,0.5s						
ITM				AML	AML	21 30 42.7	
	comp=E,21053µm,0.9s						
ITM	**Ithomi**	**1.09**	**131**	P	**Pb**	**21 30 20.3**	**-1.5**
ITM				S	**Sn**	**21 30 37.7**	**+0.1**
KALE	**Kalithea**	**1.09**	**63**	P	**Pb**	**21 30 20.0**	**-1.8**
KALE				AML	AML	21 30 39.6	
	comp=E,11598µm,0.3s						
KALE				AML	AML	21 30 39.8	
	comp=N,18499µm,0.6s						
KALE	**Kalithea**	**1.09**	**63**	P	**Pb**	**21 30 19.8**	**-2.1**
KALE				S	**Sn**	**21 30 36.7**	**-1.0**
TRIP	**Tripoli**	**1.15**	**109**	P	**Pg**	**21 30 22.3**	**-0.4**
TRIP				AML	AML	21 30 45.6	
	comp=N,8497µm,0.6s						
TRIP				AML	AML	21 30 45.6	
	comp=E,11454µm,0.5s						
TRIP	**Tripoli**	**1.15**	**109**	P	**Pb**	**21 30 21.5**	**-1.4**
PYL	**PYLOS**	**1.21**	**146**	P	**Pb**	**21 30 22.8**	**-1.0**
PYL				AML	AML	21 30 44.1	
	comp=E,10192µm,0.5s						
PYL				AML	AML	21 30 45.9	
	comp=N,8745µm,0.5s						
PYL	**PYLOS**	**1.21**	**146**	P	**Pn**	**21 30 22.3**	**-1.6**
PYL				S	**Sn**	**21 30 42.1**	**+1.6**
EVR	**Evrytania**	**1.24**	**35**	P	**Pn**	**21 30 23.4**	**-1.0**
EVR				AML	AML	21 30 48.4	
	comp=E,8936µm,0.7s						
EVR				AML	AML	21 30 50.0	
	comp=N,8944µm,1.1s						
EVR	**Evrytania**	**1.24**	**35**	P	**Pn**	**21 30 23.1**	**-1.3**
EVR				S	**Sg**	**21 30 42.4**	**+1.9**
VLX	**Vlachokerasia**	**1.29**	**114**	P	**Pn**	**21 30 23.8**	**-1.3**
VLX				AML	AML	21 30 48.5	
	comp=N,13627µm,0.6s						
VLX				AML	AML	21 30 48.6	
	comp=E,18269µm,0.6s						
VLX	**Vlachokerasia**	**1.29**	**114**	P	**Pg**	**21 30 24.7**	**-0.8**
VLX				S	**Sg**	**21 30 45.1**	**+2.9**
DLFA	**Delphi**	**1.38**	**65**	P	**Pb**	**21 30 26.0**	**-0.8**
DLFA				AML	AML	21 30 51.6	
	comp=N,7639µm,1.0s						
DLFA				AML	AML	21 30 55.8	
	comp=E,8011µm,0.8s						
MAKR	**Makrakomi, Fth**	**1.47**	**41**	P	**Pg**	**21 30 28.5**	**-0.4**
MAKR				AML	AML	21 30 55.3	
	comp=N,16678µm,0.6s						
MAKR				AML	AML	21 30 55.5	
	comp=E,23121µm,0.6s						
MAKR	**Makrakomi, Fth**	**1.47**	**41**	P	**Pb**	**21 30 27.2**	**-1.1**
MAKR				S	**Sg**	**21 30 49.4**	**+1.4**
AGG	**Agios Georgios**	**1.58**	**45**	PG	**Pn**	**21 30 28.1**	**-1.0**
AGG	**Agios Georgios**	**1.58**	**45**	*e*Pn	**Pn**	**21 30 29.6**	**-0.6**
AGG	**Agios Georgios**	**1.58**	**45**	P	**Pb**	**21 30 30.0**	**-0.2**
AGG				AML	AML	21 31 02.8	
	comp=N,6370µm,0.6s						
AGG				AML	AML	21 31 04.4	
	comp=E,5800µm,1.1s						
AGG	**Agios Georgios**	**1.58**	**45**	P	**Pb**	**21 30 28.9**	**-1.3**
AGG				S	**Sg**	**21 30 51.6**	**0.0**
AGG	**Agios Georgios**	**1.58**	**45**	*e*P	**Pb**	**21 30 29.6**	**-0.6**
DYR	**Agios Nikonas**	**1.61**	**134**	P	**Pb**	**21 30 30.0**	**-0.7**
DYR	**Agios Nikonas**	**1.61**	**134**	P	**Pb**	**21 30 29.8**	**-0.9**
DYR				S	**Sg**	**21 30 53.6**	**+1.0**
PROD	**Prodromos**	**1.62**	**77**	P	**Pb**	**21 30 30.3**	**-0.5**
PROD				S	**Sg**	**21 30 53.6**	**+0.9**
PROD				AML	AML	21 30 56.2	
	comp=E,10193µm,0.7s						
PROD				AML	AML	21 30 57.0	
	comp=N,7225µm,0.7s						
AXAR	**Agios Charalam**	**1.63**	**58**	P	**Pg**	**21 30 32.0**	**+0.1**
LTK	**Loutraki**	**1.64**	**85**	P	**Pg**	**21 30 31.2**	**-0.9**
LTK				AML	AML	21 31 00.1	
	comp=E,9739µm,0.6s						
LTK				AML	AML	21 31 02.6	
	comp=N,6495µm,0.6s						
LTK	**Loutraki**	**1.64**	**85**	P	**Pn**	**21 30 29.4**	**-0.4**
LOUT	**Loutraki**	**1.64**	**86**	P	**Pb**	**21 30 30.0**	**-1.3**
LOUT	**Loutraki**	**1.64**	**86**	P	**Pb**	**21 30 29.9**	**-1.3**
IGT	**Igoumenitsa**	**1.69**	**345**	P	**Pb**	**21 30 31.2**	**-0.8**
IGT	**Igoumenitsa**	**1.69**	**345**	P	**Pb**	**21 30 31.0**	**-0.9**
IGT	**Igoumenitsa**	**1.69**	**345**	P	**Pb**	**21 30 31.0**	**-0.9**
IGT	**Igoumenitsa**	**1.69**	**345**	*i* SN	**Pb**	**21 30 31.5**	**-0.5**
IGT				*i* PN	**Sn**	**21 30 56.4**	**+4.2**
JAN	**Janina**	**1.75**	**359**	P	**Pb**	**21 30 32.9**	**-0.2**
JAN				AML	AML	21 31 05.7	
	comp=E,4976µm,0.8s						
JAN				AML	AML	21 31 05.7	
	comp=N,3256µm,0.9s						
JAN	**Janina**	**1.75**	**359**	P	**Pb**	**21 30 32.7**	**-0.4**
JAN	**Janina**	**1.75**	**359**	P	**Pb**	**21 30 32.7**	**-0.4**
SGD	**Sagiada**	**1.78**	**343**	P	**Pb**	**21 30 32.6**	**-1.0**
LKR	**Lokris**	**1.81**	**65**	P	**Pb**	**21 30 32.5**	**-1.6**
LKR	**Lokris**	**1.81**	**65**	P	**Pn**	**21 30 32.0**	**-0.2**
LKR				S	**Sg**	**21 30 58.9**	**-0.1**
THL	**Klokotos Trika**	**1.87**	**27**	P	**Pb**	**21 30 34.8**	**-0.3**
THL				AML	AML	21 31 12.7	
	comp=N,2521µm,0.6s						
THL				AML	AML	21 31 13.0	
	comp=E,3329µm,0.8s						
THL	**Klokotos Trika**	**1.87**	**27**	P	**Pb**	**21 30 34.9**	**-0.2**
VIL2	**Platees**	**1.90**	**80**	P	**Pb**	**21 30 34.9**	**-0.6**
VIL2				AML	AML	21 31 14.8	
	comp=N,3336µm,0.8s						
VIL2				AML	AML	21 31 14.8	
	comp=E,3928µm,1.0s						
DID	**Didima**	**1.90**	**101**	P	**Pb**	**21 30 35.1**	**-0.4**
DID	**Didima**	**1.90**	**101**	P	**Pb**	**21 30 34.8**	**-0.8**
DID				S	**Sg**	**21 31 00.1**	**-1.5**
VILL	**Villia**	**1.92**	**82**	P	**Pb**	**21 30 34.7**	**-1.3**
KEK	**Kerkira**	**2.00**	**335**	P	**Pb**	**21 30 35.8**	**-1.5**
KEK				AML	AML	21 31 17.9	
	comp=N,2895µm,0.6s						
KEK				AML	AML	21 31 18.0	
	comp=E,3327µm,0.8s						
KEK	**Kerkira**	**2.00**	**335**	P	**Pb**	**21 30 35.5**	**-1.8**
VLI	**Veliai**	**2.01**	**125**	P	**Pb**	**21 30 36.2**	**-1.3**
VLI				AML	AML	21 31 20.3	
	comp=E,6079µm,0.9s						
VLI				AML	AML	21 31 20.7	
	comp=N,5234µm,0.8s						
VLI	**Veliai**	**2.01**	**125**	P	**Pb**	**21 30 37.1**	**-0.4**
SMIA	**Simia**	**2.06**	**61**	P	**Pb**	**21 30 37.4**	**-0.9**
SMIA	**Simia**	**2.06**	**61**	P	**Pb**	**21 30 36.9**	**-1.4**
MNVA	**Monemvasia**	**2.09**	**125**	P	**Pb**	**21 30 37.4**	**-1.5**
MNVA				AML	AML	21 31 19.5	
	comp=E,3517µm,0.9s						
MNVA				AML	AML	21 31 21.2	
	comp=N,1981µm,0.6s						
SRN	**Sarande**	**2.09**	**341**	P	**Pb**	**21 30 36.8**	**-2.1**
SRN	**Sarande**	**2.09**	**341**	*i* PN	**Pb**	**21 30 37.0**	**-1.9**
SRN				*i* SN	**Sn**	**21 31 00.3**	**-1.9**

YDRA	**Hydra**	**2.11**	**104**	P	**Pb**	**21 30 38.3**	**-0.9**
YDRA				AML	AML	21 31 19.2	
	comp=E,3567µm,1.3s						
YDRA				AML	AML	21 31 21.0	
	comp=N,4723µm,1.0s						
FYTO	**Fytoko, Volos**	**2.19**	**46**	P	**Pb**	**21 30 38.7**	**-1.9**
FYTO				AML	AML	21 31 17.5	
	comp=N,1125µm,0.7s						
FYTO				AML	AML	21 31 20.2	
	comp=E,1125µm,0.7s						
FYTO	**Fytoko, Volos**	**2.19**	**46**	P	**Pb**	**21 30 38.7**	**-1.9**
ATH	**Athens Observa**	**2.23**	**87**	P	**Pb**	**21 30 40.1**	**-1.1**
ATH				AML	AML	21 31 19.6	
	comp=E,2820µm,0.6s						
ATH				AML	AML	21 31 20.6	
	comp=N,5314µm,0.9s						
ATH	**Athens Observa**	**2.23**	**87**	P	**Pb**	**21 30 39.7**	**-1.5**
ATH				S	**Sb**	**21 31 08.2**	**-0.7**
ATH	**Athens Observa**	**2.23**	**87**	P	**Pb**	**21 30 39.7**	**-1.5**
ATH				S	**Sb**	**21 31 08.2**	**-0.7**
ATHU	**Athens Univers**	**2.28**	**88**	P	**Pb**	**21 30 40.2**	**-1.9**
ATHU				AML	AML	21 31 19.6	
	comp=N,2373µm,0.8s						
ATHU				AML	AML	21 31 19.9	
	comp=E,863µm,1.2s						
ATHU	**Athens Univers**	**2.28**	**88**	P	**Pb**	**21 30 40.1**	**-2.0**
ATHU				S	**Sb**	**21 31 10.4**	**-0.1**
VLY	**Voula,Athens**	**2.29**	**90**	P	**Pb**	**21 30 40.3**	**-1.9**
VLY				AML	AML	21 31 18.5	
	comp=E,4646µm,0.6s						
VLY				AML	AML	21 31 19.1	
	comp=N,3023µm,0.7s						
VLY	**Voula,Athens**	**2.29**	**90**	P	**Pn**	**21 30 39.4**	**+0.6**
PENT	**Pentalofos**	**2.29**	**5**	P	**Pb**	**21 30 40.9**	**-1.5**
PENT				AML	AML	21 31 28.0	
	comp=N,2162µm,1.1s						
PENT				AML	AML	21 31 29.8	
	comp=E,1601µm,1.2s						
PENT	**Pentalofos**	**2.29**	**5**	P	**Pb**	**21 30 41.1**	**-1.3**
NEO	**Neokhori**	**2.30**	**52**	P	**Pb**	**21 30 40.3**	**-2.1**
NEO				AML	AML	21 31 17.8	
	comp=N,2243µm,1.0s						
NEO				AML	AML	21 31 18.1	
	comp=E,3254µm,0.7s						
NEO	**Neokhori**	**2.30**	**52**	P	**Pb**	**21 30 39.9**	**-2.5**
XOR	**Xorichti**	**2.31**	**50**	P	**Pb**	**21 30 40.8**	**-1.8**
XOR	**Xorichti**	**2.31**	**50**	P	**Pb**	**21 30 40.3**	**-2.4**
PTL	**Penteli**	**2.35**	**86**	P	**Pb**	**21 30 40.7**	**-2.6**
PTL				S	**Sb**	**21 31 10.7**	**-1.7**
PTL				AML	AML	21 31 19.9	
	comp=N,2677µm,0.5s						
PTL				AML	AML	21 31 20.6	
	comp=E,2780µm,0.6s						
PTL	**Penteli**	**2.35**	**86**	P	**Pb**	**21 30 40.8**	**-2.5**
PTL				S	**Sn**	**21 31 09.1**	**+0.5**
KTHR	**Kythira**	**2.35**	**134**	P	**Pb**	**21 30 42.1**	**-1.2**
KYTH	**Kithira**	**2.37**	**133**	P	**Pb**	**21 30 41.3**	**-2.4**
KYTH				AML	AML	21 31 28.6	
	comp=E,3434µm,0.7s						
KYTH				AML	AML	21 31 28.9	
	comp=N,3063µm,0.6s						
KYTH	**Kithira**	**2.37**	**133**	P	**Pb**	**21 30 42.6**	**-1.1**
SKIA	**Skiathos**	**2.37**	**57**	P	**Pb**	**21 30 41.4**	**-2.3**
SKIA				AML	AML	21 31 28.1	
	comp=E,1304µm,0.7s						
SKIA				AML	AML	21 31 28.2	
	comp=N,1473µm,0.8s						
SKIA	**Skiathos**	**2.37**	**57**	P	**Pb**	**21 30 41.2**	**-2.5**
EREA	**Eretria**	**2.44**	**77**	P	**Pb**	**21 30 42.3**	**-2.6**
EREA				AML	AML	21 31 23.0	
	comp=E,2872µm,0.8s						
EREA				AML	AML	21 31 23.4	
	comp=N,2090µm,0.5s						
EREA	**Eretria**	**2.44**	**77**	P	**Pb**	**21 30 42.2**	**-2.7**
TPE	**Tepelena**	**2.48**	**344**	*i* PN	**Pg**	**21 30 48.2**	**-0.2**
TPE				*i* SN	**Sn**	**21 31 09.7**	**-2.3**
KZN	**Kozani**	**2.49**	**16**	P	**Pb**	**21 30 43.1**	**-2.7**
KZN	**Kozani**	**2.49**	**16**	P	**Pb**	**21 30 44.1**	**-1.7**
NEST	**Nestorio**	**2.51**	**3**	P	**Pb**	**21 30 44.5**	**-1.6**
LIT	**Litokhoron**	**2.52**	**29**	*e*Pn	**Pn**	**21 30 42.9**	**+1.0**
LIT	**Litokhoron**	**2.52**	**29**	P	**Pn**	**21 30 42.9**	**+1.0**
LIT	**Litokhoron**	**2.52**	**29**	P	**Pn**	**21 30 43.0**	**+1.1**
LIT	**Litokhoron**	**2.52**	**29**	*e*P	**Pn**	**21 30 42.9**	**+1.0**
ALNA	**Alonissos**	**2.64**	**61**	P	**Pb**	**21 30 45.0**	**-3.1**
ALNA				AML	AML	21 31 19.7	
	comp=E,2720µm,0.6s						
ALNA				AML	AML	21 31 20.9	
	comp=N,1656µm,0.7s						
AOS	**Alonnisos**	**2.66**	**61**	PG	**Pn**	**21 30 43.9**	**+0.1**
AOS	**Alonnisos**	**2.66**	**61**	P	**Pn**	**21 30 45.2**	**+1.4**
AOS	**Alonnisos**	**2.66**	**61**	P	**Pn**	**21 30 44.7**	**+0.9**
KBN	**Korca**	**2.72**	**358**	P	**Pb**	**21 30 47.4**	**-2.2**
KBN	**Korca**	**2.72**	**358**	P	**Pb**	**21 30 47.4**	**-2.2**
KBN	**Korca**	**2.72**	**358**	*i* PN	**Pn**	**21 30 45.3**	**+0.6**
KBN				*i* SN	Sn	21 31 06.1	-12
ANKY	**Antikythira Is**	**2.80**	**136**	P	**Pb**	**21 30 47.7**	**-3.2**
ANKY				AML	AML	21 31 41.7	
	comp=E,1537µm,0.8s						
ANKY				AML	AML	21 31 43.0	
	comp=N,1992µm,1.1s						
ANKY	**Antikythira Is**	**2.80**	**136**	P	**Pb**	**21 30 47.8**	**-3.1**
SCTE	**Santa Cesarea**	**2.88**	**320**	P	**Pn**	**21 30 47.6**	**+0.8**
FNA	**Florina**	**2.90**	**7**	PG	**Pn**	**21 30 46.3**	**-0.9**
FNA	**Florina**	**2.90**	**7**	*e*Pn	**Pn**	**21 30 48.4**	**+1.2**
FNA	**Florina**	**2.90**	**7**	P	**Pn**	**21 30 48.6**	**+1.4**
FNA	**Florina**	**2.90**	**7**	P	**Pn**	**21 30 48.3**	**+1.1**
FNA	**Florina**	**2.90**	**7**	*e*P	**Pn**	**21 30 48.4**	**+1.2**
MHLO	**Agia Marina, M**	**3.04**	**112**	P	**Pn**	**21 30 50.5**	**+1.4**
MHLO	**Agia Marina, M**	**3.04**	**112**	P	**Pn**	**21 30 50.2**	**+1.1**
BIA	**Bitola**	**3.13**	**6**	P	**Pn**	**21 30 52.5**	**+2.2**
BIA	**Bitola**	**3.13**	**6**	*i* Pn	**Pn**	**21 30 52.4**	**+2.0**
THE	**Thessaloniki**	**3.16**	**30**	P	**Pn**	**21 30 51.5**	**+0.8**
THE	**Thessaloniki**	**3.16**	**30**	P	**Pn**	**21 30 51.5**	**+0.8**
PLG	**Polygyros**	**3.16**	**38**	P	**Pn**	**21 30 52.3**	**+1.5**
PLG	**Polygyros**	**3.16**	**38**	P	**Pn**	**21 30 52.4**	**+1.6**
PLG	**Polygyros**	**3.16**	**38**	P	**Pn**	**21 30 52.4**	**+1.6**
HORT	**Hortiatis**	**3.19**	**32**	PG	**Pn**	**21 30 51.4**	**+0.2**
HORT	**Hortiatis**	**3.19**	**32**	P	**Pn**	**21 30 52.4**	**+1.2**
OHR	**Ohrid**	**3.20**	**359**	*i* Pn	**Pn**	**21 30 52.4**	**+1.0**
OHR	**Ohrid**	**3.20**	**359**	P	**Pb**	**21 30 54.2**	**-3.7**
GRG	**Griva**	**3.26**	**20**	PG	**Pn**	**21 30 51.3**	**-0.9**
GRG	**Griva**	**3.26**	**20**	P	**Pn**	**21 30 52.8**	**+0.6**
GRG	**Griva**	**3.26**	**20**	P	**Pn**	**21 30 52.8**	**+0.6**
TNSA	**Tinos**	**3.40**	**95**	P	**Pn**	**21 30 55.4**	**+1.5**
OUR	**Ouranopolis**	**3.41**	**44**	PG	**Pn**	**21 30 55.1**	**+1.0**
OUR	**Ouranopolis**	**3.41**	**44**	P	**Pn**	**21 30 55.6**	**+1.4**
OUR	**Ouranopolis**	**3.41**	**44**	P	**Pn**	**21 30 55.4**	**+1.3**
OUR	**Ouranopolis**	**3.41**	**44**	P	**Pn**	**21 30 55.4**	**+1.3**
KRUS	**Krusevo**	**3.47**	**4**	*i* Pn	**Pn**	**21 30 55.8**	**+0.8**
IMMV	**Iera Moni Meta**	**3.48**	**134**	P	**Pn**	**21 30 56.6**	**+1.5**
IMMV				AML	AML	21 31 41.8	
	comp=N,1042µm,0.9s						
IMMV				AML	AML	21 31 42.3	
	comp=E,1241µm,0.7s						
IMMV	**Iera Moni Meta**	**3.48**	**134**	P	**Pn**	**21 30 56.3**	**+1.2**
SOH	**Sokhos**	**3.48**	**32**	P	**Pn**	**21 30 57.1**	**+1.9**
SOH	**Sokhos**	**3.48**	**32**	P	**Pn**	**21 30 56.8**	**+1.6**
SOH				S	**Sn**	**21 31 37.9**	**+1.4**
SOH	**Sokhos**	**3.48**	**32**	P	**Sn**	**21 30 56.8**	**+1.6**
SOH				S	**Sn**	**21 31 37.9**	**+1.4**
TIP	**Timpagrande**	**3.49**	**293**	*e*Pn	**Pn**	**21 30 55.5**	**+0.2**
TIP	**Timpagrande**	**3.49**	**293**	⇑*i*P	**Pn**	**21 30 56.1**	**+0.8**
TIP	**Timpagrande**	**3.49**	**293**	S	**Sn**	**21 31 34.6**	**-2.2**
TIR	**Tirane**	**3.53**	**347**	*e*Pn	**Pn**	**21 30 56.5**	**+0.7**
TIR	**Tirane**	**3.53**	**347**	⇑*i*P	**Pn**	**21 30 57.5**	**+1.7**
TIR	**Tirane**	**3.53**	**347**	*e*P	**Pn**	**21 30 56.5**	**+0.7**
KNT	**Kendrikon**	**3.60**	**25**	PG	**Pn**	**21 30 56.6**	**-0.2**
KNT	**Kendrikon**	**3.60**	**25**	P	**Pn**	**21 30 57.4**	**+0.6**
KNT	**Kendrikon**	**3.60**	**25**	P	**Pn**	**21 30 57.4**	**+0.6**
VAM	**Vamos**	**3.64**	**132**	P	**Pn**	**21 30 58.9**	**+1.6**
VAM	**Vamos**	**3.64**	**132**	P	**Pn**	**21 30 58.1**	**+0.8**
VAM	**Vamos**	**3.64**	**132**	P	**Pn**	**21 30 58.1**	**+0.8**
VAY	**Valandovo**	**3.65**	**20**	*i* Pn	**Pn**	**21 30 58.8**	**+1.4**
APE	**Apeiranthos**	**3.78**	**101**	PG	**Pn**	**21 30 59.6**	**+0.4**
APE	**Apeiranthos**	**3.78**	**101**	⇓*i*P	Pb	21 31 02.5	-5.1
APE	**Apeiranthos**	**3.78**	**101**	P	**Pn**	**21 31 01.2**	**+1.9**
APE	**Apeiranthos**	**3.78**	**101**	*e*P	**Pn**	**21 31 00.1**	**+0.9**
PHP	**Peshkopia**	**3.79**	**355**	P	**Pn**	**21 31 00.4**	**+0.9**
PHP	**Peshkopia**	**3.79**	**355**	P	**Pn**	**21 31 00.4**	**+0.9**
CGL1	**Ceglie Messapi**	**3.82**	**317**	*e*Pn	**Pn**	**21 31 00.5**	**+0.7**
CGL1				Sn	**Sn**	**21 31 48.1**	**+3.2**
SRS	**Serrai**	**3.83**	**32**	P	**Pn**	**21 31 01.1**	**+1.2**

SRS	**Serrai**	**3.83**	**32**	P	**Pn**	**21 31 00.7**	**+0.8**
SRS	**Serrai**	**3.83**	**32**	P	**Pn**	**21 31 00.7**	**+0.8**
LIA	**Limnos Island**	**3.89**	**58**	P	**Pn**	**21 31 02.6**	**+1.9**
STIP	**Stip**	**3.91**	**14**	*i* Pn	**Pn**	**21 31 03.6**	**+2.5**
CEL	**Celeste**	**3.96**	**277**	*e*Pn	**Pn**	**21 31 01.7**	**-0.1**
MASS	**Massafra**	**3.99**	**314**	*e*Pn	**Pn**	**21 31 02.6**	**+0.5**
MASS				Sn	**Sn**	**21 31 50.4**	**+1.3**
GVD	**Gavdhos**	**4.00**	**139**	P	**Pn**	**21 31 03.4**	**+1.2**
FASA	**Fasano**	**4.00**	**318**	*e*Pn	**Pn**	**21 31 01.2**	**-1.1**
THAS	**Thassos island**	**4.01**	**47**	P	**Pn**	**21 31 03.4**	**+1.0**
SKO	**Skopje**	**4.08**	**6**	P	**Pn**	**21 31 05.2**	**+1.8**
CHOS	**Chios island**	**4.09**	**82**	*e*PG	**Pn**	**21 31 04.6**	**+1.0**
SIGR	**SIGRI**	**4.10**	**70**	*e*PG	**Pn**	**21 31 04.7**	**+1.1**
NVR	**Nevrokopi**	**4.13**	**33**	P	**Pn**	**21 31 05.6**	**+1.5**
NVR	**Nevrokopi**	**4.13**	**33**	P	**Pn**	**21 31 05.5**	**+1.4**
IDI	**Anoyia**	**4.14**	**128**	PG	**Pn**	**21 31 04.1**	**-0.1**
IDI	**Anoyia**	**4.14**	**128**	Pn	**Pn**	**21 31 05.2**	**+1.0**
	comp=E,3.6nm,0.3s,baz=298,slow=15,SNR=15						
IDI				Sn	**Sn**	**21 31 52.6**	**-0.2**
	comp=E,17nm,0.3s,baz=295,slow=10,SNR=8.1						
IDI	**Anoyia**	**4.14**	**128**	*e*Pn	**Pn**	**21 31 05.9**	**+1.7**
IDI				Sn	**Sn**	**21 31 52.6**	**-0.2**
ANAF	**Anafi Island**	**4.19**	**110**	P	**Pn**	**21 31 07.5**	**+2.6**
PUK	**Puka**	**4.21**	**350**	*i* PN	**Pn**	**21 31 04.3**	**-0.8**
PUK				*i* SN	**Sn**	**21 31 47.0**	**-7.5**
ULC	**Ulcinj**	**4.25**	**343**	⇑*i*Pn	**Pn**	**21 31 05.8**	**+0.1**
ULC				*e*Sn	**Sn**	**21 31 56.4**	**+0.9**
MATE	**Matera**	**4.25**	**311**	⇓*i*P	**Pn**	**21 31 06.0**	**+0.3**
MMB	**Musomiste**	**4.28**	**30**	*e*P	**Pn**	**21 31 10.0**	**+3.9**
KKB	**Krupnik**	**4.30**	**22**	*e*P	**Pb**	**21 31 13.2**	**-3.3**
SG1	**Sgolgore (BA)**	**4.39**	**313**	*e*Pn	**Pn**	**21 31 08.3**	**+0.6**
SG1				Sn	**Sn**	**21 32 00.0**	**+1.0**
PRK	**Paraskevi**	**4.42**	**71**	P	**Pn**	**21 31 10.3**	**+2.3**
PRK	**Paraskevi**	**4.42**	**71**	P	**Pn**	**21 31 09.4**	**+1.4**
BAI	**Bari**	**4.46**	**317**	*e*Pn	**Pn**	**21 31 09.3**	**+0.7**
DRME	**Dracevica, Mon**	**4.47**	**343**	⇑*i*Pn	**Pn**	**21 31 08.4**	**-0.4**
DRME				*e*Sn	**Sn**	**21 32 01.6**	**+0.6**
DRME	**Dracevica, Mon**	**4.47**	**343**	⇑*i*Pn	**Pn**	**21 31 08.3**	**-0.5**
CUC	**Castrocucco**	**4.48**	**299**	*e*Pn	**Pn**	**21 31 09.4**	**+0.6**
URLA	**Izmir**	**4.51**	**82**	*e*PG	**Pn**	**21 31 10.1**	**+0.7**
BUM	**Brajici-Budva**	**4.65**	**341**	⇓*i*Pn	**Pn**	**21 31 10.9**	**-0.4**
BUM				*e*Sn	**Sn**	**21 32 05.6**	**+0.1**
PDG	**Podgorica**	**4.69**	**345**	⇓*i*P	**Pn**	**21 31 12.1**	**+0.3**
PDG	**Podgorica**	**4.69**	**345**	S	**Sn**	**21 32 06.8**	**+0.5**
PDG	**Podgorica**	**4.69**	**345**	⇑*i*Pn	**Pn**	**21 31 11.3**	**-0.5**
TTG	**Podgorica**	**4.69**	**345**	⇓*i*Pn	**Pn**	**21 31 11.8**	**0.0**
TTG				*e*Sn	**Sn**	**21 32 07.1**	**+0.8**
TTG	**Podgorica**	**4.69**	**345**	*e*Pn	**Pn**	**21 31 11.6**	**-0.2**
TTG				*e*Sn	**Sn**	**21 32 06.0**	**-0.4**
TTG	**Podgorica**	**4.69**	**345**	*e*P	**Pn**	**21 31 11.6**	**-0.2**
TTG				*e*		21 32 06.0	
PVY	**Plav**	**4.74**	**352**	⇑*i*Pn	**Pn**	**21 31 13.0**	**+0.5**
PVY				*e*Sn	**Sn**	**21 32 08.6**	**+0.9**
RZN	**Rozhen**	**4.79**	**37**	*e*P	**Pn**	**21 31 15.3**	**+2.1**
RDO	**Rodhopi**	**4.83**	**46**	*e*PG	**Pn**	**21 31 14.6**	**+0.9**
CEME	**Cevo**	**4.88**	**343**	⇓*i*Pn	**Pn**	**21 31 13.9**	**-0.5**
CEME				*e*Sn	**Sn**	**21 32 11.9**	**+0.8**
HCY	**Herceg Novi**	**4.90**	**339**	⇓*i*Pn	**Pn**	**21 31 14.3**	**-0.3**
HCY				*e*Sn	**Sn**	**21 32 11.5**	**+0.1**
HCY	**Herceg Novi**	**4.90**

VYHS	**Vyhne**	**10.69**	**353**	*e*SN		**Sn**	**21 34 29.8**	**-4.1**
ABTA	**Abfaltersbach**	**10.79**	**328**	*e*Pn		**Pn**	**21 32 35.4**	**-0.1**
	comp=E,2.8nm,0.6s							
ABTA				*e*Sn		**Sn**	**21 34 32.6**	**-3.9**
	comp=E,16nm,0.8s							
MOA	**Molln**	**11.06**	**336**	*e*Pn		**Pn**	**21 32 38.1**	**-1.0**
	comp=E,4.9nm,0.6s,SNR=9.7							
MOA				*e*Sn		**Sn**	**21 34 37.7**	**-5.3**
	comp=E,3.3nm,0.4s							
HNAT	**Natroun**	**11.54**	**133**	P		**Pn**	**21 32 42.4**	**-3.5**
	baz=134							
WTTA	**Wattenberg**	**11.57**	**327**	*i* Sn		**Sn**	**21 34 51.0**	**-4.6**
	comp=E,9.8nm,0.8s							
VRAC	**Vranov**	**11.82**	**346**	LR		LR	21 37 43.1	
	comp=E,110nm,18.4s,baz=180,slow=39							
MOTA	**Moosalm**	**11.87**	**326**	*e*Pn		**Pn**	**21 32 51.1**	**+0.8**
	comp=E,5.3nm,0.7s,SNR=6.3							
MOTA				*i* Sn		**Sn**	**21 35 00.2**	**-2.7**
	comp=E,7.0nm,0.7s							
DAVOX	**Davos/Dischmat**	**12.04**	**321**	LR		LR	21 38 50.0	
	comp=E,95nm,19.4s,slow=44							
TUE	**Stuetta**	**12.10**	**319**	*e*Pn		**Pn**	**21 32 53.3**	**-0.3**
TUE				*e*Sn		**Sn**	**21 35 02.7**	**-6.0**
GEA0	**GERESS Array S**	**12.11**	**337**	*e*Pn		**Pn**	**21 32 52.2**	**-1.3**
GEC2	**GERESS Array S**	**12.12**	**337**	*e*Pn		**Pn**	**21 32 53.3**	**-0.3**
GEC2	**GERESS Array S**	**12.12**	**337**	*e*P		**Pn**	**21 32 53.3**	**-0.3**
GERES	**GERESS Array B**	**12.12**	**337**	Pn		**Pn**	**21 32 53.0**	**-0.7**
	comp=E,0.3nm,0.3s,baz=155,slow=14,SNR=10.0							
GERES				Sn		**Sn**	**21 35 02.5**	**-6.4**
	comp=E,0.2nm,0.3s,baz=154,slow=23,SNR=4.5							
GERES				LR		LR	21 38 26.2	
	comp=E,188nm,21.1s,baz=144,slow=42							
RETA	**Reutte**	**12.13**	**325**	*e*Pn		**Pn**	**21 32 55.3**	**+1.6**
	comp=E,1.7nm,0.6s							
RETA				*e*Sn		**Sn**	**21 35 05.0**	**-4.1**
	comp=E,4.4nm,0.6s							
GLL	**Jalalah**	**12.23**	**130**	P		**Pn**	**21 32 51.3**	**-4.0**
	baz=130							
DAVA	**Damuels**	**12.39**	**323**	*e*Sn		**Sn**	**21 35 09.7**	**-6.0**
	comp=E,7.8nm,0.6s							
KHC	**Kasperske Hory**	**12.41**	**337**	*e*P		**Pn**	**21 32 55.0**	**-2.6**
KHC				*ex*		x	21 33 04.8	
KHC				*e*S		**Sn**	**21 35 09.2**	**-6.7**
KHC	**Kasperske Hory**	**12.41**	**337**	*e*P		**Pn**	**21 32 55.0**	**-2.6**
KHC				*e*			21 35 09.2	
NBNS	**Bani Suef**	**12.69**	**134**	P		**Pn**	**21 32 57.9**	**-3.6**
	baz=135							
MMAI	**Mount Meron Ar**	**12.79**	**108**	Pn		**Pn**	**21 33 00.7**	**-2.2**
	comp=E,0.9nm,0.3s,baz=308,slow=11,SNR=6.3							
MMAI				Sn		Sn	21 35 14.5	-11
	comp=E,0.8nm,0.3s,baz=318,slow=27,SNR=3.1							
MMA2	**Mount Meron ar**	**12.79**	**108**	Pn		**Pn**	**21 32 59.9**	**-3.0**
NATI	**Neve Ativ**	**12.93**	**107**	Pn		**Pn**	**21 33 02.1**	**-2.6**
KZIT	**Kziot**	**13.14**	**118**	Pn		**Pn**	**21 33 04.6**	**-3.0**
YTIR	**Yattir**	**13.39**	**115**	Pn		**Pn**	**21 33 08.0**	**-3.2**
DSI	**Dead Sea**	**13.47**	**114**	Pn		**Pn**	**21 33 08.6**	**-3.6**
MZDA	**Masada**	**13.60**	**115**	Pn		**Pn**	**21 33 10.7**	**-3.1**
PRNI	**Paran**	**13.89**	**119**	Pn		**Pn**	**21 33 15.0**	**-2.9**
KIEV	**Kiev**	**14.09**	**22⇓**	*e*P		**P**	**21 33 25.0**	**-3.3**
KIEV				pmax		pmax		
	comp=Z,3.0nm,1.4s							
HRFI	**Mount Harif**	**14.10**	**120**	Pn		**Pn**	**21 33 16.3**	**-4.5**
MBRI	**Mt Berech**	**14.17**	**121**	Pn		**Pn**	**21 33 18.4**	**-3.3**
CLL	**Collm**	**14.52**	**340**	*e*sPP		P	21 33 38.0	+5.0
SUW	**Suwalki**	**16.19**	**5**	*e*Pn		**Pn**	**21 33 48.2**	**-0.1**
	comp=Z,70nm,1.2s							
SUW	**Suwalki**	**16.19**	**5**	*e*P		**Pn**	**21 33 48.2**	**-0.1**
SUW				pmax		pmax		
	comp=Z,70nm,1.2s							
KIV	**Kislovodsk**	**17.52**	**63**	*e*P		**P**	**21 34 07.8**	**+1.4**
KIV				pmax		pmax		
	comp=Z,8.0nm,1.1s							
KBZ	**Khabaz**	**17.62**	**64**	P		**Pn**	**21 34 05.5**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=238,slow=19,SNR=2.3							
NCK	**Nalchik**	**18.07**	**65⇓**	*e*P		**P**	**21 34 17.6**	**+5.1**
NCK				pmax		pmax		
	comp=Z,2.0nm,0.4s							
VORD	**Divnogorie**	**18.45**	**39**	*e*P		**Pn**	**21 34 17.7**	**+1.1**
VORD				pmax		pmax		
	comp=Z,5.0nm,0.9s							
VSR	**Storozhevoye**	**18.55**	**38**	*e*P		**Pn**	**21 34 19.3**	**+1.5**
VSR				pmax		pmax		
	comp=Z,4.0nm,0.5s							
LPSR	**Galich'ya Gora**	**19.34**	**35**	*e*P		**Pn**	**21 34 31.7**	**+4.4**
LPSR				pmax		pmax		
	comp=Z,20nm,0.7s							
ES19	**SONSECA Array**	**19.40**	**283**	*e*P		**P**	**21 34 26.2**	**-0.9**
ESDC	**Sonseca Array**	**19.45**	**283**	P		**Pn**	**21 34 28.1**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=79,slow=11,SNR=11							
ESDC				LR		LR	21 40 48.2	
	comp=Z,78nm,19.6s,baz=335,slow=33							
ESLA	**Sonseca Array**	**19.45**	**283**	*e*P		**P**	**21 34 26.6**	**-1.1**
	comp=Z,12nm,1.1s							
VRH	**Novokhopyorsk**	**19.83**	**41**	*e*P		**Pn**	**21 34 36.0**	**+2.8**
VRH				pmax		pmax		
	comp=Z,20nm,0.8s							
OBN	**Obninsk**	**20.23**	**27⇑**	*e*P		Pn	21 34 38.8	+0.9
OBN				*e*			21 34 58.1	
OBN				*e*PPP		PPP	21 35 05.8	
OBN				pmax		pmax		
	comp=Z,8.0nm,0.6s							
OBN				MLR		MLR		
	comp=Z,78nm,12.0s							
VSU	**Vasula**	**20.92**	**9⇓**	*e*P		Pn	21 34 46.5	+0.6
VSU				pmax		pmax		
	comp=Z,37nm,0.9s							
MOS	**Moscow**	**21.09**	**27**	*e*P		P	21 34 56.3	+11
MOS				*e*			21 35 14.2	
MOS				*e*			21 38 53.2	
MDT	**Midelt**	**21.39**	**264**	P		**P**	**21 34 48.8**	**-0.1**
	comp=Z,4.8nm,0.8s,baz=91,slow=11,SNR=7.3							
SFS	**San Fernando**	**21.62**	**275**	*e*P		**P**	**21 34 49.0**	**-2.1**
	comp=Z,174nm,1.1s							
SFS	**San Fernando**	**21.62**	**275**	*e*P		**P**	**21 34 49.0**	**-2.1**
SFS				pmax		pmax		
	comp=Z,174nm,1.1s							
HFS	**Hagfors**	**22.72**	**351**	P		**P**	**21 35 00.8**	**-1.9**
	comp=Z,3.5nm,0.6s,baz=160,slow=14,SNR=10							
HFS				LR		LR	21 44 42.9	
	comp=Z,138nm,19.9s,baz=328,slow=39							
NC602	**NORSAR Array S**	**23.60**	**348**	*e*P		**P**	**21 35 11.2**	**-0.6**
NORES	**NORESS Array B**	**23.60**	**348**	P		**P**	**21 35 13.4**	**+1.7**
NORES				pmax		pmax		
	comp=Z,1.0nm,0.4s							
FINES	**FINESS Array B**	**23.79**	**6**	P		**P**	**21 35 12.5**	**-1.0**
	comp=Z,4.0nm,0.9s,baz=161,slow=14,SNR=7.3							
FINES				LR		LR	21 46 35.9	
	comp=Z,99nm,18.6s,baz=217,slow=42							
FINES	**FINESS Array B**	**23.79**	**6**	P		**P**	**21 35 12.5**	**-1.0**
FINES				pmax		pmax		
	comp=Z,3.0nm,0.8s							
FINES				MLR		MLR		
	comp=Z,99nm,18.6s							
NAO01	**NORSAR Array S**	**23.81**	**348**	*e*P		**P**	**21 35 12.8**	**-1.0**
EKA	**Eskdalemuir Ar**	**23.82**	**325**	P		**P**	**21 35 12.5**	**-1.4**
	comp=Z,7.1nm,0.8s,baz=126,slow=9.9,SNR=14							
NC405	**NORSAR Array S**	**23.94**	**349**	*e*P		**P**	**21 35 14.0**	**-1.0**
NB201	**NORSAR Array S**	**23.94**	**348**	*e*P		**P**	**21 35 14.5**	**-0.6**
NB2	**NORSAR Subarra**	**23.95**	**348**	P		**P**	**21 35 15.3**	**+0.2**
	comp=Z,3.3nm,0.8s,baz=161,slow=9.3							
NB2	**NORSAR Subarra**	**23.95**	**348**	P		**P**	**21 35 20.0**	**+4.9**
NB2				pmax		pmax		
	comp=Z,2.0nm,0.6s							
NOA	**NORSAR Array B**	**23.95**	**348**	P		**P**	**21 35 14.9**	**-0.2**
	comp=Z,2.3nm,0.9s,baz=154,slow=9.4,SNR=9.4							
NOA				LR		LR	21 46 29.4	
	comp=Z,45nm,19.2s,baz=290,slow=42							
NOA	**NORSAR Array B**	**23.95**	**348**	P		**P**	**21 35 14.9**	**-0.2**
NOA				pmax		pmax		
	comp=Z,4.0nm,0.8s							
NOA				MLR		MLR		
	comp=Z,45nm,19.2s							
NBO00	**NORSAR Array S**	**24.01**	**348**	*e*P		**P**	**21 35 14.9**	**-0.7**
NC303	**NORSAR Array S**	**24.10**	**349**	*e*P		**P**	**21 35 16.7**	**+0.3**
RAYN	**Ar Rayn**	**25.45**	**117**	*e*P		**P**	**21 35 29.5**	**+0.3**
	comp=Z,2.7nm,0.8s							
RAYN	**Ar Rayn**	**25.45**	**117**	*e*P		**P**	**21 35 29.5**	**+0.3**
RAYN				pmax		pmax		
	comp=Z,3.0nm,0.8s							
TOA0	**Torodi Ar. Sit**	**30.01**	**220**	*e*P		**P**	**21 36 09.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**30.01**	**220**	P		**P**	**21 36 10.1**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=30,slow=9.3,SNR=8.0							
ABKAR	**Akbulak array**	**30.15**	**55**	*e*P		**P**	**21 36 11.2**	**+0.2**
ARU	**Arti**	**31.07**	**41**	P		P	21 36 22.9	+4.0
ARU							21 37 25.1	
ARU				S		S	21 41 32.0	+7.9
ARU				SS		**SnSn**	**21 43 17.1**	**+12**
ARCES	**ARCESS Array B**	**31.79**	**3**	P		**P**	**21 36 24.6**	**-0.6**
	comp=Z,2.6nm,0.8s,baz=184,slow=11,SNR=6.9							
UOSS	**Minazif**	**32.58**	**103**	*e*P		**P**	**21 36 32.9**	**+0.3**
	comp=Z,6.1nm,1.0s							
BRVK	**Borovoye**	**37.00**	**50⇑**	*e*P		**P**	**21 37 13.5**	**+3.0**
BRVK				pmax		pmax		
	comp=Z,2.0nm,1.1s							
KK31	**Karatay Array**	**37.63**	**66**	*e*P		**P**	**21 37 15.8**	**-0.1**
KK31	**Karatay Array**	**37.63**	**66**	*e*P		**P**	**21 37 15.9**	**-0.1**
KKAR	**Karatay Array**	**37.63**	**66**	*e*P		**P**	**21 37 15.8**	**-0.1**
KKAR	**Karatay Array**	**37.63**	**66**	*e*P		**P**	**21 37 15.9**	**-0.1**
ROSA	**Rosais**	**38.19**	**287**	*e*P		**P**	**21 37 20.2**	**-0.6**
	comp=Z,92nm,1.0s							
DBIC	**Dimbokro**	**38.90**	**223**	P		**P**	**21 37 27.0**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=15,slow=7.6,SNR=3.2							
DBIC	**Dimbokro**	**38.90**	**223**	P		**P**	**21 37 27.0**	**+0.2**
DBIC	**Dimbokro**	**38.90**	**223**	P		**P**	**21 37 27.0**	**+0.2**
DBIC				pmax		pmax		
	comp=Z,2.0nm,0.7s							
SFK	**Sufi-Kurgan**	**40.47**	**70**	P		**P**	**21 37 39.8**	**-0.2**
SFK				pmax		pmax		
	comp=Z,4.0nm,1.0s							
AAK	**Ala-Archa**	**40.60**	**66**	P		**P**	**21 37 41.5**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=280,slow=11,SNR=2.6							
AAK	**Ala-Archa**	**40.60**	**66⇑**	*e*P		**P**	**21 37 44.3**	**+3.3**
AAK				pmax		pmax		
	comp=Z,2.0nm,1.1s							
KURK	**Kurchatov**	**42.20**	**53**	*e*P		**P**	**21 37 53.7**	**-0.1**
	comp=Z,6.1nm,1.0s							
KURK	**Kurchatov**	**42.20**	**53⇓**	*e*P		**P**	**21 37 56.7**	**+2.9**
KURK				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KSH	**Kashi**	**42.44**	**70**	*e*P		**P**	**21 37 54.5**	**-1.6**
KDJ	**Kajisay**	**42.65**	**66**	*e*P		**P**	**21 37 58.3**	**+0.5**
	comp=Z,17nm,2.0s							
KDJ	**Kajisay**	**42.65**	**66**	*e*P		**P**	**21 37 58.3**	**+0.5**
KDJ				pmax		pmax		
	comp=Z,17nm,2.0s							
MK31	**Makanchi Array**	**45.19**	**58**	*e*P		**P**	**21 38 16.9**	**-1.1**
MK31	**Makanchi Array**	**45.19**	**58**	*e*P		**P**	**21 38 16.9**	**-1.1**
MKAR	**Makanchi Array**	**45.19**	**58**	P		**P**	**21 38 16.6**	**-1.4**
	comp=Z,1.4nm,0.4s,baz=275,slow=7.4,SNR=44							
MKAR	**Makanchi Array**	**45.19**	**58**	*e*P		**P**	**21 38 16.9**	**-1.1**
	comp=Z,20nm,0.6s							
MK01	**Makanchi Array**	**45.20**	**58**	*e*P		**P**	**21 38 16.7**	**-1.4**
ZAA0	**Zalesovo Array**	**45.65**	**48**	*e*P		**P**	**21 38 20.5**	**-1.0**
	comp=Z,4.7nm,0.6s							
ZALV	**Zalesovo Beam**	**45.65**	**48**	P		**P**	**21 38 20.0**	**-1.5**
	comp=Z,3.7nm,0.5s,baz=272,slow=8.5,SNR=13							
ZALV	**Zalesovo Beam**	**45.65**	**48**	*e*P		**P**	**21 38 20.4**	**-1.1**
NRIK	**Nerif'sk**	**46.91**	**27**	LR		LR	21 59 43.6	
	comp=Z,62nm,18.3s,baz=150,slow=38							
DGZ	**Jazzator, Alta**	**47.95**	**53⇓**	*e*P		**P**	**21 38 43.3**	**+3.6**
DGZ				pmax		pmax		
	comp=Z,1.0nm,0.6s							
WMQ	**Urumqi**	**49.63**	**61**	*e*P		**P**	**21 38 55.2**	**+2.6**
LSZ	**Lusaka**	**53.34**	**171**	*e*P		**P**	**21 39 19.6**	**-1.0**
	comp=Z,7.1nm,1.5s							
LSZ	**Lusaka**	**53.34**	**171**	*e*P		**P**	**21 39 19.6**	**-1.0**
LSZ				pmax		pmax		
	comp=Z,7.0nm,1.5s							
TIXI	**Tiksi**	**59.80**	**20⇓**	*e*P		**P**	**21 40 08.7**	**+2.9**
TIXI				pmax		pmax		
	comp=Z,3.0nm,1.1s							
SONA1	**Songino Array**	**60.40**	**51**	*e*P		**P**	**21 40 10.7**	**+0.2**
SONM	**Songino Array**	**60.40**	**51**	P		**P**	**21 40 09.0**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=292,slow=8.0,SNR=3.6							
SONM	**Songino Array**	**60.40**	**51**	P		**P**	**21 40 09.0**	**-1.5**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.7s							
LBTB	**Lobatse**	**62.74**	**175**	*e*P		**P**	**21 40 26.5**	**+0.1**
	comp=Z,18nm,1.6s							
LBTB	**Lobatse**	**62.74**	**175**	*e*P		**P**	**21 40 26.5**	**+0.1**
LBTB				pmax		pmax		
	comp=Z,18nm,1.6s							
YAK	**Yakutsk**	**65.20**	**29⇓**	*e*P		**P**	**21 40 42.1**	**+0.1**
BOSA	**Boshof**	**66.30**	**176**	P		**P**	**21 40 49.5**	**0.0**
	comp=Z,2.1nm,0.6s,baz=354,slow=6.1,SNR=7.2							
HHC	**Hu-ho-hao-te**	**66.94**	**56**	*e*P		**P**	**21 40 53.4**	**-0.4**
HHC				S		**S**	**21 49 43.8**	**-3.4**
HHC				pmax		pmax		
	comp=Z,3.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**69.63**	**82**	P		**P**	**21 41 09.2**	**-1.7**
	comp=Z,0.8nm,0.5s,baz=304,slow=6.5,SNR=7.4							
BILL	**Bilibino**	**71.22**	**13**	*e*P		**P**	**21 41 21.5**	**+1.8**
BILL				*e*			21 41 45.1	
BILL				*e*PPP		PPP	21 45 41.6	
BILL				pmax		pmax		
	comp=Z,2.0nm,1.1s							
KLR	**Kul'dur**	**73.89**	**40⇑**	*e*P		**P**	**21 41 39.6**	**+3.6**
ULM	**Lac du Bonnet**	**76.10**	**324**	P		**P**	**21 41 50.1**	**+1.4**
	comp=Z,3.2nm,0.8s,baz=54,slow=5.5,SNR=2.9							
MAJO	**Matsushiro**	**85.96**	**46⇑**	*e*P		**P**	**21 42 43.7**	**+2.2**
ASAR	**Alice Springs**	**121.85**	**97**	PKP		**PKPdf**	**21 48 54.9**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=330,slow=1.1,SNR=7.1							

IDC 10 21:45:02.7±2.3, 7°.11S×129°.11E, h0km, mb3.7/1, mb1 3.7/3, mb1mx3.4/38, mbtmp3.5/3, ML3.7/2, Error ellipse: s-maj=101.9km s-min=29.2km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.43**	**197**	Pn	Pn	Pn	21 47 48.5	+1.2
	baz=24,slow=10.0							
FITZ				Sn		Sn	21 49 45.6	-10
	1.0nm,0.3s,baz=49,slow=20,SNR=5.5							
WRA	**Warramunga Arr**	**13.72**	**159**	Pn		Pn	21 48 17.9	-0.8
	0.6nm,0.3s,baz=333,slow=13,SNR=29							
WRA				Sn		Sn	21 50 37.7	-14
	1.3nm,0.3s,baz=333,slow=23,SNR=16							
ASAR	**Alice Springs**	**17.09**	**165**	P		Pn	21 49 02.7	-0.5
	0.2nm,0.3s,baz=334,slow=10,SNR=8.6							
ASAR				S		Sn	21 52 00.8	-13
	0.4nm,0.3s,baz=347,slow=25,SNR=6.2							
MKAR	**Makanchi Array**	**67.84**	**327**	P		P	21 56 02.8	0.0
	0.5nm,0.7s,baz=127,slow=7.8,SNR=4.1							

*ISCJB **10** 21:47:55.9±0.7, 53°.4N±0°.2×168°.1W±0°.2, h10 9km±4km, mb3.9/4, Error ellipse: s-maj=31.8km s-min=8.0km az=150.6*
*NEIC **10** 21:47:58.0±0.0, 52°.90N×167°.46W, h23km, ML3.1(AEIC), After AEIC.*
*IDC **10** 21:47:58.0±4.8, 53°.68N×167°.76W, h90km±42km, mb3.6/5, mb1 3.8/7, mb1mx3.2/50, mbtmp3.9/7, Error ellipse: s-maj=47.4km s-min=22.6km az=175.0*

ISC 10 21:47:56.8±0.9, 53.4N±0°.2×168.0W±0°.1, h101km±7km, n29, σ1§87/30, mb3.8/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OKTU	**Okmok Mt. Tuli**	**0.02**	**281**	P		**Pn**	**21 48 10.8**	**-0.1**
OKSO	**Okmok South**	**0.10**	**257**	P		**Pn**	**21 48 10.7**	**-0.3**
OKSO				S		**Sn**	**21 48 22.0**	**+0.5**
OKNC	**Okmok New Cone**	**0.11**	**317**	P		**Pn**	**21 48 11.0**	**0.0**
OKCE	**Okmok Cone E**	**0.11**	**296**	P		**Pn**	**21 48 11.0**	**0.0**
OKCE				S		**Sn**	**21 48 23.2**	**+1.6**
NIKH	**Nikolski High**	**0.65**	**232**	P		**Pn**	**21 48 13.5**	**-0.4**
NIKH				S		**Sn**	**21 48 26.1**	**-0.7**
MREP	**Makushin Rep't**	**0.86**	**60**	P		**Pn**	**21 48 16.5**	**+0.5**
MSW	**Makushin Switc**	**0.90**	**53**	P		**Pn**	**21 48 16.7**	**+0.3**
MSW				S		**Sn**	**21 48 32.2**	**+1.2**
MNAT	**Makushin Natee**	**0.93**	**57**	P		**Pn**	**21 48 17.2**	**+0.5**
MTBL	**Makushin Table**	**0.98**	**53**	P		**Pn**	**21 48 17.9**	**+0.6**
UNV	**Unalaska Valle**	**1.01**	**62**	P		**Pn**	**21 48 17.9**	**+0.5**
UNV				S		**Sn**	**21 48 33.6**	**+0.7**
AKRB	**Akutan Reef Bi**	**1.37**	**56**	P		**Pn**	**21 48 22.7**	**+1.1**
AKMO	**Akutan Morgan**	**1.38**	**58**	P		**Pn**	**21 48 22.8**	**+1.2**
AKMO				S		**Sn**	**21 48 42.8**	**+2.3**
ZRO	**Akutan Zero**	**1.40**	**59**	P		**Pn**	**21 48 23.2**	**+1.3**
AHB	**Akutan Harbor**	**1.49**	**60**	P		**Pn**	**21 48 24.3**	**+1.3**
WESP	**Westdahl Peak**	**2.24**	**59**	P		**Pn**	**21 48 34.6**	**+2.0**
WESE	**West Dahl East**	**2.30**	**60**	P		**Pn**	**21 48 35.2**	**+1.8**
KDAK	**Kodiak Island**	**9.78**	**57**	P		**Pn**	**21 50 12.6**	**-1.6**
	0.9nm,0.3s,baz=249,slow=5.6,SNR=12							
KDAK				S		**Sn**	**21 51 54.8**	**-7.1**
	0.2nm,0.3s,baz=359,slow=21,SNR=2.4							
ILAR	**Eielson Array**	**15.65**	**35**	P		**Pn**	**21 51 30.3**	**-1.0**
	0.2nm,0.3s,baz=224,slow=10,SNR=9.5							
PETK	**Petropavlovsk-**	**20.42**	**283**	P		**P**	**21 52 28.0**	**+2.5**
	2.3nm,0.9s,baz=86,slow=13,SNR=6.7							
INK	**Inuvik**	**22.05**	**34**	P		**P**	**21 52 41.4**	**-1.4**
	1.8nm,0.4s,baz=255,slow=9.9,SNR=17							
YKA	**Yellowknife Ar**	**28.95**	**50**	P		**P**	**21 53 45.7**	**-0.4**
	2.3nm,0.8s,baz=274,slow=8.9,SNR=2.1							
H11N2	**WAKE ISLAND Hy**	**38.76**	**220**	T		T	22 36 23.8	
	baz=24,slow=76,SNR=12							
H11N3	**WAKE ISLAND Hy**	**38.77**	**220**	T		T	22 36 23.9	
	baz=24,slow=76,SNR=17							
H11N1	**WAKE ISLAND Hy**	**38.78**	**220**	T		T	22 36 19.9	
	baz=24,slow=76,SNR=14							
H11S1	**WAKE ISLAND Hy**	**39.95**	**219**	T		T	22 37 50.9	
	baz=24,slow=76,SNR=13							
H11S2	**WAKE ISLAND Hy**	**39.96**	**219**	T		T	22 37 55.0	
	baz=24,slow=76,SNR=10							
H11S3	**WAKE ISLAND Hy**	**39.97**	**219**	T		T	22 37 55.4	
	baz=24,slow=76,SNR=10							
TXAR	**Lajitas Array**	**51.92**	**91**	P		**P**	**21 56 56.6**	**+1.5**
	0.4nm,0.5s,baz=305,slow=6.6,SNR=4.1							
ARCES	**ARCESS Array B**	**57.00**	**354**	P		**P**	**21 57 31.6**	**+0.4**
	4.0nm,1.0s,baz=6.3,slow=9.1,SNR=1.6							

MEX 10 21:49:48.7±0.7, 16°.25N×98°.02W, h5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.17**	**324**	*i* P		Pg	21 49 51.6	-0.5
PNIG				*i* S		Sg	21 49 54.4	-0.1
TLIG	**Tlapa**	**1.40**	**338**	*e*P		Pn	21 50 12.1	-3.0
TLIG				*i* S		Sb	21 50 29.5	-4.3
VHO	**Vista Hermosa**	**1.48**	**56**	*e*P		Pn	21 50 13.3	-2.9
VHO				*i* S		Sb	21 50 31.6	-4.5

*ISCJB **10** 22:01:29.4±0.7, 29°.33N±0°.02×105°.36E±0°.03, h9km±4km, mb4.4/67, MS3.4/13, Error ellipse: s-maj=4.2km s-min=3.4km az=173.1*
*IDC **10** 22:01:29.7±0.5, 29°.32N×105°.31E, h0km, mb4.2/25, mb1 4.3/27, mb1mx4.2/48, mbtmp4.2/27, ML4.2/2, MS3.5/13, Ms1 3.5/13, ms1mx3.2/38, Error ellipse: s-maj=15.8km s-min=12.2km az=51.0*
*MOS **10** 22:01:31.2±0.9, 29°.29N×105°.41E, h24km, mb4.6/39, Error ellipse: s-maj=8.2km s-min=5.3km az=118.6*
*BJI **10** 22:01:32.9, 29°.32N×105°.23E, h22km, mb4.3/25, mB4.7/12, ML4.4/28, Ms4.3/25, Ms7 4.0/21*
*NEIC **10** 22:01:34.7±1.2, 29°.29N×105°.33E, h34km±9km, mb4.6/9, ML4.4(BJI), Error ellipse: s-maj=4.2km s-min=3.4km az=59.0*

ISC 10 22:01:31.7±0.8, 29°.33N±0°.02×105°.37E±0°.03, h14km±5km, n182, σ1§93/217, mb4.6/67, MS3.5/13, 20C-15D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.11**	**319**	Pn		**Pn**	**22 02 07.4**	**+0.7**
CD2				Pg		**Pb**	**22 02 09.0**	**-0.8**
CD2				Sn		**Sn**	**22 02 28.4**	**-4.4**
CD2				Sg		**Sb**	**22 02 36.5**	**+0.6**
CD2				smax		smax		
	comp=N,6μm,0.7s							
CD2				smax		smax		
	comp=E,7μm,0.6s							
CD2	**Chengdu**	**2.11**	**319**	Pn		**Pn**	**22 02 07.4**	**+0.7**
CD2				Pg		**Pb**	**22 02 09.0**	**-0.8**
CD2				Sn		**Sn**	**22 02 28.4**	**-4.4**
CD2				Sg		**Sb**	**22 02 36.5**	**+0.6**
GYA	**Guiyang**	**3.08**	**158⇑**	*i* Pn		**Pn**	**22 02 21.3**	**+1.2**
GYA				Pg		**Pg**	**22 02 29.4**	**-1.4**
GYA				Sn		**Sb**	**22 03 02.1**	**-1.8**
GYA				Sg		**Sg**	**22 03 13.1**	**+2.4**
GYA				smax		smax		
	comp=N,1μm,0.7s							
GYA				smax		smax		
	comp=E,630nm,0.6s							
GYA				LR		LR		
	comp=N,2μm,4.3s							
GYA				LR		LR		
	comp=E,2μm,4

NJ2	Nanjing	11.92	73	eP		Pn		22 04 21.8	+0.5
CMMT	Chiang Mai	12.00	211	P		Pn		22 04 25.0	+2.5
	comp=E,8.2nm,2.2s,comp=E,0.0nm								
CHTO	Chiang Mai	12.00	211	eP	n	Pn		22 04 22.0	-0.5
CHTO	Chiang Mai	12.00	211	eP		Pn		22 04 22.0	-0.5
CHTO	Chiang Mai	12.00	211	P		Pn		22 04 25.1	+2.6
	comp=E,37nm,2.3s,comp=E,2µmcomp=E,0.2nm								
CMAR	Chiang Mai Arr	12.31	210	Pn		Pn		22 04 28.0	+1.2
	comp=E,0.7nm,0.3s,baz=20,slow=12,SNR=41								
CMAR				Lg		Lg		22 08 18.9	
	comp=E,0.3nm,0.3s,baz=18,slow=30,SNR=4.2								
CMAR				LR		LR		22 09 39.7	
	comp=E,417nm,19.0s,baz=26,slow=40								
CMAR	Chiang Mai Arr	12.31	210	P		Pn		22 04 28.0	+1.2
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
CMAR				MLR		MLR			
	comp=Z,417nm,19.0s								
LSA	Lhasa	12.40	275	eP	n	Pn		22 04 28.3	0.0
LSA	Lhasa	12.40	275	eP		Pn		22 04 28.3	0.0
HHC	Hu-ho-hao-te	12.56	22	eP		Pn		22 04 32.7	+2.6
HHC				S		Sn		22 06 54.0	+4.1
HHC				pmax		pmax			
	comp=Z,11nm,1.0s								
HHC				LR		LR			
	comp=Z,740nm,3.8s								
HHC				LR		LR			
	comp=Z,1µm,3.4s								
HHC				LR		LR			
	comp=Z,400nm,4.3s								
PBKT	Sadao Pong	13.33	199	P		Pn		22 04 42.8	+2.2
	comp=Z,7.1nm,1.4s,comp=Z,0.0nm								
CHAI	Chaiyaphum	13.72	194	P		P		22 04 56.2	+1.5
BRDH	Bariadhala	14.01	245	LR		LR		22 11 14.0	
	comp=Z,176nm,21.0s,baz=46,slow=42								
UTHA	Uthaitani	14.75	203	P		P		22 05 08.1	+2.0
SRDT	SRDT	15.99	203	P		P		22 05 20.5	+0.6
	comp=Z,15nm,1.2s								
PATY	Pattaya	16.85	195	P		P		22 05 31.5	+2.1
	comp=Z,5.4nm,1.0s,comp=Z,688nm								
PKI	Pulchoki	17.65	269	eP		Pn		22 05 33.2	-4.4
	comp=Z,9.0nm,0.6s								
PKIN	Phulchoki	17.66	269	eP		Pn		22 05 32.7	-5.0
	comp=Z,5.8nm,0.5s								
KKN	Kakani	17.72	270	eP		Pn		22 05 35.4	-3.0
	comp=Z,11nm,0.6s								
DMN	Daman	17.90	269	eP		Pn		22 05 36.0	-4.7
	comp=Z,8.4nm,0.7s								
SONM	Songino Array	18.50	2	P		Pn		22 05 48.0	+0.3
	comp=Z,0.4nm,0.3s,baz=191,slow=11,SNR=23								
SONM				Lg		Lg		22 11 30.2	
	comp=Z,0.1nm,0.3s,baz=186,slow=26,SNR=6.2								
SONM				LR		LR		22 13 42.6	
	comp=Z,220nm,19.6s,baz=180,slow=40								
DANN	Dangsing	18.96	272	eP		P		22 05 51.0	-2.0
	comp=Z,22nm,0.6s								
KOLN	Koldanda	19.19	271	eP		P		22 05 51.2	-4.2
	comp=Z,7.4nm,0.6s								
PYUN	Piuthan	19.67	272	eP		P		22 05 57.2	-3.5
	comp=Z,63nm,0.9s								
TJN	Taejon	19.74	63	eP		P		22 05 59.5	-1.7
WMQ	Urumqi	20.21	320	P		Pn		22 06 07.4	-0.8
WMQ				pP		sP		22 06 14.6	+2.7
WMQ				pmax		pmax			
	comp=Z,34nm,1.3s								
WMQ				pmax		pmax			
	comp=Z,350nm,5.9s								
WMQ				LR		LR			
	comp=Z,190nm,19.5s								
WMQ				LR		LR			
	comp=Z,94nm,21.1s								
KSAR	Wonju Array Be	20.43	61	P		P		22 06 09.9	+1.3
KSAR	Wonju Array Be	20.43	61	P		P		22 06 10.0	+1.3
KS01	Wonju Array Si	20.45	61	eP		P		22 06 09.5	+0.6
KSRS	Korea Array	20.46	61	P		P		22 06 09.9	+1.0
	comp=Z,2.7nm,0.6s,baz=240,slow=12,SNR=7.6								
KSRS				LR		LR		22 14 10.4	
	comp=Z,93nm,19.5s,baz=267,slow=37								
KSRS	Korea Array	20.46	61	P		P		22 06 10.0	+1.0
KSRS				pmax		pmax			
	comp=Z,2.0nm,0.7s								
KSRS				MLR		MLR			
	comp=Z,93nm,19.5s								
ZAK	Zakamensk	21.09	356	eP		P		22 06 09.5	-6.3
ZAK				pmax		pmax			
	comp=Z,8.0nm,1.4s								
CN2	Changchun	21.57	43	eP		P		22 06 22.8	+1.9
CN2				eS		S		22 10 12.8	-6.8
CN2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
CN2				pmax		pmax			
	comp=Z,100nm,3.0s								
CN2				LR		LR			
	comp=Z,300nm,11.0s								
CN2				LR		LR			
	comp=Z,300nm,11.0s								
CN2				LR		LR			
	comp=Z,400nm,12.0s								
KNGR	Kungurtug, Tuv	22.06	347⇑	eP		P		22 06 27.4	+1.1
JNU	Nakatsue	22.12	74	LR		LR		22 16 26.5	
	comp=Z,177nm,20.0s,baz=297,slow=40								
HIA	Hailar	22.73	25	P		P		22 06 37.2	+3.9
HIA				pmax		pmax			
	comp=Z,7.0nm,1.1s								
HVS	Khovu-Aksy	23.48	341⇓	eP		P		22 06 41.4	+0.4
HVS				pmax		pmax			
	comp=Z,27nm,0.9s								
DGZ	Jazzator, Alta	24.49	331	*d* iP		P		22 06 51.6	+0.9
DGZ				pmax		pmax			
	comp=Z,4.0nm,0.7s								
PDGK	Podgornoye	24.98	311	P		P		22 06 55.9	+0.8
PDGK				pmax		pmax			
	comp=Z,24nm,1.2s								
MK31	Makanchi Array	25.04	320	eP		P		22 06 55.8	+0.3
MK31	Makanchi Array	25.04	320	eP		P		22 06 55.8	+0.3
MKAR	Makanchi Array	25.04	320	P		P		22 06 55.4	-0.1
	comp=Z,4.7nm,0.6s,baz=119,slow=11,SNR=33								
MKAR				PcP		PcP		22 10 30.1	+0.1
	comp=Z,0.9nm,0.8s,baz=104,slow=10,SNR=4.0								
MKAR				LR		LR		22 16 24.0	
	comp=Z,29nm,18.9s,baz=248,slow=36								
MKAR	Makanchi Array	25.04	320	eP		P		22 06 55.8	+0.3
MKAR				PcP		PcP		22 10 30.1	+0.1
MKAR	Makanchi Array	25.04	320	eP		P		22 06 55.8	+0.3
MKAR								22 10 30.1	
IPM	Ipoh	25.05	190	eP		P		22 06 55.8	0.0
	comp=Z,8.8nm,0.7s								
LHMI	Lhok Sumawe	25.26	200	eP		P		22 06 56.6	-1.0
	comp=Z,46nm,1.0s								
PRZ	Przheval'sk	25.36	308	eP		P		22 06 59.7	+1.0
	comp=Z,34nm,1.3s								
PRZ	Przheval'sk	25.36	308	eP		P		22 06 59.7	+1.0
PRZ				pmax		pmax			
	comp=Z,34nm,1.3s								
USRK	Ussuriysk Ar.	25.83	48	P		P		22 07 03.4	+0.8
	comp=Z,1.9nm,0.6s,baz=240,slow=8.0								
KDJ	Kajisay	26.08	307	eP		P		22 07 06.8	+1.6
	comp=Z,13nm,1.0s								
KDJ	Kajisay	26.08	307	eP		P		22 07 06.8	+1.6
KDJ				pmax		pmax			
	comp=Z,13nm,1.0s								
KSH	Kashi	26.19	301	P		P		22 07 08.1	+1.9
KSH				pP		sP		22 07 12.8	+0.8
KSH				PP		PnPn		22 07 51.4	+6.6
KSH				S		S		22 11 37.5	-0.4
KSH				pmax		pmax			
	comp=Z,14nm,0.8s								
KSH				LR		LR			
	comp=Z,340nm,7.4s								
KSH				LR		LR			
	comp=Z,360nm,9.7s								
KSH				LR		LR			
	comp=Z,270nm,18.2s								
NRN	Naryn	26.69	305	eP		P		22 07 12.0	+1.1
	comp=Z,18nm,1.1s								
NRN	Naryn	26.69	305	eP		P		22 07 12.0	+1.1
NRN				pmax		pmax			
	comp=Z,18nm,1.1s								
PSI	Prapat	27.08	194	LR		LR		22 19 56.9	
	comp=Z,112nm,18.2s,baz=286,slow=41								
PSI	Prapat	27.08	194	eP		P		22 07 15.0	+0.7
	comp=Z,11nm,1.1s								
PSI	Prapat	27.08	194	eP		P		22 07 15.0	+0.7
PSI				pmax		pmax			
	comp=Z,11nm,1.1s								
KZA	Kyzart	27.42	306	P		P		22 07 18.9	+1.4
	SNR=5.5								
SBUM	Sibu	27.51	165	eP		P		22 07 18.3	+0.3
	comp=Z,8.1nm,1.3s								
KBK	Karagaybulak	27.82	307	P		P		22 07 21.8	+1.0
	SNR=7.6								
UCH	Uchtor	27.99	306	P		P		22 07 24.0	+1.3
	SNR=6.3								
AAK	Ala-Archa	28.13	307	P		P		22 07 23.9	+0.4
	comp=Z,2.9nm,1.1s,baz=105,slow=8.7,SNR=5.6								
AAK				LR		LR		22 20 06.7	
	comp=Z,53nm,20.4s,baz=318,slow=40								
AAK	Ala-Archa	28.13	307	⇓ iP		P		22 07 24.4	+0.9
AAK				pmax		pmax			
	comp=Z,5.0nm,1.3s								
SFK	Sufi-Kurgan	28.16	301	P		P		22 07 25.8	+1.8
SFK				pmax		pmax			
	comp=Z,4.0nm,1.1s								
KLR	Kul'dur	28.26	38	P		P		22 07 25.0	+0.5
	comp=Z,0.8nm,0.4s,baz=242,slow=11,SNR=3.4								
KLR				LR		LR		22 18 36.6	
	comp=Z,83nm,19.5s,baz=216,slow=36								
KLR	Kul'dur	28.26	38	⇓ eP		P		22 07 24.9	+0.5
MJAR	Matsushiro Arr	28.39	67	LR		LR		22 20 05.7	
	comp=Z,77nm,19.2s,baz=280,slow=39								
AML	Almayashu	28.54	305	P		P		22 07 28.9	+1.4
	SNR=6.6								
EKS2	Erkin-Say	28.64	306	P		P		22 07 28.9	+0.9
	SNR=6.0								
ZALV	Zalesovo Beam	28.79	334	P		P		22 07 29.2	+0.1
	comp=Z,2.4nm,0.5s,baz=135,slow=7.9,SNR=17								
ZALV				PcP		PcP		22 10 37.6	-1.1
	comp=Z,0.8nm,0.6s,baz=136,slow=4.4,SNR=3.2								
ZALV				LR		LR		22 19 03.4	
	comp=Z,60nm,20.3s,baz=250,slow=37								
KURBB	Kurchatov Arra	29.32	324	P		P		22 07 33.6	-0.2
	comp=Z,3.6nm,0.6s,baz=126,slow=9.6,SNR=35								
KURBB				PcP		PcP		22 10 39.6	-0.4
	comp=Z,0.6nm,0.6s,baz=123,slow=2.3,SNR=6.1								
KURK	Kurchatov	29.32	324	P		P		22 07 33.6	-0.2
KURK				PcP		PcP		22 10 39.6	-0.5
KURK	Kurchatov	29.32	324	*d* iP		P		22 07 33.9	0.0
KURK				pmax		pmax			
	comp=Z,6.0nm,1.3s								
MNAS	Manas	29.49	305	P		P		22 07 36.8	+1.1
MNAS				pmax		pmax			
	comp=Z,5.0nm,1.3s								
KK31	Karatay Array	31.07	306	eP		P		22 07 49.4	0.0
KK31	Karatay Array	31.07	306	eP		P		22 07 49.4	0.0
KKAR	Karatay Array	31.07	306	eP		P		22 07 49.4	0.0
KKAR	Karatay Array	31.07	306	eP		P		22 07 49.4	0.0
OTUK	Ortayu	31.59	316	P		P		22 07 54.3	+0.3
OTUK				pmax		pmax			
	comp=Z,10.0nm,0.8s								
BVAR	Borovoye Array	34.86	323	P		P		22 08 22.1	-0.4
	comp=Z,1.1nm,0.5s,baz=118,slow=8.6,SNR=6.9								
BVAR				PcP		PcP		22 10 54.1	-1.1
	comp=Z,0.8nm,0.5s,baz=126,slow=3.8,SNR=4.5								
BRVK	Borovoye	34.94	323	⇓ eP		P		22 08 24.3	+1.2
BRVK				pmax		pmax			
	comp=Z,6.0nm,1.2s								
YAK	Yakutsk	36.40	19	eP		P		22 08 33.4	-2.0
YAK				pmax		pmax			
	comp=Z,14nm,1.2s								
ABKAR	Akbulak array	39.68	313	eP		P		22 09 03.8	+0.5
AKTO	Aktyubinsk	41.16	314	P		P		22 09 15.1	-0.5
	comp=Z,0.9nm,0.4s,baz=100,slow=6.3,SNR=4.2								
NRIK	Noril'sk	41.35	351	P		P		22 09 17.3	+0.4
	comp=Z,6.6nm,0.5s,baz=123,slow=7.0,SNR=11								
WSAR	Wadi Sarin	42.13	273	P		P		22 09 24.1	+0.2
	comp=Z,3.0nm,0.8s,baz=72,slow=3.9,SNR=4.9								
TIXI	Tiksi	44.28	10	⇓ iP		P		22 09 40.9	+0.3
TIXI				pmax		pmax			
	comp=Z,11nm,1.4s								
PETK	Petropavlovsk-	44.72	43	P		P		22 09 45.1	+0.7
	comp=Z,2.0nm,0.8s,baz=293,slow=8.9								
PETK				LR		LR		22 30 39.2	
	comp=Z,55nm,18.5s,baz=256,slow=39								
GNI	Garni	50.12	299	⇓ eP		P		22 10 26.8	0.0
GNI				pmax		pmax			
	comp=Z,64nm,1.4s								
KIV	Kislovodsk	51.21	305	eP		P		22 10 34.8	-0.1
	comp=Z,45nm,1.6s								
KIV	Kislovodsk	51.21	305	eP		P		22 10 35.1	+0.2
KIV				pmax		pmax			
	comp=Z,16nm,1.1s								
NEY	Neytrino	51.26	304	⇓ eP		P		22 10 34.5	-0.9
NEY				pmax		pmax			
	comp=Z,4.0nm,1.3s								
VRH	Novokhopyorsk	51.49	314	eP		P		22 10 36.2	-0.6
VRH				pmax		pmax			
	comp=Z,20nm,0.6s								
MBWA	Marble Bar	52.07	163	eP		P		22 10 40.1	-1.2
	comp=Z,28nm,1.5s								
BILL	Bilibino	52.32	25	eP		P		22 10 43.1	+0.4
BILL				*e*				22 11 53.6	
BILL				*e*				22 12 45.7	
BILL				eP	PP	PP		22 13 47.9	
BILL				pmax		pmax			
	comp=Z,2.0nm,1.1s								
VSR	Storozhevoye	53.10	314	eP		P		22 10 47.5	-1.2
VSR				pmax		pmax			
	comp=Z,10.0nm,0.8s								
LPSR	Galich'ya Gora	53.20	316	eP		P		22 10 49.0	-0.4
LPSR				pmax		pmax			
	comp=Z,20nm,1.2s								
RAYN	Ar Rayn	53.44	279	eP		P		22 10 51.1	-0.6
	comp=Z,7.3nm,1.1s								
RAYN	Ar Rayn	53.44	279	eP		P		22 10 51.1	-0.6
RAYN				pmax		pmax			
	comp=Z,7.0nm,1.1s								
MOS	Moscow	53.92	320	eP		P		22 10 54.1	-0.5
MOS				pmax		pmax			
	comp=Z,39nm,1.1s								
OBN	Obninsk	54.53	319	eP		P		22 10 59.2	+0.1
OBN				*e*				22 12 02.1	
OBN				*e*				22 13 01.7	
OBN				eP	PP	PP		22 14 12.3	
OBN				pmax		pmax			
	comp=Z,27nm,1.3s								
ANN	Anapa	54.85	306	eP		P		22 10 57.7	-3.9
ANN				*e*	*P	pP		22 11 01.9	-4.0
ANN				*e*				22 12 00.6	
ANN				eS		S		22 18 39.2	-3.2
ANN				pmax		pmax			
	comp=Z,26nm,1.1s								
WRAB	Tennant Creek	56.39	147	eP		P		22 11 12.4	-0.4
	comp=Z,17nm,0.6s								
WRAB	Tennant Creek	56.39	147	⇑ eP		P		22 11 13.1	+0.2
WRAB				pmax		pmax			
	comp=Z,13nm,1.3s								
WRA	Warramunga Arr	56.39	147	P		P		22 11 13.2	+0.3
	comp=Z,5.7nm,1.0s,baz=337,slow=8.1,SNR=18								
WRA	Warramunga Arr	56.39	147	P		P		22 11 13.2	+0.3
WRA				pmax		pmax			
	comp=Z,5.0nm,1.0s								
WB2	Warramunga Arr	56.40	147	eP		P		22 11 12.8	-0.2
BRTR	Keskin Array B	58.58	301	P		P		22 11 28.2	-0.2
	comp=Z,1.7nm,0.6s,baz=95,slow=5.9,SNR=8.3								
ARCES	ARCESS Array B	59.32	336	P		P		22 11 33.0	+0.1
	comp=Z,2.4nm,0.5s,baz=76,slow=7.9,SNR=20								
ARCES				PcP		PcP		22 12 21.2	+0.4
	comp=Z,2.3nm,0.7s,baz=67,slow=5.0,SNR=5.5								
AKASG	Malin Array Be	59.40	314	P		P		22 11 33.3	-0.4
	comp=Z,1.2nm,0.5s,baz=71,slow=6.4,SNR=10								
AKASG	Malin Array Be	59.40	314	P		P		22 11 33.3	-0.4
AKASG				pmax		pmax			
	comp=Z,2.0nm,0.5s								
ASAR	Alice Springs	59.41	149	P		P		22 11 34.7	+0.7
	comp=Z,1.6nm,0.6s,baz=331,slow=6.7,SNR=21								
ASAR				PcP		PcP		22 12 21.8	0.0
	comp=Z,1.3nm,0.5s,baz=335,slow=4.2,SNR=11								
KIEV	Kiev	59.41	314	⇓ iP		P		22 11 33.6	-0.2
KIEV				pmax		pmax			
	comp=Z,12nm,1.4s								
AS01	Alice Springs	59.43	149	eP		P		22 11 34.0	-0.2
FIA1	FINESS Array S	59.65	327	eP		P		22 11 35.4	+0.2
FINES	FINESS Array B	59.65	327	P		P		22 11 35.1	-0.1
	comp=Z,3.8nm,0.6s,baz=80,slow=6.7,SNR=32								
SORM	Soroca	60.45	311	⇑ iP		P		22 11 40.0	-0.9
SORM	Soroca	60.45	311	⇑ P		P		22 11 40.0	-0.9
VRI	Vrincioaia	62.05	309	⇑ iP		P		22 11 53.1	+1.2
VRI	Vrincioaia	62.05	309	⇑ P		P		22 11 53.1	+1.2
PLOR	Plostina	62.10	309	⇑ iP		P		22 11 54.0	+1.7
PLOR	Plostina	62.10	309	⇑ P		P		22 11 54.0	+1.7
ISR	Istrita	62.36	308	⇑ iP		P		22 11 55.4	+1.4
ISR	Istrita	62.36	308	⇑ P		P		22 11 55.4	+1.4
BURAR	Bucovina Array	62.62	311	⇓ iP		P		22 11 56.2	+0.4
BURAR	Bucovina Array	62.62	311	⇓ P		P		22 11 56.2	+0.4
BUR04	Bucovina Ar. S	62.63	311	eP		P		22 11 55.7	-0.1
OZUR		62.63	310	⇓ iP		P		22 11 56.5	+0.7
MLR	Muntele Rosu	62.67	309	⇑ iP		P		22 11 57.7	+1.5
MLR	Muntele Rosu	62.67	309	⇑ P		P		22 11 57.7	+1.5
ARR	Arges	63.60	309	⇓ iP		P		22 12 02.8	+0.5
KWP	Kalwaria Pacla	63.72	314	eP		P		22 12 03.5	+0.6
KWP	Kalwaria Pacla	63.72	314	eP		P		22 12 03.5	+0.6
DRGR		64.49	311	⇓ iP		P		22 12 08.4	+0.3
DRGR		64.49	311	⇓ P		P		22 12 08.4	+0.3
HERR	Herculane	65.24	309	⇑ iP		P		22 12 13.6	+0.7
VTS	Vitosha	65.39	306	eP		P		22 12 13.8	-0.3
	comp=Z,7.9nm,1.0s								
VTS	Vitosha	65.39	306	⇑ iP		P		22 12 14.6	+0.5
VTS	Vitosha	65.39	306	eP		P		22 12 13.8	-0.3
VTS				pmax		pmax			
	comp=Z,8.0nm,1.0s								
KECS	Kecovo	65.44	313	eP		P		22 12 14.0	-0.2
KECS	Kecovo	65.44	313	eP		P		22 12 14.0	-0.2
VYHS	Vyhne	66.49	314	eP		P		22 12 21.4	+0.5
VYHS	Vyhne	66.49	314	eP		P		22 12 21.4	+0.5
NOA	NORSAR Array B	66.74	328	P		P		22 12 20.7	-1.7
	comp=Z,0.5nm,0.6s,baz=72,slow=8.9,SNR=5.5								
IM3	Indian Mountai	67.84	26	eP		P		22 12 29.2	0.0
PDG	Podgorica	68.20	307	⇑ iP		P		22 12 31.7	-0.1
CONA	Conrad Observa	68.55	314	eP		P		22 12 34.2	+0.1
	comp=Z,6.5nm,1.4s								
MLY	Manley	69.37	26	eP		P		22 12 40.1	+1.2
	comp=Z,15nm,1.5s								
GERES	GERESS Array B	69.57	315	P		P		22 12 40.5	+0.1
	comp=Z,2.0nm,0.9s,baz=86,slow=5.5,SNR=9.7								
GEA0	GERESS Array S	69.58	315	eP		P		22 12 40.6	+0.1
MOA	Molln	69.58	314	eP		P		22 12 40.9	+0.5
	comp=Z,6.1nm,1.1s								
STKA	Stephens Creek	69.92	148	P		P		22 12 41.9	-0.6
	comp=Z,1.9nm,0.3s,baz=343,slow=5.7,SNR=4.3								
MDM	Murphy Dome	70.36	26	eP		P		22 12 46.1	+1.2
	comp=Z,20nm,1.4s								
COLA	College	70.55	26	P		P		22 12 48.8	+2.9
COLA				pmax		pmax			
	comp=Z,11nm,1.9s								
ILAR	Eielson Array	70.96	26	P		P		22 12 48.0	-0.5
	comp=Z,2.1nm,1.1s,baz=289,slow=4.5,SNR=11								
ILAR				LR		LR		22 48 54.0	
	comp=Z,40nm,18.3s,baz=332,slow=40								
KMBO	Kilima Mbogo	71.59	258	P		P		22 12 52.3	-1.1
	comp=Z,0.8nm,0.4s,baz=36,slow=9.0,SNR=5.4								
SQTA	Sankt Quirin	71.74	314	eP		P		22 12 53.4	-0.3
	comp=Z,15nm,1.5s								
MOTA	Moosalm	71.76	314	eP		P		22 12 53.6	-0.2
	comp=Z,3.4nm,0.8s								
FETA	Feichten	72.12	314	eP		P		22 12 56.6	+0.5
	comp=Z,8.3nm,1.1s								
YKA	Yellowknife Ar	83.06	17	P		P		22 13 56.9	+0.4
	comp=Z,1.6nm,0.5s,baz=327,slow=5.2,SNR=6.2								
YKA	Yellowknife Ar	83.06	17	P		P		22 13 57.0	+0.4
LSZ	Lusaka	86.60	251	eP		P		22 14 15.2	-0.1
	comp=Z,9.9nm,1.2s								
LSZ	Lusaka	86.60	251	eP		P		22 14 15.2	-0.1
LSZ				pmax		pmax			
	comp=Z,10.0nm,1.2s								
TORD	Torodi Ar. Bea	95.22	288	P		P		22 14 56.4	+0.8
	comp=Z,0.7nm,1.0s,baz=45,slow=2.2								
PTGA	Pitinga	148.31	331	PKPbc		PKPbc		22 21 18.3	-0.1
	comp=Z,3.1nm,0.5s,baz=32,slow=3.5,SNR=9.7								

DRS **10** *22:02:33.1±0.0, 41°.76N×48°.01E, h4km*
MOS 10 22:02:33.1±0.0, 41°.69N×48°.12E, h17km, MPVA3.7, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
KSMR	Kasumkent	0.08	178	eP	g	Pg	22 02 37.0		+0.5
KSMR				eS	g	Sg	22 02 40.0		+1.2
AKT	Akhty	0.36	235	*i* P	g	Pb	22 02 42.1		+0.9
AKT				eS	g	Sb	22 02 47.9		+1.3
DRN	Derbent	0.38	24	eP	g	Pb	22 02 41.8		+0.5
DRN				eS	g	Sb	22 02 48.1		+1.2
URKR	Urkarakh	0.60	323	*i* P	g	Pn	22 02 46.4		-0.7
URKR				eS	g	Sn	22 02 55.6		-0.9
KMKR	Kumukh	0.88	300	eP	g	Pn	22 02 52.5		+1.5
KMKR				eS	g	Sn	22 03 05.0		+1.4
GNBR	Gunib	1.11	309	eP	g	Pg	22 02 55.7		+1.1
GNBR				eS	g	Sg	22 03 12.2		+3.0
XNZR	Khunzakh	1.36	309	eP	g	Pg	22 03 00.2		+0.9
XNZR				eS	g	Sg	22 03 19.9		+2.9
DVE	Vedeno	1.95	311	eP	g	Pb	22 03 08.4		+0.1
DVE				eS	g	Sg	22 03 34.8		-1.1

MEX 10 22:24:31.4±0.4, 16°.27N×98°.31W, h5km±2km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
PNIG	Pinotepa	0.21	55	eP		Pg	22 24 35.3		-0.2
PNIG				*i* S		Sg	22 24 38.3		-0.1
TLIG	Tlapa	1.31	349	eP		Pg	22 24 52.6		-3.9
TLIG				eS

APLL	**PUNTA DE LOS L**	**4.64**	**130**	*e*P	**Pn**	**22 29 47.7**	**+0.1**
APLL				IAML		22 29 48.8	
	comp=Z,49nm,0.2s						
APLL				*e*S	**Sn**	**22 30 37.7**	**-2.6**
RTCV	**Cerro Valdivia**	**4.75**	**158**	*i* P	**Pn**	**22 29 50.4**	**+1.4**
RTCV				*e*S	**Sn**	**22 30 40.5**	**-2.3**
AHML	**Horco Molle**	**4.79**	**83**	*i* P	**Pn**	**22 29 51.1**	**+1.5**
AUSP	**Uspallata**	**4.86**	**167**	*i* P	**Pn**	**22 29 52.6**	**+1.9**
ASAL	**Salagasta**	**5.34**	**163**	*i* P	**Pn**	**22 29 58.5**	**+1.5**
ASAL				*e*S	**Sn**	**22 30 57.1**	**-0.2**
ROC1	**El Roble**	**5.50**	**183**	*e*P	**Pn**	**22 29 59.0**	**-0.4**
ROC1				*e*S	Sn	22 30 50.3	-11
ACAN	**Cantantal**	**5.65**	**149**	*e*S	**Pn**	**22 30 01.8**	**+0.5**
AAGR	**Agrelo**	**5.81**	**165**	*e*P	**Pn**	**22 30 05.6**	**+2.1**
MRA	**San Martin**	**6.53**	**140**	*i* P	**Pn**	**22 30 12.8**	**-0.5**
TCA	**Tanti**	**6.54**	**128**	*i* P	**Pn**	**22 30 12.1**	**-1.3**

IDC ***10*** *22:32:54.5±0.9,29.°66N×142.°11E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.8/33, mbtmp3.8/10, ML3.7/1, MS3.0/5, Ms1 3.0/5, ms1mx2.6/46, Error ellipse: s-maj=33.4km s-min=15.5km az=83.0*

ISCJB ***10*** *22:32:57.0±0.5,29.°71N±0.°04×142.°1E±0.°1, h30km, mb4.2/20, MS3.1/1, Error ellipse: s-maj=15.0km s-min=5.2km az=170.8*

NEIC ***10*** *22:32:59.6±0.3,29.°67N×142.°05E, h35km, mb4.4/12, Error ellipse: s-maj=9.8km s-min=5.0km az=80.0*

ISC 10 22:32:58.8±0.7, 29.°66N±0.°06×142.°1E±0.°2, h30km, n30, σ0s96/29, mb4.2/20, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.56**	**178**	Pn	**Pn**	**22 33 39.3**	**+1.0**
CBIJ				Sn	**Sn**	**22 34 09.4**	**+1.0**
JCJ	**Chichijima**	**2.56**	**178**	Pn	**Pn**	**22 33 39.3**	**+1.0**
	baz=345,slow=20						
JCJ				Sn	**Sn**	**22 34 09.4**	**+0.9**
	13nm,0.3s,baz=241,slow=22,SNR=4.1						
MJAR	**Matsushiro Arr**	**7.59**	**336**	Pn	**Pn**	**22 34 47.9**	**+0.5**
	1.1nm,0.3s,baz=158,slow=11,SNR=13						
MJAR				LR	LR	22 37 53.5	
	comp=Z,47nm,18.0s,baz=180,slow=40						
MAJO	**Matsushiro**	**7.59**	**336**	*e*Pn	**Pn**	**22 34 46.0**	**-1.4**
JNU	**Nakatsue**	**10.18**	**293**	LR	LR	22 39 29.6	
	comp=Z,86nm,18.7s,baz=118,slow=39						
JOW	**Kunigami**	**12.50**	**260**	LR	LR	22 39 55.6	
	comp=Z,113nm,21.8s,baz=278,slow=34						
KSRS	**Korea Array**	**14.13**	**307**	LR	LR	22 40 42.3	
	comp=Z,43nm,18.9s,baz=178,slow=33						
GUMO	**Guam**	**16.20**	**170**	Pn	**Pn**	**22 36 40.6**	**-3.8**
	30nm,0.9s						
TATO	**Taipei**	**18.89**	**261**	P	**P**	**22 37 16.0**	**-0.8**
	10nm,0.3s						
HIA	**Hailar**	**25.92**	**325**	P	**P**	**22 38 28.6**	**+0.3**
	1.4nm,0.3s						
PET	**Petropavlovsk**	**26.32**	**23**	P	**P**	**22 38 32.1**	**+0.4**
	11nm,0.9s						
SONM	**Songino Array**	**32.85**	**314**	P	**P**	**22 39 30.5**	**+0.6**
	0.6nm,0.8s,baz=92,slow=7.7,SNR=4.2						
TLY	**Talaya**	**35.93**	**319**	P	**P**	**22 39 56.5**	**+0.1**
	4.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**40.73**	**264**	LR	LR	22 57 21.5	
	comp=Z,29nm,19.1s,baz=141,slow=36						
ZALV	**Zalesovo Beam**	**47.52**	**318**	P	**P**	**22 41 31.1**	**+0.1**
	0.7nm,0.8s,baz=94,slow=9.2,SNR=3.2						
MKAR	**Makanchi Array**	**48.81**	**308**	P	**P**	**22 41 41.0**	**-0.2**
	0.9nm,0.8s,baz=95,slow=10,SNR=5.1						
CTAO	**Charters Tower**	**49.63**	**175**	P	**P**	**22 41 47.6**	**0.0**
	13nm,1.0s						
WRAB	**Tennant Creek**	**49.87**	**190**	P	**P**	**22 41 49.5**	**0.0**
	1.6nm,0.9s						
WRA	**Warramunga Arr**	**49.88**	**190**	P	**P**	**22 41 48.8**	**-0.8**
	2.2nm,0.6s,baz=8.3,slow=7.9,SNR=18						
WRA				PcP	**PcP**	**22 43 10.6**	**+0.9**
	0.4nm,0.8s,baz=8.4,slow=3.8,SNR=3.1						
KURK	**Kurchatov**	**51.15**	**313**	P	**P**	**22 41 58.7**	**-0.2**
	6.5nm,0.6s						
ASAR	**Alice Springs**	**53.60**	**189**	P	**P**	**22 42 17.7**	**+0.4**
	0.5nm,0.5s,baz=359,slow=5.1,SNR=7.8						
AAK	**Ala-Archa**	**54.75**	**303**	P	**P**	**22 42 26.1**	**+0.3**
	0.4nm,0.5s						
COLA	**College**	**55.11**	**29**	P	**P**	**22 42 27.8**	**0.0**
	0.6nm,0.6s						
ILAR	**Eielson Array**	**55.52**	**29**	P	**P**	**22 42 30.8**	**0.0**
	0.2nm,0.5s,baz=255,slow=6.4,SNR=3.8						
BRVK	**Borovoye**	**56.18**	**316**	P	**P**	**22 42 35.8**	**+0.2**
	1.4nm,0.4s						
INK	**Inuvik**	**60.74**	**25**	P	**P**	**22 43 07.4**	**+0.2**
	0.6nm,0.6s,baz=326,slow=3.6,SNR=2.2						
NWAO	**Narrogin (SRO)**	**66.56**	**203**	P	**P**	**22 43 46.1**	**+0.1**
	43nm,1.0s						
TAU	**Tasmania Unive**	**72.38**	**176**	P	**P**	**22 44 21.5**	**-0.2**
	6.3nm,0.9s						
KBZ	**Khabaz**	**76.21**	**313**	P	**P**	**22 44 45.0**	**+0.8**
	3.0nm,0.9s,baz=58,slow=8.9,SNR=4.2						
BRTR	**Keskin Array B**	**84.20**	**313**	P	**P**	**22 45 27.7**	**+0.1**
	2.3nm,1.0s,baz=90,slow=4.9,SNR=5.7						

MEX 10 22:48:29.6±0.4, 13.°88N×92.°47W, h12km±89km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.04**	**11**	*e*P	Pb	22 48 46.4	-3.2
THIG				*i* S	Sb	22 48 59.3	-3.9
PCIG		**1.96**	**338**	*e*P	Pn	22 48 59.2	-3.4
PCIG				*e*S	Sn	22 49 22.7	-4.4
CCIG	**Comitan**	**2.41**	**8**	*e*P	Pn	22 49 06.6	-2.5
CCIG				*i* S	Sn	22 49 34.4	-4.2
TGIG		**2.95**	**348**	*i* P	Pn	22 49 14.0	-2.4
TGIG				*i* S	Sn	22 49 48.2	-3.6

IDC ***10*** *23:04:05.7±1.4, 13.°70N×92.°63W, h0km, mb3.7/6, mb1 4.0/9, mb1mx3.8/42, mbtmp3.7/9, ML3.3/3, Error ellipse: s-maj=31.6km s-min=21.5km az=34.0*

ISCJB ***10*** *23:04:07.7±1.9, 13.°85N±0.°07×92.°68W±0.°07, h18km±13km, mb3.7/6, Error ellipse: s-maj=13.1km s-min=9.8km az=145.5*

MEX ***10*** *23:04:10.9±0.6, 13.°85N×92.°61W, h12km±157km, MD3.9*

ISC 10 23:04:07.0±3.6, 13.°87N±0.°08×92.°51W±0.°10, h6km±23km, n14, σ1s01/20, mb3.7/6, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.06**	**13**	*e*P	**Pn**	**23 04 28.7**	**+0.2**
THIG				*e*S	**Sb**	**23 04 41.5**	**-0.4**
PCIG		**1.95**	**340**	*e*P	**Pn**	**23 04 40.1**	**-0.6**
PCIG				*i* S	**Sn**	**23 05 03.4**	**-2.0**
APG	**El Apazote**	**2.28**	**60**	Pn	**Pb**	**23 04 48.5**	**-0.3**
	4.4nm,0.3s,baz=244,slow=9.1,SNR=25						
APG				Sn	**Sg**	**23 05 20.1**	**-0.4**
	18nm,0.3s,baz=248,slow=9.6,SNR=6.8						
CCIG	**Comitan**	**2.42**	**9**	*e*P	**Pn**	**23 04 47.7**	**+0.3**
CCIG				*i* S	**Sn**	**23 05 16.9**	**-0.6**
TGIG		**2.95**	**349**	*e*P	**Pn**	**23 04 55.8**	**+1.2**
TGIG				*e*S	**Sn**	**23 05 30.4**	**+0.1**
CMIG	**Matias Romero**	**3.93**	**325**	Pn	**Pn**	**23 05 07.4**	**-0.6**
	0.8nm,0.3s,baz=140,slow=14,SNR=4.9						
CMIG				Sn	**Sn**	**23 05 53.4**	**-1.1**
	5.1nm,0.3s,baz=122,slow=16,SNR=8.5						
TXAR	**Lajitas Array**	**18.54**	**328**	P	**Pn**	**23 08 26.0**	**+1.3**
	0.0nm,0.3s,baz=147,slow=12,SNR=4.7						
TKL	**Tuckaleechee C**	**23.08**	**18**	P	**P**	**23 09 13.5**	**0.0**
	1.2nm,0.5s,baz=193,slow=12,SNR=4.8						
PDAR	**Pinedale Array**	**32.33**	**336**	P	**P**	**23 10 39.6**	**+2.2**
	0.3nm,0.7s,baz=161,slow=8.6,SNR=3.0						
NVAR	**Mina Array Bea**	**33.46**	**322**	P	**P**	**23 10 47.2**	**-0.1**
	0.8nm,0.7s,baz=142,slow=9.2,SNR=4.5						
SIV	**San Ignacio**	**42.97**	**133**	P	**P**	**23 12 06.5**	**-0.8**
	1.2nm,0.8s,baz=304,slow=8.5,SNR=5.2						
YKA	**Yellowknife Ar**	**51.04**	**347**	P	**P**	**23 13 09.7**	**0.0**
	1.1nm,0.5s,baz=154,slow=7.4,SNR=3.8						
ILAR	**Eielson Array**	**62.76**	**337**	P	**P**	**23 14 33.4**	**+0.4**
	1.4nm,1.0s,baz=118,slow=5.3,SNR=8.3						
CMAR	**Chiang Mai Arr**	**145.95**	**340**	PKPbc	**PKPdf**	**23 23 47.5**	**-0.4**
	1.2nm,0.3s,baz=353,slow=4.4,SNR=7.8						

IDC 10 23:10:29.2±2.3, 6.°48S×130.°23E, h0km, mb3.4/1, mb1 3.6/4, mb1mx3.4/45, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=87.7km s-min=29.1km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.38**	**201**	Pn	Pn	23 13 28.1	+1.2
	0.2nm,0.3s,baz=21,slow=11,SNR=11						
FITZ				Sn	Sn	23 15 34.9	-11
	0.3nm,0.3s,baz=186,slow=19,SNR=4.7						
WRA	**Warramunga Arr**	**13.96**	**164**	Pn	Pn	23 13 47.2	-1.4
	0.2nm,0.3s,baz=346,slow=13,SNR=8.6						
ASAR	**Alice Springs**	**17.45**	**169**	P	Pn	23 14 34.3	+0.1
	0.1nm,0.3s,baz=345,slow=8.5,SNR=8.2						
MKAR	**Makanchi Array**	**67.92**	**327**	P	P	23 21 29.9	0.0
	0.2nm,0.5s,baz=120,slow=8.2,SNR=4.7						

UCR 10 23:11:16.3±1.5, 10.°29N×86.°38W, h14km±8km, MD4.2, ML3.0, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VCR	**Vista de Mar**	**0.75**	**102**	*e*P	Pg	23 11 31.0	+0.1
VCR				*e*S	Sb	23 11 41.6	+0.1
NY14	**Universidad de**	**0.91**	**67**	*i* P	Pb	23 11 33.5	-0.3
PLVR	**Palo Verde**	**1.01**	**87**	*e*P	Pb	23 11 34.7	-1.0
GBS3	**Finca Las Im¯¡**	**1.03**	**62**	*i* P	Pb	23 11 34.9	-1.1
LAPC	**Finca la Perla**	**1.04**	**63**	*i* P	Pb	23 11 34.8	-1.4
BUEV	**Buena Vista**	**1.08**	**62**	*i* P	Pb	23 11 35.6	-1.3
GB1A	**Borinquen Arri**	**1.10**	**61**	*e*P	Pb	23 11 35.4	-1.8
GPS3	**Bodega del ICE**	**1.10**	**65**	*i* P	Pb	23 11 35.8	-1.3
GPS1	**Guardaparques**	**1.12**	**64**	*i* P	Pb	23 11 36.3	-1.3
LIM1	**Limonal**	**1.18**	**70**	*i* P	Pn	23 11 37.2	-1.3
LIM1				*i* S	Sn	23 11 54.4	0.0
GUAB	**Guayabo de Bag**	**1.21**	**70**	*i* P	Pn	23 11 37.1	-1.7
MESS	**Mesas**	**1.25**	**69**	*i* P	Pn	23 11 38.0	-1.5
MESS				*e*P	Pb	23 11 38.4	-1.4
CUI	**Cuipilapa**	**1.25**	**73**	*i* P	Pn	23 11 38.3	-1.1
HORNC	**Hornillas**	**1.25**	**70**	*i* P	Pn	23 11 38.3	-1.2
JTS	**JuntasAbangare**	**1.40**	**90**	*e*P	Pn	23 11 40.1	-1.4
JTS				*e*P	Pb	23 11 40.5	-1.8
ARE1	**Arenal 1**	**1.64**	**84**	*e*P	Pn	23 11 44.9	+0.1
COPN	**Copaltepe**	**1.89**	**354**	*e*P	Pn	23 11 48.0	-0.3
COPN				IAML		23 12 05.6	
	comp=Z,145nm,0.6s						
ACON	**Acoyapa**	**2.05**	**35**	*e*P	Pn	23 11 49.6	-0.8
ACON				*e*S	Sn	23 12 15.8	+0.1
MOMN	**Momotombo**	**2.11**	**356**	*e*P	Pn	23 11 50.8	-0.5
LCR2	**La Lucha 2**	**2.40**	**103**	*e*P	Pn	23 11 54.4	-1.1
URSC	**Urasca**	**2.60**	**100**	*e*P	Pn	23 11 59.5	+1.3

ISCJB ***10*** *23:12:14.1±0.5, 7.°13S±0.°07×119.°54E±0.°08, h450km, mb3.3/3, Error ellipse: s-maj=11.5km s-min=9.4km az=149.3*

DJA ***10*** *23:12:16.5±0.9, 7.°S±4.°×12.°0E±.°, h430km±9km, M4.1/7, mb4.3/2, MLv3.9/7*

IDC ***10*** *23:12:16.3±3.0, 7.°25S×119.°61E, h445km±30km, mb2.8/3, mb1 3.0/6, mb1mx2.7/49, mbtmp3.7/6, Error ellipse: s-maj=113.7km s-min=20.3km az=56.0*

ISC 10 23:12:15.3±1.0, 7.°14S±0.°08×119.°60E±0.°09, h450km, n18, σ1s37/21, mb3.3/3, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSSI	**Bau Bau, Buton**	**1.33**	**42**	P	**P**	**23 13 11.1**	**-1.6**
BKSI	**Bulukumba**	**1.88**	**16**	P	**P**	**23 13 14.2**	**-1.0**
PLAI	**Plampang**	**2.46**	**227**	P	**P**	**23 13 18.3**	**-0.3**
PLAI				S	**S**	**23 14 06.4**	**-3.6**
WBSI	**Waikabubak, Su**	**2.50**	**185**	P	**P**	**23 13 18.3**	**-0.6**
WBSI				S	**S**	**23 14 08.1**	**-2.3**
EDFI	**Ende, Flores**	**2.62**	**128**	P	**P**	**23 13 18.2**	**-1.6**
BNSI	**Bone**	**2.77**	**11**	P	**P**	**23 13 19.9**	**-0.8**
MMRI	**Mamere**	**3.01**	**120**	P	**P**	**23 13 21.6**	**-0.8**
TWSI	**Taliwang, Sumb**	**3.12**	**239**	P	**P**	**23 13 23.6**	**+0.3**
SPSI	**Sidrap Palu**	**3.16**	**3**	P	**P**	**23 13 22.6**	**-1.0**
BBSI	**Bau Bau**	**3.38**	**61**	P	**P**	**23 13 24.2**	**-1.1**
BATI	**Baumata**	**5.04**	**127**	P	**P**	**23 13 40.0**	**-0.1**
	11nm,0.3s,baz=318,slow=12,SNR=15						
BATI				S	**S**	**23 14 49.1**	**-0.2**
	11nm,0.3s,baz=269,slow=16,SNR=7.3						
BATI	**Baumata**	**5.04**	**127**	P	**P**	**23 13 40.4**	**+0.2**
SOEI	**Soe**	**5.30**	**120**	P	**P**	**23 13 42.8**	**0.0**
	59nm,0.8s,0.2nm						
FITZ	**Fitzroy Crossi**	**12.38**	**152**	P	**P**	**23 14 58.2**	**-0.1**
	0.2nm,0.3s,baz=333,slow=11,SNR=5.0						
WRA	**Warramunga Arr**	**19.14**	**133**	P	**P**	**23 16 09.2**	**+0.2**
	0.5nm,0.3s,baz=310,slow=11,SNR=17						
ASAR	**Alice Springs**	**21.42**	**142**	P	**P**	**23 16 30.4**	**+0.6**
	0.3nm,0.3s,baz=316,slow=8.5,SNR=8.2						
STKA	**Stephens Creek**	**32.04**	**143**	P	**P**	**23 18 04.1**	**+0.7**
	0.8nm,0.4s,baz=328,slow=9.5,SNR=1.3						
MKAR	**Makanchi Array**	**63.09**	**332**	P	**P**	**23 21 59.5**	**+2.0**
	0.3nm,0.4s,baz=149,slow=7.6,SNR=5.9						

MEX 10 23:17:52.6±0.4, 16.°24N×98.°20W, h11km±1km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.17**	**24**	*i* P	Pg	23 17 55.8	-0.5
PNIG				*i* S	Sg	23 17 58.0	-0.3
TLIG	**Tlapa**	**1.36**	**345**	*i* P	Pn	23 18 14.5	-3.2
TLIG				*i* S	Sb	23 18 30.2	-5.6
VHO	**Vista Hermosa**	**1.63**	**59**	*i* P	Pn	23 18 18.2	-3.3
VHO				*i* S	Sn	23 18 38.6	-4.0

IDC 10 23:18:24.5±2.6, 28.°64S×177.°58W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/25, mbtmp3.7/3, Error ellipse: s-maj=58.1km s-min=20.3km az=98.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.68**	**206**	Pn	Pn	23 18 41.7	+0.3
	357nm,0.3s,baz=98,slow=7.3,SNR=24						
RAO				Sn	Sn	23 18 52.5	-0.2
	1µm,0.3s,baz=81,slow=19,SNR=15						
STKA	**Stephens Creek**	**35.26**	**254**	P	P	23 25 21.1	+0.1
	1.6nm,0.7s,baz=90,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**43.60**	**265**	P	P	23 26 30.5	-0.3
	0.6nm,0.7s,baz=101,slow=6.6,SNR=8.9						
WRA	**Warramunga Arr**	**44.42**	**270**	P	P	23 26 37.3	-0.1
	0.3nm,0.3s,baz=110,slow=7.9,SNR=8.3						
FINES	**FINESS Array B**	**143.61**	**341**	PKP	PKPbc	23 37 58.1	0.0
	6.0nm,1.0s,baz=64,slow=3.2,SNR=5.1						
MMAI	**Mount Meron Ar**	**151.41**	**287**	PKPbc	PKPbc	23 38 20.9	+0.2
	5.3nm,0.8s,baz=86,slow=6.4,SNR=4.3						

GUC 10 23:25:43.9±0.3, 26.°66S×72.°11W, h25km±16km, ML3.5, 1D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO03	**Copiap**	**1.91**	**119**	*i* P	Pn	23 26 11.9	-3.0
GO03				*i* S	Sn	23 26 26.1	-12
GO03				IAML		23 26 27.8	
	comp=E,842nm,0.5s						
PB14	**IPOC Station P**	**2.55**	**38**	*e*P	Pb	23 26 27.4	-1.7
PB14				*e*S	Sb	23 27 00.4	+0.3
PB14				IAML		23 27 05.7	
	comp=E,348nm,0.3s						
LCO	**Las Campanas**	**2.65**	**152**	*e*P	Pb	23 26 28.6	-2.3
LCO				*e*S	Sn	23 26 55.2	-1.6
LSCH	**La Serena**	**3.32**	**167**	IAML		23 27 33.4	
	comp=E,42nm,0.3s						
GO04	**Tololo Observa**	**3.68**	**162**	*e*P	Pn	23 26 43.8	+4.3
VCA	**Vinchina**	**4.03**	**122**	*i* P	Pn	23 26 47.3	+3.1

IDC 10 23:38:00.8±2.5, 23.°34S×171.°93E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/24, mbtmp3.6/3, ML3.3/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/17, Error ellipse: s-maj=101.0km s-min=40.6km az=178.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.22**	**283**	Pn	Pn	23 39 22.0	+1.7
	1.1nm,0.3s,baz=108,slow=19,SNR=52						
DZM				Sn	Sn	23 40 21.7	+0.4
	3.1nm,0.3s,baz=54,slow=21,SNR=12						
RPZ	**Rata Peaks**	**20.33**	**182**	LR	LR	23 49 04.3	
	comp=Z,141nm,19.1s,baz=39,slow=33						

ASAR	**Alice Springs**	**34.80**	**262**	P	P	23 44 53.4	-0.1
	0.9nm,1.0s,baz=95,slow=7.6,SNR=5.1						
WRA	**Warramunga Arr**	**35.04**	**268**	P	P	23 44 54.7	-0.9
	0.2nm,0.4s,baz=97,slow=8.3,SNR=4.9						
VNDA	**Vanda**	**54.45**	**183**	LR	LR	00 07 04.8	
	comp=Z,29nm,19.7s,baz=353,slow=32						
GERES	**GERESS Array B**	**149.28**	**331**	PKPbc	PKPbc	23 57 51.3	-0.2
	0.7nm,0.7s,baz=64,slow=2.3,SNR=6.7						

NNC ***10*** *23:39:31.8±7.5, 40.°00N×52.°02E, h0km, mb3.7, mpv3.1, Error ellipse: s-maj=76.0km s-min=25.6km az=63.0*

IDC ***10*** *23:39:32.1±1.3, 40.°30N×50.°65E, h0km, mb3.6/5, mb1 3.6/10, mb1mx3.4/43, mbtmp3.5/10, ML2.0/3, Error ellipse: s-maj=22.1km s-min=10.6km az=157.0*

ISCJB ***10*** *23:39:34.6±0.7, 40.°53N±0.°06×50.°97E±0.°06, h35km, mb3.5/5, Error ellipse: s-maj=9.4km s-min=6.3km az=171.7*

ISC 10 23:39:36.9±0.8, 40.°46N±0.°08×50.°82E±0.°06, h35km, n14, σ2s47/20, mb3.4/5, 3C-3D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GNI	**Garni**	**4.66**	**268**	Pn	**Pn**	**23 40 45.9**	**+1.0**
	0.5nm,0.3s,baz=52,slow=12,SNR=4.8						
GNI				Sn	**Sn**	**23 41 41.6**	**+3.8**
	0.6nm,0.3s,baz=256,slow=12,SNR=1.7						
GEYT	**Alibeck**	**6.21**	**112**	Pn	**Pn**	**23 41 05.6**	**-0.4**
	0.2nm,0.3s,baz=301,slow=18,SNR=6.0						
GEYT				Sn	**Sn**	**23 42 12.8**	**-2.9**
	0.5nm,0.3s,baz=291,slow=24,SNR=4.0						
GYA0B	**ALIBECK ARRAY**	**6.21**	**112**	⇑Pg	**Pn**	**23 41 06.3**	**+0.3**
	1.4nm,0.5s						
GYA0B				⇓Lg	Lg	23 42 14.7	
	7.2nm,0.7s						
KBZ	**Khabaz**	**6.74**	**302**	Pn	**Pn**	**23 41 14.1**	**+0.9**
	0.1nm,0.3s,baz=117,slow=6.8,SNR=3.5						
KBZ				Sn	**Sn**	**23 42 25.0**	**-3.6**
	0.3nm,0.3s,baz=127,slow=20,SNR=3.4						
KVAR	**Kislovodsk Ar**	**6.97**	**303**	Sn	**Sn**	**23 42 30.7**	**-3.9**
	baz=180,slow=19,SNR=4.6						
AB31	**Akbulak array**	**10.91**	**33**	⇑Pn	**Pn**	**23 42 08.9**	**-1.5**
	0.2nm,0.3s,baz=212,slow=13						
AB31				⇓Sn	**Sn**	**23 44 10.1**	**-1.1**
	0.4nm,0.3s,baz=218,slow=24						
AKTO	**Aktyubinsk**	**11.17**	**24**	Pn	**Pn**	**23 42 15.3**	**+1.3**
	0.7nm,0.3s,baz=195,slow=14,SNR=11						
AKTO				Sn	**Sn**	**23 44 16.6**	**-1.0**
	0.5nm,0.3s,baz=327,slow=20,SNR=6.7						
AKTO	**Aktyubinsk**	**11.17**	**24**	⇑Pn	**Pn**	**23 42 13.7**	**-0.3**
	3.3nm,0.9s						
AKTO				⇓Sn	**Sn**	**23 44 22.5**	**+4.9**
	2.6nm,0.6s						
BVAR	**Borovoye Array**	**18.30**	**40**	P	**Pn**	**23 43 50.6**	**+2.8**
	0.4nm,0.3s,baz=230,slow=8.8,SNR=6.9						
KURBB	**Kurchatov Arra**	**21.79**	**53**	P	**P**	**23 44 28.2**	**+2.7**
	0.5nm,0.3s,baz=256,slow=12,SNR=4.1						
MKAR	**Makanchi Array**	**23.54**	**64**	P	**P**	**23 44 45.1**	**+1.3**
	0.4nm,0.5s,baz=256,slow=9.9,SNR=5.5						
FINES	**FINESS Array B**	**25.86**	**333**	P	**P**	**23 45 05.1**	**+0.2**
	3.1nm,0.8s,baz=139,slow=11,SNR=5.6						
HFS	**Hagfors**	**30.22**	**323**	P	**P**	**23 45 43.5**	**-0.3**
	2.5nm,0.9s,baz=99,slow=8.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**50.77**	**252**	P	**P**	**23 48 31.7**	**-2.0**
	0.4nm,1.0s,baz=67,slow=6.3						

BJI ***10*** *23:45:48.8, 18.°70S×170.°10E, h161km, mb4.6/16, mB5.1/9*

NEIC ***10*** *23:45:58.8±2.1, 19.°20S×169.°66E, h219km±18km, mb4.6/11, Error ellipse: s-maj=16.5km s-min=13.0km az=55.0*

ISCJB ***10*** *23:46:01.9±0.5, 19.°19S±0.°08×169.°33E±0.°08, h250km, mb4.5/30, Error ellipse: s-maj=12.8km s-min=8.6km az=43.1*

IDC ***10*** *23:46:02.4±1.8, 19.°12S×169.°33E, h236km±16km, mb3.9/12, mb1 4.1/13, mb1mx4.0/22, mbtmp4.4/13, Error ellipse: s-maj=18.3km s-min=13.7km az=132.0*

ISC 10 23:46:02.9±0.5, 19.°30S±0.°09×169.°37E±0.°09, h250km, n63, σ1s61/67, mb4.5/30, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.89**	**224**	P	**Pn**	**23 47 06.5**	**+1.0**
	11nm,0.3s,baz=40,slow=17,SNR=107						
DZM	**Mont Dzumac**	**3.89**	**224**	*e*Pn	**Pn**	**23 47 03.4**	**-2.1**
LHI	**Lord Howe Isla**	**15.31**	**215**	*e*P	**Pn**	**23 49 28.2**	**+1.4**
	466nm,1.8s						
EIDS	**Eidsvold**	**17.96**	**247**	*e*P	**Pn**	**23 49 57.5**	**-0.6**
	19nm,0.6s						
ARMA	**Armidale**	**19.51**	**232**	*e*P	**Pn**	**23 50 14.7**	**-1.7**
	28nm,0.7s						
CTA	**Charters Tower**	**21.78**	**264**	P	**P**	**23 50 36.0**	**+1.0**
	9.3nm,0.5s,baz=91,slow=12,SNR=17						
CTAO	**Charters Tower**	**21.78**	**264**	*e*P	**P

GTA				pP	pP	23 59 01.6	-20
GTA				sP	sP	23 59 18.1	-30
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,120nm,4.5s						
GTA				LR	LR		
	comp=N,360nm,19.2s						
GTA				LR	LR		
	comp=E,210nm,19.2s						
GTA				LR	LR		
	comp=Z,130nm,16.5s						
SONM	**Songino Array**	**87.35 323**		P	**P**	**23 58 22.5**	**+0.8**
	2.9nm,0.8s,baz=145,slow=6.0,SNR=19						
SONA1	**Songino Array**	**87.35 323**		*e*P	**P**	**23 58 18.7**	**-3.0**
NVAR	**Mina Array Bea**	**88.75 48**		P	**P**	**23 58 30.0**	**+1.3**
	2.2nm,0.8s,baz=226,slow=9.3,SNR=11						
ILAR	**Eielson Array**	**90.25 17**		P	**P**	**23 58 33.5**	**-1.3**
	1.8nm,0.8s,baz=236,slow=5.2,SNR=25						
PDAR	**Pinedale Array**	**96.57 47**		P	**P**	**23 59 04.5**	**-0.1**
	0.2nm,0.7s,baz=211,slow=5.1,SNR=2.1						
TXAR	**Lajitas Array**	**96.69 61**		P	**P**	**23 59 06.6**	**+1.3**
	0.4nm,0.8s,baz=227,slow=6.3,SNR=6.3						
WMQ	**Urumqi**	**97.34 314**		*e*P	**P**	**23 59 05.1**	**-2.8**
YKA	**Yellowknife Ar**	**100.67 27**		P	**Pdif**	**23 59 23.3**	**+1.2**
	0.8nm,0.4s,baz=256,slow=5.1,SNR=5.0						
MKAR	**Makanchi Array**	**101.87 315**		P	**Pdif**	**23 59 28.5**	**+0.6**
	0.3nm,0.5s,baz=90,slow=6.4,SNR=6.1						
ARCES	**ARCESS Array B**	**125.16 345**		PKP	**PKPdf**	**00 04 32.8**	**-0.2**
	1.7nm,0.3s,baz=65,slow=2.3,SNR=36						
NOA	**NORSAR Array B**	**135.54 345**		PKP	**PKPdf**	**00 04 53.5**	**+0.6**
	0.5nm,0.8s,baz=36,slow=2.3,SNR=2.6						
BRTR	**Keskin Array B**	**136.95 308**		PKP	**PKPdf**	**00 04 57.9**	**+1.6**
	0.8nm,0.8s,baz=136,slow=4.1,SNR=4.1						
CONA	**Conrad Observa**	**144.26 329**		PKPdf	**PKPdf**	**00 05 09.8**	**+0.7**
	2.3nm,0.7s						
KHC	**Kasperske Hory**	**144.45 332**		*e*PKP	**PKPdf**	**00 05 09.2**	**-0.2**
GERES	**GERESS Array B**	**144.61 332**		PKP	**PKPdf**	**00 05 09.6**	**-0.2**
	3.3nm,0.6s,baz=33,slow=4.1,SNR=29						
ARSA	**Arzberg**	**144.90 329**		*e*PKPdf	**PKPdf**	**00 05 11.1**	**+0.9**
	7.2nm,1.1s						
MOA	**Molln**	**145.08 330**		*e*PKPab	**PKPab**	**00 05 11.4**	**+0.6**
	8.9nm,0.6s						
SOKA	**Soboth**	**145.53 328**		*e*PKPab	**PKPab**	**00 05 12.8**	**+0.1**
	6.0nm,0.7s						
OBKA	**Obir**	**145.89 328**		*e*PKiKP	**PKPab**	**00 05 14.6**	**+0.6**
	4.3nm,0.8s						
WATA	**Walderalm**	**146.68 332**		*e*PKPab	**PKPab**	**00 05 16.1**	**-1.1**
	2.1nm,0.5s						
ABTA	**Abfaltersbach**	**146.70 331**		*i* PKPab	**PKPbc**	**00 05 15.1**	**-0.4**
MOTA	**Moosalm**	**146.88 333**		*e*PKPab	**PKPbc**	**00 05 16.3**	**+0.3**
	3.1nm,0.6s,SNR=8.1						
RETA	**Reutte**	**146.92 333**		*e*PKPab	**PKPbc**	**00 05 16.2**	**+0.2**
	2.2nm,0.5s						
SQTA	**Sankt Quirin**	**146.93 332**		*e*PKPab	**PKPbc**	**00 05 16.4**	**+0.3**
	5.9nm,0.5s,SNR=7.0						
FETA	**Feichten**	**147.29 333**		*e*PKPab	**PKPbc**	**00 05 17.8**	**+0.6**
	5.1nm,0.6s						
DAVA	**Damuels**	**147.45 334**		*e*PKiKP	**PKiKP**	**00 05 18.7**	**-0.8**
	4.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**166.68 244**		PKP	**PKPdf**	**00 05 39.2**	**-0.1**
	0.8nm,1.0s,baz=23,slow=4.8,SNR=3.7						

BJI 10 23:53:54.2, 41.75N×120.25E, h12km, ML3.7/13, 1C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNY	**Shenyang**	**2.49**	**87**	⇑Pg	Pb	23 54 36.8	-2.0
SNY				Sg	Sb	23 55 09.2	-0.2
SNY				smax	smax		
	comp=N,290nm,0.6s						
SNY				smax	smax		
	comp=E,170nm,0.3s						
DL2	**Dalian**	**3.03**	**159**	Pn	Pn	23 54 39.6	-2.3
DL2				Sn	Sn	23 55 15.9	-2.2
DL2				smax	smax		
	comp=N,100nm,0.6s						
DL2				smax	smax		
	comp=E,120nm,0.6s						

IDC 11 00:06:29.6±2.9, 14.95S×176.03E, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.6/28, mbtmp3.6/4, Error ellipse: s-maj=188.4km s-min=26.0km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.01**	**257**	P	P	00 14 06.4	-0.1
	0.4nm,1.1s,baz=85,slow=8.4,SNR=2.8						
ASAR	**Alice Springs**	**40.57**	**251**	P	P	00 14 10.9	-0.2
	0.8nm,0.5s,baz=83,slow=8.8,SNR=13						
NVAR	**Mina Array Bea**	**81.14**	**46**	P	P	00 18 47.3	-0.1
	0.3nm,0.3s,baz=243,slow=8.0,SNR=3.2						
ILAR	**Eielson Array**	**84.33**	**15**	P	P	00 19 03.1	0.0
	0.2nm,0.4s,baz=222,slow=5.2,SNR=4.1						
BRTR	**Keskin Array B**	**138.92**	**314**	PKP	PKPdf	00 25 58.4	-0.1
	0.9nm,0.8s,baz=43,slow=2.4,SNR=3.8						
GERES	**GERESS Array B**	**143.22**	**340**	PKP	PKPdf	00 26 06.7	+0.8
	0.7nm,0.5s,baz=18,slow=3.5,SNR=6.8						

IDC 11 00:18:37.3±1.6, 12.83N×86.23W, h0km, mb3.4/4, mb1 3.8/4, mb1mx3.6/31, mbtmp3.4/4, Error ellipse: s-maj=214.2km s-min=23.2km az=55.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**23.07**	**318**	P	P	00 23 44.8	+0.1
	0.9nm,0.7s,baz=134,slow=10,SNR=11						
LPAZ	**La Paz**	**34.02**	**148**	P	P	00 25 23.9	0.0
	0.4nm,0.7s,baz=284,slow=12,SNR=1.9						
PDAR	**Pinedale Array**	**36.02**	**330**	P	P	00 25 40.5	-0.1
	0.2nm,0.6s,baz=131,slow=11,SNR=2.8						
NVAR	**Mina Array Bea**	**38.22**	**318**	P	P	00 25 59.1	-0.2
	0.5nm,0.4s,baz=125,slow=7.8,SNR=6.5						

CNRM ***11*** *00:19:18.5, 36.23N×4.05W, h5km, ML3.4*
SFS ***11*** *00:19:18.0, 36.30N×3.73W, ML3.2, MAR DE ALBORAN*
LDG ***11*** *00:19:19.8±0.1, 36.28N×3.68W, h2km, Ml3.0/3, Error ellipse: s-maj=2.6km s-min=2.3km az=20.0*
INMG ***11*** *00:19:19.1±1.6, 36.32N×3.73W, h2km±3km, ML3.1, Error ellipse: s-maj=2.3km s-min=2.1km az=79.0*
MDD ***11*** *00:19:19.0±0.3, 36.31N×3.71W, h0km, mbLg3.3/16, Error ellipse: s-maj=3.1km s-min=2.6km az=25.0, PRXIMO*
MDD EMS: II INTENSIDAD MAXIMA.
IGIL ***11*** *00:19:20.3, 36.30N×3.73W, h9km, ML3.2*

ISC 11 00:19:19.4±1.3, 36.28N±0.02×3.70W±0.02, h25km±14km, n112, σ1163/179, 3C-5D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELGU	**Los Guajares,**	**0.59**	**6**	⇓Pg	**Pb**	**00 19 29.3**	**-1.9**
	50nm,0.1s,SNR=18						
ELGU				Lg	Lg	00 19 36.8	
	4μm,0.4s,SNR=7.9						
EALB	**Alboran**	**0.64**	**122**	Pg	**Pb**	**00 19 31.6**	**-0.3**
	272nm,0.1s,SNR=7.9						
EALB				Lg	Lg	00 19 41.1	
	2μm,0.2s,SNR=7.9						
EMAL	**Malaga-Limoner**	**0.76**	**309**	⇓Pg	**Pb**	**00 19 32.2**	**-1.6**
EMAL				Lg	Lg	00 19 42.1	
EMAL	**Malaga-Limoner**	**0.76**	**309**	⇓P	**Pb**	**00 19 32.2**	**-1.6**
EMAL				eS	Sb	**00 19 42.1**	**-1.7**
EGOR	**Sierra Gorda,**	**0.89**	**339**	⇓Pg	**Pb**	**00 19 34.1**	**-2.1**
	18nm,0.2s,SNR=18						
EGOR				Lg	Lg	00 19 44.8	
	165nm,0.3s,SNR=7.9						
EBER	**Berja**	**0.90**	**47**	⇑Pg	**Pb**	**00 19 35.0**	**-1.4**
	22nm,0.1s,SNR=18						
EBER				Lg	Lg	00 19 46.6	
	483nm,0.2s,SNR=19						
EQUE	**Quentar**	**0.94**	**13**	⇓Pg	**Pb**	**00 19 35.6**	**-1.5**
	14nm,0.1s,SNR=18						
EQUE				Lg	Lg	00 19 47.6	
	194nm,0.3s,SNR=22						
EMEL	**Melilla**	**1.15**	**148**	Pg	**Pn**	**00 19 40.1**	**+0.1**
	33nm,0.2s,SNR=7.9						
EMEL				Lg	Lg	00 19 55.5	
	617nm,0.2s,SNR=7.9						
MELI	**Melilla**	**1.17**	**147**	Pg	**Pn**	**00 19 40.3**	**+0.1**
	17nm,0.2s,SNR=7.9						
MELI				Lg	Lg	00 19 55.7	
	152nm,0.1s,SNR=7.9						
MELI	**Melilla**	**1.17**	**147**	*e*P	**Pb**	**00 19 40.6**	**-0.2**
MELI				*e*S	**Sn**	**00 19 56.3**	**+1.0**
PVLZ	**Peæn de**	**1.21**	**204**	*e*P	**Pb**	**00 19 42.5**	**+0.9**
PVLZ				*e*S	**Sn**	**00 19 58.2**	**+1.9**
GORA	**Gorafe**	**1.31**	**24**	Pg	**Pb**	**00 19 43.1**	**-0.2**
	41nm,0.2s,SNR=7.9						
GORA				Lg	Lg	00 19 59.8	
	192nm,0.2s,SNR=7.9						
CEUT	**Ceuta**	**1.37**	**254**	P	**Pn**	**00 19 39.9**	**-3.1**
CEUT	**Ceuta**	**1.37**	**254**	S	**Sn**	**00 19 54.3**	**-6.1**
ENIJ	**Nijar**	**1.39**	**60**	Pg	**Pn**	**00 19 42.8**	**-0.4**
	33nm,0.2s,SNR=7.9						
ENIJ				Lg	Lg	00 20 00.7	
	SNR=7.9						
CEU	**Ceuta**	**1.41**	**255**	Pg	**Pn**	**00 19 41.1**	**-2.3**
CEU				Lg	Lg	00 19 59.0	
CEU	**Ceuta**	**1.41**	**255**	*e*P	**Pn**	**00 19 41.1**	**-2.3**
CEU				*e*S	**Sn**	**00 19 59.0**	**-2.2**
EJIF	**Jimena Fronter**	**1.44**	**277**	Pg	**Pn**	**00 19 43.6**	**-0.3**
	10.0nm,0.2s,SNR=7.9						
EJIF				Lg	Lg	00 19 59.2	
	SNR=7.9						
LIJA	**Lijar**	**1.50**	**295**	Pg	**Pb**	**00 19 48.0**	**+1.4**
LIJA				Lg	Lg	00 20 14.2	
LIJA	**Lijar**	**1.50**	**295**	*i* P	**Pb**	**00 19 48.0**	**+1.4**
LIJA				*e*S	Sb	00 20 14.2	+8.8
EQES	**Quesada**	**1.60**	**18**	⇑Pg	**Pb**	**00 19 48.0**	**-0.3**
	31nm,0.1s,SNR=18						
EQES				Lg	Lg	00 20 08.7	
	154nm,0.2s,SNR=8.4						
MOMI	**Momias**	**1.63**	**272**	Pg	**Pb**	**00 19 50.4**	**+1.6**
MOMI	**Momias**	**1.63**	**272**	*e*P	**Pb**	**00 19 50.4**	**+1.6**
GIBL	**Gibalbin**	**1.90**	**287**	Pg	**Pb**	**00 19 54.9**	**+1.5**
GIBL	**Gibalbin**	**1.90**	**287**	*e*P	**Pb**	**00 19 54.9**	**+1.5**
HORN	**Hornachuelos**	**2.00**	**322**	P	**Pn**	**00 19 52.8**	**+1.2**
HORN	**Hornachuelos**	**2.00**	**322**	S	**Sn**	**00 20 15.5**	**-0.3**
EADA	**Adamuz**	**2.01**	**340**	Pn	**Pn**	**00 19 52.6**	**+0.8**
	2.2nm,0.1s,SNR=168						
EADA				Pg	**Pb**	**00 19 54.7**	**-0.5**
	80nm,0.3s,SNR=7.9						
EADA				Lg	Lg	00 20 21.0	
	89nm,0.2s,SNR=6.4						
SESP	**Santiago Espad**	**2.05**	**26**	Pn	**Pn**	**00 19 53.3**	**+0.8**
	0.9nm,0.1s,SNR=7.9						
SESP				Pg	**Pb**	**00 19 55.4**	**-0.7**
	14nm,0.2s,SNR=7.9						
SESP				Lg	Lg	00 20 20.3	
	168nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**2.05**	**26**	P	**Pb**	**00 19 55.6**	**-0.5**
SESP	**Santiago Espad**	**2.05**	**26**	S	**Sb**	**00 20 25.8**	**+4.5**
RSA	**Sarsar**	**2.23**	**232**	P	**Pn**	**00 19 53.1**	**-1.7**
RSA	**Sarsar**	**2.23**	**232**	S	**Sn**	**00 20 19.8**	**-1.8**
ECAB	**El Cabril**	**2.25**	**323**	Pn	**Pn**	**00 19 55.7**	**+0.6**
	0.2nm,0.3s,SNR=27						
ECAB				Pg	**Pb**	**00 19 59.1**	**-0.3**
	0.2nm,0.2s,SNR=7.9						
ECAB				Sn	**Sn**	**00 20 22.4**	**+0.2**
	7.7nm,0.1s,SNR=6.4						
ECAB				Lg	Lg	00 20 30.5	
	99nm,0.4s,SNR=11						
EMUR	**La Murta**	**2.51**	**51**	Pn	**Pn**	**00 19 58.9**	**+0.2**
	4.0nm,0.2s,SNR=49						
EMUR				Sn	**Sn**	**00 20 26.0**	**-2.5**
	SNR=7.9						
EMIN	**Mina Concepcio**	**2.80**	**303**	Pn	**Pn**	**00 20 03.1**	**+0.5**
	2.4nm,0.2s,SNR=123						
EMIN				Sn	**Sn**	**00 20 35.8**	**+0.1**
	4.4nm,0.3s,SNR=6.4						
ETOB	**Tobarra**	**2.92**	**35**	Pn	**Pn**	**00 20 06.2**	**+1.9**
	3.3nm,0.2s,SNR=71						
ETOB				Sn	**Sn**	**00 20 39.3**	**+0.8**
	3.7nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.28**	**294**	Pn	**Pn**	**00 20 09.7**	**+0.5**
	3.3nm,0.1s,SNR=23						
EGRO				Sn	**Sn**	**00 20 47.2**	**-0.2**
	27nm,0.2s,SNR=11						
PAB	**San Pablo**	**3.30**	**351**	Pn	**Pn**	**00 20 11.0**	**+1.5**
	2.0nm,0.2s,SNR=7.9						
PAB				Sn	**Sn**	**00 20 47.5**	**-0.5**
	2.3nm,0.1s,SNR=7.9						
PAB				Lg	Lg	00 21 02.6	
	4.5nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**3.39**	**357**	Pn	**Pn**	**00 20 12.2**	**+1.3**
	13nm,0.1s,baz=178,slow=12,SNR=80						
ESDC				Sn	**Sn**	**00 20 50.4**	**+0.1**
	1.3nm,0.2s,SNR=7.9						
ESDC				Lg	Lg	00 21 06.3	
	4.2nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**3.41**	**290**	*e*Pn	**Pn**	**00 20 11.7**	**+0.7**
PVAQ				*e*Sn	**Sn**	**00 20 49.9**	**-0.7**
PVAQ				A	A	00 20 53.1	
	45nm,0.3s						
PVAQ	**Vaqueiros**	**3.41**	**290**	Pn	**Pn**	**00 20 11.7**	**+0.7**
PVAQ				Sn	**Sn**	**00 20 49.9**	**-0.7**
	45nm,0.3s						
PVAQ	**Vaqueiros**	**3.41**	**290**	P	**Pn**	**00 20 08.9**	**-2.1**
PVAQ	**Vaqueiros**	**3.41**	**290**	S	**Sn**	**00 20 48.5**	**-2.1**
PBDV	**Barranco-do-Ve**	**3.53**	**287**	*e*Pn	**Pn**	**00 20 13.6**	**+0.9**
PBDV				*e*Sn	**Sn**	**00 20 53.2**	**-0.4**
PBDV				A	A	00 20 59.8	
	29nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.53**	**287**	Pn	**Pn**	**00 20 13.6**	**+0.9**
PBDV				Sn	**Sn**	**00 20 53.2**	**-0.4**
	29nm,0.3s						
MDT	**Midelt**	**3.54**	**193**	P	**Pn**	**00 20 13.1**	**+0.2**
MDT	**Midelt**	**3.54**	**193**	S	**Sn**	**00 20 54.8**	**+0.8**
EBAD	**Badajoz**	**3.61**	**314**	Pn	**Pn**	**00 20 14.2**	**+0.5**
	6.1nm,0.1s,SNR=51						
EBAD				Sn	**Sn**	**00 20 55.4**	**-0.1**
	22nm,0.2s,SNR=8.1						
EBEN2	**Beniarda presa**	**3.68**	**48**	Pn	**Pn**	**00 20 14.7**	**0.0**
	2.1nm,0.1s,SNR=7.9						
EBEN2				Sn	**Sn**	**00 20 54.9**	**-2.4**
	4.8nm,0.2s,SNR=7.9						
PBEJ	**Beja**	**3.75**	**299**	*e*Pn	**Pn**	**00 20 18.0**	**+2.3**
PBEJ				*e*Sn	**Sn**	**00 20 59.6**	**+0.5**
PBEJ				A	A	00 21 01.3	
	16nm,0.2s						
PBEJ	**Beja**	**3.75**	**299**	Pn	**Pn**	**00 20 18.0**	**+2.3**
PBEJ				Sn	**Sn**	**00 20 59.6**	**+0.5**
	8.2nm,0.2s						
MESJ	**Messejana**	**3.93**	**295**	*e*P	**Pn**	**00 20 18.7**	**+0.5**
MESJ				*e*S	**Sn**	**00 21 01.4**	**-2.2**
MESJ				AML	AML	00 21 05.6	
	comp=E,39nm,0.4s						
MESJ	**Messejana**	**3.93**	**295**	*e*Pn	**Pn**	**00 20 18.7**	**+0.5**
MESJ				*e*Sn	**Sn**	**00 21 03.4**	**-0.1**
MESJ				A	A	00 21 08.2	
	comp=E,25nm,0.6s						
MESJ	**Messejana**	**3.93**	**295**	Pn	**Pn**	**00 20 18.7**	**+0.5**
MESJ				Sn	**Sn**	**00 21 03.4**	**-0.1**
	comp=E,25nm,0.6s						
ECHE	**Chera**	**3.95**	**32**	Pn	**Pn**	**00 20 19.3**	**+0.8**
	comp=E,0.3nm,0.1s,SNR=7.9						
ECHE				Lg	Lg	00 21 23.1	
	SNR=7.9						
PESTR	**Estremoz**	**4.02**	**311**	*e*Pn	**Pn**	**00 20 20.6**	**+1.1**
PESTR				*e*Sn	**Sn**	**00 21 05.2**	**-0.6**
PESTR				A	A	00 21 07.0	
	comp=E,13nm,0.2s						
PESTR	**Estremoz**	**4.02**	**311**	P	**Pn**	**00 20 18.5**	**-0.9**
PESTR	**Estremoz**	**4.02**	**311**	S	**Sn**	**00 21 04.2**	**-1.7**
EVO	**Evora**	**4.10**	**304**	*e*Pn	**Pn**	**00 20 23.6**	**+3.1**
EVO				*e*Sn	**Sn**	**00 21 09.3**	**+1.6**
EVO				A	A	00 21 11.5	
	comp=E,43nm,0.3s						
EVO	**Evora**	**4.10**	**304**	Pn	**Pn**	**00 20 23.6**	**+3.1**
EVO				Sn	**Sn**	**00 21 09.3**	**+1.6**
	comp=E,43nm,0.3s						
MORF	**Marmelete**	**4.10**	**286**	*e*P	**Pn**	**00 20 21.0**	**+0.4**
MORF				*e*S	**Sn**	**00 21 05.4**	**-2.4**
MORF				AML	AML	00 21 10.3	
	comp=N,84nm,0.3s						
MORF	**Marmelete**	**4.10**	**286**	*e*Pn	**Pn**	**00 20 21.0**	**+0.4**
MORF				*e*Sn	**Sn**	**00 21 08.1**	**+0.3**
MORF				A	A	00 21 12.6	
	comp=N,27nm,0.2s						
MORF	**Marmelete**	**4.10**	**286**	Pn	**Pn**	**00 20 21.0**	**+0.4**
MORF				Sn	**Sn**	**00 21 08.1**	**+0.3**
	comp=N,27nm,0.2s						
PFVI	**Vila Bisbo**	**4.20**	**283**	*e*Pn	**Pn**	**00 20 22.5**	**+0.6**
PFVI				*e*Sn	**Sn**	**00 21 08.2**	**-2.0**
PFVI				A	A	00 21 16.5	
	comp=N,24nm,0.3s						
PFVI	**Vila Bisbo**	**4.20**	**283**	Pn	**Pn**	**00 20 22.3**	**+0.4**
	comp=N,6.1nm,0.2s,SNR=8.6						
PFVI				Sn	**Sn**	**00 21 08.6**	**-1.6**
	comp=N,16nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.20**	**283**	P	**Pn**	**00 20 19.6**	**-2.3**
PFVI	**Vila Bisbo**	**4.20**	**283**	S	**Sn**	**00 21 08.0**	**-2.2**
EPLA	**Plasencia**	**4.21**	**334**	Pn	**Pn**	**00 20 23.6**	**+1.5**
	comp=N,3.5nm,0.2s,SNR=36						
EPLA				Sn	**Sn**	**00 21 09.8**	**-0.8**
	comp=N,2.2nm,0.2s,SNR=7.9						
EPLA				Lg	Lg	00 21 31.0	
	comp=N,13nm,0.3s,SNR=5.9						
PTEO	**Sao Teotonio**	**4.22**	**289**	*e*Pn	**Pn**	**00 20 23.5**	**+1.4**
PTEO				*e*Sn	**Sn**	**00 21 10.4**	**-0.1**
PTEO				A	A	00 21 43.1	
	comp=N,25nm,0.4s						
PTEO	**Sao Teotonio**	**4.22**	**289**	Pn	**Pn**	**00 20 23.5**	**+1.4**
PTEO				Sn	**Sn**	**00 21 10.4**	**-0.1**
	comp=N,13nm,0.4s						
PMRV	**Marv??o**	**4.29**	**318**	*e*Pn	**Pn**	**00 20 23.8**	**+0.7**
PMRV				*e*Sn	**Sn**	**00 21 12.0**	**-0.3**
PMRV				A	A	00 21 44.4	
	comp=N,19nm,0.5s						
PMRV	**Marv??o**	**4.29**	**318**	Pn	**Pn**	**00 20 23.8**	**+0.7**
PMRV				Sn	**Sn**	**00 21 12.0**	**-0.3**
	comp=N,19nm,0.5s						
GUD	**Guadarrama**	**4.37**	**355**	Pn	**Pn**	**00 20 26.1**	**+1.8**
	comp=N,0.0nm,0.1s,SNR=7.9						
GUD				Sn	**Sn**	**00 21 13.2**	**-1.3**
	SNR=7.9						
GUD				Lg	Lg	00 21 37.7	
	comp=N,22nm,0.5s,SNR=7.9						
PCBR	**Castelo Branco**	**4.64**	**321**	*e*Pn	**Pn**	**00 20 29.4**	**+1.6**
PCBR				*e*Sn	**Sn**	**00 21 19.6**	**-1.2**
PCBR				A	A	00 21 56.9	
	comp=N,16nm,0.5s						
PCBR	**Castelo Branco**	**4.64**	**321**	Pn	**Pn**	**00 20 29.4**	**+1.6**
PCBR				Sn	**Sn**	**00 21 19.6**	**-1.2**
	comp=N,8.1nm,0.5s						
EMOS	**Mosqueruela**	**4.80**	**31**	Pn	**Pn**	**00 20 31.6**	**+1.4**
	comp=N,0.2nm,0.1s,SNR=5.5						
EMOS				Sn	**Sn**	**00 21 24.8**	**-0.4**
	comp=N,0.5nm,0.2s,SNR=7.9						
ALMR	**Almeirim**	**4.81**	**308**	*e*Pn	**Pn**	**00 20 33.0**	**+2.7**
ALMR				*e*Sn	**Sn**	**00 21 26.0**	**+0.8**
ALMR				A	A	00 22 02.0	
	comp=N,42nm,0.7s						
ALMR	**Almeirim**	**4.81**	**308**	Pn	**Pn**	**00 20 33.0**	**+2.7**
ALMR				Sn	**Sn**	**00 21 26.0**	**+0.8**
	comp=N,21nm,0.7s						
EIBI	**Ibiza**	**4.85**	**54**	Pn	**Pn**	**00 20 29.4**	**-1.4**
	SNR=7.9						
EIBI				Sn	**Sn**	**00 21 23.2**	**-3.0**
	SNR=7.9						
PTOM	**Tomar**	**4.99**	**313**	⇑*e*Pn	**Pn**	**00 20 33.8**	**+1.1**
PTOM				*e*Sn	**Sn**	**00 21 27.4**	**-2.3**
PTOM				A	A	00 21 33.5	
	comp=N,18nm,0.6s						
PTOM	**Tomar**	**4.99**	**313**	Pn	**Pn**	**00 20 33.8**	**+1.1**
PTOM				Sn	**Sn**	**00 21 27.4**	**-2.3**
	comp=N,9.2nm,0.6s						
PMST	**Lisbon--Monsan**	**5.00**	**301**	*e*Pn	**Pn**	**00 20 34.1**	**+1.3**
PMST				*e*Sn	**Sn**	**00 21 27.0**	**-2.8**
MTE	**Manteigas**	**5.10**	**325**	*e*Pn	**Pn**	**00 20 35.9**	**+1.6**
MTE				*e*Sn	**Sn**	**00 21 30.6**	**-1.8**
MTE				A	A	00 22 09.4	
	comp=N,27nm,0.6s						
MTE	**Manteigas**	**5.10**	**325**	Pn	**Pn**	**00 20 35.9**	**+1.6**
MTE				Sn	**Sn**	**00 21 30.6**	**-1.8**
	comp=N,14nm,0.6s						
PMAFR	**Mafra**	**5.17**	**303**	*e*Pn	**Pn**	**00 20 36.2**	**+1.0**
PMAFR				*e*Sn	**Sn**	**00 21 33.2**	**-0.9**
PMAFR				A	A	00 21 35.7	
	comp=N,30nm,0.3s						
PMAFR	**Mafra**	**5.17**	**303**	Pn	**Pn**	**00 20 35.8**	**+0.6**
	comp=N,6.7nm,0.2s,SNR=8.6						
PMAFR				Sn	**Sn**	**00 21 32.3**	**-1.8**
	comp=N,16nm,0.2s,SNR=6.4						
PCAS	**Casmilo, Conde**	**5.33**	**316**	*e*Pn	**Pn**	**00 20 38.4**	**+1.0**
PCAS				*e*Sn	**Sn**	**00 21 36.9**	**-1.2**
PCAS				A	A	00 22 23.6	
	comp=N,18nm,0.5s						
COI	**Coimbra**	**5.39**	**318**	Pn	**Pn**	**00 20 39.2**	**+1.0**
PVIS	**Viseu**	**5.51**	**325**	*e*Pn	**Pn**	**00 20 41.2**	**+1.3**
PVIS				*e*Sn	**Sn**	**00 21 40.4**	**-2.2**
PVIS				A	A	00 21 48.9	
	comp=N,11nm,0.3s						
PVIS	**Viseu**	**5.51**	**325**	Pn	**Pn**	**00 20 41.2**	**+1.3**
PVIS				Sn	**Sn**	**00 21 40.4**	**-2.2**
	comp=N,5.7nm,0.3s						
MVO	**Moncorvo**	**5.53**	**333**	*e*Pn	**Pn**	**00 20 41.6**	**+1.5**
MVO				*e*Sn	**Sn**	**00 21 40.8**	**-2.1**
MVO				A	A	00 22 23.9	
	comp=N,21nm,0.5s						
MVO	**Moncorvo**	**5.53**	**333**	Pn	**Pn**	**00 20 41.4**	**+1.3**
	comp=N,5.3nm,0.1s,SNR=30						
MVO				Sn	**Sn**	**00 21 40.5**	**-2.4**
	comp=N,1.9nm,0.1s,SNR=7.9						
MVO				Lg

mb4.0/24,MS2.9/1, Error ellipse: s-maj=14.0km s-min=6.9km az=165.0
*NEIC **11** 00:19:59.4±2.8, 26.°03N×142.°69E, h21km±19km, mb4.4/2, Error ellipse: s-maj=11.4km s-min=7.9km az=103.0*

ISC 11 00:20:01.4±0.6,**26.°03N**±0.°07×**142.°8E**±0.°1,**h36km**,**n47**, σ1§**06**/41,**mb4.0**/24,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**0.80**	**318**	P	**Pn**	**00 20 16.0**	**-0.1**
CBIJ	**Chichi jima**	**1.18**	**334**	Pn	**Pn**	**00 20 19.4**	**-1.9**
CBIJ				Sn	**Sn**	**00 20 37.7**	**+1.5**
CBIJ	**Chichi jima**	**1.18**	**334**	P	**Pn**	**00 20 21.4**	**0.0**
CBIJ				S	**Sn**	**00 20 39.5**	**+3.3**
JCJ	**Chichijima**	**1.18**	**334**	Pn	**Pn**	**00 20 19.4**	**-1.9**
	102nm,0.3s,baz=135,slow=17,SNR=72						
JCJ				Sn	**Sn**	**00 20 37.7**	**+1.5**
	baz=270,slow=20						
JHJ	**Hachijo jima 2**	**7.52**	**341**	LR	LR	00 24 31.9	
	comp=Z,131nm,18.6s,baz=281,slow=37						
JHO	**Hitachi**	**10.71**	**350**	P	**Pn**	**00 22 29.9**	**-2.3**
MJAR	**Matsushiro Arr**	**11.18**	**341**	Pn	**Pn**	**00 22 38.3**	**-0.3**
	0.3nm,0.3s,baz=179,slow=1.5,SNR=4.8						
MAJO	**Matsushiro**	**11.18**	**341**	P	**Pn**	**00 22 37.2**	**-1.4**
	1.1nm,0.3s						
JNU	**Nakatsue**	**12.52**	**307**	LR	LR	00 27 27.6	
	comp=Z,110nm,19.2s,baz=118,slow=36						
GUMO	**Guam**	**12.54**	**171**	LR	LR	00 26 37.3	
	comp=Z,60nm,20.8s,baz=92,slow=32						
JOW	**Kunigami**	**13.01**	**277**	LR	LR	00 27 14.7	
	comp=Z,94nm,21.5s,baz=24,slow=34						
KSRS	**Korea Array**	**16.98**	**316**	Pn	**Pn**	**00 23 56.1**	**0.0**
	0.1nm,0.3s,baz=121,slow=9.7,SNR=3.1						
KSRS				LR	LR	00 30 24.6	
	comp=Z,144nm,18.1s,baz=133,slow=37						
KSAR	**Wonju Array Be**	**16.99**	**316**	Pn	**Pn**	**00 23 56.1**	**-0.2**
ASAJ	**Asahikawa**	**18.04**	**360**	LR	LR	00 32 58.5	
	comp=Z,18nm,20.6s,baz=326,slow=43						
USRK	**Ussuriysk Ar.**	**20.12**	**337**	P	**P**	**00 24 31.7**	**-0.4**
	0.9nm,0.5s,baz=32,slow=16						
H11N2	**WAKE ISLAND Hy**	**23.08**	**101**	T	T	00 48 47.5	
	baz=290,slow=74,SNR=26						
H11N1	**WAKE ISLAND Hy**	**23.08**	**101**	T	T	00 48 47.3	
	baz=290,slow=74,SNR=23						
H11N3	**WAKE ISLAND Hy**	**23.10**	**101**	T	T	00 48 52.5	
	baz=290,slow=74,SNR=6.2						
H11S3	**WAKE ISLAND Hy**	**23.35**	**104**	T	T	00 49 07.0	
	baz=294,slow=75,SNR=4.8						
H11S1	**WAKE ISLAND Hy**	**23.36**	**104**	T	T	00 49 09.7	
	baz=294,slow=75,SNR=4.4						
H11S2	**WAKE ISLAND Hy**	**23.37**	**104**	T	T	00 49 08.6	
	baz=294,slow=75,SNR=3.7						
KLR	**Kul'dur**	**24.69**	**343**	P	**P**	**00 25 19.6**	**+0.7**
	1.7nm,0.5s,baz=165,slow=7.8,SNR=7.8						
KLR				LR	LR	00 34 18.8	
	comp=Z,36nm,18.2s,baz=86,slow=35						
SIJI	**Sorong**	**28.96**	**204**	P	**P**	**00 25 57.7**	**+0.1**
	baz=148,slow=17,SNR=3.6						
PETK	**Petropavlovsk**	**29.27**	**19**	P	**P**	**00 25 59.0**	**-0.9**
	2.5nm,0.8s,baz=224,slow=6.0						
SONM	**Songino Array**	**35.84**	**317**	P	**P**	**00 26 57.2**	**-0.5**
	0.2nm,0.4s,baz=126,slow=8.7,SNR=5.2						
TLY	**Talaya**	**39.09**	**321**	P	**P**	**00 27 24.1**	**-0.9**
	0.9nm,0.3s						
CMAR	**Chiang Mai Arr**	**41.11**	**269**	P	**P**	**00 27 42.6**	**+0.6**
	0.7nm,0.4s,baz=64,slow=5.6,SNR=5.1						
WRA	**Warramunga Arr**	**46.43**	**191**	P	**P**	**00 28 23.9**	**-0.8**
	2.6nm,0.4s,baz=11,slow=8.7,SNR=2.7						
FITZ	**Fitzroy Crossi**	**46.92**	**203**	P	**P**	**00 28 28.7**	**+0.2**
	2.6nm,0.8s,baz=34,slow=14,SNR=3.6						
PSI	**Prapat**	**47.99**	**249**	P	**P**	**00 28 37.3**	**+0.1**
	3.5nm,0.5s,baz=0.0,slow=4.2,SNR=3.2						
ASAR	**Alice Springs**	**50.15**	**191**	P	**P**	**00 28 53.1**	**-0.2**
	0.4nm,0.9s,baz=20,slow=12,SNR=3.7						
ZALV	**Zalesovo Beam**	**50.63**	**320**	P	**P**	**00 28 56.2**	**-0.5**
	0.6nm,0.4s,baz=117,slow=7.0,SNR=4.4						
ZALV				PcP	**PcP**	**00 30 13.8**	**0.0**
	0.6nm,0.4s,baz=123,slow=2.4,SNR=3.1						
MKAR	**Makanchi Array**	**51.55**	**310**	P	**P**	**00 29 03.2**	**-0.6**
	0.2nm,0.4s,baz=86,slow=9.9,SNR=5.3						
MKAR				PcP	**PcP**	**00 30 18.1**	**+0.5**
	0.2nm,0.5s,baz=80,slow=10,SNR=5.1						
KURK	**Kurchatov**	**54.10**	**315**	P	**P**	**00 29 22.0**	**-0.5**
	4.7nm,0.4s						
ILAR	**Eielson Array**	**58.39**	**28**	P	**P**	**00 29 53.6**	**+0.7**
	0.6nm,1.1s,baz=188,slow=20,SNR=4.2						
BVAR	**Borovoye Array**	**59.18**	**318**	P	**P**	**00 29 58.5**	**0.0**
	2.3nm,0.5s,baz=85,slow=6.8,SNR=6.7						
INK	**Inuvik**	**63.78**	**24**	P	**P**	**00 30 30.1**	**+0.8**
	2.0nm,0.9s,baz=256,slow=4.2,SNR=3.5						
ARCES	**ARCESS Array B**	**74.71**	**341**	P	**P**	**00 31 37.5**	**+0.5**
	3.2nm,1.0s,baz=79,slow=6.4,SNR=4.0						
KBZ	**Khabaz**	**79.11**	**313**	P	**P**	**00 32 02.5**	**+0.2**
	2.1nm,0.9s,baz=48,slow=2.6,SNR=4.3						
FINES	**FINESS Array B**	**79.13**	**334**	P	**P**	**00 32 02.0**	**0.0**
	1.9nm,0.4s,baz=69,slow=5.4,SNR=29						
NVAR	**Mina Array Bea**	**80.76**	**52**	P	**P**	**00 32 12.4**	**+0.8**
	0.4nm,0.8s,baz=298,slow=3.8,SNR=1.7						
AKASG	**Malin Array Be**	**83.78**	**324**	P	**P**	**00 32 27.0**	**+0.1**
	0.4nm,0.3s,baz=54,slow=4.7,SNR=3.1						
HFS	**Hagfors**	**84.60**	**337**	P	**P**	**00 32 29.6**	**-1.2**
	0.6nm,0.3s,baz=116,slow=3.4,SNR=5.6						
NOA	**NORSAR Array B**	**84.79**	**339**	P	**P**	**00 32 31.9**	**+0.1**
	0.3nm,0.4s,baz=44,slow=4.8,SNR=2.7						
BRTR	**Keskin Array B**	**87.11**	**313**	P	**P**	**00 32 42.7**	**-1.2**
	0.9nm,0.9s,baz=49,slow=9.8,SNR=3.6						
TXAR	**Lajitas Array**	**95.81**	**54**	P	**P**	**00 33 26.3**	**+1.8**
	0.1nm,0.4s,baz=289,slow=5.4,SNR=2.5						
LPAZ	**La Paz**	**149.66**	**78**	PKPbc	**PKPbc**	**00 39 48.7**	**0.0**
	0.6nm,0.5s,baz=315,slow=2.9,SNR=4.3						

*IDC **11** 00:25:40.6±0.5, 9.°56N×122.°29E, h0km, mb4.0/24, mb1 4.1/24, mb1mx4.0/54, mbtmp4.0/24, MS3.2/7, Ms1 3.2/7, ms1mx2.9/44, Error ellipse: s-maj=23.4km s-min=11.4km az=68.0*
*ISCJB **11** 00:25:42.9±1.0, 9.°66N±0.°04×122.°18E±0.°03, h23km±7km, mb4.0/27, MS3.1/6, Error ellipse: s-maj=6.4km s-min=4.7km az=36.5*
*MAN **11** 00:25:43.4, 9.°72N×122.°16E, h23km, mb4.9, ML3.8, MS3.8*
*NEIC **11** 00:25:45.8±0.3, 9.°55N×122.°30E, h35km, mb4.1/4, Error ellipse: s-maj=13.2km s-min=8.0km az=65.0*
NEIC Felt [III PIVS] at Jinoba-an and Sipalay.

ISC 11 00:25:42.5±1.5,**9.°67N**±0.°03×**122.°17E**±0.°04,**h11**km±9km, **n51**,σ1§**58**/61,**mb4.0**/27,**MS3.1**/6,**3C-2D**,**Negros**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**1.04**	**23**	*e*P	**Pb**	**00 26 00.7**	**-1.8**
GUIM				*e*S	**Sb**	**00 26 13.6**	**-2.6**
JAP	**San Jose, Anti**	**1.10**	**349**	*e*P	**Pg**	**00 26 04.3**	**+0.7**
JAP				*e*S	Sn	00 26 42.7	+24
SNPH	**Sibulan**	**1.10**	**107**	*i*P	**Pb**	**00 26 03.0**	**-0.6**
SNPH				*i* S	**Sb**	**00 26 18.3**	**+0.3**
CUYO	**Cuyo Island**	**1.63**	**316**	*e*P	**Pn**	**00 26 11.1**	**-0.1**
CUYO				*e*S	**Sn**	**00 26 29.3**	**-2.9**
LLP	**Lapu-Lapu**	**1.89**	**70**	*e*P	**Pn**	**00 26 14.5**	**-0.1**
LLP				*e*S	**Sn**	**00 26 38.2**	**-0.2**
IPIL	**Ipil**	**1.91**	**168**	*e*P	**Pn**	**00 26 14.6**	**-0.3**
IPIL				*e*S	**Sn**	**00 26 35.4**	**-3.6**
RCP	**Roxas**	**1.97**	**17**	*e*P	**Pb**	**00 26 17.6**	**-0.7**
RCP				*e*S	**Sb**	**00 26 43.9**	**+1.0**
PAGZ	**Pagadian**	**2.17**	**146**	*e*P	**Pb**	**00 26 20.8**	**-0.9**
PAGZ				*e*S	**Sg**	**00 26 51.4**	**-0.8**
OTRP	**Odiongan**	**2.68**	**357**	*e*P	**Pn**	**00 26 26.8**	**+1.1**
OTRP				*e*S	**Sn**	**00 26 53.2**	**-4.9**
MSLP	**Maasin**	**2.69**	**80**	*e*P	**Pn**	**00 26 26.1**	**+0.4**
MSLP				*e*S	**Sn**	**00 26 58.2**	**-0.2**
OCLP	**Ormoc**	**2.77**	**60**	*e*P	**Pn**	**00 26 26.5**	**-0.3**
OCLP				*e*S	**Sn**	**00 26 56.8**	**-3.4**
SJMP	**San Jose**	**2.96**	**340**	*e*P	**Pn**	**00 26 30.1**	**+0.7**
SJMP				*e*S	**Sn**	**00 27 01.3**	**-3.8**
BUSP	**Coron**	**3.02**	**320**	*e*P	**Pn**	**00 26 30.3**	**0.0**
BUSP				*e*S	Sn	00 26 36.9	-30
ENPP	**El Nido**	**3.10**	**300**	*e*P	**Pn**	**00 26 30.8**	**-0.6**
ENPP				*e*S	Sn	00 26 58.9	-10
PLP	**Palo**	**3.14**	**61**	*e*P	**Pn**	**00 26 31.8**	**-0.2**
PLP				*e*S	**Sn**	**00 27 07.2**	**-2.3**
BUKP	**Musuan**	**3.37**	**122**	*e*P	**Pn**	**00 26 36.5**	**+1.5**
BUKP				*e*S	Sn	00 27 01.0	-14
JOW	**Kunigami**	**18.03**	**18**	LR	LR	00 36 42.5	
	comp=Z,46nm,19.9s,baz=336,slow=37						
GUMO	**Guam**	**22.57**	**78**	LR	LR	00 40 15.3	
	comp=Z,70nm,18.1s,baz=29,slow=39						
GUMO	**Guam**	**22.57**	**78**	P	**P**	**00 30 41.9**	**-1.1**
	5.5nm,0.5s						
PSI	**Prapat**	**24.08**	**255**	LR	LR	00 40 55.8	
	comp=Z,83nm,18.0s,baz=89,slow=38						
CMAR	**Chiang Mai Arr**	**24.14**	**294**	P	**P**	**00 30 59.8**	**+1.0**
	1.9nm,0.7s,baz=119,slow=8.5,SNR=14						
CMAR				LR	LR	00 40 20.4	
	comp=Z,34nm,18.5s,baz=99,slow=36						
FITZ	**Fitzroy Crossi**	**27.80**	**173**	P	**P**	**00 31 30.6**	**-1.2**
	2.1nm,1.0s,baz=333,slow=11,SNR=2.7						
MJAR	**Matsushiro Arr**	**30.46**	**26**	LR	LR	00 42 36.5	
	comp=Z,37nm,21.0s,baz=270,slow=33						
WRA	**Warramunga Arr**	**31.77**	**158**	P	**P**	**00 32 04.5**	**-2.4**
	0.7nm,0.7s,baz=342,slow=9.4,SNR=5.9						
WRA				PcP	**PcP**	**00 34 57.8**	**-0.6**
	0.8nm,0.9s,baz=344,slow=3.0,SNR=4.6						
WRA				LR	LR	00 47 32.3	
	comp=Z,60nm,18.3s,baz=300,slow=42						
ASAR	**Alice Springs**	**35.06**	**161**	P	**P**	**00 32 35.4**	**-0.3**
	1.1nm,0.5s,baz=342,slow=7.0,SNR=17						
ASAR				PcP	**PcP**	**00 35 07.0**	**-0.7**
	1.0nm,0.9s,baz=355,slow=1.5,SNR=6.3						
USRK	**Ussuriysk Ar.**	**35.45**	**12**	P	**P**	**00 32 40.3**	**+1.6**
	4.4nm,1.0s,baz=192,slow=13						
ASAJ	**Asahikawa**	**38.63**	**24**	P	**P**	**00 33 04.0**	**-1.8**
	2.6nm,0.3s,baz=195,slow=20,SNR=1.9						
KLR	**Kul'dur**	**40.24**	**10**	P	**P**	**00 33 20.7**	**+1.5**
	2.8nm,1.0s,baz=199,slow=12,SNR=5.4						
SONM	**Songino Array**	**40.31**	**344**	P	**P**	**00 33 20.9**	**+0.9**
	0.4nm,0.6s,baz=164,slow=9.9,SNR=4.5						
TLY	**Talaya**	**44.55**	**344**	P	**P**	**00 33 54.9**	**+0.6**
	1.2nm,0.6s						
STKA	**Stephens Creek**	**45.30**	**157**	P	**P**	**00 33 59.1**	**-1.3**
	1.7nm,0.7s,baz=349,slow=15,SNR=3.1						
MKAR	**Makanchi Array**	**50.13**	**325**	P	**P**	**00 34 39.3**	**+1.5**
	1.4nm,0.7s,baz=126,slow=9.0,SNR=9.2						
MKAR				PcP	**PcP**	**00 35 56.7**	**-0.6**
	0.5nm,0.8s,baz=111,slow=2.0,SNR=1.9						
PETK	**Petropavlovsk**	**51.91**	**26**	LR	LR	00 57 58.6	
	comp=Z,14nm,18.6s,baz=335,slow=37						
AAK	**Ala-Archa**	**52.95**	**317**	P	**P**	**00 35 00.8**	**+1.6**
	1.4nm,0.7s,baz=126,slow=8.7,SNR=8.6						
AAK	**Ala-Archa**	**52.95**	**317**	*e*P	**P**	**00 35 00.3**	**+1.1**
	1.1nm,0.7s						
ZALV	**Zalesovo Beam**	**53.28**	**333**	P	**P**	**00 35 01.5**	**+0.2**
	0.6nm,0.6s,baz=129,slow=6.1,SNR=3.1						
KURBB	**Kurchatov Arra**	**54.33**	**327**	P	**P**	**00 35 10.4**	**+1.5**
	1.5nm,0.6s,baz=120,slow=9.3,SNR=8.3						
KURK	**Kurchatov**	**54.33**	**327**	*e*P	**P**	**00 35 08.8**	**-0.2**
	4.6nm,0.8s						
BVAR	**Borovoye Array**	**59.91**	**327**	P	**P**	**00 35 49.4**	**+1.0**
	0.6nm,0.6s,baz=138,slow=16,SNR=3.3						
WSAR	**Wadi Sarin**	**61.99**	**291**	P	**P**	**00 36 03.7**	**+0.5**
	2.2nm,0.6s,baz=122,slow=5.3,SNR=5.8						
NRIK	**Noril'sk**	**63.65**	**347**	P	**P**	**00 36 12.5**	**-0.8**
	1.8nm,0.8s,baz=132,slow=12,SNR=2.9						
GEYT	**Alibeck**	**63.69**	**308**	P	**P**	**00 36 15.2**	**+1.0**
	0.7nm,0.7s,baz=69,slow=7.9,SNR=2.3						
AKTO	**Aktyubinsk**	**66.22**	**321**	P	**P**	**00 36 31.7**	**+1.3**
	0.8nm,0.5s,baz=138,slow=12,SNR=3.3						
ILAR	**Eielson Array**	**81.74**	**26**	P	**P**	**00 38 03.0**	**+2.1**
	0.2nm,0.8s,baz=274,slow=5.4,SNR=3.0						
BRTR	**Keskin Array B**	**82.78**	**309**	P	**P**	**00 38 08.2**	**+1.1**
	1.0nm,0.9s,baz=101,slow=4.6,SNR=3.2						
ARCES	**ARCESS Array B**	**83.34**	**339**	P	**P**	**00 38 11.2**	**+2.0**
	7.3nm,1.1s,baz=72,slow=4.0,SNR=4.5						
FINES	**FINESS Array B**	**84.49**	**331**	P	**P**	**00 38 15.5**	**+0.3**
	1.8nm,0.9s,baz=46,slow=8.2,SNR=3.5						
MLR	**Muntele Rosu**	**87.51**	**316**	P	**P**	**00 38 31.5**	**+0.7**
	1.2nm,0.6s,baz=352,slow=15,SNR=5.1						
VNDA	**Vanda**	**89.87**	**172**	P	**P**	**00 38 40.2**	**-0.7**
	0.4nm,0.8s,baz=284,slow=6.2,SNR=2.6						
TXAR	**Lajitas Array**	**121.23**	**47**	PKP	**PKPdf**	**00 44 34.8**	**-1.6**
	0.1nm,0.6s,baz=320,slow=3.6,SNR=2.8						
PLCA	**Paso Flores**	**147.07**	**162**	PKPbc	**PKPdf**	**00 45 24.2**	**+0.3**
	2.1nm,0.8s,baz=222,slow=5.5,SNR=5.1						

MAN 11 00:28:20.7,12.°96N×124.°91E, h18km, mb4.8, ML3.7, MS3.6, 2D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**0.51**	**209**	*e*P	Pb	00 28 31.1	0.0
CNP				*e*S	Sg	00 28 37.7	0.0
PVCP	**Virac**	**0.98**	**311**	*e*P	Pb	00 28 38.1	-1.0
PVCP				*e*S	Sb	00 28 51.0	-0.7
BESP	**Borongan**	**1.44**	**159**	*e*P	Pg	00 28 48.6	+0.1
BESP				*e*S	Sn	00 29 03.5	-0.8
PLP	**Palo**	**1.78**	**178**	*e*P	Pn	00 28 51.0	+0.4
PLP				*e*S	Sn	00 29 13.5	+0.7
OCLP	**Ormoc**	**1.92**	**189**	*e*P	Pb	00 28 55.8	+0.6
OCLP				*e*S	Sn	00 29 14.0	-2.1
RCP	**Roxas**	**2.53**	**237**	*e*P	Pn	00 29 01.5	+0.5
RCP				*e*S	Sn	00 29 32.9	+1.6
MSLP	**Maasin**	**2.80**	**181**	*e*P	Pb	00 29 10.1	-0.2
MSLP				*e*S	Sn	00 29 38.9	+0.8
GUIM	**Jordan**	**3.25**	**225**	*e*P	Pn	00 29 09.2	-1.6
GUIM				*e*S	Sn	00 29 17.2	-32

*SGS **11** 00:28:02.0, 18.°25N×36.°94E, h10km*
*ISCJB **11** 00:28:30.2±1.4, 18.°8N±0.°2×39.°2E±0.°1, h10km, mb3.5/7, MS3.4/2, Error ellipse: s-maj=31.2km s-min=18.6km az=165.5*
*IDC **11** 00:28:30.3±1.8, 18.°78N×39.°17E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.4/51, mbtmp3.5/7, MS3.4/2, Ms1 3.4/2, ms1mx2.8/32, Error ellipse: s-maj=44.9km s-min=26.8km az=172.0*

ISC 11 00:28:32.2±1.6,**19.°0N**±0.°2×**39.°3E**±0.°2,**h10**km,**n10**, σ1§**86**/9,**mb3.4**/7,**Red Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LTHS	**Al Lith**	**1.69**	**39**	P	**Pn**	**00 28 59.9**	**-2.0**
LTHS				P	**Pn**	**00 28 59.9**	**-2.0**
LTHS				S	Sg	00 29 43.1	+16
LTHS				S	Sg	00 29 43.1	+16
BRTR	**Keskin Array B**	**21.25**	**348**	P	**P**	**00 33 20.1**	**+1.4**
	1.0nm,0.8s,baz=170,slow=15,SNR=3.8						
GEYT	**Alibeck**	**25.05**	**37**	LR	LR	00 45 28.6	
	comp=Z,81nm,18.2s,baz=295,slow=40						
GERES	**GERESS Array B**	**36.25**	**331**	P	**P**	**00 35 35.9**	**+0.3**
	0.2nm,0.7s,baz=133,slow=8.8,SNR=2.3						
TORD	**Torodi Ar. Bea**	**36.52**	**267**	P	**P**	**00 35 37.0**	**-1.2**
	0.7nm,1.0s,baz=64,slow=6.8,SNR=4.1						
KURBB	**Kurchatov Arra**	**44.30**	**35**	P	**P**	**00 36 44.3**	**+2.1**
	0.3nm,0.6s,baz=236,slow=8.3,SNR=2.9						
DBIC	**Dimbokro**	**44.60**	**260**	LR	LR	00 55 18.6	
	comp=Z,50nm,18.2s,baz=22,slow=36						
MKAR	**Makanchi Array**	**44.76**	**42**	P	**P**	**00 36 48.1**	**+2.1**
	0.7nm,0.8s,baz=227,slow=9.6,SNR=3.2						
ZALV	**Zalesovo Beam**	**49.29**	**34**	P	**P**	**00 37 20.6**	**-0.5**
	0.5nm,0.5s,baz=224,slow=10,SNR=3.9						
CMAR	**Chiang Mai Arr**	**56.27**	**80**	P	**P**	**00 38 13.8**	**+0.4**
	0.4nm,0.3s,baz=283,slow=2.3,SNR=4.1						

*ISCJB **11** 00:28:58.5±1.8, 19.°0N±0.°3×39.°2E±0.°2, h13km, mb3.8/8, Error ellipse: s-maj=42.3km s-min=21.6km az=163.0*
*IDC **11** 00:28:58.4±2.1, 19.°02N×39.°21E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.4/50, mbtmp3.6/7, Error ellipse: s-maj=50.8km s-min=24.6km az=161.0*

ISC 11 00:29:00.3±2.0,**19.°0N**±0.°3×**39.°2E**±0.°2,**h13**km,**n8**,σ1§**33**/8, **mb3.8**/8,**Red Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**21.22**	**348**	P	**P**	**00 33 47.0**	**+1.0**
	0.9nm,0.8s,baz=174,slow=14,SNR=3.3						
GERES	**GERESS Array B**	**36.20**	**331**	P	**P**	**00 36 03.1**	**+0.2**
	0.5nm,0.7s,baz=139,slow=8.8,SNR=3.0						
TORD	**Torodi Ar. Bea**	**36.47**	**267**	P	**P**	**00 36 05.6**	**+0.2**
	1.4nm,0.9s,baz=79,slow=9.2,SNR=9.0						
KURBB	**Kurchatov Arra**	**44.30**	**35**	P	**P**	**00 37 10.9**	**+1.1**
	0.7nm,0.8s,baz=240,slow=8.1,SNR=3.3						
MKAR	**Makanchi Array**	**44.77**	**42**	P	**P**	**00 37 12.8**	**-0.9**
	1.3nm,0.9s,baz=225,slow=5.9,SNR=4.4						
ZALV	**Zalesovo Beam**	**49.29**	**34**	P	**P**	**00 37 47.7**	**-1.1**
	1.1nm,0.8s,baz=261,slow=9.9,SNR=4.1						
SPITS	**Spitsbergen Ar**	**60.25**	**355**	P	**P**	**00 39 06.1**	**-1.8**
	12nm,1.0s,baz=93,slow=8.7,SNR=2.5						
SONM	**Songino Array**	**60.90**	**45**	P	**P**	**00 39 14.1**	**+1.1**
	0.8nm,1.0s,baz=284,slow=7.3,SNR=3.7						

*ISCJB **11** 00:58:58.8±0.8, 29.°34N±0.°02×105.°27E±0.°03, h8km±5km, mb4.6/93, MS5.6/2, Error ellipse: s-maj=4.3km s-min=3.1km az=164.8*
*MOS **11** 00:59:00.3±0.9, 29.°28N×105.°30E, h21km, mb5.0/29, Error ellipse: s-maj=8.1km s-min=5.0km az=120.1*
*NEIC **11** 00:59:00.5±0.2, 29.°34N×105.°25E, h10km, mb4.9/28, ML4.6(BJI), Error ellipse: s-maj=4.8km s-min=3.8km az=64.0*
*BJI **11** 00:59:00.3, 29.°31N×105.°24E, h12km, mb4.5/26, mB4.8/21, ML4.6/23, Ms4.2/18, Ms7 4.0/22*
*IDC **11** 00:59:02.2±3.9, 29.°30N×105.°28E, h22km±25km, mb4.2/33, mb1 4.4/35, mb1mx4.2/71, mbtmp4.4/35, ML4.2/2, Error ellipse: s-maj=13.3km s-min=9.8km az=60.0*

ISC 11 00:59:00.2±1.0,**29.°36N**±0.°03×**105.°32E**±0.°03,**h7**km±6km, **n268**,σ1§**79**/311,**mb4.8**/95,**31C-27D**,**Sichuan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.06**	**319**	Pg	**Pb**	**00 59 36.7**	**-1.2**
CD2				Sg	**Sg**	**01 00 05.7**	**-0.6**
CD2				smax	smax		
	comp=N,9μm,0.7s						
CD2				smax	smax		
	comp=E,10μm,0.7s						
CD2	**Chengdu**	**2.06**	**319**	Pg	**Pb**	**00 59 36.7**	**-1.2**
CD2				Sg	**Sg**	**01 00 05.7**	**-0.6**
GYA	**Guiyang**	**3.12**	**157**	*i*Pn	**Pn**	**00 59 50.5**	**+0.6**
GYA				Pg	**Pg**	**01 00 00.4**	**+0.4**
GYA				Sn	**Sn**	**01 00 28.8**	**+1.2**
GYA				Sg	**Sg**	**01 00 43.8**	**+3.3**
GYA				smax	smax		
	comp=N,1μm,0.7s						
GYA				smax	smax		
	comp=E,2μm,0.6s						
GYA				LR	LR		
	comp=N,3μm,3.4s						
GYA				LR	LR		
	comp=E,2μm,3.7s						
GYA				LR	LR		
	comp=Z,4μm,3.9s						
GYA	**Guiyang**	**3.12**	**157**	*i*Pn	**Pn**	**00 59 50.5**	**+0.6**
GYA				Pg	**Pg**	**01 00 00.4**	**+0.4**
GYA				Sn	**Sn**	**01 00 28.8**	**+1.2**
GYA				Sg	**Sg**	**01 00 43.8**	**+3.3**
ENH	**Enshi**	**3.73**	**75**	*e*Pn	**Pn**	**01 00 01.3**	**+3.1**
ENH				*e*Sn	**Sn**	**01 00 43.9**	**+1.5**
KMI	**Kunming**	**4.80**	**209**	Pn	**Pn**	**01 00 14.1**	**+0.9**
KMI				Sn	**Sn**	**01 01 09.3**	**+0.1**
KMI				smax	smax		
	comp=N,240nm,1.3s						
KMI				smax	smax		
	comp=E,220nm,1.6s						
KMI				LR	LR		
	comp=N,1μm,3.8s						
KMI				LR	LR		
	comp=E,1μm,3.8s						
KMI				LR	LR		
	comp=Z,850nm,3.7s						
KMI	**Kunming**	**4.80**	**209**	Pn	**Pn**	**01 00 14.1**	**+0.9**
KMI				Sn	**Sn**	**01 01 09.3**	**+0.1**
KMI	**Kunming**	**4.80**	**209**	P	**Pn**	**01 00 14.1**	**+0.9**
KMI						01 01 09.3	
XAN	**Xi'an**	**5.58**	**32**	Pn	**Pn**	**01 00 25.8**	**+2.1**
XAN				Sn	**Sn**	**01 01 25.5**	**-2.7**
XAN				Sg	**Sg**	**01 01 54.6**	**-4.9**
XAN				smax	smax		
	comp=N,2μm,1.1s						
XAN				smax	smax		
	comp=E,1μm,1.2s						
LZH	**Lanzhou**	**6.83**	**350**	*e*Pn	**Pn**	**01 00 43.3**	**+2.4**
LZH				Pg	**Pb**	**01 01 02.9**	**+3.7**
LZH				Sn	**Sn**	**01 02 01.6**	**+2.7**
LZH				Sg	**Sg**	**01 02 30.9**	**-8.4**
LZH				smax	smax		
	comp=N,710nm,1.1s						
LZH				smax	smax		
	comp=E,1μm,1.2s						
LZH				LR	LR		
	comp=N,3μm,6.2s						
LZH				LR	LR		
	comp=E,4μm,6.0s						
LZH				LR	LR		

GUN **Gumba** 17.13 270 *eP* **Pn** 01 02 56.3 -4.2
PHET **Kaeng Krachan** 17.20 199 P **P** 01 03 04.3 +1.6
comp=Z,3.1nm,0.9s
PKI **Pulchoki** 17.60 269 *eP* **Pn** 01 03 02.2 -4.2
comp=Z,19nm,0.6s
PKIN **Phulchoki** 17.61 269 *eP* **Pn** 01 03 01.5 -4.9
comp=Z,15nm,0.7s
KKN **Kakani** 17.68 270 *eP* **Pn** 01 03 02.2 -5.0
comp=Z,32nm,0.8s
DMN **Daman** 17.86 269 *eP* **Pn** 01 03 05.1 -4.4
comp=Z,28nm,0.9s
SONM **Songino Array** 18.47 2 P **Pn** 01 03 17.6 +0.9
comp=Z,0.3nm,0.3s,baz=186,slow=12,SNR=30
SONM Lg Lg 01 08 58.7
comp=Z,0.0nm,0.3s,baz=163,slow=28,SNR=3.5
SONA1 **Songino Array** 18.48 2 *eP* **Pn** 01 03 17.6 +0.8
DANN **Dangsing** 18.92 272 *eP* **P** 01 03 18.3 -3.6
comp=Z,54nm,0.7s
KOLN **Koldanda** 19.15 271 *eP* **P** 01 03 20.1 -4.2
comp=Z,22nm,0.8s
PYUN **Piuthan** 19.63 272 *eP* **P** 01 03 26.0 -3.6
comp=Z,117nm,0.7s
WMQ **Urumqi** 20.16 320 P **P** 01 03 35.6 +0.5
WMQ sP Pn 01 03 47.6 +11
WMQ pmax pmax
comp=Z,53nm,1.5s
WMQ pmax pmax
comp=Z,460nm,4.7s
WMQ LR LR
comp=Z,730nm,9.5s
WMQ LR LR
comp=Z,690nm,10.7s
KSAR **Wonju Array Be** 20.45 61 P Pn 01 03 40.1 -0.3
KSAR **Wonju Array Be** 20.45 61 P Pn 01 03 40.1 -0.3
KS01 **Wonju Array Si** 20.47 61 *eP* **P** 01 03 39.1 +0.6
KSRS **Korea Array** 20.49 61 P Pn 01 03 40.1 -0.7
comp=Z,3.3nm,0.7s,baz=244,slow=10,SNR=5.7
ZAK **Zakamensk** 21.06 356 *eP* **P** 01 03 40.4 -4.4
CN2 **Changchun** 21.58 43 *eP* **P** 01 03 52.4 +2.1
KRAB **Krabi** 21.80 197 P **P** 01 03 54.9 +2.0
comp=Z,19nm,1.1s,comp=Z,1µm
KNGR **Kungurtug, Tuv** 22.02 347⇑ *eP* **P** 01 03 56.3 +1.1
TRTT **Trang** 22.06 195 P **P** 01 03 56.7 +1.1
comp=Z,4.9nm,1.3s
HIA **Hailar** 22.72 25⇓ *eP* **P** 01 04 03.1 +0.5
HIA pmax pmax
comp=Z,16nm,1.3s
HVS **Khovu-Aksy** 23.44 341⇓ *iP* **P** 01 04 11.0 +1.0
HVS pmax pmax
comp=Z,36nm,0.9s
ZSN **Zaisan** 24.03 324 *eP* **P** 01 04 16.5 +0.8
comp=Z,2.4nm,0.7s
KULM **Kulim** 24.34 191 *eP* **P** 01 04 18.1 -0.7
comp=Z,61nm,1.6s
DGZ **Jazzator, Alta** 24.44 331 *c iP* **P** 01 04 20.7 +1.0
DGZ pmax pmax
comp=Z,7.0nm,0.7s
MDJ **Mudanjiang** 24.52 45 P **P** 01 04 20.9 +0.7
MDJ pP sP 01 04 24.1 +0.8
MDJ S **S** 01 08 44.3 +3.3
MDJ sS sS 01 08 49.2 +4.7
MDJ SS **SnSn** 01 09 31.5 +6.2
MDJ pmax pmax
comp=Z,16nm,2.1s
MDJ pmax pmax
comp=Z,660nm,4.1s
MDJ LR LR
comp=Z,570nm,3.9s
SHLS **Shalkode** 24.87 311 *i* P **P** 01 04 21.3 -2.2
comp=Z,25nm,0.9s
MK01 **Makanchi Array** 24.97 320 *eP* **P** 01 04 24.0 -0.3
MK31 **Makanchi Array** 24.99 320 *eP* **P** 01 04 24.4 0.0
MK31 **Makanchi Array** 24.99 320 *eP* **P** 01 04 24.5 0.0
MKAR **Makanchi Array** 24.99 320 P **P** 01 04 24.4 0.0
comp=Z,9.8nm,0.6s,baz=119,slow=10,SNR=52
MKAR PcP **PcP** 01 07 59.1 -0.3
comp=Z,1.3nm,0.7s,baz=73,slow=4.1,SNR=4.2
MKAR ScP **ScP** 01 11 36.9 -2.0
comp=Z,0.6nm,0.8s,baz=84,slow=6.2,SNR=3.8
MKAR **Makanchi Array** 24.99 320 *eP* **P** 01 04 24.4 0.0
comp=Z,121nm,1.1s
MKAR PcP **PcP** 01 07 59.1 -0.3
MKAR ScP **ScP** 01 11 36.9 -2.0
MKAR **Makanchi Array** 24.99 320 *eP* **P** 01 04 24.5 0.0
MKAR 01 07 59.2
MKAR pmax pmax
comp=Z,121nm,1.1s
IPM **Ipoh** 25.08 190 *eP* **P** 01 04 24.0 -1.5
comp=Z,18nm,0.5s
UZB **Uzynbulak** 25.16 310 *eP* **P** 01 04 26.4 +0.2
comp=Z,19nm,1.4s
PRZ **Przheval'sk** 25.31 308 *eP* **P** 01 04 29.3 +1.7
comp=Z,31nm,1.0s
PRZ **Przheval'sk** 25.31 308 *eP* **P** 01 04 29.3 +1.7
PRZ pmax pmax
comp=Z,31nm,1.0s
SATY **Saty** 25.53 310 *i* P **P** 01 04 30.6 +1.1
comp=Z,28nm,1.1s
ZHN **Zhinishke** 25.56 310 *eP* **P** 01 04 30.6 +0.8
comp=Z,7.4nm,1.0s
ZHN *eS* **S** 01 08 57.8 0.0
ZHN LR LR 01 14 28.9
comp=Z,22nm,7.5s
USA0B **Ussuriysk Arra** 25.84 48 *eP* **P** 01 04 33.2 +1.1
comp=Z,31nm,1.6s
USRK **Ussuriysk Ar.** 25.84 48 P **P** 01 04 33.0 +0.8
comp=Z,2.0nm,0.7s,baz=242,slow=11
KDJ **Kajisay** 26.03 307 *eP* **P** 01 04 35.3 +1.2
comp=Z,15nm,0.9s
KDJ **Kajisay** 26.03 307 *eP* **P** 01 04 35.3 +1.2
KDJ pmax pmax
comp=Z,15nm,0.9s
KSH **Kashi** 26.14 301 P **P** 01 04 37.9 +2.8
KSH pP sP 01 04 42.0 +3.8
KSH PP **PnPn** 01 05 20.2 +6.9
KSH S **S** 01 09 08.0 +0.9
KSH SS **SnSn** 01 10 16.0 +11
KSH pmax pmax
comp=Z,27nm,1.0s
KSH LR LR
comp=Z,330nm,6.2s
KSH LR LR
comp=Z,170nm,8.7s
KSH LR LR
comp=Z,620nm,7.3s
MDOK **Medeo** 26.49 309 *i* P **P** 01 04 39.9 +1.6
comp=Z,256nm,2.5s
ULHL **Ulahol** 26.72 307 P **P** 01 04 41.3 +0.9
SNR=8.0
PSI **Prapat** 27.10 194 P **P** 01 04 43.2 -0.7
comp=Z,3.0nm,0.5s,baz=359,slow=2.8,SNR=3.6
HYB **Hyderabad** 27.22 250 *i* P **P** 01 04 46.5 +1.6
KUU **Kurty** 27.24 310 *eP* **P** 01 04 45.9 +1.0
comp=Z,7.0nm,1.4s
KZA **Kyzart** 27.37 306 P **P** 01 04 47.8 +1.3
SNR=12
SBUM **Sibu** 27.55 165 *eP* **P** 01 04 48.1 +0.3
comp=Z,6.0nm,1.1s
KBK **Karagaybulak** 27.76 307 P **P** 01 04 50.6 +0.9
SNR=10
UCH **Uchtor** 27.93 306 P **P** 01 04 53.0 +1.4
SNR=9.5
FRU **Bishkek** 28.05 307 *eP* P 01 04 44.0 -8.1
FRU *e* 01 04 52.0
AAK **Ala-Archa** 28.07 307 P **P** 01 04 53.1 +0.6
comp=Z,2.2nm,0.7s,baz=93,slow=5.4,SNR=9.3
AAK **Ala-Archa** 28.07 307 *eP* **P** 01 04 53.2 +0.7
comp=Z,3.2nm,0.9s
AAK **Ala-Archa** 28.07 307⇓ *eP* **P** 01 04 52.9 +0.4
AAK pmax pmax
comp=Z,10.0nm,1.7s
USP **Ospenovka** 28.27 308 P **P** 01 04 54.8 +0.7
SNR=5.9
AML **Almayashu** 28.49 305 P **P** 01 04 57.4 +0.9
SNR=10
EKS2 **Erkin-Say** 28.59 306 P **P** 01 04 57.9 +0.9
SNR=6.3
ZAA0 **Zalesovo Array** 28.75 334 *eP* **P** 01 04 58.1 0.0
comp=Z,14nm,1.2s
ZALV **Zalesovo Beam** 28.75 334 P **P** 01 04 58.0 -0.2
comp=Z,6.0nm,0.7s,baz=134,slow=9.4,SNR=30
ZALV PcP **PcP** 01 08 06.8 -1.3
comp=Z,1.2nm,0.7s,baz=161,slow=3.4,SNR=4.1
KURBB **Kurchatov Arra** 29.27 324 P **P** 01 05 03.1 +0.3
comp=Z,6.4nm,0.6s,baz=130,slow=9.1,SNR=44
KURBB PcP **PcP** 01 08 09.6 +0.1
comp=Z,0.7nm,0.3s,baz=135,slow=2.7,SNR=4.2
KURK **Kurchatov** 29.27 324 P **P** 01 05 03.1 +0.2
KURK PcP **PcP** 01 08 09.6 +0.1
KURK **Kurchatov** 29.27 324⇑ *eP* **P** 01 05 02.6 -0.3
KURK pmax pmax
comp=Z,12nm,1.3s
KK31 **Karatay Array** 31.01 306 *eP* **P** 01 05 18.7 +0.3
KK31 **Karatay Array** 31.01 306 *eP* **P** 01 05 18.7 +0.3
KKAR **Karatay Array** 31.01 306 *eP* **P** 01 05 18.7 +0.3
KKAR **Karatay Array** 31.01 306 *eP* **P** 01 05 18.7 +0.3
PALK **Pallekele** 31.94 231 P **P** 01 05 26.5 -0.3
comp=Z,11nm,0.7s,baz=116,slow=4.2,SNR=5.6
PALK **Pallekele** 31.94 231 *eP* **P** 01 05 26.7 -0.1
comp=Z,17nm,0.9s
PALK **Pallekele** 31.94 231 *eP* **P** 01 05 26.7 -0.1
PALK pmax pmax
comp=Z,17nm,0.9s
BVAR **Borovoye Array** 34.81 323 P **P** 01 05 51.6 +0.2
comp=Z,1.9nm,0.6s,baz=118,slow=8.6,SNR=12
BVAR PcP **PcP** 01 08 24.0 -0.6
comp=Z,1.5nm,0.6s,baz=90,slow=3.0,SNR=5.8
BRVK **Borovoye** 34.88 323 *eP* **P** 01 05 52.2 +0.1
comp=Z,16nm,1.6s
BRVK **Borovoye** 34.88 323 *eP* **P** 01 05 52.2 +0.1
BRVK pmax pmax
comp=Z,17nm,1.6s
KPJI **Karang Pucung** 36.64 174 P **P** 01 06 09.0 +1.6
ABKAR **Akbulak array** 39.62 313 *eP* **P** 01 06 32.6 +0.3
GEYT **Alibeck** 39.87 295 P **P** 01 06 35.5 +0.9
comp=Z,2.0nm,0.7s,baz=96,slow=14,SNR=8.6
GYA0B **ALIBECK ARRAY** 39.87 295 *eP* **P** 01 06 33.9 -0.7
GYA0B *epP* **P** 01 06 36.1 +1.6
WBSI **Waikabubak, Su** 41.08 159 P **P** 01 06 45.7 +1.0
AKTO **Aktyubinsk** 41.10 314 P **P** 01 06 44.8 +0.2
comp=Z,1.6nm,0.6s,baz=85,slow=17,SNR=6.9
MMRI **Maumere** 41.14 154 P P 01 06 52.9 +7.7
NRIK **Noril'sk** 41.32 351 P **P** 01 06 46.8 +0.7
comp=Z,11nm,0.6s,baz=139,slow=7.4,SNR=16
SVE **Sverdlovsk** 41.53 324⇑ *iP* **P** 01 06 49.0 +1.1
SVE pmax pmax
comp=Z,35nm,1.3s
WSAR **Wadi Sarin** 42.09 273 P **P** 01 06 52.2 -0.8
comp=Z,2.4nm,0.7s,baz=240,slow=2.5,SNR=4.5
ARU **Arti** 42.46 323 *c iP* **P** 01 06 55.9 +0.4
ARU 01 08 34.0
ARU S **S** 01 13 19.9 +2.4
ARU SS **SS** 01 16 26.6 +0.2
ARU pmax pmax
comp=Z,30nm,1.2s
TIXI **Tiksi** 44.26 10 P **P** 01 07 09.4 -0.5
comp=Z,5.4nm,1.0s,baz=205,slow=4.6,SNR=6.7
TIXI **Tiksi** 44.26 10 *eP* **P** 01 07 09.3 -0.7
comp=Z,16nm,1.4s
TIXI **Tiksi** 44.26 10⇑ *iP* **P** 01 07 09.2 -0.7
TIXI pmax pmax
comp=Z,14nm,1.6s
PET **Petropavlovsk** 45.28 43⇓ *eP* **P** 01 07 19.3 +1.0
PET pmax pmax
comp=Z,31nm,1.5s
GNI **Garni** 50.06 299⇑ *eP* **P** 01 07 55.5 -0.4
GNI pmax pmax
comp=Z,69nm,1.4s
ZEI **Tsey** 50.39 303 *eP* **P** 01 08 00.7 +2.3
ZEI pmax pmax
comp=Z,8.0nm,0.9s
NCK **Nalchik** 50.55 304⇑ *eP* **P** 01 08 00.1 +0.8
NCK pmax pmax
comp=Z,5.0nm,0.5s
AKH **Akhalkalaki** 50.85 301 *eP* **P** 01 08 02.4 +0.6
comp=Z,25nm,1.2s
KBZ **Khabaz** 51.03 304 P **P** 01 08 01.7 -1.2
comp=Z,1.7nm,0.7s,baz=101,slow=10,SNR=3.0
FITZ **Fitzroy Crossi** 51.09 155 P **P** 01 08 01.9 -1.6
comp=Z,1.4nm,0.6s,baz=357,slow=8.2,SNR=5.1
KIV **Kislovodsk** 51.16 305 *eP* **P** 01 08 04.0 0.0
comp=Z,95nm,1.8s
KIV **Kislovodsk** 51.16 305 *eP* **P** 01 08 04.1 +0.1
KIV pmax pmax
comp=Z,20nm,1.0s
KIV MLR MLR
comp=Z,7µm,17.0s
NEY **Neytrino** 51.20 304⇑ *eP* **P** 01 08 05.7 +1.2
NEY pmax pmax
comp=Z,2.0nm,0.7s
VRH **Novokhopyorsk** 51.44 314 *eP* **P** 01 08 05.4 -0.4
VRH pmax pmax
comp=Z,30nm,0.8s
MBWA **Marble Bar** 52.11 163 *eP* **P** 01 08 11.4 +0.4
comp=Z,38nm,1.4s
BILL **Bilibino** 52.31 25⇓ *eP* **P** 01 08 12.1 0.0
BILL *e* 01 09 20.3
BILL *i* 01 10 08.0
BILL *ePPP* PPP 01 11 12.8
BILL pmax pmax
comp=Z,16nm,1.8s
BILL MLR MLR
comp=Z,4µm,17.0s
VORD **Divnogorie** 52.98 314 *eP* **P** 01 08 17.3 0.0
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR **Storozhevoye** 53.05 314 *eP* **P** 01 08 16.0 -1.8
VSR pmax pmax
comp=Z,20nm,0.9s
LPSR **Galich'ya Gora** 53.15 316 *eP* **P** 01 08 18.3 -0.2
LPSR pmax pmax
comp=Z,30nm,0.8s
RAYN **Ar Rayn** 53.39 279 *eP* **P** 01 08 19.8 -1.0
comp=Z,8.2nm,1.0s
RAYN **Ar Rayn** 53.39 279 *eP* **P** 01 08 19.8 -1.0
RAYN pmax pmax
comp=Z,8.0nm,1.0s
OBN **Obninsk** 54.48 319 *eP* **P** 01 08 28.3 +0.1
OBN *esP* **P** 01 08 28.6 +0.4
OBN **Obninsk** 54.48 319⇑ *eP* **P** 01 08 27.8 -0.4
OBN *e* 01 09 28.2
OBN *eS* S 01 16 22.8 +16
OBN pmax pmax
comp=Z,33nm,1.3s
OBN MLR MLR
comp=Z,8µm,18.0s
WRAB **Tennant Creek** 56.44 147 *eP* **P** 01 08 42.3 -0.4
WRAB *esP* **P** 01 08 42.6 -0.1
WRAB **Tennant Creek** 56.44 147⇑ *eP* **P** 01 08 41.6 -1.1
WRAB pmax pmax
comp=Z,29nm,1.7s
WRA **Warramunga Arr** 56.44 147 P **P** 01 08 41.9 -0.9
comp=Z,9.9nm,1.0s,baz=336,slow=7.9,SNR=18
WRA PcP **PcP** 01 09 39.8 +0.1
comp=Z,1.4nm,0.9s,baz=338,slow=7.7,SNR=3.0
WB2 **Warramunga Arr** 56.45 147 *eP* **P** 01 08 42.3 -0.4
BR131 **Keskin Array S** 58.53 301 *eP* **P** 01 08 56.5 -1.0
BR131 *esP* **P** 01 08 57.2 -0.4
BRTR **Keskin Array B** 58.53 301 P **P** 01 08 57.0 -0.5
comp=Z,3.6nm,0.7s,baz=122,slow=7.7,SNR=20
ANTO **Ankara** 59.13 301 *eP* **P** 01 09 01.3 -0.3
ANTO **Ankara** 59.13 301⇑ *iP* **P** 01 09 01.5 -0.1
ANTO **Ankara** 59.13 301 *eP* **P** 01 09 01.3 -0.3
ARCES **ARCESS Array B** 59.28 336 P **P** 01 09 02.0 0.0
comp=Z,6.0nm,0.7s,baz=82,slow=8.7,SNR=22
ARCES PcP **PcP** 01 09 50.1 -0.1
comp=Z,2.7nm,0.8s,baz=108,slow=4.0,SNR=4.3
AKASG **Malin Array Be** 59.35 314 P **P** 01 09 02.2 -0.6
comp=Z,3.4nm,0.6s,baz=75,slow=5.6,SNR=15
AKASG PcP **PcP** 01 09 51.5 +0.8
comp=Z,0.2nm,0.3s,baz=70,slow=6.3,SNR=2.4
KIEV **Kiev** 59.36 314⇑ *eP* **P** 01 09 02.2 -0.7
KIEV pmax pmax
comp=Z,5.0nm,0.6s
ASAR **Alice Springs** 59.46 149 P **P** 01 09 03.6 -0.2
comp=Z,3.1nm,0.9s,baz=336,slow=6.1,SNR=12
ASAR PcP **PcP** 01 09 51.0 -0.5
comp=Z,1.9nm,0.5s,baz=333,slow=4.0,SNR=8.1
AS01 **Alice Springs** 59.48 149 *eP* **P** 01 09 03.2 -0.8
AS01 *esP* **P** 01 09 03.3 -0.7
FINES **FINESS Array B** 59.60 327 P **P** 01 09 04.0 -0.3
comp=Z,5.4nm,0.6s,baz=85,slow=7.1,SNR=33
VSU **Vasula** 59.62 323⇓ *eP* **P** 01 09 04.5 0.0
VSU pmax pmax
comp=Z,47nm,0.7s
SORM **Soroca** 60.40 311⇓ *iP* **P** 01 09 09.4 -0.7
SORM **Soroca** 60.40 311 ⇓P **P** 01 09 09.4 -0.7
ATD **Arta Tunnel** 60.51 267 *eP* **P** 01 09 09.4 -2.0
comp=Z,9.3nm,0.9s
TLCR 60.73 308⇑ *iP* **P** 01 09 12.3 -0.1
TLCR 60.73 308 ⇑P **P** 01 09 12.3 -0.1
TIRR **Tirgusor** 61.18 307⇑ *iP* **P** 01 09 15.3 -0.2
TIRR **Tirgusor** 61.18 307 ⇑P **P** 01 09 15.3 -0.2
ISP **Isparta** 61.37 299 *eP* **P** 01 09 16.7 -0.3
comp=Z,15nm,0.7s
ISP **Isparta** 61.37 299 *eP* **P** 01 09 16.7 -0.3
ISP pmax pmax
comp=Z,15nm,0.7s
TLB **Topalu** 61.41 307⇓ *iP* **P** 01 09 17.2 +0.2
TLB **Topalu** 61.41 307 ⇓P **P** 01 09 17.2 +0.2
HARR **Harsova** 61.46 308⇑ *iP* **P** 01 09 17.8 +0.4
HARR **Harsova** 61.46 308 ⇑P **P** 01 09 17.8 +0.4
VRI **Vrincioaia** 62.00 309⇓ *iP* **P** 01 09 21.7 +0.7
VRI **Vrincioaia** 62.00 309 ⇓P **P** 01 09 21.7 +0.7
PLOR **Plostina** 62.05 309⇑ *iP* **P** 01 09 22.9 +1.5
PLOR **Plostina** 62.05 309 ⇑P **P** 01 09 22.9 +1.5
ISR **Istrita** 62.31 308⇓ *iP* **P** 01 09 24.6 +1.4
ISR **Istrita** 62.31 308 ⇓P **P** 01 09 24.6 +1.4
BURAR **Bucovina Array** 62.57 311⇑ *iP* **P** 01 09 25.3 +0.4
BURAR **Bucovina Array** 62.57 311 ⇑P **P** 01 09 25.3 +0.4
BUR04 **Bucovina Ar. S** 62.57 311 *eP* **P** 01 09 24.3 -0.7
BUR04 *esP* **P** 01 09 24.6 -0.4
OZUR 62.57 310⇓ *iP* **P** 01 09 25.5 +0.6
BUR08 **Bucovina Ar. S** 62.58 311 *eP* **P** 01 09 24.6 -0.4
BUR08 *esP* **P** 01 09 25.1 +0.1
MLR **Muntele Rosu** 62.62 309 *eP* **P** 01 09 24.7 -0.7
comp=Z,35nm,1.8s
MLR **Muntele Rosu** 62.62 309⇑ *iP* **P** 01 09 26.6 +1.3
MLR **Muntele Rosu** 62.62 309 ⇑P **P** 01 09 26.6 +1.3
CTA **Charters Tower** 63.04 136 P **P** 01 09 27.9 -0.4
comp=Z,4.6nm,0.9s,baz=337,slow=11,SNR=4.1
CTAO **Charters Tower** 63.04 136 *eP* **P** 01 09 27.8 -0.4
comp=Z,37nm,1.6s
CTAO **Charters Tower** 63.04 136 *eP* **P** 01 09 27.8 -0.4
CTAO pmax pmax
comp=Z,37nm,1.6s
VOIR 63.24 309⇓ *iP* **P** 01 09 29.5 +0.1
VOIR 63.24 309 ⇓P **P** 01 09 29.5 +0.1
ARR **Arges** 63.54 309⇓ *iP* **P** 01 09 31.3 +0.4
LOT **Lotru** 64.11 309⇓ *iP* **P** 01 09 35.4 +0.2
DRGR 64.44 311⇓ *iP* **P** 01 09 37.9 +0.6
DRGR 64.44 311 ⇓P **P** 01 09 37.9 +0.6
GZR **Gura Zlata** 64.79 309⇓ *iP* **P** 01 09 39.4 -0.2
GZR **Gura Zlata** 64.79 309 ⇓P **P** 01 09 39.4 -0.2
HERR **Herculane** 65.19 309⇑ *iP* **P** 01 09 42.5 +0.4
OJC **Ojcow** 65.32 315 *eP* **P** 01 09 42.2 -0.7
comp=Z,10nm,1.1s
VTS **Vitosha** 65.33 306 *eP* **P** 01 09 42.1 -1.1
comp=Z,12nm,0.9s
VTS **Vitosha** 65.33 306⇓ *iP* **P** 01 09 43.8 +0.5
VTS **Vitosha** 65.33 306 ⇓P **P** 01 09 43.8 +0.5
VYHS **Vyhne** 66.44 314 *eP* **P** 01 09 50.4 +0.3
VYHS pmax pmax
comp=Z,10.0nm,1.5s
VYHS **Vyhne** 66.44 314 *eP* **P** 01 09 50.4 +0.3
NB2 **NORSAR Subarra** 66.69 328 P **P** 01 09 50.4 -1.2
comp=Z,0.8nm,0.6s,baz=70,slow=6.5
NOA **NORSAR Array B** 66.69 328 P **P** 01 09 49.8 -1.8
comp=Z,2.2nm,0.7s,baz=70,slow=6.3,SNR=4.4
MORC **Moravsky Berou** 66.84 315 *eP* **P** 01 09 52.0 -0.7
comp=Z,14nm,1.7s
MORC **Moravsky Berou** 66.84 315⇓ *iP* **P** 01 09 53.3 +0.6
MORC **Moravsky Berou** 66.84 315 ⇓P **P** 01 09 53.3 +0.6
MORC **Moravsky Berou** 66.84 315 *eP* **P** 01 09 53.3 +0.6
JAVC **Velka Javorina** 67.05 314 *eP* **P** 01 09 55.7 +1.6
DPC **Dobruska-Polom** 67.40 316 *eP* **P** 01 09 56.9 +0.6
DPC **Dobruska-Polom** 67.40 316 *eP* **P** 01 09 56.9 +0.6
VRAC **Vranov** 67.58 315⇑ *iP* **P** 01 09 57.9 +0.6
VRAC **Vranov** 67.58 315 ⇑P **P** 01 09 57.9 +0.6
VRAC **Vranov** 67.58 315 *eP* **P** 01 09 57.5 +0.2
KRUC **Moravsky** 67.78 315 *eP* **P** 01 09 58.9 +0.3
IM3 **Indian Mountai** 67.83 26 *eP* **P** 01 09 58.5 -0.1
PDG **Podgorica** 68.15 307⇑ *iP* **P** 01 10 00.7 -0.3
CONA **Conrad Observa** 68.50 314 *epP* **P** 01 10 03.6 +0.3
comp=Z,12nm,1.6s
ARSA **Arzberg** 68.95 313 *eP* **P** 01 10 05.8 -0.2
comp=Z,5.0nm,0.9s
CLL **Collm** 69.05 318 *eP* **P** 01 10 05.8 -0.7
comp=Z,21nm,1.7s
CLL **Collm** 69.05 318 *i* P **P** 01 10 05.7 -0.7
comp=Z,15nm,1.6s
CLL **Collm** 69.05 318 *eP* **P** 01 10 05.8 -0.7
CLL pmax pmax
comp=Z,21nm,1.7s
MLY **Manley** 69.37 26 *eP* **P** 01 10 09.2 +0.9
comp=Z,18nm,1.6s
KHC **Kasperske Hory** 69.49 315 *eP* **P** 01 10 09.7 +0.3
KHC **Kasperske Hory** 69.49 315 *eP* **P** 01 10 09.7 +0.3
GERES **GERESS Array B** 69.52 315 P **P** 01 10 09.0 -0.6
comp=Z,2.6nm,0.8s,baz=86,slow=5.5,SNR=17
GEA0 **GERESS Array S** 69.52 315 *eP* **P** 01 10 08.7 -1.0
MOA **Molln** 69.53 314 *epP* **P** 01 10 09.9 +0.3
comp=Z,11nm,1.2s
PPLA **Purkeypile** 69.69 28 *eP* **P** 01 10 11.4 +1.0
comp=Z,14nm,0.9s
STKA **Stephens Creek** 69.97 148 P **P** 01 10 11.8 -0.5
comp=Z,7.0nm,0.9s,baz=346,slow=5.4,SNR=6.1
MDM **Murphy Dome** 70.36 26 *eP* **P** 01 10 15.0 +0.7
comp=Z,40nm,1.6s
IL1 **Eielson Array** 70.95 26 *eP* **P** 01 10 16.9 -1.0
ILAR **Eielson Array** 70.95 26 P **P** 01 10 17.4 -0.6
comp=Z,1.8nm,0.9s,baz=296,slow=5.4,SNR=14
ILB **Eielson Array** 70.95 26 *eP* **P** 01 10 18.5 +0.5
ABTA **Abfaltersbach** 71.05 313 *eP* **P** 01 10 17.8 -1.3
comp=Z,6.2nm,0.9s
WTTA **Wattenberg** 71.40 314 *eP* **P** 01 10 20.8 -0.4
comp=Z,19nm,1.8s
WATA **Walderalm** 71.41 314 *eP* **P** 01 10 21.2 -0.1
comp=Z,4.9nm,1.0s
KMBO **Kilima Mbogo** 71.55 258 P **P** 01 10 21.4 -1.4
comp=Z,2.5nm,0.6s,baz=48,slow=13,SNR=12
KMBO **Kilima Mbogo** 71.55 258 *eP* **P** 01 10 21.3 -1.4
comp=Z,1.1nm,0.6s
KMBO **Kilima Mbogo** 71.55 258 *eP* **P** 01 10 21.3 -1.4
KMBO pmax pmax
comp=Z,1.0nm,0.6s
SQTA **Sankt Quirin** 71.69 314 *eP* **P** 01 10 22.4 -0.5
comp=Z,6.9nm,0.8s
MOTA **Moosalm** 71.70 314 *eP* **P** 01 10 22.5 -0.5
comp=Z,4.1nm,0.8s
KDAK **Kodiak Island** 71.70 33 P **P** 01 10 22.7 +0.1
comp=Z,5.4nm,0.5s,baz=287,slow=3.4,SNR=9.3
FETA **Feichten** 72.07 314 *eP* **P** 01 10 24.5 -0.7
comp=Z,10.0nm,1.0s
BFO **Black Forest** 73.00 316 *i* P **P** 01 10 31.6 +1.0
INK **Inuvik** 73.45 19 P **P** 01 10 32.5 -0.3
comp=Z,3.6nm,0.7s,baz=333,slow=7.2,SNR=14
INK **Inuvik** 73.45 19 *eP* **P** 01 10 32.9 +0.1
comp=Z,30nm,1.8s
INK **Inuvik** 73.45 19 *eP* **P** 01 10 32.9 +0.1
INK pmax pmax
comp=Z,30nm,1.8s
ABPO **Ambohimpanom** 73.83 237 *i* P **P** 01 10 34.7 -1.3
DAWY **Dawson** 74.09 24 *eP* **P** 01 10 36.9 +0.2
comp=Z,8.4nm,1.3s
YKA **Yellowknife Ar** 83.04 17 P **P** 01 11 25.9 -0.1
comp=Z,1.8nm,0.6s,baz=327,slow=5.4,SNR=5.6
ES19 **SONSECA Array** 84.92 313 *eP* **P** 01 11 36.3 +0.1
ESDC **Sonseca Array** 84.97 313 P **P** 01 11 34.8 -1.6
comp=Z,0.8nm,0.7s,baz=56,slow=5.3,SNR=5.0
LSZ **Lusaka** 86.57 250 *eP* **P** 01 11 43.8 -0.9
comp=Z,13nm,1.2s
LSZ **Lusaka** 86.57 250 *eP* **P** 01 11 43.8 -0.9
LSZ pmax pmax
comp=Z,13nm,1.2s
TORD **Torodi Ar. Bea** 95.17 288 P **P** 01 12 23.9 -1.0
comp=Z,0.3nm,0.7s,baz=72,slow=5.1
TXAR **Lajitas Array** 115.41 28 PKP **PKPdf** 01 17 42.9 -0.4
comp=Z,1.1nm,0.5s,baz=28,slow=4.1,SNR=2.7
APG **El Apazote** 133.34 21 PKP **PKPdf** 01 18 17.2 -0.8
comp=Z,1.7nm,0.3s,baz=180,slow=5.9,SNR=4.3
ROSC **El Rosal** 146.00 359 PKPbc **PKPab** 01 18 42.3 -0.1
comp=Z,9.7nm,0.5s,baz=188,slow=11,SNR=6.1
PTGA **Pitinga** 148.26 331 PKPbc **PKPbc** 01 18 47.0 -0.8
comp=Z,4.8nm,0.5s,baz=41,slow=5.3,SNR=15
BDFB **Brasilia** 151.92 293 PKPbc **PKPbc** 01 18 54.7 -2.1
comp=Z,1.1nm,0.5s,baz=197,slow=5.2,SNR=3.9
SIV **San Ignacio** 161.73 314 PKP **PKPdf** 01 19 02.6 -0.1
comp=Z,0.9nm,0.9s,baz=194,slow=17,SNR=3.1
SIV PKPab **PKPab** 01 19 46.4 -1.4
comp=Z,1.4nm,1.0s,baz=275,slow=20,SNR=3.5
LPAZ **La Paz** 165.67 334 PKP **PKPdf** 01 19 04.9 -2.2
comp=Z,1.1nm,0.7s,baz=184,slow=6.8,SNR=4.3
LVC **Limon Verde** 171.51 321 PKP **PKPdf** 01 19 09.6 -0.8
comp=Z,4.7nm,0.8s,baz=328,slow=9.8,SNR=3.7

ISCJB ***11*** *01:02:59.0±1.1,5°.7S±0°.1×151°.5E±0°.2, h57km, mb4.0/8, MS3.2/1, Error ellipse: s-maj=36.3km s-min=17.6km az=19.6*

IDC ***11*** *01:03:08.4±4.0,5°.70S×151°.32E, h124km±39km, mb3.8/7, mb1 4.1/8, mb1mx3.6/53, mbtmp4.3/8, MS3.4/1, Ms1 3.4/1, ms1mx2.8/46, Error ellipse: s-maj=27.4km s-min=18.2km az=127.0*

ISC 11 01:03:00.6±1.1,**5°.6S**±0°.2×**151°.5E**±0°.3,**h57**km,**n11,** σ**0**°**91**′/**9**,**mb3.9**/8,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**9.15**	**115**	P			Pn	01 05 20.7	+11
	43nm,0.3s,baz=344,slow=22,SNR=9.3								
DZM	**Mont Dzumac**	**21.79**	**140**	LR			LR	01 15 20.8	
	comp=Z,100nm,19.7s,baz=92,slow=34								
WRA	**Warramunga Arr**	**21.95**	**228**	P			**P**	**01 07 49.3**	**-0.4**
	21nm,1.2s,baz=53,slow=9.8,SNR=30								
ASAR	**Alice Springs**	**24.69**	**222**	P			**P**	**01 08 16.2**	**-0.3**
	6.2nm,0.8s,baz=56,slow=9.2,SNR=32								
STKA	**Stephens Creek**	**27.71**	**198**	P			**P**	**01 08 44.4**	**+0.7**
	3.6nm,0.9s,baz=2.1,slow=14,SNR=3.1								
FITZ	**Fitzroy Crossi**	**28.15**	**242**	P			**P**	**01 08 47.9**	**+0.1**
	5.4nm,0.7s,baz=48,slow=8.7,SNR=16								
SONM	**Songino Array**	**66.37**	**329**	P			**P**	**01 13 42.7**	**-1.0**
	0.2nm,0.6s,baz=145,slow=5.3,SNR=2.1								
VNDA	**Vanda**	**72.05**	**178**	P			**P**	**01 14 17.9**	**-0.2**
	1.1nm,0.9s,baz=326,slow=5.7,SNR=7.0								
ZALV	**Zalesovo Beam**	**81.15**	**327**	P			**P**	**01 15 11.4**	**+1.5**
	0.5nm,0.5s,baz=122,slow=5.2,SNR=3.3								
ILAR	**Eielson Array**	**83.41**	**22**	P			**P**	**01 15 21.6**	**0.0**
	0.7nm,0.6s,baz=252,slow=5.0,SNR=1.1								
TORD	**Torodi Ar. Bea**	**149.35**	**286**	PKPbc			**PKPbc**	**01 22 43.3**	**-1.0**
	0.8nm,0.7s,baz=78,slow=2.2,SNR=13								

ISCJB ***11*** *01:03:27.3±0.6, 39°.01N±0°.03×29°.46E±0°.05, h8km±4km, Error ellipse: s-maj=6.0km s-min=4.9km az=17.2*

DDA ***11*** *01:03:27.7, 39°.00N×29°.42E, h7km, Ml2.9*

ISK ***11*** *01:03:27.6, 39°.07N×29°.34E, h5km, ML2.2/7*

ISC 11 01:03:27.3±1.0,**39°.01N**±0°.03×**29°.46E**±0°.04,**h9**km±6km, **n16,** σ**0**°**53**′/**24**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GEDZ	**Gediz**	**0.05**	**314**	PG			**Pg**	**01 03 29.4**	**+0.1**
GEDZ				SG			**Sg**	**01 03 30.9**	**+0.1**
TVSB	**Tavsanli**	**0.44**	**1**	PG			**Pg**	**01 03 35.9**	**-0.1**
TVSB				SG			**Sg**	**01 03 41.1**	**-0.7**
DEMI	**Demirci**	**0.58**	**273**	*i* P			**Pb**	**01 03 39.0**	**-0.6**
DEMI				*i* S			**Sg**	**01 03 46.3**	**+0.2**
KULA	**Kula-Manisa**	**0.79**	**232**	PG			**Pb**	**01 03 42.8**	**-0.6**
KULA				SG			**Sb**	**01 03 53.6**	**-0.6**
MANT	**Manisa**	**0.87**	**234**	*i* P			**Pb**	**01 03 44.9**	**+0.1**
MANT				*i* S			**Sg**	**01 03 55.2**	**-0.3**
KZIL	**AFYON_Kizioren**	**0.92**	**144**	*i* P			**Pg**	**01 03 45.1**	**0.0**
KZIL				*i* S			**Sg**	**01 03 56.6**	**-0.5**
DURS	**Dursunbey**	**0.96**	**308**	*i* P			**Pb**	**01 03 46.0**	**-0.2**
DURS				*i* S			**Sg**	**01 03 57.3**	**-1.2**
CAVI	**Cavuskoy**	**1.23**	**14**	PN			**Pg**	**01 03 50.8**	**-0.1**
BALB	**Balikesir**	**1.38**	**298**	PN			**Pn**	**01 03 52.9**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.40**	**286**	*i* P			**Pg**	**01 03 54.5**	**+0.4**
STEP				*i* S			**Sb**	**01 04 12.0**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.43**	**342**	PN			**Pn**	**01 03 53.9**	**+0.5**
GEMT	**Gemlik**	**1.44**	**352**	PN			**Pn**	**01 03 54.2**	**+0.6**
KCTX	**Karacabey (Bur**	**1.51**	**326**	PN			**Pn**	**01 03 54.9**	**+0.3**
YLV	**Yalova**	**1.56**	**358**	PN			**Pb**	**01 03 56.5**	**+0.1**
ARMT	**Armutlu**	**1.62**	**344**	PN			**Pn**	**01 03 56.8**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**1.62**	**230**	PN			**Pn**	**01 03 57.0**	**+0.8**

ATH 11 01:07:45.6, 39°.10N×20°.82E, h28km±1km,**ML1.4/4, Error ellipse: s-maj=1.8km s-min=0.9km az=239.0, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TSLK	**Tsoukalades, L**	**0.30**	**204**	P			Pb	01 07 53.0	+0.1
LKD2	**Lefkada island**	**0.34**	**202**	P			Pb	01 07 53.3	0.0
EVGI	**Lefkada island**	**0.49**	**195**	P			Pb	01 07 56.0	+0.1
JAN	**Janina**	**0.56**	**3**	P			Pn	01 07 57.5	-0.3
JAN				S			Sb	01 08 05.3	+0.7
JAN				AML		AML		01 08 08.4	
	comp=N,102μm,0.6s								
JAN				AML		AML		01 08 09.6	
	comp=E,211μm,0.3s								
IGT	**Igoumenitsa**	**0.57**	**319**	P			Pb	01 07 56.9	-0.2
IGT				AML		AML		01 08 11.7	
	comp=N,36μm,0.7s								
IGT				AML		AML		01 08 12.3	
	comp=E,46μm,0.4s								
SGD	**Sagiada**	**0.68**	**319**	P			Pn	01 07 59.6	+0.2
PVO	**Paravola**	**0.74**	**131**	P			Pn	01 08 00.2	0.0
PVO				S			Sn	01 08 11.0	+0.5
PVO				AML		AML		01 08 14.2	
	comp=N,105μm,0.5s								
PVO				AML		AML		01 08 14.2	
	comp=E,105μm,0.4s								
EVR	**Evrytania**	**0.80**	**103**	P			Pb	01 08 00.9	0.0
EVR				S			Sn	01 08 12.7	+0.7
EVR				AML		AML		01 08 14.7	
	comp=N,39μm,0.4s								
EVR				AML		AML		01 08 15.2	
	comp=E,56μm,0.7s								
VLS	**Valsamata**	**0.94**	**191**	P			Pb	01 08 04.1	+0.8
KEK	**Kerkira**	**1.00**	**308**	P			Pb	01 08 04.9	+0.7
ANX	**Ano Chora**	**1.00**	**120**	P			Pb	01 08 05.0	+0.6
THL	**Klokotos Trika**	**1.04**	**63**	P			Pb	01 08 05.8	+0.8
PENT	**Pentalofos**	**1.12**	**13**	P			Pb	01 08 07.0	+0.5
RLS	**Riolos of Patr**	**1.16**	**154**	P			Pb	01 08 07.7	+0.7
AGG	**Agios Georgios**	**1.18**	**93**	P			Pb	01 08 07.8	+0.4
NEST	**Nestorio**	**1.32**	**8**	P			Pb	01 08 10.2	+0.3
DRO	**Drossia**	**1.34**	**148**	P			Pb	01 08 10.6	+0.5

MOS ***11*** *01:08:49.8±2.6, 48°.78N×156°.35E, h39km, mb4.4/1, Error ellipse: s-maj=67.5km s-min=6.0km az=79.8*

KRSC ***11*** *01:08:49.9±1.7, 48°.78N×156°.35E, h38km±28km, ML4.3*

SKHL 11 01:08:49.8±1.0,**48°.73N**×**155°.98E, h25**km±2km,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.96**	**3**	*e*P			Pn	01 09 21.6	+0.2
SKR				*e*S			Sn	01 09 44.6	-0.5
SKR				A			A	01 09 46.9	
	190nm,0.5s								
SKR				A			A	01 09 46.9	
	348nm,0.5s								
SKR	**Severo-Kuril's**	**1.96**	**3**	*e*P			Pn	01 09 21.3	-0.1
SKR				*e*S			Sn	01 09 43.7	-1.4
SKR	**Severo-Kuril's**	**1.96**	**3**	*e*PN			Pn	01 09 21.6	+0.2
SKR				*e*S			Sn	01 09 44.6	-0.5
SKR				smax		smax			
	comp=E,342nm,0.3s								
SKR				smax		smax			
	comp=N,188nm,0.2s								
PAU	**Pauzhetka**	**2.79**	**11**	*e*P			Pn	01 09 32.8	0.0
PAU				*e*S			Sn	01 10 05.7	0.0
PAU	**Pauzhetka**	**2.79**	**11**	P			Pn	01 09 32.8	0.0
PAU				*e*S			Sn	01 10 05.7	0.0
PAU	**Pauzhetka**	**2.79**	**11**	PN			Pn	01 09 32.8	0.0
PAU				S			Sn	01 10 05.7	0.0
KDTR	**Khodutka, Kamc**	**3.36**	**23**	*e*P			Pn	01 09 42.0	+1.3
KDTR				*e*S			Sn	01 10 20.6	+0.9
MTVR	**Mutnovka**	**4.01**	**20**	*e*P			Pn	01 09 51.7	+2.0
MTVR				*e*S			Sn	01 10 37.0	+1.0
MTVR	**Mutnovka**	**4.01**	**20**	PN			Pn	01 09 51.7	+2.0
MTVR				S			Sn	01 10 37.0	+1.0
RUS	**Russkaya**	**4.04**	**23**	*e*P			Pn	01 09 51.2	+1.2
RUS				*e*S			Sn	01 10 37.4	+0.9
RUS	**Russkaya**	**4.04**	**23**	*e*P			Pn	01 09 51.2	+1.2
RUS				*e*S			Sn	01 10 37.4	+0.9
RUS	**Russkaya**	**4.04**	**23**	PN			Pn	01 09 51.2	+1.2
RUS				S			Sn	01 10 37.4	+0.9
APC	**Apacha**	**4.27**	**10**	*e*P			Pn	01 09 56.1	+3.0
APC	**Apacha**	**4.27**	**10**	PN			Pn	01 09 56.1	+3.0
KRMR	**Karymshinskiy**	**4.33**	**18**	*e*P			Pn	01 09 56.1	+2.2
KRMR				*e*S			Sn	01 10 42.8	-0.7
KRMR	**Karymshinskiy**	**4.33**	**18**	PN			Pn	01 09 56.1	+2.2
KRMR				S			Sn	01 10 42.8	-0.7
PET	**Petropavlovsk**	**4.62**	**20**	*e*P			Pn	01 09 59.7	+1.8
PET				*e*S			Sn	01 10 52.3	+1.6
PET	**Petropavlovsk**	**4.62**	**20**	*e*P			Pn	01 09 59.7	+1.8
PET				*e*S			Sn	01 10 52.3	+1.6
PET	**Petropavlovsk**	**4.62**	**20**	PN			Pn	01 09 59.7	+1.8
PET				S			Sn	01 10 52.3	+1.6
UGLR	**Uglovaya**	**4.83**	**21**	*e*P			Pn	01 10 03.2	+2.2
UGLR	**Uglovaya**	**4.83**	**21**	PN			Pn	01 10 03.2	+2.2
AVH	**Avacha**	**4.86**	**20**	*e*P			Pn	01 10 04.1	+2.7
AVH	**Avacha**	**4.86**	**20**	PN			Pn	01 10 04.1	+2.7
KOK	**Koryaka**	**4.87**	**19**	*e*P			Pn	01 10 04.1	+2.7
KOK	**Koryaka**	**4.87**	**19**	PN			Pn	01 10 04.1	+2.7
SMAR	**Somma**	**4.88**	**20**	*e*P			Pn	01 10 03.7	+2.0
SMAR	**Somma**	**4.88**	**20**	PN			Pn	01 10 03.7	+2.0
SDLR	**Sedlovina**	**4.91**	**21**	*e*P			Pn	01 10 04.0	+2.0
SDLR	**Sedlovina**	**4.91**	**21**	PN			Pn	01 10 04.0	+2.0
NLC	**Nalytchevo**	**4.93**	**24**	S			Sn	01 10 58.6	+0.3
KRX	**Arik**	**4.93**	**19**	*e*P			Pn	01 10 04.6	+2.2
KRX	**Arik**	**4.93**	**19**	PN			Pn	01 10 04.6	+2.2
SPN	**Mys Shipunski**	**5.07**	**29**	*e*P			Pn	01 10 05.6	+1.5
SPN	**Mys Shipunski**	**5.07**	**29**	*e*P			Pn	01 10 05.6	+1.5
SPN				*e*S			Sn	01 11 02.9	+1.2
SPN	**Mys Shipunski**	**5.07**	**29**	PN			Pn	01 10 05.6	+1.5
SPN				S			Sn	01 11 02.9	+1.2
GNL	**Ganaly**	**5.12**	**13**	*e*P			Pn	01 10 06.1	+1.1
GNL	**Ganaly**	**5.12**	**13**	PN			Pn	01 10 06.1	+1.1
KBTR	**Krutoberegovo**	**8.57**	**27**	*e*P			Pn	01 10 52.8	+0.7
KBTR	**Krutoberegovo**	**8.57**	**27**	PN			Pn	01 10 52.8	+0.7
BKI	**Bering**	**8.94**	**40**	*e*S			Sn	01 12 33.2	-3.8

IDC ***11*** *01:12:36.6±0.3,23°.08N×95°.81E, h0km, mb5.4/49, mb1 5.4/49, mb1mx5.4/53, mbtmp5.4/49, MS6.5/45, Ms1 6.5/45, ms1mx6.4/65, Error ellipse: s-maj=8.3km s-min=6.9km az=59.0*

BJI ***11*** *01:12:36.9, 22°.88N×95°.91E, h10km, mb5.8/57, mB6.7/55, ML6.3/5, Ms7.0/86, Ms7 7.0/83*

MOS ***11*** *01:12:38.5±1.0, 22°.93N×95°.85E, h27km, mb6.2/83, MS6.6/94, Error ellipse: s-maj=5.6km s-min=3.3km az=117.7*

ISCJB ***11*** *01:12:38.8±0.1, 22°.99N±0°.01×95°.86E±0°.01, h24km, mb6.0/380, MS6.7/762, Error ellipse: s-maj=2.2km s-min=1.5km az=36.2*

NEIC ***11*** *01:12:38.0±0.0, 23°.03N×95°.71E, h13km, Moment Tensor Solution. s45 Moment tensor: Scale 10*^{19}*Nm; Mrr=0.02; Mθθ=0.16; Mφφ=-0.14; Mrθ=0.89; Mrφ=2.09; Mθφ=-0.22: Best double couple: M*$_0$*2.30000×10*^{19} *NP1:*ϕ_s*271.00000°, δ86.00000°, λ-23.00000°. NP2:*ϕ_s*3.00000°, δ67.00000°, λ-176.00000°. Principal axes: T 2.2200, Plg13.0000°, Azm319.0000°; N 0.1200, Plg66.0000°, Azm83.0000°; P -2.3500, Plg18.0000°, Azm224.0000°;*

NEIC ***11*** *01:12:38.9±0.6, 23°.01N×95°.89E, h14km±3km, mb6.3/210, ME7.1, MS6.7/296, MW6.8, MW6.8 Error ellipse: s-maj=3.4km s-min=2.6km az=220.0 Broadband fault plane solution: P waves. NP1:*ϕ_s*106.00000°, δ85.00000°, λ10.00000°. NP2:*ϕ_s*15.00000°, δ80.00000°, λ175.00000°. Principal axes: T Plg11.0000°, Azm331.0000°; N Plg0.0000°, Azm0.0000°; P Plg4.0000°, Azm240.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC At least 26 people killed, 230 injured, 251 homes destroyed, 207 buildings damaged, a bridge and mines collapsed and landslides occurred in the Shwebo area. Felt [VII] at Shwebo and [III] at Male and Mandalay. Also felt at Mogok, Pyinmana, Rangoon and Taunggyi. Felt [IV] at Mae Hong Son; [III] at Bangkok, Khlong Toei and Wang Thonglang; [II] at Ban Pa Lan and Chiang Mai, Thailand. Felt widely in northern Thailand. Also felt at Kunming, China and at Aizawl, Dibrugarh and Kohima, India.

NDI ***11*** *01:12:39.1±2.9, 23°.04N×95°.91E, h14km, mb6.3, ML6.2, mb6.3(NEIC)*

GCMT ***11*** *01:12:54.9±0.0, 22°.73N×96°.03E, h17km, MW6.8/147, Moment Tensor Solution. s145,c374; s147,c675; Duration: 6*^{s}*5 Moment tensor: Scale 10*^{19}*Nm; Mrr=0.04±.01; Mθθ 0.12±.01; Mφφ=0.08±.01; Mrθ 1.36±.04; Mrφ 1.93±.01; Mθφ 0.18±.02; Best double couple: M*$_0$*2.36300×10*^{19} *NP1:*ϕ_s*91.00000°, δ88.00000°, λ35.00000°. NP2:*ϕ_s*0.00000°, δ55.00000°, λ178.00000°. Principal axes: T 2.4740, Plg25.0000°, Azm321.0000°; N -0.2220, Plg55.0000°, Azm94.0000°; P -2.2510, Plg23.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***11*** *01:13:07.4±0.0, 22°.76N×95°.71E, h10km, Moment Tensor Solution. s146 Moment tensor: Scale 10*^{19}*Nm; Mrr=0.19; Mθθ 0.18; Mφφ 0.02; Mrθ 0.11; Mrφ 1.92; Mθφ=-0.55; Best double couple: M*$_0$*2.00000×10*^{19} *NP1:*ϕ_s*271.00000°, δ74.00000°, λ-5.00000°. NP2:*ϕ_s*2.00000°, δ85.00000°, λ-164.00000°. Principal axes: T 2.0600, Plg8.0000°, Azm135.0000°; N -0.1100, Plg73.0000°, Azm19.0000°; P -1.9600, Plg15.0000°, Azm227.0000°;*

ISC 11 01:12:39.2±0.4,**22°.89N**±0°.02×**95°.85E**±0°.02,**h14**km±2km, **h14**km:**pP-P,n2130,** σ**2**°**21**′/1771,**mb6.1**/383,**MS6.7**/804, **93C-73D,Myanmar**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SAIH	**SAIHA**	**2.67**	**262**	*e*P			**Pn**	**01 13 23.6**	**+1.7**
SAIH				*e*S			**Sn**	**01 13 54.2**	**0.0**
AZL	**Aizawl**	**3.02**	**287**	*e*P			**Pn**	**01 13 28.1**	**+1.4**
AZL				*ex*			**Sb**	**01 14 11.1**	**+1.4**
KOHI	**KOHIMA**	**3.23**	**331**	*ex*			**Pn**	**01 13 29.9**	**+0.2**
KOHI				*e*S			Sn	01 13 58.6	-9.4
SILR	**SILCHAR**	**3.36**	**305**	*e*P			**Pn**	**01 13 32.1**	**+0.8**
SILR				*e*S			**Sn**	**01 14 11.6**	**+0.6**
MOKO	**MOKOCHONG**	**3.62**	**341**	*e*P			**Pn**	**01 13 35.5**	**+0.5**
MOKO				*e*S			**Sn**	**01 14 10.3**	**-7.3**
BRDH	**Bariadhala**	**3.89**	**268**	Pn			**Pn**	**01 13 40.6**	**+2.1**
	50nm,0.3s,baz=81,slow=10,SNR=30								
BRDH				Pg			**Pb**	**01 13 46.2**	**-1.2**
	74nm,0.3s,baz=92,slow=14,SNR=20								
BRDH				Lg			Lg	01 14 47.6	
	1μm,0.3s,baz=246,slow=20,SNR=10.0								
BRDH				LR			LR	01 15 43.2	
	comp=Z,379μm,20.9s,baz=232,slow=48								
BELO	**BELONIA**	**4.07**	**276**	*e*P			**Pn**	**01 13 41.7**	**+0.7**
BELO				*e*S			**Sn**	**01 14 28.8**	**+0.4**
JORH	**JORHAT**	**4.10**	**340**	*e*P			**Pn**	**01 13 41.8**	**+0.4**
JORH				*e*S			**Sn**	**01 14 22.7**	**-6.5**
JORH				IAML				01 15 53.5	
	comp=E,5051μm,0.4s								
LKP	**Lekhapani**	**4.42**	**360**	*e*P			**Pn**	**01 13 44.2**	**-1.7**
LKP				*ex*			x	01 14 16.5	
LKP				IAML				01 14 20.1	
	comp=N,496μm,1.4s								
LKP				IAML				01 14 20.4	
	comp=E,466μm,0.2s								
SHL	**Shillong**	**4.49**	**307**	*e*Pn			**Pn**	**01 13 46.2**	**-0.8**
SHL	**Shillong**	**4.49**	**307**	*e*P			**Pn**	**01 13 46.2**	**-0.8**
SHL	**Shillong**	**4.49**	**307**	*e*P			**Pn**	**01 13 47.4**	**+0.4**
SHL				*e*S			**Sn**	**01 14 35.5**	**-3.7**
TEZP	**TEZPUR**	**4.63**	**324**	*e*P			**Pn**	**01 13 48.5**	**-0.3**
TEZP				*e*S			**Sn**	**01 14 37.4**	**-4.9**
TEZP				IAML				01 15 11.9	
	comp=E,39μm,0.9s								
ITAN	**ITANAGAR**	**4.65**	**336**	*e*P			**Pn**	**01 13 48.2**	**-0.8**
ITAN				*e*S			**Sn**	**01 14 35.3**	**-7.6**
ZIRO	**ZIRO**	**4.96**	**339**	*e*P			**Pn**	**01 13 53.0**	**-0.4**
ZIRO				*ex*			x	01 14 35.6	
ZIRO				IAML				01 15 14.4	
	comp=N,63μm,0.3s								
ZIRO				IAML				01 15 16.9	
	comp=E,44μm,0.7s								
CRAI	**Chiangrai**	**4.98**	**121**	P			Pb	01 14 00.9	-5.2
CHTO	**Chiang Mai**	**4.98**	**144**	*e*Pn			**Pn**	**01 13 52.0**	**-1.6**
CHTO				*e*Sg			**Sg**	**01 15 15.3**	**-3.9**
CHTO	**Chiang Mai**	**4.98**	**144**	*e*P			**Pn**	**01 13 52.0**	**-1.6**
CHTO	**Chiang Mai**	**4.98**	**144**	P			**Pn**	**01 13 51.7**	**-1.9**
CMMT	**Chiang Mai**	**4.99**	**144**	P			**Pn**	**01 13 51.6**	**-2.0**
GUWA	**GUWAHATI**	**5.01**	**312**	*e*P			**Pn**	**01 13 52.2**	**-1.8**
GUWA				*e*S			**Sn**	**01 14 47.3**	**-4.4**
PAYA	**Payao**	**5.14**	**132**	P			**Pn**	**01 13 53.6**	**-2.2**
CM31	**Chiang Mai Arr**	**5.28**	**146**	*e*Pn			**Pn**	**01 13 58.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**5.28**	**146**	Pn			**Pn**	**01 13 56.5**	**-1.2**
	comp=E,38nm,0.3s,baz=325,slow=11,SNR=428								
CMAR				Pg			**Pg**	**01 14 16.9**	**-3.4**
	comp=E,382nm,0.3s,baz=324,slow=16,SNR=36								
CMAR				Sn			**Sg**	**01 15 23.7**	**-5.0**
	comp=E,292nm,0.3s,baz=312,slow=14,SNR=3.1								
CMAR				Lg			Lg	01 15 46.2	
	comp=E,2μm,0.3s,baz=322,slow=32,SNR=7.9								
CMAR				LR			LR	01 16 20.0	
	comp=E,2180μm,19.2s,baz=50,slow=41								
CM01	**Chiang Mai Arr**	**5.32**	**146**	*e*Pn			**Pn**	**01 13 57.0**	**-1.2**
TAWA	**Tawang**	**5.91**	**323**	*e*P			**Pn**	**01 14 06.6**	**-0.1**
TAWA				*e*S			**Sn**	**01 15 06.3**	**-8.0**
TAWA				IAML				01 15 32.8	
	comp=N,24μm,0.4s								
TAWA				IAML				01 15 33.3	
	comp=E,50μm,0.8s								
NANT	**Nan**	**6.09**	**131**	P			**Pn**	**01 14 04.5**	**-4.4**
SUKH	**Sukhothai**	**6.45**	**146**	P			**Pn**	**01 14 12.3**	**-1.4**
KMI	**Kunming**	**6.68**	**69**	Pn			**Pn**	**01 14 19.6**	**+2.5**
KMI				Sn			**Sn**	**01 15 33.9**	**+0.7**
KMI				Sg			**Sg**	**01 16 10.2**	**-3.5**
KMI				smax		smax			
	comp=E,120μm,0.7s								
KMI				smax		smax			
	comp=E,59μm,0.7s								
KMI				LR			LR		
	comp=E,943μm,5.5s								
KMI				LR			LR		
	comp=E,969μm,8.5s								
UTTA	**Uttaradit**	**6.76**	**138**	P			**Pn**	**01 14 16.0**	**-2.0**
UMPA	**Umpang Tak**	**7.23**	**156**	P			**Pn**	**01 14 26.8**	**+2.3**
	comp=E,443nm,0.7s,comp=E,18μmcomp=E,148nm								
GTK	**Tadong**	**7.91**	**305**	*e*P			**Pn**	**01 14 34.5**	**+0.6**
GTK				*e*S			**Sn**	**01 15 57.1**	**-6.2**
GTK				IAML				01 16 29.3	
	comp=N,31μm,1.1s								
LSA	**Lhasa**	**7.98**	**329**	P			**Pn**	**01 14 36.4**	**+1.2**
LSA				LR			LR		
	comp=N,187μm,12.1s								
LSA				LR			LR		
	comp=N,280μm,12.1s								
LSA				LR			LR		
	comp=N,767μm,13.2s								
LSA	**Lhasa**	**7.98**	**329**	*e*Pn			**Pn**	**01 14 34.8**	**-0.4**
LSA				*e*Sn			**Sn**	**01 16 01.3**	**-4.3**
LSA	**Lhasa**	**7.98**	**329**	P			**Pn**	**01 14 36.8**	**+1.6**
LSA	**Lhasa**	**7.98**	**329**	Pn			**Pn**	**01 14 36.8**	**+1.6**
LSA	**Lhasa**	**7.98**	**329**	*e*P			**Pn**	**01 14 34.8**	**-0.4**
LSA				*e*				01 16 01.3	
UTHA	**Uthaitani**	**8.05**	**154**	P			**Pn**	**01 14 35.1**	**-0.6**
NONG	**Nongkai**	**8.36**	**124**	P			**Pn**	**01 14 39.6**	**-0.3**
SRDT	**SRDT**	**9.04**	**159**	P			**Pn**	**01 14 49.2**	**-0.2**
CHAI	**Chaiyaphum**	**9.05**	**139**	P			**Pn**	**01 14 49.5**	**+0.1**
BOK	**Bokaro**	**9.20**	**278**	*e*P			**Pn**	**01 14 50.1**	**-1.3**
BOK				*e*S			**Sn**	**01 16 27.7**	**-7.2**
BOK				IAML				01 16 55.3	
	comp=N,877nm,0.7s								
BOK				IAML				01 16 56.1	
	comp=E,2μm,0.9s								
RAMN	**Ramite**	**9.31**	**298**	*e*Pn			**Pn**	**01 14 52.7**	**-0.6**
SKNT	**Sakolnakorn**	**9.65**	**126**	P			**Pn**	**01 14 57.4**	**-0.3**
JIRN	**Jiri**	**9.95**	**300**	*e*Pn			**Pn**	**01 15 00.0**	**-2.0**
GUN	**Gumba**	**10.30**	**301**	*e*Pn			**Pn**	**01 15 05.2**	**-1.7**
GUN				*e*Sn			**Sn**	**01 17 04.4**	**+2.0**
	comp=E,10μm,1.0s								
GYA	**Guiyang**	**10.46**	**68**	⇑*i*P			**Pn**	**01 15 08.1**	**-0.7**
GYA				PP			**PnPn**	**01 15 18.4**	**+1.8**
GYA				S			**Sn**	**01 17 10.8**	**+4.9**
GYA				SS			**SnSn**	**01 17 20.0**	**+2.3**
GYA				pmax		pmax			
	comp=E,160nm,1.1s								
GYA				pmax		pmax			
	comp=E,18μm,9.6s								
GYA				LR			LR		
	comp=E,648μm,9.1s								
GYA				LR			LR		
	comp=E,734μm,9.6s								
PKI	**Pulchoki**	**10.54**	**298**	*e*Pn			**Pn**	**01 15 08.6**	**-1.5**
PKIN	**Phulchoki**	**10.55**	**298**	*e*Pn			**Pn**	**01 15 08.3**	**-1.9**
PHET	**Kaeng Krachan**	**10.56**	**159**	P			**Pn**	**01 15 13.6**	**+3.5**
SRAK	**Srakaew**	**10.61**	**145**	P			Pn	01 15 16.3	±5.5
CD2	**Chengdu**	**10.65**	**40**	⇓P			**Pn**	**01 15 12.2**	**+0.7**
CD2				S			**Sn**	**01 17 13.0**	**+2.4**
CD2				pmax		pmax			
	comp=E,700nm,1.1s								
CD2				pmax		pmax			
	comp=E,33μm,5.4s								
CD2				LR			LR		
	comp=E,1244μm,10.1s								
CD2				LR			LR		
	comp=E,1111μm,10.1s								
CD2				LR			LR		
	comp=E,1848μm,9.9s								
**K

MCO Taipa Grande 16.39 89 P P 01 16 33.0 +1.4
GTA Gaotai 16.81 11 P Pn 01 16 30.3 -4.0
GTA pP P 01 16 35.7 -0.7
GTA sP pP 01 16 39.2 -1.2
GTA S Sn 01 19 34.4 -6.5
GTA sS S 01 19 43.3 -8.3
GTA SS SnSn 01 19 58.4 +4.0
GTA LR LR
comp=E,885µm,12.1s
GTA LR LR
comp=E,1029µm,12.1s
BHPL Bhopal 16.96 275 eP Pn 01 16 35.7 -0.4
BHPL IAmb IAmb 01 17 00.9
comp=Z,2µm,1.6s
HYB Hyderabad 17.12 255 ⇓iP P 01 16 41.0 +1.1
comp=Z,640nm,1.0s
HYB eS Sn 01 19 50.0 +1.5
HYB LR LR
comp=Z,146nm,16.0s
HYB Hyderabad 17.12 255 eP P 01 16 39.5 -0.4
HYB IAmb IAmb 01 16 57.0
comp=Z,611nm,1.0s
DDI Dehra Dun 17.54 299 eP Pn 01 16 43.5 +0.2
LHMI Lhok Sumawe 17.59 176 ePn P 01 16 45.0 0.0
comp=Z,6µm,1.1s
LHMI Lhok Sumawe 17.59 176 P P 01 16 45.7 +0.7
comp=Z,5µm,1.0s,comp=Z,95µmcomp=Z,307µm
MDRS Chennai 17.75 239 eP P 01 16 47.1 +0.3
MDRS IAmb IAmb 01 17 07.8
comp=Z,1µm,1.5s
KULM Kulim 18.10 164 ePn P 01 16 51.3 +0.7
comp=Z,3µm,1.5s
WHN Wuhan 18.19 61 ⇓iP Pn 01 16 48.1 -3.2
WHN S S 01 20 18.7 -0.7
WHN LR LR
comp=Z,624µm,8.8s
MLSI Meulaboh, Aceh 18.52 178 P P 01 16 54.4 -0.9
comp=Z,4µm,1.2s,comp=Z,115µmcomp=Z,354µm
SMLA Simla 18.54 300 eP P 01 16 55.0 -0.3
SMLA IAmb IAmb 01 17 14.2
comp=Z,2µm,0.6s
IPM Ipoh 18.98 164 eP Pn 01 17 00.9 -0.1
comp=Z,2µm,1.4s
KCSI Kotacane, Aceh 19.34 174 P Pn 01 17 05.1 -0.3
comp=Z,3µm,1.2s,comp=Z,78µmcomp=Z,278µm
TSI Tuntungan 19.45 172 P Pn 01 17 08.5 +1.8
comp=Z,7µm,1.1s,comp=Z,145µmcomp=Z,362µm
TPTI 19.56 176 P P 01 17 05.9 -0.7
comp=Z,930nm,1.2s,comp=Z,38µmcomp=Z,181µm
DHRM DHARAMSHALA 19.65 303 eP P 01 17 07.2 -0.7
DHRM IAmb IAmb 01 17 22.0
comp=Z,3µm,0.8s
DHRM eS S 01 20 49.5 +0.1
PSI Prapat 20.19 171 P Pn 01 17 15.8 +0.2
comp=Z,380nm,1.2s,baz=360,slow=7.3,SNR=96
PSI S Sn 01 21 14.8 +12
comp=Z,30nm,0.9s,baz=0.0,slow=19,SNR=1.6
PSI Lg Lg 01 23 41.9
comp=Z,705nm,1.4s,baz=360,slow=12,SNR=5.1
PSI LR LR 01 25 06.3
comp=Z,519µm,20.4s,baz=271,slow=37
PSI Prapat 20.19 171 eP Pn 01 17 15.7 0.0
comp=Z,3µm,1.3s
PSI S Sn 01 21 14.8 +12
PSI Lg Lg 01 23 41.9
PSI Prapat 20.19 171 eP Pn 01 17 15.7 +0.1
PSI pmax pmax
comp=Z,3µm,1.3s
SNSI Sinabang, Aceh 20.37 179 P P 01 17 15.2 -0.2
comp=Z,3µm,1.1s,comp=Z,48µmcomp=Z,218µm
TIY Taiyuan 20.53 40 eP P 01 17 17.2 0.0
TIY pP sP 01 17 28.9 +5.9
TIY sP pP 01 17 31.6 +10
TIY S S 01 21 02.6 -3.9
TIY sS sS 01 21 12.7 -0.2
TIY pmax pmax
comp=Z,230nm,1.1s
TIY pmax pmax
comp=Z,32µm,9.5s
TIY LR LR
comp=Z,223µm,8.5s
TIY LR LR
comp=Z,182µm,9.9s
TIY LR LR
comp=Z,134µm,13.4s
QZH Quanzhou 20.89 80 ⇓iP P 01 17 22.0 +0.9
QZH S S 01 21 15.8 +2.1
QZH pmax pmax
comp=Z,13µm,9.6s
QZH LR LR
comp=Z,214µm,7.2s
QZH LR LR
comp=Z,243µm,8.4s
POO Poona 21.02 262 eP P 01 17 22.4 -0.3
POO IAmb IAmb 01 17 39.5
comp=Z,1µm,1.3s
PALK Pallekele 21.30 226 P P 01 17 26.2 +0.7
comp=Z,139nm,1.1s,baz=116,slow=3.9,SNR=24
PALK PP PnPn 01 17 46.6 +1.2
comp=Z,797nm,1.0s,baz=116,slow=6.0,SNR=22
PALK S Sn 01 21 27.4 -2.0
comp=Z,41nm,0.8s,baz=116,slow=18,SNR=6.4
PALK LR LR 01 27 29.1
comp=Z,324µm,18.1s,baz=25,slow=42
PALK Pallekele 21.30 226 eP P 01 17 27.1 +1.5
comp=Z,1µm,1.0s
PALK PP PnPn 01 17 46.6 +1.2
PALK S Sn 01 21 27.4 -2.0
PALK Pallekele 21.30 226 P P 01 17 26.7 +1.1
SNR=67
PALK Pallekele 21.30 226 iP P 01 17 27.6 +2.0
SNR=39
PALK Pallekele 21.30 226 iP P 01 17 27.6 +2.0
SNR=39
BTO Baotou 21.33 31 eP P 01 17 25.2 -0.7
BTO S S 01 21 18.6 -3.9
GSI Gunungsitoli 21.52 175 eP P 01 17 27.0 -0.9
comp=Z,2µm,1.1s
GSI LR LR
comp=Z,513µm,21.0s
GSI Gunungsitoli 21.52 175 P P 01 17 28.4 +0.4
comp=Z,1µm,1.0s,comp=Z,54µmcomp=Z,233µm
BOM Bombay 21.88 264 ix P 01 17 25.8 -6.0
BOM AMb AMB 01 17 33.2
comp=Z,2µm,0.7s
BOM ex x 01 21 38.6
WMQ Urumqi 21.93 344 P P 01 17 31.5 -0.8
WMQ pP sP 01 17 38.6 +0.4
WMQ sP pP 01 17 40.5 +4.2
WMQ PP PnPn 01 18 00.8 +6.9
WMQ S S 01 21 30.2 -3.9
WMQ pmax pmax
comp=Z,105µm,9.1s
WMQ LR LR
comp=Z,116µm,12.7s
WMQ LR LR
comp=Z,115µm,15.1s
WMQ LR LR
comp=Z,186µm,14.5s
GOA Goa 22.05 254 eP P 01 17 35.4 +1.8
GOA IAmb IAmb 01 17 55.3
comp=Z,950nm,0.9s
GOA eS S 01 21 39.1 +2.6
MNSI Mandailing Nat 22.26 170 P P 01 17 36.4 +0.5
comp=Z,703nm,1.5s,comp=Z,20µmcomp=Z,160µm
HHC Hu-ho-hao-te 22.27 33 eP P 01 17 35.8 -0.1
HHC sP sP 01 17 44.1 +2.3
HHC PP PnPn 01 17 59.1 +0.5
HHC S S 01 21 36.9 -3.8
HHC sS sS 01 21 48.4 +1.1
HHC pmax pmax
comp=Z,310nm,1.5s
HHC pmax pmax
comp=Z,24µm,5.9s
HHC LR LR
comp=Z,234µm,10.0s
HHC LR LR
comp=Z,364µm,12.2s
NJ2 Nanjing 22.32 61 eP P 01 17 36.0 -0.4
NJ2 pP pP 01 17 39.9 -0.6
NJ2 sP sP 01 17 43.3 +1.0
NJ2 S S 01 21 42.8 +1.2
NJ2 pmax pmax
comp=Z,270nm,1.2s
NJ2 pmax pmax
comp=Z,4µm,8.9s
NJ2 LR LR
comp=Z,688µm,9.5s
NJ2 LR LR
comp=Z,548µm,8.4s
NJ2 LR LR
comp=Z,207µm,8.7s
MYKOM Kota Tinggi 22.37 159 eP P 01 17 37.1 +0.1
comp=Z,1µm,1.3s
MYKOM LR LR
comp=Z,461µm,18.0s
TIA Tai'an 22.71 49 P P 01 17 39.4 -1.2
TIA pmax pmax
comp=Z,600nm,1.2s
TIA pmax pmax
comp=Z,50µm,4.9s
TIA LR LR
comp=Z,211µm,10.8s
TIA LR LR
comp=Z,499µm,11.8s
TPUB Ta-pu 22.80 84 eP P 01 17 40.1 -1.5
comp=Z,344nm,0.9s
TPUB LR LR
comp=Z,77µm,19.0s
PBSI Pulau Batu 22.93 174 P P 01 17 47.1 +4.1
comp=Z,1µm,1.1s,comp=Z,38µmcomp=Z,118µm
BKNI Bangkinang 22.99 167 eP P 01 17 43.4 -0.2
comp=Z,2µm,1.3s
BKNI LR LR
comp=Z,598µm,20.0s
BKNI Bangkinang 22.99 167 P P 01 17 44.1 +0.5
comp=Z,1µm,1.4s,comp=Z,33µmcomp=Z,178µm
SSLB Suanglung 23.06 83 eP P 01 17 44.2 -0.2
comp=Z,826nm,1.7s
SSLB LR LR
comp=Z,148µm,19.0s
TRD Trivandrum 23.09 235 eP P 01 17 45.1 +0.5
TRD IAmb IAmb 01 18 05.8
comp=Z,618nm,0.4s
TRD ex x 01 22 06.5
TWG Pinlang 23.24 85 eP P 01 17 47.3 +1.2
comp=Z,1µm,1.0s
TWG LR LR
comp=Z,714µm,20.0s
YULB Yu-li 23.40 84 eP P 01 17 47.5 -0.3
comp=Z,744nm,1.5s
YULB LR LR
comp=Z,68µm,18.0s
TPRI Tanjung Pinang 23.41 158 P P 01 17 49.2 +1.3
comp=Z,820nm,1.3s,comp=Z,33µmcomp=Z,176µm
YHNB Yeheng 23.42 81 eP P 01 17 45.3 -2.7
comp=Z,327nm,1.1s
YHNB LR LR
comp=Z,119µm,20.0s
TATO Taipei 23.52 80 eP P 01 17 47.4 -1.5
comp=Z,415nm,1.3s
TATO LR LR
comp=Z,24µm,18.0s
BOLP Bolinao 23.55 102 eP P 01 17 47.1 -2.3
NACB Ninganchiao 23.63 82 eP P 01 17 52.2 +2.1
comp=Z,1µm,1.5s
NACB LR LR
comp=Z,174µm,21.0s
KSH Kashi 23.66 319 P P 01 17 49.6 -0.7
KSH sP sP 01 17 56.5 +0.2
KSH PP PnPn 01 18 22.6 +5.0
KSH S S 01 21 59.8 -4.9
KSH sS pS 01 22 06.7 -2.4
KSH SS SnSn 01 22 48.0 +5.8
KSH pmax pmax
comp=Z,1µm,1.7s
KSH pmax pmax
comp=Z,33µm,3.6s
KSH LR LR
comp=Z,187µm,10.1s
KSH LR LR
comp=Z,293µm,15.8s
SCZP Santa Cruz 23.76 103 eP P 01 17 52.7 +1.3
ABRA Dolores 23.89 98 eP P 01 17 53.7 +1.2
SSE Sheshan 23.97 65 P P 01 17 53.0 -0.2
SSE S S 01 22 11.3 +1.7
SSE pmax pmax
comp=Z,120nm,1.5s
PDSI Padang 24.08 169 P P 01 17 54.5 +0.1
comp=Z,445nm,1.4s,comp=Z,17µmcomp=Z,111µm
BHJ Bhuj 24.09 276 eP P 01 17 54.4 -0.1
BHJ IAmb IAmb 01 18 15.9
comp=Z,5µm,2.5s
BJT Baijiatuau 24.24 41 eP P 01 17 55.4 -0.2
comp=Z,5µm,1.8s
BJT Baijiatuau 24.24 41 eP P 01 17 55.4 -0.2
BJT pmax pmax
comp=Z,5µm,1.8s
BJI Beijing 24.26 40 P P 01 17 54.9 -0.9
BJI pmax pmax
comp=Z,380nm,1.2s
SDSI Sungai Dareh 24.30 166 P P 01 17 57.0 +0.7
comp=Z,364nm,1.6s,comp=Z,22µmcomp=Z,140µm
APYP Conner 24.31 97 eP P 01 17 56.8 +0.3
PRZ Przheval'sk 24.35 327 eP P 01 17 56.6 -0.3
comp=Z,4µm,1.1s
PRZ Przheval'sk 24.35 327 eP P 01 17 56.6 -0.3
PRZ pmax pmax
comp=Z,4µm,1.1s
SHLS Shalkode 24.35 330 ⇑iP P 01 17 54.7 -2.1
comp=Z,948nm,1.8s
SHLS eS S 01 22 13.2 -2.6
SHLS LR LR 01 27 57.9
comp=Z,14µm,10.0s
BBP Basco 24.38 91 eP P 01 17 55.5 -1.7
UZB Uzunkulak 24.55 329 ⇑iP P 01 17 58.2 -0.4
comp=Z,412nm,1.8s
UZB eS S 01 22 19.4 +0.4
UZB LR LR 01 28 48.5
comp=Z,30µm,11.7s
KDJ Kajisay 24.72 325 eP P 01 18 00.4 +0.2
comp=Z,6µm,1.1s
KDJ Kajisay 24.72 325 eP P 01 18 00.4 +0.2
KDJ pmax pmax
comp=Z,6µm,1.1s
DSRI Dabo 24.73 159 P P 01 18 09.2 +8.9
SATY Saty 24.78 328 ⇑iP P 01 18 00.9 +0.2
comp=Z,2µm,2.6s
SATY eS S 01 22 23.6 +0.9
SATY LR LR 01 28 48.9
comp=Z,59µm,12.9s
ZHN Zhinishke 24.85 329 ⇑iP P 01 18 01.1 -0.1
comp=Z,563nm,2.5s
ZHN LR LR 01 28 51.0
comp=Z,41µm,12.9s
LUBP Lubang 24.86 107 eP P 01 18 08.7 +7.3
NRN Naryn 24.88 323 eP P 01 18 01.5 -0.3
comp=Z,2µm,1.1s
NRN LR LR
comp=Z,56µm,21.0s
NRN Naryn 24.88 323 eP P 01 18 01.5 -0.3
NRN pmax pmax
comp=Z,2µm,1.1s
NRN MLR MLR
comp=Z,56µm,21.0s
YOJ Yonaguni jima 24.91 81 PFAKE 01 18 10.0 +8.1
YOJ LR LR
comp=Z,183µm,20.0s
KPKS Kokpek 24.95 329 ⇑iP P 01 18 01.8 -0.4
comp=Z,1µm,2.7s
KPKS LR LR 01 28 40.8
comp=Z,39µm,10.9s
BALP Baler 25.27 102 eP P 01 18 04.9 -0.3
BATP Bataraza 25.29 120 eP P 01 18 02.7 -2.6
ULHL Ulahol 25.30 324 P P 01 18 05.6 +0.1
SNR=295
ENPP Ei Nido 25.32 113 eP P 01 18 06.9 +1.3
TGY Tagaytay City 25.32 106 LR LR 01 28 02.2
comp=Z,68µm,18.0s,baz=290,slow=36
KRJI Kerinci 25.43 167 P P 01 18 13.7 +7.0
KSM Kuching 25.50 145 eP P 01 18 07.5 +0.2
comp=Z,597nm,1.2s
KSM LR LR
comp=Z,427µm,20.0s
MDOK Medeo 25.53 327 iP P 01 18 07.9 +0.4
comp=Z,11µm,1.3s
MDOK eS S 01 22 35.9 +1.2
MDOK LR LR 01 29 04.1
comp=Z,83µm,12.2s
AAA Alma-Ata 25.63 327 ⇑iP P 01 18 08.9 +0.6
comp=Z,2µm,1.2s
AAA eS S 01 22 37.4 +1.3
AAA LR LR 01 29 11.4
comp=Z,46µm,12.0s
AAA Alma-Ata 25.63 327 iP P 01 18 08.9 +0.6
AAA pmax pmax
comp=Z,18µm,4.3s
AAA MLR MLR
comp=Z,83µm,14.0s
KZA Kyzart 25.73 323 P P 01 18 09.6 0.0
SNR=166
SBUM Sibu 25.79 140 eP P 01 18 09.8 0.0
comp=Z,143nm,1.1s
SBUM LR LR
comp=Z,288µm,18.0s
PPSI Pulau Pagai 25.82 170 P P 01 18 12.3 +2.2
comp=Z,3µm,1.1s,comp=Z,49µmcomp=Z,139µm
ZSN Zaisan 26.04 343 ⇑iP P 01 18 11.4 -0.6
comp=Z,224nm,2.1s
TKM2 Tokmak 2 26.11 325 P P 01 18 12.9 +0.1
SNR=518
SJMP San Jose 26.18 109 eP P 01 18 13.2 -0.2
MK01 Makanchi Array 26.21 339 eP P 01 18 11.9 -1.6
MK31 Makanchi Array 26.24 339 eP P 01 18 12.7 -1.0
MK31 Makanchi Array 26.24 339 eP P 01 18 12.7 -1.0
MKAR Makanchi Array 26.24 339 P P 01 18 12.4 -1.3
comp=Z,97nm,0.8s,baz=140,slow=4.7,SNR=128
MKAR S S 01 22 48.8 +3.2
comp=Z,12nm,0.8s,baz=112,slow=17,SNR=1.8
MKAR ScP ScP 01 25 21.0 +1.4
comp=Z,14nm,1.0s,baz=156,slow=7.4,SNR=2.6
MKAR P3KPbc 01 51 02.9
comp=Z,3.0nm,0.9s,baz=347,slow=5.0,SNR=8.4
MKAR Makanchi Array 26.24 339 eP P 01 18 12.7 -1.0
comp=Z,13µm,1.6s
MKAR S S 01 22 48.8 +3.2
MKAR ScP ScP 01 25 21.0 +1.4
MKAR e 01 51 02.9
UCH Uchtor 26.24 322 P P 01 18 14.2 -0.1
SNR=108
MNCI Minicoy 26.26 240 eP P 01 18 16.9 +2.7
comp=Z,1µm,1.3s
MNCI LR LR
comp=Z,251µm,22.0s
TDK Taldyqorghan 26.27 331 iP P 01 18 13.1 -0.9
comp=Z,528nm,2.3s
TDK LR LR 01 29 32.7
comp=Z,46µm,11.2s
KBK Karagaybulak 26.28 324 P P 01 18 14.8 +0.4
SNR=185
SONM Songino Array 26.28 16 P P 01 18 13.2 -1.0
comp=Z,59nm,1.0s,baz=194,slow=7.7,SNR=162
SONM PcP PcP 01 21 42.2 +1.8
comp=Z,27nm,1.0s,baz=214,slow=10.0,SNR=2.0
SONM S S 01 22 41.8 -4.7
comp=Z,24nm,1.1s,baz=174,slow=30,SNR=2.1
SONM LR LR 01 30 01.1
comp=Z,114µm,20.2s,baz=196,slow=40
SONM P3KPbc 01 51 04.8
comp=Z,1.4nm,1.1s,baz=352,slow=3.2,SNR=4.1
SONM PKPPKP P'P'df 01 52 43.0 -14
comp=Z,1.3nm,1.0s,baz=207,slow=1.7,SNR=4.2
MNCY Minicoy 26.29 240 eP P 01 18 14.6 +0.1
MNCY IAmb IAmb 01 19 09.5
comp=Z,1µm,1.4s
SONA1 Songino Array 26.30 16 eP P 01 18 12.7 -1.7
KUU Kurty 26.41 327 ⇑iP P 01 18 14.6 -0.7
comp=Z,745nm,2.6s
KUU eS S 01 22 48.4 0.0
KUU LR LR 01 29 57.1
comp=Z,77µm,12.6s
AAK Ala-Archa 26.52 323 P P 01 18 16.2 -0.3
comp=Z,454nm,1.2s,baz=128,slow=6.8,SNR=152
AAK S S 01 23 03.5 +13
comp=Z,50nm,1.0s,baz=186,slow=19,SNR=3.1
AAK P3KPbc 01 51 04.9
comp=Z,1.6nm,0.8s,baz=257,slow=2.9,SNR=4.1
AAK Ala-Archa 26.52 323 P P 01 18 16.9 +0.4
SNR=348
AAK Ala-Archa 26.52 323 eP P 01 18 16.8 +0.3
comp=Z,2µm,1.1s
AAK S S 01 23 03.5 +13
AAK e 01 51 04.9
AAK Ala-Archa 26.52 323 P P 01 18 17.1 +0.7
SNR=344
AAK Ala-Archa 26.52 323 iP P 01 18 16.9 +0.4
SNR=529
AAK Ala-Archa 26.52 323 iP P 01 18 16.9 +0.4
SNR=529
FRU1 Bishkek 26.56 323 eP P 01 18 16.8 +0.1
comp=Z,2µm,1.2s
FRU1 LR LR
comp=Z,58µm,19.0s
FRU1 Bishkek 26.56 323 eP P 01 18 16.8 +0.1
FRU1 pmax pmax
comp=Z,2µm,1.2s
FRU1 MLR MLR
comp=Z,58µm,19.0s
FRU Bishkek 26.58 323 eP P 01 18 16.0 -0.9
FRU iS S 01 22 41.0 -10
FRU pmax pmax
comp=Z,8µm,3.2s
MASI Maura Aman, Be 26.61 166 P P 01 18 20.3 +2.9
comp=Z,933nm,1.3s,comp=Z,20µm
CHMS Chumysh 26.62 324 P P 01 18 16.8 -0.4
SNR=132
AML Almayashu 26.64 321 P P 01 18 18.1 +0.2
SNR=246
PPBI Pangkal Pinang 26.85 157 P P 01 18 20.5 +1.1
comp=Z,457nm,1.2s,comp=Z,9µmcomp=Z,69µm
USP Ospenovka 26.93 324 P P 01 18 19.6 -0.4
SNR=218
EKS2 Erkin-Say 26.93 322 P P 01 18 20.7 +0.5
SNR=111
OTRP Odiongan 27.01 108 eP P 01 18 20.2 -0.7
HMDM Hanimaadhoo 27.07 237 esP sP 01 18 29.6 +2.0
HMDM LR LR
comp=Z,189µm,20.0s
PMBI Palembang 27.10 160 P P 01 18 25.1 +3.4
comp=Z,1µm,1.3s,comp=Z,29µm
DL2 Dalian 27.15 48 ⇓P P 01 18 22.4 +0.4
DL2 PP PnPn 01 19 11.3 +6.2
DL2 S S 01 23 04.6 +4.6
DL2 pmax pmax
comp=Z,430nm,1.0s
DL2 pmax pmax
comp=Z,14µm,7.9s
DL2 LR LR
comp=Z,100µm,10.4s
DL2 LR LR
comp=Z,199µm,11.7s
DL2 LR LR
comp=Z,165µm,11.5s
STKI Sintang 27.31 144 P P 01 18 25.3 +1.7
comp=Z,363nm,1.5s,comp=Z,89µm
DGZ Jazzator, Alta 27.57 348 ciP P 01 18 24.1 -1.7
DGZ MLR MLR
comp=Z,30µm,13.0s
KNGR Kungurtug, Tuv 27.69 2 ciP P 01 18 26.9 0.0
MNAI Manna 27.96 165 PFAKE 01 18 40.0 +11
MNAI LR LR
comp=Z,428µm,22.0s
RCP Roxas 28.00 109 ⇓eP P 01 18 30.8 +1.0
ZAK Zakamensk 28.05 10 eP P 01 18 29.1 -1.0
ZAK pmax pmax
comp=Z,445nm,1.7s
MYLDM Lahad Datu 28.08 125 eP P 01 18 31.9 +1.4
comp=Z,596nm,1.1s
MYLDM LR LR
comp=Z,325µm,18.0s
HVS Khovu-Aksy 28.24 357 deP P 01 18 30.7 -1.0
HVS pmax pmax
comp=Z,243nm,1.1s
HVS MLR MLR
comp=Z,104µm,14.0s
PVCP Virac 28.38 104 eP P 01 18 33.2 0.0
MDSI Maura Dua 28.40 162 P P 01 18 32.5 -0.8
comp=Z,247nm,1.2s,comp=Z,7µmcomp=Z,83µm
DZA Taraz 28.49 320 eP P 01 18 33.4 -0.6
comp=Z,100nm,1.6s
DZA LR LR 01 29 51.0
comp=Z,24µm,12.7s
IUG Iuzhnay 28.85 318 ⇑iP P 01 18 37.1 -0.1
comp=Z,183nm,1.3s
IUG LR LR 01 30 21.3
comp=Z,10µm,10.4s
LWLI Liwa 28.88 163 P P 01 18 37.5 -0.2
comp=Z,229nm,0.9s,comp=Z,12µm
KLI Kotabumi 28.95 161 P P 01 18 49.2 +11

MOY **Mondy** 29.00 7 *e*P P 01 18 38.1 -0.4
MOY pmax pmax
comp=Z,643nm,2.5s
KK31 Karatay Array 29.10 320 *e*P P 01 18 38.5 -0.8
KK31 Karatay Array 29.10 320 *e*P P 01 18 38.6 -0.8
KKAR Karatay Array 29.10 320 *e*P P 01 18 38.5 -0.8
KKAR Karatay Array 29.10 320 *e*P P 01 18 38.6 -0.8
CHM Chimkent 29.21 318 *e*P P 01 18 40.1 -0.3
comp=Z,243nm,1.6s
CHM *e*S S 01 23 33.2 +0.7
CHM LR LR 01 30 36.4
comp=Z,19µm,12.4s
TLY Talaya 29.37 10 *e*P P 01 18 42.6 +0.9
comp=Z,748nm,1.8s
TLY Talaya 29.37 10 *c i*P P 01 18 41.2 -0.4
TLY *e*S S 01 23 39.9 +5.2
TLY pmax pmax
comp=Z,542nm,2.5s
TLY MLR MLR
comp=Z,132µm,13.0s
BRLS Borolday 29.46 319 *i* LR LR 01 30 23.0
KASI Kota Agung 29.48 162 P P 01 18 42.1 -0.8
comp=Z,253nm,1.1s,comp=Z,6µmcomp=Z,92µm
BLSI Bandar Lampung 29.55 161 P P 01 18 52.1 +8.5
JOW Kunigami 29.64 76 P P 01 18 45.5 +1.1
comp=Z,17nm,0.7s,baz=299,slow=10,SNR=3.6
JOW S S 01 24 04.5 +25
comp=Z,17nm,0.8s,baz=289,slow=18,SNR=2.1
JOW LR LR 01 30 22.4
comp=Z,111µm,18.4s,baz=258,slow=36
PBKI Pangkalan Bun 29.76 147 P P 01 18 53.2 +7.8
SNY Shenyang 29.89 44 ||P P 01 18 46.0 -0.3
SNY pmax pmax
comp=Z,140nm,2.5s
SNY pmax pmax
comp=Z,2µm,4.6s
SNY LR LR
comp=Z,209µm,12.7s
SNY LR LR
comp=Z,150µm,13.0s
SNY LR LR
comp=Z,198µm,16.5s
IRK Irkutsk 30.01 10 *e*P P 01 18 48.5 +1.2
IRK pmax pmax
comp=Z,3µm,3.4s
MTKI Muara Teweh, K 30.09 139 P P 01 18 51.2 +2.8
PLP Palo 30.13 108|| *e*P P 01 18 48.0 -0.8
TJN Taejon 30.36 57|| *e*P P 01 18 49.9 -0.7
PAGZ Pagadian 30.39 115 *e*P P 01 18 51.2 +0.2
MSLP Maasin 30.50 110 *e*P P 01 19 04.1 +12
SBJI Serang 30.54 160 P P 01 18 53.1 +0.8
comp=Z,447nm,1.2s,comp=Z,14µm
KURBB Kurchatov Arra 30.80 338 P P 01 18 52.8 -1.5
comp=Z,32nm,0.9s,baz=147,slow=9.1,SNR=107
KURK Kurchatov 30.85 338 *e*P P 01 18 53.3 -1.4
comp=Z,2µm,1.9s
KURK LR LR
comp=Z,61µm,19.0s
KURK Kurchatov 30.85 338 P P 01 18 53.8 -1.0
SNR=96
KURK Kurchatov 30.85 338 *c i*P P 01 18 53.2 -1.5
KURK pmax pmax
comp=Z,109nm,1.5s
KURK MLR MLR
comp=Z,83µm,15.0s
CGJI Cibinong 30.86 161 P P 01 18 55.7 +0.5
comp=Z,136nm,1.0s,comp=Z,4µm
KSAR Wonju Array Be 31.09 55 P P 01 18 55.9 -1.2
KSAR Wonju Array Be 31.09 55 P P 01 18 55.9 -1.2
KS01 Wonju Array Si 31.11 55 *e*P P 01 18 54.3 -2.9
KSRS Korea Array 31.12 55 P P 01 18 55.9 -1.4
comp=Z,6.3nm,1.0s,baz=246,slow=8.2,SNR=11
SMKI Samarinda 31.15 135 P P 01 19 00.3 +2.6
comp=Z,280nm,1.3s,comp=Z,8µmcomp=Z,53µm
SGKI Sangatta, Kali 31.47 135 P P 01 18 56.2 -4.4
SKJI Sukabumi 31.51 159 P P 01 19 01.1 +0.3
comp=Z,724nm,1.1s,comp=Z,10µmcomp=Z,114µm
BKB Balikpapan 31.57 137 P P 01 19 02.9 +1.5
comp=Z,594nm,1.3s,comp=Z,19µmcomp=Z,93µm
LEM Lembang 31.70 157 P P 01 19 03.3 +0.5
comp=Z,74nm,0.9s,baz=333,slow=1.9,SNR=18
LEM S S 01 24 33.5 +21
comp=Z,20nm,0.8s,baz=330,slow=20,SNR=2.1
BUKP Musuan 31.78 113 *e*P P 01 19 11.8 +8.4
CN2 Changchun 32.08 42 *e*P P 01 19 08.8 +3.2
CN2 *e*S S 01 24 18.8 +1.5
CN2 pmax pmax
comp=Z,200nm,1.2s
CN2 pmax pmax
comp=Z,12µm,7.0s
CN2 LR LR
comp=Z,69µm,15.0s
CN2 LR LR
comp=Z,56µm,15.0s
CN2 LR LR
comp=Z,88µm,16.0s
ZAA0 Zalesovo Array 32.11 348 *e*P P 01 19 04.2 -1.6
comp=Z,595nm,1.4s
ZAA0 LR LR
comp=Z,49µm,18.0s
ZALV Zalesovo Beam 32.11 348 P P 01 19 04.1 -1.7
comp=Z,57nm,1.0s,baz=168,slow=9.2,SNR=53
ZALV PP PnPn 01 20 07.7 -3.8
comp=Z,109nm,0.9s,baz=190,slow=7.5,SNR=2.3
ZALV S S 01 24 14.7 -2.9
comp=Z,8.5nm,0.9s,baz=181,slow=24,SNR=1.8
ZALV ScP ScP 01 25 37.8 -0.2
comp=Z,16nm,1.1s,baz=176,slow=4.3,SNR=2.0
ZALV LR LR 01 33 38.9
comp=Z,42µm,18.2s,baz=164,slow=40
ZALV P3KPbc 01 50 35.7
comp=Z,2.2nm,0.8s,baz=320,slow=3.9,SNR=6.5
ZALV Zalesovo Beam 32.11 348 *e*P P 01 19 03.5 -2.3
ZALV PP PnPn 01 20 07.7 -3.8
ZALV S S 01 24 14.7 -2.9
ZALV ScP ScP 01 25 37.8 -0.2
ZALV *e* 01 50 35.7
ZALV Zalesovo Beam 32.11 348 *e*P P 01 19 03.5 -2.3
ZALV 01 20 07.7
ZALV S S 01 24 14.7 -2.9
CIT Chita 32.12 21 *e*P P 01 19 06.4 +0.4
CIT *e* 01 20 30.0
CIT pmax pmax
comp=Z,2µm,3.9s
HIA Hailar 32.38 30 *e*P P 01 19 07.2 -1.0
comp=Z,2µm,1.8s
HIA LR LR
comp=Z,234µm,18.0s
HIA Hailar 32.38 30 *e*P P 01 19 07.2 -1.0
HIA pmax pmax
comp=Z,2µm,1.8s
HIA MLR MLR
comp=Z,234µm,18.0s
MPSI Mapaga 32.40 130 P P 01 19 09.5 +0.8
comp=Z,55nm,1.1s,comp=Z,4µmcomp=Z,52µm
JNU Nakatsue 32.43 67 P P 01 19 07.8 -1.1
comp=Z,42nm,1.0s,baz=297,slow=10,SNR=5.9
JNU Nakatsue 32.43 64 *e*P P 01 19 09.2 +0.3
comp=Z,219nm,1.2s
JNU LR LR
comp=Z,118µm,20.0s
CISI Cisompet, Garu 32.45 157 PFAKE 01 19 20.0 +11
CISI LR LR
comp=Z,350µm,20.0s
BRZS Berezniki 32.58 332 ⇑ *i*P P 01 19 09.4 -0.5
comp=Z,298nm,1.6s
BRZS *e*S S 01 24 25.2 +0.2
BRZS LR LR 01 32 57.4
comp=Z,13µm,11.3s
DAV Davao City (W) 32.64 114 P P 01 19 12.4 +1.6
comp=Z,134nm,0.4s,baz=339,slow=2.4,SNR=5.9
DAV LR LR 01 34 34.7
comp=Z,88µm,18.3s,baz=264,slow=40
DAV Davao City (W) 32.64 114 P P 01 19 10.8 -0.1
DAV Davao City (W) 32.64 114 P P 01 19 13.0 +2.1
SNR=7.5
KPJI Karang Pucung 32.65 155 P P 01 19 12.4 +1.5
comp=Z,681nm,1.0s,comp=Z,18µmcomp=Z,112µm
KBKI Kotabaru 32.73 140 P P 01 19 13.2 +1.6
comp=Z,74nm,1.4s,comp=Z,1µm
SMRI Semarang 33.01 153 *e*P P 01 19 15.8 +1.8
comp=Z,1µm,1.0s
SMRI LR LR
comp=Z,582µm,18.0s
SMRI Semarang 33.01 153 P P 01 19 16.7 +2.7
comp=Z,1µm,0.9s,comp=Z,31µm

DDMP Don Marcelino, 33.27 115 *e*P P 01 19 16.0 -0.3
NVS Novosibirsk 33.28 347 *e*P P 01 19 14.4 -1.6
NVS pmax pmax
comp=N,405nm,1.3s
NVS pmax pmax
comp=E,261nm,1.3s
NVS pmax pmax
comp=Z,493nm,1.3s
TBJI Tambak Boyo 33.42 150 P P 01 19 21.8 +4.2
comp=Z,389nm,1.4s,comp=Z,13µmcomp=Z,57µm
NGJI Ngawi 33.73 151 P P 01 19 23.9 +3.6
comp=Z,451nm,1.2s,comp=Z,24µmcomp=Z,114µm
MRSI Marisa 33.76 128 P P 01 19 22.6 +2.0
comp=Z,225nm,1.0s,comp=Z,7µmcomp=Z,41µm
GRJI Gresik 33.80 149 P P 01 19 24.9 +4.0
comp=Z,192nm,1.0s,comp=Z,2µm
UGM Wanagama 33.82 153 *e*P P 01 19 24.0 +2.9
comp=Z,601nm,1.3s
UGM LR LR
comp=Z,323µm,21.0s
WOJI Wonogiri, Jawa 33.92 152 P P 01 19 24.5 +2.6
comp=Z,134nm,1.1s,comp=Z,6µmcomp=Z,42µm
WBK Wadi Bani Khal 33.95 277 P P 01 19 24.5 +2.1
SNR=10.0
WSAR Wadi Sarin 34.18 278 LR LR 01 34 01.3
comp=Z,140µm,21.2s,baz=108,slow=38
WSAR Wadi Sarin 34.18 278 P P 01 19 26.0 +1.7
SNR=21
APSI Ampana 34.51 130 P P 01 19 28.6 +1.5
comp=Z,626nm,1.1s,comp=Z,8µmcomp=Z,37µm
BIDO Bidbid 34.61 279 P P 01 19 29.1 +1.1
SNR=28
KMMI Kalianget 34.64 147 P P 01 19 31.3 +3.1
comp=Z,390nm,0.9s,comp=Z,8µm
SMDO Samad 34.74 278 P P 01 19 32.9 +3.7
SNR=22
JMDO Jabal Madar 34.78 277 P P 01 19 37.6 +8.1
SNR=18
COCO West Island 34.88 178 *e*P P 01 19 31.2 +1.0
comp=Z,3µm,1.3s
COCO LR LR
comp=Z,170µm,20.0s
COCO West Island 34.88 178 P P 01 19 33.3 +3.1
SNR=11
COCO West Island 34.88 178 *e*P P 01 19 31.2 +1.0
COCO pmax pmax
comp=Z,3µm,1.3s
COCO MLR MLR
comp=Z,170µm,20.0s
BLJI Banyuglugur 35.05 148 P P 01 19 33.9 +2.1
comp=Z,442nm,0.9s,comp=Z,18µm
MDJ Mudanjiang 35.08 44 P P 01 19 31.7 -0.1
MDJ sP pP 01 19 36.7 +0.6
MDJ S S 01 25 08.0 +4.2
MDJ sS sS 01 25 14.1 +3.1
MDJ PcS PcS 01 25 47.9 -2.2
MDJ ScS ScS 01 29 51.4 -1.0
MDJ pmax pmax
comp=Z,54nm,1.5s
MDJ pmax pmax
comp=Z,9µm,8.5s
MDJ LR LR
comp=Z,139µm,13.8s
MDJ LR LR
comp=Z,129µm,10.8s
MDJ LR LR
comp=Z,169µm,13.6s
MDJ Mudanjiang 35.08 44 *e*P P 01 19 29.4 -2.4
comp=Z,322nm,1.4s
MDJ LR LR
comp=Z,20µm,20.0s
KMSI Cibinong 35.21 125 P P 01 19 36.2 +3.0
comp=Z,4µm,0.9s,comp=Z,24µmcomp=Z,59µm
MSHR Mys Shultsa 35.26 48|| *e*P P 01 19 33.3 0.0
HOQ Hoqain 35.35 279 P P 01 19 38.2 +3.8
SNR=13
LUWI Luwuk 35.40 129 *e*P P 01 19 35.6 +0.7
comp=Z,2µm,1.1s
LUWI LR LR
comp=Z,91µm,21.0s
LUWI Luwuk 35.40 129 P P 01 19 35.7 +0.9
comp=Z,2µm,1.1s,comp=Z,20µmcomp=Z,56µm
SPSI Sidrap Palu 35.47 136 P P 01 19 36.4 +1.0
comp=Z,483nm,2.4s,comp=Z,17µmcomp=Z,37µm
BSY Bisya 35.56 277 P P 01 19 40.6 +4.4
SNR=22
GEYT Alibeck 35.56 304 P P 01 19 36.2 +0.2
comp=Z,124nm,1.1s,baz=97,slow=23,SNR=86
GEYT PcP PcP 01 22 05.3 +0.3
comp=Z,61nm,1.0s,baz=117,slow=1.6,SNR=2.5
GEYT S S 01 25 13.9 +2.4
comp=Z,8.1nm,1.0s,baz=151,slow=28,SNR=1.8
GEYT ScP ScP 01 25 52.8 +2.2
comp=Z,21nm,1.1s,baz=346,slow=3.1,SNR=3.4
GYA0B ALIBECK ARRAY 35.56 304 *e*P P 01 19 36.9 +0.8
comp=Z,542nm,1.0s
BVAR Bovoye Array 35.79 334 S S 01 25 16.1 +1.5
comp=Z,46nm,1.2s,baz=150,slow=15,SNR=2.5
BVAR ScP ScP 01 25 54.6 +3.5
comp=Z,17nm,1.1s,baz=178,slow=6.6,SNR=2.8
BVAR PKPPKP 01 52 43.1
comp=Z,2.3nm,0.9s,baz=318,slow=1.9,SNR=4.2
BRVK Borovoye 35.86 334 *e*P P 01 19 37.1 -1.3
comp=Z,498nm,1.2s
BRVK Borovoye 35.86 334 P P 01 19 37.5 -0.8
SNR=86
BRVK Borovoye 35.86 334 *c i*P P 01 19 36.9 -1.4
BRVK pmax pmax
comp=Z,96nm,1.4s
BRVK MLR MLR
comp=Z,22µm,13.0s
JAGI Jajag, Banyuwa 35.95 148 *e*P P 01 19 40.4 +0.9
comp=Z,552nm,1.3s
JAGI LR LR
comp=Z,299µm,21.0s
JAGI Jajag, Banyuwa 35.95 148 P P 01 19 41.6 +2.1
comp=Z,240nm,1.5s,comp=Z,11µm
VLA Vladivostok 35.96 47 *c e*P P 01 19 38.1 -1.2
VLA pmax pmax
comp=Z,395nm,2.3s
VLA MLR MLR
comp=Z,113µm,15.0s
SOHO SOHO 35.99 280 *i* P P 01 19 42.5 +2.6
SNR=11
SOHO SOHO 35.99 280 *i* P P 01 19 42.5 +2.6
SNR=11
BNSI Bone 36.02 136 P P 01 19 41.2 +1.1
comp=Z,332nm,1.0s,comp=Z,13µmcomp=Z,55µm
BANOM Banah 36.05 283 P P 01 19 44.7 +4.3
SNR=23
BANOM Banah 36.05 283 *i* P P 01 19 41.0 +0.6
SNR=34
BANOM Banah 36.05 283 *i* P P 01 19 41.0 +0.6
SNR=34
ARQ Araqi 36.10 279 P P 01 19 44.5 +3.7
SNR=25
SRBI Singaraja 36.15 146 P P 01 19 44.7 +3.5
comp=Z,272nm,1.6s,comp=Z,10µmcomp=Z,42µm
SHME Shamm 36.18 283 *i* P P 01 19 43.6 +2.1
SNR=14
SHME Shamm 36.18 283 *i* P P 01 19 43.6 +2.1
SNR=14
UOSS Minazif 36.21 281 *e*P P 01 19 41.4 -0.3
comp=Z,106nm,0.9s
UOSS LR LR
comp=Z,77µm,21.0s
UOSS Minazif 36.21 281 P P 01 19 42.5 +0.7
SNR=35
UOSS Minazif 36.21 281 *i* P P 01 19 42.4 +0.6
SNR=12
UOSS Minazif 36.21 281 *i* P P 01 19 42.4 +0.6
SNR=12
MSFE Esma-Masafi 36.22 282 *i* P P 01 19 43.5 +1.6
SNR=10.0
MSFE Esma-Masafi 36.22 282 *i* P P 01 19 43.5 +1.6
SNR=10.0
KAPI Kappang 36.26 137 PFAKE 01 19 50.0 +7.8
KAPI LR LR
comp=Z,155µm,20.0s
HATD Hatta, Dubai 36.29 281 P P 01 19 46.0 +3.6
SNR=31
HATD Hatta, Dubai 36.29 281 *i* P P 01 19 43.2 +0.8
SNR=21
HATD Hatta, Dubai 36.29 281 *i* P P 01 19 43.2 +0.8
SNR=21
ASHO Ashiyiah 36.37 281 *i* P P 01 19 44.9 +1.7
SNR=55
ASHO Ashiyiah 36.37 281 *i* P P 01 19 44.6 +1.4
SNR=28
ASHO Ashiyiah 36.37 281 *i* P P 01 19 44.6 +1.4
SNR=28
USA0B Ussuriysk Arra 36.45 46 *e*P P 01 19 43.5 -0.1
comp=Z,472nm,1.2s
USA0B LR LR
comp=Z,99µm,18.0s
USRK Ussuriysk Ar. 36.45 46 P P 01 19 43.4 -0.2
comp=Z,30nm,0.9s,baz=242,slow=7.8,SNR=45
USRK S S 01 25 36.0 +11
baz=281,slow=8.7
USRK LR LR 01 35 46.1
comp=Z,36µm,20.1s,baz=218,slow=38
DNP Denpasar 36.66 147 P P 01 19 58.9 +13
ALNE Al Ain 36.71 280 *i* P P 01 19 46.9 +0.8
SNR=13
ALNE Al Ain 36.71 280 *i* P P 01 19 46.9 +0.8
SNR=13
BKSI Bulukumba 36.73 137 P P 01 19 46.8 +0.6
comp=Z,174nm,1.1s,comp=Z,5µmcomp=Z,32µm
IGBI Denpasar 36.74 147 P P 01 19 59.5 +13
FAQ Al Faqa, Dubai 36.78 281 P P 01 19 53.1 +6.4
SNR=20
FAQ Al Faqa, Dubai 36.78 281 *i* P P 01 19 47.6 +1.0
SNR=13
FAQ Al Faqa, Dubai 36.78 281 *i* P P 01 19 47.6 +1.0
SNR=13
ASUD Al Ashush, Dub 37.03 281 P P 01 19 53.0 +4.2
SNR=17
ASUD Al Ashush, Dub 37.03 281 *i* P P 01 19 49.9 +1.2
SNR=14
ASUD Al Ashush, Dub 37.03 281 *i* P P 01 19 49.9 +1.2
SNR=14
BOD Bodaibo 37.28 16|| *i* P P 01 19 49.1 -1.3
BOD pmax pmax
comp=Z,884nm,1.6s
AJN Ajban 37.35 281 *i* P P 01 19 54.4 +3.0
SNR=17
AJN Ajban 37.35 281 *i* P P 01 19 54.4 +3.0
SNR=17
TWSI Taliwang, Sumb 37.58 144 P P 01 19 55.1 +1.7
comp=Z,275nm,1.3s,comp=Z,9µm
TNTI Ternate 37.70 121 PFAKE 01 20 10.0 +16
TNTI LR LR
comp=Z,21µm,19.0s
TNTI Ternate 37.70 121 P P 01 19 55.1 +0.6
comp=Z,212nm,1.3s,comp=Z,5µmcomp=Z,24µm
INU Inuyama 37.79 61 *e*P P 01 19 53.7 -1.4
comp=Z,694nm,0.9s
INU LR LR
comp=Z,100µm,18.0s
DGAR Diego Garcia 37.83 220 *e*P P 01 19 56.9 +1.4
comp=Z,867nm,1.0s
DGAR LR LR
comp=Z,152µm,20.0s
DGAR Diego Garcia 37.83 220 P P 01 20 00.2 +4.6
SNR=8.3
DGAR Diego Garcia 37.83 220 *e*P P 01 19 56.9 +1.4
DGAR pmax pmax
comp=Z,867nm,1.0s
DGAR MLR MLR
comp=Z,152µm,20.0s
PLAI Plampang 38.14 143 P P 01 19 58.6 +0.5
comp=Z,354nm,0.9s,comp=Z,13µmcomp=Z,58µm
SANI Sanana 38.44 126 P P 01 19 59.3 -1.4
comp=Z,124nm,2.0s,comp=Z,6µmcomp=Z,48µm
BBSI Bau Bau 38.44 134 P P 01 20 02.5 +1.8
comp=Z,62nm,1.7s,comp=Z,2µm
KLR Kul'dur 38.58 38 P P 01 20 00.1 -1.4
comp=Z,13nm,1.0s,baz=264,slow=12,SNR=23
KLR PP PnPn 01 21 36.8 +5.0
comp=Z,76nm,1.1s,baz=242,slow=7.5,SNR=3.9
KLR S S 01 26 01.7 +4.6
comp=Z,4.6nm,0.9s,baz=231,slow=14,SNR=1.9
KLR Kul'dur 38.58 38 *c i*P P 01 19 59.9 -1.6
ABKAR Akbulak array 38.59 322 *e*P P 01 20 01.0 -0.6
ZEA Zeya 38.86 30 *e*P P 01 20 03.2 -0.6
ZEA *e* 01 21 42.0
ZEA pmax pmax
comp=E,340nm,1.8s
ZEA pmax pmax
comp=Z,790nm,1.6s
ZEA pmax pmax
comp=Z,13µm,9.0s
ZEA pmax pmax
comp=N,5µm,8.0s
ZEA pmax pmax
comp=E,3µm,8.0s
ZEA pmax pmax
comp=Z,33µm,9.0s
ZEA pmax pmax
comp=E,12µm,10.0s
MJB9 Matsu-Tunnel 38.91 60 *e*P P 01 20 03.2 -1.4
comp=E,618nm,0.9s
MJB9 LR LR
comp=Z,152µm,18.0s
MAJO Matsushiro 38.92 60 *e*P P 01 20 03.1 -1.5
comp=Z,609nm,0.9s
MAJO LR LR
comp=Z,144µm,19.0s
MAJO Matsushiro 38.92 60 *c e*P P 01 20 03.6 -1.0
MAJO pmax pmax
comp=Z,456nm,1.4s
MAJO MLR MLR
comp=Z,116µm,16.0s
MAT Matsushiro 38.92 60 P P 01 20 02.9 -1.7
MAT *e*S S 01 26 11.0 +8.4
MJAR Matsushiro Arr 38.92 60 P P 01 20 03.4 -1.1
comp=Z,298nm,1.2s,baz=267,slow=9.3,SNR=176
MJAR S S 01 26 08.9 +6.3
comp=Z,0.8nm,0.6s,baz=144,slow=21,SNR=3.0
MJAR LR LR 01 37 23.8
comp=Z,125µm,18.5s,baz=260,slow=38
MJAR P3KP 01 51 56.3
comp=Z,1.8nm,0.6s,baz=204,slow=8.3,SNR=7.4
RBK Rabkut 39.35 270 P P 01 20 10.2 +1.7
SNR=22
WBSI Waikabubak, Su 39.71 142 P P 01 20 09.9 -1.5
comp=Z,756nm,1.0s,comp=Z,10µm
TEY Ternei 39.82 46|| *e*P P 01 20 11.9 0.0
TEY *e* 01 20 23.1
TEY *e* 01 21 50.1
TEY *e*S S 01 26 18.3 +2.4
TEY pmax pmax
comp=Z,90nm,1.7s
TEY pmax pmax
comp=Z,400nm,3.4s
TEY smax smax
comp=N,40nm,2.8s
TEY MLR MLR
comp=N,100µm,13.0s
TEY MLR MLR
comp=Z,198µm,12.0s
JHJ2 Mitsune 39.89 65 PFAKE 01 20 20.0 +7.3
JHJ2 LR LR
comp=Z,45µm,21.0s
ABTO Aybut 40.23 270 P P 01 20 16.7 +0.9
SNR=9.0
AKTO Aktyubinsk 40.26 323 LR LR 01 40 18.4
comp=Z,56µm,18.5s,baz=134,slow=42
EDFI Ende, Flores 40.36 138 P P 01 20 15.2 -1.6
comp=Z,139nm,1.0s,comp=Z,9µm
MMRI Maumere 40.61 138 *e*P P 01 20 18.2 -0.6
comp=Z,644nm,1.2s
MMRI LR LR
comp=Z,106µm,21.0s
MMRI Maumere 40.61 138 P P 01 20 18.5 -0.3
comp=Z,422nm,1.7s,comp=Z,15µmcomp=Z,52µm
AAI Ambon 41.17 126 P P 01 20 25.0 +1.6
comp=Z,720nm,1.2s,comp=Z,13µmcomp=Z,57µm
MSAI Masohi 41.50 125 P P 01 20 27.5 +1.4
comp=Z,130nm,1.2s,comp=Z,2µm
GRNR Gornyy 41.96 38 *e*P P 01 20 31.0 +1.4
GRNR pmax pmax
comp=Z,84nm,1.0s
CBIJ Chichi jima 42.03 74 P P 01 20 26.7 -3.7
CBIJ S S 01 26 50.6 +1.4
JCJ Chichijima 42.03 74 P P 01 20 26.7 -3.7
comp=Z,23nm,0.6s,baz=292,slow=19,SNR=2.3
JCJ S S 01 26 50.6 +1.4
comp=Z,61nm,0.8s,baz=324,slow=14,SNR=2.0
JCJ LR LR 01 37 00.6
comp=Z,32µm,20.8s,baz=254,slow=35
SVE Sverdlovsk 42.50 332 *d i*P P 01 20 33.1 -0.7
SVE *e* 01 22 20.1
SVE *e*S S 01 27 00.5 +5.1
SVE *e* 01 30 33.1

SVE pmax pmax
comp=Z,5μm,10.3s
SVE pmax pmax
comp=Z,901nm,1.0s
SVE MLR MLR
comp=N,40μm,12.0s
SVE MLR MLR
comp=Z,72μm,13.0s
BATI Baumata 42.71 137 P **P 01 20 34.5 -1.6**
comp=Z,441nm,1.0s,baz=232,slow=1.7,SNR=53
BATI Baumata 42.71 137 P **P 01 20 34.6 -1.4**
comp=Z,403nm,0.9s,comp=Z,7μm
SOEI Soe 42.75 136 *e*P **P 01 20 35.0 -1.5**
comp=Z,2μm,1.0s
SOEI LR LR
comp=Z,251μm,22.0s
SOEI Soe 42.75 136 P **P 01 20 35.4 -1.0**
comp=Z,2μm,1.2s,comp=Z,21μm
BNDI Bandanaira 43.00 125 P P 01 20 49.1 +11
ARU Arti 43.18 331 *e*P **P 01 20 38.3 -1.0**
comp=Z,1μm,1.5s
ARU LR LR
comp=Z,81μm,19.0s
ARU Arti 43.18 331*c i*P **P 01 20 38.2 -1.1**
ARU 01 22 14.6
ARU S **S 01 27 07.5 +2.1**
ARU pmax pmax
comp=Z,255nm,2.5s
ARU pmax pmax
comp=Z,5μm,11.4s
ARU MLR MLR
comp=Z,69μm,15.0s
ERM Erimo 43.62 53 *e*P **P 01 20 41.9 -1.2**
comp=Z,796nm,1.1s
ERM LR LR
comp=Z,96μm,18.0s
ERM Erimo 43.62 53 *e*P **P 01 20 41.9 -1.2**
ERM pmax pmax
comp=Z,796nm,1.1s
ERM MLR MLR
comp=Z,96μm,18.0s
ASAJ Asahikawa 43.66 49 S **S 01 27 12.8 0.0**
comp=Z,6.0nm,0.6s,baz=195,slow=20,SNR=2.2
ASAJ Asahikawa 43.66 49 *e*P **P 01 20 41.6 -1.8**
ASAJ S **S 01 27 12.8 0.0**
ASAJ LR LR
comp=Z,50μm,20.0s
FAKI Fak Fak 43.80 121 *e*P **P 01 20 44.0 -0.9**
comp=Z,279nm,1.0s
FAKI Fak Fak 43.80 121 P **P 01 20 45.2 +0.3**
comp=Z,338nm,1.7s,comp=Z,8μmcomp=Z,35μm
YSS Yuzh-Sakhalins 44.49 46 *e*P **P 01 20 48.8 -1.2**
comp=Z,386nm,1.3s
YSS LR LR
comp=Z,29μm,19.0s
YSS Yuzh-Sakhalins 44.49 46κ*e*P **P 01 20 50.2 +0.2**
YSS *e*'SP **sP 01 20 55.9 -0.3**
YSS *e* 01 22 33.8
YSS *e*S **S 01 27 26.9 +2.1**
YSS pmax pmax
comp=Z,60nm,1.3s
YSS pmax pmax
comp=Z,700nm,3.0s
YSS smax smax
comp=E,8μm,12.0s
YSS MLR MLR
comp=Z,85μm,13.0s
YSS MLR MLR
comp=N,60μm,12.0s
YSS MLR MLR
comp=E,105μm,12.0s
MAK Makhachkala 44.55 309 *e*P **P 01 20 49.5 -1.1**
MAK *e* 01 22 31.7
MAK *e*PPP PPP 01 23 07.9
MAK *e*S **S 01 27 27.8 +2.0**
MAK *e*SS **SS 01 30 45.5 0.0**
MAK pmax pmax
comp=Z,602nm,1.1s
MAK smax smax
comp=N,2μm,2.0s
MAK smax smax
comp=E,2μm,2.0s
NKL Nikolayevsk 45.36 37 *e*P **P 01 20 56.0 -0.8**
NKL *i* S S 01 27 48.0 +11
NKL pmax pmax
comp=E,300nm,2.6s
NKL pmax pmax
comp=Z,700nm,2.6s
NKL pmax pmax
comp=N,4μm,12.0s
NKL pmax pmax
comp=E,6μm,12.0s
NKL pmax pmax
comp=Z,5μm,8.0s
YAK Yakutsk 45.39 22 P **P 01 20 54.7 -2.2**
comp=Z,77nm,0.7s,baz=32,slow=3.0,SNR=35
YAK S **S 01 27 43.8 +6.4**
comp=Z,13nm,0.4s,baz=343,slow=1.4,SNR=1.9
YAK LR LR 01 41 39.7
comp=Z,69μm,18.5s,baz=251,slow=38
YAK Yakutsk 45.39 22 *e*P **P 01 20 55.7 -1.3**
comp=Z,900nm,1.1s
YAK S **S 01 27 43.8 +6.4**
YAK Yakutsk 45.39 22 *e*P **P 01 20 56.5 -0.5**
YAK *e*'PP **sP 01 21 05.9 +2.8**
YAK *e*S **S 01 27 41.1 +3.7**
YAK *e* 01 30 51.2
YAK pmax pmax
comp=Z,203nm,1.1s
YAK pmax pmax
comp=E,107nm,1.3s
YAK pmax pmax
comp=N,64nm,1.2s
YAK smax smax
comp=E,7μm,8.2s
YAK smax smax
comp=N,4μm,7.8s
YAK MLR MLR
comp=Z,146μm,12.0s
YAK MLR MLR
comp=E,76μm,11.0s
YAK MLR MLR
comp=N,92μm,11.0s
TYV Tymovskoe 45.64 40 *e*P **P 01 21 00.1 +1.0**
TYV *e*S **S 01 27 45.9 +4.6**
TYV pmax pmax
comp=Z,4μm,7.6s
TYV pmax pmax
comp=Z,113nm,1.8s
TYV smax smax
comp=E,10.0nm,2.0s
GROC Groznyy 45.83 309 *e*P **P 01 20 58.8 -1.9**
GROC *e* 01 22 46.0
GROC *e*S **S 01 27 44.6 +0.3**
GROC pmax pmax
comp=Z,603nm,1.1s
YUK Yuzh-Kuril'sk 45.95 50 *e*P **P 01 21 03.9 +2.3**
YUK *e*S **S 01 27 51.4 +5.5**
YUK pmax pmax
comp=Z,238nm,1.2s
YUK pmax pmax
comp=N,143nm,0.7s
YUK pmax pmax
comp=E,300nm,1.1s
YUK pmax pmax
comp=Z,1μm,2.3s
RAYN Ar Rayn 46.08 281 *e*P **P 01 21 02.8 -0.2**
comp=Z,286nm,1.0s
RAYN LR LR
comp=Z,72μm,21.0s
RAYN Ar Rayn 46.08 281 *i* P **P 01 21 04.6 +1.6**
SNR=31
RAYN Ar Rayn 46.08 281 *i* P **P 01 21 04.6 +1.6**
SNR=31
RAYN Ar Rayn 46.08 281 *e*P **P 01 21 02.8 -0.2**
RAYN pmax pmax
comp=Z,286nm,1.0s
RAYN MLR MLR
comp=Z,72μm,21.0s
GNI Garni 46.20 304 LR LR 01 44 28.5
comp=Z,41μm,19.4s,baz=115,slow=42
GNI Garni 46.20 304 *e*P **P 01 21 03.9 0.0**
comp=Z,612nm,1.1s
GNI Garni 46.20 304 P **P 01 21 04.8 +0.9**
SNR=32
GNI Garni 46.20 304 *i* P **P 01 21 04.2 +0.4**
SNR=47
GNI Garni 46.20 304 *e*P **P 01 21 04.2 +0.4**
SNR=47
GNI Garni 46.20 304 *e*P **P 01 21 03.9 0.0**
GNI pmax pmax
comp=Z,612nm,1.1s
TBLG Delisi 46.38 306 *e*P **P 01 21 04.5 -0.6**
comp=Z,515nm,1.3s
TBLG Delisi 46.38 306 *e*P **P 01 21 04.5 -0.6**
TBLG pmax pmax
comp=Z,515nm,1.3s
NRIK Noril'sk 46.73 356 P **P 01 21 05.6 -1.8**
comp=Z,63nm,1.0s,baz=158,slow=6.8,SNR=20
NRIK ScP **ScP 01 26 37.4 +3.4**
comp=Z,45nm,1.1s,baz=157,slow=7.7,SNR=2.3
NRIK S **S 01 27 58.9 +2.4**
comp=Z,23nm,1.1s,baz=180,slow=4.0,SNR=1.6
NRIK LR LR 01 40 06.9
comp=Z,35μm,18.8s,baz=176,slow=36
ZEI Tsey 47.14 308 *e*P P 01 21 05.1 -6.2
ZEI *e*S S 01 28 13.4 +10
ZEI pmax pmax
comp=Z,305nm,0.9s
ZEI pmax pmax
comp=E,300nm,0.9s
ZEI pmax pmax
comp=N,169nm,0.9s
ZEI pmax pmax
comp=Z,788nm,5.8s
SARN Sarigan 47.21 88 PFAKE 01 21 20.0 +8.1
SARN LR LR
comp=Z,15μm,20.0s
ANA2 Anatahan 47.24 89 PFAKE 01 21 20.0 +7.8
ANA2 LR LR
comp=Z,21μm,20.0s
AKH Akhalkalaki 47.27 306 *e*P **P 01 21 13.2 +0.9**
comp=Z,443nm,0.9s
AKH Akhalkalaki 47.27 306 *e*P **P 01 21 13.2 +0.9**
AKH pmax pmax
comp=Z,443nm,0.9s
GUMO Guam 47.29 92 PFAKE 01 21 20.0 +7.5
GUMO LR LR
comp=Z,38μm,20.0s
NCK Nalchik 47.46 309↓ *i*P **P 01 21 13.0 -0.5**
NCK pmax pmax
comp=Z,89nm,1.1s
NCK MLR MLR
comp=Z,53μm,17.0s
KUR Kuril'sk 47.57 49*de*P **P 01 21 14.5 +0.2**
KUR *e*PPP PPP 01 23 59.5
KUR *i* S S 01 28 21.9 +13
KUR pmax pmax
comp=Z,516nm,1.9s
KUR pmax pmax
comp=N,178nm,1.0s
KUR pmax pmax
comp=E,152nm,1.1s
KUR pmax pmax
comp=Z,8μm,5.4s
KUR MLR MLR
comp=Z,25μm,14.0s
KUR MLR MLR
comp=N,27μm,13.0s
KUR MLR MLR
comp=E,9μm,13.0s
KBZ Khabaz 47.99 309 P **P 01 21 16.6 -1.0**
comp=E,16nm,0.8s,baz=78,slow=9.5,SNR=12
KBZ S **S 01 28 11.7 -3.5**
comp=E,8.2nm,1.0s,baz=146,slow=18,SNR=1.9
NEY Neytrino 48.06 308*d i*P **P 01 21 19.5 +1.1**
NEY pmax pmax
comp=Z,16nm,0.7s
NEY MLR MLR
comp=Z,13μm,16.0s
GOF Gofitskoye 48.09 311↑ *i*P **P 01 21 17.4 -1.0**
GOF *e*S **S 01 28 18.2 +1.7**
GOF pmax pmax
comp=Z,290nm,1.0s
GOF smax smax
comp=N,340nm,1.6s
GOF smax smax
comp=E,370nm,1.6s
KIV Kislovodsk 48.18 309 *e*P **P 01 21 18.5 -0.7**
comp=E,569nm,1.2s
KIV LR LR
comp=Z,32μm,20.0s
KIV Kislovodsk 48.18 309 P **P 01 21 18.7 -0.5**
SNR=46
KIV Kislovodsk 48.18 309 *i* P **P 01 21 18.9 -0.3**
SNR=30
KIV Kislovodsk 48.18 309 *i* P **P 01 21 18.9 -0.3**
SNR=30
KIV Kislovodsk 48.18 309 *e*P **P 01 21 18.1 -1.1**
KIV *e*S **S 01 28 17.5 -0.5**
KIV pmax pmax
comp=Z,281nm,1.1s
KIV MLR MLR
comp=Z,41μm,16.0s
SMPI Sarmi 48.53 115 P **P 01 21 23.5 +1.4**
comp=Z,214nm,2.3s,comp=Z,7μm
DAMY Dhamar 49.23 270 *e*P **P 01 21 29.1 +1.2**
comp=Z,334nm,1.1s
DAMY LR LR
comp=Z,54μm,21.0s
MTN Manton Dam 49.55 132 *e*P **P 01 21 29.1 -0.8**
comp=Z,86nm,0.9s
MTN LR LR
comp=Z,74μm,22.0s
MBWA Marble Bar 49.59 150 *e*P **P 01 21 29.6 -0.5**
comp=Z,281nm,0.9s
MBWA LR LR
comp=Z,90μm,20.0s
MBWA Marble Bar 49.59 150 P **P 01 21 31.0 +0.9**
SNR=24
FITZ Fitzroy Crossi 50.08 142 P **P 01 21 33.9 +0.1**
comp=Z,151nm,1.1s,baz=339,slow=6.7,SNR=102
FITZ Fitzroy Crossi 50.08 142 *e*P **P 01 21 33.4 -0.4**
comp=Z,228nm,0.9s
GENI Genyem 50.08 114 P **P 01 21 35.0 +1.0**
comp=Z,433nm,1.1s,comp=Z,10μmcomp=Z,35μm
VRH Novokhopyorsk 50.16 318 *e*P **P 01 21 33.2 -0.9**
VRH *e*S **S 01 28 42.5 -2.9**
VRH pmax pmax
comp=Z,410nm,1.8s
VRH pmax pmax
comp=Z,250nm,1.6s
VRH smax smax
comp=E,5μm,3.0s
VRH MLR MLR
comp=Z,99μm,24.0s
JAY Jayapura 50.49 114 P **P 01 21 37.6 +0.4**
comp=Z,19nm,1.2s,baz=349,slow=3.5,SNR=5.9
JAY LR LR 01 40 43.4
comp=Z,33μm,21.9s,baz=265,slow=33
JAY Jayapura 50.49 114 P P 01 21 49.1 +12
ATD Arta Tunnel 51.63 267 *e*P **P 01 21 47.1 +1.3**
comp=Z,652nm,1.5s
ATD LR LR
comp=Z,88μm,21.0s
VSR Storozhevoye 51.74 318 *e*P **P 01 21 43.7 -2.3**
VSR *e* 01 23 48.7
VSR *e*S **S 01 29 02.6 -4.6**
VSR pmax pmax
comp=Z,80nm,1.2s
VSR smax smax
comp=E,2μm,3.0s
VSR MLR MLR
comp=Z,80μm,18.0s
VORR Voronezh 51.80 319↓ *i*P **P 01 21 45.0 -1.4**
VORR pmax pmax
comp=Z,350nm,1.2s
ANN Anapa 52.01 310 *e*P **P 01 21 49.6 +1.5**
ANN *e*S **S 01 29 14.5 +3.3**
ANN *e*SS **SS 01 32 49.9 +1.8**
ANN *i* SSS SSS 01 34 20.5
ANN pmax pmax
comp=E,35nm,0.9s
ANN pmax pmax
comp=Z,164nm,1.8s
ANN pmax pmax
comp=N,54nm,0.9s
ANN pmax pmax
comp=Z,3μm,9.9s
ANN pmax pmax
comp=N,2μm,9.9s
ANN pmax pmax
comp=E,163nm,5.0s
ANN smax smax
comp=E,1μm,7.4s
ANN smax smax
comp=Z,3μm,7.4s
ANN smax smax
comp=N,10μm,7.5s
LPSR Galich'ya Gora 52.16 320 *e*P **P 01 21 46.6 -2.5**
LPSR *e*S **S 01 29 11.3 -1.7**
LPSR pmax pmax
comp=Z,200nm,1.4s
LPSR pmax pmax
comp=Z,140nm,1.2s
LPSR smax smax
comp=E,5μm,3.9s
TIXI Tiksi 52.28 13 LR LR 01 46 47.8
comp=E,33μm,21.5s,baz=226,slow=39
TIXI Tiksi 52.28 13 *e*P **P 01 21 47.3 -2.4**
comp=E,2μm,1.9s
TIXI Tiksi 52.28 13*c i*P **P 01 21 47.5 -2.2**
TIXI pmax pmax
comp=Z,304nm,1.4s
TIXI MLR MLR
comp=Z,67μm,14.0s
ASF Jabal al Asfar 52.53 294 LR LR 01 49 04.6
comp=Z,27μm,21.7s,baz=49,slow=42
MA2 Magadan 52.94 31 P **P 01 21 52.9 -1.9**
comp=Z,221nm,1.0s,baz=250,slow=6.8,SNR=39
MA2 Magadan 52.94 31 *e*P **P 01 21 52.9 -1.9**
comp=Z,998nm,1.1s
MA2 LR LR
comp=Z,52μm,20.0s
MA2 Magadan 52.94 31 *e*P **P 01 21 52.9 -1.9**
MA2 pmax pmax
comp=Z,998nm,1.1s
MA2 MLR MLR
comp=Z,52μm,20.0s
MOS Moscow 53.59 323 *e*P **P 01 21 57.4 -2.2**
MOS *e* 01 23 54.7
MOS *e*PPP PPP 01 25 09.9
MOS *e*S **S 01 29 33.6 +1.3**
MOS *e*SS **SS 01 33 12.0 -0.5**
MOS pmax pmax
comp=Z,232nm,1.8s
MOS pmax pmax
comp=Z,1μm,3.5s
MOS smax smax
comp=E,18μm,7.0s
MOS smax smax
comp=N,9μm,5.4s
MOS MLR MLR
comp=Z,39μm,16.0s
MOS MLR MLR
comp=N,11μm,15.0s
MOS MLR MLR
comp=E,31μm,15.0s
MMAI Mount Meron Ar 53.71 295 LR LR 01 51 21.2
comp=E,45μm,18.4s,baz=75,slow=43
SKR Severo-Kuril's 53.89 43 *e*P P 01 22 06.8 +4.9
SKR *e* 01 24 02.6
SKR *e*S S 01 29 52.8 +16
SKR pmax pmax
comp=Z,4μm,9.2s
SKR MLR MLR
comp=Z,83μm,14.0s
OBN Obninsk 54.04 322 LR LR 01 48 32.9
comp=Z,14μm,20.8s,baz=102,slow=40
OBN Obninsk 54.04 322 *e*P **P 01 22 00.6 -2.3**
comp=Z,554nm,1.2s
OBN Obninsk 54.04 322*c i*P **P 01 22 00.4 -2.5**
OBN *e* 01 23 10.8
OBN *e* 01 24 01.3
OBN *e*PPP PPP 01 25 12.3
OBN *i* S **S 01 29 40.8 +2.3**
OBN pmax pmax
comp=Z,129nm,1.3s
OBN MLR MLR
comp=Z,31μm,16.0s
SIM Simferopol' 54.38 310*ce*P **P 01 22 03.9 -1.7**
SIM *e*S **S 01 29 43.5 +0.1**
SIM pmax pmax
comp=Z,111nm,1.0s
SIM pmax pmax
comp=Z,2μm,9.6s
ILGA Ilgaz 54.62 305 *e*P **P 01 22 07.2 -0.5**
comp=Z,437nm,1.0s
ILGA LR LR
comp=Z,25μm,22.0s
BR131 Keskin Array S 54.70 303 *e*P **P 01 22 06.9 -1.3**
BR131 Keskin Array S 54.70 303 P **P 01 22 07.5 -0.7**
SNR=11
BRTR Keskin Array B 54.70 303 P **P 01 22 06.0 -2.2**
comp=Z,19nm,1.2s,baz=124,slow=6.1,SNR=20
BRTR LR LR 01 51 54.7
comp=Z,22μm,19.6s,baz=105,slow=43
BRTR Keskin Array B 54.70 303 P **P 01 22 06.0 -2.2**
DESE Dese 54.73 268 *i* P P 01 22 17.7 +8.8
DESE *e*S **S 01 29 55.7 +6.1**
DESE Dese 54.73 268 *i* P P 01 22 17.7 +8.8
DESE *e*S **S 01 29 55.7 +6.1**
SEY Seymchan 54.79 28 P **P 01 22 06.7 -1.6**
comp=Z,50nm,1.1s,baz=240,slow=7.3,SNR=26
SEY S **S 01 29 56.8 +8.4**
comp=Z,6.2nm,1.1s,baz=197,slow=19,SNR=2.3
SEY LR LR 01 48 30.9
comp=Z,75μm,18.6s,baz=245,slow=39
SEY Seymchan 54.79 28*d i*P **P 01 22 08.3 0.0**
ANKE Ethiopia-Afar 55.17 266 *i* P P 01 22 22.5 +10
ANKE *i* S S 01 30 15.5 +20
ANKE Ethiopia-Afar 55.17 266 *i* P P 01 22 22.5 +10
ANKE *i* S S 01 30 15.5 +20
ANKE Ethiopia-Afar 55.17 266 *i* P P 01 22 22.5 +10
ANKE *i* S S 01 30 15.5 +20
PEA0B Petropavlovsk- 55.19 40 *e*P **P 01 22 11.4 +0.1**
comp=Z,227nm,1.2s
PEA0B LR LR
comp=Z,30μm,20.0s
PETK Petropavlovsk- 55.19 40 P **P 01 22 10.1 -1.2**
comp=Z,54nm,1.1s,baz=197,slow=4.6,SNR=27
PETK Petropavlovsk- 55.19 40 *e*P **P 01 22 09.0 -2.3**
PETK Petropavlovsk- 55.19 40 *e*P **P 01 22 09.0 -2.3**
CSS Mathiatis 55.24 298 *e*P **P 01 22 11.3 -0.7**
comp=Z,146nm,0.9s
CSS LR LR
comp=Z,39μm,21.0s
CSS Mathiatis 55.24 298 P P 01 22 24.2 +12
MAMC Mammari 55.31 298 P P 01 22 21.9 +9.4
ANTO Ankara 55.35 303 *e*P **P 01 22 12.8 0.0**
comp=Z,214nm,0.8s
ANTO LR LR
comp=Z,25μm,22.0s
ANTO Ankara 55.35 303↓ *i*P **P 01 22 12.8 0.0**
ANTO Ankara 55.35 303 P **P 01 22 11.8 -1.0**
SNR=14
ANTO Ankara 55.35 303 *e*P **P 01 22 12.8 0.0**
ANTO pmax pmax
comp=Z,214nm,0.8s
ANTO MLR MLR
comp=Z,25μm,22.0s
BR231 Keskin MP Arra 55.37 303 *e*P **P 01 22 13.8 +0.8**
SZAC Souni 55.62 297 P P 01 22 24.2 +9.4
PET Petropavlovsk 55.75 41 *e*P **P 01 22 14.2 -1.1**
comp=Z,225nm,1.1s
PET LR LR
comp=Z,56μm,19.0s
PET Petropavlovsk 55.75 41 *e*P **P 01 22 15.2 -0.1**
PET *e* 01 23 13.0
PET *e* 01 24 21.3
PET *e*PPP PPP 01 25 30.8
PET *e*S **S 01 29 57.7 -3.8**
PET pmax pmax
comp=Z,5μm,9.4s
PET pmax pmax
comp=Z,4μm,7.5s
PET pmax pmax
comp=Z,210nm,1.1s
PET MLR MLR
comp=Z,60μm,14.0s
PET MLR MLR
comp=Z,66μm,15.0s
MANU Manus Island 55.96 109 PFAKE 01 22 30.0 +13
MANU LR LR
comp=Z,23μm,21.0s
AAE Adis Abeba 56.27 266 *i* P P 01 22 25.0 +5.0
AAE Adis Abeba 56.27 266 *i* P P 01 22 25.0 +5.0
FURI Furi 56.40 265 PFAKE 01 22 30.0 +9.1
FURI LR LR
comp=Z,86μm,21.0s

WB0 Warramunga Arr 56.69 135 PFAKE 01 22 30.0 +7.6
WB0 LR LR
comp=Z,96µm,21.0s
WB9 Warramunga Arr 56.70 135 PFAKE 01 22 30.0 +7.5
WB9 LR LR
comp=Z,199µm,21.0s
WB8 Warramunga Arr 56.71 135 PFAKE 01 22 40.0 +17
WB8 LR LR
comp=Z,98µm,21.0s
WB6 Warramunga Arr 56.73 135 PFAKE 01 22 40.0 +17
WB6 LR LR
comp=Z,104µm,22.0s
WB5 Warramunga Arr 56.75 136 PFAKE 01 22 40.0 +17
WB5 LR LR
comp=Z,102µm,21.0s
WB4 Warramunga Arr 56.76 136 PFAKE 01 22 40.0 +17
WB4 LR LR
comp=Z,103µm,21.0s
WC1 Warramunga Arr 56.76 136 PFAKE 01 22 40.0 +17
WC1 LR LR
comp=Z,83µm,21.0s
WB3 Warramunga Arr 56.77 136 PFAKE 01 22 40.0 +17
WB3 LR LR
comp=Z,106µm,21.0s
WR1 Warramunga Arr 56.78 136 PFAKE 01 22 40.0 +17
WR1 LR LR
comp=Z,111µm,21.0s
WRA Warramunga Arr 56.78 136 P **P** **01 22 22.3 -0.8**
comp=Z,178nm,1.0s,baz=326,slow=7.7,SNR=312
WRA S **S** **01 30 23.0 +7.1**
comp=Z,4.2nm,1.2s,baz=316,slow=7.1,SNR=2.2
WRA LR LR 01 50 51.4
comp=Z,77µm,19.7s,baz=310,slow=40
WRA PKPPKP **P'P'df** **01 52 19.5 +6.7**
comp=Z,3.2nm,1.0s,baz=170,slow=2.3,SNR=5.7
WRA PKP2bc 01 52 30.0
comp=Z,8.8nm,1.1s,baz=121,slow=1.7,SNR=11
WRA PKP2ab 01 52 44.8
comp=Z,20nm,1.1s,baz=138,slow=1.8,SNR=7.6
WRAB Tennant Creek 56.78 136 *eP* **P** **01 22 23.3 +0.2**
comp=Z,416nm,0.9s
WRAB LR LR
comp=Z,127µm,22.0s
WRAB Tennant Creek 56.78 136 *d iP* **P** **01 22 22.9 -0.2**
WRAB pmax pmax
comp=Z,384nm,1.3s
WRAB MLR MLR
comp=Z,130µm,22.0s
WC2 Warramunga Arr 56.78 136 PFAKE 01 22 40.0 +17
WC2 LR LR
comp=Z,116µm,21.0s
WB2 Warramunga Arr 56.78 136 *eP* **P** **01 22 22.3 -0.8**
comp=Z,435nm,0.9s
WB2 LR LR
comp=Z,131µm,22.0s
WC4 Warramunga Arr 56.79 136 PFAKE 01 22 40.0 +17
WC4 LR LR
comp=Z,109µm,21.0s
WR2 Warramunga Arr 56.80 136 PFAKE 01 22 40.0 +17
WR2 LR LR
comp=Z,106µm,22.0s
WC3 Warramunga Arr 56.81 136 PFAKE 01 22 40.0 +17
WC3 LR LR
comp=Z,111µm,21.0s
WR3 Warramunga Arr 56.81 136 PFAKE 01 22 40.0 +17
WR3 LR LR
comp=Z,108µm,21.0s
WR4 Warramunga Arr 56.83 136 PFAKE 01 22 40.0 +17
WR4 LR LR
comp=Z,105µm,21.0s
WR5 Warramunga Arr 56.84 136 PFAKE 01 22 40.0 +16
WR5 LR LR
comp=Z,110µm,22.0s
WR6 Warramunga Arr 56.86 135 PFAKE 01 22 40.0 +16
WR6 LR LR
comp=Z,111µm,21.0s
WR7 Warramunga Arr 56.87 135 PFAKE 01 22 40.0 +16
WR7 LR LR
comp=Z,111µm,22.0s
WR8 Warramunga Arr 56.89 135 PFAKE 01 22 40.0 +16
WR8 LR LR
comp=Z,109µm,21.0s
WR9 Warramunga Arr 56.90 135 PFAKE 01 22 40.0 +16
WR9 LR LR
comp=Z,108µm,22.0s
WR0 Warramunga Arr 56.92 135 PFAKE 01 22 40.0 +16
WR0 LR LR
comp=Z,108µm,21.0s
ISP Isparta 57.25 301 PFAKE 01 22 40.0 +14
ISP LR LR
comp=Z,23µm,20.0s
AKASG Malin Array Be 57.92 316 P **P** **01 22 27.8 -2.9**
comp=Z,22nm,1.0s,baz=75,slow=6.8,SNR=42
AKASG S **S** **01 30 28.3 -1.9**
comp=Z,3.5nm,0.9s,baz=86,slow=13,SNR=4.6
AKASG LR LR 01 52 11.2
comp=Z,37µm,19.9s,baz=85,slow=41
KIEV Kiev 57.93 316 *eP* **P** **01 22 28.3 -2.5**
comp=Z,276nm,1.0s
KIEV LR LR
comp=Z,48µm,21.0s
KIEV Kiev 57.93 316 *i* P **P** **01 22 28.9 -1.9**
SNR=28
KIEV Kiev 57.93 316 *i* P **P** **01 22 28.9 -1.9**
SNR=28
KIEV Kiev 57.93 316 *c iP* **P** **01 22 29.3 -1.5**
KIEV pmax pmax
comp=Z,67nm,1.1s
KIEV MLR MLR
comp=Z,40µm,19.0s
KIS Kishinev 58.11 312 *eP* **P** **01 22 32.0 -0.2**
comp=Z,3µm,10.0s
KIS Kishinev 58.11 312 *i* PcP PcP 01 23 10.0 -14
KIS Kishinev 58.11 312 *i* PP PP 01 24 10.0 -31
comp=Z,3µm,8.0s
KIS Kishinev 58.11 312 *i* PsP 01 29 04.0
KIS *i* S **S** **01 30 36.0 +3.1**
comp=Z,9µm,8.0s
KIS Kishinev 58.11 312 *i* PS 01 31 08.0
KIS *i* ScS ScS 01 32 10.0 -12
KIS *i* SS **SS** **01 34 28.0 +3.9**
KIS *i* SSS SSS 01 37 00.0
KIS LQM 01 50 22.0
comp=Z,49µm,16.0s
KIS LRM MLR 01 53 00.0
comp=Z,29µm,18.0s
KIS Kishinev 58.11 312 ⇓ *iP* **P** **01 22 31.1 -1.1**
KIS Kishinev 58.11 312 ⇓P **P** **01 22 31.1 -1.1**
TLCR 58.13 310 ⇓ *iP* **P** **01 22 31.2 -1.2**
TLCR 58.13 310 ⇓P **P** **01 22 31.2 -1.2**
PUL Pulkovo 58.20 327 ⇑ *eP* **P** **01 22 33.2 +0.6**
PUL pmax pmax
comp=Z,51nm,0.8s
PUL MLR MLR
comp=Z,32µm,16.0s
SORM Soroca 58.43 313 ⇓ *iP* **P** **01 22 33.1 -1.3**
SORM Soroca 58.43 313 ⇓P **P** **01 22 33.1 -1.3**
TIRR Tirgusor 58.44 309 *eP* **P** **01 22 33.9 -0.7**
comp=Z,228nm,1.3s
TIRR LR LR
comp=Z,26µm,20.0s
TIRR Tirgusor 58.44 309 ⇓ *iP* **P** **01 22 34.3 -0.2**
TIRR Tirgusor 58.44 309 ⇓P **P** **01 22 34.3 -0.2**
LEOM Leova 58.51 311 ⇓ *iP* **P** **01 22 36.1 +1.2**
LEOM Leova 58.51 311 ⇓P **P** **01 22 36.1 +1.2**
CFR Carcaliu 58.62 310 ⇓ *iP* **P** **01 22 34.8 -0.9**
CFR Carcaliu 58.62 310 ⇓P **P** **01 22 34.8 -0.9**
RER Riviere de l'E 58.69 225 *eP* **P** **01 22 37.4 +0.8**
comp=Z,328nm,1.0s
RER LR LR
comp=Z,68µm,22.0s
TLB Topalu 58.70 309 ⇑ *iP* **P** **01 22 37.8 +1.5**
TLB Topalu 58.70 309 ⇑P **P** **01 22 37.8 +1.5**
MANT Manisa 58.73 302 *eP* **P** **01 22 36.9 -0.1**
comp=Z,544nm,1.3s
MANT LR LR
comp=Z,71µm,22.0s
HARR Harsova 58.78 309 ⇓ *iP* **P** **01 22 35.8 -1.1**
HARR Harsova 58.78 309 ⇓P **P** **01 22 35.8 -1.1**
MICGM Minsk 58.94 321 ⇑ *eP* **P** **01 22 37.0 -0.8**
MICGM PM 01 22 52.0
comp=Z,6.2nm,6.0s
MICGM *e*PcP **PcP** **01 23 20.0 -6.9**
MICGM *e*PP **PP** **01 24 48.0 +0.1**
MICGM *e*PPP PPP 01 25 20.0
MICGM *e*S **S** **01 30 40.0 -3.4**
MICGM SM 01 30 50.0
comp=E,16nm,8.0s
MICGM SM 01 30 54.0
comp=N,19nm,8.0s
MICGM *e*PS **PnS** **01 30 56.0 +0.4**
MICGM *e*SS **SS** **01 34 34.0 -2.8**
MICGM *e*SSS SSS 01 36 30.0
MICGM *e*LQ LQ 01 40 30.0
MICGM LQM 01 45 02.0
comp=N,89nm,36.0s
MICGM *e*LR LR 01 46 30.0
MICGM LRM MLR 01 49 48.0
comp=E,26nm,15.0s
MICGM LRM MLR 01 49 50.0
comp=Z,73nm,14.0s
MICGM LRM MLR 01 49 50.0
comp=Z,78nm,16.0s
MICGM LRM MLR 01 49 52.0
comp=E,35nm,16.0s
MICGM LRM MLR 01 50 04.0
comp=N,56nm,20.0s
MNK Minsk 58.94 321 *eP* **P** **01 22 38.0 +0.2**
IAS Iasi 58.97 312 ⇑ *iP* **P** **01 22 33.6 -4.5**
IAS Iasi 58.97 312 ⇑P **P** **01 22 33.6 -4.5**
COEN Coen 59.06 124 *eP* **P** **01 22 39.1 -0.1**
comp=N,112nm,1.0s
COEN LR LR
comp=Z,36µm,21.0s
NWAO Narrogin (SRO) 59.14 159 LR LR 01 48 43.6
comp=Z,164µm,20.4s,baz=201,slow=36
NWAO Narrogin (SRO) 59.14 159 *eP* **P** **01 22 39.7 +0.3**
comp=Z,1µm,1.9s
NWAO Narrogin (SRO) 59.14 159 P **P** **01 22 41.1 +1.7**
SNR=6.1
AMRR Amara 59.21 309 ⇓ *iP* **P** **01 22 40.3 +0.5**
AMRR Amara 59.21 309 ⇓P **P** **01 22 40.3 +0.5**
PETR Petresti 59.23 311 ⇑ *iP* **P** **01 22 40.7 +0.7**
PRD Provadia 59.23 308 *eP* P 01 22 55.4 +15
AS31 Alice Springs 59.24 139 *eP* **P** **01 22 40.1 -0.3**
comp=Z,39nm,0.9s
AS31 LR LR
comp=Z,1µm,22.0s
ASAR Alice Springs 59.24 139 P **P** **01 22 39.5 -0.9**
comp=Z,61nm,1.0s,baz=320,slow=6.2,SNR=196
ASAR S **S** **01 30 55.4 +7.2**
comp=Z,1.3nm,1.0s,baz=290,slow=5.4,SNR=3.1
ASAR LR LR 01 50 59.0
comp=Z,78µm,20.2s,baz=316,slow=39
ASAR PKPPKP **P'P'df** **01 52 13.9 +5.3**
comp=Z,2.4nm,0.9s,baz=153,slow=3.3,SNR=5.2
ASAR PKP2bc 01 52 24.6
comp=Z,3.5nm,0.9s,baz=109,slow=2.0,SNR=4.3
ASAR PKP2ab 01 52 35.3
comp=Z,6.2nm,0.9s,baz=137,slow=2.8,SNR=6.6
AS01 Alice Springs 59.27 139 *eP* **P** **01 22 39.9 -0.7**
ARG Arkhangelos 59.32 300 P P 01 22 51.3 +10
ARG Arkhangelos 59.32 300 P P 01 22 51.3 +10
ODBI Odobesti 59.35 311 ⇓ *iP* **P** **01 22 42.2 +1.3**
GRER 59.43 310 ⇑ *iP* **P** **01 22 45.4 +4.0**
PGOR Pogoanele 59.44 310 ⇑ *iP* **P** **01 22 41.6 +0.1**
VRI Vrincioaia 59.58 311 ⇑ *iP* **P** **01 22 42.2 -0.3**
VRI Vrincioaia 59.58 311 ⇑P **P** **01 22 42.2 -0.3**
NACGM Naroch 59.60 321 *eP* **P** **01 22 41.0 -1.4**
NACGM PM 01 23 24.0
comp=Z,0.8nm,1.0s
NACGM *e*PcP **PcP** **01 23 36.0 +6.5**
NACGM *e*PP PP 01 24 22.0 -32
NACGM *e*PPP PPP 01 26 28.0
NACGM *e*S **S** **01 30 50.0 -2.0**
NACGM *e*PS **PnS** **01 31 04.0 -0.6**
NACGM *e*ScS ScS 01 32 03.0 -29
NACGM *e*SS **SS** **01 34 56.0 +8.8**
NACGM *e*SSS SSS 01 37 30.0
NACGM *e*LQ LQ 01 43 36.0
NACGM *e*LR LR 01 46 36.0
NACGM LRM MLR 01 51 33.0
comp=Z,45nm,14.0s
PLOR Plostina 59.63 311 ⇓ *iP* **P** **01 22 42.4 -0.5**
PLOR Plostina 59.63 311 ⇓P **P** **01 22 42.4 -0.5**
ISR Istrita 59.74 310 ⇑ *iP* **P** **01 22 43.6 -0.1**
ISR Istrita 59.74 310 ⇑P **P** **01 22 43.6 -0.1**
BODT Bodrum 59.87 301 P P 01 22 52.2 +7.6
BODT Bodrum 59.87 301 P P 01 22 52.2 +7.6
PRAR RASCA 59.87 313 ⇑ *iP* **P** **01 22 44.3 -0.1**
VSU Vasula 59.88 325 *eP* **P** **01 22 41.7 -2.5**
VSU Vasula 59.88 325 ⇑ *eP* **P** **01 22 43.2 -1.0**
VSU pmax pmax
comp=Z,143nm,2.0s
VSU MLR MLR
comp=Z,96µm,14.0s
JMB Yambol 59.88 307 *eP* **P** **01 22 49.2 +4.6**
BIZ Bicaz 59.97 312 ⇑ *iP* **P** **01 22 44.6 -0.5**
SULR 59.97 309 ⇑ *iP* **P** **01 22 46.2 +1.1**
SECR 60.09 310 ⇓ *iP* **P** **01 22 47.5 +1.6**
PLAR PLOIESTI 60.12 310 ⇓ *iP* **P** **01 22 42.9 -3.2**
MLR Muntele Rosu 60.15 310 *eP* **P** **01 22 45.2 -1.3**
comp=Z,719nm,1.1s
MLR Muntele Rosu 60.15 310 ⇓ *iP* **P** **01 22 45.5 -1.0**
MLR Muntele Rosu 60.15 310 ⇓P **P** **01 22 45.5 -1.0**
SMG Samos 60.16 301 P P **01 22 46.2 -0.4**
SMG Samos 60.16 301 P P **01 22 46.2 -0.4**
KARP Karpathos 60.19 299 *eP* **P** **01 22 47.3 +0.5**
comp=Z,524nm,0.8s
KARP LR LR
comp=Z,10µm,19.0s
SGRR Singureni 60.20 309 ⇑ *iP* P 01 22 51.8 +5.1
OZUR 60.23 311 ⇑ *iP* **P** **01 22 45.9 -1.0**
ALN Alexandroupoli 60.42 305 *eP* **P** **01 22 47.0 -1.3**
comp=Z,181nm,1.3s
ALN LR LR
comp=Z,4µm,21.0s
ALN Alexandroupoli 60.42 305 P **P** **01 22 48.1 -0.2**
FIA1 FINESS Array S 60.50 329 *eP* **P** **01 22 47.4 -1.1**
FINES FINESS Array B 60.50 329 P **P** **01 22 46.1 -2.3**
comp=Z,14nm,0.8s,baz=115,slow=6.6,SNR=12
FINES S **S** **01 30 54.5 -8.9**
comp=Z,8.7nm,1.0s,baz=116,slow=25,SNR=2.2
DOPR Dopca 60.51 311 ⇑ *iP* **P** **01 22 48.2 -0.6**
BURAR Bucovina Array 60.55 313 ⇑ *iP* **P** **01 22 49.1 -0.1**
BURAR Bucovina Array 60.55 313 ⇑P **P** **01 22 49.1 -0.1**
BUR04 Bucovina Ar. S 60.55 313 *eP* **P** **01 22 46.9 -2.3**
BUR08 Bucovina Ar. S 60.56 313 *eP* **P** **01 22 47.4 -1.9**
ZIMR 60.68 308 ⇑ *iP* **P** **01 22 50.6 +0.6**
ZIMR 60.68 308 ⇑P **P** **01 22 50.6 +0.6**
CHOS Chios island 60.69 302 P P **01 22 51.8 +1.5**
CHOS Chios island 60.69 302 P P **01 22 51.8 +1.5**
VOIR 60.78 310 ⇓ *iP* **P** **01 22 50.1 -0.7**
VOIR 60.78 310 ⇓P **P** **01 22 50.1 -0.7**
RDO Rodhopi 60.78 305 P P **01 22 49.8 -0.9**
RDO Rodhopi 60.78 305 P P **01 22 49.8 -0.9**
MTUR Matau 60.78 310 ⇑ *iP* **P** **01 22 54.0 +3.2**
MTUR Matau 60.78 310 ⇑P **P** **01 22 54.0 +3.2**
SMTH Samothraki Isl 60.86 305 P P **01 22 49.8 -1.5**
SMTH Samothraki Isl 60.86 305 P P **01 22 49.8 -1.5**
GOLR 60.88 310 ⇑ *iP* **P** **01 22 52.8 +1.4**
HUMR Humele 60.89 309 ⇓ *iP* **P** **01 22 51.9 +0.5**
ZKR Zakros 61.01 299 P P **01 22 55.9 +3.5**
ZKR Zakros 61.01 299 P P **01 22 55.9 +3.5**
ARR Arges 61.08 310 ⇓ *iP* **P** **01 22 51.8 -1.0**
ARCR ARCALIA 61.16 312 ⇑ *iP* **P** **01 22 54.1 +0.9**
MDB Medias 61.20 311 ⇓ *iP* P 01 23 05.4 +12
LVV L'vov 61.24 315 *eP* **P** **01 22 54.1 +0.3**
LVV *e* 01 25 09.0
LVV *e*S **S** **01 31 14.3 +1.0**
LVV *e*S **S** **01 31 14.3 +1.0**
LVV *e*PS **PnS** **01 31 34.8 +7.4**
LVV *e*SS **SS** **01 35 15.3 +2.1**
APE Apeiranthos 61.28 301 P P 01 23 06.4 +12
APE Apeiranthos 61.28 301 P P 01 23 06.4 +12
PLD Plovdiv 61.31 307 *eP* **P** **01 22 53.3 -1.0**
KEV Kevo 61.42 338 *eP* **P** **01 22 53.7 -0.9**
comp=Z,224nm,1.0s
KEV LR LR
comp=Z,37µm,20.0s
KEV Kevo 61.42 338 *eP* **P** **01 22 53.7 -0.9**
KEV pmax pmax
comp=Z,224nm,1.0s
KEV MLR MLR
comp=Z,37µm,20.0s
SANT Santorini 61.44 300 *eP* **P** **01 22 54.3 -1.0**
comp=Z,579nm,1.1s
SANT LR LR
comp=Z,12µm,22.0s
SANT Santorini 61.44 300 ⇑ *iP* **P** **01 22 58.7 +3.4**
THT2 Imerovigli 61.45 300 P P 01 23 00.8 +5.4
LODK Lodwar 61.55 261 *eP* **P** **01 22 55.9 -0.5**
LODK *e* 01 22 58.3
baz=62,slow=11
LODK *e*S S 01 31 28.7 +10
LODK *e*S S 01 31 29.2 +11
LODK AMP 01 40 38.6
comp=N,11µm,28.8s
LODK AMP 01 42 57.9
comp=E,6µm,25.2s
PGB Panagyurishte 61.66 307 *eP* **P** **01 22 56.0 -0.7**
BILL Bilibino 61.67 24 *eP* **P** **01 22 54.8 -1.5**
BILL Bilibino 61.67 24 *c iP* **P** **01 22 54.3 -2.0**
BILL *e* 01 23 33.2
BILL *e* 01 25 09.8
BILL *i* S **S** **01 31 22.3 +4.2**
BILL pmax pmax
comp=Z,257nm,1.3s
BILL MLR MLR
comp=Z,103µm,17.0s
FORT Forrest 61.67 149 *eP* **P** **01 22 57.1 +0.4**
comp=Z,446nm,1.1s
FORT LR LR
comp=Z,98µm,21.0s
LOT Lotru 61.68 310 ⇓ *iP* **P** **01 22 56.5 -0.4**
SUW Suwalki 61.68 320 *eP* **P** **01 22 54.8 -1.8**
SUW *e*S **S** **01 31 22.9 +4.3**
SUW LMZ LR 01 45 03.3
comp=Z,64µm,51.2s
SUW Suwalki 61.68 320 *eP* **P** **01 22 54.6 -1.9**
comp=Z,736nm,1.1s
SUW LR LR
comp=Z,62µm,18.0s
SUW Suwalki 61.68 320 *eP* **P** **01 22 54.8 -1.8**
SUW *e*S **S** **01 31 22.9 +4.3**
CJR Cluj-Napoca 61.70 312 ⇓ *iP* **P** **01 22 57.5 +0.5**
CJR Cluj-Napoca 61.70 312 ⇓P **P** **01 22 57.5 +0.5**
BMR Baia Mare 61.70 313 ⇑ *iP* **P** **01 22 57.9 +1.0**
BMR Baia Mare 61.70 313 ⇑P **P** **01 22 57.9 +1.0**
CRAR CRAIOVA 61.75 309 ⇓ *iP* **P** **01 22 59.0 +1.8**
CRAR CRAIOVA 61.75 309 ⇓P **P** **01 22 59.0 +1.8**
KMBO Kilima Mbogo 61.78 256 *iP* **P** **01 22 56.8 -1.4**
KMBO Kilima Mbogo 61.78 256 P P **01 22 56.5 -1.6**
comp=Z,8.7nm,0.9s,baz=45,slow=10,SNR=25
KMBO S **S** **01 31 15.3 -6.2**
comp=Z,0.8nm,0.5s,baz=33,slow=14,SNR=1.4
KMBO LR LR 01 49 00.1
comp=Z,114µm,21.5s,baz=54,slow=35
KMBO Kilima Mbogo 61.78 256 *eP* **P** **01 22 57.1 -1.1**
comp=Z,170nm,1.5s
KMBO S **S** **01 31 15.3 -6.2**
KMBO Kilima Mbogo 61.78 256 P **P** **01 22 58.1 -0.1**
SNR=20
KMBO Kilima Mbogo 61.78 256 *i* P **P** **01 22 57.7 -0.5**
SNR=40
KMBO Kilima Mbogo 61.78 256 *i* P **P** **01 22 57.7 -0.5**
SNR=40
KMBO Kilima Mbogo 61.78 256 *i* P **P** **01 22 56.8 -1.4**
ARCES ARCESS Array B 61.89 338 P **P** **01 22 56.3 -1.5**
comp=Z,19nm,0.9s,baz=90,slow=4.9,SNR=17
ARCES PP **PP** **01 25 08.8 -4.9**
comp=Z,15nm,0.8s,baz=118,slow=12,SNR=2.4
ARCES S **S** **01 31 26.2 +5.4**
comp=Z,8.6nm,1.0s,baz=69,slow=7.8,SNR=2.7
ARCES ARCESS Array B 61.89 338 *eP* **P** **01 22 57.0 -0.7**
ARCES PP **PP** **01 25 08.8 -4.9**
ARCES S **S** **01 31 26.2 +5.4**
ARE0 ARCESS Array S 61.89 338 *eP* **P** **01 22 57.8 0.0**
comp=Z,7.1nm,0.9s
ARE0 LR LR
comp=Z,2µm,19.0s
ARE0 ARCESS Array S 61.89 338 *eP* **P** **01 22 56.1 -1.7**
NVR Nevrokopi 62.01 306 P P **01 22 58.5 -0.6**
NVR Nevrokopi 62.01 306 P P **01 22 58.5 -0.6**
PATS Pohnpei 62.03 94 *eP* **P** **01 22 59.3 -0.3**
comp=Z,583nm,1.4s
PATS LR LR
comp=Z,24µm,20.0s
OUR Ouranopolis 62.05 305 P P 01 23 04.2 +4.9
OUR Ouranopolis 62.05 305 P P 01 23 04.2 +4.9
IDI Anoyia 62.06 299 LR LR 01 56 59.9
comp=Z,12µm,20.1s,baz=92,slow=43
IDI Anoyia 62.06 299 ⇓ *iP* **P** **01 23 03.1 +3.5**
MMB Musomiste 62.09 306 *eP* P 01 23 08.1 +8.5
KWP Kalwaria Pacla 62.11 315 *eP* **P** **01 22 58.9 -0.7**
KWP *e*S **S** **01 31 30.6 +6.3**
KWP LMZ LR 01 48 46.9
comp=Z,56µm,37.4s
KWP Kalwaria Pacla 62.11 315 *eP* **P** **01 22 57.8 -1.8**
comp=Z,15µm,1.8s
KWP LR LR
comp=Z,256µm,21.0s
KWP Kalwaria Pacla 62.11 315 *eP* **P** **01 22 57.8 -1.8**
KWP MLR MLR
comp=Z,256µm,21.0s
SRE Strehaia 62.14 310 ⇑ *iP* P 01 23 08.4 +8.5
SLIT Slitere, Latvi 62.20 324 *eP* **P** **01 22 56.6 -3.4**
SRS Serrai 62.24 306 P P **01 23 01.0 +0.3**
SRS Serrai 62.24 306 P P **01 23 01.0 +0.3**
DEV Deva 62.24 311 ⇓ *iP* **P** **01 23 01.0 +0.4**
DEV Deva 62.24 311 ⇓P **P** **01 23 01.0 +0.4**
NAI Nairobi 62.24 256 *eP* **P** **01 23 00.2 -1.1**
comp=Z,102nm,1.0s
NAI LR LR
comp=Z,112µm,21.0s
NAI Nairobi 62.24 256 *eP* **P** **01 23 00.2 -1.1**
NAI pmax pmax
comp=Z,102nm,1.0s
NAI MLR MLR
comp=Z,112µm,21.0s
AOS Alonnisos 62.28 303 P P **01 22 59.9 -1.0**
AOS Alonnisos 62.28 303 P P **01 22 59.9 -1.0**
DRGR 62.30 312 ⇓ *iP* **P** **01 23 01.0 0.0**
DRGR 62.30 312 ⇓P **P** **01 23 01.0 0.0**
VTS Vitosha 62.35 307 *eP* **P** **01 22 59.3 -2.2**
comp=Z,362nm,1.6s
VTS LR LR
comp=Z,18µm,19.0s
VTS Vitosha 62.35 307 ⇓ *iP* **P** **01 23 01.5 0.0**
VTS Vitosha 62.35 307 *eP* **P** **01 23 01.9 +0.3**
VTS Vitosha 62.35 307 P P **01 23 00.4 -1.2**
VTS Vitosha 62.35 307 ⇓P **P** **01 23 01.6 0.0**
GZR Gura Zlata 62.38 310 ⇓ *iP* **P** **01 23 01.2 -0.3**
GZR Gura Zlata 62.38 310 ⇓P **P** **01 23 01.2 -0.3**
UZH Uzhgorod 62.45 314 *eP* **P** **01 23 00.8 -1.0**
UZH *i* 01 23 09.2
UZH *e* 01 23 40.3
UZH *i* S **S** **01 31 23.9 -4.6**
UZH *e* 01 38 08.7
PTL Penteli 62.45 302 P **P** **01 23 02.5 +0.4**
PTL Penteli 62.45 302 P P **01 23 02.5 +0.4**
PLG Polygyros 62.45 305 P P **01 23 01.1 -1.0**
PLG Polygyros 62.45 305 P P **01 23 01.1 -1.0**
SOH Sokhos 62.46 305 P P **01 23 02.8 +0.6**
SOH Sokhos 62.46 305 P P **01 23 02.8 +0.6**
ATHU Athens Univers 62.52 302 P P **01 23 06.3 +3.7**
ATHU Athens Univers 62.52 302 P P **01 23 06.3 +3.7**
KKB Krupnik 62.53 306 *eP* P **01 23 02.9 +0.3**
VLY Voula,Athens 62.53 302 P P **01 23 06.9 +4.3**
VLY Voula,Athens 62.53 302 P P **01 23 06.9 +4.3**
SKIA Skiathos 62.60 303 P P **01 23 03.2 +0.2**
VAM Vamos 62.60 299 P P **01 23 04.3 +1.2**
VAM Vamos 62.60 299 P P **01 23 04.3 +1.2**
KTK1 Kautokeino 62.61 337 *eP* P **01 22 59.8 -2.8**
HORT Hortiatis 62.68 305 P P **01 23 02.0 -1.7**
HORT Hortiatis 62.68 305 P P **01 23 02.0 -1.7**
HERR Herculane 62.68 310 ⇑ *iP* P **01 23 03.3 -0.2**
HAMF Hammerfest 62.69 339 *eP* **P** **01 23 01.6 -1.5**
KNT Kendrikon 62.76 306 P P **01 23 03.0 -1.1**
KNT Kendrikon 62.76 306 P P **01 23 03.0 -1.1**
IMMV Iera Moni Meta 62.76 299 P P **01 23 06.1 +1.9**
THE Thessaloniki 62.78 305 P P **01 23 01.0 -3.2**
THE Thessaloniki 62.78 305 P P **01 23 01.0 -3.2**
THE Thessaloniki 62.78 305 P P **01 23 01.0 -3.2**
XOR Xorichti 62.78 304 P P **01 23 07.3 +3.0**
XOR Xorichti 62.78 304 P P **01 23 07.3 +3.0**
GVD Gavdhos 62.78 299 P P 01 23 12.6 +8.3
GVD Gavdhos 62.78 299 P P 01 23 12.6 +8.3
LTVH L"tav"rtes, 62.80 313 *eP* P 01 23 12.4 +8.2
SMIA Simia 62.84 303 P P 01 23 11.6 +6.9
VILL Villia 62.86 302 P **P** **01 23 07.6 +2.7**

FYTO	Fytoko, Volos	62.97	304		P		P	01 23 09.5	+4.0
FYTO	Fytoko, Volos	62.97	304		P		P	01 23 09.5	+4.0
VAY	Valandovo	62.98	306		P		P	01 23 06.2	+0.6
VAY	Valandovo	62.98	306		P		P	01 23 06.2	+0.6
VAY	Valandovo	62.98	306	*i*	Pn		P	01 23 05.4	-0.1
SIRR	Siria	63.07	312	⇑	*i*P		P	01 23 05.8	-0.3
LTK	Loutraki	63.15	302		P		P	01 23 05.5	-1.3
LTK	Loutraki	63.15	302		P		P	01 23 05.5	-1.3
GRG	Griva	63.16	306		P		P	01 23 05.1	-1.7
GRG	Griva	63.16	306		P		P	01 23 05.1	-1.7
GRG	Griva	63.16	306		P		P	01 23 05.1	-1.7
ABPO	Ambohimpanom	63.16	233	*e*	P		P	01 23 06.2	-1.0
	comp=Z,141nm,0.9s								
ABPO	Ambohimpanom	63.16	233	*i*	P		P	01 23 06.7	-0.5
BZS	Buzias	63.17	311	⇑	*i*P		P	01 23 07.2	+0.5
BZS	Buzias	63.17	311	⇑	P		P	01 23 07.2	+0.5
MDVR	Moldovita	63.19	310	⇑	*i*P		P	01 23 08.7	+1.8
BEL	Belsk	63.20	318	*e*	P		P	01 23 05.9	-0.9
BEL				*e*	S		S	01 31 45.0	+7.1
BEL					LMZ		LR	01 49 14.8	
	comp=Z,48µm,42.9s								
BEL	Belsk	63.20	318	*e*	P		P	01 23 05.9	-0.9
BEL				*e*	S		S	01 31 44.9	+7.1
LIT	Litokhoron	63.21	305	*e*	P		P	01 23 05.9	-1.2
	comp=Z,219nm,1.0s								
LIT					LR		LR		
	comp=Z,11µm,22.0s								
LIT	Litokhoron	63.21	305		P		P	01 23 11.6	+4.5
LIT	Litokhoron	63.21	305	*e*	P		P	01 23 05.9	-1.2
LIT					pmax		pmax		
	comp=Z,219nm,1.0s								
LIT					MLR		MLR		
	comp=Z,11µm,22.0s								
STIP	Stip	63.22	306	*i*	Pn		P	01 23 03.7	-3.4
AXAR	Agios Charalam	63.28	303		P		P	01 23 09.5	+1.9
AXAR	Agios Charalam	63.28	303		P		P	01 23 09.5	+1.9
LRSO	Larissa Observ	63.35	304		P		P	01 23 12.6	+4.6
VLI	Veliai	63.39	301		P		P	01 23 10.2	+1.9
VLI	Veliai	63.39	301		P		P	01 23 10.2	+1.9
KLNR	Kaliningrad	63.41	321	*ce*	P		P	01 23 08.0	-0.1
KLNR					pmax		pmax		
	comp=Z,127nm,1.7s								
KLNR					MLR		MLR		
	comp=Z,26µm,16.0s								
KTI	Kastanea	63.45	305		P		P	01 23 10.1	+1.2
AGG	Agios Georgios	63.49	303	*e*	P		P	01 23 07.8	-1.2
	comp=Z,204nm,1.0s								
AGG					LR		LR		
	comp=Z,28µm,22.0s								
AGG	Agios Georgios	63.49	303		P		P	01 23 06.7	-2.3
MAKR	Makrakomi, Fth	63.65	303		P		P	01 23 09.9	-0.1
MAKR	Makrakomi, Fth	63.65	303		P		P	01 23 09.9	-0.1
THL	Klokotos Trika	63.65	304		P		P	01 23 07.7	-2.3
NIE	Niedzica	63.69	315	*e*	P		P	01 23 08.5	-1.7
NIE				*e*	S		S	01 31 52.6	+8.5
NIE					LMZ		LR	01 49 48.4	
	comp=Z,27µm,37.0s								
NIE	Niedzica	63.69	315	*e*	P		P	01 23 08.5	-1.7
NIE				*e*	S		S	01 31 52.7	+8.5
VLX	Vlachokerasia	63.72	302		P		P	01 23 09.6	-1.0
VLX	Vlachokerasia	63.72	302		P		P	01 23 09.6	-1.0
KZN	Kozani	63.73	305		P		P	01 23 06.1	-4.5
KZN	Kozani	63.73	305		P		P	01 23 06.1	-4.5
KZN	Kozani	63.73	305		P		P	01 23 06.1	-4.5
SKO	Skopje	63.73	307	*i*	Pn		P	01 23 13.4	+2.8
KALE	Kalithea	63.74	303		P		P	01 23 13.3	+2.6
KALE	Kalithea	63.74	303		P		P	01 23 13.3	+2.6
TRIP	Tripoli	63.78	302		P		P	01 23 11.0	0.0
KLV	Kalavryta, Ach	63.78	302		P		P	01 23 10.5	-0.5
KLV	Kalavryta, Ach	63.78	302		P		P	01 23 10.5	-0.5
DYR	Agios Nikonas	63.86	301		P		P	01 23 09.1	-2.4
ANX	Ano Chora	63.87	303		P		P	01 23 14.7	+3.1
LAKA	Lakka	63.89	303		P		P	01 23 09.1	-2.6
LAKA	Lakka	63.89	303		P		P	01 23 09.1	-2.6
EVR	Evrytania	63.91	303		P		P	01 23 10.2	-1.7
EVR	Evrytania	63.91	303		P		P	01 23 10.2	-1.7
EFP	Efpalio	63.91	303		P		P	01 23 12.4	+0.6
OJC	Ojcow	63.95	316	*e*	P		P	01 23 15.2	+3.5
OJC				*e*	PPP		PPP	01 27 18.0	
OJC				*e*	S		S	01 31 54.3	+7.1
OJC					LMZ		LR	01 49 40.2	
	comp=Z,49µm,38.8s								
OJC	Ojcow	63.95	316	*e*	P		P	01 23 09.7	-2.1
	comp=Z,170nm,1.2s								
OJC	Ojcow	63.95	316	*e*	P		P	01 23 09.7	-2.1
OJC					pmax		pmax		
	comp=Z,170nm,1.2s								
FNA	Florina	63.95	305	*e*	P		P	01 23 10.6	-1.5
	comp=Z,131nm,1.1s								
FNA					LR		LR		
	comp=Z,25µm,19.0s								
FNA	Florina	63.95	305		P		P	01 23 10.2	-1.9
FNA	Florina	63.95	305	*e*	P		P	01 23 10.6	-1.5
FNA					pmax		pmax		
	comp=Z,131nm,1.1s								
FNA					MLR		MLR		
	comp=Z,25µm,19.0s								
BIA	Bitola	63.96	306	*i*	Pn		P	01 23 09.4	-2.7
KRUS	Krusevo	63.96	306	*i*	Pn		P	01 23 10.6	-1.6
PSZ	Piszkesteto	64.10	313	*e*	P		P	01 23 11.3	-1.6
	comp=Z,381nm,1.6s								
PSZ	Piszkesteto	64.10	313	⇓	*i*P		P	01 23 12.9	-0.1
PSZ	Piszkesteto	64.10	313	*e*	P		P	01 23 25.1	+12
PSZ	Piszkesteto	64.10	313	⇓	P		P	01 23 12.9	-0.1
ITM	Ithomi	64.11	301	*e*	P		P	01 23 12.4	-0.7
	comp=Z,233nm,1.1s								
ITM					LR		LR		
	comp=Z,14µm,22.0s								
ITM	Ithomi	64.11	301		P		P	01 23 13.2	+0.1
DRO	Drossia	64.14	302		P		P	01 23 15.6	+2.3
PVO	Paravola	64.18	303		P		P	01 23 14.1	+0.6
TRO	Tromso	64.19	338	*e*	P		P	01 23 11.8	-1.2
AMT	Artemida-Makis	64.22	302		P		P	01 23 15.0	+1.2
PENT	Pentalofos	64.22	305		P		P	01 23 13.9	0.0
NEST	Nestorio	64.25	305		P		P	01 23 12.3	-1.8
LANS	Liptovska Anna	64.26	315	*e*	P		P	01 23 13.7	-0.2
LANS	Liptovska Anna	64.26	315	*e*	P		P	01 23 13.7	-0.2
LANS				*e*	sP		sP	01 23 30.8	+11
LANS				*e*				01 44 49.5	
PYL	PYLOS	64.30	301		P		P	01 23 13.1	-1.2
PYL	PYLOS	64.30	301		P		P	01 23 13.1	-1.2
RLS	Riolos of Patr	64.31	302		P		P	01 23 17.7	+3.3
RLS	Riolos of Patr	64.31	302		P		P	01 23 17.7	+3.3
OHR	Ohrid	64.33	306	*i*	Pn		P	01 23 15.6	+1.0
KBN	Korca	64.42	305		P		P	01 23 13.6	-1.6
KBN	Korca	64.42	305		P		P	01 23 13.6	-1.6
KBN	Korca	64.42	305		P		P	01 23 13.6	-1.6
KBN	Korca	64.42	305	*i*	P		P	01 23 16.1	+0.9
FRGS	Fruska Gora	64.48	310	*e*	P		P	01 23 14.3	-1.1
DIVS	Divibare	64.50	309	*e*	P		P	01 23 14.7	-0.9
	comp=Z,148nm,1.0s								
DIVS					LR		LR		
	comp=Z,25µm,20.0s								
DIVS	Divibare	64.50	309	*e*	P		P	01 23 14.5	-1.1
PHP	Peshkopia	64.52	307		P		P	01 23 14.8	-0.9
PHP	Peshkopia	64.52	307		P		P	01 23 14.8	-0.9
PHP	Peshkopia	64.52	307		P		P	01 23 14.8	-0.9
PHP	Peshkopia	64.52	307	*i*	P		P	01 23 20.5	+4.7
BCI	Bajram Curri	64.69	307	*i*	P		P	01 23 09.3	-7.5
PVY	Plav	64.73	308	⇑	*i*P		P	01 23 17.6	+0.3
BUD	Budapest	64.74	313	*e*	P		P	01 23 22.2	+5.2
IVA	Berane	64.74	308	⇑	*i*P		P	01 23 17.6	+0.4
VYHS	Vyhne	64.75	314	*e*	P		P	01 23 16.5	-0.6
VYHS				*e*				01 23 32.6	
VYHS				*e*				01 23 45.3	
VYHS				*e*	S		S	01 32 01.9	+4.7
VYHS					pmax		pmax		
	comp=Z,113nm,1.6s								
VYHS	Vyhne	64.75	314	*e*	P		P	01 23 16.5	-0.6
VYHS				*e*				01 23 32.6	
VYHS				*e*	PCP		PcP	01 23 45.3	-5.3
VYHS				*e*				01 27 31.8	
VYHS				*e*	S		S	01 32 01.9	+4.7
VYHS				*e*				01 44 53.3	
LKD2	Lefkada island	64.82	303		P		P	01 23 18.7	+1.0
LKD2	Lefkada island	64.82	303		P		P	01 23 18.7	+1.0
EVGI	Lefkada island	64.85	303		P		P	01 23 21.0	+3.1
PUK	Puka	64.86	307	*i*	P		P	01 23 23.3	+5.2
IGT	Igoumenitsa	64.94	304		P		P	01 23 21.3	+2.8
IGT	Igoumenitsa	64.94	304		P		P	01 23 21.3	+2.8
FSK	Fiskardo	64.95	303		P		P	01 23 18.8	+0.3
BBLS	Lazići	64.95	309	*e*	P		P	01 23 18.0	-0.6
VLS	Valsamata	64.98	303		P		P	01 23 18.9	+0.1
VLS	Valsamata	64.98	303		P		P	01 23 18.9	+0.1
RAC	Raciborz	64.99	316	*e*	P		P	01 23 16.3	-2.3
RAC					MLR		MLR		
	comp=Z,24µm,18.8s								
TIR	Tirane	64.99	306	*e*	P		P	01 23 18.4	-0.4
	comp=Z,138nm,0.9s								
TIR					LR		LR		
	comp=Z,16µm,21.0s								
TIR	Tirane	64.99	306	⇑	*i*P		P	01 23 20.0	+1.2
TIR	Tirane	64.99	306		P		P	01 23 22.6	+3.8
TIR	Tirane	64.99	306	⇑	P		P	01 23 20.0	+1.2
TIR	Tirane	64.99	306	*i*	P		P	01 23 22.7	+3.8
SGD	Sagiada	65.00	304		P		P	01 23 17.8	-1.1
KOME	Kolasin	65.02	308	⇑	*i*P		P	01 23 19.2	+0.1
PLE	Pljevlja	65.04	309	⇑	*i*P		P	01 23 18.9	-0.3
OKC	Ostrava-Krasne	65.04	316	*e*	P		P	01 23 19.2	+0.2
OKC				*ex*			x	01 23 31.0	
OKC					AMS		AMS	01 55 00.0	
	comp=Z,29µm,13.9s								
OKC	Ostrava-Krasne	65.04	316	*e*	P		P	01 23 19.2	+0.2
OKC				*e*				01 23 31.0	
OKC					MLR		MLR		
	comp=Z,29µm,13.9s								
TPE	Tepelena	65.06	305	*i*	P		P	01 23 37.1	+18
SMY	Shemya	65.09	41	*e*	P		P	01 23 18.8	-0.3
	comp=Z,1µm,1.1s								
SMY	Shemya	65.09	41	*e*	P		P	01 23 18.8	-0.3
SMY					pmax		pmax		
	comp=Z,1µm,1.1s								
SRN	Sarande	65.13	305		P		P	01 23 20.3	+0.6
SRN	Sarande	65.13	305		P		P	01 23 20.3	+0.6
SRN	Sarande	65.13	305	*i*	P		PcP	01 23 47.1	-5.2
CTA	Charters Tower	65.14	127		P		P	01 23 20.0	0.0
	comp=Z,43nm,1.2s,baz=325,slow=7.6,SNR=17								
CTA					LR		LR	01 53 47.6	
	comp=Z,4µm,21.1s,baz=308,slow=38								
CTA	Charters Tower	65.14	127		P		P	01 23 20.0	0.0
CTA					pmax		pmax		
	comp=Z,43nm,1.2s								
CTA					MLR		MLR		
	comp=Z,4µm,21.1s								
CTAO	Charters Tower	65.14	127	*e*	P		P	01 23 19.8	-0.2
	comp=Z,178nm,1.3s								
CTAO					LR		LR		
	comp=Z,40µm,22.0s								
MORH	M¨ɪr¡gy, Hung	65.16	312	*e*	P		P	01 23 18.1	-1.6
MORH	M¨ɪr¡gy, Hung	65.16	312	*e*	P		P	01 23 15.1	-4.6
HAPS	Han Pijesak,Bl	65.24	309	*e*	P		P	01 23 18.2	-2.3
GKP	Gorka Klasztor	65.25	320	*e*	P		P	01 23 27.4	+7.2
GKP				*e*	S		S	01 32 08.2	+5.0
GKP					LMZ		LR	01 49 07.2	
	comp=Z,58µm,41.8s								
GKP	Gorka Klasztor	65.25	320	*e*	P		P	01 23 27.4	+7.2
GKP				*e*	S		S	01 32 08.2	+5.0
PDG	Podgorica	65.27	308	⇑	*i*P		P	01 23 20.3	-0.3
PDG	Podgorica	65.27	308		P		P	01 23 19.3	-1.3
PDG	Podgorica	65.27	308	*e*	P		P	01 23 18.0	-2.6
TTG	Podgorica	65.27	308	⇑	*i*P		P	01 23 20.7	+0.1
TTG	Podgorica	65.27	308	*e*	P		P	01 23 19.0	-1.5
	comp=Z,224nm,1.1s								
TTG					LR		LR		
	comp=Z,24µm,22.0s								
TTG	Podgorica	65.27	308	*e*	P		P	01 23 19.0	-1.5
TTG					pmax		pmax		
	comp=Z,224nm,1.1s								
TTG					MLR		MLR		
	comp=Z,24µm,22.0s								
ULC	Ulcinj	65.36	307	⇑	*i*P		P	01 23 21.2	0.0
DRME	Dracevica, Mon	65.36	307	⇑	*i*P		P	01 23 21.8	+0.6
DRME	Dracevica, Mon	65.36	307	*e*	P		P	01 23 18.5	-2.7
NKY	Niksic	65.40	308	⇑	*i*P		P	01 23 21.0	-0.6
UPM	Unac-Piva	65.41	308	⇑	*i*P		P	01 23 21.0	-0.7
UPM	Unac-Piva	65.41	308	*e*	P		P	01 23 21.4	-0.3
MORC	Moravsky Berou	65.44	316	*e*	P		P	01 23 19.8	-1.7
	comp=Z,329nm,1.6s								
MORC					LR		LR		
	comp=Z,24µm,22.0s								
MORC	Moravsky Berou	65.44	316	⇓	*i*P		P	01 23 21.4	-0.2
MORC	Moravsky Berou	65.44	316	⇓	P		P	01 23 21.4	-0.2
MORC	Moravsky Berou	65.44	316	*e*	P		P	01 23 19.9	-1.7
MORC				*e*				01 27 35.1	
MORC				*e*	S		S	01 32 12.0	+6.2
NKME	Niksic	65.44	308	⇑	*i*P		P	01 23 22.0	+0.3
JAVC	Velka Javorina	65.47	315	*e*	P		P	01 23 23.3	+1.5
JAVC				*e*				01 27 36.2	
JAVC				*e*	S		S	01 32 13.8	+7.6
STEI	Steigen	65.48	336	*e*	P		P	01 23 21.2	-0.2
CEME	Cevo	65.50	308	⇑	*i*P		P	01 23 22.8	+0.6
BUM	Brajici-Budva	65.56	307	⇑	*i*P		P	01 23 23.1	+0.6
TIH	Tihany	65.58	313	*e*	P		P	01 23 22.8	+0.3
SPA0	Spitsbergen Ar	65.60	347	*e*	P		P	01 23 19.9	-2.2
SPA0	Spitsbergen Ar	65.60	347	*e*	P		P	01 23 22.5	+0.4
SPITS	Spitsbergen Ar	65.60	347		P		P	01 23 21.4	-0.7
	comp=Z,28nm,1.0s,baz=79,slow=15,SNR=1.0								
SPITS					S		S	01 32 07.5	+0.7
	comp=Z,6.9nm,0.9s,baz=58,slow=19,SNR=2.5								
HSPB	Hornsund (broa	65.68	346	*e*	P		P	01 23 24.2	+1.6
HSPB	Hornsund (broa	65.68	346	*e*	P		P	01 23 21.8	-0.8
BRY	Bratogost	65.72	308	⇑	*i*P		P	01 23 24.0	+0.3
BRY	Bratogost	65.72	308	*e*	P		P	01 23 20.6	-3.1
MODS	Modra-Piesok	65.79	314	*e*	P		P	01 23 22.9	-1.0
MODS				*e*				01 23 37.9	
MODS				*e*				01 23 51.3	
MODS				*e*	S		S	01 32 13.8	+3.8
MODS					pmax		pmax		
	comp=Z,154nm,1.3s								
MODS	Modra-Piesok	65.79	314	*e*	P		P	01 23 22.9	-1.0
MODS				*es*	P		sP	01 23 37.9	+7.7
MODS				*e*	PCP		PcP	01 23 51.3	-3.6
MODS				*e*				01 27 38.2	
MODS				*e*	S		S	01 32 13.8	+3.8
MODS				*e*				01 44 32.5	
HCY	Herceg Novi	65.83	308	⇑	*i*P		P	01 23 24.3	+0.1
MOR8	Moi Rana	65.83	334	*e*	P		P	01 23 21.6	-2.2
TREB	Trebinje	65.89	308	*e*	P		P	01 23 22.4	-2.2
KSP	Ksiaz	66.10	317	*e*	P		P	01 23 25.1	-0.7
KSP				*e*	PPP		PPP	01 27 35.9	
KSP				*e*	S		S	01 32 20.2	+6.5
KSP					LMZ		LR	01 50 37.4	
	comp=Z,41µm,36.6s								
KSP	Ksiaz	66.10	317	*e*	P		P	01 23 25.1	-0.7
KSP				*e*	PPP		PPP	01 27 35.9	
VRAC	Vranov	66.11	315	⇑	*i*P		P	01 23 25.8	-0.1
VRAC	Vranov	66.11	315	⇑	P		P	01 23 25.8	-0.1
VRAC	Vranov	66.11	315	*e*	P		P	01 23 24.4	-1.5
VRAC				*e*				01 27 42.8	
VRAC				*e*	S		S	01 32 21.1	+7.2
LOF	Lofoten	66.12	336	*e*	P		P	01 23 22.6	-2.9
LOF					IVmB_BB			01 23 31.9	
	comp=Z,2µm,1.8s								
LOF				*e*	S		S	01 32 16.3	+3.0
LOF					IVMs_BB		IVMs_BB	01 55 16.2	
	comp=Z,30µm,13.8s								
DPC	Dobruska-Polom	66.15	316	*e*	P		P	01 23 25.4	-0.8
DPC				*ex*			x	01 23 39.1	
DPC				*ex*			x	01 27 37.8	
DPC				*e*	S		S	01 32 20.9	+6.5
DPC				*es*	SS		SS	01 37 31.5	+62
DPC					AMS		AMS	01 58 10.0	
	comp=Z,37µm,15.9s								
DPC	Dobruska-Polom	66.15	316	*e*	P		P	01 23 25.4	-0.8
DPC				*e*				01 23 39.1	
DPC					MLR		MLR		
	comp=Z,37µm,15.9s								
KRUC	Moravsky	66.28	315	*e*	P		P	01 23 25.4	-1.5
KRUC				*e*				01 27 44.8	
KRUC				*e*	S		S	01 32 22.0	+6.1
KONS	Konsvik	66.35	334	*e*	P		P	01 23 27.1	0.0
BLY	Banja Luka	66.39	310	*e*	P		P	01 23 26.1	-1.7
	comp=Z,271nm,1.3s								
BLY	Banja Luka	66.39	310	⇓	*i*P		P	01 23 28.5	+0.8
BLY	Banja Luka	66.39	310	*e*	P		P	01 23 25.7	-2.0
BEHE	Becsehely	66.40	312	*e*	P		P	01 23 32.8	+5.0
BEHE	Becsehely	66.40	312	*e*	P		P	01 23 27.0	-0.8
BSD	Bornholm Skovb	66.42	322	*i*	P		P	01 23 33.2	+5.5
	comp=Z,54µm,15.0s								
BSD	Bornholm Skovb	66.42	322	*e*	P		P	01 23 33.2	+5.5
BSD					MLR		MLR		
	comp=Z,54µm,15.0s								
KBS	Kingsbay	66.52	348	*e*	P		P	01 23 26.5	-1.5
	comp=Z,217nm,1.3s								
KBS					LR		LR		
	comp=Z,34µm,18.0s								
KBS	Kingsbay	66.52	348	*ce*	P		P	01 23 28.8	+0.8
KBS					pmax		pmax		
	comp=Z,389nm,1.3s								
KBS					MLR		MLR		
	comp=Z,134µm,17.0s								
KBS	Kingsbay	66.52	348	*e*	P		P	01 23 27.9	-0.2
KOGS	Kog	66.76	312	*i*	P		P	01 23 29.7	-0.4
KOGS				*e*	S		S	01 32 26.0	+4.1
KOGS	Kog	66.76	312	*i*	P		P	01 23 29.7	-0.4
KOGS				*e*	S		S	01 32 26.0	+4.1
CONA	Conrad Observa	66.79	314	*e*	P		P	01 23 28.1	-2.3
	comp=Z,53nm,1.3s,SNR=20								
TREC	Trest	66.83	315	*e*	S		S	01 32 30.2	+7.5
TREC					AMS		AMS	02 01 00.0	
	comp=Z,23µm,16.2s								
NSS	Namsos	66.97	332	*e*	P		P	01 23 30.3	-0.8
TAR1	Taranto	67.06	306	*e*	P		P	01 23 35.8	+3.7
ARSA	Arzberg	67.13	313	*i*	P		P	01 23 31.0	-1.4
	comp=Z,26nm,1.4s								
MASS	Massafra	67.15	306	*e*	P		P	01 23 38.1	+5.4
PVCC	Panska Ves	67.23	317	*e*	P		P	01 23 32.1	-0.9
PVCC				*ex*			x	01 27 50.0	
PVCC				*ex*			x	01 37 56.5	
PVCC					AMS		AMS	02 03 20.0	
	comp=Z,27µm,15.8s								
PVCC	Panska Ves	67.23	317	*e*	P		P	01 23 32.1	-0.9
PVCC					MLR		MLR		
	comp=Z,27µm,15.8s								
BAI	Bari	67.25	306	*e*	P		P	01 23 37.9	+4.6
BBOO	Buckleboo	67.39	144	*e*	P		P	01 23 34.8	+0.6
	comp=Z,300nm,1.3s								
BBOO					LR		LR		
	comp=Z,114µm,21.0s								
PRA	Prague	67.39	316	*e*	P		P	01 23 33.5	-0.5
PRA				*ex*			x	01 23 54.7	
PRA				*ex*			x	01 32 39.5	
PRA					AMS		AMS	01 59 00.0	
	comp=Z,29µm,16.1s								
PRA	Prague	67.39	316	*e*	P		P	01 23 33.5	-0.5
PRA				*e*				01 23 54.7	
PRA					MLR		MLR		
	comp=Z,29µm,16.1s								
RGN	Rugen	67.40	321		PFAKE			01 23 50.0	+16
RGN					LR		LR		
	comp=Z,36µm,18.0s								
CRES	Cresnjev	67.41	312	*e*	P		P	01 23 31.2	-3.1
MBAR	Mbarara	67.41	259	*e*	P		P	01 23 34.5	-0.5
	comp=Z,131nm,1.1s								
MBAR					LR		LR		
	comp=Z,93µm,22.0s								
MBAR	Mbarara	67.41	259	*d*	*i*P		P	01 23 34.3	-0.6
NC405	NORSAR Array S	67.43	328	*e*	P		P	01 23 33.4	-0.6
SG1	Sgolgore (BA)	67.45	306	*e*	P		P	01 23 37.4	+2.8
SOKA	Soboth	67.55	313		P		P	01 23 33.2	-2.1
	comp=Z,26nm,1.2s								
NC602	NORSAR Array S	67.55	328	*e*	P		P	01 23 35.3	+0.4
BRG	Berggiesshubel	67.57	317	*i*	P		P	01 23 34.3	-0.9
	comp=Z,39nm,1.3s								
BRG				*i*				01 23 55.6	
	comp=Z,196nm,1.4s								
BRG				*i*				01 24 03.3	
	comp=Z,213nm,1.6s								
BRG					S		S	01 32 33.0	+1.5
BRG					SS		SS	01 37 26.0	+34
BRG				*e*	PKPPKP		P'P'df	01 51 59.5	-3.8
	comp=Z,20nm,1.7s								
BRG	Berggiesshubel	67.57	317	*i*	P		P	01 23 34.3	-0.9
BRG				*i*				01 24 03.3	
BRG					S		S	01 32 33.0	+1.5
BRG					pmax		pmax		
	comp=Z,39nm,1.3s								
NC303	NORSAR Array S	67.58	329	*e*	P		P	01 23 34.0	-1.1
NB201	NORSAR Array S	67.64	328	*e*	P		P	01 23 36.6	+1.2
NB2	NORSAR Subarra	67.68	328		P		P	01 23 33.0	-2.7
	comp=Z,142nm,1.0s,baz=83,slow=6.5								
NB2	NORSAR Subarra	67.68	328		P		P	01 23 33.0	-2.7
	baz=83,slow=6.5								
NOA	NORSAR Array B	67.68	328		P		P	01 23 33.0	-2.7
	comp=Z,3.7nm,0.8s,baz=83,slow=6.4,SNR=12								
NOA					S		S	01 32 26.6	-5.8
	comp=Z,1.9nm,0.9s,baz=66,slow=4.5,SNR=2.9								
NOA					LR		LR	01 57 50.7	
	comp=Z,15µm,18.5s,baz=90,slow=40								
PDKS	Podkum	67.69	312	*e*	P		P	01 23 36.7	+0.6
PDKS				*e*	S		S	01 32 35.1	+2.1
PDKS	Podkum	67.69	312	*e*	P		P	01 23 36.7	+0.6
PDKS				*e*	S		S	01 32 35.1	+2.1
TIP	Timpagrande	67.73	304	*e*	P		P	01 23 36.2	-0.3
	comp=Z,119nm,1.1s

KHC **Kasperske Hory** **68.09 315** *e*P **P** **01 23 36.6 -2.0**
comp=Z,57nm,1.3s
KHC LR LR
comp=Z,10µm,20.0s
KHC **Kasperske Hory** **68.09 315** *e*P **P** **01 23 35.5 -3.0**
KHC *ex* x 01 26 27.0
KHC *ex* x 01 28 04.6
KHC *e*S **S** **01 32 37.6 -0.3**
KHC *e*SS SS 01 38 03.4 +63
KHC AMS AMS 01 59 30.0
comp=Z,28µm,17.7s
KHC **Kasperske Hory** **68.09 315** *e*P P 01 23 29.6 -8.9
KHC *e* 01 23 35.5
KHC *e*S **S** **01 32 37.6 -0.3**
KHC MLR MLR
comp=Z,28µm,17.7s
CEY **Cerknica** **68.14 312** *e*P **P** **01 23 37.8 -1.1**
CUC **Castrocucco** **68.27 305** *e*P **P** **01 23 39.2 -0.6**
comp=Z,151nm,1.2s
CUC LR LR
comp=Z,13µm,21.0s
MYKA **Terra Mystica** **68.50 313** *e*P **P** **01 23 40.8 -0.4**
comp=Z,11nm,1.3s
DOMB **Dombas** **68.56 330** *e* **P** **01 23 40.3 -0.9**
CEL **Celeste** **68.58 304** *e*P **P** **01 23 41.5 -0.3**
comp=Z,198nm,1.0s
TRI **Trieste** **68.60 312** *e*P **P** **01 23 42.3 +0.6**
comp=Z,171nm,1.0s
KBA **Koelnbreinsper** **68.62 313** *e*P **P** **01 23 40.3 -1.7**
comp=Z,29nm,1.3s
NKC **Novy Kostel** **68.62 317** *e*P P 01 23 35.5 -6.3
NKC *e*S **S** **01 32 50.2 +6.1**
NKC AMS AMS 02 02 10.0
comp=Z,30µm,19.4s
NKC **Novy Kostel** **68.62 317** *e*P P 01 23 35.5 -6.3
NKC *e*S **S** **01 32 50.2 +6.1**
NKC MLR MLR
comp=Z,30µm,19.4s
KONO **Kongsberg** **68.67 327** *e*P **P** **01 23 41.6 -0.3**
comp=Z,176nm,1.1s
KONO LR LR
comp=Z,44µm,18.0s
KONO **Kongsberg** **68.67 327**⇑ *e*P **P** **01 23 42.7 +0.9**
KONO pmax pmax
comp=Z,37nm,1.5s
KONO MLR MLR
comp=Z,32µm,15.0s
MOL **Molde** **69.18 330** *e*P **P** **01 23 44.2 -0.7**
ABTA **Abfaltersbach** **69.24 313** *e*P **P** **01 23 45.3 -0.5**
comp=Z,22nm,1.8s
MUD **Monsted U'grnd** **69.43 324** *i* P **P** **01 23 49.9 +3.3**
comp=Z,47µm,15.0s
MUD **Monsted U'grnd** **69.43 324** *e*P **P** **01 23 49.9 +3.3**
MUD MLR MLR
comp=Z,47µm,15.0s
AKN **Aaknes** **69.50 330** *e* P 01 24 04.3 +17
GRFO **Grafenberg** **69.50 316** *e*P **P** **01 23 46.5 -0.7**
comp=Z,467nm,1.4s
GRFO LR LR
comp=Z,24µm,21.0s
GRFO **Grafenberg** **69.50 316** *e*P **P** **01 23 46.6 -0.7**
GRFO pmax pmax
comp=Z,467nm,1.4s
GRFO MLR MLR
comp=Z,24µm,21.0s
AQU **L'Aquila** **69.55 308** *e*P **P** **01 23 46.9 -0.8**
comp=Z,476nm,1.2s
AQU LR LR
comp=Z,30µm,22.0s
AQU **L'Aquila** **69.55 308** *e*P **P** **01 23 46.9 -0.8**
AQU pmax pmax
comp=Z,476nm,1.2s
AQU MLR MLR
comp=Z,30µm,22.0s
AQU **L'Aquila** **69.55 308** *e*P **P** **01 23 45.3 -2.4**
WTTA **Wattenberg** **69.72 314** *e*P **P** **01 23 46.8 -2.1**
comp=Z,28nm,1.2s
WATA **Walderalm** **69.75 314** *e*P **P** **01 23 46.6 -2.4**
comp=Z,18nm,1.0s
STKA **Stephens Creek** **69.86 140** P **P** **01 23 49.8 +0.2**
comp=Z,93nm,1.1s,baz=320,slow=7.3,SNR=58
PP PP 01 26 32.6 +8.1
comp=Z,24nm,1.0s,baz=303,slow=13,SNR=2.0
STKA S **S** **01 32 52.0 -7.0**
comp=Z,2.4nm,0.7s,baz=318,slow=14,SNR=2.2
STKA LR LR 02 00 21.8
comp=Z,77µm,19.0s,baz=299,slow=41
STKA **Stephens Creek** **69.86 140** *e*P **P** **01 23 50.3 +0.7**
comp=Z,31nm,0.9s
STKA PP PP 01 26 32.6 +8.1
STKA S **S** **01 32 52.0 -7.0**
KWAJ **Kwajalein Atol** **69.88 89** PFAKE 01 24 00.0 +10
KWAJ LR LR
comp=Z,18µm,22.0s
SQTA **Sankt Quirin** **70.02 314** *e*P **P** **01 23 48.7 -1.9**
comp=Z,24nm,0.9s,SNR=9.5
MOTA **Moosalm** **70.06 314** *e*P **P** **01 23 48.7 -2.2**
comp=Z,18nm,0.8s,SNR=12
ODD1 **Odda** **70.10 328** *e* P 01 23 60.0 +9.2
WDD **Wied Dalam** **70.22 301** PFAKE 01 24 00.0 +8.1
WDD LR LR
comp=Z,9µm,20.0s
RETA **Reutte** **70.26 314** *e*P **P** **01 23 50.2 -1.8**
comp=Z,69nm,1.1s
FETA **Feichten** **70.38 314** *e*P **P** **01 23 50.8 -2.1**
comp=Z,35nm,1.3s,SNR=6.9
HNR **Honiara** **70.46 110** PFAKE 01 24 10.0 +16
HNR LR LR
comp=Z,17µm,22.0s
BER **Bergen** **70.64 328** *e* P 01 24 10.2 +16
ASK **Askoy** **70.68 328** *e* 01 33 32.0
FUORN **Ofenpass-Fuorn** **70.78 313** *e*P **P** **01 23 54.1 -1.3**
comp=Z,396nm,1.8s
FUORN LR LR
comp=Z,18µm,20.0s
ADK **Adak** **70.81 41** *e*P **P** **01 23 54.1 -1.1**
comp=Z,103nm,1.1s
ADK LR LR
comp=Z,21µm,19.0s
ADK **Adak** **70.81 41** *e*P **P** **01 23 54.1 -1.1**
ADK pmax pmax
comp=Z,103nm,1.1s
ADK MLR MLR
comp=Z,21µm,19.0s
DAVA **Damuels** **70.89 314** *e*P **P** **01 23 54.7 -1.3**
comp=Z,39nm,1.2s
STU **Stuttgart** **71.00 316** *e*P **P** **01 23 55.1 -1.3**
comp=Z,1µm,2.0s
STU LR LR
comp=Z,24µm,22.0s
STU **Stuttgart** **71.00 316** *e*P **P** **01 23 55.1 -1.3**
STU pmax pmax
comp=Z,1µm,2.0s
STU MLR MLR
comp=Z,24µm,22.0s
DAVOX **Davos/Dischmat** **71.00 314** PKPPKP **P'P'ab** **01 51 50.4 -3.9**
comp=Z,3.6nm,1.0s,baz=149,slow=14,SNR=3.2
VLC **Villacollemand** **71.28 311** *e*P **P** **01 23 57.7 -0.6**
comp=Z,980nm,2.0s
VLC LR LR
comp=Z,20µm,22.0s
TUE **Stuetta** **71.43 313** *e*P **P** **01 23 58.4 -0.9**
comp=Z,132nm,1.0s
TUE LR LR
comp=Z,30µm,18.0s
BFO **Black Forest** **71.66 315** *e*P **P** **01 23 58.8 -1.7**
comp=Z,231nm,1.5s
BFO LR LR
comp=Z,25µm,21.0s
BFO **Black Forest** **71.66 315** *e*P **P** **01 23 58.8 -1.7**
BFO pmax pmax
comp=Z,231nm,1.5s
BFO MLR MLR
comp=Z,25µm,21.0s
EIDS **Eidsvold** **71.89 129** *e*P **P** **01 24 02.1 0.0**
comp=Z,174nm,1.1s
EIDS LR LR
comp=Z,54µm,22.0s
ATKA **Atka Island** **72.23 40** *e*P **P** **01 24 02.6 -1.1**
comp=Z,152nm,1.1s
ATKA LR LR
comp=Z,20µm,21.0s
ECH **Echery** **72.44 315** PFAKE 01 24 20.0 +15
ECH LR LR
comp=Z,12µm,19.0s
MEM **Membach** **72.56 318** ⇓P **P** **01 24 04.9 -0.9**
comp=Z,66nm,1.8s

WLF **Walferdange** **72.71 317** *e*P **P** **01 24 05.3 -1.4**
comp=Z,394nm,1.1s
WLF LR LR
comp=Z,23µm,19.0s
WLF **Walferdange** **72.71 317** *e*P **P** **01 24 05.3 -1.4**
WLF pmax pmax
comp=Z,394nm,1.1s
WLF MLR MLR
comp=Z,23µm,19.0s
WLF **Walferdange** **72.71 317** ⇑P **P** **01 24 04.8 -1.9**
comp=Z,320nm,1.6s
BEBN **Eben Emael** **72.71 318** ⇑sP P 01 24 11.9 +5.2
SENIN **Lac Senin/Sane** **72.83 314** *e*P **P** **01 24 06.9 -0.9**
comp=Z,149nm,0.9s
SENIN LR LR
comp=Z,26µm,21.0s
BCLA **Clavier** **73.04 318** ⇑P **P** **01 24 08.8 +0.1**
comp=Z,80nm,1.6s
RDOG **Red Dog Mine** **73.09 23** *e*P **P** **01 24 08.5 -0.1**
comp=Z,235nm,1.0s
RDOG LR LR
comp=Z,69µm,20.0s
JMIC **Jan Mayen** **73.11 341** LR LR 02 00 07.1
comp=Z,12µm,19.0s,baz=76,slow=39
DAG **Danmarks Havn** **73.25 347** *i* P **P** **01 24 07.4 -2.0**
comp=Z,368nm,1.1s
comp=Z,38µm,18.0s
DAG **Danmarks Havn** **73.25 347** *i* P **P** **01 24 07.4 -2.0**
DAG pmax pmax
comp=Z,470nm,1.1s
DAG MLR MLR
comp=Z,39µm,18.0s
ANM **Nome** **73.26 26** *e*P **P** **01 24 09.8 +0.1**
comp=Z,440nm,1.2s
ANM LR LR
comp=Z,24µm,21.0s
ANM **Nome** **73.26 26** *e*P **P** **01 24 09.8 +0.1**
ANM pmax pmax
comp=Z,440nm,1.2s
ANM MLR MLR
comp=Z,24µm,21.0s
UCC **Uccle** **73.52 319** *e*P **P** **01 24 11.3 -0.1**
comp=Z,86nm,1.3s
UCC LR LR
comp=Z,30µm,18.0s
UCC **Uccle** **73.52 319** *e*P **P** **01 24 11.3 -0.1**
UCC pmax pmax
comp=Z,86nm,1.3s
UCC MLR MLR
comp=Z,30µm,18.0s
UCC **Uccle** **73.52 319** ⇑P **P** **01 24 11.7 +0.3**
DOU **Dourbes** **73.57 318** ⇓sP **P** **01 24 15.6 +3.9**
comp=Z,56nm,1.9s
BNI **Bardonecchia** **73.60 312** *e*P **P** **01 24 11.5 -0.7**
comp=Z,81nm,0.9s
BNI LR LR
comp=Z,21µm,22.0s
BNI **Bardonecchia** **73.60 312** *e*P **P** **01 24 11.5 -0.7**
BNI pmax pmax
comp=Z,81nm,0.9s
BNI MLR MLR
comp=Z,21µm,22.0s
LRW **Lerwick** **73.84 329** IAMs_20 IAMs_20 02 00 39.5
comp=Z,53µm,14.2s
TAMR **Tamra** **74.10 304** *e*P **P** **01 24 15.2 +0.1**
comp=Z,160nm,1.0s
KEST **Kesra** **74.30 302** P **P** **01 24 15.8 -0.6**
comp=Z,18nm,1.0s,baz=268,slow=2.9,SNR=5.3
KEST S **S** **01 33 50.2 -0.1**
comp=Z,6.7nm,1.0s,baz=49,slow=9.3,SNR=2.4
KEST **Kesra** **74.30 302** *e*P **P** **01 24 16.5 +0.1**
comp=Z,619nm,1.4s
KEST S **S** **01 33 50.2 -0.1**
KEST LR LR
comp=Z,10µm,22.0s
SSB **Saint Sauveur** **74.99 313** *e*P **P** **01 24 19.8 -0.4**
comp=Z,107nm,1.1s
SSB LR LR
comp=Z,16µm,20.0s
SSB **Saint Sauveur** **74.99 313** *e*P **P** **01 24 19.8 -0.4**
SSB pmax pmax
comp=Z,107nm,1.1s
SSB MLR MLR
comp=Z,16µm,20.0s
NIKH **Nikolski High** **75.14 39** PFAKE 01 24 30.0 +9.2
NIKH LR LR
comp=Z,22µm,18.0s
WACR **West Acre** **75.17 321** IAMs_20 IAMs_20 02 04 31.3
comp=Z,45µm,20.4s
ARMA **Armidale** **75.34 132** *e*P **P** **01 24 23.9 +1.5**
comp=Z,201nm,1.2s
ARMA LR LR
comp=Z,89µm,22.0s
ELSH **Elham, Standar** **75.36 320** IAMs_20 IAMs_20 02 02 23.4
comp=Z,59µm,16.0s
GDLE **Glaisdale, N Y** **75.44 323** IAMs_20 IAMs_20 02 02 33.0
comp=Z,32µm,14.6s
PAF **Port-aux-Franc** **75.46 197** PFAKE 01 24 30.0 +7.6
PAF LR LR
comp=Z,83µm,20.0s
LMK **Market Rasen** **75.48 322** *e*P **P** **01 24 26.2 +3.4**
LMK IAMs_20 IAMs_20 02 04 36.9
comp=Z,32µm,14.1s
CMAH **Djebel Manchou** **75.52 304** P **P** **01 24 23.5 +0.1**
DRUM **Mains of Drumt** **75.52 326** *e*P **P** **01 24 26.5 +3.6**
DRUM IAMs_20 IAMs_20 02 05 27.2
comp=Z,35µm,17.9s
ABSA **Djebel Ababsia** **75.58 303** P **P** **01 24 25.7 +1.9**
SOFL **Sornfelli, Far** **75.82 332** IAMs_20 IAMs_20 02 02 12.6
comp=Z,65µm,17.9s
CAEH **'Ain El Ouahch** **75.91 304** P **P** **01 24 26.3 +0.7**
ESY **Stoneypath** **75.92 325** *e*P **P** **01 24 28.2 +3.0**
HMNX **Herstmonceux** **75.93 319** IAMs_20 IAMs_20 02 02 42.7
comp=Z,59µm,16.3s
EDMD **Edmundbyers** **75.94 324** *e*P **P** **01 24 29.0 +3.6**
EDMD IAMs_20 IAMs_20 02 02 36.2
comp=Z,40µm,14.5s
HPK **Haverah Park** **76.05 323** IAMs_20 IAMs_20 02 02 20.2
comp=Z,33µm,15.1s
CKFL **Kef-Lekhel** **76.12 304** P **P** **01 24 27.4 +0.4**
UNV **Unalaska Valle** **76.18 37** PFAKE 01 24 40.0 +13
UNV LR LR
comp=Z,20µm,18.0s
EDI **Edinburgh** **76.22 325** IAMs_20 IAMs_20 02 07 50.7
comp=Z,34µm,15.6s
CWF **Charnwood Fore** **76.28 322** *e*P **P** **01 24 30.4 +3.1**
CWF IAMs_20 IAMs_20 02 01 53.0
comp=Z,35µm,16.2s
LSZ **Lusaka** **76.29 247** *e*P **P** **01 24 27.3 -0.8**
comp=Z,138nm,0.9s
LSZ LR LR
comp=Z,74µm,20.0s
LSZ **Lusaka** **76.29 247** P **P** **01 24 28.0 -0.2**
SNR=21
LSZ **Lusaka** **76.29 247** *e*P **P** **01 24 27.3 -0.8**
LSZ pmax pmax
comp=Z,138nm,0.9s
LSZ MLR MLR
comp=Z,74µm,20.0s
LBWR **Ladybower, Pea** **76.29 322** *e*P **P** **01 24 29.9 +2.5**
CASM **Ain Smara** **76.34 304** P **P** **01 24 29.0 +0.9**
ESK **Eskdalemuir** **76.44 325** *e*P **P** **01 24 27.6 -0.6**
comp=Z,73nm,0.8s
ESK LR LR
comp=Z,34µm,19.0s
ESK **Eskdalemuir** **76.44 325** *e*P **P** **01 24 31.2 +3.0**
ESK IAMs_20 IAMs_20 02 01 38.9
comp=Z,37µm,19.7s
ESK **Eskdalemuir** **76.44 325** *e*P **P** **01 24 27.6 -0.6**
ESK pmax pmax
comp=Z,73nm,0.8s
ESK MLR MLR
comp=Z,34µm,19.0s
CTEI **Djebel Teioual** **76.47 304** P **P** **01 24 30.0 +1.0**
AKUT **Akutan** **76.49 37** PFAKE 01 24 40.0 +12
AKUT LR LR
comp=Z,22µm,20.0s
INVG **Invergeldie, C** **76.49 326** IAMs_20 IAMs_20 02 04 58.2
comp=Z,29µm,16.6s
KESW **Keswick, Cumbr** **76.64 324** *e*P **P** **01 24 32.4 +3.0**
KESW IAMs_20 IAMs_20 02 02 25.3
comp=Z,39µm,14.6s
STNC **Stoke** **76.67 322** IAMs_20 IAMs_20 02 02 51.8
comp=Z,30µm,15.0s
WOL **Wolverton** **76.71 320** *e*P **P** **01 24 33.0 +3.2**
DFRA **Djebel Bou Aff** **76.72 304** P **P** **01 24 32.2 +1.8**
CAN **Canberra** **76.72 138** *e*P **P** **01 24 31.5 +1.4**
comp=Z,222nm,1.2s
CAN LR LR
comp=Z,129µm,21.0s
CAN **Canberra** **76.72 138** *e*P **P** **01 24 31.5 +1.4**
CAN pmax pmax
comp=Z,222nm,1.2s
CAN MLR MLR
comp=Z,129µm,21.0s
KAC **Achnashellach** **76.74 327** *e*P **P** **01 24 32.6 +2.7**
MIDW **Midway** **76.84 65** PFAKE 01 24 40.0 +9.0
MIDW LR LR
comp=Z,18µm,22.0s
MAHO **Mahon** **76.85 308** *i* P P 01 24 45.0 +14
MAHO *e*S S 01 34 32.5 +14
PGBU **Glenifferbraes** **76.94 325** IAMs_20 IAMs_20 02 06 21.7
comp=Z,35nm,19.0s
KPL **Plockton** **76.98 327** IAMs_20 IAMs_20 02 02 09.5
comp=Z,52µm,15.2s
SWN1 **Swindon** **76.98 321** IAMs_20 IAMs_20 02 05 25.6
comp=Z,41µm,18.3s
STRD **Stroud** **77.10 321** IAMs_20 IAMs_20 02 05 19.9
comp=Z,53µm,17.8s
CKHR **Kef el Ahmar** **77.17 304** P **P** **01 24 34.2 +1.3**
SET **Setif** **77.20 304** P P 01 24 38.0 +5.0
IM3 **Indian Mountai** **77.21 23** *e*P **P** **01 24 30.2 -2.2**
HLM1 **Long Mynd** **77.25 322** *e*P **P** **01 24 35.9 +3.0**
HLM1 IAMs_20 IAMs_20 02 03 19.9
comp=Z,19µm,13.8s
LAWE **Loch Awe, Argy** **77.26 326** *e*P **P** **01 24 35.6 +2.8**
LAWE IAMs_20 IAMs_20 02 03 13.3
comp=Z,43µm,16.0s
FOEL **Foel Wylfa** **77.30 322** IAMs_20 IAMs_20 02 04 28.1
comp=Z,32µm,14.5s
SCO **Scoresbysund** **77.31 342** *e*P **P** **01 24 32.3 -0.5**
comp=Z,215nm,1.3s
SCO LR LR
comp=Z,21µm,19.0s
SCO **Scoresbysund** **77.31 342** *i* P **P** **01 24 32.5 -0.3**
comp=Z,24µm,18.0s
SCO **Scoresbysund** **77.31 342** *e*P **P** **01 24 32.3 -0.5**
SCO pmax pmax
comp=Z,215nm,1.3s
SCO MLR MLR
comp=Z,21µm,19.0s
BATH **Bath** **77.32 321** *e*P **P** **01 24 36.7 +3.4**
BATH IVMsBB 02 06 25.2
comp=Z,16µm,14.7s
TOLK **Toolik Lake Re** **77.33 20** *e*P **P** **01 24 32.1 -1.0**
comp=Z,794nm,1.5s
TOLK LR LR
comp=Z,52µm,18.0s
TOLK **Toolik Lake Re** **77.33 20** P **P** **01 24 33.5 +0.4**
baz=301
OLDB **Oldbury-Upon-S** **77.37 321** IAMs_20 IAMs_20 02 03 13.5
comp=Z,48µm,16.9s
GAL1 **Galloway** **77.41 324** IAMs_20 IAMs_20 02 02 19.6
comp=Z,19µm,18.1s
MCH1 **Michaelchurch** **77.51 321** IAMs_20 IAMs_20 02 05 34.2
comp=Z,48µm,15.4s
FALS **False Pass** **77.51 36** PFAKE 01 24 40.0 +5.8
FALS LR LR
comp=Z,21µm,19.0s
IOMK **Kirk Michael** **77.56 324** *e*P **P** **01 24 36.8 +2.2**
IOMK IAMs_20 IAMs_20 02 03 01.3
comp=Z,36µm,14.5s
TARA **Tarawa** **77.57 94** PFAKE 01 24 50.0 +15
TARA LR LR
comp=Z,26µm,22.0s
WLF1 **Llynfaes** **77.83 323** IAMs_20 IAMs_20 02 03 57.8
comp=Z,60µm,17.7s
WPS **Cemaes, Angles** **77.84 323** IAMs_20 IAMs_20 02 04 06.8
comp=Z,33µm,14.8s
COLD **Coldfoot** **77.85 21** *e*P **P** **01 24 35.2 -0.7**
comp=Z,119nm,1.3s
COLD LR LR
comp=Z,77µm,19.0s
JSA **Saint Aubin** **78.03 318** IAMs_20 IAMs_20 02 04 10.5
comp=Z,27µm,15.4s
CLGH **Cloghs, Cushen** **78.08 325** IAMs_20 IAMs_20 02 04 12.4
comp=Z,37µm,15.6s
BLWY **Bulawayo** **78.30 242** *i* P **P** **01 24 39.2 -0.1**
BLWY **Bulawayo** **78.30 242** *i* P **P** **01 24 39.2 -0.1**
GMM **Mts of Mourne** **78.32 324** *e*P **P** **01 24 40.8 +2.1**
MATP **Matopo** **78.53 242** *i* P **P** **01 24 39.9 -0.7**
MATP **Matopo** **78.53 242** *i* P **P** **01 24 39.9 -0.7**
RSBS **Rosebush, Pemb** **78.53 322** IAMs_20 IAMs_20 02 04 37.9
comp=Z,21µm,14.8s
DYA **Yadsworthy** **78.63 320** IAMs_20 IAMs_20 02 04 31.7
comp=Z,34µm,15.7s
SVW2 **Sparrevohn** **78.73 28** *e*P **P** **01 24 40.2 -0.8**
comp=Z,423nm,1.3s
SVW2 LR LR
comp=Z,43µm,18.0s
HTL **Hartland** **78.74 321** IAMs_20 IAMs_20 02 05 20.2
comp=Z,45µm,16.3s
MLY **Manley** **78.78 23** *e*P **P** **01 24 40.0 -1.1**
comp=Z,259nm,1.0s
MLY LR LR
comp=Z,69µm,18.0s
ABA **Alger-Bouzarea** **78.79 305** P **P** **01 24 40.0 -1.8**
SDPT **Sand Point** **78.88 34** *e*P **P** **01 24 40.2 -1.6**
comp=Z,420nm,1.1s
SDPT LR LR
comp=Z,24µm,19.0s
DSB **Dublin** **78.94 323** PFAKE 01 24 50.0 +7.8
DSB LR LR
comp=Z,33µm,19.0s
EMHD **Djebel Mahouad** **79.06 305** P **P** **01 24 41.9 -1.5**
CAST **Castle Rocks** **79.07 25** *e*P **P** **01 24 41.7 -1.1**
comp=Z,770nm,1.3s
CAST LR LR
comp=Z,48µm,18.0s
BPAW **Bear Paw Mtn.** **79.16 24** *e*P **P** **01 24 41.9 -1.3**
comp=Z,228nm,0.9s
BPAW LR LR
comp=Z,59µm,18.0s
PPLA **Purkeypile** **79.29 26** *e*P **P** **01 24 43.3 -0.9**
comp=Z,697nm,1.3s
PPLA LR LR
comp=Z,57µm,18.0s
CCA1 **Carnmenellis** **79.49 320** *e*P **P** **01 24 49.8 +4.5**
CCA1 IAMs_20 IAMs_20 02 05 09.8
comp=Z,53µm,14.0s
CHGN **Chignik** **79.53 33** *e*P **P** **01 24 42.9 -2.4**
comp=Z,498nm,1.2s
CHGN LR LR
comp=Z,27µm,18.0s
CRZF **Crozet Islands** **79.65 209** PFAKE 01 25 00.0 +14
CRZF LR LR
comp=Z,21µm,19.0s
BWN **Browne** **79.69 24** *e*P **P** **01 24 46.2 0.0**
comp=Z,634nm,1.3s
BWN LR LR
comp=Z,53µm,19.0s
MDM **Murphy Dome** **79.72 23** *e*P **P** **01 24 44.8 -1.5**
comp=Z,2µm,1.7s
MDM LR LR
comp=Z,44µm,19.0s
TRF **Thorofare Moun** **79.75 25** *e*P **P** **01 24 46.5 -0.2**
comp=Z,197nm,1.2s
TRF LR LR
comp=Z,38µm,19.0s
FYU **Fort Yukon** **79.86 21** PFAKE 01 25 00.0 +13
FYU LR LR
comp=Z,72µm,18.0s
TCOL **CIGO, UAF Yank** **79.90 23** P **P** **01 24 47.6 +0.4**
baz=303
COLA **College** **79.91 23** *e*P **P** **01 24 46.1 -1.1**
comp=Z,400nm,1.3s
COLA LR LR
comp=Z,51µm,18.0s
COLA **College** **79.91 23** *e*P **P** **01 24 46.1 -1.1**
COLA pmax pmax
comp=Z,400nm,1.3s
COLA MLR MLR
comp=Z,51µm,18.0s
POKR **Poker Plat Res** **79.92 23** P **P** **01 24 47.0 -0.4**
baz=303
SUMG **Summit** **79.94 347** *e*P **P** **01 24 46.2 -1.6**
comp=Z,874nm,1.0s
SUMG LR LR
comp=Z,35µm,18.0s
SUMG **Summit** **79.94 347** *i* P **P** **01 24 46.8 -1.0**
comp=Z,2µm,1.2s
comp=Z,88µm,17.0s
SUMG **Summit** **79.94 347** *e*P **P** **01 24 46.2 -1.6**
SUMG pmax pmax

comp=Z,874nm,1.0s
SUMG MLR MLR
comp=Z,35µm,18.0s
SKT Skwentna 80.01 26 *e*P **P 01 24 46.3 -1.7**
comp=Z,987nm,1.5s
SKT LR LR
comp=Z,50µm,22.0s
WRH Wood River Hil 80.04 23 *e*P **P 01 24 47.0 -1.0**
comp=Z,91nm,1.0s
WRH LR LR
comp=Z,44µm,19.0s
CCB Clear Creek Bu 80.05 23 *e*P **P 01 24 46.0 -2.0**
comp=Z,248nm,1.5s
CCB LR LR
comp=Z,36µm,19.0s
EBNR Beni Rached 80.11 305 P **P 01 24 46.0 -3.0**
MCK McKinley 80.12 24 *e*P **P 01 24 47.4 -1.1**
comp=Z,421nm,1.3s
MCK LR LR
comp=Z,32µm,20.0s
ECHA Ech Chlef 80.28 305 P **P 01 24 48.0 -1.8**
BORG Borgarnes 80.29 337 PFAKE 01 25 00.0 +11
BORG LR LR
comp=Z,21µm,19.0s
IL1 Eielson Array 80.31 23 *e*P **P 01 24 46.2 -3.3**
ILAR Eielson Array 80.31 23 P **P 01 24 46.7 -2.7**
comp=Z,37nm,1.1s,baz=286,slow=3.4,SNR=103
ILAR S S 01 34 42.2 -12
comp=Z,0.5nm,1.0s,baz=297,slow=10.0,SNR=3.0
ILAR PKPPKP **P'P'df**
comp=Z,0.9nm,1.0s,baz=186,slow=2.0,SNR=5.5
ILAR LR LR 02 04 12.5
comp=Z,24µm,18.8s,baz=297,slow=39
ILB Eielson Array 80.31 23 *e*P **P 01 24 47.1 -2.4**
RND Reindeer 80.33 24 *e*P **P 01 24 47.9 -1.8**
comp=Z,497nm,1.2s
RND LR LR
comp=Z,38µm,20.0s
RND Reindeer 80.33 24 *e*P **P 01 24 47.9 -1.8**
RND pmax pmax
comp=Z,497nm,1.2s
RND MLR MLR
comp=Z,38µm,20.0s
TULEG Thule 80.35 356 *e*P **P 01 24 47.9 -1.6**
comp=Z,638nm,1.0s
TULEG LR LR
comp=Z,22µm,18.0s
HDA Harding Lake 80.49 23 *e*P **P 01 24 49.0 -1.5**
comp=Z,143nm,1.2s
HDA LR LR
comp=Z,48µm,18.0s
HDA Harding Lake 80.49 23 P **P 01 24 49.8 -0.6**
baz=304
EANR 'Ain N'Sour 80.55 305 P **P 01 24 53.0 +1.6**
SUA Susitna One 80.60 27 *e*P **P 01 24 49.7 -1.6**
comp=Z,418nm,1.1s
SUA LR LR
comp=Z,21µm,19.0s
ETRT Tiaret 80.61 304 P P 01 24 58.0 +6.2
TAU Tasmania Unive 80.81 144 *e*P **P 01 24 53.1 +0.7**
comp=Z,273nm,1.4s
TAU LR LR
comp=Z,94µm,20.0s
DHY Denali Highway 81.07 24 *e*P **P 01 24 53.3 -0.4**
comp=Z,278nm,1.6s
DHY LR LR
comp=Z,32µm,20.0s
HOM Homer 81.14 28 *e*P **P 01 24 55.4 +1.4**
comp=Z,694nm,1.3s
HOM LR LR
comp=Z,30µm,18.0s
LHI Lord Howe Isla 81.16 130 PFAKE 01 25 10.0 +16
LHI LR LR
comp=Z,62µm,20.0s
GHO Glory Hole Cre 81.18 26 *e*P **P 01 24 53.9 -0.4**
comp=Z,733nm,1.7s
GHO LR LR
comp=Z,48µm,20.0s
PMR Palmer 81.19 26 *e*P **P 01 24 52.6 -1.6**
PMR Palmer 81.19 26 *e*P **P 01 24 52.6 -1.6**
KULLO Kullorsuaq 81.22 353 *i*P **P 01 24 53.6 -0.5**
comp=Z,23µm,16.0s
KULLO Kullorsuaq 81.22 353 *i*P **P 01 24 53.6 -0.5**
KULLO MLR MLR
comp=Z,23µm,16.0s
CNPM China Poot 81.39 28 *e*P **P 01 24 55.2 -0.2**
comp=Z,309nm,1.2s
CNPM LR LR
comp=Z,33µm,19.0s
SML Sawmill 81.39 26 *e*P **P 01 24 54.6 -0.7**
comp=Z,1µm,1.5s
SML LR LR
comp=Z,46µm,19.0s
SML Sawmill 81.39 26 *e*P **P 01 24 54.6 -0.7**
SML pmax pmax
comp=Z,1µm,1.5s
SML MLR MLR
comp=Z,46µm,19.0s
BRLK Bradley Lake 81.42 28 *e*P **P 01 24 53.8 -1.7**
comp=Z,323nm,0.9s
BRLK LR LR
comp=Z,29µm,20.0s
SII Sitkinak Islan 81.51 32 *e*P **P 01 24 56.5 +0.5**
comp=Z,266nm,1.0s
CART Cartagena 81.52 307 *i*P P 01 25 10.6 +14
OHAK Old Harbor 81.61 31 *e*P **P 01 24 55.4 -1.1**
comp=Z,1µm,1.6s
OHAK LR LR
comp=Z,44µm,19.0s
RIDG Independ'e Rid 81.63 23 *e*P **P 01 24 54.8 -1.8**
comp=Z,404nm,1.0s
RIDG LR LR
comp=Z,61µm,18.0s
VAL Valentia 81.63 323 *e*P **P 01 24 57.7 +1.0**
VAL *e*SCS **ScS 01 35 27.6 +1.8**
KDAK Kodiak Island 81.66 30 P **P 01 24 55.0 -1.8**
comp=Z,130nm,1.1s,baz=246,slow=2.8,SNR=12
KDAK S **S 01 35 10.0 +1.3**
comp=Z,6.5nm,0.9s,baz=268,slow=23,SNR=7.6
KDAK LR LR 02 02 38.9
comp=Z,34µm,18.7s,baz=281,slow=37
TAM Tamanrasset 81.71 291 *e*P **P 01 24 58.2 +0.3**
comp=Z,106nm,1.3s
TAM LR LR
comp=Z,28µm,18.0s
ODJA Bouhanifia 81.73 305 P P 01 25 12.0 +14
SCM Sheep Creek Mo 81.78 25 *e*P **P 01 24 57.8 +0.4**
comp=Z,1µm,1.7s
SCM LR LR
comp=Z,43µm,19.0s
SCRK Sand Creek 81.80 23 *e*P **P 01 24 55.9 -1.7**
comp=Z,604nm,1.3s
SCRK LR LR
comp=Z,34µm,19.0s
PAX Paxson 81.85 24 *e*P **P 01 24 57.2 -0.6**
comp=Z,339nm,1.4s
PAX LR LR
comp=Z,45µm,20.0s
PAX Paxson 81.85 24 *e*P **P 01 24 57.2 -0.6**
PAX pmax pmax
comp=Z,339nm,1.4s
PAX MLR MLR
comp=Z,45µm,20.0s
SEW Seward 81.86 27 *e*P **P 01 24 56.6 -1.2**
comp=Z,564nm,1.4s
SEW LR LR
comp=Z,41µm,19.0s
DOT Dot Lake 81.97 23 *e*P **P 01 24 58.2 -0.1**
comp=Z,142nm,1.0s
DOT LR LR
comp=Z,28µm,18.0s
DZM Mont Dzumac 81.97 118 S S 01 35 32.9 +20
comp=Z,7.5nm,1.1s,baz=306,slow=19,SNR=1.8
DZM Mont Dzumac 81.97 118 *e*P **P 01 25 00.9 +1.8**
comp=Z,193nm,1.4s
DZM Mont Dzumac 81.97 118 *e*PP PP 01 28 04.1 -2.9
comp=Z,3µm,29.1s
DZM *e*S **S 01 35 10.3 -2.8**
comp=Z,36µm,28.7s
DZM *e*SS **SS 01 40 33.0 +0.5**
comp=Z,31µm,34.6s
DZM Mont Dzumac 81.97 118 *e*LR LR 01 50 40.4
comp=Z,67µm,25.7s
DZM Mont Dzumac 81.97 118 *e*P **P 01 25 00.7 +1.7**
comp=Z,252nm,1.6s
DZM S S 01 35 32.9 +20
DZM LR LR
comp=Z,26µm,22.0s
UCM Universidad Co 82.08 310 *i*P P 01 25 14.1 +15
UCM *e*S S 01 35 23.5 +10
INK Inuvik 82.20 17 P **P 01 24 57.2 -2.1**
comp=Z,329nm,1.2s,baz=314,slow=6.4,SNR=82
INK LR LR 02 07 15.7
comp=Z,29µm,18.2s,baz=295,slow=40
INK Inuvik 82.20 17 *e*P **P 01 24 58.1 -1.3**
comp=Z,861nm,1.3s
INK Inuvik 82.20 17 *e*P **P 01 24 58.1 -1.3**
INK pmax pmax
comp=Z,861nm,1.3s
EGAK Eagle 82.28 21 *e*P **P 01 24 59.0 -0.9**
comp=Z,402nm,1.0s
EGAK LR LR
comp=Z,67µm,19.0s
HARP HAARP 82.29 24 *e*P **P 01 25 00.7 +0.6**
comp=Z,2µm,1.9s
HARP LR LR
comp=Z,30µm,22.0s
GLI Glacier Island 82.41 26 *e*P **P 01 25 00.3 -0.3**
comp=Z,431nm,1.6s
GLI LR LR
comp=Z,41µm,20.0s
RES Resolute Bay 82.41 3 P **P 01 24 58.8 -1.6**
comp=Z,47nm,1.1s,baz=352,slow=4.9,SNR=23
RES PP **PP 01 28 09.8 +1.1**
comp=Z,20nm,1.1s,baz=352,slow=7.6,SNR=2.5
RES Resolute Bay 82.41 3 *e*P **P 01 24 59.3 -1.1**
comp=Z,214nm,1.0s
RES PP **PP 01 28 09.8 +1.1**
RES LR LR
comp=Z,21µm,18.0s
EPYK Eagle Plains 82.65 19 P **P 01 25 01.0 -0.8**
baz=312
FID Port Fidalgo 82.73 26 *e*P **P 01 25 02.3 0.0**
comp=Z,499nm,1.4s
FID LR LR
comp=Z,32µm,20.0s
ES19 SONSECA Array 82.78 310 *e*P **P 01 25 02.5 -0.6**
DIV Divide 82.80 25 *e*P **P 01 25 02.3 -0.5**
comp=Z,666nm,1.6s
DIV LR LR
comp=Z,46µm,18.0s
ESDC Sonseca Array 82.84 310 P **P 01 25 02.5 -0.9**
comp=Z,1.9nm,0.8s,baz=54,slow=3.3,SNR=4.3
ESDC PP **PP 01 28 18.3 +5.0**
comp=Z,5.2nm,1.0s,baz=51,slow=7.2,SNR=2.8
ESDC S **S 01 35 15.2 -6.4**
comp=Z,1.6nm,0.9s,baz=62,slow=3.0,SNR=3.4
ESDC LR LR 02 08 05.8
comp=Z,9µm,18.1s,baz=55,slow=40
LBTB Lobatse 83.10 239 *e*P **P 01 25 04.5 -0.5**
comp=Z,208nm,1.3s
LBTB Lobatse 83.10 239 *e*P **P 01 25 04.5 -0.5**
LBTB pmax pmax
comp=Z,208nm,1.3s
EYAK Cordova Ski Ar 83.14 26 *e*P **P 01 25 05.3 +0.9**
comp=Z,517nm,1.4s
EYAK LR LR
comp=Z,54µm,21.0s
PAB San Pablo 83.16 310 *e*P **P 01 25 04.1 -1.0**
comp=Z,118nm,1.5s
PAB San Pablo 83.16 310 *e*P **P 01 25 04.1 -1.0**
PAB pmax pmax
comp=Z,118nm,1.5s
DAWY Dawson 83.33 21 *e*P **P 01 25 04.1 -1.4**
comp=Z,507nm,1.4s
DAWY LR LR
comp=Z,74nm,19.0s
BMRM Bremner River 83.35 25 *e*P **P 01 25 04.9 -0.7**
comp=Z,863nm,1.4s
BMRM LR LR
comp=Z,42nm,18.0s
MID Middleton Isla 83.54 27 PFAKE 01 25 20.0 +13
MID LR LR
comp=Z,64µm,19.0s
RAGM Ragged Mountai 83.67 26 PFAKE 01 25 20.0 +13
RAGM LR LR
comp=Z,64nm,18.0s
MELI Melilla 83.84 306 *i*P P 01 25 22.4 +14
MELI *e*S S 01 35 43.5 +12
PBRG Braganca 83.88 313 *e*P P 01 25 16.6 +7.9
comp=Z,92nm,1.7s
BALM Baldy 84.19 25 *e*P **P 01 25 10.6 +0.6**
comp=Z,577nm,1.4s
BALM LR LR
comp=Z,30µm,22.0s
BALM Baldy 84.19 25 *e*P **P 01 25 10.6 +0.6**
BALM pmax pmax
comp=Z,577nm,1.4s
BALM MLR MLR
comp=Z,30µm,22.0s
MVO Moncorvo 84.35 312 *e*P **P 01 25 15.5 +4.3**
comp=Z,73nm,1.5s
MVO *i*LQ LQ 01 25 25.8
MVO Moncorvo 84.35 312 *e*S S 01 35 48.7 +12
MVO Moncorvo 84.35 312 *e*LQ LQ 01 51 34.9
MVO *e*LR LR 01 53 13.8
comp=Z,17µm,18.0s
EMAL Malaga-Limoner 84.36 307 *i*P P 01 25 23.7 +13
POLO Lamas de Olo 84.78 313 *e*P P 01 25 23.1 +10
comp=Z,44nm,1.5s
POLO Lamas de Olo 84.78 313 *e*S **S 01 35 47.1 +5.9**
PCAB Cabril 84.79 313 *e*P **P 01 25 17.6 +4.3**
comp=Z,116nm,1.5s
PGAV Gavieira, Arco 84.84 313 *e*P P 01 25 27.3 +14
comp=Z,100nm,1.5s
PGAV Gavieira, Arco 84.84 313 *e*S **S 01 35 49.8 +8.0**
PGAV Gavieira, Arco 84.84 313 *e*LQ LQ 01 50 57.0
PGAV *e*LR LR 01 54 01.9
comp=Z,12µm,18.0s
PVLZ Peæn de 84.91 306 *i*P P 01 25 26.2 +12
ANGG Ammassalik, Gr 84.93 342 PFAKE 01 25 20.0 +6.6
ANGG LR LR
comp=Z,16µm,18.0s
MTE Manteigas 85.03 312 *e*P **P 01 25 16.9 +2.3**
comp=Z,74nm,1.5s
MTE *i*LQ LQ 01 25 32.5
MTE Manteigas 85.03 312 *e*S **S 01 35 48.1 +4.4**
MTE Manteigas 85.03 312 *e*LQ LQ 01 50 39.8
MTE *e*LR LR 01 53 23.4
comp=Z,12µm,18.0s
MTE Manteigas 85.03 312 PFAKE 01 25 30.0 +15
MTE LR LR
comp=Z,13µm,19.0s
ILULI Ilulissat 85.11 349 PFAKE 01 25 20.0 +5.7
ILULI LR LR
comp=Z,28µm,18.0s
ILULI Ilulissat 85.11 349 *i*P **P 01 25 17.9 +3.6**
comp=Z,28µm,16.0s
ILULI Ilulissat 85.11 349 *i*P **P 01 25 17.9 +3.6**
ILULI MLR MLR
comp=Z,28µm,16.0s
BOSA Boshof 85.11 236 *i*P **P 01 25 13.9 -1.2**
BOSA Boshof 85.11 236 P **P 01 25 14.1 -1.0**
comp=Z,12nm,0.8s,baz=56,slow=4.3,SNR=23
BOSA S **S 01 35 43.1 -1.6**
comp=Z,2.8nm,1.0s,baz=111,slow=18,SNR=1.5
BOSA LR LR 02 00 44.3
comp=Z,60µm,20.2s,baz=63,slow=34
BOSA Boshof 85.11 236 *e*P **P 01 25 14.7 -0.5**
comp=Z,318nm,1.3s
BOSA S **S 01 35 43.1 -1.6**
BOSA Boshof 85.11 236 *i*P **P 01 25 13.9 -1.2**
PVIS Viseu 85.14 312 *e*P P 01 25 32.8 +18
PCBR Castelo Branco 85.23 311 *e*P P 01 25 21.4 +5.9
comp=Z,75nm,1.3s
PMRV Marv??o 85.35 311 *e*P **P 01 25 19.5 +3.3**
comp=Z,46nm,1.4s
PMRV Marv??o 85.35 311 *e*S **S 01 35 48.5 +1.8**
PMRV Marv??o 85.35 311 *e*LQ LQ 01 51 22.1
PMRV *e*LR LR 01 53 38.3
comp=Z,12µm,18.0s
CEU Ceuta 85.41 307 *i*P P 01 25 28.2 +12
PTO Porto 85.43 313 A A 01 25 54.7
comp=Z,254nm,2.0s
PCA Pinnacle 85.58 25 *e*P **P 01 25 18.4 +1.4**
comp=Z,606nm,1.2s
PCA LR LR
comp=Z,32µm,21.0s
PESTR Estremoz 85.73 310 *e*P P 01 25 39.1 +21
PESTR Estremoz 85.73 310 PFAKE 01 25 30.0 +12
PESTR LR LR
comp=Z,6µm,19.0s
SFS San Fernando 85.78 308 *i*P P 01 25 27.6 +9.3
PTOM Tomar 85.97 311 *e*P P 01 25 32.3 +13
MDT Midelt 86.12 304 P **P 01 25 24.8 +4.5**
comp=Z,4.3nm,0.9s,baz=308,slow=1.7,SNR=4.6
MDT PP **PP 01 28 39.1 -1.3**
comp=Z,8.3nm,1.0s,baz=49,slow=2.9,SNR=2.6
HYT Haines Junctio 86.13 23 *e*P **P 01 25 19.1 -0.6**
comp=Z,427nm,1.2s
HYT LR LR
comp=Z,38µm,19.0s
EVO Evora 86.18 310 *e*P P 01 25 35.4 +15
EVO Evora 86.18 310 *i*P P 01 25 36.3 +16
YKU2 Yakutat 86.19 25 PFAKE 01 25 30.0 +10
YKU2 LR LR
comp=Z,31µm,19.0s
IFR Ifrane 86.22 305 *i*P P 01 25 32.1 +11
PBEJ Beja 86.30 310 *e*P P 01 25 31.0 +10
comp=Z,101nm,1.6s
PVAQ Vaqueiros 86.46 309 *e*P P 01 25 31.9 +10
comp=Z,63nm,1.1s
PVAQ Vaqueiros 86.46 309 *e*S **S 01 36 00.0 +2.3**
PVAQ Vaqueiros 86.46 309 *e*LR LR 01 55 03.2
comp=Z,14µm,18.0s
MESJ Messejana 86.63 310 *e*P P 01 25 32.3 +10
PBDV Barranco-do-Ve 86.69 309 *e*P **P 01 25 26.1 +3.3**
comp=Z,81nm,1.6s
PMAFR Mafra 86.88 311 *e*S **S 01 36 04.6 +2.9**
SFJD Kangerlussuaq 86.93 347 P **P 01 25 22.4 -1.0**
comp=Z,131nm,1.1s,baz=19,slow=8.9,SNR=9.0
SFJD S S 01 35 46.4 -15
comp=Z,7.5nm,0.8s,baz=54,slow=16,SNR=1.6
SFJD Kangerlussuaq 86.93 347 *e*P **P 01 25 22.4 -1.0**
comp=Z,472nm,1.3s
SFJD S S 01 35 46.5 -15
SFJD LR LR
comp=Z,32µm,19.0s
SFJD Kangerlussuaq 86.93 347 *i*P **P 01 25 22.8 -0.5**
comp=Z,29µm,18.0s
SFJD Kangerlussuaq 86.93 347 *e*P **P 01 25 22.4 -1.0**
SFJD S S 01 35 46.5 -15
SFJD pmax pmax
comp=Z,472nm,1.3s
SFJD MLR MLR
comp=Z,32µm,19.0s
DHAK Deception Hill 87.03 25 PFAKE 01 25 30.0 +5.9
DHAK LR LR
comp=Z,44µm,19.0s
TSUM Tsumeb 87.09 248 P **P 01 25 24.3 -0.8**
comp=Z,2.2nm,0.8s,baz=73,slow=14,SNR=4.2
TSUM Tsumeb 87.09 248 *e*P **P 01 25 26.2 +1.1**
comp=Z,133nm,1.6s
TSUM LR LR
comp=Z,62µm,21.0s
PTEO Sao Teotonio 87.12 310 *e*P P 01 25 32.4 +7.5
comp=Z,288nm,1.5s
MORF Marmelete 87.17 309 *e*P P 01 25 42.7 +17
WHY Whitehorse 87.19 22 *e*P **P 01 25 24.6 -0.2**
comp=Z,304nm,1.4s
WHY LR LR
comp=Z,48µm,19.0s
PFVI Vila Bisbo 87.38 309 PFAKE 01 25 40.0 +14
PFVI LR LR
comp=Z,13µm,20.0s
JOHN Johnston Islan 87.74 73 PFAKE 01 25 40.0 +12
JOHN LR LR
comp=Z,18µm,20.0s
SKAG Skagway 87.86 23 *e*P **P 01 25 28.1 +0.1**
comp=Z,570nm,1.3s
SKAG LR LR
comp=Z,24µm,19.0s
AVE Averroes 88.04 305 *i*P P 01 25 38.9 +10
BESE Bessie Mountai 88.66 24 *e*P **P 01 25 33.4 +1.5**
comp=Z,623nm,1.7s
BESE LR LR
comp=Z,32µm,19.0s
TOC2 Torodi Ar. Sit 88.69 284 PFAKE 01 25 40.0 +7.2
TOC2 LR LR
comp=Z,24µm,19.0s
TOC3 Torodi Ar. Sit 88.70 284 PFAKE 01 25 40.0 +7.2
TOC3 LR LR
comp=Z,23µm,19.0s
TOC1 Torodi Ar. Sit 88.70 284 PFAKE 01 25 40.0 +7.2
TOC1 LR LR
comp=Z,26µm,20.0s
TOB2 Torodi Ar. Sit 88.71 284 PFAKE 01 25 40.0 +7.2
TOB2 LR LR
comp=Z,23µm,19.0s
TOA2 Torodi Ar. Sit 88.71 284 PFAKE 01 25 40.0 +7.1
TOA2 LR LR
comp=Z,23µm,19.0s
TOB3 Torodi Ar. Sit 88.71 284 PFAKE 01 25 40.0 +7.1
TOB3 LR LR
comp=Z,23µm,19.0s
TOA0 Torodi Ar. Sit 88.72 284 *e*P **P 01 25 32.6 -0.3**
TOA0 LR LR
comp=Z,24µm,20.0s
TORD Torodi Ar. Bea 88.72 284 P **P 01 25 32.7 -0.2**
comp=Z,3.3nm,0.9s,baz=68,slow=4.0,SNR=12
TORD PP PP 01 29 11.0 +9.3
comp=Z,18nm,0.9s,baz=61,slow=7.4,SNR=3.7
TORD S S 01 36 07.7 -12
baz=71,slow=14
TORD PKKPbc **PKKPbc 01 43 12.2 -0.3**
comp=Z,1.3nm,0.9s,baz=41,slow=5.6,SNR=5.2
TORD SSS SSS 01 45 49.6
TORD LR LR 02 10 39.0
comp=Z,23µm,19.6s,baz=5.0,slow=39
TOA1 Torodi Ar. Sit 88.72 284 PFAKE 01 25 40.0 +7.1
TOA1 LR LR
comp=Z,22µm,20.0s
TOA3 Torodi Ar. Sit 88.72 284 PFAKE 01 25 40.0 +7.1
TOA3 LR LR
comp=Z,22µm,20.0s
TOC4 Torodi Ar. Sit 88.72 284 PFAKE 01 25 40.0 +7.1
TOC4 LR LR
comp=Z,24µm,20.0s
TOC7 Torodi Ar. Sit 88.73 284 PFAKE 01 25 40.0 +7.1
TOC7 LR LR
comp=Z,23µm,19.0s
TOB5 Torodi Ar. Sit 88.73 284 PFAKE 01 25 40.0 +7.0
TOB5 LR LR
comp=Z,25µm,19.0s
TOB4 Torodi Ar. Sit 88.73 284 PFAKE 01 25 40.0 +7.0
TOB4 LR LR
comp=Z,23µm,19.0s
TOC5 Torodi Ar. Sit 88.74 284 PFAKE 01 25 40.0 +7.0
TOC5 LR LR
comp=Z,27µm,19.0s
JIS Juneau Island 89.05 24 *e*P **P 01 25 34.3 +0.7**
comp=Z,1µm,1.9s
JIS LR LR
comp=Z,49µm,18.0s
MIR Mirnyy 89.19 181 ⇑ *i*P **P 01 25 35.0 +1.2**
MIR *i* 01 25 42.0
MIR PPP PPP 01 31 03.0
MIR *e*S S 01 36 13.0 -9.1
MIR *e*PS **PS 01 37 30.0 +1.3**
MIR *e*SSS SSS 01 45 54.0
MIR pmax pmax
comp=Z,252nm,1.8s
CASY Casey 89.59 174 *e*P **P 01 25 36.0 +0.3**
comp=Z,547nm,1.9s
CASY LR LR
comp=Z,70µm,20.0s
SUR Sutherland 90.27 235 *e*P **P 01 25 39.1 -0.8**
comp=Z,102nm,1.0s
SUR LR LR
comp=Z,62µm,20.0s
DLBC Dease Lake 90.50 22 P **P 01 25 41.1 +0.5**
comp=Z,52nm,1.2s,baz=320,slow=5.5,SNR=18
DLBC PP PP 01 29 04.7 -10
comp=Z,17nm,1.0s,baz=114,slow=12,SNR=2.0
DLBC LR LR 02 10 11.2
comp=Z,36µm,18.5s,baz=313,slow=38
DLBC Dease Lake 90.50 22 *e*P **P 01 25 40.1 -0.4**
comp=Z,292nm,1.4s
DLBC PP PP 01 29 04.7 -10
NRS Narsarsuaq 90.60 342 PFAKE 01 25 50.0 +9.2
NRS LR LR
comp=Z,29µm,18.0s
WRAK Wrangell Islan 91.15 24 *e*P **P 01 25 44.3 +0.9**
comp=Z,332nm,1.6s
WRAK LR LR
comp=Z,23µm,21.0s
IVI Ivigtut 91.31 343 PFAKE 01 25 50.0 +5.9
IVI LR LR
comp=Z,32µm,18.0s

YKW3 Yellowknife Ar 91.46 14 *e*P **P 01 25 44.6 -0.2**
comp=Z,162nm,1.3s
YKW3 LR LR
comp=Z,35µm,18.0s
YKA Yellowknife Ar 91.52 14 P **P 01 25 43.7 -1.3**
comp=Z,34nm,1.1s,baz=331,slow=4.8,SNR=17
YKA LR LR 02 10 39.8
comp=Z,2µm,18.6s,baz=333,slow=38
YKB5 Yellowknife Ar 91.52 14 *e*P **P 01 25 43.0 -2.1**
CRAG Craig 91.53 25 PFAKE 01 26 00.0 +15
CRAG LR LR
comp=Z,22µm,18.0s
FRB Frobisher Bay 92.78 353 P **P 01 25 49.2 -1.7**
comp=Z,57nm,1.1s,baz=234,slow=3.8,SNR=3.9
FRB S **SKSac 01 36 23.4 -0.7**
comp=Z,28nm,1.1s,baz=49,slow=19,SNR=2.9
MAW Mawson 93.48 192 P **P 01 25 53.4 -0.3**
comp=Z,38nm,1.1s,baz=26,slow=7.1,SNR=23
MAW S **SKSac 01 36 27.0 -0.2**
comp=Z,1.9nm,0.8s,baz=108,slow=20,SNR=2.1
MAW LR LR 02 04 58.9
comp=Z,23µm,18.1s,baz=24,slow=34
MAW Mawson 93.48 192 *e*P **P 01 25 54.6 +0.8**
comp=Z,26nm,1.1s
MAW S **SKSac 01 36 27.0 -0.2**
OUZ Omahuta 93.54 127 PFAKE 01 26 10.0 +15
OUZ LR LR
comp=Z,88µm,21.0s
DCZ Deep Cove 93.83 138 PFAKE 01 26 10.0 +14
DCZ LR LR
comp=Z,46µm,20.0s
PYZ Puysegur Point 93.88 139 PFAKE 01 26 10.0 +14
PYZ LR LR
comp=Z,67µm,22.0s
KEKH Kekaha 93.99 64 PFAKE 01 26 10.0 +13
KEKH LR LR
comp=Z,15µm,21.0s
MCQ Macquarie Isla 94.06 149 PFAKE 01 26 10.0 +13
MCQ LR LR
comp=Z,29µm,22.0s
MLZ Mavora Lakes 94.38 138 PFAKE 01 26 10.0 +12
MLZ LR LR
comp=Z,55µm,20.0s
WHZ Wether Hill Ro 94.52 138 PFAKE 01 26 10.0 +11
WHZ LR LR
comp=Z,71µm,21.0s
FOZ Fox Glacier 94.60 135 PFAKE 01 26 10.0 +11
FOZ LR LR
comp=Z,55µm,20.0s
WKZ Wanaka 94.69 137 PFAKE 01 26 10.0 +10
WKZ LR LR
comp=Z,66µm,22.0s
FUL Funchal 95.34 309 *e*P P 01 25 57.2 -6.1
comp=Z,245nm,1.8s
PMOZ Porto Moniz, M 95.47 309 *e*SKS **SKKSac 01 36 55.6 -7.9**
PMOZ Porto Moniz, M 95.47 309 *e*LR LR 01 59 38.6
comp=Z,11µm,18.0s
RPZ Rata Peaks 95.49 135 *e*P **P 01 26 05.0 +1.5**
comp=Z,113nm,1.4s
RPZ LR LR
comp=Z,68µm,21.0s
OPA Opana 95.53 64 PFAKE 01 26 10.0 +5.7
OPA LR LR
comp=Z,17µm,21.0s
KIP Kipapa 95.65 64 PFAKE 01 26 20.0 +15
KIP LR LR
comp=Z,12µm,21.0s
KIP Kipapa 95.65 64‖ *e*P **P 01 26 01.8 -3.1**
KIP pmax pmax
comp=Z,660nm,1.5s
KIP MLR MLR
comp=Z,46µm,18.0s
HON Honolulu 95.70 64 PFAKE 01 26 20.0 +15
HON LR LR
comp=Z,18µm,21.0s
ODZ Otahua Downs 95.82 137 PFAKE 01 26 20.0 +15
ODZ LR LR
comp=Z,84µm,22.0s
HIZ Hauiti 95.85 129 PFAKE 01 26 20.0 +15
HIZ LR LR
comp=Z,52µm,20.0s
THZ Tophouse 95.86 133 *e*P **P 01 26 05.2 -0.2**
comp=Z,59nm,1.1s
THZ LR LR
comp=Z,42µm,21.0s
LTZ Lake Taylor 95.88 134 PFAKE 01 26 20.0 +15
LTZ LR LR
comp=Z,85µm,20.0s
OXZ Oxford 95.96 135 PFAKE 01 26 20.0 +14
OXZ LR LR
comp=Z,53µm,21.0s
BBB Bella Bella 95.97 25 P **P 01 26 05.7 0.0**
comp=Z,16nm,1.0s,baz=239,slow=18,SNR=2.3
BBB PP **PP 01 29 54.0 -3.2**
comp=Z,11nm,0.9s,baz=282,slow=14,SNR=2.6
BBB LR LR 02 12 20.7
comp=Z,18µm,19.6s,baz=327,slow=37
CRLZ Canterbury Las 96.45 135 PFAKE 01 26 20.0 +12
CRLZ LR LR
comp=Z,42µm,21.0s
MQZ McQueen's Vall 96.53 135 PFAKE 01 26 20.0 +12
MQZ LR LR
comp=Z,40µm,21.0s
KHZ Kahutara 96.56 133 PFAKE 01 26 20.0 +12
KHZ LR LR
comp=Z,54µm,21.0s
SNZO South Karori 96.90 132 PFAKE 01 26 20.0 +10
SNZO LR LR
comp=Z,68µm,22.0s
DBIC Dimbokro 97.21 280 P Pdif 01 26 15.8 +3.6
comp=Z,3.2nm,0.9s,baz=45,slow=7.1,SNR=2.7
DBIC PP **PP 01 30 08.7 +0.2**
comp=Z,8.7nm,0.9s,baz=34,slow=9.1,SNR=3.2
DBIC S **SKSac 01 36 39.4 -10**
comp=Z,5.7nm,1.0s,baz=63,slow=4.5,SNR=2.5
DBIC LR LR 02 13 24.2
comp=Z,23µm,20.9s,baz=52,slow=38
KIC Kosan Boka 97.23 280 *e*PKP2 Pdif 01 26 16.8 +4.5
comp=Z,190nm,1.7s
BKZ Black Stump Fm 97.28 129 PFAKE 01 26 20.0 +8.0
BKZ LR LR
comp=Z,50µm,20.0s
URZ Urewera 97.37 128 PFAKE 01 26 20.0 +7.7
URZ LR LR
comp=Z,74µm,20.0s
TIC Toumodi 97.37 280 *e*PKP2 Pdif 01 26 16.9 +4.0
HLK Haleakala 97.41 64 PFAKE 01 26 20.0 +6.7
HLK LR LR
comp=Z,12µm,20.0s
AFI Afiamalu 97.44 102 *e*P P 01 25 55.3 -18
AFI LR LR
comp=Z,12µm,21.0s
LIC Lamto 97.55 280 *e*PKP2 Pdif 01 26 16.2 +2.5
comp=Z,62nm,1.1s
BFZ Birch Farm 97.71 131 PFAKE 01 26 20.0 +6.3
BFZ LR LR
comp=Z,88µm,21.0s
RAO Raoul Island 97.76 118 PFAKE 01 26 30.0 +16
RAO LR LR
comp=Z,22µm,20.0s
MXZ Matakaoa Point 97.97 127 PFAKE 01 26 30.0 +15
MXZ LR LR
comp=Z,42µm,21.0s
FCC Fort Churchill 98.24 5 PFAKE 01 26 30.0 +14
FCC LR LR
comp=Z,22µm,20.0s
KHLU Kahalu'u 98.25 65 PFAKE 01 26 30.0 +13
KHLU LR LR
comp=Z,10µm,20.0s
HUH Hualalai 98.25 65 PFAKE 01 26 30.0 +13
HUH LR LR
comp=Z,12µm,19.0s
CMLA Cha da Macela 98.31 317 PFAKE 01 26 30.0 +13
CMLA LR LR
comp=Z,16µm,20.0s
POHA Pohakuloa 98.47 64 PFAKE 01 26 30.0 +12
POHA LR LR
comp=Z,11µm,19.0s
MWH Moku'aweowe 98.55 65 PFAKE 01 26 30.0 +11
MWH LR LR
comp=Z,12µm,20.0s
HMH Humu'ula Sheep 98.59 65 PFAKE 01 26 30.0 +11
HMH LR LR
comp=Z,11µm,21.0s
AIN Ainahou 98.72 65 PFAKE 01 26 30.0 +11
AIN LR LR
comp=Z,12µm,20.0s
MLH Mauna Loa 98.72 65 PFAKE 01 26 30.0 +11
MLH LR LR
comp=Z,14µm,22.0s
UWE Uwekahuna 98.83 65 PFAKE 01 26 30.0 +11
UWE LR LR
comp=Z,14µm,21.0s
WRMHI West Rim 98.83 65 PFAKE 01 26 30.0 +11
WRMHI LR LR
comp=Z,14µm,21.0s
OBL Observatory Le 98.84 65 PFAKE 01 26 30.0 +10
OBL LR LR
comp=Z,13µm,20.0s
UWB Uwekahuna B 98.84 65 PFAKE 01 26 30.0 +10
UWB LR LR
comp=Z,14µm,20.0s
NPH North Pit 98.84 65 PFAKE 01 26 30.0 +10
NPH LR LR
comp=Z,13µm,22.0s
SDHHI Sand Hill 98.84 65 PFAKE 01 26 30.0 +10
SDHHI LR LR
comp=Z,12µm,20.0s
HATHI Halema'uma'u T 98.86 65 PFAKE 01 26 30.0 +10
HATHI LR LR
comp=Z,12µm,20.0s
RIM Rim 98.86 65 PFAKE 01 26 30.0 +10
RIM LR LR
comp=Z,12µm,20.0s
BYL Byron's Ledge 98.86 65 PFAKE 01 26 30.0 +10
BYL LR LR
comp=Z,8µm,22.0s
KKO Keanakako'i 98.86 65 PFAKE 01 26 30.0 +10
KKO LR LR
comp=Z,12µm,20.0s
HLP Hilina Pali 98.88 65 PFAKE 01 26 30.0 +10
HLP LR LR
comp=Z,13µm,20.0s
PUH Pauahi 98.92 65 PFAKE 01 26 30.0 +10
PUH LR LR
comp=Z,14µm,20.0s
STCH Steam Cracks 98.99 65 PFAKE 01 26 30.0 +10
STCH LR LR
comp=Z,15µm,21.0s
ROSA Rosais 99.40 319 PFAKE 01 26 30.0 +8.5
ROSA LR LR
comp=Z,17µm,21.0s
A05A Maple Falls 100.83 24 PFAKE 01 26 40.0 +12
A05A LR LR
comp=Z,1µm,21.0s
SCHQ Schefferville 101.18 350 Pdiff **Pdif 01 26 20.6 -8.4**
comp=Z,5.5nm,0.9s,baz=198,slow=20,SNR=2.9
SCHQ PP **PP 01 30 36.1 -0.8**
comp=Z,18nm,1.2s,baz=24,slow=13,SNR=2.0
SCHQ Schefferville 101.18 350 Pdif **Pdif 01 26 20.6 -8.4**
SCHQ PP **PP 01 30 36.1 -0.8**
SCHQ LR LR
comp=Z,21µm,22.0s
FFC Flin Flon 101.20 10 *e*Pdif **Pdif 01 26 29.0 -0.1**
FFC LR LR
comp=Z,18µm,18.0s
FFC Flin Flon 101.20 10 *e*P **Pdif 01 26 29.0 -0.1**
FFC MLR MLR
comp=Z,18µm,18.0s
B05A Bryant 101.43 25 P **Pdif 01 26 29.5 -0.8**
baz=325
B06A Marblemount 101.46 24 PFAKE 01 26 40.0 +10
B06A LR LR
comp=Z,29µm,19.0s
D03D Eldon 101.63 26 P **Pdif 01 26 30.4 -0.8**
baz=324
E03A Lebam 102.23 27 PFAKE 01 26 40.0 +6.1
E03A LR LR
comp=Z,24µm,18.0s
D05A Enumclaw 102.35 25 PFAKE 01 26 40.0 +5.6
D05A LR LR
comp=Z,20µm,18.0s
B08A Colville Reser 102.39 23 *e*Pdif **Pdif 01 26 35.4 +0.8**
B08A LR LR
comp=Z,23µm,19.0s
E04D Cinebar 102.63 26 P **Pdif 01 26 35.7 +0.1**
baz=324
LON Longmire 102.78 26 PFAKE 01 26 50.0 +14
LON LR LR
comp=Z,18µm,18.0s
LTY Liberty 102.81 25 PFAKE 01 26 50.0 +13
LTY LR LR
comp=Z,17µm,20.0s
C09A Chrisman Ranch 103.24 23 PFAKE 01 26 50.0 +12
C09A LR LR
comp=Z,32µm,18.0s
NEW Newport 103.25 22 Pdiff **Pdif 01 26 39.7 +1.2**
comp=Z,4.2nm,1.0s,baz=319,slow=6.9,SNR=5.3
NEW PKiKP **PP 01 30 51.4 -1.3**
comp=Z,5.8nm,1.0s,baz=326,slow=3.6,SNR=2.3
NEW PKKPbc **PKKPbc 01 42 32.8 -1.6**
comp=Z,2.6nm,0.9s,baz=60,slow=8.1,SNR=3.3
NEW PKKP **PKKPdf 01 42 43.8 +2.5**
comp=Z,5.1nm,1.0s,baz=85,slow=4.2,SNR=3.7
NEW Newport 103.25 22 *e*Pdif **Pdif 01 26 40.0 +1.5**
NEW PKiKP **PP 01 30 51.4 -1.3**
NEW PKKPbc **PKKPbc 01 42 32.8 -1.6**
NEW PKKP **PKKPdf 01 42 43.8 +2.5**
NEW LR LR
comp=Z,27µm,18.0s
NEW Newport 103.25 22 P **Pdif 01 26 39.5 +1.1**
baz=329
WALA Waterton Lakes 103.61 20 PFAKE 01 26 50.0 +10
WALA LR LR
comp=Z,21µm,18.0s
D08A Wollman Farm, 103.63 24 PFAKE 01 26 50.0 +10
D08A LR LR
comp=Z,15µm,19.0s
E07A Sunnyside 103.70 24 PFAKE 01 26 50.0 +10
E07A LR LR
comp=Z,16µm,20.0s
COR Corvallis 103.91 28 PFAKE 01 26 50.0 +8.6
COR LR LR
comp=Z,18µm,20.0s
HAWA Hanford 103.96 24 PFAKE 01 26 50.0 +8.4
HAWA LR LR
comp=Z,16µm,20.0s
E08A Dider Farm, El 104.06 24 PFAKE 01 26 50.0 +8.0
E08A LR LR
comp=Z,23µm,18.0s
F07A Phinny Hill Vi 104.22 25 PFAKE 01 26 50.0 +7.2
F07A LR LR
comp=Z,19µm,18.0s
H04A Detroit Lake 104.31 27 PFAKE 01 26 50.0 +6.8
H04A LR LR
comp=Z,12µm,18.0s
DRLN Deer Lake 104.35 342 PFAKE 01 26 50.0 +6.7
DRLN LR LR
comp=Z,20µm,19.0s
E09A Wood Farm, Sta 104.38 23 PFAKE 01 26 50.0 +6.5
E09A LR LR
comp=Z,24µm,18.0s
I03D Drain, OR 104.60 28 P **Pdif 01 26 42.3 -2.2**
baz=323
JTMT Jette 104.65 20 PFAKE 01 27 00.0 +15
JTMT LR LR
comp=Z,35µm,18.0s
KEBM Edson Butte 104.82 29 PFAKE 01 27 00.0 +14
KEBM LR LR
comp=Z,10µm,18.0s
I04A Tendick Farm, 104.93 28 P **Pdif 01 26 45.8 -0.2**
baz=324
G08A Pilot Rock 105.10 25 PFAKE 01 27 00.0 +13
G08A LR LR
comp=Z,16µm,18.0s
F10A Beach Ranch, E 105.17 23 PFAKE 01 31 10.0
F10A LR LR
comp=Z,28µm,19.0s
KBO Bosley Butte 105.39 30 PFAKE 01 31 10.0
KBO LR LR
comp=Z,12µm,19.0s
J04D Umpqua Nationa 105.51 28 P **PKiKP 01 31 06.0 +3.7**
baz=324
PINE Pine Mountain 105.55 27 PFAKE 01 31 10.0
PINE LR LR
comp=Z,18µm,21.0s
MSO Missoula 105.56 21 *e*Pdif **Pdif 01 26 50.0 +1.1**
MSO LR LR
comp=Z,25µm,19.0s
MSO Missoula 105.56 21 P **PKiKP 01 31 05.6 +3.4**
baz=332
HUMO Hull Mountain 105.64 29 PFAKE 01 31 10.0
HUMO LR LR
comp=Z,19µm,21.0s
EGMT Eagleton 105.76 18 *e*Pdif **Pdif 01 26 49.4 -0.3**
EGMT LR LR
comp=Z,30µm,18.0s
J05D Fort Rock, OR 105.84 27 P **PKiKP 01 31 07.0 +4.1**
baz=325
I07A Izee 105.90 26 PFAKE 01 31 10.0
I07A LR LR
comp=Z,12µm,18.0s
KRMB Red Mountain 106.08 30 PFAKE 01 31 10.0
KRMB LR LR
comp=Z,16µm,19.0s
BMO Blue Mountains 106.10 24 *e*Pdif **Pdif 01 26 51.8 +0.5**
comp=Z,7.1nm,1.0s
BMO *e*PP **PP 01 31 13.4 -0.5**
BMO LR LR
comp=Z,21µm,19.0s
BMO Blue Mountains 106.10 24 *e*P **Pdif 01 26 51.8 +0.5**
BMO *e* 01 31 13.4
BMO pmax pmax
comp=Z,7.0nm,1.0s
BMO MLR MLR
comp=Z,21µm,19.0s
L04D Klamath Falls 106.25 29 P **PKiKP 01 31 09.0 +5.4**
baz=324
K05A Summer Lake 106.44 27 PFAKE 01 31 10.0
K05A LR LR
comp=Z,14µm,18.0s
ULM Lac du Bonnet 106.45 8 PKiKP **PKiKP 01 31 07.5 +3.9**
comp=Z,11nm,1.1s,baz=325,slow=6.2,SNR=2.3
ULM PP **PP 01 31 17.1 +1.1**
comp=Z,21nm,1.0s,baz=335,slow=6.8,SNR=6.8
ULM Sdiff 01 37 34.2
comp=Z,5.5nm,1.1s,baz=295,slow=14,SNR=1.5
ULM PKKPbc **PKKPbc 01 42 26.3 +1.5**
comp=Z,1.8nm,0.7s,baz=202,slow=11,SNR=2.2
ULM PKKP **PKKPdf 01 42 34.6 -0.8**
comp=Z,11nm,0.9s,baz=215,slow=3.4,SNR=3.6
ULM Lac du Bonnet 106.45 8 PKiKP **PKiKP 01 31 07.5 +3.9**
ULM PP **PP 01 31 17.1 +1.1**
ULM *e* 01 37 34.2
ULM PKKPbc **PKKPbc 01 42 26.3 +1.5**
ULM PKKP **PKKPdf 01 42 34.6 -0.8**
ULM LR LR
comp=Z,17µm,19.0s
YBH Yreka Blue Hor 106.45 29 PKiKP **PKiKP 01 31 11.5 +7.6**
comp=Z,1.0nm,0.4s,baz=347,slow=5.3,SNR=3.5
YBH Sdiff 01 37 41.2
comp=Z,1.2nm,0.9s,baz=251,slow=16,SNR=1.7
YBH PKKPbc **PKKPbc 01 42 28.7 +4.1**
comp=Z,2.0nm,1.0s,baz=297,slow=6.8,SNR=2.3
YBH Yreka Blue Hor 106.45 29 PKiKP **PKiKP 01 31 11.5 +7.6**
YBH *e* 01 37 41.2
YBH PKKPbc **PKKPbc 01 42 28.7 +4.1**
YBH LR LR
comp=Z,11µm,21.0s
SHEL Horse Pasture 106.50 259 PFAKE 01 31 20.0
SHEL LR LR
comp=Z,31µm,22.0s
JCC Jacoby Creek, 106.58 31 PFAKE 01 31 10.0
JCC LR LR
comp=Z,13µm,20.0s
M02C Callahan 106.66 29 P **PKiKP 01 31 06.4 +2.1**
baz=323
KHMM Horse Mountain 106.67 30 PFAKE 01 31 20.0
KHMM LR LR
comp=Z,12µm,18.0s
DGMT Dagmar 106.73 14 PFAKE 01 31 20.0
DGMT LR LR
comp=Z,43µm,19.0s
DGMT Dagmar 106.73 14 P **PKiKP 01 31 04.1 -0.1**
baz=341
J08A Circle Bar Ran 106.91 25 PFAKE 01 31 20.0
J08A LR LR
comp=Z,13µm,18.0s
N02D Trinity Center 107.06 30 P **PKiKP 01 31 04.5 -0.6**
baz=323
KMRM Mail Ridge 107.19 31 PFAKE 01 31 20.0
KMRM LR LR
comp=Z,15µm,18.0s
VNDA Vanda 107.21 168 Pdiff **Pdif 01 26 56.4 +1.2**
comp=Z,1.2nm,1.0s,baz=295,slow=2.6,SNR=3.5
VNDA PP **PP 01 31 19.5 -2.9**
comp=Z,4.5nm,1.1s,baz=295,slow=7.9,SNR=4.4
VNDA Sdiff 01 37 41.9
comp=Z,0.8nm,1.1s,baz=272,slow=17,SNR=1.7
VNDA PKKPbc **PKKPbc 01 42 22.1 -1.0**
comp=Z,2.1nm,1.0s,baz=280,slow=2.4,SNR=3.7
VNDA PKKPab **PKKPab 01 42 33.2 -0.4**
comp=Z,2.7nm,1.1s,baz=203,slow=0.5,SNR=5.7
DLMT Dillon 107.30 21 PFAKE 01 31 20.0
DLMT LR LR
comp=Z,28µm,18.0s
MOD Modoc Plateau 107.37 27 *e*PKP **PKiKP 01 31 05.5 -0.2**
MOD LR LR
comp=Z,17µm,19.0s
BOZ Bozeman (W) 107.40 20 *e*PKP **PKiKP 01 31 05.2 -0.5**
BOZ Bozeman (W) 107.40 20 P **PKiKP 01 31 05.8 +0.1**
baz=334
WDC Whiskeytown Da 107.45 30 PFAKE 01 31 20.0
WDC LR LR
comp=Z,11µm,20.0s
WVOR Wild Horse Val 107.62 26 *e*PKP **PKiKP 01 31 05.8 -0.3**
WVOR LR LR
comp=Z,13µm,20.0s
KCPM Cahto Peak 107.68 31 PFAKE 01 31 20.0
KCPM LR LR
comp=Z,12µm,20.0s
LAO LASA Array 107.92 16 *e*PKP **PKiKP 01 31 05.5 -1.0**
LAO LR LR
comp=Z,24µm,20.0s
LSQQ Lebel-sur-Quev 108.09 355 P **PKiKP 01 31 08.9 +2.3**
baz=6.9
MDND Maddock 108.23 11 PFAKE 01 31 20.0
MDND LR LR
comp=Z,40µm,18.0s
MDND Maddock 108.23 11 P **PKiKP 01 31 09.5 +2.5**
baz=345
HLID Hailey 108.27 23 PFAKE 01 31 20.0
HLID LR LR
comp=Z,24µm,20.0s
BATG Bathurst New B 108.28 347 PFAKE 01 31 20.0
BATG LR LR
comp=Z,19µm,21.0s
YHB Horse Butte 108.29 20 PFAKE 01 31 20.0
YHB LR LR
comp=Z,25µm,21.0s
SBA Scott Base 108.31 168 *e*Pdif **Pdif 01 27 01.1 +1.1**
comp=Z,8.4nm,1.0s
SBA LR LR
comp=Z,22µm,18.0s
SBA Scott Base 108.31 168 *e*P **Pdif 01 27 01.1 +1.1**
SBA pmax pmax
comp=Z,8.0nm,1.0s
SBA MLR MLR
comp=Z,22µm,18.0s
YHH Holmes Hill 108.37 20 PFAKE 01 31 20.0
YHH LR LR
comp=Z,28µm,18.0s
YMR Madison River 108.44 20 PFAKE 01 31 20.0
YMR LR LR
comp=Z,29µm,22.0s
HOPS Hopland Field 108.47 31 PFAKE 01 31 20.0
HOPS LR LR
comp=Z,16µm,18.0s
YNR Norris Junctio 108.49 20 PFAKE 01 31 20.0
YNR LR LR
comp=Z,33µm,18.0s
RLMT Red Lodge 108.54 18 PFAKE 01 31 20.0
RLMT LR LR
comp=Z,22µm,18.0s
YFT Old Faithful 108.67 20 PFAKE 01 31 20.0
YFT LR LR
comp=Z,69µm,18.0s
LKWY Lake 108.71 19 PFAKE 01 31 20.0
LKWY LR LR
comp=Z,37µm,18.0s
GDXM Geysers 108.75 31 PFAKE 01 31 20.0
GDXM LR LR
comp=Z,18µm,18.0s
ORV Oroville 108.75 30 PFAKE 01 31 20.0
ORV LR LR
comp=Z,11µm,21.0s
H17A Grant Village 108.81 20 PFAKE 01 31 20.0
H17A LR LR

comp=Z,36µm,18.0s
YPP **Pitchstone Pla** **108.85** **20** PFAKE 01 31 20.0
YPP LR LR
comp=Z,32µm,20.0s
GBN **Guysborough** **108.97** **343** PFAKE 01 31 20.0
GBN LR LR
comp=Z,16µm,19.0s
BEKR **Beckworth** **109.01** **29** PFAKE 01 31 20.0
BEKR LR LR
comp=Z,13µm,21.0s
FLWY **Flagg Ranch** **109.05** **20** PFAKE 01 31 20.0
FLWY LR LR
comp=Z,19µm,18.0s
VLDQ **Val d'Or** **109.07** **355** PFAKE 01 31 20.0
VLDQ LR LR
comp=Z,18µm,21.0s
IMW **Indian Meadow** **109.14** **20** PFAKE 01 31 20.0
IMW LR LR
comp=Z,17µm,18.0s
EYMN **Ely** **109.18** **5** PFAKE 01 31 20.0
EYMN LR LR
comp=Z,20µm,20.0s
MCCM **Marconi Confer** **109.23** **31** PFAKE 01 31 20.0
MCCM LR LR
comp=Z,12µm,18.0s
MOOW **Moose Ponds** **109.33** **20** PFAKE 01 31 20.0
MOOW LR LR
comp=Z,25µm,18.0s
LMN **Caledonia Moun** **109.36** **346** PFAKE 01 31 20.0
LMN LR LR
comp=Z,18µm,19.0s
AFDM **Forest Hills D** **109.48** **30** PFAKE 01 31 20.0
AFDM LR LR
comp=Z,11µm,18.0s
LOHW **Long Hollow** **109.50** **20** PFAKE 01 31 20.0
LOHW LR LR
comp=Z,18µm,18.0s
TPAW **Teton Pass** **109.50** **20** PFAKE 01 31 20.0
TPAW LR LR
comp=Z,19µm,18.0s
PAHR **Pah Rah Range** **109.57** **28** PFAKE 01 31 20.0
PAHR LR LR
comp=Z,12µm,19.0s
SNOW **Snow King Moun** **109.59** **20** PFAKE 01 31 20.0
SNOW LR LR
comp=Z,22µm,18.0s
REDW **Red Top Meadow** **109.65** **20** PFAKE 01 31 20.0
REDW LR LR
comp=Z,22µm,18.0s
RUBR **Rubicon Trail** **109.77** **29** PFAKE 01 31 20.0
RUBR LR LR
comp=Z,13µm,18.0s
VCNR **Virginia City** **109.79** **29** PFAKE 01 31 20.0
VCNR LR LR
comp=Z,13µm,18.0s
BMN **Battle Mountai** **109.88** **26** PFAKE 01 31 20.0
BMN LR LR
comp=Z,11µm,18.0s
PNTR **Pine Nut** **109.98** **29** PFAKE 01 31 20.0
PNTR LR LR
comp=Z,13µm,21.0s
AHID **Auburn Hatcher** **110.10** **21** *e*PKP **PKiKP** **01 31 09.4 -1.5**
AHID LR LR
comp=Z,26µm,20.0s
D53A **Lac Vacive, Po** **110.12** **355** P **PKiKP** **01 31 10.0 -0.5**
baz=6.3
D50A **G1974 Best Tow** **110.16** **357** P **PKiKP** **01 31 09.2 -1.4**
baz=4.2
HAL **Halifax** **110.22** **345** PFAKE 01 31 20.0
HAL LR LR
comp=Z,19µm,20.0s
YERR **Yerington** **110.23** **29** PFAKE 01 31 20.0
YERR LR LR
comp=Z,13µm,21.0s
D41A **Chassel** **110.26** **3** PFAKE 01 31 20.0
D41A LR LR
comp=Z,29µm,20.0s
HVU **Hansel Valley** **110.41** **22** PFAKE 01 31 20.0
HVU LR LR
comp=Z,21µm,20.0s
CMB **Columbia Colle** **110.49** **30** PFAKE 01 31 20.0
CMB LR LR
comp=Z,12µm,18.0s
GGN **Saint George** **110.50** **347** PFAKE 01 31 20.0
GGN LR LR
comp=Z,17µm,19.0s
E38A **The Farm, Brul** **110.51** **5** PFAKE 01 31 20.0
E38A LR LR
comp=Z,20µm,20.0s
WAKR **Walker** **110.54** **29** PFAKE 01 31 20.0
WAKR LR LR
comp=Z,17µm,20.0s
BW06 **Boulder Array** **110.59** **20** PFAKE 01 31 20.0
BW06 LR LR
comp=Z,31µm,18.0s
PDAR **Pinedale Array** **110.59** **20** Pdiff **Pdif** **01 27 09.0 -2.6**
comp=Z,0.2nm,0.7s,baz=61,slow=5.6,SNR=2.6
PDAR PKiKP **PKiKP** **01 31 17.2 +5.3**
comp=Z,1.7nm,0.9s,baz=324,slow=2.0,SNR=3.8
PDAR PP **PP** **01 31 44.0 -2.9**
comp=Z,5.3nm,0.9s,baz=354,slow=1.5,SNR=7.0
PDAR PKKPbc **PKKPbc** **01 42 07.7 -4.2**
comp=Z,1.3nm,1.0s,baz=6.6,slow=12,SNR=3.8
PDAR PKKPab **PKKPab** **01 42 22.6 -1.8**
comp=Z,1.7nm,0.9s,baz=189,slow=5.1,SNR=5.5
PDAR PKKP **PKKPdf** **01 42 28.6 +0.6**
comp=Z,3.1nm,0.8s,baz=168,slow=2.7,SNR=8.8
KVN **Kaiserville** **110.67** **28** PFAKE 01 31 20.0
KVN LR LR
comp=Z,15µm,18.0s
E44A **Grand Marais A** **110.80** **1** PFAKE 01 31 20.0
E44A LR LR
comp=Z,25µm,18.0s
PKME **Peaks-Kenny Pk** **110.83** **349** PFAKE 01 31 20.0
PKME LR LR
comp=Z,18µm,18.0s
RYN **Ryan** **110.84** **28** PFAKE 01 31 20.0
RYN LR LR
comp=Z,13µm,18.0s
RSSD **Black Hills** **110.87** **15** PFAKE 01 31 20.0
RSSD LR LR
comp=Z,26µm,22.0s
SPUT **South Promonto** **110.94** **22** PFAKE 01 31 20.0
SPUT LR LR
comp=Z,18µm,20.0s
E43A **Lone Tree Farm** **111.02** **2** PFAKE 01 31 20.0
E43A LR LR
comp=Z,24µm,18.0s
SAO **San Andreas Ge** **111.02** **31** PFAKE 01 31 20.0
SAO LR LR
comp=Z,10µm,20.0s
BGU **Big Grassy Mou** **111.07** **23** PFAKE 01 31 20.0
BGU LR LR
comp=Z,22µm,18.0s
NVAR **Mina Array Bea** **111.10** **28** Pdiff **Pdif** **01 27 12.1 -1.8**
comp=Z,0.1nm,0.3s,baz=241,slow=9.2,SNR=2.3
NVAR PP **PP** **01 31 53.0 +2.3**
comp=Z,3.0nm,0.9s,baz=302,slow=3.6,SNR=5.2
NVAR Sdiff 01 38 00.3
comp=Z,0.2nm,0.3s,baz=308,slow=4.4,SNR=2.1
NVAR PKKPbc **PKKPbc** **01 42 09.9 -0.1**
comp=Z,3.0nm,1.0s,baz=168,slow=4.0,SNR=5.1
NVAR PKKP **PKKPdf** **01 42 26.6 -0.4**
comp=Z,4.4nm,0.9s,baz=168,slow=3.4,SNR=7.4
NVAR PKPPKP **P'P'df** **01 50 39.8 -2.7**
comp=Z,0.2nm,0.3s,baz=176,slow=5.9,SNR=2.7
NV11 **Mina Array Sit** **111.16** **28** PFAKE 01 31 20.0
NV11 LR LR
comp=Z,1µm,20.0s
COWI **Conover** **111.19** **4** PFAKE 01 31 20.0
COWI LR LR
comp=Z,33µm,19.0s
MDPB **Devils Postpil** **111.41** **29** PFAKE 01 31 20.0
MDPB LR LR
comp=Z,13µm,20.0s
OMMB **Old Mammoth Mi** **111.47** **29** PFAKE 01 31 20.0
OMMB LR LR
comp=Z,14µm,21.0s
TCUT **Toone Canyon** **111.47** **22** *e*Pdif **Pdif** **01 27 15.4 -0.1**
TCUT LR LR
comp=Z,35µm,19.0s
F41A **Three Lakes** **111.55** **4** PFAKE 01 31 20.0
F41A LR LR
comp=Z,37µm,19.0s
K22A **Casper** **111.59** **18** PFAKE 01 31 20.0
K22A LR LR
comp=Z,16µm,20.0s
ASCN **Ascension** **111.63** **270** PFAKE 01 31 30.0
ASCN LR LR
comp=Z,38µm,22.0s
CTU **Camp Tracy** **111.73** **22** PFAKE 01 31 20.0
CTU LR LR
comp=Z,20µm,20.0s
SPMN **Marine on St.** **111.76** **7** PFAKE 01 31 20.0
SPMN LR LR
comp=Z,20µm,18.0s
SPMN **Marine on St.** **111.76** **7** P **PKiKP** **01 31 13.7 +0.1**
baz=351
PMPB **Monarch Peak** **111.77** **31** PFAKE 01 31 30.0
PMPB LR LR
comp=Z,11µm,19.0s
DUG **Dugway, Tooele** **111.79** **23** PFAKE 01 31 30.0
DUG LR LR
comp=Z,19µm,19.0s
DUG **Dugway, Tooele** **111.79** **23** P **PKiKP** **01 31 10.0 -4.1**
baz=332
G55A **Calabogie** **111.85** **354** P **PKiKP** **01 31 15.7 +1.9**
baz=7.3
JLU **Jordanelle** **111.92** **22** PFAKE 01 31 30.0
JLU LR LR
comp=Z,21µm,18.0s
FRNY **Flat Rock** **111.92** **352** PFAKE 01 31 20.0
FRNY LR LR
comp=Z,18µm,20.0s
G40A **Rib Lake** **111.95** **5** PFAKE 01 31 30.0
G40A LR LR
comp=Z,21µm,19.0s
G42A **Mountain** **112.08** **3** PFAKE 01 31 30.0
G42A LR LR
comp=Z,28µm,20.0s
PLVO **Plevna** **112.09** **355** PFAKE 01 31 30.0
PLVO LR LR
comp=Z,18µm,18.0s
G43A **Wallace** **112.11** **3** PFAKE 01 31 30.0
G43A LR LR
comp=Z,15µm,18.0s
LONY **Lake Ozonia** **112.25** **353** PFAKE 01 31 30.0
LONY LR LR
comp=Z,18µm,19.0s
LBNH **Lisbon** **112.27** **351** PFAKE 01 31 30.0
LBNH LR LR
comp=Z,22µm,21.0s
NLU **North Lily Min** **112.27** **23** PFAKE 01 31 30.0
NLU LR LR
comp=Z,22µm,18.0s
RWWY **Rawlins** **112.29** **18** PFAKE 01 31 30.0
RWWY LR LR
comp=Z,20µm,20.0s
R11A **Troy Canyon, C** **112.31** **26** PFAKE 01 31 30.0
R11A LR LR
comp=Z,12µm,21.0s
R11A **Troy Canyon, C** **112.31** **26** P **PKiKP** **01 31 13.4 -1.8**
baz=329
PAGB **Antelope Grade** **112.42** **31** PFAKE 01 31 30.0
PAGB LR LR
comp=Z,10µm,21.0s
SADO **Sadowa** **112.51** **356** PKiKP PKiKP 01 31 29.4 +14
comp=Z,10nm,1.0s,baz=48,slow=4.8,SNR=2.4
SADO **Sadowa** **112.51** **356** PKiKP PKiKP 01 31 29.4 +14
SADO LR LR
comp=Z,21µm,20.0s
GLMI **Grayling** **112.61** **0** PFAKE 01 31 30.0
GLMI LR LR
comp=Z,22µm,19.0s
H41A **Junction City** **112.63** **4** PFAKE 01 31 30.0
H41A LR LR
comp=Z,24µm,18.0s
ECSD **EROS Data Cent** **112.72** **10** *e*PKP **PKiKP** **01 31 15.5 0.0**
ECSD LR LR
comp=Z,26µm,19.0s
H42A **Shiocton** **112.81** **3** PFAKE 01 31 30.0
H42A LR LR
comp=Z,43µm,19.0s
PSUT **Pine Spring** **112.85** **25** PFAKE 01 31 30.0
PSUT LR LR
comp=Z,16µm,18.0s
NCB **Newcomb** **112.85** **352** PFAKE 01 31 30.0
NCB LR LR
comp=Z,12µm,19.0s
CWC **Cottonwood Cre** **112.85** **29** P **PKiKP** **01 31 14.7 -1.5**
baz=326
H43A **Windswept, Lux** **112.89** **3** PFAKE 01 31 30.0
H43A LR LR
comp=Z,15µm,18.0s
TMUT **Trail Mountain** **113.16** **23** PFAKE 01 31 30.0
TMUT LR LR
comp=Z,13µm,19.0s
P17A **Butcher Ranch,** **113.17** **22** PFAKE 01 31 30.0
P17A LR LR
comp=Z,15µm,20.0s
I41A **Arkdale** **113.17** **4** PFAKE 01 31 30.0
I41A LR LR
comp=Z,22µm,19.0s
TPNV **Topopah Spring** **113.23** **28** PFAKE 01 31 30.0
TPNV LR LR
comp=Z,16µm,18.0s
TPNV **Topopah Spring** **113.23** **28** P **PKiKP** **01 31 16.3 -0.6**
baz=328
I39A **Houston** **113.24** **6** PFAKE 01 31 30.0
I39A LR LR
comp=Z,27µm,18.0s
ISA **Isabella, Lake** **113.31** **30** PFAKE 01 31 30.0
ISA LR LR
comp=Z,9µm,20.0s
ACCN **Adirondack Com** **113.35** **352** PFAKE 01 31 30.0
ACCN LR LR
comp=Z,17µm,22.0s
N23A **Red Feather La** **113.39** **18** PFAKE 01 31 30.0
N23A LR LR
comp=Z,18µm,18.0s
O20A **White River Ci** **113.40** **20** PFAKE 01 31 30.0
O20A LR LR
comp=Z,23µm,19.0s
O20A **White River Ci** **113.40** **20** P **PKiKP** **01 31 15.7 -1.5**
baz=336
I42A **Draeger Farm,** **113.41** **4** PFAKE 01 31 30.0
I42A LR LR
comp=Z,29µm,19.0s
MPMC **Manual Prospec** **113.43** **29** P **PKiKP** **01 31 15.2 -2.2**
baz=327
SRU **San Rafael Swe** **113.56** **22** PFAKE 01 31 30.0
SRU LR LR
comp=Z,19µm,20.0s
CCUT **Cedar City** **113.89** **25** *e*P **Pdif** **01 27 24.4 -1.9**
CCUT LR LR
comp=Z,17µm,19.0s
HRV **Adam Dziewonsk** **113.90** **350** PFAKE 01 31 30.0
HRV LR LR
comp=Z,16µm,21.0s
MTPU **Mount Pierson** **113.91** **24** PFAKE 01 31 30.0
MTPU LR LR
comp=Z,19µm,20.0s
OSI **Osito Audit: C** **114.05** **31** PFAKE 01 31 30.0 +12
OSI LR LR
comp=Z,12µm,20.0s
SHPR **Sheep Range** **114.06** **27** *e*P **Pdif** **01 27 28.1 +1.1**
SHPR LR LR
comp=Z,22µm,18.0s
EDW2 **Edwards Air Fo** **114.17** **30** P PKPdf 01 31 16.7 -2.0
baz=326
SNAA **Sanae** **114.27** **200** PKP PKPdf 01 31 23.6 +6.0
SNAA **Sanae** **114.27** **200** PFAKE 01 31 30.0 +12
SNAA LR LR
comp=Z,40µm,19.0s
JFWS **Jewell Farm** **114.28** **5** PFAKE 01 31 30.0 +11
JFWS LR LR
comp=Z,29µm,18.0s
OGNE **Ogallala** **114.35** **15** PFAKE 01 31 30.0 +11
OGNE LR LR
comp=Z,21µm,19.0s
OGNE **Ogallala** **114.35** **15** P PKPdf 01 31 17.2 -1.7
baz=342
GSC **Goldstone, Bar** **114.37** **29** PFAKE 01 31 30.0 +11
GSC LR LR
comp=Z,9µm,20.0s
PKCU **Pink Cliffs** **114.39** **24** PFAKE 01 31 30.0 +11
PKCU LR LR
comp=Z,16µm,20.0s
MMNY **Mt. Morris Dam** **114.45** **355** PFAKE 01 31 30.0 +11
MMNY LR LR
comp=Z,21µm,20.0s
ISCO **Idaho Springs** **114.49** **18** *e*PKP PKPdf 01 31 19.7 +0.2
ISCO LR LR
comp=Z,25µm,19.0s
ISCO **Idaho Springs** **114.49** **18** *e*PKIKP PKPdf 01 31 19.7 +0.2
ISCO MLR MLR
comp=Z,25µm,19.0s
KNB **Kanab** **114.57** **25** PFAKE 01 31 30.0 +10
KNB LR LR
comp=Z,13µm,18.0s
PV21 **Cone Mtn., Par** **114.59** **21** PFAKE 01 31 30.0 +10
PV21 LR LR
comp=Z,19µm,18.0s
K43A **Burlington** **114.62** **3** PFAKE 01 31 30.0 +11
K43A LR LR
comp=Z,28µm,19.0s
K48A **Perry** **114.64** **360** P PKPdf 01 31 18.0 -1.2
baz=360
TUQ **Turquoise Moun** **114.64** **28** P PKPdf 01 31 20.5 +0.9
baz=328
K50A **Casco** **114.65** **359** P PKPdf 01 31 17.5 -1.8
baz=1.5
SMCO **Snowmass** **114.67** **19** PFAKE 01 31 30.0 +10
SMCO LR LR
comp=Z,29µm,18.0s
PASC **Pasadena Art C** **114.67** **31** PFAKE 01 31 30.0 +10
PASC LR LR
comp=Z,14µm,19.0s
PV22 **Blue Mesa, Par** **114.67** **21** PFAKE 01 31 30.0 +10
PV22 LR LR
comp=Z,18µm,20.0s
PV23 **Carpenter Ridg** **114.67** **21** PFAKE 01 31 30.0 +10
PV23 LR LR
comp=Z,19µm,20.0s
MWC **Mount Wilson** **114.69** **31** PFAKE 01 31 30.0 +10
MWC LR LR
comp=Z,10µm,22.0s
BGNE **Belgrade** **114.72** **12** PFAKE 01 31 30.0 +11
BGNE LR LR
comp=Z,38µm,19.0s
PV14 **Lion Creek, Pa** **114.74** **21** PFAKE 01 31 30.0 +10
PV14 LR LR
comp=Z,22µm,18.0s
SNCC **San Nicolas Is** **114.78** **32** PFAKE 01 31 30.0 +10
SNCC LR LR
comp=Z,10µm,20.0s
PV20 **West Nyswonger** **114.79** **21** PFAKE 01 31 30.0 +10
PV20 LR LR
comp=Z,19µm,18.0s
BINY **Binghamton** **114.80** **353** PFAKE 01 31 30.0 +10
BINY LR LR
comp=Z,19µm,18.0s
BINY **Binghamton** **114.80** **353** P PKPdf 01 31 19.2 -0.4
baz=8.2
PV16 **Nyswonger Mesa** **114.83** **21** PFAKE 01 31 30.0 +10
PV16 LR LR
comp=Z,21µm,18.0s
PV17 **East Wray Mesa** **114.85** **21** PFAKE 01 31 30.0 +10
PV17 LR LR
comp=Z,22µm,19.0s
PV11 **David Mesa, Pa** **114.86** **21** PFAKE 01 31 30.0 +10
PV11 LR LR
comp=Z,20µm,20.0s
BFSC **Mount Baldy Ra** **114.86** **30** P PKPdf 01 31 19.8 -0.3
baz=326
PV12 **Saucer Basin,** **114.86** **21** PFAKE 01 31 30.0 +10
PV12 LR LR
comp=Z,22µm,19.0s
PV18 **Skein Mesa, Pa** **114.89** **21** PFAKE 01 31 30.0 +10
PV18 LR LR
comp=Z,18µm,18.0s
L39A **Vinton** **114.91** **6** P PKPdf 01 31 17.4 -2.4
baz=352
SCIA **State Center** **114.99** **7** PFAKE 01 31 30.0 +10
SCIA LR LR
comp=Z,32µm,19.0s
PV13 **Radium Mtn., P** **115.00** **21** PFAKE 01 31 30.0 +10
PV13 LR LR
comp=Z,17µm,19.0s
L40A **Anamosa** **115.05** **6** PFAKE 01 31 30.0 +10
L40A LR LR
comp=Z,23µm,20.0s
AAM **Ann Arbor** **115.14** **360** PFAKE 01 31 30.0 +10
AAM LR LR
comp=Z,26µm,20.0s
ERPA **Erie** **115.21** **357** PFAKE 01 31 30.0 +10
ERPA LR LR
comp=Z,23µm,20.0s
L42A **Oliver, Polo** **115.23** **5** PFAKE 01 31 30.0 +10
L42A LR LR
comp=Z,26µm,22.0s
YLE **Yale** **115.28** **351** PFAKE 01 31 30.0 +10
YLE LR LR
comp=Z,19µm,19.0s
U15A **North Rim** **115.29** **25** PFAKE 01 31 30.0 +8.9
U15A LR LR
comp=Z,22µm,18.0s
LDFC **Landfair** **115.30** **28** PFAKE 01 31 30.0 +9.1
LDFC LR LR
comp=Z,11µm,18.0s
GMRC **Granite Mounta** **115.31** **28** P **PKPdf** **01 31 20.3 -0.6**
baz=328
Q24A **Divide** **115.40** **18** PFAKE 01 31 30.0 +8.8
Q24A LR LR
comp=Z,22µm,18.0s
Q24A **Divide** **115.40** **18** P **PKPdf** **01 31 20.4 -0.8**
baz=339
KSPA **Keystone Colle** **115.41** **353** PFAKE 01 31 30.0 +9.2
KSPA LR LR
comp=Z,18µm,19.0s
L47A **Sherwood** **115.45** **1** P PKPpre 01 31 16.6
baz=359
L48A **N Adams** **115.49** **0** P PKPpre 01 31 17.9
baz=360
ALLY **Alegheny Colle** **115.68** **357** PFAKE 01 31 30.0 +8.7
ALLY LR LR
comp=Z,24µm,21.0s
PAL **Palisades** **115.72** **351** PFAKE 01 31 30.0 +8.7
PAL LR LR
comp=Z,13µm,21.0s
ODNJ **Ogdensburg** **115.74** **352** PFAKE 01 31 30.0 +8.6
ODNJ LR LR
comp=Z,20µm,20.0s
VNA2 **Neumayer--Watz** **115.77** **201** PKP **PKPdf** **01 31 20.6 +0.2**
M54A **Oil Creek Stat** **115.80** **356** PFAKE 01 31 30.0 +8.5
M54A LR LR
comp=Z,26µm,21.0s
M54A **Oil Creek Stat** **115.80** **356** P **PKPdf** **01 31 19.9 -1.6**
baz=4.5
W13A **Hualapai Mount** **115.80** **27** PFAKE 01 31 30.0 +8.0
W13A LR LR
comp=Z,14µm,18.0s
PFO **Pinyon Flats O** **115.93** **30** *e*PKPdf **PKPdf** **01 31 20.9 -1.2**
PFO LR LR
comp=Z,14µm,18.0s
PFO **Pinyon Flats O** **115.93** **30** *e*PKIKP **PKPdf** **01 31 21.0 -1.2**
PFO MLR MLR
comp=Z,14µm,18.0s
M44A **Midewin, Midew** **115.95** **3** PFAKE 01 31 30.0 +8.2
M44A LR LR
comp=Z,22µm,19.0s
M44A **Midewin, Midew** **115.95** **3** P **PKPdf** **01 31 20.2 -1.6**
baz=356
M48A **Edgerton** **115.95** **0** PFAKE 01 31 30.0 +8.2
M48A LR LR
comp=Z,25µm,20.0s
M49A **Liberty Center** **115.96** **360** P **PKPdf** **01 31 20.9 -1.0**
baz=0.1
MVCO **Mesa Verde** **115.97** **21** PFAKE 01 31 30.0 +7.7
MVCO LR LR
comp=Z,14µm,18.0s
MVCO **Mesa Verde** **115.97** **21** P **PKPdf** **01 31 20.0 -2.3**
baz=335
M46A **Old House Fiel** **116.00** **2** PFAKE 01 31 30.0 +8.1
M46A LR LR
comp=Z,18µm,20.0s
S22A **4UR Ranch, Cre** **116.02** **20** PFAKE 01 31 30.0 +7.5
S22A LR LR
comp=Z,25µm,18.0s
M50A **Fremont** **116.03** **359** PFAKE 01 31 30.0 +8.1
M50A LR LR
comp=Z,26µm,18.0s
KSCO **Kaye Shedlock'** **116.04** **16** PFAKE 01 31 30.0 +7.8
KSCO LR LR
comp=Z,22µm,21.0s
N59A **State Game Lan** **116.04** **353** PFAKE 01 31 30.0 +8.0
N59A LR LR
comp=Z,20µm,20.0s

IRM **Iron Mountain** 116.06 28 P **PKPdf** **01 31 24.1 +1.8**
baz=328

VNA1 **Neumayer--Stat** 116.08 201 PKP **PKPdf** **01 31 22.9 +2.0**
N39A **Derby Farms, D** 116.09 7 PFAKE 01 31 30.0 +7.9
N39A LR LR
comp=Z,36µm,18.0s

CPE **Camp Elliot** 116.23 31 PFAKE 01 31 30.0 +7.4
CPE LR LR
comp=Z,12µm,18.0s

BC3 **Big Chuckawall** 116.35 29 P **PKPdf** **01 31 24.4 +1.4**
baz=328

N54A **Moraine State** 116.36 356 PFAKE 01 31 30.0 +7.4
N54A LR LR
comp=Z,26µm,19.0s

N54A **Moraine State** 116.36 356 P **PKPdf** **01 31 21.0 -1.6**
baz=4.2

N42A **Yates City** 116.37 5 P **PKPdf** **01 31 24.6 +2.0**
baz=354

N41A **Harden Midland** 116.42 6 PFAKE 01 31 30.0 +7.3
N41A LR LR
comp=Z,34µm,20.0s

SDCO **Great Sand Dun** 116.43 19 PFAKE 01 31 30.0 +6.8
SDCO LR LR
comp=Z,21µm,19.0s

WUAZ **Wupatki** 116.44 25 PFAKE 01 31 30.0 +6.9
WUAZ LR LR
comp=Z,14µm,20.0s

VNA3 **Neumayer Olymp** 116.47 200 PKP **PKPdf** **01 31 22.0 +0.2**
N51A **Ashland** 116.50 358 PFAKE 01 31 30.0 +7.1
N51A LR LR
comp=Z,30µm,20.0s

N49A **Columbus Grove** 116.52 0 PFAKE 01 31 30.0 +7.1
N49A LR LR
comp=Z,28µm,18.0s

SSPA **Standing Stone** 116.53 355 PFAKE 01 31 30.0 +7.1
SSPA LR LR
comp=Z,13µm,20.0s

SSPA **Standing Stone** 116.53 355 P **PKPdf** **01 31 22.0 -0.9**
baz=6.4

BAR **Barrett** 116.61 30 PFAKE 01 31 30.0 +6.6
BAR LR LR
comp=Z,11µm,19.0s

Y12C **Blythe** 116.68 28 PFAKE 01 31 30.0 +6.6
Y12C LR LR
comp=Z,11µm,20.0s

Y12C **Blythe** 116.68 28 P **PKPdf** **01 31 22.1 -1.3**
baz=329

HDIL **Hopedale** 116.70 4 PFAKE 01 31 30.0 +6.7
HDIL LR LR
comp=Z,20µm,20.0s

PAGS **Pennsylvania G** 116.83 354 PFAKE 01 31 30.0 +6.5
PAGS LR LR
comp=Z,21µm,18.0s

IKP **In-Ko-Pah, Jac** 116.90 30 P **PKPdf** **01 31 26.0 +2.0**
baz=327

CBKS **Cedar Bluff** 116.91 14 PFAKE 01 31 30.0 +6.2
CBKS LR LR
comp=Z,19µm,18.0s

O56A **Blue Knob Stat** 116.95 355 PFAKE 01 31 30.0 +6.2
O56A LR LR
comp=Z,18µm,20.0s

PSUB **Penn St. - Bra** 116.98 352 PFAKE 01 31 30.0 +6.2
PSUB LR LR
comp=Z,20µm,20.0s

SFIN **Lafayette** 117.00 3 PFAKE 01 31 30.0 +6.2
SFIN LR LR
comp=Z,24µm,18.0s

SFIN **Lafayette** 117.00 3 P **PKPdf** **01 31 26.4 +2.6**
baz=357

MVL **Millersville** 117.02 353 PFAKE 01 31 30.0 +6.1
MVL LR LR
comp=Z,21µm,19.0s

GLA **Glamis** 117.14 29 PFAKE 01 31 40.0 +16
GLA LR LR
comp=Z,12µm,18.0s

GLA **Glamis** 117.14 29 P **PKPdf** **01 31 22.9 -1.5**
baz=328

O47A **Sheridan** 117.17 2 P **PKPdf** **01 31 22.9 -1.3**
baz=358

O48A **Farmland** 117.17 1 P **PKPdf** **01 31 24.3 +0.1**
baz=359

ACSO **Alum Creek Sta** 117.19 359 *e*PKPdf **PKPdf** **01 31 23.7 -0.5**
ACSO LR LR
comp=Z,23µm,18.0s

ACSO **Alum Creek Sta** 117.19 359 P **PKPdf** **01 31 25.9 +1.7**
baz=1.2

KSU1 **Kansas State U** 117.24 11 *e*PKPdf **PKPdf** **01 31 24.6 +0.2**
KSU1 LR LR
comp=Z,47µm,19.0s

KSU1 **Kansas State U** 117.24 11 P **PKPdf** **01 31 23.9 -0.5**
baz=347

O49A **Covington** 117.25 0 PFAKE 01 31 40.0 +16
O49A LR LR
comp=Z,20µm,19.0s

O49A **Covington** 117.25 0 P **PKPdf** **01 31 23.8 -0.6**
baz=360

O51A **Pataskala** 117.27 359 P **PKPdf** **01 31 22.9 -1.5**
baz=1.6

O52A **Adamsville** 117.28 358 PFAKE 01 31 40.0 +16
O52A LR LR
comp=Z,35µm,18.0s

O50A **Cable** 117.29 360 P **PKPdf** **01 31 23.9 -0.5**
baz=0.5

T25A **Trinidad** 117.31 18 PFAKE 01 31 40.0 +15
T25A LR LR
comp=Z,18µm,20.0s

T25A **Trinidad** 117.31 18 P **PKPdf** **01 31 23.8 -1.0**
baz=339

X16A **Lo Mia Camp, P** 117.38 25 PFAKE 01 31 40.0 +15
X16A LR LR
comp=Z,21µm,18.0s

W18A **Petrified Fore** 117.41 24 PFAKE 01 31 40.0 +15
W18A LR LR
comp=Z,13µm,22.0s

W18A **Petrified Fore** 117.41 24 P **PKPdf** **01 31 23.9 -1.2**
baz=334

P41A **Barry, Barry** 117.43 6 P **PKPdf** **01 31 26.0 +1.4**
baz=353

P42A **Winchester** 117.58 5 PFAKE 01 31 40.0 +15
P42A LR LR
comp=Z,28µm,19.0s

MCWV **Mont Chateau** 117.65 356 PFAKE 01 31 40.0 +15
MCWV LR LR
comp=Z,14µm,20.0s

SDMD **Soldier's Deli** 117.65 354 PFAKE 01 31 40.0 +15
SDMD LR LR
comp=Z,10µm,20.0s

P52A **Corning** 117.77 358 P **PKPdf** **01 31 25.0 -0.4**
baz=2.0

P45A **Graceland, Par** 117.82 3 PFAKE 01 31 40.0 +15
P45A LR LR
comp=Z,30µm,18.0s

P45A **Graceland, Par** 117.82 3 P **PKPdf** **01 31 24.8 -0.7**
baz=356

P50A **Jamestown** 117.83 360 P **PKPdf** **01 31 24.6 -0.9**
baz=0.3

113A **Mohawk Valley,** 117.85 28 PFAKE 01 31 40.0 +14
113A LR LR
comp=Z,10µm,20.0s

X18A **Snowflake** 117.86 24 PFAKE 01 31 40.0 +14
X18A LR LR
comp=Z,19µm,18.0s

P53A **Whipple** 117.89 358 PFAKE 01 31 40.0 +14
P53A LR LR
comp=Z,28µm,20.0s

P53A **Whipple** 117.89 358 P **PKPdf** **01 31 25.0 -0.6**
baz=2.8

P47A **Martinsville** 117.92 2 P **PKPdf** **01 31 24.8 -0.9**
baz=358

P51A **Williamsport** 117.94 359 PFAKE 01 31 40.0 +14
P51A LR LR
comp=Z,23µm,18.0s

P48A **Milroy** 117.96 1 P **PKPdf** **01 31 24.1 -1.6**
baz=359

Q41A **Truxton** 118.12 6 P **PKPdf** **01 31 24.7 -1.4**
baz=353

BLO **Bloomington** 118.22 2 PFAKE 01 31 40.0 +14
BLO LR LR
comp=Z,18µm,19.0s

Q42A **Golden Eagle** 118.23 6 P **PKPdf** **01 31 25.4 -0.9**
baz=353

Q43A **New Douglas** 118.27 5 P **PKPdf** **01 31 25.7 -0.6**
baz=354

Q44A **Meyer Farm, Va** 118.36 4 P **PKPdf** **01 31 24.9 -1.6**
baz=355

Q51A **Peebles** 118.40 359 PFAKE 01 31 40.0 +13
Q51A LR LR
comp=Z,23µm,22.0s

Q51A **Peebles** 118.40 359 P **PKPdf** **01 31 25.5 -1.1**
baz=0.8

Q45A **Warren Harvey,** 118.42 4 P **PKPdf** **01 31 25.8 -0.8**
baz=356

Q49A **Aurora** 118.43 1 P **PKPdf** **01 31 24.4 -2.2**
baz=359

Q52A **Bidwell** 118.45 358 P **PKPdf** **01 31 27.1 +0.4**
baz=1.9

Q47A **Bedord North L** 118.46 2 P **PKPdf** **01 31 25.7 -1.0**
baz=358

Q48A **North Vernon** 118.49 1 P **PKPdf** **01 31 26.1 -0.7**
baz=358

SLM **Saint Louis** 118.53 5 PFAKE 01 31 40.0 +13
SLM LR LR
comp=Z,30µm,18.0s

OLIL **Olney** 118.59 4 PFAKE 01 31 40.0 +13
OLIL LR LR
comp=Z,31µm,18.0s

Q50A **Georgetown** 118.59 360 P **PKPdf** **01 31 25.0 -2.0**
baz=0.1

ANMO **Albuquerque** 118.71 21 PKP **PKPdf** **01 31 29.2 +1.6**
comp=Z,3.5nm,0.9s,baz=246,slow=1.2,SNR=6.8

ANMO PP **PP** **01 32 43.1 -1.1**
comp=Z,5.6nm,0.9s,baz=360,slow=3.9,SNR=2.5

ANMO PKKPbc **PKKPbc** **01 41 43.9 +0.1**
baz=92,slow=7.0

ANMO **Albuquerque** 118.71 21 *e*PKPdf **PKPdf** **01 31 28.1 +0.5**
ANMO PP **PP** **01 32 43.1 -1.1**
ANMO PKKPbc **PKKPbc** **01 41 44.0 +0.1**
ANMO LR LR
comp=Z,16µm,18.0s

ANMO **Albuquerque** 118.71 21 P **PKPdf** **01 31 26.8 -0.7**
baz=337

R41A **Rosebud** 118.76 6 P **PKPdf** **01 31 26.9 -0.4**
baz=352

PPT2 **Papeete2** 118.81 98 *e*PP PP 01 32 47.8 +1.1
comp=Z,985nm,32.2s

PPT2 *e*Sdif Sdif 01 40 34.8 -1.5
comp=Z,6µm,31.5s

PPT2 **Papeete2** 118.81 98 *e*PS PS 01 42 33.3 -1.0
comp=Z,7µm,27.8s

PPT2 *e*SS SS 01 49 03.8 -2.4
comp=Z,23µm,29.0s

PPT2 **Papeete2** 118.81 98 *e*LQ LQ 02 02 42.4
comp=Z,45µm,33.2s

PPT2 *e*LR LR 02 07 33.2
comp=Z,28µm,25.2s

PPTF **Pamatai, Papee** 118.83 98 PFAKE 01 31 40.0 +12
PPTF LR LR
comp=Z,11µm,21.0s

R42A **Luebbering** 118.83 6 P **PKPdf** **01 31 27.1 -0.3**
baz=353

CBN **Corbin Frederi** 118.90 354 PFAKE 01 31 40.0 +12
CBN LR LR
comp=Z,14µm,20.0s

R43A **Red Bud** 118.92 5 P **PKPdf** **01 31 27.1 -0.5**
baz=354

214A **Organ Pipe Nat** 118.96 28 P **PKPdf** **01 31 24.0 -3.9**
baz=330

R44A **Waltonville** 119.01 4 P **PKPdf** **01 31 26.9 -0.9**
baz=355

CCM **Cathedral Cave** 119.01 6 *e*PKPdf **PKPdf** **01 31 26.9 -0.9**
CCM LR LR
comp=Z,27µm,19.0s

CCM **Cathedral Cave** 119.01 6 *e*PKIKP **PKPdf** **01 31 26.9 -0.9**
CCM MLR MLR
comp=Z,27µm,19.0s

CCM **Cathedral Cave** 119.01 6 P **PKPdf** **01 31 26.6 -1.2**
baz=352

R48A **Northridge Ran** 119.01 2 P **PKPdf** **01 31 26.9 -0.9**
baz=358

R45A **Skylar, Fairfi** 119.02 4 P **PKPdf** **01 31 27.0 -0.8**
baz=356

R52A **Catlettsburg** 119.08 359 P **PKPdf** **01 31 26.5 -1.4**
baz=1.5

R47A **Wooly Knot Far** 119.10 2 P **PKPdf** **01 31 26.7 -1.2**
baz=358

R51A **Hillsboro** 119.13 359 P **PKPdf** **01 31 26.9 -1.1**
baz=0.6

R49A **Shelbyville** 119.14 1 P **PKPdf** **01 31 27.0 -1.0**
baz=359

R50A **Paris** 119.15 0 P **PKPdf** **01 31 29.1 +1.0**
baz=360

FVM **French Village** 119.16 6 PFAKE 01 31 40.0 +12
FVM LR LR
comp=Z,32µm,19.0s

WCI **Wyandotte Cave** 119.17 2 *e*PKPdf **PKPdf** **01 31 29.2 +1.1**
WCI LR LR
comp=Z,28µm,18.0s

WCI **Wyandotte Cave** 119.17 2 *e*PKIKP **PKPdf** **01 31 29.2 +1.1**
WCI MLR MLR
comp=Z,28µm,18.0s

WCI **Wyandotte Cave** 119.17 2 P **PKPdf** **01 31 27.5 -0.6**
baz=358

R58B **Mineral** 119.18 354 P **PKPdf** **01 31 26.9 -1.2**
baz=6.5

LENM **Lemitar** 119.25 22 *e*PKPdf **PKPdf** **01 31 30.2 +1.6**
S42A **Caledonia** 119.34 6 P **PKPdf** **01 31 27.4 -1.0**
baz=353

BNM **Barren Site** 119.38 21 *e*PKPdf **PKPdf** **01 31 30.6 +1.6**
USIN **University of** 119.38 3 PFAKE 01 31 40.0 +12
USIN LR LR
comp=Z,33µm,18.0s

S41A **Jillco Farms,** 119.42 7 P **PKPdf** **01 31 27.3 -1.3**
baz=352

TUC **Tucson** 119.49 26 *e*PKPdf **PKPdf** **01 31 29.8 +0.8**
TUC LR LR
comp=Z,15µm,19.0s

TUC **Tucson** 119.49 26 *e*PKIKP **PKPdf** **01 31 29.8 +0.8**
TUC MLR MLR
comp=Z,15µm,19.0s

TUC **Tucson** 119.49 26 P **PKPdf** **01 31 29.4 +0.4**
baz=332

SIUC **Southern Illin** 119.53 5 PFAKE 01 31 40.0 +11
SIUC LR LR
comp=Z,31µm,20.0s

S44A **Carbondale** 119.55 5 P **PKPdf** **01 31 29.8 +1.0**
baz=355

S43A **Fulton Ridge,** 119.60 5 P **PKPdf** **01 31 27.9 -1.0**
baz=354

S45A **Carrier Mills** 119.61 4 P **PKPdf** **01 31 28.7 -0.2**
baz=355

S49A **Springfield** 119.64 1 P **PKPdf** **01 31 28.1 -0.9**
baz=359

S46A **Don Dixon Farm** 119.66 3 P **PKPdf** **01 31 30.6 +1.6**
baz=356

S52A **Salyersville** 119.75 359 P **PKPdf** **01 31 28.4 -0.8**
baz=1.1

S48A **Wiedeman Farm,** 119.75 2 P **PKPdf** **01 31 24.8 -4.4**
baz=358

S50A **Richmond** 119.75 0 P **PKPdf** **01 31 29.0 -0.2**
baz=360

S47A **Hartford** 119.78 2 P **PKPdf** **01 31 28.4 -0.8**
baz=357

S51A **Beattyville** 119.79 359 PFAKE 01 31 40.0 +11
S51A LR LR
comp=Z,22µm,19.0s

S51A **Beattyville** 119.79 359 P **PKPdf** **01 31 28.6 -0.7**
baz=0.6

T41A **Mountain View** 119.96 7 P **PKPdf** **01 31 28.6 -1.1**
baz=352

T42A **Van Buren** 120.04 6 *e*PKPdf **PKPdf** **01 31 29.4 -0.4**
T42A LR LR
comp=Z,27µm,18.0s

T42A **Van Buren** 120.04 6 P **PKPdf** **01 31 28.4 -1.4**
baz=353

T43A **Greenville** 120.07 6 P **PKPdf** **01 31 28.4 -1.5**
baz=354

BLA **Blacksburg** 120.12 357 PFAKE 01 31 40.0 +10
BLA LR LR
comp=Z,25µm,19.0s

BLA **Blacksburg** 120.12 357 P **PKPdf** **01 31 28.8 -1.2**
baz=3.9

T44A **Benton** 120.13 5 P **PKPdf** **01 31 28.8 -1.1**
baz=354

AMTX **Amarillo** 120.18 17 PFAKE 01 31 40.0 +10
AMTX LR LR
comp=Z,22µm,18.0s

T45A **Paducah** 120.26 4 PFAKE 01 31 40.0 +10
T45A LR LR
comp=Z,24µm,22.0s

T48A **Bowling Green** 120.28 2 P **PKPdf** **01 31 29.5 -0.8**
baz=358

T46A **Princeton** 120.29 3 P **PKPdf** **01 31 29.5 -0.8**
baz=356

T49A **Edmonton** 120.31 1 PFAKE 01 31 40.0 +10
T49A LR LR
comp=Z,21µm,20.0s

T49A **Edmonton** 120.31 1 P **PKPdf** **01 31 29.7 -0.6**
baz=358

T52A **Hallie** 120.31 359 P **PKPdf** **01 31 30.4 0.0**
baz=1.2

PBMO **Poplar Bluff** 120.36 6 PFAKE 01 31 40.0 +10
PBMO LR LR
comp=Z,39µm,18.0s

T47A **Sharon Grove** 120.38 3 *e*PKPdf **PKPdf** **01 31 31.4 +1.0**
T47A LR LR
comp=Z,23µm,18.0s

T47A **Sharon Grove** 120.38 3 P **PKPdf** **01 31 29.7 -0.8**
baz=357

T50A **Nancy** 120.41 1 P **PKPdf** **01 31 30.2 -0.3**
baz=359

HHAR **Hobbs** 120.42 9 PFAKE 01 31 40.0 +9.4
HHAR LR LR
comp=Z,22µm,18.0s

TBI **Tubuai** 120.43 104 *e*PP PP 01 32 58.4 +0.8
comp=Z,1µm,31.5s

TBI *e*Sdif Sdif 01 40 47.3 -2.1
comp=Z,3µm,29.8s

TBI **Tubuai** 120.43 104 *e*PS PS 01 42 48.0 -0.5
comp=Z,5µm,37.8s

TBI *e*SS SS 01 49 23.9 -2.8
comp=Z,16µm,32.8s

TBI **Tubuai** 120.43 104 *e*LQ LQ 02 03 24.1
comp=Z,42µm,41.8s

TBI *e*LR LR 02 08 14.2
comp=Z,32µm,23.0s

121A **Cookes Peak, D** 120.44 23 P **PKPdf** **01 31 30.2 -0.7**
baz=335

T51A **Gray** 120.47 360 P **PKPdf** **01 31 30.0 -0.6**
baz=0.2

TUL1 **Leonard** 120.49 11 PFAKE 01 31 40.0 +9.3
TUL1 LR LR
comp=Z,56µm,18.0s

TUL1 **Leonard** 120.49 11 P **PKPdf** **01 31 30.4 -0.3**
baz=348

U40A **Yellville** 120.50 8 P **PKPdf** **01 31 30.5 -0.2**
baz=351

PARMO **Parma** 120.53 5 PFAKE 01 31 40.0 +9.3
PARMO LR LR
comp=Z,23µm,18.0s

U41A **Viola** 120.63 7 P **PKPdf** **01 31 30.6 -0.3**
baz=352

U42A **Revenden** 120.70 7 P **PKPdf** **01 31 30.4 -0.7**
baz=352

MSTX **Muleshoe** 120.74 18 PFAKE 01 31 40.0 +8.6
MSTX LR LR
comp=Z,14µm,20.0s

MSTX **Muleshoe** 120.74 18 P **PKPdf** **01 31 30.8 -0.6**
baz=340

PVMO **Portageville** 120.78 5 PFAKE 01 31 40.0 +8.8
PVMO LR LR
comp=Z,23µm,18.0s

U48A **Cassie Pea, Po** 120.88 2 P **PKPdf** **01 31 30.7 -0.7**
baz=357

TZTN **Tazewell** 120.88 359 *e*PKPdf **PKPdf** **01 31 31.5 0.0**
TZTN LR LR
comp=Z,19µm,20.0s

TZTN **Tazewell** 120.88 359 P **PKPdf** **01 31 30.7 -0.7**
baz=0.6

U49A **Red Boiling Sp** 120.90 2 P **PKPdf** **01 31 29.8 -1.7**
baz=358

319A **Douglas** 120.91 25 PFAKE 01 31 40.0 +8.2
319A LR LR
comp=Z,15µm,18.0s

U47A **Clarksville** 120.92 3 P **PKPdf** **01 31 30.6 -0.9**
baz=357

U46A **Springville** 120.95 4 P **PKPdf** **01 31 30.7 -0.9**
baz=356

GLAT **Glass** 120.96 5 PFAKE 01 31 40.0 +8.4
GLAT LR LR
comp=Z,33µm,19.0s

U50A **Jamestown** 121.01 1 P **PKPdf** **01 31 30.9 -0.8**
baz=359

WMOK **Wichita Mounta** 121.03 14 *e*PKPdf **PKPdf** **01 31 31.1 -0.7**
WMOK LR LR
comp=Z,24µm,18.0s

WMOK **Wichita Mounta** 121.03 14 *e*PKIKP **PKPdf** **01 31 31.1 -0.7**
WMOK MLR MLR
comp=Z,24µm,18.0s

WMOK **Wichita Mounta** 121.03 14 P **PKPdf** **01 31 30.8 -1.0**
baz=344

U52A **Thorn Hill** 121.03 359 P **PKPdf** **01 31 31.5 -0.3**
baz=0.8

U53A **Fall Branch** 121.05 359 P **PKPdf** **01 31 30.8 -1.0**
baz=1.6

U51A **La Follette** 121.05 360 P **PKPdf** **01 31 30.3 -1.5**
baz=0.1

V41A **Mountainview** 121.15 8 P **PKPdf** **01 31 30.9 -1.1**
baz=351

WVT **Waverly** 121.20 3 *e*PKPdf **PKPdf** **01 31 31.7 -0.3**
WVT LR LR
comp=Z,26µm,18.0s

WVT **Waverly** 121.20 3 *e*PKIKP **PKPdf** **01 31 31.7 -0.3**
WVT MLR MLR
comp=Z,26µm,18.0s

WVT **Waverly** 121.20 3 P **PKPdf** **01 31 31.7 -0.3**
baz=356

GNAR **Gosnell** 121.20 6 PFAKE 01 31 40.0 +8.0
GNAR LR LR
comp=Z,22µm,22.0s

V42A **Cord** 121.22 7 P **PKPdf** **01 31 31.4 -0.7**
baz=352

HALT **Halls** 121.31 5 PFAKE 01 31 40.0 +7.7
HALT LR LR
comp=Z,34µm,18.0s

V46A **Holladay** 121.51 4 P **PKPdf** **01 31 31.0 -1.6**
baz=356

V47A **Nunnelly** 121.51 3 P **PKPdf** **01 31 32.3 -0.3**
baz=356

W39A **Magazine** 121.51 9 PFAKE 01 31 40.0 +7.3
W39A LR LR
comp=Z,22µm,21.0s

W39A **Magazine** 121.51 9 P **PKPdf** **01 31 32.8 +0.1**
baz=350

HBAR **Harrisburg** 121.55 6 PFAKE 01 31 40.0 +7.3
HBAR LR LR
comp=Z,18µm,20.0s

EPT **El Paso** 121.58 22 PFAKE 01 31 40.0 +6.9
EPT LR LR
comp=Z,18µm,19.0s

V52A **Sevierville** 121.58 359 *e*PKPdf **PKPdf** **01 31 33.8 +1.0**
V52A LR LR
comp=Z,25µm,18.0s

V52A **Sevierville** 121.58 359 P **PKPdf** **01 31 32.4 -0.4**
baz=0.6

WHAR **Wooly Hollow** 121.62 8 PFAKE 01 31 40.0 +7.1
WHAR LR LR
comp=Z,28µm,19.0s

V51A **Loudon** 121.63 0 *e*PKPdf **PKPdf** **01 31 34.1 +1.2**
V51A LR LR
comp=Z,22µm,20.0s

V51A **Loudon** 121.63 0 P **PKPdf** **01 31 32.4 -0.4**
baz=360

V48A **Smith Brothers** 121.63 3 PFAKE 01 31 40.0 +7.1
V48A LR LR
comp=Z,25µm,18.0s

V48A **Smith Brothers** 121.63 3 P **PKPdf** **01 31 32.4 -0.5**
baz=357

V49A **McMinnville** 121.64 2 P **PKPdf** **01 31 32.6 -0.4**
baz=358

V53A **Saluda** 121.75 359 *e*PKPdf **PKPdf** **01 31 34.4 +1.2**
V53A LR LR
comp=Z,23µm,19.0s

V53A **Saluda** 121.75 359 P **PKPdf** **01 31 32.2 -1.0**
baz=1.4

W41B **Gary Mavity, V** 121.75 8 *e*PKPdf **PKPdf** **01 31 33.8 +0.6**
W41B LR LR
comp=Z,32µm,19.0s

W41B **Gary Mavity, V** 121.75 8 P **PKPdf** **01 31 32.4 -0.7**
baz=351

V50A **Pikevile** 121.75 1 P **PKPdf** **01 31 32.3 -0.8**
baz=359

TKL **Tuckaleechee C** 121.77 360 PKP **PKPdf** **01 31 31.6 -1.6**
comp=Z,5.8nm,0.7s,baz=120,slow=7.4,SNR=10

TKL PP **PP** **01 33 04.2 -0.5**
comp=Z,28nm,1.2s,baz=354,slow=6.0,SNR=6.8

TKL **Tuckaleechee C** 121.77 360 *e*PKPdf **PKPdf** **01 31 34.4 +1.2**
TKL PP **PP** **01 33 04.2 -0.5**
TKL LR LR
comp=Z,24µm,19.0s

TKL **Tuckaleechee C** 121.77 360 PKIKP **PKPdf** **01 31 31.6 -1.6**

TKL 01 33 04.2
TKL pmax pmax
comp=Z,5.0nm,0.6s
TKL pmax pmax
comp=Z,28nm,1.2s
CNNC CNNC **Cliffs of the** **121.88** **354** PFAKE LR LR 01 31 40.0 +6.6
comp=Z,23µm,19.0s
CPCT CPCT **Cooper Cave** **121.98** **0** PFAKE LR LR 01 31 40.0 +6.4
comp=Z,24µm,19.0s
MNTX MNTX **Cornudas Mount** **122.04** **21** *e*PKPdf LR **PKPdf** LR **01 31 34.0 +0.2**
comp=Z,15µm,21.0s
MNTX **Cornudas Mount** **122.04** **21** P **PKPdf** **01 31 34.9 +1.1**
baz=337
MET MET **Memphis--Engin** **122.05** **6** PFAKE LR LR 01 31 40.0 +6.3
comp=Z,23µm,20.0s
W47A **Westpoint** **122.08** **3** P **PKPdf** **01 31 32.2 -1.6**
baz=356
UALR UALR **University of** **122.13** **8** PFAKE LR LR 01 31 40.0 +6.1
comp=Z,27µm,20.0s
W46A **Michie** **122.16** **4** P **PKPdf** **01 31 32.1 -1.8**
baz=355
MIAR MIAR **Mount Ida** **122.18** **9** *e*PKPdf LR **PKPdf** LR **01 31 34.2 +0.2**
comp=Z,22µm,18.0s
MIAR **Mount Ida** **122.18** **9** P **PKPdf** **01 31 33.7 -0.3**
baz=350
SWET SWET **Sewanee** **122.19** **2** PFAKE LR LR 01 31 40.0 +6.0
comp=Z,25µm,18.0s
W50A W50A **Signal Mountai** **122.22** **1** PFAKE LR LR 01 31 40.0 +5.9
comp=Z,19µm,20.0s
W50A **Signal Mountai** **122.22** **1** P **PKPdf** **01 31 32.5 -1.6**
baz=359
KMSC KMSC **Kings Mountain** **122.22** **357** PFAKE LR LR 01 31 40.0 +6.0
comp=Z,24µm,20.0s
KMSC **Kings Mountain** **122.22** **357** P **PKPdf** **01 31 33.2 -0.8**
baz=3.0
W48A **Pulaski** **122.23** **3** P **PKPdf** **01 31 32.9 -1.2**
baz=357
W53A **Cullowhee** **122.25** **359** P **PKPdf** **01 31 33.6 -0.6**
baz=1.0
W51A **Cleveland** **122.26** **1** P **PKPdf** **01 31 33.6 -0.6**
baz=359
W49A **Belvidere** **122.27** **2** P **PKPdf** **01 31 33.5 -0.7**
baz=358
HSIG HSIG **122.30** **28** PFAKE LR LR 01 31 50.0 +16
comp=Z,10µm,20.0s
PLAL PLAL **Pickwick Lake** **122.33** **4** *e*PKPdf LR **PKPdf** LR **01 31 33.1 -1.2**
comp=Z,31µm,19.0s
W52A W52A **Murphy** **122.33** **360** *e*PKPdf LR **PKPdf** LR **01 31 33.0 -1.3**
comp=Z,24µm,19.0s
W52A **Murphy** **122.33** **360** P **PKPdf** **01 31 33.2 -1.1**
baz=0.2
X41A **Kaden, Bauxite** **122.38** **8** P **PKPdf** **01 31 32.6 -1.7**
baz=351
BG3 BG3 **Lake Jocassee** **122.42** **359** PFAKE LR LR 01 31 50.0 +16
comp=Z,22µm,19.0s
X42A **Stuttgart** **122.43** **7** P **PKPdf** **01 31 33.6 -0.9**
baz=352
X43A X43A **Marvell** **122.55** **7** PFAKE LR LR 01 31 50.0 +15
comp=Z,22µm,18.0s
PAULI PAULI **Pauline** **122.56** **358** PFAKE LR LR 01 31 50.0 +15
comp=Z,28µm,19.0s
X44A **Crenshaw** **122.64** **6** P **PKPdf** **01 31 35.1 +0.3**
baz=353
OXF OXF **Oxford** **122.70** **5** *e*PKPdf LR **PKPdf** LR **01 31 34.0 -1.0**
comp=Z,21µm,19.0s
OXF OXF **Oxford** **122.70** **5** *e*PKIKP MLR **PKPdf** MLR **01 31 34.0 -1.0**
comp=Z,21µm,19.0s
OXF **Oxford** **122.70** **5** P **PKPdf** **01 31 35.8 +0.9**
baz=354
X46A **Booneville** **122.72** **4** P **PKPdf** **01 31 32.0 -3.0**
baz=355
X45A **UM Field Stati** **122.78** **5** P **PKPdf** **01 31 33.0 -2.1**
baz=354
X47A **Russelville** **122.80** **4** P **PKPdf** **01 31 34.7 -0.5**
baz=356
X52A **Dahlonega** **122.82** **360** P **PKPdf** **01 31 34.9 -0.4**
baz=0.2
ABTX ABTX **Abilene, Hawle** **122.85** **16** *e*PKPdf LR **PKPdf** LR **01 31 36.8 +1.5**
comp=Z,24µm,20.0s
ABTX **Abilene, Hawle** **122.85** **16** P **PKPdf** **01 31 34.9 -0.5**
baz=343
X51A X51A **Calhoun** **122.86** **1** *e*PKPdf LR **PKPdf** LR **01 31 36.5 +1.2**
comp=Z,21µm,18.0s
X51A **Calhoun** **122.86** **1** P **PKPdf** **01 31 34.2 -1.1**
baz=359
X49A **Woodville** **122.88** **2** P **PKPdf** **01 31 33.7 -1.6**
baz=358
X48A X48A **Hartselle** **122.91** **3** *e*PKPdf LR **PKPdf** LR **01 31 34.5 -0.9**
comp=Z,22µm,19.0s
X48A **Hartselle** **122.91** **3** P **PKPdf** **01 31 35.1 -0.3**
baz=357
X53A **Estanollee** **122.92** **359** P **PKPdf** **01 31 35.0 -0.4**
baz=0.9
X50B **Fort Payne** **122.95** **1** P **PKPdf** **01 31 34.7 -0.8**
baz=358
Y41A **Eaglette Beard** **122.97** **8** P **PKPdf** **01 31 34.0 -1.5**
baz=351
CCAR CCAR **Cane Creek** **123.04** **8** PFAKE LR LR 01 31 50.0 +14
comp=Z,26µm,18.0s
JSC JSC **Jenkinsville** **123.08** **357** *e*PKPdf LR **PKPdf** LR **01 31 37.0 +1.3**
comp=Z,34µm,18.0s
JSC JSC **Jenkinsville** **123.08** **357** *e*PKIKP MLR **PKPdf** MLR **01 31 37.0 +1.3**
comp=Z,34µm,18.0s
Y43A **Makayla and Ka** **123.14** **7** P **PKPdf** **01 31 35.2 -0.6**
baz=352
HODGE HODGE **Hodges** **123.17** **358** PFAKE LR LR 01 31 50.0 +14
comp=Z,24µm,20.0s
SRIG SRIG **Santa Rosalia** **123.18** **30** PFAKE LR LR 01 31 50.0 +14
comp=Z,10µm,20.0s
Y45A **Yeager Farm, C** **123.33** **5** P **PKPdf** **01 31 35.2 -1.0**
baz=354
Y46A **Houston** **123.36** **5** P **PKPdf** **01 31 36.3 0.0**
baz=355
Y47A **UCPARC, Winfie** **123.41** **4** P **PKPdf** **01 31 34.5 -1.8**
baz=356
Y48A **Jasper** **123.44** **3** P **PKPdf** **01 31 34.7 -1.7**
baz=357
Y50A **Piedmont** **123.51** **2** P **PKPdf** **01 31 36.2 -0.4**
baz=358
Y51A **Rockmart** **123.52** **1** P **PKPdf** **01 31 34.7 -1.9**
baz=359
Y49A Y49A **Blount Mountai** **123.53** **2** *e*PKPdf LR **PKPdf** LR **01 31 36.5 -0.1**
comp=Z,24µm,20.0s
Y49A **Blount Mountai** **123.53** **2** P **PKPdf** **01 31 35.5 -1.1**
baz=358
Y54A **Tignall** **123.55** **359** P **PKPdf** **01 31 37.6 +0.9**
baz=1.6
Z41A Z41A **Richland Creek** **123.56** **9** PFAKE LR LR 01 31 50.0 +13
comp=Z,26µm,19.0s
Z41A **Richland Creek** **123.56** **9** P **PKPdf** **01 31 37.0 +0.4**
baz=350
Y52A Y52A **Lilburn** **123.56** **360** *e*PKPdf LR **PKPdf** LR **01 31 37.0 +0.4**
comp=Z,18µm,20.0s
Y52A **Lilburn** **123.56** **360** P **PKPdf** **01 31 37.2 +0.5**
baz=0.1
Y53A **Monroe** **123.57** **359** P **PKPdf** **01 31 36.4 -0.3**
baz=0.6
Z45A Z45A **Winona** **123.80** **6** PFAKE LR LR 01 31 50.0 +13
comp=Z,26µm,19.0s
Z44A **Pea Ridge, Bel** **123.83** **6** P **PKPdf** **01 31 36.9 -0.2**
baz=353
Z48A **Northport** **123.95** **3** P **PKPdf** **01 31 38.0 +0.7**
baz=356
WHTX WHTX **Lake Whitney,** **123.96** **14** PFAKE LR LR 01 31 50.0 +13
comp=Z,20µm,21.0s
WHTX **Lake Whitney,** **123.96** **14** P **PKPdf** **01 31 38.1 +0.6**
baz=345
GOGA GOGA **Godfrey** **124.01** **359** *e*PKPdf LR **PKPdf** LR **01 31 38.0 +0.5**
comp=Z,24µm,18.0s
GOGA GOGA **Godfrey** **124.01** **359** *e*PKIKP MLR **PKPdf** MLR **01 31 38.0 +0.5**
comp=Z,24µm,18.0s
GOGA **Godfrey** **124.01** **359** P **PKPdf** **01 31 37.9 +0.4**
baz=0.7
Z46A **Louisville** **124.04** **5** P **PKPdf** **01 31 38.3 +0.7**
baz=355
Z51A **Franklin** **124.10** **1** P **PKPdf** **01 31 37.5 -0.2**
baz=359
Z47A **Carrollton** **124.10** **4** P **PKPdf** **01 31 37.2 -0.5**
baz=356
Z53A **Monticello** **124.14** **359** P **PKPdf** **01 31 38.2 +0.4**
baz=0.6
Z50A Z50A **Ashland** **124.14** **2** *e*PKPdf LR **PKPdf** LR **01 31 38.0 +0.2**
comp=Z,31µm,20.0s
Z50A **Ashland** **124.14** **2** P **PKPdf** **01 31 37.3 -0.5**
baz=358
Z54A **Sparta** **124.17** **359** P **PKPdf** **01 31 39.4 +1.6**
baz=1.4
Z49A **Columbiana** **124.18** **2** P **PKPdf** **01 31 37.7 -0.2**
baz=357
141A **Papa Simpson,** **124.19** **9** P **PKPdf** **01 31 39.2 +1.3**
baz=350
NHSC NHSC **New Hope** **124.19** **356** PFAKE LR LR 01 31 50.0 +12
comp=Z,22µm,18.0s
Z52A **Williamson** **124.23** **0** P **PKPdf** **01 31 36.7 -1.3**
baz=360
143A 143A **Socs Landing,** **124.29** **7** PFAKE LR LR 01 31 50.0 +12
comp=Z,24µm,18.0s
143A **Socs Landing,** **124.29** **7** P **PKPdf** **01 31 36.5 -1.5**
baz=352
LRAL LRAL **Lakeview Retre** **124.32** **3** *e*PKPdf LR **PKPdf** LR **01 31 37.7 -0.4**
comp=Z,31µm,19.0s
LRAL **Lakeview Retre** **124.32** **3** P **PKPdf** **01 31 37.2 -1.0**
baz=357
144A **Alexander Plac** **124.47** **6** P **PKPdf** **01 31 38.6 +0.2**
baz=353
145A **Houston Renfro** **124.54** **6** P **PKPdf** **01 31 40.0 +1.5**
baz=354
146A 146A **Union** **124.59** **5** *e*PKPdf LR **PKPdf** LR **01 31 39.3 +0.7**
comp=Z,29µm,22.0s
146A **Union** **124.59** **5** P **PKPdf** **01 31 39.0 +0.3**
baz=354
147A 147A **Livingston** **124.61** **4** PFAKE LR LR 01 31 50.0 +11
comp=Z,25µm,18.0s
240A 240A **Hunter Patters** **124.61** **10** PFAKE LR LR 01 31 50.0 +11
comp=Z,43µm,19.0s
TAOE **Nuku Hiva Isla** **124.67** **85** *e*SS SS 01 50 24.9 +4.0
comp=Z,11µm,28.6s
TAOE **Nuku Hiva Isla** **124.67** **85** *e*LQ LQ 02 05 01.8
comp=Z,29µm,33.6s
TAOE *e*LR LR 02 10 18.3
comp=Z,24µm,26.7s
148A **Greensboro** **124.68** **4** P **PKPdf** **01 31 38.8 0.0**
baz=356
156A **Sylvania** **124.71** **357** P **PKPdf** **01 31 42.2 +3.3**
baz=2.9
NATX NATX **Nacogdoches** **124.73** **11** *e*PKPdf LR **PKPdf** LR **01 31 39.0 0.0**
comp=Z,30µm,18.0s
NATX **Nacogdoches** **124.73** **11** P **PKPdf** **01 31 39.1 +0.2**
baz=348
152A 152A **Waverly Hall** **124.75** **1** PFAKE LR LR 01 31 50.0 +11
comp=Z,23µm,20.0s
152A **Waverly Hall** **124.75** **1** P **PKPdf** **01 31 39.1 +0.1**
baz=359
241A 241A **Mo Tay, Goldon** **124.76** **9** PFAKE LR LR 01 31 50.0 +11
comp=Z,28µm,18.0s
241A **Mo Tay, Goldon** **124.76** **9** P **PKPdf** **01 31 38.4 -0.5**
baz=350
149A **Jones** **124.77** **3** P **PKPdf** **01 31 41.0 +2.0**
baz=357
155A **Kite** **124.78** **358** P **PKPdf** **01 31 38.3 -0.7**
baz=1.8
TX31 **Lajitas Ar. Si** **124.78** **21** *e*PKPdf PKP **PKPdf** **01 31 40.1 +0.8**
TXAR **Lajitas Array** **124.78** **21** PKP **PKPdf** **01 31 40.3 +1.1**
comp=Z,4.8nm,0.9s,baz=245,slow=0.7,SNR=15
TXAR PP **PP** **01 33 26.3 +0.9**
comp=Z,13nm,1.1s,baz=335,slow=5.5,SNR=4.0
TXAR PKKPab **PKKPab** **01 41 23.8 +1.8**
comp=Z,2.7nm,1.1s,baz=142,slow=6.2,SNR=3.9
TXAR SKKPbc SKKPbc 01 45 13.4 +4.7
comp=Z,1.7nm,0.9s,baz=171,slow=4.7,SNR=4.0
150A **Eclectic** **124.79** **2** P **PKPdf** **01 31 39.8 +0.8**
baz=358
154A 154A **Montrose** **124.80** **359** PFAKE LR LR 01 31 50.0 +11
comp=Z,25µm,19.0s
154A **Montrose** **124.80** **359** P **PKPdf** **01 31 41.7 +2.6**
baz=1.1
JCT JCT **Junction City** **124.85** **16** *e*PKPdf LR **PKPdf** LR **01 31 39.5 +0.2**
comp=Z,25µm,19.0s
JCT JCT **Junction City** **124.85** **16** *e*PKIKP MLR **PKPdf** MLR **01 31 39.5 +0.2**
comp=Z,25µm,19.0s
JCT **Junction City** **124.85** **16** P **PKPdf** **01 31 39.5 +0.2**
baz=342
VBMS VBMS **Vicksburg** **124.86** **7** PFAKE LR LR 01 31 50.0 +11
comp=Z,22µm,18.0s
VBMS **Vicksburg** **124.86** **7** P **PKPdf** **01 31 38.2 -1.0**
baz=353
151A **Opelika** **124.88** **1** P **PKPdf** **01 31 36.2 -3.1**
baz=359
244A **Avery, Jackson** **125.02** **7** P **PKPdf** **01 31 37.9 -1.6**
baz=353
435B 435B **Jarrell** **125.10** **14** PFAKE LR LR 01 31 50.0 +10
comp=Z,21µm,21.0s
435B **Jarrell** **125.10** **14** P **PKPdf** **01 31 40.7 +1.1**
baz=345
245A **Little AP, Sta** **125.11** **6** P **PKPdf** **01 31 39.6 -0.1**
baz=354
247A **Quitman** **125.20** **5** P **PKPdf** **01 31 38.8 -1.0**
baz=355
248A **Dixon Mills** **125.22** **4** P **PKPdf** **01 31 39.8 -0.1**
baz=356
251A **Midway** **125.31** **1** P **PKPdf** **01 31 39.4 -0.7**
baz=359
253A 253A **Americus** **125.36** **360** PFAKE LR LR 01 31 50.0 +10
comp=Z,28µm,21.0s
253A **Americus** **125.36** **360** P **PKPdf** **01 31 38.8 -1.3**
baz=360
257A 257A **Skidaway Islan** **125.36** **357** PFAKE LR LR 01 31 50.0 +10
comp=Z,26µm,19.0s
249A **Camden** **125.37** **3** P **PKPdf** **01 31 39.2 -1.0**
baz=357
341A 341A **Kurthwood** **125.40** **9** PFAKE LR LR 01 31 50.0 +10
comp=Z,25µm,19.0s
341A **Kurthwood** **125.40** **9** P **PKPdf** **01 31 40.1 -0.1**
baz=350
250A 250A **Grady** **125.40** **2** PFAKE LR LR 01 31 50.0 +10
comp=Z,30µm,18.0s
250A **Grady** **125.40** **2** P **PKPdf** **01 31 39.5 -0.7**
baz=358
254A **Abbeville** **125.47** **359** P **PKPdf** **01 31 39.4 -1.0**
baz=0.9
255A 255A **Hazlehurst** **125.47** **358** PFAKE LR LR 01 31 50.0 +10
comp=Z,33µm,19.0s
255A **Hazlehurst** **125.47** **358** P **PKPdf** **01 31 38.2 -2.2**
baz=1.8
342A 342A **Flagon Creek P** **125.48** **9** *e*PKPdf LR **PKPdf** LR **01 31 42.4 +2.1**
comp=Z,30µm,20.0s
342A **Flagon Creek P** **125.48** **9** P **PKPdf** **01 31 39.4 -1.0**
baz=351
344A 344A **Westbrook Farm** **125.60** **7** PFAKE LR LR 01 31 50.0 +9.4
comp=Z,22µm,18.0s
344A **Westbrook Farm** **125.60** **7** P **PKPdf** **01 31 39.9 -0.7**
baz=352
346A 346A **Big Creek Wild** **125.79** **6** PFAKE LR LR 01 31 50.0 +9.0
comp=Z,20µm,18.0s
346A **Big Creek Wild** **125.79** **6** P **PKPdf** **01 31 39.7 -1.3**
baz=354
345A **Thompson Farm,** **125.82** **6** P **PKPdf** **01 31 40.0 -1.0**
baz=353
347A **Saraland** **125.85** **5** P **PKPdf** **01 31 40.7 -0.4**
baz=355
348A 348A **Jackson** **125.89** **4** PFAKE LR LR 01 31 50.0 +8.9
comp=Z,30µm,20.0s
348A **Jackson** **125.89** **4** P **PKPdf** **01 31 40.4 -0.7**
baz=356
352A 352A **Blakely** **125.93** **1** PFAKE LR LR 01 31 50.0 +8.8
comp=Z,18µm,20.0s
352A **Blakely** **125.93** **1** P **PKPdf** **01 31 41.1 -0.1**
baz=359
350A **Dozier** **125.96** **2** P **PKPdf** **01 31 38.8 -2.5**
baz=358
TIGA TIGA **Tifton** **125.98** **359** PFAKE LR LR 01 31 50.0 +8.7
comp=Z,22µm,20.0s
TIGA **Tifton** **125.98** **359** P **PKPdf** **01 31 39.1 -2.2**
baz=0.6
356A **Blackshear** **126.06** **358** P **PKPdf** **01 31 38.4 -3.1**
baz=2.2
355A **Pearson** **126.06** **359** P **PKPdf** **01 31 38.7 -2.8**
baz=1.4
353A **Camilla** **126.07** **0** P **PKPdf** **01 31 37.8 -3.7**
baz=360
351A **Pinckard** **126.12** **2** P **PKPdf** **01 31 40.0 -1.6**
baz=358
BRAL BRAL **Brewton** **126.18** **3** PFAKE LR LR 01 31 50.0 +8.3
comp=Z,23µm,18.0s
BRAL **Brewton** **126.18** **3** P **PKPdf** **01 31 40.7 -1.0**
baz=357
HPIG HPIG **126.27** **24** *e*PKPdf LR **PKPdf** LR **01 31 43.6 +1.3**
comp=Z,16µm,18.0s
HKT HKT **Hockley** **126.28** **13** *e*PKPdf LR **PKPdf** LR **01 31 41.1 -0.8**
comp=Z,40µm,18.0s
HKT HKT **Hockley** **126.28** **13** *e*PKIKP MLR **PKPdf** MLR **01 31 41.1 -0.8**
comp=Z,40µm,18.0s
447A 447A **Lucedale** **126.45** **5** PFAKE LR LR 01 31 50.0 +7.8
comp=Z,25µm,18.0s
453A 453A **Whigham** **126.56** **0** PFAKE LR LR 01 31 50.0 +7.5
comp=Z,26µm,20.0s
453A **Whigham** **126.56** **0** P **PKPdf** **01 31 42.0 -0.4**
baz=360
541A 541A **Lake Charles** **126.64** **10** PFAKE LR LR 01 31 50.0 +7.4
comp=Z,28µm,18.0s
456A 456A **Hilliard** **126.65** **358** PFAKE LR LR 01 31 50.0 +7.4
comp=Z,28µm,19.0s
451A 451A **Vernon** **126.78** **2** PFAKE LR LR 01 31 50.0 +7.1
comp=Z,24µm,18.0s
543A 543A **St. Martinvill** **126.81** **8** PFAKE LR LR 01 31 50.0 +7.1
comp=Z,32µm,18.0s
833A 833A **Chaparral WMA,** **127.00** **17** *e*PKPdf LR **PKPdf** LR **01 31 43.5 +0.1**
comp=Z,26µm,20.0s
833A **Chaparral WMA,** **127.00** **17** P **PKPdf** **01 31 41.7 -1.7**
baz=342
545A 545A **Edgard** **127.02** **7** PFAKE LR LR 01 31 50.0 +6.7
comp=Z,29µm,18.0s
555A 555A **McAlpin** **127.28** **359** PFAKE LR LR 01 31 50.0 +6.2
comp=Z,25µm,19.0s
SLBS SLBS **Sierra La Lagu** **127.35** **30** PFAKE LR LR 01 32 00.0 +16
comp=Z,10µm,21.0s
658A 658A **Bunnell** **127.92** **357** PFAKE LR LR 01 32 00.0 +15
comp=Z,31µm,18.0s
656A 656A **Willston** **128.02** **358** PFAKE LR LR 01 32 00.0 +15
comp=Z,29µm,19.0s
KVTX KVTX **Kingsville** **128.13** **16** PFAKE LR LR 01 32 00.0 +14
comp=Z,21µm,19.0s
DWPF DWPF **Disney Wildern** **129.23** **357** PFAKE LR LR 01 32 00.0 +12
comp=Z,26µm,18.0s
957A 957A **Wimauma** **129.70** **358** PFAKE LR LR 01 32 00.0 +11
comp=Z,29µm,20.0s
LNIG LNIG **Linares** **130.22** **18** PFAKE LR LR 01 32 00.0 +10
comp=Z,15µm,19.0s
060A 060A **Indiantown** **130.23** **356** PFAKE LR LR 01 32 00.0 +10
comp=Z,26µm,19.0s
059A 059A **Moore Haven** **130.35** **356** PFAKE LR LR 01 32 00.0 +10
comp=Z,25µm,20.0s
RCBR RCBR **Riachuelo** **130.54** **282** PFAKE LR LR 01 32 00.0 +10
comp=Z,22µm,18.0s
ZAIG ZAIG **Zacatecas** **131.21** **23** PFAKE LR LR 01 32 00.0 +8.1
comp=Z,14µm,20.0s
061Z 061Z **Ochoppi** **131.43** **356** PFAKE LR LR 01 32 00.0 +8.2
comp=Z,22µm,18.0s
HOPE HOPE **Hope Point** **132.65** **216** PFAKE LR LR 01 32 00.0 +6.9
comp=Z,56µm,22.0s
RKT **Rikitea** **133.42** **101** *e*PP PP 01 34 26.8 +3.2
comp=Z,1µm,28.2s
RKT **Rikitea** **133.42** **101** *e*SS SS 01 52 10.7 +1.8
comp=Z,17µm,31.0s
RKT **Rikitea** **133.42** **101** *e*LQ LQ 02 08 43.6
comp=Z,22µm,35.5s
RKT *e*LR LR 02 14 29.9
comp=Z,32µm,26.2s
GRTK GRTK **Grand Turk** **134.08** **343** PFAKE LR LR 01 32 10.0 +13
comp=Z,16µm,22.0s
ANWB ANWB **Willy Bob** **134.14** **330** PFAKE LR LR 01 32 10.0 +13
comp=Z,13µm,21.0s
ABVI ABVI **Anegada Island** **134.32** **333** PFAKE LR LR 01 32 10.0 +13
comp=Z,16µm,22.0s
SMRT SMRT **St. Maarten** **134.39** **331** PFAKE LR LR 01 32 10.0 +12
comp=Z,14µm,22.0s
MOIG MOIG **Morelia** **134.54** **23** PFAKE LR LR 01 32 10.0 +12
comp=Z,18µm,18.0s
SEUS SEUS **St. Eustatius** **134.84** **331** PFAKE LR LR 01 32 10.0 +12
comp=Z,14µm,21.0s
SABA SABA **Saba** **134.84** **331** PFAKE LR LR 01 32 10.0 +12
comp=Z,16µm,20.0s
STVI STVI **Saint Thomas** **134.92** **334** PFAKE LR LR 01 32 10.0 +11
comp=Z,12µm,21.0s
CUPR CUPR **Culebra, Puert** **135.09** **334** PFAKE LR LR 01 32 10.0 +11
comp=Z,6µm,20.0s
CBYP **Canovanas** **135.35** **335** PFAKE 01 32 10.0 +11

CBYP				LR	LR				
	comp=Z,20μm,21.0s								
MTP	**Monte Pirata**	**135.39**	**334**	PFAKE			01 32 10.0	+11	
MTP				LR	LR				
	comp=Z,14μm,21.0s								
EMPR	**Esperanza - Ma**	**135.42**	**336**	PFAKE			01 32 10.0	+11	
EMPR				LR	LR				
	comp=Z,6μm,20.0s								
UNM	**Universidad Na**	**135.55**	**20**	PFAKE			01 32 10.0	+10	
UNM				LR	LR				
	comp=Z,15μm,19.0s								
SJG	**San Juan**	**135.61**	**335**	PKP		**PKPdf**	**01 32 01.2**	**+1.3**	
	comp=Z,4.7nm,0.5s,baz=341,slow=8.4,SNR=2.2								
SJG	**San Juan**	**135.61**	**335**	PKP		**PKPdf**	**01 32 01.2**	**+1.3**	
SJG				LR	LR				
	comp=Z,17μm,20.0s								
SJG	**San Juan**	**135.61**	**335**	PKIKP		**PKPdf**	**01 32 01.2**	**+1.3**	
SJG				MLR	MLR				
	comp=Z,17μm,20.0s								
MPR	**Mayaguez**	**135.89**	**336**	PFAKE			01 32 10.0	+10	
MPR				LR	LR				
	comp=Z,9μm,21.0s								
ICMP	**Isla Caja de M**	**135.96**	**335**	PFAKE			01 32 10.0	+9.5	
ICMP				LR	LR				
	comp=Z,9μm,19.0s								
LVIG	**Laguna Verde**	**135.99**	**17**	PFAKE			01 32 10.0	+9.5	
LVIG				LR	LR				
	comp=Z,7μm,20.0s								
CRPR	**Cabo Rojo, PR**	**136.07**	**336**	PFAKE			01 32 10.0	+9.3	
CRPR				LR	LR				
	comp=Z,31μm,20.0s								
MYIG	**MØrida**	**136.08**	**8**	PFAKE			01 32 10.0	+9.3	
MYIG				LR	LR				
	comp=Z,15μm,19.0s								
PMSA	**Palmer Station**	**136.10**	**192**	PFAKE			01 32 10.0	+11	
PMSA				LR	LR				
	comp=Z,36μm,21.0s								
FDF	**Fort de France**	**136.35**	**327**	PFAKE			01 32 10.0	+8.6	
FDF				LR	LR				
	comp=Z,10μm,22.0s								
GTBY	**Guantanamo Bay**	**136.54**	**348**	PFAKE			01 32 10.0	+8.4	
GTBY				LR	LR				
	comp=Z,15μm,20.0s								
BBGH	**Gun Hill**	**136.84**	**324**	PFAKE			01 32 10.0	+7.8	
BBGH				LR	LR				
	comp=Z,14μm,21.0s								
TEIG	**Tepich**	**136.96**	**6**	PFAKE			01 32 10.0	+7.7	
TEIG				LR	LR				
	comp=Z,18μm,21.0s								
TLIG	**Tlapa**	**137.40**	**21**	PFAKE			01 32 10.0	+6.6	
TLIG				LR	LR				
	comp=Z,17μm,19.0s								
MDP	**Montagnes des**	**138.50**	**308**	PKP		**PKPdf**	**01 32 03.2**	**-2.1**	
	comp=Z,17nm,1.1s,baz=63,slow=6.8,SNR=2.7								
MTDJ	**Mount Denham**	**138.63**	**350**	PFAKE			01 32 20.0	+14	
MTDJ				LR	LR				
	comp=Z,15μm,19.0s								
CMIG	**Matias Romero**	**138.90**	**16**	PKhKP		PKPpre	01 31 58.0		
	comp=Z,5.1nm,1.1s,baz=348,slow=4.7,SNR=4.1								
CMIG				PP		**PP**	**01 34 51.0**	**-5.1**	
	comp=Z,5.0nm,0.9s,baz=9.1,slow=5.3,SNR=2.1								
TGUH	**Tegucigalpa,Un**	**143.15**	**5**	*e*PKPdf		**PKPdf**	**01 32 13.9**	**+0.2**	
URIC	**Uribia, Colomb**	**143.62**	**340**	*e*P		PKPab	01 32 10.9	-0.1	
ESTN	**Estel**	**144.16**	**4**	*e*P		**PKPab**	**01 32 08.7**	**-4.4**	
SMRC	**Santa Marta, M**	**144.79**	**343**	*e*P		**PKPab**	**01 32 13.3**	**-2.1**	
BOAB	**BOACO BROADBAN**	**144.85**	**3**	*e*PKPdf		PKPbc	01 32 16.1	+0.5	
EFI	**East Falkland**	**144.92**	**208**	*e*PKPbc		**PKPab**	**01 32 14.3**	**-0.5**	
EFI	**East Falkland**	**144.92**	**208**	*e*PKIKP		**PKPab**	**01 32 14.3**	**-0.5**	
ESPN	**Las Esperanzas**	**145.13**	**0**	*e*P		**PKPbc**	**01 32 15.0**	**-1.5**	
BDFB	**Brasilia**	**145.20**	**275**	PKPbc		**PKPbc**	**01 32 16.9**	**0.0**	
	comp=Z,27nm,1.1s,baz=98,slow=3.7,SNR=18								
BDFB	**Brasilia**	**145.20**	**275**	*e*PKPbc		**PKPdf**	**01 32 17.4**	**+0.1**	
CODC	**Agust`›n Codaz**	**145.73**	**341**	*e*P		**PKPdf**	**01 32 16.8**	**-1.4**	
SDV	**Santo Domingo**	**145.76**	**336**	*e*PKPbc		**PKPdf**	**01 32 17.6**	**-0.9**	
SPB	**Sao Paulo**	**146.31**	**261**	*e*PKPdf		**PKPab**	**01 32 21.0**	**+0.2**	
ARE1	**Arenal 1**	**146.85**	**1**	*e*P		**PKPab**	**01 32 23.6**	**+0.5**	
PLVR	**Palo Verde**	**146.95**	**2**	*e*P		**PKPdf**	**01 32 20.3**	**-0.2**	
SMLC	**San Mart`›n de**	**146.99**	**341**	*e*P		**PKPdf**	**01 32 20.3**	**0.0**	
JTS	**JuntasAbangare**	**147.01**	**1**	*e*PKPbc		**PKPbc**	**01 32 21.6**	**-0.8**	
JTS	**JuntasAbangare**	**147.01**	**1**	*e*PKP2		**PKPbc**	**01 32 21.6**	**-0.8**	
JTS	**JuntasAbangare**	**147.01**	**1**	*e*P		**PKPab**	**01 32 25.9**	**+2.2**	
CVTR	**Volcan Turrial**	**147.29**	**359**	*e*P		**PKPbc**	**01 32 22.6**	**-1.0**	
OCAC	**Ocana**	**147.29**	**340**	*e*P		**PKPdf**	**01 32 20.9**	**-0.1**	
MOTC	**Monteria, Cord**	**147.45**	**344**	*e*P		**PKPdf**	**01 32 22.1**	**+1.0**	
LCR2	**La Lucha 2**	**147.57**	**360**	*e*P		**PKPdf**	**01 32 18.0**	**-3.6**	
PTGA	**Pitinga**	**147.79**	**310**	PKPbc		**PKPbc**	**01 32 24.1**	**-0.5**	
	comp=Z,86nm,1.3s,baz=9.8,slow=4.2,SNR=15								
PTGA	**Pitinga**	**147.79**	**310**	*e*PKPbc		**PKPbc**	**01 32 23.8**	**-0.8**	
BCIP	**Isla Barro Col**	**147.86**	**352**	*e*PKPbc		**PKPbc**	**01 32 23.9**	**-0.8**	
BCIP	**Isla Barro Col**	**147.86**	**352**	*e*P		**PKPbc**	**01 32 25.7**	**+1.1**	
PAMC	**Pamplona, Colo**	**147.93**	**338**	*e*P		**PKPdf**	**01 32 21.5**	**-1.0**	
GIRC	**Giron, Santand**	**148.34**	**339**	*e*P		**PKPbc**	**01 32 24.5**	**-1.6**	
TAMC	**Tame, Arauca**	**148.44**	**336**	*e*P		**PKPdf**	**01 32 23.2**	**+0.4**	
ZARC	**Zaragoza, Cauc**	**148.46**	**342**	*e*P		**PKPdf**	**01 32 24.4**	**+1.6**	
BRU2	**Volcan**	**148.48**	**357**	*e*P		**PKPdf**	**01 32 23.4**	**+0.4**	
BRRC	**Barranca, Sant**	**148.49**	**340**	*e*P		**PKPdf**	**01 32 24.4**	**+1.6**	
PNME	**Penonome**	**148.59**	**353**	*e*P		**PKPdf**	**01 32 19.7**	**-3.3**	
BARC	**Barichara**	**148.79**	**339**	*e*P		**PKPdf**	**01 32 24.3**	**+0.7**	
PTBC	**PUERTO BERRIO**	**149.25**	**341**	*e*P		**PKPdf**	**01 32 22.7**	**-1.4**	
AZU	**Azuero**	**149.27**	**352**	*e*P		**PKPbc**	**01 32 27.4**	**-1.0**	
AZU	**Azuero**	**149.27**	**352**	*e*P		**PKPdf**	**01 32 25.9**	**+1.8**	
DBBC	**Dabeiba**	**149.28**	**344**	*e*P		**PKPbc**	**01 32 27.4**	**-1.1**	
RUSC	**La Rusia**	**149.41**	**338**	*e*P		**PKPdf**	**01 32 24.4**	**-0.5**	
PTAC	**Punta Ardita,**	**149.51**	**348**	*e*P		**PKPdf**	**01 32 26.2**	**+1.7**	
HELC	**Santa Helena**	**149.89**	**343**	*e*P		**PKPdf**	**01 32 27.9**	**+2.4**	
GO09	**Cerro Castillo**	**150.22**	**195**	*e*PKPbc		**PKPbc**	**01 32 31.3**	**+1.7**	
NORC	**Norcasia**	**150.30**	**341**	*e*P		**PKPdf**	**01 32 23.8**	**-2.0**	
SOLC	**Bahia Solano**	**150.32**	**346**	*e*P		**PKPdf**	**01 32 27.9**	**+2.2**	
GUYC	**Guyana, Colomb**	**150.77**	**342**	*e*P		**PKPbc**	**01 32 30.9**	**-1.7**	
ROSC	**El Rosal**	**150.81**	**340**	PKPbc		**PKPdf**	**01 32 29.4**	**+2.3**	
	comp=Z,41nm,1.2s,baz=17,slow=4.0,SNR=9.8								
ROSC	**El Rosal**	**150.81**	**340**	*e*P		**PKPdf**	**01 32 27.9**	**+0.9**	
CHIC	**Chingaza**	**150.81**	**338**	*e*P		**PKPdf**	**01 32 27.9**	**+0.9**	
VILC	**Villavicencio,**	**151.28**	**338**	*e*P		**PKPdf**	**01 32 29.7**	**+2.3**	
PLMC	**San Jos`` del**	**151.32**	**343**	*e*P		**PKPdf**	**01 32 27.9**	**+0.5**	
TOLC	**Tolima**	**151.36**	**341**	*e*P		**PKPbc**	**01 32 33.2**	**-0.6**	
ANIL	**Santa Ana**	**151.47**	**341**	*e*P		**PKPdf**	**01 32 30.9**	**+3.0**	
PRAC	**Prado**	**152.05**	**340**	*e*P		**PKPbc**	**01 32 33.2**	**-1.8**	
SJAC	**San Juan de Ar**	**152.15**	**338**	*e*P		**PKPdf**	**01 32 31.0**	**+2.3**	
YOTC	**Yotoco, Valle**	**152.22**	**343**	*e*P		**PKPdf**	**01 32 28.5**	**-0.3**	
GUVC	**San Jose del G**	**152.33**	**335**	*e*P		**PKPdf**	**01 32 30.3**	**+1.4**	
MALC	**Bahia Malaga**	**152.44**	**345**	*e*P		**PKPbc**	**01 32 35.0**	**-0.9**	
HORQ	**Saladito**	**152.78**	**343**	*e*P		**PKPdf**	**01 32 30.3**	**+0.4**	
BETC	**Betania**	**153.20**	**340**	*e*P		**PKPdf**	**01 32 33.8**	**+3.6**	
MARP	**Paez Belalcaza**	**153.20**	**342**	*e*P		**PKPdf**	**01 32 29.7**	**-0.8**	
GRGC	**Isla de Gorgon**	**153.61**	**346**	*e*P		**PKPab**	**01 32 45.0**	**-5.7**	
POPC	**Popayan, Colom**	**153.69**	**343**	*e*P		**PKPdf**	**01 32 32.0**	**+0.9**	
PCON	**Cinco Dias**	**153.82**	**342**	*e*P		**PKPbc**	**01 32 37.9**	**-1.7**	
CHRN	**Cochrane**	**153.98**	**198**	*e*PKPab		**PKPab**	**01 32 52.7**	**+1.2**	
SOTA	**Rioblanco**	**154.06**	**343**	*e*P		**PKPbc**	**01 32 37.3**	**-2.7**	
FLOC	**Florencia**	**154.30**	**340**	*e*P		**PKPdf**	**01 32 31.5**	**-0.3**	
CRUC	**La Cruz**	**154.70**	**343**	*e*P		**PKPdf**	**01 32 33.2**	**+0.5**	
TUMC	**Tumaco**	**154.87**	**347**	*e*P		**PKPdf**	**01 32 33.2**	**+0.8**	
GCUF	**Volcan Galeras**	**155.13**	**344**	*e*P		**PKPdf**	**01 32 35.6**	**+2.1**	
CPUP	**Villa Florida**	**155.39**	**257**	PKP		**PKPdf**	**01 32 34.0**	**+1.2**	
	comp=Z,7.5nm,1.0s,baz=109,slow=2.0,SNR=7.3								
CPUP				PKPbc		sPKPbc	01 32 50.9	+2.6	
	comp=Z,35nm,1.0s,baz=80,slow=3.5,SNR=13								
CPUP				PKPab		**PKPab**	**01 32 56.1**	**-2.1**	
	comp=Z,27nm,0.9s,baz=105,slow=2.8,SNR=11								
SAML	**Samuel**	**155.58**	**301**	*e*PKPdf		**PKPdf**	**01 32 33.8**	**+0.4**	
TRQA	**Tornquist**	**155.72**	**226**	*e*PKPdf		**PKPdf**	**01 32 33.4**	**+0.5**	
TRQA	**Tornquist**	**155.72**	**226**	*e*PKIKP		**PKPdf**	**01 32 33.4**	**+0.5**	
OTAV	**Otavalo**	**156.35**	**346**	*e*PKPdf		**PKPdf**	**01 32 35.3**	**+0.3**	
OTAV	**Otavalo**	**156.35**	**346**	*e*PKIKP		**PKPdf**	**01 32 35.3**	**+0.3**	
RPN	**Rapa Nui**	**156.81**	**106**	PKPab		**PKPab**	**01 33 05.2**	**+0.9**	
	comp=Z,46nm,0.9s,baz=130,slow=7.9,SNR=3.0								
SIV	**San Ignacio**	**157.20**	**283**	PKP		**PKPdf**	**01 32 36.2**	**+0.8**	
	comp=Z,4.7nm,1.1s,baz=44,slow=1.3,SNR=7.0								
PLCA	**Paso Flores**	**158.83**	**210**	PKP		**PKPdf**	**01 32 38.0**	**+1.1**	
	comp=Z,6.6nm,1.2s,baz=10,slow=4.7,SNR=4.6								
PLCA				PKPab		**PKPab**	**01 33 11.9**	**-0.7**	
	comp=Z,9.1nm,1.0s,baz=179,slow=4.3,SNR=4.7								
PLCA	**Paso Flores**	**158.83**	**210**	*e*PKPdf		**PKPdf**	**01 32 38.8**	**+1.9**	
PLCA				*e*PKPdif		**sPKPdf**	**01 32 53.3**	**+8.9**	
PLCA				PKPab		**PKPab**	**01 33 11.9**	**-0.7**	
GO06	**Curarrehue**	**160.18**	**210**	*e*PKPdf		**PKPdf**	**01 32 40.0**	**+1.5**	
ATAH	**Atahualpa**	**163.38**	**340**	PKPab		**PKPab**	**01 33 33.9**	**+0.5**	
	comp=Z,136nm,1.2s,baz=57,slow=3.2,SNR=6.5								
LPAZ	**La Paz**	**163.54**	**291**	PKP		**PKPdf**	**01 32 43.8**	**+0.6**	
	comp=Z,5.8nm,1.1s,baz=23,slow=5.1,SNR=9.6								
LPAZ	**La Paz**	**163.54**	**291**	*e*PKPdf		**PKPdf**	**01 32 44.4**	**+1.2**	
PB11	**IPOC Station P**	**166.14**	**280**	*e*PKPdf		**PKPdf**	**01 32 45.9**	**+1.2**	
LCO	**Las Campanas**	**166.46**	**240**	*e*PKPdf		**PKPdf**	**01 32 43.9**	**-1.0**	
LCO				*e*PKPab		**PKPab**	**01 33 44.5**	**-2.2**	
LCO	**Las Campanas**	**166.46**	**240**	*e*PKIKP		**PKPdf**	**01 32 43.9**	**-1.0**	
LCO				*e*			01 33 44.6		
NNA	**Nana**	**167.11**	**326**	PKPab		**PKPab**	**01 33 48.7**	**-0.7**	
	comp=Z,22nm,0.9s,baz=331,slow=0.6,SNR=3.6								
NNA	**Nana**	**167.11**	**326**	*e*PKPab		**PKPab**	**01 33 48.6**	**-0.9**	
NNA	**Nana**	**167.11**	**326**	*e*PKP2		**PKPab**	**01 33 48.6**	**-0.9**	

GUC 11 01:15:03.3±0.6, 33.96S×72.37W, h40km±12km, ML2.9, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO05	**HualaæØ**	**1.11**	**161**	*j*P	Pn	01 15 23.2	+0.8
GO05				*e*S	Sn	01 15 37.9	+1.4
ANTU	**Antumapu**	**1.50**	**75**	*e*P	Pn	01 15 29.3	+1.6
ROCH	**El Roble**	**1.50**	**49**	*e*P	Pn	01 15 29.5	+1.6
ROCH				IAML		01 15 59.1	
	comp=N,216nm,0.5s						
PEL	**Peldehue**	**1.62**	**60**	*e*P	Pn	01 15 31.4	+1.9
PEL				*e*S	Sn	01 15 52.3	+3.1
PEL				IAML		01 16 01.2	
	comp=N,150nm,0.6s						
CLCH	**Cerro Calan**	**1.63**	**70**	*e*P	Pn	01 15 31.4	+1.9
LMEL	**Las Melosas**	**1.80**	**87**	*e*P	Pn	01 15 33.9	+1.9
LMEL				*e*S	Sn	01 15 57.2	+3.4
LMEL				IAML		01 15 59.5	
	comp=N,341nm,0.3s						
FCH	**Farellones**	**1.84**	**71**	*e*P	Pn	01 15 34.5	+1.7
FCH				IAML		01 16 05.3	
	comp=N,140nm,0.3s						

SJA 11 01:15:18.6±0.7, 32.08S×67.36W, h126km±5km, ML3.7, MW3.8, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTCV	**Cerro Valdivia**	**1.03**	**282**	*e*P	Pn	01 15 42.4	+0.9
RTCV				*e*S	Sn	01 15 59.8	+1.0
SJA	**San Juan**	**1.16**	**298**	IAML		01 15 44.2	
	comp=Z,336nm,0.4s						
SJA				AMPG		01 15 44.5	
	comp=Z,3μm,0.3s						
RTLL	**Cerro Villicun**	**1.21**	**308**	AMSG		01 16 04.1	
	comp=N,27μm,0.7s						
RTLL				AMSG		01 16 04.5	
	comp=E,12μm,1.6s						
MRA	**San Martin**	**1.43**	**104**	*e*P	Pn	01 15 46.9	+1.1
MRA				*e*S	Sn	01 16 07.2	+0.9
MRA				IAML		01 16 08.2	
	comp=N,431nm,0.5s						
AMOG	**MOGNA**	**1.50**	**319**	*e*P	Pn	01 15 47.6	+1.2
AMOG				*e*S	Sn	01 16 08.1	+0.5
ARCO	**CERRO ARCO**	**1.53**	**240**	*e*P	Pn	01 15 47.8	+0.9
ARCO				*e*S	Sn	01 16 09.5	+0.9
ARCO				IAML		01 16 12.0	
	comp=Z,557nm,0.7s						
AUSP	**Uspallata**	**1.73**	**265**	*e*P	Pn	01 15 50.3	+1.0
APLL	**PUNTA DE LOS L**	**1.82**	**23**	*e*P	Pn	01 15 51.4	+1.1
APLL				IAML		01 15 51.6	
	comp=Z,197nm,0.3s						
APLL				*e*S	Sn	01 16 15.2	+0.8
ACCO	**Cerro Coronel**	**2.09**	**315**	*e*P	Pn	01 15 55.4	+1.6
ACCO				*e*S	Sn	01 16 22.4	+1.8
TCA	**Tanti**	**2.47**	**73**	*e*P	Pn	01 15 58.9	+0.6
TCA				IAML		01 16 29.5	
	comp=Z,100nm,0.4s						
TCA				IAML		01 16 29.7	
	comp=Z,147nm,0.4s						
ACLC	**CERRO LA CRUZ**	**2.67**	**8**	*e*P	Pn	01 16 01.7	+0.7
ACLC				*e*S	Sn	01 16 34.3	+0.7
VCA	**Vinchina**	**3.41**	**347**	*e*P	Pn	01 16 12.2	+1.5
VCA				*i*S	Sn	01 16 50.7	-0.1
VCA				IAML		01 16 56.9	
	comp=Z,146nm,0.4s						

IDC ***11*** *01:19:30.7±0.9, 6.60N×82.19W, h0km, mb4.0/7, mb1 4.4/10, mb1mx4.1/44, mbtmp4.2/10, ML4.4/3, MS4.3/3, Ms1 4.3/3, ms1mx3.9/46, Error ellipse: s-maj=44.4km s-min=16.1km az=55.0*

ISCJB ***11*** *01:19:32.4±0.3, 6.48N±0.05×82.24W±0.04, h21km, mb4.4/40, MS4.5/1, Error ellipse: s-maj=7.9km s-min=4.2km az=37.8*

NEIC ***11*** *01:19:32.1±0.3, 6.52N×82.19W, h10km, mb4.6/37, Error ellipse: s-maj=12.1km s-min=5.8km az=48.0*

ISC 11 01:19:33.3±0.6, 6.56N±0.06×82.21W±0.06, h21km, n73, σ1975/75, mb4.5/40, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AZU	**Azuero**	**2.27**	**57**	*e*S	**Sb**	**01 20 39.5**	**-1.8**
AZU	**Azuero**	**2.27**	**57**	*e*P	**Pn**	**01 20 10.6**	**+1.0**
AZU				*e*S	**Sn**	**01 20 38.1**	**+1.1**
BCIP	**Isla Barro Col**	**3.49**	**42**	*e*Pn	**Pn**	**01 20 27.1**	**+0.6**
BCIP				*e*Sg	**Sb**	**01 21 17.1**	**+0.6**
JTS	**JuntasAbangare**	**4.59**	**324**	Pn	**Pn**	**01 20 39.1**	**-2.5**
	56nm,0.3s,baz=147,slow=10,SNR=24						
JTS				Sn	**Sn**	**01 21 30.0**	**-4.3**
	62nm,0.3s,baz=28,slow=23,SNR=9.2						
JTS	**JuntasAbangare**	**4.59**	**324**	*e*Pn	**Pn**	**01 20 38.9**	**-2.6**
JTS				*e*Sn	**Sn**	**01 21 32.4**	**-2.0**
GRGC	**Isla de Gorgon**	**5.36**	**131**	*e*P	**Pn**	**01 20 50.5**	**-1.6**
HORQ	**Saladito**	**6.35**	**119**	*e*P	**Pn**	**01 21 07.8**	**+1.9**
HELC	**Santa Helena**	**6.65**	**93**	*e*P	**Pn**	**01 21 13.0**	**+2.8**
BOAB	**BOACO BROADBAN**	**6.77**	**330**	*e*Pn	**Pn**	**01 21 09.1**	**-2.4**
POPC	**Popayan, Colom**	**6.81**	**126**	*e*P	**Pn**	**01 21 13.3**	**+1.1**
SOTA	**Rioblanco**	**7.11**	**128**	*e*P	**Pn**	**01 21 19.4**	**+2.8**
MARP	**Paez Belalcaza**	**7.24**	**120**	*e*P	**Pn**	**01 21 21.2**	**+3.0**
OTAV	**Otavalo**	**7.32**	**149**	*e*Pn	**Pn**	**01 21 17.9**	**-1.6**
ROSC	**El Rosal**	**8.03**	**102**	Pn	Pn	01 21 35.3	+6.1
	1.1nm,0.3s,baz=53,slow=20,SNR=2.7						
ROSC				Sn	**Sn**	**01 22 55.3**	**-4.4**
	1.2nm,0.3s,baz=57,slow=23,SNR=3.5						
ROSC				LR	LR	01 23 55.2	
	comp=Z,557nm,18.7s,baz=310,slow=33						
ROSC	**El Rosal**	**8.03**	**102**	*e*Pn	**Pn**	**01 21 25.6**	**-3.6**
ROSC				Sn	**Sn**	**01 22 55.3**	**-4.4**
FLOC	**Florencia**	**8.20**	**127**	*e*P	**Pn**	**01 21 31.6**	**+0.4**
BRRC	**Barranca, Sant**	**8.45**	**86**	*e*P	Pn	01 21 39.8	+5.2
ATAH	**Atahualpa**	**14.13**	**164**	LR	LR	01 27 44.6	
	comp=Z,2μm,19.3s,baz=342,slow=35						
NNA	**Nana**	**19.19**	**164**	P	**Pn**	**01 23 56.7**	**-0.2**
	0.7nm,0.3s,baz=328,slow=11,SNR=4.7						
NNA	**Nana**	**19.19**	**164**	*e*P	**Pn**	**01 23 56.5**	**-0.4**
	34nm,0.8s						
TLIG	**Tlapa**	**19.36**	**306**	*e*P	**P**	**01 23 55.8**	**-2.0**
	31nm,1.4s						
SJG	**San Juan**	**19.41**	**52**	P	**P**	**01 23 58.6**	**+0.3**
	0.6nm,0.3s,baz=256,slow=12,SNR=4.9						
MTP	**Monte Pirata**	**19.88**	**53**	*e*P	**Pn**	**01 24 05.7**	**+0.6**
	75nm,1.1s						
SAML	**Samuel**	**24.43**	**129**	*e*P	**P**	**01 24 50.5**	**-0.3**
	10nm,1.0s						
LNIG	**Linares**	**24.61**	**320**	*e*P	**P**	**01 24 52.8**	**+0.5**
	29nm,1.1s						
LPAZ	**La Paz**	**26.64**	**149**	P	**P**	**01 25 11.8**	**+0.4**
	1.5nm,0.8s,baz=345,slow=10,SNR=3.2						
LRAL	**Lakeview Retre**	**26.71**	**351**	*e*P	**P**	**01 25 14.2**	**+3.0**
	17nm,1.3s						
833A	**Chaparral WMA,**	**27.08**	**325**	*e*P	**P**	**01 25 15.6**	**+0.9**
	28nm,0.9s						
MNMC	**Minye Minye**	**28.40**	**154**	*e*P	**P**	**01 25 27.3**	**+0.5**
	12nm,0.9s						
TKL	**Tuckaleechee C**	**28.99**	**357**	LR	LR	01 37 44.7	
	comp=Z,1μm,19.5s,baz=130,slow=38						
TXAR	**Lajitas Array**	**30.38**	**321**	P	**P**	**01 25 44.9**	**+0.8**
	0.5nm,0.7s,baz=141,slow=10,SNR=6.5						
SIV	**San Ignacio**	**30.66**	**137**	P	**P**	**01 25 47.6**	**+0.9**
	2.3nm,0.9s,baz=285,slow=8.6,SNR=5.8						
MNTX	**Cornudas Mount**	**33.08**	**322**	*e*P	**P**	**01 26 09.1**	**+1.3**
	7.4nm,1.0s						
ANMO	**Albuquerque**	**36.01**	**325**	P	**P**	**01 26 34.1**	**+0.8**
	6.6nm,0.8s,baz=146,slow=11,SNR=18						
ANMO	**Albuquerque**	**36.01**	**325**	*e*P	**P**	**01 26 34.4**	**+1.1**
	8.2nm,0.8s						
LAZ	**Ladron**	**36.02**	**324**	*e*P	**P**	**01 26 35.3**	**+1.9**
SDCO	**Great Sand Dun**	**37.57**	**329**	*e*P	**P**	**01 26 47.5**	**+0.9**
	6.0nm,1.1s						
S22A	**4UR Ranch, Cre**	**38.26**	**328**	*e*P	**P**	**01 26 53.4**	**+0.9**
	20nm,1.8s						
X16A	**Lo Mia Camp, P**	**38.68**	**320**	*e*P	**P**	**01 26 57.8**	**+1.8**
	5.5nm,0.8s						
MVCO	**Mesa Verde**	**38.78**	**326**	*e*P	**P**	**01 26 57.4**	**+0.5**
	16nm,0.9s						
WUAZ	**Wupatki**	**39.34**	**321**	*e*P	**P**	**01 27 03.4**	**+2.0**
	11nm,1.0s						
PV03	**Paradox Valley**	**39.72**	**326**	*e*P	**P**	**01 27 05.6**	**+1.0**
PV05	**Paradox Valley**	**39.73**	**326**	*e*P	**P**	**01 27 05.9**	**+1.1**
PV16	**Nyswonger Mesa**	**39.80**	**326**	*e*P	**P**	**01 27 06.6**	**+1.4**
	18nm,1.0s						
PV19	**Morning Glory**	**39.84**	**326**	*e*P	**P**	**01 27 07.0**	**+1.4**
	12nm,0.9s						
PV22	**Blue Mesa, Par**	**39.89**	**327**	*e*P	**P**	**01 27 07.0**	**+0.9**
	6.0nm,0.9s						
PV10	**Paradox Valley**	**39.91**	**326**	*e*P	**P**	**01 27 06.9**	**+0.6**
U15A	**North Rim**	**40.49**	**321**	*e*P	**P**	**01 27 13.2**	**+2.0**
	10nm,1.3s						
W13A	**Hualapai Mount**	**40.69**	**319**	*e*P	**P**	**01 27 13.7**	**+1.0**
	4.1nm,0.8s						
KNB	**Kanab**	**41.20**	**322**	*e*P	**P**	**01 27 18.9**	**+2.0**
	9.9nm,1.0s						
SRU	**San Rafael Swe**	**41.25**	**326**	*e*P	**P**	**01 27 18.1**	**+0.9**
	18nm,0.9s						
LCMT	**Little Creek M**	**41.45**	**321**	*e*P	**P**	**01 27 21.3**	**+2.4**
	9.2nm,1.4s						
P17A	**Butcher Ranch,**	**41.63**	**326**	*e*P	**P**	**01 27 21.3**	**+1.0**
	11nm,0.9s						
SZCU	**Shurtz Canyon**	**41.73**	**322**	*e*P	**P**	**01 27 23.0**	**+1.7**
	4.9nm,0.9s						
JLU	**Jordanelle**	**42.80**	**327**	*e*P	**P**	**01 27 31.4**	**+1.4**
	9.2nm,1.3s						
CTU	**Camp Tracy**	**43.03**	**327**	*e*P	**P**	**01 27 33.6**	**+1.9**
	9.3nm,0.9s						
TCUT	**Toone Canyon**	**43.14**	**327**	*e*P	**P**	**01 27 33.6**	**+0.9**
	21nm,1.0s						
DUG	**Dugway, Tooele**	**43.28**	**325**	*e*P	**P**	**01 27 35.2**	**+1.5**
	7.2nm,1.1s						
PDAR	**Pinedale Array**	**43.39**	**330**	P	**P**	**01 27 34.5**	**-0.2**
	1.0nm,0.9s,baz=108,slow=4.8,SNR=6.0						
R11A	**Troy Canyon, C**	**43.74**	**321**	*e*P	**P**	**01 27 39.1**	**+1.7**
	6.6nm,1.3s						
BGU	**Big Grassy Mou**	**43.90**	**326**	*e*P	**P**	**01 27 39.6**	**+0.9**

BILL	**Bilibino**	**61.48**	**24**	*e*P	**P**		**01 31 33.8**	**+1.5**
	4.0nm,0.5s							
VAY	**Valandovo**	**63.12**	**306**	*i* P	**P**		**01 31 47.2**	**+3.4**
STIP	**Stip**	**63.36**	**306**	*i* P	P		01 31 49.7	+4.3
BIA	**Bitola**	**64.10**	**306**	*i* P	**P**		**01 31 54.5**	**+4.1**
KRUS	**Krusevo**	**64.10**	**306**	*i* P	**P**		**01 31 47.8**	**-2.6**
OHR	**Ohrid**	**64.47**	**306**	*i* P	P		01 31 43.7	-9.2
DIVS	**Divibare**	**64.62**	**309**	*e*P	**P**		**01 31 54.7**	**+0.9**
CTAO	**Charters Tower**	**65.01**	**127**	*e*P	**P**		**01 31 54.6**	**-1.8**
TIR	**Tirane**	**65.13**	**306**	*e*P	**P**		**01 31 55.4**	**-1.7**
	9.4nm,0.9s							
GERES	**GERESS Array B**	**68.16**	**315**	P	**P**		**01 32 17.5**	**+1.2**
	1.5nm,1.0s,baz=71,slow=6.3,SNR=2.5							
STKA	**Stephens Creek**	**69.78**	**140**	P	**P**		**01 32 26.9**	**+0.5**
	8.2nm,1.1s,baz=304,slow=6.3,SNR=3.5							
STKA	**Stephens Creek**	**69.78**	**140**	*e*P	**P**		**01 32 26.9**	**+0.5**
	1.0nm,1.1s							
MLY	**Manley**	**78.59**	**23**	*e*P	**P**		**01 33 18.9**	**+1.4**
	16nm,1.0s							
MDM	**Murphy Dome**	**79.54**	**23**	*e*P	**P**		**01 33 23.0**	**+0.5**
	18nm,0.3s							
ILAR	**Eielson Array**	**80.12**	**23**	P	**P**		**01 33 25.3**	**-0.4**
	2.9nm,0.8s,baz=304,slow=4.8,SNR=6.7							
ILB	**Eielson Array**	**80.12**	**23**	*e*P	**P**		**01 33 26.0**	**+0.3**
KDAK	**Kodiak Island**	**81.46**	**30**	P	**P**		**01 33 33.5**	**+0.5**
	14nm,1.0s,baz=208,slow=4.5,SNR=4.3							
INK	**Inuvik**	**82.03**	**17**	P	**P**		**01 33 36.7**	**+0.9**
	18nm,1.1s,baz=302,slow=8.5,SNR=6.0							
EGAK	**Eagle**	**82.10**	**21**	*e*P	**P**		**01 33 36.7**	**+0.5**
BOSA	**Boshof**	**85.37**	**236**	P	**P**		**01 33 51.4**	**-2.3**
	2.4nm,0.7s,baz=95,slow=2.4,SNR=4.5							
BDFB	**Brasilia**	**145.43**	**276**	PKPbc	**PKPbc**		**01 40 52.4**	**-2.5**
	4.6nm,0.8s,baz=86,slow=4.0,SNR=3.1							
ROSC	**El Rosal**	**150.80**	**340**	PKPbc	**PKPbc**		**01 41 11.6**	**+1.8**
	7.6nm,0.7s,baz=113,slow=7.7,SNR=3.1							

IDC 11 01:26:39.3±1.4, 23.29N×96.30E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.5/60, mbtmp3.9/4, ML4.3/1, Error ellipse: s-maj=43.4km s-min=18.0km az=62.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**5.41**	**152**	Pn		Pn	01 28 00.2	-1.1
	2.5nm,0.3s,baz=323,slow=14,SNR=3.5							
CMAR				Pg		Pg	01 28 22.2	-0.8
	3.3nm,0.3s,baz=353,slow=23,SNR=7.4							
CMAR				Lg		Lg	01 29 30.2	
	4.0nm,0.3s,baz=337,slow=28,SNR=6.4							
MKAR	**Makanchi Array**	**26.02**	**338**	P		P	01 32 14.3	+0.2
	2.0nm,0.7s,baz=155,slow=11,SNR=6.0							
KURBB	**Kurchatov Arra**	**30.59**	**338**	P		P	01 32 54.1	-0.7
	0.6nm,0.3s,baz=142,slow=9.2,SNR=4.7							
WRA	**Warramunga Arr**	**56.78**	**136**	P		P	01 36 26.0	+0.5
	0.9nm,1.1s,baz=320,slow=7.0,SNR=2.8							

*BJI **11** 01:29:58.0, 22.80N×95.90E, h13km, mb5.0/22, mB4.7/1, ML5.2/1, Ms4.9/2, Ms7 4.7/2*
*NEIC **11** 01:29:58.7±0.2, 22.79N×95.92E, h10km, mb4.8/17, Error ellipse: s-maj=5.2km s-min=3.7km az=49.0*
NEIC Felt at Shwebo.
*IDC **11** 01:29:59.9±3.0, 22.81N×95.93E, h19km±19km, mb4.2/35, mb1 4.4/37, mb1mx4.2/67, mbtmp4.4/37, ML4.7/2, Error ellipse: s-maj=12.7km s-min=9.0km az=43.0*
*NDI **11** 01:29:59.6±3.1, 22.75N×95.91E, h19km±27km, mb4.8, ML4.8, mb4.8(NEIC)*
*MOS **11** 01:29:59.4±0.9, 22.77N×95.91E, h29km, mb5.1/21, Error ellipse: s-maj=9.2km s-min=5.6km az=113.8*
*ISCJB **11** 01:30:00.4±0.2, 22.84N±0.02×95.84E±0.02, h32km, mb4.7/78, MS6.4/1, Error ellipse: s-maj=3.8km s-min=2.6km az=38.3*

ISC 11 01:30:02.5±0.3, 22.85N±0.03×95.83E±0.03, h32km, n215, σ1974/222, mb4.8/79, 7C-7D, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.62**	**319**	*e*P		**Pn**	**01 30 43.6**	**+0.9**
SAIH	**SAIHA**	**2.65**	**263**	*e*P		**Pn**	**01 30 43.0**	**-0.2**
AZL	**Aizawl**	**3.02**	**288**	*e*P		**Pn**	**01 30 49.9**	**+1.7**
AZL				*e*S		**Sn**	**01 31 24.4**	**+1.0**
KOHI	**KOHIMA**	**3.26**	**331**	*e*P		**Pn**	**01 30 50.7**	**-0.9**
SILR	**SILCHAR**	**3.38**	**305**	*e*P		**Pn**	**01 30 54.8**	**+1.8**
SILR				*e*S		**Sn**	**01 31 32.1**	**+0.2**
MOKO	**MOKOCHONG**	**3.66**	**341**	*e*P		**Pn**	**01 30 57.4**	**+0.4**
BRDH	**Bariadhala**	**3.87**	**268**	Pn		**Pn**	**01 31 01.7**	**+1.9**
	47nm,0.3s,baz=67,slow=11,SNR=5.8							
BRDH				Pg		**Pb**	**01 31 13.9**	**+3.9**
	53nm,0.3s,baz=59,slow=17,SNR=5.6							
BRDH				Sn		**Sn**	**01 31 50.2**	**+6.0**
	62nm,0.3s,baz=73,slow=19,SNR=7.7							
BELO	**BELONIA**	**4.06**	**276**	*e*P		**Pn**	**01 31 02.6**	**+0.2**
BELO				*e*S		**Sn**	**01 31 46.5**	**-2.4**
JORH	**JORHAT**	**4.13**	**340**	*e*P		**Pn**	**01 31 03.1**	**-0.2**
LKP	**Lekhapani**	**4.46**	**0**	*e*P		**Pn**	**01 31 06.5**	**-1.5**
SHL	**Shillong**	**4.51**	**308**	*e*Pn		**Pn**	**01 31 09.2**	**+0.5**
SHL	**Shillong**	**4.51**	**308**	*e*P		**Pn**	**01 31 09.2**	**+0.5**
SHL	**Shillong**	**4.51**	**308**	*e*P		**Pn**	**01 31 08.5**	**-0.3**
TEZP	**TEZPUR**	**4.65**	**324**	*e*P		**Pn**	**01 31 09.8**	**-0.8**
ITAN	**ITANAGAR**	**4.68**	**336**	*e*P		**Pn**	**01 31 11.1**	**+0.1**
CHTO	**Chiang Mai**	**4.96**	**144**	*e*Pn		**Pn**	**01 31 11.7**	**-3.2**
CHTO				*e*Pg		**Pb**	**01 31 27.2**	**-1.5**
CHTO				*e*Sn		**Sn**	**01 32 07.7**	**-3.5**
CHTO				*e*Sg		**Sb**	**01 32 31.5**	**+3.6**
CHTO	**Chiang Mai**	**4.96**	**144**	*e*P		**Pn**	**01 31 11.7**	**-3.2**
CHTO				*e*			01 32 07.7	
CHTO	**Chiang Mai**	**4.96**	**144**	P		**Sb**	**01 32 31.9**	**+4.0**
CMMT	**Chiang Mai**	**4.96**	**143**	P		**Sb**	**01 32 31.8**	**+3.8**
CRAI	**Chiangrai**	**4.97**	**121**	P		**Pb**	**01 31 32.5**	**+3.7**
	0.0nm,0.9s,0.8nm0.0nm							
CRAI	**Chiangrai**	**4.97**	**121**	P		**Sb**	**01 32 32.7**	**+4.6**
ZIRO	**ZIRO**	**4.99**	**339**	*e*P		**Pn**	**01 31 15.2**	**-0.1**
ZIRO				*e*S		**Sn**	**01 32 07.0**	**-5.0**
ZIRO				IAML			01 34 04.7	
	comp=N,141μm,1.5s							
ZIRO				IAML			01 34 07.9	
	comp=E,999nm,0.2s							
GUWA	**GUWAHATI**	**5.03**	**312**	*e*P		**Pn**	**01 31 14.9**	**-0.8**
GUWA				*e*S		**Sn**	**01 32 11.6**	**-1.1**
PAYA	**Payao**	**5.12**	**132**	P		**Pb**	**01 31 33.4**	**+1.9**
	comp=E,373nm,1.1s,comp=E,3μmcomp=E,4.7nm							
PAYA	**Payao**	**5.12**	**132**	P		**Sb**	**01 32 37.8**	**+5.2**
CM31	**Chiang Mai Arr**	**5.25**	**146**	*e*Pn		**Pn**	**01 31 16.9**	**-2.0**
CMAR	**Chiang Mai Arr**	**5.25**	**146**	Pn		**Pn**	**01 31 15.9**	**-3.0**
	comp=E,8.1nm,0.3s,baz=320,slow=13,SNR=20							
CMAR				Pg		**Pb**	**01 31 33.4**	**-0.3**
	comp=E,66nm,0.3s,baz=326,slow=17,SNR=39							
CMAR				Lg		Lg	01 32 41.1	
	comp=E,70nm,0.3s,baz=323,slow=31,SNR=7.1							
CM01	**Chiang Mai Arr**	**5.29**	**146**	*e*Pn		**Pn**	**01 31 16.0**	**-3.4**
TAWA	**Tawang**	**5.93**	**324**	*e*P		**Pn**	**01 31 28.5**	**0.0**
TAWA				*e*S		**Sn**	**01 32 34.3**	**-1.2**
TAWA				IAML			01 32 47.0	
	comp=E,405nm,0.3s							
TAWA				IAML			01 32 47.7	
	comp=N,220nm,0.6s							
SUKH	**Sukhothai**	**6.42**	**146**	P		**Pb**	**01 31 56.6**	**+3.0**
KMI	**Kunming**	**6.71**	**69**	Pg		Pb	01 32 06.1	+7.6
KMI				Sg		Sb	01 33 31.3	+13
KMI				smax		smax		
	comp=N,620nm,1.3s							
KMI				smax		smax		
	comp=E,320nm,1.5s							
UTTA	**Uttaradit**	**6.74**	**138**	P		Pb	01 32 07.1	+8.1
UTTA	**Uttaradit**	**6.74**	**138**	P		Pb	01 32 07.1	+8.1
UMPA	**Umpang Tak**	**7.20**	**156**	P		Pb	01 32 15.4	+8.6
GTK	**Tadong**	**7.92**	**306**	*e*P		**Pn**	**01 31 52.8**	**-2.8**
LSA	**Lhasa**	**8.01**	**329**	*e*Pn		**Pn**	**01 31 58.3**	**+1.2**
LSA				*e*Sn		**Sn**	**01 33 27.9**	**+1.0**
LSA	**Lhasa**	**8.01**	**329**	*e*P		**Pn**	**01 31 58.3**	**+1.2**
LSA				*e*			01 33 27.9	
UTHA	**Uthaitani**	**8.02**	**154**	P		Pb	01 32 27.5	+6.8
NONG	**Nongkai**	**8.35**	**123**	P		Pb	01 32 35.0	+8.7
NONG	**Nongkai**	**8.35**	**123**	P		Pb	01 32 35.0	+8.7
BOK	**Bokaro**	**9.19**	**278**	*e*P		**Pn**	**01 32 11.4**	**-1.5**
BOK				*ex*		x	01 33 51.6	
JIRN	**Jiri**	**9.95**	**301**	*e*Pn		**Pn**	**01 32 23.8**	**+0.1**
GUN	**Gumba**	**10.31**	**301**	*e*Pn		**Pn**	**01 32 28.5**	**-0.1**
GUN				*e*Sn		Sn	01 34 12.0	-11
	comp=E,210nm,0.8s							
GYA	**Guiyang**	**10.48**	**68**	P		**Pn**	**01 32 31.2**	**+0.5**
GYA				PP		**PnPn**	**01 32 39.4**	**+0.9**
GYA				S		**Sn**	**01 34 29.0**	**+1.8**
GYA				SS		**SnSn**	**01 34 42.8**	**+3.8**
GYA				pmax		pmax		
	comp=E,20nm,0.8s							
GYA				pmax		pmax		
	comp=E,120nm,4.9s							
GYA				LR		LR		
	comp=E,1μm,8.4s							
GYA				LR		LR		
	comp=E,1μm,9.2s							
GYA				LR		LR		
	comp=E,1μm,9.6s							
PKI	**Pulchoki**	**10.54**	**299**	*e*Pn		**Pn**	**01 32 31.5**	**-0.2**
PKI				*e*Sn		Sn	01 34 15.8	-13
	comp=E,89nm,0.7s							
PKIN	**Phulchoki**	**10.55**	**299**	*e*Pn		**Pn**	**01 32 32.3**	**+0.5**
PKIN				*e*Sn		Sn	01 34 15.8	-13
	comp=E,66nm,0.6s							
SRAK	**Srakaew**	**10.58**	**145**	P		Pn	01 32 37.5	+5.5
	comp=E,238nm,0.8s							
CD2	**Chengdu**	**10.69**	**40**	*e*P		**Pn**	**01 32 34.0**	**+0.5**
KKN	**Kakani**	**10.74**	**299**	*e*Pn		**Pn**	**01 32 35.3**	**+1.0**
KKN				*e*Sn		Sn	01 34 20.2	-13
	comp=E,197nm,1.2s							
KOLN	**Koldanda**	**12.10**	**296**	*e*Pn		**Pn**	**01 32 52.3**	**-0.6**
PYUN	**Piuthan**	**12.72**	**297**	*e*Pn		**Pn**	**01 33 00.1**	**-1.3**
ENH	**Enshi**	**14.27**	**56**	*e*Pn		**Pn**	**01 33 20.2**	**-2.2**
	comp=E,57nm,1.2s							
LZH	**Lanzhou**	**14.91**	**26**	*e*P		**Pn**	**01 33 31.5**	**+0.3**
LZH				pP		P	01 33 33.7	-2.8
LZH				sP			01 33 36.2	
LZH				PP		**PnPn**	**01 33 43.6**	**+4.2**
LZH				LR		LR		
	comp=E,6μm,12.3s							
LZH				LR		LR		
	comp=E,7μm,12.5s							
LZH				LR		LR		
	comp=E,8μm,13.7s							
CMBY	**CAMPBELL BAY**	**15.86**	**187**	*e*P		**Pn**	**01 33 41.3**	**-2.2**
CMBY				*ex*		x	01 36 12.1	
CMBY				IAML			01 36 13.5	
	comp=E,68nm,0.4s							
CMBY				IAML			01 36 13.6	
	comp=N,84nm,0.8s							
XAN	**Xi'an**	**16.00**	**43**	P		**Pn**	**01 33 46.5**	**+1.2**
XAN				pmax		pmax		
	comp=N,59nm,2.6s							
SKLT	**Songkhla**	**16.26**	**163**	P		**P**	**01 33 52.9**	**+1.5**
SKLT	**Songkhla**	**16.26**	**163**	P		**P**	**01 33 52.9**	**+1.5**
BHPL	**Bhopal**	**16.95**	**275**	*e*P		**Pn**	**01 33 57.0**	**-0.4**
BHPL				IAmb		IAmb	01 34 25.2	
	comp=E,11μm,5.4s							
DDI	**Dehra Dun**	**17.54**	**299**	*e*P		**Pn**	**01 34 02.9**	**-1.8**
DDI				IAmb		IAmb	01 34 07.8	
	comp=E,33μm,5.8s							
LHMI	**Lhok Sumawe**	**17.55**	**176**	P		P	01 34 14.5	+8.8
KULM	**Kulim**	**18.07**	**164**	P		**Pn**	**01 34 11.0**	**-0.2**
MLSI	**Meulaboh, Aceh**	**18.48**	**178**	P		**Pn**	**01 34 16.3**	**0.0**
SMLA	**Simla**	**18.55**	**300**	*e*P		**Pn**	**01 34 17.5**	**+0.5**
SMLA				IAmb		IAmb	01 34 20.1	
	comp=E,69nm,1.1s							
KCSI	**Kotacane, Aceh**	**19.31**	**174**	P		**Pn**	**01 34 26.5**	**+0.3**
	comp=E,233nm,2.6s							
TSI	**Tuntungan**	**19.42**	**172**	P		**Pn**	**01 34 29.3**	**+1.8**
TPTI		**19.52**	**176**	P		**Pn**	**01 34 28.1**	**-0.6**
	comp=E,58nm,0.9s							
DHRM	**DHARAMSHALA**	**19.66**	**303**	*e*P		**P**	**01 34 28.7**	**-0.3**
PSI	**Prapat**	**20.16**	**171**	P		**P**	**01 34 35.0**	**+0.6**
	comp=E,66nm,0.9s,baz=360,slow=9.5,SNR=18							
PSI	**Prapat**	**20.16**	**171**	*e*P		Pn	01 34 35.8	-0.6
	comp=E,609nm,2.0s							
PSI	**Prapat**	**20.16**	**171**	*e*P		Pn	01 34 35.8	-0.6
PSI				pmax		pmax		
	comp=E,609nm,2.0s							
POO	**Poona**	**21.01**	**262**	*e*P		**P**	**01 34 43.0**	**-0.6**
PALK	**Pallekele**	**21.26**	**226**	*e*P		**P**	**01 34 44.0**	**-2.2**
	comp=E,38nm,1.1s							
PALK	**Pallekele**	**21.26**	**226**	*e*P		**P**	**01 34 44.0**	**-2.2**
PALK				pmax		pmax		
	comp=E,38nm,1.1s							
GSI	**Gunungsitoli**	**21.49**	**175**	P		**P**	**01 34 48.4**	**-0.2**
WMQ	**Urumqi**	**21.97**	**344**	P		**P**	**01 34 55.1**	**+1.4**
WMQ				sP		pP	01 35 02.9	+0.6
WMQ				pmax		pmax		
	comp=E,150nm,1.5s							
MNSI	**Mandailing Nat**	**22.23**	**170**	P		**P**	**01 35 01.6**	**+5.0**
HHC	**Hu-ho-hao-te**	**22.31**	**33**	*e*P		**P**	**01 34 58.0**	**+0.6**
HHC				pmax		pmax		
	comp=E,58nm,1.1s							
MYKOM	**Kota Tinggi**	**22.34**	**158**	P		**P**	**01 34 57.0**	**-0.8**
NJ2	**Nanjing**	**22.35**	**61**	*e*P		**P**	**01 34 55.9**	**-1.9**
NJ2				pmax		pmax		
	comp=E,160nm,0.6s							
KSH	**Kashi**	**23.68**	**319**	P		**P**	**01 35 11.5**	**+0.1**
KSH				pP		pP	01 35 15.6	-4.9
KSH				S		**S**	**01 39 21.4**	**-2.9**
KSH				SS		**SnSn**	**01 40 11.4**	**+8.1**
KSH				pmax		pmax		
	comp=E,50nm,0.8s							
BHJ	**Bhuj**	**24.08**	**276**	*e*P		**P**	**01 35 13.0**	**-2.2**
BHJ				IAmb		IAmb	01 35 23.7	
	comp=E,173nm,4.1s							
BJT	**Baijiatuan**	**24.28**	**40**	*e*P		**P**	**01 35 16.5**	**-0.3**
	comp=E,15nm,0.7s							
BJT	**Baijiatuan**	**24.28**	**40**	*e*P		**P**	**01 35 16.5**	**-0.3**
BJT				pmax		pmax		
	comp=E,15nm,0.7s							
SHLS	**Shalkode**	**24.38**	**330**	*e*P		**P**	**01 35 16.9**	**-1.1**
	comp=E,37nm,1.2s							
UZB	**Uzynkulak**	**24.58**	**329**	*e*P		**P**	**01 35 20.5**	**+0.7**
	comp=E,17nm,1.7s							
SATY	**Saty**	**24.80**	**328**	*e*P		**P**	**01 35 22.4**	**+0.6**
	comp=E,24nm,0.9s							
SATY				*e*S		**S**	**01 39 46.3**	**+3.9**
ZHN	**Zhinishke**	**24.87**	**329**	*e*P		**P**	**01 35 22.9**	**+0.5**
	comp=E,23nm,2.5s							
KPKS	**Kokpek**	**24.98**	**329**	*e*P		**P**	**01 35 23.6**	**+0.3**
	comp=E,20nm,0.9s							
TGY	**Tagaytay City**	**25.32**	**106**	P		**P**	**01 35 24.2**	**-2.4**
	comp=E,166nm,0.4s,baz=333,slow=2.3,SNR=3.2							
ULHL	**Ulahol**	**25.32**	**324**	P		**P**	**01 35 27.5**	**+0.9**
	SNR=16							
KSM	**Kuching**	**25.48**	**144**	P		**P**	**01 35 28.0**	**0.0**
MDOK	**Medeo**	**25.55**	**327**	*e*P		**P**	**01 35 29.7**	**+1.1**
	comp=E,760nm,1.7s							
AAA	**Alma-Ata**	**25.65**	**327**	*e*P		**P**	**01 35 31.1**	**+1.7**
	comp=E,90nm,1.4s							
TKM2	**Tokmak 2**	**26.13**	**325**	P		**P**	**01 35 34.5**	**+0.6**
	SNR=12							
MK01	**Makanchi Array**	**26.25**	**339**	*e*P		**P**	**01 35 34.1**	**-0.6**
MK31	**Makanchi Array**	**26.27**	**339**	*e*P		**P**	**01 35 34.9**	**0.0**
MK31	**Makanchi Array**	**26.27**	**339**	*e*P		**P**	**01 35 34.9**	**0.0**
MKAR	**Makanchi Array**	**26.27**	**339**	P		**P**	**01 35 34.6**	**-0.3**
	comp=E,5.2nm,0.6s,baz=150,slow=10.0,SNR=18							
KBK	**Karagaybulak**	**26.30**	**324**	P		**P**	**01 35 36.6**	**+1.2**
	SNR=7.7							
SONM	**Songino Array**	**26.32**	**16**	P		**P**	**01 35 35.9**	**+0.4**
	comp=E,3.2nm,0.7s,baz=192,slow=9.3,SNR=6.9							
KUU	**Kurty**	**26.43**	**327**	*e*P		**P**	**01 35 37.2**	**+0.8**
	comp=E,25nm,1.8s							
AAK	**Ala-Archa**	**26.54**	**323**	P		**P**	**01 35 38.1**	**+0.6**
	comp=E,13nm,0.7s,baz=130,slow=6.7,SNR=22							
AAK	**Ala-Archa**	**26.54**	**323**	P		**P**	**01 35 38.9**	**+1.4**
	SNR=8.1							
AAK	**Ala-Archa**	**26.54**	**323**	*e*P		**P**	**01 35 38.0**	**+0.5**
	comp=E,17nm,0.8s							
AAK	**Ala-Archa**	**26.54**	**323**	*e*P		**P**	**01 35 38.9**	**+1.4**
AAK				pmax		pmax		
	comp=E,234nm,3.8s							
PPBI	**Pangkal Pinang**	**26.82**	**157**	P		**P**	**01 35 42.7**	**+2.7**
USP	**Osenovka**	**26.96**	**324**	P		**P**	**01 35 41.4**	**+0.2**
	SNR=5.7							
HVS	**Khovu-Aksy**	**28.28**	**357**	*e*P		**P**	**01 35 54.1**	**+1.1**
HVS				pmax		pmax		
	comp=E,18nm,0.9s							
KURBB	**Kurchatov Arra**	**30.84**	**338**	P		**P**	**01 36 14.3**	**-1.2**
	comp=E,2.3nm,0.2s,baz=147,slow=9.1,SNR=5.7							
KURK	**Kurchatov**	**30.88**	**338**	*e*P		**P**	**01 36 15.4**	**-0.4**
KURK	**Kurchatov**	**30.88**	**338**	*e*P		**P**	**01 36 15.3**	**-0.6**
KURK				pmax		pmax		
	comp=E,101nm,3.6s							
CN2	**Changchun**	**32.11**	**42**	*e*P		**P**	**01 36 27.9**	**+1.1**
ZALV	**Zalesovo Beam**	**32.15**	**348**	P		**P**	**01 36 26.4**	**-0.6**
	comp=E,1.8nm,0.9s,baz=176,slow=7.1,SNR=3.1							
HIA	**Hailar**	**32.42**	**30**	*e*P		**P**	**01 36 29.2**	**-0.3**
HIA				pmax		pmax		
	comp=E,99nm,2.8s							
BRZS	**Berezniki**	**32.60**	**332**	*e*P		**P**	**01 36 31.5**	**+0.4**
	comp=E,12nm,1.1s							
KPJI	**Karang Pucung**	**32.62**	**155**	P		**P**	**01 36 33.4**	**+1.9**
MRSI	**Marisa**	**33.75**	**128**	P		**P**	**01 36 42.5**	**+1.1**
APSI	**Ampana**	**34.49**	**130**	P		P	01 36 53.9	+6.0
MDJ	**Mudanjiang**	**35.12**	**44**	P		**P**	**01 36 52.2**	**-0.7**
MDJ				pmax		pmax		
	comp=Z,53nm,3.0s							
KMSI	**Cibinong**	**35.20**	**125**	P		P	01 37 01.7	+7.7
LUWI	**Luwuk**	**35.39**	**129**	P		**P**	**01 36 57.3**	**+1.7**
	comp=Z,144nm,1.0s							
SPSI	**Sidrap Palu**	**35.45**	**136**	P		**P**	**01 36 57.0**	**+0.9**
	comp=Z,39nm,1.3s							
GEYT	**Alibeck**	**35.57**	**304**	P		**P**	**01 36 56.7**	**-0.3**
	comp=Z,6.8nm,1.1s,baz=103,slow=11,SNR=8.9							
BVAR	**Borovoye Array**	**35.82**	**334**	P		**P**	**01 36 58.2**	**-0.7**
	comp=Z,3.4nm,0.6s,baz=140,slow=9.4,SNR=12							
BRVK	**Borovoye**	**35.88**	**334**	*e*P		**P**	**01 36 59.6**	**+0.2**
BRVK	**Borovoye**	**35.88**	**334**	*e*P		**P**	**01 36 59.6**	**+0.2**
USRK	**Ussuriysk Ar.**	**36.49**	**46**	P		**P**	**01 37 04.4**	**-0.3**
	comp=Z,3.6nm,0.9s,baz=224,slow=8.0,SNR=4.7							
INU	**Inuyama**	**37.82**	**61**	*e*P		**P**	**01 37 16.0**	**-0.1**
	comp=Z,105nm,1.4s							
ABKAR	**Akbulak array**	**38.62**	**322**	*e*P		**P**	**01 37 22.5**	**-0.1**
KLR	**Kul'dur**	**38.62**	**38**	P		**P**	**01 37 22.6**	**-0.1**
	comp=Z,2.3nm,0.9s,baz=264,slow=19,SNR=2.4							
MJB9	**Matsu-Tunnel**	**38.95**	**60**	*e*P		**P**	**01 37 25.2**	**-0.4**
	comp=Z,140nm,1.7s							
MAJO	**Matsushiro**	**38.95**	**60**	*e*P		**P**	**01 37 25.2**	**-0.4**
	comp=Z,17nm,0.7s							
MAJO	**Matsushiro**	**38.95**	**60**	*i*P		**P**	**01 37 24.7**	**-0.9**
MAJO				pmax		pmax		
	comp=Z,92nm,1.8s							
MAT	**Matsushiro**	**38.95**	**60**	P		**P**	**01 37 25.0**	**-0.6**
MJAR	**Matsushiro Arr**	**38.95**	**60**	P		**P**	**01 37 25.1**	**-0.5**
	comp=Z,32nm,1.2s,baz=268,slow=10,SNR=34							
WBSI	**Waikabubak, Su**	**39.69**	**142**	P		**P**	**01 37 32.9**	**+0.9**
	comp=Z,90nm,2.5s							
AKTO	**Aktyubinsk**	**40.28**	**323**	P		**P**	**01 37 35.9**	**-0.7**
	comp=Z,1.9nm,0.5s,baz=112,slow=12,SNR=8.9							
MSAI	**Masohi**	**41.49**	**125**	P		**P**	**01 37 47.5**	**+0.6**
	comp=Z,7.6nm,0.5s							
SVE	**Sverdlovsk**	**42.53**	**332**	*e*P		**P**	**01 37 55.1**	**+0.3**
BATI	**Baumata**	**42.69**	**137**	P		**P**	**01 37 55.7**	**-1.0**
	comp=Z,30nm,0.9s							
SOEI	**Soe**	**42.73**	**136**	*e*P		**P**	**01 37 55.3**	**-1.8**
	comp=Z,93nm,1.0s							
SOEI	**Soe**	**42.73**	**136**	P		**P**	**01 37 55.9**	**-1.2**
	comp=Z,104nm,1.0s							
ASAJ	**Asahikawa**	**43.70**	**49**	P		**P**	**01 38 02.1**	**-2.4**
	comp=Z,2.8nm,0.4s,baz=243,slow=16,SNR=3.1							
YAK	**Yakutsk**	**45.44**	**22**	*e*P		**P**	**01 38 17.9**	**-0.2**
YAK	**Yakutsk**	**45.44**	**22**	*e*P		**P**	**01 38 17.9**	**-0.2**
RAYN	**Ar Rayn**	**46.07**	**281**	*e*P		**P**	**01 38 24.1**	**+0.3**
	comp=Z,4.0nm,0.8s							
RAYN	**Ar Rayn**	**46.07**	**281**	*e*P		**P**	**01 38 24.1**	**+0.3**
RAYN				pmax		pmax		
	comp=Z,4.0nm,0.8s							
GNI	**Garni**	**46.20**	**304**	*e*P		**P**	**01 38 25.5**	**+0.7**
GNI	**Garni**	**46.20**	**304**	*i*P		**P**	**01 38 26.6**	**+1.9**
GNI				pmax		pmax		
	comp=Z,57nm,1.4s							
NRIK	**Noril'sk**	**46.77**	**356**	P		**P**	**01 38 28.0**	**-0.4**
	comp=Z,2.3nm,0.6s,baz=90,slow=20,SNR=2.5							
ZEI	**Tsey**	**47.15**	**308**	*e*P		**P**	**01 38 32.4**	**+0.2**
ZEI				pmax		pmax		
	comp=Z,9.0nm,0.8s							
AKH	**Akhalkalaki**	**47.28**

MDM	**Murphy Dome**	**79.76**	**23**	*e*P	**P**		**01 42 07.5**	**+0.3**
	comp=Z,17nm,0.8s							
COLA	**College**	**79.95**	**23**	*e*P	**P**		**01 42 07.7**	**-0.3**
	comp=Z,3.5nm,0.7s							
COLA	**College**	**79.95**	**23**	*e*P	**P**		**01 42 07.7**	**-0.3**
COLA				pmax	pmax			
	comp=Z,3.0nm,0.7s							
SUMG	**Summit**	**79.97**	**347**	*e*P	**P**		**01 42 09.7**	**+1.1**
	comp=Z,12nm,1.0s							
IL1	**Eielson Array**	**80.35**	**23**	*e*P	**P**		**01 42 08.6**	**-1.7**
ILAR	**Eielson Array**	**80.35**	**23**	P	**P**		**01 42 08.8**	**-1.4**
	comp=Z,1.5nm,0.6s,baz=292,slow=4.7,SNR=19							
KDAK	**Kodiak Island**	**81.70**	**30**	P	**P**		**01 42 15.9**	**-1.7**
	comp=Z,8.7nm,0.8s,baz=297,slow=16,SNR=2.3							
INK	**Inuvik**	**82.24**	**17**	P	**P**		**01 42 19.7**	**-0.5**
	comp=Z,30nm,1.3s,baz=331,slow=4.8,SNR=16							
INK	**Inuvik**	**82.24**	**17**	*e*P	**P**		**01 42 20.9**	**+0.7**
	comp=Z,26nm,1.3s							
EGAK	**Eagle**	**82.32**	**21**	*e*P	**P**		**01 42 20.6**	**-0.2**
	comp=Z,50nm,1.9s							
BOSA	**Boshof**	**85.08**	**236**	P	**P**		**01 42 34.5**	**-1.1**
	comp=Z,3.8nm,0.8s,baz=61,slow=3.8,SNR=13							
BOSA	**Boshof**	**85.08**	**236**	*e*P	**P**		**01 42 35.7**	**+0.1**
	comp=Z,49nm,1.9s							
TORD	**Torodi Ar. Bea**	**88.72**	**284**	P	**P**		**01 42 52.6**	**-0.9**
	comp=Z,0.6nm,1.0s,baz=90,slow=1.7							
TXAR	**Lajitas Array**	**124.82**	**21**	PKP	**PKPdf**		**01 48 59.1**	**-0.7**
	comp=Z,0.7nm,1.1s,baz=264,slow=2.4,SNR=2.3							
BDFB	**Brasilia**	**145.19**	**275**	PKPbc	**PKPbc**		**01 49 36.0**	**-1.4**
	comp=Z,3.0nm,0.7s,baz=226,slow=18,SNR=4.7							
SDV	**Santo Domingo**	**145.79**	**336**	PKPbc	**PKPdf**		**01 49 38.8**	**-0.3**
	comp=Z,13nm,0.4s,baz=5.8,slow=2.6,SNR=5.8							
ROSC	**El Rosal**	**150.84**	**340**	PKPbc	**PKPbc**		**01 49 54.4**	**+1.2**
	comp=Z,14nm,0.9s,baz=54,slow=23,SNR=5.2							

IDC ***11*** *01:31:44.8±1.0,23.˚40N×96.˚03E, h0km, mb4.1/13, mb1 4.2/13, mb1mx3.9/75, mbtmp4.1/13, Error ellipse: s-maj=28.0km s-min=15.9km az=46.0*

ISCJB ***11*** *01:31:47.4±0.4,23.˚31N±0.˚07×95.˚94E±0.˚08, h33km, mb4.2/21, Error ellipse: s-maj=13.1km s-min=7.0km az=137.6*

NEIC ***11*** *01:31:47.6±3.5,23.˚36N×95.˚96E, h20km±25km, mb4.3/9, Error ellipse: s-maj=9.2km s-min=6.3km az=48.0*

ISC 11 01:31:49.5±0.7,23.˚4N±0.˚1×95.˚98E±0.˚10,h35km,n45,
σ0s82/45,mb4.2/21,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**4.31**	**301**	*e*Pn		**Pn**		**01 32 52.6**	**-0.3**
LSA	**Lhasa**	**7.62**	**327**	*e*Pn		**Pn**		**01 33 37.6**	**-1.0**
BJT	**Baijiatuan**	**23.78**	**41**	*e*P		**P**		**01 36 59.1**	**+0.2**
	7.9nm,0.6s								
KDJ	**Kajisay**	**24.38**	**325**	*e*P		**P**		**01 37 05.2**	**+0.5**
	15nm,0.9s								
SONA0	**Songino Array**	**25.77**	**16**	*e*P		**P**		**01 37 18.5**	**+1.4**
SONM	**Songino Array**	**25.77**	**16**	P		**P**		**01 37 18.5**	**+1.4**
	2.5nm,1.0s,baz=210,slow=8.3,SNR=4.1								
SONM	**Songino Array**	**25.77**	**16**	P		**P**		**01 37 18.5**	**+1.4**
MK01	**Makanchi Array**	**25.80**	**338**	*e*P		**P**		**01 37 17.9**	**+0.7**
MK31	**Makanchi Array**	**25.82**	**338**	*e*P		**P**		**01 37 18.3**	**+0.8**
MK32	**Makanchi Array**	**25.82**	**338**	*e*P		**P**		**01 37 18.6**	**+1.2**
MKAR	**Makanchi Array**	**25.82**	**338**	P		**P**		**01 37 18.6**	**+1.2**
	5.7nm,0.8s,baz=151,slow=7.5,SNR=6.9								
AAK	**Ala-Archa**	**26.19**	**322**	P		**P**		**01 37 22.4**	**+1.4**
	11nm,1.1s,baz=139,slow=11,SNR=2.8								
AAK	**Ala-Archa**	**26.19**	**322**	*e*P		**P**		**01 37 21.8**	**+0.8**
	4.5nm,0.6s								
KURBB	**Kurchatov Arra**	**30.39**	**338**	P		**P**		**01 37 58.6**	**+0.5**
	2.2nm,0.2s,baz=147,slow=9.4,SNR=2.9								
KURK	**Kurchatov**	**30.43**	**338**	P		**P**		**01 37 58.6**	**+0.1**
ZALV	**Zalesovo Beam**	**31.65**	**347**	P		**P**		**01 38 09.9**	**+0.7**
	2.5nm,0.8s,baz=177,slow=9.0,SNR=2.7								
ZALV	**Zalesovo Beam**	**31.65**	**347**	*e*P		**P**		**01 38 09.3**	**+0.1**
ZAA1	**Zalesovo Array**	**31.66**	**347**	*e*P		**P**		**01 38 09.9**	**+0.7**
GEYT	**Alibeck**	**35.39**	**303**	P		**P**		**01 38 42.2**	**+0.1**
	2.6nm,1.0s,baz=113,slow=14,SNR=3.7								
GEYT	**Alibeck**	**35.39**	**303**	P		**P**		**01 38 42.2**	**+0.1**
BVAR	**Borovoye Array**	**35.40**	**333**	P		**P**		**01 38 42.0**	**+0.2**
	0.9nm,0.6s,baz=134,slow=12,SNR=2.3								
BVAR	**Borovoye Array**	**35.40**	**333**	P		**P**		**01 38 42.0**	**+0.2**
USRK	**Ussuriysk Ar.**	**36.02**	**46**	P		**P**		**01 38 46.3**	**-1.0**
	1.4nm,0.8s,baz=218,slow=10								
USRK	**Ussuriysk Ar.**	**36.02**	**46**	P		**P**		**01 38 46.3**	**-1.0**
ABKAR	**Akbulak array**	**38.28**	**322**	*e*P		**P**		**01 39 07.0**	**+0.6**
MAJO	**Matsushiro**	**38.56**	**60**	*e*P		**P**		**01 39 09.6**	**+0.6**
	3.2nm,0.7s								
MJAR	**Matsushiro Arr**	**38.56**	**60**	P		**P**		**01 39 10.2**	**+1.1**
	4.2nm,1.1s,baz=263,slow=11,SNR=3.4								
MJAR	**Matsushiro Arr**	**38.56**	**60**	P		**P**		**01 39 10.2**	**+1.1**
AKTO	**Aktyubinsk**	**39.94**	**322**	P		**P**		**01 39 20.1**	**-0.1**
	1.2nm,0.5s,baz=105,slow=12,SNR=2.8								
AKTO	**Aktyubinsk**	**39.94**	**322**	P		**P**		**01 39 20.1**	**-0.1**
GNI	**Garni**	**46.02**	**304**	*e*P		**P**		**01 40 10.1**	**+0.3**
RAYN	**Ar Rayn**	**46.10**	**281**	*e*P		**P**		**01 40 10.4**	**-0.2**
	2.0nm,0.8s								
KIV	**Kislovodsk**	**47.96**	**309**	*e*P		**P**		**01 40 24.7**	**-0.2**
	7.5nm,0.9s								
MBWA	**Marble Bar**	**49.96**	**151**	*e*P		**P**		**01 40 39.6**	**-0.7**
TIXI	**Tiksi**	**51.77**	**13**	P		**P**		**01 40 51.5**	**-1.8**
	2.3nm,0.5s,baz=240,slow=4.4,SNR=5.3								
TIXI	**Tiksi**	**51.77**	**13**	*e*P		**P**		**01 40 51.5**	**-1.8**
WRA	**Warramunga Arr**	**57.05**	**136**	P		**P**		**01 41 32.7**	**+0.4**
	1.5nm,0.9s,baz=323,slow=7.1,SNR=2.8								
WRA	**Warramunga Arr**	**57.05**	**136**	P		**P**		**01 41 32.7**	**+0.4**
WR1	**Warramunga Arr**	**57.05**	**136**	*e*P		**P**		**01 41 32.7**	**+0.4**
	4.1nm,1.0s								
WRAB	**Tennant Creek**	**57.05**	**136**	*e*P		**P**		**01 41 32.5**	**+0.1**
	1.4nm,0.5s								
AS31	**Alice Springs**	**59.54**	**139**	*e*P		**P**		**01 41 50.3**	**+0.6**
	0.9nm,0.9s								
ASAR	**Alice Springs**	**59.54**	**139**	P		**P**		**01 41 50.3**	**+0.6**
	1.3nm,0.9s,baz=315,slow=6.6,SNR=3.1								
ASAR	**Alice Springs**	**59.54**	**139**	P		**P**		**01 41 50.3**	**+0.6**
AS01	**Alice Springs**	**59.57**	**139**	*e*P		**P**		**01 41 49.7**	**-0.3**
CTAO	**Charters Tower**	**65.35**	**127**	*e*P		**P**		**01 42 28.5**	**-0.1**

BJI ***11*** *01:32:24.3,22.˚58N×95.˚82E, h9km, mb5.1/26, mB4.7/3, ML5.1/1, Ms4.9/2, Ms7 4.7/2*

IDC ***11*** *01:32:25.4±0.5,22.˚74N×95.˚81E, h0km, mb4.5/38, mb1 4.6/39, mb1mx4.5/74, mbtmp4.6/39, MS5.7/1, Ms1 5.7/1, ms1mx4.5/58, Error ellipse: s-maj=14.4km s-min=9.5km az=55.0*

ISCJB ***11*** *01:32:25.4±0.2,22.˚67N±0.˚03×95.˚84E±0.˚02, h10km, mb4.7/70, MS5.7/1, Error ellipse: s-maj=4.0km s-min=3.1km az=29.0*

NDI ***11*** *01:32:27.3±3.0,22.˚65N×95.˚89E, h14km, mb4.9, ML4.9, mb4.9(NEIC)*

MOS ***11*** *01:32:27.7±0.9,22.˚72N×95.˚85E, h29km, mb4.8/34, Error ellipse: s-maj=11.2km s-min=6.2km az=106.4*

NEIC ***11*** *01:32:27.6±2.1,22.˚68N×95.˚84E, h14km±13km, mb4.9/27, Error ellipse: s-maj=5.9km s-min=4.2km az=225.0*

ISC 11 01:32:27.2±0.3,22.˚72N±0.˚04×95.˚85E±0.˚04,h10km,n166,
σ1s76/188,mb4.8/70,6C-10D,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SAIH	**SAIHA**	**2.66**	**266**	*e*P		**Pn**		**01 33 10.5**	**+0.2**
IMP	**Imphal**	**2.73**	**321**	*e*P		**Pn**		**01 33 11.9**	**+0.7**
IMP				*e*S		**Sn**		**01 33 46.3**	**+1.8**
AZL	**Aizawl**	**3.08**	**290**	*e*P		**Pn**		**01 33 15.2**	**-0.9**
AZL				*ex*		x		01 33 41.8	
AZL				IAML				01 34 08.2	
	comp=N,15μm,1.2s								
KOHI	**KOHIMA**	**3.39**	**332**	*e*P		**Pn**		**01 33 19.1**	**-1.2**
KOHI				*ex*		x		01 34 04.1	
MOKO	**MOKOCHONG**	**3.79**	**342**	*e*P		**Pn**		**01 33 26.4**	**+0.6**
BRDH	**Bariadhala**	**3.89**	**270**	Pn		**Pn**		**01 33 26.8**	**-0.3**
	comp=N,21nm,0.3s,baz=72,slow=20,SNR=1.7								
BRDH				Sn		**Sn**		**01 34 14.2**	**+1.4**
	comp=N,17nm,0.3s,baz=255,slow=20,SNR=2.2								
BELO	**BELONIA**	**4.09**	**278**	*e*P		**Pn**		**01 33 28.9**	**-1.0**
BELO				*e*S		**Sn**		**01 34 16.8**	**-1.1**
BELO				IAML				01 34 38.3	
	comp=N,68μm,3.1s								
BELO				IAML				01 34 52.7	
	comp=E,79μm,6.8s								
JORH	**JORHAT**	**4.26**	**340**	*e*P		**Pn**		**01 33 32.6**	**+0.4**
LKP	**Lekhapani**	**4.59**	**360**	*e*P		**Pn**		**01 33 37.6**	**+0.8**
SHL	**Shillong**	**4.60**	**309**	*e*Pn		**Pn**		**01 33 37.9**	**+0.8**
SHL	**Shillong**	**4.60**	**309**	*e*P		**Pn**		**01 33 38.1**	**+1.0**
TEZP	**TEZPUR**	**4.77**	**325**	*e*P		**Pn**		**01 33 38.6**	**-0.7**
ITAN	**ITANAGAR**	**4.81**	**337**	*e*P		**Pn**		**01 33 39.4**	**-0.4**
ITAN				*e*S		**Sn**		**01 34 36.6**	**+1.0**
ITAN				IAML				01 34 55.7	
	comp=N,4μm,1.1s								
ITAN				IAML				01 35 02.8	
	comp=E,477nm,0.5s								
CHTO	**Chiang Mai**	**4.84**	**143**	*e*Pn		**Pn**		**01 33 39.8**	**-0.5**
CHTO				*e*Pg		**Pb**		**01 33 56.0**	**+3.7**
CHTO				*e*Sg		**Sg**		**01 34 56.7**	**-6.1**
ZIRO	**ZIRO**	**5.12**	**340**	*e*P		**Pn**		**01 33 47.1**	**+3.0**
ZIRO				*e*S		**Sn**		**01 34 39.0**	**-4.4**
ZIRO				IAML				01 35 14.4	
	comp=E,1μm,0.8s								
ZIRO				IAML				01 35 14.4	
	comp=N,1μm,0.6s								
GUWA	**GUWAHATI**	**5.13**	**313**	*e*P		**Pn**		**01 33 44.0**	**-0.2**
CM31	**Chiang Mai Arr**	**5.13**	**145**	*e*Pn		**Pn**		**01 33 43.5**	**-0.7**
CMAR	**Chiang Mai Arr**	**5.13**	**145**	Pn		**Pn**		**01 33 43.7**	**-0.5**
	baz=318,slow=13,SNR=1.3								
CMAR				Pg		**Pb**		**01 34 00.5**	**+3.3**
	comp=N,27nm,0.3s,baz=324,slow=18,SNR=5.3								
CMAR				Lg		Lg		01 35 10.9	
	comp=N,48nm,0.3s,baz=311,slow=31,SNR=5.0								
CM01	**Chiang Mai Arr**	**5.17**	**145**	*e*Pn		**Pn**		**01 33 44.7**	**0.0**
TAWA	**Tawang**	**6.05**	**324**	*e*P		**Pn**		**01 33 56.5**	**-0.7**
KMI	**Kunming**	**6.74**	**68**	Pg		**Pg**		**01 34 33.1**	**-3.3**
KMI				Sg		**Sg**		**01 35 59.0**	**-4.7**
KMI				*s*max		*s*max			
	comp=N,2μm,1.1s								
KMI				*s*max		*s*max			
	comp=E,850nm,1.0s								
GTK	**Tadong**	**8.01**	**306**	*e*P		**Pn**		**01 34 23.1**	**-0.8**
LSA	**Lhasa**	**8.13**	**330**	*e*Pn		**Pn**		**01 34 27.2**	**+1.4**
	comp=E,63nm,0.9s								
LSA				*e*Sn		**Sn**		**01 35 59.4**	**+1.3**
BOK	**Bokaro**	**9.23**	**279**	*e*P		**Pn**		**01 34 40.1**	**-0.3**
GYA	**Guiyang**	**10.52**	**67**	P		**Pn**		**01 35 01.2**	**+3.0**
GYA				PP		**PnPn**		**01 35 09.8**	**+3.8**
GYA				S		**Sn**		**01 37 00.1**	**+3.9**
GYA				SS		**SnSn**		**01 37 13.6**	**+5.5**
GYA				*p*max	*p*max				
	comp=E,20nm,0.8s								
GYA				*p*max	*p*max				
	comp=E,120nm,4.9s								
GYA				LR	LR				
	comp=E,1μm,8.4s								
GYA				LR	LR				
	comp=E,1μm,9.2s								
GYA				LR	LR				
	comp=E,1μm,9.6s								
CD2	**Chengdu**	**10.79**	**39**	*e*P		**Pn**		**01 35 03.0**	**+1.2**
ENH	**Enshi**	**14.33**	**55**	*e*Pn		**Pn**		**01 35 49.2**	**-1.1**
LZH	**Lanzhou**	**15.02**	**26**	*e*P		**Pn**		**01 36 01.5**	**+1.7**
LZH				pP		P		01 36 03.7	-1.6
LZH				sP		pP		01 36 06.2	-1.9
LZH				PP		**sP**		**01 36 13.6**	**+4.2**
LZH				*p*max	*p*max				
	comp=E,300nm,1.1s								
LZH				*p*max	*p*max				
	comp=E,650nm,4.7s								
LZH				LR	LR				
	comp=E,5μm,12.5s								
LZH				LR	LR				
	comp=E,6μm,12.4s								
LZH				LR	LR				
	comp=E,8μm,13.8s								
CMBY	**CAMPBELL BAY**	**15.73**	**187**	*e*P		**Pn**		**01 36 08.8**	**-0.1**
XAN	**Xi'an**	**16.09**	**43**	P		**Pn**		**01 36 15.2**	**+1.6**
XAN				sP		sP		01 36 25.2	+4.1
XAN				*p*max	*p*max				
	comp=E,58nm,0.9s								
GTA	**Gaotai**	**16.98**	**11**	*e*P		**P**		**01 36 27.5**	**+0.6**
GTA				pP		pP		01 36 30.9	+1.2
GTA				sP		sP		01 36 33.8	+2.8
GTA				*p*max	*p*max				
	comp=E,24nm,1.0s								
BHPL	**Bhopal**	**16.98**	**275**	*e*P		**Pn**		**01 36 25.6**	**+0.6**
BHPL				IAmb		IAmb		01 36 59.3	
	comp=Z,31nm,0.3s								
LHMI	**Lhok Sumawe**	**17.42**	**176**	P		**P**		**01 36 36.2**	**+4.4**
DDI	**Dehra Dun**	**17.62**	**299**	*e*P		**Pn**		**01 36 32.4**	**-0.6**
MLSI	**Meulaboh, Aceh**	**18.35**	**178**	P		**P**		**01 36 42.7**	**+0.7**
	comp=Z,138nm,1.5s								
SMLA	**Simla**	**18.63**	**301**	*e*P		**Pn**		**01 36 46.6**	**+1.3**
KCSI	**Kotacane, Aceh**	**19.17**	**174**	P		**Pn**		**01 36 56.7**	**+4.7**
TSI	**Tuntungan**	**19.28**	**172**	P		**Pn**		**01 36 58.5**	**+5.2**
DHRM	**DHARAMSHALA**	**19.75**	**303**	*e*P		**P**		**01 36 57.8**	**+0.3**
PSI	**Prapat**	**20.02**	**171**	P		**Pn**		**01 37 02.9**	**+0.6**
	comp=Z,32nm,0.8s,baz=360,slow=2.8,SNR=8.6								
PSI	**Prapat**	**20.02**	**171**	*e*P		**Pn**		**01 37 04.5**	**+2.2**
	comp=Z,119nm,1.2s								
POO	**Poona**	**21.01**	**263**	*e*P		**P**		**01 37 11.7**	**+0.5**
WMQ	**Urumqi**	**22.10**	**344**	*e*P		**P**		**01 37 24.0**	**+1.3**
WMQ				pP		sP		01 37 27.5	+0.6
WMQ				*p*max	*p*max				
	comp=Z,170nm,1.1s								
NJ2	**Nanjing**	**22.40**	**61**	*e*P		**P**		**01 37 25.9**	**-0.1**
NJ2				*p*max	*p*max				
	comp=Z,190nm,0.7s								
KSH	**Kashi**	**23.79**	**319**	P		**P**		**01 37 40.7**	**+0.4**
KSH				pP		sP		01 37 44.7	+0.1
KSH				PP		**PnPn**		**01 38 13.9**	**+5.9**
KSH				S		**S**		**01 41 51.9**	**-4.1**
KSH				SS		**SnSn**		**01 42 41.9**	**+7.6**
KSH				*p*max	*p*max				
	comp=E,160nm,0.9s								
BHJ	**Bhuj**	**24.12**	**276**	*e*P		**P**		**01 37 42.0**	**-1.4**
BJT	**Baijiatuau**	**24.37**	**40**	*e*P		**P**		**01 37 47.0**	**+1.5**
	comp=Z,43nm,1.2s								
ULHL	**Ulahol**	**25.44**	**325**	P		**P**		**01 37 56.5**	**+1.1**
	SNR=23								
TKM2	**Tokmak 2**	**26.25**	**325**	P		**P**		**01 38 03.7**	**+0.9**
	SNR=12								
MK01	**Makanchi Array**	**26.38**	**339**	*e*P		**P**		**01 38 03.8**	**+0.1**
MK31	**Makanchi Array**	**26.40**	**339**	*e*P		**P**		**01 38 04.9**	**+1.0**
MKAR	**Makanchi Array**	**26.40**	**339**	P		**P**		**01 38 03.9**	**0.0**
	comp=Z,24nm,0.8s,baz=147,slow=11,SNR=9.2								
MKAR	**Makanchi Array**	**26.40**	**339**	P		**P**		**01 38 03.9**	**0.0**
MKAR				*p*max	*p*max				
	comp=Z,25nm,0.8s								
KBK	**Karagaybulak**	**26.42**	**324**	P		**P**		**01 38 05.6**	**+1.2**
	SNR=9.9								
SONM	**Songino Array**	**26.45**	**16**	P		**P**		**01 38 04.7**	**+0.3**
	comp=Z,4.4nm,0.7s,baz=194,slow=10,SNR=7.3								
SONA1	**Songino Array**	**26.46**	**16**	*e*P		**P**		**01 38 05.1**	**+0.6**
AAK	**Ala-Archa**	**26.66**	**323**	P		**P**		**01 38 07.0**	**+0.6**
	comp=Z,30nm,0.9s,baz=130,slow=6.8,SNR=12								
AAK	**Ala-Archa**	**26.66**	**323**	P		**P**		**01 38 07.4**	**+1.0**
	SNR=8.7								
AAK	**Ala-Archa**	**26.66**	**323**	*e*P		**P**		**01 38 06.7**	**+0.3**
	comp=Z,22nm,0.9s								
AAK	**Ala-Archa**	**26.66**	**323**	*i*P		**P**		**01 38 07.4**	**+1.0**
AAK				*p*max	*p*max				
	comp=Z,24nm,0.8s								
CHMS	**Chumysh**	**26.76**	**324**	P		**P**		**01 38 07.8**	**+0.7**
	SNR=5.5								
AML	**Almayashu**	**26.78**	**321**	P		**P**		**01 38 08.9**	**+1.1**
	SNR=6.0								
EKS2	**Erkin-Say**	**27.07**	**322**	P		**P**		**01 38 12.1**	**+2.0**
	SNR=5.7								
USP	**Ospenovka**	**27.07**	**324**	P		**P**		**01 38 10.8**	**+0.8**
	SNR=6.1								
DGZ	**Jazzator, Alta**	**27.73**	**348**	*e*P		**P**		**01 38 15.6**	**-0.4**
DGZ				*p*max	*p*max				
	comp=Z,3.0nm,0.8s								
KNGR	**Kungurtug, Tuv**	**27.86**	**2**	*e*P		**P**		**01 38 18.2**	**+1.1**
ZAK	**Zakamensk**	**28.22**	**10**	*e*P		**P**		**01 38 17.7**	**-2.6**
ZAK				*p*max	*p*max				
	comp=Z,12nm,1.0s								
HVS	**Khovu-Aksy**	**28.41**	**357**	*i*P		**P**		**01 38 22.1**	**+0.1**
HVS				*p*max	*p*max				
	comp=Z,35nm,1.0s								
KK31	**Karatay Array**	**29.23**	**320**	*e*P		**P**		**01 38 29.4**	**+0.1**
KURBB	**Kurchatov Arra**	**30.96**	**338**	P		**P**		**01 38 44.1**	**-0.4**
	comp=Z,8.4nm,0.7s,baz=150,slow=8.7,SNR=8.4								
KURBB				ScP		**ScP**		**01 45 23.4**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=152,slow=2.9,SNR=7.3								
KURK	**Kurchatov**	**31.01**	**339**	*e*P		**P**		**01 38 44.2**	**-0.6**
KURK				ScP		**ScP**		**01 45 23.4**	**-0.3**
KURK	**Kurchatov**	**31.01**	**339**	*e*P		**P**		**01 38 44.5**	**-0.4**
KURK				*p*max	*p*max				
	comp=Z,11nm,0.7s								
KSAR	**Wonju Array Be**	**31.19**	**55**	P		**P**		**01 38 46.6**	**0.0**
KSRS	**Korea Array**	**31.22**	**55**	P		**P**		**01 38 46.6**	**-0.2**
	comp=Z,2.4nm,0.8s,baz=355,slow=17,SNR=3.2								
CN2	**Changchun**	**32.20**	**42**	*e*P		**P**		**01 38 57.7**	**+2.3**
ZALV	**Zalesovo Beam**	**32.28**	**348**	P		**P**		**01 38 55.8**	**-0.2**
	comp=Z,4.9nm,0.9s,baz=164,slow=7.5,SNR=3.6								
ZALV				LR		LR		01 52 02.1	
	comp=Z,14μm,20.5s,baz=168,slow=36								
ZALV	**Zalesovo Beam**	**32.28**	**348**	P		**P**		**01 38 55.8**	**-0.2**
ZALV				*p*max	*p*max				
	comp=Z,3.0nm,0.7s								
ZALV				MLR	MLR				
	comp=Z,14μm,20.5s								
HIA	**Hailar**	**32.52**	**30**	*e*P		**P**		**01 38 58.4**	**+0.2**
	comp=Z,9.7nm,0.7s								
HIA	**Hailar**	**32.52**	**30**	*i*P		**P**		**01 38 58.7**	**+0.4**
HIA				*p*max	*p*max				
	comp=Z,11nm,0.8s								
GEYT	**Alibeck**	**35.66**	**304**	P		**P**		**01 39 26.8**	**+1.2**
	comp=Z,6.6nm,0.9s,baz=234,slow=5.1,SNR=6.3								
GYA0B	**ALIBECK ARRAY**	**35.66**	**304**	*e*P		**P**		**01 39 27.3**	**+1.6**
	comp=Z,9.8nm,0.9s								
BVAR	**Borovoye Array**	**35.95**	**334**	P		**P**		**01 39 27.8**	**0.0**
	comp=Z,14nm,0.8s,baz=142,slow=11,SNR=19								
BVAR				PP		**PP**		**01 40 50.2**	**+0.8**
	comp=Z,7.5nm,0.9s,baz=139,slow=12,SNR=4.8								
BRVK	**Borovoye**	**36.01**	**334**	*e*P		**P**		**01 39 28.2**	**-0.2**
BRVK	**Borovoye**	**36.01**	**334**	*i*P		**P**		**01 39 28.2**	**-0.2**
BRVK				*p*max	*p*max				
	comp=Z,8.0nm,0.7s								
USRK	**Ussuriysk Ar.**	**36.57**	**45**	P		**P**		**01 39 34.0**	**+0.7**
	comp=Z,10nm,0.9s,baz=242,slow=9.0,SNR=12								
INU	**Inuyama**	**37.87**	**61**	*e*P		**P**		**01 39 44.6**	**+0.2**
	comp=Z,43nm,0.8s								
KLR	**Kul'dur**	**38.71**	**38**	*i*P		**P**		**01 39 51.9**	**+0.6**
MJB9	**Matsu-Tunnel**	**39.00**	**60**	*e*P		**P**		**01 39 53.6**	**-0.3**
	comp=Z,34nm,0.8s								
MAJO	**Matsushiro**	**39.00**	**60**	*e*P		**P**		**01 39 53.6**	**-0.4**
	comp=Z,41nm,0.9s								
MAJO	**Matsushiro**	**39.00**	**60**	*e*P		**P**		**01 39 53.5**	**-0.4**
MAJO				*p*max	*p*max				
	comp=Z,33nm,0.8s								
MAT	**Matsushiro**	**39.00**	**60**	P		**P**		**01 39 53.0**	**-1.0**
MJAR	**Matsushiro Arr**	**39.00**	**60**	P		**P**		**01 39 53.7**	**-0.3**
	comp=Z,22nm,0.8s,baz=268,slow=11,SNR=30								
AKTO	**Aktyubinsk**	**40.40**	**323**	P		**P**		**01 40 04.2**	**-1.2**
	comp=Z,6.8nm,0.8s,baz=130,slow=9.5,SNR=7.6								
SVE	**Sverdlovsk**	**42.65**	**332**	*e*P		**P**		**01 40 24.1**	**+0.3**
SVE				*p*max	*p*max				
	comp=Z,44nm,0.9s								
ASAJ	**Asahikawa**	**43.77**	**49**	P		**P**		**01 40 32.9**	**-0.2**
	comp=Z,14nm,0.9s,baz=217,slow=31,SNR=5.7								
ASAJ	**Asahikawa**	**43.77**	**49**	*e*P		**P**		**01 40 34.8**	**+1.8**
	comp=Z,45nm,1.4s								
YAK	**Yakutsk**	**45.55**	**22**	P		**P**		**01 40 46.7**	**-0.2**
	comp=Z,52nm,0.7s,baz=160,slow=1.3,SNR=12								
YAK	**Yakutsk**	**45.55**	**22**	*e*P		**P**		**01 40 46.5**	**-0.5**
YAK	**Yakutsk**	**45.55**	**22**	*e*P		**P**		**01 40 45.6**	**-1.3**
YAK				*p*max	*p*max				
	comp=Z,55nm,0.9s								
YAK				*p*max	*p*max				
	comp=N,6.0nm,0.9s								
YAK				*p*max	*p*max				
	comp=E,5.0n

	comp=Z,15nm,0.9s								
CAST	**Castle Rocks**	**79.23**	**25**	*e*P		**P**		**01 44 33.5**	**+1.1**
	comp=Z,13nm,1.0s								
BPAW	**Bear Paw Mtn.**	**79.31**	**24**	*e*P		**P**		**01 44 34.5**	**+1.7**
	comp=Z,13nm,1.0s								
COLA	**College**	**80.06**	**23**	*e*P		**P**		**01 44 37.6**	**+0.8**
	comp=Z,3.8nm,0.7s								
SUMG	**Summit**	**80.10**	**347**	*e*P		**P**		**01 44 36.5**	**-0.9**
	comp=Z,11nm,1.1s								
SKT	**Skwentna**	**80.17**	**26**	*e*P		**P**		**01 44 38.5**	**+1.0**
	comp=Z,24nm,1.2s								
ILAR	**Eielson Array**	**80.46**	**23**	P		**P**		**01 44 37.4**	**-1.7**
	comp=Z,2.3nm,0.7s,baz=286,slow=5.2,SNR=11								
ILAR				PP		**PP**		**01 47 37.3**	**-4.4**
	comp=Z,1.1nm,0.8s,baz=295,slow=6.3,SNR=6.2								
RIDG	**Independ'e Rid**	**81.79**	**23**	*e*P		**P**		**01 44 47.1**	**+0.9**
	comp=Z,10nm,0.8s								
INK	**Inuvik**	**82.36**	**17**	P		**P**		**01 44 48.2**	**-0.8**
	comp=Z,10nm,0.9s,baz=328,slow=5.2,SNR=9.5								
INK	**Inuvik**	**82.36**	**17**	*e*P		**P**		**01 44 48.5**	**-0.5**
	comp=Z,11nm,0.9s								
RES	**Resolute Bay**	**82.58**	**3**	*e*P		**P**		**01 44 49.8**	**-0.3**
	comp=Z,4.0nm,0.8s								
BMRM	**Bremner River**	**83.50**	**25**	*e*P		**P**		**01 44 57.5**	**+2.3**
	comp=Z,24nm,0.9s								
BOSA	**Boshof**	**85.02**	**236**	P		**P**		**01 45 02.9**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=88,slow=4.7,SNR=6.9								
TORD	**Torodi Ar. Bea**	**88.76**	**284**	P		**P**		**01 45 19.9**	**-2.0**
	comp=Z,1.2nm,1.1s,baz=72,slow=3.8								
TXAR	**Lajitas Array**	**124.94**	**21**	PKP		**PKPdf**		**01 51 29.9**	**+1.5**
	comp=Z,0.7nm,0.9s,baz=64,slow=3.1,SNR=3.3								
BDFB	**Brasilia**	**145.22**	**275**	PKPbc		**PKPbc**		**01 52 05.9**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=27,slow=5.2,SNR=3.7								
ROSC	**El Rosal**	**150.97**	**339**	PKPbc		**PKPbc**		**01 52 22.6**	**+0.9**
	comp=Z,6.0nm,0.6s,baz=96,slow=19,SNR=3.1								

*ISCJB **11** 01:35:43.4±1.1,22°.3N±0°.2×95°.5E±0°.3,h10km,mb3.8/6, Error ellipse: s-maj=42.6km s-min=13.0km az=144.3*
*IDC **11** 01:35:45.2±1.2,22°.57N×95°.59E,h0km,mb3.8/6, mb1 4.0/6,mb1mx3.6/75,mbtmp3.8/6,Error ellipse: s-maj=49.2km s-min=16.3km az=55.0*

ISC 11 01:35:45.8±1.2,22°.4N±0°.2×95°.6E±0°.3,h10km,n7,σ1$46/7, mb3.9/6,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**5.01**	**140**	Pg		**Pg**	**01 37 20.8**	**-1.1**
	1.3nm,0.3s,baz=320,slow=18,SNR=4.3							
CMAR				Lg		Lg	01 38 30.4	
	5.2nm,0.3s,baz=318,slow=29,SNR=5.5							
MKAR	**Makanchi Array**	**26.63**	**339**	P		**P**	**01 41 24.8**	**+0.3**
	1.6nm,0.6s,baz=144,slow=10,SNR=6.8							
KURBB	**Kurchatov Arra**	**31.19**	**339**	P		**P**	**01 42 05.0**	**0.0**
	1.2nm,0.8s,baz=149,slow=9.3,SNR=3.4							
MJAR	**Matsushiro Arr**	**39.39**	**59**	P		**P**	**01 43 15.7**	**-0.1**
	3.4nm,0.9s,baz=266,slow=12,SNR=6.5							
WRA	**Warramunga Arr**	**56.59**	**135**	P		**P**	**01 45 29.8**	**+0.8**
	1.1nm,0.9s,baz=322,slow=8.2,SNR=3.8							
AKASG	**Malin Array Be**	**58.12**	**317**	P		**P**	**01 45 38.5**	**-1.0**
	0.2nm,0.3s,baz=77,slow=4.9,SNR=2.2							
ASAR	**Alice Springs**	**59.02**	**138**	P		**P**	**01 45 48.5**	**+2.4**
	0.7nm,0.9s,baz=316,slow=7.8,SNR=2.7							

*ISCJB **11** 01:37:37.3±0.3,22°.97N±0°.05×96°.15E±0°.05,h10km, mb4.1/20,Error ellipse: s-maj=8.0km s-min=5.5km az=135.7*
*IDC **11** 01:37:37.9±0.8,23°.04N×96°.16E,h0km,mb4.0/13, mb1 4.2/14,mb1mx3.9/75,mbtmp4.0/14,ML4.3/1,Error ellipse: s-maj=29.7km s-min=12.2km az=60.0*
*NEIC **11** 01:37:39.2±0.2,22°.99N×96°.15E,h10km,mb4.5/9,Error ellipse: s-maj=7.4km s-min=4.1km az=56.0*

ISC 11 01:37:39.2±0.5,22°.98N±0°.07×96°.14E±0°.08,h10km,n41, σ1$20/45,mb4.2/20,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BRDH	**Bariadhala**	**4.16**	**267**	Pn		**Pn**	**01 38 43.6**	**+0.9**
	baz=252,slow=20,SNR=2.2							
BRDH				Sn		**Sn**	**01 39 31.5**	**0.0**
	44nm,0.3s,baz=282,slow=19,SNR=5.3							
SHL	**Shillong**	**4.66**	**304**	*e*Pn		**Pn**	**01 38 48.6**	**-1.2**
CHTO	**Chiang Mai**	**4.90**	**147**	*e*Pn		**Pn**	**01 38 52.1**	**-0.9**
CHTO				*e*Sg		**Sg**	**01 40 12.8**	**-3.9**
CM31	**Chiang Mai Arr**	**5.21**	**149**	*e*Pn		**Pn**	**01 38 56.9**	**-0.3**
CM31				*e*Pg		**Pb**	**01 39 13.6**	**+3.2**
CM31				*e*Sg		**Sg**	**01 40 24.8**	**-1.7**
CMAR	**Chiang Mai Arr**	**5.21**	**149**	Pn		**Pn**	**01 38 56.9**	**-0.3**
	2.6nm,0.3s,baz=321,slow=13,SNR=3.2							
CMAR				Pg		**Pb**	**01 39 13.6**	**+3.2**
	12nm,0.3s,baz=322,slow=16,SNR=6.9							
CMAR				Lg		Lg	01 40 24.2	
	6.1nm,0.3s,baz=323,slow=30,SNR=4.4							
LSA	**Lhasa**	**8.05**	**327**	*e*Pn		**Pn**	**01 39 36.5**	**-0.1**
PSI	**Prapat**	**20.24**	**172**	P		Pn	01 42 16.4	-0.4
	13nm,0.9s,baz=360,slow=8.9,SNR=5.6							
KDJ	**Kajisay**	**24.80**	**325**	*e*P		**P**	**01 43 03.3**	**+1.7**
	35nm,1.1s							
NRN	**Naryn**	**24.98**	**322**	*e*P		**P**	**01 43 03.4**	**0.0**
	12nm,1.1s							
SONA0	**Songino Array**	**26.13**	**16**	*e*P		**P**	**01 43 12.7**	**-0.8**
SONM	**Songino Array**	**26.13**	**16**	P		**P**	**01 43 12.7**	**-0.8**
	0.5nm,0.4s,baz=187,slow=11,SNR=3.7							
SONA1	**Songino Array**	**26.14**	**16**	*e*P		**P**	**01 43 14.5**	**+0.9**
MK01	**Makanchi Array**	**26.23**	**338**	*e*P		**P**	**01 43 14.9**	**+0.6**
MK31	**Makanchi Array**	**26.26**	**338**	*e*P		**P**	**01 43 14.6**	**+0.1**
MK32	**Makanchi Array**	**26.26**	**338**	*e*P		**P**	**01 43 15.2**	**+0.6**
MKAR	**Makanchi Array**	**26.26**	**338**	P		**P**	**01 43 15.2**	**+0.6**
	4.9nm,0.8s,baz=146,slow=11,SNR=14							
AAK	**Ala-Archa**	**26.61**	**323**	P		**P**	**01 43 18.7**	**+0.8**
	6.3nm,1.0s,baz=93,slow=5.5,SNR=5.7							
AAK	**Ala-Archa**	**26.61**	**323**	*e*P		**P**	**01 43 18.3**	**+0.3**
	5.0nm,0.8s							
KURBB	**Kurchatov Arra**	**30.82**	**338**	P		**P**	**01 43 55.3**	**+0.1**
	0.6nm,0.5s,baz=149,slow=8.8,SNR=4.5							
KURK	**Kurchatov**	**30.87**	**338**	*e*P		**P**	**01 43 55.3**	**-0.3**
ZALV	**Zalesovo Beam**	**32.09**	**347**	P		**P**	**01 44 04.6**	**-1.6**
	0.7nm,0.6s,baz=134,slow=8.3,SNR=2.7							
ZALV	**Zalesovo Beam**	**32.09**	**347**	*e*P		**P**	**01 44 05.8**	**-0.5**
ZAA1	**Zalesovo Array**	**32.09**	**347**	*e*P		**P**	**01 44 04.6**	**-1.6**
GEYT	**Alibeck**	**35.74**	**303**	P		**P**	**01 44 38.2**	**-0.1**
	1.0nm,0.8s,baz=137,slow=8.0,SNR=3.1							
BVAR	**Borovoye Array**	**35.83**	**333**	P		**P**	**01 44 38.6**	**-0.3**
	1.1nm,0.7s,baz=133,slow=11,SNR=4.4							
BRVK	**Borovoye**	**35.90**	**333**	*e*P		**P**	**01 44 40.2**	**+0.8**
MJB9	**Matsu-Tunnel**	**38.64**	**60**	*e*P		**P**	**01 45 03.8**	**+0.9**
	12nm,1.0s							
MAJO	**Matsushiro**	**38.64**	**60**	*e*P		**P**	**01 45 02.8**	**-0.2**
	7.0nm,0.7s							
MJAR	**Matsushiro Arr**	**38.64**	**60**	P		**P**	**01 45 03.6**	**+0.6**
	6.9nm,0.9s,baz=268,slow=10,SNR=12							
ABKAR	**Akbulak array**	**38.69**	**322**	*e*P		**P**	**01 45 03.1**	**0.0**
AKTO	**Aktyubinsk**	**40.35**	**322**	P		**P**	**01 45 16.4**	**-0.5**
	0.7nm,0.4s,baz=137,slow=6.1,SNR=5.8							
YAK	**Yakutsk**	**45.22**	**22**	*e*P		**P**	**01 45 55.4**	**-0.9**
RAYN	**Ar Rayn**	**46.33**	**281**	*e*P		**P**	**01 46 05.9**	**+0.2**
	1.5nm,0.6s							
WR1	**Warramunga Arr**	**56.65**	**136**	*e*P		**P**	**01 47 23.1**	**+0.2**
	4.9nm,0.9s							
WRA	**Warramunga Arr**	**56.65**	**136**	P		**P**	**01 47 23.1**	**+0.2**
	3.5nm,1.0s,baz=326,slow=7.7,SNR=10							
WRAB	**Tennant Creek**	**56.65**	**136**	*e*P		**P**	**01 47 22.9**	**0.0**
	3.7nm,0.7s							
ASAR	**Alice Springs**	**59.13**	**139**	P		**P**	**01 47 41.5**	**+1.3**
	1.4nm,0.9s,baz=317,slow=6.3,SNR=4.7							
AS01	**Alice Springs**	**59.16**	**139**	*e*P		**P**	**01 47 40.4**	**-0.1**
LSZ	**Lusaka**	**76.57**	**247**	*e*P		**P**	**01 49 29.6**	**-0.9**
	0.9nm,0.5s							
ILAR	**Eielson Array**	**80.12**	**23**	P		**P**	**01 49 48.5**	**-0.6**
	0.6nm,0.7s,baz=300,slow=3.7,SNR=8.4							
ILB	**Eielson Array**	**80.12**	**23**	*e*P		**P**	**01 49 48.5**	**-0.6**

*IDC **11** 01:39:58.1±0.7,23°.09N×95°.92E,h0km,mb4.0/17, mb1 4.1/18,mb1mx3.9/73,mbtmp4.0/18,ML4.5/1,Error ellipse: s-maj=25.0km s-min=12.2km az=54.0*
*NEIC **11** 01:40:00.2±2.4,23°.08N×95°.92E,h12km±15km,mb4.4/8, Error ellipse: s-maj=8.2km s-min=4.1km az=51.0*

ISC 11 01:39:59.2±0.5,22°.91N±0°.06×95°.79E±0°.06,h10km,n47, σ1$37/56,mb4.1/23,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BRDH	**Bariadhala**	**3.84**	**267**	Pn		**Pb**	**01 41 04.2**	**-2.8**
	11nm,0.3s,baz=255,slow=18,SNR=2.0							
BRDH				Sn		**Sb**	**01 41 53.1**	**-0.5**
	33nm,0.3s,baz=246,slow=19,SNR=5.2							
SHL	**Shillong**	**4.44**	**307**	*e*Pn		**Pn**	**01 41 07.2**	**+0.4**
SHL				*e*Sn		**Sn**	**01 41 57.8**	**-0.9**
CHTO	**Chiang Mai**	**5.03**	**144**	*e*Pn		**Pn**	**01 41 15.9**	**+1.2**
CHTO				*e*Pg		**Pg**	**01 41 34.9**	**-0.7**
CHTO				*e*Sn		**Sn**	**01 42 13.4**	**+0.4**
CHTO				*e*Sg		**Sg**	**01 42 36.4**	**-4.4**
CM31	**Chiang Mai Arr**	**5.32**	**146**	*e*Pn		**Pn**	**01 41 20.2**	**+1.5**
CM31				*e*Sg		**Sg**	**01 42 50.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**5.32**	**146**	Pn		**Pn**	**01 41 20.2**	**+1.5**
	4.0nm,0.3s,baz=323,slow=14,SNR=2.6							
CMAR				Pg		**Pg**	**01 41 38.5**	**-2.7**
	11nm,0.3s,baz=325,slow=16,SNR=5.2							
CMAR				Lg		Lg	01 42 48.9	
	21nm,0.3s,baz=328,slow=31,SNR=9.8							
CM01	**Chiang Mai Arr**	**5.36**	**146**	*e*Pn		**Pn**	**01 41 22.1**	**+2.8**
CM01				*e*Sg		**Sg**	**01 42 51.1**	**-0.3**
LSA	**Lhasa**	**7.94**	**329**	*e*Pn		**Pn**	**01 41 55.7**	**+0.5**
LSA				*e*Sn		**Sn**	**01 43 23.5**	**-1.8**
KDJ	**Kajisay**	**24.67**	**325**	*e*P		**P**	**01 45 21.3**	**+0.9**
	25nm,1.1s							
NRN	**Naryn**	**24.83**	**323**	*e*P		**P**	**01 45 22.1**	**0.0**
	8.1nm,1.0s							
KBL	**Kabul**	**26.08**	**302**	*e*P		**P**	**01 45 35.2**	**+1.9**
	6.3nm,0.8s							
MK01	**Makanchi Array**	**26.18**	**339**	*e*P		**P**	**01 45 33.2**	**-0.6**
MK31	**Makanchi Array**	**26.20**	**339**	*e*P		**P**	**01 45 34.3**	**+0.2**
MK32	**Makanchi Array**	**26.20**	**339**	*e*P		**P**	**01 45 33.5**	**-0.6**
MKAR	**Makanchi Array**	**26.20**	**339**	P		**P**	**01 45 33.5**	**-0.6**
	5.2nm,0.8s,baz=150,slow=9.4,SNR=11							
SONA0	**Songino Array**	**26.28**	**16**	*e*P		**P**	**01 45 34.0**	**-0.8**
SONM	**Songino Array**	**26.28**	**16**	P		**P**	**01 45 34.0**	**-0.8**
	0.7nm,0.7s,baz=186,slow=13,SNR=2.9							
AAK	**Ala-Archa**	**26.47**	**323**	P		**P**	**01 45 37.7**	**+1.0**
	7.2nm,1.0s,baz=124,slow=7.4,SNR=5.6							
AAK	**Ala-Archa**	**26.47**	**323**	*e*P		**P**	**01 45 37.3**	**+0.6**
	5.6nm,0.8s							
KURBB	**Kurchatov Arra**	**30.77**	**338**	P		**P**	**01 46 13.4**	**-1.3**
	1.5nm,0.9s,baz=152,slow=8.3,SNR=4.2							
KURK	**Kurchatov**	**30.82**	**339**	*e*P		**P**	**01 46 13.4**	**-1.7**
KS15	**Wonju Array Si**	**31.12**	**55**	*e*P		**P**	**01 46 16.7**	**-1.2**
KSAR	**Wonju Array Be**	**31.12**	**55**	P		**P**	**01 46 16.7**	**-1.2**
KSRS	**Korea Array**	**31.15**	**55**	P		**P**	**01 46 16.7**	**-1.5**
	2.1nm,0.8s,baz=199,slow=41,SNR=3.0							
ZALV	**Zalesovo Beam**	**32.08**	**348**	P		**P**	**01 46 25.1**	**-1.1**
	0.3nm,0.3s,baz=157,slow=7.8,SNR=2.3							
ZAA1	**Zalesovo Array**	**32.09**	**348**	*e*P		**P**	**01 46 25.1**	**-1.1**
GEYT	**Alibeck**	**35.51**	**304**	P		**P**	**01 46 56.4**	**+0.1**
	2.5nm,0.9s,baz=118,slow=8.6,SNR=6.2							
BVAR	**Borovoye Array**	**35.75**	**334**	P		**P**	**01 46 56.9**	**-1.2**
	0.8nm,0.6s,baz=151,slow=18,SNR=2.8							
ABKAR	**Akbulak array**	**38.55**	**322**	*e*P		**P**	**01 47 22.2**	**+0.3**
MAJO	**Matsushiro**	**38.59**	**60**	*e*P		**P**	**01 47 24.1**	**-1.4**
MJAR	**Matsushiro Arr**	**38.95**	**60**	P		**P**	**01 47 24.1**	**-1.4**
	1.9nm,1.0s,baz=255,slow=8.4,SNR=3.1							
AKTO	**Aktyubinsk**	**40.21**	**323**	P		**P**	**01 47 36.1**	**+0.3**
	1.5nm,0.7s,baz=111,slow=8.6,SNR=3.7							
RAYN	**Ar Rayn**	**46.03**	**281**	*e*P		**P**	**01 48 23.8**	**+0.5**
	3.2nm,1.0s							
AKH	**Akhalkalaki**	**47.22**	**306**	*e*P		**P**	**01 48 33.7**	**+1.1**
	8.7nm,0.5s							
KIV	**Kislovodsk**	**48.13**	**309**	*e*P		**P**	**01 48 38.7**	**-0.7**
WRA	**Warramunga Arr**	**56.83**	**136**	P		**P**	**01 49 46.1**	**+2.0**
	0.6nm,0.5s,baz=326,slow=7.5,SNR=3.8							
WR1	**Warramunga Arr**	**56.83**	**136**	*e*P		**P**	**01 49 46.1**	**+2.0**
	1.8nm,0.8s							
ASAR	**Alice Springs**	**59.29**	**139**	P		**P**	**01 50 02.1**	**+0.8**
	0.4nm,0.4s,baz=319,slow=6.6,SNR=6.4							
AS01	**Alice Springs**	**59.32**	**139**	*e*P		**P**	**01 50 02.9**	**+1.3**
MLR	**Muntele Rosu**	**60.09**	**310**	P		**P**	**01 50 06.5**	**-0.3**
	3.5nm,0.8s,baz=164,slow=18,SNR=4.7							
MLR	**Muntele Rosu**	**60.09**	**310**	*e*P		**P**	**01 50 06.5**	**-0.3**
	3.3nm,0.8s							
NB200	**NORSAR Array S**	**67.63**	**328**	*e*P		**P**	**01 50 57.0**	**+0.9**
NOA	**NORSAR Array B**	**67.63**	**328**	P		**P**	**01 50 57.0**	**+0.9**
	0.5nm,0.7s,baz=45,slow=13,SNR=1.9							
STKA	**Stephens Creek**	**69.91**	**140**	P		**P**	**01 51 10.3**	**-0.3**
	1.5nm,0.7s,baz=349,slow=5.3,SNR=3.4							
IM3	**Indian Mountai**	**77.22**	**23**	*e*P		**P**	**01 51 53.9**	**+0.8**
BOSA	**Boshof**	**85.08**	**236**	P		**P**	**01 52 37.0**	**+1.3**
	1.7nm,0.8s,baz=90,slow=18,SNR=3.5							
TOA1	**Torodi Ar. Sit**	**88.67**	**284**	*e*P		**P**	**01 52 54.7**	**+1.3**
TORD	**Torodi Ar. Bea**	**88.67**	**284**	P		**P**	**01 52 54.7**	**+1.3**
	1.1nm,1.2s,baz=35,slow=9.0							

TRN 11 01:41:08.4,11°.46N×61°.65W,h81km,MD3.8,Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.84**	**164**	*e*P		Pn	01 41 25.0	-0.7
TRN				*e*S		Sn	01 41 38.0	-0.5
TPR	**Prospect**	**0.89**	**107**	*e*P		Pn	01 41 26.4	+0.1
TPR				*e*S		Sn	01 41 38.6	-1.0
TOSP	**Speyside**	**1.10**	**98**	*e*P		Pn	01 41 28.9	+0.2
TOSP				*e*S		Sn	01 41 44.3	+0.4
TBH	**Brigand Hill**	**1.12**	**150**	*e*P		Pn	01 41 29.2	+0.1
TBH				*e*S		Sn	01 41 44.8	+0.4
TPP	**Pointe-a-Pierr**	**1.15**	**170**	*e*P		Pn	01 41 30.6	+1.3
TPP				*e*S		Sn	01 41 45.7	+0.7
FCV	**Fort Charlotte**	**1.73**	**13**	*e*P		Pn	01 41 37.0	+0.1
FCV				*e*S		Sn	01 41 57.7	-0.7
SVB	**Belmont**	**1.84**	**12**	*e*P		Pn	01 41 38.3	0.0
SVB				*e*S		Sn	01 42 01.0	0.0
SVCV	**St. Vincent, C**	**1.87**	**15**	*e*P		Pn	01 41 38.7	+0.1
SVCV				*e*S		Sn	01 42 01.5	-0.1
SVV	**Soufriere Volc**	**1.90**	**13**	*e*P		Pn	01 41 39.5	+0.4
SVV				*e*S		Sn	01 42 01.2	-1.1
SSV	**Crater Summit**	**1.91**	**13**	*e*P		Pn	01 41 40.2	+0.9
SSV				*e*S		Sn	01 42 02.8	+0.1
SFAN	**Fancy Village**	**1.97**	**14**	*e*P		Pn	01 41 40.7	+0.7
SFAN				*e*S		Sn	01 42 04.2	+0.2
MCLT	**Moule a Chique**	**2.34**	**17**	*e*P		Pn	01 41 45.4	+0.4
MCLT				*e*S		Sn	01 42 12.4	-0.5
SLB	**Belfond**	**2.43**	**14**	*e*P		Pn	01 41 45.7	-0.5
SLB				*e*S		Sn	01 42 13.8	-1.3
BBGH	**Gun Hill**	**2.64**	**50**	*e*P		Pn	01 41 49.8	+0.8
TRMF	**Trois Ilets**	**3.12**	**11**	*e*P		Pn	01 41 55.3	-0.1
ZAM	**Aeronautique**	**3.15**	**11**	*e*P		Pn	01 41 55.8	-0.1
MVM	**Montagne Vaucl**	**3.16**	**13**	*e*P		Pn	01 41 56.1	+0.1
LPMF	**Morne Lapointe**	**3.17**	**12**	*e*P		Pn	01 41 56.1	0.0
FDF	**Fort de France**	**3.29**	**8**	*e*P		Pn	01 41 58.1	+0.3
FDF				*e*S		Sn	01 42 34.9	-1.0
PML	**Morne Lenard**	**3.33**	**8**	*e*P		Pn	01 41 58.6	+0.3
GBMF	**Grand Be**	**3.35**	**8**	*e*P		Pn	01 41 58.6	-0.1
PCM	**Pelee Case Pet**	**3.37**	**7**	*e*P		Pn	01 41 58.5	-0.3
CXM	**Morne La Croix**	**3.37**	**8**	*e*P		Pn	01 41 58.7	-0.3
CXM				*e*S		Sn	01 42 35.5	-2.3
BAMF	**Morne Balai**	**3.37**	**8**	*e*P		Pn	01 41 58.8	-0.1
MDN	**Morne-Daniel**	**3.85**	**4**	*e*P		Pn	01 42 05.6	+0.3
BBL	**Barber's Block**	**4.05**	**2**	*e*P		Pn	01 42 08.5	+0.4
BBL				*e*S		Sn	01 42 52.6	-1.7
TDBA	**Terre de Bas,**	**4.37**	**0**	*e*P		Pn	01 42 12.8	+0.5
TDBA	**Terre de Bas,**	**4.37**	**0**	*e*S		Sn	01 42 59.9	-2.2
TBG	**Guadaloupe-3**	**4.37**	**360**	*e*P		Pn	01 42 12.3	-0.1
TBG	**Guadaloupe-3**	**4.37**	**360**	*e*S		Sn	01 43 00.9	-1.2
MGG	**Marie-Galante**	**4.45**	**4**	*e*P		Pn	01 42 14.3	+0.8
MAGL	**Barre de l'ile**	**4.48**	**4**	*e*P		Pn	01 42 15.3	+1.3
MAGL	**Barre de l'ile**	**4.48**	**4**	*e*S		Sn	01 43 03.8	-1.0
HMG	**Houelmont**	**4.50**	**359**	*e*P		Pn	01 42 14.4	+0.1
PHG	**Gaudaloupe-2**	**4.53**	**0**	*e*P		Pn	01 42 14.8	+0.1
FNG	**Fond-Bernard**	**4.58**	**359**	*e*P		Pn	01 42 15.4	+0.1
CBE	**F"f", Capest**	**4.58**	**0**	*e*P		Pn	01 42 15.8	+0.4
CBE	**F"f", Capest**	**4.58**	**0**	*e*S		Sn	01 43 06.7	-0.7
ABD	**La Joyeuse, An**	**4.99**	**2**	*e*P		Pn	01 42 21.9	+1.0
ANWB	**Willy Bob**	**6.18**	**359**	*e*P		Pn	01 42 37.7	+0.6
ANWB	**Willy Bob**	**6.18**	**359**	*e*S		Sn	01 43 42.8	-3.5

*ISCJB **11** 01:43:55.2±0.2,51°.55N±0°.01×16°.15E±0°.02,h0km, mb4.0/2,Error ellipse: s-maj=1.9km s-min=1.7km az=42.0*
*IDC **11** 01:43:57.9±0.5,51°.59N×15°.99E,h0km,mb4.0/2, mb1 3.8/14,mb1mx3.6/64,mbtmp3.7/14,ML3.4/11,Error ellipse: s-maj=8.8km s-min=5.2km az=106.0*
*NEIC **11** 01:43:57.1±0.2,51°.67N×16°.16E,h5km,mb4.3/1,Error ellipse: s-maj=4.4km s-min=3.1km az=154.0*
*BGR **11** 01:43:58.7±0.4,51°.56N×16°.17E,h1km,ML3.9/10,Error ellipse: s-maj=6.7km s-min=3.3km az=12.0*
*VIE **11** 01:43:59.2±0.8,51°.43N×16°.20E,h0km,mb3.3/8,ml3.5/9, Error ellipse: s-maj=8.7km s-min=4.7km az=17.0 68 km NW of Wroclaw Suspected Mining induced.*
*BNS **11** 01:44:00.1±0.6,51°.71N×16°.15E,h10km,ML3.4*
*LDG **11** 01:44:00.3±0.3,51°.44N×16°.10E,h1km,Ml4.2/11,Error ellipse: s-maj=7.5km s-min=4.5km az=17.0,Suspected Mining induced.*
*UPP **11** 01:44:01.2±2.5,51°.74N×15°.64E,h0km,ML2.2*

ISC 11 01:43:55.5±0.5,51°.62N±0°.03×16°.14E±0°.02,h0km,n148, σ2$42/253,8D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.78**	**173**	*i* Pg		**Pg**	**01 44 12.0**	**+1.5**
KSP				*e*Sg		**Sg**	**01 44 20.9**	**+0.3**
KSP	**Ksiaz**	**0.78**	**173**	*e*Pg		**Pg**	**01 44 12.0**	**+1.5**
DPC	**Dobruska-Polom**	**1.28**	**175**	*i* PG		**Pg**	**01 44 20.8**	**+0.9**
DPC				*e*SG		**Sg**	**01 44 36.2**	**-0.3**
	comp=Z,341nm,0.4s							
DPC	**Dobruska-Polom**	**1.28**	**175**	*e*Pg		**Pg**	**01 44 20.8**	**+0.9**
DPC				*e*Sg		**Sb**	**01 44 38.1**	**+0.7**
PVCC	**Panska Ves**	**1.48**	**223**	*i* PG		**Pn**	**01 44 24.7**	**+1.4**
PVCC				*e*SG		**Sb**	**01 44 44.4**	**+1.3**
	comp=Z,1μm,0.3s							
BRG	**Berggiesshubel**	**1.57**	**242**	PN		**Pn**	**01 44 25.9**	**+1.2**
BRG				PG		**Pg**	**01 44 27.6**	**+1.9**
BRG				SG		**Sg**	**01 44 48.1**	**+2.2**
	864nm,0.4s							
BRG	**Berggiesshubel**	**1.57**	**242**	*e*Pn		**Pn**	**01 44 25.7**	**+1.1**
BRG				*e*Pg		**Pg**	**01 44 27.4**	**+1.8**
BRG				*e*Sg		**Sg**	**01 44 47.9**	**+2.0**
KRLC	**Kraliky**	**1.60**	**165**	*e*PG		**Pn**	**01 44 26.1**	**+1.0**
KRLC				*e*SG		**Sn**	**01 44 46.4**	**0.0**
	comp=Z,64nm,0.5s							
FBE	**Freiberg**	**1.89**	**249**	*e*Pn		**Pg**	**01 44 33.0**	**+1.4**
FBE				*e*Sg		**Sg**	**01 44 58.2**	**+2.2**
PRA	**Prague**	**1.89**	**216**	*e*PN		**Pn**	**01 44 30.4**	**+1.4**
PRA				*e*SG		**Sb**	**01 44 55.7**	**+0.7**
	comp=Z,340nm,0.6s							
CLL	**Collm**	**1.99**	**262**	*e*Pn		**Pn**	**01 44 31.8**	**+1.4**
CLL				*e*Pg		**Pg**	**01 44 36.1**	**+2.5**
CLL				*e*Sn		**Sn**	**01 45 00.5**	**+1.2**
CLL	**Collm**	**1.99**	**262**	*e*Pn		**Pn**	**01 44 32.0**	**+1.6**
CLL				*e*Pg		**Pg**	**01 44 36.0**	**+2.4**
CLL		

comp=Z,75nm,0.5s
PSZ Piszkesteto 4.43 145 *e*Pn **Pn 01 45 06.2 +2.2**
KWP Kalwaria Pacla 4.63 113 *e*Pb **Pg 01 45 22.7 -1.5**
KWP *e*Sg **Sg 01 46 31.0 +6.9**
COP Copenhagen 4.63 333 *i* P **Pn 01 45 10.6 +3.9**
COP *i* S **Sn 01 46 02.9 +1.8**
BLEU Blekinge 4.70 358 P **Pn 01 45 10.1 +2.5**
BLEU S **Sn 01 46 02.5 -0.3**
BJUU Bjuv 4.83 339 P **Pn 01 45 10.9 +1.5**
BJUU S **Sn 01 46 05.0 -1.0**
TIH Tihany 4.86 166 *e*PP **Pn 01 45 12.3 +2.4**
TIH *ex* x 01 46 38.6
KBA Koelnbreinsper 4.90 203 *e*Pn **Pn 01 45 12.7 +2.1**
comp=Z,15nm,0.5s,SNR=6.4
DEL Delary 5.04 346 P **Pn 01 45 14.5 +2.2**
DEL S **Sn 01 46 09.9 -1.3**
WATA Walderalm 5.22 217 *i* Pn **Pn 01 45 17.4 +2.5**
SNR=15
WTTA Wattenberg 5.26 216 *e*Pn **Pn 01 45 18.1 +2.6**
comp=Z,4.5nm,0.3s
STU Stuttgart 5.29 240 *e*Pn **Pn 01 45 17.7 +1.9**
STU *e*Pg **Pg 01 45 36.6 -0.3**
STU *e*Sg **Sg 01 46 45.1 -0.3**
VXJU Vaexsjoe 5.36 353 P **Pn 01 45 19.3 +2.6**
VXJU S **Sn 01 46 19.4 +0.3**
KOE Koeppel 5.44 261 *e*Pn **Pn 01 45 20.1 +2.3**
SQTA Sankt Quirin 5.45 218 *i* Pn **Pn 01 45 21.2 +3.1**
SNR=5.4
OSKU Oskarshamn 5.59 360 P **Pn 01 45 22.6 +2.9**
MORH M¨‡r¨igy, Hung 5.65 162 *e*Pn **Pn 01 45 22.0 +1.3**
MORH *ex* x 01 46 35.3
BNS Bensberg 5.66 267 *e*Pn **Pn 01 45 23.2 +2.3**
BYXU Byxelkrok 5.71 5 P **Pn 01 45 24.8 +3.3**
BGG Burgeitz 5.75 259 *e*Pn **Pn 01 45 24.9 +2.9**
BGG *e*Sn **Sn 01 46 28.7 +0.1**
comp=Z,10nm,0.6s
FABU Falkenberg 5.75 341 P **Pn 01 45 24.3 +2.2**
ASPU Aespoe 5.82 2 P **Pn 01 45 26.6 +3.6**
GNOU Gnosjoe 5.85 347 P **Pn 01 45 26.1 +2.7**
STB Steinbach 5.95 264 *e*Pn **Pn 01 45 27.4 +2.6**
BFO Black Forest 6.02 240 *e*Pn **Pn 01 45 25.7 -0.1**
BFO *e*Pg **Pg 01 45 51.6 +0.8**
BFO *e*Sg **Sg 01 47 10.0 +1.2**
DREG Dreilaegerbach 6.31 265 *e*Pn **Pn 01 45 32.5 +2.7**
FUORN Ofenpass-Fuorn 6.32 220 *e*Pn **Pn 01 45 31.5 +1.4**
FUORN *e*Sn **Sn 01 46 39.4 -3.6**
DAVOX Davos/Dischmat 6.34 223 Pn **Pn 01 45 32.1 +1.7**
comp=Z,1.4nm,0.3s,baz=31,slow=12,SNR=13
DAVOX Sn **Sn 01 46 47.0 +3.3**
comp=Z,0.5nm,0.3s,baz=30,slow=20,SNR=1.9
DAVOX Lg Lg 01 47 17.7
comp=Z,3.4nm,0.3s,baz=339,slow=12,SNR=4.6
CDF Champ du Feu 6.55 244 *e*Pn **Pn 01 45 35.1 +1.9**
CDF Champ du Feu 6.55 244 *e*Pg **Pg 01 45 59.9 -1.1**
CDF *e*Sn **Sn 01 46 44.1 -4.5**
CDF *e*Sg **Sg 01 47 21.8 -4.0**
comp=Z,186nm,1.2s
CDF Champ du Feu 6.55 244 *e*Pn **Pn 01 45 35.1 +1.9**
CDF *e*Sn **Sn 01 46 44.1 -4.5**
WLF Walferdange 6.65 257 *e*Pn **Pn 01 45 35.6 +1.2**
WLF *e*Lg Lg 01 47 33.6
ECH Echery 6.72 243 *e*Pn **Pn 01 45 38.3 +2.8**
TUE Stuetta 6.81 224 *e*Pn **Pn 01 45 40.1 +3.2**
BUR08 Bucovina Ar. S 7.10 121 *e*Pn **Pn 01 45 41.9 +1.1**
HINF Hinteralfeld 7.12 241 *e*Pn **Pn 01 45 42.4 +1.5**
HINF Hinteralfeld 7.12 241 *e*Pg **Pg 01 46 19.8 +1.0**
HINF *e*Sn **Sn 01 46 58.2 -4.3**
HINF *e*Sg **Sg 01 47 38.8 -5.3**
comp=Z,47nm,0.7s
HINF Hinteralfeld 7.12 241 *e*Pn **Pn 01 45 42.4 +1.5**
BUR04 Bucovina Ar. S 7.12 121 *e*Pn **Pn 01 45 43.0 +1.9**
GIVF Givet 7.32 262 *e*Sn **Sn 01 47 04.0 -3.4**
GIVF *e*Sg **Sg 01 47 47.8 -2.8**
comp=Z,61nm,0.9s
PAGF Fort de Pagny 7.37 249 *e*Pn **Pn 01 45 46.4 +2.1**
PAGF Fort de Pagny 7.37 249 *e*Pn **Pn 01 45 46.4 +2.1**
BAIF Baives 7.72 263 *e*Pn **Pn 01 45 52.1 +3.1**
BAIF *e*Sn **Sn 01 47 12.7 -4.4**
BAIF *e*Sg **Sg 01 47 59.7 -3.5**
comp=Z,38nm,0.9s
BAIF Baives 7.72 263 *e*Pn **Pn 01 45 52.1 +3.1**
MEZF Maizieres J'vi 7.79 251 *e*Pn **Pn 01 45 52.3 +2.3**
MEZF Maizieres J'vi 7.79 251 *e*Pg **Pg 01 46 23.3 -1.3**
MEZF *e*Sn **Sn 01 47 13.8 -5.1**
MEZF *e*Sg **Sg 01 48 00.9 -4.6**
comp=Z,69nm,1.2s
MEZF Maizieres J'vi 7.79 251 *e*Pn **Pn 01 45 52.3 +2.3**
MEZF *e*Sn **Sn 01 47 13.8 -5.1**
SFTF Sexfontaines 7.94 249 *e*Pn **Pn 01 45 53.7 +1.6**
SFTF Sexfontaines 7.94 249 *e*Pg **Pg 01 46 25.4 -2.1**
SFTF *e*Sn **Sn 01 47 16.6 -6.0**
comp=Z,21nm,0.7s
SFTF *e*Sg **Sg 01 48 04.9 -5.4**
comp=Z,74nm,1.1s
SFTF Sexfontaines 7.94 249 *e*Pn **Pn 01 45 53.7 +1.6**
SFTF *e*Sg **Sg 01 48 04.9 -5.4**
KIEV Kiev 8.27 91 *e*Pn **Pn 01 45 58.6 +1.9**
comp=Z,4.1nm,0.4s
KIEV *e*Pg **Pg 01 46 34.7 +0.8**
AKASG Malin Array Be 8.28 91 Pn **Pn 01 45 56.5 -0.2**
comp=Z,3.0nm,0.3s,baz=278,slow=12,SNR=10
AKASG Sn **Sn 01 47 27.0 -3.8**
comp=Z,3.5nm,0.3s,baz=265,slow=26,SNR=6.7
AKASG Lg Lg 01 48 29.8
comp=Z,1.0nm,0.3s,baz=241,slow=5.0,SNR=4.8
AKBB Malin Array Si 8.28 91 *e*Pn **Pn 01 45 56.5 -0.2**
AKBB *e*Sn **Sn 01 47 27.0 -3.9**
AKBB *e*Lg Lg 01 48 29.8
HFS Hagfors 8.64 352 Pn **Pn 01 46 00.8 -0.9**
comp=Z,0.1nm,0.3s,baz=196,slow=9.0,SNR=2.6
HFS Sn **Sn 01 47 38.6 -1.2**
comp=Z,0.4nm,0.3s,baz=119,slow=12,SNR=2.9
HFS Lg Lg 01 48 36.8
comp=Z,0.6nm,0.3s,baz=162,slow=20,SNR=2.8
LPL La Plagne 8.72 229 *e*Pn **Pn 01 46 04.8 +1.7**
LPL La Plagne 8.72 229 *e*Pn **Pn 01 46 04.8 +1.7**
LPG La Plagne 8.73 229 *e*Pn **Pn 01 46 04.8 +1.6**
LPG La Plagne 8.73 229 *e*Pn **Pn 01 46 04.8 +1.6**
MLR Muntele Rosu 8.93 130 Pn Pn 01 46 10.9 +5.1
comp=Z,0.1nm,0.3s,baz=348,slow=20,SNR=2.2
LOR Lormes 9.11 246 *e*Pn **Pn 01 46 09.5 +1.4**
baz=63
LOR *e*Sn **Sn 01 47 45.2 -6.1**
LOR *e*Sg 01 48 41.8
comp=Z,13nm,0.6s
LOR Lormes 9.11 246 *e*Pn **Pn 01 46 09.5 +1.4**
LOR *e*Sn **Sn 01 47 45.2 -6.1**
MBDF Montbardon 9.31 226 *e*Pn **Pn 01 46 12.6 +1.6**
MBDF Montbardon 9.31 226 *e*Pn **Pn 01 46 12.6 +1.6**
SSF Saint Saulge 9.42 246 *e*Pn **Pn 01 46 13.9 +1.5**
SSF *e*Sn **Sn 01 47 52.7 -6.3**
SSF *e*Sg 01 48 51.8
comp=Z,51nm,1.2s
SSF Saint Saulge 9.42 246 *e*Pn **Pn 01 46 13.9 +1.5**
SSF *e*Sn **Sn 01 47 52.7 -6.3**
SMF Signal de Mont 9.47 243 *e*Pn **Pn 01 46 15.0 +1.9**
SMF Signal de Mont 9.47 243 *e*Pg Pn 01 46 54.7 +42
SMF *e*Sn **Sn 01 47 53.7 -6.5**
SMF *e*Sg 01 48 52.6
comp=Z,51nm,1.1s
SMF Signal de Mont 9.47 243 *e*Pn **Pn 01 46 15.0 +1.9**
SMF *e*Sn **Sn 01 47 53.7 -6.5**
AVF Avril sur Loir 9.66 245 *e*Pn **Pn 01 46 16.6 +0.9**
AVF Avril sur Loir 9.66 245 *e*Pg Pn 01 46 58.0 +42
AVF *e*Sn **Sn 01 47 58.0 -6.8**
AVF *e*Sg 01 48 59.0
comp=Z,70nm,1.3s
AVF Avril sur Loir 9.66 245 *e*Pn **Pn 01 46 16.6 +0.9**
AVF *e*Pg 01 46 58.0
AVF *e*Sg Sn 01 48 59.0 +54
SBF Sospel 9.72 220 *e*Pn **Pn 01 46 17.7 +1.1**
SBF Sospel 9.72 220 *e*Pn **Pn 01 46 17.7 +1.1**
NB200 NORSAR Array S 9.83 346 *e*Pn **Pn 01 46 18.4 +0.4**
NB200 *e*Sn **Sn 01 48 02.7 -6.3**
NOA NORSAR Array B 9.83 346 Pn **Pn 01 46 18.4 +0.4**
comp=Z,0.0nm,0.3s,baz=167,slow=12,SNR=3.7
NOA Sn **Sn 01 48 02.7 -6.3**
comp=Z,0.0nm,0.3s,baz=230,slow=21,SNR=2.6
FRF La Foret Royal 10.29 222 *e*Pn **Pn 01 46 25.9 +1.5**
FRF La Foret Royal 10.29 222 *e*Pn **Pn 01 46 25.9 +1.5**
LMR La Mourre 10.54 222 *e*Pn **Pn 01 46 27.8 +0.1**
LMR La Mourre 10.54 222 *e*Pn **Pn 01 46 27.8 +0.1**
FIA0 FINESS Array S 11.26 25 *e*Pn **Pn 01 46 37.0 -0.4**
FIA0 *e*Sn **Sn 01 48 38.2 -5.6**
FIA0 *e*Lg Lg 01 49 52.2
FINES FINESS Array B 11.26 25 Pn **Pn 01 46 37.0 -0.4**
comp=Z,0.2nm,0.3s,baz=220,slow=13,SNR=12
FINES Sn **Sn 01 48 38.2 -5.6**
comp=Z,1.0nm,0.3s,baz=211,slow=23,SNR=7.2
FINES Lg Lg 01 49 52.2
comp=Z,0.5nm,0.3s,baz=225,slow=22,SNR=2.5
EKA Eskdalemuir Ar 12.08 295 Pn **Pn 01 46 47.5 -1.2**
baz=101,slow=14,SNR=5.1
EKA Sn Sn 01 48 55.1 -8.8
baz=96,slow=25,SNR=4.5
OBN Obninsk 12.68 66 Pn **Pn 01 46 54.9 -2.0**
comp=Z,0.9nm,0.3s,baz=272,slow=18,SNR=5.0
OBN Lg Lg 01 50 44.7
comp=Z,0.2nm,0.3s,baz=180,slow=20,SNR=2.6
OBN Obninsk 12.68 66 *e*Pn **Pn 01 46 56.8 -0.2**
ESDC Sonseca Array 18.37 237 P **Pn 01 48 10.8 -0.9**
comp=Z,0.1nm,0.3s,baz=346,slow=21,SNR=3.5
ARA0 ARCESS Array S 18.51 10 *e*P **Pn 01 48 14.6 +1.5**
ARCES ARCESS Array B 18.51 10 P **Pn 01 48 14.6 +1.5**
comp=Z,0.3nm,0.3s,baz=193,slow=13,SNR=15
KIV Kislovodsk 19.34 103 *e*P **P 01 48 23.6 +1.3**
comp=Z,11nm,0.6s
KVAR Kislovodsk Ar 19.34 103 P **P 01 48 23.6 +1.2**
baz=312,slow=12,SNR=3.2
KBZ Khabaz 19.59 103 P **Pn 01 48 28.5 +2.3**
comp=Z,0.5nm,0.3s,baz=319,slow=19,SNR=24
GNI Garni 22.82 109 *e*P **P 01 49 00.4 +0.3**
BORG Borgarnes 23.29 319 P **P 01 49 05.5 +1.0**
comp=Z,9.0nm,0.4s,baz=81,slow=6.7,SNR=10
TOA1 Torodi Ar. Sit 40.10 202 *e*P **P 01 51 34.2 +1.4**
TORD Torodi Ar. Bea 40.11 202 P **P 01 51 34.2 +1.4**
comp=Z,0.7nm,0.9s,baz=8.7,slow=9.6

MOS ***11*** *01:47:51.7±0.0,42.95N×05.70E,h15km,MPVA3.6*
NORS ***11*** *01:47:52.7±0.0,42.91N×05.69E,h4km,MPVA3.7*
DRS ***11*** *01:47:52.5±0.0,42.92N×05.58E,h14km*
ISC 11 01:47:54.0±1.1, 42.94N±0.04×45.69E±0.02, h5km±10km, n23, σ0.68/46, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.27**	**16**	*e*Pg	**Pg**		**01 47 58.7**	**-0.6**
GROC				*e*Sg	**Sg**		**01 48 03.0**	**+0.1**
DVE	**Vedeno**	**0.32**	**87**	*i* Pg	**Pg**		**01 47 59.3**	**-0.8**
DVE				*e*Sg	**Sg**		**01 48 04.7**	**+0.3**
BTLR	**Botlikh**	**0.48**	**125**	*i* Pg	**Pg**		**01 48 02.9**	**-0.3**
BTLR				*e*Sg	**Sg**		**01 48 10.1**	**+0.7**
KMGR	**Komgaron**	**0.62**	**281**	*e*Pg	**Pg**		**01 48 06.2**	**+0.3**
KMGR				*e*Sg	**Sg**		**01 48 15.2**	**+1.3**
DLMR	**Dylym**	**0.70**	**79**	*e*Pg	**Pg**		**01 48 08.0**	**+0.6**
DLMR				*e*Sg	**Sb**		**01 48 18.5**	**0.0**
DBC	**Dubki**	**0.84**	**84**	*i* Pg	**Pg**		**01 48 09.8**	**-0.3**
DBC				*i* Sg	**Sg**		**01 48 21.8**	**+0.9**
UNCR	**Uncukul**	**0.84**	**105**	*e*Pg	**Pg**		**01 48 10.5**	**+0.4**
UNCR				*e*Sg	**Sb**		**01 48 23.0**	**+0.3**
XNZR	**Khunzakh**	**0.85**	**118**	*e*Pg	**Pg**		**01 48 10.6**	**+0.3**
XNZR				*e*Sg	**Sb**		**01 48 23.2**	**+0.3**
KRNR	**Karanay**	**0.90**	**97**	*e*Pg	**Pg**		**01 48 11.0**	**-0.2**
KRNR				*e*Sg	**Sg**		**01 48 23.5**	**+0.6**
BTKR	**Batakoyurt**	**0.95**	**297**	*e*Pg	**Pg**		**01 48 11.8**	**-0.3**
BTKR				*e*Sg	**Sg**		**01 48 24.9**	**+0.5**
LACR	**Lac**	**1.03**	**264**	*e*Pg	**Pg**		**01 48 13.2**	**-0.6**
LACR				*e*Sg	**Sg**		**01 48 27.9**	**+0.7**
TRKR	**Terskaya**	**1.05**	**318**	*e*Pg	**Pg**		**01 48 14.3**	**+0.2**
TRKR				*e*Sg	**Sg**		**01 48 28.8**	**+1.1**
ARNR	**Ardon**	**1.06**	**283**	*e*Pg	**Pg**		**01 48 14.1**	**-0.2**
ARNR				*e*Sg	**Sg**		**01 48 29.0**	**+1.0**
GNBR	**Gunib**	**1.09**	**120**	*e*Pg	**Pg**		**01 48 14.7**	**-0.1**
GNBR				*e*Sg	**Sg**		**01 48 29.5**	**+0.6**
DUS	**Dusheti**	**1.12**	**221**	P	**Pb**		**01 48 15.7**	**-0.2**
DUS				S	**Sn**		**01 48 32.8**	**+0.6**
KORR	**Kora**	**1.20**	**277**	*e*Pg	**Pb**		**01 48 16.7**	**-0.5**
KORR				*e*Sg	**Sg**		**01 48 33.4**	**+0.8**
STDR	**Stavd-Durt**	**1.27**	**290**	*e*Pg	**Pn**		**01 48 17.6**	**-0.7**
STDR				*e*Sg	**Sb**		**01 48 35.0**	**+0.1**
PRTR	**Priterechnaya**	**1.31**	**309**	*i* Pg	**Pn**		**01 48 18.2**	**-0.7**
PRTR				*e*Sg	**Sb**		**01 48 36.2**	**+0.1**
ZEI	**Tsey**	**1.33**	**264**	*e*Pg	**Pn**		**01 48 17.6**	**-1.7**
ZEI				*e*Sg	**Sb**		**01 48 35.9**	**-0.9**
LSNR	**Lesken**	**1.41**	**284**	*e*Pg	**Pn**		**01 48 19.5**	**-0.8**
LSNR				*e*Sg	**Sn**		**01 48 39.1**	**-0.2**
DIGR	**Digorskoe uzhe**	**1.55**	**269**	*e*Pg	**Pn**		**01 48 21.8**	**-0.7**
DIGR				*e*Sg	**Sn**		**01 48 42.8**	**-0.2**
KBTC	**Kuba-Taba**	**1.88**	**298**	*e*Pg	**Pn**		**01 48 26.4**	**-0.3**
KBTC				*e*Sg	**Sn**		**01 48 51.9**	**+1.0**
NEY	**Neytrino**	**2.20**	**279**	*e*Pg	**Pn**		**01 48 31.4**	**+0.1**
NEY				*e*Sg	**Sn**		**01 49 00.3**	**+1.4**

ISCJB ***11*** *01:49:22.0±0.3,22.72N±0.04×95.90E±0.04,h10km, mb4.0/21, Error ellipse: s-maj=6.9km s-min=3.3km az=44.4*
NEIC ***11*** *01:49:23.5±0.4,22.71N×95.92E,h10km,mb4.1/5, Error ellipse: s-maj=14.7km s-min=5.9km az=56.0*
IDC ***11*** *01:49:25.9±3.9,22.65N×95.93E,h27km±29km, mb3.9/18, mb1 4.0/20,mb1mx3.8/55,mbtmp4.1/20, ML4.5/2, Error ellipse: s-maj=22.9km s-min=12.5km az=45.0*
NDI ***11*** *01:49:26.2±2.6,22.79N×95.80E,h10km, ML3.9, mb4.1(NEIC)*
ISC 11 01:49:23.8±0.5, 22.79N±0.05×95.99E±0.06, h10km, n70, σ2.12/86, mb4.1/21, Myanmar

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.76**	**318**	*e*P	**Pn**		**01 50 09.8**	**+1.5**
IMP				*e*S	**Sn**		**01 50 39.3**	**-2.5**
SAIH	**SAIHA**	**2.79**	**264**	*e*P	**Pn**		**01 50 08.7**	**0.0**
SAIH				*e*S	**Sn**		**01 50 39.6**	**-3.0**
KOHI	**KOHIMA**	**3.39**	**330**	*e*P	**Pn**		**01 50 15.9**	**-1.0**
KOHI				*e*S	**Sn**		**01 50 52.6**	**-4.6**
MOKO	**MOKOCHONG**	**3.76**	**339**	*e*P	**Pn**		**01 50 23.7**	**+1.6**
MOKO				*e*S	**Sn**		**01 51 07.2**	**+0.7**
BRDH	**Bariadhala**	**4.02**	**269**	Pn	**Pn**		**01 50 26.5**	**+1.0**
	31nm,0.3s,baz=90,slow=20,SNR=2.3							
BRDH				Sn	**Sn**		**01 51 15.3**	**+2.7**
	48nm,0.3s,baz=53,slow=20,SNR=9.0							
SHL	**Shillong**	**4.66**	**307**	*e*Pn	**Pn**		**01 50 36.7**	**+2.2**
SHL	**Shillong**	**4.66**	**307**	*e*P	**Pn**		**01 50 35.9**	**+1.4**
SHL				*e*S	**Sn**		**01 51 26.9**	**-1.9**
TEZP	**TEZPUR**	**4.79**	**323**	*e*P	**Pn**		**01 50 36.7**	**+0.7**
TEZP				*e*S	**Sn**		**01 51 27.1**	**-4.5**
CHTO	**Chiang Mai**	**4.82**	**145**	*e*Pn	**Pn**		**01 50 35.3**	**-1.2**
CHTO				*e*Sn	**Sn**		**01 51 28.8**	**-3.7**
CHTO	**Chiang Mai**	**4.82**	**145**	P	**Pn**		**01 50 37.4**	**+0.8**
	316nm,0.6s							
CMMT	**Chiang Mai**	**4.83**	**145**	P	**Pn**		**01 50 37.1**	**+0.5**
	73nm,0.5s							
PAYA	**Payao**	**4.97**	**133**	P	**Pn**		**01 50 41.0**	**+2.4**
	58nm,0.5s,1μm							
ZIRO	**ZIRO**	**5.10**	**338**	*e*P	**Pn**		**01 50 39.9**	**-0.6**
ZIRO				*ex*	x		01 50 56.6	
ZIRO				IAML			01 51 07.6	
	comp=N,264nm,0.5s							
ZIRO				IAML			01 51 14.7	
	comp=E,230nm,0.3s							
CM31	**Chiang Mai Arr**	**5.12**	**147**	*e*Pn	**Pn**		**01 50 39.8**	**-0.8**
CM31				*e*Pg	**Pb**		**01 50 56.5**	**+2.9**
CM31				*e*Sn	**Sn**		**01 51 36.2**	**-3.6**
CM31				*e*Sg	**Sg**		**01 52 01.4**	**-6.9**
CMAR	**Chiang Mai Arr**	**5.12**	**147**	Pn	**Pn**		**01 50 39.5**	**-1.2**
	comp=E,4.3nm,0.3s,baz=319,slow=13,SNR=25							
CMAR				Pg	**Pb**		**01 50 56.5**	**+2.9**
	comp=E,21nm,0.3s,baz=323,slow=17,SNR=50							
CMAR				Sn	**Sn**		**01 51 45.4**	**+5.6**
	comp=E,3.7nm,0.3s,baz=328,slow=17,SNR=3.4							
CMAR				Lg	Lg		01 52 04.8	
	comp=E,26nm,0.3s,baz=316,slow=30,SNR=9.2							
CM01	**Chiang Mai Arr**	**5.16**	**147**	*e*Pn	**Pn**		**01 50 40.3**	**-0.8**
CM01				*e*Pg	**Pb**		**01 50 56.8**	**+2.6**
CM01				*e*Sg	**Sg**		**01 52 01.9**	**-7.7**
GUWA	**GUWAHATI**	**5.18**	**312**	*e*P	**Pn**		**01 50 41.5**	**+0.1**
GUWA				*e*S	**Sn**		**01 51 37.2**	**-4.0**
LAMP	**Lampang**	**5.44**	**141**	P	**Pn**		**01 50 47.2**	**+2.1**
	comp=E,48nm,0.7s,comp=E,401nm							
SUKH	**Sukhothai**	**6.29**	**146**	P	**Pn**		**01 50 57.6**	**+0.9**
UTTA	**Uttaradit**	**6.60**	**139**	P	**Pn**		**01 51 02.4**	**+1.5**
LSA	**Lhasa**	**8.14**	**329**	*e*Pn	**Pn**		**01 51 19.1**	**-3.4**
	comp=E,11nm,0.4s							
RAMN	**Ramite**	**9.48**	**298**	*e*P	**Pn**		**01 51 41.4**	**+0.7**
JIRN	**Jiri**	**10.11**	**301**	*e*P	**Pn**		**01 51 50.0**	**+0.5**
	comp=E,26nm,0.2s							
GUN	**Gumba**	**10.47**	**301**	*e*P	**Pn**		**01 51 54.8**	**+0.5**
	comp=E,35nm,0.4s							
PKI	**Pulchoki**	**10.70**	**299**	*e*P	**Pn**		**01 51 57.7**	**+0.2**
	comp=E,20nm,0.5s							
PKIN	**Phulchoki**	**10.71**	**299**	*e*P	**Pn**		**01 51 57.7**	**+0.1**
	comp=E,17nm,0.3s							
KKN	**Kakani**	**10.89**	**299**	*e*P	**Pn**		**01 52 00.3**	**+0.2**
	comp=E,15nm,0.3s							
DMN	**Daman**	**10.96**	**298**	*e*P	**Pn**		**01 52 01.6**	**+0.6**
	comp=E,16nm,0.4s							
GKN	**Gorkha**	**11.50**	**299**	*e*P	**Pn**		**01 52 08.2**	**-0.1**
KOLN	**Koldanda**	**12.26**	**296**	*e*P	**Pn**		**01 52 17.4**	**-1.3**
	comp=E,10nm,0.3s							
DANN	**Dangsing**	**12.35**	**299**	*e*P	**Pn**		**01 52 18.9**	**-1.1**
	comp=E,14nm,0.3s							
PYUN	**Piuthan**	**12.88**	**297**	*e*P	**Pn**		**01 52 24.9**	**-2.3**
	comp=E,14nm,0.3s							
SMLA	**Simla**	**18.71**	**300**	*e*P	**Pn**		**01 53 44.9**	**+2.1**
DHRM	**DHARAMSHALA**	**19.82**	**303**	*e*P	**Pn**		**01 53 55.3**	**-1.1**
SONA0	**Songino Array**	**26.34**	**16**	*e*P	**P**		**01 55 01.2**	**+1.2**
SONM	**Songino Array**	**26.34**	**16**	P	**P**		**01 55 01.2**	**+1.2**
	comp=E,0.8nm,0.7s,baz=204,slow=8.1,SNR=3.7							
MK01	**Makanchi Array**	**26.36**	**338**	*e*P	**P**		**01 55 00.9**	**+0.9**
MK31	**Makanchi Array**	**26.38**	**339**	*e*P	**P**		**01 55 01.4**	**+1.1**
MK32	**Makanchi Array**	**26.38**	**339**	*e*P	**P**		**01 55 01.3**	**+1.0**
MKAR	**Makanchi Array**	**26.38**	**339**	P	**P**		**01 55 01.3**	**+1.0**
	comp=E,3.6nm,0.6s,baz=144,slow=11,SNR=24							
AAK	**Ala-Archa**	**26.68**	**323**	P	**P**		**01 55 05.3**	**+2.1**
	comp=E,4.7nm,0.8s,baz=148,slow=7.3,SNR=9.8							
AAK	**Ala-Archa**	**26.68**	**323**	*e*P	**P**		**01 55 04.3**	**+1.2**
	comp=E,2.3nm,0.9s							
KURBB	**Kurchatov Arra**	**30.95**	**338**	P	**P**		**01 55 41.2**	**+0.3**
	comp=E,2.2nm,0.6s,baz=148,slow=9.0,SNR=14							
KURK	**Kurchatov**	**30.99**	**338**	*e*P	**P**		**01 55 41.2**	**-0.1**
ZALV	**Zalesovo Beam**	**32.24**	**348**	P	**P**		**01 55 53.1**	**+0.9**
	comp=E,0.8nm,0.3s,baz=166,slow=9.6,SNR=3.9							
ZAA1	**Zalesovo Array**	**32.24**	**348**	*e*P	**P**		**01 55 53.1**	**+0.9**
GEYT	**Alibeck**	**35.73**	**304**	P	**P**		**01 56 23.1**	**+0.3**
	comp=E,1.5nm,0.8s,baz=143,slow=5.4,SNR=4.7							
BVAR	**Borovoye Array**	**35.94**	**334**	P	**P**		**01 56 24.1**	**-0.2**
	comp=E,1.9nm,0.7s,baz=146,slow=11,SNR=7.5							
BRVK	**Borovoye**	**36.01**	**334**	*e*P	**P**		**01 56 23.2**	**-1.7**
USRK	**Ussuriysk Ar.**	**36.43**	**45**	P	**P**		**01 56 30.5**	**+1.9**
	comp=E,1.2nm,0.5s,baz=243,slow=9.4							
MAJO	**Matsushiro**	**38.85**	**60**	*e*P	**P**		**01 56 51.0**	**+1.7**
MJAR	**Matsushiro Arr**	**38.85**	**60**	P	**P**		**01 56 51.0**	**+1.7**
	comp=E,2.0nm,0.9s,baz=269,slow=11,SNR=3.2							
AKTO	**Aktyubinsk**	**40.42**	**323**	P	**P**		**01 57 02.3**	**+0.1**
	comp=E,1.3nm,0.7s,baz=144,slow=6.3,SNR=5.3							
RAYN	**Ar Rayn**	**46.23**	**281**	*e*P	**P**		**01 57 48.9**	**-0.6**
	comp=E,1.5nm,0.7s							
MBWA	**Marble Bar**	**49.44**	**150**	*e*P	**P**		**01 58 16.3**	**+2.1**
TIXI	**Tiksi**	**52.35**	**13**	P	**P**		**01 58 35.7**	**+0.2**
	comp=E,3.1nm,0.5s,baz=190,slow=4.6,SNR=13							
TIXI	**Tiksi**	**52.35**	**13**	*e*P	**P**		**01 58 34.7**	**-0.8**
WR1	**Warramunga Arr**	**56.61**	**136**	*e*P	**P**		**01 59 06.5**	**-0.7**
	comp=E,2.8nm,0.9s							
WRA	**Warramunga Arr**	**56.61**	**136**	P	**P**		**01 59 06.5**	**-0.7**
	comp=E,0.9nm,0.4s,baz=323,slow=7.4,SNR=33							
AS31	**Alice Springs**	**59.08**	**139**	*e*P	**P**		**01 59 23.9**	**-0.6**
	comp=E,1.0nm,1.0s							
ASAR	**Alice Springs**	**59.08**	**139**	P	**P**		**01 59 23.9**	**-0.6**
	comp=E,0.9nm,0.6s,baz=322,slow=7.2,SNR=12							
ARA0	**ARCESS Array S**	**62.03**	**338**	*e*P	**P**		**01 59 43.8**	**-0.3**
ARCES	**ARCESS Array B**	**62.03**	**338**	P	**P**		**01 59 43.8**	**-0.3**
	comp=E,6.7nm,1.1s,baz=92,slow=10,SNR=3.8							
NB200	**NORSAR Array S**	**67.83**	**328**	*e*P	**P**		**02 00 21.2**	**-0.8**
NOA	**NORSAR Array B**	**67.83**	**328**	P	**P**		**02 00 21.2**	**-0.8**
	comp=E,0.6nm,0.8s,baz=83,slow=6.2,SNR=2.5							
GERES	**GERESS Array B**	**68.23**	**315**	P	**P**		**02 00 24.1**	**-0.6**
	comp=E,0.5nm,0.6s,baz=64,slow=6.1,SNR=6.8							
ILAR	**Eielson Array**	**80.34**	**23**	P	**P**		**02 01 33.7**	**-1.3**
	comp=E,0.4nm,0.9s,baz=278,slow=6.3,SNR=2.9							
ILB	**Eielson Array**	**80.34**	**23**	*e*P	**P**		**02 01 33.7**	**-1.3**
INK	**Inuvik**	**82.25**	**17**	P	**P**		**02 01 45.1**	**+0.1**
	comp=E,0.9nm,0.5s,baz=17,slow=4.2,SNR=5.9							
INK	**Inuvik**	**82.25**	**17**	*e*P	**P**		**02 01 44.4**	**-0.6**
	comp=E,1.8nm,0.6s							

IDC ***11*** *02:01:07.3±3.0,23.08N×96.32E,h154km±37km,mb3.3/5, mb1 3.4/6,mb1mx3.0/56,mbtmp3.8/6,Error ellipse: s-maj=112.8km s-min=16.6km az=58.0*
ISC 11 02:01:06.8±1.5, 22.9N±0.3×95.6E±0.5, h150km, n10, σ2.68/8, mb3.5/5, Myanmar

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PAYA	**Payao**	**5.31**	**131**	P	**Pn**		**02 02 23.9**	**-0.5**
	20nm,0.6s,234nm0.2nm							
**

ISCJB ***11*** *02:55:40.2±1.3, 11°.61S±0°.03×166°.24E±0°.03, h67km±11km, mb4.8/135, Error ellipse: s-maj=5.6km s-min=5.3km az=41.1*

NEIC ***11*** *02:55:43.0±1.0, 11°.625S×166°.23E, h82km±8km, mb4.9/67, Error ellipse: s-maj=5.6km s-min=4.7km az=137.0*

BJI ***11*** *02:55:43.5, 11°.135S×166°.54E, h93km, mb5.0/37, mB5.5/19*

ISC 11 02:55:39.9±0.6, 11°.58S±0°.05×166°.42E±0°.05, h56km±4km, n325, σ1°24/330, mb4.9/137, MS5.3/19, 3C-4D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
HNR	**Honiara**	**6.71**	**288**	P		**Pn**	**02 57 16.0**	**+0.1**
	114nm,0.3s,baz=167,slow=3.8,SNR=12							
HNR				S		**Sn**	**02 58 30.7**	**-0.3**
	56nm,0.3s,baz=52,slow=23,SNR=5.9							
HNR				LR		LR	03 00 11.1	
	comp=Z,7μm,20.4s,baz=125,slow=40							
HNR	**Honiara**	**6.71**	**288**	*e*Pn		**Pn**	**02 57 16.4**	**+0.6**
HNR				S		**Sn**	**02 58 30.7**	**-0.3**
HNR	**Honiara**	**6.71**	**288**	*e*P		**Pn**	**02 57 16.5**	**+0.6**
HNR				S		**Sn**	**02 58 30.7**	**-0.3**
DZM	**Mont Dzumac**	**10.43**	**180**	P		**Pn**	**02 58 06.8**	**-0.1**
	3.5nm,0.3s,baz=338,slow=17,SNR=36							
DZM				S		**Sn**	**03 00 00.9**	**-1.5**
	2.6nm,0.3s,baz=290,slow=21,SNR=3.2							
DZM				LR		LR	03 01 34.4	
	comp=Z,5μm,21.6s,baz=4.5,slow=34							
DZM	**Mont Dzumac**	**10.43**	**180**	*e*Pn		**Pn**	**02 58 08.4**	**+1.5**
DZM				S		**Sn**	**03 00 00.9**	**-1.5**
TARA	**Tarawa**	**14.38**	**27**	*e*Pn		**P**	**02 59 03.5**	**-2.6**
EIDS	**Eidsvold**	**19.96**	**224**	P		**P**	**03 00 09.0**	**+1.4**
	baz=20,SNR=7.4							
EIDS	**Eidsvold**	**19.96**	**224**	*e*P		**P**	**03 00 06.1**	**-1.4**
	138nm,1.6s							
PATS	**Pohnpei**	**19.99**	**336**	P		**Pn**	**03 00 09.2**	**-0.9**
	baz=20,SNR=5.6							
PATS	**Pohnpei**	**19.99**	**336**	*e*P		**Pn**	**03 00 09.1**	**-1.0**
	172nm,0.9s							
LHI	**Lord Howe Isla**	**20.98**	**198**	P		**P**	**03 00 20.8**	**+2.4**
	baz=21,SNR=3.3							
MANU	**Manus Island**	**21.14**	**295**	*e*P		**P**	**03 00 21.7**	**+1.4**
	100nm,1.1s							
CTA	**Charters Tower**	**21.14**	**244**	P		**P**	**03 00 20.8**	**+0.4**
	25nm,0.8s,baz=80,slow=12,SNR=15							
CTA				LR		LR	03 07 23.0	
	comp=Z,2μm,20.9s,baz=82,slow=33							
CTAO	**Charters Tower**	**21.14**	**244**	*e*P		**P**	**03 00 20.7**	**+0.3**
CTAO	**Charters Tower**	**21.14**	**244**	*e*P		**P**	**03 00 20.7**	**+0.3**
AFI	**Afiamalu**	**21.39**	**99**	P		**P**	**03 00 26.0**	**+2.8**
	90nm,1.0s,baz=97,slow=12,SNR=6.6							
AFI				LR		LR	03 07 49.2	
	comp=Z,2μm,19.2s,baz=292,slow=34							
AFI	**Afiamalu**	**21.39**	**99**	*e*P		**P**	**03 00 25.8**	**+2.7**
	149nm,1.2s							
AFI	**Afiamalu**	**21.39**	**99**	*e*P		**P**	**03 00 25.8**	**+2.7**
AFI				pmax		pmax		
	comp=Z,149nm,1.2s							
RMQ	**Roma**	**22.28**	**226**	P		**P**	**03 00 33.3**	**+0.7**
	baz=22,SNR=41							
MTSU	**Mount Surprise**	**22.32**	**250**	P		**P**	**03 00 33.5**	**+0.4**
	baz=22,SNR=18							
COEN	**Coen**	**22.79**	**262**	P		**P**	**03 00 38.6**	**+0.6**
	baz=23,SNR=6.9							
COEN	**Coen**	**22.79**	**262**	*e*P		**P**	**03 00 38.1**	**+0.1**
	comp=Z,59nm,0.9s							
ARMA	**Armidale**	**23.23**	**214**	P		**P**	**03 00 42.9**	**+0.5**
	baz=23,SNR=19							
ARMA	**Armidale**	**23.23**	**214**	*e*P		**P**	**03 00 42.9**	**+0.5**
	comp=Z,155nm,1.0s							
OUZ	**Omahuta**	**24.42**	**166**	*e*P		**P**	**03 00 55.4**	**+2.2**
	comp=Z,60nm,1.3s							
QLP	**Quilpie**	**25.67**	**231**	P		**P**	**03 01 04.7**	**+0.1**
	baz=26,SNR=15							
MGCD	**Mangrove Creek**	**25.70**	**211**	P		**P**	**03 01 06.3**	**+1.4**
	baz=26,SNR=6.8							
RIV	**Riverview**	**26.17**	**210**	P		**P**	**03 01 11.8**	**+2.7**
	baz=26,SNR=4.6							
JAY	**Jayapura**	**27.03**	**288**	P		**P**	**03 01 18.4**	**+1.2**
	comp=Z,12nm,0.8s,baz=359,slow=4.8,SNR=4.2							
JAY				LR		LR	03 13 23.5	
	comp=Z,1μm,18.4s,baz=84,slow=39							
QIS	**Mount Isa**	**27.23**	**247**	P		**P**	**03 01 18.3**	**-0.6**
	baz=27,SNR=8.2							
CMSA	**Cobar Meteorol**	**27.58**	**221**	P		**P**	**03 01 21.5**	**-0.3**
	baz=28,SNR=18							
YNG	**Young**	**27.95**	**213**	P		**P**	**03 01 25.8**	**+0.6**
	baz=28,SNR=11							
URZ	**Urewera**	**28.24**	**162**	LR		LR	03 11 14.3	
	comp=Z,2μm,20.6s,baz=348,slow=33							
CNB	**Canberra Magne**	**28.25**	**210**	P		**P**	**03 01 28.2**	**+0.4**
	baz=28,SNR=14							
CAN	**Canberra**	**28.43**	**211**	*e*P		**P**	**03 01 29.7**	**+0.3**
	comp=Z,33nm,1.1s							
CAN	**Canberra**	**28.43**	**211**	*e*P		**P**	**03 01 29.7**	**+0.3**
CAN				pmax		pmax		
	comp=Z,33nm,1.1s							
BKZ	**Black Stump Fm**	**28.90**	**164**	*e*P		**P**	**03 01 34.1**	**+0.6**
	comp=Z,55nm,1.6s							
SMPI	**Sarmi**	**29.08**	**287**	P		**P**	**03 01 38.0**	**+2.6**
	comp=Z,41nm,1.0s							
MILA	**Mila**	**29.74**	**209**	P		**P**	**03 01 41.8**	**+0.8**
	baz=30,SNR=5.8							
H11S2	**WAKE ISLAND Hy**	**29.88**	**1**	T		T	03 32 23.6	
	baz=181,slow=76,SNR=82							
H11S3	**WAKE ISLAND Hy**	**29.89**	**1**	T		T	03 32 23.8	
	baz=181,slow=76,SNR=70							
H11S1	**WAKE ISLAND Hy**	**29.90**	**1**	T		T	03 32 29.0	
	baz=181,slow=76,SNR=50							
STKA	**Stephens Creek**	**30.52**	**225**	P		**P**	**03 01 47.9**	**0.0**
	comp=Z,25nm,0.6s,baz=40,slow=8.8,SNR=53							
STKA				PcP		**PcP**	**03 04 45.4**	**-0.5**
	comp=Z,8.4nm,0.9s,baz=24,slow=15,SNR=4.2							
STKA				LR		LR	03 13 00.2	
	comp=Z,3μm,20.6s,baz=81,slow=34							
STKA	**Stephens Creek**	**30.52**	**225**	P		**P**	**03 01 48.1**	**+0.3**
	baz=30,SNR=20							
STKA	**Stephens Creek**	**30.52**	**225**	*e*P		**P**	**03 01 48.2**	**+0.3**
	comp=Z,6.6nm,0.8s							
STKA				PcP		**PcP**	**03 04 45.4**	**-0.5**
STKA	**Stephens Creek**	**30.52**	**225**	*e*P		**P**	**03 01 48.2**	**+0.3**
STKA							03 04 45.4	
STKA				pmax		pmax		
	comp=Z,7.0nm,0.8s							
THZ	**Tophouse**	**30.60**	**170**	*e*P		**P**	**03 01 49.1**	**+0.5**
	comp=Z,40nm,0.8s							
H11N1	**WAKE ISLAND Hy**	**31.10**	**1**	T		T	03 33 55.1	
	baz=182,slow=76,SNR=55							
H11N3	**WAKE ISLAND Hy**	**31.10**	**1**	T		T	03 33 56.6	
	baz=182,slow=76,SNR=7.6							
H11N2	**WAKE ISLAND Hy**	**31.12**	**1**	T		T	03 33 56.4	
	baz=182,slow=76,SNR=30							
LTZ	**Lake Taylor**	**31.50**	**172**	*e*P		**P**	**03 01 56.0**	**-0.4**
	comp=Z,39nm,0.9s							
WRAB	**Tennant Creek**	**31.91**	**251**	*e*P		**P**	**03 01 59.4**	**-1.0**
	comp=Z,23nm,0.6s							
WRAB				*e*PcP		**PcP**	**03 04 49.6**	**-0.3**
WRAB	**Tennant Creek**	**31.91**	**251**	*c*e*P*		**P**	**03 01 58.9**	**-1.5**
WRAB				pmax		pmax		
	comp=Z,47nm,1.0s							
WB2	**Warramunga Arr**	**31.91**	**251**	*e*P		**P**	**03 01 58.4**	**-2.0**
WB2				*e*PcP		**PcP**	**03 04 49.5**	**-0.4**
WRA	**Warramunga Arr**	**31.93**	**251**	P		**P**	**03 01 59.0**	**-1.5**
	comp=Z,48nm,1.0s,baz=84,slow=9.2,SNR=131							
WRA				PcP		**PcP**	**03 04 49.4**	**-0.6**
	comp=Z,6.5nm,1.0s,baz=77,slow=2.7,SNR=8.8							
WRA				ScP		**ScP**	**03 08 29.7**	**+0.9**
	comp=Z,2.5nm,1.1s,baz=79,slow=3.9,SNR=5.0							
WRA				LR		LR	03 14 06.0	
	comp=Z,1μm,20.8s,baz=105,slow=35							
TOO	**Toolangi**	**31.97**	**212**	P		**P**	**03 02 00.9**	**+0.2**
	baz=32,SNR=22							
RPZ	**Rata Peaks**	**32.27**	**174**	P		**P**	**03 02 02.7**	**-0.4**
	comp=Z,20nm,0.5s,baz=350,slow=3.8,SNR=15							
RPZ	**Rata Peaks**	**32.27**	**174**	*e*P		P	03 01 58.4	-4.7
	comp=Z,26nm,0.8s							
MQZ	**McQueen's Vall**	**32.46**	**172**	*e*P		**P**	**03 02 05.3**	**+0.5**
	comp=Z,74nm,1.1s							
GUMO	**Guam**	**32.90**	**319**	LR		LR	03 14 14.8	
	comp=Z,589nm,21.8s,baz=138,slow=34							
AS01	**Alice Springs**	**33.11**	**244**	*e*P		**P**	**03 02 08.8**	**-2.0**
AS01				*e*PcP		**PcP**	**03 04 51.9**	**-1.3**
AS31	**Alice Springs**	**33.15**	**244**	*e*P		**P**	**03 02 09.7**	**-1.4**
	comp=Z,5.5nm,0.8s							
AS31				*e*PcP		**PcP**	**03 04 52.4**	**-0.9**
ASAR	**Alice Springs**	**33.15**	**244**	P		**P**	**03 02 09.7**	**-1.5**
	comp=Z,16nm,0.7s,baz=69,slow=9.6,SNR=191							
ASAR				PcP		**PcP**	**03 04 52.4**	**-0.9**
	comp=Z,9.4nm,1.0s,baz=81,slow=2.8,SNR=13							
ASAR				ScP		**ScP**	**03 08 34.6**	**+1.6**
	comp=Z,3.4nm,1.0s,baz=100,slow=3.8,SNR=4.5							
ASAR				LR		LR	03 14 36.5	
	comp=Z,2μm,18.5s,baz=162,slow=34							
KDU	**Kakadu**	**33.19**	**265**	P		**P**	**03 02 10.6**	**-0.9**
	baz=33,SNR=10							
HTT	**Hallett**	**33.25**	**225**	P		**P**	**03 02 12.1**	**+0.2**
	baz=33,SNR=18							
ARPS	**Mount Arapiles**	**33.45**	**217**	P		**P**	**03 02 14.6**	**+1.1**
	baz=34,SNR=7.3							
MTN	**Manton Dam**	**34.49**	**264**	P		**P**	**03 02 22.1**	**-0.8**
	baz=34,SNR=7.7							
MTN	**Manton Dam**	**34.49**	**264**	*e*P		**P**	**03 02 22.4**	**-0.5**
	comp=Z,34nm,0.9s							
BBOO	**Buckleboo**	**34.95**	**228**	P		**P**	**03 02 26.0**	**-0.6**
	baz=35,SNR=11							
BBOO	**Buckleboo**	**34.95**	**228**	*e*P		**P**	**03 02 26.4**	**-0.2**
	comp=Z,67nm,1.3s							
SIJI	**Sorong**	**36.48**	**284**	P		**P**	**03 02 39.6**	**-0.3**
	comp=Z,26nm,1.0s,baz=94,slow=8.3,SNR=4.6							
KNRA	**Kununurra**	**36.79**	**259**	P		**P**	**03 02 41.8**	**-0.7**
	baz=37,SNR=7.7							
PALU	**Palau**	**36.92**	**299**	P		**P**	**03 02 44.1**	**+0.4**
	baz=37,SNR=3.6							
WRKA	**Warakurna**	**38.44**	**244**	P		**P**	**03 02 55.2**	**-1.3**
	baz=38,SNR=13							
FITZ	**Fitzroy Crossi**	**39.88**	**256**	P		**P**	**03 03 07.6**	**-0.9**
	comp=Z,50nm,0.9s,baz=85,slow=8.1,SNR=65							
FITZ				PcP		**PcP**	**03 05 13.5**	**0.0**
	comp=Z,10nm,1.0s,baz=198,slow=1.1,SNR=3.6							
FITZ	**Fitzroy Crossi**	**39.88**	**256**	P		**P**	**03 03 07.7**	**-0.9**
	baz=40,SNR=36							
FITZ	**Fitzroy Crossi**	**39.88**	**256**	*e*P		**P**	**03 03 08.0**	**-0.6**
	comp=Z,45nm,0.8s							
FITZ				PcP		**PcP**	**03 05 13.5**	**0.0**
FORT	**Forrest**	**40.28**	**236**	*e*P		**P**	**03 03 11.3**	**-0.4**
	comp=Z,67nm,0.9s							
SANI	**Sanana**	**41.19**	**280**	P		**P**	**03 03 19.1**	**-0.3**
	comp=Z,34nm,0.9s,comp=Z,962nm							
BATI	**Baumata**	**41.98**	**268**	P		**P**	**03 03 26.5**	**+0.6**
	comp=Z,56nm,0.8s,baz=122,slow=0.9,SNR=6.3							
BATI	**Baumata**	**41.98**	**268**	P		**P**	**03 03 28.0**	**+2.1**
	comp=Z,29nm,0.8s							
PPT	**Papeete**	**42.93**	**103**	LR		LR	03 19 20.5	
	comp=Z,4μm,19.4s,baz=100,slow=33							
SGSI	**Sangihe**	**43.40**	**288**	P		**P**	**03 03 41.0**	**+3.6**
	comp=Z,304nm,0.8s,comp=Z,6μm							
KMSI	**Cibinong**	**43.85**	**283**	P		**P**	**03 03 42.0**	**+1.0**
	comp=Z,258nm,1.0s							
EDFI	**Ende, Flores**	**44.08**	**269**	P		**P**	**03 03 43.4**	**+0.4**
	comp=Z,21nm,0.9s							
MBWA	**Marble Bar**	**45.65**	**252**	*e*P		**P**	**03 03 54.8**	**-0.5**
APSI	**Ampana**	**45.67**	**280**	P		P	03 04 10.1	+15
WBSI	**Waikabubak, Su**	**46.22**	**268**	P		**P**	**03 04 02.7**	**+2.8**
	comp=Z,48nm,0.9s							
BNSI	**Bone**	**46.36**	**275**	P		**P**	**03 04 01.9**	**+1.0**
	comp=Z,33nm,1.0s							
SPSI	**Sidrap Palu**	**46.78**	**275**	P		**P**	**03 04 04.3**	**+0.1**
	comp=Z,6.3nm,1.2s							
MEEK	**Meekatharra**	**47.31**	**244**	P		**P**	**03 04 08.0**	**-0.2**
	baz=47,SNR=41							
MPSI	**Mapaga**	**47.69**	**281**	P		**P**	**03 04 10.6**	**-0.7**
	comp=Z,20nm,0.4s							
PLAI	**Plampang**	**47.91**	**269**	P		**P**	**03 04 13.2**	**+0.2**
	comp=Z,58nm,1.0s							
TWSI	**Taliwang, Sumb**	**48.80**	**268**	P		**P**	**03 04 21.7**	**+1.9**
	comp=Z,44nm,0.9s							
KLBR	**Kellerberrin**	**48.98**	**238**	P		**P**	**03 04 20.2**	**-0.8**
	baz=49,SNR=12							
BLDU	**Balliduu**	**49.66**	**240**	P		**P**	**03 04 25.7**	**-0.5**
	baz=50,SNR=4.8							
NWAO	**Narrogin (SRO)**	**49.72**	**237**	P		**P**	**03 04 26.1**	**-0.5**
	baz=50,SNR=10							
NWAO	**Narrogin (SRO)**	**49.72**	**237**	*e*P		**P**	**03 04 25.4**	**-1.2**
NWAO	**Narrogin (SRO)**	**49.72**	**237**	*e*P		**P**	**03 04 25.4**	**-1.2**
MORW	**Morawa**	**49.95**	**242**	P		**P**	**03 04 28.2**	**-0.3**
	baz=50,SNR=11							
MUN	**Mundaring**	**50.35**	**238**	P		**P**	**03 04 31.2**	**-0.2**
	baz=50,SNR=6.1							
KKM	**Kota Kinabalu**	**52.92**	**287**	P		**P**	**03 04 52.0**	**+1.0**
JOW	**Kunigami**	**53.20**	**316**	P		**P**	**03 04 52.9**	**+0.2**
	comp=Z,33nm,0.7s,baz=133,slow=8.3,SNR=3.7							
PWJI	**Parwojo**	**53.87**	**268**	P		**P**	**03 04 57.9**	**+0.1**
	comp=Z,65nm,1.0s							
PCJI	**Pacitan**	**54.46**	**268**	P		**P**	**03 05 03.3**	**+1.2**
	comp=Z,115nm,1.0s							
MJAR	**Matsushiro Arr**	**54.75**	**332**	P		**P**	**03 05 02.5**	**-1.3**
	comp=Z,6.1nm,1.0s,baz=169,slow=8.5,SNR=13							
MAJO	**Matsushiro**	**54.75**	**332**	*e*P		**P**	**03 05 02.6**	**-1.2**
	comp=Z,4.8nm,0.6s							
MAJO	**Matsushiro**	**54.75**	**332**	*i*e*P*		**P**	**03 05 02.3**	**-1.5**
MAJO				pmax		pmax		
	comp=Z,8.0nm,0.9s							
MAT	**Matsushiro**	**54.75**	**332**	P		**P**	**03 05 02.3**	**-1.5**
SBUM	**Sibu**	**55.65**	**281**	*e*P		**P**	**03 05 10.7**	**0.0**
	comp=Z,9.3nm,1.0s							
SBUM	**Sibu**	**55.65**	**281**	P		**P**	**03 05 11.0**	**+0.3**
STKI	**Sintang**	**55.76**	**278**	P		**P**	**03 05 13.1**	**+1.6**
JNU	**Nakatsue**	**55.90**	**324**	P		**P**	**03 05 11.3**	**-0.8**
	comp=Z,12nm,0.9s,baz=73,slow=5.8,SNR=4.2							
KPJI	**Karang Pucung**	**56.79**	**269**	P		P	03 05 30.6	+12
KSM	**Kuching**	**57.24**	**279**	*e*P		**P**	**03 05 21.7**	**-0.3**
	comp=Z,12nm,0.9s							
KSM	**Kuching**	**57.24**	**279**	P		**P**	**03 05 22.0**	**0.0**
ASAJ	**Asahikawa**	**59.52**	**340**	P		**P**	**03 05 37.0**	**-0.3**
	comp=Z,7.6nm,0.8s,baz=208,slow=9.2,SNR=5.4							
CGJI	**Cibinong**	**60.08**	**269**	P		**P**	**03 05 41.8**	**0.0**
	comp=Z,83nm,0.9s							
PPBI	**Pangkal Pinang**	**60.47**	**274**	P		**P**	**03 05 45.9**	**+1.4**
	comp=Z,16nm,0.9s,comp=Z,4μm							
KSRS	**Korea Array**	**60.69**	**325**	P		**P**	**03 05 44.8**	**-0.6**
	comp=Z,3.6nm,1.1s,baz=128,slow=7.4,SNR=4.5							
KSAR	**Wonju Array Be**	**60.70**	**325**	P		**P**	**03 05 44.8**	**-0.7**
KSAR	**Wonju Array Be**	**60.70**	**325**	P		**P**	**03 05 44.8**	**-0.7**
YSS	**Yuzh-Sakhalins**	**62.00**	**342**	*e*P		**P**	**03 05 54.2**	**+0.1**
YSS	**Yuzh-Sakhalins**	**62.00**	**342**	*i*e*P*		**P**	**03 05 53.2**	**-0.9**
YSS				pmax		pmax		
	comp=Z,15nm,1.2s							
NJ2	**Nanjing**	**62.86**	**315**	*e*P		**P**	**03 06 01.5**	**+1.3**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
MYKOM	**Kota Tinggi**	**63.57**	**278**	P		**P**	**03 06 05.0**	**-0.3**
USRK	**Ussuriysk Ar.**	**63.72**	**333**	P		**P**	**03 06 05.6**	**0.0**
	comp=Z,7.3nm,0.9s,baz=130,slow=6.0,SNR=6.8							
PETK	**Petropavlovsk-**	**64.86**	**354**	P		**P**	**03 06 12.2**	**-0.7**
	comp=Z,4.1nm,0.8s,baz=163,slow=11,SNR=4.1							
ADK	**Adak**	**64.87**	**11**	*e*P		**P**	**03 06 13.2**	**+0.2**
	comp=Z,11nm,0.8s							
ADK	**Adak**	**64.87**	**11**	*e*P		**P**	**03 06 13.2**	**+0.2**
ADK				pmax		pmax		
	comp=Z,11nm,0.8s							
VNDA	**Vanda**	**65.97**	**181**	P		**P**	**03 06 18.9**	**-0.9**
	comp=Z,12nm,1.0s,baz=350,slow=6.8,SNR=32							
VNDA	**Vanda**	**65.97**	**181**	*e*P		**P**	**03 06 18.9**	**-0.9**
	comp=Z,14nm,0.9s							
VNDA	**Vanda**	**65.97**	**181**	*e*P		**P**	**03 06 19.0**	**-0.9**
VNDA				pmax		pmax		
	comp=Z,14nm,0.9s							
CASY	**Casey**	**66.12**	**201**	*e*P		**P**	**03 06 20.0**	**-1.0**
	comp=Z,62nm,1.4s							
SBA	**Scott Base**	**66.27**	**180**	*e*P		**P**	**03 06 21.2**	**-0.4**
	comp=Z,16nm,0.9s							
SBA	**Scott Base**	**66.27**	**180**	*e*P		**P**	**03 06 21.3**	**-0.4**
SBA				pmax		pmax		
	comp=Z,16nm,0.9s							
CN2	**Changchun**	**66.54**	**329**	*e*P		P	03 06 37.1	+13
IPM	**Ipoh**	**66.96**	**280**	*e*P		**P**	**03 06 27.1**	**-0.2**
MNSI	**Mandailing Nat**	**67.50**	**276**	P		**P**	**03 06 32.3**	**+1.6**
KULM	**Kulim**	**67.53**	**281**	P		**P**	**03 06 31.0**	**+0.2**
KLR	**Kul'dur**	**67.81**	**336**	P		**P**	**03 06 31.4**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=108,slow=2.1,SNR=6.2							
KLR	**Kul'dur**	**67.81**	**336**	*e*P		**P**	**03 06 31.9**	**+0.1**
SKNT	**Sakolnakorn**	**67.91**	**294**	P		**P**	**03 06 33.1**	**-0.1**
	comp=Z,27nm,0.9s							
SKNT	**Sakolnakorn**	**67.91**	**294**	P		**P**	**03 06 33.1**	**-0.1**
PSI	**Prapat**	**68.59**	**278**	*e*P		**P**	**03 06 36.6**	**-1.1**
	comp=Z,16nm,0.9s							
PSI	**Prapat**	**68.59**	**278**	*e*P		**P**	**03 06 36.6**	**-1.1**
PSI				pmax		pmax		
	comp=Z,16nm,0.9s							
SRAK	**Srakaew**	**68.69**	**290**	P		**P**	**03 06 37.0**	**-1.1**
	comp=Z,30nm,1.0s,comp=Z,464nm							
SRAK	**Srakaew**	**68.69**	**290**	P		**P**	**03 06 37.0**	**-1.1**
	comp=Z,30nm,1.0s,comp=Z,464nm							
ENH	**Enshi**	**68.74**	**309**	*e*P		**P**	**03 06 37.2**	**-1.0**
TRTT	**Trang**	**69.11**	**283**	P		**P**	**03 06 42.0**	**+1.3**
	comp=Z,7.4nm,1.0s							
TRTT	**Trang**	**69.11**	**283**	P		**P**	**03 06 42.0**	**+1.3**
	comp=Z,7.4nm,1.0s							
GYA	**Guiyang**	**69.26**	**304**	*e*P		**P**	**03 06 44.0**	**+2.4**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
CHAI	**Chaiyaphum**	**69.35**	**292**	P		**P**	**03 06 42.1**	**0.0**
	comp=Z,9.8nm,0.9s							
CHAI	**Chaiyaphum**	**69.35**	**292**	P		**P**	**03 06 42.1**	**0.0**
	comp=Z,9.8nm,0.9s							
PATY	**Pattaya**	**69.45**	**289**	P		**P**	**03 06 44.0**	**+1.3**
PATY	**Pattaya**	**69.45**	**289**	P		**P**	**03 06 44.0**	**+1.3**
KRAB	**Krabi**	**69.68**	**283**	P		**P**	**03 06 45.3**	**+1.0**
	comp=Z,18nm,0.9s,comp=Z,2μm							
KRAB	**Krabi**	**69.68**	**283**	P		**P**	**03 06 45.3**	**+1.0**
	comp=Z,18nm,0.9s,comp=Z,2μm							
PBKT	**Sadao Pong**	**70.49**	**292**	P		**P**	**03 06 49.7**	**+0.6**
	comp=Z,31nm,1.0s							
PBKT	**Sadao Pong**	**70.49**	**292**	P		**P**	**03 06 49.7**	**+0.6**
	comp=Z,31nm,1.0s							
PHET	**Kaeng Krachan**	**70.59**	**288**	P		**P**	**03 06 51.0**	**+1.2**
	comp=Z,7.9nm,0.9s							
PHET	**Kaeng Krachan**	**70.59**	**288**	P		**P**	**03 06 51.0**	**+1.2**
	comp=Z,7.9nm,0.9s							
XAN	**Xi'an**	**70.97**	**312**	P		**P**	**03 06 51.4**	**-0.4**
XAN				pP		PcP	03 07 16.8	+4.9
XAN				sP		sP	03 07 27.6	+14
XAN				pmax		pmax		
	comp=Z,27nm,0.9s							
XAN				pmax		pmax		
	comp=Z,1μm,14.7s							
UTTA	**Uttaradit**	**71.25**	**293**	P		**P**	**03 06 54.6**	**+0.9**
	comp=Z,6.5nm,1.0s							
UTTA	**Uttaradit**	**71.25**	**293**	P		**P**	**03 06 54.6**	**+0.9**
	comp=Z,6.5nm,1.0s							
NANT	**Nan**	**71.47**	**294**	P		**P**	**03 06 55.3**	**+0.3**
	comp=Z,9.2nm,1.0s							
NANT	**Nan**	**71.47**	**294**	P		**P**	**03 06 55.3**	**+0.3**
	comp=Z,9.2nm,1.0s							
SRDT	**SRDT**	**71.49**	**289**	P		**P**	**03 06 57.1**	**+1.9**
	comp=Z,25nm,1.0s							
SRDT	**SRDT**	**71.49**	**289**	P		**P**	**03 06 57.1**	**+1.9**
	comp=Z,25nm,1.0s							
UTHA	**Uthaitani**	**71.56**	**291**	P		**P**	**03 06 56.2**	**+0.6**
	comp=Z,10nm,1.0s,comp=Z,293nm							
UTHA	**Uthaitani**	**71.56**	**291**	P		**P**	**03 06 56.2**	**+0.6**
	comp=Z,10nm,1.0s,comp=Z,293nm							
KMI	**Kunming**	**71.96**	**301**	P		**P**	**03 06 59.0**	**+0.8**
KMI				pmax		pmax		
	comp=Z,24nm,0.8s							
SUKH	**Sukhothai**	**72.00**	**293**	P		**P**	**03 06 59.1**	**+0.9**
	comp=Z,11nm,0.9s							
SUKH	**Sukhothai**	**72.00**	**293**	P		**P**	**03 06 59.1**	**+0.9**
	comp=Z,11nm,0.9s							
MA2	**Magadan**	**72.03**	**352**	*e*P		**P**	**03 07 01.1**	**+3.6**
MA2				pmax		pmax		
	comp=Z,22nm,1.3s							
UMPA	**Umpang Tak**	**72.30**	**291**	P		**P**	**03 07 01.1**	**+1.0**
	comp=Z,5.5nm,0.9s,comp=Z,863nm							
UMPA	**Umpang Tak**	**72.30**	**291**	P		**P**	**03 07 01.1**	**+1.0**
	comp=Z,5.5nm,0.9s,comp=Z,863nm							
LAMP	**Lampang**	**72.33**	**294**	P		**P**	**03 07 01.3**	**+1.1**
	comp=Z,25nm,0.9s,comp=Z,183nm							
LAMP	**Lampang**	**72.33**	**294**	P		**P**	**03 07 01.3**	**+1.1**
	comp=Z,25nm,0.9s,comp=Z,183nm							
PAYA	**Payao**	**72.39**	**295**	P		**P**	**03 07 01.4**	**+0.8**

ORV	**Oroville**	**83.88**	**48**	*e*P		**P**	**03 08 05.0**	**+1.2**
ORV				pmax		pmax			
	comp=Z,10.0nm,1.1s								
DOT	**Dot Lake**	**83.95**	**20**	*e*P		**P**	**03 08 03.1**	**-0.5**
	comp=Z,9.1nm,0.9s								
AFDM	**Forest Hills D**	**84.06**	**48**	*e*P		**P**	**03 08 04.9**	**+0.1**
	comp=Z,13nm,1.2s								
CMB	**Columbia Colle**	**84.18**	**49**	*e*P		**P**	**03 08 07.4**	**+2.0**
	comp=Z,7.7nm,1.2s								
SCRK	**Sand Creek**	**84.19**	**20**	*e*P		**P**	**03 08 04.4**	**-0.6**
	comp=Z,9.3nm,0.8s								
MAW	**Mawson**	**84.48**	**202**	P		**P**	**03 08 05.3**	**-0.9**
	comp=Z,17nm,1.1s,baz=87,slow=5.7,SNR=9.7								
MAW	**Mawson**	**84.48**	**202**	P		**P**	**03 08 05.4**	**-0.9**
	baz=84,SNR=6.9								
MAW	**Mawson**	**84.48**	**202**	*e*P		**P**	**03 08 05.3**	**-0.9**
	comp=Z,5.7nm,1.3s								
MAW	**Mawson**	**84.48**	**202**	*e*P		**P**	**03 08 05.3**	**-0.9**
MAW				pmax		pmax			
	comp=Z,6.0nm,1.3s								
BEKR	**Beckworth**	**84.82**	**48**	*e*P		**P**	**03 08 10.5**	**+1.8**
	comp=Z,7.4nm,1.0s								
ISA	**Isabella, Lake**	**84.88**	**52**	*e*P		**P**	**03 08 11.2**	**+2.2**
	comp=Z,8.2nm,1.1s								
ISA	**Isabella, Lake**	**84.88**	**52**	*e*P		**P**	**03 08 11.2**	**+2.2**
ISA				pmax		pmax			
	comp=Z,8.0nm,1.1s								
MDPB	**Devils Postpil**	**85.03**	**50**	*e*P		**P**	**03 08 09.7**	**-0.3**
	comp=Z,12nm,1.1s								
OMMB	**Old Mammoth Mi**	**85.08**	**50**	*e*P		**P**	**03 08 13.3**	**+3.0**
	comp=Z,11nm,1.4s								
PAHR	**Pah Rah Range**	**85.47**	**48**	*e*P		**P**	**03 08 14.2**	**+2.2**
PAHR				*e*pP		**sP**	**03 08 33.3**	**-0.9**
MOD	**Modoc Plateau**	**85.54**	**46**	*e*P		**P**	**03 08 14.0**	**+1.7**
	comp=Z,8.7nm,1.3s								
EGAK	**Eagle**	**85.65**	**20**	*e*P		**P**	**03 08 12.3**	**+0.2**
	comp=Z,8.2nm,0.8s								
PINE	**Pine Mountain**	**85.75**	**44**	*e*P		**P**	**03 08 15.6**	**+2.3**
	comp=Z,32nm,1.7s								
NV01	**Mina Array Sit**	**85.86**	**50**	*e*P		**P**	**03 08 14.9**	**+0.9**
NVAR	**Mina Array Bea**	**85.86**	**50**	P		**P**	**03 08 14.2**	**+0.2**
	comp=Z,3.5nm,0.8s,baz=229,slow=6.9,SNR=18								
NV11	**Mina Array Sit**	**85.98**	**50**	*e*P		**P**	**03 08 16.3**	**+1.8**
	comp=Z,0.8nm,1.3s								
KVN	**Kaiserville**	**86.21**	**49**	*e*P		**P**	**03 08 17.4**	**+1.7**
	comp=Z,9.4nm,1.2s								
KVN	**Kaiserville**	**86.21**	**49**	*e*P		**P**	**03 08 17.4**	**+1.7**
KVN				pmax		pmax			
	comp=Z,9.0nm,1.2s								
TIXI	**Tiksi**	**86.74**	**349**	*i* P		**P**	**03 08 16.4**	**-0.9**
TIXI				pmax		pmax			
	comp=Z,6.0nm,1.4s								
JIRN	**Jiri**	**86.82**	**299**	*e*P		**P**	**03 08 18.6**	**-0.6**
TPNV	**Topopah Spring**	**86.97**	**52**	*e*P		**P**	**03 08 21.2**	**+1.7**
	comp=Z,6.3nm,1.2s								
TPNV	**Topopah Spring**	**86.97**	**52**	*e*P		**P**	**03 08 21.2**	**+1.7**
TPNV				pmax		pmax			
	comp=Z,6.0nm,1.2s								
GUN	**Gumba**	**87.15**	**299**	*e*P		**P**	**03 08 20.1**	**-0.7**
	comp=Z,46nm,1.0s								
PALK	**Pallekele**	**87.28**	**278**	*e*P		**P**	**03 08 21.1**	**-0.1**
PALK	**Pallekele**	**87.28**	**278**	*i* P		**P**	**03 08 22.8**	**+1.6**
J08A	**Circle Bar Ran**	**87.29**	**45**	*e*P		**P**	**03 08 22.0**	**+1.2**
	comp=Z,5.1nm,0.9s								
Y12C	**Blythe**	**87.44**	**55**	*e*P		**P**	**03 08 24.5**	**+2.9**
	comp=Z,10.0nm,1.0s								
PKI	**Pulchoki**	**87.47**	**299**	*e*P		**P**	**03 08 21.4**	**-0.9**
	comp=Z,54nm,1.0s								
PKIN	**Phulchoki**	**87.48**	**299**	*e*P		**P**	**03 08 21.2**	**-1.1**
	comp=Z,39nm,1.0s								
G08A	**Pilot Rock**	**87.58**	**43**	*e*P		**P**	**03 08 23.6**	**+1.5**
	comp=Z,23nm,1.8s								
KKN	**Kakani**	**87.64**	**299**	*e*P		**P**	**03 08 22.2**	**-0.7**
SHPR	**Sheep Range**	**87.69**	**52**	*e*P		**P**	**03 08 26.2**	**+3.3**
	comp=Z,21nm,1.9s								
DMN	**Daman**	**87.74**	**299**	*e*P		**P**	**03 08 23.0**	**-0.5**
	comp=Z,121nm,1.1s								
R11A	**Troy Canyon, C**	**87.88**	**50**	*e*P		**P**	**03 08 26.3**	**+2.5**
	comp=Z,6.3nm,1.3s								
B08A	**Colville Reser**	**88.35**	**40**	*e*P		**P**	**03 08 27.4**	**+1.8**
	comp=Z,17nm,1.9s								
F10A	**Beach Ranch, E**	**88.95**	**43**	*e*P		**P**	**03 08 29.9**	**+1.4**
	comp=Z,21nm,1.6s								
DANN	**Dangsing**	**89.07**	**299**	*e*P		**P**	**03 08 28.3**	**-1.5**
	comp=Z,45nm,0.9s								
KOLN	**Koldanda**	**89.08**	**298**	*e*P		**P**	**03 08 28.3**	**-1.4**
	comp=Z,35nm,0.9s								
PSUT	**Pine Spring**	**89.24**	**51**	*e*P		**P**	**03 08 32.5**	**+2.2**
	comp=Z,5.0nm,0.9s								
LCMT	**Little Creek M**	**89.31**	**52**	*e*P		**P**	**03 08 32.1**	**+1.6**
LCMT				*e*pP		**sP**	**03 08 53.1**	**+0.3**
CCUT	**Cedar City**	**89.36**	**52**	*e*P		**P**	**03 08 32.7**	**+1.8**
CCUT				*e*pP		**sP**	**03 08 52.9**	**-0.3**
SZCU	**Shurtz Canyon**	**89.58**	**52**	*e*P		**P**	**03 08 34.4**	**+2.6**
	comp=Z,13nm,1.3s								
KNB	**Kanab**	**89.64**	**52**	*e*P		**P**	**03 08 33.9**	**+1.8**
	comp=Z,14nm,1.3s								
PYUN	**Piuthan**	**89.68**	**299**	*e*P		**P**	**03 08 30.9**	**-1.6**
	comp=Z,62nm,1.0s								
NEW	**Newport**	**89.72**	**41**	*e*P		**P**	**03 08 33.3**	**+1.3**
	comp=Z,14nm,1.7s								
NEW	**Newport**	**89.72**	**41**	*e*P		**P**	**03 08 33.3**	**+1.3**
NEW				pmax		pmax			
	comp=Z,14nm,1.7s								
U15A	**North Rim**	**89.90**	**53**	*e*P		**P**	**03 08 34.2**	**+0.7**
WMQ	**Urumqi**	**89.94**	**315**	P		**P**	**03 08 32.6**	**-0.6**
WMQ				sP		sP	03 09 08.8	+13
WMQ				pmax		pmax			
	comp=Z,37nm,1.3s								
WMQ				LR		LR			
	comp=Z,3μm,26.3s								
WMQ				LR		LR			
	comp=Z,4μm,28.3s								
WMQ				LR		LR			
	comp=Z,1μm,30.3s								
X16A	**Lo Mia Camp, P**	**90.08**	**55**	*e*P		**P**	**03 08 36.0**	**+1.8**
HLID	**Hailey**	**90.18**	**46**	*e*P		**P**	**03 08 36.1**	**+1.6**
	comp=Z,4.1nm,0.9s								
MTPU	**Mount Pierson**	**90.38**	**51**	*e*P		**P**	**03 08 37.6**	**+1.8**
	comp=Z,6.7nm,0.9s								
MSU	**Marysvale**	**90.50**	**51**	*e*P		**P**	**03 08 38.8**	**+2.6**
MSU				*e*pP		**sP**	**03 08 58.4**	**-0.1**
MSU	**Marysvale**	**90.50**	**51**	*e*P		**P**	**03 08 38.8**	**+2.6**
HVU	**Hansel Valley**	**90.88**	**48**	*e*P		**P**	**03 08 39.7**	**+1.9**
	comp=Z,9.2nm,1.1s								
HVU	**Hansel Valley**	**90.88**	**48**	*e*P		**P**	**03 08 39.7**	**+1.9**
HVU				pmax		pmax			
	comp=Z,9.0nm,1.1s								
SYO	**Syowa Base**	**91.47**	**197⇑**	*i* P		**P**	**03 08 38.7**	**-1.1**
SYO	**Syowa Base**	**91.47**	**197⇑**	*e*sP		sP	03 09 07.0	+5.0
DGZ	**Jazzator, Alta**	**91.73**	**320**	*i* P		**P**	**03 08 40.5**	**-1.0**
DGZ				pmax		pmax			
	comp=Z,7.0nm,1.1s								
FXWY	**Fox Creek**	**92.58**	**46**	*e*P		**P**	**03 08 47.6**	**+1.9**
	comp=Z,3.8nm,1.3s								
PDAR	**Pinedale Array**	**93.43**	**47**	P		**P**	**03 08 50.1**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=246,slow=1.5,SNR=8.5								
PDAR				PKKPbc		**PKKPdf**	**03 25 55.9**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=87,slow=7.6,SNR=4.3								
PDAR	**Pinedale Array**	**93.43**	**47**	*e*P		**P**	**03 08 51.4**	**+1.8**
PDAR				PKKPbc		**PKKPdf**	**03 25 55.9**	**-0.5**
ANMO	**Albuquerque**	**94.21**	**55**	*i* P		**P**	**03 08 54.6**	**+1.3**
MK01	**Makanchi Array**	**94.35**	**317**	*e*P		**P**	**03 08 52.6**	**-0.9**
MK31	**Makanchi Array**	**94.36**	**317**	*e*P		**P**	**03 08 53.0**	**-0.5**
MKAR	**Makanchi Array**	**94.36**	**317**	P		**P**	**03 08 52.6**	**-0.9**
	comp=Z,23nm,0.9s,baz=102,slow=5.9,SNR=72								
ZALV	**Zalesovo Beam**	**94.37**	**324**	P		**P**	**03 08 51.5**	**-1.9**
	comp=Z,4.4nm,0.9s,baz=104,slow=4.7,SNR=15								
TXAR	**Lajitas Array**	**95.51**	**61**	P		**P**	**03 08 59.1**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=232,slow=4.1,SNR=6.2								
SNAA	**Sanae**	**96.63**	**183**	*i* P		**P**	**03 09 05.1**	**+1.6**
KURK	**Kurchatov**	**97.47**	**320**	*i* P		**P**	**03 09 06.4**	**-1.1**
KURK				pmax		pmax			
	comp=Z,5.0nm,1.4s								
AAK	**Ala-Archa**	**99.14**	**312**	*e*P		**Pdif**	**03 09 13.7**	**-1.8**
	comp=Z,0.8nm,0.6s								
AAK	**Ala-Archa**	**99.14**	**312**	*i* P		**Pdif**	**03 09 14.7**	**-0.8**
AAK				pmax		pmax			
	comp=Z,4.0nm,1.2s								
BRVK	**Borovoye**	**102.84**	**322**	*e*Pdif		**Pdif**	**03 09 30.6**	**-0.9**
BRVK	**Borovoye**	**102.84**	**322**	*e*P		**Pdif**	**03 09 30.6**	**-0.9**
ARCES	**ARCESS Array B**	**117.01**	**346**	PKP		**PKPdf**	**03 14 16.3**	**-1.6**
	comp=Z,1.7nm,0.6s,baz=83,slow=2.7,SNR=11								
LPAZ	**La Paz**	**119.36**	**116**	PKP		**PKPdf**	**03 14 23.4**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=79,slow=3.0,SNR=4.0								
OBN	**Obninsk**	**121.60**	**329⇓**	*e*PKIKP		**PKPdf**	**03 14 31.4**	**+4.4**
OBN				*e*			03 15 59.6		
OBN				pmax		pmax			
	comp=Z,4.0nm,0.9s								
FINES	**FINESS Array B**	**122.51**	**339**	PKP		**PKPdf**	**03 14 27.9**	**-0.7**
	comp=Z,3.2nm,0.8s,baz=116,slow=4.5,SNR=7.1								
RAYN	**Ar Rayn**	**122.77**	**291**	*e*PKPdf		**PKPdf**	**03 14 29.9**	**-0.5**
RAYN	**Ar Rayn**	**122.77**	**291**	*e*PKIKP		**PKPdf**	**03 14 29.9**	**-0.5**
BOSA	**Boshof**	**125.17**	**222**	PKP		**PKPdf**	**03 14 34.0**	**-1.0**
	comp=Z,5.2nm,0.9s,baz=176,slow=2.2,SNR=7.5								
BOSA	**Boshof**	**125.17**	**222**	PKIKP		**PKPdf**	**03 14 34.0**	**-1.0**
SUR	**Sutherland**	**125.30**	**216**	*e*PKPdf		**PKPdf**	**03 14 35.3**	**+0.1**
KMBO	**Kilima Mbogo**	**127.94**	**259**	PKP		**PKPdf**	**03 14 41.4**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=62,slow=6.6,SNR=3.9								
KMBO	**Kilima Mbogo**	**127.94**	**259**	*e*PKPdf		**PKPdf**	**03 14 40.7**	**-0.1**
KMBO	**Kilima Mbogo**	**127.94**	**259**	PKIKP		**PKPdf**	**03 14 41.4**	**+0.6**
KMBO				pmax		pmax			
	comp=Z,2.0nm,0.9s								
LSZ	**Lusaka**	**130.78**	**238**	*e*PKPdf		**PKPdf**	**03 14 46.2**	**+0.3**
LSZ	**Lusaka**	**130.78**	**238**	*e*PKIKP		**PKPdf**	**03 14 46.2**	**+0.3**
OKC	**Ostrava-Krasne**	**133.76**	**332**	AMS		AMS	03 53 20.0		
	comp=Z,2μm,20.4s								
DPC	**Dobruska-Polom**	**134.21**	**334**	AMS		AMS	03 56 00.0		
	comp=Z,2μm,21.9s								
VYHS	**Vyhne**	**134.36**	**330**	*e*PKIKP		**PKPdf**	**03 14 51.9**	**+0.3**
VYHS	**Vyhne**	**134.36**	**330**	*e*PKP		**PKPdf**	**03 14 51.8**	**+0.2**
PVCC	**Panska Ves**	**134.83**	**335**	AMS		AMS	03 52 20.0		
	comp=Z,3μm,20.4s								
PRA	**Prague**	**135.23**	**335**	AMS		AMS	03 52 40.0		
	comp=Z,3μm,21.5s								
TREC	**Trest**	**135.35**	**333**	AMS		AMS	03 48 10.0		
	comp=Z,3μm,21.5s								
NKC	**Novy Kostel**	**135.92**	**336**	AMS		AMS	03 51 30.0		
	comp=Z,2μm,22.2s								
KHC	**Kasperske Hory**	**136.31**	**334**	AMS		AMS	03 51 00.0		
	comp=Z,4μm,22.5s								
GERES	**GERESS Array B**	**136.47**	**334**	PKP		**PKPdf**	**03 14 53.8**	**-1.9**
	comp=Z,0.6nm,0.7s,baz=52,slow=3.8,SNR=5.0								
GERES				SKPab		**SKiKP**	**03 18 28.3**	**-0.6**
	comp=Z,1.4nm,1.1s,baz=159,slow=4.1,SNR=4.1								
TSUM	**Tsumeb**	**136.65**	**225**	*e*PKPdf		**PKPdf**	**03 14 57.2**	**+0.3**
KEST	**Kesra**	**148.24**	**323**	PKPbc		**PKPbc**	**03 15 20.1**	**-0.1**
	comp=Z,6.2nm,0.9s,baz=298,slow=1.0,SNR=8.0								
ESDC	**Sonseca Array**	**150.75**	**345**	PKPbc		**PKPbc**	**03 15 25.1**	**-1.2**
	comp=Z,2.2nm,0.9s,baz=26,slow=2.1,SNR=7.4								
TORD	**Torodi Ar. Bea**	**164.99**	**278**	PKP		**PKPdf**	**03 15 36.5**	**-2.3**
	comp=Z,2.5nm,1.0s,baz=325,slow=1.7,SNR=9.2								
TORD				PKPab		**PKPab**	**03 16 34.0**	**-1.5**
	comp=Z,6.0nm,0.9s,baz=46,slow=3.1,SNR=15								

IDC ***11*** *02:56:49.7±1.9,25.°78S×177.°92W,h0km,mb4.0/4, mb1 4.2/4,mb1mx3.8/40,mbtmp4.0/4,Error ellipse: s-maj=86.0km s-min=37.5km az=164.0*
WEL ***11*** *02:57:59.9±1.1,26.°5±8.°×18.°0W±2.°7,h562km±14km*
ISC 11 02:57:57.6±1.1,25.°3S±0.°1×179.°8W±0.°2,h550km,n37, σ1s96/41,mb3.5/4,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**4.26**	**157**	P	**P**	**02 59 23.5**	**+2.2**
GLKZ	**Green Lake**	**4.28**	**157**	P	**P**	**02 59 24.3**	**+2.9**
GLKZ				S	**S**	**03 00 30.0**	**0.0**
OUZ	**Omahuta**	**11.39**	**208**	P	**P**	**03 00 29.7**	**+0.1**
WCZ	**Waipu Caves**	**11.71**	**204**	P	**P**	**03 00 35.8**	**+2.8**
KUZ	**Kuaotunu**	**12.01**	**197**	P	**P**	**03 00 36.1**	**+0.1**
MXZ	**Matakaoa Point**	**12.31**	**187**	P	**P**	**03 00 41.7**	**+2.6**
WMGZ	**Waiomatatini S**	**12.55**	**186**	P	**P**	**03 00 44.8**	**+3.2**
WMGZ				S	**S**	**03 02 57.8**	**+1.1**
HAZ	**Te Kaha**	**12.57**	**189**	P	**P**	**03 00 43.7**	**+1.9**
PKGZ	**Pakihiroa**	**12.66**	**188**	P	**P**	**03 00 41.6**	**-1.2**
PKGZ				S	**S**	**03 02 58.0**	**-0.9**
RUGZ	**Raukumara Rang**	**12.79**	**189**	P	**P**	**03 00 44.3**	**+0.1**
RUGZ				S	**S**	**03 03 03.2**	**+1.9**
PUZ	**Puketiti**	**12.82**	**187**	P	**P**	**03 00 46.1**	**+1.7**
PUZ				S	**S**	**03 02 58.7**	**-3.1**
TWGZ	**Tauwhareparae**	**12.96**	**188**	P	**P**	**03 00 43.3**	**-2.5**
TWGZ				S	**S**	**03 03 04.1**	**-0.3**
URZ	**Urewera**	**13.16**	**191**	P	**P**	**03 00 46.8**	**-1.1**
URZ				S	**S**	**03 03 08.3**	**+0.2**
MWZ	**Matawai**	**13.17**	**189**	P	**P**	**03 00 48.4**	**+0.4**
HIZ	**Hauiti**	**13.91**	**198**	P	**P**	**03 00 56.8**	**+1.2**
BKZ	**Black Stump Fm**	**14.15**	**192**	P	**P**	**03 00 57.6**	**-0.6**
KRVZ	**Karewarewa**	**14.26**	**194**	P	**P**	**03 01 00.3**	**+0.9**
WTVZ	**West Tongariro**	**14.29**	**195**	P	**P**	**03 01 01.5**	**+1.8**
BHHZ	**Black Hill Sta**	**14.55**	**193**	P	**P**	**03 01 02.2**	**-0.1**
BHHZ				S	**S**	**03 03 31.1**	**-3.4**
KRHZ	**Kereru**	**14.64**	**192**	P	**P**	**03 01 02.9**	**-0.3**
KRHZ				S	**S**	**03 03 35.5**	**-0.6**
KAHZ	**Kahuranaki**	**14.70**	**190**	P	**P**	**03 01 01.9**	**-1.9**
KAHZ				S	**S**	**03 03 36.5**	**-0.8**
PNHZ	**Pukenui**	**14.93**	**192**	P	**P**	**03 01 06.4**	**+0.2**
PXZ	**Pawanui**	**14.93**	**190**	S	**S**	**03 03 39.6**	**-1.8**
MRZ	**Mangatainoka R**	**15.78**	**193**	S	**S**	**03 03 54.1**	**-1.9**
TCW	**Tory Channel**	**16.59**	**196**	S	**S**	**03 04 08.8**	**-0.6**
THZ	**Tophouse**	**17.47**	**198**	S	**S**	**03 04 24.4**	**+0.4**
CTA	**Charters Tower**	**31.67**	**272**	P	P	03 03 31.9	-4.6
	2.6nm,0.4s,baz=106,slow=10.0,SNR=5.9						
WRA	**Warramunga Arr**	**42.49**	**268**	P	P	03 04 59.9	-5.2
	1.2nm,0.8s,baz=102,slow=8.0,SNR=4.0						
FITZ	**Fitzroy Crossi**	**50.89**	**267**	P	P	03 06 04.7	-3.9
	1.4nm,0.6s,baz=135,slow=10.0,SNR=2.3						
MJAR	**Matsushiro Arr**	**73.15**	**326**	P	P	03 08 29.7	-2.8
	1.1nm,0.8s,baz=255,slow=32,SNR=1.4						
ARCES	**ARCESS Array B**	**133.30**	**348**	PKP	**PKPdf**	**03 16 08.5**	**-1.9**
	3.4nm,0.9s,baz=20,slow=3.0,SNR=3.1						
FINES	**FINESS Array B**	**139.83**	**341**	PKP	**PKPdf**	**03 16 19.9**	**-2.8**
	5.3nm,1.0s,baz=176,slow=9.2,SNR=3.8						
NB2	**NORSAR Subarra**	**143.50**	**351**	PKP	PKPbc	03 16 26.5	-1.5
	comp=Z,7.0nm,0.8s,baz=21,slow=3.7						
NOA	**NORSAR Array B**	**143.50**	**351**	PKP	PKPbc	03 16 26.7	-1.3
	comp=Z,1.0nm,0.9s,baz=16,slow=4.0,SNR=1.9						
AKASG	**Malin Array Be**	**146.24**	**326**	PKPbc	**PKPdf**	**03 16 35.1**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=286,slow=18,SNR=1.3						
BRTR	**Keskin Array B**	**148.54**	**305**	PKPbc	**PKPdf**	**03 16 42.5**	**+3.9**
	comp=Z,1.3nm,0.7s,baz=104,slow=0.7,SNR=2.0						
DBIC	**Dimbokro**	**160.84**	**165**	PKP	**PKPdf**	**03 16 51.3**	**-4.4**
	comp=Z,2.3nm,1.0s,baz=280,slow=16,SNR=1.4						

DJA ***11*** *03:23:24.4±0.8,1.°N±4.°×9.°7E±.°,h58km±11km,M3.6/4, MLv3.6/4*
IDC ***11*** *03:23:27.2±1.5,0.°76N×96.°82E,h37km±8km,mb3.6/3, mb1 3.7/4,mb1mx3.3/45,mbtmp3.8/4,ML3.4/1,Error ellipse: s-maj=38.8km s-min=21.6km az=53.0*
ISC 11 03:23:25.3±1.1,0.°77N±0.°07×96.°72E±0.°07,h30km±5km, n17,σ1s08/19,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**1.01**	**58**	P	**Pn**	**03 23 42.9**	**-0.5**
GSI				S	**Sb**	**03 23 57.5**	**+0.3**
SNSI	**Sinabang, Aceh**	**1.67**	**347**	P	**Pn**	**03 23 51.2**	**-1.3**
SNSI				S	**Sn**	**03 24 12.6**	**-0.4**
PBSI	**Pulau Batu**	**1.77**	**118**	P	**Pn**	**03 23 52.9**	**-0.9**
PBSI				S	**Sn**	**03 24 13.5**	**-1.8**
TPTI		**2.52**	**11**	P	**Pn**	**03 24 03.0**	**-1.1**
TPTI				S	**Sn**	**03 24 33.5**	**-0.3**
MNSI	**Mandailing Nat**	**2.86**	**90**	P	**Pn**	**03 24 08.7**	**-0.2**
MNSI				S	**Sn**	**03 24 41.3**	**-1.1**
KCSI	**Kotacane, Aceh**	**2.93**	**21**	P	**Pn**	**03 24 08.6**	**-1.2**
PSI	**Prapat**	**2.99**	**48**	Pn	**Pn**	**03 24 10.7**	**-0.1**
	5.9nm,0.3s,baz=180,slow=23,SNR=12						
PSI				Sn	**Sn**	**03 24 45.4**	**-0.3**
	1.5nm,0.3s,baz=0.2,slow=19,SNR=1.5						
H08S2	**Diego Garcia H**	**25.56**	**250**	T	T	03 55 49.8	
	baz=72,slow=75,SNR=26						
H08S3	**Diego Garcia H**	**25.57**	**251**	T	T	03 55 47.2	
	baz=72,slow=75,SNR=21						
H08S1	**Diego Carcia H**	**25.58**	**250**	T	T	03 55 52.1	
	baz=72,slow=75,SNR=30						
H01W3	**Cape Leeuwin H**	**39.04**	**157**	T	T	04 12 19.9	
	baz=332,slow=76,SNR=8.8						
H01W2	**Cape Leeuwin H**	**39.05**	**157**	T	T	04 12 19.6	
	baz=332,slow=76,SNR=11						
H01W1	**Cape Leeuwin H**	**39.05**	**157**	T	T	04 12 22.8	
	baz=332,slow=76,SNR=8.4						
WRA	**Warramunga Arr**	**42.22**	**121**	P	**P**	**03 31 16.0**	**0.0**
	0.6nm,0.9s,baz=302,slow=8.9,SNR=4.6						
WRA				pP	**pP**	**03 31 26.8**	**+1.7**
	0.4nm,0.4s,baz=302,slow=8.9,SNR=3.6						
ASAR	**Alice Springs**	**43.53**	**126**	pP	pP	03 31 37.4	+1.8
	0.2nm,0.6s,baz=298,slow=7.5,SNR=1.6						
MKAR	**Makanchi Array**	**47.54**	**347**	P	**P**	**03 31 59.3**	**+1.4**
	1.1nm,0.5s,baz=163,slow=8.7,SNR=12						
MKAR				pP	**sP**	**03 32 10.2**	**-0.6**
	0.7nm,0.8s,baz=181,slow=12,SNR=3.5						
ZALV	**Zalesovo Beam**	**53.90**	**351**	P	**P**	**03 32 46.9**	**+1.1**
	1.6nm,0.6s,baz=189,slow=8.5,SNR=7.0						
ZALV				pP	**sP**	**03 32 57.9**	**-0.8**
	2.1nm,0.7s,baz=184,slow=7.8,SNR=5.5						

ISK ***11*** *03:33:26.7,38.°64N×43.°15E,h4km,ML2.4/2*
ISCJB ***11*** *03:33:27.8±0.5,38.°66N±0.°03×43.°16E±0.°03,h12km±5km, Error ellipse: s-maj=5.3km s-min=4.1km az=162.6*
DDA ***11*** *03:33:27.8,38.°64N×43.°19E,h7km,Md2.6*
ISC 11 03:33:27.5±1.0,38.°65N±0.°04×43.°15E±0.°03,h11km±9km, n12,σ1s49/23,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.20**	**105**	PG	**Pg**	**03 33 32.1**	**+0.3**
VANB				SG	**Sg**	**03 33 36.0**	**+1.3**
TVAN	**Van**	**0.23**	**120**	*i* P	**Pg**	**03 33 32.2**	**-0.3**
TVAN				*i* S	**Sg**	**03 33 35.9**	**0.0**
GEVA	**Gevas**	**0.34**	**192**	*i* P	**Pb**	**03 33 34.7**	**-0.9**
GEVA				*i* S	**Sb**	**03 33 40.4**	**-0.8**
ADCV	**BITLIS_Adilcev**	**0.37**	**296**	*i* P	**Pb**	**03 33 35.8**	**-0.3**
ADCV				*i* S	**Sb**	**03 33 42.3**	**+0.3**
VMUR	**Van-Muradiye**	**0.48**	**44**	*i* P	**Pb**	**03 33 37.1**	**-0.9**
VMUR				*i* S	**Sb**	**03 33 44.6**	**-0.6**
CLDR	**Caldiran**	**0.78**	**50**	PG	**Pb**	**03 33 42.6**	**-0.6**
CLDR				SG	**Sb**	**03 33 53.6**	**-0.3**
CLDR	**Caldiran**	**0.78**	**50**	*i* P	**Pb**	**03 33 42.2**	**-1.1**
CLDR				*i* S	**Sb**	**03 33 53.4**	**-0.5**
TUTA	**Tutak**	**0.80**	**341**	*i* P	**Pb**	**03 33 42.8**	**-0.7**
TUTA				*i* S	**Sg**	**03 33 51.8**	**-1.7**
GURO	**Guroymak-BITLI**	**0.88**	**264**	PG	**Pg**	**03 33 43.9**	**-0.5**
GURO				SG	**Sn**	**03 33 57.3**	**-1.5**
AGRB	**Hanur-Agry**	**0.94**	**353**	PG	**Pb**	**03 33 45.2**	**-0.7**
AGRB				SG	**Sn**	**03 33 58.9**	**-1.4**
EKAR	**Karacoban**	**1.04**	**306**	*i* P	**Pn**	**03 33 50.1**	**+1.8**
EKAR				*i* S	**Sn**	**03 34 07.7**	**+4.8**
SVAN	**Silvan-Diyarba**	**1.61**	**253**	PN	**Pg**	**03 33 57.5**	**-0.8**

AZER ***11*** *04:02:21.7±0.7,38.°25N×46.°48E,h11km,ml3.8/18,Error ellipse: s-maj=1.9km s-min=1.0km az=25.0*
DDA ***11*** *04:02:24.0,38.°44N×46.°87E,h14km,Ml3.1*
TEH ***11*** *04:02:25.5,38.°49N×46.°59E,h4km,ML3.5*
ISC 11 04:02:26.9±1.0,38.°47N±0.°02×46.°60E±0.°02,h11km±9km, n57,σ1s84/78,17C-13D,Iran-Armenia-Azerbaijan border region

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

ZKTA				⇑S		Sb	04 04 01.4	-0.4
QSAR	**Qsar**	**3.30**	**22**	⇑P		**Pn**	**04 03 19.4**	**+0.9**
	SNR=9.8							
QSAR				⇓S		Sb	04 04 05.2	-0.5
KZRT	**Kazreti**	**3.37**	**331**	P		**Pb**	**04 03 27.0**	**+0.4**
KZRT				S		Sb	04 04 09.9	+2.3
TBLG	**Delisi**	**3.55**	**337**	*e*PG		**Pn**	**04 03 25.3**	**+3.2**
TBLG	**Delisi**	**3.55**	**337**	P		**Pb**	**04 03 29.2**	**-0.6**
IGZV	**Ghazvin**	**3.56**	**125**	*e*Pn		**Pn**	**04 03 24.9**	**+2.6**
IGZV				IAMB	IAmb		04 04 30.2	
	comp=Z,934nm,0.4s							
IGZV				IAMB	IAmb		04 04 31.1	
	comp=N,2µm,0.5s							
IGZV				IAMB	IAmb		04 04 31.8	
	comp=E,2µm,0.5s							
ILIN	**Lien**	**3.56**	**175**	*e*Pn		**Pn**	**04 03 24.2**	**+1.9**
ILIN				IAMB	IAmb		04 04 30.0	
	comp=Z,478nm,0.6s							
HKZM	**Kohzaman**	**3.60**	**148**	*e*Pn		**Pn**	**04 03 25.9**	**+3.0**
BGD	**Bogdanovka**	**3.62**	**321**	P		**Pg**	**04 03 35.1**	**-1.2**
QABG	**Abgarm-Qazvin**	**3.65**	**138**	*e*Pn		**Pn**	**04 03 25.6**	**+2.1**
QABG				IAMB	IAmb		04 04 29.3	
	comp=Z,0.0nm,0.8s							
QABG				IAMB	IAmb		04 04 46.7	
	comp=N,0.0nm,1.4s							
AKH	**Akhalkalaki**	**3.78**	**322**	P		**Pg**	**04 03 37.8**	**-1.6**
QALM	**Alamut, Qazvin**	**3.81**	**121**	*e*Pn		**Pn**	**04 03 28.3**	**+2.5**
QALM				IAMB	IAmb		04 04 41.4	
	comp=Z,0.0nm,0.6s							
QALM				IAMB	IAmb		04 04 43.0	
	comp=E,0.0nm,1.4s							
DUS	**Dusheti**	**3.90**	**339**	P		**Pb**	**04 03 38.3**	**+2.6**
IMHD	**Mahdasht**	**4.28**	**129**	IAMB	IAmb		04 04 45.1	
	comp=E,1µm,0.3s							
IMHD				IAMB	IAmb		04 04 45.1	
	comp=Z,690nm,0.3s							
IMHD				IAMB	IAmb		04 04 45.3	
	comp=N,2µm,0.3s							
ONI	**Oni**	**4.76**	**331**	P		**Pb**	**04 03 50.2**	**-0.2**
IKFM	**Kafar-mosalman**	**5.04**	**168**	IAMB	IAmb		04 03 52.4	
	comp=Z,0.0nm,0.4s							
IKFM				IAMB	IAmb		04 03 57.2	
	comp=E,0.0nm,0.4s							
IKFM				IAMB	IAmb		04 04 00.8	
	comp=N,0.0nm,1.0s							
AB31	**Akbulak array**	**14.43**	**37**	⇓Pn		**Pn**	**04 05 49.3**	**-1.7**
	comp=N,0.6nm,0.5s,baz=227,slow=12,SNR=13							
AB31				⇑Sn		**Sn**	**04 08 23.9**	**-7.0**
	comp=N,1.6nm,0.8s,baz=218,slow=23,SNR=3.4							
AKTO	**Aktyubinsk**	**14.45**	**30**	⇑Pn		**Pn**	**04 05 49.0**	**-2.4**
AKTO				⇓Sn		Sn	04 08 21.7	-10
	comp=N,3.1nm,0.8s							

*NEIC **11** 04:11:37.4±0.7, 17.°79S×178.°43W, h510km±7km, mb4.5/37, Error ellipse: s-maj=7.2km s-min=5.1km az=141.0*
*IDC **11** 04:11:37.9±1.3, 17.°83S×178.°41W, h513km±15km, mb3.8/21, mb1 3.9/23, mb1mx3.8/37, mbtmp4.6/23, Error ellipse: s-maj=13.1km s-min=9.6km az=137.0*
*ISCJB **11** 04:11:42.1±0.3, 17.°92S±0.°06×178.°57W±0.°06, h579km, mb4.4/57, Error ellipse: s-maj=9.1km s-min=6.3km az=41.1*

ISC 11 04:11:43.4±0.4, **17.°90S**±0.°08×**178.°61W**±0.°09, **h579**km, **n168**, σ0.°96/169, **mb4.5**/57, **26C-12D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.67**	**60**	P	P	04 13 29.0	-10
	3.1nm,0.3s,baz=85,slow=8.5,SNR=3.3						
AFI				S	S	04 15 01.1	-13
	3.1nm,0.3s,baz=281,slow=22,SNR=2.3						
RAO	**Raoul Island**	**11.32**	**177**	P	P	04 14 09.5	-5.5
	60nm,0.3s,baz=187,slow=22,SNR=2.5						
DZM	**Mont Dzumac**	**14.65**	**251**	P	**P**	**04 14 46.6**	**-2.4**
	0.4nm,0.3s,baz=72,slow=20,SNR=5.2						
OUZ	**Omahuta**	**18.59**	**200**	*e*P	**P**	**04 15 25.4**	**+0.3**
	32nm,0.8s						
URZ	**Urewera**	**20.63**	**190**	*e*P	**P**	**04 15 40.0**	**-3.5**
	28nm,0.6s						
RPZ	**Rata Peaks**	**27.18**	**197**	P	**P**	**04 16 40.3**	**-1.3**
	13nm,0.8s,baz=309,slow=1.3,SNR=4.8						
ARMA	**Armidale**	**29.78**	**240**	*e*P	**P**	**04 17 04.4**	**-0.2**
	84nm,1.8s						
CTA	**Charters Tower**	**33.26**	**261**	P	**P**	**04 17 34.2**	**0.0**
	15nm,0.6s,baz=104,slow=9.9,SNR=18						
CTAO	**Charters Tower**	**33.26**	**261**	*e*P	**P**	**04 17 33.3**	**-0.8**
	16nm,0.8s						
PATS	**Pohnpei**	**33.52**	**315**	*e*P	**P**	**04 17 32.3**	**-4.0**
	257nm,1.6s						
COEN	**Coen**	**36.92**	**270**	*e*P	**P**	**04 18 03.9**	**-0.7**
	18nm,0.8s						
STKA	**Stephens Creek**	**38.47**	**241**	P	**P**	**04 18 18.2**	**+1.3**
	11nm,0.7s,baz=103,slow=11,SNR=16						
STKA	**Stephens Creek**	**38.47**	**241**	*e*P	**P**	**04 18 17.6**	**+0.7**
	3.3nm,0.9s						
JAY	**Jayapura**	**42.72**	**286**	P	**P**	**04 18 51.5**	**+0.5**
	11nm,0.4s,baz=83,slow=4.6,SNR=14						
BBOO	**Buckleboo**	**43.24**	**241**	*e*P	**P**	**04 18 54.8**	**+0.1**
	21nm,0.6s						
WB2	**Warramunga Arr**	**44.44**	**260**	*e*P	**P**	**04 19 03.5**	**-0.7**
WRAB	**Tennant Creek**	**44.44**	**260**	*e*P	**P**	**04 19 03.8**	**-0.3**
	11nm,0.6s						
WRA	**Warramunga Arr**	**44.45**	**260**	P	**P**	**04 19 03.6**	**-0.7**
	10.0nm,0.7s,baz=96,slow=7.0,SNR=249						
WRA				PcP	**PcP**	**04 20 35.9**	**+0.8**
	1.9nm,0.7s,baz=94,slow=3.6,SNR=6.6						
AS01	**Alice Springs**	**44.57**	**254**	*e*P	**P**	**04 19 05.0**	**-0.1**
AS31	**Alice Springs**	**44.61**	**254**	*e*P	**P**	**04 19 05.7**	**+0.3**
	29nm,0.6s						
ASAR	**Alice Springs**	**44.61**	**254**	P	**P**	**04 19 05.8**	**+0.3**
	103nm,0.6s,baz=89,slow=8.0,SNR=1951						
ASAR				PcP	**PcP**	**04 20 36.6**	**+1.0**
	4.2nm,0.7s,baz=100,slow=5.1,SNR=4.5						
GUMO	**Guam**	**47.72**	**309**	P	**P**	**04 19 29.3**	**+0.3**
	70nm,0.9s,baz=16,slow=20,SNR=3.1						
MTN	**Manton Dam**	**48.61**	**268**	*e*P	**P**	**04 19 35.6**	**0.0**
	15nm,1.1s						
FORT	**Forrest**	**49.84**	**245**	*e*P	**P**	**04 19 44.4**	**-0.1**
	196nm,1.8s						
SIJI	**Sorong**	**52.05**	**283**	P	**P**	**04 20 01.4**	**+0.7**
	43nm,0.7s,baz=69,slow=7.9,SNR=8.6						
FITZ	**Fitzroy Crossi**	**52.84**	**261**	P	**P**	**04 20 06.5**	**+0.2**
	3.8nm,0.7s,baz=69,slow=5.5,SNR=20						
SOEI	**Soe**	**55.88**	**270**	*e*P	**P**	**04 20 29.2**	**+1.4**
	29nm,0.6s						
MBWA	**Marble Bar**	**57.89**	**256**	*e*P	**P**	**04 20 41.2**	**-0.1**
SBA	**Scott Base**	**60.41**	**184**	*e*P	**P**	**04 20 58.0**	**+1.0**
	7.6nm,1.0s						
VNDA	**Vanda**	**60.44**	**185**	P	**P**	**04 20 58.1**	**+0.8**
	1.8nm,0.7s,baz=352,slow=7.6,SNR=17						
VNDA	**Vanda**	**60.44**	**185**	*e*P	**P**	**04 20 57.6**	**+0.3**
	9.5nm,1.5s						
MJAR	**Matsushiro Arr**	**67.79**	**323**	P	**P**	**04 21 44.2**	**-0.2**
	10nm,0.8s,baz=166,slow=6.0,SNR=20						
MAJO	**Matsushiro**	**67.79**	**323**	*e*P	**P**	**04 21 44.2**	**-0.2**
MJB9	**Matsu-Tunnel**	**67.79**	**323**	*e*P	**P**	**04 21 43.6**	**-0.9**
	13nm,0.9s						
ASAJ	**Asahikawa**	**71.18**	**332**	*e*P	**P**	**04 22 04.7**	**+0.2**
	17nm,0.6s						
QSPA	**South Pole Qui**	**72.15**	**180**	*e*P	**P**	**04 22 10.5**	**+0.5**
	14nm,0.9s						
KSM	**Kuching**	**72.50**	**277**	*e*P	**P**	**04 22 13.6**	**+0.8**
	18nm,0.9s						
PEA0B	**Petropavlovsk-**	**73.62**	**345**	*e*P	**P**	**04 22 18.0**	**-0.3**
	28nm,0.9s						
PETK	**Petropavlovsk-**	**73.62**	**345**	P	**P**	**04 22 18.3**	**-0.1**
	13nm,0.7s,baz=147,slow=9.1,SNR=20						
PETK	**Petropavlovsk-**	**73.62**	**345**	*e*P	**P**	**04 22 17.9**	**-0.4**
KSRS	**Korea Array**	**74.57**	**318**	P	**P**	**04 22 25.6**	**+1.6**
	2.2nm,0.7s,baz=128,slow=6.2,SNR=5.0						
KSAR	**Wonju Array Be**	**74.59**	**318**	P	**P**	**04 22 25.6**	**+1.4**
KS01	**Wonju Array Si**	**74.60**	**318**	*e*P	**P**	**04 22 24.5**	**+0.3**
USRK	**Ussuriysk Ar.**	**76.50**	**326**	P	**P**	**04 22 36.6**	**+2.0**
	2.5nm,0.6s,baz=102,slow=5.4,SNR=6.0						
NJ2	**Nanjing**	**77.79**	**310**	*e*P	**P**	**04 22 43.6**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,18nm,0.6s						
MDJ	**Mudanjiang**	**78.07**	**325**	*e*P	**P**	**04 22 43.2**	**+0.2**
	comp=Z,22nm,1.0s						
NV01	**Mina Array Sit**	**79.55**	**44**	*e*P	**P**	**04 22 49.9**	**-1.4**
NVAR	**Mina Array Bea**	**79.55**	**44**	P	**P**	**04 22 51.1**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=229,slow=7.1,SNR=6.9						
CN2	**Changchun**	**79.90**	**322**	*e*P	**P**	**04 22 56.5**	**+3.8**
WVOR	**Wild Horse Val**	**81.52**	**40**	*e*P	**P**	**04 23 00.8**	**-0.6**
	comp=Z,17nm,1.8s						
J08A	**Circle Bar Ran**	**82.13**	**40**	*e*P	**P**	**04 23 03.9**	**-0.5**
	comp=Z,7.0nm,1.2s						
SUA	**Susitna One**	**82.17**	**13**	*e*P	**P**	**04 23 03.6**	**-0.5**
	comp=Z,19nm,1.0s						
U15A	**North Rim**	**82.65**	**48**	*e*P	**P**	**04 23 07.0**	**-0.4**
	comp=Z,7.0nm,1.3s						
GHO	**Glory Hole Cre**	**82.84**	**14**	*e*P	**P**	**04 23 06.8**	**-0.7**
	comp=Z,16nm,0.8s						
G08A	**Pilot Rock**	**82.92**	**38**	*e*P	**P**	**04 23 07.3**	**-1.0**
	comp=Z,6.9nm,1.3s						
PSI	**Prapat**	**83.69**	**275**	P	**P**	**04 23 13.2**	**+0.3**
	comp=Z,6.6nm,0.7s,baz=0.1,slow=21,SNR=3.8						
MAW	**Mawson**	**83.80**	**200**	P	**P**	**04 23 12.6**	**+0.4**
	comp=Z,3.1nm,0.8s,baz=268,slow=3.6,SNR=4.5						
ENH	**Enshi**	**84.11**	**304**	*e*P	**P**	**04 23 15.1**	**+0.6**
RND	**Reindeer**	**84.30**	**13**	*e*P	**P**	**04 23 14.1**	**-0.6**
	comp=Z,16nm,0.8s						
MCK	**McKinley**	**84.58**	**13**	*e*P	**P**	**04 23 15.1**	**-0.8**
	comp=Z,43nm,1.8s						
WRH	**Wood River Hil**	**85.40**	**13**	*e*P	**P**	**04 23 19.0**	**-0.9**
	comp=Z,13nm,1.2s						
CCB	**Clear Creek Bu**	**85.62**	**13**	*e*P	**P**	**04 23 19.8**	**-1.1**
	comp=Z,18nm,1.5s						
IM3	**Indian Mountai**	**85.71**	**10**	*e*P	**P**	**04 23 20.4**	**-0.8**
MDM	**Murphy Dome**	**85.80**	**12**	*e*P	**P**	**04 23 20.6**	**-1.2**
	comp=Z,7.4nm,1.1s						
COLA	**College**	**85.81**	**13**	*e*P	**P**	**04 23 20.2**	**-1.6**
	comp=Z,11nm,1.2s						
ILAR	**Eielson Array**	**85.92**	**13**	P	**P**	**04 23 20.9**	**-1.4**
	comp=Z,3.1nm,0.8s,baz=221,slow=4.9,SNR=27						
ILB	**Eielson Array**	**85.92**	**13**	*e*P	**P**	**04 23 21.2**	**-1.1**
IL1	**Eielson Array**	**85.92**	**13**	*e*P	**P**	**04 23 20.7**	**-1.6**
XAN	**Xi'an**	**86.11**	**307**	P	**P**	**04 23 25.3**	**+1.3**
XAN				pmax	pmax		
	comp=Z,15nm,1.3s						
TXAR	**Lajitas Array**	**86.15**	**58**	P	**P**	**04 23 25.3**	**+0.9**
	comp=Z,0.9nm,0.9s,baz=187,slow=3.3,SNR=3.8						
BILL	**Bilibino**	**86.41**	**354**	*e*P	**P**	**04 23 24.1**	**-0.4**
	comp=Z,5.3nm,0.8s						
IMW	**Indian Meadow**	**87.11**	**42**	*e*P	**P**	**04 23 28.5**	**-0.3**
	comp=Z,4.1nm,1.0s						
HHC	**Hu-ho-hao-te**	**87.13**	**315**	*e*P	**P**	**04 23 28.7**	**-0.1**
HHC				pmax	pmax		
	comp=Z,28nm,0.8s						
HHC				pmax	pmax		
	comp=Z,450nm,4.1s						
PDAR	**Pinedale Array**	**87.48**	**44**	P	**P**	**04 23 30.2**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=204,slow=3.3,SNR=6.0						
CM01	**Chiang Mai Arr**	**88.68**	**290**	*e*P	**P**	**04 23 37.3**	**+1.0**
CMAR	**Chiang Mai Arr**	**88.70**	**290**	P	**P**	**04 23 38.3**	**+1.8**
	comp=Z,1.6nm,0.3s,baz=115,slow=3.0,SNR=9.1						
CHTO	**Chiang Mai**	**88.82**	**290**	*e*P	**P**	**04 23 38.5**	**+1.5**
	comp=Z,1.5nm,0.4s						
SYO	**Syowa Base**	**89.12**	**193**	⇑*e*P	**P**	**04 23 36.7**	**-0.7**
SNAA	**Sanae**	**90.61**	**179**	P	**P**	**04 23 43.0**	**-1.3**
VNA3	**Neumayer Olymp**	**90.76**	**176**	P	**P**	**04 23 44.8**	**-0.2**
VNA2	**Neumayer--Watz**	**91.19**	**177**	P	**P**	**04 23 45.7**	**-1.3**
VNA1	**Neumayer--Stat**	**91.42**	**177**	P	**P**	**04 23 48.3**	**+0.3**
INK	**Inuvik**	**91.93**	**15**	*e*P	**P**	**04 23 49.2**	**-1.0**
	comp=Z,5.1nm,0.9s						
SONM	**Songino Array**	**93.42**	**319**	P	**P**	**04 23 57.8**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=138,slow=5.7,SNR=3.7						
MKAR	**Makanchi Array**	**109.00**	**314**	PKiKP	**PKiKP**	**04 29 07.0**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=0.4,slow=0.5,SNR=4.2						
KURK	**Kurchatov**	**111.69**	**318**	*e*PKP	**PKiKP**	**04 29 12.3**	**-0.5**
ARU	**Arti**	**122.74**	**326**	*e*PKPdf	**PKPdf**	**04 29 33.4**	**-0.4**
ARCES	**ARCESS Array B**	**126.27**	**350**	PKP	**PKPdf**	**04 29 40.5**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=76,slow=5.1,SNR=7.9						
FINES	**FINESS Array B**	**133.13**	**344**	PKP	**PKPdf**	**04 29 54.5**	**+1.1**
	comp=Z,5.6nm,1.0s,baz=50,slow=2.2,SNR=5.6						
NOA	**NORSAR Array B**	**136.34**	**353**	PKP	**PKPdf**	**04 30 01.2**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=12,slow=4.1,SNR=3.2						
SORM	**Soroca**	**142.69**	**330**	⇑*i*P	**PKPdf**	**04 30 09.0**	**-2.3**
BEL	**Belsk**	**142.83**	**340**	*e*PKP	**PKPdf**	**04 30 10.1**	**-1.4**
LEOM	**Leova**	**143.89**	**328**	⇓*i*P	**PKPdf**	**04 30 13.7**	**+0.3**
KWP	**Kalwaria Pacla**	**143.99**	**336**	*e*PKP	**PKPdf**	**04 30 13.7**	**+0.1**
KWP	**Kalwaria Pacla**	**143.99**	**336**	*e*PKPbc	**PKPdf**	**04 30 13.7**	**+0.1**
PRAR	**RASCA**	**144.24**	**331**	⇑*i*P	**PKPab**	**04 30 14.5**	**+0.2**
TLCR		**144.46**	**326**	⇓*i*P	**PKPab**	**04 30 15.3**	**+0.2**
BURAR	**Bucovina Array**	**144.52**	**332**	⇑*i*P	**PKPab**	**04 30 16.6**	**+1.1**
OJC	**Ojcow**	**144.54**	**340**	*e*PKP	**PKPab**	**04 30 15.2**	**-0.1**
BIZ	**Bicaz**	**144.61**	**330**	⇑*i*P	**PKPab**	**04 30 16.6**	**+0.9**
BRTR	**Keskin Array B**	**144.64**	**315**	PKP	**PKPab**	**04 30 16.0**	**-0.3**
	comp=Z,7.0nm,0.8s,baz=129,slow=2.7,SNR=29						
CFR	**Carcaliu**	**144.82**	**326**	⇑*i*P	**PKPab**	**04 30 16.8**	**+0.3**
ODBI	**Odobesti**	**144.98**	**328**	⇑*i*P	**PKPab**	**04 30 18.7**	**+1.6**
KSP	**Ksiaz**	**145.05**	**343**	*e*PKP	**PKPab**	**04 30 17.1**	**-0.1**
NIE	**Niedzica**	**145.05**	**338**	*e*PKP	**PKPab**	**04 30 17.4**	**+0.1**
VRI	**Vrincioaia**	**145.07**	**329**	⇑*i*P	**PKPbc**	**04 30 16.9**	**+0.4**
PLOR	**Plostina**	**145.12**	**329**	⇓*i*P	**PKPab**	**04 30 17.9**	**+0.1**
ANTO	**Ankara**	**145.14**	**315**	*e*PKPdf	**PKPab**	**04 30 18.2**	**+0.1**
ANTO	**Ankara**	**145.14**	**315**	⇑*i*P	**PKPab**	**04 30 18.2**	**+0.1**
BMR	**Baia Mare**	**145.22**	**334**	⇑*i*P	**PKPab**	**04 30 18.0**	**0.0**
HARR	**Harsova**	**145.26**	**326**	⇓*i*P	**PKPab**	**04 30 18.5**	**+0.2**
TLB	**Topalu**	**145.27**	**326**	⇑*i*P	**PKPab**	**04 30 18.2**	**-0.1**
OZUR		**145.37**	**330**	⇑*i*P	**PKPab**	**04 30 18.5**	**-0.2**
CLL	**Collm**	**145.41**	**347**	⇓*i*PKPbc	**PKPbc**	**04 30 17.7**	**+0.5**
	comp=Z,21nm,0.7s						
DPC	**Drobuska-Polom**	**145.49**	**343**	*e*PKP	**PKPab**	**04 30 18.7**	**-0.3**
LANS	**Liptovska Anna**	**145.56**	**339**	*e*PKP	**PKPab**	**04 30 19.4**	**0.0**
KRLC	**Kraliky**	**145.60**	**342**	*e*PKP	**PKPab**	**04 30 18.8**	**-0.7**
BRG	**Berggiesshubel**	**145.61**	**346**	*i* PKP	**PKPbc**	**04 30 18.2**	**+0.4**
	comp=Z,20nm,1.2s						
MORC	**Moravsky Berou**	**145.64**	**341**	⇓*i*P	**PKPbc**	**04 30 18.8**	**+0.8**
MORC	**Moravsky Berou**	**145.64**	**341**	*e*PKP	**PKPbc**	**04 30 18.6**	**+0.6**
DOPR	**Dopca**	**145.66**	**330**	⇑*i*P	**PKPab**	**04 30 19.8**	**0.0**
ISR	**Istrita**	**145.69**	**328**	⇑*i*P	**PKPab**	**04 30 19.6**	**-0.4**
MLR	**Muntele Rosu**	**145.73**	**329**	⇓*i*P	**PKPab**	**04 30 19.7**	**-0.6**
PVCC	**Panska Ves**	**145.78**	**345**	*e*PKP	**PKPab**	**04 30 19.3**	**-0.8**
CJR	**Cluj-Napoca**	**145.92**	**332**	⇑*i*P	**PKPab**	**04 30 20.2**	**-0.7**
SECR		**145.99**	**328**	⇓*i*P	**PKPab**	**04 30 20.2**	**-1.0**
VOIR		**146.20**	**329**	⇑*i*P	**PKPab**	**04 30 21.2**	**-0.9**
PRA	**Prague**	**146.24**	**345**	*e*PKP	**PKPbc**	**04 30 20.7**	**+1.1**
DRGR		**146.25**	**333**	⇑*i*P	**PKPab**	**04 30 20.8**	**+0.9**
VYHS	**Vyhne**	**146.34**	**339**	*e*PKP	**PKPbc**	**04 30 21.2**	**+1.2**
VYHS				*e*		04 30 23.4	
VRAC	**Vranov**	**146.34**	**342**	⇓*i*P	**PKPab**	**04 30 21.4**	**-1.0**
VRAC	**Vranov**	**146.34**	**342**	*e*PKP	**PKPbc**	**04 30 20.8**	**+0.8**
VRAC				*e*		04 30 23.4	
ARR	**Arges**	**146.46**	**330**	⇑*i*P	**PKPab**	**04 30 22.1**	**-1.0**
PSZ	**Piszkesteto**	**146.46**	**337**	⇑*i*P	**PKPbc**	**04 30 21.3**	**+0.9**
NKC	**Novy Kostel**	**146.55**	**347**	*e*PKP	**PKPbc**	**04 30 21.7**	**+1.2**
KRUC	**Moravsky**	**146.62**	**342**	*e*PKP	**PKPbc**	**04 30 21.5**	**+0.8**
KRUC				*e*		04 30 24.1	
TREC	**Trest**	**146.67**	**343**	*e*PKP	**PKPbc**	**04 30 21.5**	**+0.6**
TREC				*ex*	x	04 30 24.5	
MODS	**Modra-Piesok**	**146.96**	**340**	*e*PKP	**PKPbc**	**04 30 22.1**	**+0.4**
SIRR	**Siria**	**147.11**	**334**	⇓*i*P	**PKPbc**	**04 30 23.1**	**+1.0**
MEM	**Membach**	**147.16**	**355**	⇑*i*PKP	**PKPbc**	**04 30 22.7**	**+0.6**
GZR	**Gura Zlata**	**147.30**	**332**	⇑*i*P	**PKPbc**	**04 30 23.3**	**+0.6**
GRFO	**Grafenberg**	**147.31**	**348**	*e*PKPbc	**PKPbc**	**04 30 23.1**	**+0.6**
KHC	**Kasperske Hory**	**147.32**	**345**	*e*PKP	**PKPbc**	**04 30 23.4**	**+0.8**
KHC				*ex*	x	04 30 26.6	
BCLA	**Clavier**	**147.41**	**355**	⇓PKP	**PKPab**	**04 30 25.8**	**-0.9**
GERES	**GERESS Array B**	**147.56**	**345**	PKPbc	**PKPbc**	**04 30 23.8**	**+0.5**
	comp=Z,7.3nm,0.7s,baz=24,slow=3.1,SNR=67						
BZS	**Buzias**	**147.64**	**333**	⇑*i*P	**PKPbc**	**04 30 24.2**	**+0.7**
DOU	**Dourbes**	**147.78**	**356**	⇓PKP	**PKPbc**	**04 30 24.0**	**+0.3**
CONA	**Conrad Observa**	**147.80**	**342**	*e*PKiKP	**PKiKP**	**04 30 25.1**	**-0.2**
	comp=Z,10nm,0.7s,SNR=12						
HERR	**Herculane**	**147.86**	**331**	⇑*i*P	**PKPbc**	**04 30 24.9**	**+0.9**
WLF	**Walferdange**	**148.08**	**354**	⇑PKP	**PKPbc**	**04 30 25.6**	**+1.1**
MOA	**Molln**	**148.32**	**343**	*e*PKiKP	**PKiKP**	**04 30 25.9**	**-0.4**
	comp=Z,4.2nm,0.9s						
ARSA	**Arseng**	**148.51**	**341**	*e*PKPbc	**PKPbc**	**04 30 26.0**	**+0.4**
	comp=Z,7.0nm,1.3s						
BFO	**Black Forest**	**149.13**	**351**	*e*PKPbc	**PKPbc**	**04 30 27.3**	**+0.2**
BFO				*e*PKPab	**PKPab**	**04 30 33.4**	**-0.4**
VTS	**Vitosha**	**149.18**	**328**	⇑*i*P	**PKPbc**	**04 30 28.6**	**+1.0**
KBA	**Koelnbreinsper**	**149.28**	**344**	*e*PKPbc	**PKPbc**	**04 30 27.8**	**+0.1**
	comp=Z,4.0nm,0.5s						
WATA	**Walderalm**	**149.47**	**346**	*e*PKPbc	**PKPbc**	**04 30 28.4**	**+0.3**
	comp=Z,4.3nm,0.5s,SNR=7.4						
RETA	**Reutte**	**149.51**	**347**	*i* PKPbc	**PKPbc**	**04 30 28.6**	**+0.5**
	comp=Z,3.3nm,0.6s,SNR=4.4						
WTTA	**Wattenberg**	**149.53**	**346**	*e*PKiKP	**PKiKP**	**04 30 28.8**	**-0.2**
	comp=Z,11nm,0.6s,SNR=5.2						
MOTA	**Moosalm**	**149.57**	**347**	*e*PKPbc	**PKPbc**	**04 30 28.5**	**+0.1**
	comp=Z,4.2nm,0.6s,SNR=7.1						
MYKA	**Terra Mystica**	**149.61**	**343**	*e*PKPbc	**PKPbc**	**04 30 28.3**	**-0.1**
	comp=Z,6.6nm,0.5s,SNR=4.3						
SQTA	**Sankt Quirin**	**149.66**	**347**	*e*PKPbc	**PKPbc**	**04 30 28.9**	**+0.4**
	comp=Z,20nm,1.2s,SNR=7.5						
ABTA	**Abfaltersbach**	**149.80**	**345**	*i* PKPbc	**PKPbc**	**04 30 28.9**	**0.0**
	comp=Z,22nm,1.2s,SNR=10						
DAVA	**Damuels**	**149.87**	**348**	*e*PKiKP	**PKiKP**	**04 30 29.7**	**0.0**
	comp=Z,7.2nm,0.8s,SNR=5.6						
FETA	**Feichten**	**149.96**	**347**	*e*PKiKP	**PKiKP**	**04 30 29.8**	**-0.1**
	comp=Z,9.1nm,0.9s,SNR=5.7						
ASCN	**Ascension**	**149.98**	**147**	*e*PKPbc	**PKPbc**	**04 30 31.5**	**+1.4**
BLY	**Banja Luka**	**150.14**	**337**	⇑*i*P	**PKPbc**	**04 30 30.7**	**+1.1**
ESDC	**Sonseca Array**	**157.81**	**11**	PKPab	**PKPab**	**04 31 10.1**	**-1.1**
	comp=Z,1.4nm,0.9s,baz=18,slow=4.6,SNR=5.0						
KEST	**Kesra**	**160.89**	**340**	PKPab	**PKPab**	**04 31 25.1**	**+0.3**
	comp=Z,2.8nm,0.9s,baz=278,slow=2.2,SNR=4.2						

*IDC **11** 04:27:20.2±2.5, 13.°30N×91.°93W, h0km, mb3.8/3, mb1 4.1/6, mb1mx3.7/37, mbtmp3.7/6, ML3.5/3, Error ellipse: s-maj=43.6km s-min=28.8km az=173.0*
*MEX **11** 04:27:24.5±0.4, 13.°59N×92.°01W, h15km±105km, MD3.8*

ISC 11 04:27:29.4±1.5, **13.°8N**±0.°1×**92.°13W**±0.°08, **h35**km, **n11**, σ1.°69/16, **mb3.8**/3, **1C, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.07**	**353**	⇑*i*P	**Pn**	**04 27 45.3**	**-2.6**
THIG				*i* S	**Sn**	**04 28 01.6**	**+0.1**
APG	**El Apazote**	**1.98**	**54**	Pn	**Pn**	**04 27 58.8**	**-1.8**
	15nm,0.3s,baz=214,slow=16,SNR=101						
APG				Sn	**Sn**	**04 28 27.1**	**+2.7**
	18nm,0.3s,baz=304,slow=15,SNR=18						
PCIG		**2.13**	**330**	*e*P	**Pn**	**04 28 00.4**	**-2.2**
PCIG				*i* S	**Sn**	**04 28 28.2**	**+0.4**
CCIG	**Comitan**	**2.43**	**360**	*e*P	**Pn**	**04 28 05.2**	**-1.6**
CCIG				*i* S	**Sn**	**04 28 35.8**	**+0.5**
TGIG		**3.08**	**342**	*e*P	**Pn**	**04 28 14.4**	**-1.1**
TGIG

mb1 4.2/10,mb1mx4.0/42,mbtmp4.1/10,ML4.1/4,Error ellipse: s-maj=34.3km s-min=17.6km az=61.0
*ISCJB **11** 04:51:19.1±1.3,5˚S±2˝×13˚4E±˚,h37km±16km,MA4.5/12, mb4.7/12,mB5.2/5,MLv4.3/6,Mw(mB)4.6/5*
ISC 11 04:51:15.9±0.5,**5˚06S**±0˚05×**133˚99E**±0˚05,**h28**km,**n45,** σ3°**05**/57,**mb4.0**/8,**1D,Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**1.42**	**348**	P	**Pn**	**04 51 37.0**	**-2.8**
FAKI	**Fak Fak**	**2.74**	**321**	*e*Pn	**Pn**	**04 51 56.5**	**-1.7**
FAKI				*e*Sn	**Sn**	**04 52 25.2**	**-5.1**
FAKI	**Fak Fak**	**2.74**	**321**	P	**Pn**	**04 51 56.6**	**-1.5**
FAKI				S	**Sn**	**04 52 27.1**	**-3.3**
RKPI	**Ransiki, Papua**	**3.53**	**3**	P	**Pn**	**04 52 08.8**	**-0.1**
RKPI				S	**Sn**	**04 52 45.2**	**-4.5**
BNDI	**Bandanaira**	**4.11**	**277**	P	**Pn**	**04 52 18.1**	**+1.2**
BNDI				S	**Sn**	**04 53 05.7**	**+1.7**
SIJI	**Sorong**	**4.97**	**327**	Pn	**Pn**	**04 52 27.6**	**-1.2**
	6.2nm,0.3s,baz=270,slow=22,SNR=11						
SIJI				Sn	**Sn**	**04 53 20.0**	**-5.4**
	8.9nm,0.3s,baz=195,slow=23,SNR=6.3						
MSAI	**Masohi**	**5.33**	**288**	P	**Pn**	**04 52 33.8**	**+0.1**
	17nm,0.6s,1μm0.2nm						
AAI	**Ambon**	**5.94**	**283**	P	**Pn**	**04 52 42.6**	**+0.6**
	164nm,0.8s,2μm						
JAY	**Jayapura**	**7.16**	**70**	Pn	**Pn**	**04 53 00.6**	**+1.7**
	1.5nm,0.3s,baz=203,slow=13,SNR=6.1						
JAY				Sn	**Sn**	**04 54 19.6**	**+0.3**
	0.4nm,0.3s,baz=328,slow=11,SNR=1.8						
JAY	**Jayapura**	**7.16**	**70**	P	**Pn**	**04 53 00.4**	**+1.5**
	202nm,1.1s						
MTN	**Manton Dam**	**8.24**	**200**	*e*Pn	**Pn**	**04 53 15.9**	**+2.3**
MTN				*e*Sn	**Sn**	**04 54 46.7**	**+0.9**
SANI	**Sanana**	**8.53**	**290**	P	**Pn**	**04 53 16.1**	**-1.5**
	21nm,0.5s,0.1nm						
SOEI	**Soe**	**10.71**	**244**	*e*Pn	**Pn**	**04 53 49.1**	**+1.4**
SOEI				*e*Sn	**Sn**	**04 55 54.8**	**+8.0**
SOEI	**Soe**	**10.71**	**244**	P	**Pn**	**04 53 52.0**	**+4.3**
	42nm,0.6s						
BATI	**Baumata**	**11.44**	**243**	P	**Pn**	**04 53 59.0**	**+1.4**
	16nm,1.1s						
COEN	**Coen**	**12.65**	**135**	*e*Pn	**Pn**	**04 54 14.7**	**+0.5**
COEN				*e*Sn	**Sn**	**04 56 28.4**	**-5.9**
SPSI	**Sidrap Palu**	**14.22**	**274**	P	**Pn**	**04 54 38.3**	**+2.7**
	6.7nm,0.7s						
WRAB	**Tennant Creek**	**14.79**	**179**	*e*Pn	**Pn**	**04 54 42.6**	**-0.7**
WRAB				*e*Sn	**Sn**	**04 57 20.1**	**-6.3**
WRA	**Warramunga Arr**	**14.80**	**179**	Pn	**Pn**	**04 54 41.8**	**-1.7**
	0.5nm,0.3s,baz=355,slow=13,SNR=57						
WRA				Sn	**Sn**	**04 57 22.9**	**-3.7**
	0.9nm,0.3s,baz=357,slow=23,SNR=4.7						
WB2	**Warramunga Arr**	**14.80**	**179**	*e*Pn	**Pn**	**04 54 41.7**	**-1.8**
FITZ	**Fitzroy Crossi**	**15.32**	**212**	Pn	**Pn**	**04 54 48.1**	**-2.2**
	2.5nm,0.3s,baz=27,slow=10,SNR=98						
FITZ				Sn	**Sn**	**04 57 30.9**	**-8.3**
	1.5nm,0.3s,baz=202,slow=13,SNR=6.0						
FITZ	**Fitzroy Crossi**	**15.32**	**212**	*e*Pn	**Pn**	**04 54 48.4**	**-1.9**
	8.2nm,0.6s						
FITZ				*e*Sn	**Sn**	**04 57 31.2**	**-8.0**
AS01	**Alice Springs**	**18.50**	**180**	*e*P	**Pn**	**04 55 30.9**	**+0.6**
AS31	**Alice Springs**	**18.50**	**180**	*e*P	**Pn**	**04 55 32.4**	**+2.1**
	5.7nm,0.6s						
ASAR	**Alice Springs**	**18.50**	**180**	P	**P**	**04 55 30.4**	**+0.3**
	0.9nm,0.3s,baz=357,slow=12,SNR=39						
ASAR				S	**Sn**	**04 58 52.1**	**-4.4**
	0.3nm,0.3s,baz=2.0,slow=29,SNR=4.3						
CTA	**Charters Tower**	**19.12**	**142**	P	**Pn**	**04 55 40.9**	**+3.0**
	0.7nm,0.3s,baz=322,slow=13,SNR=7.0						
CTAO	**Charters Tower**	**19.12**	**142**	*e*P	**P**	**04 55 36.6**	**-0.3**
	20nm,0.6s						
MBWA	**Marble Bar**	**21.16**	**220**	*e*P	**P**	**04 55 58.8**	**-0.3**
CBJI	**Citeko**	**27.04**	**266**	P	P	04 56 48.5	-7.6
CMAR	**Chiang Mai Arr**	**41.71**	**305**	P	**P**	**04 59 03.2**	**+0.5**
	0.8nm,0.4s,baz=132,slow=6.9,SNR=7.2						
GTA	**Gaotai**	**54.33**	**328**	*e*P	**P**	**05 00 40.8**	**+0.6**
GTA				pP	pP	05 00 44.3	-4.5
GTA				sP	sP	05 00 46.8	-5.4
GTA				pmax	pmax		
	comp=Z,7.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,61nm,5.3s						
GTA				LR	LR		
	comp=N,6μm,19.6s						
GTA				LR	LR		
	comp=E,2μm,19.6s						
GTA				LR	LR		
	comp=Z,290nm,20.3s						
SONM	**Songino Array**	**57.99**	**338**	P	**P**	**05 01 06.5**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=162,slow=6.5,SNR=4.6						
WMQ	**Urumqi**	**64.04**	**324**	P	**P**	**05 01 48.6**	**+1.3**
WMQ				pP	sP	05 01 58.5	-0.8
WMQ				sP	pP	05 02 03.5	+7.5
WMQ				pmax	pmax		
	comp=Z,33nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,580nm,4.9s						
MK01	**Makanchi Array**	**68.85**	**325**	*e*P	**P**	**05 02 17.9**	**0.0**
MK31	**Makanchi Array**	**68.86**	**325**	*e*P	**P**	**05 02 18.0**	**0.0**
MKAR	**Makanchi Array**	**68.86**	**325**	P	**P**	**05 02 19.0**	**+0.9**
	comp=Z,5.8nm,0.6s,baz=116,slow=8.1,SNR=45						
ZALV	**Zalesovo Beam**	**71.68**	**332**	P	**P**	**05 02 34.9**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=117,slow=4.3,SNR=5.5						
KURK	**Kurchatov**	**73.01**	**327**	*e*P	**P**	**05 02 43.1**	**0.0**
VNDA	**Vanda**	**73.92**	**174**	P	**P**	**05 02 50.5**	**+2.5**
	comp=Z,1.1nm,0.9s,baz=312,slow=6.9,SNR=5.6						
BRVK	**Borovoye**	**78.67**	**327**	*e*P	**P**	**05 03 15.2**	**-0.2**
SYO	**Syowa Base**	**86.90**	**201**	||*e*X	P	05 04 05.8	+8.0
ILAR	**Eielson Array**	**89.92**	**25**	P	**P**	**05 04 11.6**	**-0.6**
	comp=Z,0.7nm,1.0s,baz=239,slow=5.8,SNR=4.5						
TORD	**Torodi Ar. Bea**	**132.29**	**283**	PKP	**PKPdf**	**05 10 31.1**	**+2.7**
	comp=Z,0.5nm,1.0s,baz=143,slow=2.9						
NNA	**Nana**	**144.97**	**119**	PKPbc	**PKPdf**	**05 10 53.4**	**+1.7**
	comp=Z,7.2nm,0.7s,baz=213,slow=1.5,SNR=3.8						
CPUP	**Villa Florida**	**146.93**	**161**	PKPbc	**PKPbc**	**05 10 56.5**	**0.0**
	comp=Z,1.8nm,0.8s,baz=241,slow=8.7,SNR=5.1						

*IDC **11** 04:57:42.3±1.3,13˚71N×91˚94W,h0km,mb4.2/8, mb1 4.3/12,mb1mx4.0/51,mbtmp4.1/12,ML3.2/4,MS4.3/1, Ms1 4.3/1,ms1mx3.1/47,Error ellipse: s-maj=37.8km s-min=15.8km az=37.0*
*MEX **11** 04:57:45.0±0.3,13˚94N×91˚77W,h128km±10km,MD3.9*
*NEIC **11** 04:57:47.5±2.1,13˚88N×91˚67W,h29km±16km,mb4.4/36, Error ellipse: s-maj=11.4km s-min=5.5km az=211.0*
*ISCJB **11** 04:57:49.0±0.5,13˚88N±0˚07×91˚69W±0˚05,h61km, mb4.4/37,Error ellipse: s-maj=11.7km s-min=4.8km az=33.2*
ISC 11 04:57:49.8±0.7,**13˚89N**±0˚09×**91˚69W**±0˚07,**h61**km,**n79,** σ2°**03**/81,**mb4.4**/37,**Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.15**	**331**	*i* P	**Pn**	**04 58 06.9**	**-3.0**
THIG				*i* S	**Sn**	**04 58 24.8**	**-0.1**
APG	**El Apazote**	**1.62**	**47**	Pn	**Pn**	**04 58 18.4**	**+2.0**
	94nm,0.3s,baz=159,slow=12,SNR=330						
APG				LR	LR	04 58 38.8	
	comp=Z,308nm,20.9s,baz=200,slow=29						
APG				Sn	Sn	04 58 47.4	+11
	50nm,0.3s,baz=158,slow=20,SNR=6.4						
PCIG		**2.33**	**321**	*e*P	Pn	04 58 20.7	-5.1
PCIG				*i* S	**Sn**	**04 58 48.3**	**-5.1**
SNET	**Serv Nac Est T**	**2.40**	**95**	*e*Pn	**Pn**	**04 58 25.3**	**-1.5**
CCIG	**Comitan**	**2.42**	**350**	*e*Pn	**Pn**	**04 58 28.3**	**+1.1**
CCIG	**Comitan**	**2.42**	**350**	*e*P	Pn	04 58 22.4	-4.7
CCIG				*e*S	**Sn**	**04 58 51.2**	**-4.4**
TGIG		**3.19**	**334**	*e*P	Pn	04 58 31.8	-5.8
TGIG				*i* S	**Sn**	**04 59 08.4**	**-5.9**
TGUH	**Tegucigalpa,Un**	**4.29**	**87**	*e*Pn	**Pn**	**04 58 51.5**	**-1.1**
CMIG	**Matias Romero**	**4.43**	**316**	Pn	**Pn**	**04 58 50.2**	**-4.3**
	1.2nm,0.3s,baz=140,slow=13,SNR=15						
CMIG				Sn	**Sn**	**04 59 45.6**	**+0.8**
	4.5nm,0.3s,baz=121,slow=17,SNR=6.3						
ESTN	**Estel**	**5.23**	**98**	*e*Pn	**Pn**	**04 59 02.6**	**-3.0**
TEIG	**Tepich**	**7.09**	**27**	*e*Pn	**Pn**	**04 59 33.5**	**+2.5**
JTS	**JuntasAbangare**	**7.50**	**118**	Pn	**Pn**	**04 59 35.1**	**-1.5**
	0.9nm,0.3s,baz=7.7,slow=20,SNR=4.5						
JTS				Sn	**Sn**	**05 00 55.1**	**-5.1**
	0.9nm,0.3s,baz=342,slow=19,SNR=2.1						
JTS	**JuntasAbangare**	**7.50**	**118**	*e*Pn	**Pn**	**04 59 34.6**	**-2.0**
JTS				Sn	**Sn**	**05 00 55.1**	**-5.1**
TLIG	**Tlapa**	**7.56**	**300**	*e*Pn	**Pn**	**04 59 35.0**	**-2.6**
TLIG				*e*Sn	**Sn**	**05 01 03.4**	**+1.4**
POPC	**Popayan, Colom**	**18.64**	**126**	*e*P	**Pn**	**05 02 07.6**	**+3.8**
SOTA	**Rioblanco**	**18.94**	**127**	*e*P	**Pn**	**05 02 12.2**	**+4.5**
TX31	**Lajitas Ar. Si**	**18.95**	**326**	*e*P	**Pn**	**05 02 07.3**	**-0.1**
TXAR	**Lajitas Array**	**18.95**	**326**	P	**Pn**	**05 02 07.2**	**-0.2**
	0.1nm,0.3s,baz=156,slow=9.6,SNR=12						
ROSC	**El Tosal**	**19.34**	**116**	P	**Pn**	**05 02 13.3**	**+1.0**
	0.2nm,0.3s,baz=31,slow=13,SNR=3.0						
CHIC	**Chingaza**	**19.95**	**116**	*e*P	**P**	**05 02 18.2**	**+0.7**
ABTX	**Abilene, Hawle**	**20.01**	**340**	*e*P	**P**	**05 02 18.5**	**+0.9**
	10nm,0.8s						
FLOC	**Florencia**	**20.03**	**126**	*e*P	Pn	05 02 20.2	+0.1
UALR	**University of**	**20.80**	**358**	*e*P	**P**	**05 02 26.0**	**-0.1**
	18nm,1.1s						
GOGA	**Godfrey**	**20.82**	**20**	*e*P	**P**	**05 02 27.0**	**+0.7**
	29nm,1.6s						
X48A	**Hartselle**	**20.90**	**11**	*e*P	Pn	05 02 29.6	-0.7
	12nm,1.1s						
GDL2	**Guadalupe Moun**	**21.60**	**330**	*e*P	**P**	**05 02 35.6**	**+0.8**
MNTX	**Cornudas Mount**	**21.72**	**327**	*e*P	**P**	**05 02 35.6**	**-0.4**
	8.2nm,0.9s						
WMOK	**Wichita Mounta**	**21.72**	**344**	*e*P	**P**	**05 02 35.8**	**-0.2**
	12nm,1.3s						
V48A	**Smith Brothers**	**22.19**	**11**	*e*P	**P**	**05 02 41.9**	**+0.9**
	7.7nm,1.0s						
MSTX	**Muldoe**	**22.38**	**335**	*e*P	**P**	**05 02 43.7**	**+0.6**
	6.6nm,0.8s						
WVT	**Waverly**	**22.41**	**8**	*e*P	**P**	**05 02 43.5**	**+0.2**
	45nm,1.9s						
AMTX	**Amarillo**	**22.77**	**338**	*e*P	**P**	**05 02 46.1**	**-1.1**
	15nm,1.0s						
TKL	**Tuckaleechee C**	**22.81**	**17**	P	**P**	**05 02 48.7**	**+1.1**
	9.8nm,1.0s,baz=198,slow=11,SNR=7.3						
TKL	**Tuckaleechee C**	**22.81**	**17**	*e*P	**P**	**05 02 48.5**	**+0.9**
	14nm,1.0s						
PBMO	**Poplar Bluff**	**22.82**	**3**	*e*P	**P**	**05 02 47.2**	**-0.4**
	13nm,1.0s						
T47A	**Sharon Grove**	**23.36**	**9**	*e*P	**P**	**05 02 52.8**	**-0.2**
	20nm,1.0s						
BNM	**Barren Site**	**24.29**	**329**	*e*P	**P**	**05 03 03.2**	**+1.4**
LPM	**Los Pinos Moun**	**24.42**	**329**	*e*P	**P**	**05 03 04.1**	**+1.2**
LENM	**Lemitar**	**24.48**	**328**	*e*P	**P**	**05 03 05.5**	**+2.0**
WCI	**Wyandotte Cave**	**24.71**	**10**	*e*P	**P**	**05 03 05.3**	**+0.1**
	73nm,2.0s						
LAZ	**Ladron**	**24.75**	**328**	*e*P	**P**	**05 03 07.0**	**+1.1**
ANMO	**Albuquerque**	**24.84**	**330**	P	**P**	**05 03 07.5**	**+0.7**
	2.5nm,0.7s,baz=167,slow=12,SNR=13						
ANMO	**Albuquerque**	**24.84**	**330**	*e*P	**P**	**05 03 08.1**	**+1.3**
	3.2nm,0.9s						
T25A	**Trinidad**	**25.79**	**336**	*e*P	**P**	**05 03 16.3**	**+1.0**
	7.3nm,1.2s						
S22A	**4UR Ranch, Cre**	**27.31**	**333**	*e*P	**P**	**05 03 30.8**	**+1.6**
	22nm,2.0s						
113A	**Mohawk Valley,**	**27.54**	**317**	*e*P	**P**	**05 03 31.3**	**+0.5**
	9.7nm,1.4s						
MVCO	**Mesa Verde**	**27.64**	**330**	*e*P	**P**	**05 03 33.2**	**+1.1**
	8.4nm,1.1s						
PV01	**Paradox Valley**	**28.42**	**331**	*e*P	**P**	**05 03 39.6**	**+0.7**
PV13	**Radium Mtn., P**	**28.55**	**331**	*e*P	**P**	**05 03 41.6**	**+1.4**
	10nm,1.1s						
PV05	**Paradox Valley**	**28.62**	**330**	*e*P	**P**	**05 03 41.9**	**+1.1**
PV18	**Skein Mesa, Pa**	**28.67**	**331**	*e*P	**P**	**05 03 42.1**	**+1.0**
	14nm,1.2s						
PV12	**Saucer Basin,**	**28.67**	**331**	*e*P	**P**	**05 03 42.0**	**+0.8**
	10.0nm,1.1s						
PV11	**David Mesa, Pa**	**28.69**	**331**	*e*P	**P**	**05 03 42.8**	**+1.5**
	21nm,1.4s						
PV17	**East Wray Mesa**	**28.72**	**331**	*e*P	**P**	**05 03 43.1**	**+1.5**
	14nm,1.4s						
PV16	**Nyswonger Mesa**	**28.72**	**331**	*e*P	**P**	**05 03 42.9**	**+1.3**
	34nm,1.8s						
PV19	**Morning Glory**	**28.75**	**331**	*e*P	**P**	**05 03 42.9**	**+1.0**
	12nm,1.4s						
SZCU	**Shurtz Canyon**	**30.33**	**325**	*e*P	**P**	**05 03 58.0**	**+2.1**
	3.1nm,0.9s						
CCUT	**Cedar City**	**30.45**	**325**	*e*P	**P**	**05 03 59.6**	**+2.7**
	4.6nm,1.1s						
PSUT	**Pine Spring**	**31.42**	**325**	*e*P	**P**	**05 04 08.0**	**+2.5**
	3.3nm,1.0s						
HVU	**Hansel Valley**	**33.27**	**331**	*e*P	**P**	**05 04 23.8**	**+2.1**
	7.6nm,1.1s						
REDW	**Red Top Meadow**	**33.67**	**334**	*e*P	**P**	**05 04 26.3**	**+1.2**
	12nm,1.2s						
SNOW	**Snow King Moun**	**33.71**	**335**	*e*P	**P**	**05 04 26.8**	**+1.3**
	7.8nm,1.0s						
NV01	**Mina Array Sit**	**33.95**	**321**	*e*P	**P**	**05 04 29.0**	**+1.4**
NVAR	**Mina Array Bea**	**33.95**	**321**	P	**P**	**05 04 28.8**	**+1.2**
	2.4nm,0.9s,baz=136,slow=8.0,SNR=14						
PTGA	**Pitinga**	**34.62**	**112**	P	**P**	**05 04 33.9**	**+0.5**
	1.7nm,0.3s,baz=312,slow=8.6,SNR=6.9						
MCMT	**McKenzie Canyo**	**35.70**	**334**	*e*P	**P**	**05 04 44.9**	**+2.2**
J08A	**Circle Bar Ran**	**37.30**	**327**	*e*P	**P**	**05 04 57.9**	**+1.8**
	8.8nm,1.0s						
F10A	**Beach Ranch, E**	**38.55**	**331**	*e*P	**P**	**05 05 08.0**	**+1.3**
	12nm,1.1s						
YKA	**Yellowknife A**	**51.20**	**347**	P	**P**	**05 06 46.7**	**0.0**
	1.7nm,0.7s,baz=152,slow=7.0,SNR=5.0						
DLBC	**Dease Lake**	**52.88**	**336**	P	**P**	**05 07 01.6**	**+2.3**
	6.1nm,1.1s,baz=54,slow=3.2,SNR=3.2						
SFJD	**Kangerlussuaq**	**59.53**	**17**	LR	LR	05 33 30.1	
	comp=Z,239nm,20.8s,baz=320,slow=36						
INK	**Inuvik**	**60.63**	**343**	P	**P**	**05 07 53.6**	**-0.3**
	2.3nm,0.8s,baz=101,slow=8.9,SNR=5.1						
INK	**Inuvik**	**60.63**	**343**	*e*P	**P**	**05 07 53.9**	**-0.1**
	2.1nm,0.7s						
IL1	**Eielson Array**	**63.06**	**337**	*e*P	**P**	**05 08 10.8**	**+0.4**
ILAR	**Eielson Array**	**63.06**	**337**	P	**P**	**05 08 10.6**	**+0.2**
	1.4nm,1.1s,baz=122,slow=3.8,SNR=9.4						
MLY	**Manley**	**64.66**	**336**	*e*P	**P**	**05 08 22.2**	**+1.2**
	13nm,1.8s						
KSH	**Kashi**	**125.64**	**12**	*e*PKP	**PKPdf**	**05 16 45.6**	**+0.7**
LZH	**Lanzhou**	**128.17**	**344**	*e*PKP	**PKPdf**	**05 16 48.0**	**-1.9**
LZH				pPKP	pPKPdf	05 17 01.2	-6.6
LZH				sPKP		05 17 06.1	
CMAR	**Chiang Mai Arr**	**146.19**	**342**	PKPbc	**PKPab**	**05 17 25.8**	**+0.9**
	1.1nm,0.4s,baz=29,slow=2.1,SNR=10						

JMA 11 04:59:30.6±0.2,**35˚74N×140˚86E,h12**km±1km,**M3.7,2D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.04**	**182**	||P	Pg	04 59 32.7	-0.1
CHOJ				S	Sg	04 59 34.4	0.0
JSMT	**Sammumatsuo**	**0.35**	**254**	P	Pg	04 59 38.0	+0.4
JIHU	**Itakohorinouch**	**0.35**	**310**	P	Pb	04 59 38.3	-0.5
JCN	**Nagara**	**0.62**	**239**	P	Pb	04 59 43.4	0.0
JHYU	**Hitachinakayam**	**0.64**	**340**	P	Pg	04 59 42.8	-0.2
JHYU				*e*S	Sg	04 59 51.8	+0.3
JYT	**Yasato**	**0.73**	**312**	*e*S	Sg	04 59 53.8	-0.4
BSO4	**Boso 4**	**0.86**	**210**	P	Pg	04 59 47.0	-0.2
JHO	**Hitachi**	**0.90**	**345**	*e*S	Sg	04 59 59.1	-0.7
BSO3	**Boso 3**	**0.98**	**197**	||P	Pb	04 59 48.5	-0.8
MAT	**Matsushiro**	**2.29**	**291**	P	Pn	05 00 08.4	+0.2
MAT				*e*S	Sn	05 00 32.0	-4.4

*BJI **11** 05:01:15.2, 17˚30S×177˚80W,h573km,mb4.6/10, mB5.2/7*
*NEIC **11** 05:01:16.5±0.7, 17˚27S×177˚82W,h579km±13km, mb4.8/23,Error ellipse: s-maj=9.9km s-min=6.1km az=101.0*
*ISCJB **11** 05:01:17.4±0.3, 17˚54S±0˚05×178˚41W±0˚06,h550km, mb4.7/50,Error ellipse: s-maj=7.7km s-min=6.6km az=42.6*
*IDC **11** 05:01:17.1±1.3, 17˚55S×178˚43W,h515km±16km, mb3.7/14,mb1 3.8/17,mb1mx3.6/44,mbtmp4.7/17,Error ellipse: s-maj=13.4km s-min=9.2km az=148.0*
ISC 11 05:01:18.9±0.5,**17˚46S**±0˚08×**178˚41W**±0˚07,**h550**km, **n72,** σ1°**59**/69,**mb4.7**/50,**1C-1D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.30**	**62**	P	P	05 03 07.8	-2.1
	16nm,0.3s,baz=63,slow=5.7,SNR=17						
AFI				S	**S**	**05 04 37.2**	**-3.6**
	2.9nm,0.3s,baz=248,slow=23,SNR=3.2						
AFI	**Afiamalu**	**7.30**	**62**	*e*P	P	05 03 04.1	-5.8
DZM	**Mont Dzumac**	**14.97**	**250**	P	**P**	**05 04 27.9**	**-0.3**
	2.2nm,0.3s,baz=77,slow=16,SNR=17						
DZM	**Mont Dzumac**	**14.97**	**250**	*e*P	**P**	**05 04 30.9**	**+2.7**
	15nm,0.7s						
KNTN	**Kanton**	**16.01**	**25**	*e*P	P	05 04 31.3	-7.3
	137nm,1.2s						
RAR	**Rarotonga**	**17.98**	**105**	P	**P**	**05 04 57.3**	**+0.7**
	1.4nm,0.3s,baz=220,slow=11,SNR=3.9						
OUZ	**Omahuta**	**19.07**	**200**	*e*P	**P**	**05 05 06.6**	**+0.3**
	140nm,1.8s						
MXZ	**Matakaoa Point**	**20.23**	**188**	*e*P	**P**	**05 05 14.5**	**-2.3**
	60nm,1.1s						
URZ	**Urewera**	**21.09**	**190**	P	**P**	**05 05 21.9**	**-2.7**
	27nm,0.5s,baz=286,slow=1.1,SNR=38						
URZ	**Urewera**	**21.09**	**190**	*e*P	**P**	**05 05 22.4**	**-2.2**
	29nm,0.7s						
BKZ	**Black Stump Fm**	**22.07**	**191**	*e*P	**P**	**05 05 31.9**	**-1.7**
	65nm,1.8s						
BFZ	**Birch Farm**	**23.59**	**190**	*e*P	**P**	**05 05 46.4**	**-0.6**
	32nm,0.6s						
SNZO	**South Karori**	**24.49**	**193**	*e*P	**P**	**05 05 53.7**	**-1.2**
	160nm,1.5s						
LHI	**Lord Howe Isla**	**24.75**	**231**	*e*P	**P**	**05 05 58.0**	**+0.7**
	268nm,1.4s						
THZ	**Tophouse**	**25.34**	**195**	*e*P	**P**	**05 06 01.4**	**-1.1**
	116nm,1.9s						
KHZ	**Kahutara**	**25.80**	**194**	*e*P	**P**	**05 06 05.0**	**-1.5**
	169nm,1.9s						
LTZ	**Lake Taylor**	**26.45**	**196**	*e*P	**P**	**05 06 11.4**	**-0.9**
	21nm,0.7s						
OXZ	**Oxford**	**27.02**	**195**	*e*P	**P**	**05 06 15.9**	**-1.4**
PPT	**Papeete**	**27.49**	**95**	P	**P**	**05 06 22.8**	**+1.1**
	21nm,0.5s,baz=45,slow=20,SNR=4.2						
RPZ	**Rata Peaks**	**27.65**	**197**	P	**P**	**05 06 21.5**	**-1.2**
	10nm,0.5s,baz=205,slow=0.2,SNR=3.6						
FOZ	**Fox Glacier**	**27.84**	**199**	*e*P	**P**	**05 06 23.3**	**-1.0**
	258nm,1.7s						
WKZ	**Wanaka**	**29.25**	**198**	*e*P	**P**	**05 06 35.3**	**-1.4**
	133nm,1.4s						
KWAJ	**Kwajalein Atol**	**29.53**	**331**	*e*P	**P**	**05 06 37.3**	**-2.1**
	450nm,1.2s						
MLZ	**Mavora Lakes**	**30.01**	**199**	*e*P	**P**	**05 06 42.2**	**-1.1**
	44nm,0.8s						
ARMA	**Armidale**	**30.16**	**239**	*e*P	**P**	**05 06 46.1**	**+1.2**
	21nm,0.6s						
DCZ	**Deep Cove**	**30.41**	**200**	*e*P	**P**	**05 06 45.8**	**-0.8**
	178nm,1.7s						
WHZ	**Wether Hill Ro**	**30.54**	**199**	*e*P	**P**	**05 06 47.3**	**-0.4**
	149nm,1.6s						
CTA	**Charters Tower**	**33.52**	**260**	P	**P**	**05 07 13.8**	**+0.3**
	5.9nm,0.6s,baz=91,slow=12,SNR=8.9						
CAN	**Canberra**	**33.97**	**232**	*e*P	**P**	**05 07 17.6**	**+0.4**
	22nm,1.0s						
COEN	**Coen**	**37.10**	**270**	*e*P	**P**	**05 07 44.5**	**+1.2**
	9.5nm,0.6s						
TAU	**Tasmania Unive**	**38.57**	**222**	*e*P	**P**	**05 07 54.6**	**-0.2**
	30nm,1.0s						
STKA	**Stephens Creek**	**38.84**	**241**	P	**P**	**05 07 58.2**	**+1.0**
	21nm,0.5s,baz=91,slow=10,SNR=70						
STKA	**Stephens Creek**	**38.84**	**241**	*e*P	**P**	**05 07 58.1**	**+0.9**
	8.8nm,1.1s						
JAY	**Jayapura**	**42.78**	**286**	P	**P**	**05 08 30.6**	**+1.7**
	15nm,1.1s,baz=209,slow=12,SNR=3.1						
BYL	**Byron's Ledge**	**43.13**	**33**	*e*P	P	05 08 22.9	-8.6
	406nm,1.0s						
HON	**Honolulu**	**43.43**	**28**	*e*P	P	05 08 24.1	-9.5
	150nm,1.0s						
BBOO	**Buckleboo**	**43.62**	**241**	*e*P	**P**	**05 08 35.4**	**+0.4**
	53nm,0.9s						
WB2	**Warramunga Arr**	**44.70**	**259**	*e*P	**P**	**05 08 43.4**	**-0.2**
WRAB	**Tennant Creek**	**44.70**	**259**	*e*P	**P**	**05 08 43.3**	**-0.3**
	10nm,0.6s						
WRA	**Warramunga Arr**	**44.71**	**259**	P	**P**	**05 08 43.1**	**-0.6**
	7.3nm,0.4s,baz=96,slow=6.8,SNR=332						
WRA				PcP	**PcP**	**05 10 14.8**	**+0.6**
	0.7nm,0.4s,baz=88,slow=3.3,SNR=3.1						
AS01	**Alice Springs**	**44.87**	**254**	*e*P	**P**	**05 08 44.9**	**0.0**
AS31	**Alice Springs**	**44.91**	**254**	*e*P	**P**	**05 08 45.5**	**+0.3**
	25nm,0.6s						
ASAR	**Alice Springs**	**44.91**	**254**	P	**P**	**05 08 45.5**	**+0

GO04	**Tololo Observa**	**1.78**	**34**	*eP*		**Pg**	**05 03 25.0**	**+0.2**
GO04				*eS*		**Sg**	**05 03 48.9**	**+1.0**
PEL	**Peldehue**	**1.82**	**145**	*eP*		**Pg**	**05 03 23.8**	**-0.7**
PEL				*eS*		**Sn**	**05 03 45.8**	**-0.4**
PEL				IAML			05 03 51.3	
	comp=E,439nm,0.4s							
AUSP	**Uspallata**	**2.24**	**105**	*eP*		**Pb**	**05 03 33.0**	**+1.2**
AUSP				*eS*		**Sg**	**05 04 02.5**	**-0.2**
RTLS	**Leoncito**	**2.26**	**94**	*eP*		**Pg**	**05 03 33.5**	**-0.4**
RTLS				*eS*		**Sg**	**05 04 03.1**	**-0.1**
RTLS				IAML			05 04 09.7	
	comp=Z,123nm,0.6s							
AROD	**Rodeo**	**2.59**	**56**	*eP*		**Pb**	**05 03 39.1**	**+1.3**
AROD				*eS*		**Sg**	**05 04 14.0**	**0.0**
ACCO	**Cerro Coronel**	**2.69**	**67**	*eP*		**Pb**	**05 03 40.3**	**+0.9**
ACCO				*eS*		**Sg**	**05 04 17.6**	**+0.6**
ASAL	**Salagasta**	**2.79**	**110**	*eP*		**Pb**	**05 03 42.2**	**+1.1**
ASAL				*eS*		**Sg**	**05 04 19.7**	**-0.7**
ARCO	**CERRO ARCO**	**2.81**	**116**	*eP*		**Pb**	**05 03 42.3**	**+0.9**
ARCO				*eS*		**Sb**	**05 04 17.0**	**+0.9**
ARCO				IAML			05 04 26.9	
	comp=Z,140nm,0.5s							
ACDV	**Cuesta del Vie**	**2.84**	**59**	*eS*		**Sg**	**05 04 22.2**	**+0.2**
RTCV	**Cerro Valdivia**	**2.90**	**95**	*eP*		**Pb**	**05 03 42.9**	**0.0**
RTCV				*eS*		**Sb**	**05 04 19.8**	**+1.0**
AAGR	**Agrelo**	**2.99**	**119**	*eP*		**Pb**	**05 03 44.1**	**-0.4**
AAGR				*eS*		**Sg**	**05 04 26.8**	**0.0**
AMOG	**MOGNA**	**3.04**	**77**	*eP*		**Pb**	**05 03 44.9**	**-0.4**
AMOG				*eS*		**Sg**	**05 04 28.0**	**-0.2**
AGUA	**GUANDACOL**	**3.68**	**55**	*eP*		**Pb**	**05 03 54.8**	**-1.4**
AGUA				*eS*		**Sg**	**05 04 51.0**	**+2.1**
ACAN	**Cantantal**	**4.08**	**100**	*eP*		**Pb**	**05 03 59.1**	**-4.0**
VCA	**Vinchina**	**4.35**	**49**	*eP*		**Pb**	**05 04 05.4**	**-2.3**
VCA				*eS*		**Sb**	**05 04 57.1**	**-3.6**
VCA				IAML			05 05 13.0	
	comp=Z,88nm,0.5s							

IDC ***11*** *05:05:52.6±0.6, 10°.83S×164°.96E, h0km, mb4.3/19, mb1 4.5/21, mb1mx4.3/51, mbtmp4.4/21, ML4.9/2, MS3.9/4, Ms1 3.9/4, ms1mx3.3/44, Error ellipse: s-maj=19.4km s-min=14.2km az=116.0*

ISCJB ***11*** *05:05:55.3±0.3, 10°.86S±0°.04×164°.94E±0°.04, h31km, mb4.4/33, MS3.9/2, Error ellipse: s-maj=6.5km s-min=5.8km az=38.2*

NEIC ***11*** *05:05:56.2±1.8, 10°.82S×164°.95E, h25km±13km, mb4.5/18, Error ellipse: s-maj=7.1km s-min=4.9km az=138.0*

ISC 11 05:05:57.2±0.5, 10°.81S±0°.06×164°.99E±0°.06, h31km, n65, σ0892/61, mb4.4/33, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**5.15**	**285**	Pn		**Pn**	**05 07 12.1**	**-0.2**
	60nm,0.3s,baz=127,slow=4.7,SNR=5.2							
HNR				Sn		**Sn**	**05 08 11.7**	**+1.0**
	40nm,0.3s,baz=37,slow=17,SNR=2.7							
HNR				LR		LR	05 09 20.2	
	comp=Z,995nm,18.7s,baz=112,slow=40							
HNR	**Honiara**	**5.15**	**285**	*eP*		**Pn**	**05 07 12.0**	**-0.2**
HNR	**Honiara**	**5.15**	**285**	*ePn*		**Pn**	**05 07 11.2**	**-1.0**
HNR				*eSn*		**Sn**	**05 08 11.7**	**+1.0**
DZM	**Mont Dzumac**	**11.28**	**173**	Pn		**Pn**	**05 08 36.3**	**-0.2**
	4.8nm,0.3s,baz=116,slow=23,SNR=41							
DZM				Sn		**Sn**	**05 10 43.0**	**+1.4**
	0.4nm,0.3s,baz=78,slow=22,SNR=2.6							
FUNA	**Funafuti**	**14.19**	**82**	*ePn*		**Pn**	**05 09 16.4**	**+0.2**
TARA	**Tarawa**	**14.44**	**34**	*ePn*		**Pn**	**05 09 18.8**	**-0.7**
MANU	**Manus Island**	**19.54**	**295**	*eP*		**P**	**05 10 22.3**	**-0.2**
	43nm,0.8s							
EIDS	**Eidsvold**	**19.58**	**220**	*eP*		**P**	**05 10 23.3**	**+0.5**
	18nm,0.9s							
KWAJ	**Kwajalein Atol**	**19.66**	**8**	*eP*		**P**	**05 10 23.2**	**-0.5**
	195nm,0.9s							
CTA	**Charters Tower**	**20.26**	**241**	P		**P**	**05 10 30.8**	**+0.5**
	29nm,0.9s,baz=69,slow=14,SNR=7.6							
CTAO	**Charters Tower**	**20.26**	**241**	*eP*		**P**	**05 10 30.6**	**+0.3**
	61nm,1.1s							
COEN	**Coen**	**21.53**	**259**	*eP*		**P**	**05 10 43.4**	**-0.6**
	13nm,0.9s							
ARMA	**Armidale**	**23.13**	**211**	*eP*		**P**	**05 11 00.4**	**-0.6**
	50nm,1.4s							
H11S2	**WAKE ISLAND Hy**	**29.17**	**3**	T		T	05 42 31.9	
	baz=184,slow=76,SNR=63							
H11S3	**WAKE ISLAND Hy**	**29.17**	**3**	T		T	05 42 28.1	
	baz=184,slow=76,SNR=28							
H11S1	**WAKE ISLAND Hy**	**29.18**	**3**	T		T	05 42 29.1	
	baz=184,slow=76,SNR=28							
STKA	**Stephens Creek**	**30.11**	**222**	P		**P**	**05 12 04.7**	**+0.5**
	7.7nm,0.8s,baz=42,slow=10,SNR=12							
STKA	**Stephens Creek**	**30.11**	**222**	*eP*		**P**	**05 12 04.3**	**+0.1**
	2.9nm,1.1s							
H11N1	**WAKE ISLAND Hy**	**30.39**	**4**	T		T	05 44 03.0	
	baz=184,slow=76,SNR=56							
H11N3	**WAKE ISLAND Hy**	**30.40**	**4**	T		T	05 44 03.1	
	baz=184,slow=76,SNR=24							
H11N2	**WAKE ISLAND Hy**	**30.41**	**4**	T		T	05 44 01.3	
	baz=184,slow=76,SNR=20							
WRAB	**Tennant Creek**	**30.86**	**249**	*eP*		**P**	**05 12 10.3**	**-0.6**
	7.9nm,1.3s							
WB2	**Warramunga Arr**	**30.86**	**249**	*eP*		**P**	**05 12 10.4**	**-0.6**
WR1	**Warramunga Arr**	**30.87**	**249**	*eP*		**P**	**05 12 08.8**	**-2.3**
	17nm,1.4s							
WRA	**Warramunga Arr**	**30.87**	**249**	P		**P**	**05 12 08.8**	**-2.3**
	2.3nm,0.7s,baz=79,slow=9.2,SNR=7.9							
WRA				LR		LR	05 23 10.2	
	comp=Z,302nm,21.6s,baz=240,slow=34							
AS01	**Alice Springs**	**32.19**	**243**	*eP*		**P**	**05 12 19.8**	**-3.0**
AS31	**Alice Springs**	**32.23**	**243**	*eP*		**P**	**05 12 21.6**	**-1.5**
	1.5nm,0.8s							
ASAR	**Alice Springs**	**32.23**	**243**	P		**P**	**05 12 21.1**	**-2.0**
	2.7nm,0.6s,baz=69,slow=9.5,SNR=9.1							
ASAR				LR		LR	05 26 19.4	
	comp=Z,249nm,18.1s,baz=12,slow=38							
OXZ	**Oxford**	**32.97**	**171**	*eP*		**P**	**05 12 28.4**	**-0.8**
	34nm,1.3s							
BBOO	**Buckleboo**	**34.45**	**226**	*eP*		**P**	**05 12 42.4**	**+0.1**
	23nm,0.8s							
FITZ	**Fitzroy Crossi**	**38.72**	**255**	LR		LR	05 29 03.2	
	comp=Z,131nm,19.7s,baz=60,slow=36							
PETK	**Petropavlovsk-**	**63.97**	**355**	P		**P**	**05 16 28.1**	**+0.7**
	3.2nm,0.9s,baz=155,slow=14							
PEA1	**Petropavlovsk-**	**63.98**	**355**	*eP*		**P**	**05 16 28.1**	**+0.7**
VNDA	**Vanda**	**66.71**	**181**	P		**P**	**05 16 45.9**	**+1.0**
	1.9nm,0.9s,baz=329,slow=4.8,SNR=9.2							
VNDA	**Vanda**	**66.71**	**181**	*eP*		**P**	**05 16 46.1**	**+1.3**
	6.5nm,1.1s							
SBA	**Scott Base**	**67.04**	**180**	*eP*		**P**	**05 16 46.5**	**-0.4**
	5.1nm,0.9s							
CM31	**Chiang Mai Arr**	**71.34**	**294**	*eP*		**P**	**05 17 15.1**	**+0.5**
CMAR	**Chiang Mai Arr**	**71.34**	**294**	P		**P**	**05 17 15.1**	**+0.5**
	1.1nm,0.4s,baz=121,slow=4.2,SNR=5.5							
SEY	**Seymchan**	**74.16**	**354**	P		**P**	**05 17 32.4**	**+2.0**
	4.0nm,0.9s,baz=67,slow=11,SNR=3.5							
SONA0	**Songino Array**	**78.04**	**324**	*eP*		**P**	**05 17 53.2**	**+0.2**
SONM	**Songino Array**	**78.04**	**324**	P		**P**	**05 17 53.2**	**+0.2**
	1.3nm,0.9s,baz=155,slow=8.2,SNR=6.3							
QSPA	**South Pole Qui**	**79.19**	**180**	P		**P**	**05 17 58.7**	**-0.3**
	7.2nm,1.0s,baz=349,slow=3.3,SNR=9.2							
ILAR	**Eielson Array**	**83.53**	**19**	P		**P**	**05 18 21.8**	**0.0**
	1.5nm,0.8s,baz=228,slow=6.2,SNR=14							
ILB	**Eielson Array**	**83.53**	**19**	*eP*		**P**	**05 18 21.8**	**0.0**
YBH	**Yreka Blue Hor**	**84.26**	**46**	P		**P**	**05 18 26.6**	**+0.4**
	3.5nm,1.1s,baz=139,slow=4.2,SNR=5.7							
AFDM	**Forest Hills D**	**84.61**	**49**	*eP*		**P**	**05 18 28.1**	**+0.1**
	3.7nm,1.0s							
MAW	**Mawson**	**84.66**	**202**	P		**P**	**05 18 28.5**	**+1.0**
	2.9nm,0.8s,baz=99,slow=13,SNR=3.7							
TIXI	**Tiksi**	**85.72**	**349**	P		**P**	**05 18 32.8**	**+0.1**
	0.9nm,0.5s,baz=330,slow=9.5,SNR=4.1							
PAHR	**Pah Rah Range**	**86.01**	**49**	*eP*		**P**	**05 18 34.4**	**-0.7**
	4.9nm,1.1s							
NV01	**Mina Array Sit**	**86.44**	**50**	*eP*		**P**	**05 18 36.9**	**-0.4**
NVAR	**Mina Array Bea**	**86.44**	**50**	P		**P**	**05 18 37.4**	**+0.1**
	1.8nm,0.9s,baz=235,slow=6.7,SNR=8.1							
NV11	**Mina Array Sit**	**86.56**	**50**	*eP*		**P**	**05 18 37.2**	**-0.6**
	0.4nm,1.3s							
J08A	**Circle Bar Ran**	**87.75**	**45**	*eP*		**P**	**05 18 43.0**	**-0.4**
	4.4nm,1.1s							
G08A	**Pilot Rock**	**87.99**	**43**	*eP*		**P**	**05 18 43.9**	**-0.7**
	4.1nm,1.1s							
CCUT	**Cedar City**	**89.98**	**52**	*eP*		**P**	**05 18 53.9**	**-0.3**
	4.9nm,1.5s							
DLMT	**Dillon**	**92.34**	**44**	*eP*		**P**	**05 19 05.2**	**+0.4**
	5.5nm,1.0s							
MK01	**Makanchi Array**	**92.83**	**317**	*eP*		**P**	**05 19 05.5**	**-1.5**
MK32	**Makanchi Array**	**92.84**	**317**	*eP*		**P**	**05 19 07.0**	**0.0**
MKAR	**Makanchi Array**	**92.84**	**317**	P		**P**	**05 19 07.0**	**0.0**
	1.6nm,0.8s,baz=101,slow=6.3,SNR=5.2							
ZALV	**Zalesovo Beam**	**92.93**	**324**	P		**P**	**05 19 07.1**	**-0.1**
	0.3nm,0.4s,baz=79,slow=7.7,SNR=3.8							
ZAA1	**Zalesovo Array**	**92.93**	**324**	*eP*		**P**	**05 19 07.1**	**-0.1**
PD31	**Pinedale Array**	**93.94**	**47**	*eP*		**P**	**05 19 12.1**	**-0.4**
PDAR	**Pinedale Array**	**93.94**	**47**	P		**P**	**05 19 12.3**	**-0.1**
	1.0nm,0.9s,baz=297,slow=0.7,SNR=7.1							
ANMO	**Albuquerque**	**94.93**	**56**	P		**P**	**05 19 16.6**	**-0.6**
	0.4nm,0.3s,baz=309,slow=6.8,SNR=2.5							
ANMO	**Albuquerque**	**94.93**	**56**	*eP*		**P**	**05 19 16.4**	**-0.7**
	0.3nm,0.5s							

GUC 11 05:06:57.3±0.7, 33°.97S×72°.28W, h41km±5km, ML3.7, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
GO05	**HualaæØ**	**1.07**	**164**	*i*↓P		Pn	05 07 16.3	+0.4
GO05				*eS*		Sn	05 07 31.0	+1.4
ANTU	**Antumapu**	**1.43**	**74**	*eP*		Pn	05 07 22.8	+1.9
ANTU				*eS*		Sn	05 07 41.0	+2.5
ANTU				IAML			05 07 43.9	
	comp=N,2μm,0.3s							
ROCH	**El Roble**	**1.46**	**47**	*eP*		Pn	05 07 22.9	+1.5
ROCH				*eS*		Sn	05 07 42.7	+3.3
ROCH				IAML			05 07 55.5	
	comp=N,2μm,0.6s							
PEL	**Peldehue**	**1.57**	**59**	*eP*		Pn	05 07 24.4	+1.6
PEL				*eS*		Sn	05 07 44.7	+2.8
PEL				IAML			05 07 54.2	
	comp=N,2μm,0.4s							
LMEL	**Las Melosas**	**1.73**	**86**	*eP*		Pn	05 07 27.3	+2.2
LMEL				*eS*		Sn	05 07 50.6	+4.5
FCH	**Farellones**	**1.78**	**69**	*eP*		Pn	05 07 27.7	+1.8
FCH				*eS*		Sn	05 07 51.3	+3.8
FCH				IAML			05 07 57.8	
	comp=N,1μm,0.3s							
CMCH	**Combarbala**	**3.00**	**22**	*eP*		Pn	05 07 50.6	+8.2
CMCH				*eS*		Sn	05 08 18.8	+1.7

GUC 11 05:09:08.7±0.5, 33°.94S×72°.38W, h37km±4km, ML3.7, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
GO05	**HualaæØ**	**1.14**	**161**	*i*↓P		Pn	05 09 28.8	+0.7
GO05				*eS*		Sn	05 09 44.0	+1.6
ROCH	**El Roble**	**1.50**	**50**	*eP*		Pn	05 09 35.2	+2.0
ROCH				IAML			05 10 02.5	
	comp=N,1μm,0.2s							
ANTU	**Antumapu**	**1.50**	**76**	*eP*		Pn	05 09 34.5	+1.4
PEL	**Peldehue**	**1.62**	**61**	*i*↑P		Pn	05 09 37.0	+2.2
PEL				*eS*		Sn	05 09 57.9	+3.4
PEL				IAML			05 10 05.4	
	comp=E,2μm,0.6s							
CLCH	**Cerro Calan**	**1.63**	**71**	*eP*		Pn	05 09 36.8	+1.8
CLCH				IAML			05 10 04.8	
	comp=E,2μm,0.3s							
LMEL	**Las Melosas**	**1.81**	**88**	*eP*		Pn	05 09 39.6	+2.1
LMEL				*eS*		Sn	05 10 03.3	+4.0
LMEL				IAML			05 10 07.3	
	comp=N,2μm,0.2s							
FCH	**Farellones**	**1.85**	**71**	*eP*		Pn	05 09 40.4	+2.2
FCH				*eS*		Sn	05 10 03.5	+3.1

SJA ***11*** *05:10:50.5±1.3, 34°.13S×72°.97W, h52km±38km, ML4.7, MW4.7*

GUC ***11*** *05:10:55.8±0.6, 33°.96S×72°.31W, h35km±3km, ML4.6*

NEIC ***11*** *05:10:55.9±1.3, 33°.96S×72°.13W, h13km±8km, mb4.6/6, ML4.6(GUC), Error ellipse: s-maj=11.7km s-min=5.1km az=94.0*

NEIC Felt [III] at La Estrella, Litueche and Navidad; [II] at Curico, El Quisco, Parral, Pichilemu, Rancagua, San Antonio, San Fernando and Talca. Also felt at Chanco, Santiago and Vina del Mar.

IDC ***11*** *05:10:59.6±4.5, 33°.95S×71°.84W, h37km±37km, mb3.9/9, mb1 4.0/11, mb1mx3.8/38, mbtmp4.1/11, ML4.3/2, MS4.2/7, Ms1 4.1/7, ms1mx3.8/27, Error ellipse: s-maj=33.3km s-min=16.7km az=96.0*

ISC 11 05:10:54.4±1.3, 33°.93S±0°.03×72°.23W±0°.06, h5km±7km, n61, σ1848/67, mb4.3/12, MS4.1/6, 3C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
GO05	**HualaæØ**	**1.10**	**167**	*e*Pg		**Pg**	**05 11 15.4**	**-0.1**
GO05				*e*Sg		**Sn**	**05 11 31.1**	**-1.1**
GO05	**HualaæØ**	**1.10**	**167**	*i*↓P		**Pg**	**05 11 15.0**	**-0.5**
GO05				*eS*		**Sb**	**05 11 30.0**	**-0.7**
ANTU	**Antumapu**	**1.38**	**75**	*eP*		**Pg**	**05 11 21.1**	**+0.3**
ANTU				*eS*		**Sg**	**05 11 39.8**	**+1.1**
ANTU				IAML			05 11 44.9	
	comp=N,19μm,0.4s							
ROC1	**El Roble**	**1.39**	**47**	*e*Pn		**Pg**	**05 11 21.9**	**+0.8**
CLCH	**Cerro Calan**	**1.51**	**70**	*i*↑P		**Pg**	**05 11 23.0**	**-0.3**
CLCH				*eS*		**Sg**	**05 11 43.4**	**+0.6**
PEL	**Peldehue**	**1.51**	**59**	*e*Pn		**Pg**	**05 11 23.7**	**+0.4**
PEL	**Peldehue**	**1.51**	**59**	*i*↑P		**Pg**	**05 11 23.2**	**-0.1**
PEL				*eS*		**Sg**	**05 11 43.8**	**+0.9**
PEL				IAML			05 11 51.8	
	comp=E,11μm,0.5s							
LMEL	**Las Melosas**	**1.69**	**88**	*eP*		**Pg**	**05 11 25.8**	**-0.9**
LMEL				*eS*		**Sg**	**05 11 49.2**	**+0.6**
FCH	**Farellones**	**1.73**	**70**	*eP*		**Pg**	**05 11 26.6**	**-0.8**
FCH				*eS*		**Sg**	**05 11 49.7**	**-0.2**
FCH				IAML			05 11 58.6	
	comp=E,10μm,0.5s							
AUSP	**Uspallata**	**2.93**	**55**	*eP*		**Pb**	**05 11 45.9**	**-1.4**
AAGR	**Agrelo**	**2.96**	**74**	*eP*		**Pb**	**05 11 47.3**	**-0.5**
AAGR				*eS*		**Sg**	**05 12 27.9**	**-1.7**
ARCO	**CERRO ARCO**	**2.96**	**69**	*eP*		**Pb**	**05 11 47.6**	**-0.2**
ARCO				IAML			05 12 38.7	
	comp=Z,2μm,0.5s							
RTLS	**Leoncito**	**3.26**	**50**	*eP*		**Pb**	**05 11 50.2**	**-2.7**
RTLS				*eS*		**Sg**	**05 12 36.2**	**-2.8**
RTLS				IAML			05 12 42.3	
	comp=Z,1μm,0.6s							
SJA	**San Juan**	**3.91**	**53**	*i* P		Pn	05 11 49.2	-6.0
SJA				*i* S		Sn	05 12 28.2	-13
SJA				AMSG			05 12 35.0	
	comp=Z,10μm,1.2s							
SJA				AMSG			05 12 35.7	
	comp=Z,14μm,1.7s							
GO04	**Tololo Observa**	**3.94**	**18**	*e*Pn		**Pn**	**05 11 56.5**	**+0.8**
GO04				*e*Sn		**Sn**	**05 12 43.5**	**+1.0**
RTLL	**Cerro Villicun**	**4.09**	**52**	*i* P		**Pn**	**05 12 00.9**	**+3.2**
RTLL				*i* S		**Sb**	**05 12 58.0**	**+1.2**
RTLL				IAML			05 13 06.0	
	comp=Z,973nm,0.8s							
AMOG	**MOGNA**	**4.34**	**48**	*eP*		**Pn**	**05 12 04.9**	**+3.7**
LCO	**Las Campanas**	**5.08**	**15**	*e*Pn		**Pn**	**05 12 11.2**	**-0.2**
LCO				*e*Sn		**Sn**	**05 13 09.4**	**-1.2**
AGUA	**GUANDACOL**	**5.46**	**37**	*eP*		**Pn**	**05 12 19.3**	**+2.8**
GO06	**Curarrehue**	**5.67**	**174**	*e*Pn		**Pn**	**05 12 20.0**	**+0.5**
PLCA	**Paso Flores**	**6.92**	**169**	Pn		**Pn**	**05 12 37.2**	**+0.7**
	comp=Z,2.4nm,0.3s,baz=1.6,slow=10,SNR=14							
PLCA	**Paso Flores**	**6.92**	**169**	*e*Pn		**Pn**	**05 12 37.5**	**+0.9**
TRQA	**Tornquist**	**9.27**	**119**	*e*Pn		**Pn**	**05 13 08.8**	**+0.1**
PB10	**IPOC Station P**	**10.48**	**8**	*e*Pn		**Pn**	**05 13 28.2**	**+2.8**
LVC	**Limon Verde**	**11.65**	**15**	*e*Pn		**Pn**	**05 13 37.9**	**-3.8**
PB04	**IPOC Station P**	**11.70**	**10**	*e*Pn		**Pn**	**05 13 39.7**	**-2.5**
PB11	**IPOC Station P**	**14.30**	**10**	*e*Pn		**Pn**	**05 14 18.7**	**+1.0**
MNMC	**Minye Minye**	**14.93**	**10**	*e*Pn		**Pn**	**05 14 27.1**	**+0.7**
CPUP	**Villa Florida**	**14.94**	**63**	Pn		**Pn**	**05 14 28.6**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=255,slow=7.5,SNR=3.3							
CPUP				LR		LR	05 21 03.1	
	comp=Z,774nm,19.0s,baz=240,slow=41							
CPUP	**Villa Florida**	**14.94**	**63**	*e*Pn		**Pn**	**05 14 25.3**	**-1.0**
LPAZ	**La Paz**	**17.95**	**13**	P		**P**	**05 15 06.5**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=199,slow=8.2,SNR=11							
LPAZ	**La Paz**	**17.95**	**13**	*e*Pn		**Pn**	**05 15 05.7**	**+0.2**
	comp=Z,8.1nm,0.9s							
SIV	**San Ignacio**	**20.50**	**32**	P		**P**	**05 15 32.4**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=222,slow=10,SNR=12							
SIV				LR		LR	05 24 54.9	
	comp=Z,678nm,18.7s,baz=227,slow=41							
NNA	**Nana**	**22.25**	**348**	LR		LR	05 23 19.7	
	comp=Z,290nm,18.4s,baz=141,slow=33							
SPB	**Sao Paulo**	**24.00**	**71**	*eP*		**P**	**05 16 09.4**	**-0.7**
	comp=Z,41nm,1.2s							
SAML	**Samuel**	**26.22**	**21**	*eP*		**P**	**05 16 31.0**	**+0.7**
	comp=Z,5.2nm,1.0s							
ATAH	**Atahualpa**	**27.27**	**347**	LR		LR	05 26 32.9	
	comp=Z,324nm,18.7s,baz=47,slow=34							
BDFB	**Brasilia**	**28.43**	**56**	P		**P**	**05 16 48.5**	**-1.8**
	comp=Z,2.0nm,0.7s,baz=206,slow=15,SNR=2.9							
BDFB				LR		LR	05 30 06.0	
	comp=Z,457nm,18.9s,baz=211,slow=41							
BDFB	**Brasilia**	**28.43**	**56**	*eP*		**P**	**05 16 49.9**	**-0.4**
	comp=Z,12nm,0.9s							
PTGA	**Pitinga**	**34.97**	**22**	P		**P**	**05 17 48.4**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=267,slow=6.3,SNR=3.2							
VNA3	**Neumayer Olymp**	**49.48**	**158**	P		P	05 19 57.8	+12
VNA2	**Neumayer--Watz**	**50.13**	**157**	P		P	05 19 57.1	+6.8
SNAA	**Sanae**	**51.71**	**158**	P		P	**05 20 04.9**	**+2.7**
SNAA	**Sanae**	**51.71**	**158**	*eP*		**P**	**05 20 03.0**	**+0.8**
	comp=Z,13nm,1.2s							
QSPA	**South Pole Qui**	**56.30**	**180**	P		**P**	**05 20 36.4**	**+0.5**
	comp=Z,3.4nm,1.1s,baz=18,slow=5.0,SNR=3.8							
SYO	**Syowa Base**	**65.98**	**159**	*e*P		**P**	**05 21 43.2**	**+1.9**
TXAR	**Lajitas Array**	**69.60**	**331**	P		**P**	**05 22 05.4**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=152,slow=8.3,SNR=3.5							
TXAR				LR		LR	05 48 00.0	
	comp=Z,196nm,19.1s,baz=0.0,slow=32							
TKL	**Tuckaleechee C**	**70.07**	**350**	P		**P**	**05 22 08.7**	**+1.4**
	comp=Z,1.5nm,0.6s,baz=166,slow=13,SNR=2.4							
WVT	**Waverly**	**71.21**	**347**	*eP*		**P**	**05 22 14.0**	**-0.2**
	comp=Z,7.7nm,0.9s							
MAW	**Mawson**	**73.29**	**164**	P		**P**	**05 22 26.2**	**-0.1**
	comp=Z,2.1nm,0.6s,baz=211,slow=6.6,SNR=4.9							
DBIC	**Dimbokro**	**75.31**	**71**	P		**P**	**05 22 37.1**	**-1.8**
	comp=Z,5.0nm,1.2s,baz=229,slow=8.2,SNR=3.7							
DBIC				LR		LR	05 53 57.2	
	comp=Z,154nm,19.3s,baz=196,slow=34							
TOA0	**Torodi Ar. Sit**	**84.33**	**70**	*eP*		**P**	**05 23 27.9**	**0.0**
TORD	**Torodi Ar. Bea**	**84.33**	**70**	P		**P**	**05 23 27.3**	**-0.6**
	comp=Z,1.9nm,1.0s,baz=286,slow=6.8,SNR=11							
H11S2	**WAKE ISLAND Hy**	**25.61**	**269**	T		T	07 49 07.7	
	baz=118,slow=74,SNR=2.4							
H11S1	**WAKE ISLAND Hy**	**25.63**	**269**	T		T	07 49 04.4	
	baz=118,slow=74,SNR=3.0							
H11S3	**WAKE ISLAND Hy**	**25.63**	**269**	T		T	07 49 08.1	
	baz=118,slow=74,SNR=3.2							
KSH	**Kashi**	**153.99**	**68**	*e*PKPbc		**PKPdf**	**05 30 44.3**	**-2.8**
ZALV	**Zalesovo Beam**	**154.25**	**32**	PKPbc		**PKPbc**	**05 30 54.1**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=293,slow=1.0,SNR=5.4							
ZALV	**Zalesovo Beam**	**154.25**	**32**	*e*PKPdf		**PKPdf**	**05 30 47.1**	**+0.3**
ZALV				*e*PKPbc		**PKPbc**	**05 30 54.7**	**-0.3**
MKAR	**Makanchi Array**	**156.84**	**49**	PKPab		**PKPab**	**05 31 19.0**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=289,slow=4.2,SNR=3.6							
LZH	**Lanzhou**	**176.13**	**55**	*e*PKP		**PKPdf**	**05 31 06.6**	**+0.7**
LZH				pPKP		sPKPdf	05 31 13.5	+5.4
LZH				sPKP			05 31 15.4	
LZH				PKP		**pPKPab**	**05 32 47.9**	**+0.5**
LZH				LR		LR		
	comp=N,82nm,18.0s							
LZH				LR		LR		
	comp=E,95nm,18.3s							
LZH				LR		LR		
	comp=Z,130nm,20.2s							

NIED ***11*** *05:15:00, 37°.60N×141°.60E, h77km, Mw4.3 Best double couple: M0 3.24000×10^15 NP1:φs56.00000°, δ42.00000°, λ-55.00000°. NP2:φs193.00000°, δ57.00000°, λ-117.00000°.*

BJI ***11*** *05:15:45.8, 37°.57N×141°.84E, h36km, m

SHO Shikotan 7.39 30 *e*P **Pn** **05 17 36.8 -1.3**
SHO *e*S Sn 05 18 51.8 -8.6
SHO pmax pmax
comp=Z,12nm,0.2s
TEY Ternei 8.39 334⇓ *e*P **Pn** **05 17 51.4 -0.4**
TEY *e* 05 19 15.3
TEY pmax pmax
comp=Z,20nm,1.5s
KUR Kuril'sk 8.94 29⇑ *i*P **Pn** **05 17 58.7 -0.5**
KUR *i* S **Sn** **05 19 33.9 -4.3**
KUR pmax pmax
comp=Z,27nm,0.5s
KUR pmax pmax
comp=N,21nm,0.3s
KUR smax smax
comp=N,139nm,0.3s
KUR smax smax
comp=E,62nm,0.3s
YSS Yuzh-Sakhalins 9.41 4 *e*Pn **Pn** **05 18 04.1 -1.5**
YSS Yuzh-Sakhalins 9.41 4 *e*P **Pn** **05 18 03.7 -2.0**
YSS *e*S **Sn** **05 19 44.2 -5.5**
YSS pmax pmax
comp=Z,10.0nm,0.7s
YSS smax smax
comp=N,20nm,1.0s
JNU Nakatsue 9.90 247 P **Pn** **05 18 11.4 -1.2**
comp=N,0.4nm,0.3s,baz=40,slow=2.3,SNR=4.2
USA0B Ussuriysk Arra 9.90 315 *e*Pn **Pn** **05 18 09.3 -3.1**
USRK Ussuriysk Ar. 9.90 315 P **Pn** **05 18 11.6 -0.9**
comp=N,3.4nm,0.3s,baz=121,slow=13,SNR=41
CBIJ Chichi jima 10.45 178 *e*Pn **Pn** **05 18 15.6 -4.4**
JCJ Chichijima 10.45 178 LR LR 05 23 28.3
comp=N,94nm,18.2s,baz=136,slow=44
KSRS Korea Array 10.96 274 P **Pn** **05 18 27.9 +1.0**
comp=N,0.8nm,0.3s,baz=84,slow=13,SNR=17
KSRS LR LR 05 22 16.7
comp=N,130nm,21.4s,baz=15,slow=35
KS01 Wonju Array Si 10.99 274 *e*Pn Pn 05 18 21.9 -5.4
KSAR Wonju Array Be 11.00 274 P **Pn** **05 18 27.9 +0.5**
KSAR Wonju Array Be 11.00 274 P **Pn** **05 18 27.9 +0.5**
MDJ Mudanjiang 11.54 311 P **Pn** **05 18 35.4 +0.7**
MDJ pP 05 18 42.0
MDJ sP 05 18 50.0
MDJ S **Sn** **05 20 38.8 -2.9**
MDJ sS 05 20 52.7
MDJ pmax pmax
comp=N,35nm,1.2s
MDJ pmax pmax
comp=N,310nm,3.4s
MDJ LR LR
comp=N,540nm,4.1s
MDJ LR LR
comp=N,380nm,4.2s
TYV Tymovskoe 13.31 3 *e*P **Pn** **05 18 56.3 -2.2**
TYV pmax pmax
comp=Z,5.0nm,0.7s
KLR Kul'dur 13.71 331 P **Pn** **05 19 01.4 -2.5**
comp=Z,0.5nm,0.3s,baz=128,slow=12,SNR=8.4
KLR Kul'dur 13.71 331 *de*P **Pn** **05 19 01.1 -2.8**
GRNR Gornyy 13.73 346 *e*P **Pn** **05 19 02.4 -1.7**
CN2 Changchun 13.82 302 *e*P **Pn** **05 19 04.5 -0.8**
ZEA Zeya 19.01 333 *e*P **P** **05 20 06.1 -2.3**
ZEA pmax pmax
comp=Z,32nm,0.7s
PETK Petropavlovsk- 19.10 30 P **P** **05 20 09.8 +0.4**
comp=Z,0.3nm,0.3s,baz=204,slow=9.8,SNR=6.8
PETK Petropavlovsk- 19.10 30 *e*P **P** **05 20 10.0 +0.6**
PETK Petropavlovsk- 19.10 30 *e*P **P** **05 20 10.0 +0.6**
NJ2 Nanjing 19.55 260 *e*P **Pn** **05 20 14.8 -1.7**
NJ2 pmax pmax
comp=Z,14nm,0.7s
MA2 Magadan 22.78 12 P **P** **05 20 49.1 +0.2**
comp=Z,12nm,0.7s,baz=233,slow=6.9,SNR=5.4
MA2 Magadan 22.78 12⇓ *e*P **P** **05 20 49.0 +0.1**
HHC Hu-ho-hao-te 23.54 287 *e*P **P** **05 20 55.5 -1.0**
HHC pmax pmax
comp=Z,27nm,0.8s
HHC pmax pmax
comp=Z,150nm,4.3s
YAK Yakutsk 25.60 347 P **P** **05 21 13.5 -1.2**
comp=Z,20nm,0.4s,baz=32,slow=1.5,SNR=3.1
YAK Yakutsk 25.60 347 *e*P **P** **05 21 12.3 -2.4**
YAK *e* 05 24 38.6
YAK *e*S **S** **05 25 37.7 +0.8**
YAK pmax pmax
comp=Z,12nm,0.9s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,125nm,3.6s
YAK pmax pmax
comp=N,85nm,3.8s
YAK pmax pmax
comp=E,84nm,3.2s
YAK smax smax
comp=N,146nm,3.2s
YAK smax smax
comp=E,73nm,2.8s
YAK MLR MLR
comp=Z,153nm,20.0s
YAK MLR MLR
comp=N,57nm,18.0s
YAK MLR MLR
comp=E,56nm,17.0s
SEY Seymchan 26.22 11 P **P** **05 21 21.0 +0.7**
comp=E,5.4nm,0.7s,baz=205,slow=5.6,SNR=7.9
SEY Seymchan 26.22 11⇓ *e*P **P** **05 21 21.9 +1.6**
BOD Bodaibo 27.21 327 *e*P **P** **05 21 29.0 -0.3**
BOD pmax pmax
comp=Z,15nm,0.8s
SONA1 Songino Array 27.69 303 *e*P **P** **05 21 33.3 -0.6**
SONM Songino Array 27.70 303 P **P** **05 21 33.2 -0.7**
comp=Z,11nm,0.8s,baz=100,slow=8.5,SNR=59
SONM pP **pP** **05 21 51.1 -0.8**
comp=Z,2.7nm,0.9s,baz=105,slow=9.7,SNR=2.8
H11N2 WAKE ISLAND Hy 28.21 122 T T 05 52 08.1
baz=315,slow=75,SNR=31
H11N1 WAKE ISLAND Hy 28.22 122 T T 05 52 14.2
baz=315,slow=75,SNR=128
H11N3 WAKE ISLAND Hy 28.23 122 T T 05 52 14.9
baz=315,slow=75,SNR=192
H11S1 WAKE ISLAND Hy 28.95 124 T T 05 52 56.8
baz=317,slow=74,SNR=181
H11S3 WAKE ISLAND Hy 28.95 124 T T 05 53 02.6
baz=317
H11S2 WAKE ISLAND Hy 28.96 124 T T 05 52 58.4
baz=317,slow=74,SNR=177
ZAK Zakamensk 30.14 308 *e*P **P** **05 21 53.9 -1.6**
ZAK pmax pmax
comp=Z,9.0nm,1.0s
LZH Lanzhou 30.22 279 *e*P **P** **05 21 56.5 0.0**
LZH pP pP 05 22 07.6 -7.0
LZH sP sP 05 22 11.5 -12
LZH *e*PP **PnPn** **05 22 55.0 -2.2**
LZH pmax pmax
comp=Z,23nm,1.1s
LZH pmax pmax
comp=Z,82nm,5.2s
LZH LR LR
comp=Z,310nm,12.9s
LZH LR LR
comp=Z,330nm,13.2s
LZH LR LR
comp=Z,400nm,16.7s
CD2 Chengdu 31.92 269 *e*P **P** **05 22 11.0 -0.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
GTA Gaotai 32.65 286 *e*P **P** **05 22 16.2 -1.5**
GTA pmax pmax
comp=Z,3.0nm,1.2s
BILL Bilibino 33.45 16⇓ *e*P **P** **05 22 23.8 -0.3**
BILL pmax pmax
comp=Z,3.0nm,1.1s
BILL MLR MLR
comp=Z,151nm,21.0s
KNGR Kungurtug, Tuv 33.81 307⇑ *e*P **P** **05 22 28.1 +0.4**
TIXI Tiksi 34.79 353 P **P** **05 22 34.8 -0.9**
comp=Z,1.3nm,0.3s,baz=148,slow=4.2,SNR=5.4
KMI Kunming 35.29 261 P **P** **05 22 41.4 +0.6**
KMI pP pP 05 22 52.4 -6.7
KMI sP sP 05 22 55.9 -12
KMI pmax pmax
comp=Z,8.0nm,0.7s
SIJI Sorong 39.45 197 P **P** **05 23 16.3 +0.6**
comp=Z,9.7nm,0.5s,baz=169,slow=16,SNR=2.0
DGZ Jazzator, Alta 40.28 305⇑ *i*P **P** **05 23 22.9 +0.3**
DGZ pmax pmax
comp=Z,15nm,0.7s
WMQ Urumqi 40.82 296 *e*P **P** **05 23 27.7 +0.7**
WMQ pmax pmax
comp=Z,20nm,0.9s
ZAA0 Zalesovo Array 41.74 312 *e*P **P** **05 23 33.7 -0.6**
ZALV Zalesovo Beam 41.74 312 P **P** **05 23 33.6 -0.6**
comp=Z,3.2nm,0.5s,baz=96,slow=7.4,SNR=14
ZALV PcP **PcP** **05 25 28.6 -0.6**
comp=Z,1.2nm,0.6s,baz=108,slow=3.2,SNR=3.3
ZALV Zalesovo Beam 41.74 312 *e*P **P** **05 23 33.2 -1.1**
ZALV PcP **PcP** **05 25 28.6 -0.6**
CMAR Chiang Mai Arr 41.87 255 P **P** **05 23 36.9 +1.1**
comp=Z,1.0nm,0.3s,baz=64,slow=4.1,SNR=4.7
RDOG Red Dog Mine 42.92 27 *e*P **P** **05 23 44.7 +1.0**
comp=Z,42nm,1.7s
MK01 Makanchi Array 44.04 302 *e*P **P** **05 23 52.0 -1.0**
MK31 Makanchi Array 44.05 302 *e*P **P** **05 23 52.4 -0.7**
MK31 Makanchi Array 44.05 302 *e*P **P** **05 23 52.4 -0.7**
MKAR Makanchi Array 44.05 302 P **P** **05 23 52.4 -0.7**
comp=Z,5.2nm,0.8s,baz=89,slow=9.4,SNR=25
MKAR Makanchi Array 44.05 302 *e*P **P** **05 23 52.4 -0.7**
comp=Z,37nm,0.8s
MKAR Makanchi Array 44.05 302 *e*P **P** **05 23 52.4 -0.7**
MKAR pmax pmax
comp=Z,37nm,0.8s
KURK Kurchatov 45.80 308 *e*P **P** **05 24 06.2 -0.7**
comp=Z,19nm,0.7s
KURK Kurchatov 45.80 308⇓ *e*P **P** **05 24 06.0 -0.8**
KURK pmax pmax
comp=Z,28nm,1.0s
IM3 Indian Mountai 46.07 31 *e*P **P** **05 24 09.4 +0.7**
IM3 *e*PcP **PcP** **05 25 44.5 +0.7**
SAUI Saumlaki 46.35 194 *e*P **P** **05 24 12.6 +1.1**
comp=Z,288nm,1.0s
KDAK Kodiak Island 46.54 42 P **P** **05 24 12.8 +0.3**
comp=Z,12nm,0.7s,baz=301,slow=4.0,SNR=6.7
PPLA Purkeypile 46.59 35 *e*P **P** **05 24 14.1 +1.1**
comp=Z,53nm,1.8s
MLY Manley 47.27 32 *e*P **P** **05 24 19.4 +1.2**
comp=Z,28nm,2.0s
TOLK Toolik Lake Re 47.88 27 *e*P **P** **05 24 24.3 +1.4**
comp=Z,5.7nm,1.0s
PMR Palmer 48.05 37 *e*P **P** **05 24 25.1 +1.0**
comp=Z,25nm,1.3s
PMR Palmer 48.05 37 *e*P **P** **05 24 25.2 +1.0**
PMR pmax pmax
comp=Z,25nm,1.3s
RND Reindeer 48.10 34 *e*P **P** **05 24 25.6 +1.0**
comp=Z,24nm,1.4s
RND Reindeer 48.10 34 *e*P **P** **05 24 25.6 +1.0**
RND pmax pmax
comp=Z,24nm,1.4s
GHO Glory Hole Cre 48.14 37 *e*P **P** **05 24 26.0 +1.0**
comp=Z,126nm,2.0s
MDM Murphy Dome 48.33 32 *e*P **P** **05 24 27.9 +1.5**
comp=Z,8.8nm,1.0s
IL1 Eielson Array 48.91 33 *e*P **P** **05 24 30.8 0.0**
ILAR Eielson Array 48.91 33 P **P** **05 24 31.0 +0.2**
comp=Z,4.3nm,0.8s,baz=270,slow=6.4,SNR=54
ILAR pP **pP** **05 24 52.3 +2.4**
comp=Z,0.7nm,0.6s,baz=269,slow=6.4,SNR=1.7
ILAR PcP **PcP** **05 25 52.8 -1.2**
comp=Z,0.4nm,0.5s,baz=291,slow=4.1,SNR=4.1
ILB Eielson Array 48.91 33 *e*P **P** **05 24 31.3 +0.5**
TKM2 Tokmak 2 49.59 298 P **P** **05 24 36.6 0.0**
TKM2 pmax pmax
comp=Z,5.0nm,0.5s
SCRK Sand Creek 50.23 34 *e*P **P** **05 24 41.6 +0.7**
comp=Z,8.8nm,1.0s
KSH Kashi 50.41 294 *e*P P 05 24 48.8 +6.1
KSH S S 05 32 00.6 +10
KSH pmax pmax
comp=Z,230nm,5.3s
KSH LR LR
comp=Z,280nm,6.8s
KSH LR LR
comp=Z,200nm,9.9s
KSH LR LR
comp=Z,240nm,17.6s
BRVK Borovoye 50.45 312⇓ *e*P **P** **05 24 42.2 -0.4**
BRVK pmax pmax
comp=Z,11nm,2.5s
AAK Ala-Archa 50.45 298⇓ *e*P **P** **05 24 45.3 +2.3**
AAK pmax pmax
comp=Z,4.0nm,0.7s
MNAS Manas 51.90 298 P **P** **05 24 53.9 +0.1**
MNAS pmax pmax
comp=Z,15nm,0.9s
YKU2 Yakutat 52.96 39 *e*P **P** **05 25 02.5 +1.3**
comp=Z,2μm,0.8s
KK31 Karatay Array 53.07 300 *e*P **P** **05 25 05.3 +3.0**
KK31 Karatay Array 53.07 300 *e*P **P** **05 25 05.3 +3.0**
KKAR Karatay Array 53.07 300 *e*P **P** **05 25 04.8 +2.4**
KKAR Karatay Array 53.07 300 *e*P **P** **05 25 04.8 +2.4**
INK Inuvik 53.80 27 P **P** **05 25 08.2 +1.1**
comp=Z,3.6nm,0.6s,baz=286,slow=5.8,SNR=19
INK Inuvik 53.80 27 *e*P **P** **05 25 08.3 +1.1**
comp=Z,5.2nm,0.8s
INK Inuvik 53.80 27 *e*P **P** **05 25 08.3 +1.1**
INK pmax pmax
comp=Z,5.0nm,0.8s
ARU Arti 56.12 318 *d* iP **P** **05 25 23.7 -0.5**
ARU S **S** **05 33 13.9 +6.8**
ARU SS **SS** **05 36 58.3 +4.5**
ARU pmax pmax
comp=Z,13nm,2.5s
FITZ Fitzroy Crossi 57.40 198 P **P** **05 25 33.8 +0.2**
comp=Z,1.7nm,0.6s,baz=35,slow=6.4,SNR=8.2
FITZ pP **pP** **05 25 54.5 +1.3**
comp=Z,3.2nm,0.6s,baz=20,slow=9.2,SNR=5.9
WRAB Tennant Creek 57.61 188⇓ *e*P **P** **05 25 33.8 -1.2**
WRAB pmax pmax
comp=Z,4.0nm,0.7s
WB2 Warramunga Arr 57.62 188 *e*P **P** **05 25 34.9 -0.2**
WRA Warramunga Arr 57.62 188 P **P** **05 25 34.2 -0.9**
comp=Z,6.4nm,0.7s,baz=5.9,slow=7.2,SNR=103
WRA pP **pP** **05 25 55.1 +0.4**
comp=Z,2.9nm,0.5s,baz=5.6,slow=7.3,SNR=7.9
ABKAR Akbulak array 57.78 310 *e*P **P** **05 25 35.7 -0.3**
SPA0 Spitsbergen Ar 60.05 349 *e*P **P** **05 25 51.9 +0.7**
AS01 Alice Springs 61.34 188 *e*P **P** **05 26 00.5 -0.2**
ASAR Alice Springs 61.35 188 P **P** **05 26 00.2 -0.5**
comp=Z,2.2nm,0.7s,baz=12,slow=5.9,SNR=31
ASAR pP **pP** **05 26 21.4 +0.8**
comp=Z,1.2nm,0.5s,baz=10,slow=7.3,SNR=4.4
RES Resolute Bay 62.02 15 P **P** **05 26 04.2 -0.4**
comp=Z,3.4nm,0.8s,baz=305,slow=5.2,SNR=7.3
YKA Yellowknife Ar 63.22 30 P **P** **05 26 13.4 +0.6**
comp=Z,1.9nm,0.7s,baz=302,slow=6.1,SNR=4.1
ARCES ARCESS Array B 63.58 339 P **P** **05 26 14.6 -0.5**
comp=Z,7.2nm,1.0s,baz=40,slow=10,SNR=4.8
ARCES pP **pP** **05 26 36.3 +1.3**
comp=Z,1.7nm,0.6s,baz=62,slow=8.4,SNR=1.5
DZM Mont Dzumac 63.72 154 *e*P **P** **05 26 17.3 +0.7**
comp=Z,40nm,1.6s
FINES FINESS Array B 68.46 332 P **P** **05 26 45.6 -0.8**
comp=Z,1.3nm,0.6s,baz=38,slow=9.6,SNR=7.1
FINES pP **pP** **05 27 07.5 +0.9**
comp=Z,2.9nm,0.7s,baz=50,slow=7.4,SNR=2.4
STKA Stephens Creek 69.09 180 P **P** **05 26 50.5 -0.1**
comp=Z,2.2nm,0.7s,baz=298,slow=6.8,SNR=3.7
STKA pP **pP** **05 27 11.8 +1.1**
comp=Z,1.9nm,0.6s,baz=67,slow=19,SNR=2.5
NEW Newport 69.57 44 P **P** **05 26 54.5 +0.8**
comp=Z,1.7nm,0.5s,baz=309,slow=1.4,SNR=7.1
PINE Pine Mountain 69.81 50 *e*P **P** **05 26 57.3 +2.0**
comp=Z,15nm,0.8s
YBH Yreka Blue Hor 69.82 53 P **P** **05 26 56.5 +1.1**
comp=Z,2.1nm,0.9s,baz=348,slow=9.1,SNR=3.9
K05A Summer Lake 70.42 51 *e*P **P** **05 27 01.1 +1.9**
comp=Z,9.3nm,0.8s
KBZ Khabaz 70.74 311 P **P** **05 27 03.9 +3.1**
comp=Z,1.6nm,0.8s,baz=54,slow=12,SNR=2.4
KIV Kislovodsk 70.74 311 *e*P **P** **05 27 00.7 -0.2**
KIV pmax pmax
comp=Z,9.0nm,0.9s
BMO Blue Mountains 71.39 47 *e*P **P** **05 27 05.8 +1.0**
comp=Z,3.3nm,0.7s
BMO Blue Mountains 71.39 47 *e*P **P** **05 27 05.8 +1.0**
BMO pmax pmax
comp=Z,3.0nm,0.7s
J08A Circle Bar Ran 71.54 49 *e*P **P** **05 27 07.4 +1.6**
comp=Z,10nm,1.2s
GNI Garni 71.58 307⇑ *e*P **P** **05 27 08.9 +2.7**
GNI pmax pmax
comp=Z,9.0nm,0.7s
BEKR Beckworth 72.34 53 *e*P **P** **05 27 11.7 +1.0**
comp=Z,3.3nm,0.8s
CMB Columbia Colle 73.36 55 *e*P **P** **05 27 17.8 +1.2**
comp=Z,4.4nm,1.1s
CMB Columbia Colle 73.36 55 *e*P **P** **05 27 17.8 +1.2**
CMB pmax pmax
comp=Z,4.0nm,1.1s
HRY Holter Researc 73.40 44 *e*P **P** **05 27 17.9 +1.1**
YERR Yerington 73.55 53 *e*P **P** **05 27 18.5 +0.6**
comp=Z,4.7nm,1.0s
LRM Limekiln Ridge 73.59 45 *e*P **P** **05 27 18.6 +0.4**
DLMT Dillon 73.79 45 *e*P **P** **05 27 20.5 +1.3**
comp=Z,9.0nm,1.1s
NB2 NORSAR Subarra 73.79 337 P **P** **05 27 17.8 -0.9**
comp=Z,2.6nm,0.9s,baz=40,slow=5.9
NOA NORSAR Array B 73.79 337 P **P** **05 27 18.1 -0.6**
comp=Z,1.6nm,0.8s,baz=39,slow=5.7,SNR=4.4
HLID Hailey 73.83 47 *e*P **P** **05 27 20.4 +0.9**
comp=Z,12nm,1.9s
AKASG Malin Array Be 74.03 322 P **P** **05 27 18.9 -1.2**
comp=Z,0.8nm,0.4s,baz=46,slow=6.1,SNR=5.7
AKASG Malin Array Be 74.03 322 P **P** **05 27 19.0 -1.2**
KVN Kaiserville 74.24 53 *e*P **P** **05 27 23.3 +1.4**
comp=Z,4.5nm,0.8s
KVN Kaiserville 74.24 53 *e*P **P** **05 27 23.3 +1.4**
KVN pmax pmax
comp=Z,5.0nm,0.8s
NV01 Mina Array Sit 74.47 53 *e*P **P** **05 27 24.2 +0.9**
NVAR Mina Array Bea 74.47 53 P **P** **05 27 24.4 +1.1**
comp=Z,2.7nm,0.7s,baz=293,slow=5.9,SNR=19
H17A Grant Village 75.52 45 *e*P **P** **05 27 30.9 +1.7**
comp=Z,8.2nm,0.8s
IMW Indian Meadow 75.62 45 *e*P **P** **05 27 31.4 +1.5**
comp=Z,5.0nm,0.8s
FXWY Fox Creek 75.73 46 *e*P **P** **05 27 31.9 +1.4**
comp=Z,3.0nm,0.8s
MOOW Moose Ponds 75.82 45 *e*P **P** **05 27 32.7 +1.7**
comp=Z,4.4nm,1.0s
TPAW Teton Pass 75.87 46 *e*P **P** **05 27 33.1 +1.8**
comp=Z,4.9nm,0.8s
REDW Red Top Meadow 76.00 46 *e*P **P** **05 27 33.7 +1.6**
comp=Z,5.0nm,1.0s
R11A Troy Canyon, C 76.24 52 *e*P **P** **05 27 34.3 +0.9**
comp=Z,21nm,1.9s
TPNV Topopah Spring 76.66 54 *e*P **P** **05 27 37.1 +1.3**
comp=Z,10nm,1.3s
TPNV Topopah Spring 76.66 54 *e*P **P** **05 27 37.1 +1.3**
TPNV pmax pmax
comp=Z,11nm,1.3s
DUG Dugway, Tooele 76.82 49 *e*P **P** **05 27 37.8 +1.2**
comp=Z,18nm,1.5s
DUG Dugway, Tooele 76.82 49 *e*P **P** **05 27 37.8 +1.2**
DUG pmax pmax
comp=Z,18nm,1.5s
BW06 Boulder Array 77.12 46 *e*P **P** **05 27 39.0 +0.7**
comp=Z,3.4nm,0.8s
PD31 Pinedale Array 77.12 46 *e*P **P** **05 27 39.0 +0.6**
PDAR Pinedale Array 77.12 46 P **P** **05 27 38.7 +0.4**
comp=Z,1.7nm,0.6s,baz=272,slow=2.3,SNR=22
PDAR pP **pP** **05 28 01.2 +2.3**
comp=Z,0.9nm,0.6s,baz=252,slow=4.1,SNR=4.5
SHPR Sheep Range 77.62 53 *e*P **P** **05 27 42.7 +1.5**
comp=Z,2.3nm,0.8s
MPU Maple Canyon 77.64 49 *e*P **P** **05 27 42.6 +1.4**
comp=Z,3.9nm,0.7s
CCUT Cedar City 78.12 52 *e*P **P** **05 27 45.9 +1.9**
comp=Z,12nm,1.5s
LCMT Little Creek M 78.53 52 *e*P **P** **05 27 47.7 +1.5**
comp=Z,3.7nm,1.0s
MTPU Mount Pierson 78.54 51 *e*P **P** **05 27 48.4 +1.9**
comp=Z,3.3nm,0.7s
SRU San Rafael Swe 78.88 49 *e*P **P** **05 27 49.2 +1.2**
comp=Z,6.3nm,0.6s
ULM Lac du Bonnet 78.92 34 P **P** **05 27 47.4 -0.5**
comp=Z,4.2nm,1.0s,baz=340,slow=15,SNR=3.5
U15A North Rim 79.49 52 *e*P **P** **05 27 53.2 +1.6**
comp=Z,2.7nm,0.8s
PV21 Cone Mtn., Par 80.16 49 *e*P **P** **05 27 56.4 +1.2**
comp=Z,7.1nm,0.7s
PV23 Carpenter Ridg 80.20 49 *e*P **P** **05 27 56.7 +1.3**
comp=Z,17nm,1.4s
PV14 Lion Creek, Pa 80.25 49 *e*P **P** **05 27 56.6 +0.9**
comp=Z,22nm,1.3s
PV22 Blue Mesa, Par 80.28 49 *e*P **P** **05 27 57.3 +1.5**
comp=Z,4.6nm,0.9s
PV20 West Nyswonger 80.30 49 *e*P **P** **05 27 57.3 +1.4**
comp=Z,11nm,0.7s
PV19 Morning Glory 80.31 49 *e*P **P** **05 27 57.2 +1.2**
comp=Z,7.3nm,0.9s
PV17 East Wray Mesa 80.35 49 *e*P **P** **05 27 57.4 +1.3**
comp=Z,12nm,1.0s
PV16 Nyswonger Mesa 80.35 49 *e*P **P** **05 27 57.5 +1.3**
comp=Z,6.3nm,0.8s
N23A Red Feather La 80.38 45 *e*P **P** **05 27 57.0 +0.7**
comp=Z,18nm,1.4s
PV11 David Mesa, Pa 80.39 49 *e*P **P** **05 27 57.8 +1.4**
comp=Z,6.8nm,0.6s
PV05 Paradox Valley 80.39 49 *e*P **P** **05 27 57.9 +1.5**
PV18 Skein Mesa, Pa 80.40 49 *e*P **P** **05 27 57.7 +1.3**
comp=Z,5.8nm,0.8s
PV13 Radium Mtn., P 80.51 49 *e*P **P** **05 27 58.3 +1.3**
comp=Z,5.5nm,0.7s
CLL Collm 80.76 330 *e*P **P** **05 27 57.0 -0.8**
CLL Collm 80.76 330 *e*P **P** **05 27 58.0 +0.2**
CLL *e* 05 28 07.0
CLL Collm 80.76 330 *e*P **P** **05 27 58.0 +0.2**
X16A Lo Mia Camp, P 81.30 53 *e*P **P** **05 28 02.8 +1.6**
comp=Z,3.4nm,0.9s
S22A 4UR Ranch, Cre 81.96 48 *e*P **P** **05 28 06.1 +1.2**
comp=Z,3.4nm,0.9s
KHC Kasperske Hory 82.22 329 *e*P P 05 28 12.5 +6.9
KHC Kasperske Hory 82.22 329 *e*P P 05 28 12.5 +6.9
GERES GERESS Array B 82.39 328 P **P** **05 28 05.8 -0.8**
comp=Z,2.2nm,0.4s,baz=51,slow=6.4,SNR=3.4
T25A Trinidad 83.80 47 *e*P **P** **05 28 15.3 +1.1**
comp=Z,6.3nm,0.8s
ANMO Albuquerque 84.06 50 P **P** **05 28 16.5 +0.9**
comp=Z,3.7nm,1.0s,baz=313,slow=2.6,SNR=9.2
ANMO pP **pP** **05 28 39.4 +3.1**
comp=Z,0.7nm,0.4s,baz=314,slow=7.0,SNR=2.9
ANMO Albuquerque 84.06 50 *e*P **P** **05 28 17.0 +1.5**
comp=Z,7.2nm,1.3s
ANMO pP **pP** **05 28 39.4 +3.1**
ANMO Albuquerque 84.06 50 *e*P **P** **05 28 17.0 +1.5**
ANMO *PP **pP** **05 28 39.4 +3.1**
ANMO pmax pmax
comp=Z,7.0nm,1.3s
TX31 Lajitas Ar. Si 89.60 53 *e*P **P** **05 28 42.9 +0.4**
TXAR Lajitas Array 89.60 53 P **P** **05 28 43.0 +0.6**
comp=Z,3.1nm,0.5s,baz=284,slow=2.9,SNR=21
TXAR pP **pP** **05 29 06.5 +3.0**
comp=Z,0.6nm,0.5s,baz=257,slow=2.4,SNR=2.7
TKL Tuckaleechee C 95.81 36 P **P** **05 29 10.4 -0.4**
comp=Z,2.0nm,0.7s,baz=291,slow=17,SNR=3.3
TORD Torodi Ar, Bea 117.13 315 PKP **PKPdf** **05 34 28.1 -1.6**
comp=Z,0.5nm,0.7s,baz=30,slow=2.2
TORD pPKP **pPKPdf** **05 34 50.5 -1.1**
baz=0.5,slow=2.3
DBIC Dimbokro 126.07 317 PKP **PKPdf** **05 34 45.8 -1.1**
comp=Z,1.6nm,0.7s,baz=173,slow=1.9,SNR=2.8
LPAZ La Paz 146.21 59 PKPbc **PKPdf** **05 35 25.4 +0.7**
comp=Z,3.8nm,0.5s,baz=353,slow=2.5,SNR=37
LPAZ pPKPbc pPKPab 05 35 49.8 +1.9
comp=Z,4.0nm,0.8s,baz=334,slow=2.0,SNR=5.1

ISCJB ***11*** *05:24:46.7±0.2,8˚.65S±0˚.04×118˚.42E±0˚.03,h152km, mb4.3/21, Error ellipse: s-maj=5.4km s-min=3.3km az=16.9*
NEIC ***11*** *05:24:46.5±0.6,8˚.53S×118˚.42E,h131km±5km, mb4.5/3, Error ellipse: s-maj=8.3km s-min=5.7km az=219.0*
KLM ***11*** *05:24:46.0,8˚.77S×118˚.39E,h106km, mb4.7*
IDC ***11*** *05:24:47.8±1.6,8˚.47S×118˚.57E,h139km±13km, mb4.0/14, mb1 4.1/18, mb1mx4.0/33, mbtmp4.5/18, Error ellipse: s-maj=14.6km s-min=7.6km az=60.0*
DJA ***11*** *05:24:48.5±0.2,9˚S±3˚×11˚E±˚,h104km±3km, M4.8/19, mb5.0/13, mB5.2/6, MLv4.9/19, Mw(mB)4.6/6*
ISC 11 05:24:48.6±0.3, 8.71S±0.05×118.44E±0.04, h152km, n88, σ**2**ℜ**17**/101**, mb4.4**/19**, 3C, Sumbawa region**

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

PLAI	**Plampang**	**0.67**	**260**	P		**Pn**	**05 25 06.9**	**-4.2**
WBSI	**Waikabubak, Su**	**1.32**	**135**	P		**Pn**	**05 25 13.7**	**-2.9**
TWSI	**Taliwang, Sumb**	**1.54**	**269**	P		**Pn**	**05 25 14.9**	**-3.8**
DNP	**Denpasar**	**3.19**	**270**	P		**Pn**	**05 25 37.0**	**-1.5**
DNP				S		**Sn**	**05 26 14.8**	**-2.3**
EDFI	**Ende, Flores**	**3.21**	**91**	P		**Pn**	**05 25 37.4**	**-1.5**
SRBI	**Singaraja**	**3.25**	**281**	P		**Pn**	**05 25 35.9**	**-3.4**
IGBI	**Denpasar**	**3.26**	**268**	P		**Pn**	**05 25 36.7**	**-2.6**
BKSI	**Bulukumba**	**3.75**	**27**	P		**Pn**	**05 25 43.1**	**-2.7**
MMRI	**Maumere**	**3.76**	**89**	*e*Pn		**Pn**	**05 25 45.0**	**-0.8**
MMRI				*e*Sn		**Sn**	**05 26 28.1**	**-2.0**
MMRI	**Maumere**	**3.76**	**89**	P		**Pn**	**05 25 44.7**	**-1.1**
JAGI	**Jajag, Banyuwa**	**4.25**	**273**	*e*Pn		**Pn**	**05 25 48.1**	**-4.1**
JAGI				*e*Sn		**Sn**	**05 26 35.4**	**-6.2**
JAGI	**Jajag, Banyuwa**	**4.25**	**273**	P		**Pn**	**05 25 49.1**	**-3.1**
BNSI	**Bone**	**4.59**	**21**	P		**Pn**	**05 25 55.8**	**-0.9**
KMMI	**Kalianget**	**4.73**	**290**	P		Pn	05 26 08.2	+10
BLJI	**Banyuglugur**	**4.89**	**281**	P		**Pn**	**05 26 00.2**	**-0.4**
SPSI	**Sidrap Palu**	**4.89**	**16**	P		**Pn**	**05 25 58.8**	**-1.9**
GMJI	**Gumukmas**	**4.96**	**275**	P		**Pn**	**05 25 59.9**	**-1.7**
BATI	**Baumata**	**5.36**	**107**	P		**Pn**	**05 26 05.8**	**-1.1**
	131nm,0.3s,baz=288,slow=3.3,SNR=59							
BATI				S		**Sn**	**05 27 05.9**	**-2.2**
	67nm,0.3s,baz=219,slow=22,SNR=10							
BATI	**Baumata**	**5.36**	**107**	P		**Pn**	**05 26 06.2**	**-0.8**
	206nm,0.5s,3µm1.0nm							
SOEI	**Soe**	**5.85**	**101**	*e*Pn		**Pn**	**05 26 12.5**	**-0.9**
SOEI				*e*Sn		**Sn**	**05 27 18.1**	**-1.7**
SOEI	**Soe**	**5.85**	**101**	P		**Pn**	**05 26 13.0**	**-0.4**
	418nm,0.7s,4µm1.3nm							
PWJI	**Pagerwojo**	**6.60**	**275**	P		**Pn**	**05 26 25.1**	**+1.7**
	74nm,0.7s,0.7nm							
UGM	**Wanagama**	**7.87**	**275**	*e*Pn		**Pn**	**05 26 38.2**	**-2.2**
UGM				*e*Sn		**Sn**	**05 28 05.3**	**-3.0**
SANI	**Sanana**	**10.01**	**49**	P		**Pn**	**05 27 09.7**	**+0.9**
	61nm,1.3s,720nm							
FITZ	**Fitzroy Crossi**	**11.67**	**144**	P		**Pn**	**05 27 29.9**	**-0.6**
	1.6nm,0.3s,baz=346,slow=10.0,SNR=28							
FITZ				S		**Sn**	**05 29 33.7**	**-5.9**
	4.5nm,0.3s,baz=189,slow=20,SNR=12							
FITZ	**Fitzroy Crossi**	**11.67**	**144**	*e*Pn		**Pn**	**05 27 29.6**	**-1.0**
FITZ				S		**Sn**	**05 29 33.7**	**-5.9**
MBWA	**Marble Bar**	**12.44**	**174**	*e*Pn		**Pn**	**05 27 39.5**	**-1.1**
SBUM	**Sibu**	**12.70**	**331**	P		**Pn**	**05 27 43.0**	**-1.0**
KSM	**Kuching**	**12.96**	**321**	*e*Pn		**Pn**	**05 27 45.8**	**-1.6**
KSM	**Kuching**	**12.96**	**321**	P		**Pn**	**05 27 48.0**	**+0.7**
MTN	**Manton Dam**	**13.13**	**109**	*e*Pn		**Pn**	**05 27 47.5**	**-1.9**
KKM	**Kota Kinabalu**	**14.82**	**351**	P		**P**	**05 28 12.0**	**-0.9**
FAKI	**Fak Fak**	**14.89**	**68**	*e*Pn		**Pn**	**05 28 08.9**	**-2.8**
FAKI				*e*Sn		**S**	**05 30 59.3**	**-4.4**
FAKI	**Fak Fak**	**14.89**	**68**	P		**Pn**	**05 28 10.0**	**-1.7**
	60nm,0.7s,664nm							
SIJI	**Sorong**	**14.96**	**59**	P		**Pn**	**05 28 10.9**	**-1.6**
	2.8nm,0.3s,baz=291,slow=6.6,SNR=5.4							
KDM	**Kudat**	**15.60**	**354**	P		**P**	**05 28 21.0**	**-0.5**
MYKOM	**Kota Tinggi**	**17.89**	**305**	P		**Pn**	**05 28 47.0**	**-1.2**
WRA	**Warramunga Arr**	**19.01**	**128**	P		**P**	**05 28 59.2**	**+0.3**
	1.4nm,0.3s,baz=302,slow=13,SNR=63							
WRA				S		**S**	**05 32 25.7**	**-1.0**
	0.9nm,0.3s,baz=304,slow=22,SNR=8.1							
WRA				ScP		**ScP**	**05 36 40.7**	**+1.2**
	baz=313,slow=1.3,SNR=4.9							
WRAB	**Tennant Creek**	**19.01**	**128**	*e*P		**Pn**	**05 28 59.7**	**-1.6**
	24nm,0.8s							
WB2	**Warramunga Arr**	**19.02**	**128**	*e*P		**Pn**	**05 28 59.7**	**-1.7**
AS31	**Alice Springs**	**20.99**	**137**	*e*P		**P**	**05 29 20.7**	**+0.6**
	3.7nm,0.6s							
ASAR	**Alice Springs**	**20.99**	**137**	P		**P**	**05 29 21.4**	**+1.3**
	6.5nm,0.6s,baz=312,slow=9.0,SNR=70							
ASAR				S		**S**	**05 33 08.7**	**+3.2**
	3.1nm,0.7s,baz=309,slow=17,SNR=7.9							
ASAR				ScP		**ScP**	**05 36 46.0**	**+1.9**
	1.7nm,0.7s,baz=339,slow=2.0,SNR=6.2							
AS01	**Alice Springs**	**21.02**	**137**	*e*P		**P**	**05 29 21.2**	**+0.8**
KULM	**Kulim**	**22.54**	**307**	P		**P**	**05 29 37.0**	**+0.9**
JAY	**Jayapura**	**22.99**	**76**	P		**P**	**05 29 40.4**	**+0.1**
	baz=256,slow=4.2,SNR=3.1							
FORT	**Forrest**	**23.73**	**159**	*e*P		**P**	**05 29 48.5**	**+1.6**
	54nm,0.7s							
NWAO	**Narrogin (SRO)**	**24.13**	**182**	P		**P**	**05 29 51.9**	**+1.5**
	16nm,0.6s,baz=230,slow=7.0,SNR=13							
NWAO	**Narrogin (SRO)**	**24.13**	**182**	*e*P		**P**	**05 29 50.9**	**+0.5**
	62nm,1.3s							
COEN	**Coen**	**24.80**	**104**	*e*P		**P**	**05 29 57.6**	**+0.8**
	28nm,0.7s							
CTA	**Charters Tower**	**29.17**	**116**	P		**P**	**05 30 36.9**	**+1.1**
	3.2nm,0.6s,baz=303,slow=11,SNR=4.2							
CTA				PcP		**PcP**	**05 33 40.8**	**+1.0**
	1.3nm,0.5s,baz=84,slow=23,SNR=2.3							
STKA	**Stephens Creek**	**31.53**	**140**	P		**P**	**05 30 58.6**	**+2.1**
	2.7nm,0.5s,baz=316,slow=9.9,SNR=7.7							
STKA				PcP		**PcP**	**05 33 46.6**	**+0.9**
	3.4nm,0.5s,baz=356,slow=0.9,SNR=6.1							
CMAR	**Chiang Mai Arr**	**33.15**	**325**	P		**P**	**05 31 10.9**	**+0.2**
	1.5nm,0.4s,baz=144,slow=7.8,SNR=4.9							
KMI	**Kunming**	**36.94**	**336**	P		**P**	**05 31 45.7**	**+2.3**
KMI				pmax		pmax		
	comp=Z,14nm,0.5s							
NJ2	**Nanjing**	**40.53**	**1**	*e*P		**P**	**05 32 13.7**	**+0.8**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.7s							
CD2	**Chengdu**	**41.83**	**341**	*e*P		**P**	**05 32 24.0**	**+0.3**
LZH	**Lanzhou**	**46.63**	**344**	⇑P		P	05 33 06.0	+4.2
LZH				pP		pP	05 33 33.0	-3.0
LZH				sP		sP	05 33 46.6	-6.4
LZH				PP		**PP**	**05 34 58.2**	**+4.6**
LZH				pmax		pmax		
	comp=Z,21nm,1.3s							
LZH				pmax		pmax		
	comp=Z,73nm,5.4s							
KSAR	**Wonju Array Be**	**46.75**	**10**	P		**P**	**05 33 00.0**	**-2.6**
KSRS	**Korea Array**	**46.77**	**10**	P		**P**	**05 33 00.0**	**-2.7**
	comp=Z,3.6nm,0.9s,baz=195,slow=9.1,SNR=4.6							
MJAR	**Matsushiro Arr**	**48.69**	**21**	P		**P**	**05 33 15.1**	**-2.5**
	comp=Z,1.3nm,0.7s,baz=208,slow=9.0,SNR=4.9							
HHC	**Hu-ho-hao-te**	**49.72**	**353**	*e*P		**P**	**05 33 29.0**	**+3.6**
HHC				pmax		pmax		
	comp=Z,20nm,1.1s							
HHC				pmax		pmax		
	comp=Z,140nm,4.1s							
GTA	**Gaotai**	**50.90**	**341**	*e*P		P	05 33 40.0	+5.6
GTA				pP		pP	05 34 06.8	-2.3
GTA				sP		sP	05 34 18.0	-7.9
CN2	**Changchun**	**52.65**	**6**	*e*P		P	05 33 52.0	+5.0
USRK	**Ussuriysk Ar.**	**54.07**	**12**	P		**P**	**05 33 56.7**	**-0.7**
	comp=Z,3.0nm,0.5s,baz=198,slow=7.5,SNR=8.1							
SONM	**Songino Array**	**57.30**	**350**	P		**P**	**05 34 19.2**	**-1.4**
	comp=Z,1.4nm,0.4s,baz=170,slow=9.0,SNR=17							
SONA1	**Songino Array**	**57.31**	**350**	*e*P		**P**	**05 34 18.8**	**-1.9**
WMQ	**Urumqi**	**59.25**	**334**	*e*P		**P**	**05 34 36.4**	**+2.3**
MKAR	**Makanchi Array**	**63.95**	**333**	P		**P**	**05 35 03.4**	**-2.1**
	comp=Z,0.7nm,0.4s,baz=151,slow=6.2,SNR=9.1							
ZALV	**Zalesovo Beam**	**68.57**	**339**	P		**P**	**05 35 32.4**	**-2.4**
	comp=Z,1.9nm,0.4s,baz=136,slow=4.4,SNR=7.9							
MAW	**Mawson**	**69.32**	**200**	P		**P**	**05 35 41.3**	**+2.2**
	comp=Z,4.8nm,0.7s,baz=72,slow=6.4,SNR=9.6							
PETK	**Petropavlovsk-**	**70.03**	**24**	P		**P**	**05 35 43.5**	**-0.3**
	comp=Z,5.0nm,0.6s,baz=214,slow=6.6,SNR=9.8							
VNDA	**Vanda**	**72.36**	**171**	P		**P**	**05 35 59.8**	**+2.4**
	comp=Z,1.4nm,0.5s,baz=313,slow=6.5,SNR=30							
SYO	**Syowa Base**	**77.92**	**201**	⇑*e*P		**P**	**05 36 31.0**	**+1.6**
SYO	**Syowa Base**	**77.92**	**201**	⇑*e*PcP		**PcP**	**05 36 39.4**	**+0.8**
YKA	**Yellowknife Ar**	**114.15**	**24**	PKiKP		**PKiKP**	**05 43 09.1**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=293,slow=1.9,SNR=4.4							
TORD	**Torodi Ar. Bea**	**117.86**	**280**	PKP		**PKPdf**	**05 43 17.0**	**-1.1**
	comp=Z,1.5nm,0.5s,baz=45,slow=2.2,SNR=23							
NVAR	**Mina Array Bea**	**121.26**	**50**	PKP		**PKPdf**	**05 43 25.4**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=270,slow=1.8,SNR=2.8							
DBIC	**Dimbokro**	**123.81**	**272**	PKP		**PKPdf**	**05 43 29.5**	**0.0**
	comp=Z,1.6nm,0.5s,baz=71,slow=2.0,SNR=6.7							
PDAR	**Pinedale Array**	**126.08**	**43**	PKP		**PKPdf**	**05 43 33.9**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=217,slow=0.5,SNR=3.4							
PLCA	**Paso Flores**	**130.11**	**171**	PKP		**PKPdf**	**05 43 42.7**	**+1.7**
	comp=Z,0.6nm,0.8s,baz=117,slow=2.3,SNR=3.2							
ANMO	**Albuquerque**	**131.38**	**51**	SKPbc		**SKPab**	**05 46 56.4**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=314,slow=2.7,SNR=3.0							
TXAR	**Lajitas Array**	**135.54**	**57**	SKPbc		**SKPbc**	**05 47 09.8**	**+0.9**
	comp=Z,1.2nm,0.9s,baz=226,slow=3.3,SNR=3.7							
CPUP	**Villa Florida**	**144.93**	**187**	PKPbc		**PKPdf**	**05 44 09.9**	**+1.5**
	comp=Z,11nm,0.9s,baz=154,slow=2.1,SNR=22							
LRAL	**Lakeview Retre**	**146.26**	**41**	*e*PKPdf		**PKPbc**	**05 44 11.3**	**-0.6**
TKL	**Tuckaleechee C**	**146.37**	**34**	PKPbc		**PKPab**	**05 44 11.9**	**-1.4**
	comp=Z,4.8nm,0.6s,baz=163,slow=4.9,SNR=14							
LVC	**Limon Verde**	**148.05**	**167**	PKPbc		**PKPab**	**05 44 20.3**	**-0.3**
	comp=Z,4.1nm,0.5s,baz=16,slow=1.2,SNR=8.4							
BDFB	**Brasilia**	**152.34**	**209**	PKPbc		**PKPbc**	**05 44 28.7**	**+1.0**
	comp=Z,2.0nm,0.6s,baz=126,slow=2.4,SNR=8.3							
LPAZ	**La Paz**	**154.33**	**165**	PKPbc		**PKPbc**	**05 44 36.0**	**+3.3**
	comp=Z,0.5nm,0.5s,baz=308,slow=2.1,SNR=5.9							
LPAZ				PKPab		**PKPab**	**05 44 49.5**	**+2.4**
	comp=Z,1.2nm,0.5s,baz=52,slow=0.8,SNR=7.5							
SIV	**San Ignacio**	**155.46**	**181**	PKPab		**PKPab**	**05 44 52.6**	**+1.4**
	comp=Z,0.9nm,0.5s,baz=185,slow=4.9,SNR=8.1							

SIK ***11*** *05:34:54.4±15.0, 42˚N±1˚×20˚1E±0˚7, h50km, ML2.7, Error ellipse: s-maj=326.9km s-min=179.0km az=168.0*
SAR ***11*** *05:34:55.0±0.9, 42˚00N×20˚24E, h5km±4km, ML2.3/6*
TIR ***11*** *05:34:56.1, 42˚09N×20˚19E, h7km, Md2.4/3*
PDG ***11*** *05:34:57.1±0.3, 42˚12N×20˚09E, h10km±1km, ML2.4/10, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
BEO ***11*** *05:34:58.3±0.3, 42˚10N×20˚14E, h0km, ML2.0/12*

ISC 11 05:34:56.1±1.1, 42˚09N±0˚02×20˚13E±0˚02, h3km±10km, n46,σ1°39/89, 7C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PUK	**Puka**	**0.18**	**254**	*i*	**Sg**	**Sg**	**05 34 59.9**	**-2.2**
PUK				*i*	PG	Pg	05 35 06.5	+6.8
BCI	**Bajram Curri**	**0.28**	**350**	*i*	PG	**Pg**	**05 35 01.4**	**0.0**
BCI				*i*	SG	**Sb**	**05 35 07.6**	**-1.4**
PHP	**Peshkopia**	**0.47**	**150**	*i*	PG	**Pg**	**05 35 04.2**	**-0.9**
PHP				*i*	SG	**Sb**	**05 35 13.2**	**-1.1**
PRZK	**Prizren**	**0.48**	**76**	⇑	Pg	**Pg**	**05 35 05.7**	**+0.4**
PRZK				*i*	Sg	**Sg**	**05 35 12.3**	**+0.8**
PRZK				*i*	Sg	**Sb**	**05 35 18.1**	**+3.3**
ZATK	**Zatriq**	**0.51**	**46**	⇓	Pg	**Pb**	**05 35 06.8**	**-1.0**
ZATK				*i*	Sg	**Sg**	**05 35 12.3**	**-0.2**
ZATK				*i*	Sg	**Sn**	**05 35 23.0**	**+3.3**
PVY	**Plav**	**0.52**	**346**	⇑	*i*Pg	**Pg**	**05 35 06.0**	**0.0**
PVY					*e*Sg	**Sb**	**05 35 14.3**	**-1.6**
ULC	**Ulcinj**	**0.67**	**259**	⇑	*i*Pg	**Pg**	**05 35 09.0**	**0.0**
ULC					*e*Sg	**Sb**	**05 35 19.7**	**-0.6**
ULC	**Ulcinj**	**0.67**	**259**	⇑	Pg	**Pg**	**05 35 09.1**	**0.0**
DRME	**Dracevica, Mon**	**0.71**	**278**	⇓	*i*Pg	**Pg**	**05 35 09.8**	**+0.1**
DRME					*e*Sg	**Sb**	**05 35 21.2**	**-0.2**
DRME	**Dracevica, Mon**	**0.71**	**278**		*e*Pg	**Pg**	**05 35 08.9**	**-0.8**
DRME					*e*Sg	**Sb**	**05 35 20.5**	**-0.9**
PDG	**Podgorica**	**0.73**	**298**		*e*Pg	**Pg**	**05 35 10.8**	**+0.7**
PDG					*e*Sg	**Sb**	**05 35 22.1**	**+0.1**
PDG	**Podgorica**	**0.73**	**298**		*e*Pg	**Pg**	**05 35 10.0**	**-0.2**
PDG					*e*Sg	**Sb**	**05 35 21.5**	**-0.5**
TTG	**Podgorica**	**0.73**	**298**	⇓	*i*Pg	**Pg**	**05 35 09.9**	**-0.2**
TTG					*e*Sg	**Sb**	**05 35 21.0**	**-1.0**
TIR	**Tirane**	**0.77**	**195**		*e*Pg	**Pn**	**05 35 12.7**	**-1.2**
TIR					*e*Sg	**Sb**	**05 35 23.5**	**+0.5**
BEY	**Berane**	**0.80**	**347**	⇓	*i*Pg	**Pg**	**05 35 11.3**	**-0.1**
IVA	**Berane**	**0.80**	**347**	⇑	*i*Pg	**Pg**	**05 35 11.4**	**0.0**
IVA					*e*Sg	**Sb**	**05 35 23.8**	**-0.2**
KOME	**Kolasin**	**0.88**	**329**	⇑	*i*Pg	**Pg**	**05 35 12.5**	**-0.6**
KOME					*e*Sg	**Sb**	**05 35 26.9**	**+0.4**
BUM	**Brajici-Budva**	**0.94**	**283**	⇑	*i*Pg	**Pg**	**05 35 13.9**	**-0.3**
BUM					*e*Sg	**Sn**	**05 35 29.0**	**-1.4**
SKO	**Skopje**	**0.98**	**97**		*e*Pg	**Pb**	**05 35 15.2**	**-0.6**
SKO					*e*Sg	**Sn**	**05 35 29.8**	**-1.5**
SMRK	**Smrekonice**	**0.98**	**37**	⇓	*i*Pg	**Pg**	**05 35 14.8**	**-0.1**
SMRK					*i*Sg	**Sg**	**05 35 22.3**	**-5.4**
SMRK					*i*Sg	**Sn**	**05 35 34.6**	**+3.3**
CEME	**Cevo**	**1.01**	**297**	⇓	*i*Pg	**Pg**	**05 35 15.2**	**-0.2**
CEME					*e*Sg	**Sn**	**05 35 31.3**	**-0.7**
OHR	**Ohrid**	**1.10**	**153**		*i*Pg	**Pg**	**05 35 17.1**	**-0.1**
NKME	**Niksic**	**1.10**	**308**	⇓	*i*Pg	**Pg**	**05 35 16.7**	**-0.5**
NKME					*e*Sg	**Sn**	**05 35 33.7**	**-0.6**
KRUS	**Krusevo**	**1.10**	**130**		*i*Pg	**Pn**	**05 35 18.0**	**-0.6**
NKY	**Niksic**	**1.11**	**311**	⇓	*i*Pg	**Pg**	**05 35 17.1**	**-0.2**
NKY					*e*Sg	**Sn**	**05 35 34.0**	**-0.6**
SJES	**Sjenica**	**1.17**	**354**		*e*Pg	**Pg**	**05 35 18.6**	**0.0**
SJES					*e*Sg	**Sn**	**05 35 35.7**	**-0.5**
HCY	**Herceg Novi**	**1.27**	**287**	⇓	*i*Pg	**Pn**	**05 35 19.6**	**-1.1**
HCY					*e*Sg	**Sn**	**05 35 40.1**	**+1.8**
HCY	**Herceg Novi**	**1.27**	**287**		*e*Pg	**Pn**	**05 35 19.3**	**-1.4**
HCY					*e*Sg	**Sn**	**05 35 39.0**	**+0.7**
SELS	**Selova**	**1.34**	**33**		*e*Pg	**Pg**	**05 35 22.3**	**+0.5**
SELS					*e*Sg	**Sn**	**05 35 41.0**	**+0.8**
BIA	**Bitola**	**1.40**	**140**		*i*Pg	**Pg**	**05 35 26.6**	**+3.7**
BRY	**Bratogost**	**1.43**	**305**	⇑	Pg	**Pn**	**05 35 22.8**	**-0.3**
BRY					*e*Sg	**Sg**	**05 35 44.6**	**+2.6**
BRY	**Bratogost**	**1.43**	**305**		*e*Pg	**Pg**	**05 35 23.3**	**-0.2**
BRY					*e*Sg	**Sg**	**05 35 44.0**	**+2.0**
UPM	**Unac-Piva**	**1.43**	**321**	⇑	*i*Pg	**Pn**	**05 35 23.0**	**-0.1**
UPM					*e*Sg	**Sg**	**05 35 44.9**	**+2.8**
UPM	**Unac-Piva**	**1.43**	**321**		*e*Pg	**Pn**	**05 35 23.1**	**-0.1**
UPM					*e*Sg	**Sg**	**05 35 44.6**	**+2.5**
TREB	**Trebinje**	**1.46**	**296**		*e*Pn	**Pg**	**05 35 24.6**	**+0.5**
TREB					*e*Sn	**Sg**	**05 35 46.6**	**+3.6**
TREB	**Trebinje**	**1.46**	**296**		*e*Pn	**Pn**	**05 35 23.3**	**-0.1**
TREB					*e*Sn	**Sg**	**05 35 44.7**	**+1.7**
IVAS	**Ivanjica**	**1.48**	**1**		*e*Pg	**Pn**	**05 35 23.7**	**-0.1**
IVAS					*e*Sg	**Sg**	**05 35 44.6**	**+0.8**
GRUS	**Gruza**	**1.84**	**13**		*e*Pn	**Pb**	**05 35 30.8**	**+0.3**
GRUS					*e*Sn	**Sg**	**05 35 55.4**	**0.0**
BBLS	**Lazići**	**1.85**	**343**		*e*Pn	**Pg**	**05 35 31.1**	**-0.5**
BBLS					*e*Sn	**Sb**	**05 35 55.3**	**-0.3**
BBLS	**Lazići**	**1.85**	**343**		*e*Pn	**Pn**	**05 35 31.0**	**+0.1**
BBLS					*e*Sn	**Sb**	**05 35 53.3**	**-0.9**
BOVS	**Bovan**	**1.93**	**36**		*e*Pn	**Pb**	**05 35 32.1**	**+0.2**
BOVS					*e*Sn	**Sg**	**05 35 57.2**	**-0.8**
STON	**Ston**	**1.96**	**294**		*e*Pn	**Pb**	**05 35 32.5**	**+0.1**
STON					Sn	**Sg**	**05 36 01.2**	**+2.2**
DIVS	**Divibare**	**2.01**	**357**		*e*Pn	**Pb**	**05 35 33.4**	**+0.1**
DIVS					*e*Sn	**Sb**	**05 35 59.1**	**+0.3**
DIVS	**Divibare**	**2.01**	**357**		*e*Pn	**Pn**	**05 35 30.7**	**-0.3**
DIVS					*e*Sn	**Sn**	**05 35 56.6**	**-0.1**
HAPS	**Han Pijesak,Bl**	**2.17**	**337**		*e*Pn	**Pn**	**05 35 33.8**	**+0.5**
HAPS					*e*Sn	**Sb**	**05 36 01.9**	**-1.6**
ZAPS	**Zavoj**	**2.19**	**57**		*e*Pn	**Pb**	**05 35 34.8**	**-1.6**
ZAPS					*e*Sn	**Sb**	**05 36 03.4**	**-0.6**

UCR ***11*** *05:40:06.5±0.9, 13˚76N×91˚76W, h18km±13km, ML3.8, mb4.5(NEIC)*

NEIC ***11*** *05:40:08.6±0.4, 13˚86N×91˚68W, h35km, mb4.5/91, MD3.8(MEX), Error ellipse: s-maj=7.8km s-min=4.4km az=202.0*
NEIC Felt at Totonicapan.
MEX ***11*** *05:40:10.5±0.3, 14˚04N×92˚07W, h80km±7km, MD3.8*
IDC ***11*** *05:40:12.0±2.3, 13˚81N×91˚51W, h80km±18km, mb3.9/10, mb1 4.2/13, mb1mx3.8/44, mbtmp4.2/13, MS3.9/3, Ms1 3.9/3, ms1mx3.2/44, Error ellipse: s-maj=31.9km s-min=15.9km az=46.0*

ISC 11 05:40:08.5±1.4, 13.83N±0˚08×91.82W±0˚07, h43km±12km, n257,σ1°34/255, mb4.4/89, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
THIG		**1.16**	**338**	*e*P		**Pn**	**05 40 27.0**	**-1.3**
THIG				*e*S		**Sn**	**05 40 39.9**	**-3.0**
THIG		**1.16**	**338**	*e*P		**Pn**	**05 40 27.0**	**-1.3**
THIG				*e*S		**Sn**	**05 40 39.8**	**-3.1**
IXG	**Ixpaco**	**1.36**	**75**	*e*P		**Pn**	**05 40 30.1**	**-1.1**
APG	**El Apazote**	**1.75**	**48**	P		**Pn**	**05 40 39.0**	**+2.3**
	96nm,0.3s,baz=215,slow=7.7,SNR=80							
APG				LR		LR	05 41 00.5	
	comp=Z,340nm,18.1s,baz=203,slow=31							
APG				S		Sn	05 41 07.3	+9.4
	156nm,0.3s,baz=299,slow=10,SNR=6.9							
RTR	**El Retiro**	**2.11**	**88**	*e*P		**Pn**	**05 40 40.3**	**-1.1**
CEVE	**Cerro Verde**	**2.13**	**90**	*e*P		**Pn**	**05 40 40.5**	**-1.3**
CEVE				*e*S		**Sn**	**05 41 08.4**	**+1.2**
CEVE				IAML			05 41 19.5	
	comp=Z,2µm,0.4s							
SBLS	**San Blas**	**2.13**	**89**	*e*P		**Pn**	**05 40 40.2**	**-1.5**
SNJE	**San Jose**	**2.15**	**89**	*e*P		**Pn**	**05 40 40.6**	**-1.3**
PCIG		**2.31**	**324**	*e*P		Pn	05 40 41.3	-2.7
PCIG		**2.31**	**324**	*e*P		Pn	05 40 41.3	-2.7
PCIG				*i*	S	Sn	05 41 04.8	-6.4
MTO3	**Montecristo**	**2.45**	**76**	*e*P		**Pn**	**05 40 45.9**	**-0.2**
CCIG	**Comitan**	**2.46**	**353**	*e*Pn		**Pn**	**05 40 48.6**	**+2.3**
CCIG	**Comitan**	**2.46**	**353**	*e*P		**Pn**	**05 40 44.3**	**-2.0**
CCIG				*i*	S	**Sn**	**05 41 11.3**	**-3.9**
BOQS	**Boqueron**	**2.46**	**92**	*e*P		**Pn**	**05 40 45.1**	**-1.3**
UEES	**San Salvador**	**2.50**	**92**	*e*P		**Pn**	**05 40 45.1**	**-1.7**
UEES				*e*S		**Sn**	**05 41 16.2**	**+0.1**
UEES				IAML			05 41 34.7	
	comp=Z,714nm,0.4s							
SNET	**Serv Nac Est T**	**2.51**	**93**	*e*Pn		**Pn**	**05 40 46.7**	**-0.2**
SNET	**Serv Nac Est T**	**2.51**	**93**	*e*P		**Pn**	**05 40 46.2**	**-0.7**
SNET				IAML			05 41 37.0	
	comp=Z,521nm,0.3s							
LFU	**La Fuente**	**2.63**	**91**	*e*P		**Pn**	**05 40 47.8**	**-0.7**
LFRS	**El Faro**	**2.68**	**94**	*e*P		**Pn**	**05 40 48.4**	**-0.9**
LFRS				*e*S		**Sn**	**05 41 20.7**	**+0.1**
LBRS	**Las Brisas**	**2.69**	**92**	*e*P		**Pn**	**05 40 48.4**	**-1.0**
PAVA	**Las Pavas**	**2.80**	**92**	*e*P		**Pn**	**05 40 49.7**	**-1.1**
TGIG		**3.19**	**337**	*e*P		**Pn**	**05 40 58.1**	**+1.8**
TGIG		**3.19**	**337**	*e*P		Pn	05 40 53.9	-2.4
TGIG				*i*	S	Sn	05 41 27.2	-5.9
TECA	**Tecapa**	**3.24**	**95**	*e*P		**Pn**	**05 40 55.9**	**-1.1**
LCY	**Lacayo**	**3.45**	**96**	*e*P		**Pn**	**05 40 58.9**	**-0.8**
LCND	**La Ca˜–ada**	**3.85**	**97**	*e*P		**Pn**	**05 41 04.1**	**-1.2**
LCND				*e*S		**Sn**	**05 41 48.7**	**-0.6**
LCND				IAML			05 41 56.9	
	comp=Z,248nm,0.5s							
CMIG	**Matias Romero**	**4.39**	**318**	P		Pn	05 41 18.5	+5.8
	comp=Z,11nm,0.3s,baz=141,slow=9.4,SNR=10.0							
CMIG				S		Sn	05 42 15.4	+13
	comp=Z,11nm,0.3s,baz=87,slow=21,SNR=5.5							
CMIG				LR		LR	05 43 21.5	
	comp=Z,410nm,19.5s,baz=140,slow=41							
TGUH	**Tegucigalpa,Un**	**4.42**	**86**	*e*Pn		**Pn**	**05 41 13.0**	**0.0**
ESTN	**Estel**	**5.35**	**97**	*e*Pn		**Pn**	**05 41 23.6

MSTX	Muleshoe	22.38	335	*e*P		P	05 45 02.9	-0.4	
	comp=Z,12nm,0.7s								
MSTX	Muleshoe	22.38	335	P		P	05 45 03.2	-0.1	
	baz=151,SNR=10								
U42A	Revenden	22.43	1	P		P	05 45 03.5	-0.2	
	baz=181								
V49A	McMinnville	22.48	13	P		P	05 45 04.2	0.0	
	baz=195								
WVT	Waverly	22.50	8	*e*P		P	05 45 04.0	-0.3	
	comp=Z,8.3nm,0.6s								
WVT	Waverly	22.50	8	P		P	05 45 03.7	-0.6	
	baz=190								
CPCT	Cooper Cave	22.51	16	*e*P		P	05 45 04.3	-0.2	
	comp=Z,8.2nm,0.8s								
U46A	Springville	22.67	8	P		P	05 45 05.4	-0.7	
	baz=189								
AMTX	Amarillo	22.78	339	*e*P		P	05 45 07.2	-0.3	
	comp=Z,25nm,0.6s								
AMTX	Amarillo	22.78	339	P		P	05 45 07.4	0.0	
	baz=154								
PBMO	Poplar Bluff	22.89	3	*e*P		P	05 45 07.0	-1.4	
	comp=Z,30nm,1.3s								
V51A	Loudon	22.89	16	*e*P		P	05 45 08.3	-0.1	
	comp=Z,11nm,0.9s								
TKL	Tuckaleechee C	22.91	17	P		P	05 45 08.9	+0.2	
	comp=Z,8.6nm,0.7s,baz=195,slow=9.4,SNR=7.9								
TKL				LR		LR	05 56 24.2		
	comp=Z,226nm,18.3s,baz=180,slow=43								
TKL	Tuckaleechee C	22.91	17	*e*P		P	05 45 09.4	+0.8	
	comp=Z,14nm,0.8s								
U48A	Cassie Pea, Po	23.08	11	P		P	05 45 09.7	-0.6	
	baz=193								
T42A	Van Buren	23.12	1	*e*P		P	05 45 10.7	-0.1	
	comp=Z,8.6nm,1.0s								
T42A	Van Buren	23.12	1	P		P	05 45 10.8	+0.1	
	baz=181								
T41A	Mountain View	23.12	0	P		P	05 45 11.0	+0.2	
	baz=180								
V52A	Sevierville	23.13	17	*e*P		P	05 45 10.3	-0.6	
	comp=Z,56nm,1.9s								
V52A	Sevierville	23.13	17	P		P	05 45 10.3	-0.6	
	baz=200								
T43A	Greenville	23.20	3	P		P	05 45 11.4	-0.2	
	baz=183								
V53A	Saluda	23.21	19	*e*P		P	05 45 11.4	-0.3	
	comp=Z,44nm,1.8s								
V53A	Saluda	23.21	19	P		P	05 45 11.3	-0.5	
	baz=202								
U49A	Red Boiling Sp	23.23	12	P		P	05 45 11.4	-0.5	
	baz=195								
KMSC	Kings Mountain	23.23	22	P		P	05 45 11.4	-0.5	
	baz=206								
U50A	Jamestown	23.35	14	P		P	05 45 13.0	0.0	
	baz=197								
T46A	Princeton	23.38	8	P		P	05 45 12.8	-0.5	
	baz=189								
T47A	Sharon Grove	23.45	10	*e*P		P	05 45 13.2	-0.8	
	comp=Z,61nm,1.3s								
T47A	Sharon Grove	23.45	10	P		P	05 45 13.6	-0.4	
	baz=191,SNR=9.3								
U51A	La Follette	23.52	16	P		P	05 45 14.8	+0.1	
	baz=199								
319A	Douglas	23.71	320	*e*P		P	05 45 18.6	+2.0	
	comp=Z,11nm,0.9s								
U52A	Thorn Hill	23.71	17	P		P	05 45 16.1	-0.4	
	baz=200								
TZTN	Tazewell	23.80	17	*e*P		P	05 45 17.3	0.0	
T49A	Edmonton	23.85	12	P		P	05 45 17.6	-0.2	
	baz=195								
S42A	Caledonia	23.86	2	P		P	05 45 17.0	-0.8	
	baz=182								
S44A	Carbondale	23.88	5	P		P	05 45 17.3	-0.7	
	baz=186								
SIUC	Southern Illin	23.90	5	*e*P		P	05 45 17.8	-0.4	
	comp=Z,18nm,0.8s								
U53A	Fall Branch	23.92	19	P		P	05 45 18.1	-0.4	
	baz=202								
T50A	Nancy	23.92	14	P		P	05 45 17.7	-0.7	
	baz=197								
S45A	Carrier Mills	23.93	6	P		P	05 45 16.8	-1.6	
	baz=187								
S47A	Hartford	24.08	10	P		P	05 45 19.2	-0.6	
	baz=192								
T51A	Gray	24.09	16	P		P	05 45 19.6	-0.4	
	baz=199								
CCM	Cathedral Cave	24.14	1	*e*P		P	05 45 19.2	-1.1	
	comp=Z,10nm,0.8s								
CCM	Cathedral Cave	24.14	1	P		P	05 45 19.4	-0.9	
	baz=181								
S48A	Wiedeman Farm,	24.28	11	P		P	05 45 20.8	-0.9	
	baz=193								
BNM	Barren Site	24.28	329	*e*P		P	05 45 24.2	+2.2	
USIN	University of	24.32	8	*e*P		P	05 45 21.6	-0.5	
	comp=Z,20nm,0.8s								
R42A	Luebbering	24.37	2	P		P	05 45 22.1	-0.5	
	baz=182								
R41A	Rosebud	24.38	1	P		P	05 45 21.2	-1.4	
	baz=181								
R43A	Red Bud	24.41	4	P		P	05 45 21.7	-1.1	
	baz=184								
LPM	Los Pinos Moun	24.41	329	*e*P		P	05 45 25.1	+1.8	
R44A	Waltonville	24.44	5	P		P	05 45 21.8	-1.3	
	baz=186								
T52A	Hallie	24.49	17	P		P	05 45 23.3	-0.4	
	baz=201								
S49A	Springfield	24.56	13	P		P	05 45 23.2	-1.1	
	baz=195								
R45A	Skylar, Fairfi	24.57	7	P		P	05 45 23.6	-0.7	
	baz=188,SNR=6.3								
R46A	Gibon Southern	24.59	8	P		P	05 45 23.5	-1.0	
	baz=190								
S50A	Richmond	24.66	14	P		P	05 45 24.6	-0.6	
	baz=197								
LAZ	Ladron	24.74	329	*e*P		P	05 45 26.8	+0.6	
CNNC	Cliffs of the	24.74	28	*e*P		P	05 45 25.3	-0.7	
	comp=Z,22nm,0.4s								
CNNC	Cliffs of the	24.74	28	P		P	05 45 25.1	-0.8	
	baz=214								
WCI	Wyandotte Cave	24.79	10	*e*P		P	05 45 25.5	-0.9	
	comp=Z,20nm,0.7s								
WCI	Wyandotte Cave	24.79	10	P		P	05 45 25.5	-0.9	
	baz=192								
R47A	Wooly Knot Far	24.82	10	P		P	05 45 26.7	+0.1	
	baz=192								
S51A	Beattyville	24.82	16	P		P	05 45 26.2	-0.4	
	baz=199								
ANMO	Albuquerque	24.84	330	P		P	05 45 28.3	+1.3	
	comp=Z,4.6nm,0.7s,baz=152,slow=12,SNR=14								
ANMO	Albuquerque	24.84	330	*e*P		P	05 45 28.6	+1.5	
	comp=Z,5.0nm,0.8s								
ANMO	Albuquerque	24.84	330	P		P	05 45 28.3	+1.3	
	baz=144								
S52A	Salyersville	25.00	17	P		P	05 45 27.8	-0.5	
	baz=200								
OLIL	Olney	25.02	7	*e*P		P	05 45 27.8	-0.7	
	comp=Z,18nm,0.8s								
Q41A	Truxton	25.03	1	P		P	05 45 28.9	+0.4	
	baz=181								
R48A	Northridge Ran	25.04	11	P		P	05 45 28.2	-0.4	
	baz=193								
R49A	Shelbyville	25.07	12	P		P	05 45 28.5	-0.3	
	baz=195								
Q43A	New Douglas	25.08	4	P		P	05 45 28.1	-0.9	
	baz=184								
Q44A	Meyer Farm, Va	25.10	5	P		P	05 45 28.0	-1.2	
	baz=186								
Q45A	Warren Harvey,	25.18	7	P		P	05 45 28.8	-1.1	
	baz=188								
R50A	Paris	25.25	14	P		P	05 45 29.7	-0.8	
	baz=197								
KSU1	Kansas State U	25.53	351	*e*P		P	05 45 33.3	+0.2	
	comp=Z,7.1nm,0.8s								
T25A	Trinidad	25.80	336	*e*P		P	05 45 37.9	+2.1	
	comp=Z,7.2nm,0.8s								
T25A	Trinidad	25.80	336	P		P	05 45 37.6	+1.9	
	baz=151								
P45A	Graceland, Par	25.85	7	*e*P		P	05 45 35.2	-0.8	
	comp=Z,25nm,1.1s								
P45A	Graceland, Par	25.85	7	P		P	05 45 35.0	-0.9	
	baz=189								
P46A	Rosedale	26.01	8	P		P	05 45 37.2	-0.2	
	baz=190								
Q51A	Peebles	26.19	15	*e*P		P	05 45 38.8	-0.3	
	comp=Z,11nm,0.8s								
Q51A	Peebles	26.19	15	P		P	05 45 38.6	-0.4	
	baz=199								
SDCO	Great Sand Dun	26.75	335	*e*P		P	05 45 45.8	+1.3	
	comp=Z,3.8nm,1.3s								
SFIN	Lafayette	26.77	8	*e*P		P	05 45 43.5	-0.8	
	comp=Z,13nm,0.8s								
SFIN	Lafayette	26.77	8	P		P	05 45 43.7	-0.6	
	baz=190								
X16A	Lo Mia Camp, P	27.12	322	*e*P		P	05 45 50.6	+2.8	
	comp=Z,6.2nm,1.2s								
S22A	4UR Ranch, Cre	27.31	333	*e*P		P	05 45 51.2	+1.7	
	comp=Z,6.1nm,1.1s								
S22A	4UR Ranch, Cre	27.31	333	P		P	05 45 50.7	+1.2	
	baz=147,SNR=5.3								
MVCO	Mesa Verde	27.64	330	*e*P		P	05 45 54.1	+1.8	
	comp=Z,14nm,1.1s								
MVCO	Mesa Verde	27.64	330	P		P	05 45 53.8	+1.4	
	baz=143,SNR=5.4								
PV13	Radium Mtn., P	28.55	331	*e*P		P	05 46 02.5	+2.0	
	comp=Z,9.9nm,1.1s								
SMCO	Snowmass	28.58	335	*e*P		P	05 46 03.1	+2.2	
	comp=Z,3.1nm,1.0s								
PV05	Paradox Valley	28.62	331	*e*P		P	05 46 02.8	+1.7	
PV03	Paradox Valley	28.64	331	*e*P		P	05 46 03.0	+1.7	
PV18	Skein Mesa, Pa	28.66	331	*e*P		P	05 46 03.8	+2.3	
	comp=Z,14nm,1.3s								
PV12	Saucer Basin,	28.67	331	*e*P		P	05 46 03.6	+2.0	
	comp=Z,47nm,1.8s								
PV11	David Mesa, Pa	28.69	331	*e*P		P	05 46 03.7	+2.0	
	comp=Z,15nm,1.2s								
PV17	East Wray Mesa	28.71	331	*e*P		P	05 46 03.8	+1.9	
	comp=Z,8.8nm,0.9s								
PV16	Nyswonger Mesa	28.72	331	*e*P		P	05 46 04.0	+2.1	
	comp=Z,21nm,1.5s								
PV19	Morning Glory	28.75	331	*e*P		P	05 46 03.6	+1.4	
	comp=Z,9.8nm,1.3s								
PV20	West Nyswonger	28.77	331	*e*P		P	05 46 03.4	+1.1	
	comp=Z,15nm,1.5s								
O56A	Blue Knob Stat	28.79	21	P		P	05 46 01.7	-0.7	
	baz=207								
PV14	Lion Creek, Pa	28.82	331	*e*P		P	05 46 04.7	+1.8	
	comp=Z,10nm,1.3s								
PV10	Paradox Valley	28.83	331	*e*P		P	05 46 04.5	+1.5	
PV22	Blue Mesa, Par	28.84	332	*e*P		P	05 46 03.6	+0.6	
	comp=Z,4.2nm,0.9s								
PV23	Carpenter Ridg	28.88	331	*e*P		P	05 46 05.2	+1.8	
	comp=Z,10.0nm,1.1s								
N54A	Moraine State	28.94	19	P		P	05 46 03.0	-0.6	
	baz=204								
MTPU	Mont Pierson	30.14	327	*e*P		P	05 46 17.3	+2.5	
	comp=Z,3.8nm,0.8s								
SZCU	Shurtz Canyon	30.31	325	*e*P		P	05 46 18.4	+2.3	
	comp=Z,5.0nm,0.9s								
CCUT	Cedar City	30.43	325	*e*P		P	05 46 19.7	+2.5	
	comp=Z,5.5nm,1.1s								
MSU	Marysvale	30.49	327	*e*P		P	05 46 20.9	+3.2	
P17A	Butcher Ranch,	30.50	330	*e*P		P	05 46 19.8	+2.1	
	comp=Z,7.6nm,1.0s								
H43A	Windswept, Lux	30.73	6	*e*P		P	05 46 20.1	+0.7	
	comp=Z,42nm,1.0s								
MPU	Maple Canyon	31.36	330	*e*P		P	05 46 26.6	+1.3	
	comp=Z,4.6nm,0.9s								
PSUT	Pine Spring	31.41	326	*e*P		P	05 46 28.4	+2.6	
	comp=Z,4.7nm,1.1s								
BINY	Binghamton	31.42	23	*e*P		P	05 46 24.7	-0.9	
	comp=Z,58nm,1.8s								
DUG	Dugway, Tooele	32.08	329	*e*P		P	05 46 31.8	+0.2	
	comp=Z,2.7nm,0.9s								
TCUT	Toone Canyon	32.11	332	*e*P		P	05 46 33.6	+1.6	
	comp=Z,15nm,1.0s								
PDAR	Pinedale Array	32.65	335	P		P	05 46 38.2	+1.6	
	comp=Z,0.2nm,0.4s,baz=155,slow=10.0,SNR=5.8								
PDAR	Pinedale Array	32.65	335	*e*P		P	05 46 37.6	+0.9	
DELO	Deloro Mine	32.90	19	P		P	05 46 37.2	-1.2	
	baz=206								
HVU	Hansel Valley	33.27	331	*e*P		P	05 46 44.1	+2.2	
	comp=Z,5.3nm,1.0s								
NCB	Newcomb	33.60	23	*e*P		P	05 46 43.8	-0.9	
	comp=Z,50nm,1.8s								
REDW	Red Top Meadow	33.67	335	*e*P		P	05 46 46.9	+1.3	
	comp=Z,20nm,1.3s								
SNOW	Snow King Moun	33.72	335	*e*P		P	05 46 47.4	+1.4	
	comp=Z,7.3nm,0.8s								
LOHW	Long Hollow	33.78	335	*e*P		P	05 46 47.5	+1.1	
	comp=Z,7.7nm,1.4s								
TPAW	Teton Pass	33.82	335	*e*P		P	05 46 48.1	+1.2	
	comp=Z,14nm,1.5s								
NV11	Mina Array Sit	33.83	321	*e*P		P	05 46 49.3	+2.4	
	comp=Z,0.3nm,0.9s								
NV01	Mina Array Sit	33.92	321	*e*P		P	05 46 49.4	+1.7	
NVAR	Mina Array Bea	33.92	321	P		P	05 46 49.6	+1.9	
	comp=Z,2.9nm,0.8s,baz=133,slow=7.8,SNR=12								
MOOW	Moose Ponds	33.95	335	*e*P		P	05 46 48.7	+0.8	
	comp=Z,4.5nm,1.3s								
FXWY	Fox Creek	33.97	335	*e*P		P	05 46 49.8	+1.6	
	comp=Z,5.8nm,1.4s								
LONY	Lake Ozonia	34.02	22	*e*P		P	05 46 47.3	-1.0	
	comp=Z,51nm,1.8s								
ALGO	Algonquin Park	34.07	17	P		P	05 46 46.9	-1.7	
	baz=204								
KVN	Kaiserville	34.19	322	*e*P		P	05 46 52.7	+2.7	
	comp=Z,4.6nm,1.1s								
ORIO	Orleans, Innes	34.42	20	P		P	05 46 49.7	-1.9	
	baz=209								
PTGA	Pitinga	34.71	112	*e*P		P	05 46 53.7	-0.9	
	comp=Z,9.3nm,1.2s								
ALFO	Alfred	34.79	21	P		P	05 46 52.7	-2.1	
	baz=209								
PAHR	Pah Rah Range	35.37	322	*e*P		P	05 47 02.1	+1.9	
	comp=Z,3.9nm,1.1s								
HLID	Hailey	35.41	331	*e*P		P	05 47 02.1	+1.6	
	comp=Z,3.6nm,1.0s								
MOQ	Mont Orford	35.49	24	*e*P		P	05 46 59.9	-1.1	
MCMT	McKenzie Canyo	35.70	334	*e*P		P	05 47 05.1	+2.0	
BEKR	Beckworth	36.06	321	*e*P		P	05 47 08.3	+2.2	
	comp=Z,2.0nm,0.9s								
WVOR	Wild Horse Val	36.73	326	*e*P		P	05 47 12.1	+0.3	
	comp=Z,5.5nm,0.8s								
HRY	Holter Researc	36.83	337	*e*P		P	05 47 13.7	+1.2	
LATQ	La Tuque	37.04	22	P		P	05 47 12.7	-1.3	
	baz=212								
LSQQ	Lebel-sur-Quev	37.20	16	P		P	05 47 13.6	-1.9	
	baz=204								
EGMT	Eagleton	37.21	340	*e*P		P	05 47 17.1	+1.4	
	comp=Z,38nm,1.9s								
J08A	Circle Bar Ran	37.28	327	*e*P		P	05 47 17.0	+0.6	
	comp=Z,16nm,1.1s								
MATQ	Matagami	37.67	15	P		P	05 47 17.4	-2.0	
	baz=203								
F10A	Beach Ranch, E	38.55	331	*e*P		P	05 47 27.7	+0.7	
	comp=Z,10nm,0.8s								
CHGQ	Chibougamau	38.71	18	P		P	05 47 26.3	-1.9	
	baz=208								
C09A	Chrisman Ranch	40.39	332	*e*P		P	05 47 43.9	+1.7	
	comp=Z,20nm,1.6s								
LON	Longmire	41.33	329	*e*P		P	05 47 51.5	+1.4	
	comp=Z,7.0nm,0.9s								
SIV	San Ignacio	42.44	133	P		P	05 47 57.0	-2.5	
	comp=Z,1.4nm,0.8s,baz=320,slow=10,SNR=8.0								
D03D	Eldon	42.50	329	P		P	05 48 00.8	+1.3	
	baz=132								
A04D	Lummi Island	43.12	330	P		P	05 48 05.3	+0.9	
	baz=133								
SCHQ	Schefferville	45.32	20	P		P	05 48 20.0	-2.0	
	comp=Z,12nm,0.7s,baz=225,slow=5.7,SNR=8.2								
SCHQ				LR		LR	06 08 23.3		
	comp=Z,396nm,18.5s,baz=164,slow=37								
YKA	Yellowknife Ar	51.23	347	P		P	05 49 07.2	-0.3	
	comp=Z,3.8nm,0.6s,baz=154,slow=7.6,SNR=15								
DLBC	Dease Lake	52.88	336	P		P	05 49 22.1	+2.2	
	comp=Z,3.0nm,0.8s,baz=323,slow=27,SNR=3.2								
INK	Inuvik	60.65	344	P		P	05 50 14.8	0.0	
	comp=Z,4.3nm,0.8s,baz=139,slow=6.3,SNR=16								
INK	Inuvik	60.65	344	*e*P		P	05 50 15.2	+0.5	
	comp=Z,25nm,1.8s								
KHLH	Kahului Airpor	61.73	286	*e*P		P	05 50 24.7	+1.8	
	comp=Z,578nm,1.9s								
RIDG	Independ'e Rid	61.80	336	*e*P		P	05 50 23.5	+0.8	
	comp=Z,62nm,1.9s								
IL1	Eielson Array	63.07	337	*e*P		P	05 50 31.5	+0.4	
ILAR	Eielson Array	63.07	337	P		P	05 50 31.9	+0.8	
	comp=Z,1.5nm,0.9s,baz=122,slow=4.5,SNR=8.9								
ILB	Eielson Array	63.07	337	*e*P		P	05 50 32.1	+1.0	
MLY	Manley	64.67	336	*e*P		P	05 50 41.9	+0.2	
	comp=Z,7.8nm,0.9s								
TOLK	Toolik Lake Re	65.74	340	*e*P		P	05 50 49.0	+0.4	
	comp=Z,4.5nm,0.8s								
TOLK	Toolik Lake Re	65.74	340	P		P	05 50 49.0	+0.4	
	baz=116								
LZH	Lanzhou	128.20	344	*e*PKP		PKPdf	05 59 09.0	-1.8	
LZH				pPKP		pPKPdf	05 59 28.1	+3.8	
LZH				sPKP			05 59 36.0		
CMAR	Chiang Mai Arr	146.21	341	PKPbc		PKPbc	05 59 44.9	-0.1	
	comp=Z,1.6nm,0.4s,baz=344,slow=4.2,SNR=12								

SJA ***11*** *05:46:37.7±0.9,34.44S×73.12W,h40km,ML5.1,MW4.8*
BJI ***11*** *05:46:45.7,34.11S×72.52W,h16km,mB4.9/1,Ms5.1/2, Ms7 5.0/2*
ISCJB ***11*** *05:46:47.0±1.1,33.98S±0.03×72.42W±0.05,h24km±8km, mb4.6/21,MS4.3/7,Error ellipse: s-maj=6.8km s-min=4.6km az=29.5*
GUC ***11*** *05:46:48.3±0.6,33.97S×72.26W,h37km±3km,ML4.7*
NEIC ***11*** *05:46:48.2±0.6,33.98S×72.18W,h16km±4km,mb4.8/12, ML4.7(GUC),Error ellipse: s-maj=8.8km s-min=4.1km az=95.0*
NEIC Felt [III] at Algarrobo, El Quisco, Navidad, Paredones, Pichilemu, San Antonio, San Fernando and Talca; [II] at Curico, Litueche, Rancagua, Santa Cruz, Santiago and Villa Alegre. Also felt at Macul.
IDC ***11*** *05:46:51.1±5.2,33.92S×71.94W,h33km±37km,mb4.1/10, mb1 4.3/13,mb1mx4.1/30,mbtmp4.3/13,ML4.5/3,MS4.2/9, Ms1 4.1/9,ms1mx3.8/27,Error ellipse: s-maj=27.8km s-min=15.9km az=101.0*

ISC 11 05:46:48.0±0.7,34.03S±0.04×72.31W±0.05,h18km±4km, n105,σ1§54/121,mb4.7/21,MS4.3/7,3C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
GO05	HualaæØ	1.03	163	*e*Pg		Pg		05 47 07.9	0.0
GO05				*e*Sg		Sg		05 47 21.0	-0.5
GO05	HualaæØ	1.03	163	*i*P		Pn		05 47 07.3	-0.3
GO05				*e*S		Sn		05 47 21.8	+0.1
GO05				IAML				05 47 26.7	
	comp=E,30μm,0.3s								
ROC1	El Roble	1.50	46	*e*Pn		Pn		05 47 14.4	+0.1
ROCH	El Roble	1.51	46	*e*P		Pn		05 47 13.6	-0.7
ROCH				*e*S		Sn		05 47 33.2	-0.5
ROCH				IAML				05 47 38.6	
	comp=N,17μm,0.3s								
CLCH	Cerro Calan	1.60	67	*i*P		Pn		05 47 15.3	-0.2
CLCH				*e*S		Sn		05 47 35.3	-0.5
CLCH				IAML				05 47 46.5	
	comp=E,20μm,0.2s								
PEL	Peldehue	1.61	57	*e*Pn		Pn		05 47 16.1	+0.5
PEL	Peldehue	1.61	57	*i*P		Pn		05 47 15.6	0.0
PEL				*e*S		Sn		05 47 35.4	-0.6
PEL				IAML				05 47 43.4	
	comp=N,21μm,0.8s								
LMEL	Las Melosas	1.76	85	*e*P		Pn		05 47 17.8	+0.1
LMEL				*e*S		Sn		05 47 40.5	+0.8
LMEL				IAML				05 47 48.3	
	comp=N,14μm,0.4s								
FCH	Farellones	1.82	68	*e*P		Pn		05 47 18.8	+0.1
FCH				*e*S		Sn		05 47 42.1	+0.6
FCH				IAML				05 47 47.2	
	comp=N,17μm,0.4s								
AAGR	Agrelo	3.05	73	*e*P		Pn		05 47 37.9	+2.4
ARCO	CERRO ARCO	3.06	68	*e*P		Pn		05 47 38.2	+2.6
ARCO				IAML				05 47 46.0	
	comp=Z,3μm,0.4s								
ARCO				*e*S		Sb		05 48 21.0	+1.9
ASAL	Salagasta	3.24	65	*e*P		Pb		05 47 42.9	-2.1
ASAL				*e*S		Sb		05 48 25.7	+1.5
RTLS	Leoncito	3.37	50	*e*P		Pn		05 47 42.1	+2.1
RTLS				*e*S		Sb		05 48 30.3	+2.2
RTLS				IAML				05 48 35.3	
	comp=Z,2μm,0.5s								
RTCV	Cerro Valdivia	3.83	57	*e*P		Pn		05 47 47.8	+1.6
RTCV				*e*S		Sb		05 48 40.9	-0.3
GO04	Tololo Observa	4.05	19	*e*Pn		Pn		05 47 48.8	-0.5
RTLL	Cerro Villicun	4.20	51	*e*P		Pn		05 47 52.9	+1.7
RTLL				*e*S		Sb		05 48 48.5	-3.4
AROD	Rodeo	4.54	33	*e*P		Pn		05 47 57.8	+1.7
AROD				*e*S		Sb		05 49 07.3	+5.5
ACAN	Cantantal	4.63	69	*e*P		Pn		05 47 59.0	+1.8
LCO	Las Campanas	5.18	16	*e*Pn		Pn		05 48 03.9	-1.0
GO06	Curarrehue	5.59	173	*e*Pn		Pn		05 48 12.1	+1.7
MRA	San Martin	5.75	76	*e*P		Pn		05 48 13.0	+0.4
MRA				*e*S		Sn		05 49 22.2	+4.1
APLL	PUNTA DE LOS L	6.09	55	*e*P		Pn		05 48 16.4	-0.8
APLL				*e*S		Sn		05 49 32.5	+6.0
APLL				IAML				05 49 44.5	
	comp=Z,416nm,0.6s								
PLCA	Paso Flores	6.84	169	Pn		Pn		05 48 29.2	+1.7
	comp=Z,2.1nm,0.3s,baz=360,slow=11,SNR=76								
PLCA				LR		LR		05 51 05.1	
	comp=Z,776nm,21.3s,baz=9.5,slow=37								
PLCA	Paso Flores	6.84	169	*e*Pn		Pn		05 48 29.6	+2.1
TCA	Tanti	7.03	70	*e*P		Pn		05 48 29.1	-1.0
TCA				IAML				05 48 36.8	
	comp=Z,186nm,0.6s								
GO07	Milladeo Hill,	9.14	186	*e*Pn		Pn		05 48 58.2	-0.7
TRQA	Tornquist	9.28	119	*e*Pn		Pn		05 48 59.8	-1.1
PB10	IPOC Station P	10.59	9	*e*Pn		Pn		05 49 18.7	-0.2
CHRN	Cochrane	13.21	181	*e*Pn		Pn		05 49 54.0	-0.6
PB11	IPOC Station P	14.40	10	*e*Pn		Pn		05 50 10.5	-0.8
MNMC	Minye Minye	15.03	10	*e*Pn		Pn		05 50 18.1	-1.8
CPUP	Villa Florida	15.04	63	Pn		Pn		05 50 18.6	-1.1
	comp=Z,0.6nm,0.3s,

TIC	Toumodi	75.25	71	*e*P		P	05 58 27.3	-2.9	
KIC	Kosan Boka	75.30	72	*e*P		P	05 58 29.8	-0.7	
	comp=Z,28nm,1.1s								
DBIC	Dimbokro	75.40	71	P		P	05 58 30.8	-0.2	
	comp=Z,3.9nm,0.7s,baz=209,slow=6.4,SNR=7.0								
ANMO	Albuquerque	75.70	332	LR		LR	06 27 38.9		
	comp=Z,182nm,18.5s,baz=140,slow=32								
TSUM	Tsumeb	79.42	106	*e*P		P	05 58 52.8	-0.9	
	comp=Z,6.7nm,1.1s								
BOSA	Boshof	80.25	118	P		P	05 58 58.4	+0.3	
	comp=Z,1.6nm,0.6s,baz=217,slow=5.6,SNR=5.9								
BOSA				LR		LR	06 32 22.5		
	comp=Z,57nm,18.1s,baz=211,slow=34								
BOSA	Boshof	80.25	118	*e*P		P	05 58 57.9	-0.2	
	comp=Z,16nm,1.1s								
LBTB	Lobatse	82.49	115	*e*P		P	05 59 09.8	-0.2	
	comp=Z,13nm,1.1s								
PDAR	Pinedale Array	83.69	333	P		P	05 59 17.8	+2.1	
	comp=Z,0.1nm,0.4s,baz=64,slow=32,SNR=2.2								
TOA0	Torodi Ar. Sit	84.43	70	*e*P		P	05 59 19.3	-0.5	
TORD	Torodi Ar. Bea	84.43	70	P		P	05 59 18.0	-1.8	
	comp=Z,6.9nm,0.9s,baz=270,slow=4.4,SNR=26								
TORD				LR		LR	06 36 09.6		
	comp=Z,138nm,18.6s,baz=315,slow=35								
J08A	Circle Bar Ran	87.80	328	*e*P		P	05 59 36.7	+0.8	
	comp=Z,9.3nm,1.3s								
GERES	GERESS Array B	112.33	45	PKiKP		PKiKP	06 05 22.5	+0.1	
	comp=Z,0.1nm,0.4s,baz=247,slow=4.0,SNR=2.5								
WRA	Warramunga Arr	120.63	209	PKP		PKPdf	06 05 39.2	-0.2	
	comp=Z,0.4nm,0.6s,baz=156,slow=1.6,SNR=12								
BRTR	Keskin Array B	122.04	61	PKP		PKPdf	06 05 41.9	+0.3	
	comp=Z,0.9nm,0.9s,baz=125,slow=2.7,SNR=3.8								
AKASG	Malin Array Be	122.37	48	PKP		PKPdf	06 05 40.9	-0.7	
	comp=Z,0.7nm,0.6s,baz=263,slow=2.6,SNR=3.4								
ARCES	ARCESS Array B	124.13	25	PKP		PKPdf	06 05 44.5	+0.1	
	comp=Z,4.9nm,1.0s,baz=232,slow=1.4,SNR=4.7								
H11S2	WAKE ISLAND Hy	125.55	269	T		T	08 24 59.2		
	baz=118,slow=74,SNR=16								
H11S1	WAKE ISLAND Hy	125.56	269	T		T	08 24 57.2		
	baz=118,slow=74,SNR=14								
H11S3	WAKE ISLAND Hy	125.57	269	T		T	08 24 58.3		
	baz=118,slow=74,SNR=10.0								
H11N3	WAKE ISLAND Hy	125.96	271	T		T	08 24 57.9		
	baz=114,slow=78,SNR=4.6								
H11N1	WAKE ISLAND Hy	125.98	271	T		T	08 24 58.9		
	baz=114,slow=78,SNR=12								
H11N2	WAKE ISLAND Hy	125.98	271	T		T	08 24 57.8		
	baz=114,slow=78,SNR=5.7								
ABKAR	Akbulak array	141.87	52	*e*PKPpre		PKPpre	06 06 13.5		
BRVK	Borovoye	147.38	43	*e*PKPbc		PKPbc	06 06 31.2	+1.1	
BVAR	Borovoye Array	147.45	43	PKPbc		PKPdf	06 06 28.9	+1.1	
	comp=Z,3.4nm,0.6s,baz=267,slow=2.5,SNR=14								
KK31	Karatay Array	149.75	61	*e*PKPdf		PKPdf	06 06 32.3	+0.4	
KK31				*e*PKPbc		PKPbc	06 06 36.9	+0.2	
KKAR	Karatay Array	149.75	61	*e*PKPdf		PKPdf	06 06 32.3	+0.4	
KKAR				*e*PKPbc		PKPbc	06 06 36.9	+0.2	
AAK	Ala-Archa	152.71	62	*e*PKPbc		PKPbc	06 06 44.8	+1.1	
KURBB	Kurchatov Arra	153.04	43	PKP		PKPdf	06 06 37.0	+0.4	
	comp=Z,0.6nm,0.7s,baz=297,slow=2.8,SNR=5.0								
KURBB				PKPbc		PKiKP	06 06 44.5	+0.4	
	comp=Z,2.9nm,0.6s,baz=298,slow=2.9,SNR=22								
KURK	Kurchatov	153.05	43	*e*PKPdf		PKPdf	06 06 36.3	-0.3	
KURK				*e*PKPbc		PKiKP	06 06 44.5	+0.4	
NRN	Naryn	153.97	64	*e*PKPdf		PKPdf	06 06 38.7	0.0	
NRN				*e*PKPbc		sPKPdf	06 06 47.5	+0.7	
NRN				*e*PKPab		PKPab	06 07 00.1	0.0	
KSH	Kashi	154.09	69	*e*PKPbc		PKPdf	06 06 36.7	-2.0	
ZAA0	Zalesovo Array	154.37	32	*e*pPKPdf		PKPbc	06 06 44.3	-2.4	
ZAA0				*e*PKPab		PKPab	06 06 59.4	-1.5	
ZALV	Zalesovo Beam	154.37	32	PKP		PKPdf	06 06 38.5	+0.1	
	comp=Z,0.9nm,0.6s,baz=305,slow=5.2,SNR=4.0								
ZALV				PKPbc		PKPbc	06 06 46.4	-0.3	
	comp=Z,4.9nm,0.6s,baz=307,slow=3.3,SNR=19								
ZALV	Zalesovo Beam	154.37	32	*e*PKPdf		PKPdf	06 06 38.2	-0.2	
ZALV				*e*PKPbc		sPKPdf	06 06 47.0	+0.6	
ZALV				*e*PKPab		pPKPab	06 07 05.1	-1.7	
MKAR	Makanchi Array	156.95	49	PKP		PKPdf	06 06 42.2	+0.1	
	comp=Z,0.5nm,0.9s,baz=316,slow=4.0,SNR=3.1								
MKAR				PKPbc		sPKPdf	06 06 52.8	+2.6	
	comp=Z,0.5nm,0.6s,baz=330,slow=2.0,SNR=4.4								
MKAR				PKPab		PKPab	06 07 12.2	-0.1	
	comp=Z,1.5nm,0.7s,baz=302,slow=4.1,SNR=7.9								
MK01	Makanchi Array	156.96	49	*e*PKPdf		PKPdf	06 06 42.8	+0.7	
MK01				*e*PKPab		PKPab	06 07 12.0	-0.3	
WMQ	Urumqi	161.66	52	*e*PKP		PKPdf	06 06 48.4	+0.6	
NJ2	Nanjing	170.43	261	*e*PKP		PKPdf	06 06 57.3	+2.3	
HHC	Hu-ho-hao-te	172.53	337	*e*PKP		PKPdf	06 06 53.3	-2.6	
LZH	Lanzhou	176.23	56	*e*PKP		PKPdf	06 06 54.6	-2.8	
LZH				pPKP		pPKPdf	06 07 00.5	-2.9	
LZH				sPKP			06 07 02.7		
LZH				PKPab		PKPab	06 08 35.8	-1.9	
LZH				LR		LR			
	comp=Z,140nm,18.1s								
LZH				LR		LR			
	comp=Z,130nm,18.2s								
LZH				LR		LR			
	comp=Z,180nm,20.0s								

MOS ***11*** *05:52:54.4±3.4,57.02N×118.84E,h10km,mb4.2/1,Error ellipse: s-maj=32.7km s-min=28.7km az=52.4*
BYKL ***11*** *05:52:54.9±0.4,57.02N×118.79E,h17km±4km*
ISC 11 05:52:49.7±1.3,57.02N±0.05×118.87E±0.03,h2km±11km, n23,σ2.2s23/40,3C,East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CRS	Chara	0.35	250	*i*Pg	P	Pn	05 53 01.8	-0.1
CRS				*i* Sg	S	Sb	05 53 06.2	+1.6
CRS				Pmax				
	249nm,0.1s							
CRS				Smax				
	3μm,0.3s							
CRS	Chara	0.35	250	*e*PG	P	Pn	05 53 01.7	-0.1
CRS				*e*			05 53 06.2	
CRS				pmax	pmax			
	comp=Z,262nm,0.2s							
CRS				smax	smax			
	comp=E,3μm,0.3s							
KHNR	Khani	0.62	99	*i*Pg	P	Pn	05 53 07.7	+2.2
KHNR				*e*Sg	S	Sn	05 53 16.4	+0.4
NLYR	Nelyaty	1.82	254	*e*Pn	P	Pg	05 53 26.3	+1.7
NLYR				*e*Pg	P	Pb	05 53 27.4	+3.7
NLYR				*e*Sg	S	Sg	05 53 49.7	+1.5
NLYR				Pmax				
	comp=E,114nm,0.4s							
NLYR				Smax				
	comp=E,592nm,0.6s							
NLYR	Nelyaty	1.82	254	*e*PN	P	Pg	05 53 27.3	+2.7
NLYR				*e*			05 53 49.2	
NLYR				pmax	pmax			
	comp=Z,110nm,0.6s							
NLYR				smax	smax			
	comp=E,586nm,0.7s							
TUP	Tupik	2.67	166	*e*Pn	P	Pb	05 53 38.3	+0.1
TUP				*e*Pg	P	Pg	05 53 42.5	+1.6
TUP				*e*Sg	S	Sg	05 54 17.2	+1.7
TUP				Pmax				
	comp=E,39nm,0.5s							
TUP				Smax				
	comp=E,297nm,0.6s							
TUP	Tupik	2.67	166	*e*PN	P	Pg	05 53 42.5	+1.6
TUP				*e*			05 54 16.7	
TUP				pmax	pmax			
	comp=Z,38nm,0.4s							
TUP				smax	smax			
	comp=E,212nm,0.6s							
BOD	Bodaibo	2.75	289	*e*Pn	P	Pb	05 53 38.6	-0.9
BOD				*e*Pg	P	Pg	05 53 42.6	+0.3
BOD				*e*Sg	S	Sg	05 54 17.8	-0.1
BOD				Pmax				
	comp=E,29nm,0.3s							
BOD				Smax				
	comp=E,149nm,0.8s							
BOD	Bodaibo	2.75	289	*e*PN	P	Pg	05 53 42.9	+0.6
BOD				*e*			05 54 18.1	
BOD				pmax	pmax			
	comp=Z,26nm,0.3s							
BOD				smax	smax			
	comp=N,151nm,0.7s							
SVKR	Severomuysk	3.07	255	*e*		Pn	05 53 39.4	+0.1
SVKR				*e*Pg	P	Pg	05 53 49.3	+0.8
SVKR				*e*Sg	S	Sg	05 54 29.8	+1.5
SVKR				Pmax				
	comp=N,61nm,0.2s							
SVKR				Smax				
	comp=N,339nm,0.5s							
UKT	Uakit	3.30	244	*i*Pn	P	Pb	05 53 46.6	-2.4
UKT				*e*Pg	P	Pg	05 53 53.8	+0.9
UKT				*e*Sg	S	Sg	05 54 35.7	0.0
UKT				Pmax				
	comp=N,13nm,0.2s							
UKT				Smax				
	comp=N,70nm,0.7s							
TNDR	Tynda	3.78	117	*e*Pg	P	Pg	05 54 02.4	+0.3
TNDR				*e*Sn	S	Sb	05 54 38.3	-5.0
TNDR				*e*Sg	S	Sg	05 54 52.4	+1.4
YOA	Uoyan	4.05	260	*e*Sg	S	Sg	05 54 59.7	0.0
YOA				Smax				
	comp=N,667nm,1.5s							
KMO	Kumora	4.40	258	*e*Sg	S	Sg	05 55 08.3	-2.7
KMO				Smax				
	comp=N,133nm,1.0s							
YLYR	Ulyunkhan	4.83	247	*e*Pn	P	Pn	05 54 07.5	+4.1
YLYR				*e*Sn	S	Sn	05 55 00.6	+0.7
YLYR				*e*Sg	S	Sg	05 55 24.0	-0.9
YLYR				Smax				
	comp=N,60nm,1.3s							
NIZ	Nizh Angarsk	5.33	260	*e*	P	Pg	05 54 31.4	-0.3
NIZ				*e*Sg	S	Sg	05 55 37.5	-3.2
NIZ				Smax				
	comp=N,43nm,1.0s							
NIZ	Nizh Angarsk	5.33	260	*e*PN	P	Pg	05 54 31.4	-0.3
NIZ				*e*			05 55 39.1	
NIZ				pmax	pmax			
	comp=Z,6.0nm,1.0s							
NIZ				smax	smax			
	comp=N,36nm,0.9s							
ZEA	Zeya	5.80	121	*e*PN	P	Pb	05 54 28.8	-2.7
ZEA				*e*			05 54 39.7	
ZEA				*e*S	S	Sn	05 55 23.9	+0.2
ZEA				*e*			05 55 55.9	
ZEA				pmax	pmax			
	comp=Z,12nm,0.3s							
ZEA				smax	smax			
	comp=E,30nm,0.7s							
ZEA				smax	smax			
	comp=E,39nm,0.6s							
ZEA				pmax	pmax			
	comp=E,65nm,0.7s							
SYVR	Suvo	6.08	240	*e*Sg	S	Sg	05 56 02.0	-2.7
SYVR				Smax				
	comp=E,20nm,0.8s							
SYVR	Suvo	6.08	240	*e*PN	P	Pg	05 54 44.6	-1.4
SYVR				*e*			05 56 01.7	
SYVR				pmax	pmax			
	comp=Z,10.0nm,1.3s							
SYVR				smax	smax			
	comp=E,44nm,2.0s							
KPC	Khapcheranga	8.29	211	*e*			05 56 49.6	
KPC				*e*Sg	S	Sg	05 57 11.1	-4.6
KPC				Smax				
	comp=E,15nm,1.0s							
HRMR	Khuramsha	8.81	237	*e*Sg	S	Sg	05 57 26.9	-5.2
HRMR				Smax				
	comp=E,56nm,1.7s							
ORL	Orlik	11.87	256	*e*Sg			05 58 59.2	

IDC ***11*** *06:03:05.4±1.1,38.66N×142.24E,h0km,mb3.6/7, mb1 3.6/10,mb1mx3.5/74,mbtmp3.6/10,ML3.0/2, Error ellipse: s-maj=28.5km s-min=19.1km az=83.0*
ISCJB ***11*** *06:03:11.7±0.8,38.63N±0.04×141.99E±0.10,h56km±5km, mb3.6/7,Error ellipse: s-maj=12.8km s-min=5.8km az=15.7*
JMA ***11*** *06:03:13.6,38.64N×141.90E,h48km±1km,M3.8*
JMA Felt I J1.
ISC 11 06:03:12.2±1.4,38.64N±0.05×142.0E±0.1,h47km±10km, n29,σ0.79/33,mb3.5/7,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JKMT	Kesennumamotoy	0.46	292	P	P	Pn	06 03 23.3	+0.5
JKMT				S	S	Sn	06 03 30.0	-0.4
OFUJ	Ofunato	0.52	328	P	P	Pn	06 03 24.5	+0.9
OFUJ				S	S	Sn	06 03 32.0	+0.3
JIKH	Ishinomakikobu	0.54	233	P	P	Pn	06 03 24.3	+0.5
JIKH				S	S	Sn	06 03 31.7	-0.4
JIO	Ouri	0.56	251	P	P	Pn	06 03 24.3	+0.3
JIO				S	S	Sn	06 03 31.7	-0.7
JMK	Ichinoseki	0.70	297	P	P	Pn	06 03 26.3	+0.4
JMK				S	S	Sn	06 03 35.3	-0.4
JOM	Ohasama	1.01	326	P	P	Pn	06 03 30.9	+0.9
JOM				S	S	Sn	06 03 42.2	-0.9
JOU	Okura	1.10	256	P	P	Pn	06 03 31.4	+0.2
JOU				S	S	Sn	06 03 44.7	-0.6
JMM	Marumori	1.23	232	P	P	Pn	06 03 33.0	-0.1
JMM				S	S	Sn	06 03 47.4	-1.1
JRG	Rokugo	1.32	306	P	P	Pn	06 03 34.7	+0.5
JYK	Kaneyama	1.33	283	P	P	Pn	06 03 34.7	+0.4
JFK	Kawauchi	1.56	216	P	P	Pn	06 03 38.0	+0.5
JFK				S	S	Sn	06 03 55.6	-0.9
JYS	Shirataka	1.59	256	P	P	Pn	06 03 38.4	+0.5
JYS				S	S	Sn	06 03 57.1	-0.2
MJAR	Matsushiro Arr	3.68	237	Pn	P	Pn	06 04 07.5	+0.9
	1.9nm,0.3s,baz=42,slow=11,SNR=32							
MAT	Matsushiro	3.68	237	P	P	Pn	06 04 08.7	+2.1
MAT				*e*S	S	Sn	06 04 50.1	+1.4
ASAJ	Asahikawa	5.49	4	Pn	P	Pn	06 04 27.4	-4.0
	0.3nm,0.3s,baz=163,slow=19,SNR=2.1							
ASAJ				Sn	S	Sn	06 05 25.0	-8.3
	1.1nm,0.3s,baz=30,slow=20,SNR=2.6							
USRK	Ussuriysk Ar.	9.36	310	Pn	P	Pn	06 05 23.0	-1.4
	baz=120,slow=13							
H11N2	WAKE ISLAND Hy	28.60	124	T	T	T	06 39 34.1	
	baz=316,slow=76,SNR=74							
H11N1	WAKE ISLAND Hy	28.61	124	T	T	T	06 39 24.2	
	baz=316,slow=76,SNR=159							
H11N3	WAKE ISLAND Hy	28.62	124	T	T	T	06 39 24.9	
	baz=316,slow=76,SNR=108							
H11S1	WAKE ISLAND Hy	29.37	126	T	T	T	06 40 18.6	
	baz=318,slow=76,SNR=119							
H11S3	WAKE ISLAND Hy	29.37	126	T	T	T	06 40 18.7	
	baz=318,slow=76,SNR=154							
H11S2	WAKE ISLAND Hy	29.39	126	T	T	T	06 40 19.2	
	baz=318,slow=76,SNR=92							
ZALV	Zalesovo Beam	41.21	311	P	P	P	06 10 52.7	+0.6
	0.8nm,0.4s,baz=86,slow=9.6,SNR=3.9							
MKAR	Makanchi Array	43.69	301	P	P	P	06 11 12.7	+0.3
	0.6nm,0.7s,baz=78,slow=7.8,SNR=3.3							
KURBB	Kurchatov Arra	45.41	307	P	P	P	06 11 26.4	+0.3
	3.1nm,0.4s,baz=81,slow=7.9,SNR=24							
ILAR	Eielson Array	47.89	33	P	P	P	06 11 44.6	-0.7
	0.2nm,0.7s,baz=270,slow=6.1,SNR=3.3							
BVAR	Borovoye Array	49.86	311	P	P	P	06 12 00.3	-0.2
	0.6nm,0.5s,baz=99,slow=9.2,SNR=3.6							
WRA	Warramunga Arr	58.71	188	P	P	P	06 13 05.4	+0.3
	0.4nm,0.9s,baz=5.4,slow=7.5,SNR=3.3							
ASAR	Alice Springs	62.44	188	P	P	P	06 13 29.8	-0.6
	0.2nm,0.7s,baz=17,slow=6.8,SNR=2.9							

ISCJB ***11*** *06:13:41.5±0.5,11.10S±0.07×164.81E±0.06,h31km, mb4.4/14,Error ellipse: s-maj=9.7km s-min=7.8km az=11.7*
NEIC ***11*** *06:13:43.9±0.4,11.01S×164.82E,h35km,mb4.4/7,Error ellipse: s-maj=8.9km s-min=7.8km az=157.0*
IDC ***11*** *06:13:46.8±3.4,11.06S×164.80E,h62km±28km,mb3.8/8, mb1 4.0/11,mb1mx3.7/52,mbtmp4.2/11,ML4.3/3,Error ellipse: s-maj=22.5km s-min=20.9km az=75.0*
ISC 11 06:13:43.5±0.6,11.03S±0.08×164.86E±0.07,h31km,n39, σ1.29/35,mb4.2/14,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.09	288	P	P	Pn	06 15 00.9	+3.2
	29nm,0.3s,baz=164,slow=6.9,SNR=3.2							
HNR				S		Sn	06 15 56.9	+1.6
	9.2nm,0.3s,baz=241,slow=5.0,SNR=2.2							
HNR	Honiara	5.09	288	*e*Pn	P	Pn	06 14 58.2	+0.5
HNR				*e*Sn	S	Sn	06 15 56.9	+1.6
DZM	Mont Dzumac	11.09	172	P	P	Pn	06 16 22.3	+2.2
	2.0nm,0.3s,baz=342,slow=19,SNR=23							
DZM	Mont Dzumac	11.09	172	*e*Pn	P	Pn	06 16 22.5	+2.4
RABL	Rabaul	14.29	297	*e*Pn	P	Pn	06 17 05.1	+1.2
FUNA	Funafuti	14.35	81	*e*Pn	P	Pn	06 17 05.9	+1.3
PATS	Pohnpei	18.90	340	*e*P	P	P	06 18 01.8	+0.1
	90nm,1.1s							
EIDS	Eidsvold	19.33	221	*e*P	P	P	06 18 05.2	-1.2
	34nm,1.4s							
MANU	Manus Island	19.52	296	*e*P	P	P	06 18 08.3	-0.2
	133nm,1.7s							
CTA	Charters Tower	20.04	241	P	P	Pn	06 18 15.4	-0.7
	0.2nm,0.3s,baz=45,slow=13,SNR=5.3							
CTAO	Charters Tower	20.04	241	*e*P	P	P	06 18 13.9	-0.3
	36nm,1.0s							
COEN	Coen	21.37	260	*e*P	P	P	06 18 26.8	-1.8
	20nm,1.4s							
H11S2	WAKE ISLAND Hy	29.39	4	T	T	T	06 50 16.8	
	baz=184,slow=76,SNR=17							
H11S3	WAKE ISLAND Hy	29.39	4	T	T	T	06 50 13.4	
	baz=184,slow=76,SNR=14							
H11S1	WAKE ISLAND Hy	29.40	4	T	T	T	06 50 21.5	
	baz=184,slow=76,SNR=14							
STKA	Stephens Creek	29.86	222	P	P	P	06 19 48.1	-0.2
	3.6nm,0.9s,baz=36,slow=10,SNR=5.2							
STKA	Stephens Creek	29.86	222	*e*P	P	P	06 19 48.3	0.0
	8.5nm,1.8s							
H11N1	WAKE ISLAND Hy	30.61	4	T	T	T	06 51 44.5	
	baz=183,slow=76,SNR=11							
H11N3	WAKE ISLAND Hy	30.62	4	T	T	T	06 51 49.6	
	baz=183,slow=76,SNR=12							
H11N2	WAKE ISLAND Hy	30.63	4	T	T	T	06 51 55.1	
	baz=183,slow=76,SNR=10							
WB2	Warramunga Arr	30.66	249	*e*P	P	P	06 19 54.0	-1.6
WR1	Warramunga Arr	30.67	249	*e*P	P	P	06 19 54.5	-1.2
	15nm,1.1s							
WRA	Warramunga Arr	30.67	249	P	P	P	06 19 54.5	-1.2
	1.5nm,0.9s,baz=80,slow=9.1,SNR=10							
AS31	Alice Springs	32.02	243	*e*P	P	P	06 20 07.7	+0.2
	4.9nm,1.6s							
ASAR	Alice Springs	32.02	243	P	P	P	06 20 07.1	-0.4
	1.5nm,0.6s,baz=65,slow=10,SNR=28							
KHZ	Kahutara	32.18	168	*e*P	P	P	06 20 08.2	-0.3
	137nm,1.7s							
SAUI	Saumlaki	33.22	272	*e*P	P	P	06 20 16.2	-1.8
	283nm,1.0s							
FAKI	Fak Fak	33.32	282	*e*P	P	P	06 20 17.0	-1.9
	18nm,1.0s							
FITZ	Fitzroy Crossi	38.54	255	P	P	P	06 21 02.8	-0.9
	1.4nm,0.8s,baz=76,slow=9.4,SNR=6.8							
FITZ	Fitzroy Crossi	38.54	255	*e*P	P	P	06 21 03.4	-0.2
	8.0nm,1.1s							
SONA0	Songino Array	78.14	324	*e*P	P	P	06 25 40.2	+0.4
SONM	Songino Array	78.14	324	P	P	P	06 25 40.2	+0.4
	0.4nm,0.4s,baz=139,slow=6.8,SNR=3.3							
ILAR	Eielson Array	83.77	19	P	P	P	06 26 08.6	-0.7
	0.8nm,0.7s,baz=237,slow=5.3,SNR=9.6							
ILB	Eielson Array	83.77	19	*e*P	P	P	06 26 07.9	-1.4
NV01	Mina Array Sit	86.68	50	*e*P	P	P	06 26 23.4	-1.3
NVAR	Mina Array Bea	86.68	50	P	P	P	06 26 24.4	-0.4
	0.8nm,0.8s,baz=231,slow=6.7,SNR=5.3							
MK01	Makanchi Array	92.90	317	*e*P	P	P	06 26 53.2	-0.3
MK32	Makanchi Array	92.91	317	*e*P	P	P	06 26 54.0	+0.4
MKAR	Makanchi Array	92.91	317	P	P	P	06 26 54.0	+0.4
	1.0nm,0.7s,baz=96,slow=5.6,SNR=9.7							

IDC ***11*** *06:22:51.8±2.1,16.74S×167.24E,h0km,mb4.0/6, mb1 4.2/7,mb1mx3.9/30,mbtmp4.1/7,ML4.0/1,Error ellipse: s-maj=52.7km s-min=26.0km az=116.0*
ISCJB ***11*** *06:22:52.6±1.5,16.96S±0.08×167.3E±0.2,h18km, mb3.9/5,Error ellipse: s-maj=32.3km s-min=11.7km az=178.6*
ISC 11 06:22:54.3±1.6,16.9S±0.1×167.3E±0.3,h18km,n7, σ1.66/8,mb4.0/5,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	5.19	189	Pn	P	Pn	06 24 12.6	+1.4
	4.9nm,0.3s,baz=34,slow=5.0,SNR=144							
DZM				Sn		Sn	06 25 08.6	-2.2
	4.3nm,0.3s,baz=316,slow=22,SNR=6.2							
CTA	Charters Tower	20.20	258	P	P	P	06 27 27.8	-0.6
	2.4nm,0.6s,baz=70,slow=11,SNR=1.9							
STKA	Stephens Creek	27.65	233	P	P	P	06 28 42.5	+1.3
	1.1nm,0.7s,baz=78,slow=9.3,SNR=3.7							
WRA	Warramunga Arr	31.38	259	P	P	P	06 29 14.7	+0.2
	0.6nm,0.6s,baz=90,slow=8.7,SNR=10							
ASAR	Alice Springs	31.98	252	P	P	P	06 29 20.4	+0.7
	2.9nm,0.7s,baz=83,slow=8.5,SNR=47							
PETK	Petropavlovsk-	70.23	354	P	P	P	06 34 06.8	+0.8
	3.7nm,0.8s,baz=167,slow=6.1,SNR=4.2							
SONM	Songino Array	84.26	324	P	P	P	06 35 23.0	-2.1
	0.3nm,0.3s,baz=116,slow=3.4,SNR=3.2							

KRSC 11 06:29:36.0±1.6,50.52N×157.61E,h45km±21km,ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.97	280	*i* P	P	Pn	06 29 53.4	+0.2
SKR				*e*S	S	Sn	06 30 05.2	-0.5
PAU	Pauzhetka	1.08	332	*i* P	P	Pn	06 29 56.4	+1.7
PAU				*e*S	S	Sn	06 30 10.8	+2.4
KDTR	Khodutka, Kamc	1.32	13	*e*P	P	Pn	06 29 59.7	+1.7
KDTR				*e*S	S	Sn	06 30 16.1	+1.6
RUS	Russkaya	2.00	16	*e*P	P	Pn	06 30 08.9	+1.6
RUS				*e*S	S	Sn	06 30 32.7	+1.7
MTVR	Mutnovka	2.00	10	*e*P	P	Pn	06 30 10.1	+2.7
MTVR				*e*S	S	Sn	06 30 34.6	+3.3
APC	Apacha	2.43	353	*e*P	P	Pn	06 30 15.8	+2.7
PET	Petropavlovsk	2.59	14	*e*S	S	Sn	06 30 49.2	+3.6
UGLR	Uglovaya

MEX 11 07:03:11.5±0.6, 16°19N×98°02W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.23**	**334**	*i* P	Pg	07 03 15.6	-0.3
PNIG				*i* S	Sg	07 03 18.8	-0.1
TLIG	**Tlapa**	**1.46**	**339**	*e*P	Pn	07 03 35.3	-3.4
TLIG				*e*S	Sb	07 03 53.7	-4.6
VHO	**Vista Hermosa**	**1.52**	**54**	*e*P	Pn	07 03 36.2	-3.3
VHO				*i* S	Sn	07 03 54.8	-5.0
CAIG	**El Cayaco**	**2.31**	**292**	*i* P	Pn	07 03 47.1	-3.2
CAIG				*i* S	Sn	07 04 14.9	-4.3

KRSC 11 07:08:09.5±1.1, 51°93N×159°26E, h42km±16km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.68**	**318**	*i* P	Pn	07 08 23.6	+0.9
RUS				*e*S	Sn	07 08 32.7	+0.5
KDTR	**Khodutka, Kamc**	**0.74**	**261**	*i* P	Pn	07 08 24.5	+1.0
KDTR				*e*S	Sn	07 08 34.0	+0.4
MTVR	**Mutnovka**	**0.86**	**310**	*e*P	Pn	07 08 26.6	+1.3
MTVR				*e*S	Sn	07 08 37.6	+0.7
GRL	**Gorelyy**	**0.96**	**311**	*e*P	Pn	07 08 29.1	+2.5
GRL				*e*S	Sn	07 08 41.8	+2.6
KRMR	**Karymshinskiy**	**1.14**	**323**	*i* P	Pn	07 08 30.4	+1.5
KRMR				*e*S	Sn	07 08 44.2	+0.9
PET	**Petropavlovsk**	**1.16**	**342**	*e*P	Pn	07 08 30.3	+1.1
PET				*e*S	Sn	07 08 44.8	+1.0
NLC	**Nalytchevo**	**1.25**	**2**	*e*P	Pn	07 08 31.6	+1.2
NLC				*e*S	Sn	07 08 46.3	+0.4
SPN	**Mys Shipunski**	**1.26**	**21**	*e*P	Pn	07 08 33.1	+2.5
SPN				*e*S	Sn	07 08 49.3	+3.0
UGLR	**Uglovaya**	**1.31**	**348**	*e*P	Pn	07 08 32.8	+1.4
SMAR	**Somma**	**1.37**	**348**	*e*P	Pn	07 08 33.9	+1.6
SDLR	**Sedlovina**	**1.37**	**351**	*e*P	Pn	07 08 33.2	+1.0
AVH	**Avacha**	**1.38**	**347**	*e*P	Pn	07 08 34.2	+1.9
KOK	**Koryaka**	**1.42**	**345**	*e*P	Pn	07 08 34.7	+1.8
KRX	**Arik**	**1.48**	**346**	*e*P	Pn	07 08 36.2	+2.4
PAU	**Pauzhetka**	**1.59**	**254**	*e*P	Pn	07 08 37.3	+2.2
PAU				*e*S	Sn	07 08 56.9	+2.4
APC	**Apacha**	**1.63**	**309**	*e*P	Pn	07 08 38.3	+2.7
APC				*e*S	Sn	07 08 58.7	+3.3
GNL	**Ganaly**	**1.94**	**336**	*e*P	Pn	07 08 42.4	+2.3
KII	**Karymskiy**	**2.12**	**3**	*e*P	Pn	07 08 46.1	+3.7
SKR	**Severo-Kuril's**	**2.33**	**239**	*e*P	Pn	07 08 47.2	+1.9
SKR				*e*S	Sn	07 09 14.5	+1.8
MKZ	**Mys Kozlova**	**3.02**	**28**	*e*P	Pn	07 08 57.0	+2.3
MKZ				*e*S	Sn	07 09 31.7	+2.1
KZV	**Kizimen**	**3.25**	**11**	*e*P	Pn	07 09 02.5	+4.5
TUMR	**Tumrok**	**3.40**	**9**	*e*P	Pn	07 09 03.9	+3.8
KBTR	**Krutoberegovo**	**4.77**	**25**	P	Pn	07 09 21.9	+3.1
SMKR	**Semkarok**	**4.84**	**15**	P	Pn	07 09 25.1	+5.3
SRKR	**Sorokina**	**4.87**	**13**	P	Pn	07 09 24.4	+4.3

*ATH **11** 07:08:25.3, 36°.54N×26°.63E, h32km±3km, ML2.6/5, Error ellipse: s-maj=3.7km s-min=1.2km az=16.0*
*ISK **11** 07:08:29.1, 36°.39N×27°.17E, h23km, ML2.8/5*
*DDA **11** 07:08:34.3, 37°.05N×27°.49E, h7km, Ml2.5, Suspected Mining explosion.*

ISC 11 07:08:24.9±1.3, 36°.55N±0°.04×26°.74E±0°.03, h18km±9km, n32, σ1°56/44, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.69**	**42**	PG	**Pn**	**07 08 43.1**	**+3.3**
ANAF	**Anafi Island**	**0.80**	**256**	P	**Pg**	**07 08 40.3**	**-0.4**
KARP	**Karpathos**	**1.06**	**161**	PG	**Pg**	**07 08 45.2**	**-0.3**
KARP				SG	**Sg**	**07 08 58.3**	**-1.2**
KARP	**Karpathos**	**1.06**	**161**	P	**Pg**	**07 08 46.3**	**+0.8**
KARP				S	**Sg**	**07 08 59.7**	**+0.2**
KARP				AML	AML	07 09 07.2	
	comp=N,1074μm,0.3s						
KARP				AML	AML	07 09 07.3	
	comp=E,580μm,0.2s						
SMG	**Samos**	**1.16**	**4**	P	**Pb**	**07 08 47.6**	**+1.2**
ARG	**Arkhangelos**	**1.17**	**106**	PG	**Pb**	**07 08 45.4**	**-1.3**
ARG	**Arkhangelos**	**1.17**	**106**	P	**Pb**	**07 08 47.5**	**+0.8**
ARG				S	**Sn**	**07 09 05.8**	**+3.8**
ARG				AML	AML	07 09 06.6	
	comp=N,262μm,0.3s						
ARG				AML	AML	07 09 07.2	
	comp=E,368μm,0.3s						
AYDN	**Tasoluk**	**1.43**	**39**	*i* P	**Pn**	**07 08 48.2**	**-1.9**
AYDN				*i* S	Sn	07 08 51.1	-17
ZKR	**Zakros**	**1.50**	**197**	P	**Pn**	**07 08 52.2**	**+1.2**
ZKR				S	**Sn**	**07 09 10.7**	**+0.6**
ZKR				AML	AML	07 09 15.5	
	comp=E,573μm,0.3s						
ZKR				AML	AML	07 09 15.6	
	comp=N,142μm,0.2s						
TURN	**Turunc**	**1.53**	**77**	PG	Pn	07 08 47.8	-3.6
TURN	**Turunc**	**1.53**	**77**	*i* P	Pn	07 08 48.4	-3.0
TURN				*i* S	**Sn**	**07 09 06.0**	**-4.9**
DALY	**Dalyan (Mu˘la**	**1.56**	**80**	PN	**Pn**	**07 08 51.9**	**+0.1**
DALY	**Dalyan (Mu˘la**	**1.56**	**80**	*i* P	**Pn**	**07 08 52.5**	**+0.6**
DALY				*i* S	**Sn**	**07 09 13.2**	**+1.6**
NPS	**Neapolis**	**1.58**	**216**	P	**Pn**	**07 08 52.7**	**+0.6**
NPS				S	**Sn**	**07 09 12.0**	**-0.1**
NPS				AML	AML	07 09 14.9	
	comp=E,430μm,0.3s						
NPS				AML	AML	07 09 15.1	
	comp=N,328μm,0.3s						
LAST	**Lasithi**	**1.73**	**217**	P	**Pn**	**07 08 54.4**	**+0.2**
LAST				S	**Sn**	**07 09 16.1**	**+0.3**
LAST				AML	AML	07 09 17.8	
	comp=E,177μm,0.4s						
LAST				AML	AML	07 09 17.9	
	comp=N,224μm,0.3s						
IDI	**Anoyia**	**1.96**	**230**	P	**Pn**	**07 08 56.7**	**-0.7**
TAVA	**DENİZLİ_Tavas**	**1.97**	**62**	*i* P	**Pn**	**07 08 56.6**	**-0.9**
TAVA				*i* S	**Sn**	**07 09 20.9**	**-0.9**
SIVA	**Sivas**	**2.19**	**226**	P	**Pn**	**07 09 00.9**	**+0.4**
SIVA				S	**Sn**	**07 09 26.3**	**-0.9**
AKAS	**Kas**	**2.34**	**97**	PN	**Pn**	**07 09 01.7**	**-0.9**
AKAS	**Kas**	**2.34**	**97**	*i* P	**Pn**	**07 09 06.0**	**+3.4**
AKAS				*i* S	**Sn**	**07 09 28.5**	**-2.5**
VAM	**Vamos**	**2.35**	**242**	P	**Pn**	**07 09 02.2**	**-0.5**
VAM				S	**Sn**	**07 09 30.8**	**-0.4**
GOLH	**Golhisar**	**2.37**	**72**	*i* P	**Pn**	**07 09 04.8**	**+1.8**
GOLH				*i* S	**Sn**	**07 09 30.1**	**-1.5**
IMMV	**Iera Moni Meta**	**2.49**	**245**	P	**Pn**	**07 09 05.0**	**+0.4**
IMMV				S	**Sn**	**07 09 33.4**	**-1.1**
ELL	**Elmali**	**2.56**	**85**	PN	**Pn**	**07 09 05.2**	**-0.5**
ANKY	**Antikythira Is**	**2.86**	**257**	P	**Pn**	**07 09 09.9**	**+0.2**
KORT	**Korkueli**	**2.94**	**80**	PN	**Pn**	**07 09 10.6**	**-0.3**
VLI	**Veliai**	**3.06**	**274**	P	**Pn**	**07 09 11.9**	**-0.6**
DYR	**Agios Nikonas**	**3.55**	**275**	P	**Pn**	**07 09 19.6**	**+0.5**
TRIP	**Tripoli**	**3.70**	**287**	P	**Pn**	**07 09 21.7**	**+0.3**
KLV	**Kalavryta, Ach**	**3.95**	**293**	P	**Pn**	**07 09 25.3**	**+0.6**
KALE	**Kalithea**	**4.09**	**298**	P	**Pn**	**07 09 28.3**	**+1.6**
LAKA	**Lakka**	**4.14**	**295**	P	**Pn**	**07 09 28.2**	**+0.8**

*NEIC **11** 07:24:21.0±0.0, 33°.97S×72°.27W, h38km, mb4.4/4, ML4.2(GUC), After GUC.*
NEIC Felt [II] at El Quisco and San Antonio.
*GUC **11** 07:24:21.0±0.7, 33°.98S×72°.28W, h38km±32km, ML4.2*
*IDC **11** 07:24:25.1±2.6, 34°.04S×71°.61W, h48km±24km, mb3.6/7, mb1 3.9/11, mb1mx3.7/32, mbtmp3.9/11, ML3.9/4, MS3.7/8, Ms1 3.7/8, ms1mx3.5/22, Error ellipse: s-maj=29.2km s-min=17.9km az=94.0*

ISC 11 07:24:20.5±0.8, 33°97S±0°.03×72°34W±0°.07, h22km±6km, n60, σ2°62/72, mb4.2/9, MS3.5/5, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**HualaæØ**	**1.09**	**162**	*e*Pn	**Pn**	**07 24 40.1**	**-0.4**
GO05				*e*Sn	**Sn**	**07 24 55.0**	**0.0**
GO05	**HualaæØ**	**1.09**	**162**	*i* P	**Pn**	**07 24 40.0**	**-0.5**
GO05				*e*S	**Sb**	**07 24 54.4**	**-0.2**
GO05				IAML		07 24 57.5	
	comp=E,10μm,0.9s						
ROC1	**El Roble**	**1.48**	**48**	*e*Pn	**Pn**	**07 24 46.3**	**+0.2**
ROC1				*e*Sn	**Sn**	**07 25 05.5**	**+0.6**
ROCH	**El Roble**	**1.49**	**48**	*e*P	**Pn**	**07 24 46.2**	**0.0**
ROCH				IAML		07 25 13.7	
	comp=E,5μm,0.5s						
CLCH	**Cerro Calan**	**1.60**	**70**	*i*P	**Pn**	**07 24 48.1**	**+0.5**
CLCH				*e*S	**Sb**	**07 25 08.9**	**-0.4**
PEL	**Peldehue**	**1.60**	**60**	*e*Pn	**Pn**	**07 24 48.3**	**+0.7**
PEL				*e*Sn	**Sb**	**07 25 09.0**	**-0.3**
PEL	**Peldehue**	**1.60**	**60**	*i* P	**Pn**	**07 24 48.3**	**+0.7**
PEL				*e*S	**Sn**	**07 25 08.6**	**+0.9**
PEL				IAML		07 25 16.4	
	comp=N,6μm,0.3s						
LMEL	**Las Melosas**	**1.78**	**87**	*e*P	**Pn**	**07 24 50.8**	**+0.7**
LMEL				*e*S	**Sn**	**07 25 13.2**	**+1.1**
LMEL				IAML		07 25 18.1	
	comp=N,5μm,0.3s						
FCH	**Farellones**	**1.82**	**70**	*e*P	**Pn**	**07 24 51.2**	**+0.3**
FCH				*e*S	**Sn**	**07 25 14.2**	**+0.8**
AUSP	**Uspallata**	**3.02**	**56**	*e*P	**Pn**	**07 25 10.3**	**+2.9**
AUSP				*e*S	**Sb**	**07 25 59.4**	**+8.9**
ASAL	**Salagasta**	**3.24**	**66**	*e*S	**Sb**	**07 26 03.7**	**+7.3**
RTLS	**Leoncito**	**3.35**	**51**	*e*P	**Pn**	**07 25 14.8**	**+3.0**
RTLS				IAML		07 26 07.0	
	comp=Z,612nm,0.6s						
RTCV	**Cerro Valdivia**	**3.82**	**58**	*e*P	**Pn**	**07 25 20.3**	**+2.2**
RTCV				*e*S	**Sb**	**07 26 18.1**	**+5.0**
GO04	**Tololo Observa**	**4.00**	**19**	*e*Pn	**Pn**	**07 25 20.9**	**+0.2**
GO04				*e*Sn	**Sn**	**07 26 05.8**	**-1.4**
RTLL	**Cerro Villicun**	**4.19**	**52**	*e*P	**Pn**	**07 25 25.6**	**+2.4**
RTLL				AMSG		07 26 31.3	
	comp=N,13μm,0.8s						
RTLL				AMSG		07 26 32.8	
	comp=Z,6μm,0.8s						
RTLL				AMSG		07 26 33.0	
	comp=Z,5μm,0.6s						
RTLL				AMSG		07 26 33.5	
	comp=E,19μm,1.0s						
RTLL				AMSG		07 26 40.7	
	comp=Z,7μm,1.4s						
ACCO	**Cerro Coronel**	**4.36**	**40**	*e*P	**Pn**	**07 25 28.0**	**+2.2**
ACCO				*e*S	**Sb**	**07 26 30.2**	**+1.2**
AMOG	**MOGNA**	**4.43**	**48**	*e*P	**Pn**	**07 25 28.7**	**+2.2**
AMOG				*e*S	**Sb**	**07 26 31.0**	**+0.2**
ACAN	**Cantantal**	**4.64**	**70**	*e*P	**Pn**	**07 25 31.6**	**+2.3**
ACAN				*e*S	**Sb**	**07 26 36.8**	**+0.2**
ACDV	**Cuesta del Vie**	**4.67**	**37**	*e*P	**Pn**	**07 25 31.9**	**+2.0**
ACDV				*e*S	**Sb**	**07 26 35.8**	**-1.8**
LCO	**Las Campanas**	**5.13**	**16**	*e*Pn	**Pn**	**07 25 35.9**	**-0.5**
LCO				*e*Sn	**Sn**	**07 26 32.5**	**-2.6**
AGUA	**GUANDACOL**	**5.54**	**37**	*e*P	**Pn**	**07 25 43.1**	**+1.3**
AGUA				*e*S	**Sb**	**07 26 56.1**	**-6.5**
GO06	**Curarrehue**	**5.65**	**173**	*e*Pn	**Pn**	**07 25 44.2**	**+1.0**
MRA	**San Martin**	**5.76**	**76**	*e*P	**Pn**	**07 25 46.0**	**+1.2**
MRA				*e*S	**Sb**	**07 27 03.3**	**-5.7**
MRA				IAML		07 27 37.3	
	comp=Z,100nm,0.7s						
APLL	**PUNTA DE LOS L**	**6.08**	**56**	*e*S	**Sb**	**07 27 10.5**	**-7.5**
APLL				IAML		07 27 18.0	
	comp=Z,115nm,0.6s						
VCA	**Vinchina**	**6.30**	**35**	*e*P	**Pn**	**07 25 53.2**	**+1.0**
VCA				*e*S	Sn	07 27 13.8	+10
VCA				IAML		07 27 38.8	
	comp=Z,153nm,0.5s						
PLCA	**Paso Flores**	**6.90**	**169**	P	**Pn**	**07 26 01.9**	**+1.5**
	comp=Z,2.5nm,0.3s,baz=3.3,slow=13,SNR=95						
PLCA				LR	LR	07 29 04.0	
	comp=Z,496nm,18.0s,baz=14,slow=41						
PLCA	**Paso Flores**	**6.90**	**169**	*e*Pn	**Pn**	**07 26 02.0**	**+1.6**
TRQA	**Tornquist**	**9.33**	**119**	*e*Pn	**Pn**	**07 26 33.1**	**-0.6**
LVC	**Limon Verde**	**11.71**	**16**	P	**Pn**	**07 27 08.9**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=214,slow=15,SNR=2.4						
LVC				LR	LR	07 32 32.0	
	comp=Z,270nm,19.0s,baz=205,slow=42						
CHRN	**Cochrane**	**13.27**	**181**	*e*Pn	**Pn**	**07 27 26.7**	**-0.8**
PB1X	**IPOC Station P**	**14.35**	**10**	*e*Pn	**Pn**	**07 27 43.4**	**+0.8**
MNMC	**Minye Minye**	**14.98**	**10**	*e*Pn	**Pn**	**07 27 50.8**	**-0.4**
CPUP	**Villa Florida**	**15.04**	**64**	P	**Pn**	**07 27 47.5**	**-4.2**
	comp=Z,0.0nm,0.3s,baz=248,slow=13,SNR=2.5						
CPUP				LR	LR	07 34 27.6	
	comp=Z,355nm,18.8s,baz=238,slow=42						
CPUP	**Villa Florida**	**15.04**	**64**	*e*Pn	**Pn**	**07 27 51.5**	**-0.3**
	comp=Z,5.3nm,0.8s						
LPAZ	**La Paz**	**18.01**	**13**	P	**P**	**07 28 31.4**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=185,slow=9.1,SNR=16						
LPAZ	**La Paz**	**18.01**	**13**	*e*Pn	**Pn**	**07 28 30.1**	**0.0**
	comp=Z,8.1nm,0.8s						
EFI	**East Falkland**	**20.50**	**154**	*e*P	**P**	**07 28 56.6**	**-0.2**
	comp=Z,34nm,0.9s						
SIV	**San Ignacio**	**20.58**	**32**	P	**P**	**07 28 57.3**	**-0.7**
	comp=Z,3.3nm,0.7s,baz=225,slow=13,SNR=22						
SIV				LR	LR	07 38 28.5	
	comp=Z,354nm,19.6s,baz=270,slow=42						
NNA	**Nana**	**22.27**	**348**	LR	LR	07 36 52.4	
	comp=Z,119nm,18.1s,baz=166,slow=33						
SPB	**São Paulo**	**24.09**	**71**	*e*P	**P**	**07 29 33.7**	**-0.9**
	comp=Z,18nm,0.9s						
SAML	**Samuel**	**26.29**	**21**	*e*P	**P**	**07 29 54.3**	**-0.2**
	comp=Z,5.3nm,0.8s						
ATAH	**Atahualpa**	**27.28**	**347**	LR	LR	07 39 56.5	
	comp=Z,130nm,18.2s,baz=193,slow=34						
BDFB	**Brasilia**	**28.52**	**56**	P	**P**	**07 30 12.0**	**-2.7**
	comp=Z,2.7nm,0.7s,baz=230,slow=7.9,SNR=3.7						
BDFB				LR	LR	07 42 56.4	
	comp=Z,365nm,18.3s,baz=219,slow=40						
BDFB	**Brasilia**	**28.52**	**56**	*e*P	**P**	**07 30 14.0**	**-0.7**
	comp=Z,15nm,1.1s						
RCBR	**Riachuelo**	**43.84**	**59**	*e*P	**P**	**07 32 21.2**	**-4.0**
	comp=Z,36nm,0.5s						
VNA3	**Neumayer Olymp**	**49.48**	**158**	P	P	07 33 18.6	+10
VNA2	**Neumayer--Watz**	**50.14**	**157**	P	**P**	**07 33 17.2**	**+3.4**
SNAA	**Sanae**	**51.71**	**158**	P	**P**	**07 33 27.4**	**+1.8**
QSPA	**South Pole Qui**	**56.27**	**180**	P	**P**	**07 34 00.0**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=134,slow=8.2,SNR=3.0						
TBI	**Tubuai**	**67.08**	**257**	*e*LR	LR	07 55 36.9	
	comp=Z,124nm,25.8s						
TXAR	**Lajitas Array**	**69.59**	**331**	P	**P**	**07 35 30.7**	**+2.7**
	comp=Z,0.6nm,0.8s,baz=138,slow=7.3,SNR=3.5						
PPT2	**Papeete2**	**70.00**	**262**	*e*LR	LR	07 56 45.2	
	comp=Z,98nm,27.0s						
PPT	**Papeete**	**70.00**	**262**	LR	LR	07 58 44.9	
	comp=Z,30nm,19.8s,baz=204,slow=29						
BOSA	**Boshof**	**80.30**	**118**	P	**P**	**07 36 27.4**	**-2.9**
	comp=Z,2.0nm,1.0s,baz=245,slow=7.5,SNR=3.6						
NVAR	**Mina Array Bea**	**83.72**	**325**	P	**P**	**07 36 51.9**	**+4.0**
	comp=Z,0.1nm,0.4s,baz=165,slow=7.5,SNR=2.0						
TORD	**Torodi Ar. Bea**	**84.43**	**70**	P	**P**	**07 36 50.3**	**-1.4**
	comp=Z,1.3nm,0.6s,baz=261,slow=4.9,SNR=11						
WRA	**Warramunga Arr**	**120.67**	**209**	PKP	**PKPdf**	**07 43 11.4**	**+0.2**
	comp=Z,0.2nm,0.8s,baz=158,slow=1.7,SNR=4.7						
ZAA0	**Zalesovo Array**	**154.33**	**32**	*e*PKPbc	**PKPbc**	**07 44 19.4**	**+0.9**
ZALV	**Zalesovo Beam**	**154.33**	**32**	PKPbc	**PKPbc**	**07 44 19.3**	**+0.9**
	comp=Z,2.3nm,0.6s,baz=291,slow=3.0,SNR=9.5						
MKAR	**Makanchi Array**	**156.93**	**49**	PKPab	**PKPab**	**07 44 44.1**	**0.0**
	comp=Z,0.5nm,0.5s,baz=290,slow=3.4,SNR=3.6						

*IDC **11** 07:24:37.4±1.6, 10°.76S×164°.63E, h0km, mb4.0/6, mb1 4.2/8, mb1mx3.9/47, mbtmp4.0/8, ML3.9/2, MS3.3/4, Ms1 3.3/4, ms1mx2.8/34, Error ellipse: s-maj=44.5km s-min=26.4km az=124.0*
*ISCJB **11** 07:24:39.8±1.1, 11°.0S±0°.1×164°.7E±0°.2, h29km, mb3.9/6, MS3.2/2, Error ellipse: s-maj=23.5km s-min=18.7km az=3.6*

ISC 11 07:24:41.6±1.3, 10°.9S±0°.1×164°.7E±0°.2, h29km, n13, σ0°86/8, mb3.9/6, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.91**	**286**	LR	LR	07 27 56.8	
	comp=Z,264nm,19.8s,baz=84,slow=42						
DZM	**Mont Dzumac**	**11.27**	**172**	Pn	**Pn**	**07 27 20.6**	**-0.2**
	2.4nm,0.3s,baz=345,slow=12,SNR=23						
DZM				LR	LR	07 31 22.7	
	comp=Z,122nm,18.7s,baz=12,slow=36						
CTA	**Charters Tower**	**20.00**	**240**	P	**P**	**07 29 12.7**	**+0.6**
	0.1nm,0.3s,baz=70,slow=13,SNR=3.9						
AFI	**Afiamalu**	**23.15**	**100**	LR	LR	07 37 34.4	
	comp=Z,120nm,21.0s,baz=246,slow=33						
H11S2	**WAKE ISLAND Hy**	**29.23**	**4**	T	T	08 01 15.3	
	baz=185,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**29.24**	**4**	T	T	08 01 14.4	
	baz=185,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**29.25**	**4**	T	T	08 01 18.1	
	baz=185,slow=76,SNR=25						
STKA	**Stephens Creek**	**29.89**	**222**	P	**P**	**07 30 47.7**	**+0.9**
	4.2nm,0.9s,baz=5.8,slow=13,SNR=5.3						
WRA	**Warramunga Arr**	**30.60**	**249**	P	**P**	**07 30 52.6**	**-0.7**
	1.2nm,0.9s,baz=79,slow=9.0,SNR=8.6						
WRA				LR	LR	07 42 12.4	
	comp=Z,49nm,18.7s,baz=95,slow=34						
ASAR	**Alice Springs**	**31.98**	**242**	P	**P**	**07 31 04.8**	**-0.6**
	1.3nm,0.6s,baz=67,slow=9.8,SNR=26						
FITZ	**Fitzroy Crossi**	**38.45**	**255**	P	**P**	**07 32 00.1**	**-1.1**
	1.5nm,0.7s,baz=101,slow=5.2,SNR=5.4						
ILAR	**Eielson Array**	**83.67**	**19**	P	**P**	**07 37 07.0**	**-0.2**
	0.5nm,0.8s,baz=225,slow=5.9,SNR=4.2						
MKAR	**Makanchi Array**	**92.70**	**317**	P	**P**	**07 37 51.6**	**+0.6**
	0.4nm,0.8s,baz=90,slow=4.5,SNR=3.3						

*IDC **11** 07:25:06.8±2.7, 46°.04N×151°.69E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.6/58, mbtmp3.7/7, Error ellipse: s-maj=66.6km s-min=34.9km az=5.0*
*SKHL **11** 07:25:27.8±0.2, 46°.38N×152°.56E, h182km±1km, mb4.2/1, msh5.1/2*
*JMA **11** 07:25:31.6±0.5, 45°.83N×152°.68E, h176km, M3.5*

ISC 11 07:25:28.3±1.0, 46°.6N±0°.2×152°.5E±0°.1, h150km, n28, σ1°84/27, mb3.4/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.53**	**249**	*e*P	**Pn**	**07 26 24.2**	**+1.7**
KUR				AMB	AMB	07 26 25.3	
	20nm,0.5s						
KUR				AMB	AMB	07 26 25.3	
	4μm,0.5s						
KUR				*e*S	**Sn**	**07 27 08.3**	**+3.9**
KUR				A	A	07 27 10.1	
	50nm,0.5s						
KUR				A	A	07 27 10.1	
	90nm,0.5s						
SHO	**Shikotan**	**4.87**	**238**	*e*P	**Pn**	**07 26 39.9**	**-0.1**
SHO				*e*S	**Sn**	**07 27 36.0**	**+0.2**
SHO				A	A	07 27 39.0	
	30nm,0.5s						
SHO				A	A	07 27 39.0	
	80nm,0.5s						
NEM2	**Nemuro 2**	**5.81**	**238**	P	**Pn**	**07 26 52.9**	**+0.5**
NEM2				*e*S	**Sn**	**07 27 56.4**	**-1.7**
JRA	**Rausu**	**5.87**	**245**	P	**Pn**	**07 26 55.3**	**+2.1**
JNK	**Nakash**	**6.30**	**244**	P	**Pn**	**07 27 00.9**	**+1.9**
JAK	**Akkeshi**	**6.64**	**240**	P	**Pn**	**07 27 04.0**	**+0.5**
JAK				*e*S	**Sn**	**07 28 16.3**	**-1.8**
JAR	**Ashorobuto**	**7.04**	**245**	P	**Pn**	**07 27 07.9**	**+2.0**
JOB	**Onbets**	**7.21**	**242**	P	**Pn**	**07 27 12.5**	**+1.3**
PETK	**Petropavlovsk-**	**7.30**	**25**	Pn	Pn	07 27 07.3	-4.9
	baz=214,slow=12						
PETK				Sn	**Sn**	**07 28 32.4**	**-1.5**
	baz=215,slow=19						
ASAJ	**Asahikawa**	**7.43**	**254**	P	**Pn**	**07 27 16.9**	**+2.9**
JKK2	**Kamakawa 2**	**7.43**	**252**	P	**Pn**	**07 27 16.4**	**+2.4**
JCH	**Churui**	**7.67**	**242**	P	**Pn**	**07 27 17.7**	**+0.5**
MYR	**Moyori**	**7.90**	**240**	*e*P	**Pn**	**07 27 20.7**	**+0.4**
MYR				*e*S	**Sn**	**07 28 45.7**	**-2.6**
JNBK	**Urakawa-nobuka**	**8.23**	**242**	P	**Pn**	**07 27 23.1**	**-1.6**
JKB	**Kayabe**	**9.50**	**244**	P	**Pn**	**07 27 41.4**	**-0.2**
JYM2	**Yakumo 2**	**9.80**	**247**	P	**Pn**	**07 27 46.1**	**+0.6**
H11N2	**WAKE ISLAND Hy**	**29.30**	**151**	T	T	08 03 05.4	
	baz=340,slow=76,SNR=34						
H11N1	**WAKE ISLAND Hy**	**29.31**	**151**	T	T	08 02 45.6	
	baz=340,slow=76,SNR=27						
H11N3	**WAKE ISLAND Hy**	**29.31**	**151**	T	T	08 03 03.8	
	baz=340,slow=76,SNR=19						
H11S1	**WAKE ISLAND Hy**	**30.38**	**153**	T	T	08 04 36.2	
	baz=341,slow=76,SNR=6.9						
H11S3	**WAKE ISLAND Hy**	**30.38**	**153**	T	T	08 04 27.6	
	baz=341,slow=76,SNR=6.3						
H11S2	**WAKE ISLAND Hy**	**30.39**	**153**	T	T	08 04 33.2	
	baz=341,slow=76,SNR=5.4						
INK	**Inuvik**	**41.98**	**32**	P	**P**	**07 33 04.2**	**+0.2**
	0.4nm,0.4s,baz=293,slow=7.1,SNR=9.5						
NVAR	**Mina Array Bea**	**62.85**	**62**	P	**P**	**07 35 40.1**	**+1.7**
	0.3nm,0.5s,baz=296,slow=8.7,SNR=2.9						
FINES	**FINESS Array B**	**63.98**	**335**	P	**P**	**07 35 43.5**	**-1.6**
	3.8nm,0.9s,baz=27,slow=9.0,SNR=6.0						
NOA	**NORSAR Array B**	**68.22**	**341**	P	**P**	**07 36 10.3**	**-1.8**
	0.3nm,0.6s,baz=48,slow=5.3,SNR=2.9						
AKASG	**Malin Array Be**	**71.43**	**326**	P	**P**	**07 36 29.9**	**-1.9**
	0.8nm,0.5s,baz=33,slow=6.1,SNR=2.9						
TXAR	**Lajitas Array**	**77.91**

SIJI Sn **Sn** **07 54 46.4 -5.5**
18nm,0.3s,baz=307,slow=20,SNR=6.5
SWI **Sorong** **5.10 11** P **Pn** **07 53 53.3 +0.4**
SWI S **Sn** **07 54 49.8 -2.1**
SANI **Sanana** **5.73 312** P **Pn** **07 54 01.5 -0.1**
RKPI **Ransiki, Papua** **5.85 42** P **Pn** **07 54 02.6 -0.6**
617nm,0.7s,10µm10nm
RKPI S **Sn** **07 55 07.9 -2.5**
617nm,0.7s,10µm10nm
MTN **Manton Dam** **6.95 173** P **Pn** **07 54 20.7 +2.4**
baz=7.1,SNR=94
MTN **Manton Dam** **6.95 173** *e*Pn **Pn** **07 54 20.7 +2.4**
MTN *e*Sn **Sn** **07 55 36.7 -0.7**
SOEI **Soe** **7.07 237** *e*Pn **Pn** **07 54 18.9 -1.2**
SOEI **Soe** **7.07 237** P Pn 07 54 25.6 +5.5
KDU **Kakadu** **7.08 162** P **Pn** **07 54 21.5 +1.4**
baz=7.2,SNR=256
TNTI **Ternate** **7.24 336** *e*Pn **Pn** **07 54 21.8 -0.5**
TNTI **Ternate** **7.24 336** P **Pn** **07 54 25.5 +3.3**
63nm,1.2s,1µm
BBSI **Bau Bau** **7.67 273** P **Pn** **07 54 31.2 +3.0**
45nm,1.1s
BATI **Baumata** **7.81 236** Pn **Pn** **07 54 31.3 +1.1**
7.0nm,0.3s,baz=129,slow=2.0,SNR=6.1
BATI Sn **Sn** **07 55 59.1 +0.3**
baz=323,slow=18,SNR=1.9
BATI LR LR 07 57 42.2
comp=Z,1µm,18.4s,baz=70,slow=40
BATI **Baumata** **7.81 236** P **Pn** **07 54 33.6 +3.4**
80nm,0.9s,1µm
MMRI **Maumere** **8.42 251** *e*Pn **Pn** **07 54 38.9 +0.4**
MMRI **Maumere** **8.42 251** P Pn 07 54 46.5 +8.0
157nm,0.8s
LUWI **Luwuk** **8.90 303** *e*Pn **Pn** **07 54 44.3 -0.8**
LUWI **Luwuk** **8.90 303** P **Pn** **07 54 47.5 +2.4**
285nm,1.0s,3µm
EDFI **Ende, Flores** **8.97 251** P **Pn** **07 54 48.9 +2.8**
67nm,1.0s,801nm
KMSI **Cibinong** **8.99 316** P Pn 07 54 53.8 +7.5
SMPI **Sarmi** **9.27 66** P **Pn** **07 54 53.7 +3.5**
50nm,1.3s
KNRA **Kununurra** **9.82 189** P **Pn** **07 54 58.2 +0.4**
baz=9.9,SNR=36
APSI **Ampana** **9.93 300** P **Pn** **07 55 00.7 +1.5**
147nm,1.2s,2µm
BKSI **Bulukumba** **10.11 273** P **Pn** **07 55 05.2 +3.5**
54nm,0.8s,558nm
BNSI **Bone** **10.23 278** P **Pn** **07 55 04.2 +0.9**
39nm,0.7s,969nm
MMPI **Merauke** **10.35 105** P Pn 07 55 10.0 +5.0
439nm,0.8s
GENI **Genyem** **10.40 72** P **Pn** **07 55 08.9 +3.2**
106nm,1.0s,5µm
MRSI **Marisa** **10.45 307** P **Pn** **07 55 08.4 +2.0**
130nm,1.1s,2µm
SPSI **Sidrap Palu** **10.64 280** P **Pn** **07 55 11.7 +2.8**
36nm,0.9s,497nm
JAY **Jayapura** **10.94 73** Pn **Pn** **07 55 12.1 -0.9**
0.5nm,0.3s,baz=246,slow=17,SNR=2.8
JAY LR LR 08 01 17.5
comp=Z,317nm,19.6s,slow=48
MPSI **Mapaga** **12.07 301** P **Pn** **07 55 31.5 +3.0**
38nm,0.9s,567nm
FITZ **Fitzroy Crossi** **12.94 200** Pn **Pn** **07 55 39.0 -1.4**
2.4nm,0.3s,baz=22,slow=10,SNR=46
FITZ Sn **Sn** **07 57 58.5 -5.9**
3.2nm,0.3s,baz=73,slow=11,SNR=5.4
FITZ LR LR 08 01 24.9
comp=Z,426nm,21.5s,baz=28,slow=41
DAV **Davao City (W)** **13.71 340** LR LR 08 01 56.7
comp=Z,420nm,21.7s,baz=126,slow=41
KBKI **Kotabaru** **14.29 280** P **P** **07 56 08.9 +2.7**
WRAB **Tennant Creek** **14.50 164** *e*Pn **Pn** **07 55 58.8 -2.9**
WRAB *e*Sn Sn 07 58 26.7 -16
WRA **Warramunga Arr** **14.51 165** Pn **Pn** **07 55 59.8 -2.1**
3.1nm,0.3s,baz=352,slow=13,SNR=100
WRA Sn **Sn** **07 58 34.5 -8.4**
12nm,0.3s,baz=334,slow=24,SNR=16
WRA LR LR 08 02 16.1
comp=Z,733nm,18.5s,baz=330,slow=40
WB2 **Warramunga Arr** **14.51 164** *e*Pn **Pn** **07 55 59.5 -2.4**
WC3 **Warramunga Arr** **14.53 164** *e*Pn **Pn** **07 55 59.8 -2.4**
COEN **Coen** **15.02 123** P **Pn** **07 56 09.5 +0.8**
baz=15,SNR=15
COEN **Coen** **15.02 123** *e*Pn **Pn** **07 56 07.5 -1.3**
55nm,0.5s
MYLDM **Lahad Datu** **16.10 313** *e*Pn **Pn** **07 56 23.8 +0.8**
74nm,1.1s
AS31 **Alice Springs** **18.00 169** *e*Pn **Pn** **07 56 47.0 +0.1**
20nm,0.8s
ASAR **Alice Springs** **18.00 169** P **Pn** **07 56 46.0 -0.9**
3.9nm,0.3s,baz=340,slow=9.5,SNR=111
ASAR S **Sn** **07 59 58.1 -10**
2.0nm,0.3s,baz=346,slow=20,SNR=8.9
ASAR LR LR 08 04 56.2
comp=Z,445nm,19.6s,baz=350,slow=41
AS01 **Alice Springs** **18.01 169** *e*Pn **Pn** **07 56 46.1 -0.9**
MBWA **Marble Bar** **18.28 213** *e*Pn **Pn** **07 56 48.8 -1.5**
29nm,0.8s
MBWA *e*Sn **Sn** **08 00 09.0 -5.7**
MTSU **Mount Surprise** **18.33 133** P **P** **07 56 51.6 +0.7**
baz=18,SNR=32
KKM **Kota Kinabalu** **18.38 310** *e*Pn **Pn** **07 56 50.6 -1.0**
29nm,0.8s
KKM **Kota Kinabalu** **18.38 310** P **Pn** **07 56 51.0 -0.6**
WRKA **Warakurna** **19.12 185** P **P** **07 56 59.1 -0.5**
baz=19,SNR=94
STKI **Sintang** **19.67 287** P **Pn** **07 57 07.7 +0.5**
SMRI **Semarang** **19.73 266** *e*P **P** **07 57 05.7 -0.8**
62nm,0.9s
SMRI **Semarang** **19.73 266** P **Pn** **07 57 11.3 +3.4**
82nm,1.6s
SBUM **Sibu** **19.84 294** *e*P **P** **07 57 07.0 -0.6**
19nm,1.1s
SBUM **Sibu** **19.84 294** P **Pn** **07 57 09.0 -0.2**
CTA **Charters Tower** **20.98 134** P Pn 07 57 21.3 -1.2
12nm,0.7s,baz=317,slow=12,SNR=13
CTA LR LR 08 07 00.2
comp=Z,710nm,18.7s,baz=310,slow=41
CTAO **Charters Tower** **20.98 134** *e*P Pn 07 57 22.0 -0.5
49nm,1.1s
CTAO *e*S **S** **08 01 09.9 -3.9**
KSM **Kuching** **21.24 290** *e*P **P** **07 57 22.5 -0.2**
30nm,1.0s
KSM **Kuching** **21.24 290** P **P** **07 57 24.0 +1.3**
KPJI **Karang Pucung** **21.24 265** P P 07 57 34.3 +12
RABL **Rabaul** **21.88 87** *e*P **P** **07 57 31.1 +1.5**
49nm,0.5s
LEM **Lembang** **22.53 266** P **P** **07 57 36.1 -0.7**
11nm,0.3s,baz=347,slow=12,SNR=2.9
LEM LR LR 08 07 36.1
comp=Z,495nm,18.5s,baz=120,slow=40
MEEK **Meekatharra** **23.43 207** P **P** **07 57 46.6 +0.8**
baz=24,SNR=4.5
GUMO **Guam** **24.19 37** LR LR 08 06 16.0
comp=Z,171nm,21.1s,baz=212,slow=34
PPBI **Pangkal Pinang** **24.35 278** P **P** **07 57 55.4 +0.6**
23nm,1.2s,18µm
QLP **Quilpie** **24.50 149** P **P** **07 57 57.9 +1.9**
baz=25,SNR=11
FORT **Forrest** **24.83 185** P **P** **07 58 01.6 +2.7**
baz=25,SNR=12
FORT **Forrest** **24.83 185** *e*P **P** **07 57 59.8 +0.9**
78nm,0.6s
MORW **Morawa** **26.68 209** P **P** **07 58 15.9 +0.1**
baz=27,SNR=3.1
RMQ **Roma** **27.02 141** P **P** **07 58 20.1 +1.3**
baz=27,SNR=3.9
BBOO **Buckleboo** **27.31 169** *e*P **P** **07 58 22.0 +0.6**
24nm,0.9s
STKA **Stephens Creek** **27.93 159** P **P** **07 58 26.9 +0.1**
4.7nm,0.6s,baz=338,slow=8.0,SNR=10
STKA LR LR 08 10 58.1
comp=Z,392nm,18.6s,baz=338,slow=39
STKA **Stephens Creek** **27.93 159** P **P** **07 58 28.4 +1.5**
baz=28,SNR=9.6
STKA **Stephens Creek** **27.93 159** *e*P **P** **07 58 27.8 +0.9**
2.8nm,0.8s
KLBR **Kellerberrin** **28.12 203** P **P** **07 58 29.7 +1.1**
baz=28,SNR=9.6
HTT **Hallett** **28.55 165** P **P** **07 58 35.9 +3.4**
baz=29,SNR=6.4
MUN **Mundaring** **29.08 205** P **P** **07 58 38.1 +1.0**
baz=29,SNR=4.0
CMSA **Cobar Meteorol** **29.31 152** P **P** **07 58 40.9 +1.8**
baz=30,SNR=8.5
NWAO **Narrogin (SRO)** **29.50 203** P **P** **07 58 39.8 -1.1**
10nm,0.6s,baz=274,slow=7.7,SNR=6.9
NWAO LR LR 08 12 00.4
comp=Z,403nm,18.1s,baz=136,slow=40
NWAO **Narrogin (SRO)** **29.50 203** P **P** **07 58 42.1 +1.2**
baz=30,SNR=4.9
NWAO **Narrogin (SRO)** **29.50 203** *e*P **P** **07 58 41.6 +0.7**
20nm,0.8s
HNR **Honiara** **29.61 99** LR LR 08 11 47.6
comp=Z,137nm,19.1s,baz=280,slow=39
RKGY **Rocky Gully** **31.10 202** P **P** **07 58 57.5 +2.6**
baz=31,SNR=6.6
ARPS **Mount Arapiles** **32.50 163** P **P** **07 59 10.7 +3.5**
baz=33,SNR=6.7
YNG **Young** **32.86 152** P **P** **07 59 13.2 +2.7**
baz=33,SNR=5.1
SKNT **Sakolnakorn** **34.52 312** P **P** **07 59 25.4 +0.3**
9.4nm,0.8s,739nm
CHAI **Chaiyaphum** **35.40 308** P **P** **07 59 32.5 -0.2**
5.4nm,0.9s
NONG **Nongkai** **35.83 312** P **P** **07 59 38.8 +2.5**
0.5nm,1.7s,72nm
PBKT **Sadao Pong** **36.58 308** P P 07 59 52.8 +10
SRDT **SRDT** **36.87 303** P P 07 59 56.9 +12
UTTA **Uttaradit** **37.59 309** P **P** **07 59 51.3 -0.1**
10nm,0.9s,81nm
UMPA **Umpang Tak** **38.06 306** P P 08 00 06.3 +11
SUKH **Sukhothai** **38.15 308** P **P** **07 59 56.4 +0.2**
9.1nm,0.8s
DZM **Mont Dzumac** **38.46 118** P **P** **08 00 00.4 +1.5**
6.1nm,0.9s,baz=305,slow=23,SNR=3.6
DZM **Mont Dzumac** **38.46 118** *e*LR LR 08 10 39.1
371nm,32.0s
DZM **Mont Dzumac** **38.46 118** *e*P **P** **07 59 59.7 +0.8**
17nm,1.1s
LAMP **Lampang** **38.75 309** P **P** **08 00 01.8 +0.6**
9.2nm,0.8s,86nm
PAYA **Payao** **39.07 311** P **P** **08 00 04.0 +0.1**
6.2nm,0.8s
CM01 **Chiang Mai Arr** **39.21 309** *e*P **P** **08 00 04.8 -0.2**
CMAR **Chiang Mai Arr** **39.25 309** P **P** **08 00 05.3 -0.1**
7.1nm,0.7s,baz=141,slow=7.7,SNR=48
CMAR LR LR 08 16 48.1
comp=Z,106nm,21.4s,baz=130,slow=37
NJ2 **Nanjing** **39.28 345** *e*P **P** **08 00 06.5 +1.1**
NJ2 pmax pmax
comp=Z,6.0nm,0.7s
CMMT **Chiang Mai** **39.45 309** P **P** **08 00 06.9 -0.1**
34nm,1.1s,425nm
CHTO **Chiang Mai** **39.45 309** *e*P **P** **08 00 06.9 -0.2**
35nm,1.0s
CHTO **Chiang Mai** **39.45 309** P **P** **08 00 06.9 -0.2**
148nm,0.9s,1µm
GYA **Guiyang** **39.48 326** *e*P **P** **08 00 09.0 +1.7**
GYA pmax pmax
comp=Z,10.0nm,1.0s
KMI **Kunming** **40.84 320** P **P** **08 00 20.8 +2.0**
KMI pmax pmax
comp=Z,16nm,0.5s
MJAR **Matsushiro Arr** **42.87 9** P **P** **08 00 34.1 -0.9**
4.5nm,0.9s,baz=188,slow=11,SNR=5.5
MJAR LR LR 08 18 04.5
comp=Z,94nm,19.8s,baz=185,slow=36
MAJO **Matsushiro** **42.87 9** *e*P **P** **08 00 36.1 +1.2**
17nm,0.8s
MAT **Matsushiro** **42.87 9** P **P** **08 00 38.1 +3.1**
MAT *e*S **S** **08 06 57.8 -1.9**
MJB9 **Matsu-Tunnel** **42.88 9** *e*P **P** **08 00 36.2 +1.2**
18nm,0.8s
KSAR **Wonju Array Be** **43.18 357** P **P** **08 00 35.9 -1.5**
KSRS **Korea Array** **43.19 357** P **P** **08 00 35.8 -1.6**
1.1nm,0.8s,baz=166,slow=7.6,SNR=3.2
KSRS LR LR 08 20 47.6
comp=Z,86nm,18.2s,baz=183,slow=39
CD2 **Chengdu** **44.53 327** *e*P **P** **08 00 49.5 +1.0**
BJI **Beijing** **47.53 345** P P 08 01 03.6 -8.2
BJI pmax pmax
comp=Z,11µm,3.7s
LZH **Lanzhou** **48.57 331** *e*P **P** **08 01 22.5 +2.2**
LZH pP sP 08 01 24.7 +0.1
LZH sP pP 08 01 25.9 +2.5
LZH pmax pmax
comp=Z,22nm,1.3s
LZH pmax pmax
comp=Z,93nm,5.8s
LZH LR LR
comp=Z,310nm,13.7s
LZH LR LR
comp=Z,330nm,14.0s
LZH LR LR
comp=Z,430nm,17.2s
SHL **Shillong** **48.67 312** *e*P **P** **08 01 19.2 -2.0**
comp=Z,16nm,0.9s
SHL **Shillong** **48.67 312** *e*P **P** **08 01 21.0 -0.2**
HHC **Hu-ho-hao-te** **49.59 341** *e*P **P** **08 01 28.3 +0.4**
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,110nm,4.7s
HHC LR LR
comp=Z,220nm,10.4s
HHC LR LR
comp=Z,170nm,9.5s
HHC LR LR
comp=Z,200nm,9.5s
CN2 **Changchun** **49.66 355** *e*P **P** **08 01 29.5 +1.2**
USRK **Ussuriysk Ar.** **49.90 2** P **P** **08 01 30.1 +0.1**
comp=Z,4.3nm,0.7s,baz=170,slow=6.1,SNR=5.7
USRK LR LR 08 23 22.8
comp=Z,59nm,18.4s,baz=208,slow=37
GTA **Gaotai** **53.15 331** *e*P **P** **08 01 54.2 -0.5**
GTA pP sP 08 01 59.4 +0.3
GTA sP pP 08 02 02.7 +4.8
GTA pmax pmax
comp=Z,8.0nm,1.0s
GTA pmax pmax
comp=Z,140nm,4.6s
GTA LR LR
comp=Z,240nm,19.9s
GTA LR LR
comp=Z,180nm,15.1s
GTA LR LR
comp=Z,130nm,17.5s
HYB **Hyderabad** **56.08 295** *i* P **P** **08 02 15.0 -1.2**
HYB *e* 08 02 24.0
SONM **Songino Array** **57.49 341** P **P** **08 02 25.9 0.0**
comp=Z,2.5nm,0.9s,baz=163,slow=5.5,SNR=12
SONM LR LR 08 29 03.5
comp=Z,29nm,21.1s,baz=176,slow=38
SONA1 **Songino Array** **57.50 341** *e*P **P** **08 02 26.0 +0.1**
WMQ **Urumqi** **62.63 327** P **P** **08 03 01.4 +0.3**
WMQ pP sP 08 03 06.6 +1.1
WMQ sP pP 08 03 09.5 +5.2
WMQ pmax pmax
comp=Z,38nm,1.1s
WMQ pmax pmax
comp=Z,570nm,5.1s
WMQ LR LR
comp=Z,340nm,24.9s
WMQ LR LR
comp=Z,210nm,20.1s
WMQ LR LR
comp=Z,170nm,19.1s
PETK **Petropavlovsk-** **63.20 18** P **P** **08 03 05.5 +0.9**
comp=Z,1.7nm,0.7s,baz=203,slow=5.5
PETK LR LR 08 28 16.7
comp=Z,25nm,21.8s,baz=226,slow=34
KSH **Kashi** **67.40 317** P **P** **08 03 33.0 +0.7**
KSH PP **PP** **08 06 03.3 +2.3**
KSH S **S** **08 12 25.9 -2.5**
KSH ScS **SKSac** **08 13 26.2 -4.2**
KSH pmax pmax
comp=Z,27nm,1.0s
KSH pmax pmax
comp=Z,160nm,5.2s
KSH LR LR
comp=Z,130nm,6.8s
KSH LR LR
comp=Z,340nm,6.8s
KSH LR LR
comp=Z,260nm,12.2s
MK01 **Makanchi Array** **67.44 326** *e*P **P** **08 03 32.0 -0.3**
MK31 **Makanchi Array** **67.46 326** *e*P **P** **08 03 32.6 +0.2**
MKAR **Makanchi Array** **67.46 326** P **P** **08 03 32.6 +0.2**
comp=Z,7.0nm,0.8s,baz=128,slow=7.7,SNR=58
MKAR **Makanchi Array** **67.46 326** *e*P **P** **08 03 32.2 -0.2**
comp=Z,52nm,0.9s
YAK **Yakutsk** **67.74 360** *e*P **P** **08 03 33.8 0.0**
comp=Z,31nm,0.8s
KDJ **Kajisay** **67.91 320** *e*P **P** **08 03 35.0 -0.5**
NRN **Naryn** **68.32 319** *e*P **P** **08 03 38.3 0.0**
comp=Z,4.6nm,1.0s
AAK **Ala-Archa** **69.88 319** *e*P **P** **08 03 48.4 +0.6**
comp=Z,8.1nm,0.9s
ZAA0 **Zalesovo Array** **70.72 333** *e*P **P** **08 03 51.9 -0.6**
comp=Z,13nm,1.0s
ZALV **Zalesovo Beam** **70.72 333** P **P** **08 03 51.9 -0.6**
comp=Z,5.4nm,0.9s,baz=108,slow=4.8,SNR=16
ZALV **Zalesovo Beam** **70.72 333** *e*P **P** **08 03 51.4 -1.1**
KURK **Kurchatov** **71.73 328** *e*P **P** **08 03 57.9 -0.7**
comp=Z,27nm,1.0s
KK31 **Karatay Array** **72.70 318** *e*P **P** **08 04 04.0 -0.7**
KKAR **Karatay Array** **72.70 318** *e*P **P** **08 04 04.0 -0.7**
VNDA **Vanda** **73.50 173** P **P** **08 04 09.8 +1.0**
comp=Z,2.0nm,0.8s,baz=310,slow=6.7,SNR=13
VNDA LR LR 08 37 04.1
comp=Z,90nm,18.5s,baz=341,slow=36
VNDA **Vanda** **73.50 173** *e*P **P** **08 04 10.1 +1.3**
comp=Z,4.9nm,0.8s
SBA **Scott Base** **74.38 172** *e*P **P** **08 04 14.7 +0.8**
comp=Z,5.5nm,1.0s
MAW **Mawson** **76.06 201** P **P** **08 04 24.6 +0.8**
comp=Z,2.9nm,0.7s,baz=88,slow=14,SNR=4.6
MAW LR LR 08 36 41.4
comp=Z,66nm,18.7s,baz=60,slow=35
BRVK **Borovoye** **77.36 328** *e*P **P** **08 04 31.4 +0.1**
comp=Z,9.2nm,0.9s
TIXI **Tiksi** **77.40 360** *e*P **P** **08 04 30.3 -0.8**
comp=Z,4.8nm,0.8s
UOSS **Minazif** **78.17 297** *e*P **P** **08 04 36.0 -0.4**
comp=Z,6.6nm,1.1s
TBI **Tubuai** **78.77 113** *e*LR LR 08 29 19.3
comp=Z,125nm,29.2s
PPT2 **Papeete2** **78.88 107** *e*LR LR 08 29 23.6
comp=Z,96nm,26.2s
GEYT **Alibeck** **79.71 310** P **P** **08 04 43.2 -1.5**
comp=Z,0.7nm,0.3s,baz=84,slow=15,SNR=4.9
GEYT LR LR 08 46 30.6
comp=Z,57nm,18.4s,baz=290,slow=41
NRIK **Noril'sk** **80.57 346** P **P** **08 04 48.0 -0.6**
comp=Z,3.4nm,0.9s,baz=118,slow=4.6,SNR=5.3
ABKAR **Akbulak array** **81.82 321** *e*P **P** **08 04 55.2 -0.5**
QSPA **South Pole Qui** **84.07 180** *e*P **P** **08 05 06.8 -0.4**
comp=Z,24nm,0.7s
SYO **Syowa Base** **84.78 201** *e*P **P** **08 05 11.2 +0.7**
ILAR **Eielson Array** **92.25 25** P **P** **08 05 44.8 -1.5**
comp=Z,0.5nm,0.7s,baz=264,slow=4.7,SNR=5.6
VYHS **Vyhne** **108.55 319** *e*PP PP 08 11 32.0 +1.4
TORD **Torodi Ar. Bea** **128.85 282** PKP **PKPdf** **08 11 46.3 +1.0**
comp=Z,0.4nm,0.6s,baz=51,slow=1.5
CPUP **Villa Florida** **147.12 167** PKPbc **PKPab** **08 12 21.4 -0.6**
comp=Z,4.1nm,1.0s,baz=228,slow=4.5,SNR=6.4
PB11 **IPOC Station P** **147.83 143** *e*PKPbc **PKPab** **08 12 24.2 -1.0**
MNMC **Minye Minye** **148.35 142** *e*PKPbc **PKPab** **08 12 26.2 -1.2**
LPAZ **La Paz** **151.41 141** PKPbc **PKPbc** **08 12 34.2 +1.9**
comp=Z,1.0nm,0.4s,baz=282,slow=1.3,SNR=7.6

NNC 11 07:56:48.3±5.7, 36.75N×70.06E, *h*0km, mb3.6, mpv3.2, 5C-3D, Error ellipse: s-maj=45.5km s-min=39.9km az=150.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**4.24**	**39**	⇑P	Pn	07 57 52.3	-2.0
	0.6nm,0.3s						
SFK				⇑S	Sn	07 58 46.9	+2.2
	3.3nm,0.4s						
MNAS	**Manas**	**6.03**	**17**	⇑P	Pn	07 58 21.3	+2.4
	0.9nm,0.4s						
MNAS				⇓S	Sn	07 59 29.5	+0.7
	1.8nm,0.5s						
KK31	**Karatay Array**	**6.36**	**3**	⇑P	Pn	07 58 25.6	+2.3
	0.7nm,0.5s,baz=178,slow=12,SNR=8.0						
KK31				⇓S	Sn	07 59 37.7	+1.1
	0.5nm,0.3s,baz=187,slow=27						
AAK	**Ala-Archa**	**6.80**	**29**	⇓P	Pn	07 58 29.3	-0.2
	1.8nm,0.8s						
AAK				S	Sn	07 59 47.0	-0.7
	2.4nm,0.8s						
TKM2	**Tokmak 2**	**7.49**	**33**	⇑P	Pn	07 58 38.5	-0.5
	2.8nm,0.5s						

*ISCJB **11** 08:02:26.3±0.3, 3.27N±0.07×31.39W±0.06, h10km, mb4.4/54, MS4.0/23, Error ellipse: s-maj=10.6km s-min=7.5km az=159.2*
*NEIC **11** 08:02:27.9±0.3, 3.26N×31.43W, h10km, mb4.7/37, Error ellipse: s-maj=8.5km s-min=6.9km az=166.0*
*IDC **11** 08:02:27.2±0.6, 3.33N×31.35W, h0km, mb4.1/16, mb1 4.3/16, mb1mx4.1/39, mbtmp4.1/16, MS3.9/22, Ms1 3.9/22, ms1mx3.8/37, Error ellipse: s-maj=20.8km s-min=14.5km az=152.0*

ISC 11 08:02:28.1±0.4, 3.30N±0.09×31.41W±0.08, h10km, n88, σ1°20/73, mb4.5/54, MS3.9/23, 1C, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.11**	**206**	*e*Pn	**Pn**	**08 04 54.0**	**+0.4**
H10N3	**ASCENSION HYDR**	**20.17**	**123**	T	T	08 28 00.3	
	baz=302,slow=75,SNR=181						
H10N2	**ASCENSION HYDR**	**20.18**	**123**	T	T	08 28 01.1	
	baz=302,slow=75,SNR=212						
H10N1	**ASCENSION HYDR**	**20.19**	**123**	T	T	08 28 02.3	
	baz=302,slow=75,SNR=240						
H10S3	**ASCENSION HYDR**	**20.66**	**126**	T	T	08 28 32.8	
	baz=305,slow=75,SNR=119						
H10S1	**ASCENSION HYDR**	**20.66**	**126**	T	T	08 28 33.1	
	baz=305,slow=75,SNR=140						
H10S2	**ASCENSION HYDR**	**20.68**	**126**	T	T	08 28 38.4	
	baz=305,slow=75,SNR=99						
MDP	**Montagnes des**	**21.25**	**276**	P	**P**	**08 07 16.8**	**+2.1**
	20nm,1.0s,baz=147,slow=6.6,SNR=4.0						
MDP				LR	LR	08 14 04.4	
	comp=Z,264nm,20.7s,baz=61,slow=33						
BDFB	**Brasilia**	**24.98**	**221**	P	**P**	**08 07 54.1**	**+1.7**
	10nm,1.1s,baz=64,slow=7.5,SNR=6.5						
BDFB				LR	LR	08 16 36.8	
	comp=Z,369nm,19.7s,baz=37,slow=34						
BDFB	**Brasilia**	**24.98**	**221**	*e*P	**P**	**08 07 50.3**	**-2.0**
	18nm,1.1s						
DBIC	**Dimbokro**	**26.66**	**82**	P	**P**	**08 08 06.8**	**-0.8**
	3.2nm,0.8s,baz=232,slow=12,SNR=3.2						
DBIC				LR	LR	08 16 18.7	
	comp=Z,424nm,21.3s,baz=247,slow=31						
PTGA	**Pitinga**	**28.82**	**263**	LR	LR	08 18 46.9	
	comp=Z,301nm,18.1s,baz=74,slow=34						
SAML	**Samuel**	**33.93**	**249**	*e*P	**P**	**08 09 13.7**	**+1.9**
	6.8nm,1.1s						
TOA0	**Torodi Ar. Sit**	**34.15**	**71**	*e*P	**P**	**08 09 12.8**	**-1.0**
TOA0				*e*PcP	**PcP**	**08 11 53.2**	**+2.1**
TORD	**Torodi Ar. Bea**	**34.15**	**71**	P	**P**	**08 09 12.7**	**-1.1**
	4.1nm,0.8s,baz=266,slow=8.9,SNR=24						
TORD				LR	LR	08 21 51.8	
	comp=Z,299nm,18.1s,baz=285,slow=34						
CPUP	**Villa Florida**	**38.68**	**219**	P	**P**	**08 09 53.8**	**+1.5**
	15nm,1.0s,baz=34,slow=8.5,SNR=17						
CPUP				LR	LR	08 25 22.6	
	comp=Z,262nm,18.7s,baz=51,slow=36						
CPUP	**Villa Florida**	**38.68**	**219**	*e*P	**P**	**08 09 51.6**	**-0.7**
	18nm,1.0s						
SDV	**Santo Domingo**	**39.37**	**280**	*e*P	**P**	**08 09 55.9**	**-2.6**
	8.2nm,0.8s						
LPAZ	**La Paz**	**41.18**	**241**	P	**P**	**08 10 15.3**	**+1.4**
	2.8nm,0.8s,baz=107,slow=6.0,SNR=9.6						
LPAZ				LR	LR	08 26 50.8	
	comp=Z,401nm,19.8s,baz=58,slow=36						
LPAZ	**La Paz**	**41.18**	**241**	*e*P	**P**	**08 10 12.2**	**-1.8**
	5.4nm,1.0s						
BARC	**Barichara**	**41.73**	**276**	*e*P	**P**	**08 10 21.1**	**+2.9**
ROSC	**El Rosal**	**42.82**	**274**	LR	LR	08 27 53.4	
	comp=Z,262nm,19.6s,baz=102,slow=36						
ROSC	**El Rosal**	**42.82**	**274**	*e*P	**P**	**08 10 28.2**	**+1.0**
	13nm,1.1s						
ESDC	**Sonseca Array**	**43.94**	**31**	P	**P**	**08 10 37.2**	**+1.8**
	1.5nm,0.9s,baz=231,slow=9.4,SNR=4.1						
ESDC				LR	LR	08 26 23.1	
	comp=Z,66nm,18.9s,baz=115,slow=33						
ES19	**SONSECA Array**	**43.99**	**31**	*e*P	**P**	**08 10 37.2**	**+1.4**
HELC	**Santa Helena**	**44.05**	**275**	*e*P	**P**	**08 10 36.6**	**-0.5**
CART	**Cartagena**	**44.05**	**35**	*e*P	**P**	**08 10 36.1**	**-0.2**
	40nm,1.0s						
FLOC	**Florencia**	**44.23**	**269**	*e*P	**P**	**08 10 39.6**	**+1.5**

KEST	Kesra	49.57	44	LR	LR	08 31 43.9		
	comp=Z,198nm,20.1s,baz=204,slow=36							
CPNY	Central Park	53.44	320	eP	P	08 11 46.1	-2.4	
	5.2nm,0.8s							
GO06	Curarrehue	56.34	217	eP	P	08 12 07.6	-2.0	
	11nm,1.1s							
PLCA	Paso Flores	56.54	215	LR	LR	08 35 12.9		
	comp=Z,186nm,20.7s,baz=70,slow=35							
GEA0	GERESS Array S	59.44	33	eP	P	08 12 31.4	+0.2	
GERES	GERESS Array B	59.45	33	LR	LR	08 36 40.0		
	comp=Z,68nm,18.0s,baz=287,slow=35							
SWET	Sewanee	59.52	309	eP	P	08 12 30.7	-1.3	
	14nm,1.2s							
LRAL	Lakeview Retre	59.67	307	eP	P	08 12 31.6	-1.4	
	8.1nm,1.1s							
T47A	Sharon Grove	61.00	311	eP	P	08 12 40.5	-1.6	
	14nm,1.1s							
PLAL	Pickwick Lake	61.11	308	eP	P	08 12 41.9	-0.9	
	3.2nm,0.9s							
BOSA	Boshof	62.93	124	P	P	08 12 55.3	0.0	
	3.1nm,1.0s,baz=282,slow=8.4,SNR=3.4							
BOSA				LR	LR	08 35 01.9		
	comp=Z,78nm,19.5s,baz=14,slow=31							
143A	Socs Landing,	63.15	305	eP	P	08 12 55.3	-1.2	
	27nm,1.1s							
HBAR	Harrisburg	63.30	308	eP	P	08 12 56.6	-0.9	
	24nm,0.6s							
NATX	Nacogdoches	65.62	303	eP	P	08 13 12.2	-0.6	
	22nm,1.0s							
NOA	NORSAR Array B	65.96	21	P	P	08 13 16.3	+1.9	
	0.7nm,0.7s,baz=230,slow=6.3,SNR=3.3							
NOA				LR	LR	08 38 59.8		
	comp=Z,32nm,19.6s,baz=85,slow=33							
KMBO	Kilima Mbogo	68.77	92	LR	LR	08 40 57.7		
	comp=Z,170nm,19.6s,baz=94,slow=34							
BRTR	Keskin Array B	68.83	49	P	P	08 13 34.4	+1.2	
	1.6nm,0.8s,baz=246,slow=5.1,SNR=6.6							
BRTR				LR	LR	08 45 51.8		
	comp=Z,42nm,18.4s,baz=258,slow=38							
833A	Chaparral WMA,	69.09	299	eP	P	08 13 34.5	-0.3	
	13nm,0.9s							
AKASG	Malin Array Be	69.18	36	P	P	08 13 35.4	+0.5	
	2.0nm,0.8s,baz=251,slow=5.4,SNR=7.4							
AKASG				LR	LR	08 42 59.1		
	comp=Z,35nm,19.1s,baz=310,slow=35							
JCT	Junction City	69.74	301	eP	P	08 13 38.8	-0.1	
	14nm,1.0s							
CBKS	Cedar Bluff	71.11	310	eP	P	08 13 47.6	+0.5	
	14nm,0.6s							
ZAIG	Zacatecas	71.36	293	eP	P	08 13 49.5	+0.3	
	11nm,1.2s							
FINES	FINESS Array B	72.07	25	LR	LR	08 43 53.0		
	comp=Z,56nm,18.0s,baz=318,slow=34							
TXAR	Lajitas Array	72.93	300	P	P	08 13 59.4	+1.1	
	1.4nm,0.9s,baz=122,slow=6.3,SNR=9.6							
TX31	Lajitas Ar. Si	72.93	300	eP	P	08 13 58.0	-0.3	
MNTX	Cornudas Mount	74.64	302	eP	P	08 14 07.6	-0.6	
	1.2nm,1.0s							
Q24A	Divide	75.30	309	eP	P	08 14 12.3	0.0	
	11nm,1.1s							
SDCO	Great Sand Dun	75.42	308	eP	P	08 14 11.8	-1.1	
	2.2nm,1.1s							
ISCO	Idaho Springs	75.77	310	eP	P	08 14 14.8	-0.1	
	5.8nm,1.1s							
ANMO	Albuquerque	75.86	305	LR	LR	08 43 38.3		
	comp=Z,109nm,19.2s,baz=54,slow=33							
ANMO	Albuquerque	75.86	305	eP	P	08 14 15.1	-0.3	
	1.2nm,1.0s							
DGMT	Dagmar	76.16	319	eP	P	08 14 17.2	+0.6	
	28nm,1.1s							
N23A	Red Feather La	76.17	311	eP	P	08 14 17.4	+0.3	
	8.0nm,1.1s							
LAO	LASA Array	77.20	317	eP	P	08 14 22.1	-0.4	
	12nm,1.1s							
PV13	Radium Mtn., P	78.07	308	eP	P	08 14 27.9	+0.1	
	3.8nm,1.0s							
PD31	Pinedale Array	79.07	313	eP	P	08 14 32.2	-1.0	
PDAR	Pinedale Array	79.07	313	P	P	08 14 32.9	-0.4	
	0.3nm,0.6s,baz=70,slow=7.8,SNR=3.8							
PDAR				LR	LR	08 45 42.9		
	comp=Z,35nm,19.7s,baz=54,slow=33							
PDAR	Pinedale Array	79.07	313	eP	P	08 14 32.2	-1.0	
P17A	Butcher Ranch,	79.67	309	eP	P	08 14 36.3	-0.3	
	3.8nm,1.2s							
X16A	Lo Mia Camp, P	79.92	304	eP	P	08 14 39.0	+1.1	
	2.9nm,1.0s							
MTPU	Mount Pierson	80.71	308	eP	P	08 14 43.3	+1.0	
	3.2nm,1.0s							
NLU	North Lily Min	80.73	310	eP	P	08 14 41.8	-0.4	
	3.9nm,1.1s							
SZCU	Shurtz Canyon	81.40	307	eP	P	08 14 46.0	+0.1	
	2.6nm,1.2s							
CCUT	Cedar City	81.62	307	eP	P	08 14 47.9	+0.8	
	5.7nm,1.2s							
R11A	Troy Canyon, C	83.40	308	eP	P	08 14 55.9	-0.4	
	0.8nm,1.0s							
YKA	Yellowknife Ar	83.94	332	P	P	08 14 58.2	-0.1	
	0.3nm,0.6s,baz=106,slow=5.5,SNR=5.8							
BMO	Blue Mountains	84.78	315	eP	P	08 15 01.8	-1.3	
	1.5nm,1.0s							
NV01	Mina Array Sit	85.53	308	eP	P	08 15 05.1	-2.1	
NVAR	Mina Array Bea	85.53	308	P	P	08 15 07.6	+0.4	
	0.4nm,0.7s,baz=94,slow=6.4,SNR=3.2							
NVAR				LR	LR	08 48 31.4		
	comp=Z,80nm,21.2s,baz=42,slow=32							
J08A	Circle Bar Ran	85.62	313	eP	P	08 15 06.6	-0.7	
	8.2nm,1.1s							
WVOR	Wild Horse Val	85.75	312	eP	P	08 15 06.8	-1.2	
	2.2nm,1.1s							
SYO	Syowa Base	86.34	160⇑	epP	pP	08 15 13.5	+0.1	
UOSS	Minazif	86.47	65	eP	P	08 15 12.0	+0.2	
	5.0nm,0.9s							
CRZF	Crozet Islands	87.73	137	eP	P	08 15 16.4	-1.0	
	105nm,1.1s							
MAW	Mawson	94.66	157	LR	LR	08 51 25.2		
	comp=Z,43nm,19.5s,baz=57,slow=31							
ILAR	Eielson Array	97.61	337	P	P	08 16 02.3	-0.4	
	1.4nm,1.0s,baz=69,slow=3.0,SNR=4.5							
LZH	Lanzhou	122.74	43	ePKP	PKPdf	08 21 23.6	-1.5	
LZH				pPKP	PKiKP	08 21 25.8	+0.5	
LZH				sPKP		08 21 28.2		
LZH				LR	LR			
	comp=N,120nm,18.1s							
LZH				LR	LR			
	comp=E,130nm,17.8s							
LZH				LR	LR			
	comp=Z,170nm,20.0s							
ASAR	Alice Springs	155.27	146	PKPab	PKPab	08 22 48.0	+0.4	
	comp=Z,1.8nm,0.9s,baz=218,slow=3.4,SNR=8.6							
WRA	Warramunga Arr	158.39	141	PKPab	PKPab	08 23 01.8	+0.7	
	comp=Z,2.6nm,1.1s,baz=215,slow=3.3,SNR=8.1							
WB2	Warramunga Arr	158.40	141	ePKPab	PKPab	08 23 01.3	+0.2	

MEX 11 08:17:13.0±0.5, 16°.95N×94°.84W, h109km±3km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	Matias Romero	0.14	344	iP	Pn	08 17 26.9	-1.3
CMIG				eS	Sn	08 17 37.9	-1.7
TUIG	Tuzandepetl	1.15	20	iP	Pn	08 17 34.4	-1.4
TUIG				iS	Sn	08 17 51.2	-1.7
TGIG		1.66	96	iP	Pn	08 17 40.5	-1.2
TGIG				iS	Sn	08 18 01.2	-2.4
VHO	Vista Hermosa	1.81	274	eP	Pn	08 17 42.9	-0.9
VHO				iS	Sn	08 18 05.6	-1.7
PCIG		1.99	128	eP	Pn	08 17 44.5	-1.3
PCIG				iS	Sn	08 18 08.8	-2.2

GUC 11 08:18:22.6±0.5, 34°.00S×72°.24W, h37km±3km, ML3.7, 3C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO05	HualaæØ	1.04	166⇓	iP	Pn	08 18 41.0	+0.3
GO05				eS	Sn	08 18 55.4	+1.4
GO05				IAML		08 19 01.3	
	comp=E,2µm,0.5s						
ANTU	Antumapu	1.40	73	eP	Pn	08 18 47.3	+1.7
ROCH	El Roble	1.45	45	iP	Pn	08 18 47.3	+0.9
ROCH				eS	Sn	08 19 07.3	+3.0
ROCH				IAML		08 19 14.6	
	comp=N,2µm,0.3s						
CLCH	Cerro Calan	1.54	68⇑	iP	Pn	08 18 49.0	+1.5
CLCH				eS	Sn	08 19 09.4	+3.1
CLCH				IAML		08 19 13.8	
	comp=N,2µm,0.5s						
PEL	Peldehue	1.55	57⇑	iP	Pn	08 18 49.4	+1.8
PEL				eS	Sn	08 19 09.8	+3.3
PEL				IAML		08 19 17.5	
	comp=N,2µm,0.3s						
LMEL	Las Melosas	1.70	86⇑	iP	Pn	08 18 51.9	+2.0
LMEL				eS	Sn	08 19 14.2	+3.8
LMEL				IAML		08 19 17.1	
	comp=N,3µm,0.3s						
FCH	Farellones	1.75	68	eP	Pn	08 18 52.3	+1.5
FCH				eS	Sn	08 19 15.8	+3.8

ISCJB ***11*** *08:25:33.0±1.0, 52°.52N×0°.10×132°.1W±0°.2, h10km, mb3.4/2, Error ellipse: s-maj=18.5km s-min=7.1km az=44.2*
IDC ***11*** *08:25:32.4±1.4, 52°.46N×132°.15W, h0km, mb3.5/2, mb1 3.6/7, mb1mx3.5/34, mbtmp3.3/7, ML3.3/5, Error ellipse: s-maj=18.1km s-min=6.5km az=49.0*
ISC 11 08:25:33.8±1.3, 52°.4N±0°.1×132°.1W±0°.1, h10km, n12, σ1§94/10, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H02S1	DAWSON INLET T	0.81	344	Pg	Pg	08 25 46.8	-2.5
H02S1				Lg	Lg	08 25 57.8	
	SNR=1150						
H02N1	VAN INLET T-PH	0.86	342	Pg	Pg	08 25 47.9	-2.5
H02N1				Lg	Lg	08 25 59.5	
BBB	Bella Bella	2.46	94	Pn	Pn	08 26 12.6	-1.3
	2.0nm,0.3s,baz=287,slow=15,SNR=7.9						
BBB				Sn	Sn	08 26 44.2	+0.3
	16nm,0.3s,baz=344,slow=17,SNR=7.2						
BBB				Lg	Lg	08 26 51.4	
	25nm,0.3s,baz=3.6,slow=23,SNR=4.8						
DLBC	Dease Lake	6.13	10	Pn	Pn	08 27 06.7	+2.2
	0.3nm,0.3s,baz=184,slow=13,SNR=5.6						
DLBC				Lg	Lg	08 28 47.2	
	0.6nm,0.3s,baz=250,slow=18,SNR=3.3						
ILAR	Eielson Array	14.52	334	Pn	Pn	08 29 00.4	+1.4
	0.1nm,0.3s,baz=164,slow=13,SNR=4.8						
NVAR	Mina Array Bea	16.98	140	Pn	P	08 29 33.3	-0.1
	0.0nm,0.3s,baz=322,slow=13,SNR=3.8						
PDAR	Pinedale Array	17.95	114	P	P	08 29 45.8	+1.7
	0.1nm,0.3s,baz=303,slow=7.8,SNR=11						
TXAR	Lajitas Array	31.19	127	P	P	08 31 54.1	+1.1
	0.4nm,0.7s,baz=334,slow=8.0,SNR=4.4						
H11N2	WAKE ISLAND Hy	56.98	259	T	T	09 37 33.2	
	baz=39,slow=76,SNR=31						
H11N3	WAKE ISLAND Hy	56.98	259	T	T	09 37 17.6	
	baz=39,slow=76,SNR=24						
H11N1	WAKE ISLAND Hy	56.99	259	T	T	09 37 28.0	
	baz=39,slow=76,SNR=12						
MKAR	Makanchi Array	76.86	337	P	P	08 37 24.6	-1.0
	0.4nm,0.7s,baz=49,slow=4.4,SNR=3.2						

ISK ***11*** *08:29:16.1, 37°.49N×36°.14E, h5km, ML2.6/6*
DDA ***11*** *08:29:21.0, 37°.52N×36°.43E, h8km, Ml2.5*
ISC 11 08:29:17.2±1.0, 37°.48N±0°.03×36°.12E±0°.03, h8km±9km, n18, σ0§97/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANDN	Andirin	0.20	59	iP	Pg	08 29 21.0	-0.5
ANDN				iS	Sg	08 29 25.6	+1.3
KOZT	Kozan	0.24	271	PG	Pg	08 29 21.4	-0.5
KOZT				SG	Sg	08 29 25.5	+0.4
GAZ	Gaziantep	0.92	109	PG	Pg	08 29 34.1	-0.8
GAZ				SG	Sb	08 29 46.8	-1.0
KUZU	Kuzuini	1.03	132	iP	Pg	08 29 37.2	+0.2
KUZU				iS	Sn	08 29 52.5	-0.2
TAHT	Tahtakopru-Hat	1.10	177	PN	Pg	08 29 37.9	-0.4
TAHT				SN	Sg	08 29 53.8	+1.2
ELBS	KAHRAMANMARAS	1.17	43	iP	Pn	08 29 40.2	+0.2
ELBS				iS	Sn	08 29 58.5	+2.4
NIG	Nigde	1.36	298	PN	Pn	08 29 42.4	-0.3
BNN	Bunyan	1.39	351	PN	Pn	08 29 42.2	-0.9
MERS	Mersin	1.42	245	PN	Pn	08 29 43.4	+0.1
DARE	Darende-Malaty	1.53	44	PN	Pn	08 29 44.3	-0.7
AKCD	Akcadag	1.64	60	iP	Pg	08 29 47.6	-1.1
AKCD				iS	Sg	08 30 11.9	+1.8
GULA	Gulagac	1.73	301	PN	Pn	08 29 47.7	0.0
ATAB	Bozova	1.73	90	iP	Pg	08 29 49.5	-0.8
ATAB				iS	Sg	08 30 13.2	+0.4
HEKM	Malatya_Hekimh	2.01	45	iP	Pg	08 29 54.5	-1.3
HEKM				iS	Sg	08 30 22.5	+0.5
SURC	SANLIURFA_SURC	2.08	106	iP	Pb	08 29 55.1	-0.1
SURC				iS	Sg	08 30 23.7	-0.2
URFA	Urfa	2.15	90	PN	Pn	08 29 53.6	+0.2
SANL	SANLIURFA_Merk	2.31	97	iS	Sg	08 30 30.9	-0.4
KEMA	Kemaliye	2.58	45	iP	Pn	08 29 59.5	0.0
KEMA				iS	Sg	08 30 41.9	+1.7

ISCJB ***11*** *08:33:13.9±1.8, 38°.56N±0°.08×28°.7E±0°.1, h11km±9km, Error ellipse: s-maj=19.4km s-min=7.9km az=41.7*
DDA ***11*** *08:33:14.9, 38°.60N×28°.64E, h7km, Ml2.5*
ISC 11 08:33:14.7±1.5, 38°.56N±0°.08×28°.66E±0°.07, h7km±13km, n6, σ0§58/10, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULA	Kula-Manisa	0.05	182	PG	Pg	08 33 16.2	-0.2
KULA				SG	Sg	08 33 17.4	-0.2
MANT	Manisa	0.11	229	iP	Pg	08 33 17.2	-0.1
MANT				iS	Sg	08 33 19.8	+0.7
DEMI	Demirci	0.48	5	iP	Pg	08 33 24.1	0.0
DEMI				iS	Sg	08 33 30.5	+0.1
AKHS	Akhisar	0.74	296	iP	Pg	08 33 28.9	0.0
AKHS				iS	Sb	08 33 39.0	-1.1
TVSB	Tavsanli	1.08	35	ePG	Pg	08 33 35.4	-0.1
BALB	Balikesir	1.24	331	ePG	Pn	08 33 38.9	+0.5

NIED ***11*** *08:52:00, 37°.10N×141°.40E, h8km, Mw3.7 Best double couple: M0 3.53000×10^14 NP1:φ=20.00000°, δ31.00000°, λ=96.00000°. NP2:φ=207.00000°, δ60.00000°, λ=87.00000°.*
ISCJB ***11*** *08:52:10.3±1.2, 37°.08N±0°.05×141°.50E±0°.05, h10km±6km, mb3.6/8, Error ellipse: s-maj=8.7km s-min=6.4km az=149.0*
IDC ***11*** *08:52:10.7±1.0, 37°.05N×141°.32E, h0km, mb3.7/8, mb1 3.8/10, mb1mx3.7/34, mbtmp3.6/10, ML3.2/2, Error ellipse: s-maj=25.3km s-min=20.7km az=154.0*
JMA ***11*** *08:52:12.5±0.1, 37°.08N×141°.38E, h31km±1km, M3.7*
JMA Felt I J1.
ISC 11 08:52:11.8±1.8, 37°.11N±0°.05×141°.40E±0°.07, h10km±10km, n26, σ0§93/29, mb3.6/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	Iwakimizuishiy	0.48	269	P	Pb	08 52 22.1	-0.3
ONAJ				S	Sb	08 52 29.3	-0.2
JFK	Kawauchi	0.49	302	P	Pb	08 52 22.5	-0.1
JFK				S	Sb	08 52 29.4	-0.4
JFFD	Fukushimafurud	0.67	269	P	Pg	08 52 25.0	+0.3
JFFD				S	Sb	08 52 34.2	-0.7
JHO	Hitachi	0.83	233	P	Pg	08 52 27.2	-0.6
JHO				S	Sg	08 52 38.0	-0.6
JMM	Marumori	0.90	328	P	Pg	08 52 29.0	-0.1
JMM				S	Sg	08 52 41.5	+0.8
JFT	Otama	0.94	296	P	Pg	08 52 30.1	+0.2
JFT				S	Sb	08 52 42.8	+0.1
JIO	Ouri	1.34	358	P	Pn	08 52 35.9	-0.7
JFY	Yanaizu	1.38	283	P	Pn	08 52 37.0	-0.2
MJAR	Matsushiro Arr	2.62	258	Pn	Pn	08 52 54.8	+0.6
	3.3nm,0.3s,baz=71,slow=9.3,SNR=45						
MJAR				Sn	Sb	08 53 31.2	+0.1
	6.9nm,0.3s,baz=84,slow=27,SNR=6.8						
MAT	Matsushiro	2.62	259	P	Pn	08 52 55.0	+0.8
MAT				S	Sb	08 53 29.7	-1.4
ASAJ	Asahikawa	7.06	7	Pn	Pn	08 53 55.0	-0.2
	0.5nm,0.3s,baz=182,slow=8.4,SNR=5.6						
ASAJ				Sn	Sn	08 55 12.7	-2.8
	0.2nm,0.3s,baz=137,slow=19,SNR=3.6						
SONM	Songino Array	27.73	304	P	P	08 58 01.3	+0.8
	0.3nm,0.5s,baz=102,slow=9.7,SNR=2.5						
H11N2	WAKE ISLAND Hy	28.20	121	T	T	09 27 41.6	
	baz=314,slow=75,SNR=98						
H11N1	WAKE ISLAND Hy	28.20	121	T	T	09 27 44.8	
	baz=314,slow=75,SNR=93						
H11N3	WAKE ISLAND Hy	28.21	121	T	T	09 27 42.5	
	baz=314,slow=75,SNR=103						
H11S1	WAKE ISLAND Hy	28.91	123	T	T	09 28 34.7	
	baz=316,slow=76,SNR=53						
H11S3	WAKE ISLAND Hy	28.91	123	T	T	09 28 40.6	
	baz=316,slow=76,SNR=34						
H11S2	WAKE ISLAND Hy	28.93	123	T	T	09 28 34.2	
	baz=316,slow=76,SNR=31						
ZALV	Zalesovo Beam	41.85	312	P	P	09 00 01.0	-0.7
	0.3nm,0.3s,baz=102,slow=6.6,SNR=2.5						
MKAR	Makanchi Array	44.07	302	P	P	09 00 19.2	-0.6
	0.3nm,0.5s,baz=81,slow=9.1,SNR=5.2						
ILAR	Eielson Array	49.44	32	P	P	09 01 02.3	+0.7
	0.7nm,0.7s,baz=264,slow=8.1,SNR=7.2						
INK	Inuvik	54.33	27	P	P	09 01 39.7	+1.7
	0.9nm,0.7s,baz=276,slow=10,SNR=2.8						
WRA	Warramunga Arr	57.13	188	P	P	09 01 57.9	-0.7
	0.4nm,0.6s,baz=5.4,slow=7.4,SNR=6.5						
FINES	FINESS Array B	68.74	332	P	P	09 03 16.3	+0.9
	4.6nm,1.1s,baz=217,slow=9.1,SNR=2.2						
PDAR	Pinedale Array	77.62	45	P	P	09 04 09.7	+1.1
	0.5nm,1.0s,baz=289,slow=5.5,SNR=2.5						
LPAZ	La Paz	146.67	59	PKPbc	PKPab	09 11 55.7	-0.4
	0.6nm,0.7s,baz=315,slow=2.9,SNR=4.1						

IDC ***11*** *09:24:28.8±9.3, 35°.97N×20°.05E, h0km, mb4.3/4, mb1 4.2/5, mb1mx3.7/49, mbtmp4.1/5, ML3.2/1, Error ellipse: s-maj=172.1km s-min=44.1km az=28.0*
ISCJB ***11*** *09:25:00.0±0.2, 38°.66N±0°.01×22°.04E±0°.02, h98km±2km, mb4.1/4, Error ellipse: s-maj=2.6km s-min=1.9km az=149.0*
ATH ***11*** *09:25:01.1, 38°.64N×22°.11E, h84km±1km, ML3.6/35, Error ellipse: s-maj=1.2km s-min=0.7km az=238.0*
THE ***11*** *09:25:02.3, 38°.64N×22°.13E, h79km±1km, ML3.5/21, Error ellipse: s-maj=1.2km s-min=0.6km az=241.0*
PDG ***11*** *09:25:02.4±0.3, 39°.08N×21°.75E, h5km±1km, ML3.9/11, Error ellipse: s-maj=2.6km s-min=1.8km az=90.0*
TIR ***11*** *09:25:04.3, 38°.92N×21°.89E, h48km, Md3.6/5*
ISC 11 09:25:01.3±0.8, 38°.64N±0°.02×22°.04E±0°.02, h91km±5km, n243, σ1§52/340, mb4.1/4, 22C-12D, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANX	Ano Chora	0.10	243	P	Pn	09 25 14.6	+0.4
ANX				S	Sn	09 25 23.5	-0.4
ANX				AML	AML	09 25 24.4	
	comp=E,22600µm,0.7s						
ANX				AML	AML	09 25 24.4	
	comp=N,27228µm,0.5s						
ANX	Ano Chora	0.10	243	P	Pn	09 25 14.6	+0.4
ANX				S	Sn	09 25 23.5	-0.4
EFP	Efpalio	0.24	206	P	Pn	09 25 14.5	0.0
EFP				S	Sn	09 25 23.0	-1.3
EFP				AML	AML	09 25 25.9	
	comp=N,10374µm,0.3s						
EFP				AML	AML	09 25 26.3	
	comp=E,9006µm,0.3s						
EFP	Efpalio	0.24	206	P	Pn	09 25 14.5	0.0
EFP				S	Sn	09 25 23.9	-0.4
KALE	Kalithea	0.26	162	P	Pn	09 25 14.1	-0.6
KALE				S	Sn	09 25 22.6	-2.1
KALE				AML	AML	09 25 23.1	
	comp=N,10662µm,0.2s						
KALE				AML	AML	09 25 24.9	
	comp=E,11330µm,0.4s						
KALE	Kalithea	0.26	162	P	Pn	09 25 14.1	-0.6
TRIZ	Trizonia	0.28	174	P	Pn	09 25 14.2	-0.5
TRIZ	Trizonia	0.28	174	P	Pn	09 25 14.1	-0.5
EVR	Evrytania	0.33	327	P	Pn	09 25 15.2	+0.1
EVR				S	Sn	09 25 24.3	-1.1
EVR				AML	AML	09 25 24.9	
	comp=N,10200µm,0.4s						
EVR				AML	AML	09 25 25.1	
	comp=E,12098µm,0.2s						
EVR	Evrytania	0.33	327	P	Pn	09 25 15.3	+0.2
EVR				S	Sn	09 25 23.9	-1.5
MAKR	Makrakomi, Fth	0.38	11	P	Pn	09 25 15.6	+0.2
MAKR				S	Sn	09 25 24.2	-1.5
MAKR				AML	AML	09 25 26.5	
	comp=N,27099µm,0.4s						
MAKR				AML	AML	09 25 26.9	
	comp=E,52238µm,0.2s						
MAKR	Makrakomi, Fth	0.38	11	P	Pn	09 25 15.4	+0.1
MAKR				S	Sn	09 25 24.7	-1.1
ALIK	Aliki, Aigiali	0.38	171	P	Pn	09 25 14.9	-0.4
DLFA	Delphi	0.39	114	P	Pn	09 25 15.8	+0.3
DLFA				S	Sn	09 25 24.9	-1.0
PVO	Paravola	0.40	267	P	Pn	09 25 16.2	+0.8
PVO				S	Sn	09 25 25.1	-0.8
PVO				AML	AML	09 25 28.9	
	comp=N,4861µm,0.4s						
PVO				AML	AML	09 25 30.0	
	comp=E,5155µm,0.5s						
PVO	Paravola	0.40	267	P	Pn	09 25 16.1	+0.7
LAKA	Lakka	0.40	187	P	Pn	09 25 15.4	-0.1
LAKA				S	Sn	09 25 24.6	-1.3
LAKA				AML	AML	09 25 26.9	
	comp=E,4184µm,0.4s						
LAKA				AML	AML	09 25 27.7	
	comp=N,5981µm,0.6s						
LAKA	Lakka	0.40	187	P	Pn	09 25 15.2	-0.3
LAKA				S	Sn	09 25 24.7	-1.3
UPR	University Cam	0.41	209	P	Pn	09 25 15.8	+0.4
UPR	University Cam	0.41	209	P	Pn	09 25 15.7	+0.3
AGG	Agios Georgios	0.45	31	P	Pn	09 25 15.8	0.0
AGG				S	Sn	09 25 25.4	-1.2
AGG				AML	AML	09 25 25.9	
	comp=N,13849µm,0.2s						
AGG				AML	AML	09 25 26.5	
	comp=E,11358µm,0.2s						
AGG	Agios Georgios	0.45	31	P	Pn	09 25 15.8	0.0
AGG				S	Sn	09 25 25.6	-0.9
KLV	Kalavryta, Ach	0.60	171	P	Pn	09 25 16.9	-0.1
KLV				S	Sn	09 25 27.2	-1.6
KLV				AML	AML	09 25 27.7	
	comp=N,4867µm,0.5s						
KLV				AML	AML	09 25 27.9	
	comp=E,6884µm,0.3s						
KLV	Kalavryta, Ach	0.60	171	P	Pn	09 25 16.9	-0.1
KLV				S	Sn	09 25 27.2	-1.6
DRO	Drossia	0.73	201	P	Pn	09 25 19.0	+0.8
DRO				S	Sn	09 25 31.4	+0.5
DRO				AML	AML	09 25 34.3	
	comp=N,8683

SMIA			S	Sn	09 25 33.9	-0.9
SMIA			AML	AML	09 25 37.0	
	comp=E,6736µm,0.5s					
SMIA			AML	AML	09 25 39.4	
	comp=N,5761µm,0.5s					
SMIA	**Simia**	0.95 75	P	Pn	09 25 20.6	+0.1
LTK	**Loutraki**	0.96 130	P	Pn	09 25 20.1	-0.5
LTK			S	Sn	09 25 33.4	-1.6
LTK			AML	AML	09 25 36.1	
	comp=E,3372µm,0.4s					
LTK			AML	AML	09 25 36.3	
	comp=N,5472µm,0.3s					
LTK	**Loutraki**	0.96 130	P	Pn	09 25 20.1	-0.5
LTK			S	Sn	09 25 33.1	-1.9
MGNA	**Meganis**	0.98 271	P	Pn	09 25 22.2	+1.5
MGNA			S	Sn	09 25 36.4	+1.0
LOUT	**Loutraki**	0.98 131	P	Pn	09 25 20.4	-0.5
LOUT	**Loutraki**	0.98 131	P	Pn	09 25 20.4	-0.5
VTN	**Vitineika**	0.98 223	P	Pn	09 25 22.3	+1.5
FYTO	**Fytoko, Volos**	1.04 42	P	Pn	09 25 21.5	-0.1
FYTO			S	Sn	09 25 35.7	-0.9
FYTO			AML	AML	09 25 36.3	
	comp=N,4973µm,0.3s					
FYTO			AML	AML	09 25 36.6	
	comp=E,2423µm,0.2s					
FYTO	**Fytoko, Volos**	1.04 42	P	Pn	09 25 21.4	-0.1
FYTO			S	Sn	09 25 35.8	-0.9
VIL2	**Platees**	1.06 113	P	Pn	09 25 22.2	+0.5
VIL2			S	Sn	09 25 36.0	-1.0
VIL2			AML	AML	09 25 38.8	
	comp=N,2781µm,0.4s					
VIL2			AML	AML	09 25 39.9	
	comp=E,2876µm,0.4s					
LRSO	**Larissa Observ**	1.07 15	P	Pn	09 25 22.0	+0.3
LRSO			S	Sn	09 25 37.9	+0.8
LRSO			AML	AML	09 25 39.7	
	comp=E,9542µm,0.7s					
LRSO			AML	AML	09 25 39.8	
	comp=N,9559µm,0.5s					
LRSO	**Larissa Observ**	1.07 15	P	Pn	09 25 22.4	+0.6
EVGI	**Lefkada island**	1.08 269	P	Pn	09 25 22.6	+0.7
EVGI			S	Sn	09 25 37.8	+0.3
EVGI	**Lefkada island**	1.08 269	P	Pn	09 25 22.6	+0.7
LKD2	**Lefkada island**	1.09 278	P	Pn	09 25 23.0	+0.9
LKD2			S	Sn	09 25 38.5	+0.7
LKD2			AML	AML	09 25 38.7	
	comp=N,4752µm,0.3s					
LKD2			AML	AML	09 25 39.6	
	comp=E,4010µm,0.3s					
LKD2	**Lefkada island**	1.09 278	P	Pn	09 25 23.0	+0.9
LKD2			S	Sn	09 25 38.1	+0.4
TSLK	**Tsoukalades, L**	1.10 280	P	Pn	09 25 23.2	+1.1
TSLK			S	Sn	09 25 38.7	+0.9
TSLK			AML	AML	09 25 40.1	
	comp=E,4373µm,0.4s					
TSLK			AML	AML	09 25 41.3	
	comp=N,5183µm,0.5s					
VILL	**Villia**	1.11 115	P	Pn	09 25 22.1	-0.2
VILL			S	Sn	09 25 36.5	-1.7
TRIP	**Tripoli**	1.12 170	P	Pn	09 25 23.1	+0.5
TRIP			S	Sn	09 25 38.6	+0.1
TRIP			AML	AML	09 25 39.0	
	comp=N,5131µm,0.4s					
TRIP			AML	AML	09 25 40.6	
	comp=E,2304µm,0.3s					
TRIP	**Tripoli**	1.12 170	P	Pn	09 25 23.1	+0.5
TRIP			S	Sn	09 25 38.0	-0.6
AMT	**Artemida-Makis**	1.14 193	P	Pn	09 25 23.6	+0.9
AMT			S	Sn	09 25 40.0	+1.3
AMT			AML	AML	09 25 43.8	
	comp=N,4788µm,0.5s					
AMT			AML	AML	09 25 50.5	
	comp=E,3169µm,0.5s					
AMT	**Artemida-Makis**	1.14 193	P	Pn	09 25 23.7	+1.1
AMT			S	Sn	09 25 40.0	+1.3
NEO	**Neokhori**	1.14 54	P	Pn	09 25 22.9	+0.2
NEO			S	Sn	09 25 37.5	-1.2
NEO			AML	AML	09 25 39.1	
	comp=E,6232µm,0.3s					
NEO			AML	AML	09 25 39.3	
	comp=N,9395µm,0.3s					
NEO	**Neokhori**	1.14 54	P	Pn	09 25 22.7	0.0
NEO			S	Sn	09 25 37.6	-1.2
XOR	**Xorichti**	1.16 51	P	Pn	09 25 22.9	+0.1
XOR			S	Sn	09 25 37.9	-1.2
XOR			AML	AML	09 25 39.9	
	comp=N,2902µm,0.3s					
XOR			AML	AML	09 25 43.5	
	comp=E,1425µm,0.7s					
XOR	**Xorichti**	1.16 51	P	Pn	09 25 22.8	-0.1
XOR			S	Sn	09 25 37.5	-1.6
VLS	**Valsamata**	1.23 248	P	Pn	09 25 23.9	+0.2
VLS	**Valsamata**	1.23 248	P	Pn	09 25 23.9	+0.2
SKIA	**Skiathos**	1.23 64	P	Pn	09 25 24.1	+0.3
SKIA			S	Sn	09 25 39.6	-1.1
SKIA			AML	AML	09 25 40.5	
	comp=N,1403µm,0.6s					
SKIA			AML	AML	09 25 40.9	
	comp=E,2165µm,0.3s					
SKIA	**Skiathos**	1.23 64	P	Pn	09 25 24.0	+0.3
VLX	**Vlachokerasia**	1.30 168	P	Pn	09 25 25.3	+0.7
VLX			S	Sn	09 25 41.6	-0.6
VLX			AML	AML	09 25 43.6	
	comp=N,5289µm,0.8s					
VLX			AML	AML	09 25 43.9	
	comp=E,6450µm,0.4s					
VLX	**Vlachokerasia**	1.30 168	P	Pn	09 25 25.3	+0.7
JAN	**Janina**	1.37 318	P	Pn	09 25 27.2	+1.7
JAN	**Janina**	1.37 318	P	Pn	09 25 27.1	+1.6
MES3	**Kyparissia**	1.42 192	P	Pn	09 25 27.1	+1.1
ITM	**Ithomi**	1.46 183	P	Pn	09 25 27.5	+0.9
ITM	**Ithomi**	1.46 183	P	Pn	09 25 27.5	+0.9
DID	**Didima**	1.48 140	P	Pn	09 25 26.6	-0.2
DID			S	Sn	09 25 44.5	-1.5
DID			AML	AML	09 25 46.2	
	comp=N,2649µm,0.3s					
DID			AML	AML	09 25 46.5	
	comp=E,4293µm,0.2s					
DID	**Didima**	1.48 140	P	Pn	09 25 26.5	-0.3
DID			S	Sn	09 25 45.2	-0.9
ATH	**Athens Observa**	1.48 116	P	Pn	09 25 27.1	+0.3
ATH			S	Sn	09 25 44.6	-1.5
ATH			AML	AML	09 25 47.1	
	comp=N,2944µm,0.4s					
ATH			AML	AML	09 25 47.3	
	comp=E,3794µm,0.4s					
ATH	**Athens Observa**	1.48 116	P	Pn	09 25 27.1	+0.3
ATH			S	Sn	09 25 44.8	-1.3
LIT	**Litokhoron**	1.50 13	P	Pn	09 25 27.5	+0.5
LIT	**Litokhoron**	1.50 13	P	Pn	09 25 27.6	+0.5
LIT			S	Sn	09 25 46.6	0.0
EREA	**Eretria**	1.50 98	P	Pn	09 25 27.7	+0.5
EREA			S	Sn	09 25 44.4	-2.2
EREA			AML	AML	09 25 47.3	
	comp=E,2751µm,0.3s					
EREA			AML	AML	09 25 47.7	
	comp=N,2977µm,0.4s					
EREA	**Eretria**	1.50 98	P	Pn	09 25 27.6	+0.5
EREA			S	Sn	09 25 45.5	-1.2
ALNA	**Alonissos**	1.52 70	P	Pn	09 25 27.4	+0.2
ALNA			S	Sn	09 25 46.1	-0.8
ATHU	**Athens Univers**	1.53 116	P	Pn	09 25 27.6	+0.2
ATHU	**Athens Univers**	1.53 116	P	Pn	09 25 27.6	+0.2
AOS	**Alonnisos**	1.53 69	P	Pn	09 25 27.5	+0.1
AOS			S	Sn	09 25 46.1	-1.2
AOS	**Alonnisos**	1.53 69	P	Pn	09 25 27.5	+0.1
AOS			S	Sn	09 25 45.0	-2.3
PTL	**Penteli**	1.55 112	P	Pn	09 25 28.0	+0.2
PTL			S	Sn	09 25 45.8	-2.0
PTL			AML	AML	09 25 49.0	
	comp=E,1012µm,0.4s					
PTL			AML	AML	09 25 53.9	
	comp=N,1129µm,0.4s					
PTL	**Penteli**	1.55 112	P	Pn	09 25 27.9	+0.2
VLY	**Voula,Athens**	1.59 119	P	Pn	09 25 28.6	+0.4
VLY			S	Sn	09 25 47.0	-1.7
VLY			AML	AML	09 25 48.4	
	comp=E,2718µm,0.2s					
VLY			AML	AML	09 25 49.5	
	comp=N,2273µm,0.5s					
VLY	**Voula,Athens**	1.59 119	P	Pn	09 25 28.4	+0.2
IGT	**Igoumenitsa**	1.60 304	P	Pn	09 25 28.9	+0.6
IGT	**Igoumenitsa**	1.60 304	P	Pn	09 25 28.8	+0.5
IGT	**Igoumenitsa**	1.60 304	*i* PN	Sn	09 25 47.7	-1.1
KZN	**Kozani**	1.68 353	P	Pn	09 25 30.5	+1.1
KZN			S	Sn	09 25 51.5	+0.8
KZN			AML	AML	09 25 53.5	
	comp=N,849µm,0.3s					
KZN			AML	AML	09 25 55.5	
	comp=E,1354µm,0.3s					
KZN	**Kozani**	1.68 353	P	Pn	09 25 30.3	+0.9
PENT	**Pentalofos**	1.70 336	P	Pn	09 25 31.6	+1.8
PENT	**Pentalofos**	1.70 336	P	Pn	09 25 31.4	+1.7
SGD	**Sagiada**	1.71 305	P	Pn	09 25 30.7	+1.0
SGD	**Sagiada**	1.71 305	P	Pn	09 25 30.6	+1.0
YDRA	**Hydra**	1.71 138	P	Pn	09 25 31.1	+1.3
KTI	**Kastanea**	1.75 2	P	Pn	09 25 31.6	+1.2
PYL	**PYLOS**	1.76 188	P	Pn	09 25 30.6	+0.2
PYL			S	Sn	09 25 52.4	-0.1
PYL	**PYLOS**	1.76 188	P	Pn	09 25 30.5	+0.2
MES2	**Methoni**	1.83 188	P	Pn	09 25 31.4	+0.1
DYR	**Agios Nikonas**	1.89 173	P	Pn	09 25 32.9	+0.8
DYR	**Agios Nikonas**	1.89 173	P	Pn	09 25 32.9	+0.8
NEST	**Nestorio**	1.93 337	P	Pn	09 25 34.3	+1.6
NEST	**Nestorio**	1.93 337	P	Pn	09 25 34.3	+1.6
KASA	**Kassiopi**	1.97 305	P	Pn	09 25 35.1	+2.0
KASA			S	Sn	09 25 58.0	+0.6
KASA			AML	AML	09 25 58.2	
	comp=E,2218µm,0.4s					
KASA			AML	AML	09 25 58.3	
	comp=N,2730µm,0.4s					
SKY	**Skiros Island**	1.98 82	P	Pn	09 25 32.9	-0.3
SRN	**Sarande**	2.01 309	P	Pn	09 25 34.3	+0.7
SRN	**Sarande**	2.01 309	*i* PN	Pn	09 25 39.0	+5.4
KEK	**Kerkira**	2.04 302	P	Pn	09 25 34.6	+0.6
KEK			AML	AML	09 25 59.3	
	comp=E,1408µm,0.3s					
KEK			AML	AML	09 26 01.0	
	comp=N,783µm,0.2s					
KEK	**Kerkira**	2.04 302	P	Pn	09 25 34.6	+0.6
PLG	**Polygyros**	2.05 32	P	Pn	09 25 34.4	+0.2
PLG	**Polygyros**	2.05 32	P	Pn	09 25 34.2	+0.1
PLG			S	Sn	09 25 57.9	-1.3
VLI	**Veliai**	2.05 159	P	Pn	09 25 34.0	-0.2
VLI	**Veliai**	2.05 159	P	Pn	09 25 33.9	-0.2
VLI			S	Sn	09 25 58.5	-0.7
THE	**Thessaloniki**	2.12 20	P	Pn	09 25 34.9	0.0
HORT	**Hortiatis**	2.12 22	P	Pn	09 25 35.2	+0.1
HORT	**Hortiatis**	2.12 22	P	Pn	09 25 35.1	-0.1
HORT			S	Sn	09 26 00.0	-1.0
FNA	**Florina**	2.20 347	P	Pn	09 25 37.1	+0.9
FNA	**Florina**	2.20 347	P	Pn	09 25 37.0	+0.8
FNA	**Florina**	2.20 347	*i* PN	Pn	09 25 39.9	+3.7
FNA			*i* SN	Sn	09 26 04.2	+1.3
KBN	**Korca**	2.20 334	P	Pn	09 25 37.4	+1.2
KBN	**Korca**	2.20 334	*i* PN	Pn	09 25 39.1	+2.8
KBN			*i* SN	Sn	09 26 05.7	+2.7
OUR	**Ouranopolis**	2.27 41	P	Pn	09 25 37.2	+0.2
OUR	**Ouranopolis**	2.27 41	P	Pn	09 25 37.2	+0.2
TPE	**Tepelena**	2.28 317	*i* PN	Pn	09 25 42.6	+5.4
TPE			*i* SN	Sn	09 26 11.2	+6.6
GRG	**Griva**	2.33 7	P	Pn	09 25 38.6	+0.6
GRG	**Griva**	2.33 7	P	Pn	09 25 38.5	+0.6
SOH	**Sokhos**	2.40 25	P	Pn	09 25 39.7	+0.9
SOH	**Sokhos**	2.40 25	P	Pn	09 25 39.8	+0.9
SERI	**Serifos**	2.44 127	P	Pn	09 25 39.7	+0.4
BIA	**Bitola**	2.44 347	P	Pn	09 25 40.8	+1.5
BIA			S	Sn	09 26 11.1	+2.6
BIA	**Bitola**	2.44 347	*i* Pn	Pn	09 25 40.9	+1.5
KTHR	**Kythira**	2.50 162	P	Pn	09 25 41.7	+1.6
KYTH	**Kithira**	2.50 161	P	Pn	09 25 41.3	+1.2
KNT	**Kendrikon**	2.60 14	P	Pn	09 25 42.5	+0.9
KNT	**Kendrikon**	2.60 14	P	Pn	09 25 42.4	+0.9
KNT			S	Sn	09 26 12.7	+0.3
OHR	**Ohrid**	2.65 339	*i* Pn	Pn	09 25 43.0	+0.9
OHR			*i* Sn	Sn	09 26 14.2	+0.7
MHLA	**Plaka, Milos I**	2.67 134	P	Pn	09 25 43.6	+1.2
TNSA	**Tinos**	2.70 113	P	Pn	09 25 43.9	+1.2
MHLO	**Agia Marina, M**	2.70 135	P	Pn	09 25 42.5	-0.3
VAY	**Valandovo**	2.71 9	P	Pn	09 25 43.7	+0.8
VAY			S	Sn	09 26 16.0	+1.1
VAY	**Valandovo**	2.71 9	*i* Pn	Pn	09 25 43.7	+0.8
VAY			*i* Sn	Sn	09 26 15.4	+0.6
SRS	**Serrai**	2.75 25	P	Pn	09 25 44.0	+0.5
SRS	**Serrai**	2.75 25	P	Pn	09 25 43.9	+0.5
KRUS	**Krusevo**	2.79 348	*i* Pn	Pn	09 25 44.7	+0.6
KRUS			*i* Sn	Sn	09 26 17.7	+0.7
THAS	**Thassos island**	2.85 46	P	Pn	09 25 44.8	0.0
THAS	**Thassos island**	2.85 46	P	Pn	09 25 44.6	-0.2
ANKY	**Antikythira Is**	2.95 160	P	Pn	09 25 47.0	+0.9
SIGR	**SIGRI**	3.03 78	P	Pn	09 25 47.8	+0.6
NVR	**Nevrokopi**	3.05 27	P	Pn	09 25 48.1	+0.7
NVR	**Nevrokopi**	3.05 27	P	Pn	09 25 48.0	+0.5
STIP	**Stip**	3.05	*i* Pn	Pn	09 25 49.1	+1.6
SCTE	**Santa Cesarea**	3.12 298	P	Pn	09 25 48.7	+0.4
CHOS	**Chios island**	3.16 93	P	Pn	09 25 50.3	+1.3
TIR	**Tirane**	3.18 329	P	Pn	09 25 50.1	+0.9
APE	**Apeiranthos**	3.18 118	*i* P	Pn	09 25 48.2	-1.0
APE	**Apeiranthos**	3.18 118	S	Sn	09 26 24.0	-2.3
APE	**Apeiranthos**	3.18 118	P	Pn	09 25 49.7	+0.4
SMTH	**Samothraki Isl**	3.26 55	P	Pn	09 25 50.3	0.0
IMMV	**Iera Moni Meta**	3.53 153	P	Pn	09 25 53.8	-0.2
AMGA	**Amorgos Island**	3.55 119	P	Pn	09 25 55.1	+0.9
VAM	**Vamos**	3.66 151	P	Pn	09 25 55.2	-0.6
ALN	**Alexandroupoli**	3.82 53	P	Pn	09 25 58.8	+0.9
SMG	**Samos**	3.90 102	P	Pn	09 26 00.1	+1.2
ULC	**Ulcinj**	3.95 328	*i* Pn	Pn	09 25 58.9	-0.7
ULC			*e*Sn	Sn	09 26 41.9	-2.9
VTS	**Vitosha**	4.05 12	*i* P	Pn	09 26 02.3	+1.2
VTS	**Vitosha**	4.05 12	S	Sn	09 26 48.9	+1.5
VTS	**Vitosha**	4.05 12	P	Pn	09 26 02.9	+1.8
IDI	**Anoyia**	4.05 145	*i* P	Pn	09 25 59.5	-1.6
IDI	**Anoyia**	4.05 145	S	Sn	09 26 44.2	-3.2
TAR1	**Taranto**	4.13 299	*i* Pn	Pn	09 26 01.8	-0.2
TAR1			*e*Sn	Sn	09 26 44.2	-4.9
GVD	**Gavdhos**	4.13 156	P	Pn	09 26 01.7	-0.5
TIP	**Timpagrande**	4.15 279	*i* P	Pn	09 26 02.6	+0.2
DRME	**Dracevica, Mon**	4.16 329	*i* Pn	Pn	09 26 02.0	-0.4
DRME			*e*Sn	Sn	09 26 47.4	-2.5
DRME	**Dracevica, Mon**	4.16 329	*e*Pn	Pn	09 26 02.1	-0.4
FASA	**Fasano**	4.21 303	*i* Pn	Pn	09 26 02.7	-0.5
FASA			Sn	Sn	09 26 46.7	-4.5
PVY	**Plav**	4.25 339	*i* Pn	Pn	09 26 03.4	-0.5
PVY			*e*Sn	Sn	09 26 50.0	-2.4
MASS	**Massafra**	4.27 299	*i* Pn	Pn	09 26 03.3	-0.6
MASS			Sn	Sn	09 26 47.7	-4.9
PDG	**Podgorica**	4.34 332	*i* P	Pn	09 26 04.4	-0.4
PDG	**Podgorica**	4.34 332	*e*Pn	Pn	09 26 04.4	-0.4
TTG	**Podgorica**	4.34 332	*i* Pn	Pn	09 26 04.4	-0.4
TTG			*e*Sn	Sn	09 26 51.6	-2.6
BUM	**Brajici-Budva**	4.37 328	*i* Pn	Pn	09 26 04.2	-1.2
BUM			*e*Sn	Sn	09 26 53.0	-2.2
NPS	**Neapolis**	4.42 139	P	Pn	09 26 05.4	-0.7
LAST	**Lasithi**	4.43 140	P	Pn	09 26 05.8	-0.5
IVA	**Berane**	4.53 340	*i* Pn	Pn	09 26 07.8	+0.3
IVA			*e*Sn	Sn	09 26 56.1	-2.9
CEME	**Cevo**	4.57 330	*i* Pn	Pn	09 26 06.7	-1.3
CEME			*e*Sn	Sn	09 26 56.7	-3.2
MATE	**Matera**	4.58 298	*i* P	Pn	09 26 07.6	-0.5
KOME	**Kolasin**	4.62 336	*i* Pn	Pn	09 26 08.4	-0.4
KOME			*e*Sn	Sn	09 26 58.1	-3.2
HCY	**Herceg Novi**	4.66 326	*i* Pn	Pn	09 26 08.1	-1.2
HCY			*e*Sn	Sn	09 26 59.1	-3.1
HCY	**Herceg Novi**	4.66 326	*e*Pn	Pn	09 26 07.5	-1.8
BAI	**Bari**	4.67 303	*i* Pn	Pn	09 26 08.8	-0.5
BAI			Sn	Sn	09 26 56.5	-5.8
SG1	**Sgolgore (BA)**	4.68 300	*i* Pn	Pn	09 26 08.7	-0.3
SG1			Sn	Sn	09 26 57.8	-4.8
NKME	**Niksic**	4.74 331	*i* Pn	Pn	09 26 09.6	-0.8
NKME			*e*Sn	Sn	09 27 01.1	-3.0
NKY	**Niksic**	4.77 332	*i* Pn	Pn	09 26 10.3	-0.5
NKY			*e*Sn	Sn	09 27 01.9	-2.9
TREB	**Trebinje**	4.94 327	*e*Pn	Pn	09 26 11.2	-1.9
BRY	**Bratogost**	5.02 329	*i* Pn	Pn	09 26 13.0	-1.2
BRY			*e*Sn	Sn	09 27 08.0	-3.0
BRY	**Bratogost**	5.02 329	*e*Pn	Pn	09 26 12.7	-1.5
PLE	**Pljevlja**	5.10 338	*i* Pn	Pn	09 26 14.5	-0.8
PLE			*e*Sn	Sn	09 27 10.0	-2.8
KARP	**Karpathos**	5.13 125	P	Pn	09 26 16.0	+0.3
UPM	**Unac-Piva**	5.14 334	*i* Pn	Pn	09 26 15.4	-0.5
UPM			*e*Sn	Sn	09 27 11.4	-2.6
UPM	**Unac-Piva**	5.14 334	*e*Pn	Pn	09 26 15.9	0.0
STON	**Ston**	5.36 323	*e*Pn	Pn	09 26 16.9	-1.8
STON			Sn	Sn	09 27 13.4	-5.5
BBLS	**Lazići**	5.58 340	*e*Pn	Pn	09 26 20.9	-1.0
DIVS	**Divibare**	5.67 345	*e*Pn	Pn	09 26 22.0	-1.0
HAPS	**Han Pijesak,Bl**	5.92 338	*e*Pn	Pn	09 26 24.4	-2.0
TEKS	**Tekeris**	6.20 343	*e*Pn	Pn	09 26 29.3	-0.8
FRGS	**Fruska Gora**	6.72 346	*e*Pn	Pn	09 26 37.1	-0.2
DOB	**Doboj**	6.76 335	*e*Pn	Pn	09 26 35.5	-2.3
BZS	**Buzias**	6.98 358	*i* P	Pn	09 26 40.1	-0.7
BZS	**Buzias**	6.98 358	S	Sn	09 27 55.0	-3.5
BLY	**Banja Luka**	7.10 331	*i* P	Pn	09 26 41.2	-1.2
BLY	**Banja Luka**	7.10 331	*e*Pn	Pn	09 26 40.7	-1.7
VOIR		7.15 17	*i* P	Pn	09 26 43.5	+0.3
MLR	**Muntele Rosu**	7.44 22	*i* P	Pn	09 26 46.6	-0.5
UDBI	**Udbina**	7.53 323	*e*Pn	Pn	09 26 47.6	-0.7
SIRR	**Siria**	7.63 358	*i* P	Pn	09 26 50.1	+0.5
DOPR	**Dopca**	7.73 18	*i* P	Pn	09 26 51.5	+0.5
MORH	**Mžigy, Hung**	7.97 343	*e*Pn	Pn	09 26 52.1	-2.2
PLOR	**Plostina**	7.98 24	*i* P	Pn	09 26 53.8	-0.6
NVLJ	**Novalja**	7.99 320	*e*Pn	Pn	09 26 52.8	-1.7
VRI	**Vrincioaia**	8.01 24	*i* P	Pn	09 26 55.5	+0.6
OZLJ	**Ozalj**	8.51 327	*i* Pn	Pn	09 26 60.0	-1.6
CRES	**Cresnjev**	8.68 328	*e*Pn	Pn	09 27 01.4	-2.5
CEY	**Cerknica**	9.06 324	*e*Pn	Pn	09 27 07.3	-1.9
BRTR	**Keskin Array B**	9.08 80	Pn	Pn	09 27 13.4	+3.9
	comp=N,0.2nm,0.3s,baz=257,slow=14,SNR=5.5					
SOKA	**Soboth**	9.54 330	*e*Pn	Pn	09 27 13.5	-2.2
	comp=N,1.8nm,0.5s					
OBKA	**Obir**	9.61 327	*e*Pn	Pn	09 27 16.0	-0.6
	comp=N,1.8nm,0.4s					
OBKA			Sn	Sn	09 28 59.5	-3.2
	comp=N,4.6nm,0.5s					
ARSA	**Arzberg**	9.84 333	*e*Pn	Pn	09 27 18.0	-1.8
	comp=N,1.1nm,0.3s					
VYHS	**Vyhne**	10.12 348	*e*PN	Pn	09 27 24.1	+0.6
VYHS			*e*SN	Sn	09 29 14.5	-0.6
CONA	**Conrad Observa**	10.31 336	*e*Pn	Pn	09 27 25.8	-0.5
	comp=N,0.8nm,0.3s					
ABTA	**Abfaltersbach**	10.71 322	*e*Pn	Pn	09 27 29.8	-1.8
	comp=N,0.8nm,0.2s					
ABTA			*e*Sn	Sn	09 29 22.3	-7.2
	comp=N,1.3nm,0.3s					
MOA	**Molln**	10.80 331	*e*Pn	Pn	09 27 32.7	-0.2
	comp=N,1.5nm,0.2s					
MOA			*e*Sn	Sn	09 29 27.6	-4.1
	comp=N,0.6nm,0.2s					
WTTA	**Wattenberg**	11.49 322	*e*Pn	Pn	09 27 41.6	-0.8
	comp=N,2.6nm,0.3s					
WATA	**Walderalm**	11.57 322	*e*Pn	Pn	09 27 42.1	-1.3
	comp=N,2.2nm,0.2s					
SQTA	**Sankt Quirin**	11.68 321	*e*Pn	Pn	09 27 43.7	-1.0
	comp=N,2.2nm,0.3s					
MOTA	**Moosalm**	11.81 321	*e*Pn	Pn	09 27 46.0	-0.6
	comp=N,1.1nm,0.3s					
FINES	**FINESS Array B**	22.97 5	P	P	09 30 02.8	+5.1
	comp=N,5.6nm,1.0s,baz=207,slow=15,SNR=3.7					
ARCES	**ARCESS Array B**	31.01 2	P	P	09 31 10.5	+0.7
	comp=N,2.8nm,1.0s,baz=173,slow=11,SNR=2.6					
MKAR	**Makanchi Array**	44.04 59	P	P	09 33 00.9	+1.1
	comp=N,3.1nm,0.4s,baz=275,slow=7.3,SNR=55					
ZALV	**Zalesovo Beam**	44.49 49	P	P	09 33 03.6	+0.4
	comp=N,2.0nm,0.5s,baz=272,slow=8.5,SNR=7.9					

*IDC **11** 09:34:25.9±1.1,2°.44N×126°.42E,h0km,mb3.8/5, mb1 4.0/6,mb1mx3.7/42,mbtmp3.9/6,ML4.5/1,Error ellipse: s-maj=72.1km s-min=18.0km az=64.0*

*ISCJB **11** 09:34:30.8±1.0,2°.8N±0°.2×127°.2E±0°.2, h55km,mb3.7/5, Error ellipse: s-maj=38.4km s-min=11.0km az=139.3*

ISC 11 09:34:32.7±1.1,2°.7N±0°.2×127°.1E±0°.3,h55km,n6,σ1§17/7, mb4.0/5,Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	5.49 130		Pn	Pn	09 35 53.4	+1.5
	13nm,0.3s,baz=267,slow=23,SNR=28						
SIJI				Sn	Sn	09 36 52.4	-1.3
	2.8nm,0.3s,baz=209,slow=20,SNR=6.2						
WRA	**Warramunga Arr**	23.61 163		P	P	09 39 38.5	-0.5
	0.7nm,0.4s,baz=335,slow=11,SNR=26						
ASAR	**Alice Springs**	27.05 166		P	P	09 40 10.2	+0.1
	0.3nm,0.6s,baz=350,slow=11,SNR=4.7						
STKA	**Stephens Creek**	37.06 159		P	P	09 41 37.2	-0.3
	1.0nm,0.4s,baz=10,slow=6.2,SNR=6.5						
SONM	**Songino Array**	48.37 341		P	P	09 43 08.3	-0.9
	0.9nm,0.6s,baz=151,slow=6.9,SNR=5.3						
MKAR	**Makanchi Array**	58.59 325		P	P	09 44 24.6	+0.6
	1.4nm,0.5s,baz=122,slow=7.8,SNR=14						

**IDC

CCIG	Comitan	2.54	8	*i* P		Pn	09 52 12.3	+1.6
TGIG		3.06	349	*e*Pn		Pn	09 52 18.0	+0.2
TGIG		3.06	349	*e*P		Pn	09 52 17.0	-0.8
TGIG				*i* S		Sn	09 52 51.8	-1.5
SNET	Serv Nac Est T	3.18	91	*e*Pn		Pn	09 52 18.1	-1.4
ESTN	Estel	6.00	96	*e*Pn		Pn	09 52 54.6	-3.7
TLIG	Tlapa	6.96	304	*e*Pn		Pn	09 53 10.2	-1.1
TEIG	Tepich	7.60	32	*e*Pn		Pn	09 53 20.2	+0.2
JTS	JuntasAbangare	8.15	114	*e*Pn		Pn	09 53 25.8	-1.9
JCT	Junction City	17.95	339	*e*Pn		P	09 55 40.7	+2.5
	3.0nm,0.8s							
LRAL	Lakeview Retre	19.84	14	*e*P		Pn	09 55 59.5	-1.2
	3.2nm,1.1s							
ABTX	Abilene, Hawle	19.88	342	*e*P		Pn	09 56 01.2	0.0
	4.1nm,1.1s							
152A	Waverly Hall	20.12	19	*e*P		Pn	09 56 05.4	+1.3
	8.4nm,0.6s							
Z50A	Ashland	20.31	16	*e*P		P	09 56 03.8	-0.3
	4.9nm,1.0s							
154A	Montrose	20.64	23	*e*P		P	09 56 08.2	+0.6
	15nm,1.0s							
X48A	Hartselle	21.19	13	*e*P		P	09 56 12.9	-0.6
	4.4nm,1.0s							
GOGA	Godfrey	21.22	21	*e*P		P	09 56 15.2	+1.4
Y52A	Lilburn	21.43	20	*e*P		P	09 56 16.3	+0.2
	2.9nm,0.8s							
SWET	Sewanee	22.17	14	*e*P		P	09 56 22.9	-1.1
	8.9nm,1.0s							
V48A	Smith Brothers	22.48	12	*e*P		P	09 56 26.1	-1.2
	4.4nm,0.8s							
WVT	Waverly	22.67	10	*e*P		P	09 56 28.3	-1.0
	1.9nm,0.9s							
CPCT	Cooper Cave	22.77	17	*e*P		P	09 56 29.9	-0.5
TKL	Tuckaleechee C	23.18	18	*e*P		P	09 56 33.6	-0.9
	6.4nm,1.1s							
V53A	Saluda	23.50	20	*e*P		P	09 56 36.7	-1.0
	2.2nm,0.9s							
TZTN	Tazewell	24.07	18	*e*P		P	09 56 41.7	-1.2
	10nm,1.1s							
T49A	Edmonton	24.07	14	*e*P		P	09 56 41.8	-1.1
	3.9nm,0.6s							
WCI	Wyandotte Cave	24.99	12	*e*P		P	09 56 49.9	-1.4
	7.8nm,0.8s							
OLIL	Olney	25.18	8	*e*P		P	09 56 53.4	+0.4
	6.8nm,1.1s							
REDW	Red Top Meadow	33.45	335	*e*P		P	09 58 08.9	+2.1
	2.6nm,0.9s							
SNOW	Snow King Moun	33.50	336	*e*P		P	09 58 10.1	+2.9
	8.4nm,1.0s							
PTGA	Pitinga	35.30	111	*e*P		P	09 58 23.8	+1.0
	3.8nm,0.8s							
J08A	Circle Bar Ran	36.98	328	*e*P		P	09 58 41.3	+4.3
	3.4nm,0.6s							

*ISCJB **11** 09:55:21.2±0.7, 4.°75N±0.°05×82.°65W±0.°05, h10km, Error ellipse: s-maj=8.7km s-min=4.2km az=136.5*
*UCR **11** 09:55:24.2±2.2, 4.°82N×82.°70W, h14km±60km, MD4.3, MW4.4*

ISC 11 09:55:20.7±1.7, **4.°60N**±0.°09×**82.°72W**±0.°09, **h10**km, **n33,** σ1**9**7/42, **South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTJ1	Puerto Jim˜ne	3.96	352	*e*P	Pn	09 56 21.6	+0.1
AZU	Azuero	4.00	37	*e*P	Pn	09 56 23.7	+1.6
AZU				*i*		09 56 29.8	
	comp=Z,50nm,0.4s						
AZU				*e*S	Sn	09 57 05.1	-4.0
AZU	Azuero	4.00	37	*i* P	Pn	09 56 23.5	+1.4
AZU				*e*S	Sn	09 57 07.8	-1.3
BRU2	Volcan	4.17	0	*i* P	Pn	09 56 24.7	+0.1
BRU2				*i* S	Sn	09 57 13.0	-0.6
EDPN	Palmar Norte	4.40	350	*e*P	Pn	09 56 27.4	-0.2
EDBA	Buenos Aires	4.57	353	*e*P	Pn	09 56 31.0	+0.9
DRK0	Durika	4.67	354	*e*P	Pn	09 56 31.4	-0.1
EDLM	Las Mercedes	4.73	350	*e*P	Pn	09 56 32.7	+0.5
LCR2	La Lucha 2	5.27	346	*e*P	Pn	09 56 39.7	-0.1
URSC	Urasca	5.31	349	*e*P	Pn	09 56 40.7	+0.3
URSC				*e*S	Sn	09 57 41.2	-0.5
BCIP	Isla Barro Col	5.37	32	*e*P	Pn	09 56 42.1	+1.1
BCIP				*e*S	Sn	09 57 40.8	-2.0
UPA	Univ. de Panam	5.39	36	*e*P	Pn	09 56 42.9	+1.7
UPA	Univ. de Panam	5.39	36	*i* P	Pn	09 56 43.0	+1.9
SJS	Escuela Geolog	5.47	346	*e*P	Pn	09 56 43.2	+0.7
FRIJ	El Hiral	5.47	33	*i* P	Pn	09 56 44.0	+1.6
FRIJ				*e*S	Sn	09 57 42.5	-3.0
CVTR	Volcan Turrial	5.49	349	*e*P	Pn	09 56 44.4	+1.5
SRA1	San Ram˜‡n	5.73	342	*e*P	Pn	09 56 44.9	-1.1
JTS	JuntasAbangare	6.08	339	*e*P	Pn	09 56 50.8	+0.1
JTS				*e*S	Sn	09 57 58.8	-1.5
UPD2	Meteti	6.11	50	*e*P	Pn	09 56 52.4	+1.3
UPD2				*e*S	Sn	09 58 05.0	+3.9
HORQ	Saladito	6.18	100	*e*P	Pn	09 56 53.4	+0.9
HORQ				*e*S	Sn	09 57 56.5	-6.9
HORQ				*i*		09 58 05.5	
	comp=Z,6.0nm,0.6s						
VCR	Vista de Mar	6.21	332	*e*P	Pn	09 56 52.7	+0.1
PLVR	Palo Verde	6.28	336	*e*P	Pn	09 56 53.1	-0.6
YOTC	Yotoco, Valle	6.39	95	*e*P	Pn	09 56 55.9	+0.8
PLMC	San Jos˜ del	6.42	87	*e*P	Pn	09 56 56.0	+0.5
CRUC	La Cruz	6.50	117	*e*P	Pn	09 56 58.7	+1.9
SOTA	Rioblanco	6.57	112	*e*P	Pn	09 57 00.7	+2.7
SOTA				*i*		09 57 01.7	
	comp=Z,16nm,0.6s						
MESS	Mesas	6.58	338	*e*P	Pn	09 56 59.7	+2.0
PCON	Cinco Dias	6.70	109	*e*P	Pn	09 57 02.9	+3.1
PCON				*e*S	Sn	09 58 11.5	-5.0
BUEV	Buena Vista	6.71	337	*e*P	Pn	09 57 02.2	+2.7
MARP	Paez Belalcaza	6.97	104	*e*P	Pn	09 57 06.0	+2.7
TOLC	Tolima	7.38	90	*e*P	Pn	09 57 10.6	+1.8
NORC	Norcasia	7.88	83	*e*P	Pn	09 57 18.6	+3.1
CHIC	Chingaza	8.96	89	*e*P	Pn	09 57 30.8	+0.1
CHIC				*i*		09 57 36.5	
	comp=Z,3.9nm,0.5s						

*IDC **11** 09:56:58.4±1.2, 52.°68N×131.°79W, h0km, mb3.5/3, mb1 3.7/6, mb1mx3.5/52, mbtmp3.4/6, ML3.1/4, Error ellipse: s-maj=24.9km s-min=6.0km az=41.0*
*ISCJB **11** 09:56:59.2±0.9, 52.°8N±0.°1×131.°8W±0.°2, h10km, mb3.4/3, Error ellipse: s-maj=21.5km s-min=7.2km az=35.7*

ISC 11 09:57:00.1±1.1, **52.°8N**±0.°2×**131.°7W**±0.°2, **h10**km, **n10,** σ1**9**9/10, **mb3.5/3, Queen Charlotte Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H02S1	DAWSON INLET T	0.60	308	Pg	Pg	09 57 10.2	-1.4
H02S1				Lg	Lg	09 57 20.8	
	SNR=7349						
H02N1	VAN INLET T-PH	0.66	309	Pg	Pg	09 57 11.4	-1.4
H02N1				Lg	Lg	09 57 22.3	
	SNR=1088						
BBB	Bella Bella	2.29	105	Pn	Pn	09 57 36.2	-1.6
	1.0nm,0.3s,baz=275,slow=10,SNR=14						
BBB				Sn	Sn	09 58 05.5	-0.4
	7.9nm,0.3s,baz=340,slow=22,SNR=6.7						
BBB				Lg	Lg	09 58 16.6	
	7.9nm,0.3s,baz=191,slow=22,SNR=5.7						
DLBC	Dease Lake	5.69	9	Pn	Pn	09 58 28.7	+4.1
	0.1nm,0.3s,baz=188,slow=14,SNR=3.5						
DLBC				Lg	Lg	10 00 05.2	
	0.2nm,0.3s,baz=180,slow=20,SNR=2.4						
ILAR	Eielson Array	14.27	333	Pn	P	10 00 29.0	-0.2
	0.0nm,0.3s,baz=156,slow=9.4,SNR=6.9						
NVAR	Mina Array Bea	17.14	142	Pn	Pn	10 01 00.6	+0.8
	0.1nm,0.3s,baz=334,slow=11,SNR=3.7						
PDAR	Pinedale Array	17.89	115	Pn	P	10 01 11.9	+2.2
	0.0nm,0.3s,baz=305,slow=9.8,SNR=5.6						
TXAR	Lajitas Array	31.23	128	P	P	10 03 17.9	-1.8
	0.5nm,0.8s,baz=326,slow=9.1,SNR=5.0						
KURBB	Kurchatov Arra	73.80	340	P	P	10 08 36.8	+2.5
	0.3nm,0.6s,baz=21,slow=6.3,SNR=4.5						
MKAR	Makanchi Array	76.58	337	P	P	10 08 52.8	+2.4
	0.3nm,0.6s,baz=20,slow=4.6,SNR=2.5						

*SJA **11** 10:06:09.4±0.8, 33.°84S×73.°17W, h33km, ML3.6, MW3.7*
*IDC **11** 10:06:11.1±1.2, 33.°92S×72.°10W, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.5/29, mbtmp3.5/4, ML3.7/1, MS2.7/2, Ms1 2.7/2, ms1mx2.6/19, Error ellipse: s-maj=48.3km s-min=30.6km az=89.0*
*GUC **11** 10:06:15.5±0.6, 33.°97S×72.°29W, h25km±32km, ML3.5*

ISC 11 10:06:12.2±2.1, **33.°90S**±0.°05×**72.°39W**±0.°08, **h4**km±13km, **n31,** σ1**9**7/41, **1C-2D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	HualaæØ	1.17	161	⇓*i* P	Pb	10 06 34.5	-0.5
GO05				*e*S	Sb	10 06 49.0	-1.5
GO05				IAML		10 06 54.0	
	comp=E,2μm,0.2s						
ROCH	El Roble	1.48	52	*e*P	Pg	10 06 40.7	+0.2
ROCH				IAML		10 07 09.0	
	comp=N,1μm,0.3s						
ANTU	Antumapu	1.50	78	*e*P	Pg	10 06 40.9	0.0
PEL	Peldehue	1.61	63	⇑*i* P	Pb	10 06 42.7	+0.2
PEL				*e*S	Sg	10 07 03.0	-0.9
PEL				IAML		10 07 10.4	
	comp=N,1μm,0.8s						
CLCH	Cerro Calan	1.62	72	*e*P	Pb	10 06 42.5	-0.2
CLCH				*e*S	Sg	10 07 04.5	+0.2
CLCH				IAML		10 07 12.6	
	comp=N,1μm,0.6s						
LMEL	Las Melosas	1.82	89	*e*P	Pb	10 06 45.3	-0.8
LMEL				*e*S	Sb	10 07 08.4	-0.8
LMEL				IAML		10 07 12.3	
	comp=N,909nm,0.3s						
FCH	Farellones	1.84	73	*e*P	Pb	10 06 45.9	-0.7
FCH				IAML		10 07 18.6	
	comp=N,1μm,0.4s						
AUSP	Uspallata	3.02	57	*e*P	Pb	10 07 04.9	-1.9
AUSP				*e*S	Sg	10 07 48.5	-0.8
ARCO	CERRO ARCO	3.08	71	*e*P	Pb	10 07 07.6	0.0
ARCO				*e*S	Sg	10 07 49.6	-1.4
AAGR	Agrelo	3.08	76	*e*P	Pb	10 07 08.0	+0.3
ASAL	Salagasta	3.25	67	*e*P	Pb	10 07 10.6	+0.1
ASAL				*e*S	Sg	10 07 58.7	+2.1
RTLS	Leoncito	3.34	52	⇓*e*P	Pb	10 07 09.3	-2.8
RTLS				*e*S	Sg	10 07 59.3	-0.2
RTLS				IAML		10 08 11.4	
	comp=Z,93nm,0.6s						
RTCV	Cerro Valdivia	3.82	59	*e*P	Pn	10 07 15.0	+3.2
RTCV				*e*S	Sg	10 08 16.8	+1.9
RTLL	Cerro Villicun	4.18	53	*e*P	Pn	10 07 20.1	+3.3
ACCO	Cerro Coronel	4.34	41	*e*P	Pn	10 07 23.1	+3.8
ACCO				*e*S	Sg	10 08 26.8	-4.8
AMOG	MOGNA	4.42	49	*e*P	Pn	10 07 22.8	+2.7
AMOG				*e*S	Sg	10 08 31.9	-2.3
AROD	Rodeo	4.47	34	*e*S	Sg	10 08 36.0	+0.2
ACDV	Cuesta del Vie	4.64	38	*e*P	Pn	10 07 26.4	+3.2
ACAN	Cantantal	4.66	71	*e*P	Pn	10 07 27.8	+4.5
ACAN				*e*S	Sb	10 08 30.5	-0.4
AGUA	GUANDACOL	5.51	38	*e*P	Pn	10 07 38.2	+3.1
APLL	PUNTA DE LOS L	6.07	56	*e*P	Pn	10 07 43.5	+0.7
APLL				*e*S	Sb	10 09 00.7	-11
VCA	Vinchina	6.27	36	*e*P	Pn	10 07 48.4	+2.8
ACLC	CERRO LA CRUZ	6.43	48	*e*P	Pn	10 07 48.9	+1.1
PLCA	Paso Flores	6.97	168	Pn	Pn	10 07 55.8	+0.6
	comp=Z,0.3nm,0.3s,baz=348,slow=14,SNR=16						
PLCA				Lg	Lg	10 09 43.5	
	comp=Z,0.1nm,0.3s,baz=294,slow=20,SNR=1.9						
PLCA				LR	LR	10 10 23.5	
	comp=Z,36nm,19.2s,baz=342,slow=36						
LVC	Limon Verde	11.66	16	LR	LR	10 14 05.2	
	comp=Z,62nm,19.3s,baz=176,slow=41						
LPAZ	La Paz	17.95	13	P	P	10 10 25.9	+1.9
	comp=Z,0.1nm,0.3s,baz=183,slow=6.2,SNR=5.8						
SIV	San Ignacio	20.54	33	P	P	10 10 50.5	-1.3
	comp=Z,1.0nm,0.6s,baz=217,slow=15						
TXAR	Lajitas Array	69.51	331	P	P	10 17 22.9	+0.9
	comp=Z,0.2nm,0.7s,baz=145,slow=9.6,SNR=2.5						
TORD	Torodi Ar. Bea	84.45	70	P	P	10 18 44.1	-2.2
	comp=Z,0.6nm,0.8s,baz=248,slow=4.4,SNR=4.0						
WRA	Warramunga Arr	120.71	209	PKP	PKPdf	10 25 04.1	-1.9
	comp=Z,0.3nm,0.8s,baz=175,slow=1.5,SNR=3.8						
ZALV	Zalesovo Beam	154.30	32	PKPbc	PKPbc	10 26 13.2	+0.1
	comp=Z,0.7nm,0.5s,baz=318,slow=1.9,SNR=3.3						

*IDC **11** 10:13:00.4±1.1, 10.°92S×164.°84E, h0km, mb3.8/7, mb1 4.1/9, mb1mx3.9/37, mbtmp3.9/9, ML4.2/2, MS3.7/5, Ms1 3.7/5, ms1mx3.2/37, Error ellipse: s-maj=30.5km s-min=20.6km az=139.0*
*ISCJB **11** 10:13:03.7±0.7, 11.°11S±0.°06×164.°83E±0.°08, h31km, mb3.9/12, MS3.7/5, Error ellipse: s-maj=12.2km s-min=7.7km az=146.7*
*NEIC **11** 10:13:07.3±2.1, 10.°95S×164.°83E, h45km±19km, mb4.1/8, Error ellipse: s-maj=17.7km s-min=16.6km az=65.0*

ISC 11 10:13:05.6±0.8, **11.°00S**±0.°08×**164.°91E**±0.°09, **h31**km, **n31,** σ1**9**39/28, **mb3.9**/12, **MS3.5**/5, **Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.12	287	Pn	Pn	10 14 18.7	-1.5
	11nm,0.3s,baz=170,slow=4.8,SNR=3.9						
HNR				Sn	Sn	10 15 17.9	-0.5
	10.0nm,0.3s,baz=195,slow=20,SNR=2.3						
HNR	Honiara	5.12	287	P	Pn	10 14 20.0	-0.3
HNR				S	Sn	10 15 21.0	+2.6
HNR	Honiara	5.12	287	*e*Pn	Pn	10 14 19.8	-0.5
HNR				*e*Sn	Sn	10 15 17.9	-0.5
DZM	Mont Dzumac	11.10	173	Pn	Pn	10 15 42.3	-0.2
	1.1nm,0.3s,baz=305,slow=22,SNR=10						
DZM				Sn	Sn	10 17 44.8	-0.8
	0.2nm,0.3s,baz=292,slow=19,SNR=3.3						
DZM	Mont Dzumac	11.10	173	*e*Pn	Pn	10 15 44.4	+1.9
DZM				Sn	Sn	10 17 44.8	-0.8
MANU	Manus Island	19.55	296	*e*P	P	10 17 31.0	-0.1
	22nm,1.0s						
CTA	Charters Tower	20.09	241	P	P	10 17 37.2	+0.3
	6.5nm,0.8s,baz=54,slow=8.7,SNR=3.5						
CTAO	Charters Tower	20.09	241	*e*P	Pn	10 17 38.1	-0.7
	15nm,1.0s						
COEN	Coen	21.42	260	*e*P	P	10 17 52.7	+1.5
	5.8nm,0.8s						
H11S2	WAKE ISLAND Hy	29.36	3	T	T	10 49 33.7	
	baz=184,slow=76,SNR=40						
H11S3	WAKE ISLAND Hy	29.36	3	T	T	10 49 34.0	
	baz=184,slow=76,SNR=39						
H11S1	WAKE ISLAND Hy	29.38	3	T	T	10 49 35.2	
	baz=184,slow=76,SNR=47						
STKA	Stephens Creek	29.91	222	P	P	10 19 11.2	+0.3
	4.8nm,1.0s,baz=359,slow=5.0,SNR=4.4						
STKA				LR	LR	10 30 37.9	
	comp=Z,120nm,18.1s,baz=26,slow=35						
STKA	Stephens Creek	29.91	222	*e*P	P	10 19 12.9	+2.1
	1.3nm,1.0s						
H11N1	WAKE ISLAND Hy	30.59	4	T	T	10 51 06.3	
	baz=184,slow=76,SNR=21						
H11N3	WAKE ISLAND Hy	30.59	4	T	T	10 51 06.7	
	baz=184,slow=76,SNR=20						
H11N2	WAKE ISLAND Hy	30.60	4	T	T	10 51 07.6	
	baz=184,slow=76,SNR=18						
WRAB	Tennant Creek	30.71	249	*e*P	P	10 19 17.9	-0.2
	1.8nm,0.9s						
WB2	Warramunga Arr	30.71	249	*e*P	P	10 19 17.7	-0.4
	4.4nm,1.1s						
WR1	Warramunga Arr	30.72	249	*e*P	P	10 19 15.8	-2.4
	4.1nm,1.1s						
WRA	Warramunga Arr	30.72	249	P	P	10 19 15.8	-2.4
	0.4nm,0.5s,baz=79,slow=9.0,SNR=9.2						
WRA				LR	LR	10 30 13.9	
	comp=Z,65nm,20.6s,baz=80,slow=34						
ASAR	Alice Springs	32.08	243	P	P	10 19 28.4	-1.7
	1.0nm,0.8s,baz=73,slow=9.5,SNR=7.5						
ASAR				LR	LR	10 32 19.2	
	comp=Z,72nm,18.1s,baz=76,slow=36						
FITZ	Fitzroy Crossi	38.59	255	LR	LR	10 35 14.2	
	comp=Z,69nm,19.7s,baz=84,slow=35						
FITZ	Fitzroy Crossi	38.59	255	*e*P	P	10 20 24.6	-1.5
	2.8nm,0.9s						
SONA0	Songino Array	78.15	324	*e*P	P	10 25 01.1	-0.9
SONM	Songino Array	78.15	324	P	P	10 25 01.1	-0.9
	0.5nm,0.9s,baz=124,slow=7.5,SNR=2.6						
ILAR	Eielson Array	83.74	19	P	P	10 25 30.8	-0.5
	0.4nm,0.8s,baz=225,slow=6.3,SNR=3.6						
NVAR	Mina Array Bea	86.63	50	P	P	10 25 46.3	-0.3
	0.5nm,0.8s,baz=230,slow=6.9,SNR=3.1						
INK	Inuvik	90.13	19	LR	LR	11 03 05.8	
	comp=Z,263nm,19.5s,baz=278,slow=33						
MK32	Makanchi Array	92.93	317	*e*P	P	10 26 17.8	+2.0
MKAR	Makanchi Array	92.93	317	P	P	10 26 17.8	+2.0
	0.6nm,0.8s,baz=93,slow=5.2,SNR=4.0						

*ISCJB **11** 10:14:21.1±0.5, 17.°23S±0.°05×69.°59W±0.°08, h173km±5km,*

mb4.0/8, Error ellipse: s-maj=12.7km s-min=8.1km az=24.1
*GUC **11** 10:14:22.3±0.6, 17.°40S×69.°73W, h174km±5km, ML3.7*
*IDC **11** 10:14:23.3±1.1, 17.°21S×69.°34W, h176km±8km, mb3.5/7, mb1 3.6/10, mb1mx3.4/30, mbtmp4.0/10, Error ellipse: s-maj=18.7km s-min=15.3km az=91.0*

ISC 11 10:14:21.3±0.7, **17.°24S**±0.°05×**69.°52W**±0.°06, **h165**km±7km, **n23,** σ2**9**20/32, **mb4.1**/8, **5C-1D, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	IPOC Station P	1.09	179	*e*P	Pn	10 14 51.1	+2.1
PB16				*e*S	Sn	10 15 12.4	+2.2
PB12	IPOC Station P	1.57	209	⇑*i* P	Pn	10 14 53.1	+0.2
PB12				*e*S	Sn	10 15 16.5	-0.8
PB12				IAML		10 15 17.6	
	comp=N,909nm,0.1s						
LPAZ	La Paz	1.63	55	P	Pn	10 14 56.0	+1.9
	comp=N,112nm,0.3s,baz=284,slow=4.6,SNR=3930						
LPAZ				S	Sn	10 15 20.1	+1.0
	comp=N,6.5nm,0.3s,baz=338,slow=19,SNR=9.0						
LPAZ	La Paz	1.63	55	⇓*i* P	Pn	10 14 56.2	+2.1
MNMC	Minye Minye	1.89	182	⇑*i* P	Pn	10 14 57.8	+1.4
MNMC				*i* S	Sn	10 15 24.7	+1.2
MNMC				IAML		10 15 28.9	
	comp=N,752nm,0.2s						
PSGC	Pisagua	2.42	194	⇑*i* P	Pn	10 15 02.5	+0.2
PSGC				*e*S	Sn	10 15 31.6	-2.5
PSGC				IAML		10 15 34.7	
	comp=N,164nm,0.3s						
PB11	IPOC Station P	2.52	183	⇑*i* P	Pn	10 15 04.3	+0.8
PB11				*i* S	Sn	10 15 36.1	-0.2
PB11				IAML		10 15 38.0	
	comp=E,381nm,0.7s						
PB01	IPOC Station P	3.79	180	⇑*i* P	Pn	10 15 19.8	+0.4
LVC	Limon Verde	5.38	174	P	Pn	10 15 40.8	+0.6
	comp=E,0.8nm,0.3s,baz=37,slow=12,SNR=22						
LVC				S	Sn	10 16 38.9	-3.3
	comp=E,3.7nm,0.3s,baz=87,slow=22,SNR=14						
SIV	San Ignacio	8.19	83	P	Pn	10 16 15.2	-2.1
	comp=E,1.4nm,0.3s,baz=263,slow=7.7,SNR=16						
SIV				S	Sn	10 17 42.9	-5.9
	comp=E,0.4nm,0.3s,baz=188,slow=22,SNR=7.6						
NNA	Nana	8.80	305	P	Pn	10 16 24.3	-1.1
	comp=E,1.2nm,0.3s,baz=151,slow=12,SNR=3.3						
NNA				S	Sn	10 17 57.9	-5.5
	comp=E,3.3nm,0.3s,baz=208,slow=22,SNR=9.7						
PTGA	Pitinga	18.91	31	P	P	10 18 29.1	-0.4
	comp=E,1.2nm,0.3s,baz=210,slow=12,SNR=11						
BDFB	Brasilia	20.69	89	P	P	10 18 49.4	+0.6
	comp=E,2.3nm,0.4s,baz=260,slow=12,SNR=5.2						
PLCA	Paso Flores	23.43	182	P	P	10 19 17.9	+2.2
	comp=E,5.2nm,1.0s,baz=33,slow=12,SNR=8.8						
TXAR	Lajitas Array	56.83	324	P	P	10 23 49.5	+0.6
	comp=E,0.2nm,0.5s,baz=154,slow=8.6,SNR=2.6						
LIC	Lamto	67.83	76	*e*PKP1	P	10 25 05.1	+2.9
	comp=E,40nm,1.3s						
TIC	Toumodi	67.99	75	*e*PKP1	P	10 25 05.4	+2.2
KIC	Kosan Boka	68.14	76	*e*PKP1	P	10 25 04.2	+0.1
	comp=E,13nm,0.7s						
DBIC	Dimbokro	68.15	75	P	P	10 25 04.4	+0.2
	comp=E,4.8nm,0.7s,baz=219,slow=7.3,SNR=6.6						
PDAR	Pinedale Array	70.15	330	P	P	10 25 17.4	+1.2
	comp=E,0.1nm,0.5s,baz=108,slow=7.7,SNR=3.0						
TORD	Torodi Ar. Bea	76.51	72	P	P	10 25 52.7	-1.0
	comp=E,3.9nm,0.9s,baz=260,slow=5.1,SNR=16						
YKA	Yellowknife Ar	86.99	341	P	P	10 26 48.9	+1.4
	comp=E,1.6nm,1.0s,baz=134,slow=4.9,SNR=6.0						
SONM	Songino Array	149.30	5	PKPbc	PKPbc	10 33 51.5	+0.7
	comp=E,0.4nm,0.6s,baz=326,slow=3.0,SNR=2.8						

*ISCJB **11** 10:32:13.8±0.4, 12.°02N±0.°03×88.°14W±0.°03, h43km±3km, mb4.2/72, MS3.1/2, Error ellipse: s-maj=6.4km s-min=2.7km az=35.7*
*UCR **11** 10:32:13.5±2.1, 12.°09N×88.°13W, h22km±14km, ML4.0, mb4.3(NEIC)*
*IDC **11** 10:32:15.7±2.3, 12.°26N×87.°83W, h41km±21km, mb3.7/10, mb1 4.0/13, mb1mx3.7/42, mbtmp3.9/13, ML3.5/3, MS3.3/8, Ms1 3.3/8, ms1mx3.1/38, Error ellipse: s-maj=36.6km s-min=16.1km az=58.0*
*NEIC **11** 10:32:16.5±0.7, 12.°14N×88.°01W, h46km±6km, mb4.3/74, Error ellipse: s-maj=8.4km s-min=5.0km az=215.0*

ISC 11 10:32:15.8±1.1, **12.°07N**±0.°06×**88.°12W**±0.°04, **h45**km±11km, **n150,** σ1**9**19/161, **mb4.2**/71, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	1.22	59	*e*S	Sn	10 32 52.9	+0.9
CRIN				IAML		10 33 04.4	
	comp=E,9μm,0.4s						
LCND	La Ca˜–ada	1.25	10	*e*P	Pn	10 32 35.5	-1.4
LCND				*e*S	Sn	10 32 53.5	+0.9
LCND				IAML		10 33 01.3	
	comp=Z,3μm,0.4s						
LCY	Lacayo	1.36	353	*e*P	Pn	10 32 36.8	-1.7
LCY				*e*S	Sn	10 32 56.4	+1.0
VSM	San Miguel	1.36	354	*

ESPN	**Las Esperanzas**	**3.74**	**88**	*e*Pn		**Pn**	**10 33 10.9**	**-0.1**
ESPN	**Las Esperanzas**	**3.74**	**88**	*e*P		**Pn**	**10 33 11.5**	**+0.4**
LCR2	**La Lucha 2**	**4.66**	**119**	*e*P		**Pn**	**10 33 24.1**	**+0.2**
CVTR	**Volcan Turrial**	**4.74**	**115**	*e*P		**Pn**	**10 33 27.3**	**+2.0**
URSC	**Urasca**	**4.81**	**117**	*e*P		**Pn**	**10 33 27.5**	**+1.6**
EDLM	**Las Mercedes**	**5.25**	**121**	*e*P		**Pn**	**10 33 31.7**	**-0.1**
EDPN	**Palmar Norte**	**5.53**	**124**	*e*P		**Pn**	**10 33 36.0**	**+0.3**
DRK0	**Durika**	**5.54**	**120**	*e*P		**Pn**	**10 33 35.9**	**-0.1**
BRU2	**Volcan**	**6.25**	**121**	*e*P		**Pn**	**10 33 46.6**	**+0.9**
TEIG	**Tepich**	**8.11**	**359**	*e*Pn		**Pn**	**10 34 10.8**	**-0.4**
CMIG	**Matias Romero**	**8.23**	**308**	P		**Pn**	**10 34 12.9**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=142,slow=10,SNR=18							
CMIG				S		**Sn**	**10 35 43.2**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=144,slow=17,SNR=2.2							
CMIG				LR		LR	10 37 54.3	
	comp=Z,245nm,18.6s,baz=124,slow=41							
BCIP	**Isla Barro Col**	**8.64**	**109**	*e*Pn		**Pn**	**10 34 18.3**	**0.0**
TLIG	**Tlapa**	**11.48**	**300**	*e*Pn		**Pn**	**10 34 58.8**	**+1.4**
ROSC	**El Rosal**	**15.42**	**117**	LR		LR	10 43 07.4	
	comp=Z,74nm,18.1s,baz=82,slow=43							
LNIG	**Linares**	**16.68**	**321**	*e*Pn		**P**	**10 36 09.4**	**+1.1**
	comp=Z,12nm,0.8s							
SDV	**Santo Domingo**	**17.48**	**99**	LR		LR	10 44 51.8	
	comp=Z,42nm,19.7s,baz=64,slow=44							
SDV	**Santo Domingo**	**17.48**	**99**	*e*Pn		**P**	**10 36 19.9**	**+2.4**
	comp=Z,6.6nm,0.6s							
833A	**Chaparral WMA,**	**19.30**	**329**	*e*P		**P**	**10 36 37.8**	**+0.6**
	comp=Z,42nm,0.7s							
342A	**Flagon Creek P**	**19.60**	**349**	*e*P		**Pn**	**10 36 42.2**	**+0.2**
	comp=Z,14nm,0.7s							
341A	**Kurthwood**	**19.73**	**347**	*e*P		**Pn**	**10 36 43.2**	**-0.3**
	comp=Z,24nm,0.9s							
240A	**Hunter Patters**	**20.54**	**346**	*e*P		Pn	10 36 55.9	+2.7
	comp=Z,20nm,0.6s							
435B	**Jarrell**	**20.58**	**336**	*e*P		**P**	**10 36 50.8**	**-0.2**
	comp=Z,10nm,0.9s							
152A	**Waverly Hall**	**20.74**	**8**	*e*P		**P**	**10 36 53.1**	**+0.4**
	comp=Z,12nm,0.9s							
LRAL	**Lakeview Retre**	**20.89**	**3**	*e*P		**P**	**10 36 55.8**	**+1.4**
	comp=Z,6.4nm,0.9s							
154A	**Montrose**	**20.96**	**12**	*e*P		Pn	10 36 58.3	+0.1
	comp=Z,25nm,0.8s							
Z50A	**Ashland**	**21.18**	**5**	*e*P		**P**	**10 36 57.9**	**+0.4**
	comp=Z,6.8nm,0.9s							
JCT	**Junction City**	**21.28**	**331**	*e*P		**P**	**10 36 58.4**	**-0.2**
	comp=Z,17nm,0.7s							
ATAH	**Atahualpa**	**21.39**	**153**	LR		LR	10 44 32.2	
	comp=Z,103nm,18.3s,baz=328,slow=34							
GOGA	**Godfrey**	**21.67**	**11**	*e*P		**P**	**10 37 03.3**	**+0.6**
	comp=Z,12nm,1.0s							
Y49A	**Blount Mountai**	**21.75**	**4**	*e*P		**P**	**10 37 03.0**	**-0.6**
	comp=Z,6.5nm,0.8s							
Y52A	**Lilburn**	**22.01**	**9**	*e*P		**P**	**10 37 06.5**	**+0.2**
	comp=Z,8.2nm,1.0s							
TXAR	**Lajitas Array**	**22.46**	**322**	P		**P**	**10 37 11.7**	**+0.3**
	comp=Z,3.9nm,0.7s,baz=141,slow=10.0,SNR=40							
TX31	**Lajitas Ar. Si**	**22.46**	**322**	*e*P		**P**	**10 37 12.1**	**+0.7**
MTP	**Monte Pirata**	**22.59**	**72**	*e*P		**P**	**10 37 12.6**	**-0.1**
	comp=Z,14nm,1.0s							
MIAR	**Mount Ida**	**22.92**	**348**	*e*P		**P**	**10 37 15.7**	**-0.4**
	comp=Z,14nm,0.8s							
UALR	**University of**	**22.93**	**351**	*e*P		**P**	**10 37 16.7**	**+0.6**
	comp=Z,9.9nm,0.8s							
JSC	**Jenkinsville**	**22.98**	**15**	*e*P		**P**	**10 37 16.7**	**+0.1**
	comp=Z,9.9nm,0.8s							
ABTX	**Abilene, Hawle**	**23.03**	**334**	*e*P		**P**	**10 37 16.6**	**-0.7**
	comp=Z,10nm,0.7s							
SWET	**Sewanee**	**23.13**	**5**	*e*P		**P**	**10 37 17.0**	**-1.2**
	comp=Z,2.9nm,0.7s							
W50A	**Signal Mountai**	**23.17**	**6**	*e*P		**P**	**10 37 17.9**	**-0.7**
	comp=Z,9.4nm,1.1s							
W41B	**Gary Mavity, V**	**23.30**	**351**	*e*P		**P**	**10 37 20.1**	**+0.2**
	comp=Z,6.1nm,0.8s							
X37A	**Clayton**	**23.37**	**345**	*e*P		**P**	**10 37 21.7**	**+1.2**
	comp=Z,6.6nm,1.1s							
WHAR	**Wooly Hollow**	**23.43**	**351**	*e*P		**P**	**10 37 21.0**	**0.0**
	comp=Z,10nm,1.1s							
CPCT	**Cooper Cave**	**23.50**	**7**	*e*P		**P**	**10 37 21.8**	**0.0**
	comp=Z,6.7nm,1.0s							
W39A	**Magazine**	**23.59**	**348**	*e*P		**P**	**10 37 23.0**	**+0.4**
	comp=Z,1.4nm,0.3s							
SLBS	**Sierra La Lagu**	**23.73**	**302**	*e*P		**P**	**10 37 27.0**	**+2.9**
	comp=Z,6.5nm,0.8s							
TKL	**Tuckaleechee C**	**23.81**	**9**	P		**P**	**10 37 24.4**	**-0.3**
	comp=Z,3.1nm,0.7s,baz=135,slow=5.7,SNR=4.1							
TKL	**Tuckaleechee C**	**23.81**	**9**	*e*P		**P**	**10 37 25.4**	**+0.7**
	comp=Z,15nm,1.0s							
WVT	**Waverly**	**23.96**	**1**	*e*P		**P**	**10 37 25.8**	**-0.1**
	comp=Z,2.0nm,0.9s							
V53A	**Saluda**	**23.98**	**11**	*e*P		**P**	**10 37 25.6**	**-0.7**
	comp=Z,5.1nm,0.8s							
WMOK	**Wichita Mounta**	**24.56**	**338**	*e*P		**P**	**10 37 31.1**	**-0.5**
	comp=Z,6.4nm,0.9s							
HHAR	**Hobbs**	**24.67**	**349**	*e*P		**P**	**10 37 31.9**	**-0.7**
	comp=Z,6.6nm,0.8s							
PBMO	**Poplar Bluff**	**24.69**	**356**	*e*P		**P**	**10 37 32.6**	**0.0**
	comp=Z,8.4nm,1.1s							
TZTN	**Tazewell**	**24.71**	**9**	*e*P		**P**	**10 37 32.5**	**-0.4**
	comp=Z,8.3nm,1.1s							
TUL1	**Leonard**	**24.73**	**345**	*e*P		**P**	**10 37 32.5**	**-0.6**
	comp=Z,18nm,1.0s							
T47A	**Sharon Grove**	**24.83**	**2**	*e*P		**P**	**10 37 32.8**	**-1.1**
	comp=Z,8.6nm,0.8s							
T42A	**Van Buren**	**25.00**	**354**	*e*P		**P**	**10 37 33.9**	**-1.6**
	comp=Z,2.9nm,0.7s							
T49A	**Edmonton**	**25.04**	**5**	*e*P		**P**	**10 37 35.2**	**-0.7**
	comp=Z,6.0nm,0.9s							
MNTX	**Cornudas Mount**	**25.19**	**324**	*e*P		**P**	**10 37 38.0**	**+0.6**
	comp=Z,4.9nm,1.1s							
SIUC	**Southern Illin**	**25.56**	**358**	*e*P		**P**	**10 37 39.5**	**-1.0**
	comp=Z,8.8nm,1.0s							
MSTX	**Muleshoe**	**25.57**	**331**	*e*P		**P**	**10 37 41.4**	**+0.5**
	comp=Z,17nm,0.9s							
AMTX	**Amarillo**	**25.84**	**334**	*e*P		**P**	**10 37 42.8**	**-0.4**
	comp=Z,15nm,0.8s							
CCM	**Cathedral Cave**	**26.03**	**354**	*e*P		**P**	**10 37 44.5**	**-0.3**
	comp=Z,5.2nm,0.8s							
NNA	**Nana**	**26.39**	**154**	LR		LR	10 47 23.3	
	comp=Z,30nm,19.1s,baz=336,slow=34							
ANMO	**Albuquerque**	**28.21**	**327**	P		**P**	**10 38 06.6**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=141,slow=6.5,SNR=3.3							
T25A	**Trinidad**	**28.93**	**332**	*e*P		**P**	**10 38 13.2**	**+2.1**
	comp=Z,8.1nm,1.1s							
SDCO	**Great Sand Dun**	**29.93**	**332**	*e*P		**P**	**10 38 21.1**	**+1.1**
	comp=Z,11nm,0.7s							
M54A	**Oil Creek Stat**	**30.25**	**13**	*e*P		**P**	**10 38 21.5**	**-1.0**
	comp=Z,5.5nm,1.0s							
S22A	**4UR Ranch, Cre**	**30.56**	**330**	*e*P		**P**	**10 38 27.7**	**+2.0**
	comp=Z,1.2nm,1.0s							
N59A	**State Game Lan**	**30.72**	**19**	*e*P		**P**	**10 38 26.4**	**-0.2**
	comp=Z,3.6nm,1.0s							
JFWS	**Jewell Farm**	**30.79**	**357**	*e*P		**P**	**10 38 27.7**	**+0.5**
	comp=Z,13nm,1.1s							
I39A	**Houston**	**31.81**	**355**	*e*P		**P**	**10 38 37.5**	**+1.3**
	comp=Z,6.9nm,0.9s							
PV12	**Saucer Basin,**	**31.99**	**328**	*e*P		**P**	**10 38 39.1**	**+0.9**
	comp=Z,4.0nm,0.8s							
ECSD	**EROS Data Cent**	**32.39**	**348**	*e*P		**P**	**10 38 39.4**	**-2.0**
	comp=Z,2.3nm,0.7s							
SAML	**Samuel**	**32.41**	**129**	*e*P		**P**	**10 38 41.0**	**-0.8**
	comp=Z,2.9nm,0.9s							
SPMN	**Marine on St.**	**33.28**	**354**	*e*P		**P**	**10 38 48.2**	**-0.9**
	comp=Z,7.8nm,0.5s							
SADO	**Sadowa**	**33.48**	**12**	*e*P		**P**	**10 38 50.9**	**+0.1**
	comp=Z,7.8nm,1.0s							
P17A	**Butcher Ranch,**	**33.86**	**328**	*e*P		**P**	**10 38 55.5**	**+1.1**
	comp=Z,3.4nm,1.0s							
LPAZ	**La Paz**	**34.42**	**144**	LR		LR	10 53 38.9	
	comp=Z,49nm,18.7s,baz=338,slow=37							
RSSD	**Black Hills**	**34.75**	**340**	*e*P		**P**	**10 39 02.3**	**+0.2**
	comp=Z,3.7nm,0.7s							
PDAR	**Pinedale Array**	**35.80**	**333**	P		**P**	**10 39 11.2**	**0.0**
	comp=Z,0.6nm,0.6s,baz=118,slow=9.3,SNR=3.2							
PDAR				PcP		**PcP**	**10 41 38.8**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=130,slow=3.9,SNR=3.8							
PDAR	**Pinedale Array**	**35.80**	**333**	*e*P		**P**	**10 39 11.5**	**+0.3**
PKME	**Peaks-Kenny Pk**	**36.78**	**22**	*e*P		**P**	**10 39 18.5**	**-0.6**
	comp=Z,5.2nm,0.9s							
REDW	**Red Top Meadow**	**36.86**	**332**	*e*P		**P**	**10 39 20.6**	**+0.5**
	comp=Z,8.3nm,0.7s							
SNOW	**Snow King Moun**	**36.89**	**332**	*e*P		**P**	**10 39 21.3**	**+0.8**
	comp=Z,17nm,0.9s							
LOHW	**Long Hollow**	**36.94**	**332**	*e*P		**P**	**10 39 21.5**	**+0.7**
	comp=Z,4.7nm,0.8s							
TPAW	**Teton Pass**	**37.00**	**332**	*e*P		**P**	**10 39 22.5**	**+1.1**
	comp=Z,6.3nm,0.8s							
MOOW	**Moose Ponds**	**37.11**	**332**	*e*P		**P**	**10 39 22.7**	**+0.4**
	comp=Z,5.2nm,0.9s							
FXWY	**Fox Creek**	**37.15**	**332**	*e*P		**P**	**10 39 22.8**	**+0.1**
	comp=Z,0.4nm,0.5s							
IMW	**Indian Meadow**	**37.31**	**332**	*e*P		**P**	**10 39 24.3**	**+0.2**
	comp=Z,2.6nm,0.6s							
NVAR	**Mina Array Bea**	**37.56**	**320**	P		**P**	**10 39 27.3**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=134,slow=5.2,SNR=3.5							
NVAR				PcP		**PcP**	**10 41 44.7**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=131,slow=4.9,SNR=6.9							
RLMT	**Red Lodge**	**37.57**	**335**	*e*P		**P**	**10 39 26.2**	**0.0**
	comp=Z,7.4nm,0.9s							
YMR	**Madison River**	**37.93**	**333**	*e*P		**P**	**10 39 30.0**	**+0.8**
	comp=Z,10nm,0.9s							
YHH	**Holmes Hill**	**37.97**	**333**	*e*P		**P**	**10 39 30.5**	**+0.8**
	comp=Z,7.6nm,1.1s							
ULM	**Lac du Bonnet**	**38.60**	**352**	P		**P**	**10 39 31.8**	**-2.7**
	comp=Z,4.6nm,0.5s,baz=173,slow=9.8,SNR=9.3							
ULM	**Lac du Bonnet**	**38.60**	**352**	*e*P		**P**	**10 39 32.3**	**-2.2**
	comp=Z,9.0nm,1.1s							
DGMT	**Dagmar**	**38.69**	**343**	*e*P		**P**	**10 39 35.1**	**-0.2**
	comp=Z,19nm,1.0s							
DLMT	**Dillon**	**39.20**	**332**	*e*P		**P**	**10 39 41.7**	**+2.0**
	comp=Z,3.9nm,0.8s							
LRM	**Limekiln Ridge**	**39.48**	**333**	*e*P		P	10 39 47.5	+5.2
RPN	**Rapa Nui**	**44.07**	**208**	LR		LR	10 53 48.3	
	comp=Z,66nm,21.5s,baz=329,slow=29							
YKA	**Yellowknife Ar**	**53.81**	**345**	P		**P**	**10 41 32.1**	**-1.6**
	comp=Z,0.8nm,0.6s,baz=146,slow=7.3,SNR=7.6							
YKA				PcP		**PcP**	**10 42 38.4**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=148,slow=3.6,SNR=4.7							
PLCA	**Paso Flores**	**55.00**	**164**	P		**P**	**10 41 42.4**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=9.9,slow=7.7,SNR=6.1							
PLCA	**Paso Flores**	**55.00**	**164**	*e*P		**P**	**10 41 43.5**	**+0.7**
	comp=Z,4.6nm,1.1s							
DLBC	**Dease Lake**	**55.97**	**335**	*e*P		**P**	**10 41 51.0**	**+1.4**
	comp=Z,9.8nm,0.9s							
INK	**Inuvik**	**63.37**	**343**	P		**P**	**10 42 38.8**	**-1.4**
	comp=Z,2.0nm,1.0s,baz=134,slow=14,SNR=3.2							
ILAR	**Eielson Array**	**66.10**	**336**	P		**P**	**10 42 56.9**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=150,slow=5.0,SNR=5.6							
LZH	**Lanzhou**	**130.79**	**347**	*e*PKP		**PKPdf**	**10 51 21.9**	**-1.1**
LZH				pPKP		pPKPdf	10 51 33.2	-3.7
LZH				sPKP			10 51 37.0	
ASAR	**Alice Springs**	**138.52**	**248**	PKP		**PKPdf**	**10 51 38.4**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=82,slow=1.3,SNR=6.5							
FITZ	**Fitzroy Crossi**	**146.89**	**255**	PKPbc		**PKPab**	**10 51 55.2**	**-0.5**
	comp=Z,3.6nm,0.9s,baz=114,slow=1.3,SNR=5.9							
CMAR	**Chiang Mai Arr**	**148.88**	**347**	PKPbc		**PKPbc**	**10 52 00.1**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=339,slow=3.6,SNR=14							

ISCJB ***11*** *10:39:32.7±0.9,* ***7.06S±0.07×129.93E±0.09, h104km, mb3.3/1,*** *Error ellipse: s-maj=12.1km s-min=9.7km az=2.6*

IDC ***11*** *10:39:34.3±2.3,* ***7.03S×130.00E, h102km±28km, mb3.2/1, mb1 3.6/6, mb1mx3.3/40, mbtmp3.8/6,*** *Error ellipse: s-maj=39.2km s-min=21.6km az=95.0*

ISC 11 10:39:32.5±0.9, 7.13S±0.06×130.1E±0.1, h104km, n6, σ4 21/11, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.32**	**11**	P	**Pn**	**10 41 03.6**	**+0.3**
	0.8nm,0.3s,baz=127,slow=20,SNR=15						
SIJI				S	**Sn**	**10 42 08.8**	**-5.3**
	2.7nm,0.3s,baz=195,slow=22,SNR=7.6						
BATI	**Baumata**	**7.07**	**244**	P	**Pn**	**10 41 15.5**	**+2.1**
	5.5nm,0.3s,baz=82,slow=4.5,SNR=4.5						
BATI				S	**Sn**	**10 42 29.7**	**-2.5**
	1.8nm,0.3s,baz=22,slow=19,SNR=2.0						
FITZ	**Fitzroy Crossi**	**11.74**	**201**	P	**Pn**	**10 42 18.8**	**+2.1**
	0.4nm,0.3s,baz=33,slow=12,SNR=15						
FITZ				S	**Sn**	**10 44 19.1**	**-6.8**
	0.8nm,0.3s,baz=77,slow=18,SNR=6.2						
WRA	**Warramunga Arr**	**13.39**	**163**	P	**Pn**	**10 42 40.9**	**+2.5**
	1.0nm,0.3s,baz=339,slow=13,SNR=52						
WRA				S	**Sn**	**10 45 01.2**	**-4.6**
	0.5nm,0.3s,baz=338,slow=24,SNR=6.8						
ASAR	**Alice Springs**	**16.84**	**168**	P	**P**	**10 43 26.5**	**+4.0**
	0.4nm,0.3s,baz=351,slow=12,SNR=25						
ASAR				S	**Sn**	**10 46 26.8**	**-2.6**
	0.3nm,0.3s,baz=343,slow=25,SNR=5.7						
MKAR	**Makanchi Array**	**68.39**	**327**	P	**P**	**10 50 24.2**	**+1.1**
	0.3nm,0.7s,baz=124,slow=7.2,SNR=3.4						

MEX 11 10:53:45.6±0.4, 13.99N×92.32W, h15km±95km, MD3.6, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.92**	**3**	*e*P	Pb	10 54 00.4	-2.8
THIG				*i* S	Sb	10 54 11.3	-3.9
PCIG		**1.92**	**333**	*e*P	Pn	10 54 14.4	-3.3
PCIG				*i* S	Sn	10 54 36.8	-4.8
CCIG	**Comitan**	**2.29**	**4**	*i* P	Pn	10 54 20.2	-2.8
CCIG				*i* S	Sn	10 54 46.9	-4.1
TGIG		**2.88**	**344**	*i* P	Pn	10 54 29.2	-1.9
TGIG				*i* S	Sn	10 55 02.1	-3.4

ISCJB ***11*** *10:54:39.1±0.6, 22.74N±0.02×95.83E±0.02, h1km±3km, mb5.5/306, MS5.9/650,* Error ellipse: s-maj=2.8km s-min=2.0km az=38.7

BJI ***11*** *10:54:40.8, 22.69N×95.91E, h10km, mb5.6/66, mB6.2/57, ML6.3/5, Ms6.2/86, Ms7 6.2/79*

IDC ***11*** *10:54:41.9±2.0, 22.73N×95.84E, h12km±12km, mb5.0/52, mb1 5.1/53, mb1mx5.1/60, mbtmp5.1/53, ML5.0/1, MS5.7/34, Ms1 5.7/34, ms1mx5.6/38,* Error ellipse: s-maj=10.5km s-min=7.8km az=47.0

NEIC ***11*** *10:54:41.4±0.1, 22.72N×95.83E, h6km, mb5.7/161, ME6.0, MS5.8/296, MW5.7, MW5.8,* Error ellipse: s-maj=3.5km s-min=2.5km az=54.0, Moment Tensor Solution. s28 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.19; $M_{\theta\theta}$=0.84; $M_{\phi\phi}$=-0.65; $M_{r\theta}$=-0.62; $M_{\theta\phi}$=5.19; $M_{r\phi}$=0.54; Best double couple: M_0=5.30000×10^{17} NP1:ϕ_s=184.00000°, δ83.00000°, λ=-174.00000°. NP2:ϕ_s=94.00000°, δ84.00000°, λ=-7.00000°. Principal axes: T 5.3400, Plg1.0000°, Azm139.0000°; N -0.0700, Plg81.0000°, Azm237.0000°; P -5.2800, Plg9.0000°, Azm49.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s262.00000°, δ81.00000°, λ-20.00000°. NP2:ϕ_s355.00000°, δ70.00000°, λ-170.00000°. Principal axes: T Plg7.0000°, Azm310.0000°; N Plg0.0000°, Azm0.0000°; P Plg21.0000°, Azm217.0000°; Depth from synthetics of broadband displacement seismograms. Apparent Stress 0.66 MPa. Energy computed from BB mechanism.

NEIC Felt at Chaunggyi.

NEIC ***11*** *10:54:42.0±0.0, 22.56N×95.90E, h11km,* Moment Tensor Solution. s29 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.63; $M_{\theta\theta}$=-1.43; $M_{\phi\phi}$=0.79; $M_{r\theta}$=2.40; $M_{\theta\phi}$=5.58; $M_{r\phi}$=0.27; Best double couple: M_0=6.20000×10^{17} NP1:ϕ_s=85.00000°, δ87.00000°, λ=23.00000°. NP2:ϕ_s=354.00000°, δ67.00000°, λ=176.00000°. Principal axes: T 5.9600, Plg18.0000°, Azm312.0000°; N 0.4600, Plg66.0000°, Azm92.0000°; P -6.4200, Plg13.0000°, Azm217.0000°;

GCMT ***11*** *10:54:42.3±0.1, 22.60N±0.01×96.05E±0.01, h12km, MW5.9/135,* Moment Tensor Solution. s120,c240; s135,c414; Duration: 2s1 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.29±.06; $M_{\theta\theta}$=-0.31±.07; $M_{\phi\phi}$=0.02±.07; $M_{r\theta}$=2.06±.16; $M_{\theta\phi}$=7.73±.05; $M_{r\phi}$=2.38±.17; Best double couple: M_0=8.31700×10^{17} NP1:ϕ_s=358.00000°, δ77.00000°, λ=164.00000°. NP2:ϕ_s=91.00000°, δ75.00000°, λ=14.00000°. Principal axes: T 8.7550, Plg20.0000°, Azm314.0000°; N -0.8740, Plg70.0000°, Azm139.0000°; P -7.8800, Plg1.0000°, Azm45.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function

NDI ***11*** *10:54:42.7±2.7, 22.54N×95.93E, h33km±36km, mb5.7, ML5.8, mb5.7(NEIC)*

MOS ***11*** *10:54:43.0±1.1, 22.71N×95.83E, h31km, mb5.8/95, MS5.8/81,* Error ellipse: s-maj=5.7km s-min=3.5km az=113.9

ISC 11 10:54:43.4±0.4, 22.70N±0.03×95.77E±0.02, h17km±2km, h18km: pP-P, n1236, σ1 95/947, mb5.6/305, MS5.9/654, 41C-23D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAIH	**SAIHA**	**2.58**	**266**	*e*P	**Pb**	**10 55 28.1**	**-1.1**
SAIH				*e*S	**Sn**	**10 55 55.6**	**+0.1**
SAIH				AMP		10 56 38.9	
	comp=N,644μm,1.4s						
SAIH				AMP		10 56 42.5	
	comp=E,442μm,0.9s						
IMP	**Imphal**	**2.70**	**322**	*e*P	**Pn**	**10 55 26.6**	**+0.5**
IMP				*e*S	**Sn**	**10 56 00.2**	**+1.8**
IMP				IAML		10 56 13.4	
	comp=N,8μm,0.9s						
KOHI	**KOHIMA**	**3.37**	**334**	*e*P	**Pn**	**10 55 37.3**	**+1.9**
KOHI				*e*S	**Sn**	**10 56 14.4**	**-0.6**
KOHI				AMP		10 57 12.9	
	comp=N,487μm,3.8s						
KOHI				AMP		10 57 13.5	
	comp=E,650μm,2.5s						
SILR	**SILCHAR**	**3.42**	**308**	*e*P	**Pn**	**10 55 38.0**	**+2.1**
SILR				*e*S	**Sn**	**10 56 18.9**	**+2.9**
SILR				IAML		10 56 36.0	
	comp=N,4μm,0.5s						
SILR				IAML		10 56 36.9	
	comp=E,4μm,0.6s						
MOKO	**MOKOCHONG**	**3.78**	**343**	*e*P	**Pn**	**10 55 42.4**	**+1.4**
MOKO				*e*S	**Sn**	**10 56 25.6**	**+0.3**
MOKO				AMP		10 57 39.7	
	comp=E,695μm,5.5s						
MOKO				AMP		10 57 47.7	
	comp=N,426μm,3.4s						
BRDH	**Bariadhala**	**3.81**	**270**	Pn	**Pn**	**10 55 44.4**	**+3.1**
	comp=N,33nm,0.3s,baz=87,slow=12,SNR=38						
BRDH				Sn	**Sb**	**10 56 32.4**	**-3.6**
	comp=N,147nm,0.3s,baz=90,slow=20,SNR=12						
BRDH				LR	LR	10 57 07.2	
	comp=N,34μm,20.5s,baz=160,slow=38						
BELO	**BELONIA**	**4.02**	**279**	*e*P	**Pn**	**10 55 44.4**	**+0.3**
BELO				*e*S	**Sn**	**10 56 28.4**	**-2.4**
BELO				AMP		10 59 10.8	
	comp=E,708μm,5.8s						
BELO				AMP		10 59 15.6	
	comp=N,746μm,9.7s						
JORH	**JORHAT**	**4.25**	**341**	*e*P	**Pn**	**10 55 47.7**	**+0.3**
JORH				*e*S	**Sn**	**10 56 35.1**	**-1.6**
JORH				IAML		10 56 59.0	
	comp=N,5μm,0.1s						
JORH				IAML		10 57 17.7	
	comp=E,7μm,1.3s						
AGT	**Agartala**	**4.32**	**287**	*e*P	**Pn**	**10 55 48.5**	**+0.3**
AGT				*e*S	**Sn**	**10 56 36.5**	**-1.7**
SHL	**Shillong**	**4.55**	**310**	*e*Pn	**Pn**	**10 55 52.5**	**+0.8**
SHL	**Shillong**	**4.55**	**310**	*e*P	**Pn**	**10 55 52.5**	**+0.8**
SHL	**Shillong**	**4.55**	**310**	*e*P	**Pn**	**10 55 52.4**	**+0.8**
SHL				*e*S	**Sn**	**10 56 43.0**	**-1.3**
LKP	**Lekhapani**	**4.61**	**1**	*e*P	**Pn**	**10 55 52.5**	**+0.1**
LKP				*e*S	**Sn**	**10 56 42.9**	**-2.7**
TEZP	**TEZPUR**	**4.74**	**326**	*e*P	**Pn**	**10 55 53.1**	**-1.0**
CHTO	**Chiang Mai**	**4.88**	**142**	*e*Pn	**Pn**	**10 55 53.4**	**-2.6**
CHTO				*e*Sg	**Sg**	**10 57 13.3**	**-6.8**
CHTO	**Chiang Mai**	**4.88**	**142**	P	**Pn**	**10 55 53.6**	**-2.4**
	SNR=843						
CHTO	**Chiang Mai**	**4.88**	**142**	*e*P	**Pn**	**10 55 53.4**	**-2.6**
CHTO	**Chiang Mai**	**4.88**	**142**	P	**Pn**	**10 55 53.0**	**-3.0**
CMMT	**Chiang Mai**	**4.88**	**142**	P	**Pn**	**10 55 53.0**	**-3.1**
CRAI	**Chiangrai**	**4.95**	**119**	P	**Pb**	**10 56 11.0**	**+1.4**
PAYA	**Payao**	**5.07**	**130**	P	**Pn**	**10 55 55.3**	**-3.4**
CM31	**Chiang Mai Arr**	**5.16**	**144**	*e*Pn	**Pn**	**10 55 58.0**	**-2.0**
CM31				*e*Pg	**Pb**	**10 56 15.4**	**+2.0**
CM31	**Chiang Mai Arr**	**5.16**	**144**	P	**Pn**	**10 55 57.8**	**-2.2**
	SNR=782						
CMAR	**Chiang Mai Arr**	**5.16**	**144**	Pn	**Pn**	**10 55 57.6**	**-2.4**
	comp=E,16nm,0.3s,baz=323,slow=12,SNR=511						
CMAR				Pg	**Pb**	**10 56 14.8**	**+1.5**
	comp=E,352nm,0.3s,baz=321,slow=17,SNR=101						
CMAR				Lg	Lg	10 57

GKN **Gorkha** 11.36 300 *e*Pn **Pn** **10 57 24.5 -0.6**
KOLN **Koldanda** 12.11 297 *e*Pn **Pn** **10 57 33.6 -1.8**
DANN **Dangsing** 12.21 300 *e*Pn **Pn** **10 57 34.6 -2.3**
DANN *e*Sn **Sn** **10 59 50.3 -2.5**
comp=E,484nm,0.7s
PYUN Piuthan 12.73 298 *e*Pn **Pn** **10 57 41.7 -2.3**
PYUN *e*Sn **Sn** **11 00 01.7 -3.8**
comp=E,1μm,1.0s
QIZ Qiongzhong 13.65 103 P **Pn** **10 57 52.7 -3.7**
QIZ LR LR
comp=E,245μm,13.2s
QIZ LR LR
comp=E,119μm,13.2s
QIZ LR LR
comp=E,77μm,9.8s
ENH Enshi 14.41 56 *e*Pn **Pn** **10 58 04.3 -2.4**
LZH Lanzhou 15.07 26 ⇑P **Pn** **10 58 15.6 -0.2**
LZH pP P 10 58 17.8 -3.2
LZH sP pP 10 58 20.3 -5.6
LZH PP **sP** **10 58 27.6 -0.6**
LZH S **Sn** **11 01 02.8 +0.4**
LZH sS S 11 01 08.3 -11
LZH SS **SnSn** **11 01 20.7 +5.3**
LZH pmax pmax
comp=E,3μm,1.3s
LZH pmax pmax
comp=E,22μm,4.8s
LZH LR LR
comp=E,127μm,11.4s
LZH LR LR
comp=E,232μm,10.8s
LZH LR LR
comp=E,114μm,14.6s
TRTT Trang 15.25 165 P **Pn** **10 58 20.0 +1.9**
comp=E,206nm,1.6s,comp=E,5μm
SKLT Songkhla 16.13 162 P **P** **10 58 31.5 -1.2**
comp=E,412nm,1.9s,comp=E,10μm
XAN Xi'an 16.16 43 P **Pn** **10 58 25.8 -4.0**
XAN sP P 10 58 32.8 -0.1
XAN PP **pP** **10 58 37.5 -0.3**
XAN S **Sn** **11 01 34.2 +5.5**
XAN pmax pmax
comp=E,5μm,6.0s
XAN LR LR
comp=E,70μm,11.3s
XAN LR LR
comp=E,123μm,14.7s
GZH Guangzhou 16.20 85 P **Pn** **10 58 31.0 +0.6**
GZH sP **P** **10 58 35.1 +1.7**
GZH S **Sn** **11 01 33.4 +3.6**
GZH SS **SnSn** **11 01 46.5 +3.7**
GZH LR LR
comp=E,33μm,6.2s
BHPL Bhopal 16.90 275 *e*P **Pn** **10 58 37.7 -1.6**
HYB Hyderabad 17.00 255 *i*P **P** **10 58 43.0 +0.7**
comp=E,288nm,1.2s
HYB *e*S **Sn** **11 01 52.0 +2.8**
HYB LR LR
comp=E,16nm,16.0s
GTA Gaotai 17.01 11 P **Pn** **10 58 37.8 -2.9**
GTA pP P 10 58 43.3 +0.9
GTA sP pP 10 58 46.2 -1.2
GTA S **Sn** **11 01 47.0 -2.4**
GTA sS S 11 01 55.2 -4.0
GTA SS **SnSn** **11 02 08.6 +5.6**
GTA pmax pmax
comp=E,3μm,5.9s
GTA LR LR
comp=E,50μm,12.0s
GTA LR LR
comp=E,57μm,15.1s
LHMI Lhok Sumawe 17.41 176 *e*Pn **P** **10 58 46.2 -0.5**
comp=E,2μm,1.2s
LHMI Lhok Sumawe 17.41 176 P **P** **10 58 46.9 +0.1**
comp=E,2μm,1.2s,comp=E,24μm
DDI Dehra Dun 17.56 299 *e*P **P** **10 58 48.9 +0.4**
KULM Kulim 17.94 164 *e*Pn **Pn** **10 58 52.1 -0.1**
comp=E,1μm,1.5s
KULM Kulim 17.94 164 P **P** **10 58 54.0 +1.3**
MLSI Meulaboh, Aceh 18.34 178 P **P** **10 58 59.2 +2.2**
comp=E,1μm,1.7s,comp=E,37μm
WHN Wuhan 18.35 61 ⇓P **Pn** **10 58 55.2 -1.9**
WHN S **Sn** **11 02 22.0 +0.4**
WHN LR LR
comp=E,287μm,10.2s
WHN LR LR
comp=E,150μm,11.1s
WHN LR LR
comp=E,194μm,16.1s
SMLA Simla 18.57 301 *e*P **P** **10 58 58.2 -1.3**
SMLA IAmb IAmb 10 59 04.5
comp=E,360nm,0.6s
IPM Ipoh 18.81 164 *e*P **P** **10 59 01.4 -0.9**
comp=E,1μm,1.8s
KCSI Kotacane, Aceh 19.16 174 P **P** **10 59 06.5 +0.3**
comp=E,955nm,1.4s,comp=E,29μmcomp=E,12μm
TSI Tuntungan 19.28 172 P **Pn** **10 59 09.2 +0.8**
comp=E,3μm,1.5s,comp=E,53μm
TPTI **19.37 176** P **Pn** **10 59 09.7 +0.1**
comp=E,332nm,1.5s,comp=E,8μm
DHRM DHARAMSHALA 19.69 303 *e*P **P** **10 59 12.1 0.0**
DHRM IAmb IAmb 10 59 15.1
comp=E,282nm,0.7s
PSI Prapat 20.02 171 P Pn 10 59 16.8 -0.6
comp=E,427nm,1.1s,baz=360,slow=6.3,SNR=58
PSI Lg Lg 11 05 18.9
comp=E,35nm,1.1s,baz=0.0,slow=20,SNR=3.7
PSI LR LR 11 08 35.6
comp=E,14μm,18.7s,baz=271,slow=41
PSI Prapat 20.02 171 *e*P Pn 10 59 16.6 -0.7
comp=E,2μm,1.5s
PSI Lg Lg 11 05 18.9
PSI Prapat 20.02 171 *e*P Pn 10 59 16.6 -0.8
PSI pmax pmax
comp=E,2μm,1.5s
SNSI Sinabang, Aceh 20.18 178 P **P** **10 59 17.1 -0.1**
comp=E,1μm,1.4s,comp=E,13μm
TIY Taiyuan 20.72 40 *e*P **P** **10 59 23.0 -0.1**
TIY pP **sP** **10 59 32.5 +2.2**
TIY PP **PnPn** **10 59 49.1 +7.9**
TIY S **S** **11 03 12.1 -1.8**
TIY sS Sn 11 03 19.2 +0.2
TIY SS **SnSn** **11 03 42.8 +8.9**
TIY pmax pmax
comp=E,230nm,1.3s
TIY pmax pmax
comp=E,5μm,8.0s
TIY LR LR
comp=E,24μm,12.9s
TIY LR LR
comp=E,57μm,14.8s
QZH Quanzhou 21.00 79 ⇓*i*P **P** **10 59 26.4 +0.3**
QZH S **S** **11 03 19.8 +0.3**
QZH pmax pmax
comp=E,86nm,1.7s
QZH pmax pmax
comp=E,2μm,8.3s
QZH LR LR
comp=E,55μm,6.8s
QZH LR LR
comp=E,58μm,8.5s
PALK Pallekele 21.11 226 P **P** **10 59 28.3 +0.9**
comp=E,284nm,1.3s,baz=116,slow=3.2,SNR=23
PALK LR LR 11 09 03.6
comp=E,23μm,18.2s,baz=293,slow=41
PALK Pallekele 21.11 226 *e*P **P** **10 59 28.6 +1.3**
comp=E,680nm,1.5s
PALK Pallekele 21.11 226 P **P** **10 59 28.9 +1.5**
SNR=27
PALK Pallekele 21.11 226 *i*P **P** **10 59 29.2 +1.8**
SNR=31
PALK Pallekele 21.11 226 *ce*P **P** **10 59 29.4 +2.0**
GSI Gunungsitoli 21.34 175 *e*P **P** **10 59 29.2 -0.6**
comp=E,1μm,1.4s
GSI LR LR
comp=E,33μm,21.0s
GSI Gunungsitoli 21.34 175 P **P** **10 59 29.8 0.0**
comp=E,586nm,1.4s,comp=E,10μm
BTO Baotou 21.53 31 *e*P **P** **10 59 30.8 -1.0**
MNSI Mandailing Nat 22.09 170 P **P** **10 59 37.5 -0.3**
comp=E,215nm,1.2s,comp=E,5μm
WMQ Urumqi 22.10 344 P **P** **10 59 38.0 +0.2**
WMQ pP pP 10 59 43.3 +0.5
WMQ sP sP 10 59 46.2 +1.1
WMQ S **S** **11 03 37.7 -3.1**
WMQ PcS **PcS** **11 07 14.6 +1.0**
WMQ pmax pmax
comp=Z,850nm,1.3s
WMQ pmax pmax
comp=Z,8μm,3.6s
WMQ LR LR
comp=Z,57μm,11.9s
WMQ LR LR
comp=Z,70μm,12.5s
WMQ LR LR
comp=Z,25μm,15.5s
MYKOM Kota Tinggi 22.22 158 *e*P **P** **10 59 39.7 +0.4**
comp=Z,1μm,1.7s
MYKOM LR LR
comp=Z,42μm,20.0s
MYKOM Kota Tinggi 22.22 158 P **P** **10 59 41.0 +1.8**
SARP Sargodha 22.45 299 P **P** **10 59 40.2 -1.4**
HHC Hu-ho-hao-te 22.47 33 *e*P **P** **10 59 42.2 +0.3**
HHC pP pP 10 59 46.8 -0.1
HHC S **S** **11 03 44.1 -3.8**
HHC sS pS 11 03 52.8 -1.4
HHC SS **SnSn** **11 04 28.0 +11**
HHC pmax pmax
comp=Z,140nm,1.4s
HHC pmax pmax
comp=Z,5μm,4.0s
HHC LR LR
comp=Z,30μm,11.0s
HHC LR LR
comp=Z,47μm,11.4s
NJ2 Nanjing 22.48 61 *e*P **P** **10 59 40.7 -1.3**
NJ2 pP **pP** **10 59 45.4 -1.6**
NJ2 sP **sP** **10 59 48.6 -0.6**
NJ2 S **S** **11 03 47.4 -0.6**
NJ2 pmax pmax
comp=Z,23nm,0.7s
NJ2 pmax pmax
comp=Z,6μm,4.7s
NJ2 LR LR
comp=Z,59μm,12.2s
NJ2 LR LR
comp=Z,92μm,15.7s
CHCP Chirah Chowk 22.59 304 P **P** **10 59 43.2 0.0**
PBSI Pulau Batu 22.75 173 P **P** **10 59 49.4 +4.5**
BKNI Bangkinang 22.82 166 *e*P **P** **10 59 46.0 +0.3**
comp=Z,1μm,1.5s
BKNI LR LR
comp=Z,30μm,19.0s
BKNI Bangkinang 22.82 166 P **P** **10 59 48.5 +2.8**
comp=Z,504nm,1.6s,comp=Z,10μm
TPUB Ta-pu 22.89 84 *e*P **P** **10 59 45.9 -0.5**
comp=Z,92nm,1.0s
TIA Tai'an 22.89 49 P **P** **10 59 44.6 -1.7**
TIA S **S** **11 03 50.2 -5.2**
TIA pmax pmax
comp=Z,360nm,1.2s
TIA pmax pmax
comp=Z,7μm,4.3s
TIA LR LR
comp=Z,35μm,13.2s
TIA LR LR
comp=Z,41μm,10.3s
TIA LR LR
comp=Z,59μm,11.6s
SSLB Suanglung 23.16 82 PFAKE 11 00 00.0 +11
SSLB LR LR
comp=Z,15μm,19.0s
TPRI Tanjung Pinang 23.27 157 P **P** **10 59 51.1 +0.9**
comp=Z,326nm,1.9s,comp=Z,10μm
TWG Pinlang 23.33 85 *e*P **P** **10 59 50.8 -0.1**
comp=Z,467nm,1.2s
TWG LR LR
comp=Z,84μm,20.0s
THW Thamme Wali 23.47 301 P **P** **10 59 51.2 -1.0**
YULB Yu-li 23.50 83 *e*P **P** **10 59 52.7 +0.2**
comp=Z,230nm,1.7s
YULB LR LR
comp=Z,22μm,18.0s
YHNB Yeheng 23.53 80 PFAKE 11 00 00.0 +7.1
YHNB LR LR
comp=Z,6μm,21.0s
TATO Taipei 23.63 79 PFAKE 11 00 00.0 +6.2
TATO LR LR
comp=Z,6μm,22.0s
CEP Cherat 23.70 303 P **P** **10 59 54.3 -0.3**
NACB Ninganchiao 23.74 81 *e*P **P** **10 59 56.0 +1.1**
comp=Z,264nm,1.4s
NACB LR LR
comp=Z,30μm,18.0s
KSH Kashi 23.75 319 P **P** **10 59 55.3 +0.3**
KSH pP pP 10 59 59.2 -1.1
KSH PP **PnPn** **11 00 28.1 +5.3**
KSH S **S** **11 04 06.4 -3.3**
KSH sS pS 11 04 13.8 -1.5
KSH pmax pmax
comp=Z,530nm,1.0s
KSH pmax pmax
comp=Z,9μm,5.5s
KSH LR LR
comp=Z,43μm,13.7s
KSH LR LR
comp=Z,76μm,22.4s
PDSI Padang 23.91 168 P **P** **10 59 56.1 -0.4**
comp=Z,131nm,1.3s,comp=Z,3μm
SSE Sheshan 24.12 64 P **P** **10 59 58.0 -0.4**
SSE S **S** **11 04 16.2 +0.7**
SSE pmax pmax
comp=Z,74nm,1.5s
SSE pmax pmax
comp=Z,1μm,7.3s
SSE LR LR
comp=Z,7μm,15.2s
SSE LR LR
comp=Z,5μm,14.6s
SDSI Sungai Dareh 24.13 166 P **P** **11 00 00.4 +1.9**
comp=Z,134nm,1.7s
BJT Baijiatuau 24.43 40 *e*P **P** **11 00 01.8 +0.6**
comp=Z,795nm,1.4s
BJT Baijiatuau 24.43 40 *e*P **P** **11 00 01.8 +0.6**
BJT pmax pmax
comp=Z,795nm,1.4s
BJI Beijing 24.45 40 P **P** **11 00 01.4 +0.1**
BJI S **S** **11 04 14.4 -6.2**
BJI pmax pmax
comp=Z,360nm,2.0s
BJI pmax pmax
comp=Z,6μm,4.5s
PRZ Przheval'sk 24.47 328 *e*P **P** **11 00 03.2 +1.5**
comp=Z,439nm,0.8s
PRZ LR LR
comp=Z,26μm,22.0s
PRZ Przheval'sk 24.47 328 *e*P **P** **11 00 03.2 +1.5**
PRZ pmax pmax
comp=Z,439nm,0.8s
PRZ MLR MLR
comp=Z,26μm,22.0s
SHLS Shalkode 24.48 330 ⇑*i*P **P** **11 00 00.8 -0.9**
comp=Z,1μm,3.1s
SHLS *e*S **S** **11 04 20.7 -0.6**
SHLS LR LR 11 10 21.5
comp=Z,3μm,13.0s
DSRI Dabo 24.59 158 P **P** **11 00 03.6 +0.9**
comp=Z,842nm,1.8s,comp=Z,23μm
PDGK Podgornoye 24.60 331 P **P** **11 00 03.0 +0.1**
PDGK pmax pmax
comp=Z,401nm,1.1s
UZB Uzynbulak 24.68 330 ⇑*i*P **P** **11 00 04.2 +0.7**
comp=Z,557nm,2.7s
UZB *e*S **S** **11 04 26.5 +1.9**
UZB LR LR 11 10 54.8
comp=Z,4μm,12.3s
KDJ Kajisay 24.83 326 *e*P **P** **11 00 07.1 +2.1**
comp=Z,987nm,1.1s
KDJ LR LR
comp=Z,11μm,20.0s
SATY Saty 24.90 329 ⇑*i*P **P** **11 00 06.7 +1.1**
comp=Z,1μm,1.9s
SATY *e*S **S** **11 04 30.8 +2.7**
SATY LR LR 11 10 48.1
comp=Z,9μm,13.7s
ZHN Zhinishke 24.97 329 ⇑*i*P **P** **11 00 07.0 +0.8**
comp=Z,671nm,3.2s
ZHN *e*S **S** **11 04 31.8 +2.6**
ZHN LR LR 11 10 57.4
comp=Z,7μm,14.3s
NRN Naryn 24.99 323 *e*P **P** **11 00 07.0 +0.4**
comp=Z,180nm,0.9s
NRN LR LR
comp=Z,17μm,19.0s
NRN Naryn 24.99 323 *e*P **P** **11 00 07.0 +0.4**
NRN pmax pmax
comp=Z,180nm,0.9s
NRN MLR MLR
comp=Z,17μm,19.0s
YOJ Yonaguni jima 25.02 81 PFAKE 11 00 20.0 +13
YOJ LR LR
comp=Z,5μm,22.0s
KPKS Kokpek 25.08 330 *i*P **P** **11 00 07.7 +0.6**
comp=Z,564nm,1.4s
KPKS *e*S **S** **11 04 32.8 +1.9**
KPKS LR LR 11 10 55.8
comp=Z,8μm,12.4s
KRJI Kerinci 25.26 167 P P 11 00 20.9 +12
TGY Tagaytay City 25.34 105 LR LR 11 11 04.2
comp=Z,14μm,18.6s,baz=288,slow=39
KSM Kuching 25.39 144 *e*P **P** **11 00 09.6 -0.5**
comp=Z,320nm,1.4s
KSM Kuching 25.39 144 P **P** **11 00 11.0 +0.9**
ULHL Ulahol 25.41 325 P **P** **11 00 11.4 +1.2**
SNR=208
SFK Sufi-Kurgan 25.57 318 P **P** **11 00 12.7 +1.0**
SFK pmax pmax
comp=Z,275nm,1.2s
PPSI Pulau Pagai 25.64 170 P **P** **11 00 15.1 +2.8**
comp=Z,620nm,1.2s,comp=Z,15μm
MDOK Medeo 25.64 327 *i*P **P** **11 00 13.6 +1.2**
comp=Z,5μm,1.4s
MDOK *e*S **S** **11 04 42.7 +2.7**
MDOK LR LR 11 10 50.9
comp=Z,15μm,13.6s
KDM Kudat 25.65 124 P **P** **11 00 14.0 +1.6**
SBUM Sibu 25.69 139 *e*P **P** **11 00 12.3 -0.4**
comp=Z,107nm,1.5s
SBUM LR LR
comp=Z,16μm,20.0s
SBUM Sibu 25.69 139 P **P** **11 00 14.0 +1.2**
AAA Alma-Ata 25.75 327 ⇑*e*P **P** **11 00 14.6 +1.5**
comp=Z,821nm,1.3s
AAA *e*S **S** **11 04 44.5 +3.1**
AAA LR LR 11 10 58.7
comp=Z,11μm,14.4s
AAA Alma-Ata 25.75 327 *e*P **P** **11 00 14.3 +1.2**
AAA pmax pmax
comp=Z,2μm,2.4s
AAA MLR MLR
comp=Z,15μm,15.0s
KKM Kota Kinabalu 25.76 127 *e*P **P** **11 00 13.3 -0.2**
comp=Z,1μm,1.9s
KKM LR LR
comp=Z,33μm,20.0s
KKM Kota Kinabalu 25.76 127 P **P** **11 00 14.0 +0.5**
KZA Kyzart 25.83 323 P **P** **11 00 15.0 +0.6**
SNR=49
MNCI Minicoy 26.10 240 PFAKE 11 00 30.0 +14
MNCI LR LR
comp=Z,19μm,22.0s
KBL Kabul 26.18 303 *e*P **P** **11 00 18.3 +1.0**
comp=Z,362nm,1.4s
KBL Kabul 26.18 303 *e*P **P** **11 00 18.3 +1.0**
KBL pmax pmax
comp=Z,362nm,1.4s
ZSN Zaisan 26.20 343 ⇑*i*P **P** **11 00 17.5 +0.3**
comp=Z,65nm,2.1s
ZSN *e*S **S** **11 04 50.1 +1.6**
TKM2 Tokmak 2 26.22 325 P **P** **11 00 18.3 +0.7**
SNR=362
UCH Uchtor 26.34 323 P **P** **11 00 19.9 +0.9**
SNR=126
MK01 Makanchi Array 26.36 339 *e*P **P** **11 00 17.9 -0.8**
KBK Karagaybulak 26.39 324 P **P** **11 00 20.4 +1.3**
SNR=53
MK31 Makanchi Array 26.39 339 *e*P **P** **11 00 18.7 -0.1**
MK31 Makanchi Array 26.39 339 P **P** **11 00 18.2 -0.7**
MK31 pmax pmax
comp=Z,96nm,0.8s
MK32 Makanchi Array 26.39 339 *e*P **P** **11 00 18.8 -0.1**
MK32 *e*PcP **PcP** **11 03 45.0 +0.7**
MK32 *e*ScP **ScP** **11 07 23.9 +0.5**
MKAR Makanchi Array 26.39 339 P **P** **11 00 18.8 -0.1**
comp=Z,132nm,0.9s,baz=142,slow=10,SNR=136
MKAR PcP **PcP** **11 03 45.0 +0.7**
comp=Z,2.5nm,0.6s,baz=178,slow=4.1,SNR=5.6
MKAR ScP **ScP** **11 07 23.9 +0.5**
comp=Z,7.8nm,1.0s,baz=157,slow=4.0,SNR=4.7
MKAR LR LR 11 12 37.0
comp=Z,12μm,18.0s,baz=154,slow=41
MKAR Makanchi Array 26.39 339 *e*P **P** **11 00 18.7 -0.1**
comp=Z,662nm,1.0s
MKAR PcP **PcP** **11 03 45.0 +0.7**
MKAR ScP **ScP** **11 07 23.9 +0.5**
MKAR Makanchi Array 26.39 339 *e*P **P** **11 00 18.7 -0.1**
MKAR 11 03 45.0
MKAR pmax pmax
comp=Z,662nm,1.0s
TDK Taldyqorghan 26.40 332 *i*P **P** **11 00 19.0 +0.1**
comp=Z,491nm,2.6s
TDK LR LR 11 12 10.2
comp=Z,9μm,11.2s
MASI Maura Aman, Be 26.45 165 P **P** **11 00 23.0 +3.3**
comp=Z,411nm,1.3s,comp=Z,8μm
SONA0 Songino Array 26.49 16 *e*P **P** **11 00 19.7 -0.1**
SONA0 *e*ScP **ScP** **11 07 23.2 -0.6**
SONM Songino Array 26.49 16 P **P** **11 00 19.7 -0.1**
comp=Z,320nm,0.9s,baz=200,slow=9.7,SNR=112
SONM ScP **ScP** **11 07 23.2 -0.6**
comp=Z,4.1nm,1.1s,baz=212,slow=5.3,SNR=4.1
SONM LR LR 11 12 38.0
comp=Z,30μm,21.5s,baz=198,slow=41
SONA1 Songino Array 26.50 16 *e*P **P** **11 00 19.8 -0.2**
KUU Kurty 26.53 327 ⇑*i*P **P** **11 00 20.3 +0.1**
comp=Z,557nm,2.5s
KUU *e*S **S** **11 04 55.4 +1.7**
KUU LR LR 11 12 13.0
comp=Z,8μm,11.4s
AAK Ala-Archa 26.62 323 P **P** **11 00 22.5 +1.4**
comp=Z,944nm,0.8s,baz=127,slow=6.9,SNR=184
AAK LR LR 11 12 47.5
comp=Z,9μm,18.2s,baz=74,slow=41
AAK Ala-Archa 26.62 323 P **P** **11 00 22.3 +1.1**
SNR=120
AAK Ala-Archa 26.62 323 *e*P **P** **11 00 22.3 +1.1**
comp=Z,144nm,0.9s
AAK Ala-Archa 26.62 323 P **P** **11 00 22.6 +1.4**
SNR=89
AAK Ala-Archa 26.62 323 *i*P **P** **11 00 21.7 +0.5**
SNR=153
AAK Ala-Archa 26.62 323 *e*P **P** **11 00 22.3 +1.1**
AAK pmax pmax
comp=Z,144nm,0.9s
FRU1 Bishkek 26.66 324 *e*P **P** **11 00 22.8 +1.3**
comp=Z,167nm,1.0s
FRU1 LR LR
comp=Z,15μm,22.0s
FRU1 Bishkek 26.66 324 *e*P **P** **11 00 22.8 +1.3**
FRU1 pmax pmax
comp=Z,167nm,1.0s
FRU1 MLR MLR
comp=Z,15μm,22.0s
FRU Bishkek 26.69 324 ⇑*i*P **P** **11 00 22.0 +0.4**
FRU *e* 11 00 30.0
FRU *e* 11 01 03.0
FRU *e*S **S** **11 04 48.0 -8.3**
FRU pmax pmax
comp=Z,595nm,2.2s
FRU smax smax
comp=E,230nm,2.2s
FRU MLR MLR
comp=E,20μm,14.0s
PPBI Pangkal Pinang 26.70 156 P **P** **11 00 23.4 +1.5**
comp=E,96nm,1.5s,comp=E,19μm
CHMS Chumysh 26.73 324 P **P** **11 00 22.6 +0.6**
SNR=31
AML Almayashu 26.75 322 P **P** **11 00 23.6 +1.0**
SNR=83
HMDM Hanimaadhoo 26.91 237 PFAKE 11 00 40.0 +16
HMDM LR LR
comp=Z,14μm,19.0s
EKS2 Erkin-Say 27.04 323 P **P** **11 00 26.0 +1.1**
SNR=80
USP Ospenovka 27.04 324 P **P** **11 00 25.5 +0.7**
SNR=56
SGDS Sogindy 27.10 325 LR LR 11 12 25.5

comp=Z,4μm,11.0s
STKI Sintang 27.20 144 P P 11 00 27.7 +1.3
comp=Z,146nm,1.2s
DL2 Dalian 27.33 48 P P 11 00 25.9 -1.5
DL2 S S 11 05 01.1 -5.3
DL2 pmax pmax
comp=Z,120nm,1.2s
DL2 pmax pmax
comp=Z,2μm,4.7s
DL2 LR LR
comp=Z,24μm,13.5s
DL2 LR LR
comp=Z,26μm,14.6s
DL2 LR LR
comp=Z,28μm,12.1s
MNAS Manas 27.66 321 P P 11 00 31.4 +0.9
MNAS pmax pmax
comp=Z,105nm,1.4s
DGZ Jazzator, Alta 27.74 348*d* iP **P 11 00 31.1 0.0**
DGZ pmax pmax
comp=Z,8.0nm,0.8s
DGZ MLR MLR
comp=Z,4μm,14.0s
MNAI Manna 27.80 164 PFAKE 11 00 40.0 +8.3
MNAI LR LR
comp=Z,20μm,22.0s
MYLDM Lahad Datu 28.03 125 *e*P **P 11 00 32.3 -1.5**
comp=Z,443nm,1.5s
MYLDM LR LR
comp=Z,30μm,20.0s
MDSI Maura Dua 28.24 162 P P 11 00 34.4 -1.3
ZAK Zakamensk 28.25 10 *e*P **P 11 00 36.0 +0.4**
ZAK pmax pmax
comp=Z,98nm,1.4s
HVS Khovu-Aksy 28.43 357*d* iP **P 11 00 36.6 -0.6**
HVS pmax pmax
comp=Z,539nm,2.3s
HVS MLR MLR
comp=Z,22μm,13.0s
BTLS Baital 28.50 327⇑ *i*P **P 11 00 37.7 -0.1**
comp=Z,163nm,2.7s
BTLS *e*S **S 11 05 26.0 +1.3**
BTLS LR LR 11 13 07.3
comp=Z,3μm,13.3s
IUG Iuzhnay 28.94 318⇑ *i*P **P 11 00 42.7 +0.9**
comp=Z,278nm,3.0s
IUG *e*S **S 11 05 34.4 +2.5**
IUG LR LR 11 12 29.0
comp=Z,3μm,11.4s
KK31 Karatay Array 29.20 320 *e*P **P 11 00 44.0 -0.1**
KK31 Karatay Array 29.20 320 *e*P **P 11 00 44.0 -0.1**
KKAR Karatay Array 29.20 320 *e*P **P 11 00 43.9 -0.1**
KKAR Karatay Array 29.20 320 *e*P **P 11 00 43.9 -0.1**
MOY Mondy 29.20 7 *e*P **P 11 00 44.3 +0.2**
MOY pmax pmax
comp=Z,334nm,2.4s
CHM Chimkent 29.30 318 *e*P **P 11 00 45.5 +0.6**
comp=Z,274nm,2.5s
CHM LR LR 11 13 05.4
comp=Z,4μm,12.3s
TLY Talaya 29.57 10 *e*P **P 11 00 48.1 +0.9**
comp=Z,349nm,2.0s
TLY LR LR
comp=Z,20μm,20.0s
TLY Talaya 29.57 10*c* iP **P 11 00 47.3 +0.1**
TLY *e* 11 01 46.2
TLY *e*S **S 11 05 43.5 +2.1**
TLY pmax pmax
comp=Z,187nm,2.3s
TLY MLR MLR
comp=Z,23μm,17.0s
JOW Kunigami 29.76 75 LR LR 11 13 15.4
comp=Z,27μm,18.4s,baz=266,slow=38
SNY Shenyang 30.07 44⇓ P **P 11 00 51.6 -0.2**
SNY S **S 11 05 48.9 -0.6**
SNY pmax pmax
comp=Z,150nm,2.0s
SNY pmax pmax
comp=Z,2μm,4.6s
SNY LR LR
comp=Z,28μm,14.5s
SNY LR LR
comp=Z,60μm,17.7s
SEM Semipalatinsk 30.21 340 *e*P **P 11 00 51.9 -1.2**
comp=Z,26nm,1.7s
SEM LR LR 11 13 39.8
comp=Z,4μm,12.1s
IRK Irkutsk 30.21 10 *e*P **P 11 00 53.9 +1.0**
IRK *e* 11 02 06.7
IRK pmax pmax
comp=Z,700nm,3.4s
TJN Taejon 30.53 56 *i* P **P 11 00 55.0 -0.9**
KURBB Kurchatov Arra 30.95 338 P **P 11 00 58.9 -0.5**
comp=Z,46nm,0.7s,baz=148,slow=9.0,SNR=144
KURBB PcP **PcP 11 03 55.6 +0.2**
comp=Z,17nm,0.9s,baz=171,slow=3.1,SNR=7.3
KURBB ScP **ScP 11 07 38.0 +0.4**
comp=Z,13nm,1.0s,baz=154,slow=2.9,SNR=8.3
KURK Kurchatov 31.00 339 *e*P **P 11 00 59.3 -0.6**
comp=Z,80nm,0.8s
KURK LR LR
comp=Z,15μm,21.0s
KURK Kurchatov 31.00 339 P **P 11 00 59.4 -0.4**
SNR=32
KURK Kurchatov 31.00 339*c* iP **P 11 00 59.1 -0.7**
KURK pmax pmax
comp=Z,85nm,0.8s
KURK MLR MLR
comp=Z,12μm,18.0s
KS15 Wonju Array Si 31.26 55 *e*P **P 11 01 00.8 -1.5**
KSAR Wonju Array Be 31.26 55 P **P 11 01 00.3 -2.0**
KSAR Wonju Array Be 31.26 55 P **P 11 01 00.3 -2.0**
KS01 Wonju Array Si 31.28 55 *e*P **P 11 01 01.3 -1.2**
KSRS Korea Array 31.30 55 P **P 11 01 00.3 -2.3**
comp=Z,15nm,1.0s,baz=239,slow=8.9,SNR=16
KSRS LR LR 11 15 22.0
comp=Z,15μm,18.0s,baz=234,slow=40
SKJI Sukabumi 31.36 159 P **P 11 01 07.9 +4.6**
BKB Balikpapan 31.48 136 P **P 11 01 07.4 +2.9**
LEM Lembang 31.55 157 P **P 11 01 04.7 -0.5**
comp=Z,20nm,0.7s,baz=2.8,slow=6.2,SNR=11
OTUK Ortayu 31.60 330 P **P 11 01 05.4 +0.2**
OTUK pmax pmax
comp=Z,250nm,1.6s
CN2 Changchun 32.27 42 *e*P **P 11 01 10.0 -1.1**
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 pmax pmax
comp=Z,1μm,4.0s
CN2 LR LR
comp=Z,28μm,16.0s
CN2 LR LR
comp=Z,22μm,16.0s
CN2 LR LR
comp=Z,31μm,18.0s
ZAA0 Zalesovo Array 32.28 348 *e*P **P 11 01 10.0 -1.1**
comp=Z,29nm,0.9s
ZAA0 LR LR
comp=Z,6μm,21.0s
ZALV Zalesovo Beam 32.28 348 P **P 11 01 09.8 -1.3**
comp=Z,14nm,0.6s,baz=170,slow=9.6,SNR=33
ZALV LR LR 11 15 40.1
comp=Z,6μm,20.7s,baz=164,slow=39
ZALV Zalesovo Beam 32.28 348 *e*P **P 11 01 10.2 -0.9**
ZALV Zalesovo Beam 32.28 348 *e*P **P 11 01 10.2 -0.9**
ZAA1 Zalesovo Array 32.29 348 *e*P **P 11 01 09.8 -1.4**
CISI Cisompet, Garu 32.30 157 PFAKE 11 01 20.0 +8.3
CISI LR LR
comp=Z,22μm,19.0s
CIT Chita 32.32 21 *e*P **P 11 01 11.2 -0.4**
CIT *e* 11 01 20.9
CIT *e* 11 01 24.7
MPSI Mapaga 32.33 130 P **P 11 01 12.9 +1.0**
comp=Z,22nm,2.3s,comp=Z,904nm
KPJI Karang Pucung 32.51 155 P **P 11 01 14.4 +1.0**
comp=Z,255nm,1.4s,comp=Z,5μm
HIA Hailar 32.58 30 *e*P **P 11 01 13.7 -0.1**
comp=Z,197nm,1.2s
HIA LR LR
comp=Z,36μm,19.0s
HIA Hailar 32.58 30 *e*P **P 11 01 13.7 -0.1**
HIA pmax pmax
comp=Z,197nm,1.2s
HIA MLR MLR
comp=Z,36μm,19.0s
JNU Nakatsue 32.58 64 PFAKE 11 01 30.0 +16
JNU LR LR
comp=Z,43μm,22.0s
KBKI Kotabaru 32.63 140 P **P 11 01 16.0 +1.5**
comp=Z,24nm,1.6s
DAV Davao City (W) 32.63 114 P **P 11 01 15.7 +1.1**
comp=Z,100nm,0.6s,baz=314,slow=9.2,SNR=5.2
DAV Davao City (W) 32.63 114‖ *e*P **P 11 01 15.1 +0.5**
DAV Davao City (W) 32.63 114 P **P 11 01 15.7 +1.1**
DAV LR LR
comp=Z,12μm,19.0s
BRZS Berezniki 32.71 332⇑ *i*P **P 11 01 15.3 +0.4**
comp=Z,667nm,3.3s
BRZS *e*S **S 11 06 32.4 +1.9**
SMRI Semarang 32.87 152 *e*P **P 11 01 17.1 +0.5**
comp=Z,374nm,1.2s
SMRI LR LR
comp=Z,27μm,18.0s
SMRI Semarang 32.87 152 P **P 11 01 18.9 +2.3**
comp=Z,279nm,1.3s,comp=Z,9μm
TBJI Tambak Boyo 33.29 150 P **P 11 01 24.1 +3.8**
NVS Novosibirsk 33.44 347⇑ *i*P **P 11 01 20.3 -0.9**
NVS pmax pmax
comp=N,34nm,1.1s
NVS pmax pmax
comp=E,35nm,1.1s
NVS pmax pmax
comp=Z,53nm,1.1s
NGJI Ngawi 33.60 151 P **P 11 01 26.6 +3.6**
GRJI Gresik 33.67 149 P **P 11 01 27.2 +3.6**
UGM Wanagama 33.68 153 PFAKE 11 01 40.0 +16
UGM LR LR
comp=Z,19μm,19.0s
MRSI Marisa 33.70 127 P **P 11 01 25.2 +1.3**
comp=Z,66nm,1.6s,comp=Z,2μm
WOJI Wonogiri, Jawa 33.78 152 P **P 11 01 27.3 +2.7**
comp=Z,67nm,1.6s,comp=Z,2μm
WSAR Wadi Sarin 34.14 278 P **P 11 01 29.4 +1.7**
SNR=8.0
WSAR S **S 11 06 55.3 +2.1**
PWJI Pagerwojo 34.34 151 P **P 11 01 30.2 +0.9**
comp=Z,89nm,1.9s,comp=Z,3μm
APSI Ampana 34.45 129 P **P 11 01 32.5 +2.1**
comp=Z,188nm,1.4s,comp=Z,3μm
KMMI Kalianget 34.52 147 P **P 11 01 33.7 +2.7**
comp=Z,66nm,1.3s,comp=Z,1μm
BIDO Bidbid 34.56 279 P **P 11 01 33.0 +1.7**
SNR=17
COCO West Island 34.69 178 *e*P **P 11 01 33.6 +1.2**
comp=Z,1μm,1.4s
COCO LR LR
comp=Z,9μm,19.0s
COCO West Island 34.69 178 *e*P **P 11 01 33.6 +1.2**
COCO pmax pmax
comp=Z,1μm,1.4s
COCO MLR MLR
comp=Z,9μm,19.0s
KMSI Cibinong 35.16 125 P **P 11 01 37.5 +0.9**
comp=Z,502nm,0.8s,comp=Z,5μm
MDJ Mudanjiang 35.27 44 P **P 11 01 36.7 -0.5**
MDJ S **S 11 07 09.9 -0.3**
MDJ PcS **PcS 11 07 55.2 +0.7**
MDJ SS **SnSn 11 09 28.1 -0.3**
MDJ pmax pmax
comp=Z,490nm,2.3s
MDJ LR LR
comp=Z,21μm,14.8s
MDJ LR LR
comp=Z,19μm,11.6s
MDJ LR LR
comp=Z,39μm,14.7s
MDJ Mudanjiang 35.27 44 *e*P **P 11 01 37.5 +0.3**
comp=Z,136nm,1.4s
MDJ LR LR
comp=Z,29μm,18.0s
LUWI Luwuk 35.34 128 *e*P **P 11 01 37.8 -0.3**
comp=Z,367nm,1.1s
LUWI LR LR
comp=Z,10μm,20.0s
LUWI Luwuk 35.34 128 P **P 11 01 38.5 +0.4**
comp=Z,366nm,1.4s,comp=Z,6μm
SPSI Sidrap Palu 35.39 136 P **P 11 01 39.4 +0.9**
comp=Z,170nm,2.1s,comp=Z,5μm
MSHR Mys Shultsa 35.44 48 *i* P **P 11 01 38.8 +0.1**
GEYT Alibeck 35.60 304 P **P 11 01 41.2 +0.9**
comp=Z,18nm,1.0s,baz=139,slow=5.5,SNR=36
GEYT LR LR 11 19 36.4
comp=Z,27μm,19.2s,baz=305,slow=42
GYA0B ALIBECK ARRAY 35.60 304 *e*P **P 11 01 41.6 +1.4**
comp=Z,119nm,1.4s
JAGI Jajag, Banyuwa 35.83 148 *e*P **P 11 01 41.9 -0.4**
comp=Z,390nm,1.8s
JAGI LR LR
comp=Z,13μm,19.0s
JAGI Jajag, Banyuwa 35.83 148 P **P 11 01 44.5 +2.2**
comp=Z,70nm,1.6s,comp=Z,3μm
BNSI Bone 35.94 136 P **P 11 01 44.3 +1.1**
comp=Z,88nm,2.1s,comp=Z,3μm
SOHO SOHO 35.95 280 *i* P **P 11 01 46.0 +2.7**
SNR=9.4
BRVK Borovoye 35.99 334 *e*P **P 11 01 42.5 -0.7**
comp=Z,102nm,1.1s
BRVK LR LR
comp=Z,15μm,21.0s
BRVK Borovoye 35.99 334 P **P 11 01 43.1 -0.2**
SNR=37
BRVK Borovoye 35.99 334 *e*P **P 11 01 42.6 -0.7**
BRVK pmax pmax
comp=Z,102nm,1.1s
BRVK MLR MLR
comp=Z,15μm,21.0s
BANOM Banah 36.02 283 P P 11 01 49.7 +5.8
SNR=9.0
BANOM Banah 36.02 283 *i* P **P 11 01 48.7 +4.8**
SNR=9.3
SRBI Singaraja 36.04 146 P **P 11 01 47.1 +3.1**
comp=Z,108nm,2.0s,comp=Z,3μm
VLA Vladivostok 36.15 47*d* iP **P 11 01 44.0 -0.7**
VLA pmax pmax
comp=Z,161nm,1.0s
VLA MLR MLR
comp=Z,35μm,16.0s
SHME Shamm 36.15 283 *i* P **P 11 01 47.8 +2.7**
SNR=8.8
KAPI Kappang 36.17 137 PFAKE 11 02 00.0 +15
KAPI LR LR
comp=Z,13μm,22.0s
KAPI Kappang 36.17 137*ce*P **P 11 01 46.8 +1.6**
KAPI pmax pmax
comp=Z,181nm,1.7s
UOSS Minazif 36.17 282 *e*P **P 11 01 45.4 +0.2**
comp=Z,32nm,1.3s
UOSS LR LR
comp=Z,11μm,21.0s
UOSS Minazif 36.17 282 P **P 11 01 46.5 +1.3**
HATD Hatta, Dubai 36.25 281 P **P 11 01 46.2 +0.4**
SNR=9.0
HATD Hatta, Dubai 36.25 281 *i* P **P 11 01 47.7 +1.8**
SNR=8.5
ASHO Ashiyiah 36.33 281 P **P 11 01 48.3 +1.7**
SNR=14
ASHO Ashiyiah 36.33 281 *i* P **P 11 01 48.7 +2.1**
SNR=12
USA0B Ussuriysk Arra 36.64 45 *e*P **P 11 01 49.0 +0.1**
comp=Z,196nm,1.2s
USA0B LR LR
comp=Z,26μm,18.0s
USRK Ussuriysk Ar. 36.64 45 P **P 11 01 48.2 -0.7**
comp=Z,87nm,1.0s,baz=245,slow=6.7,SNR=46
USRK LR LR 11 18 31.6
comp=Z,24μm,18.2s,baz=232,slow=39
BKSI Bulukumba 36.65 137 P **P 11 01 50.0 +0.7**
comp=Z,48nm,1.7s,comp=Z,1μm
ALNE Al Ain 36.67 280 *i* P **P 11 01 52.0 +2.5**
SNR=10.0
FAQ Al Faqa, Dubai 36.75 281 P **P 11 01 50.0 -0.1**
SNR=12
FAQ Al Faqa, Dubai 36.75 281 *i* P **P 11 01 52.2 +2.1**
SNR=7.8
ASUD Al Ashush, Dub 37.00 281 P **P 11 01 52.3 0.0**
TWSI Taliwang, Sumb 37.47 144 P **P 11 01 58.1 +1.9**
comp=Z,82nm,1.8s,comp=Z,2μm
BOD Bodaibo 37.49 16⇓ *i*P **P 11 01 55.4 -0.5**
BOD pmax pmax
comp=Z,230nm,1.8s
DGAR Diego Garcia 37.64 220 *e*P **P 11 01 59.6 +2.0**
comp=Z,1μm,2.0s
DGAR LR LR
comp=Z,12μm,20.0s
DGAR Diego Garcia 37.64 220 *e*P **P 11 01 59.6 +2.0**
DGAR pmax pmax
comp=Z,1μm,2.0s
DGAR MLR MLR
comp=Z,12μm,20.0s
TNTI Ternate 37.67 121 *e*P **P 11 01 56.6 -1.3**
comp=Z,99nm,1.2s
TNTI LR LR
comp=Z,1μm,20.0s
TNTI Ternate 37.67 121 P **P 11 01 57.1 -0.9**
comp=Z,81nm,1.8s,comp=Z,2μm
INU Inuyama 37.95 61 *e*P **P 11 01 59.1 -1.1**
comp=Z,364nm,1.0s
INU LR LR
comp=Z,19μm,18.0s
SANI Sanana 38.39 126 P **P 11 02 03.4 -0.7**
comp=Z,38nm,1.9s,comp=Z,1μm
AB31 Akbulak array 38.70 322 *i* P **P 11 02 06.4 +0.1**
AB31 pmax pmax
comp=Z,36nm,0.8s
ABKAR Akbulak array 38.70 322 *e*P **P 11 02 06.2 0.0**
KLR Kul'dur 38.78 38 P **P 11 02 05.9 -1.1**
comp=Z,50nm,1.1s,baz=256,slow=9.4,SNR=30
KLR Kul'dur 38.78 38*de*P **P 11 02 07.0 +0.1**
ZEA Zeya 39.06 29 *e*P **P 11 02 08.7 -0.6**
ZEA *e* 11 03 36.0
ZEA *e*PPP PPP 11 03 59.0
ZEA *e*S **S 11 08 04.5 -3.2**
ZEA *e*SS **SnSn 11 10 52.0 -7.7**
ZEA *e*SSS SSS 11 11 20.0
ZEA pmax pmax
comp=N,71nm,1.0s
ZEA pmax pmax
comp=E,72nm,1.2s
ZEA pmax pmax
comp=Z,150nm,1.2s
ZEA pmax pmax
comp=N,800nm,4.0s
ZEA pmax pmax
comp=Z,1μm,4.0s
ZEA pmax pmax
comp=N,2μm,5.0s
ZEA pmax pmax
comp=E,1μm,5.0s
ZEA pmax pmax
comp=Z,2μm,5.0s
ZEA smax smax
comp=E,2μm,15.0s
ZEA smax smax
comp=N,2μm,16.0s
MJB9 Matsu-Tunnel 39.08 60 *e*P **P 11 02 08.3 -1.3**
comp=N,286nm,1.0s
MJB9 LR LR
comp=Z,20μm,21.0s
MAJO Matsushiro 39.08 60 *e*P **P 11 02 08.2 -1.6**
comp=Z,291nm,1.0s
MAJO *e*S **S 11 08 05.7 -2.8**
MAJO LR LR
comp=Z,19μm,21.0s
MAJO Matsushiro 39.08 60*ce*P **P 11 02 08.1 -1.6**
MAJO pmax pmax
comp=Z,229nm,1.1s
MAJO MLR MLR
comp=Z,35μm,17.0s
MAT Matsushiro 39.08 60 P **P 11 02 08.2 -1.5**
MAT S **S 11 08 09.0 +0.5**
MJAR Matsushiro Arr 39.08 60 P **P 11 02 08.6 -1.1**
comp=Z,214nm,1.1s,baz=267,slow=9.9,SNR=127
MJAR ScP **ScP 11 08 05.7 -1.5**
comp=Z,1.9nm,0.9s,baz=259,slow=2.6,SNR=4.2
MJAR LR LR 11 19 42.5
comp=Z,27μm,18.2s,baz=265,slow=38
RBK Rabkut 39.28 270 P **P 11 02 12.9 +1.3**
SNR=5.6
WBSI Waikabubak, Su 39.61 142 P **P 11 02 13.0 -1.3**
comp=Z,291nm,1.7s,comp=Z,6μm
TEY Ternei 40.01 46‖ *e*P **P 11 02 17.0 -0.3**
TEY *e*S **S 11 08 22.8 +0.7**
TEY pmax pmax
comp=N,30nm,1.4s
TEY pmax pmax
comp=Z,170nm,1.3s
TEY pmax pmax
comp=E,70nm,1.2s
TEY smax smax
comp=E,40nm,2.5s
TEY MLR MLR
comp=E,28μm,14.0s
TEY MLR MLR
comp=N,12μm,12.0s
TEY MLR MLR
comp=Z,40μm,13.0s
JHJ2 Mitsune 40.03 65 PFAKE 11 02 30.0 +12
JHJ2 LR LR
comp=Z,10μm,21.0s
EDFI Ende, Flores 40.27 138 P **P 11 02 18.8 -1.1**
comp=Z,61nm,2.0s,comp=Z,2μm
MMRI Maumere 40.52 137 *e*P **P 11 02 21.0 -0.9**
comp=Z,590nm,1.9s
MMRI LR LR
comp=Z,8μm,18.0s
MMRI Maumere 40.52 137 P **P 11 02 23.0 +1.2**
comp=Z,134nm,1.6s,comp=Z,4μm
AAI Ambon 41.12 126 P **P 11 02 27.8 +1.0**
comp=Z,121nm,1.0s,comp=Z,4μm
MSAI Masohi 41.45 124 P **P 11 02 31.0 +1.5**
comp=Z,33nm,1.2s,comp=Z,1μm
SIJI Sorong 41.76 119 P **P 11 02 30.8 -1.3**
comp=Z,41nm,0.9s,baz=316,slow=10,SNR=28
CBIJ Chichi jima 42.15 74 PFAKE 11 02 50.0 +15
CBIJ LR LR
comp=Z,5μm,20.0s
GRNR Gornyy 42.16 38 *e*P **P 11 02 36.4 +1.5**
GRNR pmax pmax
comp=Z,55nm,1.0s
BATI Baumata 42.62 137 P **P 11 02 36.9 -2.2**
comp=Z,78nm,0.9s,baz=227,slow=2.6,SNR=7.8
BATI Baumata 42.62 137 P **P 11 02 37.9 -1.2**
comp=Z,64nm,1.5s,comp=Z,1μm
SVE Sverdlovsk 42.63 332*d* iP **P 11 02 38.8 +0.1**
SVE *e*S **S 11 09 01.6 +0.8**
SVE *e* 11 12 10.0
SVE pmax pmax
comp=Z,135nm,0.9s
SVE MLR MLR
comp=Z,13μm,18.0s
SOEI Soe 42.66 136 *e*P **P 11 02 38.3 -1.2**
comp=Z,1μm,1.6s
SOEI LR LR
comp=Z,14μm,21.0s
SOEI Soe 42.66 136 P **P 11 02 38.4 -1.2**
comp=Z,368nm,1.6s,comp=Z,6μm
ARU Arti 43.31 331 P **P 11 02 43.8 -0.4**
ARU Arti 43.31 331 *e*P **P 11 02 43.7 -0.5**
comp=Z,142nm,1.5s
ARU LR LR
comp=Z,20μm,18.0s
ARU Arti 43.31 331*c* iP **P 11 02 43.8 -0.4**
ARU 11 04 25.0
ARU 11 04 33.8
ARU PPP PPP 11 04 58.6
ARU pmax pmax
comp=Z,162nm,2.5s
ARU MLR MLR
comp=Z,18μm,18.0s
FAKI Fak Fak 43.77 121 *e*P **P 11 02 47.0 -1.4**
comp=Z,158nm,1.2s
FAKI Fak Fak 43.77 121 P **P 11 02 47.6 -0.8**
comp=Z,116nm,1.2s,comp=Z,2μm
ERM Erimo 43.80 52 *e*P **P 11 02 48.0 -0.3**
comp=Z,277nm,0.9s
ERM LR LR
comp=Z,49μm,19.0s
ERM Erimo 43.80 52 *e*P **P 11 02 48.0 -0.3**
ERM pmax pmax
comp=Z,277nm,0.9s
ERM MLR MLR
comp=Z,49μm,19.0s
ASAJ Asahikawa 43.84 49 P **P 11 02 48.4 -0.2**
comp=Z,125nm,1.0s,baz=263,slow=14,SNR=32
ASAJ Asahikawa 43.84 49 *e*P **P 11 02 48.6 0.0**
comp=Z,224nm,1.1s
ASAJ LR LR
comp=Z,10μm,18.0s
MAK Makhachkala 44.61 309 *e*P **P 11 02 53.0 -1.8**
MAK *e* 11 04 40.4

MAK eS **S** **11 09 29.7 -0.4**
MAK eSS **SS** **11 12 47.2 -3.0**
MAK pmax pmax
comp=Z,230nm,1.1s
YSS Yuzh-Sakhalins 44.68 45 eP **P** **11 02 55.2 0.0**
comp=Z,370nm,1.8s
YSS LR LR
comp=Z,19μm,19.0s
YSS Yuzh-Sakhalins 44.68 45α iP **P** **11 02 55.1 -0.2**
YSS eSS SS 11 12 47.7 -3.7
YSS pmax pmax
comp=Z,80nm,1.2s
YSS pmax pmax
comp=Z,2μm,5.0s
YSS MLR MLR
comp=Z,23μm,16.0s
YSS MLR MLR
comp=N,13μm,13.0s
YSS MLR MLR
comp=E,26μm,13.0s
NKL Nikolayevsk 45.56 37 eP **P** **11 03 00.5 -1.7**
NKL eS **S** **11 09 44.0 +0.5**
NKL e 11 12 59.0
NKL pmax pmax
comp=N,30nm,1.0s
NKL pmax pmax
comp=Z,130nm,1.0s
NKL pmax pmax
comp=N,500nm,4.0s
NKL pmax pmax
comp=E,1μm,4.0s
NKL pmax pmax
comp=Z,2μm,4.0s
NKL smax smax
comp=N,2μm,15.0s
NKL smax smax
comp=E,4μm,15.0s
NKL MLR MLR
comp=E,29μm,12.0s
NKL MLR MLR
comp=Z,34μm,12.0s
YAK Yakutsk 45.60 22 P **P** **11 03 01.4 -1.0**
comp=Z,133nm,0.7s,baz=146,slow=2.6,SNR=44
YAK Yakutsk 45.60 22 eP **P** **11 03 01.2 -1.1**
comp=Z,184nm,0.8s
YAK LR LR
comp=Z,27μm,20.0s
YAK Yakutsk 45.60 22*c* iP **P** **11 03 01.2 -1.1**
YAK e*PP **sP** **11 03 11.1 +1.1**
YAK e 11 04 37.8
YAK e 11 04 48.5
YAK eS **S** **11 09 41.4 -2.4**
YAK e 11 12 51.2
YAK pmax pmax
comp=Z,120nm,0.9s
YAK pmax pmax
comp=N,35nm,1.0s
YAK pmax pmax
comp=E,67nm,1.1s
YAK pmax pmax
comp=Z,479nm,2.8s
YAK pmax pmax
comp=N,161nm,2.6s
YAK pmax pmax
comp=E,276nm,2.8s
YAK smax smax
comp=E,615nm,4.4s
YAK smax smax
comp=N,458nm,3.9s
YAK MLR MLR
comp=Z,25μm,18.0s
YAK MLR MLR
comp=E,15μm,17.0s
YAK MLR MLR
comp=N,18μm,16.0s
TYV Tymovskoe 45.83 40 eP **P** **11 03 05.6 +1.2**
TYV eS **S** **11 09 52.5 +5.0**
TYV pmax pmax
comp=Z,73nm,1.2s
TYV pmax pmax
comp=Z,2μm,4.4s
TYV smax smax
comp=E,1μm,4.8s
GROC Groznyy 45.89 309 eP **P** **11 03 03.4 -1.6**
GROC e 11 04 38.5
GROC e 11 04 51.4
GROC eS **S** **11 09 47.1 -1.5**
GROC pmax pmax
comp=Z,44nm,0.6s
RAYN Ar Rayn 46.04 281 eP **P** **11 03 07.2 +0.7**
comp=Z,58nm,1.1s
RAYN LR LR
comp=Z,10μm,21.0s
RAYN Ar Rayn 46.04 281 i P **P** **11 03 07.3 +0.8**
SNR=20
RAYN Ar Rayn 46.04 281 eP **P** **11 03 07.2 +0.7**
RAYN pmax pmax
comp=Z,57nm,1.1s
RAYN MLR MLR
comp=Z,10μm,21.0s
YUK Yuzh-Kuril'sk 46.13 50 eP **P** **11 03 04.4 -2.4**
YUK e 11 04 53.1
YUK eS S 11 09 39.7 -12
YUK pmax pmax
comp=Z,391nm,1.2s
YUK pmax pmax
comp=N,149nm,0.7s
YUK pmax pmax
comp=E,150nm,0.7s
YUK pmax pmax
comp=Z,302nm,1.9s
GNI Garni 46.24 304 P **P** **11 03 09.0 +1.1**
comp=Z,34nm,0.8s,baz=276,slow=0.5,SNR=10
GNI Garni 46.24 304 eP **P** **11 03 09.3 +1.3**
comp=Z,310nm,1.8s
GNI Garni 46.24 304 P **P** **11 03 09.4 +1.5**
SNR=14
GNI Garni 46.24 304 i P **P** **11 03 08.1 +0.2**
SNR=11
GNI Garni 46.24 304*ce* P **P** **11 03 09.1 +1.1**
GNI pmax pmax
comp=Z,529nm,2.5s
GNI MLR MLR
comp=Z,6μm,17.0s
TBLG Delisi 46.44 307 eP **P** **11 03 09.9 +0.6**
comp=Z,32nm,0.8s
TBLG Delisi 46.44 307 eP **P** **11 03 09.9 +0.6**
TBLG pmax pmax
comp=Z,33nm,0.8s
NRIK Noril'sk 46.91 356 P **P** **11 03 12.0 -0.6**
comp=Z,34nm,1.0s,baz=161,slow=6.0,SNR=18
NRIK LR LR 11 24 43.4
comp=Z,6μm,18.2s,baz=172,slow=38
NRIK Noril'sk 46.91 356 P **P** **11 03 12.0 -0.6**
NRIK pmax pmax
comp=Z,34nm,1.0s
NRIK MLR MLR
comp=Z,6μm,18.2s
ZEI Tsey 47.20 308 eP **P** **11 03 14.1 -1.4**
ZEI eS **S** **11 10 05.6 -2.2**
ZEI pmax pmax
comp=Z,77nm,0.8s
AKH Akhalkalaki 47.32 306 eP **P** **11 03 17.8 +1.3**
comp=Z,74nm,0.8s
AKH Akhalkalaki 47.32 306 eP **P** **11 03 17.8 +1.3**
AKH pmax pmax
comp=Z,74nm,0.8s
ANA2 Anatahan 47.33 88 PFAKE 11 03 30.0 +13
ANA2 LR LR
comp=Z,4μm,21.0s
GUMO Guam 47.35 92 PFAKE 11 03 30.0 +13
GUMO LR LR
comp=Z,5μm,20.0s
NCK Nalchik 47.52 309*ce* P **P** **11 03 18.0 +0.2**
NCK MLR MLR
comp=Z,9μm,17.0s
KUR Kuril'sk 47.75 49*c* iP **P** **11 03 18.0 -1.5**
KUR *i* 11 05 12.1
KUR ePPP PPP 11 06 02.5
KUR eS **S** **11 10 15.9 +0.8**
KUR pmax pmax
comp=Z,299nm,1.5s
KUR pmax pmax
comp=N,103nm,1.1s
KUR pmax pmax
comp=E,55nm,0.8s
KUR pmax pmax
comp=Z,1μm,4.7s
KUR MLR MLR
comp=N,5μm,13.0s
KUR MLR MLR
comp=Z,5μm,13.0s
KUR MLR MLR
comp=E,1μm,14.0s
KBZ Khabaz 48.06 309 P **P** **11 03 21.3 -0.6**
comp=E,13nm,0.8s,baz=115,slow=10,SNR=11
KBZ LR LR 11 26 33.4
comp=E,4μm,18.1s,baz=90,slow=40
NEY Neytrino 48.12 308*ce* P **P** **11 03 24.1 +1.5**
NEY pmax pmax
comp=Z,12nm,0.7s
NEY MLR MLR
comp=Z,2μm,15.0s
GOF Gofitskoye 48.16 311 eP **P** **11 03 22.7 0.0**
GOF eS **S** **11 10 24.2 +3.3**
GOF pmax pmax
comp=Z,80nm,1.1s
GOF smax smax
comp=E,190nm,2.6s
GOF smax smax
comp=N,90nm,1.5s
KVAR Kislovodsk Arr 48.23 309 P **P** **11 03 24.2 +0.8**
comp=N,14nm,0.8s,baz=90,slow=20,SNR=13
KIV Kislovodsk 48.24 309 eP **P** **11 03 23.6 +0.2**
comp=N,81nm,0.9s
KIV LR LR
comp=Z,7μm,18.0s
KIV Kislovodsk 48.24 309 P **P** **11 03 23.0 -0.4**
SNR=17
KIV S **S** **11 10 24.9 +2.6**
KIV Kislovodsk 48.24 309 i P **P** **11 03 23.3 -0.2**
SNR=10.0
KIV Kislovodsk 48.24 309 eP **P** **11 03 22.4 -1.0**
KIV eS **S** **11 10 22.6 +0.3**
KIV eSSS SSS 11 15 03.2
KIV pmax pmax
comp=Z,334nm,4.8s
KIV pmax pmax
comp=Z,95nm,1.1s
KIV MLR MLR
comp=Z,7μm,17.0s
SRTM Siirt_Merkez 48.27 301 *i* P **P** **11 03 24.7 +1.0**
SMPI Sarmi 48.52 115 P **P** **11 03 27.9 +2.1**
comp=Z,43nm,1.3s
BTMN Batman 48.78 301 i P **P** **11 03 28.6 +1.0**
DAMY Dhamar 49.15 270 PFAKE 11 03 40.0 +9.0
DAMY LR LR
comp=Z,7μm,21.0s
MBWA Marble Bar 49.46 150 eP **P** **11 03 32.5 -0.4**
comp=Z,211nm,1.4s
MBWA LR LR
comp=Z,8μm,22.0s
MBWA Marble Bar 49.46 150 P **P** **11 03 33.4 +0.5**
SNR=5.3
MTN Manton Dam 49.48 132 eP **P** **11 03 31.2 -1.9**
comp=Z,34nm,1.4s
MTN LR LR
comp=Z,4μm,20.0s
BAYB BAYBURT 49.67 304 i P **P** **11 03 36.0 +1.4**
FITZ Fitzroy Crossi 49.97 142 P **P** **11 03 35.8 -1.0**
comp=Z,59nm,1.1s,baz=339,slow=9.1,SNR=46
FITZ Fitzroy Crossi 49.97 142 eP **P** **11 03 36.5 -0.3**
comp=Z,301nm,1.6s
FITZ LR LR
comp=Z,6μm,20.0s
GENI Genyem 50.07 114 P **P** **11 03 37.8 +0.1**
comp=Z,153nm,1.6s,comp=Z,3μm
TNCL Tunceli-Merkez 50.17 303 i P **P** **11 03 41.3 +3.0**
VRH Novokhopyorsk 50.26 319 eP **P** **11 03 37.1 -1.5**
VRH eS **S** **11 10 46.2 -3.9**
VRH pmax pmax
comp=Z,50nm,1.0s
VRH smax smax
comp=N,560nm,3.3s
VRH MLR MLR
comp=Z,14μm,16.0s
KELT Kelkit 50.43 304 i P **P** **11 03 42.0 +1.6**
SANL SANLIURFA_Merk 50.58 300 i P **P** **11 03 42.0 +0.6**
ELZG Elazig 50.59 302 i P **P** **11 03 42.6 +1.0**
SURC SANLIURFA_SURC 50.88 300 i P **P** **11 03 44.7 +1.1**
KEMA Kemaliye 50.99 303 i P **P** **11 03 45.8 +1.3**
SUSE Susehri 51.24 304 i P **P** **11 03 48.0 +1.6**
HEKM Malatya_Hekimh 51.40 302 i P **P** **11 03 48.9 +1.1**
AKCD Akcadag 51.43 302 i P **P** **11 03 48.7 +0.9**
ATD Arta Tunnel 51.54 267 PFAKE 11 04 00.0 +11
ATD LR LR
comp=Z,8μm,21.0s
VORD Divnogorie 51.70 318 eP **P** **11 03 47.2 -2.3**
VORD eS **S** **11 11 05.8 -4.3**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD smax smax
comp=N,60nm,3.3s
VORD MLR MLR
comp=Z,9μm,17.0s
VSR Storozhevoye 51.83 318 eP **P** **11 03 47.8 -2.6**
VSR eS **S** **11 11 07.0 -4.9**
VSR pmax pmax
comp=Z,40nm,1.8s
VSR smax smax
comp=E,220nm,6.0s
VSR MLR MLR
comp=Z,21μm,23.0s
VORR Voronezh 51.89 319 eP **P** **11 03 50.0 -0.9**
VORR pmax pmax
comp=Z,250nm,1.4s
SCER sogukcermik 52.06 304 i P **P** **11 03 54.8 +2.3**
ANN Anapa 52.08 310 eP P 11 03 47.2 -5.2
ANN *e* 11 05 01.5
ANN ePPP PPP 11 06 51.1
ANN eS **S** **11 11 06.9 -8.6**
ANN eSSS SSS 11 16 36.8
ANN pmax pmax
comp=Z,135nm,1.8s
ANN MLR MLR
comp=Z,8μm,18.0s
ANN MLR MLR
comp=E,1μm,18.0s
ANN MLR MLR
comp=N,11μm,18.0s
KUZU Kuzuini 52.12 300 i P P 11 03 38.2 -15
LPSR Galich'ya Gora 52.25 320 eP **P** **11 03 52.2 -1.4**
LPSR eS **S** **11 11 13.6 -4.1**
LPSR pmax pmax
comp=Z,60nm,0.6s
LPSR smax smax
comp=E,170nm,4.2s
LPSR MLR MLR
comp=Z,5μm,13.0s
ERBA Erbaa 52.36 305 i P **P** **11 03 55.8 +1.2**
TIXI Tiksi 52.48 13 eP **P** **11 03 53.5 -1.5**
comp=Z,374nm,1.6s
TIXI LR LR
comp=Z,14μm,20.0s
TIXI Tiksi 52.48 13*ce* P **P** **11 03 53.2 -1.8**
TIXI pmax pmax
comp=Z,232nm,1.6s
TIXI MLR MLR
comp=Z,15μm,21.0s
ASF Jabal al Asfar 52.54 294 P **P** **11 03 56.9 +0.8**
comp=Z,14nm,0.8s,baz=72,slow=0.8,SNR=12
ANDN Andirin 52.68 301 i P **P** **11 03 57.7 +0.6**
CUSAR Sarkisla-SIVAS 52.74 303 i P **P** **11 03 58.9 +1.3**
MA2 Magadan 53.14 31 eP **P** **11 03 59.0 -1.0**
comp=Z,352nm,0.9s
MA2 LR LR
comp=Z,6μm,19.0s
MA2 Magadan 53.14 31*d* iP **P** **11 04 00.4 +0.4**
MA2 pmax pmax
comp=Z,371nm,1.0s
MA2 MLR MLR
comp=Z,11μm,15.0s
MOS Moscow 53.69 323 eP **P** **11 03 59.7 -4.4**
MOS *e* 11 06 00.0
MOS ePPP PPP 11 07 09.0
MOS pmax pmax
comp=Z,57nm,1.3s
MOS MLR MLR
comp=Z,5μm,15.0s
MOS MLR MLR
comp=E,3μm,14.0s
MOS MLR MLR
comp=N,5μm,16.0s
MMAI Mount Meron Ar 53.72 295 P **P** **11 04 04.7 -0.1**
comp=N,3.0nm,0.4s,baz=159,slow=4.5,SNR=4.8
GULE Gulek 53.94 300 *i* P **P** **11 04 07.0 +0.5**
SKR Severo-Kuril's 54.08 43 eP P 11 04 00.2 -6.8
SKR *e* 11 06 08.6
SKR ePPP PPP 11 07 25.7
SKR eS **S** **11 11 39.9 -2.7**
SKR MLR MLR
comp=Z,22μm,14.0s
OBN Obninsk 54.15 322 P **P** **11 04 05.9 -1.5**
comp=Z,4.3nm,0.5s,baz=300,slow=2.0,SNR=6.6
OBN Obninsk 54.15 322 eP **P** **11 04 06.3 -1.1**
comp=Z,98nm,1.4s
OBN Obninsk 54.15 322⇑ iP **P** **11 04 05.8 -1.6**
OBN *e* 11 05 09.4
OBN *e* 11 06 12.6
OBN eS **S** **11 11 42.6 -0.7**
OBN pmax pmax
comp=Z,21nm,0.9s
OBN MLR MLR
comp=Z,6μm,16.0s
SIM Simferopol' **54.44 310** eP **P** **11 04 10.6 +0.8**
SIM eS **S** **11 11 46.4 -1.3**
SIM pmax pmax
comp=Z,36nm,0.8s
SIM pmax pmax
comp=Z,300nm,8.9s
SIM MLR MLR
comp=Z,4μm,15.0s
KERG Konya-Eregli 54.45 301 *i* P **P** **11 04 11.8 +1.6**
ILGA Ilgaz 54.66 305 PFAKE 11 04 20.0 +8.2
ILGA LR LR
comp=Z,4μm,19.0s
BR101 Keskin Array S 54.74 303 eP **P** **11 04 11.2 -1.1**
BR101 ePP **PP** **11 06 17.4 +2.6**
BR131 Keskin Array S 54.74 303 eP **P** **11 04 12.0 -0.3**
BRTR Keskin Array B 54.74 303 P **P** **11 04 11.2 -1.1**
comp=Z,3.2nm,0.7s,baz=127,slow=7.6,SNR=13
BRTR PP **PP** **11 06 17.4 +2.6**
comp=Z,6.2nm,1.1s,baz=151,slow=7.9,SNR=3.6
BRTR LR LR 11 30 07.9
comp=Z,4μm,21.8s,baz=86,slow=39
SEY Seymchan 55.00 28*d* iP **P** **11 04 13.3 -0.2**
CSS Mathiatis 55.26 298 PFAKE 11 04 30.0 +14
CSS LR LR
comp=Z,8μm,22.0s
PEA0B Petropavlovsk- 55.38 40 eP **P** **11 04 16.8 +0.3**
comp=Z,55nm,1.0s
PEA0B LR LR
comp=Z,11μm,18.0s
PEA1 Petropavlovsk- 55.38 40 eP **P** **11 04 14.9 -1.6**
PETK Petropavlovsk- 55.38 40 P **P** **11 04 14.9 -1.6**
comp=Z,36nm,1.0s,baz=204,slow=3.3,SNR=20
PETK LR LR 11 30 19.0
comp=Z,7μm,19.2s,baz=246,slow=39
PETK Petropavlovsk- 55.38 40 eP **P** **11 04 16.2 -0.3**
ANTO Ankara 55.39 304 eP **P** **11 04 16.8 -0.1**
comp=Z,48nm,1.0s
ANTO LR LR
comp=Z,2μm,19.0s
ANTO Ankara 55.39 304⇑ iP **P** **11 04 17.2 +0.3**
ANTO Ankara 55.39 304 eP **P** **11 04 16.8 -0.1**
ANTO pmax pmax
comp=Z,48nm,1.0s
ANTO MLR MLR
comp=Z,2μm,19.0s
BR231 Keskin MP Arra 55.41 304 eP **P** **11 04 16.8 -0.2**
PET Petropavlovsk 55.94 40 eP **P** **11 04 20.8 +0.3**
comp=Z,126nm,1.1s
PET LR LR
comp=Z,9μm,18.0s
PET Petropavlovsk 55.94 40 eP **P** **11 04 20.7 +0.3**
PET eS **S** **11 12 05.7 -1.8**
PET pmax pmax
comp=Z,800nm,6.0s
PET pmax pmax
comp=Z,120nm,1.1s
PET MLR MLR
comp=Z,15μm,17.0s
PET MLR MLR
comp=Z,14μm,14.0s
MANU Manus Island 55.97 109 PFAKE 11 04 30.0 +8.8
MANU LR LR
comp=Z,3μm,20.0s
FURI Furi 56.30 266 PFAKE 11 04 40.0 +16
FURI LR LR
comp=Z,6μm,20.0s
WB0 Warramunga Arr 56.60 135 PFAKE 11 04 40.0 +14
WB0 LR LR
comp=Z,6μm,22.0s
WB9 Warramunga Arr 56.61 135 PFAKE 11 04 40.0 +14
WB9 LR LR
comp=Z,12μm,22.0s
WB8 Warramunga Arr 56.63 135 PFAKE 11 04 40.0 +14
WB8 LR LR
comp=Z,6μm,22.0s
WB6 Warramunga Arr 56.65 135 PFAKE 11 04 40.0 +14
WB6 LR LR
comp=Z,6μm,22.0s
WB5 Warramunga Arr 56.66 135 PFAKE 11 04 40.0 +14
WB5 LR LR
comp=Z,5μm,21.0s
WB4 Warramunga Arr 56.68 135 PFAKE 11 04 40.0 +14
WB4 LR LR
comp=Z,6μm,22.0s
WC1 Warramunga Arr 56.68 135 PFAKE 11 04 40.0 +14
WC1 LR LR
comp=Z,4μm,22.0s
WB3 Warramunga Arr 56.69 135 PFAKE 11 04 40.0 +14
WB3 LR LR
comp=Z,6μm,22.0s
WR1 Warramunga Arr 56.69 135 eP **P** **11 04 24.9 -1.3**
comp=Z,217nm,1.6s
WR1 LR LR
comp=Z,6μm,22.0s
WRA Warramunga Arr 56.69 135 P **P** **11 04 24.9 -1.3**
comp=Z,29nm,1.1s,baz=325,slow=7.6,SNR=99
WRA LR LR 11 33 05.6
comp=Z,5μm,18.6s,baz=315,slow=41
WRA PKPPKP **P'P'df** **11 34 20.1 +3.3**
comp=Z,1.3nm,0.9s,baz=132,slow=1.4,SNR=7.1
WRAB Tennant Creek 56.69 135 eP **P** **11 04 25.4 -0.9**
comp=Z,236nm,1.6s
WRAB LR LR
comp=Z,6μm,22.0s
WRAB Tennant Creek 56.69 135*de* P **P** **11 04 24.6 -1.7**
WRAB pmax pmax
comp=Z,156nm,1.7s
WRAB MLR MLR
comp=Z,9μm,23.0s
WC2 Warramunga Arr 56.70 135 PFAKE 11 04 40.0 +14
WC2 LR LR
comp=Z,5μm,21.0s
WB2 Warramunga Arr 56.70 135 eP **P** **11 04 25.7 -0.7**
comp=Z,225nm,1.6s
WB2 LR LR
comp=Z,7μm,22.0s
WC4 Warramunga Arr 56.71 135 PFAKE 11 04 40.0 +14
WC4 LR LR
comp=Z,6μm,22.0s
WR2 Warramunga Arr 56.71 135 PFAKE 11 04 40.0 +14
WR2 LR LR
comp=Z,6μm,22.0s
WC3 Warramunga Arr 56.73 135 eP **P** **11 04 25.5 -1.0**
comp=Z,238nm,1.6s
WC3 LR LR
comp=Z,6μm,22.0s
WR3 Warramunga Arr 56.73 135 PFAKE 11 04 40.0 +13
WR3 LR LR
comp=Z,6μm,22.0s
WR4 Warramunga Arr 56.74 135 PFAKE 11 04 40.0 +13
WR4 LR LR
comp=Z,6μm,22.0s
WR5 Warramunga Arr 56.76 135 PFAKE 11 04 40.0 +13
WR5 LR LR
comp=Z,6μm,22.0s
WR6 Warramunga Arr 56.78 135 PFAKE 11 04 40.0 +13
WR6 LR LR
comp=Z,8μm,22.0s
WR7 Warramunga Arr 56.79 135 PFAKE 11 04 40.0 +13
WR7 LR LR
comp=Z,6μm,22.0s
WR8 Warramunga Arr 56.81 135 PFAKE 11 04 40.0 +13
WR8 LR LR
comp=Z,6μm,22.0s

WR9 Warramunga Arr 56.82 135 PFAKE 11 04 40.0 +13
WR9 LR LR
comp=Z,6µm,22.0s
WR0 Warramunga Arr 56.84 135 PFAKE 11 04 40.0 +13
WR0 LR LR
comp=Z,5µm,21.0s
ISP Isparta 57.28 301 PFAKE 11 04 40.0 +10
ISP LR LR
comp=Z,4µm,21.0s
AKASG Malin Array Be 58.00 317 P **P 11 04 32.9 -2.2**
comp=Z,4.3nm,0.3s,baz=87,slow=5.9,SNR=9.7
AKASG LR LR 11 34 30.7
comp=Z,7µm,20.3s,baz=90,slow=41
AKBB Malin Array Si 58.00 317 *e*P **P 11 04 32.9 -2.2**
AKBB Malin Array Si 58.00 317 *e*P **P 11 04 32.9 -2.2**
KIEV Kiev 58.01 317 PFAKE 11 04 50.0 +15
KIEV LR LR
comp=Z,9µm,22.0s
KIEV Kiev 58.01 317 *e*P **P 11 04 33.3 -1.9**
KIEV pmax pmax
comp=Z,23nm,0.7s
KIEV MLR MLR
comp=Z,7µm,19.0s
KIS Kishinev 58.18 312 *e*P **P 11 04 36.0 -0.4**
KIS Kishinev 58.18 312 *e*P **P 11 04 36.0 -0.4**
KIS *e* 11 06 50.0
KIS *e*PPP PPP 11 08 10.0
KIS *e*S **S 11 12 36.0 -1.3**
KIS *e* 11 16 25.0
KIS MLR MLR
comp=Z,8µm,20.0s
PUL Pulkovo 58.32 327 *e*P **P 11 04 36.6 -0.6**
PUL pmax pmax
comp=Z,42nm,0.6s
PUL MLR MLR
comp=Z,7µm,18.0s
RER Riviere de l'E 58.51 225 PFAKE 11 04 50.0 +11
RER LR LR
comp=Z,7µm,21.0s
APA Apatity 58.75 337⇑ *i*P **P 11 04 39.4 -0.7**
APA *i* S 11 12 35.0 -9.1
APA pmax pmax
comp=Z,17nm,0.8s
NWAO Narrogin (SRO) 58.99 159 *e*P **P 11 04 41.4 -0.7**
comp=Z,302nm,1.5s
NWAO LR LR
comp=Z,8µm,20.0s
NWAO Narrogin (SRO) 58.99 159 *e*P **P 11 04 41.4 -0.7**
NWAO pmax pmax
comp=Z,301nm,1.5s
NWAO MLR MLR
comp=Z,8µm,20.0s
COEN Coen 59.02 124 *e*P **P 11 04 42.3 -0.4**
comp=Z,34nm,1.3s
COEN LR LR
comp=Z,3µm,22.0s
MICGM Minsk 59.04 321 *e*P **P 11 04 38.0 -4.3**
MICGM *e*PcP PcP 11 05 16.0 -15
MICGM *e*PP **PcP 11 05 35.0 +4.0**
MICGM *e*PPP PPP 11 09 30.0
MICGM *e*S **S 11 12 40.0 -8.2**
MICGM *e*PS **PnS 11 12 50.0 -11**
MICGM *e*SS **SS 11 16 52.0 +10**
MICGM *e*SSS SSS 11 18 48.0
MICGM *e*LQ LQ 11 26 05.0
MICGM *e*LR LR 11 29 05.0
MICGM LRM MLR 11 33 56.0
comp=Z,12nm,20.0s
MICGM LRM MLR 11 33 58.0
comp=Z,13nm,18.0s
AS31 Alice Springs 59.15 139 *e*P **P 11 04 43.0 -0.5**
comp=Z,41nm,1.8s
AS31 LR LR
comp=Z,100nm,19.0s
ASAR Alice Springs 59.15 139 P **P 11 04 42.9 -0.6**
comp=Z,10.0nm,0.8s,baz=319,slow=7.1,SNR=94
ASAR PKPPKP **P'P'df 11 34 15.2 +2.4**
comp=Z,0.8nm,1.0s,baz=134,slow=2.7,SNR=5.4
ASAR LR LR 11 34 49.5
comp=Z,5µm,18.4s,baz=314,slow=41
AS01 Alice Springs 59.18 139 *e*P **P 11 04 43.4 -0.3**
VRI Vrincioaia 59.65 311‖ *i*P **P 11 04 46.9 +0.2**
NACGM Naroch 59.70 321 *e*P **P 11 04 46.0 -0.8**
NACGM *e*PcP PcP 11 05 50.0 +16
NACGM *e*PPP PPP 11 08 40.0
NACGM *e*S S 11 12 46.0 -11
NACGM *e*PS **PnS 11 13 08.0 -1.9**
NACGM *e*ScS **ScS 11 14 32.0 -4.3**
NACGM *e*SS SKiKP 11 16 00.0 +35
NACGM *e*SSS SSS 11 18 20.0
NACGM *e*LQ LQ 11 26 42.0
NACGM *e*LR LR 11 29 44.0
NACGM LRM MLR 11 32 36.0
comp=Z,6.6nm,20.0s
PLOR Plostina 59.70 311‖ *i*P **P 11 04 47.2 +0.1**
VSU Vasula 59.99 325 *i* P **P 11 04 51.4 +2.6**
VSU pmax pmax
comp=Z,61nm,1.1s
VSU MLR MLR
comp=Z,20µm,15.0s
KARP Karpathos 60.21 299 *e*P **P 11 04 52.9 +2.1**
comp=Z,199nm,0.9s
KARP LR LR
comp=Z,2µm,21.0s
MLR Muntele Rosu 60.21 310 P **P 11 04 50.7 -0.1**
comp=Z,29nm,0.8s,baz=56,slow=6.2,SNR=3.8
MLR Muntele Rosu 60.21 310 *e*P **P 11 04 50.6 -0.1**
comp=Z,116nm,1.2s
MLR Muntele Rosu 60.21 310⇑ *i*P **P 11 04 51.1 +0.4**
MLR Muntele Rosu 60.21 310 *e*P **P 11 04 50.6 -0.1**
MLR pmax pmax
comp=Z,116nm,1.2s
OZUR 60.29 311‖ *i*P **P 11 04 51.9 +0.7**
BURAR Bucovina Array 60.62 313‖ *i*P **P 11 04 52.7 -0.7**
FIA1 FINESS Array S 60.62 329 *e*P **P 11 04 52.0 -1.0**
FIA0 FINESS Array S 60.62 329 *e*P **P 11 04 51.9 -1.2**
FIA0 FINESS Array S 60.62 329 *e*P **P 11 04 51.9 -1.2**
FINES FINESS Array B 60.62 329 P **P 11 04 51.9 -1.2**
comp=Z,4.7nm,0.6s,baz=124,slow=5.3,SNR=14
FINES LR LR 11 33 24.6
comp=Z,13µm,18.1s,baz=94,slow=38
VOIR 60.84 310⇑ *i*P **P 11 04 55.1 +0.1**
ARR Arges 61.14 310⇑ *i*P **P 11 04 56.5 -0.5**
APE Apeiranthos 61.31 301 *i* P **P 11 05 01.0 +2.8**
APE pmax pmax
comp=Z,26nm,1.2s
APE MLR MLR
comp=Z,3µm,20.0s
LVV L'vov 61.33 315 *e*P **P 11 04 58.9 +0.8**
LVV *e*S **S 11 13 16.6 -1.1**
LVV *e*PS **PnS 11 13 34.6 +2.2**
LVV MLR MLR
comp=E,4µm,19.0s
LVV MLR MLR
comp=N,1µm,18.0s
LVV MLR MLR
comp=Z,4µm,19.0s
FORT Forrest 61.55 148 *e*P **P 11 05 00.4 +0.7**
comp=Z,346nm,1.5s
FORT LR LR
comp=Z,6µm,21.0s
KEV Kevo 61.57 338 *e*P **P 11 04 59.7 +0.4**
comp=Z,173nm,1.4s
KEV LR LR
comp=Z,5µm,20.0s
KMBO Kilima Mbogo 61.66 256 P **P 11 05 00.6 -0.6**
comp=Z,2.1nm,0.6s,baz=59,slow=6.3,SNR=7.0
KMBO LR LR 11 30 10.2
comp=Z,8µm,21.9s,baz=52,slow=34
KMBO Kilima Mbogo 61.66 256 *e*P **P 11 05 00.6 -0.6**
comp=Z,19nm,1.2s
KMBO Kilima Mbogo 61.66 256 P **P 11 05 01.6 +0.4**
SNR=6.0
SUW Suwalki 61.78 320 *e*P **P 11 04 59.0 -2.0**
SUW Suwalki 61.78 320 *e*P **P 11 04 59.1 -2.0**
comp=Z,81nm,1.0s
SUW LR LR
comp=Z,10µm,19.0s
SUW Suwalki 61.78 320 *e*P **P 11 04 59.1 -2.0**
SUW pmax pmax
comp=Z,81nm,1.0s
SUW MLR MLR
comp=Z,10µm,19.0s
BILL Bilibino 61.87 24 *e*P **P 11 05 00.1 -1.4**
comp=Z,151nm,1.1s
BILL LR LR
comp=Z,33µm,18.0s
BILL Bilibino 61.87 24*c* *i*P **P 11 04 59.4 -2.0**
BILL *e* 11 05 42.0
BILL *e* 11 07 18.4
BILL *i* S **S 11 13 19.4 -4.7**
BILL pmax pmax
comp=Z,103nm,1.1s
BILL MLR MLR
comp=Z,29µm,18.0s
ARA0 ARCESS Array S 62.04 338 *e*P **P 11 05 02.4 -0.1**
ARCES ARCESS Array B 62.04 338 P **P 11 05 02.4 -0.1**
comp=Z,23nm,0.8s,baz=89,slow=5.3,SNR=23
ARCES ARCESS Array B 62.04 338 *e*P **P 11 05 02.7 +0.2**
ARCES ARCESS Array B 62.04 338 *e*P **P 11 05 02.2 -0.3**
ARE0 ARCESS Array S 62.04 338 *e*P **P 11 05 02.8 +0.3**
comp=Z,11nm,1.9s
ARE0 LR LR
comp=Z,300nm,19.0s
ARE0 ARCESS Array S 62.04 338 *e*P **P 11 05 02.6 +0.1**
ARE0 *e*S **S 11 13 29.0 +2.8**
IDI Anoyia 62.09 299 P **P 11 05 01.1 -2.4**
comp=Z,14nm,1.0s,baz=45,slow=16,SNR=2.9
IDI Anoyia 62.09 299 P **P 11 05 01.1 -2.4**
IDI LR LR
comp=Z,1µm,19.0s
NAI Nairobi 62.12 256 PFAKE 11 05 20.0 +16
NAI LR LR
comp=Z,8µm,21.0s
KWP Kalwaria Pacla 62.19 315 *e*P **P 11 05 02.7 -1.2**
KWP Kalwaria Pacla 62.19 315 *e*P **P 11 05 02.0 -1.9**
comp=Z,469nm,0.6s
KWP LR LR
comp=Z,64µm,18.0s
KWP Kalwaria Pacla 62.19 315 *e*P **P 11 05 02.7 -1.2**
VTS Vitosha 62.41 307 *e*P **P 11 05 04.9 -0.8**
comp=Z,29nm,1.2s
VTS Vitosha 62.41 307 *e*P **P 11 05 04.9 -0.8**
VTS pmax pmax
comp=Z,29nm,1.2s
UZH Uzhgorod 62.52 314 *e*P **P 11 05 04.9 -1.2**
UZH *e* 11 05 11.8
UZH *e* 11 05 16.9
UZH *e* 11 05 48.5
UZH *e* 11 07 25.5
UZH *i* S **S 11 13 27.4 -5.5**
KTK1 Kautokeino 62.75 337 *e*P **P 11 05 07.3 0.0**
HAMF Hammerfest 62.84 339 *e*P **P 11 05 08.0 +0.1**
ABPO Ambohimpanom 62.99 233 *e*P **P 11 05 09.7 -0.1**
comp=Z,54nm,1.1s
ABPO LR LR
comp=Z,7µm,19.0s
ABPO Ambohimpanom 62.99 233 *e*P **P 11 05 09.7 -0.1**
ABPO pmax pmax
comp=Z,54nm,1.1s
ABPO MLR MLR
comp=Z,7µm,19.0s
SIRR Siria 63.14 312‖ *i*P **P 11 05 08.2 -2.1**
KLNR Kaliningrad 63.51 321 *i* P **P 11 05 13.8 +1.3**
KLNR pmax pmax
comp=Z,54nm,0.7s
KLNR MLR MLR
comp=Z,6µm,25.0s
AGG Agios Georgios 63.53 303 *e*P **P 11 05 12.7 -0.4**
comp=Z,38nm,1.2s
AGG LR LR
comp=Z,2µm,20.0s
AGG Agios Georgios 63.53 303 *e*P **P 11 05 12.7 -0.4**
AGG pmax pmax
comp=Z,38nm,1.2s
AGG MLR MLR
comp=Z,2µm,20.0s
NIE Niedzica 63.77 315 *e*P **P 11 05 13.8 -0.7**
NIE Niedzica 63.77 315 *e*P **P 11 05 13.8 -0.7**
FNA Florina 64.00 306 *e*P **P 11 05 17.4 +1.3**
comp=Z,30nm,1.2s
FNA LR LR
comp=Z,4µm,18.0s
OJC Ojcow 64.03 316 *e*P **P 11 05 17.3 +1.2**
OJC Ojcow 64.03 316 *e*P **P 11 05 16.4 +0.3**
comp=Z,17nm,1.0s
OJC Ojcow 64.03 316 *e*P **P 11 05 16.4 +0.3**
OJC pmax pmax
comp=Z,17nm,1.0s
ITM Ithomi 64.14 302 PFAKE 11 05 30.0 +13
ITM LR LR
comp=Z,1µm,21.0s
TRO Tromso 64.34 338 *e*P **P 11 05 17.2 -0.5**
TRO *e*S **S 11 13 57.9 +3.0**
DIVS Divibare 64.56 309 *e*P **P 11 05 20.1 +0.4**
comp=Z,21nm,1.0s
VYHS Vyhne 64.82 314 *e*P **P 11 05 21.9 +0.6**
VYHS Vyhne 64.82 314 *e*P **P 11 05 21.9 +0.6**
VYHS *e*PP **PP 11 07 44.7 +0.9**
VYHS *e*L L 11 35 56.6
TIR Tirane 65.05 306 PFAKE 11 05 40.0 +17
TIR LR LR
comp=Z,4µm,22.0s
CTAO Charters Tower 65.09 127 *e*P **P 11 05 24.1 +0.7**
comp=Z,68nm,1.4s
CTAO LR LR
comp=Z,3µm,21.0s
CTAO Charters Tower 65.09 127 *e*P **P 11 05 24.1 +0.7**
CTAO pmax pmax
comp=Z,68nm,1.4s
CTAO MLR MLR
comp=Z,3µm,21.0s
OKC Ostrava-Krasne 65.13 316 *e*S **S 11 14 00.9 -4.3**
OKC *e*SS SS 11 19 27.1 +70
OKC AMS AMS 11 37 00.0
comp=Z,3µm,15.3s
SMY Shemya 65.28 41 *e*P **P 11 05 24.9 +0.7**
SMY Shemya 65.28 41 *e*P **P 11 05 24.9 +0.7**
TTG Podgorica 65.33 308 PFAKE 11 05 40.0 +15
TTG LR LR
comp=Z,2µm,21.0s
MORC Moravsky Berou 65.52 316 *e*P **P 11 05 25.0 -0.9**
comp=Z,70nm,1.8s
MORC LR LR
comp=Z,5µm,22.0s
MORC Moravsky Berou 65.52 316‖ *i*P **P 11 05 25.1 -0.9**
MORC Moravsky Berou 65.52 316 *e*P **P 11 05 25.0 -0.9**
MORC pmax pmax
comp=Z,70nm,1.8s
MORC MLR MLR
comp=Z,5µm,22.0s
MORC Moravsky Berou 65.52 316 *e*P **P 11 05 26.9 +1.0**
STEI Steigen 65.63 336 *e*P **P 11 05 26.2 +0.1**
STEI *e*S **S 11 14 12.8 +2.2**
WAKE Wake Island 65.70 78 PFAKE 11 05 40.0 +13
WAKE LR LR
comp=Z,3µm,22.0s
SPA0 Spitsbergen Ar 65.77 347 *e*P **P 11 05 26.4 -0.5**
SPA0 Spitsbergen Ar 65.77 347 *e*P **P 11 05 27.4 +0.4**
SPA0 *e*S **S 11 14 14.9 +2.6**
SPITS Spitsbergen Ar 65.77 347 P **P 11 05 26.6 -0.3**
comp=Z,64nm,1.1s,baz=125,slow=7.2,SNR=14
HSPB Hornsund (broa 65.85 346 *e*P **P 11 05 27.4 -0.1**
HSPB *e*S **S 11 14 15.8 +2.6**
MODS Modra-Piesok 65.87 314 *e*P **P 11 05 29.6 +1.5**
MODS pmax pmax
comp=Z,24nm,1.2s
MODS Modra-Piesok 65.87 314 *e*P **P 11 05 29.6 +1.5**
MODS *e*L L 11 33 05.7
KSP Ksiaz 66.19 317 *e*P **P 11 05 29.2 -0.9**
KSP Ksiaz 66.19 317 *e*P **P 11 05 29.2 -0.9**
VRAC Vranov 66.19 315 P **P 11 05 29.2 -1.1**
comp=Z,8.3nm,0.8s,baz=99,slow=8.8,SNR=10
VRAC Vranov 66.19 315‖ *i*P **P 11 05 29.8 -0.4**
VRAC Vranov 66.19 315 *e*P **P 11 05 29.1 -1.1**
DPC Dobruska-Polom 66.23 317 *e*P **P 11 05 29.7 -0.8**
DPC *e*S **S 11 14 18.5 -0.3**
DPC *e*SS SS 11 19 36.8 +62
DPC AMS AMS 11 37 40.0
comp=Z,5µm,15.1s
DPC Dobruska-Polom 66.23 317 *e*P **P 11 05 29.7 -0.8**
DPC *e*S **S 11 14 18.5 -0.3**
DPC MLR MLR
comp=Z,5µm,15.1s
KRUC Moravsky 66.36 315 *e*P **P 11 05 31.9 +0.7**
BLY Banja Luka 66.45 310 PFAKE 11 05 40.0 +8.1
BLY LR LR
comp=Z,5µm,18.0s
HFS Hagfors 66.68 327 P **P 11 05 31.9 -1.2**
comp=Z,8.3nm,0.6s,baz=103,slow=4.7,SNR=25
KBS Kingsbay 66.69 348 PFAKE 11 05 40.0 +7.1
KBS LR LR
comp=Z,6µm,20.0s
KBS Kingsbay 66.69 348 *e*P **P 11 05 32.8 -0.1**
KBS *e*S **S 11 14 26.2 +2.8**
CONA Conrad Observa 66.87 314 *e*P **P 11 05 33.5 -1.2**
comp=Z,10nm,1.1s
TREC Trest 66.91 315 *e*S **S 11 14 26.1 -1.0**
TREC *ex* x 11 19 52.5
TREC AMS AMS 11 38 10.0
comp=Z,6µm,17.2s
ARSA Arzberg 67.20 313 *e*P **P 11 05 36.2 -0.5**
comp=Z,5.9nm,1.1s
BBOO Buckleboo 67.28 144 PFAKE 11 05 50.0 +13
BBOO LR LR
comp=Z,7µm,20.0s
MBAR Mbarara 67.30 259 *e*P **P 11 05 37.7 -0.3**
comp=Z,85nm,1.6s
MBAR LR LR
comp=Z,7µm,20.0s
MBAR Mbarara 67.30 259 *e*P **P 11 05 37.7 -0.3**
MBAR pmax pmax
comp=Z,85nm,1.6s
MBAR MLR MLR
comp=Z,7µm,20.0s
PVCC Panska Ves 67.32 317 *e*P **P 11 05 38.0 +0.7**
PVCC *ex* x 11 05 44.9
PVCC *e*S **S 11 14 33.3 +1.4**
PVCC AMS AMS 11 37 10.0
comp=Z,5µm,14.6s
PVCC Panska Ves 67.32 317 *e*P **P 11 05 38.0 +0.7**
PVCC *e* 11 05 44.9
PVCC *e*S **S 11 14 33.3 +1.4**
PVCC MLR MLR
comp=Z,5µm,14.6s
PRA Prague 67.47 316 AMS AMS 11 41 10.0
comp=Z,4µm,16.1s
RGN Rugen 67.51 321 PFAKE 11 05 50.0 +12
RGN LR LR
comp=Z,9µm,18.0s
NC405 NORSAR Array S 67.55 328 *e*P **P 11 05 39.2 +0.6**
BRG Berggiesshubel 67.66 317 *e*P **P 11 05 38.2 -1.3**
comp=Z,15nm,1.0s
BRG *i* 11 05 50.6
comp=Z,15nm,1.1s
BRG *e*PKPPKP **P'P'df 11 34 04.2 -2.5**
comp=Z,9.7nm,1.9s
comp=N,5µm,17.0s
comp=E,4µm,20.0s
comp=Z,5µm,17.9s
BRG Berggiesshubel 67.66 317 *e*P **P 11 05 38.2 -1.3**
BRG *i* 11 05 50.6
BRG S **S 11 14 34.0 -1.9**
BRG pmax pmax
comp=Z,15nm,1.0s
BRG MLR MLR
comp=N,5µm,17.0s
BRG MLR MLR
comp=E,4µm,20.0s
BRG MLR MLR
comp=Z,5µm,17.9s
NC602 NORSAR Array S 67.68 328 *e*P **P 11 05 39.8 +0.4**
NC303 NORSAR Array S 67.70 329 *e*P **P 11 05 40.1 +0.5**
TIP Timpagrande 67.77 304 *e*P **P 11 05 41.8 +1.3**
comp=Z,48nm,1.4s
TIP LR LR
comp=Z,1µm,19.0s
NB2 NORSAR Subarra 67.80 328 P **P 11 05 37.9 -2.3**
comp=Z,5.5nm,0.8s,baz=82,slow=6.5
NB200 NORSAR Array S 67.80 328 *e*P **P 11 05 38.1 -2.1**
NB200 *e*PP **PP 11 08 02.4 -7.0**
NOA NORSAR Array B 67.80 328 P **P 11 05 38.1 -2.1**
comp=Z,3.3nm,0.7s,baz=84,slow=6.3,SNR=16
NOA PP **PP 11 08 02.4 -7.0**
comp=Z,10nm,1.0s,baz=79,slow=7.6,SNR=4.0
NOA LR LR 11 37 19.0
comp=Z,4µm,18.4s,baz=90,slow=38
MOA Molln 67.94 314 *e*P **P 11 05 40.3 -1.0**
comp=Z,6.9nm,0.7s
NAO01 NORSAR Array S 67.98 328 *e*P **P 11 05 41.4 0.0**
NC204 NORSAR Array S 67.99 329 *e*P **P 11 05 40.5 -0.9**
GEC2 GERESS Array S 68.14 315 *e*P **P 11 05 42.2 -0.5**
comp=Z,22nm,1.0s
GEC2 LR LR
comp=Z,7µm,20.0s
GEC2 GERESS Array S 68.14 315 *e*P **P 11 05 42.2 -0.5**
GEC2 pmax pmax
comp=Z,22nm,1.0s
GEC2 MLR MLR
comp=Z,7µm,20.0s
GERES GERESS Array B 68.14 315 P **P 11 05 41.8 -0.9**
comp=Z,8.0nm,0.8s,baz=76,slow=5.6,SNR=31
GERES LR LR 11 39 41.1
comp=Z,7µm,19.7s,baz=89,slow=40
GEA0 GERESS Array S 68.14 315 *e*P **P 11 05 42.0 -0.7**
KHC Kasperske Hory 68.17 315 *e*P **P 11 05 42.4 -0.4**
comp=Z,18nm,1.8s
KHC LR LR
comp=Z,3µm,19.0s
KHC Kasperske Hory 68.17 315 *e*P **P 11 05 42.2 -0.6**
KHC *ex* x 11 05 49.7
KHC *e*S **S 11 14 38.1 -4.2**
KHC *e*SS SS 11 20 03.1 +58
KHC AMS AMS 11 39 00.0
comp=Z,6µm,15.8s
KHC Kasperske Hory 68.17 315 *e*P **P 11 05 42.2 -0.6**
KHC *e* 11 05 49.7
KHC *e*S **S 11 14 38.1 -4.2**
KHC MLR MLR
comp=Z,6µm,15.8s
CLL Collm 68.18 318 *e*P **P 11 05 44.9 +2.2**
comp=Z,59nm,1.8s
CLL LR LR
comp=Z,6µm,20.0s
CLL Collm 68.18 318 *i* P **P 11 05 44.4 +1.7**
comp=Z,11nm,1.0s
CLL *i* 11 06 11.3
comp=Z,160nm,2.5s
CLL *e*PP **PP 11 08 14.0 +1.1**
CLL *e* 11 10 06.0
CLL *e*S **S 11 14 39.0 -3.1**
CLL *e* 11 15 33.0
CLL *e* 11 16 03.0
CLL *e*SS **SS 11 19 06.0 +1.5**
CLL *e*SSmax 11 20 06.0
CLL *e*SSS SSS 11 22 24.0
CLL *e*SSSS 11 23 24.0
CLL *e* 11 26 36.0
CLL Lmax 11 40 00.0
CLL LmV 11 40 00.0
comp=Z,6µm,20.4s
CLL Collm 68.18 318 *i* P **P 11 05 44.4 +1.7**
CLL *i* 11 06 11.3
CLL *e*S **S 11 14 39.0 -3.1**
CLL pmax pmax
comp=Z,11nm,1.0s
CLL MLR MLR
comp=Z,6µm,20.4s
CUC Castrocucco 68.32 306 *e*P **P 11 05 44.6 +0.7**
comp=Z,70nm,1.6s
CUC LR LR
comp=Z,4µm,18.0s
TRI Trieste 68.67 312 PFAKE 11 06 00.0 +14
TRI LR LR
comp=Z,4µm,20.0s
KBA Koelnbreinsper 68.69 313 P **P 11 05 45.5 -0.7**
comp=Z,3.1nm,0.7s
NKC Novy Kostel 68.71 317 *e*P **P 11 05 46.3 +0.2**
NKC AMS AMS 11 40 40.0
comp=Z,6µm,14.9s
NKC Novy Kostel 68.71 317 *e*P **P 11 05 46.3 +0.2**
NKC MLR MLR
comp=Z,6µm,14.9s
KONO Kongsberg 68.78 327 PFAKE 11 06 00.0 +14
KONO LR LR
comp=Z,10µm,18.0s
GRFO Grafenberg 69.59 316 *e*P **P 11 05 50.7 -0.8**
comp=Z,52nm,1.4s
GRFO LR LR
comp=Z,5µm,20.0s
GRFO Grafenberg 69.59 316 *e*P **P 11 05 50.7 -0.8**
GRFO pmax pmax
comp=Z,52nm,1.4s
GRFO MLR MLR
comp=Z,5µm,20.0s

AQU L'Aquila 69.60 308 PFAKE 11 06 00.0 +8.2
AQU LR LR
comp=Z,4µm,21.0s
STKA Stephens Creek 69.77 139 P **P** **11 05 52.2 -0.6**
comp=Z,42nm,1.2s,baz=321,slow=7.3,SNR=17
STKA LR LR 11 42 25.9
comp=Z,5µm,18.7s,baz=297,slow=41
STKA Stephens Creek 69.77 139 *e*P **P** **11 05 53.5 +0.7**
comp=Z,19nm,1.4s
WATA Walderalm 69.83 314 *e*P **P** **11 05 52.1 -1.1**
comp=Z,5.9nm,0.7s
SQTA Sankt Quirin 70.09 314 *e*P **P** **11 05 53.1 -1.8**
comp=Z,9.7nm,0.8s
MOTA Moosalm 70.14 314 *e*P **P** **11 05 53.2 -1.9**
comp=Z,9.5nm,0.8s
RETA Reutte 70.34 314 *e*P **P** **11 05 54.8 -1.5**
comp=Z,8.5nm,0.7s
FETA Feichten 70.46 314 *e*P **P** **11 05 55.2 -1.9**
comp=Z,5.9nm,0.7s
HNR Honiara 70.47 110 PFAKE 11 06 10.0 +13
HNR LR LR
comp=Z,2µm,20.0s
FUORN Ofenpass-Fuorn 70.86 313 *e*P **P** **11 05 59.3 -0.4**
comp=Z,31nm,1.4s
FUORN LR LR
comp=Z,5µm,20.0s
DAVA Damuels 70.96 314 *e*P **P** **11 05 59.5 -0.7**
comp=Z,8.2nm,0.9s
ADK Adak 71.00 41 PFAKE 11 06 10.0 +10
ADK LR LR
comp=Z,5µm,22.0s
STU Stuttgart 71.08 316 *e*P **P** **11 05 59.7 -1.0**
comp=Z,27nm,0.9s
STU LR LR
comp=Z,6µm,18.0s
STU Stuttgart 71.08 316 *e*P **P** **11 05 59.7 -1.0**
STU pmax pmax
comp=Z,27nm,0.9s
STU MLR MLR
comp=Z,6µm,18.0s
DAVOX Davos/Dischmat 71.08 314 P **P** **11 05 58.6 -2.4**
comp=Z,8.6nm,0.7s,baz=113,slow=13,SNR=13
VLC Villacollemand 71.34 311 PFAKE 11 06 10.0 +7.6
VLC LR LR
comp=Z,3µm,21.0s
TUE Stuetta 71.51 313 *e*P **P** **11 06 02.4 -1.2**
comp=Z,24nm,1.1s
TUE LR LR
comp=Z,8µm,22.0s
BFO Black Forest 71.74 315 PFAKE 11 06 20.0 +15
BFO LR LR
comp=Z,5µm,20.0s
BFO Black Forest 71.74 315 *i* P **P** **11 06 06.5 +1.8**
EIDS Eidsvold 71.83 128 *e*P **P** **11 06 06.2 +0.7**
comp=Z,76nm,1.4s
EIDS LR LR
comp=Z,4µm,21.0s
ATKA Atka Island 72.42 40 PFAKE 11 06 20.0 +11
ATKA LR LR
comp=Z,5µm,21.0s
ECH Echery 72.53 315 *e*P **P** **11 06 08.1 -1.3**
comp=Z,24nm,1.4s
ECH LR LR
comp=Z,5µm,19.0s
ECH Echery 72.53 315 *e*P **P** **11 06 08.1 -1.3**
ECH pmax pmax
comp=Z,25nm,1.4s
ECH MLR MLR
comp=Z,5µm,19.0s
MEM Membach 72.65 318 ⇓P **P** **11 06 09.8 -0.3**
WLF Walferdange 72.80 317 *e*P **P** **11 06 10.7 -0.3**
comp=Z,40nm,0.9s
WLF LR LR
comp=Z,5µm,19.0s
WLF Walferdange 72.80 317 *e*P **P** **11 06 10.7 -0.3**
WLF pmax pmax
comp=Z,41nm,0.9s
WLF MLR MLR
comp=Z,5µm,19.0s
WLF Walferdange 72.80 317 ⇑P **P** **11 06 10.8 -0.2**
SENIN Lac Senin/Sane 72.91 314 *e*P **P** **11 06 11.6 -0.4**
comp=Z,94nm,1.9s
SENIN LR LR
comp=Z,6µm,22.0s
BCLA Clavier 73.13 318 ⇓P **P** **11 06 12.8 -0.1**
comp=Z,27nm,2.4s
RDOG Red Dog Mine 73.30 23 *e*P **P** **11 06 14.0 +0.4**
comp=Z,103nm,1.6s
RDOG LR LR
comp=Z,16µm,18.0s
DAG Danmarks Havn 73.41 347 *i* P **P** **11 06 12.7 -1.4**
comp=Z,144nm,1.4s
comp=Z,5µm,20.0s
DAG Danmarks Havn 73.41 347 *i* P **P** **11 06 12.7 -1.4**
DAG pmax pmax
comp=Z,330nm,1.4s
DAG MLR MLR
comp=Z,5µm,20.0s
ANM Nome 73.46 26 *e*P **P** **11 06 15.7 +1.1**
comp=Z,115nm,1.5s
ANM LR LR
comp=Z,11µm,18.0s
ANM Nome 73.46 26 *e*P **P** **11 06 15.7 +1.1**
ANM pmax pmax
comp=Z,115nm,1.5s
ANM MLR MLR
comp=Z,11µm,18.0s
UCC Uccle 73.61 319 PFAKE 11 06 30.0 +14
UCC LR LR
comp=Z,6µm,20.0s
DOU Dourbes 73.66 318 ⇑P **P** **11 06 16.8 +0.7**
BNI Bardonecchia 73.68 312 *e*P **P** **11 06 16.2 -0.2**
comp=Z,35nm,1.2s
BNI LR LR
comp=Z,4µm,22.0s
BNI Bardonecchia 73.68 312 *e*P **P** **11 06 16.2 -0.2**
BNI pmax pmax
comp=Z,35nm,1.2s
BNI MLR MLR
comp=Z,4µm,22.0s
SNF Seneffe 73.74 318 ⇑P **P** **11 06 16.9 +0.4**
KEST Kesra 74.34 303 P **P** **11 06 19.2 -1.2**
comp=Z,8.3nm,0.9s,baz=128,slow=4.3,SNR=3.2
KEST LR LR 11 45 08.5
comp=Z,2µm,19.1s,baz=4.0,slow=41
SSB Saint Sauveur 75.06 313 *e*P **P** **11 06 24.3 -0.1**
comp=Z,24nm,1.1s
SSB LR LR
comp=Z,4µm,19.0s
SSB Saint Sauveur 75.06 313 *e*P **P** **11 06 24.3 -0.1**
SSB pmax pmax
comp=Z,24nm,1.1s
SSB MLR MLR
comp=Z,4µm,19.0s
ARMA Armidale 75.27 132 *e*P **P** **11 06 27.4 +1.7**
comp=Z,152nm,1.8s
NIKH Nikolski High 75.33 38 PFAKE 11 06 40.0 +14
NIKH LR LR
comp=Z,5µm,18.0s
LSZ Lusaka 76.14 247 *e*P **P** **11 06 30.2 -0.8**
comp=Z,59nm,1.4s
LSZ LR LR
comp=Z,7µm,20.0s
LSZ Lusaka 76.14 247 P **P** **11 06 30.4 -0.6**
SNR=6.7
LSZ Lusaka 76.14 247 *e*P **P** **11 06 30.2 -0.8**
LSZ pmax pmax
comp=Z,59nm,1.4s
LSZ MLR MLR
comp=Z,7µm,20.0s
UNV Unalaska Valle 76.38 37 PFAKE 11 06 40.0 +8.4
UNV LR LR
comp=Z,6µm,20.0s
EKA Eskdalemuir Ar 76.53 325 P **P** **11 06 31.4 -1.1**
comp=Z,7.8nm,0.7s,baz=74,slow=5.5,SNR=17
ESK Eskdalemuir 76.56 325 PFAKE 11 06 40.0 +7.4
ESK LR LR
comp=Z,8µm,19.0s
CAN Canberra 76.63 138 *e*P **P** **11 06 32.8 -0.6**
comp=Z,205nm,1.9s
CAN LR LR
comp=Z,8µm,21.0s
CAN Canberra 76.63 138 *e*P **P** **11 06 32.8 -0.6**
CAN pmax pmax
comp=Z,205nm,1.9s
CAN MLR MLR
comp=Z,8µm,21.0s

AKUT Akutan 76.69 37 PFAKE 11 06 40.0 +6.6
AKUT LR LR
comp=Z,4µm,19.0s
IM3 Indian Mountai 77.42 23 *e*P **P** **11 06 36.2 -1.1**
SCO Scoresbysund 77.47 342 *e*P **P** **11 06 37.1 -0.3**
comp=Z,115nm,1.8s
SCO Scoresbysund 77.47 342 *i* P **P** **11 06 37.5 +0.1**
SCO Scoresbysund 77.47 342 *e*P **P** **11 06 37.1 -0.3**
SCO pmax pmax
comp=Z,115nm,1.8s
TOLK Toolik Lake Re 77.53 20 *e*P **P** **11 06 37.4 -0.6**
comp=Z,66nm,1.0s
TOLK LR LR
comp=Z,14µm,18.0s
TOLK Toolik Lake Re 77.53 20 P **P** **11 06 37.2 -0.8**
baz=301
COLD Coldfoot 78.05 21 *e*P **P** **11 06 40.6 -0.3**
comp=Z,26nm,1.2s
COLD LR LR
comp=Z,17µm,18.0s
SVW2 Sparrevohn 78.94 28 *e*P **P** **11 06 44.9 -0.9**
comp=Z,110nm,1.5s
SVW2 LR LR
comp=Z,7µm,18.0s
MLY Manley 78.98 23 *e*P **P** **11 06 45.2 -0.8**
comp=Z,52nm,0.9s
MLY LR LR
comp=Z,12µm,18.0s
DSB Dublin 79.05 323 PFAKE 11 07 00.0 +13
DSB LR LR
comp=Z,7µm,19.0s
SDPT Sand Point 79.08 34 PFAKE 11 07 00.0 +13
SDPT LR LR
comp=Z,4µm,18.0s
CAST Castle Rocks 79.28 25 *e*P **P** **11 06 47.3 -0.4**
comp=Z,306nm,1.9s
BPAW Bear Paw Mtn. 79.36 24 *e*P **P** **11 06 49.0 +0.9**
comp=Z,21nm,0.8s
BPAW LR LR
comp=Z,10µm,18.0s
CRZF Crozet Islands 79.45 209 PFAKE 11 07 00.0 +11
CRZF LR LR
comp=Z,2µm,18.0s
PPLA Purkeypile 79.50 26 *e*P **P** **11 06 49.9 +0.8**
comp=Z,405nm,2.0s
PPLA LR LR
comp=Z,6µm,19.0s
CHGN Chignik 79.73 33 *e*P **P** **11 06 49.5 -0.7**
comp=Z,63nm,1.0s
CHGN LR LR
comp=Z,4µm,19.0s
BWN Browne 79.90 24 *e*P **P** **11 06 52.1 +1.2**
comp=Z,70nm,1.1s
BWN LR LR
comp=Z,14µm,18.0s
MDM Murphy Dome 79.93 23 *e*P **P** **11 06 50.2 -0.9**
MDM LR LR
comp=Z,10µm,19.0s
TRF Thorofare Moun 79.96 25 *e*P **P** **11 06 51.9 +0.3**
comp=Z,20nm,1.0s
TRF LR LR
comp=Z,8µm,18.0s
FYU Fort Yukon 80.06 21 *e*P **P** **11 06 52.3 +0.5**
comp=Z,92nm,1.3s
FYU LR LR
comp=Z,18µm,18.0s
SUMG Summit 80.11 347 *e*P **P** **11 06 51.6 -0.8**
comp=Z,286nm,1.5s
SUMG Summit 80.11 347 *i* P **P** **11 06 51.9 -0.6**
comp=Z,300nm,0.9s
SUMG Summit 80.11 347 *e*P **P** **11 06 51.6 -0.8**
SUMG pmax pmax
comp=Z,286nm,1.5s
TCOL CIGO, UAF Yank 80.11 23 P **P** **11 06 51.6 -0.5**
baz=303
COLA College 80.11 23 *e*P **P** **11 06 51.4 -0.7**
comp=Z,110nm,1.6s
COLA LR LR
comp=Z,9µm,20.0s
COLA College 80.11 23 *e*P **P** **11 06 51.4 -0.7**
COLA pmax pmax
comp=Z,110nm,1.6s
COLA MLR MLR
comp=Z,9µm,20.0s
POKR Poker Plat Res 80.13 23 P **P** **11 06 51.0 -1.2**
baz=303
SKT Skwentna 80.22 26 *e*P **P** **11 06 51.5 -1.2**
comp=Z,136nm,1.4s
WRH Wood River Hil 80.24 23 *e*P **P** **11 06 52.3 -0.5**
comp=Z,29nm,1.2s
WRH LR LR
comp=Z,9µm,19.0s
CCB Clear Creek Bu 80.25 23 *e*P **P** **11 06 52.4 -0.5**
comp=Z,8.2nm,0.8s
CCB LR LR
comp=Z,10µm,18.0s
MCK McKinley 80.33 24 *e*P **P** **11 06 52.5 -0.9**
comp=Z,201nm,2.0s
MCK LR LR
comp=Z,11µm,18.0s
IL1 Eielson Array 80.51 23 *e*P **P** **11 06 52.6 -1.7**
ILAR Eielson Array 80.51 23 P **P** **11 06 52.3 -2.0**
comp=Z,10nm,0.9s,baz=306,slow=4.4,SNR=50
ILAR PP **PP** **11 09 58.0 +0.9**
comp=Z,12nm,1.0s,baz=296,slow=8.1,SNR=11
ILAR PKPPKP **P'P'df** **11 33 43.8 0.0**
comp=Z,0.5nm,1.0s,baz=64,slow=2.1,SNR=4.5
ILAR LR LR 11 46 44.0
comp=Z,7µm,18.5s,baz=308,slow=39
ILB Eielson Array 80.51 23 *e*P **P** **11 06 52.4 -2.0**
ILB *e*PP **PP** **11 09 57.9 +0.8**
RND Reindeer 80.53 24 *e*P **P** **11 06 53.2 -1.3**
comp=Z,104nm,1.5s
RND LR LR
comp=Z,8µm,18.0s
RND Reindeer 80.53 24 *e*P **P** **11 06 53.2 -1.3**
RND pmax pmax
comp=Z,104nm,1.5s
RND MLR MLR
comp=Z,8µm,18.0s
TULEG Thule 80.54 356 PFAKE 11 07 10.0 +16
TULEG LR LR
comp=Z,4µm,20.0s
HDA Harding Lake 80.69 23 *e*P **P** **11 06 54.7 -0.6**
comp=Z,22nm,1.2s
HDA LR LR
comp=Z,9µm,18.0s
HDA Harding Lake 80.69 23 P **P** **11 06 53.4 -1.8**
baz=304
TAU Tasmania Unive 80.70 144 PFAKE 11 07 10.0 +15
TAU LR LR
comp=Z,7µm,19.0s
SUA Susitna One 80.81 26 *e*P **P** **11 06 56.0 -0.1**
comp=Z,58nm,0.9s
SUA LR LR
comp=Z,6µm,22.0s
LHI Lord Howe Isla 81.10 129 *e*P **P** **11 06 56.8 -1.1**
comp=Z,566nm,1.9s
DHY Denali Highway 81.28 24 *e*P **P** **11 06 58.6 0.0**
comp=Z,72nm,1.8s
DHY LR LR
comp=Z,10µm,19.0s
HOM Homer 81.35 28 PFAKE 11 07 10.0 +11
HOM LR LR
comp=Z,7µm,19.0s
GHO Glory Hole Cre 81.38 26 *e*P **P** **11 06 58.8 -0.3**
comp=Z,172nm,1.8s
GHO LR LR
comp=Z,7µm,19.0s
PMR Palmer 81.39 26 *e*P **P** **11 06 57.9 -1.1**
comp=Z,143nm,1.7s
PMR Palmer 81.39 26 *e*P **P** **11 06 57.9 -1.1**
PMR pmax pmax
comp=Z,143nm,1.7s
KULLO Kullorsuaq 81.40 353 *i* P **P** **11 06 57.9 -0.9**
comp=Z,150nm,1.1s
KULLO Kullorsuaq 81.40 353 *i* P **P** **11 06 57.9 -0.9**
KULLO pmax pmax
comp=Z,150nm,1.1s
CART Cartagena 81.57 307 PFAKE 11 07 10.0 +10
CART LR LR
comp=Z,2µm,20.0s
CNPM China Poot 81.59 28 PFAKE 11 07 10.0 +10
CNPM LR LR
comp=Z,6µm,20.0s
SML Sawmill 81.60 26 *e*P **P** **11 06 59.1 -1.1**
comp=Z,58nm,0.9s
SML LR LR
comp=Z,8µm,19.0s
SML Sawmill 81.60 26 *e*P **P** **11 06 59.1 -1.1**
SML pmax pmax
comp=Z,58nm,0.9s
SML MLR MLR
comp=Z,8µm,19.0s
BRLK Bradley Lake 81.62 28 *e*P **P** **11 06 59.1 -1.2**
comp=Z,72nm,0.9s
BRLK LR LR
comp=Z,7µm,20.0s
TAM Tamanrasset 81.71 291 PFAKE 11 07 10.0 +8.3
TAM LR LR
comp=Z,4µm,19.0s
VAL Valentia 81.74 323 ⇓*i*S **S** **11 17 15.2 +2.1**
OHAK Old Harbor 81.81 31 *e*P **P** **11 07 00.1 -1.2**
comp=Z,368nm,1.8s
RIDG Independ'e Rid 81.83 23 *e*P **P** **11 07 00.7 -0.7**
comp=Z,60nm,1.0s
RIDG LR LR
comp=Z,7µm,18.0s
KDAK Kodiak Island 81.87 30 P **P** **11 06 59.8 -1.7**
comp=Z,31nm,0.8s,baz=342,slow=3.2,SNR=9.1
KDAK Kodiak Island 81.87 30 *e*P **P** **11 06 59.8 -1.7**
KDAK LR LR
comp=Z,7µm,20.0s
KDAK Kodiak Island 81.87 30 *e*P **P** **11 06 59.8 -1.7**
KDAK MLR MLR
comp=Z,7µm,20.0s
DZM Mont Dzumac 81.95 118 *e*S **S** **11 17 15.3 -1.0**
comp=Z,520nm,27.2s
DZM *e*SS **SS** **11 22 36.6 +1.0**
comp=Z,1µm,37.0s
DZM Mont Dzumac 81.95 118 *e*LR LR 11 32 40.6
comp=Z,5µm,32.9s
DZM Mont Dzumac 81.95 118 PFAKE 11 07 10.0 +7.3
DZM LR LR
comp=Z,2µm,22.0s
SCM Sheep Creek Mo 81.98 25 PFAKE 11 07 10.0 +7.7
SCM LR LR
comp=Z,5µm,20.0s
SCRK Sand Creek 82.00 23 *e*P **P** **11 07 01.5 -0.9**
comp=Z,266nm,1.8s
SCRK LR LR
comp=Z,8µm,19.0s
PAX Paxson 82.05 24 *e*P **P** **11 07 01.6 -1.0**
comp=Z,60nm,1.6s
PAX LR LR
comp=Z,8µm,19.0s
PAX Paxson 82.05 24 *e*P **P** **11 07 01.6 -1.0**
PAX pmax pmax
comp=Z,60nm,1.6s
PAX MLR MLR
comp=Z,8µm,19.0s
SEW Seward 82.06 27 PFAKE 11 07 10.0 +7.5
SEW LR LR
comp=Z,8µm,21.0s
DOT Dot Lake 82.17 23 *e*P **P** **11 07 03.1 -0.1**
comp=Z,35nm,1.3s
DOT LR LR
comp=Z,6µm,18.0s
INK Inuvik 82.40 17 P **P** **11 07 03.1 -1.1**
comp=Z,29nm,0.8s,baz=326,slow=4.9,SNR=40
INK PP **PP** **11 10 14.8 +2.2**
comp=Z,9.0nm,1.1s,baz=321,slow=12,SNR=4.9
INK Inuvik 82.40 17 *e*P **P** **11 07 03.1 -1.1**
comp=Z,121nm,1.4s
INK PP **PP** **11 10 14.8 +2.2**
INK LR LR
comp=Z,11µm,19.0s
INK Inuvik 82.40 17 *e*P **P** **11 07 03.1 -1.1**
INK 11 10 14.8
INK pmax pmax
comp=Z,121nm,1.4s
INK MLR MLR
comp=Z,11µm,19.0s
EGAK Eagle 82.49 21 *e*P **P** **11 07 04.2 -0.5**
comp=Z,57nm,0.9s
EGAK LR LR
comp=Z,14µm,19.0s
HARP HAARP 82.50 24 *e*P **P** **11 07 05.5 +0.6**
comp=Z,184nm,1.8s
HARP LR LR
comp=Z,6µm,20.0s
RES Resolute Bay 82.60 3 P **P** **11 07 03.9 -1.2**
comp=Z,18nm,0.9s,baz=352,slow=2.9,SNR=13
RES PP **PP** **11 10 15.6 +1.5**
comp=Z,8.2nm,1.1s,baz=358,slow=10.0,SNR=3.9
RES Resolute Bay 82.60 3 *e*P **P** **11 07 04.7 -0.5**
comp=Z,104nm,1.6s
RES PP **PP** **11 10 15.6 +1.5**
RES LR LR
comp=Z,4µm,20.0s
GLI Glacier Island 82.61 26 PFAKE 11 07 20.0 +15
GLI LR LR
comp=Z,5µm,20.0s
ES19 SONSECA Array 82.85 310 *e*P **P** **11 07 07.9 +0.7**
EPYK Eagle Plains 82.85 19 P **P** **11 07 05.6 -1.0**
baz=312
ESDC Sonseca Array 82.90 310 P **P** **11 07 05.8 -1.7**
comp=Z,1.3nm,0.8s,baz=42,slow=6.3,SNR=5.6
ESDC LR LR 11 51 47.5
comp=Z,1µm,18.0s,baz=35,slow=41
FID Port Fidalgo 82.93 26 *e*P **P** **11 07 08.2 +1.0**
comp=Z,186nm,1.8s
FID LR LR
comp=Z,6µm,20.0s
LBTB Lobatse 82.94 239 *e*P **P** **11 07 07.3 -0.5**
comp=Z,67nm,1.4s
LBTB Lobatse 82.94 239 *e*P **P** **11 07 07.4 -0.5**
LBTB pmax pmax
comp=Z,67nm,1.4s
DIV Divide 83.00 25 *e*P **P** **11 07 07.6 +0.1**
comp=Z,173nm,1.9s
DIV LR LR
comp=Z,8µm,18.0s
EYAK Cordova Ski Ar 83.34 26 *e*P **P** **11 07 09.6 +0.3**
comp=Z,260nm,2.0s
EYAK LR LR
comp=Z,8µm,22.0s
DAWY Dawson 83.53 21 *e*P **P** **11 07 09.6 -0.6**
comp=Z,72nm,1.3s
DAWY LR LR
comp=Z,14µm,18.0s
BMRM Bremner River 83.56 25 *e*P **P** **11 07 10.2 -0.3**
comp=Z,64nm,0.8s
BMRM LR LR
comp=Z,8µm,18.0s
RAGM Ragged Mountai 83.87 26 PFAKE 11 07 20.0 +8.0
RAGM LR LR
comp=Z,13µm,18.0s
PBRG Braganca 83.96 313 *e*LR LR 11 37 02.7
comp=Z,3µm,18.0s
BALM Baldy 84.39 25 *e*P **P** **11 07 14.5 -0.2**
comp=Z,60nm,1.2s
BALM LR LR
comp=Z,8µm,18.0s
BALM Baldy 84.39 25 *e*P **P** **11 07 14.5 -0.2**
BALM pmax pmax
comp=Z,60nm,1.2s
BALM MLR MLR
comp=Z,8µm,18.0s
MVO Moncorvo 84.42 312 *e*S **S** **11 17 43.3 +2.3**
MVO *e*SS **SS** **11 23 14.8 +4.2**
MVO Moncorvo 84.42 312 *e*LR LR 11 36 43.6
comp=Z,2µm,18.0s
POLO Lamas de Olo 84.85 313 *e*S **S** **11 17 47.7 +2.4**
POLO *e*SS **SS** **11 23 25.5 +8.5**
POLO Lamas de Olo 84.85 313 *e*LR LR 11 36 53.2
comp=Z,907nm,20.0s
PGAV Gavieira, Arco 84.92 313 *e*LR LR 11 42 02.5
comp=Z,2µm,20.0s
BOSA Boshof 84.95 236 P **P** **11 07 17.8 -0.3**
comp=Z,11nm,0.6s,baz=60,slow=4.6,SNR=28
BOSA LR LR 11 46 06.2
comp=Z,5µm,18.1s,baz=54,slow=36
BOSA Boshof 84.95 236 *e*P **P** **11 07 17.8 -0.3**
comp=Z,56nm,1.3s
BOSA Boshof 84.95 236 *e*P **P** **11 07 17.8 -0.3**
BOSA pmax pmax
comp=Z,56nm,1.3s
MTE Manteigas 85.10 312 *e*S **S** **11 17 51.5 +3.7**
MTE *e*SS **SS** **11 23 28.8 +8.1**
MTE Manteigas 85.10 312 *e*LR LR 11 37 54.6
comp=Z,2µm,18.0s
PMRV Marv??o 85.42 311 *e*S **S** **11 17 59.0 +8.2**
PMRV Marv??o 85.42 311 *e*LR LR 11 37 07.5

comp=Z,1µm,18.0s
PCA Pinnacle 85.79 25 PFAKE 11 07 30.0 +8.3
PCA LR LR
comp=Z,6µm,19.0s
PESTR Estremoz 85.80 310 *e*S **S 11 17 46.3 -8.3**
PESTR *e*SS **SS 11 23 26.7 -4.2**
PESTR Estremoz 85.80 310 *e*LR LR 11 37 02.7
comp=Z,2µm,18.0s
PESTR Estremoz 85.80 310 PFAKE 11 07 30.0 +7.9
PESTR LR LR
comp=Z,2µm,20.0s
SFS San Fernando 85.83 308 PFAKE 11 07 30.0 +7.7
SFS LR LR
comp=Z,3µm,20.0s
PCAS Casmilo, Conde 85.91 312 *e*S **S 11 17 50.3 -5.3**
PCAS Casmilo, Conde 85.91 312 *e*LR LR 11 37 50.4
comp=Z,2µm,20.0s
HYT Haines Junctio 86.34 23 *e*P **P 11 07 24.4 -0.1**
comp=Z,146nm,1.7s
HYT LR LR
comp=Z,6µm,22.0s
PVAQ Vaqueiros 86.53 309 *e*S **S 11 18 07.1 +5.4**
PVAQ Vaqueiros 86.53 309 *e*LR LR 11 37 21.8
comp=Z,2µm,18.0s
PBDV Barranco-do-Ve 86.75 309 *e*S **S 11 18 08.7 +4.8**
PBDV Barranco-do-Ve 86.75 309 *e*LR LR 11 38 14.3
comp=Z,2µm,18.0s
PMAFR Mafra 86.94 311 *e*S **S 11 17 59.0 -6.7**
PMAFR *e*SS SS 11 23 59.5 +12
PMAFR Mafra 86.94 311 *e*LR LR 11 37 21.8
comp=Z,2µm,16.0s
TSUM Tsumeb 86.94 248 PFAKE 11 07 40.0 +12
TSUM LR LR
comp=Z,4µm,19.0s
SFJD Kangerlussuaq 87.10 347 *e*P **P 11 07 26.4 -1.5**
comp=Z,57nm,1.1s
SFJD Kangerlussuaq 87.10 347 *e*P **P 11 07 26.4 -1.5**
SFJD pmax pmax
comp=Z,57nm,1.1s
DHAK Deception Hill 87.23 25 PFAKE 11 07 40.0 +11
DHAK LR LR
comp=Z,8µm,19.0s
WHY Whitehorse 87.39 22 *e*P **P 11 07 29.5 -0.1**
comp=Z,82nm,1.8s
WHY LR LR
comp=Z,4µm,20.0s
PFVI Vila Bisbo 87.44 309 *e*LR LR 11 37 17.0
comp=Z,2µm,18.0s
PFVI Vila Bisbo 87.44 309 PFAKE 11 07 40.0 +10
PFVI LR LR
comp=Z,3µm,18.0s
SKAG Skagway 88.07 23 *e*P **P 11 07 33.6 +0.9**
comp=Z,84nm,1.1s
SKAG LR LR
comp=Z,5µm,19.0s
TOC2 Torodi Ar. Sit 88.66 284 PFAKE 11 07 50.0 +14
TOC2 LR LR
comp=Z,4µm,20.0s
TOC3 Torodi Ar. Sit 88.67 284 PFAKE 11 07 50.0 +14
TOC3 LR LR
comp=Z,4µm,20.0s
TOC1 Torodi Ar. Sit 88.67 284 PFAKE 11 07 50.0 +14
TOC1 LR LR
comp=Z,4µm,20.0s
TOB2 Torodi Ar. Sit 88.68 284 PFAKE 11 07 50.0 +14
TOB2 LR LR
comp=Z,4µm,20.0s
TOA2 Torodi Ar. Sit 88.69 284 PFAKE 11 07 50.0 +14
TOA2 LR LR
comp=Z,4µm,22.0s
TOB3 Torodi Ar. Sit 88.69 284 PFAKE 11 07 50.0 +14
TOB3 LR LR
comp=Z,4µm,22.0s
TOA0 Torodi Ar. Sit 88.69 284 *e*P **P 11 07 36.4 -0.1**
comp=Z,44nm,1.4s
TOA0 LR LR
comp=Z,4µm,21.0s
TORD Torodi Ar. Bea 88.69 284 P **P 11 07 34.4 -2.1**
comp=Z,3.0nm,0.8s,baz=84,slow=4.1
PP **PP 11 11 08.1 +2.8**
comp=Z,4.6nm,1.0s,baz=63,slow=8.3,SNR=4.2
TORD LR LR 11 51 16.2
comp=Z,4µm,19.9s,baz=345,slow=38
TOA1 Torodi Ar. Sit 88.69 284 *e*P **P 11 07 34.4 -2.1**
TOA1 *e*PP **PP 11 11 08.1 +2.8**
TOA1 LR LR
comp=Z,4µm,22.0s
TOA3 Torodi Ar. Sit 88.69 284 PFAKE 11 07 50.0 +13
TOA3 LR LR
comp=Z,4µm,22.0s
TOC4 Torodi Ar. Sit 88.70 284 PFAKE 11 07 50.0 +13
TOC4 LR LR
comp=Z,4µm,22.0s
TOC7 Torodi Ar. Sit 88.70 284 PFAKE 11 07 50.0 +13
TOC7 LR LR
comp=Z,4µm,20.0s
TOB5 Torodi Ar. Sit 88.70 284 PFAKE 11 07 50.0 +13
TOB5 LR LR
comp=Z,4µm,20.0s
TOB4 Torodi Ar. Sit 88.70 284 PFAKE 11 07 50.0 +13
TOB4 LR LR
comp=Z,4µm,21.0s
TOC5 Torodi Ar. Sit 88.72 284 PFAKE 11 07 50.0 +13
TOC5 LR LR
comp=Z,4µm,20.0s
BESE Bessie Mountai 88.86 24 PFAKE 11 07 50.0 +13
BESE LR LR
comp=Z,8µm,18.0s
MIR Mirnyy 89.00 181⇑ *i*P **P 11 07 36.0 -0.6**
MIR *i* 11 11 07.0
MIR *e*S **SKSac 11 18 04.0 -1.0**
MIR pmax pmax
comp=Z,700nm,3.0s
MIR pmax pmax
comp=Z,135nm,1.5s
JIS Juneau Island 89.25 24 PFAKE 11 07 50.0 +12
JIS LR LR
comp=Z,7µm,19.0s
CASY Casey 89.41 174 PFAKE 11 07 50.0 +11
CASY LR LR
comp=Z,3µm,22.0s
SUR Sutherland 90.09 235 PFAKE 11 07 50.0 +7.1
SUR LR LR
comp=Z,5µm,20.0s
DLBC Dease Lake 90.71 22 P **P 11 07 45.1 -0.1**
comp=Z,15nm,1.1s,baz=310,slow=0.4,SNR=7.3
DLBC PP **PP 11 11 22.8 +2.9**
comp=Z,22nm,1.3s,baz=327,slow=7.2,SNR=5.7
DLBC Dease Lake 90.71 22 P **P 11 07 45.1 -0.1**
DLBC PP **PP 11 11 22.8 +2.9**
DLBC LR LR
comp=Z,8µm,18.0s
NRS Narsarsuaq 90.76 342 *e*P **P 11 07 45.2 -0.1**
comp=Z,328nm,1.6s
NRS Narsarsuaq 90.76 342 *e*P **P 11 07 45.2 -0.1**
NRS pmax pmax
comp=Z,328nm,1.6s
WRAK Wrangell Islan 91.35 24 PFAKE 11 08 00.0 +12
WRAK LR LR
comp=Z,6µm,22.0s
IVI Ivigtut 91.47 343 *e*P **P 11 07 50.4 +1.8**
comp=Z,541nm,2.0s
YKA Yellowknife Ar 91.72 14 P **P 11 07 47.9 -1.8**
comp=Z,6.7nm,0.8s,baz=327,slow=4.6,SNR=12
YKA PP **PP 11 11 27.3 -0.3**
comp=Z,0.9nm,0.9s,baz=333,slow=7.6,SNR=4.5
YKA LR LR 11 54 46.8
comp=Z,510nm,18.5s,baz=316,slow=39
YKB5 Yellowknife Ar 91.72 14 *e*P **P 11 07 48.7 -1.1**
CRAG Craig 91.74 25 PFAKE 11 08 00.0 +10
CRAG LR LR
comp=Z,5µm,19.0s
MAW Mawson 93.28 192 P **P 11 07 56.8 +0.3**
comp=Z,38nm,1.2s,baz=11,slow=5.4,SNR=14
MAW LR LR 11 47 10.0
comp=Z,2µm,18.0s,baz=22,slow=34
OUZ Omahuta 93.49 127 PFAKE 11 08 10.0 +12
OUZ LR LR
comp=Z,5µm,20.0s
DIB Dawson Inlet, 93.64 27 PFAKE 11 08 10.0 +11
DIB LR LR
comp=Z,5µm,22.0s
WHZ Wether Hill Ro 94.43 138 PFAKE 11 08 10.0 +7.6
WHZ LR LR
comp=Z,4µm,20.0s
FOZ Fox Glacier 94.52 135 PFAKE 11 08 10.0 +7.2
FOZ LR LR
comp=Z,5µm,21.0s
WKZ Wanaka 94.60 137 PFAKE 11 08 10.0 +6.8
WKZ LR LR
comp=Z,7µm,22.0s
RPZ Rata Peaks 95.40 135 PFAKE 11 08 20.0 +13
RPZ LR LR
comp=Z,5µm,20.0s
PMOZ Porto Moniz, M 95.53 309 *e*LR LR 11 41 51.8
comp=Z,1µm,20.0s
ODZ Otahua Downs 95.73 137 PFAKE 11 08 20.0 +12
ODZ LR LR
comp=Z,6µm,22.0s
HIZ Hauiti 95.79 129 PFAKE 11 08 20.0 +11
HIZ LR LR
comp=Z,3µm,19.0s
THZ Tophouse 95.79 133 PFAKE 11 08 20.0 +11
THZ LR LR
comp=Z,4µm,22.0s
LTZ Lake Taylor 95.80 134 PFAKE 11 08 20.0 +11
LTZ LR LR
comp=Z,6µm,19.0s
OXZ Oxford 95.88 135 PFAKE 11 08 20.0 +11
OXZ LR LR
comp=Z,3µm,21.0s
BBB Bella Bella 96.17 25 PFAKE 11 08 20.0 +10
BBB LR LR
comp=Z,4µm,19.0s
KHZ Kahutara 96.49 133 PFAKE 11 08 20.0 +8.2
KHZ LR LR
comp=Z,4µm,20.0s
SNZO South Karori 96.83 132 PFAKE 11 08 20.0 +6.6
SNZO LR LR
comp=Z,3µm,21.0s
DBIC Dimbokro 97.17 280 P Pdif 11 08 15.9 +0.2
comp=Z,3.3nm,0.7s,baz=66,slow=6.8,SNR=3.7
DBIC LR LR 11 55 56.6
comp=Z,3µm,19.6s,baz=48,slow=38
DBIC Dimbokro 97.17 280 P Pdif 11 08 16.0 +0.3
BKZ Black Stump Fm 97.22 129 PFAKE 11 08 30.0 +15
BKZ LR LR
comp=Z,3µm,21.0s
URZ Urewera 97.31 128 PFAKE 11 08 30.0 +14
URZ LR LR
comp=Z,4µm,18.0s
BFZ Birch Farm 97.64 131 PFAKE 11 08 30.0 +13
BFZ LR LR
comp=Z,5µm,21.0s
MXZ Matakaoa Point 97.91 127 PFAKE 11 08 30.0 +12
MXZ LR LR
comp=Z,3µm,20.0s
WRMHI West Rim 98.98 65 PFAKE 11 08 30.0 +6.1
WRMHI LR LR
comp=Z,3µm,21.0s
NPH North Pit 98.99 65 PFAKE 11 08 30.0 +6.1
NPH LR LR
comp=Z,3µm,21.0s
SBLHI Steaming Bluff 99.00 65 PFAKE 11 08 30.0 +6.1
SBLHI LR LR
comp=Z,3µm,21.0s
BYL Byron's Ledge 99.01 65 PFAKE 11 08 30.0 +6.0
BYL LR LR
comp=Z,2µm,22.0s
KKO Keanakako'i 99.01 65 PFAKE 11 08 30.0 +6.0
KKO LR LR
comp=Z,3µm,19.0s
NPOC North of Pu'u 99.15 65 PFAKE 11 08 40.0 +15
NPOC LR LR
comp=Z,2µm,20.0s
JCUZ Jacuzzi 99.16 65 PFAKE 11 08 40.0 +15
JCUZ LR LR
comp=Z,2µm,20.0s
A05A Maple Falls 101.04 24 PFAKE 11 08 40.0 +7.7
A05A LR LR
comp=Z,400nm,22.0s
FFC Flin Flon 101.40 10 PFAKE 11 08 40.0 +6.2
FFC LR LR
comp=Z,5µm,22.0s
B06A Marblemount 101.66 24 PFAKE 11 08 50.0 +15
B06A LR LR
comp=Z,4µm,18.0s
E03A Lebam 102.44 27 PFAKE 11 08 50.0 +11
E03A LR LR
comp=Z,4µm,18.0s
D05A Enumclaw 102.56 25 PFAKE 11 08 50.0 +11
D05A LR LR
comp=Z,4µm,18.0s
B08A Colville Reser 102.59 23 PFAKE 11 08 50.0 +11
B08A LR LR
comp=Z,7µm,18.0s
LON Longmire 102.98 25 PFAKE 11 08 50.0 +8.9
LON LR LR
comp=Z,4µm,22.0s
LTY Liberty 103.01 25 PFAKE 11 08 50.0 +8.8
LTY LR LR
comp=Z,4µm,19.0s
C09A Chrisman Ranch 103.45 23 PFAKE 11 08 50.0 +6.9
C09A LR LR
comp=Z,8µm,18.0s
NEW Newport 103.45 22 PP PP 11 12 55.1 -2.8
comp=Z,1.6nm,0.8s,baz=324,slow=7.2,SNR=4.2
NEW Newport 103.45 22 PP PP 11 12 55.1 -2.8
NEW LR LR
comp=Z,7µm,19.0s
WALA Waterton Lakes 103.81 20 PFAKE 11 09 00.0 +15
WALA LR LR
comp=Z,5µm,21.0s
D08A Wollman Farm, 103.84 24 PFAKE 11 09 00.0 +15
D08A LR LR
comp=Z,3µm,20.0s
COR Corvallis 104.12 28 PFAKE 11 09 00.0 +14
COR LR LR
comp=Z,3µm,18.0s
HAWA Hanford 104.17 24 PFAKE 11 09 00.0 +14
HAWA LR LR
comp=Z,4µm,20.0s
E08A Dider Farm, El 104.26 24 PFAKE 11 09 00.0 +13
E08A LR LR
comp=Z,4µm,18.0s
F07A Phinny Hill Vi 104.43 25 PFAKE 11 09 00.0 +13
F07A LR LR
comp=Z,4µm,20.0s
H04A Detroit Lake 104.51 27 PFAKE 11 09 00.0 +12
H04A LR LR
comp=Z,3µm,19.0s
E09A Wood Farm, Sta 104.58 23 PFAKE 11 09 00.0 +12
E09A LR LR
comp=Z,4µm,20.0s
G06A Carlson Farm, 104.69 26 PFAKE 11 09 00.0 +11
G06A LR LR
comp=Z,4µm,19.0s
F10A Beach Ranch, E 105.38 23 PFAKE 11 13 20.0
F10A LR LR
comp=Z,4µm,21.0s
KBO Bosley Butte 105.59 30 PFAKE 11 13 20.0
KBO LR LR
comp=Z,2µm,20.0s
PINE Pine Mountain 105.76 27 PFAKE 11 13 20.0
PINE LR LR
comp=Z,4µm,20.0s
MSO Missoula 105.77 21 PFAKE 11 13 20.0
MSO LR LR
comp=Z,6µm,20.0s
HUMO Hull Mountain 105.85 29 PFAKE 11 13 20.0
HUMO LR LR
comp=Z,4µm,22.0s
EGMT Eagleton 105.97 18 PFAKE 11 13 20.0
EGMT LR LR
comp=Z,5µm,19.0s
I07A Izee 106.10 26 PFAKE 11 13 20.0
I07A LR LR
comp=Z,3µm,21.0s
KRMB Red Mountain 106.28 30 PFAKE 11 13 20.0
KRMB LR LR
comp=Z,2µm,22.0s
BMO Blue Mountains 106.30 24 PFAKE 11 13 20.0
BMO LR LR
comp=Z,4µm,20.0s
SHEL Horse Pasture 106.39 259 PFAKE 11 13 20.0
SHEL LR LR
comp=Z,3µm,21.0s
K05A Summer Lake 106.65 27 PFAKE 11 13 20.0
K05A LR LR
comp=Z,3µm,21.0s
YBH Yreka Blue Hor 106.66 29 PFAKE 11 13 20.0
YBH LR LR
comp=Z,2µm,21.0s
JCC Jacoby Creek, 106.78 30 PFAKE 11 13 20.0
JCC LR LR
comp=Z,3µm,18.0s
KHMM Horse Mountain 106.87 30 PFAKE 11 13 20.0
KHMM LR LR
comp=Z,2µm,20.0s
DGMT Dagmar 106.93 14 PFAKE 11 13 20.0
DGMT LR LR
comp=Z,9µm,18.0s
VNDA Vanda 107.04 168 Pdiff **Pdif 11 08 59.5 +1.3**
comp=Z,0.4nm,0.8s,baz=286,slow=7.4,SNR=3.6
VNDA PP **PP 11 13 23.6 -1.3**
comp=Z,2.5nm,1.1s,baz=298,slow=9.8,SNR=5.6
J08A Circle Bar Ran 107.12 25 PFAKE 11 13 20.0
J08A LR LR
comp=Z,3µm,20.0s
KMRM Mail Ridge 107.40 31 PFAKE 11 13 20.0
KMRM LR LR
comp=Z,3µm,20.0s
DLMT Dillon 107.50 21 PFAKE 11 13 20.0
DLMT LR LR
comp=Z,4µm,22.0s
MOD Modoc Plateau 107.57 27 PFAKE 11 13 20.0
MOD LR LR
comp=Z,4µm,22.0s
BOZ Bozeman (W) 107.60 20 PFAKE 11 13 20.0
BOZ LR LR
comp=Z,5µm,20.0s
WDC Whiskeytown Da 107.66 30 PFAKE 11 13 20.0
WDC LR LR
comp=Z,2µm,21.0s
WVOR Wild Horse Val 107.83 26 PFAKE 11 13 20.0
WVOR LR LR
comp=Z,3µm,18.0s
KCPM Cahto Peak 107.88 31 PFAKE 11 13 20.0
KCPM LR LR
comp=Z,2µm,18.0s
MFID Camas Ranch 108.08 24 PFAKE 11 13 20.0
MFID LR LR
comp=Z,3µm,20.0s
LAO LASA Array 108.13 16 PFAKE 11 13 20.0
LAO LR LR
comp=Z,4µm,20.0s
SBA Scott Base 108.14 168 PFAKE 11 13 20.0
SBA LR LR
comp=Z,1µm,18.0s
MDND Maddock 108.43 11 PFAKE 11 13 20.0
MDND LR LR
comp=Z,9µm,19.0s
HLID Hailey 108.47 23 PFAKE 11 13 20.0
HLID LR LR
comp=Z,7µm,20.0s
YHB Horse Butte 108.50 20 PFAKE 11 13 20.0
YHB LR LR
comp=Z,5µm,21.0s
YHH Holmes Hill 108.57 20 PFAKE 11 13 20.0
YHH LR LR
comp=Z,5µm,20.0s
YMR Madison River 108.64 20 PFAKE 11 13 20.0
YMR LR LR
comp=Z,5µm,21.0s
HOPS Hopland Field 108.67 31 PFAKE 11 13 20.0
HOPS LR LR
comp=Z,2µm,19.0s
YNR Norris Junctio 108.69 20 PFAKE 11 13 20.0
YNR LR LR
comp=Z,6µm,20.0s
RLMT Red Lodge 108.75 18 PFAKE 11 13 20.0
RLMT LR LR
comp=Z,5µm,20.0s
YFT Old Faithful 108.88 20 PFAKE 11 13 20.0
YFT LR LR
comp=Z,11µm,18.0s
LKWY Lake 108.91 19 PFAKE 11 13 20.0
LKWY LR LR
comp=Z,10µm,21.0s
GDXM Geysers 108.95 31 PFAKE 11 13 20.0
GDXM LR LR
comp=Z,2µm,19.0s
ORV Oroville 108.95 30 PFAKE 11 13 20.0
ORV LR LR
comp=Z,3µm,22.0s
H17A Grant Village 109.01 20 PFAKE 11 13 20.0
H17A LR LR
comp=Z,9µm,20.0s
YPP Pitchstone Pla 109.05 20 PFAKE 11 13 20.0
YPP LR LR
comp=Z,10µm,21.0s
GBN Guysborough 109.13 343 PFAKE 11 13 20.0
GBN LR LR
comp=Z,3µm,19.0s
BEKR Beckworth 109.22 29 PFAKE 11 13 20.0
BEKR LR LR
comp=Z,2µm,20.0s
FLWY Flagg Ranch 109.25 20 PFAKE 11 13 20.0
FLWY LR LR
comp=Z,5µm,21.0s
IMW Indian Meadow 109.35 20 PFAKE 11 13 20.0
IMW LR LR
comp=Z,4µm,20.0s
EYMN Ely 109.38 5 PFAKE 11 13 20.0
EYMN LR LR
comp=Z,5µm,20.0s
MCCM Marconi Confer 109.43 31 PFAKE 11 13 20.0
MCCM LR LR
comp=Z,2µm,20.0s
AFDM Forest Hills D 109.69 30 PFAKE 11 13 20.0
AFDM LR LR
comp=Z,2µm,21.0s
TPAW Teton Pass 109.71 20 PFAKE 11 13 30.0
TPAW LR LR
comp=Z,5µm,21.0s
PAHR Pah Rah Range 109.78 28 PFAKE 11 13 30.0
PAHR LR LR
comp=Z,3µm,20.0s
REDW Red Top Meadow 109.85 20 PFAKE 11 13 30.0
REDW LR LR
comp=Z,5µm,19.0s
RUBR Rubicon Trail 109.97 29 PFAKE 11 13 30.0
RUBR LR LR
comp=Z,3µm,21.0s
VCNR Virginia City 110.00 29 PFAKE 11 13 30.0
VCNR LR LR
comp=Z,3µm,20.0s
BMN Battle Mountai 110.08 26 PFAKE 11 13 30.0
BMN LR LR
comp=Z,3µm,19.0s
PNTR Pine Nut 110.19 29 PFAKE 11 13 30.0
PNTR LR LR
comp=Z,4µm,20.0s
AHID Auburn Hatcher 110.31 21 PFAKE 11 13 30.0
AHID LR LR
comp=Z,6µm,19.0s
YERR Yerington 110.43 28 PFAKE 11 13 30.0
YERR LR LR
comp=Z,3µm,20.0s
HVU Hansel Valley 110.61 22 PFAKE 11 13 30.0
HVU LR LR
comp=Z,6µm,22.0s
CMB Columbia Colle 110.69 30 PFAKE 11 13 30.0
CMB LR LR
comp=Z,2µm,20.0s
WAKR Walker 110.74 29 PFAKE 11 13 30.0
WAKR LR LR
comp=Z,4µm,20.0s
BW06 Boulder Array 110.80 20 PFAKE 11 13 30.0
BW06 LR LR
comp=Z,5µm,21.0s
PDAR Pinedale Array 110.80 20 PKiKP **PKiKP 11 13 16.5 +0.5**
comp=Z,0.9nm,0.8s,baz=302,slow=2.0,SNR=7.2
KVN Kaiserville 110.87 28 PFAKE 11 13 30.0
KVN LR LR
comp=Z,3µm,22.0s
RYN Ryan 111.04 28 PFAKE 11 13 30.0
RYN LR LR
comp=Z,2µm,18.0s
RSSD Black Hills 111.07 15 PFAKE 11 13 30.0
RSSD LR LR
comp=Z,4µm,21.0s
SAO San Andreas Ge 111.22 31 PFAKE 11 13 30.0
SAO LR LR
comp=Z,2µm,20.0s
BGU Big Grassy Mou 111.27 23 PFAKE 11 13 30.0

BGU LR LR
comp=Z,5µm,19.0s
NVAR Mina Array Bea 111.30 28 PKiKP **PKiKP 11 13 16.7 -0.3**
comp=Z,0.5nm,0.7s,baz=279,slow=2.9,SNR=4.8
NVAR PP **PP 11 13 56.9 +1.0**
comp=Z,2.0nm,0.8s,baz=302,slow=8.4,SNR=5.5
NVAR PKKPbc **PKKPbc 11 24 11.3 -1.7**
comp=Z,1.1nm,0.9s,baz=145,slow=5.4,SNR=5.4
COWI Conover 111.39 4 PFAKE 11 13 30.0
COWI LR LR
comp=Z,6µm,20.0s
ASCN Ascension 111.55 270 PFAKE 11 13 30.0
ASCN LR LR
comp=Z,4µm,22.0s
MDPB Devils Postpil 111.62 29 PFAKE 11 13 30.0
MDPB LR LR
comp=Z,2µm,20.0s
OMMB Old Mammoth Mi 111.67 29 PFAKE 11 13 30.0
OMMB LR LR
comp=Z,3µm,19.0s
TCUT Toone Canyon 111.67 22 PFAKE 11 13 30.0
TCUT LR LR
comp=Z,8µm,18.0s
K22A Casper 111.80 18 PFAKE 11 13 30.0
K22A LR LR
comp=Z,4µm,20.0s
CTU Camp Tracy 111.94 22 PFAKE 11 13 30.0
CTU LR LR
comp=Z,5µm,19.0s
PMPB Monarch Peak 111.97 31 PFAKE 11 13 30.0
PMPB LR LR
comp=Z,2µm,21.0s
DUG Dugway, Tooele 111.99 23 PFAKE 11 13 30.0
DUG LR LR
comp=Z,5µm,20.0s
G40A Rib Lake 112.14 5 PFAKE 11 13 30.0
G40A LR LR
comp=Z,5µm,19.0s
NLU North Lily Min 112.47 23 PFAKE 11 13 30.0
NLU LR LR
comp=Z,4µm,21.0s
RWWY Rawlins 112.49 18 PFAKE 11 13 30.0
RWWY LR LR
comp=Z,6µm,20.0s
QSPA South Pole Qui 112.52 180 PFAKE 11 13 30.0
QSPA LR LR
comp=Z,3µm,22.0s
R11A Troy Canyon, C 112.52 26 PFAKE 11 13 30.0
R11A LR LR
comp=Z,2µm,19.0s
MPU Maple Canyon 112.58 23 PFAKE 11 13 30.0
MPU LR LR
comp=Z,4µm,21.0s
PAGB Antelope Grade 112.62 31 PFAKE 11 13 30.0
PAGB LR LR
comp=Z,2µm,19.0s
SADO Sadowa 112.70 356 PFAKE 11 13 30.0
SADO LR LR
comp=Z,5µm,20.0s
ECSD EROS Data Cent 112.92 10 PFAKE 11 13 30.0
ECSD LR LR
comp=Z,4µm,20.0s
NCB Newcomb 113.03 352 PFAKE 11 13 30.0
NCB LR LR
comp=Z,3µm,22.0s
PSUT Pine Spring 113.05 25 PFAKE 11 13 30.0
PSUT LR LR
comp=Z,4µm,20.0s
H43A Windswept, Lux 113.08 3 PFAKE 11 13 30.0
H43A LR LR
comp=Z,4µm,18.0s
PHWY Pilot Hill 113.35 17 PFAKE 11 13 30.0
PHWY LR LR
comp=Z,3µm,22.0s
TMUT Trail Mountain 113.36 23 PFAKE 11 13 30.0
TMUT LR LR
comp=Z,4µm,20.0s
I41A Arkdale 113.37 4 PFAKE 11 13 30.0
I41A LR LR
comp=Z,6µm,21.0s
P17A Butcher Ranch, 113.37 22 PFAKE 11 13 30.0
P17A LR LR
comp=Z,4µm,19.0s
DAC Darwin (Calif) 113.41 29 PFAKE 11 13 30.0
DAC LR LR
comp=Z,2µm,22.0s
TPNV Topopah Spring 113.43 28 PFAKE 11 13 30.0
TPNV LR LR
comp=Z,2µm,20.0s
ISA Isabella, Lake 113.51 30 PFAKE 11 13 30.0
ISA LR LR
comp=Z,2µm,19.0s
N23A Red Feather La 113.59 18 PFAKE 11 13 30.0
N23A LR LR
comp=Z,4µm,19.0s
O20A White River Ci 113.60 20 PFAKE 11 13 30.0
O20A LR LR
comp=Z,5µm,18.0s
SRU San Rafael Swe 113.77 22 PFAKE 11 13 30.0
SRU LR LR
comp=Z,4µm,22.0s
SNAA Sanae 114.06 200 PKP PKPdf 11 13 17.8 -3.1
SNAA Sanae 114.06 200 PFAKE 11 13 30.0 +9.1
SNAA LR LR
comp=Z,3µm,19.0s
CCUT Cedar City 114.10 25 PFAKE 11 13 30.0 +7.6
CCUT LR LR
comp=Z,4µm,20.0s
MTPU Mount Pierson 114.12 24 PFAKE 11 13 30.0 +7.4
MTPU LR LR
comp=Z,4µm,20.0s
SZCU Shurtz Canyon 114.17 25 PFAKE 11 13 30.0 +7.5
SZCU LR LR
comp=Z,3µm,20.0s
OSI Osito Audit: C 114.26 31 PFAKE 11 13 30.0 +7.5
OSI LR LR
comp=Z,2µm,20.0s
SHPR Sheep Range 114.27 27 PFAKE 11 13 30.0 +7.3
SHPR LR LR
comp=Z,5µm,18.0s
JFWS Jewell Farm 114.48 5 PFAKE 11 13 30.0 +7.3
JFWS LR LR
comp=Z,5µm,20.0s
OGNE Ogallala 114.56 15 PFAKE 11 13 30.0 +7.0
OGNE LR LR
comp=Z,5µm,19.0s
GSC Goldstone, Bar 114.57 29 PFAKE 11 13 30.0 +6.8
GSC LR LR
comp=Z,2µm,21.0s
PKCU Pink Cliffs 114.60 24 PFAKE 11 13 30.0 +6.5
PKCU LR LR
comp=Z,3µm,20.0s
LCMT Little Creek M 114.61 25 PFAKE 11 13 30.0 +6.7
LCMT LR LR
comp=Z,3µm,19.0s
ISCO Idaho Springs 114.70 18 PFAKE 11 13 30.0 +6.4
ISCO LR LR
comp=Z,6µm,18.0s
KNB Kanab 114.77 25 PFAKE 11 13 30.0 +6.4
KNB LR LR
comp=Z,3µm,20.0s
K43A Burlington 114.81 3 PFAKE 11 13 30.0 +6.7
K43A LR LR
comp=Z,4µm,22.0s
PASC Pasadena Art C 114.87 31 PFAKE 11 13 40.0 +16
PASC LR LR
comp=Z,2µm,20.0s
PV22 Blue Mesa, Par 114.88 21 PFAKE 11 13 40.0 +16
PV22 LR LR
comp=Z,5µm,19.0s
MWC Mount Wilson 114.89 31 PFAKE 11 13 40.0 +16
MWC LR LR
comp=Z,2µm,19.0s
BGNE Belgrade 114.92 12 PFAKE 11 13 30.0 +6.4
BGNE LR LR
comp=Z,9µm,19.0s
PV14 Lion Creek, Pa 114.95 21 PFAKE 11 13 40.0 +16
PV14 LR LR
comp=Z,6µm,20.0s
SNCC San Nicolas Is 114.98 32 PFAKE 11 13 40.0 +16
SNCC LR LR
comp=Z,2µm,20.0s
PV20 West Nyswonger 114.99 21 PFAKE 11 13 40.0 +16
PV20 LR LR
comp=Z,5µm,19.0s
PV19 Morning Glory 115.02 21 PFAKE 11 13 40.0 +16
PV19 LR LR
comp=Z,5µm,20.0s
PV16 Nyswonger Mesa 115.04 21 PFAKE 11 13 40.0 +16
PV16 LR LR
comp=Z,7µm,20.0s
PV17 East Wray Mesa 115.05 21 PFAKE 11 13 40.0 +16
PV17 LR LR
comp=Z,8µm,21.0s
PV18 Skein Mesa, Pa 115.10 21 PFAKE 11 13 40.0 +16
PV18 LR LR
comp=Z,5µm,19.0s
SCIA State Center 115.19 7 PFAKE 11 13 40.0 +16
SCIA LR LR
comp=Z,4µm,19.0s
PV13 Radium Mtn., P 115.21 21 PFAKE 11 13 40.0 +15
PV13 LR LR
comp=Z,6µm,18.0s
L42A Oliver, Polo 115.43 4 PFAKE 11 13 40.0 +15
L42A LR LR
comp=Z,4µm,20.0s
U15A North Rim 115.49 25 PFAKE 11 13 40.0 +15
U15A LR LR
comp=Z,4µm,20.0s
LDFC Landfair 115.50 28 PFAKE 11 13 40.0 +15
LDFC LR LR
comp=Z,3µm,18.0s
VNA2 Neumayer--Watz 115.56 201 PKP **PKPdf 11 13 26.5 +2.7**
Q24A Divide 115.61 18 PFAKE 11 13 40.0 +15
Q24A LR LR
comp=Z,4µm,18.0s
VNA1 Neumayer--Stat 115.87 201 PKP **PKPdf 11 13 22.0 -2.3**
PAL Palisades 115.90 351 PFAKE 11 13 40.0 +15
PAL LR LR
comp=Z,4µm,19.0s
ODNJ Ogdensburg 115.92 352 PFAKE 11 13 40.0 +15
ODNJ LR LR
comp=Z,4µm,22.0s
W13A Hualapai Mount 116.00 27 PFAKE 11 13 40.0 +14
W13A LR LR
comp=Z,3µm,20.0s
PFO Pinyon Flats O 116.14 30 PFAKE 11 13 40.0 +14
PFO LR LR
comp=Z,2µm,20.0s
M48A Edgerton 116.14 0 PFAKE 11 13 40.0 +14
M48A LR LR
comp=Z,4µm,19.0s
MVCO Mesa Verde 116.17 21 PFAKE 11 13 40.0 +14
MVCO LR LR
comp=Z,5µm,19.0s
N59A State Game Lan 116.22 353 PFAKE 11 13 40.0 +14
N59A LR LR
comp=Z,4µm,21.0s
S22A 4UR Ranch, Cre 116.23 20 PFAKE 11 13 40.0 +13
S22A LR LR
comp=Z,6µm,19.0s
KSCO Kaye Shedlock' 116.24 16 PFAKE 11 13 40.0 +14
KSCO LR LR
comp=Z,5µm,21.0s
VNA3 Neumayer Olymp 116.27 200 PKP **PKPdf 11 13 25.3 +0.2**
N39A Derby Farms, D 116.28 7 PFAKE 11 13 40.0 +14
N39A LR LR
comp=Z,5µm,19.0s
N41A Harden Midland 116.62 6 PFAKE 11 13 40.0 +13
N41A LR LR
comp=Z,7µm,19.0s
SDCO Great Sand Dun 116.64 19 PFAKE 11 13 40.0 +13
SDCO LR LR
comp=Z,4µm,19.0s
WUAZ Wupatki 116.65 25 PFAKE 11 13 40.0 +13
WUAZ LR LR
comp=Z,3µm,19.0s
N51A Ashland 116.69 358 PFAKE 11 13 40.0 +13
N51A LR LR
comp=Z,6µm,19.0s
BAR Barrett 116.81 30 PFAKE 11 13 40.0 +13
BAR LR LR
comp=Z,2µm,20.0s
Y12C Blythe 116.89 28 PFAKE 11 13 40.0 +12
Y12C LR LR
comp=Z,2µm,19.0s
PAGS Pennsylvania G 117.01 354 PFAKE 11 13 40.0 +12
PAGS LR LR
comp=Z,4µm,20.0s
CBKS Cedar Bluff 117.11 14 PFAKE 11 13 40.0 +12
CBKS LR LR
comp=Z,4µm,22.0s
PSUB Penn St. - Bra 117.16 352 PFAKE 11 13 40.0 +12
PSUB LR LR
comp=Z,3µm,19.0s
GLA Glamis 117.34 29 PFAKE 11 13 40.0 +11
GLA LR LR
comp=Z,2µm,19.0s
ACSO Alum Creek Sta 117.38 359 PFAKE 11 13 40.0 +12
ACSO LR LR
comp=Z,4µm,21.0s
KSU1 Kansas State U 117.44 11 PFAKE 11 13 40.0 +12
KSU1 LR LR
comp=Z,10µm,18.0s
O52A Adamsville 117.47 358 PFAKE 11 13 40.0 +11
O52A LR LR
comp=Z,5µm,18.0s
T25A Trinidad 117.52 18 PFAKE 11 13 40.0 +11
T25A LR LR
comp=Z,3µm,18.0s
X16A Lo Mia Camp, P 117.59 25 PFAKE 11 13 40.0 +11
X16A LR LR
comp=Z,4µm,22.0s
W18A Petrified Fore 117.62 23 PFAKE 11 13 40.0 +11
W18A LR LR
comp=Z,3µm,21.0s
P42A Winchester 117.78 5 PFAKE 11 13 40.0 +11
P42A LR LR
comp=Z,5µm,19.0s
SDMD Soldier's Deli 117.83 354 PFAKE 11 13 40.0 +11
SDMD LR LR
comp=Z,2µm,20.0s
P45A Graceland, Par 118.01 3 PFAKE 11 13 40.0 +10
P45A LR LR
comp=Z,4µm,20.0s
113A Mohawk Valley, 118.05 28 PFAKE 11 13 40.0 +10
113A LR LR
comp=Z,2µm,21.0s
X18A Snowflake 118.06 24 PFAKE 11 13 40.0 +10
X18A LR LR
comp=Z,4µm,19.0s
P53A Whipple 118.08 358 PFAKE 11 13 40.0 +10
P53A LR LR
comp=Z,4µm,19.0s
P51A Williamsport 118.14 359 PFAKE 11 13 40.0 +10
P51A LR LR
comp=Z,5µm,21.0s
Q51A Peebles 118.59 359 PFAKE 11 13 40.0 +9.3
Q51A LR LR
comp=Z,4µm,21.0s
SLM Saint Louis 118.73 5 PFAKE 11 13 40.0 +9.1
SLM LR LR
comp=Z,7µm,19.0s
OLIL Olney 118.78 3 PFAKE 11 13 40.0 +9.0
OLIL LR LR
comp=Z,4µm,19.0s
PPT2 Papeete2 118.86 98 ePS PS 11 24 38.7 +0.2
comp=Z,332nm,25.2s
PPT2 eSS SS 11 31 08.2 -2.0
comp=Z,543nm,26.2s
PPT2 Papeete2 118.86 98 eLQ LQ 11 44 44.4
comp=Z,2µm,32.2s
PPT2 eLR LR 11 49 41.5
comp=Z,3µm,25.5s
ANMO Albuquerque 118.91 21 PFAKE 11 13 40.0 +8.3
ANMO LR LR
comp=Z,4µm,18.0s
LAZ Ladron 119.18 22 ePKPdf **PKPdf 11 13 32.9 +0.7**
CCM Cathedral Cave 119.21 6 PFAKE 11 13 40.0 +8.1
CCM LR LR
comp=Z,5µm,21.0s
FVM French Village 119.36 6 PFAKE 11 13 40.0 +7.8
FVM LR LR
comp=Z,6µm,18.0s
WCI Wyandotte Cave 119.36 2 PFAKE 11 13 40.0 +7.8
WCI LR LR
comp=Z,5µm,20.0s
LENM Lemitar 119.45 22 ePKPdf **PKPdf 11 13 32.3 -0.4**
Y22D IRIS PASSCAL I 119.55 22 PFAKE 11 13 40.0 +7.1
Y22D LR LR
comp=Z,4µm,22.0s
BNM Barren Site 119.58 21 ePKPdf **PKPdf 11 13 33.6 +0.6**
TUC Tucson 119.70 26 PFAKE 11 13 40.0 +6.9
TUC LR LR
comp=Z,4µm,21.0s
SIUC Southern Illin 119.73 5 PFAKE 11 13 40.0 +7.1
SIUC LR LR
comp=Z,6µm,20.0s
S51A Beattyville 119.98 359 ePKPdf **PKPdf 11 13 33.0 -0.4**
T42A Van Buren 120.24 6 ePKPdf **PKPdf 11 13 34.2 +0.3**
T42A LR LR
comp=Z,4µm,18.0s
BLA Blacksburg 120.30 356 PFAKE 11 13 50.0 +16
BLA LR LR
comp=Z,5µm,21.0s
AMTX Amarillo 120.39 17 PFAKE 11 13 50.0 +16
AMTX LR LR
comp=Z,4µm,21.0s
TBI Tubuai 120.45 105 ePS PS 11 24 53.1 +0.6
comp=Z,365nm,30.2s
TBI eSS SS 11 31 24.8 -5.6
comp=Z,920nm,27.5s
TBI Tubuai 120.45 105 eLQ LQ 11 45 23.7
comp=Z,2µm,41.0s
TBI eLR LR 11 50 25.3
comp=Z,2µm,26.8s
T45A Paducah 120.46 4 PFAKE 11 13 50.0 +16
T45A LR LR
comp=Z,5µm,20.0s
T49A Edmonton 120.50 1 PFAKE 11 13 50.0 +16
T49A LR LR
comp=Z,4µm,20.0s
T47A Sharon Grove 120.57 3 ePKPdf **PKPdf 11 13 34.8 +0.2**
HHAR Hobbs 120.62 9 PFAKE 11 13 50.0 +15
HHAR LR LR
comp=Z,6µm,20.0s
TUL1 Leonard 120.69 11 PFAKE 11 13 50.0 +15
TUL1 LR LR
comp=Z,8µm,18.0s
PARMO Parma 120.73 5 PFAKE 11 13 50.0 +15
PARMO LR LR
comp=Z,5µm,19.0s
MSTX Muleshoe 120.95 18 PFAKE 11 13 50.0 +14
MSTX LR LR
comp=Z,4µm,22.0s
PVMO Portageville 120.98 5 PFAKE 11 13 50.0 +15
PVMO LR LR
comp=Z,5µm,18.0s
TZTN Tazewell 121.07 359 PFAKE 11 13 50.0 +14
TZTN LR LR
comp=Z,4µm,18.0s
319A Douglas 121.12 25 PFAKE 11 13 50.0 +14
319A LR LR
comp=Z,4µm,21.0s
GLAT Glass 121.16 5 PFAKE 11 13 50.0 +14
GLAT LR LR
comp=Z,7µm,19.0s
WMOK Wichita Mounta 121.23 14 PFAKE 11 13 50.0 +14
WMOK LR LR
comp=Z,5µm,18.0s
WVT Waverly 121.39 3 ePKPdf **PKPdf 11 13 36.6 +0.4**
WVT LR LR
comp=Z,6µm,19.0s
WVT Waverly 121.39 3 ePKIKP **PKPdf 11 13 36.6 +0.4**
WVT MLR MLR
comp=Z,6µm,19.0s
GNAR Gosnell 121.40 5 PFAKE 11 13 50.0 +14
GNAR LR LR
comp=Z,6µm,19.0s
HALT Halls 121.51 5 PFAKE 11 13 50.0 +14
HALT LR LR
comp=Z,5µm,18.0s
V52A Sevierville 121.78 359 ePKPdf **PKPdf 11 13 37.4 +0.5**
V52A LR LR
comp=Z,4µm,21.0s
EPT El Paso 121.79 22 PFAKE 11 13 50.0 +13
EPT LR LR
comp=Z,4µm,18.0s
V51A Loudon 121.82 0 PFAKE 11 13 50.0 +13
V51A LR LR
comp=Z,4µm,20.0s
V48A Smith Brothers 121.83 2 PFAKE 11 13 50.0 +13
V48A LR LR
comp=Z,5µm,20.0s
V53A Saluda 121.94 359 ePKPdf **PKPdf 11 13 37.7 +0.4**
V53A LR LR
comp=Z,4µm,19.0s
TKL Tuckaleechee C 121.96 360 ePKPdf **PKPdf 11 13 37.0 -0.3**
TKL LR LR
comp=Z,4µm,18.0s
TKL Tuckaleechee C 121.96 360 ePKIKP **PKPdf 11 13 37.0 -0.3**
TKL MLR MLR
comp=Z,4µm,18.0s
CNNC Cliffs of the 122.07 354 PFAKE 11 13 50.0 +13
CNNC LR LR
comp=Z,4µm,19.0s
CPCT Cooper Cave 122.17 0 PFAKE 11 13 50.0 +12
CPCT LR LR
comp=Z,4µm,20.0s
MET Memphis--Engin 122.24 6 PFAKE 11 13 50.0 +12
MET LR LR
comp=Z,4µm,19.0s
MNTX Cornudas Mount 122.24 21 PFAKE 11 13 50.0 +12
MNTX LR LR
comp=Z,4µm,21.0s
UALR University of 122.33 8 PFAKE 11 13 50.0 +12
UALR LR LR
comp=Z,6µm,19.0s
SWET Sewanee 122.38 2 PFAKE 11 13 50.0 +12
SWET LR LR
comp=Z,3µm,20.0s
MIAR Mount Ida 122.38 9 ePKPdf **PKPdf 11 13 38.0 0.0**
MIAR LR LR
comp=Z,6µm,20.0s
MIAR Mount Ida 122.38 9 ePKIKP **PKPdf 11 13 38.1 0.0**
MIAR MLR MLR
comp=Z,6µm,20.0s
W50A Signal Mountai 122.41 1 PFAKE 11 13 50.0 +12
W50A LR LR
comp=Z,5µm,19.0s
KMSC Kings Mountain 122.41 357 PFAKE 11 13 50.0 +12
KMSC LR LR
comp=Z,4µm,19.0s
HSIG 122.50 28 PFAKE 11 13 50.0 +12
HSIG LR LR
comp=Z,3µm,22.0s
PLAL Pickwick Lake 122.52 4 ePKPdf **PKPdf 11 13 37.6 -0.7**
PLAL LR LR
comp=Z,4µm,20.0s
W52A Murphy 122.52 360 ePKPdf **PKPdf 11 13 39.5 +1.0**
BG3 Lake Jocassee 122.61 359 ePKPdf **PKPdf 11 13 38.7 +0.2**
BG3 LR LR
comp=Z,7µm,22.0s
X43A Marvell 122.75 7 PFAKE 11 13 50.0 +11
X43A LR LR
comp=Z,5µm,20.0s
PAULI Pauline 122.75 358 PFAKE 11 13 50.0 +11
PAULI LR LR
comp=Z,4µm,20.0s
OXF Oxford 122.89 5 PFAKE 11 13 50.0 +11
OXF LR LR
comp=Z,4µm,18.0s
X51A Calhoun 123.05 1 PFAKE 11 13 50.0 +11
X51A LR LR
comp=Z,4µm,20.0s
ABTX Abilene, Hawle 123.05 16 PFAKE 11 13 50.0 +11
ABTX LR LR
comp=Z,5µm,22.0s
X48A Hartselle 123.10 3 ePKPdf **PKPdf 11 13 39.8 +0.3**
X48A LR LR
comp=Z,5µm,19.0s
CCAR Cane Creek 123.24 7 PFAKE 11 13 50.0 +10
CCAR LR LR
comp=Z,7µm,18.0s
HODGE Hodges 123.35 358 PFAKE 11 13 50.0 +10
HODGE LR LR
comp=Z,4µm,19.0s
Y49A Blount Mountai 123.72 2 ePKPdf **PKPdf 11 13 40.8 +0.1**
Y49A LR LR
comp=Z,6µm,19.0s
Y52A Lilburn 123.75 360 PFAKE 11 13 50.0 +9.2
Y52A LR LR
comp=Z,5µm,19.0s
Z41A Richland Creek 123.76 9 PFAKE 11 13 50.0 +9.3
Z41A LR LR

comp=Z,6μm,19.0s
WHTX **Lake Whitney,** **124.17** **14** PFAKE 11 13 50.0 +8.4
WHTX LR LR
comp=Z,4μm,22.0s
GOGA **Godfrey** **124.20** **359** PFAKE 11 13 50.0 +8.4
GOGA LR LR
comp=Z,4μm,20.0s
Z50A **Ashland** **124.34** **2** *e*PKPdf **PKPdf** **11 13 42.0 +0.1**
Z50A LR LR
comp=Z,6μm,20.0s
NHSC **New Hope** **124.37** **356** PFAKE 11 13 50.0 +8.1
NHSC LR LR
comp=Z,5μm,22.0s
143A **Socs Landing,** **124.48** **7** PFAKE 11 13 50.0 +7.9
143A LR LR
comp=Z,8μm,18.0s
LRAL **Lakeview Retre** **124.52** **3** PFAKE 11 13 50.0 +7.8
LRAL LR LR
comp=Z,6μm,21.0s
TAOE **Nuku Hiva Isla** **124.76** **85** *e*LR LR 11 52 23.0
comp=Z,2μm,23.9s
146A **Union** **124.78** **5** *e*PKPdf **PKPdf** **11 13 44.3 +1.5**
146A LR LR
comp=Z,6μm,18.0s
147A **Livingston** **124.80** **4** *e*PKPdf **PKPdf** **11 13 43.5 +0.7**
147A LR LR
comp=Z,4μm,18.0s
240A **Hunter Patters** **124.81** **10** PFAKE 11 13 50.0 +7.2
240A LR LR
comp=Z,8μm,18.0s
NATX **Nacogdoches** **124.94** **11** PFAKE 11 13 50.0 +6.9
NATX LR LR
comp=Z,7μm,18.0s
152A **Waverly Hall** **124.94** **0** PFAKE 11 13 50.0 +6.9
152A LR LR
comp=Z,5μm,21.0s
241A **Mo Tay, Goldon** **124.96** **9** PFAKE 11 13 50.0 +6.9
241A LR LR
comp=Z,5μm,20.0s
TX31 **Lajitas Ar. Si** **124.99** **21** *e*PKPdf **PKPdf** **11 13 43.9 +0.6**
154A **Montrose** **124.99** **359** PFAKE 11 13 50.0 +6.9
154A LR LR
comp=Z,4μm,20.0s
LTX **Lajitas** **124.99** **21** *e*PKPdf **PKPdf** **11 13 42.3 -1.1**
LTX *e*PP **PP** **11 15 32.0 +1.5**
TXAR **Lajitas Array** **124.99** **21** PKP **PKPdf** **11 13 42.3 -1.1**
comp=Z,3.3nm,0.9s,baz=240,slow=2.6,SNR=18
TXAR PP **PP** **11 15 32.0 +1.5**
comp=Z,7.0nm,1.1s,baz=330,slow=4.3,SNR=7.7
JCT **Junction City** **125.05** **16** *e*PKPdf **PKPdf** **11 13 41.9 -1.5**
JCT LR LR
comp=Z,4μm,21.0s
JCT **Junction City** **125.05** **16** *e*PKIKP **PKPdf** **11 13 41.9 -1.5**
JCT MLR MLR
comp=Z,4μm,21.0s
VBMS **Vicksburg** **125.06** **7** PFAKE 11 13 50.0 +6.7
VBMS LR LR
comp=Z,4μm,20.0s
435B **Jarrell** **125.30** **14** PFAKE 11 14 00.0 +16
435B LR LR
comp=Z,5μm,21.0s
253A **Americus** **125.55** **360** PFAKE 11 14 00.0 +16
253A LR LR
comp=Z,5μm,19.0s
257A **Skidaway Islan** **125.55** **357** PFAKE 11 14 00.0 +16
257A LR LR
comp=Z,5μm,20.0s
341A **Kurthwood** **125.60** **9** PFAKE 11 14 00.0 +16
341A LR LR
comp=Z,8μm,20.0s
250A **Grady** **125.60** **2** *e*PKPpre PKPpre 11 13 37.6
250A LR LR
comp=Z,6μm,18.0s
255A **Hazlehurst** **125.66** **358** PFAKE 11 14 00.0 +16
255A LR LR
comp=Z,4μm,19.0s
342A **Flagon Creek P** **125.68** **9** PFAKE 11 14 00.0 +16
342A LR LR
comp=Z,6μm,21.0s
344A **Westbrook Farm** **125.80** **7** PFAKE 11 14 00.0 +15
344A LR LR
comp=Z,6μm,18.0s
352A **Blakely** **126.12** **1** PFAKE 11 14 00.0 +15
352A LR LR
comp=Z,5μm,18.0s
TIGA **Tifton** **126.17** **359** PFAKE 11 14 00.0 +15
TIGA LR LR
comp=Z,5μm,20.0s
HKT **Hockley** **126.48** **13** PFAKE 11 14 00.0 +14
HKT LR LR
comp=Z,5μm,18.0s
HPIG **126.48** **24** PFAKE 11 14 00.0 +14
HPIG LR LR
comp=Z,3μm,20.0s
447A **Lucedale** **126.64** **5** PFAKE 11 14 00.0 +14
447A LR LR
comp=Z,4μm,20.0s
456A **Hilliard** **126.84** **358** PFAKE 11 14 00.0 +13
456A LR LR
comp=Z,4μm,20.0s
451A **Vernon** **126.97** **2** PFAKE 11 14 00.0 +13
451A LR LR
comp=Z,5μm,18.0s
833A **Chaparral WMA,** **127.21** **17** PFAKE 11 14 00.0 +13
833A LR LR
comp=Z,4μm,20.0s
545A **Edgard** **127.22** **7** PFAKE 11 14 00.0 +13
545A LR LR
comp=Z,7μm,20.0s
555A **McAlpin** **127.47** **359** PFAKE 11 14 00.0 +12
555A LR LR
comp=Z,6μm,21.0s
658A **Bunnell** **128.10** **357** PFAKE 11 14 00.0 +11
658A LR LR
comp=Z,4μm,18.0s
656A **Willston** **128.21** **358** PFAKE 11 14 00.0 +11
656A LR LR
comp=Z,4μm,18.0s
KVTX **Kingsville** **128.34** **16** PFAKE 11 14 00.0 +10
KVTX LR LR
comp=Z,5μm,22.0s
DWPF **Disney Wildern** **129.41** **357** PFAKE 11 14 00.0 +8.3
DWPF LR LR
comp=Z,4μm,18.0s
957A **Wimauma** **129.89** **358** PFAKE 11 14 00.0 +7.4
957A LR LR
comp=Z,5μm,18.0s
060A **Indiantown** **130.41** **355** PFAKE 11 14 00.0 +6.4
060A LR LR
comp=Z,4μm,18.0s
LNIG **Linares** **130.43** **18** PFAKE 11 14 10.0 +16
LNIG LR LR
comp=Z,2μm,21.0s
RCBR **Riachuelo** **130.50** **282** PFAKE 11 14 10.0 +16
RCBR LR LR
comp=Z,2μm,22.0s
059A **Moore Haven** **130.53** **356** PFAKE 11 14 10.0 +16
059A LR LR
comp=Z,4μm,18.0s
ZAIG **Zacatecas** **131.41** **23** PFAKE 11 14 10.0 +14
ZAIG LR LR
comp=Z,4μm,21.0s
061Z **Ochoppi** **131.62** **356** PFAKE 11 14 10.0 +14
061Z LR LR
comp=Z,3μm,18.0s
RKT **Rikitea** **133.46** **101** *e*SS SS 11 34 11.0 -1.7
comp=Z,867nm,30.8s
RKT **Rikitea** **133.46** **101** *e*LQ LQ 11 50 52.3
comp=Z,1μm,31.5s
RKT *e*LR LR 11 56 31.1
comp=Z,1μm,27.5s
JRQG **Juriquilla Cam** **134.05** **21** PFAKE 11 14 10.0 +9.0
JRQG LR LR
comp=Z,5μm,20.0s
GRTK **Grand Turk** **134.24** **343** PFAKE 11 14 10.0 +9.1
GRTK LR LR
comp=Z,3μm,19.0s
ANWB **Willy Bob** **134.26** **329** PFAKE 11 14 10.0 +8.9
ANWB LR LR
comp=Z,2μm,20.0s
ABVI **Anegada Island** **134.46** **333** PFAKE 11 14 10.0 +8.6
ABVI LR LR
comp=Z,3μm,21.0s
SMRT **St. Maarten** **134.52** **331** PFAKE 11 14 10.0 +8.4
SMRT LR LR
comp=Z,6μm,21.0s
MOIG **Morelia** **134.74** **23** PFAKE 11 14 10.0 +7.7
MOIG LR LR
comp=Z,3μm,21.0s
SEUS **St. Eustatius** **134.97** **331** PFAKE 11 14 10.0 +7.6
SEUS LR LR
comp=Z,2μm,20.0s
SABA **Saba** **134.97** **331** PFAKE 11 14 10.0 +7.6
SABA LR LR
comp=Z,2μm,22.0s
CUPR **Culebra, Puert** **135.23** **334** PFAKE 11 14 10.0 +7.1
CUPR LR LR
comp=Z,1μm,20.0s
CBYP **Canovanas** **135.49** **335** PFAKE 11 14 10.0 +6.5
CBYP LR LR
comp=Z,2μm,22.0s
UNM **Universidad Na** **135.75** **20** PFAKE 11 14 20.0 +16
UNM LR LR
comp=Z,3μm,21.0s
SJG **San Juan** **135.75** **335** PFAKE 11 14 20.0 +16
SJG LR LR
comp=Z,2μm,21.0s
MPR **Mayaguez** **136.04** **336** PFAKE 11 14 20.0 +16
MPR LR LR
comp=Z,2μm,18.0s
ICMP **Isla Caja de M** **136.10** **335** PFAKE 11 14 20.0 +16
ICMP LR LR
comp=Z,2μm,22.0s
LVIG **Laguna Verde** **136.19** **17** PFAKE 11 14 20.0 +15
LVIG LR LR
comp=Z,1μm,21.0s
CRPR **Cabo Rojo, PR** **136.22** **336** PFAKE 11 14 20.0 +15
CRPR LR LR
comp=Z,3μm,19.0s
FDF **Fort de France** **136.47** **327** PFAKE 11 14 20.0 +15
FDF LR LR
comp=Z,2μm,22.0s
SDDR **Presa de Saban** **136.69** **342** PFAKE 11 14 20.0 +14
SDDR LR LR
comp=Z,3μm,19.0s
GTBY **Guantanamo Bay** **136.71** **347** PFAKE 11 14 20.0 +14
GTBY LR LR
comp=Z,4μm,22.0s
BBGH **Gun Hill** **136.95** **323** PFAKE 11 14 20.0 +14
BBGH LR LR
comp=Z,2μm,19.0s
TEIG **Tepich** **137.15** **6** PFAKE 11 14 20.0 +14
TEIG LR LR
comp=Z,2μm,21.0s
SVB **Belmont** **137.75** **326** PFAKE 11 14 20.0 +12
SVB LR LR
comp=Z,2μm,22.0s
MTDJ **Mount Denham** **138.80** **350** PFAKE 11 14 20.0 +10
MTDJ LR LR
comp=Z,4μm,20.0s
TGUH **Tegucigalpa,Un** **143.35** **5** PFAKE 11 14 30.0 +12
TGUH LR LR
comp=Z,2μm,21.0s
SNET **Serv Nac Est T** **143.51** **8** PFAKE 11 14 30.0 +12
SNET LR LR
comp=Z,3μm,22.0s
ESTN **Estel** **144.36** **4** PFAKE 11 14 30.0 +10
ESTN LR LR
comp=Z,1μm,19.0s
EFI **East Falkland** **144.72** **208** *e*PKPdf **PKPdf** **11 14 19.9 +0.9**
BOAB **BOACO BROADBAN** **146.04** **2** *e*PKPbc **PKPdf** **11 14 20.6 -0.1**
BDFB **Brasilia** **145.14** **275** PKPbc **PKPbc** **11 14 19.9 -0.6**
comp=Z,8.7nm,0.6s,baz=96,slow=4.4,SNR=13
BDFB **Brasilia** **145.14** **275** *e*PKPbc **PKPbc** **11 14 19.9 -0.6**
BDFB LR LR
comp=Z,3μm,19.0s
BDFB **Brasilia** **145.14** **275** *e*PKIKP **PKPbc** **11 14 19.9 -0.6**
BDFB MLR MLR
comp=Z,3μm,19.0s
ESPN **Las Esperanzas** **145.32** **0** *e*PKPbc **PKPbc** **11 14 20.1 -0.7**
ESPN LR LR
comp=Z,2μm,21.0s
CODC **Agust´›n Codaz** **145.89** **341** *e*P **PKPdf** **11 14 20.3 -1.9**
SDV **Santo Domingo** **145.90** **336** *e*PKPdf **PKPbc** **11 14 23.0 0.0**
SDV LR LR
comp=Z,2μm,22.0s
SPB **Sao Paulo** **146.21** **261** PFAKE 11 14 30.0 +5.8
SPB LR LR
comp=Z,4μm,19.0s
JTS **JuntasAbangare** **147.21** **1** PFAKE 11 14 40.0 +12
JTS LR LR
comp=Z,2μm,20.0s
OCAC **Ocana** **147.45** **340** *e*P **PKPdf** **11 14 25.9 +0.9**
MOTC **Monteria, Cord** **147.61** **344** *e*P **PKPdf** **11 14 26.2 +1.1**
PTGA **Pitinga** **147.85** **309** *e*PKPbc **PKPbc** **11 14 28.7 +0.3**
PTGA LR LR
comp=Z,2μm,21.0s
GO10 **Punta Arenas** **147.97** **195** *e*PKPbc **PKPab** **11 14 31.0 +0.8**
BCIP **Isla Barro Col** **148.04** **352** PFAKE 11 14 40.0 +8.5
BCIP LR LR
comp=Z,2μm,20.0s
PAMC **Pamplona, Colo** **148.08** **338** *e*P **PKPbc** **11 14 29.7 +0.1**
GIRC **Giron, Santand** **148.49** **339** *e*P **PKPdf** **11 14 28.3 +1.6**
TAMC **Tame, Arauca** **148.59** **336** *e*P **PKPbc** **11 14 29.4 -1.0**
ZARC **Zaragoza, Cauc** **148.62** **342** *e*P **PKPbc** **11 14 29.1 -1.3**
BRRC **Barranca, Sant** **148.64** **340** *e*P **PKPdf** **11 14 27.8 +1.0**
BARC **Barichara** **148.94** **338** *e*P **PKPbc** **11 14 29.8 -1.7**
PTBC **PUERTO BERRIO** **149.41** **341** *e*P **PKPdf** **11 14 27.9 -0.1**
AZU **Azuero** **149.45** **352** *e*P **PKPbc** **11 14 32.5 0.0**
RUSC **La Rusia** **149.56** **338** *e*P **PKPbc** **11 14 32.5 -0.9**
HELC **Santa Helena** **150.05** **342** *e*P **PKPbc** **11 14 33.6 -0.9**
NORC **Norcasia** **150.46** **341** *e*P **PKPbc** **11 14 34.9 -0.1**
CHIC **Chingaza** **150.96** **338** *e*P **PKPbc** **11 14 35.9 -0.8**
ROSC **El Rosal** **150.96** **339** PKPbc **PKPbc** **11 14 34.3 -2.4**
comp=Z,71nm,0.9s,baz=70,slow=1.6,SNR=18
ROSC **El Rosal** **150.96** **339** PKPbc **PKPbc** **11 14 34.3 -2.4**
ROSC LR LR
comp=Z,400nm,20.0s
ROSC **El Rosal** **150.96** **339** *e*P **PKPbc** **11 14 36.1 -0.6**
RREF **El Recreo** **151.22** **341** *e*P **PKPbc** **11 14 39.2 +1.6**
VILC **Villavicencio,** **151.43** **338** *e*P **PKPbc** **11 14 37.3 -0.2**
ANIL **Santa Ana** **151.63** **341** *e*P **PKPbc** **11 14 38.4 +0.3**
PRAC **Prado** **152.21** **340** *e*P **PKPbc** **11 14 36.6 -2.5**
YOTC **Yotoco, Valle** **152.38** **343** *e*P **PKPdf** **11 14 34.5 +1.7**
HORQ **Saladito** **152.94** **343** *e*P **PKPbc** **11 14 40.3 -0.7**
CHRN **Cochrane** **153.77** **198** *e*PKPab **PKPab** **11 14 54.9 +0.6**
CHRN LR LR
comp=Z,100nm,20.0s
PCON **Cinco Dias** **153.98** **342** *e*P **PKPdf** **11 14 37.0 +1.3**
SOTA **Rioblanco** **154.22** **342** *e*P **PKPbc** **11 14 44.7 +0.6**
FLOC **Florencia** **154.46** **340** *e*P **PKPdf** **11 14 36.7 +1.0**
CPUP **Villa Florida** **155.27** **256** PKP **PKPdf** **11 14 35.7 -0.6**
comp=Z,4.0nm,1.0s,baz=7.2,slow=10.0,SNR=4.6
CPUP **Villa Florida** **155.27** **256** *e*PKPdf **PKPdf** **11 14 35.7 -0.6**
CPUP *e*PKPbc **sPKPdf** **11 14 45.8 +1.4**
CPUP **Villa Florida** **155.27** **256** *e*PKIKP **PKPdf** **11 14 35.7 -0.6**
CPUP *e* 11 14 45.8
TRQA **Tornquist** **155.54** **226** PFAKE 11 14 50.0 -12
TRQA LR LR
comp=Z,2μm,21.0s
SAML **Samuel** **155.61** **301** PFAKE 11 14 50.0 +13
SAML LR LR
comp=Z,2μm,22.0s
OTAV **Otavalo** **156.52** **345** PFAKE 11 14 50.0 +11
OTAV LR LR
comp=Z,2μm,19.0s
SIV **San Ignacio** **157.17** **283** PKP **PKPdf** **11 14 40.0 +0.8**
comp=Z,2.1nm,1.0s,baz=86,slow=2.9,SNR=2.5
SIV PKPab **PKPab** **11 15 09.4 -0.4**
comp=Z,2.7nm,0.8s,baz=102,slow=3.8,SNR=4.6
PAYG **Puerto Ayora** **157.33** **16** PFAKE 11 14 50.0 +11
PAYG LR LR
comp=Z,2μm,22.0s
LPAZ **La Paz** **163.54** **290** PKP **PKPdf** **11 14 47.7 +0.8**
comp=Z,1.9nm,0.9s,baz=45,slow=6.3,SNR=5.0
NNA **Nana** **167.23** **325** PKPab **PKPab** **11 15 53.8 +0.1**
baz=36,slow=6.6

*ISCJB **11** 11:02:03.3±0.3, 45°.73N±0'.02×26°.64E±0'.02, h96km±3km, Error ellipse: s-maj=2.8km s-min=2.6km az=27.9*
*SIGU **11** 11:02:03.4±1.2, 45°.7N±0'.8×26°.6E±0'.8, h94km±2km, mb3.8/7*
*BUC **11** 11:02:04.5±0.3, 45°.73N×26°.63E, h87km±4km, MD3.9/6, Error ellipse: s-maj=3.4km s-min=2.8km az=86.0*
ISC 11 11:02:03.6±1.2, **45.73N**±0'.02×**26.62E**±0'.02, **h96**km±5km, **n139,σ1§22**/186, **45C-67D, Romania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.12**	**10**	⇑*i*P	**Pn**	**11 02 16.8**	**-0.4**
PLOR	**Plostina**	**0.12**	**10**	⇑*i*P	**Pn**	**11 02 16.8**	**-0.4**
PLOR				*i* S	**Sn**	**11 02 25.2**	**-2.1**
VRI	**Vrincioaia**	**0.16**	**29**	⇑*i*P	**Pn**	**11 02 17.0**	**-0.2**
VRI	**Vrincioaia**	**0.16**	**29**	⇑*i*P	**Pn**	**11 02 17.0**	**-0.2**
VRI				*i* S	**Sn**	**11 02 26.2**	**-1.2**
ODBI	**Odobesti**	**0.31**	**83**	⇑*i*P	**Pn**	**11 02 18.6**	**+0.9**
ODBI	**Odobesti**	**0.31**	**83**	⇑*i*P	**Pn**	**11 02 18.6**	**+0.9**
ODBI				*i* S	**Sn**	**11 02 28.5**	**+0.2**
GRER		**0.43**	**144**	⇑*i*P	**Pn**	**11 02 19.8**	**+1.3**
GRER		**0.43**	**144**	⇑*i*P	**Pn**	**11 02 19.8**	**+1.3**
GRER				*i* S	**Sn**	**11 02 30.3**	**+0.8**
PETR	**Petresti**	**0.43**	**90**	⇑*i*P	**Pn**	**11 02 19.0**	**+0.6**
PETR	**Petresti**	**0.43**	**90**	⇑*i*P	**Pn**	**11 02 19.0**	**+0.6**
PETR				*i* S	**Sn**	**11 02 29.4**	**-0.1**
MLR	**Muntele Rosu**	**0.53**	**244**	⇓*i*P	**Pn**	**11 02 19.7**	**+0.4**
MLR	**Muntele Rosu**	**0.53**	**244**	⇓*i*P	**Pn**	**11 02 19.7**	**+0.4**
MLR				*i* S	**Sn**	**11 02 30.0**	**-1.1**
ISR	**Istrita**	**0.61**	**185**	⇑*i*P	**Pn**	**11 02 20.9**	**+1.0**
ISR	**Istrita**	**0.61**	**185**	⇑*i*P	**Pn**	**11 02 20.9**	**+1.0**
ISR				*i* S	**Sn**	**11 02 32.9**	**+0.8**
OZUR		**0.69**	**303**	⇓*i*P	**Pn**	**11 02 20.4**	**-0.2**
OZUR		**0.69**	**303**	⇓*i*P	**Pn**	**11 02 20.4**	**-0.2**
OZUR				*i* S	**Sn**	**11 02 31.8**	**-1.5**
SECR		**0.79**	**209**	⇓*i*P	**Pn**	**11 02 22.8**	**+1.2**
SECR		**0.79**	**209**	⇓*i*P	**Pn**	**11 02 22.8**	**+1.2**
SECR				*i* S	**Sn**	**11 02 34.9**	**-0.1**
PGOR	**Pogoanele**	**0.86**	**162**	⇓*i*P	**Pn**	**11 02 23.0**	**+0.8**
PGOR	**Pogoanele**	**0.86**	**162**	⇓*i*P	**Pn**	**11 02 23.0**	**+0.8**
PGOR				*i* S	**Sn**	**11 02 36.7**	**+0.6**
DOPR	**Dopca**	**0.89**	**286**	⇓*i*P	**Pn**	**11 02 22.9**	**+0.3**
DOPR	**Dopca**	**0.89**	**286**	⇓*i*P	**Pn**	**11 02 22.9**	**+0.3**
DOPR				*i* S	**Sn**	**11 02 36.5**	**-0.3**
PLAR	**PLOIESTI**	**0.92**	**207**	⇓*i*P	**Pn**	**11 02 24.2**	**+1.4**
PLAR	**PLOIESTI**	**0.92**	**207**	⇓*i*P	**Pn**	**11 02 24.2**	**+1.4**
PLAR				*i* S	**Sn**	**11 02 36.9**	**-0.2**
SULR		**1.08**	**194**	⇓*i*P	**Pn**	**11 02 25.7**	**+1.1**
SULR		**1.08**	**194**	⇓*i*P	**Pn**	**11 02 25.7**	**+1.1**
SULR				*i* S	**Sn**	**11 02 40.0**	**-0.4**
VOIR		**1.14**	**256**	⇓*i*P	**Pn**	**11 02 25.8**	**+0.4**
VOIR		**1.14**	**256**	⇓*i*P	**Pn**	**11 02 25.8**	**+0.4**
VOIR				*i* S	**Sn**	**11 02 40.8**	**-1.0**
GIUM	**Giurgiulesti**	**1.14**	**102**	⇑*i*P	**Pn**	**11 02 26.5**	**+1.2**
GIUM	**Giurgiulesti**	**1.14**	**102**	⇑*i*P	**Pn**	**11 02 26.5**	**+1.2**
GIUM				*i* S	**Sn**	**11 02 41.7**	**+0.1**
GIUM	**Giurgiulesti**	**1.14**	**102**	P	**Pn**	**11 02 26.4**	**+1.2**
GIUM				S	**Sn**	**11 02 41.6**	**0.0**
CFR	**Carcaliu**	**1.20**	**117**	⇓*i*P	**Pn**	**11 02 26.0**	**0.0**
CFR	**Carcaliu**	**1.20**	**117**	⇓*i*P	**Pn**	**11 02 26.0**	**0.0**
CFR				*i* S	**Sn**	**11 02 41.8**	**-1.1**
MTUR	**Matau**	**1.20**	**246**	⇓*i*P	**Pn**	**11 02 27.7**	**+1.6**
MTUR	**Matau**	**1.20**	**246**	⇓*i*P	**Pn**	**11 02 27.7**	**+1.6**
AMRR	**Amara**	**1.23**	**155**	⇓*i*P	**Pn**	**11 02 27.1**	**+0.8**
AMRR	**Amara**	**1.23**	**155**	⇓*i*P	**Pn**	**11 02 27.1**	**+0.8**
AMRR				*i* S	**Sn**	**11 02 43.8**	**+0.4**
GIRR	**Girov**	**1.23**	**356**	⇓*i*P	**Pn**	**11 02 26.7**	**+0.4**
GIRR	**Girov**	**1.23**	**356**	⇓*i*P	**Pn**	**11 02 26.7**	**+0.4**
JOSR	**Joseni**	**1.24**	**322**	⇓*i*P	**Pn**	**11 02 26.8**	**+0.3**
JOSR	**Joseni**	**1.24**	**322**	⇓*i*P	**Pn**	**11 02 26.8**	**+0.3**
BIZ	**Bicaz**	**1.26**	**344**	⇓*i*P	**Pn**	**11 02 28.0**	**+1.3**
BIZ	**Bicaz**	**1.26**	**344**	⇓*i*P	**Pn**	**11 02 28.0**	**+1.3**
INCR	**INCERC-Sediu C**	**1.33**	**194**	S	**Sn**	**11 02 45.6**	**+0.1**
INCR	**INCERC-Sediu C**	**1.33**	**194**	*i* S	**Sn**	**11 02 45.6**	**+0.1**
LEOM	**Leova**	**1.36**	**56**	⇑*i*P	**Pn**	**11 02 28.7**	**+0.9**
LEOM	**Leova**	**1.36**	**56**	⇑*i*P	**Pn**	**11 02 28.7**	**+0.9**
LEOM				*i* S	**Sn**	**11 02 46.1**	**0.0**
LEOM	**Leova**	**1.36**	**56**	P	**Pn**	**11 02 28.6**	**+0.8**
LEOM				S	**Sn**	**11 02 46.1**	**0.0**
HARR	**Harsova**	**1.39**	**138**	⇓*i*P	**Pn**	**11 02 28.8**	**+0.5**
HARR	**Harsova**	**1.39**	**138**	⇓*i*P	**Pn**	**11 02 28.8**	**+0.5**
ARR	**Arges**	**1.44**	**256**	⇓*i*P	**Pn**	**11 02 30.1**	**+1.1**
ARR	**Arges**	**1.44**	**256**	⇓*i*P	**Pn**	**11 02 30.1**	**+1.1**
ARR				*i* S	**Sn**	**11 02 48.0**	**-0.1**
BUC1	**Bucharest**	**1.44**	**197**	⇓*i*P	**Pn**	**11 02 29.9**	**+1.0**
BUC1	**Bucharest**	**1.44**	**197**	⇓*i*P	**Pn**	**11 02 29.9**	**+1.0**
BUC1				*i* S	**Sn**	**11 02 48.1**	**+0.1**
TLB	**Topalu**	**1.52**	**138**	⇓*i*P	**Pn**	**11 02 30.4**	**+0.5**
TLB	**Topalu**	**1.52**	**138**	⇓*i*P	**Pn**	**11 02 30.4**	**+0.5**
TLB				*i* S	**Sn**	**11 02 48.4**	**-1.4**
SGRR	**Singureni**	**1.57**	**197**	⇑*i*P	**Pn**	**11 02 30.0**	**-0.5**
SGRR	**Singureni**	**1.57**	**197**	⇑*i*P	**Pn**	**11 02 30.0**	**-0.5**
SGRR				*i* S	**Sn**	**11 02 50.6**	**-0.3**
IAS	**Iasi**	**1.60**	**24**	⇑*i*P	**Pn**	**11 02 31.5**	**+0.6**
IAS	**Iasi**	**1.60**	**24**	⇑*i*P	**Pn**	**11 02 31.5**	**+0.6**
IAS				*i* S	**Sn**	**11 02 50.7**	**-0.9**
MDB	**Medias**	**1.62**	**286**	⇓*i*P	**Pn**	**11 02 32.1**	**+1.0**
MDB	**Medias**	**1.62**	**286**	⇓*i*P	**Pn**	**11 02 32.1**	**+1.0**
TLCR		**1.64**	**109**	⇓*i*P	**Pn**	**11 02 32.3**	**+1.0**
TLCR		**1.64**	**109**	⇓*i*P	**Pn**	**11 02 32.3**	**+1.0**
TLCR				*i* S	**Sn**	**11 02 51.3**	**-1.1**
PRAR	**RASCA**	**1.66**	**351**	⇑*i*P	**Pn**	**11 02 32.8**	**+1.2**
PRAR	**RASCA**	**1.66**	**351**	⇑*i*P	**Pn**	**11 02 32.8**	**+1.2**
HUMR	**Humele**	**1.67**	**225**	⇑*i*P	**Pn**	**11 02 32.4**	**+0.7**
HUMR	**Humele**	**1.67**	**225**	⇑*i*P	**Pn**	**11 02 32.4**	**+0.7**
HUMR				*i* S	**Sn**	**11 02 52.8**	**-0.3**
CVDA	**Cernavoda**	**1.72**	**144**	⇓*i*P	**Pn**	**11 02 33.1**	**+0.7**
CVDA	**Cernavoda**	**1.72**	**144**	⇓*i*P	**Pn**	**11 02 33.1**	**+0.7**
CVDA				*i* S	**Sn**	**11 02 53.2**	**-1.0**
TIRR	**Tirgusor**	**1.80**	**134**	⇓*i*P	**Pn**	**11 02 34.0**	**+0.7**
TIRR	**Tirgusor**	**1.80**	**134**	⇓*i*P	**Pn**	**11 02 34.0**	**+0.7**
TIRR				*i* S	**Sn**	**11 02 54.5**	**-1.5**
ICOR	**Ion Corvin**	**1.82**	**152**	⇓*i*P	**Pn**	**11 02 34.7**	**+1.1**
ICOR	**Ion Corvin**	**1.82**	**152**	⇓*i*P	**Pn**	**11 02 34.7**	**+1.1**
ICOR				*i* S	**Sn**	**11 02 55.8**	**-0.7**
KIS	**Kishinev**	**1.98**	**49**	*e*P	**Pn**	**11 02 38.0**	**+2.3**
KIS				*i* S	**Sn**	**11 03 03.0**	**+2.7**
	1μm,0.5s						
KIS	**Kishinev**	**1.98**	**49**	⇑*i*P	**Pn**	**11 02 36.8**	**+1.1**
KIS	**Kishinev**	**1.98**	**49**	⇑*i*P	**Pn**	**11 02 36.8**	**+1.1**
KIS				*i* S	**Sn**	**11 02 59.4**	**-0.9**
KIS	**Kishinev**	**1.98**	**49**	P	**Pn**	**11 02 36.8**	**+1.1**
KIS				Pm		11 02 36.8	
KIS				S	**Sn**	**11 02 59.4**	**-0.9**
KIS				Sm		11 03 03.5	
LOT	**Lotru**	**2.02**	**263**	⇑*i*P	**Pn**	**11 02 37.1**	**+0.7**
LOT	**Lotru**	**2.02**	**263**	⇑*i*P	**Pn**	**11 02 37.1**	**+0.7**
LOT				*i* S	**Sn**	**11 03 01.4**	**0.0**
ARCR	**ARCALIA**	**2.07**	**312**	⇓*i*P	**Pn**	**11 02 37.6**	**+0.7**
ARCR	**ARCALIA**	**2.07**	**312**	⇓*i*P	**Pn**	**11 02 37.6**	**+0.7**
BURAR	**Bucovina Array**	**2.12**	**333**	⇓*i*P	**Pn**	**11 02 39.6**	**+2.0**
BURAR	**Bucovina Array**	**2.12**	**333**	⇓*i*P	**Pn**	**11 02 39.6**	**+2.0**
BURAR				*i* S	**Sn**	**11 03 04.7**	**+1.1**
ZIMR		**2.25**	**204**	⇑*i*P	**Pn**	**11 02 39.8**	**+0.5**
ZIMR		**2.25**	**204**	⇑*i*P	**Pn**	**11 02 39.8**	**+0.5**
ZIMR				*i* S	**Sn**	**11 03 05.5**	**-1.1**
CJR	**Cluj-Napoca**	**2.32**	**296**	⇓*i*P	**Pn**	**11 02 41.2**	**+1.0**
CJR	**Cluj-Napoca**	**2.32**	**296**	⇓*i*P	**Pn**	**11 02 41.2**	**+1.0**
MANR	**Mangalia**	**2.37**	**143**	⇑*i*P	**Pn**	**11 02 41.7**	**+0.9**
MANR	**Mangalia**	**2.37**	**143**	⇑*i*P	**Pn**	**11 02 41.7**	**+0.9**
CRAR	**CRAIOVA**	**2.44**	**236**	S	**Sn**	**11 03 11.2**	**+0.2**
CRAR	**CRAIOVA**	**2.44**	**236**	*i* S	**Sn**	**11 03 11.2**	**+0.2**
DEV	**Deva**	**2.60**	**275**	⇓*i*P	**Pn**	**11 02 45.5**	**+1.6**
DEV	**Deva**	**2.60**	**275**	⇓*i*P	**Pn**	**11 02 45.5**	**+1.6**
CHRU	**Chernivtsi**	**2.61**	**350**	*i* S	**Sn**	**11 03 14.4**	**-0.7**
CHRU				Sm		11 03 16.0	
SRE	**Strehaia**	**2.64**	**247**	⇓*i*P	**Pn**	**11 02 45.1**	**+0.7**
SRE	**Strehaia**	**2.64**	**247**	⇓*i*P	**Pn**	**11 02 45.1**	**+0.7**
SRE				*i* S	**Sn**	**11 03 15.3**	**-0.4**
SORM	**Soroca**	**2.69**	**26**	⇑*i*P	**Pn**	**11 02 45.2**	**+0.2**
SORM	**Soroca**	**2.69**	**26**	⇑*i*P	**Pn**	**11 02 45.2**	**+0.2**
SORM				*i* S	**Sn**	**11 03 14.7**	**-2.1**
SORM	**Soroca**	**2.69**	**26**	P	**Pn**	**11 02 45.1**	**+0.1**
GZR	**Gura Zlata**	**2.72**	**264**	⇑*i*P	**Pn**	**11 02 47.2**	**+1.7**
GZR	**Gura Zlata**	**2.72**	**264**	⇑*i*P	**Pn**	**11 02 47.2**	**+1.7**
GZR				*i* S	**Sn**	**11 03 17.8**	**0.0**
KSV	**Kosov**	**2.80**	**338**	⇓*i*P	**Pn**	**11 02 48.0**	**+1.5**
KSV				Pm		11 02 48.9	
KSV				*e*S	**Sn**	**11 03 20.3**	**+0.8**
KSV				Sm		11 03 32.9	
KMPD	**K-Podol'skiy**	**2.84**	**358**	*e*P	**Pn**	**11 02 47.1**	**+0.1**
KMPD				*i* S	**Sn**	**11 03 18.0**	**-2.4**
RAKU	**Rah

NDNU				Pm			11 02 49.0	
NDNU				*i* S		**Sn**	**11 03 19.7**	**-2.5**
NDNU				Sm			11 03 20.9	
HERR	**Herculane**	**3.08**	**256**	⇓*i*P		**Pn**	**11 02 51.0**	**+0.7**
HERR	**Herculane**	**3.08**	**256**	⇓*i*P		**Pn**	**11 02 51.0**	**+0.7**
HERR				*i* S		**Sn**	**11 03 24.3**	**-2.1**
STNU	**Starunia**	**3.31**	**335**	*e*P		**Pn**	**11 02 54.7**	**+1.3**
KORU	**Korolevo**	**3.41**	**317**	⇓*i*P		**Pn**	**11 02 55.6**	**+1.0**
SIRR	**Siria**	**3.50**	**281**	⇓*i*P		**Pn**	**11 02 57.3**	**+1.4**
SIRR	**Siria**	**3.50**	**281**	⇓*i*P		**Pn**	**11 02 57.3**	**+1.4**
MEZ	**Mezhgor'ye**	**3.50**	**324**	⇓*i*P		**Pn**	**11 02 57.4**	**+1.5**
BZS	**Buzias**	**3.51**	**270**	⇓*i*P		**Pn**	**11 02 57.0**	**+1.0**
BZS	**Buzias**	**3.51**	**270**	⇓*i*P		**Pn**	**11 02 57.0**	**+1.0**
BRIU	**Brid**	**3.59**	**318**	⇑*i*P		**Pn**	**11 02 55.4**	**-1.7**
TRPA	**Tarpa**	**3.69**	**312**	⇓*i*P		**Pn**	**11 02 59.3**	**+0.9**
TRPA	**Tarpa**	**3.69**	**312**	⇓*i*P		**Pn**	**11 02 59.3**	**+0.9**
BERU	**Beregovo**	**3.70**	**314**	*i* P		**Pn**	**11 02 58.2**	**-0.3**
MUKU	**Mukachevo**	**3.83**	**317**	*e*P		**Pn**	**11 03 01.0**	**+0.7**
MORS	**Morshin**	**3.88**	**332**	*e*P		**Pn**	**11 03 03.4**	**+2.4**
VTS	**Vitosha**	**3.98**	**219**	⇑*i*P		**Pn**	**11 03 02.9**	**+0.3**
VTS	**Vitosha**	**3.98**	**219**	⇑*i*P		**Pn**	**11 03 02.9**	**+0.3**
SHIU	**Shidnytsya**	**4.14**	**329**	*e*P		**Pn**	**11 03 03.1**	**-1.4**
STZU	**Stuzhytsa**	**4.26**	**322**	⇓*i*P		**Pn**	**11 03 08.3**	**+2.1**
KWP	**Kalwaria Pacla**	**4.71**	**327**	*e*P		**Pn**	**11 03 15.2**	**+2.9**
KECS	**Kecovo**	**5.01**	**306**	*e*PN		**Pn**	**11 03 14.0**	**-2.4**
SEV	**Sevastopol'**	**5.13**	**101**	P		**Pn**	**11 03 18.2**	**+0.3**
SEV				Pm			11 03 18.6	
SEV				S		**Sn**	**11 04 12.8**	**-3.0**
SEV				Sm			11 04 16.0	
STIP	**Stip**	**5.16**	**220**	*i* Pn		**Pn**	**11 03 16.4**	**-1.9**
STIP				*i* Sn		**Sn**	**11 04 09.8**	**-6.8**
SIM	**Simferopol'**	**5.34**	**96**	P		**Pn**	**11 03 21.5**	**+0.6**
SIM				Pm			11 03 21.5	
SIM				S		**Sn**	**11 04 19.7**	**-1.4**
SIM				Sm			11 04 21.8	
YAL	**Yalta**	**5.48**	**100**	S		**Sn**	**11 04 22.5**	**-1.8**
ALU	**Alushta**	**5.60**	**98**	S		**Sn**	**11 04 28.6**	**+1.3**
NIE	**Niedzica**	**5.65**	**313**	*e*P		**Pn**	**11 03 27.2**	**+2.2**
SUDU	**Sudak**	**5.97**	**95**	P		**Pn**	**11 03 30.9**	**+1.5**
SUDU				Pm			11 03 31.2	
SUDU				S		**Sn**	**11 04 35.4**	**-0.9**
SUDU				Sm			11 04 39.7	
OJC	**Ojcow**	**6.41**	**317**	*e*P		**Pn**	**11 03 36.9**	**+1.5**

IDC 11 11:35:54.9±2.8, 9.°81S×159.°64E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/35, mbtmp3.3/3, Error ellipse: s-maj=170.0km s-min=13.0km az=136.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**0.48**	**39**	Pn	Pn	11 36 09.4	+0.3
	448nm,0.3s,baz=206,slow=9.0,SNR=85						
HNR				Sn	Sb	11 36 17.5	+3.5
	603nm,0.3s,baz=209,slow=19,SNR=38						
HNR	**Honiara**	**0.48**	**39**	*i* P	Pn	11 36 10.0	+0.9
HNR				*i* S	Sb	11 36 20.0	+6.0
WRA	**Warramunga Arr**	**26.41**	**245**	P	P	11 41 34.2	+0.7
	0.3nm,0.7s,baz=73,slow=9.5,SNR=3.4						
ASAR	**Alice Springs**	**28.16**	**238**	P	P	11 41 47.9	-1.4
	0.2nm,0.5s,baz=59,slow=10,SNR=3.5						
ILAR	**Eielson Array**	**84.35**	**20**	P	P	11 48 29.3	+0.7
	0.1nm,0.4s,baz=245,slow=4.7,SNR=3.0						

*IDC **11** 11:45:39.9±1.6, 6.°60S×128.°99E, h214km±16km, mb3.7/2, mb1 3.7/7, mb1mx3.3/43, mbtmp4.3/7, MS4.4/1, Ms1 4.4/1, ms1mx3.3/45, Error ellipse: s-maj=31.4km s-min=15.7km az=86.0*
*NEIC **11** 11:45:40.2±0.7, 6.°60S×128.°92E, h214km±9km, mb4.2/5, Error ellipse: s-maj=10.9km s-min=8.6km az=76.0*
*ISCJB **11** 11:45:41.5±0.5, 6.°75S±0.°04×128.°84E±0.°05, h250km, mb4.0/3, Error ellipse: s-maj=7.5km s-min=5.4km az=147.5*
ISC 11 11:45:40.1±0.7, 6.°62S±0.°06×128.°97E±0.°07, h250km, n25, σ3°46/32, mb4.1/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.68**	**121**	*e*Pn	**Pn**	**11 46 29.2**	**+0.1**
FAKI	**Fak Fak**	**4.91**	**42**	*e*Pn	**Pn**	**11 46 52.9**	**-2.0**
SOEI	**Soe**	**5.61**	**236**	*e*Pn	**Pn**	**11 47 02.7**	**-0.7**
SOEI				*e*S	**S**	**11 48 07.8**	**-2.2**
SIJI	**Sorong**	**6.15**	**22**	P	**Pn**	**11 47 08.4**	**-1.7**
	9.5nm,0.3s,baz=215,slow=12,SNR=26						
SIJI				S	**S**	**11 48 14.2**	**-8.1**
	2.7nm,0.3s,baz=293,slow=23,SNR=6.4						
BATI	**Baumata**	**6.35**	**235**	P	**Pn**	**11 47 12.2**	**-0.4**
	6.0nm,0.3s,baz=106,slow=20,SNR=5.2						
BATI				S	**S**	**11 48 21.9**	**-4.9**
	14nm,0.3s,baz=30,slow=20,SNR=12						
MTN	**Manton Dam**	**6.54**	**161**	*e*Pn	**Pn**	**11 47 14.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**11.87**	**196**	P	**Pn**	**11 48 21.4**	**-0.6**
	2.2nm,0.3s,baz=28,slow=10.0,SNR=66						
FITZ				S	**S**	**11 50 27.8**	**-6.7**
	0.4nm,0.3s,baz=300,slow=20,SNR=3.3						
WRAB	**Tennant Creek**	**14.23**	**159**	*e*Pn	**P**	**11 48 54.8**	**+3.3**
WRAB				*e*S	**S**	**11 51 25.9**	**-2.7**
WRA	**Warramunga Arr**	**14.23**	**159**	P	**P**	**11 48 51.0**	**-0.5**
	0.5nm,0.3s,baz=335,slow=13,SNR=22						
WRA				S	**S**	**11 51 23.8**	**-5.0**
	0.6nm,0.3s,baz=332,slow=22,SNR=9.0						
WR1	**Warramunga Arr**	**14.23**	**159**	*e*Pn	**P**	**11 48 51.0**	**-0.5**
WR1				*e*S	**S**	**11 51 23.8**	**-5.0**
WB2	**Warramunga Arr**	**14.24**	**159**	*e*Pn	**P**	**11 48 52.6**	**+1.1**
WB2				*e*S	**S**	**11 51 25.1**	**-3.8**
COEN	**Coen**	**15.76**	**119**	*e*P	**Pn**	**11 49 11.9**	**+2.4**
	10nm,0.9s						
MBWA	**Marble Bar**	**17.00**	**211**	*e*P	**Pn**	**11 49 23.7**	**-0.3**
	12nm,1.1s						
AS31	**Alice Springs**	**17.60**	**165**	*e*P	**Pn**	**11 49 31.9**	**+0.8**
	1.9nm,0.9s						
ASAR	**Alice Springs**	**17.60**	**165**	P	**Pn**	**11 49 32.0**	**+1.0**
	0.5nm,0.3s,baz=346,slow=11,SNR=47						
ASAR				S	**S**	**11 52 38.2**	**-0.1**
	0.1nm,0.3s,baz=351,slow=22,SNR=6.7						
ASAR				ScP	**ScP**	**11 57 11.8**	**+5.5**
	0.0nm,0.3s,baz=343,slow=2.8,SNR=4.3						
AS01	**Alice Springs**	**17.61**	**165**	*e*P	**Pn**	**11 49 32.4**	**+1.2**
BBOO	**Buckleboo**	**26.88**	**167**	*e*P	**P**	**11 51 01.3**	**+3.1**
	4.4nm,0.9s						
JHJ	**Hachijo jima 2**	**40.83**	**14**	LR	LR	12 08 02.0	
	comp=Z,476nm,19.5s,baz=68,slow=33						
MK01	**Makanchi Array**	**67.33**	**327**	*e*P	**P**	**11 56 11.9**	**+3.6**
MK31	**Makanchi Array**	**67.35**	**327**	*e*P	P	11 56 12.2	+3.8
MK32	**Makanchi Array**	**67.35**	**327**	*e*P	**P**	**11 56 12.1**	**+3.7**
MKAR	**Makanchi Array**	**67.35**	**327**	P	**P**	**11 56 12.1**	**+3.7**
	1.2nm,0.4s,baz=123,slow=7.7,SNR=23						
MKAR	**Makanchi Array**	**67.35**	**327**	*e*P	P	11 56 12.3	+3.9
	8.3nm,0.6s						
KURBB	**Kurchatov Arra**	**71.66**	**329**	P	**P**	**11 56 38.2**	**+3.7**
	1.1nm,0.5s,baz=132,slow=5.1,SNR=11						
KURK	**Kurchatov**	**71.66**	**329**	*e*P	**P**	**11 56 38.2**	**+3.6**

*KRNET **11** 11:56:30.2±0.1, 41.°57N×70.°39E, h25km, mb2.4*
*NNC **11** 11:56:36.7±2.5, 41.°20N×71.°10E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=21.6km s-min=13.5km az=49.0*
ISC 11 11:56:37.3±1.4, 41.°37N±0.°05×70.°85E±0.°07, h30km±17km, n13, σ1°81/22, 17C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARK	**Arkit**	**0.94**	**62**	⇑*i*P	**Pn**	**11 56 52.3**	**-2.2**
	baz=79						
ARK				⇑*i*S	**Sn**	**11 57 08.7**	**+1.7**
	baz=79						
BTK	**Batken**	**1.31**	**181**	⇑*i*P	**Pn**	**11 56 57.9**	**-1.7**
	baz=68						
BTK				⇑*i*S	**Sb**	**11 57 19.0**	**+1.2**
	baz=68						
ARSB	**Arslanbob**	**1.60**	**91**	⇑*e*P	**Pn**	**11 57 04.3**	**+0.6**
	baz=96						
ARSB				⇑*i*S	**Sb**	**11 57 30.2**	**+3.9**
	baz=96						
MNAS	**Manas**	**1.66**	**47**	⇑Pn	**Pn**	**11 57 05.2**	**+0.6**
	1.1nm,0.3s						
MNAS				⇑Sn	**Sb**	**11 57 30.8**	**+2.8**
	2.8nm,0.4s						
MNAS	**Manas**	**1.66**	**47**	⇓*i*P	**Pn**	**11 57 03.2**	**-1.3**
	baz=59						
MNAS				⇓*i*S	**Sb**	**11 57 27.8**	**-0.2**
	baz=59						
KK31	**Karatay Array**	**1.75**	**352**	⇑Pn	**Pb**	**11 57 09.4**	**+0.6**
	3.4nm,0.3s,baz=160,slow=14,SNR=63						
KK31				⇑Sn	Sb	11 57 38.4	+8.0
	13nm,0.7s,baz=162,slow=26,SNR=16						
AML	**Almayashu**	**2.26**	**69**	⇑*i*P	**Pn**	**11 57 13.4**	**+0.5**
	baz=76						
AML				⇑*i*S	**Sb**	**11 57 45.8**	**+0.5**
	baz=76						
SFK	**Sufi-Kurgan**	**2.43**	**123**	⇑Pn	**Pn**	**11 57 15.5**	**+0.4**
	0.8nm,0.4s						
SFK				⇑Lg	Lg	11 57 46.8	
	0.9nm,0.3s						
EKS2	**Erkin-Say**	**2.53**	**58**	⇑*i*P	**Pn**	**11 57 16.3**	**-0.2**
	baz=65						
EKS2				⇑*i*S	**Sb**	**11 57 50.6**	**-2.3**
	baz=65						
ARLS	**Aral**	**2.65**	**78**	⇓*i*P	**Pn**	**11 57 19.1**	**+1.0**
	baz=83						
ARLS				⇓*i*S	**Sb**	**11 57 55.8**	**-0.5**
	baz=83						
UCH	**Uchtor**	**2.87**	**71**	⇓*e*P	**Pn**	**11 57 22.0**	**+0.6**
	baz=77						
UCH				⇓*i*S	**Sb**	**11 58 01.0**	**-1.9**
	baz=77						
AAK	**Ala-Archa**	**3.00**	**64**	Pn	**Pb**	**11 57 27.0**	**-3.0**
	1.4nm,0.5s						
AAK				Lg	Lg	11 58 05.6	
	1.3nm,0.5s						
TKM2	**Tokmak 2**	**3.85**	**65**	⇓Pg	**Pb**	**11 57 44.4**	**-0.2**
	1.0nm,0.6s						
TKM2				⇑Lg	Lg	11 58 35.6	
	1.7nm,1.0s						

IDC 11 12:41:29.4±1.6, 22.°76N×96.°14E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.3/52, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=38.4km s-min=18.9km az=61.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**5.02**	**148**	Pn	Pn	12 42 46.4	+0.3
	0.3nm,0.3s,baz=324,slow=13,SNR=28						
CMAR				Pg	Pg	12 43 02.4	-3.3
	2.0nm,0.3s,baz=323,slow=17,SNR=37						
CMAR				Lg	Lg	12 44 09.5	
	1.5nm,0.3s,baz=324,slow=29,SNR=6.8						
MKAR	**Makanchi Array**	**26.46**	**338**	P	P	12 47 08.4	+0.3
	0.5nm,0.5s,baz=155,slow=9.2,SNR=4.1						
WRA	**Warramunga Arr**	**56.50**	**136**	P	P	12 51 12.9	-0.7
	0.6nm,0.9s,baz=325,slow=7.9,SNR=3.9						

GUC 11 12:49:19.3±0.4, 24.°17S×67.°73W, h226km±10km, ML3.7, 4C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB15	**IPOC Station P**	**1.86**	**301**	⇑*i*P	Pn	12 50 00.3	+1.5
PB15				*i* S	S	12 50 31.3	+1.9
PB06	**IPOC Station P**	**2.23**	**310**	⇑*i*P	Pn	12 50 04.0	+1.7
PB06				*i* S	S	12 50 37.4	+1.7
PB06				IAML		12 50 38.5	
	comp=E,237nm,0.1s						
PB14	**IPOC Station P**	**2.48**	**259**	*e*P	Pn	12 50 06.6	+1.7
PB14				*i* S	S	12 50 42.0	+1.4
PB14				IAML		12 50 48.6	
	comp=E,120nm,0.4s						
PB05	**IPOC Station P**	**2.62**	**300**	⇑*i*P	Pn	12 50 08.4	+2.1
PB05				*i* S	S	12 50 45.0	+2.1
PB09	**IPOC Station P**	**2.74**	**329**	⇑*i*P	Pn	12 50 09.5	+1.8
PB09				IAML		12 50 48.7	
	comp=N,80nm,0.4s						
PB03	**IPOC Station P**	**2.82**	**318**	*e*P	Pn	12 50 10.3	+1.8
PB03				IAML		12 50 50.4	
	comp=E,138nm,0.1s						
PB04	**IPOC Station P**	**2.88**	**309**	*i* P	Pn	12 50 11.4	+2.2
PB04				*i* S	S	12 50 50.9	+2.7
PB04				IAML		12 50 52.7	
	comp=E,113nm,0.3s						
PB07	**IPOC Station P**	**3.14**	**320**	*i* P	Pn	12 50 14.0	+1.8

*AZER **11** 12:49:22.2±24.0, 38.°47N×46.°52E, h9km±2km, ml3.2/15, Error ellipse: s-maj=8.8km s-min=1.3km az=27.0*
*TEH **11** 12:49:23.9, 38.°51N×46.°61E, h4km, ML3.0*
ISC 11 12:49:23.1±1.3, 38.°47N±0.°03×46.°54E±0.°03, h3km±12km, n27, σ1°43/39, 8C-13D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ITBZ	**Tabriz**	**0.39**	**233**	*e*Pg	**Pb**	**12 49 32.8**	**+0.2**
ITBZ				IAML	IAmb	12 49 39.8	
	comp=Z,20μm,0.1s						
ITBZ				IAMB	IAmb	12 49 39.8	
	comp=E,31μm,0.2s						
ITBZ				IAMB	IAmb	12 49 40.3	
	comp=N,40μm,0.2s						
IHRS	**Heris**	**0.42**	**110**	*e*Pg	**Pb**	**12 49 32.1**	**-1.2**
IHRS				IAMB	IAmb	12 49 38.6	
	comp=Z,64μm,0.2s						
IHRS				IAMB	IAmb	12 49 39.1	
	comp=E,78μm,0.2s						
IHRS				IAMB	IAmb	12 49 39.6	
	comp=N,86nm,0.1s						
ORD	**Ordubad**	**0.63**	**317**	⇓P	**Pb**	**12 49 36.7**	**0.0**
ORD				⇓S	**Sb**	**12 49 45.6**	**-0.3**
IMRD	**Marand**	**0.70**	**291**	*e*Pg	**Pb**	**12 49 38.1**	**+0.1**
IMRD				IAMB	IAmb	12 49 50.8	
	comp=N,42nm,0.1s						
IMRD				IAMB	IAmb	12 49 53.4	
	comp=E,39μm,0.3s						
IMRD				IAMB	IAmb	12 49 54.2	
	comp=Z,19μm,0.2s						
ISHB	**Shabestar**	**0.75**	**256**	*e*Pg	**Pn**	**12 49 39.8**	**-0.9**
ISHB				IAMB	IAmb	12 49 53.5	
	comp=Z,6μm,0.2s						
ISHB				IAMB	IAmb	12 49 55.9	
	comp=N,9μm,0.4s						
ISHB				IAMB	IAmb	12 49 59.6	
	comp=E,13μm,0.3s						
IBST	**Bostanabad**	**0.81**	**160**	*e*Pg	**Pb**	**12 49 39.2**	**-0.8**
IBST				IAMB	IAmb	12 49 52.0	
	comp=Z,11μm,0.5s						
IBST				IAMB	IAmb	12 49 52.0	
	comp=Z,11μm,0.5s						
IBST				IAMB	IAmb	12 49 53.5	
	comp=N,13μm,0.4s						
IAZR	**Azarshahr**	**0.90**	**209**	*e*Pg	**Pn**	**12 49 42.4**	**-0.4**
IAZR				IAMB	IAmb	12 50 01.5	
	comp=N,32μm,0.2s						
IAZR				IAMB	IAmb	12 50 01.6	
	comp=Z,13μm,0.3s						
IAZR				IAMB	IAmb	12 50 05.0	
	comp=E,33μm,0.3s						
NAX	**Nakhchivan**	**1.08**	**311**	P	**Pn**	**12 49 45.3**	**+0.1**
	SNR=32						
NAX				⇓S	**Sn**	**12 50 00.1**	**-0.5**
ISRB	**Sarab**	**1.10**	**125**	*e*Pg	**Pb**	**12 49 44.3**	**-0.5**
ISRB				IAMB	IAmb	12 50 03.5	
	comp=Z,4μm,0.3s						
ISRB				IAMB	IAmb	12 50 07.2	
	comp=N,10μm,0.3s						
ISRB				IAMB	IAmb	12 50 09.3	
	comp=E,11μm,0.4s						
GRMI	**Germi**	**1.11**	**72**	*e*Pn	**Pg**	**12 49 44.3**	**-0.2**
SBZ	**Shahbuz**	**1.21**	**321**	⇓P	**Pn**	**12 49 46.6**	**-0.2**
SBZ				⇓S	**Sn**	**12 50 05.0**	**+1.3**
LRK	**Lerik**	**1.42**	**82**	P	**Pg**	**12 49 50.0**	**-0.3**
	SNR=18						
LRK				⇑S	**Sn**	**12 50 10.3**	**+1.1**
GLBA	**Clilabad**	**1.64**	**61**	P	**Pg**	**12 49 55.2**	**+0.6**
	SNR=12						
GLBA				⇑S	**Sg**	**12 50 18.8**	**+3.0**
MAKU	**Maku**	**1.70**	**302**	*e*Pn	**Pg**	**12 49 55.7**	**+0.1**
ASTR	**Astara**	**1.77**	**86**	P	**Pg**	**12 49 56.5**	**-0.5**
	SNR=8.5						
ASTR				⇓S	**Sg**	**12 50 19.8**	**-0.1**
LKRN	**Lenkeran, Azer**	**1.77**	**81**	P	**Pg**	**12 49 57.8**	**+0.7**
	SNR=4.8						
LKRN				⇑S	**Sg**	**12 50 22.3**	**+2.3**
HYR	**Heyderabad**	**1.81**	**314**	⇓P	**Pb**	**12 49 56.5**	**-0.4**
ZRD	**Zardab**	**2.02**	**26**	⇓S	**Sg**	**12 50 28.7**	**+0.8**
GANJ	**Ganja**	**2.18**	**356**	⇓P	**Pb**	**12 50 03.3**	**+0.2**
	SNR=6.7						
GANJ				⇓S	**Sb**	**12 50 31.7**	**+1.1**
GDB	**GEDABAY**	**2.33**	**345**	⇓P	**Pb**	**12 50 06.3**	**+0.5**
	SNR=22						
GDB				⇑S	**Sg**	**12 50 37.3**	**-0.6**
ZNJK	**Zanjan**	**2.48**	**136**	*e*Pn	**Pb**	**12 50 07.4**	**-0.9**
QZX	**Qazax, Azerbai**	**2.74**	**341**	⇑P	**Pb**	**12 50 13.5**	**+0.8**
	SNR=4.5						
QZX				⇑S	**Sg**	**12 50 48.9**	**-2.1**
SEKA	**Sheki**	**2.79**	**10**	⇑P	**Pb**	**12 50 11.8**	**-1.7**
	SNR=5.7						
SEKA				⇓S	**Sb**	**12 50 45.9**	**-2.1**
PQL	**Pirkuli**	**2.81**	**34**	⇓S	**Sb**	**12 50 46.8**	**-2.0**
XNQ	**Khinaliq**	**2.97**	**24**	P	**Pb**	**12 50 14.2**	**-2.5**
	SNR=6.1						
XNQ				⇓S	**Sb**	**12 50 54.2**	**+0.7**
IGZV	**Ghazvin**	**3.59**	**124**	*e*Pn	**Pb**	**12 50 23.7**	**-3.6**
IGZV				IAMB	IAmb	12 51 30.3	
	comp=E,659nm,0.5s						
IGZV				IAMB	IAmb	12 51 33.4	
	comp=N,529nm,0.3s						
IGZV				IAMB	IAmb	12 51 34.6	
	comp=Z,307nm,0.5s						
QABG	**Abgarm-Qazvin**	**3.67**	**138**	*e*Pn	**Pn**	**12 50 24.1**	**+3.1**

*IDC **11** 12:50:23.2±1.4, 10.°82S×160.°75E, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.7/51, mbtmp3.8/7, ML2.9/1, Error ellipse: s-maj=35.1km s-min=25.2km az=98.0*
*ISCJB **11** 12:50:26.1±0.9, 10.°95S±0.°09×160.°8E±0.°2, h33km, mb3.6/6, Error ellipse: s-maj=25.2km s-min=9.3km az=158.6*
ISC 11 12:50:28.1±1.0, 10.°9S±0.°1×160.°8E±0.°2, h35km, n9, σ0°99/10, mb3.7/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.66**	**331**	Pn	**Pn**	**12 50 53.2**	**-1.5**
	22nm,0.3s,baz=140,slow=5.2,SNR=13						
HNR				Sn	**Sn**	**12 51 15.8**	**+1.1**
	60nm,0.3s,baz=173,slow=17,SNR=8.6						
HNR	**Honiara**	**1.66**	**331**	*e*P	**Pn**	**12 50 54.0**	**-0.7**
HNR				*e*S	Sn	12 51 22.0	+7.2
DZM	**Mont Dzumac**	**12.38**	**155**	Pn	**Pn**	**12 53 21.7**	**-0.2**
	0.1nm,0.3s,baz=330,slow=20,SNR=3.2						
WRA	**Warramunga Arr**	**26.99**	**247**	P	**P**	**12 56 07.8**	**+0.8**
	1.6nm,1.0s,baz=76,slow=10,SNR=9.0						
ASAR	**Alice Springs**	**28.57**	**240**	P	**P**	**12 56 21.2**	**+0.2**
	0.6nm,0.8s,baz=63,slow=10,SNR=4.5						
CMAR	**Chiang Mai Arr**	**67.60**	**295**	P	**P**	**13 01 22.0**	**+0.3**
	0.5nm,0.6s,baz=130,slow=3.9,SNR=2.6						
SONM	**Songino Array**	**75.71**	**326**	P	**P**	**13 02 09.5**	**-0.7**
	0.7nm,0.8s,baz=136,slow=5.4,SNR=4.5						
ILAR	**Eielson Array**	**84.97**	**20**	P	**P**	**13 03 00.7**	**+1.3**
	0.8nm,1.1s,baz=247,slow=4.1,SNR=4.0						
MKAR	**Makanchi Array**	**90.09**	**318**	P	**P**	**13 03 24.1**	**-0.4**
	0.2nm,0.5s,baz=116,slow=3.4,SNR=2.8						

IDC 11 12:51:01.6±4.0, 22.°81N×11.°41W, h0km, mb3.6/2, mb1 3.4/3, mb1mx3.2/55, mbtmp3.4/3, Error ellipse: s-maj=113.4km s-min=45.5km az=61.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**15.73**	**125**	Pn	Pn	12 54 45.1	+0.4
	baz=310,slow=11						
TORD				Sn	Sn	12 57 40.2	+0.4
	baz=305,slow=21						
KURBB	**Kurchatov Arra**	**72.68**	**42**	P	P	13 02 31.1	-0.1
	0.3nm,0.6s,baz=282,slow=4.6,SNR=3.1						
MKAR	**Makanchi Array**	**76.16**	**45**	P	P	13 02 51.9	+0.2
	0.3nm,0.6s,baz=284,slow=5.8,SNR=3.2						
ASAR	**Alice Springs**	**148.16**	**98**	PKPbc	PKPbc	13 10 49.5	-0.7
	0.6nm,1.0s,baz=276,slow=2.7,SNR=4.7						

*NNC **11** 12:52:31.9±3.7, 37.°16N×72.°38E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=32.3km s-min=26.4km az=108.0*
*IDC **11** 12:52:31.5±6.0, 36.°86N×73.°11E, h71km±47km, mb3.2/5, mb1 3.4/9, mb1mx3.2/64, mbtmp3.5/9, ML3.0/4, Error ellipse: s-maj=50.4km s-min=26.8km az=56.0*
*ISCJB **11** 12:52:32.5±1.0, 36.°93N±0.°06×72.°8E±0.°2, h100km, mb3.4/5, Error ellipse: s-maj=18.5km s-min=8.3km az=171.4*
ISC 11 12:52:33.0±1.4, 36.°93N±0.°10×72.°7E±0.°2, h100km, n15, σ1°69/18, mb3.3/5, 8C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.14**	**12**	⇓Pn	**Pn**	**12 53 21.0**	**+0.1**
	34nm,0.9s						
SFK				⇓Lg	Lg	12 54 03.7	
	21nm,0.5s						
MNAS	**Manas**	**5.55**	**359**	⇓Pn	**Pn**	**12 53 53.2**	**-0.1**
	2.3nm,0.6s						
MNAS				⇑Sn	**Sn**	**12 54 57.1**	**+1.3**
	6.8nm,0.8s						
MNAS				⇓Lg	Lg	12 55 20.6	
	8.7nm,1.0s						
AAK	**Ala-Archa**	**5.87**	**13**	P	**Pn**	**12 53 55.7**	**-1.9**
	0.4nm,0.3s,baz=167,slow=6.7,SNR=5.7						
AAK				S	**Sn**	**12 55 02.1**	**-1.4**
	0.2nm,0.3s,baz=152,slow=16,SNR=2.4						
AAK	**Ala-Archa**	**5.87**	**13**	⇑Pn	**Pn**	**12 53 57.6**	**0.0**
	6.0nm,1.1s						
AAK				Sn	**Sn**	**12 55 04.6**	**+1.1**
	11nm,1.2s						
AAK				Lg	Lg	12 55 31.7	
	8.5nm,0.9s						
KK31	**Karatay Array**	**6.39

ASAR	**Alice Springs**	**26.24**	**19**	P	**P**	**13 09 07.2**	**-0.7**
	1.0nm,0.8s,baz=198,slow=8.5,SNR=10							
WRA	**Warramunga Arr**	**29.94**	**18**	P	**P**	**13 09 39.7**	**-1.3**
	0.6nm,1.0s,baz=194,slow=8.3,SNR=3.8							
VNDA	**Vanda**	**31.89**	**166**	P	**P**	**13 09 57.5**	**-0.2**
	0.5nm,0.8s,baz=320,slow=7.9,SNR=3.7							
H08S2	**Diego Garcia H**	**60.20**	**295**	T	T	14 18 51.2		
	baz=144							
H08S1	**Diego Carcia H**	**60.22**	**295**	T	T	14 18 51.9		
	baz=144							
H08S3	**Diego Garcia H**	**60.23**	**295**	T	T	14 18 55.1		
	baz=144							
CMAR	**Chiang Mai Arr**	**71.04**	**334**	P	**P**	**13 14 51.6**	**+0.8**
	1.3nm,0.8s,baz=184,slow=5.2,SNR=12							
YKA	**Yellowknife Ar**	**145.20**	**45**	PKPbc	**PKPbc**	**13 23 08.8**	**-0.1**
	1.5nm,0.7s,baz=264,slow=3.8,SNR=8.8							

*IDC **11** 13:06:02.8±0.7,5°.78S×151°.82E,h0km,mb4.3/12,*
mb1 4.5/12,mb1mx4.3/35,mbtmp4.3/12,MS3.8/5,
Ms1 3.8/5,ms1mx3.4/32,Error ellipse: s-maj=24.2km
s-min=17.9km az=100.0
*ISCJB **11** 13:06:06.5±0.4,5°.85S±0°.05×151°.77E±0°.06,h36km,*
mb4.3/19,MS3.7/4,Error ellipse: s-maj=9.3km
s-min=7.7km az=20.5
*NEIC **11** 13:06:08.5±0.6,5°.82S×151°.77E,h40km±6km,mb4.7/11,*
Error ellipse: s-maj=6.0km s-min=4.9km az=115.0

ISC 11 13:06:08.4±0.5,**5°.83S**±0°.08×**151°.81E**±0°.08,**h36**km,**n47,**
σ1§**41**/48,**mb4.3**/19,**MS3.7**/4,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.67**	**12**	*e*Pn	**Pn**	**13 06 34.8**	**-0.3**
MANU	**Manus Island**	**5.81**	**310**	*e*Pn	**Pn**	**13 07 32.1**	**0.0**
HNR	**Honiara**	**8.83**	**114**	Pn	**Pn**	**13 08 15.3**	**+1.8**
	6.5nm,0.3s,baz=278,slow=4.1,SNR=4.2						
HNR				LR	LR	13 11 19.3	
	comp=Z,507nm,21.2s,baz=300,slow=36						
EIDS	**Eidsvold**	**19.44**	**182**	*e*P	**Pn**	**13 10 31.9**	**-1.3**
	99nm,2.0s						
FAKI	**Fak Fak**	**19.71**	**278**	*e*P	**P**	**13 10 33.7**	**-1.3**
	32nm,1.3s						
GUMO	**Guam**	**20.49**	**340**	LR	LR	13 17 05.0	
	comp=Z,128nm,21.1s,baz=134,slow=32						
SIJI	**Sorong**	**21.08**	**283**	P	**P**	**13 10 52.1**	**+2.3**
	3.1nm,0.4s,baz=29,slow=13,SNR=3.7						
DZM	**Mont Dzumac**	**21.47**	**140**	P	**P**	**13 10 52.5**	**-1.5**
	12nm,1.1s,baz=312,slow=15,SNR=2.7						
DZM	**Mont Dzumac**	**21.47**	**140**	*e*P	**P**	**13 10 52.3**	**-1.8**
	77nm,2.0s						
MTN	**Manton Dam**	**21.54**	**250**	*e*P	**P**	**13 10 54.2**	**-0.6**
	20nm,1.0s						
WRAB	**Tennant Creek**	**22.01**	**229**	*e*P	**P**	**13 10 59.0**	**-0.8**
	28nm,0.8s						
WB2	**Warramunga Arr**	**22.02**	**229**	*e*P	**P**	**13 10 59.2**	**-0.6**
WR1	**Warramunga Arr**	**22.02**	**229**	*e*P	**P**	**13 10 59.1**	**-0.8**
	32nm,0.9s						
WR1				*e*PcP	**PcP**	**13 14 58.2**	**+0.8**
WR1				*e*ScP	**ScP**	**13 18 37.4**	**+5.2**
WRA	**Warramunga Arr**	**22.02**	**229**	P	**P**	**13 10 59.1**	**-0.8**
	23nm,0.8s,baz=55,slow=10.0,SNR=51						
WRA				PcP	**PcP**	**13 14 58.2**	**+0.8**
	2.2nm,1.1s,baz=51,slow=2.4,SNR=5.2						
WRA				ScP	**ScP**	**13 18 37.4**	**+5.2**
	0.6nm,0.8s,baz=50,slow=2.7,SNR=3.6						
AS01	**Alice Springs**	**24.69**	**222**	*e*P	**P**	**13 11 26.1**	**-0.2**
AS31	**Alice Springs**	**24.72**	**222**	*e*P	**P**	**13 11 26.7**	**+0.1**
	6.0nm,0.9s						
ASAR	**Alice Springs**	**24.73**	**222**	P	**P**	**13 11 26.3**	**-0.2**
	26nm,1.0s,baz=57,slow=8.7,SNR=82						
STKA	**Stephens Creek**	**27.62**	**199**	P	**P**	**13 11 52.5**	**-0.1**
	6.4nm,1.0s,baz=23,slow=11,SNR=4.6						
STKA	**Stephens Creek**	**27.62**	**199**	*e*P	**P**	**13 11 52.5**	**-0.1**
	3.2nm,1.3s						
BATI	**Baumata**	**28.20**	**259**	LR	LR	13 25 32.2	
	comp=Z,297nm,18.4s,baz=144,slow=41						
FITZ	**Fitzroy Crossi**	**28.30**	**242**	P	**P**	**13 11 58.3**	**-0.5**
	16nm,0.9s,baz=85,slow=7.3,SNR=45						
FITZ	**Fitzroy Crossi**	**28.30**	**242**	*e*P	**P**	**13 11 58.5**	**-0.3**
	20nm,0.8s						
DAV	**Davao City (W)**	**29.14**	**296**	LR	LR	13 21 03.0	
	comp=Z,142nm,21.4s,baz=114,slow=31						
CMAR	**Chiang Mai Arr**	**57.43**	**296**	P	**P**	**13 15 54.2**	**+0.2**
	0.5nm,0.6s,baz=125,slow=5.4,SNR=4.4						
SONA0	**Songino Array**	**66.67**	**328**	*e*P	**P**	**13 16 55.3**	**-0.3**
SONM	**Songino Array**	**66.67**	**328**	P	**P**	**13 16 55.3**	**-0.3**
	0.7nm,0.8s,baz=133,slow=5.1,SNR=3.7						
VNDA	**Vanda**	**71.84**	**178**	P	**P**	**13 17 27.9**	**+0.9**
	2.9nm,0.9s,baz=328,slow=5.9,SNR=14						
VNDA	**Vanda**	**71.84**	**178**	*e*P	**P**	**13 17 27.6**	**+0.5**
MK32	**Makanchi Array**	**80.45**	**319**	*e*P	**P**	**13 18 16.3**	**-0.3**
MKAR	**Makanchi Array**	**80.45**	**319**	P	**P**	**13 18 16.3**	**-0.3**
	0.8nm,0.8s,baz=92,slow=4.9,SNR=5.0						
ZALV	**Zalesovo Beam**	**81.46**	**327**	P	**P**	**13 18 21.4**	**-0.4**
	0.6nm,0.5s,baz=106,slow=3.2,SNR=3.6						
ZAA1	**Zalesovo Array**	**81.46**	**327**	*e*P	**P**	**13 18 21.4**	**-0.4**
IM3	**Indian Mountai**	**81.68**	**20**	*e*P	**P**	**13 18 22.6**	**0.0**
MLY	**Manley**	**82.19**	**21**	*e*P	**P**	**13 18 25.4**	**-0.1**
	4.6nm,0.6s						
ILAR	**Eielson Array**	**83.48**	**22**	P	**P**	**13 18 31.3**	**-0.8**
	1.9nm,0.7s,baz=249,slow=5.2,SNR=25						
ILB	**Eielson Array**	**83.48**	**22**	*e*P	**P**	**13 18 30.7**	**-1.4**
IL1	**Eielson Array**	**83.48**	**22**	*e*P	**P**	**13 18 30.6**	**-1.5**
QSPA	**South Pole Qui**	**84.14**	**180**	*e*P	**P**	**13 18 35.3**	**-0.3**
	13nm,1.1s						
NVAR	**Mina Array Bea**	**93.50**	**52**	P	**P**	**13 19 21.7**	**+0.7**
	1.2nm,0.9s,baz=264,slow=5.6,SNR=4.9						
NVAR				LR	LR	13 55 48.7	
	comp=Z,87nm,19.9s,baz=343,slow=32						
NV01	**Mina Array Sit**	**93.50**	**52**	*e*P	**P**	**13 19 20.8**	**-0.2**
CLL	**Collm**	**123.26**	**330**	*e*PKPdf	**PKPdf**	**13 25 01.0**	**-0.5**
GERES	**GERESS Array B**	**124.40**	**328**	PKP	**PKPdf**	**13 25 04.1**	**+0.2**
	0.2nm,0.4s,baz=50,slow=1.5,SNR=3.3						
PTGA	**Pitinga**	**147.61**	**101**	*e*PKPbc	**PKPab**	**13 25 50.4**	**-2.0**
TOA0	**Torodi Ar. Sit**	**149.66**	**286**	*e*PKPbc	**PKPbc**	**13 25 54.5**	**-0.9**
TORD	**Torodi Ar. Bea**	**149.66**	**286**	PKPbc	**PKPbc**	**13 25 54.3**	**-1.1**
	3.0nm,0.8s,baz=56,slow=3.1,SNR=16						
TOA1	**Torodi Ar. Sit**	**149.66**	**286**	*e*PKPbc	**PKPbc**	**13 25 54.3**	**-1.1**
DBIC	**Dimbokro**	**156.79**	**273**	PKPab	**PKPab**	**13 26 31.0**	**+0.3**
	4.1nm,0.9s,baz=101,slow=5.1,SNR=5.2						

*ISN **11** 13:08:21.4±0.3,37°.21N×42°.56E,h0km,ML2.7*

ISK 11 13:08:22.6,37°.21N×42°.50E,h8km,**ML2.8**/5,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIRT	**Sirnak**	**0.30**	**350**	PG	Pg	13 08 29.1	+0.5
SIRT				SG	Sg	13 08 33.7	+1.1
CUKT	**Cukurca**	**0.88**	**87**	PG	Pb	13 08 40.0	-0.2
CUKT				SG	Sb	13 08 52.7	+0.5
GURO	**Guroymak-BITLI**	**1.39**	**345**	PN	Pb	13 08 49.0	0.0
SVAN	**Silvan-Diyarba**	**1.40**	**313**	PN	Pb	13 08 49.1	0.0
SVRC	**Sivrice-ELAZID**	**2.79**	**296**	PN	Pn	13 09 08.9	+1.2
PTK	**Pertek**	**2.98**	**305**	PN	Pn	13 09 11.7	+1.4

*ISCJB **11** 13:11:59.7±0.4,23°.72N±0°.02×122°.87E±0°.02,h15km±3km,*
Error ellipse: s-maj=3.5km s-min=2.4km az=159.1
*JMA **11** 13:12:00.7±0.1,23°.73N×122°.90E,h52km,M2.5*
*TAP **11** 13:12:01.3,23°.79N×122°.87E,h28km±1km,ML3.0,D*

ISC 11 13:11:59.4±1.4,**23°.69N**±0°.03×**122°.88E**±0°.02,**h20**km±8km,
n74, σ0§**84**/135,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.76**	**4**	P	**Pn**	**13 12 14.9**	**0.0**
JYNG				*e*S	**Sb**	**13 12 24.5**	**+0.8**
YOJ	**Yonaguni jima**	**0.77**	**9**	*e*P	**Pn**	**13 12 15.3**	**+0.2**
	baz=10.0						
YOJ				S	**Sb**	**13 12 24.5**	**+0.2**
	baz=10.0						
YOJ	**Yonaguni jima**	**0.77**	**9**	P	**Pn**	**13 12 15.4**	**+0.2**
YOJ				S	**Sb**	**13 12 25.0**	**+0.8**
HATJ	**Hateruma jima**	**0.92**	**67**	P	**Pn**	**13 12 17.1**	**0.0**
HATJ				*e*S	**Sb**	**13 12 28.9**	**+0.5**
IRIF	**Iriomote-Funau**	**1.00**	**50**	P	**Pn**	**13 12 18.4**	**+0.1**
IRIF				*e*S	**Sn**	**13 12 31.9**	**0.0**
EOS1	**EOS1**	**1.09**	**321**	*e*P	**Pb**	**13 12 20.7**	**+1.1**
	baz=319						
EOS1				*e*S	**Sn**	**13 12 34.3**	**+0.2**
	baz=319						
JKRS	**Kuro-shima**	**1.17**	**62**	P	**Pb**	**13 12 20.8**	**0.0**
JKRS				S	**Sb**	**13 12 35.5**	**0.0**
TWD	**Chiawan**	**1.24**	**288**	*e*P	**Pn**	**13 12 21.6**	**+0.1**
	baz=271						
TWD				*e*S	**Sb**	**13 12 36.0**	**-1.6**
	baz=271						
NANB	**Nanao**	**1.27**	**305**	P	**Pb**	**13 12 23.0**	**+0.5**
	baz=303						
NANB				*e*S	**Sn**	**13 12 37.8**	**-0.5**
	baz=303						
NACB	**Ninganchiao**	**1.27**	**292**	P	**Pn**	**13 12 22.0**	**0.0**
	baz=276						
NACB				*e*S	**Sn**	**13 12 35.8**	**-2.6**
	baz=276						
ENA	**Nanau**	**1.27**	**305**	P	**Pb**	**13 12 22.8**	**+0.2**
	baz=303						
ENA				*e*S	**Sn**	**13 12 37.9**	**-0.6**
	baz=303						
TWC	**Suao**	**1.31**	**314**	*e*P	**Pn**	**13 12 21.6**	**-0.9**
	baz=300						
TWC				S	**Sn**	**13 12 39.5**	**+0.1**
	baz=300						
EGFH	**Guangfu**	**1.33**	**269**	P	**Pn**	**13 12 22.5**	**-0.3**
	baz=266						
EGFH				S	**Sn**	**13 12 39.4**	**-0.5**
	baz=266						
ESL	**Shilin**	**1.33**	**275**	*e*P	**Pn**	**13 12 22.8**	**0.0**
	baz=260						
ESL				S	**Sn**	**13 12 39.4**	**-0.6**
	baz=260						
JIJ	**Ishigaki jima**	**1.33**	**60**	P	**Pn**	**13 12 22.6**	**-0.2**
JIJ				S	**Sn**	**13 12 38.5**	**-1.5**
HGSD	**Ruisui**	**1.35**	**262**	P	**Pn**	**13 12 23.5**	**+0.4**
	baz=259						
HGSD				*e*S	**Sn**	**13 12 39.6**	**-0.8**
	baz=259						
EHY	**Hungye**	**1.44**	**263**	P	**Pb**	**13 12 25.2**	**-0.3**
	baz=260						
EHY				*e*S	**Sn**	**13 12 42.8**	**+0.2**
	baz=260						
YULB	**Yu-li**	**1.48**	**259**	P	**Pb**	**13 12 25.7**	**-0.6**
	baz=256						
YULB				*e*S	**Sn**	**13 12 42.3**	**-1.4**
	baz=256						
TWF1	**Yuli**	**1.49**	**257**	P	**Pb**	**13 12 25.9**	**-0.6**
	baz=254						
TWF1				*e*S	**Sn**	**13 12 43.7**	**-0.3**
	baz=254						
TWE	**Neicheng**	**1.51**	**313**	P	**Pb**	**13 12 26.5**	**-0.2**
	baz=312						
TWE				*e*S	**Sb**	**13 12 44.9**	**-0.5**
	baz=312						
CHKT	**Chengkung**	**1.51**	**247**	*e*P	**Pn**	**13 12 23.9**	**-1.3**
	baz=244						
CHKT				S	**Sn**	**13 12 43.5**	**-0.9**
	baz=244						
ENTT	**Nioudou**	**1.53**	**308**	P	**Pb**	**13 12 27.1**	**0.0**
	baz=293						
ENTT				*e*S	**Sn**	**13 12 44.4**	**-0.4**
	baz=293						
FULB	**Fuli**	**1.54**	**252**	*e*P	**Pn**	**13 12 26.0**	**+0.3**
	baz=249						
FULB				S	**Sn**	**13 12 44.3**	**-0.8**
	baz=249						
WHF	**Hehuan Shan**	**1.54**	**287**	P	**Pn**	**13 12 26.8**	**+0.6**
	baz=273						
WHF				*e*S	**Sn**	**13 12 44.7**	**-1.2**
	baz=273						
SLBB	**Yuanshan**	**1.55**	**313**	P	**Pb**	**13 12 27.6**	**+0.2**
	baz=311						
NNSB	**Datong**	**1.55**	**298**	P	**Pb**	**13 12 27.1**	**-0.5**
	baz=284						
NNSB				S	**Sn**	**13 12 45.0**	**-0.5**
	baz=284						
NNS	**Nan Shan**	**1.56**	**299**	*e*P	**Pn**	**13 12 25.2**	**-0.9**
	baz=285						
NNS				*e*S	**Sn**	**13 12 45.9**	**0.0**
	baz=285						
JISG	**Ishigakijimahi**	**1.58**	**55**	P	**Pn**	**13 12 25.7**	**-0.5**
JISG				S	**Sn**	**13 12 44.6**	**-1.5**
TIPB	**Shuangxi**	**1.59**	**323**	P	**Pb**	**13 12 27.6**	**-0.6**
	baz=336						
TIPB				S	**Sn**	**13 12 46.0**	**-0.5**
	baz=336						
CHGB	**Renai**	**1.60**	**283**	P	**Pn**	**13 12 27.6**	**+0.8**
	baz=271						
CHGB				S	**Sn**	**13 12 47.0**	**0.0**
	baz=271						
NWLT	**Wulai**	**1.66**	**311**	*e*P	**Pb**	**13 12 30.6**	**+1.4**
	baz=296						
NWLT				*e*S	**Sn**	**13 12 48.3**	**+0.3**
	baz=296						
TDCB	**Techi**	**1.67**	**290**	P	**Pn**	**13 12 28.6**	**+1.0**
	baz=288						
TDCB				*e*S	**Sn**	**13 12 46.9**	**-1.6**
	baz=288						
YHNB	**Yeheng**	**1.68**	**306**	P	**Pb**	**13 12 29.1**	**-0.6**
	baz=304						
YHNB				*e*S	**Sn**	**13 12 48.1**	**-0.6**
	baz=304						
NSK	**Sanguang**	**1.70**	**305**	*e*P	**Pb**	**13 12 29.2**	**-0.8**
	baz=304						
NSK				*e*S	**Sn**	**13 12 48.5**	**-0.7**
	baz=304						
SSLB	**Suanglung**	**1.77**	**273**	*e*P	**Pb**	**13 12 30.2**	**-0.9**
	baz=271						
YUS	**Yu-Shan**	**1.78**	**264**	*e*P	**Pb**	**13 12 30.8**	**-0.8**
	baz=261						
ELDTW	**Lidau**	**1.78**	**254**	P	**Pn**	**13 12 30.0**	**+0.9**
	baz=251						
ELDTW				*e*S	**Sn**	**13 12 50.4**	**-0.9**
	baz=251						
TATO	**Taipei**	**1.80**	**315**	*e*P	**Pn**	**13 12 30.4**	**+1.2**
	baz=330						
TATO				*e*S	**Sn**	**13 12 51.2**	**-0.3**
	baz=330						
SMLT	**Sun Moon Lake**	**1.82**	**276**	*e*P	**Pb**	**13 12 31.1**	**-1.0**
	baz=263						
TYC	**Yuchr**	**1.86**	**277**	*e*P	**Pb**	**13 12 33.1**	**+0.4**
	baz=263						
YM07	**YM07**	**1.87**	**322**	*e*P	**Pn**	**13 12 31.1**	**+0.8**
	baz=322						
YM07				*e*S	**Sn**	**13 12 51.6**	**-1.7**
	baz=322						
TWGBT	**Beinan**	**1.87**	**243**	P	**Pn**	**13 12 31.4**	**+1.1**
	baz=230						
TWGBT				*e*S	**Sn**	**13 12 52.5**	**-0.8**
	baz=230						
TWG	**Pinlang**	**1.88**	**243**	P	**Pn**	**13 12 31.5**	**+1.2**
	baz=230						
TWG				*e*S	**Sn**	**13 12 52.6**	**-0.8**
	baz=230						
YM01	**YM01**	**1.88**	**321**	*e*S	**Sn**	**13 12 54.4**	**+0.9**
	baz=320						
WLTB	**Daxi**	**1.88**	**308**	*e*S	**Sn**	**13 12 54.6**	**+1.2**
	baz=294						
YM04	**YM04**	**1.90**	**320**	*e*S	**Sn**	**13 12 53.9**	**-0.1**
	baz=319						
JTJ	**Tarama**	**1.91**	**60**	P	**Pn**	**13 12 31.1**	**+0.3**
JTJ				S	**Sn**	**13 12 53.6**	**-0.7**
TWS1	**Kuangyinshan**	**1.93**	**317**	*e*S	**Sb**	**13 12 56.6**	**-1.0**
	baz=331						
LIOB	**Emei**	**1.95**	**299**	P	**Pb**	**13 12 33.5**	**-0.7**
	baz=287						
LIOB				*e*S	**Sb**	**13 12 57.1**	**-1.1**
	baz=287						
NSTT	**Nanjuang**	**1.95**	**299**	*e*P	**Pb**	**13 12 33.9**	**-0.4**
	baz=286						
NSTT				*e*S	**Sn**	**13 12 56.2**	**+0.9**
	baz=286						
WJS	**Zhushan**	**1.98**	**274**	*e*P	**Pb**	**13 12 35.3**	**+0.6**
	baz=262						
WJS				*e*S	**Sb**	**13 12 58.3**	**-0.5**
	baz=262						
WNT	**Mingjian**	**2.02**	**276**	*e*P	**Pb**	**13 12 35.4**	**0.0**
	baz=274						
WNT				*e*S	**Sb**	**13 12 59.6**	**-0.5**
	baz=274						
STYT	**Tauyuan**	**2.02**	**255**	*e*P	**Pn**	**13 12 33.9**	**+1.5**
	baz=243						
STYT				*e*S	**Sn**	**13 12 57.6**	**+0.5**
	baz=243						
CHN5	**Tsauling**	**2.02**	**268**	*e*P	**Pb**	**13 12 35.2**	**-0.3**
	baz=266						
CHN5				*e*S	**Sb**	**13 12 59.6**	**-0.7**
	baz=266						
TWQ1	**Liyutan**	**2.03**	**289**	*e*P	**Pb**	**13 12 35.3**	**-0.3**
	baz=288						
TWQ1				*e*S	**Sb**	**13 12 59.8**	**-0.8**
	baz=288						
NSY	**Sanyi**	**2.07**	**291**	*e*P	**Pb**	**13 12 36.1**	**-0.2**
	baz=290						
NSY				*e*S	**Sb**	**13 13 00.9**	**-0.6**
	baz=290						
TCU	**Taichung**	**2.07**	**283**	*e*P	**Pb**	**13 12 36.2**	**0.0**
	baz=282						
TCU				*e*S	**Sb**	**13 13 01.5**	**0.0**
	baz=282						
ECL	**Taimali**	**2.08**	**239**	*e*P	**Pn**	**13 12 34.0**	**+0.9**
	baz=249						
ECL				*e*S	**Sn**	**13 12 57.1**	**-1.3**
	baz=249						
TPUB	**Ta-pu**	**2.10**	**260**	*e*P	**Pb**	**13 12 36.1**	**-0.7**
	baz=258						
TPUB				*e*S	**Sb**	**13 13 02.2**	**-0.3**
	baz=258						
WTP	**Ta-pu**	**2.13**	**258**	*e*P	**Pb**	**13 12 37.0**	**-0.3**
	baz=256						
WTP				*e*S	**Sb**	**13 13 02.0**	**-1.3**
	baz=256						
WDLH	**Douliu**	**2.15**	**270**	*e*P	**Pb**	**13 12 37.7**	**+0.1**
	baz=269						
WDLH				*e*S	**Sb**	**13 13 03.6**	**-0.1**
	baz=269						
WCHH	**Zhanghua**	**2.16**	**281**	*e*P	**Pb**	**13 12 37.1**	**-0.7**
	baz=280						
WCHH				*e*S	**Sb**	**13 13 03.1**	**-1.1**
	baz=280						
SLGT	**Liugui**	**2.17**	**252**	*e*P	**Pb**	**13 12 36.9**	**-1.1**
	baz=241						
SLGT				*e*S	**Sn**	**13 13 02.5**	**+1.8**
	baz=241						
SGST	**Jiashian**	**2.20**	**254**	*e*P	**Pb**	**13 12 37.6**	**-0.9**
	baz=252						
SGST				*e*S	**Sb**	**13 13 04.9**	**-0.4**
	baz=252						
CHN1	**Nanshi**	**2.22**	**257**	*e*P	**Pb**	**13 12 38.1**	**-0.7**
	baz=255						
CHN1				*e*S	**Sb**	**13 13 04.7**	**-1.2**
	baz=255						
TWK	**Hsinying**	**2.24**	**260**	*e*P	**Pb**	**13 12 38.5**	**-0.7**
	baz=258						
TWK				*e*S	**Sb**	**13 13 06.3**	**-0.1**
	baz=258						
EAST	**Anshuo**	**2.28**	**236**	*e*P	**Pn**	**13 12 37.0**	**+1.1**
	baz=243						
EAST				*e*S	**Sn**	**13 13 03.6**	**+0.2**
	baz=243						
RLNB	**Erlin**	**2.32**	**275**	*e*P	**Pb**	**13 12 39.6**	**-0.9**
	baz=264						
RLNB				*e*S	**Sb**	**13 13 07.9**	**-0.8**
	baz=264						
MASBT	**Mashibuluo**	**2.33**	**243**	*e*P	**Pn**	**13 12 38.3**	**+1.7**
	baz=232						
MASBT				*e*S	**Sn**	**13 13 05.4**	**+0.7**
	baz=232						
WSF	**Szhu**	**2.44**	**269**	*e*S	**Sb**	**13 13 11.2**	**-0.9**
	baz=268						
SCZT	**Fangliau**	**2.46**	**238**	*e*P	**Pb**	**13 12 42.1**	**-0.8**
	baz=235						
SCZT				*e*S	**Sn**	**13 13 10.0**	**+2.1**
	baz=235						
VWUC	**VWUC**	**3.39**	**293**	*e*P	**Pn**	**13 12 51.6**	**+0.6**
	baz=292						
KNM	**Kinmen**	**4.13**	**281**	*e*S	**Sn**	**13 13 50.2**	**+1.3**
	baz=280						
KNMB	**Chin-men Tao**	**4.18**	**281**	*e*P	**Pn**	**13 13 03.1**	**+1.1**
	baz=280						

JMA 11 13:30:19.8±0.1,**37°.19N**×**141°.44E**,**h31**km±1km,**M3.5,**
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.48**	**292**	P	Pb	13 30 29.7	-0.4
JFK				S	Sb	13 30 36.6	-0.5
ONAJ	**Iwakimizuishiy**	**0.52**	**260**	P	Pb	13 30 30.3	-0.3
ONAJ				S	Sb	13 30 37.5	-0.6
JFFD	**Fukushimafurud**	**0.71**	**262**	P	Pn	13 30 33.1	-0.6
JFFD				S	Sb	13 30 42.4	-0.8
JMM	**Marumori**	**0.85**	**323**	P	Pn	13 30 34.9	-0.7
JMM				S	Sn	13 30 45.8	-1.2
JHO	**Hitachi**	**0.91**	**231**	P	Pn	13 30 36.1	-0.3
JHO				S	Sn	13 30 47.2	-1.2
JFT	**Otama**	**0.94**	**291**	P	Pn	13 30 37.1	+0.2
JFT				S	Sb	13 30 49.6	-0.1
JSB	**Shiboa**	**1.24**	**260**	P	Pb	13 30 42.4	-0.2
JSB				S	Sb	13 30 58.7	+0.5
MAT	**Matsushiro**	**2.67**	**257**	P	Pn	13 31 03.3	+2.6
MAT				S	Sb	13 31 36.0	-3.3

*ISCJB **11** 13:36:01.6±0.9,22°.7N±0°.1×95°.8E±0°.2,h10km,mb3.5/7,*
Error ellipse: s-maj=32.1km s-min=8.3km az=154.5
*IDC **11** 13:36:01.5±1.3,22°.67N×95°.85E,h0km,mb3.7/7,*
mb1 3.9/8,mb1mx3.6/47,mbtmp3.7/8,ML3.8/1,Error
ellipse: s-maj=43.9km s-min=14.6km az=62.0

ISC 11 13:36:02.7±1.4,**22°.6N**±0°.1×**95°.8E**±0°.3,**h10**km,**n16,**
σ2§**31**/15,**mb3.6**/7,**Myanmar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHTO	**Chiang Mai**	**4.73**	**142**	P	**Pn**	**13 37 15.5**	**+1.3**
	156nm,0.8s,2µm						
CMMT	**Chiang Mai**	**4.74**	**141**	P	**Pn**	**13 37 15.4**	**+1.1**
	36nm,0.8s,477nm						
CMAR	**Chiang Mai Arr**	**5.02**	**144**	Pn	**Pn**	**13 37 19.8**	**+1.6**
	1.0nm,0.3s,baz=322,slow=13,SNR=51						
CMAR				Pg	**Pg**	**13 37 36.0**	**-2.9**
	5.7nm,0.3s,baz=325,slow=17,SNR=67						
CMAR				Lg	Lg	13 38 42.1	
	9.2nm,0.3s,baz=323,slow=30,SNR=10						
LAMP	**Lampang**	**5.37**	**138**	P	**Pg**	**13 37 42.8**	**-2.8**
SUKH	**Sukhothai**	**6.19**	**144**	P	**Pn**	**13 37 36.6**	**+2.4**
	12nm,0.8s						
UTTA	**Uttaradit**	**6.53**	**136**	P	**Pn**	**13 37 42.7**	**+3.8**
	3.3nm,0.7s						
UMPA	**Umpang Tak**	**6.94**	**155**	P	Pn	13 37 52.6	+8.0
	12nm,0.8s,717nm						
PBKT	**Sadao Pong**	**7.68**	**140**	P	**Pn**	**13 37 59.1**	**+4.4**
	6.6nm,0.4s,717nm						
UTHA	**Uthaitani**	**7.76**	**153**	P	Pn	13 38 00.9	+5.1
	2.9nm,0.5s,71nm						
MKAR	**Makanchi Array**

IHRS				IAMB	IAmb	13 54 12.1	
	comp=E,4μm,0.2s						
ISRB	**Sarab**	**1.89**	**200**	*e*Pn	**Pn**	**13 53 51.0**	**+0.7**
ISRB				IAMB	IAmb	13 53 59.7	
	comp=Z,683nm,0.2s						
ISRB				IAMB	IAmb	13 54 15.2	
	comp=E,2μm,0.6s						
ISRB				IAMB	IAmb	13 54 20.2	
	comp=N,1μm,0.2s						
SEKA	**Sheki**	**1.89**	**329**	*e*Pn	**Pn**	**13 53 50.0**	**-0.2**
SEKA				*e*Pn	**Pb**	**13 53 50.4**	**-2.0**
QSAR	**Qusar**	**1.92**	**355**	*e*Pn	**Pn**	**13 53 52.0**	**+1.3**
GANJ	**Ganja**	**1.97**	**303**	*e*Pn	**Pn**	**13 53 50.4**	**-0.9**
ORD	**Ordubad**	**2.05**	**252**	*e*Pn	**Pn**	**13 53 52.4**	**-0.1**
IBST	**Bostanabad**	**2.27**	**214**	*e*Pn	**Pn**	**13 53 55.7**	**+0.1**
IBST				IAMB	IAmb	13 53 59.5	
	comp=Z,469nm,0.3s						
IBST				IAMB	IAmb	13 54 28.6	
	comp=N,436nm,0.3s						
IBST				IAMB	IAmb	13 54 28.7	
	comp=E,467nm,0.2s						
ITBZ	**Tabriz**	**2.28**	**234**	*e*Pn	**Pn**	**13 53 56.2**	**+0.5**
ITBZ				IAMB	IAmb	13 53 59.8	
	comp=Z,523nm,0.2s						
ITBZ				IAMB	IAmb	13 54 41.6	
	comp=E,677nm,0.4s						
ITBZ				IAMB	IAmb	13 54 41.8	
	comp=N,564nm,0.3s						
SBZ	**Shahbuz**	**2.29**	**266**	*e*Pn	**Pn**	**13 53 56.1**	**+0.4**
IMRD	**Marand**	**2.34**	**249**	*e*Pn	**Pn**	**13 53 57.0**	**+0.5**
IMRD				IAMB	IAmb	13 54 33.1	
	comp=Z,2μm,0.2s						
IMRD				IAMB	IAmb	13 54 43.9	
	comp=E,2μm,0.4s						
NAX	**Nakhchivan**	**2.36**	**261**	*e*Pn	**Pn**	**13 53 57.8**	**+1.1**
GDB	**GEDABAY**	**2.38**	**299**	*e*Pn	**Pn**	**13 53 57.1**	**0.0**
ISHB	**Shabestar**	**2.60**	**241**	*e*Pn	**Pn**	**13 54 00.6**	**+0.5**
ISHB				IAMB	IAmb	13 54 20.7	
	comp=Z,382nm,0.3s						
ISHB				IAMB	IAmb	13 54 26.8	
	comp=N,638nm,0.3s						
ISHB				IAMB	IAmb	13 54 52.4	
	comp=E,567nm,0.4s						
IAZR	**Azarshahr**	**2.75**	**227**	IAMB	IAmb	13 54 18.1	
	comp=N,2μm,0.4s						
IAZR				*e*Pn	**Pn**	**13 54 02.8**	**+0.6**
IAZR				IAMB	IAmb	13 54 25.0	
	comp=Z,823nm,0.3s						
IAZR				IAMB	IAmb	13 54 25.8	
	comp=E,2μm,0.2s						
QALM	**Alamut, Qazvin**	**3.59**	**151**	*e*Pn	**Pn**	**13 54 13.3**	**-0.4**
QALM				IAMB	IAmb	13 54 15.3	
	comp=Z,0.0nm,0.1s						
QALM				IAMB	IAmb	13 54 54.5	
	comp=N,0.0nm,0.1s						
QALM				IAMB	IAmb	13 54 55.1	
	comp=E,0.0nm,0.1s						
IMHD	**Mahdasht**	**4.27**	**156**	IAMB	IAmb	13 54 25.1	
	comp=Z,356nm,0.2s						
IMHD				IAMB	IAmb	13 55 14.7	
	comp=E,1μm,0.2s						
IMHD				IAMB	IAmb	13 55 15.6	
	comp=N,1μm,0.2s						
IAFJ	**Afjeh**	**4.52**	**145**	IAMB	IAmb	13 54 29.2	
	comp=Z,449nm,0.1s						
IAFJ				IAMB	IAmb	13 54 31.2	
	comp=N,638nm,0.3s						
IPRN	**Peran**	**4.52**	**137**	*e*Pn	**Pn**	**13 54 27.3**	**+0.8**
IPRN				IAMB	IAmb	13 54 28.5	
	comp=Z,3μm,0.1s						
IPRN				IAMB	IAmb	13 54 28.5	
	comp=E,5μm,0.2s						
IPRN				IAMB	IAmb	13 55 20.3	
	comp=N,4μm,0.1s						
IALA	**Alasht**	**4.89**	**134**	*e*Pn	**Pn**	**13 54 32.6**	**+0.9**
IALA				IAMB	IAmb	13 55 30.4	
	comp=Z,1μm,0.2s						
IFIR	**Firoozkooh**	**5.20**	**138**	*e*Pn	**Pn**	**13 54 37.9**	**+2.0**
IFIR				IAMB	IAmb	13 54 38.9	
	comp=E,356nm,0.2s						
IFIR				IAMB	IAmb	13 54 39.0	
	comp=Z,626nm,0.1s						
IFIR				IAMB	IAmb	13 54 39.1	
	comp=N,606nm,0.2s						
IKIA	**Kiasar**	**5.32**	**128**	*e*Pn	**Pn**	**13 54 38.8**	**+1.3**
IKIA				IAMB	IAmb	13 54 40.0	
	comp=Z,381nm,0.2s						
IKIA				IAMB	IAmb	13 55 40.2	
	comp=E,884nm,0.3s						
IKIA				IAMB	IAmb	13 55 40.3	
	comp=N,794nm,0.2s						
IANJ	**Anjilo**	**5.96**	**132**	IAMB	IAmb	13 56 00.6	
	comp=Z,107nm,0.2s						
GYA0B	**ALIBECK ARRAY**	**7.70**	**99**	⇑Pn	**Pn**	**13 55 09.1**	**-0.9**
	comp=Z,1.4nm,0.6s						
GYA0B				⇑Sn	**Sn**	**13 56 30.6**	**-6.7**
	comp=Z,9.0nm,0.9s						
IEMG	**Emamgholi**	**8.26**	**102**	*e*Pn	**Pn**	**13 55 17.5**	**-0.4**
IEMG				IAMB	IAmb	13 56 50.7	
	comp=Z,242nm,0.2s						
IEMG				IAMB	IAmb	13 56 50.9	
	comp=E,1μm,0.3s						
IEMG				IAMB	IAmb	13 56 51.5	
	comp=N,943nm,0.2s						
AB31	**Akbulak array**	**12.64**	**36**	⇓P	Pn	13 56 14.0	-3.5
	comp=N,0.2nm,0.3s,baz=218,slow=13						
AB31				⇑S	Sn	13 58 26.5	-12
	comp=N,1.4nm,0.8s,baz=218,slow=21						
AKTO	**Aktyubinsk**	**12.75**	**29**	⇓P	Pn	13 56 13.0	-6.0
	comp=N,1.0nm,0.4s						
AKTO				⇓S	Sn	13 58 27.3	-14
	comp=N,1.5nm,1.0s						

MEX 11 14:01:52.7±0.6, 16°.53N×98°.45W, h14km±5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.34**	**113**	*i* P	Pg	14 01 59.0	-0.6
PNIG				*i* S	Sg	14 02 04.2	0.0
TLIG	**Tlapa**	**1.04**	**354**	*e*P	Pb	14 02 09.1	-3.5
TLIG				*e*S	Sb	14 02 21.8	-4.4
ACP2	**Acapulco**	**1.42**	**284**	*i* P	Pn	14 02 15.2	-2.9
ACP2				*e*S	Sn	14 02 31.7	-5.0
VHO	**Vista Hermosa**	**1.73**	**71**	*e*P	Pn	14 02 19.7	-3.0
VHO				*i* S	Sn	14 02 40.8	-4.0
CAIG	**El Cayaco**	**1.81**	**287**	*e*P	Pn	14 02 20.7	-2.9
CAIG				*i* S	Sn	14 02 41.1	-5.3

*ISK **11** 14:13:10.5, 37°.35N×37°.15E, h17km, ML2.1/3*
*ISCJB **11** 14:13:12.0±0.6, 37°.32N±0°.03×37°.07E±0°.04, h9km±5km, Error ellipse: s-maj=6.5km s-min=5.1km az=137.1*
*DDA **11** 14:13:13.1, 37°.32N×37°.20E, h7km, Ml2.9*
ISC 11 14:13:11.8±0.9, 37°.33N±0°.04×37°.11E±0°.04, h12km±8km, n10, σ0°.95/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.18**	**154**	PG	**Pg**	**14 13 15.6**	**-0.3**
GAZ				SG	**Sg**	**14 13 18.9**	**+0.2**
KMRS	**Kahramanmaras**	**0.24**	**315**	PG	**Pg**	**14 13 16.9**	**0.0**
KMRS				SG	**Sg**	**14 13 20.8**	**+0.4**
KUZU	**Kuzuini**	**0.56**	**183**	*i* P	**Pb**	**14 13 24.2**	**+0.7**
KUZU				*i* S	**Sb**	**14 13 32.1**	**+0.5**
KOZT	**Kozan**	**1.03**	**279**	PG	**Pb**	**14 13 31.2**	**-0.5**
KOZT				SG	**Sb**	**14 13 46.1**	**+0.9**
AKCD	**Akcadag**	**1.16**	**33**	*i* P	**Pn**	**14 13 34.8**	**+0.9**
AKCD				*i* S	**Sn**	**14 13 50.6**	**+0.9**
TAHT	**Tahtakopru-Hat**	**1.21**	**218**	PN	**Pn**	**14 13 33.8**	**-0.8**
DARE	**Darende-Malaty**	**1.27**	**13**	PN	**Pn**	**14 13 33.7**	**-1.8**
SURC	**SANLIURFA_SURC**	**1.28**	**110**	*i* P	**Pg**	**14 13 35.9**	**-0.6**
SURC				*i* S	**Sg**	**14 13 53.5**	**+0.4**
URFA	**Urfa**	**1.36**	**85**	PN	**Pn**	**14 13 35.2**	**-1.5**
SANL	**SANLIURFA_Merk**	**1.50**	**96**	*i* S	**Sg**	**14 14 01.0**	**+0.8**

*ISCJB **11** 14:14:00.2±1.1, 39°.02N±0°.04×29°.25E±0°.06, h6km±8km, Error ellipse: s-maj=8.3km s-min=7.4km az=20.1*
*DDA **11** 14:14:00.5, 39°.10N×29°.15E, h7km, Ml2.5*
*ISK **11** 14:14:01.2, 39°.04N×29°.12E, h19km, ML2.2/6*
ISC 11 14:14:01.0±1.2, 39°.06N±0°.04×29°.17E±0°.06, h12km±7km, n11, σ0°.87/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.15**	**281**	PG	**Pb**	**14 14 05.9**	**+0.1**
SIMA				SG	**Sb**	**14 14 08.3**	**+1.1**
DEMI	**Demirci**	**0.35**	**268**	*i* P	**Pg**	**14 14 07.7**	**-0.4**
DEMI				*i* S	**Sg**	**14 14 12.6**	**-0.3**
KULA	**Kula-Manisa**	**0.67**	**217**	PG	**Pg**	**14 14 13.7**	**-0.3**
KULA				SG	**Sb**	**14 14 23.7**	**-0.2**
MANT	**Manisa**	**0.74**	**221**	*i* P	**Pb**	**14 14 15.4**	**-0.5**
MANT				*i* S	**Sb**	**14 14 25.4**	**-0.7**
DURS	**Dursunbey**	**0.77**	**315**	*i* P	**Pg**	**14 14 14.9**	**-1.0**
DURS				*i* S	**Sn**	**14 14 29.8**	**+0.6**
STEP	**BALIKESIR_Sava**	**1.17**	**286**	*i* P	Pg	14 14 27.8	+4.2
STEP				*i* S	**Sn**	**14 14 41.1**	**+2.0**
CAVI	**Cavuskoy**	**1.26**	**24**	PN	**Pb**	**14 14 24.5**	**-0.1**
CAVI				SN	**Sg**	**14 14 42.3**	**+0.8**
KCTX	**Karacabey (Bur**	**1.36**	**333**	PN	**Pg**	**14 14 26.2**	**-1.0**
KCTX				SN	**Sg**	**14 14 43.9**	**-1.0**
YLV	**Yalova**	**1.52**	**6**	PN	**Pb**	**14 14 28.5**	**-0.6**
ARMT	**Armutlu**	**1.53**	**351**	PN	**Pb**	**14 14 28.9**	**-0.3**
GULT	**Gulveren**	**1.72**	**37**	PN	**Pn**	**14 14 31.3**	**+0.5**

IDC 11 14:27:08.8±2.9, 33°.48S×178°.70W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.6/36, mbtmpg3.6/3, ML3.6/1, Error ellipse: s-maj=69.2km s-min=35.6km az=118.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.86**	**214**	Pn	Pn	14 28 37.1	+0.3
	1.6nm,0.3s,baz=262,slow=4.7,SNR=25						
URZ				Sn	Sn	14 29 44.1	-0.5
	1.8nm,0.3s,baz=147,slow=19,SNR=7.0						
ASAR	**Alice Springs**	**42.44**	**271**	P	P	14 35 05.8	+0.2
	0.4nm,0.6s,baz=118,slow=7.6,SNR=9.3						
WRA	**Warramunga Arr**	**43.71**	**276**	P	P	14 35 15.5	-0.3
	0.6nm,0.5s,baz=116,slow=7.8,SNR=13						
FINES	**FINESS Array B**	**147.79**	**338**	PKPbc	PKPbc	14 46 53.9	-0.8
	3.4nm,0.9s,baz=123,slow=5.1,SNR=3.1						

*NEIC **11** 14:29:13.5±0.0, 15°.97N×98°.34W, h15km, MD4.0(MEX), After MEX.*
MEX 11 14:29:13.1±0.7, 15°.95N×98°.33W, h13km±12km, MD4.0, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.48**	**24**	*i* P	Pg	14 29 20.9	-1.8
PNIG				*i* S	Sg	14 29 27.9	-1.2
PNIG	**Pinotepa**	**0.48**	**24**	*i* P	Pg	14 29 20.9	-1.8
PNIG				*i* S	Sg	14 29 27.9	-1.2
TLIG	**Tlapa**	**1.62**	**352**	*e*P	Pn	14 29 37.5	-4.0
TLIG	**Tlapa**	**1.62**	**352**	*e*P	Pn	14 29 37.5	-4.0
TLIG				*i* S	Sn	14 29 57.7	-4.7
VHO	**Vista Hermosa**	**1.89**	**54**	*e*P	Pn	14 29 42.3	-3.0
VHO	**Vista Hermosa**	**1.89**	**54**	*e*P	Pn	14 29 42.3	-3.0
VHO				*i* S	Sn	14 30 04.5	-4.7
CAIG	**El Cayaco**	**2.16**	**301**	*e*P	Pn	14 29 45.0	-3.8
CAIG	**El Cayaco**	**2.16**	**301**	*e*P	Pn	14 29 45.0	-3.8
CAIG				*e*S	Sn	14 30 11.1	-4.3

MEX 11 14:32:44.3±0.5, 15°.99N×98°.29W, h5km, MD3.6, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.43**	**21**	*i* P	Pg	14 32 51.6	-1.0
PNIG				*i* S	Sg	14 32 58.6	+0.4
TLIG	**Tlapa**	**1.58**	**350**	*e*P	Pn	14 33 10.4	-2.8
TLIG				*i* S	Sn	14 33 29.4	-4.7
VHO	**Vista Hermosa**	**1.84**	**54**	*e*P	Pn	14 33 13.2	-3.5
VHO				*i* S	Sn	14 33 35.9	-4.6
CAIG	**El Cayaco**	**2.17**	**299**	*i* P	Pn	14 33 17.8	-3.3
CAIG				*i* S	Sn	14 33 44.4	-3.9

*NNC **11** 14:37:17.6±1.4, 45°.68N×85°.11E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=13.4km s-min=7.7km az=80.0*
*SOME **11** 14:37:18.1, 45°.85N×84°.82E, h5km*
ISC 11 14:37:18.1±1.8, 45°.69N±0°.07×85°.02E±0°.10, h10km, n19, σ3°.07/29, 4C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**1.76**	**357**	*e*P	**Pn**	**14 37 48.4**	**-0.3**
	9.2nm,0.6s						
ZSN				*e*S	**Sn**	**14 38 10.8**	**-0.4**
	31nm,0.7s						
MK31	**Makanchi Array**	**2.19**	**301**	⇑Pn	**Pn**	**14 37 56.4**	**+1.8**
	4.3nm,0.5s,baz=113,slow=13,SNR=71						
MK31				⇓Lg	Lg	14 38 29.1	
	22nm,0.5s,baz=116,slow=25,SNR=34						
DJR	**Jarkent**	**3.95**	**252**	*e*P	**Pb**	**14 38 31.1**	**+3.2**
	4.9nm,0.8s						
DJR				*e*S	**Sg**	**14 39 23.1**	**-1.8**
	3.4nm,0.7s						
KAPS	**Kapalarasan**	**4.01**	**266**	*e*P	**Pb**	**14 38 30.1**	**+1.3**
	3.1nm,0.9s						
KAPS				*e*S	**Sb**	**14 39 21.6**	**+4.3**
	9.4nm,0.7s						
KTMS	**Ketmen**	**4.02**	**238**	*e*P	**Pb**	**14 38 32.3**	**+3.2**
	3.9nm,0.3s						
KTMS				*e*S	**Sg**	**14 39 26.1**	**-1.2**
	10nm,0.4s						
PDGK	**Podgornoye**	**4.61**	**241**	⇓Pn	**Pn**	**14 38 29.1**	**+1.1**
	1.8nm,0.6s						
PDGK				⇓Pg	**Pb**	**14 38 42.8**	**+3.7**
	4.7nm,0.8s						
PDGK				⇑Lg	Lg	14 39 45.5	
	9.4nm,0.5s						
TDK	**Taldyqorghan**	**4.72**	**264**	*e*P	**Pg**	**14 38 46.2**	**-2.2**
	25nm,0.6s						
TDK				*e*S	**Sg**	**14 39 50.1**	**+0.6**
	24nm,1.0s						
SHLS	**Shalkode**	**4.72**	**240**	*e*P	**Pb**	**14 38 40.2**	**-0.8**
	6.8nm,0.3s						
SHLS				*e*S	**Sb**	**14 39 39.1**	**+1.2**
	28nm,0.7s						
MNBS	**Baschi**	**4.97**	**253**	*e*P	**Pg**	**14 38 50.2**	**-3.2**
	6.6nm,0.7s						
MNBS				*e*S	**Sg**	**14 39 56.0**	**-1.8**
	9.4nm,1.0s						
UZB	**Uzynbulak**	**5.00**	**242**	*e*P	**Pg**	**14 38 50.3**	**-3.4**
	3.7nm,1.0s						
UZB				*e*S	**Sg**	**14 39 55.9**	**-2.5**
	5.6nm,1.1s						
ARXS	**Arharly**	**5.32**	**256**	*e*P	**Pb**	**14 38 54.4**	**+3.3**
	2.5nm,0.9s						
ARXS				*e*S	**Sg**	**14 40 03.9**	**-4.9**
	5.4nm,1.0s						
SATY	**Saty**	**5.42**	**243**	*e*P	**Pb**	**14 38 54.8**	**+1.8**
	7.9nm,0.7s						
SATY				*e*S	**Sb**	**14 40 04.1**	**+5.9**
	13nm,0.7s						
CHKK	**Chushkaly**	**6.01**	**255**	*e*P	**Pg**	**14 39 09.4**	**-3.7**
	1.3nm,0.5s						
CHKK				*e*S	**Sg**	**14 40 28.8**	**-2.1**
	3.1nm,0.5s						
KOTS	**Kotyrbulak**	**6.17**	**249**	*e*P	Pb	14 39 11.3	+5.6
	2.1nm,0.5s						
KOTS				*e*S	**Sg**	**14 40 32.4**	**-3.7**
	11nm,0.7s						
KTBS	**Karatobe**	**6.27**	**255**	*e*P	Pb	14 39 12.7	+5.4
	1.6nm,0.7s						
KTBS				*e*S	**Sg**	**14 40 34.6**	**-4.6**
	2.7nm,0.9s						
KUU	**Kurty**	**6.44**	**257**	*e*P	Pb	14 39 16.2	+6.0
	1.6nm,0.8s						
KUU				*e*S	**Sg**	**14 40 40.5**	**-4.1**
	3.7nm,1.2s						
KURBB	**Kurchatov Arra**	**6.57**	**321**	⇑Lg	Lg	14 40 46.6	
	38nm,0.7s						
KURK	**Kurchatov**	**6.60**	**322**	⇑Lg	Lg	14 40 45.9	
	15nm,0.7s						
TKM2	**Tokmak 2**	**7.31**	**251**	⇓Pn	**Pn**	**14 39 05.6**	**+0.6**
	1.1nm,0.9s						
TKM2				⇓Lg	Lg	14 41 14.0	
	4.0nm,0.9s						

*ISCJB **11** 14:39:27.9±0.7, 16°.01N±0°.07×98°.02W±0°.04, h16km, mb4.2/32, MS3.5/5, Error ellipse: s-maj=10.6km s-min=4.9km az=21.6*
*MEX **11** 14:39:28.8±0.5, 15°.97N×98°.33W, h5km, MD4.0*
*NEIC **11** 14:39:29.6±4.0, 16°.06N×97°.99W, h16km±12km, mb4.3/33, MD4.0(MEX), Error ellipse: s-maj=37.3km s-min=8.6km az=185.0*
*IDC **11** 14:39:36.8±4.0, 16°.14N×97°.80W, h90km±35km, mb3.4/7, mb1 3.7/11, mb1mx3.5/36, mbtmpg3.7/11, MS3.4/7, Ms1 3.5/7, ms1mx3.1/31, Error ellipse: s-maj=40.6km s-min=24.5km az=29.0*
ISC 11 14:39:28.3±0.9, 15°.98N±0°.07×98°.23W±0°.05, h16km, n165, σ1°.22/165, mb4.4/32, MS3.5/5, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.42**	**14**	*e*P	**Pb**	**14 39 36.9**	**-0.5**
PNIG				*i* S	**Sn**	**14 39 44.2**	**-3.0**
PNIG	**Pinotepa**	**0.42**	**14**	*e*P	**Pb**	**14 39 36.9**	**-0.5**
PNIG				*e*S	**Sn**	**14 39 44.2**	**-3.0**
TLIG	**Tlapa**	**1.60**	**349**	*e*P	**Pn**	**14 39 54.1**	**-2.0**
TLIG	**Tlapa**	**1.60**	**349**	*e*P	**Pn**	**14 39 54.1**	**-2.0**
TLIG				*i* S	**Sn**	**14 40 14.7**	**-1.9**
VHO	**Vista Hermosa**	**1.80**	**53**	*e*P	**Pn**	**14 39 58.9**	**0.0**
VHO	**Vista Hermosa**	**1.80**	**53**	*e*P	**Pn**	**14 39 58.9**	**0.0**
VHO				*i* S	**Sb**	**14 40 22.2**	**-1.3**
CAIG	**El Cayaco**	**2.22**	**299**	*e*P	**Pn**	**14 40 01.9**	**-2.6**
CAIG	**El Cayaco**	**2.22**	**299**	*e*P	**Pn**	**14 40 01.9**	**-2.6**
CAIG				*i* S	**Sn**	**14 40 28.6**	**-3.0**
CMIG	**Matias Romero**	**3.40**	**71**	P	**Pn**	**14 40 19.7**	**-1.0**
	8.2nm,0.3s,baz=343,slow=14,SNR=16						
CMIG				S	**Sn**	**14 40 57.4**	**-3.3**
	18nm,0.3s,baz=275,slow=7.0,SNR=5.0						
CMIG				LR	LR	14 41 06.6	
	comp=Z,118nm,21.0s,baz=110,slow=30						
UNM	**Universidad Na**	**3.45**	**345**	*e*Pn	**Pn**	**14 40 23.0**	**+1.4**
LVIG	**Laguna Verde**	**4.10**	**25**	*e*Pn	**Pn**	**14 40 28.9**	**-1.4**
MOIG	**Morelia**	**4.63**	**323**	*e*Pn	**Pn**	**14 40 40.5**	**+2.7**
JRQG	**Juriquilla Cam**	**5.14**	**336**	*e*Pn	**Pn**	**14 40 48.7**	**+3.8**
CCIG	**Comitan**	**5.87**	**86**	*e*Pn	Pn	14 40 48.4	-6.4
APG	**El Apazote**	**7.55**	**96**	P	**Pn**	**14 41 19.4**	**+1.3**
	baz=282,slow=14,SNR=2.2						
APG				S	**Sn**	**14 42 38.9**	**-4.6**
	0.4nm,0.3s,baz=347,slow=17,SNR=1.9						
JTS	**JuntasAbangare**	**14.11**	**112**	P	**Pn**	**14 42 49.9**	**+2.2**
	2.2nm,0.3s,baz=323,slow=20,SNR=2.2						
TXAR	**Lajitas Array**	**14.20**	**340**	P	**P**	**14 42 54.2**	**-2.1**
	0.1nm,0.3s,baz=164,slow=12,SNR=8.2						
TXAR				LR	LR	14 48 45.2	
	comp=Z,176nm,18.1s,baz=0.0,slow=39						
ABTX	**Abilene, Hawle**	**16.62**	**356**	*e*Pn	**P**	**14 43 24.0**	**+0.9**
	12nm,0.8s						
ABTX	**Abilene, Hawle**	**16.62**	**356**	P	**P**	**14 43 22.8**	**-0.2**
	baz=174,SNR=5.1						
121A	**Cookes Peak, D**	**18.62**	**334**	P	**Pn**	**14 43 47.8**	**+2.2**
	baz=149						
Z47A	**Carrollton**	**19.45**	**26**	P	**Pn**	**14 43 55.4**	**-0.1**
	baz=210						
W39A	**Magazine**	**19.55**	**11**	P	**Pn**	**14 43 56.5**	**-0.1**
	baz=192						
Y46A	**Houston**	**19.73**	**24**	P	**Pn**	**14 43 58.0**	**-0.7**
	baz=207,SNR=6.6						
LENM	**Lemitar**	**19.74**	**338**	*e*P	**Pn**	**14 43 59.4**	**+0.3**
LRAL	**Lakeview Retre**	**19.79**	**29**	*e*P	**P**	**14 43 57.7**	**-0.3**
	6.8nm,0.8s						
LRAL	**Lakeview Retre**	**19.79**	**29**	P	**P**	**14 43 57.9**	**-0.1**
	baz=213						
Z48A	**Northport**	**19.83**	**27**	P	**P**	**14 43 58.8**	**+0.4**
	baz=211						
150A	**Eclectic**	**19.91**	**32**	P	**P**	**14 43 59.7**	**+0.4**
	baz=216						
TUL1	**Leonard**	**19.97**	**6**	P	**P**	**14 44 00.4**	**+0.5**
	baz=186						
OXF	**Oxford**	**20.08**	**22**	*e*P	**P**	**14 44 00.0**	**-1.1**
	32nm,0.8s						
OXF	**Oxford**	**20.08**	**22**	P	**Pn**	**14 44 02.4**	**-0.6**
	baz=205						
Z49A	**Columbiana**	**20.14**	**30**	P	**P**	**14 44 02.1**	**+0.3**
	baz=214						
Y47A	**UCPARC, Winfie**	**20.15**	**26**	P	**P**	**14 44 01.8**	**-0.1**
	baz=210						
151A	**Opelika**	**20.21**	**33**	P	**P**	**14 44 02.7**	**+0.1**
	baz=218,SNR=6.5						
ANMO	**Albuquerque**	**20.27**	**340**	P	Pn	14 44 05.1	-0.4
	2.6nm,0.6s,baz=143,slow=13,SNR=12						
ANMO	**Albuquerque**	**20.27**	**340**	P	Pn	14 44 05.5	0.0
	baz=156						
X46A	**Booneville**	**20.43**	**23**	P	**P**	**14 44 05.5**	**+0.6**
	baz=207						
Z50A	**Ashland**	**20.48**	**31**	*e*P	**P**	**14 44 04.1**	**-1.5**
	9.2nm,0.8s						
Z50A	**Ashland**	**20.48**	**31**	P	**P**	**14 44 05.3**	**-0.2**
	baz=215						
X47A	**Russelville**	**20.68**	**25**	P	**P**	**14 44 07.7**	**0.0**
	baz=209						
W45A	**Hickory Valley**	**20.74**	**21**	P	**P**	**14 44 08.6**	**+0.3**
	baz=205						
Y49A	**Blount Mountai**	**20.75**	**29**	P	**P**	**14 44 08.4**	**0.0**
	baz=213						
U40A	**Yellville**	**20.85**	**12**	P	Pn	14 44 11.3	-0.7
	baz=194,SNR=7.4						
X48A	**Hartselle**	**20.96**	**27**	*e*P	**P**	**14 44 09.9**	**-0.8**
	8.7nm,0.9s						
X48A	**Hartselle**	**20.96**	**27**	P	**P**	**14 44 10.8**	**+0.2**
	baz=211						
PLAL	**Pickwick Lake**	**21.00**	**24**	*e*P	**P**	**14 44 10.5**	**-0.6**
	9.8nm,0.9s						
Y50A	**Piedmont**	**21.09**	**30**	P	**P**	**14 44 11.6**	**-0.5**
	baz=215						
Z52A	**Williamson**	**21.20**	**34**	P	**P**	**14 44 13.5**	**+0.2**
	baz=219						
U42A	**Revenden**	**21.22**	**16**	P	**P**	**14 44 14.8**	**+1.4**
	baz=198						
X49A	**Woodville**	**21.33**	**28**	P	**P**	**14 44 15.1**	**+0.5**
	baz=212						
Y51A	**Rockmart**	**21.43**	**31**	P	**P**	**14 44 15.4**	**-0.4**
	baz=216						
W48A	**Pulaski**	**21.60**	**26**	P	**P**	**14 44 17.5**	**0.0**
	baz=210						
V46A	**Holladay**	**21.71**	**23**	P	**P**	**14 44 19.1**	**+0.5**
	baz=207						
Z53A	**Monticello**	**21.73**	**35**	P	**P**	**14 44 19.1**	**+0.1**
	baz=221						
T41A	**Mountain View**	**21.75**	**14**	P	**P**	**14 44 19.0**	**-0.2**
	baz=196						
T25A	**Trinidad**	**21.77**	**347**	*e*P	**P**	**14 44

baz=196
W50A Signal Mountai 22.36 29 *e*P P 14 44 25.2 -0.6
14nm,0.7s
W50A Signal Mountai 22.36 29 P P 14 44 26.0 +0.2
baz=214,SNR=8.6
V49A McMinnville 22.57 27 P P 14 44 28.0 0.0
baz=212
X52A Dahlonega 22.58 32 P P 14 44 27.6 -0.4
baz=218
U47A Clarksville 22.58 23 P P 14 44 27.4 -0.7
baz=208
W51A Cleveland 22.59 30 P P 14 44 27.9 -0.3
baz=215
SDCO Great Sand Dun 22.61 345 *e*P P 14 44 29.6 +1.0
1.5nm,0.9s
Y54A Tignall 22.66 35 P P 14 44 28.4 -0.5
baz=222,SNR=6.2
S42A Caledonia 22.68 15 P P 14 44 29.8 +0.7
baz=198
WUAZ Wupatki 22.73 331 *e*P P 14 44 31.3 +1.5
21nm,1.7s
WUAZ Wupatki 22.73 331 P P 14 44 33.0 +3.2
baz=145
CCM Cathedral Cave 22.84 14 P P 14 44 31.8 +1.1
baz=197
V50A Pikevile 22.85 28 P P 14 44 30.8 -0.1
baz=214
U48A Cassie Pea, Po 22.94 25 P P 14 44 32.0 +0.2
baz=209
CPCT Cooper Cave 22.94 30 *e*P P 14 44 31.3 -0.6
6.1nm,0.9s
W52A Murphy 22.95 31 *e*P P 14 44 31.4 -0.6
33nm,1.3s
W52A Murphy 22.95 31 P P 14 44 31.9 0.0
baz=217
S22A 4UR Ranch, Cre 22.97 342 P P 14 44 34.0 +1.5
baz=158
MVCO Mesa Verde 23.02 339 P P 14 44 34.5 +1.6
baz=154
R41A Rosebud 23.04 14 P P 14 44 33.8 +1.0
baz=196
S44A Carbondale 23.04 18 P P 14 44 33.6 +0.8
baz=202
SIUC Southern Illin 23.07 18 *e*P P 14 44 32.5 -0.6
21nm,1.0s
T47A Sharon Grove 23.14 23 *e*P P 14 44 32.4 -1.4
16nm,0.8s
T47A Sharon Grove 23.14 23 P P 14 44 34.2 +0.4
baz=208,SNR=6.8
R42A Luebbering 23.16 15 P P 14 44 34.9 +0.8
baz=198
S45A Carrier Mills 23.23 20 P P 14 44 35.8 +1.0
baz=204
U49A Red Boiling Sp 23.25 26 P P 14 44 35.7 +0.6
baz=211,SNR=5.0
V51A Loudon 23.31 30 *e*P P 14 44 34.3 -1.3
16nm,1.2s
V51A Loudon 23.31 30 P P 14 44 35.5 -0.1
baz=215
R43A Red Bud 23.38 17 P P 14 44 37.6 +1.3
baz=200
W53A Cullowhee 23.39 32 P P 14 44 36.9 +0.3
baz=218
TKL Tuckaleechee C 23.47 31 P P 14 44 34.7 -2.5
3.6nm,0.6s,baz=192,slow=12,SNR=5.7
T48A Bowling Green 23.52 24 P P 14 44 37.9 +0.3
baz=209
R44A Waltonville 23.60 18 P P 14 44 39.6 +1.1
baz=202
Q41A Truxton 23.70 14 P P 14 44 38.9 -0.5
baz=196
S47A Hartford 23.75 23 P P 14 44 39.5 -0.5
baz=208
JSC Jenkinsville 23.77 37 *e*P P 14 44 39.5 -0.7
9.5nm,0.9s
USIN University of 23.80 21 *e*P P 14 44 40.8 +0.4
23nm,0.8s
PAULI Pauline 23.85 35 *e*P P 14 44 41.0 +0.1
12nm,1.0s
T49A Edmonton 23.86 26 P P 14 44 41.5 +0.5
baz=211
R45A Skylar, Fairfi 23.89 20 P P 14 44 41.2 -0.1
baz=204
U15A North Rim 23.90 331 *e*P P 14 44 43.5 +1.8
4.7nm,1.1s
T50A Nancy 24.09 27 P P 14 44 43.1 -0.1
baz=213
S48A Wiedeman Farm, 24.12 24 P P 14 44 43.9 +0.4
baz=209
R47A Wooly Knot Far 24.50 23 P P 14 44 47.3 +0.4
baz=208
WCI Wyandotte Cave 24.53 23 *e*P P 14 44 47.1 -0.1
18nm,0.8s
WCI Wyandotte Cave 24.53 23 P P 14 44 47.6 +0.4
baz=208
S49A Springfield 24.54 25 P P 14 44 47.4 +0.1
baz=211
ISCO Idaho Springs 24.59 346 *e*P P 14 44 49.3 +1.2
4.7nm,0.8s
ISCO Idaho Springs 24.59 346 P P 14 44 50.3 +2.2
baz=162,SNR=5.3
S50A Richmond 24.83 27 P P 14 44 50.2 +0.3
baz=213
R48A Northridge Ran 24.84 24 P P 14 44 50.5 +0.5
baz=209
O41A Passleys Farm, 24.88 13 P P 14 44 50.5 +0.2
baz=196
SCI2 San Clemente I 24.99 316 P P 14 44 53.5 +2.1
baz=127
Q47A Bedord North L 25.11 22 P P 14 44 52.9 +0.5
baz=207,SNR=6.1
S51A Beattyville 25.16 28 *e*P P 14 44 52.8 0.0
15nm,0.8s
S51A Beattyville 25.16 28 P P 14 44 53.1 +0.3
baz=214,SNR=6.2
MTPU Mount Pierson 25.18 333 *e*P P 14 44 55.7 +2.2
3.8nm,0.8s
Q48A North Vernon 25.36 23 P P 14 44 55.2 +0.5
baz=209
R50A Paris 25.36 26 P P 14 44 53.8 -0.9
baz=212
S52A Salyersville 25.42 29 P P 14 44 55.4 +0.1
baz=215
R51A Hillsboro 25.70 27 P P 14 44 58.3 +0.5
baz=214,SNR=11
N23A Red Feather La 25.71 346 P P 14 45 00.2 +2.1
baz=162
O45A Potomac 25.85 19 P P 14 45 00.2 +1.1
baz=203
Q50A Georgetown 25.98 26 P P 14 45 00.6 +0.2
baz=212,SNR=8.1
SFIN Lafayette 26.17 20 P P 14 45 01.9 0.0
baz=204
N44A Piper City 26.23 18 P P 14 45 04.0 +1.5
baz=202
P49A Miami Univ. Ec 26.27 24 P P 14 45 03.0 +0.1
baz=210,SNR=7.7
O47A Sheridan 26.35 21 P P 14 45 03.7 +0.1
baz=206
Q51A Peebles 26.41 27 *e*P P 14 45 04.1 -0.1
16nm,0.9s
Q51A Peebles 26.41 27 P P 14 45 04.6 +0.4
baz=213
L40A Anamosa 26.68 12 P P 14 45 07.3 +0.7
baz=195
O48A Farmland 26.73 23 P P 14 45 06.7 -0.4
baz=208
Q52A Bidwell 26.84 28 P P 14 45 08.3 +0.2
baz=215
L41A Preston 26.84 13 P P 14 45 07.8 -0.2
baz=196
N47A Urbana 27.09 21 P P 14 45 09.7 -0.5
baz=207
SDV Santo Domingo 27.84 101 LR LR 14 57 20.6
comp=Z,67nm,18.4s,baz=150,slow=39
M49A Liberty Center 28.23 23 P P 14 45 19.9 -0.6
baz=210
BW06 Boulder Array 28.40 342 P P 14 45 24.0 +1.6
baz=156
PDAR Pinedale Array 28.40 342 P P 14 45 22.9 +0.6
0.5nm,0.7s,baz=132,slow=6.2,SNR=4.4
PDAR LR LR 14 57 26.3
comp=Z,176nm,20.3s,baz=192,slow=38
L48A N Adams 28.47 22 P P 14 45 22.6 0.0
baz=208
NVAR Mina Array Bea 28.49 326 P P 14 45 24.9 +1.8
0.9nm,0.8s,baz=145,slow=11,SNR=3.7
NVAR LR LR 14 57 32.0
comp=Z,124nm,19.6s,baz=282,slow=38
J43A Natural Harves 28.56 15 P P 14 45 23.7 +0.3
baz=200
ATAH Atahualpa 30.22 138 LR LR 14 55 08.8
comp=Z,42nm,18.7s,baz=50,slow=31
YKA Yellowknife Ar 47.87 350 P P 14 48 05.3 0.0
0.7nm,0.8s,baz=155,slow=7.5,SNR=3.6
DLBC Dease Lake 48.49 338 LR LR 15 08 09.0
comp=Z,152nm,20.3s,baz=332,slow=35
INK Inuvik 56.91 345 P P 14 49 11.2 -1.0
1.3nm,0.8s,baz=91,slow=3.2,SNR=7.3
ILAR Eielson Array 58.70 338 P P 14 49 24.6 -0.3
0.5nm,0.8s,baz=131,slow=5.1,SNR=6.2

ISCJB ***11*** *14:45:01.5±0.2,22.°70N±0.°02×95.°83E±0.°03,h10km, mb4.4/36,MS3.8/26,Error ellipse: s-maj=4.5km s-min=2.6km az=142.5*
IDC ***11*** *14:45:01.7±0.6,22.°75N×95.°81E,h0km,mb4.1/15, mb1 4.3/16,mb1mx4.0/53,mbtmp4.2/16,ML4.6/1,MS3.8/24, Ms1 3.8/24,ms1mx3.6/56,Error ellipse: s-maj=21.4km s-min=11.4km az=65.0*
MOS ***11*** *14:45:03.6±1.3,22.°68N×95.°87E,h27km,mb4.7/16,Error ellipse: s-maj=11.7km s-min=6.0km az=109.7*
NEIC ***11*** *14:45:03.0±2.2,22.°75N×95.°94E,h9km±14km,mb4.8/19, Error ellipse: s-maj=5.5km s-min=3.7km az=54.0*
BJI ***11*** *14:45:05.7,23.°10N×95.°71E,h15km,mb4.4/23,mB4.8/15, ML4.2/3,Ms4.3/20,Ms7 4.1/20*
NDI ***11*** *14:45:08.6±2.9,22.°73N×95.°56E,h10km,mb4.6,ML4.6, mb4.8(NEIC)*
ISC 11 14:45:03.7±0.4,22.°77N±0.°04×95.°78E±0.°04,h10km,n146,
σ1°79/139,mb4.5/36,MS3.8/26,1C,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAIH	**SAIHA**	**2.59**	**264**	*e*P	**Pb**	**14 45 50.0**	**-0.4**
SAIH				*e*S	**Sn**	**14 46 18.2**	**+0.7**
IMP	**Imphal**	**2.65**	**321**	*e*P	**Pb**	**14 45 49.9**	**-1.4**
IMP				*e*S	**Sn**	**14 46 21.9**	**+3.1**
KOHI	**KOHIMA**	**3.31**	**333**	*e*P	**Pn**	**14 45 57.1**	**+1.4**
KOHI				*e*S	**Sn**	**14 46 33.5**	**-1.7**
MOKO	**MOKOCHONG**	**3.72**	**342**	*e*P	**Pn**	**14 46 05.6**	**+4.3**
MOKO				*e*S	**Sn**	**14 46 47.8**	**+2.6**
BRDH	**Bariadhala**	**3.82**	**269**	Sn	**Sn**	**14 46 50.9**	**+3.3**
	66nm,0.3s,baz=104,slow=18,SNR=3.2						
JORH	**JORHAT**	**4.19**	**341**	*e*P	Pn	14 46 12.8	+5.1
JORH				*e*S	**Sn**	**14 47 00.2**	**+3.4**
SHL	**Shillong**	**4.52**	**309**	*e*Pn	**Pn**	**14 46 14.0**	**+1.7**
SHL	**Shillong**	**4.52**	**309**	*e*P	**Pn**	**14 46 14.0**	**+1.7**
SHL	**Shillong**	**4.52**	**309**	*e*P	**Pn**	**14 46 14.1**	**+1.7**
SHL				*e*S	**Sn**	**14 47 04.7**	**-0.4**
LKP	**Lekhapani**	**4.54**	**1**	*e*P	**Pb**	**14 46 20.1**	**-3.4**
LKP				*e*S	**Sn**	**14 47 08.4**	**+3.0**
LKP				AMP		14 47 34.7	
	comp=N,5μm,2.6s						
LKP				AMP		14 47 35.8	
	comp=E,5μm,2.0s						
TEZP	**TEZPUR**	**4.69**	**325**	*e*P	**Pn**	**14 46 18.0**	**+3.4**
TEZP				*e*S	**Sn**	**14 47 08.7**	**-0.3**
ITAN	**ITANAGAR**	**4.74**	**337**	*e*P	Pn	14 46 21.1	+5.9
CHTO	**Chiang Mai**	**4.93**	**142**	*e*Pn	**Pn**	**14 46 15.3**	**-2.6**
CHTO	**Chiang Mai**	**4.93**	**142**	*e*P	**Pn**	**14 46 15.3**	**-2.6**
CHTO	**Chiang Mai**	**4.93**	**142**	P	**Pn**	**14 46 15.4**	**-2.5**
CMMT	**Chiang Mai**	**4.93**	**142**	P	**Pn**	**14 46 15.3**	**-2.6**
ZIRO	**ZIRO**	**5.05**	**340**	*e*P	**Pn**	**14 46 24.3**	**+4.7**
PAYA	**Payao**	**5.11**	**131**	P	**Pn**	**14 46 17.6**	**-2.8**
CM31	**Chiang Mai Arr**	**5.22**	**145**	*e*Pn	**Pn**	**14 46 19.8**	**-2.1**
CMAR	**Chiang Mai Arr**	**5.22**	**145**	Pn	**Pn**	**14 46 19.9**	**-1.9**
	comp=E,6.0nm,0.3s,baz=322,slow=13,SNR=99						
CMAR				Pg	**Pb**	**14 46 37.1**	**+2.1**
	comp=E,33nm,0.3s,baz=320,slow=17,SNR=65						
CMAR				Lg	Lg	14 47 44.9	
	comp=E,33nm,0.3s,baz=313,slow=30,SNR=9.2						
CMAR				LR	LR	14 48 54.0	
	comp=E,600nm,20.3s,baz=1.0,slow=45						
CMAR	**Chiang Mai Arr**	**5.22**	**145**	P	**Pn**	**14 46 20.0**	**-1.9**
CM01	**Chiang Mai Arr**	**5.25**	**145**	*e*Pn	**Pn**	**14 46 20.0**	**-2.4**
LAMP	**Lampang**	**5.56**	**139**	P	**Pn**	**14 46 24.3**	**-2.2**
TAWA	**Tawang**	**5.97**	**324**	*e*P	**Pn**	**14 46 36.1**	**+3.6**
TAWA				*e*S	**Sn**	**14 47 39.8**	**-1.3**
TAWA				IAML		14 47 54.0	
	comp=N,280nm,0.4s						
TAWA				IAML		14 47 55.1	
	comp=E,340nm,0.8s						
DHUB	**DHUBRI**	**6.18**	**303**	*e*P	**Pn**	**14 46 36.5**	**+1.4**
DHUB				*e*S	**Sn**	**14 47 42.7**	**-3.2**
SUKH	**Sukhothai**	**6.39**	**145**	P	**Pn**	**14 46 36.2**	**-1.7**
UTTA	**Uttaradit**	**6.72**	**137**	P	**Pn**	**14 46 39.9**	**-2.5**
UMPA	**Umpang Tak**	**7.15**	**155**	P	**Pn**	**14 46 49.8**	**+1.4**
PBKT	**Sadao Pong**	**7.87**	**141**	*e*Pn	**Pn**	**14 46 56.2**	**-2.1**
PBKT	**Sadao Pong**	**7.87**	**141**	P	**Pn**	**14 46 56.6**	**-1.7**
UTHA	**Uthaitani**	**7.97**	**154**	P	**Pn**	**14 46 59.7**	**+0.1**
LSA	**Lhasa**	**8.05**	**330**	*e*Pn	**Pn**	**14 47 03.2**	**+2.0**
LSA	**Lhasa**	**8.05**	**330**	*e*P	**Pn**	**14 47 03.2**	**+2.0**
NONG	**Nongkai**	**8.35**	**123**	P	**Pn**	**14 47 08.0**	**+3.2**
	comp=E,0.8nm,1.2s,comp=E,0.0nm						
SRDT	**SRDT**	**8.96**	**159**	P	Pn	14 47 19.9	+6.7
CHAI	**Chaiyaphum**	**9.00**	**138**	P	**Pn**	**14 47 16.7**	**+2.9**
SKNT	**Sakolnakorn**	**9.63**	**125**	P	**Pn**	**14 47 23.5**	**+1.0**
	comp=E,14nm,1.5s,comp=E,0.1nm						
GUN	**Gumba**	**10.31**	**302**	*e*Pn	**Pn**	**14 47 32.9**	**+0.8**
GUN				*e*Sn	**Sn**	**14 49 29.7**	**+1.8**
	comp=E,49nm,0.6s						
PKI	**Pulchoki**	**10.54**	**299**	*e*Pn	**Pn**	**14 47 34.2**	**-0.9**
SRAK	**Srakaew**	**10.54**	**145**	P	Pn	14 47 40.5	+5.5
PKIN	**Phulchoki**	**10.55**	**299**	*e*Pn	**Pn**	**14 47 34.4**	**-0.8**
KKN	**Kakani**	**10.73**	**300**	*e*Pn	**Pn**	**14 47 37.7**	**0.0**
DMN	**Daman**	**10.80**	**299**	*e*Pn	**Pn**	**14 47 38.3**	**-0.3**
KOLN	**Koldanda**	**12.09**	**297**	*e*Pn	**Pn**	**14 47 55.2**	**-1.1**
KOLN				*e*Sn	**Sn**	**14 50 07.2**	**-4.1**
	comp=E,27nm,0.7s						
DANN	**Dangsing**	**12.18**	**300**	*e*Pn	**Pn**	**14 47 56.4**	**-1.3**
PYUN	**Piuthan**	**12.71**	**297**	*e*Pn	**Pn**	**14 48 04.1**	**-0.7**
LZH	**Lanzhou**	**15.01**	**26**	*e*P	**P**	**14 48 43.5**	**+2.0**
LZH				pP	sP	14 48 46.3	+0.7
LZH				sP	pP	14 48 48.2	+3.9
LZH				PP	PnPn	14 48 54.8	+11
LZH				pmax	pmax		
	comp=Z,160nm,1.3s						
LZH				pmax	pmax		
	comp=Z,250nm,5.2s						
LZH				LR	LR		
	comp=N,1μm,14.1s						
LZH				LR	LR		
	comp=E,1μm,13.6s						
LZH				LR	LR		
	comp=Z,1μm,15.7s						
TRTT	**Trang**	**15.32**	**165**	P	**P**	**14 48 47.2**	**+2.3**
	comp=Z,11nm,1.1s						
XAN	**Xi'an**	**16.10**	**43**	P	**P**	**14 48 52.3**	**-1.3**
XAN				pP	sP	14 49 00.0	+2.3
XAN				S	**Sn**	**14 51 46.7**	**-2.2**
XAN				pmax	pmax		
	comp=Z,21nm,1.3s						
XAN				LR	LR		
	comp=Z,570nm,9.8s						
XAN				LR	LR		
	comp=Z,1μm,16.3s						
GTA	**Gaotai**	**16.94**	**11**	*e*P	**P**	**14 49 04.1**	**+1.2**
GTA				pP	sP	14 49 07.7	+0.6
GTA				sP	pP	14 49 10.1	+4.4
GTA				S	**Sn**	**14 52 10.4**	**+1.1**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,81nm,4.3s						
GTA				LR	LR		
	comp=Z,720nm,16.1s						
GTA				LR	LR		
	comp=Z,650nm,16.1s						
HYB	**Hyderabad**	**17.03**	**255**	*i* P	**P**	**14 49 06.0**	**+2.0**
LHMI	**Lhok Sumawe**	**17.48**	**176**	*e*Pn	**Pn**	**14 49 06.7**	**-1.0**
	comp=Z,118nm,1.0s						
LHMI	**Lhok Sumawe**	**17.48**	**176**	P	**P**	**14 49 11.3**	**+2.4**
KULM	**Kulim**	**18.01**	**164**	*e*Pn	**Pn**	**14 49 12.7**	**-1.6**
	comp=Z,30nm,1.1s						
SMLA	**Simla**	**18.55**	**301**	*e*P	**Pn**	**14 49 22.2**	**+1.4**
KCSI	**Kotacane, Aceh**	**19.23**	**174**	P	**Pn**	**14 49 30.2**	**+1.0**
TSI	**Tuntungan**	**19.35**	**172**	P	**Pn**	**14 49 32.1**	**+1.6**
DHRM	**DHARAMSHALA**	**19.66**	**303**	*e*P	**Pn**	**14 49 34.7**	**+0.3**
DHRM				IAmb	IAmb	14 49 41.0	
	comp=Z,32nm,0.9s						
PSI	**Prapat**	**20.09**	**171**	P	Pn	14 49 38.2	-1.2
	comp=Z,30nm,0.9s,baz=360,slow=9.8,SNR=15						
PSI				LR	LR	14 57 59.3	
	comp=Z,259nm,20.6s,baz=272,slow=39						
PSI	**Prapat**	**20.09**	**171**	*e*P	Pn	14 49 38.4	-1.1
	comp=Z,43nm,1.0s						
PSI	**Prapat**	**20.09**	**171**	*e*P	Pn	14 49 38.4	-1.1
PSI				pmax	pmax		
	comp=Z,43nm,1.0s						
PALK	**Pallekele**	**21.17**	**226**	P	**P**	**14 49 49.6**	**+0.3**
	comp=Z,7.7nm,1.0s,baz=0.0,slow=1.0,SNR=3.2						
PALK				LR	LR	14 59 06.7	
	comp=Z,212nm,18.2s,baz=297,slow=40						
BTO	**Baotou**	**21.47**	**31**	*e*P	**P**	**14 49 52.4**	**0.0**
BJT	**Baijiatuau**	**24.37**	**40**	*e*P	**P**	**14 50 20.1**	**-1.9**
	comp=Z,34nm,1.2s						
BJT	**Baijiatuau**	**24.37**	**40**	*e*P	**P**	**14 50 20.1**	**-1.9**
BJT				pmax	pmax		
	comp=Z,34nm,1.2s						
PRZ	**Przheval'sk**	**24.42**	**328**	*e*P	**P**	**14 50 23.5**	**+0.9**
	comp=Z,27nm,0.9s						
PRZ	**Przheval'sk**	**24.42**	**328**	*e*P	**P**	**14 50 23.5**	**+0.9**
PRZ				pmax	pmax		
	comp=Z,27nm,0.9s						
KDJ	**Kajisay**	**24.78**	**326**	*e*P	**P**	**14 50 27.2**	**+1.3**
	comp=Z,34nm,1.0s						
KDJ	**Kajisay**	**24.78**	**326**	*e*P	**P**	**14 50 27.2**	**+1.3**
KDJ				pmax	pmax		
	comp=Z,34nm,1.0s						
NRN	**Naryn**	**24.93**	**323**	*e*P	**P**	**14 50 27.9**	**+0.4**
	comp=Z,11nm,1.1s						
NRN	**Naryn**	**24.93**	**323**	*e*P	**P**	**14 50 27.9**	**+0.4**
NRN				pmax	pmax		
	comp=Z,11nm,1.1s						
KBL	**Kabul**	**26.14**	**303**	*e*P	**P**	**14 50 39.7**	**+1.3**
	comp=Z,14nm,1.2s						
MK01	**Makanchi Array**	**26.30**	**339**	*e*P	**P**	**14 50 39.6**	**+0.1**
MK31	**Makanchi Array**	**26.33**	**339**	*e*P	**P**	**14 50 39.6**	**-0.1**
MK31	**Makanchi Array**	**26.33**	**339**	*e*P	**P**	**14 50 39.6**	**-0.1**
MKAR	**Makanchi Array**	**26.33**	**339**	P	**P**	**14 50 40.1**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=150,slow=9.8,SNR=12						
MKAR				LR	LR	15 03 48.7	
	comp=Z,92nm,18.1s,baz=162,slow=43						
MKAR	**Makanchi Array**	**26.33**	**339**	*e*P	**P**	**14 50 39.8**	**+0.1**
	comp=Z,38nm,1.0s						
MKAR	**Makanchi Array**	**26.33**	**339**	*e*P	**P**	**14 50 39.8**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,38nm,1.0s						
SONM	**Songino Array**	**26.41**	**16**	P	**P**	**14 50 40.6**	**0.0**
	comp=Z,1.3nm,0.9s,baz=198,slow=9.0,SNR=9.5						
SONM				LR	LR	15 02 56.8	
	comp=Z,259nm,21.9s,baz=192,slow=41						
SONA1	**Songino Array**	**26.43**	**16**	*e*P	**P**	**14 50 40.6**	**-0.2**
AAK	**Ala-Archa**	**26.57**	**323**	P	**P**	**14 50 43.1**	**+0.9**
	comp=Z,8.2nm,1.0s,baz=98,slow=3.2,SNR=22						
AAK				LR	LR	15 02 56.2	
	comp=Z,137nm,18.5s,baz=91,slow=40						
AAK	**Ala-Archa**	**26.57**	**323**	*e*P	**P**	**14 50 43.1**	**+0.9**
	comp=Z,7.4nm,1.0s						
AAK	**Ala-Archa**	**26.57**	**323**	*e*P	**P**	**14 50 43.1**	**+0.9**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
FRU	**Bishkek**	**26.64**	**324**	*e*P	**P**	**14 50 43.0**	**+0.4**
DGZ	**Jazzator, Alta**	**27.67**	**348**	*i* P	**P**	**14 50 55.2**	**+3.3**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ZAK	**Zakamensk**	**28.18**	**10**	*e*P	**P**	**14 50 57.0**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
HVS	**Khovu-Aksy**	**28.36**	**357**	*i* P	**P**	**14 50 59.8**	**+1.8**
HVS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KURBB	**Kurchatov Arra**	**30.89**	**338**	P	**P**	**14 51 19.1**	**-1.2**
	comp=Z,1.5nm,0.9s,baz=148,slow=8.7,SNR=8.8						
KURBB				ScP	**ScP**	**14 57 59.1**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=171,slow=2.5,SNR=4.1						
KURK	**Kurchatov**	**30.94**	**339**	P	**P**	**14 51 19.1**	**-1.6**
KURK				ScP	**ScP**	**14 57 59.1**	**-0.8**
KURK	**Kurchatov**	**30.94**	**339**	P	**P**	**14 51 19.1**	**-1.6**
KSRS	**Korea Array**	**31.25**	**55**	LR	LR	15 05 10.5
	comp=Z,136nm,19.5s,baz=240,slow=39						
LEM	**Lembang**	**31.62**	**157**	LR	LR	15 04 48.5
	comp=Z,223nm,18.2s,baz=294,slow=38						
ZALV	**Zalesovo Beam**	**32.22**	**348**	P	**P**	**14 51 31.9**	**0.0**
	comp=Z,0.9nm,0.7s,baz=152,slow=6.7,SNR=4.5						
ZALV				LR	LR	15 05 02.1
	comp=Z,48nm,18.8s,baz=250,slow=37						
HIA	**Hailar**	**32.51**	**30**	*i* P	**P**	**14 51 35.3**	**+0.7**
HIA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
DAV	**Davao City (W)**	**32.65**	**114**	LR	LR	15 05 04.6
	comp=Z,162nm,19.3s,baz=253,slow=37						
LUWI	**Luwuk**	**35.38**	**128**	P	**P**	**14 51 59.5**	**-0.3**
SPSI	**Sidrap Palu**	**35.43**	**136**	P	**P**	**14 52 01.1**	**+0.9**
GEYT	**Alibeck**	**35.57**	**304**	LR	LR	15 09 56.0
	comp=Z,201nm,18.4s,baz=345,slow=42						
BVAR	**Borovoye Array**	**35.87**	**334**	P	**P**	**14 52 02.7**	**-0.9**
	comp=Z,2.2nm,0.8s,baz=138,slow=11,SNR=12						
BRVK	**Borovoye**	**35.94**	**334**	*i* P	**P**	**14 52 03.8**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
USRK	**Ussuriysk Ar.**	**36.58**	**45**	LR	LR	15 08 41.7
	comp=Z,189nm,19.7s,baz=270,slow=39						
BOD	**Bodaibo**	**37.41**	**16**	*e*P	**P**	**14 52 17.5**	**+0.8**
BOD				pmax	pmax		
	comp=Z,15nm,2.3s						
INU	**Inuyama**	**37.91**	**61**	*e*P	**P**	**14 52 20.4**	**-0.8**
	comp=Z,29nm,1.0s						
ABKAR	**Akbulak array**	**38.65**	**322**	*e*P	**P**	**14 52 27.1**	**-0.1**
KLR	**Kul'dur**	**38.71**	**38**	LR	LR	15 09 53.1
	comp=Z,192nm,20.3s,baz=220,slow=38						
KLR	**Kul'dur**	**38.71**	**38**	*i* P	**P**	**14 52 29.5**	**+1.7**
MJB9	**Matsu-Tunnel**	**39.03**	**60**	*e*P	**P**	**14 52 28.1**	**-2.6**
	comp=Z,24nm,1.0s						
MAJO	**Matsushiro**	**39.03**	**60**	*e*P	**P**	**14 52 28.3**	**-2.4**
	comp=Z,24nm,1.0s						
MAJO	**Matsushiro**	**39.03**	**60**	*e*P	**P**	**14 52 28.3**	**-2.4**
MAJO				pmax	pmax		
	comp=Z,24nm,1.0s						
MAT	**Matsushiro**	**39.03**	**60**	P	**P**	**14 52 29.4**	**-1.3**
MJAR	**Matsushiro Arr**	**39.03**	**60**	P	**P**	**14 52 30.3**	**-0.4**
	comp=Z,12nm,1.0s,baz=264,slow=11,SNR=16						
AKTO	**Aktyubinsk**	**40.31**	**323**	P	**P**	**14 52 40.0**	**-1.2**
	comp=Z,1.4nm,0.8s,baz=100,slow=4.8,SNR=4.6						
SOEI	**Soe**	**42.70**	**136**	*e*P	**P**	**14 52 59.3**	**-1.9**
	comp=Z,49nm,1.2s						
SOEI	**Soe**	**42.70**	**136**	P	**P**	**14 52 59.9**	**-1.4**
YAK	**Yakutsk**	**45.53**	**22**	P	**P**	**14 53 22.5**	**-0.7**
	comp=Z,6.0nm,0.4s,baz=109,slow=0.5,SNR=4.5						
GNI	**Garni**	**46.21**	**304**	LR	LR	15 17 07.6
	comp=Z,45nm,18.7s,baz=136,slow=42						
NRIK	**Noril'sk**	**46.84**	**356**	LR	LR	15 16 47.9
	comp=Z,73nm,19.9s,baz=199,slow=41						
ZEI	**Tsey**	**47.16**	**308**	*e*P	**P**	**14 53 34.1**	**-2.6**
ZEI				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KBZ	**Khabaz**	**48.02**	**309**	LR	LR	15 16 32.7
	comp=Z,85nm,18.5s,baz=92,slow=39						
KIV	**Kislovodsk**	**48.20**	**309**	*e*P	**P**	**14 53 45.4**	**+0.8**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,98nm,16.0s						
FITZ	**Fitzroy Crossi**	**50.02**	**142**	*e*P	**P**	**14 53 58.0**	**-0.6**
	comp=Z,9.9nm,1.2s						
TIXI	**Tiksi**	**52.41**	**13**	*e*P	**P**	**14 54 15.0**	**-0.9**
	comp=Z,15nm,1.4s						
TIXI	**Tiksi**	**52.41**	**13**	*e*P	**P**	**14 54 14.3**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MMAI	**Mount Meron Ar**	**53.70**	**295**	LR	LR	15 19 49.4
	comp=Z,55nm,18.9s,baz=205,slow=39						
OBN	**Obninsk**	**54.09**	**322**	*e*P	**P**	**14 54 31.6**	**+3.1**
OBN				*e*		14 55 33.0	
OBN				*e*		14 56 37.3	
OBN				*e*S	S	15 02 17.8	+13
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,78nm,17.0s						
BRTR	**Keskin Array B**	**54.72**	**303**	LR	LR	15 23 00.8
	comp=Z,41nm,19.3s,baz=97,slow=42						
WRA	**Warramunga Arr**	**56.74**	**135

WRAB pmax pmax
comp=Z,8.0nm,1.0s
WB2 Warramunga Arr 56.74 135 *e*P **P 14 54 47.0 -1.1**
comp=Z,11nm,1.0s
AKASG Malin Array Be 57.96 317 LR LR 15 25 12.0
comp=Z,71nm,19.1s,baz=285,slow=42
ASAR Alice Springs 59.20 139 P **P 14 55 04.7 -0.6**
comp=Z,1.0nm,0.7s,baz=320,slow=7.1,SNR=20
AS01 Alice Springs 59.22 139 *e*P **P 14 55 04.6 -0.9**
MLR Muntele Rosu 60.17 310 LR LR 15 25 09.9
comp=Z,2µm,21.5s,baz=180,slow=40
FINES FINESS Array B 60.57 329 LR LR 15 23 45.2
comp=Z,123nm,20.6s,baz=214,slow=38
BILL Bilibino 61.80 24 *e*P **P 14 55 20.6 -1.8**
BILL Bilibino 61.80 24 *e*P **P 14 55 20.6 -1.8**
VRAC Vranov 66.15 315 LR LR 15 29 13.3
comp=Z,78nm,20.5s,baz=198,slow=40
HFS Hagfors 66.62 327 LR LR 15 27 14.4
comp=Z,171nm,18.2s,baz=64,slow=38
NOA NORSAR Array B 67.74 328 LR LR 15 28 42.3
comp=Z,86nm,18.4s,baz=85,slow=39
GERES GERESS Array B 68.10 315 LR LR 15 31 44.0
comp=Z,88nm,18.6s,baz=76,slow=41
CLL Collm 68.13 318 *e*P **P 14 56 04.0 +0.1**
CLL *e*PcP **PcP 14 56 28.0 -1.8**
CLL LH 15 24 00.0
comp=N,200nm,19.9s
CLL LH 15 24 00.0
comp=E,100nm,19.7s
CLL Collm 68.13 318 *e*P **P 14 56 04.0 +0.1**
MLY Manley 78.91 23 *e*P **P 14 57 07.8 +0.7**
comp=E,6.6nm,1.1s
ILAR Eielson Array 80.44 23 P **P 14 57 15.3 -0.1**
comp=E,0.4nm,0.7s,baz=310,slow=3.5,SNR=4.7
BOSA Boshof 85.00 236 P **P 14 57 38.9 -0.9**
comp=E,2.0nm,0.7s,baz=65,slow=1.8,SNR=6.0

IDC ***11*** *14:56:06.9±0.4, 10.75S×164.86E, h0km, mb4.8/28, mb1 4.9/30, mb1mx4.8/46, mbtmp4.8/30, ML4.9/2, MS4.5/18, Ms1 4.6/18, ms1mx4.4/24, Error ellipse: s-maj=13.8km s-min=12.6km az=96.0*

NEIC ***11*** *14:56:10.6±2.2, 10.76S×164.83E, h26km±15km, mb5.2/39, MS5.0/72, Error ellipse: s-maj=6.8km s-min=6.1km az=139.0*

ISCJB ***11*** *14:56:10.1±0.1, 10.80S±0.03×164.83E±0.03, h31km, mb4.9/104, MS5.0/96, Error ellipse: s-maj=4.9km s-min=3.6km az=156.5*

MOS ***11*** *14:56:10.4±1.2, 10.79S×164.77E, h33km, mb5.2/30, MS4.7/8, Error ellipse: s-maj=9.0km s-min=8.5km az=121.5*

GCMT ***11*** *14:56:11.6±0.2, 10.84S±0.01×164.70E±0.01, h12km, MW5.2/97, Moment Tensor Solution. s65,c89; s97,c152; Duration: 19 Moment tensor: Scale 10^16 Nm; Mrr 2.61±.13; Mθθ -3.50±.11; Mφφ 0.89±.11; Mrθ 3.88±.30; Mrφ 4.23±.10; Mθφ -6.58±.34; Best double couple: M0 9.18100×10^16 NP1:φs 151.00000°, δ79.00000°, λ116.00000°. NP2:φs 262.00000°, δ28.00000°, λ23.00000°. Principal axes: T 8.3900, Plg49.0000°, Azm89.0000°; N 1.5880, Plg25.0000°, Azm326.0000°; P -9.9720, Plg30.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***11*** *14:56:12.9, 10.66S×164.28E, h28km, mb5.0/50, mB5.4/38, Ms4.9/25, Ms7 4.6/25*

ISC 11 14:56:11.3±0.3, 10.83S±0.04×164.92E±0.05, h31km, n346, σ1§47/299, mb5.0/104, MS4.9/98, 6C-4D, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.09**	**285**	Pn	**Pn**	**14 57 24.4**	**-1.1**
	63nm,0.3s,baz=154,slow=3.5,SNR=55						
HNR				Sn	**Sn**	**14 58 24.4**	**+1.2**
	23nm,0.3s,baz=90,slow=20,SNR=2.1						
HNR				LR	LR	14 59 17.3	
	comp=Z,6µm,20.5s,baz=62,slow=38						
HNR	**Honiara**	**5.09**	**285**	*e*P	**Pn**	**14 57 26.0**	**+0.5**
HNR				*e*S	**Sn**	**14 58 27.0**	**+3.8**
HNR	**Honiara**	**5.09**	**285**	*e*Pn	**Pn**	**14 57 25.8**	**+0.3**
HNR				Sn	**Sn**	**14 58 24.4**	**+1.2**
DZM	**Mont Dzumac**	**11.27**	**173**	Pn	**Pn**	**14 58 50.6**	**+0.1**
	4.7nm,0.3s,baz=315,slow=12,SNR=44						
DZM				Sn	**Sn**	**15 00 52.3**	**-3.2**
	0.3nm,0.3s,baz=188,slow=15,SNR=3.4						
DZM				LR	LR	15 02 25.3	
	comp=Z,6µm,18.1s,baz=20,slow=33						
DZM	**Mont Dzumac**	**11.27**	**173**	*e*Pn	**Pn**	**14 58 50.9**	**+0.4**
	640nm,1.4s						
DZM				*e*Sn	**Sn**	**15 00 53.3**	**-2.2**
	211nm,1.4s						
DZM				*e*LQ	LQ	15 01 02.7	
	3µm,29.0s						
DZM				*e*LR	LR	15 01 31.6	
	5µm,26.3s						
RABL	**Rabaul**	**14.26**	**297**	*e*Pn	**Pn**	**14 59 29.3**	**-2.0**
TARA	**Tarawa**	**14.49**	**34**	*e*Pn	**Pn**	**14 59 33.3**	**-1.1**
MANU	**Manus Island**	**19.49**	**295**	*e*P	**P**	**15 00 35.8**	**-0.2**
	709nm,1.3s						
EIDS	**Eidsvold**	**19.52**	**220**	P	**Pn**	**15 00 39.1**	**+1.4**
	baz=20,SNR=5.8						
EIDS	**Eidsvold**	**19.52**	**220**	*e*P	**Pn**	**15 00 37.5**	**-0.1**
	143nm,1.1s						
CTA	**Charters Tower**	**20.19**	**241**	P	Pn	15 00 45.2	-0.5
	168nm,1.0s,baz=66,slow=13,SNR=38						
CTA				LR	LR	15 07 53.0	
	comp=Z,2µm,19.2s,baz=64,slow=35						
CTA	**Charters Tower**	**20.19**	**241**	P	Pn	15 00 44.9	-0.7
	baz=20						
CTAO	**Charters Tower**	**20.19**	**241**	*e*P	**P**	**15 00 44.4**	**+0.8**
	478nm,1.2s						
CTAO				LR	LR		
	comp=Z,3µm,18.0s						
CTAO	**Charters Tower**	**20.19**	**241**	*e*P	**P**	**15 00 44.4**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,479nm,1.2s						
CTAO				MLR	MLR		
	comp=Z,3µm,18.0s						
MTSU	**Mount Surprise**	**21.21**	**248**	P	**P**	**15 00 54.4**	**-0.4**
	baz=21,SNR=16						
COEN	**Coen**	**21.46**	**259**	P	**P**	**15 00 56.6**	**-0.8**
	baz=21,SNR=8.0						
COEN	**Coen**	**21.46**	**259**	*e*P	**P**	**15 00 55.9**	**-1.5**
	comp=Z,57nm,1.1s						
COEN				LR	LR		
	comp=Z,3µm,21.0s						
RMQ	**Roma**	**21.80**	**222**	P	**P**	**15 01 02.3**	**+1.4**
	baz=22,SNR=32						
AFI	**Afiamalu**	**22.97**	**100**	P	**P**	**15 01 13.7**	**+0.2**
	comp=Z,77nm,1.0s,baz=209,slow=23,SNR=4.8						
AFI				LR	LR	15 08 39.6	
	comp=Z,2µm,18.6s,baz=274,slow=33						
ARMA	**Armidale**	**23.08**	**210**	P	**P**	**15 01 15.6**	**+1.0**
	baz=23,SNR=14						
ARMA	**Armidale**	**23.08**	**210**	*e*P	**P**	**15 01 14.7**	**+0.1**
	comp=Z,184nm,1.1s						
ARMA				LR	LR		
	comp=Z,2µm,19.0s						
QLP	**Quilpie**	**25.02**	**228**	P	**P**	**15 01 33.9**	**+1.2**
	baz=25,SNR=43						
JAY	**Jayapura**	**25.41**	**287**	P	**P**	**15 01 34.0**	**-2.4**
	comp=Z,18nm,0.8s,baz=70,slow=4.4,SNR=5.2						
JAY				LR	LR	15 12 12.2	
	comp=Z,1µm,18.6s,baz=71,slow=38						
JAY	**Jayapura**	**25.41**	**287**	P	**P**	**15 01 34.4**	**-2.0**
MGCD	**Mangrove Creek**	**25.63**	**208**	P	**P**	**15 01 40.2**	**+1.9**
	baz=26,SNR=4.0						
GENI	**Genyem**	**25.89**	**287**	P	**P**	**15 01 39.6**	**-1.1**
	comp=Z,39nm,1.2s,comp=Z,2µm						
RIV	**Riverview**	**26.13**	**207**	P	**P**	**15 01 45.0**	**+2.2**
	baz=26,SNR=13						
QIS	**Mount Isa**	**26.18**	**245**	P	**P**	**15 01 42.6**	**-0.8**
	baz=26,SNR=4.9						
CMSA	**Cobar Meteorol**	**27.22**	**218**	P	**P**	**15 01 53.1**	**+0.5**
	baz=27,SNR=21						
SMPI	**Sarmi**	**27.46**	**287**	P	**P**	**15 01 53.8**	**-1.1**
YNG	**Young**	**27.81**	**210**	P	**P**	**15 01 59.3**	**+1.4**
	baz=28,SNR=16						
CNB	**Canberra Magne**	**28.18**	**208**	P	**P**	**15 02 02.4**	**+1.1**
	baz=28,SNR=4.9						
H11S2	**WAKE ISLAND Hy**	**29.19**	**3**	T	T	15 32 41.4	
	baz=184,slow=76,SNR=151						
H11S3	**WAKE ISLAND Hy**	**29.19**	**3**	T	T	15 32 41.7	
	baz=184,slow=76,SNR=113						
H11S1	**WAKE ISLAND Hy**	**29.21**	**3**	T	T	15 32 42.7	
	baz=184,slow=76,SNR=98						
URZ	**Urewera**	**29.42**	**160**	P	**P**	**15 02 14.6**	**+2.6**
	comp=Z,4.8nm,0.6s,baz=332,slow=12,SNR=3.9						
URZ				LR	LR	15 12 08.3	
	comp=Z,762nm,19.3s,baz=340,slow=33						
WAKE	**Wake Island**	**29.97**	**3**	PFAKE		15 02 30.0	+13
WAKE				LR	LR		
	comp=Z,1µm,20.0s						
STKA	**Stephens Creek**	**30.04**	**222**	P	**P**	**15 02 18.0**	**+0.2**
	comp=Z,48nm,0.9s,baz=32,slow=13,SNR=41						
STKA				LR	LR	15 13 45.4	
	comp=Z,3µm,18.3s,baz=48,slow=35						
STKA	**Stephens Creek**	**30.04**	**222**	P	**P**	**15 02 18.6**	**+0.9**
	baz=30,SNR=34						
STKA	**Stephens Creek**	**30.04**	**222**	*e*P	**P**	**15 02 18.2**	**+0.5**
	comp=Z,24nm,1.1s						
STKA	**Stephens Creek**	**30.04**	**222**	P	**P**	**15 02 18.0**	**+0.2**
STKA				pmax	pmax		
	comp=Z,48nm,0.9s						
STKA				MLR	MLR		
	comp=Z,3µm,18.3s						
BKZ	**Black Stump Fm**	**30.05**	**162**	PFAKE		15 02 30.0	+12
BKZ				LR	LR		
	comp=Z,2µm,19.0s						
H11N1	**WAKE ISLAND Hy**	**30.41**	**4**	T	T	15 34 20.1	
	baz=184,slow=76,SNR=108						
H11N3	**WAKE ISLAND Hy**	**30.42**	**4**	T	T	15 34 20.2	
	baz=184,slow=76,SNR=54						
H11N2	**WAKE ISLAND Hy**	**30.43**	**4**	T	T	15 34 16.9	
	baz=184,slow=76,SNR=54						
WR0	**Warramunga Arr**	**30.61**	**249**	PFAKE		15 02 30.0	+7.1
WR0				LR	LR		
	comp=Z,2µm,18.0s						
WR9	**Warramunga Arr**	**30.64**	**249**	PFAKE		15 02 30.0	+6.9
WR9				LR	LR		
	comp=Z,3µm,18.0s						
WR8	**Warramunga Arr**	**30.65**	**249**	PFAKE		15 02 30.0	+6.7
WR8				LR	LR		
	comp=Z,2µm,18.0s						
WR7	**Warramunga Arr**	**30.67**	**249**	PFAKE		15 02 40.0	+17
WR7				LR	LR		
	comp=Z,3µm,18.0s						
WR6	**Warramunga Arr**	**30.69**	**249**	PFAKE		15 02 40.0	+16
WR6				LR	LR		
	comp=Z,3µm,18.0s						
WB0	**Warramunga Arr**	**30.71**	**250**	PFAKE		15 02 40.0	+16
WB0				LR	LR		
	comp=Z,2µm,18.0s						
WR5	**Warramunga Arr**	**30.71**	**249**	PFAKE		15 02 40.0	+16
WR5				LR	LR		
	comp=Z,2µm,18.0s						
WB9	**Warramunga Arr**	**30.72**	**249**	PFAKE		15 02 40.0	+16
WB9				LR	LR		
	comp=Z,5µm,18.0s						
WB8	**Warramunga Arr**	**30.73**	**249**	PFAKE		15 02 40.0	+16
WB8				LR	LR		
	comp=Z,2µm,18.0s						
WR4	**Warramunga Arr**	**30.73**	**249**	PFAKE		15 02 40.0	+16
WR4				LR	LR		
	comp=Z,2µm,18.0s						
WB6	**Warramunga Arr**	**30.75**	**249**	PFAKE		15 02 40.0	+16
WB6				LR	LR		
	comp=Z,2µm,18.0s						
WR3	**Warramunga Arr**	**30.75**	**249**	PFAKE		15 02 40.0	+16
WR3				LR	LR		
	comp=Z,2µm,18.0s						
WB5	**Warramunga Arr**	**30.76**	**249**	PFAKE		15 02 40.0	+16
WB5				LR	LR		
	comp=Z,3µm,18.0s						
WC2	**Warramunga Arr**	**30.77**	**249**	PFAKE		15 02 40.0	+16
WC2				LR	LR		
	comp=Z,3µm,18.0s						
WB4	**Warramunga Arr**	**30.77**	**249**	PFAKE		15 02 40.0	+16
WB4				LR	LR		
	comp=Z,3µm,18.0s						
WC3	**Warramunga Arr**	**30.77**	**249**	PFAKE		15 02 40.0	+16
WC3				LR	LR		
	comp=Z,3µm,18.0s						
WR2	**Warramunga Arr**	**30.77**	**249**	PFAKE		15 02 40.0	+16
WR2				LR	LR		
	comp=Z,2µm,18.0s						
WB3	**Warramunga Arr**	**30.78**	**249**	PFAKE		15 02 40.0	+16
WB3				LR	LR		
	comp=Z,2µm,18.0s						
WRAB	**Tennant Creek**	**30.78**	**249**	*e*P	**P**	**15 02 22.4**	**-2.0**
	comp=Z,56nm,1.2s						
WRAB				LR	LR		
	comp=Z,3µm,18.0s						
WRAB	**Tennant Creek**	**30.78**	**249**	*d iP*	**P**	**15 02 21.8**	**-2.6**
WRAB				pmax	pmax		
	comp=Z,51nm,1.4s						
WB2	**Warramunga Arr**	**30.78**	**249**	*e*P	**P**	**15 02 22.4**	**-2.0**
WB2				LR	LR		
	comp=Z,3µm,18.0s						
WC1	**Warramunga Arr**	**30.79**	**249**	PFAKE		15 02 40.0	+15
WC1				LR	LR		
	comp=Z,2µm,18.0s						
WR1	**Warramunga Arr**	**30.80**	**249**	PFAKE		15 02 40.0	+15
WR1				LR	LR		
	comp=Z,3µm,18.0s						
WRA	**Warramunga Arr**	**30.80**	**249**	P	**P**	**15 02 22.6**	**-1.9**
	comp=Z,16nm,1.0s,baz=78,slow=9.2,SNR=40						
WC4	**Warramunga Arr**	**30.80**	**249**	PFAKE		15 02 40.0	+15
WC4				LR	LR		
	comp=Z,3µm,18.0s						
BFZ	**Birch Farm**	**31.37**	**163**	PFAKE		15 02 40.0	+11
BFZ				LR	LR		
	comp=Z,2µm,19.0s						
GUMO	**Guam**	**31.37**	**320**	LR	LR	15 13 28.4	
	comp=Z,451nm,19.2s,baz=150,slow=33						
TOO	**Toolangi**	**31.84**	**210**	P	**P**	**15 02 34.6**	**+1.0**
	baz=32,SNR=5.2						
AS01	**Alice Springs**	**32.12**	**243**	*e*P	**P**	**15 02 33.9**	**-2.3**
AS31	**Alice Springs**	**32.16**	**243**	*e*P	**P**	**15 02 33.7**	**-2.9**
	comp=Z,5.8nm,1.0s						
ASAR	**Alice Springs**	**32.16**	**243**	P	**P**	**15 02 34.6**	**-2.0**
	comp=Z,10nm,0.8s,baz=67,slow=9.4,SNR=79						
ASAR				LR	LR	15 15 26.7	
	comp=Z,2µm,18.1s,baz=72,slow=36						
HTT	**Hallett**	**32.77**	**223**	P	**P**	**15 02 42.9**	**+1.1**
	baz=33,SNR=19						
MTN	**Manton Dam**	**33.11**	**263**	PFAKE		15 03 00.0	+15
MTN				LR	LR		
	comp=Z,1µm,20.0s						
ARPS	**Mount Arapiles**	**33.18**	**215**	P	**P**	**15 02 46.7**	**+1.5**
	baz=33						
RPZ	**Rata Peaks**	**33.19**	**172**	P	**P**	**15 02 46.2**	**+0.9**
	comp=Z,12nm,1.0s,baz=173,slow=17,SNR=1.8						
FAKI	**Fak Fak**	**33.34**	**281**	PFAKE		15 03 00.0	+13
FAKI				LR	LR		
	comp=Z,1µm,22.0s						
BBOO	**Buckleboo**	**34.38**	**226**	P	**P**	**15 02 56.2**	**+0.4**
	baz=34,SNR=18						
BBOO	**Buckleboo**	**34.38**	**226**	*e*P	**P**	**15 02 55.0**	**-0.8**
	comp=Z,137nm,1.0s						
BBOO				LR	LR		
	comp=Z,2µm,19.0s						
KNRA	**Kununurra**	**35.49**	**258**	P	**P**	**15 03 03.1**	**-2.4**
	baz=35,SNR=7.5						
WRKA	**Warakurna**	**37.45**	**243**	P	**P**	**15 03 20.9**	**-1.4**
	baz=38,SNR=11						
FITZ	**Fitzroy Crossi**	**38.65**	**255**	P	**P**	**15 03 30.6**	**-1.8**
	baz=39,SNR=7.6						
FITZ	**Fitzroy Crossi**	**38.65**	**255**	*e*P	**P**	**15 03 30.1**	**-2.2**
	comp=Z,33nm,1.1s						
TNTI	**Ternate**	**39.08**	**285**	PFAKE		15 03 50.0	+14
TNTI				LR	LR		
	comp=Z,300nm,20.0s						
FORT	**Forrest**	**39.50**	**234**	P	**P**	**15 03 39.5**	**+0.1**
	baz=40						
FORT	**Forrest**	**39.50**	**234**	PFAKE		15 03 50.0	+11
FORT				LR	LR		
	comp=Z,3µm,18.0s						
MBWA	**Marble Bar**	**44.50**	**251**	PFAKE		15 04 30.0	+10
MBWA				LR	LR		
	comp=Z,2µm,18.0s						
PPT	**Papeete**	**44.54**	**104**	LR	LR	15 22 03.1	
	comp=Z,684nm,18.1s,baz=294,slow=35						
PPT2	**Papeete2**	**44.54**	**104**	*e*S	**S**	**15 10 57.0**	**+2.3**
	comp=Z,325nm,25.2s						
PPT2				*e*LQ	LQ	15 14 55.2	
	comp=Z,1µm,26.5s						
PPT2				*e*LR	LR	15 16 54.4	
	comp=Z,639nm,26.5s						
TBI	**Tubuai**	**45.17**	**112**	*e*S	**S**	**15 11 04.7**	**+1.2**
	comp=Z,315nm,26.5s						
TBI				*e*LQ	LQ	15 15 20.7	
	comp=Z,2µm,28.0s						
TBI				*e*LR	LR	15 17 13.5	
	comp=Z,1µm,28.2s,baz=288						
MEEK	**Meekatharra**	**46.31**	**243**	P	**P**	**15 04 34.4**	**-0.2**
	baz=46,SNR=4.2						
KLBR	**Kellerberrin**	**48.14**	**237**	P	**P**	**15 04 48.5**	**-0.3**
	baz=48						
MYLDM	**Lahad Datu**	**48.87**	**287**	*e*P	**P**	**15 04 54.4**	**-0.2**
	comp=Z,90nm,1.2s						
NWAO	**Narrogin (SRO)**	**48.91**	**236**	PFAKE		15 05 10.0	+15
NWAO				LR	LR		
	comp=Z,2µm,18.0s						
KDM	**Kudat**	**51.01**	**288**	P	**P**	**15 05 11.0**	**+0.2**
KKM	**Kota Kinabalu**	**51.30**	**287**	*e*P	**P**	**15 05 12.4**	**-0.8**
	comp=Z,58nm,1.1s						
KKM	**Kota Kinabalu**	**51.30**	**287**	P	**P**	**15 05 13.0**	**-0.2**
MJAR	**Matsushiro Arr**	**53.41**	**333**	P	**P**	**15 05 24.6**	**-3.8**
	comp=Z,2.3nm,0.4s,baz=302,slow=26,SNR=42						
MAJO	**Matsushiro**	**53.41**	**333**	*e*P	**P**	**15 05 25.2**	**-3.2**
	comp=Z,29nm,1.3s						
MAJO	**Matsushiro**	**53.41**	**333**	*e*P	**P**	**15 05 25.2**	**-3.2**
MAJO				pmax	pmax		
	comp=Z,29nm,1.3s						
MJB9	**Matsu-Tunnel**	**53.42**	**333**	*e*P	**P**	**15 05 25.2**	**-3.2**
	comp=Z,28nm,1.2s						
SBUM	**Sibu**	**54.06**	**281**	*e*P	**P**	**15 05 32.6**	**-0.9**
	comp=Z,5.5nm,1.1s						
SBUM	**Sibu**	**54.06**	**281**	P	**P**	**15 05 34.0**	**+0.5**
TAOE	**Nuku Hiva Isla**	**54.10**	**93**	*e*S	**S**	**15 13 07.2**	**-1.8**
	comp=Z,312nm,25.7s						
TAOE				*e*LR	LR	15 21 10.6	
	comp=Z,421nm,26.0s						
JNU	**Nakatsue**	**54.43**	**325**	P	**P**	**15 05 35.6**	**-0.3**
	comp=Z,13nm,0.9s,baz=172,slow=7.1,SNR=3.5						
LEM	**Lembang**	**56.70**	**269**	P	**P**	**15 05 52.3**	**-0.4**
	comp=Z,19nm,0.7s,baz=138,slow=23,SNR=5.2						
RKT	**Rikitea**	**58.42**	**110**	*e*S	**S**	**15 14 05.5**	**-0.5**
	comp=Z,243nm,27.5s						
RKT				*e*LQ	LQ	15 20 55.6	
	comp=Z,425nm,29.2s						
RKT				*e*LR	LR	15 23 22.5	
	comp=Z,1µm,29.2s						
KSRS	**Korea Array**	**59.24**	**326**	P	**P**	**15 06 08.5**	**-1.4**
	comp=Z,1.7nm,0.8s,baz=148,slow=7.2,SNR=2.4						
KSAR	**Wonju Array Be**	**59.26**	**326**	P	**P**	**15 06 08.5**	**-1.5**
KSAR	**Wonju Array Be**	**59.26**	**326**	P	**P**	**15 06 08.5**	**-1.5**
YSS	**Yuzh-Sakhalins**	**60.84**	**343**	*i*P	**P**	**15 06 23.2**	**+2.6**
YSS				*e*		15 07 07.7	
YSS				*i*S	**S**	**15 14 39.0**	**+2.9**
YSS				*e*		15 21 17.0	
YSS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YSS				smax	smax		
	comp=E,700nm,11.0s						
YSS				smax	smax		
	comp=N,300nm,12.0s						
YSS				MLR	MLR		
	comp=Z,400nm,14.0s						
YSS				MLR	MLR		
	comp=N,300nm,15.0s						
YSS				MLR	MLR		
	comp=E,300nm,16.0s						
NJ2	**Nanjing**	**61.30**	**316**	*e*P	**P**	**15 06 24.1**	**0.0**
NJ2				pmax	pmax		
	comp=E,9.0nm,0.5s						
SKR	**Severo-Kuril's**	**61.73**	**354**	*e*P	**P**	**15 06 28.2**	**+1.6**
SKR				*e*PPP	PPP	15 10 19.0	
SKR				*e*S	**S**	**15 14 52.5**	**+5.2**
SKR				*e*SS	**SS**	**15 18 45.8**	**-3.9**
SKR				MLR	MLR		
	comp=Z,600nm,19.0s						
QIZ	**Qiongzhong**	**61.86**	**298**	P	**P**	**15 06 28.8**	**+0.7**
QIZ				S	**S**	**15 14 50.6**	**+0.4**
QIZ				LR	LR		
	comp=Z,310nm,12.3s						
QIZ				LR	LR		
	comp=Z,380nm,19.1s						
QIZ				LR	LR		
	comp=Z,440nm,18.6s						
MYKOM	**Kota Tinggi**	**62.01**	**278**	P	**P**	**15 06 29.0**	**-0.3**
USRK	**Ussuriysk Ar.**	**62.39**	**334**	P	**P**	**15 06 31.7**	**+0.5**
	comp=Z,7.8nm,1.1s,baz=145,slow=7.0,SNR=4.0						
PET	**Petropavlovsk**	**63.83**	**356**	*e*P	**P**	**15 06 44.0**	**+3.5**
PET				*e*S	**S**	**15 15 16.3**	**+2.9**
PETK	**Petropavlovsk-**	**63.98**	**355**	P	**P**	**15 06 42.5**	**+1.0**
	comp=Z,9.0nm,1.0s,baz=145,slow=11,SNR=6.4						
ADK	**Adak**	**64.45**	**13**	*e*P	**P**	**15 06 44.6**	**0.0**
	comp=Z,121nm,1.5s						
ADK	**Adak**	**64.45**	**13**	*e*P	**P**	**15 06 44.6**	**0.0**
ADK				pmax	pmax		
	comp=Z,121nm,1.5s						
CN2	**Changchun**	**65.14**	**330**	*e*P	**P**	**15 06 51.5**	**+2.2**
CN2				*e*pP	sP	15 07 02.0	-0.6
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
IPM	**Ipoh**	**65.38**	**280**	*e*P	**P**	**15 06 50.1**	**-1.4**
	comp=Z,51nm,1.3s						
KULM	**Kulim**	**65.94**	**281**	PFAKE		15 07 10.0	+15
KULM				LR	LR		
	comp=Z,200nm,18.0s						
KULM	**Kulim**	**65.94**	**281**	P	**P**	**15 06 55.0**	**-0.1**
GRNR	**Gornyy**	**66.17**	**341**	*e*P	P	15 07 02.0	+6.2
GRNR				pmax	pmax		
	comp=Z,21nm,1.2s						
SKNT	**Sakolnakorn**	**66.26**	**294**	P	**P**	**15 06 58.1**	**+1.0**
	comp=Z,15nm,1.7s						
CHBT	**CHBT**	**66.40**	**289**	P	**P**	**15 06 58.5**	**+0.5**
	comp=Z,13nm,1.0s						
KLR	**Kul'dur**	**66.54**	**337**	P	**P**	**15 06 59.7**	**+1.5**
	comp=Z,3.5nm,1.0s,baz=164,slow=3.9,SNR=4.0						
KLR	**Kul'dur**	**66.54**	**337**	*d iP*	**P**	**15 06 59.9**	**+1.7**
VNDA	**Vanda**	**66.69**	**181**	P	**P**	**15 07 00.1**	**+1.3**
	comp=Z,6.7nm,1.1s,baz=9.0,slow=7.4,SNR=18						
VNDA				LR	LR	15 33 06.4	
	comp=Z,308nm,18.3s,baz=9.0,slow=33						
NKL	**Nikolayevsk**	**67.01**	**344**	*e*P	**P**	**15 07 03.0**	**+1.9**
NKL				*e*		15 15 48.0	
NKL				pmax	pmax		
	comp=Z,30nm,1.2s						
SBA	**Scott Base**	**67.02**	**180**	*e*P	**P**	**15 07 03.1**	**+2.2**
	comp=Z,101nm,1.6s						
SBA	**Scott Base**	**67.02**	**180**	*e*P	**P**	**15 07 03.1**	**+2.2**
SBA				pmax	pmax		
	comp=Z,101nm,1.6s						
ENH	**Enshi**	**67.13**	**309**	*e*P	**P**	**15 07 01.4**	**-1.1**
	comp=Z,37nm,1.1s						
NONG	**Nongkai**	**67.39**	**295**	P	**P**	**15 07 05.3**	**+1.1**
	comp=Z,0.5nm,1.3s,comp=Z,51nm						
NIKH	**Nikolski High**	**67.40**	**17**	PFAKE		15 07 20.0	+16
NIKH				LR	LR		
	comp=Z,700nm,19.0s						
GYA	**Guiyang**	**67.63**	**304**	*e*P	**P**	**15 07 06.3**	**+0.5**
GYA				pP	pP	15 07 17.2	+1.8
GYA				PP	**PP**	**15 09 39.8**	**+4.5**
GYA				S	**S**	**15 16 01.2**	**0.0**
GYA				sS	sS	15 16 16.4	-0.8
GYA				SKS	**SKiKP**	**15 16 59.3**	**-2.5**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,5.6s						
CHAI	**Chaiyaphum**	**67.71**	**292**	P	**P**	**15 07 07.1**	**+0.8**
	comp=Z,4.1nm,1.1s,comp=Z

KMI S **S** **15 16 34.4 +1.1**
KMI pmax pmax
comp=Z,28nm,1.5s
KMI LR LR
comp=Z,190nm,11.7s
KMI LR LR
comp=Z,220nm,19.4s
KMI LR LR
comp=Z,280nm,21.4s
SUKH Sukhothai 70.35 293 P **P** **15 07 24.7 +2.0**
comp=Z,3.7nm,1.1s
MA2 Magadan 71.09 352 PFAKE 15 07 40.0 +14
MA2 LR LR
comp=Z,600nm,20.0s
HHC Hu-ho-hao-te 71.14 320 *e*P **P** **15 07 28.5 +1.3**
HHC pP sP 15 07 39.6 -1.0
HHC S **S** **15 16 43.6 +1.4**
HHC SKS **SKSac** **15 17 21.6 -6.4**
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,240nm,4.0s
HHC LR LR
comp=Z,350nm,10.4s
HHC LR LR
comp=Z,300nm,10.4s
HHC LR LR
comp=Z,430nm,11.2s
CM01 Chiang Mai Arr 71.25 294 *e*P **P** **15 07 28.1 -0.1**
CM31 Chiang Mai Arr 71.28 294 *e*P **P** **15 07 28.4 0.0**
CMAR Chiang Mai Arr 71.28 294 P **P** **15 07 29.4 +1.1**
comp=Z,5.7nm,0.9s,baz=121,slow=4.2,SNR=36
CMAR LR LR 15 38 02.0
comp=Z,129nm,19.4s,baz=76,slow=35
CMMT Chiang Mai 71.39 294 P **P** **15 07 29.6 +0.6**
comp=Z,14nm,1.6s,comp=Z,493nm
CHTO Chiang Mai 71.39 294 *e*P **P** **15 07 28.6 -0.5**
comp=Z,33nm,1.5s
CHTO Chiang Mai 71.39 294 *e*P **P** **15 07 28.6 -0.5**
CHTO pmax pmax
comp=Z,33nm,1.5s
CHTO Chiang Mai 71.39 294 P **P** **15 07 29.6 +0.6**
comp=Z,63nm,1.7s,comp=Z,2µm
HIA Hailar 71.78 331 *e*P **P** **15 07 31.5 +0.7**
comp=Z,22nm,1.1s
HIA Hailar 71.78 331 *e*P **P** **15 07 31.5 +0.7**
HIA pmax pmax
comp=Z,22nm,1.1s
CD2 Chengdu 71.83 308 P **P** **15 07 31.7 +0.2**
CD2 S **S** **15 16 50.7 +0.4**
CD2 pmax pmax
comp=Z,50nm,0.6s
CD2 pmax pmax
comp=Z,240nm,5.0s
CD2 LR LR
comp=Z,520nm,15.1s
CD2 LR LR
comp=Z,510nm,16.7s
ZEA Zeya 71.83 338 *e*P **P** **15 07 32.7 +1.8**
ZEA *e* 15 07 53.0
ZEA *e*S **S** **15 16 51.0 +1.7**
ZEA pmax pmax
comp=N,43nm,1.2s
ZEA pmax pmax
comp=Z,55nm,1.4s
ZEA smax smax
comp=E,700nm,14.0s
BTO Baotou 72.00 319 *e*P **P** **15 07 34.8 +2.5**
LZH Lanzhou 74.01 312 *e*P **P** **15 07 44.5 0.0**
LZH pP pP 15 07 54.2 0.0
LZH sP sP 15 07 58.0 +0.2
LZH *e*S **S** **15 17 13.6 -1.6**
LZH sS sS 15 17 30.2 -1.2
LZH pmax pmax
comp=E,37nm,1.3s
LZH pmax pmax
comp=E,180nm,7.5s
LZH LR LR
comp=E,590nm,15.7s
LZH LR LR
comp=E,860nm,18.0s
SEY Seymchan 74.18 354 *i* P **P** **15 07 45.5 +0.9**
CIT Chita 76.57 330 *e*P **P** **15 08 00.6 +1.9**
CIT *e* 15 08 16.6
YAK Yakutsk 77.66 344 *e*P **P** **15 08 05.1 +0.6**
comp=E,51nm,1.1s
YAK LR LR
comp=Z,400nm,21.0s
YAK Yakutsk 77.66 344 *e*P **P** **15 08 03.4 -1.1**
YAK *e* 15 08 10.2
YAK *e**PP **PcP** **15 08 15.5 +1.0**
YAK *e* 15 11 00.3
YAK *e*S **S** **15 17 55.3 +1.3**
YAK *e**SS **sS** **15 18 10.6 +0.4**
YAK *e* 15 18 18.3
YAK pmax pmax
comp=Z,26nm,1.1s
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=E,4.0nm,1.4s
YAK pmax pmax
comp=Z,104nm,3.5s
YAK pmax pmax
comp=N,65nm,3.5s
YAK pmax pmax
comp=E,49nm,3.8s
YAK smax smax
comp=E,175nm,5.0s
YAK smax smax
comp=N,103nm,5.0s
YAK MLR MLR
comp=Z,270nm,18.0s
YAK MLR MLR
comp=E,85nm,18.0s
YAK MLR MLR
comp=N,258nm,20.0s
SONM Songino Array 78.02 324 P **P** **15 08 07.8 +0.8**
comp=N,4.1nm,0.9s,baz=140,slow=5.1,SNR=20
GTA Gaotai 78.33 314 P **P** **15 08 09.8 +0.9**
GTA pP pP 15 08 19.2 +0.5
GTA sP sP 15 08 23.5 +1.2
GTA S **S** **15 18 04.5 +2.0**
GTA SKS **SKSac** **15 18 18.7 -2.9**
GTA pmax pmax
comp=N,16nm,1.5s
GTA pmax pmax
comp=N,170nm,5.5s
GTA LR LR
comp=N,320nm,20.3s
GTA LR LR
comp=N,300nm,21.6s
BILL Bilibino 78.67 1 *e*P **P** **15 08 10.1 +0.1**
comp=N,50nm,1.2s
BILL Bilibino 78.67 1*c i*P **P** **15 08 09.2 -0.8**
BILL *e* 15 08 17.1
BILL *e* 15 11 05.9
BILL *e*S **S** **15 17 56.4 -8.3**
BILL pmax pmax
comp=Z,26nm,1.0s
QSPA South Pole Qui 79.17 180 *e*P **P** **15 08 13.5 +0.4**
comp=Z,47nm,1.2s
BOD Bodaibo 79.99 335 *e*P **P** **15 08 16.0 -1.4**
BOD pmax pmax
comp=Z,24nm,1.8s
CAST Castle Rocks 81.00 18 PFAKE 15 08 30.0 +7.3
CAST LR LR
comp=Z,700nm,21.0s
ZAK Zakamensk 81.06 325 *e*P **P** **15 08 23.7 +0.2**
ZAK pmax pmax
comp=Z,11nm,1.4s
TLY Talaya 81.50 326 *e*P P 15 08 31.0 +5.4
TLY *e*S **S** **15 18 39.2 +4.0**
TLY *e*SS **SS** **15 23 52.3 -0.2**
TLY pmax pmax
comp=Z,18nm,1.3s
LSA Lhasa 81.55 302 *e*P **P** **15 08 26.1 -0.9**
comp=Z,17nm,1.4s
LSA LR LR
comp=Z,200nm,20.0s
LSA Lhasa 81.55 302 *e*P **P** **15 08 26.1 -0.9**
LSA pmax pmax
comp=Z,17nm,1.4s
LSA MLR MLR
comp=Z,200nm,20.0s
MCK McKinley 82.20 19 *e*P **P** **15 08 29.1 0.0**
comp=Z,31nm,1.4s
MCK McKinley 82.20 19 *e*P **P** **15 08 29.1 0.0**
MCK pmax pmax
comp=Z,31nm,1.4s
IM3 Indian Mountai 82.44 16 *e*P **P** **15 08 29.1 -1.1**
PAX Paxson 82.83 21 PFAKE 15 08 40.0 +7.5
PAX LR LR
comp=Z,700nm,19.0s
HDA Harding Lake 83.31 19 *e*P **P** **15 08 34.2 -0.6**
comp=Z,19nm,0.9s
HDA Harding Lake 83.31 19 P **P** **15 08 35.4 +0.6**
baz=228
TCOL CIGO, UAF Yank 83.34 18 P **P** **15 08 35.6 +0.7**
baz=227
COLA College 83.34 18 *e*P **P** **15 08 33.6 -1.3**
comp=Z,11nm,0.9s
COLA College 83.34 18 *e*P **P** **15 08 33.6 -1.3**
COLA pmax pmax
comp=Z,11nm,0.9s
ILAR Eielson Array 83.57 19 P **P** **15 08 35.8 -0.3**
comp=Z,3.8nm,0.8s,baz=228,slow=5.9,SNR=36
ILAR LR LR 15 41 13.1
comp=Z,286nm,19.8s,baz=254,slow=32
POKR Poker Plat Res 83.64 18 P **P** **15 08 37.2 +0.7**
baz=227
O02D Mt. Diablo Mer 83.75 47 P **P** **15 08 37.8 +0.1**
baz=250,SNR=6.7
K02D Willamette Mer 83.99 45 P **P** **15 08 39.0 +0.1**
baz=250,SNR=5.9
N02D Trinity Center 84.07 47 P **P** **15 08 39.4 +0.1**
baz=250,SNR=6.2
M02C Callahan 84.11 46 P **P** **15 08 39.6 0.0**
baz=250,SNR=5.9
PKM Mcpherson Peak 84.32 53 P **P** **15 08 40.7 -0.2**
baz=253
HUMO Hull Mountain 84.45 45 *e*P **P** **15 08 41.9 +0.7**
comp=Z,74nm,1.0s
O03E Paxton Creek 84.50 47 P **P** **15 08 41.8 +0.3**
baz=251
I03D Drain, OR 84.56 44 P **P** **15 08 42.0 +0.3**
baz=250
MAW Mawson 84.61 202 P **P** **15 08 42.4 +1.0**
comp=Z,22nm,1.1s,baz=100,slow=5.9,SNR=16
MAW LR LR 15 41 28.5
comp=Z,151nm,20.1s,baz=67,slow=32
MAW Mawson 84.61 202 P **P** **15 08 43.0 +1.5**
baz=85,SNR=12
MAW Mawson 84.61 202 *e*P **P** **15 08 42.2 +0.7**
comp=Z,16nm,1.4s
MAW Mawson 84.61 202 *e*P **P** **15 08 42.2 +0.7**
MAW pmax pmax
comp=Z,16nm,1.4s
L04D Klamath Falls 84.78 45 P **P** **15 08 43.0 +0.1**
baz=250
CMB Columbia Colle 84.83 50 *e*P **P** **15 08 42.6 -0.5**
comp=Z,7.4nm,0.9s
CMB LR LR
comp=Z,701nm,19.0s
CMB Columbia Colle 84.83 50 *e*P **P** **15 08 42.7 -0.5**
CMB pmax pmax
comp=Z,7.0nm,0.9s
CMB MLR MLR
comp=Z,701nm,19.0s
M04C Macdoel 84.96 46 P **P** **15 08 43.9 0.0**
baz=251,SNR=9.7
VES Vestal, Richgr 85.17 52 P **P** **15 08 45.0 +0.1**
baz=253
I04A Tendick Farm, 85.23 44 P **P** **15 08 45.4 +0.3**
baz=250
J04D Umpqua Nationa 85.25 45 P **P** **15 08 45.4 0.0**
baz=250
H04D Lebanon 85.26 43 P **P** **15 08 45.5 +0.3**
baz=250
EGAK Eagle 85.46 20 *e*P **P** **15 08 46.1 +0.4**
comp=Z,40nm,1.3s
TOLK Toolik Lake Re 85.50 15 P **P** **15 08 46.5 +0.7**
baz=225
ISA Isabella, Lake 85.59 53 P **P** **15 08 47.1 0.0**
baz=254
DAWY Dawson 85.65 21 *e*P **P** **15 08 47.8 +1.0**
comp=Z,15nm,1.2s
MDPB Devils Postpil 85.69 51 PFAKE 15 09 00.0 +12
MDPB LR LR
comp=Z,800nm,20.0s
TIXI Tiksi 85.73 349 P **P** **15 08 46.9 0.0**
comp=Z,4.2nm,1.0s,baz=122,slow=8.6,SNR=7.5
TIXI Tiksi 85.73 349 *e*P **P** **15 08 47.0 +0.1**
comp=Z,52nm,1.6s
TIXI LR LR
comp=Z,300nm,19.0s
TIXI Tiksi 85.73 349*c i*P **P** **15 08 46.5 -0.3**
TIXI pmax pmax
comp=Z,7.0nm,1.0s
EDW2 Edwards Air Fo 85.75 53 P **P** **15 08 48.0 +0.1**
baz=254,SNR=8.1
BFSC Mount Baldy Ra 85.83 54 P **P** **15 08 48.3 -0.2**
baz=254
J05D Fort Rock, OR 85.87 45 P **P** **15 08 48.5 +0.1**
baz=251
MLAC Mammoth, Mammo 85.88 51 P **P** **15 08 48.5 -0.2**
baz=253
K05A Summer Lake 85.93 45 *e*P **P** **15 08 48.9 +0.1**
comp=Z,35nm,1.2s
MURC Murrieta 86.03 55 P **P** **15 08 49.5 +0.2**
baz=254
E04D Cinebar 86.07 41 P **P** **15 08 49.5 +0.4**
baz=250
D03D Eldon 86.07 40 P **P** **15 08 49.6 +0.5**
baz=250
CWC Cottonwood Cre 86.11 52 P **P** **15 08 50.0 +0.2**
baz=254
I05D Terrebonne, OR 86.14 44 P **P** **15 08 49.7 +0.1**
baz=251
LRMC Laurel Mtn Rad 86.16 53 P **P** **15 08 50.3 +0.3**
baz=254,SNR=9.6
MONP2 Monument Peak 86.47 56 P **P** **15 08 51.7 0.0**
baz=255
MPMC Manual Prospec 86.47 52 P **P** **15 08 51.4 -0.2**
baz=254,SNR=6.1
FRD Ford Ranch, An 86.48 55 P **P** **15 08 51.7 +0.1**
baz=255
NVAR Mina Airway Bea 86.51 50 P **P** **15 08 52.2 +0.4**
comp=Z,11nm,1.0s,baz=236,slow=7.2,SNR=37
NVAR LR LR 15 42 04.5
comp=Z,486nm,18.8s,baz=284,slow=32
PFO Pinyon Flats O 86.63 55 P **P** **15 08 52.3 -0.1**
baz=255
GSC Goldstone, Bar 86.80 53 P **P** **15 08 53.4 +0.3**
baz=254
GRAC Grapevine Rang 86.82 52 P **P** **15 08 53.5 +0.4**
baz=254,SNR=8.0
B05A Bryant 86.95 40 P **P** **15 08 54.1 +0.7**
baz=250
HEC Hector,Ludlow 87.05 54 P **P** **15 08 54.6 +0.3**
baz=255
FURC Furnace Creek, 87.07 52 P **P** **15 08 54.6 +0.4**
baz=254
BELC Belle Mtn. Jos 87.10 55 P **P** **15 08 54.7 +0.1**
baz=255,SNR=7.6
WVOR Wild Horse Val 87.42 46 *e*P **P** **15 08 56.3 +0.3**
comp=Z,24nm,1.3s
WVOR Wild Horse Val 87.42 46 *e*P **P** **15 08 56.3 +0.3**
WVOR pmax pmax
comp=Z,24nm,1.3s
BC3 Big Chuckawall 87.45 55 P **P** **15 08 56.5 +0.2**
baz=255
GMRC Granite Mounta 87.57 54 P **P** **15 08 56.9 0.0**
baz=255
TPNV Topopah Spring 87.67 52 P **P** **15 08 57.6 +0.2**
baz=255
GLA Glamis 87.81 56 P **P** **15 08 58.1 +0.2**
baz=256
IRM Iron Mountain 87.82 55 P **P** **15 08 58.0 0.0**
baz=256,SNR=8.8
BMN Battle Mountai 87.88 48 *e*P **P** **15 08 58.2 -0.1**
comp=Z,16nm,1.4s
BMN LR LR
comp=Z,400nm,18.0s
BMN Battle Mountai 87.88 48 *e*P **P** **15 08 58.2 -0.1**
BMN pmax pmax
comp=Z,16nm,1.4s
BMN MLR MLR
comp=Z,400nm,18.0s
EPYK Eagle Plains 87.89 20 P **P** **15 08 57.9 +0.4**
baz=237
Y12C Blythe 88.22 55 P **P** **15 09 00.1 +0.2**
baz=256,SNR=6.1
WMQ Urumqi 88.37 315 P **P** **15 09 00.9 +0.5**
WMQ pP pP 15 09 09.6 -0.8
WMQ SKS **SKSac** **15 19 25.4 -1.9**
WMQ S **S** **15 19 41.8 -2.0**
WMQ SS **SS** **15 25 34.4 +0.1**
WMQ pmax pmax
comp=Z,28nm,1.7s
WMQ pmax pmax
comp=Z,450nm,4.3s
WMQ LR LR
comp=Z,250nm,21.3s
WMQ LR LR
comp=Z,330nm,18.3s
SHPR Sheep Range 88.40 53 PFAKE 15 09 10.0 +9.1
SHPR LR LR
comp=Z,700nm,19.0s
R11A Troy Canyon, C 88.54 51 P **P** **15 09 01.6 +0.1**
baz=255,SNR=11
113A Mohawk Valley, 88.60 56 *e*P **P** **15 09 01.7 +0.1**
comp=Z,12nm,1.3s
PDMCI Parker Dam,Lak 88.67 55 P **P** **15 09 02.6 +0.7**
baz=256,SNR=5.4
W13A Hualapai Mount 89.06 54 *e*P **P** **15 09 04.2 +0.1**
comp=Z,12nm,1.3s
214A Organ Pipe Nat 89.20 57 P **P** **15 09 04.7 +0.1**
baz=257
NEW Newport 90.11 41 P **P** **15 09 08.0 -0.4**
comp=Z,3.7nm,1.0s,baz=148,slow=0.7,SNR=6.7
NEW Newport 90.11 41 P **P** **15 09 08.9 +0.5**
baz=254
DGZ Jazzator, Alta 90.22 321 *i* P **P** **15 09 08.4 -0.6**
DGZ pmax pmax
comp=Z,2.0nm,0.9s
U15A North Rim 90.63 53 *e*P **P** **15 09 11.2 -0.3**
comp=Z,14nm,0.9s
HLID Hailey 90.71 46 P **P** **15 09 11.8 +0.3**
baz=256
X16A Lo Mia Camp, P 90.86 55 *e*P **P** **15 09 12.6 +0.2**
comp=Z,5.6nm,0.8s
TUC Tucson 90.95 57 P **P** **15 09 12.8 0.0**
baz=258
DUG Dugway, Tooele 91.08 49 P **P** **15 09 13.5 +0.2**
baz=257
WUAZ Wupatki 91.16 54 *e*P **P** **15 09 13.5 -0.3**
comp=Z,6.7nm,1.0s
WUAZ Wupatki 91.16 54 P **P** **15 09 13.7 -0.1**
baz=258
SYO Syowa Base 91.75 197‖ *e*P **P** **15 09 12.0 -3.6**
SYO Syowa Base 91.75 197‖ *e*P **P** **15 09 15.4 -0.2**
SYO Syowa Base 91.75 197‖ *e*PcP **PcP** **15 09 18.6 +2.1**
SYO Syowa Base 91.75 197‖ *e*pP pP 15 09 24.0 -1.6
TCUT Toone Canyon 92.32 49 *e*P **P** **15 09 19.2 +0.1**
comp=Z,16nm,1.0s
WALA Waterton Lakes 92.38 41 *e*P **P** **15 09 19.3 +0.3**
comp=Z,24nm,1.4s
MK01 Makanchi Array 92.80 317 *e*P **P** **15 09 20.7 -0.2**
MKAR Makanchi Array 92.81 317 P **P** **15 09 21.6 +0.6**
comp=Z,5.2nm,0.8s,baz=101,slow=5.6,SNR=20
MKAR LR LR 15 49 32.6
comp=Z,52nm,21.4s,baz=90,slow=35
MKAR Makanchi Array 92.81 317 *e*P **P** **15 09 21.0 0.0**
comp=Z,84nm,1.1s
ZAA0 Zalesovo Array 92.91 324 *e*P **P** **15 09 20.2 -1.0**
comp=Z,19nm,1.3s
ZALV Zalesovo Beam 92.91 324 P **P** **15 09 20.7 -0.5**
comp=Z,2.5nm,0.9s,baz=121,slow=7.1,SNR=8.6
ZALV Zalesovo Beam 92.91 324 *e*P **P** **15 09 20.5 -0.7**
ZALV Zalesovo Beam 92.91 324 *e*P **P** **15 09 20.5 -0.7**
BOZ Bozeman (W) 93.11 44 *e*P **P** **15 09 22.3 -0.3**
comp=Z,13nm,1.1s
BOZ Bozeman (W) 93.11 44 *e*P **P** **15 09 22.3 -0.3**
BOZ pmax pmax
comp=Z,13nm,1.1s
BOZ Bozeman (W) 93.11 44 P **P** **15 09 23.0 +0.4**
baz=258
BW06 Boulder Array 94.01 47 P **P** **15 09 26.6 -0.3**
baz=259
PDAR Pinedale Array 94.01 47 P **P** **15 09 26.6 -0.3**
comp=Z,3.1nm,0.9s,baz=239,slow=3.6,SNR=18
PDAR LR LR 15 47 28.3
comp=Z,157nm,18.4s,baz=243,slow=33
NVS Novosibirsk 94.02 325 *e*P **P** **15 09 27.1 +0.8**
NVS pmax pmax
comp=N,14nm,2.0s
NVS pmax pmax
comp=E,15nm,2.0s
NVS pmax pmax
comp=Z,24nm,2.0s
EGMT Eagleton 94.86 42 P **P** **15 09 30.9 +0.4**
baz=259
ANMO Albuquerque 95.00 56 P **P** **15 09 31.7 +0.2**
comp=Z,3.1nm,1.1s,baz=214,slow=3.9,SNR=5.7
ANMO Albuquerque 95.00 56 *i* P **P** **15 09 31.2 -0.3**
ANMO pmax pmax
comp=Z,3.0nm,1.0s
ANMO Albuquerque 95.00 56 P **P** **15 09 31.4 -0.1**
baz=260
YKA Yellowknife Ar 95.16 27 P **P** **15 09 30.1 -1.3**
comp=Z,2.0nm,0.9s,baz=263,slow=4.6,SNR=5.6
KDJ Kajisay 95.50 312 *e*P **P** **15 09 34.2 +0.6**
comp=Z,6.8nm,1.4s
KDJ Kajisay 95.50 312 *e*P **P** **15 09 34.3 +0.6**
KDJ pmax pmax
comp=Z,7.0nm,1.4s
KURK Kurchatov 95.96 320 *i* P **P** **15 09 34.8 -0.5**
KURK pmax pmax
comp=Z,4.0nm,1.2s
KSH Kashi 95.99 309 *e*P **P** **15 09 38.4 +2.5**
KSH S **S** **15 20 50.3 -2.4**
KSH pmax pmax
comp=Z,250nm,7.9s
ZAIG Zacatecas 96.41 68 PFAKE 15 09 50.0 +12
ZAIG LR LR
comp=Z,800nm,21.0s
TXAR Lajitas Array 96.44 61 P **P** **15 09 38.0 -0.1**
comp=Z,0.6nm,0.9s,baz=222,slow=1.7,SNR=4.4
TXAR LR LR 15 45 24.2
comp=Z,279nm,20.1s,baz=0.0,slow=31
NVL N'lazarevskaya 96.56 189 *e*P **P** **15 09 39.8 +2.1**
NVL *e*S **SKSac** **15 20 12.5 +0.5**
NVL pmax pmax
comp=Z,5.0nm,0.5s
MOIG Morelia 97.20 71 PFAKE 15 09 50.0 +8.0
MOIG LR LR
comp=Z,1µm,20.0s
SNAA Sanae 97.28 184 P **P** **15 09 40.9 -0.1**
SNAA Sanae 97.28 184 *i* P Pdif 15 09 41.7 +0.6
AAK Ala-Archa 97.55 312 *i* P **P** **15 09 41.5 -1.4**
AAK pmax pmax
comp=Z,1.0nm,1.1s
VNA3 Neumayer Olymp 98.03 182 P **P** **15 09 44.4 0.0**
JRQG Juriquilla Cam 98.05 70 PFAKE 15 10 00.0 +14
JRQG LR LR
comp=Z,2µm,20.0s
VNA2 Neumayer--Watz 98.27 183 P Pdif 15 09 47.9 +2.5
VNA1 Neumayer--Stat 98.58 182 P **P** **15 09 43.3 -3.4**
UNM Universidad Na 99.03 72 PFAKE 15 10 00.0 +10
UNM LR LR
comp=Z,1µm,21.0s
OGNE Ogallala 99.29 50 PFAKE 15 10 00.0 +9.3
OGNE LR LR
comp=Z,1µm,22.0s
TLIG Tlapa 99.34 74 PFAKE 15 10 00.0 +8.6
TLIG LR LR
comp=Z,2µm,20.0s
LNIG Linares 99.53 66 PFAKE 15 10 00.0 +8.0
LNIG LR LR
comp=Z,500nm,18.0s
BRVK Borovoye 101.35 322 *i* P **Pdif** **15 09 57.9 -1.5**
BRVK pmax pmax
comp=Z,1.0nm,1.0s
LVIG Laguna Verde 101.66 72 PFAKE 15 10 10.0 +8.5
LVIG LR LR
comp=Z,800nm,18.0s
CCIG Comitan 105.27 76 PFAKE 15 14 40.0
CCIG LR LR
comp=Z,5µm,21.0s
SNET Serv Nac Est T 107.74 79 PFAKE 15 14 50.0
SNET LR LR
comp=Z,3µm,18.0s
MYIG MØrida 108.02 71 PFAKE 15 14 50.0
MYIG LR LR
comp=Z,3µm,18.0s
TEIG Tepich 109.33 72 PFAKE 15 14 50.0
TEIG LR LR
comp=Z,3µm,18.0s
TGUH Tegucigalpa,Un 109.67 79 PFAKE 15 14 50.0

TGUH					LR	LR			
	comp=Z,2µm,19.0s								
JTS	**JuntasAbangare**	**111.46**	**83**		PFAKE		15 15 00.0		
JTS					LR	LR			
	comp=Z,900nm,19.0s								
SDMD	**Soldier's Deli**	**118.57**	**51**		PFAKE		15 15 10.0	+14	
SDMD					LR	LR			
	comp=Z,2µm,22.0s								
LUPA	**Lehigh Univers**	**119.46**	**49**		PFAKE		15 15 10.0	+12	
LUPA					LR	LR			
	comp=Z,100nm,21.0s								
OBN	**Obninsk**	**120.20**	**329**	*e*	PKIKP	**PKPdf**	**15 14 56.2**	**-2.9**	
OBN				*e*			15 16 28.4		
OBN				*e*	SS	SS	15 32 41.9	-7.6	
OBN					pmax	pmax			
	comp=Z,5.0nm,1.0s								
FINES	**FINESS Array B**	**121.27**	**338**		PKP	**PKPdf**	**15 14 60.0**	**-1.0**	
	comp=Z,3.8nm,0.9s,baz=257,slow=12,SNR=2.9								
FINES	**FINESS Array B**	**121.27**	**338**		PKIKP	**PKPdf**	**15 15 00.0**	**-1.0**	
ATD	**Arta Tunnel**	**123.25**	**277**		PFAKE		15 15 20.0	+14	
ATD					LR	LR			
	comp=Z,300nm,20.0s								
SDDR	**Presa de Saban**	**125.27**	**74**		PFAKE		15 15 20.0	+10	
SDDR					LR	LR			
	comp=Z,1µm,19.0s								
AKASG	**Malin Array Be**	**126.24**	**327**		PKP	**PKPdf**	**15 15 10.8**	**-0.1**	
	comp=Z,0.2nm,0.3s,baz=34,slow=1.2,SNR=2.7								
KIEV	**Kiev**	**126.25**	**327**	*i*	PKIKP	**PKPdf**	**15 15 10.5**	**-0.3**	
SAML	**Samuel**	**128.27**	**111**	*e*	PKPdf	**PKPdf**	**15 15 15.6**	**-0.2**	
SAML	**Samuel**	**128.27**	**111**	*e*	PKIKP	**PKPdf**	**15 15 15.6**	**-0.2**	
AGP	**Aguadilla**	**129.21**	**75**		PFAKE		15 15 30.0	+13	
AGP					LR	LR			
	comp=Z,1µm,21.0s								
CBYP	**Canovanas**	**130.43**	**75**		PFAKE		15 15 30.0	+10	
CBYP					LR	LR			
	comp=Z,700nm,18.0s								
MBAR	**Mbarara**	**133.05**	**259**		PFAKE		15 15 40.0	+15	
MBAR					LR	LR			
	comp=Z,300nm,22.0s								
SMRT	**St. Maarten**	**133.08**	**75**		PFAKE		15 15 40.0	+15	
SMRT					LR	LR			
	comp=Z,500nm,19.0s								
SEUS	**St. Eustatius**	**133.19**	**76**		PFAKE		15 15 40.0	+15	
SEUS					LR	LR			
	comp=Z,700nm,19.0s								
SVB	**Belmont**	**134.83**	**82**		PFAKE		15 15 40.0	+12	
SVB					LR	LR			
	comp=Z,400nm,22.0s								
KHC	**Kasperske Hory**	**134.99**	**334**	*e*	PKP	PKPdf	15 15 38.3	+11	
FNA	**Florina**	**136.18**	**319**		PFAKE		15 15 40.0	+10	
FNA					LR	LR			
	comp=Z,300nm,21.0s								
DAVOX	**Davos/Dischmat**	**138.39**	**334**		PKP	**PKPdf**	**15 15 35.3**	**+1.2**	
	comp=Z,1.5nm,0.8s,baz=195,slow=20,SNR=2.5								
KEST	**Kesra**	**146.75**	**322**		PKPbc	**PKPab**	**15 15 52.4**	**+0.3**	
	comp=Z,7.9nm,1.0s,baz=43,slow=19,SNR=3.3								
ESDC	**Sonseca Array**	**149.62**	**343**		PKPbc	**PKPbc**	**15 15 57.2**	**-1.0**	
	comp=Z,0.1nm,0.3s,baz=87,slow=24,SNR=3.2								
RCBR	**Riachuelo**	**153.48**	**128**		PFAKE		15 16 10.0	+2.1	
RCBR					LR	LR			
	comp=Z,22µm,20.0s								
TOA0	**Torodi Ar. Sit**	**163.43**	**280**	*e*	PKPdf	**PKPdf**	**15 16 11.8**	**-0.3**	
TORD	**Torodi Ar. Bea**	**163.43**	**280**		PKP	**PKPdf**	**15 16 10.8**	**-1.3**	
	comp=Z,0.7nm,0.9s,baz=353,slow=3.0,SNR=4.3								

IDC 11 15:00:14.4±2.2, 5°63.5S×151°82.6E, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.6/38, mbtmp3.7/3, MS3.9/1, Ms1 3.9/1, ms1mx3.4/17, Error ellipse: s-maj=140.5km s-min=29.4km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
WRA	**Warramunga Arr**	**22.17**	**229**	P		P	15 05 11.9		-0.4
	1.4nm,0.5s,baz=54,slow=9.9,SNR=9.4								
ASAR	**Alice Springs**	**24.88**	**222**	P		P	15 05 39.9		+0.8
	1.2nm,0.5s,baz=57,slow=9.9,SNR=13								
USRK	**Ussuriysk Ar.**	**52.73**	**342**	LR		LR	15 30 23.9		
	comp=Z,116nm,18.8s,baz=136,slow=34								
ILAR	**Eielson Array**	**83.29**	**22**	P		P	15 12 43.6		+0.8
	0.3nm,0.6s,baz=245,slow=5.3,SNR=4.5								
TORD	**Torodi Ar. Bea**	**149.62**	**286**	PKPbc		PKPbc	15 20 05.1		-2.0
	0.2nm,0.3s,baz=65,slow=2.3,SNR=4.3								

IDC 11 15:29:49.7±2.0, 5°83.5S×151°86.6E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/34, mbtmp3.7/4, Error ellipse: s-maj=113.4km s-min=26.1km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
WRA	**Warramunga Arr**	**22.06**	**229**	P		P	15 34 46.5		+0.1
	0.8nm,0.5s,baz=54,slow=9.9,SNR=16								
ASAR	**Alice Springs**	**24.76**	**222**	P		P	15 35 13.3		+0.1
	1.0nm,0.8s,baz=56,slow=9.9,SNR=22								
FITZ	**Fitzroy Crossi**	**28.34**	**242**	P		P	15 35 45.2		-0.4
	1.5nm,0.5s,baz=65,slow=8.3,SNR=9.4								
ILAR	**Eielson Array**	**83.47**	**22**	P		P	15 42 18.7		-0.2
	0.6nm,0.8s,baz=253,slow=5.4,SNR=7.4								
TORD	**Torodi Ar. Bea**	**149.71**	**286**	PKPbc		PKPbc	15 49 42.6		0.0
	baz=100,slow=2.3								

IDC 11 15:34:14.5±0.6, 11°.96N×143°.21E, h0km, mb4.3/19, mb1 4.4/20, mb1mx4.3/52, mbtmp4.3/20, ML4.6/1, MS3.4/8, Ms1 3.4/8, ms1mx3.1/42, Error ellipse: s-maj=19.6km s-min=14.5km az=88.0

NEIC 11 15:34:15.2±2.8, 11°.96N×143°.19E, h5km±17km, mb4.9/34, Error ellipse: s-maj=6.6km s-min=5.8km az=91.0

ISCJB 11 15:34:17.5±0.3, 11°.96N±0°.05×143°.08E±0°.06, h31km, mb4.5/51, MS3.4/6, Error ellipse: s-maj=8.8km s-min=6.6km az=34.2

ISC 11 15:34:19.1±0.6, 11°90N±0°.08×143°21E±0°.08, h31km, n88, σ0s97/85, mb4.7/51, MS3.3/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
GUMO	**Guam**	**2.34**	**44**	Pn		**Pn**	**15 34 54.8**		**-0.6**
	143nm,0.3s,baz=190,slow=5.5,SNR=52								
GUMO				LR		LR	15 35 23.5		
	comp=Z,204nm,18.8s,baz=177,slow=30								
GUMO				Sn		**Sn**	**15 35 24.5**		**+1.4**
	160nm,0.3s,baz=205,slow=23,SNR=7.9								
GUMO	**Guam**	**2.34**	**44**	*e*Pn		**Pn**	**15 34 54.1**		**-1.3**
GUMO				*e*Sn		**Sn**	**15 35 24.5**		**+1.4**
ANA2	**Anatahan**	**5.04**	**29**	*e*Pn		**Pn**	**15 35 31.8**		**-0.9**
SARN	**Sarigan**	**5.39**	**27**	*e*Pn		**Pn**	**15 35 40.7**		**+3.2**
JAY	**Jayapura**	**14.53**	**190**	LR		LR	15 42 53.3		
	comp=Z,223nm,18.8s,baz=210,slow=36								
PATS	**Pohnpei**	**15.73**	**107**	*e*Pn		**Pn**	**15 37 56.2**		**-2.3**
	261nm,1.6s								
JOW	**Kunigami**	**20.44**	**319**	LR		LR	15 45 20.8		
	comp=Z,131nm,21.0s,baz=320,slow=33								
JOW	**Kunigami**	**20.44**	**319**	*e*P		**P**	**15 38 52.7**		**-1.3**
	98nm,1.4s								
H11S3	**WAKE ISLAND Hy**	**23.57**	**71**	T		T	16 03 52.7		
	baz=300,slow=75,SNR=10								
H11S1	**WAKE ISLAND Hy**	**23.59**	**71**	T		T	16 03 46.7		
	baz=300,slow=75,SNR=9.1								
H11S2	**WAKE ISLAND Hy**	**23.59**	**71**	T		T	16 03 45.4		
	baz=300,slow=75,SNR=11								
JNU	**Nakatsue**	**23.96**	**334**	P		**P**	**15 39 30.6**		**-0.1**
	15nm,1.0s,baz=199,slow=3.1,SNR=5.0								
JNU				LR		LR	15 48 57.3		
	comp=Z,74nm,18.1s,baz=114,slow=37								
JNU	**Nakatsue**	**23.96**	**334**	*e*P		**P**	**15 39 30.4**		**-0.4**
	78nm,1.7s								
H11N1	**WAKE ISLAND Hy**	**24.06**	**68**	T		T	16 04 22.5		
	baz=255,slow=75,SNR=15								
H11N2	**WAKE ISLAND Hy**	**24.07**	**68**	T		T	16 04 26.3		
	baz=255,slow=75,SNR=11								
H11N3	**WAKE ISLAND Hy**	**24.07**	**68**	T		T	16 04 31.4		
	baz=255,slow=75,SNR=14								
MJAR	**Matsushiro Arr**	**24.95**	**350**	P		**P**	**15 39 38.3**		**-1.5**
	2.0nm,0.6s,baz=114,slow=12,SNR=9.2								
MJAR				LR		LR	15 48 34.6		
	comp=Z,114nm,18.8s,baz=150,slow=35								
MAJO	**Matsushiro**	**24.95**	**350**	*e*P		**P**	**15 39 38.3**		**-1.5**
KSRS	**Korea Array**	**28.91**	**334**	P		**P**	**15 40 15.7**		**+0.4**
	1.2nm,0.8s,baz=140,slow=10,SNR=4.2								
KSRS				LR		LR	15 49 49.0		
	comp=Z,54nm,20.0s,baz=95,slow=32								
KSAR	**Wonju Array Be**	**28.91**	**334**	P		**P**	**15 40 15.7**		**+0.4**
WB2	**Warramunga Arr**	**32.82**	**195**	*e*P		**P**	**15 40 50.7**		**+0.7**
WR1	**Warramunga Arr**	**32.82**	**196**	*e*P		**P**	**15 40 49.7**		**-0.3**
	6.7nm,0.9s								
WRA	**Warramunga Arr**	**32.82**	**196**	P		P	15 40 49.7		-0.3
	5.2nm,1.1s,baz=19,slow=9.8,SNR=17								
USRK	**Ussuriysk Ar.**	**33.61**	**345**	P		P	15 40 56.7		+0.1
	2.2nm,0.6s,baz=172,slow=9.1,SNR=5.6								
AS31	**Alice Springs**	**36.49**	**194**	*e*P		**P**	**15 41 22.7**		**+0.9**
	2.3nm,1.4s								
ASAR	**Alice Springs**	**36.50**	**194**	P		**P**	**15 41 22.3**		**+0.5**
	0.8nm,0.8s,baz=18,slow=9.4,SNR=8.4								
DZM	**Mont Dzumac**	**40.73**	**146**	P		**P**	**15 41 58.5**		**+1.0**
	7.8nm,0.9s,baz=320,slow=16,SNR=3.3								
DZM	**Mont Dzumac**	**40.73**	**146**	*e*P		**P**	**15 41 58.3**		**+0.9**
	42nm,1.6s								
CMAR	**Chiang Mai Arr**	**43.13**	**284**	P		**P**	**15 42 18.1**		**+1.0**
	0.9nm,0.7s,baz=81,slow=6.4,SNR=8.7								
SONA0	**Songino Array**	**47.21**	**327**	*e*P		**P**	**15 42 49.5**		**+0.3**
SONA0				*e*PcP		**PcP**	**15 44 21.2**		**+0.9**
SONM	**Songino Array**	**47.21**	**327**	P		**P**	**15 42 49.5**		**+0.3**
	1.2nm,0.5s,baz=147,slow=7.3,SNR=10								
SONM				PcP		**PcP**	**15 44 21.2**		**+0.9**
	0.7nm,0.8s,baz=155,slow=5.4,SNR=3.5								
SONM				LR		LR	16 03 26.7		
	comp=Z,82nm,18.8s,baz=170,slow=37								
YAK	**Yakutsk**	**51.00**	**352**	LR		LR	16 04 36.8		
	comp=Z,66nm,18.6s,baz=89,slow=36								
YAK	**Yakutsk**	**51.00**	**352**	*e*P		**P**	**15 43 16.9**		**-0.8**
	14nm,0.8s								
MK32	**Makanchi Array**	**61.59**	**317**	*e*P		**P**	**15 44 34.0**		**+0.3**
MKAR	**Makanchi Array**	**61.59**	**317**	P		**P**	**15 44 34.0**		**+0.3**
	2.4nm,0.9s,baz=94,slow=7.3,SNR=8.2								
ZALV	**Zalesovo Beam**	**62.07**	**325**	P		**P**	**15 44 35.9**		**-0.8**
	1.3nm,0.5s,baz=116,slow=6.3,SNR=6.0								
ZALV				PcP		**PcP**	**15 45 16.6**		**-0.2**
	1.7nm,0.6s,baz=116,slow=3.6,SNR=6.0								
ZAA1	**Zalesovo Array**	**62.07**	**325**	*e*P		**P**	**15 44 35.9**		**-0.8**
ZAA1				*e*PcP		**PcP**	**15 45 16.6**		**-0.2**
KURK	**Kurchatov**	**64.84**	**321**	*e*P		**P**	**15 44 55.0**		**-0.1**
	7.7nm,0.8s								
RDOG	**Red Dog Mine**	**66.01**	**19**	*e*P		**P**	**15 45 02.8**		**+0.4**
	9.7nm,0.6s								
NRIK	**Noril'sk**	**67.20**	**341**	P		**P**	**15 45 09.6**		**-0.3**
	1.7nm,0.6s,baz=107,slow=12,SNR=4.5								
IM3	**Indian Mountai**	**68.38**	**23**	*e*P		**P**	**15 45 17.3**		**-0.1**
PMR	**Palmer**	**69.04**	**28**	*e*P		**P**	**15 45 21.0**		**-0.5**
MLY	**Manley**	**69.26**	**25**	*e*P		**P**	**15 45 23.0**		**0.0**
	9.9nm,1.0s								
KK31	**Karatay Array**	**69.35**	**312**	*e*PcP		**PcP**	**15 45 46.7**		**-0.6**
KKAR	**Karatay Array**	**69.35**	**312**	*e*PcP		**PcP**	**15 45 46.9**		**-0.4**
RND	**Reindeer**	**69.61**	**26**	*e*P		**P**	**15 45 24.3**		**-0.9**
	55nm,2.0s								
COLD	**Coldfoot**	**70.12**	**22**	*e*P		**P**	**15 45 28.9**		**+0.7**
	8.5nm,1.2s								
WRH	**Wood River Hil**	**70.21**	**25**	*e*P		**P**	**15 45 27.7**		**-1.0**
	8.0nm,0.8s								
MDM	**Murphy Dome**	**70.27**	**25**	*e*P		**P**	**15 45 28.9**		**-0.3**
	5.7nm,0.8s								
BRVK	**Borovoye**	**70.32**	**322**	*e*P		**P**	**15 45 29.4**		**-0.2**
	5.1nm,0.6s								
CCB	**Clear Creek Bu**	**70.37**	**25**	*e*P		**P**	**15 45 28.8**		**-0.9**
	4.9nm,1.0s								
HDA	**Harding Lake**	**70.67**	**26**	*e*P		**P**	**15 45 30.4**		**-1.3**
	6.7nm,0.8s								
TOLK	**Toolik Lake Re**	**70.77**	**21**	*e*P		**P**	**15 45 32.9**		**+0.7**
	9.3nm,0.8s								
ILAR	**Eielson Array**	**70.78**	**25**	P		**P**	**15 45 30.9**		**-1.4**
	7.6nm,0.7s,baz=249,slow=5.9,SNR=131								
ILB	**Eielson Array**	**70.78**	**25**	*e*P		**P**	**15 45 30.7**		**-1.6**
IL1	**Eielson Array**	**70.78**	**25**	*e*P		**P**	**15 45 30.7**		**-1.5**
PAX	**Paxson**	**71.01**	**27**	*e*P		**P**	**15 45 33.4**		**-0.5**
	13nm,1.3s								
DOT	**Dot Lake**	**71.76**	**27**	*e*P		**P**	**15 45 37.8**		**-0.4**
	14nm,0.8s								
FYU	**Fort Yukon**	**71.85**	**24**	*e*P		**P**	**15 45 39.3**		**+0.7**
	35nm,1.3s								
SCRK	**Sand Creek**	**71.86**	**26**	*e*P		**P**	**15 45 38.6**		**-0.3**
	18nm,1.4s								
DAWY	**Dawson**	**73.87**	**27**	*e*P		**P**	**15 45 51.1**		**+0.3**
	14nm,1.0s								
INK	**Inuvik**	**76.54**	**22**	*e*P		**P**	**15 46 05.9**		**0.0**
	23nm,1.8s								
ABKAR	**Akbulak array**	**76.71**	**318**	*e*P		**P**	**15 46 07.1**		**-0.2**
YKA	**Yellowknife Ar**	**85.10**	**27**	P		**P**	**15 46 51.6**		**-0.2**
	1.8nm,0.6s,baz=287,slow=5.0,SNR=13								
YKB5	**Yellowknife Ar**	**85.10**	**27**	*e*P		**P**	**15 46 52.4**		**+0.6**
PINE	**Pine Mountain**	**86.05**	**46**	*e*P		**P**	**15 46 58.3**		**+1.1**
	8.4nm,0.8s								
B08A	**Colville Reser**	**86.11**	**42**	*e*P		**P**	**15 46 58.1**		**+0.9**
	4.7nm,0.9s								
BEKR	**Beckworth**	**87.34**	**50**	*e*P		**P**	**15 47 04.2**		**+0.6**
	3.9nm,0.9s								
CMB	**Columbia Colle**	**87.74**	**52**	*e*P		**P**	**15 47 04.1**		**-1.3**
	13nm,2.0s								
J08A	**Circle Bar Ran**	**87.89**	**46**	*e*P		**P**	**15 47 06.1**		**+0.1**
	4.7nm,0.9s								
WVOR	**Wild Horse Val**	**88.00**	**47**	*e*P		**P**	**15 47 07.1**		**+0.5**
	19nm,1.9s								
ARA0	**ARCESS Array S**	**88.18**	**342**	*e*P		**P**	**15 47 06.3**		**-0.4**
ARCES	**ARCESS Array B**	**88.18**	**342**	P		**P**	**15 47 06.3**		**-0.4**
	1.4nm,0.6s,baz=69,slow=6.6,SNR=9.7								
BMO	**Blue Mountains**	**88.33**	**45**	*e*P		**P**	**15 47 08.8**		**+0.7**
	5.0nm,0.9s								
KVN	**Kaiserville**	**89.24**	**50**	*e*P		**P**	**15 47 13.0**		**+0.4**
	4.4nm,1.1s								
NV01	**Mina Array Sit**	**89.24**	**51**	*e*P		**P**	**15 47 13.1**		**+0.4**
NVAR	**Mina Array Bea**	**89.24**	**51**	P		**P**	**15 47 14.3**		**+1.7**
	4.5nm,0.6s,baz=266,slow=5.4,SNR=36								
NV11	**Mina Array Sit**	**89.35**	**51**	*e*P		**P**	**15 47 13.9**		**+0.8**
	0.3nm,0.9s								
HLID	**Hailey**	**90.68**	**45**	*e*P		**P**	**15 47 19.9**		**+0.6**
	4.7nm,1.3s								
TPNV	**Topopah Spring**	**91.20**	**52**	*e*P		**P**	**15 47 22.4**		**+0.7**
	2.9nm,0.8s								
FIA0	**FINESS Array S**	**92.00**	**335**	*e*P		**P**	**15 47 22.9**		**-1.8**
FINES	**FINESS Array B**	**92.00**	**335**	P		**P**	**15 47 22.9**		**-1.8**
	2.2nm,0.7s,baz=55,slow=4.3,SNR=12								
YMR	**Madison River**	**92.69**	**43**	*e*P		**P**	**15 47 30.1**		**+1.5**
	4.6nm,0.7s								
PD31	**Pinedale Array**	**94.30**	**45**	*e*P		**P**	**15 47 36.5**		**+0.5**
PDAR	**Pinedale Array**	**94.30**	**45**	P		**P**	**15 47 36.5**		**+0.5**
	0.3nm,0.6s,baz=211,slow=2.6,SNR=4.3								
NB200	**NORSAR Array S**	**98.04**	**339**	*e*P		**P**	**15 47 50.9**		**-1.5**
NOA	**NORSAR Array B**	**98.04**	**339**	P		**P**	**15 47 50.9**		**-1.5**
	0.5nm,0.7s,baz=262,slow=2.7,SNR=2.7								
LPAZ	**La Paz**	**149.31**	**102**	*e*PKPbc		**PKPbc**	**15 54 08.0**		**+1.4**

IDC 11 15:40:29.9±2.6, 0°.77S×28°.19E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/40, mbtmp3.8/7, ML3.7/1, MS4.0/1, Ms1 4.0/1, ms1mx3.0/38, Error ellipse: s-maj=65.5km s-min=24.6km az=14.0

ISCJB 11 15:40:31.7±0.7, 0°.4S±0°.1×28°.33E±0°.06, h10km, mb3.8/7, MS4.0/1, Error ellipse: s-maj=16.1km s-min=8.2km az=12.3

NEIC 11 15:40:33.9±0.9, 0°.32S±0°.10×28°.44E±0°.07, h10km, n20, σ2s28/23, mb4.0/7, Zaire

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
MBAR	**Mbarara**	**2.31**	**97**	*e*Pn		**Pb**	**15 41 15.7**		**-0.1**
LODK	**Lodwar**	**7.85**	**62**	*e*P		**Pn**	**15 42 30.0**		**+1.7**
LODK				*e*			15 42 30.4		
	baz=224,slow=18								
LODK				*e*S		**Sn**	**15 43 54.5**		**-2.9**
LODK				*e*S		**Sn**	**15 43 54.7**		**-2.8**
LODK				AMP			15 44 44.6		
	comp=E,2µm,0.6s								
LODK				AMP			15 44 47.5		
	comp=N,2µm,0.6s								
BBAT	**Babati**	**8.27**	**118**	*i*S		**Sg**	**15 44 54.5**		**-4.9**
NAI	**Nairobi**	**8.41**	**96**	*e*Pn		**Pn**	**15 42 37.5**		**+1.3**
KMBO	**Kilima Mbogo**	**8.85**	**95**	Pn		**Pn**	**15 42 43.9**		**+1.8**
	comp=N,0.9nm,0.3s,baz=256,slow=19,SNR=15								
KMBO				Sn		**Sn**	**15 44 24.9**		**+2.8**
	comp=N,1.2nm,0.3s,baz=338,slow=17,SNR=4.7								
KMBO				Lg		Lg	15 45 11.3		
	comp=N,3.9nm,0.3s,baz=206,slow=22,SNR=17								
KMBO	**Kilima Mbogo**	**8.85**	**95**	*e*Pn		**Pn**	**15 42 45.6**		**+3.5**
KMBO				Sn		**Sn**	**15 44 24.9**		**+2.8**
KMBO				Lg		Lg	15 45 11.3		
TSUM	**Tsumeb**	**21.57**	**209**	*e*P		**P**	**15 45 24.0**		**0.0**
	comp=N,5.7nm,0.7s								
TORD	**Torodi Ar. Bea**	**29.70**	**298**	P		**P**	**15 46 38.0**		**-2.5**
	comp=N,0.8nm,0.6s,baz=114,slow=10,SNR=8.7								
TOA1	**Torodi Ar. Sit**	**29.71**	**298**	*e*P		**P**	**15 46 38.0**		**-2.5**
BRTR	**Keskin Array B**	**40.14**	**6**	P		**P**	**15 48 11.8**		**+1.5**
	comp=N,2.6nm,0.8s,baz=178,slow=7.7,SNR=11								
BR101	**Keskin Array S**	**40.14**	**6**	*e*P		**P**	**15 48 11.8**		**+1.5**
BR131	**Keskin Array S**	**40.14**	**6**	*e*P		**P**	**15 48 11.6**		**+1.3**
GERES	**GERESS Array B**	**50.61**	**347**	LR		LR	16 14 03.2		
	comp=N,142nm,19.9s,baz=32,slow=40								
AKASG	**Malin Array Be**	**50.84**	**1**	P		**P**	**15 49 33.9**		**-0.8**
	comp=N,0.7nm,0.5s,baz=175,slow=7.1,SNR=3.7								
AKBB	**Malin Array Si**	**50.84**	**1**	*e*P		**P**	**15 49 33.9**		**-0.8**
MK32	**Makanchi Array**	**66.34**	**37**	*e*P		**P**	**15 51 24.4**		**+1.5**
MKAR	**Makanchi Array**	**66.34**	**37**	P		**P**	**15 51 24.4**		**+1.5**
	comp=N,1.0nm,0.8s,baz=244,slow=8.2,SNR=3.5								
ARA0	**ARCESS Array S**	**69.76**	**359**	*e*P		**P**	**15 51 44.9**		**+1.0**
ARCES	**ARCESS Array B**	**69.76**	**359**	P		**P**	**15 51 44.9**		**+1.0**
	comp=N,0.9nm,0.6s,baz=185,slow=6.0,SNR=6.0								
CMAR	**Chiang Mai Arr**	**71.64**	**71**	P		**P**	**15 51 55.2**		**-1.2**
	comp=N,0.2nm,0.7s,baz=264,slow=5.4,SNR=2.9								

ISCJB 11 15:41:38.3±0.3, 10°.81S±0°.06×164°.80E±0°.05, h31km, mb4.5/38, MS4.0/16, Error ellipse: s-maj=8.7km s-min=6.5km az=161.7

NEIC 11 15:41:40.5±1.0, 10°.77S×164°.85E, h36km±9km, mb4.7/22, Error ellipse: s-maj=8.3km s-min=5.2km az=135.0

IDC 11 15:41:40.9±5.0, 10°.83S×164°.79E, h39km±42km, mb4.2/18, mb1 4.3/19, mb1mx4.1/53, mbtmp4.4/19, ML4.6/1, MS4.0/18, Ms1 4.0/18, ms1mx3.7/38, Error ellipse: s-maj=21.4km s-min=17.3km az=94.0

ISC 11 15:41:40.0±0.5, 10°.84S±0°.06×164°.89E±0°.06, h31km, n77, σ1s39/68, mb4.6/38, MS4.0/16, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
HNR	**Honiara**	**5.06**	**286**	Pn		**Pn**	**15 42 53.7**		**-0.1**
	22nm,0.3s,baz=146,slow=3.3,SNR=19								
HNR				Sn		**Sn**	**15 43 50.8**		**-0.5**
	11nm,0.3s,baz=31,slow=18,SNR=3.2								
HNR				LR		LR	15 45 02.4		
	comp=Z,3µm,18.0s,baz=109,slow=41								
HNR	**Honiara**	**5.06**	**286**	*e*P		**Pn**	**15 42 55.0**		**+1.2**
HNR				*e*S		**Sn**	**15 43 55.0**		**+3.7**
HNR	**Honiara**	**5.06**	**286**	*e*Pn		**Pn**	**15 42 54.2**		**+0.4**
HNR				Sn		**Sn**	**15 43 50.8**		**-0.5**
DZM	**Mont Dzumac**	**11.27**	**173**	Pn		Pn	15 44 14.4		-4.7
	1.3nm,0.3s,baz=71,slow=8.6,SNR=81								
DZM				Sn		**Sn**	**15 46 22.5**		**-1.6**
	0.6nm,0.3s,baz=127,slow=20,SNR=3.1								
DZM				LR		LR	15 47 46.5		
	comp=Z,791nm,18.0s,baz=34,slow=32								
DZM	**Mont Dzumac**	**11.27**	**173**	*e*Pn		**Pn**	**15 44 20.6**		**+1.5**
	140nm,1.2s								
DZM				*e*Sn		**Sn**	**15 46 19.9**		**-4.2**
	107nm,0.9s								
DZM				*e*LR		LR	15 47 01.8		
	532nm,24.3s								
TARA	**Tarawa**	**14.51**	**34**	*e*Pn		**Pn**	**15 45 02.1**		**-1.2**
MANU	**Manus Island**	**19.47**	**295**	*e*P		**Pn**	**15 46 04.7**		**-1.1**
	474nm,1.8s								
EIDS	**Eidsvold**	**19.50**	**220**	*e*P		**P**	**15 46 04.5**		**-0.1**
	38nm,1.1s								
CTA	**Charters Tower**	**20.16**	**241**	P		**P**	**15 46 12.3**		**+0.4**
	15nm,0.8s,baz=75,slow=11,SNR=11								
CTA				LR		LR	15 53 05.0		
	comp=Z,571nm,21.1s,baz=18,slow=34								
CTAO	**Charters Tower**	**20.16**	**241

YBH	**Yreka Blue Hor**	**84.35**	**46**	P		**P**	**15 54 08.9**	**-0.5**
	4.0nm,0.9s,baz=27,slow=4.5							
MAW	**Mawson**	**84.60**	**202**	P		**P**	**15 54 08.8**	**-1.3**
	4.1nm,0.9s,baz=76,slow=4.2,SNR=3.3							
MAW	**Mawson**	**84.60**	**202**	*eP*		**P**	**15 54 11.3**	**+1.2**
	8.6nm,1.7s							
AFDM	**Forest Hills D**	**84.70**	**49**	*eP*		**P**	**15 54 09.7**	**-1.5**
	4.3nm,0.9s							
CMB	**Columbia Colle**	**84.85**	**50**	*eP*		**P**	**15 54 10.5**	**-1.5**
	12nm,1.7s							
WAKR	**Walker**	**85.70**	**50**	*eP*		**P**	**15 54 16.5**	**+0.1**
	10nm,1.4s							
MDPB	**Devils Postpil**	**85.72**	**51**	*eP*		**P**	**15 54 16.2**	**-0.4**
	5.9nm,1.1s							
NV01	**Mina Array Sit**	**86.53**	**50**	*eP*		**P**	**15 54 20.0**	**-0.6**
NVAR	**Mina Array Bea**	**86.53**	**50**	P		**P**	**15 54 20.4**	**-0.2**
	3.2nm,1.0s,baz=233,slow=7.8,SNR=7.8							
NVAR				LR		LR	16 27 31.0	
	comp=Z,128nm,18.2s,baz=278,slow=32							
NV11	**Mina Array Sit**	**86.65**	**50**	*eP*		**P**	**15 54 20.8**	**-0.2**
	0.4nm,1.0s							
LTY	**Liberty**	**87.55**	**41**	*eP*		**P**	**15 54 24.7**	**-0.4**
	21nm,1.5s							
J08A	**Circle Bar Ran**	**87.83**	**45**	*eP*		**P**	**15 54 26.3**	**-0.3**
	4.7nm,0.9s							
G08A	**Pilot Rock**	**88.07**	**43**	*eP*		**P**	**15 54 27.5**	**-0.2**
	14nm,1.8s							
LCMT	**Little Creek M**	**90.04**	**52**	*eP*		**P**	**15 54 37.2**	**0.0**
	2.5nm,0.9s							
CCUT	**Cedar City**	**90.08**	**52**	*eP*		**P**	**15 54 37.5**	**+0.1**
	3.6nm,1.0s							
SZCU	**Shurtz Canyon**	**90.30**	**52**	*eP*		**P**	**15 54 38.6**	**+0.2**
U15A	**North Rim**	**90.66**	**53**	*eP*		**P**	**15 54 40.2**	**0.0**
	5.4nm,0.9s							
HLID	**Hailey**	**90.74**	**46**	*eP*		**P**	**15 54 40.0**	**-0.3**
	3.0nm,0.9s							
HVU	**Hansel Valley**	**91.49**	**48**	*eP*		**P**	**15 54 43.5**	**-0.3**
	6.1nm,0.9s							
DLMT	**Dillon**	**92.42**	**44**	*eP*		**P**	**15 54 47.9**	**-0.1**
	6.6nm,1.0s							
MK01	**Makanchi Array**	**92.78**	**317**	*eP*		**P**	**15 54 49.4**	**-0.1**
MKAR	**Makanchi Array**	**92.80**	**317**	P		**P**	**15 54 49.2**	**-0.4**
	2.7nm,0.8s,baz=98,slow=5.5,SNR=15							
ZALV	**Zalesovo Beam**	**92.90**	**324**	P		**P**	**15 54 48.5**	**-1.3**
	2.3nm,0.9s,baz=104,slow=3.1,SNR=6.0							
PDAR	**Pinedale Array**	**94.03**	**47**	P		**P**	**15 54 54.7**	**-0.9**
	0.9nm,0.9s,baz=298,slow=3.2,SNR=4.5							
TXAR	**Lajitas Array**	**96.47**	**61**	LR		LR	16 30 21.3	
	comp=Z,88nm,20.4s,baz=0.0,slow=30							

MAN 11 15:42:29.9, 7.95N×124.84E, h32km, mb4.4, ML3.2, MS3.0, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**0.23**	**108**	*eP*	Pn	15 42 38.5	+1.3
BUKP				*eS*	Sn	15 42 43.6	+1.8
CGP	**Cagayan de Oro**	**0.52**	**344**	*iP*	Pn	15 42 41.5	+0.4
CGP				*i* S	Sn	15 42 49.1	+0.2
CTBH	**Cotabato--PC H**	**0.93**	**219**	*eP*	Pn	15 42 46.8	0.0
CTBH				*i* S	Sn	15 42 58.8	-0.3
PAGZ	**Pagadian**	**1.45**	**266**	*eP*	Pn	15 42 53.6	-0.2
PAGZ				*eS*	Sn	15 43 07.4	-4.3
SKMP	**Bagumbayan, Su**	**1.45**	**192**	*eP*	Pn	15 42 53.7	-0.2
SKMP				*eS*	Sn	15 43 06.7	-5.2
DDMP	**Don Marcelino,**	**2.03**	**155**	*eP*	Pb	15 43 04.9	-1.2
DDMP				*eS*	Sb	15 43 29.3	-1.7

*IDC **11** 15:42:44.4±1.0, 7.34N×93.88E, h0km, mb3.8/11, mb1 4.0/13, mb1mx3.8/54, mbtmp3.8/13, ML4.0/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/45, Error ellipse: s-maj=42.5km s-min=16.9km az=51.0*

*ISCJB **11** 15:42:45.9±0.5, 7.48N±0.06×94.12E±0.08, h20km, mb3.9/13, Error ellipse: s-maj=13.1km s-min=5.4km az=142.7*

*NEIC **11** 15:42:45.7±0.4, 7.38N×93.92E, h10km, mb4.1/4, Error ellipse: s-maj=8.4km s-min=5.3km az=218.0*

ISC 11 15:42:47.6±0.6, 7.45N±0.08×93.98E±0.08, h20km, n39, σ1§21/37, mb3.8/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**3.69**	**127**	*ePn*	**Pn**	**15 43 44.6**	**+1.1**
PBA	**Port Blair**	**4.36**	**344**	*ePn*	Pn	15 43 52.5	-0.1
PSI	**Prapat**	**6.75**	**133**	Pn	**Pn**	**15 44 27.4**	**+1.7**
	1.7nm,0.3s,baz=360,slow=12,SNR=7.0						
PSI				Sn	**Sn**	**15 45 41.4**	**-0.8**
	0.9nm,0.3s,baz=0.0,slow=12,SNR=2.0						
PSI	**Prapat**	**6.75**	**133**	*ePn*	**Pn**	**15 44 27.9**	**+2.2**
PSI				Sn	**Sn**	**15 45 41.4**	**-0.8**
KULM	**Kulim**	**6.97**	**108**	*ePn*	**Pn**	**15 44 27.0**	**-1.6**
IPM	**Ipoh**	**7.61**	**112**	*ePn*	**Pn**	**15 44 35.4**	**-2.0**
MYKOM	**Kota Tinggi**	**11.33**	**119**	*ePn*	**Pn**	**15 45 27.4**	**-1.0**
PBKT	**Sadao Pong**	**11.36**	**36**	*ePn*	**Pn**	**15 45 27.6**	**-1.2**
CM01	**Chiang Mai Arr**	**11.94**	**24**	*ePn*	**Pn**	**15 45 37.1**	**+0.4**
CM31	**Chiang Mai Arr**	**11.96**	**23**	*ePn*	**Pn**	**15 45 37.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**11.96**	**23**	Pn	**Pn**	**15 45 37.8**	**+0.6**
	0.5nm,0.3s,baz=211,slow=14,SNR=6.5						
PALK	**Pallekele**	**13.16**	**270**	Sn	**Sn**	**15 48 16.1**	**-3.5**
	0.3nm,0.3s,baz=118,slow=19,SNR=2.4						
PALK				LR	LR	15 50 04.5	
	comp=Z,180nm,18.4s,baz=116,slow=34						
KSM	**Kuching**	**17.32**	**109**	*ePn*	**Pn**	**15 46 47.7**	**-0.7**
	15nm,1.2s						
SHL	**Shillong**	**18.13**	**354**	*ePn*	**Pn**	**15 46 57.2**	**-1.3**
	7.1nm,1.0s						
LSA	**Lhasa**	**22.30**	**354**	*eP*	**P**	**15 47 44.7**	**+0.4**
	5.8nm,0.6s						
H08S3	**Diego Garcia H**	**26.14**	**236**	T	T	16 15 15.3	
	baz=54,slow=75,SNR=49						
H08S2	**Diego Garcia H**	**26.14**	**235**	T	T	16 15 17.7	
	baz=54,slow=75,SNR=72						
H08S1	**Diego Garcia H**	**26.16**	**235**	T	T	16 15 17.7	
	baz=54,slow=75,SNR=37						
MK32	**Makanchi Array**	**40.47**	**348**	*eP*	**P**	**15 50 25.2**	**+0.4**
MKAR	**Makanchi Array**	**40.47**	**348**	P	**P**	**15 50 25.2**	**+0.4**
	1.5nm,0.7s,baz=158,slow=7.8,SNR=8.3						
SONA0	**Songino Array**	**41.61**	**13**	*eP*	**P**	**15 50 34.8**	**+0.4**
SONM	**Songino Array**	**41.61**	**13**	P	**P**	**15 50 34.8**	**+0.4**
	0.2nm,0.4s,baz=201,slow=8.3,SNR=2.0						
GEYT	**Alibeck**	**44.41**	**319**	P	**P**	**15 50 57.7**	**+0.6**
	0.9nm,0.7s,baz=132,slow=12,SNR=4.5						
ZALV	**Zalesovo Beam**	**46.95**	**353**	P	**P**	**15 51 18.1**	**+1.2**
	0.9nm,0.4s,baz=181,slow=7.4,SNR=6.3						
ZALV	**Zalesovo Beam**	**46.95**	**353**	*eP*	**P**	**15 51 16.9**	**0.0**
ZAA1	**Zalesovo Array**	**46.96**	**353**	*eP*	**P**	**15 51 18.1**	**+1.2**
WR1	**Warramunga Arr**	**48.15**	**125**	*eP*	**P**	**15 51 26.0**	**-0.8**
	15nm,1.5s						
WRA	**Warramunga Arr**	**48.15**	**125**	P	**P**	**15 51 26.0**	**-0.8**
	0.7nm,0.8s,baz=306,slow=8.3,SNR=12						
ASAR	**Alice Springs**	**49.77**	**130**	P	**P**	**15 51 39.3**	**+0.1**
	0.4nm,0.6s,baz=302,slow=7.6,SNR=7.5						
BR101	**Keskin Array S**	**62.58**	**311**	*eP*	**P**	**15 53 09.7**	**-0.9**
BRTR	**Keskin Array B**	**62.58**	**311**	P	**P**	**15 53 09.7**	**-0.9**
	0.4nm,0.7s,baz=124,slow=6.7,SNR=2.6						
FIA0	**FINESS Array S**	**73.01**	**332**	*eP*	**P**	**15 54 15.8**	**0.0**
FINES	**FINESS Array B**	**73.01**	**332**	P	**P**	**15 54 15.8**	**0.0**
	4.6nm,0.9s,baz=163,slow=5.7,SNR=6.5						
ARA0	**ARCESS Array S**	**75.61**	**340**	*eP*	**P**	**15 54 31.4**	**+0.6**
ARCES	**ARCESS Array B**	**75.61**	**340**	P	**P**	**15 54 31.4**	**+0.6**
	2.4nm,1.0s,baz=115,slow=6.4,SNR=3.4						
GERES	**GERESS Array B**	**78.03**	**318**	P	**P**	**15 54 44.7**	**-0.3**
	0.4nm,0.6s,baz=133,slow=8.1,SNR=2.9						
NB2	**NORSAR Subarra**	**80.02**	**331**	P	**P**	**15 54 56.5**	**+1.0**
	comp=Z,2.0nm,0.8s,baz=93,slow=5.9						
NB200	**NORSAR Array S**	**80.02**	**331**	*eP*	**P**	**15 54 57.4**	**+1.8**
NOA	**NORSAR Array B**	**80.02**	**331**	P	**P**	**15 54 57.4**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=95,slow=5.3,SNR=3.0						

*IDC **11** 15:45:11.3±1.0, 13.88N×91.99W, h0km, mb4.4/16, mb1 4.7/18, mb1mx4.4/45, mbtmp4.4/18, ML3.6/3, MS4.0/19, Ms1 4.0/19, ms1mx3.7/41, Error ellipse: s-maj=33.9km s-min=14.6km az=44.0*

*MEX **11** 15:45:13.5±0.6, 13.60N×92.52W, h15km, MD4.3*

*NEIC **11** 15:45:16.8±0.3, 13.91N×92.10W, h35km, mb4.7/131, MD4.3(MEX), Error ellipse: s-maj=5.9km s-min=3.7km az=202.0*

*ISCJB **11** 15:45:17.7±0.8, 13.94N±0.05×92.10W±0.03, h60km±5km, mb4.7/130, MS4.0/18, Error ellipse: s-maj=7.7km s-min=4.5km az=11.7*

ISC 11 15:45:17.5±1.5, 13.86N±0.09×92.28W±0.07, h49km±12km, n386, σ1§20/374, mb4.7/132, MS3.9/18, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.05**	**1**	*eP*	**Pn**	**15 45 34.3**	**-1.5**
THIG				*eS*	**Sn**	**15 45 48.1**	**-1.3**
THIG		**1.05**	**1**	*eP*	**Pn**	**15 45 34.3**	**-1.5**
THIG				*eS*	**Sn**	**15 45 49.2**	**-0.1**
PCIG		**2.05**	**334**	*eP*	**Pn**	**15 45 46.7**	**-2.9**
PCIG		**2.05**	**334**	*eP*	Pn	15 45 46.1	-3.4
PCIG				*i* S	**Sn**	**15 46 12.2**	**-1.8**
APG	**El Apazote**	**2.10**	**57**	Pn	**Pn**	**15 45 49.8**	**-0.7**
	20nm,0.3s,baz=229,slow=10,SNR=315						
CCIG	**Comitan**	**2.42**	**3**	*ePn*	**Pn**	**15 45 55.9**	**+1.2**
CCIG	**Comitan**	**2.42**	**3**	*eP*	**Pn**	**15 45 54.3**	**-0.5**
CCIG				*i* S	**Sn**	**15 46 25.4**	**+2.2**
TGIG		**3.02**	**345**	*eP*	**Pn**	**15 46 02.0**	**-0.9**
TGIG				*eS*	**Sn**	**15 46 38.0**	**+0.2**
TGIG		**3.02**	**345**	*i* P	**Pn**	**15 46 01.6**	**-1.3**
TGIG				*eS*	**Sn**	**15 46 38.0**	**+0.2**
CMIG	**Matias Romero**	**4.08**	**322**	Pn	**Pn**	**15 46 15.7**	**-1.8**
	4.3nm,0.3s,baz=144,slow=9.6,SNR=33						
CMIG				Sn	**Sn**	**15 47 02.0**	**-1.9**
	14nm,0.3s,baz=111,slow=12,SNR=6.9						
TGUH	**Tegucigalpa,Un**	**4.87**	**87**	*ePn*	**Pn**	**15 46 28.3**	**+0.1**
ESTN	**Estel**	**5.80**	**97**	*ePn*	**Pn**	**15 46 40.2**	**-0.9**
BOAB	**BOACO BROADBAN**	**6.59**	**101**	*ePn*	**Pn**	**15 46 53.2**	**+1.2**
TLIG	**Tlapa**	**7.08**	**302**	*ePn*	**Pn**	**15 46 58.9**	**+0.1**
TEIG	**Tepich**	**7.40**	**31**	*ePn*	**Pn**	**15 47 03.3**	**+0.3**
JTS	**JuntasAbangare**	**8.00**	**116**	Pn	Pn	15 47 07.4	-3.8
	0.2nm,0.3s,baz=75,slow=20,SNR=2.2						
JTS				Lg	Lg	15 49 14.2	
	0.3nm,0.3s,baz=180,slow=20,SNR=3.7						
MOIG	**Morelia**	**10.31**	**305**	*ePn*	**Pn**	**15 47 44.1**	**+1.1**
LNIG	**Linares**	**12.90**	**329**	*ePn*	**Pn**	**15 48 20.4**	**+2.1**
ZAIG	**Zacatecas**	**13.18**	**314**	*ePn*	**Pn**	**15 48 23.1**	**+0.8**
833A	**Chaparral WMA,**	**15.84**	**336**	*ePn*	**Pn**	**15 48 56.8**	**-0.5**
	37nm,0.9s						
833A	**Chaparral WMA,**	**15.84**	**336**	P	**Pn**	**15 48 58.6**	**+1.2**
	baz=153						
435B	**Jarrell**	**17.54**	**345**	P	**P**	**15 49 21.0**	**+1.8**
	baz=162						
JCT	**Junction City**	**17.94**	**338**	*eP*	**Pn**	**15 49 23.9**	**+0.4**
	15nm,0.8s						
JCT	**Junction City**	**17.94**	**338**	P	**Pn**	**15 49 25.8**	**+2.2**
	baz=155,SNR=5.3						
349A	**Repton**	**18.03**	**14**	P	**Pn**	**15 49 26.1**	**+1.5**
	baz=196						
HPIG		**18.05**	**318**	*eP*	**Pn**	**15 49 26.4**	**+1.2**
	10nm,0.8s						
240A	**Hunter Patters**	**18.15**	**356**	*eP*	**P**	**15 49 25.0**	**-0.8**
	40nm,0.6s						
244A	**Avery, Jackson**	**18.16**	**4**	P	**Pn**	**15 49 28.7**	**+2.6**
	baz=184						
245A	**Little AP, Sta**	**18.22**	**6**	P	**Pn**	**15 49 28.7**	**+1.8**
	baz=187						
556A	**Lake Butler**	**18.48**	**28**	P	**Pn**	**15 49 30.4**	**+0.4**
	baz=211						
TXAR	**Lajitas Array**	**18.67**	**327**	P	**Pn**	**15 49 33.6**	**+1.1**
	0.1nm,0.3s,baz=153,slow=11,SNR=33						
TX31	**Lajitas Ar. Si**	**18.67**	**327**	*eP*	**Pn**	**15 49 32.6**	**+0.2**
352A	**Blakely**	**18.80**	**20**	P	**Pn**	**15 49 34.3**	**+0.5**
	baz=202						
250A	**Grady**	**18.86**	**16**	*eP*	**P**	**15 49 31.3**	**-2.3**
	56nm,1.3s						
250A	**Grady**	**18.86**	**16**	P	**Pn**	**15 49 35.5**	**+0.8**
	baz=198						
353A	**Camilla**	**18.92**	**22**	P	**Pn**	**15 49 35.2**	**-0.1**
	baz=204						
147A	**Livingston**	**19.09**	**10**	*eP*	**P**	**15 49 36.0**	**-0.1**
	54nm,1.1s						
251A	**Midway**	**19.21**	**18**	P	**Pn**	**15 49 38.9**	**0.0**
	baz=200,SNR=5.9						
TIGA	**Tifton**	**19.23**	**23**	P	**Pn**	**15 49 38.6**	**-0.5**
	baz=206						
149A	**Jones**	**19.32**	**14**	P	**Pn**	**15 49 39.7**	**-0.4**
	baz=196						
Z41A	**Richland Creek**	**19.32**	**359**	*eP*	**P**	**15 49 39.1**	**+0.4**
	59nm,1.3s						
Z41A	**Richland Creek**	**19.32**	**359**	P	**Pn**	**15 49 40.6**	**+0.5**
	baz=178						
252A	**Lumpkin**	**19.34**	**20**	P	**Pn**	**15 49 40.4**	**+0.1**
	baz=202						
Z46A	**Louisville**	**19.49**	**8**	P	**Pn**	**15 49 41.6**	**-0.5**
	baz=189						
150A	**Eclectic**	**19.52**	**16**	P	**Pn**	**15 49 41.8**	**-0.7**
	baz=198						
Z47A	**Carlton**	**19.64**	**11**	P	**Pn**	**15 49 43.3**	**-0.5**
	baz=192,SNR=7.5						
151A	**Opelika**	**19.64**	**18**	P	**Pn**	**15 49 43.4**	**-0.6**
	baz=200,SNR=5.6						
LRAL	**Lakeview Retre**	**19.69**	**13**	*eP*	**P**	**15 49 42.0**	**-0.7**
	19nm,1.0s						
356A	**Blackshear**	**19.73**	**27**	P	**P**	**15 49 43.7**	**+0.6**
	baz=210						
254A	**Abbeville**	**19.80**	**23**	P	**P**	**15 49 44.6**	**+0.7**
	baz=206						
LPIG	**La Paz**	**19.84**	**304**	LR	LR	15 57 59.9	
	comp=Z,191nm,18.0s,baz=130,slow=38						
ROSC	**El Rosal**	**19.84**	**115**	P	**P**	**15 49 46.1**	**+1.1**
	4.5nm,0.3s,baz=66,slow=19,SNR=3.4						
ABTX	**Abilene, Hawle**	**19.86**	**341**	*eP*	**P**	**15 49 44.3**	**-0.2**
	63nm,1.5s						
ABTX	**Abilene, Hawle**	**19.86**	**341**	P	**Pn**	**15 49 46.5**	**0.0**
	baz=158,SNR=8.9						
Z48A	**Northport**	**19.90**	**12**	P	**Pn**	**15 49 46.1**	**-0.9**
	baz=193						
Y41A	**Eaglette Beard**	**19.94**	**359**	P	**P**	**15 49 45.8**	**+0.4**
	baz=178						
Z49A	**Columbiana**	**19.95**	**14**	P	**Pn**	**15 49 47.8**	**+0.2**
	baz=196						
Z50A	**Ashland**	**20.16**	**16**	*eP*	**P**	**15 49 47.1**	**-0.7**
	35nm,1.4s						
Z50A	**Ashland**	**20.16**	**16**	P	**P**	**15 49 47.7**	**-0.1**
	baz=198						
Y46A	**Houston**	**20.18**	**8**	P	Pn	15 49 50.8	+0.5
	baz=189,SNR=6.9						
Y47A	**UCPARC, Winfie**	**20.36**	**11**	P	**P**	**15 49 49.8**	**-0.2**
	baz=192						
256A	**Glennville**	**20.40**	**26**	P	**P**	**15 49 49.2**	**-1.2**
	baz=210						
154A	**Montrose**	**20.47**	**23**	*eP*	**P**	**15 49 50.1**	**-1.1**
	52nm,0.8s						
154A	**Montrose**	**20.47**	**23**	P	**P**	**15 49 51.2**	**+0.1**
	baz=206						
Y48A	**Jasper**	**20.50**	**12**	P	**P**	**15 49 52.3**	**+0.8**
	baz=194						
Z52A	**Williamson**	**20.54**	**19**	P	**P**	**15 49 52.0**	**0.0**
	baz=202						
X41A	**Kaden, Bauxite**	**20.55**	**359**	P	**P**	**15 49 53.0**	**+1.0**
	baz=179						
Y49A	**Blount Mountai**	**20.61**	**14**	P	**P**	**15 49 53.8**	**+1.0**
	baz=196						
MIAR	**Mount Ida**	**20.63**	**357**	*eP*	**P**	**15 49 52.5**	**-0.4**
	27nm,0.9s						
MIAR	**Mount Ida**	**20.63**	**357**	P	Pn	15 49 54.5	-1.2
	baz=176						
155A	**Kite**	**20.72**	**24**	P	**P**	**15 49 54.1**	**+0.2**
	baz=207						
UALR	**University of**	**20.83**	**360**	*eP*	**P**	**15 49 55.0**	**-0.1**
	37nm,1.0s						
X46A	**Booneville**	**20.88**	**9**	P	**P**	**15 49 55.5**	**-0.1**
	baz=190						
Z53A	**Monticello**	**20.90**	**21**	P	**P**	**15 49 55.2**	**-0.6**
	baz=204						
X47A	**Russelville**	**20.96**	**10**	P	Pn	15 49 57.7	-1.8
	baz=192						
Y51A	**Rockmart**	**21.00**	**17**	P	**P**	**15 49 56.5**	**-0.5**
	baz=199						
X48A	**Hartselle**	**21.05**	**12**	*eP*	**P**	**15 49 56.4**	**-1.1**
	19nm,0.9s						
X48A	**Hartselle**	**21.05**	**12**	P	**P**	**15 49 57.7**	**+0.3**
	baz=194,SNR=5.5						
GOGA	**Godfrey**	**21.06**	**21**	*eP*	**P**	**15 49 56.5**	**-1.0**
	17nm,0.9s						
GOGA	**Godfrey**	**21.06**	**21**	P	**P**	**15 49 57.7**	**+0.2**
	baz=204,SNR=5.5						
Z54A	**Sparta**	**21.12**	**22**	P	**P**	**15 49 59.8**	**+1.6**
	baz=206,SNR=6.3						
W41B	**Gary Mavity, V**	**21.23**	**0**	*eP*	**P**	**15 49 59.7**	**+0.4**
	70nm,1.8s						
W41B	**Gary Mavity, V**	**21.23**	**0**	P	**P**	**15 50 00.0**	**+0.7**
	baz=180						
X49A	**Woodville**	**21.26**	**14**	P	**P**	**15 50 00.5**	**+0.8**
	baz=196,SNR=6.7						
Y52A	**Lilburn**	**21.27**	**19**	*eP*	**P**	**15 49 59.8**	**-0.1**
	39nm,1.1s						
Y52A	**Lilburn**	**21.27**	**19**	P	**P**	**15 50 00.4**	**+0.6**
	baz=202						
W39A	**Magazine**	**21.29**	**357**	P	**P**	**15 50 02.4**	**+2.4**
	baz=176						
GDL2	**Guadalupe Moun**	**21.34**	**331**	*eP*	**P**	**15 50 02.2**	**+1.4**
X50B	**Fort Payne**	**21.38**	**15**	P	**P**	**15 50 01.7**	**+0.8**
	baz=197,SNR=8.5						
Y53A	**Monroe**	**21.42**	**20**	P	**P**	**15 50 01.8**	**+0.4**
	baz=203,SNR=5.9						
MNTX	**Cornudas Mount**	**21.44**	**328**	*eP*	**P**	**15 50 02.2**	**+0.6**
	14nm,0.9s						
MNTX	**Cornudas Mount**	**21.44**	**328**	P	**P**	**15 50 03.1**	**+1.4**
	baz=143,SNR=14						
WMOK	**Wichita Mounta**	**21.61**	**345**	*eP*	**P**	**15 50 02.2**	**-1.2**
	16nm,1.0s						
WMOK	**Wichita Mounta**	**21.61**	**345**	P	**P**	**15 50 03.6**	**+0.2**
	baz=162,SNR=12						
X51A	**Calhoun**	**21.69**	**17**	P	**P**	**15 50 05.9**	**+1.6**
	baz=199						
W48A	**Pulaski**	**21.73**	**12**	P	**P**	**15 50 04.2**	**-0.6**
	baz=194						
Y54A	**Tignall**	**21.74**	**22**	P	**P**	**15 50 04.8**	**-0.1**
	baz=205						
SDV	**Santo Domingo**	**21.79**	**101**	P	**P**	**15 50 03.9**	**-1.8**
	3.9nm,0.7s,baz=301,slow=9.8,SNR=5.4						
SDV	**Santo Domingo**	**21.79**	**101**	*eP*	**P**	**15 50 06.1**	**+0.4**
	7.9nm,1.0s						
V41A	**Mountainview**	**21.84**	**0**	P	**P**	**15 50 06.1**	**+0.2**
	baz=180						
W49A	**Belvidere**	**21.86**	**13**	P	**P**	**15 50 05.6**	**-0.5**
	baz=195,SNR=7.6						
V42A	**Cord**	**21.87**	**2**	P	**P**	**15 50 06.0**	**-0.2**
	baz=182,SNR=5.1						
X52A	**Dahlonega**	**22.01**	**19**	P	**P**	**15 50 08.9**	**+1.2**
	baz=200						
SWET	**Sewanee**	**22.03**	**14**	*eP*	**P**	**15 50 07.2**	**-0.8**
	57nm,1.6s						
X53A	**Estanollee**	**22.11**	**20**	P	**P**	**15 50 08.4**	**-0.4**
	baz=203						
W50A	**Signal Mountai**	**22.16**	**15**	*eP*	**P**	**15 50 08.5**	**-0.9**
	18nm,1.0s						
W50A	**Signal Mountai**	**22.16**	**15**	P	**P**	**15 50 09.5**	**0.0**
	baz=198						
V46A	**Holladay**	**22.17**	**9**	P	**P**	**15 50 07.8**	**-1.7**
	baz=190,SNR=5.5						
MSTX	**Muleshoe**	**22.17**	**336**	*eP*	**P**	**15 50 09.1**	**-0.5**
	37nm,0.9s						
MSTX	**Muleshoe**	**22.17**	**336**	P	**P**	**15 50 10.3**	**+0.6**
	baz=152,SNR=13						
TUL1	**Leonard**	**22.19**	**352**	*eP*	**P**	**15 50 08.6**	**-1.1**
	19nm,0.9s						
TUL1	**Leonard**	**22.19**	**352**	P	**P**	**15 50 08.9**	**-0.7**
	baz=170						
W51A	**Cleveland**	**22.27**	**16**	P	**P**	**15 50 10.3**	**-0.3**
	baz=199,SNR=5.2						
V47A	**Nunnelly**	**22.29**	**10**	P	**P**	**15 50 09.9**	**-0.9**
	baz=192						
V48A	**Smith Brothers**	**22.34**	**12**	*eP*	**P**	**15 50 09.3**	**-1.9**
	25nm,0.9s						
V48A	**Smith Brothers**	**22.34**	**12**	P	**P**	**15 50 10.3**	**-0.9**
	baz=194,SNR=12						
U41A	**Viola**	**22.40**	**1**	P	**P**	**15 50 11.7**	**-0.1**
	baz=180						
U40A	**Yellville**	**22.41**	**359**	P	**P**	**15 50 10.2**	**-1.8**
	baz=178						
U42A	**Revenden**	**22.42**	**2**	P	**P**	**15 50 11.3**	**-0.8**
	baz=182						
V49A	**McMinnville**	**22.56**	**14**	P	**P**	**15 50 13.6**	**0.0**
	baz=196,SNR=5.7						
AMTX	**Amarillo**	**22.59**	**340**	*eP*	**P**	**15 50 14.1**	**0.0**
	80nm,0.8s						
AMTX	**Amarillo**	**22.59**	**340**	P	**P**	**15 50 14.4**	**+0.2**
	baz=155						
CPCT	**Cooper Cave**	**22.61**	**17**	*eP*	**P**	**15 50 13.2**	**-0.9**
	15nm,0.8s						
JSC	**Jenkinsville**	**22.66**	**24**	*eP*	**P**	**15 50 14.0**	**-0.7**
	11nm,0.9s						
V50A	**Pikevile**	**22.66**	**15**	P	**P**	**15 50 15.0**	**+0.3**
	baz=198,SNR=6.3						
BG3	**Lake Jocassee**	**22.68**	**20**	*eP*	**P**	**15 50 14.3**	**-0.6**
	48nm,1.6s						
W53A	**Cullowhee**	**22.76**	**20**	P	**P**	**15 50 16.6**	**+0.7**
	baz=203						
PAULI	**Pauline**	**22.92**	**23**	*eP*	**P**	**15 50 16.7**	**-0.6**
	39nm,1.6s						
U47A	**Clarksville**	**22.93**	**10**	P	**P**	**15 50 14.9**	**-2.6**
	baz=192						
V51A	**Loudon**	**22.99**	**17**	*eP*	**P**	**15 50 17.2**	**-0.9**
	29nm,1.1s						
V51A	**Loudon**	**22.99**	**17**	P	**P**	**15 50 18.1**	**0.0**
	baz=200,SNR=6.8					

ANMO **Albuquerque** **24.59 331** P **P** **15 50 34.4 +1.0**
6.9nm,1.1s,baz=154,slow=13,SNR=11
ANMO **Albuquerque** **24.59 331** *e*P **P** **15 50 34.6 +1.2**
12nm,1.3s
ANMO **Albuquerque** **24.59 331** P **P** **15 50 34.2 +0.8**
baz=145
R45A **Skylar, Fairfi** **24.60 8** P **P** **15 50 32.6 -0.5**
baz=189
T52A **Hallie** **24.60 18** P **P** **15 50 32.5 -0.7**
baz=202
R46A **Gibon Southern** **24.63 9** P **P** **15 50 33.5 +0.1**
baz=191
S49A **Springfield** **24.63 13** P **P** **15 50 32.1 -1.4**
baz=196,SNR=10
S50A **Richmond** **24.74 15** P **P** **15 50 33.8 -0.7**
baz=198,SNR=7.5
WCI **Wyandotte Cave** **24.85 11** *e*P **P** **15 50 34.1 -1.3**
40nm,0.8s
WCI **Wyandotte Cave** **24.85 11** P **P** **15 50 34.4 -1.1**
baz=194
R47A **Wooly Knot Far** **24.87 11** P **P** **15 50 34.8 -0.8**
baz=193,SNR=6.4
S51A **Beattyville** **24.92 17** *e*P **P** **15 50 34.5 -1.6**
16nm,0.9s
S51A **Beattyville** **24.92 17** P **P** **15 50 35.0 -1.1**
baz=200
TUC **Tucson** **24.97 320** *e*P **P** **15 50 37.9 +1.2**
5.5nm,1.0s
ATAH **Atahualpa** **25.00 146** LR LR 15 57 56.1
comp=Z,196nm,18.0s,baz=321,slow=31
Q41A **Truxton** **25.02 2** P **P** **15 50 37.5 +0.5**
baz=182
OLIL **Olney** **25.05 8** *e*P **P** **15 50 36.0 -1.3**
23nm,0.8s
R48A **Northridge Ran** **25.10 12** P **P** **15 50 36.9 -0.8**
baz=194
S52A **Salyersville** **25.10 17** P **P** **15 50 37.3 -0.5**
baz=201
R49A **Shelbyville** **25.14 13** P **P** **15 50 36.9 -1.2**
baz=196,SNR=6.7
Q45A **Warren Harvey,** **25.21 8** P **P** **15 50 38.3 -0.3**
baz=189
R50A **Paris** **25.33 15** P **P** **15 50 38.9 -0.9**
baz=198
KSU1 **Kansas State U** **25.43 352** *e*P **P** **15 50 39.6 -1.2**
12nm,0.7s
KSU1 **Kansas State U** **25.43 352** P **P** **15 50 41.0 +0.2**
baz=170
SJG **San Juan** **25.46 77** LR LR 16 01 32.0
comp=Z,523nm,19.0s,baz=271,slow=39
Q47A **Bedord North L** **25.51 11** P **P** **15 50 40.7 -0.8**
baz=193
R51A **Hillsboro** **25.54 16** P **P** **15 50 41.0 -0.7**
baz=200
T25A **Trinidad** **25.59 337** *e*P **P** **15 50 43.9 +1.5**
30nm,0.9s
T25A **Trinidad** **25.59 337** P **P** **15 50 44.1 +1.7**
baz=152,SNR=17
R52A **Catlettsburg** **25.84 18** P **P** **15 50 44.1 -0.3**
baz=202
Q49A **Aurora** **25.89 13** P **P** **15 50 43.8 -1.1**
baz=196
Q50A **Georgetown** **25.95 15** P **P** **15 50 44.5 -0.9**
baz=198
X18A **Snowflake** **26.06 325** *e*P **P** **15 50 46.4 -0.3**
7.1nm,1.0s
P48A **Milroy** **26.21 12** P **P** **15 50 46.7 -1.0**
baz=195
Q51A **Peebles** **26.29 16** *e*P **P** **15 50 46.8 -1.7**
18nm,0.9s
Q51A **Peebles** **26.29 16** P **P** **15 50 47.9 -0.5**
baz=200
P49A **Miami Univ. Ec** **26.43 13** P **P** **15 50 49.3 -0.5**
baz=196
Q52A **Bidwell** **26.53 18** P **P** **15 50 49.9 -0.7**
baz=202,SNR=5.0
SDCO **Great Sand Dun** **26.54 336** *e*P **P** **15 50 52.1 +1.0**
15nm,1.2s
SDCO **Great Sand Dun** **26.54 336** P **P** **15 50 53.3 +2.2**
baz=150,SNR=13
X16A **Lo Mia Camp, P** **26.83 323** *e*P **P** **15 50 55.1 +1.5**
4.4nm,0.8s
S22A **4UR Ranch, Cre** **27.09 334** *e*P **P** **15 50 57.8 +1.7**
16nm,1.0s
S22A **4UR Ranch, Cre** **27.09 334** P **P** **15 50 58.6 +2.5**
baz=147,SNR=18
P53A **Whipple** **27.28 19** *e*P **P** **15 50 56.9 -0.5**
39nm,1.4s
P53A **Whipple** **27.28 19** P **P** **15 50 57.0 -0.3**
baz=203
N46A **Monticello** **27.37 9** P **P** **15 50 57.9 -0.3**
baz=191
MVCO **Mesa Verde** **27.39 331** *e*P **P** **15 51 00.3 +1.6**
24nm,0.9s
MVCO **Mesa Verde** **27.39 331** P **P** **15 51 01.3 +2.6**
baz=144,SNR=12
O51A **Pataskala** **27.53 16** P **P** **15 50 58.6 -1.0**
baz=200
N48A **Decatur** **27.64 12** P **P** **15 50 59.3 -1.3**
baz=195
O52A **Adamsville** **27.72 17** *e*P **P** **15 51 00.2 -1.2**
37nm,1.4s
O52A **Adamsville** **27.72 17** P **P** **15 51 00.5 -0.8**
baz=202
PV01 **Paradox Valley** **28.17 332** *e*P **P** **15 51 07.2 +1.6**
PV13 **Radium Mtn., P** **28.31 332** *e*P **P** **15 51 08.3 +1.4**
17nm,1.0s
PV02 **Paradox Valley** **28.31 332** *e*P **P** **15 51 08.4 +1.5**
26nm,1.3s
SMCO **Snowmass** **28.36 335** *e*P **P** **15 51 08.6 +1.1**
17nm,1.4s
PV05 **Paradox Valley** **28.37 331** *e*P **P** **15 51 08.9 +1.5**
ISCO **Idaho Springs** **28.38 338** *e*P **P** **15 51 08.6 +1.0**
13nm,1.7s
ISCO **Idaho Springs** **28.38 338** P **P** **15 51 09.5 +2.0**
baz=152
PDMCI **Parker Dam,Lak** **28.39 320** P **P** **15 51 08.9 +1.5**
baz=130
PV03 **Paradox Valley** **28.40 332** *e*P **P** **15 51 08.8 +1.1**
PV18 **Skein Mesa, Pa** **28.42 332** *e*P **P** **15 51 09.0 +1.1**
27nm,1.2s
PV12 **Saucer Basin,** **28.43 332** *e*P **P** **15 51 09.5 +1.5**
27nm,1.0s
PV11 **David Mesa, Pa** **28.45 332** *e*P **P** **15 51 09.1 +1.0**
85nm,1.8s
PV17 **East Wray Mesa** **28.47 332** *e*P **P** **15 51 09.0 +0.7**
17nm,1.0s
PV16 **Nyswonger Mesa** **28.48 332** *e*P **P** **15 51 09.5 +1.1**
17nm,1.0s
PV19 **Morning Glory** **28.50 332** *e*P **P** **15 51 09.9 +1.3**
23nm,1.3s
PV20 **West Nyswonger** **28.52 332** *e*P **P** **15 51 10.2 +1.5**
47nm,1.7s
PV14 **Lion Creek, Pa** **28.57 332** *e*P **P** **15 51 10.3 +1.1**
71nm,1.8s
PV10 **Paradox Valley** **28.59 332** *e*P **P** **15 51 10.5 +1.1**
PV22 **Blue Mesa, Par** **28.60 332** *e*P **P** **15 51 11.1 +1.6**
38nm,1.5s
PV23 **Carpenter Ridg** **28.63 332** *e*P **P** **15 51 11.3 +1.5**
17nm,0.9s
PV09 **Paradox Valley** **28.73 332** *e*P **P** **15 51 12.0 +1.3**
U15A **North Rim** **28.75 325** *e*P **P** **15 51 12.2 +1.3**
4.5nm,0.9s
BC3 **Big Chuckawall** **28.83 317** P **P** **15 51 14.0 +2.5**
baz=127
IRM **Iron Mountain** **28.94 318** P **P** **15 51 14.2 +1.9**
baz=128
N54A **Moraine State** **29.06 19** *e*P **P** **15 51 12.0 -1.3**
18nm,0.9s
N54A **Moraine State** **29.06 19** P **P** **15 51 12.6 -0.7**
baz=205
KNB **Kanab** **29.47 325** *e*P **P** **15 51 18.5 +1.4**
14nm,1.5s
SSPA **Standing Stone** **29.50 23** P **P** **15 51 16.6 -0.5**
baz=209
GMRC **Granite Mounta** **29.66 319** P **P** **15 51 21.2 +2.4**
baz=129
O20A **White River Ci** **29.69 335** *e*P **P** **15 51 20.3 +1.2**
22nm,1.3s
O20A **White River Ci** **29.69 335** P **P** **15 51 21.7 +2.7**
baz=147
SRU **San Rafael Swe** **29.87 331** *e*P **P** **15 51 22.4 +1.8**
16nm,1.5s
MTPU **Mount Pierson** **29.87 327** *e*P **P** **15 51 22.4 +1.5**
2.6nm,0.8s
NNA **Nana** **29.89 148** LR LR 16 00 34.5
comp=Z,142nm,19.2s,baz=325,slow=31
CCUT **Cedar City** **30.15 325** *e*P **P** **15 51 25.2 +2.0**
7.0nm,1.0s
P17A **Butcher Ranch,** **30.26 331** *e*P **P** **15 51 25.3 +1.2**
7.4nm,0.8s
TMUT **Trail Mountain** **30.34 330** *e*P **P** **15 51 26.6 +1.6**
6.5nm,1.0s
ELFO **Elginfield** **30.72 16** P **P** **15 51 25.6 -2.3**
baz=201
TYNO **Tyneside** **31.04 18** P **P** **15 51 29.2 -1.5**
baz=204
MPU **Maple Canyon** **31.11 330** *e*P **P** **15 51 33.2 +1.6**
9.0nm,1.1s
PSUT **Pine Spring** **31.13 326** *e*P **P** **15 51 33.6 +1.8**
7.6nm,1.0s
K22A **Casper** **31.22 340** P **P** **15 51 33.7 +1.1**
baz=152
BASO **Ashfield** **31.40 15** P **P** **15 51 32.8 -1.1**
baz=200
ACTO **Acton** **31.45 17** P **P** **15 51 33.2 -1.2**
baz=203
MPMC **Manual Prospec** **31.62 319** P **P** **15 51 38.7 +2.5**
baz=128,SNR=5.9
RSSD **Black Hills** **31.80 344** *e*P **P** **15 51 38.4 +0.8**
4.1nm,0.8s
TCUT **Toone Canyon** **31.87 332** *e*P **P** **15 51 40.3 +1.9**
48nm,1.2s
R11A **Troy Canyon, C** **31.96 324** P **P** **15 51 41.6 +2.5**
baz=133
GRAC **Grapevine Rang** **32.13 320** P **P** **15 51 43.0 +2.6**
baz=129
CLWO **Collingwood** **32.16 16** P **P** **15 51 39.6 -1.0**
baz=202
CWC **Cottonwood Cre** **32.23 319** P **P** **15 51 42.7 +1.2**
baz=127
BW06 **Boulder Array** **32.44 336** *e*P **P** **15 51 44.5 +1.2**
8.6nm,1.3s
PD31 **Pinedale Array** **32.44 336** *e*P **P** **15 51 44.5 +1.2**
PDAR **Pinedale Array** **32.44 336** P **P** **15 51 44.4 +1.0**
3.1nm,1.0s,baz=134,slow=7.8,SNR=13
PDAR LR LR 16 08 30.3
comp=Z,108nm,18.5s,baz=187,slow=43
PDAR **Pinedale Array** **32.44 336** *e*P **P** **15 51 44.1 +0.8**
SADO **Sadowa** **32.78 17** P **P** **15 51 44.1 -1.8**
6.5nm,0.9s,baz=234,slow=12,SNR=4.6
DELO **Deloro Mine** **33.02 19** P **P** **15 51 46.5 -1.6**
baz=206
HVU **Hansel Valley** **33.02 331** *e*P **P** **15 51 49.7 +1.3**
10nm,0.9s
AHID **Auburn Hatcher** **33.07 334** *e*P **P** **15 51 49.4 +0.6**
16nm,1.2s
BUKO **Buck Lake** **33.32 17** P **P** **15 51 49.4 -1.3**
baz=203
BANO **Bancroft** **33.37 19** P **P** **15 51 49.5 -1.6**
baz=206
REDW **Red Top Meadow** **33.46 335** *e*P **P** **15 51 53.1 +0.9**
45nm,1.0s
SNOW **Snow King Moun** **33.50 335** *e*P **P** **15 51 53.9 +1.3**
47nm,0.8s
NV11 **Mina Array Sit** **33.52 322** *e*P **P** **15 51 54.7 +1.9**
0.7nm,0.9s
LOHW **Long Hollow** **33.56 336** *e*P **P** **15 51 53.8 +0.7**
16nm,0.9s
MDPB **Devils Postpil** **33.59 320** *e*P **P** **15 51 55.2 +1.8**
14nm,0.3s
TPAW **Te Pass** **33.60 335** *e*P **P** **15 51 54.9 +1.4**
35nm,1.3s
NV01 **Mina Array Sit** **33.61 322** *e*P **P** **15 51 55.3 +1.7**
NVAR **Mina Array Bea** **33.61 322** P **P** **15 51 56.5 +2.9**
7.7nm,0.8s,baz=138,slow=8.9,SNR=40
NVAR LR LR 16 06 41.1
comp=Z,290nm,18.3s,baz=134,slow=38
MOOW **Moose Ponds** **33.73 336** *e*P **P** **15 51 55.6 +1.1**
10.0nm,1.0s
FXWY **Fox Creek** **33.76 335** *e*P **P** **15 51 56.2 +1.4**
8.8nm,1.0s
KVN **Kaiserville** **33.89 323** *e*P **P** **15 51 57.9 +1.9**
6.1nm,1.0s
IMW **Indian Meadow** **33.94 336** *e*P **P** **15 51 57.5 +1.0**
8.6nm,0.9s
PEMO **Pembroke** **34.17 19** P **P** **15 51 56.5 -1.6**
baz=206
ALGO **Algonquin Park** **34.18 18** P **P** **15 51 56.4 -1.7**
baz=205
BMN **Battle Mountai** **34.31 325** *e*P **P** **15 52 00.4 +0.8**
YFT **Old Faithful** **34.36 336** *e*P **P** **15 52 01.3 +1.3**
13nm,1.1s
MDND **Maddock** **34.43 351** P **P** **15 52 00.1 -0.3**
baz=167
YERR **Yerington** **34.53 321** *e*P **P** **15 52 03.5 +1.9**
7.3nm,1.1s
ORIO **Orleans, Innes** **34.55 21** P **P** **15 51 59.8 -1.5**
baz=209
YMR **Madison River** **34.59 336** *e*P **P** **15 52 02.2 +0.2**
14nm,1.0s
YHH **Holmes Hill** **34.64 336** *e*P **P** **15 52 04.1 +1.6**
13nm,1.4s
CMB **Columbia Colle** **34.66 319** *e*P **P** **15 52 03.3 +0.8**
4.5nm,1.3s
E54A **Lac Daplat, Po** **34.87 18** P **P** **15 52 02.4 -1.7**
baz=206
QLMT **Earthquake Lak** **34.91 336** *e*P **P** **15 52 06.4 +1.6**
PTGA **Pitinga** **35.14 112** LR LR 16 06 43.6
comp=Z,188nm,20.1s,baz=264,slow=37
PTGA **Pitinga** **35.14 112** *e*P **P** **15 52 07.0 +0.1**
14nm,1.0s
HLID **Hailey** **35.17 332** *e*P **P** **15 52 08.4 +1.4**
13nm,1.0s
HLID **Hailey** **35.17 332** P **P** **15 52 09.2 +2.3**
baz=140,SNR=14
D53A **Lac Vacive, Po** **35.30 17** P **P** **15 52 06.8 -1.0**
baz=205
MCMT **McKenzie Canyo** **35.48 334** *e*P **P** **15 52 11.2 +1.5**
BOZ **Bozeman (W)** **35.62 336** *e*P **P** **15 52 11.9 +1.2**
6.7nm,1.2s
D54A **Lac Fusel, La** **35.68 18** P **P** **15 52 09.6 -1.4**
baz=206
BEKR **Beckworth** **35.76 322** *e*P **P** **15 52 13.6 +1.6**
6.5nm,1.0s
DLMT **Dillon** **35.81 335** *e*P **P** **15 52 14.2 +1.8**
22nm,1.0s
ORV **Oroville** **36.26 320** *e*P **P** **15 52 17.8 +1.6**
13nm,1.4s
ULM **Lac du Bonnet** **36.41 356** LR LR 16 10 15.8
comp=Z,232nm,18.9s,baz=231,slow=41
WVOR **Wild Horse Val** **36.46 326** *e*P **P** **15 52 19.2 +1.2**
10nm,1.2s
J08A **Circle Bar Ran** **37.02 328** *e*P **P** **15 52 23.9 +1.3**
23nm,1.0s
EGMT **Eagleton** **37.03 340** *e*P **P** **15 52 23.4 +0.7**
36nm,1.6s
EGMT **Eagleton** **37.03 340** P **P** **15 52 24.7 +2.0**
baz=151
LATQ **La Tuque** **37.18 22** P **P** **15 52 23.6 -0.2**
baz=212
LSQQ **Lebel-sur-Quev** **37.30 17** P **P** **15 52 24.0 -0.8**
baz=205
BMO **Blue Mountains** **37.51 330** *e*P **P** **15 52 27.9 +1.1**
3.7nm,0.9s
MSO **Missoula** **37.55 335** *e*P **P** **15 52 28.0 +0.9**
13nm,1.0s
MSO **Missoula** **37.55 335** P **P** **15 52 29.0 +1.9**
baz=144,SNR=7.7
MATQ **Matagami** **37.76 16** P **P** **15 52 27.1 -1.7**
baz=203
I07A **Izee** **38.05 328** *e*P **P** **15 52 32.3 +0.8**
7.3nm,1.0s
F10A **Beach Ranch, E** **38.30 332** *e*P **P** **15 52 33.6 +0.1**
24nm,0.9s
CHGQ **Chibougamau** **38.83 18** P **P** **15 52 35.9 -1.8**
baz=208
WALA **Waterton Lakes** **39.36 338** *e*P **P** **15 52 42.0 -0.3**
12nm,1.0s
I04A **Tendick Farm,** **39.43 325** P **P** **15 52 43.5 +0.6**
baz=130
D08A **Wollman Farm,** **39.89 331** *e*P **P** **15 52 47.5 +0.9**
12nm,1.3s
NEW **Newport** **40.00 334** P **P** **15 52 50.2 +2.6**
baz=140
LTY **Liberty** **40.86 330** *e*P **P** **15 52 56.0 +1.3**
21nm,1.5s
B08A **Colville Reser** **41.04 332** *e*P **P** **15 52 57.0 +0.8**
28nm,1.9s
LON **Longmire** **41.07 329** *e*P **P** **15 52 57.4 +1.0**
9.4nm,1.0s
SIV **San Ignacio** **42.79 133** P **P** **15 53 09.6 -1.2**
3.4nm,1.1s,baz=327,slow=9.4,SNR=10
SIV LR LR 16 10 05.3
comp=Z,106nm,18.1s,baz=288,slow=35
RPN **Rapa Nui** **43.97 202** LR LR 16 06 32.5
comp=Z,148nm,20.2s,baz=344,slow=29
SCHQ **Schefferville** **45.45 20** LR LR 16 13 14.8
comp=Z,730nm,20.5s,baz=237,slow=37
YKA **Yellowknife Ar** **51.10 347** P **P** **15 54 15.5 +0.6**
14nm,0.7s,baz=149,slow=7.3,SNR=50
YKA PcP **PcP** **15 55 29.8 -0.3**
2.3nm,0.8s,baz=152,slow=3.7,SNR=5.6
YKB5 **Yellowknife Ar** **51.10 347** *e*P **P** **15 54 15.2 +0.2**
YKW3 **Yellowknife Ar** **51.16 347** *e*P **P** **15 54 15.3 -0.1**
22nm,0.9s
DLBC **Dease Lake** **52.67 336** P **P** **15 54 29.4 +2.5**
19nm,0.9s,baz=150,slow=5.6,SNR=18
DLBC **Dease Lake** **52.67 336** *e*P **P** **15 54 28.9 +2.0**
18nm,0.8s
BDFB **Brasilia** **52.68 122** LR LR 16 16 46.8
comp=Z,139nm,18.3s,baz=214,slow=36
PLCA **Paso Flores** **57.93 161** LR LR 16 15 22.1
comp=Z,74nm,18.5s,baz=52,slow=31
INK **Inuvik** **60.50 344** P **P** **15 55 23.6 +1.4**
16nm,0.9s,baz=122,slow=7.9,SNR=26
INK **Inuvik** **60.50 344** *e*P **P** **15 55 22.9 +0.7**
22nm,1.0s
RES **Resolute Bay** **60.84 359** P **P** **15 55 23.8 -0.6**
4.1nm,0.9s,baz=179,slow=5.7,SNR=4.5
DOT **Dot Lake** **61.24 336** *e*P **P** **15 55 27.6 +0.2**
52nm,1.9s
GHO **Glory Hole Cre** **62.40 333** *e*P **P** **15 55 35.2 0.0**
24nm,1.0s
HDA **Harding Lake** **62.72 337** P **P** **15 55 37.8 +0.5**
baz=117
IL1 **Eielson Array** **62.86 337** *e*P **P** **15 55 37.4 -0.8**
ILAR **Eielson Array** **62.86 337** P **P** **15 55 39.2 +1.0**
7.3nm,1.0s,baz=134,slow=4.9,SNR=31
ILB **Eielson Array** **62.86 337** *e*P **P** **15 55 38.4 +0.2**
RND **Reindeer** **63.04 335** *e*P **P** **15 55 40.6 +1.1**
22nm,1.0s
CCB **Clear Creek Bu** **63.16 337** *e*P **P** **15 55 39.9 -0.2**
5.5nm,1.0s
MCK **McKinley** **63.21 335** *e*P **P** **15 55 41.4 +0.8**
37nm,1.5s
POKR **Poker Plat Res** **63.23 337** P **P** **15 55 41.8 +1.1**
baz=117
COLA **College** **63.28 337** *e*P **P** **15 55 41.1 +0.2**
15nm,1.1s
TCOL **CIGO, UAF Yank** **63.28 337** P **P** **15 55 42.2 +1.3**
baz=116
BWN **Browne** **63.61 336** *e*P **P** **15 55 43.4 +0.3**
176nm,1.9s
TRF **Thorofare Moun** **63.65 335** *e*P **P** **15 55 43.7 +0.1**
22nm,1.2s
MLY **Manley** **64.46 336** *e*P **P** **15 55 48.8 0.0**
18nm,1.1s
PPT **Papeete** **64.58 243** LR LR 16 16 14.0
comp=Z,102nm,20.0s,baz=332,slow=29
COLD **Coldfoot** **65.16 339** *e*P **P** **15 55 54.0 +0.8**
10nm,1.6s
TOLK **Toolik Lake Re** **65.56 340** *e*P **P** **15 55 56.2 +0.3**
8.7nm,1.2s
TOLK **Toolik Lake Re** **65.56 340** P **P** **15 55 57.3 +1.4**
baz=116
ESDC **Sonseca Array** **80.02 52** P **P** **15 57 20.1 -2.0**
1.1nm,0.7s,baz=284,slow=5.3,SNR=6.0
ES19 **SONSECA Array** **80.06 52** *e*P **P** **15 57 20.3 -2.1**
BILL **Bilibino** **81.49 338** *e*P **P** **15 57 29.4 +0.1**
8.9nm,0.7s
NOA **NORSAR Array B** **84.40 28** LR LR 16 38 02.8
comp=Z,44nm,19.6s,baz=295,slow=38
GERES **GERESS Array B** **89.89 39** P **P** **15 58 12.3 +0.8**
0.4nm,0.6s,baz=205,slow=5.9,SNR=3.8
TIXI **Tiksi** **90.34 348** P **P** **15 58 13.6 +0.6**
1.3nm,0.3s,baz=20,slow=5.6,SNR=5.3
TIXI **Tiksi** **90.34 348** *e*P **P** **15 58 12.9 -0.2**
3.1nm,0.8s
TORD **Torodi Ar. Bea** **90.68 76** P **P** **15 58 14.7 -1.1**
0.9nm,0.9s,baz=267,slow=3.0,SNR=3.5
FINES **FINESS Array B** **90.74 25** LR LR 16 38 58.6
comp=Z,32nm,18.8s,baz=262,slow=36
NRIK **Noril'sk** **97.02 0** LR LR 16 47 22.4
comp=Z,210nm,18.8s,baz=27,slow=38
URZ **Urewera** **98.91 233** LR LR 16 38 00.6
comp=Z,52nm,19.1s,baz=184,slow=32
WRA **Warramunga Arr** **135.09 256** PKP **PKPdf** **16 04 33.6 +1.2**
0.5nm,0.8s,baz=89,slow=4.6,SNR=4.2
ASAR **Alice Springs** **135.36 250** PKP **PKPdf** **16 04 32.1 -0.7**
0.4nm,0.8s,baz=77,slow=2.7,SNR=3.3
CHTO **Chiang Mai** **145.70 341** *e*PKPdf **PKPab** **16 04 51.6 -0.6**
CMAR **Chiang Mai Arr** **146.04 341** PKPbc **PKPab** **16 04 53.8 +0.3**
11nm,0.8s,baz=343,slow=4.1,SNR=54
HYB **Hyderabad** **147.64 17** *i* PKP **PKPbc** **16 04 58.0 +0.4**

MAN 11 15:56:41.4, 6°.51N × 123°.73E, h35km, mb4.4, ML3.2, MS3.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
SKMP	**Bagumbayan, Su**	**0.81**	**89**	*e*P		Pn	15 56 56.9	+0.6
SKMP				*e*S		Sn	15 57 06.6	-0.6
CTBH	**Cotabato--PC H**	**0.87**	**36**	*i*P		Pn	15 56 57.8	+0.6
CTBH				*i*S		Sn	15 57 09.7	+1.0
PAGZ	**Pagadian**	**1.37**	**346**	*e*P		Pn	15 57 04.5	+0.4
PAGZ				*e*S		Sn	15 57 17.3	-3.7
BUKP	**Musuan**	**1.90**	**44**	*e*P		Pn	15 57 14.5	+3.2
BUKP				*e*S		Sn	15 57 33.0	-1.0
DDMP	**Don Marcelino,**	**2.01**	**101**	*e*P		Pn	15 57 17.1	+4.2
DDMP				*e*S		Sn	15 57 36.1	-0.7

UCR 11 16:05:12.0±2.0, 12°.41N × 87°.84W, h38km ± 161km, ML3.6, 2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**0.82**	**69**	*e*P		Pn	16 05 28.3	+1.2
CRIN				*e*S		Sn	16 05 40.2	+2.1
LCND	**La Ca˜–ada**	**0.90**	**357**	↓*i*P		Pn	16 05 28.8	+0.6
LCND				*e*S		Sn	16 05 40.4	+0.4
LCND				IAML			16 05 42.9	
	comp=Z,3μm,0.3s							
TELN	**Telica**	**1.00**	**78**	*e*P		Pn	16 05 29.8	+0.2
TELN				*e*S		Sn	16 05 43.7	+1.1
LCY	**Lacayo**	**1.11**	**336**	*e*P		Pn	16 05 32.0	+0.9
LCY				*e*S		Sn	16 05 45.5	+0.4
PACA	**Pacayal**	**1.16**	**336**	*e*P		Pn	16 05 32.5	+0.7
PACA				*e*S		Sn	16 05 47.4	+0.8
PACA				IAML			16 05 48.7	
	comp=E,8μm,0.2s							
TECA	**Tecapa**	**1.26**	**329**	*e*P		Pn	16 05 34.0	+0.6
TECA				*e*S		Sn	16 05 49.5	+0.4
MOMN	**Momotombo**	**1.27**	**90**	*e*P		Pn	16 05 33.0	-0.2
MOMN				*e*S		Sn	16 05 48.8	-0.2
MOMN				IAML			16 05 50.7	
	comp=Z,198nm,0.4s							
UESV	**Ojushtada**	**1.34**	**316**	*e*P		Pn	16 05 37.6	+3.3
UESV				*e*S		Sn	16 05 56.0	+5.1
UESV				IAML			16 06 00.1	
	comp=Z,713nm,0.3s							
MGAN	**Managua**	**1.57**	**99**	*e*P		Pn	16 05 36.5	-0.9
MGAN				*e*S		Sn	16 05 56.1	-0.4
ESTN	**Estel**	**1.59**	**64**	*e*P		Pn	16 05 37.9	+0.2
LFRS	**El Faro**	**1.70**	**316**	*e*P		Pn	16 05 39.9	+0.6
LFRS				*e*S		Sn	16 06 00.1	+0.2
TGUH	**Tegucigalpa,Un**	**1.73**	**18**	*e*P		Pn	16 05 40.5	+0.9
TGUH				↓*e*P			16 05 40.5	
MATN	**Matagalpa**	**1.94**	**74**	*e*P		Pn	16 05 41.7	-0.7

IDC ***11*** *16:10:03.2±0.5, 10°.77N × 126°.78E, h0km, mb4.1/17, mb1 4.2/17, mb1mx4.0/39, mbtmp4.1/17, ML3.5/1, MS3.1/4, Ms1 3.1/4, ms1mx2.7/46, Error ellipse: s-maj=27.5km s-min=12.1km az=78.0*

ISCJB ***11*** *16:10:04.1±1.8, 10°.77N±0°.03 × 126°.87E±0°.04, h20km±13km, mb4.2/26, MS2.9/2, Error ellipse: s-maj=7.2km s-min=5.4km az=174.2*

MAN ***11*** *16:10:06.2, 10°.81N × 126°.77E, h33km, mb5.0, ML4.0, MS4.0*

NEIC ***11*** *16:10:07.2±2.4, 10°.76N × 126°.86E, h28km±17km, mb4.5/10, Error ellipse: s-maj=9.6km s-min=5.6km az=79.0*

ISC 11 16:10:02.8±3.2, 10°.83N±0°.04 × 126°.78E±0°.06, h0km±20km, n67, σ1°.43/74, mb4.4/26, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
BESP	**Borongan**	**1.52**	**300**	*e*P		**Pn**	**16 10 31.4**	**+0.1**

BESP				*e*S		**Sn**	**16 10 49.5**	**-2.3**
PLP	**Palo**	**1.79**	**281**⇓	*e*P		**Pn**	**16 10 35.4**	**+0.3**
PLP				*e*S		**Sn**	**16 10 57.0**	**-1.5**
MSLP	**Maasin**	**2.01**	**250**	*e*P		**Pn**	**16 10 39.4**	**+1.4**
MSLP				*e*S		**Sb**	**16 11 06.2**	**+0.5**
OCLP	**Ormoc**	**2.14**	**276**	*e*P		**Pb**	**16 10 42.1**	**-0.3**
OCLP				*e*S		**Sn**	**16 11 03.2**	**-3.9**
BUTP	**Butuan**	**2.17**	**212**	*e*P		**Pn**	**16 10 39.3**	**-0.9**
BUTP				*e*S		**Sn**	**16 11 05.8**	**-2.0**
BIPH	**Bislig**	**2.66**	**189**⇓	*i*P		**Pn**	**16 10 47.4**	**+0.5**
BIPH				*i* S		**Sn**	**16 11 14.8**	**-5.1**
CNP	**Catarman**	**2.66**	**309**	*e*P		**Pn**	**16 10 47.4**	**+0.5**
CNP				*e*S		**Sn**	**16 11 16.3**	**-3.6**
CGP	**Cagayan de Oro**	**3.13**	**221**	*e*P		**Pn**	**16 10 54.8**	**+1.5**
BUKP	**Musuan**	**3.38**	**210**	*e*S		**Sn**	**16 11 38.7**	**+0.8**
DAV	**Davao City (W)**	**3.92**	**198**	*e*Pn		**Pn**	**16 11 04.9**	**+0.7**
RCP	**Roxas**	**4.02**	**281**⇑	*e*P		**Pn**	**16 11 08.6**	**+2.9**
TNTI	**Ternate**	**10.01**	**177**	*e*Pn		**Pn**	**16 12 28.5**	**+0.5**
SIJI	**Sorong**	**12.45**	**159**	Pn		**Pn**	**16 12 59.1**	**-2.3**
	0.3nm,0.3s,baz=124,slow=21,SNR=4.3							
NACB	**Ninganchiao**	**14.16**	**340**	*e*Pn		**P**	**16 13 29.3**	**-3.2**
SBUM	**Sibu**	**16.67**	**241**	*e*Pn		**Pn**	**16 13 59.1**	**+1.1**
	2.4nm,0.7s							
GUMO	**Guam**	**17.90**	**79**	LR		LR	16 19 37.5	
	comp=Z,77nm,19.6s,baz=127,slow=32							
ANA2	**Anatahan**	**19.20**	**71**	*e*P		**P**	**16 14 27.1**	**-1.3**
	81nm,0.8s							
BATI	**Baumata**	**21.12**	**189**	P		**P**	**16 14 51.0**	**+1.6**
	25nm,0.8s,baz=1.6,slow=4.9,SNR=5.6							
JCJ	**Chichijima**	**21.74**	**40**	LR		LR	16 24 23.3	
	comp=Z,55nm,18.1s,baz=114,slow=40							
JNU	**Nakatsue**	**22.51**	**9**	LR		LR	16 24 30.5	
	comp=Z,31nm,18.9s,baz=113,slow=38							
MTN	**Manton Dam**	**23.91**	**169**	*e*P		**P**	**16 15 18.2**	**-0.3**
	38nm,1.5s							
MAJO	**Matsushiro**	**27.61**	**20**	*e*P		**P**	**16 15 51.4**	**-0.6**
MJAR	**Matsushiro Arr**	**27.61**	**20**	P		**P**	**16 15 51.4**	**-0.6**
	2.5nm,1.0s,baz=203,slow=9.6,SNR=3.4							
MJAR				LR		LR	16 24 29.5	
	comp=Z,34nm,21.6s,baz=210,slow=31							
CMAR	**Chiang Mai Arr**	**27.95**	**289**	P		**P**	**16 15 54.4**	**-0.8**
	0.3nm,0.5s,baz=95,slow=7.1,SNR=5.0							
FITZ	**Fitzroy Crossi**	**28.76**	**182**	P		**P**	**16 16 02.1**	**-0.2**
	2.6nm,0.8s,baz=15,slow=12,SNR=4.8							
FITZ	**Fitzroy Crossi**	**28.76**	**182**	*e*P		**P**	**16 16 02.0**	**-0.4**
	5.8nm,1.1s							
WR1	**Warramunga Arr**	**31.47**	**166**	*e*P		**P**	**16 16 25.1**	**-1.2**
	42nm,1.9s							
WR1				*e*PcP		**PcP**	**16 19 19.7**	**-0.1**
WRA	**Warramunga Arr**	**31.47**	**166**	P		**P**	**16 16 25.1**	**-1.2**
WRA				PcP		**PcP**	**16 19 19.7**	**-0.1**
	0.8nm,0.7s,baz=345,slow=3.1,SNR=7.1							
AS31	**Alice Springs**	**34.98**	**169**	*e*P		**P**	**16 16 56.2**	**-0.8**
	0.9nm,0.7s							
ASAR	**Alice Springs**	**34.98**	**169**	P		**P**	**16 16 56.4**	**-0.6**
	0.9nm,0.8s,baz=354,slow=7.5,SNR=14							
ASAR				PcP		**PcP**	**16 19 29.8**	**+0.2**
	0.5nm,0.5s,baz=340,slow=2.5,SNR=11							
KLR	**Kul'dur**	**38.51**	**5**	P		**P**	**16 17 28.2**	**+1.5**
	1.2nm,0.5s,baz=180,slow=6.8,SNR=4.2							
SONA0	**Songino Array**	**40.68**	**339**	*e*P		**P**	**16 17 45.9**	**+0.8**
SONM	**Songino Array**	**40.68**	**339**	P		**P**	**16 17 45.9**	**+0.8**
	0.6nm,0.7s,baz=156,slow=9.3,SNR=3.8							
STKA	**Stephens Creek**	**44.77**	**162**	P		**P**	**16 18 18.1**	**-0.2**
	2.0nm,0.5s,baz=335,slow=8.8,SNR=6.9							
STKA	**Stephens Creek**	**44.77**	**162**	*e*P		**P**	**16 18 17.7**	**-0.6**
	7.1nm,1.6s							
PETK	**Petropavlovsk-**	**48.93**	**24**	P		**P**	**16 18 52.5**	**+1.8**
	2.8nm,0.7s,baz=13,slow=2.6,SNR=4.1							
PEA1	**Petropavlovsk-**	**48.93**	**24**	*e*P		**P**	**16 18 52.5**	**+1.8**
MK01	**Makanchi Array**	**51.87**	**322**	*e*P		**P**	**16 19 14.2**	**+1.2**
MK32	**Makanchi Array**	**51.89**	**322**	*e*P		**P**	**16 19 14.8**	**+1.6**
MKAR	**Makanchi Array**	**51.89**	**322**	P		**P**	**16 19 14.8**	**+1.6**
	2.3nm,0.7s,baz=123,slow=8.5,SNR=14							
MKAR	**Makanchi Array**	**51.89**	**322**	*e*P		**P**	**16 19 14.5**	**+1.3**
	20nm,0.8s							
PRZ	**Przheval'sk**	**52.53**	**316**	*e*P		**P**	**16 19 19.7**	**+1.4**
	9.2nm,0.9s							
KDJ	**Kajisay**	**53.24**	**315**	*e*P		**P**	**16 19 25.6**	**+2.1**
	3.3nm,0.7s							
NRN	**Naryn**	**53.83**	**314**	*e*P		**P**	**16 19 29.1**	**+1.1**
	14nm,1.8s							
ZALV	**Zalesovo Beam**	**54.38**	**331**	P		**P**	**16 19 31.7**	**+0.3**
	1.5nm,0.6s,baz=116,slow=6.1,SNR=5.7							
ZALV	**Zalesovo Beam**	**54.38**	**331**	*e*P		**P**	**16 19 30.9**	**-0.5**
ZAA1	**Zalesovo Array**	**54.38**	**331**	*e*P		**P**	**16 19 31.7**	**+0.3**
KURK	**Kurchatov**	**55.89**	**325**	*e*P		**P**	**16 19 43.5**	**+1.1**
	8.1nm,1.2s							
KK31	**Karatay Array**	**58.22**	**314**	*e*P		**P**	**16 19 58.9**	**-0.2**
KKAR	**Karatay Array**	**58.22**	**314**	*e*P		**P**	**16 19 58.7**	**-0.3**
TIXI	**Tiksi**	**60.79**	**1**	*e*P		**P**	**16 20 16.4**	**+0.1**
	3.7nm,1.1s							
BRVK	**Borovoye**	**61.56**	**325**	*e*P		**P**	**16 20 22.7**	**+0.9**
	17nm,1.6s							
ABKAR	**Akbulak array**	**66.78**	**319**	*e*P		**P**	**16 20 56.6**	**+0.4**
KBZ	**Khabaz**	**78.20**	**313**	P		**P**	**16 22 05.9**	**+1.5**
	2.3nm,0.8s,baz=144,slow=5.7,SNR=4.3							
ILAR	**Eielson Array**	**78.72**	**26**	P		**P**	**16 22 07.2**	**+0.4**
	0.3nm,0.9s,baz=228,slow=4.4,SNR=5.1							
ARA0	**ARCESS Array S**	**83.84**	**340**	*e*P		**P**	**16 22 34.6**	**+0.6**
ARCES	**ARCESS Array B**	**83.84**	**340**	P		**P**	**16 22 34.6**	**+0.6**
	2.9nm,0.8s,baz=72,slow=5.1,SNR=8.4							
BR101	**Keskin Array S**	**85.56**	**309**	*e*P		**P**	**16 22 43.3**	**-0.2**
BRTR	**Keskin Array B**	**85.56**	**309**	P		**P**	**16 22 43.3**	**-0.2**
	1.7nm,0.8s,baz=92,slow=4.3,SNR=6.6							
FIA0	**FINESS Array S**	**85.64**	**332**	*e*P		**P**	**16 22 43.4**	**+0.2**
FINES	**FINESS Array B**	**85.64**	**332**	P		**P**	**16 22 43.4**	**+0.2**
	3.0nm,0.8s,baz=93,slow=5.6,SNR=12							
BUR04	**Bucovina Ar. S**	**89.76**	**318**	*e*P		**P**	**16 23 03.4**	**0.0**
BUR08	**Bucovina Ar. S**	**89.76**	**319**	*e*P		**P**	**16 23 03.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**120.52**	**292**	PKP		**PKPdf**	**16 28 58.2**	**+0.8**
	0.3nm,0.6s,baz=45,slow=4.3							
TOA1	**Torodi Ar. Sit**	**120.52**	**292**	*e*PKPdf		**PKPdf**	**16 28 58.2**	**+0.8**
PLCA	**Paso Flores**	**146.51**	**156**	PKPbc		**PKPab**	**16 29 47.5**	**+0.1**
	1.6nm,0.7s,baz=246,slow=2.9,SNR=8.2							
PLCA	**Paso Flores**	**146.51**	**156**	*e*PKPdf		**PKPab**	**16 29 47.2**	**-0.3**

IDC ***11*** *16:31:48.5±1.8, 15°.69N×91°.50W, h0km, mb3.7/2, mb1 4.0/4, mb1mx3.6/35, mbtmp3.5/4, ML3.1/2, MS3.1/2, Ms1 3.1/2, ms1mx2.6/35, Error ellipse: s-maj=81.0km s-min=17.5km az=39.0*

ISCJB ***11*** *16:32:04.7±1.8, 15°.9N±0°.1×97°.05W±0°.05, h10km, mb3.7/2, MS3.3/1, Error ellipse: s-maj=17.0km s-min=7.1km az=173.5*

MEX ***11*** *16:32:09.5±0.6, 15°.96N×97°.07W, h18km±5km, MD3.6*

ISC 11 16:32:02.8±2.1, 15°.9N±0°.1×97°.09W±0°.06, h10km, n9, σ2s06/8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**1.13**	**298**	*e*P	**Pn**	**16 32 26.9**	**+2.2**
PNIG				*i* S	**Sn**	**16 32 39.8**	**-0.5**
VHO	**Vista Hermosa**	**1.26**	**16**	*e*P	**Pg**	**16 32 28.4**	**+1.4**
VHO				*i* S	**Sb**	**16 32 41.8**	**-1.2**
CMIG	**Matias Romero**	**2.45**	**60**	Pn	**Pn**	**16 32 44.0**	**+1.2**
	0.5nm,0.3s,baz=124,slow=10,SNR=4.5						
CMIG	**Matias Romero**	**2.45**	**60**	*e*P	**Pn**	**16 32 44.1**	**+1.3**
CMIG				*e*S	**Sn**	**16 33 13.2**	**+0.4**
JTS	**JuntasAbangare**	**13.05**	**114**	LR	LR	16 36 58.3	
	comp=Z,89nm,18.2s,baz=356,slow=37						
TXAR	**Lajitas Array**	**14.72**	**337**	P	P	16 35 57.0	+20
	0.0nm,0.3s,baz=143,slow=9.1,SNR=2.4						
NVAR	**Mina Array Bea**	**29.22**	**324**	P	P	16 38 23.1	+18
	0.8nm,0.8s,baz=146,slow=10,SNR=4.5						
SJG	**San Juan**	**29.66**	**81**	LR	LR	16 47 42.8	
	comp=Z,62nm,18.0s,baz=262,slow=39						
YKA	**Yellowknife Ar**	**48.19**	**349**	P	**P**	**16 40 40.1**	**-3.1**
	0.8nm,0.6s,baz=145,slow=7.8,SNR=7.3						

MEX 11 17:01:01.7±0.3, 15°.95N×98°.34W, h5km, MD3.5, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.49**	**25**	*e*P	Pg	17 01 10.7	-0.5
PNIG				*i* S	Sg	17 01 17.9	+0.3

IDC 11 17:14:26.2±8.3, 2°.85N×128°.23E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/34, mbtmp3.6/4, Error ellipse: s-maj=132.6km s-min=97.2km az=145.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.98**	**187**	P	P	17 19 12.2	+1.1
	1.2nm,0.9s,baz=349,slow=10,SNR=2.9						
WRA	**Warramunga Arr**	**23.43**	**165**	P	P	17 19 38.0	+0.8
	0.5nm,0.4s,baz=342,slow=11,SNR=24						
ASAR	**Alice Springs**	**26.93**	**168**	P	P	17 20 09.0	-0.4
	0.3nm,0.5s,baz=353,slow=7.5,SNR=24						
STKA	**Stephens Creek**	**36.80**	**161**	P	P	17 21 34.7	-1.2
	2.2nm,0.8s,baz=343,slow=6.7,SNR=3.9						

ISCJB ***11*** *17:15:30.8±0.6, 37°.30N±0°.04×37°.12E±0°.06, h6km±8km, Error ellipse: s-maj=9.3km s-min=4.3km az=139.5*

ISK ***11*** *17:15:30.0, 37°.34N×37°.14E, h6km, ML1.7/6*

DDA ***11*** *17:15:31.1, 37°.31N×37°.18E, h7km, Ml2.6*

ISC 11 17:15:30.7±1.0, 37°.32N±0°.03×37°.15E±0°.03, h9km±8km, n12, σ0s65/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.16**	**161**	PG	**Pg**	**17 15 34.2**	**0.0**
GAZ				SG	**Sg**	**17 15 36.9**	**+0.4**
KMRS	**Kahramanmaras**	**0.27**	**313**	PG	**Pg**	**17 15 35.7**	**-0.4**
KMRS				SG	**Sg**	**17 15 39.5**	**-0.2**
KUZU	**Kuzuini**	**0.55**	**186**	*i* P	**Pg**	**17 15 41.6**	**+0.2**
KUZU				*i* S	**Sn**	**17 15 53.8**	**-0.5**
ANDN	**Andirin**	**0.69**	**292**	*i* P	**Pg**	**17 15 43.1**	**-0.9**
ANDN				*i* S	**Sb**	**17 15 55.6**	**+0.9**
ELBS	**KAHRAMANMARAS**	**1.00**	**359**	*i* P	**Pb**	**17 15 50.8**	**+0.4**
ELBS				*i* S	**Sn**	**17 16 05.0**	**-0.5**
ELBS				*i* S	**Sb**	**17 16 05.6**	**+1.9**
KOZT	**Kozan**	**1.06**	**279**	PG	**Pg**	**17 15 50.7**	**-0.5**
AKCD	**Akcadag**	**1.15**	**32**	*i* P	**Pg**	**17 15 52.5**	**-0.3**
AKCD				*i* S	**Sn**	**17 16 09.3**	**+0.1**
TAHT	**Tahtakopru-Hat**	**1.22**	**219**	PN	**Pb**	**17 15 54.1**	**+0.1**
SURC	**SANLIURFA_SURC**	**1.25**	**110**	*i* P	**Pg**	**17 15 54.3**	**-0.5**
SURC				*i* S	**Sb**	**17 16 10.9**	**0.0**
DARE	**Darende-Malaty**	**1.27**	**12**	PN	**Pn**	**17 15 54.7**	**-0.2**
URFA	**Urfa**	**1.34**	**84**	PN	**Pb**	**17 15 55.9**	**-0.2**
SANL	**SANLIURFA_Merk**	**1.48**	**95**	*i* P	**Pg**	**17 15 58.8**	**-0.3**
SANL				*i* S	**Sg**	**17 16 17.9**	**-0.3**

MOS ***11*** *17:51:55.6±1.0, 36°.02N×70°.46E, h67km, mb4.7/13, Error ellipse: s-maj=10.4km s-min=4.8km az=77.1*

NEIC ***11*** *17:51:57.0±1.1, 36°.01N×70°.39E, h69km±10km, mb4.5/3, Error ellipse: s-maj=11.4km s-min=7.0km az=175.0*

IDC ***11*** *17:51:56.6±2.9, 35°.92N×70°.44E, h66km±26km, mb3.8/16, mb1 4.0/20, mb1mx3.8/44, mbtmp4.2/20, ML4.1/4, MS3.0/7, Ms1 3.0/7, ms1mx2.8/51, Error ellipse: s-maj=17.7km s-min=13.3km az=12.0*

BJI ***11*** *17:51:57.5, 36°.25N×70°.34E, h88km, mb4.3/28, mB4.6/12, Ms3.9/5, Ms7 3.9/5*

ISCJB ***11*** *17:52:00.0±0.3, 36°.20N±0°.03×70°.62E±0°.05, h110km, mb4.1/34, Error ellipse: s-maj=5.5km s-min=3.6km az=173.2*

NNC ***11*** *17:52:02.5±2.2, 36°.55N×70°.07E, h102km±27km, mb4.3, mpv4.8, Error ellipse: s-maj=20.5km s-min=12.5km az=159.0*

ISC 11 17:52:02.0±0.5, 36°.28N±0°.05×70°.49E±0°.05, h110km, n126, σ2s33/128, mb4.2/34, 14C-15D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.71**	**154**	P	Pn	17 52 40.9	-3.5
CEP				S	**Sn**	**17 53 13.0**	**-3.9**
CHCP	**Chirah Chowk**	**3.47**	**138**	P	Pn	17 52 51.2	-3.0
THW	**Thamme Wali**	**3.63**	**163**	P	Pn	17 52 52.2	-4.2
SFK	**Sufi-Kurgan**	**4.42**	**32**	⇑P	**Pn**	**17 53 07.9**	**+0.8**
	116nm,0.3s						
SFK				⇓S	**Sn**	**17 53 58.7**	**+1.0**
	56nm,0.3s						
SFK	**Sufi-Kurgan**	**4.42**	**32**	PN	**Pn**	**17 53 07.9**	**+0.8**
SFK				S	**Sn**	**17 53 58.6**	**+1.0**
SFK				pmax	pmax		
	comp=Z,116nm,0.3s						
SFK				smax	smax		
	comp=N,56nm,0.3s						
SARP	**Sargodha**	**4.71**	**157**	P	Pn	17 53 05.8	-5.1
KSH	**Kashi**	**5.40**	**52**	P	Pn	17 53 15.2	-5.2
KSH				S	Sn	17 54 09.5	-12
KSH				smax	smax		
	comp=N,730nm,0.4s						
KSH				smax	smax		
	comp=N,500nm,0.3s						
AML	**Almayashu**	**6.35**	**22**	P	**Pn**	**17 53 32.6**	**-0.7**
	SNR=311						
MNAS	**Manas**	**6.39**	**13**	⇑P	**Pn**	**17 53 32.7**	**-1.1**
	comp=N,85nm,0.9s						
MNAS				⇓S	**Sn**	**17 54 41.4**	**-3.9**
	comp=N,52nm,0.7s						
MNAS	**Manas**	**6.39**	**13**	PN	**Pn**	**17 53 32.6**	**-1.1**
MNAS				pmax	pmax		
	comp=Z,85nm,0.9s						
NRN	**Naryn**	**6.70**	**38**	*e*Pn	**Pn**	**17 53 36.5**	**-1.6**
NRN	**Naryn**	**6.70**	**38**	*e*PN	**Pn**	**17 53 36.5**	**-1.6**
UCH	**Uchtor**	**6.71**	**26**	P	**Pn**	**17 53 37.4**	**-0.9**
	SNR=91						
KK31	**Karatay Array**	**6.81**	**0**	⇓P	**Pn**	**17 53 38.3**	**-1.1**
	comp=Z,30nm,0.6s,baz=189,slow=13,SNR=554						
KK31				⇑S	**Sn**	**17 54 51.1**	**-4.3**
	comp=Z,42nm,0.6s,baz=188,slow=23						
KK31	**Karatay Array**	**6.81**	**0**	*e*Pn	**Pn**	**17 53 38.1**	**-1.2**
KK31	**Karatay Array**	**6.81**	**0**	*i* PN	**Pn**	**17 53 37.9**	**-1.4**
KK31				pmax	pmax		
	comp=Z,30nm,0.6s						
KKAR	**Karatay Array**	**6.81**	**0**	*e*Pn	**Pn**	**17 53 38.1**	**-1.2**
KKAR	**Karatay Array**	**6.81**	**0**	*e*PN	**Pn**	**17 53 38.2**	**-1.2**
EKS2	**Erkin-Say**	**6.86**	**21**	P	**Pn**	**17 53 39.6**	**-0.4**
	SNR=91						
KZA	**Kyzart**	**6.87**	**31**	P	**Pn**	**17 53 39.6**	**-0.8**
	SNR=18						
AAK	**Ala-Archa**	**7.06**	**25**	P	**Pn**	**17 53 42.3**	**-0.5**
	comp=Z,5.7nm,0.3s,baz=193,slow=7.3,SNR=99						
AAK				S	**Sn**	**17 54 59.6**	**-2.0**
	comp=Z,3.1nm,0.3s,baz=315,slow=3.0,SNR=3.1						
AAK				LR	LR	17 56 24.5	
	comp=Z,60nm,19.6s,baz=180,slow=36						
AAK	**Ala-Archa**	**7.06**	**25**	⇓P	**Pn**	**17 53 41.9**	**-0.9**
	comp=Z,64nm,1.1s						
AAK				⇓S	**Sn**	**17 55 00.1**	**-1.5**
	comp=Z,162nm,1.0s						
AAK	**Ala-Archa**	**7.06**	**25**	P	**Pn**	**17 53 42.4**	**-0.5**
	SNR=58						
AAK	**Ala-Archa**	**7.06**	**25**	*e*Pn	**Pn**	**17 53 42.2**	**-0.7**
AAK				*e*Sn	**Sn**	**17 54 59.2**	**-2.4**
KBK	**Karagaybulak**	**7.24**	**27**	P	**Pn**	**17 53 45.4**	**+0.1**
	SNR=24						
FRU1	**Bishkek**	**7.26**	**25**	*e*Pn	**Pn**	**17 53 45.4**	**0.0**
FRU1	**Bishkek**	**7.26**	**25**	*e*P	**Pn**	**17 53 45.4**	**0.0**
FRU	**Bishkek**	**7.28**	**25**	⇓*i*P	**Pn**	**17 53 44.5**	**-1.1**
FRU				*e*S	**Sn**	**17 55 03.0**	**-3.6**
FRU				pmax	pmax		
	comp=Z,105nm,1.7s						
FRU				smax	smax		
	comp=E,330nm,1.9s						
ULHL	**Ulahol**	**7.44**	**35**	P	**Pn**	**17 53 47.1**	**-0.9**
	SNR=21						
CHMS	**Chumysh**	**7.47**	**25**	P	**Pn**	**17 53 47.9**	**-0.3**
	SNR=18						
USP	**Ospenovka**	**7.63**	**23**	P	**Pn**	**17 53 49.8**	**-0.6**
	SNR=36						
TKM2	**Tokmak 2**	**7.71**	**29**	⇑P	**Pn**	**17 53 50.5**	**-1.2**
	comp=E,45nm,0.8s						
TKM2				⇑S	**Sn**	**17 55 15.1**	**-2.4**
	comp=E,32nm,1.0s						
TKM2	**Tokmak 2**	**7.71**	**29**	P	**Pn**	**17 53 51.3**	**-0.4**
	SNR=24						
TKM2	**Tokmak 2**	**7.71**	**29**	P	**Pn**	**17 53 50.4**	**-1.2**
TKM2				pmax	pmax		
	comp=Z,45nm,0.9s						
KDJ	**Kajisay**	**7.81**	**40**	*e*Pn	**Pn**	**17 53 52.8**	**-0.2**
KDJ	**Kajisay**	**7.81**	**40**	*e*P	**Pn**	**17 53 52.8**	**-0.2**
MDOK	**Medeo**	**8.53**	**34**	⇓P	**Pn**	**17 54 02.6**	**-0.1**
	comp=Z,25nm,0.9s						
PRZ	**Przheval'sk**	**8.71**	**42**	*e*Pn	**Pn**	**17 54 04.8**	**-0.3**
PRZ	**Przheval'sk**	**8.71**	**42**	*e*P	**Pn**	**17 54 04.9**	**-0.3**
PDGK	**Podgornoye**	**9.87**	**42**	⇓P	**Pn**	**17 54 18.3**	**-2.6**
	comp=Z,19nm,1.1s						
PDGK	**Podgornoye**	**9.87**	**42**	P	**Pn**	**17 54 18.2**	**-2.6**
PDGK				pmax	pmax		
	comp=Z,19nm,1.1s						
GEYT	**Alibeck**	**10.02**	**283**	P	Pn	17 54 17.9	-5.0
	comp=Z,1.3nm,0.3s,baz=117,slow=10,SNR=22						
GEYT				S	Sn	17 56 04.2	-9.3
	comp=Z,1.9nm,0.3s,baz=80,slow=40,SNR=8.7						
GEYT				LR	LR	17 59 04.1	
	comp=Z,39nm,19.2s,baz=35,slow=42						
GYA0B	**ALIBECK ARRAY**	**10.02**	**283**	⇑P	Pn	17 54 18.4	-4.5
	comp=Z,18nm,0.7s						
GYA0B				⇑S	Sn	17 56 02.0	-11
	comp=Z,115nm,1.1s						
GYA0B	**ALIBECK ARRAY**	**10.02**	**283**	*e*Pn	Pn	17 54 17.5	-5.4
OTUK	**Ortayu**	**12.03**	**6**	⇓P	**Pn**	**17 54 47.4**	**-2.4**
	comp=Z,11nm,0.9s						
OTUK	**Ortayu**	**12.03**	**6**	P	**Pn**	**17 54 47.3**	**-2.4**
OTUK				pmax	pmax		
	comp=Z,11nm,0.9s						
PYUN	**Piuthan**	**13.35**	**124**	*e*P	Pn	17 55 00.1	-7.2
	comp=Z,30nm,0.5s						
MK01	**Makanchi Array**	**13.70**	**36**	*e*Pn	**Pn**	**17 55 11.2**	**-0.3**
MKAR	**Makanchi Array**	**13.71**	**36**	P	**Pn**	**17 55 10.2**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=224,slow=13,SNR=16						
MKAR				LR	LR	18 00 40.1	
	comp=Z,48nm,20.4s,baz=251,slow=37						
DANN	**Dangsing**	**13.71**	**121**	*e*P	Pn	17 55 05.9	-6.2
KOLN	**Koldanda**	**13.97**	**124**	*e*P	Pn	17 55 08.4	-7.0
	comp=Z,10nm,0.4s						
GKN	**Gorkha**	**14.54**	**121**	*e*P	Pn	17 55 17.2	-5.4
AB31	**Akbulak array**	**15.08**	**333**	⇓P	**Pn**	**17 55 27.3**	**-1.8**
	comp=Z,35nm,0.6s						
AB31				⇓S	Sn	17 58 05.0	-11
	comp=Z,12nm,0.8s						
AB31	**Akbulak array**	**15.08**	**333**	P	**Pn**	**17 55 27.3**	**-1.8**
AB31				pmax	pmax		
	comp=Z,35nm,0.6s						
ABKAR	**Akbulak array**	**15.08**	**333**	*e*Pn	**Pn**	**17 55 26.4**	**-2.7**
DMN	**Daman**	**15.11**	**121**	*e*P	Pn	17 55 24.0	-5.9
	comp=Z,22nm,0.7s						
KKN	**Kakani**	**15.12**	**120**	*e*P	Pn	17 55 23.8	-6.1
WMQ	**Urumqi**	**15.16**	**55**	*e*P	**Pn**	**17 55 29.3**	**-0.9**
WMQ				pP	pP	17 55 44.6	-8.1
WMQ				pmax	pmax		
	comp=Z,28nm,1.1s						
PKIN	**Phulchoki**	**15.33**	**120**	*e*P	Pn	17 55 26.4	-6.3
	comp=Z,12nm,0.4s						
PKI	**Pulchoki**	**15.34**	**120**	*e*P	Pn	17 55 26.9	-6.0
	comp=Z,11nm,0.4s						
KURBB	**Kurchatov Arra**	**15.46**	**20**	P	**Pn**	**17 55 30.0**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=209,slow=11,SNR=11						
GUN	**Gumba**	**15.47**	**118**	*e*P	**Pn**	**17 55 29.8**	**-4.7**
	comp=Z,17nm,0.5s						
KURK	**Kurchatov**	**15.57**	**20**	P	**Pn**	**17 55 30.0**	**-5.2**
KURK	**Kurchatov**	**15.57**	**20**	*ce*P	**Pn**	**17 55 35.0**	**-0.2**
KURK				pmax	pmax		
	comp=Z,57nm,1.3s						
AKTO	**Aktyubinsk**	**16.77**	**331**	P	**Pn**	**17 55 49.2**	**-0.8**
	comp=Z,1.8nm,0.3s,baz=146,slow=14,SNR=58						
AKTO				S	**Sn**	**17 58 46.8**	**-10**
	comp=Z,0.3nm,0.3s,baz=324,slow=19,SNR=2.9						
AKTO				LR	LR	18 03 25.0	
	comp=Z,34nm,19.3s,baz=172,slow=40						
AKTO	**Aktyubinsk**	**16.77**	**331**	⇓P	**Pn**	**17 55 48.6**	**-1.4**
	comp=Z,57nm,0.8s						
AKTO				⇑S	**Sn**	**17 58 48.3**	**-8.0**
	comp=Z,11nm,1.1s						
BRVK	**Borovoye**	**16.78**	**360**	⇓P	**Pn**	**17 55 47.6**	**-2.5**
	comp=Z,20nm,1.3s						
BRVK	**Borovoye**	**16.78**	**360**	*e*Pn	**Pn**	**17 55 48.8**	**-1.3**
	comp=Z,13nm,0.8s						
BRVK				Sn	**S**	**17 58 57.8**	**-1.9**
BRVK	**Borovoye**	**16.78**	**360**	*e*P	**Pn**	**17 55 48.8**	**-1.3**
BRVK						17 58 57.8	
BRVK				pmax	pmax		
	comp=Z,13nm,0.8s						
POO	**Poona**	**17.93**	**170**	*e*P	Pn	17 56 17.0

OBN	**Obninsk**	**29.84**	**320**⇑	*e*P		**P**	**17 57 59.4**	**+0.9**
OBN				*e**PP		**pP**	**17 58 19.9**	**-2.9**
OBN				*e*			17 59 01.2	
OBN				*e*SS		SS	18 04 38.5	-20
OBN				pmax	pmax			
	comp=Z,9.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**30.71**	**118**	P		**P**	**17 58 05.9**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=294,slow=8.4,SNR=16							
CM01	**Chiang Mai Arr**	**30.75**	**118**	*e*P		**P**	**17 58 05.5**	**-1.4**
HHC	**Hu-ho-hao-te**	**32.22**	**69**	*e*P		**P**	**17 58 19.5**	**-0.3**
HHC				pmax	pmax			
	comp=Z,8.0nm,0.9s							
KIEV	**Kiev**	**32.77**	**309**	*i* P		**P**	**17 58 27.3**	**+3.0**
KIEV				pmax	pmax			
	comp=Z,1.0nm,0.9s							
PBKT	**Sadao Pong**	**33.40**	**118**	P		**P**	**17 58 31.6**	**+1.5**
	comp=Z,8.9nm,1.2s							
SRDT	**SRDT**	**33.64**	**123**	P		**P**	**17 58 34.0**	**+1.7**
	comp=Z,10nm,1.0s							
NRIK	**Noril'sk**	**34.42**	**11**	P		**P**	**17 58 40.6**	**+2.2**
	comp=Z,3.3nm,0.6s,baz=178,slow=9.3,SNR=3.6							
NRIK				LR		LR	18 14 35.7	
	comp=Z,53nm,20.4s,baz=146,slow=39							
CHAI	**Chaiyaphum**	**34.57**	**118**	P		**P**	**17 58 41.7**	**+1.4**
	comp=Z,3.6nm,0.9s							
FINES	**FINESS Array B**	**37.44**	**326**	P		**P**	**17 59 06.5**	**+2.3**
	comp=Z,5.7nm,0.7s,baz=120,slow=11,SNR=9.3							
FINES				LR		LR	18 15 24.9	
	comp=Z,66nm,18.4s,baz=202,slow=37							
NJ2	**Nanjing**	**39.91**	**82**	*e*P		**P**	**17 59 25.1**	**-0.1**
NJ2				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ARCES	**ARCESS Array B**	**41.19**	**338**	P		**P**	**17 59 38.0**	**+2.7**
	comp=Z,2.2nm,0.8s,baz=120,slow=7.1,SNR=10							
CN2	**Changchun**	**42.07**	**62**	*e*P		**P**	**17 59 44.4**	**+1.6**
NB2	**NORSAR Subarra**	**44.31**	**323**	P		**P**	**18 00 02.6**	**+2.0**
	comp=Z,0.7nm,0.4s,baz=98,slow=8.6							
NOA	**NORSAR Array B**	**44.31**	**323**	P		**P**	**18 00 02.1**	**+1.5**
	comp=Z,1.1nm,0.6s,baz=98,slow=7.8,SNR=5.9							
YAK	**Yakutsk**	**44.38**	**35**	*i* P		**P**	**18 00 01.6**	**+0.5**
YAK				pmax	pmax			
	comp=Z,10.0nm,0.9s							
KSAR	**Wonju Array Be**	**45.31**	**71**	P		**P**	**18 00 08.8**	**-0.1**
KSAR	**Wonju Array Be**	**45.31**	**71**	P		**P**	**18 00 08.8**	**-0.1**
KSRS	**Korea Array**	**45.34**	**71**	P		**P**	**18 00 08.8**	**-0.3**
	comp=Z,5.0nm,1.1s,baz=284,slow=8.1,SNR=4.8							
KLR	**Kul'dur**	**45.60**	**54**	*i* P		**P**	**18 00 11.9**	**+0.9**
TIXI	**Tiksi**	**46.13**	**22**	*e*P		**P**	**18 00 16.9**	**+2.1**
TIXI				pmax	pmax			
	comp=Z,11nm,0.8s							
SEY	**Seymchan**	**54.83**	**34**	*i* P		**P**	**18 01 22.6**	**+2.3**
BILL	**Bilibino**	**58.98**	**26**⇑	*e*P		**P**	**18 01 53.7**	**+4.2**
BILL				*e**PP		**pP**	**18 02 16.2**	**0.0**
BILL				pmax	pmax			
	comp=Z,3.0nm,1.1s							
TOA0	**Torodi Ar. Sit**	**65.30**	**268**	*e*P		**P**	**18 02 29.9**	**-2.6**
TORD	**Torodi Ar. Bea**	**65.30**	**268**	P		**P**	**18 02 30.4**	**-2.2**
	comp=Z,2.3nm,0.9s,baz=44,slow=5.7,SNR=13							
ILAR	**Eielson Array**	**75.10**	**16**	P		**P**	**18 03 32.2**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=304,slow=5.1,SNR=9.1							
BOSA	**Boshof**	**77.32**	**220**	P		**P**	**18 03 42.6**	**-2.0**
	comp=Z,1.3nm,0.6s,baz=82,slow=7.1,SNR=3.3							
YKA	**Yellowknife Ar**	**81.48**	**2**	P		**P**	**18 04 08.0**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=348,slow=5.4,SNR=6.1							
WRA	**Warramunga Arr**	**82.22**	**122**	P		**P**	**18 04 09.7**	**-1.5**
	comp=Z,1.0nm,0.8s,baz=324,slow=5.0,SNR=11							
ASAR	**Alice Springs**	**84.47**	**125**	P		**P**	**18 04 21.4**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=309,slow=4.8,SNR=11							
PLCA	**Paso Flores**	**149.37**	**250**	PKPbc		**PKPbc**	**18 11 37.7**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=90,slow=1.0,SNR=2.9							

MEX 11 17:55:15.3±0.5, 17°.46N×101°.25W, h18km±33km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.25**	**307**	*e*P		Pg	17 55 19.7	-1.3
ZIIG				*e*S		Sg	17 55 24.6	-0.3
CAIG	**El Cayaco**	**1.03**	**113**	*i* P		Pb	17 55 31.4	-3.2
CAIG				*e*S		Sb	17 55 43.4	-4.3
ARIG	**Puente Sto Nin**	**1.19**	**46**	*e*P		Pn	17 55 33.8	-3.3
ARIG				*i* S		Sb	17 55 47.4	-5.1
MEIG	**Mezcala**	**1.63**	**73**	*e*P		Pn	17 55 40.4	-2.8
MEIG				*i* S		Sn	17 55 59.5	-4.3
PLIG	**Platanillo**	**1.91**	**61**	*e*P		Pn	17 55 44.3	-2.8
PLIG				*e*S		Sn	17 56 06.9	-3.9
TLIG	**Tlapa**	**2.57**	**87**	*i* P		Pn	17 55 52.9	-3.3
TLIG				*i* S		Sn	17 56 22.8	-4.3

IDC 11 18:00:35.1±2.0, 12°.16N×142°.75E, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.5/44, mbtmp3.6/3, Error ellipse: s-maj=190.7km s-min=30.1km az=111.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.96**	**195**	P		P	18 07 11.5	-0.2
	0.5nm,0.9s,baz=21,slow=9.7,SNR=3.7							
ILAR	**Eielson Array**	**70.74**	**25**	P		P	18 11 52.1	-0.7
	0.4nm,0.5s,baz=248,slow=6.0,SNR=7.8							
NVAR	**Mina Array Bea**	**89.42**	**51**	P		P	18 13 35.5	+1.1
	0.2nm,0.3s,baz=260,slow=5.1,SNR=3.5							

*IDC **11** 18:12:15.4±1.6, 5°.24N×126°.16E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/42, mbtmp3.5/5, ML3.6/1, MS4.0/1, Ms1 4.0/1, ms1mx2.8/37, Error ellipse: s-maj=83.8km s-min=22.7km az=65.0*

*ISCJB **11** 18:12:18.4±0.8, 5°.2N±0°.1×126°.1E±0°.2, h35km, mb3.3/4, MS4.0/1, Error ellipse: s-maj=28.1km s-min=7.2km az=149.5*

ISC 11 18:12:21.4±0.9, 5°.08N±0°.09×126°.0E±0°.2, h35km±3km, n10, σ3s 12/11, mb3.4/4, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.06**	**343**	*e*P		**Pn**	**18 12 40.1**	**+0.2**
DDMP				*e*S		**Sn**	**18 12 48.4**	**-5.1**
DAV	**Davao City (W)**	**2.02**	**347**	Sn		**Sn**	**18 13 22.2**	**+5.0**
	22nm,0.3s,baz=220,slow=17,SNR=3.5							
DAV				LR		LR	18 13 49.9	
	comp=Z,55nm,20.8s,baz=282,slow=49							
SKMP	**Bagumbayan, Su**	**2.06**	**314**	*e*P		**Pn**	**18 12 57.0**	**+3.5**
SKMP				*e*S		**Sn**	**18 13 15.0**	**-3.0**
BUKP	**Musuan**	**2.94**	**341**	*e*P		**Pn**	**18 13 07.2**	**+1.5**
BUKP				*e*S		Sn	18 13 27.9	-12
SIJI	**Sorong**	**7.89**	**138**	Pn		**Pn**	**18 14 12.6**	**-1.2**
	0.9nm,0.3s,baz=351,slow=8.2,SNR=7.1							
FITZ	**Fitzroy Crossi**	**23.04**	**181**	P		**P**	**18 17 24.3**	**+0.6**
	1.5nm,0.9s,baz=7.2,slow=13,SNR=2.6							
WRA	**Warramunga Arr**	**26.18**	**162**	P		**P**	**18 17 53.0**	**+0.1**
	0.7nm,0.9s,baz=342,slow=10,SNR=9.7							
ASAR	**Alice Springs**	**29.59**	**165**	P		**P**	**18 18 22.7**	**-0.7**
	0.2nm,0.6s,baz=338,slow=6.4,SNR=6.9							
MKAR	**Makanchi Array**	**56.05**	**325**	P		**P**	**18 21 55.8**	**-1.2**
	0.3nm,0.6s,baz=122,slow=6.1,SNR=3.6							
RPZ	**Rata Peaks**	**63.26**	**145**	LR		LR	18 51 31.5	
	comp=Z,105nm,18.1s,baz=223,slow=37							

JMA 11 18:18:53.4±0.1, 38°.37N×144°.46E, h36km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**2.35**	**269**	*e*S		Sn	18 19 58.9	+1.8
MIYJ	**Miyakonagasawa**	**2.38**	**301**	P		Pn	18 19 31.4	+1.5
MIYJ				*e*S		Sn	18 19 59.7	+1.8
JMK	**Ichinoseki**	**2.60**	**284**	P		Pn	18 19 34.8	+1.9
JMK				*e*S		Sn	18 20 05.3	+2.1
JOM	**Ohasama**	**2.71**	**295**	P		Pn	18 19 36.1	+1.8
JOM				*e*S		Sn	18 20 08.5	+2.7
JFT	**Otama**	**3.37**	**257**	P		Pn	18 19 45.8	+2.3
JFT				*e*S		Sn	18 20 24.3	+2.1
JCH	**Churui**	**4.32**	**349**	P		Pn	18 19 56.8	+0.3
JCH				*e*S		Sn	18 20 42.7	-2.9
JTKR	**Abashiri--Toko**	**5.61**	**356**	P		Pn	18 20 13.7	-0.5
JTKR				*e*S		Sn	18 21 13.6	-3.8

*IDC **11** 18:19:40.6±0.3, 23°.11N×95°.88E, h0km, mb5.1/41, mb1 5.2/42, mb1mx5.2/46, mbtmp5.1/42, ML5.7/1, MS5.0/39, Ms1 5.0/39, ms1mx4.9/53, Error ellipse: s-maj=9.1km s-min=7.1km az=84.0*

*BJI **11** 18:19:41.0, 23°.10N×95°.96E, h14km, mb5.4/64, mB5.9/50, ML6.0/5, Ms5.9/84, Ms7 5.6/76*

*NEIC **11** 18:19:42.0±0.0, 22°.81N×95°.66E, h11km, Moment Tensor Solution. s21 Moment tensor: Scale 10^17^Nm; Mrr=0.24; Mθθ=0.13; Mφφ=-0.38; Mrθ=0.31; Mrφ=1.91; Mθφ=0.19; Best double couple: M0=2.00000×10^17^ NP1:φs=94.00000°, δ=82.00000°, λ=10.00000°. NP2:φs=3.00000°, δ=80.00000°, λ=172.00000°. Principal axes: T 1.8900, Plg12.0000°, Azm319.0000°; N 0.1600, Plg77.0000°, Azm131.0000°; P -2.0500, Plg1.0000°, Azm228.0000°;*

*GCMT **11** 18:19:43.1±0.1, 23°.06N±0°.01×96°.07E±0°.01, h20km, MW5.6/118, Moment Tensor Solution. s95,c154; s118,c240; Duration: 1s5 Moment tensor: Scale 10^17^ Nm; Mrr=0.13±.03; Mθθ-0.00±.03; Mφφ-0.12±.04; Mrθ=1.04±.08; Mθφ=2.68±.03; Mrr=0.72±.07; Best double couple: M0=2.94900×10^17^ NP1:φs=93.00000°, δ=78.00000°, λ=20.00000°. NP2:φs=358.00000°, δ=71.00000°, λ=167.00000°. Principal axes: T 3.1340, Plg23.0000°, Azm317.0000°; N -0.3710, Plg67.0000°, Azm124.0000°; P -2.7630, Plg5.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*ISCJB **11** 18:19:43.7±0.6, 23°.21N±0°.02×95°.77E±0°.02, h27km±4km, mb5.4/279, MS5.3/187 Error ellipse: s-maj=2.9km s-min=2.2km az=31.6*

*MOS **11** 18:19:44.4±1.4, 23°.20N×95°.81E, h33km, mb5.7/86, MS5.1/50, Error ellipse: s-maj=5.8km s-min=3.6km az=116.5*

*NDI **11** 18:19:45.9±3.0, 23°.18N×95°.86E, h28km, mb5.6, ML5.5, mb5.5(NEIC)*

*NEIC **11** 18:19:45.1±1.5, 23°.13N×95°.87E, h28km±10km, mb5.5/135, MS5.4/114, MW5.5, MW5.5, Error ellipse: s-maj=4.7km s-min=3.6km az=216.0, Moment Tensor Solution. s31 Moment tensor: Scale 10^17^Nm; Mrr=0.04; Mθθ-0.03; Mφφ=0.07; Mrθ=0.58; Mθφ 1.81; Mrr=0.21; Best double couple: M0 1.90000×10^17^ NP1:φs=90.00000°, δ85.00000°, λ=17.00000°. NP2:φs=358.00000°, δ=73.00000°, λ=175.00000°. Principal axes: T 1.9900, Plg16.0000°, Azm315.0000°; N -0.1500, Plg72.0000°, Azm104.0000°; P -1.8400, Plg9.0000°, Azm223.0000°;*

NEIC Felt at Mogok.

ISC 11 18:19:44.7±0.4, 23°.20N±0°.03×95°.80E±0°.02, h20km±2km, h20km:pP-P, n949, σ2s 03/961, mb5.5/279, MS5.3/189, 80C-25D, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SAIH	**SAIHA**	**2.69**	**255**	*e*P		**Pb**	**18 20 29.7**	**-2.5**
SAIH				*e*S		**Sn**	**18 21 01.5**	**+2.5**
AZL	**Aizawl**	**2.91**	**281**	*e*P		**Pb**	**18 20 33.5**	**-2.4**
KOHI	**KOHIMA**	**2.95**	**329**	*e*P		**Pn**	**18 20 29.8**	**-0.8**
KOHI				*e*S		**Sn**	**18 20 59.7**	**-5.7**
SILR	**SILCHAR**	**3.16**	**300**	*e*P		**Pn**	**18 20 35.4**	**+2.1**
MOKO	**MOKOCHONG**	**3.32**	**340**	*e*P		**Pn**	**18 20 37.4**	**+1.7**
MOKO				*e*S		**Sn**	**18 21 13.8**	**-0.9**
JORH	**JORHAT**	**3.80**	**339**	*e*P		**Pn**	**18 20 45.0**	**+2.9**
JORH				*ex*		Sg	18 21 49.6	+2.9
BRDH	**Bariadhala**	**3.87**	**263**	Pn		**Pn**	**18 20 46.2**	**+3.2**
	40nm,0.3s,baz=88,slow=10,SNR=31							
BRDH				Sn		**Sb**	**18 21 35.1**	**-3.5**
	340nm,0.3s,baz=92,slow=23,SNR=10							
BELO	**BELONIA**	**4.00**	**272**	*e*P		**Pn**	**18 20 46.0**	**+1.0**
BELO				*e*S		**Sn**	**18 21 29.4**	**-1.9**
BELO				IAML			18 22 39.8	
	comp=E,381μm,1.5s							
BELO				IAML			18 22 40.2	
	comp=N,514μm,1.1s							
LKP	**Lekhapani**	**4.12**	**1**	*e*P		**Pn**	**18 20 47.8**	**+1.3**
AGT	**Agartala**	**4.23**	**280**	*e*P		**Pn**	**18 20 50.2**	**+2.2**
AGT				*e*S		**Sn**	**18 21 34.0**	**-2.9**
SHL	**Shillong**	**4.28**	**304**	*e*Pn		**Pn**	**18 20 51.0**	**+2.1**
SHL	**Shillong**	**4.28**	**304**	*e*P		**Pn**	**18 20 51.0**	**+2.1**
SHL	**Shillong**	**4.28**	**304**	*e*P		**Pn**	**18 20 50.8**	**+2.0**
ITAN	**ITANAGAR**	**4.36**	**335**	*e*P		**Pn**	**18 20 51.8**	**+2.0**
ITAN				*e*S		**Sn**	**18 21 36.0**	**-4.0**
TEZP	**TEZPUR**	**4.36**	**322**	*e*P		**Pn**	**18 20 51.5**	**+1.7**
TEZP				*ex*		x	18 21 36.4	
TEZP				IAML			18 22 17.7	
	comp=N,7432μm,2.5s							
TEZP				IAML			18 22 24.6	
	comp=E,683nm,0.9s							
ZIRO	**ZIRO**	**4.66**	**338**	*e*P		**Pn**	**18 20 55.8**	**+1.8**
ZIRO				*ex*		x	18 21 43.1	
ZIRO				IAML			18 22 19.9	
	comp=E,12μm,0.3s							
ZIRO				IAML			18 22 26.9	
	comp=N,18μm,0.2s							
CRAI	**Chiangrai**	**5.18**	**124**	P		**Pn**	**18 21 00.8**	**-0.3**
CHTO	**Chiang Mai**	**5.26**	**145**	*e*Pn		**Pn**	**18 20 58.5**	**-3.7**
CHTO	**Chiang Mai**	**5.26**	**145**	P		**Pn**	**18 20 58.4**	**-3.7**
	SNR=148							
CHTO	**Chiang Mai**	**5.26**	**145**	*e*P		**Pn**	**18 20 58.5**	**-3.7**
CHTO	**Chiang Mai**	**5.26**	**145**	P		**Pn**	**18 20 58.2**	**-4.0**
	comp=N,12μm,0.9s,comp=N,122μmcomp=N,181μm comp=N,182nm							
CMMT	**Chiang Mai**	**5.26**	**145**	P		**Pn**	**18 20 58.1**	**-4.2**
	comp=N,3μm,1.1s,comp=N,27μmcomp=N,40nm							
PAYA	**Payao**	**5.38**	**134**	P		**Pn**	**18 20 59.5**	**-4.5**
	comp=N,4μm,1.1s,comp=N,35μmcomp=N,17nm							
CM31	**Chiang Mai Arr**	**5.56**	**147**	*e*Pn		**Pn**	**18 21 03.3**	**-3.1**
CM31	**Chiang Mai Arr**	**5.56**	**147**	P		**Pn**	**18 21 03.1**	**-3.2**
	SNR=394							
CMAR	**Chiang Mai Arr**	**5.56**	**147**	Pn		**Pn**	**18 21 02.8**	**-3.6**
	comp=N,57nm,0.3s,baz=324,slow=13,SNR=1995							
CMAR				Pg		**Pb**	**18 21 21.1**	**0.0**
	comp=N,79nm,0.3s,baz=328,slow=16,SNR=26							
CMAR				Lg		Lg	18 22 28.2	
	comp=N,121nm,0.3s,baz=242,slow=25,SNR=6.0							
CMAR				LR		LR	18 23 38.8	
	comp=N,16μm,18.7s,baz=342,slow=44							
CM01	**Chiang Mai Arr**	**5.60**	**148**	*e*Pn		**Pn**	**18 21 03.6**	**-3.3**
TAWA	**Tawang**	**5.64**	**322**	*e*P		**Pn**	**18 21 08.3**	**+0.5**
TAWA				*e*S		**Sn**	**18 22 08.5**	**-3.7**
TAWA				IAML			18 23 12.8	
	comp=N,76μm,1.2s							
TAWA				IAML			18 23 14.7	
	comp=E,2μm,2.1s							
LAMP	**Lampang**	**5.87**	**142**	P		**Pn**	**18 21 06.5**	**-4.2**
	comp=E,1μm,0.9s,comp=E,10μmcomp=E,12nm							
DHUB	**DHUBRI**	**5.98**	**299**	*e*P		**Pn**	**18 21 13.4**	**+1.3**
DHUB				*e*S		**Sn**	**18 22 17.3**	**-2.7**
DHUB				IAML			18 23 18.4	
	comp=E,544nm,2.6s							
NANT	**Nan**	**6.33**	**133**	P		Pn	18 21 10.4	-6.6
	comp=E,786nm,1.2s,comp=E,7μmcomp=E,11nm							
KMI	**Kunming**	**6.62**	**72**	Pn		**Pn**	**18 21 21.6**	**+0.5**
KMI				Sn		**Sn**	**18 22 41.0**	**+4.8**
KMI				Sg		**Sg**	**18 23 09.4**	**-7.8**
KMI				smax	smax			
	comp=E,13μm,1.3s							
KMI				smax	smax			
	comp=E,7μm,1.1s							
KMI				LR	LR			
	comp=E,37μm,6.0s							
KMI				LR	LR			
	comp=E,31μm,3.8s							
KMI				LR	LR			
	comp=E,19μm,6.3s							
SUKH	**Sukhothai**	**6.73**	**147**	P		**Pn**	**18 21 18.8**	**-3.6**
	comp=E,209nm,0.9s,comp=E,4μmcomp=E,6.7nm							
UTTA	**Uttaradit**	**7.02**	**140**	P		**Pn**	**18 21 22.1**	**-4.3**
	comp=E,208nm,0.6s,comp=E,3μmcomp=E,4.2nm							
UMPA	**Umpang Tak**	**7.53**	**157**	P		**Pn**	**18 21 33.2**	**-0.2**
	comp=E,77nm,0.7s,comp=E,3μmcomp=E,9.2nm							
LSA	**Lhasa**	**7.70**	**328**	P		**Pn**	**18 21 40.2**	**+4.1**
LSA				LR	LR			
	comp=E,8μm,13.5s							
LSA				LR	LR			
	comp=E,9μm,11.3s							
LSA				LR	LR			
	comp=E,30μm,13.9s							
LSA	**Lhasa**	**7.70**	**328**	*e*Pn		**Pn**	**18 21 39.2**	**+3.1**
	comp=E,445nm,0.5s							
LSA	**Lhasa**	**7.70**	**328**	P		**Pn**	**18 21 39.5**	**+3.3**
LSA	**Lhasa**	**7.70**	**328**	*e*P		**Pn**	**18 21 39.2**	**+3.1**
LSA				pmax	pmax			
	comp=Z,445nm,0.5s							
GTK	**Tadong**	**7.70**	**304**	*e*P		**Pn**	**18 21 37.3**	**+1.4**
GTK				*e*S		**Sn**	**18 22 58.6**	**-4.0**
GTK				IAML			18 24 02.5	
	comp=N,315nm,0.6s							
GTK				IAML			18 24 02.5	
	comp=E,304nm,0.9s							
PBKT	**Sadao Pong**	**8.19**	**143**	*e*Pn		**Pn**	**18 21 39.1**	**-3.4**
PBKT	**Sadao Pong**	**8.19**	**143**	P		**Pn**	**18 21 39.0**	**-3.5**
	comp=E,532nm,1.0s,comp=E,6μmcomp=E,16nm							
UTHA	**Uthaitani**	**8.34**	**155**	P		**Pn**	**18 21 41.7**	**-2.9**
	comp=E,215nm,0.5s,comp=E,3μmcomp=E,7.1nm							
NONG	**Nongkai**	**8.57**	**125**	P		**Pn**	**18 21 45.5**	**-2.2**
	comp=E,7.1nm,0.9s,comp=E,220nmcomp=E,0.3nm							
BOK	**Bokaro**	**9.12**	**276**	*e*P		**Pn**	**18 21 56.2**	**+0.9**
BOK				IAmb		IAmb	18 22 00.2	
	comp=Z,19μm,3.5s							
CHAI	**Chaiyaphum**	**9.31**	**140**	P		**Pn**	**18 21 55.4**	**-2.4**
	comp=Z,189nm,1.0s,comp=Z,2μm							
SRDT	**SRDT**	**9.35**	**160**	P		**Pn**	**18 21 56.7**	**-1.6**
	comp=Z,94nm,1.0s,comp=Z,4μm							
SKNT	**Sakolnakorn**	**9.87**	**127**	P		**Pn**	**18 22 03.5**	**-2.0**
	comp=Z,151nm,1.0s,comp=Z,3μm							
GUN	**Gumba**	**10.11**	**300**	*e*Pn		**Pn**	**18 22 09.9**	**+0.8**
PKI	**Pulchoki**	**10.35**	**297**	*e*Pn		**Pn**	**18 22 13.0**	**+0.6**
PKIN	**Phulchoki**	**10.37**	**297**	*e*Pn		**Pn**	**18 22 13.8**	**+1.3**
GYA	**Guiyang**	**10.39**	**70**⇓	*i* P		**Pn**	**18 22 11.3**	**-1.4**
GYA				PP		**PnPn**	**18 22 21.2**	**+0.8**
GYA				S		**Sn**	**18 24 12.0**	**+3.4**
GYA				SS		**SnSn**	**18 24 21.6**	**+1.1**
GYA				pmax	pmax			
	comp=Z,130nm,1.0s							
GYA				pmax	pmax			
	comp=Z,460nm,8.1s							
GYA				LR	LR			
	comp=Z,60μm,10.1s							
GYA				LR	LR			
	comp=Z,28μm,10.1s							
GYA				LR	LR			
	comp=Z,14μm,8.8s							
CD2	**Chengdu**	**10.45**	**41**	⇓P		**Pn**	**18 22 14.7**	**+1.2**
CD2				S		**Sn**	**18 24 14.1**	**+4.0**
CD2				pmax	pmax			
	comp=Z,260nm,0.6s							
CD2				pmax	pmax			
	comp=Z,4μm,4.6s							
CD2				LR	LR			
	comp=Z,60μm,9.5s							
CD2				LR	LR			
	comp=Z,52μm,8.8s							
CD2				LR	LR			
	comp=Z,84μm,8.2s							
KKN	**Kakani**	**10.54**	**298**	*e*Pn		**Pn**	**18 22 15.8**	**+0.9**
DMN	**Daman**	**10.62**	**297**	*e*Pn		**Pn**	**18 22 17.4**	**+1.4**
SRAK	**Srakaew**	**10.88**	**146**	P		**Pn**	**18 22 22.4**	**+3.0**
GKN	**Gorkha**	**11.15**	**298**	*e*Pn		**Pn**	**18 22 23.6**	**+0.4**
PATY	**Pattaya**	**11.30**	**154**	P		**Pn**	**18 22 23.3**	**-1.8**
	comp=Z,49nm,1.3s,comp=Z,719nm							
PBA	**Port Blair**	**11.84**	**195**	*e*Pn		Pn	18 22 30.7	-1.9
PBA	**Port Blair**	**11.84**	**195**	*e*P		Pn	18 22 28.7	-3.9
KOLN	**Koldanda**	**11.92**	**295**	*e*Pn		**Pn**	**18 22 33.3**	**-0.5**
KOLN				*e*Sn		**Sn**	**18 24 39.9**	**-6.4**
	comp=Z,1μm,0.6s							
DANN	**Dangsing**	**12.00**	**298**	*e*Pn		**Pn**	**18 22 33.9**	**-1.0**
DANN				*e*Sn		**Sn**	**18 24 42.6**	**-5.7**
	comp=Z,1μm,1.2s							
PYUN	**Piuthan**	**12.54**	**296**	*e*Pn		**Pn**	**18 22 40.9**	**-1.3**
PYUN				*e*Sn		**Sn**	**18 24 55.2**	**-6.3**
	comp=Z,1μm,0.9s							
VIS	**Vishakhapatnam**	**12.89**	**247**	*i* P		**Pn**	**18 22 46.7**	**-0.2**
VIS				*i* x		x	18 24 51.8	
QIZ	**Qiongzhong**	**13.74**	**105**	P		**Pn**	**18 22 55.6**	**-2.9**
QIZ				S		**Sn**	**18 25 28.0**	**-2.7**
QIZ				LR	LR			
	comp=Z,56μm,15.5s							
QIZ				LR	LR			
	comp=Z,29μm,13.9s							
QIZ				LR	LR			
	comp=Z,18μm,12.2s							
QIZ	**Qiongzhong**	**13.74**	**105**	*e*Pn		**Pn**	**18 22 55.0**	**-3.5**
	comp=Z,195nm,1.3s							
ENH	**Enshi**	**14.11**	**57**	*e*Pn		**Pn**	**18 23 00.2**	**-3.3**
	comp=Z,1μm,1.3s							
LZH	**Lanzhou**	**14.61**	**27**	⇑P		**Pn**	**18 23 10.5**	**0.0**
LZH				pP		P	18 23 13.0	-3.8
LZH				sP			18 23 15.4	
LZH				PP		**PnPn**	**18 23 22.8**	**+4.2**
LZH				S		**Sn**	**18 25 54.3**	**+2.3**
LZH				sS		S	18 25 58.6	-12
LZH				SS		**SnSn**	**18 26 11.6**	**+6.7**
LZH				pmax	pmax			
	comp=Z,4μm,4.6s							
LZH				LR	LR			
	comp=Z,40μm,13.0s							
LZH				LR	LR			
	comp=Z,69μm,14.1s							
LZH				LR	LR			
	comp=Z,27μm,15.3s							
KRAB	**Krabi**	**15.24**	**167**	P		**P**	**18 23 21.9**	**-1.8**
	comp=Z,231nm,1.0s,comp=Z,2μm							
PKDT	**Phuket**	**15.41**	**171**	P		**P**	**18 23 25.0**	**-0.6**
TRTT	**Trang**	**15.73**	**166**	P		**Pn**	**18 23 25.7**	**+0.5**
	comp=Z,152nm,1.1s,comp

MLSI Meulaboh, Aceh 18.83 178 P **P** **18 24 01.7 -1.7**
IPM Ipoh 19.28 164 *e*P **P** **18 24 07.2 -1.2**
comp=Z,316nm,1.3s
DHRM DHARAMSHALA 19.45 302 *e*P **P** **18 24 10.9 +0.6**
DHRM IAmb IAmb 18 24 14.2
comp=Z,931nm,0.9s
DHRM *ex* x 18 27 42.7
KCSI Kotacane, Aceh 19.65 174 P **P** **18 24 11.0 -1.4**
TSI Tuntungan 19.76 172 P **Pn** **18 24 14.6 -0.6**
TIY Taiyuan 20.32 41 *e*P Pn 18 24 21.2 -0.5
TIY pP sP 18 24 30.1 +2.2
TIY PP **PnPn** **18 24 42.4 +5.7**
TIY S **S** **18 28 01.6 -5.1**
TIY SS **SnSn** **18 28 34.5 +10**
TIY pmax pmax
comp=Z,140nm,0.9s
TIY LR LR
comp=Z,15μm,12.3s
TIY LR LR
comp=Z,8μm,11.4s
TIY LR LR
comp=Z,9μm,12.3s
PSI Prapat 20.50 171 P **P** **18 24 21.1 -0.7**
comp=Z,147nm,1.0s,baz=360,slow=5.9,SNR=24
PSI S **S** **18 28 11.2 +0.6**
comp=Z,2.9nm,0.4s,baz=360,slow=15,SNR=1.8
PSI Lg Lg 18 30 33.2
comp=Z,16nm,1.1s,baz=180,slow=20,SNR=6.0
PSI LR LR 18 32 02.4
comp=Z,8μm,18.2s,baz=271,slow=36
PSI Prapat 20.50 171 *e*P **P** **18 24 22.2 +0.4**
comp=Z,295nm,1.1s
SNSI Sinabang, Aceh 20.67 179 P **P** **18 24 23.0 -0.5**
QZH Quanzhou 20.88 81 ⇓*i*P **P** **18 24 24.1 -1.6**
QZH S **S** **18 28 17.5 -0.3**
QZH pmax pmax
comp=Z,85nm,0.8s
QZH pmax pmax
comp=Z,480nm,3.7s
QZH LR LR
comp=Z,8μm,6.9s
QZH LR LR
comp=Z,13μm,10.6s
POO Poona 21.02 261 *e*P **P** **18 24 27.3 -0.1**
BTO Baotou 21.09 31 *e*P **P** **18 24 24.4 -3.6**
BTO *ep*P **pP** **18 24 31.6 -2.0**
BTO S **S** **18 28 15.3 -6.6**
PALK Pallekele 21.48 225 P **P** **18 24 31.7 -0.5**
comp=Z,69nm,0.9s,baz=116,slow=4.6,SNR=16
PALK S **S** **18 28 30.0 +0.1**
comp=Z,7.4nm,0.7s,baz=117,slow=9.0,SNR=3.7
PALK Pallekele 21.48 225 *e*P **P** **18 24 32.4 +0.2**
comp=Z,366nm,1.1s
PALK Pallekele 21.48 225 P **P** **18 24 33.0 +0.8**
SNR=31
PALK Pallekele 21.48 225 *i* P **P** **18 24 32.4 +0.2**
SNR=22
PALK Pallekele 21.48 225 *ce*P **P** **18 24 33.7 +1.4**
WMQ Urumqi 21.63 344 P **P** **18 24 35.3 +1.6**
WMQ pP pP 18 24 38.5 -0.8
WMQ sP sP 18 24 43.1 +1.2
WMQ PP **PnPn** **18 24 57.8 +3.2**
WMQ S **S** **18 28 31.3 -1.1**
WMQ PcS **PcS** **18 32 09.7 -3.5**
WMQ pmax pmax
comp=Z,1μm,1.3s
WMQ pmax pmax
comp=Z,6μm,4.1s
WMQ LR LR
comp=Z,21μm,12.5s
WMQ LR LR
comp=Z,18μm,12.1s
WMQ LR LR
comp=Z,10μm,15.7s
GSI Gunungsitoli 21.83 175 *e*P **P** **18 24 33.3 -2.7**
comp=Z,384nm,1.3s
GSI Gunungsitoli 21.83 175 P **P** **18 24 34.2 -1.8**
HHC Hu-ho-hao-te 22.04 33 *e*P **P** **18 24 38.1 0.0**
HHC pP pP 18 24 41.8 -2.0
HHC S **S** **18 28 38.4 -2.0**
HHC sS pS 18 28 46.3 -2.2
HHC pmax pmax
comp=Z,34nm,1.0s
HHC pmax pmax
comp=Z,2μm,3.8s
HHC LR LR
comp=Z,16μm,11.8s
HHC LR LR
comp=Z,9μm,12.0s
HHC LR LR
comp=Z,17μm,11.6s
GOA Goa 22.09 254 *e*P **P** **18 24 38.8 0.0**
GOA *e*S **S** **18 28 43.2 +1.7**
NJ2 Nanjing 22.21 62 *e*P **P** **18 24 38.4 -1.6**
NJ2 sP **pP** **18 24 44.9 -0.7**
NJ2 S **S** **18 28 42.1 -1.6**
NJ2 sS **pS** **18 28 49.1 -2.3**
NJ2 pmax pmax
comp=Z,170nm,0.9s
NJ2 pmax pmax
comp=Z,2μm,5.9s
NJ2 LR LR
comp=Z,21μm,11.8s
NJ2 LR LR
comp=Z,13μm,12.6s
NJ2 LR LR
comp=Z,5μm,15.7s
TIA Tai'an 22.55 50 P **P** **18 24 42.3 -1.3**
TIA S **S** **18 28 48.9 -1.0**
TIA pmax pmax
comp=Z,560nm,1.0s
TIA pmax pmax
comp=Z,3μm,4.7s
TIA LR LR
comp=Z,6μm,14.2s
TIA LR LR
comp=Z,11μm,11.8s
TIA LR LR
comp=Z,12μm,11.3s
MNSI Mandailing Nat 22.57 170 P **P** **18 24 43.8 -0.1**
MYKOM Kota Tinggi 22.67 159 *e*P **P** **18 24 43.5 -1.5**
comp=Z,85nm,0.9s
TPUB Ta-pu 22.81 85 *e*P **P** **18 24 44.3 -2.1**
comp=Z,111nm,1.0s
SSLB Suanglung 23.07 84 *e*P **P** **18 24 48.2 -1.0**
comp=Z,95nm,1.1s
TRD Trivandrum 23.23 234 *e*P **P** **18 24 49.1 -1.7**
TWG Pinlang 23.26 86 *e*P **P** **18 24 51.3 +0.3**
comp=Z,487nm,1.1s
BKNI Bangkinang 23.30 167 *e*P **P** **18 24 51.6 +0.2**
comp=Z,164nm,0.9s
BKNI Bangkinang 23.30 167 P **P** **18 24 53.3 +1.9**
KSH Kashi 23.40 319 P **P** **18 24 53.6 +1.2**
KSH pP pP 18 24 57.7 -0.5
KSH PP **PnPn** **18 25 26.8 +8.0**
KSH S **S** **18 29 02.8 -1.8**
KSH sS pS 18 29 09.7 -1.2
KSH SS **SnSn** **18 29 51.8 +12**
KSH pmax pmax
comp=Z,1μm,1.0s
KSH pmax pmax
comp=Z,7μm,5.6s
KSH LR LR
comp=Z,8μm,15.0s
KSH LR LR
comp=Z,11μm,13.3s
KSH LR LR
comp=Z,10μm,16.6s
YULB Yu-li 23.41 84 *e*P **P** **18 24 52.1 -0.5**
comp=Z,84nm,1.0s
YHNB Yeheng 23.41 81 *e*P **P** **18 24 53.1 +0.4**
comp=Z,248nm,1.5s
TATO Taipei 23.51 80 PFAKE 18 25 00.0 +6.5
TATO LR LR
comp=Z,2μm,21.0s
NACB Ninganchiao 23.64 82 *e*P **P** **18 24 54.7 -0.1**
comp=Z,149nm,1.2s
TPRI Tanjung Pinang 23.71 158 P **P** **18 24 56.2 +0.7**
SSE Sheshan 23.88 65 P **P** **18 24 54.7 -2.3**
SSE S **S** **18 29 09.3 -3.0**
SSE pmax pmax
comp=Z,130nm,1.2s
SSE pmax pmax
comp=Z,530nm,4.9s
SSE LR LR
comp=Z,7μm,14.6s
SSE LR LR
comp=Z,7μm,14.4s
BHJ Bhuj 24.02 275 *e*P **P** **18 25 00.3 +2.0**
BHJ IAmb IAmb 18 25 02.5
comp=Z,299nm,1.2s
BJT Baijiatuau 24.04 41 *e*P **P** **18 24 58.1 -0.3**
comp=Z,491nm,1.1s
BJT LR LR
comp=Z,7μm,20.0s
BJT Baijiatuau 24.04 41 *e*P **P** **18 24 58.1 -0.3**
BJT pmax pmax
comp=Z,491nm,1.1s
BJT MLR MLR
comp=Z,7μm,20.0s
SHLS Shalkode 24.07 330 ⇑*i*P **P** **18 24 58.5 -0.3**
comp=Z,769nm,1.6s
SHLS LR LR 18 34 55.2
comp=Z,612nm,9.6s
PRZ Przheval'sk 24.07 327 *e*P **P** **18 25 01.3 +2.4**
comp=Z,855nm,0.9s
PRZ Przheval'sk 24.07 327 *e*P **P** **18 25 01.3 +2.4**
PRZ pmax pmax
comp=Z,855nm,0.9s
PDGK Podgornoye 24.19 330 P **P** **18 25 01.2 +1.3**
PDGK pmax pmax
comp=Z,811nm,1.5s
UZB Uzynbulak 24.27 329 ⇑*i*P **P** **18 25 02.0 +1.3**
comp=Z,375nm,1.8s
UZB *e*S **S** **18 29 21.8 +3.3**
UZB LR LR 18 35 47.2
comp=Z,609nm,11.7s
PDSI Padang 24.39 169 P **P** **18 24 59.8 -2.1**
KDJ Kajisay 24.44 325 *e*P **P** **18 25 05.3 +3.0**
comp=Z,881nm,1.0s
SATY Saty 24.49 328 ⇑*i*P **P** **18 25 04.5 +1.8**
comp=Z,1μm,1.7s
SATY *i* S **S** **18 29 26.1 +3.9**
SATY LR LR 18 35 42.3
comp=Z,2μm,13.3s
ZHN Zhinishke 24.56 328 ⇑*i*P **P** **18 25 04.8 +1.5**
comp=Z,322nm,1.6s
ZHN LR LR 18 35 54.9
comp=Z,2μm,13.1s
SDSI Sungai Dareh 24.60 166 P **P** **18 25 05.1 +1.4**
comp=Z,27nm,0.5s,comp=Z,11μm
NRN Naryn 24.61 322 *e*P **P** **18 25 05.3 +1.3**
comp=Z,540nm,1.3s
NRN Naryn 24.61 322 *e*P **P** **18 25 05.3 +1.3**
NRN pmax pmax
comp=Z,540nm,1.3s
KPKS Kokpek 24.67 329 ⇑*i*P **P** **18 25 05.6 +1.4**
comp=Z,385nm,1.0s
KPKS LR LR 18 35 43.6
comp=Z,1μm,13.1s
ULHL Ulahol 25.02 324 P **P** **18 25 09.6 +2.0**
SNR=352
DSRI Dabo 25.04 159 P **P** **18 25 09.4 +1.7**
SFK Sufi-Kurgan 25.22 317 P **P** **18 25 10.5 +1.0**
SFK pmax pmax
comp=Z,932nm,1.3s
MDOK Medeo 25.25 327 *i* P **P** **18 25 11.6 +2.0**
comp=Z,9μm,1.1s
MDOK *e*S **S** **18 29 38.5 +4.1**
MDOK LR LR 18 36 01.1
comp=Z,4μm,14.0s
AAA Alma-Ata 25.35 326 ⇑*i*P **P** **18 25 12.9 +2.6**
comp=Z,1μm,1.1s
AAA LR LR 18 36 11.0
comp=Z,3μm,13.3s
AAA Alma-Ata 25.35 326 *e*P **P** **18 25 12.8 +2.4**
AAA pmax pmax
comp=Z,2μm,1.5s
AAA MLR MLR
comp=Z,4μm,12.0s
TGY Tagaytay City 25.44 106 P **P** **18 25 16.3 +4.8**
comp=Z,108nm,0.4s,baz=318,slow=3.6,SNR=5.8
KZA Kyzart 25.46 323 P **P** **18 25 13.6 +1.8**
SNR=33
KRJI Kerinci 25.74 167 P **P** **18 25 15.2 +1.1**
ZSN Zaisan 25.74 343 ⇑*i*P **P** **18 25 14.8 +1.0**
comp=Z,39nm,1.3s
ZSN *e*S **S** **18 29 44.8 +3.1**
ZSN LR LR 18 35 29.3
comp=Z,390nm,12.2s
KSM Kuching 25.78 145 *e*P **P** **18 25 13.3 -1.2**
comp=Z,290nm,1.1s
TKM2 Tokmak 2 25.83 324 P **P** **18 25 16.6 +1.6**
SNR=393
TKM2 Tokmak 2 25.83 324 P **P** **18 25 16.4 +1.4**
TKM2 pmax pmax
comp=Z,435nm,1.1s
MK01 Makanchi Array 25.91 338 *e*P **P** **18 25 15.2 -0.2**
MK31 Makanchi Array 25.94 338 *e*P **P** **18 25 16.4 +0.8**
MK31 Makanchi Array 25.94 338 *i* P **P** **18 25 15.9 +0.3**
MK31 pmax pmax
comp=Z,239nm,0.8s
MKAR Makanchi Array 25.94 338 P **P** **18 25 16.3 +0.7**
comp=Z,186nm,0.8s,baz=145,slow=11,SNR=209
MKAR S **S** **18 29 49.9 +5.0**
comp=Z,2.8nm,0.9s,baz=138,slow=11,SNR=1.7
MKAR LR LR 18 37 18.4
comp=Z,3μm,21.0s,baz=154,slow=41
MKAR P3KPbc 18 58 08.6
comp=Z,1.1nm,0.8s,baz=14,slow=4.8,SNR=2.9
MKAR Makanchi Array 25.94 338 *e*P **P** **18 25 16.4 +0.8**
comp=Z,1μm,0.8s
UCH Uchtor 25.97 322 P **P** **18 25 18.1 +1.6**
SNR=91
TDK Taldygorghan 25.98 331 *i* P **P** **18 25 17.0 +1.0**
comp=Z,460nm,2.1s
TDK *e*S **S** **18 29 48.7 +3.1**
TDK LR LR 18 37 00.8
comp=Z,2μm,11.7s
SONM Songino Array 26.00 16 P **P** **18 25 16.4 +0.1**
comp=Z,50nm,0.9s,baz=199,slow=9.7,SNR=143
SONM LR LR 18 36 44.1
comp=Z,6μm,21.9s,baz=200,slow=39
KBK Karagaybulak 26.01 323 P **P** **18 25 18.6 +2.1**
SNR=164
SONA1 Songino Array 26.01 16 *e*P **P** **18 25 15.8 -0.7**
KKM Kota Kinabalu 26.03 128 *e*P **P** **18 25 17.1 +0.2**
comp=Z,152nm,1.2s
KKM Kota Kinabalu 26.03 128 P **P** **18 25 16.0 -0.9**
SBUM Sibu 26.05 140 *e*P **P** **18 25 16.6 -0.3**
comp=Z,54nm,1.0s
SBUM Sibu 26.05 140 P **P** **18 25 16.0 -0.9**
KUU Kurty 26.13 327 ⇑*i*P **P** **18 25 18.3 +0.9**
comp=Z,309nm,1.4s
KUU *e*S **S** **18 29 51.2 +3.2**
KUU LR LR 18 37 08.4
comp=Z,3μm,12.5s
PPSI Pulau Pagai 26.13 170 P **P** **18 25 19.0 +1.4**
AAK Ala-Archa 26.25 323 P **P** **18 25 20.4 +1.8**
comp=Z,215nm,1.0s,baz=125,slow=6.3,SNR=312
AAK S **S** **18 29 52.0 +1.9**
comp=Z,10nm,1.0s,baz=343,slow=19,SNR=1.5
AAK Ala-Archa 26.25 323 P **P** **18 25 20.8 +2.2**
SNR=247
AAK Ala-Archa 26.25 323 *e*P **P** **18 25 20.7 +2.0**
comp=Z,324nm,1.0s
AAK LR LR
comp=Z,2μm,20.0s
AAK Ala-Archa 26.25 323 P **P** **18 25 20.9 +2.2**
SNR=192
AAK Ala-Archa 26.25 323 *i* P **P** **18 25 20.5 +1.9**
SNR=302
AAK Ala-Archa 26.25 323 *c* *i*P **P** **18 25 20.6 +2.0**
AAK pmax pmax
comp=Z,240nm,1.0s
FRU1 Bishkek 26.28 323 *e*P **P** **18 25 20.9 +2.0**
comp=Z,372nm,1.1s
FRU1 Bishkek 26.28 323 *e*P **P** **18 25 20.9 +2.0**
FRU1 pmax pmax
comp=Z,372nm,1.1s
FRU Bishkek 26.31 323 ⇑*i*P **P** **18 25 20.5 +1.4**
FRU *i* 18 25 35.0
FRU *i* 18 26 07.0
FRU *e*S **S** **18 29 54.0 +3.1**
FRU pmax pmax
comp=Z,620nm,1.8s
FRU MLR MLR
comp=E,5μm,14.0s
CHMS Chumysh 26.34 324 P **P** **18 25 20.8 +1.4**
SNR=67
AML Almayashu 26.38 321 P **P** **18 25 21.8 +1.7**
SNR=131
MNCI Minicoy 26.38 239 *e*P **P** **18 25 24.8 +4.9**
comp=E,356nm,1.5s
USP Ospenovka 26.66 324 P **P** **18 25 23.8 +1.5**
SNR=126
EKS2 Erkin-Say 26.66 322 P **P** **18 25 24.1 +1.7**
SNR=220
MASI Maura Aman, Be 26.92 166 P **P** **18 25 27.0 +2.2**
DL2 Dalian 26.98 49 P **P** **18 25 24.8 -0.3**
DL2 PP **PnPn** **18 26 06.4 -1.2**
DL2 S **S** **18 30 04.2 +2.8**
DL2 pmax pmax
comp=E,150nm,0.8s
DL2 pmax pmax
comp=E,2μm,4.6s
DL2 LR LR
comp=E,6μm,15.8s
DL2 LR LR
comp=E,9μm,14.4s
DL2 LR LR
comp=E,11μm,12.9s
PPBI Pangkal Pinang 27.14 157 P **P** **18 25 28.7 +1.9**
DGZ Jazzator, Alta 27.26 348 *c* *i*P **P** **18 25 27.3 -0.4**
DGZ pmax pmax
comp=Z,57nm,1.1s
MNAS Manas 27.29 320 P **P** **18 25 29.4 +1.3**
MNAS pmax pmax
comp=Z,319nm,1.2s
PMBI Palembang 27.40 160 P **P** **18 25 30.9 +1.8**
STKI Sintang 27.59 144 P **P** **18 25 32.3 +1.6**
ZAK Zakamensk 27.76 10 *e*P **P** **18 25 32.8 +0.7**
ZAK pmax pmax
comp=Z,84nm,1.2s
HVS Khovu-Aksy 27.93 357 *d* *i*P **P** **18 25 33.5 -0.1**
HVS pmax pmax
comp=Z,166nm,1.1s
HVS MLR MLR
comp=Z,11μm,18.0s
MYLDM Lahad Datu 28.29 126 *e*P **P** **18 25 39.5 +2.4**
comp=Z,68nm,1.1s
IUG Iuzhnay 28.59 318 ⇑*i*P **P** **18 25 41.2 +1.6**
comp=Z,143nm,1.2s
IUG *e*S **S** **18 30 30.8 +3.8**
IUG LR LR 18 38 39.5
comp=Z,645nm,10.5s
MOY Mondy 28.70 7 *e*P **P** **18 25 41.4 +0.9**
MOY pmax pmax
comp=Z,87nm,2.2s
MDSI Maura Dua 28.71 162 P **P** **18 25 38.9 -1.8**
comp=Z,35nm,0.9s
KK31 Karatay Array 28.84 320 *e*P **P** **18 25 42.3 +0.6**
KK31 Karatay Array 28.84 320 *e*P **P** **18 25 42.3 +0.6**
KKAR Karatay Array 28.84 320 *e*P **P** **18 25 42.3 +0.6**
KKAR Karatay Array 28.84 320 *e*P **P** **18 25 42.3 +0.6**
TLY Talaya 29.07 10 PFAKE 18 26 00.0 +16
TLY LR LR
comp=Z,5μm,19.0s
TLY Talaya 29.07 10 *c* *i*P **P** **18 25 44.4 +0.7**
TLY *e* 18 26 31.4
TLY *e*S **S** **18 30 39.5 +5.3**
TLY pmax pmax
comp=Z,46nm,2.0s
TLY MLR MLR
comp=Z,4μm,13.0s
LWLI Liwa 29.18 163 P **P** **18 25 48.2 +3.1**
comp=Z,40nm,0.8s
JOW Kunigami 29.61 76 LR LR 18 38 57.8
comp=Z,5μm,21.9s,baz=260,slow=39
SNY Shenyang 29.70 45 ⇓P **P** **18 25 49.0 -0.3**
SNY S **S** **18 30 44.6 +0.4**
SNY pmax pmax
comp=Z,51nm,1.4s
SNY pmax pmax
comp=Z,990nm,3.6s
SNY LR LR
comp=Z,8μm,12.0s
SNY LR LR
comp=Z,6μm,13.3s
SNY LR LR
comp=Z,8μm,13.1s
IRK Irkutsk 29.72 11 *e*P **P** **18 25 50.4 +1.0**
IRK pmax pmax
comp=Z,170nm,3.2s
BLSI Bandar Lampung 29.85 161 P **P** **18 25 53.0 +2.1**
TJN Taejon 30.23 57 *i* P **P** **18 25 56.0 +1.9**
MTKI Muara Teweh, K 30.35 140 P **P** **18 25 57.6 +2.3**
KURBB Kurchatov Arra 30.50 338 P3KPbc 18 57 47.0
comp=Z,1.3nm,0.5s,baz=322,slow=3.6,SNR=9.7
KURK Kurchatov 30.55 338 *e*P **P** **18 25 57.1 +0.4**
comp=Z,89nm,0.8s
KURK *e* 18 57 47.0
KURK LR LR
comp=Z,6μm,21.0s
KURK Kurchatov 30.55 338 P **P** **18 25 57.1 +0.4**
SNR=28
KURK Kurchatov 30.55 338 *ce*P **P** **18 25 56.6 -0.1**
KURK pmax pmax
comp=Z,28nm,0.8s
KSAR Wonju Array Be 30.95 55 P **P** **18 25 58.0 -2.4**
KSAR Wonju Array Be 30.95 55 P **P** **18 25 58.0 -2.4**
KS01 Wonju Array Si 30.97 55 *e*P **P** **18 26 02.1 +1.5**
KSRS Korea Array 30.98 55 P **P** **18 25 58.0 -2.7**
comp=Z,11nm,1.1s,baz=238,slow=8.4,SNR=9.3
KSRS LR LR 18 40 21.8
comp=Z,3μm,20.5s,baz=229,slow=40
OTUK Ortayu 31.18 329 P **P** **18 26 02.7 +0.3**
OTUK pmax pmax
comp=Z,140nm,0.7s
ZAA0 Zalesovo Array 31.80 348 *e*P **P** **18 26 07.8 0.0**
comp=Z,97nm,1.3s
ZALV Zalesovo Beam 31.80 348 P **P** **18 26 07.5 -0.2**
comp=Z,14nm,0.8s,baz=166,slow=7.6,SNR=64
ZALV LR LR 18 40 30.6
comp=Z,2μm,19.6s,baz=204,slow=39
ZALV Zalesovo Beam 31.80 348 *e*P **P** **18 26 07.0 -0.8**
ZALV Zalesovo Beam 31.80 348 *e*P **P** **18 26 07.0 -0.8**
CIT Chita 31.85 21 *e*P **P** **18 26 08.0 -0.2**
CIT *e* 18 26 19.7
CIT *e* 18 27 16.2
CIT *e* 18 27 27.5
CIT pmax pmax
comp=Z,174nm,1.3s
CN2 Changchun 31.88 43 *e*P **P** **18 26 07.4 -1.2**
CN2 *es*P pP 18 26 14.5 -0.1
CN2 *e*S **S** **18 31 16.0 -2.4**
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 LR LR
comp=Z,8μm,14.0s
CN2 LR LR
comp=Z,5μm,14.0s
CN2 LR LR
comp=Z,4μm,14.0s
LEM Lembang 32.00 157 P **P** **18 26 11.7 +1.6**
comp=Z,54nm,0.9s,baz=30,slow=7.9,SNR=13
HIA Hailar 32.13 30 *e*P **P** **18 26 11.5 +0.8**
comp=Z,133nm,1.2s
HIA LR LR
comp=Z,7μm,19.0s
HIA Hailar 32.13 30 *e*P **P** **18 26 11.5 +0.8**
HIA pmax pmax
comp=Z,133nm,1.2s
HIA MLR MLR
comp=Z,7μm,19.0s
BRZS Berezniki 32.28 332 ⇑*i*P **P** **18 26 13.2 +1.2**
comp=Z,183nm,1.3s
BRZS LR LR 18 39 59.3
comp=Z,833nm,11.9s
JNU Nakatsue 32.34 64 P **P** **18 26 11.8 -1.0**
comp=Z,42nm,1.1s,baz=280,slow=3.4
JNU LR LR 18 38 41.0
comp=Z,5μm,18.9s,baz=257,slow=35
JNU Nakatsue 32.34 64 *e*P **P** **18 26 14.7 +1.9**
comp=Z,34nm,0.8s
MPSI Mapaga 32.63 131 P **P** **18 26 18.5 +3.1**
comp=Z,14nm,1.1s,comp=Z,520nm
DAV Davao City (W) 32.81 115 PFAKE 18 26 30.0 +13
DAV LR LR
comp=Z,2μm,21.0s
KPJI Karang Pucung 32.95 156 P **P** **18 26 20.1 +2.0**
comp=Z,171nm,1.2s,comp=Z,3μm
NVS Novosibirsk 32.97 347 ⇓*i*P **P** **18 26 18.0 +0.1**
NVS pmax pmax
comp=N,61nm,1.0s
NVS pmax pmax
comp=E,43nm,1.0s
NVS pmax pmax
comp=Z,86nm,1.0s

KBKI **Kotabaru** 32.99 140 P P **18 26 20.7 +2.2**
comp=Z,35nm,1.0s,comp=Z,433nm
SMRI **Semarang** 33.30 153 *e*P P **18 26 24.4 +3.1**
comp=Z,257nm,1.0s
SMRI **Semarang** 33.30 153 P P **18 26 24.3 +3.1**
comp=Z,292nm,1.2s,comp=Z,5µm
WBK **Wadi Bani Khal** 33.87 276 P P **18 26 28.5 +2.2**
SNR=11
MRSI **Marisa** 33.98 128 P P **18 26 30.6 +3.4**
comp=Z,24nm,0.9s,comp=Z,664nm
NGJI **Ngawi** 34.02 151 P P **18 26 29.8 +2.3**
GRJI **Gresik** 34.08 149 P P **18 26 30.2 +2.2**
WSAR **Wadi Sarin** 34.10 278 LR LR 18 40 49.8
comp=Z,4µm,21.4s,baz=107,slow=37
WSAR **Wadi Sarin** 34.10 278 P P **18 26 29.9 +1.6**
SNR=15
WSAR S **S** **18 31 56.1 +2.8**
BIDO **Bidbid** 34.52 278 P P **18 26 33.7 +1.8**
SNR=29
SMDO **Samad** 34.65 277 P P **18 26 35.1 +1.9**
SNR=16
JMDO **Jabal Madar** 34.70 276 P P 18 26 39.6 +6.2
SNR=9.2
APSI **Ampana** 34.74 130 P P **18 26 37.4 +3.6**
comp=Z,94nm,1.1s,comp=Z,1µm
MDJ **Mudanjiang** 34.89 44 P P **18 26 36.2 +1.4**
MDJ pP pP 18 26 38.8 -2.1
MDJ S **S** **18 32 03.0 -2.0**
MDJ pmax pmax
comp=Z,38nm,1.3s
MDJ pmax pmax
comp=Z,2µm,4.5s
MDJ LR LR
comp=Z,7µm,12.4s
MDJ LR LR
comp=Z,4µm,10.5s
MDJ LR LR
comp=Z,4µm,10.3s
MDJ **Mudanjiang** 34.89 44 PFAKE 18 26 50.0 +15
MDJ LR LR
comp=Z,2µm,19.0s
KMMI **Kalianget** 34.92 147 P P **18 26 37.0 +1.7**
MSHR **Mys Shultsa** 35.09 48 *i* P P **18 26 37.8 +1.3**
COCO **West Island** 35.19 178 *e*P P **18 26 41.2 +3.7**
comp=Z,455nm,1.1s
COCO LR LR
comp=Z,4µm,22.0s
COCO **West Island** 35.19 178 *i* P P **18 26 41.8 +4.3**
HOQ **Hoqain** 35.26 278 P P **18 26 39.8 +1.5**
SNR=7.3
BLJI **Banyuglugur** 35.34 148 P P **18 26 42.0 +3.1**
comp=Z,114nm,1.0s,comp=Z,3µm
GEYT **Alibeck** 35.36 303 P P **18 26 40.3 +1.3**
comp=Z,82nm,1.0s,baz=116,slow=6.8,SNR=166
GYA0B **ALIBECK ARRAY** 35.36 303 *e*P P **18 26 41.0 +2.1**
comp=Z,259nm,1.1s
KMSI **Cibinong** 35.42 125 P P **18 26 42.2 +2.5**
comp=Z,268nm,1.0s,comp=Z,3µm
BSY **Bisya** 35.47 277 P P **18 26 42.8 +2.7**
SNR=11
BVAR **Borovoye Array** 35.49 333 LR LR 18 41 36.2
comp=Z,3µm,21.5s,baz=132,slow=37
BRVK **Borovoye** 35.56 333 *e*P P **18 26 40.7 +0.3**
comp=Z,76nm,1.0s
BRVK LR LR
comp=Z,1µm,21.0s
BRVK **Borovoye** 35.56 333 P P **18 26 41.1 +0.7**
SNR=42
BRVK **Borovoye** 35.56 333 *e*P P **18 26 40.7 +0.3**
BRVK pmax pmax
comp=Z,76nm,1.0s
BRVK MLR MLR
comp=Z,1µm,21.0s
LUWI **Luwuk** 35.63 129 *e*P P **18 26 41.5 +0.1**
comp=Z,303nm,1.3s
LUWI **Luwuk** 35.63 129 P P **18 26 43.2 +1.8**
comp=Z,163nm,1.0s,comp=Z,4µm
SPSI **Sidrap Palu** 35.72 136 P P **18 26 44.1 +1.9**
comp=Z,111nm,2.4s,comp=Z,3µm
VLA **Vladivostok** 35.78 48 *i* P P **18 26 42.8 +0.3**
VLA pmax pmax
comp=Z,160nm,1.0s
SOHO **SOHO** 35.90 280 *i* P P **18 26 45.6 +1.9**
SNR=13
BANOM **Banah** 35.94 283 P P **18 26 47.7 +3.6**
SNR=6.2
BANOM **Banah** 35.94 283 *i* P P **18 26 46.8 +2.7**
SNR=12
ARQ **Araqi** 36.01 278 P P 18 26 51.8 +7.1
SNR=10
SHME **Shamm** 36.07 283 *i* P P **18 26 46.9 +1.7**
SNR=5.5
UOSS **Minazif** 36.11 281 *e*P P **18 26 46.2 +0.6**
comp=Z,48nm,1.0s
UOSS **Minazif** 36.11 281 P P **18 26 46.4 +0.9**
SNR=14
UOSS **Minazif** 36.11 281 *i* P P **18 26 46.1 +0.6**
SNR=7.4
MSFE **Esma-Masafi** 36.11 282 *i* P P **18 26 47.5 +1.9**
SNR=10
HATD **Hatta, Dubai** 36.19 281 P P **18 26 48.4 +2.2**
SNR=18
HATD **Hatta, Dubai** 36.19 281 *i* P P **18 26 47.9 +1.7**
SNR=16
JAGI **Jajag, Banyuwa** 36.24 148 P P **18 26 48.6 +2.0**
ASHO **Ashiyiah** 36.27 281 P P **18 26 49.1 +2.2**
SNR=24
ASHO **Ashiyiah** 36.27 281 *i* P P **18 26 48.6 +1.7**
SNR=44
USA0B **Ussuriysk Arra** 36.27 46 *e*P P **18 26 46.2 -0.4**
comp=Z,134nm,1.4s
USRK **Ussuriysk Ar.** 36.27 46 P P **18 26 45.6 -1.1**
comp=Z,60nm,0.9s,baz=250,slow=8.1,SNR=28
USRK LR LR 18 42 29.4
comp=Z,4µm,19.0s,baz=224,slow=38
SRBI **Singaraja** 36.43 146 P P **18 26 50.4 +2.1**
KAPI **Kappang** 36.52 137 PFAKE 18 27 00.0 +11
KAPI LR LR
comp=Z,2µm,22.0s
KAPI **Kappang** 36.52 137 *ce*P P **18 26 50.9 +1.9**
KAPI pmax pmax
comp=Z,161nm,2.5s
NAZ **Nazwa, Dubai** 36.59 281 P P **18 26 51.3 +1.6**
SNR=11
NAZ **Nazwa, Dubai** 36.59 281 *i* P P **18 26 51.1 +1.4**
SNR=7.2
ALNE **Al Ain** 36.62 280 *i* P P **18 26 51.4 +1.5**
SNR=6.9
FAQ **Al Faqa, Dubai** 36.68 281 P P **18 26 51.8 +1.4**
SNR=14
FAQ **Al Faqa, Dubai** 36.68 281 *i* P P **18 26 51.6 +1.2**
SNR=14
ASUD **Al Ashush, Dub** 36.93 281 P P **18 26 54.5 +2.0**
SNR=7.4
ASUD **Al Ashush, Dub** 36.93 281 *i* P P **18 26 54.1 +1.6**
SNR=14
BKSI **Bulukumba** 36.99 137 P P **18 26 54.5 +1.5**
comp=Z,37nm,1.0s,comp=Z,772nm
BOD **Bodaibo** 37.00 16 *e*P P **18 26 52.3 -0.4**
BOD pmax pmax
comp=Z,87nm,1.6s
AJN **Ajban** 37.25 281 *i* P P **18 26 56.5 +1.3**
SNR=6.7
INU **Inuyama** 37.69 62 *e*P P **18 26 57.3 -1.5**
comp=Z,282nm,1.2s
TWSI **Taliwang, Sumb** 37.86 145 P P **18 27 02.7 +2.3**
comp=Z,132nm,1.2s,comp=Z,2µm
TNTI **Ternate** 37.90 122 *e*P P **18 27 00.5 -0.3**
comp=Z,51nm,1.2s
TNTI **Ternate** 37.90 122 P P **18 27 00.7 -0.1**
comp=Z,44nm,1.1s,comp=Z,927nm
DGAR **Diego Garcia** 38.04 220 PFAKE 18 27 10.0 +8.1
DGAR LR LR
comp=Z,1µm,19.0s
AB31 **Akbulak array** 38.33 322 *i* P P **18 27 04.6 +0.6**
AB31 pmax pmax
comp=Z,127nm,1.0s
ABKAR **Akbulak array** 38.33 322 *e*P P **18 27 04.7 +0.7**
KLR **Kul'dur** 38.37 38 P P **18 27 03.5 -0.9**
comp=Z,20nm,1.1s,baz=242,slow=9.6,SNR=12
KLR LR LR 18 43 30.5
comp=Z,3µm,19.7s,baz=222,slow=37
KLR **Kul'dur** 38.37 38 *ce*P P **18 27 04.4 0.0**
PLAI **Plampang** 38.41 143 P P **18 27 05.6 +0.5**
ZEA **Zeya** 38.61 30 *e*P P **18 27 06.8 +0.4**
ZEA *e* 18 28 40.5
ZEA *e*PPP PPP 18 28 56.0
ZEA pmax pmax
comp=Z,500nm,3.0s
ZEA pmax pmax
comp=N,58nm,1.2s
ZEA pmax pmax
comp=E,29nm,1.2s
ZEA pmax pmax
comp=Z,71nm,1.2s
ZEA pmax pmax
comp=Z,700nm,6.0s
ZEA MLR MLR
comp=Z,9µm,12.0s
ZEA MLR MLR
comp=E,4µm,10.0s
ZEA MLR MLR
comp=N,6µm,13.0s
SANI **Sanana** 38.66 126 P P **18 27 10.3 +3.1**
BBSI **Bau Bau** 38.69 134 P P **18 27 10.2 +2.8**
MJB9 **Matsu-Tunnel** 38.80 60 *e*P P **18 27 06.8 -1.5**
comp=N,215nm,1.1s
MAJO **Matsushiro** 38.80 60 *e*P P **18 27 06.3 -1.9**
comp=N,191nm,1.1s
MAJO LR LR
comp=Z,4µm,22.0s
MAJO **Matsushiro** 38.80 60 *ce*P P **18 27 06.7 -1.5**
MAJO pmax pmax
comp=Z,133nm,1.0s
MAJO MLR MLR
comp=Z,3µm,16.0s
MAT **Matsushiro** 38.80 60 P P **18 27 06.1 -2.1**
MAT S **S** **18 33 00.0 -4.9**
MJAR **Matsushiro Arr** 38.80 60 P P **18 27 07.0 -1.2**
comp=Z,82nm,1.0s,baz=266,slow=10,SNR=94
MZR **Muzera** 38.83 278 P P **18 27 09.3 +0.7**
RBK **Rabkut** 38.91 270 P P **18 27 14.6 +1.8**
SNR=16
TEY **Ternei** 39.64 47 ⇓ *e*P P **18 27 15.9 +0.8**
TEY *e* 18 33 23.8
TEY pmax pmax
comp=N,30nm,1.3s
TEY pmax pmax
comp=Z,50nm,1.5s
TEY pmax pmax
comp=E,30nm,1.7s
TEY MLR MLR
comp=N,400nm,11.0s
TEY MLR MLR
comp=Z,500nm,11.0s
WBSI **Waikabubak, Su** 39.98 142 P P **18 27 17.9 -0.3**
comp=Z,313nm,1.2s,comp=Z,4µm
AKTO **Aktyubinsk** 39.99 322 LR LR 18 47 13.2
comp=Z,2µm,18.8s,baz=124,slow=41
AKTO **Aktyubinsk** 39.99 322 P P **18 27 17.5 -0.4**
AKTO pmax pmax
comp=Z,91nm,1.2s
EDFI **Ende, Flores** 40.62 138 P P **18 27 23.4 -0.2**
comp=Z,40nm,1.0s,comp=Z,1µm
MMRI **Maumere** 40.87 138 *e*P P **18 27 27.3 +1.7**
comp=Z,98nm,1.1s
MMRI **Maumere** 40.87 138 P P **18 27 28.8 +3.3**
comp=Z,85nm,1.1s,comp=Z,2µm
AAI **Ambon** 41.38 126 P P **18 27 32.1 +2.3**
MSAI **Masohi** 41.71 125 P P **18 27 36.0 +3.5**
comp=Z,29nm,1.3s,comp=Z,432nm
GRNR **Gornyy** 41.75 38 *e*P P **18 27 34.2 +1.7**
GRNR *e* 18 29 46.2
GRNR pmax pmax
comp=Z,18nm,1.1s
SVE **Sverdlovsk** 42.21 332 *d* iP P **18 27 36.9 +0.8**
SVE *e*S **S** **18 33 55.3 +0.2**
SVE pmax pmax
comp=Z,183nm,0.9s
SVE MLR MLR
comp=Z,2µm,16.0s
ARU **Arti** 42.89 330 LR LR 18 46 53.8
comp=Z,2µm,20.7s,baz=116,slow=38
ARU **Arti** 42.89 330 *e*P P **18 27 41.3 -0.3**
comp=Z,63nm,0.7s
ARU **Arti** 42.89 330 *c i*P P **18 27 41.7 +0.1**
ARU 18 29 24.0
ARU 18 29 32.0
ARU S **S** **18 34 09.3 +4.1**
ARU 18 37 38.0
ARU pmax pmax
comp=Z,181nm,2.5s
ARU MLR MLR
comp=Z,3µm,19.0s
BATI **Baumata** 42.97 138 P P **18 27 41.8 -0.9**
comp=Z,109nm,1.1s,comp=Z,1µm
SOEI **Soe** 43.00 136 *e*P P **18 27 39.7 -3.4**
comp=Z,579nm,1.1s
SOEI **Soe** 43.00 136 P P **18 27 41.7 -1.4**
comp=Z,514nm,1.1s,comp=Z,5µm
ERM **Erimo** 43.48 53 *e*P P **18 27 48.5 +2.0**
comp=Z,118nm,0.9s
ERM LR LR
comp=Z,1µm,22.0s
ERM **Erimo** 43.48 53 *e*P P **18 27 48.6 +2.0**
ERM pmax pmax
comp=Z,119nm,0.9s
ERM MLR MLR
comp=Z,1µm,22.0s
ASAJ **Asahikawa** 43.50 50 P P **18 27 46.6 -0.1**
comp=Z,35nm,0.9s,baz=106,slow=6.3,SNR=11
ASAJ **Asahikawa** 43.50 50 *e*P P **18 27 50.3 +3.6**
comp=Z,98nm,1.1s
FAKI **Fak Fak** 44.00 121 *e*P P **18 27 51.5 +0.4**
comp=Z,59nm,1.0s
FAKI **Fak Fak** 44.00 121 P P **18 27 52.2 +1.1**
comp=Z,81nm,1.1s,comp=Z,2µm
YSS **Yuzh-Sakhalins** 44.31 46 PFAKE 18 28 00.0 +6.8
YSS LR LR
comp=Z,2µm,20.0s
YSS **Yuzh-Sakhalins** 44.31 46 ⇓ *e*P P **18 27 51.8 -1.4**
YSS *e* 18 28 02.5
YSS *e*S **S** **18 34 33.2 +7.0**
YSS *e* 18 37 44.2
YSS MLR MLR
comp=Z,4µm,13.0s
YSS MLR MLR
comp=E,4µm,12.0s
MAK **Makhachkala** 44.33 308 *e*P P **18 27 53.0 -0.4**
MAK *e* 18 29 39.3
MAK *e*S **S** **18 34 26.5 -0.1**
MAK pmax pmax
comp=Z,194nm,0.9s
YAK **Yakutsk** 45.13 22 P P **18 27 57.3 -2.2**
comp=Z,61nm,0.8s,baz=318,slow=1.9,SNR=23
YAK LR LR 18 48 21.6
comp=Z,4µm,20.0s,baz=273,slow=38
YAK **Yakutsk** 45.13 22 *e*P P **18 27 58.8 -0.7**
comp=Z,100nm,0.9s
YAK **Yakutsk** 45.13 22 *c i*P P **18 27 58.5 -0.9**
YAK *e**PP **sP** **18 28 08.0 -0.1**
YAK *e* 18 29 38.2
YAK *e* 18 29 43.5
YAK *e*S **S** **18 34 38.5 +0.9**
YAK *e**SS **sS** **18 34 53.7 +5.9**
YAK *e* 18 37 48.9
YAK pmax pmax
comp=Z,70nm,0.9s
YAK pmax pmax
comp=E,35nm,1.1s
YAK pmax pmax
comp=N,19nm,1.1s
YAK pmax pmax
comp=Z,167nm,3.2s
YAK pmax pmax
comp=N,94nm,3.1s
YAK pmax pmax
comp=E,124nm,3.3s
YAK smax smax
comp=E,306nm,4.2s
YAK smax smax
comp=N,181nm,3.6s
YAK MLR MLR
comp=Z,4µm,11.0s
YAK MLR MLR
comp=N,2µm,11.0s
YAK MLR MLR
comp=E,2µm,10.0s
NKL **Nikolayevsk** 45.14 37 *e*P P **18 28 00.5 +0.8**
NKL *e* 18 34 32.0
NKL pmax pmax
comp=Z,52nm,1.0s
NKL pmax pmax
comp=Z,800nm,4.0s
NKL MLR MLR
comp=N,6µm,14.0s
NKL MLR MLR
comp=E,7µm,14.0s
NKL MLR MLR
comp=Z,9µm,14.0s
TYV **Tymovskoe** 45.43 40 *e*P P **18 27 58.8 -3.3**
TYV pmax pmax
comp=Z,34nm,1.5s
TYV pmax pmax
comp=Z,700nm,4.4s
GROC **Groznyy** 45.60 308 *e*P P **18 28 03.7 +0.1**
GROC *e* 18 29 41.0
GROC *e* 18 29 48.6
GROC *e*S **S** **18 34 45.7 +0.6**
GROC *e* 18 38 02.0
GROC pmax pmax
comp=Z,337nm,1.2s
YUK **Yuzh-Kuril'sk** 45.79 50 P P **18 28 05.1 +0.1**
YUK 18 29 40.7
YUK *e* 18 29 46.3
YUK *e*SS SS 18 38 08.0 -4.0
YUK MLR MLR
comp=Z,2µm,15.0s
YUK MLR MLR
comp=N,943nm,14.0s
YUK MLR MLR
comp=E,595nm,12.0s
RAYN **Ar Rayn** 45.98 281 *e*P P **18 28 07.6 +0.7**
comp=E,108nm,1.1s
RAYN LR LR
comp=Z,2µm,20.0s
RAYN **Ar Rayn** 45.98 281 *i* P P **18 28 07.5 +0.7**
SNR=100
RAYN **Ar Rayn** 45.98 281 *e*P P **18 28 07.6 +0.7**
RAYN pmax pmax
comp=Z,108nm,1.1s
RAYN MLR MLR
comp=Z,2µm,20.0s
GNI **Garni** 45.99 304 LR LR 18 51 14.1
comp=Z,1µm,18.2s,baz=116,slow=41
GNI **Garni** 45.99 304 *e*P P **18 28 08.8 +1.9**
comp=Z,190nm,1.1s
GNI **Garni** 45.99 304 P P **18 28 08.8 +1.9**
SNR=22
GNI **Garni** 45.99 304 *i* P P **18 28 08.1 +1.3**
SNR=26
GNI **Garni** 45.99 304 *ce*P P **18 28 08.1 +1.3**
GNI pmax pmax
comp=Z,805nm,1.7s
TBLG **Delisi** 46.16 306 *e*P P **18 28 09.4 +1.3**
comp=Z,84nm,1.1s
TBLG **Delisi** 46.16 306 *e*P P **18 28 09.4 +1.3**
TBLG pmax pmax
comp=Z,84nm,1.1s
NRIK **Noril'sk** 46.42 356 P P **18 28 09.4 -0.2**
comp=Z,26nm,0.9s,baz=166,slow=6.5,SNR=22
NRIK LR LR 18 47 31.6
comp=Z,3µm,18.6s,baz=174,slow=36
SRPI **Serui, Papua** 46.59 117 P P **18 28 15.5 +3.8**
comp=Z,49nm,0.9s
ZEI **Tsey** 46.92 308 *e*P P 18 28 09.4 -4.8
ZEI pmax pmax
comp=Z,166nm,0.9s
AKH **Akhalkalaki** 47.06 306 *e*P P **18 28 17.4 +2.2**
comp=Z,242nm,1.0s
AKH **Akhalkalaki** 47.06 306 *e*P P **18 28 17.4 +2.2**
AKH pmax pmax
comp=Z,242nm,1.0s
NCK **Nalchik** 47.23 308 *ce*P P **18 28 17.0 +0.6**
NCK pmax pmax
comp=Z,108nm,1.0s
GUMO **Guam** 47.34 93 PFAKE 18 28 30.0 +12
GUMO LR LR
comp=Z,2µm,20.0s
KUR **Kuril'sk** 47.40 49 *e*P P **18 28 19.1 +1.5**
KUR *i* 18 30 11.8
KUR *e*PPP PPP 18 30 51.5
KUR S **S** **18 35 10.9 +0.2**
KUR pmax pmax
comp=Z,112nm,1.6s
KUR MLR MLR
comp=E,200nm,12.0s
KUR MLR MLR
comp=Z,1µm,12.0s
KUR MLR MLR
comp=N,1µm,16.0s
KBZ **Khabaz** 47.77 309 P P **18 28 20.8 +0.3**
comp=N,22nm,1.0s,baz=146,slow=7.8,SNR=27
KBZ LR LR 18 52 04.5
comp=N,2µm,18.0s,baz=91,slow=41
NEY **Neytrino** 47.83 308 *ce*P P **18 28 22.5 +1.2**
NEY pmax pmax
comp=Z,23nm,0.8s
NEY MLR MLR
comp=Z,712nm,16.0s
GOF **Gofitskoye** 47.86 310 ⇑ *i*P P **18 28 21.8 +0.6**
GOF *e*S **S** **18 35 15.6 -1.7**
GOF pmax pmax
comp=Z,270nm,1.1s
GOF smax smax
comp=E,80nm,1.0s
GOF smax smax
comp=N,150nm,1.6s
KVAR **Kislovodsk Arr** 47.94 309 LR LR 18 53 13.3
comp=N,1µm,18.3s,baz=201,slow=42
KIV **Kislovodsk** 47.95 309 *e*P P **18 28 22.6 +0.6**
comp=N,218nm,1.1s
KIV LR LR
comp=Z,1µm,19.0s
KIV **Kislovodsk** 47.95 309 P P **18 28 22.6 +0.6**
SNR=27
KIV **Kislovodsk** 47.95 309 *i* P P **18 28 22.8 +0.7**
SNR=44
KIV **Kislovodsk** 47.95 309 *e*P P **18 28 22.5 +0.5**
KIV *e* 18 30 13.9
KIV *e*S **S** **18 35 21.2 +2.4**
KIV pmax pmax
comp=Z,190nm,1.0s
KIV pmax pmax
comp=Z,146nm,4.0s
DAMY **Dhamar** 49.18 270 *e*P P **18 28 33.4 +1.2**
comp=Z,97nm,1.2s
MBWA **Marble Bar** 49.88 150 *e*P P **18 28 37.7 +0.8**
comp=Z,115nm,1.0s
MBWA LR LR
comp=Z,2µm,21.0s
MBWA **Marble Bar** 49.88 150 P P **18 28 38.2 +1.3**
SNR=7.0
VRH **Novokhopyorsk** 49.90 318 *e*P P **18 28 36.0 -0.8**
VRH *e*S **S** **18 35 44.4 -1.4**
VRH pmax pmax
comp=Z,110nm,0.9s
VRH smax smax
comp=E,540nm,2.1s
VRH MLR MLR
comp=Z,1µm,16.0s
GENI **Genyem** 50.25 115 P P **18 28 41.9 +2.0**
comp=Z,93nm,1.2s,comp=Z,3µm
FITZ **Fitzroy Crossi** 50.34 142 P P **18 28 38.6 -1.9**
comp=Z,69nm,1.0s,baz=336,slow=5.9,SNR=32
FITZ **Fitzroy Crossi** 50.34 142 *e*P P **18 28 38.4 -2.0**
comp=Z,121nm,1.3s
VORD **Divnogorie** 51.35 318 *e*P P **18 28 46.7 -1.0**
VORD *e*S **S** **18 36 06.3 +0.3**
VORD pmax pmax
comp=Z,30nm,0.9s
VORD smax smax
comp=E,200nm,2.6s
VSR **Storozhevoye** 51.48 318 *e*P P **18 28 46.2 -2.5**
VSR *e*S **S** **18 36 05.2 -2.5**
VSR pmax pmax
comp=Z,80nm,1.7s
VSR smax smax
comp=E,10.0nm,2.1s
VSR MLR MLR
comp=Z,2µm,17.0s
VORR **Voronezh** 51.54 318 *e*P P **18 28 49.0 -0.1**
VORR pmax pmax
comp=Z,300nm,1.2s
ATD **Arta Tunnel** 51.60 266 LR LR 18 50 13.2
comp=Z,2µm,20.4s,baz=72,slow=36
ATD **Arta Tunnel** 51.60 266 *e*P P **18 28 51.0 +0.8**
comp=Z,44nm,1.1s
ANN **Anapa** 51.78 310 *e*P P **18 28 49.7 -1.3**

ANN eS S 18 36 11.9 -0.2
ANN pmax pmax
comp=Z,134nm,1.6s
LPSR Galich'ya Gora 51.90 320 eP P 18 28 51.0 -0.7
LPSR eS S 18 36 12.0 -1.4
LPSR pmax pmax
comp=Z,100nm,0.8s
LPSR smax smax
comp=E,170nm,1.7s
TIXI Tiksi 51.99 13 P P 18 28 50.9 -1.4
comp=E,21nm,0.4s,baz=210,slow=4.5,SNR=124
TIXI Tiksi 51.99 13 eP P 18 28 50.8 -1.4
comp=E,132nm,1.4s
TIXI LR LR
comp=Z,2μm,21.0s
TIXI Tiksi 51.99 13 eP P 18 28 50.8 -1.4
TIXI pmax pmax
comp=Z,132nm,1.4s
TIXI MLR MLR
comp=Z,2μm,21.0s
ASF Jabal al Asfar 52.37 294 LR LR 18 57 20.0
comp=Z,952nm,19.5s,baz=50,slow=43
MA2 Magadan 52.70 32 P P 18 28 57.4 -0.3
comp=Z,56nm,0.7s,baz=262,slow=8.7,SNR=26
MA2 Magadan 52.70 32 eP P 18 28 57.4 -0.3
comp=Z,84nm,0.9s
MA2 LR LR
comp=Z,3μm,19.0s
MA2 Magadan 52.70 32 i P P 18 28 57.3 -0.3
MA2 pmax pmax
comp=Z,85nm,1.0s
MOS Moscow 53.31 323 eP P 18 29 00.2 -2.0
MOS e 18 31 04.2
MOS ePPP PPP 18 32 08.3
MOS eS S 18 36 32.3 -0.4
MOS eSS SS 18 40 03.2 -9.1
MOS pmax pmax
comp=Z,300nm,2.2s
MOS pmax pmax
comp=Z,134nm,1.4s
MOS MLR MLR
comp=N,600nm,16.0s
MOS MLR MLR
comp=Z,2μm,16.0s
MOS MLR MLR
comp=E,2μm,20.0s
MMAI Mount Meron Ar 53.54 295 LR LR 18 58 16.7
comp=E,1μm,18.5s,baz=60,slow=43
SKR Severo-Kuril's 53.70 43 i P P 18 29 06.0 +0.9
OBN Obninsk 53.77 322 eP P 18 29 05.2 -0.4
comp=E,61nm,1.0s
OBN LR LR
comp=Z,1μm,21.0s
OBN Obninsk 53.77 322 c iP P 18 29 04.6 -0.9
OBN e 18 30 11.0
OBN e 18 31 09.8
OBN ePPP PPP 18 32 20.1
OBN i S S 18 36 41.0 +2.2
OBN pmax pmax
comp=Z,84nm,1.2s
OBN MLR MLR
comp=Z,1μm,16.0s
SIM Simferopol' 54.15 310 ceP P 18 29 07.9 -0.6
SIM S S 18 36 34.8 -10
SIM pmax pmax
comp=Z,42nm,0.9s
BR131 Keskin Array S 54.50 303 eP P 18 29 11.4 0.0
BR131 Keskin Array S 54.50 303 P P 18 29 11.2 -0.1
SNR=9.8
BRTR Keskin Array B 54.50 303 P P 18 29 10.8 -0.6
comp=Z,13nm,1.0s,baz=116,slow=5.6,SNR=33
SEY Seymchan 54.54 28 P P 18 29 10.2 -0.9
comp=Z,15nm,0.8s,baz=267,slow=6.4,SNR=20
SEY LR LR 18 54 43.0
comp=Z,4μm,20.0s,baz=254,slow=38
SEY Seymchan 54.54 28 eP P 18 29 11.7 +0.6
PETK Petropavlovsk- 54.98 40 P P 18 29 13.8 -0.6
comp=Z,4.7nm,0.8s,baz=285,slow=1.4,SNR=7.4
PETK LR LR 18 54 09.0
comp=Z,2μm,20.5s,baz=230,slow=38
CSS Mathiatis 55.06 297 eP P 18 29 15.7 +0.4
comp=Z,48nm,0.9s
ANTO Ankara 55.14 303 eP P 18 29 16.3 +0.4
comp=Z,56nm,0.8s
ANTO LR LR
comp=Z,794nm,20.0s
ANTO Ankara 55.14 303 ⇑ iP P 18 29 16.0 0.0
ANTO Ankara 55.14 303 P P 18 29 15.9 0.0
SNR=7.2
ANTO Ankara 55.14 303 eP P 18 29 16.3 +0.4
ANTO pmax pmax
comp=Z,55nm,0.8s
ANTO MLR MLR
comp=Z,794nm,20.0s
BR231 Keskin MP Arra 55.16 303 eP P 18 29 16.3 +0.2
PET Petropavlovsk 55.55 41 PFAKE 18 29 30.0 +12
PET LR LR
comp=Z,2μm,19.0s
PET Petropavlovsk 55.55 41 eP P 18 29 15.8 -2.7
PET eS S 18 37 03.5 +0.7
PET pmax pmax
comp=Z,200nm,12.5s
PET MLR MLR
comp=Z,2μm,12.0s
PET MLR MLR
comp=Z,2μm,14.0s
WRA Warramunga Arr 57.03 136 P P 18 29 27.0 -2.5
comp=Z,26nm,0.9s,baz=324,slow=7.4,SNR=49
WRA LR LR 18 57 46.0
comp=Z,940nm,19.9s,baz=315,slow=40
WRA PKPPKP P'P'df 18 59 20.9 +3.8
comp=Z,1.0nm,0.8s,baz=152,slow=1.9,SNR=4.1
WRA Warramunga Arr 57.03 136 P P 18 29 27.0 -2.5
WRAB Tennant Creek 57.03 136 eP P 18 29 28.0 -1.5
comp=Z,32nm,0.9s
WRAB LR LR
comp=Z,2μm,22.0s
WRAB Tennant Creek 57.03 136 ceP P 18 29 30.0 +0.5
WRAB pmax pmax
comp=Z,40nm,1.1s
WRAB MLR MLR
comp=Z,2μm,22.0s
WB2 Warramunga Arr 57.03 136 eP P 18 29 27.4 -2.1
ISP Isparta 57.05 301 ⇑ iP P 18 29 28.9 -0.7
AKASG Malin Array Be 57.66 316 P P 18 29 31.9 -1.6
comp=Z,22nm,0.9s,baz=76,slow=6.8,SNR=63
AKASG LR LR 18 58 54.0
comp=Z,2μm,18.1s,baz=90,slow=41
AKASG Malin Array Be 57.66 316 P P 18 29 32.0 -1.6
AKASG pmax pmax
comp=Z,22nm,0.9s
AKASG MLR MLR
comp=Z,2μm,18.1s
KIEV Kiev 57.67 316 eP P 18 29 31.6 -2.1
comp=Z,45nm,1.0s
KIEV LR LR
comp=Z,2μm,20.0s
KIEV Kiev 57.67 316 i P P 18 29 32.1 -1.5
SNR=28
KIEV Kiev 57.67 316 ceP P 18 29 31.7 -1.9
KIEV pmax pmax
comp=Z,41nm,1.1s
KIEV MLR MLR
comp=Z,2μm,17.0s
KIS Kishinev 57.87 312 eP P 18 29 34.0 -1.1
KIS Kishinev 57.87 312 ePS 18 37 50.0
KIS LRM MLR 19 00 45.0
comp=Z,1μm,17.0s
KIS Kishinev 57.87 312 eP P 18 29 34.0 -1.1
KIS e 18 30 25.0
KIS i 18 33 14.0
KIS eS S 18 37 25.0 -8.8
KIS ePS PnS 18 37 50.0 +4.0
KIS MLR MLR
comp=E,1μm,15.0s
KIS MLR MLR
comp=Z,1μm,15.0s
KIS MLR MLR
comp=Z,1μm,16.0s
TLCR 57.90 310 ⇑ iP P 18 29 35.1 -0.3
PUL Pulkovo 57.92 327 i P P 18 29 35.8 +0.6
PUL pmax pmax
comp=Z,55nm,0.9s
SORM Soroca 58.18 313 ⇑ iP P 18 29 35.5 -1.8
TIRR Tirgusor 58.21 309 eP P 18 29 37.1 -0.4
comp=Z,52nm,1.1s
TIRR Tirgusor 58.21 309 ⇓ iP P 18 29 36.4 -1.1
TIRR Tirgusor 58.21 309 eP P 18 29 37.1 -0.4
TIRR pmax pmax
comp=Z,52nm,1.1s
LEOM Leova 58.27 311 ⇑ iP P 18 29 36.9 -1.0
APA Apatity 58.31 336 ⇑ iP P 18 29 38.0 +0.2
APA pmax pmax
comp=Z,24nm,0.8s
APA MLR MLR
comp=Z,2μm,14.0s
CFR Carcaliu 58.38 310 ⇑ iP P 18 29 38.2 -0.5
HARR Harsova 58.55 309 ⇑ iP P 18 29 39.5 -0.4
MICGM Minsk 58.67 321 ⇓ eP P 18 29 39.0 -1.6
MICGM PM 18 29 40.0
comp=Z,0.2nm,1.0s
MICGM eLQ LQ 18 52 20.0
MICGM eLR LR 18 54 40.0
MICGM LRM MLR 18 59 28.0
comp=Z,2.6nm,10.0s
PETR Petresti 59.00 310 ⇑ iP P 18 29 44.0 +1.0
ODBI Odobesti 59.12 311 ⇑ iP P 18 29 45.3 +1.4
NACGM Naroch 59.33 321 e P 18 29 43.0 -2.1
NACGM eLQ LQ 18 52 10.0
NACGM eLR LR 18 58 14.0
VRI Vrincioaia 59.35 311 ⇑ iP P 18 29 45.7 +0.2
PLOR Plostina 59.40 311 ⇑ iP P 18 29 45.9 0.0
NWAO Narrogin (SRO) 59.44 159 eP P 18 29 48.3 +2.2
comp=Z,41nm,0.8s
NWAO LR LR
comp=Z,3μm,21.0s
AS31 Alice Springs 59.50 139 eP P 18 29 46.8 0.0
comp=Z,6.9nm,0.8s
ASAR Alice Springs 59.50 139 P P 18 29 44.8 -2.0
comp=Z,53nm,1.1s,baz=319,slow=6.6,SNR=52
ASAR LR LR 18 58 04.4
comp=Z,1μm,20.5s,baz=314,slow=39
ASAR PKPPKP P'P'df 18 59 14.8 +1.8
comp=Z,1.5nm,1.0s,baz=90,slow=1.4,SNR=5.6
ISR Istrita 59.51 310 ⇓ iP P 18 29 47.3 +0.6
AS01 Alice Springs 59.53 139 eP P 18 29 44.7 -2.3
VSU Vasula 59.60 325 ceP P 18 29 45.6 -1.3
VSU pmax pmax
comp=Z,128nm,1.1s
BIZ Bicaz 59.73 312 ⇑ iP P 18 29 47.8 -0.3
MLR Muntele Rosu 59.91 310 eP P 18 29 48.9 -0.6
comp=Z,180nm,1.0s
MLR Muntele Rosu 59.91 310 ⇑ iP P 18 29 49.6 +0.1
MLR Muntele Rosu 59.91 310 eP P 18 29 48.9 -0.6
MLR pmax pmax
comp=Z,180nm,1.0s
SGRR Singureni 59.97 309 ⇑ iP P 18 29 49.8 0.0
OZUR 59.99 311 ⇑ iP P 18 29 49.4 -0.5
KARP Karpathos 60.00 299 eP P 18 29 49.7 -0.5
comp=Z,155nm,0.8s
KARP Karpathos 60.00 299 P P 18 29 49.2 -1.0
ALN Alexandroupoli 60.21 305 eP P 18 29 51.2 -0.2
comp=Z,35nm,1.1s
ALN Alexandroupoli 60.21 305 P P 18 29 50.1 -1.3
ALN Alexandroupoli 60.21 305 eP P 18 29 51.2 -0.2
ALN pmax pmax
comp=Z,35nm,1.1s
FIA1 FINESS Array S 60.22 329 eP P 18 29 50.4 -0.7
FINES FINESS Array B 60.22 329 P P 18 29 50.7 -0.4
comp=Z,16nm,0.8s,baz=114,slow=6.9,SNR=19
DOPR Dopca 60.27 311 ⇑ iP P 18 29 51.5 -0.3
BURAR Bucovina Array 60.30 313 ⇑ iP P 18 29 51.4 -0.7
BUR04 Bucovina Ar. S 60.31 313 eP P 18 29 51.1 -1.1
BUR08 Bucovina Ar. S 60.31 313 eP P 18 29 51.5 -0.7
VOIR 60.55 310 ⇓ iP P 18 29 53.1 -0.7
MTUR Matau 60.55 310 ⇓ iP P 18 29 53.8 0.0
RDO Rodhopi 60.57 305 P P 18 29 52.8 -1.1
RDO Rodhopi 60.57 305 P P 18 29 52.8 -1.1
GOLR 60.65 310 ⇓ iP P 18 29 54.1 -0.3
HUMR Humele 60.66 309 ⇑ iP P 18 29 53.8 -0.7
ARR Arges 60.84 310 ⇑ iP P 18 29 55.1 -0.7
ARCR ARCALIA 60.92 312 ⇑ iP P 18 29 56.4 +0.2
LVV L'vov 61.00 315 eP P 18 29 53.4 -3.3
LVV ePPP PPP 18 33 38.6
LVV eS S 18 38 08.3 -5.8
LVV ePS PnS 18 38 46.7 +18
LVV MLR MLR
comp=N,300nm,18.0s
LVV MLR MLR
comp=E,1μm,18.0s
LVV MLR MLR
comp=Z,1μm,18.0s
KEV Kevo 61.12 338 eP P 18 29 57.0 0.0
comp=Z,50nm,0.9s
KEV LR LR
comp=Z,5μm,19.0s
KEV Kevo 61.12 338 eP P 18 29 57.1 0.0
KEV pmax pmax
comp=Z,51nm,0.9s
KEV MLR MLR
comp=Z,5μm,19.0s
THAS Thassos island 61.24 305 P P 18 29 57.4 -1.1
BILL Bilibino 61.41 24 eP P 18 29 58.2 -0.9
BILL LR LR
comp=Z,5μm,20.0s
BILL Bilibino 61.41 24 c iP P 18 29 57.3 -1.8
BILL e 18 30 45.8
BILL e 18 32 18.8
BILL i S S 18 38 13.3 -5.4
BILL i SSS SSS 18 44 59.6
BILL pmax pmax
comp=Z,51nm,1.1s
BILL MLR MLR
comp=Z,5μm,19.0s
LAST Lasithi 61.42 299 P P 18 29 57.1 -2.8
LAST Lasithi 61.42 299 P P 18 29 57.1 -2.8
SUW Suwalki 61.42 320 eP P 18 29 58.1 -1.3
SUW Suwalki 61.42 320 eP P 18 29 58.0 -1.4
comp=Z,125nm,1.0s
SUW Suwalki 61.42 320 eP P 18 29 58.0 -1.4
SUW pmax pmax
comp=Z,125nm,1.0s
LOT Lotru 61.44 310 ⇑ iP P 18 29 56.9 -3.0
CJR Cluj-Napoca 61.46 312 ⇑ iP P 18 30 00.1 +0.2
BMR Baia Mare 61.46 313 ⇑ iP P 18 29 59.1 -0.8
ARCES ARCESS Array B 61.59 338 P P 18 30 01.0 +0.7
comp=Z,6.6nm,0.7s,baz=76,slow=5.9,SNR=19
ARCES LR LR 19 00 08.2
comp=Z,116nm,18.4s,baz=94,slow=39
ARCES ARCESS Array B 61.59 338 eP P 18 30 01.4 +1.1
ARCES ARCESS Array B 61.59 338 eP P 18 30 01.5 +1.1
ARE0 ARCESS Array S 61.59 338 eP P 18 30 01.4 +1.1
NVR Nevrokopi 61.80 306 P P 18 30 01.0 -1.3
NVR Nevrokopi 61.80 306 P P 18 30 01.0 -1.3
KMBO Kilima Mbogo 61.81 255 P P 18 30 02.5 -0.5
comp=Z,7.1nm,1.0s,baz=42,slow=9.3,SNR=10
KMBO LR LR 18 57 26.2
comp=Z,808nm,19.3s,baz=74,slow=37
KMBO Kilima Mbogo 61.81 255 i P P 18 30 02.5 -0.5
SNR=13
OUR Ouranopolis 61.84 305 P P 18 30 01.5 -1.0
OUR Ouranopolis 61.84 305 P P 18 30 01.5 -1.0
OUR Ouranopolis 61.84 305 P P 18 30 01.5 -1.0
KWP Kalwaria Pacla 61.86 315 eP P 18 30 02.0 -0.5
KWP Kalwaria Pacla 61.86 315 eP P 18 30 02.0 -0.5
DEV Deva 62.01 311 ⇓ iP P 18 30 03.3 -0.3
SRS Serrai 62.03 305 P P 18 30 02.2 -1.6
SRS Serrai 62.03 305 P P 18 30 02.2 -1.6
SRS Serrai 62.03 305 P P 18 30 02.2 -1.6
DRGR 62.06 312 ⇑ iP P 18 30 03.7 -0.3
TRPA Tarpa 62.07 313 ⇑ iP P 18 30 03.5 -0.4
TRPA Tarpa 62.07 313 ⇓ eP P 18 30 03.1 -0.8
VTS Vitosha 62.13 307 eP P 18 30 03.8 -0.9
comp=Z,31nm,1.1s
VTS Vitosha 62.13 307 ⇑ iP P 18 30 03.8 -0.9
VTS Vitosha 62.13 307 P P 18 30 03.7 -1.0
GZR Gura Zlata 62.15 310 ⇑ iP P 18 30 03.7 -0.9
UZH Uzhgorod 62.20 314 ⇓ iP P 18 30 02.7 -2.1
PLG Polygyros 62.24 305 P P 18 30 02.8 -2.5
PLG Polygyros 62.24 305 P P 18 30 02.8 -2.5
PLG Polygyros 62.24 305 P P 18 30 02.8 -2.5
KTK1 Kautokeino 62.31 337 eP P 18 30 05.0 -0.1
VLY Voula,Athens 62.33 302 P P 18 30 03.9 -2.0
VLY Voula,Athens 62.33 302 P P 18 30 03.9 -2.0
HAMF Hammerfest 62.39 339 eP P 18 30 05.2 -0.5
HERR Herculane 62.45 310 ⇓ iP P 18 30 06.9 +0.4
HORT Hortiatis 62.47 305 P P 18 30 04.2 -2.7
HORT Hortiatis 62.47 305 P P 18 30 04.2 -2.7
KNT Kendrikon 62.54 306 P P 18 30 03.9 -3.4
KNT Kendrikon 62.54 306 P P 18 30 03.9 -3.4
LTVH L˜tav˜rtes, 62.56 313 ⇓ eP P 18 30 08.3 +1.1
IMMV Iera Moni Meta 62.57 299 P P 18 30 06.4 -1.1
VILL Villia 62.66 302 P P 18 30 04.3 -3.8
SIRR Siria 62.84 311 ⇑ iP P 18 30 08.8 -0.3
BZS Buzias 62.93 311 ⇓ iP P 18 30 08.9 -0.9
GRG Griva 62.94 305 P P 18 30 08.2 -1.8
GRG Griva 62.94 305 P P 18 30 08.2 -1.8
GRG Griva 62.94 305 P P 18 30 08.2 -1.8
BEL Belsk 62.95 318 eP P 18 30 09.2 -0.5
BEL Belsk 62.95 318 eP P 18 30 09.2 -0.5
LIT Litokhoron 63.00 304 eP P 18 30 09.0 -1.3
comp=Z,45nm,1.1s
LIT Litokhoron 63.00 304 P P 18 30 07.7 -2.6
LIT Litokhoron 63.00 304 eP P 18 30 09.0 -1.3
LIT pmax pmax
comp=Z,45nm,1.1s
KLNR Kaliningrad 63.14 321 i P P 18 30 13.0 +2.1
KLNR pmax pmax
comp=Z,59nm,0.9s
AGG Agios Georgios 63.28 303 eP P 18 30 10.3 -1.9
comp=Z,57nm,1.0s
AGG Agios Georgios 63.28 303 P P 18 30 08.9 -3.4
AGG Agios Georgios 63.28 303 eP P 18 30 10.4 -1.9
AGG pmax pmax
comp=Z,57nm,1.0s
ABPO Ambohimpanom 63.31 233 P P 18 30 10.5 -2.3
comp=Z,116nm,1.0s
ABPO LR LR
comp=Z,619nm,22.0s
KECS Kecovo 63.41 314 eP P 18 30 10.5 -2.4
KECS e 18 30 21.0
KECS pmax pmax
comp=Z,34nm,1.2s
KECS Kecovo 63.41 314 eP P 18 30 10.5 -2.4
KECS epP sP 18 30 20.9 -0.8
MAKR Makrakomi, Fth 63.44 303 P P 18 30 10.9 -2.4
MAKR Makrakomi, Fth 63.44 303 P P 18 30 10.9 -2.4
THL Klokotos Trika 63.44 304 P P 18 30 10.8 -2.4
NIE Niedzica 63.44 315 eP P 18 30 13.1 0.0
NIE Niedzica 63.44 315 eP P 18 30 13.1 0.0
KZN Kozani 63.51 305 P P 18 30 12.0 -1.8
KZN Kozani 63.51 305 P P 18 30 12.0 -1.8
KZN Kozani 63.51 305 P P 18 30 12.0 -1.8
TRIP Tripoli 63.58 302 P P 18 30 12.0 -2.3
KLV Kalavryta, Ach 63.58 302 P P 18 30 09.1 -5.2
KLV Kalavryta, Ach 63.58 302 P P 18 30 09.1 -5.2
DYR Agios Nikonas 63.66 301 P P 18 30 12.7 -2.1
OJC Ojcow 63.69 316 eP P 18 30 13.9 -0.8
OJC Ojcow 63.69 316 eP P 18 30 13.0 -1.7
comp=Z,21nm,1.0s
OJC Ojcow 63.69 316 eP P 18 30 13.0 -1.7
OJC pmax pmax
comp=Z,21nm,1.0s
EVR Evrytania 63.70 303 P P 18 30 12.6 -2.5
EVR Evrytania 63.70 303 P P 18 30 12.6 -2.5
FNA Florina 63.74 305 P P 18 30 13.1 -2.2
FNA Florina 63.74 305 P P 18 30 13.1 -2.2
FNA Florina 63.74 305 P P 18 30 13.1 -2.2
PSZ Piszkesteto 63.86 313 ⇓ iP P 18 30 15.3 -0.7
PSZ Piszkesteto 63.86 313 ⇓ eP P 18 30 15.0 -1.0
TRO Tromso 63.89 338 eP P 18 30 16.2 +0.5
ITM Ithomi 63.91 301 eP P 18 30 14.6 -1.8
comp=Z,43nm,0.9s
ITM Ithomi 63.91 301 P P 18 30 14.1 -2.3
DRO Drossia 63.94 302 P P 18 30 14.9 -1.7
LANS Liptovska Anna 64.01 315 eP P 18 30 16.3 -0.6
LANS Liptovska Anna 64.01 315 eP P 18 30 16.3 -0.6
NEST Nestorio 64.04 305 P P 18 30 14.5 -2.8
FRGS Fruska Gora 64.25 310 eP P 18 30 16.7 -1.8
DIVS Divibare 64.27 309 eP P 18 30 17.6 -1.1
comp=Z,26nm,1.0s
DIVS Divibare 64.27 309 eP P 18 30 17.2 -1.5
BUD Budapest 64.50 313 eP P 18 30 19.4 -0.6
VYHS Vyhne 64.50 314 eP P 18 30 19.0 -1.1
VYHS e 18 30 32.0
VYHS pmax pmax
comp=Z,22nm,1.5s
VYHS Vyhne 64.50 314 eP P 18 30 19.0 -1.1
VYHS epP sP 18 30 32.0 +3.1
VYHS ePP PP 18 32 34.7 -7.1
BBLS Lazići 64.72 309 eP P 18 30 20.9 -0.8
OKC Ostrava-Krasne 64.79 316 eP P 18 30 22.1 +0.2
OKC epP sP 18 30 31.4 +0.6
OKC ex x 18 30 48.6
OKC AMS AMS 18 58 30.0
comp=Z,1μm,19.5s
OKC Ostrava-Krasne 64.79 316 eP P 18 30 22.1 +0.2
OKC e 18 30 31.4
OKC e 18 30 48.6
OKC MLR MLR
comp=Z,1μm,19.5s
MORH M˜ɪr˜igy, Hung 64.92 312 ⇑ eP P 18 30 22.0 -0.8
MORH M˜ɪr˜igy, Hung 64.92 312 eP P 18 30 21.3 -1.5
GKP Gorka Klasztor 64.99 319 eP P 18 30 21.8 -1.3
GKP Gorka Klasztor 64.99 319 eP P 18 30 21.8 -1.3
HAPS Han Pijesak,Bl 65.01 309 eP P 18 30 15.6 -8.0
PDG Podgorica 65.05 307 eP P 18 30 22.1 -1.6
DRME Dracevica, Mon 65.14 307 eP P 18 30 22.7 -1.6
UPM Unac-Piva 65.18 308 eP P 18 30 22.8 -2.0
STEI Steigen 65.19 336 eP P 18 30 23.9 -0.2
MORC Moravsky Berou 65.19 316 eP P 18 30 24.0 -0.6
comp=Z,22nm,1.0s
MORC Moravsky Berou 65.19 316 eP P 18 30 24.0 -0.6
MORC pmax pmax
comp=Z,22nm,1.0s
MORC Moravsky Berou 65.19 316 eP P 18 30 23.9 -0.6
JAVC Velka Javorina 65.22 315 eP P 18 30 24.8 0.0
SPA0 Spitsbergen Ar 65.29 347 eP P 18 30 25.2 +0.5
TIH Tîhany 65.34 312 ⇓ eP P 18 30 25.6 +0.1
CTA Charters Tower 65.36 127 P P 18 30 27.4 +1.3
comp=Z,12nm,1.0s,baz=330,slow=9.4,SNR=5.3
CTAO Charters Tower 65.36 127 PFAKE 18 30 40.0 +14
CTAO LR LR
comp=Z,2μm,20.0s
HSPB Hornsund (broa 65.37 346 eP P 18 30 26.4 +1.2
BRY Bratogost 65.50 308 eP P 18 30 25.2 -1.6
MOR8 Moi Rana 65.54 334 eP P 18 30 25.1 -1.4
MODS Modra-Piesok 65.54 314 eP P 18 30 25.1 -1.9
MODS e 18 30 35.2
MODS pmax pmax
comp=Z,31nm,1.1s
MODS Modra-Piesok 65.54 314 eP P 18 30 25.0 -1.9
MODS epP sP 18 30 35.2 -0.5
KRLC Kraliky 65.64 316 eP P 18 30 27.5 0.0
KRLC epP sP 18 30 35.7 -0.6
KRLC Kraliky 65.64 316 eP P 18 30 27.5 0.0
KRLC e 18 30 35.7
KSP Ksiaz 65.85 317 eP P 18 30 28.2 -0.6
KSP Ksiaz 65.85 317 eP P 18 30 28.2 -0.6
VRAC Vranov 65.86 315 ⇑ iP P 18 30 28.7 -0.2
VRAC Vranov 65.86 315 eP P 18 30 28.5 -0.4
DPC Dobruska-Polom 65.89 316 eP P 18 30 29.1 0.0
DPC epP sP 18 30 36.8 -1.2
DPC ex x 18 30 55.1
DPC AMS AMS 19 05 10.0
comp=Z,1μm,18.6s
DPC Dobruska-Polom 65.89 316 eP P 18 30 29.1 0.0
DPC e 18 30 36.8
DPC e 18 30 55.1
DPC MLR MLR
comp=Z,1μm,18.6s
KRUC Moravsky 66.03 315 eP P 18 30 29.1 -0.8
KONS Konsvik 66.06 334 eP P 18 30 29.1 -0.6
SOP Sopron 66.12 313 ⇓ eP P 18 30 30.7 +0.1
BLY Banja Luka 66.16 310 ⇑ iP P 18 30 29.6 -1.2
BLY Banja Luka 66.16 310 eP P 18 30 29.3 -1.5
BEHE Becsehely 66.16 312 eP P 18 30 31.0 +0.2
KBS Kingsbay 66.21 348 PFAKE 18 30 40.0 +9.4
KBS LR LR
comp=Z,2μm,19.0s
KBS Kingsbay 66.21 348 eP P 18 30 30.6 0.0
CONA Conrad Observa 66.55 314 eP P 18 30 32.3 -1.1
comp=Z,48nm,1.4s,SNR=19
TREC Trest 66.58 315 eP P 18 30 33.8 +0.3
TREC epP sP 18 30 43.2 +0.8
TREC ePCP PcP 18 31 00.5 -2.3
TREC eS S 18 39 25.7 +2.1
TREC AMS AMS 19 05 10.0
comp=Z,1μm,14.4s
TREC Trest 66.58 315 eP P 18 30 33.8 +0.3

TREC e 18 30 43.2
TREC e 18 31 00.5
TREC eS S 18 39 25.7 +2.1
TREC MLR MLR
comp=Z,1µm,14.4s
NSS Namsos 66.68 332 eP P 18 30 32.6 -1.2
ARSA Arzberg 66.88 313 eP P 18 30 34.0 -1.5
comp=Z,12nm,1.1s
PVCC Panska Ves 66.98 317 eP P 18 30 36.5 +0.5
PVCC epP sP 18 30 45.8 +1.0
PVCC ePCP PcP 18 31 02.5 -1.9
PVCC AMS AMS 19 02 30.0
comp=Z,2µm,17.9s
PVCC Panska Ves 66.98 317 eP P 18 30 36.5 +0.5
PVCC e 18 30 45.8
PVCC e 18 31 02.5
PVCC MLR MLR
comp=Z,2µm,17.9s
GROS Grobnik 67.03 312 eP P 18 30 35.2 -1.3
GROS Grobnik 67.03 312 eP P 18 30 35.2 -1.3
PRA Prague 67.14 316 ePCP PcP 18 31 03.6 -1.4
PRA AMS AMS 19 06 40.0
comp=Z,1µm,20.2s
NC405 NORSAR Array S 67.14 328 eP P 18 30 36.2 -0.7
CRES Cresnjev 67.17 312 eP P 18 30 35.9 -1.4
LEGS Legarje 67.25 312 eP P 18 30 36.6 -1.2
LEGS Legarje 67.25 312 eP P 18 30 36.6 -1.2
NC602 NORSAR Array S 67.27 328 eP P 18 30 37.0 -0.6
NC303 NORSAR Array S 67.29 329 eP P 18 30 37.1 -0.7
SOKA Soboth 67.31 313 eP P 18 30 37.9 -0.4
comp=Z,26nm,1.6s,SNR=5.2
BRG Berggiesshubel 67.32 317 i P P 18 30 37.5 -0.6
comp=Z,27nm,1.2s
BRG i 18 30 46.9
comp=Z,15nm,0.7s
BRG Berggiesshubel 67.32 317 i P P 18 30 37.5 -0.6
BRG i 18 30 46.9
BRG pmax pmax
comp=Z,27nm,1.2s
NB201 NORSAR Array S 67.35 328 eP P 18 30 36.1 -2.1
NB2 NORSAR Subarra 67.39 328 P P 18 30 37.1 -1.4
comp=Z,7.0nm,0.8s,baz=83,slow=6.5
NB2 NORSAR Subarra 67.39 328 P P 18 30 37.1 -1.4
baz=83,slow=6.5
NOA NORSAR Array B 67.39 328 P P 18 30 37.1 -1.4
comp=Z,7.0nm,0.8s,baz=83,slow=6.3,SNR=21
NOA PP PP 18 32 55.1 -12
comp=Z,14nm,1.0s,baz=79,slow=6.4,SNR=3.3
NOA LR LR 19 03 45.0
comp=Z,413nm,20.2s,baz=85,slow=39
MBAR Mbarara 67.43 259 PFAKE 18 30 50.0 +10
MBAR LR LR
comp=Z,730nm,19.0s
NAO01 NORSAR Array S 67.58 328 eP P 18 30 38.5 -1.1
NC204 NORSAR Array S 67.58 329 eP P 18 30 38.9 -0.8
MOA Molln 67.62 314 eP P 18 30 39.0 -1.1
comp=Z,14nm,0.9s,SNR=5.7
OBKA Obir 67.67 312 eP P 18 30 40.0 -0.6
comp=Z,20nm,1.5s
LJU Ljubljana 67.77 312 eP P 18 30 40.4 -0.7
GEC2 GERESS Array S 67.81 315 eP P 18 30 41.2 -0.2
comp=Z,34nm,0.9s
GERES GERESS Array B 67.81 315 P P 18 30 40.9 -0.6
comp=Z,11nm,0.9s,baz=76,slow=5.6,SNR=69
GERES LR LR 19 04 14.8
comp=Z,982nm,18.9s,baz=89,slow=39
GEA0 GERESS Array S 67.81 315 eP P 18 30 40.5 -0.9
CLL Collm 67.83 318 eP P 18 30 40.5 -0.9
comp=Z,16nm,1.0s
CLL Collm 67.83 318⇑ iP P 18 30 40.1 -1.3
comp=Z,33nm,1.4s
CLL e 18 30 46.0
CLL i PcP PcP 18 31 07.8 -0.1
comp=Z,21nm,1.0s
CLL i 18 31 12.4
comp=Z,30nm,1.0s
CLL ePP PP 18 33 10.0 -0.8
CLL i 18 33 13.1
comp=Z,60nm,1.5s
CLL eS S 18 39 41.0 +2.5
CLL e 18 40 24.0
CLL e 18 40 54.0
CLL eSS SS 18 44 06.0 +6.3
CLL eSSmax 18 45 00.0
CLL eSSS SSS 18 47 18.0
CLL eSSSS 18 48 24.0
CLL LmH 19 01 00.0
comp=N,2µm,20.1s
CLL LmH 19 01 00.0
comp=E,900nm,21.3s
CLL Collm 67.83 318⇑ iP P 18 30 40.1 -1.3
CLL e 18 30 46.0
CLL i 18 31 07.8
CLL eS S 18 39 41.0 +2.5
CLL pmax pmax
comp=Z,33nm,1.4s
KHC Kasperske Hory 67.84 315 eP P 18 30 40.9 -0.6
comp=Z,6.1nm,1.0s
KHC Kasperske Hory 67.84 315 eP P 18 30 40.8 -0.8
KHC epP sP 18 30 50.9 +0.5
KHC ePCP PcP 18 31 06.9 -1.2
KHC ePP PP 18 33 08.5 -2.5
KHC eS S 18 39 42.1 +3.2
KHC AMS AMS 19 03 50.0
comp=Z,1µm,10.7s
KHC Kasperske Hory 67.84 315 eP P 18 30 40.8 -0.8
KHC e 18 30 50.9
KHC e 18 31 06.9
KHC e 18 33 08.5
KHC eS S 18 39 42.1 +3.2
KHC MLR MLR
comp=Z,1µm,10.7s
CEY Cerknica 67.90 312 eP P 18 30 40.3 -1.6
DOMB Dombas 68.28 330 eP P 18 30 43.2 -0.8
NKC Novy Kostel 68.37 317 eP P 18 30 44.6 -0.2
NKC epP sP 18 30 54.4 +0.7
NKC ePCP PcP 18 31 10.0 -0.2
NKC AMS AMS 19 06 40.0
comp=Z,2µm,11.8s
NKC Novy Kostel 68.37 317 eP P 18 30 44.6 -0.2
NKC e 18 30 54.4
NKC e 18 31 10.0
NKC MLR MLR
comp=Z,2µm,11.8s
KBA Koelnbreinsper 68.38 313 eP P 18 30 44.1 -1.0
comp=Z,14nm,1.1s
MOL Molde 68.89 330 eP P 18 30 46.9 -0.8
ABTA Abfaltersbach 69.00 313 eP P 18 30 47.2 -1.7
comp=Z,5.6nm,0.6s
GRFO Grafenberg 69.25 316 eP P 18 30 49.9 -0.4
comp=Z,24nm,1.0s
GRFO Grafenberg 69.25 316 eP P 18 30 49.9 -0.4
GRFO pmax pmax
comp=Z,24nm,1.0s
WTTA Wattenberg 69.48 314 eP P 18 30 50.4 -1.6
comp=Z,31nm,1.8s,SNR=5.8
WATA Walderalm 69.50 314 eP P 18 30 49.7 -2.3
comp=Z,5.4nm,0.8s
SQTA Sankt Quirin 69.77 314 eP P 18 30 51.8 -1.9
comp=Z,14nm,0.9s,SNR=6.6
MOTA Moosalm 69.82 314 eP P 18 30 52.1 -1.9
comp=Z,15nm,0.9s,SNR=8.5
RETA Reutte 70.01 314 eP P 18 30 53.4 -1.8
comp=Z,21nm,0.9s,SNR=6.9
STKA Stephens Creek 70.13 140 P P 18 30 55.0 -0.8
comp=Z,20nm,0.8s,baz=329,slow=7.6,SNR=23
STKA LR LR 19 03 17.9
comp=Z,1µm,21.5s,baz=296,slow=37
STKA Stephens Creek 70.13 140 P P 18 30 55.0 -0.8
FETA Feichten 70.14 314 eP P 18 30 54.6 -1.4
comp=Z,12nm,1.0s,SNR=5.8
FUORN Ofenpass-Fuorn 70.54 313 eP P 18 30 57.6 -0.9
comp=Z,9.9nm,0.6s
ADK Adak 70.60 41 PFAKE 18 31 10.0 +11
ADK LR LR
comp=Z,901nm,20.0s
HNR Honiara 70.60 110 PFAKE 18 31 10.0 +11
HNR LR LR
comp=Z,1µm,20.0s
DAVA Damuels 70.64 314 eP P 18 30 57.7 -1.4
comp=Z,20nm,1.0s,SNR=9.7
STU Stuttgart 70.75 316 eP P 18 30 58.8 -0.7
comp=Z,33nm,0.9s
STU Stuttgart 70.75 316 eP P 18 30 58.8 -0.7
STU pmax pmax
comp=Z,33nm,0.9s
BFO Black Forest 71.41 315 eP P 18 31 00.2 -3.4
comp=Z,2.0nm,1.3s
BFO LR LR
comp=Z,54nm,19.0s
BFO Black Forest 71.41 315 eP P 18 31 00.2 -3.4
EIDS Eidsvold 72.11 129 eP P 18 31 10.5 +2.6
comp=Z,85nm,1.3s
ECH Echery 72.19 315 eP P 18 31 07.4 -0.9
comp=Z,12nm,1.0s
ECH Echery 72.19 315 eP P 18 31 07.4 -0.9
ECH pmax pmax
comp=Z,12nm,1.0s
MEM Membach 72.30 318 ⇑P P 18 31 07.7 -1.2
comp=Z,18nm,2.0s
BEBN Eben Emael 72.45 318 ⇑P P 18 31 10.4 +0.7
WLF Walferdange 72.46 317 eP P 18 31 09.6 -0.1
comp=Z,62nm,1.0s
WLF Walferdange 72.46 317 eP P 18 31 09.6 -0.1
WLF pmax pmax
comp=Z,62nm,1.0s
WLF Walferdange 72.46 317 ⇓P P 18 31 09.5 -0.3
comp=Z,45nm,1.0s
SENIN Lac Senin/Sane 72.59 313 eP P 18 31 10.2 -0.7
comp=Z,15nm,0.8s
BCLA Clavier 72.78 318 ⇓P P 18 31 11.2 -0.5
RDOG Red Dog Mine 72.83 23 eP P 18 31 11.9 +0.3
comp=Z,46nm,1.4s
DAG Danmarks Havn 72.94 347⇑ iP P 18 31 11.1 -1.0
comp=Z,118nm,1.2s
DAG Danmarks Havn 72.94 347⇑ iP P 18 31 11.1 -1.0
DAG pmax pmax
comp=Z,180nm,1.2s
DOU Dourbes 73.31 318 ⇑P P 18 31 13.9 -0.9
comp=Z,16nm,1.9s
BNI Bardonecchia 73.36 312 eP P 18 31 14.5 -0.9
comp=Z,36nm,1.4s
BNI Bardonecchia 73.36 312 eP P 18 31 14.5 -0.9
BNI pmax pmax
comp=Z,36nm,1.4s
KEST Kesra 74.09 302 P P 18 31 19.4 -0.4
comp=Z,20nm,1.0s,baz=313,slow=5.2,SNR=8.3
KEST LR LR 19 11 17.0
comp=Z,488nm,18.4s,baz=356,slow=42
KEST Kesra 74.09 302 eP P 18 31 19.6 -0.2
comp=Z,77nm,1.3s
SSB Saint Sauveur 74.74 313 eP P 18 31 22.6 -0.8
comp=Z,24nm,1.2s
SSB Saint Sauveur 74.74 313 eP P 18 31 22.6 -0.8
SSB pmax pmax
comp=Z,24nm,1.2s
ARMA Armidale 75.58 132 eP P 18 31 31.7 +3.3
comp=Z,56nm,1.1s
ESK Eskdalemuir 76.17 324 PFAKE 18 31 40.0 +8.7
ESK LR LR
comp=Z,2µm,20.0s
ESK Eskdalemuir 76.17 324 i P P 18 31 31.6 +0.3
LSZ Lusaka 76.37 247 eP P 18 31 32.4 -0.7
comp=Z,35nm,0.9s
LSZ LR LR
comp=Z,952nm,20.0s
LSZ Lusaka 76.37 247 eP P 18 31 32.4 -0.7
LSZ pmax pmax
comp=Z,35nm,0.9s
LSZ MLR MLR
comp=Z,952nm,20.0s
IM3 Indian Mountai 76.95 23 eP P 18 31 33.6 -1.9
CAN Canberra 76.98 138 eP P 18 31 38.4 +2.2
comp=Z,75nm,1.3s
SET Setif 76.99 304 P P 18 31 37.0 +0.6
SCO Scoresbysund 77.00 342 eP P 18 31 36.2 +0.5
comp=Z,67nm,1.3s
SCO Scoresbysund 77.00 342 i P P 18 31 35.8 +0.1
comp=Z,63nm,1.3s
SCO Scoresbysund 77.00 342 i P P 18 31 35.8 +0.1
SCO pmax pmax
comp=Z,63nm,1.3s
TOLK Toolik Lake Re 77.06 20 eP P 18 31 36.2 0.0
comp=Z,64nm,1.0s
TOLK Toolik Lake Re 77.06 20 P P 18 31 35.8 -0.3
baz=301
COLD Coldfoot 77.58 21 eP P 18 31 38.9 -0.1
comp=Z,14nm,1.2s
SVW2 Sparrevohn 78.48 28 eP P 18 31 44.1 0.0
comp=Z,74nm,1.3s
MLY Manley 78.51 23 eP P 18 31 43.6 -0.7
comp=Z,40nm,1.0s
EMHD Djebel Mahouad 78.85 305 P P 18 31 46.5 -0.3
BPAW Bear Paw Mtn. 78.89 24 eP P 18 31 46.1 -0.3
comp=Z,48nm,1.1s
PPLA Purkeypile 79.03 26 eP P 18 31 47.0 -0.3
comp=Z,55nm,1.0s
CHGN Chignik 79.30 33 eP P 18 31 49.6 +0.9
comp=Z,52nm,1.0s
MDM Murphy Dome 79.46 23 eP P 18 31 49.1 -0.4
comp=Z,74nm,1.0s
TRF Thorofare Moun 79.50 25 eP P 18 31 52.1 +2.3
comp=Z,28nm,1.2s
FYU Fort Yukon 79.58 21 eP P 18 31 50.5 +0.5
comp=Z,94nm,1.3s
SUMG Summit 79.63 347 eP P 18 31 49.8 -0.9
comp=Z,266nm,1.1s
SUMG Summit 79.63 347⇑ iP P 18 31 50.3 -0.4
comp=Z,688nm,1.1s
SUMG Summit 79.63 347⇑ iP P 18 31 50.3 -0.4
TCOL CIGO, UAF Yank 79.64 23 P P 18 31 49.8 -0.5
baz=303
COLA College 79.64 23 eP P 18 31 49.9 -0.5
comp=Z,29nm,0.9s
COLA LR LR
comp=Z,2µm,20.0s
POKR Poker Plat Res 79.65 23 P P 18 31 50.1 -0.4
baz=303
SKT Skwentna 79.76 26 eP P 18 31 50.0 -1.1
comp=Z,43nm,0.9s
WRH Wood River Hil 79.77 23 eP P 18 31 49.8 -1.4
comp=Z,11nm,1.0s
CCB Clear Creek Bu 79.78 23 eP P 18 31 49.8 -1.4
comp=Z,13nm,1.1s
MCK McKinley 79.86 24 eP P 18 31 51.2 -0.4
comp=Z,26nm,0.8s
EBNR Beni Rached 79.89 305 P P 18 31 53.1 +0.7
IL1 Eielson Array 80.04 23 eP P 18 31 50.3 -2.2
ILAR Eielson Array 80.04 23 P P 18 31 50.8 -1.8
comp=Z,4.4nm,0.8s,baz=297,slow=4.9,SNR=44
ILAR PP PP 18 34 49.9 -4.2
comp=Z,2.9nm,0.9s,baz=304,slow=7.1,SNR=3.4
ILAR PKPPKP P'P'df 18 58 45.5 +0.1
comp=Z,1.0nm,1.1s,baz=165,slow=3.8,SNR=4.9
ILAR LR LR 19 10 35.4
comp=Z,2µm,18.2s,baz=304,slow=38
ILB Eielson Array 80.04 23 eP P 18 31 50.9 -1.7
TULEG Thule 80.04 356 eP P 18 31 51.7 -0.6
comp=Z,146nm,1.1s
ECHA Ech Chlef 80.07 305 P P 18 31 56.7 +3.5
RND Reindeer 80.07 24 eP P 18 31 51.6 -1.2
comp=Z,36nm,1.1s
RND Reindeer 80.07 24 eP P 18 31 51.6 -1.2
RND pmax pmax
comp=Z,36nm,1.1s
HDA Harding Lake 80.22 23 eP P 18 31 52.3 -1.3
HDA Harding Lake 80.22 23 P P 18 31 51.9 -1.6
baz=304
EANR 'Ain N'Sour 80.34 305 P P 18 32 02.0 +7.1
SUA Susitna One 80.35 27 eP P 18 31 53.4 -1.0
comp=Z,64nm,0.9s
ETRT Tiaret 80.39 304 P P 18 32 08.4 +13
DHY Damali Highway 80.81 24 eP P 18 31 56.3 -0.6
KULLO Kullorsuaq 80.91 353⇑ iP P 18 31 56.5 -0.5
comp=Z,241nm,1.0s
KULLO Kullorsuaq 80.91 353⇑ iP P 18 31 56.5 -0.5
KULLO pmax pmax
comp=Z,240nm,1.0s
GHO Glory Hole Cre 80.92 26 eP P 18 31 53.3 -4.1
comp=Z,41nm,1.2s
PMR Palmer 80.94 26 eP P 18 31 56.5 -0.9
comp=Z,34nm,0.9s
PMR Palmer 80.94 26 eP P 18 31 56.5 -0.9
PMR pmax pmax
comp=Z,34nm,0.9s
TAU Tasmania Unive 81.09 144 eP P 18 32 01.8 +3.4
comp=Z,145nm,1.4s
TAU LR LR
comp=Z,2µm,21.0s
BRLK Bradley Lake 81.17 28 eP P 18 31 57.7 -1.1
comp=Z,58nm,1.0s
RIDG Independ'e Rid 81.36 23 eP P 18 31 58.7 -1.1
comp=Z,32nm,0.9s
OHAK Old Harbor 81.37 31 eP P 18 31 59.2 -0.6
comp=Z,91nm,1.0s
KDAK Kodiak Island 81.42 30 P P 18 31 58.9 -1.2
comp=Z,38nm,0.9s,baz=224,slow=2.6,SNR=12
KDAK Kodiak Island 81.42 30 P P 18 31 58.9 -1.2
KDAK LR LR
comp=Z,815nm,20.0s
KDAK Kodiak Island 81.42 30 P P 18 31 58.9 -1.2
KDAK MLR MLR
comp=Z,815nm,20.0s
SCM Sheep Creek Mo 81.52 25 eP P 18 32 03.2 +2.6
comp=Z,32nm,0.9s
SCRK Sand Creek 81.53 23 eP P 18 32 00.1 -0.6
comp=Z,27nm,0.9s
PAX Paxson 81.58 24 eP P 18 32 00.3 -0.7
comp=Z,30nm,1.2s
PAX Paxson 81.58 24 eP P 18 32 00.3 -0.7
PAX pmax pmax
comp=Z,30nm,1.2s
DOT Dot Lake 81.70 23 eP P 18 32 02.2 +0.7
comp=Z,19nm,0.9s
INK Inuvik 81.92 17 P P 18 32 01.6 -0.9
comp=Z,44nm,1.0s,baz=316,slow=5.0,SNR=52
INK Inuvik 81.92 17 eP P 18 32 02.1 -0.4
comp=Z,86nm,1.1s
EGAK Eagle 82.01 21 eP P 18 32 01.9 -1.2
comp=Z,63nm,1.0s
EGAK LR LR
comp=Z,3µm,19.0s
HARP HAARP 82.03 24 eP P 18 32 03.9 +0.6
comp=Z,52nm,0.9s
DZM Mont Dzumac 82.15 118 eP P 18 32 05.1 +0.5
comp=Z,70nm,1.4s
DZM Mont Dzumac 82.15 118 eS S 18 42 15.4 -3.6
comp=Z,153nm,27.8s
DZM Mont Dzumac 82.15 118 eLR LR 18 57 32.5
comp=Z,794nm,22.9s
EPYK Eagle Plains 82.37 19 P P 18 32 04.1 -0.9
baz=312
FID Port Fidalgo 82.47 26 eP P 18 32 05.7 +0.1
DIV Divide 82.54 25 eP P 18 32 05.6 -0.4
comp=Z,34nm,1.2s
ES19 SONSECA Array 82.55 310 eP P 18 32 05.9 -0.6
ESDC Sonseca Array 82.61 310 P P 18 32 05.9 -0.9
comp=Z,5.2nm,1.1s,baz=62,slow=6.0,SNR=9.7
ESDC PP PP 18 35 14.9 -1.1
comp=Z,4.6nm,1.0s,baz=61,slow=8.4,SNR=4.7
ESDC LR LR 19 14 30.8
comp=Z,564nm,19.6s,baz=30,slow=40
BMRM Bremner River 83.09 25 eP P 18 32 08.7 -0.1
comp=Z,52nm,0.8s
LBTB Lobatse 83.22 239 eP P 18 32 10.8 +0.7
comp=Z,38nm,0.8s
LBTB Lobatse 83.22 239 eP P 18 32 10.9 +0.7
LBTB pmax pmax
comp=Z,38nm,0.8s
MVO Moncorvo 84.11 312 eP P 18 32 26.4 +12
comp=Z,57nm,2.2s
ILULI Ilulissat 84.80 349 i P P 18 32 16.4 -0.9
comp=Z,131nm,1.2s
ILULI Ilulissat 84.80 349 i P P 18 32 16.4 -0.9
ILULI pmax pmax
comp=Z,130nm,1.2s
PVIS Viseu 84.90 312 eP P 18 32 22.2 +3.7
PCBR Castelo Branco 85.00 311 eP P 18 32 31.9 +13
comp=Z,63nm,1.4s
PMRV Marv??o 85.11 311 eP P 18 32 23.9 +4.3
comp=Z,52nm,1.8s
BOSA Boshof 85.25 236 P P 18 32 20.8 +0.4
comp=Z,22nm,0.8s,baz=73,slow=6.0,SNR=18
BOSA LR LR 19 10 23.1
comp=Z,526nm,18.8s,baz=50,slow=36
BOSA Boshof 85.25 236 eP P 18 32 20.9 +0.5
comp=Z,48nm,0.8s
EVO Evora 85.94 310 eP P 18 32 24.9 +1.2
comp=Z,77nm,2.0s
PBEJ Beja 86.07 310 eP P 18 32 30.5 +6.2
PVAQ Vaqueiros 86.23 309 eP P 18 32 38.6 +13
comp=Z,104nm,2.0s
SFJD Kangerlussuaq 86.62 347 eP P 18 32 23.6 -2.8
comp=Z,87nm,1.4s
SFJD Kangerlussuaq 86.62 347 i P P 18 32 25.2 -1.2
comp=Z,206nm,1.4s
SFJD Kangerlussuaq 86.62 347 eP P 18 32 23.6 -2.8
SFJD pmax pmax
comp=Z,87nm,1.4s
TSUM Tsumeb 87.16 248 PFAKE 18 32 40.0 +10
TSUM LR LR
comp=Z,917nm,19.0s
SKAG Skagway 87.60 23 eP P 18 32 32.0 +0.7
comp=Z,107nm,1.2s
TORD Torodi Ar. Bea 88.60 284 P P 18 32 36.1 -0.8
comp=Z,3.2nm,1.0s,baz=46,slow=6.4,SNR=14
TORD PP PP 18 36 02.8 -2.6
comp=Z,10nm,0.9s,baz=61,slow=6.0,SNR=6.3
TORD LR LR 19 17 29.0
comp=Z,838nm,19.1s,baz=30,slow=39
CASY Casey 89.90 174 PFAKE 18 32 50.0 +8.3
CASY LR LR
comp=Z,191nm,20.0s
DLBC Dease Lake 90.23 22 P P 18 32 43.6 -0.3
comp=Z,20nm,1.1s,baz=316,slow=5.4,SNR=9.1
NRS Narsarsuaq 90.30 342 i P P 18 32 42.9 -1.0
comp=Z,122nm,1.1s
NRS Narsarsuaq 90.30 342 i P P 18 32 42.9 -1.0
NRS pmax pmax
comp=Z,120nm,1.1s
SUR Sutherland 90.41 235 PFAKE 18 33 00.0 +15
SUR LR LR
comp=Z,2µm,21.0s
WRAK Wrangell Islan 90.89 24 PFAKE 18 33 00.0 +13
WRAK LR LR
comp=Z,1µm,22.0s
YKA Yellowknife Ar 91.23 14 P P 18 32 46.6 -1.6
comp=Z,5.0nm,0.8s,baz=333,slow=4.6,SNR=15
MAW Mawson 93.78 192 P P 18 32 59.4 -0.2
comp=Z,18nm,1.0s,baz=11,slow=5.3,SNR=13
MAW LR LR 19 08 01.3
comp=Z,458nm,21.8s,baz=34,slow=31
DBIC Dimbokro 97.11 280 P Pdif 18 33 18.2 +1.9
comp=Z,4.9nm,1.1s,baz=146,slow=7.3,SNR=3.2
DBIC PP PP 18 37 10.2 -2.1
comp=Z,10nm,1.0s,baz=43,slow=9.0,SNR=5.9
DBIC PKPPKP P'P'df 18 58 11.0 -1.6
comp=Z,6.8nm,1.2s,baz=171,slow=3.8,SNR=3.3
DBIC LR LR 19 21 22.6
comp=Z,360nm,18.1s,baz=50,slow=38
SNZO South Karori 97.14 132 PFAKE 18 33 30.0 +14
SNZO LR LR
comp=Z,1µm,19.0s
RAO Raoul Island 97.95 118 PFAKE 18 33 30.0 +10
RAO LR LR
comp=Z,987nm,21.0s
CMLA Cha da Macela 98.06 317 PFAKE 18 33 30.0 +10
CMLA LR LR
comp=Z,906nm,20.0s
SYO Syowa Base 100.43 198⇑ ePdiff Pdif 18 33 31.0 +1.3
SYO Syowa Base 100.43 198⇑ epPdiff Pdif 18 33 33.0 +3.3
FFC Flin Flon 100.91 10 PFAKE 18 33 40.0 +7.6
FFC LR LR
comp=Z,2µm,19.0s
NEW Newport 102.98 22 PFAKE 18 33 50.0 +8.1
NEW LR LR
comp=Z,1µm,20.0s
EGMT Eagleton 105.48 17 PFAKE 18 38 20.0
EGMT LR LR
comp=Z,2µm,19.0s
BMO Blue Mountains 105.84 24 PFAKE 18 38 20.0
BMO LR LR
comp=Z,1µm,20.0s
DGMT Dagmar 106.44 14 PFAKE 18 38 20.0
DGMT LR LR
comp=Z,2µm,20.0s
BOZ Bozeman (W) 107.12 20 PFAKE 18 38 20.0
BOZ LR LR
comp=Z,2µm,19.0s
WVOR Wild Horse Val 107.36 26 PFAKE 18 38 20.0
WVOR LR LR
comp=Z,997nm,20.0s
VNDA Vanda 107.52 168 PP PP 18 38 27.1 -2.2
comp=Z,1.3nm,1.1s,baz=294,slow=7.7,SNR=5.4
VNDA PKKPbc PKKPbc 18 49 22.8 -3.9
comp=Z,0.5nm,0.7s,baz=113,slow=2.9,SNR=4.9
LAO LASA Array 107.64 16 PFAKE 18 38 20.0
LAO LR LR
comp=Z,1µm,20.0s

HLID Hailey 108.00 23 PFAKE 18 38 20.0
HLID LR LR
comp=Z,2μm,20.0s
AGMN Agassiz Nation 108.07 8 PFAKE 18 38 20.0
AGMN LR LR
comp=Z,1μm,19.0s
RLMT Red Lodge 108.27 18 PFAKE 18 38 20.0
RLMT LR LR
comp=Z,2μm,19.0s
LKWY Lake 108.43 19 PFAKE 18 38 20.0
LKWY LR LR
comp=Z,3μm,21.0s
SBA Scott Base 108.61 168 PFAKE 18 38 20.0
SBA LR LR
comp=Z,419nm,20.0s
EYMN Ely 108.88 5 PFAKE 18 38 20.0
EYMN LR LR
comp=Z,1μm,19.0s
AHID Auburn Hatcher 109.83 21 PFAKE 18 38 30.0
AHID LR LR
comp=Z,1μm,19.0s
BW06 Boulder Array 110.32 20 PFAKE 18 38 30.0
BW06 LR LR
comp=Z,1μm,19.0s
PDAR Pinedale Array 110.32 20 PKiKP **PKiKP 18 38 15.2 -0.7**
comp=Z,0.2nm,0.4s,baz=214,slow=0.7,SNR=2.1
PDAR PKKPab **PKKPab 18 49 25.2 -4.9**
comp=Z,1.3nm,0.8s,baz=226,slow=2.4,SNR=4.3
PKME Peaks-Kenny Pk 110.52 349 PFAKE 18 38 30.0
PKME LR LR
comp=Z,923nm,19.0s
NVAR Mina Array Bea 110.85 28 Pdiff **Pdif 18 34 20.0 +2.7**
comp=Z,0.1nm,0.4s,baz=309,slow=9.1,SNR=2.0
NVAR PKiKP **PKiKP 18 38 16.6 -0.3**
comp=Z,0.8nm,0.7s,baz=318,slow=1.2,SNR=3.0
NVAR PKKPbc **PKKPbc 18 49 14.6 -0.8**
comp=Z,1.1nm,0.9s,baz=77,slow=1.9,SNR=5.1
COWI Conover 110.89 4 PFAKE 18 38 30.0
COWI LR LR
comp=Z,2μm,19.0s
DUG Dugway, Tooele 111.53 23 PFAKE 18 38 30.0
DUG LR LR
comp=Z,1μm,19.0s
ASCN Ascension 111.58 270 PFAKE 18 38 30.0
ASCN LR LR
comp=Z,807nm,22.0s
LONY Lake Ozonia 111.94 353 PFAKE 18 38 30.0
LONY LR LR
comp=Z,701nm,21.0s
GLMI Grayling 112.31 0 PFAKE 18 38 30.0
GLMI LR LR
comp=Z,2μm,19.0s
ECSD EROS Data Cent 112.43 10 PFAKE 18 38 30.0
ECSD LR LR
comp=Z,2μm,22.0s
QSPA South Pole Qui 113.01 180 PKiKP **PKiKP 18 38 20.7 +0.9**
comp=Z,6.7nm,1.1s,baz=143,slow=1.2,SNR=6.0
QSPA South Pole Qui 113.01 180 PKiKP **PKiKP 18 38 20.7 +0.9**
QSPA LR LR
comp=Z,945nm,20.0s
JFWS Jewell Farm 113.98 5 PFAKE 18 38 30.0
JFWS LR LR
comp=Z,1μm,20.0s
OGNE Ogallala 114.07 15 PFAKE 18 38 30.0 +7.1
OGNE LR LR
comp=Z,1μm,19.0s
ISCO Idaho Springs 114.22 18 PFAKE 18 38 30.0 +6.5
ISCO LR LR
comp=Z,2μm,21.0s
BINY Binghamton 114.49 353 PFAKE 18 38 30.0 +6.5
BINY LR LR
comp=Z,1μm,21.0s
SNAA Sanae 114.54 200 PKP PKPdf 18 38 20.7 -1.9
SCIA State Center 114.69 7 PFAKE 18 38 30.0 +6.1
SCIA LR LR
comp=Z,904nm,19.0s
AAM Ann Arbor 114.83 360 PFAKE 18 38 30.0 +5.9
AAM LR LR
comp=Z,2μm,19.0s
PFO Pinyon Flats O 115.69 30 PFAKE 18 38 40.0 +14
PFO LR LR
comp=Z,1μm,19.0s
MVCO Mesa Verde 115.70 21 PFAKE 18 38 40.0 +14
MVCO LR LR
comp=Z,966nm,20.0s
VNA2 Neumayer--Watz 116.04 201 PKP **PKPdf 18 38 27.2 +1.7**
SDCO Great Sand Dun 116.15 19 PFAKE 18 38 40.0 +13
SDCO LR LR
comp=Z,2μm,22.0s
WUAZ Wupatki 116.18 25 PFAKE 18 38 40.0 +13
WUAZ LR LR
comp=Z,784nm,20.0s
VNA1 Neumayer--Stat 116.35 201 PKP **PKPdf 18 38 27.2 +1.2**
HDIL Hopedale 116.40 4 PFAKE 18 38 40.0 +13
HDIL LR LR
comp=Z,1μm,19.0s
CBKS Cedar Bluff 116.62 14 PFAKE 18 38 40.0 +12
CBKS LR LR
comp=Z,1μm,19.0s
VNA3 Neumayer Olymp 116.75 200 PKP **PKPdf 18 38 29.5 +2.6**
ACSO Alum Creek Sta 116.89 359 PFAKE 18 38 40.0 +12
ACSO LR LR
comp=Z,2μm,19.0s
KSU1 Kansas State U 116.95 11 PFAKE 18 38 40.0 +12
KSU1 LR LR
comp=Z,2μm,20.0s
ANMO Albuquerque 118.44 21 PFAKE 18 38 40.0 +8.4
ANMO LR LR
comp=Z,796nm,19.0s
CBN Corbin Frederi 118.59 354 PFAKE 18 38 40.0 +8.5
CBN LR LR
comp=Z,673nm,19.0s
PPT2 Papeete2 118.90 98 eLR LR 19 14 35.6
comp=Z,736nm,24.0s
TUC Tucson 119.23 26 PFAKE 18 38 40.0 +7.0
TUC LR LR
comp=Z,1μm,19.0s
BLA Blacksburg 119.81 357 PFAKE 18 38 40.0 +6.0
BLA LR LR
comp=Z,2μm,19.0s
TBI Tubuai 120.55 104 eLQ LQ 19 10 15.4
comp=Z,742nm,37.5s
TBI eLR LR 19 15 17.6
comp=Z,490nm,22.0s
WMOK Wichita Mounta 120.74 14 PFAKE 18 38 50.0 +14
WMOK LR LR
comp=Z,1μm,19.0s
CNNC Cliffs of the 121.58 354 PFAKE 18 38 50.0 +13
CNNC LR LR
comp=Z,1μm,19.0s
MNTX Cornudas Mount 121.77 21 PFAKE 18 38 50.0 +12
MNTX LR LR
comp=Z,1μm,19.0s
MIAR Mount Ida 121.89 9 PFAKE 18 38 50.0 +12
MIAR LR LR
comp=Z,1μm,19.0s
GOGA Godfrey 123.70 359 PFAKE 18 38 50.0 +8.5
GOGA LR LR
comp=Z,1μm,20.0s
NHSC New Hope 123.88 356 PFAKE 18 38 50.0 +8.2
NHSC LR LR
comp=Z,2μm,20.0s
NATX Nacogdoches 124.44 11 PFAKE 18 38 50.0 +7.1
NATX LR LR
comp=Z,2μm,20.0s
TXAR Lajitas Array 124.51 21 PKP **PKPdf 18 38 42.4 -0.9**
comp=Z,3.1nm,0.9s,baz=264,slow=1.3,SNR=11
TXAR PKKPbc **PKKPbc 18 48 26.9 +0.8**
comp=Z,1.1nm,1.0s,baz=142,slow=4.6,SNR=3.1
JCT Junction City 124.57 16 PFAKE 18 38 50.0 +6.7
JCT LR LR
comp=Z,1μm,20.0s
TAOE Nuku Hiva Isla 124.68 85 eLR LR 19 17 19.4
comp=Z,947nm,26.9s
BRAL Brewton 125.87 3 PFAKE 18 39 00.0 +14
BRAL LR LR
comp=Z,1μm,20.0s
KVTX Kingsville 127.85 15 PFAKE 18 39 00.0 +10
KVTX LR LR
comp=Z,1μm,19.0s
RKT Rikitea 133.52 100 eLR LR 19 21 23.2
comp=Z,554nm,24.5s
GRTK Grand Turk 133.77 343 PFAKE 18 39 10.0 +9.1
GRTK LR LR
comp=Z,639nm,19.0s
ANWB Willy Bob 133.85 330 PFAKE 18 39 10.0 +8.9
ANWB LR LR
comp=Z,362nm,19.0s
SJG San Juan 135.31 335 PFAKE 18 39 10.0 +6.2
SJG LR LR
comp=Z,493nm,19.0s
SDDR Presa de Saban 136.22 342 PFAKE 18 39 20.0 +14
SDDR LR LR
comp=Z,648nm,19.0s
GTBY Guantanamo Bay 136.23 348 PFAKE 18 39 20.0 +14
GTBY LR LR
comp=Z,683nm,20.0s
BBGH Gun Hill 136.57 324 PFAKE 18 39 20.0 +14
BBGH LR LR
comp=Z,559nm,20.0s
MTDJ Mount Denham 138.32 350 PFAKE 18 39 20.0 +10
MTDJ LR LR
comp=Z,904nm,19.0s
GRGR Grenville 138.53 326 PFAKE 18 39 20.0 +10
GRGR LR LR
comp=Z,349nm,20.0s
APG El Apazote 141.54 10 PKhKP PKPpre 18 39 07.3
comp=Z,6.8nm,0.8s,baz=330,slow=16,SNR=6.6
PCRV Puerto La Cruz 141.70 328 PKP **PKPdf 18 39 16.1 +0.3**
comp=Z,18nm,1.0s,baz=34,slow=7.8,SNR=3.7
BDFB Brasilia 145.13 276 PKiKP PKPbc **PKPbc 18 39 21.0 -0.2**
comp=Z,26nm,1.0s,baz=71,slow=4.1,SNR=19
BDFB Brasilia 145.13 276 PKiKP **PKPbc 18 39 21.0 -0.2**
EFI East Falkland 145.17 209 *e*PKPbc **PKPdf 18 39 21.0 +0.4**
CODC Agust´›n Codaz 145.43 341 *e*P **PKPbc 18 39 20.1 -1.9**
SDV Santo Domingo 145.46 336 PKPbc **PKPbc 18 39 21.2 -1.2**
comp=Z,279nm,1.1s,baz=28,slow=2.4,SNR=135
SDV Santo Domingo 145.46 336 PKPbc **PKPbc 18 39 21.2 -1.2**
SDV LR LR
comp=Z,383nm,20.0s
SDV Santo Domingo 145.46 336 *e*P **PKPbc 18 39 19.7 -2.7**
JTS JuntasAbangare 146.71 1 PKPbc **PKPdf 18 39 24.8 +0.4**
comp=Z,7.2nm,0.8s,baz=12,slow=9.3,SNR=5.2
JTS JuntasAbangare 146.71 1 PKPbc **PKPdf 18 39 24.8 +0.4**
JTS LR LR
comp=Z,635nm,22.0s
JTS JuntasAbangare 146.71 1 PKP2 **PKPdf 18 39 24.8 +0.4**
JTS MLR MLR
comp=Z,635nm,22.0s
OCAC Ocana 146.99 340 *e*P **PKPdf 18 39 24.4 -0.7**
MOTC Monteria, Cord 147.14 344 *e*P **PKPdf 18 39 25.2 +0.1**
BCIP Isla Barro Col 147.55 352 PFAKE 18 39 40.0 +10
BCIP LR LR
comp=Z,704nm,21.0s
PTGA Pitinga 147.56 310 PKPbc **PKPdf 18 39 26.2 +0.3**
comp=Z,36nm,0.9s,baz=37,slow=4.7,SNR=44
PTGA Pitinga 147.56 310 PKPbc **PKPdf 18 39 26.2 +0.3**
PTGA LR LR
comp=Z,14μm,21.0s
PAMC Pamplona, Colo 147.63 338 *e*P **PKPdf 18 39 26.5 -0.1**
GIRC Giron, Santand 148.04 339 *e*P **PKPdf 18 39 27.4 +0.6**
TAMC Tame, Arauca 148.15 336 *e*P **PKPdf 18 39 28.2 +1.3**
ZARC Zaragoza, Cauc 148.16 342 *e*P **PKPdf 18 39 27.8 +0.9**
BRRC Barranca, Sant 148.18 340 *e*P **PKPdf 18 39 26.5 -0.4**
BARC Barichara 148.49 339 *e*P **PKPdf 18 39 29.1 +1.4**
PTBC PUERTO BERRIO 148.95 341 *e*P **PKPdf 18 39 28.2 +0.1**
AZU Azuero 148.96 352 *e*P **PKPdf 18 39 29.9 +1.8**
DBBC Dabeiba 148.97 344 *e*P **PKPbc 18 39 32.0 -0.2**
RUSC La Rusia 149.11 338 *e*P **PKPdf 18 39 26.9 -2.1**
HELC Santa Helena 149.59 343 *e*P **PKPbc 18 39 32.0 -2.1**
NORC Norcasia 150.00 341 *e*P **PKPdf 18 39 30.3 +0.5**
GUYC Guyana, Colomb 150.47 342 *e*P **PKPbc 18 39 35.4 -1.0**
ROSC El Rosal 150.51 340 PKP **PKPdf 18 39 31.1 +0.1**
comp=Z,7.4nm,0.7s,baz=122,slow=4.2,SNR=10
ROSC PKPbc **PKPbc 18 39 36.8 +0.4**
comp=Z,66nm,1.1s,baz=90,slow=3.0,SNR=36
ROSC El Rosal 150.51 340 *e*P **PKPbc 18 39 35.9 -0.6**
CHIC Chingaza 150.51 338 *e*P **PKPdf 18 39 32.5 +1.3**
RREF El Recreo 150.76 342 *e*P **PKPbc 18 39 36.7 -0.6**
VILC Villavicencio, 150.98 338 *e*P **PKPbc 18 39 35.4 -1.8**
ANIL Santa Ana 151.17 342 *e*P **PKPdf 18 39 32.5 +0.5**
PRAC Prado 151.75 340 *e*P **PKPbc 18 39 37.6 -1.3**
YOTC Yotoco, Valle 151.92 343 *e*P **PKPbc 18 39 36.7 -2.7**
HORQ Saladito 152.47 343 *e*P **PKPdf 18 39 33.7 -0.2**
MARP Paez Belalcaza 152.90 342 *e*P **PKPdf 18 39 34.2 -0.4**
POPC Popayan, Colom 153.39 343 *e*P **PKPbc 18 39 41.8 -1.0**
PCON Cinco Dias 153.51 342 *e*P **PKPdf 18 39 36.7 +0.9**
SOTA Rioblanco 153.75 343 *e*P **PKPbc 18 39 40.1 -3.8**
CMBC Cumbal 155.22 345 *e*P **PKPab 18 40 01.8 -0.9**
SAML Samuel 155.38 302 *e*PKPdf **PKPdf 18 39 37.2 -0.4**
SAML LR LR
comp=Z,505nm,20.0s
SAML Samuel 155.38 302 *e*PKIKP **PKPdf 18 39 37.2 -0.4**
SAML MLR MLR
comp=Z,505nm,20.0s
CPUP Villa Florida 155.42 257 PKP **PKPdf 18 39 37.4 +0.1**
comp=Z,4.4nm,1.0s,baz=42,slow=6.1,SNR=4.8
TRQA Tornquist 155.90 227 PFAKE 18 39 50.0 +12
TRQA LR LR
comp=Z,666nm,20.0s
OTAV Otavalo 156.04 346 *e*PKPdf **PKPdf 18 39 37.8 -1.4**
OTAV LR LR
comp=Z,395nm,21.0s
OTAV Otavalo 156.04 346 *e*P **PKPab 18 40 03.9 -2.3**
OTAV Otavalo 156.04 346 *e*PKIKP **PKPdf 18 39 37.8 -1.4**
OTAV MLR MLR
comp=Z,395nm,21.0s
RPN Rapa Nui 156.93 105 PKP **PKPdf 18 39 38.4 -0.9**
comp=Z,11nm,0.6s,baz=185,slow=0.9,SNR=3.5
PLCA Paso Flores 159.08 210 PKP **PKPdf 18 39 44.1 +2.5**
comp=Z,2.9nm,0.9s,baz=106,slow=7.4,SNR=5.3
PLCA PKPab **PKPab 18 40 17.7 -0.5**
comp=Z,7.9nm,1.0s,baz=103,slow=2.2,SNR=7.3
LPAZ La Paz 163.39 292 PKP **PKPdf 18 39 47.4 -0.2**
comp=Z,2.7nm,0.8s,baz=19,slow=3.0,SNR=7.3
LVC Limon Verde 165.90 269 PFAKE 18 40 00.0 +11
LVC LR LR
comp=Z,616nm,21.0s
LCO Las Campanas 166.56 242 PFAKE 18 40 00.0 +10
LCO LR LR
comp=Z,607nm,19.0s
NNA Nana 166.83 327 PFAKE 18 40 00.0 +10
NNA LR LR
comp=Z,313nm,22.0s

TAP ***11*** *18:29:40.0,24.˙86N×122.˙02E,h10km,ML3.5,B*
JMA ***11*** *18:29:40.7,24.˙84N×121.˙99E,h29km,M2.8*
ISC 11 18:29:39.8±0.8,24˚86N±0.˙02×122˚04E±0.˙02,h12km±5km,
n103,σ0.96/127,16C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EGS		**0.10**	**261**	*i* P		**Pg**	**18 29 42.9**	**+0.3**
	baz=257							
EGS				*e*S		**Sg**	**18 29 45.0**	**+0.4**
	baz=257							
TWB1	**Santiao Chiao**	**0.15**	**342**	↑*i* P		**Pg**	**18 29 43.7**	**+0.3**
	baz=352							
TWB1				S		**Sg**	**18 29 46.3**	**+0.3**
	baz=352							
NTC	**Toucheng**	**0.19**	**268**	↑*i* P		**Pg**	**18 29 44.5**	**+0.5**
	baz=269							
NTC				*i* S		**Sg**	**18 29 47.5**	**+0.6**
	baz=269							
ILA	**Ilan**	**0.28**	**250**	P		**Pg**	**18 29 45.8**	**+0.2**
	baz=250							
ILA				*e*S		**Sb**	**18 29 50.4**	**-1.2**
	baz=250							
TWC	**Suao**	**0.30**	**215**	↑*i* P		**Pg**	**18 29 46.1**	**+0.1**
	baz=221							
TWC				*e*S		**Sg**	**18 29 48.9**	**-1.3**
	baz=221							
NWF	**Wu-fen Shan**	**0.31**	**312**	↑*i* P		**Pb**	**18 29 47.1**	**-0.4**
	baz=305							
WFSB	**Wu-fen Shan**	**0.31**	**312**	↑*e*P		**Pb**	**18 29 47.1**	**-0.3**
	baz=305							
WFSB				*e*S		**Sb**	**18 29 51.6**	**-0.9**
	baz=305							
EOS1	**EOS1**	**0.32**	**165**	*e*P		**Pb**	**18 29 47.1**	**-0.4**
	baz=156							
EOS1				*e*S		**Sb**	**18 29 51.9**	**-0.7**
	baz=156							
TWE	**Neicheng**	**0.37**	**248**	↑*i* P		**Pg**	**18 29 47.5**	**+0.3**
	baz=246							
SLBB	**Yuanshan**	**0.38**	**254**	*e*P		**Pg**	**18 29 47.9**	**+0.4**
	baz=247							
TWA	**Mucha**	**0.43**	**286**	↑*i* P		**Pb**	**18 29 49.1**	**-0.3**
	baz=286							
ENTT	**Nioudou**	**0.48**	**243**	P		**Pb**	**18 29 49.8**	**-0.6**
	baz=243							
YM07	**YM07**	**0.49**	**310**	↑*e*P		**Pb**	**18 29 50.7**	**+0.2**
	baz=310							
NWLT	**Wulai**	**0.49**	**260**	↑P		**Pg**	**18 29 49.8**	**+0.2**
	baz=261							
NANB	**Nanao**	**0.51**	**211**	*e*P		**Pg**	**18 29 50.0**	**+0.2**
	baz=218							
NANB				*e*S		**Sb**	**18 29 57.1**	**-0.9**
	baz=218							
ENA	**Nanau**	**0.51**	**212**	*e*P		**Pg**	**18 29 50.2**	**+0.4**
	baz=218							
ENA				*e*S		**Sb**	**18 29 57.2**	**-0.9**
	baz=218							
YM01	**YM01**	**0.51**	**304**	↑*e*P		**Pn**	**18 29 52.1**	**-0.9**
	baz=304							
TATO	**Taipei**	**0.51**	**283**	↑*e*P		**Pb**	**18 29 50.7**	**-0.1**
	baz=275							
TATO				*e*S		**Sb**	**18 29 57.6**	**-0.7**
	baz=275							
TAP	**Taipei**	**0.52**	**290**	*e*P		**Pb**	**18 29 51.1**	**+0.3**
	baz=290							
TAP				*e*S		**Sb**	**18 29 58.1**	**-0.2**
	baz=290							
YM11	**YM11**	**0.52**	**306**	*e*P		**Pb**	**18 29 51.3**	**+0.3**
	baz=298							
YM08	**YM08**	**0.52**	**309**	↑*e*P		**Pb**	**18 29 51.0**	**0.0**
	baz=301							
YM10	**YM10**	**0.52**	**304**	↑*e*P		**Pb**	**18 29 51.3**	**+0.3**
	baz=304							
YM04	**YM04**	**0.54**	**303**	↑*e*P		**Pb**	**18 29 51.5**	**+0.2**
	baz=303							
YM03	**YM03**	**0.55**	**305**	*e*P		**Pb**	**18 29 51.7**	**+0.1**
	baz=298							
TWY	**Chenhua**	**0.57**	**316**	↑P		**Pb**	**18 29 52.3**	**+0.5**
	baz=309							
TWS1	**Kuangyinshan**	**0.61**	**293**	P		**Pb**	**18 29 53.2**	**+0.7**
	baz=293							
NTST	**Danshui**	**0.61**	**300**	*e*P		**Pb**	**18 29 53.3**	**+0.8**
	baz=300							
YHNB	**Yeheng**	**0.63**	**253**	↑*e*P		**Pg**	**18 29 52.2**	**0.0**
	baz=262							
WLTB	**Daxi**	**0.71**	**270**	*e*P		**Pn**	**18 29 55.1**	**-0.7**
	baz=270							
NNSB	**Datong**	**0.74**	**234**	*e*P		**Pb**	**18 29 54.9**	**+0.2**
	baz=235							
NNS	**Nan Shan**	**0.74**	**235**	*e*P		**Pb**	**18 29 54.8**	**0.0**
	baz=235							
NCU	**National Centr**	**0.78**	**278**	*e*P		**Pn**	**18 29 56.7**	**0.0**
	baz=270							
NCU				*e*S		**Sn**	**18 30 08.4**	**0.0**
	baz=270							
NCUH	**Zhongli**	**0.78**	**278**	*e*P		**Pn**	**18 29 56.7**	**-0.1**
	baz=278							
NACB	**Ninganchiao**	**0.80**	**211**	*e*P		**Pb**	**18 29 55.5**	**-0.1**
	baz=222							
NACB				*e*S		**Sg**	**18 30 05.6**	**0.0**
	baz=222							
TWD	**Chiawan**	**0.88**	**208**	*e*P		**Pb**	**18 29 56.8**	**0.0**
	baz=209							
TWD				*e*S		**Sg**	**18 30 07.7**	**-0.5**
	baz=209							
JYNG	**Yonagunijimaku**	**0.92**	**116**	P		**Pb**	**18 29 57.7**	**0.0**
JYNG				*e*S		**Sb**	**18 30 09.8**	**-0.1**
LIOB	**Emei**	**0.95**	**257**	*e*P		**Pn**	**18 30 00.2**	**+1.0**
	baz=250							
SBCB	**Hsinchu**	**0.96**	**266**	*e*P		**Pn**	**18 30 00.2**	**+1.0**
	baz=260							
SBCB				*e*S		**Sn**	**18 30 14.0**	**+1.2**
	baz=260							
HWA	**Hwalien**	**0.96**	**204**	*e*P		**Pn**	**18 30 00.3**	**+1.1**
	baz=205							
YOJ	**Yonaguni jima**	**0.97**	**114**	*e*P		**Pb**	**18 29 58.8**	**+0.2**
	baz=115							
YOJ	**Yonaguni jima**	**0.97**	**114**	P		**Pg**	**18 29 59.1**	**+0.6**
YOJ				*e*S		**Sb**	**18 30 11.5**	**+0.1**
NSTT	**Nanjuang**	**0.97**	**257**	*e*P		**Pn**	**18 29 59.2**	**-0.1**
	baz=249							
HSN	**Hsinchu**	**0.97**	**267**	*e*P		**Pn**	**18 29 59.6**	**+0.2**
	baz=262							
HSN				*e*S		**Sn**	**18 30 14.1**	**+0.9**
	baz=262							
TWT	**Tachien**	**0.99**	**233**	*e*P		**Pn**	**18 30 01.2**	**+1.5**
	baz=228							
WHF	**Hehuan Shan**	**1.00**	**225**	*e*P		**Pn**	**18 30 00.4**	**+0.2**
	baz=227							
WHF				*e*S		**Sn**	**18 30 13.6**	**-0.9**
	baz=227							
TDCB	**Techi**	**1.00**	**233**	*e*P		**Pg**	**18 29 59.2**	**0.0**
	baz=228							
ENLB	**Shoufeng**	**1.03**	**203**	*e*P		**Pb**	**18 29 58.4**	**-1.3**
	baz=216							
ENLB				*e*S		**Sn**	**18 30 13.9**	**-0.7**
	baz=216							
CHGB	**Renai**	**1.12**	**225**	*e*P		**Pn**	**18 30 01.3**	**-0.3**
	baz=227							
CHGB				*e*S		**Sn**	**18 30 17.1**	**0.0**
	baz=227							
ESL	**Shilin**	**1.18**	**208**	*e*P		**Pg**	**18 30 02.3**	**-0.2**
	baz=219							
ESL				*e*S		**Sb**	**18 30 17.0**	**-0.4**
	baz=219							
NMLH	**Miaoli**	**1.18**	**254**	*e*P		**Pg**	**18 30 04.1**	**+1.5**
	baz=255							
NSY	**Sanyi**	**1.25**	**249**	*e*P		**Pg**	**18 30 05.6**	**+1.8**
	baz=255							
NSY				*e*S		**Sg**	**18 30 23.0**	**+3.0**
	baz=255							
TWQ1	**Liyutan**	**1.26**	**246**	*e*P		**Pg**	**18 30 05.4**	**+1.3**
	baz=247							
PTSB	**Yuanli**	**1.28**	**252**	*e*P		**Pg**	**18 30 06.4**	**+1.9**
	baz=270							
EGFH	**Guangfu**	**1.31**	**205**	*e*P		**Pg**	**18 30 05.4**	**+0.4**
	baz=213							
SMLT	**Sun Moon Lake**	**1.42**	**227**	*e*P		**Pg**	**18 30 07.0**	**-0.2**
	baz=220							
TCU	**Taichung**	**1.43**	**241**	*e*P		**Pg**	**18 30 09.8**	**+2.5**
	baz=260							
TYC	**Yuchr**	**1.44**	**229**	*e*P		**Pg**	**18 30 07.6**	**+0.2**
	baz=231							
SSLB	**Suanglung**	**1.46**	**223**	*e*P		**Pg**	**18 30 07.4**	**-0.4**
	baz=226							
HGSD	**Ruisui**	**1.47**	**203**	*e*P		**Pg**	**18 30 08.7**	**+0.5**
	baz=221							
EHY	**Hungye**	**1.50**	**206**	*e*P		**Pg**	**18 30 08.9**	**+0.3**
	baz=218							
WNT	**Mingjian**	**1.58**	**232**	*e*P		**Pg**	**18 30 11.3**	**+1.2**
	baz=224							
WNT				*e*S		**Sg**	**18 30 33.9**	**+3.4**
	baz=224							
WJS	**Zhushan**	**1.58**	**229**	*e*P		**Pg**	**18 30 11.7**	**+1.4**
	baz=224							
YULB	**Yu-li**	**1.61**	**205**	*e*P		**Pg**	**18 30 10.5**	**-0.2**
	baz=218							
IRIF	**Iriomote-Funau**	**1.63**	**108**	P		**Pn**	**18 30 08.3**	**0.0**
TWF1	**Yuli**	**1.65**	**204**	*e*P		**Pb**	**18 30 10.6**	**+0.4**
	baz=217							
YUS	**Yu-Shan**	**1.69**	**216**	*e*P		**Pg**	**18 30 11.9**	**-0.4**
	baz=228							
ALS	**Alishan**	**1.75**	**220**	*e*P		**Pg**	**18 30 14.0**	**+0.4**
	baz=223							
CHN5	**Tsauling**	**1.77**	**225**	*e*P		**Pg**	**18 30 14.2**	**+0.4**
	baz=229							
WGK	**Gukeng**	**1.79**	**229**	*e*P		**Pg**	**18 30 14.4**	**+0.3**
	baz=232							
FULB	**Fuli**	**1.79**	**203**	*e*P		**Pb**	**18 30 13.3**	**+0.7**
	baz=219							
HATJ	**Hateruma jima**	**1.80**	**116**	P		**Pn**	**18 30 11.3**	**+0.6**
WDLH	**Douliu**	**1.80**	**230**	*e*P		**Pg**	**18 30 14.6**	**+0.2**
	baz=233							
RLNB	**Erlin**	**1.81**	**238**	*e*P		**Pb**	**18 30 13.6**	**+0.7**
	baz=257							
CHKT	**Chengkung**	**1.86**	**200**	*e*P		**Pg**	**18 30 15.2**	**-0.3**
	baz=188							
JKRS	**Kuro-shima**	**1.90**	**109**	P		**Pn**	**18 30 11.9**	**-0.2**
ELDTW	**Lidau**	**1.91**	**210**	*e*P		**Pb**	**18 30 14.8**	**+0.1**
	baz=214							
JIJ	**Ishigaki jima**	**1.98**	**104**	P		**Pn**	**18 30 13.2**	**0.0**
CHN4	**Tsaushan**	**2.00**	**222**	*e*P		**Pg**	**18 30 17.4**	**-0.8**
	baz=226							
TPUB	**Ta-pu**	**2.02**	**220**	*e*P		**Pg**	**18 30 17.7**	**-0.9**
	baz=225							
STYT	**Tauyuan**	**2.06**	**215**	*e*P		**Pg**	**18 30 19.1**	**-0.2**
	baz=208							
WSF	**Szhu**	**2.06**	**234**	*e*P		**Pg**	**18 30 18.6**	**-0.7**
	baz=251							
WTP	**Ta-pu**	**2.07**	**219**	*e*P		**Pb**	**18 30 18.3**	**+0.9**
	baz=224							
JISG	**Ishigakijimahi**	**2.08**	**97**	P		**Pn**	**18 30 15.5**	**+0.9**
TWK	**Hsinying**	**2.13**	**222**	*e*P		**Pb**	**18 30 19.4**	**+1.0**

baz=227
PTTC **Pingtan** 2.15 288 *e*P Pn 18 30 15.4 -0.2
baz=285
CHN1 **Nanshi** 2.17 220 *e*P Pb 18 30 19.6 +0.5
baz=225
SGST **Jiashian** 2.22 217 *e*P Pb 18 30 20.3 +0.4
baz=209
TWGBT **Beinan** 2.22 204 *e*P Pb 18 30 19.1 -0.8
baz=209
SLGT **Liugui** 2.25 215 *e*P Pb 18 30 21.5 +1.0
baz=220
MATB **Ma-tsu** 2.29 305 *e*P Pn 18 30 19.1 +1.6
baz=301
VWUC **VWUC** 2.35 274 *e*P Pn 18 30 18.5 +0.1
baz=272
JTJ **Tarama** 2.43 95 P Pn 18 30 20.4 +1.0
SSD **Sandimen** 2.47 212 *e*P Pb 18 30 24.0 -0.2
baz=217
TWM1 **Shoushan** 2.51 216 *e*P Pb 18 30 23.6 -1.3
baz=221
MASBT **Mashibuluo** 2.58 210 *e*P Pb 18 30 25.0 -1.2
baz=216
XPSS **Dashiqiu** 2.65 321 *e*P Pb 18 30 24.8 -2.5
baz=317
PTMZ **Houxiangcun** 2.66 274 *e*P Pb 18 30 24.9 -2.5
baz=272
LYJJ **Jianjiangzhen** 2.66 310 *e*P Pn 18 30 21.9 -0.6
baz=306
EAST **Anshuo** 2.70 204 *e*P Pb 18 30 25.7 -2.4
baz=200
SCZT **Fangliau** 2.80 208 *e*P Pb 18 30 29.2 -0.6
baz=214
MHZQ **Yeshan** 2.99 295 *e*P Pb 18 30 30.6 -2.4
baz=291
KNM **Kinmen** 3.31 263 *e*P Pb 18 30 35.7 -2.8
baz=261
AXDP **Jialang** 3.70 271 *e*P Pn 18 30 37.4 +0.5
baz=269

MEX 11 18:37:48.6±0.4, 16°02N×98°39W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.45**	**34**	*i* P	Pg	18 37 56.5	-0.8
PNIG				*i* S	Sg	18 38 03.4	+0.2
TLIG	**Tlapa**	**1.54**	**354**	*i* P	Pn	18 38 13.4	-3.5
TLIG				*i* S	Sn	18 38 32.9	-4.6
VHO	**Vista Hermosa**	**1.90**	**56**	*i* P	Pn	18 38 18.8	-3.2
VHO				*i* S	Sn	18 38 42.5	-3.9
CAIG	**El Cayaco**	**2.07**	**300**	*i* P	Pn	18 38 20.4	-3.7
CAIG				*i* S	Sn	18 38 45.7	-4.5

*DRS **11** 18:38:11.8±0.0, 41°28N×49°47E, h26km*
MOS 11 18:38:06.3±0.0, 41°22N×49°22E, h10km, MPVA4.1, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSMR	**Kasumkent**	**0.90**	**295**	*e*Pg	Pn	18 38 26.0	+0.9
KSMR				*e*Sg	Sn	18 38 40.0	+1.8
DRN	**Derbent**	**1.04**	**321**	*i* Pg	Pn	18 38 27.5	+0.5
DRN				*e*Sg	Sn	18 38 43.1	+1.5
AKT	**Akhty**	**1.15**	**283**	*i* Pg	Pn	18 38 29.8	+1.3
AKT				*e*Sg	Sn	18 38 46.2	+1.9
URKR	**Urkarakh**	**1.51**	**309**	*e*Pg	Pg	18 38 36.7	+1.4
URKR				*e*Sg	Sg	18 38 57.9	+2.9
KMKR	**Kumukh**	**1.83**	**300**	*e*Pg	Pb	18 38 39.0	-0.9
KMKR				*e*Sg	Sg	18 39 08.0	+3.0
XNZR	**Khunzakh**	**2.29**	**306**	*e*Pn	Pb	18 38 46.7	-1.1
XNZR				*e*Sn	Sb	18 39 17.2	+0.9
UNCR	**Uncukul**	**2.34**	**310**	*e*Pn	Pn	18 38 46.0	+1.1
UNCR				*e*Sn	Sg	18 39 20.0	-1.5
KRNR	**Karanay**	**2.35**	**314**	*e*Pn	Pn	18 38 46.0	+0.9
KRNR				*e*Sn	Sb	18 39 18.0	+0.1
DBC	**Dubki**	**2.52**	**316**	*i* Pn	Pn	18 38 48.3	+0.9
DBC				*i* Sn	Sb	18 39 24.1	+1.2
BTLR	**Botlikh**	**2.66**	**304**	*e*Pn	Pn	18 38 51.5	+2.2
BTLR				*e*Sn	Sb	18 39 26.0	-0.6
DVE	**Vedeno**	**2.88**	**308**	*e*Pn	Pn	18 38 54.0	+1.7
DVE				*e*Sn	Sb	18 39 31.0	-2.0
LACR	**Lac**	**4.00**	**295**	*i* Pn	Pn	18 39 09.8	+2.1
LACR				*e*Sn	Sn	18 39 59.2	+4.5

*ISCJB **11** 18:39:07.2±0.8, 33°81S±0°06×179°7W±0°2, h200km, mb3.2/2, Error ellipse: s-maj=20.5km s-min=6.2km az=16.1*
*IDC **11** 18:39:07.7±6.7, 33°58S×179°81E, h158km±52km, mb3.2/2, mb1 3.5/3, mb1mx3.2/34, mbtmp3.8/3, MS3.5/1, Ms1 3.5/1, ms1mx3.0/8, Error ellipse: s-maj=58.8km s-min=31.9km az=42.0*
*WEL **11** 18:39:11.8±0.9, 34°S±14°×18°0W±1°8, h255km±23km*
ISC 11 18:39:10.4±1.6, 33°93S±0°10×179°8W±0°2, h200km, n66, σ1°63/86, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.94**	**202**	P	**Pn**	**18 40 11.7**	**+0.4**
MXZ				S	**Sn**	**18 41 00.5**	**+1.3**
WMGZ	**Waiomatatini S**	**4.14**	**200**	P	**Pn**	**18 40 15.9**	**+2.0**
WMGZ				S	**Sn**	**18 41 06.3**	**+2.4**
HAZ	**Te Kaha**	**4.29**	**206**	P	**Pn**	**18 40 16.6**	**+0.9**
HAZ				S	**Sn**	**18 41 09.7**	**+2.5**
PKGZ	**Pakihiroa**	**4.31**	**203**	P	**Pn**	**18 40 15.3**	**-0.7**
PKGZ				S	**Sn**	**18 41 08.5**	**+0.8**
PUZ	**Puketiti**	**4.42**	**200**	P	**Pn**	**18 40 18.0**	**+0.6**
PUZ				S	**Sn**	**18 41 10.6**	**+0.4**
RUGZ	**Raukumara Rang**	**4.51**	**206**	P	**Pn**	**18 40 18.3**	**-0.4**
RUGZ				S	**Sn**	**18 41 12.6**	**+0.1**
TWGZ	**Tauwhareparae**	**4.60**	**202**	P	**Pn**	**18 40 21.4**	**+1.7**
TWGZ				S	**Sn**	**18 41 16.5**	**+2.1**
WHRZ	**Whale Island**	**4.71**	**213**	P	**Pn**	**18 40 23.5**	**+2.4**
WHRZ				S	**Sn**	**18 41 19.5**	**+2.7**
CNGZ	**Carnagh Statio**	**4.82**	**199**	P	**Pn**	**18 40 23.3**	**+0.9**
TKGZ	**Te Karaka**	**4.88**	**202**	P	**Pn**	**18 40 25.2**	**+1.9**
TKGZ				S	**Sn**	**18 41 22.8**	**+2.1**
MWZ	**Matawai**	**4.89**	**205**	P	**Pn**	**18 40 23.2**	**-0.3**
MWZ				S	**Sn**	**18 41 21.8**	**+0.7**
OPRZ	**Ohinepanea**	**4.90**	**216**	P	**Pn**	**18 40 23.9**	**+0.5**
MARZ	**Manawahe**	**4.95**	**214**	P	**Pn**	**18 40 26.1**	**+1.9**
URZ	**Urewera**	**4.99**	**209**	P	**Pn**	**18 40 25.2**	**+0.6**
	7.3nm,0.3s,baz=269,slow=5.8,SNR=110						
URZ				S	**Sn**	**18 41 21.6**	**-1.6**
	5.8nm,0.3s,baz=202,slow=4.2,SNR=25						
URZ	**Urewera**	**4.99**	**209**	P	**Pn**	**18 40 23.6**	**-0.9**
URZ				S	**Sn**	**18 41 23.2**	**+0.1**
EDRZ	**Edgecumbe**	**5.02**	**213**	P	**Pn**	**18 40 24.5**	**-0.6**
RAGZ	**Rawiri**	**5.08**	**205**	P	**Pn**	**18 40 25.8**	**0.0**
RAGZ				S	**Sn**	**18 41 26.3**	**+0.9**
RIGZ	**Rimuhau**	**5.15**	**202**	P	**Pn**	**18 40 26.6**	**-0.2**
RIGZ				S	**Sn**	**18 41 28.3**	**+1.3**
KMRZ	**Kaimai**	**5.21**	**220**	P	**Pn**	**18 40 29.2**	**+1.7**
TARZ	**Mount Tarawera**	**5.23**	**214**	P	**Pn**	**18 40 29.9**	**+2.1**
MUGZ	**Murupara**	**5.32**	**210**	P	**Pn**	**18 40 28.8**	**0.0**
MUGZ				S	**Sn**	**18 41 31.3**	**+0.6**
PRGZ	**Paritu Road**	**5.32**	**200**	P	**Pn**	**18 40 30.4**	**+1.6**
RTZ	**Ruatahuna**	**5.35**	**208**	P	**Pn**	**18 40 27.9**	**-1.4**
RTZ				S	**Sn**	**18 41 30.1**	**-1.5**
SNGZ	**Shannon Statio**	**5.36**	**205**	P	**Pn**	**18 40 30.5**	**+1.1**
SNGZ				S	**Sn**	**18 41 33.1**	**+1.3**
KNZ	**Kokohu**	**5.47**	**201**	P	**Pn**	**18 40 30.1**	**-0.6**
MHGZ	**Mahia Peninsul**	**5.53**	**199**	P	**Pn**	**18 40 31.5**	**0.0**
MHGZ				S	**Sn**	**18 41 34.2**	**-1.4**
RAHZ	**Arahi**	**5.57**	**206**	P	**Pn**	**18 40 32.5**	**+0.4**
RAHZ				S	**Sn**	**18 41 37.1**	**+0.4**
MTHZ	**Maungataniwha**	**5.61**	**208**	P	**Pn**	**18 40 32.4**	**-0.2**
MTHZ				S	**Sn**	**18 41 37.0**	**-0.6**
WHHZ	**Waihua**	**5.66**	**204**	P	**Pn**	**18 40 33.8**	**+0.5**
WHHZ				S	**Sn**	**18 41 38.8**	**0.0**
NMHZ	**Naumai**	**5.83**	**207**	P	**Pn**	**18 40 35.9**	**+0.4**
ARHZ	**Aropaoanui**	**5.91**	**205**	P	**Pn**	**18 40 36.0**	**-0.4**
BKZ	**Black Stump Fm**	**6.01**	**209**	P	**Pn**	**18 40 37.7**	**-0.1**
MCHZ	**McNeill Hill**	**6.18**	**206**	P	**Pn**	**18 40 39.5**	**-0.4**
CKHZ	**Cape Kidnapper**	**6.24**	**203**	P	**Pn**	**18 40 40.3**	**-0.3**
KWHZ	**Kaweka Forest**	**6.26**	**208**	P	**Pn**	**18 40 40.4**	**-0.6**
HIZ	**Hauiti**	**6.29**	**222**	P	**Pn**	**18 40 42.7**	**+1.4**
KRVZ	**Karewarewa**	**6.32**	**214**	P	**Pn**	**18 40 42.2**	**+0.3**
WTVZ	**West Tongariro**	**6.37**	**214**	P	**Pn**	**18 40 42.6**	**+0.1**
TWVZ	**Taurewa**	**6.40**	**215**	P	**Pn**	**18 40 43.4**	**+0.5**
NGZ	**Ngauruhoe**	**6.41**	**214**	P	**Pn**	**18 40 43.4**	**+0.4**
KAHZ	**Kahuranaki**	**6.43**	**203**	P	**Pn**	**18 40 41.0**	**-2.2**
TUVZ	**Tukino**	**6.46**	**213**	P	**Pn**	**18 40 43.1**	**-0.5**
BHHZ	**Black Hill Sta**	**6.46**	**210**	P	**Pn**	**18 40 42.5**	**-1.1**
KRHZ	**Kereru**	**6.47**	**207**	P	**Pn**	**18 40 42.1**	**-1.7**
MOVZ	**Moawhango**	**6.53**	**212**	P	**Pn**	**18 40 43.2**	**-1.3**
PXZ	**Pawanui**	**6.65**	**203**	P	**Pn**	**18 40 44.6**	**-1.3**
PNHZ	**Pukenui**	**6.77**	**207**	P	**Pn**	**18 40 45.6**	**-2.0**
PRHZ	**Porangahau**	**6.93**	**203**	P	**Pn**	**18 40 48.3**	**-1.4**
TSZ	**Takapari Road**	**6.99**	**208**	P	**Pn**	**18 40 48.6**	**-1.8**
DVHZ	**Dannevirke**	**7.12**	**206**	P	**Pn**	**18 40 49.9**	**-2.3**
PRWZ	**Pori Road**	**7.42**	**206**	P	**Pn**	**18 40 54.8**	**-1.2**
BFZ	**Birch Farm**	**7.44**	**204**	P	**Pn**	**18 40 54.3**	**-1.9**
MRZ	**Mangatainoka R**	**7.66**	**207**	P	**Pn**	**18 40 56.2**	**-2.9**
HOWZ	**Holdsworth Sta**	**7.89**	**207**	P	**Pn**	**18 40 59.1**	**-3.0**
TMWZ	**Te Maipa**	**7.94**	**204**	P	**Pn**	**18 41 00.4**	**-2.4**
OGWZ	**Otaki Gorge**	**7.95**	**209**	P	**Pn**	**18 41 00.1**	**-2.8**
KIW	**Kapiti Island**	**8.09**	**210**	P	**Pn**	**18 41 01.7**	**-3.0**
MTW	**Mount Morrison**	**8.12**	**206**	P	**Pn**	**18 41 02.3**	**-2.8**
CAW	**Cannon Point**	**8.24**	**208**	P	**Pn**	**18 41 03.3**	**-3.3**
PLWZ	**Palliser**	**8.57**	**206**	P	**Pn**	**18 41 07.4**	**-3.5**
TCW	**Tory Channel**	**8.65**	**211**	P	**Pn**	**18 41 08.3**	**-3.7**
RAR	**Rarotonga**	**21.76**	**60**	LR	LR	18 50 13.9	
	comp=Z,152nm,21.9s,baz=138,slow=30						
ASAR	**Alice Springs**	**41.54**	**272**	P	**P**	**18 46 37.0**	**-1.5**
	0.6nm,0.6s,baz=112,slow=7.6,SNR=23						
WRA	**Warramunga Arr**	**42.85**	**277**	P	**P**	**18 46 47.8**	**-1.3**
	0.3nm,0.3s,baz=116,slow=8.3,SNR=12						
FINES	**FINESS Array B**	**147.86**	**337**	PKPbc	**PKPbc**	**18 58 30.6**	**-0.3**
	3.9nm,0.9s,baz=116,slow=6.3,SNR=5.2						
TORD	**Torodi Ar. Bea**	**159.26**	**184**	PKPab	**PKPab**	**18 59 26.9**	**+3.5**
	baz=164,slow=5.2						

*ISCJB **11** 18:39:20.9±0.1, 29°51N±0°02×81°46E±0°02, h27km, mb4.5/101, MS4.6/2, Error ellipse: s-maj=4.0km s-min=2.1km az=35.1*
*BJI **11** 18:39:20.9, 29°54N×81°40E, h25km, mb4.7/40, mB5.2/22, Ms4.7/19, Ms7 4.4/18*
*DMN **11** 18:39:20.1±0.4, 29°56N×81°18E, h10km, Ml5.6/4, Error ellipse: s-maj=13.5km s-min=7.9km az=29.0*
*NDI **11** 18:39:21.2±3.3, 29°30N×81°43E, h10km, ML4.8, mb4.8(NEIC)*
*MOS **11** 18:39:22.4±1.2, 29°50N×81°47E, h37km, mb4.9/30, Error ellipse: s-maj=7.1km s-min=3.9km az=112.7*
*NEIC **11** 18:39:23.7±0.6, 29°46N×81°48E, h37km±6km, mb4.8/14, Error ellipse: s-maj=6.9km s-min=4.1km az=45.0*
NEIC Felt at Birendranagar and Mangalsen. Also felt at Haldwani, Rishikesh and Uttarkashi, India.
*IDC **11** 18:39:23.1±2.3, 29°36N×81°47E, h33km±17km, mb4.3/42, mb1 4.3/44, mb1mx4.3/60, mbtmp4.5/44, ML4.9/3, MS4.5/2, Ms1 4.5/2, ms1mx3.5/45, Error ellipse: s-maj=10.7km s-min=9.0km az=14.0*
*NNC **11** 18:39:26.3±7.8, 29°82N×81°14E, h21km±58km, mb5.0, Error ellipse: s-maj=43.2km s-min=34.0km az=84.0*
ISC 11 18:39:22.2±0.3, 29°41N±0°03×81°45E±0°03, h27km, n347, σ2§17/375, mb4.6/100, 63C-14D, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYUN	**Piuthan**	**1.88**	**133**	*e*Pn	**Pn**	**18 39 54.5**	**+1.8**
PYUN				*e*Sn	**Sb**	**18 40 19.4**	**+0.3**
	14µm,0.5s						
PYUN	**Piuthan**	**1.88**	**133**	*e*Pn	**Pn**	**18 39 54.5**	**+1.8**
JOSI	**Joshimath**	**2.00**	**305**	*e*P	**Pb**	**18 39 56.9**	**-1.1**
JOSI				*e*S	**Sb**	**18 40 24.1**	**+1.6**
JOSI				IAML		18 40 29.5	
	comp=N,20µm,0.5s						
JOSI				IAML		18 40 29.8	
	comp=E,21µm,0.2s						
DANN	**Dangsing**	**2.29**	**117**	*e*Pn	**Pn**	**18 40 00.5**	**+2.1**
DANN				*e*Sn	**Sb**	**18 40 30.2**	**-0.6**
	comp=E,6µm,0.4s						
DANN	**Dangsing**	**2.29**	**117**	*e*Pn	**Pn**	**18 40 00.5**	**+2.1**
KOLN	**Koldanda**	**2.50**	**130**	*e*Pn	**Pn**	**18 40 03.4**	**+2.2**
KOLN	**Koldanda**	**2.50**	**130**	*e*Pn	**Pn**	**18 40 03.4**	**+2.2**
DDI	**Dehra Dun**	**3.08**	**288**	*e*P	**Pn**	**18 40 09.5**	**+0.3**
DDI				*e*S	**Sn**	**18 40 46.0**	**+0.8**
GKN	**Gorkha**	**3.13**	**116**	*e*Pn	**Pn**	**18 40 11.9**	**+2.0**
GKN	**Gorkha**	**3.13**	**116**	*e*Pn	**Pn**	**18 40 11.9**	**+2.0**
DMN	**Daman**	**3.68**	**118**	*e*Pn	**Pn**	**18 40 19.3**	**+1.7**
DMN				*e*Sn	**Sn**	**18 41 02.7**	**+2.4**
	comp=E,4µm,0.5s						
DMN	**Daman**	**3.68**	**118**	*e*Pn	**Pn**	**18 40 19.3**	**+1.7**
KKN	**Kakani**	**3.73**	**115**	*e*Pn	**Pn**	**18 40 20.1**	**+1.8**
PKIN	**Phulchoki**	**3.92**	**117**	*e*Pn	**Pn**	**18 40 22.3**	**+1.4**
PKI	**Pulchoki**	**3.94**	**117**	*e*Pn	**Pn**	**18 40 22.5**	**+1.4**
GUN	**Gumba**	**4.17**	**110**	*e*Pn	**Pn**	**18 40 25.8**	**+1.4**
GUN				*e*Sn	**Sn**	**18 41 14.8**	**+2.4**
	comp=E,7µm,0.8s						
KUDL	**Kundal**	**4.53**	**255**	*e*P	**Pb**	**18 40 44.9**	**+4.0**
KUDL				*e*S	**Sb**	**18 41 39.9**	**+4.8**
KUDL				IAML		18 41 48.6	
	comp=Z,403nm,0.5s						
KUDL				IAML		18 41 50.3	
	comp=N,459nm,0.8s						
JHNI	**Jhansi**	**4.70**	**214**	*ex*	**Sb**	**18 41 38.0**	**-2.0**
KHET	**Khetri**	**5.13**	**256**	*e*P	**Pn**	**18 40 36.5**	**-0.7**
KHET				*e*S	**Sn**	**18 41 32.8**	**-2.8**
KHET				IAML		18 42 07.4	
	comp=E,281nm,0.9s						
KHET				IAML		18 42 08.7	
	comp=N,326nm,0.1s						
BOK	**Bokaro**	**6.86**	**144**	*e*P	**Pn**	**18 41 00.5**	**-0.5**
BOK				*e*S	**Sn**	**18 42 12.9**	**-5.3**
BOK				IAML		18 43 04.6	
	comp=E,510nm,0.8s						
BOK				IAML		18 43 10.6	
	comp=N,129µm,1.7s						
CHCP	**Chirah Chowk**	**8.17**	**303**	P	**Pn**	**18 41 19.5**	**+0.5**
LSA	**Lhasa**	**8.46**	**86**	*e*Pn	**Pn**	**18 41 25.7**	**+2.4**
	comp=N,137nm,0.8s						
LSA				*e*Sn	**Sn**	**18 42 59.6**	**+1.5**
LSA	**Lhasa**	**8.46**	**86**	*e*P	**Pn**	**18 41 25.7**	**+2.4**
LSA				*e*		18 42 59.7	
LSA				pmax	pmax		
	comp=Z,137nm,0.8s						
NGP	**Nagpur**	**8.50**	**195**	*e*P	**Pn**	**18 41 22.8**	**-0.7**
NGP				*e*S	**Sn**	**18 42 51.7**	**-6.9**
NGP				IAML		18 43 59.4	
	comp=E,377nm,0.2s						
THW	**Thamme Wali**	**8.98**	**295**	P	**Pn**	**18 41 29.4**	**-0.7**
CEP	**Cherat**	**9.25**	**301**	P	**Pn**	**18 41 33.0**	**-0.9**
CEP				S	**Sn**	**18 43 13.0**	**-4.1**
SHL	**Shillong**	**10.02**	**110**	*e*Pn	**Pn**	**18 41 42.9**	**-1.7**
SHL				*e*Sn	**Sn**	**18 43 28.9**	**-7.4**
SHL	**Shillong**	**10.02**	**110**	*e*P	**Pn**	**18 41 42.9**	**-1.7**
SHL	**Shillong**	**10.02**	**110**	*e*P	**Pn**	**18 41 43.2**	**-1.4**
SHL				*e*S	**Sn**	**18 43 28.4**	**-7.8**
AGT	**Agartala**	**10.35**	**120**	*e*P	**Pn**	**18 41 48.5**	**-0.3**
AGT				*e*S	**Sn**	**18 43 36.2**	**-7.8**
AGT				IAML		18 45 25.7	
	comp=N,182nm,0.8s						
AGT				IAML		18 45 26.4	
	comp=E,91nm,1.2s						
TEZP	**TEZPUR**	**10.41**	**103**	*e*P	**Pn**	**18 41 48.6**	**-1.1**
TEZP				*e*S	**Sn**	**18 43 38.9**	**-6.6**
TEZP				IAML		18 44 52.1	
	comp=E,22nm,0.0s						
TEZP				IAML		18 45 00.2	
	comp=N,56µm,2.1s						
KSH	**Kashi**	**11.05**	**337**	P	**Pn**	**18 41 55.5**	**-3.0**
KSH				pP		18 42 02.7	
KSH				S	**Sn**	**18 43 52.8**	**-8.4**
KSH				SS	**SnSn**	**18 44 07.6**	**-5.8**
KSH				pmax	pmax		
	comp=N,70nm,1.0s						
KSH				LR	LR		
	comp=N,3µm,10.3s						
KSH				LR	LR		
	comp=N,4µm,9.5s						
KSH				LR	LR		
	comp=N,4µm,12.7s						
ZIRO	**ZIRO**	**11.07**	**97**	*e*P	**Pn**	**18 41 58.0**	**-1.0**
ZIRO				*ex*	x	18 43 49.5	
ZIRO				IAML		18 44 06.5	
	comp=N,975nm,0.5s						
ZIRO				IAML		18 44 08.5	
	comp=E,788nm,0.4s						
BHV	**Bhavnagar**	**11.34**	**230**	*e*P	**Pn**	**18 42 00.0**	**-2.4**
BRDH	**Bariadhala**	**11.35**	**124**	Pn	**Pn**	**18 42 02.0**	**-0.5**
	comp=E,38nm,0.3s,baz=254,slow=22,SNR=4.4						
BRDH				Sn	**Sn**	**18 44 00.8**	**-7.8**
	comp=E,44nm,0.3s,baz=288,slow=20,SNR=2.7						
JORH	**JORHAT**	**11.62**	**100**	*e*S	**Sn**	**18 44 08.2**	**-6.8**
VIS	**Vishakhapatnam**	**11.76**	**171**	*i* P	**Pn**	**18 42 05.7**	**-2.5**
VIS				*ex*	x	18 44 05.3	
	comp=N,160nm,0.5s						
VIS				*i* S	Sn	18 44 06.5	-12
VIS				*ex*	x	18 44 09.9	
	comp=E,251nm,0.6s						
KOHI	**KOHIMA**	**11.82**	**105**	*e*P	**Pn**	**18 42 08.7**	**-0.4**
KOHI				*e*S	**Sn**	**18 44 13.5**	**-6.7**
KOHI				IAML		18 46 02.2	
	comp=N,40nm,0.4s						
KOHI				IAML		18 46 18.6	
	comp=E,63nm,0.8s						
MOKO	**MOKOCHONG**	**11.96**	**102**	*e*P	**Pn**	**18 42 10.3**	**-0.8**
MOKO				*e*S	Sn	18 44 14.6	-9.2
MOKO				IAML		18 44 23.4	
	comp=N,5µm,1.3s						
MOKO				IAML		18 44 29.1	
	comp=E,216nm,1.0s						
HYB	**Hyderabad**	**12.22**	**193**	*i* P	**Pn**	**18 42 12.0**	**-2.6**
HYB				*e*S	**Sn**	**18 44 29.5**	**-0.6**
SFK	**Sufi-Kurgan**	**12.43**	**330**	⇑P	**Pn**	**18 42 16.3**	**-1.3**
	comp=E,16nm,0.4s						
SFK				⇑S	**Sn**	**18 44 31.1**	**-4.1**
	comp=E,24nm,0.6s						
SFK	**Sufi-Kurgan**	**12.43**	**330**	P	**Pn**	**18 42 16.2**	**-1.3**
SFK				S	**Sn**	**18 44 31.1**	**-4.1**
SFK				pmax	pmax		
	comp=Z,16nm,0.4s						
SFK				smax	smax		
	comp=N,24nm,0.6s						
SAIH	**SAIHA**	**12.45**	**121**	*e*P	**Pn**	**18 42 17.1**	**-0.8**
SAIH				*e*S	Sn	18 44 25.6	-10
SAIH				IAML		18 44 34.7	
	comp=E,141nm,0.8s						
SAIH				IAML		18 44 40.6	
	comp=N,257nm,1.0s						
NRN	**Naryn**	**12.79**	**341**	*e*Pn	**Pn**	**18 42 20.9**	**-1.6**
NRN	**Naryn**	**12.79**	**341**	*e*P	**Pn**	**18 42 20.9**	**-1.6**
POO	**Poona**	**12.86**	**214**	*i* S	Sn	18 44 34.0	-12
KDJ	**Kajisay**	**13.16**	**346**	*e*Pn	**Pn**	**18 42 28.0**	**+0.6**
KDJ	**Kajisay**	**13.16**	**346**	*e*P	**Pn**	**18 42 28.0**	**+0.6**
PRZ	**Przheval'sk**	**13.28**	**350**	*e*Pn	**Pn**	**18 42 29.4**	**+0.4**
PRZ	**Przheval'sk**	**13.28**	**350**	*e*P	**Pn**	**18 42 29.4**	**+0.4**
ULHL	**Ulahol**	**13.49**	**343**	P	**Pn**	**18 42 31.0**	**-0.9**
	SNR=21						
KZA	**Kyzart**	**13.60**	**340**	P	**Pn**	**18 42 32.0**	**-1.7**
	SNR=16						
SHLS	**Shalkode**	**13.82**	**354**	⇓*e*P	**Pn**	**18 42 34.8**	**-1.5**
	comp=N,11nm,1.4s						
SATY	**Saty**	**13.84**	**351**	*e*P	**Pn**	**18 42 35.7**	**-1.0**
	comp=N,11nm,1.7s						
UZB	**Uzynbulak**	**13.85**	**353**	⇓*i*P	**Pn**	**18 42 35.7**	**-1.1**
	comp=N,13nm,0.8s						
UZB				*e*S	**Sn**	**18 45 06.0**	**-3.7**
ZHN	**Zhinishke**	**13.95**	**351**	*e*P	**Pn**	**18 42 38.2**	**+0.1**
	comp=N,5.2nm,0.6s						
UCH	**Uchtor**	**13.97**	**338**	P	**Pn**	**18 42 37.5**	**-1.2**
	SNR=86						
PDGK	**Podgornoye**	**13.98**	**354**	⇑P	**Pn**	**18 42 36.5**	**-2.1**
	comp=N,51nm,0.9s						
PDGK	**Podgornoye**	**13.98**	**354**	P	**Pn**	**18 42 36.5**	**-2.1**
PDGK				pmax	pmax		
	comp=Z,51nm,0.9s						
AML	**Almayashu**	**14.16**	**336**	P	**Pn**	**18 42 39.7**	**-1.6**
	SNR=18						
MDOK	**Medeo**	**14.18**	**347**	⇑P	**Pn**	**18 42 40.5**	**-0.7**
	comp=Z,55nm,0.8s						
MDOK	**Medeo**	**14.18**	**347**	*i* P	**Pn**	**18 42 40.6**	**-0.7**
	comp=Z,221nm,0.6s						
KPKS	**Kokpek**	**14.21**	**352**	⇓*i*P	**Pn**	**18 42 40.0**	**-1.6**
	comp=Z,18nm,0.7s						
KBK	**Karagaybulak**	**14.22**	**340**	P	**Pn**	**18 42 43.2**	**+1.3**
	SNR=14						
AAA	**Alma-Ata**	**14.25**	**346**	*e*P	**Pn**	**18 42 41.2**	**-0.9**
	comp=Z,26nm,1.1s						
TKM2	**Tokmak 2**	**14.29**	**342**	⇓P	**Pn**	**18 42 42.8**	**-0.1**
	comp=Z,58nm,0.9s						
TKM2	**Tokmak 2**	**14.29**	**342**	P	**Pn**	**18 42 43.1**	**+0.3**
	SNR=16						
TKM2	**Tokmak 2**	**14.29**	**342**	P	**Pn**	**18 42 42.7**	**-0.1**
TKM2				pmax	pmax		
	comp=Z,58nm,0.9s						
AAK	**Ala-Archa**	**14.34**	**339**	Pn	**Pn**	**18 42 41.9**	**-1.7**
	comp=Z,3.5nm,0.3s,baz=152,slow=8.1,SNR=43						
AAK				LR	LR	18 49 02.4	
	comp=Z,2µm,18.1s,baz=161,slow=40						
AAK	**Ala-Archa**	**14.34**	**339**	⇑P	**Pn**	**18 42 42.5**	**-1.1**
	comp=Z,65nm,1.0s						
AAK	**Ala-Archa**	**14.34**	**339**	P	**Pn**	**18 42 41.9**	**-1.7**
	SNR=32						
AAK	**Ala-Archa**	**14.34**	**339**	*e*Pn	**Pn**	**18 42 41.9**	**-1.7**
AAK				*e*Sn	**Sn**	**18 45 22.1**	**+0.4**
AAK	**Ala-Archa**	**14.34**	**339**	P	**Pn**	**18 42 42.4**	**-1.1**
AAK				pmax	pmax		
	comp=Z,65nm,1.0s						
FRU	**Bishkek**	**14.48**	**340**	*e*P	**Pn**	**18 42 44.0**	**-1.3**
FRU				pmax	pmax		
	comp=Z,33nm,1.4s						
CHMS	**Chumysh**	**14.59**	**340**	P	**Pn**	**18 42 44.5**	**-2.4**
	SNR=5.8						
EKS2	**Erkin-Say**	**14.60**	**

comp=Z,19nm,0.8s
CM31 Chiang Mai Arr 19.33 120 *e*P **P 18 43 45.9 +0.5**
CMAR Chiang Mai Arr 19.33 120 P **P 18 43 45.8 +0.3**
comp=Z,0.6nm,0.3s,baz=301,slow=12,SNR=38
CMAR ScP **ScP 18 51 40.8 -0.6**
comp=Z,0.0nm,0.3s,baz=294,slow=4.2,SNR=6.3
CD2 Chengdu 19.35 80 *e*P **P 18 43 44.5 -1.2**
CM01 Chiang Mai Arr 19.36 120 *e*P **P 18 43 45.2 -0.6**
KMI Kunming 19.40 98 P **Pn 18 43 48.1 +0.4**
KMI pP pP 18 43 55.0 +1.3
KMI sP sP 18 44 00.2 +3.0
KMI pmax pmax
comp=Z,9.0nm,0.5s
PAYA Payao 19.51 117 P **Pn 18 43 49.7 +0.9**
comp=Z,11nm,0.7s,comp=Z,91nm
LAMP Lampang 19.81 119 P **Pn 18 43 56.4 +4.0**
comp=Z,11nm,0.8s,comp=Z,117nm
LZH Lanzhou 19.96 65 *e*P **Pn 18 43 58.0 +3.8**
LZH *e*PP **PnPn 18 44 17.5 +8.9**
LZH pmax pmax
comp=Z,23nm,1.0s
LZH pmax pmax
comp=Z,97nm,4.9s
LZH LR LR
comp=Z,380nm,12.7s
LZH LR LR
comp=Z,380nm,12.5s
LZH LR LR
comp=Z,470nm,15.2s
OTUK Ortayu 20.08 342 ⇑P **P 18 43 53.7 +0.2**
comp=Z,83nm,1.1s
OTUK Ortayu 20.08 342 P **P 18 43 53.6 +0.2**
OTUK pmax pmax
comp=Z,83nm,1.1s
SUKH Sukhothai 20.44 121 P Pn 18 44 03.1 +3.3
comp=Z,6.6nm,0.8s
NANT Nan 20.47 117 P **P 18 43 59.4 +1.5**
comp=Z,13nm,1.1s
UMPA Umpang Tak 20.71 126 P Pn 18 44 06.6 +3.7
comp=Z,7.3nm,0.9s,comp=Z,71nm
DGZ Jazzator, Alta 20.77 11*d* *i*P Pn 18 44 02.4 -1.2
DGZ pmax pmax
comp=Z,36nm,0.7s
UTTA Uttaradit 20.98 119 P **P 18 44 06.2 +2.9**
comp=Z,16nm,0.7s,comp=Z,137nm
GEYT Alibeck 21.16 300 P **P 18 44 05.2 0.0**
comp=Z,8.0nm,0.9s,baz=120,slow=10,SNR=22
GYA0B ALIBECK ARRAY 21.16 300 ⇑P **P 18 44 05.0 -0.3**
comp=Z,24nm,1.1s
GYA0B ALIBECK ARRAY 21.16 300 *e*P **P 18 44 05.9 +0.7**
comp=Z,23nm,0.9s
KURBB Kurchatov Arra 21.31 355 P **P 18 44 06.7 0.0**
comp=Z,25nm,0.8s,baz=178,slow=10,SNR=141
WSAR Wadi Sarin 21.34 259 P **P 18 44 09.4 +2.2**
comp=Z,9.6nm,0.6s,baz=120,slow=8.4,SNR=18
KURK Kurchatov 21.39 355 ⇓P **P 18 44 06.6 -1.0**
comp=Z,63nm,1.2s
KURK Kurchatov 21.39 355 *e*P **P 18 44 07.1 -0.5**
comp=Z,48nm,1.0s
KURK Kurchatov 21.39 355 *e*P **P 18 44 07.1 -0.5**
KURK pmax pmax
comp=Z,48nm,1.0s
BRZS Berezniki 21.60 344 *i* P **P 18 44 10.4 +0.6**
comp=Z,34nm,0.9s
PBKT Sadao Pong 22.01 121 P **P 18 44 15.7 +1.3**
comp=Z,57nm,0.9s
PALK Pallekele 22.03 182 P **P 18 44 15.4 +0.7**
comp=Z,9.0nm,1.0s,baz=298,slow=5.8,SNR=2.8
PALK LR LR 18 52 25.6
comp=Z,827nm,18.1s,baz=144,slow=36
SRDT SRDT 22.17 129 P **P 18 44 18.9 +2.7**
comp=Z,24nm,1.2s,comp=Z,4μm
GYA Guiyang 22.46 91 ⇑*i*P **P 18 44 24.2 +4.8**
GYA pP sP 18 44 29.4 -0.9
GYA S **S 18 48 18.0 -6.6**
GYA sS pS 18 48 35.3 +1.5
GYA SS **SnSn 18 48 59.0 +5.2**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.7s
GYA LR LR
GYA LR LR
comp=Z,520nm,16.1s
GYA LR LR
comp=Z,490nm,15.6s
GYA LR LR
comp=Z,560nm,16.2s
NONG Nongkai 22.81 115 P **P 18 44 28.4 +5.4**
comp=Z,0.5nm,1.1s
CHAI Chaiyaphum 23.18 121 P **P 18 44 28.9 +2.0**
comp=Z,16nm,1.1s,comp=Z,162nm
HVS Khovu-Aksy 23.57 20 *i* P **P 18 44 30.8 +0.3**
HVS pmax pmax
comp=Z,134nm,0.9s
SKNT Sakolnakorn 24.07 116 P P 18 44 43.4 +7.9
ENH Enshi 24.32 81 P **P 18 44 36.2 -1.4**
comp=Z,49nm,1.0s
PATY Pattaya 24.37 128 P P 18 44 46.7 +8.6
comp=Z,4.1nm,0.9s
KNGR Kungurtug, Tuv 24.39 25*d* *i*P **P 18 44 39.5 +1.3**
SRAK Srakaew 24.45 124 P P 18 44 46.4 +7.5
comp=Z,59nm,0.8s,comp=Z,566nm
ZAA0 Zalesovo Array 24.65 5 *e*P **P 18 44 40.7 +0.3**
comp=Z,24nm,0.6s
ZALV Zalesovo Beam 24.65 5 P **P 18 44 40.8 +0.4**
comp=Z,21nm,0.5s,baz=193,slow=9.8,SNR=72
ZALV Zalesovo Beam 24.65 5 *e*P **P 18 44 40.2 -0.1**
BVAR Borovoye Array 24.96 344 P **P 18 44 44.0 +0.8**
comp=Z,5.4nm,0.5s,baz=149,slow=10,SNR=50
BVAR ScP **ScP 18 51 55.8 +0.7**
comp=Z,0.9nm,0.8s,baz=152,slow=6.4,SNR=3.4
BVAR Borovoye Array 24.96 344 P **P 18 44 44.0 +0.8**
BVAR pmax pmax
comp=Z,5.0nm,0.5s
BVAR pmax pmax
comp=N,1.0nm,0.8s
BRVK Borovoye 25.02 344 ⇑P **P 18 44 44.0 +0.2**
comp=N,22nm,1.1s
BRVK Borovoye 25.02 344 *e*P **P 18 44 43.1 -0.6**
comp=N,16nm,0.6s
BRVK Borovoye 25.02 344 P **P 18 44 43.9 +0.2**
BRVK pmax pmax
comp=Z,22nm,1.1s
NVS Novosibirsk 25.45 2 *e*P **P 18 44 47.5 -0.1**
NVS pmax pmax
comp=N,21nm,1.2s
NVS pmax pmax
comp=E,11nm,1.2s
NVS pmax pmax
comp=Z,28nm,1.2s
AB31 Akbulak array 25.72 326 ⇑P **P 18 44 51.5 +1.3**
comp=Z,22nm,0.6s
AB31 Akbulak array 25.72 326 P **P 18 44 51.4 +1.3**
AB31 pmax pmax
comp=Z,22nm,0.6s
ABKAR Akbulak array 25.72 326 *e*P **P 18 44 51.5 +1.4**
SONM Songino Array 26.62 39 P **P 18 44 60.0 +1.5**
comp=Z,7.0nm,0.6s,baz=231,slow=9.2,SNR=37
SONM PcP **PcP 18 48 21.8 -0.3**
comp=Z,0.7nm,0.5s,baz=227,slow=4.5,SNR=4.7
SONM Songino Array 26.62 39 P **P 18 45 00.0 +1.5**
SONA1 Songino Array 26.63 39 *e*P **P 18 45 00.2 +1.7**
ZAK Zakamensk 26.64 32 *e*P **P 18 44 59.8 +1.2**
ZAK pmax pmax
comp=Z,8.0nm,1.2s
KRAB Krabi 26.87 138 P P 18 45 08.4 +7.6
comp=Z,25nm,0.8s,comp=Z,391nm
HHC Hu-ho-hao-te 27.02 57 *e*P **P 18 45 03.0 +0.9**
HHC pP pP 18 45 11.8 +1.8
HHC sP sP 18 45 17.0 +3.6
HHC S **S 18 49 33.4 -4.8**
HHC pmax pmax
comp=Z,10.0nm,0.9s
HHC pmax pmax
comp=Z,400nm,4.3s
HHC LR LR
comp=Z,850nm,9.5s
HHC LR LR
comp=Z,810nm,13.5s
HHC LR LR
comp=Z,670nm,14.3s
AKTO Aktyubinsk 27.43 327 P **P 18 45 06.8 +1.2**
comp=Z,4.3nm,0.6s,baz=121,slow=8.4,SNR=15
AKTO Aktyubinsk 27.43 327 ⇑P **P 18 45 06.3 +0.7**
comp=Z,8.5nm,0.6s
TRTT Trang 27.47 138 P **P 18 45 12.5 +6.3**
comp=Z,10.0nm,0.8s

BJT Baijiatuau 30.27 60 *e*P **P 18 45 29.2 -1.7**
comp=Z,9.3nm,0.8s
BJT Baijiatuau 30.27 60 *e*P **P 18 45 29.2 -1.7**
BJT pmax pmax
comp=Z,9.0nm,0.8s
PSI Prapat 31.24 145 P **P 18 45 42.1 +2.4**
comp=Z,5.6nm,0.8s,baz=0.0,slow=4.0,SNR=3.3
ARU Arti 31.49 336 P **P 18 45 42.5 +1.0**
ARU Arti 31.49 336 *e*P **P 18 45 42.4 +1.0**
comp=Z,20nm,0.6s
ARU Arti 31.49 336*c* *i*P **P 18 45 42.5 +1.0**
ARU 18 46 47.8
ARU 18 48 34.6
ARU S **S 18 50 49.4 +1.7**
ARU SS **SnSn 18 52 33.2 -0.2**
ARU 18 56 14.3
ARU pmax pmax
comp=Z,27nm,1.0s
GNI Garni 31.80 300 P **P 18 45 46.2 +1.6**
comp=Z,7.1nm,1.0s,baz=163,slow=12,SNR=4.2
GNI Garni 31.80 300*ce*P **P 18 45 45.5 +0.9**
GNI pmax pmax
comp=Z,39nm,1.3s
GSI Gunungsitoli 31.89 148 P **P 18 45 46.8 +1.4**
NJ2 Nanjing 32.16 76 *e*P **P 18 45 47.3 -0.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
ZEI Tsey 32.87 304 *e*P **P 18 45 53.4 -0.6**
ZEI pmax pmax
comp=Z,16nm,1.0s
NCK Nalchik 33.23 305*ce*P **P 18 45 56.8 -0.2**
NCK pmax pmax
comp=Z,11nm,1.0s
MNSI Mandailing Nat 33.29 145 P **P 18 46 00.2 +2.6**
KBZ Khabaz 33.78 306 P **P 18 46 02.6 +1.0**
comp=Z,4.7nm,0.9s,baz=82,slow=7.8,SNR=7.7
NEY Neytrino 33.81 305*ce*P **P 18 46 04.9 +2.8**
NEY pmax pmax
comp=Z,2.0nm,1.0s
KIV Kislovodsk 33.98 306 *e*P **P 18 46 03.9 +0.4**
KIV pmax pmax
comp=Z,9.0nm,1.0s
BKNI Bangkinang 34.43 144 P P 18 46 12.5 +4.9
HIA Hailar 35.15 45*ce*P **P 18 46 14.3 +0.8**
HIA pmax pmax
comp=Z,3.0nm,0.9s
PDSI Padang 35.20 146 P **P 18 46 14.7 +0.5**
BOD Bodaibo 36.27 29 *e*P **P 18 46 23.6 +0.7**
BOD pmax pmax
comp=Z,12nm,1.7s
VRH Novokhopyorsk 36.69 318 *e*P **P 18 46 26.5 -0.1**
VRH pmax pmax
comp=Z,30nm,0.6s
KRJI Kerinci 36.71 145 P **P 18 46 27.5 +0.2**
CN2 Changchun 37.68 55 *e*P **P 18 46 37.0 +1.8**
VORD Divnogorie 38.05 316 *e*P **P 18 46 38.2 +0.1**
VORD pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 38.20 317 *e*P **P 18 46 38.4 -1.0**
VSR pmax pmax
comp=Z,30nm,1.3s
LPSR Galich'ya Gora 38.80 319 *e*P **P 18 46 45.0 +0.6**
LPSR pmax pmax
comp=Z,20nm,0.8s
KSAR Wonju Array Be 39.26 66 P **P 18 46 49.1 +0.7**
KSAR Wonju Array Be 39.26 66 P **P 18 46 49.2 +0.7**
KSRS Korea Array 39.28 66 P **P 18 46 49.1 +0.5**
comp=Z,5.7nm,0.7s,baz=271,slow=8.5,SNR=11
MMAI Mount Meron Ar 39.31 287 P **P 18 46 50.7 +1.7**
comp=Z,1.2nm,0.5s,baz=52,slow=9.3,SNR=3.4
MNAI Manna 39.41 145 P P 18 46 55.1 +5.2
comp=Z,253nm,2.2s
NRIK Noril'sk 40.13 3 P **P 18 46 55.8 +0.6**
comp=Z,4.7nm,0.5s,baz=119,slow=4.8,SNR=3.1
MDSI Maura Dua 40.15 143 P **P 18 46 58.0 +2.0**
BRTR Keskin Array B 40.28 298 P **P 18 46 57.9 +0.8**
comp=Z,2.1nm,0.7s,baz=112,slow=9.4,SNR=9.3
OBN Obninsk 40.97 322⇑*e*P **P 18 47 03.2 +0.8**
OBN *e* 18 48 36.1
OBN *e*S **S 18 53 15.0 +2.4**
OBN pmax pmax
comp=Z,56nm,2.5s
USRK Ussuriysk Ar. 42.42 55 P **P 18 47 14.4 0.0**
comp=Z,2.8nm,0.7s,baz=259,slow=7.5,SNR=4.6
KLR Kul'dur 42.76 48 P **P 18 47 17.8 +0.7**
comp=Z,1.6nm,0.4s,baz=173,slow=9.6,SNR=6.5
KLR Kul'dur 42.76 48*ce*P **P 18 47 18.1 +1.0**
AKASG Malin Array Be 44.20 314 P **P 18 47 28.5 -0.2**
comp=Z,2.9nm,0.5s,baz=85,slow=7.1,SNR=42
KIEV Kiev 44.21 314 *e*P **P 18 47 28.2 -0.6**
comp=Z,13nm,0.7s
KIEV Kiev 44.21 314*ce*P **P 18 47 28.0 -0.8**
KIEV pmax pmax
comp=Z,13nm,0.7s
CFR Carcaliu 44.43 306⇑*i*P **P 18 47 31.2 +0.6**
CFR Carcaliu 44.43 306 ⇑P **P 18 47 31.2 +0.6**
SORM Soroca 44.47 310⇑*i*P **P 18 47 30.7 -0.2**
SORM Soroca 44.47 310 ⇑P **P 18 47 30.7 -0.2**
TLB Topalu 44.48 305⇑*i*P **P 18 47 32.0 +0.9**
TLB Topalu 44.48 305 ⇑P **P 18 47 32.0 +0.9**
YAK Yakutsk 45.19 30 P **P 18 47 37.2 +0.8**
comp=Z,4.1nm,0.4s,baz=291,slow=1.1,SNR=6.2
VRI Vrincioaia 45.44 307⇑*i*P **P 18 47 40.7 +2.0**
VRI Vrincioaia 45.44 307 ⇑P **P 18 47 40.7 +2.0**
PLOR Plostina 45.50 307⇑*i*P **P 18 47 40.8 +1.6**
PLOR Plostina 45.50 307 ⇑P **P 18 47 40.8 +1.6**
ISR Istrita 45.56 306⇑*i*P **P 18 47 43.1 +3.4**
ISR Istrita 45.56 306 ⇑P **P 18 47 43.1 +3.4**
PRAR RASCA 45.84 309⇑*i*P **P 18 47 42.6 +0.7**
BIZ Bicas 45.91 308⇓*i*P **P 18 47 43.2 +0.8**
MLR Muntele Rosu 45.99 306⇑*i*P **P 18 47 45.0 +1.8**
MLR Muntele Rosu 45.99 306 ⇑P **P 18 47 45.0 +1.8**
OZUR 46.10 307⇑*i*P **P 18 47 45.5 +1.5**
DOPR Dopca 46.38 307⇑*i*P **P 18 47 47.7 +1.6**
BURAR Bucovina Array 46.54 309⇑*i*P **P 18 47 48.1 +0.7**
BURAR Bucovina Array 46.54 309 ⇑P **P 18 47 48.1 +0.7**
BUR04 Bucovina Ar. S 46.54 309 *e*P **P 18 47 48.1 +0.6**
BUR08 Bucovina Ar. S 46.55 309 *e*P **P 18 47 48.0 +0.5**
VOIR 46.62 306⇑*i*P **P 18 47 48.5 +0.5**
VOIR 46.62 306 ⇑P **P 18 47 48.6 +0.5**
ARR Arges 46.91 306⇓*i*P **P 18 47 50.9 +0.6**
ARCR ARCALIA 47.11 308⇓*i*P **P 18 47 53.1 +1.3**
LOT Lotru 47.52 306⇑*i*P **P 18 47 56.5 +1.4**
MJAR Matsushiro Arr 47.56 66 P **P 18 47 56.1 +0.5**
comp=Z,0.9nm,0.7s,baz=282,slow=8.9,SNR=3.7
IDI Anoyia 47.60 292 P **P 18 47 55.5 -0.4**
comp=Z,9.9nm,0.8s,baz=49,slow=23,SNR=5.5
CJR Cluj-Napoca 47.63 308⇑*i*P **P 18 47 57.9 +2.0**
CJR Cluj-Napoca 47.63 308 ⇑P **P 18 47 57.9 +2.0**
VTS Vitosha 48.04 302 *e*P **P 18 47 59.9 +0.6**
comp=Z,11nm,0.9s
VTS Vitosha 48.04 302⇑*i*P **P 18 48 00.1 +0.8**
VTS Vitosha 48.04 302 *e*P **P 18 47 59.9 +0.6**
VTS pmax pmax
comp=Z,11nm,0.9s
DEV Deva 48.12 307⇑*i*P **P 18 48 01.9 +2.3**
DEV Deva 48.12 307 ⇑P **P 18 48 01.9 +2.3**
FIA1 FINESS Array S 48.19 328 *e*P **P 18 48 00.7 +0.8**
FINES FINESS Array B 48.19 328 P **P 18 48 00.4 +0.5**
comp=Z,7.7nm,0.6s,baz=112,slow=7.9,SNR=29
GZR Gura Zlata 48.22 306⇑*i*P **P 18 48 01.1 +0.6**
GZR Gura Zlata 48.22 306 ⇑P **P 18 48 01.2 +0.7**
DRGR 48.23 308⇑*i*P **P 18 48 02.7 +2.1**
DRGR 48.23 308 ⇑P **P 18 48 02.7 +2.1**
TRPA Tarpa 48.35 310⇓*i*P **P 18 48 02.9 +1.5**
TRPA Tarpa 48.35 310⇓*e*P **P 18 48 02.8 +1.4**
UZH Uzhgorod 48.52 311⇓*i*P **P 18 48 03.9 +1.2**
UZH *e* 18 48 11.4
UZH *i* 18 48 19.6
BZS Buzias 49.02 307⇑*i*P **P 18 48 07.6 +1.0**
BZS Buzias 49.02 307 ⇑P **P 18 48 07.6 +1.0**
TIXI Tiksi 49.43 18 P **P 18 48 09.9 +0.6**
comp=Z,3.2nm,0.5s,baz=242,slow=4.0,SNR=14
TIXI Tiksi 49.43 18*ce*P **P 18 48 08.8 -0.5**
TIXI pmax pmax
comp=Z,12nm,1.1s
YSS Yuzh-Sakhalins 50.00 52 *e*P P 18 48 28.3 +14
YSS MLR MLR
comp=Z,200nm,11.0s
ASAJ Asahikawa 50.05 55 P **P 18 48 14.1 -0.4**
comp=Z,7.2nm,1.0s,baz=285,slow=16,SNR=5.2
ASAJ Asahikawa 50.05 55 P **P 18 48 14.1 -0.4**
ASAJ pmax pmax
comp=Z,5.0nm,0.9s

OJC Ojcow 50.17 313 *e*P **P 18 48 15.2 0.0**
comp=Z,6.3nm,0.7s
OJC Ojcow 50.17 313 *e*P **P 18 48 15.3 0.0**
OJC pmax pmax
comp=Z,6.0nm,0.7s
DIVS Divibare 50.27 305⇑*i*P **P 18 48 16.5 +0.3**
FRGS Fruska Gora 50.32 306 *e*P **P 18 48 17.7 +1.2**
LANS Liptovska Anna 50.39 311 *e*P **P 18 48 17.8 +0.8**
LANS Liptovska Anna 50.39 311 *e*P **P 18 48 17.8 +0.8**
BBLS Lazići 50.71 304⇑*i*P **P 18 48 20.2 +0.6**
VYHS Vyhne 50.82 310 *e*P **P 18 48 21.1 +0.9**
VYHS Vyhne 50.82 310 *e*P **P 18 48 21.1 +0.9**
ARCES ARCESS Array B 51.01 338 P **P 18 48 21.7 +0.4**
comp=Z,4.3nm,0.6s,baz=95,slow=7.8,SNR=35
ARE0 ARCESS Array S 51.01 338 *e*P **P 18 48 21.8 +0.5**
HAPS Han Pijesak,BI 51.02 305 *e*P **P 18 48 21.7 -0.2**
MORH M¯±r¯igy, Hung 51.06 307⇑*e*P **P 18 48 22.9 +0.8**
MORH M¯±r¯igy, Hung 51.06 307 *e*P **P 18 48 22.9 +0.8**
UPM Unac-Piva 51.14 304 *e*P **P 18 48 23.3 +0.4**
OKC Ostrava-Krasne 51.23 312 *e*P **P 18 48 24.9 +1.6**
OKC Ostrava-Krasne 51.23 312 *e*P **P 18 48 24.9 +1.6**
BRY Bratogost 51.44 303 *e*P **P 18 48 24.9 -0.2**
HCY Herceg Novi 51.53 303 *e*P **P 18 48 22.2 -3.4**
KTK1 Kautokeino 51.59 337 *e*P **P 18 48 25.8 +0.1**
TREB Trebinje 51.60 303 *e*P **P 18 48 25.3 -0.9**
MORC Moravsky Berou 51.63 312 *e*P **P 18 48 26.8 +0.5**
comp=Z,7.4nm,0.8s
MORC Moravsky Berou 51.63 312⇑*i*P **P 18 48 26.3 0.0**
MORC Moravsky Berou 51.63 312 ⇑P **P 18 48 26.3 0.0**
MORC Moravsky Berou 51.63 312 *e*P **P 18 48 27.4 +1.1**
MODS Modra-Piesok 51.86 310 *e*P **P 18 48 27.0 -1.1**
MODS Modra-Piesok 51.86 310 *e*P **P 18 48 27.0 -1.1**
KMBO Kilima Mbogo 51.98 242 P **P 18 48 30.0 +0.4**
comp=Z,1.9nm,0.6s,baz=48,slow=9.3,SNR=8.6
HAMF Hammerfest 51.99 339 *e*P **P 18 48 29.6 +1.0**
KRLC Kraliky 52.11 312 *e*P **P 18 48 30.8 +0.9**
KRLC Kraliky 52.11 312 *e*P **P 18 48 30.8 +0.9**
DPC Dobruska-Polom 52.39 313 *e*P **P 18 48 33.1 +1.1**
DPC *e*pP **pP 18 48 41.7 +1.4**
DPC Dobruska-Polom 52.39 313 *e*P **P 18 48 33.1 +1.1**
DPC *e* 18 48 41.7
KRUC Moravsky 52.41 311 *e*P **P 18 48 33.0 +0.9**
CONA Conrad Observa 52.84 310 *e*P **P 18 48 36.5 +1.1**
comp=Z,7.4nm,0.8s
ARSA Arzberg 53.12 309 *e*P **P 18 48 38.3 +0.9**
comp=Z,2.5nm,0.6s
TRO Tromso 53.23 337 *e*P **P 18 48 38.0 +0.2**
CRES Cresnjev 53.31 307 *e*P **P 18 48 39.1 +0.3**
SOKA Soboth 53.51 308 *e*P **P 18 48 41.4 +1.0**
comp=Z,8.0nm,0.8s,SNR=6.6
OBKA Obir 53.86 308 *e*P **P 18 48 43.9 +1.0**
comp=Z,3.7nm,0.5s
BRG Berggiesshubel 53.88 314 *e*P **P 18 48 43.8 +0.9**
comp=Z,10nm,0.8s
BRG *e* 18 49 01.0
comp=Z,8.5nm,1.1s
comp=N,594nm,13.6s
comp=E,743nm,15.8s
comp=Z,2μm,17.4s
BRG Berggiesshubel 53.88 314 *e*P **P 18 48 43.8 +0.9**
BRG *e* 18 49 01.0
BRG pmax pmax
comp=Z,10.0nm,0.9s
BRG pmax pmax
comp=Z,9.0nm,1.1s
BRG MLR MLR
comp=N,594nm,13.6s
BRG MLR MLR
comp=E,743nm,15.8s
BRG MLR MLR
comp=Z,2μm,17.4s
MOA Molln 53.91 310 *e*P **P 18 48 43.8 +0.6**
comp=Z,3.5nm,0.6s
CEY Cerknica 54.04 307 *e*P **P 18 48 42.1 -2.1**
STEI Steigen 54.17 335 *e*P **P 18 48 45.2 +0.5**
GEA0 GERESS Array S 54.20 311 *e*P **P 18 48 44.3 -1.1**
GERES GERESS Array B 54.20 311 P **P 18 48 45.5 +0.2**
comp=Z,1.5nm,0.6s,baz=90,slow=7.0,SNR=16
KHC Kasperske Hory 54.25 311 *e*P **P 18 48 47.0 +1.3**
KHC Kasperske Hory 54.25 311 *e*P **P 18 48 47.0 +1.3**
CLL Collm 54.44 314 *e*P **P 18 48 48.0 +1.0**
comp=Z,6.0nm,1.4s
CLL Collm 54.44 314 *e*P **P 18 48 48.0 +1.0**
CLL pmax pmax
comp=Z,6.0nm,1.4s
KBA Koelnbreinsper 54.62 309 *e*P **P 18 48 48.6 +0.1**
comp=Z,2.4nm,0.4s
KONS Konsvik 54.78 333 *e*P **P 18 48 49.1 0.0**
NC405 NORSAR Array S 54.98 326 *e*P **P 18 48 50.6 -0.2**
NB2 NORSAR Subarra 55.23 326 P **P 18 48 52.4 -0.1**
comp=Z,1.0nm,0.4s,baz=86,slow=7.4
NB2 NORSAR Subarra 55.23 326 P **P 18 48 52.4 -0.1**
baz=86,slow=7.4
NOA NORSAR Array B 55.23 326 P **P 18 48 52.5 -0.1**
comp=Z,5.7nm,0.9s,baz=92,slow=7.2,SNR=11
SEY Seymchan 55.62 32 P **P 18 48 55.1 -0.1**
comp=Z,1.2nm,0.5s,baz=245,slow=14,SNR=9.2
WTTA Wattenberg 55.75 309 *e*P **P 18 48 56.1 -0.6**
comp=Z,1.4nm,0.3s
WATA Walderalm 55.78 309 *e*P **P 18 48 56.4 -0.5**
comp=Z,2.0nm,0.5s
SQTA Sankt Quirin 56.05 309 *e*P **P 18 48 58.1 -0.6**
comp=Z,3.5nm,0.4s
MOTA Moosalm 56.10 310 *e*P **P 18 48 58.4 -0.8**
comp=Z,5.9nm,0.6s
FETA Feichten 56.40 309 *e*P **P 18 49 00.7 -0.6**
comp=Z,1.4nm,0.4s,SNR=5.7
DAVA Damuels 56.93 310 *e*P **P 18 49 05.7 +0.6**
comp=Z,8.0nm,0.7s,SNR=9.5
PETK Petropavlovsk- 59.02 43 P **P 18 49 19.2 -0.3**
comp=Z,3.3nm,0.8s,baz=231,slow=1.1,SNR=6.5
KEST Kesra 59.85 296 P **P 18 49 26.4 +0.8**
comp=Z,7.5nm,0.8s,baz=187,slow=1.9,SNR=5.5
BILL Bilibino 61.17 25⇑*e*P **P 18 49 34.7 +0.8**
BILL *e* 18 50 13.8
BILL *e* 18 51 53.2
BILL *e*S S 18 58 11.8 +20
BILL pmax pmax
comp=Z,4.0nm,0.9s
BILL MLR MLR
comp=Z,504nm,16.0s
ESK Eskdalemuir 63.43 320 *i* P **P 18 49 50.1 +0.8**
DAG Danmarks Havn 63.89 345 *i* P **P 18 49 51.9 0.0**
DAG Danmarks Havn 63.89 345 *e*P **P 18 49 51.9 0.0**
ESDC Sonseca Array 68.62 304 P **P 18 50 22.6 -0.4**
comp=Z,2.2nm,0.8s,baz=60,slow=6.5,SNR=11
SUMG Summit 70.44 344 *i* P **P 18 50 34.3 +0.2**
SUMG Summit 70.44 344 *i* P **P 18 50 34.3 +0.2**
WRA Warramunga Arr 70.75 127 P **P 18 50 35.5 -0.7**
comp=Z,2.5nm,0.6s,baz=323,slow=6.2,SNR=52
WRAB Tennant Creek 70.75 127 *i* P **P 18 50 39.4 +3.2**
WRAB pmax pmax
comp=Z,10.0nm,1.0s
WB2 Warramunga Arr 70.76 127 *e*P **P 18 50 35.4 -0.9**
AS31 Alice Springs 72.99 131 *e*P **P 18 50 47.9 -1.8**
comp=Z,2.5nm,0.6s
ASAR Alice Springs 72.99 131 P **P 18 50 48.2 -1.4**
comp=Z,1.7nm,0.6s,baz=315,slow=6.0,SNR=45
AS01 Alice Springs 73.02 130 *e*P **P 18 50 48.5 -1.3**
TORD Torodi Ar. Bea 74.83 277 P **P 18 51 00.6 0.0**
comp=Z,1.5nm,0.6s,baz=36,slow=5.0,SNR=23
IM3 Indian Mountai 76.00 20 *e*P **P 18 51 06.7 +0.2**
BOSA Boshof 78.80 228 P **P 18 51 21.6 -1.3**
comp=Z,5.3nm,0.8s,baz=44,slow=4.0,SNR=8.3
IL1 Eielson Array 78.89 19 *e*P **P 18 51 21.2 -1.4**
ILAR Eielson Array 78.89 19 P **P 18 51 22.8 +0.1**
comp=Z,2.9nm,0.9s,baz=300,slow=4.1,SNR=25
INK Inuvik 79.19 13 P **P 18 51 24.6 +0.4**
comp=Z,1.5nm,0.5s,baz=300,slow=7.0,SNR=7.3
KDAK Kodiak Island 82.07 26 P **P 18 51 40.4 +0.6**
comp=Z,17nm,0.6s,baz=261,slow=3.9,SNR=16
STKA Stephens Creek 83.52 132 P **P 18 51 50.2 +2.5**
comp=Z,2.7nm,0.6s,baz=323,slow=5.6,SNR=6.7
DBIC Dimbokro 83.56 274 P **P 18 51 47.8 -0.5**
comp=Z,3.2nm,0.6s,baz=39,slow=4.7,SNR=7.4
KIC Kosan Boka 83.60 274 *e*PKP1 **P 18 51 49.0 +0.4**
comp=Z,14nm,0.9s
TIC Toumodi 83.71 274 *e*PKP1 **P 18 51 48.2 -1.0**
LIC Lamto 83.92 274 *e*PKP1 **P 18 51 48.5 -1.7**
comp=Z,36nm,1.4s
CMLA Cha da Macela 84.49 310 *i* P **P 18 51 56.6 +3.8**
YKA Yellowknife Ar 87.52 7 P **P 18 52 06.7 -0.4**
comp=Z,1.1nm,0.5s,baz=335,slow=5.0,SNR=14
DLBC Dease Lake 88.62 16 P **P 18 52 12.7 0.0**
comp=Z,5.6nm,1.0s,baz=16,slow=14,SNR=3.3

TXAR	**Lajitas Array**	**121.39**	**5**	PKP	**PKPdf**	**18 58 13.6**	**+0.1**		
	comp=Z,0.2nm,0.4s,baz=200,slow=1.0,SNR=4.2								
CPUP	**Villa Florida**	**143.56**	**265**	PKP	PKPbc	18 58 53.1	+0.9		
	comp=Z,0.7nm,0.4s,baz=120,slow=8.1,SNR=3.0								
LPAZ	**La Paz**	**149.18**	**288**	PKPbc	**PKPdf**	**18 59 07.7**	**+2.3**		
	comp=Z,1.2nm,0.5s,baz=64,slow=7.9,SNR=5.0								
PLCA	**Paso Flores**	**154.55**	**236**	PKP	**PKPdf**	**18 59 13.2**	**+1.1**		
	comp=Z,1.1nm,0.9s,baz=34,slow=3.6,SNR=2.9								
PLCA				PKPbc	**PKiKP**	**18 59 20.9**	**+0.4**		
	comp=Z,1.1nm,0.8s,baz=51,slow=6.5,SNR=6.1								

*JMA **11** 18:49:46.5±0.6,44.°97N×149.°88E,h108km,M3.8*
SKHL 11 18:49:42.7±0.7,45.°21N×150.°25E,h87km±3km,mb4.5/5, msh5.3/5,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.69**	**272**	*i* P	Pn	18 50 10.0	-0.6
KUR				AMB	AMB	18 50 11.0	
	90nm,0.3s						
KUR				AMB	AMB	18 50 11.0	
	210nm,0.3s						
KUR				AMB	AMB	18 50 11.0	
	70nm,0.3s						
KUR				*i* S	Sn	18 50 31.0	-0.8
KUR				A	A	18 50 31.0	
	380nm,0.3s						
KUR				A	A	18 50 31.0	
	210nm,0.3s						
SHO	**Shikotan**	**2.79**	**242**	*i* P	Pn	18 50 26.0	+0.7
SHO				AMB	AMB	18 50 26.0	
	10.0nm,0.2s						
SHO				AMB	AMB	18 50 26.0	
	30nm,0.2s						
SHO				*e*S	Sn	18 50 58.0	0.0
SHO				A	A	18 50 58.0	
	40nm,0.2s						
SHO				A	A	18 50 58.0	
	100nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**3.35**	**251**	*e*P	Pn	18 50 33.0	+0.2
YUK				AMB	AMB	18 50 37.0	
	40nm,0.2s						
YUK				AMB	AMB	18 50 37.0	
	10.0nm,0.2s						
YUK				*e*S	Sn	18 51 12.0	+0.5
YUK				A	A	18 51 14.4	
	40nm,0.6s						
YUK				A	A	18 51 14.4	
	140nm,0.6s						
LAGR	**Lagunnoye**	**3.39**	**252**	*e*P	Pn	18 50 34.0	+0.7
LAGR				AMB	AMB	18 50 35.0	
	80nm,0.5s						
LAGR				AMB	AMB	18 50 35.0	
	60nm,0.5s						
LAGR				AMB	AMB	18 50 35.0	
	50nm,0.5s						
LAGR				*e*S	Sn	18 51 12.0	-0.5
LAGR				A	A	18 51 20.0	
	240nm,0.6s						
LAGR				A	A	18 51 20.0	
	170nm,0.6s						
GRPR	**Tuman**	**3.42**	**251**	*e*P	Pn	18 50 35.0	+1.2
GRPR				AMB	AMB	18 50 36.0	
	90nm,0.3s						
GRPR				AMB	AMB	18 50 36.0	
	50nm,0.3s						
GRPR				AMB	AMB	18 50 36.0	
	40nm,0.3s						
GRPR				*e*S	Sn	18 51 13.0	-0.3
GRPR				A	A	18 51 16.0	
	130nm,0.3s						
GRPR				A	A	18 51 16.0	
	100nm,0.3s						
GLVR	**Golovnino**	**3.69**	**248**	*e*P	Pn	18 50 38.0	+0.6
GLVR				*e*S	Sn	18 51 21.0	+1.2
NEM2	**Nemuro 2**	**3.73**	**242**	P	Pn	18 50 38.2	+0.3
NEM2				*e*S	Sn	18 51 17.6	-3.0
JRA	**Rausu**	**3.88**	**253**	P	Pn	18 50 41.4	+1.4
JNK	**Nakash**	**4.28**	**250**	P	Pn	18 50 46.3	+0.8
JAK	**Akkeshi**	**4.57**	**243**	P	Pn	18 50 49.3	-0.1
JAK				*e*S	Sn	18 51 38.6	-2.6
JTKR	**Abashiri--Toko**	**4.70**	**257**	P	Pn	18 50 51.8	+0.7
JAR	**Ashorobuto**	**5.03**	**250**	P	Pn	18 50 56.8	+1.1
JOB	**Onbets**	**5.17**	**246**	P	Pn	18 50 58.1	+0.6
JOB				*e*S	Sn	18 51 53.7	-2.0
JCH	**Churui**	**5.61**	**245**	P	Pn	18 51 03.4	-0.2
JCH				*e*S	Sn	18 52 03.5	-3.1
MYR	**Moyori**	**5.83**	**242**	*e*P	Pn	18 51 06.8	+0.3
MYR				*e*S	Sn	18 52 07.7	-4.2
JBT2	**Biratori 2**	**6.19**	**250**	P	Pn	18 51 11.2	-0.2

MEX 11 18:52:46.1±0.4,16.°00N×98.°35W,h5km,MD3.5,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.44**	**29**	*i* P	Pg	18 52 54.0	-0.7
PNIG				*e*S	Sg	18 53 00.8	+0.3
TLIG	**Tlapa**	**1.56**	**352**	*i* P	Pn	18 53 11.1	-3.6
TLIG				*i* S	Sn	18 53 31.1	-4.4

*DRS **11** 19:11:00.8±0.0,43.°07N×47.°19E,h12km*
MOS 11 19:11:02.0±0.0,42.°99N×47.°01E,h10km,MPVA3.5, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DBC	**Dubki**	**0.13**	**282**	*i* Pg	Pg	19 11 05.9	+0.7
DBC				*i* Sg	Sg	19 11 09.3	+1.9
KRNR	**Karanay**	**0.18**	**204**	*e*Pg	Pg	19 11 07.0	+1.1
KRNR				*e*Sg	Sg	19 11 11.0	+2.3
BUJR	**Buynaksk**	**0.18**	**156**	*i* Pg	Pg	19 11 07.0	+1.1
BUJR				*e*Sg	Sg	19 11 11.5	+2.9
DLMR	**Dylym**	**0.29**	**286**	*i* Pg	Pb	19 11 09.0	-0.3
DLMR				*i* Sg	Sb	19 11 15.2	+1.0
UNCR	**Uncukul**	**0.32**	**209**	*i* Pg	Pb	19 11 10.0	+0.2
UNCR				*i* Sg	Sb	19 11 15.5	+0.4
ARKR	**Arakani**	**0.39**	**182**	*e*Pg	Pb	19 11 11.0	0.0
ARKR				*e*Sg	Sb	19 11 18.5	+1.4
XNZR	**Khunzakh**	**0.50**	**206**	*e*Pg	Pb	19 11 13.5	+0.4
XNZR				*e*Sg	Sb	19 11 21.5	+1.0
DVE	**Vedeno**	**0.65**	**267**	*e*Pg	Pn	19 11 16.7	-0.7
DVE				*e*Sg	Sn	19 11 27.0	-0.7
BTLR	**Botlikh**	**0.67**	**241**	*e*Pg	Pn	19 11 17.2	-0.3
BTLR				*e*Sg	Sn	19 11 27.7	-0.4
KMKR	**Kumukh**	**0.86**	**176**	*e*Pg	Pn	19 11 20.0	-0.4
KMKR				*i* Sg	Sn	19 11 35.0	+1.8
GROC	**Groznyy**	**0.91**	**284**	*e*Pg	Pn	19 11 22.1	+1.2
GROC				*e*Sg	Sn	19 11 35.8	+1.7
KMGR	**Komgaron**	**1.57**	**273**	*e*Pg	Pg	19 11 34.4	+2.2
KMGR				*e*Sg	Sg	19 11 56.7	+4.1
AKT	**Akhty**	**1.60**	**160**	*e*Pg	Pg	19 11 32.8	0.0
AKT				*e*Sg	Sg	19 11 54.1	+0.5
VLKR	**Vladikavkaz**	**1.71**	**273**	*e*Pg	Pg	19 11 34.9	+0.1
VLKR				*e*Sg	Sg	19 11 59.2	+2.2
TRKR	**Terskaya**	**1.81**	**295**	*e*Pg	Pg	19 11 36.3	-0.4
TRKR				*e*Sg	Sg	19 12 01.4	+1.1
LACR	**Lac**	**2.00**	**266**	*e*Pg	Pg	19 11 39.5	-0.9
LACR				*e*Sg	Sg	19 12 06.9	+0.7
ARNR	**Ardon**	**2.00**	**276**	*e*Pg	Pg	19 11 39.6	-0.8
ARNR				*e*Sg	Sg	19 12 06.9	+0.5
KORR	**Kora**	**2.16**	**273**	*e*Pg	Pb	19 11 41.8	+0.6
KORR				*e*Sg	Sg	19 12 10.9	-0.4
ZEI	**Tsey**	**2.29**	**266**	*e*Pn	Pb	19 11 43.9	+0.3
ZEI				*e*Sn	Sg	19 12 14.2	-1.5
DIGR	**Digorskoe uzhe**	**2.52**	**269**	*e*Pn	Pb	19 11 46.7	-0.7
DIGR				*e*Sn	Sb	19 12 19.6	+1.1
NEY	**Neytrino**	**3.15**	**276**	*e*Pn	Pb	19 11 55.0	-3.1
NEY				*e*Sn	Sb	19 12 35.3	-1.4

JSN 11 19:22:17.9±1.4,18.°17N×78.°33W,h20km±999km,MD3.5, 1C-6D,Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MCJ	**Malvern**	**0.65**	**112**	‖ *i*P	Pb	19 22 30.8	0.0
CVJ	**Coleyville**	**0.75**	**85**	‖ *i*P	Pb	19 22 30.7	-1.7
BBJ	**Bamboo Saint A**	**1.03**	**78**	‖ *i*P	Pb	19 22 35.7	-1.4
PCJ	**Portland Cotta**	**1.19**	**111**	‖ *i*P	Pn	19 22 37.3	-2.1
PCJ				*i* S	Sb	19 22 52.7	-2.1
STH	**Stony Hill**	**1.45**	**93**	‖ *i*P	Pn	19 22 41.8	-1.2
STH				*i* S	Sn	19 23 00.1	-1.3
HOJ	**Hope**	**1.51**	**96**	‖ *i*P	Pn	19 22 43.0	-0.8
HOJ				*i* S	Sn	19 23 01.1	-1.7
GWJ	**Greenwich**	**1.52**	**93**	‖ *i*P	Pn	19 22 43.3	-0.8

*GUC **11** 19:41:51.1±0.5,34.°04S×72.°34W,h37km±3km,ML3.3*
*SJA **11** 19:41:51.4±1.3,34.°07S×72.°19W,h10km,ML3.2,MW3.5*
ISC 11 19:41:50.3±2.7,34.°05S±0.°04×72.°42W±0.°10,h13km±17km, n21,σ1°80/31,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO05	**Hualaæø**	**1.04**	**157**	*e*P	**Pb**	**19 42 09.9**	**-0.4**
GO05				*e*S	**Sb**	**19 42 23.5**	**-0.3**
GO05	**Hualaæø**	**1.04**	**157**	*e*P	**Pb**	**19 42 09.7**	**-0.6**
GO05				*i* S	**Sb**	**19 42 23.1**	**-0.7**
GO05				IAML		19 42 25.9	
	comp=E,2μm,0.3s						
ROC1	**El Roble**	**1.58**	**48**	*e*P	**Pn**	**19 42 18.2**	**-0.2**
ROC1				*e*S	**Sb**	**19 42 40.2**	**+0.5**
ROCH	**El Roble**	**1.59**	**48**	*e*P	**Pn**	**19 42 18.1**	**-0.4**
ROCH				*e*S	**Sb**	**19 42 40.2**	**+0.4**
ROCH				IAML		19 42 46.0	
	comp=N,552nm,0.4s						
CLCH	**Cerro Calan**	**1.70**	**68**	*e*P	**Pn**	**19 42 19.2**	**-0.6**
CLCH				*i* S	**Sn**	**19 42 40.9**	**-0.5**
CLCH				IAML		19 42 54.1	
	comp=N,417nm,0.4s						
PEL	**Peldehue**	**1.70**	**59**	*e*P	**Pn**	**19 42 20.1**	**+0.3**
PEL				*e*S	**Sg**	**19 42 45.4**	**+0.3**
PEL	**Peldehue**	**1.70**	**59**	*e*P	**Pn**	**19 42 19.8**	**0.0**
PEL				*i* S	**Sn**	**19 42 41.1**	**-0.4**
PEL				IAML		19 42 50.5	
	comp=N,290nm,0.6s						
LMEL	**Las Melosas**	**1.85**	**84**	*e*P	**Pn**	**19 42 21.9**	**-0.1**
LMEL				*e*S	**Sn**	**19 42 45.0**	**-0.2**
LMEL				IAML		19 42 50.0	
	comp=N,732nm,0.2s						
FCH	**Farellones**	**1.91**	**69**	*e*P	**Pn**	**19 42 22.8**	**-0.1**
AUSP	**Uspallata**	**3.12**	**55**	*e*P	**Pn**	**19 42 42.9**	**+3.3**
AUSP				*e*S	**Sb**	**19 43 24.1**	**0.0**
AAGR	**Agrelo**	**3.15**	**73**	*e*P	**Pn**	**19 42 42.8**	**+3.1**
ARCO	**CERRO ARCO**	**3.15**	**69**	*e*P	**Pb**	**19 42 44.7**	**-1.6**
ARCO				IAML		19 42 51.3	
	comp=Z,69nm,0.5s						
AVIZ	**Vizcacheras**	**3.30**	**81**	*e*P	**Pb**	**19 42 47.1**	**-1.7**
ASAL	**Salagasta**	**3.33**	**65**	*e*P	**Pn**	**19 42 46.9**	**+4.6**
RTLS	**Leoncito**	**3.45**	**50**	*e*P	**Pn**	**19 42 47.7**	**+3.6**
RTLS				IAML		19 43 43.7	
	comp=Z,53nm,0.8s						
RTCV	**Cerro Valdivia**	**3.92**	**57**	*e*P	**Pn**	**19 42 53.2**	**+2.9**
GO04	**Tololo Observa**	**4.10**	**20**	*i* P	**Pn**	**19 42 53.2**	**+0.3**
GO04				*e*S	**Sn**	**19 43 39.4**	**-1.6**
ACCO	**Cerro Coronel**	**4.47**	**40**	*i* P	**Pn**	**19 43 00.8**	**+2.8**
AMOG	**MOGNA**	**4.54**	**48**	*e*P	**Pn**	**19 43 00.5**	**+1.6**
AGUA	**GUANDACOL**	**5.64**	**37**	*i* P	**Pn**	**19 43 16.0**	**+2.0**
APLL	**PUNTA DE LOS L**	**6.18**	**55**	*e*P	**Pn**	**19 43 21.6**	**+0.3**

*ISCJB **11** 19:44:42.7±1.0,21.°90N±0.°08×143.°2E±0.°4,h200km, mb3.3/6,Error ellipse: s-maj=49.2km s-min=10.5km az=175.4*
*IDC **11** 19:44:44.7±2.3,21.°98N×143.°28E,h205km±20km,mb3.2/6, mb1 3.4/8,mb1mx3.1/46,mbtmp3.8/8,Error ellipse: s-maj=40.0km s-min=15.2km az=90.0*
ISC 11 19:44:44.2±1.2,21.°9N±0.°1×143.°3E±0.°4,h200km,n8, σ0°93/9,mb3.2/6,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.23**	**349**	P	**Pn**	**19 46 02.8**	**+1.2**
	11nm,0.3s,baz=78,slow=23,SNR=16						
JCJ				S	**Sn**	**19 47 01.6**	**-1.0**
	7.9nm,0.3s,baz=255,slow=24,SNR=6.3						
MJAR	**Matsushiro Arr**	**15.20**	**344**	P	**Pn**	**19 48 09.0**	**+0.1**
	0.5nm,0.3s,baz=165,slow=10,SNR=8.6						
WRA	**Warramunga Arr**	**42.53**	**192**	P	**P**	**19 52 20.6**	**+0.3**
	0.2nm,0.2s,baz=17,slow=10.0,SNR=9.0						
ASAR	**Alice Springs**	**46.23**	**192**	P	**P**	**19 52 49.4**	**-0.3**
	0.3nm,0.8s,baz=7.7,slow=8.8,SNR=4.2						
MKAR	**Makanchi Array**	**54.59**	**313**	P	**P**	**19 53 52.5**	**+0.5**
	0.3nm,0.5s,baz=81,slow=8.7,SNR=3.4						
YKA	**Yellowknife Ar**	**76.21**	**28**	P	**P**	**19 56 10.3**	**+0.1**
	0.2nm,0.5s,baz=294,slow=5.5,SNR=2.7						
ARCES	**ARCESS Array B**	**78.72**	**341**	P	**P**	**19 56 23.6**	**-0.4**
	3.1nm,0.9s,baz=71,slow=8.7,SNR=2.9						
FINES	**FINESS Array B**	**83.00**	**334**	P	**P**	**19 56 45.3**	**-1.5**
	2.6nm,0.9s,baz=81,slow=4.5,SNR=5.4						

*TEH **11** 19:47:41.3,33.°63N×57.°18E,h11km,ML3.5*
*THR **11** 19:47:41.5±0.3,33.°60N×57.°11E,h11km±2km,ML3.5*
*ISCJB **11** 19:47:42.2±0.5,33.°62N±0.°03×57.°13E±0.°04,h5km±4km, Error ellipse: s-maj=5.9km s-min=4.9km az=162.9*
ISC 11 19:47:42.2±1.1,33.°62N±0.°04×57.°18E±0.°04,h6km±9km, n44,σ1°02/43,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TKDS	**Koohdasht(Taba**	**0.05**	**260**	*e*Pg	**Pg**	**19 47 43.6**	**-0.1**
TKDS				IAMB	IAmb	19 47 44.0	
	comp=Z,0.0nm,0.1s						
TABS	**Tabas**	**0.06**	**300**	*e*Pg	**Pg**	**19 47 44.0**	**+0.2**
TABS	**Tabas**	**0.06**	**300**	*e*Pg	**Pg**	**19 47 44.0**	**+0.2**
TNSJ	**Nastanj**	**0.58**	**306**	*e*Pg	**Pg**	**19 47 53.1**	**-0.4**
TNSJ				IAMB	IAmb	19 48 10.7	
	comp=Z,0.0nm,0.3s						
TPRV	**Parvadeh(Tabas**	**0.72**	**215**	*e*Pg	**Pg**	**19 47 55.6**	**-0.5**
TPRV				IAMB	IAmb	19 48 07.9	
	comp=Z,0.0nm,0.2s						
ITEG	**Tejag**	**1.50**	**118**	IAMB	IAmb	19 48 31.5	
	comp=N,11μm,0.3s						
ITEG				*e*Pn	**Pn**	**19 48 09.9**	**-0.1**
ITEG				IAMB	IAmb	19 48 32.6	
	comp=E,10μm,0.4s						
ITEG				IAMB	IAmb	19 48 32.9	
	comp=Z,5μm,0.2s						
IKOO	**Kooshah**	**1.94**	**127**	*e*Pn	**Pn**	**19 48 16.1**	**0.0**
IKOO				IAMB	IAmb	19 48 47.1	
	comp=E,6μm,0.3s						
IKOO				IAMB	IAmb	19 48 48.0	
	comp=Z,3μm,0.2s						
IKOO				IAMB	IAmb	19 48 50.8	
	comp=N,6μm,0.2s						
IMON	**Monand**	**2.13**	**101**	*e*Pn	**Pn**	**19 48 19.3**	**+0.7**
IMON				IAMB	IAmb	19 48 23.6	
	comp=Z,4μm,0.2s						
IMON				IAMB	IAmb	19 48 55.8	
	comp=E,13μm,0.4s						
IDAH	**Dahanechah**	**2.42**	**111**	*e*Pn	**Pn**	**19 48 23.3**	**+0.6**
IDAH				IAMB	IAmb	19 48 32.9	
	comp=Z,1μm,0.3s						
IDAH				IAMB	IAmb	19 48 59.9	
	comp=E,2μm,0.4s						
IDAH				IAMB	IAmb	19 49 03.0	
	comp=N,2μm,0.3s						
YZKH	**Yazd**	**2.50**	**241**	*e*Pn	**Pn**	**19 48 23.4**	**-0.1**
YZKH				*e*Sg	**Sg**	**19 49 01.9**	**-0.5**
YZKH				IAML		19 49 05.7	
	comp=E,185nm,0.5s						
YZKH				IAML		19 49 10.6	
	comp=N,157nm,0.4s						
YZKH	**Yazd**	**2.50**	**241**	*e*Pn	**Pn**	**19 48 23.4**	**-0.1**
SHRT	**Shahrakht**	**2.60**	**89**	*e*P	**Pn**	**19 48 26.1**	**+1.2**
SHRT	**Shahrakht**	**2.60**	**89**	*e*Pn	**Pn**	**19 48 26.1**	**+1.2**
ICHK	**Chekchek**	**2.70**	**240**	*e*Pn	**Pn**	**19 48 26.8**	**+0.3**
ICHK				IAMB	IAmb	19 48 35.1	
	comp=Z,3μm,0.3s						
ICHK				IAMB	IAmb	19 49 16.6	
	comp=E,3μm,0.2s						
ICHK				IAMB	IAmb	19 49 18.4	
	comp=N,3μm,0.2s						
ANAR	**Anarak**	**2.92**	**262**	*e*Pn	**Pn**	**19 48 29.2**	**-0.1**
ANAR				IAMB	IAmb	19 49 22.1	
	comp=E,0.0nm,0.3s						
ANAR				IAMB	IAmb	19 49 24.7	
	comp=N,0.0nm,0.3s						
ANAR				IAMB	IAmb	19 49 30.5	
	comp=Z,0.0nm,0.5s						
IMOG	**Moghan**	**3.05**	**35**	*e*Pn	**Pn**	**19 48 31.8**	**+0.4**
IMOG				IAMB	IAmb	19 49 38.6	
	comp=Z,448nm,0.5s						
IMEH	**Mehriz**	**3.10**	**225**	*e*Pn	**Pn**	**19 48 32.7**	**+0.7**
IMEH				IAMB	IAmb	19 48 42.3	
	comp=Z,1μm,0.2s						
IMEH				IAMB	IAmb	19 48 43.9	
	comp=N,1μm,0.2s						
IPAY	**Payeh**	**3.19**	**27**	*e*Pn	**Pn**	**19 48 33.9**	**+0.7**
IPAY				IAMB	IAmb	19 49 25.6	
	comp=E,1μm,0.6s						
IPAY				IAMB	IAmb	19 49 27.0	
	comp=N,1μm,0.4s						
IPAY				IAMB	IAmb	19 49 31.8	
	comp=Z,664nm,0.7s						
IAKL	**Akhelmad**	**3.24**	**23**	*e*Pn	**Pn**	**19 48 34.6**	**+0.6**
IAKL				IAMB	IAmb	19 49 25.3	
	comp=Z,1μm,0.8s						
IAKL				IAMB	IAmb	19 49 26.9	
	comp=E,1μm,0.4s						
IAKL				IAMB	IAmb	19 49 37.0	
	comp=N,1μm,0.4s						
IANJ	**Anjilo**	**3.26**	**305**	*e*Pn	**Pn**	**19 48 34.9**	**+0.7**
IANJ				IAMB	IAmb	19 49 34.9	
	comp=Z,638nm,0.4s						
KHGB	**Koh Gabri**	**3.29**	**191**	*e*Pn	**Pn**	**19 48 35.6**	**+1.0**
KHGB				IAMB	IAmb	19 49 29.0	
	comp=E,0.0nm,0.2s						
KHGB				IAMB	IAmb	19 49 30.9	
	comp=Z,0.0nm,0.4s						
KHGB				IAMB	IAmb	19 49 36.0	
	comp=N,0.0nm,0.4s						
IKRD	**Kardeh**	**3.33**	**19**	*e*Pn	**Pb**	**19 48 40.6**	**-1.3**
IKRD				IAMB	IAmb	19 49 46.8	
	comp=E,517nm,0.5s						
IKRD				IAMB	IAmb	19 49 47.2	
	comp=Z,421nm,0.6s						
IKRD				IAMB	IAmb	19 49 53.3	
	comp=N,627nm,0.6s						
ISAD	**Sadrabad**	**3.40**	**241**	*e*Pn	**Pn**	**19 48 36.1**	**0.0**
ISAD				IAMB	IAmb	19 49 37.4	
	comp=E,2μm,0.4s						
ISAD				IAMB	IAmb	19 49 39.5	
	comp=Z,2μm,0.4s						
ISAD				IAMB	IAmb	19 49 42.4	
	comp=N,2μm,0.3s						
JRKH	**Jarkhoshk**	**3.47**	**48**	*e*Pn	**Pn**	**19 48 37.6**	**+0.7**
JRKH				IAMB	IAmb	19 48 51.8	
	comp=Z,0.0nm,0.4s						
JRKH				IAMB	IAmb	19 49 34.2	
	comp=E,0.0nm,0.3s						
JRKH				IAMB	IAmb	19 49 36.8	
	comp=N,0.0nm,0.2s						
IMYA	**Miami**	**3.62**	**41**	*e*Pn	**Pn**	**19 48 40.9**	**+1.8**
IMYA				IAMB	IAmb	19 49 46.5	
	comp=E,1μm,0.5s						
IMYA				IAMB	IAmb	19 49 52.1	
	comp=N,921nm,0.6s						
IMYA				IAMB	IAmb	19 49 52.4	
	comp=Z,477nm,0.7s						
TVBK	**TV Kerman**	**3.64**	**186**	*e*Pn	**Pn**	**19 48 41.0**	**+1.5**
TVBK				IAMB	IAmb	19 49 38.7	
	comp=E,0.0nm,0.1s						
TVBK				IAMB	IAmb	19 49 40.6	
	comp=N,0.0nm,0.2s						
TVBK				IAMB	IAmb	19 49 41.4	
	comp=Z,0.0nm,0.3s						
KRBR	**Kerman**	**3.65**	**186**	*e*Pn	**Pn**	**19 48 39.8**	**+0.3**
KRBR				IAML		19 49 40.4	
	comp=N,85nm,0.2s						
KRBR				IAML		19 49 45.8	
	comp=E,127nm,0.4s						
KRBR	**Kerman**	**3.65**	**186**	*e*Pn	**Pn**	**19 48 39.8**	**+0.3**
CHMN	**Cheshme madani**	**3.76**	**175**	*e*Pn	**Pn**	**19 48 43.5**	**+2.3**
CHMN				IAMB	IAmb	19 49 26.0	
	comp=E,0.0nm,0.2s						
CHMN				IAMB	IAmb	19 49 26.6	
	comp=N,0.0nm,0.2s						
CHMN				IAMB	IAmb	19 49 45.2	
	comp=Z,0.0nm,0.2s						
ISHM	**Shahmirzad**	**3.87**	**305**	*e*Pn	**Pn**	**19 48 43.8**	**+1.2**
ISHM				IAMB	IAmb	19 49 59.4	
	comp=Z,777nm,0.7s						
ILAS	**Lasjerd**	**3.90**	**298**	*e*Pn	**Pn**	**19 48 44.8**	**+1.8**
ILAS				IAMB	IAmb	19 49 59.5	
	comp=N,702nm,0.5s						
ILAS				IAMB	IAmb	19 50 04.9	
	comp=Z,580nm,0.7s						
ILAS				IAMB	IAmb	19 50 06.4	
	comp=E,648nm,0.4s						
NGRK	**Negar Kerman**	**3.98**	**186**	*e*Pn	**Pn**	**19 48 45.2**	**+1.0**
NGRK				IAMB	IAmb	19 49 52.1	
	comp=N,0.0nm,0.2s						
NGRK				IAMB	IAmb	19 49 52.8	
	comp=Z,0.0nm,0.2s						
NGRK				IAMB	IAmb	19 49 53.5	
	comp=E,0.0nm,0.2s						
IZEF	**Zefreh**	**4.12**	**261**	*e*Pn	**Pn**	**19 48 46.8**	**+0.7**
IZEF				IAMB	IAmb	19 49 55.0	
	comp=E,331nm,0.4s						
IZEF				IAMB	IAmb	19 49 55.7	
	comp=Z,540nm,0.7s						
IZEF				IAMB	IAmb	19 50 05.5	
	comp=N,341nm,0.4s						
IFIR	**Firoozkooh**	**4.17**	**300**	*e*Pn	**Pn**	**19 48 46.9**	**+0.2**
IFIR				IAMB	IAmb	19 49 37.4	
	comp=N,466nm,0.2s						
IFIR				IAMB	IAmb	19 49 37.9	
	comp=Z,432nm,0.3s						
IFIR				IAMB	IAmb	19 50 11.8	
	comp=E,670nm,0.7s						
KRSH	**Karshahi**	**4.21**	**276**	*e*Pn	**Pn**	**19 48 47.6**	**+0.4**
KRSH				IAMB	IAmb	19 48 55.6	
	comp=E,0.0nm,0.2s						
KRSH				IAMB	IAmb	19 50 13.0	
	comp=N,0.0nm,0.6s						
KRSH				IAMB	IAmb	19 50 13.7	
	comp=Z,0.0nm,0.4s						
IRAM	**Ramesheh**	**4.43**	**247**	*e*Pn	**Pn**	**19 48 50.9**	**+0.7**
IRAM				IAMB	IAmb	19 50 05.4	
	comp=N,258nm,0.4s						
IRAM				IAMB	IAmb	19 50 07.9	
	comp=Z,250nm,0.4s						
IRAM				IAMB	IAmb	19 50 08.0	
	comp=E,395nm,0.4s						
IGAR	**Gharneh**	**4.48**	**256**	IAMB	IAmb	19 50 06.0	
	comp=N,600nm,0.4s						
IGAR				IAMB	IAmb	19 50 10.7	
	comp=Z,305nm,0.6s						
IDMV	**Damavand**	**4.67**	**296**	*e*Pn	**Pn**	**19 48 54.1**	**+0.5**
IDMV				IAMB	IAmb	19 48 57.0	
	comp=Z,310n

IDC 11 19:52:21.0±46.0, 15°65S×172°31W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/34, mbtmp3.9/3, Error ellipse: s-maj=897.7km s-min=179.2km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**44.83**	**240**	P	P	20 00 37.2	+0.2
	2.7nm,1.1s,baz=78,slow=14,SNR=2.9						
WRA	**Warramunga Arr**	**50.81**	**257**	P	P	20 01 23.3	-0.4
	0.3nm,0.6s,baz=94,slow=7.0,SNR=8.3						
ASAR	**Alice Springs**	**51.04**	**252**	P	P	20 01 25.3	-0.1
	2.5nm,0.6s,baz=89,slow=8.2,SNR=44						

IDC 11 19:52:28.4±3.3, 6°13S×151°09E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/28, mbtmp3.3/3, MS2.9/1, Ms1 2.9/1, ms1mx2.5/19, Error ellipse: s-maj=113.8km s-min=45.6km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**20.54**	**343**	LR	LR	20 05 31.9	
	comp=Z,29nm,19.1s,baz=246,slow=38						
WRA	**Warramunga Arr**	**21.30**	**228**	P	P	19 57 16.3	-0.5
	0.3nm,0.8s,baz=54,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**24.03**	**222**	P	P	19 57 46.0	+0.6
	0.2nm,0.4s,baz=58,slow=8.9,SNR=7.1						
FITZ	**Fitzroy Crossi**	**27.54**	**242**	P	P	19 58 16.6	-0.5
	1.1nm,0.7s,baz=73,slow=11,SNR=4.7						
TORD	**Torodi Ar. Bea**	**149.06**	**285**	PKPbc	PKPbc	20 12 19.4	-0.4
	baz=80,slow=5.4						

*IDC **11** 19:57:06.1±1.6, 22°.83N×95°.96E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/42, mbtmp3.4/3, ML3.7/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/34, Error ellipse: s-maj=45.6km s-min=19.0km az=61.0*

ISC 11 19:57:06.9±1.6, 22°.3N±0°.3×95°.5E±0°.3, h10km, n11, σ1°87/11, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHTO	**Chiang Mai**	**4.78**	**136**	P	**Sg**	**19 59 39.0**	**-1.3**
	3µm311nm,0.6s						
CHTO	**Chiang Mai**	**4.78**	**136**	P	**Pn**	**19 58 20.2**	**+1.3**
CMMT	**Chiang Mai**	**4.78**	**136**	P	**Sg**	**19 59 39.0**	**-1.4**
	743nm69nm,0.6s						
CMMT	**Chiang Mai**	**4.78**	**136**	P	**Pn**	**19 58 20.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**5.04**	**139**	Pn	**Pn**	**19 58 24.3**	**+1.7**
	0.6nm,0.3s,baz=322,slow=13,SNR=27						
CMAR				Pg	**Pg**	**19 58 42.0**	**-1.5**
	2.3nm,0.3s,baz=321,slow=18,SNR=33						
CMAR				Lg	Lg	19 59 48.9	
	1.3nm,0.3s,baz=300,slow=16,SNR=4.3						
PAYA	**Payao**	**5.07**	**125**	P	**Sg**	**19 59 49.3**	**-0.3**
LAMP	**Lampang**	**5.44**	**133**	P	**Sg**	**20 00 01.0**	**-0.5**
UTTA	**Uttaradit**	**6.60**	**133**	P	**Pn**	**19 58 47.2**	**+3.1**
MKAR	**Makanchi Array**	**26.64**	**340**	P	**P**	**20 02 43.5**	**-2.2**
	0.3nm,0.5s,baz=138,slow=9.5,SNR=3.9						
GNI	**Garni**	**46.22**	**305**	LR	LR	20 28 30.3	
	comp=Z,51nm,18.8s,baz=136,slow=41						
WRA	**Warramunga Arr**	**56.62**	**135**	P	**P**	**20 06 51.6**	**+1.2**
	0.5nm,1.0s,baz=321,slow=7.7,SNR=3.1						

IDC 11 20:06:13.9±2.0, 2°.98N×127°.81E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.4/36, mbtmp3.4/4, Error ellipse: s-maj=107.2km s-min=25.4km az=70.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.05**	**186**	P	P	20 11 00.7	+1.1
	0.9nm,0.8s,baz=9.5,slow=12,SNR=2.3						
WRA	**Warramunga Arr**	**23.66**	**165**	P	P	20 11 27.6	+0.4
	0.2nm,0.3s,baz=343,slow=10,SNR=11						
ASAR	**Alice Springs**	**27.14**	**168**	P	P	20 11 57.5	-1.6
	0.4nm,0.5s,baz=351,slow=7.7,SNR=5.0						
MKAR	**Makanchi Array**	**58.78**	**325**	P	P	20 16 14.4	+0.4
	0.3nm,0.5s,baz=115,slow=8.1,SNR=4.6						

*ISCJB **11** 20:09:09.7±0.4, 45°.84N±0°.02×6°.80E±0°.04, h9km±4km, Error ellipse: s-maj=4.2km s-min=3.0km az=19.2*
*LDG **11** 20:09:10.9±0.1, 45°.80N×6°.93E, h2km, Ml2.6/14, Error ellipse: s-maj=2.3km s-min=1.2km az=92.0*

ISC 11 20:09:11.1±0.9, 45.79N±0°.02×6.83E±0°.03, h16km±8km, n21, σ1°04/42, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPL	**La Plagne**	**0.28**	**194**	*e*Pg	**Pg**	**20 09 17.3**	**-0.1**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**20 09 21.4**	**-0.3**
	21nm,0.3s						
LPG	**La Plagne**	**0.30**	**190**	*e*Pg	**Pb**	**20 09 18.4**	**+0.1**
LPG				*e*Sg	**Sg**	**20 09 22.2**	**0.0**
	21nm,0.3s						
CABF	**La Chapelle**	**0.97**	**328**	*e*Pg	**Pb**	**20 09 29.6**	**0.0**
CABF				*e*Sg	**Sg**	**20 09 43.1**	**+0.5**
	111nm,0.6s,SNR=1.0						
MBDF	**Montbardon**	**1.07**	**182**	*e*Pg	**Pb**	**20 09 29.9**	**-1.4**
MBDF				*e*Sg	**Sb**	**20 09 45.1**	**0.0**
	28nm,0.5s						
ORIF	**Oris-en-Rattie**	**1.10**	**218**	*e*Pg	**Pg**	**20 09 32.7**	**+0.3**
	SNR=1.0						
ORIF				*e*Sg	**Sb**	**20 09 46.9**	**+0.9**
	26nm,0.5s						
VIVF	**Saint-Julien-l**	**1.79**	**239**	*e*Pn	**Pn**	**20 09 42.0**	**+0.6**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**20 10 04.6**	**+0.9**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**20 10 08.2**	**-0.5**
	15nm,0.4s						
SBF	**Sospel**	**1.98**	**167**	*e*Pn	**Pn**	**20 09 43.5**	**-0.5**
SBF				*e*Sn	**Sn**	**20 10 07.1**	**-1.4**
	2.6nm,0.3s						
HINF	**Hinteralfeld**	**2.02**	**0**	*e*Pn	**Pn**	**20 09 44.2**	**-0.4**
HINF				*e*Sn	**Sn**	**20 10 08.8**	**-0.8**
HINF				*e*Sg	**Sg**	**20 10 14.9**	**-1.4**
	6.7nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**2.24**	**293**	*e*Pn	**Pn**	**20 09 48.1**	**+0.5**
SMF				*e*Sn	**Sn**	**20 10 15.6**	**+0.6**
	6.5nm,0.3s						
LOR	**Lormes**	**2.53**	**307**	*e*Pn	**Pn**	**20 09 52.5**	**+1.0**
	baz=126						
LOR				*e*Sn	**Sn**	**20 10 21.4**	**-0.6**
	2.7nm,0.2s,SNR=1.0						
DAVA	**Damuels**	**2.58**	**54**	Pg	**Pg**	**20 10 01.4**	**+0.7**
	0.6nm,0.2s						
DAVA				Sg	**Sg**	**20 10 36.2**	**+2.0**
	8.1nm,0.5s						
AVF	**Avril sur Loir**	**2.61**	**294**	*e*Pn	**Pn**	**20 09 53.6**	**+1.0**
	SNR=1.0						
SSF	**Saint Saulge**	**2.62**	**300**	*e*Pn	**Pn**	**20 09 53.5**	**+0.6**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**20 10 24.1**	**-0.3**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**20 10 35.6**	**+0.1**
	4.5nm,0.4s,SNR=1.0						
CDF	**Champ du Feu**	**2.64**	**6**	*e*Pn	**Pn**	**20 09 52.4**	**-0.7**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**20 10 33.5**	**-2.4**
	4.7nm,0.5s,SNR=1.0						
SFTF	**Sexfontaines**	**2.71**	**334**	*e*Pn	**Pn**	**20 09 53.8**	**-0.2**
	baz=143						
SFTF				*e*Sn	**Sn**	**20 10 25.2**	**-1.2**
	9.3nm,0.5s						
BGF	**Bois d'Agland**	**2.87**	**287**	*e*Pn	**Pn**	**20 09 57.0**	**+0.8**
BGF				*e*Sn	**Sn**	**20 10 30.2**	**-0.2**
BGF				*e*Sg	**Sg**	**20 10 43.1**	**-0.2**
	11nm,0.4s						
FETA	**Feichten**	**2.96**	**64**	Pn	**Pb**	**20 10 05.8**	**+2.2**
	1.9nm,0.6s						
MEZF	**Maizieres J'vi**	**2.97**	**337**	*e*Sg	**Sg**	**20 10 45.3**	**-1.2**
	13nm,0.6s,SNR=1.0						
RETA	**Reutte**	**3.20**	**57**	Pn	**Pb**	**20 10 05.0**	**-2.5**
	0.2nm,0.2s						
RETA				Sg	**Sg**	**20 10 55.1**	**+1.3**
	1.9nm,0.4s						
TCF	**Toulx Ste Croi**	**3.25**	**280**	*e*Pn	**Pn**	**20 10 01.8**	**+0.3**
TCF				*e*Sn	**Sn**	**20 10 40.0**	**+0.1**
	4.1nm,0.6s,SNR=1.0						
SQTA	**Sankt Quirin**	**3.34**	**63**	Pg	**Pg**	**20 10 16.1**	**+0.9**
	0.4nm,0.2s						

*ISCJB **11** 20:13:43.2±0.2, 44°.79N±0°.01×6°.72E±0°.02, h10km±2km, Error ellipse: s-maj=2.4km s-min=1.9km az=152.1*
*GEN **11** 20:13:43.6, 44°.80N×6°.74E, h7km±1km, Ml2.1*
*ROM **11** 20:13:43.5±0.2, 44°.799N±0°.006×6°.74E±0°.01, h11km±1km, ML2.1/16*
*LDG **11** 20:13:43.7±0.1, 44°.81N×6°.73E, h2km, Md2.6/3, Ml2.6/17, Error ellipse: s-maj=2.1km s-min=1.6km az=77.0*
*STR **11** 20:13:44.8±0.3, 45°.N±2°×±°, h0km, M2.7/12, MLv2.7/12*

ISC 11 20:13:43.5±0.8, 44.79N±0°.01×6.74E±0°.02, h10km±5km, n72, σ1°38/126, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBDF	**Montbardon**	**0.07**	**163**	*e*Pg	**Pg**	**20 13 45.7**	**-0.2**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**20 13 47.1**	**-0.5**
	1µm,0.2s						
RRL	**Rocca Remolon**	**0.14**	**14**	P	**Pg**	**20 13 46.7**	**-0.1**
RRL				S	**Sg**	**20 13 48.8**	**-0.5**
RRL	**Rocca Remolon**	**0.14**	**14**	P	**Pg**	**20 13 46.8**	**-0.1**
RRL				S	**Sg**	**20 13 48.8**	**-0.5**
RRL				AML	AML		
	comp=E,2815µm,0.4s						
RRL				AML	AML		
	comp=N,2705µm,0.5s						
RRL				AML	AML		
	comp=E,2815µm,0.4s						
RRL				AML	AML		
	comp=N,2705µm,0.5s						
RRL				AML	AML		
	comp=E,2815µm,0.4s						
RRL				AML	AML		
	comp=N,2705µm,0.5s						
BNI	**Bardonecchia**	**0.27**	**350**	P	**Pg**	**20 13 48.8**	**-0.2**
BNI				S	**Sg**	**20 13 52.9**	**+0.2**
BNI				AML	AML		
	comp=E,214µm,0.2s						
BNI				AML	AML		
	comp=N,205µm,1.5s						
BNI				AML	AML		
	comp=E,280µm,0.2s						
BNI				AML	AML		
	comp=N,196µm,0.2s						
BNI				AML	AML		
	comp=E,214µm,0.2s						
BNI				AML	AML		
	comp=N,205µm,1.5s						
BNI				AML	AML		
	comp=E,280µm,0.2s						
BNI				AML	AML		
	comp=N,196µm,0.2s						
BNI				AML	AML		
	comp=E,214µm,0.2s						
BNI				AML	AML		
	comp=E,280µm,0.2s						
BNI				AML	AML		
	comp=N,196µm,0.2s						
BNI				AML	AML		
	comp=N,205µm,1.5s						
BNI				AML	AML		
	comp=N,196µm,0.2s						
BNI				AML	AML		
	comp=N,205µm,1.5s						
BNI				AML	AML		
	comp=E,214µm,0.2s						
BNI				AML	AML		
	comp=E,280µm,0.2s						
SURF	**Saint Ours**	**0.31**	**171**	Pg	**Pg**	**20 13 50.1**	**+0.2**
SURF				Sg	**Sg**	**20 13 55.0**	**+0.9**
OGAG	**Argentiere**	**0.36**	**203**	Pg	**Pg**	**20 13 46.9**	**-3.9**
OGAG				Sg	**Sg**	**20 13 49.1**	**-6.6**
BHB	**Bricherasio**	**0.37**	**82**	P	**Pg**	**20 13 51.0**	**0.0**
BHB				S	**Sg**	**20 13 55.8**	**-0.1**
BHB	**Bricherasio**	**0.37**	**82**	P	**Pg**	**20 13 51.0**	**0.0**
BHB				S	**Sg**	**20 13 56.3**	**+0.4**
BHB				AML	AML		
	comp=E,414µm,0.7s						
BHB				AML	AML		
	comp=N,544µm,1.4s						
BHB				AML	AML		
	comp=E,414µm,0.7s						
BHB				AML	AML		
	comp=N,544µm,1.4s						
BHB				AML	AML		
	comp=E,414µm,0.7s						
BHB				AML	AML		
	comp=N,544µm,1.4s						
PZZ	**Stroppo**	**0.39**	**137**	P	**Pg**	**20 13 51.1**	**-0.2**
PZZ				S	**Sg**	**20 13 56.7**	**+0.3**
PZZ	**Stroppo**	**0.39**	**137**	P	**Pg**	**20 13 51.1**	**-0.2**
PZZ				S	**Sg**	**20 13 56.9**	**+0.4**
PZZ				AML	AML		
	comp=E,1310µm,0.3s						
PZZ				AML	AML		
	comp=N,1655µm,0.5s						
PZZ				AML	AML		
	comp=E,1310µm,0.3s						
PZZ				AML	AML		
	comp=N,1655µm,0.5s						
PZZ				AML	AML		
	comp=E,1310µm,0.3s						
PZZ				AML	AML		
	comp=N,1655µm,0.5s						
DOI	**San Damiano**	**0.46**	**128**	P	**Pg**	**20 13 52.5**	**-0.1**
DOI				S	**Sg**	**20 13 58.9**	**+0.3**
DOI				AML	AML		
	comp=E,1111µm,0.2s						
DOI				AML	AML		
	comp=N,1400µm,0.2s						
DOI				AML	AML		
	comp=E,1111µm,0.2s						
DOI				AML	AML		
	comp=N,1400µm,0.2s						
RSP	**Reno Superiore**	**0.52**	**46**	P	**Pg**	**20 13 53.6**	**0.0**
RSP				S	**Sg**	**20 14 00.4**	**0.0**
RSP	**Reno Superiore**	**0.52**	**46**	P	**Pg**	**20 13 53.6**	**0.0**
RSP				AML	AML		
	comp=E,330µm,0.1s						
RSP				AML	AML		
	comp=N,310µm,0.4s						
RSP				AML	AML		
	comp=E,330µm,0.1s						
RSP				AML	AML		
	comp=N,310µm,0.4s						
RSP				AML	AML		
	comp=E,330µm,0.1s						
RSP				AML	AML		
	comp=N,310µm,0.4s						
ORIF	**Oris-en-Rattie**	**0.63**	**282**	*e*Pg	**Pg**	**20 13 55.5**	**-0.2**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**20 14 03.8**	**-0.2**
	comp=N,164nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**0.63**	**282**	Pg	**Pg**	**20 13 55.6**	**-0.2**
ORIF	**Oris-en-Rattie**	**0.63**	**282**	P	**Pg**	**20 13 55.6**	**-0.2**
ORIF				S	**Sg**	**20 14 03.8**	**-0.2**
ORIF				AML	AML		
	comp=E,126µm,0.2s						
ORIF				AML	AML		
	comp=N,212µm,0.4s						
ORIF				AML	AML		
	comp=N,212µm,0.4s						
ORIF				AML	AML		
	comp=E,126µm,0.2s						
ISO	**Isola**	**0.65**	**160**	Pg	**Pg**	**20 13 55.9**	**-0.1**
ISO				Sg	**Sg**	**20 14 05.1**	**+0.6**
STV	**Sant Anna di V**	**0.69**	**142**	P	**Pg**	**20 13 57.4**	**+0.6**
STV				S	**Sg**	**20 14 06.1**	**+0.3**
STV	**Sant Anna di V**	**0.69**	**142**	P	**Pg**	**20 13 57.3**	**+0.5**
STV				S	**Sg**	**20 14 06.2**	**+0.5**
STV				AML	AML		
	comp=E,170µm,0.8s						
STV				AML	AML		
	comp=N,176µm,0.2s						
STV				AML	AML		
	comp=E,170µm,0.8s						
STV				AML	AML		
	comp=N,176µm,0.2s						
STV				AML	AML		
	comp=E,170µm,0.8s						
STV				AML	AML		
	comp=N,176µm,0.2s						
LPG	**La Plagne**	**0.71**	**0**	*e*Pg	**Pg**	**20 13 57.3**	**0.0**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**20 14 06.1**	**-0.5**
	comp=N,23nm,0.2s,SNR=1.0						
LSD	**Lago del Serru**	**0.72**	**22**	P	**Pg**	**20 13 57.2**	**-0.4**
LSD				S	**Sg**	**20 14 06.2**	**-0.9**
LSD	**Lago del Serru**	**0.72**	**22**	P	**Pg**	**20 13 57.2**	**-0.4**
LSD				S	**Sg**	**20 14 06.8**	**-0.3**
LSD				AML	AML		
	comp=E,158µm,0.2s						
LSD				AML	AML		
	comp=N,186µm,0.5s						
LSD				AML	AML		
	comp=E,158µm,0.2s						
LSD				AML	AML		
	comp=N,186µm,0.5s						
LSD				AML	AML		
	comp=N,186µm,0.5s						
LSD				AML	AML		
	comp=E,158µm,0.2s						
LPL	**La Plagne**	**0.73**	**359**	*e*Pg	**Pg**	**20 13 57.4**	**-0.2**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**20 14 06.6**	**-0.6**
	comp=E,63nm,0.4s,SNR=1.0						
ENR	**Entracque**	**0.74**	**139**	P	**Pg**	**20 13 57.9**	**0.0**
ENR				S	**Sg**	**20 14 07.3**	**-0.3**
ENR	**Entracque**	**0.74**	**139**	P	**Pg**	**20 13 57.8**	**-0.1**
ENR				S	**Sg**	**20 14 07.8**	**+0.2**
ENR				AML	AML		
	comp=E,361µm,1.4s						
ENR				AML	AML		
	comp=N,297µm,0.7s						
ENR				AML	AML		
	comp=E,361µm,1.4s						
ENR				AML	AML		
	comp=N,297µm,0.7s						
ENR				AML	AML		
	comp=E,361µm,1.4s						
ENR				AML	AML		
	comp=N,297µm,0.7s						
OGDI	**Digne**	**0.75**	**205**	Pg	**Pb**	**20 13 59.7**	**+1.0**
GBOS	**Grotte di Boss**	**0.96**	**125**	P	**Pg**	**20 14 01.3**	**-0.7**
GBOS				S	**Sg**	**20 14 13.6**	**-0.8**
CIRO	**Champorcher**	**1.00**	**35**	P	**Pg**	**20 14 02.4**	**-0.4**
CIRO				S	**Sg**	**20 14 15.2**	**-0.6**
CIRO				AML	AML		
	comp=E,62µm,0.8s						
CIRO				AML	AML		
	comp=N,54µm,0.3s						
CIRO				AML	AML		
	comp=N,54µm,0.3s						
CIRO				AML	AML		
	comp=E,62µm,0.8s						
MRGE	**Morge**	**1.00**	**13**	P	**Pg**	**20 14 02.5**	**-0.4**
MRGE				AML	AML		
	comp=E,38µm,1.5s						
MRGE				AML	AML		
	comp=N,43µm,1.5s						
MRGE				AML	AML		
	comp=N,43µm,1.5s						
MRGE				AML	AML		
	comp=E,38µm,1.5s						
TRAV	**Traversella**	**1.01**	**44**	P	**Pg**	**20 14 02.4**	**-0.7**
TRAV				S	**Sg**	**20 14 15.5**	**-0.7**
TRAV				AML	AML		
	comp=E,93µm,0.3s						
TRAV				AML	AML		
	comp=N,85µm,0.3s						
TRAV				AML	AML		
	comp=E,93µm,0.3s						
TRAV				AML	AML		
	comp=N,85µm,0.3s						
CALF	**Calern**	**1.04**	**173**	Pg	**Pg**	**20 14 03.9**	**+0.2**
SBF	**Sospel**	**1.05**	**152**	*e*Pg	**Pg**	**20 14 04.0**	**+0.3**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**20 14 17.4**	**0.0**
	comp=N,58nm,0.3s,SNR=1.0						
ESCA	**l'Escarene**	**1.06**	**155**	Pg	**Pg**	**20 14 03.9**	**0.0**
REMY	**Saint-Rh¨my-e**	**1.09**	**15**	P	**Pg**	**20 14 04.1**	**-0.4**
REVF	**Revere**	**1.14**	**157**	Pg	**Pb**	**20 14 06.0**	**+0.7**
REVF					**Sn**	**20 14 21.9**	**+0.6**
NEGI	**Seborga**	**1.17**	**143**	P	**Pg**	**20 14 05.8**	**-0.2**
SMRF	**Simiane la Rot**	**1.17**	**226**	*e*Pg	**Pn**	**20 14 06.9**	**+1.0**
	SNR=1.0						
SMRF				*e*Sg	**Sb**	**20 14 21.8**	**+0.8**
	comp=N,24nm,0.4s,SNR=1.0						
IMI	**Imperia**	**1.21**	**136**	P	**Pg**	**20 14 06.0**	**-0.7**
FRF	**La Foret Royal**	**1.23**	**183**	*e*Pg	**Pn**	**20 14 07.2**	**+0.4**
	SNR=1.0						
FRF				*e*Sg	**Sb**	**20 14 23.4**	**+0.6**
	comp=N,36nm,0.2s,SNR=1.0						
QLNO	**Quiliano**	**1.24**	**112**	P	**Pb**	**20 14 06.4**	**-0.6**
QLNO				S	**Sg**	**20 14 22.5**	**-0.9**
FINB	**Finale Ligure**	**1.29**	**118**	P	**Pn**	**20 14 07.2**	**-0.3**
FINB				S	**Sb**	**20 14 24.2**	**-0.2**
FINB				AML	AML		
	comp=E,62µm,0.5s						
FINB				AML	AML		
	comp=N,62µm,0.4s						
FINB				AML	AML		
	comp=E,62µm,0.5s						
FINB				AML	AML		
	comp=N,62µm,0.4s						
PCP	**Piancastagn**	**1.31**	**100**	P	**Pn**	**20 14 07.5**	**-0.3**
PCP				S	**Sb**	**20 14 25.2**	**+0.2**
PCP				AML	AML		
	comp=E,68µm,1.5s						
PCP				AML	AML		
	comp=N,90µm,1.6s						
PCP				AML	AML		
	comp=E,68µm,1.5s						
PCP				AML	AML		
	comp=N,90µm,1.6s						
LMR	**La Mourre**	**1.47**	**187**	*e*Pg	**Pb**	**20 14 11.6**	**+0.8**
LMR				*e*Sn	**Sn**	**20 14 28.6**	**-0.6**
	SNR=1.0						
LMR				*e*Sg	**Sb**	**20 14 30.7**	**+1.2**
	comp=N,33nm,0.2s						
VIVF	**Saint-Julien-l**	**1.48**	**273**	*e*Pn	**Pn**	**20 14 09.5**	**-0.7**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**1.48**	**273**	*e*Pg	**Pn**	**20 14 11.0**	**+0.8**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**20 14 28.2**	**-1.3**
	SNR=1.0						
VIVF				*e*Sg	**Sb**	**20 14 30.2**	**+0.4**
	comp=N,15nm,0.3s,SNR=1.0						
OG35	**Corcelles**	**1.50**	**327**	Pn	**Pb**	**20 14 12.0**	**+0.4**
OG35				Sn	**Sg**	**20 14 34.0**	**+2.1**
MMK	**Mattmark**	**1.53**	**34**	P	**Pn**	**20 14 11.8**	**+0.8**
CABF	**La Chapelle**	**1.88**	**346**	*e*P	**Pn**	**20 14 16.8**	**+1.0**
CABF				*e*Sn	**Sn**	**20 14 37.5**	**-2.1**
	SNR=1.0						
CABF				*e*Sg	**Sb**	**20 14 42.0**	**+0.5**
	comp=N,11nm,0.4s						
TRBF	**Trabuc cave**	**2.11**	**252**	Pn	**Pn**	**20 14 19.3**	**+0.5**
LASF	**Ste Croix**	**2.19**	**252**	*e*P	**Pn**	**20 14 20.5**	**+0.6**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**20 14 45.8**	**-1.3**
	comp=N,3.0nm,0.3s,SNR=1.0						
CHMF	**Charmoille**	**2.46**	**359**	Pn	**Pn**	**20 14 25.4**	**+1.7**
LBL	**Lubilhac**	**2.52**	**281**	Pn	**Pn**	**20 14 25.6**	**+1.0**
LBL				Sg	**Sg**	**20 15 06.4**	**+2.0**
SMF	**Signal de Mont**	**2.75**	**313**	*e*P	**Pn**	**20 14 28.7**	**+1.0**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**20 14 58.8**	**-2.2**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**20 15 10.1**	**-1.8**
	comp=N,4.7nm,0.2s,SNR=1.0						
PGF	**Pioggiola**	**2.77**	**143**	*e*P	**Pn**	**20 14 29.6**	**+1.5**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**20 14 59.6**	**-2.1**
	comp=N,2.3nm,0.2s,SNR=1.0						
AGO	**Saint Agoulin**	**2.84**	**298**	Pn	**Pn**	**20 14 30.2**	**+1.3**
HINF	**Hinteralfeld**	**3.03**	**1**	*e*P	**Pn**	**20 14 32.7**	**+1.2**
HINF				*e*Sn	**Sn**	**20 15 04.8**	**-3.0**
	comp=N,0.7nm,0.2s						
AVF	**Avril sur Loir**	**3.10**	**311**	*e*P	**Pn**	**20 14 34.0**	**+1.5**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**20 15 08.9**	**-0.7**
	comp=N,3.9nm,0.3s,SNR=1.0						
LOR	**Lormes**	**3.19**	**322**	*e*P	**Pn**	**20 14 35.1**	**+1.4**
	baz=148,SNR=1.0						
LOR				*e*Sn	**Sn**	**20 15 09.3**	**-2.5**
	comp=N,1.8nm,0.3s,baz=145,SNR=1.0						
LOR	**Lormes**	**3.19**	**322**	Pn	**Pn**	**20 14 35.1**	**+1.4**
SSF	**Saint Saulge**	**3.20**	**316**	*e*P	**Pn**	**20 14 35.5**	**+1.6**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**20 15 09.7**	**-2.4**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**20 15 24.1**	**-2.3**

comp=N,2.3nm,0.3s,SNR=1.0
BGF Bois d'Agland 3.25 304 *e*P **Pn 20 14 36.0 +1.4**
SNR=1.0
BGF *e*Sg **Sb 20 15 24.3 +3.3**
comp=N,11nm,0.4s
CAF Calviac 3.33 274 *e*P **Pn 20 14 37.2 +1.5**
SNR=1.0
TCF Toulx Ste Croi 3.52 297 *e*P **Pn 20 14 39.9 +1.6**
SNR=1.0
MTLF Montolieu 3.57 248 *e*P **Pn 20 14 39.8 +0.9**
SFTF Sexfontaines 3.61 342 *e*P **Pn 20 14 41.2 +1.7**
baz=159
SFTF *e*Sn **Sn 20 15 18.9 -3.3**
comp=N,1.0nm,0.2s,baz=157
CDF Champ du Feu 3.64 6 *e*P **Pn 20 14 40.7 +0.7**
SNR=1.0
CDF *e*Sn **Sn 20 15 19.6 -3.4**
comp=N,1.2nm,0.3s,SNR=1.0
HYF Humbligny 3.78 312 *e*P **Pn 20 14 44.0 +2.1**
FNEB N"bias 3.85 242 Pn **Pn 20 14 44.0 +1.3**
MEZF Maizieres J'vi 3.89 343 *e*P **Pn 20 14 46.1 +2.8**
baz=159
LFF La Frestale 4.27 274 *e*P **Pn 20 14 50.8 +2.3**
BAIF Baives 5.54 343 *e*P **Pn 20 15 08.1 +2.1**
SNR=1.0
BAIF *e*Sn **Sn 20 16 07.0 -2.8**
comp=N,0.6nm,0.3s
LDF La Druitiere 6.06 311 *e*P **Pn 20 15 14.9 +1.7**
SNR=1.0

IDC ***11*** *20:23:11.1±0.7,32°28N×76°31E,h0km,mb3.8/14, mb1 4.0/19,mb1mx3.8/39,mbtmp3.8/19,ML3.4/5,Error ellipse: s-maj=19.3km s-min=14.4km az=50.0*
ISCJB ***11*** *20:23:12.2±0.6,32°34N±0°03×76°32E±0°05,h16km±4km, mb3.9/18,Error ellipse: s-maj=7.7km s-min=4.1km az=163.9*
NDI ***11*** *20:23:12.9±2.4,32°36N×76°21E,h10km,ML4.0*
NEIC ***11*** *20:23:12.7±0.5,32°29N×76°33E,h10km,mb4.0/2,Error ellipse: s-maj=10.0km s-min=8.7km az=47.0*
NNC ***11*** *20:23:19.2±4.3,32°46N×76°55E,h55km±39km,mb4.3, mpv4.8,Error ellipse: s-maj=45.5km s-min=29.9km az=88.0*
ISC 11 20:23:13.2±0.8,32°29N±0°04×76°25E±0°05,h13km±5km, n54,σ2ꞩ15/69,mb3.9/18,8C-7D,Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHRM	**DHARAMSHALA**	**0.06**	**129**	*e*P	**Pg**	**20 23 15.3**	**-0.7**
DHRM				*e*S	**Sg**	**20 23 17.1**	**-0.8**
JMU	**Jammu**	**1.22**	**291**	*e*P	**Pb**	**20 23 35.0**	**-1.1**
JMU				*e*S	**Sb**	**20 23 51.5**	**-0.2**
SMLA	**Simla**	**1.39**	**146**	*e*P	**Pb**	**20 23 39.6**	**+0.6**
SMLA				*e*S	**Sg**	**20 23 60.0**	**+1.9**
SMLA				IAML		20 24 02.4	
	comp=N,4μm,0.3s						
SMLA				IAML		20 24 02.9	
	comp=E,4μm,0.5s						
DDI	**Dehra Dun**	**2.49**	**141**	*e*P	**Pn**	**20 23 55.2**	**+1.7**
DDI				*e*S	**Sn**	**20 24 26.8**	**+2.9**
DDI				IAML		20 24 36.6	
	comp=N,587nm,0.6s						
DDI				IAML		20 24 36.7	
	comp=E,1μm,0.3s						
CHCP	**Chirah Chowk**	**2.86**	**299**	P	**Pb**	**20 24 03.2**	**-0.9**
CHCP				S	**Sb**	**20 24 42.0**	**+3.0**
JOSI	**Joshimath**	**3.31**	**120**	*e*P	**Pn**	**20 24 07.2**	**+2.9**
JOSI				*e*S	**Sn**	**20 24 46.2**	**+1.9**
JOSI				IAML		20 24 49.1	
	comp=N,769nm,0.3s						
JOSI				IAML		20 24 49.3	
	comp=E,584nm,0.5s						
NDI	**New Delhi**	**3.69**	**167**	*e*P	**Pn**	**20 24 11.0**	**+1.1**
THW	**Thamme Wali**	**3.84**	**279**	P	**Pn**	**20 24 15.2**	**+3.2**
CEP	**Cherat**	**3.95**	**294**	P	**Pn**	**20 24 16.8**	**+3.1**
KUDL	**Kundal**	**4.13**	**177**	*e*P	**Pn**	**20 24 18.3**	**+2.3**
KUDL				*e*x	x	20 25 16.6	
KHET	**Khetri**	**4.21**	**185**	*e*P	**Pn**	**20 24 18.3**	**+1.1**
KHET				*e*S	**Sn**	**20 25 07.5**	**+1.2**
SFK	**Sufi-Kurgan**	**8.02**	**345**	⇑P	**Pn**	**20 25 13.2**	**+3.5**
	comp=E,26nm,0.5s						
SFK				⇓S	**Sn**	**20 26 43.1**	**+2.7**
	comp=E,10nm,0.4s						
BHPL	**Bhopal**	**9.07**	**173**	*e*P	**Pn**	**20 25 24.1**	**+0.2**
BHPL				*e*S	**Sn**	**20 26 59.7**	**-6.2**
BHPL				IAML		20 27 04.8	
	comp=N,41nm,0.5s						
BHPL				IAML		20 27 05.1	
	comp=E,36nm,0.2s						
AAK	**Ala-Archa**	**10.43**	**353**	Pn	**Pn**	**20 25 43.9**	**+1.4**
	comp=E,0.6nm,0.3s,baz=151,slow=9.6,SNR=16						
AAK				Sn	**Sn**	**20 27 36.3**	**-3.0**
	comp=E,0.1nm,0.3s,baz=186,slow=9.2,SNR=1.9						
AAK	**Ala-Archa**	**10.43**	**353**	⇑P	**Pn**	**20 25 44.2**	**+1.7**
	comp=E,6.4nm,0.7s						
AAK				⇑S	**Sn**	**20 27 39.4**	**+0.1**
	comp=E,16nm,1.0s						
AAK	**Ala-Archa**	**10.43**	**353**	*e*P	**Pn**	**20 25 43.5**	**+0.9**
	comp=E,6.7nm,0.6s						
AAK				Sn	**Sn**	**20 27 36.4**	**-3.0**
MNAS	**Manas**	**10.61**	**345**	⇓P	**Pn**	**20 25 45.9**	**+0.9**
	comp=E,13nm,0.5s						
MNAS				⇓S	**Sn**	**20 27 40.4**	**-3.3**
	comp=E,7.9nm,0.6s						
TKM2	**Tokmak 2**	**10.63**	**357**	⇓P	**Pn**	**20 25 47.1**	**+1.7**
	comp=E,6.8nm,1.1s						
TKM2				⇑S	**Sn**	**20 27 44.5**	**+0.1**
	comp=E,3.7nm,0.7s						
MDOK	**Medeo**	**10.88**	**3**	⇓P	**Pn**	**20 25 50.8**	**+2.1**
	comp=E,4.6nm,0.7s						
MDOK				S	**Sn**	**20 27 48.1**	**-2.3**
	comp=E,13nm,0.9s						
PDGK	**Podgornoye**	**11.32**	**12**	⇑P	**Pn**	**20 25 55.8**	**+1.1**
	comp=E,8.4nm,0.7s						
PDGK				⇓S	**Sn**	**20 27 58.9**	**-2.2**
	comp=E,16nm,0.9s						
NGP	**Nagpur**	**11.37**	**167**	*e*P	**Pn**	**20 25 55.2**	**-0.2**
NGP				*e*S	**Sn**	**20 27 55.5**	**-6.9**
NGP				IAML		20 28 00.8	
	comp=E,18nm,0.6s						
NGP				IAML		20 28 03.7	
	comp=N,59nm,0.9s						
KK31	**Karatay Array**	**11.71**	**339**	P	**Pn**	**20 25 59.9**	**-0.1**
	comp=N,13nm,0.8s,baz=148,slow=12,SNR=85						
KK31				⇑S	**Sn**	**20 28 11.6**	**+1.0**
	comp=N,7.6nm,0.7s,baz=146,slow=22,SNR=2.6						
BOK	**Bokaro**	**11.99**	**132**	*e*S	Sn	20 28 07.7	-10
LATR	**Latur**	**13.81**	**179**	*e*P	Pn	20 26 15.7	-13
LATR				*e*S	Sn	20 28 41.3	-21
POO	**Poona**	**13.87**	**190**	*e*P	**Pn**	**20 26 29.1**	**-0.5**
POO				*e*S	Sn	20 28 51.9	-12
BWNR	**Bhubaneshwar**	**14.69**	**142**	*e*S	Sn	20 29 12.3	-11
HYB	**Hyderabad**	**14.95**	**171**	*i* P	Pn	20 26 40.0	-4.4
HYB				*e*S	Sn	20 29 18.0	-12
MKAR	**Makanchi Array**	**15.21**	**16**	Pn	**Pn**	**20 26 47.5**	**-0.1**
	comp=N,0.3nm,0.3s,baz=196,slow=13,SNR=16						
MKAR				Sn	**Sn**	**20 29 29.9**	**-6.1**
	comp=N,0.2nm,0.3s,baz=200,slow=24,SNR=5.2						
GEYT	**Alibeck**	**15.86**	**296**	Pn	**Pn**	**20 26 57.0**	**+0.7**
	comp=N,0.1nm,0.3s,baz=116,slow=16,SNR=4.3						
OTUK	**Ortayu**	**16.21**	**351**	⇑P	**Pn**	**20 27 00.9**	**+0.3**
	comp=N,7.2nm,0.7s						
WSAR	**Wadi Sarin**	**17.99**	**244**	P	**P**	**20 27 23.8**	**+0.2**
	comp=N,0.1nm,0.3s,baz=80,slow=18,SNR=2.7						
KURBB	**Kurchatov Arra**	**18.40**	**5**	P	**P**	**20 27 25.9**	**-1.9**
	comp=N,0.1nm,0.3s,baz=193,slow=11,SNR=9.7						
KURK	**Kurchatov**	**18.50**	**5**	*e*P	**P**	**20 27 26.0**	**-2.9**
	comp=N,9.3nm,0.5s						
AB31	**Akbulak array**	**20.90**	**329**	P	**P**	**20 27 55.8**	**+0.7**
	comp=N,1.5nm,0.5s,baz=135,slow=11,SNR=40						
BRVK	**Borovoye**	**21.20**	**350**	⇓P	**P**	**20 27 59.5**	**+1.1**
	comp=N,22nm,0.8s						
BRVK	**Borovoye**	**21.20**	**350**	*e*P	**P**	**20 27 58.7**	**+0.3**
ZALV	**Zalesovo Beam**	**22.50**	**13**	P	**P**	**20 28 11.1**	**-1.2**
	comp=N,1.4nm,0.4s,baz=202,slow=11,SNR=11						
AKTO	**Aktyubinsk**	**22.61**	**329**	⇑P	**P**	**20 28 14.8**	**+1.3**
	comp=N,9.6nm,0.8s						
CHTO	**Chiang Mai**	**24.41**	**118**	*e*P	**P**	**20 28 30.6**	**-0.9**
	comp=N,1.2nm,0.5s						
CHTO	**Chiang Mai**	**24.41**	**118**	P	**P**	**20 28 33.8**	**+2.2**
	comp=N,27nm,1.6s						
CMMT	**Chiang Mai**	**24.42**	**118**	P	**P**	**20 28 33.7**	**+2.1**
	comp=N,5.9nm,0.6s,comp=N,449nm						
CMAR	**Chiang Mai Arr**	**24.63**	**119**	P	**P**	**20 28 33.8**	**+0.2**
	comp=N,6.3nm,0.9s,baz=311,slow=8.7,SNR=28						
ARU	**Arti**	**27.09**	**338**	P	**P**	**20 28 56.6**	**+1.2**
	comp=N,1.8nm,0.6s,baz=123,slow=7.2,SNR=5.4						
SONM	**Songino Array**	**27.59**	**47**	P	**P**	**20 28 59.4**	**-0.7**
	comp=N,0.9nm,0.9s,baz=248,slow=12,SNR=5.8						
BRTR	**Keskin Array B**	**35.00**	**294**	P	**P**	**20 30 06.6**	**+1.1**
	comp=N,1.0nm,0.9s,baz=108,slow=4.0,SNR=4.2						
AKASG	**Malin Array Be**	**38.98**	**312**	P	**P**	**20 30 38.0**	**-0.9**
	comp=N,0.4nm,0.4s,baz=77,slow=7.8,SNR=3.4						
FINES	**FINESS Array B**	**43.38**	**328**	P	**P**	**20 31 15.5**	**+0.5**
	comp=N,1.7nm,0.5s,baz=122,slow=7.2,SNR=12						
ARCES	**ARCESS Array B**	**46.68**	**338**	P	**P**	**20 31 41.8**	**+0.6**
	comp=N,2.8nm,0.8s,baz=111,slow=9.2,SNR=8.6						
NOA	**NORSAR Array B**	**50.33**	**325**	P	**P**	**20 32 10.5**	**+1.0**
	comp=N,1.3nm,0.9s,baz=29,slow=9.2,SNR=2.6						
TORD	**Torodi Ar. Bea**	**70.13**	**273**	P	**P**	**20 34 24.6**	**-1.1**
	comp=N,0.3nm,0.5s,baz=56,slow=5.1,SNR=5.9						
WRA	**Warramunga Arr**	**76.06**	**125**	P	**P**	**20 35 00.2**	**-0.4**
	comp=N,0.5nm,0.8s,baz=325,slow=5.8,SNR=8.0						
ILAR	**Eielson Array**	**77.56**	**17**	P	**P**	**20 35 08.8**	**+0.2**
	comp=N,0.6nm,0.7s,baz=296,slow=4.6,SNR=8.2						
ASAR	**Alice Springs**	**78.27**	**128**	P	**P**	**20 35 12.8**	**-0.2**
	comp=N,0.5nm,0.9s,baz=304,slow=6.6,SNR=4.0						
YKA	**Yellowknife Ar**	**85.15**	**5**	P	**P**	**20 35 48.9**	**+0.2**
	comp=N,0.6nm,0.4s,baz=343,slow=5.3,SNR=6.1						

IDC 11 20:30:45.8±1.8,22°47N×96°04E,h0km,mb3.4/2, mb1 3.4/3,mb1mx3.2/33,mbtmp3.3/3,ML3.7/1,Error ellipse: s-maj=42.0km s-min=18.1km az=65.0,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**4.83**	**145**	Pn	Pn	20 31 59.0	-0.8
	0.7nm,0.3s,baz=319,slow=13,SNR=16						
CMAR				Pg	Pg	20 32 15.9	-2.6
	4.3nm,0.3s,baz=321,slow=17,SNR=48						
CMAR				Lg	Lg	20 33 18.7	
	2.7nm,0.3s,baz=324,slow=16,SNR=8.2						
SONM	**Songino Array**	**26.64**	**16**	P	P	20 36 26.0	-0.3
	0.2nm,0.4s,baz=202,slow=8.3,SNR=2.8						
MKAR	**Makanchi Array**	**26.69**	**339**	P	P	20 36 27.0	+0.3
	0.4nm,0.6s,baz=156,slow=9.0,SNR=5.5						

IDC ***11*** *20:31:18.1±2.4,13°71N×92°17W,h0km,mb3.3/1, mb1 3.7/4,mb1mx3.4/33,mbtmp3.3/4,ML3.2/3,Error ellipse: s-maj=33.7km s-min=17.9km az=170.0*
ISC 11 20:31:22.4±3.4,13°6N±0°4×92°2W±0°1,h37km,n6,σ1ꞩ40/5, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**2.19**	**50**	Pn	**Pn**	**20 31 56.0**	**-0.5**
	3.7nm,0.3s,baz=200,slow=23,SNR=7.9						
APG				Lg	Lg	20 32 24.1	
	9.0nm,0.3s,baz=320,slow=9.1,SNR=5.5						
CMIG	**Matias Romero**	**4.32**	**324**	Pn	**Pn**	**20 32 24.5**	**-1.0**
	0.8nm,0.3s,baz=161,slow=14,SNR=5.8						
CMIG				Lg	Lg	20 33 31.2	
	3.3nm,0.3s,baz=101,slow=12,SNR=4.1						
JTS	**JuntasAbangare**	**7.83**	**114**	Lg	Lg	20 35 14.7	
	0.2nm,0.3s,baz=315,slow=19,SNR=2.3						
TXAR	**Lajitas Array**	**18.91**	**328**	P	**Pn**	**20 35 41.7**	**+0.8**
	0.0nm,0.3s,baz=161,slow=12,SNR=3.8						
NVAR	**Mina Array Bea**	**33.85**	**322**	P	**P**	**20 38 02.7**	**+1.1**
	0.2nm,0.5s,baz=141,slow=8.5,SNR=3.7						
CMAR	**Chiang Mai Arr**	**146.29**	**341**	PKPbc	**PKPbc**	**20 50 59.0**	**-1.0**
	0.8nm,0.9s,baz=337,slow=3.1,SNR=5.9						

ISCJB ***11*** *20:49:04.8±1.2,37°55N±0°08×71°22E±0°07,h35km, mb3.9/2,MS3.2/1,Error ellipse: s-maj=12.7km s-min=6.6km az=159.6*
NNC ***11*** *20:49:09.8±1.8,37°73N×71°64E,h141km±24km,mb2.6, mpv3.3,Error ellipse: s-maj=16.5km s-min=14.0km az=57.0*
IDC ***11*** *20:49:18.8±4.3,40°12N×69°97E,h0km,mb4.0/2, mb1 3.7/6,mb1mx3.4/39,mbtmp3.6/6,ML2.9/4,MS3.2/1, Ms1 3.2/1,ms1mx2.4/49,Error ellipse: s-maj=87.9km s-min=18.3km az=168.0*
ISC 11 20:49:05.5±1.8,37°5N±0°1×71°41E±0°07,h35km,n19, σ2ꞩ54/24,5C-7D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.96**	**33**	⇓P	**Pn**	**20 49 53.1**	**+2.9**
	4.0nm,0.3s						
SFK				⇑S	**Sn**	**20 50 27.3**	**+2.7**
	18nm,0.3s						
AML	**Almayashu**	**4.91**	**20**	P	**Pn**	**20 50 19.2**	**+2.1**
	SNR=12						
MNAS	**Manas**	**5.01**	**9**	⇑P	**Pn**	**20 50 21.1**	**+2.8**
	0.9nm,0.3s						
MNAS				⇓S	**Sn**	**20 51 16.4**	**+1.4**
	5.5nm,0.5s						
UCH	**Uchtor**	**5.25**	**26**	P	**Pn**	**20 50 24.8**	**+2.9**
	SNR=6.0						
EKS2	**Erkin-Say**	**5.43**	**19**	P	**Pn**	**20 50 27.1**	**+3.1**
	SNR=12						
KK31	**Karatay Array**	**5.60**	**353**	⇓P	**Pn**	**20 50 29.3**	**+3.1**
	2.2nm,0.3s,baz=175,slow=13,SNR=98						
KK31				⇑S	**Sn**	**20 51 31.8**	**+2.5**
	7.5nm,0.7s,baz=172,slow=22,SNR=12						
AAK	**Ala-Archa**	**5.61**	**24**	Pn	**Pn**	**20 50 28.3**	**+1.8**
	1.3nm,0.3s,baz=178,slow=4.4,SNR=17						
AAK				Sn	Sn	20 51 05.9	-24
	0.5nm,0.3s,baz=279,slow=20,SNR=8.7						
AAK	**Ala-Archa**	**5.61**	**24**	P	**Pn**	**20 50 28.2**	**+1.6**
	1.3nm,0.3s						
AAK				S	**Sn**	**20 51 28.9**	**-1.0**
	5.3nm,0.6s						
AAK	**Ala-Archa**	**5.61**	**24**	P	**Pn**	**20 50 30.0**	**+3.5**
	SNR=7.3						
ULHL	**Ulahol**	**5.99**	**37**	P	**Pn**	**20 50 32.6**	**+0.9**
	SNR=5.9						
TKM2	**Tokmak 2**	**6.25**	**29**	⇓P	**Pn**	**20 50 35.9**	**+0.5**
	2.7nm,0.9s						
TKM2				⇓S	**Sn**	**20 51 44.5**	**-1.2**
	1.6nm,0.7s						
GEYT	**Alibeck**	**10.54**	**276**	Pn	**Pn**	**20 51 36.0**	**+2.0**
	0.2nm,0.3s,baz=104,slow=12,SNR=5.6						
GEYT				Sn	**Sn**	**20 53 29.3**	**-1.5**
	0.7nm,0.3s,baz=306,slow=31,SNR=5.7						
MKAR	**Makanchi Array**	**12.26**	**38**	Pn	**Pn**	**20 51 58.9**	**+1.4**
	0.0nm,0.3s,baz=225,slow=13,SNR=2.8						
AB31	**Akbulak array**	**14.35**	**328**	⇓P	**Pn**	**20 52 25.3**	**-0.7**
	1.0nm,0.9s,baz=134,slow=15,SNR=7.0						
AB31				⇓S	**Sn**	**20 55 00.1**	**-3.7**
	0.7nm,0.5s,baz=157,slow=22,SNR=4.4						
AKTO	**Aktyubinsk**	**16.06**	**328**	⇑P	**Pn**	**20 52 48.4**	**-0.1**
	2.3nm,0.6s						
AKTO				⇑S	**Sn**	**20 55 44.0**	**-1.4**
	1.3nm,0.7s						
ZALV	**Zalesovo Beam**	**18.83**	**25**	P	**P**	**20 53 17.1**	**-5.0**
	0.1nm,0.3s,baz=224,slow=10,SNR=2.4						
FINES	**FINESS Array B**	**36.81**	**325**	P	P	20 56 05.1	-4.6
	0.6nm,0.3s,baz=122,slow=9.9,SNR=9.5						
ARCES	**ARCESS Array B**	**40.31**	**337**	P	P	20 56 33.4	-5.6
	2.5nm,0.9s,baz=111,slow=6.6,SNR=4.5						
KSRS	**Korea Array**	**44.24**	**72**	LR	LR	21 16 33.6	
	comp=Z,26nm,18.4s,baz=345,slow=37						

IDC ***11*** *21:13:09.7±1.9,33°05N×138°26E,h0km,mb3.6/3, mb1 3.7/4,mb1mx3.4/47,mbtmp3.5/4,ML3.2/1,Error ellipse: s-maj=59.4km s-min=23.5km az=81.0*
ISCJB ***11*** *21:13:15.4±0.7,33°66N±0°04×140°06E±0°10, h108km±5km,mb3.6/3,Error ellipse: s-maj=13.7km s-min=6.7km az=172.8*
JMA ***11*** *21:13:17.2±0.1,33°74N×140°08E,h92km±2km,M3.2*
ISC 11 21:13:16.4±1.0,33°66N±0°05×140°05E±0°08,h101km±7km, n19,σ1ꞩ17/25,mb3.7/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMKN	**Mikurajimanish**	**0.45**	**301**	P	**Pn**	**21 13 31.5**	**-0.3**
JMKN				S	**Sn**	**21 13 42.4**	**-1.0**
JHJ2	**Mitsune**	**0.58**	**199**	P	**Pn**	**21 13 33.5**	**+0.7**
JHJ2				S	**Sn**	**21 13 46.3**	**+1.2**
JHCJ	**Hachijojimakas**	**0.62**	**200**	P	**Pn**	**21 13 34.1**	**+0.9**
JHCJ				*e*S	**Sn**	**21 13 46.6**	**+0.8**
JKO	**Kozu shima**	**0.92**	**305**	P	**Pn**	**21 13 36.2**	**+0.2**
JTHY	**Toshimahigashi**	**1.07**	**324**	P	**Pn**	**21 13 37.7**	**+0.2**
JTHY				*e*S	**Sn**	**21 13 53.5**	**0.0**
JIM2	**Oshima 3**	**1.17**	**334**	P	**Pn**	**21 13 38.6**	**-0.2**
JIM2				*e*S	**Sn**	**21 13 55.0**	**-0.7**
BSO3	**Boso 3**	**1.20**	**18**	P	**Pn**	**21 13 39.1**	**+0.3**
BSO3				*e*S	**Sn**	**21 13 56.6**	**+0.9**
BSO1	**Boso 1**	**1.25**	**38**	P	**Pn**	**21 13 38.8**	**-0.3**
BSO4	**Boso 4**	**1.35**	**10**	P	**Pn**	**21 13 41.6**	**+0.9**
JIZS	**Izushimoda**	**1.43**	**318**	P	**Pn**	**21 13 42.2**	**+0.4**
JOD2	**Odawara 2**	**1.78**	**334**	P	**Pn**	**21 13 46.5**	**+0.3**
JOD2				S	**Sn**	**21 14 07.9**	**-1.0**
MJAR	**Matsushiro Arr**	**3.24**	**333**	Pn	**Pn**	**21 14 06.2**	**+0.8**
	2.2nm,0.3s,baz=180,slow=18,SNR=21						
MJAR				Sn	**Sn**	**21 14 46.3**	**+3.1**
	0.9nm,0.3s,baz=168,slow=19,SNR=3.6						
MAT	**Matsushiro**	**3.25**	**333**	P	**Pn**	**21 14 06.5**	**+1.1**
MAT				*e*S	**Sn**	**21 14 45.5**	**+2.2**
H11N2	**WAKE ISLAND Hy**	**27.61**	**113**	T	T	21 47 56.1	
	baz=306,slow=75,SNR=9.9						
H11N1	**WAKE ISLAND Hy**	**27.61**	**113**	T	T	21 47 57.0	
	baz=306,slow=75,SNR=8.9						
H11N3	**WAKE ISLAND Hy**	**27.63**	**113**	T	T	21 47 56.7	
	baz=306,slow=75,SNR=10						
ZALV	**Zalesovo Beam**	**43.43**	**315**	P	**P**	**21 21 08.9**	**0.0**
	0.5nm,0.4s,baz=120,slow=6.2,SNR=2.6						
MKAR	**Makanchi Array**	**45.04**	**305**	P	**P**	**21 21 19.8**	**-2.2**
	0.9nm,0.8s,baz=85,slow=8.8,SNR=3.7						
WRA	**Warramunga Arr**	**53.58**	**187**	P	**P**	**21 22 27.0**	**-0.1**
	0.3nm,0.4s,baz=7.6,slow=7.9,SNR=8.5						

IDC ***11*** *21:14:05.1±0.9,52°05N×169°68W,h0km,mb3.9/18, mb1 4.1/20,mb1mx3.9/52,mbtmp3.9/20,ML3.7/2,Error ellipse: s-maj=24.1km s-min=16.2km az=162.0*
ISCJB ***11*** *21:14:07.5±0.6,51°89N±0°07×169°56W±0°06,h30km, mb3.9/18,Error ellipse: s-maj=10.5km s-min=3.5km az=154.7*
NEIC ***11*** *21:14:08.1±0.0,51°89N×169°54W,h33km,ML3.4(AEIC), After AEIC.*
ISC 11 21:14:09.8±0.8,52°0N±0°1×169°59W±0°06,h30km,n45, σ0ꞩ88/47,mb3.9/18,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**1.04**	**25**	P	**Pn**	**21 14 28.1**	**-0.2**
NIKH				S	**Sb**	**21 14 43.7**	**+1.2**
OKSO	**Okmok South**	**1.58**	**33**	P	**Pn**	**21 14 35.8**	**0.0**
OKSO				S	**Sb**	**21 14 57.2**	**-0.8**
OKCE	**Okmok Cone E**	**1.64**	**31**	P	**Pn**	**21 14 36.9**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**1.65**	**34**	P	**Pn**	**21 14 36.8**	**+0.2**
OKNC	**Okmok New Cone**	**1.68**	**32**	P	**Pn**	**21 14 37.7**	**+0.6**
MREP	**Makushin Rep't**	**2.48**	**43**	P	**Pn**	**21 14 48.0**	**-0.1**
MSW	**Makushin Switc**	**2.54**	**41**	P	**Pn**	**21 14 49.3**	**+0.4**
UNV	**Unalaska Valle**	**2.60**	**45**	P	**Pn**	**21 14 50.2**	**+0.4**
UNV				S	**Sn**	**21 15 22.0**	**+1.7**
MTBL	**Makushin Table**	**2.62**	**41**	P	**Pn**	**21 14 50.7**	**+0.7**
KOFP	**Korovin Flat P**	**2.78**	**277**	P	**Pn**	**21 14 52.3**	**0.0**
ATKA	**Atka Island**	**2.84**	**275**	P	**Pn**	**21 14 52.5**	**-0.5**
ATKA				S	**Sn**	**21 15 28.3**	**+2.1**
GSMY	**Great Sitkin M**	**3.99**	**273**	P	**Pn**	**21 15 09.0**	**+0.2**
GSTD	**Great Sitkin T**	**4.04**	**273**	P	**Pn**	**21 15 10.0**	**+0.4**
GSTD				S	**Sn**	**21 15 57.7**	**+1.7**
ETKA	**Kagalaska Isla**	**4.22**	**270**	P	**Pn**	**21 15 12.2**	**+0.2**
ADAG	**Mount Adagdak**	**4.33**	**272**	P	**Pn**	**21 15 13.2**	**-0.3**
ADK	**Adak**	**4.39**	**271**	P	**Pn**	**21 15 14.2**	**-0.1**
ADK				S	**Sn**	**21 16 04.9**	**+0.6**
CESW	**Semis' Southwe**	**6.70**	**273**	P	**Pn**	**21 15 46.6**	**+0.5**
AMKA	**Amchitka**	**6.93**	**269**	P	**Pn**	**21 15 49.5**	**+0.3**
KDAK	**Kodiak Island**	**11.34**	**53**	Pn	Pn	21 16 44.1	-5.4
	0.3nm,0.3s,baz=198,slow=20,SNR=2.1						
ILAR	**Eielson Array**	**17.30**	**34**	Pn	**Pn**	**21 18 07.5**	**-1.2**
	0.1nm,0.3s,baz=227,slow=11,SNR=6.7						
PETK	**Petropavlovsk-**	**19.82**	**286**	Pn	**P**	**21 18 38.2**	**+0.6**
	2.6nm,0.3s,baz=92,slow=13,SNR=51						
SEY	**Seymchan**	**22.80**	**313**	P	**P**	**21 19 09.2**	**-0.4**
	1.7nm,0.7s,baz=86,slow=19,SNR=2.4						
INK	**Inuvik**	**23.70**	**33**	P	**P**	**21 19 16.4**	**-2.1**
	2.2nm,0.6s,baz=244,slow=5.3,SNR=20						
YKA	**Yellowknife Ar**	**30.57**	**48**	P	**P**	**21 20 20.6**	**+0.3**
	1.0nm,0.6s,baz=275,slow=8.0,SNR=7.0						
TIXI	**Tiksi**	**32.95**	**329**	P	**P**	**21 20 39.6**	**-1.5**
	1.4nm,0.4s,baz=87,slow=0.8,SNR=5.5						
H11S1	**WAKE ISLAND Hy**	**38.29**	**218**	T	T	22 02 40.6	
	baz=19						
H11S2	**WAKE ISLAND Hy**	**38.31**	**218**	T	T	22 02 39.3	
	baz=19						
H11S3	**WAKE ISLAND Hy**	**38.31**	**218**	T	T	22 02 41.0	
	baz=19						
PDAR	**Pinedale Array**	**40.60**	**79**	P	**P**	**21 21 46.8**	**-0.1**
	0.4nm,0.6s,baz=355,slow=1.8,SNR=5.1						
KSRS	**Korea Array**	**45.31**	**277**	P	**P**	**21 22 25.3**	**+0.7**
	2.4nm,0.9s,baz=52,slow=7.9,SNR=4.0						
KSAR	**Wonju Array Be**	**45.34**	**277**

NIS1 S **Sn** **21 33 05.7 -2.1**
NIS1 AML AML 21 33 13.1
comp=N,16318µm,0.7s
NIS1 AML AML 21 33 16.7
comp=E,27343µm,0.4s
NIS1 Nisyros Isl. 0.62 335 P **Pb** **21 32 56.4 +0.5**
NIS1 S **Sn** **21 33 08.8 +1.0**
NISR Nisiros 0.65 332 P **Pb** **21 32 56.5 +0.2**
NISR S **Sn** **21 33 06.4 -2.0**
NISR AML AML 21 33 10.6
comp=N,9548µm,0.5s
NISR AML AML 21 33 12.0
comp=E,12729µm,0.4s
NISR Nisiros 0.65 332 P **Pn** **21 32 58.2 0.0**
NISR S **Sn** **21 33 09.9 +1.5**
DAT Datca 0.69 5 PG **Pb** **21 32 57.3 +0.2**
DAT Datca 0.69 5 *i* P **Pn** **21 32 57.6 -1.2**
DAT *i* S **Sn** **21 33 09.0 -0.7**
DATC Datca-Mugla 0.72 10 PG **Pb** **21 32 57.4 -0.3**
MRSB Marmaris-Mugla 0.87 39 PG **Pb** **21 33 00.0 -0.2**
BODT Bodrum 1.03 351 PG **Pn** **21 33 03.0 -0.5**
BODT Bodrum 1.03 351 P **Pn** **21 33 03.5 0.0**
BODT S **Sn** **21 33 20.2 +2.2**
DALY Dalyan (Mu¨la 1.21 50 PN **Pg** **21 33 06.2 0.0**
DALY Dalyan (Mu¨la 1.21 50 *i* P **Pg** **21 33 06.6 +0.4**
DALY *i* S **Sn** **21 33 24.3 +2.1**
TURN Turunc 1.21 47 PG **Pn** **21 33 01.2 -4.7**
TURN Turunc 1.21 47 *i* P **Pn** **21 33 01.3 -4.6**
TURN *i* S **Sb** **21 33 14.0 -7.7**
MLSB Milas 1.27 10 PN **Pg** **21 33 07.0 -0.4**
ZKR Zakros 1.40 229 P **Pb** **21 33 09.1 -0.1**
ZKR S **Sb** **21 33 27.5 +0.3**
ZKR AML AML 21 33 35.0
comp=N,1731µm,0.5s
ZKR AML AML 21 33 38.4
comp=E,3984µm,0.6s
ZKR Zakros 1.40 229 P **Pb** **21 33 09.1 -0.1**
FETY Fethiye 1.40 65 PN **Pn** **21 33 08.8 +0.2**
FETY Fethiye 1.40 65 P **Pg** **21 33 09.8 -0.2**
FETY S **Sg** **21 33 30.7 +2.5**
STIA Sitia Lasithi 1.43 234 P **Pb** **21 33 10.2 -0.2**
ANAF Anafi Island 1.44 283 P **Pb** **21 33 09.4 -0.5**
ANAF Anafi Island 1.44 283 P **Pb** **21 33 09.4 -0.5**
AMGA Amorgos Island 1.52 302 P **Pn** **21 33 10.2 -0.1**
AMGA S **Sb** **21 33 30.3 -0.3**
AMGA AML AML 21 33 39.5
comp=N,3980µm,0.8s
AMGA AML AML 21 33 40.7
comp=E,2787µm,0.6s
AMGA Amorgos Island 1.52 302 P **Pb** **21 33 10.5 -0.8**
AYDN Tasoluk 1.64 10 *i* P **Pb** **21 33 13.4 0.0**
GCAM G?zelcaml? 1.67 353 PN **Pb** **21 33 13.1 -0.7**
GCAM G?zelcaml? 1.67 353 *i* P **Pg** **21 33 16.4 +1.3**
THR8 Santorini-Mono 1.68 283 P **Pb** **21 33 12.6 +0.2**
KSL Kastellorizon 1.68 86 P **Pb** **21 33 14.2 +0.2**
KSL S **Sb** **21 33 35.0 -0.3**
KSL AML AML 21 33 44.9
comp=E,1221µm,0.7s
KSL AML AML 21 33 49.8
comp=N,1156µm,1.6s
KSL Kastellorizon 1.68 86 P **Pb** **21 33 14.8 +0.7**
KSL S **Sg** **21 33 38.5 +1.3**
SANT Santorini 1.69 282 PN **Pn** **21 33 12.5 -0.1**
SANT Santorini 1.69 282 ‖ *i* P **Pb** **21 33 13.4 -0.8**
SANT Santorini 1.69 282 P **Pb** **21 33 13.1 -1.1**
SANT S **Sb** **21 33 35.0 -0.5**
SANT AML AML 21 33 42.0
comp=E,4414µm,0.6s
SANT AML AML 21 33 43.4
comp=N,2928µm,0.6s
SAP2K Karterados 1.71 283 P **Pb** **21 33 13.4 -1.0**
AKAS Kas 1.71 83 PN **Pn** **21 33 13.3 +0.4**
AKAS Kas 1.71 83 *i* P **Pb** **21 33 15.3 +0.7**
THR2 Thira island, 1.72 284 P **Pb** **21 33 13.6 -1.1**
THR2 Thira island, 1.72 284 P **Pb** **21 33 13.7 -1.1**
THR7 Fira-Santorini 1.72 283 P **Pb** **21 33 14.0 -0.8**
THR7 Fira-Santorini 1.72 283 P **Pb** **21 33 13.8 -0.9**
NPS Neapolis 1.73 244 P **Pn** **21 33 13.3 +0.2**
NPS S **Sn** **21 33 35.0 -0.2**
NPS AML AML 21 33 41.0
comp=N,3064µm,0.7s
NPS AML AML 21 33 41.3
comp=E,3413µm,0.4s
NPS Neapolis 1.73 244 P **Pn** **21 33 13.3 +0.2**
NPS S **Sn** **21 33 34.9 -0.3**
THT2 Imerovigli 1.73 284 P **Pb** **21 33 14.0 -0.8**
THT2 Imerovigli 1.73 284 P **Pb** **21 33 14.2 -0.7**
THR6 Thira Island, 1.73 281 P **Pb** **21 33 14.1 -0.9**
THR6 Thira Island, 1.73 281 P **Pb** **21 33 14.0 -0.9**
SAP1 Santorini-Akro 1.74 281 P **Pb** **21 33 13.9 -1.1**
SAP1 Santorini-Akro 1.74 281 P **Pb** **21 33 13.9 -1.1**
SAP1 S **Sb** **21 33 36.6 -0.2**
THR3 Thira Island, 1.74 283 P **Pb** **21 33 13.9 -1.2**
THR3 Thira Island, 1.74 283 P **Pn** **21 33 13.7 +0.5**
SMG Samos 1.75 342 P **Pb** **21 33 13.6 +0.3**
SMG Samos 1.75 342 P **Pn** **21 33 13.6 +0.3**
CMBO Columbo, Santo 1.75 285 P **Pb** **21 33 14.3 -0.9**
CMBO S **Sg** **21 33 38.1 -1.3**
THR9 Santorini-Faro 1.77 281 P **Pn** **21 33 14.1 +0.6**
THR5 Thira Island, 1.79 283 P **Pn** **21 33 14.2 +0.3**
THR5 Thira Island, 1.79 283 P **Pb** **21 33 14.7 -1.1**
SAP3 Santorini-Thir 1.79 283 P **Pb** **21 33 15.0 -0.9**
TAVA DENIZLI_Tavas 1.81 38 *i* P **Pg** **21 33 17.4 -0.4**
TAVA *i* S **Sg** **21 33 41.5 +0.1**
LAST Lasithi 1.87 243 P **Pn** **21 33 15.7 +0.5**
LAST S **Sn** **21 33 38.6 -0.3**
LAST AML AML 21 33 49.3
comp=E,1368µm,0.9s
LAST AML AML 21 33 51.8
comp=N,1367µm,0.9s
LAST Lasithi 1.87 243 P **Pn** **21 33 15.5 +0.4**
LAST S **Sn** **21 33 38.8 0.0**
APE Apeiranthos 1.89 303 PN **Pn** **21 33 15.5 +0.1**
APE Apeiranthos 1.89 303 ‖ *i* P **Pn** **21 33 15.8 +0.4**
APE Apeiranthos 1.89 303 P **Pn** **21 33 15.9 +0.6**
APE S **Sb** **21 33 39.6 -1.7**
APE AML AML 21 33 54.1
comp=E,680µm,0.6s
APE AML AML 21 33 57.7
comp=N,655µm,0.6s
IOSP Ios island 1.92 291 P **Pn** **21 33 15.5 -0.1**
IOSP Ios island 1.92 291 P **Pn** **21 33 15.2 -0.4**
AYDB Zeytinkoy-Aydi 1.93 9 PN **Pn** **21 33 16.6 +0.7**
GOLH Golhisar 2.04 54 *i* P **Pb** **21 33 21.0 +0.8**
GOLH *i* S **Sg** **21 33 48.3 -0.2**
DNZL Cakiroluk 2.06 36 *i* P **Pg** **21 33 21.3 -1.2**
ELL Elmali 2.06 69 PN **Pn** **21 33 18.3 +0.5**
DGB ¨zmir 2.07 346 *i* P **Pn** **21 33 17.5 -0.2**
DENT Denizli 2.10 35 PN **Pn** **21 33 18.9 +0.7**
IACM Heraklion 2.12 250 P **Pn** **21 33 19.2 +0.8**
IACM S **Sn** **21 33 44.7 0.0**
IACM Heraklion 2.12 250 P **Pb** **21 33 20.1 -1.3**
IDI Anoyia 2.26 251 PN **Pn** **21 33 19.6 -0.9**
IDI Anoyia 2.26 251 P **Pn** **21 33 19.9 -0.6**
comp=N,15nm,0.3s,baz=25,slow=5.4,SNR=75
IDI Sn **Sn** **21 33 46.7 -1.6**
comp=N,52nm,0.3s,baz=163,slow=23,SNR=13
IDI LR LR 21 34 28.6
comp=N,163nm,20.5s,baz=84,slow=49
IDI Anoyia 2.26 251 ‖ *i* P **Pn** **21 33 20.8 +0.3**
IDI Anoyia 2.26 251 S **Sn** **21 33 45.1 -3.3**
IDI Anoyia 2.26 251 P **Pn** **21 33 20.5 0.0**
URLA Izmir 2.42 343 PN **Pn** **21 33 23.1 +0.4**
URLA Izmir 2.42 343 *i* P **Pb** **21 33 25.0 -1.7**
SIVA Sivas 2.43 246 P **Pn** **21 33 23.7 +1.0**
SIVA S **Sn** **21 33 52.0 -0.3**
SIVA AML AML 21 34 08.6
comp=N,2066µm,0.7s
SIVA AML AML 21 34 08.9
comp=E,2351µm,0.6s
SIVA Sivas 2.43 246 P **Pn** **21 33 24.6 +1.9**
KORT Korkueli 2.48 67 PN **Pn** **21 33 24.3 +0.7**
KORT Korkueli 2.48 67 *i* P **Pb** **21 33 27.5 -0.3**
KORT *i* S **Sb** **21 33 57.7 -0.7**
MANT Manisa 2.58 19 *i* P **Pn** **21 33 25.8 +0.8**
MHLA Plaka, Milos I 2.59 287 P **Pn** **21 33 26.5 +1.6**
MHLO Agia Marina, M 2.59 285 P **Pn** **21 33 26.2 +1.3**
CHOS Chios island 2.61 334 PN **Pn** **21 33 25.8 +0.5**
CHOS Chios island 2.61 334 P **Pn** **21 33 25.9 +0.5**
BRDR BURDUR-Merkez 2.63 50 *i* P **Pb** **21 33 29.0 -1.3**
KULA Kula-Manisa 2.63 20 PN **Pn** **21 33 26.5 +0.9**
ANTB Antalya 2.68 70 PN **Pn** **21 33 26.8 +0.7**

VAM Vamos 2.77 258 P **Pn** **21 33 28.5 +1.2**
VAM S **Sn** **21 34 00.4 -0.4**
VAM AML AML 21 34 08.2
comp=N,912µm,0.3s
VAM AML AML 21 34 17.0
comp=E,739µm,0.6s
VAM Vamos 2.77 258 P **Pn** **21 33 29.2 +1.9**
AKHS Akhisar 2.84 5 *i* P **Pn** **21 33 30.4 +2.0**
IMMV Iera Moni Meta 2.93 260 P **Pn** **21 33 30.5 +1.0**
IMMV S **Sn** **21 34 05.2 +0.5**
IMMV AML AML 21 34 14.2
comp=N,880µm,0.4s
IMMV AML AML 21 34 16.1
comp=E,750µm,0.9s
IMMV Iera Moni Meta 2.93 260 P **Pn** **21 33 30.8 +1.2**
GVD Gavdhos 3.04 248 P **Pn** **21 33 32.8 +1.7**
GVD S **Sn** **21 34 08.1 +0.6**
GVD AML AML 21 34 17.2
comp=N,490µm,0.4s
GVD AML AML 21 34 26.1
comp=E,638µm,0.5s
KZIL AFYON_Kizioren 3.05 43 *i* P **Pb** **21 33 35.0 -2.4**
DKL Dikili 3.06 351 PN **Pn** **21 33 32.4 +1.0**
DEMI Demirci 3.15 17 *i* P **Pn** **21 33 34.1 +1.4**
SUTC Sutluce-Ispart 3.15 62 PN **Pn** **21 33 33.7 +1.0**
BAGO Egridir - ISPA 3.27 53 *i* P **Pb** **21 33 38.2 -2.9**
STEP BALIKESIR_Sava 3.33 3 *i* P **Pn** **21 33 37.0 +1.8**
ANKY Antikythira Is 3.42 268 P **Pn** **21 33 37.9 +1.6**
SIGR SIGRI 3.42 338 PN **Pn** **21 33 36.8 +0.4**
SIGR SIGRI 3.42 338 P **Pn** **21 33 37.2 +0.8**
VLY Voula,Athens 3.48 302 P **Pn** **21 33 38.8 +1.6**
VLY Voula,Athens 3.48 302 P **Pn** **21 33 39.0 +1.8**
PTL Penteli 3.54 306 P **Pn** **21 33 39.7 +1.8**
KYTH Kithira 3.62 275 P **Pn** **21 33 40.8 +1.7**
DURS Dursunbey 3.63 12 *i* P **Pn** **21 33 40.1 +0.7**
KTHR Kythira 3.65 275 P **Pn** **21 33 41.2 +1.7**
KTHR S **Sn** **21 34 23.6 +1.0**
DID Didima 3.73 294 P **Pn** **21 33 42.2 +1.6**
TVSB Tavsanli 3.74 24 PN **Pn** **21 33 41.9 +1.1**
VLI Velia 3.75 282 P **Pn** **21 33 42.7 +1.8**
GAZI Gazipasa 3.90 86 PN **Pn** **21 33 44.6 +1.7**
PPCY Paphos 4.11 105 P **Pn** **21 33 46.5 +0.6**
baz=292
LTK Loutraki 4.14 300 P **Pn** **21 33 48.2 +2.0**
DYR Agios Nikonas 4.24 281 P **Pn** **21 33 49.8 +2.2**
ALFC Alefka 4.24 101 P **Pn** **21 33 48.0 +0.3**
baz=288
ALFC S **Sn** **21 34 36.3 -0.9**
VLX Vlachokerasia 4.33 289 P **Pn** **21 33 50.3 +1.4**
SZAC Souni 4.57 105 P **Pn** **21 33 53.0 +0.8**
baz=292
SZAC S **Sn** **21 34 45.2 -0.2**
PYL PYLOS 4.72 282 P **Pn** **21 33 56.2 +1.9**
KLV Kalavryta, Ach 4.73 297 P **Pn** **21 33 56.5 +2.2**
MAMC Mammari 4.73 99 P **Pn** **21 33 54.9 +0.5**
baz=286
MES2 Methoni 4.74 281 P **Pn** **21 33 56.1 +1.6**
MES3 Kyparissia 4.84 286 P **Pn** **21 33 57.7 +1.8**
CSS Mathiatis 4.87 101 P **Pn** **21 33 56.5 +0.2**
baz=288
CSS S **Sn** **21 34 52.0 -0.7**
AMT Artemida-Makis 4.89 289 P **Pn** **21 33 58.4 +1.9**
DRO Drossia 5.02 294 P **Pn** **21 33 59.6 +1.3**
EFP Efpalio 5.06 300 P **Pn** **21 34 01.1 +2.2**
AGG Agios Georgios 5.08 307 P **Pn** **21 34 01.4 +2.3**
ANX Ano Chora 5.13 301 P **Pn** **21 34 01.8 +1.9**
PVO Paravola 5.42 300 P **Pn** **21 34 05.5 +1.8**
ANTO Ankara 5.66 46 ‖ *i* P **Pn** **21 34 11.1 +3.9**
BRTR Keskin Array B 6.08 51 Pn **Pn** **21 34 16.1 +3.0**
comp=E,0.4nm,0.3s,baz=234,slow=15,SNR=13
BRTR Sn **Sn** **21 35 25.5 +2.7**
comp=E,0.1nm,0.3s,baz=217,slow=25,SNR=3.3
MMAI Mount Meron Ar 7.18 113 Pn **Pn** **21 34 28.9 +0.8**
comp=E,3.9nm,0.3s,baz=311,slow=12,SNR=15
MMAI Sn **Sn** **21 35 46.9 -2.8**
comp=E,7.3nm,0.3s,baz=314,slow=29,SNR=9.4
ASF Jabal al Asfar 8.69 114 Sn **Sn** **21 36 24.0 -2.8**
comp=E,0.0nm,0.3s,baz=267,slow=7.5,SNR=2.6
MLR Muntele Rosu 9.51 353 Pn **Pn** **21 35 03.5 +3.4**
comp=E,0.0nm,0.3s,baz=332,slow=2.8,SNR=3.8
MLR Muntele Rosu 9.51 353 ‖ *i* P **Pn** **21 35 03.3 +3.2**
GERES GERESS Array B 16.32 326 Pn **Pn** **21 36 33.3 +1.1**
comp=E,0.0nm,0.3s,baz=142,slow=13,SNR=6.4
OBN Obninsk 20.07 15 P Pn 21 37 17.3 -0.7
comp=E,3.5nm,0.8s,baz=225,slow=1.4,SNR=3.9
GEYT Alibeck 24.47 76 P **P** **21 38 04.0 +1.8**
comp=E,0.8nm,0.4s,baz=269,slow=8.5,SNR=4.1
ESDC Sonseca Array 25.04 288 P **P** **21 38 06.8 -0.5**
comp=E,0.5nm,0.6s,baz=81,slow=10.0,SNR=4.6
FINES FINESS Array B 25.44 358 P **P** **21 38 09.2 -1.4**
comp=E,3.5nm,0.8s,baz=165,slow=11,SNR=3.2
HFS Hagfors 25.70 344 P **P** **21 38 11.3 -1.7**
comp=E,3.9nm,1.0s,baz=185,slow=12,SNR=4.0
TORD Torodi Ar. Bea 32.53 232 P **P** **21 39 13.2 -1.0**
comp=E,0.4nm,0.3s,baz=39,slow=9.0
ARCES ARCESS Array B 33.57 359 P **P** **21 39 22.1 -0.6**
comp=E,2.7nm,1.0s,baz=183,slow=8.9,SNR=4.4
DBIC Dimbokro 41.62 233 P **P** **21 40 32.7 +1.3**
comp=E,2.5nm,0.7s,baz=26,slow=10.0,SNR=3.7
MKAR Makanchi Array 41.69 58 P **P** **21 40 32.5 +0.7**
comp=E,1.6nm,0.7s,baz=270,slow=8.3,SNR=8.1
MKAR PcP **PcP** **21 42 28.0 -0.3**
comp=E,0.5nm,0.7s,baz=265,slow=6.9,SNR=2.7
ZALV Zalesovo Beam 43.01 47 P **P** **21 40 42.6 +0.3**
comp=E,1.4nm,0.6s,baz=270,slow=9.0,SNR=5.6
SONM Songino Array 57.44 52 P **P** **21 42 32.2 +0.2**
comp=E,0.4nm,0.5s,baz=285,slow=6.1,SNR=3.8
SONM LR LR 22 11 33.3
comp=E,566nm,21.4s,baz=152,slow=41
YAK Yakutsk 64.15 31 LR LR 22 14 03.8
comp=E,253nm,19.0s,baz=97,slow=39

IDC ***11*** *21:33:05.0±2.0, 5.˚44S×151.˚78E, h28km±13km, mb4.7/34, mb1 4.8/35, mb1mx4.7/47, mbtmp4.8/35, ML3.6/1, MS4.5/19, Ms1 4.5/19, ms1mx4.3/48, Error ellipse: s-maj=10.9km s-min=8.4km az=124.0*

MOS ***11*** *21:33:05.2±0.9, 5.˚28S×151.˚63E, h33km, mb5.5/45, Error ellipse: s-maj=8.2km s-min=6.3km az=112.4*

ISCJB ***11*** *21:33:05.4±0.7, 5.˚48S±0.˚03×151.˚65E±0.˚02, h38km±6km, mb5.2/186, MS4.7/30, Error ellipse: s-maj=4.7km s-min=3.7km az=148.6*

NEIC ***11*** *21:33:07.7±0.7, 5.˚45S×151.˚69E, h50km±6km, mb5.3/104, Error ellipse: s-maj=4.8km s-min=4.2km az=135.0*

NEIC Felt at Kokopo.

BJI ***11*** *21:33:07.3, 5.˚65S×151.˚98E, h80km, mb5.2/58, mB5.1/40, Ms5.0/40, Ms7 4.7/39*

GCMT ***11*** *21:33:08.7±0.2, 5.˚76S±0.˚01×151.˚77E±0.˚02, h31km, MW5.3/81, Moment Tensor Solution. s81,c130; s69,c109; Duration: 1ı0 Moment tensor: Scale 10¹⁷Nm; Mrr0.78±.02; Mθθ-0.79±.02; Mφφ0.00±.02; Mrθ0.53±.03; Mθφ-0.22±.01; Mφr-0.05±.03; Best double couple: M₀0.97300×10¹⁷ NP1,φs87.00000°, δ62.00000°, λ101.00000°. NP2:φs244.00000°, δ30.00000°, λ70.00000°. Principal axes: T 0.9590, Plg71.0000°, Azm22.0000°; N 0.0290, Plg10.0000°, Azm261.0000°; P -0.9880, Plg16.0000°, Azm168.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***11*** *21:33:17.7±0.8, 5.˚5S×4.˚15˚2E±˚, h132km±8km, M5.2/43, mB5.7/18, mb5.2/43, Mw(mB)5.2/18*

ISC 11 21:33:07.7±0.6, 5.˚51S±0.˚04×151.˚82E±0.˚04, h53km±5km, n689, σ1ş33/711, mb5.2/183, MS4.7/30, 61C-26D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
RABL	**Rabaul**	**1.35**	**15**	*e*Pn	**Pn**		**21 33 30.7**	**+0.4**
RABL				*e*Sn	**Sn**		**21 33 47.6**	**+0.5**
MANU	**Manus Island**	**5.62**	**308**	*e*Pn	Pn		21 34 33.6	+4.8
HNR	**Honiara**	**8.95**	**116**	Pn	**Pn**		**21 35 16.9**	**+2.5**
	9.1nm,0.3s,baz=15,slow=4.6,SNR=3.9							
HNR				LR	LR		21 38 13.4	
	comp=Z,3µm,21.7s,baz=284,slow=34							
JAY	**Jayapura**	**11.48**	**285**	Pn	**Pn**		**21 35 46.8**	**-2.3**
	0.4nm,0.3s,baz=130,slow=17,SNR=2.3							
JAY				LR	LR		21 39 48.6	
	comp=Z,4µm,18.7s,slow=35							
JAY	**Jayapura**	**11.48**	**285**	P	Pn		21 35 54.7	+5.6
	494nm,1.1s,12µm							
COEN	**Coen**	**11.96**	**225**	P	**Pn**		**21 35 54.6**	**-0.8**
	baz=12,SNR=9.1							
COEN	**Coen**	**11.96**	**225**	*e*Pn	**Pn**		**21 35 54.6**	**-1.0**
GENI	**Genyem**	**11.98**	**284**	P	**Pn**		**21 36 00.0**	**+4.2**
	222nm,1.8s,5µm							
SMPI	**Sarmi**	**13.54**	**284**	P	**P**		**21 36 22.3**	**-2.4**
	98nm,1.0s,6µm							
PATS	**Pohnpei**	**13.87**	**28**	*e*Pn	**Pn**		**21 36 17.4**	**-4.2**
MTSU	**Mount Surprise**	**14.54**	**210**	P	**Pn**		**21 36 30.2**	**-0.3**
	baz=15,SNR=5.0							
CTA	**Charters Tower**	**15.47**	**200**	Pn	**P**		**21 36 45.2**	**-1.0**
	0.6nm,0.3s,baz=26,slow=12,SNR=12							
CTA				LR	LR		21 42 19.3	
	comp=Z,3µm,19.0s,baz=28,slow=36							
CTAO	**Charters Tower**	**15.47**	**200**	*e*Pn	**Pn**		**21 36 41.3**	**-1.4**
	38nm,0.9s							
CTAO	**Charters Tower**	**15.47**	**200**	*e*P	**Pn**		**21 36 41.3**	**-1.4**
CTAO				pmax	pmax			
	comp=Z,39nm,0.9s							
RKPI	**Ransiki, Papua**	**18.05**	**282**	P	**Pn**		**21 37 18.7**	**+3.8**
	comp=Z,63nm,0.7s,comp=Z,14µm							
QIS	**Mount Isa**	**19.10**	**217**	P	**Pn**		**21 37 27.1**	**-0.4**
	baz=19,SNR=34							
FAKI	**Fak Fak**	**19.69**	**277**	*e*P	**P**		**21 37 31.7**	**-1.0**
	comp=Z,33nm,0.9s							
FAKI	**Fak Fak**	**19.69**	**277**	P	**Pn**		**21 37 36.9**	**+2.4**
	comp=Z,43nm,1.0s,comp=Z,747nm							
EIDS	**Eidsvold**	**19.77**	**182**	P	**Pn**		**21 37 34.4**	**-0.9**
	baz=20,SNR=8.3							
EIDS	**Eidsvold**	**19.77**	**182**	*e*P	**P**		**21 37 34.1**	**+0.7**
	comp=Z,79nm,0.9s							
GUMO	**Guam**	**20.19**	**340**	P	**P**		**21 37 38.3**	**+0.2**
	comp=Z,248nm,1.0s,baz=190,slow=11,SNR=7.3							
GUMO				LR	LR		21 44 45.5	
	comp=Z,241nm,19.1s,baz=146,slow=35							
GUMO	**Guam**	**20.19**	**340**	*e*P	**P**		**21 37 36.5**	**-1.6**
	comp=Z,463nm,1.1s							
GUMO	**Guam**	**20.19**	**340**	*e*P	**P**		**21 37 36.5**	**-1.6**
GUMO				pmax	pmax			
	comp=Z,463nm,1.1s							
KDU	**Kakadu**	**20.38**	**248**	P	**P**		**21 37 39.9**	**-0.3**
	baz=20,SNR=220							
SAUI	**Saumlaki**	**20.53**	**262**	*e*P	Pn		21 37 43.2	-1.3
	comp=Z,309nm,0.9s							
SAUI	**Saumlaki**	**20.53**	**262**	P	Pn		21 37 46.3	+1.8
	comp=Z,365nm,0.8s							
SIJI	**Sorong**	**21.03**	**282**	P	**P**		**21 37 47.6**	**+0.3**
	comp=Z,68nm,0.8s,baz=69,slow=6.4,SNR=34							
SIJI				PcP	**PcP**		**21 41 53.4**	**+0.6**
	comp=Z,3.7nm,0.3s,baz=180,slow=12,SNR=4.4							
SWI	**Sorong**	**21.04**	**282**	P	**P**		**21 37 51.2**	**+3.9**
	comp=Z,70nm,0.9s							
RMQ	**Roma**	**21.07**	**188**	P	**P**		**21 37 48.8**	**+1.3**
	baz=21,SNR=26							
PALU	**Palau**	**21.51**	**306**	P	**P**		**21 37 53.6**	**+1.2**
	baz=22,SNR=8.9							
MTN	**Manton Dam**	**21.67**	**249**	P	**P**		**21 37 53.7**	**-0.4**
	baz=22,SNR=90							
MTN	**Manton Dam**	**21.67**	**249**	*e*P	**P**		**21 37 53.3**	**-0.8**
	comp=Z,103nm,0.6s							
DZM	**Mont Dzumac**	**21.71**	**141**	P	**P**		**21 37 54.5**	**-0.1**
	comp=Z,13nm,0.7s,baz=356,slow=11,SNR=11							
DZM				LR	LR		21 45 39.4	
	comp=Z,3µm,19.7s,baz=310,slow=35							
DZM	**Mont Dzumac**	**21.71**	**141**	*e*P	**P**		**21 37 54.1**	**-0.5**
	comp=Z,107nm,1.1s							
DZM				*e*S	**S**		**21 41 45.7**	**-6.5**
	comp=Z,1µm,23.8s							
DZM				*e*LQ	LQ		21 42 20.3	
	comp=Z,2µm,27.7s							
DZM				*e*LR	LR		21 43 19.6	
	comp=Z,5µm,23.9s							
DZM	**Mont Dzumac**	**21.71**	**141**	*e*P	**P**		**21 37 54.6**	**0.0**
	comp=Z,56nm,1.2s							
TARA	**Tarawa**	**22.15**	**73**	*e*P	**P**		**21 37 59.2**	**-0.1**
	comp=Z,15nm,1.0s							
QLP	**Quilpie**	**22.18**	**198**	P	**P**		**21 37 59.7**	**+0.2**
	baz=22,SNR=29							
WRAB	**Tennant Creek**	**22.24**	**228**	*e*P	**P**		**21 38 00.3**	**+0.1**
	comp=Z,53nm,0.6s							
WRAB				*e*S	**S**		**21 41 59.5**	**-2.4**
WRAB	**Tennant Creek**	**22.24**	**228**	*ce*P	**P**		**21 38 00.6**	**+0.4**
WRAB				pmax	pmax			
	comp=Z,120nm,1.7s							
WB2	**Warramunga Arr**	**22.24**	**228**	*e*P	**P**		**21 38 00.1**	**-0.1**
WB2				*e*S	**S**		**21 41 58.5**	**-3.4**
WR1	**Warramunga Arr**	**22.25**	**228**	*e*P	**P**		**21 38 00.1**	**-0.2**
	comp=Z,68nm,0.8s							
WR1				*e*PcP	**PcP**		**21 41 55.1**	**0.0**
WR1				*e*S	**S**		**21 42 00.8**	**-1.3**
WR1				*e*ScP	**ScP**		**21 45 30.6**	**+2.3**
WRA	**Warramunga Arr**	**22.25**	**228**	P	**P**		**21 38 00.1**	**-0.2**
	comp=Z,45nm,0.9s,baz=52,slow=10.0,SNR=154							
WRA				PcP	**PcP**		**21 41 55.2**	**0.0**
	comp=Z,6.7nm,1.0s,baz=41,slow=2.3,SNR=5.8							
WRA				S	**S**		**21 42 00.8**	**-1.3**
	comp=Z,56nm,1.2s,baz=54,slow=18,SNR=4.9							
WRA				ScP	**ScP**		**21 45 30.6**	**+2.3**
	comp=Z,4.6nm,1.0s,baz=55,slow=2.7,SNR=6.2							
WRA				LR	LR		21 48 16.9	
	comp=Z,1µm,18.4s,baz=55,slow=41							
ARMA	**Armidale**	**24.78**	**180**	P	**P**		**21 38 25.8**	**+1.0**
	baz=25,SNR=4.2							
ARMA	**Armidale**	**24.78**	**180**	*e*P	**P**		**21 38 24.0**	**-0.8**
	comp=Z,97nm,1.4s							
KNRA	**Kununurra**	**24.79**	**244**	P	**P**		**21 38 25.1**	**+0.2**
	baz=25,SNR=86							
AS01	**Alice Springs**	**24.94**	**222**	*e*P	**P**		**21 38 25.9**	**-0.4**
AS31	**Alice Springs**	**24.98**	**222**	*e*P	**P**		**21 38 27.0**	**+0.4**
	comp=Z,25nm,0.8s							
AS31				*e*PcP	**PcP**		**21 42 02.4**	**+1.5**
ASAR	**Alice Springs**	**24.98**	**222**	P	**P**		**21 38 26.8**	**+0.2**
	comp=Z,12nm,0.4s,baz=56,slow=8.8,SNR=101							
ASAR				PcP	**PcP**		**21 42 02.4**	**+1.5**
	comp=Z,4.9nm,0.8s,baz=31,slow=3.3,SNR=3.7							
ASAR				S	**S**		**21 42 54.2**	**+7.4**
	comp=Z,20nm,1.1s,baz=40,slow=18,SNR=11							
ASAR				ScP	**ScP**		**21 45 38.6**	**+3.0**
	comp=Z,1.6nm,0.7s,baz=42,slow=2.8,SNR=5.8							
ASAR				LR	LR		21 48 03.0	
	comp=Z,1µm,21.2s,baz=72,slow=36							
ASAR				P3KPbc			22 11 32.1	
	comp=Z,0.7nm,0.8s,baz=222,slow=4.9,SNR=5.3							
TNTI	**Ternate**	**25.21**	**284**	P	**P**		**21 38 31.8**	**+3.1**
	comp=Z,40nm,1.0s							
SANI	**Sanana**	**26.00**	**277**	P	**P**		**21 38 39.1**	**+3.2**
	comp=Z,61nm,0.8s,comp=Z,469nm							
CMSA	**Cobar Meteorol**	**26.53**	**192**	P	**P**		**21 38 40.3**	**-0.2**
	baz=27,SNR=16							
MGCD	**Mangrove Creek**	**27.57**	**181**	P	**P**		**21 38 50.3**	**+0.5**
	baz=28							
SOEI	**Soe**	**27.63**	**260**	*e*P	**P**		**21 38 50.2**	**-0.5**
	comp=Z,101nm,0.9s							
SOEI	**Soe**	**27.63**	**260**	P	**P**		**21 38 51.3**	**+0.6**
	comp=Z,129nm,0.8s,comp=Z,2µm							
STKA	**Stephens Creek**	**27.93**	**199**	P	**P**		**21 38 53.0**	**0.0**
	comp=Z,8.9nm,0.8s,baz=47,slow=15,SNR=6.8							
STKA				LR	LR		21 50 21.9	
	comp=Z,1µm,18.9s,baz=19,slow=37							
STKA	**Stephens Creek**	**27.93**	**199**	P	**P**		**21 38 53.5**	**+0.5**
	baz=28,SNR=5.0							
STKA	**Stephens Creek**

BBSI Bau Bau 29.12 269 P P 21 39 14.3 +10
MMRI Maumere 29.52 262 *e*P **P** **21 39 06.3 -1.1**
comp=Z,229nm,1.3s
MMRI Maumere 29.52 262 P **P** **21 39 07.4 0.0**
comp=Z,139nm,1.0s,comp=Z,2µm
WRKA Warakurna 29.77 227 P **P** **21 39 09.0 -0.5**
baz=30,SNR=87
EDFI Ende, Flores 30.07 262 P **P** **21 39 11.1 -1.2**
comp=Z,70nm,1.0s,comp=Z,635nm
HTT Hallett 30.27 202 P **P** **21 39 13.7 -0.1**
baz=30,SNR=4.4
MRSI Marisa 30.43 280 P **P** **21 39 15.8 +0.4**
comp=Z,14nm,0.7s
APSI Ampana 30.46 278 P **P** **21 39 16.9 +1.2**
comp=Z,28nm,0.7s
BBOO Buckleboo 30.89 206 *e*P **P** **21 39 18.4 -0.9**
comp=Z,45nm,1.1s
BASI Baing, Sumba 31.29 259 P **P** **21 39 26.1 +3.1**
comp=Z,405nm,0.8s,comp=Z,4µm
WBSI Waikabubak, Su 32.40 261 P **P** **21 39 32.1 -0.7**
comp=Z,266nm,0.8s,comp=Z,2µm
MPSI Mapaga 32.40 279 P **P** **21 39 31.5 -1.3**
comp=Z,14nm,0.7s
ARPS Mount Arapiles 32.43 195 P **P** **21 39 33.2 +0.4**
baz=32
FORT Forrest 33.63 219 P **P** **21 39 43.5 +0.2**
baz=34,SNR=9.7
FORT Forrest 33.63 219 *e*P **P** **21 39 43.5 +0.2**
comp=Z,50nm,0.9s
PLAI Plampang 33.93 262 P **P** **21 39 44.6 -1.6**
comp=Z,82nm,1.0s
MBWA Marble Bar 34.78 240 *e*P **P** **21 39 52.8 -0.6**
comp=Z,155nm,1.4s
TWSI Taliwang, Sumb 34.81 263 P **P** **21 39 55.7 +1.9**
comp=Z,29nm,0.9s
TGY Tagaytay City 36.31 303 LR LR 21 52 20.5
comp=Z,949nm,22.0s,baz=113,slow=32
JAGI Jajag, Banyuwa 37.49 263 *e*P **P** **21 40 14.7 -2.0**
comp=Z,75nm,0.9s
JAGI Jajag, Banyuwa 37.49 263 P **P** **21 40 15.2 -1.5**
comp=Z,76nm,1.1s
MEEK Meekatharra 38.00 233 P **P** **21 40 20.7 -0.2**
baz=38,SNR=146
JOW Kunigami 39.41 326 P **P** **21 40 33.4 +0.9**
comp=Z,56nm,0.8s,baz=143,slow=8.7,SNR=6.4
JOW LR LR 21 53 46.5
comp=Z,1µm,21.8s,baz=132,slow=32
JOW Kunigami 39.41 326 *e*P **P** **21 40 33.5 +0.9**
comp=Z,89nm,1.0s
PWJI Pagerwojo 39.81 264 P **P** **21 40 35.4 -0.7**
comp=Z,57nm,0.8s
URZ Urewera 39.89 148 P **P** **21 40 35.5 -0.9**
comp=Z,3.7nm,0.7s,baz=41,slow=2.4,SNR=3.0
GIRL Giralia 40.07 241 P **P** **21 40 38.9 +0.7**
baz=40,SNR=5.2
SBUM Sibu 40.34 280 P **P** **21 40 39.0 -1.5**
PCJI Pacitan 40.43 264 P **P** **21 40 40.7 -0.6**
comp=Z,184nm,0.8s
WOJI Wonogiri, Jawa 40.68 264 P **P** **21 40 43.7 +0.4**
comp=Z,34nm,1.0s
KLBR Kellerberrin 41.12 227 P **P** **21 40 45.6 -1.1**
baz=41,SNR=4.9
MORW Morawa 41.15 231 P **P** **21 40 46.5 -0.5**
baz=41,SNR=57
BLDU Balliduu 41.38 229 P **P** **21 40 49.6 +0.7**
baz=41,SNR=14
YULB Yu-li 41.39 315 *e*P **P** **21 40 48.1 -0.9**
comp=Z,38nm,0.7s
NACB Ninganchiao 41.69 316 *e*P **P** **21 40 49.9 -1.5**
comp=Z,54nm,0.9s
TPUB Ta-pu 41.80 314 *e*P **P** **21 40 52.0 -0.5**
comp=Z,43nm,0.8s
SSLB Suanglung 41.88 315 *e*P **P** **21 40 53.6 +0.5**
comp=Z,27nm,0.8s
KSM Kuching 42.04 278 P **P** **21 40 53.0 -1.5**
YHNB Yeheng 42.17 317 *e*P **P** **21 40 56.4 +1.0**
comp=Z,73nm,0.8s
NWAO Narrogin (SRO) 42.20 225 P **P** **21 40 57.2 +1.6**
comp=Z,3.3nm,0.5s,baz=23,slow=16,SNR=2.6
NWAO LR LR 21 59 23.6
comp=Z,1µm,19.7s,baz=296,slow=37
MUN Mundaring 42.44 227 P **P** **21 40 57.8 +0.3**
baz=42,SNR=6.4
KPJI Karang Pucung 42.65 265 P **P** **21 41 00.9 +1.4**
comp=Z,84nm,0.7s
JNU Nakatsue 43.25 334 P **P** **21 41 03.8 -0.3**
comp=Z,21nm,0.8s,baz=143,slow=10.0,SNR=6.9
MJAR Matsushiro Arr 43.73 344 P **P** **21 41 05.0 -2.8**
comp=Z,6.7nm,0.9s,baz=172,slow=8.5,SNR=6.2
MJAR PcP **PcP** **21 42 54.0 0.0**
comp=Z,3.5nm,0.6s,baz=160,slow=4.3,SNR=6.3
MJAR LR LR 21 58 06.7
comp=Z,659nm,20.8s,baz=175,slow=34
MAJO Matsushiro 43.73 344 *e*P **P** **21 41 05.0 -2.8**
MAJO *e*PcP **PcP** **21 42 54.0 0.0**
MAJO Matsushiro 43.73 344 *i* P **P** **21 41 06.6 -1.2**
MAJO pmax pmax
comp=Z,10.0nm,1.0s
MAT Matsushiro 43.73 344 P **P** **21 41 06.9 -0.9**
CISI Cisompet, Garu 43.76 265 *e*P **P** **21 41 07.1 -1.4**
comp=Z,101nm,0.6s
CISI Cisompet, Garu 43.76 265 P **P** **21 41 07.6 -0.9**
comp=Z,156nm,0.6s,comp=Z,2µm
LEM Lembang 43.96 266 P **P** **21 41 07.8 -2.4**
comp=Z,35nm,0.8s,baz=21,slow=8.4,SNR=8.5
LEM PcP **PcP** **21 42 56.3 +0.8**
comp=Z,16nm,0.4s,baz=51,slow=15,SNR=3.6
LEM LR LR 22 03 29.6
comp=Z,232nm,20.9s,baz=62,slow=42
QZH Quanzhou 44.28 315 ⇓ *i* P **P** **21 41 13.8 +1.4**
QZH pmax pmax
comp=Z,75nm,0.7s
QZH LR LR
comp=Z,640nm,18.4s
QZH LR LR
comp=Z,890nm,16.2s
QZH LR LR
comp=Z,850nm,21.2s
CBJI Citeko 44.73 266 P P 21 41 28.5 +12
SKJI Sukabumi 45.01 266 P **P** **21 41 20.4 +2.0**
comp=Z,130nm,0.6s
MDSI Maura Dua 47.46 269 P **P** **21 41 37.6 -0.1**
comp=Z,19nm,1.0s
QIZ Qiongzhong 48.00 302 P **P** **21 41 42.7 +1.0**
QIZ S **S** **21 48 35.8 -0.4**
QIZ pmax pmax
comp=Z,47nm,1.5s
QIZ LR LR
comp=Z,380nm,18.6s
QIZ LR LR
comp=Z,420nm,18.8s
QIZ LR LR
comp=Z,770nm,22.6s
KSRS Korea Array 48.20 334 P **P** **21 41 41.4 -1.5**
comp=Z,4.4nm,0.8s,baz=148,slow=7.8,SNR=7.4
KSRS PcP **PcP** **21 43 09.7 +0.1**
comp=Z,3.1nm,0.7s,baz=182,slow=3.4,SNR=4.6
KSRS LR LR 22 03 01.4
comp=Z,329nm,18.3s,baz=171,slow=37
KS15 Wonju Array Si 48.20 334 *e*P **P** **21 41 41.4 -1.6**
KS15 *e*PcP **PcP** **21 43 09.7 +0.1**
KSAR Wonju Array Be 48.20 334 P **P** **21 41 41.4 -1.6**
KSAR Wonju Array Be 48.20 334 P **P** **21 41 41.4 -1.6**
MYKOM Kota Tinggi 48.46 277 P **P** **21 41 44.0 -1.4**
NJ2 Nanjing 48.79 322 *e*P **P** **21 41 49.7 +2.1**
NJ2 S **S** **21 48 50.0 +3.0**
NJ2 pmax pmax
comp=Z,17nm,0.7s
NJ2 LR LR
comp=Z,1µm,18.2s
NJ2 LR LR
comp=Z,840nm,19.8s
NJ2 LR LR
comp=Z,1µm,20.6s
RAR Rarotonga 49.39 113 *e*P **P** **21 41 54.4 +2.0**
RAR Rarotonga 49.39 113 *e*P **P** **21 41 54.4 +2.0**
ASAJ Asahikawa 50.09 351 P **P** **21 41 58.2 +0.9**
comp=Z,7.6nm,0.8s,baz=233,slow=20,SNR=3.2
ASAJ Asahikawa 50.09 351 *e*P **P** **21 41 58.2 +0.9**
comp=Z,28nm,1.0s
WHN Wuhan 50.70 317 ⇓ P **P** **21 42 03.6 +1.4**
WHN LR LR
comp=Z,3µm,22.7s
WHN LR LR
comp=Z,2µm,18.1s
WHN LR LR
comp=Z,2µm,23.5s

PDSI Padang 51.46 273 P **P** **21 42 07.5 -0.8**
comp=Z,27nm,0.7s
KULM Kulim 52.21 281 P **P** **21 42 11.0 -2.8**
SKNT Sakolnakorn 52.28 296 P **P** **21 42 15.4 +1.1**
comp=Z,17nm,1.0s
DL2 Dalian 52.29 330 P P 21 42 18.9 +5.0
DL2 pP sP 21 42 37.8 +3.4
DL2 pmax pmax
comp=Z,94nm,1.5s
DL2 pmax pmax
comp=Z,42nm,11.4s
DL2 LR LR
comp=Z,1µm,17.9s
DL2 LR LR
comp=Z,1µm,20.4s
DL2 LR LR
comp=Z,970nm,19.6s
MNSI Mandailing Nat 52.54 275 P **P** **21 42 16.3 0.0**
comp=Z,30nm,0.8s
USRK Ussuriysk Ar. 52.61 342 P **P** **21 42 14.2 -2.0**
comp=Z,5.6nm,0.9s,baz=177,slow=12,SNR=5.3
USRK LR LR 22 04 27.5
comp=Z,344nm,18.1s,baz=154,slow=36
NONG Nongkai 53.42 297 P **P** **21 42 23.3 +0.7**
comp=Z,0.8nm,0.7s
CHAI Chaiyaphum 53.71 294 P **P** **21 42 25.5 +0.7**
comp=Z,5.3nm,0.8s
MDJ Mudanjiang 53.74 340 P **P** **21 42 27.6 +3.1**
MDJ pP sP 21 42 46.3 +1.3
MDJ sP pP 21 42 54.5 +16
MDJ PcS **PcS** **21 47 29.4 +0.3**
MDJ S **S** **21 49 56.6 +1.6**
MDJ pmax pmax
comp=Z,23nm,2.4s
MDJ pmax pmax
comp=Z,570nm,3.6s
MDJ LR LR
comp=Z,2µm,4.8s
MDJ LR LR
comp=Z,2µm,4.2s
ENH Enshi 53.93 314 *e*P **P** **21 42 26.8 +0.6**
comp=Z,76nm,1.1s
GYA Guiyang 54.05 308 ⇓ *i* P **P** **21 42 28.5 +1.2**
GYA pP sP 21 42 49.6 +1.8
GYA sP pP 21 42 57.9 +16
GYA PP **PP** **21 44 33.0 +3.7**
GYA S **S** **21 49 59.2 -0.9**
GYA sS sS 21 50 32.1 +7.8
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,130nm,6.2s
CN2 Changchun 54.55 337 *e*P **P** **21 42 34.0 +3.6**
PBKT Sadao Pong 54.85 295 P **P** **21 42 34.8 +1.7**
comp=Z,14nm,1.0s,comp=Z,936nm
UTTA Uttaradit 55.62 296 P **P** **21 42 39.4 +0.8**
comp=Z,10nm,0.7s,comp=Z,86nm
NANT Nan 55.85 297 P **P** **21 42 40.8 +0.6**
comp=Z,10nm,0.8s
SRDT SRDT 55.86 291 P **P** **21 42 41.5 +1.1**
comp=Z,22nm,1.1s
UTHA Uthaitani 55.92 293 P **P** **21 42 41.5 +0.7**
comp=Z,6.9nm,0.7s,comp=Z,86nm
BJI Beijing 55.95 327 P **P** **21 42 40.1 -0.4**
SUKH Sukhothai 56.36 295 P **P** **21 42 45.3 +1.4**
comp=Z,5.9nm,0.8s
XAN Xi'an 56.47 317 P **P** **21 42 44.3 -0.1**
XAN pP sP 21 43 03.9 -1.1
XAN sP pP 21 43 12.4 +13
XAN pmax pmax
comp=Z,29nm,1.2s
XAN pmax pmax
comp=Z,150nm,5.7s
XAN LR LR
comp=Z,390nm,18.0s
XAN LR LR
comp=Z,450nm,19.4s
XAN LR LR
comp=Z,730nm,19.6s
KMI Kunming 56.58 305 P **P** **21 42 47.0 +1.4**
KMI pP sP 21 43 08.4 +2.2
KMI sP pP 21 43 13.8 +14
KMI pmax pmax
comp=Z,25nm,1.2s
KMI LR LR
comp=Z,270nm,16.3s
KMI LR LR
comp=Z,280nm,18.2s
KMI LR LR
comp=Z,450nm,18.7s
UMPA Umpang Tak 56.66 293 P **P** **21 42 47.6 +1.5**
comp=Z,6.0nm,1.2s,comp=Z,66nm
LAMP Lampang 56.70 296 P **P** **21 42 47.5 +1.2**
comp=Z,13nm,0.8s,comp=Z,117nm
PAYA Payao 56.78 297 P **P** **21 42 47.7 +0.8**
comp=Z,21nm,0.8s,comp=Z,162nm
KLR Kul'dur 57.25 344 P **P** **21 42 48.9 -0.7**
comp=Z,5.5nm,0.7s,baz=167,slow=3.3,SNR=8.7
KLR Kul'dur 57.25 344 *c**e*P **P** **21 42 49.6 0.0**
CM01 Chiang Mai Arr 57.27 296 *e*P **P** **21 42 50.3 -0.1**
CM31 Chiang Mai Arr 57.30 296 *e*P **P** **21 42 50.6 0.0**
CMAR Chiang Mai Arr 57.30 296 P **P** **21 42 51.5 +0.9**
comp=Z,11nm,0.8s,baz=124,slow=5.4,SNR=67
CMAR LR LR 22 07 37.1
comp=Z,290nm,18.7s,baz=115,slow=36
CMAR PKP2bc 22 12 49.4
comp=Z,1.3nm,0.5s,baz=278,slow=3.6,SNR=9.2
CMMT Chiang Mai 57.41 296 P **P** **21 42 51.8 +0.4**
comp=Z,23nm,1.4s,comp=Z,395nm
CHTO Chiang Mai 57.42 296 *e*P **P** **21 42 51.8 +0.4**
comp=Z,24nm,1.0s
CHTO Chiang Mai 57.42 296 *e*P **P** **21 42 51.8 +0.4**
CHTO pmax pmax
comp=Z,24nm,1.0s
CHTO Chiang Mai 57.42 296 P **P** **21 42 51.8 +0.4**
comp=Z,103nm,1.4s
PPT2 Papeete2 58.45 107 *e*S **S** **21 50 55.0 -3.5**
comp=Z,140nm,24.8s
PPT2 *e*LR LR 22 00 21.2
comp=Z,288nm,22.5s
CD2 Chengdu 58.46 311 P **P** **21 42 58.9 +0.3**
CD2 S **S** **21 50 57.4 -0.8**
CD2 SS **SS** **21 54 52.2 +0.6**
CD2 pmax pmax
comp=Z,60nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.6s
CD2 LR LR
comp=Z,770nm,19.9s
CD2 LR LR
comp=Z,1µm,19.9s
CD2 LR LR
comp=Z,1µm,19.4s
PETK Petropavlovsk- 58.60 4 P **P** **21 42 58.7 -0.4**
comp=Z,2.5nm,0.5s,baz=163,slow=8.2,SNR=7.6
PEA1 Petropavlovsk- 58.61 4 *e*P **P** **21 42 58.7 -0.4**
HHC Hu-ho-hao-te 59.06 325 *e*P **P** **21 43 03.5 +0.9**
HHC pP sP 21 43 26.8 +3.6
HHC S **S** **21 51 03.4 -2.3**
HHC pmax pmax
comp=Z,41nm,0.8s
HHC pmax pmax
comp=Z,140nm,4.5s
HHC LR LR
comp=Z,690nm,10.4s
HHC LR LR
comp=Z,560nm,12.1s
HHC LR LR
comp=Z,1µm,15.6s
TBI Tubuai 59.16 114 *e*S **S** **21 51 04.5 -3.0**
comp=Z,119nm,38.0s
TBI *e*LQ LQ 21 58 13.2
comp=Z,885nm,33.5s
TBI *e*LR LR 22 00 40.8
comp=Z,550nm,30.5s
BTO Baotou 59.79 324 *e*P **P** **21 43 08.4 +0.8**
PMOR Pomariorio Ree 59.91 104 *e*P **P** **21 43 08.4 -0.4**
comp=Z,210nm,1.1s
LZH Lanzhou 61.06 317 *e*P **P** **21 43 17.5 +1.0**
LZH pP sP 21 43 35.9 -1.3
LZH sP pP 21 43 44.3 +13
LZH PP **PP** **21 45 31.1 -0.5**
LZH *e*S **S** **21 51 34.6 +2.8**
LZH sS sS 21 52 01.7 +5.3
LZH SS **SS** **21 55 28.7 -3.7**
LZH pmax pmax
comp=Z,100nm,1.3s
LZH pmax pmax
comp=Z,440nm,6.0s
LZH LR LR
comp=Z,800nm,16.0s
LZH LR LR
comp=Z,790nm,16.3s
LZH LR LR
comp=Z,880nm,18.2s
HIA Hailar 61.28 337 *e*P **P** **21 43 17.4 -0.1**
comp=Z,18nm,1.0s
HIA Hailar 61.28 337 *c**e*P **P** **21 43 16.7 -0.8**
HIA pmax pmax
comp=Z,11nm,0.9s
MA2 Magadan 64.88 359 P **P** **21 43 41.5 +0.3**
comp=Z,12nm,0.7s,baz=115,slow=8.1,SNR=5.3
MA2 Magadan 64.88 359 *i* P **P** **21 43 40.7 -0.4**
MA2 pmax pmax
comp=Z,11nm,0.9s
GTA Gaotai 65.52 318 ⇑ P **P** **21 43 46.2 +0.3**
GTA pP sP 21 44 05.8 -0.9
GTA sP PcP 21 44 15.8 -1.5
GTA S **S** **21 52 24.3 -2.9**
GTA SS **SS** **21 56 39.6 -2.3**
GTA pmax pmax
comp=Z,13nm,1.4s
GTA pmax pmax
comp=Z,120nm,6.0s
GTA LR LR
comp=Z,360nm,18.6s
GTA LR LR
comp=Z,340nm,21.0s
GTA LR LR
comp=Z,540nm,19.9s
SHL Shillong 65.83 301 *e*P **P** **21 43 48.0 -0.2**
comp=Z,62nm,1.1s
SHL Shillong 65.83 301 *e*P **P** **21 43 48.0 -0.2**
SHL pmax pmax
comp=Z,62nm,1.1s
SONA0 Songino Array 66.41 328 *e*P **P** **21 43 52.2 +0.8**
SONM Songino Array 66.41 328 P **P** **21 43 52.2 +0.8**
comp=Z,23nm,0.7s,baz=148,slow=5.5,SNR=136
SONM PKP2bc 22 12 24.6
comp=Z,0.8nm,0.9s,baz=349,slow=1.5,SNR=4.1
SONA1 Songino Array 66.41 328 *e*P **P** **21 43 51.2 -0.2**
LSA Lhasa 67.84 305 *e*P **P** **21 44 01.9 +0.6**
comp=Z,18nm,0.8s
LSA Lhasa 67.84 305 *e*P **P** **21 44 01.9 +0.6**
LSA pmax pmax
comp=Z,18nm,0.8s
SEY Seymchan 68.25 0 P **P** **21 44 02.9 +0.4**
comp=Z,2.7nm,0.6s,baz=241,slow=16,SNR=5.2
SEY Seymchan 68.25 0 *i* P **P** **21 44 03.3 +0.8**
YAK Yakutsk 69.47 349 *i* P **P** **21 44 09.3 -0.8**
YAK pmax pmax
comp=Z,17nm,0.9s
ZAK Zakamensk 69.59 329 *e*P **P** **21 44 11.5 +0.2**
ZAK pmax pmax
comp=Z,47nm,1.0s
BOD Bodaibo 70.10 340 *e*P **P** **21 44 11.7 -2.4**
BOD pmax pmax
comp=Z,9.0nm,0.9s
TLY Talaya 70.20 330 *e*P **P** **21 44 14.9 -0.1**
comp=Z,17nm,0.9s
TLY Talaya 70.20 330 *e*P **P** **21 44 15.3 +0.4**
TLY *e*S **S** **21 53 21.9 -0.6**
TLY pmax pmax
comp=Z,18nm,0.9s
TLY MLR MLR
comp=Z,315nm,17.0s
MOY Mondy 71.52 329 *e*P **P** **21 44 23.0 0.0**
MOY pmax pmax
comp=Z,29nm,1.5s
GUN Gumba 71.66 302 *e*P **P** **21 44 24.6 -0.1**
comp=Z,73nm,0.9s
PKI Pulchoki 71.96 301 *e*P **P** **21 44 25.9 -0.6**
comp=Z,54nm,1.0s
PKIN Phulchoki 71.97 301 *e*P **P** **21 44 25.9 -0.6**
comp=Z,33nm,1.0s
PALK Pallekele 72.09 279 *c**e*P **P** **21 44 28.3 +1.2**
KKN Kakani 72.13 301 *e*P **P** **21 44 27.0 -0.3**
comp=Z,42nm,0.8s
VNDA Vanda 72.17 178 P **P** **21 44 27.4 +1.0**
comp=Z,2.6nm,0.8s,baz=322,slow=5.1,SNR=6.3
DMN Daman 72.23 301 *e*P **P** **21 44 27.9 -0.1**
comp=Z,102nm,1.0s
RKT Rikitea 72.42 112 *e*LR LR 22 06 45.4
comp=Z,617nm,27.0s
GKN Gorkha 72.73 301 *e*P **P** **21 44 30.6 -0.3**
KNGR Kungurtug, Tuv 72.74 327 *i* P **P** **21 44 29.6 -0.8**
KOLN Koldanda 73.56 301 *e*P **P** **21 44 35.2 -0.6**
comp=Z,77nm,0.8s
DANN Dangsing 73.57 302 *e*P **P** **21 44 35.3 -0.7**
comp=Z,81nm,0.8s
BILL Bilibino 74.08 6 *e*P **P** **21 44 37.4 -0.3**
comp=Z,14nm,0.9s
BILL Bilibino 74.08 6 *c* *i* P **P** **21 44 38.7 +1.0**
BILL *e* 21 47 29.9
BILL *e*S **S** **21 54 13.4 +7.1**
BILL pmax pmax
comp=Z,17nm,1.0s
PYUN Piuthan 74.16 301 *e*P **P** **21 44 38.6 -0.7**
comp=Z,99nm,0.8s
HVS Khovu-Aksy 75.09 326 *i* P **P** **21 44 43.5 -0.6**
HVS pmax pmax
comp=Z,44nm,1.3s
WMQ Urumqi 75.60 318 P **P** **21 44 47.9 +0.8**
WMQ PcP **pP** **21 45 03.1 +0.9**
WMQ pP sP 21 45 11.4 +3.2
WMQ SS SS 21 59 18.1 +1.5
WMQ pmax pmax
comp=Z,60nm,1.1s
WMQ pmax pmax
comp=Z,300nm,4.7s
HYB Hyderabad 75.80 289 *i* P **P** **21 44 48.0 -0.8**
DGZ Jazzator, Alta 78.06 323 *c* *i* P **P** **21 45 00.6 -0.4**
DGZ pmax pmax
comp=Z,23nm,1.1s
TIXI Tiksi 78.47 353 *e*P **P** **21 45 00.2 -2.4**
comp=Z,6.4nm,0.9s
TIXI Tiksi 78.47 353 *c**e*P **P** **21 45 01.1 -1.4**
TIXI pmax pmax
comp=Z,7.0nm,1.0s
CNPM China Poot 78.77 26 *e*P **P** **21 45 04.5 0.0**
comp=Z,111nm,1.0s
RDOG Red Dog Mine 79.92 16 *e*P **P** **21 45 10.6 +0.1**
comp=Z,12nm,0.6s
SUA Susitna One 80.00 24 *e*P **P** **21 45 11.0 -0.2**
comp=Z,13nm,0.8s
MK01 Makanchi Array 80.20 319 *e*P **P** **21 45 11.7 -0.9**
MK31 Makanchi Array 80.22 319 *e*P **P** **21 45 12.6 -0.1**
MK31 Makanchi Array 80.22 319 *e*P **P** **21 45 12.6 -0.1**
MK32 Makanchi Array 80.22 319 *e*P **P** **21 45 12.5 -0.1**
MKAR Makanchi Array 80.22 319 P **P** **21 45 12.5 -0.1**
comp=Z,20nm,0.9s,baz=104,slow=5.4,SNR=54
MKAR Makanchi Array 80.22 319 *e*P **P** **21 45 12.6 -0.1**
comp=Z,101nm,0.9s
MKAR Makanchi Array 80.22 319 *e*P **P** **21 45 12.6 -0.1**
MKAR pmax pmax
comp=Z,101nm,0.9s
H08N1 Diego Carcia H 80.30 265 P **P** **21 45 11.7 -1.7**
baz=138,slow=2.5,SNR=4.3
H08N2 Diego Garcia H 80.31 265 P **P** **21 45 11.5 -2.0**
baz=138,slow=2.5,SNR=4.0
H08N3 Diego Garcia H 80.32 265 P **P** **21 45 11.3 -2.2**
baz=138,slow=2.5,SNR=2.9
GHO Glory Hole Cre 80.90 24 *e*P **P** **21 45 17.0 +0.9**
comp=Z,13nm,0.9s
PDGK Podgornoye 81.07 315 *i* P **P** **21 45 17.1 -0.3**
PDGK pmax pmax
comp=Z,26nm,0.8s
SML Sawmill 81.16 25 *e*P **P** **21 45 18.4 +1.0**
comp=Z,21nm,0.6s
SML Sawmill 81.16 25 *e*P **P** **21 45 18.4 +1.0**
SML pmax pmax
comp=Z,21nm,0.6s
ZAA0 Zalesovo Array 81.20 327 *e*P **P** **21 45 16.5 -1.2**
comp=Z,14nm,0.7s
ZALV Zalesovo Beam 81.20 327 P **P** **21 45 16.6 -1.1**
comp=Z,10nm,0.4s,baz=111,slow=5.3,SNR=58
ZAA1 Zalesovo Array 81.20 327 *e*P **P** **21 45 16.6 -1.1**
TRF Thorofare Moun 81.22 23 *e*P **P** **21 45 17.8 0.0**
comp=Z,9.3nm,0.8s
GLI Glacier Island 81.24 26 *e*P **P** **21 45 18.6 +0.8**
comp=Z,23nm,0.7s
IM3 Indian Mountai 81.37 20 *e*P **P** **21 45 17.1 -1.3**

SCM **Sheep Creek Mo** 81.59 25 eP P 21 45 19.6 -0.2
comp=Z,14nm,0.8s
SCM **Sheep Creek Mo** 81.59 25 eP P 21 45 19.6 -0.2
SCM pmax pmax
comp=Z,14nm,0.8s
PRZ **Przheval'sk** 81.61 314 eP P 21 45 21.6 +1.2
comp=Z,58nm,1.0s
MCK **McKinley** 81.88 23 eP P 21 45 20.9 -0.3
comp=Z,20nm,0.8s
MCK **McKinley** 81.88 23 eP P 21 45 20.9 -0.3
MCK pmax pmax
comp=Z,20nm,0.8s
MLY **Manley** 81.89 21 eP P 21 45 20.9 -0.2
comp=Z,16nm,0.8s
NVS **Novosibirsk** 82.39 327 eP P 21 45 22.2 -1.7
NVS pmax pmax
comp=N,10.0nm,1.4s
NVS pmax pmax
comp=E,15nm,1.4s
NVS pmax pmax
comp=Z,25nm,1.4s
KDJ **Kajisay** 82.39 314 eP P 21 45 26.0 +1.5
comp=Z,53nm,0.9s
WRH **Wood River Hil** 82.58 22 eP P 21 45 24.6 -0.1
comp=Z,10nm,1.0s
KSH **Kashi** 82.65 311 P P 21 45 27.2 +1.3
KSH pP sP 21 45 48.0 +1.0
KSH PP **PP** 21 48 40.7 +4.5
KSH S **S** 21 55 33.9 -5.7
KSH SS **SS** 22 01 02.1 -0.6
KSH pmax pmax
comp=Z,190nm,6.2s
KSH LR LR
comp=Z,370nm,18.7s
COLA **College** 82.86 22 eP P 21 45 24.9 -1.3
comp=Z,19nm,0.8s
COLA **College** 82.86 22 eP P 21 45 24.9 -1.3
COLA pmax pmax
comp=Z,19nm,0.8s
HDA **Harding Lake** 82.98 23 P P 21 45 26.9 +0.1
baz=242
NRN **Naryn** 83.08 313 eP P 21 45 28.4 +0.2
comp=Z,11nm,1.0s
ULHL **Ulahol** 83.09 314 P P 21 45 29.1 +0.9
SNR=12
POKR **Poker Plat Res** 83.14 22 P P 21 45 27.7 +0.1
baz=241
ILAR **Eielson Array** 83.17 22 P P 21 45 26.9 -1.0
comp=Z,11nm,0.8s,baz=247,slow=5.3,SNR=84
ILB **Eielson Array** 83.17 22 eP P 21 45 26.7 -1.2
BALM **Baldy** 83.39 27 eP P 21 45 28.8 -0.3
comp=Z,12nm,0.8s
BALM **Baldy** 83.39 27 eP P 21 45 28.8 -0.3
BALM pmax pmax
comp=Z,12nm,0.8s
TKM2 **Tokmak 2** 83.72 314 P P 21 45 31.6 +0.3
SNR=34
TKM2 **Tokmak 2** 83.72 314 i P P 21 45 31.3 -0.1
TKM2 pmax pmax
comp=Z,23nm,0.8s
KURK **Kurchatov** 83.72 322 eP P 21 45 30.4 -0.6
comp=Z,32nm,0.9s
KURK **Kurchatov** 83.72 322 ceP P 21 45 30.2 -0.7
KURK pmax pmax
comp=Z,34nm,1.1s
DOT **Dot Lake** 83.76 24 eP P 21 45 31.8 +0.9
comp=Z,13nm,0.9s
KZA **Kyzart** 83.77 313 P P 21 45 33.5 +1.6
SNR=21
SCRK **Sand Creek** 83.94 24 eP P 21 45 32.4 +0.5
comp=Z,7.5nm,1.0s
KBK **Karagaybulak** 84.12 314 P P 21 45 33.7 +0.3
SNR=24
TOLK **Toolik Lake Re** 84.19 18 eP P 21 45 30.7 -2.3
comp=Z,10nm,0.9s
TOLK **Toolik Lake Re** 84.19 18 P P 21 45 35.5 +2.5
baz=239
CHMS **Chumysh** 84.34 314 P P 21 45 34.1 -0.2
SNR=23
UCH **Uchtor** 84.34 313 P P 21 45 35.6 +0.7
SNR=50
FRU1 **Bishkek** 84.38 314 eP P 21 45 35.5 +0.9
comp=Z,30nm,1.0s
FRU **Bishkek** 84.40 314 i P P 21 45 34.0 -0.6
FRU pmax pmax
comp=Z,56nm,1.8s
AAK **Ala-Archa** 84.44 314 P P 21 45 35.5 +0.4
SNR=27
AAK **Ala-Archa** 84.44 314 eP P 21 45 35.4 +0.4
comp=Z,27nm,0.9s
AAK **Ala-Archa** 84.44 314 i P P 21 45 35.1 +0.1
AAK pmax pmax
comp=Z,31nm,0.9s
QSPA **South Pole Qui** 84.46 180 eP P 21 45 34.7 +0.1
comp=Z,22nm,1.2s
MAW **Mawson** 84.55 203 P P 21 45 34.8 0.0
comp=Z,4.6nm,0.9s,baz=73,slow=5.0,SNR=5.1
USP **Ospenovka** 84.58 314 P P 21 45 35.8 +0.2
SNR=50
SFK **Sufi-Kurgan** 84.62 311 i P P 21 45 35.7 -0.4
SFK pmax pmax
comp=Z,47nm,1.4s
AML **Almayashu** 84.91 313 P P 21 45 38.5 +0.8
SNR=70
EKS2 **Erkin-Say** 84.97 314 P P 21 45 38.2 +0.6
SNR=77
EGAK **Eagle** 85.39 23 eP P 21 45 38.9 -0.1
comp=Z,9.5nm,0.8s
DAWY **Dawson** 85.83 24 eP P 21 45 42.4 +1.1
comp=Z,13nm,1.1s
MNAS **Manas** 85.85 313 i P P 21 45 42.3 +0.3
MNAS pmax pmax
comp=Z,116nm,0.9s
NRIK **Noril'sk** 86.31 341 P P 21 45 43.1 -0.4
comp=Z,4.6nm,0.5s,baz=154,slow=4.1,SNR=4.1
OTUK **Ortayu** 87.10 319 i P P 21 45 47.1 -0.8
OTUK pmax pmax
comp=Z,28nm,1.0s
KBL **Kabul** 87.16 305 eP P 21 45 47.5 -1.2
comp=Z,5.2nm,0.8s
KBL **Kabul** 87.16 305 eP P 21 45 47.5 -1.2
KBL pmax pmax
comp=Z,5.0nm,0.8s
KK31 **Karatay Array** 87.41 314 eP P 21 45 49.6 +0.1
KK31 **Karatay Array** 87.41 314 eP P 21 45 49.6 +0.1
KKAR **Karatay Array** 87.41 314 eP P 21 45 49.6 +0.1
KKAR **Karatay Array** 87.41 314 eP P 21 45 49.6 +0.1
EPYK **Eagle Plains** 87.69 22 P P 21 45 51.7 +1.4
baz=251
DLBC **Dease Lake** 88.48 31 P P 21 45 53.8 -0.5
comp=Z,11nm,1.0s,baz=237,slow=5.2,SNR=8.3
BRVK **Borovoye** 89.29 323 eP P 21 45 56.5 -1.6
comp=Z,20nm,0.9s
BRVK **Borovoye** 89.29 323 c i P P 21 45 56.2 -1.9
BRVK pmax pmax
comp=Z,27nm,1.1s
BRVK pmax pmax
comp=Z,29nm,1.1s
INK **Inuvik** 89.46 21 P P 21 45 58.8 +0.3
comp=Z,5.9nm,0.8s,baz=282,slow=4.1,SNR=27
INK **Inuvik** 89.46 21 eP P 21 45 59.2 +0.7
comp=Z,22nm,1.4s
INK **Inuvik** 89.46 21 eP P 21 45 59.2 +0.7
INK pmax pmax
comp=Z,22nm,1.4s
J01E **Myrtle Point** 89.54 47 P P 21 46 01.3 +1.9
baz=262
L02E **Cave Junction** 89.64 48 P P 21 46 01.2 +1.1
baz=262
K02D **Willamette Mer** 89.67 47 P P 21 46 01.7 +1.4
baz=262,SNR=8.1
O02D **Mt. Diablo Mer** 90.00 50 P P 21 46 03.2 +1.4
baz=263
I03D **Drain, OR** 90.03 46 P P 21 46 03.3 +1.5
baz=263,SNR=7.8
M02C **Callahan** 90.10 49 P P 21 46 04.3 +2.0
baz=263,SNR=14
N02D **Trinity Center** 90.16 49 P P 21 46 04.5 +1.9
baz=263,SNR=13
HUMO **Hull Mountain** 90.17 47 eP P 21 46 04.7 +2.1
comp=Z,40nm,0.9s
WDC **Whiskeytown Da** 90.23 49 eP P 21 46 04.6 +1.8
comp=Z,18nm,1.4s
WDC **Whiskeytown Da** 90.23 49 eP P 21 46 04.6 +1.8
WDC pmax pmax
comp=Z,18nm,1.4s
YBH **Yreka Blue Hor** 90.25 48 P P 21 46 04.1 +1.2
comp=Z,20nm,1.0s,baz=173,slow=2.8,SNR=26
YBH **Yreka Blue Hor** 90.25 48 eP P 21 46 04.9 +1.9
comp=Z,29nm,1.0s
YBH **Yreka Blue Hor** 90.25 48 eP P 21 46 04.9 +1.9
YBH pmax pmax
comp=Z,29nm,1.0s
H04D **Lebanon** 90.57 45 P P 21 46 05.9 +1.6
baz=263,SNR=6.6
L04D **Klamath Falls** 90.61 48 P P 21 46 05.7 +1.0
baz=263,SNR=11
BVYM **Vineyard** 90.67 53 eP P 21 46 10.0 +5.0
D03D **Eldon** 90.71 42 P P 21 46 06.6 +1.8
baz=263
I04A **Tendick Farm,** 90.72 46 P P 21 46 05.9 +0.8
baz=263,SNR=8.3
O03E **Paynes Creek** 90.76 50 P P 21 46 07.1 +1.7
baz=264,SNR=6.8
J04D **Umpqua Nationa** 90.87 47 P P 21 46 07.9 +1.9
baz=263,SNR=16
M04C **Macdoel** 90.90 48 P P 21 46 08.0 +1.9
baz=264,SNR=13
ORV **Oroville** 90.91 51 eP P 21 46 07.3 +1.3
comp=Z,10nm,0.9s
ORV **Oroville** 90.91 51 eP P 21 46 07.3 +1.3
ORV pmax pmax
comp=Z,10.0nm,0.9s
E04D **Cinebar** 90.94 43 P P 21 46 07.6 +1.6
baz=263
H04A **Detroit Lake** 90.98 45 eP P 21 46 07.5 +1.3
K04D **Chiloquin, OR** 91.06 47 P P 21 46 08.4 +1.6
baz=264,SNR=6.5
AFDM **Forest Hills D** 91.25 51 eP P 21 46 08.8 +1.2
comp=Z,20nm,1.1s
D05A **Enumclaw** 91.41 43 eP P 21 46 10.0 +1.9
comp=Z,30nm,0.9s
B05A **Bryant** 91.46 42 P P 21 46 09.7 +1.4
baz=264
J05D **Fort Rock, OR** 91.51 47 P P 21 46 10.6 +1.7
baz=264,SNR=37
I05D **Terrebonne, OR** 91.55 46 P P 21 46 10.5 +1.6
baz=264,SNR=13
CMB **Columbia Colle** 91.61 52 eP P 21 46 11.1 +1.7
comp=Z,15nm,1.2s
CMB **Columbia Colle** 91.61 52 eP P 21 46 11.1 +1.7
CMB pmax pmax
comp=Z,15nm,1.2s
F05D **White Salmon** 91.63 44 P P 21 46 10.8 +1.6
baz=264
G05D **Wamic, OR** 91.66 45 P P 21 46 10.6 +1.3
baz=264
K05A **Summer Lake** 91.70 47 eP P 21 46 11.3 +1.5
comp=Z,61nm,0.9s
PKM **Mcpherson Peak** 91.77 55 P P 21 46 12.0 +1.6
baz=265
PINE **Pine Mountain** 91.78 46 eP P 21 46 11.7 +1.5
comp=Z,56nm,0.9s
BEKR **Bekworth** 91.81 50 eP P 21 46 12.0 +1.5
comp=Z,18nm,1.1s
MOD **Modoc Plateau** 92.06 48 eP P 21 46 13.1 +1.7
comp=Z,32nm,1.0s
LTY **Liberty** 92.31 43 eP P 21 46 13.0 +0.6
comp=Z,10nm,0.8s
PNTR **Pine Nut** 92.33 51 eP P 21 46 15.0 +2.1
comp=Z,27nm,0.9s
VES **Vestal, Richgr** 92.45 54 P P 21 46 15.0 +1.8
baz=265
PAHR **Pah Rah Range** 92.55 51 eP P 21 46 14.5 +0.7
comp=Z,22nm,1.1s
YERR **Yerington** 92.60 51 eP P 21 46 15.4 +1.4
comp=Z,22nm,1.1s
MDPB **Devils Postpil** 92.61 53 eP P 21 46 15.3 +1.1
comp=Z,22nm,1.2s
OMMB **Old Mammoth Mi** 92.67 53 eP P 21 46 16.0 +1.4
comp=Z,18nm,1.2s
SYO **Syowa Base** 92.68 200 ||eP P 21 46 13.3 -0.3
I07A **Izee** 92.83 46 eP P 21 46 15.9 +1.0
comp=Z,24nm,0.9s
ISA **Isabella, Lake** 92.93 55 eP P 21 46 16.9 +1.4
comp=Z,15nm,1.4s
ISA **Isabella, Lake** 92.93 55 eP P 21 46 16.9 +1.4
ISA pmax pmax
comp=Z,15nm,1.4s
ISA **Isabella, Lake** 92.93 55 P P 21 46 16.7 +1.1
baz=266,SNR=5.9
HAWA **Hanford** 93.01 44 eP P 21 46 16.0 +0.4
comp=Z,28nm,1.0s
RYN **Ryan** 93.13 52 eP P 21 46 17.9 +1.4
comp=Z,20nm,1.0s
TIN **Tinemaha, Big** 93.24 53 P P 21 46 18.8 +1.8
baz=266
EDW2 **Edwards Air Fo** 93.26 55 P P 21 46 19.0 +2.0
baz=266,SNR=5.4
NV01 **Mina Array Sit** 93.28 52 eP P 21 46 18.0 +0.7
NVAR **Mina Array Bea** 93.28 52 P P 21 46 18.8 +1.5
comp=Z,15nm,0.8s,baz=254,slow=6.8,SNR=93
CWC **Cottonwood Cre** 93.31 54 P P 21 46 19.0 +1.7
baz=266
G08A **Pilot Rock** 93.32 45 eP P 21 46 18.0 +0.8
comp=Z,32nm,1.1s
WVOR **Wild Horse Val** 93.33 48 eP P 21 46 18.9 +1.6
comp=Z,25nm,1.0s
WVOR **Wild Horse Val** 93.33 48 eP P 21 46 18.9 +1.6
WVOR pmax pmax
comp=Z,25nm,1.0s
NV11 **Mina Array Sit** 93.40 52 eP P 21 46 19.2 +1.4
comp=Z,1.9nm,1.0s
BFSC **Mount Baldy Ra** 93.49 56 P P 21 46 19.9 +1.7
baz=266
KVN **Kaiserville** 93.49 51 eP P 21 46 19.6 +1.4
comp=Z,21nm,1.1s
KVN **Kaiserville** 93.49 51 eP P 21 46 19.6 +1.4
KVN pmax pmax
comp=Z,21nm,1.1s
J08A **Circle Bar Ran** 93.52 47 eP P 21 46 19.4 +1.3
comp=Z,25nm,0.8s
LRMC **Laurel Mtn Rad** 93.56 55 P P 21 46 20.4 +1.9
baz=266,SNR=11
DAC **Darwin (Calif)** 93.69 54 eP P 21 46 20.9 +1.7
comp=Z,26nm,1.1s
DAC **Darwin (Calif)** 93.69 54 eP P 21 46 20.9 +1.7
DAC pmax pmax
comp=Z,26nm,1.1s
MPMC **Manual Prospec** 93.76 54 P P 21 46 20.5 +1.0
baz=266,SNR=13
GRAC **Grapevine Rang** 93.92 53 P P 21 46 21.7 +1.7
baz=266
GSC **Goldstone, Bar** 94.26 55 P P 21 46 22.8 +1.1
baz=266,SNR=6.5
FURC **Furnace Creek,** 94.29 54 P P 21 46 23.6 +2.0
baz=266
MONP2 **Monument Peak** 94.43 58 P P 21 46 24.9 +2.3
baz=266,SNR=8.2
PFO **Pinyon Flats O** 94.44 57 P P 21 46 24.0 +1.4
baz=266
BMO **Blue Mountains** 94.46 46 eP P 21 46 23.1 +0.7
comp=Z,36nm,1.2s
BMO **Blue Mountains** 94.46 46 eP P 21 46 23.1 +0.7
BMO pmax pmax
comp=Z,36nm,1.2s
HEC **Hector,Ludlow** 94.62 56 P P 21 46 25.1 +1.7
baz=267,SNR=5.8
IKP **In-Ko-Pah, Jac** 94.67 58 P P 21 46 25.8 +2.2
baz=267
SHOC **Shoshone, Teco** 94.73 55 P P 21 46 25.4 +1.7
baz=267
NEW **Newport** 94.77 42 P P 21 46 24.4 +0.7
comp=Z,15nm,0.9s,baz=242,slow=3.6,SNR=24
NEW **Newport** 94.77 42 eP P 21 46 24.3 +0.7
comp=Z,24nm,1.1s
NEW **Newport** 94.77 42 eP P 21 46 24.3 +0.7
NEW pmax pmax
comp=Z,24nm,1.1s
NEW **Newport** 94.77 42 P P 21 46 24.5 +0.7
baz=267
TPNV **Topopah Spring** 94.81 53 P P 21 46 25.9 +1.7
baz=267,SNR=15
BELC **Belle Mtn. Jos** 94.85 56 P P 21 46 26.5 +2.0
baz=267
SWSC **Sam W. Stewart** 94.95 57 P P 21 46 26.9 +2.2
baz=267
TUQ **Turquoise Moun** 94.99 55 P P 21 46 27.3 +2.2
baz=267
GMRC **Granite Mounta** 95.17 56 P P 21 46 27.9 +2.0
baz=267,SNR=7.2
BC3 **Big Chuckawall** 95.28 57 P P 21 46 28.4 +2.0
baz=267
R11A **Troy Canyon, C** 95.41 52 P P 21 46 28.7 +1.7
baz=267,SNR=19
IRM **Iron Mountain** 95.56 56 P P 21 46 29.7 +2.1
baz=267,SNR=8.8
GEYT **Alibeck** 96.27 307 P P 21 46 29.6 -1.1
comp=Z,1.1nm,0.8s,baz=315,slow=0.2,SNR=4.8
ARU **Arti** 96.36 326 eP P 21 46 28.3 -2.3
comp=Z,11nm,0.9s
ARU **Arti** 96.36 326 P P 21 46 28.1 -2.5
ARU 21 50 22.6
ARU PPP PPP 21 52 26.3
ARU S **SKSac** 21 56 58.3 -4.4
ARU SS **SS** 22 04 20.3 +0.2
ARU MLR MLR
comp=Z,561nm,13.0s
HLID **Hailey** 96.48 47 eP P 21 46 33.3 +1.5
comp=Z,7.1nm,0.8s
HLID **Hailey** 96.48 47 P P 21 46 33.3 +1.5
baz=269
YKA **Yellowknife Ar** 96.50 28 P P 21 46 31.8 +0.7
comp=Z,2.8nm,0.8s,baz=272,slow=4.6,SNR=10
YKB5 **Yellowknife Ar** 96.50 28 eP P 21 46 31.4 +0.3
W13A **Hualapai Mount** 96.64 55 eP P 21 46 35.0 +2.3
comp=Z,10.0nm,1.0s
KNB **Kanab** 97.56 54 eP Pdif 21 46 39.2 +2.4
comp=Z,24nm,1.2s
HVU **Hansel Valley** 97.66 49 eP Pdif 21 46 38.6 +1.5
comp=Z,18nm,1.1s
HVU **Hansel Valley** 97.66 49 eP Pdif 21 46 38.7 +1.5
HVU pmax pmax
comp=Z,18nm,1.1s
U15A **North Rim** 97.97 54 eP Pdif 21 46 41.3 +2.4
comp=Z,8.9nm,1.1s
PKCU **Pink Cliffs** 97.97 53 eP Pdif 21 46 41.9 +3.0
comp=Z,27nm,1.2s
MTPU **Mount Pierson** 98.08 52 eP Pdif 21 46 42.1 +2.7
comp=Z,16nm,1.3s
BOZ **Bozeman (W)** 98.49 45 eP Pdif 21 46 41.8 +1.0
comp=Z,6.5nm,0.8s
BOZ **Bozeman (W)** 98.49 45 eP Pdif 21 46 41.8 +1.1
BOZ pmax pmax
comp=Z,7.0nm,0.8s
BOZ **Bozeman (W)** 98.49 45 P Pdif 21 46 42.4 +1.7
baz=271
WUAZ **Wupatki** 98.70 55 P Pdif 21 46 44.5 +2.5
baz=270
FXWY **Fox Creek** 98.95 47 eP Pdif 21 46 44.0 +1.0
comp=Z,8.8nm,1.0s
NVL **N'lazarevskaya** 99.37 192 eP **Pdif** 21 46 53.1 +9.2
NVL pmax pmax
comp=Z,4.0nm,0.7s
EGMT **Eagleton** 99.70 42 P **Pdif** 21 46 47.1 +1.1
baz=273
BW06 **Boulder Array** 100.04 48 P **Pdif** 21 46 48.5 +0.7
baz=272
PD31 **Pinedale Array** 100.04 48 ePdif **Pdif** 21 46 48.5 +0.6
PDAR **Pinedale Array** 100.04 48 P **Pdif** 21 46 47.1 -0.7
comp=Z,8.2nm,0.9s,baz=245,slow=3.0,SNR=42
PDAR **Pinedale Array** 100.04 48 ePdif **Pdif** 21 46 48.0 +0.2
RLMT **Red Lodge** 100.16 45 ePdif **Pdif** 21 46 50.1 +1.8
RLMT **Red Lodge** 100.16 45 P **Pdif** 21 46 49.7 +1.4
baz=273
O20A **White River Ci** 101.12 50 P **Pdif** 21 46 53.2 +0.6
baz=272
LAO **LASA Array** 102.19 44 ePdif **Pdif** 21 46 58.9 +1.9
K22A **Casper** 102.28 48 ePdif **Pdif** 21 46 59.4 +1.7
K22A **Casper** 102.28 48 P **Pdif** 21 46 58.8 +1.1
baz=274
S22A **4UR Ranch, Cre** 102.32 53 ePdif **Pdif** 21 47 00.4 +2.2
S22A **4UR Ranch, Cre** 102.32 53 P **Pdif** 21 47 00.1 +2.0
baz=273
N23A **Red Feather La** 102.83 49 P **Pdif** 21 47 02.2 +1.9
baz=274
RSSD **Black Hills** 103.96 46 P **Pdif** 21 47 06.1 +0.8
baz=276
LTX **Lajitas** 105.32 61 ePdif **Pdif** 21 47 12.3 +0.9
LTX ePKPKPbc **PKKPbc** 22 02 49.4 -2.2
LTX **Lajitas** 105.32 61 eP **Pdif** 21 47 12.3 +0.9
TXAR **Lajitas Array** 105.32 61 Pdiff **Pdif** 21 47 12.3 +0.9
comp=Z,0.1nm,0.4s,baz=317,slow=5.2,SNR=2.3
TXAR PKKPbc **PKKPbc** 22 02 49.4 -2.2
comp=Z,0.6nm,0.9s,baz=96,slow=7.7,SNR=3.9
ARA0 **ARCESS Array S** 107.25 343 ePKiKP **PKiKP** 21 51 27.7 0.0
ARCES **ARCESS Array B** 107.25 343 PKiKP **PKiKP** 21 51 27.7 +0.1
comp=Z,2.8nm,0.8s,baz=130,slow=1.8,SNR=14
FIA0 **FINESS Array S** 111.28 335 ePdif **Pdif** 21 47 35.8 -1.2
FIA0 ePKiKP **PKiKP** 21 51 35.4 0.0
FIA0 **FINESS Array S** 111.28 335 eP **Pdif** 21 47 35.8 -1.2
FIA0 *i* 21 51 35.4
FINES **FINESS Array B** 111.28 335 Pdiff **Pdif** 21 47 35.8 -1.2
comp=Z,2.8nm,0.8s,baz=35,slow=5.1,SNR=4.9
FINES PKiKP **PKiKP** 21 51 35.4 0.0
comp=Z,2.7nm,0.7s,baz=270,slow=1.0,SNR=11
K40A **Colesburg** 113.45 46 P **PKiKP** 21 51 40.0 -0.1
baz=285
U40A **Yellville** 113.58 53 P **PKiKP** 21 51 40.8 +0.3
baz=281
W41B **Gary Mavity, V** 114.28 54 P PKPdf 21 51 42.1 +0.2
baz=281
Q41A **Truxton** 114.29 50 P PKPdf 21 51 41.8 0.0
baz=283
U41A **Viola** 114.32 53 P PKPdf 21 51 42.1 +0.1
baz=282
R41A **Rosebud** 114.33 50 P PKPdf 21 51 42.1 +0.2
baz=283
AKASG **Malin Array Be** 114.49 324 PKP PKPdf 21 51 41.1 -0.7
comp=Z,4.7nm,0.7s,baz=62,slow=2.4,SNR=16
AKBB **Malin Array Si** 114.49 324 ePKiKP **PKiKP** 21 51 41.1 -0.7
AKBB **Malin Array Si** 114.49 324 ePKiKP PKPdf 21 51 41.1 -0.7
KIEV **Kiev** 114.50 324 c i PKiKP PKPdf 21 51 40.5 -1.3
KIEV pmax pmax
comp=Z,13nm,1.7s
BR101 **Keskin Array S** 115.04 311 ePKiKP **PKiKP** 21 51 42.5 -0.9
BRTR **Keskin Array B** 115.04 311 PKP **PKPdf** 21 51 42.5 -0.9
comp=Z,3.8nm,0.8s,baz=105,slow=2.1,SNR=14
ANTO **Ankara** 115.63 312 ||iP **PKPdf** 21 51 44.4 -0.1
ANTO **Ankara** 115.63 312 ||PKiKP **PKPdf** 21 51 44.4 -0.1
SORM **Soroca** 116.01 322 ||iP **PKPdf** 21 51 44.4 -0.4
SORM **Soroca** 116.01 322 ||PKiKP **PKPdf** 21 51 44.4 -0.4
TLCR 116.80 318 ⇑iP **PKPdf** 21 51 46.7 +0.3
TLCR 116.80 318 ⇑PKiKP **PKPdf** 21 51 46.7 +0.3
NB2 **NORSAR Subarra** 117.24 340 PKPdf **PKPdf** 21 51 46.4 -0.5
comp=Z,1.4nm,0.7s,baz=42,slow=1.8
NB200 **NORSAR Array S** 117.24 340 ePKPdf **PKPdf** 21 51 46.5 -0.3
NOA **NORSAR Array B** 117.24 340 PKP **PKPdf** 21 51 46.5 -0.3
comp=Z,2.2nm,0.8s,baz=48,slow=1.8,SNR=6.0
CFR **Carcaliu** 117.25 319 ||iP **PKPdf** 21 51 47.5 +0.2
CFR **Carcaliu** 117.25 319 ⇑PKiKP **PKPdf** 21 51 47.5 +0.2
TLB **Topalu** 117.53 318 ⇑iP **PKPdf** 21 51 48.4 +0.6
TLB **Topalu** 117.53 318 ⇑PKiKP **PKPdf** 21 51 48.4 +0.6
HARR **Harsova** 117.56 318 ⇑iP **PKPdf** 21 51 48.3 +0.4
HARR **Harsova** 117.56 318 ⇑PKiKP **PKPdf** 21 51 48.4 +0.5
GIRR **Girov** 117.62 321 ||iP **PKPdf** 21 51 48.3 +0.3
BIZ **Bicaz** 117.88 321 ⇑iP **PKPdf** 21 51 48.8 +0.3
ISP **Isparta** 117.89 310 ||iP **PKPdf** 21 51 48.1 -0.8
ISP **Isparta** 117.89 310 ||PKiKP **PKPdf** 21 51 48.1 -0.8
V47A **Nunnelly** 117.91 52 P **PKPdf** 21 51 48.4 -0.5
baz=284
VRI **Vrincioaia** 117.91 320 ⇑iP **PKPdf** 21 51 48.8 +0.2
VRI **Vrincioaia** 117.91 320 ⇑PKiKP **PKPdf** 21 51 48.8 +0.2
T47A **Sharon Grove** 117.94 51 P **PKPdf** 21 51 48.9 0.0
baz=285
S47A **Hartford** 117.95 50 P **PKPdf** 21 51 48.5 -0.4
baz=286
PLOR **Plostina** 117.97 320 ||iP **PKPdf** 21 51 48.2 -0.5
PLOR **Plostina** 117.97 320 ||PKiKP **PKPdf** 21 51 48.2 -0.5
W47A **Westpoint** 117.99 53 P **PKPdf** 21 51 48.1 -0.9
baz=284
R47A **Wooly Knot Far** 118.02 49 P **PKPdf** 21 51 49.2 +0.2
baz=286
BURAR **Bucovina Array** 118.15 322 ⇑iP **PKPdf** 21 51 49.9 +0.8
BURAR **Bucovina Array** 118.15 322 ⇑PKiKP **PKPdf** 21 51 49.9 +0.8
N48A **Decatur** 118.36 46 P **PKPdf** 21 51 50.0 +0.4
baz=289
OZUR 118.42 320 ||iP **PKPdf** 21 51 50.4 +0.8
L48A **N Adams** 118.42 45 P **PKPdf** 21 51 50.3 +0.6
baz=290
BOSA **Boshof** 118.42 233 PKP **PKPdf** 21 51 50.5 +0.2
comp=Z,2.4nm,0.8s,baz=105,slow=3.9
BOSA PKKPbc **PKKPbc** 22 02 06.8 -1.5
comp=Z,4.0nm,1.1s,baz=90,slow=20,SNR=3.2
O48A **Farmland** 118.46 47 P **PKPdf** 21 51 50.5 +0.7
baz=288
U48A **Cassie Pea, Po** 118.50 51 P **PKPdf** 21 51 49.9 -0.1
baz=286
S48A **Wiedeman Farm,** 118.56 50 P **PKPdf** 21 51 50.4 +0.3
baz=286

MLR	Muntele Rosu	118.56	320	⇑	*i*P	PKPdf	21 51 50.0	0.0	
MLR	Muntele Rosu	118.56	320	⇑	PKIKP	PKPdf	21 51 50.0	0.0	
SECR		118.66	319	⇓	*i*P	PKPdf	21 51 50.3	+0.2	
DOPR	Dopca	118.73	320	⇓	*i*P	PKPdf	21 51 50.7	+0.5	
KWP	Kalwaria Pacla	118.73	325		*e*PKP	PKPdf	21 51 50.6	+0.5	
KWP	Kalwaria Pacla	118.73	325		*e*PKIKP	PKPdf	21 51 50.6	+0.5	
N49A	Columbus Grove baz=290	118.94	46		P	PKPdf	21 51 50.9	+0.2	
P49A	Miami Univ. Ec baz=288	119.00	48		P	PKPdf	21 51 51.1	+0.2	
Q49A	Aurora baz=288	119.04	48		P	PKPdf	21 51 51.2	+0.2	
O49A	Covington baz=289	119.07	47		P	PKPdf	21 51 51.2	+0.2	
W49A	Belvidere baz=285	119.08	53		P	PKPdf	21 51 50.6	-0.5	
T49A	Edmonton baz=287	119.11	50		P	PKPdf	21 51 51.2	+0.1	
VOIR		119.16	320	⇑	*i*P	PKPdf	21 51 51.4	+0.3	
VOIR		119.16	320	⇑	PKIKP	PKPdf	21 51 51.4	+0.3	
X49A	Woodville baz=285	119.18	53		P	PKPdf	21 51 51.1	-0.2	
V49A	McMinnville baz=286	119.19	52		P	PKPdf	21 51 51.1	-0.3	
149A	Jones baz=283	119.26	56		P	PKPdf	21 51 51.9	+0.4	
Z49A	Columbiana baz=284	119.33	55		P	PKPdf	21 51 52.0	+0.3	
D50A	G1974 Best Tow baz=297	119.41	38		P	PKPdf	21 51 51.6	+0.2	
ARR	Arges	119.45	320	⇓	*i*P	PKPdf	21 51 52.4	+0.7	
MATQ	Matagami baz=300	119.48	34		P	PKPdf	21 51 50.3	-1.2	
CJR	Cluj-Napoca	119.53	322	⇑	*i*P	PKPdf	21 51 52.0	+0.3	
CJR	Cluj-Napoca	119.53	322	⇑	PKIKP	PKPdf	21 51 52.0	+0.3	
TRPA	Tarpa	119.54	323	⇑	*i*P	PKPdf	21 51 51.0	-0.6	
HUMR	Humele	119.57	319	⇑	*i*P	PKPdf	21 51 51.4	-0.4	
O50A	Cable baz=290	119.61	47		P	PKPdf	21 51 52.2	+0.2	
T50A	Nancy baz=287	119.67	50		P	PKPdf	21 51 52.2	-0.1	
R50A	Paris baz=288	119.68	49		P	PKPdf	21 51 52.3	+0.1	
N50A	Nevada baz=290	119.73	46		P	PKPdf	21 51 52.4	+0.1	
PLCA	Paso Flores comp=Z,1.9nm,0.7s,baz=256,slow=2.2,SNR=9.8	119.80	144		PKP	PKPdf	21 51 53.0	+0.5	
PLCA	comp=Z,1.8nm,0.8s,baz=161,slow=2.7,SNR=7.5				PKKPbc	PKKPbc	22 02 01.8	-1.8	
PLCA	Paso Flores	119.80	144		*e*PKIKP	PKPdf	21 51 53.0	+0.5	
W50A	Signal Mountai baz=286	119.81	52		P	PKPdf	21 51 52.7	+0.1	
S50A	Richmond baz=288	119.81	49		P	PKPdf	21 51 52.5	+0.1	
U50A	Jamestown baz=287	119.84	51		P	PKPdf	21 51 52.7	+0.1	
V50A	Pikevile baz=286	119.85	52		P	PKPdf	21 51 52.7	+0.1	
150A	Eclectic baz=284	119.89	56		P	PKPdf	21 51 53.1	+0.4	
KLBO	Killbear Provi baz=295	119.96	40		P	PKPdf	21 51 51.6	-0.9	
LOT	Lotru	119.97	320	⇑	*i*P	PKPdf	21 51 52.4	-0.3	
DRGR		120.05	322	⇑	*i*P	PKPdf	21 51 52.4	-0.4	
DRGR		120.05	322	⇑	PKIKP	PKPdf	21 51 52.4	-0.4	
OJC	Ojcow	120.07	327		*e*PKP	PKPdf	21 51 53.1	+0.5	
OJC	Ojcow	120.07	327		*e*PKIKP	PKPdf	21 51 53.1	+0.5	
ELFO	Elginfield baz=293	120.11	43		P	PKPdf	21 51 52.5	-0.4	
Q51A	Peebles baz=289	120.17	48		P	PKPdf	21 51 53.4	+0.3	
LSQQ	Lebel-sur-Quev baz=300	120.20	35		P	PKPdf	21 51 52.6	-0.3	
NIE	Niedzica	120.21	326		*e*PKP	PKPdf	21 51 53.7	+0.7	
NIE	Niedzica	120.21	326		*e*PKIKP	PKPdf	21 51 53.7	+0.7	
N51A	Ashland baz=291	120.23	45		P	PKPdf	21 51 53.3	+0.1	
DEV	Deva	120.33	321	⇑	*i*P	PKPdf	21 51 53.4	+0.2	
DEV	Deva	120.33	321	⇑	PKIKP	PKPdf	21 51 53.4	+0.2	
CRAR	CRAIOVA	120.43	319	⇑	*i*P	PKPdf	21 51 54.1	+0.7	
CRAR	CRAIOVA	120.43	319	⇑	PKIKP	PKPdf	21 51 54.1	+0.7	
S51A	Beattyville baz=288	120.43	49		P	PKPdf	21 51 53.9	+0.3	
BUKO	Buck Lake baz=296	120.44	40		P	PKPdf	21 51 52.7	-0.7	
151A	Opelika baz=284	120.47	55		P	PKPdf	21 51 54.2	+0.3	
251A	Midway baz=284	120.51	56		P	PKPdf	21 51 54.2	+0.3	
GZR	Gura Zlata	120.63	321	⇑	*i*P	PKPdf	21 51 53.8	-0.1	
GZR	Gura Zlata	120.63	321	⇑	PKIKP	PKPdf	21 51 53.8	-0.1	
SRE	Strehaia	120.67	320	⇓	*i*P	PKPdf	21 51 54.8	+0.9	
SRE	Strehaia	120.67	320	⇓	PKIKP	PKPdf	21 51 54.8	+0.9	
LANS	Liptovska Anna	120.81	326		*e*PKIKP	PKPdf	21 51 55.3	+1.2	
LANS	Liptovska Anna	120.81	326		*e*PKP	PKPdf	21 51 55.3	+1.2	
P52A	Corning baz=291	120.86	47		P	PKPdf	21 51 54.1	-0.3	
TKL	Tuckaleechee C comp=Z,4.5nm,0.8s,baz=158,slow=5.9,SNR=7.1	120.89	52		PKP	PKPdf	21 51 54.7	0.0	
SADO	Sadowa comp=Z,7.4nm,0.8s,baz=320,slow=0.6,SNR=4.9	120.89	40		PKP	PKPdf	21 51 53.9	-0.4	
W52A	Murphy baz=287	120.93	52		P	PKPdf	21 51 55.3	+0.6	
152A	Waverly Hall baz=285	120.94	55		P	PKPdf	21 51 55.3	+0.5	
V52A	Sevierville baz=287	120.97	51		P	PKPdf	21 51 55.4	+0.6	
Z52A	Williamson baz=285	121.05	54		P	PKPdf	21 51 55.5	+0.5	
ALGO	Algonquin Park baz=298	121.05	39		P	PKPdf	21 51 54.7	0.0	
T52A	Hallie baz=288	121.06	50		P	PKPdf	21 51 55.2	+0.3	
HERR	Herculane	121.08	320	⇓	*i*P	PKPdf	21 51 54.7	0.0	
X52A	Dahlonega baz=286	121.09	53		P	PKPdf	21 51 55.5	+0.5	
E53A	Dumoine, Ponti baz=298	121.10	38		P	PKPdf	21 51 54.4	-0.3	
TYNO	Tyneside baz=294	121.12	42		P	PKPdf	21 51 55.4	+0.6	
Y52A	Lilburn baz=286	121.16	54		P	PKPdf	21 51 55.9	+0.7	
CHGQ	Chibougamau baz=303	121.21	33		P	PKPdf	21 51 53.2	-1.6	
BZS	Buzias	121.26	321	⇑	*i*P	PKPdf	21 51 55.0	0.0	
BZS	Buzias	121.26	321	⇑	PKIKP	PKPdf	21 51 55.0	0.0	
D54A	Lac Fusel, La baz=300	121.33	37		P	PKPdf	21 51 54.5	-0.6	
E54A	Lac Daplat, Po baz=299	121.36	38		P	PKPdf	21 51 54.9	-0.3	
P53A	Whipple baz=291	121.44	47		P	PKPdf	21 51 55.7	+0.2	
W53A	Cullowhee baz=287	121.51	52		P	PKPdf	21 51 56.4	+0.5	
VTS	Vitosha	121.53	317		*e*PKPdf	PKPdf	21 51 55.9	0.0	
VTS	Vitosha	121.53	317	⇑	*i*P	PKPdf	21 51 55.6	-0.2	
VTS	Vitosha	121.53	317	⇑	PKIKP	PKPdf	21 51 55.6	-0.2	
MORC	Moravsky Berou	121.54	327	⇑	*i*P	PKPdf	21 51 55.8	+0.3	
MORC	Moravsky Berou	121.54	327	⇑	PKIKP	PKPdf	21 51 55.9	+0.4	
MORC	Moravsky Berou	121.54	327		*e*PKP	PKPdf	21 51 55.8	+0.3	
Y53A	Monroe baz=286	121.55	53		P	PKPdf	21 51 56.4	+0.5	
DRWO	Darlington Wes baz=296	121.55	41		P	PKPdf	21 51 55.0	-0.6	
BANO	Bancroft baz=297	121.56	39		P	PKPdf	21 51 53.9	-1.7	
DRCO	St. Marys Ceme baz=296	121.57	41		P	PKPdf	21 51 56.0	+0.4	
X53A	Estanollee baz=287	121.59	53		P	PKPdf	21 51 56.9	+0.9	
U53A	Fall Branch baz=288	121.60	50		P	PKPdf	21 51 56.5	+0.5	
KSP	Ksiaz	121.61	329		*e*PKP	PKPdf	21 51 56.4	+0.9	
KSP	Ksiaz	121.61	329		*e*PKIKP	PKPdf	21 51 56.4	+0.9	
V53A	Saluda baz=288	121.63	51		P	PKPdf	21 51 56.7	+0.5	
BANR	Banloc	121.67	321	⇓	*i*P	PKPdf	21 51 56.5	+0.7	
PEMO	Pembroke baz=298	121.68	38		P	PKPdf	21 51 55.8	0.0	
Z53A	Monticello baz=286	121.71	54		P	PKPdf	21 51 56.9	+0.7	
KRLC	Kraliky	121.78	328		*e*PKPdf	PKPdf	21 51 56.4	+0.4	
KRLC	Kraliky	121.78	328		*e*PKIKP	PKPdf	21 51 56.4	+0.4	
DPC	Dobruska-Polom	121.87	328		*e*PKPdf	PKPdf	21 51 56.6	+0.5	
DPC	Dobruska-Polom	121.87	328		*e*PKIKP	PKPdf	21 51 56.6	+0.5	
N54A	Moraine State baz=293	121.89	45		P	PKPdf	21 51 56.9	+0.5	
M54A	Oil Creek Stat baz=294	121.90	44		P	PKPdf	21 51 56.9	+0.5	
JAVC	Velka Javorina	121.97	326		*e*PKP	PKPdf	21 51 57.6	+1.2	
DELO	Deloro Mine baz=297	121.98	40		P	PKPdf	21 51 56.4	0.0	
PLVO	Plevna baz=298	122.08	39		P	PKPdf	21 51 56.2	-0.4	
G55A	Calabogie baz=298	122.21	39		P	PKPdf	21 51 57.1	+0.3	
Y54A	Tignall baz=287	122.26	53		P	PKPdf	21 51 58.0	+0.7	
VRAC	Vranov	122.32	327	⇑	*i*P	PKPdf	21 51 57.2	+0.2	
VRAC	Vranov	122.32	327	⇑	PKIKP	PKPdf	21 51 57.2	+0.2	
VRAC	Vranov	122.32	327		*e*PKP	PKPdf	21 51 57.0	0.0	
MODS	Modra-Piesok	122.45	326		*e*PKIKP	PKPdf	21 51 57.1	-0.2	
MODS	Modra-Piesok	122.45	326		*e*PKP	PKPdf	21 51 57.1	-0.2	
VAY	Valandovo	122.49	316		*i* P	PKPdf	21 51 56.8	-0.7	
KRUC	Moravsky	122.56	327		*e*PKP	PKPdf	21 51 57.7	+0.3	
STIP	Stip	122.60	317		*i* P	PKPdf	21 51 56.8	-1.0	
FRGS	Fruska Gora	122.60	321	⇑	*i*P	PKPdf	21 51 57.4	-0.2	
PVCC	Panska Ves	122.68	329		*e*PKPdf	PKPdf	21 51 58.5	+0.9	
PVCC	Panska Ves	122.68	329		*e*PKIKP	PKPdf	21 51 58.5	+0.9	
BRG	Berggiesshubel comp=Z,16nm,0.9s	122.79	330		*i* PKP	PKPdf	21 51 58.2	+0.4	
BRG	Berggiesshubel comp=Z,16nm,0.9s	122.79	330		*i* PKIKP pmax	PKPdf pmax	21 51 58.2	+0.4	
MORH	M¨‡r¡gy, Hung	122.79	323	⇑	*i*P	PKPdf	21 51 57.8	-0.1	
ORIO	Orleans, Innes baz=300	122.86	38		P	PKPdf	21 51 58.3	+0.2	
TREC	Trest	122.92	327		*e*PKPdf	PKPdf	21 51 58.9	+0.8	
TREC	Trest	122.92	327		*e*PKIKP	PKPdf	21 51 58.9	+0.8	
KMSC	Kings Mountain baz=289	122.94	51		P	PKPdf	21 51 58.8	+0.3	
IDI	Anoyia	122.97	309	⇓	*i*P	PKPdf	21 51 59.4	+0.7	
DIVS	Divibare	122.98	320	⇑	*i*P	PKPdf	21 51 58.5	0.0	
SKO	Skopje	122.98	317		*i* P	PKPdf	21 51 58.7	+0.2	
CLL	Collm comp=Z,13nm,0.8s	122.99	330	⇑	*i*PKPdf	PKPdf	21 51 58.3	+0.2	
CLL					*e*PS	PS	22 03 39.0	+4.9	
CLL					*e*PPS	PPS	22 04 57.0		
CLL					*e*SS	SS	22 10 36.0	+19	
CLL					*e*SSS	SSS	22 14 54.0		
CLL	Collm comp=Z,13nm,0.8s	122.99	330	⇑	*i*PKIKP pmax	PKPdf pmax	21 51 58.3	+0.2	
ALFO	Alfred baz=300	123.15	38		P	PKPdf	21 51 58.5	-0.2	
O56A	Blue Knob Stat baz=294	123.16	45		P	PKPdf	21 51 59.4	+0.5	
KRUS	Krusevo	123.37	317		*i* P	PKPdf	21 51 59.2	-0.1	
BBLS	Lazići	123.47	320	⇑	*i*P	PKPdf	21 51 59.4	0.0	
BIA	Bitola	123.47	316		*i* P	PKPdf	21 51 59.5	+0.1	
SSPA	Standing Stone	123.48	44		*e*PKPdf	PKPdf	21 51 59.9	+0.4	
CONA	Conrad Observa comp=Z,9.3nm,0.8s,SNR=5.6	123.49	326		*e*PKiKP	PKiKP	21 51 59.6	0.0	
HAPS	Han Pijesak,Bl	123.65	321	⇑	*i*P	PKPdf	21 51 59.4	-0.4	
OHR	Ohrid	123.79	317		*i* P	PKPdf	21 52 01.0	+0.9	
NKC	Novy Kostel	123.94	330		*e*PKPdf	PKPdf	21 52 00.7	+0.6	
NKC	Novy Kostel	123.94	330		*e*PKIKP	PKPdf	21 52 00.7	+0.6	
KHC	Kasperske Hory	124.03	328		*e*PKPdf	PKPdf	21 52 00.8	+0.5	
KHC	Kasperske Hory	124.03	328		*e*PKIKP	PKPdf	21 52 00.8	+0.5	
ARSA	Arzberg comp=Z,4.7nm,0.9s	124.06	325		*e*PKPdf	PKPdf	21 51 59.9	-0.4	
UPM	Unac-Piva	124.10	320		*e*P	PKPdf	21 52 00.6	-0.2	
GEC2	GERESS Array S	124.14	328		*e*PKPdf	PKPdf	21 52 01.1	+0.5	
GEC2	GERESS Array S	124.14	328		*e*PKIKP	PKPdf	21 52 01.1	+0.5	
GERES	GERESS Array B comp=Z,9.8nm,0.6s,baz=70,slow=1.7,SNR=105	124.14	328		PKP	PKPdf	21 52 00.9	+0.4	
GERES	GERESS Array B	124.14	328		PKIKP	PKPdf	21 52 01.0	+0.4	
PDG	Podgorica	124.23	319	⇓	*i*P	PKPdf	21 52 00.6	-0.2	
PDG	Podgorica	124.23	319		*e*P	PKPdf	21 52 00.2	-0.6	
DRME	Dracevica, Mon	124.39	319		*e*P	PKPdf	21 51 59.3	-1.9	
MOA	Molln comp=Z,3.2nm,0.8s	124.42	327		*e*PKiKP	PKPdf	21 52 01.0	0.0	
BRY	Bratogost	124.48	320		*e*P	PKPdf	21 52 00.3	-1.2	
SOKA	Soboth comp=Z,12nm,1.0s	124.66	325		*i* PKiKP	PKPdf	21 52 01.7	+0.1	
HCY	Herceg Novi	124.72	319		*e*P	PKPdf	21 52 01.7	-0.1	
GCIS	Gornji Cirnik	124.76	324		*e*PKPdf	PKPdf	21 52 02.4	+0.7	
GCIS	Gornji Cirnik	124.76	324		*e*PKPdf	PKPdf	21 52 02.4	+0.7	
N59A	State Game Lan baz=297	124.81	43		P	PKPdf	21 52 02.5	+0.4	
CRES	Cresnjev	124.88	324		*e*P	PKPdf	21 52 02.3	+0.3	
OBKA	Obir comp=Z,4.2nm,0.6s	125.03	325		*e*PKPdf	PKPdf	21 52 01.6	-0.7	
BOJS	Bojanci	125.18	324		*i* PKPdf	PKPdf	21 52 03.4	+0.8	
BOJS	Bojanci	125.18	324		*i* PKPdf	PKPdf	21 52 03.4	+0.8	
LJU	Ljubljana	125.30	325		*e*P	PKPdf	21 52 03.1	+0.3	
KBA	Koelnbreinsper comp=Z,12nm,1.3s	125.38	326		*e*PKiKP	PKPdf	21 52 02.7	-0.4	
MYKA	Terra Mystica comp=Z,13nm,1.0s	125.47	326		*e*PKiKP	PKiKP	21 52 04.2	+0.7	
CEY	Cerknica	125.53	324		*e*P	PKPdf	21 52 02.5	-0.8	
ABTA	Abfaltersbach comp=Z,15nm,0.8s	126.03	326		*e*PKiKP	PKPdf	21 52 04.1	-0.2	
WATA	Walderalm comp=Z,6.7nm,0.6s,SNR=7.5	126.18	327		*e*PKiKP	PKiKP	21 52 04.9	-0.2	
WTTA	Wattenberg comp=Z,17nm,0.9s	126.20	327		*i* PKiKP	PKiKP	21 52 05.1	0.0	
MOTA	Moosalm comp=Z,12nm,0.6s,SNR=12	126.43	328		*e*PKiKP	PKPdf	21 52 05.1	0.0	
SQTA	Sankt Quirin comp=Z,18nm,0.9s,SNR=5.8	126.45	327		*e*PKiKP	PKiKP	21 52 05.5	-0.1	
LCO	Las Campanas	126.63	132	*c*	*i*PKIKP	PKPdf	21 52 08.3	+2.1	
MEM	Membach	126.73	333	⇑	PKiKP	PKiKP	21 52 05.9	0.0	
FETA	Feichten comp=Z,20nm,1.0s,SNR=6.2	126.83	328		*i* PKiKP	PKiKP	21 52 06.5	+0.1	
DAVA	Damuels comp=Z,13nm,0.7s	127.11	328		*i* PKiKP	PKiKP	21 52 06.9	0.0	
BCLA	Clavier	127.18	334	⇓	PKiKP	PKiKP	21 52 06.7	-0.1	
BFO	Black Forest comp=Z,2.0nm,2.5s	127.22	330	*c*	*i*PKIKP pmax	PKPdf pmax	21 52 07.0	+0.6	
BFO									
WLF	Walferdange	127.34	333	⇑	PKiKP	PKiKP	21 52 07.6	+0.5	
TIP	Timpagrande	127.42	316	⇓	*i*P	PKPdf	21 52 07.6	+0.5	
DOU	Doubes	127.73	334	⇓	PKiKP	PKiKP	21 52 08.1	+0.3	
OTAV	Otavalo comp=Z,4.0nm,1.0s	129.54	94	*c*	*i*PKIKP pmax	PKPdf pmax	21 52 15.8	+3.4	
OTAV									
ROSC	El Rosal comp=Z,7.1nm,0.7s,baz=233,slow=20,SNR=8.0	134.05	89		PKP	PKPdf	21 52 21.9	+1.1	
KEST	Kesra comp=Z,20nm,0.9s,baz=170,slow=0.8,SNR=9.9	134.25	316		PKP	PKPdf	21 52 20.8	+0.6	
LPAZ	La Paz comp=Z,5.0nm,0.8s,baz=359,slow=1.0,SNR=19	134.93	119		PKP	PKPdf	21 52 23.6	+0.9	
CPUP	Villa Florida comp=Z,3.5nm,0.9s,baz=237,slow=2.6,SNR=6.6	137.57	140		PKP	PKPdf	21 52 27.1	+0.6	
SDV	Santo Domingo comp=Z,20nm,0.2s,baz=256,slow=4.2,SNR=5.5	137.76	83		PKP	PKPdf	21 52 28.2	+0.8	
ESDC	Sonseca Array comp=Z,3.0nm,1.1s,baz=76,slow=26,SNR=5.1	139.58	331		PKhKP	PKPpre	21 52 23.3		
ESDC					PKP	PKiKP	21 52 31.7	-0.5	
SJG	San Juan baz=266,slow=16	140.88	68		PKhKP	PKPpre	21 52 28.0		
SJG					PKP	PKPdf	21 52 33.4	+0.7	
SIV	San Ignacio comp=Z,1.4nm,0.7s,baz=222,slow=4.8,SNR=1.6	141.06	124		PKhKP	PKPpre	21 52 27.4		
PCRV	Puerto La Cruz comp=Z,19nm,0.9s,baz=338,slow=5.0,SNR=2.8	143.60	80		PKhKP	PKPpre	21 52 32.8		
SPB	Sao Paulo	145.51	148		*e*PKPdf	PKPab	21 52 41.4	+0.3	
PTGA	Pitinga comp=Z,20nm,0.8s,baz=253,slow=3.2,SNR=34	147.66	100		PKPbc	PKPbc	21 52 48.2	+0.7	
TORD	Torodi Ar. Bea comp=Z,44nm,1.1s,baz=122,slow=5.4,SNR=59	149.59	287		PKPbc	PKPbc	21 52 50.5	-1.8	
TOA1	Torodi Ar. Sit	149.59	287		*e*PKPdf	PKPbc	21 52 50.5	-1.8	
BDFB	Brasilia comp=Z,4.2nm,1.0s,baz=350,slow=2.6,SNR=3.7	151.24	137		PKP	PKPdf	21 52 51.3	+0.8	
BDFB					PKPbc	PKiKP	21 52 57.2	+0.3	
MDP	Montagnes des comp=Z,22nm,0.8s,baz=255,slow=1.2,SNR=28	155.64	90		PKPab	PKPab	21 53 21.3	-1.7	
KIC	Kosan Boka comp=Z,13nm,0.9s,baz=204,slow=2.8,SNR=3.9	156.67	273		*e*PKP2	PKPab	21 53 27.7	+0.2	
DBIC	Dimbokro comp=Z,48nm,0.8s	156.78	274		PKPab	PKPab	21 53 27.8	-0.1	
TIC	Toumodi	156.94	274		*e*PKP2	PKPab	21 53 28.8	+0.1	
LIC	Lamto comp=Z,87nm,1.3s	156.96	273		*e*PKP2	PKPab	21 53 28.8	+0.1	

MEX 11 21:36:29.4±0.4, 15.95N×98.28W, h5km, MD3.5, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.47	18	*i* P		Pg	21 36 37.7	-0.8
PNIG				*e*S		Sg	21 36 44.9	+0.2
TLIG	Tlapa	1.63	350	*e*P		Pn	21 36 55.9	-3.1
TLIG				*i* S		Sn	21 37 15.8	-4.6

SGS 11 21:42:46.3, 29.32N×48.09E, h51km
DSN 11 21:42:55.9±0.9, 28.95N×48.18E, h10km, ML2.9/9, Error ellipse: s-maj=29.3km s-min=7.9km az=20.0

ISC 11 21:42:54.2±5.1, 29.0N±0.2×48.0E±0.2, h14km, n12, σ0.62/13, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KFJS		0.77	184	S		Sb	21 43 19.6	-0.2
BOQSS		3.31	158	P		Pn	21 43 38.6	-7.0
SHME	Shamm	7.78	110	P		Pn	21 44 46.7	-0.4
SHME				S		Sn	21 46 15.1	0.0
ASUD	Al Ashush, Dub	7.83	122	P		Pn	21 44 48.8	+1.0
NAZ	Nazwa, Dubai	7.89	118	P		Pn	21 44 49.2	+0.6
FAQ	Al Faqa, Dubai	7.96	120	P		Pn	21 44 49.8	+0.1
MSFE	Esma-Masafi	8.10	114	P		Pn	21 44 51.6	+0.1
UOSS	Minazif	8.33	117	P		Pn	21 44 54.3	-0.4
HATD	Hatta, Dubai	8.34	118	P		Pn	21 44 55.6	+0.8
ASHO	Ashiyiah SNR=6.9	8.35	119	*i* P		Pn	21 44 55.7	+0.7
ASHO				S		Sn	21 46 29.1	-0.1
ALNE	Al Ain SNR=5.6	8.48	123	*i* P		Pn	21 44 56.7	0.0
SOHO	SOHO SNR=6.3	9.02	120	*i* P		Pn	21 45 03.0	-1.0

MAN 11 21:52:31.5, 11.59N×124.69E, h3km, mb4.4, ML3.2, MS3.0, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PLP	Palo	0.51	147	⇑ *e*P		Pg	21 52 41.1	-0.2
PLP				*e*S		Sb	21 52 49.9	-1.1
OCLP	Ormoc	0.55	189	*e*P		Pg	21 52 39.6	-2.4
OCLP				*e*S		Sg	21 52 46.4	-2.7
BESP	Borongan	0.73	89	*e*P		Pb	21 52 47.3	+0.4
BESP				*e*S		Sg	21 52 53.6	-1.4
CNP	Catarman	0.91	358	*e*P		Pg	21 52 48.7	-0.3
CNP				*e*S		Sg	21 52 57.4	-3.5
MSLP	Maasin	1.46	174	*e*P		Pn	21 52 57.0	-1.8
MSLP				*e*S		Sb	21 53 12.7	-5.7

PGC 11 21:55:56.0, 52.06N×131.67W, h21km, 132km south of Sandspit, Bc Haida Gwaii Region
ISCJB 11 21:55:57.5±0.7, 52.28N±0.06×131.6W±0.1, h10km, mb3.5/3, Error ellipse: s-maj=12.0km s-min=5.8km az=141.1
IDC 11 21:55:57.4±1.1, 52.20N×131.61W, h0km, mb3.6/3, mb1 3.9/11, mb1mx3.7/57, mbtmp3.7/11, ML3.5/7, Error ellipse: s-maj=13.5km s-min=5.9km az=38.0

ISC 11 21:55:59.2±1.0, 52.4N±0.1×131.45W±0.10, h10km, n20, σ0.93/15, mb3.5/3, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
H02S1	DAWSON INLET T	1.01	322	Pg		Pg	21 56 17.7	-0.9
H02S1				Lg		Lg	21 56 35.0	
H02N1	VAN INLET T-PH	1.07	322	Pg		Pg	21 56 18.8	-1.1
H02N1				Lg		Lg	21 56 36.4	
BBB	Bella Bella 28nm,0.3s,baz=275,slow=17,SNR=64	2.06	95	Pn		Pn	21 56 32.9	-1.0
BBB	43nm,0.3s,baz=272,slow=16,SNR=57			Pg		Pb	21 56 35.9	-0.8
BBB	63nm,0.3s,baz=166,slow=21,SNR=10			Sn		Sn	21 57 00.0	+0.4
BBB	267nm,0.3s,baz=180,slow=20,SNR=18			Lg		Lg	21 57 04.9	
DLBC	Dease Lake 2.4nm,0.3s,baz=193,slow=14,SNR=37	6.10	7	Pn		Pn	21 57 34.1	+4.7
DLBC	2.3nm,0.3s,baz=175,slow=20,SNR=4.0			Sn		Sn	21 58 45.8	+6.7
DLBC	3.3nm,0.3s,baz=273,slow=20,SNR=5.2			Lg		Lg	21 59 11.9	
NEW	Newport 0.3nm,0.3s,baz=316,slow=12,SNR=3.8	10.05	109	Pn		Pn	21 58 22.9	-0.7
NEW	0.2nm,0.3s,baz=35,slow=18,SNR=5.4			Lg		Lg	22 01 11.0	
YBH	Yreka Blue Hor 0.1nm,0.3s,baz=328,slow=9.4,SNR=5.2	12.22	147	Pn		Pn	21 58 53.4	+0.1
YKA	Yellowknife Ar 0.1nm,0.3s,baz=232,slow=13,SNR=2.8	13.53	35	Pn		Pn	21 59 12.0	+1.1
ILAR	Eielson Array 0.0nm,0.3s,baz=142,slow=13,SNR=3.1	14.71	333	Pn		Pn	21 59 28.5	+1.4
INK	Inuvik 0.0nm,0.3s,baz=169,slow=14,SNR=2.6	15.98	357	Pn		P	21 59 47.5	+0.2
NVAR	Mina Array Bea 0.1nm,0.3s,baz=319,slow

Las Casas, Tapachula and Tuxtla Gutierrez, Mexico.
IDC ***11*** *22:15:00.8₀2.5, 14˚.19N×92˚.14W, h34$^{km}_{s}$, 18^{km}, mb4.8/28, mb1 5.0/31, mb1mx5.0/34, mbtmp5.0/31, ML4.6/3, MS6.1/14, Ms1 6.1/14, ms1mx5.7/31 Error ellipse: s-maj=15.9km s-min=9.6km az=56.0*
MOS ***11*** *22:15:00.7±1.1, 14˚.32N×92˚.09W, h36^{km}, mb5.8/76, MS6.3/85, Error ellipse: s-maj=7.0km s-min=3.9km az=105.0*
BJI ***11*** *22:15:00.2, 14˚.21N×92˚.17W, h30^{km}, mB6.4/31, Ms6.5/64, Ms7 6.5/59*
NEIC ***11*** *22:15:01.0±0.0, 14˚.11N×92˚.23W, h15^{km}, Moment Tensor Solution. s79 Moment tensor: Scale 10^{18}Nm; Mrr3.36; Mθθ-2.53; Mϕϕ-0.83; Mrθ6.04; Mrϕ1.07; Mθr-2.56; Best double couple: M$_o$7.30000×10^{18} NP1:ϕ$_s$113.00000°, δ77.00000°, λ89.00000°. NP2:ϕ$_s$298.00000°, δ13.00000°, λ94.00000°. Principal axes: T 7.4600, Plg57.0000°, Azm21.0000°; N -0.3100, Plg0.0000°, Azm113.0000°; P -7.1500, Plg31.0000°, Azm204.0000°;*
ISCJB ***11*** *22:15:02.6±0.3, 14˚.22N±0˚.01×92˚.15W±0˚.01, h60^{km}±2^{km}, mb5.7/466 Error ellipse: s-maj=2.8km s-min=1.7km az=136.3*
GCMT ***11*** *22:15:06.2±0.1, 13˚.94N×92˚.68W, h12^{km}, MW6.4/141, Moment Tensor Solution. s141,c348; s137,c567; Duration: 4±0 Moment tensor: Scale 10^{18}Nm; Mrr3.30±.02; Mθθ-3.04±.01; Mϕϕ-0.25±.02; Mrθ3.66±.04; Mϕθ1.24±.01; Mϕr-2.21±.05; Best double couple: M$_o$5.46800×10^{18} NP1:ϕ$_s$119.00000°, δ71.00000°, λ96.00000°. NP2:ϕ$_s$282.00000°, δ20.00000°, λ74.00000°. Principal axes: T 5.3990, Plg64.0000°, Azm38.0000°; N 0.1470, Plg5.0000°, Azm297.0000°; P -5.5370, Plg26.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
NEIC ***11*** *22:15:25.3±0.0, 14˚.20N×92˚.30W, h21^{km}, Moment Tensor Solution. s76 Moment tensor: Scale 10^{18}Nm; Mrr3.76; Mθθ-3.23; Mϕϕ-0.53; Mrθ3.79; Mϕθ1.20; Mθr-2.43; Best double couple: M$_o$5.80000×10^{18} NP1:ϕ$_s$283.00000°, δ21.00000°, λ74.00000°. NP2:ϕ$_s$120.00000°, δ70.00000°, λ96.00000°. Principal axes: T 5.9200, Plg64.0000°, Azm39.0000°; N -0.1600, Plg6.0000°, Azm298.0000°; P -5.7600, Plg25.0000°, Azm205.0000°;*

ISC 11 22:14:59.1±0.4, 14˚.07N±0˚.03×92˚.33W±0˚.03, h19^{km}±1^{km}, h19^{km}:pP-P,n2109,σ2s11/1879, mb5.8/487, MS6.3/789, 44C-16D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
THIG		**0.83**	**4**	*e*Pn	**Pg**	**22 15 15.6**	**+0.2**
THIG				*e*Sn	**Sn**	**22 15 29.1**	**+1.4**
THIG		**0.83**	**4**	*e*P	**Pg**	**22 15 15.6**	**+0.2**
THIG				*e*S	**Sn**	**22 15 29.1**	**+1.4**
IXG	**Ixpaco**	**1.82**	**87**	*e*P	**Pn**	**22 15 29.4**	**-0.3**
PCIG		**1.84**	**332**	*e*Pn	**Pn**	**22 15 27.4**	**-2.2**
PCIG				*e*Sn	**Sn**	**22 15 52.4**	**0.0**
PCIG		**1.84**	**332**	*e*P	**Pn**	**22 15 27.4**	**-2.2**
PCIG				*e*S	**Sn**	**22 15 52.4**	**0.0**
APG	**El Apazote**	**2.03**	**63**	Pg	**Pb**	**22 15 34.7**	**-0.9**
	617nm,0.3s,baz=225,slow=11,SNR=2047						
APG				Lg	Lg	22 16 00.1	
	2µm,0.3s,baz=233,slow=5.6,SNR=5.1						
APG				LR	LR	22 16 03.5	
	comp=Z,109µm,20.2s,baz=238,slow=35						
CCIG	**Comitan**	**2.21**	**5**	*e*Pn	**Pb**	**22 15 37.5**	**-1.0**
CCIG				*e*Sn	**Sn**	**22 15 59.4**	**-2.5**
CCIG	**Comitan**	**2.21**	**5**	*e*P	**Pn**	**22 15 35.9**	**+1.0**
CCIG				*e*S	**Sb**	**22 16 04.5**	**-1.1**
RTR	**El Retiro**	**2.61**	**93**	*e*P	**Pn**	**22 15 41.1**	**+0.5**
CEVE	**Cerro Verde**	**2.64**	**95**	*e*P	**Pn**	**22 15 42.1**	**+1.1**
SBLS	**San Blas**	**2.64**	**95**	*e*P	**Pn**	**22 15 41.5**	**+0.6**
SBLS				*e*P	**Pb**	**22 15 41.9**	**-4.1**
SNJE	**San Jose**	**2.65**	**94**	*e*P	**Pn**	**22 15 41.2**	**+0.1**
TGIG		**2.80**	**344**	*e*Pn	**Pn**	**22 15 43.2**	**+0.2**
TGIG				*e*Sn	**Sn**	**22 16 18.5**	**+2.3**
TGIG		**2.80**	**344**	*e*P	**Pn**	**22 15 43.2**	**+0.2**
TGIG				*e*S	**Sn**	**22 16 18.5**	**+2.3**
MTO3	**Montecristo**	**2.90**	**83**	*e*P	**Pn**	**22 15 44.2**	**-0.3**
BOQS	**Boqueron**	**2.98**	**96**	*e*P	**Pn**	**22 15 46.6**	**+0.9**
UEES	**San Salvador**	**3.02**	**96**	*e*P	**Pn**	**22 15 47.1**	**+1.1**
UEES				*e*S	**Sb**	**22 16 27.2**	**-1.7**
SNET	**Serv Nac Est T**	**3.04**	**97**	*e*Pn	**Pn**	**22 15 46.7**	**+0.5**
SNET				*e*Sn	**Sn**	**22 16 20.3**	**-1.9**
SNET	**Serv Nac Est T**	**3.04**	**97**	*e*P	**Pn**	**22 15 46.9**	**+0.7**
SNET				*e*S	**Sb**	**22 16 26.6**	**-2.8**
SOYA	**Soyapango**	**3.11**	**96**	*e*P	**Pn**	**22 15 48.6**	**+1.4**
LFU	**La Fuente**	**3.14**	**95**	*e*P	**Pn**	**22 15 48.6**	**+0.9**
LFRS	**El Faro**	**3.21**	**98**	*e*P	**Pn**	**22 15 49.9**	**+1.2**
LBRS	**Las Brisas**	**3.21**	**96**	*e*P	**Pn**	**22 15 49.4**	**+0.7**
PAVA	**Las Pavas**	**3.32**	**96**	*e*P	**Pn**	**22 15 51.5**	**+1.4**
SNVI	**San Vicente**	**3.42**	**97**	*e*P	**Pn**	**22 15 54.1**	**+2.4**
CMIG	**Matias Romero**	**3.88**	**321**	Pn	**Pn**	**22 15 56.6**	**-1.2**
	24nm,0.3s,baz=157,slow=11,SNR=42						
CMIG				Sn	**Sb**	**22 16 50.1**	**-3.5**
	526nm,0.3s,baz=113,slow=12,SNR=10						
CMIG	**Matias Romero**	**3.88**	**321**	*e*Pn	**Pn**	**22 15 55.9**	**-1.9**
CMIG				*e*Sn	**Sb**	**22 16 50.1**	**-3.5**
CMIG	**Matias Romero**	**3.88**	**321**	*e*P	**Pn**	**22 15 55.9**	**-1.9**
CMIG				*i* S	**Sn**	**22 16 41.9**	**-1.0**
VSM	**San Miguel**	**3.99**	**99**	*e*P	**Pn**	**22 16 02.4**	**+2.8**
LCND	**La Ca˜–ada**	**4.38**	**99**	*e*P	**Pn**	**22 16 05.6**	**+0.9**
TUIG	**Tuzandepetl**	**4.42**	**333**	*e*Pn	**Pn**	**22 16 05.8**	**+0.5**
TUIG	**Tuzandepetl**	**4.42**	**333**	*e*P	**Pn**	**22 16 05.1**	**-0.2**
TUIG				*i* S	**Sn**	**22 16 56.5**	**+0.2**
TGUH	**Tegucigalpa,Un**	**4.91**	**90**	*e*Pn	**Pn**	**22 16 11.9**	**0.0**
TGUH				*e*Sn	**Sn**	**22 17 05.5**	**-2.8**
VHO	**Vista Hermosa**	**5.19**	**306**	*e*Pn	**Pn**	**22 16 14.7**	**-1.2**
VHO	**Vista Hermosa**	**5.19**	**306**	*e*P	**Pn**	**22 16 14.3**	**-1.6**
VHO				*i* S	**Sn**	**22 17 13.4**	**-2.0**
CRIN	**San Cristobal**	**5.32**	**104**	*e*P	**Pn**	**22 16 19.9**	**+2.3**
CRIN				*e*S	**Sb**	**22 17 28.8**	**-6.3**
TELN	**Telica**	**5.55**	**105**	*e*P	**Pn**	**22 16 23.0**	**+2.1**
CNGN	**Cerro Negro**	**5.70**	**105**	*e*P	**Pn**	**22 16 23.5**	**+0.6**
ESTN	**Estel**	**5.88**	**99**	*e*Pn	**Pn**	**22 16 25.3**	**0.0**
ESTN				*e*Sn	**Sn**	**22 17 30.7**	**-1.7**
ESTN	**Estel**	**5.88**	**99**	*e*P	**Pn**	**22 16 27.3**	**+2.0**
ESTN				*e*S	Sn	22 17 41.9	+10
MOMN	**Momotombo**	**5.88**	**106**	*e*P	**Pn**	**22 16 27.5**	**+2.2**
COPN	**Copaltepe**	**5.90**	**108**	*e*P	**Pn**	**22 16 27.0**	**+1.5**
PNIG	**Pinotepa**	**6.05**	**293**	*e*Pn	**Pn**	**22 16 25.4**	**-2.3**
PNIG	**Pinotepa**	**6.05**	**293**	*e*P	**Pn**	**22 16 25.4**	**-2.3**
PNIG				*e*S	**Sn**	**22 17 33.0**	**-3.5**
MGAN	**Managua**	**6.23**	**107**	*e*P	**Pn**	**22 16 32.1**	**+2.1**
MATN	**Matagalpa**	**6.33**	**100**	*e*P	**Pn**	**22 16 33.9**	**+2.3**
MASN	**Masaya**	**6.37**	**108**	*e*P	**Pn**	**22 16 36.5**	**+4.5**
TPIG	**Tehuac#an**	**6.48**	**313**	*e*Pn	**Pn**	**22 16 35.9**	**+2.2**
TPIG	**Tehuac#an**	**6.48**	**313**	*e*P	**Pn**	**22 16 32.1**	**-1.6**
TPIG				*i* S	**Sn**	**22 17 46.4**	**-1.0**
BOAB	**BOACO BROADBAN**	**6.69**	**103**	*e*Pn	**Pn**	**22 16 36.1**	**-0.3**
BOAB				*e*Sn	Sn	22 17 39.5	-13
BOAB	**BOACO BROADBAN**	**6.69**	**103**	*e*P	**Pn**	**22 16 37.5**	**+1.1**
LVIG	**Laguna Verde**	**6.85**	**326**	*e*Pn	**Pn**	**22 16 35.9**	**-2.8**
LVIG				*e*Sn	**Sn**	**22 17 51.2**	**-4.8**
LVIG	**Laguna Verde**	**6.85**	**326**	*i* P	**Pn**	**22 16 35.8**	**-2.8**
LVIG				*e*S	**Sn**	**22 17 57.5**	**+1.5**
TLIG	**Tlapa**	**6.93**	**301**	*e*Pn	**Pn**	**22 16 39.3**	**-0.6**
TLIG				*e*Sn	**Sn**	**22 17 51.4**	**-7.0**
TLIG	**Tlapa**	**6.93**	**301**	*e*P	**Pn**	**22 16 37.4**	**-2.5**
TLIG				*i* S	**Sn**	**22 17 56.1**	**-2.2**
CONN	**Concepcion**	**7.00**	**110**	*e*P	**Pn**	**22 16 43.8**	**+3.1**
TEIG	**Tepich**	**7.25**	**32**	*e*Pn	**Pn**	**22 16 44.9**	**+0.9**
ACON	**Acoyapa**	**7.28**	**106**	*e*P	**Pn**	**22 16 45.0**	**+0.5**
MYIG	**MOrida**	**7.28**	**19**	*e*Pn	**Pn**	**22 16 45.2**	**+0.6**
MYIG				*e*Sn	**Sn**	**22 18 04.7**	**-2.1**
GB1A	**Borinquen Arri**	**7.50**	**115**	*e*P	**Pn**	**22 16 51.3**	**+3.6**
BUEV	**Buena Vista**	**7.50**	**115**	*e*P	**Pn**	**22 16 50.7**	**+3.0**
VCR	**Vista de Mar**	**7.63**	**120**	*e*P	**Pn**	**22 16 51.3**	**+1.7**
MESS	**Mesas**	**7.72**	**115**	*e*P	**Pn**	**22 16 53.0**	**+2.4**
PLVR	**Palo Verde**	**7.76**	**118**	*e*P	**Pn**	**22 16 52.7**	**+1.4**
MEIG	**Mezcala**	**7.99**	**300**	*e*Pn	**Pn**	**22 16 55.1**	**+0.7**
MEIG	**Mezcala**	**7.99**	**300**	*e*P	**Pn**	**22 16 52.1**	**-2.2**
MEIG				*i* S	**Sn**	**22 18 22.5**	**-1.8**
ESPN	**Las Esperanzas**	**8.04**	**102**	*e*Pn	**Pn**	**22 16 55.1**	**+0.1**
ESPN				*e*Sn	**Sn**	**22 18 17.9**	**-7.6**
ESPN	**Las Esperanzas**	**8.04**	**102**	*e*P	**Pn**	**22 16 57.2**	**+2.2**
PLIG	**Platanillo**	**8.12**	**303**	*e*Pn	**Pn**	**22 16 56.2**	**+0.1**
PLIG	**Platanillo**	**8.12**	**303**	*e*P	**Pn**	**22 16 54.1**	**-2.0**
PLIG				*i* S	**Sn**	**22 18 26.4**	**-1.1**
JTS	**JuntasAbangare**	**8.13**	**117**	Pn	**Pn**	**22 16 56.9**	**+0.6**
	11nm,0.3s,baz=1.6,slow=6.1,SNR=24						
JTS				Sn	**Sn**	**22 18 29.2**	**+1.4**
	14nm,0.3s,baz=277,slow=18,SNR=1.4						
JTS				Lg	Lg	22 19 02.4	
	12nm,0.3s,baz=296,slow=21,SNR=6.5						
JTS	**JuntasAbangare**	**8.13**	**117**	*e*Pn	**Pn**	**22 16 56.8**	**+0.5**
JTS				*e*		22 16 57.4	
JTS				*e*Sn	**Sn**	**22 18 29.2**	**+1.4**
JTS	**JuntasAbangare**	**8.13**	**117**	*e*P	**Pn**	**22 16 59.1**	**+2.8**
CAIG	**El Cayaco**	**8.20**	**292**	*e*Pn	**Pn**	**22 16 56.2**	**-1.0**
CAIG	**El Cayaco**	**8.20**	**292**	*e*P	**Pn**	**22 16 54.2**	**-2.9**
CAIG				*e*S	**Sn**	**22 18 25.6**	**-3.8**
ARE1	**Arenal 1**	**8.26**	**115**	*e*P	**Pn**	**22 17 00.7**	**+2.7**
UNM	**Universidad Na**	**8.39**	**309**	*e*Pn	**Pn**	**22 17 02.2**	**+2.2**
UNM	**Universidad Na**	**8.39**	**309**	*e*P	**Pn**	**22 17 02.2**	**+2.2**
SRA1	**San Ram˜‡n**	**8.64**	**116**	*e*P	**Pn**	**22 17 06.0**	**+2.7**
ARIG	**Puente Sto Nin**	**8.76**	**300**	*e*P	**Pn**	**22 17 05.4**	**+0.4**
ARIG	**Puente Sto Nin**	**8.76**	**300**	*e*P	**Pn**	**22 17 02.8**	**-2.1**
ARIG				*i* S	**Sn**	**22 18 40.6**	**-2.7**
DEIG	**Demacu**	**8.91**	**315**	*e*Pn	**Pn**	**22 17 09.2**	**+2.1**
DEIG	**Demacu**	**8.91**	**315**	*e*P	**Pn**	**22 17 06.4**	**-0.7**
DEIG				*i* S	**Sn**	**22 18 46.9**	**-0.3**
LCR2	**La Lucha 2**	**9.21**	**117**	*e*P	**Pn**	**22 17 12.5**	**+1.2**
CVTR	**Volcan Turrial**	**9.30**	**115**	*i* P	**Pn**	**22 17 15.1**	**+2.5**
URSC	**Urasca**	**9.37**	**116**	*e*P	**Pn**	**22 17 16.6**	**+3.2**
ZIIG	**Zihuatanejo**	**9.47**	**293**	*e*Pn	**Pn**	**22 17 14.4**	**-0.1**
ZIIG	**Zihuatanejo**	**9.47**	**293**	*e*P	**Pn**	**22 17 13.4**	**-1.1**
EDLM	**Las Mercedes**	**9.80**	**118**	*e*P	**Pn**	**22 17 23.7**	**+4.5**
ICCO	**Coco Island**	**9.94**	**148**	*e*P	**Pn**	**22 17 21.0**	**0.0**
EDPN	**Palmar Norte**	**10.07**	**119**	*e*P	Pn	22 17 28.1	+5.3
DRK0	**Durika**	**10.10**	**117**	*e*P	**Pn**	**22 17 27.2**	**+3.8**
EDBA	**Buenos Aires**	**10.12**	**118**	*e*P	**Pn**	**22 17 27.2**	**+3.6**
MOIG	**Morelia**	**10.14**	**305**	*e*Pn	**Pn**	**22 17 26.1**	**+2.0**
MOIG	**Morelia**	**10.14**	**305**	*e*P	**Pn**	**22 17 26.7**	**+2.6**
JRQG	**Juriquilla Cam**	**10.17**	**312**	*e*Pn	**Pn**	**22 17 25.8**	**+1.4**
PTJ1	**Puerto Jim˜ne**	**10.42**	**121**	*e*P	Pn	22 17 32.8	+5.1
BRU2	**Volcan**	**10.81**	**118**	*e*P	**Pn**	**22 17 35.7**	**+2.7**
IGIG	**Irapuato, Guan**	**10.85**	**309**	*e*P	**Pn**	**22 17 36.3**	**+2.5**
IGIG	**Irapuato, Guan**	**10.85**	**309**	*e*P	**Pn**	**22 17 36.3**	**+2.5**
MMIG	**Aquila**	**11.38**	**293**	*e*Pn	**Pn**	**22 17 40.8**	**0.0**
MMIG	**Aquila**	**11.38**	**293**	*e*P	**Pn**	**22 17 40.8**	**0.0**
LNIG	**Linares**	**12.69**	**329**	*e*Pn	**Pn**	**22 18 00.4**	**+1.6**
LNIG				*e*Sn	**Sn**	**22 20 16.2**	**-3.4**
LNIG	**Linares**	**12.69**	**329**	*e*P	**Pn**	**22 17 57.5**	**-1.3**
ZAIG	**Zacatecas**	**13.00**	**313**	*e*Pn	**Pn**	**22 18 04.5**	**+1.3**
ZAIG	**Zacatecas**	**13.00**	**313**	*e*P	**Pn**	**22 18 04.0**	**+0.9**
BCIP	**Isla Barro Col**	**13.17**	**110**	*e*Pn	**Pn**	**22 18 07.6**	**+2.3**
BCIP	**Isla Barro Col**	**13.17**	**110**	*e*P	**Pn**	**22 18 06.9**	**+1.6**
BCIP				IAmb	IAmb	22 18 17.2	
	comp=Z,2µm,1.3s						
ZANG	**Zanguenga, Cho**	**13.23**	**111**	*e*P	**Pn**	**22 18 10.7**	**+4.6**
ZANG				IAmb	IAmb	22 18 34.0	
	comp=Z,573nm,1.1s						
FRIJ	**El Hiral**	**13.25**	**110**	*e*P	**Pn**	**22 18 09.2**	**+2.8**
CJM	**Chamela**	**13.31**	**296**	*e*Pn	**Pn**	**22 18 05.6**	**-1.6**
CJM	**Chamela**	**13.31**	**296**	*e*P	**Pn**	**22 18 05.6**	**-1.6**
KVTX	**Kingsville**	**14.38**	**340**	*e*Pn	**Pn**	**22 18 23.1**	**+1.5**
PAYG	**Puerto Ayora**	**14.79**	**172**	*e*Pn	**Pn**	**22 18 27.5**	**+0.1**
PAYG	**Puerto Ayora**	**14.79**	**172**	*e*P	**Pn**	**22 18 26.1**	**-1.3**
PAYG				IAmb	IAmb	22 18 37.0	
	comp=Z,5µm,1.7s						
CVJ	**Coleyville**	**14.80**	**72**	*i*P	**P**	**22 18 33.7**	**+0.2**
MTDJ	**Mount Denham**	**14.80**	**72**	*e*Pn	**Pn**	**22 18 28.8**	**+1.2**
062Z	**Marathon**	**15.01**	**43**	P	**Pn**	**22 18 33.2**	**+2.9**
	baz=227						
PCJ	**Portland Cotta**	**15.04**	**74**	*i* P	**P**	**22 18 35.8**	**-0.2**
BBJ	**Bamboo Saint A**	**15.09**	**71**	*i* P	**P**	**22 18 34.9**	**-1.7**
645A	**Chauvin**	**15.40**	**6**	P	**Pn**	**22 18 36.9**	**+1.5**
	baz=186						
STH	**Stony Hill**	**15.44**	**73**	*i* P	**P**	**22 18 41.7**	**+1.2**
833A	**Chaparral WMA,**	**15.63**	**336**	*e*Pn	**Pn**	**22 18 37.7**	**-0.8**
	comp=Z,525nm,0.9s						
833A	**Chaparral WMA,**	**15.63**	**336**	P	**Pn**	**22 18 39.4**	**+0.9**
	baz=153,SNR=60						
061Z	**Ochoppi**	**15.89**	**41**	*e*Pn	**Pn**	**22 18 42.3**	**+0.5**
	comp=Z,810nm,0.9s						
061Z	**Ochoppi**	**15.89**	**41**	P	**Pn**	**22 18 41.0**	**-0.9**
	baz=224						
059Z	**Ave Maria**	**15.90**	**38**	P	**Pn**	**22 18 40.2**	**-1.7**
	baz=222						
541A	**Lake Charles**	**15.93**	**357**	P	**P**	**22 18 45.7**	**-0.1**
	baz=176						
543A	**St. Martinvill**	**15.95**	**2**	*e*Pn	**P**	**22 18 45.4**	**-0.6**
	comp=Z,3µm,1.4s						
543A	**St. Martinvill**	**15.95**	**2**	P	**P**	**22 18 46.5**	**+0.5**
	baz=181						
542A	**Morse**	**15.98**	**359**	P	**Pn**	**22 18 44.2**	**+1.2**
	baz=179						
545A	**Edgard**	**15.99**	**6**	*e*Pn	**Pn**	**22 18 44.7**	**+1.7**
545A	**Edgard**	**15.99**	**6**	P	**Pn**	**22 18 43.5**	**+0.5**
	baz=186						
544A	**White Castle**	**16.00**	**4**	P	**P**	**22 18 45.8**	**-0.8**
	baz=184						
HKT	**Hockley**	**16.13**	**349**	*e*Pn	**Pn**	**22 18 44.3**	**-0.5**
	comp=Z,1µm,1.8s						
HKT	**Hockley**	**16.13**	**349**	*e*P	**Pn**	**22 18 44.3**	**-0.5**
HKT				pmax	pmax		
	comp=Z,1µm,1.8s						
MAIG	**Matlaan**	**16.13**	**306**	*e*P	**Pn**	**22 18 41.0**	**-4.0**
058A	**Arcadia**	**16.24**	**36**	P	**Pn**	**22 18 46.6**	**+0.4**
	baz=219,SNR=36						
546A	**Slidell**	**16.27**	**8**	P	**Pn**	**22 18 47.2**	**+0.7**
	baz=188						
957A	**Wimauma**	**16.48**	**33**	*e*Pn	**Pn**	**22 18 48.7**	**-0.7**
	comp=Z,1µm,1.2s						
957A	**Wimauma**	**16.48**	**33**	P	**Pn**	**22 18 50.9**	**+1.6**
	baz=216						
060Z	**West Palm Beac**	**16.50**	**40**	P	**Pn**	**22 18 50.2**	**+0.6**
	baz=224						
059A	**Moore Haven**	**16.55**	**37**	*e*Pn	**Pn**	**22 18 49.6**	**-0.6**
	comp=Z,581nm,0.8s						
059A	**Moore Haven**	**16.55**	**37**	P	**Pn**	**22 18 49.1**	**-1.1**
	baz=221						
442A	**Mamou**	**16.56**	**360**	P	**P**	**22 18 53.1**	**+0.3**
	baz=179						
441A	**DeRidder**	**16.62**	**357**	P	**Pn**	**22 18 51.2**	**+0.1**
	baz=176						
443A	**Delano Plantat**	**16.62**	**2**	P	**P**	**22 18 53.3**	**-0.2**
	baz=181						
444A	**Pine Grove**	**16.63**	**5**	P	**Pn**	**22 18 52.7**	**+1.4**
	baz=185						
958A	**Wauchula**	**16.68**	**35**	P	**P**	**22 18 53.3**	**-0.8**
	baz=218,SNR=7.9						
445A	**Amite**	**16.68**	**6**	P	**Pn**	**22 18 52.7**	**+0.8**
	baz=186						
446A	**Poplarville**	**16.86**	**9**	P	**Pn**	**22 18 54.9**	**+0.7**
	baz=189						
857A	**Zephyrhills**	**16.96**	**32**	P	**Pn**	**22 18 55.4**	**-0.1**
	baz=215,SNR=17						
447A	**Lucedale**	**16.99**	**11**	*e*Pn	**Pn**	**22 18 55.1**	**-0.7**
	comp=Z,840nm,0.8s						
447A	**Lucedale**	**16.99**	**11**	P	**Pn**	**22 18 55.8**	**0.0**
	baz=192						
060A	**Indiantown**	**17.07**	**39**	*e*Pn	**Pn**	**22 18 56.0**	**-0.9**
	comp=Z,816nm,0.9s						
060A	**Indiantown**	**17.07**	**39**	P	**Pn**	**22 18 55.6**	**-1.2**
	baz=223						
959A	**Okeechobee**	**17.12**	**37**	P	**Pn**	**22 18 56.4**	**-1.1**
	baz=220						
343A	**Vidalia**	**17.15**	**2**	P	**Pn**	**22 18 56.8**	**-0.9**
	baz=182,SNR=6.7						
MOTC	**Monteria, Cord**	**17.16**	**106**	*e*P	**Pn**	**22 18 58.8**	**+0.8**
341A	**Kurthwood**	**17.20**	**358**	*e*Pn	**Pn**	**22 18 57.4**	**-1.0**
	comp=Z,466nm,0.9s						
341A	**Kurthwood**	**17.20**	**358**	P	**Pn**	**22 18 59.0**	**+0.6**
	baz=177,SNR=13						
342A	**Flagon Creek P**	**17.22**	**0**	*e*Pn	**Pn**	**22 18 57.9**	**-0.8**
	comp=Z,2µm,1.6s						
342A	**Flagon Creek P**	**17.22**	**0**	P	**Pn**	**22 18 59.4**	**+0.7**
	baz=180,SNR=24						
552A	**Lynn Haven**	**17.25**	**21**	P	**P**	**22 19 01.7**	**+1.2**
	baz=203						
DWPF	**Disney Wildern**	**17.26**	**34**	*e*Pn	**Pn**	**22 18 57.8**	**-1.4**
	comp=Z,633nm,1.0s						
DWPF	**Disney Wildern**	**17.26**	**34**	P	**Pn**	**22 18 59.8**	**+0.6**
	baz=219						
449A	**Pace**	**17.27**	**15**	P	**P**	**22 19 01.3**	**+0.7**
	baz=196						
448A	**Bay Minette**	**17.28**	**13**	P	**Pn**	**22 18 59.9**	**+0.5**
	baz=194,SNR=18						
345A	**Thompson Farm,**	**17.29**	**7**	P	**Pn**	**22 18 58.7**	**-0.8**
	baz=187,SNR=9.7						
435B	**Jarrell**	**17.32**	**345**	*e*Pn	**Pn**	**22 18 59.8**	**-0.2**
	comp=Z,564nm,1.2s						
435B				*e*Sn	**Sn**	**22 22 07.4**	**-4.9**
435B	**Jarrell**	**17.32**	**345**	P	**P**	**22 19 01.1**	**-0.2**
	baz=162,SNR=27						
DBBC	**Dabeiba**	**17.32**	**112**	*e*P	**P**	**22 19 03.7**	**+2.2**
344A	**Westbrook Farm**	**17.36**	**5**	*e*Pn	**Pn**	**22 19 00.4**	**-0.1**
	comp=Z,3µm,1.7s						
344A	**Westbrook Farm**	**17.36**	**5**	P	**P**	**22 19 01.6**	**-0.1**
	baz=185,SNR=31						
858A	**St. Cloud**	**17.38**	**34**	P	**Pn**	**22 19 00.1**	**-0.5**
	baz=218						
346A	**Big Creek Wild**	**17.44**	**8**	*e*Pn	**P**	**22 19 03.6**	**+1.1**
	comp=Z,739nm,0.8s						
346A	**Big Creek Wild**	**17.44**	**8**	P	**Pn**	**22 19 00.8**	**-0.6**
	baz=189,SNR=61						
GTBY	**Guantanamo Bay**	**17.46**	**68**	*e*Pn	**Pn**	**22 19 00.7**	**-1.0**
	comp=Z,628nm,1.3s						
450A	**Crestview**	**17.47**	**17**	P	**P**	**22 19 02.8**	**-0.2**
	baz=198						
655A	**Horseshoe Beac**	**17.51**	**27**	P	**Pn**	**22 19 03.0**	**+0.7**
	baz=210,SNR=26						
859A	**Kempfer Cattle**	**17.52**	**36**	P	**Pn**	**22 19 02.2**	**-0.2**
	baz=219						
451A	**Vernon**	**17.55**	**19**	*e*Pn	**P**	**22 19 05.1**	**+1.4**
	comp=Z,837nm,1.1s						
451A	**Vernon**	**17.55**	**19**	P	**P**	**22 19 03.8**	**+0.1**
	baz=201						
757A	**Oxford**	**17.59**	**31**	P	**Pn**	**22 19 02.0**	**-1.3**
	baz=214,SNR=29						
347A	**Saraland**	**17.60**	**11**	P	**P**	**22 19 04.8**	**+0.5**
	baz=192,SNR=19						
553A	**Crawfordville**	**17.62**	**23**	P	**Pn**	**22 19 03.4**	**-0.2**
	baz=206						
BRAL	**Brewton**	**17.70**	**15**	*e*Pn	**Pn**	**22 19 05.2**	**+0.6**
	comp=Z,6µm,1.9s						
BRAL	**Brewton**	**17.70**	**15**	P	**P**	**22 19 05.6**	**+0.3**
	baz=196,SNR=5.9						
656A	**Willston**	**17.72**	**29**	*e*Pn	**Pn**	**22 19 04.4**	**-0.5**
	comp=Z,4µm,1.8s						
656A	**Willston**	**17.72**	**29**	P	**Pn**	**22 19 05.0**	**+0.1**
	baz=212,SNR=18						
JCT	**Junction City**	**17.72**	**338**	*e*Pn	**Pn**	**22 19 05.0**	**0.0**
	comp=Z,825nm,1.5s						
JCT	**Junction City**	**17.72**	**338**	*e*P	**Pn**	**22 19 05.0**	**0.0**
JCT				pmax	pmax		
	comp=Z,825nm,1.5s						
JCT	**Junction City**	**17.72**	**338**	P	**P**	**22 19 07.1**	**+1.3**
	baz=155,SNR=51						
348A	**Jackson**	**17.73**	**13**	*e*Pn	**Pn**	**22 19 04.7**	**-0.4**
	comp=Z,4µm,1.6s						
348A	**Jackson**	**17.73**	**13**	P	**P**	**22 19 06.2**	**+0.4**
	baz=194,SNR=42						
NATX	**Nacogdoches**	**17.74**	**353**	*e*P	**P**	**22 19 05.8**	**0.0**
	comp=Z,903nm,1.3s						
NATX	**Nacogdoches**	**17.74**	**353**	P	**P**	**22 19 07.7**	**+1.8**
	ba

baz=192,SNR=36
148A Greensboro 19.00 12 P P 22 19 19.8 +0.2
baz=194,SNR=22
251A Midway 19.02 18 P P 22 19 19.8 -0.2
baz=200,SNR=45
TIGA Tifton 19.06 23 eP P 22 19 18.3 -2.1
comp=Z,2µm,1.5s
TIGA Tifton 19.06 23 P P 22 19 21.0 +0.6
baz=206,SNR=22
456A Hilliard 19.10 28 eP P 22 19 19.2 -1.7
comp=Z,3µm,1.6s
456A Hilliard 19.10 28 P P 22 19 20.9 +0.1
baz=212
Z41A Richland Creek 19.11 359 eP P 22 19 20.2 -0.7
comp=Z,2µm,1.3s
Z41A Richland Creek 19.11 359 P Pn 22 19 22.8 +1.1
baz=178,SNR=40
Z42A Norrel Spur, H 19.12 1 P Pn 22 19 22.7 +0.8
baz=181,SNR=19
149A Jones 19.12 14 P Pn 22 19 22.2 +0.2
baz=196,SNR=28
252A Lumpkin 19.15 20 P Pn 22 19 22.4 +0.1
baz=202,SNR=39
NORC Norcasia 19.16 114 eP Pn 22 19 23.9 +1.3
SLBS Sierra La Lagu 19.20 302 eP Pn 22 19 22.9 -0.2
comp=Z,571nm,1.4s
Z44A Pea Ridge, Bel 19.20 5 P Pn 22 19 23.9 +1.0
baz=185
ANIL Santa Ana 19.21 118 eP Pn 22 19 26.3 +2.8
ANIL eP sP 22 19 29.3 -0.9
457A Yulee 19.23 29 P P 22 19 22.4 +0.2
baz=213
355A Pearson 19.27 25 P Pn 22 19 23.5 -0.2
baz=208
Z46A Louisville 19.29 9 P Pn 22 19 24.7 +0.8
baz=190,SNR=30
150A Eclectic 19.33 16 P Pn 22 19 24.9 +0.5
baz=198,SNR=102
Z45A Winona 19.36 7 eP P 22 19 24.4 +0.7
comp=Z,1µm,1.3s
Z45A Winona 19.36 7 P P 22 19 23.6 -0.1
baz=187
253A Americus 19.42 21 eP P 22 19 24.7 +0.4
comp=Z,781nm,1.1s
253A Americus 19.42 21 P P 22 19 24.4 +0.1
baz=204
OTAV Otavalo 19.43 134 eP P 22 19 25.4 +0.2
comp=Z,213nm,1.3s
OTAV Otavalo 19.43 134 ceP Pn 22 19 27.5 +1.2
OTAV pmax pmax
comp=Z,76nm,1.3s
Z47A Carrollton 19.43 11 P Pn 22 19 25.4 -0.3
baz=192,SNR=98
LGNH LOogne 19.44 74 eP P 22 19 24.7 0.0
comp=Z,1µm,1.8s
151A Opelika 19.45 18 P Pn 22 19 25.9 0.0
baz=200,SNR=92
JAKH Jacmel 19.48 75 eP Pn 22 19 26.7 +0.4
comp=Z,210nm,0.7s
LRAL Lakeview Retre 19.50 14 eP P 22 19 24.9 -0.3
comp=Z,2µm,1.8s
LRAL Lakeview Retre 19.50 14 P Pn 22 19 26.2 -0.2
baz=195,SNR=63
356A Blackshear 19.56 27 P P 22 19 26.1 +0.3
baz=210,SNR=11
254A Abbeville 19.62 23 P P 22 19 27.5 +0.9
baz=206,SNR=29
ABTX Abilene, Hawle 19.64 341 eP P 22 19 26.2 -0.6
comp=Z,877nm,1.4s
ABTX Abilene, Hawle 19.64 341 P P 22 19 27.4 +0.6
baz=158,SNR=72
LPIG La Paz 19.68 303 P Pn 22 19 30.5 +1.8
comp=Z,12nm,0.3s,baz=121,slow=14,SNR=12
LPIG LR LR 22 27 23.0
comp=Z,91µm,18.2s,baz=117,slow=38
LPIG La Paz 19.68 303 eP P 22 19 23.5 -3.7
LPIG ePn Pn 22 19 30.6 +1.8
LPIG La Paz 19.68 303 eP P 22 19 23.5 -3.7
Y42A Garnett, Star 19.68 1 P Pn 22 19 28.5 -0.2
baz=181,SNR=12
Z48A Northport 19.70 12 P P 22 19 27.8 +0.3
baz=193,SNR=47
Y41A Eaglette Beard 19.72 359 P Pn 22 19 28.8 -0.3
baz=179,SNR=20
Z49A Columbiana 19.76 15 P P 22 19 28.7 +0.7
baz=196,SNR=62
CCAR Cane Creek 19.77 1 eP P 22 19 28.9 +0.8
comp=Z,1µm,1.0s
152A Waverly Hall 19.77 19 eP P 22 19 27.5 -0.7
comp=Z,900nm,1.6s
152A Waverly Hall 19.77 19 P P 22 19 28.5 +0.3
baz=202
Y43A Makayla and Ka 19.80 3 P Pn 22 19 30.3 +0.3
baz=184
Y45A Yeager Farm, C 19.87 7 P Pn 22 19 31.0 +0.1
baz=188,SNR=19
Y44A Strider, Charl 19.90 5 P Pn 22 19 30.8 -0.4
baz=186
255A Hazlehurst 19.93 25 eP P 22 19 28.8 -1.1
255A eP Pn 22 19 32.6 +1.0
255A Hazlehurst 19.93 25 P P 22 19 30.6 +0.7
baz=209,SNR=14
357A Townsend 19.93 28 P P 22 19 29.6 -0.3
baz=212
Z50A Ashland 19.97 16 eP P 22 19 29.7 -0.7
comp=Z,837nm,1.4s
Z50A eS S 22 23 08.9 -5.4
Z50A Ashland 19.97 16 P P 22 19 31.2 +0.9
baz=198,SNR=38
Y46A Houston 19.98 8 P P 22 19 30.2 -0.2
baz=189,SNR=20
ROSC El Rosal 19.98 116 P Pn 22 19 32.9 +0.1
comp=Z,2.3nm,0.3s,baz=320,slow=9.9,SNR=46
ROSC El Rosal 19.98 116 eP P 22 19 28.9 -2.1
ROSC eP Pn 22 19 33.1 +0.4
153A Fort Valley 20.06 21 P P 22 19 32.5 +1.2
baz=204,SNR=6.7
BETC Betania 20.16 123 eP Pn 22 19 38.1 +3.6
Y47A UCPARC, Winfie 20.16 11 P P 22 19 33.0 +0.6
baz=192,SNR=67
256A Glennville 20.23 26 P P 22 19 33.5 +0.4
baz=210,SNR=15
Z51A Franklin 20.24 18 P P 22 19 34.2 +0.9
baz=200,SNR=28
BARC Barichara 20.24 110 eP Pn 22 19 35.7 0.0
154A Montrose 20.29 23 eP P 22 19 32.6 -1.2
comp=Z,814nm,0.8s
154A LR LR
comp=Z,189µm,19.0s
154A Montrose 20.29 23 P P 22 19 34.5 +0.7
baz=206,SNR=20
Y48A Jasper 20.30 12 P P 22 19 34.1 +0.1
baz=194,SNR=50
X41A Kaden, Bauxite 20.34 360 P P 22 19 35.5 +1.2
baz=179,SNR=85
Z52A Williamson 20.35 19 P P 22 19 35.5 +1.0
baz=202,SNR=48
X43A Marvell 20.40 3 eP P 22 19 35.1 +0.1
X43A eP Pn 22 19 38.4 +1.3
X43A LR LR
comp=Z,13µm,18.0s
X43A Marvell 20.40 3 P Pn 22 19 37.5 +0.4
baz=184
X42A Stuttgart 20.40 2 P Pn 22 19 37.5 +0.3
baz=182
PAMC Pamplona, Colo 20.41 107 eP P 22 19 36.6 +0.9
MIAR Mount Ida 20.42 357 eP P 22 19 33.7 -1.5
comp=Z,950nm,1.1s
MIAR LR LR
comp=Z,17µm,21.0s
MIAR Mount Ida 20.42 357 eP P 22 19 33.7 -1.5
MIAR pmax pmax
comp=Z,950nm,1.1s
MIAR MLR MLR
comp=Z,17µm,21.0s
MIAR Mount Ida 20.42 357 P P 22 19 36.3 +1.1
baz=176,SNR=76
Y49A Blount Mountai 20.42 14 eP P 22 19 33.2 -2.0
comp=Z,2µm,1.9s
Y49A eS S 22 23 23.6 +0.4
Y49A LR LR
comp=Z,10µm,21.0s
Y49A Blount Mountai 20.42 14 P P 22 19 36.2 +0.9
baz=196,SNR=53
X44A Crenshaw 20.44 5 P Pn 22 19 37.4 -0.2
baz=186
X45A UM Field Stati 20.44 7 P P 22 19 36.2 +0.7

baz=188,SNR=8.9
OXF Oxford 20.52 7 eP P 22 19 34.7 -1.6
comp=Z,1µm,1.1s
OXF LR LR
comp=Z,24µm,18.0s
OXF Oxford 20.52 7 eP P 22 19 34.7 -1.6
OXF pmax pmax
comp=Z,1µm,1.1s
OXF MLR MLR
comp=Z,24µm,18.0s
OXF Oxford 20.52 7 P P 22 19 37.4 +1.1
baz=188,SNR=30
155A Kite 20.55 24 P P 22 19 36.9 +0.3
baz=208,SNR=38
257A Skidaway Islan 20.61 28 eP P 22 19 36.1 -1.2
comp=Z,2µm,1.5s
257A LR LR
comp=Z,169µm,20.0s
257A Skidaway Islan 20.61 28 P P 22 19 38.4 +1.2
baz=212
X37A Clayton 20.61 353 eP P 22 19 37.9 +0.5
comp=Z,4µm,2.0s
X37A eS S 22 23 25.2 -1.9
X37A LR LR
comp=Z,20µm,21.0s
UALR University of 20.61 360 eP P 22 19 37.2 -0.1
comp=Z,927nm,1.1s
UALR LR LR
comp=Z,10µm,21.0s
Y50A Piedmont 20.62 16 P P 22 19 37.9 +0.5
baz=198,SNR=26
FLOC Florencia 20.64 126 eP P 22 19 38.5 +0.7
FLOC eP sP 22 19 45.5 0.0
X46A Booneville 20.68 9 P P 22 19 38.0 0.0
baz=190,SNR=41
Z53A Monticello 20.72 21 P P 22 19 37.9 -0.6
baz=204,SNR=44
SDDR Presa de Saban 20.75 74 eP P 22 19 38.2 -0.8
comp=Z,177nm,1.0s
SDDR LR LR
comp=Z,70µm,22.0s
X47A Russelville 20.76 10 P P 22 19 38.4 -0.4
baz=192,SNR=49
Y51A Rockmart 20.81 17 P P 22 19 39.2 -0.4
baz=200,SNR=48
X48A Hartselle 20.85 12 eP P 22 19 38.5 -1.4
comp=Z,385nm,0.9s
X48A LR LR
comp=Z,36µm,21.0s
X48A Hartselle 20.85 12 P P 22 19 39.4 -0.4
baz=194,SNR=84
GOGA Godfrey 20.87 21 eP P 22 19 39.4 -0.8
comp=Z,584nm,1.4s
GOGA LR LR
comp=Z,198µm,19.0s
GOGA Godfrey 20.87 21 eP P 22 19 39.4 -0.8
GOGA pmax pmax
comp=Z,584nm,1.4s
GOGA MLR MLR
comp=Z,198µm,19.0s
GOGA Godfrey 20.87 21 P P 22 19 39.9 -0.3
baz=204,SNR=37
Z54A Sparta 20.94 23 P P 22 19 40.1 -0.8
baz=206,SNR=29
156A Sylvania 20.98 26 P P 22 19 40.9 -0.4
baz=210,SNR=27
W43A Forest City 20.98 4 P P 22 19 40.0 -1.2
baz=184
W41B Gary Mavity, V 21.01 0 eP P 22 19 41.0 -0.6
comp=Z,1µm,1.4s
W41B LR LR
comp=Z,34µm,21.0s
W41B Gary Mavity, V 21.01 0 P P 22 19 42.7 +1.0
baz=180,SNR=29
X49A Woodville 21.07 14 P P 22 19 41.7 -0.5
baz=196,SNR=70
MET Memphis--Engin 21.07 5 eP P 22 19 41.9 -0.4
comp=Z,2µm,1.7s
MET LR LR
comp=Z,29µm,20.0s
W39A Magazine 21.08 357 eP P 22 19 42.1 -0.2
comp=Z,648nm,1.3s
W39A LR LR
comp=Z,17µm,18.0s
W39A Magazine 21.08 357 P P 22 19 43.6 +1.3
baz=176,SNR=45
Y52A Lilburn 21.09 19 eP P 22 19 40.7 -1.7
comp=Z,488nm,1.0s
Y52A LR LR
comp=Z,128µm,20.0s
Y52A Lilburn 21.09 19 P P 22 19 42.6 +0.1
baz=202,SNR=52
W44A Shby Farms P 21.10 6 P P 22 19 41.8 -0.8
baz=186
W42A Bald Knob 21.12 2 P P 22 19 43.6 +0.8
baz=182
WHAR Wooly Hollow 21.13 0 eP P 22 19 41.7 -1.1
comp=Z,1µm,1.5s
WHAR LR LR
comp=Z,32µm,21.0s
GDL2 Guadalupe Moun 21.14 331 eP P 22 19 43.8 +0.6
PLAL Pickwick Lake 21.17 10 eP P 22 19 42.5 -0.8
comp=Z,207nm,0.9s
PLAL LR LR
comp=Z,49µm,22.0s
X50B Fort Payne 21.18 15 P P 22 19 43.3 -0.3
baz=198,SNR=43
W45A Hickory Valley 21.19 7 P P 22 19 43.5 0.0
baz=188,SNR=17
Z55A Blythe 21.20 24 P P 22 19 43.1 -0.6
baz=208,SNR=22
MNTX Cornadas Mount 21.23 328 eP P 22 19 43.9 -0.2
comp=Z,1µm,1.4s
MNTX LR LR
comp=Z,35µm,18.0s
MNTX Cornudas Mount 21.23 328 P P 22 19 44.7 +0.6
baz=142,SNR=178
Y53A Monroe 21.24 20 P P 22 19 43.8 -0.3
baz=204,SNR=70
W46A Michie 21.27 9 P P 22 19 43.7 -0.7
baz=190,SNR=18
WMOK Wichita Mounta 21.39 345 eP P 22 19 44.7 -1.0
comp=Z,1µm,2.0s
WMOK Wichita Mounta 21.39 345 eP P 22 19 44.7 -1.0
WMOK pmax pmax
comp=Z,1µm,2.0s
WMOK Wichita Mounta 21.39 345 P P 22 19 45.9 +0.2
baz=162,SNR=108
HBAR Harrisburg 21.45 4 eP P 22 19 47.5 +1.3
comp=Z,1µm,1.2s
HBAR LR LR
comp=Z,31µm,18.0s
GRTK Grand Turk 21.48 67 eP P 22 19 44.7 -2.2
comp=Z,2µm,1.7s
GRTK LR LR
comp=Z,30µm,21.0s
X51A Calhoun 21.50 17 eP P 22 19 47.6 +0.7
comp=Z,692nm,1.1s
X51A LR LR
comp=Z,123µm,20.0s
X51A Calhoun 21.50 17 P P 22 19 46.2 -0.6
baz=200,SNR=30
W47A Westpoint 21.52 11 P P 22 19 47.1 0.0
baz=192,SNR=48
BANI BANI 21.53 76 eP P 22 19 47.3 -0.1
W48A Pulaski 21.54 12 P P 22 19 46.5 -0.8
baz=194,SNR=38
Y54A Tignall 21.56 22 P P 22 19 46.0 -1.5
baz=206,SNR=44
CPRX Cap Rock 21.60 333 eP P 22 19 48.0 -0.2
V41A Mountainview 21.62 0 P P 22 19 48.1 -0.1
baz=180,SNR=73
V42A Cord 21.66 2 P P 22 19 48.6 +0.1
baz=182,SNR=46
W49A Belvidere 21.66 14 P P 22 19 47.8 -0.8
baz=196,SNR=98
V43A Jonesboro 21.68 4 P P 22 19 48.6 -0.2
baz=184
CGIG 21.70 321 eP P 22 19 50.5 +1.3
CGIG 21.70 321 eP P 22 19 50.8 +1.6
RGRS Roger Stewart 21.77 28 eP P 22 19 49.4 -0.4
comp=Z,2µm,0.8s
V44A Blytheville 21.78 5 P P 22 19 49.6 -0.2
baz=186
V45A Humboldt 21.79 7 P P 22 19 50.7 +0.7
baz=188
X52A Dahlonega 21.82 19 P P 22 19 49.5 -0.9
baz=202,SNR=45

SWET Sewanee 21.83 14 eP P 22 19 49.2 -1.3
comp=Z,2µm,1.9s
SWET LR LR
comp=Z,50µm,19.0s
SDV Santo Domingo 21.87 101 P P 22 19 50.7 -0.6
comp=Z,34nm,0.6s,baz=284,slow=14,SNR=10.0
SDV Santo Domingo 21.87 101 eP P 22 19 50.2 -1.1
comp=Z,178nm,0.8s
SDV LR LR
comp=Z,42µm,19.0s
EPT El Paso 21.89 326 eP P 22 19 50.5 -0.7
comp=Z,646nm,1.6s
CSU Charleston Sou 21.89 29 eP P 22 19 51.4 +0.3
GNAR Gosnell 21.90 5 eP P 22 19 50.9 -0.3
comp=Z,1µm,1.3s
GNAR LR LR
comp=Z,36µm,21.0s
HALT Halls 21.91 7 eP P 22 19 50.0 -1.2
comp=Z,1µm,1.3s
HALT eS S 22 23 50.0 -2.6
HALT LR LR
comp=Z,21µm,20.0s
X53A Estanollee 21.92 20 P P 22 19 51.4 -0.1
baz=204,SNR=25
NHSC New Hope 21.95 28 eP P 22 19 51.4 -0.3
comp=Z,1µm,1.1s
NHSC LR LR
comp=Z,157µm,21.0s
NHSC New Hope 21.95 28 P P 22 19 51.2 -0.5
baz=213,SNR=12
MSTX Muleshoe 21.96 336 eP P 22 19 50.8 -1.2
comp=Z,877nm,1.1s
MSTX LR LR
comp=Z,27µm,20.0s
MSTX Muleshoe 21.96 336 P P 22 19 52.5 +0.6
baz=152,SNR=115
V46A Holladay 21.97 9 P P 22 19 51.1 -0.8
baz=190,SNR=40
TUL1 Leonard 21.97 352 eP P 22 19 49.8 -2.2
comp=Z,817nm,1.3s
TUL1 Leonard 21.97 352 P P 22 19 51.6 -0.3
baz=171,SNR=20
W50A Signal Mountai 21.97 16 eP P 22 19 50.6 -1.3
comp=Z,377nm,0.9s
W50A LR LR
comp=Z,85µm,19.0s
W50A Signal Mountai 21.97 16 P P 22 19 51.2 -0.7
baz=198,SNR=35
HODGE Hodges 22.05 23 eP P 22 19 50.6 -2.2
comp=Z,278nm,1.1s
HODGE LR LR
comp=Z,123µm,19.0s
W51A Cleveland 22.08 17 P P 22 19 52.2 -0.9
baz=199,SNR=41
V47A Nunnelly 22.09 10 P P 22 19 53.3 +0.1
baz=192,SNR=48
V48A Smith Brothers 22.14 12 eP P 22 19 51.5 -2.3
comp=Z,294nm,1.0s
V48A LR LR
comp=Z,17µm,18.0s
V48A Smith Brothers 22.14 12 P P 22 19 52.8 -0.9
baz=194,SNR=138
HHAR Hobbs 22.16 357 eP P 22 19 52.2 -1.8
comp=Z,401nm,1.0s
HHAR LR LR
comp=Z,13µm,19.0s
U41A Viola 22.18 1 P P 22 19 54.9 +0.7
baz=181,SNR=37
U40A Yellville 22.20 359 P P 22 19 54.9 +0.5
baz=178,SNR=45
U42A Revenden 22.21 2 P P 22 19 53.9 -0.6
baz=182,SNR=57
W52A Murphy 22.26 18 eP P 22 19 53.4 -1.7
comp=Z,836nm,1.5s
W52A LR LR
comp=Z,131µm,20.0s
W52A Murphy 22.26 18 P P 22 19 55.1 0.0
baz=202,SNR=23
U43A Rector 22.27 4 P P 22 19 55.1 0.0
baz=184,SNR=22
GLAT Glass 22.27 7 eP P 22 19 54.5 -0.7
comp=Z,1µm,1.2s
GLAT LR LR
comp=Z,25µm,21.0s
WVT Waverly 22.34 10 eP P 22 19 54.2 -1.6
comp=Z,263nm,1.1s
WVT LR LR
comp=Z,44µm,22.0s
WVT Waverly 22.34 10 eP P 22 19 54.2 -1.6
WVT pmax pmax
comp=Z,263nm,1.1s
WVT MLR MLR
comp=Z,44µm,22.0s
WVT Waverly 22.34 10 P P 22 19 55.4 -0.4
baz=191
U44B Burton Farm, H 22.34 6 P P 22 19 56.4 +0.6
baz=187
V49A McMinnville 22.36 14 P P 22 19 55.6 -0.5
baz=196,SNR=49
PVMO Portageville 22.38 6 eP P 22 19 55.6 -0.7
comp=Z,498nm,0.9s
PVMO LR LR
comp=Z,26µm,21.0s
AMTX Amarillo 22.38 339 eP P 22 19 55.8 -0.7
comp=Z,1µm,1.0s
AMTX LR LR
comp=Z,15µm,20.0s
AMTX Amarillo 22.38 339 P P 22 19 56.9 +0.5
baz=155
UTMT University of 22.39 7 eP P 22 19 55.8 -0.6
comp=Z,12nm,1.3s
U45A Rockin P Farm, 22.41 8 P P 22 19 57.1 +0.4
baz=189,SNR=11
CPCT Cooper Cave 22.42 17 eP P 22 19 55.4 -1.4
comp=Z,1µm,1.7s
CPCT LR LR
comp=Z,112µm,20.0s
U44A Portageville 22.47 6 P P 22 19 56.2 -1.0
baz=186
V50A Pikeville 22.47 16 P P 22 19 56.6 -0.7
baz=198,SNR=46
JSC Jenkinsville 22.48 25 eP P 22 19 56.1 -1.3
comp=Z,610nm,1.4s
JSC LR LR
comp=Z,129µm,20.0s
JSC Jenkinsville 22.48 25 eP P 22 19 56.1 -1.3
JSC pmax pmax
comp=Z,610nm,1.4s
JSC MLR MLR
comp=Z,129µm,20.0s
BG3 Lake Jocassee 22.49 21 eP P 22 19 56.3 -1.2
comp=Z,336nm,1.0s
BG3 LR LR
comp=Z,166µm,20.0s
U46A Springville 22.51 9 P P 22 19 57.5 -0.1
baz=190,SNR=59
W53A Cullowhee 22.58 20 P P 22 19 58.3 -0.2
baz=203,SNR=25
PARMO Parma 22.62 5 eP P 22 19 55.8 -3.0
comp=Z,564nm,0.9s
PARMO LR LR
comp=Z,25µm,21.0s
PBMO Poplar Bluff 22.68 4 eP P 22 19 57.0 -2.4
comp=Z,254nm,0.8s
U47A Clarksville 22.73 11 P P 22 19 59.1 -0.9
baz=192,SNR=48
PAULI Pauline 22.74 23 eP P 22 19 57.9 -2.2
comp=Z,499nm,1.2s
PAULI LR LR
comp=Z,155µm,20.0s
SRIG Santa Rosalia 22.77 308 eP P 22 20 00.4 -0.2
comp=Z,827nm,1.6s
SRIG eP P 22 20 06.0 +5.4
SRIG LR LR
comp=Z,79µm,19.0s
SRIG Santa Rosalia 22.77 308 eP P 22 19 56.0 -4.6
HSIG 22.78 314 eP P 22 20 00.5 -0.2
comp=Z,610nm,1.6s
HSIG LR LR
comp=Z,89µm,20.0s
HSIG 22.78 314 eP P 22 19 60.0 -0.7
V51A Loudon 22.80 17 eP P 22 19 59.9 -0.9
comp=Z,1µm,1.6s
V51A LR LR
comp=Z,111µm,20.0s
V51A Loudon 22.80 17 P P 22 20 00.2 -0.6
baz=200,SNR=42
TKL Tuckaleechee C 22.83 18 P P 22 19 60.0 -1.1

comp=Z,123nm,0.8s,baz=190,slow=11,SNR=49
TKL Tuckaleechee C 22.83 18 *eP* **P 22 19 59.2 -2.0**
comp=Z,490nm,1.0s
TKL LR LR
comp=Z,145µm,21.0s
TKL Tuckaleechee C 22.83 18 P **P 22 20 00.0 -1.1**
TKL pmax pmax
comp=Z,123nm,0.8s
T41A Mountain View 22.88 1 P **P 22 20 01.1 -0.6**
baz=181,SNR=38
T42A Van Buren 22.89 3 *eP* **P 22 19 59.1 -2.6**
comp=Z,244nm,1.0s
T42A LR LR
comp=Z,18µm,21.0s
T42A Van Buren 22.89 3 P **P 22 20 01.5 -0.3**
baz=183,SNR=31
U48A Cassie Pea, Po 22.94 12 P **P 22 20 01.4 -0.9**
baz=194,SNR=44
T43A Greenville 22.99 4 P **P 22 20 02.0 -0.8**
baz=185,SNR=48
U32A Winter Ranch, 23.01 346 *eP* **P 22 20 01.8 -1.2**
comp=Z,521nm,1.1s
T44A Benton 23.05 6 P **P 22 20 01.4 -2.0**
baz=186
V52A Sevierville 23.06 18 *eP* **P 22 20 01.3 -2.2**
comp=Z,873nm,1.4s
V52A LR LR
comp=Z,146µm,20.0s
V52A Sevierville 23.06 18 P **P 22 20 03.1 -0.4**
baz=202,SNR=50
T45A Paducah 23.09 8 *eP* **P 22 20 01.3 -2.5**
comp=Z,492nm,0.6s
T45A LR LR
comp=Z,79µm,22.0s
T45A Paducah 23.09 8 P **P 22 20 03.9 +0.1**
baz=189,SNR=12
U49A Red Boiling Sp 23.11 14 P **P 22 20 02.9 -1.0**
baz=196,SNR=104
V53A Saluda 23.15 20 *eP* **P 22 20 02.6 -1.9**
comp=Z,427nm,1.0s
V53A LR LR
comp=Z,168µm,20.0s
V53A Saluda 23.15 20 P **P 22 20 03.4 -1.1**
baz=204,SNR=77
121A Cookes Peak, D 23.17 325 P **P 22 20 05.2 +0.4**
baz=139,SNR=133
319A Douglas 23.20 321 *eP* **P 22 20 05.5 +0.3**
comp=Z,875nm,1.3s
319A LR LR
comp=Z,147µm,18.0s
KMSC Kings Mountain 23.21 23 *eP* **P 22 20 01.9 -3.1**
comp=Z,265nm,0.9s
KMSC LR LR
comp=Z,147µm,19.0s
KMSC Kings Mountain 23.21 23 P **P 22 20 04.0 -1.0**
baz=208,SNR=43
T46A Princeton 23.22 9 P **P 22 20 05.6 +0.6**
baz=191
U50A Jamestown 23.24 15 P **P 22 20 03.9 -1.4**
baz=198,SNR=106
T47A Sharon Grove 23.30 11 *eP* **P 22 20 03.2 -2.7**
comp=Z,483nm,0.8s
T47A Sharon Grove 23.30 11 P **P 22 20 04.6 -1.3**
baz=192,SNR=65
S41A Jillco Farms, 23.43 1 P **P 22 20 06.9 -0.3**
baz=181
U51A La Follette 23.43 17 P **P 22 20 05.9 -1.4**
baz=200,SNR=168
S43A Fulton Ridge, 23.49 5 P **P 22 20 07.4 -0.4**
baz=185,SNR=52
T48A Bowling Green 23.55 12 P **P 22 20 07.7 -0.7**
baz=194,SNR=19
U52A Thorn Hill 23.64 18 P **P 22 20 08.4 -0.8**
baz=202,SNR=25
S42A Caledonia 23.64 3 P **P 22 20 08.5 -0.8**
baz=183,SNR=39
S44A Carbondale 23.69 6 P **P 22 20 08.7 -0.9**
baz=187,SNR=106
SIUC Southern Illin 23.71 6 *eP* **P 22 20 07.7 -2.2**
comp=Z,1µm,1.5s
SIUC LR LR
comp=Z,12µm,20.0s
TZTN Tazewell 23.72 18 *eP* **P 22 20 07.7 -2.4**
comp=Z,490nm,1.1s
TZTN Tazewell 23.72 18 P **P 22 20 08.8 -1.3**
baz=201,SNR=37
T49A Edmonton 23.73 14 *eP* **P 22 20 07.2 -2.9**
comp=Z,418nm,1.2s
T49A Edmonton 23.73 14 P **P 22 20 09.5 -0.6**
baz=196,SNR=113
S45A Carrier Mills 23.75 7 P **P 22 20 09.8 -0.5**
baz=189,SNR=24
T50A Nancy 23.82 15 P **P 22 20 10.5 -0.4**
baz=198,SNR=78
BNM Barren Site 23.82 330 *eP* **P 22 20 11.9 +0.6**
U53A Fall Branch 23.86 20 P **P 22 20 10.2 -1.2**
baz=204,SNR=46
S46A Don Dixon Farm 23.88 9 P **P 22 20 10.7 -0.8**
baz=191,SNR=42
FVM French Village 23.88 4 *eP* **P 22 20 09.0 -2.5**
comp=Z,129nm,1.0s
FVM French Village 23.88 4 *eP* **P 22 20 09.0 -2.5**
FVM pmax pmax
comp=Z,129nm,1.0s
Y22D IRIS PASSCAL I 23.90 329 *eP* **P 22 20 12.4 +0.4**
comp=Z,1µm,1.0s
Y22D IRIS PASSCAL I 23.90 329 P **P 22 20 13.6 +1.6**
baz=143
CCM Cathedral Cave 23.91 2 *eP* **P 22 20 09.3 -2.5**
comp=Z,274nm,1.3s
CCM Cathedral Cave 23.91 2 *eP* **P 22 20 09.3 -2.5**
CCM pmax pmax
comp=Z,274nm,1.3s
CCM Cathedral Cave 23.91 2 P **P 22 20 11.4 -0.4**
baz=182
S47A Hartford 23.93 11 P **P 22 20 10.8 -1.2**
baz=193,SNR=51
LPM Los Pinos Moun 23.95 330 *eP* **P 22 20 12.8 +0.3**
T51A Gray 24.00 17 P **P 22 20 11.5 -1.2**
baz=200,SNR=67
LENM Lemitar 24.00 329 *eP* **P 22 20 13.3 +0.3**
R41A Rosebud 24.14 2 P **P 22 20 13.8 -0.2**
baz=182,SNR=60
S48A Wiedeman Farm, 24.15 12 P **P 22 20 13.1 -0.9**
baz=195,SNR=28
R42A Luebbering 24.15 3 P **P 22 20 13.3 -0.8**
baz=183,SNR=43
USIN University of 24.16 9 *eP* **P 22 20 11.9 -2.2**
comp=Z,448nm,1.0s
USIN LR LR
comp=Z,57µm,22.0s
R43A Red Bud 24.20 5 P **P 22 20 13.4 -1.2**
baz=185,SNR=52
R44A Waltonville 24.25 6 P **P 22 20 14.6 -0.4**
baz=187,SNR=8.3
LAZ Ladron 24.27 329 *eP* **P 22 20 16.1 +0.6**
ANMO Albuquerque 24.38 331 P **P 22 20 16.9 +0.4**
comp=Z,29nm,0.8s,baz=135,slow=11,SNR=43
ANMO Albuquerque 24.38 331 *eP* **P 22 20 16.7 +0.2**
comp=Z,433nm,1.6s
ANMO LR LR
comp=Z,39µm,18.0s
ANMO Albuquerque 24.38 331 *ceP* **P 22 20 17.0 +0.5**
ANMO pmax pmax
comp=Z,60nm,1.0s
ANMO Albuquerque 24.38 331 P **P 22 20 16.7 +0.2**
baz=145
R45A Skylar, Fairfi 24.39 8 P **P 22 20 15.6 -0.6**
baz=189,SNR=13
T52A Hallie 24.41 18 P **P 22 20 15.1 -1.4**
baz=202,SNR=36
R46A Gibon Southern 24.42 9 P **P 22 20 15.5 -1.1**
baz=191,SNR=9.5
S49A Springfield 24.43 14 P **P 22 20 15.7 -1.0**
baz=196,SNR=47
MPR Mayaguez 24.54 77 *eP* **P 22 20 15.7 -2.1**
comp=Z,98nm,1.2s
MPR LR LR
comp=Z,114µm,22.0s
SLM Saint Louis 24.54 4 *eP* **P 22 20 16.6 -1.0**
comp=Z,949nm,1.4s
SLM LR LR
comp=Z,18µm,21.0s
CRPR Cabo Rojo, PR 24.55 77 *eP* **P 22 20 15.9 -2.0**
comp=Z,185nm,1.1s
CRPR LR LR
comp=Z,73µm,20.0s
S50A Richmond 24.55 15 P **P 22 20 16.3 -1.4**
baz=198,SNR=76
AGP Aguadilla 24.56 77 *eP* **P 22 20 17.5 -0.5**
comp=Z,820nm,1.6s
AGP LR LR
comp=Z,103µm,22.0s
WCI Wyandotte Cave 24.65 11 *eP* **P 22 20 12.3 -6.3**
WCI *eP* **P 22 20 16.4 -2.3**
WCI Wyandotte Cave 24.65 11 *eP* **P 22 20 12.3 -6.3**
WCI Wyandotte Cave 24.65 11 P **P 22 20 17.4 -1.2**
baz=194
R47A Wooly Knot Far 24.67 11 P **P 22 20 17.8 -1.0**
baz=193,SNR=15
S51A Beattyville 24.73 17 *eP* **P 22 20 17.8 -1.6**
comp=Z,315nm,1.0s
S51A LR LR
comp=Z,120µm,19.0s
S51A Beattyville 24.73 17 P **P 22 20 17.8 -1.6**
baz=200,SNR=41
CNNC Cliffs of the 24.77 29 *eP* **P 22 20 17.3 -2.4**
comp=Z,208nm,0.9s
CNNC LR LR
comp=Z,136µm,20.0s
TUC Tucson 24.77 320 *eP* **P 22 20 19.8 -0.1**
comp=Z,580nm,1.6s
TUC LR LR
comp=Z,201µm,18.0s
TUC Tucson 24.77 320 *eP* **P 22 20 19.8 -0.1**
TUC pmax pmax
comp=Z,580nm,1.6s
TUC MLR MLR
comp=Z,201µm,18.0s
TUC Tucson 24.77 320 P **P 22 20 20.7 +0.8**
baz=133
Q42A Golden Eagle 24.80 3 P **P 22 20 18.8 -1.1**
baz=184,SNR=44
Q41A Truxton 24.80 2 P **P 22 20 19.7 -0.3**
baz=182,SNR=58
OLIL Olney 24.85 8 *eP* **P 22 20 19.4 -1.0**
comp=Z,372nm,0.8s
OLIL LR LR
comp=Z,56µm,21.0s
Q43A New Douglas 24.88 5 P **P 22 20 18.9 -1.8**
baz=186
R48A Northridge Ran 24.90 12 P **P 22 20 20.0 -0.9**
baz=195,SNR=34
Q44A Meyer Farm, Va 24.91 6 P **P 22 20 20.4 -0.6**
baz=187,SNR=32
S52A Salyersville 24.91 18 P **P 22 20 19.7 -1.3**
baz=201,SNR=29
R49A Shelbyville 24.95 13 P **P 22 20 20.7 -0.6**
baz=196,SNR=61
Q45A Warren Harvey, 25.00 8 P **P 22 20 21.5 -0.3**
baz=189
OBIP Obispado Ponce 25.03 77 *eP* **P 22 20 20.8 -1.4**
comp=Z,76nm,1.3s
OBIP LR LR
comp=Z,62µm,20.0s
ICMP Isla Caja de M 25.09 78 *eP* **P 22 20 21.6 -1.1**
comp=Z,118nm,1.2s
ICMP LR LR
comp=Z,68µm,18.0s
R50A Paris 25.14 15 P **P 22 20 22.0 -1.1**
baz=198,SNR=46
EMPR Esperanza - Ma 25.14 76 PFAKE 22 20 30.0 +6.7
EMPR LR LR
comp=Z,93µm,19.0s
ATAH Atahualpa 25.20 146 P **P 22 20 25.2 +0.9**
comp=Z,66nm,1.0s,baz=330,slow=8.1,SNR=27
ATAH LR LR 22 28 27.3
comp=Z,48µm,21.2s,baz=329,slow=32
KSU1 Kansas State U 25.22 352 *eP* **P 22 20 22.4 -1.4**
comp=Z,287nm,0.9s
KSU1 Kansas State U 25.22 352 P **P 22 20 23.3 -0.4**
baz=170,SNR=19
Q47A Bedord North L 25.31 11 P **P 22 20 23.2 -1.4**
baz=193
R51A Hillsboro 25.35 16 P **P 22 20 23.8 -1.1**
baz=200,SNR=37
T25A Trinidad 25.38 337 *eP* **P 22 20 26.2 +0.7**
comp=Z,658nm,1.3s
T25A Trinidad 25.38 337 P **P 22 20 26.4 +0.9**
baz=151,SNR=239
BLA Blacksburg 25.38 23 *eP* **P 22 20 23.1 -2.2**
comp=Z,325nm,1.1s
BLA LR LR
comp=Z,112µm,20.0s
BLA Blacksburg 25.38 23 *eP* **P 22 20 23.1 -2.2**
BLA pmax pmax
BLA comp=Z,325nm,1.1s MLR MLR
comp=Z,112µm,20.0s
BLA Blacksburg 25.38 23 P **P 22 20 24.2 -1.1**
baz=208,SNR=16
Q48A North Vernon 25.44 12 P **P 22 20 24.7 -1.0**
baz=195,SNR=39
SJG San Juan 25.46 77 P **P 22 20 25.3 -0.9**
comp=Z,6.9nm,0.5s,baz=294,slow=10.0,SNR=3.7
SJG San Juan 25.46 77 *eP* **P 22 20 24.8 -1.4**
comp=Z,88nm,1.1s
SJG *eP* **P 22 20 25.3 -0.9**
SJG LR LR
comp=Z,70µm,21.0s
P42A Winchester 25.48 4 *eP* **P 22 20 24.0 -2.1**
comp=Z,266nm,1.1s
P42A Winchester 25.48 4 P **P 22 20 25.6 -0.5**
baz=184
CBKS Cedar Bluff 25.50 346 *eP* **P 22 20 25.3 -1.1**
comp=Z,844nm,1.4s
CBKS Cedar Bluff 25.50 346 *eP* **P 22 20 25.3 -1.1**
CBKS pmax pmax
comp=Z,844nm,1.4s
CBKS Cedar Bluff 25.50 346 P **P 22 20 26.9 +0.5**
baz=163,SNR=22
P44A Sand Creek, Wi 25.51 7 P **P 22 20 26.7 +0.4**
baz=188
BLO Bloomington 25.52 11 *eP* **P 22 20 26.1 -0.4**
comp=Z,254nm,0.8s
P41A Barry, Barry 25.53 2 P **P 22 20 26.4 -0.2**
baz=182,SNR=30
P43A Skaggs, Pawnee 25.59 5 P **P 22 20 26.9 -0.3**
baz=186,SNR=7.7
R52A Catlettsburg 25.65 18 P **P 22 20 27.2 -0.5**
baz=202,SNR=14
P45A Graceland, Par 25.68 8 *eP* **P 22 20 24.7 -3.2**
comp=Z,241nm,1.0s
P45A LR LR
comp=Z,56µm,22.0s
P45A Graceland, Par 25.68 8 P **P 22 20 27.9 0.0**
baz=190
Q49A Aurora 25.69 13 P **P 22 20 26.8 -1.2**
baz=196,SNR=23
HUMP Col San Antoni 25.75 77 *eP* **P 22 20 26.6 -2.2**
comp=Z,63nm,1.1s
HUMP LR LR
comp=Z,81µm,21.0s
CBYP Canovanas 25.76 77 *eP* **P 22 20 26.6 -2.4**
comp=Z,171nm,1.5s
CBYP LR LR
comp=Z,82µm,20.0s
Q50A Georgetown 25.76 15 P **P 22 20 27.9 -0.7**
baz=198,SNR=20
214A Organ Pipe Nat 25.84 317 P **P 22 20 29.7 +0.1**
baz=129,SNR=23
P46A Rosedale 25.85 9 P **P 22 20 28.8 -0.6**
baz=191
X18A Snowflake 25.86 325 *eP* **P 22 20 29.6 -0.2**
comp=Z,140nm,1.0s
X18A LR LR
comp=Z,107µm,19.0s
P47A Martinsville 25.88 11 P **P 22 20 28.9 -0.8**
baz=193
O41A Passleys Farm, 25.98 3 P **P 22 20 30.3 -0.4**
baz=183
P48A Milroy 26.01 12 P **P 22 20 30.1 -0.9**
baz=195,SNR=24
MTP Monte Pirata 26.03 78 *eP* **P 22 20 27.9 -3.5**
comp=Z,110nm,0.9s
MTP LR LR
comp=Z,80µm,20.0s
Q51A Peebles 26.09 16 *eP* **P 22 20 29.1 -2.6**
comp=Z,608nm,1.2s
Q51A LR LR
comp=Z,98µm,20.0s
Q51A Peebles 26.09 16 P **P 22 20 30.6 -1.1**
baz=200
O42A Bath 26.10 4 P **P 22 20 32.9 +1.2**
baz=185
W18A Petrified Fore 26.18 326 *eP* **P 22 20 33.6 +0.9**
comp=Z,242nm,1.2s
W18A Petrified Fore 26.18 326 P **P 22 20 33.7 +0.9**
baz=139,SNR=43
O44A Mansfield 26.20 7 P **P 22 20 34.3 +1.6**
baz=188
P49A Miami Univ. Ec 26.24 13 P **P 22 20 32.2 -0.8**
baz=196,SNR=20
O43A Sugar Creek Fa 26.25 5 P **P 22 20 33.6 +0.5**
baz=186
CUPR Culebra, Puert 26.30 77 *eP* **P 22 20 31.4 -2.4**
comp=Z,31nm,0.9s
CUPR LR LR
comp=Z,72µm,21.0s
SDCO Great Sand Dun 26.33 336 *eP* **P 22 20 34.7 +0.5**
comp=Z,412nm,1.6s
SDCO LR LR
comp=Z,26µm,20.0s
SDCO Great Sand Dun 26.33 336 P **P 22 20 34.9 +0.7**
baz=150,SNR=46
Q52A Bidwell 26.34 18 P **P 22 20 32.8 -1.1**
baz=202,SNR=35
O45A Potomac 26.39 8 P **P 22 20 33.8 -0.6**
baz=190,SNR=16
KSCO Kaye Shedlock' 26.45 342 *eP* **P 22 20 34.8 -0.3**
comp=Z,410nm,1.3s
KSCO Kaye Shedlock' 26.45 342 P **P 22 20 34.9 -0.2**
baz=157,SNR=25
HDIL Hopedale 26.52 5 *eP* **P 22 20 33.9 -1.6**
comp=Z,371nm,1.3s
HDIL LR LR
comp=Z,65µm,22.0s
HDIL Hopedale 26.52 5 P **P 22 20 35.9 +0.4**
baz=186,SNR=13
P50A Jamestown 26.52 15 P **P 22 20 35.0 -0.6**
baz=198,SNR=39
N41A Harden Midland 26.57 3 *eP* **P 22 20 35.0 -1.0**
comp=Z,172nm,1.0s
N41A Harden Midland 26.57 3 P **P 22 20 36.0 0.0**
baz=183
P51A Williamsport 26.60 16 *eP* **P 22 20 34.7 -1.5**
comp=Z,542nm,0.9s
P51A LR LR
comp=Z,108µm,20.0s
P51A Williamsport 26.60 16 P **P 22 20 36.0 -0.3**
baz=200
SFIN Lafayette 26.61 9 *eP* **P 22 20 34.1 -2.3**
comp=Z,182nm,0.8s
SFIN LR LR
comp=Z,32µm,22.0s
SFIN Lafayette 26.61 9 P **P 22 20 36.2 -0.1**
baz=191,SNR=7.9
STVI Saint Thomas 26.62 77 *eP* **P 22 20 35.0 -1.6**
comp=Z,392nm,1.5s
STVI LR LR
comp=Z,65µm,19.0s
O47A Sheridan 26.62 11 P **P 22 20 35.4 -1.0**
baz=193,SNR=8.8
X16A Lo Mia Camp, P 26.63 323 *eP* **P 22 20 37.5 +0.7**
comp=Z,183nm,1.4s
X16A LR LR
comp=Z,145µm,18.0s
N39A Derby Farms, D 26.71 360 *eP* **P 22 20 35.5 -1.7**
comp=Z,113nm,0.9s
N39A Derby Farms, D 26.71 360 P **P 22 20 37.2 -0.1**
baz=179
N40A Mertquake, Sal 26.72 1 P **P 22 20 37.9 +0.5**
baz=181
N42A Yates City 26.73 4 P **P 22 20 36.9 -0.5**
baz=185
CDVI St. Croix 26.75 78 *eP* **P 22 20 36.2 -1.7**
comp=Z,257nm,1.5s
O48A Farmland 26.84 12 P **P 22 20 37.4 -1.0**
baz=195,SNR=35
S22A 4UR Ranch, Cre 26.87 334 *eP* **P 22 20 39.7 +0.5**
comp=Z,396nm,1.3s
S22A LR LR
comp=Z,18µm,18.0s
S22A 4UR Ranch, Cre 26.87 334 P **P 22 20 38.9 -0.2**
baz=147,SNR=187
N44A Piper City 26.88 7 P **P 22 20 37.7 -1.0**
baz=189
N43A Stutzman Famil 26.91 5 P **P 22 20 38.8 -0.3**
baz=186,SNR=18
O49A Covington 26.95 14 *eP* **P 22 20 37.5 -1.9**
comp=Z,237nm,1.0s
O49A LR LR
comp=Z,90µm,20.0s
O49A Covington 26.95 14 P **P 22 20 38.3 -1.1**
baz=197,SNR=21
113A Mohawk Valley, 26.98 317 *eP* **P 22 20 42.4 +2.6**
comp=Z,306nm,1.6s
113A LR LR
comp=Z,88µm,18.0s
P52A Corning 27.00 18 P **P 22 20 39.2 -0.7**
baz=202,SNR=10
N45A Kentland 27.01 8 P **P 22 20 39.8 -0.1**
baz=190
R58B Mineral 27.04 26 P **P 22 20 38.8 -1.5**
baz=212
O50A Cable 27.08 15 P **P 22 20 39.6 -1.0**
baz=198,SNR=11
P53A Whipple 27.09 19 *eP* **P 22 20 38.6 -2.1**
comp=Z,349nm,1.4s
P53A LR LR
comp=Z,147µm,19.0s
P53A Whipple 27.09 19 P **P 22 20 39.1 -1.6**
baz=204,SNR=33
N46A Monticello 27.17 9 P **P 22 20 40.4 -0.9**
baz=192,SNR=14
MVCO Mesa Verde 27.18 331 *eP* **P 22 20 41.5 -0.4**
comp=Z,637nm,1.1s
MVCO LR LR
comp=Z,29µm,18.0s
MVCO Mesa Verde 27.18 331 P **P 22 20 42.7 +0.8**
baz=144,SNR=124
ABVI Anegada Island 27.24 76 *eP* **P 22 20 39.5 -2.8**
comp=Z,967nm,1.8s
ABVI LR LR
comp=Z,72µm,20.0s
M40A Post Highland 27.24 1 P **P 22 20 42.7 +0.6**
baz=181
M41A Milan 27.25 3 P **P 22 20 41.3 -0.8**
baz=183,SNR=24
Q24A Divide 27.26 338 *eP* **P 22 20 42.5 -0.1**
comp=Z,146nm,1.3s
Q24A LR LR
comp=Z,20µm,21.0s
Q24A Divide 27.26 338 P **P 22 20 42.6 0.0**
baz=152,SNR=22
M39A Webster 27.31 0 P **P 22 20 43.2 +0.6**
baz=180
ACSO Alum Creek Sta 27.32 16 *eP* **P 22 20 41.0 -1.8**
comp=Z,216nm,1.0s
ACSO LR LR
comp=Z,102µm,19.0s
ACSO Alum Creek Sta 27.32 16 P **P 22 20 41.9 -0.9**
baz=200,SNR=16
N47A Urbana 27.33 11 P **P 22 20 42.9 0.0**
baz=194,SNR=15
O51A Pataskala 27.34 16 P **P 22 20 42.3 -0.7**
baz=200,SNR=18
PCRV Puerto La Cruz 27.34 95 P **P 22 20 43.2 -0.1**
comp=Z,6.6nm,0.4s,baz=315,slow=7.1,SNR=3.3
WUAZ Wupatki 27.37 325 *eP* **P 22 20 43.7 +0.2**
comp=Z,150nm,1.1s
WUAZ LR LR
comp=Z,124µm,18.0s
WUAZ Wupatki 27.37 325 P **P 22 20 44.5 +1.0**
baz=136,SNR=42
M42A Sheffield 27.38 4 P **P 22 20 42.7 -0.5**
baz=185
M43A Waltham Townsh 27.42 6 P **P 22 20 43.5 -0.2**
baz=187,SNR=16
N48A Decatur 27.44 12 P **P 22 20 43.0 -0.9**
baz=195,SNR=38
CBN Corbin Frederi 27.45 26 *eP* **P 22 20 42.4 -1.6**
comp=Z,220nm,1.0s
CBN Corbin Frederi 27.45 26 P **P 22 20 42.7 -1.3**
baz=212
M44A Midewin, Midew 27.47 7 *eP* **P 22 20 41.8 -2.3**
comp=Z,208nm,1.1s
M44A LR LR
comp=Z,63µm,22.0s
M44A Midewin, Midew 27.47 7 P **P 22 20 44.1 0.0**
baz=189
O52A Adamsville 27.53 18 *eP* **P 22 20 42.0 -2.7**
comp=Z,386nm,1.2s
O52A LR LR
comp=Z,146µm,20.0s

O52A Adamsville 27.53 18 P P 22 20 44.0 -0.7
baz=202,SNR=34
M45A Boilermakers S 27.57 8 P P 22 20 44.6 -0.4
baz=190
N49A Columbus Grove 27.68 13 eP P 22 20 44.0 -2.0
comp=Z,157nm,1.0s
N49A LR LR
comp=Z,77µm,19.0s
N49A Columbus Grove 27.68 13 P P 22 20 45.9 -0.1
baz=197
BGNE Belgrade 27.70 351 eP P 22 20 45.7 -0.5
comp=Z,308nm,1.2s
BGNE Belgrade 27.70 351 P P 22 20 46.4 +0.2
baz=168,SNR=7.9
M46A Old House Fiel 27.73 10 eP P 22 20 45.2 -1.2
comp=Z,142nm,0.9s
M46A LR LR
comp=Z,40µm,22.0s
SCIA State Center 27.75 359 eP P 22 20 46.1 -0.5
comp=Z,222nm,1.3s
SCIA State Center 27.75 359 P P 22 20 47.0 +0.5
baz=178
MCWV Mont Chateau 27.75 21 eP P 22 20 44.6 -2.1
comp=Z,76nm,1.1s
MCWV LR LR
comp=Z,60µm,19.0s
MCWV Mont Chateau 27.75 21 P P 22 20 46.2 -0.4
baz=206,SNR=8.2
N50A Nevada 27.79 15 P P 22 20 46.6 -0.3
baz=199
M47A Cromwell 27.81 11 P P 22 20 47.0 -0.2
baz=194,SNR=8.6
GLA Glamis 27.86 317 eP P 22 20 48.2 +0.5
comp=Z,192nm,1.2s
GLA eP P 22 20 53.3 +5.5
GLA LR LR
comp=Z,61µm,22.0s
GLA Glamis 27.86 317 eP P 22 20 48.2 +0.5
GLA pmax pmax
comp=Z,192nm,1.2s
GLA MLR MLR
comp=Z,61µm,22.0s
GLA Glamis 27.86 317 P P 22 20 48.3 +0.6
baz=127,SNR=8.2
L40A Anamosa 27.91 2 eP P 22 20 47.6 -0.4
comp=Z,293nm,1.2s
L40A Anamosa 27.91 2 P P 22 20 48.0 0.0
baz=182,SNR=11
L42A Oliver, Polo 27.93 4 eP P 22 20 46.9 -1.3
comp=Z,246nm,1.1s
L42A LR LR
comp=Z,64µm,22.0s
L42A Oliver, Polo 27.93 4 P P 22 20 48.0 -0.2
baz=185,SNR=9.7
L41A Preston 27.95 3 P P 22 20 48.2 -0.2
baz=183,SNR=11
L39A Vinton 27.95 1 P P 22 20 48.8 +0.4
baz=180
PV01 Paradox Valley 27.96 332 eP P 22 20 49.3 +0.4
OGNE Ogallala 28.08 344 eP P 22 20 49.9 +0.2
comp=Z,277nm,1.0s
OGNE Ogallala 28.08 344 P P 22 20 50.2 +0.5
baz=159,SNR=19
Y12C Blythe 28.09 318 eP P 22 20 50.0 +0.2
comp=Z,97nm,1.1s
Y12C LR LR
comp=Z,90µm,18.0s
Y12C Blythe 28.09 318 P P 22 20 50.4 +0.6
baz=129,SNR=7.9
PV13 Radium Mtn., P 28.10 332 eP P 22 20 50.6 +0.6
comp=Z,579nm,1.2s
PV13 LR LR
comp=Z,32µm,18.0s
PV02 Paradox Valley 28.10 332 eP P 22 20 50.9 +0.8
comp=Z,650nm,1.2s
M48A Edgerton 28.11 12 eP P 22 20 48.0 -1.8
comp=Z,256nm,1.2s
M48A LR LR
comp=Z,73µm,19.0s
M48A Edgerton 28.11 12 P P 22 20 49.4 -0.4
baz=196
N51A Ashland 28.12 16 eP P 22 20 49.0 -1.0
comp=Z,222nm,1.1s
N51A LR LR
comp=Z,117µm,21.0s
N51A Ashland 28.12 16 P P 22 20 49.7 -0.3
baz=200
SMCO Snowmass 28.15 335 eP P 22 20 50.9 +0.2
comp=Z,315nm,1.5s
SMCO LR LR
comp=Z,19µm,18.0s
PV05 Paradox Valley 28.16 331 eP P 22 20 50.8 +0.2
ISCO Idaho Springs 28.16 338 eP P 22 20 50.9 +0.2
comp=Z,59nm,1.0s
ISCO LR LR
comp=Z,23µm,20.0s
ISCO Idaho Springs 28.16 338 eP P 22 20 50.9 +0.2
ISCO pmax pmax
comp=Z,59nm,1.0s
ISCO MLR MLR
comp=Z,23µm,20.0s
ISCO Idaho Springs 28.16 338 P P 22 20 50.8 +0.1
baz=152,SNR=25
L43A Garden Prairie 28.18 6 P P 22 20 50.3 -0.1
baz=187
PV03 Paradox Valley 28.19 332 eP P 22 20 51.3 +0.5
SABA Saba 28.19 79 PFAKE 22 21 00.0 +9.2
SABA LR LR
comp=Z,75µm,22.0s
SABA Saba 28.19 79 eP P 22 20 47.7 -3.2
PDMCI Parker Dam,Lak 28.20 319 P P 22 20 51.4 +0.8
baz=130,SNR=29
PV18 Skein Mesa, Pa 28.21 332 eP P 22 20 52.0 +1.0
comp=Z,572nm,1.1s
PV18 LR LR
comp=Z,27µm,18.0s
PV12 Saucer Basin, 28.22 332 eP P 22 20 51.4 +0.3
comp=Z,818nm,1.2s
PV12 LR LR
comp=Z,49µm,18.0s
PV11 David Mesa, Pa 28.23 332 eP P 22 20 51.7 +0.5
comp=Z,845nm,1.2s
PV11 LR LR
comp=Z,36µm,18.0s
M49A Liberty Center 28.25 13 P P 22 20 50.6 -0.5
baz=197
PV17 East Wray Mesa 28.26 332 eP P 22 20 52.0 +0.6
comp=Z,523nm,1.1s
PV17 LR LR
comp=Z,32µm,18.0s
PV16 Nyswonger Mesa 28.27 332 eP P 22 20 52.2 +0.7
comp=Z,619nm,1.2s
PV16 LR LR
comp=Z,27µm,18.0s
L44A Lake County Fo 28.27 7 P P 22 20 50.5 -0.7
baz=189
PV19 Morning Glory 28.30 332 eP P 22 20 52.1 +0.3
comp=Z,447nm,1.2s
PV19 LR LR
comp=Z,11µm,21.0s
PV20 West Nyswonger 28.31 332 eP P 22 20 52.4 +0.5
comp=Z,578nm,1.3s
PV20 LR LR
comp=Z,30µm,22.0s
L46A Eue Claire 28.33 10 P P 22 20 50.7 -1.1
baz=192
PV14 Lion Creek, Pa 28.36 332 eP P 22 20 52.8 +0.4
comp=Z,539nm,1.2s
PV14 LR LR
comp=Z,32µm,22.0s
PV10 Paradox Valley 28.38 332 eP P 22 20 52.9 +0.4
SMRT St. Maarten 28.38 78 PFAKE 22 21 00.0 +7.5
SMRT LR LR
comp=Z,48µm,19.0s
SMRT St. Maarten 28.38 78 eP P 22 20 46.6 -5.8
PV22 Blue Mesa, Par 28.39 332 eP P 22 20 53.3 +0.7
comp=Z,377nm,1.1s
PV22 LR LR
comp=Z,23µm,18.0s
M50A Fremont 28.41 15 eP P 22 20 51.7 -0.8
comp=Z,169nm,1.3s
M50A LR LR
comp=Z,117µm,20.0s
M50A Fremont 28.41 15 P P 22 20 51.3 -1.2
baz=199
PV23 Carpenter Ridg 28.42 332 eP P 22 20 53.9 +0.9
comp=Z,488nm,1.1s
PV23 LR LR
comp=Z,36µm,22.0s
SEUS St. Eustatius 28.43 79 PFAKE 22 21 00.0 +7.0
SEUS LR LR
comp=Z,79µm,21.0s
SWSC Sam W. Stewart 28.45 315 P P 22 20 53.4 +0.4
baz=126,SNR=13
L47A Sherwood 28.48 11 P P 22 20 51.8 -1.3
baz=194
K41A Shullsburg 28.49 3 P P 22 20 53.5 +0.3
baz=184
IKP In-Ko-Pah, Jac 28.50 315 P P 22 20 54.7 +1.2
baz=125,SNR=31
PV21 Cone Mtn., Par 28.50 332 eP P 22 20 54.6 +1.0
comp=Z,479nm,1.5s
PV21 LR LR
comp=Z,32µm,18.0s
PV09 Paradox Valley 28.52 332 eP P 22 20 54.4 +0.6
K39A Oelwein 28.54 1 P P 22 20 52.5 -1.1
baz=181
U15A North Rim 28.55 325 eP P 22 20 54.9 +0.8
comp=Z,213nm,1.4s
U15A LR LR
comp=Z,116µm,18.0s
K40A Colesburg 28.55 2 P P 22 20 54.2 +0.5
baz=182,SNR=8.3
W13A Hualapai Mount 28.56 321 eP P 22 20 54.8 +0.6
comp=Z,181nm,1.4s
W13A LR LR
comp=Z,101µm,18.0s
M51A Elyria 28.56 16 P P 22 20 52.7 -1.2
baz=201,SNR=8.7
L48A N Adams 28.61 12 P P 22 20 52.3 -1.9
baz=196,SNR=14
BC3 Big Chuckawall 28.64 317 P P 22 20 55.9 +1.1
baz=127,SNR=84
SDMD Soldier's Deli 28.69 26 eP P 22 20 53.3 -1.8
comp=Z,33nm,0.9s
SDMD LR LR
comp=Z,38µm,20.0s
K42A Prairie Point, 28.72 5 P P 22 20 55.3 +0.1
baz=186
K43A Burlington 28.74 6 PFAKE 22 21 10.0 +15
K43A LR LR
comp=Z,65µm,22.0s
K43A Burlington 28.74 6 P P 22 20 57.8 +2.4
baz=188
IRM Iron Mountain 28.75 318 P P 22 20 56.6 +0.9
baz=128,SNR=53
O56A Blue Knob Stat 28.75 22 eP P 22 20 54.3 -1.3
comp=Z,215nm,1.3s
O56A LR LR
comp=Z,128µm,20.0s
O56A Blue Knob Stat 28.75 22 P P 22 20 54.4 -1.2
baz=208,SNR=25
NEE2 Needles Airpor 28.80 320 P P 22 20 56.4 +0.4
baz=130
JFWS Jewell Farm 28.80 3 eP P 22 20 55.2 -0.7
comp=Z,204nm,1.1s
JFWS LR LR
comp=Z,41µm,21.0s
JFWS Jewell Farm 28.80 3 eP P 22 20 55.2 -0.7
JFWS pmax pmax
comp=Z,204nm,1.1s
JFWS MLR MLR
comp=Z,41µm,21.0s
JFWS Jewell Farm 28.80 3 P P 22 20 55.9 0.0
baz=184
MONP2 Monument Peak 28.85 315 P P 22 20 57.9 +1.2
baz=125,SNR=8.6
N54A Moraine State 28.88 20 eP P 22 20 54.1 -2.6
comp=Z,204nm,1.0s
N54A LR LR
comp=Z,120µm,19.0s
N54A Moraine State 28.88 20 P P 22 20 54.8 -1.9
baz=205,SNR=34
BAR Barrett 28.90 314 eP P 22 21 01.3 +4.2
comp=Z,213nm,1.9s
BAR LR LR
comp=Z,36µm,18.0s
L49A Milan 28.91 13 P P 22 20 55.8 -1.1
baz=197,SNR=9.8
K46A Dorr 29.07 10 P P 22 20 58.3 -0.1
baz=193
AAM An Arbor 29.11 13 eP P 22 20 57.3 -1.4
comp=Z,338nm,1.4s
AAM LR LR
comp=Z,76µm,19.0s
AAM Ann Arbor 29.11 13 eP P 22 20 57.3 -1.4
AAM pmax pmax
comp=Z,338nm,1.4s
AAM MLR MLR
comp=Z,76µm,19.0s
AAM An Arbor 29.11 13 P P 22 20 58.2 -0.5
baz=197
MLYT Lee's Yard 29.16 81 eP P 22 20 58.4 -1.2
J39A Decorah 29.17 1 P P 22 20 59.9 +0.7
baz=181
K47A Vermontville 29.19 11 P P 22 20 59.4 0.0
baz=194
BELC Belle Mtn. Jos 29.21 317 P P 22 21 01.0 +1.1
baz=127,SNR=9.7
N23A Red Feather La 29.25 339 eP P 22 20 59.4 -0.8
comp=Z,73nm,1.2s
N23A LR LR
comp=Z,24µm,21.0s
N23A Red Feather La 29.25 339 P P 22 21 00.8 +0.5
baz=152,SNR=7.2
J40A Soldiers Grove 29.26 2 P P 22 21 00.6 +0.6
baz=183
J41A Loganville 29.26 3 P P 22 21 00.6 +0.6
baz=184
KNB Kanab 29.26 325 eP P 22 21 00.9 +0.5
comp=Z,332nm,1.5s
KNB LR LR
comp=Z,78nm,19.0s
KNB Kanab 29.26 325 eP P 22 21 00.9 +0.5
KNB pmax pmax
comp=Z,332nm,1.5s
KNB MLR MLR
comp=Z,78nm,19.0s
J42A Columbus 29.28 5 P P 22 21 00.3 +0.2
baz=186
TPFO Pinon Flats 29.28 316 P P 22 21 01.0 +0.5
baz=126
XPFO Piæon Flat 29.29 316 eP P 22 21 01.1 +0.6
comp=Z,96nm,1.2s
XPFO LR LR
comp=Z,6µm,18.0s
PFO Pinyon Flats O 29.29 316 eP P 22 21 01.1 +0.5
comp=Z,96nm,1.2s
PFO LR LR
comp=Z,47µm,19.0s
PFO Pinyon Flats O 29.29 316 eP P 22 21 01.1 +0.5
PFO pmax pmax
comp=Z,96nm,1.2s
PFO MLR MLR
comp=Z,47µm,19.0s
PFO Pinyon Flats O 29.29 316 P P 22 21 01.3 +0.8
baz=126,SNR=11
PKCU Pink Cliffs 29.30 326 eP P 22 21 01.4 +0.6
comp=Z,390nm,1.4s
PKCU LR LR
comp=Z,129µm,18.0s
LDFC Landfair 29.30 320 eP P 22 21 01.6 +0.9
comp=Z,230nm,1.1s
LDFC LR LR
comp=Z,162µm,18.0s
FRD Ford Ranch, An 29.32 315 P P 22 21 02.1 +1.3
baz=125,SNR=8.8
109C Camp Elliot, M 29.32 314 P P 22 21 01.7 +1.0
baz=124
CPE Camp Elliot 29.32 314 eP P 22 21 01.9 +1.2
comp=Z,194nm,1.4s
CPE LR LR
comp=Z,49µm,20.0s
SSPA Standing Stone 29.32 23 eP P 22 20 58.0 -2.7
comp=Z,320nm,1.6s
SSPA LR LR
comp=Z,104µm,20.0s
SSPA Standing Stone 29.32 23 P P 22 20 59.9 -0.7
baz=209
MVL Millersville 29.39 26 eP P 22 20 58.4 -2.8
comp=Z,111nm,1.2s
MVL LR LR
comp=Z,83µm,21.0s
J43A Natural Harves 29.40 6 P P 22 21 01.6 +0.3
baz=187
PAGS Pennsylvania G 29.43 25 eP P 22 20 58.9 -2.7
comp=Z,174nm,1.7s
PAGS LR LR
comp=Z,86µm,20.0s
PHWY Pilot Hill 29.44 340 eP P 22 21 01.2 -0.8
comp=Z,59nm,1.1s
PHWY LR LR
comp=Z,18µm,21.0s
ALLY Alegheny Colle 29.45 19 eP P 22 20 59.2 -2.6
comp=Z,171nm,1.0s
ALLY LR LR
comp=Z,159µm,20.0s
GMRC Granite Mounta 29.47 319 P P 22 21 03.3 +1.1
baz=128,SNR=34
M54A Oil Creek Stat 29.47 20 eP P 22 20 59.9 -2.1
comp=Z,731nm,2.0s
M54A LR LR
comp=Z,115µm,19.0s
M54A Oil Creek Stat 29.47 20 P P 22 21 01.2 -0.8
baz=205
O20A White River Ci 29.48 335 eP P 22 21 02.1 -0.1
comp=Z,189nm,1.1s
O20A LR LR
comp=Z,24µm,20.0s
O20A White River Ci 29.48 335 P P 22 21 02.9 +0.6
baz=147,SNR=50
BPA Boggy Peak 29.49 80 eP P 22 21 13.8 +11
K48A Perry 29.50 12 P P 22 21 00.3 -1.8
baz=196
LCMT Little Creek M 29.50 325 eP P 22 21 02.3 -0.1
comp=Z,116nm,1.4s
LCMT LR LR
comp=Z,70µm,20.0s
ANWB Willy Bob 29.58 79 PFAKE 22 21 10.0 +6.8
ANWB LR LR
comp=Z,47µm,22.0s
ANWB Willy Bob 29.58 79 eP P 22 20 58.9 -4.2
K49A Clarkson 29.62 13 P P 22 21 03.2 0.0
baz=197
SRU San Rafael Swe 29.66 331 eP P 22 21 03.0 -0.9
comp=Z,234nm,1.3s
SRU LR LR
comp=Z,37µm,19.0s
SRU San Rafael Swe 29.66 331 eP P 22 21 03.0 -0.9
SRU pmax pmax
comp=Z,234nm,1.3s
SRU MLR MLR
comp=Z,37µm,19.0s
MTPU Mount Pierson 29.67 327 eP P 22 21 03.7 -0.4
comp=Z,155nm,1.2s
MTPU LR LR
comp=Z,138µm,18.0s
I39A Houston 29.69 1 eP P 22 21 02.7 -1.1
comp=Z,119nm,1.0s
I39A LR LR
comp=Z,8µm,19.0s
I39A Houston 29.69 1 P P 22 21 04.4 +0.6
baz=181
PSUB Penn St. - Bra 29.72 27 eP P 22 21 02.7 -1.4
comp=Z,136nm,1.6s
PSUB LR LR
comp=Z,102µm,20.0s
I40A Norwalk 29.76 2 P P 22 21 04.5 +0.1
baz=183
MURC Murrieta 29.78 315 P P 22 21 06.2 +1.3
baz=125,SNR=9.2
ECSD EROS Data Cent 29.79 354 eP P 22 21 02.2 -2.5
comp=Z,162nm,1.4s
ECSD LR LR
comp=Z,14µm,20.0s
ECSD EROS Data Cent 29.79 354 P P 22 21 05.4 +0.7
baz=171,SNR=19
K50A Casco 29.80 14 P P 22 21 04.3 -0.6
baz=199
SZCU Shurtz Canyon 29.83 326 eP P 22 21 05.6 +0.2
comp=Z,189nm,1.0s
SZCU LR LR
comp=Z,74µm,19.0s
BBL Barber's Block 29.86 83 eP P 22 20 55.5 -10
I42A Draeger Farm, 29.86 5 eP P 22 21 02.8 -2.6
comp=Z,103nm,0.9s
I42A LR LR
comp=Z,67µm,21.0s
I42A Draeger Farm, 29.86 5 P P 22 21 04.7 -0.6
baz=186
ERPA Erie 29.92 19 eP P 22 21 03.2 -2.7
comp=Z,152nm,1.0s
ERPA LR LR
comp=Z,146µm,20.0s
I43A Langenfeld Bro 29.93 6 P P 22 21 06.2 +0.3
baz=188
GRGR Grenville 29.93 90 PFAKE 22 21 20.0 +14
GRGR LR LR
comp=Z,28µm,19.0s
HEC Hector,Ludlow 29.93 318 P P 22 21 07.3 +1.1
baz=126,SNR=23
CCUT Cedar City 29.95 325 eP P 22 21 07.3 +0.9
comp=Z,134nm,1.1s
CCUT LR LR
comp=Z,69µm,19.0s
I41A Arkdale 29.96 4 eP P 22 21 04.7 -1.6
comp=Z,69nm,1.0s
I41A LR LR
comp=Z,58µm,21.0s
I41A Arkdale 29.96 4 P P 22 21 06.9 +0.6
baz=184
MGG Marie-Galante 30.00 82 eP P 22 21 10.1 +3.2
MSU Marysvale 30.02 328 eP P 22 21 07.7 +0.7
J48A Bridge Port 30.04 13 P P 22 21 07.1 +0.1
baz=196
TUQ Turquoise Moun 30.05 319 P P 22 21 08.6 +1.3
baz=129,SNR=7.6
P17A Butcher Ranch, 30.05 331 eP P 22 21 06.9 -0.3
comp=Z,281nm,1.3s
P17A LR LR
comp=Z,33nm,20.0s
DLPL La Plaine 30.08 84 eP P 22 21 14.1 +6.5
NNA Nana 30.10 149 LR LR 22 30 55.8
comp=Z,50nm,21.1s,baz=327,slow=32
NNA Nana 30.10 149 eP P 22 21 07.5 -0.3
comp=Z,109nm,1.2s
NNA LR LR
comp=Z,51nm,21.0s
NNA Nana 30.10 149 i P P 22 21 10.5 +2.7
TMUT Trail Mountain 30.13 330 eP P 22 21 08.8 +0.6
comp=Z,321nm,1.6s
TMUT LR LR
comp=Z,43µm,20.0s
FDF Fort de France 30.20 85 PFAKE 22 21 20.0 +11
FDF LR LR
comp=Z,61µm,18.0s
FDF Fort de France 30.20 85 eP P 22 21 11.3 +2.6
SVB Belmont 30.20 88 PFAKE 22 21 20.0 +11
SVB LR LR
comp=Z,29µm,21.0s
SVB Belmont 30.20 88 eP P 22 21 09.4 +0.7
TCRU Three Creeks R 30.23 328 PFAKE 22 21 20.0 +11
TCRU LR LR
comp=Z,154µm,18.0s
J49A Marlette 30.24 13 P P 22 21 06.6 -2.1
baz=198
SHPR Sheep Range 30.27 322 eP P 22 21 09.7 +0.5
comp=Z,158nm,1.4s
SHPR LR LR
comp=Z,119µm,18.0s
LUPA Lehigh Univers 30.30 26 eP P 22 21 07.1 -2.2
comp=Z,5.4nm,0.6s
LUPA LR LR
comp=Z,7µm,21.0s
I45A Fountain 30.32 9 P P 22 21 08.1 -1.2
baz=191
I46A Reed City 30.35 10 P P 22 21 08.5 -1.2
baz=193
TRN Trinidad (W) 30.39 93 eP P 22 21 14.7 +4.3
N59A State Game Lan 30.40 25 eP P 22 21 08.1 -2.1
comp=Z,120nm,1.4s
N59A LR LR
comp=Z,93µm,21.0s
N59A State Game Lan 30.40 25 P P 22 21 08.7 -1.5
baz=213
RWWY Rawlins 30.40 338 eP P 22 21 10.9 +0.4
comp=Z,156nm,1.0s
RWWY LR LR
comp=Z,20µm,20.0s
BFSC Mount Baldy Ra 30.46 316 P P 22 21 12.2 +1.2
baz=125,SNR=6.8
MCLT Moule a Chique 30.46 87 eP P 22 21 16.2 +5.2
H40A Chili 30.50 3 P P 22 21 09.4 -1.5
baz=183

H38A Maiden Rock 30.50 0 P P 22 21 08.9 -2.1
baz=180
H42A Shiocton 30.51 5 PFAKE 22 21 20.0 +8.9
H42A LR LR
comp=Z,60µm,21.0s
H39A Augusta 30.52 1 P P 22 21 10.0 -1.2
baz=182
CIS Catalina Islan 30.52 314 P P 22 21 12.9 +1.6
baz=123
GSC Goldstone, Bar 30.53 318 eP P 22 21 12.1 +0.6
comp=Z,77nm,1.4s
GSC LR LR
comp=Z,52µm,18.0s
GSC Goldstone, Bar 30.53 318 eP P 22 21 12.1 +0.6
GSC pmax pmax
comp=Z,77nm,1.4s
GSC MLR MLR
comp=Z,52µm,18.0s
GSC Goldstone, Bar 30.53 318 P P 22 21 12.4 +0.9
baz=128,SNR=8.6
H41A Junction City 30.53 4 PFAKE 22 21 20.0 +8.8
H41A LR LR
comp=Z,67µm,22.0s
H41A Junction City 30.53 4 P P 22 21 11.5 +0.3
baz=185
ELFO Elginfield 30.53 16 P P 22 21 08.5 -2.8
baz=201
H43A Windswept, Lux 30.55 6 PFAKE 22 21 30.0 +19
H43A LR LR
comp=Z,53µm,22.0s
SHOC Shoshone, Teco 30.56 320 P P 22 21 12.6 +0.9
baz=129
I47A Gladwin 30.59 11 P P 22 21 11.4 -0.4
baz=195
MWC Mount Wilson 30.73 315 PFAKE 22 21 30.0 +17
MWC LR LR
comp=Z,50µm,22.0s
PASC Pasadena Art C 30.79 315 eP P 22 21 18.4 +4.8
PASC LR LR
comp=Z,42µm,19.0s
SUSD Miller 30.79 351 P P 22 21 13.9 +0.3
baz=167
TYNO Tyneside 30.85 18 P P 22 21 11.9 -2.2
baz=204,SNR=22
MPU Maple Canyon 30.90 330 eP P 22 21 16.2 +1.3
comp=Z,166nm,1.1s
MPU LR LR
comp=Z,70µm,19.0s
I48A Sherman Twp 30.91 12 P P 22 21 12.8 -1.8
baz=196
PSUT Pine Spring 30.92 326 eP P 22 21 16.4 +1.3
comp=Z,119nm,1.1s
PSUT LR LR
comp=Z,74µm,18.0s
DECC Green Verdugo 30.93 315 P P 22 21 15.9 +0.9
baz=124
KSPA Keystone Colle 30.94 25 eP P 22 21 14.6 -0.4
comp=Z,155nm,1.5s
KSPA LR LR
comp=Z,84µm,20.0s
H46A Fife Lake 30.97 10 P P 22 21 15.1 0.0
baz=193
BOT Bacolet 30.97 92 eP P 22 21 14.5 -1.0
K22A Casper 31.00 339 eP P 22 21 15.6 0.0
comp=Z,261nm,1.5s
K22A LR LR
comp=Z,21µm,21.0s
K22A Casper 31.00 339 P P 22 21 16.0 +0.4
baz=152,SNR=25
ODNJ Ogdensburg 31.03 27 eP P 22 21 14.8 -0.9
comp=Z,108nm,1.3s
ODNJ LR LR
comp=Z,90µm,20.0s
SPMN Marine on St. 31.05 359 eP P 22 21 15.6 -0.2
comp=Z,77nm,0.6s
SPMN LR LR
comp=Z,9µm,20.0s
SPMN Marine on St. 31.05 359 P P 22 21 16.1 +0.2
baz=179
EDW2 Edwards Air Fo 31.06 316 P P 22 21 16.1 -0.1
baz=125,SNR=7.2
NLU North Lily Min 31.07 330 eP P 22 21 17.5 +1.2
comp=Z,275nm,1.5s
NLU LR LR
comp=Z,72µm,18.0s
CPNY Central Park 31.08 28 PFAKE 22 21 30.0 +14
CPNY LR LR
comp=Z,115µm,21.0s
BBSR BB Station 31.11 49 eP P 22 21 16.8 +0.3
comp=Z,92nm,0.9s
BBSR LR LR
comp=Z,31µm,21.0s
G39A Holcombe 31.13 2 P P 22 21 14.7 -1.8
baz=182
TOSP Speyside 31.13 91 eP P 22 21 14.9 -1.9
G40A Rib Lake 31.15 3 PFAKE 22 21 30.0 +13
G40A LR LR
comp=Z,47µm,20.0s
G40A Rib Lake 31.15 3 P P 22 21 15.9 -0.8
baz=184
G41A Antigo 31.15 4 P P 22 21 17.2 +0.4
baz=186
MMNY Mt. Morris Dam 31.15 21 eP P 22 21 14.8 -2.0
comp=Z,206nm,1.3s
MMNY LR LR
comp=Z,94µm,20.0s
STCO Saint Catharin 31.17 19 P P 22 21 14.3 -2.5
baz=205
LRMC Laurel Mtn Rad 31.20 318 P P 22 21 18.5 +1.0
baz=126,SNR=25
BASO Ashfield 31.21 15 P P 22 21 15.2 -2.0
baz=200
TPNV Topopah Spring 31.22 321 eP P 22 21 19.1 +1.5
comp=Z,281nm,1.6s
TPNV LR LR
comp=Z,129µm,18.0s
TPNV Topopah Spring 31.22 321 eP P 22 21 19.1 +1.5
TPNV pmax pmax
comp=Z,281nm,1.6s
TPNV MLR MLR
comp=Z,129µm,18.0s
TPNV Topopah Spring 31.22 321 P P 22 21 18.7 +1.0
baz=130,SNR=57
SNCC San Nicolas Is 31.23 312 PFAKE 22 21 30.0 +12
SNCC LR LR
comp=Z,26µm,20.0s
G42A Mountain 31.25 5 PFAKE 22 21 30.0 +12
G42A LR LR
comp=Z,52µm,21.0s
ACTO Acton 31.26 17 P P 22 21 16.2 -1.6
baz=203,SNR=14
JLU Jordanelle 31.27 331 eP P 22 21 19.2 +1.0
comp=Z,149nm,1.3s
JLU LR LR
comp=Z,40µm,18.0s
PAL Palisades 31.28 27 eP P 22 21 15.9 -2.0
comp=Z,52nm,0.8s
PAL LR LR
comp=Z,119µm,20.0s
PAL Palisades 31.28 27 eP P 22 21 15.9 -2.0
PAL pmax pmax
comp=Z,53nm,0.8s
PAL MLR MLR
comp=Z,119µm,20.0s
PAL Palisades 31.28 27 P P 22 21 15.3 -2.6
baz=216
FURC Furnace Creek, 31.29 320 P P 22 21 18.9 +0.9
baz=129,SNR=7.7
G43A Wallace 31.33 6 eP P 22 21 19.5 +1.2
comp=Z,111nm,1.3s
G43A LR LR
comp=Z,46µm,22.0s
G43A Wallace 31.33 6 P P 22 21 18.5 +0.2
baz=188
GLMI Grayling 31.35 11 eP P 22 21 17.6 -0.9
comp=Z,182nm,0.9s
GLMI LR LR
comp=Z,45µm,19.0s
MEDO Medina 31.36 20 P P 22 21 15.4 -3.1
baz=206,SNR=11
BLG Laguna Peak, P 31.36 314 P P 22 21 19.3 +0.5
baz=123
G45A Suttons Bay 31.39 9 P P 22 21 17.3 -1.5
baz=192
BINY Binghamton 31.40 24 eP P 22 21 17.3 -1.7
comp=Z,177nm,1.1s
BINY LR LR
comp=Z,78µm,20.0s

OSI Osito Audit: C 31.40 315 eP P 22 21 24.6 +5.4
OSI LR LR
comp=Z,47µm,21.0s
OSI Osito Audit: C 31.40 315 P P 22 21 20.2 +1.0
baz=124
MPMC Manual Prospec 31.43 319 P P 22 21 19.5 0.0
baz=128,SNR=57
BWLO Walkerton 31.44 16 P P 22 21 17.0 -2.3
baz=201
BRCO Bruce Peninsul 31.48 15 P P 22 21 17.7 -1.9
baz=200
CTU Camp Tracy 31.48 331 eP P 22 21 21.3 +1.4
comp=Z,598nm,1.9s
CTU LR LR
comp=Z,39µm,21.0s
F37A Hinrichs Farm, 31.55 360 P P 22 21 20.7 +0.5
baz=179
RSSD Black Hills 31.58 344 eP P 22 21 20.5 -0.3
comp=Z,44nm,0.7s
RSSD LR LR
comp=Z,15µm,21.0s
RSSD Black Hills 31.58 344 eP P 22 21 20.5 -0.3
RSSD pmax pmax
comp=Z,45nm,0.7s
RSSD MLR MLR
comp=Z,15µm,21.0s
RSSD Black Hills 31.58 344 P P 22 21 21.0 +0.2
baz=158
DUG Dugway, Tooele 31.61 329 eP P 22 21 22.6 +1.5
comp=Z,97nm,1.1s
DUG LR LR
comp=Z,101µm,19.0s
DUG Dugway, Tooele 31.61 329 P P 22 21 22.1 +1.0
baz=139,SNR=53
DAC Darwin (Calif) 31.63 319 eP P 22 21 22.0 +0.7
comp=Z,111nm,1.3s
DAC LR LR
comp=Z,79µm,19.0s
DAC Darwin (Calif) 31.63 319 eP P 22 21 22.0 +0.7
DAC pmax pmax
comp=Z,111nm,1.3s
DAC MLR MLR
comp=Z,79µm,19.0s
TCUT Toone Canyon 31.66 332 eP P 22 21 22.9 +1.3
comp=Z,912nm,1.2s
TCUT LR LR
comp=Z,56µm,18.0s
F41A Three Lakes 31.68 4 PFAKE 22 21 30.0 +8.6
F41A LR LR
comp=Z,58µm,21.0s
SCZ2 Santa Cruz Isl 31.70 314 P P 22 21 22.7 +1.0
baz=122
R11A Troy Canyon, C 31.76 324 eP P 22 21 23.7 +1.3
comp=Z,152nm,1.5s
R11A LR LR
comp=Z,98µm,19.0s
R11A Troy Canyon, C 31.76 324 P P 22 21 23.4 +1.0
baz=133,SNR=76
ARVC Arvin 31.76 316 P P 22 21 23.4 +1.1
baz=124,SNR=8.3
F39A Loretta 31.77 2 P P 22 21 21.2 -1.0
baz=182
F42A Maple Grove Fa 31.79 6 P P 22 21 20.4 -1.9
baz=187
F38A Pierce - Schro 31.79 1 P P 22 21 22.4 0.0
baz=180
F40A Park Falls 31.80 3 P P 22 21 21.5 -1.0
baz=184
ISA Isabella, Lake 31.83 317 eP P 22 21 24.0 +1.1
comp=Z,90nm,1.4s
ISA LR LR
comp=Z,49µm,18.0s
ISA Isabella, Lake 31.83 317 eP P 22 21 24.0 +1.1
ISA pmax pmax
comp=Z,90nm,1.4s
ISA MLR MLR
comp=Z,49µm,18.0s
ISA Isabella, Lake 31.83 317 P P 22 21 23.9 +0.9
baz=126,SNR=13
BBGH Gun Hill 31.85 88 PFAKE 22 21 30.0 +6.7
BBGH LR LR
comp=Z,41µm,20.0s
BBGH Gun Hill 31.85 88 eP P 22 21 29.6 +6.3
BMRO Meriville Lake 31.86 15 P P 22 21 20.8 -2.1
baz=200
PKRO Pickering 31.88 18 P P 22 21 21.2 -1.9
baz=205,SNR=9.0
DRWO Darlington Wes 31.90 19 P P 22 21 21.3 -2.0
baz=205,SNR=14
DRCO St. Marys Ceme 31.91 19 P P 22 21 21.7 -1.7
baz=205,SNR=10
GRAC Grapevine Rang 31.93 320 P P 22 21 25.2 +1.4
baz=129,SNR=56
F43A Flat Rock, Esc 31.96 7 P P 22 21 22.6 -1.2
baz=189
YLE Yale 31.96 28 eP P 22 21 24.6 +0.7
comp=Z,455nm,1.9s
YLE LR LR
comp=Z,55µm,18.0s
CLWO Collingwood 31.97 16 P P 22 21 21.8 -2.1
baz=202,SNR=22
SBC Santa Barbara 31.99 314 P P 22 21 25.0 +0.8
baz=122
CWC Cottonwood Cre 32.04 319 P P 22 21 25.8 +0.9
baz=127
COWI Conover 32.04 4 eP P 22 21 24.9 +0.3
comp=Z,53nm,0.8s
COWI LR LR
comp=Z,56µm,21.0s
HWUT Hardware Ranch 32.12 332 eP P 22 21 26.2 +0.6
comp=Z,407nm,1.4s
HWUT LR LR
comp=Z,42µm,20.0s
F44A Big Bay de Noc 32.19 8 P P 22 21 25.4 -0.5
baz=190
BW06 Boulder Array 32.22 336 eP P 22 21 26.6 +0.1
comp=Z,149nm,1.4s
BW06 LR LR
comp=Z,29µm,20.0s
BW06 Boulder Array 32.22 336 P P 22 21 27.4 +0.9
baz=147,SNR=68
PD31 Pinedale Array 32.22 336 eP P 22 21 26.4 0.0
PD31 ePcP PcP 22 24 16.6 +1.8
PDAR Pinedale Array 32.22 336 P P 22 21 26.0 -0.5
comp=Z,33nm,1.1s,baz=127,slow=9.4,SNR=49
PDAR PcP PcP 22 24 16.6 +1.8
comp=Z,16nm,1.0s,baz=134,slow=3.9,SNR=6.5
PDAR Pinedale Array 32.22 336 eP P 22 21 25.3 -1.1
E39A Mellen 32.24 2 P P 22 21 24.3 -2.0
baz=183
F46A Macinaw City C 32.24 10 P P 22 21 24.9 -1.4
baz=194
BGU Big Grassy Mou 32.28 330 eP P 22 21 27.9 +1.0
comp=Z,476nm,1.9s
SPUT South Promonto 32.30 331 eP P 22 21 28.9 +1.9
comp=Z,460nm,1.5s
SPUT LR LR
comp=Z,45µm,20.0s
PKM Mcpherson Peak 32.30 315 P P 22 21 28.5 +1.3
baz=123,SNR=18
E40A Wakefield 32.34 3 P P 22 21 25.2 -2.0
baz=184
VES Vestal, Richgr 32.34 317 P P 22 21 29.0 +1.7
baz=125
TOBO Tobermory, Bru 32.38 14 P P 22 21 25.4 -2.1
baz=200
E41A Kenton 32.42 4 P P 22 21 27.9 0.0
baz=186
E38A The Farm, Brul 32.44 1 eP P 22 21 27.7 -0.3
comp=Z,72nm,0.9s
E38A LR LR
comp=Z,34µm,22.0s
E38A The Farm, Brul 32.44 1 P P 22 21 26.5 -1.6
baz=181
E42A Champion 32.47 6 P P 22 21 27.2 -1.1
baz=188
TIN Tinemaha, Big 32.51 319 P P 22 21 30.2 +1.3
baz=128
E43A Lone Tree Farm 32.52 7 eP P 22 21 28.9 +0.3
comp=Z,49nm,0.7s
E43A LR LR
comp=Z,46µm,22.0s
E43A Lone Tree Farm 32.52 7 P P 22 21 27.7 -1.0
baz=189
SADO Sadowa 32.59 18 eP P 22 21 26.8 -2.6
comp=Z,73nm,0.9s
SADO LR LR
comp=Z,138µm,19.0s

SMMC Simmler 32.66 315 P P 22 21 31.4 +1.2
baz=123
E45A Wooded Hills, 32.74 9 P P 22 21 29.4 -1.3
baz=193
F49A Sandfield 32.77 13 P P 22 21 29.6 -1.3
baz=198
TRY Troy 32.78 26 eP P 22 21 29.4 -1.6
comp=Z,181nm,1.4s
HVU Hansel Valley 32.81 331 eP P 22 21 32.5 +0.9
comp=Z,391nm,1.3s
HVU LR LR
comp=Z,64µm,20.0s
HVU Hansel Valley 32.81 331 eP P 22 21 32.5 +0.9
HVU pmax pmax
comp=Z,391nm,1.3s
HVU MLR MLR
comp=Z,64µm,20.0s
KLBO Killbear Provi 32.83 16 P P 22 21 28.2 -3.3
baz=202,SNR=9.3
DELO Deloro Mine 32.84 20 P P 22 21 29.1 -2.5
baz=207,SNR=37
AHID Auburn Hatcher 32.86 334 eP P 22 21 32.3 +0.3
comp=Z,298nm,1.2s
AHID LR LR
comp=Z,32µm,22.0s
E44A Grand Marais A 32.89 8 PFAKE 22 21 40.0 +8.0
E44A LR LR
comp=Z,50µm,18.0s
QUA2 Belchertown 32.99 28 eP P 22 21 31.1 -1.9
comp=Z,56nm,1.0s
D41A Chassel 33.04 5 PFAKE 22 21 40.0 +6.7
D41A LR LR
comp=Z,48µm,21.0s
D41A Chassel 33.04 5 P P 22 21 33.5 +0.2
baz=186
PAGB Antelope Grade 33.06 316 eP P 22 21 36.4 +2.7
comp=Z,219nm,1.3s
PAGB LR LR
comp=Z,44µm,19.0s
BRYW Bryant College 33.09 29 eP P 22 21 34.8 +1.0
BUKO Buck Lake 33.13 17 P P 22 21 31.7 -2.4
baz=203,SNR=16
E47A Iron Bridge 33.17 11 P P 22 21 33.6 -0.8
baz=196
BANO Bancroft 33.19 19 P P 22 21 32.1 -2.5
baz=206,SNR=19
REDW Red Top Meadow 33.24 335 eP P 22 21 36.0 +0.6
comp=Z,882nm,1.3s
REDW LR LR
comp=Z,24µm,22.0s
MLAC Mammoth, Mammo 33.24 320 P P 22 21 36.1 +0.6
baz=128,SNR=7.6
ELK Elko 33.26 327 PFAKE 22 21 50.0 +14
ELK LR LR
comp=Z,68µm,18.0s
SNOW Snow King Moun 33.29 335 eP P 22 21 36.7 +0.8
comp=Z,670nm,0.9s
SNOW LR LR
comp=Z,44µm,21.0s
ACCN Adirondack Com 33.32 25 eP P 22 21 34.7 -1.1
comp=Z,124nm,1.4s
ACCN LR LR
comp=Z,76µm,20.0s
NV11 Mina Array Sit 33.33 321 eP P 22 21 37.6 +1.5
comp=Z,22nm,1.3s
NV11 LR LR
comp=Z,8µm,18.0s
OMMB Old Mammoth Mi 33.34 320 eP P 22 21 38.0 +1.5
comp=Z,187nm,1.5s
OMMB LR LR
comp=Z,52µm,20.0s
LOHW Long Hollow 33.35 336 eP P 22 21 36.8 +0.5
comp=Z,478nm,1.5s
LOHW LR LR
comp=Z,45µm,20.0s
TPAW Teton Pass 33.39 335 eP P 22 21 37.5 +0.8
comp=Z,326nm,1.0s
TPAW LR LR
comp=Z,31µm,22.0s
MDPB Devils Postpil 33.40 320 eP P 22 21 38.1 +1.3
comp=Z,191nm,1.3s
MDPB LR LR
comp=Z,48µm,20.0s
NV01 Mina Array Sit 33.41 321 eP P 22 21 37.8 +0.9
NV01 ePcP PcP 22 24 19.3 +1.0
NVAR Mina Array Bea 33.41 321 P P 22 21 38.4 +1.4
comp=Z,30nm,0.7s,baz=135,slow=8.3,SNR=179
NVAR PcP PcP 22 24 19.3 +1.0
comp=Z,13nm,0.9s,baz=126,slow=4.6,SNR=2.8
NVAR LR LR 22 37 08.9
comp=Z,95µm,18.2s,baz=134,slow=40
E48A Lockeyer 33.42 13 P P 22 21 35.5 -1.1
baz=198
F51A Arnstein 33.44 16 P P 22 21 34.7 -2.1
baz=202
PLVO Plevna 33.48 20 eP P 22 21 34.7 -2.5
comp=Z,66nm,0.9s
PLVO Plevna 33.48 20 P P 22 21 34.8 -2.3
baz=207,SNR=14
F52A Sundridge 33.48 17 P P 22 21 34.4 -2.7
baz=203
MOOW Moose Ponds 33.52 336 eP P 22 21 38.1 +0.3
comp=Z,302nm,1.5s
MOOW LR LR
comp=Z,46µm,20.0s
HRV Adam Dziewonsk 33.54 28 eP P 22 21 36.5 -1.2
comp=Z,71nm,1.1s
HRV LR LR
comp=Z,80µm,21.0s
HRV Adam Dziewonsk 33.54 28 eP P 22 21 36.5 -1.2
HRV pmax pmax
comp=Z,71nm,1.1s
HRV MLR MLR
comp=Z,80µm,21.0s
FXWY Fox Creek 33.54 335 eP P 22 21 38.4 +0.4
comp=Z,113nm,0.9s
WES Weston 33.55 29 eP P 22 21 39.6 +1.8
comp=Z,66nm,1.1s
WES Weston 33.55 29 eP P 22 21 39.6 +1.8
WES pmax pmax
comp=Z,66nm,1.1s
BCX Boston College 33.58 29 eP P 22 21 37.3 -0.8
NCB Newcomb 33.58 24 eP P 22 21 35.8 -2.3
comp=Z,247nm,1.8s
NCB LR LR
comp=Z,59µm,21.0s
RYN Ryan 33.67 321 eP P 22 21 40.5 +1.3
comp=Z,112nm,1.1s
RYN LR LR
comp=Z,67µm,19.0s
KVN Kaiserville 33.69 322 eP P 22 21 40.5 +1.2
comp=Z,132nm,1.1s
KVN LR LR
comp=Z,108µm,19.0s
KVN Kaiserville 33.69 322 eP P 22 21 40.5 +1.2
KVN pmax pmax
comp=Z,132nm,1.1s
KVN MLR MLR
comp=Z,108µm,19.0s
E50A Wahnapitae 33.69 15 P P 22 21 35.1 -3.9
baz=200
PMPB Monarch Peak 33.70 316 eP P 22 21 40.5 +1.2
comp=Z,338nm,1.4s
PMPB LR LR
comp=Z,50µm,18.0s
IMW Indian Meadow 33.72 335 eP P 22 21 39.8 +0.2
comp=Z,122nm,1.0s
IMW LR LR
comp=Z,42µm,21.0s
D47A Chapleau 33.78 11 P P 22 21 37.2 -2.6
baz=196
FLWY Flagg Ranch 33.78 336 PFAKE 22 21 50.0 +10
FLWY LR LR
comp=Z,43µm,19.0s
EYMN Ely 33.78 1 PFAKE 22 21 50.0 +10
EYMN LR LR
comp=Z,30µm,22.0s
G55A Calabogie 33.78 20 P P 22 21 36.9 -2.9
baz=208
YPP Pitchstone Pla 33.98 336 eP P 22 21 45.7 +3.8
comp=Z,70nm,0.9s
YPP LR LR
comp=Z,40µm,21.0s
PEMO Pembroke 33.99 19 P P 22 21 39.1 -2.4
baz=206,SNR=21
ALGO Algonquin Park 33.99 18 P P 22 21 38.6 -3.0
baz=205,SNR=16
LONY Lake Ozonia 33.99 23 eP P 22 21 39.4 -2.2

comp=Z,179nm,1.2s
LONY LR LR

comp=Z,88µm,20.0s
H17A Grant Village 33.99 336 *eP* **P 22 21 43.5 +1.5**
comp=Z,160nm,1.3s
H17A LR LR

comp=Z,54µm,22.0s
H17A Grant Village 33.99 336 P **P 22 21 42.5 +0.5**
baz=147
LKWY Lake 34.07 337 *eP* **P 22 21 46.4 +3.8**
comp=Z,131nm,1.0s
LKWY LR LR

comp=Z,46µm,21.0s
BMN Battle Mountai 34.11 325 *eP* **P 22 21 43.9 +1.0**
BMN LR LR

comp=Z,69µm,19.0s
BMN Battle Mountai 34.11 325 *eP* **P 22 21 43.9 +1.0**
BMN MLR MLR

comp=Z,69µm,19.0s
E51A G1948 Merrick 34.11 16 P **P 22 21 40.1 -2.6**
baz=202
E52A Mattawa 34.11 17 P **P 22 21 40.5 -2.2**
baz=204
RLMT Red Lodge 34.12 338 *eP* **P 22 21 43.2 +0.2**
comp=Z,124nm,1.3s
RLMT LR LR

comp=Z,20µm,22.0s
YFT Old Faithful 34.14 336 *eP* **P 22 21 45.5 +2.3**
comp=Z,221nm,1.2s
YFT LR LR

comp=Z,36µm,22.0s
WAKR Walker 34.16 320 *eP* **P 22 21 45.3 +1.9**
comp=Z,191nm,1.4s
WAKR LR LR

comp=Z,72µm,20.0s
D48A Paudash Townsh 34.16 13 P **P 22 21 40.4 -2.6**
baz=198
MDND Maddock 34.22 351 *eP* **P 22 21 41.7 -1.8**
comp=Z,290nm,0.6s
MDND LR LR

comp=Z,9µm,21.0s
MDND Maddock 34.22 351 P **P 22 21 41.5 -2.1**
baz=167
AGMN Agassiz Nation 34.25 356 *eP* **P 22 21 43.4 -0.5**
comp=Z,98nm,1.2s
AGMN LR LR

comp=Z,18µm,20.0s
YNR Norris Junctio 34.30 337 *eP* **P 22 21 45.9 +1.3**
comp=Z,114nm,1.2s
YNR LR LR

comp=Z,31µm,19.0s
YERR Yerington 34.33 321 *eP* **P 22 21 46.2 +1.3**
comp=Z,257nm,1.4s
YERR LR LR

comp=Z,66µm,20.0s
ORIO Orleans, Innes 34.37 21 P **P 22 21 42.7 -2.2**
baz=210,SNR=21
YMR Madison River 34.37 336 *eP* **P 22 21 46.7 +1.4**
comp=Z,212nm,1.0s
YMR LR LR

comp=Z,39µm,21.0s
F55A Otter Lake 34.42 20 P **P 22 21 42.5 -2.8**
baz=208
YHH Holmes Hill 34.43 336 *eP* **P 22 21 46.9 +1.1**
comp=Z,114nm,1.1s
YHH LR LR

comp=Z,34µm,19.0s
SAO San Andreas Ge 34.44 316 *eP* **P 22 21 47.7 +2.1**
comp=Z,56nm,1.1s
SAO LR LR

comp=Z,54µm,19.0s
CMB Columbia Colle 34.47 319 *eP* **P 22 21 46.7 +0.8**
comp=Z,85nm,1.3s
CMB LR LR

comp=Z,38µm,20.0s
CMB Columbia Colle 34.47 319 *eP* **P 22 21 46.7 +0.8**
CMB pmax pmax

comp=Z,85nm,1.3s
CMB MLR MLR

comp=Z,38µm,20.0s
VT1 Waterbury 34.48 25 *eP* **P 22 21 46.2 +0.4**
comp=Z,72nm,1.4s
E53A Dumoine, Ponti 34.49 18 P **P 22 21 43.1 -2.8**
baz=205
YHB Horse Butte 34.53 336 *eP* **P 22 21 48.2 +1.6**
comp=Z,112nm,1.2s
YHB LR LR

comp=Z,35µm,21.0s
LAO LASA Array 34.54 343 *eP* **P 22 21 46.4 -0.1**
comp=Z,72nm,0.8s
LAO LR LR

comp=Z,18µm,21.0s
FRNY Flat Rock 34.56 24 *eP* **P 22 21 44.8 -1.7**
comp=Z,124nm,1.3s
FRNY LR LR

comp=Z,77µm,20.0s
D50A G1974 Best Tow 34.61 15 P **P 22 21 43.2 -3.7**
baz=201
PNTR Pine Nut 34.62 321 *eP* **P 22 21 48.8 +1.4**
comp=Z,225nm,1.2s
PNTR LR LR

comp=Z,65µm,20.0s
D51A Lot 18 Range I 34.66 16 P **P 22 21 44.7 -2.7**
baz=202
E54A Lac Daplat, Po 34.68 19 P **P 22 21 44.9 -2.7**
baz=206
QLMT Earthquake Lak 34.69 336 *eP* **P 22 21 49.7 +1.8**
ALFO Alfred 34.74 22 P **P 22 21 46.7 -1.4**
baz=210,SNR=14
LBNH Lisbon 34.75 26 *eP* **P 22 21 47.5 -0.6**
comp=Z,183nm,1.5s
LBNH LR LR

comp=Z,87µm,20.0s
LBNH Lisbon 34.75 26 *eP* **P 22 21 47.6 -0.6**
LBNH pmax pmax

comp=Z,183nm,1.5s
LBNH MLR MLR

comp=Z,87µm,20.0s
VCNR Virginia City 34.78 321 *eP* **P 22 21 50.1 +1.4**
comp=Z,124nm,1.4s
VCNR LR LR

comp=Z,58µm,20.0s
GCMT Greycliff 34.84 339 *eP* **P 22 21 50.1 +1.0**
PAHR Pah Rah Range 34.88 322 *eP* **P 22 21 50.8 +1.2**
comp=Z,391nm,1.8s
PAHR LR LR

comp=Z,69µm,18.0s
RUBR Rubicon Trail 34.93 321 *eP* **P 22 21 52.2 +2.1**
comp=Z,408nm,1.4s
RUBR LR LR

comp=Z,69µm,20.0s
HLID Hailey 34.96 332 *eP* **P 22 21 51.0 +0.7**
comp=Z,472nm,1.6s
HLID LR LR

comp=Z,64µm,19.0s
HLID Hailey 34.96 332 P **P 22 21 51.0 +0.7**
baz=140,SNR=103
D53A Lac Vacive, Po 35.11 17 P **P 22 21 48.8 -2.4**
baz=205
PTGA Pitinga 35.26 112 *eP* **P 22 21 51.5 -1.4**
comp=Z,140nm,0.8s
PTGA LR LR

comp=Z,28µm,22.0s
MCMT McKenzie Canyo 35.27 334 *eP* **P 22 21 54.4 +1.5**
AFDM Forest Hills D 35.38 320 *eP* **P 22 21 55.8 +2.1**
comp=Z,62nm,1.3s
AFDM LR LR

comp=Z,34µm,18.0s
BOZ Bozeman (W) 35.41 336 *eP* **P 22 21 54.7 +0.6**
comp=Z,126nm,1.4s
BOZ LR LR

comp=Z,24µm,20.0s
BOZ Bozeman (W) 35.41 336 *eP* **P 22 21 54.7 +0.6**
BOZ pmax pmax

comp=Z,126nm,1.4s
BOZ MLR MLR

comp=Z,24µm,20.0s
BOZ Bozeman (W) 35.41 336 P **P 22 21 54.7 +0.6**
baz=146,SNR=22
MOQ Mont Orford 35.48 25 *eP* **P 22 21 55.3 +0.8**
D54A Lac Fusel, La 35.49 19 P **P 22 21 51.6 -2.9**
baz=206
MFID Camas Ranch 35.52 330 PFAKE 22 22 10.0 +15
MFID LR LR

comp=Z,61µm,19.0s
BEKR Beckworth 35.56 322 *eP* **P 22 21 56.6 +1.1**
comp=Z,150nm,1.2s
BEKR LR LR

comp=Z,56µm,19.0s
DLMT Dillon 35.60 335 *eP* **P 22 21 56.7 +1.0**
comp=Z,469nm,1.3s
DLMT LR LR

comp=Z,18µm,19.0s
DGMT Dagmar 35.68 346 *eP* **P 22 21 55.8 -0.4**
comp=Z,174nm,0.8s
DGMT LR LR

comp=Z,20µm,21.0s
WVL Waterville 36.01 28 *eP* **P 22 21 58.6 -0.3**
comp=Z,159nm,1.5s
ORV Oroville 36.07 320 *eP* **P 22 22 01.2 +1.6**
comp=Z,206nm,1.6s
ORV LR LR

comp=Z,34µm,19.0s
VLDQ Val d'Or 36.12 17 *eP* **P 22 21 57.6 -2.3**
comp=Z,120nm,1.4s
VLDQ LR LR

comp=Z,109µm,19.0s
MCCM Marconi Confer 36.15 317 *eP* P 22 22 06.0 +5.7
MCCM LR LR

comp=Z,41µm,18.0s
ULM Lac du Bonnet 36.20 356 P **P 22 21 57.9 -2.7**
comp=Z,12nm,0.7s,baz=167,slow=9.7,SNR=11
ULM Lac du Bonnet 36.20 356 *eP* **P 22 21 58.6 -1.9**
comp=Z,39nm,0.8s
ULM LR LR

comp=Z,21µm,21.0s
ULM Lac du Bonnet 36.20 356 *eP* **P 22 21 58.6 -1.9**
ULM pmax pmax

comp=Z,39nm,0.8s
ULM MLR MLR

comp=Z,21µm,21.0s
WVOR Wild Horse Val 36.26 326 *eP* **P 22 22 02.3 +1.0**
comp=Z,474nm,1.5s
WVOR LR LR

comp=Z,68µm,18.0s
WVOR Wild Horse Val 36.26 326 *eP* **P 22 22 02.3 +1.0**
WVOR pmax pmax

comp=Z,474nm,1.5s
WVOR MLR MLR

comp=Z,68µm,18.0s
HRY Holter Researc 36.42 337 *eP* **P 22 22 02.9 +0.2**
GDXM Geysers 36.46 318 PFAKE 22 22 20.0 +17
GDXM LR LR

comp=Z,57µm,20.0s
O03E Paynes Creek 36.70 321 P **P 22 22 04.7 -0.4**
baz=127
PKME Peaks-Kenny Pk 36.71 28 *eP* **P 22 22 04.2 -0.8**
comp=Z,121nm,1.4s
PKME LR LR

comp=Z,90µm,22.0s
HOPS Hopland Field 36.74 318 *eP* **P 22 22 08.4 +3.1**
comp=Z,180nm,1.5s
HOPS LR LR

comp=Z,46µm,18.0s
J08A Circle Bar Ran 36.81 328 *eP* **P 22 22 06.7 +0.7**
comp=Z,808nm,1.4s
J08A LR LR

comp=Z,49µm,19.0s
EGMT Eagleton 36.81 340 *eP* **P 22 22 06.0 +0.1**
comp=Z,364nm,1.5s
EGMT LR LR

comp=Z,14µm,21.0s
EGMT Eagleton 36.81 340 P **P 22 22 06.1 +0.2**
baz=151,SNR=33
MOD Modoc Plateau 36.82 324 *eP* **P 22 22 06.8 +0.6**
comp=Z,149nm,1.1s
MOD LR LR

comp=Z,80µm,18.0s
SAML Samuel 36.87 127 *eP* **P 22 22 03.9 -2.8**
SAML LR LR

comp=Z,27µm,19.0s
SAML Samuel 36.87 127 *ceP* **P 22 22 05.6 -1.1**
SAML pmax pmax

comp=Z,20nm,1.3s
LATQ La Tuque 37.00 22 P **P 22 22 05.1 -2.3**
baz=212,SNR=10
LSQQ Lebel-sur-Quev 37.11 17 P **P 22 22 05.5 -2.8**
baz=205
EMMW East Machias 37.15 30 *eP* **P 22 22 08.8 +0.1**
comp=Z,214nm,1.5s
O02D Mt. Diablo Mer 37.24 320 P **P 22 22 09.2 -0.5**
baz=126
BMO Blue Mountains 37.30 330 *eP* **P 22 22 09.5 -0.6**
comp=Z,355nm,1.8s
BMO LR LR

comp=Z,77µm,18.0s
WDC Whiskeytown Da 37.32 321 *eP* **P 22 22 09.0 -1.3**
comp=Z,43nm,1.1s
WDC LR LR

comp=Z,40µm,19.0s
WDC Whiskeytown Da 37.32 321 *eP* **P 22 22 09.0 -1.3**
WDC pmax pmax

comp=Z,43nm,1.1s
WDC MLR MLR

comp=Z,40µm,19.0s
MSO Missoula 37.34 335 *eP* **P 22 22 10.4 0.0**
comp=Z,217nm,1.2s
MSO LR LR

comp=Z,15µm,21.0s
MSO Missoula 37.34 335 P **P 22 22 11.1 +0.7**
baz=144,SNR=86
KCPM Cahto Peak 37.46 319 *eP* **P 22 22 14.8 +3.2**
comp=Z,271nm,1.5s
KCPM LR LR

comp=Z,38µm,18.0s
MATQ Matagami 37.57 16 P **P 22 22 09.5 -2.7**
baz=204,SNR=27
M04C Macdoel 37.63 323 P **P 22 22 13.6 +0.6**
baz=128,SNR=27
N02D Trinity Center 37.65 321 P **P 22 22 12.5 -0.7**
baz=126
K05A Summer Lake 37.69 325 *eP* **P 22 22 14.9 +1.3**
K05A LR LR

comp=Z,107µm,18.0s
GGN Saint George 37.74 30 *eP* **P 22 22 13.2 -0.5**
comp=Z,144nm,1.4s
GGN LR LR

comp=Z,105µm,20.0s
KMRM Mail Ridge 37.84 319 *eP* **P 22 22 16.3 +1.5**
comp=Z,343nm,1.5s
KMRM LR LR

comp=Z,54µm,18.0s
I07A Izee 37.85 328 *eP* **P 22 22 15.2 +0.4**
comp=Z,90nm,1.0s
I07A LR LR

comp=Z,53µm,19.0s
M02C Callahan 37.99 322 P **P 22 22 15.1 -0.9**
baz=127,SNR=5.8
F10A Beach Ranch, E 38.09 332 *eP* **P 22 22 16.4 -0.5**
comp=Z,243nm,0.7s
F10A LR LR

comp=Z,53µm,19.0s
K04D Chiloquin, OR 38.11 324 P **P 22 22 18.0 +0.9**
baz=129
YBH Yreka Blue Hor 38.11 322 LR LR 22 37 44.0
comp=Z,66µm,20.9s,baz=147,slow=36
YBH Yreka Blue Hor 38.11 322 *eP* **P 22 22 16.0 -1.1**
comp=Z,40nm,1.3s
YBH LR LR

comp=Z,70µm,21.0s
YBH Yreka Blue Hor 38.11 322 *eP* **P 22 22 16.0 -1.1**
YBH pmax pmax

comp=Z,40nm,1.3s
YBH MLR MLR

comp=Z,70µm,21.0s
L04D Klamath Falls 38.17 323 P **P 22 22 18.1 +0.5**
baz=128,SNR=15
JTMT Jette 38.22 336 *eP* **P 22 22 18.4 +0.4**
comp=Z,238nm,1.3s
JTMT LR LR

comp=Z,29µm,20.0s
KHMM Horse Mountain 38.23 320 *eP* **P 22 22 19.2 +1.1**
comp=Z,100nm,0.9s
KHMM LR LR

comp=Z,49µm,18.0s
J05D Fort Rock, OR 38.24 325 P **P 22 22 18.8 +0.6**
baz=131,SNR=19
PQI Presque Isle 38.36 27 *eP* **P 22 22 17.4 -1.5**
comp=Z,145nm,1.5s
JCC Jacoby Creek, 38.38 320 *eP* **P 22 22 20.0 +0.9**
comp=Z,454nm,1.4s
JCC LR LR

comp=Z,34µm,18.0s
PINE Pine Mountain 38.41 326 *eP* **P 22 22 20.1 +0.3**
comp=Z,109nm,1.1s
PINE LR LR

comp=Z,93µm,18.0s
G08A Pilot Rock 38.42 329 *eP* **P 22 22 20.8 +1.1**
comp=Z,99nm,1.4s
G08A LR LR

comp=Z,48µm,19.0s
LPAZ La Paz 38.49 141 P **P 22 22 20.2 -0.8**
comp=Z,8.9nm,1.0s,baz=329,slow=8.7,SNR=18
LPAZ LR 22 39 02.3

comp=Z,25µm,20.3s,baz=327,slow=38
LPAZ La Paz 38.49 141 *eP* **P 22 22 20.7 -0.4**
comp=Z,71nm,1.3s
LPAZ La Paz 38.49 141 *eP* **P 22 22 20.7 -0.4**
LPAZ pmax pmax

comp=Z,71nm,1.3s
CHGQ Chibougamau 38.64 19 P **P 22 22 18.6 -2.6**
baz=208,SNR=8.4
J04D Umpqua Nationa 38.70 325 P **P 22 22 23.3 +1.2**
baz=129,SNR=9.3
KRMB Red Mountain 38.71 321 *eP* **P 22 22 23.4 +1.2**
KRMB LR LR

comp=Z,45µm,19.0s
HUMO Hull Mountain 38.79 323 *eP* **P 22 22 26.7 +4.0**
comp=Z,32nm,1.1s
HUMO LR LR

comp=Z,50µm,20.0s
L02E Cave Junction 38.90 322 P **P 22 22 24.4 +0.8**
baz=126
E09A Wood Farm, Sta 38.92 331 *eP* **P 22 22 23.4 -0.3**
comp=Z,126nm,1.1s
E09A LR LR

comp=Z,73µm,19.0s
I05D Terrebonne, OR 38.99 326 P **P 22 22 25.4 +1.0**
baz=131
HAL Halifax 39.05 33 *eP* **P 22 22 24.1 -0.6**
comp=Z,444nm,1.9s
HAL Halifax 39.05 33 *eP* **P 22 22 24.1 -0.6**
HAL pmax pmax

comp=Z,444nm,1.9s
WALA Waterton Lakes 39.15 337 *eP* **P 22 22 26.4 +0.7**
comp=Z,304nm,1.8s
WALA LR LR

comp=Z,39µm,20.0s
I04A Tendick Farm, 39.22 325 P **P 22 22 26.6 +0.3**
baz=130,SNR=8.6
G06A Carlson Farm, 39.23 328 *eP* **P 22 22 28.8 +2.4**
comp=Z,172nm,1.5s
G06A LR LR

comp=Z,62µm,19.0s
K02D Willamette Mer 39.26 323 P **P 22 22 26.2 -0.5**
baz=127
LMN Caledonia Moun 39.27 31 *eP* **P 22 22 24.6 -2.0**
comp=Z,495nm,2.0s
LMN LR LR

comp=Z,77µm,22.0s
KBO Bosley Butte 39.31 322 *eP* **P 22 22 28.4 +1.3**
comp=Z,480nm,1.3s
KBO LR LR

comp=Z,66µm,19.0s
F07A Phinny Hill Vi 39.33 329 *eP* **P 22 22 28.4 +1.3**
comp=Z,54nm,0.9s
F07A LR LR

comp=Z,26µm,20.0s
E08A Dider Farm, El 39.34 331 *eP* **P 22 22 28.0 +0.9**
comp=Z,39nm,0.8s
E08A LR LR

comp=Z,80µm,18.0s
HAWA Hanford 39.49 330 *eP* **P 22 22 28.1 -0.4**
comp=Z,49nm,1.0s
HAWA LR LR

comp=Z,63µm,19.0s
G05D Wamic, OR 39.59 328 P **P 22 22 29.1 -0.2**
baz=132,SNR=8.9
H04A Detroit Lake 39.68 326 *eP* **P 22 22 30.1 +0.1**
comp=Z,366nm,1.1s
H04A LR LR

comp=Z,96µm,18.0s
D08A Wollman Farm, 39.68 331 *eP* **P 22 22 30.1 +0.1**
comp=Z,426nm,2.0s
D08A LR LR

comp=Z,62µm,18.0s
I03D Drain, OR 39.69 324 P **P 22 22 30.3 +0.1**
baz=128,SNR=12
J01E Myrtle Point 39.70 323 P **P 22 22 31.0 +0.8**
baz=127,SNR=7.0
BATG Bathurst New B 39.70 28 *eP* **P 22 22 29.1 -1.0**
comp=Z,102nm,1.3s
BATG LR LR

comp=Z,106µm,22.0s
KEBM Edson Butte 39.76 322 *eP* **P 22 22 33.2 +2.4**
comp=Z,629nm,1.2s
KEBM LR LR

comp=Z,82µm,18.0s
E07A Sunnyside 39.77 330 *eP* **P 22 22 31.8 +1.0**
comp=Z,76nm,1.0s
E07A LR LR

comp=Z,44µm,21.0s
NEW Newport 39.79 334 *eP* **P 22 22 30.5 -0.5**
comp=Z,81nm,1.1s
NEW LR LR

comp=Z,63µm,19.0s
NEW Newport 39.79 334 *eP* **P 22 22 30.5 -0.5**
NEW pmax pmax

comp=Z,81nm,1.1s
NEW MLR MLR

comp=Z,63µm,19.0s
NEW Newport 39.79 334 P **P 22 22 31.0 +0.1**
baz=140,SNR=31
H04D Lebanon 39.87 326 P **P 22 22 31.8 +0.1**
baz=130,SNR=16
MNMC Minye Minye 39.87 145 *eP* **P 22 22 30.4 -1.8**
comp=Z,382nm,1.2s
MNMC LR LR

comp=Z,56µm,22.0s
C09A Chrisman Ranch 39.94 333 *eP* **P 22 22 32.2 0.0**
comp=Z,616nm,1.6s
C09A LR LR

comp=Z,63µm,20.0s
F05D White Salmon 40.09 328 P **P 22 22 34.3 +0.8**
baz=133,SNR=46
COR Corvallis 40.22 325 *eP* **P 22 22 37.0 +2.5**
COR LR LR

comp=Z,44µm,18.0s
COR Corvallis 40.22 325 *eP* **P 22 22 37.0 +2.5**
COR MLR MLR

comp=Z,44µm,18.0s
I02D Swisshome 40.23 324 P **P 22 22 35.4 +0.9**
baz=128
PB11 IPOC Station P 40.35 146 *eP* **P 22 22 36.0 0.0**
comp=Z,207nm,1.1s
PB11 LR LR

comp=Z,25µm,20.0s
G03D McMinnville, O 40.60 326 P **P 22 22 38.1 +0.4**
baz=130,SNR=7.0
LTY Liberty 40.66 330 *eP* **P 22 22 38.3 +0.1**
comp=Z,153nm,1.1s
LTY LR LR

comp=Z,70µm,18.0s
GBN Guysborough 40.67 34 *eP* **P 22 22 36.9 -1.3**
comp=Z,157nm,1.2s
GBN LR LR

comp=Z,38µm,22.0s
B08A Colville Reser 40.83 332 *eP* **P 22 22 39.6 0.0**
comp=Z,68nm,1.0s
B08A LR LR

comp=Z,48µm,19.0s
LON Longmire 40.86 329 *eP* **P 22 22 40.5 +0.6**
comp=Z,127nm,0.9s
LON LR LR

comp=Z,56µm,18.0s
LON Longmire 40.86 329 *eP* **P 22 22 40.5 +0.6**
LON pmax pmax

comp=Z,127nm,0.9s
LON MLR MLR

comp=Z,56µm,18.0s
F04D Rainier, OR 41.03 327 P **P 22 22 42.7 +1.5**
baz=131
E04D Cinebar 41.12 328 P **P 22 22 42.0 +0.1**
baz=132
C06D Leavenworth 41.23 331 P **P 22 22 43.5 +0.6**
baz=135
D05A Enumclaw 41.25 329 *eP* **P 22 22 44.1 +1.1**
comp=Z,134nm,0.9s
D05A LR LR

comp=Z,44µm,18.0s
FFC Flin Flon 41.26 352 *eP* **P 22 22 42.2 -0.8**
comp=Z,92nm,1.4s
FFC LR LR

comp=Z,16µm,20.0s

FFC Flin Flon 41.26 352 *ce* P P 22 22 43.4 +0.5
FFC pmax pmax
comp=Z,60nm,1.0s
PB01 IPOC Station P 41.49 147 *e* P P 22 22 46.1 +0.8
comp=Z,82nm,1.1s
PB01 LR LR
comp=Z,25µm,20.0s
E03A Lebam 41.62 327 *e* P P 22 22 49.5 +3.5
comp=Z,284nm,1.1s
E03A LR LR
comp=Z,83µm,18.0s
D04E Lakebay 41.64 329 P P 22 22 47.3 +1.2
baz=132
B06A Marblemount 41.94 331 *e* P P 22 22 48.3 -0.3
comp=Z,221nm,1.0s
B06A LR LR
comp=Z,29µm,20.0s
D03D Eldon 42.04 329 P P 22 22 49.8 +0.4
baz=132
B05A Bryant 42.05 330 P P 22 22 50.1 +0.6
baz=134,SNR=8.4
PB04 IPOC Station P 42.21 149 PFAKE 22 23 00.0 +8.7
PB04 LR LR
comp=Z,21µm,20.0s
A04D Lummi Island 42.66 330 P P 22 22 54.0 -0.4
baz=133
PGC Sidney 42.97 330 *e* P P 22 22 57.4 +0.5
comp=Z,505nm,1.4s
PB10 IPOC Station P 43.00 150 PFAKE 22 23 10.0 +12
PB10 LR LR
comp=Z,22µm,20.0s
LVC Limon Verde 43.08 147 *e* P P 22 22 59.9 +1.4
comp=Z,173nm,1.3s
LVC LR LR
comp=Z,26µm,20.0s
LVC Limon Verde 43.08 147 *ce* P P 22 23 00.2 +1.6
LVC pmax pmax
comp=Z,50nm,1.3s
RPN Rapa Nui 44.15 202 P P 22 23 07.0 +0.3
comp=Z,38nm,0.8s,baz=8.8,slow=6.6,SNR=3.0
RPN LR LR 22 37 08.4
comp=Z,32µm,18.1s,baz=30,slow=30
RPN Rapa Nui 44.15 202 *e* P P 22 23 11.4 +4.6
RPN LR LR
comp=Z,37µm,21.0s
RPN Rapa Nui 44.15 202 *e* P P 22 23 11.4 +4.6
RPN MLR MLR
comp=Z,37µm,21.0s
YJA Yavi 44.60 143 *i* P P 22 23 12.2 +1.3
FCC Fort Churchill 44.63 359 PFAKE 22 23 20.0 +10
FCC LR LR
comp=Z,40µm,21.0s
DRLN Deer Lake 45.22 32 *e* P P 22 23 12.4 -2.6
comp=Z,107nm,0.9s
DRLN LR LR
comp=Z,64µm,20.0s
SCHQ Schefferville 45.27 21 P P 22 23 12.9 -2.5
comp=Z,88nm,1.1s,baz=223,slow=4.1,SNR=13
SCHQ Schefferville 45.27 21 *e* P P 22 23 13.4 -1.9
comp=Z,84nm,0.9s
SCHQ LR LR
comp=Z,132µm,21.0s
HJA Humahuaca 45.46 144 *i* P P 22 23 18.0 +0.3
AZAP Zapla 46.45 145 *ij i* P P 22 23 25.7 +0.3
SLA San Lorenzo 46.60 146 *i* P P 22 23 31.1 +4.7
GO03 Copiap 46.63 153 PFAKE 22 23 40.0 +14
GO03 LR LR
comp=Z,31µm,22.0s
FSA Cafayete 47.46 147 *i* P P 22 23 33.8 +0.6
LCO Las Campanas 47.66 154 *e* P P 22 23 35.2 +0.4
comp=Z,185nm,1.1s
LCO LR LR
comp=Z,29µm,21.0s
LCO Las Campanas 47.66 154 *ce* P P 22 23 35.6 +0.9
AHML Horco Molle 48.35 147 *i* P P 22 23 40.4 +0.5
GO04 Tololo Observa 48.63 155 *e* P P 22 23 43.1 +0.9
comp=Z,210nm,1.3s
GO04 LR LR
comp=Z,28µm,21.0s
ACDV Cuesta del Vie 49.34 153 *i* P P 22 23 53.1 +5.5
ACLC CERRO LA CRUZ 49.70 151 *i* P P 22 23 55.4 +5.1
DIB Dawson Inlet, 50.27 330 PFAKE 22 24 10.0 +16
DIB LR LR
comp=Z,28µm,21.0s
AMOG MOGNA 50.28 153 *i* P P 22 23 57.3 +2.8
RTLL Cerro Villicun 50.62 153 *i* P P 22 24 00.4 +3.3
YKA Yellowknife Ar 50.88 347 P P 22 23 57.6 -1.0
comp=Z,76nm,0.7s,baz=152,slow=7.2,SNR=173
YKB5 Yellowknife Ar 50.88 347 *e* P P 22 23 57.5 -1.1
YKW3 Yellowknife Ar 50.95 347 *e* P P 22 23 58.5 -0.6
comp=Z,151nm,0.7s
YKW3 LR LR
comp=Z,27µm,20.0s
ROC1 El Roble 51.02 157 *e* P P 22 24 00.7 +0.3
comp=Z,85nm,0.9s
ROC1 LR LR
comp=Z,100nm,22.0s
ROC1 El Roble 51.02 157 *i* P P 22 24 05.4 +5.0
PEL Peldehue 51.30 157 *e* P P 22 24 01.7 -0.5
comp=Z,158nm,1.2s
PEL LR LR
comp=Z,36µm,21.0s
PEL Peldehue 51.30 157 *e* P P 22 24 01.7 -0.5
PEL pmax pmax
comp=Z,158nm,1.2s
PEL MLR MLR
comp=Z,36µm,21.0s
CRAG Craig 51.91 332 PFAKE 22 24 20.0 +14
CRAG LR LR
comp=Z,34µm,19.0s
AAGR Agrelo 51.99 155 *i* P P 22 24 08.5 +1.1
WRAK Wrangell Islan 52.13 333 PFAKE 22 24 20.0 +12
WRAK LR LR
comp=Z,26µm,18.0s
TCA Tanti 52.42 150 *i* P P 22 24 12.7 +2.1
DLBC Dease Lake 52.46 336 *e* P P 22 24 11.9 +1.3
comp=Z,418nm,1.3s
DLBC LR LR
comp=Z,43µm,19.0s
GO05 HualaæØ 52.51 159 *e* P P 22 24 10.8 -0.3
comp=Z,159nm,1.0s
GO05 LR LR
comp=Z,36µm,21.0s
TAOE Nuku Hiva Isla 52.63 247 *e* S S 22 31 35.7 -3.7
comp=Z,30µm,25.4s
TAOE *e* SS SS 22 35 15.3 -2.8
comp=Z,6µm,26.0s
TAOE *e* LQ LQ 22 37 07.5
comp=Z,17µm,27.5s
TAOE *e* LR LR 22 39 16.9
comp=Z,32µm,26.7s,baz=63
TAOE Nuku Hiva Isla 52.63 247 *e* T T 23 20 27.5
comp=Z,110nm,0.2s
TAOE Nuku Hiva Isla 52.63 247 PFAKE 22 24 30.0 +18
TAOE LR LR
comp=Z,13µm,19.0s
CPUP Villa Florida 52.65 140 P P 22 24 10.4 -1.9
comp=Z,19nm,1.3s,baz=315,slow=9.9,SNR=7.1
CPUP Villa Florida 52.65 140 *e* P P 22 24 10.6 -1.7
comp=Z,78nm,1.2s
CPUP Villa Florida 52.65 140 *e* P P 22 24 10.6 -1.7
CPUP pmax pmax
comp=Z,79nm,1.2s
MRA San Martin 52.78 152 *i* P P 22 24 16.6 +3.3
BDFB Brasilia 52.83 122 P P 22 24 12.9 -1.1
comp=Z,11nm,0.8s,baz=278,slow=9.2,SNR=13
BDFB Brasilia 52.83 122 *e* P P 22 24 12.9 -1.1
BDFB *e* P pP 22 24 13.8 -6.1
BDFB LR LR
comp=Z,28µm,19.0s
BDFB Brasilia 52.83 122 *e* P P 22 24 12.9 -1.1
BDFB MLR MLR
comp=Z,28µm,19.0s
SUCO SUCO 53.94 151 *i* P P 22 24 23.9 +2.2
JIS Juneau Island 54.14 334 *e* P P 22 24 26.1 +3.3
comp=Z,134nm,1.4s
JIS LR LR
comp=Z,39µm,20.0s
BESE Bessie Mountai 54.52 334 *e* P P 22 24 28.8 +3.1
comp=Z,282nm,1.8s
BESE LR LR
comp=Z,36µm,19.0s
SKAG Skagway 55.24 335 *e* P P 22 24 32.7 +1.9
comp=Z,354nm,1.9s
SKAG LR LR
comp=Z,30µm,19.0s

RKT Rikitea 55.75 229 *e* P P 22 24 37.2 +2.2
comp=Z,90nm,1.0s
RKT *e* S S 22 32 18.1 -3.0
comp=Z,31µm,27.5s
RKT *e* LQ LQ 22 38 25.8
comp=Z,10µm,36.2s
RKT *e* LR LR 22 40 46.4
comp=Z,35µm,26.8s
RKT Rikitea 55.75 229 *e* T T 23 24 19.7
comp=Z,29nm,0.3s
WHY Whitehorse 55.78 336 *e* P P 22 24 35.2 +0.4
comp=Z,58nm,0.9s
WHY LR LR
comp=Z,34µm,18.0s
DHAK Deception Hill 56.25 334 PFAKE 22 24 50.0 +12
DHAK LR LR
comp=Z,39µm,18.0s
IVI Ivigtut 56.74 24 PFAKE 22 24 50.0 +8.5
IVI LR LR
comp=Z,53µm,21.0s
GO06 Curarrehue 56.81 161 *e* P P 22 24 42.4 -0.1
comp=Z,149nm,1.6s
GO06 LR LR
comp=Z,45µm,20.0s
HYT Haines Junctio 56.92 335 *e* P P 22 24 44.3 +1.3
comp=Z,246nm,1.5s
HYT LR LR
comp=Z,44µm,18.0s
YKU2 Yakutat 57.10 333 PFAKE 22 25 00.0 +16
YKU2 LR LR
comp=Z,40µm,18.0s
PCA Pinnacle 57.66 334 *e* P P 22 24 49.8 +1.7
comp=Z,198nm,0.9s
PCA LR LR
comp=Z,34µm,18.0s
SPB Sao Paulo 57.69 130 *e* P P 22 24 52.4 +3.6
SPB LR LR
comp=Z,28µm,22.0s
NRS Narsarsuaq 57.81 25 PFAKE 22 25 00.0 +11
NRS LR LR
comp=Z,102µm,22.0s
PLCA Paso Flores 58.15 161 P P 22 24 51.9 +0.1
comp=Z,28nm,1.1s,baz=2.7,slow=7.4,SNR=25
PLCA Paso Flores 58.15 161 *e* P P 22 24 50.9 -0.9
comp=Z,180nm,1.4s
LPA La Plata 58.64 147 *de* P P 22 24 57.0 +1.8
LPA *e* pP sP 22 25 02.0 -1.4
LPA *e* sP pP 22 25 07.0 +5.8
LPA *e* PP PcP 22 25 45.0 -0.2
LPA *e* PP PP 22 27 04.0 -1.2
LPA *e* pPP 22 27 15.0
LPA *e* PPP PPP 22 28 24.0
LPA *e* PPP PPP 22 28 30.0
LPA *e* PPP PPP 22 28 43.0
LPA *e* PKIKP PKiKP 22 32 05.0 -3.1
LPA *e* S S 22 32 57.0 -1.8
LPA *e* PS PnS 22 33 12.0 +0.4
LPA *e* PSP PSP 22 33 19.0
LPA *e* SCS ScS 22 34 42.0 -2.3
LPA *e* SKIKP 22 35 39.0
LPA *e* SS SS 22 36 53.0 +0.8
LPA *e* SKIKS 22 39 11.0
LPA *e* SSS SSS 22 39 28.0
LPA *e* SSS SSS 22 39 33.0
LPA *e* SSS SSS 22 39 38.0
H07S1 FLORES T-PHASE 58.95 52 *e* P P 22 24 57.1 -0.4
H07S1 FLORES T-PHASE 58.95 52 *e* LQ LQ 22 40 00.8
H07S1 *e* LR LR 22 42 36.3
BALM Baldy 59.03 334 *e* P P 22 24 58.8 +1.1
BALM LR LR
comp=Z,31µm,19.0s
TRQA Tornquist 59.15 152 *e* P P 22 24 58.5 -0.3
comp=Z,145nm,1.4s
TRQA LR LR
comp=Z,30µm,20.0s
TRQA Tornquist 59.15 152 *ce* P P 22 24 59.0 +0.2
TRQA pmax pmax
comp=Z,55nm,1.3s
RCBR Riachuelo 59.37 106 *e* P P 22 25 00.2 -0.6
comp=Z,221nm,1.0s
RCBR LR LR
comp=Z,37µm,20.0s
RCBR Riachuelo 59.37 106 *e* P P 22 25 00.2 -0.6
RCBR pmax pmax
comp=Z,221nm,1.0s
RCBR MLR MLR
comp=Z,37µm,20.0s
DAWY Dawson 59.49 338 *e* P P 22 25 00.3 -0.5
comp=Z,135nm,1.5s
DAWY LR LR
comp=Z,52µm,18.0s
SFJD Kangerlussuaq 59.55 18 PFAKE 22 25 10.0 +9.0
SFJD LR LR
comp=Z,65µm,21.0s
RAGM Ragged Mountai 59.73 333 *e* P P 22 25 04.7 +2.2
comp=Z,367nm,1.2s
RAGM LR LR
comp=Z,38µm,18.0s
EPYK Eagle Plains 59.96 341 P P 22 25 03.9 -0.1
baz=128
BMRM Bremner River 59.96 334 *e* P P 22 25 04.8 +0.7
comp=Z,155nm,0.8s
MID Middleton Isla 60.06 331 PFAKE 22 25 20.0 +15
MID LR LR
comp=Z,13µm,19.0s
JCUZ Jacuzzi 60.08 284 PFAKE 22 25 20.0 +14
JCUZ LR LR
comp=Z,8µm,20.0s
NPOC North of Pu'u 60.08 284 PFAKE 22 25 20.0 +14
NPOC LR LR
comp=Z,19µm,20.0s
STCH Steam Cracks 60.10 284 PFAKE 22 25 20.0 +14
STCH LR LR
comp=Z,15µm,18.0s
PUH Pauahi 60.18 284 PFAKE 22 25 20.0 +14
PUH LR LR
comp=Z,14µm,18.0s
BYL Byron's Ledge 60.22 284 PFAKE 22 25 20.0 +13
BYL LR LR
comp=Z,13µm,18.0s
HATHI Halema'uma'u T 60.22 284 PFAKE 22 25 20.0 +13
HATHI LR LR
comp=Z,14µm,18.0s
KKO Keanakako'i 60.23 284 PFAKE 22 25 20.0 +13
KKO LR LR
comp=Z,13µm,19.0s
RIM Rim 60.24 284 PFAKE 22 25 20.0 +13
RIM LR LR
comp=Z,13µm,20.0s
NPH North Pit 60.24 284 PFAKE 22 25 20.0 +13
NPH LR LR
comp=Z,13µm,19.0s
OBL Observatory Le 60.24 284 PFAKE 22 25 20.0 +13
OBL LR LR
comp=Z,13µm,19.0s
UWE Uwekahuna 60.25 284 PFAKE 22 25 20.0 +13
UWE LR LR
comp=Z,13µm,18.0s
SDHHI Sand Hill 60.26 284 PFAKE 22 25 20.0 +13
SDHHI LR LR
comp=Z,14µm,18.0s
EYAK Cordova Ski Ar 60.27 333 *e* P P 22 25 07.5 +1.3
comp=Z,401nm,1.2s
EYAK LR LR
comp=Z,31µm,21.0s
HLP Hilina Pali 60.28 284 PFAKE 22 25 20.0 +13
HLP LR LR
comp=Z,15µm,18.0s
INK Inuvik 60.28 344 *e* P P 22 25 05.4 -0.6
comp=Z,199nm,1.1s
INK LR LR
comp=Z,36µm,19.0s
INK Inuvik 60.28 344 *e* P P 22 25 05.4 -0.6
INK pmax pmax
comp=Z,199nm,1.1s
INK MLR MLR
comp=Z,36µm,19.0s
MLH Mauna Loa 60.33 285 *e* P P 22 25 12.7 +5.1
MLH LR LR
comp=Z,13µm,19.0s
AIN Ainahou 60.41 284 PFAKE 22 25 20.0 +12
AIN LR LR
comp=Z,14µm,19.0s
HMH Humu'ula Sheep 60.41 285 PFAKE 22 25 20.0 +12
HMH LR LR
comp=Z,15µm,19.0s

POHA Pohakuloa 60.45 285 *e* P P 22 25 12.8 +4.4
POHA LR LR
comp=Z,14µm,18.0s
MLOA Mauna Loa Obse 60.51 285 PFAKE 22 25 20.0 +11
MLOA LR LR
comp=Z,15µm,19.0s
EGAK Eagle 60.53 338 *e* P P 22 25 07.4 -0.5
comp=Z,94nm,1.0s
EGAK LR LR
comp=Z,26µm,19.0s
MWH Moku'aweowe 60.53 285 PFAKE 22 25 20.0 +11
MWH LR LR
comp=Z,14µm,18.0s
DIV Divide 60.54 333 *e* P P 22 25 08.8 +0.7
comp=Z,223nm,1.1s
HPAH Hawaii Prepara 60.58 285 PFAKE 22 25 20.0 +11
HPAH LR LR
comp=Z,13µm,20.0s
RES Resolute Bay 60.62 359 *e* P P 22 25 06.9 -1.4
comp=Z,63nm,1.3s
RES LR LR
comp=Z,26µm,20.0s
RES Resolute Bay 60.62 359 *e* P P 22 25 06.9 -1.4
RES pmax pmax
comp=Z,63nm,1.3s
RES MLR MLR
comp=Z,26µm,20.0s
FID Port Fidalgo 60.69 333 *e* P P 22 25 09.9 +0.9
comp=Z,337nm,1.1s
HUH Hualalai 60.74 285 PFAKE 22 25 20.0 +10
HUH LR LR
comp=Z,17µm,19.0s
KHLU Kahalu'u 60.80 285 PFAKE 22 25 20.0 +9.4
KHLU LR LR
comp=Z,17µm,19.0s
HARP HAARP 60.87 335 *e* P P 22 25 11.0 +0.7
comp=Z,658nm,1.1s
ILULI Ilulissat 60.91 16 PFAKE 22 25 20.0 +10
ILULI LR LR
comp=Z,104µm,19.0s
GLI Glacier Island 61.02 333 *e* P P 22 25 13.3 +2.1
comp=Z,104nm,1.0s
HLK Haleakala 61.02 286 PFAKE 22 25 30.0 +18
HLK LR LR
comp=Z,12µm,20.0s
DOT Dot Lake 61.03 336 *e* P P 22 25 11.4 +0.1
comp=Z,201nm,1.2s
DOT LR LR
comp=Z,33µm,20.0s
SCRK Sand Creek 61.16 337 *e* P P 22 25 12.3 0.0
comp=Z,129nm,1.2s
SCRK LR LR
comp=Z,38µm,19.0s
ROSA Rosais 61.17 53 *e* P P 22 25 12.2 -0.5
comp=Z,46nm,0.5s
ROSA Rosais 61.17 53 PFAKE 22 25 20.0 +7.3
ROSA LR LR
comp=Z,11µm,19.0s
PAX Paxson 61.26 335 *e* P P 22 25 12.7 -0.3
comp=Z,484nm,1.8s
PAX LR LR
comp=Z,22µm,19.0s
PAX Paxson 61.26 335 *e* P P 22 25 12.7 -0.3
PAX pmax pmax
comp=Z,484nm,1.8s
PAX MLR MLR
comp=Z,22µm,19.0s
RIDG Independ'e Rid 61.38 336 *e* P P 22 25 13.8 +0.1
comp=Z,239nm,1.2s
RIDG LR LR
comp=Z,34µm,20.0s
PGRA Graciosa 61.40 53 *e* P P 22 25 14.3 0.0
comp=Z,31nm,0.4s
PGRA Graciosa 61.40 53 *e* LQ LQ 22 40 45.3
PGRA *e* LR LR 22 42 20.9
comp=Z,528nm,17.4s
SCM Sheep Creek Mo 61.52 334 *e* P P 22 25 15.1 +0.3
comp=Z,253nm,1.1s
SCM Sheep Creek Mo 61.52 334 *e* P P 22 25 15.1 +0.3
SCM pmax pmax
comp=Z,253nm,1.1s
SEW Seward 61.77 331 *e* P P 22 25 16.6 +0.3
comp=Z,267nm,1.2s
SEW LR LR
comp=Z,14µm,20.0s
SML Sawmill 61.95 334 *e* P P 22 25 17.3 -0.3
comp=Z,363nm,1.2s
SML LR LR
comp=Z,17µm,20.0s
SML Sawmill 61.95 334 *e* P P 22 25 17.3 -0.3
SML pmax pmax
comp=Z,363nm,1.2s
SML MLR MLR
comp=Z,17µm,20.0s
VAH Vaihoa 61.95 244 *e* P P 22 25 20.9 +2.7
comp=Z,251nm,1.4s
VAH Vaihoa 61.95 244 *e* T T 23 32 06.1
comp=Z,4.9nm,0.3s
DHY Denali Highway 62.08 335 *e* P P 22 25 18.7 +0.1
comp=Z,65nm,1.0s
DHY LR LR
comp=Z,17µm,21.0s
PMOR Pomariorio Ree 62.09 244 *e* P P 22 25 21.3 +2.2
comp=Z,268nm,1.5s
PMOR Pomariorio Ree 62.09 244 *e* T T 23 32 16.4
comp=Z,7.0nm,0.3s
GHO Glory Hole Cre 62.19 333 *e* P P 22 25 19.4 +0.2
comp=Z,316nm,0.9s
GHO LR LR
comp=Z,19µm,19.0s
PMR Palmer 62.21 333 *e* P P 22 25 18.9 -0.3
comp=Z,186nm,1.1s
PMR Palmer 62.21 333 *e* P P 22 25 18.9 -0.3
PMR pmax pmax
comp=Z,186nm,1.1s
BRLK Bradley Lake 62.32 331 *e* P P 22 25 20.0 0.0
comp=Z,263nm,1.0s
BRLK LR LR
comp=Z,20µm,19.0s
CNPM China Poot 62.40 330 *e* P P 22 25 21.4 +0.8
comp=Z,179nm,1.1s
CNPM LR LR
comp=Z,20µm,20.0s
KDAK Kodiak Island 62.49 328 PFAKE 22 25 30.0 +8.8
KDAK LR LR
comp=Z,20µm,20.0s
HDA Harding Lake 62.51 336 *e* P P 22 25 20.5 -0.7
comp=Z,250nm,1.3s
HDA LR LR
comp=Z,22µm,20.0s
HDA Harding Lake 62.51 336 P P 22 25 20.7 -0.6
baz=117
KIP Kipapa 62.61 287 *i* P P 22 25 26.8 +4.2
HOM Homer 62.64 331 *e* P P 22 25 26.0 +3.9
comp=Z,191nm,0.9s
HOM LR LR
comp=Z,16µm,19.0s
IL1 Eielson Array 62.65 337 *e* P P 22 25 20.6 -1.5
ILAR Eielson Array 62.65 337 P P 22 25 21.4 -0.8
comp=Z,91nm,1.1s,baz=131,slow=4.6,SNR=138
ILB Eielson Array 62.65 337 *e* P P 22 25 21.4 -0.8
OHAK Old Harbor 62.68 328 *e* P P 22 25 23.6 +1.2
comp=Z,174nm,1.1s
OHAK LR LR
comp=Z,19µm,20.0s
RND Reindeer 62.83 335 *e* P P 22 25 23.4 -0.1
comp=Z,650nm,1.3s
RND LR LR
comp=Z,20µm,19.0s
RND Reindeer 62.83 335 *e* P P 22 25 23.4 -0.1
RND pmax pmax
comp=Z,650nm,1.3s
RND MLR MLR
comp=Z,20µm,19.0s
SUA Susitna One 62.87 333 *e* P P 22 25 23.7 -0.1
comp=Z,160nm,0.9s
SUA LR LR
comp=Z,20µm,18.0s
FYU Fort Yukon 62.90 339 *e* P P 22 25 23.9 +0.1
comp=Z,418nm,1.8s
FYU LR LR
comp=Z,17µm,20.0s
CCB Clear Creek Bu 62.95 337 *e* P P 22 25 23.0 -1.1
comp=Z,272nm,1.8s
CCB LR LR
comp=Z,23µm,19.0s
SII Sitkinak Islan 62.96 327 *e* P P 22 25 27.8 +3.4

WRH Wood River Hil 62.98 336 *e*P **P 22 25 23.6 -0.7**
comp=Z,77nm,1.1s
WRH LR LR
comp=Z,38µm,18.0s
MCK McKinley 63.00 335 *e*P **P 22 25 24.2 -0.3**
comp=Z,287nm,1.2s
MCK LR LR
comp=Z,16µm,19.0s
MCK McKinley 63.00 335 *e*P **P 22 25 24.2 -0.3**
MCK pmax pmax
comp=Z,287nm,1.2s
MCK MLR MLR
comp=Z,16µm,19.0s
POKR Poker Plat Res 63.01 337 P **P 22 25 24.2 -0.4**
baz=117
COLA College 63.06 337 *e*P **P 22 25 24.5 -0.4**
comp=Z,114nm,0.8s
COLA LR LR
comp=Z,22µm,19.0s
COLA College 63.06 337 *e*P **P 22 25 24.5 -0.4**
COLA pmax pmax
comp=Z,114nm,0.8s
COLA MLR MLR
comp=Z,22µm,19.0s
TCOL CIGO, UAF Yank 63.07 337 P **P 22 25 24.1 -0.8**
baz=116
ANGG Ammassalik, Gr 63.09 22 PFAKE 22 25 40.0 +15
ANGG LR LR
comp=Z,86µm,21.0s
PSET Sete Cidades 63.09 55 *e*P **P 22 25 25.7 +0.1**
comp=Z,53nm,0.6s
CMLA Cha da Macela 63.24 55 *e*P **P 22 25 26.4 -0.2**
comp=Z,81nm,0.6s
CMLA Cha da Macela 63.24 55 *e*LQ LQ 22 40 23.0
CMLA *e*LR LR 22 42 29.7
comp=Z,2µm,19.6s
CMLA Cha da Macela 63.24 55 PFAKE 22 25 40.0 +13
CMLA LR LR
comp=Z,12µm,20.0s
MDM Murphy Dome 63.25 337 *e*P **P 22 25 25.3 -0.9**
comp=Z,98nm,1.2s
MDM LR LR
comp=Z,24µm,18.0s
BWN Browne 63.39 336 *e*P **P 22 25 26.3 -0.8**
comp=Z,961nm,1.0s
BWN LR LR
comp=Z,20µm,20.0s
SKT Skwentna 63.41 333 *e*P **P 22 25 27.0 -0.3**
comp=Z,306nm,1.3s
SKT LR LR
comp=Z,17µm,19.0s
TRF Thorofare Moun 63.44 335 *e*P **P 22 25 27.1 -0.5**
comp=Z,282nm,0.8s
TRF LR LR
comp=Z,20µm,19.0s
CHRN Cochrane 63.55 165 *e*P **P 22 25 28.5 +0.2**
comp=Z,67nm,1.2s
CHRN LR LR
comp=Z,100nm,19.0s
KULLO Kullorsuaq 63.57 10 *i*P **P 22 25 26.6 -1.5**
comp=Z,34µm,18.0s
KULLO Kullorsuaq 63.57 10 *e*P **P 22 25 26.6 -1.5**
KULLO MLR MLR
comp=Z,34µm,18.0s
PSMN Pico do Norte, 63.58 56 *e*P **P 22 25 28.6 -0.3**
comp=Z,70nm,1.0s
TULEG Thule 63.68 6 PFAKE 22 25 40.0 +11
TULEG LR LR
comp=Z,37µm,20.0s
BPAW Bear Paw Mtn. 63.98 335 *e*P **P 22 25 30.4 -0.6**
comp=Z,135nm,0.9s
BPAW LR LR
comp=Z,27µm,20.0s
PPLA Purkeypile 64.03 334 *e*P **P 22 25 30.8 -0.7**
comp=Z,201nm,1.1s
PPLA LR LR
comp=Z,16µm,20.0s
CAST Castle Rocks 64.17 334 *e*P **P 22 25 36.2 +3.9**
comp=Z,101nm,1.0s
CAST LR LR
comp=Z,7µm,20.0s
MLY Manley 64.25 336 *e*P **P 22 25 32.1 -0.7**
comp=Z,205nm,0.8s
MLY LR LR
comp=Z,30µm,18.0s
TIAR Tiarei 64.43 243 *e*P **P 22 25 37.0 +2.3**
comp=Z,32nm,0.9s
TIAR Tiarei 64.43 243 *e*T T 23 35 12.2
comp=Z,1.9nm,0.3s
PPTF Pamatai, Papee 64.64 243 PFAKE 22 25 50.0 +14
PPTF LR LR
comp=Z,16µm,18.0s
PPT Papeete 64.64 243 LR LR 22 46 44.6
comp=Z,16µm,18.1s,baz=68,slow=29
PPT2 Papeete2 64.64 243 *e*P **P 22 25 38.5 +2.3**
comp=Z,65nm,1.4s
PPT2 *e*S **S 22 34 12.8 -2.9**
comp=Z,36µm,31.8s
PPT2 *e*LQ LQ 22 42 09.9
comp=Z,18µm,25.5s
PPT2 *e*LR LR 22 44 53.0
comp=Z,35µm,25.0s,baz=56
PAE Paea 64.68 243 *e*P **P 22 25 38.7 +2.4**
comp=Z,14nm,1.0s
COLD Coldfoot 64.95 339 *e*P **P 22 25 37.0 -0.3**
comp=Z,280nm,1.7s
COLD LR LR
comp=Z,21µm,18.0s
SVW2 Sparrevohn 64.95 331 *e*P **P 22 25 36.3 -1.1**
comp=Z,312nm,1.6s
SVW2 LR LR
comp=Z,10µm,20.0s
CHGN Chignik 65.17 326 *e*P **P 22 25 39.7 +0.8**
comp=Z,180nm,0.9s
CHGN LR LR
comp=Z,10µm,20.0s
TOLK Toolik Lake Re 65.34 340 *e*P **P 22 25 39.9 0.0**
TOLK LR LR
comp=Z,17µm,21.0s
TOLK Toolik Lake Re 65.34 340 P **P 22 25 39.0 -0.9**
baz=116
XMAS Kiritimati 65.38 266 PFAKE 22 25 50.0 +9.0
XMAS LR LR
comp=Z,17µm,20.0s
IM3 Indian Mountai 65.77 337 *e*P **P 22 25 40.9 -1.7**
SDPT Sand Point 66.13 325 PFAKE 22 26 00.0 +15
SDPT LR LR
comp=Z,11µm,21.0s
SUMG Summit 66.25 15 *e*P **P 22 25 44.7 -1.4**
comp=Z,76nm,1.2s
SUMG LR LR
comp=Z,55µm,19.0s
SUMG Summit 66.25 15 *i*P **P 22 25 44.2 -1.9**
comp=Z,71nm,1.2s
comp=Z,139µm,19.0s
SUMG Summit 66.25 15 *e*P **P 22 25 44.7 -1.4**
SUMG pmax pmax
comp=Z,76nm,1.2s
SUMG MLR MLR
comp=Z,55µm,19.0s
TBI Tubuai 67.12 237 *e*P **P 22 25 54.0 +2.1**
comp=Z,220nm,1.2s
TBI *e*S **S 22 34 42.9 -2.6**
comp=Z,17µm,28.8s
TBI *e*LQ LQ 22 42 56.0
comp=Z,11µm,23.8s
TBI *e*LR LR 22 46 02.6
comp=Z,37µm,26.5s
TBI Tubuai 67.12 237 *e*T T 23 38 32.3
comp=Z,6.2nm,0.3s
GO09 Cerro Castillo 67.36 167 *e*P P 22 25 57.7 +4.8
GO09 LR LR
comp=Z,21µm,18.0s
FALS False Pass 67.73 324 PFAKE 22 26 10.0 +15
FALS LR LR
comp=Z,14µm,20.0s
AKUT Akutan 69.02 323 PFAKE 22 26 20.0 +17
AKUT LR LR
comp=Z,7µm,18.0s
BORG Borgarnes 69.28 26 PFAKE 22 26 20.0 +15
BORG LR LR
comp=Z,15µm,18.0s
GO10 Punta Arenas 69.41 166 PFAKE 22 26 20.0 +14
GO10 LR LR
comp=Z,25µm,18.0s
UNV Unalaska Valle 69.42 322 *e*P **P 22 26 06.7 +0.9**
comp=Z,313nm,1.4s
UNV LR LR
comp=Z,9µm,22.0s
RDOG Red Dog Mine 69.81 338 *e*P **P 22 26 08.5 +0.4**
comp=Z,170nm,1.2s
RDOG LR LR
comp=Z,23µm,20.0s
ANM Nome 70.11 334 *e*P **P 22 26 13.0 +3.0**
comp=Z,52nm,0.9s
ANM LR LR
comp=Z,18µm,18.0s
ANM Nome 70.11 334 *e*P **P 22 26 13.0 +3.0**
ANM pmax pmax
comp=Z,52nm,0.9s
ANM MLR MLR
comp=Z,18µm,18.0s
PMOZ Porto Moniz, M 70.13 60 *e*S **S 22 35 27.5 +6.0**
PMOZ *e*LQ LQ 22 44 42.9
PMOZ *e*LR LR 22 47 59.4
comp=Z,9µm,24.0s
SCO Scoresbysund 70.30 20 *e*P **P 22 26 13.2 +2.2**
comp=Z,18nm,1.1s
SCO LR LR
comp=Z,71µm,19.0s
SCO Scoresbysund 70.30 20 *i*P **P 22 26 08.6 -2.4**
comp=Z,71µm,19.0s
SCO Scoresbysund 70.30 20 *e*P **P 22 26 13.2 +2.2**
SCO pmax pmax
comp=Z,18nm,1.1s
SCO MLR MLR
comp=Z,71µm,19.0s
NIKH Nikolski High 70.78 321 PFAKE 22 26 30.0 +16
NIKH LR LR
comp=Z,9µm,21.0s
EFI East Falkland 71.92 158 *e*P **P 22 26 25.0 +4.1**
EFI LR LR
comp=Z,28µm,19.0s
EFI East Falkland 71.92 158 *i*P **P 22 26 23.5 +2.5**
EFI pmax pmax
comp=Z,118nm,1.5s
DAG Danmarks Havn 72.67 13⇑ *i*P **P 22 26 22.3 -2.9**
comp=Z,22nm,0.6s
DAG Danmarks Havn 72.67 13⇑ *i*P **P 22 26 22.3 -2.9**
DAG pmax pmax
comp=Z,15nm,0.6s
JOHN Johnston Islan 74.03 284 PFAKE 22 26 50.0 +16
JOHN LR LR
comp=Z,11µm,20.0s
ATKA Atka Island 74.04 321 *e*P **P 22 26 33.3 -0.4**
comp=Z,128nm,1.2s
ATKA LR LR
comp=Z,8µm,22.0s
VAL Valentia 74.19 40 *e*P **P 22 26 33.3 -1.3**
VAL *e*S **S 22 36 07.6 +0.5**
JMIC Jan Mayen 74.78 20 *e*P **P 22 26 39.0 +1.4**
RAR Rarotonga 74.90 243 LR LR 22 51 54.3
comp=Z,8µm,18.1s,baz=63,slow=30
RAR Rarotonga 74.90 243 PFAKE 22 26 50.0 +11
RAR LR LR
comp=Z,14µm,18.0s
SOFL Sornfelli, Far 75.52 29 IAMs_20 IAMs_20 22 56 46.0
comp=Z,35µm,23.4s
ADK Adak 75.59 320 *e*P **P 22 26 41.8 -0.9**
comp=Z,134nm,0.9s
ADK LR LR
comp=Z,8µm,21.0s
ADK Adak 75.59 320 *e*P **P 22 26 41.8 -0.9**
ADK pmax pmax
comp=Z,134nm,0.9s
ADK MLR MLR
comp=Z,8µm,21.0s
RRH Rhenigidale 75.90 33 *e*P **P 22 26 41.3 -3.0**
PMST Lisbon--Monsan 76.05 53 *e*P P 22 26 57.7 +12
LIS Lisbon 76.08 53 *e*P **P 22 26 44.2 -1.5**
LIS AMS AMS 22 53 17.4
comp=N,12µm,18.7s
PGAV Gavieira, Arco 76.36 50 *e*P **P 22 26 46.5 -0.9**
PGAV *e*S **S 22 36 38.5 +6.6**
PGAV Gavieira, Arco 76.36 50 *e*LQ LQ 22 47 24.9
PGAV *e*LR LR 22 50 47.3
comp=N,14µm,20.0s
RRR Rubha Reidh 76.37 33 *e*P **P 22 26 44.0 -3.0**
PCAS Casmilo, Conde 76.42 52 *e*P P 22 26 52.7 +5.0
comp=N,187nm,1.6s
CLGH Cloghs, Cushen 76.44 36 *e*P **P 22 26 44.1 -3.4**
CLGH IAMs_20 IAMs_20 23 00 04.4
comp=Z,18µm,18.8s
DSB Dublin 76.45 38 PFAKE 22 27 00.0 +12
DSB LR LR
comp=Z,13µm,20.0s
ALMR Almeirim 76.47 53 *e*P **P 22 26 46.6 -1.4**
ALMR AMS AMS 22 57 17.1
comp=Z,13µm,23.7s
ALMR Almeirim 76.47 53 *e*P **P 22 26 47.3 -0.7**
comp=Z,149nm,1.5s
KPL Plockton 76.50 34 *e*P **P 22 26 43.8 -3.9**
KPL IAmb IAmb 22 26 47.1
comp=Z,42nm,0.7s
KPL IAMs_20 IAMs_20 22 54 36.8
comp=Z,20µm,25.3s
PFVI Vila Bisbo 76.53 55 *e*P **P 22 26 53.0 +4.6**
PFVI Vila Bisbo 76.53 55 PFAKE 22 27 00.0 +12
PFVI LR LR
comp=Z,19µm,21.0s
PTOM Tomar 76.54 52 *e*P **P 22 26 48.1 -0.3**
comp=Z,82nm,1.8s
MORF Marmelete 76.65 55 *e*P **P 22 26 47.6 -1.5**
MORF AMS AMS 22 58 06.7
comp=Z,19µm,13.0s
MORF Marmelete 76.65 55 *e*P P 22 26 54.8 +5.7
KAC Achnashellach 76.68 34 *e*P **P 22 26 45.4 -3.4**
LAWE Loch Awe, Argy 76.73 35 *e*P **P 22 26 45.2 -3.9**
LAWE IAMs_20 IAMs_20 22 59 00.5
comp=Z,21µm,20.1s
POLO Lamas de Olo 76.79 50 *e*P **P 22 26 47.7 -2.2**
PVIS Viseu 76.79 51 *e*P **P 22 26 47.9 -2.0**
MESJ Messejana 76.92 54 *e*P **P 22 26 49.1 -1.4**
MESJ AMS AMS 22 57 44.5
comp=Z,15µm,18.0s
MESJ Messejana 76.92 54 *e*P P 22 26 55.6 +5.1
EVO Evora 76.98 53 *e*P P 22 26 57.1 +6.2
EVO Evora 76.98 53 *i*P P 22 26 56.8 +5.9
MTE Manteigas 77.10 51 *e*P **P 22 26 50.1 -1.5**
MTE Manteigas 77.10 51 *e*S S 22 36 51.3 +11
MTE Manteigas 77.10 51 *e*LQ LQ 22 47 24.8
MTE *e*LR LR 22 51 05.5
comp=Z,19µm,20.0s
MTE Manteigas 77.10 51 PFAKE 22 27 00.0 +8.4
MTE LR LR
comp=Z,21µm,22.0s
PBEJ Beja 77.17 54 *e*P P 22 27 04.4 +12
MDO Dochfour 77.18 34 *e*P **P 22 26 48.5 -3.1**
PCBR Castelo Branco 77.22 52 *e*P **P 22 26 50.0 -2.2**
comp=Z,51nm,2.2s
PBDV Barranco-do-Ve 77.22 55 *e*P **P 22 26 51.6 -0.7**
comp=Z,160nm,1.8s
GAL1 Galloway 77.27 36 IAMs_20 IAMs_20 23 00 29.4
comp=Z,9µm,19.1s
PESTR Estremoz 77.27 53 *e*P P 22 26 57.7 +5.2
comp=Z,54nm,1.6s
PESTR Estremoz 77.27 53 PFAKE 22 27 00.0 +7.5
PESTR LR LR
comp=Z,8µm,20.0s
PGBU Glenifferbraes 77.29 35 *e*P **P 22 26 49.3 -3.0**
PGBU IAMs_20 IAMs_20 22 59 15.9
comp=Z,19µm,21.8s
EAB Aberfoyle 77.33 35 *e*P **P 22 26 48.8 -3.7**
PMRV Marv??o 77.34 52 *e*P **P 22 26 50.2 -2.7**
PMRV Marv??o 77.34 52 *e*S S 22 36 55.9 +13
PMRV Marv??o 77.34 52 *e*LQ LQ 22 47 35.0
PMRV *e*LR LR 22 51 39.8
comp=Z,12µm,20.0s
PVAQ Vaqueiros 77.37 54 *e*P **P 22 26 52.9 -0.2**
comp=Z,93nm,1.7s
PVAQ *e*S **S 22 36 50.7 +7.9**
PVAQ Vaqueiros 77.37 54 *e*LQ LQ 22 48 20.7
PVAQ *e*LR LR 22 51 06.0
comp=Z,18µm,20.0s
MVO Moncorvo 77.39 50 *e*P **P 22 26 50.1 -3.1**
comp=Z,51nm,1.7s
MVO Moncorvo 77.39 50 *e*S S 22 36 52.1 +9.1
MVO Moncorvo 77.39 50 *e*LQ LQ 22 47 47.2
MVO *e*LR LR 22 51 15.1
comp=Z,14µm,22.0s
IOMK Kirk Michael 77.42 37 *e*P **P 22 26 49.2 -3.8**
IOMK IAmb IAmb 22 26 55.1
comp=Z,106nm,1.4s
IOMK IAMs_20 IAMs_20 23 00 33.9
comp=Z,14µm,21.6s
INVG Invergeldie, C 77.47 35 *e*P **P 22 26 50.4 -2.8**
INVG IAmb IAmb 22 26 52.5
comp=Z,33nm,0.7s
INVG IAMs_20 IAMs_20 23 00 43.7
comp=Z,23µm,21.5s
CCA1 Carnmenellis 77.49 41 IAMs_20 IAMs_20 22 59 35.1
comp=Z,16µm,23.8s
PBRG Braganca 77.51 50 *e*P **P 22 26 52.1 -1.8**
comp=Z,59nm,2.0s
WPS Cemaes, Angles 77.56 38 IAMs_20 IAMs_20 23 01 40.4
comp=Z,12µm,18.9s
RSBS Rosebush, Pemb 77.58 39 IAMs_20 IAMs_20 22 58 48.6
comp=Z,9µm,21.3s
WLF1 Llynfaes 77.63 38 IAMs_20 IAMs_20 23 04 08.1
comp=Z,30µm,17.3s
HTL Hartland 77.86 40 IAMs_20 IAMs_20 22 58 24.2
comp=Z,27µm,21.7s
WPM1 Penmaenmawr 77.93 38 *e*P **P 22 26 51.7 -4.2**
EDI Edinburgh 78.00 35 *e*P **P 22 26 53.5 -2.7**
EDI IAMs_20 IAMs_20 23 01 00.9
comp=Z,19µm,21.0s
EDU Dundee 78.02 34 *e*P **P 22 26 53.4 -2.9**
ESK Eskdalemuir 78.07 36 *e*P **P 22 26 53.7 -2.9**
comp=Z,55nm,0.7s
ESK LR LR
comp=Z,16µm,20.0s
ESK Eskdalemuir 78.07 36 *e*P **P 22 26 53.0 -3.6**
ESK IAmb IAmb 22 26 58.0
comp=Z,75nm,1.2s
ESK IAMs_20 IAMs_20 23 01 04.3
comp=Z,18µm,21.1s
ESK Eskdalemuir 78.07 36 *i*P **P 22 26 55.4 -1.2**
BHH Howats Hill 78.09 36 *e*P **P 22 26 53.5 -3.2**
KESW Keswick, Cumbr 78.22 36 IAMs_20 IAMs_20 23 01 07.3
comp=Z,17µm,21.8s
AVE Averroes 78.23 58 *i*P **P 22 27 01.6 +3.6**
AVE *e*S **S 22 37 00.8 +8.5**
DRUM Mains of Drumt 78.26 34 *e*P **P 22 26 54.7 -3.0**
DRUM IAmb IAmb 22 26 59.0
comp=Z,107nm,1.2s
DRUM IAMs_20 IAMs_20 23 00 38.7
comp=Z,22µm,19.1s
DYA Yadsworthy 78.28 41 IAMs_20 IAMs_20 23 03 03.2
comp=Z,11µm,18.8s
ESY Stoneypath 78.33 35 *e*P **P 22 26 55.1 -3.0**
FOEL Foel Wylfa 78.40 38 IAmb IAmb 22 26 54.9
comp=Z,102nm,1.8s
FOEL IAMs_20 IAMs_20 23 04 39.7
comp=Z,11µm,17.4s
LRW Lerwick 78.50 31 IAMs_20 IAMs_20 22 57 34.2
comp=Z,36µm,22.7s
RTC Rabat Centre 78.58 58 PFAKE 22 27 10.0 +10
RTC LR LR
comp=Z,50µm,20.0s
HLM1 Long Mynd 78.64 39 *e*P **P 22 26 55.5 -4.3**
HLM1 IAmb IAmb 22 26 58.9
comp=Z,15nm,1.3s
HLM1 IAMs_20 IAMs_20 23 01 51.9
comp=Z,7µm,21.1s
MCH1 Michaelchurch 78.65 39 *e*P P 22 26 55.3 -4.5
MCH1 IAmb IAmb 22 26 57.4
comp=Z,52nm,1.3s
MCH1 IAMs_20 IAMs_20 23 03 40.0
comp=Z,18µm,19.0s
SFS San Fernando 78.71 55 PFAKE 22 27 10.0 +9.5
SFS LR LR
comp=Z,8µm,21.0s
SFS San Fernando 78.71 55 *i*P P 22 27 05.4 +4.9
SFS *e*S S 22 37 09.2 +12
EDMD Edmundbyers 78.85 36 *e*P **P 22 26 57.5 -3.4**
EDMD IAmb IAmb 22 27 05.7
comp=Z,46nm,1.0s
EDMD IAMs_20 IAMs_20 23 01 26.1
comp=Z,16µm,19.5s
STNC Stoke 78.97 38 IAMs_20 IAMs_20 23 04 49.5
comp=Z,12µm,17.9s
OLDB Oldbury-Upon-S 78.97 39 IAMs_20 IAMs_20 22 59 31.0
comp=Z,21µm,20.8s
KBS Kingsbay 79.00 11 PFAKE 22 27 10.0 +8.7
KBS LR LR
comp=Z,51µm,19.0s
KBS Kingsbay 79.00 11 *e*P **P 22 27 02.1 +0.7**
KBS *e*S **S 22 37 00.0 +1.0**
HPK Haverah Park 79.17 37 *e*P **P 22 27 00.0 -2.7**
HPK IAMs_20 IAMs_20 23 03 38.8
comp=Z,16µm,19.6s
MIDW Midway 79.18 296 PFAKE 22 27 20.0 +17
MIDW LR LR
comp=Z,7µm,20.0s
STRD Stroud 79.19 39 IAMs_20 IAMs_20 22 59 48.2
comp=Z,19µm,20.0s
LBWR Ladybower, Pea 79.20 38 *e*P **P 22 26 58.5 -4.4**
LBWR IAmb IAmb 22 27 05.2
comp=Z,72nm,1.3s
SWN1 Swindon 79.46 39 IAMs_20 IAMs_20 22 59 45.5
comp=Z,21µm,22.3s
CEU Ceuta 79.47 56 *i*P **P 22 27 09.2 +4.6**
CEU *e*S **S 22 37 10.5 +5.1**
CWF Charnwood Fore 79.56 38 *e*P **P 22 27 01.7 -3.2**
CWF IAMs_20 IAMs_20 23 05 40.6
comp=Z,14µm,17.3s
GDLE Glaisdale, N Y 79.57 36 IAMs_20 IAMs_20 23 03 14.9
comp=Z,15µm,18.7s
JSA Saint Aubin 79.60 42 IAMs_20 IAMs_20 22 56 21.6
comp=Z,23µm,23.3s
PAB San Pablo 79.65 52 PFAKE 22 27 20.0 +14
PAB LR LR
comp=Z,19µm,22.0s
ESDC Sonseca Array 79.92 52 P **P 22 27 04.0 -3.2**
comp=Z,8.7nm,0.9s,baz=290,slow=5.5,SNR=22
ESLA Sonseca Array 79.92 52 *e*P **P 22 27 06.0 -1.2**
comp=Z,116nm,1.9s
ESLA LR LR
comp=Z,16µm,21.0s
ES19 SONSECA Array 79.97 52 *e*P **P 22 27 03.2 -4.2**
LMK Market Rasen 80.02 37 IAMs_20 IAMs_20 23 03 15.5
comp=Z,13µm,20.2s
EMAL Malaga-Limoner 80.07 55 *i*P P 22 27 13.3 +5.4
IFR Ifrane 80.08 58 *i*P **P 22 27 10.6 +2.3**
SPA0 Spitsbergen Ar 80.08 11 *e*P **P 22 27 07.8 +0.5**
SPA0 Spitsbergen Ar 80.08 11 *e*P **P 22 27 06.4 -0.9**
HSPB Hornsund (broa 80.33 13 *e*P P 22 27 13.6 +5.0
HSPB MLR MLR
comp=Z,73µm,21.3s
HSPB Hornsund (broa 80.33 13 *e*P **P 22 27 10.1 +1.5**
UCM Universidad Co 80.36 51 *i*P P 22 27 15.8 +6.3
ASCN Ascension 80.38 101 PFAKE 22 27 20.0 +10
ASCN LR LR
comp=Z,7µm,20.0s
PVLZ Peæn de 80.45 56 *i*P **P 22 27 12.9 +2.9**
WACR West Acre 80.72 38 IAMs_20 IAMs_20 22 57 25.1
comp=Z,14µm,22.4s
HMNX Herstmonceux 80.89 40 IAMs_20 IAMs_20 23 00 19.6
comp=Z,28µm,21.6s
SUE Sulen 81.21 29 *e*P **P 22 27 14.4 +0.9**
SUE *e*S **S 22 37 18.6 -4.0**
FOO Floro 81.22 29 *e*P **P 22 27 15.4 +1.8**
FOO *e*S **S 22 37 22.6 -0.2**
BILL Bilibino 81.27 338 *e*P **P 22 27 13.5 -0.3**
comp=Z,414nm,1.4s
BILL LR LR
comp=Z,18µm,22.0s
BILL Bilibino 81.27 338 *c i*P **P 22 27 13.3 -0.5**
BILL *e* 22 30 17.6
BILL *i*S **S 22 37 30.9 +7.7**
BILL pmax pmax
comp=Z,92nm,1.1s
BILL MLR MLR
comp=Z,18µm,21.0s
ELSH Elham, Standar 81.33 39 IAMs_20 IAMs_20 23 00 45.0
comp=Z,21µm,20.9s
PMSA Palmer Station 81.49 168 PFAKE 22 27 30.0 +15
PMSA LR LR
comp=Z,12µm,20.0s
MELI Melilla 81.53 56 *i*P **P 22 27 20.1 +4.4**
ASK Askoy 81.55 30 *e*P **P 22 27 16.2 +0.9**
BER Bergen 81.64 30 *e*P **P 22 27 18.8 +3.0**
BER *e*S **S 22 37 27.2 0.0**
AKN Aaknes 81.98 28 *e*P **P 22 27 19.9 +2.3**
AKN *i* 22 37 46.0
MOL Molde 82.12 27 *e*P **P 22 27 19.7 +1.3**
ODD1 Odda 82.38 30 *e*P **P 22 27 15.7 -4.2**

BLS5 Blasjo 82.42 31 *e*P **P** **22 27 20.6 +0.6**
HOPEN Hopen 82.52 12 *e*P **P** **22 27 19.8 -0.4**
CART Cartagena 82.60 53 PFAKE 22 27 30.0 +8.7
CART LR LR
comp=Z,9µm,20.0s
CART Cartagena 82.60 53 *i* P **P** **22 27 18.2 -3.1**
LOF Lofoten 82.84 21 *e*P **P** **22 27 23.8 +1.8**
LOF *e*SS SS 22 43 05.1 +3.6
HOPE Hope Point 82.89 151 PFAKE 22 27 30.0 +7.7
HOPE LR LR
comp=Z,21µm,20.0s
DOMB Dombas 82.95 28 *e*P **P** **22 27 25.1 +2.4**
SNART Snartemo 83.08 32 *e* P 22 27 32.7 +9.3
TBLU Trondheim 83.12 26 *e*P **P** **22 27 26.1 +2.5**
KONS Konsvik 83.24 23 *e*P **P** **22 27 24.0 -0.1**
UCC Uccle 83.40 39 PFAKE 22 27 40.0 +15
UCC LR LR
comp=Z,25µm,21.0s
AFI Afiamalu 83.40 254 PFAKE 22 27 40.0 +14
AFI LR LR
comp=Z,7µm,18.0s
NSS Namsos 83.44 25 *e*P **P** **22 27 24.0 -1.2**
STEI Steigen 83.52 21 *e*P **P** **22 27 23.4 -2.0**
DOU Dourbes 83.72 40 ⇑P **P** **22 27 23.9 -3.0**
HOMB Hornborsund 83.76 31 *e* **P** **22 27 30.8 +3.9**
MOR8 Moi Rana 83.86 23 *e*P **P** **22 27 27.7 +0.4**
KONO Kongsberg 83.90 30 PFAKE 22 27 40.0 +12
KONO LR LR
comp=Z,16µm,22.0s
KONO Kongsberg 83.90 30 *i* P **P** **22 27 28.9 +1.3**
KONO pmax pmax
comp=Z,88nm,2.0s
KONO Kongsberg 83.90 30 *e*P **P** **22 27 27.2 -0.4**
KONO *i* 22 38 00.8
BCLA Clavier 84.08 40 ⇓P **P** **22 27 26.0 -2.7**
TRO Tromso 84.08 19 *e*P **P** **22 27 29.1 +0.8**
BEBN Eben Emael 84.21 39 ⇓PcP **PcP** **22 27 31.9 -1.2**
NB2 NORSAR Subarra 84.24 28 P **P** **22 27 27.3 -2.1**
comp=Z,3.6nm,0.7s,baz=289,slow=5.3
NB2 NORSAR Subarra 84.24 28 P **P** **22 27 27.3 -2.1**
baz=289,slow=5.3
NB200 NORSAR Array S 84.24 28 *e*P **P** **22 27 27.2 -2.1**
NOA NORSAR Array B 84.24 28 P **P** **22 27 27.2 -2.1**
comp=Z,5.4nm,0.9s,baz=289,slow=5.2,SNR=9.3
HGN Heimansgroeve 84.37 39 *e*P **P** **22 27 27.9 -2.3**
HGN Heimansgroeve 84.37 39 *e*S S 22 38 11.7 +16
NC405 NORSAR Array S 84.44 28 *e*P **P** **22 27 31.2 +0.8**
MEM Membach 84.46 39 ⇓P **P** **22 27 28.8 -1.9**
NC602 NORSAR Array S 84.49 29 *e*P **P** **22 27 31.2 +0.6**
WTSB Winterswijk 84.58 38 *e*P **P** **22 27 28.2 -3.0**
WLF Walferdange 84.80 40 *e*P **P** **22 27 33.9 +1.5**
comp=Z,38nm,1.1s
WLF LR LR
comp=Z,26nm,22.0s
WLF Walferdange 84.80 40 ⇑P **P** **22 27 31.9 -0.6**
SSB Saint Sauveur 84.89 45 *e*P **P** **22 27 31.3 -1.7**
comp=Z,25nm,1.3s
SSB LR LR
comp=Z,10µm,20.0s
SSB Saint Sauveur 84.89 45 *e*P **P** **22 27 31.3 -1.7**
SSB pmax pmax
comp=Z,25nm,1.3s
SSB MLR MLR
comp=Z,10µm,20.0s
KOWA Kowa 84.97 76 PFAKE 22 27 40.0 +6.1
KOWA LR LR
comp=Z,10µm,20.0s
HAMF Hammerfest 85.08 18 *e*P **P** **22 27 34.1 +0.8**
KTK1 Kautokeino 85.73 19 *e*P **P** **22 27 37.3 +0.6**
TIC Toumodi 85.81 84 *e*P **P** **22 27 40.4 +2.2**
ECH Echery 85.84 41 *e*P **P** **22 27 35.1 -2.6**
comp=Z,34nm,1.2s
ECH LR LR
comp=Z,17µm,21.0s
ECH Echery 85.84 41 *e*P **P** **22 27 35.1 -2.6**
ECH pmax pmax
comp=Z,34nm,1.2s
ECH MLR MLR
comp=Z,17µm,21.0s
LIC Lamto 85.91 85 *e*P **P** **22 27 37.2 -1.4**
comp=Z,249nm,1.5s
DBIC Dimbokro 85.97 84 P **P** **22 27 37.5 -1.4**
comp=Z,14nm,0.6s,baz=270,slow=5.4,SNR=18
DBIC Dimbokro 85.97 84 *e*P **P** **22 27 37.5 -1.4**
comp=Z,175nm,1.8s
MAHO Mahon 86.07 50 *i* P P 22 27 44.0 +5.1
KIC Kosan Boka 86.15 84 *e*P **P** **22 27 38.5 -1.3**
comp=Z,262nm,1.4s
ARA0 ARCESS Array S 86.17 18 *e*P **P** **22 27 37.0 -1.8**
ARCES ARCESS Array B 86.17 18 P **P** **22 27 37.0 -1.8**
comp=Z,5.4nm,0.5s,baz=300,slow=4.3,SNR=32
ARCES ARCESS Array B 86.17 18 *e*P **P** **22 27 37.2 -1.7**
ARCES ARCESS Array B 86.17 18 *e*P **P** **22 27 37.2 -1.7**
ARE0 ARCESS Array S 86.17 18 PFAKE 22 27 50.0 +11
ARE0 LR LR
comp=Z,1µm,22.0s
ARE0 ARCESS Array S 86.17 18 *e*P **P** **22 27 37.3 -1.6**
BNI Bardonecchia 86.41 45 *e*P **P** **22 27 39.4 -1.3**
comp=Z,37nm,1.2s
BNI LR LR
comp=Z,14µm,20.0s
SENIN Lac Senin/Sane 86.45 43 *e*P **P** **22 27 39.0 -1.9**
comp=Z,27nm,0.8s
SENIN LR LR
comp=Z,14µm,20.0s
KEV Kevo 86.50 18 PFAKE 22 27 50.0 +10
KEV LR LR
comp=Z,34µm,22.0s
BFO Black Forest 86.55 41 *e*P **P** **22 27 38.7 -2.5**
comp=Z,31nm,1.3s
BFO LR LR
comp=Z,17µm,21.0s
BFO Black Forest 86.55 41 *ce*P **P** **22 27 39.6 -1.6**
BFO pmax pmax
comp=Z,3.0nm,1.3s
COP Copenhagen 86.61 33 *i* P **P** **22 27 43.7 +2.5**
comp=Z,10µm,24.0s
COP Copenhagen 86.61 33 *e*P **P** **22 27 43.7 +2.5**
COP MLR MLR
comp=Z,10µm,24.0s
STU Stuttgart 86.97 40 *e*P **P** **22 27 41.3 -1.9**
comp=Z,29nm,0.7s
STU LR LR
comp=Z,19µm,22.0s
STU Stuttgart 86.97 40 *e*P **P** **22 27 41.3 -1.9**
STU pmax pmax
comp=Z,29nm,0.7s
STU MLR MLR
comp=Z,19µm,22.0s
RGN Rugen 87.49 34 PFAKE 22 28 00.0 +14
RGN LR LR
comp=Z,14µm,21.0s
TUE Stuetta 87.77 43 *e*P **P** **22 27 45.0 -2.4**
comp=Z,31nm,0.9s
TUE LR LR
comp=Z,17µm,19.0s
DAVA Damuels 87.87 42 *e*P **P** **22 27 45.9 -1.8**
comp=Z,17nm,0.9s,SNR=12
GRFO Grafenberg 87.94 39 *e*P **P** **22 27 46.6 -1.2**
comp=Z,56nm,1.3s
GRFO LR LR
comp=Z,16µm,20.0s
GRFO Grafenberg 87.94 39 *e*P **P** **22 27 46.6 -1.2**
GRFO pmax pmax
comp=Z,56nm,1.3s
GRFO MLR MLR
comp=Z,16µm,20.0s
BSD Bornholm Skovb 88.14 33 *i* P **P** **22 27 52.0 +3.4**
comp=Z,15µm,24.0s
BSD Bornholm Skovb 88.14 33 *e*P **P** **22 27 52.0 +3.4**
BSD MLR MLR
comp=Z,15µm,24.0s
FUORN Ofenpass-Fuorn 88.33 42 *e*P **P** **22 27 48.1 -2.0**
comp=Z,24nm,0.8s
FUORN LR LR
comp=Z,18µm,20.0s
RETA Reutte 88.37 41 *e*P **P** **22 27 47.9 -2.2**
comp=Z,15nm,0.9s,SNR=13
CLL Collm 88.45 37 *e*P **P** **22 27 52.5 +2.2**
comp=Z,16nm,1.0s
CLL LR LR
comp=Z,13µm,21.0s
CLL Collm 88.45 37 *e*P **P** **22 27 49.0 -1.2**
CLL *e*Pmax 22 27 52.0
comp=Z,26nm,1.6s
CLL *e*Plp 22 27 56.0
comp=Z,3µm,19.1s
CLL *e* 22 28 02.0
CLL *e* 22 28 21.0
CLL *e*PP **PP** **22 31 24.0 +6.2**
CLL *e*S **S** **22 38 31.0 -4.1**
CLL *e*PS **PS** **22 39 42.0 +1.6**
CLL *e*SS SS 22 44 12.0 -13
CLL *e*SSS SSS 22 48 06.0
CLL *e*SSSS 22 50 48.0
CLL *e*PKPPKPdf **P'P'df** **22 53 46.0 +2.6**
CLL *e* 22 54 18.0
CLL Lm MLR 23 04 00.0
comp=Z,12µm,21.5s
CLL Collm 88.45 37 *e*P **P** **22 27 49.0 -1.2**
CLL *e*S **S** **22 38 31.0 -4.1**
CLL pmax pmax
comp=Z,26nm,1.6s
CLL MLR MLR
comp=Z,12µm,21.5s
NKC Novy Kostel 88.50 38 *e*P **P** **22 27 47.2 -3.3**
NKC *e*PP **PP** **22 31 14.2 -4.1**
NKC *e*SKKS S 22 38 26.8 -8.8
NKC *ex* x 22 39 53.1
NKC AMS AMS 23 07 50.0
comp=Z,13µm,21.5s
NKC Novy Kostel 88.50 38 *e*P **P** **22 27 47.2 -3.3**
NKC *e* 22 31 14.2
NKC *e* 22 38 26.8
NKC MLR MLR
comp=Z,13µm,21.5s
FETA Feichten 88.50 42 *e*PcP **P** **22 27 50.0 -0.8**
comp=Z,5.9nm,0.6s,SNR=5.2
SEY Seymchan 88.56 336 *i* P **P** **22 27 51.9 +1.5**
MOTA Moosalm 88.64 41 *e*P **P** **22 27 48.3 -3.1**
comp=Z,9.8nm,1.0s,SNR=6.3
SQTA Sankt Quirin 88.75 42 *e*P **P** **22 27 50.6 -1.2**
comp=Z,5.9nm,0.6s
WATA Walderalm 88.94 41 *e*PcP **P** **22 27 51.9 -0.9**
comp=Z,3.6nm,0.6s
BRG Berggiesshubel 89.16 37 *i* P **P** **22 27 57.2 +3.6**
comp=Z,10nm,1.0s
BRG PP **PP** **22 31 24.0 +0.5**
BRG SKS S 22 38 32.0 -10
BRG S ScS 22 38 59.0 +12
BRG SS SS 22 44 48.0 +13
BRG *e*PKPPKP P'P'df 22 53 27.0 -15
comp=Z,3.3nm,1.1s
comp=N,6µm,22.3s
comp=E,12µm,20.0s
comp=Z,14µm,20.9s
BRG Berggiesshubel 89.16 37 *i* P **P** **22 27 57.2 +3.6**
BRG 22 31 24.0
BRG 22 38 32.0
BRG pmax pmax
comp=Z,10.0nm,1.0s
BRG pmax pmax
comp=Z,3.0nm,1.2s
BRG MLR MLR
comp=N,6µm,22.3s
BRG MLR MLR
comp=E,12µm,20.0s
BRG MLR MLR
comp=Z,14µm,20.9s
VLC Villacollemand 89.20 45 PFAKE 22 28 00.0 +6.1
VLC LR LR
comp=Z,11µm,22.0s
KHC Kasperske Hory 89.57 39 *e*P **P** **22 27 55.2 -0.4**
comp=Z,7.8nm,1.3s
KHC LR LR
comp=Z,7µm,22.0s
KHC Kasperske Hory 89.57 39 *e*P **P** **22 27 53.5 -2.1**
KHC *ep*P **PcP** **22 27 57.5 +0.5**
KHC *e*PP **PP** **22 31 22.0 -4.9**
KHC *e*SKS **SKSac** **22 38 26.5 +1.2**
KHC AMS AMS 23 05 40.0
comp=Z,18µm,21.3s
KHC Kasperske Hory 89.57 39 *e*P **P** **22 27 53.5 -2.1**
KHC *e* 22 31 22.0
KHC *e* 22 38 26.5
KHC MLR MLR
comp=Z,18µm,21.3s
PVCC Panska Ves 89.66 38 *e*P **P** **22 27 54.9 -1.0**
PVCC *e*PP PP 22 31 35.3 +7.8
PVCC *e*SKKS **SKKSac** **22 38 33.2 -5.1**
PVCC AMS AMS 23 08 50.0
comp=Z,14µm,21.1s
PVCC Panska Ves 89.66 38 *e*P **P** **22 27 54.9 -1.0**
PVCC *e* 22 31 35.3
PVCC *e* 22 38 33.2
PVCC MLR MLR
comp=Z,14µm,21.1s
APA Apatity 89.68 18 *i*P P 22 27 47.7 -7.9
APA *i* 22 31 30.0
APA *i* 22 38 32.0
APA pmax pmax
comp=Z,7.0nm,1.0s
APA MLR MLR
comp=Z,37µm,26.0s
ABTA Abfaltersbach 89.75 42 *e*PcP **P** **22 27 56.7 +0.2**
comp=Z,6.4nm,0.7s
PRA Prague 89.75 38 *e*P **P** **22 27 54.3 -2.0**
PRA *ex* x 22 40 00.7
PRA AMS AMS 23 15 20.0
comp=Z,16µm,16.5s
PRA Prague 89.75 38 *e*P **P** **22 27 54.3 -2.0**
PRA MLR MLR
comp=Z,16µm,16.5s
GEC2 GERESS Array S 89.75 39 *e*P **P** **22 27 55.7 -0.8**
comp=Z,15nm,1.2s
GEC2 LR LR
comp=Z,22µm,22.0s
GEC2 GERESS Array S 89.75 39 *e*P **P** **22 27 55.7 -0.8**
GEC2 pmax pmax
comp=Z,15nm,1.2s
GEC2 MLR MLR
comp=Z,22µm,22.0s
GERES GERESS Array B 89.75 39 P **P** **22 27 54.6 -1.9**
comp=Z,5.5nm,1.0s,baz=300,slow=2.6,SNR=19
GERES PKKPbc **PKKPbc** **22 45 31.1 +0.4**
comp=Z,0.3nm,0.8s,baz=264,slow=2.0,SNR=2.3
GERES GERESS Array B 89.75 39 PKKPbc PKKPbc 22 45 31.1 +0.4
GEA0 GERESS Array S 89.76 39 *e*P **P** **22 27 52.8 -3.8**
PET Petropavlovsk 89.91 325 PFAKE 22 28 10.0 +13
PET LR LR
comp=Z,6µm,21.0s
PET Petropavlovsk 89.91 325 *ce*P **P** **22 27 56.2 -0.8**
PET *e* 22 31 34.0
PET *e* 22 38 16.4
PET *e*S **S** **22 38 43.2 -5.4**
PET *e*SS **SS** **22 44 42.9 -2.7**
PET *e*SSS SSS 22 48 17.8
PET pmax pmax
comp=Z,41nm,1.2s
PET pmax pmax
comp=Z,4µm,17.1s
PET pmax pmax
comp=Z,3µm,17.9s
PET pmax pmax
comp=Z,2µm,17.0s
PET pmax pmax
comp=Z,2µm,18.3s
PET MLR MLR
comp=Z,7µm,20.0s
GKP Gorka Klasztor 90.12 34 *e*P P 22 28 05.9 +7.9
GKP *e*S S 22 38 36.1 -14
GKP LMZ LR 23 03 56.1
comp=Z,22µm,25.4s
GKP Gorka Klasztor 90.12 34 *e*P P 22 28 05.9 +7.9
GKP *e*S S 22 38 36.1 -14
GKP MLR MLR
comp=Z,22µm,25.4s
TIXI Tiksi 90.12 348 *e*P **P** **22 27 56.1 -1.4**
comp=Z,98nm,1.0s
TIXI LR LR
comp=Z,13µm,21.0s
TIXI Tiksi 90.12 348 *ce*P **P** **22 27 56.2 -1.4**
TIXI pmax pmax
comp=Z,119nm,1.0s
KBA Koelnbreinsper 90.16 41 PcP **PcP** **22 28 00.3 +0.5**
comp=Z,10nm,0.8s
PEA1 Petropavlovsk- 90.40 325 *e*P **P** **22 27 59.1 -0.2**
PEA0B Petropavlovsk- 90.40 325 *ep*P **pP** **22 28 07.5 +1.9**
PEA0B LR LR
comp=Z,7µm,21.0s
PETK Petropavlovsk- 90.40 325 P **P** **22 27 59.1 -0.3**
comp=Z,12nm,0.8s,baz=92,slow=7.4,SNR=9.1
PETK Petropavlovsk- 90.40 325 *e*P **P** **22 28 03.4 +4.0**
PETK Petropavlovsk- 90.40 325 *e*P **P** **22 28 03.4 +4.0**
MOA Molln 90.47 40 *e*P **P** **22 27 57.7 -2.1**
comp=Z,5.2nm,0.7s
KSP Ksiaz 90.55 37 *e*P **P** **22 28 04.3 +4.2**
KSP *e*S S 22 38 42.9 -12
KSP LMZ LR 23 02 33.1
comp=Z,15µm,26.8s
KSP Ksiaz 90.55 37 *e*P **P** **22 28 04.3 +4.2**
KSP *e*S S 22 38 42.9 -12
KSP MLR MLR
comp=Z,15µm,26.8s
FIA0 FINESS Array S 90.57 25 *e*P **P** **22 27 57.4 -2.5**
FIA0 FINESS Array S 90.57 25 *e*P **P** **22 27 57.4 -2.5**
FINES FINESS Array B 90.57 25 P **P** **22 27 57.4 -2.5**
comp=Z,5.2nm,0.6s,baz=270,slow=1.3,SNR=15
FUNA Funafuti 90.57 261 PFAKE 22 28 10.0 +9.2
FUNA LR LR
comp=Z,25µm,19.0s
SHEL Horse Pasture 90.60 106 PFAKE 22 28 10.0 +9.1
SHEL LR LR
comp=Z,11µm,19.0s
TOC7 Torodi Ar. Sit 90.66 76 PFAKE 22 28 10.0 +8.7
TOC7 LR LR
comp=Z,10µm,20.0s
TOB5 Torodi Ar. Sit 90.66 76 PFAKE 22 28 10.0 +8.7
TOB5 LR LR
comp=Z,10µm,20.0s
TOC5 Torodi Ar. Sit 90.66 76 PFAKE 22 28 10.0 +8.7
TOC5 LR LR
comp=Z,11µm,20.0s
TOB4 Torodi Ar. Sit 90.67 76 PFAKE 22 28 10.0 +8.7
TOB4 LR LR
comp=Z,9µm,19.0s
TOA1 Torodi Ar. Sit 90.67 76 *e*P **P** **22 27 59.1 -2.2**
TOA1 *e*PKKPdf **PKKPdf** **22 45 25.4 +1.5**
TOA1 LR LR
comp=Z,9µm,19.0s
TOA0 Torodi Ar. Sit 90.67 76 *e*P **P** **22 27 58.6 -2.7**
TOA0 *e*P **PcP** **22 27 59.5 -2.9**
TOA0 LR LR
comp=Z,10µm,20.0s
TOA3 Torodi Ar. Sit 90.67 76 PFAKE 22 28 10.0 +8.7
TOA3 LR LR
comp=Z,9µm,20.0s
TOC1 Torodi Ar. Sit 90.67 76 PFAKE 22 28 10.0 +8.7
TOC1 LR LR
comp=Z,11µm,20.0s
TORD Torodi Ar. Bea 90.67 76 P **P** **22 27 59.1 -2.2**
comp=Z,1.9nm,0.8s,baz=295,slow=3.7,SNR=32
TORD PKKPbc **PKKPdf** **22 45 25.4 +1.6**
baz=108,slow=3.6
TREC Trest 90.68 39 *e*P **P** **22 28 00.1 -0.6**
TREC *e*SKKS **SKKSac** **22 38 42.8 -3.2**
TREC AMS AMS 23 14 30.0
comp=Z,14µm,17.4s
TREC Trest 90.68 39 *e*P **P** **22 28 00.1 -0.6**
TREC *e* 22 38 42.8
TREC MLR MLR
comp=Z,14µm,17.4s
TOA2 Torodi Ar. Sit 90.68 76 PFAKE 22 28 10.0 +8.6
TOA2 LR LR
comp=Z,10µm,18.0s
TOB2 Torodi Ar. Sit 90.69 76 PFAKE 22 28 10.0 +8.6
TOB2 LR LR
comp=Z,10µm,20.0s
TOC4 Torodi Ar. Sit 90.69 76 PFAKE 22 28 10.0 +8.6
TOC4 LR LR
comp=Z,10µm,20.0s
TOB3 Torodi Ar. Sit 90.69 76 PFAKE 22 28 10.0 +8.6
TOB3 LR LR
comp=Z,10µm,20.0s
TOC2 Torodi Ar. Sit 90.70 76 PFAKE 22 28 10.0 +8.6
TOC2 LR LR
comp=Z,10µm,20.0s
TOC3 Torodi Ar. Sit 90.70 76 PFAKE 22 28 10.0 +8.5
TOC3 LR LR
comp=Z,10µm,20.0s
CADS Cadrg 90.72 42 *e*P P 22 28 08.3 +7.3
CADS Cadrg 90.72 42 *e*P P 22 28 08.3 +7.3
DPC Dobruska-Polom 90.76 37 *e*P **P** **22 27 59.1 -2.0**
DPC *ep*P **pP** **22 28 04.9 -2.5**
DPC *e*SKKS **SKKSac** **22 38 43.2 -3.5**
DPC *ex* x 22 40 13.7
DPC AMS AMS 23 07 30.0
comp=Z,17µm,21.9s
DPC Dobruska-Polom 90.76 37 *e*P **P** **22 27 59.1 -2.0**
DPC *e* 22 38 43.2
DPC MLR MLR
comp=Z,17µm,21.9s
SLIT Slitere, Latvi 90.79 29 *e*P **P** **22 27 58.7 -2.3**
MA2 Magadan 90.89 333 *e*P **P** **22 28 03.4 +2.0**
comp=Z,65nm,1.0s
MA2 LR LR
comp=Z,12µm,21.0s
MA2 Magadan 90.89 333 *c* *i*P **P** **22 28 01.1 -0.3**
MA2 pmax pmax
comp=Z,79nm,1.1s
TRI Trieste 90.93 42 PFAKE 22 28 10.0 +8.1
TRI LR LR
comp=Z,11µm,22.0s
KEST Kesra 91.11 53 P **P** **22 28 00.8 -2.3**
comp=Z,10nm,1.0s,baz=254,slow=6.0,SNR=4.7
KEST LR LR 23 04 32.5
comp=Z,5µm,20.8s,baz=260,slow=33
KEST Kesra 91.11 53 *e*P **P** **22 28 03.2 +0.1**
comp=Z,76nm,1.5s
KEST LR LR
comp=Z,7µm,20.0s
CRNS Crni Vrh 91.11 42 *e*P P 22 28 10.3 +7.5
CRNS Crni Vrh 91.11 42 *e*P P 22 28 10.3 +7.5
OBKA Obir 91.14 41 *e*PcP **P** **22 28 03.7 +0.7**
comp=Z,4.4nm,0.5s
KLNR Kaliningrad 91.14 33 *i* P **P** **22 28 03.6 +0.9**
KLNR pmax pmax
comp=Z,43nm,1.0s
KRLC Kraliky 91.14 38 *e*P P 22 27 53.8 -9.1
KRUC Moravsky 91.31 39 *e*P **P** **22 28 02.6 -1.1**
VRAC Vranov 91.34 38 ⇓*i*P **P** **22 28 02.2 -1.6**
VRAC Vranov 91.34 38 ⇓P **P** **22 28 02.2 -1.6**
VRAC Vranov 91.34 38 *e*P **P** **22 28 02.7 -1.1**
CEY Cerknica 91.35 42 *e*P P 22 28 11.2 +7.3
CEY Cerknica 91.35 42 *e*P P 22 28 11.2 +7.3
SOKA Soboth 91.39 41 *e*PcP **P** **22 28 04.2 +0.1**
comp=Z,3.0nm,0.6s
CONA Conrad Observa 91.43 40 *e*PcP **P** **22 28 04.0 -0.4**
comp=Z,2.4nm,0.6s
PERS Pernice 91.46 41 *e*P P 22 28 12.1 +7.6
PERS *e* 22 38 43.5
PERS Pernice 91.46 41 *e*P P 22 28 12.1 +7.6
PERS *e* 22 38 43.5
ARSA Arzberg 91.48 40 *e*PcP **P** **22 28 03.6 -0.9**
comp=Z,4.6nm,1.1s
TAM Tamanrasset 91.68 66 *e*P **P** **22 28 04.9 -1.2**
comp=Z,17nm,1.3s
TAM LR LR
comp=Z,11µm,22.0s
MORC Moravsky Berou 91.72 38 *e*P **P** **22 28 04.8 -0.7**
comp=Z,16nm,1.2s
MORC LR LR
comp=Z,17µm,22.0s
MORC Moravsky Berou 91.72 38 ⇑*i*P **P** **22 28 05.0 -0.6**
MORC Moravsky Berou 91.72 38 ⇑P **P** **22 28 05.0 -0.6**
AQU L'Aquila 91.89 46 PFAKE 22 28 20.0 +13
AQU LR LR
comp=Z,16µm,21.0s
RAC Raciborz 91.97 37 *e*P **P** **22 28 05.3 -1.4**
RAC MLR MLR
comp=Z,24µm,20.2s
OKC Ostrava-Krasne 92.05 37 *e*P **P** **22 28 06.5 -0.5**
OKC *e*PP **PP** **22 31 52.5 +6.1**
OKC *e*SKS **SKSac** **22 38 43.8 +4.5**
OKC *e*PS PnS 22 40 24.1 +2.9
OKC AMS AMS 23 10 20.0
comp=Z,12µm,19.7s
OKC Ostrava-Krasne 92.05 37 *e*P **P** **22 28 06.5 -0.5**
OKC *e* 22 31 52.5
OKC *e* 22 40 24.1
OKC MLR MLR
comp=Z,12µm,19.7s
MODS Modra-Piesok 92.13 39 *e*P **P** **22 28 06.2 -1.3**
MODS pmax pmax
comp=Z,33nm,1.3s

MODS **Modra-Piesok** 92.13 39 *e*P **P** 22 28 06.2 -1.3
MODS **Modra-Piesok** 92.13 39 *e*S **SKSac** 22 38 47.6 +7.7
MODS *e*L L 23 06 04.5
SKR Severo-Kuril's 92.31 324 *e*P **P** 22 28 08.6 +0.4
SKR *e* 22 31 52.7
SKR pmax pmax
comp=Z,110nm,1.2s
SKR pmax pmax
comp=Z,2µm,10.1s
SKR MLR MLR
comp=Z,4µm,22.0s
VSU Vasula 92.42 27‖ *e*P **P** 22 28 07.5 -1.0
VSU Vasula 92.42 27 *i* P **P** 22 28 09.9 +1.4
VSU pmax pmax
comp=Z,45nm,1.0s
OJC Ojcow 92.85 37 *e*P P 22 28 16.9 +6.2
OJC *e*S SKSac 22 38 55.6 +12
OJC LMZ LR 23 04 20.2
comp=Z,12µm,26.1s
OJC Ojcow 92.85 37 *e*P **P** 22 28 10.6 -0.2
comp=Z,16nm,1.2s
OJC Ojcow 92.85 37 *e*P **P** 22 28 10.6 -0.2
OJC pmax pmax
comp=Z,16nm,1.2s
SUW Suwalki 92.96 32 *e*P P 22 28 18.5 +7.4
SUW *e*S **SKSac** 22 38 49.5 +5.3
SUW LMZ LR 23 08 22.5
comp=Z,16µm,23.3s
SUW Suwalki 92.96 32 PFAKE 22 28 20.0 +8.9
SUW LR LR
comp=Z,12µm,20.0s
SUW Suwalki 92.96 32 *e*P P 22 28 18.5 +7.4
SUW MLR MLR
comp=Z,16µm,23.3s
RAO Raoul Island 92.99 241 LR LR 22 59 40.1
comp=Z,4µm,21.9s,baz=74,slow=29
RAO Raoul Island 92.99 241 PFAKE 22 28 20.0 +8.3
RAO LR LR
comp=Z,5µm,19.0s
VYHS Vyhne 93.02 38 *e*P **P** 22 28 11.2 -0.4
VYHS pmax pmax
comp=Z,8.0nm,1.3s
VYHS Vyhne 93.02 38 *e*P **P** 22 28 11.2 -0.4
VYHS Vyhne 93.02 38 *e*S **SKSac** 22 38 51.6 +6.7
VYHS *e*L L 23 10 57.0
LANS Liptovska Anna 93.12 38 *e*P **P** 22 28 11.0 -1.1
LANS *e* 22 31 53.8
LANS Liptovska Anna 93.12 38 *e*P **P** 22 28 11.0 -1.1
LANS *e*PP **PP** 22 31 53.8 -1.1
PUL Pulkovo 93.24 25 *i* P **P** 22 28 13.7 +1.4
PUL pmax pmax
comp=Z,26nm,0.8s
CLTB Caltabellotta 93.44 50 PFAKE 22 28 20.0 +6.2
CLTB LR LR
comp=Z,18µm,20.0s
NIE Niedzica 93.49 37 *e*P P 22 28 19.9 +6.1
NIE *e*S **SKSac** 22 38 57.9 +10
NIE LMZ LR 23 04 43.2
comp=Z,11µm,26.7s
NIE Niedzica 93.49 37 *e*P P 22 28 19.9 +6.1
NIE MLR MLR
comp=Z,11µm,26.7s
BLY Banja Luka 93.53 42 PFAKE 22 28 20.0 +6.0
BLY LR LR
comp=Z,17µm,22.0s
MORH M˙‡r˙igy, Hung 93.86 41 *e*P **P** 22 28 14.7 -0.8
PSZ Piszkesteto 93.91 39 *e*P **P** 22 28 17.8 +2.0
comp=Z,20nm,1.1s
PSZ LR LR
comp=Z,12µm,22.0s
PSZ Piszkesteto 93.91 39‖ *i*P **P** 22 28 18.4 +2.6
PSZ Piszkesteto 93.91 39 *e*P **P** 22 28 20.1 +4.3
PSZ Piszkesteto 93.91 39 *e*P **P** 22 28 17.8 +2.0
PSZ pmax pmax
comp=Z,21nm,1.1s
PSZ MLR MLR
comp=Z,12µm,22.0s
TARA Tarawa 94.28 272 PFAKE 22 28 30.0 +12
TARA LR LR
comp=Z,24µm,20.0s
NACGM **Naroch** 94.33 30 *e*P **P** 22 28 18.0 +0.6
NACGM *e*PP **PP** 22 32 10.0 +6.0
NACGM *e*PPP PPP 22 33 54.0
NACGM *e*SKS **SKSac** 22 38 46.0 -5.7
NACGM *e*SKKS SKKSac 22 39 01.0 -12
NACGM *e*PS PS 22 41 04.0 +19
NACGM *e*SS SS 22 46 20.0 +31
NACGM *e*SSS SSS 22 49 08.0
NACGM *e*LQ LQ 22 58 34.0
NACGM *e*LR LR 23 02 24.0
NACGM LRM MLR 23 06 38.0
comp=Z,16nm,24.0s
CUC Castrocucco 94.45 47 PFAKE 22 28 30.0 +12
CUC LR LR
comp=Z,8µm,22.0s
KWP Kalwaria Pacla 94.79 36 *e*P P 22 28 26.7 +7.0
KWP *e*S **SKSac** 22 39 04.9 +10
KWP LMZ LR 23 10 60.0
comp=Z,13µm,23.1s
KWP Kalwaria Pacla 94.79 36 PFAKE 22 28 30.0 +10
KWP LR LR
comp=Z,100µm,22.0s
KWP Kalwaria Pacla 94.79 36 *e*P P 22 28 26.7 +7.0
KWP MLR MLR
comp=Z,13µm,23.1s
UZH Uzhgorod 95.02 37 *e*P **P** 22 28 19.0 -1.7
UZH *i* 22 28 34.4
UZH *e*S S 22 39 26.0 -8.5
UZH MLR MLR
comp=Z,1µm,23.0s
WDD Wied Dalam 95.04 51 PFAKE 22 28 30.0 +8.9
WDD LR LR
comp=Z,7µm,20.0s
MICGM **Minsk** 95.08 30 *e*P **P** 22 28 24.0 +3.1
MICGM *e*PP **PP** 22 32 16.0 +6.1
MICGM *e*PsP 22 33 04.0
MICGM *e*PPP PPP 22 34 12.0
MICGM *e*SKS **SKSac** 22 39 04.0 +8.3
MICGM *e*SKKS **SKKSac** 22 39 22.0 +3.6
MICGM *e*S **ScS** 22 39 38.0 +2.2
MICGM *e*PS **PS** 22 41 06.0 +12
MICGM *e*SS **SS** 22 46 08.0 +8.4
MICGM *e*SSS SSS 22 51 30.0
MICGM *e*LQ LQ 22 53 30.0
MICGM *e*LR LR 23 00 10.0
MICGM LRM MLR 23 06 04.0
comp=N,8.0nm,22.0s
MICGM LRM MLR 23 06 24.0
comp=N,6.8nm,22.0s
MICGM LRM MLR 23 06 48.0
comp=Z,46nm,22.0s
MICGM LRM MLR 23 06 52.0
comp=Z,29nm,22.0s
MICGM LRM MLR 23 07 04.0
comp=E,18nm,22.0s
MICGM LRM MLR 23 07 12.0
comp=E,14nm,22.0s
CEL Celeste 95.16 49 PFAKE 22 28 30.0 +8.3
CEL LR LR
comp=Z,10µm,19.0s
TRPA Tarpa 95.40 38⇑ *i*P **P** 22 28 20.4 -2.0
TIP Timpagrande 95.43 48 PFAKE 22 28 30.0 +7.1
TIP LR LR
comp=Z,10µm,20.0s
LVV L'vov 95.45 36 *e*P **P** 22 28 22.1 -0.6
LVV *e* 22 32 13.1
LVV *e*PPP PPP 22 34 18.1
LVV *e* 22 38 58.3
LVV *e*S **S** 22 39 35.6 -2.7
LVV *e*SS **SS** 22 46 12.2 +7.0
LVV MLR MLR
comp=N,4µm,21.0s
LVV MLR MLR
comp=E,10µm,21.0s
WAKE Wake Island 95.50 291 PFAKE 22 28 40.0 +17
WAKE LR LR
comp=Z,8µm,20.0s
DIVS Divibare 95.62 42 *e*P **P** 22 28 23.2 -0.6
comp=Z,82nm,2.0s
DIVS LR LR
comp=Z,14µm,21.0s
TTG Podgorica 95.85 44 PFAKE 22 28 40.0 +15
TTG LR LR
comp=Z,10µm,20.0s

BZS Buzias 95.99 40⇑ *i*P **P** 22 28 22.6 -2.6
BZS Buzias 95.99 40⇑ P **P** 22 28 22.7 -2.5
DRGR 96.12 39⇑ *i*P **P** 22 28 24.0 -1.9
DRGR 96.12 39⇑ P **P** 22 28 24.0 -1.9
TIR Tirane 96.72 45 PFAKE 22 28 40.0 +11
TIR LR LR
comp=Z,11µm,20.0s
NRIK Noril'sk 96.81 0 P **P** 22 28 27.2 -1.2
comp=Z,2.4nm,0.6s,baz=72,slow=3.2,SNR=2.6
GZR Gura Zlata 96.82 40⇑ *i*P **P** 22 28 26.5 -2.6
GZR Gura Zlata 96.82 40⇑ P **P** 22 28 26.5 -2.6
ARCR ARCALIA 96.97 38‖ *i*P **P** 22 28 26.7 -3.0
BUR04 Bucovina Ar. S 97.22 37 *e*P **P** 22 28 29.4 -1.5
BURAR Bucovina Array 97.22 37⇑ *i*P **P** 22 28 28.9 -2.0
BURAR Bucovina Array 97.22 37 ⇑P **P** 22 28 28.9 -2.0
YAK Yakutsk 97.29 341 PFAKE 22 28 40.0 +9.2
YAK LR LR
comp=Z,18µm,22.0s
YAK Yakutsk 97.29 341 *e*P Pdif 22 28 32.0 +1.2
YAK *e**PP sP 22 28 49.3 +10
YAK *e* 22 32 28.7
YAK *e*PPP PPP 22 34 32.9
YAK *e*S **SKSac** 22 39 06.3 -0.7
YAK pmax pmax
comp=Z,28nm,1.0s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.4s
YAK pmax pmax
comp=Z,434nm,3.5s
YAK pmax pmax
comp=N,114nm,2.0s
YAK pmax pmax
comp=E,116nm,2.5s
YAK smax smax
comp=E,191nm,3.5s
YAK smax smax
comp=N,113nm,3.3s
KWAJ Kwajalein Atol 97.51 281 PFAKE 22 28 40.0 +7.2
KWAJ LR LR
comp=Z,9µm,20.0s
KIEV Kiev 97.84 33 PFAKE 22 28 40.0 +6.5
KIEV LR LR
comp=Z,11µm,19.0s
KIEV Kiev 97.84 33 *i* P Pdif 22 28 34.5 +1.0
KIEV pmax pmax
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 97.84 33 P **P** 22 28 30.8 -2.7
comp=Z,0.5nm,0.5s,baz=302,slow=3.9,SNR=2.8
AKASG PP **PP** 22 32 28.1 -3.2
comp=Z,1.1nm,0.5s,baz=301,slow=7.5,SNR=5.0
AKBB Malin Array Si 97.84 33 *e*P **P** 22 28 30.8 -2.7
AKBB *e*PP **PP** 22 32 28.1 -3.2
AKBB Malin Array Si 97.84 33 *e*P **P** 22 28 30.8 -2.7
AKBB *e* 22 32 28.1
MXZ Matakaoa Point 97.94 233 PFAKE 22 28 50.0 +16
MXZ LR LR
comp=Z,11µm,20.0s
ARR Arges 97.98 39‖ *i*P **P** 22 28 32.4 -1.9
FNA Florina 97.99 45 PFAKE 22 28 40.0 +5.5
FNA LR LR
comp=Z,11µm,20.0s
VOIR 98.20 39‖ *i*P **P** 22 28 34.8 -0.6
VOIR 98.20 39 ‖P **P** 22 28 34.8 -0.6
VTS Vitosha 98.40 42 PFAKE 22 28 50.0 +14
VTS LR LR
comp=Z,11µm,21.0s
VTS Vitosha 98.40 42⇑ *i*P **P** 22 28 35.7 -0.7
VTS Vitosha 98.40 42 P Pdif 22 28 43.6 +7.2
VTS Vitosha 98.40 42 ⇑P **P** 22 28 35.7 -0.7
HUMR Humele 98.61 40⇑ *i*P **P** 22 28 35.1 -2.0
KKB Krupnik 98.65 43 P Pdif 22 28 46.2 +8.8
MLR Muntele Rosu 98.72 39 *e*P Pdif 22 28 38.8 +1.1
comp=Z,22nm,1.3s
MLR LR LR
comp=Z,16µm,20.0s
MLR Muntele Rosu 98.72 39⇑ *i*P **P** 22 28 35.9 -1.8
MLR Muntele Rosu 98.72 39 ⇑P **P** 22 28 35.9 -1.8
OBN Obninsk 98.76 27 *e*P **P** 22 28 36.5 -1.0
comp=Z,72nm,1.7s
OBN LR LR
comp=Z,17µm,20.0s
OBN Obninsk 98.76 27 *e*eP Pdif 22 28 40.0 +2.5
OBN *e* 22 32 38.0
OBN *e*PPP PPP 22 34 41.7
OBN pmax pmax
comp=Z,13nm,1.4s
OBN MLR MLR
comp=Z,17µm,20.0s
MOS Moscow 98.81 26 *i* P P 22 28 24.0 -14
PLOR Plostina 98.97 38⇑ *i*P P 22 28 26.5 -12
PLOR Plostina 98.97 38 ⇑P P 22 28 26.5 -12
URZ Urewera 99.00 233 LR LR 23 03 18.8
comp=Z,7µm,21.3s,baz=93,slow=29
URZ Urewera 99.00 233 PFAKE 22 28 50.0 +11
URZ LR LR
comp=Z,7µm,21.0s
VRI Vrincioaia 99.00 38⇑ *i*P **Pdif** 22 28 25.5 -13
VRI Vrincioaia 99.00 38 ⇑P **Pdif** 22 28 25.5 -13
PGB Panagyurishte 99.04 42 P **Pdif** 22 28 45.5 +6.3
LIT Litokhoron 99.06 45 PFAKE 22 28 50.0 +11
LIT LR LR
comp=Z,9µm,22.0s
NKL Nikolayevsk 99.14 331 *e*P **Pdif** 22 28 42.0 +2.8
NKL *e* 22 41 41.0
AGG Agios Georgios 99.43 46 PFAKE 22 28 50.0 +9.1
AGG LR LR
comp=Z,7µm,21.0s
BKZ Black Stump Fm 99.64 232 PFAKE 22 28 50.0 +8.2
BKZ LR LR
comp=Z,17µm,20.0s
KIS Kishinev 99.64 36 *e*P **Pdif** 22 28 46.0 +4.4
KIS Kishinev 99.64 36 *e*PP PP 22 32 44.0 -1.1
KIS *i* SKS **SKSac** 22 39 28.0 +8.5
KIS Kishinev 99.64 36 *e*PS PS 22 41 44.0 +0.7
KIS LRM MLR 23 13 40.0
comp=Z,14µm,20.0s
KIS Kishinev 99.64 36 *e*P **Pdif** 22 28 46.0 +4.4
KIS *e* 22 32 44.0
KIS *e* 22 40 18.0
KIS *e*PS **PS** 22 41 44.0 +0.7
KIS MLR MLR
comp=N,8µm,20.0s
KIS MLR MLR
comp=E,3µm,20.0s
KIS MLR MLR
comp=Z,13µm,20.0s
KIS MLR MLR
comp=Z,14µm,20.0s
KUR Kuril'sk 99.78 322 *d*iP **Pdif** 22 28 48.1 +5.9
KUR *i* 22 32 48.7
KUR *e*S **SKSac** 22 39 13.6 -6.6
KUR pmax pmax
comp=Z,800nm,15.9s
RZN Rozhen 99.81 43 P **Pdif** 22 28 31.9 -11
SZH Strazhica 99.83 41 P **Pdif** 22 28 46.5 +3.9
ITM Ithomi 99.97 48 PFAKE 22 28 50.0 +6.7
ITM LR LR
comp=Z,5µm,21.0s
BFZ Birch Farm 100.09 231 PFAKE 22 29 00.0 +16
BFZ LR LR
comp=Z,18µm,18.0s
TIRR Tirgusor 100.76 39 PFAKE 22 29 00.0 +13
TIRR LR LR
comp=Z,12µm,22.0s
PRD Provadia 100.79 40 P **Pdif** 22 28 43.6 -3.2
HIZ Hauiti 100.79 233 PFAKE 22 29 00.0 +13
HIZ LR LR
comp=Z,12µm,21.0s
ALN Alexandroupoli 101.07 43 PFAKE 22 29 00.0 +12
ALN LR LR
comp=Z,6µm,22.0s
OUZ Omahuta 101.25 236 PFAKE 22 29 00.0 +11
OUZ LR LR
comp=Z,13µm,18.0s
SNZO South Karori 101.34 230 PFAKE 22 29 00.0 +11
SNZO LR LR
comp=Z,20µm,19.0s
LPSR Galich'ya Gora 101.47 28 *e*P **Pdif** 22 28 47.5 -2.1
LPSR *e*S **SKSac** 22 39 23.7 -4.5
LPSR pmax pmax
comp=Z,7.0nm,0.5s
LPSR smax smax
comp=E,320nm,4.1s
LPSR MLR MLR
comp=Z,12µm,18.0s
YSS Yuzh-Sakhalins 101.80 325 PFAKE 22 29 00.0 +8.8
YSS LR LR
comp=Z,3µm,20.0s
YSS Yuzh-Sakhalins 101.80 325 *ce*P **Pdif** 22 28 54.8 +3.6
YSS *e* 22 33 06.0
YSS *e*PS **PS** 22 42 09.0 +2.6
YSS *e*SS SS 22 47 45.0 +11
YSS pmax pmax
comp=Z,800nm,9.0s
YSS pmax pmax
comp=Z,1µm,8.0s
KHZ Kahutara 102.36 229 PFAKE 22 29 10.0 +16
KHZ LR LR
comp=Z,13µm,21.0s
VSR Storozhevoye 102.51 29 *e*P **Pdif** 22 28 54.8 +0.5
VSR *e*S **SKSac** 22 39 31.6 -1.6
VSR *e*PS **PS** 22 42 13.9 +0.2
VSR pmax pmax
comp=Z,4.0nm,0.7s
VSR smax smax
comp=N,290nm,4.7s
VSR MLR MLR
comp=Z,13µm,17.0s
VORD Divnogorie 102.73 29 *e*P **Pdif** 22 28 56.6 +1.3
VORD *e*S **SKSac** 22 39 33.3 -0.9
VORD pmax pmax
comp=Z,5.0nm,0.5s
VORD smax smax
comp=E,30nm,0.8s
THZ Tophouse 102.74 230 PFAKE 22 29 10.0 +14
THZ LR LR
comp=Z,22µm,19.0s
SANT Santorini 102.86 47 PFAKE 22 29 10.0 +14
SANT LR LR
comp=Z,7µm,21.0s
IDI Anoyia 102.96 48 PFAKE 22 29 10.0 +13
IDI LR LR
comp=Z,5µm,22.0s
SNAA Sanae 103.09 161 PFAKE 22 29 10.0 +14
SNAA LR LR
comp=Z,7µm,20.0s
MQZ McQueen's Vall 103.17 228 PFAKE 22 29 10.0 +13
MQZ LR LR
comp=Z,18µm,21.0s
CRLZ Canterbury Las 103.18 228 PFAKE 22 29 10.0 +13
CRLZ LR LR
comp=Z,18µm,22.0s
LTZ Lake Taylor 103.34 229 PFAKE 22 29 10.0 +12
LTZ LR LR
comp=Z,15µm,20.0s
ASAJ Asahikawa 103.53 323 PFAKE 22 29 10.0 +11
ASAJ LR LR
comp=Z,7µm,20.0s
OXZ Oxford 103.57 228 PFAKE 22 29 10.0 +11
OXZ LR LR
comp=Z,14µm,19.0s
VRH Novokhopyorsk 103.69 28 *e*P **Pdif** 22 28 58.2 -1.3
VRH *e* 22 33 11.4
VRH *e*S **SKSac** 22 39 35.1 -3.6
VRH *e*PS **PS** 22 42 25.7 -0.4
VRH pmax pmax
comp=Z,5.0nm,0.6s
VRH smax smax
comp=N,260nm,3.3s
SIM Simferopol' 103.84 36 *ce*P **Pdif** 22 29 12.0 +12
SIM 22 33 18.0
SIM PS **PS** 22 42 15.6 -12
SIM pmax pmax
comp=Z,620nm,15.6s
SIM pmax pmax
comp=Z,790nm,13.6s
MANT Manisa 103.96 44 PFAKE 22 29 10.0 +8.7
MANT LR LR
comp=Z,29µm,20.0s
QSPA South Pole Qui 104.02 180 PFAKE 22 29 10.0 +9.3
QSPA LR LR
comp=Z,16µm,20.0s
RPZ Rata Peaks 104.32 228 PFAKE 22 29 10.0 +7.6
RPZ LR LR
comp=Z,14µm,21.0s
ERM Erimo 104.39 321 PFAKE 22 29 10.0 +7.1
ERM LR LR
comp=Z,5µm,22.0s
KARP Karpathos 104.46 47 PFAKE 22 29 10.0 +6.6
KARP LR LR
comp=Z,5µm,21.0s
ZEA Zeya 104.47 337 *e*P **Pdif** 22 29 05.0 +2.0
ZEA pmax pmax
comp=Z,700nm,14.0s
ZEA pmax pmax
comp=Z,100nm,2.0s
ODZ Otahua Downs 104.74 227 PFAKE 22 29 20.0 +16
ODZ LR LR
comp=Z,14µm,19.0s
LBZ Lake Benmore 105.01 227 PFAKE 22 33 30.0
LBZ LR LR
comp=Z,20µm,18.0s
FOZ Fox Glacier 105.20 228 PFAKE 22 33 30.0
FOZ LR LR
comp=Z,14µm,22.0s
DZM Mont Dzumac 105.39 251 *e*PP PP 22 33 27.3 -2.5
comp=Z,845nm,25.6s
DZM *e*SKSac **SKSac** 22 39 46.1 -1.5
comp=Z,4µm,27.8s
DZM *e*SP **SP** 22 42 40.0 -3.3
comp=Z,4µm,26.9s
DZM *e*SS **SS** 22 48 23.9 -2.5
comp=Z,16µm,27.6s
DZM Mont Dzumac 105.39 251 *e*LQ LQ 22 59 19.7
comp=Z,10µm,37.4s
DZM *e*LR LR 23 03 45.5
comp=Z,12µm,22.9s
DZM Mont Dzumac 105.39 251 PFAKE 22 33 30.0
DZM LR LR
comp=Z,6µm,20.0s
ISP Isparta 105.63 44 PFAKE 22 33 30.0
ISP LR LR
comp=Z,10µm,22.0s
ARU Arti 105.67 16 PFAKE 22 33 30.0
ARU LR LR
comp=Z,17µm,20.0s
ANN Anapa 105.80 35 *e*P **Pdif** 22 29 06.4 -2.6
ANN *e* 22 39 44.6
ANN pmax pmax
comp=Z,2µm,17.6s
ANN MLR MLR
comp=N,17µm,20.0s
ANN MLR MLR
comp=E,409nm,20.0s
ANN MLR MLR
comp=Z,15µm,20.0s
WKZ Wanaka 105.88 227 PFAKE 22 33 30.0
WKZ LR LR
comp=Z,14µm,18.0s
ILGA Ilgaz 105.89 39 PFAKE 22 33 30.0
ILGA LR LR
comp=Z,7µm,20.0s
SBA Scott Base 105.96 192 PFAKE 22 33 30.0
SBA LR LR
comp=Z,10µm,18.0s
ANTO Ankara 105.99 41 PFAKE 22 33 30.0
ANTO LR LR
comp=Z,9µm,22.0s
MLZ Mavora Lakes 106.55 226 PFAKE 22 33 30.0
MLZ LR LR
comp=Z,20µm,20.0s
WHZ Wether Hill Ro 106.70 226 PFAKE 22 33 40.0
WHZ LR LR
comp=Z,21µm,20.0s
PATS Pohnpei 106.91 282 PFAKE 22 33 40.0
PATS LR LR
comp=Z,10µm,20.0s
DCZ Deep Cove 107.23 226 PFAKE 22 33 40.0
DCZ LR LR
comp=Z,14µm,20.0s
PYZ Puysegur Point 107.59 226 PFAKE 22 33 40.0
PYZ LR LR
comp=Z,18µm,22.0s
CSS Mathiatis 109.08 45 PFAKE 22 33 40.0
CSS LR LR
comp=Z,7µm,22.0s
KIV Kislovodsk 109.18 33 PFAKE 22 33 40.0

KIV LR LR
comp=Z,8μm,22.0s
KIV Kislovodsk 109.18 33 eP Pdif 22 29 09.1 -15
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,9μm,21.0s
HNR Honiara 109.31 265 PFAKE 22 33 40.0
HNR LR LR
comp=Z,6μm,19.0s
USA0B Ussuriysk Arra 109.36 328 PFAKE 22 33 40.0
USA0B LR LR
comp=Z,6μm,20.0s
MDJ Mudanjiang 110.28 329 Pdif **Pdif 22 29 24.9 -4.1**
MDJ PP **PP 22 34 05.8 +2.0**
MDJ AMB AMB
comp=Z,2μm,4.9s
MDJ LR LR
comp=Z,5μm,15.4s
MDJ LR LR
comp=Z,8μm,19.4s
MDJ Mudanjiang 110.28 329 PFAKE 22 33 40.0
MDJ LR LR
comp=Z,8μm,22.0s
MAJO Matsushiro 110.70 318 PFAKE 22 33 40.0
MAJO LR LR
comp=Z,8μm,22.0s
MJB9 Matsu-Tunnel 110.70 318 PFAKE 22 33 40.0
MJB9 LR LR
comp=Z,8μm,21.0s
HIA Hailar 110.86 338 PFAKE 22 33 40.0
HIA LR LR
comp=Z,10μm,22.0s
NVS Novosibirsk 111.26 3 ePKIKP PKiKP 22 33 16.9 -15
NVS pmax pmax
comp=N,11nm,1.5s
NVS pmax pmax
comp=E,7.0nm,1.5s
NVS pmax pmax
comp=Z,18nm,1.5s
AKH Akhalkalaki 111.36 34 PFAKE 22 33 40.0
AKH LR LR
comp=Z,8μm,21.0s
BRVK Borovoye 111.49 11 PFAKE 22 33 40.0
BRVK LR LR
comp=Z,18μm,22.0s
BRVK Borovoye 111.49 11 *i* PKIKP **PKiKP 22 33 33.3 +1.1**
INU Inuyama 112.19 318 PFAKE 22 33 50.0
INU LR LR
comp=Z,4μm,20.0s
MCQ Macquarie Isla 112.20 217 PFAKE 22 33 50.0
MCQ LR LR
comp=Z,6μm,20.0s
ZAA1 Zalesovo Array 112.21 2 ePKiKP **PKiKP 22 33 31.7 -1.8**
ZAA0 Zalesovo Array 112.21 2 PFAKE 22 33 40.0
ZAA0 LR LR
comp=Z,15μm,20.0s
ZALV Zalesovo Beam 112.21 2 PKiKP **PKiKP 22 33 31.7 -1.8**
comp=Z,1.0nm,0.5s,baz=321,slow=2.0,SNR=3.9
MAK Makhachkala 112.36 31 *eP* **Pdif 22 29 35.3 -2.9**
MAK *i* 22 33 31.7
MAK *e* 22 34 13.7
MAK *e*PPP PPP 22 36 42.3
MAK *e* 22 40 16.6
MAK *e*PS **PS 22 43 44.2 -8.9**
MAK pmax pmax
comp=Z,308nm,1.1s
CN2 Changchun 112.87 331 Pdif **Pdif 22 29 41.0 +0.4**
CN2 *e*PP **PP 22 34 28.9 +6.5**
CN2 *e*SS SS 22 50 06.3 +2.3
CN2 LR LR
comp=Z,5μm,20.0s
CN2 LR LR
comp=Z,10μm,20.0s
GNI Garni 112.92 35 PFAKE 22 33 50.0
GNI LR LR
comp=Z,8μm,21.0s
LHI Lord Howe Isla 112.96 242 PFAKE 22 33 50.0
LHI LR LR
comp=Z,4μm,19.0s
TSUM Tsumeb 113.04 105 PFAKE 22 33 50.0
TSUM LR LR
comp=Z,10μm,22.0s
TLY Talaya 113.06 349 PFAKE 22 33 50.0
TLY LR LR
comp=Z,10μm,20.0s
TLY Talaya 113.06 349 *i* PKIKP **PKiKP 22 33 40.2 +4.9**
TLY *e* 22 34 23.5
TLY *e*SS SS 22 50 12.4 +6.6
TLY pmax pmax
comp=Z,5.0nm,0.9s
CBIJ Chichi jima 113.12 308 PFAKE 22 33 50.0
CBIJ LR LR
comp=Z,6μm,22.0s
ZAK Zakamensk 114.38 349 *e*PKIKP PKPpre 22 33 32.0
ZAK pmax pmax
comp=Z,6.0nm,1.3s
SARN Sarigan 114.98 296 PFAKE 22 33 50.0 +10
SARN LR LR
comp=Z,4μm,21.0s
KURK Kurchatov 115.01 6 *e*PKKPbc PKKPbc 22 44 16.4 -0.3
KURK LR LR
comp=Z,29μm,20.0s
KURK Kurchatov 115.01 6 *i* PKIKP **PKPdf 22 33 40.7 +1.7**
KURBB Kurchatov Arra 115.09 6 PKKPbc PKKPbc 22 44 16.4 0.0
comp=Z,1.7nm,0.7s,baz=183,slow=3.3,SNR=4.6
SNY Shenyang 115.27 331 PKP **PKPdf 22 33 44.1 +4.4**
SNY PP **PP 22 34 44.9 +5.5**
SNY AMB AMB
comp=Z,2μm,11.0s
SNY LR LR
comp=Z,7μm,16.5s
SNY LR LR
comp=Z,10μm,17.1s
RABL Rabaul 115.74 272 PFAKE 22 33 50.0 +8.6
RABL LR LR
comp=Z,14μm,18.0s
SONA1 Songino Array 116.13 346 *e*PKPdf **PKPdf 22 33 41.0 -0.4**
SONA0 Songino Array 116.15 346 *e*PKPdf **PKPdf 22 33 40.7 -0.7**
SONA0 *e*PKKPbc **PKKPbc 22 44 12.3 -0.5**
SONM Songino Array 116.15 346 PKP **PKPdf 22 33 40.7 -0.7**
comp=Z,3.0nm,0.6s,baz=282,slow=0.8,SNR=10
SONM PKKPbc **PKKPbc 22 44 12.3 -0.5**
comp=Z,0.6nm,0.6s,baz=183,slow=3.6,SNR=3.2
KS01 Wonju Array Si 116.30 325 *e*PKPdf **PKPdf 22 33 43.4 +1.6**
KSRS Korea Array 116.30 325 PKP **PKPdf 22 33 42.8 +1.0**
comp=Z,4.3nm,0.8s,baz=5.4,slow=2.6,SNR=6.5
KS15 Wonju Array Si 116.33 325 *e*PKPdf **PKPdf 22 33 42.8 +0.9**
KSAR Wonju Array Be 116.33 325 PKP **PKPdf 22 33 42.8 +0.9**
KSAR Wonju Array Be 116.33 325 PKIKP **PKPdf 22 33 42.8 +0.9**
DGZ Jazzator, Alta 116.51 0 *i* PKIKP **PKPdf 22 33 43.6 +1.5**
SUR Sutherland 116.84 119 PFAKE 22 33 50.0 +6.8
SUR LR LR
comp=Z,10μm,19.0s
GUMO Guam 117.05 293 PFAKE 22 34 00.0 +16
GUMO LR LR
comp=Z,4μm,21.0s
SYO Syowa Base 117.32 162⇓ *eP* PKPdf 22 33 50.5 +7.7
DL2 Dalian 118.48 330 Pdif **Pdif 22 30 00.9 -4.7**
DL2 PKP **PKPdf 22 33 42.5 -3.5**
DL2 PP **PP 22 35 06.8 +5.0**
DL2 AMB AMB
comp=Z,2μm,9.1s
DL2 LR LR
comp=Z,4μm,20.5s
DL2 LR LR
comp=Z,5μm,19.9s
DL2 LR LR
comp=Z,10μm,24.2s
MK32 Makanchi Array 119.23 4 *e*PKPdf **PKPdf 22 33 45.2 -2.1**
MKAR Makanchi Array 119.23 4 PKP **PKPdf 22 33 45.2 -2.1**
comp=Z,1.5nm,0.7s,baz=316,slow=2.9,SNR=10
MKAR Makanchi Array 119.23 4 PKP **PKPdf 22 33 45.2 -2.1**
MKAR LR LR
comp=Z,3μm,19.0s
MKAR Makanchi Array 119.23 4 PKIKP **PKPdf 22 33 45.2 -2.1**
MKAR MLR MLR
comp=Z,3μm,19.0s
MK01 Makanchi Array 119.25 4 *e*PKPdf **PKPdf 22 33 46.3 -1.0**
ARMA Armidale 119.32 243 PFAKE 22 34 00.0 +12
ARMA LR LR
comp=Z,5μm,18.0s
EIDS Eidsvold 119.72 249 PFAKE 22 34 00.0 +11
EIDS LR LR
comp=Z,4μm,18.0s

MANU Manus Island 119.86 276 PFAKE 22 34 00.0 +11
MANU LR LR
comp=Z,6μm,21.0s
BJI Beijing 119.99 335 PKP **PKPdf 22 33 49.3 +0.4**
BJI SKS **SKSdf 22 40 56.8 -3.4**
BJI LR LR
comp=Z,6μm,22.9s
BJT Baijiatuau 120.01 335 PFAKE 22 34 00.0 +11
BJT LR LR
comp=Z,14μm,20.0s
BOSA Boshof 120.68 115 PKP **PKPdf 22 33 49.9 -0.7**
comp=Z,12nm,0.9s,baz=236,slow=1.9,SNR=9.4
BOSA Boshof 120.68 115 *e*PKPdf **PKPdf 22 33 49.9 -0.7**
BOSA *e*PKPdf **PKiKP 22 33 50.0 -0.7**
LBTB Lobatse 120.93 111 *e*PKPdf **PKPdf 22 33 50.7 -0.5**
LBTB Lobatse 120.93 111 *e*PKIKP **PKPdf 22 33 50.7 -0.5**
HHC Hu-ho-hao-te 121.04 339 *e*PKP **PKPdf 22 33 54.8 +3.8**
HHC sPKP 22 34 05.4
HHC PP PP 22 35 28.2 +8.9
HHC SKS **SKSdf 22 41 00.2 -2.3**
HHC LR LR
comp=Z,8μm,17.8s
HHC LR LR
comp=Z,8μm,13.7s
GEYT Alibeck 121.31 27 PKP **PKPdf 22 33 51.3 -0.2**
comp=Z,9.6nm,1.1s,baz=300,slow=3.3,SNR=12
GYA0B ALIBECK ARRAY 121.31 27 *e*PKPdf **PKPdf 22 33 51.7 +0.1**
GYA0B LR LR
comp=Z,14μm,21.0s
CAN Canberra 121.31 237 PFAKE 22 34 00.0 +8.4
CAN LR LR
comp=Z,10μm,19.0s
KUU Kurty 121.40 10 *i* PKP **PKPdf 22 33 53.7 +2.2**
KUU LR LR 23 26 36.3
comp=Z,6μm,20.4s
CHM Chimkent 121.48 16 *i* PKP **PKPdf 22 33 53.9 +2.2**
CHM LR LR 23 24 47.8
comp=Z,3μm,20.2s
TAU Tasmania Unive 121.61 228 PFAKE 22 34 00.0 +8.2
TAU LR LR
comp=Z,11μm,18.0s
BTO Baotou 121.78 340 *e*PKP **PKPdf 22 33 55.9 +3.4**
FRU Bishkek 122.12 11 *i* PKIKP **PKPdf 22 33 54.0 +1.0**
FRU MLR MLR
comp=Z,20μm,24.0s
MBAR Mbarara 122.14 82 PFAKE 22 34 10.0 +16
MBAR LR LR
comp=Z,15μm,21.0s
AAA Alma-Ata 122.16 9 *i* PKP **PKPdf 22 33 54.4 +1.3**
AAA *i* PP **PP 22 35 28.3 +1.7**
AAA LR LR 23 27 00.4
comp=Z,5μm,20.3s
AAA Alma-Ata 122.16 9 *e*PKIKP PKPdf 22 34 03.2 +10
AAA pmax pmax
comp=Z,200nm,4.4s
KPKS Kokpek 122.16 8 *i* PKP **PKPdf 22 33 54.4 +1.3**
KPKS LR LR 23 31 52.7
comp=Z,4μm,17.6s
MDOK Medeo 122.22 9 *i* PKP **PKPdf 22 33 55.7 +2.3**
MDOK *i* PP **PP 22 35 30.1 +2.9**
MDOK LR LR 23 26 57.7
comp=Z,4μm,19.9s
AAK Ala-Archa 122.29 11 PKKPbc PKKPbc 22 43 48.6 -1.7
comp=Z,1.5nm,0.9s,baz=182,slow=4.2,SNR=5.0
AAK Ala-Archa 122.29 11 *e*PKPdf **PKPdf 22 33 53.5 0.0**
AAK *e*PKKPbc **PKKPbc 22 43 48.6 -1.7**
AAK LR LR
comp=Z,18μm,22.0s
AAK Ala-Archa 122.29 11 *i* PKPdf **PKPdf 22 33 53.0 -0.5**
SNR=14
AAK Ala-Archa 122.29 11*c* *i*PKIKP **PKPdf 22 33 54.4 +0.9**
AAK pmax pmax
comp=Z,55nm,1.7s
WMQ Urumqi 122.39 360 *e*PKP **PKPdf 22 33 52.8 -0.7**
WMQ sPKP 22 34 06.3
WMQ PP **PP 22 35 33.0 +4.8**
WMQ SKS **SKSdf 22 41 03.1 -1.8**
WMQ SS **SS 22 52 10.0 +3.1**
WMQ AMB AMB
comp=Z,5μm,8.7s
WMQ LR LR
comp=Z,17μm,18.9s
WMQ LR LR
comp=Z,25μm,27.5s
UZB Uzynbulak 122.52 7 *i* PKP **PKPdf 22 33 56.4 +2.5**
UZB *i* PP **PP 22 35 32.1 +2.9**
UZB LR LR 23 34 11.9
comp=Z,3μm,18.2s
SATY Saty 122.52 8 *i* PP PP 22 35 32.8 +3.6
SATY LR LR 23 33 47.0
comp=Z,4μm,18.3s
LSZ Lusaka 122.61 99 PFAKE 22 34 10.0 +15
LSZ LR LR
comp=Z,9μm,21.0s
TIA Tai'an 122.77 332 PKP **PKPdf 22 33 49.2 -5.2**
TIA PP PP 22 35 39.3 +8.1
TIA LR LR
comp=Z,5μm,18.1s
TIA LR LR
comp=Z,8μm,18.6s
PRZ Przheval'sk 123.08 8 *e*PKPdf **PKPdf 22 33 55.1 +0.1**
PRZ LR LR
comp=Z,17μm,20.0s
PRZ Przheval'sk 123.08 8 *e*PKIKP **PKPdf 22 33 55.1 +0.1**
PRZ MLR MLR
comp=Z,17μm,20.0s
KDJ Kajisay 123.25 9 *e*PKPdf **PKPdf 22 33 55.7 +0.3**
KDJ LR LR
comp=Z,15μm,22.0s
JOW Kunigami 123.36 316 PFAKE 22 34 10.0 +14
JOW LR LR
comp=Z,4μm,22.0s
TIY Taiyuan 123.48 337 PKP PKPdf 22 34 03.8 +8.0
TIY PP PP 22 35 44.0 +8.1
TIY SKS **SKSdf 22 41 08.2 +1.0**
TIY Taiyuan 123.48 337 SS SS 22 52 29.6 +8.2
TIY AMB AMB
comp=Z,1μm,9.2s
TIY LR LR
comp=N,7μm,16.7s
TIY LR LR
comp=E,10μm,19.0s
TIY LR LR
comp=Z,12μm,22.0s
NRN Naryn 123.73 11 *e*PKPdf **PKPdf 22 33 56.1 -0.3**
NRN LR LR
comp=Z,14μm,21.0s
CTAO Charters Tower 123.91 255 PFAKE 22 34 10.0 +13
CTAO LR LR
comp=Z,10μm,20.0s
MAW Mawson 124.11 169 PKP **PKPdf 22 33 54.2 -1.7**
comp=Z,2.6nm,0.6s,baz=265,slow=3.6,SNR=4.0
MAW Mawson 124.11 169 *e*PKPdf **PKPdf 22 33 55.2 -0.6**
MAW LR LR
comp=Z,2μm,18.0s
MAW Mawson 124.11 169 *e*PKIKP **PKPdf 22 33 55.2 -0.6**
MAW MLR MLR
comp=Z,2μm,18.0s
RAYN Ar Rayn 124.36 48 *e*PKPdf **PKPdf 22 33 57.9 +0.1**
RAYN LR LR
comp=Z,7μm,22.0s
RAYN Ar Rayn 124.36 48 PKPdf **PKPdf 22 33 57.5 -0.3**
RAYN Ar Rayn 124.36 48 *e*PKIKP **PKPdf 22 33 57.9 +0.1**
RAYN MLR MLR
comp=Z,7μm,22.0s
SSE Sheshan 124.74 325 PKP **PKPdf 22 33 56.8 -1.4**
SSE PP **PP 22 35 47.3 +2.7**
SSE SS SS 22 52 35.7 -2.1
SSE AMB AMB
comp=Z,880nm,10.8s
SSE LR LR
comp=Z,2μm,17.1s
SSE LR LR
comp=Z,2μm,17.9s
NJ2 Nanjing 125.27 327 *e*PKP **PKPdf 22 33 59.8 +0.6**
NJ2 sPKP 22 34 08.4
NJ2 PP **PP 22 35 47.2 -0.9**
NJ2 SKS **SKSdf 22 41 10.3 -0.2**
NJ2 AMB AMB
comp=Z,2μm,10.6s
NJ2 LR LR
comp=Z,3μm,17.9s
NJ2 LR LR
comp=Z,8μm,23.3s
KSH Kashi 125.59 11 PKP **PKPdf 22 34 02.7 +2.9**

KSH PP PP 22 35 57.9 +8.1
KSH SKS **SKSdf 22 41 09.1 -2.1**
KSH SS **SS 22 52 50.8 +3.3**
KSH AMB AMB
comp=Z,2μm,11.5s
KSH LR LR
comp=Z,20μm,21.7s
KSH LR LR
comp=Z,12μm,18.0s
KSH LR LR
comp=Z,40μm,23.3s
GTA Gaotai 125.60 348 PKP **PKPdf 22 33 58.4 -1.5**
GTA sPKP 22 34 13.2
GTA PP **PP 22 35 54.4 +4.5**
GTA SKS **SKSdf 22 41 07.9 -3.3**
GTA SKKS **SKKSac 22 42 44.0 -4.9**
GTA SS **SS 22 52 49.3 +1.5**
GTA AMB AMB
comp=Z,560nm,12.2s
GTA LR LR
comp=Z,10μm,19.9s
GTA LR LR
comp=Z,9μm,20.3s
GTA LR LR
comp=Z,15μm,19.6s
CASY Casey 125.64 191 PFAKE 22 34 10.0 +11
CASY LR LR
comp=Z,12μm,20.0s
COEN Coen 126.26 263 PFAKE 22 34 10.0 +8.5
COEN LR LR
comp=Z,10μm,22.0s
FURI Furi 126.31 68 PFAKE 22 34 10.0 +7.9
FURI LR LR
comp=Z,7μm,19.0s
AAE Adis Abeba 126.33 68 *eP* **PKPdf 22 34 05.0 +2.9**
AAE Adis Abeba 126.33 68 *eP* **PKPdf 22 34 05.0 +2.9**
STKA Stephens Creek 127.81 241 PKP **PKPdf 22 34 01.9 -2.2**
comp=Z,6.6nm,0.6s,baz=110,slow=0.6,SNR=10
STKA Stephens Creek 127.81 241 *e*PKPdf **PKPdf 22 34 03.3 -0.8**
STKA LR LR
comp=Z,2μm,18.0s
STKA Stephens Creek 127.81 241 *e*PKIKP **PKPdf 22 34 03.3 -0.8**
STKA MLR MLR
comp=Z,2μm,18.0s
LZH Lanzhou 127.82 343 *e*PKP **PKPdf 22 34 05.5 +1.2**
LZH sPKP 22 34 17.2
LZH PP **PP 22 36 08.4 +3.6**
LZH PKS **PKSdf 22 37 40.6 -0.4**
LZH SKS **SKSdf 22 41 12.7 -2.8**
LZH SKKS **SKKSac 22 42 57.3 -5.9**
LZH SS **SS 22 53 15.0 -0.7**
LZH AMB AMB
comp=Z,4μm,9.6s
LZH LR LR
comp=Z,20μm,18.4s
LZH LR LR
comp=Z,41μm,20.1s
XAN Xi'an 128.05 338 PKP **PKPdf 22 34 04.3 -0.3**
XAN SKS **SKSdf 22 41 10.2 -5.6**
XAN LR LR
comp=Z,6μm,19.6s
XAN LR LR
comp=Z,14μm,21.1s
NAI Nairobi 128.15 80 PFAKE 22 34 20.0 +15
NAI LR LR
comp=Z,8μm,20.0s
YOJ Yonaguni jima 128.45 318 PFAKE 22 34 20.0 +14
YOJ LR LR
comp=Z,5μm,21.0s
KMBO Kilima Mbogo 128.53 80 PKP **PKPdf 22 34 05.6 -0.6**
comp=Z,1.7nm,0.6s,baz=48,slow=2.7,SNR=2.6
KMBO Kilima Mbogo 128.53 80 *e*PKPdf **PKPdf 22 34 05.6 -0.6**
KMBO LR LR
comp=Z,11μm,20.0s
KMBO Kilima Mbogo 128.53 80 PKPdf **PKPdf 22 34 06.4 +0.2**
KMBO Kilima Mbogo 128.53 80 *e*PKIKP **PKPdf 22 34 05.6 -0.6**
KMBO MLR MLR
comp=Z,11μm,20.0s
DAMY Dhamar 128.58 58 PFAKE 22 34 20.0 +14
DAMY LR LR
comp=Z,6μm,19.0s
WHN Wuhan 128.75 330 Pdif **Pdif 22 30 54.7 +3.3**
WHN PKP **PKiKP 22 34 09.0 +2.4**
WHN PP **PP 22 36 15.8 +4.8**
WHN PKS **PKSdf 22 37 42.9 +0.3**
WHN LR LR
comp=Z,8μm,17.2s
WHN LR LR
comp=Z,22μm,18.7s
ATD Arta Tunnel 128.80 62 PFAKE 22 34 20.0 +14
ATD LR LR
comp=Z,7μm,20.0s
TATO Taipei 129.07 319 PFAKE 22 34 20.0 +13
TATO LR LR
comp=Z,4μm,20.0s
YHNB Yeheng 129.36 319 PFAKE 22 34 20.0 +13
YHNB LR LR
comp=Z,5μm,21.0s
NACB Ninganchiao 129.57 319 PFAKE 22 34 20.0 +12
NACB LR LR
comp=Z,4μm,20.0s
SHME Shamm 129.69 38 PKPdf **PKPdf 22 34 06.0 -1.9**
NAZ Nazwa, Dubai 130.18 39 PKPdf **PKPdf 22 34 07.2 -1.6**
SNR=11
NAZ Nazwa, Dubai 130.18 39 *i* PKPdf **PKPdf 22 34 07.0 -1.9**
SNR=7.4
MSFE Esma-Masafi 130.21 38 *i* PKPdf **PKPdf 22 34 08.5 -0.4**
SNR=15
ASUD Al Ashush, Dub 130.25 40 PKPdf **PKPdf 22 34 08.0 -0.9**
SNR=10.0
ASUD Al Ashush, Dub 130.25 40 *i* PKPdf **PKPdf 22 34 07.8 -1.1**
SNR=12
SSLB Suanglung 130.25 319 PFAKE 22 34 20.0 +11
SSLB LR LR
comp=Z,4μm,20.0s
YULB Yu-li 130.31 318 PFAKE 22 34 20.0 +11
YULB LR LR
comp=Z,3μm,21.0s
FAQ Al Faqa, Dubai 130.32 39 PKPdf **PKPdf 22 34 07.6 -1.5**
SNR=7.0
FAQ Al Faqa, Dubai 130.32 39 *i* PKPdf **PKPdf 22 34 07.6 -1.5**
SNR=9.8
UOSS Minazif 130.55 39 *e*PKPdf **PKPdf 22 34 08.3 -1.3**
UOSS LR LR
comp=Z,5μm,20.0s
UOSS Minazif 130.55 39 PKPdf **PKPdf 22 34 07.7 -1.9**
SNR=6.9
UOSS Minazif 130.55 39 *i* PKPdf **PKPdf 22 34 08.0 -1.5**
SNR=7.6
HATD Hatta, Dubai 130.59 39 PKPdf **PKPdf 22 34 07.1 -2.5**
SNR=14
HATD SKPdf **SKPdf 22 37 40.3 -3.9**
HATD Hatta, Dubai 130.59 39 *i* PKPdf **PKPdf 22 34 07.4 -2.2**
SNR=8.5
ASHO Ashiyiah 130.65 39 PKPdf **PKPdf 22 34 08.8 -0.9**
SNR=10
ASHO SKPdf **SKPdf 22 37 40.8 -3.6**
ASHO Ashiyiah 130.65 39 *i* PKPdf **PKPdf 22 34 09.0 -0.8**
SNR=7.7
TPUB Ta-pu 130.81 319 PFAKE 22 34 20.0 +10
TPUB LR LR
comp=Z,4μm,21.0s
TWG Pinlang 130.86 318 PFAKE 22 34 20.0 +10
TWG LR LR
comp=Z,14μm,22.0s
QZH Quanzhou 130.87 322⇑ *i* PKP PKPdf 22 34 20.8 +11
QZH PP **PP 22 36 31.4 +6.2**
QZH PKS **PKSdf 22 37 42.5 -4.2**
QZH Quanzhou 130.87 322 SS SS 22 54 04.7 +10
QZH AMB AMB
comp=Z,1μm,11.6s
QZH LR LR
comp=N,5μm,22.0s
QZH LR LR
comp=E,4μm,17.1s
QZH LR LR
comp=Z,6μm,21.6s
ALNE Al Ain 130.92 40 *i* PKPdf **PKPdf 22 34 08.2 -2.1**
SNR=9.5
ENH Enshi 131.16 335 *e*PKPdf **PKPdf 22 34 10.3 -0.3**
ENH LR LR
comp=Z,13μm,22.0s
SOHO SOHO 131.35 39 *i* PKPdf **PKPdf 22 34 09.0 -2.0**
SNR=11
BBOO Buckleboo 132.29 238 PFAKE 22 34 20.0 +7.5

BBOO				LR	LR			
	comp=Z,14μm,18.0s							
DHRM	**DHARAMSHALA**	**132.67**	**13**	*e*P	**PKPdf**	22 34	**12.5**	**-1.1**
DHRM				IAMs_20	IAMs_20	23 08	52.5	
	comp=Z,1μm,18.5s							
CD2	**Chengdu**	**132.68**	**341**	PKP	**PKPdf**	**22 34**	**11.5**	**-2.0**
CD2				sPKP		22 34	23.8	
CD2				PP	**PP**	**22 36**	**35.0**	**-1.3**
CD2				SKS	**SKSdf**	**22 41**	**20.8**	**-3.5**
CD2				SKKS	**SKKSac**	**22 43**	**27.8**	**-5.3**
CD2				SS	**SS**	**22 54**	**13.7**	**-1.6**
CD2				AMB	AMB			
	comp=Z,3μm,7.5s							
CD2				LR	LR			
	comp=Z,13μm,23.3s							
CD2				LR	LR			
	comp=Z,18μm,20.9s							
SMLA	**Simla**	**133.94**	**13**	*e*P	**PKPdf**	**22 34**	**14.2**	**-1.6**
SMLA				IAMs_20	IAMs_20	23 09	53.0	
	comp=Z,1μm,13.9s							
FAKI	**Fak Fak**	**134.63**	**280**	PFAKE		22 34	30.0	+13
FAKI				LR	LR			
	comp=Z,9μm,19.0s							
DDI	**Dehra Dun**	**134.90**	**12**	*e*P	**PKPdf**	**22 34**	**15.2**	**-2.4**
WR0	**Warramunga Arr**	**134.91**	**256**	PFAKE		22 34	30.0	+12
WR0				LR	LR			
	comp=Z,8μm,20.0s							
WR9	**Warramunga Arr**	**134.93**	**256**	PFAKE		22 34	30.0	+12
WR9				LR	LR			
	comp=Z,8μm,21.0s							
WR8	**Warramunga Arr**	**134.95**	**256**	PFAKE		22 34	30.0	+12
WR8				LR	LR			
	comp=Z,8μm,20.0s							
WR7	**Warramunga Arr**	**134.97**	**256**	PFAKE		22 34	30.0	+12
WR7				LR	LR			
	comp=Z,8μm,21.0s							
WR6	**Warramunga Arr**	**134.99**	**256**	PFAKE		22 34	30.0	+12
WR6				LR	LR			
	comp=Z,7μm,20.0s							
WR5	**Warramunga Arr**	**135.01**	**256**	PFAKE		22 34	30.0	+12
WR5				LR	LR			
	comp=Z,8μm,20.0s							
WR4	**Warramunga Arr**	**135.04**	**256**	PFAKE		22 34	30.0	+12
WR4				LR	LR			
	comp=Z,8μm,21.0s							
WB0	**Warramunga Arr**	**135.05**	**256**	PFAKE		22 34	30.0	+12
WB0				LR	LR			
	comp=Z,8μm,21.0s							
WR3	**Warramunga Arr**	**135.05**	**256**	PFAKE		22 34	30.0	+12
WR3				LR	LR			
	comp=Z,8μm,21.0s							
WB9	**Warramunga Arr**	**135.06**	**256**	PFAKE		22 34	30.0	+12
WB9				LR	LR			
	comp=Z,16μm,21.0s							
WB8	**Warramunga Arr**	**135.06**	**256**	PFAKE		22 34	30.0	+12
WB8				LR	LR			
	comp=Z,8μm,21.0s							
WC3	**Warramunga Arr**	**135.07**	**256**	PFAKE		22 34	30.0	+12
WC3				LR	LR			
	comp=Z,8μm,20.0s							
WB6	**Warramunga Arr**	**135.07**	**256**	PFAKE		22 34	30.0	+12
WB6				LR	LR			
	comp=Z,7μm,20.0s							
WB5	**Warramunga Arr**	**135.07**	**256**	PFAKE		22 34	30.0	+12
WB5				LR	LR			
	comp=Z,8μm,22.0s							
WC2	**Warramunga Arr**	**135.07**	**256**	PFAKE		22 34	30.0	+12
WC2				LR	LR			
	comp=Z,8μm,20.0s							
WR2	**Warramunga Arr**	**135.08**	**256**	PFAKE		22 34	30.0	+12
WR2				LR	LR			
	comp=Z,8μm,20.0s							
WB4	**Warramunga Arr**	**135.08**	**256**	PFAKE		22 34	30.0	+12
WB4				LR	LR			
	comp=Z,8μm,21.0s							
WB3	**Warramunga Arr**	**135.08**	**256**	PFAKE		22 34	30.0	+12
WB3				LR	LR			
	comp=Z,8μm,20.0s							
WB2	**Warramunga Arr**	**135.09**	**256**	*e*PKPpre	PKPpre	22 34	08.5	
WB2				*e*PKPdf	**PKPdf**	**22 34**	**16.9**	**-1.3**
WB2				LR	LR			
	comp=Z,9μm,20.0s							
WRAB	**Tennant Creek**	**135.09**	**256**	PFAKE		22 34	30.0	+12
WRAB				LR	LR			
	comp=Z,8μm,20.0s							
WRAB	**Tennant Creek**	**135.09**	**256**	*c i*PKIKP	**PKPdf**	**22 34**	**19.5**	**+1.4**
WRAB				pmax	pmax			
	comp=Z,9.0nm,1.0s							
WC1	**Warramunga Arr**	**135.10**	**256**	PFAKE		22 34	30.0	+12
WC1				LR	LR			
	comp=Z,6μm,20.0s							
WC4	**Warramunga Arr**	**135.10**	**256**	PFAKE		22 34	30.0	+12
WC4				LR	LR			
	comp=Z,8μm,20.0s							
WR1	**Warramunga Arr**	**135.10**	**256**	*e*PKPpre	PKPpre	22 34	08.2	
WR1				*e*PKPdf	**PKPdf**	**22 34**	**16.8**	**-1.4**
WR1				LR	LR			
	comp=Z,8μm,20.0s							
WRA	**Warramunga Arr**	**135.10**	**256**	PKhKP	PKPpre	22 34	08.1	
	comp=Z,3.0nm,1.1s,baz=78,slow=4.5,SNR=5.9							
WRA				PKP	**PKPdf**	**22 34**	**16.8**	**-1.4**
	comp=Z,8.4nm,1.0s,baz=90,slow=2.7,SNR=14							
GZH	**Guangzhou**	**135.33**	**325**	PKP	**PKPdf**	**22 34**	**17.1**	**-1.4**
GZH				PP	**PP**	**22 36**	**57.1**	**+3.5**
GZH				PKS	**PKSdf**	**22 37**	**55.6**	**+0.6**
GZH				SS	SS	22 54	49.6	+1.5
GZH				LR	LR			
	comp=Z,6μm,18.2s							
AS31	**Alice Springs**	**135.38**	**251**	*e*PKPdf	**PKPdf**	**22 34**	**18.4**	**-0.2**
AS31				*e*SKKSac	SKKSac	22 44	02.2	+12
AS31				LR	LR			
	comp=Z,100nm,20.0s							
ASAR	**Alice Springs**	**135.38**	**251**	PKP	**PKPdf**	**22 34**	**18.1**	**-0.6**
	comp=Z,2.7nm,0.8s,baz=103,slow=3.7,SNR=6.7							
ASAR				PKKP	**PKKPdf**	**22 44**	**02.2**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=280,slow=1.7,SNR=4.7							
GYA	**Guiyang**	**135.68**	**335**	Pdif	**Pdif**	**22 31**	**20.2**	**-2.3**
GYA				PKP	**PKPdf**	**22 34**	**17.4**	**-1.9**
GYA				PP	**PP**	**22 36**	**58.5**	**+2.9**
GYA				PKS	**PKSdf**	**22 37**	**52.2**	**-3.7**
GYA	**Guiyang**	**135.68**	**335**	SS	SS	22 54	50.2	-1.7
GYA				AMB	AMB			
	comp=Z,140nm,8.2s							
GYA				LR	LR			
	comp=N,4μm,21.2s							
GYA				LR	LR			
	comp=E,3μm,21.6s							
GYA				LR	LR			
	comp=Z,3μm,21.5s							
GYA	**Guiyang**	**135.68**	**335**	PKP	**PKPdf**	**22 34**	**17.4**	**-1.9**
GYA				PP	**PP**	**22 36**	**58.5**	**+2.9**
GYA				PKS	**PKSdf**	**22 37**	**52.2**	**-3.7**
GYA				SKKS		22 43	46.6	
GYA				SS	SS	22 54	50.2	-1.7
GYA				LR	LR			
	comp=Z,4μm,21.2s							
GYA				LR	LR			
	comp=Z,3μm,21.6s							
GYA				LR	LR			
	comp=Z,3μm,21.5s							
CRZF	**Crozet Islands**	**135.96**	**144**	PFAKE		22 34	30.0	+11
CRZF				LR	LR			
	comp=Z,6μm,18.0s							
LSA	**Lhasa**	**136.36**	**356**	*e*PKPpre	PKPpre	22 34	14.2	
LSA				LR	LR			
	comp=Z,8μm,20.0s							
LSA	**Lhasa**	**136.36**	**356**	PKPdf	**PKPdf**	**22 34**	**20.7**	**-0.2**
LSA	**Lhasa**	**136.36**	**356**	*e*PKIKP	PKPpre	22 34	14.3	
LSA				MLR	MLR			
	comp=Z,8μm,20.0s							
SAUI	**Saumlaki**	**136.80**	**273**	PFAKE		22 34	30.0	+8.5
SAUI				LR	LR			
	comp=Z,7μm,20.0s							
DAV	**Davao City (W)**	**136.91**	**297**	PFAKE		22 34	30.0	+8.3
DAV				LR	LR			
	comp=Z,3μm,21.0s							
DANN	**Dangsing**	**137.66**	**5**	*e*P	PKPpre	22 34	16.2	
MTN	**Manton Dam**	**137.75**	**266**	PFAKE		22 34	40.0	+17
MTN				LR	LR			
	comp=Z,6μm,20.0s							
PYUN	**Piuthan**	**137.84**	**6**	*e*P	PKPpre	22 34	17.3	
	comp=Z,223nm,1.4s							
TNTI	**Ternate**	**138.02**	**287**	PFAKE		22 34	40.0	+16
TNTI				LR	LR			
	comp=Z,3μm,21.0s							
LKP	**Lekhapani**	**138.09**	**349**	*e*P	PKPpre	22 34	19.4	
ZIRO	**ZIRO**	**138.22**	**352**	*e*P	**PKPdf**	**22 34**	**20.7**	**-3.4**
KOLN	**Koldanda**	**138.22**	**5**	*e*P	PKPpre	22 34	16.2	
	comp=Z,123nm,1.3s							
GUN	**Gumba**	**138.23**	**2**	*e*P	PKPpre	22 34	14.3	
	comp=Z,120nm,1.0s							
KKN	**Kakani**	**138.32**	**3**	*e*P	PKPpre	22 34	15.3	
	comp=Z,57nm,0.8s							
KMI	**Kunming**	**138.36**	**339**	PKP	**PKPdf**	**22 34**	**21.7**	**-2.7**
KMI				sPKP		22 34	32.9	
KMI				PP	**PP**	**22 37**	**13.8**	**+1.4**
KMI				PKS	**PKSdf**	**22 38**	**02.3**	**+1.3**
KMI				SKKS		22 44	00.3	
KMI				SS	SS	22 55	19.6	-4.3
KMI				LR	LR			
	comp=Z,11μm,21.0s							
KMI				LR	LR			
	comp=Z,6μm,19.7s							
KMI				LR	LR			
	comp=Z,15μm,21.0s							
TAWA	**Tawang**	**138.38**	**354**	*e*P	**PKPdf**	**22 34**	**21.4**	**-3.2**
TAWA				IAMs_20	IAMs_20	23 12	38.8	
	comp=Z,1μm,19.1s							
DMN	**Daman**	**138.49**	**3**	*e*P	PKPpre	22 34	15.7	
	comp=Z,83nm,1.1s							
PKIN	**Phulchoki**	**138.54**	**3**	*e*P	PKPpre	22 34	15.6	
	comp=Z,87nm,1.2s							
PKI	**Pulchoki**	**138.55**	**3**	*e*P	PKPpre	22 34	15.2	
GTK	**Tadong**	**138.85**	**359**	*e*P	**PKPdf**	**22 34**	**23.7**	**-1.5**
GTK				IAMs_20	IAMs_20	23 12	39.0	
	comp=Z,3μm,27.6s							
BHJ	**Bhuj**	**138.93**	**26**	*e*P	**PKPdf**	**22 34**	**22.1**	**-3.1**
BHJ				IAMs_20	IAMs_20	23 06	05.2	
	comp=Z,2μm,17.4s							
TEZP	**TEZPUR**	**139.25**	**353**	*e*P	**PKPdf**	**22 34**	**22.5**	**-3.2**
MOKO	**MOKOCHONG**	**139.30**	**351**	*ex*	PKPpre	22 34	20.0	
FORT	**Forrest**	**139.38**	**239**	PFAKE		22 34	40.0	+14
FORT				LR	LR			
	comp=Z,10μm,21.0s							
KOHI	**KOHIMA**	**139.96**	**351**	*ex*	PKPpre	22 34	20.9	
KOHI				IAMs_20	IAMs_20	23 12	55.4	
	comp=Z,3μm,26.1s							
SHL	**Shillong**	**140.39**	**354**	*e*PKPpre	PKPpre	22 34	20.0	
SHL				LR	LR			
	comp=Z,9μm,20.0s							
SHL	**Shillong**	**140.39**	**354**	*e*PKHKP	PKPpre	22 34	20.0	
SHL				MLR	MLR			
	comp=Z,9μm,20.0s							
SHL	**Shillong**	**140.39**	**354**	*e*P	**PKPdf**	**22 34**	**23.8**	**-4.3**
SHL				IAMs_20	IAMs_20	23 14	21.6	
	comp=Z,3μm,25.1s							
QIZ	**Qiongzhong**	**140.52**	**326**	PKP	**PKPdf**	**22 34**	**27.6**	**-0.6**
QIZ				PP	**PP**	**22 37**	**25.7**	**-0.2**
QIZ				SS	SS	22 55	48.8	-0.8
QIZ				AMB	AMB			
	comp=Z,1μm,13.7s							
QIZ				LR	LR			
	comp=Z,8μm,20.6s							
QIZ				LR	LR			
	comp=Z,5μm,21.1s							
QIZ				LR	LR			
	comp=Z,9μm,19.1s							
QIZ	**Qiongzhong**	**140.52**	**326**	PFAKE		22 34	40.0	+12
QIZ				LR	LR			
	comp=Z,9μm,21.0s							
ABPO	**Ambohimpanom**	**140.98**	**103**	*e*PKPdf	**PKPdf**	**22 34**	**30.5**	**+1.3**
ABPO				LR	LR			
	comp=Z,7μm,20.0s							
ABPO	**Ambohimpanom**	**140.98**	**103**	*e*PKIKP	**PKPdf**	**22 34**	**30.5**	**+1.3**
ABPO				MLR	MLR			
	comp=Z,7μm,20.0s							
BHPL	**Bhopal**	**141.59**	**15**	*ex*	PKPpre	22 34	23.2	
PAF	**Port-aux-Franc**	**142.01**	**161**	PFAKE		22 34	40.0	+10
PAF				LR	LR			
	comp=Z,14μm,18.0s							
BOK	**Bokaro**	**142.33**	**3**	*e*P	PKPpre	22 34	26.4	
BOK				IAMs_20	IAMs_20	23 12	02.2	
	comp=Z,2μm,17.9s							
BELO	**BELONIA**	**142.73**	**354**	*e*P	**PKPdf**	**22 34**	**30.0**	**-2.1**
LUWI	**Luwuk**	**142.95**	**287**	PFAKE		22 34	40.0	+7.3
LUWI				LR	LR			
	comp=Z,2μm,20.0s							
SAIH	**SAIHA**	**143.29**	**352**	*e*P	PKPab	22 34	28.9	-0.2
SAIH				IAMs_20	IAMs_20	23 11	51.8	
	comp=Z,2μm,17.5s							
FITZ	**Fitzroy Crossi**	**143.34**	**259**	PKhKP	PKPpre	22 34	29.1	
	comp=Z,9.8nm,0.8s,baz=38,slow=1.5,SNR=15							
FITZ	**Fitzroy Crossi**	**143.34**	**259**	*e*PKPdf	**PKPdf**	**22 34**	**32.7**	**-0.5**
FITZ				LR	LR			
	comp=Z,5μm,20.0s							
MYLDM	**Lahad Datu**	**143.92**	**300**	PFAKE		22 34	50.0	+16
MYLDM				LR	LR			
	comp=Z,6μm,21.0s							
SOEI	**Soe**	**143.96**	**273**	*e*PKPdf	PKPbc	22 34	33.7	+1.3
SOEI				LR	LR			
	comp=Z,7μm,20.0s							
NGP	**Nagpur**	**143.99**	**14**	*e*P	PKPbc	22 34	32.8	+0.7
NGP				IAMs_20	IAMs_20	23 40	50.7	
	comp=Z,9μm,21.6s							
BOM	**Bombay**	**144.12**	**24**	*ex*	PKPpre	22 34	25.1	
BOM				IAMs_20	IAMs_20	23 39	05.2	
	comp=Z,14μm,29.7s							
POO	**Poona**	**144.86**	**23**	*e*P	**PKPab**	**22 34**	**33.8**	**-1.1**
CHTO	**Chiang Mai**	**145.49**	**341**	*e*PKPdf	**PKPbc**	**22 34**	**35.3**	**-1.7**
CHTO				LR	LR			
	comp=Z,6μm,20.0s							
CHTO	**Chiang Mai**	**145.49**	**341**	*e*PKP2	**PKPbc**	**22 34**	**35.3**	**-1.7**
CHTO				MLR	MLR			
	comp=Z,6μm,20.0s							
MMRI	**Maumere**	**145.71**	**275**	*e*PKPdf	**PKPdf**	**22 34**	**36.8**	**-0.6**
MMRI				LR	LR			
	comp=Z,3μm,21.0s							
BWNR	**Bhubaneshwar**	**145.80**	**3**	*e*P	**PKPdf**	**22 34**	**34.1**	**-3.4**
BWNR				IAMs_20	IAMs_20	23 39	60.0	
	comp=Z,13μm,23.2s							
CM31	**Chiang Mai Arr**	**145.82**	**341**	*e*PKPdf	**PKPdf**	**22 34**	**37.3**	**-0.3**
CMAR	**Chiang Mai Arr**	**145.82**	**341**	PKPbc	**PKPdf**	**22 34**	**36.8**	**-0.8**
	comp=Z,34nm,0.8s,baz=339,slow=3.6,SNR=93							
CM01	**Chiang Mai Arr**	**145.85**	**341**	*e*PKPdf	**PKPdf**	**22 34**	**36.0**	**-1.6**
LATR	**Latur**	**145.91**	**19**	*ex*	PKPpre	22 34	25.2	
LATR				IAMs_20	IAMs_20	23 41	11.8	
	comp=Z,11μm,20.8s							
PBKT	**Sadao Pong**	**146.84**	**336**	*e*PKPdf	**PKPdf**	**22 34**	**39.7**	**+0.5**
KAPI	**Kappang**	**147.15**	**283**	PFAKE		22 34	50.0	+6.3
KAPI				LR	LR			
	comp=Z,2μm,19.0s							
KAPI	**Kappang**	**147.15**	**283**	*c i*PKP2	**PKPab**	**22 34**	**44.0**	**+0.3**
KAPI				pmax	pmax			
	comp=Z,160nm,1.7s							
NWAO	**Narrogin (SRO)**	**147.20**	**230**	PKPbc	**PKPdf**	**22 34**	**40.2**	**+0.8**
	comp=Z,27nm,1.0s,baz=14,slow=2.8,SNR=4.4							
NWAO	**Narrogin (SRO)**	**147.20**	**230**	*e*PKPdf	**PKPdf**	**22 34**	**40.2**	**+0.8**
NWAO				*e*PKPbc	**PKPbc**	**22 34**	**41.7**	**0.0**
NWAO				LR	LR			
	comp=Z,8μm,20.0s							
NWAO	**Narrogin (SRO)**	**147.20**	**230**	*e*PKIKP	**PKPdf**	**22 34**	**40.2**	**+0.8**
NWAO				*e*		22 34	41.7	
NWAO				MLR	MLR			
	comp=Z,8μm,20.0s							
HYB	**Hyderabad**	**147.44**	**16**	*i* PKP	**PKPdf**	**22 34**	**40.0**	**-0.4**
HYB				*e*PP	**PP**	**22 38**	**10.0**	**+3.1**
MBWA	**Marble Bar**	**148.68**	**252**	*e*PKPbc	**PKPbc**	**22 34**	**45.4**	**-0.6**
MBWA				LR	LR			
	comp=Z,9μm,22.0s							
RER	**Riviere de l'E**	**148.81**	**108**	PFAKE		22 34	50.0	-0.3
RER				LR	LR			
	comp=Z,9μm,21.0s							
SBUM	**Sibu**	**150.64**	**302**	*e*PKPbc	**PKPbc**	**22 34**	**52.3**	**+1.2**
SBUM				LR	LR			
	comp=Z,2μm,20.0s							
MDRS	**Chennai**	**152.05**	**16**	*ex*	**PKPdf**	**22 34**	**51.8**	**+4.2**
KSM	**Kuching**	**152.77**	**303**	*e*PKPdf	**PKPbc**	**22 34**	**53.6**	**-2.3**
KSM				LR	LR			
	comp=Z,7μm,22.0s							
JAGI	**Jajag, Banyuwa**	**153.45**	**279**	PFAKE		22 35	00.0	+2.6
JAGI				LR	LR			
	comp=Z,4μm,20.0s							
MNCI	**Minicoy**	**153.48**	**34**	PFAKE		22 35	00.0	+2.6
MNCI				LR	LR			
	comp=Z,8μm,22.0s							
PBA	**Port Blair**	**153.95**	**349**	*e*PKPdf	PKPbc	22 34	56.6	-1.8
PBA				LR	LR			
	comp=Z,16μm,22.0s							
SMRI	**Semarang**	**156.57**	**285**	PFAKE		22 35	10.0	-13
SMRI				LR	LR			
	comp=Z,5μm,22.0s							
UGM	**Wanagama**	**156.76**	**283**	PFAKE		22 35	10.0	-14
UGM				LR	LR			
	comp=Z,7μm,22.0s							
KULM	**Kulim**	**156.85**	**325**	*e*PKPdif	PKPdf	22 35	02.7	+8.3
KULM				LR	LR			
	comp=Z,16μm,22.0s							
IPM	**Ipoh**	**157.30**	**323**	PFAKE		22 35	10.0	+15
IPM				LR	LR			
	comp=Z,12μm,22.0s							
MYKOM	**Kota Tinggi**	**157.52**	**313**	PFAKE		22 35	10.0	+15
MYKOM				LR	LR			
	comp=Z,8μm,20.0s							
PALK	**Pallekele**	**157.70**	**18**	PFAKE		22 35	10.0	+14
PALK				LR	LR			
	comp=Z,12μm,20.0s							
LHMI	**Lhok Sumawe**	**158.73**	**334**	PFAKE		22 35	10.0	+13
LHMI				LR	LR			
	comp=Z,7μm,20.0s							
CISI	**Cisompet, Garu**	**159.19**	**286**	PFAKE		22 35	10.0	+13
CISI				LR	LR			
	comp=Z,7μm,22.0s							
PSI	**Prapat**	**159.86**	**326**	PFAKE		22 35	10.0	+12
PSI				LR	LR			
	comp=Z,12μm,22.0s							

IDC 11 22:16:42.3±1.0, 14°.67N×91°.48W, h0km, mb5.0/10, mb1 5.2/11, mb1mx4.8/32, mbtmp5.0/11, MS6.5/3, Ms1 6.5/3, ms1mx5.2/27, Error ellipse: s-maj=37.6km s-min=24.7km az=37.0, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h	m s	ISC
TXAR	**Lajitas Array**	**18.43**	**324**	P	P	22 21	00.1	+0.6
	baz=149,slow=11,SNR=1.7							
SJG	**San Juan**	**24.53**	**79**	LR	LR	22 31	36.6	
	comp=Z,71μm,21.0s,baz=268,slow=36							
PCRV	**Puerto La Cruz**	**26.58**	**97**	LR	LR	22 34	54.5	
	comp=Z,53μm,19.1s,baz=292,slow=41							
NVAR	**Mina Array Bea**	**33.47**	**320**	P	P	22 23	22.5	-1.0
	23nm,0.7s,baz=135,slow=9.0,SNR=3.2							
NVAR				PcP	PcP	22 26	06.6	+1.8
	5.4nm,0.7s,baz=130,slow=4.0,SNR=3.9							
SCHQ	**Schefferville**	**44.42**	**20**	P	P	22 24	55.8	+1.0
	30nm,0.8s,baz=221,slow=7.1,SNR=2.7							
SCHQ				LR	LR	22 43	12.8	
	comp=Z,130μm,21.0s,baz=209,slow=36							
YKA	**Yellowknife Ar**	**50.49**	**346**	P	P	22 25	42.4	+0.6
	67nm,0.7s,baz=150,slow=7.3,SNR=7.7							
YKA				PcP	PcP	22 26	57.7	-2.2
	7.5nm,0.7s,baz=152,slow=3.7,SNR=4.4							
ILAR	**Eielson Array**	**62.42**	**337**	P	P	22 27	06.8	-0.1
	12nm,0.8s,baz=172,slow=4.1,SNR=4.2							
ESDC	**Sonseca Array**	**78.91**	**52**	P	P	22 28	48.0	0.0
	4.1nm,0.7s,baz=291,slow=5.6,SNR=3.8							
NOA	**NORSAR Array B**	**83.32**	**29**	P	P	22 29	12.3	+1.3
	2.8nm,0.7s,baz=268,slow=4.2,SNR=3.5							
DBIC	**Dimbokro**	**85.09**	**84**	P	P	22 29	20.8	-0.1
	14nm,0.7s,baz=276,slow=4.5,SNR=4.8							
FINES	**FINESS Array B**	**89.68**	**25**	P	P	22 29	41.8	-0.2
	6.9nm,1.0s,baz=291,slow=3.9,SNR=3.0							
TORD	**Torodi Ar. Bea**	**89.73**	**77**	P	P	22 29	42.8	-0.4
	2.4nm,0.7s,baz=253,slow=4.7							
NRIK	**Noril'sk**	**96.21**	**0**	P	P	22 30	11.0	-1.0
	4.3nm,0.8s,baz=38,slow=3.9,SNR=3.1							
SONM	**Songino Array**	**115.76**	**347**	PKP	PKPdf	22 35	27.0	-0.1
	2.2nm,0.8s,baz=301,slow=0.7,SNR=2.6							
BOSA	**Boshof**	**120.18**	**115**	PKP	PKPdf	22 35	36.0	-0.1
	12nm,0.7s,baz=282,slow=3.4,SNR=5.5							
GEYT	**Alibeck**	**120.40**	**28**	PKP	PKPdf	22 35	34.6	-1.7
	2.3nm,0.7s,baz=288,slow=1.4,SNR=4.2							
STKA	**Stephens Creek**	**128.82**	**241**	PKP	PKPdf	22 35	53.9	+1.5
	5.8nm,0.8s,baz=14,slow=3.2,SNR=3.2							
WRA	**Warramunga Arr**	**136.04**	**256**	PKhKP	PKPpre	22 36	01.0	
	2.3nm,0.7s,baz=88,slow=3.0,SNR=3.1							
ASAR	**Alice Springs**	**136.36**	**251**	PKP	PKPdf	22 36	07.7	+0.8
	3.5nm,0.8s,baz=100,slow=2.7,SNR=3.3							
CMAR	**Chiang Mai Arr**	**145.51**	**342**	PKPbc	PKPbc	22 36	20.9	-2.4
	41nm,0.7s,baz=340,slow=3.0,SNR=7.2							

IDC 11 22:18:11.1±2.9, 14°.56N×91°.48W, h0km, mb4.6/5, mb1 4.8/6, mb1mx4.4/35, mbtmp4.5/6, Error ellipse: s-maj=105.3km s-min=35.2km az=32.0, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h	m s	ISC
JTS	**JuntasAbangare**	**7.66**	**123**	Lg	Lg	22 22	05.6	
	2.9nm,0.3s,baz=356,slow=22,SNR=2.7							
TXAR	**Lajitas Array**	**18.52**	**325**	P	Pn	22 22	29.8	+0.5
	baz=153,slow=10,SNR=1.9							
YKA	**Yellowknife Ar**	**50.61**	**346**	P	P	22 27	11.7	+0.2
	21nm,0.6s,baz=150,slow=7.3,SNR=6.0							
ILAR	**Eielson Array**	**62.53**	**337**	P	P	22 28	35.3	-1.1
	7.9nm,1.0s,baz=128,slow=8.2,SNR=5.6							
ESDC	**Sonseca Array**	**78.98**	**52**	P	P	22 30	17.5	+0.3
	1.8nm,0.7s,baz=284,slow=5.6,SNR=2.9							
TORD	**Torodi Ar. Bea**	**89.76**	**77**	P	P	22 31	12.2	0.0
	0.9nm,0.9s,baz=272,slow=6.6							
PETK	**Petropavlovsk-**	**90.47**	**326**	P	P	22 31	16.1	+1.3
	4.8nm,0.9s							
CMAR	**Chiang Mai Arr**	**145.62**	**342**	PKPbc	PKPdf	22 37	50.6	-1.8
	16nm,0.8s,baz=353,slow=3.6,SNR=7.4							

TAP ***11*** *22:19:59.6, 24°.85N×122°.83E, h144km±1km, ML3.0, D*
ISCJB ***11*** *22:20:00.3±0.6, 24°.79N±0°.04×122°.84E±0°.02, h131km±5km, Error ellipse: s-maj=6.7km s-min=3.4km az=179.3*
JMA ***11*** *22:20:00.0±0.3, 24°.79N×122°.82E, h136km±4km, M2.1*
**ISC 11 22:

YM10	**YM10** baz=284	**1.22**	**284**	*e*P	**Pn**	**22 20 25.9**	**+0.8**
TWY	**Chenhua** baz=290	**1.22**	**290**	*e*S	**Sn**	**22 20 44.7**	**-0.4**
NWLT	**Wulai** baz=266	**1.24**	**267**	*e*P	**Pn**	**22 20 25.3**	**+0.1**
NWLT	baz=266			*e*S	**Sn**	**22 20 44.7**	**-0.8**
YM04	**YM04** baz=284	**1.24**	**284**	*e*P	**Pn**	**22 20 25.6**	**+0.3**
YM04	baz=284			*e*S	**Sn**	**22 20 44.3**	**-1.3**
JIJ	**Ishigaki jima**	**1.26**	**113**	P	**Pn**	**22 20 26.1**	**+0.7**
JIJ				S	**Sn**	**22 20 44.8**	**-1.0**
JISG	**Ishigakijimahi**	**1.34**	**101**	P	**Pn**	**22 20 27.0**	**+0.8**
JISG				S	**Sn**	**22 20 46.5**	**-0.7**
NACB	**Ninganchiao** baz=239	**1.34**	**240**	*e*P	**Pn**	**22 20 26.1**	**-0.1**
NACB	baz=239			*e*S	**Sn**	**22 20 46.6**	**-0.7**
YHNB	**Yeheng** baz=262	**1.37**	**263**	*e*P	**Pn**	**22 20 27.2**	**+0.6**
YHNB	baz=262			*e*S	**Sn**	**22 20 47.2**	**-0.7**
NSK	**Sanguang** baz=262	**1.38**	**263**	P	**Pn**	**22 20 27.4**	**+0.6**
NSK	baz=262			S	**Sn**	**22 20 47.4**	**-0.7**
TWD	**Chiawan** baz=235	**1.39**	**237**	*e*P	**Pn**	**22 20 27.1**	**+0.4**
TWD	baz=235			S	**Sn**	**22 20 47.0**	**-1.2**
NNSB	**Datong** baz=252	**1.42**	**253**	*e*P	**Pn**	**22 20 27.6**	**+0.5**
NNSB	baz=252			*e*S	**Sn**	**22 20 47.7**	**-1.2**
NNS	**Nan Shan** baz=252	**1.42**	**253**	*e*P	**Pn**	**22 20 28.1**	**+0.9**
NNS	baz=252			*e*S	**Sn**	**22 20 47.8**	**-1.1**
HWA	**Hwalien** baz=231	**1.44**	**233**	*e*S	**Sn**	**22 20 49.2**	**0.0**
WHF	**Hehuan Shan** baz=243	**1.62**	**244**	*i* P	**Pn**	**22 20 30.1**	**+0.4**
WHF	baz=243			S	**Sn**	**22 20 52.2**	**-1.1**
TWT	**Tachien** baz=248	**1.65**	**249**	P	**Pn**	**22 20 31.3**	**+1.6**
TWT	baz=248			S	**Sn**	**22 20 53.0**	**-0.5**
TDCB	**Techi** baz=248	**1.67**	**249**	*e*P	**Pn**	**22 20 31.0**	**+1.1**
TDCB	baz=248			*e*S	**Sn**	**22 20 52.8**	**-0.9**
ESL	**Shilin** baz=230	**1.67**	**232**	*e*P	**Pn**	**22 20 29.8**	**0.0**
ESL	baz=230			*e*S	**Sn**	**22 20 52.2**	**-1.3**
JTJ	**Tarama**	**1.68**	**97**	P	**Pn**	**22 20 31.1**	**+1.2**
JTJ				S	**Sn**	**22 20 53.4**	**-0.3**
LIOB	**Emei** baz=263	**1.69**	**263**	*e*P	**Pn**	**22 20 30.4**	**+0.3**
LIOB	baz=263			*e*S	**Sn**	**22 20 53.0**	**-1.1**
NSTT	**Nanjuang** baz=262	**1.71**	**263**	*e*P	**Pn**	**22 20 30.9**	**+0.7**
NSTT	baz=262			*e*S	**Sn**	**22 20 53.5**	**-0.8**
CHGB	**Renai** baz=242	**1.73**	**243**	P	**Pn**	**22 20 31.4**	**+0.7**
CHGB	baz=242			S	**Sn**	**22 20 54.5**	**-0.7**
EGFH	**Guangfu** baz=227	**1.77**	**228**	*e*S	**Sn**	**22 20 54.9**	**-0.6**
HGSD	**Ruisui** baz=223	**1.89**	**224**	*e*P	**Pn**	**22 20 32.7**	**+0.4**
HGSD	baz=223			*e*S	**Sn**	**22 20 57.9**	**-0.1**
EHY	**Hungye** baz=225	**1.95**	**227**	*e*P	**Pn**	**22 20 32.8**	**-0.2**
EHY	baz=225			*e*S	**Sn**	**22 20 57.5**	**-1.7**
SMLT	**Sun Moon Lake** baz=241	**2.04**	**242**	*e*P	**Pn**	**22 20 35.3**	**+1.2**
SMLT	baz=241			*e*S	**Sn**	**22 21 00.3**	**-1.0**
SSLB	**Suanglung** baz=238	**2.04**	**239**	*e*P	**Pn**	**22 20 35.2**	**+1.1**
SSLB	baz=238			*e*S	**Sn**	**22 21 01.0**	**-0.2**
YULB	**Yu-li** baz=223	**2.04**	**225**	*e*P	**Pn**	**22 20 34.0**	**-0.1**
YULB	baz=223			*e*S	**Sn**	**22 20 59.2**	**-2.0**
TYC	**Yuchr** baz=242	**2.06**	**243**	*e*P	**Pn**	**22 20 35.7**	**+1.5**
TYC	baz=242			*e*S	**Sn**	**22 21 01.4**	**-0.1**
TWF1	**Yuli** baz=222	**2.07**	**224**	*e*P	**Pn**	**22 20 34.3**	**-0.1**
TWF1	baz=222			*e*S	**Sn**	**22 21 00.5**	**-1.3**
JIRB	**Irabujima**	**2.10**	**90**	S	**Sn**	**22 20 58.4**	**-3.9**
FULB	**Fuli** baz=220	**2.19**	**221**	*e*P	**Pn**	**22 20 36.4**	**+0.6**
FULB	baz=220			*e*S	**Sn**	**22 21 04.5**	**+0.2**
ALS	**Alishan** baz=234	**2.31**	**235**	P	**Pn**	**22 20 39.1**	**+1.6**
ALS	baz=234			*e*S	**Sn**	**22 21 07.6**	**+0.3**

IDC 11 22:24:23.6±7.8,**14°06N**×**92°20W**,**h29**km±45km,**mb3.8/4**, **mb1 4.1/5**,**mb1mx3.7**/56,**mbtmp4.0**/5,**Error ellipse: s-maj=86.7km s-min=33.3km az=15.0**,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote** 11nm,0.3s,baz=240,slow=18,SNR=3.7	**1.93**	**61**	Pg	Pb	22 24 58.6	+0.3
APG	18nm,0.3s,baz=304,slow=14,SNR=2.5			Lg	Lg	22 25 26.2	
CMIG	**Matias Romero** baz=152,slow=18,SNR=1.7	**3.97**	**320**	Pn	Pn	22 25 22.0	-0.5
CMIG	9.2nm,0.3s,baz=134,slow=21,SNR=2.4			Sn	Sn	22 26 07.7	-0.4
NVAR	**Mina Array Bea** 0.4nm,0.6s,baz=122,slow=8.6,SNR=3.1	**33.50**	**321**	P	P	22 31 01.9	+1.0
YKA	**Yellowknife Ar** 2.6nm,0.6s,baz=151,slow=7.3,SNR=9.9	**50.92**	**347**	P	P	22 33 21.6	-0.3
INK	**Inuvik** 2.1nm,0.8s,baz=129,slow=6.5,SNR=3.3	**60.32**	**344**	P	P	22 34 28.3	-1.1
ILAR	**Eielson Array** 0.5nm,0.7s,baz=161,slow=4.6,SNR=4.9	**62.70**	**337**	P	P	22 34 45.8	+0.2
CMAR	**Chiang Mai Arr** 1.6nm,0.8s,baz=338,slow=3.2,SNR=6.5	**145.87**	**341**	PKPbc	PKPdf	22 44 00.3	-0.3

ISCJB ***11*** *22:25:36.6*±*1.3,13°.99N*±*0°.05*×*92°.39W*±*0°.05,h21km*±*9km, mb4.7/32,MS6.4/2,Error ellipse: s-maj=9.9km s-min=5.0km az=40.1*

MEX ***11*** *22:25:37.7*±*0.6,13°.90N*×*92°.47W,h20km*±*36km,MD3.8*

IDC ***11*** *22:25:39.6*±*3.8,14°.03N*×*92°.11W,h35km*±*28km,mb4.2/11, mb1 4.5/13,mb1mx4.1/58,mbtmp4.4/13,ML4.4/2,Error ellipse: s-maj=27.2km s-min=15.4km az=46.0*

NEIC ***11*** *22:25:40.2*±*0.5,14°.01N*×*92°.25W,h35km,mb4.8/38, MD4.5(MEX),Error ellipse: s-maj=12.0km s-min=7.3km az=219.0*

ISC 11 22:25:37.1±3.0,**14°04N**±0°.06×**92°39W**±0°.06,**h12**km±18km, **n91**,σ**1s87/96**,**mb4.7**/32,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.87**	**8**	*e*P	**Pb**	**22 25 53.0**	**-1.1**
THIG				*e*S	**Sb**	**22 26 06.2**	**+0.4**
THIG		**0.87**	**8**	*e*P	**Pb**	**22 25 53.0**	**-1.1**
THIG				*e*S	**Sb**	**22 26 06.0**	**+0.2**
PCIG		**1.84**	**334**	*e*P	**Pn**	**22 26 06.5**	**-1.9**
PCIG		**1.84**	**334**	*e*P	**Pn**	**22 26 06.5**	**-1.9**
PCIG				*i* S	**Sn**	**22 26 29.6**	**-2.1**
APG	**El Apazote** 76nm,0.3s,baz=245,slow=7.3,SNR=12	**2.10**	**62**	Pg	**Pb**	**22 26 14.7**	**-0.5**
APG	206nm,0.3s,baz=162,slow=21,SNR=9.9			Lg	Lg	22 26 40.9	
CCIG	**Comitan**	**2.25**	**6**	*e*Pn	**Pb**	**22 26 17.6**	**-0.1**
CCIG				*e*Sn	**Sn**	**22 26 43.9**	**+2.0**
CCIG	**Comitan**	**2.25**	**6**	*e*P	**Pn**	**22 26 13.9**	**-0.3**
CCIG				*i* S	**Sn**	**22 26 41.6**	**-0.3**
TGIG		**2.82**	**346**	*e*P	**Pn**	**22 26 22.8**	**+0.9**
TGIG		**2.82**	**346**	*e*P	**Pn**	**22 26 20.4**	**-1.5**
TGIG				*e*S	**Sn**	**22 26 55.5**	**-0.4**
SNET	**Serv Nac Est T**	**3.08**	**96**	*e*Pn	**Pn**	**22 26 26.7**	**+1.1**
SNET				*e*Sn	**Sn**	**22 27 03.2**	**+0.7**
CMIG	**Matias Romero** 23nm,0.3s,baz=74,slow=12,SNR=3.9	**3.88**	**322**	Pn	**Pn**	**22 26 40.4**	**+3.9**
CMIG	121nm,0.3s,baz=52,slow=14,SNR=6.3			Sn	**Sn**	**22 27 23.8**	**+1.9**
TGUH	**Tegucigalpa,Un**	**4.96**	**89**	*e*Pn	**Pn**	**22 26 52.8**	**+1.5**
VHO	**Vista Hermosa**	**5.16**	**306**	*e*P	**Pn**	**22 26 52.4**	**-1.9**
VHO				*i* S	**Sn**	**22 27 50.4**	**-3.6**
ESTN	**Estel**	**5.92**	**98**	*e*Pn	**Pn**	**22 27 05.3**	**+0.6**
LVIG	**Laguna Verde**	**6.85**	**326**	*e*Pn	**Pn**	**22 27 16.4**	**-0.8**
LVIG				*e*Sn	**Sn**	**22 28 31.4**	**-3.8**
TLIG	**Tlapa**	**6.91**	**301**	*e*Pn	**Pn**	**22 27 19.8**	**+1.6**
TEIG	**Tepich**	**7.30**	**32**	*e*Pn	**Pn**	**22 27 26.4**	**+2.9**
JTS	**JuntasAbangare** 1.1nm,0.3s,baz=162,slow=16,SNR=4.3	**8.17**	**116**	Pn	**Pn**	**22 27 38.0**	**+2.6**
JTS	0.6nm,0.3s,baz=328,slow=23,SNR=9.1			Lg	Lg	22 29 44.2	
JTS	**JuntasAbangare**	**8.17**	**116**	*e*Pn	**Pn**	**22 27 36.7**	**+1.3**
MOIG	**Morelia**	**10.12**	**305**	*e*Pn	**Pn**	**22 28 04.5**	**+2.0**
LNIG	**Linares**	**12.70**	**329**	*e*Pn	**Pn**	**22 28 38.6**	**+1.1**
833A	**Chaparral WMA,** 43nm,0.9s	**15.64**	**336**	*e*Pn	**Pn**	**22 29 18.4**	**+1.1**
HKT	**Hockley** 24nm,1.2s	**16.15**	**349**	*e*Pn	**Pn**	**22 29 24.2**	**+0.3**
059A	**Moore Haven** 224nm,1.4s	**16.61**	**37**	*e*Pn	**Pn**	**22 29 28.1**	**-1.7**
346A	**Big Creek Wild** 59nm,0.8s	**17.48**	**8**	*e*Pn	**Pn**	**22 29 41.1**	**+0.5**
NATX	**Nacogdoches** 45nm,1.1s	**17.76**	**354**	*e*Pn	**Pn**	**22 29 45.1**	**+0.9**
658A	**Bunnell** 311nm,1.5s	**18.45**	**32**	*e*P	**P**	**22 29 47.9**	**-4.7**
TXAR	**Lajitas Array** 0.2nm,0.3s,baz=146,slow=12,SNR=16	**18.46**	**327**	P	**Pn**	**22 29 54.7**	**+1.8**
LTX	**Lajitas**	**18.46**	**327**	*e*P	**Pn**	**22 29 54.7**	**+1.8**
TX31	**Lajitas Ar. Si**	**18.46**	**327**	*e*P	**P**	**22 29 53.2**	**+0.4**
143A	**Socs Landing,** 75nm,1.2s	**18.60**	**3**	*e*P	**P**	**22 29 52.8**	**-1.4**
147A	**Livingston** 85nm,1.1s	**18.93**	**11**	*e*P	**Pn**	**22 30 02.9**	**+4.4**
152A	**Waverly Hall** 43nm,1.1s	**19.82**	**19**	*e*P	**P**	**22 30 05.3**	**-2.3**
ROSC	**El Rosal** 14nm,1.1s	**20.01**	**115**	*e*P	**P**	**22 30 08.4**	**-1.8**
MIAR	**Mount Ida** 73nm,0.9s	**20.45**	**357**	*e*P	Pn	22 30 19.2	+2.6
X48A	**Hartselle** 24nm,0.8s	**20.89**	**12**	*e*P	Pn	22 30 26.2	+4.5
GDL2	**Guadalupe Moun**	**21.14**	**331**	*e*P	**P**	**22 30 24.4**	**+2.4**
AMTX	**Amarillo** 56nm,0.8s	**22.39**	**340**	*e*P	**P**	**22 30 35.3**	**-0.1**
TKL	**Tuckaleechee C** 12nm,1.0s,baz=170,slow=12,SNR=3.1	**22.88**	**18**	P	**P**	**22 30 38.6**	**-1.9**
TKL	**Tuckaleechee C** 54nm,1.5s	**22.88**	**18**	*e*P	**P**	**22 30 38.6**	**-1.9**
ANMO	**Albuquerque** 4.0nm,1.0s,baz=144,slow=14,SNR=4.1	**24.39**	**331**	P	**P**	**22 30 56.2**	**+0.7**
ANMO	**Albuquerque** 9.4nm,1.0s	**24.39**	**331**	*e*P	**P**	**22 30 56.2**	**+0.7**
WCI	**Wyandotte Cave** 46nm,1.0s	**24.70**	**12**	*e*P	**P**	**22 30 56.8**	**-1.2**
S22A	**4UR Ranch, Cre** 17nm,1.0s	**26.88**	**334**	*e*P	**P**	**22 31 19.9**	**+1.7**
PV12	**Saucer Basin,** 52nm,1.2s	**28.22**	**332**	*e*P	**P**	**22 31 32.2**	**+2.1**
TPNV	**Topopah Spring**	**31.21**	**321**	*e*P	**P**	**22 32 01.1**	**+4.6**
PD31	**Pinedale Array**	**32.23**	**336**	*e*P	**P**	**22 32 06.3**	**+0.9**
PDAR	**Pinedale Array** 2.4nm,1.0s,baz=166,slow=8.0,SNR=3.1	**32.23**	**336**	P	**P**	**22 32 06.3**	**+0.9**
HVU	**Hansel Valley** 6.6nm,0.9s	**32.82**	**331**	*e*P	**P**	**22 32 12.3**	**+1.7**
REDW	**Red Top Meadow** 35nm,1.1s	**33.25**	**335**	*e*P	**P**	**22 32 15.3**	**+0.9**
SNOW	**Snow King Moun** 60nm,1.2s	**33.30**	**335**	*e*P	**P**	**22 32 15.9**	**+1.1**
NV01	**Mina Array Sit**	**33.41**	**321**	*e*P	**P**	**22 32 17.4**	**+1.6**
NVAR	**Mina Array Bea** 2.4nm,0.7s,baz=134,slow=8.5,SNR=14	**33.41**	**321**	P	**P**	**22 32 17.7**	**+1.9**
KVN	**Kaiserville** 8.0nm,1.2s	**33.69**	**322**	*e*P	**P**	**22 32 21.9**	**+3.6**
HLID	**Hailey** 5.8nm,1.0s	**34.96**	**332**	*e*P	**P**	**22 32 30.7**	**+1.5**
MCMT	**McKenzie Canyo**	**35.28**	**334**	*e*P	**P**	**22 32 33.8**	**+1.9**
BEKR	**Beckworth** 6.0nm,1.1s	**35.55**	**322**	*e*P	P	22 32 40.8	+6.4
DLMT	**Dillon** 14nm,1.1s	**35.61**	**335**	*e*P	**P**	**22 32 35.9**	**+1.2**
J08A	**Circle Bar Ran** 22nm,1.1s	**36.81**	**328**	*e*P	**P**	**22 32 45.6**	**+0.7**
BMO	**Blue Mountains** 10.0nm,1.2s	**37.30**	**330**	*e*P	**P**	**22 32 50.2**	**+1.1**
F10A	**Beach Ranch, E** 19nm,0.8s	**38.10**	**332**	*e*P	**P**	**22 32 56.2**	**+0.4**
E09A	**Wood Farm, Sta** 5.5nm,0.8s	**38.93**	**331**	*e*P	**P**	**22 33 04.3**	**+1.7**
MNMC	**Manley Minye** 26nm,1.3s	**39.88**	**145**	*e*P	P	22 33 19.4	+8.2
C09A	**Chrisman Ranch** 8.0nm,0.9s	**39.95**	**333**	*e*P	**P**	**22 33 12.9**	**+1.7**
SIV	**San Ignacio** 2.7nm,0.6s,baz=320,slow=8.5,SNR=9.0	**42.99**	**133**	P	**P**	**22 33 34.8**	**-1.7**
YKA	**Yellowknife Ar** 9.4nm,0.7s,baz=150,slow=7.4,SNR=23	**50.91**	**347**	P	**P**	**22 34 36.8**	**-0.9**
YKB5	**Yellowknife Ar**	**50.91**	**347**	*e*P	**P**	**22 34 36.2**	**-1.5**
DLBC	**Dease Lake** 12nm,1.1s,baz=154,slow=8.5,SNR=6.9	**52.47**	**336**	P	**P**	**22 34 50.4**	**+0.7**
DLBC	**Dease Lake** 24nm,1.2s	**52.47**	**336**	*e*P	**P**	**22 34 52.0**	**+2.4**
PLCA	**Paso Flores** 3.6nm,1.1s,baz=354,slow=4.2,SNR=4.1	**58.13**	**161**	P	**P**	**22 35 29.2**	**-1.4**
PLCA	**Paso Flores** 12nm,1.3s	**58.13**	**161**	*e*P	**P**	**22 35 29.2**	**-1.4**
INK	**Inuvik** 6.2nm,0.8s,baz=117,slow=7.8,SNR=12	**60.30**	**344**	P	**P**	**22 35 44.9**	**-0.3**
INK	**Inuvik** 7.1nm,0.8s	**60.30**	**344**	*e*P	**P**	**22 35 44.7**	**-0.4**
DOT	**Dot Lake** 17nm,1.5s	**61.04**	**336**	*e*P	**P**	**22 35 51.0**	**+0.7**
IL1	**Eielson Array**	**62.66**	**337**	*e*P	**P**	**22 36 00.2**	**-1.0**
ILAR	**Eielson Array** 4.0nm,0.9s,baz=124,slow=5.2,SNR=21	**62.66**	**337**	P	**P**	**22 36 00.8**	**-0.4**
ILB	**Eielson Array**	**62.66**	**337**	*e*P	**P**	**22 36 01.1**	**-0.2**
RND	**Reindeer** 12nm,1.0s	**62.84**	**335**	*e*P	**P**	**22 36 03.2**	**+0.7**
MLY	**Manley** 11nm,0.9s	**64.25**	**336**	*e*P	**P**	**22 36 11.5**	**-0.3**
EKA	**Eskdalemuir Ar** 3.6nm,0.8s,baz=277,slow=5.6,SNR=9.8	**78.16**	**36**	P	**P**	**22 37 32.9**	**-3.2**
BILL	**Bilibino** 10.0nm,1.0s	**81.28**	**338**	*e*P	**P**	**22 37 53.3**	**+0.4**
HHC	**Hu-ho-hao-te**	**121.05**	**339**	*e*P	**PKPdf**	**22 44 33.7**	**+3.6**
HHC				SKS	SKSac	22 51 39.2	+11
HHC	comp=N,4μm,16.8s			LR	LR		
HHC	comp=E,4μm,16.7s			LR	LR		
HHC	comp=Z,4μm,17.3s			LR	LR		
WMQ	**Urumqi**	**122.42**	**360**	*e*P	**PKPdf**	**22 44 36.0**	**+3.4**
WMQ	comp=N,12μm,18.1s			LR	LR		
WMQ	comp=E,9μm,17.1s			LR	LR		
WMQ	comp=Z,9μm,20.9s			LR	LR		
NJ2	**Nanjing**	**125.26**	**327**	*e*P	**PKPdf**	**22 44 41.3**	**+3.0**
NJ2	comp=Z,7.0nm,0.5s			pmax	pmax		
XAN	**Xi'an**	**128.06**	**337**	PKP	PKPdf	22 44 56.4	+13
CD2	**Chengdu**	**132.69**	**341**	PKP	**PKPdf**	**22 44 53.5**	**+1.0**
WRA	**Warramunga Arr** comp=Z,0.4nm,0.7s,baz=88,slow=2.2,SNR=3.3	**135.04**	**256**	PKP	**PKPdf**	**22 44 55.0**	**-2.1**
ASAR	**Alice Springs** comp=Z,0.3nm,0.5s,baz=116,slow=2.2,SNR=2.8	**135.32**	**251**	PKP	**PKPdf**	**22 44 56.1**	**-1.4**
CM31	**Chiang Mai Arr**	**145.84**	**341**	*e*PKPdf	**PKPdf**	**22 45 16.7**	**+0.1**
CMAR	**Chiang Mai Arr** comp=Z,5.9nm,0.8s,baz=334,slow=3.5,SNR=22	**145.84**	**341**	PKPbc	**PKPdf**	**22 45 16.7**	**+0.1**
CM01	**Chiang Mai Arr**	**145.86**	**341**	*e*PKPdf	**PKPdf**	**22 45 16.4**	**-0.3**

ISCJB ***11*** *22:28:03.0*±*0.8,13°.55N*±*0°.08*×*92°.42W*±*0°.08,h37km, mb4.4/9,Error ellipse: s-maj=13.3km s-min=8.5km az=40.3*

NEIC ***11*** *22:28:05.8*±*0.9,13°.70N*×*92°.31W,h35km,mb4.8/3,Error ellipse: s-maj=21.2km s-min=9.3km az=209.0*

IDC ***11*** *22:28:06.2*±*7.4,13°.89N*×*91°.98W,h34km*±*41km,mb3.9/7, mb1 4.2/9,mb1mx3.7/58,mbtmp4.1/9,ML3.8/2,Error ellipse: s-maj=73.6km s-min=25.0km az=19.0*

ISC 11 22:28:05.5±1.0,**13°.6N**±0°.1×**92°.27W**±0°.10,**h37**km,**n27**, σ**1s64/28**,**mb4.4/9**,**Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote** 18nm,0.3s,baz=250,slow=17,SNR=6.8	**2.24**	**51**	Pg	**Pn**	**22 28 41.0**	**+0.8**
APG	41nm,0.3s,baz=252,slow=5.2,SNR=3.3			Lg	Lg	22 29 12.3	
CCIG	**Comitan**	**2.67**	**3**	*e*Pn	**Pn**	**22 28 46.5**	**+0.4**
CCIG				*e*Sn	**Sn**	**22 29 17.7**	**+0.5**
CMIG	**Matias Romero** 6.7nm,0.3s,baz=144,slow=15,SNR=2.7	**4.29**	**324**	Pn	**Pn**	**22 29 07.8**	**-0.3**
CMIG	17nm,0.3s,baz=28,slow=17,SNR=3.2			Sn	**Sn**	**22 30 02.2**	**+5.2**
TGUH	**Tegucigalpa,Un**	**4.88**	**84**	*e*Pn	**Pn**	**22 29 17.7**	**+1.4**
JTS	**JuntasAbangare** 0.2nm,0.3s,baz=191,slow=14,SNR=2.2	**7.88**	**114**	Lg	Lg	22 32 07.1	
BCIP	**Isla Barro Col**	**12.96**	**109**	*e*Pn	**Pn**	**22 31 10.0**	**+2.8**
LNIG	**Linares**	**13.12**	**330**	*e*Pn	**Pn**	**22 31 09.4**	**0.0**
LTX	**Lajitas**	**18.88**	**328**	*e*P	**P**	**22 32 23.0**	**+0.2**
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=147,slow=11,SNR=2.9	**18.88**	**328**	P	**P**	**22 32 23.0**	**+0.2**
TKL	**Tuckaleechee C** 6.0nm,1.0s,baz=207,slow=9.0,SNR=3.8	**23.26**	**18**	P	**P**	**22 33 07.5**	**-2.1**
TKL	**Tuckaleechee C** 50nm,1.6s	**23.26**	**18**	*e*P	**P**	**22 33 07.5**	**-2.1**
NV01	**Mina Array Sit**	**33.81**	**322**	*e*P	**P**	**22 34 42.3**	**-2.1**
NVAR	**Mina Array Bea** 1.0nm,0.6s,baz=134,slow=7.7,SNR=4.9	**33.81**	**322**	P	**P**	**22 34 45.9**	**+1.5**
YKA	**Yellowknife Ar** 3.7nm,0.7s,baz=150,slow=7.5,SNR=8.9	**51.35**	**347**	P	**P**	**22 37 04.8**	**-1.2**
YKB5	**Yellowknife Ar**	**51.35**	**347**	*e*P	**P**	**22 37 04.8**	**-1.2**
DLBC	**Dease Lake** 2.8nm,0.6s,baz=166,slow=7.3,SNR=6.0	**52.91**	**336**	P	**P**	**22 37 18.7**	**+0.9**
DLBC	**Dease Lake** 40nm,1.6s	**52.91**	**336**	*e*P	**P**	**22 37 18.7**	**+0.9**
INK	**Inuvik** 3.7nm,1.0s,baz=147,slow=5.8,SNR=3.4	**60.74**	**344**	P	**P**	**22 38 11.8**	**-1.3**
INK	**Inuvik** 7.1nm,1.1s	**60.74**	**344**	*e*P	**P**	**22 38 11.8**	**-1.3**
ILAR	**Eielson Array** 0.8nm,0.8s,baz=145,slow=4.8,SNR=6.9	**63.10**	**337**	P	**P**	**22 38 28.6**	**-0.4**
ILB	**Eielson Array**	**63.10**	**337**	*e*P	**P**	**22 38 28.6**	**-0.4**
EKA	**Eskdalemuir Ar** 0.8nm,0.7s,baz=273,slow=6.1,SNR=4.0	**78.44**	**36**	P	**P**	**22 40 00.2**	**-2.2**
TOA1	**Torodi Ar. Sit**	**90.72**	**76**	*e*P	**P**	**22 41 05.2**	**-0.1**
TORD	**Torodi Ar. Bea** 0.5nm,1.1s,baz=296,slow=6.1,SNR=5.9	**90.73**	**76**	P	**P**	**22 41 05.2**	**-0.1**
TIR	**Tirane** 185nm,1.3s	**97.01**	**45**	*e*P	**P**	**22 41 33.7**	**0.0**
CM31	**Chiang Mai Arr**	**146.28**	**341**	*e*PKPdf	**PKPab**	**22 47 43.7**	**-0.1**
CMAR	**Chiang Mai Arr** 2.8nm,0.7s,baz=334,slow=3.4,SNR=8.6	**146.28**	**341**	PKPbc	**PKPab**	**22 47 43.7**	**-0.1**

UCR ***11*** *22:31:11.5*±*0.6,14°.37N*×*93°.65W,h20km*±*999km,ML4.0, mb4.2(NEIC)*

NEIC ***11*** *22:31:29.1*±*0.0,13°.95N*×*92°.53W,h16km,mb4.4/16, MD4.5(MEX),After MEX.*

MEX ***11*** *22:31:29.1*±*0.4,13°.97N*×*92°.49W,h41km*±*25km,MD3.7*

IDC ***11*** *22:31:29.7*±*4.5,14°.02N*×*92°.21W,h34km*±*32km,mb3.8/8, mb1 4.1/11,mb1mx3.7/58,mbtmp4.0/11,ML3.6/3,Error ellipse: s-maj=35.1km s-min=16.6km az=38.0*

ISC 11 22:31:26.1±2.1,**13°.95N**±0°.07×**92°.50W**±0°.06,**h5**km±12km, **n68**,σ**2s09/69**,**mb4.3**/18,**Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.98**	**14**	*e*Pn	**Pg**	**22 31 44.6**	**-0.4**
THIG				*e*Sn	**Sg**	**22 31 56.4**	**-1.3**
THIG		**0.98**	**14**	*e*P	**Pg**	**22 31 44.6**	**-0.4**
THIG				*e*S	**Sg**	**22 31 56.4**	**-1.3**
PCIG		**1.88**	**338**	*e*Pn	Pn	22 31 57.1	-1.7
PCIG				*e*Sn	**Sn**	**22 32 18.6**	**-4.3**
PCIG		**1.88**	**338**	*e*P	Pn	22 31 57.1	-1.7
PCIG				*e*S	**Sn**	**22 32 18.6**	**-4.3**
APG	**El Apazote** 33nm,0.3s,baz=206,slow=15,SNR=12	**2.24**	**62**	Pg	**Pn**	**22 32 05.2**	**+1.3**
APG	277nm,0.3s,baz=317,slow=17,SNR=14			Lg	Lg	22 32 33.5	
CCIG	**Comitan**	**2.35**	**9**	*e*Pn	**Pn**	**22 32 07.5**	**+2.1**
CCIG				*e*Sn	**Sn**	**22 32 38.4**	**+3.6**
CCIG	**Comitan**	**2.35**	**9**	*e*P	Pn	22 32 04.2	-1.2
CCIG				*e*S	**Sn**	**22 32 30.9**	**-3.8**
SBLS	**San Blas**	**2.80**	**92**	*e*P	Pn	22 32 11.5	-0.2
TGIG		**2.88**	**348**	*e*Pn	**Pn**	**22 32 12.8**	**+0.2**
TGIG		**2.88**	**348**	*e*P	Pn	22 32 11.0	-1.6
TGIG				*i* S	**Sn**	**22 32 43.3**	**-4.3**
BOQS	**Boqueron**	**3.14**	**93**	*e*P	Pn	22 32 16.2	-0.1
SNET	**Serv Nac Est T**	**3.19**	**94**	*e*Pn	**Pn**	**22 32 18.3**	**+1.3**
SNET				*e*Sn	**Sn**	**22 32 55.2**	**-0.2**
CMIG	**Matias Romero** 7.1nm,0.3s,baz=178,slow=14,SNR=3.8	**3.88**	**324**	Pn	**Pn**	**22 32 27.8**	**+1.5**
CMIG	18nm,0.3s,baz=130,slow=9.2,SNR=7.0			Sn	**Sn**	**22 33 12.1**	**-0.1**
VSM	**San Miguel**	**4.14**	**97**	*e*P	**Pn**	**22 32 30.9**	**+0.7**
TGUH	**Tegucigalpa,Un**	**5.08**	**88**	*e*Pn	Pn	22 32 48.5	+5.7
TGUH				*e*Sn	**Sn**	**22 33 40.3**	**-1.6**
VHO	**Vista Hermosa**	**5.12**	**308**	*e*Pn	**Pn**	**22 32 44.0**	**+0.3**
VHO	**Vista Hermosa**	**5.12**	**308**	*i* P	**Pn**	**22 32 43.0**	**-0.7**
VHO				*i* S	**Sn**	**22 33 40.4**	**-2.9**
CRIN	**San Cristobal**	**5.45**	**103**	*e*P	**Pn**	**22 32 48.5**	**+0.4**
CRIN				*e*S	**Sb**	**22 34 04.2**	**-3.4**
CNGN	**Cerro Negro**	**5.83**	**104**	*e*P	**Pn**	**22 32 53.9**	**+0.6**
CNGN	comp=E,152nm,0.8s			IAML		22 34 16.0	
MOMN	**Momotombo**	**6.01**	**104**	*e*P	**Pn**	**22 32 56.5**	**+0.8**
COPN	**Copaltepe**	**6.02**	**106**	*e*P	**Pn**	**22 32 56.4**	**+0.5**
ESTN	**Estel**	**6.03**	**97**	*e*Pn	**Pn**	**22 32 57.7**	**+1.8**
ESTN				*e*Sn	**Sn**	**22 34 05.2**	**-0.4**
MATN	**Matagalpa**	**6.48**	**98**	*e*P	Pn	22

PDAR	**Pinedale Array**	**32.27**	**336**	P	**P**	**22 37 56.7**	**+0.8**
	comp=E,0.5nm,0.7s,baz=146,slow=7.4,SNR=4.2						
SNOW	**Snow King Moun**	**33.33**	**335**	*eP*	**P**	**22 38 07.2**	**+2.0**
	comp=E,14nm,0.9s						
NV01	**Mina Array Sit**	**33.41**	**322**	*eP*	**P**	**22 38 07.6**	**+1.6**
NVAR	**Mina Array Bea**	**33.41**	**322**	P	**P**	**22 38 07.6**	**+1.6**
	comp=E,1.6nm,0.7s,baz=130,slow=8.0,SNR=12						
TPAW	**Teton Pass**	**33.43**	**335**	*eP*	P	22 38 10.5	+4.4
	comp=E,7.5nm,1.1s						
HLID	**Hailey**	**34.99**	**332**	*eP*	**P**	**22 38 21.9**	**+2.4**
	comp=E,2.4nm,1.0s						
MCMT	**McKenzie Canyo**	**35.31**	**335**	*eP*	**P**	**22 38 24.5**	**+2.1**
F10A	**Beach Ranch, E**	**38.12**	**332**	*eP*	**P**	**22 38 48.5**	**+2.3**
	comp=E,7.3nm,0.8s						
LPAZ	**La Paz**	**38.51**	**140**	*eP*	**P**	**22 38 48.1**	**-2.2**
SIV	**San Ignacio**	**43.01**	**133**	P	**P**	**22 39 25.1**	**-1.7**
	comp=E,2.0nm,0.8s,baz=314,slow=7.0,SNR=7.3						
YKA	**Yellowknife Ar**	**50.97**	**347**	P	**P**	**22 40 27.6**	**-0.7**
	comp=E,3.7nm,0.8s,baz=151,slow=7.3,SNR=12						
YKB5	**Yellowknife Ar**	**50.97**	**347**	*eP*	**P**	**22 40 27.6**	**-0.7**
INK	**Inuvik**	**60.35**	**344**	P	**P**	**22 41 34.7**	**-1.0**
	comp=E,2.5nm,0.8s,baz=128,slow=9.0,SNR=7.9						
INK	**Inuvik**	**60.35**	**344**	*eP*	**P**	**22 41 34.7**	**-1.0**
	comp=E,3.7nm,1.0s						
ILAR	**Eielson Array**	**62.70**	**337**	P	**P**	**22 41 51.4**	**-0.2**
	comp=E,1.0nm,0.9s,baz=124,slow=5.3,SNR=8.5						
ILB	**Eielson Array**	**62.70**	**337**	*eP*	**P**	**22 41 51.4**	**-0.2**
EKA	**Eskdalemuir Ar**	**78.29**	**36**	P	P	22 43 23.1	-3.9
	comp=E,0.5nm,0.5s,baz=269,slow=5.1,SNR=4.0						
LZH	**Lanzhou**	**127.89**	**343**	*e*PKP	**PKPdf**	**22 50 36.0**	**+2.3**
LZH				pPKP	sPKPdf	22 50 47.5	+11
LZH				sPKP		22 50 52.0	
LZH				LR	LR		
	comp=N,75nm,18.1s						
LZH				LR	LR		
	comp=E,83nm,18.0s						
LZH				LR	LR		
	comp=Z,97nm,20.2s						
CM31	**Chiang Mai Arr**	**145.88**	**340**	*e*PKPdf	**PKPdf**	**22 51 05.3**	**-1.6**
CMAR	**Chiang Mai Arr**	**145.88**	**340**	PKPbc	**PKPdf**	**22 51 05.3**	**-1.6**
	comp=Z,0.7nm,0.4s,baz=334,slow=4.0,SNR=4.4						

*NEIC **11** 22:32:42.5±0.8, 13°.93N×92°.03W, h35km, mb4.2/13, Error ellipse: s-maj=16.4km s-min=12.1km az=219.0*
*IDC **11** 22:32:42.2±5.8, 13°.95N×92°.13W, h33km±41km, mb3.9/7, mb1 4.2/8, mb1mx3.7/55, mbtmp4.1/8, ML3.7/1, Error ellipse: s-maj=41.5km s-min=20.8km az=44.0*
*ISCJB **11** 22:32:45.4±0.8, 14°.2N±0°.1×92°.20W±0°.09, h54km, mb4.2/15, Error ellipse: s-maj=17.1km s-min=10.0km az=35.4*
ISC 11 22:32:45.8±0.9,**14°.1N**±0°.1×**92°.2W**±0°.1,**h54**km,**n32,**
σ1§16/31,mb4.1/16,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**1.90**	**62**	Pg			**Pn**	**22 33 17.1**	**+0.9**
	62nm,0.3s,baz=228,slow=16,SNR=4.1								
APG				Lg			Lg	22 33 46.0	
	148nm,0.3s,baz=261,slow=20,SNR=3.0								
JTS	**JuntasAbangare**	**8.04**	**117**	Lg			Lg	22 36 46.0	
	0.2nm,0.3s,baz=308,slow=19,SNR=2.5								
LTX	**Lajitas**	**18.50**	**327**	*eP*			**Pn**	**22 36 58.9**	**+0.6**
TXAR	**Lajitas Array**	**18.50**	**327**	P			**Pn**	**22 36 58.9**	**+0.6**
	0.1nm,0.3s,baz=143,slow=12,SNR=2.8								
TX31	**Lajitas Ar. Si**	**18.50**	**327**	*eP*			**Pn**	**22 36 59.4**	**+1.0**
ROSC	**El Rosal**	**19.88**	**116**	*eP*			**Pn**	**22 37 16.3**	**+1.0**
	26nm,1.4s								
Z50A	**Ashland**	**19.89**	**16**	*eP*			**P**	**22 37 13.7**	**+0.9**
	7.2nm,0.9s								
Y52A	**Lilburn**	**21.00**	**19**	*eP*			**P**	**22 37 24.6**	**-0.3**
	11nm,0.8s								
MNTX	**Cornudas Mount**	**21.27**	**328**	*eP*			**P**	**22 37 26.9**	**-0.8**
	5.5nm,0.9s								
CPCT	**Cooper Cave**	**22.34**	**17**	*eP*			**P**	**22 37 39.4**	**+0.2**
	4.4nm,0.9s								
TKL	**Tuckaleechee C**	**22.75**	**18**	*eP*			**P**	**22 37 43.4**	**-0.2**
	4.0nm,0.8s								
CCM	**Cathedral Cave**	**23.86**	**2**	*eP*			**P**	**22 37 52.5**	**-1.7**
	6.1nm,1.4s								
ANMO	**Albuquerque**	**24.41**	**331**	P			**P**	**22 38 00.8**	**+1.3**
	1.8nm,0.6s,baz=106,slow=7.4,SNR=2.7								
ANMO	**Albuquerque**	**24.41**	**331**	*eP*			**P**	**22 38 00.8**	**+1.3**
	3.5nm,1.3s								
WCI	**Wyandotte Cave**	**24.59**	**11**	*eP*			**P**	**22 38 00.4**	**-0.4**
	14nm,0.8s								
REDW	**Red Top Meadow**	**33.26**	**335**	*eP*			**P**	**22 39 19.1**	**+0.8**
	28nm,1.4s								
SNOW	**Snow King Moun**	**33.30**	**335**	*eP*			**P**	**22 39 20.0**	**+1.4**
	9.8nm,0.8s								
NV01	**Mina Array Sit**	**33.46**	**321**	*eP*			**P**	**22 39 21.2**	**+1.1**
NVAR	**Mina Array Bea**	**33.46**	**321**	P			**P**	**22 39 21.2**	**+1.1**
	1.2nm,0.7s,baz=134,slow=10,SNR=4.4								
MCMT	**McKenzie Canyo**	**35.29**	**334**	*eP*			**P**	**22 39 37.7**	**+1.9**
F10A	**Beach Ranch, E**	**38.12**	**331**	*eP*			**P**	**22 40 00.2**	**+0.5**
	5.2nm,0.8s								
SIV	**San Ignacio**	**42.91**	**133**	P			**P**	**22 40 37.5**	**-2.1**
	3.4nm,0.7s,baz=308,slow=8.2,SNR=9.4								
LVC	**Limon Verde**	**43.04**	**148**	*eP*			**P**	**22 40 43.0**	**+2.1**
YKA	**Yellowknife Ar**	**50.87**	**347**	P			**P**	**22 41 40.2**	**-0.8**
	2.8nm,0.7s,baz=151,slow=7.3,SNR=6.6								
YKB5	**Yellowknife Ar**	**50.87**	**347**	*eP*			**P**	**22 41 40.2**	**-0.8**
INK	**Inuvik**	**60.27**	**344**	P			**P**	**22 42 47.8**	**-0.6**
	2.2nm,0.8s,baz=138,slow=5.4,SNR=4.9								
INK	**Inuvik**	**60.27**	**344**	*eP*			**P**	**22 42 47.8**	**-0.6**
	3.0nm,0.9s								
ILAR	**Eielson Array**	**62.66**	**337**	P			**P**	**22 43 04.2**	**-0.4**
	1.2nm,0.9s,baz=133,slow=4.7,SNR=6.9								
ILB	**Eielson Array**	**62.66**	**337**	*eP*			**P**	**22 43 04.2**	**-0.4**
EKA	**Eskdalemuir Ar**	**77.99**	**36**	P			**P**	**22 44 36.0**	**-2.3**
	1.1nm,0.6s,baz=280,slow=5.8,SNR=5.3								
CM31	**Chiang Mai Arr**	**145.82**	**341**	*e*PKPdf			**PKPdf**	**22 52 18.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**145.82**	**341**	PKPbc			**PKPdf**	**22 52 18.8**	**-0.6**
	2.5nm,0.6s,baz=338,slow=3.3,SNR=7.6								

*KRNET **11** 22:33:52.9±0.1, 42°.95N×78°.24E, h25km, mb2.6*
*ISCJB **11** 22:33:53.2±0.8, 42°.96N±0°.05×78°.25E±0°.05, h10km±6km, Error ellipse: s-maj=7.8km s-min=5.5km az=169.0*
*SOME **11** 22:33:53.0, 42°.92N×78°.22E, h10km*
ISC 11 22:33:52.7±1.0,**42°.94N**±0°.04×**78°.24E**±0°.03,**h14**km±8km,
n12,σ0§39/24,6C-4D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.17**	**47**	*e*P			**Pg**	**22 33 56.9**	**0.0**
	35nm,0.1s								
SATY				*e*S			**Sg**	**22 33 59.8**	**0.0**
	141nm,0.2s								
KURS	**Kuram**	**0.55**	**355**	*e*P			**Pg**	**22 34 03.6**	**+0.1**
	baz=55								
KURS				*e*S			**Sg**	**22 34 11.1**	**+0.2**
	baz=55								
KURS	**Kuram**	**0.55**	**355**	*e*P			**Pg**	**22 34 03.6**	**+0.1**
	2.4nm,0.1s								
KURS				*e*S			**Sg**	**22 34 11.1**	**+0.2**
	6.6nm,0.4s								
UZB	**Uzynbulak**	**0.61**	**70**	*e*P			**Pg**	**22 34 05.0**	**+0.2**
	baz=71								
UZB				*e*S			**Sg**	**22 34 13.3**	**+0.4**
	baz=71								
UZB	**Uzynbulak**	**0.61**	**70**	*e*P			**Pg**	**22 34 05.0**	**+0.2**
	1.8nm,0.0s								
UZB				*e*S			**Sg**	**22 34 13.3**	**+0.4**
	11nm,0.2s								
PDGK	**Podgornoye**	**1.00**	**67**	⇑*i*P			**Pb**	**22 34 11.2**	**-0.7**
	baz=67								
PDGK				⇑*i*S			**Sb**	**22 34 24.9**	**0.0**
	baz=67								
KDJ	**Kajisay**	**1.13**	**224**	⇓*i*P			**Pb**	**22 34 13.9**	**-0.2**
	baz=23								
KDJ				⇓*i*S			**Sg**	**22 34 29.3**	**+0.1**
	baz=23								
CHKK	**Chushkaly**	**1.29**	**315**	*e*P			**Pb**	**22 34 16.7**	**-0.1**
	baz=15								
CHKK				*e*S			**Sn**	**22 34 33.5**	**+0.1**
	baz=15								
CHKK	**Chushkaly**	**1.29**	**315**	*e*P			**Pb**	**22 34 16.7**	**-0.1**
	0.6nm,0.1s								
CHKK				*e*S			**Sn**	**22 34 33.5**	**+0.1**
	2.8nm,0.2s								
ULHL	**Ulahol**	**1.63**	**245**	⇑*i*P			**Pb**	**22 34 22.4**	**-0.3**
	baz=45								
ULHL				⇑*i*S			**Sb**	**22 34 43.8**	**+0.6**
	baz=45								
BOOM	**Boomskoye usch**	**1.75**	**256**	⇑*i*P			**Pb**	**22 34 24.3**	**-0.5**
	baz=56								
BOOM				⇑*i*S			**Sb**	**22 34 47.1**	**+0.4**
	baz=56								
TKM2	**Tokmak 2**	**1.94**	**270**	⇓*i*P			**Pb**	**22 34 26.9**	**-1.1**
	baz=70								
TKM2				⇓*i*S			**Sb**	**22 34 51.9**	**-0.2**
	baz=70								

*MEX **11** 22:37:45.3±0.7, 13°.84N×91°.64W, h57km±47km, MD3.8*
*IDC **11** 22:37:45.2±7.2, 13°.84N×92°.31W, h28km±40km, mb3.4/5, mb1 3.7/8, mb1mx3.5/50, mbtmp3.6/8, ML3.5/3, Error ellipse: s-maj=58.1km s-min=25.1km az=17.0*
ISC 11 22:37:42.0±1.3,**13°.74N**±0°.10×**92°.30W**±0°.08,**h10**km,**n14,**
σ1§55/19,mb3.8/5,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		**1.16**	**2**	*e*P			**Pg**	**22 38 04.2**	**-0.1**
THIG				*e*S			**Sn**	**22 38 20.3**	**+0.1**
PCIG		**2.14**	**336**	*i* P			**Pn**	**22 38 20.5**	**+2.6**
PCIG				*e*S			**Sb**	**22 38 48.4**	**+0.8**
APG	**El Apazote**	**2.18**	**55**	Pn			**Pn**	**22 38 18.6**	**0.0**
	7.2nm,0.3s,baz=213,slow=15,SNR=3.7								
APG				Pg			**Pb**	**22 38 23.8**	**+2.0**
	8.4nm,0.3s,baz=236,slow=7.3,SNR=5.7								
APG				Lg			Lg	22 38 55.0	
	35nm,0.3s,baz=237,slow=24,SNR=4.0								
CCIG	**Comitan**	**2.53**	**4**	*i* P			**Pn**	**22 38 22.0**	**-1.3**
CCIG				*i* S			**Sn**	**22 38 51.3**	**-3.1**
TGIG		**3.12**	**345**	*i* P			**Pn**	**22 38 32.1**	**+0.8**
TGIG				*i* S			**Sn**	**22 39 10.1**	**+1.3**
CMIG	**Matias Romero**	**4.16**	**324**	Pn			**Pn**	**22 38 44.4**	**-1.2**
	3.1nm,0.3s,baz=14,slow=15,SNR=2.6								
CMIG				Sn			**Sn**	**22 39 33.2**	**-1.1**
	12nm,0.3s,baz=95,slow=16,SNR=3.6								
JTS	**JuntasAbangare**	**7.97**	**115**	Lg			Lg	22 41 55.2	
	0.4nm,0.3s,baz=153,slow=11,SNR=2.9								
TXAR	**Lajitas Array**	**18.75**	**328**	P			**P**	**22 42 00.8**	**-0.5**
	0.0nm,0.3s,baz=144,slow=13,SNR=3.1								
NVAR	**Mina Array Bea**	**33.69**	**322**	P			**P**	**22 44 23.8**	**+0.1**
	0.1nm,0.4s,baz=135,slow=9.0,SNR=3.2								
YKA	**Yellowknife Ar**	**51.21**	**347**	P			**P**	**22 46 45.4**	**0.0**
	1.1nm,0.6s,baz=151,slow=7.3,SNR=5.2								
INK	**Inuvik**	**60.60**	**344**	P			**P**	**22 47 52.0**	**-0.7**
	1.1nm,0.8s,baz=123,slow=6.0,SNR=3.4								
ILAR	**Eielson Array**	**62.96**	**337**	P			**P**	**22 48 07.8**	**-0.9**
	0.3nm,0.7s,baz=151,slow=5.1,SNR=2.9								
EKA	**Eskdalemuir Ar**	**78.34**	**36**	P			**P**	**22 49 40.7**	**-1.8**
	0.4nm,0.5s,baz=277,slow=6.2,SNR=3.3								
CMAR	**Chiang Mai Arr**	**146.14**	**341**	PKPbc			**PKPdf**	**22 57 24.9**	**+2.3**
	0.7nm,0.3s,baz=328,slow=3.2,SNR=2.9								

*ISCJB **11** 22:40:08.2±0.4, 24°.28N±0°.01×122°.13E±0°.02, h7km±2km, Error ellipse: s-maj=2.6km s-min=2.2km az=13.3*
*TAP **11** 22:40:08.8, 24°.31N×122°.06E, h15km, ML3.0, B*
*JMA **11** 22:40:08.3, 24°.25N×122°.10E, h22km±3km, M2.7*
ISC 11 22:40:08.2±1.0,**24°.27N**±0°.02×**122°.11E**±0°.02,**h14**km±8km,
n72,σ0§63/119,2C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.28**	**4**	⇑*e*P			**Pb**	**22 40 14.7**	**-0.2**
	baz=27								
EOS1				*e*S			**Sb**	**22 40 19.7**	**+0.3**
	baz=27								
NANB	**Nanao**	**0.36**	**295**	*e*P			**Pg**	**22 40 15.5**	**0.0**
	baz=302								
NANB				S			**Sg**	**22 40 20.2**	**-0.2**
	baz=302								
ENA	**Nanau**	**0.37**	**295**	*e*P			**Pg**	**22 40 15.7**	**+0.1**
	baz=302								
ENA				S			**Sg**	**22 40 20.7**	**+0.1**
	baz=302								
TWC	**Suao**	**0.41**	**325**	⇑*i*P			**Pg**	**22 40 16.2**	**-0.2**
	baz=330								
TWC				*i* S			**Sg**	**22 40 21.2**	**-0.7**
	baz=330								
NACB	**Ninganchiao**	**0.48**	**258**	*e*P			**Pg**	**22 40 17.6**	**0.0**
	baz=258								
NACB				*e*S			**Sb**	**22 40 24.6**	**-0.7**
	baz=258								
TWD	**Chiawan**	**0.51**	**248**	*e*P			**Pb**	**22 40 18.8**	**-0.1**
	baz=249								
TWD				S			**Sb**	**22 40 26.4**	**+0.3**
	baz=249								
ILA	**Ilan**	**0.59**	**326**	*i* P			**Pb**	**22 40 20.0**	**-0.2**
	baz=332								
ILA				S			**Sb**	**22 40 27.8**	**-0.7**
	baz=332								
EGS		**0.59**	**344**	*e*P			**Pb**	**22 40 20.3**	**-0.1**
	baz=345								
EGS				*e*S			**Sb**	**22 40 28.4**	**-0.1**
	baz=345								
ENLB	**Shoufeng**	**0.59**	**231**	*e*P			**Pn**	**22 40 21.7**	**-0.5**
	baz=224								
ENLB				*e*S			**Sn**	**22 40 30.5**	**-1.2**
	baz=224								
TWE	**Neicheng**	**0.60**	**318**	P			**Pg**	**22 40 19.8**	**-0.1**
	baz=328								
TWE				*i* S			**Sg**	**22 40 27.2**	**-0.6**
	baz=328								
ENTT	**Nioudou**	**0.61**	**307**	P			**Pg**	**22 40 20.3**	**+0.1**
	baz=309								
ENTT				*e*S			**Sg**	**22 40 27.9**	**-0.4**
	baz=309								
NTC	**Toucheng**	**0.63**	**336**	*e*P			**Pg**	**22 40 20.6**	**+0.1**
	baz=341								
NTC				*e*S			**Sb**	**22 40 29.8**	**0.0**
	baz=341								
NNSB	**Datong**	**0.68**	**283**	*e*P			**Pb**	**22 40 21.7**	**-0.2**
	baz=289								
NNSB				*e*S			**Sg**	**22 40 30.4**	**0.0**
	baz=289								
NNS	**Nan Shan**	**0.69**	**284**	P			**Pb**	**22 40 22.1**	**0.0**
	baz=290								
NNS				*i* S			**Sg**	**22 40 30.6**	**-0.1**
	baz=290								
TWB1	**Santiao Chiao**	**0.74**	**352**	P			**Pb**	**22 40 22.7**	**-0.1**
	baz=357								
TWB1				*e*S			**Sb**	**22 40 33.1**	**+0.2**
	baz=357								
NWLT	**Wulai**	**0.74**	**312**	P			**Pb**	**22 40 22.8**	**-0.2**
	baz=307								
NWLT				*e*S			**Sg**	**22 40 32.4**	**-0.1**
	baz=307								
ESL	**Shilin**	**0.77**	**233**	*e*P			**Pb**	**22 40 23.8**	**+0.5**
	baz=227								
ESL				*e*S			**Sn**	**22 40 35.4**	**-0.6**
	baz=227								
YHNB	**Yeheng**	**0.77**	**301**	*e*P			**Pb**	**22 40 23.6**	**+0.1**
	baz=308								
YHNB				*e*S			**Sg**	**22 40 32.7**	**-0.7**
	baz=308								
WHF	**Hehuan Shan**	**0.78**	**261**	P			**Pg**	**22 40 23.4**	**0.0**
	baz=265								
WHF				*e*S			**Sb**	**22 40 34.5**	**+0.1**
	baz=265								
JYNG	**Yonagunijimaku**	**0.79**	**77**	P			**Pb**	**22 40 23.3**	**-0.3**
NSK	**Sanguang**	**0.79**	**301**	P			**Pb**	**22 40 23.8**	**0.0**
	baz=308								
NSK				S			**Sg**	**22 40 33.4**	**-0.5**
	baz=308								
YOJ	**Yonaguni jima**	**0.85**	**77**	*e*P			**Pb**	**22 40 24.4**	**-0.3**
	baz=67								
YOJ				*e*S			**Sg**	**22 40 36.6**	**+0.9**
	baz=67								
YOJ	**Yonaguni jima**	**0.85**	**77**	P			**Pb**	**22 40 24.4**	**-0.3**
YOJ				*e*S			**Sb**	**22 40 35.8**	**-0.1**
NWF	**Wu-fen Shan**	**0.85**	**340**	P			**Pg**	**22 40 25.1**	**+0.4**
	baz=335								
NWF				S			**Sg**	**22 40 36.1**	**+0.4**
	baz=335								
WFSB	**Wu-fen Shan**	**0.85**	**340**	*e*P			**Pg**	**22 40 25.0**	**+0.4**
	baz=335								
WFSB				*e*S			**Sg**	**22 40 36.3**	**+0.6**
	baz=335								
TWA	**Mucha**	**0.85**	**326**	*e*P			**Pg**	**22 40 24.8**	**+0.1**
	baz=330								
TWA				*e*S			**Sg**	**22 40 35.7**	**-0.1**
	baz=330								
TWT	**Tachien**	**0.85**	**269**	P			**Pn**	**22 40 25.2**	**-0.7**
	baz=272								
TWT				*e*S			**Sg**	**22 40 36.3**	**+0.4**
	baz=272								
EGFH	**Guangfu**	**0.87**	**226**	*e*P			**Pn**	**22 40 26.2**	**+0.3**
	baz=203								
EGFH				*e*S			**Sn**	**22 40 38.9**	**+0.5**
	baz=203								
TDCB	**Techi**	**0.87**	**269**	*e*P			**Pg**	**22 40 25.4**	**+0.4**
	baz=272								
TDCB				*e*S			**Sg**	**22 40 36.6**	**+0.2**
	baz=272								
CHGB	**Renai**	**0.88**	**256**	*e*P			**Pg**	**22 40 25.6**	**+0.4**
	baz=252								
CHGB				*e*S			**Sg**	**22 40 37.3**	**+0.6**
	baz=252								
TATO	**Taipei**	**0.90**	**321**	*e*P			**Pn**	**22 40 25.9**	**-0.5**
	baz=315								
TATO				*e*S			**Sg**	**22 40 37.3**	**0.0**
	baz=315								
TAP1	**Taipei**	**0.93**	**325**	*e*P			**Pn**	**22 40 26.6**	**-0.3**
	baz=319								
TAP1				*e*S			**Sn**	**22 40 39.0**	**-1.0**
	baz=319								
WLTB	**Daxi**	**0.97**	**307**	*e*P			**Pb**	**22 40 26.6**	**-0.1**
	baz=308								
WLTB				*e*S			**Sb**	**22 40 39.0**	**-0.4**
	baz=308								
YM01	**YM01**	**1.00**	**331**	*e*P			**Pn**	**22 40 29.2**	**+1.4**
	baz=335								
YM01				*e*S			**Sg**	**22 40 40.5**	**+0.1**
	baz=335								
HGSD	**Ruisui**	**1.00**	**219**	*e*P			**Pn**	**22 40 28.3**	**+0.5**
	baz=198								
HGSD				*e*S			**Sn**	**22 40 42.7**	**+1.0**
	baz=198								
YM07	**YM07**	**1.00**	**334**	*e*P			**Pn**	**22 40 28.1**	**+0.2**
	baz=338								
YM07				*e*S			**Sg**	**22 40 40.9**	**+0.3**
	baz=338								
YM10	**YM10**	**1.01**	**331**	*e*P			**Pn**	**22 40 28.3**	**+0.3**
	baz=343								
YM10				*e*S			**Sg**	**22 40 40.6**	**-0.3**
	baz=343								
YM11	**YM11**	**1.01**	**331**	*e*P			**Pn**	**22 40 28.3**	**+0.3**
	baz=335								
YM04	**YM04**	**1.02**	**329**	P			**Pg**	**22 40 28.5**	**+0.7**
	baz=334								
YM04				*e*S			**Sg**	**22 40 41.3**	**+0.2**
	baz=334								
YM08	**YM08**	**1.02**	**333**	*e*P			**Pg**	**22 40 28.1**	**+0.1**
	baz=337								
YM08				*e*S			**Sn**	**22 40 41.8**	**-0.7**
	baz=337								
TWS1	**Kuangyinshan**	**1.03**	**323**	*e*P			**Pg**	**22 40 29.5**	**+1.4**
	baz=318								
TWS1				*e*S			**Sn**	**22 40 42.2**	**-0.4**
	baz=318								
YM03	**YM03**	**1.04**	**330**	*e*P			**Pg**	**22 40 29.1**	**+0.8**
	baz=333								
EHY	**Hungye**	**1.05**	**223**	*e*P			**Pb**	**22 40 27.7**	**-0.4**
	baz=216								
LIOB	**Emei**	**1.06**	**291**	*e*P			**Pg**	**22 40 29.7**	**+1.1**
	baz=297								
LIOB				*e*S			**Sg**	**22 40 42.3**	**-0.2**
	baz=297								
NSTT	**Nanjuang**	**1.07**	**290**	*e*P			**Pg**	**22 40 29.4**	**+0.6**
	baz=296								
NSTT				*e*S			**Sg**	**22 40 42.5**	**-0.3**
	baz=296								
NTST	**Danshui**	**1.07**	**326**	*e*P			**Pg**	**22 40 29.8**	**+1.0**
	baz=330								
NTST				*e*S			**Sg**	**22 40 42.4**	**-0.4**
	baz=330								
NCUH	**Zhongli**	**1.09**	**310**	*e*P			**Pg**	**22 40 29.4**	**+0.2**
	baz=311								
TWY	**Chenhua**	**1.10**	**335**	P			**Pg**	**22 40 30.4**	**+1.1**
	baz=340								
TWY				*e*S			**Sg**	**22 40 43.9**	**+0.1**
	baz=340								
YULB	**Yu-li**	**1.15**	**220**	*e*P			**Pn**	**22 40 28.5**	**-1.4**
	baz=213								
SSLB	**Suanglung**	**1.16**	**246**	*e*P			**Pg**	**22 40 30.6**	**+0.1**
	baz=240								
SMLT	**Sun Moon Lake**	**1.17**	**251**	*e*P			**Pg**	**22 40 31.2**	**+0.4**
	baz=236								
SMLT				*e*S			**Sg**	**22 40 46.5**	**+0.5**
	baz=236								
TWF1	**Yuli**	**1.18**	**219**	*e*P			**Pn**	**22 40 29.1**	**-1.3**
	baz=199								
TYC	**Yuchr**	**1.20**	**252**	*e*P			**Pg**	**22 40 31.9**	**+0.6**
	baz=248								
TWQ1	**Liyutan**	**1.22**	**274**	*e*P			**Pg**	**22 40 33.9**	**+2.2**
	baz=279								
TWQ1				*e*S			**Sg**	**22 40 49.2**	**+1.6**
	baz=279								
NMLH	**Miaoli**	**1.23**	**283**	*e*P			**Pg**	**22 40 33.7**	**+1.9**
	baz=281								
FULB	**Fuli**	**1.30**	**215**	*e*P			**Pn**	**22 40 29.9**	**-2.1**
	baz=195								
FULB				*e*S			**Sn**	**22 40 49.3**	**0.0**
	baz=195								
ALS	**Alishan**	**1.41**	**238**	*e*P			**Pg**	**22 40 35.2**	**-0.2**
	baz=232								
CHN5	**Tsauling**	**1.47**	**243**	*e*P			**Pb**	**22 40 35.8**	**+0.4**
	baz=237								
IRIF	**Iriomote-Funau**	**1.48**	**87**	P			**Pn**	**22 40 33.8**	**-0.7**
HATJ	**Hateruma jima**	**1.57**	**98**	*e*S			**Sn**	**22 40 56.3**	**+0.6**
STYT	**Tauyuan**	**1.66**	**228**	*e*P			**Pn**	**22 40 37.

AGG			S	**Sb**	**22 41 23.0**	**-0.9**	
AGG			AML	AML	22 41 29.8		
	comp=E,2195µm,0.4s						
AGG			AML	AML	22 41 30.9		
	comp=N,2662µm,0.5s						
AGG	**Agios Georgios**	**0.61 107**	P	**Pg**	**22 41 14.0**	**+0.2**	
AGG			S	**Sb**	**22 41 24.6**	**+0.7**	
ANX	**Ano Chora**	**0.66 156**	P	**Pg**	**22 41 14.9**	**+0.1**	
ANX			S	**Sg**	**22 41 24.1**	**+0.8**	
ANX			AML	AML	22 41 29.2		
	comp=N,3063µm,0.6s						
ANX			AML	AML	22 41 29.5		
	comp=E,3030µm,0.4s						
ANX	**Ano Chora**	**0.66 156**	P	**Pg**	**22 41 14.7**	**-0.1**	
ANX			S	**Sb**	**22 41 25.2**	**-0.3**	
JAN	**Janina**	**0.73 309**	P	**Pg**	**22 41 15.5**	**-0.6**	
JAN			S	**Sg**	**22 41 25.7**	**+0.1**	
JAN			AML	AML	22 41 28.6		
	comp=N,4636µm,0.4s						
JAN			AML	AML	22 41 29.6		
	comp=E,3919µm,0.2s						
JAN	**Janina**	**0.73 309**	P	**Pg**	**22 41 15.4**	**-0.7**	
LRSO	**Larissa Observ**	**0.78 53**	P	**Pg**	**22 41 16.5**	**-0.6**	
LRSO			S	**Sg**	**22 41 27.3**	**0.0**	
LRSO			AML	AML	22 41 32.9		
	comp=N,9310µm,0.7s						
LRSO			AML	AML	22 41 34.6		
	comp=E,7238µm,0.5s						
LRSO	**Larissa Observ**	**0.78 53**	P	**Pg**	**22 41 16.5**	**-0.6**	
LRSO			S	**Sn**	**22 41 30.2**	**-1.4**	
EFP	**Efpalio**	**0.81 162**	P	**Pg**	**22 41 17.3**	**-0.3**	
EFP			S	**Sb**	**22 41 29.6**	**-0.1**	
EFP	**Efpalio**	**0.81 162**	P	**Pg**	**22 41 16.9**	**-0.8**	
EFP			S	**Sb**	**22 41 30.7**	**+1.0**	
TSLK	**Tsoukalades, L**	**0.81 243**	P	**Pg**	**22 41 17.4**	**-0.4**	
TSLK			S	**Sb**	**22 41 29.6**	**-0.2**	
MGNA	**Meganis,,,**	**0.82 229**	P	**Pg**	**22 41 18.1**	**+0.2**	
MGNA			S	**Sg**	**22 41 28.8**	**+0.3**	
MGNA			AML	AML	22 41 32.0		
	comp=E,2913µm,0.3s						
MGNA			AML	AML	22 41 32.4		
	comp=N,2461µm,0.2s						
LKD2	**Lefkada island**	**0.83 241**	P	**Pg**	**22 41 17.3**	**-0.8**	
LKD2			S	**Sb**	**22 41 29.7**	**-0.7**	
LKD2			AML	AML	22 41 32.5		
	comp=N,4446µm,0.3s						
LKD2			AML	AML	22 41 32.5		
	comp=E,3944µm,0.2s						
LKD2	**Lefkada island**	**0.83 241**	P	**Pg**	**22 41 17.4**	**-0.6**	
LKD2			S	**Sb**	**22 41 30.7**	**+0.4**	
LKD2	**Lefkada island**	**0.83 241**	*i* SN	**Pg**	**22 41 16.5**	**-1.5**	
LKD2			*i* PN	**Sg**	**22 41 26.9**	**-1.9**	
SERG	**Sergoula**	**0.87 155**	P	**Pg**	**22 41 18.3**	**-0.4**	
KALE	**Kalithea**	**0.92 152**	P	**Pg**	**22 41 19.0**	**-0.7**	
KALE			S	**Sb**	**22 41 32.6**	**-0.2**	
KALE			AML	AML	22 41 36.8		
	comp=N,1534µm,0.5s						
KALE			AML	AML	22 41 46.1		
	comp=E,1498µm,0.5s						
KALE	**Kalithea**	**0.92 152**	P	**Pg**	**22 41 18.6**	**-1.1**	
TRIZ	**Trizonia**	**0.92 155**	P	**Pg**	**22 41 19.1**	**-0.6**	
TRIZ			S	**Sb**	**22 41 32.5**	**-0.2**	
TRIZ	**Trizonia**	**0.92 155**	P	**Pg**	**22 41 19.2**	**-0.5**	
EVGI	**Lefkada island**	**0.93 232**	P	**Pg**	**22 41 19.1**	**-0.8**	
EVGI			S	**Sb**	**22 41 32.9**	**-0.1**	
EVGI	**Lefkada island**	**0.93 232**	P	**Pg**	**22 41 18.7**	**-1.2**	
EVGI			S	**Sb**	**22 41 33.4**	**+0.3**	
UPR	**University Cam**	**0.93 170**	P	**Pb**	**22 41 20.6**	**+0.1**	
UPR	**University Cam**	**0.93 170**	P	**Pn**	**22 41 21.2**	**-0.4**	
LAKA	**Lakka**	**1.01 162**	P	**Pg**	**22 41 21.6**	**+0.2**	
LAKA	**Lakka**	**1.01 162**	P	**Pg**	**22 41 21.3**	**-0.1**	
DLFA	**Delphi**	**1.01 135**	P	**Pg**	**22 41 21.6**	**+0.1**	
DLFA			S	**Sb**	**22 41 35.4**	**-0.1**	
ALIK	**Aliki, Aigiali**	**1.02 156**	P	**Pg**	**22 41 21.6**	**-0.1**	
IGT	**Igoumenitsa**	**1.03 289**	P	**Pg**	**22 41 20.7**	**-1.0**	
IGT			S	**Sb**	**22 41 35.6**	**-0.3**	
IGT			AML	AML	22 41 39.2		
	comp=E,1314µm,0.3s						
IGT			AML	AML	22 41 42.2		
	comp=N,1628µm,0.6s						
IGT	**Igoumenitsa**	**1.03 289**	P	**Pg**	**22 41 20.6**	**-1.2**	
PENT	**Pentalofos**	**1.05 341**	P	**Pg**	**22 41 20.9**	**-1.4**	
PENT			S	**Sg**	**22 41 35.7**	**-0.3**	
PENT			AML	AML	22 41 38.7		
	comp=N,998µm,0.4s						
PENT			AML	AML	22 41 40.8		
	comp=E,945µm,0.5s						
PENT	**Pentalofos**	**1.05 341**	P	**Pn**	**22 41 23.4**	**-0.1**	
FYTO	**Fytoko, Volos**	**1.07 78**	P	**Pg**	**22 41 22.3**	**-0.3**	
FYTO			S	**Sg**	**22 41 36.7**	**+0.1**	
FYTO			AML	AML	22 41 42.6		
	comp=N,2198µm,0.6s						
FYTO			AML	AML	22 41 44.7		
	comp=E,1008µm,0.8s						
FYTO	**Fytoko, Volos**	**1.07 78**	P	**Pg**	**22 41 22.1**	**-0.6**	
FYTO			S	**Sn**	**22 41 39.3**	**+0.5**	
KZN	**Kozani**	**1.11 7**	P	**Pg**	**22 41 22.3**	**-1.2**	
KZN			S	**Sg**	**22 41 37.5**	**-0.5**	
KZN			AML	AML	22 41 42.0		
	comp=N,1970µm,0.4s						
KZN			AML	AML	22 41 42.2		
	comp=E,2636µm,0.4s						
KZN	**Kozani**	**1.11 7**	P	**Pg**	**22 41 22.3**	**-1.2**	
KZN			S	**Sb**	**22 41 38.2**	**-0.4**	
SGD	**Sagiada**	**1.12 292**	P	**Pg**	**22 41 23.0**	**-0.7**	
SGD	**Sagiada**	**1.12 292**	P	**Pg**	**22 41 23.0**	**-0.7**	
LIT	**Litokhoron**	**1.14 38**	P	**Pg**	**22 41 23.4**	**-0.6**	
LIT			S	**Sg**	**22 41 38.3**	**-0.5**	
LIT			AML	AML	22 41 43.1		
	comp=N,3538µm,0.7s						
LIT			AML	AML	22 41 45.2		
	comp=E,2708µm,0.4s						
LIT	**Litokhoron**	**1.14 38**	P	**Pg**	**22 41 22.9**	**-1.1**	
LIT			S	**Sn**	**22 41 40.4**	**-0.1**	
RLS	**Riolos of Patr**	**1.14 185**	P	**Pg**	**22 41 23.6**	**-0.5**	
RLS	**Riolos of Patr**	**1.14 185**	P	**Pg**	**22 41 23.7**	**-0.3**	
LKR	**Lokris**	**1.23 116**	P	**Pb**	**22 41 25.4**	**-0.4**	
LKR	**Lokris**	**1.23 116**	P	**Pb**	**22 41 25.3**	**-0.4**	
KLV	**Kalavryta, Ach**	**1.24 159**	P	**Pb**	**22 41 25.1**	**-0.7**	
KLV	**Kalavryta, Ach**	**1.24 159**	P	**Pb**	**22 41 24.7**	**-1.1**	
DRO	**Drossia**	**1.25 175**	P	**Pn**	**22 41 25.3**	**-0.8**	
DRO	**Drossia**	**1.25 175**	P	**Pn**	**22 41 25.6**	**-0.5**	
XOR	**Xorichti**	**1.26 82**	P	**Pn**	**22 41 25.6**	**-0.6**	
XOR			S	**Sb**	**22 41 43.0**	**+0.3**	
XOR			AML	AML	22 41 48.2		
	comp=N,1854µm,0.6s						
XOR			AML	AML	22 41 49.0		
	comp=E,1116µm,0.7s						
XOR	**Xorichti**	**1.26 82**	P	**Pn**	**22 41 25.0**	**-1.2**	
XOR			S	**Sn**	**22 41 43.9**	**+0.5**	
KTI	**Kastanea**	**1.26 19**	P	**Pb**	**22 41 25.4**	**-0.9**	
NEO	**Neokhori**	**1.28 85**	P	**Pn**	**22 41 25.8**	**-0.7**	
NEO			S	**Sb**	**22 41 43.1**	**-0.1**	
NEO			AML	AML	22 41 48.5		
	comp=N,1455µm,0.5s						
NEO			AML	AML	22 41 50.7		
	comp=E,1015µm,0.5s						
NEO	**Neokhori**	**1.28 85**	P	**Pn**	**22 41 25.9**	**-0.6**	
NEST	**Nestorio**	**1.28 341**	P	**Pn**	**22 41 26.2**	**-0.4**	
NEST			S	**Sg**	**22 41 42.7**	**-0.6**	
NEST			AML	AML	22 41 49.2		
	comp=N,1396µm,0.5s						
NEST			AML	AML	22 41 50.1		
	comp=E,1198µm,0.7s						
NEST	**Nestorio**	**1.28 341**	P	**Pn**	**22 41 25.8**	**-0.8**	
VLS	**Valsamata**	**1.28 218**	P	**Pn**	**22 41 25.1**	**-1.5**	
VLS			S	**Sn**	**22 41 44.5**	**+0.4**	
VLS			AML	AML	22 41 46.4		
	comp=E,1354µm,0.3s						
VLS			AML	AML	22 41 49.5		
	comp=N,1671µm,0.3s						
VLS	**Valsamata**	**1.28 218**	P	**Pn**	**22 41 24.3**	**-2.2**	
VLS			S	**Sn**	**22 41 44.4**	**+0.4**	
SMIA	**Simia**	**1.30 104**	P	**Pn**	**22 41 26.9**	**+0.1**	
SMIA			S	**Sn**	**22 41 45.1**	**+0.6**	
SMIA			AML	AML	22 41 49.8		
	comp=N,1520µm,0.6s						
SMIA			AML	AML	22 41 52.9		
	comp=E,1792µm,0.9s						
SMIA	**Simia**	**1.30 104**	P	**Pb**	**22 41 27.1**	**+0.1**	
SMIA			S	**Sn**	**22 41 47.0**	**+2.4**	
VTN	**Vitineika**	**1.32 194**	P	**Pg**	**22 41 27.4**	**+0.1**	
KASA	**Kassiopi**	**1.39 294**	P	**Pb**	**22 41 28.3**	**-0.1**	
PROD	**Prodromos**	**1.39 132**	P	**Pb**	**22 41 28.5**	**0.0**	
PROD	**Prodromos**	**1.39 132**	P	**Pn**	**22 41 28.3**	**+0.3**	
SRN	**Sarande**	**1.40 300**	P	**Pn**	**22 41 27.8**	**-0.3**	
SRN	**Sarande**	**1.40 300**	*i* PN	**Pn**	**22 41 28.3**	**+0.1**	
SRN			*i* SN	**Sg**	**22 41 47.4**	**+0.2**	
SKIA	**Skiathos**	**1.46 91**	P	**Pn**	**22 41 29.2**	**+0.2**	
KEK	**Kerkira**	**1.47 291**	P	**Pb**	**22 41 29.5**	**-0.4**	
KEK			S	**Sb**	**22 41 49.1**	**+0.2**	
KEK			AML	AML	22 41 56.1		
	comp=E,1616µm,0.5s						
KEK			AML	AML	22 41 58.1		
	comp=N,1203µm,0.6s						
KEK	**Kerkira**	**1.47 291**	P	**Pn**	**22 41 29.4**	**+0.2**	
KBN	**Korca**	**1.55 337**	P	**Pb**	**22 41 30.7**	**-0.5**	
KBN	**Korca**	**1.55 337**	*i* PN	**Pg**	**22 41 31.5**	**-0.3**	
KBN			*i* SN	**Sg**	**22 41 54.4**	**+2.5**	
FNA	**Florina**	**1.59 354**	P	**Pn**	**22 41 30.3**	**-0.4**	
FNA			S	**Sn**	**22 41 51.0**	**-0.7**	
FNA			AML	AML	22 41 58.6		
	comp=E,959µm,0.4s						
FNA			AML	AML	22 41 59.1		
	comp=N,686µm,0.5s						
FNA	**Florina**	**1.59 354**	P	**Pn**	**22 41 30.4**	**-0.4**	
FNA			S	**Sg**	**22 41 52.8**	**-0.4**	
FNA	**Florina**	**1.59 354**	*i* PN	**Pg**	**22 41 32.5**	**-0.1**	
FNA			*i* SN	**Sg**	**22 41 55.4**	**+2.1**	
LTK	**Loutraki**	**1.60 137**	P	**Pb**	**22 41 31.6**	**-0.4**	
LOUT	**Loutraki**	**1.63 138**	P	**Pb**	**22 41 32.6**	**+0.1**	
TPE	**Tepelena**	**1.63 313**	*i* PN	**Pg**	**22 41 33.5**	**0.0**	
TPE			*i* SN	**Sg**	**22 41 59.9**	**+5.2**	
VIL2	**Platees**	**1.65 126**	P	**Pb**	**22 41 33.1**	**+0.3**	
VIL2			S	**Sg**	**22 41 55.6**	**+0.6**	
VIL2			AML	AML	22 42 02.7		
	comp=E,405µm,0.8s						
VIL2			AML	AML	22 42 03.0		
	comp=N,244µm,0.5s						
AMT	**Artemida-Makis**	**1.67 177**	P	**Pb**	**22 41 32.7**	**-0.5**	
AMT	**Artemida-Makis**	**1.67 177**	P	**Pn**	**22 41 32.7**	**-0.5**	
TRIP	**Tripoli**	**1.75 162**	P	**Pb**	**22 41 34.2**	**-0.5**	
THE	**Thessaloniki**	**1.78 36**	P	**Pn**	**22 41 32.4**	**-0.9**	
AOS	**Alonnisos**	**1.78 90**	P	**Pn**	**22 41 32.9**	**-0.5**	
AOS	**Alonnisos**	**1.78 90**	P	**Pn**	**22 41 32.2**	**-1.2**	
HORT	**Hortiatis**	**1.82 39**	P	**Pn**	**22 41 32.7**	**-1.3**	
BIA	**Bitola**	**1.83 354**	P	**Pb**	**22 41 35.8**	**-0.2**	
BIA	**Bitola**	**1.83 354**	*i* Pn	**Pg**	**22 41 37.0**	**-0.2**	
PLG	**Polygyros**	**1.85 50**	P	**Pn**	**22 41 33.3**	**-1.2**	
PLG	**Polygyros**	**1.85 50**	P	**Pn**	**22 41 33.2**	**-1.2**	
GRG	**Griva**	**1.86 19**	P	**Pn**	**22 41 33.5**	**-1.1**	
VLX	**Vlachokerasia**	**1.93 161**	P	**Pn**	**22 41 36.6**	**+1.1**	
OHR	**Ohrid**	**2.00 343**	*i* Pn	**Pb**	**22 41 39.2**	**+0.3**	
ITM	**Ithomi**	**2.03 172**	P	**Pb**	**22 41 38.5**	**-0.9**	
SOH	**Sokhos**	**2.12 39**	P	**Pn**	**22 41 37.8**	**-0.2**	
SOH	**Sokhos**	**2.12 39**	P	**Pn**	**22 41 37.9**	**-0.2**	
ATHU	**Athens Univers**	**2.12 125**	P	**Pn**	**22 41 38.7**	**+0.6**	
PTL	**Penteli**	**2.12 122**	P	**Pn**	**22 41 38.2**	**+0.1**	
DID	**Didima**	**2.13 142**	P	**Pn**	**22 41 38.8**	**+0.6**	
OUR	**Ouranopolis**	**2.17 58**	P	**Pn**	**22 41 37.8**	**-0.8**	
OUR	**Ouranopolis**	**2.17 58**	P	**Pn**	**22 41 38.4**	**-0.3**	
KRUS	**Krusevo**	**2.18 353**	*i* Pn	**Pn**	**22 41 40.1**	**+1.2**	
VLY	**Voula,Athens**	**2.19 127**	P	**Pn**	**22 41 39.1**	**+0.1**	
KNT	**Kendrikon**	**2.20 27**	P	**Pn**	**22 41 38.6**	**-0.6**	
VAY	**Valandovo**	**2.25 19**	*i* Pn	**Pn**	**22 41 39.7**	**-0.1**	
PYL	**PYLOS**	**2.30 177**	P	**Pn**	**22 41 42.1**	**+1.5**	
PYL	**PYLOS**	**2.30 177**	P	**Pb**	**22 41 43.4**	**-0.6**	
SRS	**Serrai**	**2.46 38**	P	**Pn**	**22 41 42.0**	**-0.7**	
SRS	**Serrai**	**2.46 38**	P	**Pn**	**22 41 42.0**	**-0.7**	
DYR	**Agios Nikonas**	**2.50 166**	P	**Pn**	**22 41 44.7**	**+1.4**	
TIR	**Tirane**	**2.52 329**	⇓*i*P	**Pb**	**22 41 46.8**	**-0.9**	
TIR	**Tirane**	**2.52 329**	S	**Sb**	**22 42 19.3**	**+0.4**	
STIP	**Stip**	**2.53 10**	*i* Pn	**Pn**	**22 41 44.7**	**+1.0**	
VLI	**Veliai**	**2.70 156**	P	**Pn**	**22 41 47.5**	**+1.6**	
NVR	**Nevrokopi**	**2.77 38**	P	**Pn**	**22 41 46.9**	**-0.1**	
THAS	**Thassos island**	**2.79 59**	P	**Pn**	**22 41 46.1**	**-1.1**	
THAS	**Thassos island**	**2.79 59**	P	**Pn**	**22 41 46.1**	**-1.1**	
LIA	**Limnos Island**	**2.87 75**	P	**Pn**	**22 41 48.0**	**-0.3**	
ULC	**Ulcinj**	**3.29 328**	⇓*i*Pn	**Pn**	**22 41 55.9**	**+1.8**	
ULC			*e*Sn	**Sn**	**22 42 35.3**	**+1.8**	
SMTH	**Samothraki Isl**	**3.29 66**	P	**Pn**	**22 41 53.2**	**-0.9**	
DRME	**Dracevica, Mon**	**3.50 329**	⇑*i*Pn	**Pn**	**22 41 58.6**	**+1.6**	
DRME			*e*Sn	**Sn**	**22 42 40.3**	**+1.7**	
DRME	**Dracevica, Mon**	**3.50 329**	*e*Pn	**Pn**	**22 41 58.8**	**+1.8**	
CHOS	**Chios island**	**3.59 102**	P	**Pn**	**22 41 58.6**	**+0.4**	
RDO	**Rodhopi**	**3.60 56**	P	**Pn**	**22 41 57.6**	**-0.8**	
VTS	**Vitosha**	**3.61 19**	⇓*i*P	**Pn**	**22 41 58.8**	**+0.2**	
PVY	**Plav**	**3.61 341**	⇑*i*Pn	**Pn**	**22 42 00.3**	**+1.7**	
PVY			*e*Sn	**Sn**	**22 42 43.4**	**+1.8**	
PDG	**Podgorica**	**3.68 332**	⇑*i*P	**Pn**	**22 42 01.0**	**+1.6**	
PDG	**Podgorica**	**3.68 332**	*e*Pn	**Pn**	**22 42 00.0**	**+0.6**	
TTG	**Podgorica**	**3.68 332**	⇓*i*Pn	**Pn**	**22 42 01.2**	**+1.8**	
TTG			*e*Sn	**Sn**	**22 42 45.2**	**+2.1**	
BUM	**Brajici-Budva**	**3.71 327**	⇓*i*Pn	**Pn**	**22 42 00.9**	**+0.9**	
BUM			*e*Sn	**Sn**	**22 42 45.3**	**+1.3**	
TIP	**Timpagrande**	**3.75 271**	⇓*i*P	**Pn**	**22 42 00.6**	**+0.1**	
TIP	**Timpagrande**	**3.75 271**	P	**Pn**	**22 42 00.6**	**+0.1**	
NOCI	**Noci**	**3.82 296**	P	**Pn**	**22 42 01.9**	**+0.6**	
ALN	**Alexandroupoli**	**3.82 62**	P	**Pn**	**22 42 00.7**	**-0.6**	
IVA	**Berane**	**3.88 341**	⇑*i*Pn	**Pn**	**22 42 03.9**	**+1.5**	
IVA			*e*Sn	**Sn**	**22 42 49.9**	**+1.6**	
CEME	**Cevo**	**3.91 330**	⇓*i*Pn	**Pn**	**22 42 03.6**	**+0.9**	
CEME			*e*Sn	**Sn**	**22 42 50.3**	**+1.5**	
KOME	**Kolasin**	**3.97 337**	⇑*i*Pn	**Pn**	**22 42 05.4**	**+1.9**	
KOME			*e*Sn	**Sn**	**22 42 52.2**	**+1.8**	
HCY	**Herceg Novi**	**4.00 325**	⇓*i*Pn	**Pn**	**22 42 05.0**	**+1.1**	
HCY			*e*Sn	**Sn**	**22 42 53.0**	**+1.9**	
MATE	**Matera**	**4.02 293**	⇓*i*P	**Pn**	**22 42 05.1**	**+1.0**	
NKME	**Niksic**	**4.08 332**	⇑*i*Pn	**Pn**	**22 42 06.2**	**+1.1**	
NKME			*e*Sn	**Sn**	**22 42 55.2**	**+2.1**	
SG1	**Sgolgore (BA)**	**4.11 295**	*e*P	**Pn**	**22 42 05.9**	**+0.5**	
NKY	**Niksic**	**4.11 332**	⇑*i*Pn	**Pn**	**22 42 06.7**	**+1.2**	
NKY			*e*Sn	**Sn**	**22 42 55.9**	**+2.1**	
TREB	**Trebinje**	**4.28 326**	*e*Pn	**Pn**	**22 42 07.4**	**-0.4**	
BRY	**Bratogost**	**4.36 329**	⇓*i*Pn	**Pn**	**22 42 09.7**	**+0.8**	
BRY			*e*Sn	**Sn**	**22 43 01.4**	**+1.4**	
UPM	**Unac-Piva**	**4.48 334**	⇑*i*Pn	**Pn**	**22 42 11.7**	**+1.0**	
UPM			*e*Sn	**Sn**	**22 43 04.5**	**+1.3**	
UPM	**Unac-Piva**	**4.48 334**	*e*Pn	**Pn**	**22 42 13.3**	**+2.6**	
STON	**Ston**	**4.70 323**	*e*Pn	**Pn**	**22 42 13.1**	**-0.3**	
STON			Sn	**Sn**	**22 43 05.2**	**-3.1**	
BBLS	**Lazići**	**4.94 341**	*e*Pn	**Pn**	**22 42 18.3**	**+1.4**	
DIVS	**Divibare**	**5.04 347**	*e*Pn	**Pn**	**22 42 19.4**	**+1.2**	
HAPS	**Han Pijesak,BI**	**5.27 339**	*e*Pn	**Pn**	**22 42 20.9**	**-0.5**	
FRGS	**Fruska Gora**	**6.10 348**	*e*Pn	**Pn**	**22 42 30.0**	**-2.7**	
GZR	**Gura Zlata**	**6.25 8**	⇓*i*P	**Pn**	**22 42 34.2**	**-0.7**	
BLY	**Banja Luka**	**6.44 331**	⇑*i*P	**Pn**	**22 42 38.7**	**+1.3**	
BLY	**Banja Luka**	**6.44 331**	*e*Pn	**Pn**	**22 42 37.6**	**+0.2**	
ARR	**Arges**	**6.56 19**	⇑*i*P	**Pn**	**22 42 39.1**	**-0.1**	
VOIR		**6.74 21**	⇑*i*P	**Pn**	**22 42 41.2**	**-0.4**	
UDBI	**Udbina**	**6.87 323**	*e*Pn	**Pn**	**22 42 45.2**	**+1.8**	
UDBI			Sn	**Sn**	**22 44 00.8**	**-1.0**	
MLR	**Muntele Rosu**	**7.07 26**	⇓*i*P	**Pn**	**22 42 47.7**	**+1.6**	
NVLJ	**Novalja**	**7.33 319**	*i* Pn	**Pn**	**22 42 48.9**	**-0.7**	
NVLJ			Sn	**Sn**	**22 44 10.3**	**-2.7**	
MORH	**M¨‡r¨gy, Hung**	**7.34 344**	*e*Pn	**Pn**	**22 42 49.8**	**+0.1**	
PLOR	**Plostina**	**7.63 28**	⇑*i*P	**Pn**	**22 42 55.3**	**+1.6**	
VRI	**Vrincioaia**	**7.67 28**	⇓*i*P	**Pn**	**22 42 53.8**	**-0.4**	
CRES	**Cresnjev**	**8.02 328**	*e*Pn	**Pn**	**22 42 59.0**	**0.0**	
CEY	**Cerknica**	**8.40 323**	*e*Pn	**Pn**	**22 43 05.1**	**+0.7**	

ROM 11 22:41:43.1±0.1, 39°910N±0°004×16°107E±0°007, h8km, ML1.4/3, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
MMN	**Mormanno**	**0.09**	**257**	P		Pg	22 41 45.9		+0.5
MMN				S		Sg	22 41 47.4		+0.5
MMN				AML		AML			
	comp=E,383µm,0.2s								
MMN				AML		AML			
	comp=N,604µm,0.9s								
MMN				AML		AML			
	comp=E,383µm,0.2s								
MMN				AML		AML			
	comp=N,604µm,0.9s								
SALB	**San Lorenzo Be**	**0.19**	**100**	P		Pg	22 41 47.6		+0.6
SALB				AML		AML			
	comp=E,204µm,0.4s								
SALB				AML		AML			
	comp=N,86µm,0.2s								
SALB				AML		AML			
	comp=E,199µm,0.3s								
SALB				AML		AML			
	comp=N,93µm,0.2s								
SALB				AML		AML			
	comp=E,199µm,0.3s								
SALB				AML		AML			
	comp=E,204µm,0.4s								
SALB				AML		AML			
	comp=N,86µm,0.2s								
SALB				AML		AML			
	comp=N,93µm,0.2s								
T0702	**Acquaformosa (**	**0.19**	**186**	P		Pg	22 41 47.8		+0.7
T0702				S		Sg	22 41 50.8		+1.1
SCHR	**S. Chirico Rap**	**0.29**	**355**	P		Pg	22 41 49.6		+0.7
SIRI	**Monte Sirino -**	**0.33**	**326**	P		Pb	22 41 50.7		-0.6
SIRI				AML		AML			
	comp=E,149µm,1.5s								
SIRI				AML		AML			
	comp=N,106µm,1.0s								
SIRI				AML		AML			
	comp=N,106µm,1.0s								
SIRI				AML		AML			
	comp=E,149µm,1.5s								
CET2	**Cetraro**	**0.40**	**197**	P		Pg	22 41 51.7		+0.8

IDC ***11*** *22:42:11.9±3.5, 14°.04N×92°.53W, h0km, mb3.6/3, mb1 3.8/6, mb1mx3.6/47, mbtmp3.5/6, ML3.3/3, Error ellipse: s-maj=73.8km s-min=25.8km az=3.0*

ISC 11 22:42:14.1±2.0, 14°.2N±0°.2×92°.46W±0°.08, h10km, n7, σ1§37/9, mb3.5/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
APG	**El Apazote**	**2.09**	**67**	Pn		**Pb**	**22 42 51.0**		**-1.3**
	8.5nm,0.3s,baz=237,slow=9.5,SNR=14								
APG				Sn		**Sb**	**22 43 19.9**		**+1.4**
	42nm,0.3s,baz=87,slow=16,SNR=8.1								
CMIG	**Matias Romero**	**3.70**	**321**	Pn		**Pn**	**22 43 12.6**		**+1.2**
	1.3nm,0.3s,baz=127,slow=14,SNR=2.9								
CMIG				Sn		**Sb**	**22 44 03.6**		**-0.9**
	9.4nm,0.3s,baz=268,slow=19,SNR=4.1								
TXAR	**Lajitas Array**	**18.28**	**327**	P		**P**	**22 46 28.8**		**+0.6**
	0.0nm,0.3s,baz=137,slow=11,SNR=2.2								
NVAR	**Mina Array Bea**	**33.23**	**321**	P		**P**	**22 48 53.4**		**+1.6**
	0.4nm,0.7s,baz=135,slow=9.0,SNR=3.8								
YKA	**Yellowknife Ar**	**50.73**	**347**	P		**P**	**22 51 13.3**		**-0.5**
	1.2nm,0.6s,baz=149,slow=7.3,SNR=6.0								
ILAR	**Eielson Array**	**62.48**	**337**	P		**P**	**22 52 36.2**		**-1.3**
	0.3nm,0.8s,baz=127,slow=6.5,SNR=4.3								
CMAR	**Chiang Mai Arr**	**145.65**	**341**	PKPbc		**PKPab**	**23 01 53.9**		**-0.4**
	0.7nm,0.6s,baz=340,slow=4.8,SNR=4.0								

ISCJB ***11*** *22:44:11.0±0.3, 0°.26N±0°.03×122°.21E±0°.03, h163km±3km, mb4.3/29, Error ellipse: s-maj=5.6km s-min=4.7km az=37.4*

NEIC ***11*** *22:44:12.3±0.3, 0°.29N×122°.29E, mb4.5/17, Error ellipse: s-maj=9.5km s-min=5.0km az=66.0*

DJA ***11*** *22:44:12.0±0.5, 0°N±5°×12°2E±°, h136km±8km, M4.5/17, mb4.6/7, mB5.2/2, MLv4.5/17, Mw(mB)4.5/2*

IDC ***11*** *22:44:13.0±0.9, 0°.34N×122°.28E, h169km±8km, mb3.9/15, mb1 4.0/19, mb1mx3.8/43, mbtmp4.4/19, Error ellipse: s-maj=16.3km s-min=8.1km az=72.0*

ISC 11 22:44:12.1±0.6, 0°.26N±0°.05×122°.22E±0°.05, h162km±5km, h162km:pP-P,n79, σ1§29/101, mb4.3/29, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
MRSI	**Marisa**	**0.36**	**308**	P		**Pn**	**22 44 31.3**		**-2.9**
APSI	**Ampana**	**1.30**	**206**	P		**Pn**	**22 44 39.9**		**-0.7**
LUWI	**Luwuk**	**1.40**	**157**	*e*Pn		**Pn**	**22 44 40.6**		**-1.0**
LUWI				*e*Sn		**Sn**	**22 45 02.2**		**-2.1**
LUWI	**Luwuk**	**1.40**	**157**	P		**Pn**	**22 44 41.2**		**-0.4**
KMSI	**Cibinong**	**1.79**	**80**	P		**Pn**	**22 44 44.9**		**-0.6**
MPSI	**Mapaga**	**2.33**	**272**	P		**Pn**	**22 44 50.7**		**-1.0**
SANI	**Sanana**	**4.41**	**121**	P		**Pn**	**22

comp=Z,3.3nm,0.8s
MAJO Matsushiro 39.03 21 eP P 22 51 21.2 -1.9
MJAR Matsushiro Arr 39.03 21 P P 22 51 21.2 -1.9
comp=Z,1.1nm,0.5s,baz=198,slow=9.4,SNR=3.5
USRK Ussuriysk Ar. 44.61 10 P P 22 52 08.1 -0.1
comp=Z,1.1nm,0.6s,baz=198,slow=9.0
DMN Daman 44.79 311 eP P 22 52 09.3 -1.0
GKN Gorkha 45.35 311 eP P 22 52 15.0 +0.4
KOLN Koldanda 46.02 310 eP P 22 52 21.3 +1.4
comp=Z,16nm,0.5s
DANN Dangsing 46.19 311 eP P 22 52 22.5 +1.2
comp=Z,4.3nm,0.6s
HYB Hyderabad 46.22 294 i P P 22 52 22.5 +1.1
PYUN Piuthan 46.66 310 eP P 22 52 26.3 +1.4
comp=Z,31nm,0.5s
SONA0 Songino Array 49.34 346 eP P 22 52 45.7 +0.6
SONA0 ePcP PcP 22 54 04.5 -0.7
SONM Songino Array 49.34 346 P P 22 52 45.7 +0.6
comp=Z,7.3nm,0.6s,baz=165,slow=8.9,SNR=51
SONM PcP PcP 22 54 04.5 -0.7
comp=Z,1.3nm,0.8s,baz=155,slow=4.3,SNR=4.4
SONA1 Songino Array 49.35 346 eP P 22 52 46.1 +1.0
MK01 Makanchi Array 57.97 329 eP P 22 53 48.7 +1.0
MK31 Makanchi Array 57.99 329 eP P 22 53 49.1 +1.3
MK32 Makanchi Array 57.99 329 eP P 22 53 48.7 +0.9
MK32 epP pP 22 54 25.6 +0.2
MKAR Makanchi Array 57.99 329 P P 22 53 48.7 +0.9
comp=Z,7.2nm,0.3s,baz=128,slow=8.7,SNR=152
MKAR pP pP 22 54 25.6 +0.2
comp=Z,1.5nm,0.7s,baz=128,slow=8.6,SNR=2.1
MKAR Makanchi Array 57.99 329 eP P 22 53 49.1 +1.3
MKAR pP pP 22 54 25.6 +0.2
AAK Ala-Archa 60.04 321 P P 22 54 03.5 +1.3
comp=Z,1.1nm,0.5s,baz=120,slow=3.9,SNR=5.5
KBL Kabul 60.18 310 eP P 22 54 04.0 +0.7
comp=Z,8.4nm,0.6s
PETK Petropavlovsk- 60.36 24 P P 22 54 03.1 -0.9
comp=Z,3.7nm,0.8s,baz=207,slow=7.4
PEA1 Petropavlovsk- 60.36 24 eP P 22 54 03.0 -0.9
ZAA0 Zalesovo Array 61.76 336 eP P 22 54 14.1 +0.7
comp=Z,3.3nm,0.8s
ZALV Zalesovo Beam 61.76 336 P P 22 54 11.3 -2.0
comp=Z,1.9nm,0.5s,baz=124,slow=6.3,SNR=10
ZALV PcP PcP 22 54 54.6 +1.7
comp=Z,0.9nm,0.6s,baz=113,slow=3.7,SNR=4.0
ZALV Zalesovo Beam 61.76 336 eP P 22 54 13.1 -0.3
ZALV PcP PcP 22 54 54.6 +1.7
ZAA1 Zalesovo Array 61.76 336 eP P 22 54 11.3 -2.1
ZAA1 epP PcP 22 54 54.6 +1.7
KURBB Kurchatov Arra 62.35 330 P P 22 54 17.2 -0.1
comp=Z,2.1nm,0.5s,baz=116,slow=6.5,SNR=14
KURK Kurchatov 62.37 330 eP P 22 54 17.2 -0.2
TIXI Tiksi 71.41 2 eP P 22 55 13.2 -1.0
comp=Z,5.2nm,0.6s
VNDA Vanda 80.61 172 P P 22 56 06.8 +0.7
comp=Z,1.7nm,0.6s,baz=325,slow=6.2,SNR=18
BR101 Keskin Array S 88.75 310 eP P 22 56 47.0 -0.9
BRTR Keskin Array B 88.75 310 P P 22 56 47.0 -0.9
comp=Z,1.3nm,0.8s,baz=48,slow=2.0,SNR=5.2
ILAR Eielson Array 90.15 25 P P 22 56 52.2 -1.5
comp=Z,0.3nm,0.6s,baz=240,slow=5.2,SNR=4.6
ILB Eielson Array 90.15 25 eP P 22 56 52.2 -1.5
TORD Torodi Ar. Bea 119.59 285 PKP PKPdf 23 02 41.9 -1.9
comp=Z,0.9nm,0.8s,baz=115,slow=1.9,SNR=9.9
TOA1 Torodi Ar. Sit 119.59 285 ePKPdf PKPdf 23 02 41.9 -1.9

MEX ***11*** *22:44:27.3±0.4, 13.˚58N×92.˚29W, h24km±19km, MD5.0*
UCR ***11*** *22:44:28.7±0.8, 13.˚85N×92.˚29W, h96km±35km, ML4.0, mb4.9(NEIC)*
MOS ***11*** *22:44:28.4±1.1, 13.˚78N×92.˚11W, h33km, mb5.0/40, Error ellipse: s-maj=11.2km s-min=4.8km az=110.5*
GCMT ***11*** *22:44:29.4±0.6, 13.˚61N±0.˚03×92.˚26W±0.˚05, h20km±1km, MW5.3/69, Moment Tensor Solution. s11,c12; s69,c96; Duration: 1s1 Moment tensor: Scale 1017Nm; Mrr0.97±.10; Mθθ-0.92±.07; Mϕϕ-0.05±.06; Mrθ0.12±.10; Mθϕ0.34±.04; Mϕr0.67±.13; Best double couple: M01.18900×1017 NP1:ϕs315.00000°, δ55.00000°, λ125.00000°. NP2:ϕs85.00000°, δ48.00000°, λ51.00000°. Principal axes: T 1.3350, Plg62.0000°, Azm284.0000°; N -0.2920, Plg28.0000°, Azm113.0000°; P -1.0430, Plg4.0000°, Azm21.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***11*** *22:44:29.4±3.1, 13.˚81N×92.˚07W, h32km±21km, mb4.4/24, mb1 4.6/26,mb1mx4.4/44, mbtmp4.5/26,ML3.9/2, MS5.3/2, Ms1 5.2/2, ms1mx4.3/46 Error ellipse: s-maj=20.0km s-min=10.2km az=52.0*
NEIC ***11*** *22:44:30.4±0.2, 13.˚76N×92.˚07W, h35km, mb4.9/251, MD5.0(MEX), Error ellipse: s-maj=4.7km s-min=3.2km az=209.0*
ISCJB ***11*** *22:44:32.2±0.4, 13.˚93N±0.˚02×92.˚02W±0.˚02, h62km±3km, mb4.9/240, Error ellipse: s-maj=4.7km s-min=2.7km az=35.6*

ISC 11 22:44:30.3±0.6, 13.˚75N±0.˚05×92.˚27W±0.˚05, h40km±5km, n714, σ1§52/736, mb4.9/242, 3C-3D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		1.15	0	ePn	Pn	22 44 47.6	-2.3
THIG				eSn	Sn	22 45 03.2	-1.2
THIG		1.15	0	eP	Pn	22 44 47.6	-2.3
THIG				eS	Sn	22 45 03.2	-1.2
IXG	Ixpaco	1.81	76	eP	Pn	22 44 59.1	0.0
APG	El Apazote	2.15	54	Pg	Pn	22 45 04.8	+1.0
	30nm,0.3s,baz=228,slow=8.1,SNR=13						
APG				Lg	Lg	22 45 32.9	
	56nm,0.3s,baz=272,slow=18,SNR=5.0						
APG				LR	LR	22 45 41.8	
	comp=Z,6μm,20.4s,baz=168,slow=37						
PCIG		2.15	335	ePn	Pn	22 45 01.0	-2.6
PCIG		2.15	335	eP	Pn	22 45 01.0	-2.6
PCIG				iS	Sn	22 45 28.4	-0.7
CCIG	Comitan	2.52	3	ePn	Pn	22 45 10.0	+1.1
CCIG				eSn	Sn	22 45 36.1	-2.4
CCIG	Comitan	2.52	3	eP	Pn	22 45 07.0	-1.9
CCIG				eS	Sn	22 45 38.2	-0.3
RTR	El Retiro	2.55	86	eP	Pn	22 45 09.2	-0.2
CEVE	Cerro Verde	2.57	88	eP	Pn	22 45 10.0	+0.3
CEVE				eS	Sn	22 45 42.2	+2.4
CEVE				IAML		22 45 55.8	
	comp=Z,2μm,0.4s						
SBLS	San Blas	2.57	88	eP	Pn	22 45 09.7	+0.1
SBLS				eP	Pn	22 45 09.8	+0.1
SNJE	San Jose	2.59	87	eP	Pn	22 45 09.4	-0.4
MTO3	Montecristo	2.89	77	eP	Pn	22 45 13.9	-0.2
BOQS	Boqueron	2.90	90	eP	Pn	22 45 14.0	-0.2
UEES	San Salvador	2.94	90	eP	Pn	22 45 14.6	0.0
UEES				eS	Sn	22 45 50.3	+1.6
UEES				IAML		22 45 54.0	
	comp=Z,760nm,0.4s						
SNET	Serv Nac Est T	2.95	91	ePn	Pn	22 45 14.0	-0.7
SNET				eSn	Sn	22 45 46.2	-2.8
SNET	Serv Nac Est T	2.95	91	eP	Pn	22 45 14.7	0.0
SNET				eS	Sn	22 45 50.5	+1.5
LFRS	El Faro	3.12	92	eP	Pn	22 45 17.2	+0.2
TGIG		3.12	345	ePn	Pn	22 45 17.7	+0.7
TGIG		3.12	345	iP	Pn	22 45 15.7	-1.4
TGIG				iS	Sn	22 45 52.9	-0.3
PAVA	Las Pavas	3.24	90	eP	Pn	22 45 18.7	0.0
CMIG	Matias Romero	4.17	323	Pn	Pn	22 45 30.8	-0.7
	comp=Z,4.4nm,0.3s,baz=344,slow=19,SNR=2.0						
CMIG				Sn	Sn	22 46 19.7	+0.7
	comp=Z,17nm,0.3s,baz=90,slow=12,SNR=6.6						
LCND	La Ca¨–ada	4.28	95	eP	Pn	22 45 32.9	-0.1
LCND				IAML		22 46 26.9	
	comp=Z,431nm,0.5s						
TGUH	Tegucigalpa,Un	4.86	86	ePn	Pn	22 45 44.4	+3.5
TGUH				eSn	Sn	22 46 37.5	+1.6
TGUH	Tegucigalpa,Un	4.86	86	eP	Pn	22 45 40.6	-0.3
CRIN	San Cristobal	5.19	101	eP	Pn	22 45 46.5	+1.0
CRIN				eS	Sn	22 46 41.9	-2.3
CRIN				IAML		22 46 46.6	
	comp=N,346nm,0.5s						
VHO	Vista Hermosa	5.43	308	iP	Pn	22 45 46.4	-2.5
VHO				eS	Sn	22 46 48.4	-1.8
MOMN	Momotombo	5.74	103	eP	Pn	22 45 52.5	-0.5
COPN	Copaltepe	5.75	105	eP	Pn	22 45 52.3	-0.8
COPN				IAML		22 46 57.0	
	comp=Z,229nm,0.6s						

ESTN	Estel	5.78	96	ePn	Pn	22 45 52.9	-0.7
ESTN	Estel	5.78	96	eP	Pn	22 45 53.2	-0.4
MATN	Matagalpa	6.23	97	eP	Pn	22 45 59.5	-0.3
BOAB	BOACO BROADBAN	6.56	101	ePn	Pn	22 46 04.3	0.0
BOAB	BOACO BROADBAN	6.56	101	eP	Pn	22 46 03.7	-0.6
LVIG	Laguna Verde	7.15	327	ePn	Pn	22 46 09.4	-3.0
TLIG	Tlapa	7.15	303	ePn	Pn	22 46 12.6	+0.1
TEIG	Tepich	7.49	30	ePn	Pn	22 46 19.3	+2.3
ESPN	Las Esperanzas	7.92	100	ePn	Pn	22 46 22.7	-0.2
JTS	JuntasAbangare	7.94	115	Pn	Pn	22 46 24.6	+1.4
	comp=Z,2.3nm,0.3s,baz=29,slow=18,SNR=8.5						
JTS				Sn	Sn	22 47 48.9	-3.0
	comp=Z,1.6nm,0.3s,baz=339,slow=17,SNR=1.8						
JTS				Lg	Lg	22 48 37.8	
	baz=345,slow=22,SNR=3.1						
JTS	JuntasAbangare	7.94	115	ePn	Pn	22 46 22.6	-0.6
JTS				eSn	Sn	22 47 49.1	-2.8
JTS	JuntasAbangare	7.94	115	eP	Pn	22 46 22.7	-0.6
JTS				e		22 47 49.1	
MOIG	Morelia	10.38	306	ePn	Pn	22 46 59.1	+2.2
JRQG	Juriquilla Cam	10.43	313	ePn	Pn	22 47 01.1	+3.5
LNIG	Linares	13.00	330	ePn	Pn	22 47 29.6	-2.9
ZAIG	Zacatecas	13.27	314	ePn	Pn	22 47 37.3	+0.9
833A	Chaparral WMA,	15.95	337	ePn	Pn	22 48 12.3	+0.5
	comp=Z,103nm,1.2s						
833A	Chaparral WMA,	15.95	337	P	P	22 48 16.1	+1.2
	baz=153						
HKT	Hockley	16.46	349	ePn	P	22 48 20.0	-0.5
	comp=Z,38nm,1.5s						
HKT	Hockley	16.46	349	eP	P	22 48 20.0	-0.5
HKT				pmax	pmax		
	comp=Z,38nm,1.5s						
DBBC	Dabeiba	17.15	111	eP	Pn	22 48 29.1	+0.7
341A	Kurthwood	17.52	357	ePn	P	22 48 36.6	+4.3
	comp=Z,44nm,1.2s						
342A	Flagon Creek P	17.54	360	ePn	P	22 48 37.2	+4.7
	comp=Z,87nm,1.1s						
342A	Flagon Creek P	17.54	360	P	P	22 48 33.4	+0.9
	baz=179						
435B	Jarrell	17.65	345	ePn	P	22 48 37.5	+3.8
	comp=Z,27nm,0.9s						
435B	Jarrell	17.65	345	P	P	22 48 36.3	+2.6
	baz=162						
344A	Westbrook Farm	17.68	4	ePn	P	22 48 37.1	+3.0
	comp=Z,154nm,1.4s						
344A	Westbrook Farm	17.68	4	P	P	22 48 35.1	+1.0
	baz=184						
347A	Saraland	17.90	10	P	P	22 48 39.4	+2.9
	baz=191						
656A	Willston	17.97	29	ePn	P	22 48 38.8	+1.5
	comp=Z,135nm,1.1s						
656A	Willston	17.97	29	P	P	22 48 38.6	+1.3
	baz=212						
BRAL	Brewton	17.99	15	P	P	22 48 37.9	+0.4
	baz=196						
348A	Jackson	18.03	12	ePn	P	22 48 43.7	+5.7
	comp=Z,91nm,1.1s						
JCT	Junction City	18.04	339	eP	P	22 48 39.4	+1.2
	comp=Z,30nm,0.9s						
JCT	Junction City	18.04	339	eP	P	22 48 39.4	+1.2
JCT				pmax	pmax		
	comp=Z,30nm,0.9s						
JCT	Junction City	18.04	339	P	P	22 48 39.3	+1.2
	baz=15						
NATX	Nacogdoches	18.06	353	eP	P	22 48 40.0	+1.7
	comp=Z,48nm,1.1s						
NATX	Nacogdoches	18.06	353	P	P	22 48 38.9	+0.6
	baz=172						
HELC	Santa Helena	18.11	113	eP	P	22 48 46.6	+7.3
349A	Repton	18.13	14	P	P	22 48 40.7	+1.6
	baz=195						
HPIG		18.14	318	eP	P	22 48 40.2	+0.7
	comp=Z,24nm,1.0s						
241A	Mo Tay, Goldon	18.20	358	P	Pn	22 48 41.4	+1.6
	baz=177						
ZARC	Zaragoza, Cauc	18.20	108	eP	Pn	22 48 40.8	+0.7
242A	Grayson	18.23	0	P	Pn	22 48 43.2	+3.0
	baz=180						
244A	Avery, Jackson	18.27	4	P	Pn	22 48 43.2	+2.5
	baz=184						
555A	McAlpin	18.42	26	eP	P	22 48 41.2	-1.0
	comp=Z,100nm,1.0s						
555A	McAlpin	18.42	26	P	P	22 48 42.3	0.0
	baz=209						
351A	Pinckard	18.49	18	P	P	22 48 42.0	-0.9
	baz=200						
247A	Quitman	18.52	10	P	Pn	22 48 44.3	+0.4
	baz=191						
453A	Whigham	18.53	22	P	Pn	22 48 44.9	+1.0
	baz=204						
556A	Lake Butler	18.57	28	P	Pn	22 48 44.8	+0.4
	baz=211						
142A	Monroe	18.72	1	P	Pn	22 48 47.8	+1.6
	baz=180						
248A	Dixon Mills	18.73	12	P	Pn	22 48 47.1	+0.8
	baz=193						
249A	Camden	18.74	14	P	Pn	22 48 48.6	+2.1
	baz=195						
LTX	Lajitas	18.76	328	eP	Pn	22 48 47.9	+1.0
LTX	Lajitas	18.76	328	eP	Pn	22 48 47.9	+1.0
TX31	Lajitas Ar. Si	18.76	328	eP	Pn	22 48 48.0	+1.1
TXAR	Lajitas Array	18.76	328	P	Pn	22 48 47.9	+1.0
	comp=Z,0.1nm,0.3s,baz=154,slow=9.7,SNR=36						
141A	Papa Simpson,	18.78	358	P	Pn	22 48 48.4	+1.5
	baz=178						
RREF	El Recreo	18.86	116	eP	Pn	22 48 50.6	+1.9
352A	Blakely	18.89	20	eP	Pn	22 48 50.4	+2.1
	comp=Z,264nm,1.4s						
352A	Blakely	18.89	20	P	Pn	22 48 50.1	+1.8
	baz=202						
PTBC	PUERTO BERRIO,	18.93	110	eP	Pn	22 48 48.6	-0.3
250A	Grady	18.96	16	eP	Pn	22 48 51.5	+2.4
	comp=Z,66nm,1.3s						
250A	Grady	18.96	16	P	Pn	22 48 51.3	+2.2
	baz=198						
353A	Camilla	19.01	22	P	Pn	22 48 50.9	+1.2
	baz=204						
POPC	Popayan, Colom	19.01	124	eP	Pn	22 48 51.0	+0.9
OTAV	Otavalo	19.17	133	eP	Pn	22 48 53.5	+1.3
	comp=Z,14nm,1.2s						
OTAV	Otavalo	19.17	133	eP	Pn	22 48 53.5	+1.3
OTAV				pmax	pmax		
	comp=Z,14nm,1.2s						
147A	Livingston	19.19	10	eP	Pn	22 48 52.1	+0.3
	comp=Z,103nm,1.4s						
147A	Livingston	19.19	10	P	Pn	22 48 51.9	0.0
	baz=191						
148A	Greensboro	19.30	12	P	Pn	22 48 53.0	-0.1
	baz=193						
251A	Midway	19.31	18	P	Pn	22 48 53.2	-0.1
	baz=200,SNR=11						
SOTA	Rioblanco	19.31	125	eP	Pn	22 48 55.4	+1.5
TIGA	Tifton	19.33	23	eP	Pn	22 48 53.9	+0.4
	comp=Z,112nm,1.4s						
TIGA	Tifton	19.33	23	P	Pn	22 48 53.0	-0.5
	baz=206						
CRUC	La Cruz	19.39	127	eP	Pn	22 48 57.9	+3.1
149A	Jones	19.42	14	P	Pn	22 48 53.9	-0.7
	baz=196						
SLBS	Sierra La Lagu	19.42	303	eP	Pn	22 48 57.8	+3.0
	comp=Z,91nm,1.4s						
Z41A	Richland Creek	19.43	359	eP	Pn	22 48 54.8	+0.1
	comp=Z,58nm,0.9s						
Z41A	Richland Creek	19.43	359	P	P	22 48 53.5	+0.3
	baz=178						
252A	Lumpkin	19.43	20	P	P	22 48 53.4	+0.1
	baz=202						
Z42A	Norrel Spur, H	19.44	1	P	Pn	22 48 54.3	-0.5
	baz=180						
Z46A	Louisville	19.59	8	P	P	22 48 55.1	0.0
	baz=189						
150A	Ectic	19.62	16	P	P	22 48 55.6	+0.2
	baz=198,SNR=10						
Z47A	Carrollton	19.74	10	P	Pn	22 48 58.1	-0.2
	baz=192,SNR=11						
151A	Opelika	19.74	18	P	P	22 48 57.1	+0.4
	baz=200,SNR=15						
ROSC	El Rosal	19.79	115	P	Pn	22 48 59.4	-0.2
	comp=Z,0.5nm,0.3s,baz=267,slow=9.7,SNR=10.0						
ROSC	El Rosal	19.79	115	eP	Pn	22 49 01.5	+2.0
	comp=Z,65nm,1.3s						
LRAL	Lakeview Retre	19.79	13	eP	P	22 48 57.8	+0.6
	comp=Z,65nm,1.3s						
LRAL	Lakeview Retre	19.79	13	P	Pn	22 48 58.1	-0.9
	baz=195						
356A	Blackshear	19.82	26	P	P	22 48 57.5	-0.1
	baz=210						

254A	Abbeville	19.89	23	P	Pn	22 48 59.3	-0.9
	baz=206						
ABTX	Abilene, Hawle	19.96	341	eP	P	22 48 59.8	+0.7
	comp=Z,82nm,1.1s						
ABTX	Abilene, Hawle	19.96	341	P	P	22 48 59.6	+0.4
	baz=158,SNR=13						
Z48A	Northport	20.00	12	P	P	22 49 00.2	+0.6
	baz=193,SNR=8.9						
Y41A	Eaglette Beard	20.04	359	P	P	22 49 00.7	+0.7
	baz=178						
Z49A	Columbiana	20.05	14	P	P	22 49 00.8	+0.8
	baz=196,SNR=7.6						
152A	Waverly Hall	20.06	19	eP	P	22 49 00.9	+0.8
	comp=Z,80nm,1.3s						
152A	Waverly Hall	20.06	19	P	P	22 49 00.7	+0.6
	baz=201						
Y45A	Yeager Farm, C	20.18	7	P	P	22 49 00.9	-0.5
	baz=187						
255A	Hazlehurst	20.20	25	P	P	22 49 00.7	-1.0
	baz=208						
PAMC	Pamplona, Colo	20.26	106	eP	P	22 49 03.7	+0.8
Z50A	Ashland	20.26	16	eP	P	22 49 03.0	+0.7
	comp=Z,67nm,1.3s						
Z50A	Ashland	20.26	16	P	P	22 49 03.3	+0.9
	baz=198,SNR=10						
Y46A	Houston	20.28	8	P	P	22 49 02.8	+0.3
	baz=189,SNR=7.3						
CHIC	Chingaza	20.40	115	eP	Pn	22 49 07.2	+0.4
RUSC	La Rusia	20.44	111	eP	Pn	22 49 06.2	-1.1
Y47A	UCPARC, Winfie	20.46	11	P	P	22 49 04.7	+0.2
	baz=192,SNR=9.5						
256A	Glennville	20.49	26	P	P	22 49 04.8	-0.1
	baz=209						
Z51A	Franklin	20.52	17	P	P	22 49 06.3	+1.1
	baz=199,SNR=7.4						
154A	Montrose	20.56	22	eP	P	22 49 06.6	+1.0
	comp=Z,108nm,1.0s						
154A	Montrose	20.56	22	P	P	22 49 06.3	+0.7
	baz=206						
Y48A	Jasper	20.60	12	P	P	22 49 06.8	+0.7
	baz=194						
Z52A	Williamson	20.63	19	P	P	22 49 06.2	-0.2
	baz=202						
X41A	Kaden, Bauxite	20.66	359	P	P	22 49 07.2	+0.6
	baz=179						
Y49A	Blount Mountai	20.71	14	eP	P	22 49 07.4	+0.1
	comp=Z,41nm,1.1s						
Y49A	Blount Mountai	20.71	14	P	P	22 49 07.4	+0.1
	baz=196,SNR=6.2						
X43A	Marvell	20.72	3	eP	P	22 49 06.0	-1.3
	comp=Z,223nm,1.4s						
MIAR	Mount Ida	20.74	357	eP	P	22 49 08.1	+0.6
	comp=Z,101nm,1.2s						
MIAR	Mount Ida	20.74	357	eP	P	22 49 08.1	+0.6
MIAR				pmax	pmax		
	comp=Z,101nm,1.2s						
MIAR	Mount Ida	20.74	357	P	P	22 49 08.3	+0.8
	baz=176						
X45A	UM Field Stati	20.75	7	P	P	22 49 07.9	+0.3
	baz=187						
155A	Kite	20.81	24	P	P	22 49 08.1	-0.2
	baz=207						
OXF	Oxford	20.83	7	eP	Pn	22 49 13.0	+1.8
	comp=Z,88nm,1.1s						
Y50A	Piedmont	20.91	15	P	P	22 49 09.5	+0.1
	baz=198,SNR=6.5						
UALR	University of	20.93	360	eP	P	22 49 10.7	+1.1
	comp=Z,84nm,1.3s						
X37A	Clayton	20.94	353	eP	P	22 49 10.2	+0.5
	comp=Z,131nm,1.4s						
X46A	Booneville	20.98	9	P	P	22 49 09.8	-0.3
	baz=190						
Z53A	Monticello	20.99	21	P	P	22 49 09.8	-0.5
	baz=204						
X47A	Russelville	21.06	10	P	P	22 49 10.5	-0.5
	baz=191						
Y51A	Rockmart	21.10	17	P	P	22 49 11.6	+0.1
	baz=199,SNR=15						
X48A	Hartselle	21.15	12	eP	P	22 49 11.1	-0.8
	comp=Z,33nm,0.9s						
X48A	Hartselle	21.15	12	P	P	22 49 11.6	-0.3
	baz=194,SNR=8.8						
GOGA	Godfrey	21.15	21	eP	P	22 49 12.2	+0.3
GOGA				pmax	pmax		
	comp=Z,52nm,1.2s						
GOGA	Godfrey	21.15	21	eP	P	22 49 12.2	+0.3
GOGA				pmax	pmax		
	comp=Z,52nm,1.2s						
GOGA	Godfrey	21.15	21	P	P	22 49 10.9	-1.1
	baz=204,SNR=8.3						
Z54A	Sparta	21.21	22	P	P	22 49 12.4	-0.3
	baz=206,SNR=11						
156A	Sylvania	21.24	26	P	P	22 49 12.6	-0.3
	baz=210						
W41B	Gary Mavity, V	21.33	0	P	P	22 49 15.4	+1.5
	baz=180						
X49A	Woodville	21.36	14	P	P	22 49 14.4	+0.2
	baz=196,SNR=11						
Y52A	Lilburn	21.37	19	eP	P	22 49 15.2	+0.8
	comp=Z,59nm,1.3s						
Y52A	Lilburn	21.37	19	P	P	22 49 14.9	+0.6
	baz=202,SNR=7.1						
W39A	Magazine	21.40	357	eP	P	22 49 16.7	+2.1
	comp=Z,55nm,1.0s						
W39A	Magazine	21.40	357	P	P	22 49 16.2	+1.6
	baz=175						
GDL2	Guadalupe Moun	21.44	331	eP	P	22 49 16.2	+0.9
WHAR	Wooly Hollow	21.45	360	eP	P	22 49 14.1	-1.1
	comp=Z,31nm,1.3s						
X50B	Fort Payne	21.47	15	P	P	22 49 15.3	-0.2
	baz=197,SNR=17						
PLAL	Pickwick Lake	21.48	9	eP	P	22 49 15.9	+0.4
	comp=Z,25nm,1.3s						
Y53A	Monroe	21.52	20	P	P	22 49 16.1	+0.2
	baz=203,SNR=14						
MNTX	Cornudas Mount	21.54	328	eP	P	22 49 16.1	-0.1
	comp=Z,39nm,1.2s						
MNTX	Cornudas Mount	21.54	328	P	P	22 49 15.9	-0.2
	baz=143,SNR=21						
WMOK	Wichita Mounta	21.71	345	eP	P	22 49 16.9	-1.1
	comp=Z,20nm,0.8s						
WMOK	Wichita Mounta	21.71	345	eP	P	22 49 16.9	-1.1
WMOK				pmax	pmax		
	comp=Z,20nm,0.8s						
WMOK	Wichita Mounta	21.71	345	P	P	22 49 17.4	-0.6
	baz=162,SNR=18						
SDV	Santo Domingo	21.75	101	P	P	22 49 17.5	-1.3
	comp=Z,9.5nm,0.3s,baz=203,slow=2.5,SNR=3.1						
HBAR	Harrisburg	21.76	4	eP	P	22 49 20.3	+1.8
	comp=Z,256nm,0.5s						
X51A	Calhoun	21.78	17	eP	P	22 49 19.2	+0.5
	comp=Z,108nm,1.4s						
X51A	Calhoun	21.78	17	P	P	22 49 17.6	-1.1
	baz=199						
W47A	Westpoint	21.82	10	P	P	22 49 17.9	-1.2
	baz=192,SNR=6.0						
Y54A	Tignall	21.83	22	P	P	22 49 18.2	-1.1
	baz=205						
W48A	Pulaski	21.83	12	P	P	22 49 18.9	-0.4
	baz=194,SNR=10						
V41A	Mountainview	21.94	0	P	P	22 49 20.5	0.0
	baz=180						
W49A	Belvidere	21.96	13	P	P	22 49 20.1	-0.5
	baz=195,SNR=23						
V42A	Cord	21.98	2	P	P	22 49 19.5	-1.3
	baz=182						

	baz=192									
V48A	**Smith Brothers**	22.44	12	*e*P		P		22 49 24.1	-1.6	
	comp=Z,63nm,1.1s									
V48A	**Smith Brothers**	22.44	12	P		P		22 49 24.4	-1.4	
	baz=193,SNR=23									
HHAR	**Hobbs**	22.49	356	*e*P		P		22 49 26.2	-0.1	
	comp=Z,31nm,1.2s									
U41A	**Viola**	22.50	1	P		P		22 49 26.8	+0.4	
	baz=180									
U40A	**Yellville**	22.52	359	P		P		22 49 25.7	-0.9	
	baz=178,SNR=6.0									
U42A	**Revenden**	22.53	2	P		P		22 49 25.5	-1.2	
	baz=182,SNR=7.9									
W52A	**Murphy**	22.55	18	*e*P		P		22 49 28.2	+1.2	
	comp=Z,28nm,1.1s									
W52A	**Murphy**	22.55	18	P		P		22 49 27.0	0.0	
	baz=201									
WVT	**Waverly**	22.64	9	*e*P		P		22 49 26.8	-1.1	
	comp=Z,18nm,1.2s									
WVT	**Waverly**	22.64	9	*e*P		P		22 49 26.8	-1.1	
WVT				pmax		pmax				
	comp=Z,18nm,1.2s									
V49A	**McMinnville**	22.66	14	P		P		22 49 27.1	-1.0	
	baz=196,SNR=11									
AMTX	**Amarillo**	22.70	340	*e*P		P		22 49 28.0	-0.6	
	comp=Z,186nm,1.0s									
AMTX	**Amarillo**	22.70	340	P		P		22 49 28.0	-0.6	
	baz=155									
CPCT	**Cooper Cave**	22.71	17	*e*P		P		22 49 28.0	-0.7	
	comp=Z,35nm,1.0s									
JSC	**Jenkinsville**	22.75	24	*e*P		P		22 49 28.4	-0.7	
	comp=Z,28nm,1.1s									
JSC	**Jenkinsville**	22.75	24	*e*P		P		22 49 28.4	-0.7	
JSC				pmax		pmax				
	comp=Z,28nm,1.1s									
V50A	**Pikeville**	22.76	15	P		P		22 49 28.6	-0.7	
	baz=198,SNR=11									
BG3	**Lake Jocassee**	22.77	20	*e*P		P		22 49 28.9	-0.4	
	comp=Z,76nm,1.3s									
U46A	**Springville**	22.81	9	P		P		22 49 28.4	-1.3	
	baz=190									
W53A	**Cullowhee**	22.86	19	P		P		22 49 30.0	-0.4	
	baz=203									
PBMO	**Poplar Bluff**	22.99	4	*e*P		P		22 49 29.6	-1.9	
	comp=Z,16nm,0.8s									
PAULI	**Pauline**	23.01	22	*e*P		P		22 49 31.4	-0.4	
	comp=Z,43nm,1.3s									
U47A	**Clarksville**	23.03	10	P		P		22 49 30.5	-1.5	
	baz=192									
HSIG		23.05	314	*e*P		P		22 49 35.1	+2.8	
	comp=Z,25nm,1.3s									
V51A	**Loudon**	23.09	17	*e*P		P		22 49 31.8	-0.8	
	comp=Z,74nm,1.2s									
V51A	**Loudon**	23.09	17	P		P		22 49 32.1	-0.5	
	baz=199,SNR=13									
TKL	**Tuckaleechee C**	23.12	18	P		P		22 49 32.4	-0.5	
	comp=Z,42nm,1.1s,baz=188,slow=12,SNR=17									
TKL	**Tuckaleechee C**	23.12	18	*e*P		P		22 49 32.3	-0.6	
	comp=Z,89nm,1.3s									
TKL	**Tuckaleechee C**	23.12	18	*e*P		P		22 49 32.3	-0.6	
TKL				pmax		pmax				
	comp=Z,89nm,1.3s									
T41A	**Mountain View**	23.20	1	P		P		22 49 32.0	-1.7	
	baz=181									
T42A	**Van Buren**	23.21	2	*e*P		P		22 49 32.2	-1.5	
	comp=Z,13nm,1.0s									
T42A	**Van Buren**	23.21	2	P		P		22 49 32.7	-1.1	
	baz=182									
U48A	**Cassie Pea, Po**	23.24	12	P		P		22 49 32.0	-2.1	
	baz=194									
U32A	**Winter Ranch,**	23.33	346	*e*P		P		22 49 34.5	-0.5	
	comp=Z,49nm,0.9s									
V52A	**Sevierville**	23.34	18	*e*P		P		22 49 34.1	-0.9	
	comp=Z,3nm,1.3s									
V52A	**Sevierville**	23.34	18	P		P		22 49 34.3	-0.8	
	baz=201,SNR=13									
U49A	**Red Boiling Sp**	23.40	13	P		P		22 49 34.1	-1.6	
	baz=196,SNR=31									
V53A	**Saluda**	23.43	20	*e*P		P		22 49 35.4	-0.6	
	comp=Z,40nm,1.1s									
V53A	**Saluda**	23.43	20	P		P		22 49 35.7	-0.3	
	baz=203,SNR=9.5									
121A	**Cookes Peak, D**	23.46	325	P		P		22 49 37.7	+1.2	
	baz=139,SNR=17									
KMSC	**Kings Mountain**	23.48	23	*e*P		P		22 49 35.5	-0.9	
	comp=Z,35nm,0.9s									
KMSC	**Kings Mountain**	23.48	23	P		P		22 49 35.6	-0.8	
	baz=207,SNR=14									
319A	**Douglas**	23.49	321	*e*P		P		22 49 38.4	+1.7	
	comp=Z,82nm,1.3s									
T46A	**Princeton**	23.52	9	P		P		22 49 35.6	-1.2	
	baz=190									
U50A	**Jamestown**	23.53	15	P		P		22 49 36.0	-0.9	
	baz=198,SNR=26									
T47A	**Sharon Grove**	23.60	10	*e*P		P		22 49 35.7	-1.8	
	comp=Z,61nm,1.0s									
T47A	**Sharon Grove**	23.60	10	P		P		22 49 36.2	-1.4	
	baz=192,SNR=17									
U51A	**La Follette**	23.72	17	P		P		22 49 38.2	-0.5	
	baz=200,SNR=25									
S41A	**Jillco Farms,**	23.75	1	P		P		22 49 37.8	-1.1	
	baz=181									
S43A	**Fulton Ridge,**	23.80	4	P		P		22 49 37.9	-1.5	
	baz=185									
T48A	**Bowling Green**	23.85	12	P		P		22 49 38.3	-1.5	
	baz=194									
U52A	**Thorn Hill**	23.92	18	P		P		22 49 40.5	-0.1	
	baz=201,SNR=12									
S42A	**Caledonia**	23.96	3	P		P		22 49 38.3	-2.6	
	baz=183									
S44A	**Carbondale**	24.00	6	P		P		22 49 40.2	-1.1	
	baz=187,SNR=9.1									
TZTN	**Tazewell**	24.01	17	*e*P		P		22 49 41.7	+0.3	
	comp=Z,45nm,1.0s									
TZTN	**Tazewell**	24.01	17	P		P		22 49 40.5	-0.9	
	baz=201,SNR=13									
SIUC	**Southern Illin**	24.02	6	*e*P		P		22 49 40.5	-0.9	
	comp=Z,52nm,1.0s									
T49A	**Edmonton**	24.02	13	*e*P		P		22 49 39.9	-1.6	
	comp=Z,85nm,1.3s									
T49A	**Edmonton**	24.02	13	P		P		22 49 40.1	-1.4	
	baz=196,SNR=17									
S45A	**Carrier Mills**	24.06	7	P		P		22 49 40.3	-1.4	
	baz=188									
T50A	**Nancy**	24.11	15	P		P		22 49 40.9	-1.4	
	baz=197,SNR=12									
BNM	**Barren Site**	24.13	330	*e*P		P		22 49 44.1	+1.3	
U53A	**Fall Branch**	24.14	19	P		P		22 49 41.2	-1.4	
	baz=203									
S46A	**Don Dixon Farm**	24.18	9	P		P		22 49 41.3	-1.6	
	baz=190,SNR=5.8									
CCM	**Cathedral Cave**	24.23	2	*e*P		P		22 49 42.0	-1.3	
	comp=Z,31nm,1.1s									
CCM	**Cathedral Cave**	24.23	2	*e*P		P		22 49 42.0	-1.3	
CCM				pmax		pmax				
	comp=Z,31nm,1.1s									
CCM	**Cathedral Cave**	24.23	2	P		P		22 49 41.2	-2.2	
	baz=182									
S47A	**Hartford**	24.23	10	P		P		22 49 41.8	-1.6	
	baz=192									
T51A	**Gray**	24.29	16	P		P		22 49 42.5	-1.4	
	baz=200,SNR=13									
LENM	**Lemitar**	24.31	329	*e*P		P		22 49 46.2	+1.8	
S48A	**Wiedeman Farm,**	24.45	12	P		P		22 49 43.5	-1.9	
	baz=194									
R41A	**Rosebud**	24.46	2	P		P		22 49 43.9	-1.6	
	baz=182,SNR=8.5									
USIN	**University of**	24.46	9	*e*P		P		22 49 44.7	-0.8	
	comp=Z,71nm,1.1s									
R42A	**Luebbering**	24.47	3	P		P		22 49 43.4	-2.1	
	baz=183									
R43A	**Red Bud**	24.52	4	P		P		22 49 44.1	-1.9	
	baz=185									
LAZ	**Ladron**	24.58	329	*e*P		P		22 49 49.0	+2.1	
ANMO	**Albuquerque**	24.69	331	P		P		22 49 49.7	+1.8	
	comp=Z,6.5nm,0.9s,baz=151,slow=11,SNR=12									
ANMO	**Albuquerque**	24.69	331	*e*P		P		22 49 48.7	+0.8	
	comp=Z,14nm,0.9s									
ANMO	**Albuquerque**	24.69	331	*i* P		P		22 49 49.9	+2.0	
ANMO				pmax		pmax				
	comp=Z,16nm,1.0s									
ANMO	**Albuquerque**	24.69	331	P		P		22 49 48.2	+0.3	
	baz=145									
T52A	**Hallie**	24.70	18	P		P		22 49 46.2	-1.5	
	baz=202,SNR=8.5									
R45A	**Skylar, Fairfi**	24.70	8	P		P		22 49 46.6	-1.0	
	baz=189									
R46A	**Gibon Southern**	24.73	9	P		P		22 49 46.8	-1.1	
	baz=191									
S49A	**Springfield**	24.73	13	P		P		22 49 45.9	-2.0	
	baz=196,SNR=13									
S50A	**Richmond**	24.84	15	P		P		22 49 48.4	-0.5	
	baz=198,SNR=19									
ATAH	**Atahualpa**	24.90	146	P		P		22 49 51.4	+1.2	
	comp=Z,9.3nm,0.7s,baz=299,slow=8.5,SNR=6.5									
WCI	**Wyandotte Cave**	24.95	11	*e*P		P		22 49 48.2	-1.7	
	comp=Z,59nm,0.9s									
WCI	**Wyandotte Cave**	24.95	11	*e*P		P		22 49 48.2	-1.7	
WCI				pmax		pmax				
	comp=Z,59nm,0.9s									
WCI	**Wyandotte Cave**	24.95	11	P		P		22 49 48.8	-1.1	
	baz=193									
R47A	**Wooly Knot Far**	24.97	11	P		P		22 49 47.7	-2.4	
	baz=193									
S51A	**Beattyville**	25.02	16	*e*P		P		22 49 49.1	-1.5	
	comp=Z,27nm,0.9s									
S51A	**Beattyville**	25.02	16	P		P		22 49 48.6	-2.0	
	baz=200,SNR=8.7									
TUC	**Tucson**	25.06	321	*e*P		P		22 49 52.6	+1.5	
	comp=Z,39nm,1.4s									
TUC	**Tucson**	25.06	321	*e*P		P		22 49 52.6	+1.5	
TUC				pmax		pmax				
	comp=Z,39nm,1.4s									
TUC	**Tucson**	25.06	321	P		P		22 49 51.4	+0.3	
	baz=133									
Q42A	**Golden Eagle**	25.11	3	P		P		22 49 49.3	-2.1	
	baz=184									
Q41A	**Truxton**	25.12	2	P		P		22 49 49.4	-2.0	
	baz=182,SNR=6.2									
OLIL	**Olney**	25.16	8	*e*P		P		22 49 51.1	-0.7	
	comp=Z,38nm,0.8s									
Q43A	**New Douglas**	25.20	5	P		P		22 49 50.5	-1.6	
	baz=185									
S52A	**Salyersville**	25.20	17	P		P		22 49 50.8	-1.4	
	baz=201,SNR=6.0									
R48A	**Northridge Ran**	25.20	12	P		P		22 49 52.2	0.0	
	baz=194,SNR=9.9									
Q44A	**Meyer Farm, Va**	25.22	6	P		P		22 49 50.8	-1.5	
	baz=187									
R49A	**Shelbyville**	25.24	13	P		P		22 49 50.9	-1.6	
	baz=196,SNR=14									
Q45A	**Warren Harvey,**	25.31	8	P		P		22 49 50.9	-2.3	
	baz=189									
R50A	**Paris**	25.43	15	P		P		22 49 52.8	-1.5	
	baz=198,SNR=7.8									
KSU1	**Kansas State U**	25.54	352	*e*P		P		22 49 54.7	-0.6	
	comp=Z,22nm,0.8s									
KSU1	**Kansas State U**	25.54	352	P		P		22 49 55.0	-0.3	
	baz=170									
Q47A	**Bedord North L**	25.61	11	P		P		22 49 54.7	-1.2	
	baz=193,SNR=5.7									
R51A	**Hillsboro**	25.64	16	P		P		22 49 54.7	-1.5	
	baz=199									
BLA	**Blacksburg**	25.65	22	*e*P		P		22 49 57.1	+0.8	
	comp=Z,17nm,0.9s									
BLA	**Blacksburg**	25.65	22	*e*P		P		22 49 57.2	+0.8	
BLA				pmax		pmax				
	comp=Z,17nm,0.9s									
T25A	**Trinidad**	25.69	337	*e*P		P		22 49 58.8	+1.8	
	comp=Z,94nm,1.3s									
T25A	**Trinidad**	25.69	337	P		P		22 49 58.7	+1.7	
	baz=152,SNR=24									
Q48A	**North Vernon**	25.74	12	P		P		22 49 55.1	-1.9	
	baz=194									
P42A	**Winchester**	25.79	3	P		P		22 49 56.2	-1.4	
	baz=184									
BLO	**Bloomington**	25.83	10	*e*P		P		22 49 57.2	-0.7	
	comp=Z,22nm,1.1s									
BLO	**Bloomington**	25.83	10	*e*P		P		22 49 57.2	-0.7	
BLO				pmax		pmax				
	comp=Z,23nm,1.1s									
CBKS	**Cedar Bluff**	25.83	347	*e*P		P		22 49 58.6	+0.6	
	comp=Z,62nm,1.0s									
CBKS	**Cedar Bluff**	25.83	347	*e*P		P		22 49 58.6	+0.6	
CBKS				pmax		pmax				
	comp=Z,62nm,1.0s									
CBKS	**Cedar Bluff**	25.83	347	P		P		22 49 58.1	+0.1	
	baz=163									
R52A	**Catlettsburg**	25.93	17	P		P		22 49 57.5	-1.4	
	baz=201									
P45A	**Graceland, Par**	25.99	8	*e*P		P		22 49 60.0	+0.7	
	comp=Z,9nm,0.8s									
P45A	**Graceland, Par**	25.99	8	P		P		22 49 58.3	-1.0	
	baz=190									
Q49A	**Aurora**	25.99	13	P		P		22 49 57.6	-1.7	
	baz=196									
214A	**Organ Pipe Nat**	26.12	317	P		P		22 50 00.9	+0.2	
	baz=129									
P46A	**Rosedale**	26.15	9	P		P		22 49 59.4	-1.4	
	baz=191									
X18A	**Snowflake**	26.15	325	*e*P		P		22 50 03.0	+1.9	
	comp=Z,22nm,1.4s									
P47A	**Martinsville**	26.18	11	P		P		22 49 59.6	-1.4	
	baz=193									
P48A	**Milroy**	26.31	12	P		P		22 50 00.1	-2.2	
	baz=195									
Q51A	**Peebles**	26.38	16	*e*P		P		22 50 01.5	-1.5	
	comp=Z,32nm,0.8s									
Q51A	**Peebles**	26.38	16	P		P		22 50 01.9	-1.0	
	baz=199									
W18A	**Petrified Fore**	26.48	327	*e*P		P		22 50 07.8	+3.7	
	comp=Z,52nm,1.5s									
Q52A	**Bidwell**	26.62	18	P		P		22 50 03.8	-1.3	
	baz=202,SNR=7.4									
SDCO	**Great Sand Dun**	26.64	336	*e*P		P		22 50 07.2	+1.6	
	comp=Z,43nm,1.3s									
SDCO	**Great Sand Dun**	26.64	336	P		P		22 50 06.3	+0.7	
	baz=150,SNR=12									
KSCO	**Kaye Shedlock'**	26.78	342	*e*P		P		22 50 06.8	+0.2	
	comp=Z,51nm,1.2s									
KSCO	**Kaye Shedlock'**	26.78	342	P		P		22 50 06.8	+0.2	
	baz=157									
P50A	**Jamestown**	26.82	15	P		P		22 50 06.0	-0.8	
	baz=198									
X16A	**Lo Mia Camp, P**	26.92	323	*e*P		P		22 50 09.7	+1.7	
	comp=Z,7.9nm,0.9s									
O47A	**Sheridan**	26.92	10	P		P		22 50 05.9	-1.9	
	baz=193									
O48A	**Farmland**	27.13	12	P		P		22 50 07.7	-2.0	
	baz=195									
S22A	**4UR Ranch, Cre**	27.19	334	*e*P		P		22 50 12.3	+1.8	
	comp=Z,41nm,1.3s									
S22A	**4UR Ranch, Cre**	27.19	334	P		P		22 50 11.5	+1.0	
	baz=147,SNR=28									
N43A	**Stutzman Famil**	27.22	5	P		P		22 50 09.1	-1.4	
	baz=186									
O49A	**Covington**	27.24	13	*e*P		P		22 50 10.7	0.0	
	comp=Z,24nm,1.2s									
O49A	**Covington**	27.24	13	P		P		22 50 09.3	-1.4	
	baz=197									
P52A	**Corning**	27.29	17	P		P		22 50 08.8	-2.2	
	baz=201									
R58B	**Mineral**	27.30	25	P		P		22 50 10.7	-0.4	
	baz=211									
O50A	**Cable**	27.37	15	P		P		22 50 10.4	-1.4	
	baz=198									
P53A	**Whipple**	27.37	19	*e*P		P		22 50 11.9	+0.1	
	comp=Z,38nm,1.3s									
P53A	**Whipple**	27.37	19	P		P		22 50 10.8	-1.0	
	baz=203,SNR=5.4									
MVCO	**Mesa Verde**	27.49	331	*e*P		P		22 50 14.9	+1.7	
	comp=Z,60nm,1.1s									
MVCO	**Mesa Verde**	27.49	331	P		P		22 50 14.6	+1.4	
	baz=144									
M41A	**Milan**	27.56	3	P		P		22 50 12.8	-0.7	
	baz=183									
O51A	**Pataskala**	27.63	16	P		P		22 50 12.0	-2.2	
	baz=200									
N47A	**Urbana**	27.63	11	P		P		22 50 11.8	-2.4	
	baz=193									
WUAZ	**Wupatki**	27.67	325	*e*P		P		22 50 16.5	+1.7	
	comp=Z,10.0nm,0.9s									
WUAZ	**Wupatki**	27.67	325	P		P		22 50 16.3	+1.6	
	baz=137,SNR=8.4									
CBN	**Corbin Frederi**	27.71	26	*e*P		P		22 50 15.5	+0.6	
N48A	**Decatur**	27.74	12	P		P		22 50 12.9	-2.1	
	baz=195									
O52A	**Adamsville**	27.82	17	*e*P		P		22 50 14.2	-1.5	
	comp=Z,32nm,0.9s									
O52A	**Adamsville**	27.82	17	P		P		22 50 14.6	-1.2	
	baz=202									
GLA	**Glamis**	28.13	317	*e*P		P		22 50 21.1	+2.3	
	comp=Z,40nm,1.4s									
GLA	**Glamis**	28.13	317	*e*P		P		22 50 21.1	+2.3	
GLA				pmax		pmax				
	comp=Z,40nm,1.4s									
L42A	**Oliver, Polo**	28.24	4	*e*P		P		22 50 19.3	-0.2	
	comp=Z,23nm,0.9s									
L42A	**Oliver, Polo**	28.24	4	P		P		22 50 18.9	-0.7	
	baz=185									
PV01	**Paradox Valley**	28.27	332	*e*P		P		22 50 22.3	+2.1	
Y12C	**Blythe**	28.37	318	*e*P		P		22 50 23.4	+2.6	
	comp=Z,26nm,1.4s									
Y12C	**Blythe**	28.37	318	P		P		22 50 22.6	+1.8	
	baz=129									
OGNE	**Ogallala**	28.41	344	*e*P		P		22 50 23.9	+2.8	
	comp=Z,33nm,1.3s									
PV13	**Radium Mtn., P**	28.41	332	*e*P		P		22 50 22.8	+1.5	
	comp=Z,94nm,1.5s									
PV02	**Paradox Valley**	28.41	332	*e*P		P		22 50 23.5	+2.1	
	comp=Z,86nm,1.4s									
SMCO	**Snowmass**	28.46	336	*e*P		P		22 50 23.6	+1.6	
	comp=Z,29nm,1.3s									
PV05	**Paradox Valley**	28.47	331	*e*P		P		22 50 23.7	+1.7	
PDMCI	**Parker Dam,Lak**	28.48	320	P		P		22 50 23.0	+1.3	
	baz=130									
ISCO	**Idaho Springs**	28.48	338	*e*P		P		22 50 23.2	+1.1	
	comp=Z,12nm,1.3s									
ISCO	**Idaho Springs**	28.48	338	*e*P		P		22 50 23.2	+1.1	
ISCO				pmax		pmax				
	comp=Z,12nm,1.3s									
ISCO	**Idaho Springs**	28.48	338	P		P		22 50 22.9	+0.8	
	baz=152									
PV03	**Paradox Valley**	28.50	332	*e*P		P		22 50 23.6	+1.4	
PV18	**Skein Mesa, Pa**	28.52	332	*e*P		P		22 50 24.1	+1.8	
	comp=Z,51nm,1.2s									
PV12	**Saucer Basin,**	28.53	332	*e*P		P		22 50 24.3	+1.9	
	comp=Z,84nm,1.2s									
PV11	**David Mesa, Pa**	28.55	332	*e*P		P		22 50 24.5	+2.0	
	comp=Z,72nm,1.2s									
PV17	**East Wray Mesa**	28.57	332	*e*P		P		22 50 25.6	+2.8	
	comp=Z,48nm,1.1s									
PV16	**Nyswonger Mesa**	28.58	332	*e*P		P		22 50 24.7	+1.9	
	comp=Z,91nm,1.4s									
PV19	**Morning Glory**	28.61	332	*e*P		P		22 50 25.1	+2.0	
	comp=Z,80nm,1.5s									
PV20	**West Nyswonger**	28.62	332	*e*P		P		22 50 25.1	+1.8	
	comp=Z,31nm,1.0s									
PV14	**Lion Creek, Pa**	28.68	332	*e*P		P		22 50 24.6	+0.8	
	comp=Z,88nm,1.4s									
PV10	**Paradox Valley**	28.68	332	*e*P		P		22 50 21.1	-2.8	
PV22	**Blue Mesa, Par**	28.70	332	*e*P		P		22 50 25.8	+1.9	
	comp=Z,27nm,1.0s									
SWSC	**Sam W. Stewart**	28.72	316	P		P		22 50 24.8	+0.8	
	baz=126,SNR=6.1									
PV23	**Carpenter Ridg**	28.73	332	*e*P		P		22 50 26.1	+1.8	
	comp=Z,36nm,1.0s									
IKP	**In-Ko-Pah, Jac**	28.76	315	P		P		22 50 25.9	+1.4	
	baz=125,SNR=5.2									
PV21	**Cone Mtn., Par**	28.81	332	*e*P		P		22 50 26.8	+1.9	
	comp=Z,26nm,1.1s									
PV09	**Paradox Valley**	28.83	332	*e*P		P		22 50 28.0	+2.8	
U15A	**North Rim**	28.84	325	*e*P		P		22 50 26.8	+1.5	
	comp=Z,18nm,1.3s									
W13A	**Hualapai Mount**	28.85	321	*e*P		P		22 50 27.2	+1.9	
	comp=Z,22nm,1.5s									
M51A	**Elyria**	28.85	16	P		P		22 50 25.1	+0.1	
	baz=200									
L48A	**N Adams**	28.90	12	P		P		22 50 24.4	-1.1	
	baz=196									
BC3	**Big Chuckawall**	28.92	317	P		P		22 50 26.7	+0.9	
	baz=128									
SDMD	**Soldier's Deli**	28.95	25	*e*P		P		22 50 25.5	-0.4	
	comp=Z,9.5nm,1.0s									
O56A	**Blue Knob Stat**	29.02	22	*e*P		P		22 50 26.6	+0.1	
	comp=Z,27nm,1.3s									
O56A	**Blue Knob Stat**	29.02	22	P		P		22 50 26.1	-0.4	
	baz=208									
IRM	**Iron Mountain**	29.03	318	P		P		22 50 26.7	+0.1	
	baz=129									
MONP2	**Monument Peak**	29.12	315	P		P		22 50 28.9	+1.2	
	baz=125									
N54A	**Moraine State**	29.16	19	*e*P		P		22 50 26.3	-1.4	
	comp=Z,26nm,0.9s									
N54A	**Moraine State**	29.16	19	P		P		22 50 26.2	-1.5	
	baz=205,SNR=7.6									
BELC	**Belle Mtn. Jos**	29.49	317	P		P		22 50 32.1	+1.2	
	baz=127									
KNB	**Kanab**	29.56	325	*e*P		P		22 50 33.5	+2.0	
	comp=Z,25nm,1.2s									
KNB	**Kanab**	29.56	325	*e*P		P		22 50 33.5	+2.0	
KNB				pmax		pmax				
	comp=Z,25nm,1.2s									
FRD	**Ford Ranch, An**	29.59	316	P		P		22 50 33.7	+2.0	
	baz=126									
PKCU	**Pink Cliffs**	29.59	326	*e*P		P		22 50 34.5	+2.5	
	comp=Z,12nm,1.1s									
SSPA	**Standing Stone**	29.59	23	*e*P		P		22 50 30.2	-1.3	
	comp=Z,20nm,1.3s									
SSPA	**Standing Stone**	29.59	23	P		P		22 50 30.5	-1.1	
	baz=209									
MVL	**Millersville**	29.65	25	*e*P		P		22 50 32.0	-0.1	
	comp=Z,12nm,1.1s									
GMRC	**Granite Mounta**	29.75	319	P		P		22 50 35.0	+1.7	
	baz=129,S

PAL **Palisades** 31.53 27 *e*P P 22 50 48.9 +0.2
PAL pmax pmax
comp=Z,20nm,1.0s
PAL **Palisades** 31.53 27 P P 22 50 48.3 -0.3
baz=215
FURC **Furnace Creek,** 31.57 320 P P 22 50 51.0 +2.0
baz=129
JLU **Jordanelle** 31.58 331 *e*P P 22 50 52.1 +2.7
comp=Z,7.6nm,1.0s
BINY **Binghamton** 31.66 23 *e*P P 22 50 48.9 -1.0
comp=Z,19nm,0.8s
MPMC **Manual Prospec** 31.71 319 P P 22 50 52.0 +1.4
baz=128,SNR=10
BWLO **Walkerton** 31.73 15 P P 22 50 48.0 -2.4
baz=200
BRCO **Bruce Peninsul** 31.77 15 P P 22 50 48.6 -2.1
baz=200
CTU **Camp Tracy** 31.79 331 *e*P P 22 50 53.1 +1.9
comp=Z,14nm,1.0s
RSSD **Black Hills** 31.90 344 *e*P P 22 50 53.6 +1.4
comp=Z,19nm,1.5s
RSSD **Black Hills** 31.90 344 *e*P P 22 50 53.6 +1.4
RSSD pmax pmax
comp=Z,19nm,1.5s
DAC **Darwin (Calif)** 31.91 319 *e*P P 22 50 53.8 +1.4
comp=Z,8.4nm,1.1s
DAC **Darwin (Calif)** 31.91 319 *e*P P 22 50 53.8 +1.4
DAC pmax pmax
comp=Z,8.0nm,1.1s
DUG **Dugway, Tooele** 31.92 329 *e*P P 22 50 54.3 +2.0
comp=Z,11nm,1.3s
DUG **Dugway, Tooele** 31.92 329 P P 22 50 52.6 +0.3
baz=140
TCUT **Toone Canyon** 31.97 332 *e*P P 22 50 49.4 -3.5
comp=Z,60nm,1.1s
ARVC **Arvin** 32.04 316 P P 22 50 55.5 +2.3
baz=125
R11A **Troy Canyon, C** 32.05 324 *e*P P 22 50 55.0 +1.4
comp=Z,18nm,1.4s
R11A **Troy Canyon, C** 32.05 324 P P 22 50 55.5 +2.0
baz=133,SNR=12
ISA **Isabella, Lake** 32.11 317 *e*P P 22 50 56.0 +2.0
comp=Z,16nm,1.4s
ISA **Isabella, Lake** 32.11 317 *e*P P 22 50 56.0 +2.0
ISA pmax pmax
comp=Z,16nm,1.4s
ISA **Isabella, Lake** 32.11 317 P P 22 50 56.0 +2.0
baz=126
PKRO **Pickering** 32.16 18 P P 22 50 51.8 -2.4
baz=204
DRWO **Darlington Wes** 32.19 19 P P 22 50 52.7 -1.6
baz=205
DRCO **St. Marys Ceme** 32.20 19 P P 22 50 52.8 -1.6
baz=205
GRAC **Grapevine Rang** 32.22 320 P P 22 50 56.7 +1.9
baz=129
CLWO **Collingwood** 32.26 16 P P 22 50 52.5 -2.6
baz=202
CWC **Cottonwood Cre** 32.32 319 P P 22 50 57.3 +1.4
baz=128
HWUT **Hardware Ranch** 32.43 332 *e*P P 22 50 57.9 +1.1
comp=Z,18nm,1.3s
BW06 **Boulder Array** 32.54 336 *e*P P 22 50 56.3 -1.5
comp=Z,20nm,1.4s
PD31 **Pinedale Array** 32.54 336 *e*P P 22 50 59.5 +1.7
PDAR **Pinedale Array** 32.54 336 P P 22 50 57.6 -0.2
comp=Z,5.2nm,1.0s,baz=132,slow=8.6,SNR=20
PDAR **Pinedale Array** 32.54 336 *e*P P 22 50 57.3 -0.5
BGU **Big Grassy Mou** 32.58 330 *e*P P 22 50 60.0 +1.8
comp=Z,7.6nm,1.0s
VES **Vestal, Richgr** 32.62 317 P P 22 50 60.0 +1.7
baz=125
SADO **Sadowa** 32.88 17 P P 22 50 57.8 -2.6
comp=Z,19nm,0.9s,baz=231,slow=7.6,SNR=8.6
SADO **Sadowa** 32.88 17 *e*P P 22 50 58.0 -2.4
comp=Z,23nm,0.9s
SMMC **Simmler** 32.93 316 P P 22 51 03.2 +2.1
baz=124
TRY **Troy** 33.05 26 *e*P P 22 51 01.9 0.0
comp=Z,25nm,1.1s
DELO **Deloro Mine** 33.12 19 P P 22 51 00.6 -1.9
baz=206
HVU **Hansel Valley** 33.12 331 *e*P P 22 51 04.3 +1.5
comp=Z,29nm,1.1s
HVU **Hansel Valley** 33.12 331 *e*P P 22 51 04.3 +1.5
HVU pmax pmax
comp=Z,29nm,1.1s
AHID **Auburn Hatcher** 33.17 334 *e*P P 22 51 04.6 +1.3
comp=Z,57nm,1.4s
PAGB **Antelope Grade** 33.33 316 *e*P P 22 51 10.8 +6.2
comp=Z,24nm,1.2s
BUKO **Buck Lake** 33.42 17 P P 22 51 03.1 -2.1
baz=203
BANO **Bancroft** 33.47 19 P P 22 51 03.5 -2.1
baz=206
REDW **Red Top Meadow** 33.56 335 *e*P P 22 51 07.8 +1.1
comp=Z,114nm,1.2s
SNOW **Snow King Moun** 33.60 335 *e*P P 22 51 08.4 +1.3
comp=Z,100nm,1.1s
NV11 **Mina Array Sit** 33.62 322 *e*P P 22 51 09.0 +1.8
comp=Z,1.4nm,1.0s
OMMB **Old Mammoth Mi** 33.62 320 *e*P P 22 51 09.4 +2.0
comp=Z,17nm,1.3s
LOHW **Long Hollow** 33.67 336 *e*P P 22 51 08.5 +0.9
comp=Z,38nm,1.1s
MDPB **Devils Postpil** 33.68 320 *e*P P 22 51 09.8 +1.9
comp=Z,13nm,1.0s
NV01 **Mina Array Sit** 33.70 322 *e*P P 22 51 09.5 +1.5
NV01 *e*PcP PcP 22 53 48.0 +0.8
NVAR **Mina Array Bea** 33.70 322 P P 22 51 09.4 +1.4
comp=Z,18nm,1.0s,baz=136,slow=7.8,SNR=52
NVAR PcP PcP 22 53 48.0 +0.8
comp=Z,2.8nm,0.8s,baz=146,slow=3.5,SNR=5.1
TPAW **Teton Pass** 33.70 335 *e*P P 22 51 09.6 +1.6
comp=Z,104nm,1.3s
PLVO **Plevna** 33.76 20 P P 22 51 06.9 -1.2
baz=207
BCX **Boston College** 33.83 29 *e*P P 22 51 08.9 +0.1
comp=Z,22nm,1.0s
MOOW **Moose Ponds** 33.84 336 *e*P P 22 51 09.9 +0.8
comp=Z,27nm,1.2s
NCB **Newcomb** 33.85 24 *e*P P 22 51 07.9 -1.1
comp=Z,10nm,0.9s
FXWY **Fox Creek** 33.86 335 *e*P P 22 51 10.6 +1.3
comp=Z,26nm,1.3s
RYN **Ryan** 33.96 322 *e*P P 22 51 12.3 +2.1
comp=Z,9.7nm,1.1s
PMPB **Monarch Peak** 33.97 316 *e*P P 22 51 12.3 +2.1
comp=Z,30nm,1.3s
PMPB *e*pP sP 22 51 25.0 -1.1
KVN **Kaiserville** 33.98 323 *e*P P 22 51 12.0 +1.6
comp=Z,18nm,1.2s
KVN **Kaiserville** 33.98 323 *e*P P 22 51 12.0 +1.6
KVN pmax pmax
comp=Z,18nm,1.2s
IMW **Indian Meadow** 34.04 336 *e*P P 22 51 12.0 +1.1
comp=Z,20nm,1.1s
G55A **Calabogie** 34.06 20 P P 22 51 09.2 -1.6
baz=207
FLWY **Flagg Ranch** 34.10 336 *e*P P 22 51 12.8 +1.4
comp=Z,30nm,1.2s
PCCM **Crazy Canyon** 34.15 316 *e*P P 22 51 08.7 -3.0
LONY **Lake Ozonia** 34.26 23 *e*P P 22 51 10.8 -1.7
comp=Z,30nm,1.1s
LONY **Lake Ozonia** 34.26 23 P P 22 51 11.7 -0.9
baz=211
PEMO **Pembroke** 34.27 19 P P 22 51 11.2 -1.3
baz=206
ALGO **Algonquin Park** 34.27 18 P P 22 51 10.6 -2.0
baz=205,SNR=5.5
YPP **Pitchstone Pla** 34.30 336 *e*P P 22 51 19.0 +5.9
comp=Z,32nm,1.5s
H17A **Grant Village** 34.31 336 *e*P P 22 51 16.9 +3.7
comp=Z,26nm,1.3s
BMN **Battle Mountai** 34.41 325 *e*P P 22 51 15.5 +1.5
comp=Z,16nm,1.2s
BMN **Battle Mountai** 34.41 325 *e*P P 22 51 15.5 +1.5
BMN pmax pmax
comp=Z,16nm,1.2s
WAKR **Walker** 34.44 321 *e*P P 22 51 16.7 +2.3
comp=Z,22nm,1.5s
RLMT **Red Lodge** 34.44 339 *e*P P 22 51 15.9 +1.6
comp=Z,9.8nm,1.1s
YFT **Old Faithful** 34.46 336 *e*P P 22 51 17.3 +2.8
comp=Z,52nm,1.3s
MDND **Maddock** 34.54 351 *e*P P 22 51 16.0 +1.1
comp=Z,65nm,1.0s
AGMN **Agassiz Nation** 34.58 356 *e*P P 22 51 15.0 -0.2
comp=Z,15nm,1.1s
YNR **Norris Junctio** 34.62 337 *e*P P 22 51 18.4 +2.5
comp=Z,36nm,1.5s
YERR **Yerington** 34.62 322 *e*P P 22 51 18.0 +2.1
comp=Z,20nm,1.3s
ORIO **Orleans, Innes** 34.64 21 P P 22 51 15.0 -0.8
baz=209
YMR **Madison River** 34.69 336 *e*P P 22 51 18.5 +2.0
comp=Z,51nm,1.2s
YHH **Holmes Hill** 34.75 337 *e*P P 22 51 18.7 +1.7
comp=Z,29nm,1.3s
CMB **Columbia Colle** 34.75 319 *e*P P 22 51 18.1 +1.2
comp=Z,8.0nm,1.1s
CMB **Columbia Colle** 34.75 319 *e*P P 22 51 18.1 +1.2
CMB pmax pmax
comp=Z,8.0nm,1.1s
LAO **LASA Array** 34.87 343 *e*P P 22 51 18.4 +0.6
comp=Z,13nm,0.9s
PNTR **Pine Nut** 34.90 321 *e*P P 22 51 20.6 +2.2
comp=Z,19nm,1.1s
D51A **Lot 18 Range I** 34.95 15 P P 22 51 16.0 -2.4
baz=202
E54A **Lac Daplat, Po** 34.97 18 P P 22 51 16.5 -2.1
baz=206
QLMT **Earthquake Lak** 35.01 336 *e*P P 22 51 21.4 +2.2
ALFO **Alfred** 35.02 21 P P 22 51 17.6 -1.4
baz=210
VCNR **Virginia City** 35.06 322 *e*P P 22 51 21.9 +2.1
comp=Z,8.1nm,1.0s
PTGA **Pitinga** 35.09 112 *e*P P 22 51 20.3 +0.3
comp=Z,25nm,0.9s
PAHR **Pah Rah Range** 35.16 322 *e*P P 22 51 22.7 +2.1
comp=Z,12nm,1.1s
RUBR **Rubicon Trail** 35.22 321 *e*P P 22 51 24.2 +3.1
comp=Z,36nm,1.1s
HLID **Hailey** 35.27 332 *e*P P 22 51 22.6 +1.2
comp=Z,18nm,1.1s
D53A **Lac Vacive, Po** 35.40 17 P P 22 51 20.0 -2.2
baz=205
MCMT **McKenzie Canyo** 35.58 335 *e*P P 22 51 26.2 +2.0
BOZ **Bozeman (W)** 35.73 337 *e*P P 22 51 27.8 +2.5
comp=Z,46nm,1.5s
BOZ **Bozeman (W)** 35.73 337 *e*P P 22 51 27.8 +2.5
BOZ pmax pmax
comp=Z,46nm,1.5s
D54A **Lac Fusel, La** 35.77 18 P P 22 51 22.7 -2.7
baz=206
BEKR **Beckworth** 35.85 322 *e*P P 22 51 28.4 +1.9
comp=Z,15nm,1.1s
DLMT **Dillon** 35.91 335 *e*P P 22 51 28.4 +1.5
comp=Z,44nm,1.1s
DGMT **Dagmar** 36.00 346 *e*P P 22 51 29.1 +1.7
comp=Z,24nm,0.9s
ORV **Oroville** 36.35 320 *e*P P 22 51 32.6 +2.0
comp=Z,18nm,1.4s
ULM **Lac du Bonnet** 36.52 356 P P 22 51 30.7 -1.1
comp=Z,6.4nm,0.9s,baz=171,slow=7.7,SNR=4.3
ULM LR LR 23 08 11.5
comp=Z,3µm,18.0s,baz=128,slow=39
WVOR **Wild Horse Val** 36.55 326 *e*P P 22 51 33.8 +1.4
comp=Z,32nm,1.3s
WVOR **Wild Horse Val** 36.55 326 *e*P P 22 51 33.8 +1.4
WVOR pmax pmax
comp=Z,32nm,1.3s
SAML **Samuel** 36.63 126 *e*P P 22 51 31.9 -1.3
comp=Z,11nm,0.9s
HRY **Holter Researc** 36.73 337 *e*P P 22 51 35.7 +1.9
GDXM **Geysers** 36.74 318 *e*P P 22 51 36.6 +2.6
comp=Z,8.6nm,1.1s
O03E **Paynes Creek** 36.98 321 P P 22 51 37.8 +1.8
baz=127
J08A **Circle Bar Ran** 37.11 328 *e*P P 22 51 38.6 +1.5
comp=Z,27nm,0.8s
MOD **Modoc Plateau** 37.12 324 *e*P P 22 51 38.3 +1.1
comp=Z,18nm,1.4s
EGMT **Eagleton** 37.13 340 *e*P P 22 51 37.9 +0.7
comp=Z,34nm,1.1s
EGMT **Eagleton** 37.13 340 P P 22 51 38.3 +1.1
baz=151
LATQ **La Tuque** 37.27 22 P P 22 51 36.7 -1.6
baz=212
LSQQ **Lebel-sur-Quev** 37.40 17 P P 22 51 36.4 -2.9
baz=205
O02D **Mt. Diablo Mer** 37.52 320 P P 22 51 42.0 +1.4
baz=126
BMO **Blue Mountains** 37.61 330 *e*P P 22 51 41.8 +0.5
comp=Z,7.5nm,1.1s
WDC **Whiskeytown Da** 37.61 321 *e*P P 22 51 41.7 +0.5
comp=Z,9.9nm,1.2s
WDC **Whiskeytown Da** 37.61 321 *e*P P 22 51 41.7 +0.5
WDC pmax pmax
comp=Z,10.0nm,1.2s
MSO **Missoula** 37.65 335 *e*P P 22 51 42.6 +0.9
comp=Z,32nm,1.2s
MSO **Missoula** 37.65 335 P P 22 51 42.2 +0.6
baz=144,SNR=10
MATQ **Matagami** 37.86 15 P P 22 51 40.9 -2.3
baz=203,SNR=6.9
I07A **Izee** 38.15 328 *e*P P 22 51 47.9 +2.0
comp=Z,15nm,1.1s
LPAZ **La Paz** 38.21 141 P P 22 51 46.0 -1.2
comp=Z,3.3nm,0.9s,baz=312,slow=7.1,SNR=13
YBH **Yreka Blue Hor** 38.40 322 P P 22 51 46.8 -1.2
comp=Z,2.4nm,0.9s,baz=319,slow=12,SNR=4.0
F10A **Beach Ranch, E** 38.41 332 *e*P P 22 51 48.8 +0.8
comp=Z,43nm,0.9s
L04D **Klamath Falls** 38.46 323 P P 22 51 49.3 +0.7
baz=128
KHMM **Horse Mountain** 38.51 321 *e*P P 22 51 52.0 +3.0
comp=Z,24nm,1.1s
JTMT **Jette** 38.53 336 *e*P P 22 51 50.0 +0.9
comp=Z,21nm,1.0s
PINE **Pine Mountain** 38.72 326 *e*P P 22 51 52.5 +1.7
comp=Z,13nm,1.1s
G08A **Pilot Rock** 38.73 330 *e*P P 22 51 51.9 +1.2
comp=Z,11nm,1.4s
J04D **Umpqua Nationa** 39.00 325 P P 22 51 55.2 +2.1
baz=130
KRMB **Red Mountain** 39.00 321 *e*P P 22 51 55.3 +2.2
comp=Z,56nm,1.4s
E09A **Wood Farm, Sta** 39.23 332 *e*P P 22 51 56.7 +1.9
comp=Z,12nm,1.1s
HAL **Halifax** 39.28 33 *e*P P 22 51 55.7 +0.5
comp=Z,42nm,1.2s
HAL **Halifax** 39.28 33 *e*P P 22 51 55.7 +0.5
HAL pmax pmax
comp=Z,42nm,1.2s
LMN **Caledonia Moun** 39.51 30 *e*P P 22 51 55.9 -1.3
comp=Z,19nm,0.8s
I04A **Tendick Farm,** 39.52 325 P P 22 51 59.2 +1.9
baz=130
G05D **Wamic, OR** 39.89 328 P P 22 52 01.6 +1.3
baz=132
H04A **Detroit Lake** 39.98 326 *e*P P 22 52 02.0 +0.9
comp=Z,49nm,1.4s
D08A **Wollman Farm,** 39.99 331 *e*P P 22 52 02.8 +1.7
comp=Z,15nm,1.1s
KEBM **Edson Butte** 40.05 323 *e*P P 22 52 05.8 +4.0
comp=Z,67nm,1.1s
NEW **Newport** 40.11 334 P P 22 52 02.0 0.0
comp=Z,2.5nm,0.7s,baz=136,slow=12,SNR=6.5
NEW **Newport** 40.11 334 *e*P P 22 52 02.5 +0.5
comp=Z,7.1nm,1.0s
NEW **Newport** 40.11 334 *e*P P 22 52 02.6 +0.5
NEW pmax pmax
comp=Z,7.0nm,1.0s
NEW **Newport** 40.11 334 P P 22 52 03.0 +0.9
baz=140
C09A **Chrisman Ranch** 40.25 333 *e*P P 22 52 04.4 +1.1
comp=Z,22nm,1.0s
F05D **White Salmon** 40.40 328 P P 22 52 06.7 +2.1
baz=133
LTY **Liberty** 40.96 330 *e*P P 22 52 10.1 +0.9
comp=Z,21nm,1.4s
B08A **Colville Reser** 41.14 333 *e*P P 22 52 12.3 +1.6
comp=Z,8.1nm,1.0s
D05A **Enumclaw** 41.56 329 *e*P P 22 52 16.8 +2.8
comp=Z,32nm,1.0s
SCHQ **Schefferville** 45.55 20 P P 22 52 43.9 -2.1
comp=Z,8.4nm,0.8s,baz=232,slow=8.8,SNR=3.9
SCHQ LR LR 23 12 50.2
comp=Z,5µm,19.6s,baz=212,slow=37
SCHQ **Schefferville** 45.55 20 *e*P P 22 52 43.9 -2.1
comp=Z,15nm,0.9s
YKA **Yellowknife Ar** 51.21 347 P P 22 53 29.3 -0.1
comp=Z,32nm,1.0s,baz=149,slow=7.4,SNR=44
YKA PcP PcP 22 54 43.2 -1.1
comp=Z,4.9nm,0.8s,baz=146,slow=4.1,SNR=8.2
YKB5 **Yellowknife Ar** 51.21 347 *e*P P 22 53 29.1 -0.3
YKB5 *e*PcP PcP 22 54 45.6 +1.3
YKW3 **Yellowknife Ar** 51.27 347 *e*P P 22 53 30.4 +0.5
comp=Z,36nm,0.9s
CPUP **Villa Florida** 52.36 140 P P 22 53 37.0 -1.5
comp=Z,5.4nm,0.8s,baz=323,slow=7.9,SNR=10
CPUP **Villa Florida** 52.36 140 *e*P P 22 53 37.0 -1.5
comp=Z,11nm,1.0s
CPUP **Villa Florida** 52.36 140 *e*P P 22 53 37.1 -1.5
CPUP pmax pmax
comp=Z,11nm,1.0s
BDFB **Brasilia** 52.61 122 P P 22 53 39.3 -1.4
comp=Z,7.4nm,0.9s,baz=281,slow=8.2,SNR=7.7
BDFB **Brasilia** 52.61 122 *e*P P 22 53 40.8 +0.1
BDFB **Brasilia** 52.61 122 *e*P P 22 53 40.8 +0.1
DLBC **Dease Lake** 52.77 336 *e*P P 22 53 43.8 +2.4
comp=Z,71nm,1.1s
WHY **Whitehorse** 56.10 336 *e*P P 22 54 07.5 +2.0
comp=Z,17nm,1.0s
HYT **Haines Junctio** 57.24 336 *e*P P 22 54 16.1 +2.5
comp=Z,25nm,1.3s
PLCA **Paso Flores** 57.83 161 P P 22 54 17.1 -0.8
comp=Z,4.1nm,1.1s,baz=13,slow=4.9,SNR=4.4
PLCA **Paso Flores** 57.83 161 *e*P P 22 54 17.1 -0.8
comp=Z,17nm,1.4s
PLCA **Paso Flores** 57.83 161 *e*P P 22 54 17.1 -0.8
PLCA pmax pmax
comp=Z,17nm,1.4s
DAWY **Dawson** 59.81 338 *e*P P 22 54 32.1 +0.7
comp=Z,17nm,1.4s
INK **Inuvik** 60.60 344 *e*P P 22 54 36.9 +0.3
comp=Z,37nm,1.1s
INK **Inuvik** 60.60 344 *e*P P 22 54 36.9 +0.3
INK pmax pmax
comp=Z,37nm,1.1s
EGAK **Eagle** 60.85 338 *e*P P 22 54 38.6 +0.2
comp=Z,15nm,1.0s
DOT **Dot Lake** 61.34 336 *e*P P 22 54 42.8 +1.0
comp=Z,22nm,1.1s
SCRK **Sand Creek** 61.48 337 *e*P P 22 54 43.1 +0.3
comp=Z,22nm,1.5s
RIDG **Independ'e Rid** 61.69 336 *e*P P 22 54 45.3 +1.1
comp=Z,36nm,1.2s
SML **Sawmill** 62.26 334 *e*P P 22 54 48.9 +0.9
comp=Z,44nm,1.2s
SML **Sawmill** 62.26 334 *e*P P 22 54 48.9 +0.9
SML pmax pmax
comp=Z,44nm,1.2s
GHO **Glory Hole Cre** 62.50 333 *e*P P 22 54 50.9 +1.3
comp=Z,52nm,1.2s
HDA **Harding Lake** 62.82 337 *e*P P 22 54 53.0 +1.4
comp=Z,15nm,1.0s
HDA **Harding Lake** 62.82 337 P P 22 54 52.0 +0.3
baz=117
IL1 **Eielson Array** 62.97 337 *e*P P 22 54 52.6 0.0
ILAR **Eielson Array** 62.97 337 P P 22 54 52.6 0.0
comp=Z,14nm,1.1s,baz=125,slow=5.0,SNR=30
ILB **Eielson Array** 62.97 337 *e*P P 22 54 53.1 +0.5
RND **Reindeer** 63.14 335 *e*P P 22 54 54.9 +1.0
comp=Z,41nm,1.0s
RND **Reindeer** 63.14 335 *e*P P 22 54 54.9 +1.0
RND pmax pmax
comp=Z,41nm,1.0s
CCB **Clear Creek Bu** 63.26 337 *e*P P 22 54 54.4 -0.1
comp=Z,14nm,1.4s
MCK **McKinley** 63.31 335 *e*P P 22 54 55.6 +0.6
comp=Z,40nm,1.3s
MCK **McKinley** 63.31 335 *e*P P 22 54 55.6 +0.6
MCK pmax pmax
comp=Z,40nm,1.3s
POKR **Poker Plat Res** 63.33 337 P P 22 54 55.1 +0.1
baz=117
MDM **Murphy Dome** 63.56 337 *e*P P 22 54 57.4 +0.8
comp=Z,9.0nm,1.2s
BWN **Browne** 63.71 336 *e*P P 22 54 58.1 +0.6
comp=Z,219nm,1.5s
SKT **Skwentna** 63.72 333 *e*P P 22 54 58.3 +0.7
comp=Z,25nm,1.2s
TRF **Thorofare Moun** 63.75 335 *e*P P 22 54 58.6 +0.5
comp=Z,23nm,0.9s
MLY **Manley** 64.56 336 *e*P P 22 55 03.7 +0.5
comp=Z,46nm,1.4s
COLD **Coldfoot** 65.27 339 *e*P P 22 55 09.4 +1.7
comp=Z,26nm,1.3s
TOLK **Toolik Lake Re** 65.67 340 P P 22 55 11.2 +0.9
baz=116
BORG **Borgarnes** 69.55 26 *i*P P 22 55 32.4 -2.3
ESDC **Sonseca Array** 80.08 52 P P 22 56 34.0 -2.3
comp=Z,3.2nm,0.8s,baz=289,slow=5.7,SNR=12
ES19 **SONSECA Array** 80.12 52 *e*P P 22 56 34.9 -1.6
BILL **Bilibino** 81.59 338 *e*P P 22 56 44.8 +1.1
comp=Z,43nm,1.4s
BILL **Bilibino** 81.59 338⇑ *e*P P 22 56 44.4 +0.7
BILL *e* 22 56 49.9
BILL *e* 22 59 50.8
BILL pmax pmax
comp=Z,12nm,1.0s
BILL MLR MLR
comp=Z,3µm,17.0s
BCLA **Clavier** 84.28 40 ⇓P P 22 56 56.6 -1.3
NB2 **NORSAR Subarra** 84.49 28 P P 22 56 59.9 +1.0
comp=Z,0.9nm,0.7s,baz=288,slow=5.1
NB200 **NORSAR Array S** 84.49 28 *e*P P 22 56 58.8 -0.1
NOA **NORSAR Array B** 84.49 28 P P 22 56 58.8 -0.1
comp=Z,2.5nm,0.9s,baz=291,slow=4.8,SNR=4.7
WLF **Walferdange** 85.00 40 ⇑P P 22 57 01.6 -0.1
DBIC **Dimbokro** 85.94 84 P P 22 57 07.0 +0.1
comp=Z,7.0nm,1.0s,baz=225,slow=7.2,SNR=3.9
ARA0 **ARCESS Array S** 86.45 18 *e*P P 22 57 08.9 +0.4
ARCES **ARCESS Array B** 86.45 18 P P 22 57 08.9 +0.4
comp=Z,3.7nm,0.9s,baz=304,slow=5.1,SNR=3.4
ARCES **ARCESS Array B** 86.45 18 P P 22 57 08.9 +0.4
CLL **Collm** 88.67 37 *e*P P 22 57 21.0 +1.6
SEY **Seymchan** 88.87 336 *i*P P 22 57 21.3 +1.2
GERES **GERESS Array B** 89.96 39 P P 22 57 25.5 -0.2
comp=Z,1.3nm,0.9s,baz=323,slow=4.2,SNR=6.3
GERES PP PP 23 00 56.0 -2.5
comp=Z,0.2nm,0.4s,baz=297,slow=5.8,SNR=3.6
TIXI **Tiksi** 90.45 348 *e*P P 22 57 28.3 +1.0
comp=Z,6.7nm,0.9s
TIXI **Tiksi** 90.45 348 *i*P P 22 57 27.7 +0.4
TIXI pmax pmax
comp=Z,27nm,2.4s
TOA1 **Torodi Ar. Sit** 90.69 76 *e*P P 22 57 28.2 -1.4
TOA0 **Torodi Ar. Sit** 90.69 76 *e*P P 22 57 28.8 -0.8
TORD **Torodi Ar. Bea** 90.69 76 P P 22 57 28.2 -1.4
comp=Z,1.2nm,0.9s,baz=298,slow=6.1,SNR=5.8
KEST **Kesra** 91.25 53 P P 22 57 32.0 0.0
comp=Z,9.9nm,1.1s,baz=240,slow=8.1,SNR=3.8
KEST **Kesra** 91.25 53 *e*P P 22 57 32.0 0.0
comp=Z,24nm,1.3s
TAM **Tamanrasset** 91.75 66 *e*P P 22 57 35.0 +0.4
comp=Z,5.1nm,1.1s
TAM **Tamanrasset** 91.75 66 *e*P P 22 57 35.0 +0.4
TAM pmax pmax
comp=Z,5.0nm,1.1s
YAK **Yakutsk** 97.61 341 *i*P Pdif 22 58 00.9 +0.5
YAK pmax pmax
comp=Z,4.0nm,0.8s
KIEV **Kiev** 98.07 33 *i*P P 22 58 00.7 -2.0
KIEV pmax pmax
comp=Z,2.0nm,1.0s
OBN **Obninsk** 99.02 27⇑ *e*P Pdif 22 58 04.7 -2.1
OBN *e* 23 02 07.1
OBN pmax pmax
comp=Z,3.0nm,0.9s
OBN MLR MLR
comp=Z,2µm,17.0s
KURK **Kurchatov** 115.32 6 *e*PKiKP PKPdf 23 03 08.4 +0.7
KURK **Kurchatov** 115.32 6 *e*PKiKP PKPdf 23 03 08.4 +0.7
KURBB **Kurchatov Arra** 115.40 6 PKP PKPdf 23 03 08.4 +0.6
comp=Z,0.8nm,0.7s,baz=344,slow=2.0,SNR=7.6
SONA0 **Songino Array** 116.47 346 *e*PKPdf PKPdf 23 03 10.4 +0.2
SONA0 *e*PP PP 23 04 17.4 +1.4
SONM **Songino Array** 116.47 346 PKP PKPdf 23 03 10.4 +0.2
comp=Z,0.8nm,0.8s,baz=45,slow=2.9,SNR=4.4
SONM PP PP 23 04 17.4 +1.4
comp=Z,3.4nm,1.3s,baz=1.1,slow=7.4,SNR=3.8
MK32 **Makanchi Array** 119.54 4 *e*PKPdf PKPdf 23 03 16.0 0.0
MKAR **Makanchi Array** 119.54 4 PKP PKPdf 23 03 16.0 0.0
comp=Z,0.8nm,0.8s,baz=27,slow=1.9,SNR=4.9
BOSA **Boshof** 120.49 115 PKP PKPdf 23 03 18.2 -0.2
comp=Z,4.4nm,0.9s,baz=290,slow=5.0,SNR=4.4
GEYT **Alibeck** 121.56 27 PKP PKPdf 23 03 18.8 -1.4
comp=Z,1.5nm,0.7s,baz=30,slow=6.7,SNR=3.3
STKA **Stephens Creek** 127.71 240 PKP PKPdf 23 03 30.3 -1.6

comp=Z,4.0nm,1.0s,baz=138,slow=9.4,SNR=3.0

LZH	**Lanzhou**	**128.15**	**343**	*e*PKP	**PKPdf**	23 03 33.8	**+0.8**
LZH				pPKP	sPKPdf	23 03 49.3	-0.7
LZH				sPKP		23 03 55.4	
LZH				LR	LR		
	comp=N,130nm,18.1s						
LZH				LR	LR		
	comp=E,130nm,18.2s						
LZH				LR	LR		
	comp=Z,170nm,20.0s						
XAN	**Xi'an**	**128.37**	**337**	PKP	**PKPdf**	**23 03 35.5**	**+2.2**
XAN				PP	**PP**	**23 05 30.7**	**-6.0**
XAN				AMB	AMB		
	comp=Z,380nm,17.5s						
CD2	**Chengdu**	**133.00**	**341**	PKP	**PKPdf**	**23 03 41.5**	**-0.7**
WB2	**Warramunga Arr**	**135.07**	**255**	*e*PKPdf	**PKPdf**	**23 03 47.4**	**+1.2**
WR1	**Warramunga Arr**	**135.08**	**255**	*e*PKPdf	**PKPdf**	**23 03 45.8**	**-0.5**
WRA	**Warramunga Arr**	**135.08**	**255**	PKP	**PKPdf**	**23 03 45.8**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=84,slow=1.3,SNR=8.1						
AS31	**Alice Springs**	**135.34**	**250**	*e*PKPdf	**PKPdf**	**23 03 45.3**	**-1.3**
ASAR	**Alice Springs**	**135.34**	**250**	PKP	**PKPdf**	**23 03 45.3**	**-1.3**
	comp=Z,1.0nm,0.8s,baz=124,slow=2.0,SNR=8.1						
GYA	**Guiyang**	**136.00**	**335**	*e*Pdif	**Pdif**	**23 00 51.0**	**-1.1**
GYA				PKP	**PKPdf**	**23 03 47.6**	**-0.4**
GYA				PP	**PP**	**23 06 30.2**	**+4.3**
GYA				AMB	AMB		
	comp=Z,120nm,7.8s						
SHL	**Shillong**	**140.71**	**354**	*e*PKPdf	**PKPdf**	**23 03 58.9**	**+2.2**
SHL	**Shillong**	**140.71**	**354**	*e*PKIKP	**PKPdf**	**23 03 58.9**	**+2.2**
CHTO	**Chiang Mai**	**145.81**	**341**	*e*PKPdf	**PKPdf**	**23 04 05.4**	**-0.2**
CHTO	**Chiang Mai**	**145.81**	**341**	*e*PKP2	**PKPdf**	**23 04 05.4**	**-0.2**
CM31	**Chiang Mai Arr**	**146.14**	**341**	*e*PKPdf	**PKPab**	**23 04 07.8**	**0.0**
CMAR	**Chiang Mai Arr**	**146.14**	**341**	PKPbc	**PKPbc**	**23 04 07.0**	**-0.1**
	comp=Z,14nm,0.8s,baz=332,slow=2.8,SNR=45						
CMAR	**Chiang Mai Arr**	**146.14**	**341**	PKP2	**PKPbc**	**23 04 07.0**	**-0.1**
CM01	**Chiang Mai Arr**	**146.17**	**341**	*e*PKPdf	**PKPdf**	**23 04 06.4**	**+0.1**
HYB	**Hyderabad**	**147.73**	**17**	*i* PKP	**PKPdf**	**23 04 10.0**	**+1.1**

IDC 11 22:46:00.5±9.6, 13°.50N×91°.78W, h33km±60km, mb3.7/4, mb1 4.2/5, mb1mx3.7/41, mbtmp3.9/5, ML3.9/1, Error ellipse: s-maj=74.8km s-min=51.9km az=176.0, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**1.97**	**40**	Pg	Pb	22 46 37.1	+1.3
	12nm,0.3s,baz=213,slow=17,SNR=1.4						
APG				Lg	Lg	22 47 04.1	
	baz=60,slow=23,SNR=1.1						
TXAR	**Lajitas Array**	**19.23**	**327**	P	Pn	22 50 23.9	+0.7
	0.1nm,0.3s,baz=145,slow=11,SNR=2.0						
PDAR	**Pinedale Array**	**32.96**	**336**	P	P	22 52 34.1	+1.6
	0.5nm,0.6s,baz=149,slow=11,SNR=2.8						
NVAR	**Mina Array Bea**	**34.13**	**321**	P	P	22 52 42.4	-0.8
	1.1nm,0.8s,baz=148,slow=8.6,SNR=1.8						
YKA	**Yellowknife Ar**	**51.56**	**347**	P	P	22 55 01.3	-1.7
	2.7nm,0.6s,baz=152,slow=7.4,SNR=4.7						
ILAR	**Eielson Array**	**63.38**	**337**	P	P	22 56 25.1	-1.3
	1.7nm,1.1s,baz=119,slow=4.9,SNR=2.8						
CMAR	**Chiang Mai Arr**	**146.53**	**341**	PKPbc	PKPab	23 05 39.8	-0.4
	2.4nm,0.7s,baz=339,slow=3.3,SNR=4.0						

IDC 11 22:48:14.7±8.1, 14°.04N×92°.22W, h28km±46km, mb3.6/3, mb1 3.9/5, mb1mx3.6/40, mbtmp3.7/5, ML3.1/1, Error ellipse: s-maj=68.5km s-min=32.5km az=15.0

ISC 11 22:48:17.1±2.3, 13°.9N±0°.3×92°.4W±0°.1, h54km, n7, σ1°54/8, mb3.7/3, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**2.17**	**61**	Pg	**Pn**	**22 48 50.1**	**-1.0**
	7.2nm,0.3s,baz=260,slow=11,SNR=3.5						
APG				Lg	Lg	22 49 17.8	
	28nm,0.3s,baz=342,slow=11,SNR=4.1						
CMIG	**Matias Romero**	**3.92**	**323**	Pn	**Pn**	**22 49 12.6**	**-2.3**
	baz=59,slow=22,SNR=1.0						
CMIG				Sn	**Sn**	**22 50 01.1**	**+1.4**
	3.5nm,0.3s,baz=127,slow=15,SNR=2.5						
TXAR	**Lajitas Array**	**18.52**	**328**	P	**Pn**	**22 52 30.8**	**+0.9**
	0.0nm,0.3s,baz=140,slow=12,SNR=2.2						
NVAR	**Mina Array Bea**	**33.46**	**322**	P	**P**	**22 54 52.6**	**+1.3**
	0.8nm,0.7s,baz=131,slow=6.5,SNR=2.7						
YKA	**Yellowknife Ar**	**50.99**	**347**	P	**P**	**22 57 12.1**	**-1.1**
	1.3nm,0.6s,baz=152,slow=7.3,SNR=5.1						
ILAR	**Eielson Array**	**62.73**	**337**	P	**P**	**22 58 36.8**	**+0.5**
	0.5nm,0.9s,baz=124,slow=5.6,SNR=5.4						
CMAR	**Chiang Mai Arr**	**145.91**	**341**	PKPbc	**PKPab**	**23 07 52.3**	**+0.3**
	0.6nm,0.3s,baz=329,slow=3.2,SNR=3.2						

ISCJB 11 22:49:36.6±0.6, 13°.91N±0°.06×92°.32W±0°.07, h46km, mb4.1/14, Error ellipse: s-maj=11.5km s-min=6.2km az=136.7

NEIC 11 22:49:37.0±0.6, 13°.81N×92°.37W, h35km, mb4.4/12, Error ellipse: s-maj=14.4km s-min=7.3km az=221.0

IDC 11 22:49:37.6±3.9, 13°.99N×92°.17W, h35km±29km, mb3.8/10, mb1 4.1/13, mb1mx3.8/45, mbtmp4.0/13, ML3.7/3, Error ellipse: s-maj=29.6km s-min=14.1km az=45.0

ISC 11 22:49:37.6±0.8, 13°.84N±0°.09×92°.38W±0°.09, h46km, n42, σ1°42/44, mb4.1/14, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**2.18**	**58**	Pg	**Pn**	**22 50 14.2**	**+2.5**
	26nm,0.3s,baz=211,slow=17,SNR=5.1						
APG				Lg	Lg	22 50 40.2	
	26nm,0.3s,baz=15,slow=22,SNR=2.9						
CCIG	**Comitan**	**2.44**	**5**	*e*Pn	**Pn**	**22 50 15.7**	**+0.6**
CCIG				*e*Sn	**Sn**	**22 50 42.0**	**-1.7**
CMIG	**Matias Romero**	**4.03**	**323**	Pn	**Pn**	**22 50 38.3**	**+1.4**
	8.2nm,0.3s,baz=147,slow=12,SNR=3.0						
CMIG				Sn	**Sn**	**22 51 23.4**	**+0.5**
	7.9nm,0.3s,baz=172,slow=23,SNR=2.2						
ESTN	**Estel**	**5.89**	**96**	*e*Pn	**Pn**	**22 51 03.6**	**+1.2**
BOAB	**BOACO BROADBAN**	**6.68**	**101**	*e*Pn	**Pn**	**22 51 13.1**	**-0.1**
TLIG	**Tlapa**	**7.01**	**303**	*e*Pn	**Pn**	**22 51 14.9**	**-3.1**
TEIG	**Tepich**	**7.46**	**31**	*e*Pn	**Pn**	**22 51 24.8**	**+0.9**
JTS	**JuntasAbangare**	**8.07**	**115**	Pn	**Pn**	**22 51 30.7**	**-1.6**
	1.5nm,0.3s,baz=350,slow=21,SNR=5.1						
JTS				Lg	Lg	22 53 45.9	
	0.3nm,0.3s,baz=38,slow=23,SNR=2.7						
JTS	**JuntasAbangare**	**8.07**	**115**	*e*Pn	**Pn**	**22 51 29.4**	**-3.0**
JTS				Lg	Lg	22 53 45.9	
061Z	**Ochoppi**	**16.09**	**40**	*e*Pn	**P**	**22 53 22.9**	**-0.5**
	196nm,1.3s						
LTX	**Lajitas**	**18.63**	**328**	*e*P	**Pn**	**22 53 52.1**	**-0.1**
TXAR	**Lajitas Array**	**18.63**	**328**	P	**Pn**	**22 53 52.2**	**-0.1**
	0.0nm,0.3s,baz=156,slow=9.6,SNR=3.6						
Z41A	**Richland Creek**	**19.33**	**359**	*e*P	**P**	**22 53 57.8**	**-1.3**
	11nm,0.6s						
Z50A	**Ashland**	**20.20**	**16**	*e*P	**P**	**22 54 07.8**	**-0.7**
	5.8nm,0.6s						
MIAR	**Mount Ida**	**20.64**	**357**	*e*P	**P**	**22 54 12.9**	**-0.4**
	20nm,1.3s						
X37A	**Clayton**	**20.83**	**353**	*e*P	**P**	**22 54 14.7**	**-0.7**
	27nm,1.3s						
AMTX	**Amarillo**	**22.57**	**340**	*e*P	**P**	**22 54 33.4**	**-0.8**
	14nm,0.7s						
TKL	**Tuckaleechee C**	**23.06**	**18**	P	**P**	**22 54 37.6**	**-1.5**
	4.4nm,0.8s,baz=162,slow=9.6,SNR=3.6						
TKL	**Tuckaleechee C**	**23.06**	**18**	*e*P	**P**	**22 54 37.6**	**-1.5**
	18nm,1.3s						
ANMO	**Albuquerque**	**24.56**	**331**	P	**P**	**22 54 53.2**	**-0.2**
	1.1nm,0.5s,baz=143,slow=15,SNR=2.8						
ANMO	**Albuquerque**	**24.56**	**331**	*e*P	**P**	**22 54 53.2**	**-0.2**
	3.6nm,1.3s						
JLU	**Jordanelle**	**31.45**	**332**	*e*P	**P**	**22 55 51.7**	**-3.3**
	1.4nm,0.7s						
PD31	**Pinedale Array**	**32.41**	**336**	*e*P	**P**	**22 56 05.9**	**+2.5**
PDAR	**Pinedale Array**	**32.41**	**336**	P	**P**	**22 56 05.9**	**+2.5**
	0.4nm,0.7s,baz=145,slow=9.7,SNR=2.6						
SNOW	**Snow King Moun**	**33.47**	**335**	*e*P	**P**	**22 56 14.0**	**+1.3**
	10nm,0.8s						
NV01	**Mina Array Sit**	**33.56**	**322**	*e*P	**P**	**22 56 15.1**	**+1.6**
NVAR	**Mina Array Bea**	**33.56**	**322**	P	**P**	**22 56 15.1**	**+1.6**
	2.1nm,0.7s,baz=135,slow=8.7,SNR=9.3						
MCMT	**McKenzie Canyo**	**35.45**	**335**	*e*P	**P**	**22 56 31.8**	**+2.0**
F10A	**Beach Ranch, E**	**38.27**	**332**	*e*P	**P**	**22 56 54.2**	**+0.6**
	5.2nm,0.9s						
LPAZ	**La Paz**	**38.35**	**141**	P	**P**	**22 56 56.6**	**+1.5**
	1.0nm,0.7s,baz=346,slow=5.8,SNR=4.3						
SIV	**San Ignacio**	**42.85**	**133**	P	**P**	**22 57 32.5**	**+0.9**
	2.2nm,0.8s,baz=317,slow=8.5,SNR=6.4						
YKA	**Yellowknife Ar**	**51.09**	**347**	P	**P**	**22 58 35.5**	**+0.3**
	4.5nm,0.6s,baz=151,slow=7.3,SNR=17						
YKB5	**Yellowknife Ar**	**51.09**	**347**	*e*P	**P**	**22 58 35.5**	**+0.3**
INK	**Inuvik**	**60.48**	**344**	P	**P**	**22 59 42.4**	**0.0**
	2.3nm,0.8s,baz=119,slow=5.5,SNR=5.5						
INK	**Inuvik**	**60.48**	**344**	*e*P	**P**	**22 59 42.4**	**0.0**
	4.3nm,0.9s						
IL1	**Eielson Array**	**62.84**	**337**	*e*P	**P**	**22 59 58.8**	**+0.4**
ILAR	**Eielson Array**	**62.84**	**337**	P	**P**	**22 59 59.1**	**+0.7**
	1.2nm,0.8s,baz=158,slow=5.4,SNR=11						
ILB	**Eielson Array**	**62.84**	**337**	*e*P	**P**	**22 59 59.1**	**+0.7**
TOA1	**Torodi Ar. Sit**	**90.77**	**76**	*e*P	**P**	**23 02 36.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**90.77**	**76**	P	**P**	**23 02 36.2**	**-0.3**
	0.2nm,0.6s,baz=266,slow=4.3						
CM31	**Chiang Mai Arr**	**146.02**	**341**	*e*PKPdf	**PKPdf**	**23 09 12.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**146.02**	**341**	PKPbc	**PKPdf**	**23 09 12.7**	**+0.1**
	1.6nm,0.5s,baz=343,slow=3.8,SNR=8.8						

MEX 11 22:54:51.0±0.7, 13°.85N×92°.41W, h4km±72km, MD4.2
UCR 11 22:54:51.1±0.9, 13°.95N×92°.29W, h77km±54km, ML4.0, mb4.6(NEIC)
IDC 11 22:54:52.0±3.3, 14°.00N×91°.93W, h33km±23km, mb4.1/20, mb1 4.3/22, mb1mx4.2/45, mbtmp4.3/22, ML4.4/2, Error ellipse: s-maj=26.2km s-min=12.1km az=45.0
NEIC 11 22:54:52.4±0.3, 13°.85N×92°.10W, h35km, mb4.6/118, MD4.7(MEX), Error ellipse: s-maj=7.0km s-min=4.6km az=29.0
ISCJB 11 22:54:54.3±0.5, 14°.04N±0°.03×92°.02W±0°.03, h64km±4km, mb4.6/117, Error ellipse: s-maj=5.9km s-min=2.9km az=42.1

ISC 11 22:54:53.1±1.1, 13°.93N±0°.06×92°.24W±0°.05, h47km±9km, n426, σ1°42/440, mb4.6/117, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.97**	**358**	*e*Pn	**Pn**	**22 55 09.0**	**-1.4**
THIG				*e*Sn	**Sn**	**22 55 22.3**	**-0.7**
THIG		**0.97**	**358**	*e*P	**Pn**	**22 55 09.0**	**-1.4**
THIG				*e*S	**Sn**	**22 55 22.3**	**-0.7**
IXG	**Ixpaco**	**1.75**	**82**	*e*P	**Pn**	**22 55 20.2**	**-0.9**
PCIG		**2.00**	**332**	*e*Pn	**Pn**	**22 55 21.5**	**-3.0**
PCIG		**2.00**	**332**	*e*P	**Pn**	**22 55 21.5**	**-3.0**
PCIG				*i* S	**Sn**	**22 55 46.5**	**-1.9**
APG	**El Apazote**	**2.02**	**58**	Pg	**Pn**	**22 55 25.9**	**+1.0**
	120nm,0.3s,baz=313,slow=20,SNR=64						
APG				Lg	Lg	22 55 48.0	
	149nm,0.3s,baz=48,slow=19,SNR=4.9						
CCIG	**Comitan**	**2.34**	**2**	*e*Pn	**Pn**	**22 55 32.0**	**+2.7**
CCIG				*e*Sn	**Sn**	**22 55 57.1**	**+0.2**
CCIG	**Comitan**	**2.34**	**2**	*e*P	**Pn**	**22 55 29.1**	**-0.2**
CCIG				*i* S	**Sn**	**22 55 57.5**	**+0.6**
RTR	**El Retiro**	**2.52**	**90**	*e*P	**Pn**	**22 55 31.5**	**-0.2**
CEVE	**Cerro Verde**	**2.54**	**92**	*e*P	**Pn**	**22 55 31.9**	**-0.1**
CEVE				*e*S	**Sn**	**22 56 05.0**	**+3.1**
CEVE				IAML		22 56 26.7	
	comp=Z,5μm,0.4s						
SBLS	**San Blas**	**2.54**	**92**	*e*P	**Pn**	**22 55 31.9**	**-0.2**
MTO3	**Montecristo**	**2.83**	**80**	*e*P	**Pn**	**22 55 35.9**	**-0.2**
MTO3				IAML		22 56 22.2	
	comp=Z,273nm,0.5s						
BOQS	**Boqueron**	**2.88**	**94**	*e*P	**Pn**	**22 55 36.4**	**-0.3**
SNET	**Serv Nac Est T**	**2.93**	**94**	*e*Pn	**Pn**	**22 55 36.2**	**-1.1**
SNET				*e*Sn	**Sn**	**22 56 10.4**	**-0.9**
SNET	**Serv Nac Est T**	**2.93**	**94**	*e*S	**Sn**	**22 56 11.7**	**+0.4**
TGIG		**2.96**	**343**	*e*Pn	**Pn**	**22 55 37.3**	**-0.4**
TGIG		**2.96**	**343**	*e*P	**Pn**	**22 55 37.3**	**-0.4**
TGIG				*i* S	**Sn**	**22 56 12.6**	**+0.7**
LFRS	**El Faro**	**3.10**	**95**	*e*P	**Pn**	**22 55 38.7**	**-0.9**
PAVA	**Las Pavas**	**3.21**	**93**	*e*P	**Pn**	**22 55 40.8**	**-0.4**
CMIG	**Matias Romero**	**4.05**	**321**	Pn	**Pn**	**22 55 51.4**	**-1.2**
	comp=Z,15nm,0.3s,baz=145,slow=11,SNR=13						
CMIG				Sn	**Sn**	**22 56 40.4**	**+1.7**
	comp=Z,40nm,0.3s,baz=79,slow=7.4,SNR=6.6						
CMIG				Lg	Lg	22 56 52.9	
	comp=Z,76nm,0.3s,baz=223,slow=16,SNR=5.7						
LCND	**La Ca˜–ada**	**4.27**	**98**	*e*P	**Pn**	**22 55 55.1**	**-0.6**
TGUH	**Tegucigalpa,Un**	**4.82**	**88**	*e*Pn	**Pn**	**22 56 01.2**	**-1.9**
TGUH	**Tegucigalpa,Un**	**4.82**	**88**	*e*P	**Pn**	**22 56 03.0**	**-0.1**
CRIN	**San Cristobal**	**5.20**	**103**	*e*P	**Pn**	**22 56 08.7**	**+0.3**
CRIN				*e*S	**Sn**	**22 57 07.7**	**+0.5**
VHO	**Vista Hermosa**	**5.34**	**306**	*e*Pn	**Pn**	**22 56 08.6**	**-1.9**
VHO	**Vista Hermosa**	**5.34**	**306**	*e*P	**Pn**	**22 56 08.6**	**-1.9**
VHO				*i* S	**Sn**	**22 57 09.2**	**-1.7**
CNGN	**Cerro Negro**	**5.58**	**104**	*e*P	**Pn**	**22 56 13.2**	**-0.5**
CNGN				IAML		22 57 44.8	
	comp=N,139nm,0.7s						
MOMN	**Momotombo**	**5.75**	**105**	*e*P	**Pn**	**22 56 15.8**	**-0.2**
ESTN	**Estel**	**5.77**	**98**	*e*Pn	**Pn**	**22 56 15.8**	**-0.5**
ESTN				*e*Sn	**Sn**	**22 57 20.2**	**-1.0**
ESTN	**Estel**	**5.77**	**98**	*e*P	**Pn**	**22 56 15.9**	**-0.3**
ESTN				IAmb	IAmb	22 56 16.6	
	comp=Z,45nm,0.6s						
COPN	**Copaltepe**	**5.77**	**107**	*e*P	**Pn**	**22 56 16.1**	**-0.1**
MATN	**Matagalpa**	**6.22**	**98**	*e*P	**Pn**	**22 56 22.0**	**-0.5**
BOAB	**BOACO BROADBAN**	**6.57**	**102**	*e*Pn	**Pn**	**22 56 26.3**	**-0.9**
BOAB	**BOACO BROADBAN**	**6.57**	**102**	*e*P	**Pn**	**22 56 26.3**	**-0.9**
LVIG	**Laguna Verde**	**7.01**	**326**	*e*Pn	**Pn**	**22 56 30.3**	**-2.9**
TLIG	**Tlapa**	**7.08**	**301**	*e*Pn	**Pn**	**22 56 34.4**	**+0.1**
TEIG	**Tepich**	**7.32**	**31**	*e*Pn	**Pn**	**22 56 37.7**	**+0.3**
MYIG	**MÖrida**	**7.38**	**18**	*e*Pn	**Pn**	**22 56 39.3**	**+1.0**
JTS	**JuntasAbangare**	**7.99**	**116**	Pn	**Pn**	**22 56 47.9**	**+1.2**
	comp=Z,2.0nm,0.3s,baz=353,slow=15,SNR=8.4						
JTS				Sn	**Sn**	**22 58 15.9**	**+0.1**
	comp=Z,1.6nm,0.3s,baz=327,slow=20,SNR=1.8						
JTS				Lg	Lg	22 58 53.9	
	comp=Z,0.5nm,0.3s,baz=200,slow=22,SNR=8.3						
JTS	**JuntasAbangare**	**7.99**	**116**	*e*Pn	**Pn**	**22 56 47.7**	**+1.0**
JTS				*e*Sn	**Sn**	**22 58 15.3**	**-0.5**
JTS				Lg	Lg	22 58 53.9	
MOIG	**Morelia**	**10.30**	**305**	*e*Pn	**Pn**	**22 57 21.1**	**+2.5**
LNIG	**Linares**	**12.86**	**329**	*e*Pn	**P**	**22 57 59.5**	**-3.4**
MTDJ	**Mount Denham**	**14.76**	**71**	*e*Pn	**Pn**	**22 58 17.7**	**-1.4**
833A	**Chaparral WMA,**	**15.79**	**336**	*e*Pn	**Pn**	**22 58 33.1**	**+0.8**
	comp=Z,21nm,0.8s						
833A	**Chaparral WMA,**	**15.79**	**336**	P	**Pn**	**22 58 33.1**	**+0.8**
	baz=153						
HKT	**Hockley**	**16.28**	**349**	*e*Pn	**Pn**	**22 58 39.2**	**+0.7**
	comp=Z,112nm,1.5s						
058A	**Arcadia**	**16.30**	**35**	P	**Pn**	**22 58 38.0**	**-0.7**
	baz=218						
857A	**Zephyrhills**	**17.03**	**32**	P	**P**	**22 58 48.9**	**-0.4**
	baz=214						
344A	**Westbrook Farm**	**17.49**	**4**	P	**P**	**22 58 56.7**	**+2.4**
	baz=184						
346A	**Big Creek Wild**	**17.56**	**8**	*e*Pn	**P**	**22 58 56.3**	**+1.3**
	comp=Z,50nm,0.9s						
655A	**Horseshoe Beac**	**17.59**	**27**	P	**P**	**22 58 55.1**	**-0.3**
	baz=210						
757A	**Oxford**	**17.66**	**31**	P	**P**	**22 58 57.4**	**+1.2**
	baz=214						
347A	**Saraland**	**17.72**	**10**	P	**P**	**22 58 57.9**	**+1.1**
	baz=191						
JCT	**Junction City**	**17.89**	**338**	*e*P	**P**	**22 59 01.1**	**+2.3**
	comp=Z,12nm,0.7s						
JCT	**Junction City**	**17.89**	**338**	P	**P**	**22 59 00.4**	**+1.7**
	baz=155						
241A	**Mo Tay, Goldon**	**18.02**	**358**	P	**P**	**22 59 01.8**	**+1.7**
	baz=177						
HPIG		**18.03**	**318**	*e*P	**Pn**	**22 59 02.5**	**+2.0**
	comp=Z,10nm,0.8s						
ZARC	**Zaragoza, Cauc**	**18.23**	**109**	*e*P	**P**	**22 59 01.7**	**-0.9**
555A	**McAlpin**	**18.24**	**26**	*e*P	**Pn**	**22 59 02.7**	**-0.1**
	comp=Z,104nm,1.1s						
555A	**McAlpin**	**18.24**	**26**	P	**Pn**	**22 59 04.6**	**+1.7**
	baz=209						
453A	**Whigham**	**18.35**	**22**	P	**Pn**	**22 59 06.1**	**+1.9**
	baz=204						
556A	**Lake Butler**	**18.39**	**28**	P	**Pn**	**22 59 05.3**	**+0.7**
	baz=211						
SMLC	**San Mart`›n de**	**18.52**	**104**	*e*P	**Pn**	**22 59 07.7**	**+1.3**
248A	**Dixon Mills**	**18.54**	**12**	P	**Pn**	**22 59 07.6**	**+1.1**
	baz=193						
249A	**Camden**	**18.56**	**14**	P	**Pn**	**22 59 07.3**	**+0.6**
	baz=195						
WHTX	**Lake Whitney,**	**18.60**	**346**	P	**Pn**	**22 59 08.9**	**+1.7**
	baz=164						
LTX	**Lajitas**	**18.63**	**327**	*e*P	**Pn**	**22 59 09.7**	**+2.0**
TXAR	**Lajitas Array**	**18.63**	**327**	P	**Pn**	**22 59 09.7**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=151,slow=11,SNR=34						
TX31	**Lajitas Ar. Si**	**18.63**	**327**	*e*P	**Pn**	**22 59 09.2**	**+1.6**
352A	**Blakely**	**18.71**	**20**	P	**Pn**	**22 59 08.9**	**+0.4**
	baz=202						
250A	**Grady**	**18.78**	**16**	P	**Pn**	**22 59 09.4**	**+0.1**
	baz=198						
353A	**Camilla**	**18.83**	**22**	P	**Pn**	**22 59 11.8**	**+1.8**
	baz=204						
RREF	**El Recreo**	**18.91**	**117**	*e*P	**Pn**	**22 59 12.2**	**+0.5**
PTBC	**PUERTO BERRIO,**	**18.97**	**111**	*e*P	**P**	**22 59 10.2**	**-0.5**
147A	**Livingston**	**19.00**	**10**	*e*P	**Pn**	**22 59 14.5**	**+2.5**
	comp=Z,76nm,1.3s						
147A	**Livingston**	**19.00**	**10**	P	**Pn**	**22 59 12.5**	**+0.4**
	baz=191						
NORC	**Norcasia**	**19.02**	**114**	*e*P	**Pn**	**22 59 12.2**	**-0.2**
POPC	**Popayan, Colom**	**19.09**	**125**	*e*P	**Pn**	**22 59 13.8**	**+0.3**
148A	**Greensboro**	**19.11**	**12**	P	**Pn**	**22 59 13.6**	**+0.3**
	baz=193						
251A	**Midway**	**19.13**	**18**	P	**Pn**	**22 59 13.6**	**+0.1**
	baz=200						
TIGA	**Tifton**	**19.15**	**23**	P	**Pn**	**22 59 13.4**	**-0.3**
	baz=206						
456A	**Hilliard**	**19.18**	**28**	P	**Pn**	**22 59 15.7**	**+1.6**
	baz=211						
149A	**Jones**	**19.23**	**14**	P	**Pn**	**22 59 14.7**	**-0.1**
	baz=196						
Z41A	**Richland Creek**	**19.25**	**359**	*e*P	**Pn**	**22 59 15.9**	**+1.0**
	comp=Z,47nm,1.0s						
Z41A	**Richland Creek**	**19.25**	**359**	P	**P**	**22 59 14.1**	**+0.5**
	baz=178						
Z42A	**Norrel Spur, H**	**19.26**	**1**	P	**P**	**22 59 13.5**	**-0.2**
	baz=180						
SOTA	**Rioblanco**	**19.39**	**126**	*e*P	**Pn**	**22 59 21.8**	**+4.5**
Z46A	**Louisville**	**19.41**	**8**	P	**Pn**	**22 59 16.6**	**-0.3**
	baz=189						
150A	**Eclectic**	**19.44**	**16**	P	**Pn**	**22 59 17.8**	**+0.6**
	baz=198,SNR=5.8						
Z47A	**Carrollton**	**19.55**	**10**	P	**Pn**	**22 59 18.3**	**-0.3**
	baz=192,SNR=8.0						
151A	**Opelika**	**19.56**	**18**	P	**Pn**	**22 59 17.8**	**-0.8**
	baz=200,SNR=7.7						
LRAL	**Lakeview Retre**	**19.61**	**13**	*e*P	**Pn**	**22 59 19.1**	**-0.2**
	comp=Z,26nm,1.5s						
LRAL	**Lakeview Retre**	**19.61**	**13**	P	**Pn**	**22 59 18.5**	**-0.7**
	baz=195						
356A	**Blackshear**	**19.64**	**27**	P	**Pn**	**22 59 18.4**	**-1.3**
	baz=210						
254A	**Abbeville**	**19.71**	**23**	P	**Pn**	**22 59 19.4**	**-1.1**
	baz=206						
ABTX	**Abilene, Hawle**	**19.80**	**341**	*e*P	**Pn**	**22 59 21.8**	**+0.2**
	comp=Z,39nm,1.4s						
ABTX	**Abilene, Hawle**	**19.80**	**341**	P	**Pn**	**22 59 21.6**	**+0.1**
	baz=158						
Z48A	**Northport**	**19.82**	**12**	P	**Pn**	**22 59 20.6**	**-1.1**
	baz=193						
ROSC	**El Rosal**	**19.84**	**115**	P	**Pn**	**22 59 21.7**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=89,slow=20,SNR=8.8						
ROSC	**El Rosal**	**19.84**	**115**	*e*P	**Pn**	**22 59 24.1**	**+1.6**
	comp=Z,14nm,0.9s						
Z49A	**Columbiana**	**19.87**	**14**	P	**Pn**	**22 59 21.4**	**-0.8**
	baz=196						
152A	**Waverly Hall**	**19.87**	**19**	*e*P	**Pn**	**22 59 22.5**	**+0.1**
	comp=Z,16nm,0.7s						
152A	**Waverly Hall**	**19.87**	**19**	P	**Pn**	**22 59 21.7**	**-0.7**
	baz=201						
255A	**Hazlehurst**	**20.02**	**25**	P	**P**	**22 59 22.3**	**+0.3**
	baz=208						
Z50A	**Ashland**	**20.08**	**16**	*e*P	**P**	**22 59 23.4**	**+0.7**
	comp=Z,9.3nm,0.8s						
Z50A	**Ashlnd**	**20.08**	**16**	P	**Pn**	**22 59 24.1**	**-0.7**
	baz=198						
Y46A	**Houston**	**20.10**	**8**	P	**P**	**22 59 23.4**	**+0

X53A	**Estanollee** baz=203	22.02	20	P		P		22 59 44.4	+0.9
W50A	**Signal Mountai** comp=Z,11nm,0.8s	22.08	15	*e*P		P		22 59 44.4	+0.1
W50A	**Signal Mountai** baz=198	22.08	15	P		P		22 59 44.1	-0.2
V46A	**Holladay** baz=190	22.09	9	P		P		22 59 42.8	-1.5
TUL1	**Leonard** comp=Z,19nm,0.8s	22.12	352	*e*P		P		22 59 44.1	-0.5
TUL1	**Leonard** baz=170	22.12	352	P		P		22 59 44.4	-0.2
MSTX	**Muleshoe** comp=Z,55nm,1.2s	22.12	336	*e*P		P		22 59 45.2	+0.4
MSTX	**Muleshoe** baz=152,SNR=11	22.12	336	P		P		22 59 45.8	+1.0
W51A	**Cleveland** baz=199	22.19	16	P		P		22 59 45.9	+0.6
V47A	**Nunnelly** baz=192,SNR=6.3	22.21	10	P		P		22 59 45.0	-0.6
V48A	**Smith Brothers** comp=Z,19nm,0.8s	22.25	12	*e*P		P		22 59 45.4	-0.7
V48A	**Smith Brothers** baz=194,SNR=8.5	22.25	12	P		P		22 59 45.6	-0.5
U41A	**Viola** baz=180	22.32	1	P		P		22 59 46.5	-0.3
U40A	**Yellville** baz=178	22.34	359	P		P		22 59 46.7	-0.3
U42A	**Revenden** baz=182	22.34	2	P		P		22 59 46.6	-0.4
W52A	**Murphy** baz=201	22.36	18	P		P		22 59 47.4	0.0
WVT	**Waverly** comp=Z,11nm,1.0s	22.45	9	*e*P		P		22 59 47.7	-0.5
WVT	**Waverly** baz=191	22.45	9	P		P		22 59 47.7	-0.5
V49A	**McMinnville** baz=196,SNR=5.3	22.48	14	P		P		22 59 48.3	-0.2
CPCT	**Cooper Cave** comp=Z,16nm,1.1s	22.52	17	*e*P		P		22 59 48.8	-0.2
AMTX	**Amarillo** comp=Z,56nm,0.8s	22.54	339	*e*P		P		22 59 49.6	+0.4
AMTX	**Amarillo** baz=155	22.54	339	P		P		22 59 49.9	+0.7
JSC	**Jenkinsville** comp=Z,12nm,0.9s	22.57	24	*e*P		P		22 59 49.5	0.0
V50A	**Pikevile** baz=198	22.58	15	P		P		22 59 49.2	-0.4
BG3	**Lake Jocassee** comp=Z,16nm,1.0s	22.59	20	*e*P		P		22 59 50.4	+0.7
U46A	**Springville** baz=190	22.63	9	P		P		22 59 49.2	-0.9
PBMO	**Poplar Bluff** comp=Z,12nm,0.6s	22.81	4	*e*P		P		22 59 50.8	-1.2
PAULI	**Pauline** comp=Z,30nm,1.3s	22.83	23	*e*P		P		22 59 55.0	+2.8
U47A	**Clarksville** baz=192	22.85	10	P		P		22 59 51.0	-1.4
V51A	**Loudon** comp=Z,15nm,1.0s	22.90	17	*e*P		P		22 59 52.9	0.0
V51A	**Loudon** baz=200	22.90	17	P		P		22 59 52.7	-0.3
TKL	**Tuckaleechee C** comp=Z,8.6nm,0.5s,baz=169,slow=14,SNR=23	22.93	18	P		P		22 59 53.0	-0.3
TKL	**Tuckaleechee C** comp=Z,15nm,1.1s	22.93	18	*e*P		P		22 59 53.9	+0.6
T41A	**Mountain View** baz=181	23.02	1	P		P		22 59 53.1	-1.0
T42A	**Van Buren** comp=Z,5.2nm,0.8s	23.03	2	*e*P		P		22 59 52.9	-1.3
T42A	**Van Buren** baz=182	23.03	2	P		P		22 59 52.7	-1.5
U48A	**Cassie Pea, Po** baz=194	23.06	12	P		P		22 59 53.3	-1.2
V52A	**Sevierville** baz=201	23.16	18	P		P		22 59 55.3	-0.2
U49A	**Red Boiling Sp** baz=196,SNR=10	23.22	13	P		P		22 59 55.0	-1.1
V53A	**Saluda** comp=Z,25nm,1.2s	23.25	20	*e*P		P		22 59 56.4	0.0
V53A	**Saluda** baz=203	23.25	20	P		P		22 59 56.0	-0.5
KMSC	**Kings Mountain** comp=Z,12nm,0.6s	23.30	23	*e*P		P		22 59 56.8	-0.1
KMSC	**Kings Mountain** baz=207,SNR=5.7	23.30	23	P		P		22 59 56.7	-0.1
121A	**Cookes Peak, D** baz=139,SNR=8.6	23.33	325	P		P		22 59 59.2	+1.7
T46A	**Princeton** baz=190	23.34	9	P		P		22 59 56.0	-1.2
U50A	**Jamestown** baz=198,SNR=11	23.35	15	P		P		22 59 56.7	-0.7
319A	**Douglas** comp=Z,17nm,0.9s	23.37	321	*e*P		P		23 00 00.3	+2.5
T47A	**Sharon Grove** comp=Z,18nm,0.6s	23.41	10	*e*P		P		22 59 56.9	-1.1
T47A	**Sharon Grove** baz=192,SNR=8.8	23.41	10	P		P		22 59 57.0	-0.9
U51A	**La Follette** baz=200,SNR=9.0	23.54	17	P		P		22 59 58.4	-0.8
S41A	**Jillco Farms,** baz=181	23.56	1	P		P		22 59 58.4	-1.0
T48A	**Bowling Green** baz=194	23.66	12	P		P		22 59 59.1	-1.2
U52A	**Thorn Hill** baz=201	23.74	18	P		P		23 00 00.4	-0.7
S42A	**Caledonia** baz=183	23.78	3	P		P		22 59 59.7	-1.7
S44A	**Carbondale** baz=187,SNR=7.7	23.81	6	P		P		23 00 01.1	-0.6
TZTN	**Tazewell** comp=Z,44nm,1.4s	23.82	18	*e*P		P		23 00 01.3	-0.5
TZTN	**Tazewell** baz=201	23.82	18	P		P		23 00 01.3	-0.5
SIUC	**Southern Illin** comp=Z,39nm,0.8s	23.84	6	*e*P		P		23 00 01.4	-0.5
T49A	**Edmonton** comp=Z,21nm,1.1s	23.84	13	*e*P		P		23 00 01.2	-0.7
T49A	**Edmonton** baz=196,SNR=5.7	23.84	13	P		P		23 00 01.3	-0.7
S45A	**Carrier Mills** baz=188	23.87	7	P		P		23 00 01.0	-1.2
T50A	**Nancy** baz=198,SNR=7.4	23.92	15	P		P		23 00 01.9	-0.9
U53A	**Fall Branch** baz=203	23.96	19	P		P		23 00 02.4	-0.7
BNM	**Barren Site**	23.98	330	*e*P		P		23 00 06.4	+2.7
S46A	**Don Dixon Farm** baz=190	24.00	9	P		P		23 00 02.6	-0.8
CCM	**Cathedral Cave** comp=Z,8.5nm,0.8s	24.04	2	*e*P		P		23 00 02.1	-1.7
CCM	**Cathedral Cave** baz=182	24.04	2	P		P		23 00 02.3	-1.5
S47A	**Hartford** baz=192	24.05	10	P		P		23 00 02.8	-1.1
T51A	**Gray** baz=200	24.11	16	P		P		23 00 03.6	-0.8
LPM	**Los Pinos Moun**	24.12	330	*e*P		P		23 00 27.2	+2.4
LENM	**Lemitar**	24.17	329	*e*P		P		23 00 09.0	+3.7
S48A	**Wiedeman Farm,** baz=194	24.26	12	P		P		23 00 04.6	-1.3
R41A	**Rosebud** baz=182,SNR=7.1	24.28	2	P		P		23 00 05.0	-1.0
R43A	**Red Bud** baz=185	24.33	4	P		P		23 00 05.8	-0.7
R44A	**Waltonville** baz=187	24.38	6	P		P		23 00 05.9	-1.0
LAZ	**Ladron**	24.44	329	*e*P		P		23 00 11.7	+3.9
T52A	**Hallie** baz=202	24.51	18	P		P		23 00 07.7	-0.5
R45A	**Skylar, Fairfi** baz=189	24.52	8	P		P		23 00 07.7	-0.4
R46A	**Gibon Southern** baz=191	24.54	9	P		P		23 00 08.0	-0.4
ANMO	**Albuquerque** comp=Z,5.2nm,0.6s,baz=152,slow=12,SNR=18	24.55	331	P		P		23 00 10.8	+2.1
ANMO	**Albuquerque** comp=Z,5.5nm,0.7s	24.55	331	*e*P		P		23 00 10.5	+1.8
ANMO	**Albuquerque** baz=145	24.55	331	P		P		23 00 10.3	+1.6
S49A	**Springfield** baz=196,SNR=6.9	24.55	13	P		P		23 00 07.5	-0.9
S50A	**Richmond** baz=198,SNR=7.1	24.66	15	P		P		23 00 09.0	-0.5
WCI	**Wyandotte Cave** comp=Z,38nm,0.8s	24.77	11	*e*P		P		23 00 09.6	-0.9
WCI	**Wyandotte Cave** baz=194	24.77	11	P		P		23 00 09.7	-0.7
R47A	**Wooly Knot Far** baz=193,SNR=6.4	24.79	11	P		P		23 00 09.8	-0.8
S51A	**Beattyville** comp=Z,10nm,0.7s	24.83	17	*e*P		P		23 00 10.3	-0.8
S51A	**Beattyville** baz=200	24.83	17	P		P		23 00 10.1	-0.9
Q42A	**Golden Eagle** baz=184	24.93	3	P		P		23 00 11.1	-0.8
Q41A	**Truxton** baz=182	24.94	2	P		P		23 00 11.3	-0.7
TUC	**Tucson** comp=Z,5.4nm,1.0s	24.94	320	*e*P		P		23 00 14.3	+2.1
TUC	**Tucson** baz=133	24.94	320	P		P		23 00 13.2	+1.0
OLIL	**Olney** comp=Z,32nm,0.6s	24.97	8	*e*P		P		23 00 11.8	-0.5
Q43A	**New Douglas** baz=186	25.01	5	P		P		23 00 11.7	-0.9
R48A	**Northridge Ran** baz=194,SNR=5.5	25.02	12	P		P		23 00 12.2	-0.5
S52A	**Salyersville** baz=201	25.02	17	P		P		23 00 12.1	-0.6
Q44A	**Meyer Farm, Va** baz=187	25.04	6	P		P		23 00 12.7	-0.2
R49A	**Shelbyville** baz=196	25.06	13	P		P		23 00 12.0	-1.0
Q45A	**Warren Harvey,** baz=189	25.12	8	P		P		23 00 12.7	-1.0
R50A	**Paris** baz=198	25.25	15	P		P		23 00 14.1	-0.7
KSU1	**Kansas State U** comp=Z,11nm,0.6s	25.37	352	*e*P		P		23 00 15.8	0.0
KSU1	**Kansas State U** baz=170	25.37	352	P		P		23 00 15.6	-0.2
Q47A	**Bedord North L** baz=193	25.43	11	P		P		23 00 15.6	-0.8
R51A	**Hillsboro** baz=199	25.46	16	P		P		23 00 16.0	-0.7
BLA	**Blacksburg** baz=207	25.47	22	P		P		23 00 16.6	-0.3
T25A	**Trinidad** comp=Z,19nm,1.0s	25.54	337	*e*P		P		23 00 20.3	+2.6
T25A	**Trinidad** baz=152,SNR=11	25.54	337	P		P		23 00 20.2	+2.4
Q48A	**North Vernon** baz=194	25.55	12	P		P		23 00 16.7	-0.8
P42A	**Winchester** baz=184	25.61	3	P		P		23 00 16.9	-1.1
BLO	**Bloomington** comp=Z,16nm,0.7s	25.64	10	*e*P		P		23 00 17.8	-0.5
CBKS	**Cedar Bluff**	25.66	346	*e*P		P		23 00 20.5	+2.0
CBKS	**Cedar Bluff** baz=163	25.66	346	P		P		23 00 20.4	+1.8
P41A	**Barry, Barry** baz=182	25.66	2	P		P		23 00 17.9	-0.7
P45A	**Graceland, Par** comp=Z,17nm,0.6s	25.80	8	*e*P		P		23 00 19.3	-0.6
P45A	**Graceland, Par** baz=190	25.80	8	P		P		23 00 19.2	-0.6
Q49A	**Aurora** baz=196	25.80	13	P		P		23 00 19.1	-0.8
P46A	**Rosedale** baz=191,SNR=6.1	25.97	9	P		P		23 00 20.7	-0.6
P47A	**Millinsville** baz=193	25.99	11	P		P		23 00 20.6	-0.9
P48A	**Milroy** baz=195	26.13	12	P		P		23 00 21.6	-1.2
Q51A	**Peebles** comp=Z,14nm,0.8s	26.20	16	*e*P		P		23 00 22.7	-0.7
Q51A	**Peebles** baz=199	26.20	16	P		P		23 00 22.7	-0.7
P49A	**Miami Univ. Ec** baz=196	26.35	13	P		P		23 00 23.0	-1.8
Q52A	**Bidwell** baz=202	26.44	18	P		P		23 00 24.6	-1.0
SDCO	**Great Sand Dun** comp=Z,13nm,1.4s	26.49	336	*e*P		P		23 00 28.6	+2.2
O45A	**Potomac** baz=190	26.51	8	P		P		23 00 25.2	-1.0
P50A	**Jamestown** baz=198	26.64	15	P		P		23 00 27.0	-0.4
P51A	**Williamsport** baz=200	26.70	16	P		P		23 00 26.8	-1.2
SFIN	**Lafayette** baz=191	26.73	9	P		P		23 00 27.3	-0.9
O47A	**Sheridan** baz=193	26.74	10	P		P		23 00 26.7	-1.5
X16A	**Lo Mia Camp, P** comp=Z,6.7nm,1.0s	26.79	323	*e*P		P		23 00 31.6	+2.5
O48A	**Farmland** baz=195	26.95	12	P		P		23 00 28.4	-1.8
S22A	**4UR Ranch, Cre** comp=Z,12nm,0.9s	27.04	334	*e*P		P		23 00 33.5	+2.2
S22A	**4UR Ranch, Cre** baz=147,SNR=16	27.04	334	P		P		23 00 33.0	+1.6
P52A	**Corning** baz=202	27.10	17	P		P		23 00 30.3	-1.3
R58B	**Mineral** baz=211	27.12	25	P		P		23 00 31.2	-0.5
N46A	**Monticello** baz=191	27.29	9	P		P		23 00 32.0	-1.2
MVCO	**Mesa Verde** comp=Z,38nm,1.3s	27.35	331	*e*P		P		23 00 36.4	+2.3
MVCO	**Mesa Verde** baz=144,SNR=18	27.35	331	P		P		23 00 35.4	+1.3
ACSO	**Alum Creek Sta** baz=199	27.43	16	P		P		23 00 33.0	-1.5
O51A	**Pataskala** baz=200	27.45	16	P		P		23 00 33.6	-1.0
WUAZ	**Wupatki** comp=Z,9.2nm,1.0s	27.54	325	*e*P		P		23 00 38.0	+2.3
WUAZ	**Wupatki** baz=136	27.54	325	P		P		23 00 37.8	+2.1
N48A	**Decatur** baz=195,SNR=5.0	27.56	12	P		P		23 00 34.3	-1.3
O52A	**Adamsville** baz=202	27.64	17	P		P		23 00 35.4	-0.9
M47A	**Cromwell** baz=193	27.93	11	P		P		23 00 37.5	-1.4
PV01	**Paradox Valley**	28.13	332	*e*P		P		23 00 44.1	+3.0
OGNE	**Ogallala** baz=159	28.24	344	P		P		23 00 43.2	+1.3
PV13	**Radium Mtn., P** comp=Z,24nm,1.0s	28.26	332	*e*P		P		23 00 45.0	+2.8
PV02	**Paradox Valley** comp=Z,38nm,1.4s	28.26	332	*e*P		P		23 00 45.6	+3.4
ISCO	**Idaho Springs** comp=Z,3.1nm,0.8s	28.33	338	*e*P		P		23 00 46.8	+3.9
ISCO	**Idaho Springs** baz=152	28.33	338	P		P		23 00 43.1	+0.2
PV05	**Paradox Valley**	28.33	331	*e*P		P		23 00 45.3	+2.5
PV03	**Paradox Valley**	28.35	332	*e*P		P		23 00 45.7	+2.6
PV18	**Skein Mesa, Pa** comp=Z,37nm,1.4s	28.37	332	*e*P		P		23 00 45.9	+2.7
PV12	**Saucer Basin,** comp=Z,45nm,1.1s	28.38	332	*e*P		P		23 00 43.3	0.0
PV11	**David Mesa, Pa** comp=Z,25nm,1.0s	28.40	332	*e*P		P		23 00 46.1	+2.7
PV17	**East Wray Mesa** comp=Z,21nm,1.0s	28.43	332	*e*P		P		23 00 46.4	+2.8
PV16	**Nyswonger Mesa** comp=Z,23nm,1.1s	28.43	332	*e*P		P		23 00 46.4	+2.7
PV19	**Morning Glory** comp=Z,17nm,1.1s	28.46	332	*e*P		P		23 00 46.7	+2.7
PV20	**West Nyswonger** comp=Z,14nm,1.0s	28.48	332	*e*P		P		23 00 46.7	+2.6
PV23	**Carpenter Ridg** comp=Z,17nm,0.9s	28.59	332	*e*P		P		23 00 47.8	+2.6
PV09	**Paradox Valley**	28.68	332	*e*P		P		23 00 48.1	+2.1
U15A	**North Rim** comp=Z,4.7nm,1.1s	28.71	325	*e*P		P		23 00 49.1	+2.8
BC3	**Big Chuckawall** baz=127	28.80	317	P		P		23 00 49.7	+2.7
N54A	**Moraine State** baz=205	28.98	19	P		P		23 00 47.6	-0.7
SSPA	**Standing Stone** baz=209	29.42	23	P		P		23 00 51.7	-0.5
KNB	**Kanab** comp=Z,9.1nm,1.0s	29.43	325	*e*P		P		23 00 55.5	+2.9
PKCU	**Pink Cliffs** comp=Z,4.3nm,0.7s	29.46	326	*e*P		P		23 00 54.2	+1.3
O20A	**White River Ci** comp=Z,16nm,1.0s	29.64	335	*e*P		P		23 00 52.0	-2.4
ECSD	**EROS Data Cent** baz=171	29.94	354	P		P		23 00 56.5	-0.2
SZCU	**Shurtz Canyon** comp=Z,11nm,1.3s	29.99	326	*e*P		P		23 01 00.7	+3.1
CCUT	**Cedar City**	30.11	325	*e*P		P		23 00 59.6	+1.0
BINY	**Binghamton** baz=211	31.49	23	P		P		23 01 09.9	-0.5
MPMC	**Manual Prospec** baz=128	31.59	319	P		P		23 01 13.6	+1.9
RSSD	**Black Hills** comp=Z,5.2nm,0.8s	31.73	344	*e*P		P		23 01 13.9	+1.1
RSSD	**Black Hills** baz=158	31.73	344	P		P		23 01 12.1	-0.7
PD31	**Pinedale Array**	32.39	336	*e*P		P		23 01 19.6	+0.9
PD31				*e*PcP		PcP		23 04 05.2	-0.3
PDAR	**Pinedale Array** comp=Z,1.5nm,0.7s,baz=147,slow=12,SNR=4.6	32.39	336	P		P		23 01 19.6	+0.9
PDAR				PcP		PcP		23 04 05.2	-0.3
SADO	**Sadowa** comp=Z,0.8nm,0.6s,baz=150,slow=3.8,SNR=5.1	32.70	17	P		P		23 01 19.0	-2.0
SADO	**Sadowa** comp=Z,7.8nm,0.9s,baz=225,slow=11,SNR=8.1	32.70	17	*e*P		P		23 01 19.0	-2.0
SNOW	**Snow King Moun** comp=Z,37nm,0.8s	33.45	335	*e*P		P		23 01 30.0	+2.1
NV11	**Mina Array Sit** comp=Z,0.7nm,1.1s	33.49	322	*e*P		P		23 01 31.4	+3.2
OMMB	**Old Mammoth Mi** comp=Z,5.8nm,1.3s	33.50	320	*e*P		P		23 01 31.2	+2.7
LOHW	**Long Hollow** comp=Z,7.9nm,0.8s	33.51	336	*e*P		P		23 01 30.5	+2.0
TPAW	**Teton Pass** comp=Z,46nm,1.5s	33.55	335	*e*P		P		23 01 31.0	+2.2
NV01	**Mina Array Sit**	33.58	321	*e*P		P		23 01 31.5	+2.4
NV01				*e*PcP		PcP		23 04 09.5	+0.7
NVAR	**Mina Array Bea** comp=Z,4.7nm,0.6s,baz=132,slow=8.6,SNR=50	33.58	321	P		P		23 01 31.6	+2.5
NVAR				PcP		PcP		23 04 09.5	+0.7
KVN	**Kaiserville** comp=Z,8.8nm,1.1s	33.86	322	*e*P		P		23 01 31.2	-0.2
BMN	**Battle Mountai** comp=Z,4.9nm,0.8s	34.27	325	*e*P		P		23 01 37.8	+2.8
YERR	**Yerington** comp=Z,6.0nm,1.1s	34.50	321	*e*P		P		23 01 40.0	+3.0
YMR	**Madison River** comp=Z,10nm,0.9s	34.54	336	*e*P		P		23 01 40.4	+3.1
PNTR	**Pine Nut** comp=Z,8.7nm,1.0s	34.78	321	*e*P		P		23 01 43.0	+3.4
PAHR	**Pah Rah Range** comp=Z,9.4nm,1.2s	35.04	322	*e*P		P		23 01 44.4	+2.8
HLID	**Hailey** comp=Z,8.4nm,1.0s	35.12	332	*e*P		P		23 01 44.7	+2.4
HLID	**Hailey** baz=140,SNR=8.2	35.12	332	P		P		23 01 43.6	+1.3
PTGA	**Pitinga** comp=Z,13nm,0.9s	35.13	112	*e*P		P		23 01 42.3	-0.2
MCMT	**McKenzie Canyo**	35.43	334	*e*P		P		23 01 48.0	+2.9
BEKR	**Beckworth** comp=Z,4.4nm,0.9s	35.73	322	*e*P		P		23 01 50.3	+2.8
DLMT	**Dillon** comp=Z,15nm,1.1s	35.76	335	*e*P		P		23 01 50.3	+2.5
WVOR	**Wild Horse Val** comp=Z,8.5nm,1.1s	36.42	326	*e*P		P		23 01 55.8	+2.4
HRY	**Holter Researc**	36.58	337	*e*P		P		23 01 56.3	+1.6
EGMT	**Eagleton** comp=Z,17nm,1.2s	36.97	340	*e*P		P		23 01 59.4	+1.4
EGMT	**Eagleton** baz=151	36.97	340	P		P		23 01 57.9	-0.1
J08A	**Circle Bar Ran** comp=Z,27nm,0.6s	36.98	328	*e*P		P		23 02 00.1	+2.0
BMO	**Blue Mountains** comp=Z,33nm,0.1s	37.46	330	*e*P		P		23 02 02.4	+0.2
MSO	**Missoula** comp=Z,7.3nm,0.8s	37.50	335	*e*P		P		23 02 04.1	+1.6
MSO	**Missoula** baz=144,SNR=5.6	37.50	335	P		P		23 02 03.5	+1.0
I07A	**Izee** comp=Z,8.0nm,1.0s	38.02	328	*e*P		P		23 02 10.1	+3.2
F10A	**Beach Ranch, E** comp=Z,22nm,0.8s	38.26	332	*e*P		P		23 02 10.1	+1.2
YBH	**Yreka Blue Hor** comp=Z,1.4nm,0.7s,baz=79,slow=4.4,SNR=4.3	38.28	322	P		P		23 02 09.2	+0.1
LPAZ	**La Paz** comp=Z,0.4nm,0.5s,baz=342,slow=9.6,SNR=3.8	38.33	141	P		P		23 02 09.6	-0.8
E09A	**Wood Farm, Sta** comp=Z,6.5nm,0.9s	39.09	331	*e*P		P		23 02 17.8	+2.1
H04A	**Detroit Lake** comp=Z,18nm,0.9s	39.84	326	*e*P		P		23 02 23.9	+1.8
NEW	**Newport** comp=Z,2.7nm,0.8s,baz=156,slow=11,SNR=5.9	39.96	334	P		P		23 02 22.9	-0.1
NEW	**Newport** baz=140	39.96	334	P		P		23 02 23.6	+0.6
C09A	**Chrisman Ranch** comp=Z,8.1nm,0.7s	40.10	333	*e*P		P		23 02 26.0	+1.8
SIV	**San Ignacio** comp=Z,3.4nm,0.7s,baz=316,slow=8.8,SNR=16	42.81	133	P		P		23 02 46.5	-0.2
SIV				PcP		PcP		23 04 38.2	+0.7
YKA	**Yellowknife Ar** comp=Z,2.2nm,0.8s,baz=336,slow=3.3,SNR=4.8	51.04	347	P		P		23 03 50.6	+0.4
YKA	comp=Z,15nm,0.7s,baz=151,slow=7.4,SNR=52			PcP		PcP		23 05 05.9	+0.2
YKB5	**Yellowknife Ar**	51.04	347	*e*P		P		23 03 50.6	+0.3
YKB5				*e*PcP		PcP		23 05 05.9	+0.2
BDFB	**Brasilia** comp=Z,4.4nm,0.9s,baz=294,slow=7.2,SNR=4.0	52.68	122	P		P		23 04 01.7	-1.7
INK	**Inuvik** comp=Z,13nm,0.9s,baz=116,slow=7.2,SNR=24	60.44	344	P		P		23 04 58.5	+1.0
INK	**Inuvik** comp=Z,16nm,0.9s	60.44	344	*e*P		P		23 04 58.5	+1.0
DOT	**Dot Lake** comp=Z,6.2nm,0.8s	61.19	336	*e*P		P		23 05 04.7	+1.9
PAX	**Paxson** comp=Z,7.4nm,0.8s	61.42	335	*e*P		P		23 05 06.1	+1.6
IL1	**Eielson Array**	62.81	337	*e*P		P		23 05 13.6	0.0
ILAR	**Eielson Array** comp=Z,4.2nm,0.8s,baz=142,slow=4.6,SNR=48	62.81	337	P		P		23 05 14.3	+0.7
ILB	**Eielson Array**	62.81	337	*e*P		P		23 05 14.7	+1.0
RND	**Reindeer** comp=Z,18nm,0.8s	62.99	335	*e*P		P		23 05 16.8	+1.8
SUA	**Susitna One** comp=Z,8.2nm,0.7s	63.04	333	*e*P		P		23 05 17.1	+1.8
CCB	**Clear Creek Bu** comp=Z,6.9nm,1.3s	63.11	337	*e*P		P		23 05 16.2	+0.6
BWN	**Browne** comp=Z,30nm,0.8s	63.56	336	*e*P		P		23 05 19.8	+1.2
SKT	**Skwentna** comp=Z,15nm,1.1s	63.57	333	*e*P		P		23 05 20.2	+1.5
TRF	**Thorofare Moun** comp=Z,14nm,0.8s	63.60	335	*e*P		P		23 05 20.5	+1.4
BPAW	**Bear Paw Mtn.** comp=Z,6.9nm,0.8s	64.14	335	*e*P		P		23 05 23.6	+1.1
MLY	**Manley** comp=Z,14nm,0.8s	64.41	336	*e*P		P		23 05 25.2	+1.0
COLD	**Coldfoot** comp=Z,4.7nm,1.0s	65.11	339	*e*P		P		23 05 31.1	+2.4
TOLK	**Toolik Lake Re** baz=116,SNR=8.5	65.51	340	P		P		23 05 30.8	-0.5
IM3	**Indian Mountai**	65.93	337	*e*P		P		23 05 34.2	+0.2
ESDC	**Sonseca Array** comp=Z,0.9nm,0.6s,baz=288,slow=5.4,SNR=6.9	79.94	52	P		P		23 06 54.7	-2.9
BILL	**Bilibino** comp=Z,11nm,0.6s	81.44	338	*e*P		P		23 07 06.0	+1.1
NB200	**NORSAR Array S**	84.31	28	*e*P		P		23 07 20.1	+0.1
NOA	**NORSAR Array B** comp=Z,0.7nm,0.6s,baz=268,slow=4.2,SNR=3.9	84.31	28	P		P		23 07 20.1	+0.1
DBIC	**Dimbokro** comp=Z,3.4nm,0.7s,baz=264,slow=4.8,SNR=5.5	85.89	84	P		P		23 07 28.4	-0.4
DBIC	**Dimbokro** comp=Z,14nm,1.4s	85.89	84	*e*P		P		23 07 28.4	-0.4
ARA0	**ARCESS Array S**	86.27	18	*e*P		P		23 07 29.1	-0.5
ARCES	**ARCESS Array B** comp=Z,1.3nm,0.5s,baz=289,slow=3.7,SNR=12	86.27	18	P		P		23 07 29.1	-0.5
GERES	**GERESS Array B** comp=Z,0.7nm,0.9s,baz=286,slow=3.9,SNR=4.6	89.80	39	P		P		23 07 44.8	-2.2
TOA1	**Torodi Ar. Sit**	90.61	76	*e*P		P		23 07 48.9	-2.4
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.5s,baz=270,slow=3.5,SNR=7.9	90.62	76	P		P		23 07 48.9	-2.4
FIA0	**FINESS Array S**	90.66	25	*e*P		P		23 07 48.9	-1.6
FINES	**FINESS Array B** comp=Z,3.9nm,1.0s,baz=310,slow=12,SNR=5.8	90.66	25	P		P		23 07 48.9	-1.5
KURK	**Kurchatov**	115.13	6	*e*PKiKP		PKPdf		23 13 29.9	+0.6
KURBB	**Kurchatov Arra** comp=Z,0.9nm,0.7s,baz=344,slow=1.4,SNR=7.0	115.22	6	PKP		PKPdf		23 13 29.9	+0.5
SONA0	**Songino Array**	116.30	346	*e*PKPdf		PKPdf		23 13 32.6	+0.8
SONM	**Songino Array** comp=Z,0.8nm,0.9s,baz=343,slow=3.0,SNR=3.4	116.30	346	PKP		PKPdf		23 13 32.6	+0.8
MK32	**Makanchi Array**	119.36	4	*e*PKPdf		PKPdf		23 13 36.8	-0.8
MKAR	**Makanchi Array** comp=Z,0.5nm,0.7s,ba

BOSA	**Boshof**	**120.54**	**115**	PKP	**PKPdf**	**23 13 40.6**	**+0.2**
	comp=Z,3.5nm,0.8s,baz=304,slow=2.8,SNR=4.3						
WR1	**Warramunga Arr**	**135.16**	**256**	*e*PKPdf	**PKPdf**	**23 14 08.4**	**+0.1**
WRA	**Warramunga Arr**	**135.16**	**256**	PKP	**PKPdf**	**23 14 08.4**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=92,slow=2.5,SNR=11						
AS31	**Alice Springs**	**135.43**	**250**	*e*PKPdf	**PKPdf**	**23 14 09.2**	**+0.4**
ASAR	**Alice Springs**	**135.43**	**250**	PKP	**PKPdf**	**23 14 09.2**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=91,slow=1.8,SNR=3.6						
FITZ	**Fitzroy Crossi**	**143.40**	**259**	PKP	PKPbc	23 14 22.6	+2.1
	comp=Z,0.9nm,0.7s,baz=63,slow=2.3,SNR=3.3						
CM31	**Chiang Mai Arr**	**145.98**	**341**	*e*PKPdf	**PKPbc**	**23 14 29.5**	**+0.9**
CMAR	**Chiang Mai Arr**	**145.98**	**341**	PKPbc	**PKPbc**	**23 14 29.5**	**+0.9**
	comp=Z,1.4nm,0.4s,baz=339,slow=3.4,SNR=4.7						
HYB	**Hyderabad**	**147.55**	**17**	*i* PKP	**PKPbc**	**23 14 34.0**	**+0.8**

IDC ***11*** *22:59:25.9±1.9, 13°.73N×92°.45W, h0km, mb3.5/3, mb1 4.0/7, mb1mx3.7/44, mbtmp3.7/7, ML3.6/4, Error ellipse: s-maj=41.6km s-min=18.9km az=24.0*

ISCJB ***11*** *22:59:27.1±1.2, 13°.5N±0°.1×92°.54W±0°.07, h32km, mb3.6/3, Error ellipse: s-maj=15.9km s-min=8.7km az=19.5*

ISC 11 22:59:30.0±1.2**, 13°.7N**±0°.1×**92°.49W**±0°.08**, h32**km**, n8, σ1§18/10, mb3.5/3, Off coast of Chipas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**2.38**	**55**	Pn	**Pn**	**23 00 06.8**	**-0.1**
APG	12nm,0.3s,baz=224,slow=19,SNR=11			Sn	**Sn**	**23 00 35.6**	**+0.4**
	98nm,0.3s,baz=165,slow=18,SNR=12						
CMIG	**Matias Romero**	**4.13**	**326**	Pn	**Pn**	**23 00 29.9**	**-1.0**
CMIG	3.6nm,0.3s,baz=115,slow=14,SNR=6.5			Sn	**Sn**	**23 01 19.9**	**+1.8**
	12nm,0.3s,baz=343,slow=17,SNR=3.2						
JTS	**JuntasAbangare**	**8.09**	**114**	Pn	**Pn**	**23 01 26.0**	**+0.6**
JTS	0.7nm,0.3s,baz=301,slow=18,SNR=3.3			Lg	Lg	23 03 39.2	
	0.2nm,0.3s,baz=323,slow=22,SNR=3.6						
TXAR	**Lajitas Array**	**18.73**	**328**	P	**P**	**23 03 46.9**	**+0.6**
	0.1nm,0.3s,baz=140,slow=12,SNR=3.5						
NVAR	**Mina Array Bea**	**33.65**	**322**	P	**P**	**23 06 08.9**	**+0.8**
	0.6nm,0.8s,baz=134,slow=9.1,SNR=4.0						
YKA	**Yellowknife Ar**	**51.26**	**347**	P	**P**	**23 08 28.8**	**-1.6**
	0.6nm,0.5s,baz=152,slow=7.3,SNR=6.8						
ILAR	**Eielson Array**	**62.97**	**337**	P	**P**	**23 09 52.6**	**-0.7**
	0.2nm,0.8s,baz=128,slow=5.8,SNR=4.1						
CMAR	**Chiang Mai Arr**	**146.16**	**340**	PKPbc	**PKPab**	**23 19 09.4**	**+0.9**
	0.8nm,0.4s,baz=14,slow=4.6,SNR=4.4						

NNC 11 23:00:54.2±4.5**, 36°.89N**×**70°.42E, h0**km**, mb4.0, mpv3.6, 5C-1D, Error ellipse: s-maj=34.6km s-min=29.1km az=172.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.95**	**37**	⇑Pn	Pn	23 01 56.5	+0.2
SFK	13nm,0.3s			⇓Sn	Sn	23 02 44.4	+0.9
	3.5nm,0.4s						
AML	**Almayashu**	**5.82**	**25**	P	Pn	23 02 22.4	+0.3
	SNR=5.6						
MNAS	**Manas**	**5.82**	**15**	⇑Pn	Pn	23 02 21.8	-0.1
MNAS	1.3nm,0.4s			⇑Sn	Sn	23 03 30.5	+1.1
	2.0nm,0.3s						
UCH	**Uchtor**	**6.20**	**29**	P	Pn	23 02 26.6	-0.9
	SNR=5.2						
KK31	**Karatay Array**	**6.21**	**1**	⇑Pn	Pn	23 02 27.3	+0.2
KK31	1.6nm,0.4s,baz=176,slow=12,SNR=18			⇑Sn	Sn	23 03 40.7	+1.8
	0.9nm,0.3s,baz=184,slow=24,SNR=4.1						
EKS2	**Erkin-Say**	**6.32**	**23**	P	Pn	23 02 29.3	+0.5
	SNR=8.4						
CHMS	**Chumysh**	**6.95**	**27**	P	Pn	23 02 37.2	-0.1
	SNR=5.2						
TKM2	**Tokmak 2**	**7.22**	**32**	P	Pn	23 02 40.3	-0.9
	SNR=5.7						

SOME ***11*** *23:02:18.6, 41°.93N×82°.37E, h15km*

NNC ***11*** *23:02:21.0±1.6, 42°.07N×82°.23E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=15.0km s-min=9.5km az=148.0*

IDC ***11*** *23:02:21.1±4.9, 42°.03N×82°.20E, h35km±31km, mb3.5/5, mb1 3.4/11, mb1mx3.3/52, mbtmp3.5/11, ML3.6/6, Error ellipse: s-maj=42.7km s-min=15.1km az=153.0*

ISC 11 23:02:18.0±0.9**, 41°.77N**±0°.06×**82°.10E**±0°.03**, h18**km**, n40, σ2§10/64, mb3.7/5, 11C-4D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.39**	**306**	*e*P	**Pb**	**23 02 60.0**	**-0.7**
SHLS	120nm,0.5s			*e*S	**Sb**	**23 03 29.9**	**0.0**
	479nm,0.4s						
PDGK	**Podgornoye**	**2.48**	**310**	⇑Pn	**Pb**	**23 01 01.3**	**-0.8**
PDGK	26nm,0.5s			⇑Lg	Lg	23 03 36.6	
	348nm,0.7s						
UZB	**Uzynbulak**	**2.66**	**302**	*e*P	**Pg**	**23 03 08.7**	**-0.4**
UZB	27nm,0.4s			*e*S	**Sg**	**23 03 44.7**	**+1.2**
	158nm,0.5s						
SATY	**Saty**	**3.02**	**297**	*e*P	**Pg**	**23 03 15.7**	**-0.2**
SATY	38nm,0.6s			*e*S	**Sg**	**23 03 57.0**	**+1.9**
	95nm,0.6s						
ZHN	**Zhinishke**	**3.05**	**299**	*e*P	**Pg**	**23 03 16.4**	**0.0**
ZHN	26nm,0.4s			*e*S	**Sg**	**23 03 58.0**	**+2.0**
	67nm,0.4s						
DJR	**Jarkent**	**3.07**	**327**	*e*P	**Pb**	**23 03 10.7**	**-1.4**
DJR	20nm,0.6s			*e*S	**Sb**	**23 03 48.6**	**-0.7**
	52nm,0.6s						
KURS	**Kuram**	**3.37**	**302**	*e*P	**Pg**	**23 03 21.5**	**-1.1**
KURS	22nm,0.9s			*e*S	**Sg**	**23 04 07.0**	**+0.8**
	29nm,1.0s						
MNBS	**Baschi**	**3.56**	**312**	*e*P	**Pb**	**23 03 21.6**	**+1.0**
MNBS	18nm,0.5s			*e*S	**Sb**	**23 04 06.9**	**+3.4**
	80nm,0.7s						
KOTS	**Kotyrbulak**	**3.97**	**293**	*e*P	**Pb**	**23 03 27.6**	**+0.2**
KOTS	12nm,0.7s			*e*S	**Sb**	**23 04 17.8**	**+2.6**
	77nm,1.0s						
ARXS	**Arharly**	**3.97**	**309**	*e*P	**Pb**	**23 03 25.7**	**-1.8**
ARXS	7.4nm,0.7s			*e*S	**Sb**	**23 04 14.7**	**-0.6**
	23nm,1.2s						
MDOK	**Medeo**	**3.99**	**292**	⇓Pn	**Pb**	**23 03 23.1**	**-4.7**
MDOK	7.2nm,0.6s			⇑Pg	**Pg**	**23 03 33.6**	**-0.8**
	19nm,0.7s						
MDOK				⇑Lg	Lg	23 04 28.5	
	72nm,0.8s						
MDOK	**Medeo**	**3.99**	**292**	*e*P	**Pg**	**23 03 30.6**	**-3.7**
MDOK	12nm,1.4s			*e*S	**Sg**	**23 04 22.6**	**-3.4**
	15nm,0.7s						
TNSS	**Tian-Shan**	**4.02**	**290**	*e*P	**Pg**	**23 03 33.9**	**-1.1**
TNSS	39nm,0.5s			*e*S	**Sg**	**23 04 27.8**	**+0.7**
	40nm,0.6s						
KNDC	**Almaty**	**4.06**	**293**	⇑Pn	Pb	23 03 24.2	-4.9
KNDC	10nm,0.5s			⇑Pg	**Pg**	**23 03 35.8**	**0.0**
	48nm,0.7s						
KNDC				⇑Lg	Lg	23 04 28.1	
	113nm,0.8s						
TDK	**Taldyqorghan**	**4.21**	**321**	*e*P	**Pg**	**23 03 35.0**	**-3.6**
TDK	74nm,0.5s			*e*S	**Sg**	**23 04 30.1**	**-2.9**
	176nm,0.8s						
IZV	**Izvestkoviy**	**4.25**	**289**	*e*P	**Pg**	**23 03 37.5**	**-2.0**
IZV	17nm,0.9s			*e*S	**Sg**	**23 04 34.3**	**-0.3**
	41nm,1.0s						
CHKK	**Chushkaly**	**4.30**	**301**	*e*P	**Pb**	**23 03 32.1**	**-1.0**
CHKK	5.0nm,0.8s			*e*S	**Sb**	**23 04 25.3**	**+0.7**
	16nm,0.4s						
MTBS	**Maitube**	**4.41**	**290**	*e*P	**Pb**	**23 03 35.3**	**+0.3**
MTBS	8.2nm,0.5s			*e*S	**Sb**	**23 04 30.6**	**+2.7**
	18nm,0.5s						

KTBS	**Karatobe**	**4.44**	**298**	*e*P	**Pg**	**23 03 40.2**	**-2.7**
KTBS	7.9nm,0.6s			*e*S	**Sg**	**23 04 39.4**	**-1.1**
	50nm,0.8s						
WMQ	**Urumqi**	**4.60**	**62**	Pn	Pb	23 03 29.9	-8.3
WMQ				Sn	**Sn**	**23 04 17.4**	**-2.4**
WMQ				Sg	**Sb**	**23 04 33.8**	**+0.4**
WMQ				smax	smax		
WMQ	comp=N,150nm,1.1s			smax	smax		
	comp=E,230nm,1.1s						
KST	**Kastek**	**4.72**	**288**	*e*P	**Pb**	**23 03 41.5**	**+1.3**
KST	comp=E,23nm,1.0s			*e*S	**Sb**	**23 04 41.4**	**+4.7**
	comp=E,17nm,1.0s						
KUU	**Kurty**	**4.74**	**299**	*e*P	**Pg**	**23 03 46.3**	**-2.4**
KUU	comp=E,8.7nm,0.7s			*e*S	**Sg**	**23 04 49.4**	**-0.6**
	comp=E,26nm,1.1s						
DGS	**Degeres**	**4.90**	**290**	*e*P	**Pg**	**23 03 48.7**	**-3.2**
DGS	comp=E,10nm,0.7s			*e*S	**Sg**	**23 04 54.0**	**-1.4**
	comp=E,32nm,1.0s						
TKM2	**Tokmak 2**	**4.95**	**286**	⇑Pn	Pb	23 03 37.5	-6.9
TKM2	comp=E,13nm,1.0s			⇑Lg	Lg	23 04 56.1	
	comp=E,31nm,0.8s						
MK31	**Makanchi Array**	**5.03**	**2**	⇓Pn	**Pn**	**23 03 33.1**	**+0.6**
MK31	comp=E,1.2nm,0.2s,baz=188,slow=12,SNR=151			⇓Pg	**Pg**	**23 03 46.7**	**+1.3**
	comp=E,5.1nm,0.5s,baz=178,slow=14,SNR=12			⇑Lg	Lg	23 04 47.6	
MK31	comp=E,52nm,0.8s,baz=171,slow=31,SNR=4.2						
MKAR	**Makanchi Array**	**5.03**	**2**	Pn	**Pn**	**23 03 32.7**	**+0.2**
	comp=E,1.7nm,0.3s,baz=184,slow=13,SNR=61						
MKAR				Pg	**Pb**	**23 03 46.0**	**+0.6**
	comp=E,4.2nm,0.3s,baz=184,slow=16,SNR=16						
MKAR				Sn	Sn	23 04 18.4	-12
	comp=E,2.3nm,0.3s,baz=190,slow=25,SNR=4.2						
MKAR				Lg	Lg	23 04 48.9	
	comp=E,4.6nm,0.3s,baz=180,slow=28,SNR=8.0						
KSH	**Kashi**	**5.17**	**246**	*e*PKP	**Pn**	**23 03 36.7**	**+2.1**
AAK	**Ala-Archa**	**5.71**	**281**	Pn	Pb	23 03 48.6	-8.7
AAK	comp=E,0.4nm,0.3s,baz=157,slow=23,SNR=5.7			Pg	**Pg**	**23 04 06.6**	**-0.8**
	comp=E,1.3nm,0.3s,baz=115,slow=12,SNR=6.2						
AAK				Sn	**Sn**	**23 04 51.2**	**+4.0**
	comp=E,0.5nm,0.3s,baz=14,slow=21,SNR=2.6						
AAK				Lg	Lg	23 05 22.7	
	comp=E,0.8nm,0.3s,baz=288,slow=20,SNR=3.6						
AAK	**Ala-Archa**	**5.71**	**281**	Pg	**Pg**	**23 04 05.7**	**-1.7**
AAK	comp=E,5.9nm,0.6s			Lg	Lg	23 05 23.5	
	comp=E,22nm,0.7s						
ZSN	**Zaisan**	**6.02**	**18**	*e*P	**Pb**	**23 04 03.9**	**+1.6**
ZSN	comp=E,4.7nm,0.6s			*e*S	**Sb**	**23 05 19.4**	**+5.5**
	comp=E,29nm,0.7s						
KURBB	**Kurchatov Arra**	**9.20**	**346**	Pn	**Pn**	**23 04 28.3**	**-1.4**
KURBB	comp=E,0.1nm,0.3s,baz=168,slow=12,SNR=8.0			Lg	Lg	23 07 02.2	
	comp=E,0.1nm,0.3s,baz=160,slow=30,SNR=5.2						
KURK	**Kurchatov**	**9.27**	**346**	⇑Sn	**Sn**	**23 06 18.7**	**+4.3**
KURK	comp=E,7.2nm,0.6s			⇓Lg	Lg	23 07 04.6	
	comp=E,33nm,1.1s						
ZALV	**Zalesovo Beam**	**12.32**	**8**	Pn	**Pn**	**23 05 11.8**	**-0.7**
	comp=E,0.5nm,0.3s,baz=193,slow=11,SNR=4.5						
ZALV				Lg	Lg	23 08 39.2	
	comp=E,0.1nm,0.3s,baz=182,slow=30,SNR=2.2						
BVAR	**Borovoye Array**	**13.75**	**329**	Pn	**Pn**	**23 05 29.7**	**-2.2**
	comp=E,0.1nm,0.3s,baz=150,slow=15,SNR=2.5						
BVAR				Lg	Lg	23 09 25.2	
	comp=E,0.1nm,0.3s,baz=133,slow=30,SNR=3.0						
SONM	**Songino Array**	**18.24**	**62**	P	**P**	**23 06 30.7**	**+0.4**
	comp=E,0.0nm,0.3s,baz=259,slow=13,SNR=2.1						
ARU	**Arti**	**21.12**	**322**	P	**P**	**23 07 00.2**	**-1.4**
	comp=E,0.9nm,0.3s,baz=98,slow=14,SNR=3.9						
BRTR	**Keskin Array B**	**36.39**	**283**	P	**P**	**23 09 21.9**	**+0.6**
	comp=E,0.7nm,0.6s,baz=83,slow=9.5,SNR=4.6						
INK	**Inuvik**	**67.05**	**14**	P	**P**	**23 13 08.4**	**-1.0**
	comp=E,0.6nm,0.5s,baz=2.9,slow=3.0,SNR=6.6						
ILAR	**Eielson Array**	**67.10**	**21**	P	**P**	**23 13 08.2**	**-1.6**
	comp=E,0.4nm,0.7s,baz=323,slow=4.7,SNR=5.6						
TORD	**Torodi Ar. Bea**	**74.25**	**274**	P	**P**	**23 13 54.9**	**+0.7**
	comp=E,0.7nm,0.6s,baz=46,slow=5.2,SNR=13						

ISCJB ***11*** *23:07:16.2±0.5, 13°.72N±0°.06×92°.61W±0°.06, h10km, mb4.0/13, Error ellipse: s-maj=9.8km s-min=6.4km az=138.3*

IDC ***11*** *23:07:16.7±1.2, 13°.78N×92°.52W, h0km, mb4.0/8, mb1 4.2/12, mb1mx3.9/48, mbtmp3.9/12, ML3.6/4, Error ellipse: s-maj=28.9km s-min=17.5km az=37.0*

NEIC ***11*** *23:07:21.7±0.5, 13°.81N×92°.52W, h35km, mb4.0/6, Error ellipse: s-maj=15.5km s-min=7.7km az=57.0*

ISC 11 23:07:18.0±0.6**, 13°.80N**±0°.07×**92°.50W**±0°.07**, h10**km**, n23, σ0§80/24, mb4.0/13, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**2.30**	**59**	Pn	**Pn**	**23 07 56.5**	**+0.2**
APG	23nm,0.3s,baz=206,slow=15,SNR=18			Sn	**Sb**	**23 08 27.7**	**-0.8**
	61nm,0.3s,baz=15,slow=16,SNR=8.5						
CMIG	**Matias Romero**	**4.00**	**325**	Pn	**Pn**	**23 08 18.8**	**-0.6**
	4.2nm,0.3s,baz=146,slow=13,SNR=8.5						
CMIG				Sn	**Sn**	**23 09 07.2**	**+0.9**
	12nm,0.3s,baz=75,slow=19,SNR=3.6						
JTS	**JuntasAbangare**	**8.16**	**114**	Pn	**Pn**	**23 09 17.7**	**+1.0**
	0.8nm,0.3s,baz=16,slow=12,SNR=5.2						
JTS	**JuntasAbangare**	**8.16**	**114**	*e*Pn	**Pn**	**23 09 16.8**	**+0.1**
PAYG	**Puerto Ayora**	**14.55**	**171**	Pn	**Pn**	**23 10 43.8**	**-0.3**
TXAR	**Lajitas Array**	**18.60**	**328**	P	**Pn**	**23 11 35.9**	**0.0**
	0.0nm,0.3s,baz=140,slow=13,SNR=5.5						
ROSC	**El Rosal**	**20.01**	**115**	P	Pn	23 11 55.3	+2.1
	1.5nm,0.3s,baz=300,slow=20,SNR=3.8						
MIAR	**Mount Ida**	**20.68**	**357**	*e*P	**P**	**23 11 57.3**	**-0.9**
	17nm,1.0s						
TKL	**Tuckaleechee C**	**23.14**	**18**	P	**P**	**23 12 24.5**	**0.0**
	3.4nm,0.7s,baz=173,slow=9.5,SNR=4.8						
ANMO	**Albuquerque**	**24.54**	**331**	P	**P**	**23 12 38.5**	**+0.3**
	1.4nm,0.7s						
NNA	**Nana**	**29.96**	**148**	P	**P**	**23 13 27.2**	**+0.4**
	15nm,1.0s						
HWUT	**Hardware Ranch**	**32.28**	**333**	P	**P**	**23 13 47.5**	**+0.3**
	2.0nm,0.9s						
PDAR	**Pinedale Array**	**32.40**	**336**	P	**P**	**23 13 49.0**	**+0.7**
	0.3nm,0.7s,baz=145,slow=3.3,SNR=2.8						
SADO	**Sadowa**	**32.89**	**18**	P	**P**	**23 13 53.8**	**+1.5**
	6.0nm,1.1s,baz=296,slow=14,SNR=2.4						
NVAR	**Mina Array Bea**	**33.52**	**322**	P	**P**	**23 14 00.3**	**+2.1**
	1.4nm,0.8s,baz=136,slow=8.7,SNR=14						
HLID	**Hailey**	**35.12**	**332**	P	**P**	**23 14 11.9**	**0.0**
	1.8nm,1.0s						
SIV	**San Ignacio**	**42.91**	**133**	P	**P**	**23 15 17.2**	**-0.1**
	0.3nm,0.4s,baz=318,slow=5.0,SNR=6.3						
LCO	**Las Campanas**	**47.49**	**154**	P	**P**	**23 15 53.5**	**-0.3**
	1.2nm,0.8s						
YKA	**Yellowknife Ar**	**51.11**	**347**	P	**P**	**23 16 19.5**	**-1.1**
	2.8nm,0.7s,baz=152,slow=7.3,SNR=10						
ILAR	**Eielson Array**	**62.83**	**337**	P	**P**	**23 17 43.1**	**-0.6**
	1.1nm,0.9s,baz=138,slow=5.1,SNR=9.2						
TIXI	**Tiksi**	**90.35**	**348**	P	**P**	**23 20 18.9**	**-0.2**
	0.7nm,0.4s,baz=23,slow=6.9,SNR=3.3						
LSZ	**Lusaka**	**122.72**	**99**	*e*P	**PKPdf**	**23 26 15.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**146.02**	**340**	PKPbc	**PKPab**	**23 26 58.9**	**-0.7**
	1.2nm,0.4s,baz=19,slow=1.8,SNR=3.4						

IDC 11 23:10:47.9±2.5**, 14°.07N**×**91°.94W, h0**km**, mb3.5**/2**, mb1 3.7**/4**, mb1mx3.4**/47**, mbtmp3.3**/4**, ML3.5**/2**, Error ellipse: s-maj=43.2km s-min=15.2km az=167.0, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**1.70**	**57**	Pg	Pn	23 11 19.0	0.0
APG	9.1nm,0.3s,baz=241,slow=22,SNR=6.9			Lg	Lg	23 11 41.9	
	18nm,0.3s,baz=60,slow=22,SNR=5.3						
CMIG	**Matias Romero**	**4.13**	**317**	Pn	Pn	23 11 51.6	-0.7
	3.5nm,0.3s,baz=132,slow=14,SNR=5.2						
CMIG				Sn	Sn	23 12 44.0	+2.6
	9.6nm,0.3s,baz=252,slow=24,SNR=3.8						
TXAR	**Lajitas Array**	**18.67**	**326**	P	Pn	23 15 08.6	+0.7
	0.0nm,0.3s,baz=136,slow=7.1,SNR=2.5						

BBB	**Bella Bella**	**47.73**	**331**	P	P	23 19 25.5	-0.9
	25nm,0.9s,baz=124,slow=7.3,SNR=3.3						
YKA	**Yellowknife Ar**	**50.97**	**347**	P	P	23 19 50.2	-0.9
	0.6nm,0.7s,baz=154,slow=8.3,SNR=3.2						
ILAR	**Eielson Array**	**62.80**	**337**	P	P	23 21 16.5	+1.5
	0.2nm,0.6s,baz=116,slow=6.1,SNR=3.0						
CMAR	**Chiang Mai Arr**	**145.95**	**341**	PKPbc	PKPdf	23 30 28.8	-1.0
	0.6nm,0.4s,baz=5.7,slow=3.6,SNR=2.6						

ISK ***11*** *23:14:33.8, 37°.31N×37°.13E, h14km, ML2.8/8*

ISCJB ***11*** *23:14:34.5±0.5, 37°.29N±0°.03×37°.12E±0°.03, h8km±4km, Error ellipse: s-maj=5.1km s-min=3.4km az=15.4*

DDA ***11*** *23:14:34.1, 37°.30N×37°.16E, h7km, Ml2.8*

ISC 11 23:14:34.3±0.9**, 37°.29N**±0°.03×**37°.13E**±0°.02**, h13**km±7km**, n24, σ0§70/38, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.13**	**152**	PG	**Pb**	**23 14 38.1**	**-0.6**
GAZ				SG	**Sg**	**23 14 40.9**	**+0.7**
KMRS	**Kahramanmaras**	**0.29**	**320**	PG	**Pg**	**23 14 39.9**	**-0.3**
KUZU	**Kuzuini**	**0.52**	**185**	*i* P	**Pg**	**23 14 45.7**	**+0.5**
KUZU				*i* S	**Sb**	**23 14 52.8**	**+0.1**
ANDN	**Andirin**	**0.69**	**295**	*i* P	**Pg**	**23 14 47.4**	**-0.4**
ANDN				*i* S	**Sg**	**23 14 57.1**	**+0.2**
ATAB	**Bozova**	**0.94**	**79**	*i* P	**Pb**	**23 14 52.6**	**+0.1**
ATAB				*i* S	**Sb**	**23 15 05.5**	**+0.6**
ELBS	**KAHRAMANMARAS**	**1.03**	**360**	*i* P	**Pn**	**23 14 55.4**	**+0.7**
ELBS				*i* S	**Sn**	**23 15 09.9**	**+0.9**
KOZT	**Kozan**	**1.06**	**281**	PG	**Pg**	**23 14 54.3**	**-0.4**
KOZT				SG	**Sn**	**23 15 09.4**	**0.0**
AKCD	**Akcadag**	**1.19**	**32**	*i* P	**Pn**	**23 14 56.6**	**-0.1**
AKCD				*i* S	**Sn**	**23 15 13.3**	**+0.6**
TAHT	**Tahtakopru-Hat**	**1.19**	**220**	PN	**Pb**	**23 14 56.9**	**+0.3**
SURC	**SANLIURFA_SURC**	**1.25**	**109**	*i* P	**Pg**	**23 14 57.8**	**-0.5**
SURC				*i* S	**Sn**	**23 15 14.3**	**0.0**
DARE	**Darende-Malaty**	**1.31**	**12**	PN	**Pb**	**23 14 58.5**	**-0.3**
URFA	**Urfa**	**1.35**	**83**	PN	**Pn**	**23 14 58.9**	**0.0**
SANL	**SANLIURFA_Merk**	**1.49**	**94**	*i* P	**Pn**	**23 15 00.4**	**-0.3**
SANL				*i* S	**Sg**	**23 15 21.3**	**+0.9**
HEKM	**Malatya_Hekimh**	**1.72**	**22**	*i* P	**Pg**	**23 15 06.5**	**-0.8**
HEKM				*i* S	**Sg**	**23 15 30.6**	**+1.0**
BNN	**Bunyan**	**1.86**	**327**	PN	**Pn**	**23 15 06.0**	**0.0**
GULE	**Gulek**	**1.88**	**271**	*i* P	**Pb**	**23 15 08.2**	**-0.4**
GULE				*i* S	**Sb**	**23 15 31.8**	**-0.2**
CUALT	**Altinyayla-SIV**	**2.00**	**352**	*i* P	**Pb**	**23 15 09.7**	**-1.0**
CUALT				*i* S	**Sg**	**23 15 40.0**	**+1.3**
SVRC	**Sivrice-ELAZID**	**2.04**	**57**	PN	**Pn**	**23 15 08.6**	**+0.2**
MERS	**Mersin**	**2.13**	**259**	PN	**Pn**	**23 15 10.0**	**+0.4**
PTK	**Pertek**	**2.40**	**47**	PN	**Pn**	**23 15 13.6**	**+0.2**
KERG	**Konya-Eregli**	**2.40**	**274**	*i* P	**Pn**	**23 15 13.6**	**+0.2**
KERG				*i* S	**Sb**	**23 15 45.3**	**-1.7**
DIYA	**Diyarbakir**	**2.46**	**74**	*i* P	**Pg**	**23 15 20.4**	**-1.0**
DIYA				*i* S	**Sg**	**23 15 55.0**	**+1.8**
GULA	**Gulagac**	**2.52**	**296**	PN	**Pn**	**23 15 15.6**	**+0.5**
MAZI	**Mazidag**	**2.65**	**85**	PN	**Pn**	**23 15 16.9**	**+0.2**

KRSC ***11*** *23:16:39.6±1.8, 49°.16N×155°.73E, h81km±30km, ML5.8, FELT [III-IV] at Severo-Kurilsk.*

ISCJB ***11*** *23:16:41.8±0.4, 49°.33N±0°.03×155°.36E±0°.03, h62km±3km, mb5.0/219, Error ellipse: s-maj=5.0km s-min=2.4km az=148.5*

MOS ***11*** *23:16:42.0±0.9, 49°.33N×155°.36E, h67km, mb5.1/34, MS4.6/4, Error ellipse: s-maj=8.1km s-min=3.0km az=73.4*

MOS Felt (III) at Severo-Kuril'sk.

BJI ***11*** *23:16:42.0, 49°.40N×155°.20E, h66km, mb4.8/22, mB5.6/12, Ms5.5/21, Ms7 5.4/18*

NEIC ***11*** *23:16:44.3±0.5, 49°.36N×155°.21E, h71km±5km, mb5.1/143, Error ellipse: s-maj=5.8km s-min=2.7km az=152.0*

IDC ***11*** *23:16:45.2±1.9, 49°.38N×155°.22E, h80km±17km, mb4.3/37, mb1 4.5/46, mb1mx4.4/67, mbtmp4.7/46, MS5.1/4, Ms1 5.1/4, ms1mx4.3/62, Error ellipse: s-maj=12.0km s-min=7.7km az=143.0*

ISC 11 23:16:42.8±0.5**, 49°.27N**±0°.05×**155°.45E**±0°.04**, h61**km±4km**, h61**km**:pP-P, n517, σ1§38/568, mb5.0/219, 30C-17D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.48**	**17**	*e*P	**Pn**	**23 17 06.3**	**-0.9**
SKR				*e*S	**Sn**	**23 17 25.4**	**-0.1**
SKR	**Severo-Kuril's**	**1.48**	**17**	⇓*i*PN	**Pn**	**23 17 06.6**	**-0.6**
SKR				*i* S	**Sn**	**23 17 25.4**	**-0.1**
SKR				pmax	pmax		
	comp=Z,3μm,1.3s						
SKR				pmax	pmax		
	comp=Z,2μm,0.9s						
SKR				smax	smax		
	comp=E,34μm,0.8s						
SKR				smax	smax		
	comp=N,85μm,0.6s						
PAU	**Pauzhetka**	**2.37**	**21**	*e*P	**Pn**	**23 17 19.1**	**-0.1**
PAU				*e*S	**Sn**	**23 17 47.5**	**+0.4**
PAU	**Pauzhetka**	**2.37**	**21**	PN	**Pn**	**23 17 19.1**	**-0.1**
PAU				S	**Sn**	**23 17 47.5**	**+0.4**
KDTR	**Khodutka, Kamc**	**3.04**	**32**	*e*P	**Pn**	**23 17 27.1**	**-1.4**

KRX	**Arik**	**4.56**	**25**	*e*P	**Pn**	**23 17 50.7**	**+1.4**
KRX				*e*S	**Sn**	**23 18 42.9**	**+1.9**
KRX	**Arik**	**4.56**	**25**	PN	**Pn**	**23 17 50.7**	**+1.4**
KRX				S	**Sn**	**23 18 42.9**	**+1.9**
NLC	**Nalytchevo**	**4.61**	**31**	*e*P	**Pn**	**23 17 48.2**	**-1.6**
NLC				*e*S	**Sn**	**23 18 40.8**	**-1.2**
NLC	**Nalytchevo**	**4.61**	**31**	PN	**Pn**	**23 17 48.2**	**-1.6**
NLC				S	**Sn**	**23 18 40.8**	**-1.2**
GNL	**Ganaly**	**4.70**	**18**	*e*P	**Pn**	**23 17 53.2**	**+2.0**
GNL	**Ganaly**	**4.70**	**18**	PN	**Pn**	**23 17 53.2**	**+2.0**
SPN	**Mys Shipunski**	**4.79**	**35**	*e*P	**Pn**	**23 17 51.5**	**-0.8**
SPN				*e*S	**Sn**	**23 18 44.9**	**-1.6**
SPN	**Mys Shipunski**	**4.79**	**35**	PN	**Pn**	**23 17 51.5**	**-0.8**
SPN				S	**Sn**	**23 18 44.9**	**-1.6**
KII	**Karymskiy**	**5.38**	**26**	*e*P	**Pn**	**23 18 02.0**	**+1.5**
KII				*e*S	**Sn**	**23 19 01.4**	**+0.3**
KII	**Karymskiy**	**5.38**	**26**	PN	**Pn**	**23 18 02.0**	**+1.5**
KII				S	**Sn**	**23 19 01.4**	**+0.3**
KUR	**Kuril'sk**	**6.55**	**235**	*e*PN	**Pn**	**23 18 17.6**	**+1.1**
KUR				*e*S	**Sn**	**23 19 32.8**	**+3.1**
KUR				pmax	pmax		
	comp=Z,315nm,0.6s						
KUR				pmax	pmax		
	comp=E,105nm,0.4s						
KUR				smax	smax		
	comp=E,2µm,2.0s						
KUR				smax	smax		
	comp=N,2µm,2.2s						
KUR				smax	smax		
	comp=N,428nm,0.5s						
KUR				smax	smax		
	comp=E,191nm,0.8s						
MKZ	**Mys Kozlova**	**6.56**	**34**	*e*P	**Pn**	**23 18 14.9**	**-1.7**
MKZ				*e*S	**Sn**	**23 19 29.3**	**-0.6**
MKZ	**Mys Kozlova**	**6.56**	**34**	PN	**Pn**	**23 18 14.9**	**-1.7**
KZV	**Kizimen**	**6.56**	**25**	*e*P	**Pn**	**23 18 17.2**	**+0.4**
KZV				*e*S	**Sn**	**23 19 29.1**	**-1.1**
KZV	**Kizimen**	**6.56**	**25**	PN	**Pn**	**23 18 17.2**	**+0.4**
TUMD	**Tumrok D**	**6.67**	**25**	*e*P	**Pn**	**23 18 18.8**	**+0.7**
TUMR	**Tumrok**	**6.67**	**24**	*e*P	**Pn**	**23 18 19.8**	**+1.6**
TUMR	**Tumrok**	**6.67**	**24**	PN	**Pn**	**23 18 19.8**	**+1.6**
ESO	**Esso**	**6.95**	**15**	*e*P	**Pn**	**23 18 21.5**	**-0.4**
ESO	**Esso**	**6.95**	**15**	PN	**Pn**	**23 18 21.5**	**-0.4**
KMNR	**Kamenistaya**	**7.12**	**22**	*e*P	**Pn**	**23 18 25.6**	**+1.3**
KMNR	**Kamenistaya**	**7.12**	**22**	PN	**Pn**	**23 18 25.6**	**+1.3**
KPT	**Kopyto**	**7.31**	**22**	*e*P	**Pn**	**23 18 27.9**	**+1.1**
KPT	**Kopyto**	**7.31**	**22**	PN	**Pn**	**23 18 27.9**	**+1.1**
KOZ	**Kozyrevsk**	**7.31**	**20**	*e*P	**Pn**	**23 18 28.3**	**+1.5**
KOZ	**Kozyrevsk**	**7.31**	**20**	PN	**Pn**	**23 18 28.3**	**+1.5**
BZMR	**Bezymyannaya**	**7.35**	**23**	*e*P	**Pn**	**23 18 28.9**	**+1.5**
BZMR	**Bezymyannaya**	**7.35**	**23**	PN	**Pn**	**23 18 28.9**	**+1.5**
BZWR	**Bezymyannyi-We**	**7.37**	**23**	*e*P	**Pn**	**23 18 28.8**	**+1.0**
BZWR	**Bezymyannyi-We**	**7.37**	**23**	PN	**Pn**	**23 18 28.8**	**+1.0**
ZLN	**Zelenaya**	**7.50**	**24**	*e*P	**Pn**	**23 18 31.0**	**+1.5**
ZLN	**Zelenaya**	**7.50**	**24**	PN	**Pn**	**23 18 31.0**	**+1.5**
CIRR	**Tsirk**	**7.57**	**23**	*e*P	**Pn**	**23 18 31.6**	**+1.1**
CIRR	**Tsirk**	**7.57**	**23**	PN	**Pn**	**23 18 31.6**	**+1.1**
KLY	**Klyuchi**	**7.72**	**22**	*e*P	**Pn**	**23 18 33.4**	**+1.0**
KLY	**Klyuchi**	**7.72**	**22**	PN	**Pn**	**23 18 33.4**	**+1.0**
SHO	**Shikotan**	**8.03**	**231**	*e*PN	**Pn**	**23 18 35.8**	**-0.8**
SHO				pmax	pmax		
	comp=N,60nm,0.3s						
SHO				pmax	pmax		
	comp=E,49nm,0.3s						
SHO				pmax	pmax		
	comp=Z,141nm,0.3s						
BDR	**Baidarnaya**	**8.09**	**23**	*e*P	**Pn**	**23 18 38.1**	**+0.5**
BDR	**Baidarnaya**	**8.09**	**23**	PN	**Pn**	**23 18 38.1**	**+0.5**
SRKR	**Sorokina**	**8.16**	**23**	*e*P	**Pn**	**23 18 38.7**	**+0.2**
SRKR	**Sorokina**	**8.16**	**23**	PN	**Pn**	**23 18 38.7**	**+0.2**
SMKR	**Semkarok**	**8.17**	**24**	*e*P	**Pn**	**23 18 38.4**	**-0.3**
SMKR	**Semkarok**	**8.17**	**24**	PN	**Pn**	**23 18 38.4**	**-0.3**
KBTR	**Krutoberegovo**	**8.26**	**30**	*e*P	**Pn**	**23 18 38.7**	**-1.1**
KBTR				*e*S	**Sn**	**23 20 08.7**	**-2.8**
KBTR	**Krutoberegovo**	**8.26**	**30**	PN	**Pn**	**23 18 38.7**	**-1.1**
TYV	**Tymovskoe**	**8.39**	**286**	*e*PN	**Pn**	**23 18 45.9**	**+4.4**
TYV				pmax	pmax		
	comp=Z,66nm,1.5s						
YUK	**Yuzh-Kuril'sk**	**8.42**	**235**	*e*PN	**Pn**	**23 18 42.1**	**+0.1**
YUK				pmax	pmax		
	comp=N,188nm,0.5s						
YUK				pmax	pmax		
	comp=E,313nm,0.5s						
YUK				pmax	pmax		
	comp=Z,521nm,0.5s						
BKI	**Bering**	**8.77**	**43**	*e*P	**Pn**	**23 18 44.4**	**-2.3**
BKI				*e*S	**Sn**	**23 20 15.7**	**-8.2**
BKI	**Bering**	**8.77**	**43**	PN	**Pn**	**23 18 44.4**	**-2.3**
UGL	**Uglegorsk**	**8.78**	**274**	*e*PN	**Pn**	**23 18 50.3**	**+3.5**
UGL				*e*S	**Sn**	**23 20 24.8**	**+0.7**
UGL				pmax	pmax		
	comp=E,181nm,1.1s						
UGL				smax	smax		
	comp=E,126nm,0.4s						
UGL				MLR	MLR		
	comp=Z,5µm,16.0s						
YSS	**Yuzh-Sakhalins**	**8.81**	**260**	*e*Pn	**Pn**	**23 18 46.4**	**-0.8**
YSS	**Yuzh-Sakhalins**	**8.81**	**260**	*i*PN	**Pn**	**23 18 50.0**	**+2.7**
YSS				pmax	pmax		
	comp=Z,40nm,0.5s						
NKL	**Nikolayevsk**	**10.05**	**298**	*e*PN	**Pn**	**23 19 07.5**	**+3.3**
NKL				pmax	pmax		
	comp=E,130nm,1.8s						
NKL				pmax	pmax		
	comp=Z,430nm,1.8s						
ASAJ	**Asahikawa**	**10.22**	**245**	P	**Pn**	**23 19 08.6**	**+1.9**
	comp=Z,19nm,0.3s,baz=74,slow=14,SNR=63						
MA2	**Magadan**	**10.68**	**347**	P	**Pn**	**23 19 14.0**	**+1.3**
	comp=Z,6.7nm,0.3s,baz=156,slow=9.2,SNR=9.6						
MA2				S	**Sn**	**23 21 04.0**	**-6.5**
	comp=Z,0.2nm,0.3s,baz=126,slow=21,SNR=2.1						
MA2				LR	LR	23 23 16.9	
	comp=Z,7µm,20.0s,baz=36,slow=37						
OSSR	**Ossora**	**10.94**	**21**	*e*P	**Pn**	**23 19 17.1**	**+0.8**
OSSR	**Ossora**	**10.94**	**21**	PN	**Pn**	**23 19 17.1**	**+0.8**
ERM	**Erimo**	**11.25**	**234**	*e*Pn	**Pn**	**23 19 18.5**	**-2.1**
ERM	**Erimo**	**11.25**	**234**	*e*PN	**Pn**	**23 19 18.5**	**-2.1**
SMY	**Shemya**	**12.24**	**66**	*e*Pn	**Pn**	**23 19 31.5**	**-2.6**
SMY				*e*Sn	Sn	23 21 37.8	-11
SMY	**Shemya**	**12.24**	**66**	*e*PN	**Pn**	**23 19 31.5**	**-2.6**
GRNR	**Gornyy**	**12.33**	**284**	*e*PN	**P**	**23 19 43.7**	**-1.8**
GRNR				pmax	pmax		
	comp=Z,21nm,1.0s						
SEY	**Seymchan**	**13.80**	**354**	P	**Pn**	**23 19 57.3**	**+2.1**
	comp=Z,1.9nm,0.3s,baz=163,slow=10,SNR=25						
SEY	**Seymchan**	**13.80**	**354**	*i* P	**Pn**	**23 19 55.6**	**+0.4**
KLR	**Kul'dur**	**15.47**	**279**	P	**Pn**	**23 20 17.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=72,slow=14,SNR=2.2						
KLR	**Kul'dur**	**15.47**	**279**	*ce*P	**Pn**	**23 20 16.6**	**-0.4**
USA0B	**Ussuriysk Arra**	**16.84**	**261**	*e*Pn	**P**	**23 20 37.9**	**+2.4**
	comp=Z,54nm,1.4s						
USRK	**Ussuriysk Ar.**	**16.84**	**261**	P	**P**	**23 20 34.9**	**-0.6**
	comp=Z,2.9nm,0.3s,baz=63,slow=13,SNR=37						
MJAR	**Matsushiro Arr**	**17.87**	**231**	P	**P**	**23 20 46.3**	**-0.7**
	comp=Z,2.3nm,0.3s,baz=8.5,slow=12,SNR=23						
MJB9	**Matsu-Tunnel**	**17.87**	**231**	*e*P	**P**	**23 20 46.5**	**-0.5**
	comp=Z,23nm,0.6s						
MAJO	**Matsushiro**	**17.87**	**231**	*e*P	**P**	**23 20 46.2**	**-0.8**
	comp=Z,23nm,0.6s						
MAJO	**Matsushiro**	**17.87**	**231**	*i* P	**Pn**	**23 20 47.7**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,19nm,0.9s						
MAT	**Matsushiro**	**17.87**	**231**	P	**P**	**23 20 45.8**	**-1.2**
ZEA	**Zeya**	**18.05**	**295**	*e*P	Pn	23 20 57.6	+8.5
ZEA				pmax	pmax		
	comp=Z,61nm,1.6s						
MDJ	**Mudanjiang**	**18.22**	**265**	P	**P**	**23 20 49.1**	**-1.6**
MDJ				sP	sP	23 21 09.0	-2.5
MDJ				S	**Sn**	**23 24 04.6**	**-9.2**
MDJ				pmax	pmax		
	comp=Z,2µm,7.2s						
MDJ				LR	LR		
	comp=Z,6µm,16.4s						
MDJ				LR	LR		
	comp=Z,2µm,16.0s						
MDJ				LR	LR		
	comp=Z,9µm,17.8s						
YAK	**Yakutsk**	**19.18**	**321**	P	**P**	**23 21 01.1**	**0.0**
	comp=Z,0.0nm,0.3s,baz=60,slow=0.5,SNR=5.4						
YAK	**Yakutsk**	**19.18**	**321**	*e*P	**P**	**23 21 01.2**	**0.0**
	comp=Z,51nm,0.8s						
YAK	**Yakutsk**	**19.18**	**321**	*e*P	**P**	**23 21 00.7**	**-0.4**
YAK				*e*S	**S**	**23 24 34.9**	**-0.1**
YAK				pmax	pmax		
	comp=E,13nm,1.3s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,20nm,1.0s						
YAK				smax	smax		
	comp=E,257nm,3.5s						
BILL	**Bilibino**	**19.59**	**12**	*e*P	**P**	**23 21 04.9**	**-0.6**
BILL				*e*S	**Sn**	**23 24 45.2**	**-1.2**
BILL				pmax	pmax		
	comp=Z,14nm,0.4s						
BILL				MLR	MLR		
	comp=Z,3µm,17.0s						
JHJ	**Hachijo jima 2**	**19.92**	**222**	P	**Pn**	**23 21 11.6**	**+0.1**
	comp=Z,18nm,0.3s,baz=243,slow=23,SNR=2.1						
KSRS	**Korea Array**	**23.10**	**250**	P	**P**	**23 21 43.4**	**+0.1**
	comp=Z,7.3nm,0.5s,baz=46,slow=11,SNR=24						
KS15	**Wonju Array Si**	**23.13**	**250**	*e*P	**P**	**23 21 46.3**	**+2.7**
KSAR	**Wonju Array Be**	**23.13**	**250**	P	**P**	**23 21 43.4**	**-0.2**
KSAR	**Wonju Array Be**	**23.13**	**250**	P	**P**	**23 21 43.4**	**-0.2**
JNU	**Nakatsue**	**24.38**	**238**	P	**P**	**23 21 55.0**	**-0.1**
	comp=Z,22nm,0.8s,baz=214,slow=4.8,SNR=7.7						
JNU	**Nakatsue**	**24.38**	**238**	*e*P	**P**	**23 21 55.9**	**+0.7**
	comp=Z,86nm,1.5s						
TIXI	**Tiksi**	**25.54**	**341**	P	**P**	**23 22 03.5**	**-1.8**
	comp=Z,11nm,0.4s,baz=152,slow=10.0,SNR=36						
TIXI	**Tiksi**	**25.54**	**341**	*e*P	**P**	**23 22 03.5**	**-1.8**
	comp=Z,52nm,1.5s						
TIXI	**Tiksi**	**25.54**	**341**	*ce*P	**P**	**23 22 03.8**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,22nm,1.0s						
BOD	**Bodaibo**	**25.70**	**305**	*e*P	P	23 22 21.8	+15
BOD				pmax	pmax		
	comp=Z,15nm,1.9s						
ANM	**Nome**	**25.74**	**39**	*e*P	**P**	**23 22 08.4**	**+1.3**
	comp=Z,113nm,1.5s						
ANM	**Nome**	**25.74**	**39**	*e*P	**P**	**23 22 08.4**	**+1.3**
ANM				pmax	pmax		
	comp=Z,113nm,1.5s						
RDOG	**Red Dog Mine**	**27.85**	**32**	*e*P	**P**	**23 22 27.2**	**+1.1**
	comp=Z,48nm,1.2s						
SVW2	**Sparrevohn**	**29.62**	**48**	*e*P	**P**	**23 22 43.0**	**+1.2**
	comp=Z,28nm,1.2s						
JOW	**Kunigami**	**30.69**	**233**	P	**P**	**23 22 51.8**	**+0.1**
	comp=Z,19nm,0.5s,baz=77,slow=4.3,SNR=3.9						
IM3	**Indian Mountai**	**30.81**	**38**	*e*P	**P**	**23 22 51.7**	**-0.6**
H11N2	**WAKE ISLAND Hy**	**30.87**	**159**	T	T	23 55 19.5	
	baz=345,slow=76,SNR=516						
H11N1	**WAKE ISLAND Hy**	**30.89**	**159**	T	T	23 55 21.6	
	baz=345,slow=76,SNR=830						
H11N3	**WAKE ISLAND Hy**	**30.89**	**159**	T	T	23 55 25.7	
	baz=345,slow=76,SNR=993						
PPLA	**Purkeypile**	**31.25**	**44**	*e*P	**P**	**23 22 58.1**	**+1.7**
	comp=Z,91nm,1.5s						
KDAK	**Kodiak Island**	**31.32**	**54**	P	**P**	**23 22 56.7**	**-0.2**
	comp=Z,17nm,0.8s,baz=344,slow=6.3,SNR=8.1						
SKT	**Skwentna**	**31.56**	**46**	*e*P	**P**	**23 23 00.1**	**+1.1**
	comp=Z,19nm,1.1s						
HHC	**Hu-ho-hao-te**	**31.74**	**271**	*e*P	**P**	**23 23 02.3**	**+1.4**
HHC				S	**S**	**23 28 03.7**	**-2.6**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC				LR	LR		
	comp=Z,6µm,13.8s						
HHC				LR	LR		
	comp=Z,4µm,13.8s						
HHC				LR	LR		
	comp=Z,12µm,16.4s						
BPAW	**Bear Paw Mtn.**	**31.82**	**42**	*e*P	**P**	**23 23 02.2**	**+0.9**
	comp=Z,31nm,1.2s						
CNPM	**China Poot**	**31.84**	**51**	*e*P	**P**	**23 23 01.9**	**+0.4**
	comp=Z,78nm,1.2s						
SUA	**Susitna One**	**31.95**	**47**	*e*P	**P**	**23 23 02.4**	**-0.1**
	comp=Z,24nm,1.1s						
MLY	**Manley**	**31.97**	**40**	*e*P	**P**	**23 23 02.7**	**+0.1**
	comp=Z,22nm,1.2s						
BRLK	**Bradley Lake**	**31.99**	**50**	*e*P	**P**	**23 23 02.3**	**-0.5**
	comp=Z,34nm,1.2s						
H11S1	**WAKE ISLAND Hy**	**32.00**	**160**	T	T	23 56 46.9	
	baz=346,slow=76,SNR=7066						
H11S3	**WAKE ISLAND Hy**	**32.01**	**160**	T	T	23 56 50.1	
	baz=346,slow=76,SNR=9768						
H11S2	**WAKE ISLAND Hy**	**32.02**	**160**	T	T	23 56 48.3	
	baz=346,slow=76,SNR=6662						
SONM	**Songino Array**	**32.05**	**286**	P	**P**	**23 23 03.1**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=80,slow=7.5,SNR=9.5						
SONM				PcP	**PcP**	**23 25 51.5**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=63,slow=1.8,SNR=3.0						
TRF	**Thorofare Moun**	**32.12**	**43**	*e*P	**P**	**23 23 04.8**	**+0.8**
	comp=Z,36nm,1.2s						
NJ2	**Nanjing**	**32.26**	**252**	*e*P	**P**	**23 23 06.6**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
COLD	**Coldfoot**	**32.37**	**36**	*e*P	**P**	**23 23 06.7**	**+0.7**
	comp=Z,8.1nm,0.5s						
BWN	**Browne**	**32.49**	**42**	*e*P	**P**	**23 23 08.9**	**+1.8**
	comp=Z,342nm,1.4s						
TLY	**Talaya**	**32.49**	**294**	*e*P	P	23 23 17.8	+11
TLY				pmax	pmax		
	comp=Z,14nm,1.1s						
MCK	**McKinley**	**32.72**	**43**	*e*P	**P**	**23 23 09.5**	**+0.4**
	comp=Z,34nm,1.0s						
MCK	**McKinley**	**32.72**	**43**	*e*P	**P**	**23 23 09.5**	**+0.4**
MCK				pmax	pmax		
	comp=Z,34nm,1.0s						
RND	**Reindeer**	**32.76**	**43**	*e*P	**P**	**23 23 09.6**	**0.0**
	comp=Z,55nm,1.1s						
RND	**Reindeer**	**32.76**	**43**	*e*P	**P**	**23 23 09.6**	**0.0**
RND				pmax	pmax		
	comp=Z,55nm,1.1s						
TOLK	**Toolik Lake Re**	**32.77**	**34**	*e*P	**P**	**23 23 09.9**	**+0.4**
	comp=Z,44nm,0.4s						
TOLK	**Toolik Lake Re**	**32.77**	**34**	P	**P**	**23 23 09.7**	**+0.1**
	baz=263						
MDM	**Murphy Dome**	**33.03**	**41**	*e*P	**P**	**23 23 12.7**	**+0.8**
	comp=Z,33nm,1.1s						
SML	**Sawmill**	**33.08**	**46**	*e*P	**P**	**23 23 12.2**	**-0.1**
	comp=Z,116nm,1.1s						
SML	**Sawmill**	**33.08**	**46**	*e*P	**P**	**23 23 12.2**	**-0.1**
SML				pmax	pmax		
	comp=Z,116nm,1.1s						
ZAK	**Zakamensk**	**33.11**	**292**	*e*P	P	23 23 28.6	+16
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
TCOL	**CIDO, UAF Yank**	**33.19**	**41**	P	**P**	**23 23 13.5**	**+0.3**
	baz=270						
COLA	**College**	**33.19**	**41**	*e*P	**P**	**23 23 13.9**	**+0.7**
	comp=Z,93nm,1.2s						
COLA				*ep*P	**pP**	**23 23 28.8**	**+0.5**
COLA	**College**	**33.19**	**41**	*e*P	**P**	**23 23 13.9**	**+0.7**
COLA				*e**PP	**pP**	**23 23 28.8**	**+0.5**
COLA				pmax	pmax		
	comp=Z,93nm,1.2s						
CCB	**Clear Creek Bu**	**33.21**	**41**	*e*P	**P**	**23 23 13.5**	**+0.2**
	comp=Z,55nm,1.3s						
POKR	**Poker Flat Res**	**33.37**	**40**	P	**P**	**23 23 15.1**	**+0.3**
	baz=270						
DHY	**Denali Highway**	**33.45**	**44**	*e*P	**P**	**23 23 15.8**	**+0.1**
	comp=Z,57nm,1.2s						
SCM	**Sheep Creek Mo**	**33.55**	**46**	*e*P	**P**	**23 23 16.9**	**+0.4**
	comp=Z,62nm,1.2s						
HDA	**Harding Lake**	**33.59**	**42**	*e*P	**P**	**23 23 16.5**	**-0.2**
	comp=Z,17nm,0.5s						
HDA	**Harding Lake**	**33.59**	**42**	P	**P**	**23 23 16.2**	**-0.4**
	baz=272						
IL1	**Eielson Array**	**33.61**	**41**	*e*P	**P**	**23 23 16.5**	**-0.3**
ILAR	**Eielson Array**	**33.61**	**41**	P	**P**	**23 23 16.8**	**-0.1**
	comp=Z,9.6nm,0.7s,baz=261,slow=8.3,SNR=90						
ILAR				PcP	**PcP**	**23 25 54.9**	**-0.7**
	comp=Z,0.8nm,0.9s,baz=264,slow=3.7,SNR=3.8						
ILB	**Eielson Array**	**33.61**	**41**	*e*P	**P**	**23 23 16.9**	**+0.1**
FYU	**Fort Yukon**	**34.29**	**38**	*e*P	**P**	**23 23 23.8**	**+1.2**
	comp=Z,150nm,1.3s						
PAX	**Paxson**	**34.32**	**44**	*e*P	**P**	**23 23 24.2**	**+1.1**
	comp=Z,20nm,1.2s						
PAX	**Paxson**	**34.32**	**44**	*e*P	**P**	**23 23 24.2**	**+1.1**
PAX				pmax	pmax		
	comp=Z,20nm,1.2s						
DIV	**Divide**	**34.37**	**47**	*e*P	**P**	**23 23 24.1**	**+0.6**
	comp=Z,42nm,1.1s						
RIDG	**Independ'e Rid**	**34.54**	**43**	*e*P	**P**	**23 23 24.8**	**-0.2**
	comp=Z,98nm,1.3s						
DOT	**Dot Lake**	**34.90**	**43**	*e*P	**P**	**23 23 27.6**	**-0.4**
	comp=Z,13nm,1.1s						
SCRK	**Sand Creek**	**34.90**	**42**	*e*P	**P**	**23 23 27.5**	**-0.6**
	comp=Z,66nm,1.4s						
BMRM	**Bremner River**	**34.95**	**47**	*e*P	**P**	**23 23 29.4**	**+0.9**
	comp=Z,33nm,1.0s						
BALM	**Baldy**	**36.03**	**47**	*e*P	**P**	**23 23 38.9**	**+1.1**
	comp=Z,55nm,1.3s						
BALM	**Baldy**	**36.03**	**47**	*e*P	**P**	**23 23 38.9**	**+1.1**
BALM				pmax	pmax		
	comp=Z,55nm,1.3s						
EGAK	**Eagle**	**36.06**	**41**	*e*P	**P**	**23 23 37.5**	**-0.3**
	comp=Z,58nm,1.2s						
WHN	**Wuhan**	**36.11**	**254**	P	**P**	**23 23 36.4**	**-2.3**
DAWY	**Dawson**	**36.90**	**42**	*e*P	**P**	**23 23 45.5**	**+0.3**
	comp=Z,21nm,1.1s						
NRIK	**Noril'sk**	**37.45**	**327**	P	**P**	**23 23 48.6**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=101,slow=5.2,SNR=4.4						
NRIK				PcP	**PcP**	**23 26 07.6**	**+0.7**
	comp=Z,3.4nm,0.5s,baz=68,slow=3.4,SNR=5.3						
EPYK	**Eagle Plains**	**37.71**	**38**	P	**P**	**23 23 52.9**	**+0.9**
	baz=278						
HYT	**Haines Junctio**	**38.38**	**47**	*e*P	**P**	**23 23 59.7**	**+1.9**
	comp=Z,26nm,1.1s						
INK	**Inuvik**	**38.68**	**34**	P	**P**	**23 24 00.8**	**+0.8**
	comp=Z,20nm,0.5s,baz=278,slow=6.4,SNR=253						
INK				PcP	**PcP**	**23 26 11.3**	**+0.7**
	comp=Z,2.8nm,0.4s,baz=277,slow=5.8,SNR=4.9						
INK	**Inuvik**	**38.68**	**34**	*e*P	**P**	**23 24 00.9**	**+0.8**
	comp=Z,67nm,1.4s						
INK				PcP	**PcP**	**23 26 11.3**	**+0.7**
INK	**Inuvik**	**38.68**	**34**	*e*P	**P**	**23 24 00.9**	**+0.8**
INK						23 26 11.4	
INK				pmax	pmax		
	comp=Z,67nm,1.4s						
LZH	**Lanzhou**	**39.41**	**270**	*e*P	**P**	**23 24 06.9**	**+0.2**
LZH				pP	pP	23 24 23.1	+1.0
LZH				sP	sP	23 24 31.0	+1.8
LZH				*e*PP	**PnPn**	**23 25 42.3**	**+1.0**
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
LZH				pmax	pmax		
	comp=Z,97nm,5.4s						
LZH				LR	LR		
	comp=Z,400nm,13.2s						
LZH				LR	LR		
	comp=Z,400nm,13.5s						
WHY	**Whitehorse**	**39.67**	**46**	*e*P	**P**	**23 24 10.6**	**+2.1**
	comp=Z,69nm,1.4s						
WHY				*ep*P	**pP**	**23 24 26.3**	**+2.3**
GTA	**Gaotai**	**40.16**	**277**	*e*P	**P**	**23 24 11.4**	**-1.5**
GTA				pP	pP	23 24 24.9	-3.4
GTA				PcP	**PcP**	**23 26 16.9**	**+0.8**
GTA				LR	LR		
	comp=Z,9µm,18.9s						
GTA				LR	LR		
	comp=Z,8µm,19.9s						
GTA				LR	LR		
	comp=Z,15µm,18.9s						
JIS	**Juneau Island**	**40.63**	**50**	*e*P	**P**	**23 24 18.6**	**+2.3**
	comp=Z,64nm,1.2s						
ZALV	**Zalesovo Beam**	**42.45**	**304**	P	**P**	**23 24 28.7**	**-2.6**
	comp=Z,1.1nm,0.4s,baz=67,slow=6.3,SNR=5.9						
ZALV				PcP	**PcP**	**23 26 23.3**	**+0.2**
	comp=Z,2.1nm,0.4s,baz=43,slow=2.6,SNR=8.3						
CD2	**Chengdu**	**42.67**	**264**	*e*P	**P**	**23 24 32.8**	**-0.6**
DLBC	**Dease Lake**	**42.73**	**48**	P	**P**	**23 24 35.8**	**+2.2**
	comp=Z,9.3nm,0.7s,baz=188,slow=2.2,SNR=16						
DLBC	**Dease Lake**	**42.73**	**48**	*e*P	**P**	**23 24 35.7**	**+2.1**
	comp=Z,45nm,1.4s						
DGZ	**Jazzator, Alta**	**42.79**	**298**	*i* P	**P**	**23 24 33.8**	**-0.5**
DGZ				pmax	pmax		
	comp=Z,2.0nm,1.1s						
NVS	**Novosibirsk**	**42.94**	**306**	*e*P	P	23 24 49.8	+15
NVS				pmax	pmax		
	comp=N,9.0nm,1.6s						
NVS				pmax	pmax		
	comp=E,13nm,1.6s						
NVS				pmax	pmax		
	comp=Z,15nm,1.6s						
GYA	**Guiyang**	**43.80**	**257**	⇑*i*P	**P**	**23 24 43.4**	**+0.7**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WMQ	**Urumqi**	**45.51**	**290**	*e*P	**P**	**23 24 57.2**	**+1.2**
WMQ				LR	LR		
	comp=Z,12µm,17.3s						
WMQ				LR	LR		
	comp=Z,9µm,17.3s						
WMQ				LR	LR		
	comp=Z,6µm,20.3s						
MK31	**Makanchi Array**	**47.20**	**296**	*e*P	**P**	**23 25 08.6**	**-0.6**
MK31	**Makanchi Array**	**47.20**	**296**	*e*P	**P**	**23 25 08.6**	**-0.6**
MKAR	**Makanchi Array**	**47.20**	**296**	P	**P**	**23 25 07.6**	**-1.6**
	comp=Z,1.4nm,0.5s,baz=75,slow=10,SNR=32						
MKAR				PcP	**PcP**	**23 26 39.3**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=64,slow=4.7,SNR=3.0						
MKAR	**Makanchi Array**	**47.20**	**296**	*e*P	**P**	**23 25 08.6**	**-0.6**
	comp=Z,25nm,0.4s						
MKAR				PcP	**PcP**	**23

comp=Z,20nm,1.2s
CHTO Chiang Mai 54.23 257 *e*P **P 23 26 02.4 +0.1**
comp=Z,43nm,1.3s
CHTO Chiang Mai 54.23 257 *e*P **P 23 26 02.4 +0.1**
CHTO pmax pmax
comp=Z,43nm,1.3s
CHTO Chiang Mai 54.23 257 P **P 23 26 02.6 +0.3**
comp=Z,85nm,0.6s
F07A Phinny Hill Vi 54.29 59 *e*P **P 23 26 03.9 +1.4**
comp=Z,41nm,1.4s
L02E Cave Junction 54.41 65 P **P 23 26 05.0 +1.6**
baz=308
NEW Newport 54.42 55 P **P 23 26 04.0 +0.5**
comp=Z,4.1nm,0.8s,baz=313,slow=11,SNR=7.8
NEW Newport 54.42 55 *e*P **P 23 26 04.0 +0.5**
comp=Z,21nm,1.4s
NEW Newport 54.42 55 *e*P **P 23 26 04.1 +0.7**
NEW pmax pmax
comp=Z,21nm,1.4s
NEW Newport 54.42 55 P **P 23 26 03.9 +0.5**
baz=307
CHAI Chaiyaphum 54.48 252 P **P 23 26 04.3 +0.1**
comp=Z,16nm,0.6s,comp=Z,152nm
CM31 Chiang Mai Arr 54.49 257 *e*P **P 23 26 05.5 +1.2**
CMAR Chiang Mai Arr 54.49 257 P **P 23 26 03.4 -0.8**
comp=Z,8.1nm,0.5s,baz=34,slow=7.2,SNR=42
CM01 Chiang Mai Arr 54.51 256 *e*P **P 23 26 03.0 -1.3**
J04D Umpqua Nationa 54.64 63 P **P 23 26 06.6 +1.3**
baz=308
SUKH Sukhothai 54.77 255 P **P 23 26 08.4 +2.2**
comp=Z,5.1nm,0.9s
E09A Wood Farm, Sta 54.91 57 *e*P **P 23 26 07.5 +0.5**
comp=Z,34nm,1.3s
J05D Fort Rock, OR 55.12 62 P **P 23 26 10.5 +1.8**
baz=308
L04D Klamath Falls 55.14 64 P **P 23 26 10.5 +1.7**
baz=308
KSH Kashi 55.15 292 *e*P **P 23 26 12.4 +3.5**
KSH S **S 23 33 47.9 +0.5**
KSH LR LR
comp=Z,4µm,16.1s
KSH LR LR
comp=Z,3µm,14.0s
KSH LR LR
comp=Z,12µm,16.9s
G08A Pilot Rock 55.20 59 *e*P **P 23 26 10.1 +0.9**
comp=Z,14nm,1.4s
YBH Yreka Blue Hor 55.20 64 P **P 23 26 09.9 +0.6**
comp=Z,5.4nm,0.9s,baz=5.5,slow=7.3,SNR=11
YBH Yreka Blue Hor 55.20 64 *e*P **P 23 26 11.3 +2.1**
comp=Z,12nm,1.1s
YBH Yreka Blue Hor 55.20 64 *e*P **P 23 26 11.3 +2.1**
YBH pmax pmax
comp=Z,12nm,1.1s
K04D Chiloquin, OR 55.22 63 P **P 23 26 11.6 +2.2**
baz=308
M02C Callahan 55.33 65 P **P 23 26 12.2 +2.1**
baz=308
WALA Waterton Lakes 55.64 53 *e*P **P 23 26 13.3 +1.0**
comp=Z,33nm,1.4s
K05A Summer Lake 55.66 62 *e*P **P 23 26 14.7 +2.1**
comp=Z,22nm,1.0s
N02D Trinity Center 55.67 65 P **P 23 26 14.4 +1.8**
baz=309
M04C Macdoel 55.68 64 P **P 23 26 13.6 +0.8**
baz=308
F10A Beach Ranch, E 55.74 57 *e*P **P 23 26 14.7 +1.6**
comp=Z,15nm,1.4s
SRAK Srakaew 55.89 250 P **P 23 26 14.3 0.0**
comp=Z,40nm,1.0s
ARCES ARCESS Array B 55.98 341 P **P 23 26 12.9 -1.4**
comp=Z,1.4nm,0.3s,baz=38,slow=6.9,SNR=36
WDC Whiskeytown Da 56.01 65 *e*P **P 23 26 16.6 +1.7**
comp=Z,14nm,1.2s
WDC Whiskeytown Da 56.01 65 *e*P **P 23 26 16.6 +1.7**
WDC pmax pmax
comp=Z,14nm,1.2s
O02D Mt. Diablo Mer 56.12 66 P **P 23 26 17.2 +1.4**
baz=309
UMPA Umpang Tak 56.21 255 P **P 23 26 19.0 +2.3**
comp=Z,7.0nm,0.5s,comp=Z,µm
UTHA Uthaitani 56.33 254 P **P 23 26 18.8 +1.4**
comp=Z,9.7nm,0.5s,comp=Z,106nm
BMO Blue Mountains 56.39 59 *e*P **P 23 26 19.1 +1.4**
comp=Z,15nm,1.2s
BMO Blue Mountains 56.39 59 *e*P **P 23 26 19.1 +1.4**
BMO pmax pmax
comp=Z,15nm,1.2s
MOD Modoc Plateau 56.51 63 *e*P **P 23 26 20.2 +1.6**
comp=Z,14nm,1.0s
O03E Paynes Creek 56.63 65 P **P 23 26 20.4 +0.9**
baz=309
J08A Circle Bar Ran 56.66 61 *e*P **P 23 26 21.4 +1.7**
comp=Z,16nm,1.1s
MSO Missoula 57.01 55 *e*P **P 23 26 22.8 +0.7**
comp=Z,42nm,1.4s
MSO Missoula 57.01 55 P **P 23 26 22.6 +0.6**
baz=309
WVOR Wild Horse Val 57.14 62 *e*P **P 23 26 24.6 +1.5**
comp=Z,26nm,1.3s
ORV Oroville 57.28 66 *e*P **P 23 26 24.6 +0.7**
comp=Z,5.2nm,0.9s
ORV Oroville 57.28 66 *e*P **P 23 26 24.6 +0.7**
ORV pmax pmax
comp=Z,5.0nm,0.9s
BEKR Beckworth 57.76 65 *e*P **P 23 26 28.0 +0.5**
comp=Z,9.6nm,1.2s
FFC Flin Flon 57.81 42 *e*P **P 23 26 28.9 +1.6**
comp=Z,34nm,1.3s
FFC Flin Flon 57.81 42*ce*P **P 23 26 29.0 +1.6**
FFC pmax pmax
comp=Z,118nm,2.5s
AFDM Forest Hills D 57.98 66 *e*P **P 23 26 30.4 +1.5**
comp=Z,9.5nm,1.4s
SUMG Summit 58.06 5 *e*P **P 23 26 29.2 -0.2**
comp=Z,74nm,1.2s
SUMG Summit 58.06 5 *i*P **P 23 26 29.4 0.0**
comp=Z,93nm,0.4s
SUMG Summit 58.06 5 *i*P **P 23 26 29.4 0.0**
HRY Holter Researc 58.20 54 *e*P **P 23 26 31.9 +1.4**
PAHR Pah Rah Range 58.44 64 *e*P **P 23 26 33.4 +1.2**
comp=Z,11nm,1.1s
EGMT Eagleton 58.45 52 *e*P **P 23 26 33.0 +0.9**
comp=Z,40nm,1.3s
EGMT Eagleton 58.45 52 P **P 23 26 33.0 +0.9**
baz=310
VCNR Virginia City 58.55 65 *e*P **P 23 26 34.5 +1.4**
comp=Z,8.0nm,1.1s
DLMT Dillon 58.66 56 *e*P **P 23 26 35.0 +1.4**
comp=Z,33nm,1.4s
PNTR Pine Nut 58.71 65 *e*P **P 23 26 35.7 +1.4**
comp=Z,9.9nm,0.8s
HLID Hailey 58.82 58 *e*P **P 23 26 36.3 +1.5**
comp=Z,20nm,1.3s
HLID Hailey 58.82 58 P **P 23 26 35.6 +0.7**
baz=310
MCMT McKenzie Canyo 58.87 56 *e*P **P 23 26 36.2 +1.0**
CMB Columbia Colle 58.92 67 *e*P **P 23 26 36.7 +1.2**
comp=Z,13nm,1.4s
YERR Yerington 58.99 65 *e*P **P 23 26 37.5 +1.3**
comp=Z,17nm,1.2s
BOZ Bozeman (W) 59.03 55 *e*P **P 23 26 36.1 -0.1**
comp=Z,44nm,1.3s
BOZ Bozeman (W) 59.03 55 *e*P **P 23 26 36.1 -0.1**
BOZ pmax pmax
comp=Z,44nm,1.3s
BOZ Bozeman (W) 59.03 55 P **P 23 26 36.3 +0.1**
baz=310
WAKR Walker 59.18 66 *e*P **P 23 26 39.0 +1.5**
comp=Z,5.4nm,0.9s
KVN Kaiserville 59.62 64 *e*P **P 23 26 41.8 +1.3**
comp=Z,26nm,1.4s
KVN Kaiserville 59.62 64 *e*P **P 23 26 41.8 +1.3**
KVN pmax pmax
comp=Z,26nm,1.4s
QLMT Earthquake Lak 59.63 55 *e*P **P 23 26 41.8 +1.3**
RYN Ryan 59.65 65 *e*P **P 23 26 41.6 +0.9**
comp=Z,11nm,1.2s
YHB Horse Butte 59.81 55 *e*P **P 23 26 42.9 +1.2**
comp=Z,39nm,1.2s
NV01 Mina Array Sit 59.91 65 *e*P **P 23 26 43.3 +0.8**
NVAR Mina Array Bea 59.91 65 P **P 23 26 43.8 +1.2**
comp=Z,1.9nm,0.6s,baz=299,slow=7.4,SNR=25
MDPB Devils Postpil 59.97 66 *e*P **P 23 26 44.3 +1.3**
comp=Z,6.9nm,1.1s
YHH Holmes Hill 59.97 55 *e*P **P 23 26 44.6 +1.6**
comp=Z,27nm,1.2s

YMR Madison River 59.99 55 *e*P **P 23 26 44.8 +1.8**
comp=Z,46nm,1.3s
NV11 Mina Array Sit 59.99 65 *e*P **P 23 26 44.4 +1.3**
comp=Z,0.5nm,1.0s
YNR Norris Junctio 60.11 55 *e*P **P 23 26 46.3 +2.4**
comp=Z,29nm,1.2s
YFT Old Faithful 60.20 55 *e*P **P 23 26 47.4 +2.9**
comp=Z,26nm,1.2s
YPP Pitchstone Pla 60.34 56 *e*P **P 23 26 48.8 +3.4**
comp=Z,22nm,1.3s
H17A Grant Village 60.38 55 *e*P **P 23 26 48.9 +3.2**
comp=Z,52nm,1.3s
H17A Grant Village 60.38 55 P **P 23 26 47.1 +1.5**
baz=312
IMW Indian Meadow 60.51 56 *e*P **P 23 26 48.8 +2.1**
comp=Z,27nm,1.3s
IMW *ep*P **pP 23 27 00.8 -2.1**
FLWY Flagg Ranch 60.52 56 *e*P **P 23 26 49.0 +2.5**
comp=Z,20nm,1.1s
RLMT Red Lodge 60.60 54 *e*P **P 23 26 48.5 +1.4**
comp=Z,42nm,1.1s
RLMT Red Lodge 60.60 54 P **P 23 26 48.0 +0.9**
baz=312
FXWY Fox Creek 60.63 56 *e*P **P 23 26 48.7 +1.3**
comp=Z,25nm,1.5s
MOOW Moose Ponds 60.71 56 *e*P **P 23 26 49.9 +2.0**
comp=Z,27nm,1.4s
TPAW Teton Pass 60.77 56 *e*P **P 23 26 50.6 +2.2**
comp=Z,60nm,1.4s
LOHW Long Hollow 60.88 56 *e*P **P 23 26 50.7 +1.6**
comp=Z,43nm,1.4s
HVU Hansel Valley 60.90 59 *e*P **P 23 26 50.8 +1.7**
comp=Z,14nm,1.2s
HVU *ep*P **pP 23 27 03.9 -1.6**
HVU Hansel Valley 60.90 59 *e*P **P 23 26 50.8 +1.7**
HVU *e**PP **pP 23 27 03.9 -1.6**
HVU pmax pmax
comp=Z,14nm,1.2s
SNOW Snow King Moun 60.90 56 *e*P **P 23 26 51.5 +2.2**
comp=Z,44nm,1.3s
SNOW *ep*P **pP 23 27 03.4 -2.2**
REDW Red Top Meadow 60.91 56 *e*P **P 23 26 51.0 +1.7**
comp=Z,56nm,1.4s
DGMT Dagmar 60.95 48 *e*P **P 23 26 50.3 +1.2**
comp=Z,55nm,1.2s
DGMT Dagmar 60.95 48 P **P 23 26 50.7 +1.5**
baz=312
LAO LASA Array 61.13 51 *e*P **P 23 26 51.6 +1.1**
comp=Z,123nm,1.4s
LAO LASA Array 61.13 51 P **P 23 26 51.3 +0.8**
baz=312
VES Vestal, Richgr 61.15 68 P **P 23 26 51.6 +0.9**
baz=312
AHID Auburn Hatcher 61.17 57 *e*P **P 23 26 52.7 +1.7**
comp=Z,38nm,1.4s
BGU Big Grassy Mou 61.32 60 *e*P **P 23 26 53.4 +1.4**
comp=Z,6.5nm,1.2s
PKM Mcpherson Peak 61.34 69 P **P 23 26 52.7 +0.5**
baz=312
CWC Cottonwood Cre 61.35 67 P **P 23 26 52.6 +0.3**
baz=312
GRAC Grapevine Rang 61.41 66 P **P 23 26 53.4 +0.9**
baz=312
R11A Troy Canyon, C 61.56 63 *e*P **P 23 26 54.2 +0.5**
comp=Z,13nm,1.2s
R11A Troy Canyon, C 61.56 63 P **P 23 26 54.0 +0.3**
baz=312
ISA Isabella, Lake 61.63 67 *e*P **P 23 26 54.2 +0.1**
comp=Z,5.1nm,1.0s
ISA Isabella, Lake 61.63 67 *e*P **P 23 26 54.2 +0.1**
ISA pmax pmax
comp=Z,5.0nm,1.0s
ISA Isabella, Lake 61.63 67 P **P 23 26 53.8 -0.3**
baz=312
HWUT Hardware Ranch 61.69 58 *e*P **P 23 26 56.1 +1.6**
comp=Z,19nm,1.2s
DUG Dugway, Tooele 61.93 60 *e*P **P 23 26 57.2 +1.2**
comp=Z,24nm,1.2s
DUG Dugway, Tooele 61.93 60 P **P 23 26 56.8 +0.7**
baz=312
MPMC Manual Prospec 61.96 66 P **P 23 26 57.2 +0.7**
baz=312
BW06 Boulder Array 62.01 56 *e*P **P 23 26 57.5 +0.8**
comp=Z,31nm,1.2s
BW06 Boulder Array 62.01 56 P **P 23 26 57.3 +0.6**
baz=313
PD31 Pinedale Array 62.02 56 *e*P **P 23 26 57.6 +0.8**
PDAR Pinedale Array 62.02 56 P **P 23 26 57.5 +0.8**
comp=Z,17nm,1.0s,baz=298,slow=3.2,SNR=55
PDAR Pinedale Array 62.02 56 *e*P **P 23 26 56.7 0.0**
FURC Furnace Creek, 62.06 66 P **P 23 26 57.6 +0.8**
baz=312
TCUT Toone Canyon 62.10 59 *e*P **P 23 26 59.6 +2.2**
comp=Z,40nm,1.4s
TPNV Topopah Spring 62.11 65 *e*P **P 23 26 58.4 +1.0**
comp=Z,26nm,1.4s
TPNV Topopah Spring 62.11 65 P **P 23 26 57.8 +0.5**
baz=312
KRAB Krabi 62.13 249 P **P 23 26 59.1 +1.6**
CTU Camp Tracy 62.20 59 *e*P **P 23 26 59.2 +1.3**
comp=Z,6.6nm,1.0s
LRMC Laurel Mtn Rad 62.24 67 P **P 23 26 58.8 +0.6**
baz=313
FINES FINESS Array B 62.42 335 P **P 23 26 57.1 -1.6**
comp=Z,6.8nm,0.4s,baz=34,slow=8.0,SNR=100
JLU Jordanelle 62.43 59 *e*P **P 23 27 01.0 +1.5**
comp=Z,24nm,1.4s
PSUT Pine Spring 62.45 62 *e*P **P 23 27 00.9 +1.2**
comp=Z,10.0nm,1.3s
EDW2 Edwards Air Fo 62.45 68 P **P 23 27 00.2 +0.7**
baz=313
NLU North Lily Min 62.51 60 *e*P **P 23 27 01.5 +1.4**
comp=Z,16nm,1.2s
MPU Maple Canyon 62.72 60 *e*P **P 23 27 02.9 +1.5**
comp=Z,22nm,1.3s
SHPR Sheep Range 63.05 65 *e*P **P 23 27 05.0 +1.4**
comp=Z,18nm,1.4s
CCUT Cedar City 63.40 63 *e*P **P 23 27 07.4 +1.4**
comp=Z,24nm,1.4s
MSU Marysvale 63.43 61 *e*P **P 23 27 07.9 +1.7**
TMUT Trail Mountain 63.45 60 *e*P **P 23 27 07.8 +1.3**
comp=Z,23nm,1.3s
SZCU Shurtz Canyon 63.53 63 *e*P **P 23 27 08.2 +1.3**
comp=Z,20nm,1.2s
P17A Butcher Ranch, 63.59 60 *e*P **P 23 27 08.7 +1.5**
comp=Z,36nm,1.4s
ULM Lac du Bonnet 63.59 43 P **P 23 27 06.4 -0.4**
comp=Z,4.8nm,0.8s,baz=28,slow=4.5,SNR=3.1
MDND Maddock 63.60 47 *e*P **P 23 27 08.2 +1.4**
comp=Z,79nm,1.3s
K22A Casper 63.73 55 *e*P **P 23 27 09.1 +1.0**
comp=Z,31nm,1.4s
MTPU Mont Pierson 63.75 62 *e*P **P 23 27 10.2 +1.8**
comp=Z,26nm,1.5s
LCMT Little Creek M 63.83 63 *e*P **P 23 27 10.3 +1.5**
comp=Z,28nm,1.4s
SRU San Rafael Swe 63.96 60 *e*P **P 23 27 10.7 +1.0**
comp=Z,34nm,1.2s
RSSD Black Hills 64.02 52 *e*P **P 23 27 10.6 +0.6**
comp=Z,59nm,1.3s
RSSD Black Hills 64.02 52 *e*P **P 23 27 10.6 +0.6**
RSSD pmax pmax
comp=Z,59nm,1.3s
KNB Kanab 64.08 63 *e*P **P 23 27 12.1 +1.7**
comp=Z,18nm,0.9s
KNB Kanab 64.08 63 *e*P **P 23 27 12.1 +1.7**
KNB pmax pmax
comp=Z,18nm,0.9s
PKCU Pink Cliffs 64.08 62 *e*P **P 23 27 12.5 +1.9**
comp=Z,21nm,1.1s
OBN Obninsk 64.11 326⇑ *e*P **P 23 27 08.2 -1.8**
OBN *e* 23 29 34.7
OBN pmax pmax
comp=Z,5.0nm,1.1s
OBN MLR MLR
comp=Z,1µm,18.0s
O20A White River Ci 64.53 58 *e*P **P 23 27 14.3 +1.0**
comp=Z,34nm,1.4s
VSU Vasula 64.69 333 *i*P **P 23 27 15.6 +1.8**
VSU pmax pmax
comp=Z,43nm,1.1s
AGMN Agassiz Nation 65.02 44 *e*P **P 23 27 16.9 +0.8**
comp=Z,49nm,1.5s
PHWY Pilot Hill 65.24 55 *e*P **P 23 27 17.6 -0.4**
comp=Z,17nm,0.7s
N23A Red Feather La 65.26 56 *e*P **P 23 27 17.8 -0.4**
comp=Z,32nm,1.3s
BATI Baumata 65.48 215 P **P 23 27 20.2 +0.8**

comp=Z,9.8nm,0.3s,baz=27,slow=2.3,SNR=2.9
NB2 NORSAR Subarra 66.33 342 P **P 23 27 23.4 -1.1**
comp=Z,0.9nm,0.4s,baz=25,slow=6.5
NOA NORSAR Array B 66.33 342 P **P 23 27 22.5 -1.9**
comp=Z,1.4nm,0.6s,baz=29,slow=6.5,SNR=12
NOA LR LR 00 00 07.1
comp=Z,614nm,19.9s,baz=100,slow=39
GEYT Alibeck 66.65 301 P **P 23 27 26.9 +0.1**
comp=Z,0.9nm,0.4s,baz=64,slow=3.4,SNR=8.7
EYMN Ely 67.24 42 *e*P **P 23 27 31.0 +0.6**
comp=Z,58nm,1.4s
HYB Hyderabad 68.50 272 *i*P **P 23 27 38.0 -0.7**
GOF Gofitskoye 69.14 315 *e*P **P 23 27 42.0 -0.3**
GOF pmax pmax
comp=Z,20nm,0.8s
NCK Nalchik 70.07 314*ce*P **P 23 27 50.4 +2.3**
NCK pmax pmax
comp=Z,6.0nm,0.9s
KIV Kislovodsk 70.15 315 *e*P **P 23 27 51.1 +2.4**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KBZ Khabaz 70.22 315 P **P 23 27 48.4 -0.6**
comp=Z,3.7nm,0.6s,baz=90,slow=2.7,SNR=15
AKASG Malin Array Be 70.31 327 P **P 23 27 48.1 -1.2**
comp=Z,3.4nm,0.4s,baz=33,slow=6.5,SNR=13
KIEV Kiev 70.32 327 *i*P **P 23 27 49.6 +0.2**
KIEV pmax pmax
comp=Z,3.0nm,1.0s
SCHQ Schefferville 70.37 24 P **P 23 27 49.7 0.0**
comp=Z,22nm,0.4s,baz=339,slow=5.5,SNR=88
WRAB Tennant Creek 71.41 201 *i*P **P 23 27 59.1 +2.8**
WRAB pmax pmax
comp=Z,9.0nm,1.1s
WRA Warramunga Arr 71.42 201 P **P 23 27 55.3 -1.0**
comp=Z,1.3nm,0.4s,baz=20,slow=6.5,SNR=7.0
AKH Akhalkalaki 71.72 313⇑*i*P **P 23 27 58.6 +0.3**
GNI Garni 72.08 311 *i*P **P 23 28 00.9 +0.4**
GNI pmax pmax
comp=Z,10.0nm,0.6s
FITZ Fitzroy Crossi 72.11 210 P **P 23 28 00.9 +0.4**
comp=Z,4.0nm,0.7s,baz=346,slow=3.6,SNR=6.1
SORM Soroca 72.76 326⇑*i*P **P 23 28 03.3 -0.9**
N41A Harden Midland 73.09 47 *e*P **P 23 28 06.4 +0.1**
comp=Z,91nm,1.3s
OJC Ojcow 73.85 332 *e*P **P 23 28 10.0 -0.6**
OJC Ojcow 73.85 332 *e*P **P 23 28 09.4 -1.2**
comp=Z,6.9nm,0.5s
OJC Ojcow 73.85 332 *e*P **P 23 28 10.0 -0.6**
BUR08 Bucovina Ar. S 74.31 328 *e*P **P 23 28 13.2 -0.2**
KSP Ksiaz 74.33 334 *e*P **P 23 28 13.1 -0.2**
KSP Ksiaz 74.33 334 *e*P **P 23 28 13.1 -0.2**
BURAR Bucovina Array 74.33 328⇓*i*P **P 23 28 13.6 +0.1**
NIE Niedzica 74.40 331 *e*P **P 23 28 14.0 +0.2**
NIE Niedzica 74.40 331 *e*P **P 23 28 14.0 +0.2**
BIZ Bicaz 74.59 327⇓*i*P **P 23 28 14.7 -0.2**
OKC Ostrava-Krasne 74.68 333 *e*P **P 23 28 14.9 -0.5**
OKC Ostrava-Krasne 74.68 333 *e*P **P 23 28 14.9 -0.5**
DPC Dobruska-Polom 74.76 334 *e*P **P 23 28 15.6 -0.3**
DPC Dobruska-Polom 74.76 334 *e*P **P 23 28 15.6 -0.3**
CLL Collm 74.80 337 *i*P **P 23 28 15.4 -0.6**
comp=Z,17nm,1.2s
CLL *es*P **sP 23 28 41.0 +1.4**
CLL Collm 74.80 337 *i*P **P 23 28 15.4 -0.6**
CLL *e**SP **sP 23 28 41.0 +1.4**
CLL pmax pmax
comp=Z,17nm,1.2s
TRPA Tarpa 74.80 329⇑*i*P **P 23 28 16.0 -0.1**
TRPA Tarpa 74.80 329⇓*e*P **P 23 28 16.5 +0.4**
KRLC Kraliky 74.87 334 *e*P **P 23 28 16.3 -0.3**
KRLC Kraliky 74.87 334 *e*P **P 23 28 16.3 -0.3**
LANS Liptovska Anna 74.89 332 *e*P **P 23 28 17.7 +1.0**
LANS Liptovska Anna 74.89 332 *e*P **P 23 28 17.7 +1.0**
TXAR Lajitas Array 74.91 63 P **P 23 28 18.1 +0.9**
comp=Z,3.8nm,0.7s,baz=294,slow=4.4,SNR=16
MORC Moravsky Berou 74.92 333⇑*i*P **P 23 28 16.8 0.0**
MORC Moravsky Berou 74.92 333 *e*P **P 23 28 16.5 -0.3**
BRG Berggiesshubel 74.94 336 *e*P **P 23 28 18.1 +1.2**
comp=Z,3.0nm,0.6s
BRG Berggiesshubel 74.94 336 *e*P **P 23 28 18.1 +1.2**
BRG pmax pmax
comp=Z,3.0nm,0.6s
ASAR Alice Springs 75.11 200 P **P 23 28 18.3 +0.3**
comp=Z,2.2nm,0.4s,baz=14,slow=5.4,SNR=8.9
VRI Vrincioaia 75.27 326⇑*i*P **P 23 28 19.8 +0.9**
PLOR Plostina 75.31 326⇑*i*P **P 23 28 19.9 +0.7**
CFR Carcaliu 75.33 324⇓*i*P **P 23 28 19.9 +0.7**
OZUR 75.42 326⇑*i*P **P 23 28 20.3 +0.5**
VRAC Vranov 75.61 334⇓*i*P **P 23 28 21.2 +0.4**
VRAC Vranov 75.61 334 *e*P **P 23 28 20.9 +0.1**
CJR Cluj-Napoca 75.67 328⇑*i*P **P 23 28 21.3 +0.1**
VYHS Vyhne 75.67 332 *e*P **P 23 28 20.7 -0.4**
VYHS pmax pmax
comp=Z,23nm,2.0s
VYHS Vyhne 75.67 332 *e*P **P 23 28 20.7 -0.4**
DOPR Dopca 75.67 327⇓*i*P **P 23 28 21.9 +0.7**
JAVC Velka Javorina 75.70 333 *e*P **P 23 28 22.5 +1.1**
MLR Muntele Rosu 75.88 326⇑*i*P **P 23 28 23.3 +0.8**
KRUC Moravsky 75.89 334 *e*P **P 23 28 22.1 -0.3**
DRGR 75.90 329⇑*i*P **P 23 28 23.2 +0.6**
TREC Trest 75.94 334 *e*P **P 23 28 22.5 -0.2**
TREC Trest 75.94 334 *e*P **P 23 28 22.5 -0.2**
ISR Istrita 75.97 325⇓*i*P **P 23 28 24.0 +1.0**
VOIR 76.25 326⇓*i*P **P 23 28 25.6 +1.0**
SULR 76.46 325⇑*i*P **P 23 28 25.8 +0.2**
ARR Arges 76.46 327⇑*i*P **P 23 28 26.7 +0.9**
KHC Kasperske Hory 76.63 335 *e*P **P 23 28 26.7 +0.1**
comp=Z,5.2nm,1.0s
KHC Kasperske Hory 76.63 335 *e*P **P 23 28 26.5 -0.1**
KHC *ex* x 23 28 32.0
KHC Kasperske Hory 76.63 335 *e*P **P 23 28 26.5 -0.1**
KHC *e* 23 28 32.0
GRFO Grafenberg 76.74 337 *e*P **P 23 28 27.5 +0.3**
comp=Z,17nm,1.0s
GERES GERESS Array B 76.85 335 P **P 23 28 27.4 -0.5**
comp=Z,1.7nm,0.4s,baz=35,slow=5.8,SNR=42
GERES LR LR 00 05 41.9
comp=Z,2µm,19.7s,baz=49,slow=38
WSAR Wadi Sarin 77.00 290 LR LR 00 06 52.6
comp=Z,3µm,19.2s,baz=154,slow=39
CONA Conrad Observa 77.07 333 *e*P **P 23 28 29.7 +0.6**
comp=Z,11nm,0.9s,SNR=6.7
SOP Sopron 77.08 333⇓⇓*e*P **P 23 28 30.4 +1.3**
GZR Gura Zlata 77.09 328⇓*i*P **P 23 28 28.7 -0.6**
MEM Membach 77.11 341 ⇓⇓P **P 23 28 29.0 -0.2**
BZS Buzias 77.30 329⇑*i*P **P 23 28 30.6 +0.2**
BCLA Clavier 77.44 341 ⇑⇑P **P 23 28 30.5 -0.6**
comp=Z,12nm,1.2s
MOA Molln 77.60 334 *e*P **P 23 28 32.7 +0.6**
comp=Z,5.5nm,0.7s
BRTR Keskin Array B 77.60 318 P **P 23 28 32.6 +0.2**
comp=Z,2.1nm,0.5s,baz=94,slow=2.8,SNR=28
HERR Herculane 77.67 328⇑*i*P **P 23 28 33.1 +0.7**
MORH M¯ŧr¯igy, Hung 77.75 331⇓*e*P **P 23 28 31.6 -1.3**
MORH M¯ŧr¯igy, Hung 77.75 331 *e*P **P 23 28 31.3 -1.6**
ARSA Arzberg 77.78 333 *e*P **P 23 28 33.5 +0.4**
comp=Z,16nm,1.3s
DOU Dourbes 77.90 341 ⇑P **P 23 28 34.4 +0.8**
FRGS Fruska Gora 78.31 330 *e*P **P 23 28 35.0 -1.0**
SOKA Soboth 78.44 333 *e*P **P 23 28 36.9 +0.1**
comp=Z,35nm,1.5s,SNR=7.0
KBA Koelnbreinsper 78.56 335 *e*P **P 23 28 38.4 +0.8**
comp=Z,26nm,0.5s,SNR=12
BFO Black Forest 78.72 338*ce*P **P 23 28 39.4 +1.2**
BFO pmax pmax
comp=Z,4.0nm,1.7s
OBKA Obir 78.73 334 *e*P **P 23 28 39.1 +0.6**
comp=Z,9.3nm,0.4s
WATA Walderalm 78.81 336 *e*P **P 23 28 39.2 +0.3**
comp=Z,7.6nm,0.4s,SNR=18
WTTA Wattenberg 78.86 336 *e*P **P 23 28 39.8 +0.6**
comp=Z,38nm,1.3s,SNR=7.3
MYKA Terra Mystica 78.89 334 *i*P **P 23 28 39.2 0.0**
comp=Z,7.9nm,0.4s
RETA Reutte 78.89 336 *i*P **P 23 28 40.1 +0.9**
comp=Z,12nm,1.1s
MOTA Moosalm 78.93 336 *e*P **P 23 28 40.1 +0.6**
comp=Z,42nm,1.1s,SNR=18
SQTA Sankt Quirin 79.01 336 *e*P **P 23 28 40.3 +0.3**
comp=Z,53nm,1.3s,SNR=12
CRES Cresnjev 79.08 333 *e*P **P 23 28 39.1 -1.2**
ABTA Abfaltersbach 79.09 335 *e*P **P 23 28 40.1 -0.3**
comp=Z,24nm,1.5s
DIVS Divibare 79.19 329 *e*P **P 23 28 39.9 -1.0**
DAVA Damuels 79.30 337 *e*P **P 23 28 42.5 +0.9**

comp=Z,9.2nm,0.6s,SNR=5.3
FETA Feichten 79.33 336 *i* P **P** 23 28 42.2 **+0.4**
comp=Z,22nm,1.1s,SNR=9.0
VTS Vitosha 79.38 326 *i* P **P** 23 28 41.4 **-0.7**
CEY Cerknica 79.47 333 *e*P **P** 23 28 40.9 **-1.5**
HAPS Han Pijesak,BI 79.54 330 *e*P **P** 23 28 41.2 **-1.7**
BBLS Lazići 79.59 329 *e*P **P** 23 28 42.5 **-0.6**
STIP Stip 80.53 326 *i* P **P** 23 28 46.6 **-1.5**
BRY Bratogost 80.73 329 *e*P **P** 23 28 47.3 **-2.1**
PDG Podgorica 80.91 329 *i* P **P** 23 28 49.3 **-0.8**
PDG Podgorica 80.91 329 *e*P **P** 23 28 48.8 **-1.3**
TREB Trebinje 80.96 329 *e*P **P** 23 28 48.3 **-2.1**
DRME Dracevica, Mon 81.15 329 *e*P **P** 23 28 51.4 **0.0**
KRUS Krusevo 81.15 327 *i* P **P** 23 28 50.8 **-0.8**
TIR Tirane 81.66 328 *i* P **P** 23 28 53.4 **-0.7**
RAYN Ar Rayn 84.56 300 *e*P **P** 23 29 08.8 **-0.7**
comp=Z,17nm,1.1s
RAYN Ar Rayn 84.56 300 *e*P **P** 23 29 08.8 **-0.7**
RAYN pmax pmax
comp=Z,17nm,1.1s
ESDC Sonseca Array 89.58 344 P **P** 23 29 32.5 **-1.0**
comp=Z,1.1nm,0.4s,baz=359,slow=4.1,SNR=16
KEST Kesra 90.17 333 P **P** 23 29 36.2 **-0.2**
comp=Z,3.1nm,0.5s,baz=14,slow=2.1,SNR=9.6
TORD Torodi Ar. Bea 113.67 332 PKiKP **PKiKP** 23 35 15.1 **+0.6**
comp=Z,0.1nm,0.4s,baz=11,slow=2.5,SNR=4.2
SYO Syowa Base 143.88 213 *e*Pdiff **Pdif** 23 33 37.4 **+2.4**
SYO Syowa Base 143.88 213 *e*PKPdf **PKPdf** 23 36 09.8 **+0.3**
CPUP Villa Florida 145.85 60 PKPbc **PKPab** 23 36 15.8 **+0.3**
comp=Z,10nm,1.3s,baz=26,slow=4.0,SNR=5.6
PLCA Paso Flores 146.82 93 PKPbc **PKPbc** 23 36 17.1 **-0.5**
comp=Z,4.0nm,0.9s,baz=306,slow=3.4,SNR=4.9
NVL N'lazarevskaya 152.58 205 *e*PKP2 **PKPab** 23 36 46.2 **+4.6**
NVL pmax pmax
comp=Z,10.0nm,1.1s

UCR **11** *23:20:58.1±1.1, 13°.87N×93°.57W, h35km, ML4.9, mb5.0(NEIC)*
MOS **11** *23:21:11.9±1.5, 13°.93N×92°.32W, h33km, mb5.2/38, Error ellipse: s-maj=11.4km s-min=5.0km az=109.4*
MEX **11** *23:21:12.4±0.7, 14°.00N×92°.45W, h4km±63km, MD5.0*
NEIC **11** *23:21:13.5±0.9, 13°.90N×92°.30W, h34km±6km, mb5.0/236, MD5.0(MEX), Error ellipse: s-maj=5.4km s-min=3.4km az=219.0*
IDC **11** *23:21:13.7±2.2, 13°.97N×92°.29W, h39km±18km, mb4.3/26, mb1 4.5/31, mb1mx4.4/50, mbtmp4.5/31, ML4.6/5, MS4.8/5, Ms1 4.8/5, ms1mx4.2/39, Error ellipse: s-maj=20.2km s-min=9.1km az=52.0*
ISCJB **11** *23:21:15.0±0.5, 13°.97N±0°.02×92°.27W±0°.02, h65km±4km, mb4.9/223, Error ellipse: s-maj=4.3km s-min=2.7km az=138.8*
BJI **11** *23:21:15.0, 13°.90N×92°.30W, h40km, Ms5.4/2, Ms7 5.2/1*
ISC 11 23:21:14.0±0.8, 13°.96N±0°.05×92°.48W±0°.04, h41km±7km, n741, σ1°71/726, mb5.0/224, 10C-1D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
THIG		**0.96**	**12**	*e*P	**Pn**	**23 21 28.5**	**-2.5**
THIG				*e*S	**Sn**	**23 21 39.6**	**-3.9**
THIG		**0.96**	**12**	*e*P	**Pn**	**23 21 28.5**	**-2.5**
THIG				*e*S	**Sn**	**23 21 39.6**	**-3.9**
PCIG		**1.88**	**338**	*e*P	**Pn**	**23 21 41.2**	**-2.4**
PCIG		**1.88**	**338**	*e*P	**Pn**	**23 21 41.2**	**-2.4**
PCIG				*i* S	**Sn**	**23 22 04.2**	**-1.8**
IXG	**Ixpaco**	**1.97**	**84**	*e*P	**Pn**	**23 21 44.4**	**-0.6**
APG	**El Apazote**	**2.21**	**62**	Pn	**Pn**	**23 21 48.0**	**-0.4**
	60nm,0.3s,baz=220,slow=10,SNR=154						
APG				Sn	**Sn**	**23 22 16.5**	**+2.0**
	303nm,0.3s,baz=338,slow=15,SNR=5.3						
CCIG	**Comitan**	**2.33**	**8**	*e*Pn	**Pn**	**23 21 47.9**	**-2.1**
CCIG				*e*Sn	**Sn**	**23 22 18.6**	**+1.1**
CCIG	**Comitan**	**2.33**	**8**	*i* P	**Pn**	**23 21 48.1**	**-1.9**
CCIG				*i* S	**Sn**	**23 22 16.2**	**-1.3**
RTR	**El Retiro**	**2.75**	**91**	*e*P	**Pn**	**23 21 55.3**	**-0.4**
CEVE	**Cerro Verde**	**2.77**	**92**	*e*P	**Pn**	**23 21 55.4**	**-0.7**
CEVE				*e*S	**Sn**	**23 22 35.8**	**+7.2**
CEVE				IAML		23 22 50.6	
	comp=Z,17μm,0.5s						
SBLS	**San Blas**	**2.77**	**92**	*e*P	**Pn**	**23 21 55.5**	**-0.7**
TGIG		**2.87**	**348**	*e*P	**Pn**	**23 21 56.5**	**-0.8**
TGIG		**2.87**	**348**	*e*P	**Pn**	**23 21 56.5**	**-0.8**
TGIG				*i* S	**Sn**	**23 22 28.4**	**-2.2**
MTO3	**Montecristo**	**3.05**	**81**	*e*P	**Pn**	**23 21 59.8**	**-0.2**
BOQS	**Boqueron**	**3.11**	**94**	*e*P	**Pn**	**23 21 59.5**	**-1.3**
SNET	**Serv Nac Est T**	**3.16**	**95**	*e*Pn	**Pn**	**23 21 59.1**	**-2.3**
SNET	**Serv Nac Est T**	**3.16**	**95**	*e*P	**Pn**	**23 22 01.5**	**+0.1**
SNET				IAML		23 23 04.3	
	comp=Z,2μm,0.7s						
LFRS	**El Faro**	**3.33**	**95**	*e*P	**Pn**	**23 22 02.8**	**-0.9**
PAVA	**Las Pavas**	**3.45**	**94**	*e*P	**Pn**	**23 22 05.8**	**+0.5**
CMIG	**Matias Romero**	**3.88**	**324**	Pn	**Pn**	**23 22 10.2**	**-0.9**
	comp=Z,25nm,0.3s,baz=141,slow=14,SNR=21						
CMIG				Sn	**Sn**	**23 22 59.5**	**+4.0**
	comp=Z,47nm,0.3s,baz=116,slow=10,SNR=6.7						
CMIG				LR	LR	23 23 58.9	
	comp=Z,4μm,19.6s,baz=213,slow=41						
LCND	**La Ca¨–ada**	**4.50**	**98**	*e*P	**Pn**	**23 22 19.1**	**-0.6**
TGUH	**Tegucigalpa,Un**	**5.05**	**88**	*e*Pn	**Pn**	**23 22 24.9**	**-2.4**
VHO	**Vista Hermosa**	**5.14**	**308**	*e*P	**Pn**	**23 22 27.8**	**-0.9**
VHO	**Vista Hermosa**	**5.14**	**308**	*e*P	**Pn**	**23 22 27.8**	**-0.9**
VHO				*e*S	**Sn**	**23 23 26.8**	**0.0**
MOMN	**Momotombo**	**5.98**	**104**	*e*P	**Pn**	**23 22 38.6**	**-1.5**
ESTN	**Estel**	**6.00**	**97**	*e*Pn	**Pn**	**23 22 38.4**	**-2.0**
COPN	**Copaltepe**	**6.00**	**106**	*e*P	**Pn**	**23 22 39.3**	**-1.0**
COPN				IAML		23 24 08.0	
	comp=Z,535nm,0.5s						
MASN	**Masaya**	**6.47**	**107**	*e*S	Sn	23 24 10.8	+11
MASN				IAML		23 24 24.3	
	comp=E,1μm,0.6s						
BOAB	**BOACO BROADBAN**	**6.80**	**102**	*e*Pn	Pn	23 22 46.2	-5.1
BOAB				*e*Sn	**Sn**	**23 24 02.9**	**-4.6**
BOAB	**BOACO BROADBAN**	**6.80**	**102**	*e*P	**Pn**	**23 22 48.7**	**-2.6**
BOAB				IAmb	IAmb	23 23 06.1	
	comp=Z,14nm,0.8s						
LVIG	**Laguna Verde**	**6.86**	**327**	*e*Pn	**Pn**	**23 22 48.8**	**-3.3**
LVIG				*e*Sn	**Sn**	**23 24 02.0**	**-6.9**
TLIG	**Tlapa**	**6.87**	**302**	*e*Pn	**Pn**	**23 22 52.3**	**0.0**
TLIG				*e*Sn	**Sn**	**23 24 08.5**	**-0.8**
ACON	**Acoyapa**	**7.39**	**105**	*e*S	Sn	23 24 32.5	+11
TEIG	**Tepich**	**7.41**	**32**	*e*Pn	**Pn**	**23 22 59.0**	**-0.7**
TEIG				*e*Sn	**Sn**	**23 24 22.9**	**+0.5**
MYIG	**MØrida**	**7.43**	**20**	*e*Pn	**Pn**	**23 22 59.5**	**-0.4**
MYIG				*e*Sn	**Sn**	**23 24 21.7**	**-1.3**
ESPN	**Las Esperanzas**	**8.16**	**101**	*e*Pn	**Pn**	**23 23 12.6**	**+2.7**
JTS	**JuntasAbangare**	**8.21**	**116**	Pn	**Pn**	**23 23 08.9**	**-1.8**
	comp=Z,6.6nm,0.3s,baz=26,slow=8.2,SNR=16						
JTS	**JuntasAbangare**	**8.21**	**116**	*e*Pn	**Pn**	**23 23 10.1**	**-0.6**
JTS				*e*Sn	**Sn**	**23 24 41.6**	**-0.7**
JTS	**JuntasAbangare**	**8.21**	**116**	*e*P	**Pn**	**23 23 10.1**	**-0.6**
JTS				*e*		23 24 41.6	
JTS	**JuntasAbangare**	**8.21**	**116**	*e*P	**Pn**	**23 23 10.2**	**-0.6**
MOIG	**Morelia**	**10.09**	**305**	*e*Pn	**Pn**	**23 23 38.9**	**+2.3**
JRQG	**Juriquilla Cam**	**10.14**	**312**	*e*Pn	**Pn**	**23 23 41.5**	**+4.2**
LNIG	**Linares**	**12.71**	**330**	*e*Pn	**Pn**	**23 24 15.0**	**+2.7**
ZAIG	**Zacatecas**	**12.97**	**314**	*e*Pn	**Pn**	**23 24 18.1**	**+2.0**
BCIP	**Isla Barro Col**	**13.27**	**110**	*e*Pn	**Pn**	**23 24 17.3**	**-2.6**
MTDJ	**Mount Denham**	**14.97**	**72**	*e*Pn	**Pn**	**23 24 43.0**	**+0.1**
833A	**Chaparral WMA,**	**15.67**	**337**	*e*Pn	**Pn**	**23 24 51.8**	**-0.2**
	comp=Z,79nm,0.8s						
833A	**Chaparral WMA,**	**15.67**	**337**	P	**Pn**	**23 24 52.3**	**+0.4**
	baz=154,SNR=23						
061Z	**Ochoppi**	**16.07**	**41**	*e*Pn	**Pn**	**23 24 55.6**	**-1.4**
	comp=Z,285nm,1.1s						
061Z	**Ochoppi**	**16.07**	**41**	P	**Pn**	**23 24 54.7**	**-2.3**
	baz=224						
HKT	**Hockley**	**16.21**	**350**	*e*Pn	**P**	**23 25 00.3**	**-1.1**
	comp=Z,40nm,1.4s						
HKT	**Hockley**	**16.21**	**350**	*e*P	**P**	**23 25 00.3**	**-1.1**
HKT				pmax	pmax		
	comp=Z,40nm,1.4s						
058A	**Arcadia**	**16.41**	**36**	P	**Pn**	**23 25 02.1**	**+0.8**
	baz=219,SNR=9.1						
957A	**Wimauma**	**16.65**	**33**	*e*Pn	**P**	**23 25 07.0**	**+0.6**
	comp=Z,207nm,0.8s						
957A	**Wimauma**	**16.65**	**33**	P	**Pn**	**23 25 04.7**	**+0.3**
	baz=216						
059A	**Moore Haven**	**16.72**	**38**	P	**Pn**	**23 25 04.9**	**-0.4**
	baz=221						
441A	**DeRidder**	**16.72**	**358**	P	**P**	**23 25 06.7**	**-0.4**
	baz=177						
958A	**Wauchula**	**16.84**	**35**	P	**Pn**	**23 25 06.8**	**-0.1**
	baz=218						
446A	**Poplarville**	**16.99**	**9**	P	**P**	**23 25 10.8**	**+0.6**
	baz=190						
857A	**Zephyrhills**	**17.13**	**32**	P	**P**	**23 25 11.6**	**0.0**
	baz=215,SNR=10.0						
MOTC	**Monteria, Cord**	**17.26**	**106**	*e*P	**Pn**	**23 25 11.0**	**-1.2**
341A	**Kurthwood**	**17.30**	**358**	*e*Pn	**P**	**23 25 14.7**	**+1.2**
	comp=Z,49nm,0.9s						
341A	**Kurthwood**	**17.30**	**358**	P	**P**	**23 25 14.5**	**+1.0**
	baz=177						
342A	**Flagon Creek P**	**17.33**	**0**	*e*Pn	**P**	**23 25 15.6**	**+1.7**
	comp=Z,77nm,0.9s						
342A	**Flagon Creek P**	**17.33**	**0**	P	**P**	**23 25 15.1**	**+1.3**
	baz=180,SNR=8.3						
435B	**Jarrell**	**17.39**	**345**	*e*Pn	**P**	**23 25 16.0**	**+1.5**
	comp=Z,43nm,0.8s						
435B	**Jarrell**	**17.39**	**345**	P	**P**	**23 25 16.9**	**+2.4**
	baz=163						
448A	**Bay Minette**	**17.41**	**13**	P	**P**	**23 25 15.0**	**+0.3**
	baz=194						
344A	**Westbrook Farm**	**17.48**	**5**	*e*Pn	**P**	**23 25 15.5**	**-0.1**
	comp=Z,150nm,1.3s						
344A	**Westbrook Farm**	**17.48**	**5**	P	**P**	**23 25 17.5**	**+1.9**
	baz=185,SNR=7.3						
858A	**St. Cloud**	**17.55**	**34**	P	**P**	**23 25 16.1**	**-0.2**
	baz=218						
346A	**Big Creek Wild**	**17.56**	**9**	*e*Pn	**P**	**23 25 19.2**	**+2.8**
	comp=Z,118nm,0.8s						
346A	**Big Creek Wild**	**17.56**	**9**	P	**P**	**23 25 18.6**	**+2.1**
	baz=189						
GTBY	**Guantanamo Bay**	**17.63**	**68**	*e*Pn	**Pn**	**23 25 16.2**	**-0.5**
	comp=Z,75nm,0.9s						
655A	**Horseshoe Beac**	**17.67**	**27**	P	**P**	**23 25 17.8**	**+0.2**
	baz=210						
347A	**Saraland**	**17.73**	**11**	P	**P**	**23 25 20.3**	**+2.0**
	baz=192						
757A	**Oxford**	**17.76**	**31**	P	**P**	**23 25 19.3**	**+0.7**
	baz=214						
JCT	**Junction City**	**17.77**	**339**	*e*Pn	**P**	**23 25 19.8**	**+1.0**
	comp=Z,60nm,1.4s						
JCT	**Junction City**	**17.77**	**339**	*e*P	**P**	**23 25 19.8**	**+1.0**
JCT				pmax	pmax		
	comp=Z,59nm,1.4s						
JCT	**Junction City**	**17.77**	**339**	P	**P**	**23 25 20.6**	**+1.8**
	baz=156						
553A	**Crawfordville**	**17.77**	**23**	P	**P**	**23 25 20.0**	**+1.3**
	baz=206						
NATX	**Nacogdoches**	**17.83**	**354**	*e*Pn	**Pn**	**23 25 19.3**	**+0.3**
	comp=Z,144nm,1.3s						
NATX				*e*Sn	**Sn**	**23 28 36.6**	**-0.2**
NATX	**Nacogdoches**	**17.83**	**354**	P	**P**	**23 25 22.5**	**+3.1**
	baz=173,SNR=7.7						
BRAL	**Brewton**	**17.84**	**15**	*e*Pn	**P**	**23 25 24.0**	**+4.6**
	comp=Z,360nm,1.0s						
HPIG		**17.85**	**318**	*e*P	**P**	**23 25 21.3**	**+1.5**
	comp=Z,34nm,1.0s						
243A	**Waterproof**	**17.86**	**3**	P	**P**	**23 25 21.0**	**+1.4**
	baz=183						
348A	**Jackson**	**17.87**	**13**	*e*Pn	**P**	**23 25 21.3**	**+1.5**
	comp=Z,308nm,1.0s						
348A	**Jackson**	**17.87**	**13**	P	**P**	**23 25 21.5**	**+1.7**
	baz=194,SNR=8.2						
656A	**Willston**	**17.88**	**29**	P	**P**	**23 25 19.9**	**0.0**
	baz=212						
349A	**Repton**	**17.97**	**15**	P	**P**	**23 25 22.8**	**+1.8**
	baz=196,SNR=26						
241A	**Mo Tay, Goldon**	**17.98**	**359**	P	**P**	**23 25 22.7**	**+1.7**
	baz=178						
554A	**Perry**	**17.98**	**25**	P	**P**	**23 25 25.1**	**+4.1**
	baz=208						
242A	**Grayson**	**18.02**	**1**	P	**P**	**23 25 23.2**	**+1.7**
	baz=180						
240A	**Hunter Patters**	**18.03**	**356**	P	**P**	**23 25 23.8**	**+2.2**
	baz=175						
244A	**Avery, Jackson**	**18.07**	**5**	P	**P**	**23 25 24.3**	**+2.2**
	baz=185,SNR=7.3						
452A	**Marianna**	**18.10**	**21**	P	**P**	**23 25 24.1**	**+1.7**
	baz=203						
245A	**Little AP, Sta**	**18.14**	**7**	P	**Pn**	**23 25 23.9**	**+1.1**
	baz=188,SNR=7.0						
VBMS	**Vicksburg**	**18.26**	**5**	*e*P	**Pn**	**23 25 27.7**	**+3.4**
	comp=Z,350nm,1.5s						
555A	**McAlpin**	**18.32**	**27**	*e*P	**Pn**	**23 25 26.9**	**+1.9**
	comp=Z,151nm,0.8s						
555A	**McAlpin**	**18.32**	**27**	P	**Pn**	**23 25 26.9**	**+1.9**
	baz=210						
247A	**Quitman**	**18.35**	**10**	P	**Pn**	**23 25 27.1**	**+1.7**
	baz=191						
351A	**Pinckard**	**18.35**	**19**	P	**Pn**	**23 25 28.2**	**+2.8**
	baz=201						
H06S1	**SOCORRO T**	**18.36**	**287**	T	T	23 44 12.7	
	SNR=44						
HELC	**Santa Helena**	**18.38**	**113**	*e*P	**Pn**	**23 25 25.6**	**-0.6**
657A	**Interlachen**	**18.39**	**31**	P	**Pn**	**23 25 26.4**	**+0.6**
	baz=214						
453A	**Whigham**	**18.41**	**23**	*e*P	**Pn**	**23 25 31.2**	**+5.1**
	comp=Z,139nm,0.9s						
453A	**Whigham**	**18.41**	**23**	P	**Pn**	**23 25 29.3**	**+3.2**
	baz=205,SNR=6.3						
ZARC	**Zaragoza, Cauc**	**18.46**	**109**	*e*P	**Pn**	**23 25 27.0**	**+0.1**
556A	**Lake Butler**	**18.47**	**29**	P	**Pn**	**23 25 27.5**	**+0.6**
	baz=212						
TX31	**Lajitas Ar. Si**	**18.48**	**328**	*e*P	**Pn**	**23 25 28.8**	**+1.7**
TXAR	**Lajitas Array**	**18.48**	**328**	P	**Pn**	**23 25 28.5**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=153,slow=9.4,SNR=43						
WHTX	**Lake Whitney,**	**18.52**	**347**	*e*P	**Pn**	**23 25 30.8**	**+3.3**
	comp=Z,31nm,0.7s						
WHTX	**Lake Whitney,**	**18.52**	**347**	P	**Pn**	**23 25 30.7**	**+3.3**
	baz=164						
141A	**Papa Simpson,**	**18.56**	**359**	P	**Pn**	**23 25 30.4**	**+2.5**
	baz=178						
248A	**Dixon Mills**	**18.56**	**13**	P	**Pn**	**23 25 29.2**	**+1.3**
	baz=194						
249A	**Camden**	**18.59**	**14**	P	**Pn**	**23 25 31.2**	**+2.9**
	baz=196,SNR=9.8						
144A	**Alexander Plac**	**18.68**	**5**	P	**Pn**	**23 25 31.5**	**+2.2**
	baz=186						
143A	**Socs Landing,**	**18.68**	**3**	*e*P	**Pn**	**23 25 30.4**	**+1.1**
	comp=Z,112nm,0.8s						
143A	**Socs Landing,**	**18.68**	**3**	P	**Pn**	**23 25 30.4**	**+1.1**
	baz=183						
145A	**Houston Renfro**	**18.70**	**7**	P	**Pn**	**23 25 32.0**	**+2.4**
	baz=187						
YOTC	**Yotoco, Valle**	**18.75**	**120**	*e*P	**Pn**	**23 25 30.9**	**+0.5**
352A	**Blakely**	**18.76**	**20**	*e*P	**Pn**	**23 25 31.2**	**+0.8**
	comp=Z,114nm,0.8s						
352A	**Blakely**	**18.76**	**20**	P	**Pn**	**23 25 32.3**	**+2.0**
	baz=203,SNR=17						
250A	**Grady**	**18.81**	**17**	*e*P	**Pn**	**23 25 32.4**	**+1.4**
	comp=Z,185nm,1.3s						
250A	**Grady**	**18.81**	**17**	P	**Pn**	**23 25 32.3**	**+1.4**
	baz=198,SNR=7.5						
455A	**Stateville**	**18.83**	**26**	P	**Pn**	**23 25 33.1**	**+1.9**
	baz=209						
146A	**Union**	**18.85**	**9**	*e*P	**Pn**	**23 25 34.0**	**+2.5**
	comp=Z,90nm,1.2s						
146A	**Union**	**18.85**	**9**	P	**Pn**	**23 25 32.8**	**+1.4**
	baz=190						
353A	**Camilla**	**18.89**	**22**	P	**Pn**	**23 25 33.6**	**+1.7**
	baz=205						
GUYC	**Guyana, Colomb**	**18.94**	**116**	*e*P	**Pn**	**23 25 38.3**	**+5.1**
147A	**Livingston**	**19.02**	**11**	*e*P	**Pn**	**23 25 34.5**	**+1.1**
	comp=Z,307nm,1.3s						
147A	**Livingston**	**19.02**	**11**	P	**Pn**	**23 25 35.1**	**+1.7**
	baz=192,SNR=20						
148A	**Greensboro**	**19.13**	**13**	P	**Pn**	**23 25 34.7**	**-0.1**
	baz=194,SNR=5.8						
SLBS	**Sierra La Lagu**	**19.14**	**303**	*e*P	**Pn**	**23 25 38.9**	**+3.8**
	comp=Z,47nm,1.2s						
251A	**Midway**	**19.17**	**19**	P	**Pn**	**23 25 36.3**	**+1.0**
	baz=201,SNR=21						
PTBC	**PUERTO BERRIO,**	**19.19**	**111**	*e*P	**P**	**23 25 34.1**	**-0.5**
Z41A	**Richland Creek**	**19.21**	**359**	*e*P	**Pn**	**23 25 36.9**	**+1.1**
	comp=Z,107nm,1.0s						
Z41A	**Richland Creek**	**19.21**	**359**	P	**Pn**	**23 25 37.0**	**+1.2**
	baz=178,SNR=8.2						
TIGA	**Tifton**	**19.21**	**24**	P	**Pn**	**23 25 37.1**	**+1.3**
	baz=206,SNR=9.6						
Z42A	**Norrel Spur, H**	**19.23**	**1**	P	**Pn**	**23 25 37.8**	**+1.8**
	baz=181,SNR=8.1						
NORC	**Norcasia**	**19.24**	**114**	*e*P	**Pn**	**23 25 35.6**	**-0.7**
456A	**Hilliard**	**19.26**	**28**	*e*P	**Pn**	**23 25 40.1**	**+3.7**
	comp=Z,227nm,1.3s						
456A	**Hilliard**	**19.26**	**28**	P	**Pn**	**23 25 38.3**	**+1.9**
	baz=212						
149A	**Jones**	**19.26**	**15**	P	**P**	**23 25 35.5**	**+0.4**
	baz=196,SNR=10						
252A	**Lumpkin**	**19.30**	**20**	P	**Pn**	**23 25 36.9**	**+0.1**
	baz=203,SNR=7.4						
POPC	**Popayan, Colom**	**19.30**	**125**	*e*P	**Pn**	**23 25 36.3**	**-1.0**
Z46A	**Louisville**	**19.41**	**9**	P	**Pn**	**23 25 39.0**	**+0.9**
	baz=190						
OTAV	**Otavalo**	**19.46**	**133**	*e*P	**P**	**23 25 38.2**	**+0.3**
	comp=Z,12nm,0.9s						
OTAV	**Otavalo**	**19.46**	**133**	*ce*P	**Pn**	**23 25 38.6**	**-0.8**
OTAV				pmax	pmax		
	comp=Z,10.0nm,1.3s						
150A	**Eclectic**	**19.47**	**17**	P	**Pn**	**23 25 38.9**	**0.0**
	baz=198,SNR=16						
Z45A	**Winona**	**19.49**	**7**	*e*P	**Pn**	**23 25 40.3**	**+1.2**
	comp=Z,110nm,0.8s						
Z45A	**Winona**	**19.49**	**7**	P	**Pn**	**23 25 40.3**	**+1.2**
	baz=188						
Z47A	**Carrollton**	**19.57**	**11**	P	**P**	**23 25 38.7**	**+0.3**
	baz=192,SNR=10.0						
253A	**Americus**	**19.57**	**22**	*e*P	**Pn**	**23 25 43.2**	**+3.2**
	comp=Z,159nm,1.3s						
253A	**Americus**	**19.57**	**22**	P	**Pn**	**23 25 41.6**	**+1.6**
	baz=204						
SOTA	**Rioblanco**	**19.60**	**125**	*e*P	**Pn**	**23 25 46.2**	**+5.2**
151A	**Opelika**	**19.60**	**18**	P	**Pn**	**23 25 39.9**	**-0.5**
	baz=200,SNR=19						
LPIG	**La Paz**	**19.62**	**304**	P	**Pn**	**23 25 40.4**	**-0.3**
	comp=Z,11nm,0.3s,baz=127,slow=3.6,SNR=5.1						
LRAL	**Lakeview Retre**	**19.63**	**14**	*e*P	**Pn**	**23 25 40.2**	**-0.5**
	comp=Z,94nm,0.9s						
LRAL	**Lakeview Retre**	**19.63**	**14**	P	**Pn**	**23 25 40.4**	**-0.3**
	baz=195,SNR=36						
ABTX	**Abilene, Hawle**	**19.70**	**342**	*e*P	**Pn**	**23 25 41.5**	**-0.1**
	comp=Z,128nm,1.2s						
ABTX	**Abilene, Hawle**	**19.70**	**342**	P	**Pn**	**23 25 42.3**	**+0.8**
	baz=159,SNR=16						
MARP	**Paez Belalcaza**	**19.71**	**123**	*e*P	**Pn**	**23 25 40.9**	**-1.2**
356A	**Blackshear**	**19.72**	**27**	P	**Pn**	**23 25 40.9**	**-0.9**
	baz=210						
254A	**Abbeville**	**19.78**	**24**	P	**Pn**	**23 25 41.7**	**-0.8**
	baz=207						
Y41A	**Eaglette Beard**	**19.83**	**360**	P	**Pn**	**23 25 43.2**	**+0.1**
	baz=179						
Z48A	**Northport**	**19.84**	**12**	P	**P**	**23 25 42.3**	**+0.9**
	baz=194,SNR=8.1						
CCAR	**Cane Creek**	**19.88**	**2**	*e*P	**Pn**	**23 25 44.1**	**+0.5**
	comp=Z,64nm,1.0s						
Z49A	**Columbiana**	**19.90**	**15**	P	**Pn**	**23 25 43.0**	**-0.9**
	baz=197,SNR=51						
152A	**Waverly Hall**	**19.92**	**20**	*e*P	**Pn**	**23 25 43.3**	**-0.9**
	comp=Z,38nm,0.8s						
152A	**Waverly Hall**	**19.92**	**20**	P	**Pn**	**23 25 43.7**	**-0.5**
	baz=202,SNR=5.4						
Y45A	**Yeager Farm, C**	**19.99**	**7**	P	**Pn**	**23 25 45.1**	**+0.1**
	baz=188						
ROSC	**El Rosal**	**20.06**	**115**	P	Pn	23 25 46.1	-0.3
	comp=Z,0.8nm,0.3s,baz=44,slow=1.4,SNR=19						
ROSC	**El Rosal**	**20.06**	**115**	*e*P	Pn	23 25 46.4	0.0
	comp=Z,40nm,0.8s						
ROSC	**El Rosal**	**20.06**	**115**	*e*P	**P**	**23 25 44.2**	**-0.1**
255A	**Hazlehurst**	**20.09**	**25**	*e*P	Pn	23 25 48.8	+2.6
	comp=Z,207nm,1.4s						
255A	**Hazlehurst**	**20.09**	**25**	P	Pn	23 25 45.6	-0.6
	baz=209						
Y46A	**Houston**	**20.10**	**9**	P	Pn	23 25 46.5	+0.2
	baz=190,SNR=11						
Z50A	**Ashland**	**20.11**	**16**	*e*P	**P**	**23 25 44.6**	**+0.2**
	comp=Z,130nm,1.2s						
Z50A	**Ashland**	**20.11**	**16**	P	Pn	23 25 45.5	-0.9
	baz=198,SNR=15						
PRAC	**Prado**	**20.12**	**119**	*e*P	Pn	23 25 46.9	+0.1
153A	**Fort Valley**	**20.21**	**22**	P	**P**	**23 25 46.4**	**+1.0**
	baz=204						
Y47A	**UCPARC, Winfie**	**20.29**	**11**	P	**P**	**23 25 47.0**	**+0.7**
	baz=192						
BARC	**Barichara**	**20.34**	**109**	*e*P	Pn	23 25 48.9	-0.6
Z51A	**Franklin**	**20.38**	**18**	P	**P**	**23 25 48.3**	**+1.0**
	baz=200						
256A	**Glennville**	**20.39**	**27**	P	**P**	**23 25 47.9**	**+0.5**
	baz=210						
Y48A	**Jasper**	**20.44**	**13**	P	**P**	**23 25 48.4**	**+0.5**
	baz=194,SNR=15						
154A	**Montrose**	**20.44**	**23**	*e*P	**P**	**23 25 48.1**	**+0.2**
	comp=Z,167nm,1.0s						
154A	**Montrose**	**20.44**	**23**	P	**P**	**23 25 48.2**	**+0.2**
	baz=206						
X41A	**Kaden, Bauxite**	**20.44**	**360**	P	Pn	23 25 49.9	-0.4
	baz=179						
Z52A	**Williamson**	**20.50**	**20**	P	**P**	**23 25 49.0**	**+0.4**
	baz=202						
X42A	**Stuttgart**

baz=202,SNR=15
WHAR Wooly Hollow 21.24 0 eP P 23 25 57.5 +1.0
comp=Z,84nm,1.4s
MNTX Cornudas Mount 21.25 328 eP P 23 25 56.5 -0.3
comp=Z,94nm,1.5s
MNTX Cornudas Mount 21.25 328 P P 23 25 57.8 +1.1
baz=143,SNR=38
PLAL Pickwick Lake 21.30 10 eP P 23 25 57.1 -0.1
comp=Z,41nm,1.0s
W45A Hickory Valley 21.31 7 P P 23 25 58.8 +1.5
baz=188
X50B Fort Payne 21.32 16 P P 23 25 57.3 -0.2
baz=198,SNR=21
Y53A Monroe 21.39 21 P P 23 25 57.8 -0.3
baz=204
W46A Michie 21.40 9 P P 23 25 58.2 0.0
baz=190
WMOK Wichita Mounta 21.46 346 eP P 23 25 58.9 0.0
comp=Z,18nm,0.8s
WMOK Wichita Mounta 21.46 346 eP P 23 25 58.9 0.0
WMOK pmax pmax
comp=Z,18nm,0.8s
WMOK Wichita Mounta 21.46 346 P P 23 25 59.4 +0.5
baz=163,SNR=13
X51A Calhoun 21.64 17 eP P 23 26 02.7 +1.9
comp=Z,148nm,1.0s
X51A Calhoun 21.64 17 P P 23 26 03.0 +2.2
baz=200,SNR=8.4
W47A Westpoint 21.65 11 P P 23 26 00.8 -0.1
baz=192
W48A Pulaski 21.67 12 P P 23 26 00.9 -0.3
baz=194
TAMC Tame, Arauca 21.67 108 eP P 23 26 00.8 -0.6
Y54A Tignall 21.71 22 P P 23 26 04.5 +2.9
baz=206,SNR=18
V41A Mountainview 21.73 1 P P 23 26 02.3 +0.4
baz=180,SNR=12
V42A Cord 21.77 2 P P 23 26 03.0 +0.8
baz=182
W49A Belvidere 21.80 14 P P 23 26 01.9 -0.6
baz=196,SNR=12
EPT El Paso 21.90 326 eP P 23 26 05.4 +1.7
comp=Z,66nm,1.4s
V45A Humboldt 21.91 8 P P 23 26 04.7 +0.9
baz=189
X52A Dahlonega 21.97 19 P P 23 26 04.5 +0.1
baz=202
SWET Sewanee 21.97 14 eP P 23 26 03.3 -1.1
comp=Z,34nm,0.7s
SDV Santo Domingo 21.99 101 P P 23 26 03.6 -1.4
comp=Z,10nm,0.2s,baz=336,slow=12,SNR=1.9
SDV Santo Domingo 21.99 101 P P 23 26 03.6 -1.4
SDV epP pP 23 26 12.3 -2.9
MSTX Muleshoe 22.00 337 eP P 23 26 04.8 -0.1
comp=Z,62nm,0.9s
MSTX Muleshoe 22.00 337 P P 23 26 05.4 +0.5
baz=152,SNR=18
TUL1 Leonard 22.06 353 eP P 23 26 06.5 +1.2
comp=Z,80nm,1.0s
TUL1 Leonard 22.06 353 P P 23 26 07.0 +1.7
baz=171
X53A Estanollee 22.07 21 P P 23 26 05.9 +0.4
baz=204
V46A Holladay 22.09 9 P P 23 26 04.9 -0.9
baz=191,SNR=8.7
NHSC New Hope 22.11 28 eP P 23 26 10.6 +4.8
comp=Z,154nm,0.9s
W50A Signal Mountai 22.11 16 eP P 23 26 05.3 -0.6
comp=Z,72nm,1.0s
W50A Signal Mountai 22.11 16 P P 23 26 04.8 -1.2
baz=198,SNR=6.7
HODGE Hodges 22.20 23 epP pP 23 26 14.5 -2.6
V47A Nunnelly 22.22 11 P P 23 26 07.0 -0.1
baz=192,SNR=9.1
W51A Cleveland 22.22 17 P P 23 26 07.4 +0.3
baz=200
HHAR Hobbs 22.26 357 eP P 23 26 07.8 +0.3
comp=Z,34nm,0.9s
V48A Smith Brothers 22.27 12 eP P 23 26 06.0 -1.6
comp=Z,50nm,1.1s
V48A Smith Brothers 22.27 12 P P 23 26 06.6 -1.0
baz=194,SNR=21
U41A Viola 22.29 1 P P 23 26 07.2 -0.6
baz=181
U40A Yellville 22.30 359 P P 23 26 07.7 -0.3
baz=179
U42A Revenden 22.32 3 P P 23 26 07.3 -0.8
baz=183,SNR=13
W52A Murphy 22.41 19 eP P 23 26 10.9 +1.8
comp=Z,32nm,0.9s
W52A Murphy 22.41 19 P P 23 26 10.4 +1.3
baz=202
AMTX Amarillo 22.43 340 eP P 23 26 09.5 0.0
comp=Z,104nm,0.9s
AMTX Amarillo 22.43 340 P P 23 26 09.7 +0.2
baz=156
WVT Waverly 22.46 10 eP P 23 26 08.9 -0.8
comp=Z,24nm,0.9s
WVT Waverly 22.46 10 eP P 23 26 08.9 -0.8
WVT pmax pmax
comp=Z,24nm,0.9s
V49A McMinnville 22.50 14 P P 23 26 08.7 -1.4
baz=196,SNR=9.3
U45A Rockin P Farm, 22.54 8 P P 23 26 09.7 -0.8
baz=189
CPCT Cooper Cave 22.56 17 eP P 23 26 10.9 +0.2
comp=Z,72nm,1.2s
V50A Pikeville 22.61 16 P P 23 26 11.1 -0.2
baz=198,SNR=7.8
U46A Springville 22.63 9 P P 23 26 11.1 -0.4
baz=190
JSC Jenkinsville 22.64 25 eP P 23 26 13.6 +2.0
comp=Z,86nm,0.9s
JSC Jenkinsville 22.64 25 eP P 23 26 13.6 +2.0
JSC pmax pmax
comp=Z,86nm,0.9s
BG3 Lake Jocassee 22.64 21 eP P 23 26 12.0 +0.3
comp=Z,46nm,1.0s
W53A Cullowhee 22.73 20 P P 23 26 12.2 -0.4
baz=203
HSIG 22.75 314 eP P 23 26 21.5 +8.7
comp=Z,23nm,1.0s
PBMO Poplar Bluff 22.80 4 eP P 23 26 12.0 -1.2
comp=Z,32nm,0.6s
U47A Clarksville 22.86 11 P P 23 26 12.5 -1.3
baz=192
PAULI Pauline 22.89 23 eP P 23 26 14.5 +0.3
comp=Z,94nm,1.2s
V51A Loudon 22.94 17 eP P 23 26 13.7 -1.1
comp=Z,47nm,1.0s
V51A Loudon 22.94 17 P P 23 26 13.4 -1.3
baz=200
TKL Tuckaleechee C 22.98 18 P P 23 26 13.8 -1.3
comp=Z,22nm,0.8s,baz=188,slow=12,SNR=15
TKL Tuckaleechee C 22.98 18 eP P 23 26 14.0 -1.1
comp=Z,66nm,1.2s
TKL Tuckaleechee C 22.98 18 eP P 23 26 14.0 -1.1
TKL pmax pmax
comp=Z,66nm,1.2s
T41A Mountain View 22.99 1 P P 23 26 14.3 -1.0
baz=181,SNR=7.6
T42A Van Buren 23.00 3 eP P 23 26 13.3 -2.0
comp=Z,23nm,1.1s
T42A Van Buren 23.00 3 P P 23 26 13.9 -1.5
baz=183
U48A Cassie Pea, Po 23.07 12 P P 23 26 14.4 -1.6
baz=194
U32A Winter Ranch, 23.08 346 eP P 23 26 15.3 -0.8
comp=Z,56nm,1.0s
T43A Greenville 23.11 4 P P 23 26 15.1 -1.2
baz=185,SNR=9.6
T44A Benton 23.17 6 P P 23 26 16.6 -0.4
baz=187
319A Douglas 23.20 321 eP P 23 26 19.6 +2.1
comp=Z,51nm,1.1s
V52A Sevierville 23.20 19 eP P 23 26 16.6 -0.8
comp=Z,73nm,1.3s
V52A Sevierville 23.20 19 P P 23 26 16.1 -1.3
baz=202,SNR=8.2
U49A Red Boiling Sp 23.24 14 P P 23 26 15.7 -2.0
baz=196,SNR=15
V53A Saluda 23.30 20 eP P 23 26 17.5 -0.8
comp=Z,32nm,0.8s
V53A Saluda 23.30 20 P P 23 26 18.0 -0.3
baz=204,SNR=6.1
T46A Princeton 23.34 9 P P 23 26 17.2 -1.5
baz=191
KMSC Kings Mountain 23.36 24 eP P 23 26 17.6 -1.3
comp=Z,46nm,1.1s
KMSC Kings Mountain 23.36 24 P P 23 26 17.6 -1.3
baz=208,SNR=5.9
U50A Jamestown 23.38 16 P P 23 26 17.1 -2.0
baz=198,SNR=17
T47A Sharon Grove 23.43 11 eP P 23 26 17.1 -2.3
comp=Z,35nm,0.9s
T47A Sharon Grove 23.43 11 P P 23 26 17.8 -1.7
baz=193,SNR=12
S41A Jillco Farms, 23.54 1 P P 23 26 19.1 -1.5
baz=181
U51A La Follette 23.57 17 P P 23 26 19.7 -1.2
baz=200,SNR=26
S43A Fulton Ridge, 23.61 5 P P 23 26 19.9 -1.3
baz=185
T48A Bowling Green 23.68 12 P P 23 26 22.1 +0.2
baz=194
S42A Caledonia 23.76 3 P P 23 26 22.1 -0.6
baz=184
U52A Thorn Hill 23.78 18 P P 23 26 23.4 +0.5
baz=202
S44A Carbondale 23.81 6 P P 23 26 22.0 -1.0
baz=187,SNR=16
SIUC Southern Illin 23.83 6 eP P 23 26 21.7 -1.6
comp=Z,101nm,1.0s
BNM Barren Site 23.84 330 eP P 23 26 21.0 -2.8
T49A Edmonton 23.87 14 eP P 23 26 22.1 -1.7
comp=Z,70nm,1.2s
T49A Edmonton 23.87 14 P P 23 26 21.9 -1.7
baz=196,SNR=18
TZTN Tazewell 23.87 18 eP P 23 26 23.4 -0.3
comp=Z,40nm,1.0s
TZTN Tazewell 23.87 18 P P 23 26 23.2 -0.5
baz=201
S45A Carrier Mills 23.87 8 P P 23 26 22.8 -0.9
baz=189,SNR=6.7
T50A Nancy 23.95 15 P P 23 26 22.9 -1.6
baz=198,SNR=9.7
LPM Los Pinos Moun 23.97 330 eP P 23 26 26.2 +1.3
S46A Don Dixon Farm 24.00 9 P P 23 26 24.3 -0.6
baz=191,SNR=7.1
U53A Fall Branch 24.01 20 P P 23 26 24.0 -1.0
baz=204
CCM Cathedral Cave 24.02 2 eP P 23 26 23.2 -1.9
comp=Z,27nm,1.1s
CCM Cathedral Cave 24.02 2 eP P 23 26 23.2 -1.9
CCM pmax pmax
comp=Z,27nm,1.1s
CCM Cathedral Cave 24.02 2 P P 23 26 23.1 -1.9
baz=182
LENM Lemitar 24.02 329 eP P 23 26 26.9 +1.6
S47A Hartford 24.06 11 P P 23 26 24.2 -1.3
baz=193
T51A Gray 24.14 17 P P 23 26 25.7 -0.5
baz=200,SNR=8.6
R41A Rosebud 24.26 2 P P 23 26 26.4 -0.8
baz=182,SNR=9.1
R42A Luebbering 24.27 3 P P 23 26 26.1 -1.2
baz=184
S48A Wiedeman Farm, 24.28 12 P P 23 26 26.2 -1.2
baz=195,SNR=6.8
USIN University of 24.29 9 eP P 23 26 27.4 -0.1
comp=Z,72nm,1.0s
LAZ Ladron 24.30 329 eP P 23 26 24.8 -3.1
LAZ epP pP 23 26 30.9 -8.2
R43A Red Bud 24.32 5 P P 23 26 27.1 -0.7
baz=186
R44A Waltonville 24.37 6 P P 23 26 29.3 +1.0
baz=188
ANMO Albuquerque 24.41 331 P P 23 26 29.5 +0.6
comp=Z,12nm,0.8s,baz=143,slow=12,SNR=19
ANMO Albuquerque 24.41 331 eP P 23 26 29.9 +1.0
comp=Z,19nm,1.0s
ANMO Albuquerque 24.41 331 eP P 23 26 30.0 +1.1
ANMO pmax pmax
comp=Z,17nm,1.1s
ANMO Albuquerque 24.41 331 P P 23 26 30.1 +1.1
baz=145
R45A Skylar, Fairfi 24.52 8 P P 23 26 28.5 -1.1
baz=189
R46A Gibon Southern 24.55 9 P P 23 26 28.9 -1.0
baz=191
T52A Hallie 24.56 18 P P 23 26 29.0 -1.1
baz=202,SNR=9.0
S49A Springfield 24.57 14 P P 23 26 28.8 -1.3
baz=196,SNR=6.7
S50A Richmond 24.69 15 P P 23 26 30.2 -1.0
baz=199,SNR=12
TUC Tucson 24.77 321 eP P 23 26 35.0 +2.9
comp=Z,59nm,1.4s
TUC Tucson 24.77 321 eP P 23 26 35.0 +2.9
TUC pmax pmax
comp=Z,59nm,1.4s
WCI Wyandotte Cave 24.78 12 eP P 23 26 30.7 -1.3
comp=Z,50nm,0.8s
WCI Wyandotte Cave 24.78 12 eP P 23 26 30.7 -1.3
WCI pmax pmax
comp=Z,50nm,0.8s
WCI Wyandotte Cave 24.78 12 P P 23 26 30.9 -1.1
baz=194
R47A Wooly Knot Far 24.80 11 P P 23 26 31.5 -0.7
baz=193,SNR=11
S51A Beattyville 24.87 17 eP P 23 26 31.4 -1.5
comp=Z,26nm,0.8s
S51A Beattyville 24.87 17 P P 23 26 31.5 -1.3
baz=200
Q42A Golden Eagle 24.91 4 P P 23 26 32.5 -0.6
baz=184
Q41A Truxton 24.92 2 P P 23 26 32.9 -0.3
baz=182,SNR=8.3
OLIL Olney 24.98 8 eP P 23 26 33.4 -0.4
comp=Z,60nm,1.0s
Q43A New Douglas 25.00 5 P P 23 26 33.6 -0.4
baz=186
Q44A Meyer Farm, Va 25.03 6 P P 23 26 33.9 -0.4
baz=188
R48A Northridge Ran 25.03 12 P P 23 26 33.6 -0.7
baz=195,SNR=6.6
S52A Salyersville 25.06 18 P P 23 26 33.2 -1.3
baz=202,SNR=6.0
R49A Shelbyville 25.08 14 P P 23 26 33.3 -1.5
baz=196,SNR=7.9
Q45A Warren Harvey, 25.13 8 P P 23 26 34.5 -0.6
baz=190,SNR=11
ATAH Atahualpa 25.19 145 P P 23 26 36.1 -0.3
comp=Z,41nm,1.1s,baz=350,slow=7.6,SNR=13
R50A Paris 25.28 15 P P 23 26 35.2 -1.3
baz=198,SNR=8.5
KSU1 Kansas State U 25.30 352 eP P 23 26 36.5 -0.2
comp=Z,25nm,0.6s
KSU1 Kansas State U 25.30 352 P P 23 26 36.6 -0.2
baz=170,SNR=6.4
T25A Trinidad 25.42 337 eP P 23 26 40.0 +1.9
comp=Z,50nm,1.0s
T25A Trinidad 25.42 337 P P 23 26 40.1 +2.0
baz=152,SNR=30
Q47A Bedord North L 25.44 11 P P 23 26 37.1 -0.9
baz=193
R51A Hillsboro 25.49 16 P P 23 26 37.8 -0.7
baz=200,SNR=5.5
BLA Blacksburg 25.53 23 eP P 23 26 43.0 +4.2
comp=Z,37nm,1.0s
BLA Blacksburg 25.53 23 P P 23 26 37.7 -1.2
baz=208
CBKS Cedar Bluff 25.57 347 eP P 23 26 40.7 +1.5
comp=Z,51nm,0.9s
CBKS Cedar Bluff 25.57 347 P P 23 26 39.6 +0.4
baz=163
Q48A North Vernon 25.57 12 P P 23 26 37.6 -1.6
baz=195,SNR=10
P42A Winchester 25.59 4 eP P 23 26 39.2 -0.2
comp=Z,23nm,1.0s
P42A Winchester 25.59 4 P P 23 26 38.7 -0.6
baz=184
P41A Barry, Barry 25.64 3 P P 23 26 38.5 -1.3
baz=183
BLO Bloomington 25.66 11 eP P 23 26 38.8 -1.1
comp=Z,23nm,0.8s
BLO Bloomington 25.66 11 eP P 23 26 38.8 -1.1
BLO pmax pmax
comp=Z,23nm,0.8s
P43A Skaggs, Pawnee 25.71 5 P P 23 26 39.0 -1.4
baz=186
R52A Catlettsburg 25.79 18 P P 23 26 39.4 -1.8
baz=202
P45A Graceland, Par 25.80 8 eP P 23 26 40.8 -0.4
comp=Z,21nm,0.8s
P45A Graceland, Par 25.80 8 P P 23 26 40.2 -1.1
baz=190
Q49A Aurora 25.83 14 P P 23 26 40.3 -1.2
baz=197
214A Organ Pipe Nat 25.83 317 P P 23 26 41.5 -0.1
baz=129
X18A Snowflake 25.86 325 eP P 23 26 49.9 +7.8
comp=Z,39nm,1.3s
Q50A Georgetown 25.90 15 P P 23 26 40.2 -2.0
baz=199
P46A Rosedale 25.97 9 P P 23 26 41.4 -1.4
baz=191
P47A Martinsville 26.01 11 P P 23 26 42.1 -1.0
baz=193
O41A Passleys Farm, 26.09 3 P P 23 26 42.8 -1.0
baz=183
P48A Milroy 26.15 12 P P 23 26 42.4 -2.0
baz=195,SNR=8.3
W18A Petrified Fore 26.19 327 eP P 23 26 49.4 +4.4
comp=Z,32nm,1.1s
W18A Petrified Fore 26.19 327 P P 23 26 47.7 +2.7
baz=139
Q51A Peebles 26.23 16 eP P 23 26 43.6 -1.6
comp=Z,28nm,0.8s
Q51A Peebles 26.23 16 P P 23 26 43.9 -1.3
baz=200
SDCO Great Sand Dun 26.37 336 eP P 23 26 48.0 +1.3
comp=Z,50nm,1.4s
SDCO Great Sand Dun 26.37 336 P P 23 26 47.6 +0.8
baz=150,SNR=21
P49A Miami Univ. Ec 26.37 14 P P 23 26 44.8 -1.6
baz=197,SNR=5.3
Q52A Bidwell 26.48 18 P P 23 26 46.7 -0.8
baz=202
KSCO Kaye Shedlock' 26.51 342 eP P 23 26 48.6 +0.7
comp=Z,36nm,1.3s
KSCO Kaye Shedlock' 26.51 342 P P 23 26 48.7 +0.8
baz=157
O45A Potomac 26.52 8 P P 23 26 46.6 -1.1
baz=190
X16A Lo Mia Camp, P 26.63 323 eP P 23 26 51.0 +2.0
comp=Z,16nm,0.9s
HDIL Hopedale 26.64 5 eP P 23 26 50.3 +1.5
comp=Z,13nm,0.7s
P50A Jamestown 26.66 15 P P 23 26 47.9 -1.2
baz=199
SFIN Lafayette 26.73 9 eP P 23 26 48.3 -1.3
comp=Z,21nm,0.8s
SFIN Lafayette 26.73 9 P P 23 26 48.4 -1.3
baz=191
P51A Williamsport 26.74 16 eP P 23 26 49.3 -0.4
comp=Z,50nm,1.3s
P51A Williamsport 26.74 16 P P 23 26 48.7 -1.0
baz=200
O47A Sheridan 26.75 11 P P 23 26 49.1 -0.7
baz=193
S22A 4UR Ranch, Cre 26.91 334 eP P 23 26 53.0 +1.3
comp=Z,29nm,1.0s
S22A 4UR Ranch, Cre 26.91 334 P P 23 26 53.4 +1.8
baz=148,SNR=38
O48A Farmland 26.97 12 P P 23 26 50.4 -1.4
baz=195
N43A Stutzman Famil 27.03 6 P P 23 26 52.1 -0.2
baz=187
O49A Covington 27.08 14 eP P 23 26 52.0 -0.8
comp=Z,20nm,0.9s
O49A Covington 27.08 14 P P 23 26 51.9 -0.9
baz=197,SNR=5.9
R58B Mineral 27.20 26 P P 23 26 53.7 -0.1
baz=212
MVCO Mesa Verde 27.21 331 eP P 23 26 56.1 +1.8
comp=Z,76nm,1.0s
MVCO Mesa Verde 27.21 331 P P 23 26 56.3 +2.0
baz=144,SNR=36
O50A Cable 27.22 15 P P 23 26 52.7 -1.4
baz=199
P53A Whipple 27.24 19 eP P 23 26 55.4 +1.2
comp=Z,39nm,1.3s
P53A Whipple 27.24 19 P P 23 26 53.7 -0.5
baz=204
M41A Milan 27.36 3 P P 23 26 55.4 +0.1
baz=184
WUAZ Wupatki 27.38 325 eP P 23 26 58.3 +2.5
comp=Z,24nm,0.9s
ACSO Alum Creek Sta 27.46 16 eP P 23 26 55.3 -0.9
comp=Z,38nm,1.4s
N47A Urbana 27.46 11 P P 23 26 55.6 -0.6
baz=194
O51A Pataskala 27.48 17 P P 23 26 53.5 -2.9
baz=201
M43A Waltham Townsh 27.54 6 P P 23 26 56.4 -0.5
baz=187
N48A Decatur 27.57 12 P P 23 26 54.8 -2.4
baz=195
O52A Adamsville 27.68 18 eP P 23 26 57.2 -0.9
comp=Z,21nm,0.9s
O52A Adamsville 27.68 18 P P 23 26 56.1 -2.1
baz=202
GLA Glamis 27.84 317 eP P 23 27 01.6 +1.8
comp=Z,26nm,1.1s
GLA Glamis 27.84 317 eP P 23 27 01.6 +1.8
GLA pmax pmax
comp=Z,26nm,1.1s
PV01 Paradox Valley 27.99 332 eP P 23 27 03.2 +1.9
Y12C Blythe 28.08 318 P P 23 27 02.8 +1.0
baz=129
PV13 Radium Mtn., P 28.13 332 eP P 23 27 04.5 +2.0
comp=Z,76nm,1.1s
PV02 Paradox Valley 28.13 332 eP P 23 27 04.7 +2.2
comp=Z,82nm,1.2s
SMCO Snowmass 28.19 336 eP P 23 27 04.4 +1.2
comp=Z,18nm,1.0s
PDMCI Parker Dam,Lak 28.19 320 P P 23 27 04.4 +1.6
baz=131
PV05 Paradox Valley 28.19 331 eP P 23 27 05.0 +1.9
ISCO Idaho Springs 28.21 338 eP P 23 27 07.3 +4.0
comp=Z,19nm,1.1s
ISCO Idaho Springs 28.21 338 eP P 23 27 07.3 +4.0
ISCO pmax pmax
comp=Z,19nm,1.1s
PV03 Paradox Valley 28.22 332 eP P 23 27 04.8 +1.6
PV18 Skein Mesa, Pa 28.24 332 eP P 23 27 05.3 +1.9
comp=Z,71nm,1.0s
PV12 Saucer Basin, 28.25 332 eP P 23 27 05.7 +2.2
comp=Z,85nm,1.0s
PV11 David Mesa, Pa 28.26 332 eP P 23 27 05.7 +2.1
comp=Z,95nm,1.1s
PV17 East Wray Mesa 28.29 332 eP P 23 27 05.9 +2.0
comp=Z,58nm,1.0s
PV16 Nyswonger Mesa 28.29 332 eP P 23 27 05.9 +1.9
comp=Z,81nm,1.2s
PV19 Morning Glory 28.32 332 eP P 23 27 06.8 +2.6
comp=Z,60nm,1.1s
PV20 West Nyswonger 28.34 332 eP P 23 27 06.2 +1.9
comp=Z,39nm,0.9s
PV14 Lion Creek, Pa 28.39 332 eP P 23 27 07.3 +2.4
comp=Z,65nm,1.1s
PV10 Paradox Valley 28.40 332 eP P 23 27 06.1 +1.1
PV22 Blue Mesa, Par 28.42 332 eP P 23 27 07.0 +2.0
comp=Z,47nm,1.0s
SWSC Sam W. Stewart 28.43 316 P P 23 27 05.8 +0.8
baz=126
PV23 Carpenter Ridg 28.45 332 eP P 23 27 07.3 +1.9
comp=Z,36nm,0.8s
IKP In-Ko-Pah, Jac 28.47 315 P P 23 27 06.8 +1.4
baz=125
PV21 Cone Mtn., Par 28.52 332 eP P 23 27 07.9 +1.9
comp=Z,17nm,0.9s
PV09 Paradox Valley 28.55 332 eP P 23 27 08.2 +2.0
U15A North Rim 28.55 325 eP P 23 27 08.1 +1.7
comp=Z,21nm,1.1s
W13A Hualapai Mount 28.55 321 eP P 23 27 07.9 +1.6
comp=Z,14nm,1.1s
BC3 Big Chuckawall 28.62 317 P P 23 27 08.1 +1.3
baz=128,SNR=11
IRM Iron Mountain 28.73 318 P P 23 27 09.7 +2.1
baz=129
L48A N Adams 28.74 13 P P 23 27 06.8 -0.8
baz=196
MONP2 Monument Peak 28.82 315 P P 23 27 08.8 0.0
baz=125
SDMD Soldier's Deli 28.85 26 eP P 23 27 14.2 +5.6
comp=Z,6.6nm,1.0s
O56A Blue Knob Stat 28.90 22 eP P 23 27 08.4 -0.7
comp=Z,39nm,1.4s
O56A Blue Knob Stat 28.90 22 P P 23 27 08.1 -1.0
baz=208
N54A Moraine State 29.02 20 eP P 23 27 08.3 -1.9
comp=Z,24nm,0.9s

N54A **Moraine State** 29.02 20 P P 23 27 08.8 -1.3
baz=205
BELC **Belle Mtn. Jos** 29.19 317 P P 23 27 12.4 +0.5
baz=127
N23A **Red Feather La** 29.30 339 P P 23 27 16.4 +3.5
baz=152
FRD **Ford Ranch, An** 29.30 316 P P 23 27 12.5 -0.3
baz=126
GMRC **Granite Mounta** 29.46 319 P P 23 27 10.7 -3.5
baz=129
SSPA **Standing Stone** 29.48 23 eP P 23 27 13.4 -0.8
comp=Z,15nm,0.9s
SSPA **Standing Stone** 29.48 23 P P 23 27 12.6 -1.6
baz=209
O20A **White River Ci** 29.51 335 P P 23 27 14.9 +0.1
baz=148,SNR=6.9
MVL **Millersville** 29.55 26 eP P 23 27 15.3 +0.5
comp=Z,12nm,1.0s
M54A **Oil Creek Stat** 29.62 20 P P 23 27 13.7 -1.7
baz=205
ECSD **EROS Data Cent** 29.88 354 eP P 23 27 18.3 +0.6
comp=Z,47nm,1.4s
P17A **Butcher Ranch,** 30.07 331 eP P 23 27 20.9 +1.3
comp=Z,31nm,1.0s
BFSC **Mount Baldy Ra** 30.44 316 P P 23 27 24.8 +1.8
baz=125
RWWY **Rawlins** 30.45 338 eP P 23 27 25.8 +2.7
comp=Z,25nm,1.1s
LUPA **Lehigh Univers** 30.46 26 eP P 23 27 22.5 -0.4
comp=Z,3.2nm,1.4s
CIS **Catalina Islan** 30.49 314 P P 23 27 25.2 +2.0
baz=123
N59A **State Game Lan** 30.56 25 P P 23 27 23.2 -0.6
baz=213
MPU **Maple Canyon** 30.92 331 eP P 23 27 29.2 +2.0
comp=Z,22nm,1.0s
TYNO **Tyneside** 30.99 18 P P 23 27 25.4 -2.1
baz=204
SPMN **Marine on St.** 31.16 360 eP P 23 27 29.7 +0.8
comp=Z,26nm,1.0s
MMNY **Mt. Morris Dam** 31.30 21 eP P 23 27 30.2 0.0
comp=Z,46nm,1.4s
BASO **Ashfield** 31.34 15 P P 23 27 26.7 -3.9
baz=200
ACTO **Acton** 31.41 17 P P 23 27 28.1 -3.0
baz=203
MEDO **Medina** 31.50 20 P P 23 27 29.3 -2.7
baz=206
CTU **Camp Tracy** 31.51 331 eP P 23 27 34.3 +1.9
comp=Z,26nm,1.0s
BINY **Binghamton** 31.55 24 eP P 23 27 32.0 -0.5
comp=Z,33nm,1.1s
DAC **Darwin (Calif)** 31.62 319 eP P 23 27 35.2 +1.8
comp=Z,15nm,1.1s
DAC **Darwin (Calif)** 31.62 319 eP P 23 27 35.2 +1.8
DAC pmax pmax
comp=Z,15nm,1.1s
TCUT **Toone Canyon** 31.69 332 eP P 23 27 35.9 +1.9
comp=Z,106nm,1.1s
F39A **Loretta** 31.88 2 P P 23 27 38.0 +2.7
baz=182,SNR=5.2
F38A **Pierce - Schro** 31.90 1 P P 23 27 39.4 +4.0
baz=181
GRAC **Grapevine Rang** 31.93 320 P P 23 27 37.9 +2.0
baz=129
CLWO **Collingwood** 32.11 17 P P 23 27 34.3 -3.0
baz=202
HWUT **Hardware Ranch** 32.15 333 eP P 23 27 40.2 +2.2
comp=Z,32nm,1.2s
PDAR **Pinedale Array** 32.27 336 P P 23 27 39.9 +0.9
comp=Z,10nm,1.1s,baz=143,slow=6.6,SNR=4.3
PDAR PcP PcP 23 30 28.7 +2.0
comp=Z,0.9nm,0.5s,baz=131,slow=5.4,SNR=5.7
PDAR **Pinedale Array** 32.27 336 P P 23 27 39.9 +0.9
PDAR ePcP PcP 23 30 26.2 -0.5
BGU **Big Grassy Mou** 32.30 330 eP P 23 27 41.6 +2.3
comp=Z,18nm,1.0s
VES **Vestal, Richgr** 32.32 317 P P 23 27 41.3 +2.0
baz=126
E40A **Wakefield** 32.45 3 P P 23 27 41.6 +1.2
baz=184
SADO **Sadowa** 32.74 18 P P 23 27 39.8 -3.0
comp=Z,5.6nm,0.5s,baz=236,slow=9.0,SNR=6.0
SADO LR LR 23 42 54.4
comp=Z,4µm,18.0s,baz=154,slow=40
HVU **Hansel Valley** 32.84 331 eP P 23 27 45.6 +1.6
comp=Z,43nm,1.0s
HVU **Hansel Valley** 32.84 331 eP P 23 27 45.6 +1.6
HVU pmax pmax
comp=Z,43nm,1.0s
AHID **Auburn Hatcher** 32.89 334 eP P 23 27 46.3 +1.9
comp=Z,44nm,1.4s
DELO **Deloro Mine** 32.98 20 P P 23 27 42.8 -2.2
baz=207
BUKO **Buck Lake** 33.28 17 P P 23 27 45.4 -2.1
baz=203
NV11 **Mina Array Sit** 33.32 322 eP P 23 27 50.8 +2.5
comp=Z,2.2nm,1.0s
SNOW **Snow King Moun** 33.33 335 eP P 23 27 50.0 +1.7
comp=Z,72nm,0.8s
OMMB **Old Mammoth Mi** 33.33 320 eP P 23 27 49.8 +1.3
comp=Z,14nm,1.2s
BANO **Bancroft** 33.33 19 P P 23 27 44.9 -3.1
baz=206
LOHW **Long Hollow** 33.39 336 eP P 23 27 50.1 +1.3
comp=Z,39nm,1.0s
MDPB **Devils Postpil** 33.39 320 eP P 23 27 51.7 +2.7
comp=Z,19nm,1.1s
NVAR **Mina Array Bea** 33.41 322 P P 23 27 51.2 +2.1
comp=Z,6.5nm,0.8s,baz=134,slow=7.9,SNR=20
NVAR PcP PcP 23 30 30.7 +0.8
comp=Z,3.8nm,1.1s,baz=144,slow=3.4,SNR=4.3
NVAR LR LR 23 42 44.5
comp=Z,2µm,18.6s,baz=3.0,slow=39
TPAW **Teton Pass** 33.43 335 eP P 23 27 51.4 +2.1
comp=Z,68nm,1.3s
MOOW **Moose Ponds** 33.56 336 eP P 23 27 51.5 +1.2
comp=Z,29nm,1.1s
PLVO **Plevna** 33.62 20 P P 23 27 45.7 -4.9
baz=207
PMPB **Monarch Peak** 33.68 316 eP P 23 27 53.8 +2.5
comp=Z,43nm,1.2s
NCB **Newcomb** 33.74 24 eP P 23 27 50.1 -1.5
comp=Z,6.5nm,0.8s
IMW **Indian Meadow** 33.76 336 eP P 23 27 53.1 +1.0
comp=Z,13nm,0.8s
ALGO **Algonquin Park** 34.13 18 P P 23 27 52.3 -2.6
baz=205
PEMO **Pembroke** 34.13 19 P P 23 27 53.0 -2.0
baz=207
LONY **Lake Ozonia** 34.15 23 eP P 23 27 53.8 -1.4
comp=Z,22nm,1.1s
LONY **Lake Ozonia** 34.15 23 P P 23 27 53.6 -1.5
baz=212
WAKR **Walker** 34.15 321 eP P 23 27 59.4 +3.9
comp=Z,19nm,1.3s
YFT **Old Faithful** 34.18 336 eP P 23 27 59.5 +3.8
comp=Z,27nm,1.1s
E51A **G1948 Merrick** 34.25 16 P P 23 27 54.0 -2.0
baz=202
D48A **Paudash Townsh** 34.29 13 P P 23 27 55.3 -1.1
baz=198
MDND **Maddock** 34.30 351 eP P 23 27 57.1 +0.7
comp=Z,53nm,0.8s
MDND **Maddock** 34.30 351 P P 23 27 56.7 +0.3
baz=167
YMR **Madison River** 34.42 336 eP P 23 28 00.2 +2.5
comp=Z,42nm,1.3s
CMB **Columbia Colle** 34.46 319 eP P 23 28 00.1 +2.1
comp=Z,12nm,1.2s
CMB **Columbia Colle** 34.46 319 eP P 23 28 00.1 +2.1
CMB pmax pmax
comp=Z,12nm,1.2s
YHH **Holmes Hill** 34.47 337 eP P 23 28 00.6 +2.3
comp=Z,17nm,1.2s
ORIO **Orleans, Innes** 34.52 21 P P 23 27 55.8 -2.5
baz=210
F55A **Otter Lake** 34.56 20 P P 23 27 57.6 -1.0
baz=208
PNTR **Pine Nut** 34.61 321 eP P 23 28 03.3 +3.8
comp=Z,32nm,1.1s
E53A **Dumoine, Ponti** 34.63 18 P P 23 27 57.7 -1.6
baz=206
FRNY **Flat Rock** 34.71 24 eP P 23 27 59.3 -0.7
comp=Z,18nm,1.3s
QLMT **Earthquake Lak** 34.73 336 eP P 23 28 03.4 +2.9
VCNR **Virginia City** 34.77 322 eP P 23 28 03.9 +3.0
comp=Z,16nm,1.3s

D51A **Lot 18 Range I** 34.80 16 P P 23 27 59.4 -1.3
baz=202
E54A **Lac Daplat, Po** 34.83 19 P P 23 27 59.8 -1.2
baz=206
PAHR **Pah Rah Range** 34.87 322 eP P 23 28 03.8 +2.2
comp=Z,23nm,1.1s
ALFO **Alfred** 34.89 22 P P 23 27 59.9 -1.6
baz=210
RUBR **Rubicon Trail** 34.93 321 eP P 23 28 05.6 +3.3
comp=Z,40nm,1.2s
HLID **Hailey** 34.99 332 P P 23 28 03.7 +1.1
baz=141
D53A **Lac Vacive, Po** 35.26 18 P P 23 28 03.6 -1.1
baz=205
MCMT **McKenzie Canyo** 35.31 335 eP P 23 28 07.6 +2.1
PTGA **Pitinga** 35.35 112 LR LR 23 42 55.7
comp=Z,933nm,18.4s,baz=312,slow=37
PTGA **Pitinga** 35.35 112 eP P 23 28 05.0 -0.9
comp=Z,18nm,0.8s
BOZ **Bozeman (W)** 35.45 337 P P 23 28 07.8 +1.2
baz=147
BEKR **Beckworth** 35.56 322 eP P 23 28 09.8 +2.2
comp=Z,23nm,1.2s
D54A **Lac Fusel, La** 35.63 19 P P 23 28 06.4 -1.5
baz=207
DLMT **Dillon** 35.64 335 eP P 23 28 10.1 +1.9
comp=Z,52nm,1.2s
DGMT **Dagmar** 35.75 347 eP P 23 28 10.3 +1.4
comp=Z,56nm,1.3s
DGMT **Dagmar** 35.75 347 P P 23 28 09.3 +0.4
baz=160
ORV **Oroville** 36.06 320 eP P 23 28 14.1 +2.4
comp=Z,22nm,1.4s
WVOR **Wild Horse Val** 36.27 327 eP P 23 28 15.7 +2.1
comp=Z,23nm,1.1s
WVOR **Wild Horse Val** 36.27 327 eP P 23 28 15.7 +2.1
WVOR pmax pmax
comp=Z,23nm,1.1s
ULM **Lac du Bonnet** 36.29 356 P P 23 28 12.1 -1.4
comp=Z,4.3nm,0.7s,baz=167,slow=12,SNR=3.5
ULM PcP PcP 23 30 37.7 -0.1
comp=Z,4.2nm,0.8s,baz=87,slow=3.9,SNR=2.6
ULM LR LR 23 46 38.2
comp=Z,1µm,18.1s,baz=32,slow=42
HRY **Holter Researc** 36.46 337 eP P 23 28 17.8 +2.7
J08A **Circle Bar Ran** 36.83 328 eP P 23 28 19.6 +1.3
comp=Z,51nm,1.1s
MOD **Modoc Plateau** 36.83 324 eP P 23 28 19.0 +0.6
comp=Z,20nm,1.2s
EGMT **Eagleton** 36.87 341 eP P 23 28 20.9 +2.3
comp=Z,35nm,1.3s
SAML **Samuel** 36.92 126 eP P 23 28 16.8 -2.5
comp=Z,8.9nm,0.8s
SAML **Samuel** 36.92 126 ceP P 23 28 17.1 -2.2
SAML pmax pmax
comp=Z,5.0nm,1.3s
BMO **Blue Mountains** 37.32 330 eP P 23 28 22.9 +0.5
comp=Z,26nm,1.1s
BMO **Blue Mountains** 37.32 330 eP P 23 28 23.0 +0.5
BMO pmax pmax
comp=Z,26nm,1.1s
MSO **Missoula** 37.38 336 eP P 23 28 23.9 +1.0
comp=Z,41nm,1.3s
MSO **Missoula** 37.38 336 P P 23 28 24.0 +1.0
baz=144,SNR=8.4
MATQ **Matagami** 37.71 16 P P 23 28 23.9 -1.6
baz=204
KMRM **Mail Ridge** 37.83 320 eP P 23 28 32.6 +5.8
comp=Z,38nm,1.1s
YBH **Yreka Blue Hor** 38.11 322 P P 23 28 28.5 -0.7
comp=Z,1.3nm,0.5s,baz=112,slow=2.4,SNR=4.9
F10A **Beach Ranch, E** 38.12 332 eP P 23 28 30.0 +0.8
comp=Z,60nm,0.8s
L04D **Klamath Falls** 38.17 323 P P 23 28 31.0 +1.2
baz=129
KHMM **Horse Mountain** 38.22 321 eP P 23 28 33.1 +2.9
comp=Z,18nm,0.9s
JTMT **Jette** 38.26 336 eP P 23 28 31.7 +1.3
comp=Z,28nm,1.0s
JCC **Jacoby Creek,** 38.37 320 eP P 23 28 33.1 +1.9
comp=Z,64nm,1.3s
LPAZ **La Paz** 38.50 141 P P 23 28 31.7 -1.6
comp=Z,7.4nm,1.2s,baz=317,slow=6.5,SNR=9.4
LPAZ **La Paz** 38.50 141 eP P 23 28 32.0 -1.3
comp=Z,5.0nm,0.9s
LPAZ **La Paz** 38.50 141 eP P 23 28 32.0 -1.3
LPAZ pmax pmax
comp=Z,5.0nm,0.9s
J04D **Umpqua Nationa** 38.71 325 P P 23 28 35.8 +1.5
baz=130
E09A **Wood Farm, Sta** 38.95 332 eP P 23 28 37.7 +1.7
comp=Z,35nm,1.4s
I05D **Terrebonne, OR** 39.01 327 P P 23 28 38.2 +1.6
baz=132
H04A **Detroit Lake** 39.69 326 eP P 23 28 43.3 +1.0
comp=Z,57nm,1.3s
I03D **Drain, OR** 39.70 324 P P 23 28 43.7 +1.4
baz=129
J01E **Myrtle Point** 39.70 323 P P 23 28 42.3 0.0
baz=128
NEW **Newport** 39.83 334 P P 23 28 43.2 -0.2
comp=Z,5.5nm,1.0s,baz=150,slow=12,SNR=4.0
NEW **Newport** 39.83 334 eP P 23 28 44.5 +1.1
NEW **Newport** 39.83 334 eP P 23 28 44.5 +1.1
NEW **Newport** 39.83 334 P P 23 28 44.4 +1.0
baz=141
MNMC **Minye Minye** 39.87 145 eP P 23 28 43.4 -0.8
comp=Z,58nm,1.0s
H04D **Lebanon** 39.88 326 P P 23 28 45.2 +1.3
baz=130
C09A **Chrisman Ranch** 39.97 333 eP P 23 28 45.6 +1.0
comp=Z,34nm,0.9s
F05D **White Salmon** 40.11 328 P P 23 28 47.8 +2.1
baz=133
PB11 **IPOC Station P** 40.34 146 eP P 23 28 47.2 -0.8
comp=Z,42nm,0.9s
LTY **Liberty** 40.68 330 eP P 23 28 52.2 +1.7
comp=Z,58nm,1.4s
B08A **Colville Reser** 40.86 333 eP P 23 28 55.6 +3.7
comp=Z,20nm,1.2s
LON **Longmire** 40.88 329 eP P 23 28 53.9 +1.8
comp=Z,14nm,0.9s
LON **Longmire** 40.88 329 eP P 23 28 53.9 +1.8
LON pmax pmax
comp=Z,14nm,0.9s
B06A **Marblemount** 41.96 331 eP P 23 29 05.6 +4.8
comp=Z,29nm,0.8s
SIV **San Ignacio** 43.00 133 P P 23 29 08.4 -1.4
comp=Z,16nm,0.9s,baz=315,slow=9.2,SNR=52
SIV PcP PcP 23 30 59.2 -0.5
comp=Z,5.3nm,0.9s,baz=324,slow=4.6,SNR=3.6
LVC **Limon Verde** 43.06 147 eP P 23 29 10.5 0.0
comp=Z,19nm,1.1s
LVC **Limon Verde** 43.06 147 ceP P 23 29 10.9 +0.4
LVC pmax pmax
comp=Z,16nm,1.0s
LCO **Las Campanas** 47.62 154 eP P 23 29 45.6 -0.9
comp=Z,29nm,1.0s
LCO **Las Campanas** 47.62 154 ceP P 23 29 46.1 -0.4
YKA **Yellowknife Ar** 50.96 347 P P 23 30 10.9 -0.3
comp=Z,19nm,0.7s,baz=150,slow=7.3,SNR=42
YKA PcP PcP 23 31 25.2 -1.7
comp=Z,1.8nm,0.7s,baz=149,slow=4.5,SNR=2.2
GO05 **HualaæØ** 52.46 159 eP P 23 30 20.9 -1.9
comp=Z,26nm,0.9s
DLBC **Dease Lake** 52.50 336 eP P 23 30 25.2 +2.3
comp=Z,85nm,1.4s
CPUP **Villa Florida** 52.65 139 P P 23 30 21.8 -2.5
comp=Z,4.7nm,1.0s,baz=339,slow=8.0,SNR=5.4
BDFB **Brasilia** 52.89 122 P P 23 30 24.7 -1.8
comp=Z,7.9nm,0.9s,baz=330,slow=8.5,SNR=6.5
BDFB **Brasilia** 52.89 122 eP P 23 30 25.4 -1.0
comp=Z,15nm,0.9s
BDFB **Brasilia** 52.89 122 eP P 23 30 25.4 -1.0
BDFB pmax pmax
comp=Z,15nm,0.9s
GO06 **Curarrehue** 56.76 161 eP P 23 30 52.6 -1.4
comp=Z,7.1nm,0.9s
PLCA **Paso Flores** 58.09 160 P P 23 31 02.1 -1.2
comp=Z,9.8nm,1.1s,baz=6.4,slow=9.0,SNR=10.0
PLCA **Paso Flores** 58.09 160 eP P 23 31 02.0 -1.3
comp=Z,22nm,1.3s
BALM **Baldy** 59.07 334 eP P 23 31 11.6 +1.6
comp=Z,31nm,1.0s
BALM **Baldy** 59.07 334 eP P 23 31 11.6 +1.6
BALM pmax pmax
comp=Z,31nm,1.0s
TRQA **Tornquist** 59.12 152 ceP P 23 31 08.7 -1.8
TRQA pmax pmax
comp=Z,11nm,1.3s
DAWY **Dawson** 59.54 338 eP P 23 31 14.4 +1.3
comp=Z,1.9nm,0.6s
EPYK **Eagle Plains** 60.02 341 P P 23 31 16.9 +0.6
baz=128
INK **Inuvik** 60.34 344 eP P 23 31 18.5 +0.1
comp=Z,53nm,0.9s
INK **Inuvik** 60.34 344 eP P 23 31 18.5 +0.1
INK pmax pmax
comp=Z,53nm,0.9s
EGAK **Eagle** 60.57 338 eP P 23 31 20.3 +0.2
comp=Z,10nm,0.8s
DIV **Divide** 60.58 333 eP P 23 31 21.8 +1.5
comp=Z,33nm,1.0s
FID **Port Fidalgo** 60.72 333 eP P 23 31 23.9 +2.7
comp=Z,56nm,1.1s
DOT **Dot Lake** 61.07 336 eP P 23 31 24.2 +0.7
comp=Z,23nm,0.9s
SCRK **Sand Creek** 61.20 337 eP P 23 31 25.6 +1.0
comp=Z,39nm,1.5s
PAX **Paxson** 61.30 335 eP P 23 31 25.7 +0.5
comp=Z,26nm,0.8s
PAX **Paxson** 61.30 335 eP P 23 31 25.7 +0.5
PAX pmax pmax
comp=Z,26nm,0.8s
RIDG **Independ'e Rid** 61.42 336 eP P 23 31 27.0 +1.1
comp=Z,38nm,1.2s
SML **Sawmill** 61.98 334 eP P 23 31 31.2 +1.5
comp=Z,48nm,1.1s
SML **Sawmill** 61.98 334 eP P 23 31 31.2 +1.5
SML pmax pmax
comp=Z,48nm,1.1s
PMR **Palmer** 62.24 333 eP P 23 31 32.2 +0.8
comp=Z,36nm,1.0s
PMR **Palmer** 62.24 333 eP P 23 31 32.2 +0.8
PMR pmax pmax
comp=Z,36nm,1.0s
BRLK **Bradley Lake** 62.34 331 eP P 23 31 35.7 +3.5
comp=Z,50nm,1.1s
HDA **Harding Lake** 62.55 337 P P 23 31 33.6 +0.1
baz=117
IL1 **Eielson Array** 62.69 337 eP P 23 31 34.0 -0.4
ILAR **Eielson Array** 62.69 337 P P 23 31 34.2 -0.1
comp=Z,9.0nm,1.0s,baz=130,slow=4.4,SNR=38
ILB **Eielson Array** 62.69 337 eP P 23 31 34.4 -0.1
RND **Reindeer** 62.87 335 eP P 23 31 36.3 +0.6
comp=Z,67nm,0.9s
RND **Reindeer** 62.87 335 eP P 23 31 36.3 +0.6
RND pmax pmax
comp=Z,67nm,0.9s
SUA **Susitna One** 62.90 333 eP P 23 31 37.0 +1.0
comp=Z,31nm,1.0s
CCB **Clear Creek Bu** 62.99 337 eP P 23 31 36.2 -0.1
comp=Z,13nm,1.1s
WRH **Wood River Hil** 63.02 336 eP P 23 31 37.1 +0.6
comp=Z,9.5nm,0.9s
MCK **McKinley** 63.04 335 eP P 23 31 37.4 +0.7
comp=Z,41nm,1.1s
MCK **McKinley** 63.04 335 eP P 23 31 37.4 +0.7
MCK pmax pmax
comp=Z,41nm,1.1s
POKR **Poker Plat Res** 63.06 337 P P 23 31 37.4 +0.6
baz=117
COLA **College** 63.11 337 eP P 23 31 40.1 +3.0
comp=Z,20nm,0.9s
COLA **College** 63.11 337 eP P 23 31 40.1 +3.0
COLA pmax pmax
comp=Z,20nm,0.9s
TCOL **CIGO, UAF Yank** 63.11 337 P P 23 31 37.0 -0.1
baz=116
MDM **Murphy Dome** 63.29 337 eP P 23 31 38.1 -0.3
comp=Z,6.6nm,0.8s
BWN **Browne** 63.43 336 eP P 23 31 39.4 +0.1
comp=Z,141nm,1.1s
SKT **Skwentna** 63.44 333 eP P 23 31 39.8 +0.3
comp=Z,37nm,1.0s
TRF **Thorofare Moun** 63.47 335 eP P 23 31 40.4 +0.6
comp=Z,49nm,0.8s
BPAW **Bear Paw Mtn.** 64.02 335 eP P 23 31 43.2 0.0
comp=Z,23nm,0.8s
PPLA **Purkeypile** 64.06 334 eP P 23 31 44.0 +0.4
comp=Z,32nm,1.1s
MLY **Manley** 64.29 336 eP P 23 31 45.2 +0.2
comp=Z,62nm,0.8s
COLD **Coldfoot** 65.00 339 eP P 23 31 51.2 +1.7
comp=Z,26nm,1.3s
TOLK **Toolik Lake Re** 65.40 340 eP P 23 31 52.9 +0.7
comp=Z,14nm,0.8s
TOLK **Toolik Lake Re** 65.40 340 P P 23 31 52.7 +0.5
baz=116,SNR=8.8
IM3 **Indian Mountai** 65.81 337 eP P 23 31 53.5 -1.3
EFI **East Falkland** 71.87 158 iP P 23 32 37.9 +5.3
EFI pmax pmax
comp=Z,20nm,1.0s
ESK **Eskdalemuir** 78.24 36 iP P 23 33 15.8 +6.4
ESDC **Sonseca Array** 80.10 52 P P 23 33 18.5 -1.5
comp=Z,0.4nm,0.5s,baz=281,slow=6.1,SNR=3.6
BILL **Bilibino** 81.32 338 ciP P 23 33 26.3 +0.5
BILL e 23 33 33.7
BILL e 23 36 35.6
BILL ePPP PPP 23 38 19.4
BILL eS S 23 43 36.8 +3.4
BILL pmax pmax
comp=Z,49nm,0.9s
BILL MLR MLR
comp=Z,912nm,19.0s
NOA **NORSAR Array B** 84.40 28 P P 23 33 42.8 +0.8
comp=Z,1.3nm,0.9s,baz=319,slow=5.1,SNR=3.0
HFS **Hagfors** 85.86 29 P P 23 33 48.0 -1.2
comp=Z,4.4nm,1.0s
HFS **Hagfors** 85.86 29 P P 23 33 48.0 -1.2
HFS **Hagfors** 85.86 29 P P 23 33 48.0 -1.2
TIC **Toumodi** 85.97 84 eP P 23 33 54.0 +3.3
LIC **Lamto** 86.06 85 eP P 23 33 50.2 -0.9
comp=Z,39nm,1.0s
DBIC **Dimbokro** 86.12 84 P P 23 33 50.1 -1.3
comp=Z,4.8nm,1.0s,baz=273,slow=5.0,SNR=5.6
KIC **Kosan Boka** 86.30 84 eP P 23 33 51.4 -1.0
comp=Z,21nm,0.9s
ARCES **ARCESS Array B** 86.32 18 P P 23 33 49.9 -1.4
comp=Z,6.1nm,1.0s,baz=285,slow=2.4,SNR=8.2
BFO **Black Forest** 86.73 41 ceP P 23 33 54.5 +0.7
BFO pmax pmax
comp=Z,3.0nm,2.5s
DAVOX **Davos/Dischmat** 88.20 42 P P 23 33 59.1 -2.1
comp=Z,1.8nm,0.8s,baz=11,slow=7.9,SNR=2.0
SEY **Seymchan** 88.59 336 iP P 23 34 03.4 +1.0
CLL **Collm** 88.62 37 eP P 23 34 01.0 -1.8
CLL **Collm** 88.62 37 eP P 23 34 01.0 -1.8
GERES **GERESS Array B** 89.92 39 P P 23 34 07.7 -1.4
comp=Z,0.3nm,0.6s,baz=196,slow=2.4,SNR=2.7
TIXI **Tiksi** 90.20 348 P P 23 34 09.9 +0.1
comp=Z,5.8nm,0.7s,baz=15,slow=5.0,SNR=8.6
TIXI **Tiksi** 90.20 348 eP P 23 34 09.6 -0.1
comp=Z,28nm,1.1s
FINES **FINESS Array B** 90.73 25 P P 23 34 12.6 +0.2
comp=Z,1.7nm,0.7s,baz=273,slow=3.4,SNR=3.8
TORD **Torodi Ar. Bea** 90.84 76 P P 23 34 13.6 -0.3
comp=Z,0.4nm,0.6s,baz=274,slow=2.8,SNR=7.1
MA2 **Magadan** 90.92 333 iP P 23 34 13.4 0.0
MA2 pmax pmax
comp=Z,80nm,1.6s
VRAC **Vranov** 91.51 38 P P 23 34 18.6 +2.2
comp=Z,1.2nm,0.6s,baz=321,slow=6.5,SNR=2.0
SKR **Severo-Kuril's** 92.32 324 eP P 23 34 06.1 -14
SKR eS SKSac 23 44 44.5 -5.7
SKR pmax pmax
comp=Z,900nm,12.2s
SKR MLR MLR
comp=Z,600nm,19.0s
VSU **Vasula** 92.58 27 iP P 23 34 23.8 +2.8
VSU pmax pmax
comp=Z,42nm,1.1s
VYHS **Vyhne** 93.19 38 eP P 23 34 30.3 +6.2
VYHS **Vyhne** 93.19 38 eP P 23 34 30.3 +6.2
YAK **Yakutsk** 97.34 341 iP Pdif 23 34 45.8 +3.0
YAK pmax pmax
comp=Z,8.0nm,0.9s
KIEV **Kiev** 98.01 33 iP Pdif 23 34 49.6 +3.6
KIEV pmax pmax
comp=Z,2.0nm,1.1s
OBN **Obninsk** 98.92 27 deP P 23 34 49.2 -0.7
OBN e 23 38 52.5
OBN eS SKSac 23 45 20.4 -4.5
OBN pmax pmax

comp=Z,5.0nm,1.1s
YSS **Yuzh-Sakhalins 101.81 325** *e*P **Pdif** **23 35 05.2 +2.2**
YSS pmax pmax
comp=Z,20nm,1.1s
BRVK Borovoye 111.62 11 *i* PKIKP **PKiKP** **23 39 46.1 +2.0**
KURK Kurchatov 115.13 6 *i* PKIKP **PKPdf** **23 39 52.9 +2.0**
SYO Syowa Base 117.26 162 *e*Pdif **Pdif** **23 36 06.2 -4.9**
MKAR Makanchi Array 119.34 4 PKP **PKPdf** **23 40 00.4 +1.3**
comp=Z,0.7nm,0.9s,baz=325,slow=2.7,SNR=4.9
BOSA Boshof 120.76 115 PKP **PKPdf** **23 40 02.2 -0.2**
comp=Z,4.0nm,1.0s,baz=245,slow=3.4,SNR=2.9
HHC Hu-ho-hao-te 121.09 339 *e*PKP **PKPdf** **23 40 04.2 +1.4**
GEYT Alibeck 121.47 27 PKP **PKPdf** **23 40 04.2 +0.7**
comp=Z,0.5nm,0.5s,baz=286,slow=5.7,SNR=3.0
AAK Ala-Archa 122.42 11 PKP **PKPdf** **23 40 05.7 +0.4**
comp=Z,0.4nm,0.3s,baz=128,slow=3.6,SNR=3.6
AAK Ala-Archa 122.42 11*c* *i* PKIKP **PKPdf** **23 40 06.8 +1.4**
AAK pmax pmax
comp=Z,7.0nm,1.3s
WMQ Urumqi 122.50 360 *e*PKP **PKPdf** **23 40 05.6 +0.2**
NJ2 Nanjing 125.28 327 *e*PKP **PKPdf** **23 40 11.2 +0.3**
GTA Gaotai 125.68 348 PKP **PKPdf** **23 40 11.3 -0.4**
GTA sPKP 23 40 33.6
STKA Stephens Creek 127.64 240 PKP **PKPdf** **23 40 15.0 -0.4**
comp=Z,5.1nm,0.7s,baz=56,slow=7.2,SNR=5.1
STKA Stephens Creek 127.64 240 PKIKP **PKPdf** **23 40 15.0 -0.4**
LZH Lanzhou 127.89 343 *e*PKP **PKPdf** **23 40 16.1 +0.1**
LZH sPKP 23 40 32.0
LZH LR LR
comp=Z,140nm,18.1s
LZH LR LR
comp=Z,140nm,18.0s
XAN Xi'an 128.10 337 PKP **PKPdf** **23 40 21.9 +5.6**
CD2 Chengdu 132.73 341 PKP **PKPdf** **23 40 24.5 -0.7**
WRA Warramunga Arr 134.94 256 PKP **PKPdf** **23 40 29.1 -0.4**
comp=Z,1.3nm,0.7s,baz=88,slow=2.5,SNR=13
ASAR Alice Springs 135.22 250 PKP **PKPdf** **23 40 29.6 -0.4**
comp=Z,1.6nm,1.1s,baz=95,slow=2.4,SNR=5.7
GYA Guiyang 135.72 335 *e*Pdif **Pdif** **23 37 33.0 -1.5**
GYA PKP PKPdf 23 40 19.4 -12
GYA PP **PP** **23 43 11.6 +3.9**
GYA AMB AMB
comp=Z,120nm,7.8s
FITZ Fitzroy Crossi 143.18 258 PKhKP PKPpre 23 40 41.6
comp=Z,3.0nm,0.9s,baz=75,slow=3.0,SNR=4.2
FITZ PKP **PKPdf** **23 40 45.2 +0.6**
comp=Z,1.6nm,0.8s,baz=94,slow=6.8,SNR=5.3
BATI Baumata 144.49 272 PKP **PKPdf** **23 40 47.1 +0.1**
comp=Z,29nm,0.9s,baz=333,slow=2.3,SNR=5.3
CMAR Chiang Mai Arr 145.88 340 PKPbc **PKPbc** **23 40 49.8 0.0**
comp=Z,14nm,0.8s,baz=345,slow=4.1,SNR=45
KAPI Kappang 147.03 282*c* *i* PKP2 **PKPab** **23 40 55.1 +0.1**
KAPI pmax pmax
comp=Z,26nm,1.3s
HYB Hyderabad 147.59 16 *i* PKP **PKPbc** **23 40 54.0 -0.9**

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*IDC **11** 23:22:40.5±1.7,4°.93S×133°.80E,h0km,mb3.6/1, mb1 4.1/6,mb1mx3.7/43,mbtmp3.9/6,ML3.9/5,Error ellipse: s-maj=64.5km s-min=22.5km az=69.0*
*ISCJB **11** 23:22:41.2±1.0,5°.08S±0°.06×133°.5E±0°.1,h25km,mb3.6/1, Error ellipse: s-maj=19.1km s-min=7.6km az=170.4*
ISC 11 23:22:43.1±1.1,**5°.12S**±0°.07×**133°.4E**±0°.2,**h25**km,**n6,** σ2s**95**/10,**Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.75**	**333**	Pn		**Pn**		**23 23 52.5**	**-0.7**
	2.4nm,0.3s,baz=143,slow=20,SNR=5.3								
SIJI					Sn		**Sn**	**23 24 44.9**	**-2.6**
	2.5nm,0.3s,baz=206,slow=20,SNR=5.9								
WRA	**Warramunga Arr**	**14.76**	**177**	Pn		**Pn**		**23 26 12.2**	**+1.8**
	0.5nm,0.3s,baz=354,slow=13,SNR=17								
WRA					Sn		**Sn**	**23 28 50.3**	**-3.0**
	0.2nm,0.3s,baz=358,slow=23,SNR=2.9								
FITZ	**Fitzroy Crossi**	**14.98**	**210**	Pn		**P**		**23 26 18.6**	**-0.1**
	0.4nm,0.3s,baz=30,slow=11,SNR=40								
FITZ					Sn		**Sn**	**23 29 00.2**	**+1.5**
	1.0nm,0.3s,baz=170,slow=20,SNR=9.2								
ASAR	**Alice Springs**	**18.44**	**179**	P		**Pn**		**23 26 59.9**	**+2.7**
	0.7nm,0.3s,baz=5.4,slow=12,SNR=25								
ASAR					S		**Sn**	**23 30 17.5**	**-5.2**
	0.1nm,0.3s,baz=358,slow=28,SNR=2.4								
CTA	**Charters Tower**	**19.41**	**141**	P		**P**		**23 27 07.5**	**-0.2**
	0.3nm,0.3s,baz=302,slow=9.5,SNR=2.2								
MKAR	**Makanchi Array**	**68.60**	**325**	P		**P**		**23 33 46.1**	**+2.1**
	0.5nm,0.6s,baz=115,slow=7.8,SNR=6.2								

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*IDC **11** 23:40:28.2±2.7, 13°.41N×91°.73W,h0km,mb3.7/3, mb1 4.0/6,mb1mx3.7/45,mbtmp3.6/6,ML3.4/3,MS4.1/1, Ms1 4.1/1,ms1mx3.4/42,Error ellipse: s-maj=47.7km s-min=30.5km az=166.0*
*ISCJB **11** 23:40:29.8±0.7, 13°.30N±0°.07×91°.83W±0°.08,h28km, mb4.0/5,MS4.0/1,Error ellipse: s-maj=11.6km s-min=8.9km az=151.0*
*NEIC **11** 23:40:32.8±0.6, 13°.45N×91°.68W,h35km,mb4.0/3,Error ellipse: s-maj=19.5km s-min=9.3km az=56.0*
ISC 11 23:40:31.8±0.8,**13°.39N**±0°.08×**91°.65W**±0°.09,**h28**km,**n11,** σ1s**21**/12,**mb4.0**/5,**Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
APG	**El Apazote**	**1.97**	**36**	Pn		**Pn**		**23 41 03.1**	**-0.5**
	5.5nm,0.3s,baz=218,slow=17,SNR=4.3								
APG					Sn		**Sb**	**23 41 31.5**	**-0.1**
	16nm,0.3s,baz=282,slow=5.5,SNR=10								
CMIG	**Matias Romero**	**4.82**	**320**	Pn		**Pn**		**23 41 41.5**	**-1.1**
	2.0nm,0.3s,baz=130,slow=10,SNR=5.7								
CMIG					Sn		**Sn**	**23 42 40.0**	**+2.4**
	1.2nm,0.3s,baz=97,slow=23,SNR=3.0								
OTAV	**Otavalo**	**18.49**	**134**	P		**Pn**		**23 44 47.5**	**+0.9**
	5.1nm,1.5s								
TXAR	**Lajitas Array**	**19.39**	**327**	P		**P**		**23 44 54.4**	**-1.3**
	0.0nm,0.3s,baz=144,slow=14,SNR=4.0								
ATAH	**Atahualpa**	**24.28**	**146**	LR		LR		23 52 04.5	
	comp=Z,490nm,21.8s,baz=45,slow=29								
NNA	**Nana**	**29.18**	**149**	P		**P**		**23 46 32.0**	**+0.8**
	3.9nm,0.4s								
NVAR	**Mina Array Bea**	**34.35**	**321**	P		**P**		**23 47 16.1**	**-0.5**
	0.5nm,0.7s,baz=137,slow=8.7,SNR=6.2								
LVC	**Limon Verde**	**42.15**	**148**	P		**P**		**23 48 21.7**	**-0.8**
	2.8nm,0.9s								
YKA	**Yellowknife Ar**	**51.69**	**347**	P		**P**		**23 49 36.4**	**+0.3**
	1.9nm,0.7s,baz=153,slow=7.3,SNR=5.6								
ILAR	**Eielson Array**	**63.53**	**337**	P		**P**		**23 51 00.3**	**+0.9**
	0.6nm,0.9s,baz=148,slow=5.3,SNR=6.3								
CMAR	**Chiang Mai Arr**	**146.67**	**341**	PKPbc		**PKPab**		**00 00 12.0**	**-0.9**
	1.1nm,0.4s,baz=347,slow=3.7,SNR=3.6								

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*IDC **11** 23:49:20.7±0.7, 13°.97N×92°.46W,h0km,mb4.2/12, mb1 4.4/16,mb1mx4.1/43,mbtmp4.2/16,ML4.2/4,MS4.3/1, Ms1 4.3/1,ms1mx3.3/46,Error ellipse: s-maj=25.4km s-min=11.6km az=49.0*
*MEX **11** 23:49:23.0±0.5, 13°.90N×92°.54W,h9km±4.1km,MD4.3*
*ISCJB **11** 23:49:25.3±0.8, 14°.05N±0°.04×92°.25W±0°.04,h39km±6km, mb4.4/50,MS4.1/1,Error ellipse: s-maj=7.7km s-min=4.0km az=41.0*
*NEIC **11** 23:49:26.9±0.5, 14°.04N×92°.30W,h35km,mb4.5/55, MD4.3(MEX),Error ellipse: s-maj=12.1km s-min=6.1km az=216.0*
ISC 11 23:49:23.6±1.7,**14°.00N**±0°.06×**92°.39W**±0°.05,**h17**km±10km, **n202,** σ1s**87**/210,**mb4.5**/50,**Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THIG		**0.92**	**8**	*e*P		**Pg**		**23 49 40.0**	**-1.4**
THIG				*e*S		**Sg**		**23 49 52.5**	**-1.0**
THIG		**0.92**	**8**	*e*P		**Pg**		**23 49 40.0**	**-1.4**
THIG				*e*S		**Sg**		**23 49 52.5**	**-1.0**
PCIG		**1.88**	**335**	*e*P		**Pn**		**23 49 52.1**	**-2.9**
PCIG		**1.88**	**335**	*e*P		**Pn**		**23 49 52.1**	**-2.9**
PCIG				*i* S		**Sn**		**23 50 15.5**	**-2.9**
APG	**El Apazote**	**2.12**	**62**	Pn		**Pn**		**23 50 00.2**	**+1.6**
	37nm,0.3s,baz=235,slow=9.5,SNR=120								
APG					Sn		**Sb**	**23 50 28.6**	**+0.7**
	125nm,0.3s,baz=0.9,slow=11,SNR=9.0								
CCIG	**Comitan**	**2.29**	**6**	*e*Pn		**Pn**		**23 50 03.1**	**+2.2**
CCIG				*e*Sn		**Sn**		**23 50 27.2**	**-1.6**
CCIG	**Comitan**	**2.29**	**6**	*e*P		**Pn**		**23 49 59.9**	**-1.0**
CCIG				*i* S		**Sn**		**23 50 27.6**	**-1.2**
TGIG		**2.85**	**346**	*e*P		**Pn**		**23 50 07.9**	**-0.6**
TGIG		**2.85**	**346**	*e*P		**Pn**		**23 50 07.2**	**-1.3**
TGIG				*i* S		**Sn**		**23 50 41.4**	**-1.2**
SNET	**Serv Nac Est T**	**3.09**	**95**	*e*Pn		**Pn**		**23 50 13.2**	**+1.5**
CMIG	**Matias Romero**	**3.90**	**322**	Pn		**Pn**		**23 50 21.5**	**-1.4**
	26nm,0.3s,baz=155,slow=12,SNR=30								
CMIG					Sn		**Sn**	**23 51 08.0**	**-0.4**
	70nm,0.3s,baz=68,slow=16,SNR=6.3								
TGUH	**Tegucigalpa,Un**	**4.97**	**89**	*e*Pn		**Pn**		**23 50 38.4**	**+0.9**
TGUH				*e*Sn		**Sn**		**23 51 32.4**	**-2.3**
VHO	**Vista Hermosa**	**5.18**	**307**	*i* P		**Pn**		**23 50 37.7**	**-3.0**
VHO				*i* S		**Sn**		**23 51 36.6**	**-3.7**
ESTN	**Estel**	**5.92**	**98**	*e*Pn		**Pn**		**23 50 50.8**	**+0.1**
ESTN				*e*Sn		**Sn**		**23 51 53.8**	**-4.6**
LVIG	**Laguna Verde**	**6.88**	**326**	*e*Pn		**Pn**		**23 51 00.7**	**-3.1**
LVIG				*e*Sn		**Sn**		**23 52 19.4**	**-2.3**
TLIG	**Tlapa**	**6.92**	**302**	*e*Pn		**Pn**		**23 51 05.0**	**+0.5**
TLIG				*e*Sn		**Sn**		**23 52 20.2**	**-2.8**
TEIG	**Tepich**	**7.34**	**32**	*e*Pn		**Pn**		**23 51 09.5**	**-0.6**
JTS	**JuntasAbangare**	**8.15**	**116**	Pn		**Pn**		**23 51 23.1**	**+1.7**
	1.3nm,0.3s,baz=29,slow=17,SNR=4.0								
JTS					Lg		Lg	23 53 30.9	
	0.5nm,0.3s,baz=141,slow=22,SNR=9.0								
JTS	**JuntasAbangare**	**8.15**	**116**	*e*Pn		**Pn**		**23 51 22.3**	**+1.0**
MOIG	**Morelia**	**10.14**	**305**	*e*Pn		**Pn**		**23 51 51.7**	**+2.9**
LNIG	**Linares**	**12.73**	**330**	*e*Pn		**Pn**		**23 52 27.3**	**+3.3**
ZAIG	**Zacatecas**	**13.01**	**314**	*e*Pn		**Pn**		**23 52 32.2**	**+4.2**
833A	**Chaparral WMA,**	**15.67**	**337**	*e*Pn		**P**		**23 53 06.3**	**-1.5**
	22nm,0.6s								
347A	**Saraland**	**17.68**	**11**	P		**P**		**23 53 33.9**	**+3.9**
	baz=192								
JCT	**Junction City**	**17.77**	**339**	*e*Pn		**P**		**23 53 34.7**	**+3.6**
	8.2nm,0.8s								
JCT	**Junction City**	**17.77**	**339**	P		**P**		**23 53 33.2**	**+2.1**
	baz=156								
BRAL	**Brewton**	**17.79**	**15**	P		**P**		**23 53 32.9**	**+1.7**
	baz=197								
656A	**Willston**	**17.82**	**29**	P		**P**		**23 53 33.7**	**+2.2**
	baz=213								
348A	**Jackson**	**17.82**	**13**	P		**P**		**23 53 34.8**	**+3.2**
	baz=194								
HPIG		**17.88**	**318**	*e*Pn		**P**		**23 53 33.3**	**+0.8**
	11nm,0.6s								
349A	**Repton**	**17.92**	**15**	P		**P**		**23 53 34.6**	**+1.9**
	baz=196								
242A	**Grayson**	**17.98**	**1**	P		**P**		**23 53 37.5**	**+4.1**
	baz=180								
556A	**Lake Butler**	**18.41**	**28**	P		**Pn**		**23 53 41.7**	**+3.6**
	baz=212								
TXAR	**Lajitas Array**	**18.49**	**327**	P		**Pn**		**23 53 39.7**	**+0.4**
	0.3nm,0.3s,baz=151,slow=13,SNR=28								
TX31	**Lajitas Ar. Si**	**18.49**	**327**	*e*P		**Pn**		**23 53 40.5**	**+1.2**
248A	**Dixon Mills**	**18.51**	**13**	P		**Pn**		**23 53 41.7**	**+2.3**
	baz=194								
249A	**Camden**	**18.54**	**14**	P		**Pn**		**23 53 42.5**	**+2.8**
	baz=196								
250A	**Grady**	**18.76**	**16**	P		**Pn**		**23 53 43.8**	**+1.4**
	baz=198								
353A	**Camilla**	**18.83**	**22**	P		**Pn**		**23 53 45.5**	**+2.3**
	baz=205								
147A	**Livingston**	**18.97**	**11**	*e*P		**Pn**		**23 53 48.6**	**+3.7**
	45nm,1.1s								
147A	**Livingston**	**18.97**	**11**	P		**Pn**		**23 53 47.5**	**+2.5**
	baz=192								
148A	**Greensboro**	**19.08**	**13**	P		**Pn**		**23 53 49.0**	**+2.7**
	baz=194								
PTBC	**PUERTO BERRIO,**	**19.13**	**111**	*e*P		**P**		**23 53 45.3**	**-0.9**
NORC	**Norcasia**	**19.18**	**114**	*e*P		**P**		**23 53 46.6**	**-0.1**
Z41A	**Richland Creek**	**19.18**	**359**	*e*P		**Pn**		**23 53 50.1**	**+2.7**
	28nm,0.8s								
Z41A	**Richland Creek**	**19.18**	**359**	P		**Pn**		**23 53 49.1**	**+1.6**
	baz=178								
149A	**Jones**	**19.21**	**14**	P		**Pn**		**23 53 50.5**	**+2.6**
	baz=196								
252A	**Lumpkin**	**19.24**	**20**	P		**Pn**		**23 53 48.7**	**+0.5**
	baz=203								
POPC	**Popayan, Colom**	**19.25**	**125**	*e*P		**P**		**23 53 47.3**	**-0.4**
150A	**Eclectic**	**19.42**	**16**	P		**P**		**23 53 50.3**	**+1.1**
	baz=199								
Z47A	**Carrollton**	**19.52**	**11**	P		**P**		**23 53 50.4**	**+0.1**
	baz=192								
151A	**Opelika**	**19.54**	**18**	P		**P**		**23 53 51.7**	**+1.1**
	baz=201								
LRAL	**Lakeview Retre**	**19.58**	**14**	*e*P		**Pn**		**23 53 54.0**	**+1.6**
	22nm,1.1s								
LRAL	**Lakeview Retre**	**19.58**	**14**	P		**Pn**		**23 53 53.9**	**+1.6**
	baz=196,SNR=6.8								
ABTX	**Abilene, Hawle**	**19.69**	**342**	*e*P		**P**		**23 53 53.1**	**+1.0**
	14nm,1.1s								
ABTX	**Abilene, Hawle**	**19.69**	**342**	P		**P**		**23 53 52.8**	**+0.6**
	baz=158								
254A	**Abbeville**	**19.72**	**23**	P		**Pn**		**23 53 54.7**	**+0.8**
	baz=207								
Z48A	**Northport**	**19.79**	**12**	P		**P**		**23 53 53.5**	**+0.3**
	baz=194								
Z49A	**Columbiana**	**19.84**	**15**	P		**Pn**		**23 53 57.5**	**+2.1**
	baz=197,SNR=7.9								
ROSC	**El Rosal**	**20.00**	**115**	P		**P**		**23 53 57.5**	**+1.4**
	16nm,0.9s,baz=286,slow=1.7,SNR=11								
ROSC	**El Rosal**	**20.00**	**115**	*e*P		**P**		**23 53 57.8**	**+1.7**
	28nm,1.2s								
Z50A	**Ashland**	**20.06**	**16**	*e*P		Pn		23 53 59.0	+1.9
	10.0nm,0.9s								
Z50A	**Ashland**	**20.06**	**16**	P		Pn		23 53 59.2	+1.3
	baz=198								
Y46A	**Houston**	**20.06**	**9**	P		Pn		23 53 59.2	+1.3
	baz=190								
Y47A	**UCPARC, Winfie**	**20.24**	**11**	P		**P**		**23 53 57.8**	**-0.3**
	baz=193								
BARC	**Barichara**	**20.27**	**109**	*e*P		**P**		**23 53 59.2**	**+0.4**
Y48A	**Jasper**	**20.39**	**13**	P		**P**		**23 53 59.1**	**-0.7**
	baz=194								
Z52A	**Williamson**	**20.44**	**19**	P		**P**		**23 54 00.4**	**+0.1**
	baz=202								
X43A	**Marvell**	**20.48**	**4**	*e*P		Pn		23 54 06.8	+3.9
	65nm,0.7s								
X43A	**Marvell**	**20.48**	**4**	P		Pn		23 54 06.8	+3.9
	baz=184,SNR=7.1								
MIAR	**Mount Ida**	**20.49**	**357**	*e*P		**P**		**23 54 01.1**	**+0.3**
	35nm,0.8s								
MIAR	**Mount Ida**	**20.49**	**357**	P		**P**		**23 54 01.4**	**+0.6**
	baz=176,SNR=20								
CHIC	**Chingaza**	**20.61**	**115**	*e*P		**P**		**23 54 04.5**	**+1.8**
RUSC	**La Rusia**	**20.64**	**111**	*e*P		**P**		**23 54 01.2**	**-1.9**
FLOC	**Florencia**	**20.64**	**125**	*e*P		**P**		**23 53 59.9**	**-2.8**
X37A	**Clayton**	**20.68**	**353**	*e*P		Pn		23 54 06.7	+1.5
	23nm,1.0s								
UALR	**University of**	**20.69**	**0**	*e*P		Pn		23 54 06.9	+1.6
	22nm,0.9s								
Z53A	**Monticello**	**20.81**	**21**	P		**P**		**23 54 04.6**	**+0.3**
	baz=204								
X47A	**Russelville**	**20.84**	**11**	P		**P**		**23 54 03.7**	**-0.9**
	baz=192								
Y51A	**Rockmart**	**20.90**	**17**	P		**P**		**23 54 04.8**	**-0.5**
	baz=200								
X48A	**Hartselle**	**20.93**	**12**	*e*P		**P**		**23 54 05.2**	**-0.4**
	15nm,0.7s								
X48A	**Hartselle**	**20.93**	**12**	P		**P**		**23 54 04.8**	**-0.8**
	baz=194,SNR=5.5								
GOGA	**Godfrey**	**20.97**	**21**	*e*P		**P**		**23 54 11.0**	**+5.1**
	14nm,0.8s								
GOGA	**Godfrey**	**20.97**	**21**	P		**P**		**23 54 07.3**	**+1.4**
	baz=205,SNR=6.3								
Z54A	**Sparta**	**21.04**	**23**	P		**P**		**23 54 08.0**	**+1.3**
	baz=206								
W41B	**Gary Mavity, V**	**21.09**	**0**	*e*P		**P**		**23 54 11.1**	**+3.8**
	11nm,1.0s								
W41B	**Gary Mavity, V**	**21.09**	**0**	P		**P**		**23 54 07.1**	**-0.2**
	baz=180								
X49A	**Woodville**	**21.15**	**14**	P		**P**		**23 54 09.3**	**+1.3**
	baz=196,SNR=11								
GDL2	**Guadalupe Moun**	**21.17**	**331**	*e*P		**P**		**23 54 09.9**	**+1.5**
Y52A	**Lilburn**	**21.18**	**19**	P		**P**		**23 54 08.0**	**-0.2**
	baz=203								
MNTX	**Cornudas Mount**	**21.27**	**328**	*e*P		**P**		**23 54 09.1**	**-0.2**
	7.9nm,0.8s								
MNTX	**Cornudas Mount**	**21.27**	**328**	P		**P**		**23 54 09.0**	**-0.2**
	baz=143								
X50B	**Fort Payne**	**21.27**	**16**	P		**P**		**23 54 07.3**	**-2.0**
	baz=198								
WMOK	**Wichita Mounta**	**21.45**	**345**	*e*P		**P**		**23 54 10.6**	**-0.6**
	5.3nm,0.9s								
WMOK	**Wichita Mounta**	**21.45**	**345**	P		**P**		**23 54 10.3**	**-0.9**
	baz=163								
Y54A	**Tignall**	**21.65**	**22**	P		**P**		**23 54 18.2**	**+4.9**
	baz=206								
V41A	**Mountainview**	**21.70**	**1**	P		**P**		**23 54 13.6**	**-0.2**
	baz=180								
V42A	**Cord**	**21.74**	**2**	P		**P**		**23 54 13.7**	**-0.5**
	baz=182								
W49A	**Belvidere**	**21.75**	**14**	P		**P**		**23 54 13.4**	**-1.0**
	baz=196								
SDV	**Santo Domingo**	**21.92**	**101**	LR		LR		00 04 33.1	
	comp=Z,668nm,18.8s,baz=331,slow=42								
MSTX	**Muleshoe**	**22.00**	**336**	*e*P		**P**		**23 54 17.3**	**+0.1**
	49nm,1.5s								
MSTX	**Muleshoe**	**22.00**	**336**	P		**P**		**23 54 17.4**	**+0.1**
	baz=152								
TUL1	**Leonard**	**22.04**	**353**	P		**P**		**23 54 16.6**	**-0.8**
	baz=171								
V46A	**Holladay**	**22.05**	**9**	P		**P**		**23 54 16.1**	**-1.5**
	baz=191								
W50A	**Signal Mountai**	**22.06**	**16**	P		**P**		**23 54 16.3**	**-1.4**
	baz=198								
W51A	**Cleveland**	**22.17**	**17**	P		**P**		**23 54 12.9**	**-6.0**
	baz=200								
V47A	**Nunnelly**	**22.18**	**11**	P		**P**		**23 54 18.0**	**-1.0**
	baz=192								
V48A	**Smith Brothers**	**22.23**	**12**	*e*P		**P**		**23 54 18.3**	**-1.2**
	11nm,1.2s								
V48A	**Smith Brothers**	**22.23**	**12**	P		**P**		**23 54 16.7**	**-2.8**
	baz=194								
U41A	**Viola**	**22.26**	**1**	P		**P**		**23 54 17.8**	**-2.1**
	baz=181								
U40A	**Yellville**	**22.27**	**359**	P		**P**		**23 54 19.8**	**-0.3**
	baz=179								
U42A	**Revenden**	**22.29**	**2**	P		**P**		**23 54 18.7**	**-1.5**
	baz=183								
AMTX	**Amarillo**	**22.43**	**340**	*e*P		**P**		**23 54 20.7**	**-1.0**
	32nm,0.9s								
AMTX	**Amarillo**	**22.43**	**340**	P		**P**		**23 54 21.3**	**-0.5**
	baz=156								
V49A	**McMinnville**	**22.45**	**14**	P		**P**		**23 54 20.9**	**-1.1**
	baz=196								
PBMO	**Poplar Bluff**	**22.76**	**4**	*e*P		**P**		**23 54 23.1**	**-2.0**
	8.1nm,0.8s								
TKL	**Tuckaleechee C**	**22.92**	**18**	P		**P**		**23 54 25.7**	**-1.2**
	8.0nm,1.1s,baz=216,slow=5.9,SNR=3.6								
TKL	**Tuckaleechee C**	**22.92**	**18**	*e*P		**P**		**23 54 26.6**	**-0.3**
	18nm,1.2s								
T42A	**Van Buren**	**22.97**	**3**	P		**P**		**23 54 25.3**	**-2.1**
	baz=183								
V52A	**Sevierville**	**23.15**	**18**	P		**P**		**23 54 28.7**	**-0.5**
	baz=202								
121A	**Cookes Peak, D**	**23.20**	**325**	P		**P**		**23 54 30.7**	**+0.8**
	baz=139								
319A	**Douglas**	**23.23**	**321**	*e*P		**P**		**23 54 32.4**	**+2.1**
	26nm,1.4s								
V53A	**Saluda**	**23.24**	**20**	P		**P**		**23 54 29.8**	**-0.4**
	baz=204								
U50A	**Jamestown**	**23.33**	**16**	P		**P**		**23 54 29.0**	**-2.1**
	baz=198								
S41A	**Jillco Farms,**	**23.50**	**1**	P		**P**		**23 54 31.2**	**-1.5**
	baz=181								
U51A	**La Follette**	**23.52**	**17**	P		**P**		**23 54 31.4**	**-1.6**
	baz=200								
S43A	**Fulton Ridge,**	**23.57**	**5**	P		**P**		**23 54 32.0**	**-1.4**
	baz=185								
S42A	**Caledonia**	**23.72**	**3**	P		**P**		**23 54 33.7**	**-1.1**
	baz=184								
S44A	**Carbondale**	**23.77**	**6**	P		**P**		**23 54 33.4**	**-1.9**
	baz=187								
SIUC	**Southern Illin**	**23.79**	**6**	*e*P		**P**		**23 54 34.4**	**-1.2**
	16nm,0.8s								
BNM	**Barren Site**	**23.85**	**330**	*e*P		**P**		**23 54 39.1**	**+2.6**
LPM	**Los Pinos Moun**	**23.99**	**330**	*e*P		**P**		**23 54 39.7**	**+2.1**
T51A	**Gray**	**24.09**	**17**	P		**P**		**23 54 37.2**	**-1.2**
	baz=200								
R41A	**Rosebud**	**24.22**	**2**	P		**P**		**23 54 37.7**	**-1.9**
	baz=182								
LAZ	**Ladron**	**24.31**	**329**	*e*P		**P**		**23 54 43.5**	**+2.8**
ANMO	**Albuquerque**	**24.42**	**331**	P		**P**		**23 54 41.8**	**+0.1**
	2.9nm,0.7s,baz=144,slow=12,SNR=9.9								
ANMO	**Albuquerque**	**24.42**	**331**	*e*P		**P**		**23 54 42.1**	**+0.5**
	7.6nm,1.3s								
ANMO	**Albuquerque**	**24.42**	**331**	P		**P**		**23 54 43.5**	**+1.8**
	baz=145								
T52A	**Hallie**	**24.50**	**18**	P		**P**		**23 54 40.9**	**-1.3**
	baz=202								
S49A	**Springfield**	**24.52**	**14**	P		**P**		**23 54 40.3**	**-2.1**
	baz=197								
S50A	**Richmond**	**24.64**	**15**	P		**P**		**23 54 41.3**	**-2.1**
	baz=199								
WCI	**Wyandotte Cave**	**24.74**	**12**	*e*P		**P**		**23 54 43.3**	**-1.0**
	11nm,0.8s								
WCI	**Wyandotte Cave**	**24.74**	**12**	P		**P**		**23 54 43.2**	**-1.1**
	baz=194								
R47A	**Wooly Knot Far**	**24.76**	**11**	P		**P**		**23 54 42.5**	**-2.0**
	baz=194								
TUC	**Tucson**	**24.80**	**320**	P		**P

2.0nm,0.3s,baz=306,slow=11,SNR=12
PTGA Pitinga 35.29 112 *e*P **P 23 56 17.9 -0.2**
6.6nm,0.9s
MCMT McKenzie Canyo 35.31 335 *e*P **P 23 56 19.4 +1.2**
BOZ Bozeman (W) 35.45 336 *e*P **P 23 56 16.4 -2.8**
7.9nm,0.7s
DLMT Dillon 35.64 335 *e*P **P 23 56 22.5 +1.6**
14nm,1.3s
ULM Lac du Bonnet 36.27 356 P **P 23 56 24.2 -1.8**
3.7nm,1.0s,baz=194,slow=8.3,SNR=2.5
J08A Circle Bar Ran 36.84 328 *e*P **P 23 56 31.6 +0.4**
9.1nm,0.6s
F10A Beach Ranch, E 38.13 332 *e*P **P 23 56 41.7 -0.4**
13nm,0.8s
LPAZ La Paz 38.47 141 P **P 23 56 44.7 -1.1**
0.9nm,0.8s,baz=317,slow=8.6,SNR=3.2
SIV San Ignacio 42.97 133 P **P 23 57 20.7 -1.6**
3.4nm,0.8s,baz=320,slow=7.7,SNR=17
SIV PcP **PcP 23 59 11.9 -0.9**
1.2nm,0.9s,baz=256,slow=4.2,SNR=3.7
YKA Yellowknife Ar 50.94 347 P **P 23 58 22.7 -1.2**
4.6nm,0.6s,baz=152,slow=7.3,SNR=40
IL1 Eielson Array 62.69 337 *e*P **P 23 59 46.0 -1.4**
ILAR Eielson Array 62.69 337 P **P 23 59 46.4 -1.0**
0.9nm,0.7s,baz=161,slow=5.2,SNR=9.1
MLY Manley 64.29 336 *e*P **P 23 59 57.4 -0.6**
3.8nm,0.8s
CHGN Chignik 65.20 326 *e*P **P 00 00 06.1 +2.2**
95nm,0.8s
LZH Lanzhou 127.88 343 *e*PKP **PKPdf 00 08 28.6 -0.7**
LZH pPKP sPKPdf 00 08 40.7 +3.8
LZH sPKP 00 08 45.0
XAN Xi'an 128.10 337 PKP **PKPdf 00 08 33.4 +3.8**
WRA Warramunga Arr 135.02 256 PKP **PKPdf 00 08 41.6 -1.3**
0.4nm,0.8s,baz=81,slow=2.4,SNR=4.3
CMAR Chiang Mai Arr 145.87 341 PKPbc **PKPdf 00 09 01.9 -0.6**
1.6nm,0.6s,baz=333,slow=3.1,SNR=8.1

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*ISCJB **11** 23:53:06.3±1.2, 13.8N±0.1×92.60W±0.07, h10km, mb3.6/3, Error ellipse: s-maj=17.2km s-min=8.5km az=19.1*
*IDC **11** 23:53:06.1±2.3, 13.81N×92.53W, h0km, mb3.5/3, mb1 3.8/7, mb1mx3.6/40, mbtmp3.5/7, ML3.5/4, Error ellipse: s-maj=48.3km s-min=23.9km az=14.0*
ISC 11 23:53:08.4±1.3**, 14.0N**±0.1×**92.48W**±0.08**, h10**km**, n8, σ1°84/10, mb3.6/3, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
APG	**El Apazote**	**2.22**	**62**	Pn		**Pb**		**23 53 46.8**	**-1.9**
	12nm,0.3s,baz=233,slow=18,SNR=6.1								
APG				Sn		**Sn**		**23 54 15.2**	**+2.1**
	32nm,0.3s,baz=316,slow=18,SNR=7.0								
CMIG	**Matias Romero**	**3.88**	**324**	Pn		**Pn**		**23 54 10.1**	**+1.9**
	2.8nm,0.3s,baz=153,slow=14,SNR=2.4								
CMIG				Sn		**Sn**		**23 54 52.8**	**-1.1**
	2.2nm,0.3s,baz=77,slow=18,SNR=3.0								
JTS	**JuntasAbangare**	**8.21**	**115**	Pn		**Pn**		**23 55 08.5**	**+0.7**
	0.7nm,0.3s,baz=167,slow=14,SNR=3.1								
JTS				Lg		Lg		23 57 21.6	
	baz=206,slow=19,SNR=3.6								
TXAR	**Lajitas Array**	**18.48**	**328**	P		**Pn**		**23 57 26.4**	**+1.6**
	0.0nm,0.3s,baz=144,slow=14,SNR=3.9								
NVAR	**Mina Array Bea**	**33.41**	**322**	P		**P**		**23 59 48.6**	**+1.0**
	0.2nm,0.5s,baz=133,slow=7.9,SNR=2.3								
YKA	**Yellowknife Ar**	**50.97**	**347**	P		**P**		**00 02 08.6**	**-1.3**
	0.9nm,0.6s,baz=150,slow=7.5,SNR=3.9								
ILAR	**Eielson Array**	**62.70**	**337**	P		**P**		**00 03 32.6**	**-0.6**
	0.4nm,0.9s,baz=123,slow=6.6,SNR=4.0								
CMAR	**Chiang Mai Arr**	**145.88**	**340**	PKPbc		**PKPbc**		**00 12 46.9**	**-2.1**
	0.8nm,0.3s,baz=343,slow=1.9,SNR=2.9								

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*ISCJB **11** 23:54:35.8±1.8, 14.02N±0.07×92.57W±0.06, h21km±12km, mb3.6/2, Error ellipse: s-maj=12.5km s-min=8.4km az=37.8*
*MEX **11** 23:54:36.8±0.5, 13.92N×92.57W, h20km±19km, MD3.8*
*IDC **11** 23:54:36.0±2.1, 14.16N×92.44W, h0km, mb3.6/2, mb1 3.9/6, mb1mx3.6/38, mbtmp3.7/6, ML3.6/4, Error ellipse: s-maj=47.0km s-min=20.5km az=20.0*
ISC 11 23:54:37.1±3.7**, 14.17N**±0.10×**92.49W**±0.07**, h8**km±24km**, n11, σ1°25/17, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THIG		**0.76**	**17**	*e*P		**Pb**		**23 54 53.1**	**+0.5**
THIG				*e*S		**Sn**		**23 55 05.3**	**-0.6**
PCIG		**1.68**	**335**	*e*P		**Pn**		**23 55 05.1**	**-1.7**
PCIG				*i* S		**Sn**		**23 55 27.4**	**-1.2**
CCIG	**Comitan**	**2.12**	**9**	*e*P		**Pn**		**23 55 13.1**	**0.0**
CCIG				*e*S		**Sn**		**23 55 40.3**	**+0.4**
APG	**El Apazote**	**2.13**	**67**	Pn		**Pn**		**23 55 13.2**	**0.0**
	41nm,0.3s,baz=243,slow=11,SNR=10								
APG				Sn		**Sn**		**23 55 41.8**	**+1.8**
	63nm,0.3s,baz=94,slow=8.5,SNR=5.3								
TGIG		**2.66**	**347**	*e*P		**Pn**		**23 55 19.1**	**-1.3**
TGIG				*e*S		**Sn**		**23 55 53.3**	**+0.4**
CMIG	**Matias Romero**	**3.71**	**322**	Pn		**Pn**		**23 55 35.7**	**+1.0**
	5.6nm,0.3s,baz=142,slow=15,SNR=3.6								
CMIG				Sn		**Sn**		**23 56 20.0**	**+1.4**
	9.6nm,0.3s,baz=76,slow=3.1,SNR=2.1								
JTS	**JuntasAbangare**	**8.32**	**117**	Pn		**Pn**		**23 56 36.9**	**-1.2**
	0.8nm,0.3s,baz=13,slow=22,SNR=3.5								
TXAR	**Lajitas Array**	**18.29**	**327**	P		**P**		**23 58 52.3**	**+0.6**
	0.0nm,0.3s,baz=135,slow=12,SNR=3.0								
NVAR	**Mina Array Bea**	**33.24**	**321**	P		**P**		**00 01 16.8**	**+1.6**
	0.3nm,0.6s,baz=128,slow=8.5,SNR=3.2								
YKA	**Yellowknife Ar**	**50.75**	**347**	P		**P**		**00 03 35.8**	**-1.6**
	0.6nm,0.5s,baz=135,slow=9.0,SNR=4.6								
CMAR	**Chiang Mai Arr**	**145.67**	**341**	PKPbc		**PKPdf**		**00 14 16.7**	**-0.5**
	0.8nm,0.3s,baz=17,slow=3.3,SNR=3.6								

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*IDC **11** 23:57:02.3±1.4, 13.27N×92.31W, h0km, mb3.8/5, mb1 4.0/8, mb1mx3.8/37, mbtmp3.7/8, ML3.6/3, Error ellipse: s-maj=32.7km s-min=24.1km az=50.0*
*MEX **11** 23:57:10.7±0.5, 13.87N×92.37W, h23km±22km, MD3.6*
ISC 11 23:57:04.1±1.2**, 13.5N**±0.1×**92.27W**±0.08**, h10**km**, n14, σ2°17/15, mb3.8/5, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THIG		**1.44**	**0**	*e*P		**Pn**		**23 57 27.4**	**-3.0**
THIG				*e*S		Sn		23 57 39.5	-10
APG	**El Apazote**	**2.33**	**48**	Pn		**Pb**		**23 57 45.6**	**-0.8**
	20nm,0.3s,baz=228,slow=7.7,SNR=5.1								
APG				Sn		**Sn**		**23 58 15.0**	**+3.4**
	33nm,0.3s,baz=322,slow=20,SNR=6.3								
PCIG		**2.42**	**338**	*e*P		**Pn**		**23 57 40.5**	**-3.2**
PCIG				*i* S		Sn		23 58 04.7	-8.8
CCIG	**Comitan**	**2.81**	**3**	*e*P		**Pn**		**23 57 46.7**	**-2.7**
CCIG				*i* S		Sn		23 58 15.1	-8.4
TGIG		**3.41**	**346**	*i* P		**Pn**		**23 57 55.2**	**-2.2**
TGIG				*i* S		Sn		23 58 28.5	-9.4
CMIG	**Matias Romero**	**4.41**	**325**	Pn		**Pn**		**23 58 11.3**	**+0.1**
	2.4nm,0.3s,baz=150,slow=15,SNR=2.9								
CMIG				Sn		**Sn**		**23 59 02.2**	**-0.4**
	5.6nm,0.3s,baz=97,slow=19,SNR=3.3								
JTS	**JuntasAbangare**	**7.82**	**113**	Lg		Lg		00 01 05.4	
	0.1nm,0.3s,baz=231,slow=18,SNR=3.0								
TXAR	**Lajitas Array**	**19.01**	**328**	P		**Pn**		**00 01 27.2**	**+0.2**
	0.0nm,0.3s,baz=138,slow=11,SNR=3.7								
NVAR	**Mina Array Bea**	**33.93**	**322**	P		**P**		**00 03 50.3**	**+2.4**
	0.5nm,0.7s,baz=136,slow=5.6,SNR=4.3								
ULM	**Lac du Bonnet**	**36.81**	**356**	P		**P**		**00 04 14.1**	**+1.9**
	4.3nm,1.0s,baz=196,slow=7.4,SNR=3.1								
LPAZ	**La Paz**	**37.98**	**140**	P		**P**		**00 04 21.8**	**-1.4**
	1.0nm,0.7s,baz=285,slow=6.3,SNR=3.6								
YKA	**Yellowknife Ar**	**51.49**	**347**	P		**P**		**00 06 09.5**	**-0.1**
	1.1nm,0.6s,baz=152,slow=7.2,SNR=6.3								
ILAR	**Eielson Array**	**63.24**	**337**	P		**P**		**00 07 33.1**	**+0.6**
	0.5nm,0.8s,baz=142,slow=5.7,SNR=5.4								
CMAR	**Chiang Mai Arr**	**146.42**	**341**	PKPbc		**PKPbc**		**00 16 45.4**	**-1.0**
	0.5nm,0.3s,baz=14,slow=4.2,SNR=3.2								

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*IDC **12** 00:00:06.7±0.7, 13.71N×92.16W, h0km, mb4.1/13, mb1 4.4/15, mb1mx4.2/39, mbtmp4.1/15, ML3.7/2, MS4.2/1, Ms1 4.2/1, ms1mx3.4/37, Error ellipse: s-maj=16.5km s-min=13.2km az=43.0*
*ISCJB **12** 00:00:07.3±0.5, 13.77N±0.05×92.09W±0.04, h10km, mb4.5/71, MS4.0/1, Error ellipse: s-maj=7.9km s-min=5.5km az=11.6*

*NEIC **12** 00:00:13.3±0.5, 13.84N×92.15W, h35km, mb4.5/64, Error ellipse: s-maj=11.7km s-min=6.5km az=210.0*
ISC 12 00:00:08.5±0.6**, 13.78N**±0.08×**92.14W**±0.07**, h10**km**, n176, σ1°21/161, mb4.6/71, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
APG	**El Apazote**	**2.04**	**53**	Pg		**Pg**		**00 00 46.5**	**-1.2**
	22nm,0.3s,baz=204,slow=14,SNR=29								
APG				Lg		Lg		00 01 13.4	
	34nm,0.3s,baz=250,slow=11,SNR=4.0								
CCIG	**Comitan**	**2.49**	**0**	*e*Pn		**Pb**		**00 00 53.1**	**-0.4**
CMIG	**Matias Romero**	**4.22**	**322**	Pn		**Pn**		**00 01 11.4**	**-1.6**
	2.1nm,0.3s,baz=145,slow=12,SNR=12								
CMIG				Sn		**Sn**		**00 02 00.4**	**-2.0**
	3.9nm,0.3s,baz=98,slow=12,SNR=4.9								
CMIG				Lg		Lg		00 02 20.1	
	7.3nm,0.3s,baz=54,slow=19,SNR=4.3								
ESTN	**Estel**	**5.66**	**96**	*e*Pn		**Pn**		**00 01 35.2**	**+2.4**
BOAB	**BOACO BROADBAN**	**6.45**	**101**	*e*Pn		Pb		00 01 52.4	-8.4
TLIG	**Tlapa**	**7.24**	**302**	*e*Pn		**Pn**		**00 01 54.3**	**-0.3**
TEIG	**Tepich**	**7.41**	**29**	*e*Pn		Pn		00 02 04.0	+7.2
JTS	**JuntasAbangare**	**7.84**	**115**	Pn		Pn		00 02 06.9	+4.1
	2.0nm,0.3s,baz=25,slow=17,SNR=9.0								
JTS				Lg		Lg		00 04 10.5	
	baz=165,slow=20,SNR=3.3								
MOIG	**Morelia**	**10.46**	**305**	*e*Pn		**Pn**		**00 02 40.1**	**+1.2**
JCT	**Junction City**	**18.06**	**338**	*e*Pn		**P**		**00 04 23.6**	**+3.4**
	7.8nm,0.8s								
TX31	**Lajitas Ar. Si**	**18.81**	**327**	*e*Pn		**Pn**		**00 04 30.1**	**+1.1**
TXAR	**Lajitas Array**	**18.81**	**327**	P		**Pn**		**00 04 30.0**	**+1.1**
	0.1nm,0.3s,baz=159,slow=12,SNR=16								
252A	**Lumpkin**	**19.37**	**19**	P		**Pn**		**00 04 37.3**	**+1.8**
	baz=202								
150A	**Eclectic**	**19.56**	**16**	P		**Pn**		**00 04 38.4**	**+0.5**
	baz=198								
151A	**Opelika**	**19.68**	**17**	P		**Pn**		**00 04 39.0**	**-0.2**
	baz=200								
Z47A	**Carrollton**	**19.69**	**10**	P		**Pn**		**00 04 39.1**	**-0.3**
	baz=192								
LRAL	**Lakeview Retre**	**19.74**	**13**	*e*P		**Pn**		**00 04 39.8**	**-0.2**
	19nm,1.3s								
LRAL	**Lakeview Retre**	**19.74**	**13**	P		**Pn**		**00 04 39.8**	**-0.2**
	baz=195								
Z48A	**Northport**	**19.96**	**11**	P		Pn		00 04 41.9	-0.6
	baz=193								
ABTX	**Abilene, Hawle**	**19.98**	**341**	*e*P		Pn		00 04 41.8	-1.0
	11nm,0.6s								
ABTX	**Abilene, Hawle**	**19.98**	**341**	P		Pn		00 04 42.1	-0.7
	baz=158								
152A	**Waverly Hall**	**19.99**	**19**	*e*P		Pn		00 04 46.1	+3.1
	103nm,0.2s								
Y46A	**Houston**	**20.24**	**8**	P		Pn		00 04 46.0	+0.1
	baz=189,SNR=5.1								
154A	**Montrose**	**20.49**	**22**	P		Pn		00 04 49.6	+0.7
	baz=206								
MIAR	**Mount Ida**	**20.72**	**357**	*e*P		Pn		00 04 50.3	-1.2
	28nm,1.1s								
MIAR	**Mount Ida**	**20.72**	**357**	P		Pn		00 04 49.7	-1.8
	baz=176								
155A	**Kite**	**20.74**	**24**	P		Pn		00 04 50.3	-1.5
	baz=207								
X37A	**Clayton**	**20.93**	**353**	*e*P		Pn		00 04 52.0	-1.9
	98nm,2.0s								
X47A	**Russellville**	**21.01**	**10**	P		**P**		**00 04 53.8**	**+1.4**
	baz=192								
GOGA	**Godfrey**	**21.08**	**21**	*e*P		**P**		**00 04 55.8**	**+2.7**
	16nm,1.0s								
GOGA	**Godfrey**	**21.08**	**21**	P		**P**		**00 04 55.4**	**+2.3**
	baz=204								
X48A	**Hartselle**	**21.10**	**12**	*e*P		**P**		**00 04 53.5**	**+0.3**
	15nm,1.1s								
X48A	**Hartselle**	**21.10**	**12**	P		**P**		**00 04 54.6**	**+1.4**
	baz=194								
Y52A	**Lilburn**	**21.30**	**19**	P		**P**		**00 04 57.0**	**+1.5**
	baz=202								
X49A	**Woodville**	**21.31**	**13**	P		**P**		**00 04 56.5**	**+1.0**
	baz=196								
W39A	**Magazine**	**21.38**	**356**	P		**P**		**00 04 57.0**	**+0.7**
	baz=176								
X50B	**Fort Payne**	**21.42**	**15**	P		**P**		**00 04 57.4**	**+0.7**
	baz=198								
Y53A	**Monroe**	**21.45**	**20**	P		**P**		**00 04 58.5**	**+1.5**
	baz=203								
GDL2	**Guadalupe Moun**	**21.48**	**331**	*e*P		**P**		**00 05 02.1**	**+4.5**
MNTX	**Cornudas Mount**	**21.58**	**328**	*e*P		**P**		**00 04 58.4**	**-0.1**
	22nm,1.4s								
MNTX	**Cornudas Mount**	**21.58**	**328**	P		**P**		**00 04 58.6**	**+0.1**
	baz=143,SNR=12								
WMOK	**Wichita Mounta**	**21.72**	**345**	*e*P		**P**		**00 04 59.5**	**-0.4**
WMOK	**Wichita Mounta**	**21.72**	**345**	P		**P**		**00 04 59.9**	**-0.1**
	baz=162,SNR=7.2								
Y54A	**Tignall**	**21.76**	**22**	P		**P**		**00 05 01.3**	**+0.9**
	baz=206								
W48A	**Pulaski**	**21.79**	**12**	P		**P**		**00 05 01.5**	**+0.9**
	baz=194								
W49A	**Belvidere**	**21.91**	**13**	P		**P**		**00 05 02.2**	**+0.3**
	baz=195,SNR=5.2								
V41A	**Mountainview**	**21.92**	**360**	P		**P**		**00 05 02.4**	**+0.3**
	baz=180								
V42A	**Cord**	**21.95**	**2**	P		**P**		**00 05 02.6**	**+0.3**
	baz=182								
X52A	**Dadonega**	**22.04**	**18**	P		**P**		**00 05 04.7**	**+1.3**
	baz=202								
SWET	**Sewanee**	**22.07**	**14**	*e*P		**P**		**00 05 03.6**	**-0.2**
	36nm,1.4s								
X53A	**Estanollee**	**22.14**	**20**	P		**P**		**00 05 05.8**	**+1.4**
	baz=203								
W50A	**Signal Mountai**	**22.21**	**15**	P		**P**		**00 05 05.1**	**-0.1**
	baz=198								
TUL1	**Leonard**	**22.28**	**352**	P		**P**		**00 05 05.2**	**-0.8**
	baz=171								
MSTX	**Muleshoe**	**22.30**	**336**	*e*P		**P**		**00 05 06.2**	**-0.1**
	18nm,0.8s								
MSTX	**Muleshoe**	**22.30**	**336**	P		**P**		**00 05 06.1**	**-0.2**
	baz=152,SNR=5.8								
W51A	**Cleveland**	**22.31**	**16**	P		**P**		**00 05 06.6**	**+0.3**
	baz=199								
V48A	**Smith Brothers**	**22.39**	**11**	*e*P		**P**		**00 05 06.2**	**-1.0**
	13nm,0.9s								
V48A	**Smith Brothers**	**22.39**	**11**	P		**P**		**00 05 07.2**	**+0.1**
	baz=194,SNR=6.0								
U41A	**Viola**	**22.48**	**0**	P		**P**		**00 05 07.0**	**-1.1**
	baz=181								
U40A	**Yellville**	**22.50**	**359**	P		**P**		**00 05 07.7**	**-0.5**
	baz=178								
U42A	**Revenden**	**22.50**	**2**	P		**P**		**00 05 07.6**	**-0.7**
	baz=182								
V49A	**McMinnville**	**22.61**	**13**	P		**P**		**00 05 08.8**	**-0.6**
	baz=196								
CPCT	**Cooper Cave**	**22.65**	**16**	*e*P		**P**		**00 05 10.3**	**+0.4**
	14nm,1.0s								
V50A	**Pikevile**	**22.71**	**15**	P		**P**		**00 05 11.2**	**+0.7**
	baz=198								
AMTX	**Amarillo**	**22.72**	**339**	*e*P		**P**		**00 05 09.6**	**-1.1**
	44nm,0.9s								
AMTX	**Amarillo**	**22.72**	**339**	P		**P**		**00 05 10.4**	**-0.3**
	baz=155								
V51A	**Loudon**	**23.03**	**16**	*e*P		**P**		**00 05 13.8**	**-0.1**
	65nm,1.5s								
V51A	**Loudon**	**23.03**	**16**	P		**P**		**00 05 13.4**	**-0.4**
	baz=200								
TKL	**Tuckaleechee C**	**23.06**	**18**	P		**P**		**00 05 13.5**	**-0.6**
	7.1nm,0.9s,baz=179,slow=9.7,SNR=7.9								
V52A	**Sevierville**	**23.28**	**18**	*e*P		**P**		**00 05 17.4**	**+1.0**
	32nm,1.4s								
V52A	**Sevierville**	**23.28**	**18**	P		**P**		**00 05 16.8**	**+0.4**
	baz=201								
U49A	**Red Boiling Sp**	**23.35**	**13**	P		**P**		**00 05 16.2**	**-0.9**
	baz=196,SNR=8.7								
V53A	**Saluda**	**23.36**	**19**	*e*P		**P**		**00 05 18.3**	**+1.0**
	18nm,1.1s								
V53A	**Saluda**	**23.36**	**19**	P		**P**		**00 05 16.3**	**-1.0**
	baz=203								
U50A	**Jamestown**	**23.48**	**15**	P		**P**		**00 05 18.1**	**-0.3**
	baz=198,SNR=8.6								
121A	**Cookes Peak, D**	**23.51**	**325**	P		**P**		**00 05 18.1**	**-0.9**
	baz=139,SNR=5.9								
319A	**Douglas**	**23.55**	**321**	*e*P		**P**		**00 05 20.5**	**+1.2**
	12nm,1.0s								
T47A	**Sharon Grove**	**23.55**	**10**	*e*P		**P**		**00 05 17.7**	**-1.4**
	17nm,1.0s								
T47A	**Sharon Grove**	**23.55**	**10**	P		**P**		**00 05 18.8**	**-0.4**
	baz=192								
U51A	**La Follette**	**23.66**	**17**	P		**P**		**00 05 20.5**	**+0.2**
	baz=200,SNR=7.3								
TZTN	**Tazewell**	**23.95**	**17**	*e*P		**P**		**00 05 23.3**	**+0.3**
	74nm,1.8s								
S44A	**Carbondale**	**23.96**	**6**	P		**P**		**00 05 22.3**	**-0.8**
	baz=187								
T49A	**Edmonton**	**23.97**	**13**	*e*P		**P**		**00 05 22.5**	**-0.7**
	8.3nm,0.8s								
SIUC	**Southern Illin**	**23.98**	**6**	*e*P		**P**		**00 05 22.5**	**-0.8**
	22nm,1.0s								
S45A	**Carrier Mills**	**24.02**	**7**	P		**P**		**00 05 22.1**	**-1.4**
	baz=198								
T50A	**Nancy**	**24.05**	**14**	P		**P**		**00 05 23.1**	**-0.9**
	baz=198								
BNM	**Barren Site**	**24.17**	**330**	*e*P		**P**		**00 05 26.6**	**+1.3**
CCM	**Cathedral Cave**	**24.20**	**2**	P		**P**		**00 05 24.4**	**-0.9**
	baz=182								
T51A	**Gray**	**24.23**	**16**	P		**P**		**00 05 25.4**	**-0.2**
	baz=200								
LPM	**Los Pinos Moun**	**24.30**	**330**	*e*P		**P**		**00 05 29.4**	**+3.0**
LENM	**Lemitar**	**24.35**	**329**	*e*P		**P**		**00 05 29.3**	**+2.3**
R41A	**Rosebud**	**24.43**	**1**	P		**P**		**00 05 26.6**	**-0.9**
	baz=182								
LAZ	**Ladron**	**24.62**	**329**	*e*P		**P**		**00 05 32.4**	**+3.0**
T52A	**Hallie**	**24.64**	**18**	P		**P**		**00 05 28.5**	**-0.8**
	baz=202								
S49A	**Springfield**	**24.68**	**13**	P		**P**		**00 05 28.3**	**-1.4**
	baz=196								
ANMO	**Albuquerque**	**24.73**	**331**	P		**P**		**00 05 31.3**	**+0.9**
	2.5nm,0.8s,baz=144,slow=13,SNR=7.1								
ANMO	**Albuquerque**	**24.73**	**331**	*e*P		**P**		**00 05 31.2**	**+0.9**
	22nm,1.8s								
ANMO	**Albuquerque**	**24.73**	**331**	P		**P**		**00 05 31.1**	**+0.7**
	baz=145								
S50A	**Richmond**	**24.79**	**15**	P		**P**		**00 05 30.6**	**0.0**
	baz=198								
WCI	**Wyandotte Cave**	**24.90**	**11**	*e*P		**P**		**00 05 30.7**	**-1.0**
	24nm,0.8s								
WCI	**Wyandotte Cave**	**24.90**	**11**	P		**P**		**00 05 30.7**	**-1.0**
	baz=194								
R47A	**Wooly Knot Far**	**24.93**	**11**	P		**P**		**00 05 31.4**	**-0.5**
	baz=193								
S51A	**Beattyville**	**24.96**	**16**	*e*P		**P**		**00 05 31.4**	**-0.8**
	51nm,1.5s								
S51A	**Beattyville**	**24.96**	**16**	P		**P**		**00 05 31.9**	**-0.3**
	baz=200								
Q41A	**Truxton**	**25.09**	**2**	P		**P**		**00 05 33.7**	**+0.3**
	baz=182								
TUC	**Tucson**	**25.12**	**320**	P		**P**		**00 05 33.6**	**-0.2**
	baz=133								
R48A	**Northridge Ran**	**25.15**	**12**	P		**P**		**00 05 33.9**	**0.0**
	baz=194								
R49A	**Shelbyville**	**25.19**	**13**	P		**P**		**00 05 34.1**	**-0.1**
	baz=196								
Q45A	**Warren Harvey,**	**25.27**	**7**	P		**P**		**00 05 34.9**	**-0.1**
	baz=189								
SJG	**San Juan**	**25.35**	**77**	LR		LR		00 14 52.9	
	comp=Z,569nm,21.4s,baz=325,slow=35								
T25A	**Trinidad**	**25.72**	**337**	*e*P		**P**		**00 05 40.9**	**+1.5**
	11nm,0.8s								
T25A	**Trinidad**	**25.72**	**337**	P		**P**		**00 05 40.0**	**+0.7**
	baz=152,SNR=8.3								
Q51A	**Peebles**	**26.33**	**16**	*e*P		**P**		**00 05 43.5**	**-1.1**
	10nm,0.8s								
SDCO	**Great Sand Dun**	**26.67**	**336**	*e*P		**P**		**00 05 49.2**	**+1.1**
	10nm,1.3s								
SDCO	**Great Sand Dun**	**26.67**	**336**	P		**P**		**00 05 48.5**	**+0.5**
	baz=150,SNR=5.6								
S22A	**4UR Ranch, Cre**	**27.22**	**334**	*e*P		**P**		**00 05 54.3**	**+1.3**
	8.3nm,1.0s								
S22A	**4UR Ranch, Cre**	**27.22**	**334**	P		**P**		**00 05 54.3**	**+1.3**
	baz=148								
MVCO	**Mesa Verde**	**27.53**	**331**	*e*P		**P**		**00 05 57.0**	**+1.2**
	17nm,1.0s								
MVCO	**Mesa Verde**	**27.53**	**331**	P		**P**		**00 05 56.5**	**+0.7**
	baz=144,SNR=8.9								
WUAZ	**Wupatki**	**27.72**	**325**	*e*P		**P**		**00 05 59.0**	**+1.6**
	8.7nm,1.3s								
PV13	**Radium Mtn., P**	**28.44**	**332**	*e*P		**P**		**00 06 05.4**	**+1.5**
	17nm,1.1s								
PV02	**Paradox Valley**	**28.44**	**332**	*e*P		P		00 06 09.7	+5.8
	43nm,1.8s								
PV03	**Paradox Valley**	**28.53**	**332**	*e*P		**P**		**00 06 06.0**	**+1.4**
PV18	**Skein Mesa, Pa**	**28.55**	**332**	*e*P		**P**		**00 06 06.4**	**+1.5**
	12nm,0.9s								
PV12	**Saucer Basin,**	**28.56**	**332**	*e*P		**P**		**00 06 06.6**	**+1.7**
	16nm,0.9s								
PV11	**David Mesa, Pa**	**28.58**	**332**	*e*P		**P**		**00 06 06.6**	**+1.6**
	13nm,1.0s								
PV17	**East Wray Mesa**	**28.61**	**332**	*e*P		**P**		**00 06 06.7**	**+1.4**
	14nm,1.0s								
PV16	**Nyswonger Mesa**	**28.61**	**332**	*e*P		**P**		**00 06 07.2**	**+1.9**
	20nm,1.3s								
PV14	**Lion Creek, Pa**	**28.71**	**332**	*e*P		**P**		**00 06 07.5**	**+1.3**
	23nm,1.2s								
**P

0.3nm,0.5s,baz=289,slow=4.5,SNR=4.7
ARCES ARCESS Array B 86.39 18 P **P** **00 12 52.2 +1.4**
1.6nm,0.6s,baz=310,slow=4.2,SNR=4.7
TORD Torodi Ar. Bea 90.57 76 P **P** **00 13 09.7 -2.1**
0.3nm,0.6s,baz=278,slow=5.7,SNR=6.0
KSH Kashi 125.84 11 *e*PKP PKPdf 00 19 18.5 +7.2
LZH Lanzhou 128.16 344 *e*PKP **PKPdf** **00 19 16.7 +0.9**
LZH pPKP sPKPdf 00 19 23.4 +3.0
LZH sPKP 00 19 25.5
XAN Xi'an 128.39 338 PKP **PKPdf** **00 19 15.5 -0.7**
ASAR Alice Springs 135.46 250 PKP **PKPdf** **00 19 30.6 +0.9**
0.5nm,0.8s,baz=100,slow=5.1,SNR=3.6
CMAR Chiang Mai Arr 146.16 341 PKPbc **PKPab** **00 19 49.5 -1.0**
5.4nm,0.7s,baz=332,slow=4.0,SNR=18

IDC 12 00:01:06.8±3.6, 6°42S×150°62E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/27, mbtmp3.5/3, Error ellipse: s-maj=125.4km s-min=47.5km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.75**	**228**	P		Pn	00 05 51.1	-0.6
	0.6nm,0.5s,baz=55,slow=10,SNR=5.0							
ASAR	**Alice Springs**	**23.50**	**221**	P		P	00 06 18.2	-0.3
	0.2nm,0.4s,baz=50,slow=8.4,SNR=5.3							
FITZ	**Fitzroy Crossi**	**26.98**	**242**	P		P	00 06 49.4	-1.1
	1.1nm,0.8s,baz=59,slow=7.8,SNR=4.5							
TORD	**Torodi Ar. Bea**	**148.68**	**285**	PKPbc		PKPbc	00 20 56.8	-0.3
	baz=83,slow=3.3							

*RSNC **12** 00:06:12.1±1.1, 4°.58N×76°.79W, h4km±5km, ML3.5, Mw4.1*
*IDC **12** 00:06:18.5±2.7, 4°.68N×76°.52W, h88km±24km, mb3.6/12, mb1 3.9/16, mb1mx3.7/34, mbtmp4.0/16, MS3.4/1, Ms1 3.4/1, ms1mx3.1/27, Error ellipse: s-maj=21.6km s-min=14.2km az=64.0*
ISC 12 00:06:09.2±1.2, 4°.50N±0°.03×76°.85W±0°.04, h14km±8km, n55, σ1§58/69, mb3.9/12, 5C-3D, Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MALC	**Bahia Malaga**	**0.68**	**225**	⇓*iP*		**Pn**	**00 06 28.1**	**+3.6**
MALC				*i*			00 06 45.1	
	comp=Z,3μm,0.3s							
PLMC	**San Jos⁺⁺ del**	**0.69**	**55**	⇑*iP*		**Pg**	**00 06 23.3**	**+0.5**
PLMC				*e*S		**Sg**	**00 06 31.5**	**-0.5**
YOTC	**Yotoco, Valle**	**0.72**	**136**	⇑*iP*		**Pn**	**00 06 25.9**	**+0.7**
YOTC				*e*S		**Sn**	**00 06 35.7**	**-0.4**
YOTC				*i*			00 06 41.1	
	comp=Z,2μm,0.4s							
HORQ	**Saladito**	**1.04**	**167**	⇓*e*P		**Pn**	**00 06 31.3**	**+1.7**
HORQ				*e*S		**Sn**	**00 06 45.6**	**+1.5**
HORQ				*i*			00 06 50.2	
	comp=Z,803nm,0.4s							
ANIL	**Santa Ana**	**1.45**	**90**	⇑*iP*		**Pn**	**00 06 35.9**	**+0.7**
TOLC	**Tolima**	**1.53**	**87**	⇓*e*P		**Pn**	**00 06 37.3**	**+0.9**
RREF	**El Recreo**	**1.55**	**75**	*e*P		**Pn**	**00 06 37.6**	**+0.6**
GUYC	**Guyana, Colomb**	**1.62**	**64**	*e*P		**Pn**	**00 06 39.1**	**+1.2**
GUYC				*e*S		**Sn**	**00 06 59.2**	**+0.4**
GUYC				*i*			00 07 08.4	
	comp=Z,1μm,0.4s							
MARP	**Paez Belalcaza**	**1.88**	**151**	*e*P		**Pg**	**00 06 44.5**	**-0.8**
MARP				*e*S		**Sg**	**00 07 08.5**	**-1.2**
POPC	**Popayan, Colom**	**1.96**	**175**	*e*P		**Pb**	**00 06 45.0**	**+0.2**
POPC				*i*			00 07 19.5	
	comp=Z,278nm,0.4s							
GRGC	**Isla de Gorgon**	**1.98**	**221**	*i* Pg		**Pg**	**00 06 47.7**	**+0.3**
GRGC				*i*			00 06 57.0	
	comp=Z,94nm,0.5s							
PRAC	**Prado**	**2.11**	**112**	*e*P		**Pb**	**00 06 47.3**	**0.0**
PRAC				*i* Pg		Pg	00 06 48.0	-1.9
PRAC				*e*S		**Sb**	**00 07 13.4**	**0.0**
PRAC				*i*			00 07 21.4	
	comp=Z,452nm,0.4s							
HELC	**Santa Helena**	**2.13**	**38**	⇑*iP*		**Pn**	**00 06 45.4**	**+0.7**
HELC				*i* Pg		Pg	00 06 47.2	-3.0
HELC				*e*S		**Sn**	**00 07 09.3**	**-1.9**
HELC				*i*			00 07 14.6	
	comp=Z,296nm,0.7s							
PCON	**Cinco Dias**	**2.21**	**168**	*e*P		**Pb**	**00 06 49.7**	**+0.5**
PCON				*e*S		**Sg**	**00 07 20.0**	**-0.4**
PCON				*i*			00 07 34.0	
	comp=Z,371nm,0.6s							
NORC	**Norcasia**	**2.24**	**62**	*e*P		**Pn**	**00 06 48.1**	**+2.2**
NORC				*i*			00 07 16.1	
	comp=Z,245nm,0.4s							
BETC	**Betania**	**2.29**	**142**	*e*P		**Pb**	**00 06 51.4**	**+0.9**
SOTA	**Rioblanco**	**2.37**	**174**	*e*P		**Pb**	**00 06 52.7**	**+0.8**
SOTA				*i*			00 07 41.5	
	comp=Z,336nm,0.6s							
ROSC	**El Rosal**	**2.55**	**82**	P		**Pb**	**00 06 54.8**	**-0.1**
	comp=Z,152nm,0.3s,baz=325,slow=3.9,SNR=198							
ROSC				LR		LR	00 08 05.1	
	comp=Z,794nm,20.1s,baz=248,slow=48							
ROSC	**El Rosal**	**2.55**	**82**	⇑*iP*		**Pb**	**00 06 54.8**	**-0.1**
DBBC	**Dabeiba**	**2.58**	**14**	*e*P		**Pn**	**00 06 51.2**	**+0.6**
CRUC	**La Cruz**	**2.92**	**182**	*e*P		**Pb**	**00 07 00.5**	**-0.8**
CHIC	**Chingaza**	**3.12**	**88**	*i* Pg		**Pb**	**00 07 05.2**	**+0.5**
CHIC				*i*			00 07 16.9	
	comp=Z,274nm,0.5s							
PTBC	**PUERTO BERRIO,**	**3.13**	**50**	*e*P		**Pn**	**00 07 00.0**	**+1.9**
PTBC				*e*S		**Sn**	**00 07 35.1**	**-0.2**
PTBC				*i*			00 07 38.7	
	comp=Z,92nm,0.6s							
FLOC	**Florencia**	**3.14**	**158**	*e*P		**Pb**	**00 07 02.9**	**-2.0**
GCUF	**Volcan Galeras**	**3.29**	**189**	*e*P		**Pb**	**00 07 05.9**	**-1.8**
GCUF				*i* Pg		Pg	00 07 10.5	-1.9
GCUF				*i*			00 08 02.3	
	comp=Z,57nm,0.6s							
ZARC	**Zaragoza, Cauc**	**3.57**	**34**	*e*P		**Pn**	**00 07 06.5**	**+2.3**
ZARC				*e*S		**Sn**	**00 07 46.4**	**+0.1**
ZARC				*i*			00 07 50.4	
	comp=Z,137nm,0.6s							
CMBC	**Cumbal**	**3.67**	**195**	*e*P		**Pb**	**00 07 11.4**	**-2.8**
RUSC	**La Rusia**	**4.00**	**70**	*e*P		**Pn**	**00 07 13.8**	**+3.3**
BRRC	**Barranca, Sant**	**4.06**	**50**	*e*P		**Pn**	**00 07 12.6**	**+1.7**
BRRC				*e*S		**Sn**	**00 07 57.7**	**-0.5**
BARC	**Barichara**	**4.20**	**60**	*e*P		**Pn**	**00 07 15.5**	**+2.4**
BARC				*i*			00 08 15.6	
	comp=Z,155nm,0.6s							
MOTC	**Monteria, Cord**	**4.41**	**15**	*e*P		**Pn**	**00 07 16.7**	**+1.0**
GIRC	**Giron, Santand**	**4.45**	**55**	*e*P		**Pn**	**00 07 18.6**	**+2.2**
GUVC	**San Jose del G**	**4.65**	**115**	*e*P		**Pn**	**00 07 21.7**	**+2.7**
PAMC	**Pamplona, Colo**	**5.00**	**56**	*e*P		**Pn**	**00 07 26.8**	**+2.5**
PAMC				*i*			00 08 29.0	
	comp=Z,49nm,0.5s							
SMLC	**San Mart`n de**	**5.08**	**33**	*e*P		**Pn**	**00 07 26.6**	**+1.6**
OCAC	**Ocana**	**5.11**	**43**	*e*P		**Pn**	**00 07 27.7**	**+2.2**
OCAC				*e*S		**Sn**	**00 08 25.0**	**+0.6**
TAMC	**Tame, Arauca**	**5.39**	**69**	*e*P		**Pn**	**00 07 32.4**	**+3.1**
SDV	**Santo Domingo**	**7.58**	**55**	P		**Pn**	**00 08 00.5**	**+1.3**
	comp=Z,8.7nm,0.3s,baz=228,slow=13,SNR=4.9							
SDV				S		**Sn**	**00 09 22.0**	**-2.9**
	comp=Z,0.9nm,0.3s,baz=270,slow=20,SNR=2.9							
URIC	**Uribia, Colomb**	**8.62**	**34**	*e*P		**Pn**	**00 08 13.9**	**+0.3**
PCRV	**Puerto La Cruz**	**13.36**	**64**	P		**Pn**	**00 09 18.8**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=270,slow=6.1,SNR=4.1							
PTGA	**Pitinga**	**17.66**	**107**	P		**Pn**	**00 10 15.1**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=325,slow=19,SNR=3.2							
LPAZ	**La Paz**	**22.39**	**158**	P		**P**	**00 11 11.5**	**+3.5**
	comp=Z,0.9nm,0.5s,baz=335,slow=8.2,SNR=6.2							
MDP	**Montagnes des**	**24.13**	**88**	P		**P**	**00 11 22.7**	**-2.4**
	comp=Z,6.7nm,0.8s,baz=252,slow=6.4,SNR=3.8							
SIV	**San Ignacio**	**25.66**	**143**	P		**P**	**00 11 39.1**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=335,slow=11,SNR=6.2							
PLCA	**Paso Flores**	**45.39**	**173**	P		**P**	**00 14 28.7**	**+1.3**
	comp=Z,1.4nm,0.8s,baz=350,slow=11,SNR=2.8							
PDAR	**Pinedale Array**	**47.89**	**328**	P		**P**	**00 14 47.7**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=102,slow=7.5,SNR=2.9							
ULM	**Lac du Bonnet**	**48.33**	**344**	P		**P**	**00 14 49.6**	**-0.6**
	comp=Z,3.5nm,0.7s,baz=162,slow=8.2,SNR=4.8							
NVAR	**Mina Array Bea**	**50.57**	**318**	P		**P**	**00 15 09.6**	**+1.8**
	comp=Z,1.2nm,0.8s,baz=132,slow=7.1,SNR=9.4							
NVAR				PcP		**PcP**	**00 16 27.1**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=125,slow=5.3,SNR=4.1							
YKA	**Yellowknife Ar**	**64.21**	**342**	P		**P**	**00 16 43.0**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=135,slow=5.9,SNR=9.4							
DBIC	**Dimbokro**	**71.64**	**84**	P		**P**	**00 17 28.8**	**-2.2**
	comp=Z,2.2nm,0.7s,baz=264,slow=12,SNR=3.6							
ILAR	**Eielson Array**	**77.50**	**336**	P		**P**	**00 18 03.8**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=116,slow=4.5,SNR=14							
TORD	**Torodi Ar. Bea**	**77.85**	**78**	P		**P**	**00 18 05.0**	**-2.1**
	comp=Z,0.7nm,0.7s,baz=287,slow=6.7,SNR=9.2							
GERES	**GERESS Array B**	**87.01**	**41**	P		**P**	**00 18 54.5**	**+0.1**
	comp=Z,0.8nm,1.0s,baz=297,slow=6.4,SNR=3.9							
ASAR	**Alice Springs**	**144.75**	**234**	PKPbc		**PKPab**	**00 25 45.6**	**+0.2**
	comp=Z,2.2nm,0.6s,baz=114,slow=3.9,SNR=15							
WRA	**Warramunga Arr**	**145.97**	**241**	PKPbc		**PKPdf**	**00 25 48.8**	**0.0**
	comp=Z,3.5nm,1.0s,baz=108,slow=2.5,SNR=11							

*MEX **12** 00:10:08.8±0.3, 14°.09N×92°.23W, h30km±11km, MD3.8*
*IDC **12** 00:10:09.3±3.2, 14°.61N×92°.39W, h0km, mb3.3/1, mb1 3.9/3, mb1mx3.5/35, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=66.3km s-min=15.5km az=6.0*
ISC 12 00:10:09.8±1.5, 14°.59N±0°.09×92°.29W±0°.07, h10km, n9, σ1§79/13, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
THIG		**0.32**	**5**	*e*P		**Pn**	**00 10 21.8**	**+1.2**
THIG				*e*S		Sb	00 10 32.0	+9.0
PCIG		**1.43**	**321**	*i* P		**Pg**	**00 10 37.4**	**+0.1**
PCIG				*e*S		**Sg**	**00 10 58.7**	**+2.9**
CCIG	**Comitan**	**1.69**	**5**	*i* P		**Pg**	**00 10 41.6**	**-0.8**
CCIG				*e*S		**Sg**	**00 11 06.6**	**+2.2**
APG	**El Apazote**	**1.82**	**77**	Pn		**Pn**	**00 10 41.1**	**-0.3**
	13nm,0.3s,baz=210,slow=15,SNR=9.7							
APG				Lg		Lg	00 11 10.9	
	39nm,0.3s,baz=126,slow=16,SNR=6.5							
TGIG		**2.32**	**340**	*e*P		**Pb**	**00 10 50.5**	**-1.4**
TGIG				*i* S		**Sg**	**00 11 21.6**	**-3.0**
CMIG	**Matias Romero**	**3.53**	**315**	Pn		**Pn**	**00 11 03.7**	**-1.0**
	1.3nm,0.3s,baz=160,slow=15,SNR=1.7							
CMIG				Sn		**Sn**	**00 11 46.9**	**+0.3**
	4.0nm,0.3s,baz=108,slow=17,SNR=1.9							
TXAR	**Lajitas Array**	**18.05**	**326**	P		**P**	**00 14 22.2**	**+0.7**
	0.0nm,0.3s,baz=150,slow=12,SNR=7.2							
ILAR	**Eielson Array**	**62.19**	**337**	P		**P**	**00 20 30.6**	**-0.7**
	0.3nm,0.8s,baz=106,slow=6.0,SNR=2.6							
CMAR	**Chiang Mai Arr**	**145.35**	**341**	PKPbc		**PKPdf**	**00 29 51.0**	**+2.0**
	0.9nm,0.4s,baz=1.7,slow=3.0,SNR=2.2							

JMA 12 00:24:50.9±0.1, 37°.74N×141°.88E, h24km±2km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.66**	**330**	S		Sb	00 25 12.0	-0.5
JIO	**Ouri**	**0.83**	**330**	P		Pb	00 25 06.2	-0.4
JIO				S		Sb	00 25 16.9	-0.4
JMM	**Marumori**	**0.87**	**279**	P		Pb	00 25 06.8	-0.5
JMM				*e*S		Sb	00 25 18.1	-0.5
JFK	**Kawauchi**	**0.88**	**245**	P		Pb	00 25 07.0	-0.6
JFK				S		Sb	00 25 18.7	-0.2
ONAJ	**Iwakimizuishiy**	**1.07**	**234**	P		Pn	00 25 09.8	-0.7
ONAJ				S		Sb	00 25 24.1	-0.3
JKMT	**Kesennumamotoy**	**1.12**	**343**	P		Pn	00 25 10.6	-0.4
JKMT				*e*S		Sb	00 25 24.6	-1.0
JOU	**Okura**	**1.15**	**303**	P		Pb	00 25 11.8	-0.2
JOU				S		Sb	00 25 26.6	+0.1
JFT	**Otama**	**1.25**	**260**	P		Pb	00 25 13.4	-0.3
JFT				*e*S		Sb	00 25 29.5	+0.2
JMK	**Ichinoseki**	**1.32**	**337**	P		Pn	00 25 14.0	+0.2
JMK				*e*S		Sn	00 25 30.6	0.0
JYS	**Shirataka**	**1.51**	**289**	P		Pb	00 25 17.9	-0.4
JYS				S		Sb	00 25 37.4	+0.4
JYK	**Kaneyama**	**1.68**	**315**	P		Pn	00 25 19.4	+0.6
JYK				*e*S		Sb	00 25 41.3	-0.5
JFY	**Yanaizu**	**1.76**	**260**	P		Pb	00 25 21.3	-1.2
JFY				*e*S		Sb	00 25 43.9	-0.3
JOM	**Ohasama**	**1.79**	**345**	P		Pn	00 25 20.8	+0.5
JOM				*e*S		Sn	00 25 43.2	+0.9
MAT	**Matsushiro**	**3.17**	**249**	P		Pn	00 25 41.9	+2.6
MAT				*e*S		Sb	00 26 23.5	-1.2

*IDC **12** 00:27:20.8±2.4, 22°.06S×177°.64W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/36, mbtmp4.1/4, Error ellipse: s-maj=65.5km s-min=37.0km az=30.0*
*NEIC **12** 00:27:22.1±0.3, 22°.08S×177°.65W, h10km, mb4.2/12, Error ellipse: s-maj=9.4km s-min=8.0km az=132.0*
*ISCJB **12** 00:27:23.9±0.5, 22°.12S±0°.09×177°.65W±0°.09, h33km, mb4.4/17, Error ellipse: s-maj=13.6km s-min=11.3km az=166.4*
ISC 12 00:27:25.6±0.5, 22°.04S±0°.09×177°.63W±0°.10, h35km, n23, σ1§04/23, mb4.2/17, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.82**	**36**	Pn		**Pn**	**00 29 43.4**	**-1.1**
FUNA	**Funafuti**	**13.78**	**347**	Pn		**Pn**	**00 30 36.9**	**-1.8**
	49nm,0.6s							
RAR	**Rarotonga**	**16.63**	**90**	Pn		**Pn**	**00 31 16.1**	**0.0**
	3.9nm,0.8s							
SNZO	**South Karori**	**20.27**	**197**	P		**P**	**00 31 56.2**	**-1.9**
	223nm,1.1s							
HNR	**Honiara**	**24.91**	**297**	*e*P		**P**	**00 32 46.2**	**+0.6**
	14nm,0.5s							
CTAO	**Charters Tower**	**33.71**	**267**	P		**P**	**00 34 04.8**	**+1.0**
	81nm,1.5s							
STKA	**Stephens Creek**	**37.45**	**246**	P		**P**	**00 34 35.6**	**-0.2**
	3.0nm,0.8s,baz=101,slow=12,SNR=3.1							
ASAR	**Alice Springs**	**44.52**	**258**	P		**P**	**00 35 34.1**	**-0.1**
	3.0nm,0.8s,baz=98,slow=7.7,SNR=26							
WRAB	**Tennant Creek**	**44.74**	**264**	*e*P		**P**	**00 35 35.5**	**-0.5**
	1.1nm,0.5s							
WRA	**Warramunga Arr**	**44.75**	**263**	P		**P**	**00 35 36.4**	**+0.3**
	2.5nm,0.7s,baz=95,slow=8.3,SNR=27							
SBA	**Scott Base**	**56.36**	**184**	P		**P**	**00 37 02.9**	**+0.1**
	0.3nm,0.3s							
VNDA	**Vanda**	**56.41**	**185**	P		**P**	**00 37 04.5**	**+1.3**
	0.4nm,0.5s,baz=23,slow=6.1,SNR=5.0							
MBWA	**Marble Bar**	**57.86**	**258**	P		**P**	**00 37 12.6**	**-1.7**
	5.7nm,0.5s							
QSPA	**South Pole Qui**	**68.03**	**180**	P		**P**	**00 38 21.5**	**+0.1**
	1.0nm,0.3s							
MAJO	**Matsushiro**	**71.65**	**324**	P		**P**	**00 38 44.9**	**+1.1**
	0.4nm,0.3s							
PMSA	**Palmer Station**	**79.74**	**156**	P		**P**	**00 39 29.2**	**-0.5**
	53nm,0.7s							
CMB	**Columbia Colle**	**80.36**	**42**	P		**P**	**00 39 34.0**	**+0.6**
	1.2nm,0.3s							
COCO	**West Island**	**81.44**	**260**	P		**P**	**00 39 39.5**	**-0.1**
	95nm,0.9s							
SDCO	**Great Sand Dun**	**90.10**	**49**	P		**P**	**00 40 23.3**	**+0.8**
	0.2nm,0.4s							
CHTO	**Chiang Mai**	**91.09**	**290**	P		**P**	**00 40 27.9**	**+0.8**
	0.4nm,0.5s							
INK	**Inuvik**	**95.67**	**15**	P		**P**	**00 40 48.4**	**+1.4**
	0.6nm,0.9s							
BRTR	**Keskin Array B**	**148.12**	**311**	PKPbc		**PKPbc**	**00 47 08.9**	**+0.9**
	0.5nm,0.8s,baz=110,slow=3.4,SNR=2.2							
TORD	**Torodi Ar. Bea**	**171.13**	**176**	PKPab		**PKPab**	**00 48 48.9**	**-1.4**
	0.2nm,0.5s,baz=180,slow=3.5,SNR=4.2							

*ISCJB **12** 00:32:33.3±0.7, 39°.65N±0°.03×142°.20E±0°.08, h54km±4km, mb3.8/13, Error ellipse: s-maj=10.9km s-min=5.3km az=11.0*
*JMA **12** 00:32:34.8, 39°.63N×142°.11E, h48km±1km, M3.9*
JMA Felt I J1.
*IDC **12** 00:32:35.4±2.3, 39°.64N×142°.23E, h61km±19km, mb3.5/13, mb1 3.8/17, mb1mx3.6/40, mbtmp3.8/17, Error ellipse: s-maj=21.1km s-min=12.8km az=111.0*
ISC 12 00:32:34.3±1.1, 39°.65N±0°.04×142°.22E±0°.08, h46km±8km, n36, σ1§74/42, mb3.9/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.32**	**257**	P		**Pn**	**00 32 43.2**	**0.0**
MIYJ				S		**Sn**	**00 32 48.8**	**-0.7**
JTH	**Tanohata**	**0.40**	**317**	P		**Pn**	**00 32 44.3**	**+0.2**
JTH				S		**Sn**	**00 32 50.9**	**-0.1**
OFUJ	**Ofunato**	**0.71**	**217**	P		**Pn**	**00 32 47.6**	**-0.4**
OFUJ				S		**Sn**	**00 32 56.7**	**-1.2**
JOM	**Ohasama**	**0.74**	**256**	P		**Pn**	**00 32 48.0**	**-0.3**
JOM				S		**Sn**	**00 32 57.5**	**-1.0**
JKZ	**Kuzumaki**	**0.76**	**296**	P		**Pn**	**00 32 48.6**	**-0.1**
JKZ				S		**Sn**	**00 32 58.2**	**-1.0**
JKMT	**Kesennumamotoy**	**1.02**	**215**	P		**Pn**	**00 32 51.8**	**-0.3**
JKMT				S		**Sn**	**00 33 03.9**	**-1.4**
JMK	**Ichinoseki**	**1.04**	**228**	P		**Pn**	**00 32 52.0**	**-0.4**
JMK				*e*S		**Sn**	**00 33 05.1**	**-0.7**
JRG	**Rokugo**	**1.25**	**259**	P		**Pn**	**00 32 54.8**	**-0.5**
JRG				S		**Sn**	**00 33 09.4**	**-1.6**
JAH	**Hinai**	**1.33**	**294**	P		**Pn**	**00 32 56.4**	**0.0**
JIO	**Ouri**	**1.37**	**210**	P		**Pn**	**00 32 56.9**	**-0.1**
JTM	**Tenmabayashi**	**1.44**	**323**	P		**Pn**	**00 32 58.0**	**+0.1**
JTM				S		**Sn**	**00 33 15.4**	**-0.1**
MAT	**Matsushiro**	**4.43**	**227**	P		**Pn**	**00 33 41.6**	**+2.6**
MAT				*e*S		**Sn**	**00 34 37.3**	**+8.0**
MJAR	**Matsushiro Arr**	**4.43**	**227**	P		**Pn**	**00 33 41.1**	**+2.2**
	3.4nm,0.3s,baz=33,slow=13,SNR=36							
ASAJ	**Asahikawa**	**4.47**	**4**	P		**Pn**	**00 33 40.7**	**+1.2**
	1.3nm,0.3s,baz=214,slow=15,SNR=3.1							
ASAJ				S		**Sn**	**00 34 30.5**	**+0.3**
	1.3nm,0.3s,baz=94,slow=13,SNR=3.0							
USRK	**Ussuriysk Ar.**	**8.88**	**304**	P		**Pn**	**00 34 42.2**	**+2.4**
	0.5nm,0.3s,baz=107,slow=16,SNR=6.5							
KSRS	**Korea Array**	**11.41**	**263**	P		**Pn**	**00 35 17.8**	**+3.3**
	0.8nm,0.3s,baz=70,slow=14,SNR=7.2							
SONM	**Songino Array**	**26.95**	**300**	P		**P**	**00 38 10.2**	**-1.1**
	0.5nm,0.6s,baz=106,slow=11,SNR=4.9							
H11N2	**WAKE ISLAND Hy**	**29.06**	**126**	T		T	01 09 03.6	
	baz=318,slow=75,SNR=144							
H11N1	**WAKE ISLAND Hy**	**29.07**	**126**	T		T	01 09 03.0	
	baz=318,slow=75,SNR=128							
H11N3	**WAKE ISLAND Hy**	**29.07**	**126**	T		T	01 09 08.2	
	baz=318,slow=75,SNR=172							
H11S1	**WAKE ISLAND Hy**	**29.86**	**128**	T		T	01 10 15.2	
	baz=319,slow=76,SNR=32							
H11S3	**WAKE ISLAND Hy**	**29.86**	**128**	T		T	01 10 06.7	
	baz=319,slow=76,SNR=33							
H11S2	**WAKE ISLAND Hy**	**29.87**	**128**	T		T	01 10 09.5	
	baz=319,slow=76,SNR=26							
ZALV	**Zalesovo Beam**	**40.67**	**310**	P		**P**	**00 40 08.9**	**-0.9**
	2.2nm,0.4s,baz=95,slow=8.4,SNR=12							
ZALV				PcP		**PcP**	**00 42 10.5**	**-0.2**
	0.7nm,0.4s,baz=91,slow=4.3,SNR=3.6							
CMAR	**Chiang Mai Arr**	**42.81**	**253**	P		**P**	**00 40 27.1**	**-0.7**
	1.7nm,0.7s,baz=61,slow=9.4,SNR=8.6							
MKAR	**Makanchi Array**	**43.31**	**300**	P		**P**	**00 40 30.9**	**-0.6**
	1.3nm,0.6s,baz=84,slow=10,SNR=17							
ILAR	**Eielson Array**	**46.96**	**34**	P		**P**	**00 40 59.8**	**-0.4**
	0.4nm,0.7s,baz=270,slow=3.6,SNR=6.9							
INK	**Inuvik**	**51.78**	**28**	P		**P**	**00 41 36.1**	**-0.7**
	0.6nm,0.6s,baz=300,slow=5.0,SNR=3.7							
WRA	**Warramunga Arr**	**59.74**	**189**	P		**P**	**00 42 33.0**	**-1.4**
	0.7nm,0.8s,baz=7.4,slow=7.0,SNR=6.7							
ASAR	**Alice Springs**	**63.46**	**189**	P		**P**	**00 42 58.0**	**-1.5**
	0.3nm,0.5s,baz=12,slow=14,SNR=3.6							
FINES	**FINESS Array B**	**66.80**	**332**	P		**P**	**00 43 19.9**	**-0.7**
	1.6nm,0.7s,baz=43,slow=8.6,SNR=6.7							
KBZ	**Khabaz**	**69.69**	**310**	P		**P**	**00 43 39.6**	**+0.6**
	1.8nm,0.9s,baz=18,slow=3.2,SNR=2.8							
NB2	**NORSAR Subarra**	**72.02**	**337**	P		**P**	**00 43 52.2**	**-0.8**
	comp=Z,2.6nm,0.8s,baz=32,slow=6.5							
NOA	**NORSAR Array B**	**72.02**	**337**	P		**P**	**00 43 52.7**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=47,slow=5.5,SNR=3.3							
PDAR	**Pinedale Array**	**75.39**	**46**	P		**P**	**00 44 14.7**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=321,slow=1.3,SNR=2.7							
GERES	**GERESS Array B**	**80.82**	**328**	P		**P**	**00 44 43.3**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=22,slow=5.5,SNR=3.6							

*IDC **12** 00:44:04.8±3.2, 13°.55N×92°.29W, h0km, mb3.6/3, mb1 3.9/6, mb1mx3.6/40, mbtmp3.5/6, ML3.3/3, Error ellipse: s-maj=65.6km s-min=34.7km az=5.0*
*MEX **12** 00:44:12.1±0.4, 13°.88N×92°.27W, h16km±95km, MD3.9*
ISC 12 00:44:12.7±1.5, 14°.01N±0°.1×92°.26W±0°.09, h35km, n11, σ0§88/16, mb3.6/3, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
THIG		**0.92**	**360**	*e*P		**Pn**	**00 44 27.9**	**-1.2**
THIG				*e*S		**Sn**	**00 44 40.7**	**-0.4**
**PCI

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.92**	**13**	*eP*	**Pg**	**00 58 32.7**	**+0.6**
THIG				*eS*	**Sg**	**00 58 44.5**	**+0.3**
PCIG		**1.83**	**337**	*eP*	**Pn**	**00 58 44.8**	**-1.2**
PCIG				*i* S	**Sn**	**00 59 07.3**	**-2.1**
APG	**El Apazote**	**2.18**	**63**	Pn	**Pn**	**00 58 51.0**	**0.0**
	9.2nm,0.3s,baz=221,slow=19,SNR=9.7						
APG				Lg	Lg	00 59 22.4	
	37nm,0.3s,baz=68,slow=17,SNR=4.5						
CCIG	**Comitan**	**2.29**	**8**	*i* P	**Pn**	**00 58 52.8**	**+0.4**
CCIG				*i* S	**Sn**	**00 59 20.3**	**-0.4**
TGIG		**2.83**	**347**	*eP*	**Pn**	**00 58 59.6**	**-0.1**
TGIG				*i* S	**Sn**	**00 59 33.2**	**-0.7**
CMIG	**Matias Romero**	**3.85**	**323**	Pn	**Pn**	**00 59 13.8**	**+0.1**
	4.7nm,0.3s,baz=189,slow=19,SNR=1.1						
CMIG				Sn	**Sn**	**01 00 01.5**	**+2.5**
	11nm,0.3s,baz=49,slow=16,SNR=2.2						
JTS	**JuntasAbangare**	**8.23**	**116**	Lg	Lg	01 02 21.9	
	0.2nm,0.3s,baz=165,slow=20,SNR=2.8						
TXAR	**Lajitas Array**	**18.44**	**328**	P	**P**	**01 02 30.8**	**+0.5**
	0.1nm,0.3s,baz=160,slow=7.8,SNR=5.0						
NVAR	**Mina Array Bea**	**33.38**	**322**	P	**P**	**01 04 54.5**	**+1.2**
	0.3nm,0.7s,baz=122,slow=8.6,SNR=2.2						
SIV	**San Ignacio**	**43.03**	**133**	P	P	01 06 07.5	-7.2
	0.9nm,0.7s,baz=287,slow=14,SNR=4.6						
YKA	**Yellowknife Ar**	**50.91**	**347**	P	**P**	**01 07 14.1**	**-1.4**
	1.1nm,0.5s,baz=151,slow=7.3,SNR=8.2						
ILAR	**Eielson Array**	**62.65**	**337**	P	**P**	**01 08 38.5**	**-0.5**
	0.4nm,0.9s,baz=119,slow=5.6,SNR=4.5						

*IDC **12** 01:19:24.2±1.4,37°.41N×144°.19E, h0km, mb3.6/2, mb1 3.9/5, mb1mx3.6/43, mbtmp3.9/5, ML3.9/3, Error ellipse: s-maj=44.0km s-min=23.6km az=118.0*
*ISCJB **12** 01:19:26.7±0.7,37°.55N±0°.04×143°.99E±0°.05, h33km, mb3.7/2, Error ellipse: s-maj=6.3km s-min=5.9km az=35.8*
*JMA **12** 01:19:28.8±0.2,37°.55N×143°.85E, h53km, MS3.8*
ISC 12 01:19:28.8±1.2,37°.59N±0°.06×143°.97E±0°.08, h35km, n21, σ1°43/34, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibobo**	**2.10**	**291**	P	**Pn**	**01 20 01.9**	**+0.4**
JIKH				S	**Sn**	**01 20 25.7**	**-0.8**
JIO	**Ouri**	**2.24**	**293**	P	**Pn**	**01 20 03.8**	**+0.4**
JIO				S	**Sn**	**01 20 29.5**	**-0.3**
JKMT	**Kesennumamotoy**	**2.31**	**303**	P	**Pn**	**01 20 04.6**	**+0.2**
JKMT				S	**Sn**	**01 20 31.3**	**-0.3**
OFUJ	**Ofunato**	**2.34**	**310**	P	**Pn**	**01 20 05.1**	**+0.3**
OFUJ				*eS*	**Sn**	**01 20 31.8**	**-0.5**
JMK	**Ichinoseki**	**2.55**	**303**	P	**Pn**	**01 20 08.5**	**+0.8**
JMK				*eS*	**Sn**	**01 20 37.5**	**-0.1**
JOM	**Ohasama**	**2.81**	**313**	P	**Pn**	**01 20 12.2**	**+0.9**
JOM				S	**Sn**	**01 20 44.6**	**+0.6**
JFT	**Otama**	**2.89**	**270**	P	**Pn**	**01 20 13.1**	**+0.8**
JFT				S	**Sn**	**01 20 45.2**	**-0.6**
JYK	**Kaneyama**	**3.13**	**296**	P	**Pn**	**01 20 17.2**	**+1.5**
JYK				S	**Sn**	**01 20 52.7**	**+0.8**
JANG	**Nango**	**3.37**	**326**	*eS*	**Sn**	**01 20 57.4**	**-0.4**
JRY	**Ryogami san**	**4.36**	**250**	P	**Pn**	**01 20 31.8**	**-0.8**
JOT	**Ohata**	**4.41**	**330**	P	**Pn**	**01 20 35.0**	**+1.8**
JOD2	**Odawara 2**	**4.57**	**241**	P	**Pn**	**01 20 33.9**	**-1.6**
JOD2				*eS*	**Sn**	**01 21 22.8**	**-4.5**
MJAR	**Matsushiro Arr**	**4.72**	**259**	Pn	**Pn**	**01 20 38.9**	**+1.4**
	3.7nm,0.3s,baz=91,slow=15,SNR=15						
MJAR				Sn	**Sn**	**01 21 31.8**	**+0.7**
	0.6nm,0.3s,baz=91,slow=22,SNR=3.4						
MAT	**Matsushiro**	**4.72**	**259**	P	**Pn**	**01 20 39.2**	**+1.6**
MAT				*eS*	**Sn**	**01 21 30.6**	**-0.6**
JCH	**Churui**	**5.04**	**355**	P	**Pn**	**01 20 41.7**	**-0.2**
JCH				*eS*	**Sn**	**01 21 36.2**	**-2.6**
JHJ	**Hachijo jima 2**	**5.62**	**219**	Pn	**Pn**	**01 20 48.6**	**-1.3**
	15nm,0.3s,baz=55,slow=19,SNR=3.1						
NEM2	**Nemuro 2**	**5.92**	**13**	P	**Pn**	**01 20 52.0**	**-2.0**
JTKR	**Abashiri--Toko**	**6.37**	**360**	P	**Pn**	**01 20 59.8**	**-0.4**
JTKR				*eS*	**Sn**	**01 22 08.7**	**-3.0**
ASAJ	**Asahikawa**	**6.60**	**351**	Pn	**Pn**	**01 21 04.3**	**+1.0**
	2.5nm,0.3s,baz=170,slow=18,SNR=5.7						
ILAR	**Eielson Array**	**47.93**	**33**	P	**P**	**01 28 04.7**	**+1.3**
	0.4nm,0.8s,baz=260,slow=6.9,SNR=6.8						
WRA	**Warramunga Arr**	**57.94**	**191**	P	**P**	**01 29 17.0**	**-0.7**
	0.4nm,0.4s,baz=8.9,slow=7.0,SNR=6.9						

*IDC **12** 01:24:29.9±3.1, 16°.08S×176°.46E, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.9/35, mbtmp4.1/5, ML3.5/1, MS3.8/7, Ms1 3.8/7, ms1mx3.5/35, Error ellipse: s-maj=139.8km s-min=30.2km az=139.0*
ISC 12 01:24:35.4±2.9,16°.05S±0°.7×176°.4E±0°.7, h35km, n14, σ0°61/6, mb4.0/4, MS3.9/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.16**	**236**	Pn	**Pn**	**01 27 13.4**	**+0.7**
	0.3nm,0.3s,baz=117,slow=12,SNR=5.5						
DZM				LR	LR	01 30 29.3	
	comp=Z,395nm,19.5s,baz=109,slow=32						
RAO	**Raoul Island**	**14.16**	**159**	LR	LR	01 31 28.7	
	comp=Z,494nm,21.0s,baz=20,slow=30						
HNR	**Honiara**	**17.33**	**290**	LR	LR	01 35 02.7	
	comp=Z,297nm,18.2s,baz=132,slow=36						
STKA	**Stephens Creek**	**35.32**	**237**	P	**P**	**01 31 26.7**	**-0.7**
	6.4nm,0.9s,baz=95,slow=8.1,SNR=4.1						
STKA				LR	LR	01 44 46.6	
	comp=Z,182nm,18.2s,baz=35,slow=34						
H11N1	**WAKE ISLAND Hy**	**36.73**	**345**	T	T	02 11 18.6	
	baz=165,slow=76,SNR=67						
H11N3	**WAKE ISLAND Hy**	**36.73**	**345**	T	T	02 11 07.2	
	baz=165,slow=76,SNR=62						
H11N2	**WAKE ISLAND Hy**	**36.75**	**345**	T	T	02 11 13.5	
	baz=165,slow=76,SNR=24						
JAY	**Jayapura**	**37.62**	**287**	LR	LR	01 47 37.9	
	comp=Z,164nm,18.4s,slow=37						
WRA	**Warramunga Arr**	**40.12**	**258**	P	**P**	**01 32 08.0**	**-0.2**
	1.8nm,0.6s,baz=92,slow=9.1,SNR=20						
ASAR	**Alice Springs**	**40.57**	**252**	P	**P**	**01 32 11.7**	**-0.2**
	2.1nm,0.7s,baz=80,slow=9.1,SNR=17						
SIJI	**Sorong**	**46.97**	**284**	LR	LR	01 52 35.0	
	comp=Z,124nm,18.7s,baz=52,slow=36						
KSRS	**Korea Array**	**70.06**	**321**	LR	LR	02 02 46.7	
	comp=Z,56nm,18.7s,baz=78,slow=33						
ILAR	**Eielson Array**	**85.28**	**15**	P	**P**	**01 37 08.4**	**+0.3**
	0.4nm,0.8s,baz=241,slow=4.8,SNR=4.1						
GERES	**GERESS Array B**	**144.35**	**340**	PKP	**PKPdf**	**01 44 08.0**	**0.0**
	0.7nm,0.8s,baz=42,slow=1.6,SNR=6.5						

*SJA **12** 01:37:09.7±0.6, 34°.01S×72°.94W, h24km±32km, ML3.2, MW3.6*
*GUC **12** 01:37:18.9±0.6, 33°.95S×72°.18W, h41km±6km, ML3.1*
ISC 12 01:37:17.3±2.4,33°.99S±0°.06×72°.4W±0°.1, h33km±8km, n15, σ2°15/26, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**HualaæØ**	**1.08**	**159**	*i* P	**Pn**	**01 37 34.4**	**-1.8**
GO05				*i* S	**Sb**	**01 37 52.7**	**+1.2**
GO05	**HualaæØ**	**1.08**	**159**	*eP*	**Pb**	**01 37 38.1**	**+0.5**
GO05				*eS*	**Sb**	**01 37 52.6**	**+1.2**
GO05				IAML		01 37 54.0	
	comp=E,612nm,0.4s						
ANTU	**Antumapu**	**1.53**	**74**	*eP*	**Pn**	**01 37 42.4**	**+0.1**
ANTU				*eS*	**Sn**	**01 38 00.2**	**-0.9**
ANTU				IAML		01 38 02.3	
	comp=E,493nm,0.3s						
ROC1	**El Roble**	**1.54**	**49**	*i* P	**Pb**	**01 37 43.0**	**-2.3**
ROC1				*i* S	**Sb**	**01 38 08.3**	**+3.8**
ROCH	**El Roble**	**1.54**	**49**	*eP*	**Pb**	**01 37 43.0**	**-2.4**
ROCH				*eS*	**Sn**	**01 38 02.0**	**+0.3**
ROCH				IAML		01 38 09.1	
	comp=N,576nm,0.4s						
CLCH	**Cerro Calan**	**1.66**	**69**	*eP*	**Pn**	**01 37 44.5**	**+0.3**
CLCH				*eS*	**Sn**	**01 38 04.2**	**-0.3**
CLCH				IAML		01 38 12.2	
	comp=E,619nm,0.8s						
PEL	**Peldehue**	**1.66**	**60**	*i* P	**Pb**	**01 37 45.3**	**-2.1**
PEL				*i* S	**Sb**	**01 38 12.2**	**+4.3**
PEL	**Peldehue**	**1.66**	**60**	*eP*	**Pb**	**01 37 44.8**	**-2.5**
PEL				*eS*	**Sn**	**01 38 03.8**	**-0.6**
PEL				IAML		01 38 10.8	
	comp=E,454nm,0.4s						
LMEL	**Las Melosas**	**1.83**	**86**	*eP*	**Pn**	**01 37 47.1**	**+0.5**
LMEL				IAML		01 38 13.9	
	comp=N,490nm,0.2s						
FCH	**Farellones**	**1.88**	**70**	*eP*	**Pn**	**01 37 47.8**	**+0.4**
FCH				*eS*	**Sn**	**01 38 09.7**	**-0.5**
AUSP	**Uspallata**	**3.08**	**56**	*i* P	**Pn**	**01 38 06.4**	**+2.4**
AAGR	**Agrelo**	**3.12**	**74**	*i* P	**Pn**	**01 38 06.8**	**+2.5**
ARCO	**CERRO ARCO**	**3.12**	**69**	*i* P	**Pn**	**01 38 07.0**	**+2.7**
ARCO				IAML		01 38 16.0	
	comp=Z,69nm,0.5s						
ARCO				*i* S	**Sb**	**01 38 48.6**	**-1.2**
ASAL	**Salagasta**	**3.30**	**66**	*i* P	**Pn**	**01 38 08.8**	**+2.2**
RTLS	**Leoncito**	**3.41**	**51**	*i* P	**Pn**	**01 38 10.6**	**+2.2**
RTLS				*i* S	**Sb**	**01 38 55.5**	**-2.7**
RTLS				IAML		01 39 06.7	
	comp=Z,26nm,0.4s						

*ISCJB **12** 01:37:46.1±0.8,54°.75S±0°.1×27°.5W±0°.3, h10km, mb4.0/6, Error ellipse: s-maj=32.1km s-min=11.8km az=152.6*
*IDC **12** 01:37:46.5±0.8,54°.68S×27°.63W, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/29, mbtmp3.9/6, Error ellipse: s-maj=36.1km s-min=21.2km az=68.0*
ISC 12 01:37:47.8±0.8,54.7S±0.1×27.6W±0°.2, h10km, n19, σ0°93/14, mb4.0/6, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**18.17**	**159**	P	**Pn**	**01 41 57.9**	**-1.9**
VNA3	**Neumayer Olymp**	**18.38**	**162**	P	**Pn**	**01 42 03.5**	**+1.1**
VNA2	**Neumayer--Watz**	**18.57**	**159**	P	**Pn**	**01 42 05.7**	**+1.0**
	baz=316,slow=12						
SNAA	**Sanae**	**20.11**	**157**	P	**P**	**01 42 20.7**	**-0.6**
SYO	**Syowa Base**	**32.81**	**142**	*eP*	**P**	**01 44 21.0**	**+0.2**
QSPA	**South Pole Qui**	**35.59**	**180**	P	**P**	**01 44 45.6**	**+0.5**
	1.8nm,0.7s,baz=180,slow=6.2,SNR=5.1						
CPUP	**Villa Florida**	**35.73**	**310**	P	**P**	**01 44 45.6**	**-0.8**
	3.8nm,1.3s,baz=194,slow=6.4,SNR=3.2						
MAW	**Mawson**	**41.41**	**145**	P	**P**	**01 45 33.5**	**-0.2**
	1.8nm,0.7s,baz=227,slow=2.6,SNR=3.6						
H10S2	**ASCENSION HYDR**	**46.75**	**18**	T	T	02 36 41.1	
	baz=190						
H10S3	**ASCENSION HYDR**	**46.75**	**18**	T	T	02 36 46.1	
	baz=190						
H10S1	**ASCENSION HYDR**	**46.76**	**18**	T	T	02 36 40.8	
	baz=190						
H10N1	**ASCENSION HYDR**	**47.86**	**18**	T	T	02 38 14.0	
	baz=195						
H10N3	**ASCENSION HYDR**	**47.87**	**18**	T	T	02 38 09.9	
	baz=195						
H10N2	**ASCENSION HYDR**	**47.88**	**18**	T	T	02 38 01.7	
	baz=195						
VNDA	**Vanda**	**47.95**	**183**	P	**P**	**01 46 25.8**	**0.0**
	0.9nm,0.6s,baz=206,slow=8.2,SNR=7.6						
LPAZ	**La Paz**	**49.39**	**305**	P	**P**	**01 46 39.1**	**+0.9**
	1.6nm,0.8s,baz=134,slow=7.1,SNR=10.0						
TORD	**Torodi Ar. Bea**	**71.97**	**30**	P	**P**	**01 49 12.0**	**+0.6**
	0.5nm,0.6s,baz=204,slow=5.5,SNR=7.4						
INK	**Inuvik**	**144.57**	**322**	PKP	**PKPdf**	**01 57 22.0**	**-0.8**
	1.8nm,1.1s,baz=157,slow=2.5,SNR=3.6						
SONM	**Songino Array**	**150.85**	**84**	PKP	**PKPdf**	**01 57 33.4**	**-0.6**
	0.4nm,0.7s,baz=356,slow=4.5,SNR=2.2						
SONM				PKPbc	**PKiKP**	**01 57 40.3**	**0.0**
	1.1nm,0.7s,baz=229,slow=2.8,SNR=7.9						

IDC 12 01:40:00.3±3.5, 6°.43S×149°.01E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/35, mbtmp3.3/3, ML3.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/19, Error ellipse: s-maj=106.9km s-min=47.0km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.59**	**225**	P	P	01 44 30.6	+0.4
	0.1nm,0.3s,baz=52,slow=11,SNR=8.1						
ASAR	**Alice Springs**	**22.47**	**219**	P	P	01 45 01.8	+0.3
	0.8nm,0.7s,baz=49,slow=9.7,SNR=4.9						
FITZ	**Fitzroy Crossi**	**25.58**	**241**	P	P	01 45 31.3	-0.1
	0.7nm,0.5s,baz=63,slow=4.9,SNR=8.1						
DAV	**Davao City (W)**	**26.95**	**299**	LR	LR	01 56 14.7	
	comp=Z,78nm,18.7s,baz=153,slow=36						
TORD	**Torodi Ar. Bea**	**147.13**	**284**	PKPbc	PKPdf	01 59 45.4	+1.0
	0.3nm,0.5s,baz=58,slow=2.7,SNR=8.3						

*ISCJB **12** 01:45:21.6±1.0, 13°.80N±0°.06×92°.39W±0°.08, h10km, mb3.7/3, MS3.5/1, Error ellipse: s-maj=12.1km s-min=8.1km az=149.6*
*IDC **12** 01:45:22.9±1.8, 13°.89N×92°.27W, h0km, mb3.7/3, mb1 4.0/7, mb1mx3.6/44, mbtmp3.6/7, ML3.3/3, MS3.6/1, Ms1 3.6/1, ms1mx2.9/38, Error ellipse: s-maj=32.8km s-min=16.6km az=175.0*
*MEX **12** 01:45:22.5±0.3, 13°.65N×92°.69W, h20km±21km, MD3.7*
ISC 12 01:45:24.6±1.2, 13°.95N±0°.09×92°.35W±0°.09, h10km, n13, σ2°14/17, mb3.7/3, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.96**	**5**	*eP*	**Pn**	**01 45 42.5**	**-1.6**
THIG				*i* S	**Sb**	**01 45 58.5**	**+2.4**
PCIG		**1.94**	**334**	*i* P	**Pn**	**01 45 54.4**	**-3.3**
PCIG				*i* S	**Sn**	**01 46 18.3**	**-3.7**
APG	**El Apazote**	**2.11**	**60**	Pn	**Pn**	**01 46 00.2**	**0.0**
	9.2nm,0.3s,baz=241,slow=9.6,SNR=20						
APG				Lg	Lg	01 46 28.5	
	18nm,0.3s,baz=77,slow=18,SNR=6.5						
CCIG	**Comitan**	**2.33**	**5**	*eP*	**Pn**	**01 46 01.9**	**-1.3**
CCIG				*i* S	**Sn**	**01 46 33.4**	**+1.4**
TGIG		**2.91**	**345**	*i* P	**Pn**	**01 46 08.2**	**-2.8**
TGIG				*i* S	**Sn**	**01 46 45.0**	**-1.2**
CMIG	**Matias Romero**	**3.96**	**322**	Pn	**Pn**	**01 46 26.5**	**+0.9**
	baz=108,slow=9.6,SNR=1.8						
CMIG				Sn	**Sn**	**01 47 14.2**	**+2.1**
	2.5nm,0.3s,baz=104,slow=13,SNR=3.6						
JTS	**JuntasAbangare**	**8.10**	**116**	Pn	**Pn**	**01 47 21.0**	**-1.3**
	0.4nm,0.3s,baz=17,slow=20,SNR=2.7						
JTS				Lg	Lg	01 49 26.8	
	0.4nm,0.3s,baz=236,slow=6.2,SNR=3.5						
TXAR	**Lajitas Array**	**18.55**	**327**	P	**Pn**	**01 49 44.1**	**+2.2**
	0.0nm,0.3s,baz=141,slow=8.1,SNR=5.4						
NNA	**Nana**	**30.01**	**148**	LR	LR	02 01 10.6	
	comp=Z,123nm,20.5s,baz=22,slow=32						
NVAR	**Mina Array Bea**	**33.50**	**321**	P	**P**	**01 52 06.4**	**+1.8**
	0.8nm,0.8s,baz=140,slow=9.0,SNR=7.7						
YKA	**Yellowknife Ar**	**51.00**	**347**	P	**P**	**01 54 25.8**	**-0.6**
	1.6nm,0.8s,baz=147,slow=7.6,SNR=4.0						
ILAR	**Eielson Array**	**62.75**	**337**	P	**P**	**01 55 49.5**	**-0.3**
	0.3nm,0.8s,baz=114,slow=6.0,SNR=3.6						
CMAR	**Chiang Mai Arr**	**145.93**	**341**	PKPbc	**PKPab**	**02 05 04.1**	**-1.7**
	1.1nm,0.3s,baz=324,slow=3.5,SNR=7.9						

*IDC **12** 01:46:55.0±3.6, 13°.89N×92°.74W, h0km, mb3.7/5, mb1 4.0/7, mb1mx3.7/43, mbtmp3.7/7, ML3.4/2, Error ellipse: s-maj=72.2km s-min=19.4km az=171.0*
*MEX **12** 01:47:02.5±0.4, 14°.26N×92°.94W, h16km±50km, MD3.7*
ISC 12 01:47:03.2±1.4, 14°.3N±0°.1×92°.82W±0°.08, h37km, n13, σ1°37/17, mb3.7/5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.78**	**44**	*eP*	**Pn**	**01 47 17.3**	**-0.4**
THIG				*eS*	**Sn**	**01 47 27.6**	**-0.5**
PCIG		**1.41**	**344**	*eP*	**Pn**	**01 47 24.5**	**-1.7**
PCIG				*eS*	**Sn**	**01 47 42.3**	**-1.3**
CCIG	**Comitan**	**2.04**	**19**	*eP*	**Pn**	**01 47 34.3**	**-0.8**
CCIG				*eS*	**Sn**	**01 48 00.3**	**+0.9**
APG	**El Apazote**	**2.38**	**74**	Pn	**Pn**	**01 47 38.5**	**-1.3**
	3.0nm,0.3s,baz=319,slow=9.3,SNR=3.5						
APG				Lg	Lg	01 48 13.0	
	8.8nm,0.3s,baz=329,slow=19,SNR=2.7						
TGIG		**2.44**	**353**	*i* P	**Pn**	**01 47 39.2**	**-1.3**
TGIG				*i* S	**Sn**	**01 48 09.4**	**+0.2**
CMIG	**Matias Romero**	**3.38**	**324**	Sn	**Sn**	**01 48 32.0**	**-0.2**
	5.2nm,0.3s,baz=123,slow=17,SNR=1.6						
TXAR	**Lajitas Array**	**17.98**	**328**	P	**P**	**01 51 13.3**	**+2.7**
	0.1nm,0.3s,baz=149,slow=7.2,SNR=2.7						
PDAR	**Pinedale Array**	**31.78**	**336**	P	**P**	**01 53 26.6**	**+2.3**
	0.4nm,0.8s,baz=96,slow=5.5,SNR=2.5						
NVAR	**Mina Array Bea**	**32.91**	**322**	P	**P**	**01 53 35.3**	**+1.1**
	0.7nm,0.7s,baz=132,slow=8.5,SNR=6.2						
YKA	**Yellowknife Ar**	**50.51**	**347**	P	**P**	**01 55 56.8**	**-0.7**
	1.7nm,0.8s,baz=155,slow=7.4,SNR=4.1						
INK	**Inuvik**	**59.88**	**344**	P	**P**	**01 57 04.2**	**-0.7**
	1.9nm,0.9s,baz=116,slow=4.8,SNR=4.6						
ILAR	**Eielson Array**	**62.21**	**337**	P	**P**	**01 57 20.4**	**-0.5**
	0.3nm,0.8s,baz=90,slow=6.3,SNR=4.2						
CMAR	**Chiang Mai Arr**	**145.40**	**340**	PKPbc	**PKPbc**	**02 06 37.0**	**-1.1**
	0.9nm,0.3s,baz=20,slow=2.9,SNR=3.2						

MAN 12 02:01:16.9, 6°.74N×124°.21E, h33km, mb4.1, ML2.9, MS2.6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKMP	**Bagumbayan, Su**	**0.40**	**123**	*eP*	Pn	02 01 27.0	+0.6
SKMP				*eS*	Sb	02 01 32.0	-0.1
CTBH	**Cotabato--PC H**	**0.48**	**5**	*eP*	Pn	02 01 28.1	+0.5
CTBH				*i* S	Sb	02 01 34.3	-0.1
PAGZ	**Pagadian**	**1.38**	**324**	*eP*	Pn	02 01 40.6	+0.8
PAGZ				*eS*	Sn	02 01 56.7	-0.2
BUKP	**Musuan**	**1.42**	**37**	*eP*	Pb	02 01 42.8	-0.1
BUKP				*eS*	Sn	02 01 58.3	+0.3
DDMP	**Don Marcelino,**	**1.62**	**113**	*eP*	Pb	02 01 46.5	+0.3
DDMP				*eS*	Sn	02 02 01.6	-1.3

*IDC **12** 02:15:38.2±1.9, 28°.28N×142°.72E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.8/39, mbtmp3.9/9, ML4.0/1, Error ellipse: s-maj=63.5km s-min=14.8km az=87.0*
*ISCJB **12** 02:15:40.0±1.4, 28°.33N±0°.06×142°.8E±0°.3, h25km, mb3.9/8, Error ellipse: s-maj=38.3km s-min=8.5km az=5.1*
ISC 12 02:15:42.2±1.9, 28°.29N±0°.07×142°.6E±0°.4, h25km, n13, σ0°99/11, mb3.9/8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.25**	**198**	Pn	**Pn**	**02 16 03.7**	**-0.4**
	16nm,0.3s,baz=5.3,slow=22,SNR=24						
JCJ				Sn	**Sn**	**02 16 20.3**	**+0.1**
	74nm,0.3s,baz=270,slow=20,SNR=15						
MJAR	**Matsushiro Arr**	**9.03**	**337**	Pn	**Pn**	**02 17 49.6**	**-1.4**
	1.6nm,0.3s,baz=214,slow=32,SNR=6.6						
KLR	**Kul'dur**	**22.51**	**341**	P	**P**	**02 20 39.9**	**0.0**
	1.2nm,0.6s,baz=146,slow=7.3,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**23.72**	**106**	T	T	02 45 46.1	
	baz=297,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**23.72**	**106**	T	T	02 46 00.1	
	baz=297,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**23.74**	**106**	T	T	02 46 01.3	
	baz=297,slow=75,SNR=17						
SONM	**Songino Array**	**34.13**	**315**	P	**P**	**02 22 26.3**	**+1.1**
	0.8nm,0.6s,baz=135,slow=8.0,SNR=4.8						
WRA	**Warramunga Arr**	**48.62**	**190**	P	**P**	**02 24 23.1**	**-0.9**
	1.8nm,0.6s,baz=14,slow=8.9,SNR=20						
ZALV	**Zalesovo Beam**	**48.85**	**318**	P	**P**	**02 24 27.0**	**+1.6**
	0.7nm,0.5s,baz=95,slow=3.0,SNR=2.9						
MKAR	**Makanchi Array**	**50.02**	**309**	P	**P**	**02 24 34.0**	**-0.5**
	0.4nm,0.4s,baz=82,slow=11,SNR=4.4						
ASAR	**Alice Springs**	**52.34**	**190**	P	**P**	**02 24 52.9**	**+0.8**
	0.4nm,0.7s,baz=9.9,slow=7.4,SNR=2.8						
FINES	**FINESS Array B**	**77.05**	**334**	P	**P**	**02 27 32.9**	**+0.1**
	6.5nm,1.1s,baz=69,slow=7.9,SNR=3.0						
KBZ	**Khabaz**	**77.48**	**113**	P	**P**	**02 27 35.4**	**-0.1**
	2.5nm,0.9s,baz=4.3,slow=2.0,SNR=4.9						

*IDC **12** 02:19:24.7±1.6, 22°.63N×95°.89E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.3/45, mbtmp3.6/3, ML4.0/1, MS2.8/1, Ms1 3.0/1, ms1mx2.6/46, Error ellipse: s-maj=45.3km s-min=19.0km az=60.0*
ISC 12 02:19:24.2±2.0, 21°.9N±0°.4×95°.0E±0°.4, h10km, n8, σ2°58/9, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO	**Chiang Mai**	**4.82**	**128**	P	**Pn**	**02 20 38.4**	**+1.6**
CMMT	**Chiang Mai**	**4.82**	**128**	P	**Pn**	**02 20 37.8**	**+0.9**
CMAR	**Chiang Mai Arr**	**5.05**	**131**	Pn	**Pn**	**02 20 41.9**	**+1.9**
	1.5nm,0.3s,baz=325,slow=13,SNR=11						
CMAR				Pg	**Pg**	**02 20 58.2**	**-2.8**
	4.1nm,0.3s,baz=323,slow=18,SNR=37						
CMAR				Lg	Lg	02 22 04.5	
	5.1nm,0.3s,baz=319,slow=32,SNR=5.5						
CMAR				LR	LR	02 22 52.5	
	comp=Z,85nm,18.9s,baz=200,slow=41						
SUKH	**Sukhothai**	**6.20**	**134**	P	**Pn**	**02 20 59.8**	**+4.0**
UTTA	**Uttaradit**	**6.67**	**127**	P	**Pn**	**02 21 04.7**	**+2.4**
CHBT	**CHBT**	**11.47**	**141**	P	**Pn**	**02 22 07.7**	**-0.4**
MKAR	**Makanchi Array**	**26.91**	**341**	P	**P**	**02 25 04.0**	**-1.4**
	0.6nm,0.5s,baz=149,slow=11,SNR=7.4						
WRA	**Warramunga Arr**	**56.64**	**134**	P	**P**	**02 29 08.9**	**+1.1**

TLIG Tlapa 6.96 302 ePn Pn 03 04 39.9 +1.3
TEIG Tepich 7.38 32 ePn Pn 03 04 46.3 +2.0
ESPN Las Esperanzas 8.06 101 ePn Pn 03 05 02.1 +8.4
JTS JuntasAbangare 8.12 116 Pn Pn 03 04 51.2 -3.3
0.1nm,0.3s,baz=236,slow=17,SNR=5.1
JTS Lg Lg 03 07 04.8
0.5nm,0.3s,baz=171,slow=19,SNR=5.2
JTS JuntasAbangare 8.12 116 ePn Pn 03 04 56.3 +1.8
MOIG Morelia 10.18 305 ePn Pn 03 05 24.3 +1.3
JRQG Juriquilla Cam 10.22 312 ePn Pn 03 05 32.2 +8.6
LNIG Linares 12.78 330 ePn P 03 06 05.3 -3.6
833A Chaparral WMA, 15.73 337 ePn Pn 03 06 38.4 +0.4
15nm,0.8s
347A Saraland 17.74 11 P P 03 07 08.3 +4.5
baz=192
JCT Junction City 17.83 339 ePn Pn 03 07 05.6 +1.2
35nm,1.5s
JCT eS Sn 03 10 12.3 -10
NATX Nacogdoches 17.86 354 ePn P 03 07 06.2 +1.0
HPIG 17.93 318 ePn P 03 07 13.3 +7.1
66nm,1.9s
349A Repton 17.97 15 P P 03 07 10.1 +3.7
baz=196
242A Grayson 18.04 1 P P 03 07 10.0 +2.9
baz=180
HELC Santa Helena 18.28 113 eP P 03 07 11.0 +0.6
555A McAlpin 18.30 27 P P 03 07 14.0 +3.9
baz=210
ZARC Zaragoza, Cauc 18.36 109 eP Pn 03 07 10.5 -0.6
453A Whigham 18.40 22 P Pn 03 07 16.4 +5.1
baz=205
556A Lake Butler 18.45 28 P Pn 03 07 16.7 +4.7
baz=212
TXAR Lajitas Array 18.55 328 P P 03 07 14.4 +1.6
0.3nm,0.3s,baz=149,slow=13,SNR=15
TXAR LR LR 03 14 31.9
comp=Z,215nm,20.9s,baz=0.0,slow=37
TX31 Lajitas Ar. Si 18.55 328 eP P 03 07 14.2 +1.3
249A Camden 18.59 14 P Pn 03 07 15.2 +1.5
baz=196
YOTC Yotoco, Valle 18.66 121 eP P 03 07 12.1 -2.1
143A Socs Landing, 18.70 3 eP Pn 03 07 16.7 +1.7
33nm,0.8s
352A Blakely 18.75 20 eP Pn 03 07 15.9 +0.3
38nm,0.8s
352A Blakely 18.75 20 P Pn 03 07 17.4 +1.8
baz=202
147A Livingston 19.02 11 eP Pn 03 07 19.7 +0.8
213nm,1.8s
147A Livingston 19.02 11 P Pn 03 07 20.7 +1.8
baz=192
RREF El Recreo 19.04 117 eP Pn 03 07 21.0 +1.2
148A Greensboro 19.14 12 P Pn 03 07 21.5 +1.3
baz=194
NORC Norcasia 19.15 114 eP Pn 03 07 21.1 +0.4
TIGA Tifton 19.20 23 P Pn 03 07 22.3 +1.3
baz=206
POPC Popayan, Colom 19.21 125 eP Pn 03 07 21.1 -0.5
Z43A Armstrong Fami 19.21 3 P Pn 03 07 24.5 +3.3
baz=183
Z41A Richland Creek 19.24 359 eP Pn 03 07 21.9 +0.5
24nm,0.7s
149A Jones 19.26 14 P Pn 03 07 23.2 +1.4
baz=196
252A Lumpkin 19.29 20 P Pn 03 07 23.2 +1.1
baz=202
150A Eclectic 19.47 16 P Pn 03 07 24.4 +0.2
baz=198,SNR=5.8
SOTA Rioblanco 19.51 126 eP Pn 03 07 26.8 +1.5
GCUF Volcan Galeras 19.51 129 eP P 03 07 21.1 -2.9
OCAC Ocana 19.54 105 eP Pn 03 07 23.9 -1.4
PCON Cinco Dias 19.56 125 eP Pn 03 07 25.7 -0.4
151A Opelika 19.59 18 P Pn 03 07 25.1 -0.6
baz=200,SNR=5.5
MARP Paez Belalcaza 19.62 123 eP Pn 03 07 27.1 +0.6
LRAL Lakeview Retre 19.63 14 eP P 03 07 25.1 +0.5
23nm,1.0s
LRAL Lakeview Retre 19.63 14 P Pn 03 07 25.6 -0.6
baz=195
LPIG La Paz 19.71 303 LR LR 03 14 57.6
comp=Z,386nm,20.3s,baz=138,slow=36
ABTX Abilene, Hawle 19.75 342 eP P 03 07 27.2 +1.3
14nm,0.6s
ABTX Abilene, Hawle 19.75 342 P P 03 07 27.4 +1.4
baz=158,SNR=8.8
Z48A Northport 19.84 12 P P 03 07 27.4 +0.5
baz=193
Z49A Columbiana 19.90 15 P Pn 03 07 31.6 +2.3
baz=196,SNR=11
152A Waverly Hall 19.91 19 eP Pn 03 07 28.3 -1.2
30nm,0.7s
152A Waverly Hall 19.91 19 P Pn 03 07 30.3 +0.7
baz=202,SNR=11
ROSC El Rosal 19.96 115 P Pn 03 07 29.2 -1.5
1.3nm,0.3s,baz=164,slow=17,SNR=3.9
ROSC El Rosal 19.96 115 eP Pn 03 07 31.7 +1.0
19nm,1.0s
ROSC El Rosal 19.96 115 eP Pn 03 07 31.7 +1.0
PRAC Prado 20.03 119 eP Pn 03 07 29.8 -1.4
Z50A Ashland 20.11 16 eP Pn 03 07 30.8 -1.0
15nm,0.8s
Z50A Ashland 20.11 16 P Pn 03 07 31.6 -0.2
baz=198
Y46A Houston 20.11 9 P Pn 03 07 31.9 +0.1
baz=190
BARC Barichara 20.24 109 eP Pn 03 07 32.8 -0.9
Y47A UCPARC, Winfie 20.30 11 P Pn 03 07 33.0 -1.0
baz=192
PAMC Pamplona, Colo 20.41 107 eP Pn 03 07 34.6 -1.4
154A Montrose 20.43 23 eP P 03 07 33.2 0.0
50nm,0.7s
154A Montrose 20.43 23 P P 03 07 33.3 0.0
baz=206,SNR=5.4
Y48A Jasper 20.44 12 P P 03 07 33.6 +0.2
baz=194
Z52A Williamson 20.49 19 P P 03 07 33.8 -0.1
baz=202
MIAR Mount Ida 20.55 357 eP P 03 07 34.7 +0.2
24nm,0.8s
MIAR Mount Ida 20.55 357 P P 03 07 35.2 +0.7
baz=176,SNR=6.0
CHIC Chingaza 20.58 115 eP Pn 03 07 37.4 -0.5
FLOC Florencia 20.60 125 eP Pn 03 07 36.4 -1.4
RUSC La Rusia 20.61 111 eP Pn 03 07 36.4 -1.9
OXF Oxford 20.66 7 P Pn 03 07 37.4 -0.8
baz=188
155A Kite 20.68 24 P Pn 03 07 38.4 -0.1
baz=208
X37A Clayton 20.74 353 eP P 03 07 37.1 +0.4
142nm,1.9s
X46A Booneville 20.81 9 P P 03 07 38.2 +0.8
baz=190
Z53A Monticello 20.86 21 P P 03 07 38.3 +0.4
baz=204
VILC Villavicencio, 20.86 116 eP Pn 03 07 40.4 -0.5
X47A Russelville 20.89 11 P P 03 07 39.0 +0.7
baz=192
Y51A Rockmart 20.95 17 P P 03 07 39.6 +0.6
baz=200
X48A Hartselle 20.99 12 eP P 03 07 38.9 -0.4
18nm,0.8s
X48A Hartselle 20.99 12 P P 03 07 39.1 -0.2
baz=194
GOGA Godfrey 21.01 21 eP P 03 07 41.6 +2.0
27nm,0.8s
GOGA Godfrey 21.01 21 P P 03 07 41.7 +2.0
baz=204
Z54A Sparta 21.08 23 P P 03 07 42.1 +1.7
baz=206,SNR=6.0
W41B Gary Mavity, V 21.14 0 eP P 03 07 42.8 +1.8
28nm,1.3s
W41B Gary Mavity, V 21.14 0 P P 03 07 42.7 +1.7
baz=180
W39A Magazine 21.20 357 eP P 03 07 42.8 +1.1
16nm,0.9s
X49A Woodville 21.20 14 P P 03 07 41.8 +0.1
baz=196,SNR=5.4
Y52A Lilburn 21.23 19 eP P 03 07 42.9 +0.9
22nm,1.0s
Y52A Lilburn 21.23 19 P P 03 07 43.4 +1.5
baz=202
GDL2 Guadalupe Moun 21.23 331 eP P 03 07 42.3 +0.3
WHAR Wooly Hollow 21.26 0 eP P 03 07 42.8 +0.6
19nm,1.0s
PLAL Pickwick Lake 21.31 10 eP P 03 07 41.8 -1.0
8.3nm,0.9s
MNTX Cornudas Mount 21.32 328 eP P 03 07 43.1 +0.2
13nm,0.9s
MNTX Cornudas Mount 21.32 328 P P 03 07 43.5 +0.5
baz=143,SNR=11
X50B Fort Payne 21.32 15 P P 03 07 42.5 -0.4
baz=198
Z55A Blythe 21.34 24 P P 03 07 44.3 +1.2
baz=208
WMOK Wichita Mounta 21.50 345 eP P 03 07 44.8 -0.1
7.6nm,0.7s
WMOK Wichita Mounta 21.50 345 P P 03 07 45.9 +1.1
baz=162,SNR=9.1
TAMC Tame, Arauca 21.58 108 eP P 03 07 46.7 +0.8
X51A Calhoun 21.64 17 eP P 03 07 48.2 +1.9
27nm,0.9s
W48A Pulaski 21.67 12 P P 03 07 46.9 +0.2
baz=194
Y54A Tignall 21.70 22 P P 03 07 48.0 +1.0
baz=206,SNR=5.3
V41A Mountainview 21.75 0 P P 03 07 47.3 -0.3
baz=180
V42A Cord 21.79 2 P P 03 07 47.3 -0.7
baz=182
W49A Belvidere 21.80 14 P P 03 07 47.3 -0.7
baz=196
SDV Santo Domingo 21.89 101 P P 03 07 49.5 +0.1
10nm,0.7s,baz=283,slow=6.8,SNR=2.6
X52A Dahlonega 21.96 19 P P 03 07 50.0 +0.2
baz=202,SNR=6.1
SWET Sewanee 21.97 14 eP P 03 07 49.4 -0.5
20nm,0.9s
MSTX Muleshoe 22.06 336 eP P 03 07 51.5 +0.5
15nm,0.6s
MSTX Muleshoe 22.06 336 P P 03 07 51.4 +0.5
baz=152,SNR=12
X53A Estanollee 22.06 20 P P 03 07 51.0 +0.1
baz=204
TUL1 Leonard 22.09 353 eP P 03 07 50.0 -1.2
12nm,0.8s
TUL1 Leonard 22.09 353 P P 03 07 50.2 -1.0
baz=171
V46A Holladay 22.11 9 P P 03 07 49.7 -1.6
baz=191
W50A Signal Mountai 22.11 16 eP P 03 07 51.2 -0.2
15nm,0.8s
W50A Signal Mountai 22.11 16 P P 03 07 50.9 -0.5
baz=198
W51A Cleveland 22.22 17 P P 03 07 53.0 +0.5
baz=199
V48A Smith Brothers 22.28 12 eP P 03 07 51.6 -1.5
11nm,0.8s
V48A Smith Brothers 22.28 12 P P 03 07 52.3 -0.9
baz=194,SNR=6.1
HHAR Hobbs 22.29 357 eP P 03 07 53.0 -0.3
12nm,1.0s
U41A Vina 22.32 1 P P 03 07 53.5 -0.1
baz=181
U40A Yellville 22.33 359 P P 03 07 53.3 -0.4
baz=178
U42A Revenden 22.34 2 P P 03 07 53.1 -0.8
baz=182
WVT Waverly 22.47 10 eP P 03 07 54.1 -1.2
11nm,1.0s
WVT Waverly 22.47 10 P P 03 07 54.9 -0.4
baz=191
AMTX Amarillo 22.48 340 eP P 03 07 54.7 -0.8
45nm,0.7s
AMTX Amarillo 22.48 340 P P 03 07 55.4 -0.1
baz=155
V49A McMinnville 22.50 14 P P 03 07 54.9 -0.7
baz=196,SNR=7.6
CPCT Cooper Cave 22.56 17 eP P 03 07 56.1 -0.1
16nm,1.0s
V50A Pilvile 22.61 16 P P 03 07 55.9 -0.8
baz=198
BG3 Lake Jocassee 22.63 21 eP P 03 07 57.0 0.0
31nm,1.5s
U46A Springville 22.64 9 P P 03 07 56.6 -0.5
baz=190,SNR=8.2
PBMO Poplar Bluff 22.81 4 eP P 03 07 57.3 -1.5
14nm,0.7s
U47A Clarksville 22.87 11 P P 03 07 58.1 -1.3
baz=192
V51A Loudon 22.94 17 P P 03 07 59.2 -0.9
baz=200
TKL Tuckaleechee C 22.97 18 P P 03 07 59.9 -0.6
7.9nm,0.7s,baz=183,slow=11,SNR=13
TKL Tuckaleechee C 22.97 18 eP P 03 07 60.0 -0.6
17nm,0.9s
T41A Mountain View 23.02 1 P P 03 07 59.5 -1.4
baz=181
T42A Van Buren 23.02 3 eP P 03 07 59.1 -2.0
54nm,2.0s
T42A Van Buren 23.02 3 P P 03 07 59.4 -1.6
baz=183
U48A Cassie Pea, Po 23.08 12 P P 03 07 60.0 -1.6
baz=194
U32A Winter Ranch, 23.12 346 eP P 03 08 02.8 +0.7
17nm,0.9s
T43A Greenville 23.13 4 P P 03 08 00.2 -1.8
baz=185,SNR=5.6
T44A Benton 23.19 6 P P 03 08 01.3 -1.3
baz=186
U49A Red Boiling Sp 23.25 14 P P 03 08 01.7 -1.6
baz=196,SNR=6.5
121A Cookes Peak, D 23.25 325 P P 03 08 05.5 +2.0
baz=139
V53A Saluda 23.29 20 eP P 03 08 03.1 -0.6
14nm,0.9s
V53A Saluda 23.29 20 P P 03 08 03.9 +0.2
baz=204
KMSC Kings Mountain 23.35 23 eP P 03 08 03.5 -0.8
15nm,0.8s
KMSC Kings Mountain 23.35 23 P P 03 08 03.8 -0.5
baz=208,SNR=6.5
T46A Princeton 23.36 9 P P 03 08 03.5 -0.9
baz=191
U50A Jamestown 23.38 15 P P 03 08 03.2 -1.4
baz=198,SNR=10
T47A Sharon Grove 23.43 11 eP P 03 08 02.9 -2.2
14nm,0.8s
T47A Sharon Grove 23.43 11 P P 03 08 03.6 -1.5
baz=192,SNR=5.7
S41A Jillco Farms, 23.56 1 P P 03 08 06.0 -0.3
baz=181
U51A La Follette 23.57 17 P P 03 08 05.2 -1.3
baz=200,SNR=12
T48A Bowling Green 23.69 12 P P 03 08 06.6 -0.9
baz=194
U52A Thorn Hill 23.78 18 P P 03 08 07.2 -1.2
baz=202
S42A Caledonia 23.78 3 P P 03 08 06.8 -1.6
baz=183
S44A Carbondale 23.82 6 P P 03 08 07.7 -1.1
baz=187,SNR=6.4
SIUC Southern Illin 23.85 6 eP P 03 08 07.7 -1.3
22nm,0.6s
TZTN Tazewell 23.86 18 P P 03 08 08.0 -1.2
baz=201
T49A Edmonton 23.87 14 eP P 03 08 07.7 -1.5
12nm,0.9s
S45A Carrier Mills 23.88 7 P P 03 08 07.8 -1.6
baz=189
BNM Barren Site 23.91 330 eP P 03 08 12.0 +2.1
T50A Nancy 23.95 15 P P 03 08 08.8 -1.3
baz=198
U53A Fall Branch 24.00 20 P P 03 08 09.4 -1.1
baz=204
S46A Don Dixon Farm 24.01 9 P P 03 08 09.6 -1.0
baz=191
LPM Los Pinos Moun 24.04 330 eP P 03 08 13.2 +2.1
CCM Cathedral Cave 24.04 2 eP P 03 08 09.0 -1.8
9.8nm,0.8s
CCM Cathedral Cave 24.04 2 P P 03 08 09.3 -1.5
baz=182
S47A Hartford 24.07 11 P P 03 08 10.0 -1.1
baz=193
LENM Lemitar 24.09 329 eP P 03 08 12.5 +0.9
T51A Gray 24.14 17 P P 03 08 11.0 -0.8
baz=200
R41A Rosebud 24.28 2 P P 03 08 12.1 -0.9
baz=182,SNR=7.7
S48A Wiedeman Farm, 24.29 12 P P 03 08 12.3 -0.7
baz=195
LAZ Ladron 24.36 329 eP P 03 08 18.2 +4.1
ANMO Albuquerque 24.47 331 P P 03 08 16.1 +1.0
2.9nm,0.7s,baz=132,slow=9.2,SNR=12
ANMO Albuquerque 24.47 331 eP P 03 08 15.9 +0.8
8.2nm,1.0s
ANMO Albuquerque 24.47 331 P P 03 08 16.4 +1.3
baz=145
R45A Skylar, Fairfi 24.53 8 P P 03 08 14.1 -1.1
baz=189
T52A Hallie 24.55 18 P P 03 08 14.3 -1.3
baz=202
R46A Gibson Southern 24.56 9 P P 03 08 14.7 -0.8
baz=191
S49A Springfield 24.57 14 P P 03 08 14.3 -1.4
baz=196,SNR=9.0
S50A Richmond 24.69 15 P P 03 08 16.1 -0.6
baz=198,SNR=5.7
WCI Wyandotte Cave 24.79 11 eP P 03 08 16.0 -1.7
30nm,0.8s
WCI Wyandotte Cave 24.79 11 P P 03 08 16.4 -1.3
baz=194
R47A Wooly Knot Far 24.81 11 P P 03 08 16.8 -1.0
baz=193,SNR=5.9
TUC Tucson 24.84 320 eP P 03 08 21.9 +3.5
7.7nm,1.1s
TUC Tucson 24.84 320 P P 03 08 19.7 +1.3
baz=133
S51A Beattyville 24.87 17 eP P 03 08 18.9 +0.4
18nm,0.9s
S51A Beattyville 24.87 17 P P 03 08 18.8 +0.4
baz=200
CNNC Cliffs of the 24.91 29 P P 03 08 17.8 -0.9
baz=215
Q41A Truxton 24.94 2 P P 03 08 18.9 -0.1
baz=182,SNR=9.3
OLIL Olney 24.99 8 eP P 03 08 18.3 -1.2
22nm,0.7s
R48A Northridge Ran 25.04 12 P P 03 08 19.6 -0.3
baz=195,SNR=5.3
Q44A Meyer Farm, Va 25.04 6 P P 03 08 20.5 +0.5
baz=187
S52A Salyersville 25.05 18 P P 03 08 18.4 -1.6
baz=201
R49A Shelbyville 25.09 13 P P 03 08 18.9 -1.5
baz=196,SNR=5.2
Q45A Warren Harvey, 25.14 8 P P 03 08 19.6 -1.1
baz=189
R50A Paris 25.28 15 P P 03 08 21.0 -1.1
baz=198
KSU1 Kansas State U 25.34 352 eP P 03 08 21.9 -0.7
24nm,0.5s
KSU1 Kansas State U 25.34 352 P P 03 08 22.6 -0.1
baz=170
Q47A Bedord North L 25.45 11 P P 03 08 23.3 -0.3
baz=193
T25A Trinidad 25.48 337 eP P 03 08 26.1 +1.9
12nm,0.8s
T25A Trinidad 25.48 337 P P 03 08 26.1 +1.9
baz=152,SNR=11
CBKS Cedar Bluff 25.62 347 eP P 03 08 26.1 +0.9
19nm,0.6s
CBKS Cedar Bluff 25.62 347 P P 03 08 25.3 +0.1
baz=163
BLO Bloomington 25.66 11 eP P 03 08 23.7 -1.9
14nm,0.6s
P45A Graceland, Par 25.82 8 eP P 03 08 25.9 -1.0
18nm,0.6s
P45A Graceland, Par 25.82 8 P P 03 08 26.1 -0.9
baz=190
Q49A Aurora 25.83 13 P P 03 08 25.4 -1.7
baz=196
Q50A Georgetown 25.90 15 P P 03 08 26.2 -1.5
baz=198
P46A Rosedale 25.98 9 P P 03 08 27.1 -1.4
baz=191,SNR=5.6
Q51A Peebles 26.23 16 eP P 03 08 29.4 -1.4
64nm,1.8s
Q51A Peebles 26.23 16 P P 03 08 29.4 -1.4
baz=200
W18A Petrified Fore 26.26 326 eP P 03 08 29.8 -1.5
15nm,1.5s
P49A Miami Univ. Ec 26.38 13 P P 03 08 30.3 -1.7
baz=196
SDCO Great Sand Dun 26.43 336 eP P 03 08 34.0 +1.2
4.7nm,0.8s
SDCO Great Sand Dun 26.43 336 P P 03 08 34.2 +1.3
baz=150,SNR=7.3
O45A Potomac 26.53 8 P P 03 08 32.0 -1.4
baz=190,SNR=6.5
X16A Lo Mia Camp, P 26.70 323 eP P 03 08 36.7 +1.4
4.3nm,0.9s
P51A Williamsport 26.74 16 eP P 03 08 33.5 -1.7
87nm,2.0s
P51A Williamsport 26.74 16 P P 03 08 34.1 -1.1
baz=200
S22A 4UR Ranch, Cre 26.97 334 eP P 03 08 39.2 +1.4
12nm,1.2s
S22A 4UR Ranch, Cre 26.97 334 P P 03 08 39.8 +2.1
baz=147,SNR=9.1
MVCO Mesa Verde 27.27 331 eP P 03 08 41.8 +1.4
17nm,0.9s
MVCO Mesa Verde 27.27 331 P P 03 08 43.0 +2.6
baz=144,SNR=17
WUAZ Wupatki 27.45 325 eP P 03 08 43.9 +1.9
4.5nm,0.8s
WUAZ Wupatki 27.45 325 P P 03 08 43.6 +1.6
baz=136
N48A Decatur 27.58 12 P P 03 08 41.1 -1.7
baz=195,SNR=5.2
O52A Adamsville 27.67 18 P P 03 08 42.0 -1.7
baz=202
GLA Glamis 27.92 317 eP P 03 08 48.0 +2.0
15nm,0.4s
PV01 Paradox Valley 28.06 332 eP P 03 08 49.7 +2.3
PV13 Radium Mtn., P 28.19 332 eP P 03 08 50.6 +2.0
26nm,1.2s
PV02 Paradox Valley 28.19 332 eP P 03 08 51.1 +2.5
34nm,1.4s
PV05 Paradox Valley 28.25 331 eP P 03 08 52.6 +3.4
ISCO Idaho Springs 28.27 338 P P 03 08 51.9 +2.6
baz=152
PV03 Paradox Valley 28.28 332 eP P 03 08 51.3 +1.9
PV18 Skein Mesa, Pa 28.30 332 eP P 03 08 51.6 +2.1
19nm,1.0s
PV12 Saucer Basin, 28.31 332 eP P 03 08 51.5 +1.8
21nm,0.9s
PV11 David Mesa, Pa 28.33 332 eP P 03 08 52.1 +2.3
26nm,1.1s
PV17 East Wray Mesa 28.35 332 eP P 03 08 52.2 +2.2
25nm,1.0s
PV16 Nyswonger Mesa 28.36 332 eP P 03 08 51.2 +1.1
23nm,1.2s
PV19 Morning Glory 28.39 332 eP P 03 08 53.8 +3.4
13nm,0.9s
PV20 West Nyswonger 28.41 332 eP P 03 08 53.2 +2.7
17nm,1.0s
PV14 Lion Creek, Pa 28.46 332 eP P 03 08 53.2 +2.2
17nm,0.9s
PV10 Paradox Valley 28.47 332 eP P 03 08 52.5 +1.4
PV22 Blue Mesa, Par 28.48 332 eP P 03 08 52.8 +1.6
13nm,1.0s
PV23 Carpenter Ridg 28.52 332 eP P 03 08 53.4 +1.8
18nm,1.0s
IKP In-Ko-Pah, Jac 28.55 315 P P 03 08 54.7 +3.0
baz=125,SNR=6.8
PV21 Cone Mtn., Par 28.59 332 eP P 03 08 54.1 +1.9
PV09 Paradox Valley 28.61 332 eP P 03 08 53.2 +0.8
SDMD Soldier's Deli 28.83 25 eP P 03 08 53.2 -0.8
6.3nm,0.8s
KNB Kanab 29.34 325 eP P 03 09 00.9 +2.1
37nm,1.9s
SRU San Rafael Swe 29.75 331 eP P 03 09 04.9 +2.5
6.5nm,1.1s
SZCU Shurtz Canyon 29.91 326 eP P 03 09 05.8 +1.9
8.4nm,1.2s
CCUT Cedar City 30.03 325 eP P 03 09 06.5 +1.6
5.5nm,1.1s
P17A Butcher Ranch, 30.14 331 eP P 03 09 08.0 +2.2
7.2nm,0.9s
TMUT Trail Mountain 30.22 330 eP P 03 09 08.8 +2.0
5.0nm,1.1s
LUPA Lehigh Univers 30.44 26 eP P 03 09 07.2 -1.1
1.1nm,0.7s
MPU Maple Canyon 30.99 331 eP P 03 09 17.8 +4.5
9.4nm,1.2s
TYNO Tyneside 30.99 18 P P 03 09 11.2 -1.9
baz=204
PSUT Pine Spring 31.00 326 eP P 03 09 16.5 +3.0
5.2nm,0.9s
MEDO Medina 31.50 20 P P 03 09 14.9 -2.6
baz=206
RSSD Black Hills 31.69 344 eP P 03 09 19.7 +0.2
4.7nm,0.6s

TCUT	**Toone Canyon**	**31.75**	**332**	*eP*	**P**	**03 09 22.3**	**+2.1**
	29nm,1.2s							
CLWO	**Collingwood**	**32.11**	**16**	P	**P**	**03 09 20.5**	**-2.5**
	baz=202							
HWUT	**Hardware Ranch**	**32.22**	**332**	*eP*	**P**	**03 09 25.0**	**+0.9**
	20nm,1.6s							
PDAR	**Pinedale Array**	**32.32**	**336**	P	**P**	**03 09 25.2**	**+0.1**
	0.8nm,0.7s,baz=123,slow=11,SNR=7.6							
PDAR				PcP	**PcP**	**03 12 13.6**	**+1.0**
	0.6nm,0.6s,baz=137,slow=4.2,SNR=4.4							
PDAR				LR	LR	03 26 17.7		
	comp=Z,186nm,18.1s,baz=161,slow=43							
PDAR	**Pinedale Array**	**32.32**	**336**	*eP*	**P**	**03 09 26.9**	**+1.8**
PDAR				PcP	**PcP**	**03 12 13.6**	**+1.0**
BGU	**Big Grassy Mou**	**32.37**	**330**	*eP*	**P**	**03 09 27.9**	**+2.4**
	4.3nm,1.0s							
SADO	**Sadowa**	**32.73**	**18**	P	**P**	**03 09 25.9**	**-2.5**
	7.9nm,0.8s,baz=209,slow=9.4,SNR=3.8							
SADO				LR	LR	03 24 30.1		
	comp=Z,1µm,18.3s,baz=193,slow=40							
HVU	**Hansel Valley**	**32.91**	**331**	*eP*	**P**	**03 09 32.0**	**+1.9**
	12nm,1.0s							
AHID	**Auburn Hatcher**	**32.95**	**334**	*eP*	**P**	**03 09 31.3**	**+0.8**
KLBO	**Killbear Provi**	**32.97**	**16**	P	**P**	**03 09 26.9**	**-3.5**
	baz=202							
DELO	**Deloro Mine**	**32.98**	**20**	P	**P**	**03 09 28.4**	**-2.0**
	baz=207							
BUKO	**Buck Lake**	**33.27**	**17**	P	**P**	**03 09 30.9**	**-2.2**
	baz=203							
BANO	**Bancroft**	**33.33**	**19**	P	**P**	**03 09 30.4**	**-3.1**
	baz=206							
REDW	**Red Top Meadow**	**33.34**	**335**	*eP*	**P**	**03 09 34.7**	**+0.7**
	30nm,1.0s							
ELK	**Elko**	**33.34**	**328**	P	**P**	**03 09 34.9**	**+0.8**
	1.7nm,0.6s,baz=123,slow=9.0,SNR=11							
ELK				PcP	**PcP**	**03 12 15.6**	**+0.1**
	0.5nm,0.6s,baz=243,slow=2.7,SNR=2.3							
ELK				LR	LR	03 25 31.5		
	comp=Z,581nm,18.6s,baz=146,slow=40							
SNOW	**Snow King Moun**	**33.38**	**335**	*eP*	**P**	**03 09 35.7**	**+1.2**
	31nm,0.6s							
NV11	**Mina Array Sit**	**33.40**	**322**	*eP*	**P**	**03 09 36.5**	**+2.0**
	0.5nm,0.9s							
LOHW	**Long Hollow**	**33.45**	**336**	*eP*	**P**	**03 09 35.9**	**+0.9**
	9.5nm,0.8s							
MDPB	**Devils Postpil**	**33.47**	**320**	*eP*	**P**	**03 09 37.6**	**+2.3**
	2.7nm,0.9s							
NV01	**Mina Array Sit**	**33.49**	**322**	*eP*	**P**	**03 09 36.9**	**+1.5**
NVAR	**Mina Array Bea**	**33.49**	**322**	P	**P**	**03 09 36.6**	**+1.3**
	3.1nm,0.7s,baz=132,slow=8.7,SNR=35							
NVAR				PcP	**PcP**	**03 12 16.6**	**+0.7**
	0.7nm,0.8s,baz=158,slow=2.4,SNR=3.0							
NVAR				LR	LR	03 25 10.2		
	comp=Z,661nm,18.0s,baz=134,slow=40							
PLVO	**Plevna**	**33.62**	**20**	P	**P**	**03 09 33.6**	**-2.4**
	baz=207							
MOOW	**Moose Ponds**	**33.62**	**336**	*eP*	**P**	**03 09 37.2**	**+0.8**
	6.3nm,0.9s							
FXWY	**Fox Creek**	**33.64**	**335**	*eP*	**P**	**03 09 37.9**	**+1.3**
	7.8nm,1.0s							
KVN	**Kaiserville**	**33.77**	**323**	*eP*	**P**	**03 09 40.1**	**+2.3**
	21nm,2.0s							
FLWY	**Flagg Ranch**	**33.88**	**336**	*eP*	**P**	**03 09 39.7**	**+1.0**
	15nm,0.8s							
PEMO	**Pembroke**	**34.13**	**19**	P	**P**	**03 09 38.0**	**-2.5**
	baz=206							
ALGO	**Algonquin Park**	**34.13**	**18**	P	**P**	**03 09 37.8**	**-2.7**
	baz=205							
MDND	**Maddock**	**34.34**	**351**	*eP*	**P**	**03 09 41.6**	**-0.7**
	38nm,0.7s							
MDND	**Maddock**	**34.34**	**351**	P	**P**	**03 09 41.7**	**-0.7**
	baz=167							
YERR	**Yerington**	**34.41**	**321**	*eP*	**P**	**03 09 45.1**	**+1.8**
	16nm,1.7s							
YMR	**Madison River**	**34.48**	**336**	*eP*	**P**	**03 09 45.8**	**+1.9**
	7.2nm,0.9s							
ORIO	**Orleans, Innes**	**34.51**	**21**	P	**P**	**03 09 41.6**	**-2.2**
	baz=210							
PNTR	**Pine Nut**	**34.69**	**321**	*eP*	**P**	**03 09 48.4**	**+2.7**
	5.1nm,0.8s							
HLID	**Hailey**	**35.05**	**332**	*eP*	**P**	**03 09 49.7**	**+0.9**
	8.4nm,0.9s							
HLID	**Hailey**	**35.05**	**332**	P	**P**	**03 09 50.7**	**+1.9**
	baz=140							
D53A	**Lac Vacive, Po**	**35.25**	**17**	P	**P**	**03 09 48.0**	**-2.2**
	baz=205							
MCMT	**McKenzie Canyo**	**35.37**	**335**	*eP*	**P**	**03 09 53.5**	**+2.0**
D54A	**Lac Fusel, La**	**35.63**	**19**	P	**P**	**03 09 51.4**	**-2.1**
	baz=206							
BEKR	**Beckworth**	**35.63**	**322**	*eP*	**P**	**03 09 56.1**	**+2.3**
	5.6nm,1.1s							
DLMT	**Dillon**	**35.70**	**335**	*eP*	**P**	**03 09 55.7**	**+1.5**
	14nm,1.0s							
DGMT	**Dagmar**	**35.79**	**347**	*eP*	**P**	**03 09 54.9**	**0.0**
	92nm,1.9s							
ULM	**Lac du Bonnet**	**36.32**	**356**	P	**P**	**03 09 58.2**	**-1.2**
	4.9nm,0.8s,baz=196,slow=6.5,SNR=4.6							
ULM				LR	LR	03 27 15.0		
	comp=Z,141nm,18.7s,baz=176,slow=40							
WVOR	**Wild Horse Val**	**36.34**	**326**	*eP*	P	03 10 05.7	+5.9	
	5.2nm,0.9s							
SAML	**Samuel**	**36.83**	**126**	*eP*	**P**	**03 10 02.2**	**-1.9**
	17nm,1.8s							
PKME	**Peaks-Kenny Pk**	**36.85**	**28**	P	**P**	**03 10 05.0**	**+1.1**
	baz=219							
J08A	**Circle Bar Ran**	**36.89**	**328**	*eP*	**P**	**03 10 05.7**	**+1.2**
	8.7nm,0.7s							
LSQQ	**Lebel-sur-Quev**	**37.25**	**17**	P	**P**	**03 10 04.4**	**-2.8**
	baz=205							
MSO	**Missoula**	**37.44**	**335**	*eP*	**P**	**03 10 10.2**	**+1.2**
	50nm,2.0s							
MSO	**Missoula**	**37.44**	**335**	P	**P**	**03 10 10.4**	**+1.4**
	baz=144							
MATQ	**Matagami**	**37.71**	**16**	P	**P**	**03 10 08.4**	**-2.7**
	baz=204							
F10A	**Beach Ranch, E**	**38.19**	**332**	*eP*	**P**	**03 10 15.7**	**+0.3**
	18nm,0.9s							
YBH	**Yreka Blue Hor**	**38.19**	**322**	LR	LR	03 28 09.5		
	comp=Z,365nm,18.6s,baz=148,slow=40							
L04D	**Klamath Falls**	**38.25**	**323**	P	**P**	**03 10 17.8**	**+1.8**
	baz=128							
LPAZ	**La Paz**	**38.42**	**141**	P	**P**	**03 10 19.9**	**+1.7**
	1.5nm,0.8s,baz=332,slow=10,SNR=7.3							
LPAZ				LR	LR	03 27 04.2		
	comp=Z,156nm,19.4s,baz=326,slow=38							
CHGQ	**Chibougamau**	**38.78**	**19**	P	**P**	**03 10 17.4**	**-2.8**
	baz=208							
NEW	**Newport**	**39.89**	**334**	P	**P**	**03 10 29.8**	**+0.3**
	2.9nm,0.8s,baz=142,slow=15,SNR=7.0							
NEW				LR	LR	03 29 22.8		
	comp=Z,375nm,18.9s,baz=134,slow=40							
NEW	**Newport**	**39.89**	**334**	P	**P**	**03 10 30.8**	**+1.3**
	baz=140							
C09A	**Chrisman Ranch**	**40.03**	**333**	*eP*	**P**	**03 10 32.0**	**+1.3**
	9.9nm,0.6s							
SIV	**San Ignacio**	**42.92**	**133**	P	**P**	**03 10 54.1**	**-0.7**
	3.1nm,0.8s,baz=315,slow=8.0,SNR=18							
SIV				PcP	**PcP**	**03 12 44.7**	**-0.4**
	0.9nm,0.8s,baz=305,slow=4.7,SNR=3.0							
SCHQ	**Schefferville**	**45.41**	**21**	LR	LR	03 31 06.4		
	comp=Z,808nm,19.4s,baz=194,slow=37							
YKA	**Yellowknife Ar**	**51.00**	**347**	P	**P**	**03 11 56.9**	**-0.2**
	15nm,0.6s,baz=150,slow=7.3,SNR=66							
YKA				PcP	**PcP**	**03 13 13.1**	**+0.3**
	2.0nm,0.7s,baz=160,slow=3.9,SNR=5.3							
YKB5	**Yellowknife Ar**	**51.00**	**347**	*eP*	**P**	**03 11 56.3**	**-0.8**
YKW3	**Yellowknife Ar**	**51.06**	**347**	*eP*	**P**	**03 11 57.5**	**-0.1**
	19nm,0.6s							
DLBC	**Dease Lake**	**52.56**	**336**	P	**P**	**03 12 10.8**	**+1.9**
	4.8nm,0.6s,baz=142,slow=3.6,SNR=14							
CPUP	**Villa Florida**	**52.58**	**140**	LR	LR	03 34 02.8		
	comp=Z,64nm,19.0s,baz=340,slow=36							
BDFB	**Brasilia**	**52.80**	**122**	LR	LR	03 34 46.8		
	comp=Z,115nm,18.8s,baz=167,slow=36							
RKT	**Rikitea**	**55.62**	**229**	*e*LR	LR	03 28 45.0		
	210nm,25.5s							
PLCA	**Paso Flores**	**58.04**	**161**	LR	LR	03 33 54.7		
	comp=Z,112nm,18.1s,baz=12,slow=32							
DAWY	**Dawson**	**59.60**	**338**	*eP*	**P**	**03 12 59.6**	**+0.5**
	12nm,1.5s							
EPYK	**Eagle Plains**	**60.07**	**341**	P	**P**	**03 13 03.3**	**+1.0**
	baz=128							
INK	**Inuvik**	**60.39**	**344**	P	**P**	**03 13 04.2**	**-0.2**
	5.3nm,0.8s,baz=118,slow=6.2,SNR=20							
INK	**Inuvik**	**60.39**	**344**	*eP*	**P**	**03 13 04.7**	**+0.2**
	14nm,1.0s							
EGAK	**Eagle**	**60.63**	**338**	*eP*	**P**	**03 13 06.3**	**+0.1**
	23nm,1.9s							
DOT	**Dot Lake**	**61.13**	**336**	*eP*	**P**	**03 13 10.2**	**+0.6**
	14nm,1.3s							
SCRK	**Sand Creek**	**61.26**	**337**	*eP*	**P**	**03 13 12.3**	**+1.7**
	20nm,1.9s							
PAX	**Paxson**	**61.36**	**335**	*eP*	**P**	**03 13 11.9**	**+0.7**
	7.2nm,0.9s							
GHO	**Glory Hole Cre**	**62.28**	**333**	*eP*	**P**	**03 13 20.5**	**+3.0**
	29nm,1.0s							
PMR	**Palmer**	**62.30**	**333**	*eP*	**P**	**03 13 19.9**	**+2.5**
	17nm,1.2s							
KDAK	**Kodiak Island**	**62.58**	**328**	P	**P**	**03 13 20.4**	**+1.1**
	7.0nm,0.6s,baz=198,slow=2.0,SNR=5.1							
HDA	**Harding Lake**	**62.61**	**337**	P	**P**	**03 13 20.3**	**+0.8**
	baz=117							
IL1	**Eielson Array**	**62.75**	**337**	*eP*	**P**	**03 13 19.7**	**-0.7**
ILAR	**Eielson Array**	**62.75**	**337**	P	**P**	**03 13 20.4**	**0.0**
	3.1nm,0.7s,baz=154,slow=4.4,SNR=32							
ILAR				LR	LR	03 42 50.7		
	comp=Z,148nm,18.3s,baz=133,slow=38							
ILB	**Eielson Array**	**62.75**	**337**	*eP*	**P**	**03 13 21.0**	**+0.6**
CCB	**Clear Creek Bu**	**63.05**	**337**	*eP*	**P**	**03 13 22.2**	**-0.2**
	13nm,1.5s							
POKR	**Poker Plat Res**	**63.12**	**337**	P	**P**	**03 13 24.0**	**+1.2**
	baz=117							
MDM	**Murphy Dome**	**63.35**	**337**	*eP*	**P**	**03 13 24.5**	**+0.1**
	26nm,1.9s							
BWN	**Browne**	**63.49**	**336**	*eP*	**P**	**03 13 25.8**	**+0.4**
	33nm,0.9s							
PPT	**Papeete**	**64.53**	**243**	LR	LR	03 34 05.6		
	comp=Z,139nm,21.3s,baz=24,slow=29							
PPT2	**Papeete2**	**64.54**	**243**	*e*LR	LR	03 32 30.3		
	230nm,27.5s							
SVW2	**Sparrevohn**	**65.05**	**331**	*eP*	**P**	**03 13 37.4**	**+1.8**
	28nm,1.6s							
TOLK	**Toolik Lake Re**	**65.45**	**340**	*eP*	**P**	**03 13 38.7**	**+0.6**
	5.2nm,0.7s							
TOLK	**Toolik Lake Re**	**65.45**	**340**	P	**P**	**03 13 39.0**	**+0.9**
	baz=116,SNR=5.5							
TBI	**Tubuai**	**67.00**	**237**	*e*LR	LR	03 34 01.8		
	180nm,27.2s							
ESDC	**Sonseca Array**	**80.05**	**52**	P	**P**	**03 15 03.1**	**-2.3**
	1.1nm,0.8s,baz=287,slow=5.8,SNR=6.4							
ES19	**SONSECA Array**	**80.09**	**52**	*eP*	**P**	**03 15 03.0**	**-2.6**
NOA	**NORSAR Array B**	**84.38**	**28**	P	**P**	**03 15 25.7**	**-1.9**
	0.8nm,0.8s,baz=286,slow=5.5,SNR=3.7							
DBIC	**Dimbokro**	**86.03**	**84**	P	**P**	**03 15 35.2**	**-1.5**
	3.4nm,0.7s,baz=284,slow=7.3,SNR=6.1							
ARCES	**ARCESS Array B**	**86.31**	**18**	P	**P**	**03 15 35.9**	**-1.1**
	1.7nm,0.7s,baz=324,slow=6.0,SNR=5.1							
TIXI	**Tiksi**	**90.24**	**348**	*eP*	**P**	**03 15 55.4**	**-0.2**
SONM	**Songino Array**	**116.26**	**346**	PKP	**PKPdf**	**03 21 40.5**	**+1.4**
	0.6nm,0.7s,baz=322,slow=1.6,SNR=3.5							
MKAR	**Makanchi Array**	**119.36**	**4**	PKP	**PKPdf**	**03 21 44.0**	**-1.0**
	0.6nm,0.7s,baz=25,slow=3.8,SNR=2.9							
BOSA	**Boshof**	**120.67**	**115**	PKP	**PKPdf**	**03 21 47.9**	**-0.2**
	3.0nm,0.8s,baz=315,slow=1.4,SNR=2.8							
KSH	**Kashi**	**125.72**	**11**	*e*PKP	**PKPdf**	**03 22 02.5**	**+5.0**
LZH	**Lanzhou**	**127.94**	**343**	*e*PKP	**PKPdf**	**03 22 01.8**	**-0.1**
LZH				pPKP	pPKPdf	03 22 10.3	-3.0
LZH				sPKP		03 22 12.7		
LZH				LR	LR			
	comp=N,100nm,18.1s							
LZH				LR	LR			
	comp=E,110nm,17.9s							
LZH				LR	LR			
	comp=Z,140nm,20.2s							
XAN	**Xi'an**	**128.16**	**337**	PKP	**PKPdf**	**03 22 09.9**	**+7.7**
CD2	**Chengdu**	**132.79**	**341**	PKP	**PKPdf**	**03 22 11.0**	**-0.1**
WRA	**Warramunga Arr**	**135.02**	**256**	PKhKP	PKPpre	03 22 12.2		
	comp=Z,0.3nm,0.7s,baz=88,slow=2.5,SNR=4.9							
ASAR	**Alice Springs**	**135.29**	**250**	PKP	**PKPdf**	**03 22 14.8**	**-1.1**
	comp=Z,0.6nm,0.9s,baz=112,slow=0.5,SNR=4.2							
CMAR	**Chiang Mai Arr**	**145.93**	**341**	PKPbc	**PKPdf**	**03 22 35.8**	**+0.6**
	comp=Z,11nm,0.7s,baz=336,slow=3.3,SNR=26							

ROM ***12*** *03:03:54.0±0.1,39.917N±0.005×15.999E±0.008, h9km, ML2.8/20*
ISCJB ***12*** *03:03:54.4±0.4,39.92N±0.02×15.99E±0.03,h11km±3km, Error ellipse: s-maj=4.5km s-min=3.5km az=167.7*
ISC 12 03:03:54.4±0.8,39.91N±0.02×15.99E±0.03,h9km±5km, n28,σ1s01/39,Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MMN	**Mormanno**	**0.02**	**173**	P		**Pg**	**03 03 56.0**	**+0.1**
MMN				S		**Sg**	**03 03 57.2**	**+0.2**
MMN				AML		AML		
	comp=E,25900µm,0.2s							
MMN				AML		AML		
	comp=N,40700µm,0.4s							
T0701	**Viggianello (P**	**0.12**	**52**	P		**Pg**	**03 03 57.2**	**-0.1**
T0701				S		**Sg**	**03 03 59.2**	**-0.1**
CUC	**Castrocucco**	**0.16**	**302**	*i* P		**Pg**	**03 03 58.0**	**+0.3**
CUC				S		**Sg**	**03 04 00.8**	**+0.7**
CUC				AML		AML		
	comp=E,9905µm,0.5s							
CUC				AML		AML		
	comp=N,8205µm,0.7s							
CUC				AML		AML		
	comp=E,11300µm,0.5s							
CUC				AML		AML		
	comp=N,9830µm,0.7s							
CUC				AML		AML		
	comp=E,9905µm,0.5s							
CUC				AML		AML		
	comp=N,8205µm,0.7s							
CUC				AML		AML		
	comp=E,11300µm,0.5s							
CUC				AML		AML		
	comp=N,9830µm,0.7s							
CUC				AML		AML		
	comp=E,11300µm,0.5s							
CUC				AML		AML		
	comp=E,9905µm,0.5s							
CUC				AML		AML		
	comp=N,8205µm,0.7s							
CUC				AML		AML		
	comp=N,9830µm,0.7s							
T0702	**Acquaformosa (**	**0.20**	**159**	P		**Pg**	**03 03 59.1**	**+0.5**
T0702				S		**Sg**	**03 04 02.5**	**+1.1**
T0702				AML		AML		
	comp=E,4385µm,0.6s							
T0702				AML		AML		
	comp=N,3445µm,0.3s							
T0702				AML		AML		
	comp=E,4380µm,0.6s							
T0702				AML		AML		
	comp=N,3450µm,0.3s							
T0702				AML		AML		
	comp=N,3445µm,0.3s							
T0702				AML		AML		
	comp=E,4385µm,0.6s							
SALB	**San Lorenzo Be**	**0.28**	**97**	P		**Pg**	**03 03 59.7**	**-0.3**
SALB				S		**Sb**	**03 04 04.5**	**-2.0**
SALB				AML		AML		
	comp=E,4315µm,0.4s							
SALB				AML		AML		
	comp=N,4215µm,0.3s							
SALB				AML		AML		
	comp=E,4625µm,0.4s							
SALB				AML		AML		
	comp=N,4285µm,0.3s							
SALB				AML		AML		
	comp=N,4215µm,0.3s							
SALB				AML		AML		
	comp=N,4285µm,0.3s							
SALB				AML		AML		
	comp=E,4625µm,0.4s							
SALB				AML		AML		
	comp=E,4315µm,0.4s							
SIRI	**Monte Sirino -**	**0.29**	**341**	P		**Pb**	**03 04 00.5**	**-1.3**
SIRI				S		**Sb**	**03 04 06.0**	**-0.8**
SIRI				AML		AML		
	comp=E,5850µm,1.0s							
SIRI				AML		AML		
	comp=N,7515µm,0.9s							
SIRI				AML		AML		
	comp=E,6075µm,1.0s							
SIRI				AML		AML		
	comp=N,7680µm,0.9s							
SIRI				AML		AML		
	comp=E,5850µm,1.0s							
SIRI				AML		AML		
	comp=N,7515µm,0.9s							
SIRI				AML		AML		
	comp=E,6075µm,1.0s							
SIRI				AML		AML		
	comp=N,7680µm,0.9s							
SIRI				AML		AML		
	comp=N,7515µm,0.9s							
SIRI				AML		AML		
	comp=E,5850µm,1.0s							
SIRI				AML		AML		
	comp=E,6075µm,1.0s							
SCHR	**S. Chirico Rap**	**0.30**	**13**	P		**Pg**	**03 04 00.1**	**-0.3**
SCHR				S		**Sg**	**03 04 04.9**	**+0.6**
SCHR				AML		AML		
	comp=E,1540µm,0.6s							
SCHR				AML		AML		
	comp=N,1530µm,1.0s							
SCHR				AML		AML		
	comp=E,1540µm,0.6s							
SCHR				AML		AML		
	comp=N,1535µm,1.0s							
SCHR				AML		AML		
	comp=N,1530µm,1.0s							
SCHR				AML		AML		
	comp=E,1540µm,0.6s							
CET2	**Cetraro**	**0.38**	**184**	P		**Pg**	**03 04 02.2**	**+0.3**
CET2				S		**Sb**	**03 04 08.2**	**-1.2**
CET2				AML		AML		
	comp=E,1295µm,1.2s							
CET2				AML		AML		
	comp=N,1865µm,0.9s							
CET2				AML		AML		
	comp=E,1295µm,1.2s							
CET2				AML		AML		
	comp=N,1865µm,0.9s							
CET2				AML		AML		
	comp=N,1865µm,0.9s							
CET2				AML		AML		
	comp=E,1295µm,1.2s							
MTSN	**Montesano sull**	**0.40**	**333**	P		**Pg**	**03 04 02.3**	**+0.1**
MTSN				AML		AML		
	comp=E,2705µm,0.5s							
MTSN				AML		AML		
	comp=N,1805µm,0.7s							
MTSN				AML		AML		
	comp=E,2705µm,0.5s							
MTSN				AML		AML		
	comp=N,1805µm,0.7s							
MTSN				AML		AML		
	comp=E,2705µm,0.5s							
MTSN				AML		AML		
	comp=N,1805µm,0.7s							
MGR	**Morigerati**	**0.40**	**304**	P		**Pg**	**03 04 02.2**	**-0.1**
MGR				AML		AML		
	comp=E,2090µm,0.7s							
MGR				AML		AML		
	comp=N,1945µm,0.3s							
MGR				AML		AML		
	comp=E,1990µm,1.3s							
MGR				AML		AML		
	comp=N,1940µm,0.7s							
MGR				AML		AML		
	comp=E,2090µm,0.7s							
MGR				AML		AML		
	comp=N,1945µm,0.3s							
MGR				AML		AML		
	comp=E,1990µm,1.3s							
MGR				AML		AML		
	comp=N,1940µm,0.7s							
MGR				AML		AML		
	comp=N,1940µm,0.7s							
MGR				AML		AML		
	comp=N,1945µm,0.3s							
MGR				AML		AML		
	comp=E,2090µm,0.7s							
MGR				AML		AML		
	comp=E,1990µm,1.3s							
MCEL	**Monticello**	**0.44**	**341**	P		**Pg**	**03 04 02.9**	**-0.1**
MCEL				AML		AML		
	comp=E,1530µm,1.5s							
MCEL				AML		AML		
	comp=N,1238µm,0.7s							
MCEL				AML		AML		
	comp=E,1550µm,1.5s							
MCEL				AML		AML		
	comp=N,1280µm,0.7s							
MCEL				AML		AML		
	comp=N,1280µm,0.7s							
MCEL				AML		AML		
	comp=N,1238µm,0.7s							
MCEL				AML		AML		
	comp=E,1550µm,1.5s							
MCEL				AML		AML		
	comp=E,1530µm,1.5s							
BULG	**Bulgheria - Ca**	**0.50**	**290**	P		**Pg**	**03 04 04.2**	**+0.1**
BULG				AML		AML		
	comp=E,1950µm,0.3s							
BULG				AML		AML		
	comp=N,2240µm,0.4s							
BULG				AML		AML		
	comp=E,2015µm,0.3s							
BULG				AML		AML		
	comp=N,2320µm,0.4s							
BULG				AML		AML		
	comp=N,2240µm,0.4s							
BULG				AML		AML		
	comp=N,2320µm,0.4s							
BULG				AML		AML		
	comp=E,1950µm,0.3s							
BULG				AML		AML		
	comp=E,2015µm,0.3s							
SLCN	**Sala Consilina**	**0.55**	**331**	P		**Pg**	**03 04 05.0**	**-0.1**
SLCN				AML		AML		
	comp=E,1555µm,0.9s							
SLCN				AML		AML		
	comp=N,1720µm,0.4s							
SLCN				AML		AML		
	comp=E,1730µm,0.7s							
SLCN				AML		AML		
	comp=N,1700µm,0.4s							
SLCN				AML		AML		
	comp=N,1700µm,0.4s							
SLCN				AML		AML		
	comp=N,1720µm,0.4s							
SLCN				AML		AML		
	comp=E,1730µm,0.7s							
SLCN				AML		AML		
	comp=E,1555µm,0.9s							
PTRP	**Pietrapertosa**	**0.61**	**5**	P		**Pb**	**03 04 06.7**	**-0.7**
CMPR	**Campora**	**0.66**	**308**	P		**Pg**	**03 04 06.8**	**-0.5**
CMPR				AML		AML		
	comp=E,1085µm,0.5s							
CMPR				AML		AML		
	comp=N,1105µm,1.4s							
CMPR				AML		AML		
	comp=N,1105µm,1.4s							
CMPR				AML		AML		
	comp=E,1085µm,0.5s							
CAR1	**CAROLEI**	**0.68**	**165**	P		**Pb**	**03 04 07.8**	**-0.6**
CAR1				AML		AML		
	comp=E,2160µm,1.6s							
CAR1				AML		AML		
	comp=N,1405µm,0.9s							
CAR1				AML		AML		
	comp=E,2160µm,1.6s							
CAR1				AML		AML		
	comp=N,1405µm,0.9s							
MIGL	**Miglionico**	**0.78**	**26**	P		**Pg**	**03 04 08.5**	**-0.8**
MIGL				AML		AML		
	comp=E,1135µm,1.4s							
MIGL				AML		AML		
	comp=N,1138µm,1.6s							
MIGL				AML		AML		
	comp=N,1138µm,1.6s							
MIGL				AML		AML		
	comp=E,1135µm,1.4s							
CDRU	**Civita di Ruta**	**0.78**	**318**	P		**Pg**	**03 04 08.9**	**-0.6**
CDRU				AML		AML		
	comp=E,500µm,1.6s							
CDRU				AML		AML		
	comp=N,294µm,1.4s							
CDRU				AML		AML		
	comp=E,500µm,1.6s							
CDRU				AML		AML		
	comp=N,294µm,1.4s							
MRLC	**Muro Lucano**	**0.93**	**336**	P		**Pn**	**03 04 12.8**	**-0.8**
MRLC				AML		AML		
	comp=E,352µm,0.6s							
MRLC				AML		AML		

comp=N,242μm,0.5s
MRLC AML AML
comp=E,352μm,0.6s
MRLC AML AML
comp=N,242μm,0.5s
LTRZ Laterza 0.94 42 P **Pg 03 04 11.6 -0.9**
LTRZ AML AML
comp=E,279μm,0.3s
LTRZ AML AML
comp=N,386μm,1.1s
LTRZ AML AML
comp=E,279μm,0.3s
LTRZ AML AML
comp=N,386μm,1.1s
SERS Sersale 1.03 148 P **Pn 03 04 14.8 -0.3**
SERS AML AML
comp=E,280μm,0.4s
SERS AML AML
comp=N,228μm,1.3s
SERS AML AML
comp=E,260μm,1.3s
SERS AML AML
comp=N,276μm,0.4s
SERS AML AML
comp=N,276μm,0.4s
SERS AML AML
comp=N,228μm,1.3s
SERS AML AML
comp=E,280μm,0.4s
SERS AML AML
comp=E,260μm,1.3s
SG1 Sgolgore (BA) 1.07 29 *e*Pg **Pn 03 04 16.0 +0.4**
SG1 Sg **Sn 03 04 34.1 +3.5**
AMUR Altamura 1.10 25 P **Pn 03 04 15.8 -0.3**
AMUR AML AML
comp=E,320μm,0.5s
AMUR AML AML
comp=N,378μm,1.2s
AMUR AML AML
comp=E,320μm,0.5s
AMUR AML AML
comp=N,378μm,1.2s
MASS Massafra 1.14 50 *e*Pg **Pn 03 04 16.4 -0.2**
NOCI Noci 1.20 43 P **Pg 03 04 16.9 -0.6**
NOCI AML AML
comp=E,264μm,0.9s
NOCI AML AML
comp=N,365μm,0.3s
NOCI AML AML
comp=N,365μm,0.3s
NOCI AML AML
comp=E,264μm,0.9s
BAI Bari 1.38 29 *e*Pg **Pg 03 04 22.5 +1.7**
BAI Sg **Sg 03 04 40.8 +2.2**
FASA Fasano 1.38 49 *e*Pg **Pg 03 04 20.4 -0.5**
STON Ston 3.23 23 *e*Pn **Pn 03 04 45.9 +0.7**
STON Sn **Sn 03 05 24.5 +0.8**

BUC 12 03:06:42.6±0.4, 45°64N×26°50E, h152km±4km, MD3.5/4, 46C-20D, Error ellipse: s-maj=3.6km s-min=2.7km az=29.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.23**	**26**	↑*i* P	Pn	03 07 02.6	-0.7
PLOR	**Plostina**	**0.23**	**26**	↑*i* P	Pn	03 07 02.6	-0.7
PLOR				*i* S	Sn	03 07 17.8	-1.3
VRI	**Vrincioaia**	**0.27**	**35**	↓*i* P	Pn	03 07 02.8	-0.5
VRI	**Vrincioaia**	**0.27**	**35**	↓*i* P	Pn	03 07 02.8	-0.5
VRI				*i* S	Sn	03 07 18.1	-1.1
ODBI	**Odobesti**	**0.41**	**73**	↑*i* P	Pn	03 07 04.3	+0.6
ODBI	**Odobesti**	**0.41**	**73**	↑*i* P	Pn	03 07 04.3	+0.6
ODBI				*i* S	Sn	03 07 20.4	+0.5
MLR	**Muntele Rosu**	**0.42**	**249**	↑*i* P	Pn	03 07 03.7	-0.3
MLR	**Muntele Rosu**	**0.42**	**249**	↑*i* P	Pn	03 07 03.7	-0.3
MLR				*i* S	Sn	03 07 19.2	-1.1
GRER		**0.42**	**128**	↑*i* P	Pn	03 07 04.6	+0.8
GRER		**0.42**	**128**	↑*i* P	Pn	03 07 04.6	+0.8
GRER				*i* S	Sn	03 07 18.5	-1.5
PETR	**Petresti**	**0.52**	**81**	↑*i* P	Pn	03 07 04.3	+0.1
PETR	**Petresti**	**0.52**	**81**	↑*i* P	Pn	03 07 04.3	+0.1
PETR				*i* S	Sn	03 07 20.6	-0.1
ISR	**Istrita**	**0.53**	**177**	↓*i* P	Pn	03 07 05.0	+0.6
ISR				S	Sn	03 07 20.5	-0.5
ISR	**Istrita**	**0.53**	**177**	↓*i* P	Pn	03 07 05.0	+0.6
ISR				*i* S	Sn	03 07 20.5	-0.5
OZUR		**0.68**	**312**	↑*i* P	Pn	03 07 04.5	-0.7
OZUR		**0.68**	**312**	↑*i* P	Pn	03 07 04.5	-0.7
OZUR				*i* S	Sn	03 07 20.8	-1.7
SECR		**0.68**	**207**	↑*i* P	Pn	03 07 05.6	+0.3
SECR		**0.68**	**207**	↑*i* P	Pn	03 07 05.6	+0.3
SECR				*i* S	Sn	03 07 22.8	+0.3
PLAR	**PLOIESTI**	**0.80**	**205**	↑*i* P	Pn	03 07 06.4	+0.4
PLAR	**PLOIESTI**	**0.80**	**205**	↑*i* P	Pn	03 07 06.4	+0.4
PLAR				*i* S	Sn	03 07 24.6	+0.7
DOPR	**Dopca**	**0.84**	**293**	↑*i* P	Pn	03 07 05.9	-0.5
DOPR	**Dopca**	**0.84**	**293**	↑*i* P	Pn	03 07 05.9	-0.5
DOPR				*i* S	Sn	03 07 23.5	-1.0
SULR		**0.98**	**190**	↑*i* P	Pn	03 07 07.7	+0.3
SULR		**0.98**	**190**	↑*i* P	Pn	03 07 07.7	+0.3
SULR				*i* S	Sn	03 07 25.6	-0.7
MTUR	**Matau**	**1.10**	**248**	↑*i* P	Pn	03 07 08.5	0.0
MTUR	**Matau**	**1.10**	**248**	↑*i* P	Pn	03 07 08.5	0.0
AMRR	**Amara**	**1.19**	**150**	↓*i* P	Pn	03 07 09.5	+0.3
AMRR	**Amara**	**1.19**	**150**	↓*i* P	Pn	03 07 09.5	+0.3
AMRR				*i* S	Sn	03 07 29.4	-0.1
CFR	**Carcaliu**	**1.24**	**111**	↓*i* P	Pn	03 07 09.3	-0.4
CFR	**Carcaliu**	**1.24**	**111**	↓*i* P	Pn	03 07 09.3	-0.4
CFR				*i* S	Sn	03 07 28.9	-1.5
BIZ	**Bicaz**	**1.33**	**348**	↓*i* P	Pn	03 07 10.8	+0.3
BIZ	**Bicaz**	**1.33**	**348**	↓*i* P	Pn	03 07 10.8	+0.3
BIZ				*i* S	Sn	03 07 30.9	-1.1
BUC1	**Bucharest**	**1.34**	**195**	↑*i* P	Pn	03 07 10.9	+0.2
BUC1	**Bucharest**	**1.34**	**195**	↑*i* P	Pn	03 07 10.9	+0.2
BUC1				*i* S	Sn	03 07 31.8	-0.3
ARR	**Arges**	**1.34**	**259**	↑*i* P	Pn	03 07 11.3	+0.5
ARR	**Arges**	**1.34**	**259**	↑*i* P	Pn	03 07 11.3	+0.5
ARR				*i* S	Sn	03 07 30.4	-2.0
HARR	**Harsova**	**1.39**	**133**	↑*i* P	Pn	03 07 11.1	-0.1
HARR	**Harsova**	**1.39**	**133**	↑*i* P	Pn	03 07 11.1	-0.1
SGRR	**Singureni**	**1.47**	**195**	↑*i* P	Pn	03 07 11.9	-0.1
SGRR	**Singureni**	**1.47**	**195**	↑*i* P	Pn	03 07 11.9	-0.1
SGRR				*i* S	Sn	03 07 33.0	-1.5
TLB	**Topalu**	**1.52**	**134**	↓*i* P	Pn	03 07 12.4	-0.1
TLB	**Topalu**	**1.52**	**134**	↓*i* P	Pn	03 07 12.4	-0.1
TLB				*i* S	Sn	03 07 34.0	-1.3
HUMR	**Humele**	**1.55**	**225**	↑*i* P	Pn	03 07 12.6	-0.3
HUMR	**Humele**	**1.55**	**225**	↑*i* P	Pn	03 07 12.6	-0.3
HUMR				*i* S	Sn	03 07 35.4	-0.6
TLCR		**1.69**	**105**	↓*i* P	Pn	03 07 14.4	+0.1
TLCR		**1.69**	**105**	↓*i* P	Pn	03 07 14.4	+0.1
TLCR				*i* S	Sn	03 07 37.4	-1.2
CVDA	**Cernavoda**	**1.70**	**140**	↑*i* P	Pn	03 07 14.7	+0.2
CVDA				S	Sn	03 07 37.6	-1.3
CVDA	**Cernavoda**	**1.70**	**140**	↑*i* P	Pn	03 07 14.7	+0.2
CVDA				*i* S	Sn	03 07 37.6	-1.3
TIRR	**Tirgusor**	**1.80**	**131**	↓*i* P	Pn	03 07 15.5	0.0
TIRR	**Tirgusor**	**1.80**	**131**	↓*i* P	Pn	03 07 15.5	0.0
TIRR				*i* S	Sn	03 07 39.0	-1.8
LOT	**Lotru**	**1.93**	**265**	↑*i* P	Pn	03 07 17.9	+0.7
LOT	**Lotru**	**1.93**	**265**	↑*i* P	Pn	03 07 17.9	+0.7
LOT				*i* S	Sn	03 07 44.1	+0.4
ARCR	**ARCALIA**	**2.07**	**315**	↑*i* P	Pn	03 07 18.5	-0.2
ARCR	**ARCALIA**	**2.07**	**315**	↑*i* P	Pn	03 07 18.5	-0.2
ARCR				*i* S	Sn	03 07 46.4	-0.1
ZIMR		**2.15**	**203**	↑*i* P	Pn	03 07 19.3	-0.2
ZIMR		**2.15**	**203**	↑*i* P	Pn	03 07 19.3	-0.2
ZIMR				*i* S	Sn	03 07 46.6	-1.3
BURAR	**Bucovina Array**	**2.16**	**336**	↑*i* P	Pn	03 07 20.8	+1.0
BURAR	**Bucovina Array**	**2.16**	**336**	↑*i* P	Pn	03 07 20.8	+1.0
BURAR				*i* S	Sn	03 07 46.0	-2.5
SRE	**Strehaia**	**2.53**	**248**	↑*i* P	Pn	03 07 23.9	-0.3
SRE	**Strehaia**	**2.53**	**248**	↑*i* P	Pn	03 07 23.9	-0.3
SRE				*i* S	Sn	03 07 55.1	-1.2
GZR	**Gura Zlata**	**2.63**	**266**	↓*i* P	Pn	03 07 25.9	+0.4
GZR	**Gura Zlata**	**2.63**	**266**	↓*i* P	Pn	03 07 25.9	+0.4
DRGR		**2.87**	**295**	↑*i* P	Pn	03 07 27.7	-0.8
DRGR		**2.87**	**295**	↑*i* P	Pn	03 07 27.7	-0.8
HERR	**Herculane**	**2.99**	**257**	↓*i* P	Pn	03 07 29.3	-0.5
HERR	**Herculane**	**2.99**	**257**	↓*i* P	Pn	03 07 29.3	-0.5

IDC **12** *03:14:10.7±1.2, 36°08N×27°38E, h0km, mb3.8/7, mb1 3.8/8, mb1mx3.6/45, mbtmp3.7/8, ML3.0/1, Error ellipse: s-maj=40.3km s-min=16.8km az=143.0*
ISK **12** *03:14:10.9, 36°01N×27°45E, h9km, ML3.6/17*
ISCJB **12** *03:14:11.7±0.5, 35°99N±0°02×27°51E±0°02, h10km±3km, mb3.6/7, Error ellipse: s-maj=3.5km s-min=2.2km az=159.6*
ATH **12** *03:14:12.0, 36°01N×27°54E, h31km, ML3.4/14, Error ellipse: s-maj=0.8km s-min=0.5km az=97.0*
THE **12** *03:14:12.2, 35°97N×27°54E, h0km, ML3.8/4, Error ellipse: s-maj=0.6km s-min=0.3km az=158.0*
DDA **12** *03:14:12.3, 36°09N×27°49E, h17km, MI3.5*
NIC **12** *03:14:17.8±0.2, 36°39N×27°93E, h22km, mb4.2, ML3.6*
ISC 12 03:14:12.3±1.0, 36°00N±0°02×27°52E±0°02, h12km±7km, n135, σ1§09/169, mb3.8/7, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.53**	**66**	PG	**Pg**	**03 14 22.7**	**0.0**
ARG				SG	**Sb**	**03 14 31.3**	**+0.2**
ARG	**Arkhangelos**	**0.53**	**66**	P	**Pg**	**03 14 23.2**	**+0.5**
ARG				S	**Sg**	**03 14 30.6**	**+0.8**
ARG				AML	AML	03 14 32.3	
	comp=E,14034μm,0.6s						
ARG				AML	AML	03 14 33.1	
	comp=N,8882μm,0.2s						
ARG	**Arkhangelos**	**0.53**	**66**	P	**Pg**	**03 14 23.0**	**+0.3**
ARG				S	**Sb**	**03 14 31.7**	**+0.6**
KARP	**Karpathos**	**0.54**	**213**	PG	**Pg**	**03 14 21.3**	**-1.6**
KARP				SG	**Sg**	**03 14 28.9**	**-1.2**
KARP	**Karpathos**	**0.54**	**213**	P	**Pg**	**03 14 23.4**	**+0.5**
KARP				S	**Sb**	**03 14 32.3**	**+0.8**
KARP				AML	AML	03 14 33.7	
	comp=N,3847μm,0.3s						
KARP				AML	AML	03 14 37.7	
	comp=E,3452μm,0.2s						
KARP	**Karpathos**	**0.54**	**213**	P	**Pg**	**03 14 23.2**	**+0.3**
KARP				S	**Sb**	**03 14 31.7**	**+0.2**
NIS1	**Nisyros Isl.**	**0.66**	**335**	PG	**Pg**	**03 14 23.5**	**-1.6**
NIS1	**Nisyros Isl.**	**0.66**	**335**	P	**Pg**	**03 14 25.5**	**+0.4**
NIS1				S	**Sb**	**03 14 34.8**	**0.0**
NIS1				AML	AML	03 14 42.8	
	comp=N,14358μm,0.3s						
NIS1				AML	AML	03 14 45.6	
	comp=E,24207μm,0.5s						
NIS1	**Nisyros Isl.**	**0.66**	**335**	P	**Pb**	**03 14 26.2**	**+0.5**
NIS1				S	**Sn**	**03 14 37.1**	**-0.6**
NISR	**Nisiros**	**0.69**	**332**	P	**Pg**	**03 14 25.8**	**+0.2**
NISR				S	**Sb**	**03 14 36.4**	**+0.9**
NISR				AML	AML	03 14 40.0	
	comp=N,6657μm,0.5s						
NISR				AML	AML	03 14 40.9	
	comp=E,10008μm,0.3s						
DAT	**Datca**	**0.72**	**3**	PG	**Pg**	**03 14 26.2**	**-0.2**
DAT	**Datca**	**0.72**	**3**	*i* P	**Pg**	**03 14 26.6**	**+0.3**
DAT				*i* S	**Sn**	**03 14 38.6**	**-0.9**
DATC	**Datca-Mugla**	**0.76**	**8**	PG	**Pg**	**03 14 26.4**	**-0.6**
MRSB	**Marmaris-Mugla**	**0.89**	**37**	PG	**Pb**	**03 14 29.5**	**-0.2**
MRSB				SG	**Sb**	**03 14 41.9**	**+0.3**
BODT	**Bodrum**	**1.07**	**351**	PG	**Pb**	**03 14 31.7**	**-1.0**
BODT	**Bodrum**	**1.07**	**351**	P	**Pg**	**03 14 33.4**	**+0.5**
BODT				S	**Sn**	**03 14 49.7**	**+1.8**
DALY	**Dalyan (Mu¨la**	**1.22**	**48**	PN	**Pb**	**03 14 35.4**	**+0.1**
DALY	**Dalyan (Mu¨la**	**1.22**	**48**	*i* P	**Pb**	**03 14 35.7**	**+0.1**
DALY				*i* S	**Sn**	**03 14 51.7**	**+0.2**
TURN	**Turunc**	**1.23**	**45**	PG	Pn	03 14 30.3	-4.9
TURN	**Turunc**	**1.23**	**45**	*i* P	Pn	03 14 30.3	-4.9
TURN				*i* S	**Sb**	**03 14 43.1**	**-8.1**
MLSB	**Milas**	**1.30**	**9**	PN	**Pn**	**03 14 35.9**	**-0.4**
MLSB				SN	**Sg**	**03 14 54.4**	**+0.1**
ZKR	**Zakros**	**1.39**	**231**	P	**Pn**	**03 14 37.5**	**+0.1**
ZKR				S	**Sb**	**03 14 55.8**	**+0.1**
ZKR				AML	AML	03 15 02.5	
	comp=N,1070μm,0.6s						
ZKR				AML	AML	03 15 07.3	
	comp=E,2069μm,0.6s						
FETY	**Fethiye**	**1.41**	**63**	PN	**Pb**	**03 14 38.6**	**+0.1**
FETY	**Fethiye**	**1.41**	**63**	P	**Pn**	**03 14 37.7**	**0.0**
FETY				S	**Sg**	**03 14 57.6**	**0.0**
STIA	**Sitia Lasithi**	**1.42**	**236**	P	**Pn**	**03 14 37.9**	**+0.1**
ANAF	**Anafi Island**	**1.46**	**284**	P	**Pn**	**03 14 38.3**	**-0.2**
ANAF				S	**Sn**	**03 14 56.9**	**-0.6**
ANAF	**Anafi Island**	**1.46**	**284**	P	**Pn**	**03 14 38.8**	**+0.4**
ANAF				S	**Sg**	**03 14 59.2**	**-0.1**
AMGA	**Amorgos Island**	**1.55**	**303**	P	**Pn**	**03 14 39.4**	**-0.3**
AMGA				S	**Sn**	**03 14 59.6**	**-0.1**
AMGA				AML	AML	03 15 08.4	
	comp=N,2155μm,0.5s						
AMGA				AML	AML	03 15 12.2	
	comp=E,1560μm,0.8s						
AMGA	**Amorgos Island**	**1.55**	**303**	P	**Pn**	**03 14 40.3**	**+0.6**
KSL	**Kastellorizon**	**1.68**	**84**	P	**Pn**	**03 14 40.5**	**-0.9**
KSL				S	**Sn**	**03 15 02.8**	**0.0**
KSL				AML	AML	03 15 08.3	
	comp=N,692μm,0.5s						
KSL				AML	AML	03 15 08.5	
	comp=E,975μm,1.0s						
AYDN	**Tasoluk**	**1.68**	**10**	*i* P	**Pn**	**03 14 41.9**	**+0.5**
AKAS	**Kas**	**1.70**	**82**	PN	**Pn**	**03 14 42.4**	**+0.5**
AKAS	**Kas**	**1.70**	**82**	*i* P	**Pb**	**03 14 44.0**	**+0.5**
THR8	**Santorini-Mono**	**1.70**	**284**	P	**Pn**	**03 14 42.0**	**+0.2**
GCAM	**G?zelcamli?**	**1.71**	**352**	PN	**Pn**	**03 14 41.7**	**-0.1**
GCAM	**G?zelcamli?**	**1.71**	**352**	*i* P	**Pn**	**03 14 42.5**	**+0.7**
SANT	**Santorini**	**1.71**	**283**	PN	**Pn**	**03 14 40.5**	**-1.4**
SANT	**Santorini**	**1.71**	**283**	P	**Pn**	**03 14 42.2**	**+0.4**
SANT				S	**Sn**	**03 15 03.9**	**+0.2**
SANT				AML	AML	03 15 10.9	
	comp=E,2942μm,0.6s						
SANT				AML	AML	03 15 11.8	
	comp=N,1710μm,0.5s						
NPS	**Neapolis**	**1.72**	**245**	P	**Pn**	**03 14 42.4**	**+0.3**
NPS				S	**Sn**	**03 15 03.9**	**-0.1**
NPS				AML	AML	03 15 06.0	
	comp=E,2234μm,0.4s						
NPS				AML	AML	03 15 18.2	
	comp=N,1837μm,0.8s						
NPS	**Neapolis**	**1.72**	**245**	P	**Pn**	**03 14 42.2**	**+0.1**
SAP2K	**Karterados**	**1.73**	**284**	P	**Pn**	**03 14 42.0**	**-0.2**
SAP2K				S	**Sn**	**03 15 04.4**	**+0.3**
THT1	**Athinios (Pele**	**1.74**	**283**	P	**Pn**	**03 14 41.5**	**-0.7**
THR2	**Thira island,**	**1.75**	**285**	P	**Pn**	**03 14 42.1**	**-0.2**
THR7	**Fira-Santorini**	**1.75**	**284**	P	**Pn**	**03 14 42.4**	**+0.1**
THT2	**Imerovigli**	**1.75**	**285**	P	**Pn**	**03 14 42.7**	**+0.3**
THT2	**Imerovigli**	**1.75**	**285**	P	**Pn**	**03 14 42.8**	**+0.3**
THR6	**Thira Island,**	**1.75**	**282**	P	**Pn**	**03 14 42.1**	**-0.3**
THR6	**Thira Island,**	**1.75**	**282**	P	**Pn**	**03 14 42.5**	**0.0**
SAP1	**Santorini-Akro**	**1.76**	**282**	P	**Pn**	**03 14 42.6**	**+0.1**
SAP1				S	**Sn**	**03 15 05.1**	**+0.3**
SAP1	**Santorini-Akro**	**1.76**	**282**	P	**Pn**	**03 14 42.5**	**0.0**
THR3	**Thira Island,**	**1.76**	**284**	P	**Pn**	**03 14 42.6**	**0.0**
THR3	**Thira Island,**	**1.76**	**284**	P	**Pn**	**03 14 42.7**	**+0.1**
CMBO	**Columbo, Santo**	**1.77**	**286**	P	**Pn**	**03 14 42.7**	**0.0**
CMBO				S	**Sn**	**03 15 05.6**	**+0.4**
CMBO				AML	AML	03 15 11.7	
	comp=N,4905μm,0.6s						
CMBO				AML	AML	03 15 17.1	
	comp=E,3162μm,0.6s						
SMG	**Samos**	**1.79**	**342**	P	**Pn**	**03 14 42.6**	**-0.4**
SMG				S	**Sn**	**03 15 04.8**	**-0.8**
SMG				AML	AML	03 15 15.9	
	comp=E,1226μm,0.5s						
SMG				AML	AML	03 15 16.9	
	comp=N,577μm,0.3s						
THR9	**Santorini-Faro**	**1.79**	**282**	P	**Pn**	**03 14 42.7**	**-0.2**
THR5	**Thira Island,**	**1.81**	**284**	P	**Pn**	**03 14 43.4**	**+0.1**
THR5	**Thira Island,**	**1.81**	**284**	P	**Pn**	**03 14 43.3**	**+0.1**
SAP3	**Santorini-Thir**	**1.81**	**284**	P	**Pn**	**03 14 43.5**	**+0.2**
SAP3				S	**Sn**	**03 15 06.2**	**+0.1**
TAVA	**DENIZLI_Tavas**	**1.84**	**37**	*i* P	**Pb**	**03 14 46.5**	**+0.7**
LAST	**Lasithi**	**1.87**	**244**	P	**Pn**	**03 14 44.3**	**+0.3**
LAST				S	**Sn**	**03 15 07.6**	**0.0**
LAST				AML	AML	03 15 16.1	
	comp=N,820μm,0.7s						
LAST				AML	AML	03 15 19.3	
	comp=E,831μm,1.2s						
LAST	**Lasithi**	**1.87**	**244**	P	**Pn**	**03 14 44.4**	**+0.3**
APE	**Apeiranthos**	**1.93**	**304**	PN	**Pn**	**03 14 44.3**	**-0.6**
APE	**Apeiranthos**	**1.93**	**304**	P	**Pn**	**03 14 44.8**	**-0.1**
IOSP	**Ios island**	**1.94**	**292**	P	**Pn**	**03 14 44.7**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.96**	**9**	PN	**Pn**	**03 14 45.5**	**+0.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**2.05**	**53**	*i* P	**Pb**	**03 14 50.0**	**+0.5**
ELL	**Elmali**	**2.06**	**68**	PN	**Pn**	**03 14 47.4**	**+0.6**
DGB	**¨zmir**	**2.11**	**346**	*i* P	**Pn**	**03 14 46.8**	**-0.5**
IDI	**Anoyia**	**2.26**	**252**	PN	**Pn**	**03 14 48.6**	**-0.9**
SIVA	**Sivas**	**2.42**	**247**	P	**Pn**	**03 14 52.5**	**+0.8**
SIVA				S	**Sn**	**03 15 21.1**	**-0.1**
SIVA				AML	AML	03 15 37.5	
	comp=N,1110μm,0.7s						
SIVA				AML	AML	03 15 37.8	
	comp=E,1458μm,0.7s						
URLA	**Izmir**	**2.47**	**343**	PN	**Pn**	**03 14 52.4**	**+0.1**
KORT	**Korkueli**	**2.48**	**66**	PN	**Pn**	**03 14 53.7**	**+1.1**
KORT	**Korkueli**	**2.48**	**66**	*i* P	**Pb**	**03 14 56.3**	**-0.6**
MHLA	**Plaka, Milos I**	**2.61**	**287**	P	**Pn**	**03 14 53.7**	**-0.5**
MHLO	**Agia Marina, M**	**2.61**	**286**	P	**Pn**	**03 14 54.4**	**+0.1**
CHOS	**Chios island**	**2.65**	**334**	PN	**Pn**	**03 14 54.1**	**-0.8**
CHOS	**Chios island**	**2.65**	**334**	P	**Pn**	**03 14 54.6**	**-0.3**
KULA	**Kula-Manisa**	**2.67**	**20**	PN	**Pn**	**03 14 55.7**	**+0.6**
ANTB	**Antalya**	**2.68**	**70**	PN	**Pn**	**03 14 56.2**	**+1.1**
SERI	**Serifos**	**2.70**	**296**	P	**Pn**	**03 14 56.0**	**+0.5**
VAM	**Vamos**	**2.77**	**259**	P	**Pn**	**03 14 57.0**	**+0.5**
VAM				S	**Sn**	**03 15 29.2**	**-0.5**
VAM				AML	AML	03 15 36.0	
	comp=E,485μm,0.4s						
VAM				AML	AML	03 15 37.3	
	comp=N,545μm,0.8s						
IMMV	**Iera Moni Meta**	**2.93**	**260**	P	**Pn**	**03 14 59.6**	**+0.9**
IMMV				S	**Sn**	**03 15 33.6**	**-0.2**
GVD	**Gavdhos**	**3.04**	**248**	P	**Pn**	**03 15 01.2**	**+1.1**
DKL	**Dikili**	**3.10**	**351**	PN	**Pn**	**03 15 01.4**	**+0.4**
SUTC	**Sutluce-Ispart**	**3.15**	**61**	PN	**Pn**	**03 15 03.0**	**+1.1**
PRK	**Paraskevi**	**3.38**	**343**	P	**Pn**	**03 15 05.0**	**+0.2**
SIGR	**SIGRI**	**3.46**	**338**	P	**Pn**	**03 15 06.1**	**+0.2**
VLY	**Voula,Athens**	**3.51**	**303**	P	**Pn**	**03 15 07.6**	**+0.9**
PTL	**Penteli**	**3.57**	**306**	P	**Pn**	**03 15 08.3**	**+0.8**
ATHU	**Athens Univers**	**3.58**	**304**	P	**Pn**	**03 15 08.4**	**+0.8**
DID	**Didima**	**3.75**	**295**	P	**Pn**	**03 15 10.8**	**+0.8**
TVSB	**Tavsanli**	**3.77**	**23**	PN	**Pn**	**03 15 11.4**	**+1.2**
VLI	**Veliai**	**3.77**	**282**	P	**Pn**	**03 15 10.7**	**+0.5**
GAZI	**Gazipasa**	**3.89**	**85**	PN	**Pn**	**03 15 13.6**	**+1.8**
VIL2	**Platees**	**4.05**	**304**	P	**Pn**	**03 15 13.9**	**-0.1**
PPCY	**Paphos** baz=293	**4.09**	**104**	P	**Pn**	**03 15 15.5**	**+0.9**
LTK	**Loutraki**	**4.17**	**300**	P	**Pn**	**03 15 16.9**	**+1.3**
ALFC	**Alefka** baz=289	**4.22**	**100**	P	**Pn**	**03 15 16.9**	**+0.5**
ALFC				S	**Sn**	**03 16 03.6**	**-2.1**
DYR	**Agios Nikonas**	**4.25**	**282**	P	**Pn**	**03 15 19.2**	**+2.3**
LIA	**Limnos Island**	**4.30**	**335**	P	**Pn**	**03 15 18.1**	**+0.6**
LKR	**Lokris**	**4.47**	**308**	P	**Pn**	**03 15 20.5**	**+0.8**
SMIA	**Simia**	**4.47**	**311**	P	**Pn**	**03 15 20.9**	**+1.0**
TRIP	**Tripoli**	**4.48**	**291**	P	**Pn**	**03 15 22.0**	**+1.9**
SKIA	**Skiathos**	**4.51**	**316**	P	**Pn**	**03 15 21.5**	**+1.2**
SZAC	**Souni** baz=293	**4.55**	**104**	P	**Pn**	**03 15 22.3**	**+1.3**
SZAC				S	**Sn**	**03 16 12.3**	**-1.5**
ITM	**Ithomi**	**4.65**	**286**	P	**Pn**	**03 15 25.0**	**+2.6**
MAMC	**Mammari** baz=287	**4.71**	**98**	P	**Pn**	**03 15 23.9**	**+0.7**
SMTH	**Samothraki Isl**	**4.73**	**341**	P	**Pn**	**03 15 23.8**	**+0.4**
NEO	**Neokhori**	**4.74**	**315**	P	**Pn**	**03 15 24.5**	**+0.9**
PYL	**PYLOS**	**4.75**	**283**	P	**Pn**	**03 15 25.1**	**+1.6**
KLV	**Kalavryta, Ach**	**4.76**	**297**	P	**Pn**	**03 15 24.6**	**+0.8**
MES2	**Methoni**	**4.76**	**282**	P	**Pn**	**03 15 24.6**	**+0.8**
CSS	**Mathiatis**	**4.85**	**101**	P	**Pn**	**03 15 26.1**	**+1.0**
CSS	**Mathiatis** baz=289	**4.85**	**101**	P	**Pn**	**03 15 25.6**	**+0.5**
CSS				S	**Sn**	**03 16 18.9**	**-2.3**
MES3	**Kyparissia**	**4.87**	**287**	P	**Pn**	**03 15 26.9**	**+1.7**
AMT	**Artemida-Makis**	**4.91**	**290**	P	**Pn**	**03 15 27.4**	**+1.5**
KALE	**Kalithea**	**4.91**	**301**	P	**Pn**	**03 15 27.3**	**+1.3**
TRIZ	**Trizonia**	**4.95**	**300**	P	**Pn**	**03 15 27.1**	**+0.7**
LAKA	**Lakka**	**4.96**	**298**	P	**Pn**	**03 15 27.4**	**+0.9**
ALN	**Alexandroupoli**	**5.02**	**347**	P	**Pn**	**03 15 27.8**	**+0.4**
DRO	**Drossia**	**5.04**	**294**	P	**Pn**	**03 15 29.3**	**+1.6**
EFP	**Efpalio**	**5.09**	**300**	P	**Pn**	**03 15 30.3**	**+2.0**
AGG	**Agios Georgios**	**5.11**	**308**	P	**Pn**	**03 15 30.1**	**+1.5**
ANX	**Ano Chora**	**5.16**	**302**	P	**Pn**	**03 15 30.6**	**+1.2**
MAKR	**Makrakomi, Fth**	**5.23**	**307**	P	**Pn**	**03 15 31.8**	**+1.5**
RDO	**Rodhopi**	**5.37**	**344**	P	**Pn**	**03 15 33.1**	**+1.0**
EVR	**Evrytania**	**5.40**	**304**	P	**Pn**	**03 15 33.6**	**+1.0**
BRTR	**Keskin Array B** comp=N,0.4nm,0.3s,baz=239,slow=14,SNR=16	**6.10**	**51**	Pn	**Pn**	**03 15 45.3**	**+3.0**
BRTR				Sn	**Sn**	**03 16 55.4**	**+3.4**
	comp=N,0.1nm,0.3s,baz=215,slow=26,SNR=3.7						
ESDC	**Sonseca Array**	**25.07**	**288**	P	**P**	**03 19 35.8**	**-0.8**
	comp=N,0.2nm,0.4s,baz=79,slow=9.2,SNR=2.7						
FINES	**FINESS Array B**	**25.48**	**358**	P	**P**	**03 19 39.7**	**-0.2**

ULM Lac du Bonnet 37.80 352 P **P 03 29 49.5 -2.1**
1.8nm,0.6s,baz=180,slow=9.1,SNR=2.7

WRA Warramunga Arr 138.20 254 PKP **PKPdf 03 42 02.0 +1.1**
0.4nm,1.1s,baz=87,slow=2.5,SNR=3.3

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*IDC **12** 03:31:08.8±0.8, 13.85N×92.53W, h0km, mb4.3/15, mb1 4.5/19, mb1mx4.3/43, mbtmp4.3/19, ML3.8/4, MS4.0/23, Ms1 4.0/23, ms1mx3.8/44, Error ellipse: s-maj=18.8km s-min=12.2km az=34.0*

*MEX **12** 03:31:08.8±0.4, 13.69N×92.69W, h5km, MD4.7*

*ISCJB **12** 03:31:14.2±0.3, 14.11N±0.03×92.25W±0.03, h46km, mb4.6/139, MS4.1/23, Error ellipse: s-maj=5.3km s-min=3.2km az=34.6*

*NEIC **12** 03:31:14.6±0.4, 14.05N×92.28W, h35km, mb4.7/146, MD4.7(MEX), Error ellipse: s-maj=6.7km s-min=4.5km az=196.0*

*GCMT **12** 03:31:23.6±0.9, 14.21N±0.05×92.50W±0.04, h22km,1km, MW5.0/68, Moment Tensor Solution. s14,c19; s68,c92; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr2.56±.29; Mθθ-2.47±.20; Mφφ-0.08±.18; Mrθ1.53±.29; Mφθ1.89±.11; Mrφ0.46±.26; Best double couple: M○3.51000×10^{16} NP1:φ96.00000°, δ60.00000°, λ61.00000°. NP2: φ325.00000°, δ41.00000°, λ130.00000°. Principal axes: T 3.2980, Plg63.0000°, Azm318.0000°; N 0.4240, Plg25.0000°, Azm111.0000°; P -3.7210, Plg11.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 03:31:15.2±0.5, 14.01N±0.06×92.52W±0.06, h46km, n394, σ1.9 61/370, mb4.7/140, MS4.1/23, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
THIG		**0.93**	**15**	*eP*		**Pn**	**03 31 29.3**	**-2.5**
THIG				*i*	S	**Sn**	**03 31 46.1**	**+2.1**
THIG		**0.93**	**15**	*eP*		**Pn**	**03 31 29.3**	**-2.5**
THIG				*i*	S	**Sn**	**03 31 46.1**	**+2.1**
PCIG		**1.82**	**338**	*eP*		**Pn**	**03 31 40.5**	**-3.5**
PCIG		**1.82**	**338**	*eP*		**Pn**	**03 31 40.7**	**-3.3**
PCIG				*i*	S	**Sn**	**03 32 06.4**	**+0.6**
APG	**El Apazote**	**2.22**	**63**	Pn		**Pn**	**03 31 49.1**	**-0.7**
	20nm,0.3s,baz=226,slow=9.6,SNR=180							
APG				Lg		Lg	03 32 22.2	
	98nm,0.3s,baz=270,slow=20,SNR=7.1							
CCIG	**Comitan**	**2.29**	**9**	*e*Pn		**Pn**	**03 31 51.3**	**+0.6**
CCIG	**Comitan**	**2.29**	**9**	*eP*		**Pn**	**03 31 48.4**	**-2.2**
CCIG				*i*	S	**Sn**	**03 32 20.4**	**+2.7**
TGIG		**2.81**	**348**	*eP*		**Pn**	**03 31 56.8**	**-1.0**
TGIG		**2.81**	**348**	*eP*		**Pn**	**03 31 56.1**	**-1.7**
TGIG				*e*	S	**Sn**	**03 32 32.4**	**+1.9**
SNET	**Serv Nac Est T**	**3.21**	**95**	*e*Pn		**Pn**	**03 32 05.8**	**+2.6**
CMIG	**Matias Romero**	**3.82**	**324**	Pn		**Pn**	**03 32 09.4**	**-2.1**
	6.2nm,0.3s,baz=144,slow=12,SNR=27							
CMIG					Sn	**Sn**	**03 32 58.7**	**+3.5**
	24nm,0.3s,baz=204,slow=20,SNR=4.1							
VHO	**Vista Hermosa**	**5.08**	**307**	*eP*		**Pn**	**03 32 26.2**	**-2.7**
VHO	**Vista Hermosa**	**5.08**	**307**	*eP*		**Pn**	**03 32 25.3**	**-3.7**
VHO				*i*	S	**Sn**	**03 33 23.8**	**-2.7**
ESTN	**Estel**	**6.05**	**98**	*e*Pn		**Pn**	**03 32 39.8**	**-2.4**
TLIG	**Tlapa**	**6.81**	**302**	*e*Pn		**Pn**	**03 32 51.7**	**-1.0**
TEIG	**Tepich**	**7.39**	**33**	*e*Pn		**Pn**	**03 33 00.4**	**-0.1**
ESPN	**Las Esperanzas**	**8.21**	**102**	*e*Pn		Pn	03 33 16.3	+4.6
JTS	**JuntasAbangare**	**8.27**	**116**	Pn		**Pn**	**03 33 10.0**	**-2.6**
	0.4nm,0.3s,baz=253,slow=20,SNR=4.7							
JTS				Lg		Lg	03 35 15.3	
	0.6nm,0.3s,baz=245,slow=18,SNR=4.3							
JTS	**JuntasAbangare**	**8.27**	**116**	*e*Pn		**Pn**	**03 33 11.3**	**-1.4**
JTS				*e*S		Sn	03 35 05.0	+20
JTS				Lg		Lg	03 35 15.3	
MOIG	**Morelia**	**10.03**	**305**	*e*Pn		**Pn**	**03 33 40.5**	**+3.5**
JRQG	**Juriquilla Cam**	**10.08**	**312**	*e*Pn		Pn	03 33 44.1	+6.5
ZAIG	**Zacatecas**	**12.91**	**314**	*e*Pn		**Pn**	**03 34 17.5**	**+1.2**
833A	**Chaparral WMA,**	**15.61**	**337**	*e*Pn		**Pn**	**03 34 53.9**	**+1.7**
	30nm,0.9s							
HKT	**Hockley**	**16.16**	**350**	*e*Pn		**Pn**	**03 35 00.1**	**+1.0**
435B	**Jarrell**	**17.33**	**345**	*e*Pn		**P**	**03 35 17.4**	**+2.6**
	18nm,0.8s							
DWPF	**Disney Wildern**	**17.41**	**35**	*e*Pn		**P**	**03 35 16.5**	**+0.9**
JCT	**Junction City**	**17.71**	**339**	*e*Pn		**P**	**03 35 19.2**	**+0.3**
	32nm,1.4s							
JCT	**Junction City**	**17.71**	**339**	P		**P**	**03 35 20.3**	**+1.4**
	baz=156							
NATX	**Nacogdoches**	**17.78**	**354**	*e*Pn		**P**	**03 35 20.2**	**+0.6**
	35nm,1.2s							
HPIG		**17.79**	**318**	*e*Pn		**P**	**03 35 20.9**	**+0.9**
	22nm,1.2s							
349A	**Repton**	**17.94**	**15**	P		**P**	**03 35 23.3**	**+1.9**
	baz=196							
TXAR	**Lajitas Array**	**18.41**	**328**	P		**Pn**	**03 35 27.9**	**+0.7**
	0.1nm,0.3s,baz=156,slow=12,SNR=24							
TXAR				LR		LR	03 43 39.0	
	comp=Z,288nm,19.1s,baz=0.0,slow=40							
TX31	**Lajitas Ar. Si**	**18.42**	**328**	*e*P		**Pn**	**03 35 28.7**	**+1.5**
HELC	**Santa Helena**	**18.43**	**113**	*e*P		**Pn**	**03 35 26.9**	**-0.9**
143A	**Socs Landing,**	**18.64**	**3**	*e*P		**Pn**	**03 35 30.2**	**+0.5**
	34nm,0.8s							
SMLC	**San Mart`n de**	**18.80**	**104**	*e*P		**Pn**	**03 35 33.2**	**+1.3**
147A	**Livingston**	**18.98**	**11**	*e*P		**P**	**03 35 30.0**	**-2.8**
	181nm,1.5s							
147A	**Livingston**	**18.98**	**11**	P		**Pn**	**03 35 35.8**	**+1.9**
	baz=192							
148A	**Greensboro**	**19.09**	**13**	P		**P**	**03 35 33.6**	**-0.5**
	baz=194							
Z41A	**Richland Creek**	**19.16**	**359**	*e*P		**P**	**03 35 35.4**	**+0.6**
	52nm,1.1s							
RREF	**El Recreo**	**19.19**	**116**	*e*P		**P**	**03 35 35.3**	**-0.6**
PTBC	**PUERTO BERRIO,**	**19.25**	**111**	*e*P		**P**	**03 35 35.0**	**-1.0**
POPC	**Popayan, Colom**	**19.36**	**125**	*e*P		**Pn**	**03 35 41.6**	**+2.8**
151A	**Opelika**	**19.57**	**18**	P		**P**	**03 35 39.4**	**+0.1**
	baz=201,SNR=8.2							
LRAL	**Lakeview Retre**	**19.60**	**14**	*e*P		**P**	**03 35 39.4**	**-0.2**
	23nm,1.0s							
LRAL	**Lakeview Retre**	**19.60**	**14**	P		**P**	**03 35 39.6**	**0.0**
	baz=195							
ABTX	**Abilene, Hawle**	**19.64**	**342**	*e*P		**Pn**	**03 35 41.1**	**-0.7**
	24nm,0.9s							
ABTX	**Abilene, Hawle**	**19.64**	**342**	P		**P**	**03 35 40.9**	**+0.8**
	baz=158,SNR=11							
SOTA	**Rioblanco**	**19.66**	**125**	*e*P		**Pn**	**03 35 47.9**	**+5.3**
PCON	**Cinco Dias**	**19.71**	**125**	*e*P		**P**	**03 35 41.2**	**-0.3**
MARP	**Paez Belalcaza**	**19.77**	**123**	*e*P		**Pn**	**03 35 42.8**	**-0.9**
Z49A	**Columbiana**	**19.86**	**15**	P		**Pn**	**03 35 45.1**	**+0.8**
	baz=197,SNR=5.2							
152A	**Waverly Hall**	**19.89**	**20**	*e*P		**P**	**03 35 43.4**	**+0.6**
	98nm,1.8s							
152A	**Waverly Hall**	**19.89**	**20**	P		**Pn**	**03 35 44.8**	**0.0**
	baz=202,SNR=5.7							
Z50A	**Ashland**	**20.08**	**16**	*e*P		Pn	03 35 46.1	-0.8
	65nm,1.4s							
Z50A	**Ashland**	**20.08**	**16**	P		Pn	03 35 46.6	-0.3
	baz=198							
ROSC	**El Rosal**	**20.11**	**115**	P		Pn	03 35 46.6	-1.3
	5.7nm,0.7s,baz=299,slow=6.4,SNR=7.9							
ROSC	**El Rosal**	**20.11**	**115**	*e*P		Pn	03 35 47.5	-0.5
	17nm,1.0s							
PRAC	**Prado**	**20.18**	**119**	*e*P		Pn	03 35 51.0	+2.6
BARC	**Barichara**	**20.39**	**109**	*e*P		Pn	03 35 49.2	-1.8
Y48A	**Jasper**	**20.40**	**13**	P		**P**	**03 35 47.9**	**-0.4**
	baz=194							
154A	**Montrose**	**20.41**	**23**	*e*P		Pn	03 35 51.2	+0.3
	46nm,0.7s							
154A	**Montrose**	**20.41**	**23**	P		Pn	03 35 51.0	+0.1
	baz=206							
Z52A	**Williamson**	**20.47**	**20**	P		**P**	**03 35 49.7**	**+0.6**
	baz=202							
MIAR	**Mount Ida**	**20.47**	**357**	*e*P		**P**	**03 35 48.4**	**-0.6**
	55nm,1.4s							
MIAR	**Mount Ida**	**20.47**	**357**	P		**P**	**03 35 49.0**	**0.0**
	baz=176,SNR=11							
X44A	**Crenshaw**	**20.51**	**6**	P		Pn	03 35 50.8	-1.3
	baz=186							
X45A	**UM Field Stati**	**20.52**	**7**	P		Pn	03 35 51.2	-0.9
	baz=188							
Y49A	**Blount Mountai**	**20.52**	**15**	P		**P**	**03 35 49.4**	**-0.2**
	baz=196							
PAMC	**Pamplona, Colo**	**20.56**	**107**	*e*P		**P**	**03 35 50.5**	**-0.2**
OXF	**Oxford**	**20.61**	**7**	P		Pn	03 35 52.4	-0.7
	baz=188							
X37A	**Clayton**	**20.65**	**353**	*e*P		**P**	**03 35 51.6**	**+0.6**
	36nm,1.1s							
155A	**Kite**	**20.68**	**25**	P		Pn	03 35 52.7	-1.3
	baz=208,SNR=5.0							
UALR	**University of**	**20.68**	**0**	*e*P		**P**	**03 35 52.1**	**+0.9**
	69nm,1.0s							
CHIC	**Chingaza**	**20.73**	**115**	*e*P		**P**	**03 35 52.6**	**+0.1**
FLOC	**Florencia**	**20.75**	**125**	*e*P		Pn	03 35 59.2	+4.1
RUSC	**La Rusia**	**20.76**	**111**	*e*P		**P**	**03 35 52.1**	**-0.8**
Z53A	**Monticello**	**20.84**	**21**	P		Pn	03 35 54.5	-1.4
	baz=204							
X47A	**Russellville**	**20.85**	**11**	P		**P**	**03 35 53.9**	**+0.8**
	baz=192							
Y51A	**Rockmart**	**20.93**	**18**	P		**P**	**03 35 53.9**	**-0.1**
	baz=200							
X48A	**Hartselle**	**20.95**	**13**	*e*P		**P**	**03 35 52.9**	**-1.3**
	67nm,1.8s							
X48A	**Hartselle**	**20.95**	**13**	P		**P**	**03 35 53.3**	**-0.9**
	baz=194							
GOGA	**Godfrey**	**21.00**	**22**	*e*P		**P**	**03 35 55.8**	**+1.0**
	21nm,0.9s							
GOGA	**Godfrey**	**21.00**	**22**	P		**P**	**03 35 55.1**	**+0.4**
	baz=205							
VILC	**Villavicencio,**	**21.01**	**116**	*e*P		**P**	**03 35 56.0**	**+0.8**
Z54A	**Sparta**	**21.07**	**23**	P		**P**	**03 35 56.0**	**+0.4**
	baz=206,SNR=5.3							
W41B	**Gary Mavity, V**	**21.07**	**1**	*e*P		**P**	**03 35 55.1**	**-0.5**
	34nm,1.4s							
W41B	**Gary Mavity, V**	**21.07**	**1**	P		**P**	**03 35 56.3**	**+0.8**
	baz=180							
GDL2	**Guadalupe Moun**	**21.10**	**331**	*e*P		**P**	**03 35 57.5**	**+1.5**
W39A	**Magazine**	**21.13**	**357**	*e*P		**P**	**03 35 57.1**	**+1.0**
	21nm,0.9s							
W39A	**Magazine**	**21.13**	**357**	P		**P**	**03 35 58.5**	**+2.4**
	baz=176,SNR=7.0							
X49A	**Woodville**	**21.17**	**14**	P		**P**	**03 35 57.5**	**+0.9**
	baz=196							
MNTX	**Cornudas Mount**	**21.19**	**328**	*e*P		**P**	**03 35 56.9**	**0.0**
	32nm,1.2s							
MNTX	**Cornudas Mount**	**21.19**	**328**	P		**P**	**03 35 57.4**	**+0.6**
	baz=143,SNR=19							
Y52A	**Lilburn**	**21.20**	**20**	*e*P		**P**	**03 35 56.5**	**-0.5**
	25nm,0.9s							
SJAC	**San Juan de Ar**	**21.21**	**119**	*e*P		**P**	**03 36 01.7**	**+4.4**
WMOK	**Wichita Mounta**	**21.40**	**346**	*e*P		**P**	**03 35 58.8**	**-0.3**
	11nm,1.0s							
WMOK	**Wichita Mounta**	**21.40**	**346**	P		**P**	**03 35 58.9**	**-0.2**
	baz=163,SNR=8.6							
W48A	**Pulaski**	**21.63**	**12**	P		**P**	**03 36 01.7**	**+0.1**
	baz=194							
Y54A	**Tignall**	**21.68**	**23**	P		**P**	**03 36 02.1**	**0.0**
	baz=206							
V41A	**Mountainview**	**21.68**	**1**	P		**P**	**03 36 02.2**	**+0.1**
	baz=180							
W49A	**Belvidere**	**21.76**	**14**	P		**P**	**03 36 01.7**	**-1.2**
	baz=196,SNR=5.8							
SWET	**Sewanee**	**21.93**	**15**	*e*P		**P**	**03 36 03.4**	**-1.4**
	18nm,0.8s							
X52A	**Dahlonega**	**21.94**	**19**	P		**P**	**03 36 04.1**	**-0.7**
	baz=202							
MSTX	**Muleshoe**	**21.94**	**337**	*e*P		**P**	**03 36 04.6**	**-0.4**
	76nm,1.5s							
MSTX	**Muleshoe**	**21.94**	**337**	P		**P**	**03 36 05.3**	**+0.3**
	baz=152,SNR=14							
TUL1	**Leonard**	**22.01**	**353**	*e*P		**P**	**03 36 04.5**	**-1.1**
	20nm,1.1s							
TUL1	**Leonard**	**22.01**	**353**	P		**P**	**03 36 04.5**	**-1.1**
	baz=171							
SDV	**Santo Domingo**	**22.04**	**101**	P		**P**	**03 36 06.3**	**0.0**
	3.9nm,0.8s,baz=296,slow=2.9,SNR=3.9							
SDV	**Santo Domingo**	**22.04**	**101**	*e*P		**P**	**03 36 06.1**	**-0.2**
SDV	**Santo Domingo**	**22.04**	**101**	*e*P		**P**	**03 36 06.1**	**-0.2**
X53A	**Estanollee**	**22.04**	**21**	P		**P**	**03 36 05.3**	**-0.7**
	baz=204							
V46A	**Holladay**	**22.06**	**10**	P		**P**	**03 36 04.4**	**-1.7**
	baz=191,SNR=6.0							
W50A	**Signal Mountai**	**22.08**	**16**	*e*P		**P**	**03 36 05.2**	**-1.2**
	17nm,0.9s							
W50A	**Signal Mountai**	**22.08**	**16**	P		**P**	**03 36 05.2**	**-1.2**
	baz=198							
V47A	**Nunnelly**	**22.18**	**11**	P		**P**	**03 36 06.2**	**-1.3**
	baz=192							
W51A	**Cleveland**	**22.19**	**17**	P		**P**	**03 36 06.3**	**-1.3**
	baz=200							
HHAR	**Hobbs**	**22.21**	**357**	*e*P		**P**	**03 36 08.4**	**+0.6**
	12nm,0.9s							
V48A	**Smith Brothers**	**22.24**	**12**	*e*P		**P**	**03 36 06.0**	**-2.1**
	36nm,1.4s							
V48A	**Smith Brothers**	**22.24**	**12**	P		**P**	**03 36 06.6**	**-1.5**
	baz=194,SNR=6.0							
U41A	**Viola**	**22.25**	**1**	P		**P**	**03 36 07.6**	**-0.6**
	baz=181							
U40A	**Yellville**	**22.25**	**359**	P		**P**	**03 36 07.3**	**-0.9**
	baz=178,SNR=6.6							
U42A	**Revenden**	**22.28**	**3**	P		**P**	**03 36 07.7**	**-0.7**
	baz=183,SNR=6.0							
AMTX	**Amarillo**	**22.37**	**340**	*e*P		**P**	**03 36 09.0**	**-0.6**
	63nm,0.8s							
AMTX	**Amarillo**	**22.37**	**340**	P		**P**	**03 36 09.1**	**-0.5**
	baz=156							
WVT	**Waverly**	**22.43**	**10**	*e*P		**P**	**03 36 09.2**	**-0.9**
	16nm,1.1s							
WVT	**Waverly**	**22.43**	**10**	P		**P**	**03 36 09.0**	**-1.1**
	baz=191							
V49A	**McMinnville**	**22.47**	**14**	P		**P**	**03 36 09.3**	**-1.2**
	baz=196,SNR=7.4							
U45A	**Rockin P Farm,**	**22.50**	**8**	P		**P**	**03 36 10.0**	**-0.8**
	baz=189							
CPCT	**Cooper Cave**	**22.53**	**17**	*e*P		**P**	**03 36 10.2**	**-1.0**
	17nm,1.0s							
V50A	**Pikevile**	**22.58**	**16**	P		**P**	**03 36 10.4**	**-1.3**
	baz=198							
U46A	**Springville**	**22.59**	**9**	P		**P**	**03 36 11.1**	**-0.7**
	baz=190							
BG3	**Lake Jocassee**	**22.61**	**21**	*e*P		**P**	**03 36 11.5**	**-0.6**
	40nm,1.4s							
PBMO	**Poplar Bluff**	**22.75**	**4**	*e*P		**P**	**03 36 11.6**	**-1.9**
	19nm,0.8s							
V51A	**Loudon**	**22.91**	**17**	*e*P		**P**	**03 36 14.3**	**-0.8**
	69nm,1.7s							
V51A	**Loudon**	**22.91**	**17**	P		**P**	**03 36 13.9**	**-1.2**
	baz=200							
TKL	**Tuckaleechee C**	**22.95**	**19**	P		**P**	**03 36 14.1**	**-1.5**
	20nm,1.1s,baz=201,slow=13,SNR=7.3							
TKL	**Tuckaleechee C**	**22.95**	**19**	*e*P		**P**	**03 36 14.4**	**-1.1**
	34nm,1.0s							
T41A	**Mountain View**	**22.95**	**2**	P		**P**	**03 36 15.0**	**-0.6**
	baz=181,SNR=7.7							
T42A	**Van Buren**	**22.96**	**3**	P		**P**	**03 36 14.7**	**-1.0**
	baz=183							
U32A	**Winter Ranch,**	**23.02**	**347**	*e*P		**P**	**03 36 16.1**	**-0.2**
	31nm,0.9s							
121A	**Cookes Peak, D**	**23.11**	**325**	P		**P**	**03 36 18.9**	**+1.4**
	baz=139,SNR=12							
T44A	**Benton**	**23.13**	**6**	P		**P**	**03 36 15.9**	**-1.5**
	baz=187							
319A	**Douglas**	**23.14**	**321**	*e*P		**P**	**03 36 18.9**	**+1.3**
	19nm,0.9s							
V52A	**Sevierville**	**23.17**	**19**	*e*P		**P**	**03 36 16.4**	**-1.4**
	40nm,1.3s							
V52A	**Sevierville**	**23.17**	**19**	P		**P**	**03 36 16.5**	**-1.3**
	baz=202,SNR=7.4							
U49A	**Red Boiling Sp**	**23.21**	**14**	P		**P**	**03 36 16.3**	**-1.9**
	baz=196,SNR=6.6							
V53A	**Saluda**	**23.27**	**20**	*e*P		**P**	**03 36 17.6**	**-1.2**
	19nm,1.1s							
V53A	**Saluda**	**23.27**	**20**	P		**P**	**03 36 17.5**	**-1.3**
	baz=204							
KMSC	**Kings Mountain**	**23.33**	**24**	*e*P		**P**	**03 36 18.1**	**-1.3**
	40nm,1.4s							
KMSC	**Kings Mountain**	**23.33**	**24**	P		**P**	**03 36 18.1**	**-1.3**
	baz=208,SNR=5.9							
U50A	**Jamestown**	**23.35**	**16**	P		**P**	**03 36 17.7**	**-1.9**
	baz=198,SNR=14							
T47A	**Sharon Grove**	**23.39**	**11**	*e*P		**P**	**03 36 17.6**	**-2.3**
	24nm,1.0s							
T47A	**Sharon Grove**	**23.39**	**11**	P		**P**	**03 36 17.9**	**-1.9**
	baz=193							
U51A	**La Follette**	**23.54**	**17**	P		**P**	**03 36 20.1**	**-1.3**
	baz=200,SNR=10							
S43A	**Fulton Ridge,**	**23.57**	**5**	P		**P**	**03 36 19.9**	**-1.7**
	baz=185							
U52A	**Thorn Hill**	**23.75**	**19**	P		**P**	**03 36 22.5**	**-0.9**
	baz=202,SNR=5.7							
S44A	**Carbondale**	**23.77**	**6**	P		**P**	**03 36 22.3**	**-1.2**
	baz=187,SNR=9.2							
BNM	**Barren Site**	**23.78**	**330**	*e*P		**P**	**03 36 25.6**	**+1.7**
SIUC	**Southern Illin**	**23.79**	**6**	*e*P		**P**	**03 36 22.2**	**-1.5**
	32nm,0.8s							
T49A	**Edmonton**	**23.83**	**14**	*e*P		**P**	**03 36 22.0**	**-2.1**
	22nm,1.1s							
S45A	**Carrier Mills**	**23.83**	**8**	P		**P**	**03 36 22.4**	**-1.6**
	baz=189							
TZTN	**Tazewell**	**23.83**	**18**	*e*P		**P**	**03 36 22.5**	**-1.6**
	22nm,0.9s							
TZTN	**Tazewell**	**23.83**	**18**	P		**P**	**03 36 23.5**	**-0.6**
	baz=201							
LPM	**Los Pinos Moun**	**23.91**	**330**	*e*P		**P**	**03 36 26.5**	**+1.4**
T50A	**Nancy**	**23.92**	**15**	P		**P**	**03 36 23.3**	**-1.6**
	baz=198,SNR=5.2							
LENM	**Lemitar**	**23.96**	**329**	*e*P		**P**	**03 36 27.3**	**+1.8**
S46A	**Don Dixon Farm**	**23.96**	**9**	P		**P**	**03 36 23.6**	**-1.6**
	baz=191							
CCM	**Cathedral Cave**	**23.98**	**2**	*e*P		**P**	**03 36 24.6**	**-0.7**
	17nm,1.3s							
CCM	**Cathedral Cave**	**23.98**	**2**	P		**P**	**03 36 24.7**	**-0.7**
	baz=182							
S47A	**Hartford**	**24.02**	**11**	P		**P**	**03 36 24.4**	**-1.4**
	baz=193							
T51A	**Gray**	**24.11**	**17**	P		**P**	**03 36 25.2**	**-1.5**
	baz=200,SNR=7.3							
R41A	**Rosebud**	**24.21**	**2**	P		**P**	**03 36 26.2**	**-1.3**
	baz=182,SNR=8.0							
LAZ	**Ladron**	**24.23**	**329**	*e*P		**P**	**03 36 29.9**	**+1.8**
S48A	**Wiedeman Farm,**	**24.24**	**13**	P		**P**	**03 36 26.2**	**-1.6**
	baz=195							
R43A	**Red Bud**	**24.28**	**5**	P		**P**	**03 36 27.1**	**-1.0**
	baz=186,SNR=6.5							
ANMO	**Albuquerque**	**24.35**	**331**	P		**P**	**03 36 29.4**	**+0.3**
	4.6nm,0.8s,baz=137,slow=12,SNR=17							
ANMO	**Albuquerque**	**24.35**	**331**	*e*P		**P**	**03 36 30.2**	**+1.1**
	5.2nm,0.8s							
ANMO	**Albuquerque**	**24.35**	**331**	P		**P**	**03 36 30.0**	**+1.0**
	baz=145							
R45A	**Skylar, Fairfi**	**24.48**	**8**	P		**P**	**03 36 28.6**	**-1.3**
	baz=189							
T52A	**Hallie**	**24.53**	**19**	P		**P**	**03 36 29.0**	**-1.4**
	baz=202							
S49A	**Springfield**	**24.54**	**14**	P		**P**	**03 36 29.0**	**-1.5**
	baz=196,SNR=5.3							
SLM	**Saint Louis**	**24.61**	**4**	*e*P		**P**	**03 36 30.8**	**-0.4**
	30nm,0.7s							
S50A	**Richmond**	**24.66**	**16**	P		**P**	**03 36 30.0**	**-1.6**
	baz=199,SNR=7.2							
TUC	**Tucson**	**24.71**	**321**	*e*P		**P**	**03 36 33.8**	**+1.6**
	10nm,1.0s							
TUC	**Tucson**	**24.71**	**321**	P		**P**	**03 36 34.2**	**+2.0**
	baz=133							
WCI	**Wyandotte Cave**	**24.75**	**12**	*e*P		**P**	**03 36 31.0**	**-1.4**
	33nm,0.8s							
WCI	**Wyandotte Cave**	**24.75**	**12**	P		**P**	**03 36 31.2**	**-1.2**
	baz=194							
R47A	**Wooly Knot Far**	**24.77**	**11**	P		**P**	**03 36 31.4**	**-1.2**
	baz=193							
S51A	**Beattyville**	**24.84**	**17**	*e*P		**P**	**03 36 31.3**	**-2.0**
	17nm,0.9s							
S51A	**Beattyville**	**24.84**	**17**	P		**P**	**03 36 31.6**	**-1.6**
	baz=200							
Q41A	**Truxton**	**24.87**	**2**	P		**P**	**03 36 32.9**	**-0.6**
	baz=182							
OLIL	**Olney**	**24.93**	**8**	*e*P		**P**	**03 36 32.8**	**-1.3**
	46nm,1.1s							
Q43A	**New Douglas**	**24.96**	**5**	P		**P**	**03 36 33.8**	**-0.5**
	baz=186							
Q44A	**Meyer Farm, Va**	**24.99**	**6**	P		**P**	**03 36 33.3**	**-1.3**
	baz=188,SNR=6.3							
R48A	**Northridge Ran**	**25.00**	**12**	P		**P**	**03 36 33.8**	**-0.9**
	baz=195,SNR=5.6							
S52A	**Salyersville**	**25.02**	**18**	P		**P**	**03 36 33.3**	**-1.7**
	baz=202							
R49A	**Shelbyville**	**25.05**	**14**	P		**P**	**03 36 33.1**	**-2.0**
	baz=196,SNR=7.5							
Q45A	**Warren Harvey,**	**25.09**	**8**	P		**P**	**03 36 35.1**	**-0.4**
	baz=190							
R50A	**Paris**	**25.24**	**15**	P		**P**	**03 36 35.5**	**-1.4**
	baz=198,SNR=5.8							
KSU1	**Kansas State U**	**25.25**	**353**	*e*P		**P**	**03 36 34.6**	**-2.4**
	17nm,0.7s							
KSU1	**Kansas State U**	**25.25**	**353**	P		**P**	**03 36 36.7**	**-0.3**
	baz=170							
T25A	**Trinidad**	**25.36**	**337**	*e*P		**P**	**03 36 40.0**	**+1.8**
	33nm,1.1s							
T25A	**Trinidad**	**25.36**	**337**	P		**P**	**03 36 39.9**	**+1.7**
	baz=152,SNR=20							
R51A	**Hillsboro**	**25.46**	**17**	P		**P**	**03 36 37.4**	**-1.5**
	baz=200							
CBKS	**Cedar Bluff**	**25.52**	**347**	*e*P		**P**	**03 36 38.9**	**-0.5**
	32nm,0.8s							
CBKS	**Cedar Bluff**	**25.52**	**347**	P		**P**	**03 36 39.0**	**-0.4**
	baz=163,SNR=5.2							
P45A	**Graceland, Par**	**25.77**	**9**	*e*P		**P**	**03 36 40.5**	**-1.1**
	16nm,0.9s							
Q49A	**Aurora**	**25.79**	**14**	P		**

N54A	Moraine State	28.99	20	P		P	03 37 08.8	-1.8	
	baz=205								
KNB	Kanab	29.21	325	*e*P		P	03 37 14.6	+1.8	
	5.4nm,1.0s								
SSPA	Standing Stone	29.45	23	P		P	03 37 13.1	-1.5	
	baz=209								
O20A	White River Ci	29.45	335	*e*P		P	03 37 16.4	+1.5	
O20A	White River Ci	29.45	335	P		P	03 37 16.8	+1.9	
	baz=147								
SRU	San Rafael Swe	29.62	331	*e*P		P	03 37 17.9	+1.5	
	18nm,1.7s								
MTPU	Mount Pierson	29.62	327	*e*P		P	03 37 18.5	+1.8	
	15nm,1.7s								
SZCU	Shurtz Canyon	29.78	326	*e*P		P	03 37 19.9	+2.1	
	5.5nm,1.0s								
CCUT	Cedar City	29.89	325	*e*P		P	03 37 20.9	+2.1	
	8.3nm,1.1s								
P17A	Butcher Ranch,	30.01	331	*e*P		P	03 37 21.5	+1.7	
	19nm,1.4s								
TMUT	Trail Mountain	30.09	330	*e*P		P	03 37 22.3	+1.6	
	6.9nm,1.2s								
NNA	Nana	30.14	148	LR		LR	03 47 21.1		
	comp=Z,112nm,19.5s,baz=338,slow=32								
MPU	Maple Canyon	30.86	331	*e*P		P	03 37 29.1	+1.7	
	14nm,1.4s								
PSUT	Pine Spring	30.87	326	*e*P		P	03 37 29.4	+1.9	
	3.7nm,0.9s								
TYNO	Tyneside	30.96	18	P		P	03 37 25.6	-2.4	
	baz=204								
K22A	Casper	31.00	340	*e*P		P	03 37 29.6	+1.1	
	8.3nm,0.9s								
K22A	Casper	31.00	340	P		P	03 37 29.6	+1.1	
	baz=152								
TPNV	Topopah Spring	31.15	321	P		P	03 37 31.1	+1.2	
	baz=131								
MPMC	Manual Prospec	31.36	319	P		P	03 37 33.1	+1.4	
	baz=128								
CTU	Camp Tracy	31.45	331	*e*P		P	03 37 34.2	+1.7	
	18nm,1.6s								
BINY	Binghamton	31.52	24	*e*P		P	03 37 31.4	-1.5	
	13nm,0.8s								
BINY	Binghamton	31.52	24	P		P	03 37 32.0	-0.9	
	baz=211								
RSSD	Black Hills	31.59	344	*e*P		P	03 37 33.8	+0.1	
	5.5nm,0.8s								
RSSD	Black Hills	31.59	344	P		P	03 37 34.2	+0.6	
	baz=158								
TCUT	Toone Canyon	31.63	332	*e*P		P	03 37 36.2	+2.0	
	31nm,1.1s								
R11A	Troy Canyon, C	31.70	324	P		P	03 37 35.6	+0.9	
	baz=133								
HWUT	Hardware Ranch	32.09	333	*e*P		P	03 37 39.5	+1.3	
	9.1nm,1.1s								
BW06	Boulder Array	32.21	336	*e*P		P	03 37 39.6	+0.4	
	10nm,1.3s								
BW06	Boulder Array	32.21	336	P		P	03 37 40.2	+1.0	
	baz=147								
PD31	Pinedale Array	32.21	336	*e*P		P	03 37 39.6	+0.4	
PDAR	Pinedale Array	32.21	336	P		P	03 37 39.4	+0.2	
	3.2nm,1.0s,baz=130,slow=8.5,SNR=16								
PDAR					PcP	PcP	03 40 26.8	-0.3	
	0.8nm,0.9s,baz=134,slow=4.3,SNR=4.1								
PDAR	Pinedale Array	32.21	336	*e*P		P	03 37 38.9	-0.3	
PDAR					PcP	PcP	03 40 26.8	-0.3	
BGU	Big Grassy Mou	32.24	330	*e*P		P	03 37 41.5	+2.0	
	5.5nm,1.1s								
HVU	Hansel Valley	32.78	331	*e*P		P	03 37 45.8	+1.6	
	27nm,1.4s								
AHID	Auburn Hatcher	32.83	334	*e*P		P	03 37 44.8	+0.1	
	30nm,1.5s								
DELO	Deloro Mine	32.95	20	P		P	03 37 43.0	-2.4	
	baz=207								
ELK	Elko	33.21	328	P		P	03 37 48.9	+0.8	
	2.5nm,0.8s,baz=135,slow=6.0,SNR=9.7								
ELK					LR	LR	03 53 42.7		
	comp=Z,645nm,18.1s,baz=138,slow=41								
REDW	Red Top Meadow	33.22	335	*e*P		P	03 37 48.4	+0.3	
	45nm,1.1s								
BUKO	Buck Lake	33.24	17	P		P	03 37 45.4	-2.6	
	baz=203								
NV11	Mina Array Sit	33.26	322	*e*P		P	03 37 50.5	+2.2	
	0.5nm,0.9s								
SNOW	Snow King Moun	33.27	335	*e*P		P	03 37 49.6	+1.1	
	41nm,0.8s								
OMMB	Old Mammoth Mi	33.27	320	*e*P		P	03 37 50.5	+1.8	
	5.5nm,1.3s								
BANO	Bancroft	33.30	19	P		P	03 37 45.7	-2.7	
	baz=206								
MDPB	Devils Postpil	33.33	320	*e*P		P	03 37 50.9	+1.8	
	5.4nm,1.0s								
LOHW	Long Hollow	33.33	336	*e*P		P	03 37 49.7	+0.7	
	14nm,0.9s								
NV01	Mina Array Sit	33.35	322	*e*P		P	03 37 50.7	+1.4	
NVAR	Mina Array Bea	33.35	322	P		P	03 37 50.5	+1.3	
	5.1nm,0.8s,baz=138,slow=9.0,SNR=40								
NVAR					PcP	PcP	03 40 30.4	+0.1	
	1.0nm,1.0s,baz=150,slow=2.8,SNR=3.8								
NVAR					LR	LR	03 53 21.3		
	comp=Z,621nm,18.4s,baz=134,slow=40								
TPAW	Teton Pass	33.37	335	*e*P		P	03 37 50.8	+1.4	
	28nm,1.2s								
MOOW	Moose Ponds	33.50	336	*e*P		P	03 37 51.7	+1.2	
	10nm,1.0s								
FXWY	Fox Creek	33.52	335	*e*P		P	03 37 51.8	+1.1	
	12nm,1.1s								
PLVO	Plevna	33.59	20	P		P	03 37 48.3	-2.7	
	baz=207								
RYN	Ryan	33.61	322	*e*P		P	03 37 53.5	+2.0	
	4.4nm,1.2s								
KVN	Kaiserville	33.63	323	*e*P		P	03 37 53.4	+1.8	
	5.2nm,1.0s								
IMW	Indian Meadow	33.70	336	*e*P		P	03 37 53.4	+1.0	
	8.7nm,1.0s								
FLWY	Flagg Ranch	33.76	336	*e*P		P	03 37 54.1	+1.4	
	20nm,1.3s								
ALGO	Algonquin Park	34.10	18	P		P	03 37 52.5	-2.9	
	baz=205								
PEMO	Pembroke	34.10	19	P		P	03 37 52.7	-2.7	
	baz=207								
RLMT	Red Lodge	34.11	339	P		P	03 37 56.6	+0.8	
	baz=150								
YFT	Old Faithful	34.12	336	*e*P		P	03 37 59.0	+3.1	
	13nm,1.2s								
MDND	Maddock	34.25	352	*e*P		P	03 37 55.6	-1.1	
	34nm,0.6s								
MDND	Maddock	34.25	352	P		P	03 37 56.5	-0.1	
	baz=167								
YERR	Yerington	34.27	322	*e*P		P	03 37 59.1	+1.9	
	4.2nm,0.9s								
YMR	Madison River	34.36	336	*e*P		P	03 37 59.7	+1.8	
	18nm,1.0s								
YHH	Holmes Hill	34.41	337	*e*P		P	03 38 00.3	+1.8	
	7.1nm,1.1s								
ORIO	Orleans, Innes	34.49	21	P		P	03 37 56.3	-2.4	
	baz=210								
PNTR	Pine Nut	34.55	321	*e*P		P	03 38 01.7	+2.1	
	5.5nm,0.9s								
QLMT	Earthquake Lak	34.67	336	*e*P		P	03 38 02.7	+2.1	
PAHR	Pah Rah Range	34.81	322	*e*P		P	03 38 03.6	+1.8	
	6.1nm,1.1s								
ALFO	Alfred	34.87	22	P		P	03 37 59.3	-2.6	
	baz=210								
HLID	Hailey	34.93	332	*e*P		P	03 38 03.7	+0.9	
	6.0nm,0.9s								
HLID	Hailey	34.93	332	P		P	03 38 04.0	+1.2	
	baz=140,SNR=12								
D53A	Lac Vacive, Po	35.22	18	P		P	03 38 03.1	-2.0	
	baz=205								
MCMT	McKenzie Canyo	35.25	335	*e*P		P	03 38 07.5	+1.9	
BEKR	Beckworth	35.50	322	*e*P		P	03 38 09.6	+1.8	
	4.3nm,1.0s								
DLMT	Dillon	35.58	335	*e*P		P	03 38 10.1	+1.7	
	24nm,1.1s								
D54A	Lac Fusel, La	35.60	19	P		P	03 38 06.2	-2.2	
	baz=207								
DGMT	Dagmar	35.69	347	P		P	03 38 09.2	+0.1	
	baz=160								
WVOR	Wild Horse Val	36.20	327	*e*P		P	03 38 15.1	+1.4	
	6.1nm,1.0s								
ULM	Lac du Bonnet	36.24	356	P		P	03 38 12.2	-1.6	
	5.3nm,0.8s,baz=174,slow=10,SNR=4.0								
ULM					LR	LR	03 54 46.9		
	comp=Z,154nm,20.1s,baz=190,slow=39								
HRY	Holter Researc	36.40	337	*e*P		P	03 38 16.3	+1.0	
J08A	Circle Bar Ran	36.76	328	*e*P		P	03 38 19.5	+1.0	
	11nm,0.8s								
SAML	Samuel	36.98	126	*e*P		P	03 38 17.3	-3.1	
	5.8nm,1.3s								
LATQ	La Tuque	37.12	22	P		P	03 38 17.9	-3.4	
	baz=212								
LSQQ	Lebel-sur-Quev	37.22	17	P		P	03 38 19.4	-2.7	
	baz=205								
MSO	Missoula	37.32	336	*e*P		P	03 38 23.9	+0.8	
	23nm,1.5s								
MSO	Missoula	37.32	336	P		P	03 38 24.1	+1.0	
	baz=144								
MATQ	Matagami	37.67	16	P		P	03 38 23.0	-3.0	
	baz=204								
YBH	Yreka Blue Hor	38.05	322	LR		LR	03 55 18.6		
	comp=Z,345nm,20.0s,baz=148,slow=38								
F10A	Beach Ranch, E	38.06	332	*e*P		P	03 38 29.9	+0.5	
JTMT	Jette	38.20	336	*e*P		P	03 38 31.3	+0.7	
	13nm,1.0s								
LPAZ	La Paz	38.56	140	P		P	03 38 33.5	-0.9	
	0.8nm,0.8s,baz=342,slow=11,SNR=3.8								
CHGQ	Chibougamau	38.75	19	P		P	03 38 32.2	-2.8	
	baz=208								
NEW	Newport	39.77	334	LR		LR	03 57 34.6		
	comp=Z,320nm,18.4s,baz=129,slow=40								
C09A	Chrisman Ranch	39.91	333	*e*P		P	03 38 45.7	+0.9	
	10nm,0.9s								
SIV	San Ignacio	43.06	133	P		P	03 39 08.6	-2.3	
	3.1nm,1.0s,baz=302,slow=9.3,SNR=9.4								
SCHQ	Schefferville	45.39	21	LR		LR	03 59 22.1		
	comp=Z,834nm,19.7s,baz=206,slow=37								
YKA	Yellowknife Ar	50.90	347	P		P	03 40 11.5	+0.1	
	18nm,0.8s,baz=151,slow=7.4,SNR=45								
YKA					LR	LR	04 07 01.4		
	comp=Z,22nm,18.2s,baz=177,slow=42								
YKB5	Yellowknife Ar	50.90	347	*e*P		P	03 40 09.9	-1.5	
YKW3	Yellowknife Ar	50.96	347	*e*P		P	03 40 12.0	+0.1	
	21nm,0.8s								
DLBC	Dease Lake	52.44	336	P		P	03 40 23.9	+0.7	
	18nm,1.0s,baz=132,slow=5.0,SNR=17								
DLBC					LR	LR	04 06 07.4		
	comp=Z,237nm,18.5s,baz=156,slow=40								
DLBC	Dease Lake	52.44	336	*e*P		P	03 40 24.6	+1.5	
	15nm,0.8s								
CPUP	Villa Florida	52.72	139	LR		LR	04 02 07.9		
	comp=Z,50nm,18.3s,baz=336,slow=35								
RKT	Rikitea	55.57	229	*e*LR		LR	03 57 00.2		
	191nm,27.8s								
PLCA	Paso Flores	58.15	160	LR		LR	04 01 24.4		
	comp=Z,138nm,18.0s,baz=325,slow=31								
INK	Inuvik	60.29	344	P		P	03 41 18.9	+0.2	
	7.8nm,1.0s,baz=108,slow=5.5,SNR=18								
INK	Inuvik	60.29	344	*e*P		P	03 41 18.2	-0.4	
	25nm,1.4s								
RES	Resolute Bay	60.68	359	LR		LR	04 09 19.4		
	comp=Z,167nm,21.9s,baz=174,slow=38								
DOT	Dot Lake	61.01	336	*e*P		P	03 41 24.7	+0.9	
	8.2nm,1.0s								
PAX	Paxson	61.24	335	*e*P		P	03 41 26.0	+0.6	
	49nm,2.0s								
RIDG	Independ'e Rid	61.36	336	*e*P		P	03 41 27.7	+1.5	
	35nm,1.6s								
GHO	Glory Hole Cre	62.16	333	*e*P		P	03 41 34.1	+2.4	
	16nm,0.8s								
HDA	Harding Lake	62.49	337	*e*P		P	03 41 35.1	+1.5	
	7.4nm,1.0s								
IL1	Eielson Array	62.63	337	*e*P		P	03 41 33.5	-1.2	
ILAR	Eielson Array	62.63	337	P		P	03 41 34.9	+0.2	
	6.5nm,1.0s,baz=131,slow=4.3,SNR=24								
ILAR					LR	LR	04 11 02.4		
	comp=Z,92nm,19.8s,baz=135,slow=38								
ILB	Eielson Array	62.63	337	*e*P		P	03 41 35.3	+0.7	
RND	Reindeer	62.81	335	*e*P		P	03 41 36.6	+0.7	
	22nm,1.1s								
SUA	Susitna One	62.84	333	*e*P		P	03 41 39.0	+2.7	
	8.4nm,0.8s								
CCB	Clear Creek Bu	62.93	337	*e*P		P	03 41 37.6	+1.0	
	24nm,1.9s								
MCK	McKinley	62.98	335	*e*P		P	03 41 37.4	+0.4	
	16nm,1.2s								
POKR	Poker Plat Res	63.00	337	P		P	03 41 38.5	+1.4	
	baz=117								
SKT	Skwentna	63.38	333	*e*P		P	03 41 40.5	+0.8	
	10nm,0.9s								
TRF	Thorofare Moun	63.41	335	*e*P		P	03 41 40.5	+0.4	
	16nm,1.0s								
MLY	Manley	64.23	336	*e*P		P	03 41 45.5	+0.3	
	6.1nm,0.8s								
PPT	Papeete	64.45	243	LR		LR	04 03 24.3		
	comp=Z,88nm,21.3s,baz=360,slow=30								
PPT2	Papeete2	64.46	243	*e*LR		LR	04 00 55.3		
	129nm,25.5s								
COLD	Coldfoot	64.94	339	*e*P		P	03 41 51.0	+1.3	
	9.9nm,1.3s								
TOLK	Toolik Lake Re	65.34	340	*e*P		P	03 41 53.2	+0.8	
	6.3nm,0.9s								
TOLK	Toolik Lake Re	65.34	340	P		P	03 41 53.2	+0.8	
	baz=116,SNR=6.9								
IM3	Indian Mountai	65.75	337	*e*P		P	03 41 56.0	+1.0	
TBI	Tubuai	66.93	237	*e*LR		LR	04 02 15.0		
	137nm,27.5s								
RAR	Rarotonga	74.72	243	LR		LR	04 07 43.2		
	comp=Z,38nm,18.0s,baz=76,slow=29								
ESDC	Sonseca Array	80.10	52	P		P	03 43 17.8	-2.8	
	1.4nm,0.8s,baz=283,slow=6.5,SNR=6.8								
NOA	NORSAR Array B	84.39	28	LR		LR	04 20 13.9		
	comp=Z,62nm,20.9s,baz=285,slow=35								
GERES	GERESS Array B	89.91	39	LR		LR	04 22 41.6		
	comp=Z,145nm,20.3s,baz=296,slow=34								
TIXI	Tiksi	90.14	348	P		P	03 44 09.4	-0.7	
	3.2nm,0.8s,baz=23,slow=5.5,SNR=9.1								
FINES	FINESS Array B	90.70	25	LR		LR	04 26 21.0		
	comp=Z,135nm,18.6s,baz=241,slow=36								
TORD	Torodi Ar. Bea	90.86	76	P		P	03 44 12.7	-1.9	
	0.6nm,0.9s,baz=272,slow=4.2								
TORD					LR	LR	04 24 54.4		
	comp=Z,40nm,18.6s,baz=315,slow=36								
NRIK	Noril'sk	96.87	360	LR		LR	04 33 07.8		
	comp=Z,214nm,18.9s,baz=20,slow=38								
AKASG	Malin Array Be	97.99	33	LR		LR	04 30 01.0		
	comp=Z,70nm,19.5s,baz=325,slow=36								
URZ	Urewera	98.82	233	LR		LR	04 17 38.5		
	comp=Z,40nm,20.7s,baz=40,slow=28								
BOSA	Boshof	120.81	115	PKP		PKPdf	03 50 01.9	-1.2	
	2.8nm,0.9s,baz=198,slow=3.2,SNR=2.0								
KSH	Kashi	125.68	11	*e*PKP		PKPdf	03 50 19.7	+7.5	
KSH				PP		PP	03 52 14.8	+12	
KSH				AMB		AMB			
	comp=Z,280nm,4.3s								
LZH	Lanzhou	127.83	343	*e*PKP		PKPdf	03 50 20.3	+3.8	
LZH				pPKP		pPKPdf	03 50 31.5	+0.8	
LZH				sPKP			03 50 35.7		
LZH				LR		LR			
	comp=N,110nm,18.0s								
LZH				LR		LR			
	comp=E,110nm,17.9s								
LZH				LR		LR			
	comp=Z,140nm,20.1s								
CD2	Chengdu	132.68	341	PKP		PKPdf	03 50 27.0	+1.3	
CMAR	Chiang Mai Arr	145.82	340	PKPbc		PKPdf	03 50 49.6	-0.1	
	comp=Z,6.7nm,0.6s,baz=342,slow=4.3,SNR=23								

ISCJB ***12*** *03:46:00.7±0.3,28°.93N±0°.03×47°.60E±0°.04, h13km, mb4.0/21, MS3.8/1, Error ellipse: s-maj=5.5km s-min=3.9km az=35.1*

IDC ***12*** *03:46:01.4±1.0,29°.15N×47°.57E, h0km, mb4.0/18, mb1 1.4/25, mb1mx4.0/52, mbtmp4.0/25, ML3.4/6, MS3.3/3, Ms1 3.3/3, ms1mx2.8/39, Error ellipse: s-maj=19.4km s-min=13.1km az=177.0*

NEIC ***12*** *03:46:03.2±2.1, 28°.99N×47°.56E, h18km±14km, mb4.2/5, Error ellipse: s-maj=6.5km s-min=4.4km az=189.0*

DSN ***12*** *03:46:09.6±1.4, 28°.38N×47°.87E, h15km, ML3.5/9, Error ellipse: s-maj=22.8km s-min=8.3km az=179.0*

THR ***12*** *03:46:11.0±0.3, 29°.42N×48°.27E, h17km±22km, ML3.8*

ISC 12 03:46:02.1±0.4, 28°.92N±0°.05×47°.57E±0°.05, h13km, n78, σ1§52/87, mb4.1/21, 6C-5D, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SHGR	Shooshtar-Gavs	3.35	18	*e*Pn		Pn	03 46 55.9	+1.8
SHGR				*e*Sg		Sn	03 47 35.8	+2.0
SHGR				IAML			03 47 40.5	
	comp=E,769nm,0.5s							
SHGR				IAML			03 47 40.9	
	comp=N,404nm,0.5s							
KHMZ	Khomeyn	5.22	22	*e*Pn		Pn	03 47 21.5	+1.5
RAYN	Ar Rayn	5.69	200	*e*Pn		Pn	03 47 27.3	+0.9
RAYN				*e*Pg		Pg	03 47 49.3	-1.7
RAYN				*e*Sn		Sn	03 48 34.7	+3.1
RAYN	Ar Rayn	5.69	200	*i* P		Pn	03 47 27.4	+0.9
	SNR=11							
ASAO	Ashtian	5.99	20	*e*Pn		Pn	03 47 32.1	+1.5
GHVR	GHOM	6.38	29	*e*Pn		Pn	03 47 36.3	+0.3
SHME	Shamm	8.13	109	*i* P		Pn	03 48 00.1	+0.3
	SNR=8.2							
ASUD	Al Ashush, Dub	8.14	120	*i* P		Pn	03 48 01.6	+1.6
	SNR=6.9							
NAZ	Nazwa, Dubai	8.21	117	P		Pn	03 48 02.3	+1.4
BANOM	Banah	8.31	109	*i* P		Pn	03 48 02.1	-0.3
	SNR=34							
MSFE	Esma-Masafi	8.43	113	*i* P		Pn	03 48 05.1	+1.1
	SNR=6.2							
MSFE				S		Sn	03 49 35.3	-3.9
UOSS	Minazif	8.66	115	*e*Pn		Pn	03 48 07.1	-0.1
UOSS				*e*Sn		Sn	03 49 39.7	-5.0
UOSS	Minazif	8.66	115	*i* P		Pn	03 48 08.1	+0.9
	SNR=18							
HATD	Hatta, Dubai	8.66	116	*i* P		Pn	03 48 08.4	+1.2
	SNR=14							
ASHO	Ashiyiah	8.68	117	*i* P		Pn	03 48 08.4	+1.0
	SNR=22							
ASHO				S		Sn	03 49 42.1	-3.0
ALNE	Al Ain	8.78	122	P		Pn	03 48 10.3	+1.5
SOHO	SOHO	9.33	119	*i* P		Pn	03 48 17.3	+1.0
	SNR=14							
ASF	Jabal al Asfar	9.76	292	Pn		Pn	03 48 22.3	0.0
	comp=N,0.3nm,0.3s,baz=122,slow=15,SNR=4.4							
ASF				Sn		Sn	03 50 06.8	-4.9
	comp=N,1.1nm,0.3s,baz=75,slow=20,SNR=4.0							
ASF				Lg		Lg	03 51 08.9	
	comp=N,0.2nm,0.3s,baz=266,slow=19,SNR=1.8							
HOQ	Hoqain	10.23	119	sPKPdf		Sn	03 50 20.2	-3.1
MMAI	Mount Meron Ar	11.21	294	Pn		Pn	03 48 42.1	-0.1
	comp=N,0.4nm,0.3s,baz=118,slow=15,SNR=2.7							
MMAI				Sn		Sn	03 50 43.4	-4.1
	comp=N,1.4nm,0.3s,baz=114,slow=29,SNR=4.7							
MMAI				LR		LR	03 53 49.3	
	comp=N,62nm,20.0s,baz=235,slow=42							
WSAR	Wadi Sarin	11.43	117	Pn		Pn	03 48 47.3	+2.1
	comp=N,1.2nm,0.3s,baz=290,slow=15,SNR=13							
WSAR				Sn		Sn	03 50 49.9	-3.0
	comp=N,1.3nm,0.3s,baz=100,slow=18,SNR=5.3							
GNI	Garni	11.44	349	Pn		Pn	03 48 44.0	-1.3
	comp=N,0.4nm,0.3s,baz=171,slow=19,SNR=1.9							
GEYT	Alibeck	12.57	42	Pn		Pn	03 49 00.3	-0.4
	comp=N,0.2nm,0.3s,baz=198,slow=9.3,SNR=5.9							
GEYT				LR		LR	03 54 48.9	
	comp=N,145nm,18.1s,baz=355,slow=42							
GYA0B	ALIBECK ARRAY	12.57	42	*e*Pn		Pn	03 49 02.7	+2.0
KBZ	Khabaz	15.24	347	Pn		Pn	03 49 37.1	+0.2
	comp=N,0.1nm,0.3s,baz=174,slow=14,SNR=4.1							
KIV	Kislovodsk	15.51	347	*e*Pn		P	03 49 44.8	-0.1
	comp=N,16nm,1.1s							
BR101	Keskin Array S	15.75	317	*e*Pn		Pn	03 49 43.6	-0.2
BR131	Keskin Array S	15.75	317	*e*Pn		P	03 49 45.8	-1.9
BRTR	Keskin Array B	15.75	317	Pn		Pn	03 49 43.6	-0.2
	comp=N,0.1nm,0.3s,baz=140,slow=11,SNR=13							
IDI	Anoyia	20.22	294	P		P	03 50 37.5	+0.6
	comp=N,11nm,0.8s,baz=110,slow=11,SNR=3.9							
ALN	Alexandroupoli	21.25	310	*e*P		P	03 50 46.6	-1.4
	comp=N,3.6nm,0.9s							
TIRR	Tirgusor	21.75	321	*e*P		P	03 50 53.3	0.0
	comp=N,6.5nm,0.8s							
TLB	Topalu	22.04	320	*i* P		P	03 50 56.5	+0.2
ABKAR	Akbulak array	22.40	22	*e*P		P	03 50 59.0	-1.2
AKTO	Aktyubinsk	22.89	17	P		P	03 51 04.7	-0.7
	comp=N,4.7nm,0.6s,baz=200,slow=12,SNR=19							
AKTO				S		S	03 55 13.7	-1.1
	comp=N,2.1nm,0.9s,baz=5.1,slow=16,SNR=3.7							
KK31	Karatay Array	23.24	46	*e*P		P	03 51 08.4	-0.6
KKAR	Karatay Array	23.24	46	*e*P		P	03 51 08.0	-1.1
PLOR	Plostina	23.59	321	*i* P		P	03 51 12.9	+0.3
MLR	Muntele Rosu	23.77	320	P		P	03 51 14.5	+0.1
	comp=N,2.4nm,0.9s,baz=102,slow=9.3,SNR=4.3							
MLR	Muntele Rosu	23.77	320	*i* P		P	03 51 15.1	+0.7
OZUR		24.22	321	*i* P		P	03 51 17.8	-0.7
VOIR		24.24	319	*i* P		P	03 51 19.2	+0.4
ARR	Arges	24.45	318	*i* P		P	03 51 20.9	+0.3
BIZ	Bicaz	24.57	323	*i* P		P	03 51 22.7	+1.0
BURAR	Bucovina Array	25.47	323	*i* P		P	03 51 32.0	+2.1
BUR04	Bucovina Ar. S	25.47	323	*e*P		P	03 51 28.5	-1.4
GZR	Gura Zlata	25.56	317	*i* P		P	03 51 31.8	+1.1
AAK	Ada-Archa	25.64	51	P		P	03 51 32.5	+0.8
	comp=N,2.0nm,0.8s,baz=270,slow=8.1,SNR=2.8							
AKASG	Malin Array Be	25.78	333	P		P	03 51 32.2	-0.4
	comp=N,6.1nm,0.7s,baz=138,slow=8.8,SNR=20							
AKBB	Malin Array Si	25.78	333	*e*P		P	03 51 32.2	-0.4
KIEV	Kiev	25.79	333	*e*P		P	03 51 32.3	-0.3
NRN	Naryn	26.25	54	*e*P		P	03 51 39.5	+2.1
	comp=N,10nm,0.8s							
DRGR		26.35	319	*i* P		P	03 51 38.7	+0.8
TRPA	Tarpa	27.21	322	*i* P		P	03 51 46.8	+

JTS	**JuntasAbangare**	**8.13**	**117**	Pn	**Pn**	**03 48 13.5**	**-2.5**
	0.2nm,0.3s,baz=280,slow=12,SNR=2.2						
JTS				Sn	**Sn**	**03 49 45.9**	**-0.8**
	0.1nm,0.3s,baz=30,slow=12,SNR=2.2						
JTS				Lg	Lg	03 50 33.7	
	0.1nm,0.3s,baz=255,slow=16,SNR=4.1						
TXAR	**Lajitas Array**	**18.45**	**327**	P	**P**	**03 50 33.0**	**+0.1**
	0.2nm,0.3s,baz=159,slow=14,SNR=6.9						
NNA	**Nana**	**30.12**	**149**	LR	LR	04 03 13.7	
	comp=Z,22nm,20.0s,baz=10.0,slow=34						
NVAR	**Mina Array Bea**	**33.40**	**321**	P	**P**	**03 52 55.8**	**+0.1**
	0.2nm,0.6s,baz=134,slow=11,SNR=4.6						
YKA	**Yellowknife Ar**	**50.86**	**347**	P	**P**	**03 55 17.6**	**+0.4**
	1.1nm,0.5s,baz=135,slow=8.8,SNR=6.7						
INK	**Inuvik**	**60.26**	**344**	P	**P**	**03 56 24.8**	**+0.2**
	0.6nm,0.5s,baz=142,slow=6.3,SNR=3.8						
ILAR	**Eielson Array**	**62.63**	**337**	P	**P**	**03 56 40.9**	**+0.2**
	0.7nm,1.0s,baz=138,slow=5.6,SNR=5.1						
CMAR	**Chiang Mai Arr**	**145.80**	**341**	PKPbc	**PKPdf**	**04 05 55.7**	**-0.3**
	1.5nm,0.3s,baz=340,slow=4.1,SNR=1.6						

NIED ***12*** *03:47:00,36˚90N×141˚40E,h5km,Mw3.5 Best double couple: M₀1.90000×10¹⁴ NP1:φ₀₁44.00000°, δ26.00000°, λ-80.00000°. NP2:φ₀₂213.00000°, δ64.00000°, λ-95.00000°.*

ISCJB ***12*** *03:47:37.4±1.2,36˚87N±0.04×141˚46E±0.06,h6km±6km, mb3.6/2,Error ellipse: s-maj=8.7km s-min=6.7km az=17.9*

IDC ***12*** *03:47:38.1±1.6,36˚73N×141˚46E,h0km,mb3.4/2, mb1 3.7/3,mb1mx3.3/41,mbtmp3.3/3,ML3.3/1,Error ellipse: s-maj=36.4km s-min=27.0km az=147.0*

JMA ***12*** *03:47:39.5±0.1,36˚89N×141˚37E,h25km±1km,M3.6*

ISC 12 03:47:37.5±2.3,36˚86N±0.05×141˚36E±0.08,h1km±14km, n20,σ0.86/23,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.51**	**298**	P	**Pb**	**03 47 49.6**	**+0.4**
JFK	**Kawauchi**	**0.63**	**323**	P	**Pb**	**03 47 51.5**	**+0.1**
JFK				S	**Sb**	**03 47 59.9**	**-0.8**
JFFD	**Fukushimafurud**	**0.68**	**290**	P	**Pb**	**03 47 52.3**	**+0.2**
JHO	**Hitachi**	**0.68**	**248**	P	**Pn**	**03 47 53.0**	**-1.2**
JHO				S	**Sb**	**03 48 02.4**	**+0.4**
JHYU	**Hitachinakayam**	**0.81**	**230**	P	**Pn**	**03 47 55.0**	**-1.0**
JHYU				S	**Sb**	**03 48 06.2**	**+0.5**
JFT	**Otama**	**1.04**	**309**	P	**Pn**	**03 47 58.8**	**-0.5**
JFT				S	**Sb**	**03 48 12.4**	**-0.1**
JMM	**Marumori**	**1.10**	**336**	P	**Pn**	**03 47 58.7**	**-1.3**
JYT	**Yasato**	**1.13**	**236**	P	**Pn**	**03 47 59.8**	**-0.6**
JYT				S	**Sg**	**03 48 14.2**	**+0.4**
JSB	**Shiboa**	**1.16**	**276**	P	**Pn**	**03 48 01.2**	**+0.4**
JSB				eS	**Sb**	**03 48 16.7**	**+0.9**
JFY	**Yanaizu**	**1.43**	**293**	P	**Pg**	**03 48 04.9**	**+0.1**
JFY				eS	**Sn**	**03 48 23.2**	**-0.8**
MJAR	**Matsushiro Arr**	**2.55**	**264**	Pn	**Pn**	**03 48 21.0**	**+1.0**
	5.5nm,0.3s,baz=87,slow=15,SNR=23						
MJAR				Sn	**Sb**	**03 48 55.3**	**-0.5**
	7.5nm,0.3s,baz=89,slow=13,SNR=6.5						
MAT	**Matsushiro**	**2.55**	**264**	P	**Pb**	**03 48 22.2**	**-1.8**
MAT				S	**Sb**	**03 48 56.3**	**+0.4**
H11N2	**WAKE ISLAND Hy**	**28.10**	**120**	T	T	04 22 58.7	
	baz=313,slow=75,SNR=128						
H11N1	**WAKE ISLAND Hy**	**28.11**	**120**	T	T	04 22 57.8	
	baz=313,slow=75,SNR=130						
H11N3	**WAKE ISLAND Hy**	**28.12**	**120**	T	T	04 22 58.1	
	baz=313,slow=75,SNR=107						
H11S1	**WAKE ISLAND Hy**	**28.81**	**123**	T	T	04 23 51.5	
	baz=314,slow=74						
H11S3	**WAKE ISLAND Hy**	**28.81**	**123**	T	T	04 23 50.3	
	baz=314						
H11S2	**WAKE ISLAND Hy**	**28.82**	**123**	T	T	04 23 54.5	
	baz=314,slow=74						
ILAR	**Eielson Array**	**49.66**	**32**	P	**P**	**03 56 31.5**	**+1.1**
	0.4nm,0.8s,baz=278,slow=6.6,SNR=5.0						
WRA	**Warramunga Arr**	**56.89**	**188**	P	**P**	**03 57 24.1**	**+0.1**
	0.5nm,0.7s,baz=6.0,slow=7.4,SNR=7.1						

IDC ***12*** *03:53:17.0±0.9,52˚42N×131˚75W,h0km,mb3.7/5, mb1 3.9/12,mb1mx3.7/52,mbtmp3.7/12,ML3.5/7,Error ellipse: s-maj=15.2km s-min=5.7km az=44.0*

ISCJB ***12*** *03:53:17.3±0.8,52˚51N±0.08×131˚7W±0.2,h10km, mb3.7/5,Error ellipse: s-maj=17.5km s-min=6.8km az=143.2*

ISC 12 03:53:18.0±1.0,52˚5N±0.1×131˚8W±0.1,h10km,n20, σ1.908/16,mb3.8/5,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H02S1	**DAWSON INLET T**	**0.85**	**332**	Pg	**Pg**	**03 53 34.5**	**+0.2**
H02S1				Lg	Lg	03 53 47.3	
H02N1	**VAN INLET T-PH**	**0.91**	**331**	Pg	**Pg**	**03 53 35.5**	**0.0**
H02N1				Lg	Lg	03 53 49.9	
BBB	**Bella Bella**	**2.29**	**95**	Pn	**Pn**	**03 53 54.1**	**-1.6**
	41nm,0.3s,baz=268,slow=16,SNR=9.9						
BBB				Lg	Lg	03 54 27.4	
	140nm,0.3s,baz=172,slow=20,SNR=11						
DLBC	**Dease Lake**	**6.08**	**9**	Pn	**Pn**	**03 54 48.1**	**+0.2**
	1.5nm,0.3s,baz=202,slow=11,SNR=6.5						
DLBC				Lg	Lg	03 56 28.6	
	3.5nm,0.3s,baz=295,slow=13,SNR=6.8						
NEW	**Newport**	**10.28**	**108**	Pn	**Pn**	**03 55 46.3**	**+0.8**
	0.3nm,0.3s,baz=298,slow=12,SNR=5.7						
NEW				Lg	Lg	03 58 37.5	
	0.1nm,0.3s,baz=6.6,slow=12,SNR=5.9						
YBH	**Yreka Blue Hor**	**12.38**	**146**	Pn	**Pn**	**03 56 14.6**	**+0.3**
	0.1nm,0.3s,baz=6.0,slow=3.4,SNR=4.4						
YKA	**Yellowknife Ar**	**13.62**	**36**	Pn	**Pn**	**03 56 30.2**	**-0.7**
	0.1nm,0.3s,baz=230,slow=13,SNR=5.4						
YKA				Lg	Lg	04 00 27.5	
	0.1nm,0.3s,baz=229,slow=30,SNR=3.0						
ILAR	**Eielson Array**	**14.57**	**334**	Lg	Lg	04 01 05.7	
	0.0nm,0.3s,baz=126,slow=26,SNR=2.9						
INK	**Inuvik**	**15.92**	**358**	Pn	**P**	**03 57 05.3**	**-0.1**
	0.1nm,0.3s,baz=213,slow=7.8,SNR=4.2						
ELK	**Elko**	**16.30**	**129**	Pn	**P**	**03 57 09.2**	**-0.8**
	0.1nm,0.3s,baz=308,slow=12,SNR=3.4						
NVAR	**Mina Array Bea**	**16.89**	**141**	Pn	**P**	**03 57 16.4**	**-0.2**
	0.1nm,0.3s,baz=320,slow=10.0,SNR=7.0						
PDAR	**Pinedale Array**	**17.80**	**114**	P	**P**	**03 57 29.1**	**+2.4**
	0.2nm,0.3s,baz=296,slow=7.9,SNR=17						
ULM	**Lac du Bonnet**	**22.41**	**81**	P	**P**	**03 58 18.1**	**+1.6**
	3.5nm,0.9s,baz=297,slow=11,SNR=2.4						
ANMO	**Albuquerque**	**25.15**	**124**	P	**P**	**03 58 42.2**	**-1.1**
	0.4nm,0.3s,baz=326,slow=11,SNR=2.5						
TXAR	**Lajitas Array**	**31.06**	**127**	P	**P**	**03 59 36.4**	**+0.3**
	0.6nm,0.8s,baz=343,slow=3.9,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**57.15**	**260**	T	T	05 05 13.0	
	baz=40,slow=76,SNR=161						
H11N3	**WAKE ISLAND Hy**	**57.16**	**260**	T	T	05 05 06.7	
	baz=40,slow=76,SNR=197						
H11N1	**WAKE ISLAND Hy**	**57.17**	**260**	T	T	05 05 07.9	
	baz=40,slow=76,SNR=149						
MKAR	**Makanchi Array**	**76.90**	**337**	P	**P**	**04 05 10.5**	**+0.4**
	0.5nm,0.7s,baz=38,slow=7.3,SNR=2.5						
LPAZ	**La Paz**	**87.71**	**121**	P	**P**	**04 06 06.8**	**-0.8**
	0.7nm,0.6s,baz=338,slow=5.4,SNR=3.9						

IDC ***12*** *04:14:02.3±1.6,45˚61S×167˚29E,h0km,mb3.6/2, mb1 4.0/3,mb1mx3.7/20,mbtmp3.8/3,ML4.2/1,MS3.0/1, Ms1 3.0/1,ms1mx2.6/22,Error ellipse: s-maj=50.1km s-min=32.8km az=179.0*

ISCJB ***12*** *04:14:11.9±0.5,44˚97S±0.05×167˚63E±0.07,h99km±5km, mb3.6/2,Error ellipse: s-maj=9.4km s-min=6.1km az=135.2*

WEL ***12*** *04:14:13.0,45˚S±2˚×16˚8E±˚,h89km±3km*

ISC 12 04:14:13.1±0.9,44˚99S±0.05×167˚60E±0.05,h94km±7km, n42,σ0.89/44,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.39**	**36**	P	**Pn**	**04 14 27.7**	**+0.3**
MSZ				S	**Sn**	**04 14 38.5**	**+0.4**
MLZ	**Mavora Lakes**	**0.53**	**136**	P	**Pn**	**04 14 28.3**	**-0.1**
MLZ				S	**Sn**	**04 14 39.2**	**-0.7**
DCZ	**Deep Cove**	**0.57**	**213**	P	**Pn**	**04 14 27.9**	**-0.8**
DCZ				S	**Sn**	**04 14 38.7**	**-1.7**
WHZ	**Wether Hill Ro**	**0.93**	**165**	P	**Pn**	**04 14 32.1**	**-0.2**
WHZ				S	**Sn**	**04 14 45.8**	**-0.9**
WKZ	**Wanaka**	**1.02**	**81**	P	**Pn**	**04 14 34.2**	**+1.0**
WKZ				S	**Sn**	**04 14 49.1**	**+0.6**
EAZ	**Earnscleugh**	**1.23**	**102**	P	**Pn**	**04 14 36.5**	**+0.8**
EAZ				P		04 14 36.5	
EAZ				S	**Sn**	**04 14 52.8**	**0.0**
JCZ	**Jackson Bay**	**1.25**	**43**	P	**Pn**	**04 14 36.6**	**+0.6**
PYZ	**Puysegur Point**	**1.34**	**208**	P	**Pn**	**04 14 37.3**	**+0.3**
TUZ	**Tuapeka**	**1.72**	**125**	P	**Pn**	**04 14 42.3**	**+0.6**
TUZ				S	**Sn**	**04 15 02.3**	**-1.3**
APZ	**The Paps**	**1.86**	**172**	P	**Pn**	**04 14 43.4**	**-0.2**
SYZ	**Scrubby Hill**	**1.88**	**146**	P	**Pn**	**04 14 44.3**	**+0.5**
BLZ	**Lake Benmore**	**1.94**	**73**	P	**Pn**	**04 14 44.5**	**-0.1**
FOZ	**Fox Glacier**	**2.16**	**48**	P	**Pn**	**04 14 47.3**	**-0.1**
ODZ	**Otahua Downs**	**2.16**	**92**	P	**Pn**	**04 14 47.6**	**+0.2**
HHSZ	**Highcliff Hill**	**2.29**	**114**	P	**Pn**	**04 14 49.9**	**+0.7**
RPZ	**Rata Peaks**	**2.79**	**64**	Pn	**Pn**	**04 14 55.1**	**-0.7**
	26nm,0.3s,baz=228,slow=5.4,SNR=144						
RPZ				Sn	**Sn**	**04 15 27.7**	**-1.0**
	82nm,0.3s,baz=329,slow=20,SNR=51						
RPZ				LR	LR	04 16 25.8	
	comp=Z,191nm,18.4s,baz=293,slow=44						
RPZ	**Rata Peaks**	**2.79**	**64**	P	**Pn**	**04 14 55.1**	**-0.7**
WVZ	**Waitaha Valley**	**2.96**	**51**	P	**Pn**	**04 14 57.3**	**-0.9**
INZ	**Inchbonnie**	**3.59**	**52**	P	**Pn**	**04 15 05.8**	**-0.7**
OXZ	**Oxford**	**3.60**	**64**	P	**Pn**	**04 15 05.1**	**-1.6**
MQZ	**McQueen's Vall**	**3.85**	**72**	P	**Pn**	**04 15 09.0**	**-1.0**
AKCZ	**Akaroa Harbour**	**3.96**	**75**	P	**Pn**	**04 15 10.9**	**-0.8**
LTZ	**Lake Taylor**	**4.04**	**58**	P	**Pn**	**04 15 11.2**	**-1.5**
AMCZ	**Amberley**	**4.07**	**65**	P	**Pn**	**04 15 12.0**	**-1.0**
OKCZ	**Okains Bay**	**4.12**	**74**	P	**Pn**	**04 15 13.6**	**0.0**
DSZ	**Dennistoun Nort**	**4.46**	**45**	P	**Pn**	**04 15 17.9**	**-0.5**
THZ	**Tophouse**	**5.04**	**52**	P	**Pn**	**04 15 24.6**	**-1.7**
QRZ	**Quartz Range**	**5.52**	**43**	P	**Pn**	**04 15 32.0**	**-0.7**
NNZ	**Nelson**	**5.67**	**50**	P	**Pn**	**04 15 34.9**	**+0.2**
TUWZ	**Tuamarina**	**5.84**	**55**	P	**Pn**	**04 15 37.1**	**0.0**
MRZ	**Mangatainoka R**	**7.29**	**56**	P	**Pn**	**04 15 54.7**	**-2.1**
PKE	**Pukeiti**	**7.49**	**42**	P	**Pn**	**04 16 00.5**	**+1.0**
ASAR	**Alice Springs**	**34.66**	**297**	P	**P**	**04 20 54.3**	**+0.8**
	0.9nm,1.0s,baz=133,slow=6.8,SNR=5.4						
WRA	**Warramunga Arr**	**37.15**	**301**	P	**P**	**04 21 15.8**	**+1.0**
	0.8nm,0.8s,baz=138,slow=7.9,SNR=7.3						
H01W1	**Cape Leeuwin H**	**41.53**	**265**	T	T	05 05 49.1	
	baz=120,slow=75,SNR=10						
H01W2	**Cape Leeuwin H**	**41.54**	**265**	T	T	05 05 52.2	
	baz=120,slow=75,SNR=10.0						
H01W3	**Cape Leeuwin H**	**41.54**	**265**	T	T	05 05 52.7	
	baz=120,slow=75,SNR=10						
H08S2	**Diego Garcia H**	**88.25**	**261**	T	T	06 04 35.9	
	baz=135,slow=76,SNR=25						
H08S1	**Diego Garcia H**	**88.26**	**261**	T	T	06 04 33.1	
	baz=135,slow=76,SNR=6.5						
H08S3	**Diego Garcia H**	**88.27**	**261**	T	T	06 04 37.3	
	baz=135,slow=76,SNR=26						
BRTR	**Keskin Array B**	**145.94**	**278**	PKPbc	**PKPab**	**04 33 42.2**	**+0.1**
	1.0nm,0.9s,baz=135,slow=3.5,SNR=5.3						
TORD	**Torodi Ar. Bea**	**146.06**	**205**	PKPbc	**PKPdf**	**04 33 41.5**	**+0.1**
	1.3nm,0.7s,baz=161,slow=1.0,SNR=10						

GUC ***12*** *04:23:34.9±0.5,31˚71S×69˚94W,h106km±30km,ML3.4*

SJA ***12*** *04:23:34.6±0.5,31˚74S×69˚95W,h111km±4km,ML2.7, MW3.2*

ISCJB ***12*** *04:23:35.1±1.0,31˚72S±0.04×69˚92W±0.05, h120km±10km,Error ellipse: s-maj=7.7km s-min=6.3km az=151.5*

ISC 12 04:23:36.1±1.9,31˚72S±0.05×69˚93W±0.05, h111km±16km,n18,σ0.47/26,1C,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**0.55**	**98**	*i* P	**Pn**	**04 23 53.2**	**-0.5**
RTLS				IAML		04 24 06.7	
	comp=Z,128nm,0.3s						
RTLS				*i* S	**Sn**	**04 24 07.6**	**+0.6**
AUSP	**Uspallata**	**0.68**	**137**	*i* P	**Pn**	**04 23 54.4**	**-0.4**
CMCH	**Combarbala**	**1.06**	**301**	*i* P	**Pn**	**04 23 57.9**	**-0.2**
CMCH				*e*S	**Sn**	**04 24 14.7**	**-0.1**
CMCH				IAML		04 24 15.4	
	comp=E,2μm,0.4s						
ZON	**Zonda**	**1.08**	**81**	IAML		04 24 18.5	
	comp=Z,80nm,0.2s						
RTCV	**Cerro Valdivia**	**1.19**	**97**	*i* P	**Pn**	**04 23 58.8**	**-0.7**
RTCV				*i* S	**Sn**	**04 24 17.1**	**-0.1**
ASAL	**Salagasta**	**1.27**	**133**	*i* P	**Pn**	**04 24 00.2**	**-0.1**
RTLL	**Cerro Villicun**	**1.30**	**73**	*i* P	**Pn**	**04 24 00.2**	**-0.4**
RTLL				*i* S	**Sn**	**04 24 19.3**	**0.0**
RTLL	**Cerro Villicun**	**1.30**	**73**	*e*P	**Pn**	**04 24 00.3**	**-0.4**
ACCO	**Cerro Coronel**	**1.35**	**34**	*i* P	**Pn**	**04 24 01.7**	**+0.1**
ACCO				*i* S	**Sn**	**04 24 21.8**	**+1.0**
ARCO	**CERRO ARCO**	**1.40**	**143**	*i* P	**Pn**	**04 24 01.2**	**-0.7**
ARCO				IAML		04 24 25.1	
	comp=Z,100nm,0.2s						
AMOG	**MOGNA**	**1.46**	**58**	*i* P	**Pn**	**04 24 02.6**	**+0.1**
AMOG				*i* S	**Sn**	**04 24 22.8**	**+0.2**
AROD	**Rodeo**	**1.60**	**14**	*i* P	**Pn**	**04 24 04.7**	**+0.2**
FCH	**Farellones**	**1.63**	**191**	*i* P	**Pn**	**04 24 05.0**	**+0.2**
FCH				*i* S	**Sn**	**04 24 27.7**	**+0.9**
FCH				IAML		04 24 30.8	
	comp=E,241nm,0.2s						
ACDV	**Cuesta del Vie**	**1.69**	**25**	*i* P	**Pn**	**04 24 05.4**	**-0.1**
ACDV				IAML		04 24 30.9	
	comp=Z,66nm,0.2s						
GO04	**Tololo Observa**	**1.71**	**334**	⇑*i* P	**Pn**	**04 24 05.6**	**-0.2**
GO04				*e*S	**Sn**	**04 24 28.4**	**+0.1**
GO04				IAML		04 24 31.8	
	comp=N,808nm,0.5s						
LSCH	**La Serena**	**2.13**	**328**	*i* P	**Pn**	**04 24 10.1**	**-0.7**
AGUA	**GUANDACOL**	**2.55**	**30**	*i* P	**Pn**	**04 24 16.5**	**+0.2**
LCO	**Las Campanas**	**2.78**	**346**	*e*P	**Pn**	**04 24 19.2**	**-0.3**
LCO				*e*S	**Sn**	**04 24 52.6**	**-0.2**
LCO				IAML		04 24 54.2	
	comp=E,71nm,0.4s						

IDC ***12*** *04:25:11.7±3.5,33˚98S×71˚71W,h0km,mb3.5/2, mb1 3.7/5,mb1mx3.5/30,mbtmp3.5/5,ML3.5/3,MS3.1/4, Ms1 3.1/4,ms1mx2.8/22,Error ellipse: s-maj=96.7km s-min=22.0km az=94.0*

GUC ***12*** *04:25:13.7±0.6,33˚98S×72˚14W,h43km±10km,ML3.5*

ISC 12 04:25:11.8±3.3,33˚99S±0.06×72˚1W±0.1,h10km±19km, n22,σ2.830/31,2C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO05	**HualaæØ**	**1.03**	**172**	*e*P	**Pn**	**04 25 32.6**	**+0.3**
GO05				*e*S	**Sn**	**04 25 46.8**	**+0.1**
ANTU	**Antumapu**	**1.29**	**71**	*e*P	**Pg**	**04 25 36.8**	**+0.2**
ROCH	**El Roble**	**1.36**	**42**	*e*P	**Pb**	**04 25 37.6**	**0.0**
ROCH				*e*S	**Sg**	**04 25 55.9**	**+0.2**
CLCH	**Cerro Calan**	**1.43**	**66**	*e*P	**Pg**	**04 25 39.0**	**-0.3**
CLCH				*e*S	**Sg**	**04 25 58.1**	**+0.3**
CLCH				IAML		04 26 06.7	
	comp=E,1μm,0.3s						
PEL	**Peldehue**	**1.45**	**55**	⇑*i* P	**Pg**	**04 25 39.3**	**-0.4**
PEL				*e*S	**Sg**	**04 25 58.8**	**+0.3**
PEL				IAML		04 26 05.5	
	comp=E,2μm,0.1s						
LMEL	**Las Melosas**	**1.58**	**85**	⇑*i* P	**Pg**	**04 25 41.7**	**-0.5**
LMEL				*e*S	**Sg**	**04 26 03.6**	**+0.9**
LMEL				IAML		04 26 10.6	
	comp=E,831nm,0.6s						
FCH	**Farellones**	**1.65**	**67**	*e*P	**Pg**	**04 25 42.3**	**-1.1**
FCH				*e*S	**Sg**	**04 26 04.7**	**-0.1**
FCH				IAML		04 26 10.6	
	comp=N,660nm,0.1s						
AUSP	**Uspallata**	**2.88**	**53**	*i* P	**Pb**	**04 26 03.8**	**+0.4**
AUSP				*i* S	**Sg**	**04 26 50.1**	**+5.8**
ARCO	**CERRO ARCO**	**2.88**	**67**	*i* P	**Pg**	**04 26 04.1**	**-3.0**
ARCO				IAML		04 26 10.2	
	comp=Z,290nm,0.5s						
ASAL	**Salagasta**	**3.07**	**64**	*i* P	**Pb**	**04 26 06.2**	**-0.4**
ASAL				*i* S	**Sg**	**04 26 55.5**	**+5.1**
RTLS	**Leoncito**	**3.21**	**48**	*i* P	**Pb**	**04 26 07.9**	**-1.2**
RTLS				*i* S	**Sg**	**04 26 58.1**	**+3.1**
RTLS				IAML		04 27 01.2	
	comp=Z,122nm,0.6s						
RTCV	**Cerro Valdivia**	**3.67**	**56**	*i* P	**Pb**	**04 26 14.1**	**-2.6**
RTCV				*i* S	**Sg**	**04 27 09.3**	**-0.4**
RTLL	**Cerro Villicun**	**4.05**	**50**	*i* S	**Sg**	**04 27 17.3**	**-4.5**
ACCO	**Cerro Coronel**	**4.25**	**38**	*i* P	**Pn**	**04 26 20.8**	**+3.9**
AROD	**Rodeo**	**4.42**	**31**	*i* P	**Pn**	**04 26 21.7**	**+2.6**
AGUA	**GUANDACOL**	**5.44**	**35**	*i* P	**Pn**	**04 26 34.9**	**+1.9**
PLCA	**Paso Flores**	**6.84**	**170**	Pn	**Pn**	**04 26 53.7**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=356,slow=12,SNR=14						
PLCA				Lg	Lg	04 28 46.8	
	baz=295,slow=18,SNR=2.4						
PLCA				LR	LR	04 29 45.6	
	comp=Z,86nm,18.4s,baz=356,slow=40						
CPUP	**Villa Florida**	**14.87**	**63**	Pn	**Pn**	**04 28 40.1**	**-2.0**
	comp=Z,0.0nm,0.3s,baz=225,slow=14,SNR=2.1						
CPUP				LR	LR	04 35 26.8	
	comp=Z,49nm,20.3s,baz=237,slow=42						
LPAZ	**La Paz**	**17.99**	**12**	P	**Pn**	**04 29 23.1**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=189,slow=5.6,SNR=7.9						
SIV	**San Ignacio**	**20.49**	**32**	P	**P**	**04 29 49.1**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=199,slow=13,SNR=4.9						
SIV				LR	LR	04 39 29.6	
	comp=Z,63nm,19.0s,baz=273,slow=42						
ANMO	**Albuquerque**	**75.75**	**331**	LR	LR	05 05 49.6	
	comp=Z,36nm,20.2s,baz=23,slow=32						
TORD	**Torodi Ar. Bea**	**84.25**	**70**	P	**P**	**04 37 43.8**	**-0.2**
	comp=Z,0.8nm,0.9s,baz=251,slow=4.4,SNR=3.7						

MEX 12 04:25:19.0±0.3,14˚18N×92˚97W,h28km±17km,MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.99**	**44**	*e*P	Pn	04 25 34.8	-2.3
THIG				*i* S	Sn	04 25 46.7	-3.5
PCIG		**1.53**	**351**	*i* P	Pn	04 25 42.2	-2.3
PCIG				*i* S	Sn	04 26 00.1	-3.3
CCIG	**Comitan**	**2.24**	**21**	*i* P	Pn	04 25 52.6	-1.7
CCIG				*i* S	Sn	04 26 18.0	-3.1
TGIG		**2.58**	**357**	*e*P	Pn	04 25 57.5	-1.5
TGIG				*e*S	Sn	04 26 27.4	-2.2

IDC ***12*** *04:35:00.6±1.1,13˚88N×92˚38W,h0km,mb3.7/7, mb1 4.0/11,mb1mx3.8/55,mbtmp3.8/11,ML3.9/3,MS3.1/8, Ms1 3.1/8,ms1mx2.8/42,Error ellipse: s-maj=22.2km s-min=15.3km az=13.0*

ISCJB ***12*** *04:35:02.4±0.6,14˚04N±0.05×92˚47W±0.04,h10km, mb4.0/15,MS3.2/5,Error ellipse: s-maj=8.2km s-min=5.1km az=34.0*

MEX ***12*** *04:35:06.6±0.5,14˚08N×92˚53W,h16km±109km,MD4.0*

NEIC ***12*** *04:35:07.1±0.8,14˚03N×92˚42W,h35km,mb4.2/13, MD4.0(MEX),Error ellipse: s-maj=16.2km s-min=7.7km az=35.0*

ISC 12 04:35:04.3±0.8,14˚10N±0.06×92˚51W±0.06,h10km,n50, σ1.954/48,mb4.1/15,MS3.2/5,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.83**	**16**	*e*P	**Pg**	**04 35 20.6**	**+0.2**
THIG				*e*S	**Sg**	**04 35 30.9**	**-0.4**
THIG		**0.83**	**16**	*e*P	**Pg**	**04 35 20.6**	**+0.2**
THIG				*e*S	**Sg**	**04 35 30.9**	**-0.4**
PCIG		**1.74**	**337**	*e*P	**Pn**	**04 35 32.5**	**-1.9**
PCIG		**1.74**	**337**	*e*P	**Pn**	**04 35 32.5**	**-1.9**
PCIG				*e*S	**Sn**	**04 35 53.2**	**-3.5**
APG	**El Apazote**	**2.17**	**65**	Pn	**Pn**	**04 35 40.1**	**-0.6**
	23nm,0.3s,baz=198,slow=11,SNR=69						
APG				LR	LR	04 36 06.9	
	comp=Z,53nm,20.4s,baz=248,slow=30						
APG				Lg	Lg	04 36 09.2	
	73nm,0.3s,baz=315,slow=20,SNR=20						
CCIG	**Comitan**	**2.20**	**9**	*e*Pn	**Pn**	**04 35 42.8**	**+1.7**
CCIG	**Comitan**	**2.20**	**9**	*e*P	**Pn**	**04 35 40.2**	**-0.8**
CCIG				*i* S	**Sn**	**04 36 06.0**	**-2.3**
TGIG		**2.73**	**348**	*e*P	**Pn**	**04 35 48.2**	**0.0**
TGIG		**2.73**	**348**	*e*P	**Pn**	**04 35 48.2**	**0.0**
TGIG				*i* S	**Sn**	**04 36 18.6**	**-2.6**
SNET	**Serv Nac Est T**	**3.21**	**97**	*e*Pn	**Pn**	**04 35 52.9**	**-2.0**
SNET				*e*Sn	**Sn**	**04 36 33.2**	**0.0**
CMIG	**Matias Romero**	**3.75**	**323**	Pn	**Pn**	**04 36 02.0**	**-0.3**
	4.9nm,0.3s,baz=141,slow=8.9,SNR=27						
CMIG				Sn	**Sn**	**04 36 49.1**	**+2.6**
	18nm,0.3s,baz=93,slow=6.5,SNR=5.3						
CMIG				LR	LR	04 37 37.2	
	comp=Z,102nm,18.5s,baz=150,slow=39						
ESTN	**Estel**	**6.05**	**99**	*e*Pn	Pn	04 36 31.7	-2.2
TLIG	**Tlapa**	**6.77**	**301**	*e*Pn	**Pn**	**04 36 45.0**	**+1.1**
TEIG	**Tepich**	**7.31**	**33**	*e*Pn	**Pn**	**04 36 52.6**	**+1.5

MNAS				⇓Sn		Sn	04 57 26.8	+1.9	
	6.9nm,0.6s								
KK31	**Karatay Array**	**5.85**	**359**	⇑Pn		Pn	04 56 29.2	+1.7	
	1.4nm,0.3s,baz=178,slow=12,SNR=31								
KK31				⇑Sn		Sn	04 57 37.8	+2.5	
	1.5nm,0.3s,baz=187,slow=24,SNR=14								
AAK	**Ala-Archa**	**6.14**	**28**	⇑Pn		Pn	04 56 30.4	-1.2	
	1.4nm,0.5s								
AAK				⇑Sn		Sn	04 57 41.3	-1.3	
	6.8nm,0.6s								

NEIC ***12*** *04:55:30.4±0.0, 18.50N×68.26W, h165km, MD3.6(RSPR), After RSPR.*

RSPR 12 04:55:30.4, 18.50N×68.26W, h165km±1km, MD3.6/10, 11C-10D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IDE	**Isla Desecheo**	**0.76**	**98**	⇓*e*P		Pn	04 55 54.7	-0.2
IDE				*e*S		Sn	04 56 13.5	-0.1
IDE	**Isla Desecheo**	**0.76**	**98**	⇓*e*P		Pn	04 55 54.7	-0.2
AGPR	**Aguadilla, PR**	**1.09**	**92**	⇓*e*P		Pn	04 55 57.5	+0.1
AGPR	**Aguadilla, PR**	**1.09**	**92**	⇓*e*P		Pn	04 55 57.5	+0.1
AGPR				*e*S		Sn	04 56 18.1	+0.1
LSP	**Las Mesas**	**1.16**	**106**	⇑*e*P		Pn	04 55 57.9	-0.1
LSP	**Las Mesas**	**1.16**	**106**	⇑*e*P		Pn	04 55 57.9	-0.1
CRPR	**Cabo Rojo, PR**	**1.20**	**114**	⇓*e*P		Pn	04 55 58.0	-0.3
CRPR	**Cabo Rojo, PR**	**1.20**	**114**	⇓*e*P		Pn	04 55 58.0	-0.3
CRPR				*e*S		Sn	04 56 18.3	-1.4
GBPR	**Guanica, Bosqu**	**1.42**	**111**	⇑*e*P		Pn	04 56 00.2	-0.1
GBPR				*e*S		Sn	04 56 23.5	+0.3
GBPR	**Guanica, Bosqu**	**1.42**	**111**	⇑*e*P		Pn	04 56 00.2	-0.1
OBIP	**Obispado Ponce**	**1.64**	**106**	⇑*e*P		Pn	04 56 02.7	+0.2
OBIP	**Obispado Ponce**	**1.64**	**106**	⇑*e*P		Pn	04 56 02.7	+0.2
OBIP				*e*S		Sn	04 56 27.7	+0.4
EMPR	**Esperanza - Ma**	**1.65**	**91**	⇓*e*P		Pn	04 56 02.9	+0.3
EMPR	**Esperanza - Ma**	**1.65**	**91**	⇓*e*P		Pn	04 56 02.9	+0.3
EMPR				*e*S		Sn	04 56 27.7	+0.4
CELP	**Cerrillos**	**1.66**	**105**	⇓*e*P		Pn	04 56 02.8	+0.1
CELP				*e*S		Sn	04 56 28.2	+0.6
CELP	**Cerrillos**	**1.66**	**105**	⇓*e*P		Pn	04 56 02.8	+0.1
SJG	**San Juan**	**2.04**	**101**	*e*S		Sn	04 56 36.3	+1.2
SJG	**San Juan**	**2.04**	**101**	⇑*e*P		Pn	04 56 06.7	-0.2
SJG	**San Juan**	**2.04**	**101**	*e*Pn		Pn	04 56 07.0	+0.1
SJG				*e*Sn		Sn	04 56 34.9	-0.3
CBYP	**Canovanas**	**2.30**	**95**	⇑*e*P		Pn	04 56 09.9	-0.1
CBYP	**Canovanas**	**2.32**	**95**	⇑*e*P		Pn	04 56 09.9	-0.1
HUMP	**Col San Antoni**	**2.32**	**98**	⇑*e*P		Pn	04 56 10.5	+0.3
HUMP	**Col San Antoni**	**2.32**	**98**	⇑*e*P		Pn	04 56 10.5	+0.3
HUMP				*e*S		Sn	04 56 41.3	+0.4
SDDR	**Presa de Saban**	**2.91**	**280**	*e*Pn		Pn	04 56 16.0	-1.3
SDDR				*e*S		Sn	04 56 53.0	-0.6

IDC 12 04:55:41.0±4.2, 4.93S×151.29E, h0km, mb3.3/2, mb1 3.7/2, mb1mx3.4/44, mbtmp3.4/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/20, Error ellipse: s-maj=187.3km s-min=48.7km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.25**	**226**	P		P	05 00 39.7	0.0
	0.2nm,0.4s,baz=52,slow=10,SNR=6.5							
ASAR	**Alice Springs**	**25.06**	**220**	P		P	05 01 07.2	0.0
	0.6nm,0.6s,baz=63,slow=8.8,SNR=6.1							
KLR	**Kul'dur**	**56.56**	**345**	LR		LR	05 24 40.7	
	comp=Z,23nm,22.0s,baz=16,slow=31							
TORD	**Torodi Ar. Bea**	**148.92**	**287**	PKPbc		PKPbc	05 15 31.4	-0.6
	baz=78,slow=3.7							

IDC ***12*** *04:57:51.2±6.5, 9.42S×119.16E, h62km±61km, mb3.6/4, mb1 3.6/7, mb1mx3.4/34, mbtmp3.8/7, ML3.9/4, Error ellipse: s-maj=80.7km s-min=21.8km az=71.0*

ISCJB ***12*** *04:57:53.0±0.4, 9.48S±0.06×119.41E±0.04, h90km±6km, mb3.8/4, Error ellipse: s-maj=10.9km s-min=5.6km az=19.5*

DJA ***12*** *04:57:55.1±0.3, 9°S±3°×119°E±°, h45km±6km, M4.5/14, mb4.6/6, mB5.2/2, MLv4.5/14, Mw(mB)4.6/2*

ISC 12 04:57:53.0±0.8, 9.55S±0.07×119.43E±0.06, h80km±7km, n26, σ2.8°12/30, mb3.9/4, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.09**	**202**	P		**Pn**	**04 58 04.0**	**-0.5**
WBSI				S		**Sn**	**04 58 11.2**	**-1.8**
BASI	**Baing, Sumba**	**1.31**	**120**	P		**Pn**	**04 58 18.6**	**+2.7**
PLAI	**Plampang**	**1.78**	**294**	P		**Pn**	**04 58 22.1**	**+0.1**
EDFI	**Ende, Flores**	**2.37**	**71**	P		**Pn**	**04 58 30.5**	**+0.5**
TWSI	**Taliwang, Sumb**	**2.64**	**288**	P		**Pn**	**04 58 34.8**	**+1.3**
MMRI	**Maumere**	**2.92**	**72**	P		**Pn**	**04 58 39.0**	**+1.7**
BATI	**Baumata**	**4.22**	**99**	P		**Pn**	**04 58 57.6**	**+2.6**
	45nm,0.3s,baz=275,slow=2.6,SNR=20							
BATI				S		**Sn**	**04 59 44.9**	**+1.6**
	41nm,0.3s,baz=223,slow=23,SNR=11							
BATI	**Baumata**	**4.22**	**99**	P		**Pn**	**04 58 57.8**	**+2.8**
BKSI	**Bulukumba**	**4.26**	**9**	P		**Pn**	**04 58 55.5**	**0.0**
IGBI	**Denpasar**	**4.29**	**279**	P		**Pn**	**04 58 58.6**	**+2.7**
SRBI	**Singaraja**	**4.41**	**289**	P		**Pn**	**04 58 58.9**	**+1.3**
SOEI	**Soe**	**4.78**	**93**	P		**Pn**	**04 59 05.2**	**+2.5**
BNSI	**Bone**	**5.16**	**8**	P		**Pn**	**04 59 08.9**	**+1.1**
JAGI	**Jajag, Banyuwa**	**5.32**	**281**	P		**Pn**	**04 59 09.3**	**-0.7**
SPSI	**Sidrap Palu**	**5.56**	**4**	P		**Pn**	**04 59 16.2**	**+2.9**
GMJI	**Gumukmas**	**6.05**	**282**	P		**Pn**	**04 59 19.4**	**-0.5**
PWJI	**Pagerwojo**	**7.69**	**281**	P		**Pn**	**04 59 45.3**	**+3.0**
PCJI	**Pacitan**	**8.26**	**279**	P		**Pn**	**04 59 52.5**	**+2.3**
FITZ	**Fitzroy Crossi**	**10.42**	**145**	P		**Pn**	**05 00 20.9**	**+1.3**
	0.5nm,0.3s,baz=337,slow=13,SNR=5.1							
FITZ				S		**Sn**	**05 02 10.1**	**-4.5**
	1.8nm,0.3s,baz=164,slow=22,SNR=11							
WRA	**Warramunga Arr**	**17.72**	**127**	P		**Pn**	**05 01 57.0**	**+2.3**
	0.3nm,0.3s,baz=300,slow=13,SNR=7.9							
WRA				S		Sn	05 05 00.5	-11
	0.2nm,0.3s,baz=308,slow=23,SNR=4.4							
ASAR	**Alice Springs**	**19.71**	**137**	P		**Pn**	**05 02 18.3**	**0.0**
	0.2nm,0.3s,baz=308,slow=9.9,SNR=11							
ASAR				S		**S**	**05 05 52.0**	**-2.3**
	0.1nm,0.3s,baz=306,slow=23,SNR=3.2							
SONM	**Songino Array**	**58.29**	**350**	P		**P**	**05 07 38.7**	**-0.9**
	1.1nm,0.6s,baz=167,slow=7.8,SNR=8.4							
MKAR	**Makanchi Array**	**65.14**	**333**	P		**P**	**05 08 24.5**	**-1.0**
	0.6nm,0.3s,baz=150,slow=6.1,SNR=13							
ZALV	**Zalesovo Beam**	**69.70**	**339**	P		**P**	**05 08 52.3**	**-1.8**
	0.5nm,0.3s,baz=157,slow=6.2,SNR=2.8							
VNDA	**Vanda**	**71.38**	**171**	P		**P**	**05 09 06.3**	**+2.3**
	0.5nm,0.8s,baz=341,slow=4.5,SNR=3.9							
TORD	**Torodi Ar. Bea**	**118.97**	**280**	PKP		**PKPdf**	**05 16 32.4**	**-1.0**
	0.9nm,1.2s,baz=31,slow=3.2							

UCR ***12*** *05:03:01.4±1.7, 14.13N×92.82W, h29km±944km, ML4.3, mb4.3(NEIC)*

IDC ***12*** *05:03:03.3±0.8, 13.79N×92.34W, h0km, mb3.8/12, mb1 4.0/17, mb1mx3.9/46, mbtmp3.8/17, ML3.4/4, MS3.5/4, Ms1 3.5/4, ms1mx3.0/23, Error ellipse: s-maj=18.0km s-min=12.0km az=35.0*

ISCJB ***12*** *05:03:05.2±1.3, 13.85N±0.05×92.40W±0.05, h23km±9km, mb4.1/39, MS3.1/2, Error ellipse: s-maj=10.5km s-min=3.6km az=40.8*

NEIC ***12*** *05:03:06.7±1.7, 13.81N×92.39W, h21km±12km, mb4.3/38, MD3.9(MEX), Error ellipse: s-maj=8.8km s-min=4.4km az=216.0*

MEX ***12*** *05:03:11.0±0.6, 14.12N×92.56W, h17km±77km, MD3.9*

ISC 12 05:03:08.0±0.7, 14.00N±0.07×92.45W±0.07, h21km±5km, n117, σ1.9°93/125, mb4.2/38, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
THIG		**0.92**	**11**	*e*Pn		**Pb**	**05 03 24.5**	**-0.8**
THIG				*e*Sn		**Sb**	**05 03 34.1**	**-2.9**
THIG		**0.92**	**11**	*e*P		**Pb**	**05 03 24.5**	**-0.8**
THIG				*e*S		**Sb**	**05 03 34.1**	**-2.9**
PCIG		**1.85**	**336**	*e*Pn		**Pn**	**05 03 36.6**	**-1.9**
PCIG		**1.85**	**336**	*e*P		**Pn**	**05 03 36.6**	**-1.9**
PCIG				*i* S		**Sn**	**05 03 56.2**	**-5.0**
IXG	**Ixpaco**	**1.94**	**85**	*e*P		**Pn**	**05 03 37.2**	**-2.7**
APG	**El Apazote**	**2.17**	**62**	Pn		**Pn**	**05 03 42.3**	**-0.7**
	32nm,0.3s,baz=242,slow=11,SNR=70							
APG				Lg		Lg	05 04 12.9	
	46nm,0.3s,baz=307,slow=12,SNR=5.0							

CCIG	**Comitan**	**2.29**	**8**	*e*Pn		**Pb**	**05 03 47.1**	**-1.6**	
CCIG				*e*Sn		**Sb**	**05 04 19.5**	**+2.9**	
CCIG	**Comitan**	**2.29**	**8**	*e*P		**Pn**	**05 03 44.7**	**0.0**	
CCIG				*i* S		**Sn**	**05 04 09.8**	**-2.5**	
RTR	**El Retiro**	**2.73**	**92**	*e*P		**Pn**	**05 03 49.3**	**-1.4**	
CEVE	**Cerro Verde**	**2.75**	**93**	*e*P		**Pn**	**05 03 48.9**	**-2.3**	
CEVE				*e*S		**Sn**	**05 04 26.0**	**+2.1**	
CEVE				IAML			05 04 40.7		
	comp=Z,2μm,0.5s								
SBLS	**San Blas**	**2.75**	**93**	*e*P		**Pn**	**05 03 49.5**	**-1.6**	
SNJE	**San Jose**	**2.77**	**92**	*e*P		**Pn**	**05 03 49.4**	**-1.9**	
TGIG		**2.83**	**347**	*e*Pn		**Pn**	**05 03 51.9**	**-0.3**	
TGIG		**2.83**	**347**	*e*P		**Pn**	**05 03 51.9**	**-0.3**	
TGIG				*i* S		**Sn**	**05 04 22.7**	**-2.9**	
MTO3	**Montecristo**	**3.02**	**82**	*e*P		**Pn**	**05 03 53.1**	**-1.7**	
BOQS	**Boqueron**	**3.09**	**95**	*e*P		**Pn**	**05 03 53.9**	**-1.9**	
SNET	**Serv Nac Est T**	**3.14**	**95**	*e*Pn		**Pn**	**05 03 54.5**	**-1.8**	
LFRS	**El Faro**	**3.31**	**96**	*e*P		**Pn**	**05 03 57.1**	**-1.7**	
LBRS	**Las Brisas**	**3.32**	**94**	*e*P		**Pn**	**05 03 57.5**	**-1.3**	
PAVA	**Las Pavas**	**3.42**	**94**	*e*P		**Pn**	**05 03 58.7**	**-1.5**	
CMIG	**Matias Romero**	**3.86**	**323**	Pn		**Pn**	**05 04 06.9**	**+0.6**	
	comp=Z,5.3nm,0.3s,baz=151,slow=13,SNR=14								
CMIG				Sn		**Sn**	**05 04 53.3**	**+2.3**	
	comp=Z,16nm,0.3s,baz=85,slow=9.7,SNR=5.5								
LCND	**La Ca¨¯ada**	**4.49**	**98**	*e*P		**Pn**	**05 04 13.8**	**-1.0**	
CRIN	**San Cristobal**	**5.41**	**103**	*e*P		**Pn**	**05 04 25.7**	**-1.9**	
CRIN				IAML			05 05 57.0		
	comp=N,377nm,0.6s								
CNGN	**Cerro Negro**	**5.80**	**104**	*e*P		**Pn**	**05 04 30.8**	**-2.1**	
CNGN				*e*S		**Sn**	**05 05 43.2**	**+4.4**	
MOMN	**Momotombo**	**5.97**	**105**	*e*P		**Pn**	**05 04 32.9**	**-2.4**	
ESTN	**Estel**	**5.98**	**98**	*e*Pn		**Pn**	**05 04 33.6**	**-1.8**	
ESTN	**Estel**	**5.98**	**98**	*e*P		**Pn**	**05 04 33.9**	**-1.6**	
COPN	**Copaltepe**	**5.99**	**107**	*e*P		**Pn**	**05 04 32.8**	**-2.7**	
MATN	**Matagalpa**	**6.44**	**99**	*e*P		**Pn**	**05 04 40.0**	**-1.7**	
BOAB	**BOACO BROADBAN**	**6.78**	**102**	*e*Pn		**Pn**	**05 04 43.6**	**-2.8**	
LVIG	**Laguna Verde**	**6.84**	**327**	*e*Pn		**Pn**	**05 04 50.6**	**+3.5**	
TLIG	**Tlapa**	**6.87**	**302**	*e*Pn		**Pn**	**05 04 48.0**	**+0.3**	
TEIG	**Tepich**	**7.36**	**32**	*e*Pn		**Pn**	**05 04 55.4**	**+1.1**	
MYIG	**MÖrida**	**7.38**	**20**	*e*Pn		**Pn**	**05 04 54.3**	**-0.3**	
ESPN	**Las Esperanzas**	**8.14**	**102**	*e*Pn		**Pn**	**05 05 03.0**	**-2.0**	
JTS	**JuntasAbangare**	**8.21**	**116**	Pn		**Pn**	**05 05 02.3**	**-3.6**	
	comp=N,1.2nm,0.3s,baz=27,slow=20,SNR=11								
JTS				Sn		**Sn**	**05 06 34.4**	**-3.8**	
	comp=N,0.6nm,0.3s,baz=340,slow=15,SNR=1.6								
JTS				Lg		Lg	05 07 07.6		
	comp=N,0.1nm,0.3s,baz=139,slow=19,SNR=5.3								
JTS	**JuntasAbangare**	**8.21**	**116**	*e*Pn		**Pn**	**05 05 03.6**	**-2.4**	
MOIG	**Morelia**	**10.09**	**305**	*e*Pn		**Pn**	**05 05 33.4**	**+1.5**	
656A	**Williston**	**17.84**	**29**	*e*Pn		**P**	**05 07 16.6**	**+1.1**	
	comp=N,16nm,0.9s								
555A	**McAlpin**	**18.27**	**27**	*e*P		**P**	**05 07 21.4**	**+1.0**	
	comp=N,23nm,1.0s								
LTX	**Lajitas**	**18.46**	**328**	*e*P		**Pn**	**05 07 24.1**	**+1.5**	
TXAR	**Lajitas Array**	**18.46**	**328**	P		**Pn**	**05 07 24.1**	**+1.5**	
	baz=150,slow=10,SNR=9.2								
TXAR				LR		LR	05 15 44.0		
	comp=N,114nm,18.0s,baz=0.0,slow=41								
TX31	**Lajitas Ar. Si**	**18.46**	**328**	*e*P		**Pn**	**05 07 23.5**	**+0.8**	
352A	**Blakely**	**18.71**	**20**	*e*P		**Pn**	**05 07 25.8**	**+0.1**	
	comp=N,19nm,0.9s								
250A	**Grady**	**18.77**	**17**	*e*P		**Pn**	**05 07 26.3**	**0.0**	
	comp=N,9.5nm,0.9s								
RREF	**El Recreo**	**19.13**	**117**	*e*P		**Pn**	**05 07 35.6**	**+4.2**	
Z41A	**Richland Creek**	**19.17**	**359**	*e*P		**Pn**	**05 07 31.3**	**+0.2**	
	comp=N,20nm,1.0s								
PTBC	**PUERTO BERRIO,**	**19.18**	**111**	*e*P		**P**	**05 07 27.8**	**-2.7**	
POPC	**Popayan, Colom**	**19.30**	**125**	*e*P		**P**	**05 07 31.2**	**-0.8**	
SOTA	**Rioblanco**	**19.60**	**126**	*e*P		**Pn**	**05 07 39.8**	**+2.9**	
GCUF	**Volcan Galeras**	**19.61**	**129**	*e*P		**Pn**	**05 07 37.3**	**+0.3**	
ABTX	**Abilene, Hawle**	**19.66**	**342**	*e*P		**Pn**	**05 07 37.4**	**+0.3**	
	comp=N,15nm,1.1s								
MARP	**Paez Belalcaza**	**19.71**	**123**	*e*P		**Pn**	**05 07 39.4**	**+1.3**	
152A	**Waverly Hall**	**19.88**	**19**	*e*P		**Pn**	**05 07 40.6**	**+1.0**	
	comp=N,6.5nm,0.8s								
ROSC	**El Rosal**	**20.05**	**115**	P		**P**	**05 07 36.4**	**-4.0**	
	comp=N,0.3nm,0.3s,baz=12,slow=20,SNR=2.6								
ROSC	**El Rosal**	**20.05**	**115**	*e*P		**P**	**05 07 37.5**	**-3.0**	
	comp=N,11nm,1.0s								
ROSC	**El Rosal**	**20.05**	**115**	*e*P		**P**	**05 07 40.9**	**+0.5**	
Z50A	**Ashland**	**20.07**	**16**	*e*P		**Pn**	**05 07 41.7**	**-0.1**	
	comp=N,8.7nm,1.0s								
BARC	**Barichara**	**20.32**	**109**	*e*P		**P**	**05 07 40.4**	**-2.9**	
MIAR	**Mount Ida**	**20.48**	**357**	*e*P		**P**	**05 07 45.0**	**+0.5**	
	comp=N,15nm,0.8s								
PAMC	**Pamplona, Colo**	**20.50**	**107**	*e*P		Pn	05 07 47.3	-0.3	
X37A	**Clayton**	**20.67**	**353**	*e*P		**P**	**05 07 46.9**	**+0.4**	
	comp=N,10nm,0.8s								
CHIC	**Chingaza**	**20.67**	**115**	*e*P		**P**	**05 07 44.9**	**-2.3**	
FLOC	**Florencia**	**20.69**	**125**	*e*P		**P**	**05 07 45.5**	**-1.5**	
RUSC	**La Rusia**	**20.69**	**111**	*e*P		**P**	**05 07 44.4**	**-3.1**	
GOGA	**Godfrey**	**20.98**	**21**	*e*P		**P**	**05 07 50.5**	**+0.7**	
	comp=N,7.8nm,0.8s								
W41B	**Gary Mavity, V**	**21.08**	**0**	*e*P		**P**	**05 07 52.8**	**+1.8**	
	comp=N,9.4nm,1.0s								
SJAC	**San Juan de Ar**	**21.15**	**119**	*e*P		**P**	**05 07 58.0**	**+6.0**	
MNTX	**Cornudas Mount**	**21.23**	**328**	*e*P		**P**	**05 07 53.2**	**+0.6**	
	comp=N,6.7nm,1.1s								
PLAL	**Pickwick Lake**	**21.26**	**10**	*e*P		**P**	**05 07 53.5**	**+0.7**	
	comp=N,3.7nm,0.8s								
WMOK	**Wichita Mounta**	**21.42**	**346**	*e*P		**P**	**05 07 55.6**	**+0.9**	
	comp=N,2.9nm,0.8s								
SDV	**Santo Domingo**	**21.97**	**101**	P		**P**	**05 07 58.4**	**-2.5**	
	comp=N,1.5nm,0.5s,baz=225,slow=17,SNR=2.6								
MSTX	**Muleshoe**	**21.97**	**337**	*e*P		**P**	**05 08 01.1**	**+0.4**	
	comp=N,9.7nm,0.9s								
W50A	**Signal Mountai**	**22.07**	**16**	*e*P		**P**	**05 08 01.4**	**-0.2**	
	comp=N,11nm,1.1s								
CPCT	**Cooper Cave**	**22.52**	**17**	*e*P		**P**	**05 08 05.2**	**-1.2**	
	comp=N,6.8nm,0.9s								
TKL	**Tuckaleechee C**	**22.93**	**18**	P		**P**	**05 08 08.8**	**-2.0**	
	comp=N,3.3nm,0.8s,baz=121,slow=12,SNR=3.9								
TKL	**Tuckaleechee C**	**22.93**	**18**	*e*P		**P**	**05 08 10.3**	**-0.5**	
	comp=N,12nm,1.1s								
319A	**Douglas**	**23.18**	**321**	*e*P		**P**	**05 08 13.9**	**+0.4**	
	comp=N,9.7nm,1.0s								
SIUC	**Southern Illin**	**23.79**	**6**	*e*P		**P**	**05 08 19.4**	**+0.2**	
	comp=N,14nm,0.8s								
TZTN	**Tazewell**	**23.82**	**18**	*e*P		**P**	**05 08 19.8**	**+0.2**	
	comp=N,6.9nm,1.0s								
ANMO	**Albuquerque**	**24.39**	**331**	P		**P**	**05 08 26.6**	**+1.6**	
	comp=N,0.9nm,0.6s,baz=146,slow=16,SNR=3.1								
ATAH	**Atahualpa**	**25.21**	**146**	LR		LR	05 16 44.5		
	comp=N,35nm,20.7s,baz=324,slow=33								
MVCO	**Mesa Verde**	**27.18**	**331**	*e*P		**P**	**05 08 51.2**	**+0.7**	
	comp=N,9.2nm,1.1s								
PV12	**Saucer Basin,**	**28.22**	**332**	*e*P		**P**	**05 09 00.6**	**+0.9**	
	comp=N,8.8nm,0.9s								
PV11	**David Mesa, Pa**	**28.24**	**332**	*e*P		**P**	**05 09 01.5**	**+1.7**	
	comp=N,10nm,1.1s								
PV22	**Blue Mesa, Par**	**28.39**	**332**	*e*P		**P**	**05 09 01.5**	**+0.3**	
	comp=N,5.7nm,1.0s								
PV23	**Carpenter Ridg**	**28.43**	**332**	*e*P		**P**	**05 09 01.8**	**+0.2**	
	comp=N,6.9nm,0.9s								
PV09	**Paradox Valley**	**28.52**	**332**	*e*P		**P**	**05 09 02.1**	**-0.3**	
CCUT	**Cedar City**	**29.94**	**325**	*e*P		**P**	**05 09 16.5**	**+1.5**	
	comp=N,4.9nm,1.2s								
PDAR	**Pinedale Array**	**32.24**	**336**	P		**P**	**05 09 37.5**	**+2.3**	
	comp=N,0.4nm,0.5s,baz=18,slow=33,SNR=3.0								
PDAR				LR		LR	05 25 43.7		
	comp=N,65nm,20.1s,baz=170,slow=42								
ELK	**Elko**	**33.25**	**328**	P		**P**	**05 09 45.4**	**+1.2**	
	comp=N,0.6nm,0.5s,baz=147,slow=4.7,SNR=3.1								
REDW	**Red Top Meadow**	**33.26**	**335**	*e*P		**P**	**05 09 44.6**	**+0.5**	
	comp=N,15nm,1.0s								
SNOW	**Snow King Moun**	**33.30**	**335**	*e*P		**P**	**05 09 45.3**	**+0.8**	
	comp=N,14nm,0.8s								
NV11	**Mina Array Sit**	**33.31**	**322**	*e*P		**P**	**05 09 44.4**	**-0.1**	
	comp=N,0.4nm,1.0s								
NV01	**Mina Array Sit**	**33.40**	**322**	*e*P		**P**	**05 09 45.8**	**+0.4**	
NVAR	**Mina Array Bea**	**33.40**	**322**	P		**P**	**05 09 46.6**	**+1.3**	
	comp=N,1.1nm,0.8s,baz=138,slow=8.6,SNR=8.8								
NVAR				PcP		**PcP**	**05 12 26.5**	**-0.2**	
	comp=N,0.4nm,0.6s,baz=104,slow=3.8,SNR=2.4								
MCMT	**McKenzie Canyo**	**35.28**	**335**	*e*P		**P**	**05 10 02.6**	**+1.0**	
F10A	**Beach Ranch, E**	**38.10**	**332**	*e*P		**P**	**05 10 26.3**	**+0.8**	
	comp=N,5.8nm,0.8s								
LPAZ	**La Paz**	**38.51**	**141**	P		**P**	**05 10 26.5**	**-3.3**	
	comp=N,0.9nm,0.7s,baz=359,slow=3.9,SNR=3.7								
SIV	**San Ignacio**	**43.01**	**133**	P		**P**	**05 11 02.5**	**-3.8**	
	comp=N,2.5nm,0.8s,baz=313,slow=8.9,SNR=16								
SCHQ	**Schefferville**	**45.37**	**21**	LR		LR	05 31 25.1		
	comp=N,238nm,18.9s,baz=230,slow=37								
YKA	**Yellowknife Ar**	**50.92**	**347**	P		**P**	**05 12 06.3**	**-1.2**	
	comp=N,1.9nm,0.6s,baz=151,slow=7.3,SNR=11								
YKW3	**Yellowknife Ar**	**50.98**	**347**	*e*P		**P**	**05 12 06.9**	**-1.0**	
	comp=N,7.7nm,0.8s								
DLBC	**Dease Lake**	**52.47**	**336**	P		**P**	**05 12 20.3**	**+1.0**	
	comp=N,1.1nm,0.5s,baz=165,slow=18,SNR=2.2								
INK	**Inuvik**	**60.31**	**344**	P		**P**	**05 13 13.6**	**-1.2**	
	comp=N,2.0nm,1.0s,baz=135,slow=7.2,SNR=6.0								
INK	**Inuvik**	**60.31**	**344**	*e*P		**P**	**05 13 14.8**	**0.0**	
	comp=N,4.4nm,0.9s								
IL1	**Eielson Array**	**62.66**	**337**	*e*P		**P**	**05 13 30.5**	**-0.3**	
ILAR	**Eielson Array**	**62.66**	**337**	P		**P**	**05 13 30.0**	**-0.8**	
	comp=N,0.5nm,0.8s,baz=162,slow=4.4,SNR=5.8								
ILB	**Eielson Array**	**62.66**	**337**	*e*P		**P**	**05 13 30.4**	**-0.5**	
TRF	**Thorofare Moun**	**63.45**	**335**	*e*P		**P**	**05 13 34.9**	**-1.4**	
	comp=N,8.7nm,1.0s								
PPLA	**Purkeypile**	**64.04**	**334**	*e*P		**P**	**05 13 39.3**	**-0.8**	
	comp=N,3.4nm,1.0s								
MLY	**Manley**	**64.26**	**336**	*e*P		**P**	**05 13 40.6**	**-0.8**	
	comp=N,5.1nm,0.9s								
SVW2	**Sparrevohn**	**64.96**	**331**	*e*P		**P**	**05 13 45.9**	**-0.2**	
	comp=N,1.4nm,0.7s								
TOLK	**Toolik Lake Re**	**65.37**	**340**	*e*P		**P**	**05 13 49.2**	**+0.6**	
	comp=N,1.3nm,0.6s								
WRA	**Warramunga Arr**	**134.97**	**256**	PKP		**PKPdf**	**05 22 24.7**	**-1.8**	
	comp=N,0.5nm,0.7s,baz=92,slow=5.8,SNR=4.1								
ASAR	**Alice Springs**	**135.25**	**250**	PKP		**PKPdf**	**05 22 24.3**	**-2.7**	
	comp=N,0.2nm,0.3s,baz=74,slow=3.3,SNR=3.4								
CMAR	**Chiang Mai Arr**	**145.84**	**340**	PKPbc		**PKPdf**	**05 22 45.4**	**-0.8**	
	comp=N,1.1nm,0.3s,baz=343,slow=4.1,SNR=7.3								

IDC ***12*** *05:07:10.9±0.7, 45.42S×77.25W, h0km, mb4.1/13, mb1 4.2/14, mb1mx4.2/25, mbtmp4.1/14, ML3.8/1, MS4.7/16, Ms1 4.7/16, ms1mx4.5/21, Error ellipse: s-maj=28.0km s-min=16.8km az=112.0*

ISCJB ***12*** *05:07:11.9±0.3, 45.62S±0.04×76.49W±0.10, h10km, mb4.5/39, MS4.7/15, Error ellipse: s-maj=9.6km s-min=5.8km az=178.7*

GCMT ***12*** *05:07:12.7±0.2, 45.76S±0.

PAE	**Paea**	**65.46**	**269**	*e*T	T	06 28 40.3		
	1.1nm,0.3s							
PPT2	**Papeete2**	**65.50**	**270**	*e*S	**S**	**05 26 37.5**	**-4.5**	
	2µm,29.2s							
PPT2	**Papeete2**	**65.50**	**270**	*e*LR	LR	05 37 23.4		
	476nm,25.8s,baz=131							
PPT	**Papeete**	**65.52**	**270**	LR	LR	05 38 03.0		
	comp=Z,298nm,19.6s,baz=160,slow=28							
BOSA	**Boshof**	**78.02**	**119**	LR	LR	05 49 22.9		
	comp=Z,434nm,20.5s,baz=214,slow=32							
LTX	**Lajitas**	**78.37**	**336**	*e*P	**P**	**05 19 12.1**	**-1.7**	
TX31	**Lajitas Ar. Si**	**78.37**	**336**	*e*P	**P**	**05 19 15.8**	**+2.1**	
TXAR	**Lajitas Array**	**78.37**	**336**	P	**P**	**05 19 12.1**	**-1.7**	
	1.5nm,1.1s,baz=154,slow=9.2,SNR=5.6							
TXAR				LR	LR	05 48 11.9		
	comp=Z,308nm,19.3s,baz=0.0,slow=32							
JCT	**Junction City**	**78.45**	**340**	*e*P	**P**	**05 19 16.4**	**+2.3**	
	13nm,1.1s							
SWET	**Sewanee**	**80.80**	**353**	*e*P	**P**	**05 19 28.7**	**+2.0**	
	24nm,1.1s							
WMOK	**Wichita Mounta**	**82.31**	**342**	*e*P	**P**	**05 19 35.8**	**+1.1**	
	9.3nm,1.1s							
DBIC	**Dimbokro**	**82.43**	**73**	P	**P**	**05 19 37.5**	**+1.6**	
	2.8nm,0.8s,baz=17,slow=19,SNR=2.7							
TUL1	**Leonard**	**82.84**	**345**	*e*P	**P**	**05 19 38.9**	**+1.4**	
	13nm,1.1s							
CCM	**Cathedral Cave**	**84.21**	**349**	*e*P	**P**	**05 19 45.3**	**+0.9**	
	16nm,1.1s							
ANMO	**Albuquerque**	**84.44**	**336**	P	**P**	**05 19 45.5**	**-0.4**	
	1.4nm,0.5s,baz=180,slow=4.5,SNR=6.5							
ANMO				LR	LR	05 51 50.3		
	comp=Z,245nm,18.8s,baz=145,slow=32							
ANMO	**Albuquerque**	**84.44**	**336**	*e*P	**P**	**05 19 47.6**	**+1.7**	
	3.2nm,0.9s							
X16A	**Lo Mia Camp, P**	**85.48**	**332**	*e*P	**P**	**05 19 52.7**	**+1.6**	
	2.4nm,0.9s							
T25A	**Trinidad**	**85.94**	**338**	*e*P	**P**	**05 19 55.2**	**+1.8**	
	10nm,1.1s							
XPFO	**Piæon Flat**	**86.51**	**328**	*e*P	**P**	**05 19 57.8**	**+1.5**	
	5.8nm,1.1s							
PFO	**Pinyon Flats O**	**86.51**	**328**	*e*P	**P**	**05 19 57.8**	**+1.5**	
	5.8nm,1.1s							
S22A	**4UR Ranch, Cre**	**87.16**	**337**	*e*P	**P**	**05 20 00.6**	**+1.1**	
	5.2nm,1.0s							
KNB	**Kanab**	**88.30**	**332**	*e*P	**P**	**05 20 06.3**	**+1.5**	
	10nm,1.1s							
SHPR	**Sheep Range**	**88.64**	**330**	*e*P	**P**	**05 20 08.0**	**+1.6**	
	2.9nm,1.0s							
SZCU	**Shurtz Canyon**	**88.92**	**332**	*e*P	**P**	**05 20 08.6**	**+0.9**	
	7.1nm,1.1s							
CCUT	**Cedar City**	**88.97**	**332**	*e*P	**P**	**05 20 08.7**	**+0.7**	
	6.6nm,1.2s							
TPNV	**Topopah Spring**	**89.42**	**330**	*e*P	**P**	**05 20 11.4**	**+1.4**	
	2.8nm,1.0s							
PSUT	**Pine Spring**	**90.02**	**332**	*e*P	**P**	**05 20 14.2**	**+1.2**	
	4.4nm,1.0s							
DZM	**Mont Dzumac**	**91.45**	**236**	*e*LR	LR	05 49 38.7		
	863nm,29.9s							
NV01	**Mina Array Sit**	**91.47**	**329**	*e*P	**P**	**05 20 19.9**	**+0.3**	
NVAR	**Mina Array Bea**	**91.47**	**329**	P	**P**	**05 20 16.9**	**-2.8**	
	0.3nm,0.8s,baz=163,slow=6.3,SNR=2.1							
NVAR				LR	LR	05 53 03.5		
	comp=Z,147nm,20.3s,baz=137,slow=30							
TORD	**Torodi Ar. Bea**	**91.54**	**73**	P	**P**	**05 20 18.9**	**-1.3**	
	0.5nm,0.9s,baz=195,slow=4.5							
TORD				LR	LR	05 58 22.8		
	comp=Z,183nm,19.7s,baz=295,slow=34							
TOA1	**Torodi Ar. Sit**	**91.54**	**73**	*e*P	**P**	**05 20 18.9**	**-1.4**	
WAKR	**Walker**	**91.96**	**328**	*e*P	**P**	**05 20 23.9**	**+2.0**	
	4.7nm,1.2s							
STKA	**Stephens Creek**	**95.35**	**212**	LR	LR	05 55 42.1		
	comp=Z,435nm,19.4s,baz=183,slow=30							
NEW	**Newport**	**99.80**	**334**	LR	LR	05 59 06.2		
	comp=Z,140nm,18.5s,baz=148,slow=31							
ILAR	**Eielson Array**	**122.63**	**331**	PKP	**PKPdf**	**05 26 05.9**	**-1.9**	
	0.4nm,0.8s,baz=201,slow=2.1,SNR=4.5							
CLL	**Collm**	**123.65**	**49**	*e*PP	PP	05 27 56.0	+2.7	
CLL				*e*SS	SS	05 44 42.0	+0.8	
CLL				*e*SSS	SSS	05 49 12.0		
CLL				LmH		06 16 00.0		
	comp=N,100nm,19.0s							
CLL				LmH		06 16 00.0		
	comp=E,300nm,21.1s							
CLL				LmV		06 18 00.0		
	comp=Z,300nm,19.4s							
HYB	**Hyderabad**	**145.33**	**136**	*i* PKP	**PKPbc**	**05 26 52.0**	**+0.7**	
CMAR	**Chiang Mai Arr**	**152.78**	**172**	PKPbc	**PKPdf**	**05 27 07.9**	**+4.4**	
	comp=Z,1.6nm,0.4s,baz=231,slow=5.7,SNR=4.5							
KSH	**Kashi**	**159.26**	**97**	PKP	**PKPdf**	**05 27 13.7**	**+2.2**	
KSH				PP	**PP**	**05 31 32.6**	**+2.0**	
KSH				AMB	AMB			
	comp=Z,140nm,3.6s							
GYA	**Guiyang**	**160.72**	**190**	*e*PKP	**PKPdf**	**05 27 14.0**	**+0.4**	
GYA				PKPab	**pPKPab**	**05 27 58.4**	**-0.3**	
GYA				PKS	**PKSdf**	**05 30 46.6**	**-0.5**	
GYA				PP	**PP**	**05 31 41.2**	**+4.0**	
GYA				AMB	AMB			
	comp=Z,120nm,8.2s							
NJ2	**Nanjing**	**161.75**	**228**	*e*PKP	**PKPdf**	**05 27 16.4**	**+2.1**	
ZALV	**Zalesovo Beam**	**165.60**	**48**	PKP	**PKPdf**	**05 27 14.8**	**-2.3**	
	comp=Z,0.4nm,0.4s,baz=267,slow=2.6,SNR=2.3							
WMQ	**Urumqi**	**168.98**	**94**	*e*PKP	**PKPdf**	**05 27 21.3**	**+1.2**	
WMQ				LR	LR			
	comp=Z,410nm,27.7s							
WMQ				LR	LR			
	comp=Z,370nm,21.3s							
WMQ				LR	LR			
	comp=Z,380nm,25.5s							
LZH	**Lanzhou**	**170.52**	**184**	*e*PKP	**PKPdf**	**05 27 21.5**	**+0.1**	
LZH				pPKP	pPKPdf	05 27 25.6	+0.8	
LZH				sPKP		05 27 27.2		
LZH				PKPab	**PKPab**	**05 28 40.6**	**+2.2**	
HHC	**Hu-ho-hao-te**	**172.17**	**236**	*e*PKP	**PKPdf**	**05 27 25.5**	**+3.5**	
GTA	**Gaotai**	**173.43**	**158**	*e*PKP	**PKPdf**	**05 27 28.9**	**+6.3**	
GTA				LR	LR			
	comp=Z,200nm,19.6s							
GTA				LR	LR			
	comp=Z,210nm,19.9s							
GTA				LR	LR			
	comp=Z,270nm,18.9s							

*ISCJB **12** 05:18:14.6±0.9, 16°.39N±0°.06×120°.03E±0°.08, h70km±6km, mb3.5/2, Error ellipse: s-maj=13.6km s-min=8.7km az=22.8*
*MAN **12** 05:18:17.4, 16°.51N×120°.05E, h33km, mb4.7, ML3.6, MS3.5*

ISC 12 05:18:14.5±1.3,**16°.47N**±0°.05×**119°.96E**±0°.09,**h66**km±9km, **n9,** σ**2**§**91**/16,**1D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**0.10**	**206**	*e*P	**Pn**	**05 18 25.5**	**+1.2**
BOLP				*e*S	**Sn**	**05 18 30.5**	**-0.9**
SCZP	**Santa Cruz**	**0.69**	**184**	*e*P	**Pn**	**05 18 31.0**	**+1.9**
SCZP				*e*S	**Sn**	**05 18 36.8**	**-2.9**
SMPP	**San Manuel, Pa**	**0.76**	**114**	*e*P	**Pn**	**05 18 31.9**	**+2.0**
SMPP				*e*S	**Sn**	**05 18 41.3**	**+0.1**
ABRA	**Dolores**	**1.38**	**32**	*e*P	**Pn**	**05 18 39.6**	**+1.9**
ABRA				*e*S	**Sn**	**05 18 55.8**	**+0.6**
BALP	**Baler**	**1.72**	**115**	*e*P	**Pn**	**05 18 45.3**	**+3.1**
BALP				*e*S	**Sn**	**05 18 59.1**	**-4.1**
APYP	**Conner**	**1.85**	**41**	*e*P	**Pn**	**05 18 46.0**	**+1.8**
APYP				*e*S	**Sn**	**05 19 00.5**	**-6.0**
CVP	**Callao Caves**	**2.17**	**55**	‖ *i* P	**Pn**	**05 18 51.1**	**+2.8**
CVP				*i* S	**Sn**	**05 19 12.0**	**-2.1**
WRA	**Warramunga Arr**	**38.85**	**158**	P	**P**	**05 25 32.9**	**-0.6**
	0.2nm,0.3s,baz=328,slow=11,SNR=9.4						
ASAR	**Alice Springs**	**42.15**	**161**	P	**P**	**05 26 00.7**	**0.0**
	0.4nm,0.4s,baz=335,slow=7.1,SNR=7.4						

*IDC **12** 05:45:30.9±1.0, 13°.88N×92°.38W, h0km, mb3.8/9, mb1 4.0/14, mb1mx3.9/49, mbtmp3.8/14, ML3.6/4, MS3.7/4, Ms1 3.7/4, ms1mx3.1/50, Error ellipse: s-maj=22.0km s-min=14.4km az=19.0*
*MEX **12** 05:45:32.4±0.4, 13°.79N×92°.53W, h8km±119km, MD4.2*
*ISCJB **12** 05:45:33.1±1.3, 13°.92N±0°.04×92°.41W±0°.04, h23km±9km, mb4.0/23, MS3.9/2, Error ellipse: s-maj=8.8km s-min=5.2km az=39.9*
*NEIC **12** 05:45:37.6±0.8, 14°.04N×92°.39W, h35km, mb4.2/20, MD4.2(MEX), Error ellipse: s-maj=14.6km s-min=6.8km az=208.0*

ISC 12 05:45:33.6±1.9,**13°.95N**±0°.06×**92°.39W**±0°.06,**h10**km±11km, **n65,** σ**1**§**47/69,mb4.1/23,Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.95**	**7**	*e*Pn	**Pg**	**05 45 51.0**	**-1.0**
THIG				*e*Sn	**Sg**	**05 46 04.6**	**+0.1**
THIG		**0.95**	**7**	*e*P	**Pg**	**05 45 51.0**	**-1.0**
THIG				*e*S	**Sb**	**05 46 05.0**	**0.0**
PCIG		**1.92**	**335**	*e*Pn	**Pn**	**05 46 03.5**	**-2.8**
PCIG		**1.92**	**335**	*e*P	**Pn**	**05 46 03.5**	**-2.8**
PCIG				*i* S	**Sn**	**05 46 27.4**	**-3.0**
APG	**El Apazote**	**2.14**	**61**	Pn	**Pn**	**05 46 09.8**	**+0.3**
	13nm,0.3s,baz=214,slow=16,SNR=86						
APG				Lg	Lg	05 46 39.5	
	37nm,0.3s,baz=342,slow=13,SNR=8.1						
CCIG	**Comitan**	**2.33**	**6**	*e*Pn	**Pn**	**05 46 13.3**	**+1.2**
CCIG				*e*Sn	**Sn**	**05 46 41.2**	**+0.3**
CCIG	**Comitan**	**2.33**	**6**	*e*P	**Pn**	**05 46 11.4**	**-0.7**
CCIG				*i* S	**Sn**	**05 46 40.4**	**-0.5**
TGIG		**2.90**	**346**	*e*Pn	**Pn**	**05 46 18.6**	**-1.3**
TGIG		**2.90**	**346**	*e*P	**Pn**	**05 46 18.6**	**-1.3**
TGIG				*e*S	**Sn**	**05 46 53.6**	**-1.1**
SNET	**Serv Nac Est T**	**3.08**	**95**	*e*Pn	**Pn**	**05 46 22.0**	**-0.4**
SNET				*e*Sn	**Sn**	**05 46 57.1**	**-2.2**
CMIG	**Matias Romero**	**3.94**	**323**	Pn	**Pn**	**05 46 32.7**	**-1.4**
	9.8nm,0.3s,baz=144,slow=14,SNR=17						
CMIG				Sn	**Sn**	**05 47 19.2**	**-1.2**
	7.5nm,0.3s,baz=88,slow=12,SNR=6.2						
ESTN	**Estel**	**5.92**	**98**	*e*Pn	**Pn**	**05 47 00.6**	**-0.8**
LVIG	**Laguna Verde**	**6.91**	**327**	*e*Pn	**Pn**	**05 47 16.0**	**+1.0**
TLIG	**Tlapa**	**6.95**	**302**	*e*Pn	**Pn**	**05 47 15.3**	**-0.3**
TEIG	**Tepich**	**7.37**	**32**	*e*Pn	**Pn**	**05 47 22.6**	**+1.3**
MYIG	**MÖrida**	**7.41**	**20**	*e*Pn	**Pn**	**05 47 22.8**	**+0.9**
ESPN	**Las Esperanzas**	**8.07**	**102**	*e*Pn	**Pn**	**05 47 35.0**	**+4.0**
JTS	**JuntasAbangare**	**8.13**	**116**	Pn	**Pn**	**05 47 30.6**	**-1.2**
	0.4nm,0.3s,baz=8.7,slow=18,SNR=4.3						
JTS				Lg	Lg	05 49 43.2	
	0.2nm,0.3s,baz=196,slow=21,SNR=5.8						
JTS	**JuntasAbangare**	**8.13**	**116**	*e*Pn	**Pn**	**05 47 32.4**	**+0.6**
MOIG	**Morelia**	**10.17**	**305**	*e*Pn	**Pn**	**05 48 01.2**	**+1.3**
HKT	**Hockley**	**16.23**	**349**	*e*Pn	**Pn**	**05 49 21.0**	**-0.7**
	8.2nm,1.2s						
HPIG		**17.91**	**318**	*e*Pn	**P**	**05 49 44.7**	**+0.9**
	6.4nm,1.1s						
LTX	**Lajitas**	**18.53**	**327**	*e*P	**P**	**05 49 49.9**	**-0.5**
TXAR	**Lajitas Array**	**18.53**	**327**	P	**P**	**05 49 49.9**	**-0.5**
	0.1nm,0.3s,baz=333,slow=30,SNR=4.2						
TX31	**Lajitas Ar. Si**	**18.53**	**327**	*e*P	**Pn**	**05 49 52.8**	**+2.2**
352A	**Blakely**	**18.74**	**20**	*e*P	**Pn**	**05 49 55.2**	**+2.2**
	73nm,1.4s						
LPIG	**La Paz**	**19.70**	**303**	LR	LR	05 57 12.8	
	comp=Z,59nm,18.7s,baz=126,slow=36						
ROSC	**El Rosal**	**19.98**	**115**	P	**P**	**05 50 06.3**	**-0.4**
	0.1nm,0.3s,baz=114,slow=20,SNR=2.2						
ROSC	**El Rosal**	**19.98**	**115**	*e*P	**Pn**	**05 50 09.6**	**+1.2**
	10nm,1.2s						
MIAR	**Mount Ida**	**20.53**	**357**	*e*P	Pn	05 50 14.3	0.0
	15nm,0.9s						
GOGA	**Godfrey**	**21.00**	**21**	*e*P	**P**	**05 50 18.6**	**+1.4**
	11nm,1.3s						
MNTX	**Cornudas Mount**	**21.30**	**328**	*e*P	**P**	**05 50 20.6**	**0.0**
	3.6nm,1.0s						
WMOK	**Wichita Mounta**	**21.48**	**346**	*e*P	**P**	**05 50 21.1**	**-1.4**
	3.2nm,0.9s						
X51A	**Calhoun**	**21.62**	**17**	*e*P	**P**	**05 50 24.9**	**+1.0**
	20nm,1.3s						
MSTX	**Muleshoe**	**22.04**	**336**	*e*P	**P**	**05 50 28.2**	**-0.4**
	3.7nm,0.6s						
TUL1	**Leonard**	**22.08**	**353**	*e*P	**P**	**05 50 29.6**	**+0.8**
	7.5nm,0.8s						
AMTX	**Amarillo**	**22.46**	**340**	*e*P	**P**	**05 50 32.2**	**-0.9**
	15nm,1.1s						
TKL	**Tuckaleechee C**	**22.96**	**18**	*e*P	**P**	**05 50 36.9**	**-1.3**
	18nm,1.4s						
LENM	**Lemitar**	**24.07**	**329**	*e*P	**P**	**05 50 50.5**	**+1.0**
LAZ	**Ladron**	**24.34**	**329**	*e*P	**P**	**05 50 51.9**	**-0.1**
ANMO	**Albuquerque**	**24.46**	**331**	P	**P**	**05 50 52.7**	**-0.3**
	0.5nm,0.5s,baz=160,slow=10,SNR=4.1						
TUC	**Tucson**	**24.83**	**320**	*e*P	**P**	**05 50 57.4**	**+1.2**
	3.7nm,1.0s						
PV01	**Paradox Valley**	**28.04**	**332**	*e*P	**P**	**05 51 26.3**	**+0.9**
PDAR	**Pinedale Array**	**32.31**	**336**	P	**P**	**05 52 02.2**	**-0.8**
	0.2nm,0.5s,baz=166,slow=8.4,SNR=2.6						
REDW	**Red Top Meadow**	**33.32**	**335**	*e*P	**P**	**05 52 11.7**	**-0.3**
	9.6nm,1.4s						
ELK	**Elko**	**33.33**	**328**	LR	LR	06 08 16.5	
	comp=Z,118nm,19.2s,baz=122,slow=41						
SNOW	**Snow King Moun**	**33.37**	**335**	*e*P	**P**	**05 52 12.3**	**0.0**
	6.0nm,0.6s						
NV01	**Mina Array Sit**	**33.47**	**322**	*e*P	**P**	**05 52 13.3**	**+0.1**
NVAR	**Mina Array Bea**	**33.47**	**322**	P	**P**	**05 52 13.8**	**+0.5**
	0.9nm,0.7s,baz=133,slow=8.5,SNR=7.7						
NVAR				LR	LR	06 07 45.8	
	comp=Z,126nm,18.3s,baz=116,slow=40						
HLID	**Hailey**	**35.03**	**332**	*e*P	**P**	**05 52 26.9**	**+0.2**
	4.9nm,1.3s						
MCMT	**McKenzie Canyo**	**35.35**	**335**	*e*P	**P**	**05 52 30.3**	**+0.8**
J08A	**Circle Bar Ran**	**36.88**	**328**	*e*P	**P**	**05 52 41.8**	**-0.6**
	4.8nm,0.9s						
F10A	**Beach Ranch, E**	**38.17**	**332**	*e*P	**P**	**05 52 52.9**	**-0.4**
	3.2nm,0.8s						
SIV	**San Ignacio**	**42.94**	**133**	P	**P**	**05 53 29.8**	**-3.2**
	0.4nm,0.7s,baz=339,slow=13,SNR=5.4						
YKA	**Yellowknife Ar**	**50.98**	**347**	P	**P**	**05 54 33.5**	**-1.7**
	2.7nm,0.7s,baz=151,slow=7.3,SNR=12						
FRB	**Frobisher Bay**	**52.44**	**13**	LR	LR	06 17 06.0	
	comp=Z,171nm,19.2s,baz=186,slow=36						
DLBC	**Dease Lake**	**52.54**	**336**	P	**P**	**05 54 47.5**	**+0.5**
	2.9nm,1.0s,baz=160,slow=15,SNR=2.7						
DLBC	**Dease Lake**	**52.54**	**336**	*e*P	**P**	**05 54 47.1**	**+0.1**
	16nm,1.4s						
INK	**Inuvik**	**60.38**	**344**	P	**P**	**05 55 41.0**	**-1.6**
	1.5nm,0.7s,baz=109,slow=5.9						
ILAR	**Eielson Array**	**62.73**	**337**	P	**P**	**05 55 57.7**	**-0.9**
	1.0nm,0.9s,baz=128,slow=5.1,SNR=7.8						
NB200	**NORSAR Array S**	**84.36**	**28**	*e*P	**P**	**05 58 04.9**	**-1.0**
NOA	**NORSAR Array B**	**84.36**	**28**	P	**P**	**05 58 04.9**	**-1.0**
	0.8nm,0.9s,baz=320,slow=2.3,SNR=3.5						
KSH	**Kashi**	**125.71**	**11**	*e*PKP	**PKPdf**	**06 04 41.4**	**+5.3**
LZH	**Lanzhou**	**127.92**	**343**	*e*PKP	**PKPdf**	**06 04 40.6**	**+0.2**
LZH				pPKP	sPKPdf	06 04 51.8	+6.7
LZH				sPKP		06 04 56.0	
CMAR	**Chiang Mai Arr**	**145.91**	**341**	PKPbc	**PKPbc**	**06 05 13.9**	**-0.4**
	1.7nm,0.4s,baz=333,slow=3.7,SNR=8.2						

*IDC **12** 05:56:45.3±1.0, 13°.74N×92°.29W, h0km, mb4.0/9, mb1 4.1/13, mb1mx3.9/59, mbtmp3.9/13, ML3.4/4, MS2.7/2, Ms1 2.7/2, ms1mx2.5/48, Error ellipse: s-maj=19.9km s-min=13.1km az=25.0*
*ISCJB **12** 05:56:48.2±0.6, 13°.74N±0°.08×92°.26W±0°.06, h35km, mb4.2/17, Error ellipse: s-maj=13.4km s-min=4.7km az=30.0*
*NEIC **12** 05:56:49.4±2.8, 13°.76N×92°.23W, h28km±21km, mb4.5/9, Error ellipse: s-maj=15.6km s-min=7.0km az=215.0*

ISC 12 05:56:49.8±0.7,**13.71N**±0°.09×**92.31W**±0°.07,**h35**km,**n32,** σ**1**§**08/36,mb4.4/17,Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**2.20**	**54**	Pn	**Pn**	**05 57 24.1**	**0.0**
	14nm,0.3s,baz=222,slow=7.9,SNR=83						
APG				Lg	Lg	05 57 54.5	
	24nm,0.3s,baz=83,slow=15,SNR=6.1						
APG				LR	LR	05 57 55.5	
	comp=Z,145nm,18.7s,baz=169,slow=32						
CCIG	**Comitan**	**2.56**	**4**	*e*Pn	**Pn**	**05 57 30.6**	**+1.6**
SNET	**Serv Nac Est T**	**2.99**	**90**	*e*Pn	**Pn**	**05 57 33.4**	**-1.5**
SNET				*e*Sn	**Sn**	**05 58 09.2**	**-0.4**
CMIG	**Matias Romero**	**4.18**	**324**	Pn	**Pn**	**05 57 50.0**	**-1.1**
	0.5nm,0.3s,baz=158,slow=15,SNR=12						
CMIG				Sn	**Sn**	**05 58 38.6**	**-0.1**
	3.7nm,0.3s,baz=69,slow=18,SNR=6.2						
CMIG				LR	LR	05 59 36.2	
	comp=Z,113nm,19.4s,baz=142,slow=41						
ESTN	**Estel**	**5.81**	**95**	*e*Pn	**Pn**	**05 58 12.1**	**-1.6**
TLIG	**Tlapa**	**7.14**	**303**	*e*Pn	**Pn**	**05 58 32.1**	**+0.2**
TEIG	**Tepich**	**7.54**	**30**	*e*Pn	**Pn**	**05 58 36.7**	**-0.6**
JTS	**JuntasAbangare**	**7.96**	**114**	Pn	**Pn**	**05 58 43.9**	**+0.8**
	0.6nm,0.3s,baz=24,slow=18,SNR=5.2						
JTS				Sn	**Sn**	**06 00 12.4**	**+0.4**
	0.4nm,0.3s,baz=339,slow=17,SNR=2.3						
JTS				Lg	Lg	06 00 58.3	
	0.2nm,0.3s,baz=178,slow=19,SNR=4.7						
JTS	**JuntasAbangare**	**7.96**	**114**	*e*Pn	**Pn**	**05 58 43.3**	**+0.2**
JTS				Sn	**Sn**	**06 00 12.4**	**+0.4**
LTX	**Lajitas**	**18.77**	**328**	*e*P	**P**	**06 01 06.7**	**+0.5**
TXAR	**Lajitas Array**	**18.77**	**328**	P	**P**	**06 01 06.7**	**+0.5**
	0.1nm,0.3s,baz=142,slow=6.3,SNR=4.5						
AMTX	**Amarillo**	**22.72**	**340**	*e*P	**P**	**06 01 47.1**	**-1.7**
	12nm,0.8s						
TKL	**Tuckaleechee C**	**23.16**	**18**	P	**P**	**06 01 52.0**	**-1.2**
	2.4nm,0.7s,baz=180,slow=13,SNR=2.6						
TKL	**Tuckaleechee C**	**23.16**	**18**	*e*P	**P**	**06 01 52.4**	**-0.9**
	18nm,1.4s						
TZTN	**Tazewell**	**24.05**	**18**	*e*P	**P**	**06 01 59.4**	**-2.4**
	20nm,1.5s						
ANMO	**Albuquerque**	**24.70**	**331**	P	**P**	**06 02 08.5**	**+0.5**
	0.9nm,0.7s,baz=172,slow=15,SNR=2.9						
WCI	**Wyandotte Cave**	**25.00**	**11**	*e*P	**P**	**06 02 09.4**	**-1.0**
	8.6nm,0.9s						
REDW	**Red Top Meadow**	**33.58**	**335**	*e*P	**P**	**06 03 27.3**	**+0.4**
	12nm,1.4s						
SNOW	**Snow King Moun**	**33.62**	**335**	*e*P	**P**	**06 03 27.9**	**+0.7**
	6.6nm,0.8s						
NV01	**Mina Array Sit**	**33.71**	**322**	*e*P	**P**	**06 03 29.1**	**+1.1**
NVAR	**Mina Array Bea**	**33.71**	**322**	P	**P**	**06 03 30.0**	**+2.0**
	1.0nm,0.8s,baz=135,slow=8.1,SNR=8.5						
PTGA	**Pitinga**	**35.11**	**112**	P	**P**	**06 03 41.3**	**+1.1**
	1.2nm,0.3s,baz=301,slow=8.0,SNR=6.3						
MCMT	**McKenzie Canyo**	**35.60**	**335**	*e*P	**P**	**06 03 45.8**	**+1.4**
DLMT	**Dillon**	**35.93**	**335**	*e*P	**P**	**06 03 47.8**	**+0.7**
	10nm,1.4s						
J08A	**Circle Bar Ran**	**37.12**	**328**	*e*P	**P**	**06 03 58.6**	**+1.4**
	12nm,1.4s						
F10A	**Beach Ranch, E**	**38.42**	**332**	*e*P	**P**	**06 04 08.4**	**+0.3**
	6.6nm,1.1s						
SIV	**San Ignacio**	**42.72**	**133**	P	**P**	**06 04 43.5**	**-0.3**
	0.8nm,0.8s,baz=320,slow=11,SNR=4.6						
YKA	**Yellowknife Ar**	**51.24**	**347**	P	**P**	**06 05 48.8**	**-0.9**
	2.1nm,0.7s,baz=149,slow=7.4,SNR=7.0						
DLBC	**Dease Lake**	**52.79**	**336**	P	**P**	**06 06 03.0**	**+1.5**
	1.8nm,0.6s,baz=71,slow=7.2,SNR=3.2						
ILAR	**Eielson Array**	**62.98**	**337**	P	**P**	**06 07 13.2**	**+0.4**
	1.3nm,1.1s,baz=140,slow=4.5,SNR=6.8						
PETK	**Petropavlovsk-**	**90.71**	**325**	P	**P**	**06 09 49.4**	**+0.3**
	6.1nm,1.1s,baz=82,slow=8.4						
CMAR	**Chiang Mai Arr**	**146.16**	**341**	PKPbc	**PKPdf**	**06 16 27.1**	**+0.8**
	1.3nm,0.4s,baz=340,slow=5.1,SNR=6.2						

*ISCJB **12** 05:58:30.1±0.4, 18°.77S±0°.09×177°.81W±0°.09, h600km, mb4.0/19, Error ellipse: s-maj=13.9km s-min=7.9km az=139.5*
*IDC **12** 05:58:32.7±1.3, 18°.61S×177°.71W, h614km±15km, mb3.6/19, mb1 3.7/20, mb1mx3.6/50, mbtmp4.5/20, Error ellipse: s-maj=17.6km s-min=9.9km az=143.0*

ISC 12 05:58:31.2±0.5,**18.7S**±0°.1×**177.72W**±0°.10,**h600**km,**n50,** σ**1**§**16/53,mb4.0/19,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.44**	**51**	P	**P**	**06 00 25.7**	**+0.3**
	2.4nm,0.3s,baz=40,slow=19,SNR=3.6						
AFI				S	**S**	**06 01 59.1**	**+0.3**
	4.3nm,0.3s,baz=232,slow=22,SNR=5.3						
DZM	**Mont Dzumac**	**15.22**	**255**	P	**P**	**06 01 44.1**	**+2.5**
	1.0nm,0.3s,baz=78,slow=18,SNR=4.0						
URZ	**Urewera**	**20.00**	**192**	P	**P**	**06 02 22.9**	**-1.8**
	13nm,0.6s,baz=67,slow=0.8,SNR=19						
RPZ	**Rata Peaks**	**26.66**	**198**	P	**P**	**06 03 25.6**	**+1.8**
	14nm,0.9s,baz=115,slow=19,SNR=4.1						
STKA	**Stephens Creek**	**38.83**	**242**	P	**P**	**06 05 07.7**	**+1.3**
	5.7nm,0.8s,baz=72,slow=9.2,SNR=9.6						
JAY	**Jayapura**	**43.76**	**287**	P	**P**	**06 05 46.7**	**+1.2**
	27nm,0.6s,baz=130,slow=3.7,SNR=15						
WRA	**Warramunga Arr**	**45.14**	**260**	P	**P**	**06 05 55.9**	**-0.1**
	12nm,0

*ISCJB **12** 06:05:20.2±0.3, 14°38N±0°04×92°25W±0°03, h35km, mb4.5/100, MS3.6/1, Error ellipse: s-maj=5.9km s-min=2.3km az=33.7*
*NEIC **12** 06:05:21.9±0.4, 14°37N×92°16W, h35km, mb4.5/102, Error ellipse: s-maj=7.2km s-min=4.4km az=211.0*
NEIC Felt at Quetzaltenango.
*UCR **12** 06:05:22.4±2.0, 14°66N×92°13W, h88km±72km, ML4.0, mb4.4(NEIC)*
*MEX **12** 06:05:25.0±0.7, 14°52N×92°18W, h59km±7km, MD3.9*
*IDC **12** 06:05:28.0±2.0, 14°51N×91°76W, h102km±16km, mb4.0/20, mb1 4.1/22, mb1mx3.9/57, mbtmp4.3/22, MS3.4/2, Ms1 3.4/2, ms1mx2.8/36, Error ellipse: s-maj=26.6km s-min=9.8km az=55.0*

ISC 12 06:05:20.2±0.5, 14°26N±0°05×92°32W±0°06, h35km, n198, σ1§85/218, mb4.5/100, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
THIG		**0.64**	**5**	*e*Pn		**Pn**	**06 05 34.5**	**+1.6**
THIG				*e*Sn		**Sn**	**06 05 41.4**	**-0.5**
THIG		**0.64**	**5**	*e*P		**Pn**	**06 05 34.5**	**+1.6**
THIG				*e*S		**Sn**	**06 05 42.4**	**+0.5**
PCIG		**1.68**	**329**	*e*Pn		**Pn**	**06 05 48.6**	**+1.5**
PCIG		**1.68**	**329**	*e*P		**Pn**	**06 05 48.6**	**+1.5**
PCIG				*i* S		**Sn**	**06 06 07.0**	**-0.3**
APG	**El Apazote**	**1.94**	**67**	P		**Pn**	**06 05 52.8**	**+1.8**
	214nm,0.3s,baz=198,slow=14,SNR=459							
APG				S		**Sn**	**06 06 17.8**	**+3.5**
	240nm,0.3s,baz=12,slow=15,SNR=14							
APG				LR		LR	06 06 37.9	
	comp=Z,1μm,21.7s,baz=220,slow=52							
CCIG	**Comitan**	**2.02**	**5**	*e*Pn		**Pn**	**06 05 56.0**	**+4.0**
CCIG				*e*Sn		**Sn**	**06 06 19.2**	**+3.2**
CCIG	**Comitan**	**2.02**	**5**	*e*P		**Pn**	**06 05 52.0**	**0.0**
CCIG				*i* S		**Sn**	**06 06 12.8**	**-3.2**
TGIG		**2.62**	**343**	*e*Pn		**Pn**	**06 06 01.9**	**+1.8**
TGIG		**2.62**	**343**	*e*P		**Pn**	**06 06 01.9**	**+1.8**
TGIG				*i* S		**Sn**	**06 06 29.7**	**-1.0**
RTR	**El Retiro**	**2.62**	**98**	*e*P		**Pn**	**06 06 02.3**	**+2.0**
SBLS	**San Blas**	**2.65**	**99**	*e*P		**Pn**	**06 06 02.3**	**+1.6**
CEVE	**Cerro Verde**	**2.65**	**99**	*e*P		**Pn**	**06 06 02.4**	**+1.6**
CEVE				*e*S		**Sn**	**06 06 35.5**	**+3.6**
CEVE				IAML			06 06 45.7	
	comp=Z,6μm,0.5s							
SNJE	**San Jose**	**2.66**	**98**	*e*P		**Pn**	**06 06 02.6**	**+1.8**
MTO3	**Montecristo**	**2.87**	**87**	*e*P		**Pn**	**06 06 04.5**	**+0.8**
BOQS	**Boqueron**	**3.00**	**100**	*e*P		**Pn**	**06 06 07.4**	**+1.9**
UEES	**San Salvador**	**3.04**	**100**	*e*P		**Pn**	**06 06 07.3**	**+1.4**
UEES				*e*S		**Sn**	**06 06 42.2**	**+1.2**
SNET	**Serv Nac Est T**	**3.05**	**100**	*e*Pn		**Pn**	**06 06 07.9**	**+1.7**
SNET				*e*Sn		**Sn**	**06 06 42.2**	**+0.7**
SNET	**Serv Nac Est T**	**3.05**	**100**	*e*P		**Pn**	**06 06 07.5**	**+1.3**
SNET				*e*S		**Sn**	**06 06 42.8**	**+1.3**
SNET				IAML			06 06 53.6	
	comp=Z,2μm,0.4s							
OPAM	**San Salvador**	**3.08**	**100**	*e*P		**Pn**	**06 06 08.7**	**+2.2**
OPAM				*e*S		**Sn**	**06 06 45.2**	**+3.1**
LFU	**La Fuente**	**3.15**	**99**	*e*P		**Pn**	**06 06 09.6**	**+2.1**
LBRS	**Las Brisas**	**3.22**	**99**	*e*P		**Pn**	**06 06 10.4**	**+1.9**
LFRS	**El Faro**	**3.23**	**101**	*e*P		**Pn**	**06 06 10.3**	**+1.8**
PAVA	**Las Pavas**	**3.33**	**99**	*e*P		**Pn**	**06 06 11.9**	**+2.0**
PAVA				*e*S		**Sn**	**06 06 52.2**	**+3.8**
CMIG	**Matias Romero**	**3.74**	**319**	P		**Pn**	**06 06 17.9**	**+2.3**
	comp=Z,16nm,0.3s,baz=152,slow=13,SNR=56							
CMIG				S		**Sn**	**06 07 06.0**	**+7.6**
	comp=Z,68nm,0.3s,baz=71,slow=20,SNR=6.6							
CMIG				LR		LR	06 08 17.3	
	comp=Z,330nm,18.8s,baz=116,slow=43							
LCND	**La Ca¯–ada**	**4.41**	**102**	*e*P		**Pn**	**06 06 26.2**	**+1.5**
LCND				*e*S		**Sn**	**06 07 17.4**	**+2.5**
TGUH	**Tegucigalpa,Un**	**4.90**	**92**	*e*Pn		**Pn**	**06 06 32.8**	**+1.3**
ESTN	**Estel**	**5.90**	**101**	*e*Pn		**Pn**	**06 06 46.6**	**+1.3**
ESTN				*e*Sn		**Sn**	**06 07 50.6**	**-1.1**
MOMN	**Momotombo**	**5.92**	**107**	*e*P		**Pn**	**06 06 48.6**	**+3.0**
MOMN				*e*S		**Sn**	**06 07 50.6**	**-1.6**
MOMN				IAML			06 08 09.5	
	comp=Z,26nm,0.5s							
LVIG	**Laguna Verde**	**6.70**	**325**	*e*Pn		**Pn**	**06 06 56.8**	**+0.7**
LVIG				*e*Sn		**Sn**	**06 08 08.6**	**-2.6**
BOAB	**BOACO BROADBAN**	**6.72**	**105**	*e*Pn		**Pn**	**06 06 59.6**	**+3.1**
BOAB				*e*Sn		**Sn**	**06 08 11.6**	**-0.3**
BOAB	**BOACO BROADBAN**	**6.72**	**105**	*e*P		**Pn**	**06 06 59.6**	**+3.1**
BOAB				*e*S		**Sn**	**06 08 10.3**	**-1.6**
TLIG	**Tlapa**	**6.84**	**299**	*e*Pn		Pn	06 07 03.9	+5.5
TEIG	**Tepich**	**7.08**	**33**	*e*Pn		**Pn**	**06 07 02.4**	**+1.1**
MYIG	**MÖrida**	**7.10**	**20**	*e*Pn		**Pn**	**06 07 03.1**	**+1.5**
ACON	**Acoyapa**	**7.33**	**107**	*e*P		**Pn**	**06 07 07.0**	**+2.2**
ESPN	**Las Esperanzas**	**8.08**	**104**	*e*Pn		**Pn**	**06 07 17.9**	**+2.8**
JTS	**JuntasAbangare**	**8.21**	**118**	P		**Pn**	**06 07 18.7**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=31,slow=16,SNR=5.6							
JTS				S		**Sn**	**06 08 49.3**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=339,slow=18,SNR=1.8							
JTS	**JuntasAbangare**	**8.21**	**118**	*e*Pn		**Pn**	**06 07 19.8**	**+2.8**
JTS				*e*Sn		**Sn**	**06 08 51.2**	**+2.6**
MOIG	**Morelia**	**10.05**	**304**	*e*Pn		Pn	06 07 48.6	+6.3
LNIG	**Linares**	**12.54**	**329**	*e*Pn		**Pn**	**06 08 19.3**	**+3.1**
PAYG	**Puerto Ayora**	**14.98**	**172**	*e*Pn		**Pn**	**06 08 50.8**	**+1.3**
	comp=Z,70nm,1.3s							
833A	**Chaparral WMA,**	**15.46**	**336**	*e*Pn		**Pn**	**06 08 58.4**	**+2.7**
	comp=Z,15nm,0.9s							
061Z	**Ochoppi**	**15.74**	**41**	*e*Pn		**Pn**	**06 08 58.8**	**-0.5**
	comp=Z,205nm,1.2s							
656A	**Willston**	**17.55**	**29**	*e*Pn		**Pn**	**06 09 20.6**	**-1.5**
	comp=Z,117nm,1.4s							
JCT	**Junction City**	**17.55**	**338**	*e*P		**Pn**	**06 09 22.9**	**+0.7**
	comp=Z,5.8nm,0.6s							
HPIG		**17.73**	**317**	*e*P		**P**	**06 09 28.3**	**+3.1**
	comp=Z,5.2nm,0.8s							
555A	**McAlpin**	**17.99**	**27**	*e*P		**P**	**06 09 27.6**	**-0.2**
	comp=Z,431nm,2.0s							
LTX	**Lajitas**	**18.31**	**327**	*e*P		**Pn**	**06 09 35.1**	**+3.5**
TX31	**Lajitas Ar. Si**	**18.31**	**327**	*e*P		**Pn**	**06 09 34.6**	**+3.0**
TXAR	**Lajitas Array**	**18.31**	**327**	P		**Pn**	**06 09 35.1**	**+3.5**
	comp=Z,0.3nm,0.3s,baz=150,slow=11,SNR=13							
352A	**Blakely**	**18.43**	**20**	*e*P		**Pn**	**06 09 35.6**	**+2.6**
	comp=Z,101nm,1.7s							
LRAL	**Lakeview Retre**	**19.30**	**14**	*e*P		**P**	**06 09 42.6**	**+0.4**
	comp=Z,55nm,1.9s							
ABTX	**Abilene, Hawle**	**19.46**	**341**	*e*P		**Pn**	**06 09 46.3**	**+0.9**
	comp=Z,6.9nm,0.7s							
152A	**Waverly Hall**	**19.59**	**19**	*e*P		**P**	**06 09 45.4**	**0.0**
	comp=Z,11nm,0.4s							
Z50A	**Ashland**	**19.78**	**16**	*e*P		**P**	**06 09 47.9**	**+0.4**
	comp=Z,17nm,1.1s							
ROSC	**El Rosal**	**20.05**	**116**	P		**Pn**	**06 09 53.0**	**0.0**
	comp=Z,0.3nm,0.3s,baz=226,slow=6.8,SNR=7.2							
ROSC	**El Rosal**	**20.05**	**116**	*e*P		**P**	**06 09 52.0**	**+1.0**
	comp=Z,5.0nm,0.8s							
MIAR	**Mount Ida**	**20.23**	**357**	*e*P		**P**	**06 09 52.7**	**+0.4**
	comp=Z,61nm,1.8s							
Y49A	**Blount Mountai**	**20.23**	**14**	*e*P		**P**	**06 09 52.3**	**-0.1**
	comp=Z,32nm,1.5s							
UALR	**University of**	**20.42**	**360**	*e*P		Pn	06 09 56.1	-0.6
	comp=Z,19nm,0.9s							
X37A	**Clayton**	**20.43**	**353**	*e*P		**P**	**06 09 56.2**	**+1.8**
	comp=Z,16nm,1.1s							
X48A	**Hartselle**	**20.66**	**12**	*e*P		**P**	**06 09 56.9**	**-0.1**
	comp=Z,13nm,1.2s							
GOGA	**Godfrey**	**20.69**	**21**	*e*P		**P**	**06 09 57.5**	**+0.1**
	comp=Z,11nm,0.9s							
WHAR	**Wooly Hollow**	**20.94**	**0**	*e*P		**P**	**06 10 00.5**	**+0.5**
	comp=Z,12nm,1.0s							
GDL2	**Guadalupe Moun**	**20.97**	**330**	*e*P		**P**	**06 10 02.9**	**+2.3**
PLAL	**Pickwick Lake**	**20.98**	**10**	*e*P		**P**	**06 10 00.1**	**-0.4**
	comp=Z,17nm,1.5s							
MNTX	**Cornudas Mount**	**21.08**	**328**	*e*P		**P**	**06 10 03.5**	**+1.9**
	comp=Z,8.2nm,0.8s							
WMOK	**Wichita Mounta**	**21.20**	**345**	*e*P		**P**	**06 10 03.9**	**+0.9**
	comp=Z,31nm,2.0s							
SWET	**Sewanee**	**21.64**	**14**	*e*P		**P**	**06 10 07.4**	**-0.3**
	comp=Z,34nm,1.5s							
W50A	**Signal Mountai**	**21.78**	**16**	*e*P		**P**	**06 10 08.8**	**-0.3**
	comp=Z,24nm,1.4s							
MSTX	**Muleshoe**	**21.79**	**336**	*e*P		**P**	**06 10 10.8**	**+1.5**
	comp=Z,6.9nm,0.8s							
V48A	**Smith Brothers**	**21.95**	**12**	*e*P		**P**	**06 10 10.6**	**-0.3**
	comp=Z,11nm,1.0s							
WVT	**Waverly**	**22.14**	**10**	*e*P		**P**	**06 10 12.7**	**-0.2**
	comp=Z,14nm,1.4s							
AMTX	**Amarillo**	**22.20**	**339**	*e*P		**P**	**06 10 15.1**	**+1.4**
	comp=Z,10nm,0.6s							
CPCT	**Cooper Cave**	**22.23**	**17**	*e*P		**P**	**06 10 14.0**	**0.0**
	comp=Z,64nm,2.0s							
JSC	**Jenkinsville**	**22.30**	**25**	*e*P		**P**	**06 10 13.4**	**-1.3**
	comp=Z,51nm,1.6s							
BG3	**Lake Jocassee**	**22.31**	**21**	*e*P		**P**	**06 10 15.1**	**+0.3**
	comp=Z,58nm,2.0s							
PBMO	**Poplar Bluff**	**22.49**	**4**	*e*P		**P**	**06 10 15.3**	**-1.3**
	comp=Z,7.9nm,0.9s							
V51A	**Loudon**	**22.61**	**17**	*e*P		**P**	**06 10 17.8**	**-0.2**
	comp=Z,41nm,1.7s							
TKL	**Tuckaleechee C**	**22.65**	**18**	P		**P**	**06 10 18.1**	**-0.3**
	comp=Z,4.5nm,0.5s,baz=182,slow=8.7,SNR=14							
TKL	**Tuckaleechee C**	**22.65**	**18**	*e*P		**P**	**06 10 18.0**	**-0.3**
	comp=Z,34nm,1.4s							
T42A	**Van Buren**	**22.70**	**3**	*e*P		**P**	**06 10 17.9**	**-1.0**
	comp=Z,15nm,1.4s							
V53A	**Saluda**	**22.96**	**20**	*e*P		**P**	**06 10 21.4**	**-0.3**
	comp=Z,12nm,1.1s							
T47A	**Sharon Grove**	**23.11**	**11**	*e*P		**P**	**06 10 21.7**	**-1.4**
	comp=Z,75nm,1.9s							
SIUC	**Southern Illin**	**23.52**	**6**	*e*P		**P**	**06 10 25.9**	**-1.2**
	comp=Z,72nm,1.8s							
TZTN	**Tazewell**	**23.54**	**18**	*e*P		**P**	**06 10 25.9**	**-1.4**
	comp=Z,34nm,1.8s							
BNM	**Barren Site**	**23.66**	**329**	*e*P		**P**	**06 10 31.6**	**+2.8**
LPM	**Los Pinos Moun**	**23.79**	**330**	*e*P		**P**	**06 10 31.4**	**+1.3**
ANMO	**Albuquerque**	**24.22**	**331**	P		**P**	**06 10 36.2**	**+2.2**
	comp=Z,8.0nm,0.6s,baz=142,slow=11,SNR=38							
ANMO	**Albuquerque**	**24.22**	**331**	*e*P		**P**	**06 10 35.9**	**+1.9**
	comp=Z,7.7nm,0.6s							
WCI	**Wyandotte Cave**	**24.46**	**12**	*e*P		**P**	**06 10 34.8**	**-1.1**
	comp=Z,18nm,0.7s							
S51A	**Beattyville**	**24.54**	**17**	*e*P		**P**	**06 10 35.9**	**-0.8**
	comp=Z,17nm,1.3s							
OLIL	**Olney**	**24.66**	**8**	*e*P		**P**	**06 10 36.3**	**-1.4**
	comp=Z,15nm,0.6s							
KSU1	**Kansas State U**	**25.03**	**352**	*e*P		**P**	**06 10 40.6**	**-0.4**
	comp=Z,6.9nm,0.6s							
BLA	**Blacksburg**	**25.20**	**23**	*e*P		**P**	**06 10 42.2**	**-0.5**
	comp=Z,72nm,1.9s							
T25A	**Trinidad**	**25.20**	**337**	*e*P		**P**	**06 10 44.5**	**+1.6**
	comp=Z,4.1nm,0.7s							
BLO	**Bloomington**	**25.33**	**11**	*e*P		**P**	**06 10 42.4**	**-1.5**
	comp=Z,9.8nm,0.8s							
Q51A	**Peebles**	**25.91**	**16**	*e*P		**P**	**06 10 47.6**	**-1.4**
	comp=Z,13nm,1.1s							
MVCO	**Mesa Verde**	**27.02**	**331**	*e*P		**P**	**06 11 01.4**	**+2.0**
	comp=Z,9.1nm,0.8s							
ACSO	**Alum Creek Sta**	**27.13**	**16**	*e*P		**P**	**06 10 58.0**	**-2.1**
	comp=Z,23nm,1.4s							
WUAZ	**Wupatki**	**27.22**	**324**	*e*P		**P**	**06 11 03.5**	**+2.3**
	comp=Z,4.4nm,1.0s							
PV01	**Paradox Valley**	**27.80**	**332**	*e*P		**P**	**06 11 08.8**	**+2.4**
PV13	**Radium Mtn., P**	**27.93**	**331**	*e*P		**P**	**06 11 10.1**	**+2.6**
	comp=Z,6.0nm,0.9s							
PV05	**Paradox Valley**	**28.00**	**331**	*e*P		**P**	**06 11 10.4**	**+2.2**
PV03	**Paradox Valley**	**28.02**	**332**	*e*P		**P**	**06 11 10.7**	**+2.3**
PV18	**Skein Mesa, Pa**	**28.05**	**331**	*e*P		**P**	**06 11 10.9**	**+2.3**
	comp=Z,4.4nm,0.9s							
PV12	**Saucer Basin,**	**28.05**	**332**	*e*P		**P**	**06 11 11.3**	**+2.7**
	comp=Z,9.0nm,0.6s							
PV11	**David Mesa, Pa**	**28.07**	**332**	*e*P		**P**	**06 11 11.3**	**+2.6**
	comp=Z,34nm,1.7s							
PV17	**East Wray Mesa**	**28.10**	**331**	*e*P		**P**	**06 11 11.1**	**+2.1**
	comp=Z,5.9nm,0.7s							
PV16	**Nyswonger Mesa**	**28.10**	**332**	*e*P		**P**	**06 11 11.3**	**+2.2**
	comp=Z,5.2nm,0.9s							
PV19	**Morning Glory**	**28.13**	**331**	*e*P		**P**	**06 11 11.4**	**+2.1**
	comp=Z,4.3nm,0.9s							
PV14	**Lion Creek, Pa**	**28.20**	**331**	*e*P		**P**	**06 11 12.1**	**+2.1**
	comp=Z,25nm,1.7s							
PV10	**Paradox Valley**	**28.21**	**331**	*e*P		**P**	**06 11 11.2**	**+1.1**
PV22	**Blue Mesa, Par**	**28.22**	**332**	*e*P		**P**	**06 11 12.1**	**+2.0**
	comp=Z,4.7nm,0.7s							
PV23	**Carpenter Ridg**	**28.26**	**332**	*e*P		**P**	**06 11 12.2**	**+1.7**
	comp=Z,4.8nm,0.7s							
PV09	**Paradox Valley**	**28.35**	**331**	*e*P		**P**	**06 11 13.7**	**+2.3**
JFWS	**Jewell Farm**	**28.61**	**3**	*e*P		**P**	**06 11 12.6**	**-0.6**
	comp=Z,28nm,1.3s							
MTPU	**Mount Pierson**	**29.51**	**327**	*e*P		**P**	**06 11 24.7**	**+2.9**
	comp=Z,13nm,1.7s							
MSU	**Marysvale**	**29.86**	**328**	*e*P		**P**	**06 11 27.3**	**+2.6**
P17A	**Butcher Ranch,**	**29.89**	**331**	*e*P		**P**	**06 11 27.0**	**+2.2**
	comp=Z,4.2nm,0.7s							
SHPR	**Sheep Range**	**30.12**	**321**	*e*P		**P**	**06 11 29.6**	**+2.7**
	comp=Z,8.8nm,2.0s							
MPU	**Maple Canyon**	**30.74**	**330**	*e*P		**P**	**06 11 34.7**	**+2.3**
	comp=Z,5.0nm,0.7s							
KSPA	**Keystone Colle**	**30.76**	**25**	*e*P		**P**	**06 11 31.4**	**-0.9**
	comp=Z,46nm,1.9s							
CTU	**Camp Tracy**	**31.32**	**331**	*e*P		**P**	**06 11 40.3**	**+2.8**
	comp=Z,3.9nm,0.9s							
TCUT	**Toone Canyon**	**31.50**	**332**	*e*P		**P**	**06 11 42.0**	**+2.9**
	comp=Z,41nm,1.8s							
HWUT	**Hardware Ranch**	**31.96**	**332**	*e*P		**P**	**06 11 45.7**	**+2.6**
	comp=Z,19nm,1.8s							
PDAR	**Pinedale Array**	**32.05**	**336**	P		**P**	**06 11 44.9**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=141,slow=9.5,SNR=4.5							
PDAR				PcP		**PcP**	**06 14 32.6**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=130,slow=5.2,SNR=7.7							
PDAR	**Pinedale Array**	**32.05**	**336**	*e*P		**P**	**06 11 45.8**	**+1.8**
BGU	**Big Grassy Mou**	**32.12**	**330**	*e*P		**P**	**06 11 46.0**	**+1.5**
SADO	**Sadowa**	**32.41**	**18**	P		**P**	**06 11 43.6**	**-3.1**
	comp=Z,6.1nm,0.7s,baz=236,slow=10,SNR=4.7							
SADO	**Sadowa**	**32.41**	**18**	*e*P		**P**	**06 11 44.7**	**-2.0**
	comp=Z,22nm,1.2s							
HVU	**Hansel Valley**	**32.65**	**331**	*e*P		**P**	**06 11 50.8**	**+1.6**
	comp=Z,4.2nm,0.7s							
REDW	**Red Top Meadow**	**33.07**	**335**	*e*P		**P**	**06 11 54.0**	**+1.1**
	comp=Z,5.2nm,0.6s							
ELK	**Elko**	**33.10**	**327**	P		**P**	**06 11 55.6**	**+2.4**
	comp=Z,2.6nm,0.7s,baz=134,slow=6.3,SNR=11							
SNOW	**Snow King Moun**	**33.12**	**335**	*e*P		**P**	**06 11 54.5**	**+1.2**
	comp=Z,8.3nm,0.7s							
LOHW	**Long Hollow**	**33.18**	**335**	*e*P		**P**	**06 11 55.0**	**+1.2**
	comp=Z,2.5nm,0.8s							
NV11	**Mina Array Sit**	**33.18**	**321**	*e*P		**P**	**06 11 56.8**	**+3.0**
	comp=Z,0.3nm,0.9s							
MDPB	**Devils Postpil**	**33.26**	**319**	*e*P		**P**	**06 11 57.0**	**+2.3**
	comp=Z,2.2nm,0.8s							
NV01	**Mina Array Sit**	**33.27**	**321**	*e*P		**P**	**06 11 56.5**	**+1.8**
NVAR	**Mina Array Bea**	**33.27**	**321**	P		**P**	**06 11 58.2**	**+3.5**
	comp=Z,3.2nm,0.6s,baz=134,slow=8.6,SNR=32							
NVAR				PcP		**PcP**	**06 14 37.2**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=153,slow=3.5,SNR=5.5							
FXWY	**Fox Creek**	**33.37**	**335**	*e*P		**P**	**06 11 55.6**	**+0.1**
	comp=Z,10nm,2.0s							
KVN	**Kaiserville**	**33.55**	**322**	*e*P		**P**	**06 11 59.2**	**+2.2**
	comp=Z,4.1nm,1.0s							
RLMT	**Red Lodge**	**33.95**	**338**	*e*P		**P**	**06 12 01.4**	**+0.9**
	comp=Z,17nm,2.0s							
YERR	**Yerington**	**34.19**	**321**	*e*P		**P**	**06 12 04.0**	**+1.4**
	comp=Z,9.5nm,1.7s							
PAHR	**Pah Rah Range**	**34.73**	**322**	*e*P		**P**	**06 12 09.4**	**+2.1**
	comp=Z,3.0nm,1.0s							
HLID	**Hailey**	**34.80**	**331**	*e*P		**P**	**06 12 09.0**	**+1.2**
	comp=Z,3.4nm,0.8s							
MCMT	**McKenzie Canyo**	**35.10**	**334**	*e*P		**P**	**06 12 12.8**	**+2.3**
PTGA	**Pitinga**	**35.33**	**112**	P		**P**	**06 12 10.2**	**-2.3**
	comp=Z,1.5nm,0.3s,baz=328,slow=9.6,SNR=6.7							
J08A	**Circle Bar Ran**	**36.65**	**327**	*e*P		**P**	**06 12 25.7**	**+2.0**
	comp=Z,14nm,0.6s							
SAML	**Samuel**	**36.98**	**127**	*e*P		**P**	**06 12 24.9**	**-1.7**
	comp=Z,5.1nm,0.7s							
F10A	**Beach Ranch, E**	**37.93**	**331**	*e*P		**P**	**06 12 35.8**	**+1.3**
	comp=Z,18nm,0.7s							
LPAZ	**La Paz**	**38.63**	**141**	P		**P**	**06 12 40.4**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=336,slow=7.4,SNR=5.4							
NEW	**Newport**	**39.62**	**334**	P		**P**	**06 12 49.2**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=139,slow=6.5,SNR=3.9							
NEW				PcP		**PcP**	**06 14 54.8**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=39,slow=6.5,SNR=5.5							
SIV	**San Ignacio**	**43.10**	**133**	P		**P**	**06 13 17.0**	**-0.4**
	comp=Z,2.7nm,0.7s,baz=323,slow=7.9,SNR=21							
SIV				PcP		**PcP**	**06 15 06.2**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=232,slow=5.1,SNR=4.7							
SCHQ	**Schefferville**	**45.09**	**21**	P		**P**	**06 13 30.9**	**-1.9**
	comp=Z,5.8nm,1.0s,baz=289,slow=18,SNR=4.4							
YKA	**Yellowknife Ar**	**50.70**	**347**	P		**P**	**06 14 15.2**	**-0.9**
	comp=Z,2.9nm,0.5s,baz=138,slow=8.8,SNR=18							
YKB5	**Yellowknife Ar**	**50.70**	**347**	*e*P		**P**	**06 14 16.2**	**+0.1**
YKW3	**Yellowknife Ar**	**50.76**	**347**	*e*P		**P**	**06 14 16.1**	**-0.5**
	comp=Z,30nm,1.8s							
FRB	**Frobisher Bay**	**52.13**	**13**	P		**P**	**06 14 23.1**	**-3.6**
	comp=Z,1.1nm,1.0s,baz=221,slow=10,SNR=4.5							
CPUP	**Villa Florida**	**52.78**	**140**	P		**P**	**06 14 30.0**	**-2.1**
	comp=Z,3.6nm,1.1s,baz=181,slow=4.7,SNR=3.4							
BDFB	**Brasilia**	**52.92**	**122**	P		**P**	**06 14 32.7**	**-0.8**
	comp=Z,3.3nm,0.8s,baz=281,slow=5.7,SNR=6.0							
BDFB	**Brasilia**	**52.92**	**122**	*e*P		**P**	**06 14 32.7**	**-0.8**
	comp=Z,20nm,1.4s							
PLCA	**Paso Flores**	**58.33**	**161**	LR		LR	06 34 23.1	
	comp=Z,41nm,19.1s,baz=19,slow=30							
INK	**Inuvik**	**60.10**	**344**	P		**P**	**06 15 23.2**	**-0.4**
	comp=Z,3.2nm,0.4s,baz=122,slow=4.8,SNR=33							
INK	**Inuvik**	**60.10**	**344**	*e*P		**P**	**06 15 23.9**	**+0.2**
	comp=Z,3.9nm,0.6s							
EYAK	**Cordova Ski Ar**	**60.11**	**333**	*e*P		**P**	**06 15 25.6**	**+1.7**
	comp=Z,77nm,1.8s							
EGAK	**Eagle**	**60.35**	**338**	*e*P		**P**	**06 15 25.8**	**+0.3**
	comp=Z,31nm,2.0s							
PAX	**Paxson**	**61.09**	**335**	*e*P		**P**	**06 15 31.8**	**+1.1**
	comp=Z,4.8nm,0.8s							
RIDG	**Independ'e Rid**	**61.20**	**336**	*e*P		**P**	**06 15 32.9**	**+1.5**
	comp=Z,54nm,2.0s							
SCM	**Sheep Creek Mo**	**61.36**	**334**	*e*P		**P**	**06 15 33.3**	**+0.8**
	comp=Z,99nm,1.9s							
SEW	**Seward**	**61.61**	**331**	*e*P		**P**	**06 15 34.5**	**+0.5**
	comp=Z,64nm,1.5s							
GHO	**Glory Hole Cre**	**62.02**	**333**	*e*P		**P**	**06 15 37.2**	**+0.2**
	comp=Z,8.5nm,0.8s							
BRLK	**Bradley Lake**	**62.16**	**331**	*e*P		**P**	**06 15 38.1**	**+0.2**
	comp=Z,132nm,1.7s							
KDAK	**Kodiak Island**	**62.33**	**328**	P		**P**	**06 15 39.6**	**+0.6**
	comp=Z,21nm,1.2s,baz=164,slow=2.6,SNR=5.8							
IL1	**Eielson Array**	**62.48**	**337**	*e*P		**P**	**06 15 39.9**	**+0.1**
ILAR	**Eielson Array**	**62.48**	**337**	P		**P**	**06 15 40.4**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=124,slow=5.4,SNR=29							
ILB	**Eielson Array**	**62.48**	**337**	*e*P		**P**	**06 15 40.0**	**+0.2**
RND	**Reindeer**	**62.66**	**335**	*e*P		**P**	**06 15 42.3**	**+1.1**
	comp=Z,6.1nm,0.8s							
SUA	**Susitna One**	**62.71**	**333**	*e*P		**P**	**06 15 42.5**	**+0.9**
	comp=Z,40nm,1.9s							
SKT	**Skwentna**	**63.24**	**333**	*e*P		**P**	**06 15 45.8**	**+0.7**
	comp=Z,22nm,1.6s							
TRF	**Thorofare Moun**	**63.27**	**335**	*e*P		**P**	**06 15 46.1**	**+0.7**
	comp=Z,5.7nm,0.6s							
PPLA	**Purkeypile**	**63.86**	**334**	*e*P		**P**	**06 15 49.2**	**-0.1**
	comp=Z,39nm,1.8s							
MLY	**Manley**	**64.07**	**336**	*e*P		**P**	**06 15 50.8**	**+

URKR	**Urkarakh**	**1.54**	**337**	*e*Pg		**Pg**	**06 07 50.8 +0.2**
URKR				*e*Sg		**Sg**	**06 08 09.3 -1.2**
GANJ	**Ganja**	**1.62**	**267**	PN		**Pn**	**06 07 47.7 -1.2**
GANJ	**Ganja**	**1.62**	**267**	⇓Pn		**Pn**	**06 07 47.7 -1.2**
	SNR=53						
GANJ				⇓Sn		**Sn**	**06 08 07.6 -2.0**
ZKTA	**Zakatala**	**1.64**	**303**	PN		**Pn**	**06 07 49.7 +0.6**
ZKTA	**Zakatala**	**1.64**	**303**	⇓Pn		**Pn**	**06 07 49.8 +0.6**
ZKTA				⇑Sn		**Sb**	**06 08 12.8 +1.6**
KMKR	**Kumukh**	**1.71**	**324**	*e*PN		**Pb**	**06 07 52.0 -0.2**
KMKR				pmax	pmax		
	comp=Z,93nm,0.1s						
KMKR	**Kumukh**	**1.71**	**324**	*e*Pg		**Pb**	**06 07 52.0 -0.2**
KMKR				*e*Sg		**Sg**	**06 08 17.0 +1.0**
GNBR	**Gunib**	**1.98**	**326**	*e*PN		**Pb**	**06 07 56.8 +0.1**
GNBR				*e*S		**Sg**	**06 08 23.5 -1.1**
GNBR	**Gunib**	**1.98**	**326**	*e*Pg		**Pb**	**06 07 56.8 +0.1**
GNBR				*e*Sg		**Sg**	**06 08 23.5 -1.1**
GNBR	**Gunib**	**1.98**	**326**	*i* Pg		**Pn**	**06 07 55.4 +1.5**
GNBR				*i* Sg		**Sb**	**06 08 21.0 -0.2**
GDB	**GEDABAY**	**2.05**	**270**	⇓Pn		**Pn**	**06 07 53.7 -1.2**
	SNR=9.1						
GDB				⇑Sn		**Sn**	**06 08 18.0 -2.3**
LKRN	**Lenkeran, Azer**	**2.05**	**173**	PN		**Pn**	**06 07 54.3 -0.5**
LKRN	**Lenkeran, Azer**	**2.05**	**173**	⇓Pn		**Pn**	**06 07 54.4 -0.5**
	SNR=8.0						
LKRN				⇑Sn		**Sn**	**06 08 20.7 +0.5**
LRK	**Lerik**	**2.11**	**182**	⇓Pn		**Pn**	**06 07 55.1 -0.7**
	SNR=31						
LRK				⇑Sn		**Sn**	**06 08 21.6 -0.1**
ARKR	**Arakani**	**2.15**	**330**	PN		**Pb**	**06 07 59.5 0.0**
ARKR				*e*S		**Sb**	**06 08 27.5 +1.6**
ARKR	**Arakani**	**2.15**	**330**	*e*Pg		**Pb**	**06 07 59.5 0.0**
ARKR				*e*Sg		**Sb**	**06 08 27.5 +1.6**
ASTR	**Astara**	**2.20**	**173**	⇑Pn		**Pn**	**06 07 56.4 -0.5**
ASTR				⇑Sn		**Sn**	**06 08 25.0 +1.1**
XNZR	**Khunzakh**	**2.21**	**324**	*e*Pn		**Pn**	**06 07 58.6 +1.4**
XNZR				*e*Sn		**Sb**	**06 08 26.9 -1.1**
BUJR	**Buynaksk**	**2.30**	**335**	PN		**Pg**	**06 08 09.0 +4.0**
BUJR				*e*S		**Sg**	**06 08 41.0 +6.1**
BUJR	**Buynaksk**	**2.30**	**335**	*e*Pn		**Pb**	**06 08 09.0 +4.0**
BUJR				*e*Sn		**Sg**	**06 08 41.0 +6.1**
MAK	**Makhachkala**	**2.32**	**343**	*e*PN		**Pb**	**06 07 59.8 +1.3**
MAK				*e*S		**Sg**	**06 08 34.7 -0.7**
MAK				pmax	pmax		
	comp=Z,91nm,0.4s						
QZX	**Qazax, Azerbai**	**2.35**	**279**	⇑Pn		**Pn**	**06 07 58.6 -0.4**
	SNR=7.6						
QZX				⇑Sn		**Sn**	**06 08 27.8 +0.2**
KRNR	**Karanay**	**2.37**	**331**	*e*PN		**Pb**	**06 08 02.5 -0.9**
KRNR				*e*S		**Sb**	**06 08 32.0 -0.5**
KRNR	**Karanay**	**2.37**	**331**	*e*Pn		**Pb**	**06 08 02.5 -0.9**
KRNR				*e*Sn		**Sb**	**06 08 32.0 -0.5**
BTLR	**Botlikh**	**2.54**	**320**	*e*PN		**Pb**	**06 08 04.8 -1.3**
BTLR				*e*S		**Sb**	**06 08 35.6 -1.5**
BTLR	**Botlikh**	**2.54**	**320**	*e*Pn		**Pb**	**06 08 04.8 -1.3**
BTLR				*e*Sn		**Sb**	**06 08 35.6 -1.5**
BTLR	**Botlikh**	**2.54**	**320**	*e*Pn		**Pn**	**06 08 02.9 +1.3**
BTLR				*e*Sn		**Sn**	**06 08 34.6 +2.4**
DBC	**Dubki**	**2.57**	**332**	⇑*i*PN		**Pn**	**06 08 03.8 +1.8**
DBC				*i* S		**Sb**	**06 08 35.9 -2.2**
DBC				pmax	pmax		
	comp=Z,14nm,0.4s						
DBC	**Dubki**	**2.57**	**332**	*i* Pn		**Pn**	**06 08 03.8 +1.8**
DBC				*i* Sn		**Sb**	**06 08 35.9 -2.2**
ORD	**Ordubad**	**2.62**	**227**	⇑Pn		**Pn**	**06 08 01.7 -1.0**
ORD				⇓Sn		**Sn**	**06 08 32.7 -1.6**
DLMR	**Dylym**	**2.69**	**330**	*e*PN		**Pb**	**06 08 10.0 +1.4**
DLMR				*e*S		**Sg**	**06 08 47.0 -0.1**
DLMR				pmax	pmax		
	comp=Z,86nm,0.4s						
DLMR	**Dylym**	**2.69**	**330**	*e*Pn		**Pb**	**06 08 10.0 +1.4**
DLMR				*e*Sn		**Sg**	**06 08 47.0 -0.1**
NAX	**Nakhchivan**	**2.76**	**236**	PN		**Pn**	**06 08 04.9 +0.3**
NAX	**Nakhchivan**	**2.76**	**236**	Pn		**Pn**	**06 08 05.0 +0.3**
	SNR=8.9						
NAX				⇓Sn		**Sn**	**06 08 38.0 +0.2**
GNI	**Garni**	**2.89**	**259**	Pn		**Pb**	**06 08 11.7 -0.5**
	comp=Z,2.4nm,0.3s,baz=238,slow=0.3,SNR=3.9						
GNI				Lg	Lg		06 08 53.5
	comp=Z,7.4nm,0.3s,baz=352,slow=16,SNR=3.4						
GNI	**Garni**	**2.89**	**259**	*de*PN		**Pn**	**06 08 08.9 +2.4**
GROC	**Groznyy**	**3.15**	**322**	*e*PN		**Pn**	**06 08 08.9 -1.0**
GROC				*e*S		**Sn**	**06 08 48.8 +1.6**
GROC				pmax	pmax		
	comp=Z,50nm,0.3s						
GROC				smax	smax		
	comp=E,92nm,0.6s						
GROC				smax	smax		
	comp=N,151nm,1.0s						
GROC				smax	smax		
	comp=N,73nm,1.1s						
GROC	**Groznyy**	**3.15**	**322**	*e*Pn		**Pn**	**06 08 11.4 +1.5**
GROC				*e*Sn		**Sn**	**06 08 49.9 +2.7**
NCK	**Nalchik**	**4.53**	**309**	⇑*e*PN		**Pn**	**06 08 31.3 +2.4**
NEY	**Neytrino**	**4.94**	**302**	⇓*e*PN		**Pn**	**06 08 35.4 +0.7**
KIV	**Kislovodsk**	**5.34**	**309**	*e*P		**Pn**	**06 08 42.0 +2.0**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GEYT	**Alibeck**	**8.01**	**107**	Pn		**Pn**	**06 09 18.6 +1.9**
	comp=Z,0.6nm,0.3s,baz=294,slow=11,SNR=3.7						
AB31	**Akbulak array**	**11.76**	**40**	⇑Pn		Pn	06 10 17.4 +9.5
	comp=Z,0.5nm,0.5s,baz=230,slow=13,SNR=4.6						
AB31				⇑Sn		Sn	06 12 06.7 -12
	comp=Z,0.7nm,0.5s,baz=225,slow=25,SNR=6.5						
AKTO	**Aktyubinsk**	**11.77**	**31**	⇑Pn		Pn	06 10 16.9 +8.9
	comp=Z,2.5nm,0.8s						
AKTO				⇑Sn		Sn	06 12 07.0 -12
	comp=Z,4.8nm,0.8s						
KIEV	**Kiev**	**16.67**	**313**	⇑*e*P		**Pn**	**06 11 15.2 +1.5**
ARU	**Arti**	**17.03**	**19**	⇑*e*P		**Pn**	**06 11 16.1 -2.1**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.8s						
MLR	**Muntele Rosu**	**17.08**	**294**	LR		LR	06 19 34.0
	comp=Z,253nm,20.8s,baz=262,slow=44						
AAK	**Ala-Archa**	**19.52**	**76**	P		**P**	**06 11 44.9 -2.9**
	comp=Z,0.2nm,0.3s,baz=211,slow=7.8,SNR=5.2						
AAK	**Ala-Archa**	**19.52**	**76**	⇓*e*P		**P**	**06 11 46.9 -0.8**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURBB	**Kurchatov Arra**	**23.07**	**55**	P		**P**	**06 12 23.8 -1.9**
	comp=Z,1.2nm,0.6s,baz=267,slow=9.7,SNR=4.3						
KURK	**Kurchatov**	**23.15**	**54**	⇓*e*P		**P**	**06 12 25.3 -1.1**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
FINES	**FINESS Array B**	**24.79**	**334**	P		**P**	**06 12 38.6 -3.3**
	comp=Z,2.3nm,0.6s,baz=142,slow=9.0,SNR=12						
MKAR	**Makanchi Array**	**25.04**	**65**	P		**P**	**06 12 42.0 -2.3**
	comp=Z,1.6nm,0.6s,baz=262,slow=9.0,SNR=9.2						
NOA	**NORSAR Array B**	**30.41**	**324**	P		P	06 13 27.6 -4.7
	comp=Z,0.5nm,0.7s,baz=131,slow=9.6,SNR=2.5						
ARCES	**ARCESS Array B**	**31.27**	**345**	P		**P**	**06 13 36.4 -3.3**
	comp=Z,3.8nm,1.1s,baz=148,slow=12,SNR=3.6						
BILL	**Bilibino**	**62.02**	**22**	*i* P		P	06 17 32.1 -7.9
BILL				*i*			06 17 41.0
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
YKA	**Yellowknife Ar**	**76.20**	**352**	P		**P**	**06 19 04.5 -3.5**
	comp=Z,0.6nm,0.5s,baz=7.1,slow=5.6,SNR=6.4						
FITZ	**Fitzroy Crossi**	**92.33**	**112**	LR		LR	07 07 14.5
	comp=Z,32nm,18.0s,baz=106,slow=39						

*IDC **12** 06:19:30.8±1.6,5°.61S×154°.27E,h0km,mb3.8/6, mb1 4.0/7,mb1mx3.7/42,mbtmp3.9/7,ML2.5/1,MS3.0/1, Ms1 3.0/1,ms1mx2.5/37, Error ellipse: s-maj=53.0km s-min=26.8km az=118.0*

ISC 12 06:19:46.6±2.1,5.7S±0.3×154.0E±0.4,h118km,n11, σ1§19/10,mb3.5/6,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.69**	**241**			Pn	Pn	06 21 29.0	-6.9
	3.2nm,0.3s,baz=72,slow=13,SNR=3.5								
PMG						LR	LR	06 24 40.7	
	comp=Z,93nm,18.9s,baz=110,slow=39								
WRA	**Warramunga Arr**	**23.76**	**232**	P		**P**		**06 24 47.2**	**-1.2**
	0.3nm,0.5s,baz=57,slow=9.8,SNR=4.6								
WRA				PcP		**PcP**		**06 28 30.8**	**+1.5**
	0.6nm,0.7s,baz=52,slow=2.7,SNR=9.3								
ASAR	**Alice Springs**	**26.30**	**225**	P		**P**		**06 25 10.4**	**-1.0**
	0.9nm,0.8s,baz=57,slow=9.4,SNR=8.0								
ASAR				PcP		**PcP**		**06 28 36.1**	**+1.3**
	0.8nm,0.6s,baz=74,slow=2.7,SNR=7.1								
H11S3	**WAKE ISLAND Hy 27.13**	**27**		T		T		06 53 31.3	
	baz=208,slow=76,SNR=36								
H11S2	**WAKE ISLAND Hy 27.14**	**27**		T		T		06 53 37.4	
	baz=208,slow=76,SNR=32								
H11S1	**WAKE ISLAND Hy 27.15**	**27**		T		T		06 53 40.2	
	baz=208,slow=76,SNR=21								
FITZ	**Fitzroy Crossi**	**30.28**	**244**	P		**P**		**06 25 47.2**	**+0.4**
	1.3nm,0.7s,baz=68,slow=11,SNR=2.8								
CMAR	**Chiang Mai Arr**	**59.33**	**295**	P		**P**		**06 29 37.2**	**+0.5**
	1.8nm,0.3s,baz=115,slow=5.2,SNR=5.8								
MKAR	**Makanchi Array**	**81.79**	**319**	P		**P**		**06 31 52.6**	**0.0**
	0.4nm,0.5s,baz=95,slow=7.1,SNR=3.8								
BVAR	**Borovoye Array**	**90.68**	**323**	P		**P**		**06 32 34.8**	**-1.1**
	0.3nm,0.6s,baz=107,slow=7.7,SNR=2.5								
TORD	**Torodi Ar. Bea**	**151.71**	**287**	PKPbc		**PKPbc**		**06 39 27.3**	**-1.1**
	0.3nm,0.4s,baz=69,slow=2.0,SNR=6.0								
TORD				PKPab		**PKPab**		**06 39 38.2**	**+0.6**
	0.7nm,1.1s,baz=66,slow=4.1,SNR=4.0								

*PGC **12** 06:23:02.5,52°.30N×131°.61W,h12km, 106km Sse of Sandspit, Bc Haida Gwaii Region*
*IDC **12** 06:23:06.8±2.8,52°.37N×132°.01W,h0km,mb1 3.8/5, mb1mx3.5/46,mbtmp3.4/5,ML3.2/4, Error ellipse: s-maj=45.8km s-min=11.1km az=56.0*
*ISCJB **12** 06:23:07.5±1.2,52°.5N±0°.1×131°.7W±0°.2,h10km, Error ellipse: s-maj=19.6km s-min=7.4km az=39.6*

ISC 12 06:23:06.7±1.7,52°.4N±0°.1×131°.8W±0°.1,h10km,n9, σ2§10/10,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H02S1	**DAWSON INLET T**	**0.94**	**333**	Pg		**Pg**		**06 23 23.7**	**-1.1**
H02S1				Lg		Lg		06 23 36.8	
H02N1	**VAN INLET T-PH**	**1.00**	**333**	Pg		**Pg**		**06 23 24.1**	**-1.9**
H02N1				Lg		Lg		06 23 38.4	
BBB	**Bella Bella**	**2.26**	**93**	Pn		**Pn**		**06 23 42.2**	**-1.8**
	3.6nm,0.3s,baz=280,slow=8.5,SNR=28								
BBB				Sn		**Sn**		**06 24 12.9**	**+1.0**
	44nm,0.3s,baz=163,slow=23,SNR=15								
DLBC	**Dease Lake**	**6.17**	**9**	Pn		**Pn**		**06 24 40.3**	**+2.5**
	0.3nm,0.3s,baz=244,slow=2.1,SNR=14								
YKA	**Yellowknife Ar**	**13.68**	**35**	Pn		**Pn**		**06 26 19.4**	**-1.0**
	0.0nm,0.3s,baz=226,slow=12,SNR=4.9								
ILAR	**Eielson Array**	**14.66**	**334**	Pn		**P**		**06 26 40.4**	**+0.1**
	0.0nm,0.3s,baz=153,slow=10,SNR=12								
INK	**Inuvik**	**16.02**	**358**	Pn		**P**		**06 26 53.8**	**-1.4**
	0.0nm,0.3s,baz=156,slow=12,SNR=2.1								
NVAR	**Mina Array Bea**	**16.80**	**141**	Pn		**P**		**06 27 05.4**	**+1.1**
	baz=322,slow=11,SNR=4.3								
PDAR	**Pinedale Array**	**17.74**	**114**	P		**P**		**06 27 18.1**	**+3.3**
	0.1nm,0.3s,baz=297,slow=9.8,SNR=6.5								

*IDC **12** 06:25:56.1±1.1,52°.18N×132°.01W,h0km,mb3.8/6, mb1 4.1/12,mb1mx3.9/45,mbtmp3.9/12,ML3.7/6,MS3.5/2, Ms1 3.5/2,ms1mx2.8/51,Error ellipse: s-maj=19.0km s-min=7.6km az=61.0*
*ISCJB **12** 06:25:57.4±0.8,52°.22N±0°.06×132°.0W±0°.1,h18km, mb3.6/6,MS3.7/1,Error ellipse: s-maj=12.0km s-min=6.3km az=148.9*

ISC 12 06:25:59.2±0.9,52°.24N±0°.09×131°.96W±0°.10,h18km,n19, σ1§52/17,mb3.7/6,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H02S1	**DAWSON INLET T**	**1.01**	**342**	Pg		**Pb**		**06 26 15.9**	**-2.2**
H02S1				Lg		Lg		06 26 30.9	
H02N1	**VAN INLET T-PH**	**1.07**	**341**	Pg		**Pn**		**06 26 17.2**	**-2.1**
H02N1				Lg		Lg		06 26 32.4	
BBB	**Bella Bella**	**2.37**	**90**	Pn		**Pn**		**06 26 35.7**	**-1.3**
	45nm,0.3s,baz=182,slow=14,SNR=3.9								
BBB				Sn		**Sn**		**06 27 05.5**	**-0.1**
	88nm,0.3s,baz=152,slow=22,SNR=6.2								
DLBC	**Dease Lake**	**6.30**	**9**	Pn		**Pn**		**06 27 33.5**	**+2.2**
	2.1nm,0.3s,baz=176,slow=16,SNR=10								
DLBC				Sn		**Sn**		**06 28 45.0**	**+2.2**
	0.6nm,0.3s,baz=231,slow=15,SNR=1.6								
DLBC				Lg		Lg		06 29 19.1	
	1.0nm,0.3s,baz=323,slow=14,SNR=3.8								
YBH	**Yreka Blue Hor**	**12.25**	**145**	Pn		**Pn**		**06 28 53.7**	**+1.0**
	0.1nm,0.3s,baz=318,slow=12,SNR=4.8								
YKA	**Yellowknife Ar**	**13.84**	**35**	Pn		**Pn**		**06 29 12.4**	**-1.8**
	0.1nm,0.3s,baz=230,slow=12,SNR=5.3								
ILAR	**Eielson Array**	**14.73**	**334**	Pn		**P**		**06 29 34.3**	**+2.0**
	0.1nm,0.3s,baz=150,slow=10,SNR=12								
NVAR	**Mina Array Bea**	**16.78**	**140**	Pn		**Pn**		**06 29 52.6**	**-0.7**
	0.1nm,0.3s,baz=320,slow=11,SNR=10								
NVAR				LR		LR		06 35 59.0	
	comp=Z,143nm,21.7s,baz=354,slow=36								
PDAR	**Pinedale Array**	**17.79**	**113**	P		**Pn**		**06 30 05.6**	**-0.3**
	0.1nm,0.3s,baz=305,slow=10,SNR=10								
ULM	**Lac du Bonnet**	**22.53**	**81**	P		**P**		**06 30 56.6**	**-1.2**
	3.5nm,0.9s,baz=289,slow=8.0,SNR=5.0								
ANMO	**Albuquerque**	**25.10**	**124**	P		**P**		**06 31 22.2**	**-0.7**
	1.5nm,0.8s,baz=339,slow=5.7,SNR=5.4								
TXAR	**Lajitas Array**	**31.00**	**127**	P		**P**		**06 32 15.2**	**-0.4**
	1.8nm,1.0s,baz=330,slow=8.9,SNR=5.5								
H11N2	**WAKE ISLAND Hy 57.03**	**260**		T		T		07 37 59.0	
	baz=40,slow=76,SNR=10								
H11N3	**WAKE ISLAND Hy 57.03**	**260**		T		T		07 37 57.9	
	baz=40,slow=76,SNR=8.4								
H11N1	**WAKE ISLAND Hy 57.05**	**260**		T		T		07 37 59.8	
	baz=40,slow=76,SNR=171								
BVAR	**Borovoye Array**	**73.44**	**346**	P		**P**		**06 37 29.8**	**-0.1**
	0.3nm,0.5s,baz=79,slow=16,SNR=4.0								
GERES	**GERESS Array B**	**75.13**	**23**	P		**P**		**06 37 40.6**	**+0.7**
	0.3nm,0.5s,baz=325,slow=8.9,SNR=3.6								
VRAC	**Vranov**	**75.35**	**21**	LR		LR		07 11 00.2	
	comp=Z,34nm,18.6s,baz=60,slow=36								
MKAR	**Makanchi Array**	**77.07**	**337**	P		**P**		**06 37 51.3**	**+0.4**
	0.5nm,0.7s,baz=42,slow=4.3,SNR=2.7								

*SOME **12** 06:30:50.2,42°.03N×82°.43E,h5km*
*NNC **12** 06:30:54.8±2.9,42°.18N×82°.20E,h0km,mb3.7,mpv3.3, Error ellipse: s-maj=26.3km s-min=13.6km az=156.0*

ISC 12 06:30:55.0±2.0,42°.08N±0°.09×82°.18E±0°.06,h13km,n22, σ2§43/41,5C-6D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.92**	**316**	*e*P		**Pg**		**06 31 30.5**	**-1.3**
	78nm,0.3s								
KTMS				*e*S		**Sg**		**06 31 58.7**	**+2.0**
	102nm,0.5s								
SHLS	**Shalkode**	**2.28**	**299**	*e*P		**Pn**		**06 31 31.9**	**-0.5**
	71nm,0.2s								
SHLS				*e*S		**Sn**		**06 32 01.2**	**+0.8**
	225nm,0.3s								
PDGK	**Podgornoye**	**2.34**	**303**	⇑Pg		**Pb**		**06 31 35.2**	**-2.0**
	7.3nm,0.4s								
PDGK				⇓Lg		Lg		06 32 10.0	
	102nm,0.7s								
UZB	**Uzynbulak**	**2.56**	**296**	*e*P		**Pb**		**06 31 40.8**	**-0.1**
	9.8nm,0.2s								
UZB				*e*S		**Sb**		**06 32 15.6**	**+3.2**
	57nm,0.5s								
DJR	**Jarkent**	**2.85**	**323**	*e*P		**Pb**		**06 31 45.8**	**0.0**
	9.8nm,0.5s								
DJR				*e*S		**Sg**		**06 32 24.8**	**-1.8**
	27nm,0.6s								
KPKS	**Kokpek**	**2.92**	**300**	*e*P		**Pb**		**06 31 45.5**	**-1.5**
	29nm,0.2s								
KPKS				*e*S		**Sb**		**06 32 23.7**	**+1.0**
	2μm,0.4s								
SATY	**Saty**	**2.95**	**291**	*e*P		**Pb**		**06 31 49.0**	**+1.5**
	19nm,0.2s								
SATY				*e*S		**Sg**		**06 32 30.2**	**+0.3**
	46nm,0.1s								
KURS	**Kuram**	**3.27**	**297**	*e*P		**Pb**		**06 31 55.2**	**+2.3**
	8.8nm,0.4s								
KURS				*e*S		**Sg**		**06 32 40.5**	**+0.6**
	13nm,0.4s								
KOTS	**Kotyrbulak**	**3.91**	**289**	*e*P		**Pb**		**06 32 02.5**	**-1.4**
	4.8nm,0.2s								
KOTS				*e*S		**Sb**		**06 32 53.0**	**+1.8**
	32nm,0.5s								
MDOK	**Medeo**	**3.94**	**288**	Pg		**Pb**		**06 32 07.5**	**+3.1**
	8.8nm,0.8s								
MDOK				⇓Lg		Lg		06 33 00.2	
	14nm,0.6s								
MDOK	**Medeo**	**3.94**	**288**	*e*P		**Pb**		**06 32 06.5**	**+2.2**
	8.6nm,0.6s								
MDOK				*e*S		**Sg**		**06 32 59.9**	**-1.5**
	9.0nm,0.5s								
TNSS	**Tian-Shan**	**3.98**	**286**	*e*P		**Pb**		**06 32 05.6**	**+0.4**
	3.9nm,0.3s								
TNSS				*e*S		**Sb**		**06 32 58.1**	**+4.7**
	13nm,0.4s								
TDK	**Taldyqorghan**	**4.01**	**318**	*e*P		**Pg**		**06 32 08.8**	**-2.9**
	45nm,0.2s								
TDK				*e*S		**Sg**		**06 33 04.1**	**+0.4**
	62nm,0.6s								
CHKK	**Chushkaly**	**4.20**	**297**	*e*P		**Pb**		**06 32 10.5**	**+1.8**
	3.1nm,0.3s								
CHKK				*e*S		**Sg**		**06 33 06.7**	**-3.2**
	16nm,0.3s								
IZV	**Izvestkoviy**	**4.22**	**285**	*e*P		**Pb**		**06 32 11.0**	**+1.8**
	8.1nm,0.5s								
IZV				*e*S		**Sg**		**06 33 08.1**	**-2.3**
	30nm,0.6s								
KUU	**Kurty**	**4.65**	**295**	*e*P		**Pb**		**06 32 18.1**	**+1.7**
	4.1nm,0.5s								
KUU				⇓*i*S		**Sg**		**06 33 20.0**	**-4.3**
	12nm,0.3s								
KST	**Kastek**	**4.69**	**284**	*e*P		**Pb**		**06 32 19.2**	**+2.0**
	13nm,0.4s								
KST				*e*S		**Sg**		**06 33 21.7**	**-3.8**
	5.3nm,0.5s								
MK31	**Makanchi Array**	**4.72**	**1**	Pn		**Pn**		**06 32 06.5**	**+0.7**
	0.5nm,0.2s,baz=188,slow=12,SNR=25								
MK31				⇑Pg		**Pb**		**06 32 19.3**	**+1.7**
	1.0nm,0.3s,baz=166,slow=15,SNR=8.6								
MK31				⇓Lg		Lg		06 33 21.5	
	14nm,0.7s,baz=169,slow=29,SNR=4.7								
DGS	**Degeres**	**4.86**	**286**	*e*P		**Pb**		**06 32 22.1**	**+2.0**
	6.6nm,0.3s								
DGS				*e*S		**Sg**		**06 33 26.6**	**-4.5**
	13nm,0.4s								
TKM2	**Tokmak 2**	**4.94**	**282**	⇑Pn		**Pn**		**06 32 11.1**	**+2.1**
	7.4nm,1.4s								
TKM2				⇓Pg		**Pb**		**06 32 25.5**	**+4.1**
	3.5nm,0.6s								
TKM2				⇓Lg		Lg		06 33 32.4	
	8.5nm,0.5s								
ZSN	**Zaisan**	**5.70**	**19**	*e*P		**Pb**		**06 32 33.1**	**-1.3**
	1.5nm,0.2s								
ZSN				*e*S		**Sb**		**06 33 45.3**	**+2.7**
	5.3nm,0.6s								
AAK	**Ala-Archa**	**5.72**	**278**	⇑Pg		**Pg**		**06 32 40.4**	**-4.1**
	3.3nm,0.9s								
AAK				⇑Lg		Lg		06 33 54.2	
	13nm,1.1s								

MAN 12 06:32:49.6,10°.76N×125°.24E,h46km,mb4.3,ML3.2, MS2.9,1C,Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.48**	**328**	⇑*e*P		Pn		06 33 02.5	+2.1
PLP				*e*S		Sn		06 33 10.0	+2.0
MSLP	**Maasin**	**0.73**	**211**	*e*P		Pn		06 33 05.2	+1.6
MSLP				*e*S		Sn		06 33 13.4	-0.3
BESP	**Borongan**	**0.86**	**13**	*e*P		Pn		06 33 05.8	+0.4
BESP				*e*S		Sn		06 33 19.6	+2.8

MEX 12 06:40:37.1±0.4,13°.90N×92°.36W,h15km±107km,MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		**1.01**	**5**	*i* P		Pb		06 40 53.2	-3.1
THIG				*e*S		Sb		06 41 05.4	-4.0
PCIG		**1.98**	**335**	*e*P		Pn		06 41 06.2	-3.9
PCIG				*e*S		Sn		06 41 29.8	-4.8
CCIG	**Comitan**	**2.38**	**5**	*i* P		Pn		06 41 13.6	-2.2
CCIG				*i* S		Sn		06 41 40.9	-4.0
TGIG		**2.96**	**346**	*e*P		Pn		06 41 21.1	-2.5
TGIG				*i* S		Sn		06 41 55.5	-3.4

SJA 12 06:48:56.1±0.7,28°.53S×67°.05W,h162km±4km,ML3.6, MW4.0,1D,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ACLC	**CERRO LA CRUZ**	**0.90**	**174**	*i* P		Pn		06 49 22.1	+0.7
VCA	**Vinchina**	**1.03**	**258**	*i* P		Pn		06 49 22.6	+0.2
VCA				*i* S		Sn		06 49 43.0	+0.4
VCA				IAML				06 49 44.0	
	comp=Z,3μm,0.3s								
**CYA

WOSB	**Woss**	**3.83**	**120**	Pn	**Pn**	**06 51 37.7**	**-3.2**
NCRB	**Newcastle Ridg**	**3.99**	**114**	Pn	**Pn**	**06 51 40.3**	**-2.8**
WRAK	**Wrangell Islan**	**4.25**	**355**	*e*Pn	**Pn**	**06 51 46.4**	**-0.1**
WRAK				*e*Sn	**Sn**	**06 52 35.4**	**-1.1**
SPLB	**Strathcona Par**	**4.48**	**119**	Pn	**Pn**	**06 51 47.6**	**-2.0**
UBRB	**Upper Baezaeko**	**4.73**	**78**	Pn	**Pn**	**06 51 50.9**	**-2.3**
FSB	**Fort Saint Jam**	**5.00**	**60**	Pn	**Pn**	**06 51 54.8**	**-2.0**
JIS	**Juneau Island**	**6.28**	**347**	*e*Pn	**Pn**	**06 52 17.6**	**+3.3**
DLBC	**Dease Lake**	**6.34**	**8**	Pn	**Pn**	**06 52 17.1**	**+1.9**
	1.9nm,0.3s,baz=191,slow=13,SNR=22						
DLBC				Sn	**Sn**	**06 53 28.5**	**+0.6**
	0.6nm,0.3s,baz=150,slow=14,SNR=1.9						
DLBC				Lg	Lg	06 54 02.3	
	2.1nm,0.3s,baz=314,slow=24,SNR=3.6						
DLBC				LR	LR	06 54 34.9	
	comp=Z,246nm,19.8s,baz=272,slow=37						
DLBC	**Dease Lake**	**6.34**	**8**	*e*Pn	**Pn**	**06 52 18.0**	**+2.8**
DLBC	**Dease Lake**	**6.34**	**8**	Pn	**Pn**	**06 52 17.0**	**+1.8**
BESE	**Bessie Mountai**	**6.64**	**346**	*e*Pn	**Pn**	**06 52 22.2**	**+2.8**
SKAG	**Skagway**	**7.56**	**346**	*e*Pn	**Pn**	**06 52 33.6**	**+1.7**
FNBB	**Fort Nelson**	**8.34**	**33**	Pn	**Pn**	**06 52 43.5**	**+1.0**
LON	**Longmire**	**8.45**	**126**	*e*Pn	**Pn**	**06 52 43.5**	**-0.7**
YKU2	**Yakutat**	**8.58**	**332**	*e*Pn	**Pn**	**06 52 47.0**	**+1.1**
WHY	**Whitehorse**	**8.67**	**350**	*e*Pn	**Pn**	**06 52 48.5**	**+1.3**
WHY	**Whitehorse**	**8.67**	**350**	Pn	**Pn**	**06 52 48.7**	**+1.5**
LTY	**Liberty**	**8.70**	**120**	*e*Pn	**Pn**	**06 52 45.9**	**-1.8**
HYT	**Haines Junctio**	**9.22**	**342**	*e*Pn	**Pn**	**06 52 56.1**	**+1.3**
HYT	**Haines Junctio**	**9.22**	**342**	Pn	Pn	06 53 01.6	+6.8
PCA	**Pinnacle**	**9.23**	**332**	*e*Pn	**Pn**	**06 52 57.1**	**+2.2**
NEW	**Newport**	**10.15**	**107**	Pn	**Pn**	**06 53 07.5**	**0.0**
	0.1nm,0.3s,baz=197,slow=17,SNR=2.4						
NEW				Lg	Lg	06 56 04.5	
	0.0nm,0.3s,baz=252,slow=20,SNR=4.2						
E09A	**Wood Farm, Sta**	**10.53**	**117**	*e*Pn	**Pn**	**06 53 11.8**	**-0.7**
BALM	**Baldy**	**10.60**	**331**	*e*Pn	**Pn**	**06 53 16.9**	**+3.2**
F10A	**Beach Ranch, E**	**11.36**	**117**	*e*Pn	**Pn**	**06 53 23.0**	**-1.1**
KRMB	**Red Mountain**	**11.93**	**150**	*e*Pn	**Pn**	**06 53 33.3**	**+1.3**
K05A	**Summer Lake**	**11.97**	**138**	*e*Pn	**Pn**	**06 53 32.9**	**+0.4**
BMO	**Blue Mountains**	**12.05**	**122**	*e*Pn	**Pn**	**06 53 33.5**	**0.0**
JTMT	**Jette**	**12.08**	**105**	*e*Pn	**Pn**	**06 53 34.2**	**+0.3**
GLI	**Glacier Island**	**12.12**	**322**	*e*Pn	**Pn**	**06 53 37.9**	**+3.6**
YBH	**Yreka Blue Hor**	**12.13**	**146**	Pn	**Pn**	**06 53 37.2**	**+2.5**
	0.2nm,0.3s,baz=335,slow=12,SNR=4.7						
YBH	**Yreka Blue Hor**	**12.13**	**146**	*e*Pn	**Pn**	**06 53 34.7**	**+0.1**
DAWY	**Dawson**	**12.56**	**344**	*e*Pn	**Pn**	**06 53 39.7**	**-0.7**
KHMM	**Horse Mountain**	**12.58**	**151**	*e*Pn	**Pn**	**06 53 40.8**	**0.0**
SEW	**Seward**	**12.63**	**316**	*e*Pn	**Pn**	**06 53 44.5**	**+3.3**
MSO	**Missoula**	**12.74**	**108**	*e*Pn	**Pn**	**06 53 42.6**	**-0.4**
SCM	**Sheep Creek Mo**	**12.83**	**325**	*e*Pn	**Pn**	**06 53 44.9**	**+0.8**
MOD	**Modoc Plateau**	**12.89**	**138**	*e*Pn	**Pn**	**06 53 46.0**	**+0.8**
PAX	**Paxson**	**13.04**	**331**	*e*Pn	**Pn**	**06 53 49.5**	**+2.6**
WVOR	**Wild Horse Val**	**13.18**	**133**	*e*Pn	**Pn**	**06 53 49.7**	**+0.7**
KMRM	**Mail Ridge**	**13.19**	**152**	*e*Pn	**Pn**	**06 53 49.9**	**+0.9**
WDC	**Whiskeytown Da**	**13.22**	**148**	*e*Pn	**Pn**	**06 53 50.8**	**+1.4**
GHO	**Glory Hole Cre**	**13.37**	**323**	*e*Pn	**Pn**	**06 53 52.9**	**+1.5**
EGAK	**Eagle**	**13.53**	**343**	*e*Pn	**Pn**	**06 53 55.3**	**+1.8**
DHY	**Denali Highway**	**13.70**	**329**	*e*Pn	**Pn**	**06 53 59.0**	**+2.9**
YKA	**Yellowknife Ar**	**13.81**	**35**	Pn	**Pn**	**06 53 56.7**	**-0.6**
	0.1nm,0.3s,baz=230,slow=12,SNR=8.9						
YKW3	**Yellowknife Ar**	**13.85**	**35**	*e*Pn	**Pn**	**06 53 57.7**	**-0.2**
DLMT	**Dillon**	**14.33**	**111**	*e*Pn	**Pn**	**06 54 04.9**	**+0.2**
RND	**Reindeer**	**14.41**	**328**	*e*Pn	**Pn**	**06 54 08.2**	**+2.5**
HLID	**Hailey**	**14.45**	**120**	*e*Pn	**Pn**	**06 54 06.6**	**+0.2**
ORV	**Oroville**	**14.49**	**147**	*e*Pn	**Pn**	**06 54 07.4**	**+0.6**
MCMT	**McKenzie Canyo**	**14.50**	**113**	*e*Pn	**Pn**	**06 54 07.3**	**+0.2**
HOPS	**Hopland Field**	**14.51**	**152**	*e*Pn	**Pn**	**06 54 07.2**	**+0.1**
BEKR	**Beckworth**	**14.62**	**143**	*e*Pn	**Pn**	**06 54 09.4**	**+0.7**
MCK	**McKinley**	**14.67**	**329**	*e*Pn	**Pn**	**06 54 08.7**	**-0.4**
IL1	**Eielson Array**	**14.83**	**334**	*e*Pn	**Pn**	**06 54 12.2**	**+0.9**
ILAR	**Eielson Array**	**14.83**	**334**	Pn	**P**	**06 54 14.9**	**-2.4**
	0.1nm,0.3s,baz=149,slow=11,SNR=35						
ILB	**Eielson Array**	**14.83**	**334**	*e*Pn	**Pn**	**06 54 11.9**	**+0.6**
TRF	**Thorofare Moun**	**14.92**	**326**	*e*Pn	**P**	**06 54 18.1**	**-0.4**
WRH	**Wood River Hil**	**14.94**	**332**	*e*Pn	**P**	**06 54 19.7**	**+1.2**
	14nm,1.0s						
PAHR	**Pah Rah Range**	**15.13**	**141**	*e*Pn	**Pn**	**06 54 17.2**	**+1.7**
BWN	**Browne**	**15.14**	**329**	*e*Pn	**P**	**06 54 20.4**	**-0.3**
	28nm,1.0s						
AFDM	**Forest Hills D**	**15.21**	**146**	*e*Pn	**Pn**	**06 54 18.0**	**+1.4**
	6.7nm,1.2s						
MDM	**Murphy Dome**	**15.35**	**333**	*e*Pn	**P**	**06 54 24.8**	**+1.8**
	8.2nm,0.9s						
VCNR	**Virginia City**	**15.38**	**142**	*e*Pn	**Pn**	**06 54 21.0**	**+2.0**
	11nm,1.1s						
YHB	**Horse Butte**	**15.49**	**111**	*e*Pn	**Pn**	**06 54 21.4**	**+1.0**
	6.8nm,0.9s						
PNTR	**Pine Nut**	**15.58**	**142**	*e*Pn	**Pn**	**06 54 23.5**	**+1.9**
	4.3nm,0.7s						
BPAW	**Bear Paw Mtn.**	**15.58**	**327**	*e*Pn	**P**	**06 54 26.5**	**+0.8**
	10.0nm,0.9s						
GCMT	**Greycliff**	**15.81**	**105**	*e*Pn	**Pn**	**06 54 25.8**	**+1.3**
YERR	**Yerington**	**15.81**	**142**	*e*Pn	**Pn**	**06 54 26.2**	**+1.6**
	9.3nm,0.7s						
H17A	**Grant Village**	**16.06**	**111**	*e*Pn	**Pn**	**06 54 27.7**	**-0.1**
	17nm,1.1s						
CHGN	**Chignik**	**16.08**	**295**	*e*Pn	**P**	**06 54 35.1**	**+4.0**
	17nm,0.9s						
ELK	**Elko**	**16.09**	**129**	Pn	**P**	**06 54 31.8**	**+0.2**
	0.1nm,0.3s,baz=317,slow=9.6,SNR=6.1						
MLY	**Manley**	**16.14**	**330**	*e*Pn	**P**	**06 54 33.2**	**+1.4**
	18nm,1.2s						
IMW	**Indian Meadow**	**16.15**	**113**	*e*Pn	**P**	**06 54 30.9**	**-1.5**
	14nm,1.1s						
INK	**Inuvik**	**16.19**	**358**	*e*Pn	**P**	**06 54 33.0**	**+0.7**
	12nm,1.1s						
KVN	**Kaiserville**	**16.20**	**139**	*e*Pn	**P**	**06 54 31.7**	**-1.1**
	8.7nm,1.2s						
CMB	**Columbia Colle**	**16.23**	**146**	*e*Pn	**P**	**06 54 32.4**	**-0.7**
	1.8nm,0.7s						
RYN	**Ryan**	**16.39**	**141**	*e*Pn	**Pn**	**06 54 33.0**	**+0.9**
	8.8nm,1.2s						
TPAW	**Teton Pass**	**16.40**	**114**	*e*Pn	**P**	**06 54 35.7**	**+0.6**
	24nm,1.1s						
RLMT	**Red Lodge**	**16.40**	**107**	*e*Pn	**Pn**	**06 54 33.3**	**+1.1**
	3.3nm,0.8s						
LOHW	**Long Hollow**	**16.52**	**113**	*e*Pn	**P**	**06 54 35.6**	**-0.8**
	2.5nm,0.8s						
SNOW	**Snow King Moun**	**16.53**	**114**	*e*Pn	**Pn**	**06 54 34.9**	**+1.0**
	8.2nm,1.1s						
REDW	**Red Top Meadow**	**16.54**	**114**	*e*Pn	**Pn**	**06 54 34.2**	**+0.3**
	12nm,1.1s						
HVU	**Hansel Valley**	**16.56**	**121**	*e*Pn	**Pn**	**06 54 35.3**	**+1.2**
	4.3nm,1.2s						
NV01	**Mina Array Sit**	**16.65**	**140**	*e*Pn	**P**	**06 54 36.7**	**-1.2**
NV11	**Mina Array Sit**	**16.71**	**140**	*e*Pn	**P**	**06 54 38.1**	**-0.3**
	0.5nm,1.0s						
AHID	**Auburn Hatcher**	**16.79**	**116**	*e*Pn	**P**	**06 54 38.9**	**-0.4**
	7.4nm,1.1s						
BGU	**Big Grassy Mou**	**17.05**	**124**	*e*Pn	**Pn**	**06 54 41.1**	**+0.8**
	2.2nm,1.1s						
MDPB	**Devils Postpil**	**17.06**	**144**	*e*Pn	**P**	**06 54 42.3**	**-0.1**
	2.8nm,1.1s						
OMMB	**Old Mammoth Mi**	**17.10**	**143**	*e*Pn	**P**	**06 54 42.9**	**-0.1**
	2.5nm,1.0s						
HWUT	**Hardware Ranch**	**17.32**	**120**	*e*Pn	**P**	**06 54 45.3**	**+0.1**
COLD	**Coldfoot**	**17.60**	**336**	*e*Pn	**P**	**06 54 51.4**	**+3.5**
	3.0nm,0.9s						
BW06	**Boulder Array**	**17.65**	**113**	*e*P	**P**	**06 54 50.0**	**+1.2**
	7.1nm,1.0s						
PD31	**Pinedale Array**	**17.65**	**113**	*e*P	**P**	**06 54 49.5**	**+0.6**
PDAR	**Pinedale Array**	**17.65**	**113**	P	**P**	**06 54 49.5**	**+0.6**
	0.1nm,0.3s,baz=305,slow=8.5,SNR=14						
PDAR	**Pinedale Array**	**17.65**	**113**	*e*Pn	**P**	**06 54 48.7**	**-0.1**
DUG	**Dugway, Tooele**	**17.70**	**125**	*e*Pn	**P**	**06 54 49.0**	**-0.4**
IM3	**Indian Mountai**	**17.71**	**330**	*e*Pn	**P**	**06 54 49.7**	**+0.6**
PMPB	**Monarch Peak**	**17.76**	**150**	*e*Pn	**P**	**06 54 50.0**	**+0.1**
	12nm,1.2s						
R11A	**Troy Canyon, C**	**17.85**	**134**	*e*Pn	**Pn**	**06 54 50.3**	**0.0**
	2.5nm,1.1s						
DGMT	**Dagmar**	**17.93**	**91**	*e*Pn	**Pn**	**06 54 50.9**	**-0.2**
JLU	**Jordanelle**	**18.10**	**122**	*e*Pn	**P**	**06 54 53.7**	**-0.2**
	1.7nm,1.0s						
NLU	**North Lily Min**	**18.25**	**124**	*e*P	**P**	**06 54 56.2**	**+0.6**
	5.0nm,1.1s						
PAGB	**Antelope Grade**	**18.38**	**149**	*e*Pn	**Pn**	**06 54 56.8**	**+0.1**
	8.0nm,1.1s						
PSUT	**Pine Spring**	**18.49**	**131**	*e*P	**Pn**	**06 54 58.5**	**+0.4**
	6.3nm,1.2s						
TOLK	**Toolik Lake Re**	**18.57**	**339**	*e*P	**Pn**	**06 54 59.4**	**+0.7**
	9.7nm,1.1s						
TPNV	**Topopah Spring**	**18.75**	**138**	*e*P	**Pn**	**06 55 01.9**	**+0.6**
	2.5nm,0.9s						
DAC	**Darwin (Calif)**	**18.81**	**142**	*e*P	**Pn**	**06 55 03.1**	**+1.1**
	4.1nm,1.1s						
ISA	**Isabella, Lake**	**19.03**	**145**	*e*P	**Pn**	**06 55 05.4**	**+0.7**
	5.2nm,0.8s						
TCRU	**Three Creeks R**	**19.10**	**128**	*e*P	**Pn**	**06 55 06.8**	**+1.2**
	3.3nm,1.0s						
P17A	**Butcher Ranch,**	**19.30**	**123**	*e*P	**P**	**06 55 07.4**	**+0.5**
	3.4nm,1.1s						
MSU	**Marysvale**	**19.31**	**127**	*e*P	**P**	**06 55 07.0**	**-0.1**
P18A	**Preston Nutter**	**19.44**	**122**	*e*P	**Pn**	**06 55 09.5**	**-0.3**
	2.9nm,1.0s						
K22A	**Casper**	**19.46**	**109**	*e*P	**P**	**06 55 07.9**	**-0.8**
	16nm,1.1s						
CCUT	**Cedar City**	**19.51**	**131**	*e*P	**P**	**06 55 09.1**	**-0.3**
	6.0nm,0.9s						
SHPR	**Sheep Range**	**19.58**	**137**	*e*P	**P**	**06 55 10.0**	**-0.1**
	1.9nm,1.0s						
SZCU	**Shurtz Canyon**	**19.60**	**131**	*e*P	**P**	**06 55 09.8**	**-0.5**
	13nm,1.1s						
MTPU	**Mount Pierson**	**19.67**	**128**	*e*P	**P**	**06 55 11.1**	**-0.2**
	2.1nm,1.0s						
SRU	**San Rafael Swe**	**19.68**	**123**	*e*P	**P**	**06 55 11.7**	**+0.6**
	12nm,1.1s						
OSI	**Osito Audit: C**	**19.90**	**147**	*e*P	**P**	**06 55 13.6**	**+0.2**
	17nm,1.1s						
GSC	**Goldstone, Bar**	**19.97**	**142**	*e*P	**P**	**06 55 15.0**	**+0.8**
	1.7nm,0.9s						
LCMT	**Little Creek M**	**20.00**	**132**	*e*P	**P**	**06 55 15.2**	**+0.5**
	10nm,1.2s						
RSSD	**Black Hills**	**20.07**	**103**	*e*P	**P**	**06 55 16.0**	**+0.6**
	5.2nm,0.9s						
PKCU	**Pink Cliffs**	**20.09**	**130**	*e*P	Pn	06 55 16.7	-0.9
	6.3nm,0.9s						
O20A	**White River Ci**	**20.15**	**117**	*e*P	**P**	**06 55 17.1**	**+0.8**
	20nm,1.1s						
KNB	**Kanab**	**20.19**	**131**	*e*P	Pn	06 55 17.7	-0.9
	7.2nm,1.1s						
MWC	**Mount Wilson**	**20.48**	**146**	*e*P	**P**	**06 55 20.2**	**+0.3**
	11nm,1.1s						
LDFC	**Landfair**	**20.83**	**139**	*e*P	**P**	**06 55 24.1**	**+0.5**
	31nm,0.4s						
PV09	**Paradox Valley**	**20.86**	**122**	*e*P	**P**	**06 55 24.8**	**+0.7**
PV21	**Cone Mtn., Par**	**20.89**	**122**	*e*P	Pn	06 55 25.8	-1.1
	10.0nm,1.1s						
N23A	**Red Feather La**	**20.91**	**112**	*e*P	**P**	**06 55 24.6**	**0.0**
	12nm,1.0s						
U15A	**North Rim**	**20.92**	**131**	*e*P	**P**	**06 55 24.6**	**-0.2**
	16nm,1.1s						
PV23	**Carpenter Ridg**	**20.96**	**122**	*e*P	**P**	**06 55 25.0**	**-0.1**
	13nm,1.2s						
MDND	**Maddock**	**21.00**	**89**	*e*P	**P**	**06 55 25.1**	**-0.1**
	29nm,1.0s						
PV10	**Paradox Valley**	**21.00**	**122**	*e*P	**P**	**06 55 26.8**	**+1.2**
PV14	**Lion Creek, Pa**	**21.01**	**122**	*e*P	**P**	**06 55 26.2**	**+0.5**
	9.7nm,1.1s						
PV22	**Blue Mesa, Par**	**21.01**	**121**	*e*P	**P**	**06 55 26.6**	**+1.0**
	11nm,1.2s						
PV20	**West Nyswonger**	**21.06**	**122**	*e*P	**P**	**06 55 26.2**	**0.0**
	6.3nm,1.1s						
PV19	**Morning Glory**	**21.08**	**122**	*e*P	**P**	**06 55 27.0**	**+0.7**
	11nm,1.2s						
PV16	**Nyswonger Mesa**	**21.11**	**122**	*e*P	**P**	**06 55 27.4**	**+0.7**
	8.9nm,1.1s						
PV17	**East Wray Mesa**	**21.11**	**122**	*e*P	**P**	**06 55 27.6**	**+0.8**
	5.5nm,1.1s						
PV11	**David Mesa, Pa**	**21.14**	**122**	*e*P	**P**	**06 55 27.6**	**+0.6**
	8.9nm,0.9s						
PV18	**Skein Mesa, Pa**	**21.16**	**122**	*e*P	**P**	**06 55 27.5**	**+0.2**
	12nm,1.2s						
PV12	**Saucer Basin,**	**21.17**	**122**	*e*P	**P**	**06 55 28.2**	**+0.9**
	11nm,1.2s						
PV03	**Paradox Valley**	**21.19**	**122**	*e*P	**P**	**06 55 27.7**	**+0.2**
PV05	**Paradox Valley**	**21.19**	**123**	*e*P	**P**	**06 55 28.1**	**+0.4**
PV13	**Radium Mtn., P**	**21.27**	**122**	*e*P	**P**	**06 55 28.7**	**+0.1**
	7.8nm,1.2s						
W13A	**Hualapai Mount**	**21.32**	**136**	*e*P	**P**	**06 55 29.3**	**+0.3**
	9.7nm,1.1s						
PV01	**Paradox Valley**	**21.42**	**122**	*e*P	**P**	**06 55 29.8**	**-0.3**
SMCO	**Snowmass**	**21.52**	**117**	*e*P	**P**	**06 55 30.4**	**-0.9**
	8.4nm,0.9s						
WUAZ	**Wupatki**	**22.09**	**131**	*e*P	**P**	**06 55 36.8**	**-0.4**
	15nm,1.1s						
MVCO	**Mesa Verde**	**22.16**	**123**	*e*P	**P**	**06 55 37.6**	**-0.4**
	9.0nm,1.0s						
ULM	**Lac du Bonnet**	**22.41**	**81**	P	**P**	**06 55 39.5**	**-0.8**
	4.6nm,0.8s,baz=296,slow=15,SNR=3.2						
S22A	**Alburquerque**	**22.63**	**120**	*e*P	**P**	**06 55 42.8**	**-0.4**
	3.9nm,1.1s						
SDCO	**Great Sand Dun**	**23.35**	**118**	*e*P	**P**	**06 55 48.7**	**-1.8**
	2.5nm,1.1s						
X18A	**Snowflake**	**23.57**	**130**	*e*P	**P**	**06 55 51.8**	**-0.8**
	6.7nm,0.9s						
KSCO	**Kaye Shedlock'**	**24.07**	**112**	*e*P	**P**	**06 55 57.3**	**-0.1**
	14nm,1.0s						
T25A	**Trinidad**	**24.39**	**117**	*e*P	**P**	**06 56 00.2**	**-0.2**
	8.1nm,1.0s						
ECSD	**EROS Data Cent**	**24.79**	**96**	*e*P	**P**	**06 56 03.5**	**-0.3**
ANMO	**Albuquerque**	**24.95**	**124**	P	**P**	**06 56 05.8**	**+0.2**
	1.8nm,0.8s,baz=332,slow=8.6,SNR=6.5						
ANMO	**Albuquerque**	**24.95**	**124**	*e*P	**P**	**06 56 06.2**	**+0.6**
	3.3nm,1.0s						
LAZ	**Ladron**	**25.04**	**126**	*e*P	**P**	**06 56 07.4**	**+1.1**
TUC	**Tucson**	**25.04**	**134**	*e*P	**P**	**06 56 06.0**	**-0.2**
EYMN	**Ely**	**25.94**	**83**	*e*P	**P**	**06 56 13.9**	**-0.3**
	24nm,1.0s						
RES	**Resolute Bay**	**27.05**	**21**	P	**P**	**06 56 24.4**	**+0.6**
	2.6nm,1.1s,baz=235,slow=14,SNR=3.3						
RES	**Resolute Bay**	**27.05**	**21**	*e*P	**P**	**06 56 24.0**	**+0.2**
	2.5nm,0.9s						
AMTX	**Amarillo**	**27.54**	**117**	*e*P	**P**	**06 56 28.9**	**+0.1**
	9.9nm,0.9s						
MNTX	**Cornudas Mount**	**28.08**	**126**	*e*P	**P**	**06 56 32.8**	**-0.7**
	0.6nm,0.8s						
LTX	**Lajitas**	**30.86**	**127**	*e*P	**P**	**06 56 58.3**	**0.0**
TX31	**Lajitas Ar. Si**	**30.86**	**127**	*e*P	**P**	**06 56 57.5**	**-0.8**
TXAR	**Lajitas Array**	**30.86**	**127**	P	**P**	**06 56 58.3**	**0.0**
	1.4nm,1.0s,baz=324,slow=6.2,SNR=5.1						
PETK	**Petropavlovsk-**	**41.22**	**300**	P	**P**	**06 58 26.6**	**+0.1**
	3.0nm,0.8s,baz=76,slow=12						
H11N2	**WAKE ISLAND Hy**	**57.15**	**260**	T	T	08 02 42.0	
	baz=40,slow=76,SNR=100						
H11N3	**WAKE ISLAND Hy**	**57.16**	**260**	T	T	08 02 24.5	
	baz=40,slow=76,SNR=88						
H11N1	**WAKE ISLAND Hy**	**57.17**	**260**	T	T	08 02 40.4	
	baz=40,slow=76,SNR=72						
H11S1	**WAKE ISLAND Hy**	**58.21**	**259**	T	T	08 04 02.8	
	baz=37						
H11S2	**WAKE ISLAND Hy**	**58.22**	**259**	T	T	08 04 01.6	
	baz=37						
H11S3	**WAKE ISLAND Hy**	**58.23**	**259**	T	T	08 04 05.6	
	baz=37						
HFS	**Hagfors**	**64.63**	**18**	P	**P**	**07 01 18.7**	**-0.4**
	3.5nm,0.8s,baz=153,slow=1.6,SNR=2.9						
HHC	**Hu-ho-hao-te**	**72.32**	**315**	*e*P	**P**	**07 02 10.3**	**+2.6**
HHC				pmax	pmax		
	comp=Z,11nm,0.6s						
HHC				pmax	pmax		
	comp=Z,160nm,5.8s						
BVAR	**Borovoye Array**	**73.53**	**346**	P	**P**	**07 02 14.2**	**-0.3**
	comp=Z,2.2nm,1.0s,baz=10,slow=5.0,SNR=3.7						
KURBB	**Kurchatov Arra**	**74.41**	**341**	P	**P**	**07 02 19.0**	**-0.6**
	comp=Z,0.5nm,0.2s,baz=19,slow=5.5,SNR=6.7						
GERES	**GERESS Array B**	**75.12**	**23**	P	**P**	**07 02 23.8**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=20,slow=5.8,SNR=5.6						
VYHS	**Vyhne**	**76.60**	**20**	*e*P	**P**	**07 02 33.1**	**+0.8**
MKAR	**Makanchi Array**	**77.17**	**337**	P	**P**	**07 02 33.9**	**-1.7**
	comp=Z,0.7nm,0.6s,baz=43,slow=4.3,SNR=4.1						
WMQ	**Urumqi**	**78.49**	**332**	*e*P	P	07 02 48.6	+5.6

PGC **12** *06:58:26.4±0.3,52°.08N×131°.74W,h34km±1km, 130km south of Sandspit, Bc Haida Gwaii Region*
IDC 12 06:58:28.0±2.7, 52°.24N×132°.88W, h0km, mb1 3.5/3, mb1mx3.2/55, mbtmp3.0/3, ML3.4/3, Error ellipse: s-maj=41.3km s-min=14.8km az=88.0, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H02S1	**DAWSON INLET T**	**1.00**	**14**	Pg	Pg	06 58 47.2	+0.1
H02S1				Lg	Lg	06 59 00.8	
H02N1	**VAN INLET T-PH**	**1.04**	**11**	Pg	Pg	06 58 47.6	-0.3
H02N1				Lg	Lg	06 59 02.7	
ILAR	**Eielson Array**	**14.49**	**336**	Pn	Pn	07 01 54.2	+0.1
	0.0nm,0.3s,baz=147,slow=14,SNR=2.5						
NVAR	**Mina Array Bea**	**17.15**	**138**	P	Pn	07 02 28.9	-0.2
	0.0nm,0.3s,baz=310,slow=12,SNR=5.8						
PDAR	**Pinedale Array**	**18.31**	**112**	P	P	07 02 43.7	0.0
	0.1nm,0.3s,baz=295,slow=9.4,SNR=2.3						

IDC 12 07:03:04.4±5.8, 7°.82S×129°.28E, h110km±58km, mb3.7/1, mb1 3.8/5, mb1mx3.3/44, mbtmp4.1/5, Error ellipse: s-maj=50.5km s-min=26.8km az=29.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.04**	**246**	P	Pn	07 04 31.7	+0.4
	14nm,0.3s,baz=189,slow=3.7,SNR=9.4						
BATI				S	Sn	07 05 39.5	+0.4
	16nm,0.3s,baz=54,slow=18,SNR=6.0						
FITZ	**Fitzroy Crossi**	**10.82**	**199**	P	Pn	07 05 36.4	+0.3
	0.8nm,0.3s,baz=33,slow=12,SNR=18						
FITZ				S	Sn	07 07 34.9	-0.3
	1.1nm,0.3s,baz=100,slow=22,SNR=7.8						
WRA	**Warramunga Arr**	**13.01**	**158**	P	Pn	07 06 05.7	+0.4
	0.6nm,0.3s,baz=336,slow=13,SNR=31						
WRA				S	Sn	07 08 28.8	+0.2
	1.5nm,0.3s,baz=341,slow=22,SNR=8.7						
ASAR	**Alice Springs**	**16.37**	**165**	P	P	07 06 49.3	+0.5
	0.7nm,0.3s,baz=345,slow=10,SNR=40						
ASAR				S	Sn	07 09 49.3	-0.4
	0.2nm,0.3s,baz=348,slow=24,SNR=4.2						
STKA	**Stephens Creek**	**26.55**	**156**	P	P	07 08 31.5	-0.5
	1.8nm,0.7s,baz=324,slow=14,SNR=3.8						

MEX 12 07:13:19.5±0.5, 13°.88N×92°.46W, h16km±135km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.04**	**10**	*e*P	Pb	07 13 35.6	-3.5
THIG				*e*S	Sb	07 13 48.4	-4.1
PCIG		**1.96**	**338**	*e*P	Pn	07 13 48.2	-3.9
PCIG				*i* S	Sn	07 14 11.3	-5.0
CCIG	**Comitan**	**2.41**	**7**	*i* P	Pn	07 13 55.5	-3.0
CCIG				*e*S	Sn	07 14 23.8	-3.9
TGIG		**2.95**	**348**	*e*P	Pn	07 14 03.4	-2.4
TGIG				*i* S	Sn	07 14 37.3	-3.7

MEX **12** *07:21:59.2±0.5, 30°.41N×114°.97W, h5km, MD3.5*
ECX 12 07:21:58.2±0.5, 30°.33N×114°.95W, h7km, MD2.8, ML3.0, 2C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPX	**San Pedro Mart**	**0.84**	**328**	⇓*e*P	Pg	07 22 12.2	-2.3
SPX				*e*S	Sg	07 22 23.7	-1.8
SPX				⇑*e*		07 22 26.7	
SPX				IAML		07 22 26.7	
	comp=N,348nm,0.4s						
SPIG	**San Pedro Mart**	**0.84**	**328**	*e*P	Pg	07 22 13.1	-1.4
SPIG				*e*S	Sg	07 22 24.9	-0.6
SPIG	**San Pedro Mart**	**0.84**	**328**	*e*P	Pg	07 22 13.2	-1.3
	baz=146,slow=18	

HAWA	Hanford	9.86	121	*e*Pn	Pn	07 28 20.3	-1.1	
G06A	Carlson Farm,	10.11	129	*e*Pn	Pn	07 28 24.3	-0.6	
NEW	Newport	10.16	107	Pn	Pn	07 28 27.0	+1.5	
	0.1nm,0.3s,baz=294,slow=19,SNR=5.8							
NEW				Lg	Lg	07 31 19.0		
	0.0nm,0.3s,baz=340,slow=10,SNR=4.0							
NEW	Newport	10.16	107	*e*Pn	Pn	07 28 24.8	-0.7	
NEW	Newport	10.16	107	P	Pn	07 28 28.2	+2.7	
	baz=299							
I04A	Tendick Farm,	10.47	140	P	Pn	07 28 32.4	+2.7	
	baz=327							
E09A	Wood Farm, Sta	10.53	117	*e*Pn	Pn	07 28 29.9	-0.6	
G08A	Pilot Rock	10.90	124	*e*Pn	Pn	07 28 36.7	+1.0	
K02D	Willamette Mer	10.96	147	P	Pn	07 28 39.6	+3.1	
	baz=334							
KBO	Bosley Butte	11.21	150	*e*Pn	Pn	07 28 41.2	+1.3	
F10A	Beach Ranch, E	11.37	117	*e*Pn	Pn	07 28 41.2	-0.8	
J05D	Fort Rock, OR	11.37	137	P	Pn	07 28 46.9	+4.8	
	baz=326,SNR=7.8							
BSMT	Bassoo Peak	11.74	105	Pn	Pn	07 28 52.0	+4.8	
K05A	Summer Lake	11.97	138	*e*Pn	Pn	07 28 50.5	+0.1	
BMO	Blue Mountains	12.05	122	*e*Pn	Pn	07 28 52.0	+0.5	
JTMT	Jette	12.09	105	*e*Pn	Pn	07 28 53.0	+1.1	
YBH	Yreka Blue Hor	12.14	146	Pn	Pn	07 28 53.0	+0.4	
	0.2nm,0.3s,baz=142,slow=11,SNR=3.1							
YBH	Yreka Blue Hor	12.14	146	*e*Pn	Pn	07 28 53.6	+1.0	
FBMT	Ferry Basin	12.17	106	Pn	Pn	07 28 57.5	+4.5	
SWMT	Swartz Lake	12.37	105	Pn	Pn	07 28 58.5	+2.7	
M02C	Callahan	12.39	147	P	Pn	07 29 00.3	+4.2	
	baz=334							
M04C	Macdoel	12.40	143	P	Pn	07 28 59.9	+3.7	
	baz=331,SNR=8.1							
J08A	Circle Bar Ran	12.54	130	*e*Pn	Pn	07 28 58.9	+0.7	
MSO	Missoula	12.74	108	*e*Pn	Pn	07 29 01.2	+0.3	
N02D	Trinity Center	12.82	148	P	Pn	07 29 06.2	+4.3	
	baz=335,SNR=9.5							
MOD	Modoc Plateau	12.90	138	*e*Pn	Pn	07 29 04.0	+0.9	
WVOR	Wild Horse Val	13.19	133	*e*Pn	Pn	07 29 06.3	-0.7	
KMRM	Mail Ridge	13.19	152	*e*Pn	Pn	07 29 06.5	-0.5	
WDC	Whiskeytown Da	13.23	148	*e*Pn	Pn	07 29 08.7	+1.3	
GHO	Glory Hole Cre	13.36	323	*e*Pn	Pn	07 29 07.0	-2.2	
SCRK	Sand Creek	13.44	336	*e*Pn	Pn	07 29 08.2	-2.0	
O02D	Mt. Diablo Mer	13.51	149	P	Pn	07 29 15.4	+4.1	
	baz=336							
DHY	Denali Highway	13.70	329	*e*Pn	Pn	07 29 12.3	-1.6	
O03E	Paynes Creek	13.73	146	P	Pn	07 29 16.3	+2.0	
	baz=334							
YKA	Yellowknife Ar	13.81	35	Pn	Pn	07 29 14.4	-0.7	
	0.1nm,0.3s,baz=229,slow=12,SNR=7.2							
SUA	Susitna One	13.89	319	*e*Pn	Pn	07 29 14.8	-1.6	
HRY	Holter Researc	14.05	105	*e*Pn	Pn	07 29 19.5	+0.8	
RND	Reindeer	14.41	328	*e*P	P	07 29 31.3	+0.9	
HLID	Hailey	14.46	120	P	Pn	07 29 26.2	+1.9	
	baz=313							
ORV	Oroville	14.49	147	*e*Pn	Pn	07 29 27.2	+2.5	
MCMT	McKenzie Canyo	14.51	113	*e*Pn	Pn	07 29 26.8	+1.7	
HOPS	Hopland Field	14.52	152	*e*Pn	Pn	07 29 26.5	+1.5	
BEKR	Beckworth	14.62	143	*e*Pn	Pn	07 29 29.2	+2.6	
EGMT	Eagleton	14.70	98	*e*Pn	Pn	07 29 27.6	+0.1	
EGMT	Eagleton	14.70	98	P	P	07 29 31.5	-2.2	
	baz=295,SNR=8.0							
IL1	Eielson Array	14.83	334	*e*Pn	P	07 29 36.0	+1.0	
IL1				*e*PcP	PcP	07 34 43.8	+4.5	
ILAR	Eielson Array	14.83	334	Pn	P	07 29 37.4	+2.4	
	0.1nm,0.3s,baz=151,slow=10,SNR=19							
ILAR				LR	LR	07 34 50.6		
	comp=Z,32nm,19.8s,baz=93,slow=36							
ILB	Eielson Array	14.83	334	*e*Pn	P	07 29 38.0	+3.0	
ILB				*e*PcP	PcP	07 34 44.0	+4.7	
TRF	Thorofare Moun	14.92	326	*e*Pn	P	07 29 39.3	+3.1	
WRH	Wood River Hil	14.94	332	*e*Pn	P	07 29 39.1	+2.9	
CCB	Clear Creek Bu	14.98	333	*e*Pn	P	07 29 34.8	-2.0	
PAHR	Pah Rah Range	15.13	141	*e*Pn	Pn	07 29 33.8	+0.3	
	10nm,1.0s							
AFDM	Forest Hills D	15.22	146	*e*Pn	Pn	07 29 35.3	+0.8	
	3.9nm,1.0s							
VCNR	Virginia City	15.39	142	*e*Pn	Pn	07 29 38.5	+1.5	
	12nm,1.1s							
YHB	Horse Butte	15.50	111	*e*Pn	Pn	07 29 38.4	+0.1	
	13nm,0.8s							
PNTR	Pine Nut	15.59	142	*e*Pn	Pn	07 29 40.6	+1.1	
	3.3nm,0.7s							
YHH	Holmes Hill	15.67	110	*e*Pn	Pn	07 29 41.7	+1.0	
	15nm,1.1s							
YMR	Madison River	15.68	110	*e*Pn	Pn	07 29 41.9	+1.2	
	17nm,0.9s							
GCMT	Greycliff	15.81	105	*e*Pn	P	07 29 44.0	-2.2	
YERR	Yerington	15.81	142	*e*Pn	P	07 29 44.4	-1.9	
	13nm,1.1s							
YNR	Norris Junctio	15.82	110	*e*Pn	P	07 29 44.0	-2.4	
	16nm,1.2s							
YFT	Old Faithful	15.88	111	*e*Pn	P	07 29 45.1	-2.0	
	6.3nm,0.9s							
FYU	Fort Yukon	15.90	340	*e*Pn	Pn	07 29 42.9	-0.4	
	8.7nm,0.7s							
YPP	Pitchstone Pla	16.01	111	*e*Pn	Pn	07 29 43.8	-1.2	
	7.3nm,1.2s							
H17A	Grant Village	16.06	111	*e*Pn	P	07 29 47.7	-1.5	
	24nm,1.1s							
ELK	Elko	16.09	129	Pn	Pn	07 29 47.2	+1.1	
	0.1nm,0.3s,baz=321,slow=4.3,SNR=3.0							
MLY	Manley	16.13	330	*e*Pn	Pn	07 29 44.0	-2.2	
	7.1nm,1.1s							
IMW	Indian Meadow	16.16	113	*e*Pn	P	07 29 48.1	-2.1	
	14nm,0.9s							
WAKR	Walker	16.16	143	*e*Pn	P	07 29 48.5	-1.7	
FLWY	Flagg Ranch	16.18	112	*e*Pn	P	07 29 48.4	-2.0	
	7.3nm,1.0s							
INK	Inuvik	16.19	358	Pn	P	07 29 48.4	-1.7	
	0.0nm,0.3s,baz=161,slow=16,SNR=2.5							
INK				LR	LR	07 36 32.8		
	comp=Z,124nm,18.0s,baz=92,slow=39							
INK	Inuvik	16.19	358	*e*Pn	Pn	07 29 47.4	+0.6	
KVN	Kaiserville	16.20	139	*e*Pn	P	07 29 50.0	-0.7	
	22nm,1.0s							
CMB	Columbia Colle	16.24	146	*e*Pn	P	07 29 49.3	-1.6	
	1.5nm,1.0s							
FXWY	Fox Creek	16.27	114	*e*Pn	P	07 29 49.5	-1.9	
	13nm,0.9s							
MOOW	Moose Ponds	16.36	113	*e*Pn	P	07 29 51.0	-1.4	
	7.8nm,0.9s							
RYN	Ryan	16.40	141	*e*Pn	P	07 29 51.6	-1.2	
	14nm,1.2s							
TPAW	Teton Pass	16.41	114	*e*Pn	P	07 29 51.4	-1.5	
	21nm,0.9s							
RLMT	Red Lodge	16.41	107	*e*Pn	P	07 29 51.1	-1.8	
	9.8nm,1.1s							
RLMT	Red Lodge	16.41	107	P	P	07 29 55.2	+2.3	
	baz=304,SNR=7.1							
LOHW	Long Hollow	16.53	113	*e*Pn	Pn	07 29 52.2	+0.6	
	5.7nm,1.0s							
SNOW	Snow King Moun	16.54	114	*e*Pn	P	07 29 52.7	-1.6	
	9.3nm,0.9s							
REDW	Red Top Meadow	16.54	114	*e*Pn	Pn	07 29 52.3	+0.4	
	18nm,1.1s							
HVU	Hansel Valley	16.56	121	*e*Pn	P	07 29 52.8	-1.8	
	5.0nm,1.1s							
NV01	Mina Array Sit	16.66	140	*e*Pn	P	07 29 54.5	-1.2	
NVAR	Mina Array Bea	16.66	140	Pn	P	07 29 55.5	-0.2	
	0.1nm,0.3s,baz=318,slow=12,SNR=25							
NV11	Mina Array Sit	16.71	140	*e*Pn	P	07 29 55.5	-0.8	
	0.8nm,1.1s							
BGU	Big Grassy Mou	17.05	124	*e*Pn	P	07 29 59.2	-0.8	
	3.2nm,1.1s							
MDPB	Devils Postpil	17.06	144	*e*Pn	P	07 29 59.7	-0.5	
	5.8nm,1.1s							
OMMB	Old Mammoth Mi	17.11	143	*e*Pn	P	07 30 00.8	0.0	
	3.2nm,1.1s							
HWUT	Hardware Ranch	17.33	120	*e*Pn	P	07 30 03.3	+0.3	
	4.7nm,0.9s							
BW06	Boulder Array	17.65	113	*e*Pn	P	07 30 06.9	+0.2	
	8.6nm,1.1s							
BW06	Boulder Array	17.65	113	P	P	07 30 07.3	+0.6	
	baz=310,SNR=7.9							
PD31	Pinedale Array	17.65	113	*e*Pn	P	07 30 07.3	+0.6	
PDAR	Pinedale Array	17.65	113	P	P	07 30 07.2	+0.6	
	0.2nm,0.3s,baz=316,slow=6.2,SNR=21							
PDAR	Pinedale Array	17.65	113	*e*Pn	P	07 30 06.6	-0.1	
IM3	Indian Mountai	17.70	330	*e*Pn	P	07 30 06.8	0.0	
DUG	Dugway, Tooele	17.71	125	*e*Pn	P	07 30 07.0	-0.3	
	3.6nm,1.1s							
DUG	Dugway, Tooele	17.71	125	P	P	07 30 07.7	+0.5	
	baz=319							
R11A	Troy Canyon, C	17.86	134	*e*Pn	P	07 30 09.4	+0.4	
	3.8nm,1.1s							
R11A	Troy Canyon, C	17.86	134	P	P	07 30 10.1	+1.2	
	baz=326							
DGMT	Dagmar	17.93	91	*e*P	P	07 30 10.5	+1.0	
	22nm,0.8s							
DGMT	Dagmar	17.93	91	P	P	07 30 10.2	+0.7	
	baz=293							
NLU	North Lily Min	18.26	124	*e*Pn	P	07 30 14.2	+0.8	
	5.8nm,1.1s							
GRAC	Grapevine Rang	18.27	141	P	P	07 30 16.2	+2.9	
	baz=331,SNR=15							
CWC	Cottonwood Cre	18.49	143	P	Pn	07 30 19.5	+3.6	
	baz=333							
PSUT	Pine Spring	18.49	131	*e*P	Pn	07 30 17.0	+0.9	
	7.4nm,1.1s							
TOLK	Toolik Lake Re	18.56	339	*e*P	Pn	07 30 23.6	+7.1	
	3.4nm,1.0s							
TPNV	Topopah Spring	18.76	138	*e*P	Pn	07 30 20.2	+1.0	
	8.6nm,1.1s							
TPNV	Topopah Spring	18.76	138	P	Pn	07 30 21.4	+2.2	
	baz=330,SNR=10							
DAC	Darwin (Calif)	18.81	142	*e*P	Pn	07 30 21.1	+1.2	
	4.4nm,1.1s							
FURC	Furnace Creek,	18.93	140	P	Pn	07 30 23.9	+2.8	
	baz=331							
ISA	Isabella, Lake	19.04	145	*e*P	Pn	07 30 23.6	+1.0	
	8.2nm,1.1s							
ISA	Isabella, Lake	19.04	145	P	Pn	07 30 24.6	+2.0	
	baz=335,SNR=7.3							
MPMC	Manual Prospec	19.05	142	P	Pn	07 30 24.7	+1.9	
	baz=333,SNR=12							
TMUT	Trail Mountain	19.20	124	*e*P	Pn	07 30 25.3	+0.6	
	3.9nm,1.0s							
P17A	Butcher Ranch,	19.30	123	*e*P	Pn	07 30 25.9	+0.1	
	6.9nm,1.0s							
MSU	Marysvale	19.31	127	*e*P	Pn	07 30 25.4	-0.6	
K22A	Casper	19.46	109	*e*P	Pn	07 30 27.0	-0.7	
	19nm,1.0s							
K22A	Casper	19.46	109	P	Pn	07 30 27.4	-0.3	
	baz=308,SNR=5.9							
LRMC	Laurel Mtn Rad	19.49	144	P	Pn	07 30 30.2	+2.2	
	baz=334							
CCUT	Cedar City	19.52	131	*e*P	Pn	07 30 28.5	+0.1	
	6.6nm,0.9s							
SHPR	Sheep Range	19.59	137	*e*P	Pn	07 30 29.6	+0.4	
	9.3nm,1.1s							
SZCU	Shurtz Canyon	19.61	131	*e*P	Pn	07 30 28.6	-0.9	
	12nm,0.8s							
SHOC	Shoshone, Teco	19.65	140	P	Pn	07 30 31.9	+2.1	
	baz=331							
MTPU	Mount Pierson	19.68	128	*e*P	Pn	07 30 30.3	-0.2	
	6.3nm,1.1s							
RWWY	Rawlins	19.68	113	*e*P	Pn	07 30 29.8	-0.6	
	22nm,0.7s							
SRU	San Rafael Swe	19.69	123	*e*P	Pn	07 30 30.1	-0.3	
	15nm,0.9s							
EDW2	Edwards Air Fo	19.91	145	P	Pn	07 30 34.9	+1.9	
	baz=335							
GSC	Goldstone, Bar	19.97	142	*e*P	Pn	07 30 33.8	+0.1	
	12nm,1.1s							
GSC	Goldstone, Bar	19.97	142	P	Pn	07 30 35.3	+1.6	
	baz=333							
LCMT	Little Creek M	20.01	132	*e*P	Pn	07 30 33.8	-0.4	
	21nm,1.1s							
RSSD	Black Hills	20.08	103	*e*P	Pn	07 30 34.1	-1.0	
	6.8nm,1.0s							
RSSD	Black Hills	20.08	103	P	Pn	07 30 35.1	0.0	
	baz=304							
PKCU	Pink Cliffs	20.09	130	*e*P	Pn	07 30 35.1	-0.3	
	15nm,0.9s							
O20A	White River Ci	20.16	117	*e*P	Pn	07 30 35.7	-0.3	
	22nm,0.9s							
O20A	White River Ci	20.16	117	P	Pn	07 30 36.5	+0.5	
	baz=315,SNR=7.9							
KNB	Kanab	20.20	131	*e*P	Pn	07 30 35.8	-0.7	
	8.6nm,1.1s							
MWC	Mount Wilson	20.48	146	*e*P	Pn	07 30 38.9	-0.9	
	7.4nm,1.0s							
BFSC	Mount Baldy Ra	20.61	145	P	Pn	07 30 40.8	-0.5	
	baz=335							
PV09	Paradox Valley	20.86	122	*e*P	Pn	07 30 43.4	-1.0	
GMRC	Granite Mounta	20.87	140	P	Pn	07 30 46.4	+2.0	
	baz=332							
PV21	Cone Mtn., Par	20.90	122	*e*P	Pn	07 30 43.8	-0.9	
	16nm,1.2s							
N23A	Red Feather La	20.92	112	*e*P	P	07 30 42.9	+0.4	
	14nm,0.8s							
N23A	Red Feather La	20.92	112	P	Pn	07 30 43.5	-1.6	
	baz=312							
U15A	North Rim	20.93	131	*e*P	Pn	07 30 44.1	-1.0	
	24nm,0.9s							
PV23	Carpenter Ridg	20.96	122	*e*P	Pn	07 30 44.5	-1.0	
	17nm,1.1s							
PV10	Paradox Valley	21.00	122	*e*P	P	07 30 44.9	+1.6	
PV14	Lion Creek, Pa	21.02	122	*e*P	P	07 30 44.4	+0.9	
	14nm,1.1s							
PV22	Blue Mesa, Par	21.02	121	*e*P	P	07 30 45.8	+2.3	
	15nm,1.2s							
PV20	West Nyswonger	21.07	122	*e*P	P	07 30 44.8	+0.8	
	7.7nm,0.9s							
PV19	Morning Glory	21.08	122	*e*P	P	07 30 45.1	+0.9	
	7.7nm,1.0s							
PV16	Nywonger Mesa	21.12	122	*e*P	P	07 30 44.9	+0.3	
	11nm,1.0s							
PV17	East Wray Mesa	21.12	122	*e*P	P	07 30 45.3	+0.7	
	14nm,1.2s							
PV11	David Mesa, Pa	21.15	122	*e*P	P	07 30 45.9	+1.0	
	10nm,0.9s							
PV18	Skein Mesa, Pa	21.17	122	*e*P	P	07 30 45.7	+0.6	
	9.2nm,0.9s							
PV12	Saucer Basin,	21.17	122	*e*P	P	07 30 45.8	+0.6	
	11nm,0.9s							
PV03	Paradox Valley	21.20	122	*e*P	P	07 30 46.1	+0.7	
PV13	Radium Mtn., P	21.28	122	*e*P	P	07 30 47.1	+0.7	
	15nm,0.9s							
W13A	Hualapai Mount	21.33	136	*e*P	P	07 30 47.3	+0.5	
	12nm,1.0s							
PV01	Paradox Valley	21.43	122	*e*P	P	07 30 48.7	+0.7	
BELC	Belle Mtn. Jos	21.43	142	P	P	07 30 49.5	+1.6	
	baz=333							
SMCO	Snowmass	21.52	117	*e*P	P	07 30 49.5	+0.4	
	17nm,1.0s							
IRM	Iron Mountain	21.62	140	P	P	07 30 51.7	+1.9	
	baz=332							
FRD	Ford Ranch, An	21.66	144	P	P	07 30 51.1	+0.9	
	baz=335							
ISCO	Idaho Springs	21.84	114	*e*P	P	07 30 52.9	+0.4	
	5.0nm,1.1s							
ISCO	Idaho Springs	21.84	114	P	P	07 30 52.5	+0.1	
	baz=314							
PDMCI	Parker Dam,Lak	21.90	138	P	P	07 30 54.8	+2.0	
	baz=330							
WUAZ	Wupatki	22.10	131	*e*P	P	07 30 56.0	+1.0	
	15nm,0.9s							
WUAZ	Wupatki	22.10	131	P	P	07 30 56.7	+1.7	
	baz=326,SNR=11							
MVCO	Mesa Verde	22.16	123	*e*P	P	07 30 56.5	+0.6	
	12nm,1.0s							
MVCO	Mesa Verde	22.16	123	P	P	07 30 57.2	+1.4	
	baz=329,SNR=10							
Y12C	Blythe	22.23	139	*e*P	P	07 30 56.6	+0.3	
	9.5nm,1.0s							
Y12C	Blythe	22.23	139	P	P	07 30 58.8	+2.6	
	baz=332							
MONP2	Monument Peak	22.27	144	P	P	07 30 58.8	+1.9	
	baz=335							
ULM	Lac du Bonnet	22.41	81	P	P	07 30 58.5	+0.4	
	9.5nm,0.9s,baz=296,slow=13,SNR=6.0							
ULM				LR	LR	07 40 04.9		
	comp=Z,148nm,18.4s,baz=19,slow=38							
IKP	In-Ko-Pah, Jac	22.60	144	P	P	07 31 01.7	+1.3	
	baz=335							
S22A	4UR Ranch, Cre	22.64	120	*e*P	P	07 31 01.5	+0.5	
	4.2nm,0.9s							
S22A	4UR Ranch, Cre	22.64	120	P	P	07 31 02.4	+1.5	
	baz=318							
Q24A	Divide	22.68	115	P	P	07 31 02.7	+1.3	
	baz=315							
GLA	Glamis	22.72	141	P	P	07 31 03.7	+2.1	
	baz=333							
AGMN	Agassiz Nation	23.12	85	P	P	07 31 05.6	0.0	
	baz=293							
W18A	Petrified Fore	23.20	129	*e*P	P	07 31 07.1	+0.5	
	18nm,1.1s							
W18A	Petrified Fore	23.20	129	P	P	07 31 09.3	+2.7	
	baz=324							
SDCO	Great Sand Dun	23.36	118	*e*P	P	07 31 08.5	+0.1	
	9.1nm,1.0s							
SDCO	Great Sand Dun	23.36	118	P	P	07 31 09.9	+1.5	
	baz=317,SNR=7.3							
X18A	Snowflake	23.57	130	*e*P	P	07 31 10.8	+0.4	
	14nm,0.9s							
KSCO	Kaye Shedlock'	24.07	112	*e*P	P	07 31 16.0	+0.8	
	17nm,0.8s							
KSCO	Kaye Shedlock'	24.07	112	P	P	07 31 16.1	+0.9	
	baz=313							
T25A	Trinidad	24.39	117	*e*P	P	07 31 18.1	0.0	
	15nm,1.0s							
T25A	Trinidad	24.39	117	P	P	07 31 20.1	+1.9	
	baz=317,SNR=6.7							
214A	Organ Pipe Nat	24.49	138	P	P	07 31 21.8	+2.9	
	baz=332							
ECSD	EROS Data Cent	24.80	96	*e*P	P	07 31 21.4	-0.2	
	12nm,1.1s							
ECSD	EROS Data Cent	24.80	96	P	P	07 31 22.3	+0.8	
	baz=303,SNR=7.5							
ANMO	Albuquerque	24.96	124	P	P	07 31 24.0	+0.6	
	4.0nm,0.9s,baz=315,slow=11,SNR=14							
ANMO	Albuquerque	24.96	124	*e*P	P	07 31 23.5	+0.2	
	4.5nm,0.9s							
ANMO	Albuquerque	24.96	124	P	P	07 31 24.8	+1.5	
	baz=322							
LAZ	Ladron	25.04	126	*e*P	P	07 31 25.7	+1.6	
TUC	Tucson	25.05	134	P	P	07 31 26.2	+2.2	
	baz=329							
LENM	Lemitar	25.31	126	*e*P	P	07 31 27.4	+0.9	
EYMN	Ely	25.94	83	*e*P	P	07 31 32.4	+0.5	
	22nm,1.0s							
EYMN	Ely	25.94	83	P	P	07 31 32.4	+0.5	
	baz=295							
121A	Cookes Peak, D	26.24	129	P	P	07 31 36.9	+1.9	
	baz=326							
F37A	Hinrichs Farm,	26.24	89	P	P	07 31 35.6	+1.0	
	baz=299							
SPMN	Marine on St.	26.37	90	*e*P	P	07 31 35.9	+0.1	
	8.6nm,0.8s							
F38A	Pierce - Schro	26.59	88	P	P	07 31 38.7	+0.9	
	baz=298							
RES	Resolute Bay	27.04	21	LR	LR	07 43 08.7		
	comp=Z,145nm,20.6s,baz=172,slow=38							
AMTX	Amarillo	27.55	117	*e*P	P	07 31 46.5	0.0	
	10nm,0.8s							
AMTX	Amarillo	27.55	117	P	P	07 31 48.1	+1.5	
	baz=318							
MNTX	Cornudas Mount	28.09	126	*e*P	P	07 31 51.4	+0.1	
	3.2nm,1.1s							
MNTX	Cornudas Mount	28.09	126	P	P	07 31 53.3	+1.9	
	baz=325							
WMOK	Wichita Mounta	29.27	114	*e*P	P	07 32 01.9	+0.1	
	7.1nm,1.1s							
WMOK	Wichita Mounta	29.27	114	P	P	07 32 03.4	+1.6	
	baz=317							
LTX	Lajitas	30.87	127	*e*P	P	07 32 17.5	+1.4	
TX31	Lajitas Ar. Si	30.87	127	*e*P	P	07 32 15.9	-0.2	
TXAR	Lajitas Array	30.87	127	P	P	07 32 17.5	+1.4	
	2.1nm,0.8s,baz=331,slow=7.6,SNR=9.9							
JCT	Junction City	31.93	120	*e*P	P	07 32 25.3	-0.1	
	5.9nm,0.9s							
JCT	Junction City	31.93	120	P	P	07 32 26.1	+0.7	
	baz=322							
V41A	Mountainview	32.38	105	P	P	07 32 29.4	+0.1	
	baz=313							
X43A	Marvell	34.01	105	*e*P	P	07 32 43.5	+0.1	
	40nm,0.9s							
R50A	Paris	35.51	94	P	P	07 32 56.8	+0.4	
	baz=309							
SCHQ	Schefferville	37.46	59	LR	LR	07 48 58.1		
	comp=Z,316nm,19.2s,baz=262,slow=37							
PETK	Petropavlovsk-	41.21	300	P	P	07 33 44.5	+0.4	
	3.7nm,0.7s,baz=87,slow=12,SNR=5.0							
H11N2	WAKE ISLAND Hy	57.15	260	T	T	08 37 58.4		
	baz=40,slow=76,SNR=84							
H11N3	WAKE ISLAND Hy	57.15	260	T	T	08 37 58.5		
	baz=40,slow=76,SNR=99							
H11N1	WAKE ISLAND Hy	57.17	260	T	T	08 38 01.6		
	baz=40,slow=76,SNR=58							
HHC	Hu-ho-hao-te	72.32	315	*e*P	P	07 37 30.5	+5.2	
HHC				pmax	pmax			
	comp=Z,22nm,0.7s							
HHC				pmax	pmax			
	comp=Z,120nm,5.0s							
MKAR	Makanchi Array	77.17	337	P	P	07 37 54.1	+0.8	
	comp=Z,0.9nm,0.7s,baz=64,slow=5.5,SNR=4.1							
WMQ	Wenqi	78.48	332	*e*P	P	07 38 09.1	+8.4	
LZH	Lanzhou	79.61	317	*e*P	P	07 38 12.5	+5.4	
LZH				*e*pP	PcP	07 38 15.8	+0.8	
LZH				*e*sP	sP	07 38 17.2	+5.6	
LZH				*e*PP	PP	07 41 14.6	+7.6	
LZH				pmax	pmax			
	comp=Z,16nm,1.3s							
LZH				pmax	pmax			
	comp=Z,42nm,7.4s							
BRTR	Keskin Array B	87.58	11	P	P	07 38 48.3	+0.4	
	comp=Z,0.6nm,0.5s,baz=347,slow=5.9,SNR=2.7							

DRS **12** *07:41:06.3±0.0, 40°.59N×46°.40E, h12km*
AZER **12** *07:41:11.8±0.0, 40°.84N×46°.78E, h20km, ml3.5/27, Error ellipse: s-maj=0.8km s-min=0.4km az=351.0*
NORS **12** *07:41:11.4±0.0, 40°.86N×46°.83E, h5km*
NSSP **12** *07:41:11.9

KMKR					pmax	pmax			
	comp=Z,123nm,0.1s								
KMKR	**Kumukh**	**1.34**	**9**	*i* Pg	**Pn**	**07 41 38.0**	**-0.6**
KMKR				*e*Sg	**Sn**	**07 41 58.0**	**+1.7**
PQL	**Pirkuli**	**1.35**	**90**	⇓P	**Pn**	**07 41 37.2**	**-1.5**
	SNR=58						
PQL				⇓S	**Sb**	**07 41 56.1**	**-0.4**
QUBA	**Quba, Azerbaij**	**1.38**	**66**	⇓P	**Pn**	**07 41 40.5**	**+1.4**
	SNR=7.4						
QUBA				⇓S	**Sb**	**07 41 58.2**	**+0.8**
URKR	**Urkarakh**	**1.49**	**24**	⇑*e*PG	**Pn**	**07 41 41.5**	**+0.9**
URKR				*e*		07 42 04.1	
URKR	**Urkarakh**	**1.49**	**24**	*i* Pg	**Pg**	**07 41 42.4**	**-0.5**
URKR				*e*Sg	**Sg**	**07 42 03.6**	**+1.4**
SAAT	**Saatly**	**1.55**	**127**	⇑P	**Pn**	**07 41 38.6**	**-2.7**
SAAT				⇓S	**Sn**	**07 41 59.0**	**-2.1**
GNBR	**Gunib**	**1.58**	**4**	⇓*e*PN	**Pn**	**07 41 42.5**	**+0.7**
GNBR				*e*		07 42 06.1	
GNBR				pmax	pmax		
	comp=Z,80nm,0.5s						
GNBR				smax	smax		
	comp=N,251nm,1.0s						
GNBR	**Gunib**	**1.58**	**4**	*e*Pg	**Pn**	**07 41 42.5**	**+0.7**
GNBR				*e*Sg	**Sg**	**07 42 04.0**	**-1.3**
SIZA	**Siyzn**	**1.60**	**80**	⇓Pn	**Pn**	**07 41 41.5**	**-0.7**
	SNR=32						
SIZA				⇑Sn	**Sn**	**07 42 05.0**	**+2.4**
ATGJ	**Altiaghaj**	**1.61**	**87**	⇓Pn	**Pn**	**07 41 42.5**	**+0.2**
	SNR=23						
ATGJ				⇑Sn	**Sn**	**07 42 04.7**	**+1.8**
GBS	**Qobustan**	**1.64**	**99**	⇓Pg	**Pn**	**07 41 44.0**	**+1.3**
GBS				⇓Sg	**Sg**	**07 42 08.2**	**+1.1**
DRN	**Derbent**	**1.67**	**43**	⇑*e*PN	**Pg**	**07 41 47.2**	**+0.9**
DRN				*e*		07 42 09.7	
DRN				pmax	pmax		
	comp=Z,98nm,0.9s						
DRN				smax	smax		
	comp=N,273nm,0.6s						
DRN	**Derbent**	**1.67**	**43**	*e*Pg	**Pb**	**07 41 44.9**	**+0.3**
DRN				*e*Sg	**Sg**	**07 42 08.7**	**+0.7**
GNI	**Garni**	**1.71**	**248**	⇑*i*P	**Pn**	**07 41 44.4**	**+0.8**
GNI				⇑*i*S	**Sb**	**07 42 07.7**	**+0.8**
GNI	**Garni**	**1.71**	**248**	*c i*PN	**Pn**	**07 41 44.6**	**+0.9**
XNZR	**Khunzakh**	**1.73**	**357**	*e*PN	**Pb**	**07 41 45.3**	**-0.6**
XNZR				*e*		07 42 08.8	
XNZR	**Khunzakh**	**1.73**	**357**	*e*Pg	**Pb**	**07 41 45.4**	**-0.6**
XNZR				*e*Sg	**Sg**	**07 42 08.9**	**-1.2**
SGKR	**Sergokala**	**1.77**	**21**	*e*PN	**Pb**	**07 41 47.0**	**+0.6**
SGKR				*e*S	**Sg**	**07 42 11.0**	**-0.2**
SGKR	**Sergokala**	**1.77**	**21**	*e*Pg	**Pb**	**07 41 47.0**	**+0.6**
SGKR				*e*Sg	**Sg**	**07 42 11.0**	**-0.2**
TBLG	**Delisi**	**1.82**	**301**	P	**Pn**	**07 41 45.0**	**-0.1**
TBLG				S	**Sb**	**07 42 09.4**	**-0.4**
TBLG	**Delisi**	**1.82**	**301**	*e*PN	**Pn**	**07 41 44.9**	**-0.1**
TBLG				*e*S	**Sb**	**07 42 09.3**	**-0.4**
HYR	**Heyderabad**	**1.85**	**235**	⇑Pn	**Pn**	**07 41 47.1**	**+1.5**
HYR				⇓Sg	**Sb**	**07 42 12.5**	**+1.7**
ALIB	**Äli-Bayra**	**1.88**	**116**	⇑Sg	**Sb**	**07 42 14.5**	**+3.0**
UNCR	**Uncukul**	**1.91**	**360**	*i* PN	**Pb**	**07 41 49.0**	**+0.3**
UNCR				*e*S	**Sg**	**07 42 14.0**	**-1.5**
UNCR				pmax	pmax		
	comp=Z,79nm,0.2s						
UNCR	**Uncukul**	**1.91**	**360**	*i* Pg	**Pb**	**07 41 49.0**	**+0.3**
UNCR				*e*Sg	**Sg**	**07 42 14.0**	**-1.5**
BTLR	**Botlikh**	**1.91**	**347**	⇑*e*PN	**Pn**	**07 41 45.3**	**-1.0**
BTLR				*e*		07 42 14.4	
BTLR				pmax	pmax		
	comp=Z,63nm,0.6s						
BTLR				smax	smax		
	comp=Z,44nm,0.1s						
BTLR				smax	smax		
	comp=N,98nm,15.1s						
BTLR	**Botlikh**	**1.91**	**347**	*e*Pg	**Pn**	**07 41 47.1**	**+0.8**
BTLR				*e*Sg	**Sb**	**07 42 12.7**	**+0.3**
KZRT	**Kazreti**	**1.91**	**288**	P	**Pn**	**07 41 45.7**	**-0.6**
KZRT				S	**Sn**	**07 42 11.1**	**+0.9**
NAX	**Nakhchivan**	**1.92**	**212**	PN	**Pn**	**07 41 44.6**	**-1.8**
NAX	**Nakhchivan**	**1.92**	**212**	⇓Pn	**Pn**	**07 41 44.7**	**-1.8**
NAX				⇑Sn	**Sn**	**07 42 12.9**	**+2.5**
GLBA	**Clilabad**	**1.98**	**142**	⇓Pn	**Pn**	**07 41 45.6**	**-1.6**
	SNR=12						
GLBA				⇑Sn	**Sn**	**07 42 11.9**	**+0.2**
ORD	**Ordubad**	**1.98**	**199**	⇓Pn	**Pn**	**07 41 47.2**	**0.0**
ORD				⇑Sn	**Sn**	**07 42 12.5**	**+0.6**
KRNR	**Karanay**	**2.02**	**2**	*e*PN	**Pb**	**07 41 51.0**	**+0.3**
KRNR				*e*S	**Sg**	**07 42 17.5**	**-1.7**
KRNR				pmax	pmax		
	comp=Z,19nm,0.3s						
KRNR	**Karanay**	**2.02**	**2**	*e*Pg	**Pb**	**07 41 51.0**	**+0.3**
KRNR				*e*Sg	**Sg**	**07 42 17.5**	**-1.7**
DBC	**Dubki**	**2.21**	**0**	⇑*i*PN	**Pb**	**07 41 54.3**	**+0.3**
DBC				*i* S	**Sb**	**07 42 21.8**	**+0.6**
DBC				pmax	pmax		
	comp=Z,19nm,0.2s						
DBC	**Dubki**	**2.21**	**0**	*i* Pg	**Pb**	**07 41 54.3**	**+0.3**
DBC				*i* Sg	**Sb**	**07 42 21.8**	**+0.6**
MAK	**Makhachkala**	**2.21**	**13**	*e*PN	**Pn**	**07 41 49.5**	**-0.9**
MAK				*e*S	**Sg**	**07 42 23.2**	**-2.2**
MAK				*e*		07 42 27.6	
MAK				pmax	pmax		
	comp=Z,93nm,0.3s						
DLMR	**Dylym**	**2.27**	**357**	*e*PN	**Pb**	**07 41 55.5**	**+0.7**
DLMR				*i* S	**Sg**	**07 42 25.5**	**-1.5**
DLMR	**Dylym**	**2.27**	**357**	*e*Pg	**Pb**	**07 41 55.5**	**+0.7**
DLMR				*i* Sg	**Sg**	**07 42 25.5**	**-1.5**
LRK	**Lerik**	**2.46**	**151**	⇑Pn	Pn	07 41 51.3	-2.7
LRK				⇑Sn	**Sn**	**07 42 24.0**	**+0.1**
GROC	**Groznyy**	**2.51**	**343**	*e*PN	**Pn**	**07 41 55.6**	**+1.1**
GROC				*e*S	**Sb**	**07 42 29.3**	**-0.4**
GROC				pmax	pmax		
	comp=Z,54nm,0.3s						
GROC				smax	smax		
	comp=N,247nm,1.0s						
GROC				smax	smax		
	comp=N,112nm,1.0s						
AKH	**Akhalkalaki**	**2.58**	**285**	P	**Pn**	**07 41 58.5**	**+2.8**
AKH				S	**Sb**	**07 42 31.7**	**-0.2**
AKH	**Akhalkalaki**	**2.58**	**285**	*e*PN	**Pn**	**07 41 58.4**	**+2.8**
AKH				*e*S	**Sb**	**07 42 31.7**	**-0.2**
LKRN	**Lenkeran, Azer**	**2.58**	**143**	⇑Pn	**Pn**	**07 41 54.1**	**-1.4**
LKRN				⇓Sn	**Sn**	**07 42 26.0**	**-0.6**
DIGO	**Kars**	**2.65**	**263**	*i* P	Pg	07 42 13.7	+8.8
DIGO				*i* S	**Sb**	**07 42 35.3**	**+1.4**
ASTR	**Astara**	**2.71**	**145**	⇑Pn	**Pn**	**07 41 56.1**	**-1.2**
ASTR				⇓Sn	**Sn**	**07 42 29.4**	**-0.5**
LACR	**Lac**	**2.76**	**318**	*e*PN	**Pn**	**07 41 59.6**	**+1.6**
LACR				*e*S	**Sn**	**07 42 33.8**	**+2.6**
LACR				pmax	pmax		
	comp=Z,24nm,1.4s						
LACR				smax	smax		
	comp=E,68nm,1.0s						
LACR	**Lac**	**2.76**	**318**	*e*Pn	**Pn**	**07 41 59.0**	**+1.0**
LACR				*e*Sn	**Sb**	**07 42 34.8**	**-2.2**
ZEI	**Tsey**	**2.94**	**313**	*e*PN	**Pn**	**07 42 02.2**	**+1.6**
ZEI				*e*S	**Sb**	**07 42 39.3**	**-3.0**
ZEI	**Tsey**	**2.94**	**313**	*e*Pn	**Pn**	**07 42 01.9**	**+1.3**
ZEI				*e*Sn	**Sb**	**07 42 39.5**	**-2.8**
DIGR	**Digorskoe uzhe**	**3.19**	**312**	*e*PN	**Pn**	**07 42 05.5**	**+1.4**
DIGR				*e*S	**Sn**	**07 42 44.3**	**+2.3**
DIGR	**Digorskoe uzhe**	**3.19**	**312**	*e*Pn	**Pn**	**07 42 05.1**	**+1.0**
DIGR				*e*Sn	**Sn**	**07 42 45.5**	**+3.5**
DAGI	**Agillar**	**3.72**	**276**	*i* P	**Pb**	**07 42 21.4**	**+1.7**
DAGI				*i* S	**Sg**	**07 43 10.8**	**-2.9**
DBAD	**Bademkaya**	**3.88**	**275**	*i* P	**Pb**	**07 42 23.5**	**+1.0**
DBAD				*i* S	**Sg**	**07 43 16.6**	**-2.3**
NEY	**Neytrino**	**3.90**	**310**	⇑*e*PN	**Pn**	**07 42 16.6**	**+2.8**
NEY	**Neytrino**	**3.90**	**310**	*e*Pn	**Pn**	**07 42 15.1**	**+1.3**
NEY				*e*Sn	**Sn**	**07 43 03.3**	**+3.8**
KIV	**Kislovodsk**	**4.39**	**317**	*e*PN	**Pn**	**07 42 18.6**	**-1.8**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
AKTO	**Aktyubinsk**	**12.40**	**35**	⇓Pn	Pn	07 44 06.3	-3.9
	comp=Z,1.2nm,0.7s						
AKTO				⇑Sn	Sn	07 46 18.3	-10
	comp=Z,4.1nm,1.1s						
AB31	**Akbulak array**	**12.54**	**43**	⇓Pn	**Pn**	**07 44 08.3**	**-3.7**
	comp=Z,0.2nm,0.4s,baz=228,slow=14						
AB31				⇑Sn	Sn	07 46 23.0	-8.4
	comp=Z,0.6nm,0.6s,baz=235,slow=25						
BRVK	**Borovoye**	**20.07**	**44**	⇑*i*P	**P**	**07 45 48.3**	**+1.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
AAK	**Ala-Archa**	**20.71**	**76**	⇑*i*P	**P**	**07 45 52.5**	**-1.6**
AAK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
DGZ	**Jazzator, Alta**	**29.63**	**59**	⇑*e*P	**P**	**07 47 21.8**	**+2.8**
DGZ				pmax	pmax		
	comp=Z,1.0nm,1.2s						

GUC ***12*** *07:58:29.6±0.7, 30.°22S×71.°39W, h32km±4km, ML2.8*
SJA ***12*** *07:58:30.6±0.5, 30.°00S×71.°34W, h3km± 1km, ML2.9, MW3.3*

ISC 12 07:58:28.6±2.0, 30.°18S±0.°05×71.°7W±0.°1, h10km, n14, σ2s14/22, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSCH	**La Serena**	**0.45**	**52**	⇓*i*P	**Pg**	**07 58 38.4**	**+1.0**
LSCH				*e*S	**Sg**	**07 58 44.0**	**+0.7**
LSCH				IAML		07 58 44.8	
	comp=N,1μm,0.3s						
GO04	**Tololo Observa**	**0.74**	**89**	*i* P	**Pg**	**07 58 41.6**	**-1.3**
GO04				*i* S	**Sg**	**07 58 50.0**	**-2.6**
GO04	**Tololo Observa**	**0.74**	**89**	⇓*i*P	**Pg**	**07 58 41.6**	**-1.3**
GO04				*i* S	**Sg**	**07 58 50.3**	**-2.3**
CMCH	**Combarbala**	**1.14**	**151**	⇑*i*P	**Pb**	**07 58 48.4**	**-2.0**
CMCH				*i* S	**Sb**	**07 59 01.8**	**-3.5**
CMCH				IAML		07 59 02.6	
	comp=N,2μm,0.4s						
LCO	**Las Campanas**	**1.43**	**36**	⇓*i*P	**Pn**	**07 58 54.6**	**-0.3**
LCO				*e*S	**Sn**	**07 59 13.4**	**-0.5**
LCO				IAML		07 59 15.5	
	comp=E,155nm,0.5s						
AROD	**Rodeo**	**1.89**	**90**	*i* P	**Pn**	**07 59 02.1**	**+0.9**
AROD				*i* S	**Sn**	**07 59 25.8**	**+0.6**
ACDV	**Cuesta del Vie**	**2.19**	**90**	*i* P	**Pn**	**07 59 07.0**	**+1.7**
ACDV				*i* S	**Sn**	**07 59 34.0**	**+1.4**
ACCO	**Cerro Coronel**	**2.27**	**101**	*i* P	**Pn**	**07 59 08.9**	**+2.4**
RTLS	**Leoncito**	**2.59**	**129**	*i* P	**Pb**	**07 59 15.5**	**+0.2**
RTLS				*i* S	**Sb**	**07 59 49.0**	**+1.8**
RTLS				IAML		07 59 49.2	
	comp=Z,48nm,0.3s						
AMOG	**MOGNA**	**2.83**	**106**	*i* P	**Pn**	**07 59 16.8**	**+2.9**
AGUA	**GUANDACOL**	**2.83**	**77**	*i* P	**Pn**	**07 59 15.5**	**+1.5**
RTLL	**Cerro Villicun**	**2.96**	**113**	*i* P	**Pn**	**07 59 19.0**	**+3.2**
RTCV	**Cerro Valdivia**	**3.15**	**123**	*i* P	**Pn**	**07 59 22.3**	**+3.9**
VCA	**Vinchina**	**3.33**	**65**	*i* P	**Pn**	**07 59 22.3**	**+1.4**
VCA				IAML		08 00 16.7	
	comp=Z,37nm,0.3s						

IDC ***12*** *08:21:27.9±0.6, 10.°96S×165.°12E, h0km, mb4.5/19, mb1 4.7/20, mb1mx4.6/40, mbtmp4.5/20, ML4.7/1, MS4.2/21, Ms1 4.2/21, ms1mx4.0/35, Error ellipse: s-maj=18.9km s-min=14.9km az=114.0*
BJI ***12*** *08:21:30.0, 10.°70S×165.°00E, h10km, mb4.9/18, mB5.2/9, Ms5.1/2*
ISCJB ***12*** *08:21:31.5±0.2, 10.°88S±0.°04×164.°94E±0.°04, h31km, mb4.8/119, MS4.2/19, Error ellipse: s-maj=6.6km s-min=4.7km az=145.8*
NEIC ***12*** *08:21:32.6±1.5, 10.°84S×165.°01E, h28km±10km, mb4.9/104, Error ellipse: s-maj=4.3km s-min=3.4km az=139.0*
GCMT ***12*** *08:21:32.6±0.3, 10.°89S±0.°02×164.°84E±0.°02, h18km±1km, MW5.0/73, Moment Tensor Solution. s35,c40; s73,c98; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.89±.18; Mθθ=-1.88±.14; Mϕϕ=-1.02±.11; Mrθ=1.30±.30; Mθϕ=1.62±.09; Mϕr=-2.60±.31; Best double couple: M=4.18700×10^16 NP1:ϕs145.00000°,δ68.00000°,λ104.00000°. NP2: ϕs291.00000°,δ27.00000°,λ59.00000°. Principal axes: T 4.2230, Plg65.0000°, Azm79.0000°; N -0.0820, Plg13.0000°, Azm319.0000°; P -4.1510, Plg21.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 08:21:33.3±0.4, 10.°85S±0.°06×165.°03E±0.°06, h31km, n169, σ0.°86/157, mb4.9/119, MS4.1/19, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.20**	**285**	Pn	**Pn**	**08 22 49.2**	**+0.2**
	24nm,0.3s,baz=274,slow=15,SNR=7.6						
HNR				Sn	**Sn**	**08 23 50.8**	**+2.9**
	6.8nm,0.3s,baz=164,slow=15,SNR=1.9						
HNR				LR	LR	08 24 58.9	
	comp=Z,5μm,18.1s,baz=111,slow=40						
HNR	**Honiara**	**5.20**	**285**	*e*Pn	**Pn**	**08 22 48.1**	**-0.8**
HNR				*e*Sn	**Sn**	**08 23 50.9**	**+2.9**
DZM	**Mont Dzumac**	**11.24**	**173**	Pn	**Pn**	**08 24 12.5**	**+0.6**
	2.4nm,0.3s,baz=335,slow=18,SNR=27						
DZM				LR	LR	08 27 46.3	
	comp=Z,2μm,18.0s,baz=24,slow=34						
DZM	**Mont Dzumac**	**11.24**	**173**	*e*Pn	**Pn**	**08 24 14.0**	**+2.0**
	148nm,1.4s						
DZM				*e*LQ	LQ	08 26 28.4	
	1μm,25.7s						
DZM				*e*LR	LR	08 26 50.8	
	1μm,27.6s						
DZM	**Mont Dzumac**	**11.24**	**173**	*e*Pn	**Pn**	**08 24 12.2**	**+0.2**
TARA	**Tarawa**	**14.44**	**33**	*e*Pn	**Pn**	**08 24 54.6**	**-1.1**
PMG	**Port Moresby**	**17.65**	**273**	LR	LR	08 32 15.4	
	comp=Z,2μm,18.7s,baz=126,slow=36						
EIDS	**Eidsvold**	**19.58**	**221**	*e*P	**Pn**	**08 25 59.8**	**-0.5**
	53nm,1.0s						
MANU	**Manus Island**	**19.60**	**295**	*e*P	**Pn**	**08 25 59.5**	**-1.2**
	321nm,1.3s						
CTA	**Charters Tower**	**20.27**	**241**	P	Pn	08 26 07.5	-1.1
	94nm,1.0s,baz=71,slow=13,SNR=16						
CTA				LR	LR	08 33 08.2	
	comp=Z,800nm,19.3s,baz=62,slow=34						
CTAO	**Charters Tower**	**20.27**	**241**	*e*P	**P**	**08 26 06.7**	**+0.2**
	199nm,1.3s						
ARMA	**Armidale**	**23.12**	**211**	*e*P	**P**	**08 26 36.9**	**-0.1**
	88nm,1.4s						
KNTN	**Kanton**	**24.42**	**72**	*e*P	**P**	**08 26 48.3**	**-1.1**
	81nm,1.0s						
H11S2	**WAKE ISLAND Hy**	**29.20**	**3**	T	T	08 58 08.8	
	baz=184,slow=76,SNR=108						
H11S3	**WAKE ISLAND Hy**	**29.20**	**3**	T	T	08 58 08.5	
	baz=184,slow=76,SNR=52						
H11S1	**WAKE ISLAND Hy**	**29.22**	**3**	T	T	08 58 07.8	
	baz=184,slow=76,SNR=64						
URZ	**Urewera**	**29.36**	**160**	*e*P	**P**	**08 27 34.3**	**+0.8**
	47nm,1.2s						
WAKE	**Wake Island**	**29.98**	**3**	*e*P	**P**	**08 27 38.2**	**-1.0**
	112nm,1.3s						
BKZ	**Black Stump Fm**	**29.99**	**162**	*e*P	**P**	**08 27 39.5**	**+0.3**
	17nm,0.7s						
STKA	**Stephens Creek**	**30.11**	**222**	P	**P**	**08 27 40.8**	**+0.6**
	7.7nm,1.1s,baz=22,slow=7.9,SNR=8.0						
STKA				LR	LR	08 39 17.5	
	comp=Z,1μm,18.3s,baz=41,slow=36						
STKA	**Stephens Creek**	**30.11**	**222**	*e*P	**P**	**08 27 39.9**	**-0.3**
	10nm,1.4s						
H11N1	**WAKE ISLAND Hy**	**30.43**	**3**	T	T	08 59 38.9	
	baz=182,slow=76,SNR=135						
H11N3	**WAKE ISLAND Hy**	**30.43**	**3**	T	T	08 59 40.8	
	baz=182,slow=76,SNR=98						
H11N2	**WAKE ISLAND Hy**	**30.44**	**3**	T	T	08 59 40.3	
	baz=182,slow=76,SNR=86						
WRAB	**Tennant Creek**	**30.88**	**249**	*e*P	**P**	**08 27 46.0**	**-1.3**
	40nm,1.5s						
WB2	**Warramunga Arr**	**30.88**	**249**	*e*P	**P**	**08 27 45.3**	**-1.9**
WR1	**Warramunga Arr**	**30.89**	**249**	*e*P	**P**	**08 27 45.3**	**-2.0**
	42nm,1.5s						
WRA	**Warramunga Arr**	**30.89**	**249**	P	**P**	**08 27 45.3**	**-2.0**
	3.3nm,0.7s,baz=78,slow=9.1,SNR=13						
WRA				LR	LR	08 40 28.5	
	comp=Z,821nm,18.0s,baz=65,slow=37						
THZ	**Tophouse**	**31.56**	**169**	*e*P	**P**	**08 27 53.2**	**+0.2**
	72nm,1.3s						
AS01	**Alice Springs**	**32.21**	**243**	*e*P	**P**	**08 27 57.0**	**-2.0**
AS31	**Alice Springs**	**32.25**	**243**	*e*P	**P**	**08 27 58.1**	**-1.2**
	2.9nm,1.2s						
ASAR	**Alice Springs**	**32.26**	**243**	P	**P**	**08 27 57.7**	**-1.6**
	12nm,1.1s,baz=68,slow=9.9,SNR=30						
ASAR				LR	LR	08 40 22.9	
	comp=Z,533nm,18.2s,baz=74,slow=35						
BBOO	**Buckleboo**	**34.45**	**226**	*e*P	**P**	**08 28 18.3**	**-0.1**
	40nm,0.9s						
FITZ	**Fitzroy Crossi**	**38.75**	**255**	P	**P**	**08 28 53.1**	**-2.1**
	4.4nm,1.0s,baz=68,slow=5.0,SNR=6.3						
FITZ				LR	LR	08 43 46.9	
	comp=Z,484nm,19.6s,baz=84,slow=34						
FITZ	**Fitzroy Crossi**	**38.75**	**255**	*e*P	**P**	**08 28 53.4**	**-1.7**
	14nm,1.0s						
FORT	**Forrest**	**39.58**	**234**	*e*P	**P**	**08 29 01.5**	**-0.5**
	56nm,1.2s						
PPT	**Papeete**	**44.42**	**104**	LR	LR	08 46 26.2	
	comp=Z,233nm,19.3s,baz=272,slow=34						
PPT2	**Papeete2**	**44.42**	**104**	*e*S	**S**	**08 36 17.3**	**+2.3**
	186nm,25.2s						
PPT2				*e*LQ	LQ	08 40 13.1	
	457nm,27.8s						
PPT2				*e*LR	LR	08 41 59.8	
	242nm,29.5s,baz=281						
TBI	**Tubuai**	**45.06**	**112**	*e*S	**S**	**08 36 26.9**	**+3.0**
	200nm,28.2s						
TBI				*e*LQ	LQ	08 40 33.6	
	806nm,28.5s						
TBI				*e*LR	LR	08 42 24.0	
	281nm,29.0s						
MJAR	**Matsushiro Arr**	**53.48**	**333**	P	**P**	**08 30 52.8**	**+2.0**
	3.4nm,1.0s,baz=176,slow=8.7,SNR=3.9						
MAJO	**Matsushiro**	**53.48**	**333**	*e*P	**P**	**08 30 52.8**	**+2.0**
RKT	**Rikitea**	**58.31**	**110**	*e*LR	LR	08 48 34.8	
	299nm,28.2s						
KSRS	**Korea Array**	**59.32**	**326**	P	**P**	**08 31 32.4**	**0.0**
	4.1nm,1.1s,baz=148,slow=8.4,SNR=3.9						
USRK	**Ussuriysk Ar.**	**62.46**	**334**	P	**P**	**08 31 53.9**	**+0.3**
	5.7nm,1.0s,baz=144,slow=6.8,SNR=4.0						
PETK	**Petropavlovsk-**	**64.01**	**355**	P	**P**	**08 32 04.2**	**+0.5**
	8.7nm,0.8s,baz=152,slow=6.7,SNR=6.2						
PETK				LR	LR	08 54 24.2	
	comp=Z,77nm,19.7s,baz=171,slow=31						
PETK	**Petropavlovsk-**	**64.01**	**355**	*e*P	**P**	**08 32 03.6**	**-0.1**
PEA1	**Petropavlovsk-**	**64.02**	**355**	*e*P	**P**	**08 32 04.2**	**+0.5**
CN2	**Changchun**	**65.22**	**329**	*e*P	**P**	**08 32 12.2**	**+0.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
IPM	**Ipoh**	**65.50**	**280**	*e*P	**P**	**08 32 13.9**	**-0.3**
	13nm,1.0s						
CASY	**Casey**	**66.31**	**201**	*e*P	**P**	**08 32 18.4**	**0.0**
	20nm,1.5s						
KLR	**Kul'dur**	**66.60**	**337**	LR	LR	09 01 50.0	
	comp=Z,46nm,18.0s,baz=150,slow=36						
VNDA	**Vanda**	**66.68**	**181**	P	**P**	**08 32 20.3**	**-0.4**
	2.9nm,1.0s,baz=341,slow=7.5,SNR=7.5						
VNDA				LR	LR	08 58 26.6	
	comp=Z,105nm,18.1s,baz=1.5,slow=33						
VNDA	**Vanda**	**66.68**	**181**	*e*P	**P**	**08 32 21.3**	**+0.6**
SBA	**Scott Base**	**67.00**	**180**	*e*P	**P**	**08 32 23.2**	**+0.5**
	17nm,1.1s						
PSI	**Prapat**	**67.15**	**278**	*e*P	**P**	**08 32 23.9**	**-1.1**
	11nm,1.1s						
ENH	**Enshi**	**67.23**	**309**	*e*P	**P**	**08 32 24.8**	**-0.3**
	23nm,1.1s						
CM01	**Chiang Mai Arr**	**71.36**	**294**	*e*P	**P**	**08 32 51.1**	**+0.2**
CM31	**Chiang Mai Arr**	**71.39**	**294**	*e*P	**P**	**08 32 51.0**	**0.0**
CMAR	**Chiang Mai Arr**	**71.39**	**294**	P	**P**	**08 32 51.8**	**+0.8**
	1.1nm,0.4s,baz=119,slow=5.2,SNR=9.6						
CMAR				LR	LR	09 04 04.0	
	comp=Z,32nm,19.1s,baz=95,slow=36						
CHTO	**Chiang Mai**	**71.50**	**294**	*e*P	**P**	**08 32 51.1**	**-0.5**
	6.9nm,1.1s						
HIA	**Hailar**	**71.86**	**331**	*e*P	**P**	**08 32 53.8**	**+0.6**
	41nm,1.5s						
SDPT	**Sand Point**	**72.00**	**20**	*e*P	**P**	**08 32 54.0**	**+0.2**
	58nm,1.3s						
YAK	**Yakutsk**	**77.71**	**344**	LR	LR	09 00 34.1	
	comp=Z,72nm,21.7s,baz=98,slow=30						
SONA0	**Songino Array**	**78.09**	**324**	*e*P	**P**	**08 33 29.5**	**+0.1**
SONM	**Songino Array**	**78.09**	**324**	P	**P**	**08 33 29.5**	**+0.1**
	5.6nm,1.2s,baz=142,slow=5.9,SNR=13						
SONM				LR	LR	09 04 59.0	
	comp=Z,70nm,20.5s,baz=142,slow=33						
GTA	**Gaotai**	**78.42**	**314**	*e*P	**P**	**08 33 32.9**	**+1.5**
GTA				pP	PcP	08 33 39.2	-1.3
GTA				sP	pP	08 33 42.1	+0.9
GTA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GTA				LR	LR		
	comp=N,380nm,18.9s						
GTA				LR	LR		
	comp=E,230nm,19.9s						
BILL	**Bilibino**	**78.69**	**0**	*e*P	**P**	**08 33 32.1**	**+0.1**
	17nm,1.0s						
QSPA	**South Pole Qui**	**79.15**	**180**	P	**P**	**08 33 32.6**	**-2.4**
	11nm,1.0s,baz=29,slow=3.2,SNR=17						
SHL	**Shillong**	**79.81**	**299**	*e*P	**P**	**08 33 38.9**	**-0.4**
	14nm,1.1s						
SHL	**Shillong**	**79.81**	**299**	*e*P	**P**	**08 33 40.0**	**+0.7**
TLY	**Talaya**	**81.57**	**326**	*e*P	**P**	**08 33 48.5**	**+0.6**
	8.0nm,1.1s						
LSA	**Lhasa**	**81.66**	**302**	*e*P	**P**	**08 33 48.9**	**-0.6**
	5.1nm,0.6s						
RDOG	**Red Dog Mine**	**81.97**	**12**	*e*P	**P**	**08 33 49.9**	**+0.2**
	10nm,0.9s	

YERR	Yerington	85.90	49	*e*P		P	08 34 10.0	-0.7
	4.4nm,1.1s							
PAHR	Pah Rah Range	86.01	49	*e*P		P	08 34 10.8	-0.3
	10nm,1.2s							
MOD	Modoc Plateau	86.02	46	*e*P		P	08 34 10.8	-0.3
	6.1nm,0.9s							
PINE	Pine Mountain	86.17	44	*e*P		P	08 34 12.0	+0.1
	13nm,1.0s							
RYN	Ryan	86.33	50	*e*P		P	08 34 12.8	0.0
	8.2nm,1.3s							
DAC	Darwin (Calif)	86.37	52	*e*P		P	08 34 12.7	-0.3
	7.7nm,1.2s							
NV01	Mina Array Sit	86.44	50	*e*P		P	08 34 12.6	-0.7
NVAR	Mina Array Bea	86.44	50	P		P	08 34 12.7	-0.6
	6.0nm,1.0s,baz=234,slow=7.5,SNR=26							
NVAR				LR		LR	09 07 23.5	
	comp=Z,166nm,18.5s,baz=272,slow=32							
NV11	Mina Array Sit	86.55	50	*e*P		P	08 34 13.5	-0.4
	0.7nm,1.0s							
GSC	Goldstone, Bar	86.72	53	*e*P		P	08 34 14.0	-0.7
	9.4nm,1.4s							
KVN	Kaiserville	86.77	49	*e*P		P	08 34 14.1	-0.8
	5.4nm,1.0s							
WVOR	Wild Horse Val	87.36	46	*e*P		P	08 34 17.5	-0.1
	15nm,1.3s							
GLA	Glamis	87.72	56	*e*P		P	08 34 19.3	-0.2
	16nm,1.0s							
J08A	Circle Bar Ran	87.74	45	*e*P		P	08 34 19.0	-0.5
	14nm,1.1s							
HAWA	Hanford	87.94	42	*e*P		P	08 34 19.6	-0.6
	29nm,1.4s							
G08A	Pilot Rock	87.98	43	*e*P		P	08 34 20.4	-0.2
	12nm,1.1s							
LDFC	Landfair	88.00	54	*e*P		P	08 34 20.8	-0.1
	24nm,1.1s							
Y12C	Blythe	88.14	55	*e*P		P	08 34 21.7	+0.3
	9.8nm,1.0s							
E08A	Dider Farm, El	88.28	42	*e*P		P	08 34 22.1	+0.3
	11nm,1.0s							
SHPR	Sheep Range	88.32	52	*e*P		P	08 34 22.7	+0.3
	5.8nm,1.2s							
R11A	Troy Canyon, C	88.47	51	*e*P		P	08 34 22.8	-0.3
	6.0nm,1.3s							
W13A	Hualapai Mount	88.98	54	*e*P		P	08 34 25.7	0.0
	6.7nm,1.3s							
ELK	Elko	89.34	48	*e*P		P	08 34 26.6	-0.6
	8.7nm,1.4s							
F10A	Beach Ranch, E	89.34	43	*e*P		P	08 34 26.7	-0.3
	10nm,1.3s							
MFID	Camas Ranch	89.61	46	*e*P		P	08 34 27.9	-0.4
	6.0nm,1.1s							
PSUT	Pine Spring	89.83	51	*e*P		P	08 34 29.4	-0.2
	4.1nm,1.0s							
LCMT	Little Creek M	89.94	52	*e*P		P	08 34 30.0	0.0
	6.9nm,1.1s							
CCUT	Cedar City	89.97	52	*e*P		P	08 34 30.4	+0.2
	5.7nm,0.9s							
SZCU	Shurtz Canyon	90.20	52	*e*P		P	08 34 31.5	+0.2
	4.7nm,0.9s							
KNB	Kanab	90.27	52	*e*P		P	08 34 32.0	+0.4
	10nm,1.1s							
U15A	North Rim	90.55	53	*e*P		P	08 34 32.9	-0.2
	8.8nm,0.9s							
HLID	Hailey	90.64	46	*e*P		P	08 34 33.4	+0.3
	6.9nm,1.0s							
PKCU	Pink Cliffs	90.76	52	*e*P		P	08 34 34.0	-0.1
	9.3nm,1.0s							
X16A	Lo Mia Camp, P	90.78	55	*e*P		P	08 34 34.5	+0.5
	4.3nm,1.0s							
MTPU	Mount Pierson	91.00	52	*e*P		P	08 34 35.4	+0.2
	8.8nm,1.0s							
DUG	Dugway, Tooele	91.00	49	*e*P		P	08 34 35.1	+0.2
	3.0nm,0.9s							
BGU	Big Grassy Mou	91.01	49	*e*P		P	08 34 35.0	0.0
	7.4nm,1.2s							
WUAZ	Wupatki	91.08	54	*e*P		P	08 34 35.7	+0.3
	5.8nm,1.0s							
MSU	Marysvale	91.11	51	*e*P		P	08 34 35.8	+0.3
NLU	North Lily Min	91.50	50	*e*P		P	08 34 37.7	+0.4
	6.7nm,1.0s							
CTU	Camp Tracy	91.91	49	*e*P		P	08 34 39.2	+0.1
	5.8nm,0.9s							
TMUT	Trail Mountain	92.01	51	*e*P		P	08 34 40.1	+0.3
	5.5nm,1.0s							
MCMT	McKenzie Canyo	92.04	45	*e*P		P	08 34 39.7	0.0
JLU	Jordanelle	92.11	49	*e*P		P	08 34 40.1	0.0
	4.1nm,0.9s							
HWUT	Hardware Ranch	92.24	48	*e*P		P	08 34 40.0	-0.6
	4.4nm,1.1s							
DLMT	Dillon	92.33	44	*e*P		P	08 34 41.0	+0.1
	12nm,1.0s							
LRM	Limekiln Ridge	92.54	44	*e*P		P	08 34 42.3	+0.3
MK01	Makanchi Array	92.89	317	*e*P		P	08 34 42.4	-0.9
MK32	Makanchi Array	92.90	317	*e*P		P	08 34 43.6	+0.2
MKAR	Makanchi Array	92.90	317	P		P	08 34 43.6	+0.2
	1.7nm,0.8s,baz=100,slow=5.0,SNR=6.0							
ZAA0	Zalesovo Array	92.99	324	*e*P		P	08 34 43.3	-0.2
	6.1nm,1.2s							
ZAA1	Zalesovo Array	92.99	324	*e*P		P	08 34 42.7	-0.8
ZALV	Zalesovo Beam	92.99	324	P		P	08 34 42.7	-0.8
	0.5nm,0.3s,baz=48,slow=2.2,SNR=5.6							
ZALV	Zalesovo Beam	92.99	324	*e*P		P	08 34 43.0	-0.5
FXWY	Fox Creek	93.06	46	*e*P		P	08 34 44.0	-0.5
	3.1nm,0.8s							
PDAR	Pinedale Array	93.94	47	P		P	08 34 48.0	-0.6
	1.9nm,0.9s,baz=261,slow=2.9,SNR=12							
PDAR				LR		LR	09 12 57.5	
	comp=Z,58nm,18.4s,baz=268,slow=33							
NRIK	Noril'sk	95.69	340	LR		LR	09 17 05.8	
	comp=Z,36nm,20.3s,baz=99,slow=35							
TXAR	Lajitas Array	96.35	61	LR		LR	09 10 33.5	
	comp=Z,121nm,20.2s,baz=0.0,slow=31							
LPAZ	La Paz	120.90	116	PKP		PKPdf	08 40 24.0	-0.3
	1.7nm,1.1s,baz=322,slow=5.0,SNR=4.3							
LPAZ	La Paz	120.90	116	*e*PKPdf		PKPdf	08 40 23.7	-0.6
GERES	GERESS Array B	135.22	333	PKP		PKPdf	08 40 49.0	-1.0
	0.2nm,0.3s,baz=32,slow=5.3,SNR=4.0							

IDC 12 08:28:22.8±5.6, 5.05S×133.17E, h0km, mb3.6/1, mb1 3.5/3, mb1mx3.3/30, mbtmp3.3/3, ML3.1/2, Error ellipse: s-maj=334.7km s-min=32.6km az=76.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.85	176	Pn	Pn	08 31 52.9	-1.4
	0.1nm,0.3s,baz=353,slow=13,SNR=4.9						
ASAR	Alice Springs	18.52	178	P	Pn	08 32 41.4	+0.3
	0.1nm,0.3s,baz=3.7,slow=10,SNR=8.4						
MKAR	Makanchi Array	68.39	325	P	P	08 39 26.4	0.0
	0.3nm,0.5s,baz=115,slow=7.1,SNR=4.3						

MEX 12 08:33:00.4±0.3, 14.51N×92.75W, h7km±22km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.61	50	*e*P	Pg	08 33 11.4	-0.8
THIG				*e*S	Sg	08 33 20.0	-0.2
PCIG		1.27	339	*e*P	Pn	08 33 21.0	-3.7
PCIG				*e*S	Sb	08 33 36.6	-4.7
CCIG	Comitan	1.86	18	*e*P	Pn	08 33 29.8	-3.1
CCIG				*e*S	Sn	08 33 51.7	-5.0
TGIG		2.28	351	*e*P	Pn	08 33 36.2	-2.4
TGIG				*i* S	Sn	08 34 02.5	-4.6

TEH 12 08:34:00.0, 36.62N×54.76E, h5km, ML3.0, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKIA	Kiasar	0.96	245	*e*Pg	Pb	08 34 19.0	-0.3
IKIA				IAMB	IAmb	08 34 22.0	
	comp=Z,1μm,0.2s						
IKIA				IAMB	IAmb	08 34 38.1	
	comp=N,1μm,0.3s						
IKIA				IAMB	IAmb	08 34 38.1	
	comp=E,2μm,0.3s						
IANJ	Anjilo	1.34	211	*e*Pg	Pb	08 34 25.7	0.0
IANJ				IAMB	IAmb	08 34 46.1	
	comp=Z,2μm,0.2s						
ISHM	Shahmirzad	1.44	236	*e*Pn	Pb	08 34 27.5	0.0
ISHM				IAMB	IAmb	08 34 29.7	
	comp=Z,2μm,0.2s						
MRVT	Maraveh tapeh	1.49	45	*e*Pg	Pg	08 34 28.8	+0.3
IALA	Alasht	1.67	252	*e*Pn	Pb	08 34 30.9	-0.4
IALA				IAMB	IAmb	08 34 58.1	
	comp=Z,2μm,0.2s						
IFIR	Firoozkooh	1.90	240	*e*Pn	Pb	08 34 34.9	-0.4
IFIR				IAMB	IAmb	08 35 05.2	
	comp=E,2μm,0.4s						
IFIR				IAMB	IAmb	08 35 07.9	
	comp=N,1μm,0.4s						
IFIR				IAMB	IAmb	08 35 08.0	
	comp=Z,1μm,0.2s						
ILAS	Lasjerd	1.91	230	*e*Pn	Pb	08 34 35.8	+0.3
ILAS				IAMB	IAmb	08 35 06.6	
	comp=N,2μm,0.2s						
ILAS				IAMB	IAmb	08 35 08.1	
	comp=E,1μm,0.2s						
IPRN	Peran	1.99	260	*e*Pn	Pb	08 34 36.6	-0.2
IPRN				IAMB	IAmb	08 35 06.7	
	comp=Z,3μm,0.4s						
IPRN				IAMB	IAmb	08 35 07.1	
	comp=N,11μm,0.6s						
IPRN				IAMB	IAmb	08 35 08.3	
	comp=E,12μm,0.2s						
BJRD	Bojnurd	2.37	62	*e*Pn	Pb	08 34 42.2	-1.1
IDMV	Damavand	2.44	246	*e*Pn	Pb	08 34 43.3	-1.3
IDMV				IAMB	IAmb	08 34 48.6	
	comp=Z,609nm,0.2s						
IDMV				IAMB	IAmb	08 35 24.9	
	comp=N,1μm,0.2s						
DAMV	Damavand	2.47	247	*e*Pn	Pb	08 34 43.2	-1.8
IAFJ	Afjeh	2.58	254	*e*Pn	Pb	08 34 45.3	-1.7
IAFJ				IAMB	IAmb	08 35 24.4	
	comp=Z,1μm,0.3s						
CHTH	Charan	3.02	258	*e*Pn	Pn	08 34 51.0	+2.2
KHMZ	Khomeyn	4.87	235	*e*Pn	Pn	08 35 16.6	+2.4

TEH 12 08:35:05.4, 36.58N×54.72E, h10km, ML3.1, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKIA	Kiasar	0.91	246	*e*Pg	Pb	08 35 23.3	-0.2
IKIA				IAMB	IAmb	08 35 44.2	
	comp=Z,2μm,0.4s						
IKIA				IAMB	IAmb	08 35 44.6	
	comp=N,4μm,0.4s						
IKIA				IAMB	IAmb	08 35 49.0	
	comp=E,3μm,0.4s						
IANJ	Anjilo	1.29	211	*e*Pg	Pn	08 35 29.1	-0.6
IANJ				IAMB	IAmb	08 35 49.4	
	comp=Z,2μm,0.3s						
ISHM	Shahmirzad	1.39	237	*e*Pg	Pg	08 35 32.3	+0.3
ISHM				IAMB	IAmb	08 35 57.0	
	comp=Z,3μm,0.3s						
IALA	Alasht	1.62	253	*e*Pn	Pb	08 35 35.3	-0.2
IALA				IAMB	IAmb	08 36 04.2	
	comp=E,8μm,0.2s						
IALA				IAMB	IAmb	08 36 05.7	
	comp=Z,4μm,0.2s						
IFIR	Firoozkooh	1.84	240	*e*Pn	Pb	08 35 38.8	-0.6
IFIR				IAMB	IAmb	08 35 41.5	
	comp=Z,2μm,0.2s						
IFIR				IAMB	IAmb	08 36 08.1	
	comp=N,2μm,0.2s						
ILAS	Lasjerd	1.86	231	*e*Pn	Pg	08 35 40.6	-0.5
ILAS				IAMB	IAmb	08 35 44.1	
	comp=N,2μm,0.2s						
ILAS				IAMB	IAmb	08 36 16.7	
	comp=E,2μm,0.5s						
IPRN	Peran	1.95	261	*e*Pn	Pn	08 35 39.7	+1.0
IPRN				IAMB	IAmb	08 36 10.6	
	comp=Z,5μm,0.6s						
IPRN				IAMB	IAmb	08 36 10.9	
	comp=N,13μm,0.4s						
IPRN				IAMB	IAmb	08 36 11.2	
	comp=E,15μm,0.2s						
IDMV	Damavand	2.39	246	*e*Pn	Pb	08 35 47.8	-0.9
IDMV				IAMB	IAmb	08 35 51.9	
	comp=Z,857nm,0.4s						
IDMV				IAMB	IAmb	08 36 28.1	
	comp=E,1μm,0.4s						
IDMV				IAMB	IAmb	08 36 28.5	
	comp=N,1μm,0.3s						
DAMV	Damavand	2.42	248	*e*Pn	Pn	08 35 47.1	+1.9
BJRD	Bojnurd	2.42	62	*e*Pn	Pn	08 35 47.1	+1.9
CHTH	Charan	2.98	258	*e*Pn	Pn	08 35 54.7	+1.8
GHVR	GHOM	3.49	234	*e*Pn	Pn	08 36 02.6	+2.8
KHMZ	Khomeyn	4.82	235	*e*Pn	Pn	08 36 21.0	+2.8

*IDC **12** 08:45:43.1±2.7, 10.00N×84.05W, h34km±24km, mb3.7/11, mb1 4.0/12, mb1mx3.8/32, mbtmp4.0/12, ML4.3/1, MS3.2/8, Ms1 3.2/8, ms1mx2.9/39, Error ellipse: s-maj=35.6km s-min=15.6km az=58.0*

*ISCJB **12** 08:45:45.1±0.3, 9.79N±0.04×84.24W±0.03, h64km±2km, mb4.2/28, Error ellipse: s-maj=7.8km s-min=2.8km az=39.6*

*UCR **12** 08:45:45.8±1.4, 9.77N×84.24W, h48km±4km, MD3.9, ML4.5, mb4.3(NEIC)*

*NEIC **12** 08:45:46.2±0.7, 9.79N×84.26W, h62km±6km, mb4.3/22, MW4.2(UCR), Error ellipse: s-maj=10.8km s-min=6.1km az=223.0*

NEIC Felt [IV] at Santa Cruz. Felt widely in western Costa Rica and the Valle Central.

ISC 12 08:45:45.6±0.7, 9.80N±0.05×84.24W±0.04, h56km±6km, n117, σ1s55/125, mb4.2/28, MS3.4/6, 2C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJS	Escuela Geolog	0.23	53	*e*P	Pn	08 45 55.1	+0.1
SJS				*e*S	Sn	08 46 01.8	0.0
LCR2	La Lucha 2	0.24	104	*e*P	Pn	08 45 54.0	-1.1
LCR2				*e*S	Sn	08 46 00.8	-1.2
SRA1	San Ram‡n	0.37	320	*e*P	Pn	08 45 55.5	-0.6
SRA1				*e*S	Sn	08 46 03.5	-0.2
URSC	Urasca	0.46	86	*e*P	Pn	08 45 56.7	-0.3
CVTR	Volcan Turrial	0.52	65	*e*P	Pn	08 45 58.4	+0.4
FORC	Fortuna	0.79	327	*i* P	Pn	08 46 01.2	+0.4
FORC				*i* S	Sn	08 46 13.1	+1.2
CASO	Castillo	0.80	322	*i* P	Pn	08 46 01.2	+0.2
ARE1	Arenal 1	0.81	324	*e*P	Pn	08 46 01.5	+0.5
CEDE	Laguna Cede˜–o	0.82	326	*i* P	Pn	08 46 01.8	+0.5
CEDE				*i* S	Sn	08 46 14.3	+1.6
EDLM	Las Mercedes	0.82	129	*e*P	Pn	08 46 00.9	-0.4
JTS	JuntasAbangare	0.86	305	Pg	Pn	08 46 01.5	-0.2
	582nm,0.3s,baz=27,slow=4.6,SNR=6691						
JTS				Lg	Lg	08 46 14.4	
	3μm,0.3s,baz=17,slow=19,SNR=172						
JTS				LR	LR	08 46 31.1	
	comp=Z,562nm,20.2s,baz=157,slow=51						
JTS	JuntasAbangare	0.86	305	*e*P	Pn	08 46 01.5	-0.2
JTS				*e*S	Sn	08 46 14.5	+1.0
AMAS	Alto Masis	1.10	317	*i* P	Pn	08 46 05.4	+0.5
DRK0	Durika	1.11	118	*e*P	Pn	08 46 04.7	-0.6
EDPN	Palmar Norte	1.14	137	*e*P	Pn	08 46 05.3	0.0
ACAL	Aguas Claras	1.14	317	*i* P	Pn	08 46 06.0	+0.5
EDBA	Buenos Aires	1.14	124	*e*P	Pn	08 46 04.9	-0.6
PLVR	Palo Verde	1.22	297	*e*P	Pn	08 46 06.3	-0.4
CUI	Cuipilapa	1.25	313	*i* P	Pn	08 46 07.6	+0.7
CUI				*i* S	Sn	08 46 24.2	+1.5
COLC	Colonia	1.28	312	*i* P	Pn	08 46 07.8	+0.5
HORNC	Hornillas	1.30	314	*i* P	Pn	08 46 07.8	+0.3
MESS	Mesas	1.33	315	*e*P	Pn	08 46 08.4	+0.6
MESS				*i* P	Pn	08 46 08.6	+0.6
MESS				*i* S	Sn	08 46 26.9	+2.2
GUAB	Guayabo de Bag	1.33	313	*i* P	Pn	08 46 08.4	+0.5
LIM1	Limonal	1.34	312	*i* P	Pn	08 46 08.6	+0.5
VCR	Vista de Mar	1.41	283	*e*P	Pn	08 46 08.2	-0.9
GPS3	Bodega del ICE	1.46	311	*i* P	Pn	08 46 10.0	+0.3
GPS1	Guardaparques	1.46	312	*i* P	Pn	08 46 10.1	+0.3
BUEV	Buena Vista	1.52	311	*e*P	Pn	08 46 10.8	+0.2
GB1A	Borinquen Arri	1.53	312	*i* P	Pn	08 46 11.1	+0.4
PTJ1	Puerto Jim˜ne	1.56	144	*e*P	Pn	08 46 11.7	+0.7
BRU2	Volcan	1.82	123	*e*P	Pn	08 46 14.8	0.0
CONN	Concepcion	2.22	322	*e*P	Pn	08 46 20.1	+0.1
ACON	Acoyapa	2.34	337	*i* P	Pn	08 46 22.2	+0.5
ACON				*e*S	Sn	08 46 49.6	+0.3
ACON				IAML		08 46 52.0	
	comp=N,4μm,0.5s						
ESPN	Las Esperanzas	2.38	359	*e*Pn	Pn	08 46 22.7	+0.5
ESPN				*e*Sn	Sn	08 46 52.4	+2.1
ESPN	Las Esperanzas	2.38	359	*e*P	Pn	08 46 22.9	+0.7
ESPN				*e*S	Sn	08 46 51.0	+0.8
BOAB	BOACO BROADBAN	2.98	332	*e*Pn	Pn	08 46 30.8	+0.4
BOAB				*e*Sn	Sn	08 47 06.4	+1.3
BOAB	BOACO BROADBAN	2.98	332	*e*P	Pn	08 46 31.0	+0.6
MGAN	Managua	3.06	320	*e*P	Pn	08 46 32.2	+0.7
COPN	Copaltepe	3.31	316	*e*P	Pn	08 46 35.7	+0.8
MOMN	Momotombo	3.44	319	*e*P	Pn	08 46 37.2	+0.4
MATN	Matagalpa	3.52	332	*i* P	Pn	08 46 39.2	+1.3
ESTN	Estel	3.89	328	*e*Pn	Pn	08 46 43.7	+0.8
ESTN				*e*Sn	Sn	08 47 31.1	+3.6
ESTN	Estel	3.89	328	*e*P	Pn	08 46 43.8	+0.8
CRIN	San Cristobal	3.99	317	*e*P	Pn	08 46 46.0	+1.7
BCIP	Isla Barro Col	4.39	98	*e*Pn	Pn	08 46 50.7	+1.0
BCIP				*e*Sn	Sn	08 47 39.7	+0.2
BCIP	Isla Barro Col	4.39	98	*e*P	Pn	08 46 50.6	+0.9
APG	El Apazote	7.98	311	Pn	Pn	08 47 41.9	+2.7
	comp=N,1.3nm,0.3s,baz=130,slow=8.7,SNR=7.6						
APG				LR	LR	08 50 50.7	
	comp=N,145nm,21.0s,baz=237,slow=38						
MOTC	Monteria, Cord	8.52	96	*e*P	Pn	08 47 48.9	+2.5
HELC	Santa Helena	9.34	112	*e*P	Pn	08 47 59.0	+1.0
ZARC	Zaragoza, Cauc	9.55	103	*e*P	Pn	08 48 02.1	+1.6
YOTC	Yotoco, Valle	9.73	126	*e*P	Pn	08 48 05.0	+1.9
GUYC	Guyana, Colomb	9.88	117	*e*P	Pn	08 48 09.2	+3.8
CCIG	Comitan	10.04	311	*e*Pn	Pn	08 48 07.5	+0.3
RREF	El Recreo	10.07	118	*e*P	Pn	08 48 12.1	+3.9
PTBC	PUERTO BERRIO,	10.21	108	*e*P	Pn	08 48 10.8	+1.3
POPC	Popayan, Colom	10.41	133	*e*P	Pn	08 48 15.8	+3.2
SOTA	Rioblanco	10.75	135	*e*P	Pn	08 48 22.0	+4.7
PCON	Cinco Dias	10.76	133	*e*P	Pn	08 48 21.7	+4.1
OCAC	Ocana	10.90	97	*e*P	Pn	08 48 20.6	+1.6
CRUC	La Cruz	10.93	138	*e*P	Pn	08 48 26.6	+7.0
GCUF	Volcan Galeras	10.93	141	*e*P	Pn	08 48 24.9	+5.0
ROSC	El Rosal	11.00	116	LR	LR	08 53 15.5	
	comp=N,16nm,21.0s,baz=59,slow=41						
ROSC	El Rosal	11.00	116	*e*Pn	Pn	08 48 22.2	+1.5
PRAC	Prado	11.08	122	*e*P	Pn	08 48 24.8	+3.3
BARC	Barichara	11.40	105	*e*P	Pn	08 48 27.7	+1.7
CHIC	Chingaza	11.62	116	*e*P	Pn	08 48 32.3	+3.2
RUSC	La Rusia	11.71	109	*e*P	Pn	08 48 27.6	-2.9
MYIG	MOrida	12.29	335	*e*Pn	Pn	08 48 37.5	-0.4
CMIG	Matias Romero	12.63	306	Pn	Pn	08 48 41.5	-1.1
	comp=N,1.5nm,0.3s,baz=132,slow=12,SNR=6.6						
CMIG				Sn	Sn	08 50 57.5	-4.3
	comp=N,0.1nm,0.3s,baz=294,slow=18,SNR=1.9						
LVIG	Laguna Verde	15.35	311	*e*Pn	Pn	08 49 20.2	+1.4
	comp=N,54nm,1.2s						
TLIG	Tlapa	15.91	301	*e*Pn	P	08 49 27.5	-1.3
	comp=N,9.1nm,0.9s						
ATAH	Atahualpa	17.80	161	LR	LR	08 55 54.8	
	comp=N,120nm,19.1s,baz=4.1,slow=34						
957A	Wimauma	17.88	6	*e*P	Pn	08 49 48.1	-2.3
	comp=N,173nm,1.4s						
451A	Vernon	20.76	356	*e*P	P	08 50 22.4	+0.6
	comp=N,164nm,1.2s						
LNIG	Linares	20.86	318	*e*P	P	08 50 22.6	-0.4
	comp=N,4.6nm,1.0s						
SABA	Saba	21.81	67	*e*P	P	08 50 34.4	+1.2
	comp=N,118nm,1.4s						
152A	Waverly Hall	22.76	359	*e*P	P	08 50 44.0	+0.7
	comp=N,11nm,0.8s						
NNA	Nana	22.86	161	LR	LR	08 58 33.4	
	comp=N,60nm,20.3s,baz=78,slow=34						
LRAL	Lakeview Retre	23.26	354	*e*P	P	08 50 47.9	-0.4
	comp=N,11nm,1.1s						
Z50A	Ashland	23.39	356	*e*P	P	08 50 48.8	-0.7
	comp=N,9.0nm,1.1s						
GOGA	Godfrey	23.51	2	*e*P	P	08 50 50.3	-0.2
	comp=N,16nm,1.4s						
Y52A	Lilburn	23.95	0	*e*P	P	08 50 55.0	+0.4
	comp=N,12nm,1.2s						
Y49A	Blount Mountai	24.03	356	*e*P	P	08 50 55.5	+0.1
	comp=N,6.9nm,0.9s						
JSC	Jenkinsville	24.52	6	*e*P	P	08 50 60.0	+0.2
	comp=N,14nm,1.1s						
Z41A	Richland Creek	24.64	343	*e*P	P	08 51 01.8	+0.9
	comp=N,10nm,0.8s						
BG3	Lake Jocassee	25.11	3	*e*P	P	08 51 06.0	+0.9
	comp=N,13nm,1.2s						
W50A	Signal Mountai	25.30	358	*e*P	P	08 51 08.5	+1.5
	comp=N,12nm,1.0s						
PLAL	Pickwick Lake	25.31	353	*e*P	P	08 51 09.0	+2.0
	comp=N,19nm,1.5s						
CPCT	Cooper Cave	25.53	359	*e*P	P	08 51 10.2	+1.2
	comp=N,11nm,1.2s						
TKL	Tuckaleechee C	25.74	1	P	P	08 51 12.6	+1.7
	comp=N,7.8nm,1.1s,baz=154,slow=6.8,SNR=4.2						
TKL	Tuckaleechee C	25.74	1	*e*P	P	08 51 11.9	+1.0
	comp=N,17nm,1.3s						
PTGA	Pitinga	26.33	112	P	P	08 51 17.0	+0.6
	comp=N,1.0nm,0.3s,baz=289,slow=14,SNR=4.6						
PTGA				LR	LR	09 02 23.5	
	comp=N,44nm,19.6s,baz=288,slow=38						
WHAR	Wooly Hollow	26.42	345	*e*P	P	08 51 15.8	-1.1
	comp=N,12nm,1.2s						
TXAR	Lajitas Array	26.62	320	P	P	08 51 19.7	+0.7
	comp=N,0.2nm,0.3s,baz=141,slow=10,SNR=3.7						
LTX	Lajitas	26.62	320	*e*P	P	08 51 19.7	+0.7
LPAZ	La Paz	30.43	148	P	P	08 51 54.2	+0.6
	comp=N,0.7nm,0.7s,baz=338,slow=5.7,SNR=3.5						
LPAZ				LR	LR	09 04 46.9	
	comp=N,68nm,19.9s,baz=26,slow=38						
LPAZ	La Paz	30.43	148	*e*P	P	08 51 53.3	-0.3
MNMC	Minye Minye	32.17	153	*e*P	P	08 52 07.8	-0.7
	comp=N,9.7nm,1.2s						
ULM	Lac du Bonnet	41.46	349	P	P	08 53 23.5	-3.3
	comp=N,4.1nm,0.8s,baz=168,slow=8.8,SNR=5.1						
NV01

SLA					IAML		09 09 23.7	
	comp=Z,92nm,0.6s							
HJA	**Humahuaca**	**1.40**	**59**	*i* P	**Pn**	**09 09 23.2**	**+0.8**	
HJA					IAML	09 09 24.6		
	comp=Z,54nm,0.6s							
AZAP	**Zapla**	**1.54**	**101**	*i* P	**Pn**	**09 09 24.0**	**+0.6**	
AZAP					IAML	09 09 24.3		
	comp=Z,476nm,0.5s							
YJA	**Yavi**	**2.07**	**33**	*i* P	**Pn**	**09 09 29.8**	**+1.0**	
YJA					IAML	09 09 30.5		
	comp=Z,13nm,0.3s							
YJA				*i* S	**Sn**	**09 10 00.1**	**+0.4**	
FSA	**Cafayete**	**2.27**	**163**	*i* P	**Pn**	**09 09 31.1**	**+0.5**	
FSA					IAML	09 09 31.5		
	comp=Z,66nm,0.3s							
FSA				*i* S	**Sn**	**09 10 03.0**	**-0.2**	
LVC	**Limon Verde**	**2.41**	**303**	*i* P	**Pn**	**09 09 33.4**	**+1.0**	
PB15	**IPOC Station P**	**2.63**	**285**	*i* P	**Pn**	**09 09 35.6**	**+1.0**	
PB15	**IPOC Station P**	**2.63**	**285**	⇑*i* P	**Pn**	**09 09 35.8**	**+1.2**	
PB15				*e*S	**Sn**	**09 10 10.9**	**+0.9**	
PB06	**IPOC Station P**	**2.89**	**294**	⇓*i* P	**Pn**	**09 09 38.3**	**+0.6**	
PB06	**IPOC Station P**	**2.89**	**294**	⇑*i* P	**Pn**	**09 09 38.7**	**+1.1**	
PB06				*e*S	**Sn**	**09 10 15.2**	**-0.3**	
PB06				IAML		09 10 18.3		
	comp=N,329nm,0.1s							
AHML	**Horco Molle**	**3.11**	**157**	⇓*i* P	**Pn**	**09 09 40.3**	**+0.3**	
AHML				IAML		09 09 40.7		
	comp=Z,16nm,0.4s							
AHML				*i* S	**Sn**	**09 10 18.7**	**-1.3**	
PB09	**IPOC Station P**	**3.15**	**312**	⇑*i* P	**Pn**	**09 09 42.0**	**+1.3**	
PB09				IAML		09 10 23.3		
	comp=N,94nm,0.6s							
PB03	**IPOC Station P**	**3.37**	**303**	⇑*i* P	**Pn**	**09 09 43.9**	**+0.6**	
PB03				*e*S	**Sn**	**09 10 24.3**	**-1.4**	
PB05	**IPOC Station P**	**3.38**	**288**	⇑*i* P	**Pn**	**09 09 43.7**	**+0.3**	
PB05				*e*S	**Sn**	**09 10 24.2**	**-1.5**	
PB10	**IPOC Station P**	**3.54**	**276**	⇑*i* P	**Pn**	**09 09 45.9**	**+0.7**	
PB10				*e*S	**Sn**	**09 10 27.9**	**-1.2**	
PB01	**IPOC Station P**	**3.85**	**318**	*e*P	**Pn**	**09 09 49.4**	**+0.3**	
PB01				*e*S	**Sn**	**09 10 34.5**	**-1.6**	
LPAZ	**La Paz**	**7.72**	**350**	P	**Pn**	**09 10 39.3**	**0.0**	
	comp=N,1.0nm,0.3s,baz=168,slow=9.3,SNR=35							
LPAZ				S	**Sn**	**09 12 04.2**	**-2.6**	
	comp=N,0.2nm,0.3s,baz=25,slow=13,SNR=8.9							
PLCA	**Paso Flores**	**17.06**	**190**	P	**P**	**09 12 34.3**	**-0.4**	
	comp=N,0.2nm,0.3s,baz=25,slow=13,SNR=8.9							
MKAR	**Makanchi Array**	**146.31**	**40**	PKPbc	**PKPdf**	**09 28 05.8**	**+1.2**	
	comp=N,0.2nm,0.5s,baz=279,slow=3.7,SNR=5.9							

MEX 12 09:20:23.1±1.0, 14°55N×92°18W, h95km±10km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.36**	**347**	*e*P	Pn	09 20 35.3	-2.1
THIG				*e*S	Sn	09 20 47.1	-1.0
PCIG		**1.52**	**319**	*e*P	Pn	09 20 48.1	-1.2
PCIG				*e*S	Sn	09 21 08.3	-0.9
CCIG	**Comitan**	**1.72**	**1**	*e*P	Pn	09 20 50.0	-2.0
CCIG				*i* S	Sn	09 21 12.6	-1.5
TGIG		**2.39**	**338**	*i* P	Pn	09 21 00.0	-0.7
TGIG				*i* S	Sn	09 21 27.2	-2.2

TRN 12 09:30:43.8, 11.72N×62.11W, h137km, MD3.5, 1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**1.27**	**147**	⇓*i* P	Pn	09 31 10.8	+0.8
TRN				*e*S	Sn	09 31 29.9	0.0
TPR	**Prospect**	**1.41**	**112**	*e*P	Pn	09 31 10.6	-0.8
TPR				*e*S	Sn	09 31 32.0	-0.4
BOT	**Bacolet**	**1.47**	**112**	*e*P	Pn	09 31 11.3	-0.7
BOT				*e*S	Sn	09 31 32.8	-0.7
TPP	**Pointe-a-Pierr**	**1.54**	**155**	*e*S	Sn	09 31 33.2	-1.7
TOSP	**Speyside**	**1.60**	**105**	*e*P	Pn	09 31 13.3	-0.2
TOSP				*e*S	Sn	09 31 34.6	-1.5
TBH	**Brigand Hill**	**1.60**	**140**	*e*S	Sn	09 31 36.0	-0.2
FCV	**Fort Charlotte**	**1.66**	**31**	*e*P	Pn	09 31 13.5	-0.6
FCV				*e*S	Sn	09 31 36.0	-1.4
SVB	**Belmont**	**1.75**	**28**	*e*P	Pn	09 31 15.1	-0.1
SVB				*e*S	Sn	09 31 37.8	-1.6
SVCV	**St. Vincent, C**	**1.81**	**31**	*e*P	Pn	09 31 15.5	-0.3
SVCV				*e*S	Sn	09 31 39.5	-0.9
SVV	**Soufriere Volc**	**1.81**	**29**	*e*P	Pn	09 31 16.9	+1.1
SVV				*e*S	Sn	09 31 39.7	-0.8
SSV	**Crater Summit**	**1.83**	**29**	*e*P	Pn	09 31 16.6	+0.4
SSV				*e*S	Sn	09 31 39.3	-1.7
SFAN	**Fancy Village**	**1.89**	**29**	*e*P	Pn	09 31 17.1	+0.3
SFAN				*e*S	Sn	09 31 41.0	-1.1
MCLT	**Moule a Chique**	**2.28**	**30**	*e*P	Pn	09 31 21.5	0.0
MCLT				*e*S	Sn	09 31 48.9	-1.7
SLB	**Belfond**	**2.34**	**26**	*e*P	Pn	09 31 22.9	+0.6
SLB				*e*S	Sn	09 31 51.1	-0.9
BBGH	**Gun Hill**	**2.86**	**60**	*e*S	Sn	09 32 02.4	-1.3
ZAM	**Aeronautique**	**3.02**	**20**	*e*P	Pn	09 31 31.2	+0.3
LPMF	**Morne Lapointe**	**3.04**	**21**	*e*P	Pn	09 31 31.7	+0.5
MVM	**Montagne Vaucl**	**3.05**	**23**	*e*P	Pn	09 31 31.4	0.0
FDF	**Fort de France**	**3.13**	**17**	*e*P	Pn	09 31 32.4	0.0
FDF				*e*S	Sn	09 32 08.6	-1.4
PCM	**Pelee Case Pet**	**3.20**	**16**	*e*P	Pn	09 31 32.1	-1.1
BAMF	**Morne Balai**	**3.21**	**17**	*e*P	Pn	09 31 32.5	-0.9

*IDC **12** 10:05:17.9±4.0, 39°27S×177°04E, h34km±24km, mb4.0/2, mb1 4.3/3, mb1mx3.8/34, mbtmp4.3/3, ML4.3/1, MS2.8/2, Ms1 2.8/2, ms1mx2.5/31, Error ellipse: s-maj=50.9km s-min=25.8km az=124.0*

*ISCJB **12** 10:05:21.4±0.3, 39°14S±0°02×176°72E±0°03, h78km±3km, mb4.5/4, Error ellipse: s-maj=4.1km s-min=2.7km az=17.9*

*NEIC **12** 10:05:22.3±0.0, 39°07S×176°72E, h72km, mb4.6/2, ML4.1(WEL), After WEL.*

*WEL **12** 10:05:23.1, 39°0S±1°0×17°7E±°, h63km±1km, ML4.5/18*

ISC 12 10:05:21.9±0.8, 39°17S±0°03×176°66E±0°04, h80km±5km, n180, σ1§68/201, mb4.6/4, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKZ	**Black Stump Fm**	**0.13**	**272**	*e*Pn	**Pn**	**10 05 32.9**	**-0.6**
BKZ				*e*Sn	**Sn**	**10 05 39.4**	**-2.7**
BKZ	**Black Stump Fm**	**0.13**	**272**	P	**Pn**	**10 05 32.9**	**-0.6**
BKZ				S	**Sn**	**10 05 40.0**	**-2.1**
NMHZ	**Naumai**	**0.13**	**57**	P	**Pn**	**10 05 33.0**	**-0.5**
NMHZ				S	**Sn**	**10 05 40.2**	**-1.9**
ARHZ	**Aropaoanui**	**0.28**	**110**	P	**Pn**	**10 05 34.1**	**+0.1**
ARHZ				S	**Sn**	**10 05 42.6**	**-0.4**
MCHZ	**McNeill Hill**	**0.28**	**175**	P	**Pn**	**10 05 34.9**	**+0.9**
MCHZ				S	**Sn**	**10 05 43.1**	**+0.1**
KWHZ	**Kaweka Forest**	**0.32**	**216**	P	**Pn**	**10 05 34.8**	**+0.5**
KWHZ				S	**Sn**	**10 05 43.6**	**+0.1**
MTHZ	**Maungataniwha**	**0.35**	**24**	P	**Pn**	**10 05 33.1**	**-1.4**
MTHZ				S	**Sn**	**10 05 40.7**	**-3.1**
MRHZ	**Matea Rd**	**0.39**	**330**	P	**Pn**	**10 05 33.5**	**-1.3**
RAHZ	**Arahi**	**0.41**	**53**	P	**Pn**	**10 05 34.2**	**-0.8**
RAHZ				S	**Sn**	**10 05 42.6**	**-2.1**
WHHZ	**Waihua**	**0.45**	**78**	P	**Pn**	**10 05 35.1**	**-0.1**
WHHZ				S	**Sn**	**10 05 44.1**	**-1.0**
HATZ	**Hinemaiaia**	**0.53**	**302**	P	**Pn**	**10 05 35.1**	**-0.8**
HATZ				S	**Sn**	**10 05 43.3**	**-2.9**
KRHZ	**Kereru**	**0.53**	**206**	P	**Pn**	**10 05 37.0**	**+1.1**
BHHZ	**Black Hill Sta**	**0.56**	**235**	P	**Pn**	**10 05 37.3**	**+1.0**
BHHZ				P	**Pn**	**10 05 37.3**	**+1.0**
CKHZ	**Cape Kidnapper**	**0.58**	**147**	P	**Pn**	**10 05 37.7**	**+1.3**
RTZ	**Ruatahuna**	**0.61**	**24**	P	**Pn**	**10 05 35.3**	**-1.4**
RTZ				S	**Sn**	**10 05 44.6**	**-3.0**
KAHZ	**Kahuranaki**	**0.65**	**165**	P	**Pn**	**10 05 38.6**	**+1.6**
RITZ	**Rihia Road**	**0.66**	**287**	P	**Pn**	**10 05 37.2**	**+0.2**
SNGZ	**Shannon Statio**	**0.66**	**54**	P	**Pn**	**10 05 36.6**	**-0.5**
ALRZ	**Allen Road**	**0.66**	**338**	P	**Pn**	**10 05 35.9**	**-1.2**
ALRZ				S	**Sn**	**10 05 45.0**	**-3.4**
MUGZ	**Murupara**	**0.70**	**7**	P	**Pn**	**10 05 36.0**	**-1.5**
PRRZ	**Plateau Road**	**0.70**	**342**	P	**Pn**	**10 05 36.4**	**-1.1**
MOVZ	**Moawhango**	**0.74**	**251**	P	**Pn**	**10 05 38.8**	**+0.7**
WHTZ	**Whakaora**	**0.75**	**312**	P	**Pn**	**10 05 37.7**	**-0.3**
RATZ	**Rangitukua**	**0.76**	**293**	P	**Pn**	**10 05 38.1**	**-0.1**
WPRZ	**Whakapapatarin**	**0.76**	**329**	P	**Pn**	**10 05 37.1**	**-1.1**
KATZ	**Kakaramea**	**0.78**	**284**	P	**Pn**	**10 05 38.7**	**+0.2**
TUVZ	**Tukino**	**0.79**	**263**	P	**Pn**	**10 05 39.5**	**+0.9**
KRVZ	**Karewarewa**	**0.80**	**275**	P	**Pn**	**10 05 39.2**	**+0.5**
KNZ	**Kokohu**	**0.80**	**80**	P	**Pn**	**10 05 38.3**	**-0.2**
PNHZ	**Pukenui**	**0.82**	**206**	P	**Pn**	**10 05 40.3**	**+1.4**
NGZ	**Ngauruhoe**	**0.83**	**269**	P	**Pn**	**10 05 39.8**	**+0.7**
HRRZ	**Handcock Road**	**0.83**	**339**	P	**Pn**	**10 05 38.0**	**-1.0**
WTVZ	**West Tongariro**	**0.84**	**273**	P	**Pn**	**10 05 39.8**	**+0.6**
RRRZ	**Republican Roa**	**0.84**	**352**	P	**Pn**	**10 05 37.8**	**-1.2**
WHVZ	**Whangaehu Hut**	**0.84**	**262**	P	**Pn**	**10 05 40.1**	**+0.8**
WATZ	**Wairara**	**0.86**	**302**	P	**Pn**	**10 05 38.9**	**-0.4**
DRZ	**Dome Shelter**	**0.86**	**263**	P	**Pn**	**10 05 40.4**	**+0.8**
FWVZ	**Far West T-bar**	**0.87**	**264**	P	**Pn**	**10 05 40.4**	**+0.8**
COVZ	**Chateau Observ**	**0.87**	**268**	P	**Pn**	**10 05 40.3**	**+0.8**
PXZ	**Pawanui**	**0.87**	**170**	P	**Pn**	**10 05 40.9**	**+1.5**
TRVZ	**Turoa**	**0.88**	**261**	P	**Pn**	**10 05 40.5**	**+0.8**
RAWZ	**Rawiri**	**0.89**	**41**	P	**Pn**	**10 05 39.0**	**-0.7**
WPHZ	**Waipukurau**	**0.91**	**191**	P	**Pn**	**10 05 41.3**	**+1.4**
HSRZ	**Haisack Road**	**0.92**	**339**	P	**Pn**	**10 05 39.2**	**-0.7**
GRRZ	**Galatos Road**	**0.93**	**332**	P	**Pn**	**10 05 39.7**	**-0.4**
TARZ	**Mount Tarawera**	**0.94**	**352**	P	**Pn**	**10 05 39.4**	**-0.9**
KUTZ	**Kaahu Road**	**0.94**	**316**	P	**Pn**	**10 05 39.7**	**-0.5**
HLRZ	**Highlands Stat**	**0.95**	**345**	P	**Pn**	**10 05 40.3**	**0.0**
MTVZ	**Mangateitei**	**0.95**	**257**	P	**Pn**	**10 05 41.5**	**+1.1**
TWVZ	**Taurewa**	**0.96**	**276**	P	**Pn**	**10 05 40.9**	**+0.4**
MHGZ	**Mahia Peninsul**	**0.97**	**89**	P	**Pn**	**10 05 40.8**	**+0.3**
RIGZ	**Rimuhau**	**0.97**	**62**	P	**Pn**	**10 05 40.3**	**-0.3**
URZ	**Urewera**	**0.97**	**21**	Pg	**Pn**	**10 05 39.0**	**-1.5**
	246nm,0.3s,baz=234,slow=2.7,SNR=7466						
URZ				Lg	Lg	10 05 50.6	
	538nm,0.3s,baz=319,slow=19,SNR=55						
URZ	**Urewera**	**0.97**	**21**	*e*Pn	**Pn**	**10 05 39.0**	**-1.5**
URZ				*e*Pn	Pn	10 05 39.3	-1.3
URZ				*e*Sn	**Sn**	**10 05 50.6**	**-3.9**
URZ				*e*Sn	Sn	10 05 51.6	-3.0
URZ	**Urewera**	**0.97**	**21**	P	**Pn**	**10 05 39.2**	**-1.3**
PRGZ	**Paritu Road**	**0.98**	**76**	P	**Pn**	**10 05 40.7**	**0.0**
PKVZ	**Pokaka**	**1.03**	**263**	P	**Pn**	**10 05 42.5**	**+1.2**
TSZ	**Takapari Road**	**1.04**	**211**	P	**Pn**	**10 05 42.8**	**+1.3**
MKRZ	**Makatiti**	**1.04**	**351**	P	**Pn**	**10 05 41.0**	**-0.5**
UTU	**Utuhina**	**1.06**	**340**	P	**Pn**	**10 05 41.3**	**-0.3**
EDRZ	**Edgecumbe**	**1.06**	**3**	P	**Pn**	**10 05 40.4**	**-1.3**
MWZ	**Matawai**	**1.07**	**39**	P	**Pn**	**10 05 41.0**	**-0.9**
OMRZ	**Omania**	**1.09**	**348**	P	**Pn**	**10 05 40.9**	**-1.1**
PRHZ	**Porangahau**	**1.10**	**181**	P	**Pn**	**10 05 43.5**	**+1.4**
NGRZ	**Ngongotaha**	**1.13**	**341**	P	**Pn**	**10 05 42.4**	**-0.1**
TKGZ	**Te Karaka**	**1.18**	**52**	P	**Pn**	**10 05 42.6**	**-0.5**
MARZ	**Manawahe**	**1.18**	**0**	P	**Pn**	**10 05 42.1**	**-1.1**
LIRZ	**Lichensteins R**	**1.19**	**349**	P	**Pn**	**10 05 42.3**	**-0.9**
DVHZ	**Dannevirke**	**1.19**	**199**	P	**Pn**	**10 05 44.2**	**+1.0**
KARZ	**Kaharoa**	**1.19**	**344**	P	**Pn**	**10 05 42.6**	**-0.7**
TLZ	**Tolley Road**	**1.22**	**313**	P	**Pn**	**10 05 43.3**	**-0.3**
ANWZ	**Angora Road**	**1.30**	**186**	P	**Pn**	**10 05 45.9**	**+1.4**
OPRZ	**Ohinepanea**	**1.33**	**356**	P	**Pn**	**10 05 43.4**	**-1.6**
WHRZ	**Whale Island**	**1.33**	**11**	P	**Pn**	**10 05 44.3**	**-0.8**
CNGZ	**Carnagh Statio**	**1.39**	**61**	P	**Pn**	**10 05 45.5**	**-0.2**
POWZ	**Post Office Ro**	**1.40**	**209**	P	**Pn**	**10 05 47.1**	**+1.2**
WAZ	**Wanganui**	**1.42**	**245**	P	**Pn**	**10 05 48.5**	**+2.3**
TWGZ	**Tauwhareparae**	**1.43**	**47**	P	**Pn**	**10 05 46.3**	**0.0**
RUGZ	**Raukumara Rang**	**1.44**	**34**	P	**Pn**	**10 05 45.4**	**-1.1**
OHWZ	**Ohakea**	**1.47**	**225**	P	**Pn**	**10 05 49.1**	**+2.4**
TGRZ	**Tauranga**	**1.47**	**347**	P	**Pn**	**10 05 45.8**	**-1.0**
PRWZ	**Pori Road**	**1.48**	**201**	P	**Pn**	**10 05 48.2**	**+1.2**
PRWZ				P	Pn	10 05 48.2	+1.2
VRZ	**Vera Road**	**1.48**	**271**	P	**Pn**	**10 05 48.2**	**+1.3**
BFZ	**Birch Farm**	**1.54**	**192**	*e*Pn	**Pn**	**10 05 48.8**	**+1.1**
BFZ				*e*Sn	**Sn**	**10 05 48.3**	**-3.0**
BFZ	**Birch Farm**	**1.54**	**192**	P	**Pn**	**10 05 48.6**	**+0.9**
HIZ	**Hauiti**	**1.56**	**294**	*e*Pn	**Pn**	**10 05 48.7**	**+0.8**
HIZ	**Hauiti**	**1.56**	**294**	P	**Pn**	**10 05 48.6**	**+0.8**
PUZ	**Puketiti**	**1.66**	**49**	P	**Pn**	**10 05 48.6**	**-0.7**
HAZ	**Te Kaha**	**1.66**	**32**	P	**Pn**	**10 05 47.6**	**-1.6**
PKGZ	**Pakihiroa**	**1.69**	**41**	P	**Pn**	**10 05 49.1**	**-0.6**
MRZ	**Mangatainoka R**	**1.71**	**209**	P	**Pn**	**10 05 50.6**	**+0.8**
MRZ	**Mangatainoka R**	**1.71**	**209**	P	**Pn**	**10 05 50.6**	**+0.8**
TIWZ	**Tintock**	**1.71**	**200**	P	**Pn**	**10 05 50.9**	**+0.9**
CPWZ	**Castlepoint**	**1.77**	**191**	P	**Pn**	**10 05 52.2**	**+1.4**
LREZ	**Lake Rotokare**	**1.78**	**260**	P	**Pn**	**10 05 52.9**	**+2.1**
MHEZ	**Mangahewa**	**1.82**	**272**	P	**Pn**	**10 05 53.7**	**+2.3**
DREZ	**Durham Road**	**1.91**	**269**	P	**Pn**	**10 05 55.0**	**+2.4**
MYRZ	**Mayor Island**	**1.92**	**350**	P	**Pn**	**10 05 52.0**	**-0.6**
WMGZ	**Waiomatatini S**	**1.93**	**46**	P	**Pn**	**10 05 52.1**	**-0.6**
HOWZ	**Holdsworth Sta**	**1.94**	**207**	P	**Pn**	**10 05 53.3**	**+0.3**
PREZ	**Palmer Road**	**1.95**	**264**	P	**Pn**	**10 05 55.9**	**+2.7**
OGWZ	**Otaki Gorge**	**2.00**	**214**	P	**Pn**	**10 05 54.4**	**+0.6**
TMWZ	**Te Maipa**	**2.02**	**197**	P	**Pn**	**10 05 54.5**	**+0.4**
MXZ	**Matakaoa Point**	**2.06**	**39**	*e*Pn	**Pn**	**10 05 53.9**	**-0.6**
MXZ	**Matakaoa Point**	**2.06**	**39**	P	**Pn**	**10 05 54.0**	**-0.6**
KHEZ	**Kahui Hut**	**2.06**	**266**	P	**Pn**	**10 05 57.2**	**+2.6**
PKE	**Pukeiti**	**2.08**	**268**	P	**Pn**	**10 05 57.1**	**+2.3**
KIW	**Kapiti Island**	**2.16**	**218**	P	**Pn**	**10 05 56.6**	**+0.7**
NBEZ	**Newall Road No**	**2.17**	**267**	P	**Pn**	**10 05 58.4**	**+2.4**
NMEZ	**Namu Road**	**2.17**	**263**	P	**Pn**	**10 05 58.8**	**+2.8**
MTW	**Mount Morrison**	**2.18**	**204**	P	**Pn**	**10 05 56.0**	**-0.1**
CAW	**Cannon Point**	**2.29**	**212**	P	**Pn**	**10 05 57.6**	**0.0**
TRWZ	**Traveller**	**2.35**	**198**	P	**Pn**	**10 05 58.4**	**0.0**
MKAZ	**Moumakai**	**2.38**	**330**	P	**Pn**	**10 05 59.0**	**+0.2**
PAWZ	**Paruwai Farm**	**2.40**	**203**	P	**Pn**	**10 05 58.9**	**-0.3**
MSWZ	**Moikau Station**	**2.49**	**205**	P	**Pn**	**10 05 59.7**	**-0.6**
KBAZ	**Karaka Road Bo**	**2.50**	**325**	P	**Pn**	**10 06 01.2**	**+0.8**
KUZ	**Kuaotunu**	**2.53**	**343**	P	**Pn**	**10 06 00.7**	**-0.1**
ETZ	**East Tamaki Re**	**2.60**	**328**	P	**Pn**	**10 06 02.4**	**+0.6**
SNZO	**South Karori**	**2.61**	**214**	*e*Pn	**Pn**	**10 06 01.4**	**-0.5**
SNZO				*e*Sn	**Sn**	**10 06 33.0**	**+0.4**
BHW	**Baring Head**	**2.62**	**211**	P	**Pn**	**10 06 01.6**	**-0.5**
PLWZ	**Palliser**	**2.63**	**204**	P	**Pn**	**10 06 01.4**	**-0.7**
AWAZ	**Awhitu Peninsu**	**2.64**	**322**	P	**Pn**	**10 06 03.0**	**+0.7**
DUWZ	**D'Urville Isla**	**2.66**	**231**	P	**Pn**	**10 06 02.9**	**+0.3**
WIAZ	**Waiheke Island**	**2.66**	**333**	P	**Pn**	**10 06 03.1**	**+0.5**
TCW	**Tory Channel**	**2.74**	**221**	P	**Pn**	**10 06 03.5**	**-0.1**
EPAZ	**Eden Park BICE**	**2.75**	**326**	P	**Pn**	**10 06 04.4**	**+0.6**
MBAZ	**Motutapu North**	**2.77**	**329**	P	**Pn**	**10 06 04.8**	**+0.7**
HBAZ	**Herne Bay Bore**	**2.77**	**326**	P	**Pn**	**10 06 04.7**	**+0.6**
WTAZ	**Waiatarua**	**2.78**	**323**	P	**Pn**	**10 06 05.2**	**+1.0**
RVAZ	**Riverhead Bore**	**2.91**	**325**	P	**Pn**	**10 06 06.5**	**+0.6**
ABAZ	**Army Bay**	**2.95**	**330**	P	**Pn**	**10 06 07.3**	**+0.9**
GRZ	**Great Barrier**	**3.07**	**341**	P	**Pn**	**10 06 08.4**	**+0.3**
TUWZ	**Tuamarina**	**3.07**	**222**	P	**Pn**	**10 06 07.6**	**-0.5**
NNZ	**Nelson**	**3.24**	**230**	P	**Pn**	**10 06 10.0**	**-0.4**
BSWZ	**Blackbirch Sta**	**3.31**	**219**	P	**Pn**	**10 06 10.7**	**-0.7**
QRZ	**Quartz Range**	**3.58**	**241**	P	**Pn**	**10 06 14.6**	**-0.4**
WCZ	**Waipu Caves**	**3.71**	**330**	P	**Pn**	**10 06 17.7**	**+0.9**
THZ	**Tophouse**	**3.86**	**227**	*e*Pn	**Pn**	**10 06 18.1**	**-0.8**
THZ	**Tophouse**	**3.86**	**227**	P	**Pn**	**10 06 18.1**	**-0.8**
KHZ	**Kahutara**	**4.02**	**215**	*e*Pn	**Pn**	**10 06 19.4**	**-1.6**
KHZ	**Kahutara**	**4.02**	**215**	P	**Pn**	**10 06 19.3**	**-1.6**
DSZ	**Denniston Nort**	**4.51**	**234**	P	**Pn**	**10 06 26.6**	**-1.1**
OUZ	**Omahuta**	**4.64**	**327**	*e*Pn	**Pn**	**10 06 30.6**	**+1.1**
OUZ	**Omahuta**	**4.64**	**327**	P	**Pn**	**10 06 30.8**	**+1.3**
LTZ	**Lake Taylor**	**4.91**	**221**	*e*Pn	**Pn**	**10 06 31.4**	**-1.7**
LTZ	**Lake Taylor**	**4.91**	**221**	P	**Pn**	**10 06 31.4**	**-1.7**
AMCZ	**Amberley**	**5.02**	**216**	P	**Pn**	**10 06 32.6**	**-2.0**
OKCZ	**Okains Bay**	**5.29**	**210**	P	**Pn**	**10 06 35.9**	**-2.4**
INZ	**Inchbonnie**	**5.31**	**226**	P	**Pn**	**10 06 36.8**	**-1.8**
CRLZ	**Canterbury Las**	**5.35**	**213**	*e*Pn	**Pn**	**10 06 36.9**	**-2.2**
CRLZ				*e*Sn	**Sn**	**10 07 34.8**	**-4.5**
CRLZ	**Canterbury Las**	**5.35**	**213**	P	**Pn**	**10 06 36.8**	**-2.2**
OXZ	**Oxford**	**5.42**	**219**	*e*Pn	**Pn**	**10 06 37.0**	**-3.1**
OXZ	**Oxford**	**5.42**	**219**	P	**Pn**	**10 06 37.0**	**-3.1**
MQZ	**McQueen's Vall**	**5.44**	**212**	*e*Pn	**Pn**	**10 06 37.2**	**-3.2**
MQZ				*e*Sn	**Sn**	**10 07 35.9**	**-5.6**
MQZ	**McQueen's Vall**	**5.44**	**212**	P	**Pn**	**10 06 36.9**	**-3.4**
AKCZ	**Akaroa Harbour**	**5.48**	**210**	P	**Pn**	**10 06 38.8**	**-2.1**
WVZ	**Waitaha Valley**	**5.94**	**227**	P	**Pn**	**10 06 45.2**	**-1.9**
RPZ	**Rata Peaks**	**6.19**	**221**	Pn	**Pn**	**10 06 48.0**	**-2.6**
	6.4nm,0.3s,baz=42,slow=1.0,SNR=41						
RPZ				Sn	**Sn**	**10 07 55.0**	**-5.0**
	8.4nm,0.3s,baz=138,slow=9.0,SNR=14						
RPZ				LR	LR	10 08 53.8	
	comp=Z,74nm,18.9s,baz=37,slow=34						
RPZ	**Rata Peaks**	**6.19**	**221**	*e*Pn	**Pn**	**10 06 48.0**	**-2.6**
RPZ				*e*Pn	Pn	10 06 49.3	-1.4
RPZ				*e*Sn	**Sn**	**10 07 55.0**	**-5.0**
RPZ				*e*		10 08 53.8	
RPZ	**Rata Peaks**	**6.19**	**221**	P	**Pn**	**10 06 49.3**	**-1.4**
FOZ	**Fox Glacier**	**6.75**	**228**	*e*Pn	**Pn**	**10 06 56.3**	**-1.9**
FOZ	**Fox Glacier**	**6.75**	**228**	P	**Pn**	**10 06 56.0**	**-2.1**
CTZ	**Chatham Island**	**6.80**	**134**	P	**Pn**	**10 07 00.1**	**+1.2**
LBZ	**Lake Benmore**	**7.11**	**221**	*e*Pn	**Pn**	**10 07 01.9**	**-1.3**
LBZ	**Lake Benmore**	**7.11**	**221**	P	**Pn**	**10 07 01.4**	**-1.8**
ODZ	**Otahua Downs**	**7.38**	**215**	*e*Pn	**Pn**	**10 07 03.6**	**-3.2**
ODZ				*e*Sn	**Sn**	**10 08 23.0**	**-5.9**
WKZ	**Wanaka**	**8.02**	**223**	*e*Pn	**Pn**	**10 07 13.6**	**-2.0**
MLZ	**Mavora Lakes**	**8.86**	**223**	*e*Pn	**Pn**	**10 07 25.5**	**-1.4**
WHZ	**Wether Hill Ro**	**9.30**	**221**	*e*Pn	**Pn**	**10 07 32.4**	**-0.5**
RAR	**Rarotonga**	**26.98**	**55**	LR	LR	10 21 57.2	
	comp=Z,18nm,18.1s,baz=97,slow=37						
AS01	**Alice Springs**	**39.22**	**280**	*e*P	**P**	**10 12 44.7**	**+2.3**
AS31	**Alice Springs**	**39.25**	**280**	*e*P	**P**	**10 12 45.8**	**+3.1**
	2.9nm,0.3s						
ASAR	**Alice Springs**	**39.25**	**280**	P	**P**	**10 12 45.7**	**+3.0**
	2.4nm,0.3s,baz=114,slow=5.9,SNR=92						
WR1	**Warramunga Arr**	**41.06**	**285**	*e*P	**P**	**10 13 00.1**	**+2.5**
	16nm,1.6s						
WRA	**Warramunga Arr**	**41.06**	**285**	P	**P**	**10 13 00.1**	**+2.5**
	1.2nm,0.3s,baz=123,slow=7.3,SNR=86						
ARA0	**ARCESS Array S**	**145.93**	**342**	*e*PKPdf	**PKPab**	**10 24 52.4**	**+0.7**
ARCES	**ARCESS Array B**	**145.93**	**342**	PKPbc	**PKPab**	**10 24 52.4**	**+0.7**
	2.5nm,0.7s,baz=54,slow=3.9,SNR=9.3						
FIA0	**FINESS Array S**	**151.29**	**331**	*e*PKPbc	**PKPbc**	**10 25 06.8**	**+1.7**
FINES	**FINESS Array B**	**151.29**	**331**	PKPbc	**PKPbc**	**10 25 06.8**	**+1.7**
	6.2nm,1.1s,baz=152,slow=6.3,SNR=2.4						

*NIED **12** 10:15:00, 25°20N×124°90E, h5km, Mw4.3 Best double couple: M0 3.43000×10^15 NP1:ϕ=114.00000°, λ=-89.00000°. NP2:ϕ=292.00000

WEL **12** *10:32:30.8₀0.9,25˚S₀6˚ₓ17˚9W₀2˚7,h518km₅16km*
ISC 12 10:32:24.5₀0.4,**24:02S**₀0'04ₓ**179:89W**₀0'04,
h506km₀4km,**h507**km;**pP-P,n553,**ₒ1ₒ**35/605,mb4.9/212,**
15C-5D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**5.49**	**162**	P	**P**	**10 33 58.3**	**+2.1**
RIZ				S	**S**	**10 35 09.0**	**-2.2**
RAO	**Raoul Island**	**5.50**	**162**	P	**P**	**10 33 58.6**	**+2.3**
	230nm,0.3s,baz=89,slow=7.3,SNR=32						
RAO				S	S	10 35 01.1	-10
	53nm,0.3s,baz=253,slow=19,SNR=2.1						
RAO	**Raoul Island**	**5.50**	**162**	*eP*	**P**	**10 33 58.6**	**+2.3**
RAO				*eP*	P	10 33 58.9	+2.6
RAO				*eS*	S	10 35 01.1	-10
RAO				*eS*	S	10 35 14.2	+2.9
RAO	**Raoul Island**	**5.50**	**162**	*eP*	**P**	**10 33 58.6**	**+2.3**
RAO				*eS*	**S**	**10 35 14.2**	**+2.9**
GLKZ	**Green Lake**	**5.51**	**162**	P	**P**	**10 33 58.1**	**+1.8**
GLKZ				S	**S**	**10 35 07.3**	**-4.2**
OUZ	**Omahuta**	**12.51**	**205**	*eP*	**P**	**10 35 11.2**	**+3.0**
OUZ	**Omahuta**	**12.51**	**205**	P	**P**	**10 35 11.2**	**+3.0**
AFI	**Afiamalu**	**12.64**	**39**	P	**P**	**10 35 06.5**	**-3.5**
	17nm,0.3s,baz=165,slow=2.6,SNR=20						
AFI				S	S	10 37 13.8	-13
	8.2nm,0.3s,baz=38,slow=19,SNR=10						
AFI	**Afiamalu**	**12.64**	**39**	*eP*	**P**	**10 35 08.3**	**-1.7**
AFI				S	S	10 37 13.8	-13
AFI				*eS*	S	10 37 19.9	-6.6
AFI	**Afiamalu**	**12.64**	**39**	*eP*	**P**	**10 35 08.3**	**-1.7**
AFI				S	S	10 37 13.8	-13
AFI				*eS*	S	10 37 19.9	-6.6
DZM	**Mont Dzumac**	**12.73**	**276**	P	**P**	**10 35 12.6**	**+1.7**
	1.3nm,0.3s,baz=93,slow=19,SNR=17						
DZM	**Mont Dzumac**	**12.73**	**276**	*eP*	**P**	**10 35 13.0**	**+2.1**
	117nm,1.3s						
DZM	**Mont Dzumac**	**12.73**	**276**	*eP*	**P**	**10 35 12.8**	**+1.9**
WCZ	**Waipu Caves**	**12.88**	**201**	P	**P**	**10 35 14.9**	**+2.8**
KUZ	**Kuaotunu**	**13.23**	**196**	P	**P**	**10 35 17.3**	**+1.4**
ABAZ	**Army Bay**	**13.34**	**199**	P	**P**	**10 35 20.3**	**+3.3**
WIAZ	**Waiheke Island**	**13.43**	**197**	P	**P**	**10 35 19.7**	**+1.7**
MBAZ	**Motutapu North**	**13.48**	**198**	P	**P**	**10 35 20.8**	**+2.3**
MXZ	**Matakaoa Point**	**13.59**	**186**	*eP*	**P**	**10 35 21.2**	**+1.6**
MXZ	**Matakaoa Point**	**13.59**	**186**	P	**P**	**10 35 18.9**	**-0.7**
MXZ				S	**S**	**10 37 39.3**	**-4.7**
WMGZ	**Waiomatatini S**	**13.83**	**186**	P	**P**	**10 35 22.8**	**+0.6**
WMGZ				P	P	10 35 23.2	+1.1
WMGZ				S	**S**	**10 37 44.3**	**-4.4**
HAZ	**Te Kaha**	**13.84**	**188**	P	**P**	**10 35 21.4**	**-0.8**
HAZ				S	**S**	**10 37 48.4**	**-0.3**
PKGZ	**Pakihiroa**	**13.93**	**187**	P	**P**	**10 35 25.1**	**+1.8**
PKGZ				S	**S**	**10 37 50.3**	**-0.5**
RUGZ	**Raukumara Rang**	**14.06**	**188**	P	**P**	**10 35 24.8**	**+0.1**
RUGZ				S	**S**	**10 37 50.5**	**-2.7**
TGRZ	**Tauranga**	**14.06**	**193**	P	**P**	**10 35 26.3**	**+1.7**
PUZ	**Puketiti**	**14.10**	**186**	P	**P**	**10 35 26.6**	**+1.6**
PUZ				S	**S**	**10 37 48.4**	**-5.4**
TWGZ	**Tauwhareparae**	**14.23**	**187**	P	**P**	**10 35 26.9**	**+0.5**
TWGZ				S	**S**	**10 37 53.0**	**-3.4**
KMRZ	**Kaimai**	**14.24**	**194**	P	**P**	**10 35 30.5**	**+4.0**
KARZ	**Kaharoa**	**14.34**	**192**	P	**P**	**10 35 29.0**	**+1.5**
OMRZ	**Omania**	**14.40**	**192**	P	**P**	**10 35 31.1**	**+2.9**
URZ	**Urewera**	**14.43**	**190**	P	**P**	**10 35 25.6**	**-2.8**
	6.5nm,0.3s,baz=318,slow=1.2,SNR=43						
URZ				S	**S**	**10 37 57.1**	**-2.9**
	3.7nm,0.3s,baz=54,slow=23,SNR=23						
URZ	**Urewera**	**14.43**	**190**	*eP*	**P**	**10 35 25.6**	**-2.8**
URZ				*eP*	P	10 35 28.3	-0.1
URZ				*eS*	**S**	**10 37 57.1**	**-2.9**
URZ				*eS*	S	10 37 59.8	-0.3
URZ	**Urewera**	**14.43**	**190**	P	**P**	**10 35 26.1**	**-2.3**
URZ				S	**S**	**10 37 57.8**	**-2.2**
MWZ	**Matawai**	**14.44**	**188**	P	**P**	**10 35 27.6**	**-1.0**
MWZ				S	**S**	**10 37 58.7**	**-1.7**
TARZ	**Mount Tarawera**	**14.50**	**191**	P	**P**	**10 35 32.5**	**+3.2**
TKGZ	**Te Karaka**	**14.50**	**187**	P	**P**	**10 35 32.6**	**+3.4**
CNGZ	**Carnagh Statio**	**14.51**	**186**	P	**P**	**10 35 29.7**	**+0.4**
RRRZ	**Republican Roa**	**14.60**	**191**	P	**P**	**10 35 33.9**	**+3.1**
RAGZ	**Rawiri**	**14.61**	**188**	P	**P**	**10 35 32.2**	**+1.7**
MUGZ	**Murupara**	**14.69**	**190**	P	**P**	**10 35 31.0**	**-0.2**
HRRZ	**Handcock Road**	**14.69**	**192**	P	**P**	**10 35 32.5**	**+1.3**
RIGZ	**Rimuhau**	**14.78**	**187**	P	**P**	**10 35 32.1**	**-0.1**
RIGZ				S	**S**	**10 38 05.6**	**-1.3**
TLZ	**Tolley Road**	**14.79**	**194**	P	**P**	**10 35 36.2**	**+3.9**
RTZ	**Ruatahuna**	**14.79**	**190**	P	**P**	**10 35 31.7**	**-0.6**
RTZ				S	**S**	**10 38 03.5**	**-3.8**
ALRZ	**Allen Road**	**14.85**	**192**	P	**P**	**10 35 33.8**	**+0.9**
SNGZ	**Shannon Statio**	**14.90**	**188**	P	**P**	**10 35 33.9**	**+0.5**
SNGZ				S	**S**	**10 38 06.7**	**-2.6**
PRGZ	**Paritu Road**	**14.98**	**187**	P	**P**	**10 35 36.4**	**+2.2**
MTHZ	**Maungataniwha**	**15.05**	**190**	P	**P**	**10 35 35.2**	**+0.2**
RAHZ	**Arahi**	**15.07**	**189**	P	**P**	**10 35 34.8**	**-0.4**
MHGZ	**Mahia Peninsul**	**15.20**	**187**	P	**P**	**10 35 38.3**	**+1.7**
RATZ	**Rangitukua**	**15.25**	**193**	P	**P**	**10 35 38.6**	**+1.5**
NMHZ	**Naumai**	**15.29**	**190**	P	**P**	**10 35 38.1**	**+0.6**
NMHZ				S	**S**	**10 38 16.7**	**0.0**
KATZ	**Kakaramea**	**15.37**	**193**	P	**P**	**10 35 40.3**	**+1.8**
BKZ	**Black Stump Fm**	**15.41**	**191**	*eP*	**P**	**10 35 39.0**	**+0.3**
	39nm,0.6s						
ARHZ	**Aropaoanui**	**15.43**	**189**	P	**P**	**10 35 40.5**	**+1.7**
MCHZ	**McNeill Hill**	**15.65**	**190**	P	**P**	**10 35 40.8**	**-0.4**
BFZ	**Birch Farm**	**16.93**	**190**	*eP*	**P**	**10 35 52.9**	**-1.4**
	65nm,0.6s						
SNZO	**South Karori**	**17.83**	**193**	*eP*	**P**	**10 36 01.9**	**-0.9**
	163nm,0.8s						
THZ	**Tophouse**	**18.69**	**197**	*eP*	**P**	**10 36 10.2**	**-0.5**
	78nm,0.8s						
RAR	**Rarotonga**	**18.78**	**85**	P	**P**	**10 36 10.9**	**-0.9**
	1.4nm,0.3s,baz=254,slow=5.2,SNR=8.4						
KHZ	**Kahutara**	**19.14**	**195**	*eP*	**P**	**10 36 13.5**	**-1.2**
	95nm,0.9s						
LTZ	**Lake Taylor**	**19.81**	**197**	*eP*	**P**	**10 36 19.5**	**-1.4**
	91nm,0.6s						
LHI	**Lord Howe Isla**	**20.05**	**243**	*eP*	**P**	**10 36 24.1**	**+0.9**
	231nm,0.8s						
OXZ	**Oxford**	**20.38**	**197**	*eP*	**P**	**10 36 24.9**	**-1.1**
	124nm,0.7s						
CRLZ	**Canterbury Las**	**20.46**	**196**	*eP*	**P**	**10 36 25.4**	**-1.3**
	42nm,0.8s						
MQZ	**McQueen's Vall**	**20.57**	**196**	*eP*	**P**	**10 36 27.1**	**-0.7**
	34nm,0.7s						
RPZ	**Rata Peaks**	**21.01**	**199**	P	**P**	**10 36 30.7**	**-1.0**
	42nm,0.6s,baz=295,slow=1.8,SNR=33						
RPZ	**Rata Peaks**	**21.01**	**199**	*eP*	**P**	**10 36 30.8**	**-1.0**
RPZ				*eP*	P	10 36 31.9	+0.2
FOZ	**Fox Glacier**	**21.23**	**201**	*eP*	**P**	**10 36 32.7**	**-1.0**
	90nm,1.0s						
ODZ	**Otahua Downs**	**22.34**	**198**	*eP*	**P**	**10 36 43.9**	**+0.1**
	14nm,0.8s						
KNTN	**Kanton**	**22.55**	**22**	*eP*	**P**	**10 36 44.6**	**-1.4**
	83nm,0.9s						
WKZ	**Wanaka**	**22.64**	**201**	*eP*	**P**	**10 36 45.7**	**-0.8**
	21nm,0.7s						
MLZ	**Mavora Lakes**	**23.42**	**202**	*eP*	**P**	**10 36 53.2**	**-0.2**
	32nm,0.9s						
DCZ	**Deep Cove**	**23.84**	**203**	*eP*	**P**	**10 36 57.2**	**+0.1**
	46nm,1.1s						
WHZ	**Wether Hill Ro**	**23.94**	**201**	*eP*	**P**	**10 36 57.5**	**-0.5**
	94nm,0.9s						
HNR	**Honiara**	**24.10**	**304**	P	**P**	**10 36 59.1**	**-0.7**
	185nm,0.8s,baz=98,slow=1.4,SNR=8.1						
HNR	**Honiara**	**24.10**	**304**	*eP*	**P**	**10 36 58.8**	**-1.0**
	162nm,0.7s						
HNR				*eP*	P	10 36 59.1	-0.7
HNR	**Honiara**	**24.10**	**304**	*eP*	**P**	**10 36 58.8**	**-1.0**
HNR				pmax	pmax		
	comp=Z,163nm,0.7s						
ARMA	**Armidale**	**26.07**	**250**	*eP*	**P**	**10 37 19.1**	**+1.8**
	comp=Z,86nm,0.7s						
EIDS	**Eidsvold**	**26.39**	**261**	*eP*	**P**	**10 37 21.0**	**+1.0**
	comp=Z,83nm,0.6s						
TBI	**Tubuai**	**27.85**	**95**	*eP*	**P**	**10 37 33.4**	**+0.5**
	comp=Z,120nm,0.9s						
PAE	**Paea**	**28.99**	**83**	*eP*	**P**	**10 37 42.9**	**+0.1**
	comp=Z,20nm,1.1s						
PPT2	**Papeete2**	**29.01**	**83**	*eP*	**P**	**10 37 43.2**	**0.0**
	comp=Z,118nm,1.1s						
PPT	**Papeete**	**29.02**	**83**	P	**P**	**10 37 43.6**	**+0.4**
	comp=Z,80nm,0.7s,baz=125,slow=1.6,SNR=9.6						
PPT	**Papeete**	**29.02**	**83**	*eP*	**P**	**10 37 43.6**	**+0.4**
PPT				*eP*	P	10 37 43.8	+0.6
PPTF	**Pamatai, Papee**	**29.02**	**83**	*eP*	**P**	**10 37 43.8**	**+0.5**
	comp=Z,136nm,1.0s						
CAN	**Canberra**	**29.17**	**240**	*eP*	**P**	**10 37 45.6**	**+1.4**
	comp=Z,132nm,0.8s						
CAN	**Canberra**	**29.17**	**240**	*eP*	**P**	**10 37 45.7**	**+1.4**
CAN				pmax	pmax		
	comp=Z,132nm,0.8s						
TIAR	**Tiarei**	**29.23**	**83**	*eP*	**P**	**10 37 45.0**	**0.0**
	comp=Z,52nm,1.0s						
TVO	**Taravao**	**29.25**	**84**	*eP*	**P**	**10 37 45.4**	**+0.2**
	comp=Z,34nm,0.9s						
PMOR	**Pomariorio Ree**	**31.40**	**79**	*eP*	**P**	**10 38 03.4**	**-0.3**
	comp=Z,122nm,0.9s						
VAH	**Vaihoa**	**31.56**	**80**	*eP*	**P**	**10 38 04.6**	**-0.5**
	comp=Z,89nm,1.0s						
CTA	**Charters Tower**	**31.58**	**270**	P	**P**	**10 38 06.1**	**+0.9**
	comp=Z,231nm,0.5s,baz=96,slow=11,SNR=386						
CTA				ScP	**ScP**	**10 43 39.4**	**+1.7**
	comp=Z,12nm,0.9s,baz=146,slow=3.6,SNR=4.0						
CTAO	**Charters Tower**	**31.58**	**270**	*eP*	**P**	**10 38 06.2**	**+0.9**
	comp=Z,239nm,0.7s						
CTAO	**Charters Tower**	**31.58**	**270**	*eP*	**P**	**10 38 06.2**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,239nm,0.7s						
TAU	**Tasmania Unive**	**32.93**	**227**	*eP*	**P**	**10 38 17.5**	**+1.1**
	comp=Z,64nm,0.6s						
TAU	**Tasmania Unive**	**32.93**	**227**	*eP*	**P**	**10 38 17.5**	**+1.1**
TAU				pmax	pmax		
	comp=Z,64nm,0.6s						
PMG	**Port Moresby**	**34.63**	**289**	P	**P**	**10 38 31.2**	**+0.1**
	comp=Z,207nm,0.7s,baz=95,slow=5.4,SNR=47						
STKA	**Stephens Creek**	**34.77**	**248**	P	**P**	**10 38 32.8**	**+0.7**
	comp=Z,50nm,0.9s,baz=96,slow=11,SNR=76						
STKA				ScP	**ScP**	**10 43 50.5**	**+1.8**
	comp=Z,7.3nm,1.0s,baz=18,slow=3.2,SNR=4.1						
STKA	**Stephens Creek**	**34.77**	**248**	*eP*	**P**	**10 38 32.8**	**+0.7**
	comp=Z,9.4nm,0.8s						
STKA	**Stephens Creek**	**34.77**	**248**	*eP*	**P**	**10 38 32.8**	**+0.7**
STKA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
COEN	**Coen**	**36.23**	**279**	*eP*	**P**	**10 38 44.9**	**+0.4**
	comp=Z,59nm,0.9s						
MANU	**Manus Island**	**38.47**	**300**	*eP*	**P**	**10 39 02.1**	**-0.7**
	comp=Z,36nm,0.8s						
BBOO	**Buckleboo**	**39.49**	**247**	*eP*	**P**	**10 39 10.7**	**-0.3**
	comp=Z,103nm,0.9s						
TAOE	**Nuku Hiva Isla**	**40.82**	**75**	*eP*	**P**	**10 39 21.0**	**-0.9**
	comp=Z,347nm,0.9s						
TAOE	**Nuku Hiva Isla**	**40.82**	**75**	*eP*	**P**	**10 39 22.8**	**+0.9**
	comp=Z,144nm,0.8s						
RKT	**Rikitea**	**41.05**	**98**	*eP*	**P**	**10 39 23.6**	**+0.1**
	comp=Z,56nm,1.2s						
AS31	**Alice Springs**	**42.11**	**261**	*eP*	**P**	**10 39 32.0**	**0.0**
	comp=Z,24nm,0.6s						
AS31				*eS*	**S**	**10 45 10.2**	**-4.6**
ASAR	**Alice Springs**	**42.11**	**261**	P	**P**	**10 39 32.0**	**0.0**
	comp=Z,111nm,0.9s,baz=98,slow=6.9,SNR=777						
ASAR				pP	**pP**	**10 41 03.8**	**-0.5**
	comp=Z,4.2nm,0.6s,baz=89,slow=7.7,SNR=2.2						
ASAR				ScP	**ScP**	**10 44 17.9**	**+0.7**
	comp=Z,21nm,0.9s,baz=109,slow=4.0,SNR=30						
ASAR				S	**S**	**10 45 10.2**	**-4.6**
	comp=Z,1.9nm,0.8s,baz=96,slow=14,SNR=2.5						
WB2	**Warramunga Arr**	**42.49**	**266**	*eP*	**P**	**10 39 33.5**	**-1.4**
WB2				*eP*	P	10 39 34.5	-0.5
WRAB	**Tennant Creek**	**42.49**	**266**	*eP*	**P**	**10 39 34.5**	**-0.5**
	comp=Z,150nm,0.8s						
WRAB	**Tennant Creek**	**42.49**	**266**	*d iP*	**P**	**10 39 34.3**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,126nm,0.9s						
WR1	**Warramunga Arr**	**42.50**	**266**	*eP*	**P**	**10 39 34.5**	**-0.6**
	comp=Z,216nm,0.7s						
WR1				*eS*	**S**	**10 45 14.8**	**-5.6**
WRA	**Warramunga Arr**	**42.50**	**266**	P	**P**	**10 39 34.5**	**-0.6**
	comp=Z,156nm,0.6s,baz=103,slow=8.1,SNR=971						
WRA				ScP	**ScP**	**10 44 20.5**	**+1.7**
	comp=Z,20nm,1.0s,baz=99,slow=4.3,SNR=25						
WRA				S	**S**	**10 45 14.8**	**-5.6**
	comp=Z,2.0nm,0.9s,baz=97,slow=13,SNR=2.9						
JAY	**Jayapura**	**43.65**	**293**	P	**P**	**10 39 44.0**	**-0.2**
GENI	**Genyem**	**44.06**	**293**	P	**P**	**10 39 45.9**	**-1.4**
SMPI	**Sarmi**	**45.62**	**292**	P	**P**	**10 39 58.4**	**-0.9**
FORT	**Forrest**	**46.36**	**250**	*eP*	**P**	**10 40 04.2**	**-0.6**
	comp=Z,384nm,0.6s						
MTN	**Manton Dam**	**47.56**	**274**	*eP*	**P**	**10 40 12.8**	**-1.2**
	comp=Z,58nm,0.6s						
SRPI	**Serui, Papua**	**47.78**	**291**	P	**P**	**10 40 16.4**	**+0.7**
	comp=Z,220nm,1.0s						
PUH	**Pauahi**	**49.38**	**31**	*eP*	P	10 40 21.6	-6.0
	comp=Z,195nm,0.5s						
HPAH	**Hawaii Prepara**	**49.73**	**30**	*eP*	**P**	**10 40 29.5**	**-0.6**
	comp=Z,169nm,0.8s						
MHA	**Mahukona**	**49.77**	**30**	*eP*	**P**	**10 40 30.7**	**+0.5**
MHA	**Mahukona**	**49.77**	**30**	*eP*	**P**	**10 40 30.7**	**+0.5**
FAKI	**Fak Fak**	**50.71**	**287**	*eP*	**P**	**10 40 36.7**	**-0.7**
	comp=Z,78nm,1.1s						
FAKI	**Fak Fak**	**50.71**	**287**	P	**P**	**10 40 36.7**	**-0.7**
GUMO	**Guam**	**50.82**	**314**	P	**P**	**10 40 37.8**	**-0.3**
	comp=Z,68nm,0.6s,baz=168,slow=9.6,SNR=5.4						
FITZ	**Fitzroy Crossi**	**50.92**	**266**	P	**P**	**10 40 38.9**	**0.0**
	comp=Z,111nm,0.8s,baz=123,slow=4.6,SNR=180						
FITZ				pP	**pP**	**10 42 17.0**	**+1.1**
	comp=Z,7.1nm,0.8s,baz=168,slow=9.3,SNR=1.8						
FITZ				ScP	**ScP**	**10 44 56.8**	**+2.5**
	comp=Z,8.8nm,1.0s,baz=73,slow=4.0,SNR=5.3						
FITZ	**Fitzroy Crossi**	**50.92**	**266**	*eP*	**P**	**10 40 38.6**	**-0.3**
	comp=Z,94nm,0.8s						
FITZ				pP	**pP**	**10 42 17.0**	**+1.1**
SIJI	**Sorong**	**52.57**	**289**	P	**P**	**10 40 50.3**	**-0.5**
	comp=Z,217nm,0.7s,baz=198,slow=20,SNR=98						
SWI	**Sorong**	**52.58**	**289**	P	**P**	**10 40 50.4**	**-0.5**
	comp=Z,295nm,0.7s,comp=Z,3µm						
MSAI	**Masohi**	**53.44**	**284**	P	**P**	**10 40 56.1**	**-0.9**
AAI	**Ambon**	**53.93**	**284**	P	**P**	**10 40 59.8**	**-0.8**
SBA	**Scott Base**	**54.27**	**183**	*eP*	**P**	**10 41 04.5**	**+2.6**
	comp=Z,36nm,0.9s						
SBA	**Scott Base**	**54.27**	**183**	*eP*	**P**	**10 41 04.5**	**+2.6**
SBA				pmax	pmax		
	comp=Z,36nm,0.9s						
VNDA	**Vanda**	**54.27**	**185**	P	**P**	**10 41 03.5**	**+1.6**
	comp=Z,5.3nm,0.8s,baz=353,slow=7.2,SNR=37						
VNDA	**Vanda**	**54.27**	**185**	*eP*	**P**	**10 41 03.6**	**+1.7**
	comp=Z,7.7nm,0.9s						
VNDA	**Vanda**	**54.27**	**185**	*eP*	**P**	**10 41 03.7**	**+1.7**
VNDA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SOEI	**Soe**	**54.95**	**275**	*eP*	**P**	**10 41 08.4**	**+0.5**
	comp=Z,230nm,0.9s						
SOEI	**Soe**	**54.95**	**275**	P	**P**	**10 41 09.1**	**+1.2**
NLAI	**Namlea**	**55.11**	**284**	P	**P**	**10 41 08.8**	**0.0**
BATI	**Baumata**	**55.33**	**274**	P	**P**	**10 41 11.8**	**+1.3**
MBWA	**Marble Bar**	**55.45**	**260**	*eP*	**P**	**10 41 10.7**	**-0.4**
	comp=Z,91nm,0.9s						
SANI	**Sanana**	**56.64**	**284**	P	**P**	**10 41 18.4**	**-1.0**
TNTI	**Ternate**	**56.76**	**288**	*eP*	**P**	**10 41 19.9**	**-0.4**
	comp=Z,90nm,1.0s						
TNTI	**Ternate**	**56.76**	**288**	P	**P**	**10 41 19.9**	**-0.4**
MMRI	**Maumere**	**57.23**	**275**	*eP*	**P**	**10 41 23.2**	**-0.4**
	comp=Z,132nm,0.9s						
MMRI	**Maumere**	**57.23**	**275**	P	**P**	**10 41 23.2**	**-0.4**
EDFI	**Ende, Flores**	**57.69**	**275**	P	**P**	**10 41 26.4**	**-0.4**
WBSI	**Waikabubak, Su**	**59.45**	**273**	P	**P**	**10 41 38.4**	**-0.2**
KMSI	**Cibinong**	**59.63**	**286**	P	**P**	**10 41 45.5**	**+5.7**
LUWI	**Luwuk**	**59.95**	**283**	P	**P**	**10 41 40.8**	**-1.1**
CASY	**Casey**	**60.05**	**206**	*eP*	**P**	**10 41 41.4**	**-0.2**
	comp=Z,32nm,1.0s						
BKSI	**Bulukumba**	**60.48**	**278**	P	**P**	**10 41 44.4**	**-1.0**
APSI	**Ampana**	**61.01**	**283**	P	**P**	**10 41 49.4**	**+0.5**
PLAI	**Plampang**	**61.23**	**273**	P	**P**	**10 41 49.8**	**-0.6**
SPSI	**Sidrap Palu**	**61.37**	**279**	P	**P**	**10 41 49.8**	**-1.5**
MRSI	**Marisa**	**61.38**	**285**	P	**P**	**10 41 49.9**	**-1.5**
TWSI	**Taliwang, Sumb**	**62.08**	**273**	P	**P**	**10 41 55.5**	**-0.4**
CBIJ	**Chichi jima**	**62.63**	**322**	P	**P**	**10 41 58.2**	**-1.0**
JCJ	**Chichijima**	**62.63**	**322**	P	**P**	**10 41 58.2**	**-1.0**
	comp=Z,42nm,0.5s,baz=264,slow=22,SNR=4.8						
MPSI	**Mapaga**	**63.13**	**283**	P	**P**	**10 42 02.0**	**-0.7**
IGBI	**Denpasar**	**63.63**	**272**	P	**P**	**10 42 07.5**	**+1.5**
	comp=Z,396nm,1.2s						
KBKI	**Kotabaru**	**64.90**	**278**	P	**P**	**10 42 13.5**	**-0.5**
KMMI	**Kalianget**	**65.39**	**273**	P	**P**	**10 42 17.5**	**+0.4**
GMJI	**Gumukmas**	**65.40**	**272**	P	**P**	**10 42 16.1**	**-1.0**
BLJI	**Banyuglugur**	**65.46**	**272**	P	**P**	**10 42 17.2**	**-0.3**
QSPA	**South Pole Qui**	**66.06**	**180**	P	**P**	**10 42 21.9**	**+1.3**
	comp=Z,26nm,0.8s,baz=25,slow=0.8,SNR=85						
QSPA				pP	**pP**	**10 44 03.7**	**-1.1**
	comp=Z,2.1nm,0.9s,baz=66,slow=8.8,SNR=1.2						
QSPA	**South Pole Qui**	**66.06**	**180**	*eP*	**P**	**10 42 21.9**	**+1.3**
	comp=Z,28nm,0.8s						
QSPA				pP	**pP**	**10 44 03.7**	**-1.1**
GRJI	**Gresik**	**66.80**	**273**	P	**P**	**10 42 26.4**	**+0.5**
PWJI	**Pagerwojo**	**66.99**	**271**	P	**P**	**10 42 26.5**	**-0.6**
PCJI	**Pacitan**	**67.50**	**271**	P	**P**	**10 42 30.1**	**-0.1**
WOJI	**Wonogiri, Jawa**	**67.87**	**271**	P	**P**	**10 42 32.3**	**-0.2**
UGM	**Wanagama**	**68.20**	**271**	*eP*	**P**	**10 42 34.2**	**-0.4**
	comp=Z,99nm,0.6s						
KPJI	**Karang Pucung**	**69.88**	**271**	P	**P**	**10 42 44.1**	**-0.5**
CISI	**Cisompet, Garu**	**70.82**	**270**	*eP*	**P**	**10 42 48.5**	**-1.8**
	comp=Z,74nm,0.8s						
CISI	**Cisompet, Garu**	**70.82**	**270**	P	**P**	**10 42 49.2**	**-1.1**
SBUM	**Sibu**	**70.93**	**282**	*eP*	**P**	**10 42 50.8**	**-0.1**
	comp=Z,5.2nm,0.6s						
SBUM	**Sibu**	**70.93**	**282**	P	**P**	**10 42 51.0**	**+0.1**
MJAR	**Matsushiro Arr**	**72.05**	**326**	P	**P**	**10 42 56.6**	**-0.3**
	comp=Z,7.9nm,0.8s,baz=170,slow=5.5,SNR=15						
MAJO	**Matsushiro**	**72.05**	**326**	*eP*	**P**	**10 42 56.6**	**-0.3**
MAJO	**Matsushiro**	**72.05**	**326**	*∥eP*	**P**	**10 42 57.3**	**+0.4**
MAJO				pmax	pmax		
	comp=Z,14nm,0.9s						
MAT	**Matsushiro**	**72.05**	**326**	P	**P**	**10 42 56.5**	**-0.4**
KSM	**Kuching**	**72.22**	**280**	*eP*	**P**	**10 42 58.3**	**-0.1**
	comp=Z,80nm,0.7s						
KSM	**Kuching**	**72.22**	**280**	P	**P**	**10 42 58.0**	**-0.4**
CGJI	**Cibinong**	**73.12**	**270**	P	**P**	**10 43 02.5**	**-1.1**
NACB	**Ninganchiao**	**74.25**	**306**	*eP*	**P**	**10 43 08.8**	**-1.0**
	comp=Z,47nm,0.9s						
TPUB	**Ta-pu**	**74.47**	**305**	*eP*	**P**	**10 43 09.7**	**-1.4**
	comp=Z,28nm,0.8s						
YHNB	**Yeheng**	**74.71**	**306**	*eP*	**P**	**10 43 11.6**	**-0.8**
	comp=Z,34nm,0.7s						
MAW	**Mawson**	**77.67**	**200**	P	**P**	**10 43 29.1**	**+1.1**
	comp=Z,16nm,0.6s,baz=128,slow=6.9,SNR=31						
MYKOM	**Kota Tinggi**	**78.20**	**277**	P	**P**	**10 43 32.0**	**+0.2**
KSRS	**Korea Array**	**78.40**	**320**	P	**P**	**10 43 33.0**	**+0.7**
	comp=Z,6.8nm,0.7s,baz=131,slow=6.0,SNR=18						
UNV	**Unalaska Valle**	**78.40**	**8**	*eP*	**P**	**10 43 31.3**	**-0.6**
	comp=Z,27nm,0.8s						
KSAR	**Wonju Array Be**	**78.42**	**320**	P	**P**	**10 43 33.0**	**+0.6**
KSAR	**Wonju Array Be**	**78.42**	**320**	P	**P**	**10 43 33.0**	**+0.6**
KS01	**Wonju Array Si**	**78.43**	**320**	*eP*	**P**	**10 43 32.6**	**0.0**
PETK	**Petropavlovsk-**	**79.24**	**346**	P	**P**	**10 43 36.5**	**+0.1**
	comp=Z,3.8nm,0.7s,baz=133,slow=6.6,SNR=6.1						
PEA1	**Petropavlovsk-**	**79.24**	**346**	*eP*	**P**	**10 43 36.5**	**+0.1**
NJ2	**Nanjing**	**80.81**	**311**	*eP*	**P**	**10 43 44.8**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,20nm,0.7s						
USRK	**Ussuriysk Ar.**	**80.92**	**327**	P	**P**	**10 43 46.5**	**+1.1**
	comp=Z,7.1nm,0.7s,baz=149,slow=4.6,SNR=12						
PKM	**Mcpherson Peak**	**81.69**	**46**	P	**P**	**10 43 51.3**	**+1.3**
	baz=233						
SAO	**San Andreas Ge**	**81.77**	**44**	*eP*	**P**	**10 43 51.4**	**+1.3**
	comp=Z,24nm,0.9s						

M02C **Callahan** 83.82 39 P P 10 44 01.6 +1.2
baz=230,SNR=11
OMMB **Old Mammoth Mi** 83.84 44 eP P 10 44 01.9 +1.0
comp=Z,8.1nm,1.0s
MPMC **Manual Prospec** 83.91 46 P P 10 44 01.7 +0.6
baz=234,SNR=15
BC3 **Big Chuckawall** 83.92 49 P P 10 44 02.3 +1.2
baz=236,SNR=11
GSC **Goldstone, Bar** 83.93 47 eP P 10 44 01.7 +0.6
comp=Z,21nm,0.9s
GSC **Goldstone, Bar** 83.93 47 eP P 10 44 01.7 +0.6
GSC pmax pmax
comp=Z,21nm,0.9s
GSC **Goldstone, Bar** 83.93 47 P P 10 44 02.0 +0.9
baz=235,SNR=19
MLAC **Mammoth, Mammo** 83.96 44 P P 10 44 02.4 +1.1
baz=234,SNR=7.1
DAC **Darwin (Calif)** 83.97 46 eP P 10 44 01.8 +0.4
comp=Z,6.0nm,0.8s
DAC **Darwin (Calif)** 83.97 46 eP P 10 44 01.8 +0.4
DAC pmax pmax
comp=Z,6.0nm,0.8s
HEC **Hector,Ludlow** 83.98 48 P P 10 44 02.0 +0.7
baz=235,SNR=29
RUBR **Rubicon Trail** 83.98 43 eP P 10 44 02.2 +0.8
comp=Z,28nm,1.0s
TIN **Tinemaha, Big** 84.01 45 P P 10 44 02.5 +1.0
baz=234
GLA **Glamis** 84.03 50 eP P 10 44 01.9 +0.3
comp=Z,56nm,1.0s
GLA **Glamis** 84.03 50 eP P 10 44 01.9 +0.3
GLA pmax pmax
comp=Z,56nm,1.0s
GLA **Glamis** 84.03 50 P P 10 44 02.5 +0.9
baz=236,SNR=5.9
CN2 **Changchun** 84.04 324 eP P 10 44 01.8 +0.5
CN2 pmax pmax
comp=Z,20nm,0.9s
WAKR **Walker** 84.10 43 eP P 10 44 02.9 +0.9
comp=Z,31nm,1.1s
YBH **Yreka Blue Hor** 84.11 39 P P 10 44 03.0 +1.1
comp=Z,12nm,0.8s,baz=150,slow=3.6,SNR=21
YBH **Yreka Blue Hor** 84.11 39 eP P 10 44 02.8 +1.0
comp=Z,14nm,0.8s
K02D **Willamette Mer** 84.19 38 P P 10 44 03.5 +1.4
baz=230
J01E **Myrtle Point** 84.34 38 P P 10 44 04.4 +1.6
baz=230
PNTR **Pine Nut** 84.35 43 eP P 10 44 04.0 +0.8
comp=Z,42nm,1.0s
BEKR **Beckworth** 84.35 42 eP P 10 44 03.6 +0.5
comp=Z,10nm,0.8s
TIA **Tai'an** 84.39 314 P P 10 44 03.9 +0.7
TIA pmax pmax
comp=Z,30nm,0.8s
GMRC **Granite Mounta** 84.41 48 P P 10 44 04.4 +0.8
baz=236,SNR=11
IRM **Iron Mountain** 84.42 49 P P 10 44 04.6 +1.2
baz=236,SNR=24
VCNR **Virginia City** 84.44 43 eP P 10 44 04.2 +0.5
comp=Z,17nm,1.1s
YERR **Yerington** 84.51 43 eP P 10 44 04.5 +0.5
comp=Z,20nm,1.0s
HUMO **Hull Mountain** 84.53 38 eP P 10 44 03.2 -0.6
comp=Z,27nm,1.1s
GRAC **Grapevine Rang** 84.53 46 P P 10 44 05.2 +1.2
baz=234,SNR=6.0
SNAA **Sanae** 84.55 179 P P 10 44 03.0 -0.5
SNAA **Sanae** 84.55 179 eP P 10 44 02.8 -0.7
comp=Z,3.2nm,0.8s
SNAA **Sanae** 84.55 179⇑ iP P 10 44 02.9 -0.7
SNAA pmax pmax
comp=Z,168nm,0.9s
FURC **Furnace Creek,** 84.56 46 P P 10 44 05.0 +1.1
baz=235,SNR=9.1
TUQ **Turquoise Moun** 84.60 47 P P 10 44 05.3 +0.9
baz=236
Y12C **Blythe** 84.62 50 eP P 10 44 05.1 +0.7
comp=Z,26nm,1.0s
Y12C **Blythe** 84.62 50 P P 10 44 05.5 +1.2
baz=236,SNR=12
SHOC **Shoshone, Teco** 84.63 47 P P 10 44 05.3 +0.8
baz=235
KDAK **Kodiak Island** 84.64 14 P P 10 44 03.6 -0.2
comp=Z,7.5nm,0.8s,baz=119,slow=0.8,SNR=4.6
M04C **Macdoel** 84.65 40 P P 10 44 05.7 +1.2
baz=231
L04D **Klamath Falls** 84.66 39 P P 10 44 05.7 +1.1
baz=231
KLR **Kul'dur** 84.68 331 P P 10 44 05.0 +0.7
comp=Z,2.5nm,0.9s,baz=140,slow=3.9,SNR=5.8
KLR **Kul'dur** 84.68 331⇑ eP P 10 44 04.4 +0.1
HSIG 84.70 55 eP P 10 44 05.2 +0.3
comp=Z,31nm,0.8s
RYN **Ryan** 84.75 44 eP P 10 44 05.2 +0.1
comp=Z,6.1nm,0.8s
VNA3 **Neumayer Olymp** 84.75 177 P P 10 44 04.2 -0.3
NV01 **Mina Array Sit** 84.77 44 eP P 10 44 05.0 -0.3
NVAR **Mina Array Bea** 84.77 44 P P 10 44 05.6 +0.3
comp=Z,7.3nm,0.7s,baz=224,slow=8.5,SNR=54
PAHR **Pah Rah Range** 84.85 42 eP P 10 44 06.1 +0.5
comp=Z,10nm,0.9s
214A **Organ Pipe Nat** 84.86 52 P P 10 44 07.0 +1.3
baz=238,SNR=5.6
NV11 **Mina Array Sit** 84.86 44 eP P 10 44 06.1 +0.4
comp=Z,1.4nm,1.1s
I03D **Drain, OR** 85.01 37 P P 10 44 07.5 +1.5
baz=230
NEE2 **Needles Airpor** 85.12 49 P P 10 44 07.4 +0.6
baz=236,SNR=8.8
VNA2 **Neumayer--Watz** 85.17 178 P P 10 44 06.4 -0.1
baz=179,slow=4.5
PDMCI **Parker Dam,Lak** 85.19 49 P P 10 44 08.0 +0.8
baz=237,SNR=7.7
TPNV **Topopah Spring** 85.24 46 eP P 10 44 07.8 +0.2
comp=Z,13nm,0.8s
TPNV **Topopah Spring** 85.24 46 eP P 10 44 07.8 +0.2
TPNV pmax pmax
comp=Z,13nm,0.8s
TPNV **Topopah Spring** 85.24 46 P P 10 44 08.3 +0.7
baz=235,SNR=15
KVN **Kaiserville** 85.26 44 eP P 10 44 07.9 +0.3
KVN **Kaiserville** 85.26 44 eP P 10 44 07.9 +0.3
VNA1 **Neumayer--Stat** 85.41 177 P P 10 44 07.2 -0.4
J04D **Umpqua Nationa** 85.41 38 P P 10 44 09.2 +1.0
baz=231
I04A **Tendick Farm,** 85.59 38 P P 10 44 09.9 +0.9
baz=231
MOD **Modoc Plateau** 85.63 40 eP P 10 44 10.0 +0.7
comp=Z,18nm,0.9s
SHPR **Sheep Range** 85.71 47 eP P 10 44 10.4 +0.5
comp=Z,6.7nm,0.8s
K05A **Summer Lake** 85.79 39 eP P 10 44 11.1 +0.9
comp=Z,39nm,1.0s
W13A **Hualapai Mount** 85.80 49 eP P 10 44 11.3 +0.9
comp=Z,9.2nm,0.8s
NONG **Nongkai** 85.90 292 P P 10 44 11.8 +0.9
J05D **Fort Rock, OR** 85.94 39 P P 10 44 12.1 +1.3
baz=232
PINE **Pine Mountain** 86.42 38 eP P 10 44 14.1 +1.0
comp=Z,32nm,0.9s
R11A **Troy Canyon, C** 86.47 45 eP P 10 44 13.4 0.0
comp=Z,4.3nm,1.0s
R11A **Troy Canyon, C** 86.47 45 P P 10 44 13.5 0.0
baz=236
TUC **Tucson** 86.51 52 eP P 10 44 14.9 +1.3
comp=Z,36nm,0.9s
TUC **Tucson** 86.51 52 P P 10 44 14.8 +1.2
baz=239
I05D **Terrebonne, OR** 86.54 38 P P 10 44 14.9 +1.5
baz=231
ENH **Enshi** 86.59 305 eP P 10 44 14.8 +0.8
comp=Z,39nm,1.0s
BMN **Battle Mountai** 86.62 43 eP P 10 44 14.7 +0.7
comp=Z,19nm,0.9s
BMN **Battle Mountai** 86.62 43 eP P 10 44 14.7 +0.7
BMN pmax pmax
comp=Z,19nm,0.9s
PHET **Kaeng Krachan** 86.70 286 P P 10 44 16.7 +1.9
MA2 **Magadan** 86.72 346⇑ eP P 10 44 13.5 -0.3
MA2 pmax pmax
comp=Z,18nm,1.2s
GYA **Guiyang** 86.89 301 eP P 10 44 16.8 +1.2
GYA pP pP 10 46 16.2 +8.8
GYA sP sP 10 47 09.4 +10
GYA PP PP 10 47 52.0 +4.0
GYA SKS SKSac 10 53 51.6 -2.9

GYA S S 10 54 09.8 -1.8
GYA sS sS 10 57 39.1 +8.3
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,6.2s
WVOR **Wild Horse Val** 86.94 41 eP P 10 44 16.1 +0.6
comp=Z,24nm,1.1s
WVOR **Wild Horse Val** 86.94 41 eP P 10 44 16.1 +0.6
WVOR pmax pmax
comp=Z,24nm,1.1s
PBKT **Sadao Pong** 87.11 289 eP P 10 44 17.9 +1.3
comp=Z,21nm,1.0s
PBKT **Sadao Pong** 87.11 289 P P 10 44 18.1 +1.5
319A **Douglas** 87.14 54 eP P 10 44 18.5 +1.8
comp=Z,54nm,1.0s
X16A **Lo Mia Camp, P** 87.14 50 eP P 10 44 17.8 +1.1
comp=Z,15nm,1.0s
BJI **Beijing** 87.19 316⇑ iP P 10 44 17.3 +0.8
BJI pmax pmax
comp=Z,11nm,1.4s
E04D **Cinebar** 87.26 36 P P 10 44 18.2 +1.5
baz=230
LCMT **Little Creek M** 87.28 47 eP P 10 44 18.1 +0.9
comp=Z,14nm,0.9s
I07A **Izee** 87.42 39 eP P 10 44 18.7 +1.0
comp=Z,30nm,1.0s
F05D **White Salmon** 87.44 37 P P 10 44 18.4 +0.9
baz=231
CCUT **Cedar City** 87.49 47 eP P 10 44 19.4 +1.1
comp=Z,12nm,0.9s
D04E **Lakebay** 87.55 35 P P 10 44 19.8 +1.8
baz=230
KNB **Kanab** 87.56 48 eP P 10 44 19.6 +1.0
comp=Z,21nm,1.0s
KNB **Kanab** 87.56 48 eP P 10 44 19.6 +1.0
KNB pmax pmax
comp=Z,21nm,1.0s
J08A **Circle Bar Ran** 87.58 40 eP P 10 44 19.3 +0.8
comp=Z,32nm,1.0s
U15A **North Rim** 87.61 48 eP P 10 44 20.0 +1.0
comp=Z,25nm,0.9s
D03D **Eldon** 87.62 35 P P 10 44 19.0 +0.7
baz=230
SZCU **Shurtz Canyon** 87.70 47 eP P 10 44 19.6 +0.4
comp=Z,13nm,0.9s
PSUT **Pine Spring** 87.70 46 eP P 10 44 16.9 -2.3
comp=Z,16nm,0.7s
HPIG 87.73 59 eP P 10 44 20.3 +0.7
comp=Z,20nm,0.9s
SRDT **SRDT** 87.76 287 P P 10 44 21.5 +1.8
WUAZ **Wupatki** 87.76 49 eP P 10 44 20.8 +1.3
comp=Z,9.0nm,1.0s
WUAZ **Wupatki** 87.76 49 P P 10 44 20.6 +1.0
baz=238
D05A **Enumclaw** 87.97 35 eP P 10 44 20.3 +0.3
comp=Z,104nm,1.1s
UTTA **Uttaradit** 87.97 290 P P 10 44 22.4 +1.7
UTHA **Uthaitani** 87.99 288 P P 10 44 22.4 +1.6
PLCA **Paso Flores** 88.11 134 P P 10 44 22.6 +1.5
comp=Z,3.6nm,0.9s,baz=257,slow=8.7,SNR=6.3
PLCA **Paso Flores** 88.11 134 eP P 10 44 22.6 +1.5
comp=Z,6.3nm,1.0s
PLCA **Paso Flores** 88.11 134 eP P 10 44 22.6 +1.5
PLCA pmax pmax
comp=Z,6.0nm,1.0s
PKCU **Pink Cliffs** 88.14 47 eP P 10 44 23.1 +1.6
comp=Z,34nm,0.9s
X18A **Snowflake** 88.25 51 eP P 10 44 23.0 +1.1
comp=Z,11nm,0.7s
F07A **Phinny Hill Vi** 88.28 37 eP P 10 44 21.6 +0.1
comp=Z,21nm,1.0s
ZAIG **Zacatecas** 88.31 64 eP P 10 44 23.4 +0.8
comp=Z,12nm,1.0s
SUA **Susitna One** 88.37 14 eP P 10 44 21.4 -0.3
comp=Z,28nm,0.7s
G08A **Pilot Rock** 88.46 38 eP P 10 44 22.6 +0.1
comp=Z,38nm,1.0s
B05A **Bryant** 88.60 34 P P 10 44 24.0 +1.1
baz=231
SUKH **Sukhothai** 88.65 290 P P 10 44 25.5 +1.6
SKT **Skwentna** 88.67 13 eP P 10 44 21.7 -1.3
comp=Z,6.6nm,0.8s
GLI **Glacier Island** 88.69 15 eP P 10 44 22.6 -0.4
comp=Z,36nm,0.9s
W18A **Petrified Fore** 88.70 50 eP P 10 44 24.5 +0.5
comp=Z,8.6nm,1.0s
W18A **Petrified Fore** 88.70 50 P P 10 44 25.1 +1.2
baz=239
LTY **Liberty** 88.72 36 eP P 10 44 24.1 +0.5
comp=Z,19nm,0.9s
E07A **Sunnyside** 88.73 37 eP P 10 44 24.6 +0.9
comp=Z,36nm,0.9s
UMPA **Umpang Tak** 88.77 288 P P 10 44 26.5 +2.0
HAWA **Hanford** 88.80 37 eP P 10 44 24.8 +0.8
comp=Z,33nm,1.0s
121A **Cooke Peak, D** 88.81 54 P P 10 44 25.6 +1.1
baz=240
PMR **Palmer** 88.84 14 eP P 10 44 23.3 -0.4
comp=Z,17nm,0.9s
PMR **Palmer** 88.84 14 eP P 10 44 23.3 -0.4
PMR pmax pmax
comp=Z,17nm,0.9s
XAN **Xi'an** 88.89 308 P P 10 44 25.6 +0.9
XAN pP pP 10 46 22.9 +5.8
XAN sP sP 10 47 15.9 +7.5
XAN pmax pmax
comp=Z,26nm,0.8s
XAN pmax pmax
comp=Z,120nm,5.9s
C06D **Leavenworth** 89.01 35 P P 10 44 25.7 +0.9
baz=232
GHO **Glory Hole Cre** 89.04 14 eP P 10 44 24.8 +0.1
comp=Z,30nm,0.8s
EFI **East Falkland** 89.06 148⇑ eP P 10 44 25.0 -0.2
EFI pmax pmax
comp=Z,5.0nm,0.7s
LAMP **Lampang** 89.10 291 P P 10 44 27.6 +1.7
E08A **Dider Farm, El** 89.12 37 eP P 10 44 26.0 +0.6
comp=Z,19nm,1.0s
BMO **Blue Mountains** 89.14 39 eP P 10 44 25.9 +0.2
comp=Z,6.5nm,0.8s
BMO **Blue Mountains** 89.14 39 eP P 10 44 25.9 +0.2
BMO pmax pmax
comp=Z,7.0nm,0.8s
DIV **Divide** 89.23 16 eP P 10 44 25.8 +0.2
comp=Z,12nm,0.9s
PAYA **Payao** 89.26 291 P P 10 44 28.2 +1.5
BMRM **Bremner River** 89.38 16 eP P 10 44 26.6 +0.3
comp=Z,20nm,1.0s
EPT **El Paso** 89.39 55 eP P 10 44 27.8 +0.6
comp=Z,30nm,1.0s
KMI **Kunming** 89.41 298 P P 10 44 28.1 +0.6
KMI pmax pmax
comp=Z,21nm,0.5s
KMI pmax pmax
comp=Z,120nm,3.9s
TLIG **Tlapa** 89.42 71 eP P 10 44 28.6 +1.0
comp=Z,17nm,0.9s
SCM **Sheep Creek Mo** 89.46 15 eP P 10 44 26.6 -0.1
comp=Z,21nm,0.9s
SCM **Sheep Creek Mo** 89.46 15 eP P 10 44 26.6 -0.1
SCM pmax pmax
comp=Z,21nm,0.9s
D08A **Wollman Farm,** 89.54 37 eP P 10 44 27.8 +0.4
comp=Z,17nm,0.9s
CM01 **Chiang Mai Arr** 89.63 290 eP P 10 44 29.7 +1.3
E09A **Wood Farm, Sta** 89.64 37 eP P 10 44 28.1 +0.3
comp=Z,20nm,1.1s
CM31 **Chiang Mai Arr** 89.66 290 eP P 10 44 28.1 -0.5
CMAR **Chiang Mai Arr** 89.66 290 P P 10 44 30.2 +1.6
comp=Z,16nm,0.9s,baz=138,slow=3.3,SNR=62
CMAR pP pP 10 46 21.4 +0.4
comp=Z,0.5nm,0.3s,baz=127,slow=2.8,SNR=1.7
CMAR PP PP 10 48 08.4 -1.3
comp=Z,3.3nm,1.0s,baz=135,slow=6.3,SNR=8.8
CMMT **Chiang Mai** 89.81 291 P P 10 44 30.4 +1.1
CHTO **Chiang Mai** 89.81 291 eP P 10 44 30.5 +1.3
comp=Z,29nm,1.0s
CHTO **Chiang Mai** 89.81 291 eP P 10 44 30.5 +1.3
CHTO pmax pmax
comp=Z,29nm,1.0s
CHTO **Chiang Mai** 89.81 291 P P 10 44 30.4 +1.1
comp=Z,133nm,1.0s
F10A **Beach Ranch, E** 89.84 38 eP P 10 44 28.9 0.0
comp=Z,14nm,0.8s
B08A **Colville Reser** 90.10 36 eP P 10 44 30.1 +0.1

comp=Z,6.6nm,0.8s
HLID **Hailey** 90.12 41 eP P 10 44 31.0 +0.7
comp=Z,14nm,0.9s
HLID **Hailey** 90.12 41 P P 10 44 31.4 +1.1
baz=236
Y22D **IRIS PASSCAL I** 90.20 53 P P 10 44 32.2 +1.3
baz=241
LAZ **Ladron** 90.20 52 eP P 10 44 31.4 +0.4
MNTX **Cornudas Mount** 90.20 55 eP P 10 44 31.7 +0.9
comp=Z,15nm,1.0s
MNTX **Cornudas Mount** 90.20 55 P P 10 44 32.0 +1.2
baz=242
LENM **Lemitar** 90.20 52 eP P 10 44 31.4 +0.4
TRF **Thorofare Moun** 90.25 13 eP P 10 44 29.6 -0.8
comp=Z,14nm,0.8s
C09A **Chrisman Ranch** 90.34 36 eP P 10 44 31.0 -0.1
comp=Z,7.1nm,0.9s
LTX **Lajitas** 90.41 58 eP P 10 44 32.9 +1.0
TX31 **Lajitas Ar. Si** 90.41 58 eP P 10 44 32.3 +0.4
TX31 eP P 10 44 32.9 +1.0
TXAR **Lajitas Array** 90.41 58 P P 10 44 32.9 +1.0
comp=Z,13nm,0.7s,baz=214,slow=6.4,SNR=91
TXAR pP pP 10 46 23.6 -0.9
comp=Z,1.1nm,0.8s,baz=216,slow=2.9,SNR=4.2
TXAR PP PP 10 48 20.6 +5.0
comp=Z,0.9nm,0.9s,baz=225,slow=8.9,SNR=3.9
BNM **Barren Site** 90.45 53 eP P 10 44 32.4 +0.3
RND **Reindeer** 90.50 13 eP P 10 44 30.8 -0.7
comp=Z,16nm,0.9s
RND **Reindeer** 90.50 13 eP P 10 44 30.8 -0.7
RND pmax pmax
comp=Z,16nm,0.9s
LPM **Los Pinos Moun** 90.52 52 eP P 10 44 32.8 +0.4
HHC **Hu-ho-hao-te** 90.57 315 eP P 10 44 34.4 +2.0
HHC PP PP 10 48 22.3 +5.6
HHC S S 10 54 43.2 -1.4
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,260nm,5.5s
MVCO **Mesa Verde** 90.62 49 eP P 10 44 33.5 +0.6
MCK **McKinley** 90.78 13 eP P 10 44 32.5 -0.2
comp=Z,5.5nm,0.8s
MCK **McKinley** 90.78 13 eP P 10 44 32.5 -0.2
MCK pmax pmax
comp=Z,6.0nm,0.8s
ANMO **Albuquerque** 90.95 52 P P 10 44 34.8 +0.4
comp=Z,10nm,1.1s,baz=212,slow=4.7,SNR=32
ANMO **Albuquerque** 90.95 52 eP P 10 44 34.9 +0.4
comp=Z,15nm,1.1s
ANMO **Albuquerque** 90.95 52 P P 10 44 35.0 +0.6
baz=241
NEW **Newport** 91.23 36 P P 10 44 34.6 -0.6
comp=Z,2.0nm,0.7s,baz=256,slow=7.1,SNR=5.0
WRH **Wood River Hil** 91.61 13 eP P 10 44 35.8 -0.7
comp=Z,10.0nm,1.0s
MCMT **McKenzie Canyo** 91.75 41 eP P 10 44 38.5 +0.5
HDA **Harding Lake** 91.79 14 eP P 10 44 36.4 -1.0
comp=Z,5.7nm,0.8s
HDA **Harding Lake** 91.79 14 P P 10 44 36.8 -0.5
baz=210
LNIG **Linares** 91.80 64 eP P 10 44 37.7 -0.6
comp=Z,9.8nm,0.8s
DOT **Dot Lake** 91.80 15 eP P 10 44 37.0 -0.4
comp=Z,6.1nm,0.9s
CCB **Clear Creek Bu** 91.82 13 eP P 10 44 36.6 -0.9
comp=Z,5.5nm,0.9s
IM3 **Indian Mountai** 91.91 10 eP P 10 44 37.4 -0.4
MDM **Murphy Dome** 92.01 13 eP P 10 44 37.3 -1.1
comp=Z,5.7nm,0.9s
TCOL **CIGO, UAF Yank** 92.01 13 P P 10 44 37.5 -0.7
baz=209
COLA **College** 92.01 13 eP P 10 44 37.2 -1.1
comp=Z,7.2nm,0.8s
COLA **College** 92.01 13 eP P 10 44 37.2 -1.1
COLA pmax pmax
comp=Z,7.0nm,0.8s
S22A **4UR Ranch, Cre** 92.04 49 eP P 10 44 40.2 +0.7
comp=Z,14nm,1.0s
S22A **4UR Ranch, Cre** 92.04 49 P P 10 44 40.4 +0.9
baz=241
SCRK **Sand Creek** 92.09 15 eP P 10 44 38.8 -0.1
comp=Z,6.0nm,1.0s
IL1 **Eielson Array** 92.12 14 eP P 10 44 37.6 -1.2
ILAR **Eielson Array** 92.12 14 P P 10 44 37.9 -1.0
comp=Z,1.8nm,0.8s,baz=227,slow=6.1,SNR=23
ILAR PP PP 10 48 24.0 -4.1
comp=Z,1.5nm,1.0s,baz=219,slow=6.9,SNR=4.3
ILB **Eielson Array** 92.12 14 eP P 10 44 38.0 -0.9
BILL **Bilibino** 92.35 355 i P P 10 44 36.9 -2.9
BILL i *PP pP 10 46 31.0 -1.7
BILL pmax pmax
comp=Z,4.0nm,1.0s
CMIG **Matias Romero** 92.41 72 P P 10 44 41.8 +0.5
comp=Z,3.6nm,0.7s,baz=294,slow=3.5,SNR=7.4
MOOW **Moose Ponds** 92.46 43 eP P 10 44 40.4 -0.8
comp=Z,1.8nm,0.6s
FLWY **Flagg Ranch** 92.67 42 eP P 10 44 42.1 0.0
comp=Z,7.8nm,0.9s
PD31 **Pinedale Array** 92.71 44 eP P 10 44 42.7 +0.3
PDAR **Pinedale Array** 92.71 44 P P 10 44 43.7 +1.3
comp=Z,4.7nm,0.7s,baz=184,slow=5.4,SNR=14
PDAR PP PP 10 48 30.5 -2.9
comp=Z,0.8nm,1.0s,baz=222,slow=4.9,SNR=4.4
SDCO **Great Sand Dun** 92.96 50 eP P 10 44 43.6 -0.1
comp=Z,6.3nm,0.8s
SDCO **Great Sand Dun** 92.96 50 P P 10 44 44.3 +0.5
baz=242
MSTX **Muleshoe** 93.19 54 eP P 10 44 44.5 -0.1
comp=Z,12nm,1.0s
MSTX **Muleshoe** 93.19 54 P P 10 44 44.9 +0.2
baz=243
DAWY **Dawson** 93.31 17 eP P 10 44 44.3 -0.1
comp=Z,7.1nm,0.8s
833A **Chaparral WMA,** 93.32 61 P P 10 44 45.4 +0.2
baz=244
EGAK **Eagle** 93.44 16 eP P 10 44 45.0 +0.1
comp=Z,8.5nm,0.8s
T25A **Trinidad** 93.45 51 P P 10 44 46.2 +0.3
baz=242
LZH **Lanzhou** 93.53 308 ⇑P P 10 44 47.6 +1.4
LZH pP pP 10 46 48.0 +8.9
LZH sP sP 10 47 40.5 +10
LZH PP PP 10 48 45.7 +5.9
LZH pmax pmax
comp=Z,18nm,1.4s
LZH pmax pmax
comp=Z,93nm,9.3s
Q24A **Divide** 93.78 49 eP P 10 44 47.7 +0.3
comp=Z,8.4nm,0.8s
Q24A **Divide** 93.78 49 P P 10 44 47.9 +0.4
baz=242
ISCO **Idaho Springs** 93.85 48 P P 10 44 48.1 +0.3
baz=242
JCT **Junction City** 93.92 58 eP P 10 44 47.8 -0.2
comp=Z,8.3nm,0.8s
JCT **Junction City** 93.92 58 eP P 10 44 47.8 -0.2
JCT pmax pmax
comp=Z,8.0nm,0.8s
JCT **Junction City** 93.92 58 P P 10 44 48.1 +0.2
baz=244
FYU **Fort Yukon** 94.02 13 eP P 10 44 49.5 +2.1
comp=Z,28nm,0.8s
RLMT **Red Lodge** 94.08 42 P P 10 44 49.8 +1.3
baz=240
N23A **Red Feather La** 94.14 47 eP P 10 44 50.7 +1.6
comp=Z,7.6nm,0.6s
ABTX **Abilene, Hawle** 94.96 57 eP P 10 44 52.9 +0.2
comp=Z,5.2nm,0.9s
ABTX **Abilene, Hawle** 94.96 57 P P 10 44 52.7 0.0
baz=245
KSCO **Kaye Shedlock'** 95.55 50 eP P 10 44 56.0 +0.8
comp=Z,10nm,0.9s
KSCO **Kaye Shedlock'** 95.55 50 P P 10 44 55.4 +0.1
baz=244
EPYK **Eagle Plains** 95.83 16 P P 10 44 55.3 -0.5
baz=219
LAO **LASA Array** 96.69 42 P P 10 45 00.2 0.0
baz=242
RSSD **Black Hills** 96.88 45 P P 10 45 01.0 -0.3
baz=243
SONA0 **Songino Array** 97.26 319 eP Pdif 10 45 02.3 -0.4
SONM **Songino Array** 97.26 319 P Pdif 10 45 02.3 -0.4
comp=Z,0.4nm,0.4s,baz=137,slow=5.1,SNR=3.6
GTA **Gaotai** 97.85 310 eP P 10 45 10.0 +4.4
GTA pP pP 10 47 07.5 +8.7
GTA sP sP 10 47 57.0 +7.1

GTA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
JTS	**JuntasAbangare**	**98.59**	**83**⇑	*e*P		**P**	**10 45 09.7**	**+0.3**
ZAA1	**Zalesovo Array**	**112.11**	**321**	*e*PKiKP		**PKiKP**	**10 50 00.0**	**-1.7**
ZALV	**Zalesovo Beam**	**112.11**	**321**	PKiKP		**PKiKP**	**10 50 00.0**	**-1.7**
	comp=Z,0.7nm,0.4s,baz=135,slow=0.9,SNR=3.8							
MK32	**Makanchi Array**	**112.31**	**313**	*e*PKiKP		**PKiKP**	**10 50 01.3**	**-1.1**
MKAR	**Makanchi Array**	**112.31**	**313**	PKiKP		**PKiKP**	**10 50 01.3**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=230,slow=1.6,SNR=6.8							
MKAR				PKKPab		**PKKPab**	**11 01 04.2**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=254,slow=5.4,SNR=4.0							
KSH	**Kashi**	**115.42**	**304**	*e*PKP		**PKPdf**	**10 50 09.0**	**+0.3**
KK31	**Karatay Array**	**120.02**	**307**	*e*PKPdf		**PKPdf**	**10 50 16.7**	**-0.6**
KK31	**Karatay Array**	**120.02**	**307**	*e*PKiKP		**PKPdf**	**10 50 16.7**	**-0.6**
KKAR	**Karatay Array**	**120.02**	**307**	*e*PKPdf		**PKPdf**	**10 50 16.7**	**-0.6**
KKAR	**Karatay Array**	**120.02**	**307**	*e*PKiKP		**PKPdf**	**10 50 16.7**	**-0.6**
GEYT	**Alibeck**	**129.11**	**300**	SKPbc	SKPbc		10 53 09.7	+1.0
	comp=Z,5.7nm,0.9s,baz=302,slow=2.8,SNR=9.7							
ARA0	**ARCESS Array S**	**132.02**	**348**	*e*PKPdf		**PKPdf**	**10 50 38.5**	**-0.9**
ARCES	**ARCESS Array B**	**132.02**	**348**	PKP		**PKPdf**	**10 50 38.5**	**-0.9**
	comp=Z,2.6nm,0.6s,baz=45,slow=1.5,SNR=19							
ARCES				SKPbc		**SKPbc**	**10 53 17.8**	**-0.4**
	comp=Z,11nm,0.8s,baz=46,slow=3.5,SNR=13							
KMBO	**Kilima Mbogo**	**136.13**	**241**	SKPbc		**SKPbc**	**10 53 33.8**	**+0.3**
	comp=Z,3.1nm,0.8s,baz=90,slow=1.4,SNR=7.3							
FIA0	**FINESS Array S**	**138.59**	**341**	*e*PKPpre	PKPpre		10 50 43.5	
FIA0				*e*PKPdf		**PKPdf**	**10 50 51.6**	**-0.2**
FIA0	**FINESS Array S**	**138.59**	**341**	*e*PKHKP	PKPpre		10 50 43.5	
FIA0				*e*			10 50 51.6	
FINES	**FINESS Array B**	**138.59**	**341**	PKhKP	PKPpre		10 50 43.5	
	comp=Z,3.3nm,0.8s,baz=35,slow=4.7,SNR=4.1							
FINES				PKP		**PKPdf**	**10 50 51.6**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=0.0,slow=1.9,SNR=3.5							
FINES				SKPbc		**SKPbc**	**10 53 38.1**	**-0.5**
	comp=Z,15nm,0.8s,baz=95,slow=4.2,SNR=16							
OBN	**Obninsk**	**138.92**	**329**⇑	*i*PKiKP		**PKPdf**	**10 50 52.3**	**-0.3**
OBN				*i*			10 53 38.1	
OBN				*e*			10 53 52.9	
OBN				*e*SS	SS		11 11 22.8	-4.0
OBN				pmax	pmax			
	comp=Z,7.0nm,0.9s							
NB2	**NORSAR Subarra1**	**142.21**	**351**	PKP	PKPpre		10 50 53.8	
	comp=Z,0.4nm,0.5s,baz=10,slow=3.2							
NB200	**NORSAR Array S**	**142.21**	**351**	*e*PKPpre	PKPpre		10 50 52.6	
NOA	**NORSAR Array B**	**142.21**	**351**	PKhKP	PKPpre		10 50 52.6	
	comp=Z,2.0nm,0.8s,baz=11,slow=2.3,SNR=5.5							
NOA				SKP			10 53 47.6	
	comp=Z,2.6nm,0.7s,baz=15,slow=4.2,SNR=7.3							
ANN	**Anapa**	**143.32**	**314**	*e*PKIKP	PKPab		10 50 58.5	-0.3
ANN				pmax	pmax			
	comp=Z,61nm,0.9s							
ELZG	**Elazig**	**144.05**	**303**	*i* P		**PKPdf**	**10 51 03.1**	**+0.6**
KEMA	**Kemaliye**	**144.25**	**304**	*i* P		**PKPdf**	**10 51 03.1**	**+0.3**
HEKM	**Malatya_Hekimh**	**144.75**	**304**	*i* P		**PKPab**	**10 51 05.2**	**+0.5**
AKCD	**Akcadag**	**144.91**	**303**	*i* P		PKPbc	10 51 04.8	+0.3
AKASG	**Malin Array Be**	**145.12**	**327**	PKPbc		**PKPdf**	**10 51 03.5**	**-0.2**
	comp=Z,3.6nm,0.3s,baz=44,slow=4.2,SNR=19							
AKASG				SKPbc		**SKPbc**	**10 53 55.2**	**-0.1**
	comp=Z,9.1nm,0.7s,baz=45,slow=2.8,SNR=15							
AKBB	**Malin Array Si**	**145.12**	**327**	*e*PKPdf		**PKPdf**	**10 51 03.5**	**-0.2**
KIEV	**Kiev**	**145.14**	**327**	*e*PKPdf		**PKPdf**	**10 51 03.4**	**-0.4**
KIEV	**Kiev**	**145.14**	**327**⇓	*e*PKiKP		**PKPdf**	**10 51 03.8**	**+0.1**
BR101	**Keskin Array S**	**147.73**	**307**	*e*PKPbc		**PKPbc**	**10 51 11.7**	**-0.6**
BR131	**Keskin Array S**	**147.73**	**307**	*e*PKPdf		**PKPdf**	**10 51 07.5**	**-1.2**
BR131				*e*PKPbc		**PKPbc**	**10 51 11.8**	**-0.5**
BR131				*e*PKPab		**PKPab**	**10 51 16.6**	**+0.2**
BRTR	**Keskin Array B**	**147.73**	**307**	PKPbc		**PKPbc**	**10 51 11.7**	**-0.6**
	comp=Z,4.4nm,0.7s,baz=144,slow=4.9,SNR=20							
ANTO	**Ankara**	**148.29**	**308**	*e*PKPdf		**PKPdf**	**10 51 09.3**	**-0.2**
ANTO				*e*PKPbc		**PKPbc**	**10 51 13.4**	**-0.2**
ANTO				*e*PKPab		**PKPab**	**10 51 18.4**	**-0.2**
BUR08	**Bucovina Ar. S**	**149.11**	**326**	*e*PKPdf		**PKPdf**	**10 51 09.9**	**-0.7**
BUR08				*e*PKPbc		**PKPbc**	**10 51 15.7**	**+0.3**
BUR08				*e*PKPab		**PKPab**	**10 51 21.4**	**-0.4**
BUR04	**Bucovina Ar. S**	**149.12**	**326**	*e*PKPdf		**PKPdf**	**10 51 11.7**	**+1.0**
BUR04				*e*PKPbc		**PKPbc**	**10 51 15.8**	**+0.3**
BUR04				*e*PKPab		**PKPab**	**10 51 22.2**	**+0.4**
OJC	**Ojcow**	**149.69**	**335**	*e*PKP		**PKPbc**	**10 51 16.6**	**+0.1**
MLR	**Muntele Rosu**	**150.07**	**322**	*e*PKPbc		**PKPbc**	**10 51 17.2**	**-0.6**
NIE	**Niedzica**	**150.11**	**333**	*e*PKP		**PKPbc**	**10 51 18.4**	**+0.7**
KSP	**Ksiaz**	**150.43**	**339**	*e*PKP		**PKPbc**	**10 51 18.8**	**+0.5**
KSP	**Ksiaz**	**150.43**	**339**	*e*PKIKP		**PKPbc**	**10 51 18.8**	**+0.5**
LANS	**Liptovska Anna**	**150.66**	**334**	*e*PKIKP		**PKPbc**	**10 51 20.6**	**+1.7**
LANS	**Liptovska Anna**	**150.66**	**334**	*e*PKP		**PKPbc**	**10 51 20.6**	**+1.7**
DPC	**Dobruska-Polom**	**150.84**	**338**⇑	*e*PKP		**PKPbc**	**10 51 19.8**	**+0.5**
DPC	**Dobruska-Polom**	**150.84**	**338**	*e*PKIKP		**PKPbc**	**10 51 19.8**	**+0.5**
KRLC	**Kraliky**	**150.92**	**338**⇑	*e*PKP		**PKPbc**	**10 51 19.9**	**+0.4**
KRLC	**Kraliky**	**150.92**	**338**	*e*PKIKP		**PKPbc**	**10 51 19.9**	**+0.4**
CLL	**Collm**	**151.00**	**343**	*e*PKPdf		**PKPdf**	**10 51 14.0**	**+0.8**
CLL				*e*PKPbc		**PKPbc**	**10 51 19.6**	**+0.1**
CLL	**Collm**	**151.00**	**343**⇑	*i*PKPbc		**PKPbc**	**10 51 19.6**	**+0.1**
	comp=Z,18nm,0.8s							
CLL				*e*pPKPbc		**pPKPab**	**10 53 23.0**	**-0.9**
CLL				*e*(pPKPab)			10 53 30.0	
CLL	**Collm**	**151.00**	**343**⇑	*i*PKIKP		**PKPbc**	**10 51 19.6**	**+0.1**
CLL				pmax	pmax			
	comp=Z,18nm,0.8s							
BRG	**Berggiesshubel**	**151.13**	**342**	*i* PKP		**PKPbc**	**10 51 20.0**	**+0.1**
	comp=Z,14nm,0.5s							
BRG				*e*pPKP		**pPKPab**	**10 53 23.3**	**-1.1**
	comp=Z,7.1nm,1.0s							
BRG	**Berggiesshubel**	**151.13**	**342**	*i* PKIKP		**PKPbc**	**10 51 20.0**	**+0.1**
BRG				pmax	pmax			
	comp=Z,14nm,0.5s							
BRG				pmax	pmax			
	comp=Z,7.0nm,1.0s							
PVCC	**Panska Ves**	**151.25**	**341**⇑	*e*PKP		**PKPbc**	**10 51 20.5**	**+0.3**
PVCC	**Panska Ves**	**151.25**	**341**	*e*PKIKP		**PKPbc**	**10 51 20.5**	**+0.3**
VYHS	**Vyhne**	**151.44**	**333**	*e*PKIKP		**PKPbc**	**10 51 20.9**	**+0.2**
VYHS				*e*			10 51 31.7	
VYHS	**Vyhne**	**151.44**	**333**	*e*PKP		**PKPbc**	**10 51 20.9**	**+0.2**
VYHS				*e*			10 51 31.7	
KHC	**Kasperske Hory**	**152.79**	**340**⇑	*e*PKP		**PKPbc**	**10 51 23.9**	**+0.2**
KHC	**Kasperske Hory**	**152.79**	**340**	*e*PKIKP		**PKPbc**	**10 51 23.9**	**+0.2**
GERES	**GERESS Array B**	**153.00**	**340**	PKPbc		**PKPbc**	**10 51 23.9**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=29,slow=3.0,SNR=5.3							
ESDC	**Sonseca Array**	**164.02**	**11**	PKPab		**PKPab**	**10 52 25.6**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=346,slow=4.6,SNR=9.4							
TORD	**Torodi Ar. Bea**	**169.08**	**188**	PKP		**PKPdf**	**10 51 32.7**	**-1.3**
	comp=Z,1.3nm,1.0s,baz=216,slow=1.3,SNR=4.8							
TORD				PKPab		**PKPab**	**10 52 47.9**	**-1.0**
	comp=Z,2.0nm,0.6s,baz=177,slow=4.5,SNR=12							
TOA1	**Torodi Ar. Sit**	**169.09**	**188**	*e*PKPdf		**PKPdf**	**10 51 32.7**	**-1.3**
TOA1				*e*PKPab		**PKPab**	**10 52 47.9**	**-1.0**

*IDC **12** 10:55:11.6±0.7,45°.73S×77°.24W, h0km, mb4.2/10, mb1 4.3/11,mb1mx4.2/23, mbtmp4.2/11, ML3.9/1, MS4.5/13, Ms1 4.5/13, ms1mx4.3/27, Error ellipse: s-maj=34.0km s-min=16.0km az=105.0*

*NEIC **12** 10:55:13.8±0.3,45°.68S×76°.92W, h10km, mb4.7/28, ML4.4(GUC), Error ellipse: s-maj=9.1km s-min=5.9km az=96.0*

*GCMT **12** 10:55:13.8±0.2,45°.76S±0°.01×77°.41W±0°.02, h17km±1km, MW5.1/97, Moment Tensor Solution. s34,c45; s97,c140; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr0.18±.18; Mθθ2.40±.16; Mϕϕ-2.58±.18; Mrθ0.35±.37; Mϕr-4.78±.14; Mϕr-2.65±.49; Best double couple: M◎6.01000×10^16^ NP1:ϕs346.00000°, δ89.00000°, λ-26.00000°. NP2: ϕs77.00000°, δ64.00000°, λ-179.00000°. Principal axes: T 5.8310, Plg18.0000°, Azm35.0000°; N 0.3610, Plg64.0000°, Azm165.0000°; P -6.1890, Plg19.0000°, Azm298.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*ISCJB **12** 10:55:15.8±0.3,45°.70S±0°.03×76°.67W±0°.08, h33km, mb4.6/33, MS4.5/12 Error ellipse: s-maj=8.0km s-min=4.8km az=172.8*

ISC 12 10:55:17.1±0.5, 45°.69S±0°.06×77°.07W±0°.09, h35km, n97, σ1s68/90, mb4.7/33, MS4.5/12, 1D, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHRN	**Cochrane**	**3.47**	**118**	*e*Pn	**Pn**	**10 56 05.3**	**-3.2**
CHRN	**Cochrane**	**3.47**	**118**	*e*P	**Pn**	**10 56 06.9**	**-1.5**
GO07	**Milladeo Hill,**	**3.54**	**45**	*e*Pn	**Pn**	**10 56 06.6**	**-3.0**
GO07	**Milladeo Hill,**	**3.54**	**45**	*e*P	**Pn**	**10 56 06.9**	**-2.6**
GO08	**Villa O'Higgin**	**4.15**	**134**	*e*P	**Pn**	**10 56 17.0**	**-0.8**
GO09	**Cerro Castillo**	**6.41**	**152**	*e*Pn	**Pn**	**10 56 47.9**	**-1.0**
GO09	**Cerro Castillo**	**6.41**	**152**	*i* P	**Pn**	**10 56 47.6**	**-1.3**
PLCA	**Paso Flores**	**6.87**	**46**	Pn	**Pn**	**10 56 53.9**	**-1.4**
	0.5nm,0.3s,baz=228,slow=8.0,SNR=18						
PLCA				LR	LR	10 59 33.7	
	comp=Z,7μm,19.3s,baz=238,slow=38						
PLCA	**Paso Flores**	**6.87**	**46**	*e*P	**Pn**	**10 56 53.2**	**-2.1**
GO06	**Curarrehue**	**7.36**	**36**	*e*Pn	**Pn**	**10 57 00.6**	**-1.5**
GO06	**Curarrehue**	**7.36**	**36**	*e*P	**Pn**	**10 56 59.6**	**-2.5**
GO10	**Punta Arenas**	**8.44**	**155**	*e*Pn	**Pn**	**10 57 15.6**	**-1.1**
GO05	**Hualaæ0**	**11.36**	**22**	*e*Pn	**Pn**	**10 57 54.0**	**-2.7**
PEL	**Peldehue**	**13.45**	**24**	*e*Pn	**Pn**	**10 58 21.3**	**-4.2**
ROC1	**El Roble**	**13.52**	**22**	*e*Pn	**Pn**	**10 58 23.4**	**-3.1**
TRQA	**Tornquist**	**13.57**	**61**	*e*Pn	**Pn**	**10 58 26.3**	**-0.7**
GO04	**Tololo Observa**	**16.25**	**20**	*e*Pn	**Pn**	**10 59 00.4**	**-2.4**
	50nm,1.0s						
LCO	**Las Campanas**	**17.39**	**19**	*e*Pn	**Pn**	**10 59 16.1**	**-1.0**
	17nm,1.1s						
PMSA	**Palmer Station**	**20.44**	**164**	LR	LR	11 05 35.9	
	comp=Z,883nm,21.5s,baz=334,slow=31						
PB10	**IPOC Station P**	**22.74**	**16**	*e*P	**P**	**11 00 16.7**	**+0.6**
	50nm,1.1s						
LVC	**Limon Verde**	**23.96**	**19**	P	**P**	**11 00 26.5**	**-1.9**
	10nm,1.1s,baz=186,slow=10,SNR=11						
LVC				LR	LR	11 10 16.8	
	comp=Z,740nm,19.0s,baz=192,slow=38						
LVC	**Limon Verde**	**23.96**	**19**	*e*P	**P**	**11 00 26.6**	**-1.9**
LVC				*e*P	**P**	**11 00 29.4**	**+0.9**
CPUP	**Villa Florida**	**24.94**	**46**	P	**P**	**11 00 37.7**	**+0.8**
	4.0nm,0.9s,baz=244,slow=9.1,SNR=6.3						
CPUP				LR	LR	11 11 04.4	
	comp=Z,2μm,18.3s,baz=216,slow=38						
CPUP	**Villa Florida**	**24.94**	**46**	*e*P	**P**	**11 00 37.8**	**+0.9**
	12nm,0.8s						
PB01	**IPOC Station P**	**25.36**	**17**	*e*P	**P**	**11 00 41.3**	**+0.5**
	8.8nm,0.9s						
PB11	**IPOC Station P**	**26.57**	**16**	*e*P	**P**	**11 00 52.7**	**+0.8**
	16nm,1.1s						
LPAZ	**La Paz**	**30.25**	**17**	P	**P**	**11 01 26.5**	**+1.3**
	1.4nm,0.8s,baz=181,slow=7.4,SNR=8.0						
LPAZ	**La Paz**	**30.25**	**17**	*e*P	**P**	**11 01 26.4**	**+1.1**
	3.1nm,1.1s						
SAML	**Samuel**	**38.51**	**22**	*e*P	**P**	**11 02 36.4**	**+0.4**
	9.2nm,1.1s						
BDFB	**Brasilia**	**38.60**	**49**	P	**P**	**11 02 38.5**	**+1.6**
	1.0nm,0.3s,baz=164,slow=18,SNR=2.4						
BDFB				LR	LR	11 19 55.8	
	comp=Z,3μm,18.4s,baz=213,slow=38						
VNA3	**Neumayer Olymp**	**40.36**	**153**	P	**P**	**11 02 51.1**	**+0.2**
VNA1	**Neumayer--Stat**	**40.81**	**152**	P	**P**	**11 02 54.1**	**-0.4**
VNA2	**Neumayer--Watz**	**41.10**	**152**	P	**P**	**11 02 57.1**	**+0.2**
	baz=270,slow=8.5						
SNAA	**Sanae**	**42.54**	**153**	P	**P**	**11 03 08.8**	**0.0**
SNAA	**Sanae**	**42.54**	**153**	*e*P	**P**	**11 03 08.6**	**-0.2**
	17nm,1.0s						
QSPA	**South Pole Qui**	**44.56**	**180**	P	**P**	**11 03 24.4**	**-0.8**
	6.9nm,0.9s,baz=143,slow=7.2,SNR=13						
QSPA				LR	LR	11 18 35.5	
	comp=Z,250nm,19.2s,baz=148,slow=32						
QSPA	**South Pole Qui**	**44.56**	**180**	*e*P	**P**	**11 03 24.4**	**-0.8**
QSPA				*e*P	**P**	**11 03 25.2**	**-0.1**
CRUC	**La Cruz**	**47.05**	**0**	*e*P	**P**	**11 03 47.9**	**+2.3**
PTGA	**Pitinga**	**47.23**	**24**	*e*P	**P**	**11 03 47.0**	**+0.4**
	8.5nm,1.0s						
SOTA	**Rioblanco**	**47.62**	**1**	*e*P	**P**	**11 03 49.2**	**-0.9**
PCON	**Cinco Dias**	**47.81**	**1**	*e*P	**P**	**11 03 52.8**	**+1.0**
GUVC	**San Jose del G**	**48.18**	**6**	*e*P	**P**	**11 03 54.6**	**+0.6**
PRAC	**Prado**	**49.22**	**3**	*e*P	**P**	**11 04 03.2**	**+1.2**
CHIC	**Chingaza**	**50.18**	**4**	*e*P	**P**	**11 04 09.9**	**+0.2**
ROSC	**El Rosal**	**50.36**	**4**	P	**P**	**11 04 11.2**	**+0.2**
	3.6nm,0.6s,baz=122,slow=16,SNR=4.7						
ROSC				LR	LR	11 23 31.0	
	comp=Z,587nm,19.4s,baz=225,slow=34						
ROSC	**El Rosal**	**50.36**	**4**	*e*P	**P**	**11 04 11.2**	**+0.2**
	11nm,1.1s						
RREF	**El Recreo**	**50.38**	**2**	*e*P	**P**	**11 04 13.2**	**+1.6**
GUYC	**Guyana, Colomb**	**50.70**	**2**	*e*P	**P**	**11 04 14.5**	**+0.8**
RUSC	**La Rusia**	**51.47**	**5**	*e*P	**P**	**11 04 17.3**	**-2.2**
RKT	**Rikitea**	**51.59**	**276**	*e*LR	LR	11 19 07.5	
	447nm,27.0s						
HELC	**Santa Helena**	**51.66**	**2**	*e*P	**P**	**11 04 21.8**	**+1.0**
VNDA	**Vanda**	**51.88**	**194**	P	**P**	**11 04 20.7**	**-0.6**
	1.9nm,1.1s,baz=137,slow=8.0,SNR=4.4						
VNDA				LR	LR	11 22 46.7	
	comp=Z,214nm,19.0s,baz=134,slow=32						
VNDA	**Vanda**	**51.88**	**194**	*e*P	**P**	**11 04 21.4**	**+0.1**
SYO	**Syowa Base**	**56.50**	**157**	*i*P	**P**	**11 04 54.0**	**-1.0**
TBI	**Tubuai**	**61.58**	**265**	*e*S	**S**	**11 13 49.9**	**-0.6**
	225nm,28.8s						
TBI				*e*LQ	LQ	11 21 12.4	
	449nm,36.2s						
TBI				*e*LR	LR	11 23 40.0	
	204nm,25.0s,baz=130						
MAW	**Mawson**	**63.05**	**164**	P	**P**	**11 05 40.1**	**0.0**
	5.9nm,0.9s,baz=206,slow=9.5,SNR=5.0						
MAW				LR	LR	11 31 47.0	
	comp=Z,798nm,21.5s,baz=214,slow=35						
MAW	**Mawson**	**63.05**	**164**	*e*P	**P**	**11 05 40.1**	**0.0**
	2.0nm,1.0s						
PAE	**Paea**	**65.42**	**270**	*e*T	T	12 16 36.0	
	1.0nm,0.3s						
PPT2	**Papeete2**	**65.47**	**270**	*e*S	**S**	**11 14 36.0**	**-3.2**
	427nm,28.8s						
PPT2	**Papeete2**	**65.47**	**270**	*e*LR	LR	11 25 20.8	
	267nm,26.0s,baz=130						
PPT2	**Papeete2**	**65.47**	**270**	*e*T	T	12 16 34.0	
	1.2nm,0.3s						
CASY	**Casey**	**68.22**	**183**	*e*P	**P**	**11 06 13.0**	**-0.4**
	10nm,1.1s						
URZ	**Urewera**	**73.18**	**232**	LR	LR	11 30 17.7	
	comp=Z,194nm,20.6s,baz=177,slow=29						
BOSA	**Boshof**	**77.98**	**119**	LR	LR	11 37 26.9	
	comp=Z,200nm,20.9s,baz=211,slow=32						
LTX	**Lajitas**	**78.48**	**336**	*e*P	**P**	**11 07 14.8**	**+0.4**
TXAR	**Lajitas Array**	**78.48**	**336**	P	**P**	**11 07 14.8**	**+0.5**
	1.4nm,0.9s,baz=187,slow=6.3,SNR=6.2						
TX31	**Lajitas Ar. Si**	**78.48**	**336**	*e*P	**P**	**11 07 15.0**	**+0.7**
JCT	**Junction City**	**78.57**	**340**	*e*P	**P**	**11 07 15.4**	**+0.7**
	7.4nm,1.0s						
319A	**Douglas**	**82.08**	**333**	*e*P	**P**	**11 07 35.2**	**+1.6**
	8.8nm,0.9s						
WMOK	**Wichita Mounta**	**82.43**	**342**	*e*P	**P**	**11 07 36.0**	**+0.7**
	7.4nm,1.1s						
PARMO	**Parma**	**82.77**	**350**	*e*P	**P**	**11 07 37.5**	**+0.6**
	70nm,0.4s						
T42A	**Van Buren**	**83.30**	**349**	*e*P	**P**	**11 07 39.8**	**+0.1**
	5.8nm,1.0s						
CCM	**Cathedral Cave**	**84.33**	**349**	*e*P	**P**	**11 07 45.7**	**+0.8**
	14nm,1.0s						
ANMO	**Albuquerque**	**84.54**	**336**	*e*P	**P**	**11 07 47.9**	**+1.6**
	3.0nm,1.0s						
T25A	**Trinidad**	**86.05**	**338**	*e*P	**P**	**11 07 54.3**	**+0.4**
	5.2nm,1.0s						
PFO	**Pinyon Flats O**	**86.61**	**328**	LR	LR	11 38 12.9	
	comp=Z,212nm,19.4s,baz=222,slow=30						
S22A	**4UR Ranch, Cre**	**87.27**	**337**	*e*P	**P**	**11 08 01.9**	**+2.0**
	4.7nm,1.1s						
U15A	**North Rim**	**87.70**	**332**	*e*P	**P**	**11 08 03.1**	**+1.1**
	3.0nm,1.0s						
KNB	**Kanab**	**88.41**	**332**	*e*P	**P**	**11 08 07.1**	**+1.8**
	8.4nm,1.0s						
SHPR	**Sheep Range**	**88.73**	**330**	*e*P	**P**	**11 08 08.0**	**+1.2**
	5.8nm,1.2s						
SZCU	**Shurtz Canyon**	**89.02**	**332**	*e*P	**P**	**11 08 09.6**	**+1.4**
	8.0nm,1.2s						
CCUT	**Cedar City**	**89.07**	**332**	*e*P	**P**	**11 08 10.5**	**+2.1**
	5.8nm,1.0s						
PSUT	**Pine Spring**	**90.12**	**332**	*e*P	**P**	**11 08 15.0**	**+1.7**
	4.1nm,0.9s						
R11A	**Troy Canyon, C**	**90.54**	**331**	*e*P	**P**	**11 08 17.6**	**+2.4**
	2.2nm,1.1s						
DZM	**Mont Dzumac**	**91.35**	**236**	*e*LR	LR	11 37 36.9	
	681nm,28.2s						
NV01	**Mina Array Sit**	**91.57**	**329**	*e*P	**P**	**11 08 21.1**	**+1.0**
NVAR	**Mina Array Bea**	**91.57**	**329**	P	**P**	**11 08 21.1**	**+1.0**
	0.9nm,0.8s,baz=152,slow=6.7,SNR=6.9						
STKA	**Stephens Creek**	**95.22**	**212**	LR	LR	11 44 31.7	
	comp=Z,280nm,18.3s,baz=354,slow=31						
LRM	**Limekiln Ridge**	**96.32**	**336**	*e*P	P	11 08 49.1	+7.4
ILAR	**Eielson Array**	**122.73**	**331**	PKP	**PKPdf**	**11 14 06.4**	**-1.4**
	0.8nm,0.9s,baz=162,slow=1.8,SNR=7.3						
HYB	**Hyderabad**	**145.26**	**136**	*i* PKP	**PKPbc**	**11 14 50.0**	**-0.9**
TIXI	**Tiksi**	**151.18**	**343**	PKPbc	**PKPbc**	**11 15 04.7**	**-0.4**
	1.0nm,0.7s,baz=329,slow=5.9,SNR=3.6						
KSH	**Kashi**	**159.27**	**98**	*e*PKP	**PKPdf**	**11 15 12.3**	**+1.0**
ZAA1	**Zalesovo Array**	**165.71**	**48**	*e*PKPdf	**PKPdf**	**11 15 15.9**	**-1.1**
ZALV	**Zalesovo Beam**	**165.71**	**48**	PKP	**PKPdf**	**11 15 15.9**	**-1.1**
	0.6nm,0.5s,baz=270,slow=1.4,SNR=3.5						
LZH	**Lanzhou**	**170.39**	**184**	*e*PKP	**PKPdf**	**11 15 22.5**	**+1.4**
LZH				pPKP	pPKPdf	11 15 25.7	-6.9
LZH				sPKP		11 15 27.1	
LZH				PKP	**PKPab**	**11 16 41.6**	**+3.9**
LZH				LR	LR		
	comp=N,92nm,18.1s						
LZH				LR	LR		
	comp=E,95nm,18.2s						
LZH				LR	LR		
	comp=Z,100nm,20.3s						
GTA	**Gaotai**	**173.32**	**159**	PKP	**PKPdf**	**11 15 27.3**	**+5.0**
GTA				PKPab	**pPKPab**	**11 16 56.8**	**-4.9**

MEX 12 11:01:38.6±0.5, 14°.19N×92°.38W, h70km±13km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.72**	**9**	*e*P	Pn	11 01 52.3	-1.5
THIG				*e*S	Sn	11 02 03.6	-1.5
PCIG		**1.71**	**332**	*e*P	Pn	11 02 05.4	-1.0
PCIG				*i* S	Sn	11 02 25.5	-2.0
CCIG	**Comitan**	**2.10**	**6**	*e*P	Pn	11 02 10.6	-1.1
CCIG				*i* S	Sn	11 02 35.2	-1.8
TGIG		**2.67**	**345**	*i* P	Pn	11 02 18.4	-1.1
TGIG				*i* S	Sn	11 02 49.7	-1.1

*STR **12** 11:15:04.5±0.4,49°.N±2°×°±°, h12km±2km, M2.2/6, MLv2.2/6*

*LDG **12** 11:15:04.9±0.1,49°.13N×8°.12E, h10km, Md2.4/1, Ml2.4/5, Error ellipse: s-maj=1.7km s-min=1.3km az=112.0*

ISC 12 11:15:04.0±1.2, 49°.13N±0°.04×8°.17E±0°.06, h14km±8km, n14, σ1s37/25, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTD	**Kalmit**	**0.19**	**344**	Pg	**Pg**	**11 15 08.5**	**-0.1**
KTD				Sg	**Sg**	**11 15 10.7**	**-0.9**
LANF	**Langenberg**	**0.28**	**237**	Pg	**Pg**	**11 15 10.2**	**+0.2**
LANF				Sg	**Sg**	**11 15 14.0**	**0.0**
OPP	**Oppenau**	**0.64**	**179**	Pg	**Pg**	**11 15 16.9**	**+0.5**
ABH	**Alteburg**	**0.85**	**332**	Pg	**Pg**	**11 15 20.7**	**+0.2**
WLS	**Welschbruch**	**0.90**	**217**	Pg	**Pb**	**11 15 22.3**	**+0.8**
CDF	**Champ du Feu**	**0.93**	**220**	*e*Pg	**Pg**	**11 15 21.9**	**-0.1**
CDF				*e*Sg	**Sg**	**11 15 34.2**	**0.0**
	10nm,0.2s						
ECH	**Echery**	**1.14**	**216**	Pn	**Pb**	**11 15 25.0**	**-0.4**
ECH				Pg	**Pb**	**11 15 25.1**	**-0.4**
ECH				Sg	**Sn**	**11 15 41.8**	**+0.9**
KIZ	**Kirchzarten**

JTN Tanegashima 3 6.17 281 ⇑P P 11 16 49.5 +2.5
JMTN Minamitane 6.21 278 ⇑P P 11 16 49.8 +2.4
JUS Usuki 6.32 304 P P 11 16 50.7 +2.3
JKIT Kitakata 6.33 299 ⇑P P 11 16 51.2 +2.7
JRY Ryogami san 6.33 6 ⇑P P 11 16 47.7 -0.8
JTZ Takazaki 6.35 292 ⇑P P 11 16 51.7 +3.0
JKSM Kasumi 6.51 335 ⇑P P 11 16 51.5 +1.3
JGN Niukaw 6.52 355 ⇑P P 11 16 50.5 +0.1
JNG Nsakai 6.68 1 ⇑P P 11 16 51.1 -0.9
JHS Saijyo 6.71 323 ⇑P P 11 16 53.9 +1.7
JHS S S 11 18 19.3 +2.4
JKI Kunimi 6.75 307 ⇑P P 11 16 55.2 +2.6
JKD Kudamatsu 6.79 311 ⇑P P 11 16 55.5 +2.5
JAG Ashikaga 6.80 10 ⇑P P 11 16 50.8 -2.3
MJAR Matsushiro Arr 6.82 1 P P 11 16 52.0 -1.3
84nm,0.3s,baz=175,slow=11,SNR=216
MJAR S S 11 18 14.0 -4.8
21nm,0.3s,baz=168,slow=16,SNR=9.2
MJAR ScP ScP 11 25 26.8 0.0
0.2nm,0.3s,baz=200,slow=2.7,SNR=5.7
MAJO Matsushiro 6.82 1 eP P 11 16 52.2 -1.1
MAJO eS S 11 18 14.0 -4.8
MAJO Matsushiro 6.82 1c iP P 11 16 52.0 -1.3
MAT Matsushiro 6.82 1 P P 11 16 52.1 -1.2
MAT S S 11 18 14.7 -4.1
MAT Matsushiro 6.82 1 P P 11 16 52.2 -1.1
MJB9 Matsu-Tunnel 6.82 1 eP P 11 16 52.2 -1.1
JGK Kuni 6.86 4 P P 11 16 52.3 -1.4
JNU Nakatsue 6.99 301 P P 11 16 57.3 +2.2
154nm,0.3s,baz=104,slow=3.0,SNR=898
JNU Nakatsue 6.99 301 eP P 11 16 57.4 +2.3
JNU Nakatsue 6.99 301 ⇑P P 11 16 57.1 +2.0
JNN Nakanoshima 7.08 273 ⇑P P 11 16 57.9 +1.9
JKT Katashina 7.11 8 ⇑P P 11 16 54.2 -2.1
JTA Tamana 7.18 299 ⇑P P 11 16 59.2 +2.2
JHD Hondo 7.30 294 ⇑P P 11 17 00.5 +2.4
JFA Akaike 7.33 305 P P 11 17 00.3 +1.8
JSB Shiboa 7.41 12 P P 11 16 57.9 -1.4
JSJ Shimokoshiki 7.42 287 ⇑P P 11 17 01.1 +1.7
JTY Toyota 7.45 309 ⇑P P 11 17 01.7 +2.0
JAM Amami Oshima 7.48 262 ⇑P P 11 17 02.0 +1.9
JFI Itaya 7.49 302 P P 11 17 02.2 +2.0
NGSJ Nagasakinomoza 7.62 295 P P 11 17 03.4 +1.9
JUR Ureshino 7.68 298 ⇑P P 11 17 04.2 +2.2
JTK Tokunoshima 8.19 259 ⇑P P 11 17 10.0 +2.6
JOKE Okinoerabujima 8.63 257 P P 11 17 14.1 +2.1
JYRO Yoronjima 8.84 255 P P 11 17 16.3 +2.1
JOW Kunigami 9.06 254 P P 11 17 18.6 +2.1
57nm,0.3s,baz=83,slow=6.3,SNR=209
JOW S S 11 18 56.7 -4.5
baz=122,slow=17,SNR=1.5
JOW Kunigami 9.06 254 P P 11 17 18.4 +1.9
JIO Ouri 9.15 17 P P 11 17 17.0 -0.2
JIH Iheya 9.25 256 P P 11 17 20.1 +1.7
JYK Kaneyama 9.39 11 P P 11 17 19.9 +0.2
JMK Ichinoseki 9.59 15 P P 11 17 21.8 0.0
JMK S S 11 19 06.7 -4.5
OFUJ Ofunato 9.82 17 P P 11 17 24.3 0.0
JRG Rokugo 9.90 12 P P 11 17 25.5 +0.4
JOM Ohasama 10.11 15 P P 11 17 27.5 +0.2
MIYJ Miyakonagasawa 10.33 17 P P 11 17 29.8 +0.2
JKE Kume jima 2 10.48 254 P P 11 17 32.3 +0.8
JKZ Kuzumaki 10.61 14 P P 11 17 33.1 +0.5
JAH Hinai 10.67 11 P P 11 17 34.1 +0.8
JTH Tanohata 10.68 16 P P 11 17 33.5 +0.1
JIW Iwasaki 10.98 8 P P 11 17 37.5 +1.0
JANG Nango 11.02 14 P P 11 17 36.8 -0.1
TJN Taejon 11.14 309c iP P 11 17 38.6 +0.3
JTM Tenmabayashi 11.33 12 P P 11 17 40.5 +0.3
KSRS Korea Array 11.42 315 P P 11 17 41.4 +0.1
35nm,0.3s,baz=129,slow=10,SNR=588
KSRS S S 11 19 46.4 -0.3
baz=132,slow=18,SNR=5.1
KSRS ScP ScP 11 25 32.5 +0.4
0.8nm,0.3s,baz=176,slow=1.1,SNR=23
KS15 Wonju Array Si 11.44 315 eP P 11 17 42.0 +0.6
KS15 eS S 11 19 46.4 -0.6
KSAR Wonju Array Be 11.44 315 P P 11 17 41.4 0.0
KSAR S S 11 19 46.4 -0.6
KSAR Wonju Array Be 11.44 315 P P 11 17 41.4 0.0
KSAR S S 11 19 46.4 -0.6
KS01 Wonju Array Si 11.45 315 eP P 11 17 41.6 +0.1
ERM Erimo 12.96 17 eP P 11 17 58.5 +1.1
ERM e 11 17 58.7
ERM Erimo 12.96 17 eP P 11 17 58.6 +1.1
MSHR Mys Shultsa 13.98 339c eP P 11 18 08.7 +0.5
VLA Vladivostok 14.26 341c iP P 11 18 11.6 +0.5
YOJ Yonaguni jima 14.35 252 eP P 11 18 12.5 +0.1
YOJ Yonaguni jima 14.35 252 eP P 11 18 12.5 +0.1
SARN Sarigan 14.77 150 eP P 11 18 15.6 -1.4
ASAJ Asahikawa 14.84 13 P P 11 18 17.8 +0.7
8.8nm,0.3s,baz=223,slow=9.9,SNR=57
ASAJ S S 11 20 52.3 0.0
3.8nm,0.3s,baz=185,slow=12,SNR=4.8
ASAJ ScP ScP 11 25 38.0 +0.5
1.4nm,0.3s,baz=198,slow=1.9,SNR=7.5
ANA2 Anatahan 15.06 150 eP P 11 18 19.0 -0.9
480nm,1.0s
USA0B Ussuriysk Arra 15.24 343 eP P 11 18 22.2 +0.9
216nm,0.8s
USRK Ussuriysk Ar. 15.24 343 P P 11 18 21.5 +0.1
26nm,0.3s,baz=164,slow=9.4,SNR=190
USRK S S 11 20 58.9 -1.2
baz=145,slow=35
USRK ScP ScP 11 25 38.1 -0.1
0.1nm,0.3s,baz=242,slow=4.1,SNR=4.8
TEY Ternei 15.34 356⇓ eP P 11 18 22.5 +0.1
TEY e 11 21 01.1
TEY pmax pmax
comp=Z,100nm,1.0s
TEY MLR MLR
comp=N,90nm,2.0s
TEY MLR MLR
comp=Z,80nm,3.0s
TATO Taipei 15.43 256 eP P 11 18 23.2 -0.4
comp=Z,190nm,0.5s
YUK Yuzh-Kuril'sk 15.60 21 eP P 11 18 25.0 -0.1
YHNB Yeheng 15.63 255 eP P 11 18 24.9 -1.0
comp=Z,136nm,0.7s
NACB Ninganchiao 15.64 253 eP P 11 18 24.2 -1.7
comp=Z,297nm,0.4s
NACB eS S 11 21 06.4 -2.1
SHO Shikotan 15.78 24 eP P 11 18 27.2 +0.2
SHO pmax pmax
comp=Z,136nm,2.6s
SHO pmax pmax
comp=Z,50nm,0.8s
SHO pmax pmax
comp=N,22nm,0.3s
SHO pmax pmax
comp=E,23nm,0.8s
YULB Yu-li 16.22 251 eP P 11 18 30.9 -1.1
comp=E,202nm,0.6s
YULB eS S 11 21 21.6 +2.4
MDJ Mudanjiang 16.31 338 P P 11 18 32.5 -0.1
MDJ sP sP 11 20 30.2 -7.9
MDJ S S 11 21 23.2 +3.1
MDJ pmax pmax
comp=E,40nm,0.9s
MDJ pmax pmax
comp=E,2μm,4.3s
MDJ Mudanjiang 16.31 338 eP P 11 18 33.1 +0.5
comp=E,246nm,1.5s
MDJ eS S 11 21 26.3 +6.2
SSLB Suanglung 16.34 253 eP P 11 18 32.9 -0.3
comp=E,446nm,1.1s
DL2 Dalian 16.34 308⇑ iP P 11 18 31.8 -1.1
DL2 sP sP 11 20 29.3 -9.1
DL2 S S 11 21 17.5 -3.3
DL2 pmax pmax
comp=E,1μm,5.6s
NJ2 Nanjing 16.62 283 eP P 11 18 34.9 -1.1
NJ2 S S 11 21 22.6 -3.3
NJ2 pmax pmax
comp=E,86nm,0.5s
NJ2 pmax pmax
comp=E,1μm,3.6s
TWG Pinlang 16.67 250 eP P 11 18 35.6 -1.0
comp=E,1μm,0.6s
SNY Shenyang 16.81 320 ⇑P P 11 18 37.6 -0.2
SNY S S 11 21 26.8 -2.2
TPUB Ta-pu 16.82 252 eP P 11 18 37.9 -0.3
comp=E,163nm,0.6s

GUMO Guam 17.25 157 P P 11 18 41.9 -0.5
comp=E,102nm,0.3s,baz=239,slow=0.9,SNR=37
GUMO S S 11 21 37.7 +0.7
comp=E,4.2nm,0.3s,baz=12,slow=20,SNR=4.0
CN2 Changchun 17.27 328⇑ iP P 11 18 42.7 +0.4
CN2 esP sP 11 20 44.8 -3.9
CN2 eS S 11 21 35.6 -1.0
CN2 ScP ScP 11 25 42.2 -0.1
CN2 pmax pmax
comp=E,200nm,3.0s
KUR Kuril'sk 17.33 24 eP P 11 18 43.3 +0.5
KUR eS S 11 21 42.6 +5.0
KUR pmax pmax
comp=Z,90nm,1.0s
KUR pmax pmax
comp=E,21nm,0.8s
KUR smax smax
comp=N,3μm,8.8s
KUR MLR MLR
comp=Z,588nm,10.0s
YSS Yuzh-Sakhalins 17.61 11 eP P 11 18 45.9 +0.6
comp=Z,228nm,0.9s
YSS Yuzh-Sakhalins 17.61 11⇑ iP P 11 18 45.7 +0.4
YSS eS S 11 21 42.8 +0.8
YSS pmax pmax
comp=N,110nm,1.0s
YSS pmax pmax
comp=Z,240nm,1.0s
YSS pmax pmax
comp=E,70nm,0.7s
YSS smax smax
comp=N,1μm,3.7s
YSS smax smax
comp=E,4μm,4.7s
YSS smax smax
comp=N,40nm,2.4s
YSS smax smax
comp=E,90nm,2.0s
YSS MLR MLR
comp=Z,1μm,13.0s
QZH Quanzhou 17.90 259⇑ iP P 11 18 48.2 -0.1
QZH S S 11 21 44.8 -2.6
QZH pmax pmax
comp=Z,200nm,0.8s
QZH pmax pmax
comp=Z,970nm,4.7s
TIA Tai'an 18.68 296 P P 11 18 55.6 +0.2
TIA S S 11 22 00.0 +0.2
TIA pmax pmax
comp=Z,55nm,0.6s
PALP Palanan 19.03 232 eP P 11 18 58.7 -0.1
APYP Conner 19.33 236 eP P 11 19 00.0 -1.5
CAUP Cauayan 19.53 233 eP P 11 19 04.3 +1.0
UGL Uglegorsk 19.59 8⇓ iP P 11 19 04.6 +1.2
UGL S S 11 22 18.2 +4.0
UGL pmax pmax
comp=E,121nm,1.2s
UGL pmax pmax
comp=E,182nm,1.2s
UGL smax smax
comp=N,97nm,2.1s
UGL smax smax
comp=E,2μm,5.6s
ABRA Dolores 19.85 237 eP P 11 19 04.7 -1.5
KLR Kul'dur 20.07 348 P P 11 19 09.1 +1.3
comp=E,52nm,0.4s,baz=173,slow=7.0,SNR=91
KLR S S 11 22 21.7 -0.3
comp=E,8.1nm,0.6s,baz=18,slow=18,SNR=8.2
KLR ScP ScP 11 25 48.9 +0.4
comp=E,11nm,0.9s,baz=249,slow=0.6,SNR=6.0
KLR Kul'dur 20.07 348d iP P 11 19 08.6 +0.7
WHN Wuhan 20.49 276⇓ iP P 11 19 13.2 +1.3
WHN sP sP 11 21 23.2 -1.2
WHN S S 11 22 29.1 0.0
PVCP Virac 20.54 222 eP P 11 19 13.4 +0.9
BALP Baler 20.54 231 eP P 11 19 11.4 -1.1
BJT Baijiatuau 20.62 306 eP P 11 19 13.0 0.0
comp=E,161nm,0.8s
BJT Baijiatuau 20.62 306 eP P 11 19 13.0 0.0
BJT pmax pmax
comp=Z,161nm,0.8s
BJI Beijing 20.63 306 eP P 11 19 13.0 0.0
BJI sP sP 11 21 21.4 -4.5
BJI S S 11 22 28.1 -3.0
BJI pmax pmax
comp=Z,160nm,1.2s
BJI pmax pmax
comp=Z,720nm,4.1s
SMPP San Manuel, Pa 20.87 234 eP P 11 19 14.4 -1.1
GRNR Gornyy 21.07 357 eP P 11 19 21.0 +4.1
GRNR e 11 22 38.1
GRNR pmax pmax
comp=N,46nm,1.0s
GRNR pmax pmax
comp=Z,91nm,1.0s
CNP Catarman 21.13 219 eP P 11 19 19.0 +1.1
BOLP Bolinao 21.26 235 eP P 11 19 18.8 -0.2
TYV Tymovskoe 21.42 8 eP P 11 19 21.1 +1.1
TYV eS S 11 22 44.4 +1.1
TYV pmax pmax
comp=Z,400nm,3.6s
TYV pmax pmax
comp=Z,95nm,1.0s
TYV smax smax
comp=E,23nm,1.3s
TYV smax smax
comp=E,800nm,4.3s
BESP Borongan 21.49 216 eP P 11 19 20.8 -0.4
SCZP Santa Cruz 21.66 234 eP P 11 19 23.1 +0.5
BOAC Boac 22.04 226 eP P 11 19 26.4 +0.3
TGY Tagaytay City 22.14 229 P P 11 19 27.7 +0.6
comp=E,803nm,0.7s,baz=206,slow=2.5,SNR=19
OCLP Ormoc 22.38 217 eP P 11 19 29.5 +0.3
TIY Taiyuan 22.68 297 eP P 11 19 29.4 -2.3
TIY sP sP 11 21 47.8 -0.8
TIY S S 11 23 02.4 -1.5
TIY pmax pmax
comp=E,300nm,3.6s
OTRP Odiongan 22.77 224 eP P 11 19 34.0 +1.3
RCP Roxas 22.98 221⇑ eP P 11 19 35.0 +0.4
MSLP Maasin 23.03 215 eP P 11 19 35.2 +0.2
GZH Guangzhou 23.04 259 P P 11 19 31.8 -3.2
GZH S S 11 23 03.4 -6.2
GZH pmax pmax
comp=E,810nm,4.0s
SJMP San Jose 23.25 226 eP P 11 19 38.4 +1.4
NKL Nikolayevsk 23.50 4 i P P 11 19 39.6 +0.9
NKL e 11 23 14.0
NKL pmax pmax
comp=N,43nm,1.0s
NKL pmax pmax
comp=Z,150nm,1.0s
NKL pmax pmax
comp=Z,500nm,4.0s
NKL MLR MLR
comp=N,650nm,11.0s
NKL MLR MLR
comp=Z,1μm,11.0s
BUTP Butuan 23.68 212 eP P 11 19 41.7 +0.9
GUIM Jordan 23.83 220 eP P 11 19 41.1 -1.0
HIA Hailar 23.98 330 eP P 11 19 43.5 +0.5
comp=Z,36nm,0.7s
HIA Hailar 23.98 330 eP P 11 19 43.5 +0.5
HIA pmax pmax
comp=Z,36nm,0.7s
BUSP Coron 24.18 227 eP P 11 19 45.2 0.0
HHC Hu-ho-hao-te 24.20 304 eP P 11 19 47.2 +2.0
HHC S S 11 23 29.6 +1.9
HHC pmax pmax
comp=Z,56nm,0.6s
HHC pmax pmax
comp=Z,250nm,5.8s
CGP Cagayan de Oro 24.56 213 eP P 11 19 48.8 +0.2
ENH Enshi 24.70 278 eP P 11 19 50.2 +0.5
comp=Z,389nm,0.9s
BUKP Musuan 24.89 212 eP P 11 19 51.5 -0.1
SKR Severo-Kuril's 24.97 28⇑ eP P 11 19 52.3 +0.5
XAN Xi'an 25.04 287 P P 11 19 53.4 +0.6
XAN sP sP 11 22 11.4 -2.6
XAN S S 11 23 35.1 -6.0
XAN pmax pmax
comp=Z,250nm,0.7s
XAN pmax pmax
comp=Z,350nm,6.1s
BTO Baotou 25.24 303 eP P 11 19 53.8 -0.7

ZEA Zeya 25.26 345 eP P 11 19 54.4 +0.1
ZEA e 11 22 14.0
ZEA pmax pmax
comp=N,62nm,0.8s
ZEA pmax pmax
comp=Z,130nm,0.8s
ZEA MLR MLR
comp=Z,1μm,17.0s
ZEA MLR MLR
comp=E,2μm,13.0s
ZEA MLR MLR
comp=N,600nm,17.0s
DAV Davao City (W) 25.38 210 P P 11 19 56.3 +0.4
comp=N,366nm,0.5s,baz=87,slow=5.5,SNR=5.1
PAGZ Pagadian 25.73 215 eP P 11 19 58.8 -0.2
DDMP Don Marcelino, 26.19 209 eP P 11 20 01.4 -1.7
IPIL Ipil 26.20 217 eP P 11 20 01.6 -1.5
PEA0B Petropavlovsk- 27.47 26 eP P 11 20 14.9 +1.2
comp=N,44nm,0.8s
PETK Petropavlovsk- 27.47 26 P P 11 20 14.6 +0.8
comp=N,26nm,0.7s,baz=193,slow=6.1,SNR=58
PETK PcP PcP 11 23 15.8 -0.2
comp=N,7.9nm,0.7s,baz=177,slow=4.9,SNR=3.9
PETK ScP ScP 11 26 07.5 -1.3
comp=N,25nm,0.7s,baz=190,slow=5.0,SNR=20
PETK PKiKP PKiKP 11 30 51.4 -0.4
comp=N,0.5nm,0.3s,baz=93,slow=3.9,SNR=9.7
PEA1 Petropavlovsk- 27.47 26 eP P 11 20 14.6 +0.7
PEA1 ePcP PcP 11 23 15.8 -0.2
PEA1 e 11 30 51.4
QIZ Qiongzhong 27.71 254 P P 11 20 18.2 +1.8
QIZ sP sP 11 22 40.0 +0.6
QIZ S S 11 24 27.1 +4.0
QIZ pmax pmax
comp=N,870nm,2.5s
QIZ pmax pmax
comp=N,620nm,7.0s
QIZ Qiongzhong 27.71 254 eP P 11 20 18.4 +2.0
comp=N,380nm,1.7s
PET Petropavlovsk 27.78 27 eP P 11 20 17.3 +0.8
comp=N,47nm,1.0s
PET Petropavlovsk 27.78 27 eP P 11 20 17.4 +0.9
PET e*SP sP 11 22 39.2 -0.6
PET eS S 11 24 24.3 +1.1
PET pmax pmax
comp=Z,55nm,0.9s
PET pmax pmax
comp=Z,100nm,14.1s
PET pmax pmax
comp=Z,300nm,5.6s
PET MLR MLR
comp=Z,600nm,17.0s
PET MLR MLR
comp=Z,500nm,19.0s
GYA Guiyang 27.81 271⇑ iP P 11 20 17.6 +0.3
GYA sP sP 11 22 43.0 +2.5
GYA PcP PcP 11 23 19.2 +1.7
GYA S S 11 24 27.7 +3.0
GYA ScP ScP 11 26 12.4 +1.9
GYA pmax pmax
comp=Z,150nm,0.9s
GYA pmax pmax
comp=Z,180nm,5.3s
WAKE Wake Island 27.98 105 eP P 11 20 18.6 -0.1
comp=Z,100nm,0.8s
H11N2 WAKE ISLAND Hy 27.98 104 P P 11 20 19.1 +0.7
baz=266,slow=9.4,SNR=23
H11N1 WAKE ISLAND Hy 27.98 104 P P 11 20 18.8 +0.3
baz=266,slow=9.4,SNR=20
H11N3 WAKE ISLAND Hy 28.00 104 P P 11 20 18.9 +0.3
baz=266,slow=9.4,SNR=19
H11S3 WAKE ISLAND Hy 28.37 107 P P 11 20 23.4 +1.4
baz=246,slow=6.0,SNR=7.5
H11S1 WAKE ISLAND Hy 28.38 107 P P 11 20 22.9 +0.9
baz=246,slow=6.0,SNR=10
H11S2 WAKE ISLAND Hy 28.39 107 P P 11 20 23.1 +1.0
baz=246,slow=6.0,SNR=6.2
SGSI Sangihe 28.46 207 P P 11 20 24.4 +1.4
LZH Lanzhou 29.29 292 ⇓P P 11 20 30.7 +0.5
LZH PP pP 11 21 57.0 +1.8
LZH sP sP 11 22 55.0 +1.2
LZH S S 11 24 46.2 -1.4
LZH pmax pmax
comp=Z,240nm,1.3s
LZH pmax pmax
comp=Z,520nm,5.2s
CD2 Chengdu 29.54 281⇓ iP P 11 20 32.8 +0.5
CD2 sP sP 11 22 58.0 +2.0
CD2 S S 11 24 50.8 -0.5
CD2 pmax pmax
comp=Z,43nm,0.4s
CD2 pmax pmax
comp=Z,140nm,4.0s
PATS Pohnpei 29.71 136 eP P 11 20 33.3 -0.5
comp=Z,153nm,0.9s
KDM Kudat 30.19 226 P P 11 20 39.0 +1.0
SONA0 Songino Array 30.29 316 eP P 11 20 39.4 +0.7
SONA0 ePcP PcP 11 23 23.6 0.0
SONA0 eS S 11 25 01.8 -0.9
SONA1 Songino Array 30.29 316 eP P 11 20 39.5 +0.9
SONM Songino Array 30.29 316 P P 11 20 39.4 +0.7
comp=Z,40nm,0.5s,baz=128,slow=8.5,SNR=299
SONM PcP PcP 11 23 23.6 0.0
comp=Z,7.9nm,0.4s,baz=152,slow=3.3,SNR=10
SONM S S 11 25 01.8 -0.9
comp=Z,1.8nm,0.7s,baz=152,slow=6.4,SNR=1.7
SONM ScP ScP 11 26 18.0 -0.1
comp=Z,7.5nm,0.6s,baz=141,slow=3.4,SNR=7.0
TNTI Ternate 30.51 201 eP P 11 20 41.6 +0.9
comp=Z,228nm,0.8s
TNTI Ternate 30.51 201 P P 11 20 39.5 -1.3
comp=Z,300nm,0.7s,comp=Z,4μm
MYLDM Lahad Datu 30.58 221 eP P 11 20 43.7 +2.3
comp=Z,423nm,0.9s
SWI Sorong 31.08 193 P P 11 20 45.4 -0.2
comp=Z,230nm,0.7s,comp=Z,2μm
SIJI Sorong 31.08 193 P P 11 20 46.0 +0.3
comp=Z,315nm,0.7s,baz=21,slow=9.2,SNR=133
SIJI PcP PcP 11 23 24.9 -1.1
comp=Z,17nm,0.8s,baz=358,slow=9.3,SNR=3.7
SIJI S S 11 25 13.0 -2.3
comp=Z,35nm,1.0s,baz=276,slow=22,SNR=20
SIJI ScP ScP 11 26 20.6 -0.4
comp=Z,12nm,0.7s,baz=9.5,slow=12,SNR=3.7
MA2 Magadan 31.10 13 P P 11 20 46.0 +0.8
comp=Z,252nm,0.9s,baz=197,slow=7.8,SNR=38
MA2 ScP ScP 11 26 20.4 0.0
comp=Z,14nm,0.8s,baz=186,slow=5.6,SNR=4.0
MA2 Magadan 31.10 13 eP P 11 20 46.1 +0.9
comp=Z,194nm,0.8s
MA2 Magadan 31.10 13d iP P 11 20 45.9 +0.7
MA2 pmax pmax
comp=Z,277nm,1.1s
RKPI Ransiki, Papua 31.26 187 P P 11 20 46.7 -0.5
comp=Z,249nm,0.7s,comp=Z,5μm
SMPI Sarmi 31.53 179 P P 11 20 49.1 -0.4
comp=Z,161nm,0.7s
KMI Kunming 31.57 270 P P 11 20 50.9 +0.8
KMI pP pP 11 22 20.2 +4.0
KMI PP PP 11 22 22.1 -8.1
KMI S S 11 25 24.0 +0.9
KMI sS sS 11 28 02.0 -1.0
KMI SS SS 11 28 07.9 -24
KMI pmax pmax
comp=Z,83nm,0.7s
KMI pmax pmax
comp=Z,620nm,4.3s
LBMI Labuha 31.80 200 P P 11 20 52.9 +1.0
comp=Z,419nm,0.8s,comp=Z,5μm
KMSI Cibinong 31.91 207 P P 11 20 52.6 -0.2
comp=Z,3μm,0.8s,comp=Z,19μm
JAY Jayapura 32.14 175 P P 11 20 55.3 +0.5
comp=Z,98nm,0.7s,baz=308,slow=6.5,SNR=26
JAY PcP PcP 11 23 29.7 +0.7
baz=243,slow=2.3
JAY Jayapura 32.14 175 P P 11 20 55.0 +0.2
GENI Genyem 32.18 176 P P 11 20 54.3 -0.8
comp=Z,186nm,0.8s,comp=Z,6μm
BOD Bodaibo 32.67 336 eP P 11 20 58.6 -0.1
BOD pmax pmax
comp=Z,84nm,1.5s
GTA Gaotai 32.71 298 ⇓P P 11 20 59.9 +0.4
GTA pP pP 11 22 30.5 +4.4
GTA sP PcP 11 23 29.9 -0.5
GTA S S 11 25 38.8 -1.3
GTA sS sS 11 28 14.3 -6.2

GTA SS SS 11 28 27.0 -25
GTA pmax pmax
comp=Z,48nm,0.9s
GTA pmax pmax
comp=Z,330nm,5.7s
YAK Yakutsk 32.79 353 P **P** **11 20 59.4 -0.2**
comp=Z,69nm,0.3s,baz=22,slow=0.6,SNR=38
YAK PcP **PcP** **11 23 30.6 +0.7**
comp=Z,49nm,0.6s,baz=332,slow=0.9,SNR=4.6
YAK S **S** **11 25 37.7 -2.6**
comp=Z,34nm,0.9s,baz=39,slow=21,SNR=21
YAK ScP **ScP** **11 26 25.6 -0.5**
comp=Z,42nm,0.7s,baz=38,slow=0.8,SNR=6.7
YAK Yakutsk 32.79 353 *eP* **P** **11 20 59.5 -0.1**
comp=Z,210nm,1.1s
YAK PcP **PcP** **11 23 30.6 +0.7**
YAK S **S** **11 25 37.7 -2.6**
YAK Yakutsk 32.79 353 *eP* **P** **11 20 58.9 -0.7**
YAK *e**PP **pP** **11 22 23.9 -2.4**
YAK *e* 11 22 32.7
YAK *e* 11 23 29.1
YAK *eS* **S** **11 25 36.8 -3.5**
YAK *e**SS **sS** **11 28 18.7 -2.0**
YAK *e* 11 30 22.7
YAK pmax pmax
comp=Z,174nm,1.3s
YAK pmax pmax
comp=N,91nm,1.3s
YAK pmax pmax
comp=E,14nm,1.0s
YAK pmax pmax
comp=Z,321nm,2.0s
YAK pmax pmax
comp=N,269nm,1.9s
YAK pmax pmax
comp=E,101nm,1.6s
YAK smax smax
comp=E,343nm,1.5s
YAK smax smax
comp=N,382nm,1.3s
MANU Manus Island 32.81 163 *eP* **P** **11 21 00.4 -0.1**
comp=N,175nm,0.8s
MRSI Marisa 32.86 211 P **P** **11 21 01.2 +0.3**
comp=N,463nm,1.1s,comp=N,4µm
FAKI Fak Fak 32.91 191 *eP* **P** **11 21 01.2 -0.1**
comp=N,229nm,0.7s
FAKI Fak Fak 32.91 191 P **P** **11 21 00.7 -0.6**
comp=N,327nm,0.7s,comp=N,4µm
ZAK Zakamensk 33.23 318 *eP* **P** **11 21 03.8 +0.1**
ZAK *e* 11 25 46.6
ZAK pmax pmax
comp=Z,87nm,1.3s
ZAK pmax pmax
comp=Z,16nm,1.1s
KMPI Kaimana, Papua 33.44 188 P **P** **11 21 05.7 0.0**
IRK Irkutsk 33.52 322 *eP* **P** **11 21 07.4 +1.3**
IRK *e* 11 22 36.6
IRK *eS* **S** **11 25 53.4 +1.6**
IRK pmax pmax
comp=Z,161nm,1.8s
TLY Talaya 33.60 321 *eP* **P** **11 21 08.0 +1.3**
comp=Z,322nm,1.7s
TLY Talaya 33.60 321 P **P** **11 21 08.0 +1.3**
SNR=24
TLY Talaya 33.60 321*c iP* **P** **11 21 07.7 +1.0**
TLY *e* 11 22 39.8
TLY *e* 11 23 28.5
TLY *eS* **S** **11 25 54.8 +1.8**
TLY pmax pmax
comp=Z,56nm,0.6s
SANI Sanana 33.61 202 P **P** **11 21 05.8 -1.4**
comp=Z,798nm,0.7s,comp=Z,7µm
LUWI Luwuk 33.87 208 *eP* **P** **11 21 08.4 -1.0**
comp=Z,454nm,0.5s
LUWI Luwuk 33.87 208 P **P** **11 21 08.0 -1.4**
comp=Z,615nm,0.5s,comp=Z,7µm
MPSI Mapaga 33.93 214 P **P** **11 21 10.4 +0.5**
comp=Z,111nm,0.8s,comp=Z,1µm
MSAI Masohi 34.00 196 P **P** **11 21 13.1 +2.6**
APSI Ampana 34.23 210 P **P** **11 21 10.9 -1.5**
comp=Z,1µm,0.6s,comp=Z,12µm
NLAI Namlea 34.39 200 P **P** **11 21 13.6 -0.2**
comp=Z,232nm,0.9s,comp=Z,3µm
SEY Seymchan 34.51 12 P **P** **11 21 15.0 +0.9**
comp=Z,37nm,0.8s,baz=198,slow=6.4,SNR=37
SEY ScP **ScP** **11 26 32.0 -0.2**
comp=Z,3.9nm,0.5s,baz=225,slow=3.5,SNR=5.1
AAI Ambon 34.52 197 P **P** **11 21 15.8 +1.0**
comp=Z,1µm,0.7s,comp=Z,11µm
BNDI Bandanaira 34.91 194 P **P** **11 21 19.3 +1.1**
MOY Mondy 35.08 319 *eP* **P** **11 21 20.0 +0.7**
CHAI Chaiyaphum 35.78 255 P **P** **11 21 26.2 +0.7**
SGKI Sangatta, Kali 35.83 217 P **P** **11 21 21.4 -4.4**
SMKI Samarinda 35.96 217 P **P** **11 21 28.6 +1.7**
comp=Z,136nm,0.8s
PAYA Payao 36.06 262 P **P** **11 21 29.0 +1.3**
UTTA Uttaradit 36.15 259 P **P** **11 21 29.2 +0.7**
PBKT Sadao Pong 36.33 257 *eP* **P** **11 21 31.2 +1.2**
comp=Z,263nm,0.8s
PBKT *eS* **S** **11 26 39.8 +5.0**
PBKT Sadao Pong 36.33 257 P **P** **11 21 31.0 +1.1**
SBUM Sibu 36.53 227 *eP* **P** **11 21 32.5 +0.8**
comp=Z,90nm,0.9s
SBUM Sibu 36.53 227 P **P** **11 21 33.0 +1.3**
LAMP Lampang 36.61 261 P **P** **11 21 33.2 +0.9**
SRAK Srakaew 36.68 253 P **P** **11 21 30.2 -2.7**
BKB Balikpapan 36.82 217 P **P** **11 21 33.8 -0.2**
comp=Z,770nm,0.8s,comp=Z,7µm
LKP Lekhapani 36.99 277 *eP* **P** **11 21 36.5 +1.2**
CMMT Chiang Mai 37.08 262 P **P** **11 21 36.6 +0.5**
CHTO Chiang Mai 37.08 262 *eP* **P** **11 21 37.2 +1.0**
comp=Z,437nm,0.6s
CHTO Chiang Mai 37.08 262 P **P** **11 21 37.0 +0.9**
SNR=65
CHTO Chiang Mai 37.08 262 *eP* **P** **11 21 37.2 +1.0**
CHTO pmax pmax
comp=Z,437nm,0.6s
CHTO Chiang Mai 37.08 262 P **P** **11 21 36.7 +0.5**
CM31 Chiang Mai Arr 37.23 261 *eP* **P** **11 21 38.4 +1.1**
CM31 *e* 11 54 19.9
CM31 Chiang Mai Arr 37.23 261 P **P** **11 21 38.5 +1.1**
SNR=58
CMAR Chiang Mai Arr 37.23 261 P **P** **11 21 38.4 +1.0**
comp=Z,118nm,0.6s,baz=60,slow=6.2,SNR=385
CMAR PcP **PcP** **11 23 45.3 +1.3**
comp=Z,15nm,0.6s,baz=52,slow=2.0,SNR=6.1
CMAR S **S** **11 26 44.1 -4.2**
comp=Z,4.0nm,0.8s,baz=60,slow=3.4,SNR=4.0
CMAR PKPPKP **P'P'df** **11 54 19.9 +4.4**
comp=Z,1.0nm,0.6s,baz=335,slow=2.6,SNR=6.4
CM01 Chiang Mai Arr 37.23 261 *eP* **P** **11 21 38.2 +0.8**
MTKI Muara Teweh, K 37.63 220 P **P** **11 21 41.0 +0.3**
comp=Z,408nm,0.8s,comp=Z,11µm
SPSI Sidrap Palu 37.78 211 P **P** **11 21 42.4 +0.6**
comp=Z,156nm,0.8s,comp=Z,1µm
BBSI Bau Bau 38.01 206 P **P** **11 21 43.5 -0.2**
comp=Z,50nm,0.8s,comp=Z,56nm
BNSI Bone 38.02 210 P **P** **11 21 44.4 +0.6**
UTHA Uthaitani 38.10 257 P **P** **11 21 45.7 +1.2**
PATY Pattaya 38.22 252 P **P** **11 21 47.2 +1.7**
UMPA Umpang Tak 38.29 258 P **P** **11 21 48.2 +2.1**
MOKO MOKOCHONG 38.39 276 *eP* **P** **11 21 47.4 +0.4**
KSM Kuching 38.51 228 *eP* **P** **11 21 49.2 +1.4**
comp=Z,455nm,0.8s
KSM Kuching 38.51 228 P **P** **11 21 50.0 +2.2**
JORH JORHAT 38.51 277 *eP* **P** **11 21 48.0 +0.2**
ZIRO ZIRO 38.66 278 *eP* **P** **11 21 49.5 +0.3**
BKSI Bulukumba 38.84 209 P **P** **11 21 50.6 +0.1**
STKI Sintang 38.84 225 P **P** **11 21 51.8 +1.2**
ITAN ITANAGAR 38.87 277 *eP* **P** **11 21 51.7 +1.1**
KOHI KOHIMA 38.91 275 *eP* **P** **11 21 48.7 -2.4**
KOHI IAmb IAmb 11 21 51.7
comp=Z,26nm,0.4s
KBKI Kotabaru 38.93 216 P **P** **11 21 51.5 +0.3**
SRDT SRDT 38.95 255 P **P** **11 21 52.6 +1.1**
HVS Khovu-Aksy 39.19 316*c iP* **P** **11 21 54.0 +1.0**
HVS pmax pmax
comp=Z,72nm,0.9s
PHET Kaeng Krachan 39.25 253 P **P** **11 21 55.5 +1.6**
IMP Imphal 39.30 274 *eP* **P** **11 21 53.0 -1.3**
TEZP TEZPUR 39.80 277 *eP* **P** **11 21 59.0 +0.8**
PMG Port Moresby 39.87 166 P **P** **11 21 58.3 -0.5**
comp=Z,30nm,0.4s,baz=81,slow=4.9,SNR=17
PMG PcP **PcP** **11 23 52.5 +0.1**
comp=Z,20nm,0.5s,baz=80,slow=13,SNR=5.7
PMG S **S** **11 27 24.6 -2.5**
comp=Z,23nm,0.7s,baz=238,slow=14,SNR=4.0
ADK Adak 39.98 43 *eP* **P** **11 21 59.6 +0.4**
comp=Z,77nm,0.4s
ADK Adak 39.98 43 *eP* **P** **11 21 59.6 +0.4**
ADK pmax pmax
comp=Z,77nm,0.4s
SILR SILCHAR 40.31 274 *eP* **P** **11 22 03.3 +1.0**
TAWA Tawang 40.35 279 *eP* **P** **11 22 04.6 +1.6**
LSA Lhasa 40.49 282 *eP* **P** **11 22 05.9 +1.7**
comp=Z,61nm,0.6s
LSA Lhasa 40.49 282 P **P** **11 22 05.9 +1.7**
LSA Lhasa 40.49 282 *eP* **P** **11 22 05.9 +1.7**
LSA pmax pmax
comp=Z,61nm,0.6s
GUWA GUWAHATI 40.87 277 *eP* **P** **11 22 06.5 -0.3**
SAIH SAIHA 40.87 271 *eP* **P** **11 22 06.7 -0.3**
SHL Shillong 40.88 276 *eP* **P** **11 22 07.5 +0.5**
comp=Z,146nm,0.7s
SHL Shillong 40.88 276 *eP* **P** **11 22 07.6 +0.5**
SHL pmax pmax
comp=Z,146nm,0.7s
SHL Shillong 40.88 276 *i P* **P** **11 22 07.0 -0.1**
SHL IAmb IAmb 11 22 09.8
comp=Z,116nm,0.9s
SHL *i* S **S** **11 27 42.0 -0.1**
PBKI Pangkalan Bun 40.92 223 P **P** **11 22 08.5 +1.2**
MMRI Maumere 41.04 204 *eP* **P** **11 22 09.1 +0.9**
comp=Z,292nm,0.8s
MMRI Maumere 41.04 204 P **P** **11 22 08.5 +0.3**
EDFI Ende, Flores 41.34 205 P **P** **11 22 09.7 -1.0**
SOEI Soe 41.41 201 *eP* **P** **11 22 11.4 +0.1**
comp=Z,324nm,0.7s
SOEI Soe 41.41 201 P **P** **11 22 10.8 -0.5**
SKLT Songkhla 41.67 245 P **P** **11 22 14.7 +1.4**
BILL Bilibino 41.83 15 *eP* **P** **11 22 14.4 +0.7**
comp=Z,171nm,0.8s
BILL Bilibino 41.83 15*d iP* **P** **11 22 14.5 +0.7**
BILL *i* S **S** **11 27 52.5 -1.8**
BILL *i* SS ScS 11 30 40.1 -39
BILL pmax pmax
comp=Z,242nm,0.9s
AGT Agartala 41.93 274 *eP* **P** **11 22 17.2 +2.0**
BELO BELONIA 41.96 273 *eP* **P** **11 22 16.9 +1.4**
BRDH Bariadhala 41.98 272 P **P** **11 22 17.3 +1.7**
comp=Z,912nm,0.6s,baz=82,slow=8.2,SNR=42
BATI Baumata 42.02 201 P **P** **11 22 15.6 -0.4**
WMQ Urumqi 42.08 304 P **P** **11 22 17.5 +1.3**
WMQ PcP **PcP** **11 24 00.0 +0.6**
WMQ sP sP 11 24 44.8 +0.3
WMQ S **S** **11 27 58.4 -0.3**
WMQ ScS **ScS** **11 31 19.4 -2.2**
WMQ pmax pmax
comp=Z,170nm,1.5s
WMQ pmax pmax
comp=Z,1µm,3.8s
KRAB Krabi 42.19 248 P **P** **11 22 18.5 +1.2**
TURI Tura 42.22 276 *eP* **P** **11 22 19.0 +1.5**
TIXI Tiksi 42.29 356 P **P** **11 22 16.7 -0.6**
comp=Z,58nm,0.5s,baz=142,slow=6.3,SNR=142
TIXI PcP **PcP** **11 23 59.1 -0.4**
comp=Z,15nm,0.4s,baz=171,slow=2.6,SNR=5.8
TIXI ScP **ScP** **11 27 00.7 -1.4**
comp=Z,9.2nm,0.7s,baz=141,slow=0.9,SNR=6.2
TIXI S **S** **11 27 59.5 -1.3**
comp=Z,2.3nm,0.5s,baz=328,slow=22,SNR=12
TIXI PKiKP **PKiKP** **11 31 01.3 -1.3**
comp=Z,1.6nm,0.4s,baz=114,slow=1.3,SNR=4.6
TIXI Tiksi 42.29 356 *eP* **P** **11 22 16.7 -0.6**
TIXI *eP* P 11 22 17.2 -0.1
TIXI *e*PcP **PcP** **11 23 59.1 -0.4**
TIXI *eS* **S** **11 27 59.5 -1.3**
TIXI Tiksi 42.29 356*d iP* **P** **11 22 17.0 -0.3**
TIXI pmax pmax
comp=Z,55nm,0.6s
DHUB DHUBRI 42.38 277 *eP* **P** **11 22 18.8 +0.1**
MYKOM Kota Tinggi 42.71 236 *eP* **P** **11 22 23.1 +1.6**
comp=Z,209nm,0.7s
MYKOM Kota Tinggi 42.71 236 P **P** **11 22 23.0 +1.6**
KULM Kulim 42.81 243 *eP* **P** **11 22 23.1 +0.9**
comp=Z,270nm,0.7s
KULM Kulim 42.81 243 P **P** **11 22 24.0 +1.8**
DGZ Jazzator, Alta 42.81 312*d iP* **P** **11 22 22.8 +0.9**
DGZ pmax pmax
comp=Z,56nm,1.0s
MTN Manton Dam 42.82 190 *eP* **P** **11 22 21.9 -0.4**
comp=Z,188nm,0.6s
TPRI Tanjung Pinang 42.84 234 P **P** **11 22 24.0 +1.6**
PLAI Plampang 42.98 210 P **P** **11 22 22.8 -0.7**
IPM Ipoh 43.03 242 *eP* **P** **11 22 24.2 +0.2**
comp=Z,334nm,0.7s
WBSI Waikabubak, Su 43.04 207 P **P** **11 22 21.9 -2.1**
BASI Baing, Sumba 43.11 206 P **P** **11 22 22.4 -2.1**
GTK Tadong 43.23 279 *eP* **P** **11 22 26.1 +0.6**
KMMI Kalianget 43.25 216 P **P** **11 22 26.2 +0.6**
TWSI Taliwang, Sumb 43.30 211 P **P** **11 22 25.8 -0.2**
comp=Z,415nm,0.8s,comp=Z,4µm
SRBI Singaraja 43.51 214 P **P** **11 22 28.4 +0.7**
TARA Tarawa 43.54 124 *eP* **P** **11 22 28.8 +0.9**
comp=Z,562nm,1.8s
COEN Coen 43.70 173 *eP* **P** **11 22 29.5 +0.5**
comp=Z,43nm,0.7s
GRJI Gresik 43.91 218 P **P** **11 22 32.0 +1.2**
PPBI Pangkal Pinang 43.97 229 P **P** **11 22 32.6 +1.3**
BLJI Banyuglugur 44.03 216 P **P** **11 22 32.2 +0.5**
DNP Denpasar 44.03 213 P **P** **11 22 31.3 -0.4**
TBJI Tambak Boyo 44.18 219 P **P** **11 22 34.1 +1.3**
IGBI Denpasar 44.18 213 P **P** **11 22 32.3 -0.6**
HNR Honiara 44.27 148 P **P** **11 22 33.5 0.0**
comp=Z,90nm,0.5s,baz=194,slow=4.9,SNR=9.0
HNR Honiara 44.27 148 *eP* **P** **11 22 33.5 0.0**
HNR *eP* P 11 22 34.1 +0.5
JAGI Jajag, Banyuwa 44.37 215 *eP* **P** **11 22 34.4 0.0**
comp=Z,228nm,0.8s
JAGI Jajag, Banyuwa 44.37 215 P **P** **11 22 33.7 -0.6**
GMJI Gumukmas 44.56 216 P **P** **11 22 35.4 -0.4**
NGJI Ngawi 44.84 219 P **P** **11 22 39.2 +1.2**
NIKH Nikolski High 44.90 43 *eP* **P** **11 22 37.8 -0.1**
comp=Z,107nm,0.8s
RAMN Ramite 45.05 280 *eP* **P** **11 22 40.7 +0.9**
ZAA0 Zalesovo Array 45.11 318 *eP* **P** **11 22 39.2 -0.4**
comp=Z,35nm,0.8s
ZALV Zalesovo Beam 45.11 318 P **P** **11 22 39.1 -0.4**
comp=Z,29nm,0.4s,baz=92,slow=7.1,SNR=94
ZALV PcP **PcP** **11 24 09.2 -0.3**
comp=Z,17nm,0.4s,baz=125,slow=3.4,SNR=14
ZALV ScP **ScP** **11 27 12.7 -1.3**
comp=Z,16nm,0.7s,baz=108,slow=3.8,SNR=7.2
ZALV S **S** **11 28 38.2 -3.2**
comp=Z,3.5nm,0.9s,baz=151,slow=6.6,SNR=3.7
ZALV Zalesovo Beam 45.11 318 *eP* **P** **11 22 38.9 -0.6**
ZALV PcP **PcP** **11 24 09.2 -0.3**
ZALV *eS* **S** **11 28 40.5 -0.9**
ZAA1 Zalesovo Array 45.11 318 *eP* **P** **11 22 39.1 -0.4**
ZAA1 *e*PcP **PcP** **11 24 09.2 -0.3**
ZAA1 *eS* **S** **11 28 38.2 -3.3**
SMRI Semarang 45.15 220 *eP* **P** **11 22 41.2 +0.8**
comp=Z,416nm,0.7s
SMRI Semarang 45.15 220 P **P** **11 22 41.3 +0.9**
PWJI Pagerwojo 45.20 218 P **P** **11 22 39.8 -0.9**
JIRN Jiri 45.20 281 *eP* **P** **11 22 42.6 +1.5**
RGRI Rengat 45.28 235 P **P** **11 22 43.7 +2.3**
comp=Z,620nm,0.7s,comp=Z,58µm
GUN Gumba 45.40 281 *eP* **P** **11 22 44.0 +1.4**
comp=Z,520nm,0.4s
PMBI Palembang 45.44 230 P **P** **11 22 45.6 +3.0**
WOJI Wonogiri, Jawa 45.53 219 P **P** **11 22 42.5 -0.7**
TSI Tuntungan 45.54 243 P **P** **11 22 44.5 +1.1**
comp=Z,559nm,0.7s
PBA Port Blair 45.68 257 *eP* P 11 22 45.5 +1.0
comp=Z,142nm,0.6s
PBA Port Blair 45.68 257 *eP* P 11 22 44.9 +0.5
PCJI Pacitan 45.69 219 P **P** **11 22 43.7 -0.7**
PSI Prapat 45.71 242 P **P** **11 22 45.8 +0.9**
comp=Z,166nm,0.8s,baz=0.2,slow=5.2,SNR=76
PSI PcP **PcP** **11 24 13.4 +0.9**
comp=Z,46nm,0.8s,baz=182,slow=0.1,SNR=5.2
PSI Prapat 45.71 242 *eP* **P** **11 22 45.1 +0.2**
comp=Z,191nm,0.9s
PSI *e*PcP **PcP** **11 24 13.4 +0.9**
LHMI Lhok Sumawe 45.75 246 *eP* **P** **11 22 47.8 +2.8**
comp=Z,376nm,0.7s
LHMI Lhok Sumawe 45.75 246 P **P** **11 22 46.9 +1.9**
BKNI Bangkinang 45.75 237 *eP* **P** **11 22 45.8 +0.7**
comp=Z,295nm,0.9s
BKNI Bangkinang 45.75 237 P **P** **11 22 46.6 +1.6**
UGM Wanagama 45.81 220 *eP* **P** **11 22 45.3 -0.2**
comp=Z,843nm,0.9s
UGM Wanagama 45.81 220 P **P** **11 22 45.3 -0.2**
PKI Pulchoki 45.90 281 *eP* **P** **11 22 47.0 +0.6**
comp=Z,214nm,0.6s
PKIN Phulchoki 45.90 281 *eP* **P** **11 22 46.9 +0.5**
comp=Z,146nm,0.5s
KKN Kakani 45.95 281 *eP* **P** **11 22 47.6 +0.9**
JCJI Jatiwangi 45.96 223 P **P** **11 22 48.8 +2.3**
MK01 Makanchi Array 45.98 308 *eP* **P** **11 22 46.9 +0.5**
MK31 Makanchi Array 45.98 308 *eP* **P** **11 22 47.0 +0.6**
MK31 Makanchi Array 45.98 308 *eP* **P** **11 22 47.0 +0.6**
MK32 Makanchi Array 45.98 308 *eP* **P** **11 22 46.6 +0.2**
MK32 *e*PcP **PcP** **11 24 13.4 +0.5**
MK32 *eS* **S** **11 28 52.2 -1.8**
MKAR Makanchi Array 45.98 308 P **P** **11 22 46.6 +0.2**
comp=Z,38nm,0.4s,baz=85,slow=10,SNR=601
MKAR PcP **PcP** **11 24 13.4 +0.5**
comp=Z,11nm,0.3s,baz=76,slow=5.1,SNR=16
MKAR ScP **ScP** **11 27 18.4 +0.6**
comp=Z,14nm,0.8s,baz=86,slow=6.2,SNR=6.7
MKAR S **S** **11 28 52.2 -1.8**
comp=Z,3.1nm,0.8s,baz=89,slow=8.8,SNR=3.7
MKAR Makanchi Array 45.98 308 *eP* **P** **11 22 46.9 +0.5**
comp=Z,399nm,0.8s
MKAR PcP **PcP** **11 24 13.4 +0.5**
MKAR S **S** **11 28 52.2 -1.8**
MKAR Makanchi Array 45.98 308 *eP* **P** **11 22 46.9 +0.5**
MKAR 11 24 13.4
MKAR pmax pmax
comp=Z,399nm,0.8s
KCSI Kotacane, Aceh 46.14 243 P **P** **11 22 47.1 -0.9**
DMN Daman 46.14 281 *eP* **P** **11 22 49.1 +0.9**
comp=Z,294nm,0.5s
KPJI Karang Pucung 46.24 222 P **P** **11 22 48.9 +0.2**
SDSI Sungai Dareh 46.33 235 P **P** **11 22 50.7 +1.3**
MNSI Mandailing Nat 46.52 239 P **P** **11 22 51.1 +0.3**
BOK Bokaro 46.61 276 *eP* **P** **11 22 52.5 +1.0**
LEM Lembang 46.62 224 P **P** **11 22 52.1 +0.4**
comp=Z,1µm,0.7s,baz=32,slow=6.7,SNR=163
PPI Padang Panjang 46.75 237 P **P** **11 22 53.3 +0.7**
MLSI Meulaboh, Aceh 46.76 245 P **P** **11 22 52.1 -0.6**
CBJI Citeko 46.76 225 P **P** **11 22 54.2 +1.5**
TPTI 46.77 244 P **P** **11 22 51.9 -0.8**
KLSI 46.78 229 P **P** **11 22 53.1 +0.3**
KLI Kotabumi 46.83 228 P **P** **11 22 53.7 +0.5**
CMJI Cimerak 46.89 222 P **P** **11 22 51.8 -1.8**
BLSI Bandar Lampung 46.96 228 P **P** **11 22 54.6 +0.4**
MDSI Maura Dua 46.99 229 P **P** **11 22 54.8 +0.4**
PDSI Padang 47.02 236 P **P** **11 22 54.1 -0.6**
CISI Cisompet, Garu 47.08 223 P **P** **11 22 54.7 -0.4**
DANN Dangsing 47.09 282 *eP* **P** **11 22 56.7 +1.3**
comp=Z,815nm,0.7s
KRJI Kerinci 47.12 234 P **P** **11 22 56.5 +1.0**
MASI Maura Aman, Be 47.32 233 P **P** **11 22 58.1 +1.1**
KOLN Koldanda 47.38 282 *eP* **P** **11 22 58.6 +1.1**
comp=Z,588nm,0.7s
LWLI Liwa 47.47 229 P **P** **11 22 57.5 -0.6**
KASI Kota Agung 47.56 228 P **P** **11 22 57.4 -1.3**
CGJI Cibinong 47.63 226 P **P** **11 22 57.2 -2.0**
GSI Gunungsitoli 47.70 241 *eP* **P** **11 22 59.9 +0.2**
comp=Z,1µm,1.1s
GSI *eS* **S** **11 29 20.0 +1.4**
GSI Gunungsitoli 47.70 241 P **P** **11 23 00.3 +0.5**
MNAI Manna 47.72 231 *eP* **P** **11 23 00.0 +0.1**
comp=Z,952nm,1.1s
MNAI Manna 47.72 231 P **P** **11 22 58.8 -1.1**
PYUN Piuthan 47.81 282 *eP* **P** **11 23 02.0 +1.2**
comp=Z,804nm,0.5s
BWNR Bhubaneshwar 47.90 271 *eP* **P** **11 23 01.1 -0.2**
SNSI Sinabang, Aceh 47.96 243 P **P** **11 23 02.2 +0.5**
PDGK Podgornoye 48.04 303 P **P** **11 23 02.4 +0.2**
PDGK pmax pmax
comp=Z,213nm,0.6s
KURK Kurchatov 48.54 313 *eP* **P** **11 23 05.6 +0.1**
comp=Z,166nm,1.1s
KURK *eP* P 11 23 06.0 +0.4
KURK *e*PcP **PcP** **11 24 21.3 -0.6**
KURK *ep*P **pP** **11 24 42.8 +2.1**
KURK *eS* **S** **11 29 28.4 -0.7**
KURK Kurchatov 48.54 313 P **P** **11 23 05.4 -0.1**
SNR=38
KURK Kurchatov 48.54 313 *eP* **P** **11 23 05.6 +0.1**
KURK *e* 11 24 21.3
KURK *e**PP **pP** **11 24 42.8 +2.1**
KURK *eS* **S** **11 29 28.4 -0.7**
KURK pmax pmax
comp=Z,166nm,1.1s
KURBB Kurchatov Arra 48.59 313 P **P** **11 23 06.0 0.0**
comp=Z,77nm,0.5s,baz=92,slow=8.1,SNR=265
KURBB PcP **PcP** **11 24 21.3 -0.8**
comp=Z,3.6nm,0.3s,baz=104,slow=3.3,SNR=4.1
KURBB pP **pP** **11 24 42.8 +1.7**
comp=Z,9.6nm,1.0s,baz=93,slow=8.4,SNR=1.9
PPSI Pulau Pagai 48.62 235 P **P** **11 23 06.6 0.0**
NRIK Noril'sk 48.89 339 P **P** **11 23 08.0 +0.2**
comp=Z,64nm,0.3s,baz=117,slow=7.4,SNR=60
NRIK ScP **ScP** **11 27 29.3 -0.3**
comp=Z,7.6nm,0.6s,baz=90,slow=6.9,SNR=3.6
NRIK S **S** **11 29 33.3 -0.1**
comp=Z,6.0nm,0.6s,baz=4.4,slow=23,SNR=28
PRZ Przheval'sk 48.91 302 *eP* **P** **11 23 10.4 +1.8**
comp=Z,303nm,0.6s
PRZ Przheval'sk 48.91 302 *eP* **P** **11 23 10.5 +1.8**
PRZ pmax pmax
comp=Z,303nm,0.6s
FITZ Fitzroy Crossi 49.01 196 P **P** **11 23 09.4 +0.1**
comp=Z,86nm,0.7s,baz=18,slow=7.0,SNR=224
FITZ ScP **ScP** **11 27 30.5 -0.3**
comp=Z,19nm,1.0s,baz=9.8,slow=2.9,SNR=4.2
FITZ Fitzroy Crossi 49.01 196 *eP* **P** **11 23 09.9 +0.6**
comp=Z,96nm,0.8s
ANM Nome 49.35 28 *eP* **P** **11 23 12.2 +0.9**
comp=Z,22nm,0.8s
ANM Nome 49.35 28 *eP* **P** **11 23 12.2 +0.9**
ANM pmax pmax
comp=Z,22nm,0.8s
WRAB Tennant Creek 49.48 185 *eP* **P** **11 23 12.5 -0.4**
comp=Z,138nm,0.6s
WRAB *eS* **S** **11 29 44.1 +1.3**
WRAB Tennant Creek 49.48 185*c iP* **P** **11 23 12.5 -0.4**
WRAB *i* *PP **pP** **11 24 51.5 +2.8**
WRAB pmax pmax
comp=Z,134nm,0.7s
WB2 Warramunga Arr 49.49 185 *eP* **P** **11 23 11.7 -1.3**
WB2 *eP* P 11 23 12.4 -0.5
WR1 Warramunga Arr 49.49 185 *eP* **P** **11 23 12.4 -0.5**
comp=Z,187nm,0.6s
WR1 *e*PcP **PcP** **11 24 26.7 +0.9**
WR1 *ep*P **pP** **11 24 47.8 -1.0**
WR1 *eS* **S** **11 29 40.0 -2.9**
WR1 *e* 11 31 09.8
WR1 *e* 12 00 40.5
WRA Warramunga Arr 49.49 185 P **P** **11 23 12.4 -0.5**
comp=Z,150nm,0.6s,baz=1.8,slow=7.8,SNR=614
WRA PcP **PcP** **11 24 26.7 +0.9**
comp=Z,13nm,0.5s,baz=357,slow=3.9,SNR=5.4
WRA pP **pP** **11 24 47.8 -1.0**
comp=Z,11nm,0.7s,baz=3.9,slow=8.2,SNR=2.3
WRA ScP **ScP** **11 27 34.0 +1.1**
comp=Z,9.7nm,0.9s,baz=1.5,slow=4.5,SNR=4.9
WRA S **S** **11 29 40.0 -2.9**
comp=Z,11nm,0.9s,baz=1.6,slow=14,SNR=8.8
WRA PKiKP **PKiKP** **11 31 09.8 -1.3**
comp=Z,0.4nm,0.3s,baz=326,slow=1.5,SNR=7.9
WRA P4KPbc 12 00 40.5
comp=Z,0.4nm,0.5s,baz=356,slow=5.0,SNR=5.6
KDJ Kajisay 49.84 302 *eP* **P** **11 23 17.0 +1.4**
comp=Z,432nm,2.0s
KDJ Kajisay 49.84 302 *eP* **P** **11 23 17.0 +1.4**
KDJ pmax pmax
comp=Z,432nm,2.0s
SDPT Sand Point 50.07 41 *eP* **P** **11 23 17.2 +0.4**
comp=Z,86nm,0.6s
CTA Charters Tower 50.14 170 P **P** **11 23 17.9 +0.2**
comp=Z,43nm,0.7s,baz=354,slow=8.0,SNR=44
CTAO Charters Tower 50.14 170 *eP* **P** **11 23 18.0 +0.2**
comp=Z,48nm,0.6s
CTAO Charters Tower 50.14 170 *eP* **P** **11 23 18.0 +0.2**
CTAO pmax pmax
comp=Z,48nm,0.6s
ULHL Ulahol 50.52 302 P **P** **11 23 21.7 +1.0**
SNR=50

NRN	**Naryn**	**50.80**	**301**	*e*P		**P**	**11 23 23.8**	**+1.0**
	comp=Z,118nm,1.4s								
NRN				*e*S		**S**	**11 30 03.4**	**+2.3**
NRN	**Naryn**	**50.80**	**301**	*e*P		**P**	**11 23 23.8**	**+1.0**
NRN				*e*S		**S**	**11 30 03.4**	**+2.3**
NRN				pmax	pmax				
	comp=Z,118nm,1.4s								
TKM2	**Tokmak 2**	**50.92**	**303**	P		**P**	**11 23 24.6**	**+1.1**
	SNR=79								
TKM2	**Tokmak 2**	**50.92**	**303**	P		**P**	**11 23 24.4**	**+0.9**
TKM2				pmax	pmax				
	comp=Z,50nm,0.6s								
KSH	**Kashi**	**51.10**	**299**	P		**P**	**11 23 28.8**	**+4.0**
KSH				pP		pP	11 25 06.9	+5.5	
KSH				PP		**PP**	**11 25 34.8**	**+6.8**
KSH				S		**S**	**11 30 07.7**	**+3.0**
KSH				sS		sS	11 33 02.8	+4.1	
KSH				SS		**SKiKP**	**11 33 53.7**	**-3.4**
KSH				pmax	pmax				
	comp=Z,110nm,0.5s								
KSH				pmax	pmax				
	comp=Z,640nm,6.1s								
KZA	**Kyzart**	**51.28**	**302**	P		**P**	**11 23 28.2**	**+1.8**
	SNR=28								
RDOG	**Red Dog Mine**	**51.32**	**24**	*e*P		**P**	**11 23 26.7**	**+1.0**
	comp=Z,45nm,1.1s								
DDI	**Dehra Dun**	**51.38**	**287**	*e*P		**P**	**11 23 27.5**	**+0.6**
KBK	**Karagaybulak**	**51.42**	**303**	P		**P**	**11 23 28.2**	**+1.1**
	SNR=16								
CHMS	**Chumysh**	**51.53**	**303**	P		**P**	**11 23 28.3**	**+0.6**
	SNR=22								
FRU	**Bishkek**	**51.65**	**303**	*i* P		**P**	**11 23 28.0**	**-0.6**
FRU				pmax	pmax				
	comp=Z,240nm,1.8s								
USP	**Ospenovka**	**51.68**	**304**	P		**P**	**11 23 29.4**	**+0.6**
	SNR=39								
AAK	**Ala-Archa**	**51.76**	**303**	P		**P**	**11 23 29.9**	**+0.4**
	comp=Z,41nm,0.5s,baz=121,slow=6.5,SNR=99								
AAK				PcP		**PcP**	**11 24 34.9**	**+0.5**	
	comp=Z,18nm,0.6s,baz=119,slow=7.2,SNR=4.3								
AAK	**Ala-Archa**	**51.76**	**303**	P		**P**	**11 23 30.4**	**+0.8**
	SNR=15								
AAK	**Ala-Archa**	**51.76**	**303**	*e*P		**P**	**11 23 29.9**	**+0.4**
AAK				*e*P		P	11 23 30.3	+0.7	
AAK				*e*PcP		**PcP**	**11 24 34.9**	**+0.5**	
AAK	**Ala-Archa**	**51.76**	**303**	P		**P**	**11 23 30.2**	**+0.6**
	SNR=28								
AAK	**Ala-Archa**	**51.76**	**303**	*i* P		**P**	**11 23 30.3**	**+0.8**
	SNR=61								
UCH	**Uchtor**	**51.80**	**302**	P		**P**	**11 23 31.4**	**+1.2**
	SNR=111								
SMLA	**Simla**	**51.90**	**288**	*e*P		**P**	**11 23 30.8**	**+0.3**
EKS2	**Erkin-Say**	**52.28**	**303**	P		**P**	**11 23 33.9**	**+0.7**
	SNR=9.3								
DHRM	**DHARAMSHALA**	**52.33**	**289**	*e*P		**P**	**11 23 33.8**	**-0.1**
DHRM				IAmb		IAmb	11 23 35.5		
	comp=Z,82nm,0.6s								
AML	**Almayashu**	**52.42**	**302**	P		**P**	**11 23 35.9**	**+1.3**
	SNR=34								
NDI	**New Delhi**	**52.53**	**285**	*e*P		**P**	**11 23 35.5**	**+0.4**
OTUK	**Ortayu**	**52.68**	**310**	P		**P**	**11 23 36.2**	**+0.3**
OTUK				pmax	pmax				
	comp=Z,177nm,1.0s								
SFK	**Sufi-Kurgan**	**52.90**	**300**	P		**P**	**11 23 38.5**	**+0.6**
SFK				pmax	pmax				
	comp=Z,90nm,0.6s								
SVW2	**Sparrevohn**	**53.12**	**34**	*e*P		**P**	**11 23 39.8**	**+1.0**
	comp=Z,23nm,0.7s								
AS01	**Alice Springs**	**53.21**	**185**	*e*P		**P**	**11 23 39.8**	**-0.2**
AS31	**Alice Springs**	**53.21**	**185**	*e*P		**P**	**11 23 39.7**	**-0.3**
	comp=Z,42nm,0.6s								
AS31				*e*PcP		**PcP**	**11 24 39.5**	**-0.3**	
AS31				*e*			11 30 29.7		
AS31				*e*PKiKP		**S**	**11 30 35.6**	**+2.7**	
ASAR	**Alice Springs**	**53.22**	**185**	P		**P**	**11 23 39.6**	**-0.3**
	comp=Z,67nm,0.7s,baz=13,slow=8.9,SNR=758								
ASAR				PcP		**PcP**	**11 24 39.5**	**-0.3**	
	comp=Z,13nm,0.7s,baz=11,slow=5.4,SNR=6.0								
ASAR				ScP		**ScP**	**11 27 50.5**	**+1.5**	
	comp=Z,6.1nm,0.8s,baz=11,slow=5.0,SNR=4.7								
ASAR				S		**S**	**11 30 29.7**	**-3.3**	
	comp=Z,6.9nm,1.0s,baz=2.9,slow=11,SNR=7.5								
MNAS	**Manas**	**53.24**	**303**	P		**P**	**11 23 40.7**	**+0.6**
MNAS				pmax	pmax				
	comp=Z,47nm,0.9s								
NGP	**Nagpur**	**53.45**	**275**	*e*P		**P**	**11 23 42.3**	**+0.5**
MBWA	**Marble Bar**	**53.55**	**201**	*e*P		**P**	**11 23 42.6**	**+0.3**
	comp=Z,202nm,0.6s								
MBWA				*e*S		**S**	**11 30 37.1**	**-0.3**	
MBWA	**Marble Bar**	**53.55**	**201**	P		**P**	**11 23 42.5**	**+0.1**
	SNR=11								
BVAR	**Borovoye Array**	**53.63**	**316**	P4KPbc			12 00 58.8		
	comp=Z,0.8nm,0.5s,baz=83,slow=4.8,SNR=5.1								
BRVK	**Borovoye**	**53.70**	**316**	*e*P		**P**	**11 23 43.5**	**+0.5**
	comp=Z,179nm,1.2s								
BRVK				*e*S		**S**	**11 30 38.0**	**-0.6**	
BRVK	**Borovoye**	**53.70**	**316**	P		**P**	**11 23 43.3**	**+0.3**
	SNR=40								
BRVK	**Borovoye**	**53.70**	**316**	*d* iP		**P**	**11 23 43.1**	**+0.1**
BRVK				pmax	pmax				
	comp=Z,174nm,1.2s								
BHPL	**Bhopal**	**54.10**	**278**	*e*P		**P**	**11 23 46.2**	**-0.2**
IM3	**Indian Mountai**	**54.41**	**28**	*e*P		**P**	**11 23 48.7**	**+0.8**
KDAK	**Kodiak Island**	**54.52**	**38**	P		**P**	**11 23 48.9**	**+0.1**
	comp=Z,36nm,0.3s,baz=268,slow=1.9,SNR=98								
KDAK				ScP		**ScP**	**11 27 53.4**	**-0.9**	
	comp=Z,17nm,0.8s,baz=349,slow=6.7,SNR=4.6								
KK31	**Karatay Array**	**54.59**	**304**	*e*P		**P**	**11 23 50.2**	**+0.7**
KK31	**Karatay Array**	**54.59**	**304**	*e*P		**P**	**11 23 50.2**	**+0.7**
KKAR	**Karatay Array**	**54.59**	**304**	*e*P		**P**	**11 23 50.2**	**+0.7**
KKAR	**Karatay Array**	**54.59**	**304**	*e*P		**P**	**11 23 50.2**	**+0.7**
PPLA	**Purkeypile**	**54.83**	**32**	*e*P		**P**	**11 23 52.4**	**+1.4**
	comp=Z,42nm,0.6s								
SKT	**Skwentna**	**55.10**	**33**	*e*P		**P**	**11 23 53.1**	**+0.3**
	comp=Z,36nm,1.1s								
CNPM	**China Poot**	**55.22**	**36**	*e*P		**P**	**11 23 53.7**	**+0.1**
	comp=Z,50nm,1.0s								
HYB	**Hyderabad**	**55.34**	**271**	*ij* P		**P**	**11 23 55.0**	**-0.2**
	comp=Z,140nm,1.0s								
HYB				*e*PcP		**PcP**	**11 24 48.5**	**+0.1**	
HYB				*e*S		**S**	**11 31 02.0**	**+0.7**	
BRLK	**Bradley Lake**	**55.39**	**36**	*e*P		**P**	**11 23 55.4**	**+0.5**
	comp=Z,108nm,1.6s								
BPAW	**Bear Paw Mtn.**	**55.43**	**30**	*e*P		**P**	**11 23 56.2**	**+1.1**
	comp=Z,25nm,0.6s								
SUA	**Susitna One**	**55.47**	**33**	*e*P		**P**	**11 23 55.3**	**-0.2**
	comp=Z,210nm,1.8s								
MLY	**Manley**	**55.58**	**29**	*e*P		**P**	**11 23 57.3**	**+1.1**
	comp=Z,50nm,1.2s								
TRF	**Thorofare Moun**	**55.72**	**31**	*e*P		**P**	**11 23 57.9**	**+0.7**
	comp=Z,22nm,1.0s								
MDRS	**Chennai**	**55.75**	**266**	*e*P		**P**	**11 23 59.5**	**+1.5**
MDRS				IAmb		IAmb	11 24 01.1		
	comp=Z,76nm,0.7s								
COLD	**Coldfoot**	**55.94**	**27**	*e*P		**P**	**11 23 59.8**	**+1.3**
	comp=Z,7.7nm,0.9s								
SEW	**Seward**	**56.11**	**35**	*e*P		**P**	**11 23 59.8**	**0.0**
	comp=Z,52nm,1.2s								
EIDS	**Eidsvold**	**56.18**	**166**	*e*P		**P**	**11 24 01.0**	**+0.3**
	comp=Z,48nm,0.7s								
PMR	**Palmer**	**56.24**	**33**	*e*P		**P**	**11 24 00.5**	**-0.1**
PMR				*e*PcP		**PcP**	**11 24 51.6**	**+0.6**	
PMR	**Palmer**	**56.24**	**33**	*e*P		**P**	**11 24 00.5**	**-0.1**
PMR				*e*			11 24 51.6		
TOLK	**Toolik Lake Re**	**56.28**	**25**	P		**P**	**11 24 02.0**	**+1.1**
	baz=266,SNR=31								
GHO	**Glory Hole Cre**	**56.34**	**33**	*e*P		**P**	**11 24 01.7**	**+0.3**
	comp=Z,190nm,1.8s								
RND	**Reindeer**	**56.36**	**31**	*e*P		**P**	**11 24 01.6**	**0.0**
	comp=Z,67nm,0.7s								
RND	**Reindeer**	**56.36**	**31**	*e*P		**P**	**11 24 01.6**	**0.0**
RND				pmax	pmax				
	comp=Z,67nm,0.7s								
SML	**Sawmill**	**56.62**	**33**	*e*P		**P**	**11 24 03.7**	**+0.3**
	comp=Z,49nm,0.7s								
SML	**Sawmill**	**56.62**	**33**	*e*P		**P**	**11 24 03.7**	**+0.3**
SML				pmax	pmax				
	comp=Z,49nm,0.7s								
MDM	**Murphy Dome**	**56.65**	**29**	*e*P		**P**	**11 24 04.1**	**+0.6**
	comp=Z,37nm,0.4s								
WRH	**Wood River Hil**	**56.70**	**30**	*e*P		**P**	**11 24 03.7**	**-0.1**
	comp=Z,26nm,0.6s								
TCOL	**CIGO, UAF Yank**	**56.80**	**29**	P		**P**	**11 24 05.3**	**+0.8**
	baz=270,SNR=25								
COLA	**College**	**56.81**	**29**	*e*P		**P**	**11 24 04.8**	**+0.3**
	comp=Z,57nm,0.6s								
COLA	**College**	**56.81**	**29**	*e*P		**P**	**11 24 04.8**	**+0.3**
COLA				pmax	pmax				
	comp=Z,57nm,0.6s								
CCB	**Clear Creek Bu**	**56.83**	**30**	*e*P		**P**	**11 24 04.4**	**-0.2**
	comp=Z,32nm,1.2s								
POKR	**Poker Plat Res**	**56.99**	**29**	P		**P**	**11 24 06.6**	**+0.8**
	baz=270,SNR=54								
DHY	**Denali Highway**	**57.03**	**32**	*e*P		**P**	**11 24 06.3**	**-0.1**
	comp=Z,26nm,0.7s								
DHY				*e*S		**S**	**11 31 24.9**	**+2.8**	
SCM	**Sheep Creek Mo**	**57.09**	**33**	*e*P		**P**	**11 24 07.3**	**+0.6**
	comp=Z,74nm,0.8s								
HDA	**Harding Lake**	**57.20**	**30**	*e*P		**P**	**11 24 06.9**	**-0.3**
	comp=Z,66nm,0.7s								
HDA	**Harding Lake**	**57.20**	**30**	P		**P**	**11 24 07.0**	**-0.3**
	baz=271,SNR=98								
ILAR	**Eielson Array**	**57.22**	**30**	P		**P**	**11 24 06.7**	**-0.7**
	comp=Z,18nm,0.5s,baz=253,slow=4.5,SNR=177								
ILAR				PcP		**PcP**	**11 24 54.9**	**0.0**	
	comp=Z,3.9nm,0.5s,baz=273,slow=3.8,SNR=5.0								
ILAR				pP		**pP**	**11 25 47.4**	**+0.4**	
	comp=Z,5.1nm,0.8s,baz=264,slow=6.5,SNR=3.4								
ILAR				ScP		**ScP**	**11 28 04.3**	**-1.8**	
	comp=Z,1.7nm,0.6s,baz=254,slow=4.5,SNR=4.6								
ILAR				S		**S**	**11 31 22.2**	**-1.9**	
	comp=Z,0.8nm,1.0s,baz=270,slow=0.9,SNR=3.5								
ILAR				PKPPKP		**P'P'df**	**11 53 48.8**	**-0.6**	
	comp=Z,0.8nm,1.1s,baz=355,slow=1.9,SNR=4.5								
ILAR				P4KPbc			12 01 11.2		
	comp=Z,0.3nm,0.8s,baz=259,slow=7.3,SNR=5.4								
ILB	**Eielson Array**	**57.22**	**30**	*e*P		**P**	**11 24 06.9**	**-0.5**
IL1	**Eielson Array**	**57.22**	**30**	*e*P		**P**	**11 24 06.9**	**-0.5**
GLI	**Glacier Island**	**57.25**	**34**	*e*P		**P**	**11 24 07.9**	**+0.2**
	comp=Z,52nm,0.7s								
COCO	**West Island**	**57.54**	**230**	*e*P		**P**	**11 24 10.4**	**+0.2**
	comp=Z,198nm,0.8s								
COCO	**West Island**	**57.54**	**230**	*e*P		**P**	**11 24 10.4**	**+0.2**
COCO				pmax	pmax				
	comp=Z,198nm,0.8s								
FID	**Port Fidalgo**	**57.55**	**34**	*e*P		**P**	**11 24 10.1**	**+0.3**
	comp=Z,37nm,1.0s								
KBL	**Kabul**	**57.59**	**294**	*e*P		**P**	**11 24 10.9**	**+0.2**
	comp=Z,110nm,0.6s								
KBL	**Kabul**	**57.59**	**294**	*e*P		**P**	**11 24 10.9**	**+0.2**
KBL				pmax	pmax				
	comp=Z,110nm,0.6s								
DIV	**Divide**	**57.88**	**34**	*e*P		**P**	**11 24 12.7**	**+0.7**
	comp=Z,44nm,1.0s								
FYU	**Fort Yukon**	**57.88**	**27**	*e*P		**P**	**11 24 13.8**	**+2.0**
	comp=Z,354nm,2.0s								
PAX	**Paxson**	**57.91**	**32**	*e*P		**P**	**11 24 12.8**	**+0.6**
	comp=Z,26nm,0.8s								
PAX	**Paxson**	**57.91**	**32**	*e*P		**P**	**11 24 12.8**	**+0.6**
PAX				pmax	pmax				
	comp=Z,26nm,0.8s								
EYAK	**Cordova Ski Ar**	**57.93**	**35**	*e*P		**P**	**11 24 13.0**	**+0.8**
	comp=Z,46nm,1.3s								
PALK	**Pallekele**	**58.13**	**260**	*e*P		**P**	**11 24 15.4**	**+1.0**
	comp=Z,88nm,0.7s								
PALK	**Pallekele**	**58.13**	**260**	*i* P		**P**	**11 24 15.1**	**+0.7**
	SNR=19								
PALK	**Pallekele**	**58.13**	**260**	*e*P		**P**	**11 24 15.4**	**+1.0**
PALK				pmax	pmax				
	comp=Z,88nm,0.7s								
RIDG	**Independ'e Rid**	**58.15**	**31**	*e*P		**P**	**11 24 13.8**	**0.0**
	comp=Z,52nm,0.6s								
DZM	**Mont Dzumac**	**58.30**	**149**	*e*P		**P**	**11 24 15.6**	**+0.2**
	comp=Z,142nm,0.8s								
DZM				*e*S		**S**	**11 31 39.0**	**-0.1**	
	comp=Z,837nm,28.2s								
DZM	**Mont Dzumac**	**58.30**	**149**	*e*P		**P**	**11 24 14.9**	**-0.5**
	comp=Z,80nm,0.7s								
BMRM	**Bremner River**	**58.45**	**34**	*e*P		**P**	**11 24 16.8**	**+0.8**
	comp=Z,122nm,1.0s								
RAGM	**Ragged Mountai**	**58.47**	**35**	*e*P		**P**	**11 24 17.2**	**+1.1**
	comp=Z,148nm,1.8s								
DOT	**Dot Lake**	**58.50**	**31**	*e*P		**P**	**11 24 16.4**	**+0.2**
	comp=Z,75nm,0.7s								
SCRK	**Sand Creek**	**58.51**	**30**	*e*P		**P**	**11 24 16.6**	**+0.2**
	comp=Z,66nm,0.6s								
SVE	**Sverdlovsk**	**58.91**	**321**	*c iP*		**P**	**11 24 19.3**	**+0.3**
SVE				*e*S		**S**	**11 31 45.1**	**-0.7**	
SVE				pmax	pmax				
	comp=Z,147nm,1.2s								
POO	**Poona**	**58.98**	**275**	*ij iP*		**P**	**11 24 20.0**	**-0.1**
POO				*e*P		**P**	**11 24 20.4**	**+0.3**
EGAK	**Eagle**	**59.67**	**29**	*e*P		**P**	**11 24 24.0**	**+0.1**
	comp=Z,24nm,0.6s								
BOM	**Bombay**	**59.73**	**276**	*ex*		P	11 24 17.1	-8.0	
ARU	**Arti**	**60.10**	**321**	*e*P		**P**	**11 24 27.8**	**+0.8**
	comp=Z,132nm,0.6s								
ARU	**Arti**	**60.10**	**321**	*c iP*		**P**	**11 24 27.3**	**+0.3**
ARU							11 25 06.8		
ARU				*PP		**pP**	**11 26 12.0**	**+4.1**	
ARU							11 26 47.8		
ARU				*e*S		**S**	**11 32 01.7**	**+0.9**	
ARU							11 33 19.2		
ARU				pmax	pmax				
	comp=Z,306nm,1.7s								
GOA	**Goa**	**60.26**	**272**	*e*P		**P**	**11 24 29.0**	**+0.3**
DAWY	**Dawson**	**60.52**	**30**	*e*P		**P**	**11 24 29.3**	**-0.3**
	comp=Z,14nm,0.9s								
AB31	**Akbulak array**	**60.64**	**313**	*i* P		**P**	**11 24 30.4**	**-0.3**
AB31				pmax	pmax				
	comp=Z,98nm,0.6s								
ABKAR	**Akbulak array**	**60.64**	**313**	*e*P		**P**	**11 24 30.6**	**-0.1**
ABKAR				*e*S		**S**	**11 32 07.2**	**-0.6**	
PCA	**Pinnacle**	**60.70**	**35**	*e*P		**P**	**11 24 31.4**	**+0.5**
	comp=Z,63nm,0.7s								
BHJ	**Bhuj**	**60.75**	**282**	*e*P		**P**	**11 24 32.4**	**+0.6**
FORT	**Forrest**	**60.90**	**190**	*e*P		**P**	**11 24 32.8**	**+0.3**
	comp=Z,545nm,0.6s								
ARMA	**Armidale**	**61.18**	**167**	*e*P		**P**	**11 24 35.1**	**+0.5**
	comp=Z,35nm,0.7s								
EPYK	**Eagle Plains**	**61.30**	**27**	P		**P**	**11 24 35.7**	**+0.9**
	baz=279,SNR=94								
STKA	**Stephens Creek**	**61.34**	**177**	P		**P**	**11 24 35.4**	**0.0**
	comp=Z,86nm,0.7s,baz=347,slow=6.8,SNR=147								
STKA	**Stephens Creek**	**61.34**	**177**	*e*P		**P**	**11 24 35.6**	**+0.3**
	comp=Z,19nm,0.7s								
STKA	**Stephens Creek**	**61.34**	**177**	*e*P		**P**	**11 24 35.7**	**+0.3**
STKA				pmax	pmax				
	comp=Z,19nm,0.7s								
DHAK	**Deception Hill**	**61.90**	**36**	*e*P		**P**	**11 24 39.9**	**+1.1**
	comp=Z,71nm,0.6s								
HYT	**Haines Junctio**	**61.91**	**34**	*e*P		**P**	**11 24 40.4**	**+1.5**
	comp=Z,41nm,0.7s								
INK	**Inuvik**	**62.20**	**25**	P		**P**	**11 24 40.8**	**+0.3**
	comp=Z,23nm,0.4s,baz=273,slow=5.1,SNR=337								
INK				ScP		**ScP**	**11 28 26.8**	**-1.3**	
	comp=Z,7.7nm,1.1s,baz=236,slow=3.8,SNR=3.1								
INK	**Inuvik**	**62.20**	**25**	*e*P		**P**	**11 24 40.8**	**+0.3**
	comp=Z,27nm,0.9s								
INK	**Inuvik**	**62.20**	**25**	*e*P		**P**	**11 24 40.8**	**+0.3**
INK				pmax	pmax				
	comp=Z,27nm,0.9s								
BBOO	**Buckleboo**	**62.21**	**182**	*e*P		**P**	**11 24 41.4**	**+0.4**
	comp=Z,85nm,0.7s								
WHY	**Whitehorse**	**63.20**	**33**	*e*P		**P**	**11 24 48.5**	**+1.1**
	comp=Z,36nm,0.8s								
SKAG	**Skagway**	**63.26**	**35**	*e*P		**P**	**11 24 48.7**	**+1.2**
	comp=Z,26nm,0.6s								
BESE	**Bessie Mountai**	**63.71**	**36**	*e*P		**P**	**11 24 51.2**	**+0.6**
	comp=Z,25nm,0.9s								
JIS	**Juneau Island**	**64.03**	**36**	*e*P		**P**	**11 24 53.9**	**+1.5**
	comp=Z,42nm,0.6s								
LHI	**Lord Howe Isla**	**64.09**	**160**	*e*P		**P**	**11 24 54.0**	**+0.8**
	comp=Z,81nm,0.8s								
MNCI	**Minicoy**	**64.22**	**265**	*e*P		**P**	**11 24 54.8**	**+0.4**
	comp=Z,263nm,0.9s								
MNCY	**Minicoy**	**64.25**	**265**	*e*P		**P**	**11 24 54.5**	**0.0**
HMDM	**Hanimaadhoo**	**64.84**	**263**	*e*P		**P**	**11 24 59.0**	**+0.7**
	comp=Z,793nm,1.8s								
AFI	**Afiamalu**	**64.98**	**125**	P		**P**	**11 24 59.8**	**+0.5**
	comp=Z,29nm,0.7s,baz=188,slow=7.0,SNR=5.4								
GEYT	**Alibeck**	**65.01**	**301**	P		**P**	**11 24 59.8**	**+0.6**
	comp=Z,20nm,0.8s,baz=294,slow=4.7,SNR=24								
GYA0B	**ALIBECK ARRAY**	**65.01**	**301**	*e*P		**P**	**11 24 59.5**	**+0.4**
	comp=Z,44nm,0.8s								
NWAO	**Narrogin (SRO)**	**65.33**	**199**	P		**P**	**11 25 01.5**	**+0.4**
	comp=Z,209nm,0.7s,baz=254,slow=6.5,SNR=157								
DLBC	**Dease Lake**	**66.19**	**35**	P		**P**	**11 25 07.5**	**+1.3**
	comp=Z,9.4nm,0.6s,baz=287,slow=5.5,SNR=46								
DLBC	**Dease Lake**	**66.19**	**35**	*e*P		**P**	**11 25 07.2**	**+1.0**
	comp=Z,45nm,1.4s								
H02N1	**VAN INLET T-PH**	**66.47**	**41**	P		**P**	**11 25 08.2**	**+0.2**
H02S1	**DAWSON INLET T**	**66.52**	**41**	P		**P**	**11 25 08.8**	**+0.6**
	SNR=14								
SPA0	**Spitsbergen Ar**	**67.15**	**349**	*e*P		**P**	**11 25 12.7**	**+1.0**
SPA0	**Spitsbergen Ar**	**67.15**	**349**	*e*P		**P**	**11 25 13.0**	**+1.2**
SPITS	**Spitsbergen Ar**	**67.15**	**349**	P		**P**	**11 25 13.1**	**+1.3**
	comp=Z,21nm,0.5s,baz=98,slow=10,SNR=15								
KBS	**Kingsbay**	**67.37**	**350**	*e*P		**P**	**11 25 14.6**	**+1.5**
	comp=Z,170nm,1.6s								
KBS	**Kingsbay**	**67.37**	**350**	*d iP*		**P**	**11 25 14.4**	**+1.3**
KBS				pmax	pmax				
	comp=Z,427nm,1.5s								
KBS	**Kingsbay**	**67.37**	**350**	*e*P		**P**	**11 25 12.0**	**-1.1**
HSPB	**Hornsund (broa**	**68.01**	**348**	*e*P		**P**	**11 25 17.4**	**+0.4**
H01W3	**Cape Leeuwin H**	**68.08**	**201**	P		**P**	**11 25 19.0**	**+1.3**
H01W1	**Cape Leeuwin H**	**68.09**	**201**	P		**P**	**11 25 19.5**	**+1.7**
H01W2	**Cape Leeuwin H**	**68.10**	**201**	P		**P**	**11 25 19.9**	**+2.1**
KEV	**Kevo**	**69.29**	**340**	*e*P		**P**	**11 25 25.2**	**+0.4**
	comp=Z,75nm,0.8s								
KEV	**Kevo**	**69.29**	**340**	*e*P		**P**	**11 25 25.2**	**+0.4**
KEV				pmax	pmax				
	comp=Z,75nm,0.8s								
BBB	**Bella Bella**	**69.36**	**41**	P		**P**	**11 25 25.7**	**+0.1**
	comp=Z,21nm,0.9s,baz=270,slow=6.5,SNR=5.0								
HAMF	**Hammerfest**	**69.80**	**341**	*e*P		**P**	**11 25 27.3**	**-0.6**
ARA0	**ARCESS Array S**	**69.85**	**340**	*e*P		**P**	**11 25 28.4**	**+0.1**
ARCES	**ARCESS Array B**	**69.85**	**340**	P		**P**	**11 25 28.4**	**+0.1**
	comp=Z,34nm,0.3s,baz=64,slow=9.1,SNR=802								
ARCES	**ARCESS Array B**	**69.85**	**340**	*e*P		**P**	**11 25 28.6**	**+0.3**
ARCES	**ARCESS Array B**	**69.85**	**340**	*e*P		**P**	**11 25 28.6**	**+0.3**
ARE0	**ARCESS Array S**	**69.85**	**340**	*e*P		**P**	**11 25 28.8**	**+0.5**
	comp=Z,14nm,1.6s								
ARE0	**ARCESS Array S**	**69.85**	**340**	*e*P		**P**	**11 25 28.8**	**+0.5**
WBK	**Wadi Bani Khal**	**70.05**	**285**	P		**P**	**11 25 31.5**	**+1.2**
	SNR=16								
WSAR	**Wadi Sarin**	**70.07**	**286**	P		**P**	**11 25 30.9**	**+0.5**
	SNR=13								
RES	**Resolute Bay**	**70.37**	**13**	P		**P**	**11 25 31.9**	**+0.7**
	comp=Z,50nm,0.7s,baz=318,slow=6.0,SNR=107								
RES	**Resolute Bay**	**70.37**	**13**	*e*P		**P**	**11 25 31.7**	**+0.5**
	comp=Z,55nm,0.7s								
BIDO	**Bidbid**	**70.38**	**286**	P		**P**	**11 25 33.2**	**+1.0**
	SNR=19								
KTK1	**Kautokeino**	**70.82**	**340**	*e*P		**P**	**11 25 34.7**	**+0.8**
BANOM	**Banah**	**70.90**	**289**	P		**P**	**11 25 36.7**	**+1.4**
	SNR=26								
BANOM	**Banah**	**70.90**	**289**	*i* P		**P**	**11 25 36.7**	**+1.4**
	SNR=49								
BANOM				*i* P		**P**	**11 25 36.9**	**+1.6**	
	SNR=8.5								
SHME	**Shamm**	**70.98**	**290**	*i* P		**P**	**11 25 36.8**	**+1.0**
	SNR=94								
HEF	**Hetta**	**71.02**	**339**	*e*P		**P**	**11 25 35.2**	**0.0**
HOQ	**Hoqain**	**71.03**	**287**	P		**P**	**11 25 37.4**	**+1.3**
	SNR=9.5								
VRH	**Novokhopyorsk**	**71.14**	**319**	*e*P		**P**	**11 25 35.7**	**-0.5**
VRH				*e*S		**S**	**11 34 08.4**	**-3.9**	
VRH				pmax	pmax				
	comp=Z,90nm,0.6s								
VRH				smax	smax				
	comp=N,310nm,2.1s								
MDH	**Madha**	**71.16**	**289**	*i* P		**P**	**11 25 37.0**	**+0.2**
	SNR=8.3								
MSFE	**Esma-Masafi**	**71.25**	**289**	*i* P		**P**	**11 25 38.1**	**+0.7**
	SNR=36								
UOSS	**Minazif**	**71.38**	**289**	*e*P		**P**	**11 25 38.7**	**+0.6**
	comp=N,123nm,1.4s								
UOSS				*e*S		**S**	**11 34 18.1**	**+2.1**	
UOSS	**Minazif**	**71.38**	**289**

comp=Z,70nm,0.8s
DGAR Diego Garcia 72.92 251 *e*P **P 11 25 48.2 +1.1**
comp=Z,142nm,0.6s
DGAR Diego Garcia 72.92 251 *e*P **P 11 25 48.2 +1.1**
DGAR pmax pmax
comp=Z,143nm,0.6s
H08S3 Diego Garcia H 73.02 251 P **P 11 25 48.5 +1.1**
baz=6.2,slow=9.5,SNR=17
H08S2 Diego Garcia H 73.02 251 P **P 11 25 48.7 +1.3**
baz=6.2,slow=9.5,SNR=12
H08S1 Diego Garcia H 73.03 251 P **P 11 25 48.4 +1.0**
baz=6.2,slow=9.5,SNR=12
PUL Pulkovo 73.06 330⇓*e*P **P 11 25 48.5 +1.4**
PUL pmax pmax
comp=Z,72nm,0.6s
TBLG Delisi 73.16 309 *e*P **P 11 25 46.4 -1.8**
TBLG Delisi 73.16 309 *e*P **P 11 25 49.0 +0.8**
comp=Z,30nm,0.6s
TBLG Delisi 73.16 309 *e*P **P 11 25 49.0 +0.8**
TBLG pmax pmax
comp=Z,31nm,0.6s
NCK Nalchik 73.18 311⇑*e*P **P 11 25 49.2 +0.9**
NCK pmax pmax
comp=Z,27nm,0.7s
ZEI Tsey 73.28 310 *e*P **P 11 25 47.2 -1.9**
ZEI pmax pmax
comp=Z,64nm,0.6s
H08N1 Diego Carcia H 73.52 253 P **P 11 25 48.5 -1.7**
baz=41,slow=1.2,SNR=13
H08N2 Diego Garcia H 73.52 253 P **P 11 25 48.7 -1.5**
baz=41,slow=1.2,SNR=13
PGC Sidney 73.53 43 *e*P **P 11 25 51.6 +1.5**
comp=Z,45nm,0.8s
H08N3 Diego Garcia H 73.54 253 P **P 11 25 49.1 -1.2**
baz=41,slow=1.2,SNR=9.6
KBZ Khabaz 73.54 311 P **P 11 25 50.7 +0.5**
comp=Z,93nm,0.6s,baz=92,slow=4.5,SNR=190
KIV Kislovodsk 73.58 311 *e*P **P 11 25 50.9 +0.3**
comp=Z,105nm,0.7s
KIV Kislovodsk 73.58 311 P **P 11 25 51.4 +0.8**
SNR=15
KIV Kislovodsk 73.58 311 *i*P **P 11 25 51.6 +1.0**
SNR=15
KIV Kislovodsk 73.58 311 *e*P **P 11 25 50.9 +0.3**
KIV *e**PP **pP 11 27 37.0 -0.1**
KIV *e**SP **sP 11 28 29.1 -0.5**
KIV *e* 11 28 43.1
KIV *e*S **S 11 34 40.4 +0.4**
KIV pmax pmax
comp=Z,128nm,0.9s
GNI Garni 73.83 307 *e*P **P 11 25 52.9 +0.8**
GNI Garni 73.83 307 *e*P **P 11 25 52.6 +0.4**
comp=Z,353nm,1.8s
GNI Garni 73.83 307 P **P 11 25 53.3 +1.1**
SNR=6.3
GNI Garni 73.83 307 *i*P **P 11 25 53.5 +1.3**
SNR=6.6
GNI Garni 73.83 307*d i*P **P 11 25 53.0 +0.8**
GNI pmax pmax
comp=Z,523nm,1.7s
STEI Steigen 73.83 341 *e*P **P 11 25 51.7 +0.3**
NEY Neytrino 73.86 311*c i*P **P 11 25 53.5 +1.2**
NEY pmax pmax
comp=Z,8.0nm,0.6s
FIA1 FINESS Array S 73.96 332 *e*P **P 11 25 52.0 -0.3**
FIA0 FINESS Array S 73.97 332 *e*P **P 11 25 51.8 -0.5**
FIA0 FINESS Array S 73.97 332 *e*P **P 11 25 51.8 -0.5**
FINES FINESS Array B 73.97 332 P **P 11 25 51.8 -0.5**
comp=Z,48nm,0.3s,baz=66,slow=4.9,SNR=323
AKH Akhalkalaki 74.14 309 *e*P **P 11 25 54.4 +0.4**
AKH Akhalkalaki 74.14 309 *e*P **P 11 25 55.0 +1.0**
comp=Z,60nm,1.1s
AKH Akhalkalaki 74.14 309⇑*i*P **P 11 25 56.6 +2.6**
AKH Akhalkalaki 74.14 309 *e*P **P 11 25 55.0 +1.0**
AKH pmax pmax
comp=Z,60nm,1.1s
D03D Eldon 74.25 44 P **P 11 25 55.3 +1.1**
baz=297
MZR Muzera 74.46 288 *i*P **P 11 25 56.7 +0.8**
SNR=12
B05A Bryant 74.51 43 P **P 11 25 56.8 +1.2**
baz=297,SNR=13
B06A Marblemount 74.76 43 *e*P **P 11 25 57.7 +0.7**
comp=Z,37nm,0.6s
CLDR Caldiran 74.83 307 *e*P **P 11 25 58.7 +0.7**
E04D Cinebar 75.01 45 P **P 11 25 59.8 +1.3**
baz=297
D05A Enumclaw 75.07 44 *e*P **P 11 25 59.7 +0.8**
comp=Z,40nm,0.9s
MOR8 Moi Rana 75.22 340 *e*P **P 11 25 58.2 -1.1**
AGRB Hanur-Agry 75.29 307 *e*P **P 11 26 01.5 +1.0**
SENK Senkaya-Erzuru 75.29 308 *e*P **P 11 26 01.2 +0.7**
VSU Vasula 75.32 330*d i*P **P 11 25 59.8 -0.2**
VSU pmax pmax
comp=Z,350nm,1.2s
LON Longmire 75.38 44 *e*P **P 11 26 01.3 +0.6**
comp=Z,17nm,0.8s
LON Longmire 75.38 44 *e*P **P 11 26 01.3 +0.6**
LON pmax pmax
comp=Z,17nm,0.8s
C06D Leavenworth 75.38 43 P **P 11 26 01.6 +1.0**
baz=298,SNR=7.0
BCA Borcka 75.39 309 *e*P **P 11 26 00.9 +0.1**
VANB Van 75.45 306 *e*P **P 11 26 02.1 +0.8**
KULLO Kullorsuaq 75.49 4 *i*P **P 11 26 00.7 0.0**
comp=Z,74nm,1.0s
KULLO Kullorsuaq 75.49 4 *i*P **P 11 26 00.7 0.0**
KULLO pmax pmax
comp=Z,74nm,1.0s
LTY Liberty 75.83 44 *e*P **P 11 26 03.7 +0.5**
comp=Z,26nm,0.6s
I03D Drain, OR 75.83 48 P **P 11 26 04.4 +1.3**
baz=298,SNR=10
H04D Lebanon 75.84 47 P **P 11 26 04.5 +1.3**
baz=298
CUKT Cukurca 75.89 305 *e*P **P 11 26 03.9 +0.1**
F05D White Salmon 76.00 45 P **P 11 26 05.2 +1.1**
baz=298
K02D Willamette Mer 76.09 49 P **P 11 26 05.7 +1.0**
baz=298
B08A Colville Reser 76.09 42 *e*P **P 11 26 05.3 +0.8**
comp=Z,52nm,0.8s
H04A Detroit Lake 76.11 46 *e*P **P 11 26 05.7 +0.9**
comp=Z,6nm,1.3s
L02E Cave Junction 76.38 49 P **P 11 26 06.5 +0.2**
baz=298
I04A Tendick Farm, 76.39 47 P **P 11 26 07.4 +1.1**
baz=298,SNR=13
G05D Wamic, OR 76.39 46 P **P 11 26 07.4 +1.1**
baz=298
GURO Guroymak-BITLI 76.42 307 *e*P **P 11 26 07.3 +0.6**
WHFO Wadi Hawf 76.48 283 P **P 11 26 07.5 +0.3**
SNR=13
VRTB Varto-Mus 76.54 307 *e*P **P 11 26 08.1 +0.7**
ANN Anapa 76.56 314*d i*P **P 11 26 07.0 -0.1**
ANN pmax pmax
comp=Z,259nm,1.5s
HUMO Hull Mountain 76.59 49 *e*P **P 11 26 08.7 +1.3**
comp=Z,10.0nm,0.8s
E07A Sunnyside 76.66 44 *e*P **P 11 26 09.1 +1.4**
comp=Z,23nm,0.6s
I05D Terrebonne, OR 76.81 46 P **P 11 26 09.6 +1.0**
baz=299
G06A Carlson Farm, 76.82 45 *e*P **P 11 26 09.6 +1.0**
comp=Z,169nm,1.9s
J04D Umpqua Nationa 76.84 48 P **P 11 26 10.1 +1.1**
baz=298,SNR=7.3
URZ Urewera 76.85 149 P **P 11 26 07.3 -1.3**
comp=Z,17nm,0.5s,baz=284,slow=2.1,SNR=31
URZ Urewera 76.85 149 *e*P **P 11 26 07.3 -1.3**
URZ *e*P **P 11 26 07.8 -0.8**
KHMM Horse Mountain 76.89 50 *e*P **P 11 26 10.7 +1.4**
comp=Z,115nm,1.7s
HAWA Hanford 76.93 44 *e*P **P 11 26 10.1 +0.9**
comp=Z,17nm,0.6s
F07A Phinny Hill Vi 76.94 45 *e*P **P 11 26 10.5 +1.3**
comp=Z,33nm,0.6s
MICGM Minsk 76.95 326⇓*e*P **P 11 26 09.0 -0.1**
MICGM PM 11 26 10.0
comp=Z,0.6nm,1.5s
D08A Wollman Farm, 76.97 43 *e*P **P 11 26 10.2 +0.8**
comp=Z,48nm,0.6s
C09A Chrisman Ranch 76.99 42 *e*P **P 11 26 10.3 +0.8**
comp=Z,44nm,0.6s
YEDI Yedisu-Bingol 77.04 308 *e*P **P 11 26 10.7 +0.6**
NSS Namsos 77.10 339 *e*P **P 11 26 09.3 -0.4**

ABTO Aybut 77.14 283 P **P 11 26 11.6 +0.8**
SNR=5.4
BNGB Bing¶ll 77.15 308 *e*P **P 11 26 11.7 +1.0**
YBH Yreka Blue Hor 77.17 49 *e*P **P 11 26 11.7 +1.0**
comp=Z,52nm,1.6s
YBH Yreka Blue Hor 77.17 49 *e*P **P 11 26 11.7 +1.0**
YBH pmax pmax
comp=Z,53nm,1.6s
E08A Dider Farm, El 77.17 44 *e*P **P 11 26 11.7 +1.2**
comp=Z,30nm,0.7s
SVAN Silvan-Diyarba 77.18 307 *e*P **P 11 26 11.5 +0.7**
L04D Klamath Falls 77.20 49 P **P 11 26 11.7 +0.7**
baz=298,SNR=9.8
KMRM Mail Ridge 77.21 51 *e*P **P 11 26 12.0 +1.1**
comp=Z,81nm,1.7s
M02C Callahan 77.23 50 P **P 11 26 12.2 +1.2**
baz=298,SNR=8.2
NACGM Naroch 77.26 327 *e* **P 11 26 10.0 -0.8**
PINE Pine Mountain 77.33 47 *e*P **P 11 26 13.1 +1.5**
comp=Z,73nm,0.7s
BKZ Black Stump Fm 77.33 150 *e*P **P 11 26 10.8 -0.6**
comp=Z,28nm,0.5s
J05D Fort Rock, OR 77.39 47 P **P 11 26 13.2 +1.3**
baz=299,SNR=40
NEW Newport 77.42 41 *e*P **P 11 26 12.5 +0.7**
comp=Z,29nm,0.8s
NEW Newport 77.42 41 *e*P **P 11 26 12.5 +0.7**
NEW pmax pmax
comp=Z,29nm,0.8s
NEW Newport 77.42 41 P **P 11 26 12.6 +0.7**
baz=301
N02D Trinity Center 77.53 50 P **P 11 26 13.0 +0.4**
baz=298
KCPM Cahto Peak 77.55 51 *e*P **P 11 26 14.8 +2.0**
comp=Z,172nm,1.8s
KELT Kelkit 77.58 309 *i*P **P 11 26 14.6 +1.5**
HANI Diyarbakir_Han 77.61 307 *i*P **P 11 26 14.4 +1.3**
E09A Wood Farm, Sta 77.71 43 *e*P **P 11 26 14.3 +0.9**
comp=Z,26nm,0.8s
M04C Macdoel 77.72 49 P **P 11 26 14.3 +0.6**
baz=299,SNR=23
G08A Pilot Rock 77.83 45 *e*P **P 11 26 15.1 +0.8**
comp=Z,31nm,1.4s
WDC Whiskeytown Da 77.83 50 *e*P **P 11 26 14.8 +0.6**
comp=Z,59nm,1.7s
WDC Whiskeytown Da 77.83 50 *e*P **P 11 26 14.8 +0.6**
WDC pmax pmax
comp=Z,59nm,1.7s
O02D Mt. Diablo Mer 77.86 51 P **P 11 26 15.0 +0.6**
baz=299
SUMG Summit 77.96 359 *e*P **P 11 26 15.8 +1.0**
comp=Z,63nm,0.7s
SUMG Summit 77.96 359 *i*P **P 11 26 15.5 +0.7**
comp=Z,154nm,0.7s
SUMG Summit 77.96 359 *i*P **P 11 26 15.5 +0.7**
SUMG pmax pmax
comp=Z,150nm,0.7s
MAZI Mazidag 78.03 306 *e*P **P 11 26 15.9 +0.4**
PTK Pertek 78.08 308 *e*P **P 11 26 16.7 +0.9**
I07A Izee 78.09 46 *e*P **P 11 26 16.4 +0.8**
comp=Z,9.1nm,0.6s
HOPS Hopland Field 78.23 52 *e*P **P 11 26 17.5 +1.1**
comp=Z,78nm,1.8s
REFA Refahiye_ERZ˝ 78.27 309 *i*P **P 11 26 17.0 +0.2**
AKASG Malin Array Be 78.33 322 P **P 11 26 15.8 -0.8**
comp=Z,20nm,0.3s,baz=51,slow=5.7,SNR=107
AKBB Malin Array Si 78.33 322 *e*P **P 11 26 15.8 -0.8**
AKBB Malin Array Si 78.33 322 *e*P **P 11 26 15.9 -0.8**
KIEV Kiev 78.34 322 *e*P **P 11 26 16.2 -0.5**
comp=Z,69nm,0.6s
KIEV Kiev 78.34 322 *i*P **P 11 26 16.4 -0.3**
SNR=15
KIEV Kiev 78.34 322*d i*P **P 11 26 15.9 -0.8**
KIEV pmax pmax
comp=Z,54nm,1.0s
ILIC ilic-Erzincan 78.38 309 *e*P **P 11 26 19.3 +2.0**
O03E Paynes Creek 78.46 50 P **P 11 26 17.9 +0.3**
baz=299,SNR=7.3
KEMA Kemaliye 78.52 309 *i*P **P 11 26 19.1 +1.1**
KEMA *i*S **PcP 11 26 26.2 +1.2**
F10A Beach Ranch, E 78.53 43 *e*P **P 11 26 18.8 +0.8**
comp=Z,12nm,0.7s
SIM Simferopol' 78.54 315*c e*P **P 11 26 18.8 +0.9**
SIM *e*S **S 11 35 29.0 -3.9**
SIM pmax pmax
comp=Z,84nm,0.8s
ELZG Elazig 78.55 308 *i*P **P 11 26 20.2 +1.9**
MOD Modoc Plateau 78.66 48 *e*P **P 11 26 19.6 +0.7**
comp=Z,18nm,0.7s
MCCM Marconi Confer 78.77 53 *e*P **P 11 26 19.5 +0.3**
comp=Z,46nm,0.8s
WALA Waterton Lakes 78.82 40 *e*P **P 11 26 20.4 +0.9**
comp=Z,35nm,0.7s
ORV Oroville 79.02 51 *e*P **P 11 26 20.7 +0.1**
comp=Z,18nm,0.7s
ORV Oroville 79.02 51 *e*P **P 11 26 20.7 +0.1**
ORV pmax pmax
comp=Z,18nm,0.7s
BMO Blue Mountains 79.06 44 *e*P **P 11 26 21.5 +0.7**
comp=Z,20nm,0.6s
BMO Blue Mountains 79.06 44 *e*P **P 11 26 21.5 +0.7**
BMO pmax pmax
comp=Z,20nm,0.6s
SCO Scoresbysund 79.06 353 *e*P **P 11 26 21.2 +1.0**
comp=Z,233nm,1.7s
SCO Scoresbysund 79.06 353 *i*P **P 11 26 21.1 +1.0**
comp=Z,68nm,1.1s
SCO Scoresbysund 79.06 353 *i*P **P 11 26 21.1 +1.0**
SCO pmax pmax
comp=Z,68nm,1.1s
HEKM Malatya_Hekimh 79.07 308 *i*P **P 11 26 22.4 +1.3**
RPZ Rata Peaks 79.09 156 P **P 11 26 20.9 +0.3**
comp=Z,24nm,0.8s,baz=161,slow=3.8,SNR=7.8
RPZ Rata Peaks 79.09 156 *e*P **P 11 26 20.9 +0.3**
RPZ *e*P **P 11 26 21.3 +0.7**
J08A Circle Bar Ran 79.10 46 *e*P **P 11 26 22.0 +0.9**
comp=Z,38nm,0.7s
URFA Urfa 79.18 307 *e*P **P 11 26 22.1 +0.5**
SANL SANLIURFA_Merk 79.19 307 *i*P **P 11 26 22.8 +1.2**
SVSK Karacayir 79.21 310 *e*P **P 11 26 22.7 +1.2**
JTMT Jette 79.32 41 *e*P **P 11 26 22.9 +0.8**
comp=Z,32nm,0.6s
AKCD Akcadag 79.38 308 *i*P **P 11 26 24.0 +1.3**
WVOR Wild Horse Val 79.47 47 *e*P **P 11 26 23.9 +0.8**
comp=Z,21nm,0.8s
SUW Suwalki 79.49 327 *e*P **P 11 26 22.4 -0.3**
SUW Suwalki 79.49 327 *e*P **P 11 26 22.7 -0.1**
comp=Z,171nm,0.7s
SUW Suwalki 79.49 327 *e*P **P 11 26 22.7 -0.1**
SUW pmax pmax
comp=Z,171nm,0.7s
NC405 NORSAR Array S 79.58 337 *e*P **P 11 26 22.8 -0.3**
SURC SANLIURFA_SURC 79.59 306 *i*P **P 11 26 24.2 +0.5**
NC303 NORSAR Array S 79.62 337 *e*P **P 11 26 23.4 +0.1**
BEKR Beckworth 79.63 50 *e*P **P 11 26 24.5 +0.5**
comp=Z,26nm,0.8s
AFDM Forest Hills D 79.68 51 *e*P **P 11 26 24.5 +0.4**
comp=Z,14nm,0.7s
AFDM *e*pP **pP 11 28 13.9 +1.2**
NB201 NORSAR Array S 79.77 337 *e*P **P 11 26 23.6 -0.6**
NC204 NORSAR Array S 79.79 337 *e*P **P 11 26 23.9 -0.4**
DOMB Dombas 79.80 338 *e*P **P 11 26 24.1 -0.2**
NB2 NORSAR Subarra 79.80 337 P **P 11 26 23.6 -0.7**
comp=Z,33nm,0.5s,baz=44,slow=5.6
NB2 NORSAR Subarra 79.80 337 P **P 11 26 23.6 -0.7**
baz=44,slow=5.6
NB200 NORSAR Array S 79.80 337 *e*P **P 11 26 23.8 -0.6**
NOA NORSAR Array B 79.80 337 P **P 11 26 23.8 -0.6**
comp=Z,22nm,0.4s,baz=45,slow=4.7,SNR=176
MOL Molde 79.89 339 *e*P **P 11 26 25.2 +0.6**
NC602 NORSAR Array S 79.90 336 *e*P **P 11 26 23.9 -0.9**
NC602 NORSAR Array S 79.90 336 *e*P **P 11 26 23.9 -0.9**
MSO Missoula 80.01 42 *e*P **P 11 26 25.6 -0.2**
comp=Z,9.2nm,0.6s
MSO Missoula 80.01 42 P **P 11 26 25.7 -0.1**
baz=303,SNR=7.6
NAO01 NORSAR Array S 80.05 337 *e*P **P 11 26 24.9 -0.7**
RUBR Rubicon Trail 80.18 51 *e*P **P 11 26 27.8 +0.8**
comp=Z,39nm,0.8s
AKN Aaknes 80.36 339 *e*P **P 11 26 27.5 +0.3**
PAHR Pah Rah Range 80.36 50 *e*P **P 11 26 28.3 +0.4**
comp=Z,14nm,0.8s
VCNR Virginia City 80.39 50 *e*P **P 11 26 28.9 +0.8**
comp=Z,12nm,0.8s
SAO San Andreas Ge 80.44 53 *e*P **P 11 26 28.8 +0.8**
comp=Z,22nm,0.8s

SAO San Andreas Ge 80.44 53 *e*P **P 11 26 28.9 +0.8**
SAO pmax pmax
comp=Z,22nm,0.8s
PNTR Pine Nut 80.53 50 *e*P **P 11 26 30.0 +1.2**
comp=Z,37nm,0.7s
CMB Columbia Colle 80.53 52 *e*P **P 11 26 29.2 +0.6**
comp=Z,25nm,0.6s
CMB Columbia Colle 80.53 52 *e*P **P 11 26 29.2 +0.6**
CMB pmax pmax
comp=Z,25nm,0.6s
KIS Kishinev 80.58 319 *e*P **P 11 26 29.0 +0.4**
comp=Z,300nm,2.0s
KIS *ep*P **pP 11 28 18.0 +0.5**
KIS *i*S **S 11 35 52.0 -1.9**
KIS *es*S **sS 11 39 08.0 0.0**
KIS *eL* L 12 00 58.0
KIS LRM MLR 12 04 30.0
comp=Z,500nm,16.0s
KIS Kishinev 80.58 319 *e*P **P 11 26 29.0 +0.4**
KIS *e**PP **pP 11 28 18.0 +0.5**
KIS *e* 11 29 05.0
KIS *i*S **S 11 35 52.0 -1.9**
KIS pmax pmax
comp=Z,250nm,2.0s
KIS MLR MLR
comp=N,500nm,16.0s
KIS MLR MLR
comp=Z,500nm,16.0s
RAYN Ar Rayn 80.76 292 *e*P **P 11 26 30.6 +0.5**
comp=Z,155nm,0.6s
RAYN Ar Rayn 80.76 292 *i*P **P 11 26 30.6 +0.5**
SNR=174
RAYN Ar Rayn 80.76 292 *e*P **P 11 26 30.6 +0.5**
RAYN pmax pmax
comp=Z,155nm,0.6s
ILGA Ilgaz 80.79 312 *e*P **P 11 26 31.4 +1.3**
comp=Z,108nm,1.2s
YERR Yerington 80.83 50 *e*P **P 11 26 30.9 +0.6**
comp=Z,22nm,0.5s
WAKR Walker 80.94 51 *e*P **P 11 26 31.8 +0.9**
comp=Z,24nm,0.7s
PMPB Monarch Peak 81.16 53 *e*P **P 11 26 32.5 +0.6**
comp=Z,26nm,0.8s
LEOM Leova 81.20 319⇑*i*P **P 11 26 33.0 +1.2**
LEOM Leova 81.20 319⇑P **P 11 26 33.0 +1.2**
STRU Stroemstad 81.24 335 *e*P **P 11 26 30.2 -1.5**
HRY Holter Researc 81.28 41 *e*P **P 11 26 33.2 +0.8**
KONO Kongsberg 81.36 336 *e*P **P 11 26 32.9 +0.5**
comp=Z,28nm,0.9s
KONO Kongsberg 81.36 336⇑*e*P **P 11 26 32.0 -0.4**
KONO pmax pmax
comp=Z,82nm,1.8s
KONO Kongsberg 81.36 336 *e*P **P 11 26 32.2 -0.1**
HYA Hoyanger 81.37 339 *e*P **P 11 26 32.8 +0.4**
FFC Flin Flon 81.42 31 *e*P **P 11 26 32.8 0.0**
comp=Z,39nm,0.8s
FFC Flin Flon 81.42 31 *i*P **P 11 26 33.0 +0.2**
LRM Limekiln Ridge 81.43 42 *e*P **P 11 26 33.9 +0.5**
LRM *ep*P **pP 11 28 22.0 -0.5**
RYN Ryan 81.49 50 *e*P **P 11 26 34.4 +0.6**
comp=Z,29nm,1.1s
HLID Hailey 81.50 44 *e*P **P 11 26 34.8 +1.1**
comp=Z,23nm,0.6s
HLID Hailey 81.50 44 P **P 11 26 34.6 +0.9**
baz=303
BR101 Keskin Array S 81.53 311 *e*P **P 11 26 34.0 0.0**
BR101 *ep*P **pP 11 28 23.2 +0.1**
BR131 Keskin Array S 81.53 311 *e*P **P 11 26 34.0 +0.1**
BR131 Keskin Array S 81.53 311 P **P 11 26 34.0 +0.1**
SNR=44
BRTR Keskin Array B 81.53 311 P **P 11 26 34.0 +0.1**
comp=Z,79nm,0.7s,baz=100,slow=3.7,SNR=252
BRTR pP **pP 11 28 23.2 +0.1**
comp=Z,2.8nm,0.8s,baz=94,slow=4.2,SNR=1.8
KVN Kaiserville 81.55 50 *e*P **P 11 26 34.8 +0.7**
comp=Z,20nm,0.6s
KVN *e*S **S 11 36 05.4 +0.9**
KVN Kaiserville 81.55 50 *e*P **P 11 26 34.8 +0.7**
KVN *e*S **S 11 36 05.4 +0.9**
KVN pmax pmax
comp=Z,20nm,0.6s
LVV L'vov 81.57 323 *e*P **P 11 26 33.6 -0.1**
TLCR 81.59 318⇑*i*P **P 11 26 34.2 +0.3**
TLCR 81.59 318⇑P **P 11 26 34.2 +0.3**
DLMT Dillon 81.60 42 *e*P **P 11 26 34.8 +0.6**
comp=Z,39nm,0.8s
MDPB Devils Postpil 81.63 51 *e*P **P 11 26 35.0 +0.5**
comp=Z,22nm,1.0s
EGMT Eagleton 81.69 39 *e*P **P 11 26 34.9 +0.5**
comp=Z,47nm,0.7s
EGMT Eagleton 81.69 39 P **P 11 26 35.1 +0.6**
baz=306
OMMB Old Mammoth Mi 81.69 51 *e*P **P 11 26 36.0 +1.0**
comp=Z,30nm,1.3s
NV01 Mina Array Sit 81.74 50 *e*P **P 11 26 35.8 +0.7**
NVAR Mina Array Bea 81.74 50 P **P 11 26 35.8 +0.7**
comp=Z,22nm,0.8s,baz=293,slow=5.6,SNR=160
NVAR pP **pP 11 28 25.1 +0.7**
comp=Z,3.2nm,0.6s,baz=293,slow=5.4,SNR=3.8
NVAR PKKPbc **PKKPbc 11 45 02.4 0.0**
comp=Z,0.8nm,0.6s,baz=130,slow=2.5,SNR=8.7
MCMT McKenzie Canyo 81.75 43 *e*P **P 11 26 35.2 +0.2**
PAGB Antelope Grade 81.79 54 *e*P **P 11 26 36.5 +1.3**
comp=Z,45nm,1.0s
MLAC Mammoth, Mammo 81.80 51 P **P 11 26 36.1 +0.7**
baz=301,SNR=18
PRAR RASCA 81.83 320⇑*i*P **P 11 26 35.9 +0.8**
NV11 Mina Array Sit 81.84 50 *e*P **P 11 26 36.2 +0.7**
comp=Z,2.4nm,1.3s
BEL Belsk 81.97 326 *e*P **P 11 26 35.9 +0.2**
BEL Belsk 81.97 326 *e*P **P 11 26 35.9 +0.2**
CFR Carcaliu 81.99 318⇑*i*P **P 11 26 36.2 +0.3**
CFR Carcaliu 81.99 318⇑P **P 11 26 36.2 +0.3**
ANTO Ankara 82.01 311 *e*P **P 11 26 36.6 +0.4**
comp=Z,100nm,0.7s
ANTO Ankara 82.01 311⇓*i*P **P 11 26 36.4 +0.1**
ANTO Ankara 82.01 311 P **P 11 26 36.6 +0.4**
SNR=17
ANTO Ankara 82.01 311⇓P **P 11 26 36.4 +0.1**
BOZ Bozeman (W) 82.03 42 *e*P **P 11 26 35.8 -0.5**
comp=Z,34nm,0.7s
BOZ Bozeman (W) 82.03 42 *e*P **P 11 26 35.8 -0.5**
BOZ pmax pmax
comp=Z,34nm,0.7s
BOZ Bozeman (W) 82.03 42 P **P 11 26 36.4 0.0**
baz=305,SNR=14
BR231 Keskin MP Arra 82.04 311 *e*P **P 11 26 36.9 +0.4**
BIZ Bicaz 82.15 320⇓*i*P **P 11 26 37.4 +0.7**
ODD1 Odda 82.18 338 *e*P **P 11 26 37.0 +0.4**
SMMC Simmler 82.18 54 P **P 11 26 38.2 +1.0**
baz=301,SNR=6.7
PETR Petresti 82.21 319⇑*i*P **P 11 26 38.8 +1.8**
TIRR Tirgusor 82.23 317 *e*P **P 11 26 37.2 0.0**
comp=Z,216nm,1.7s
TIRR Tirgusor 82.23 317⇑*i*P **P 11 26 37.7 +0.5**
TIRR Tirgusor 82.23 317⇑P **P 11 26 37.7 +0.5**
BUR08 Bucovina Ar. S 82.24 321 *e*P **P 11 26 37.4 +0.1**
BUR04 Bucovina Ar. S 82.24 321 *e*P **P 11 26 37.6 +0.3**
BURAR Bucovina Array 82.24 321⇓*i*P **P 11 26 37.8 +0.5**
BURAR Bucovina Array 82.24 321⇓P **P 11 26 37.8 +0.5**
ODBI Odobesti 82.29 319⇑*i*P **P 11 26 38.8 +1.4**
KWP Kalwaria Pacla 82.37 324 *e*P **P 11 26 38.1 +0.3**
KWP Kalwaria Pacla 82.37 324 *e*P **P 11 26 38.1 +0.3**
TLB Topalu 82.38 317⇑*i*P **P 11 26 38.5 +0.6**
TLB Topalu 82.38 317⇑P **P 11 26 38.5 +0.6**
HARR Harsova 82.39 317⇑*i*P **P 11 26 38.6 +0.7**
HARR Harsova 82.39 317⇑P **P 11 26 38.6 +0.7**
VRI Vrincioaia 82.42 319⇑*i*P **P 11 26 39.0 +0.9**
VRI Vrincioaia 82.42 319⇑P **P 11 26 39.0 +0.9**
PLOR Plostina 82.47 319⇑*i*P **P 11 26 39.2 +0.8**
PLOR Plostina 82.47 319⇑P **P 11 26 39.2 +0.8**
BSD Bornholm Skovb 82.50 331 *i*P **P 11 26 37.7 -0.6**
comp=Z,101nm,0.9s
BSD Bornholm Skovb 82.50 331 *i*P **P 11 26 37.7 -0.6**
BSD pmax pmax
comp=Z,100nm,0.9s
TIN Tinemaha, Big 82.51 52 P **P 11 26 39.9 +1.0**
baz=302,SNR=8.6
PKM Mcpherson Peak 82.53 54 P **P 11 26 40.3 +1.2**
baz=301,SNR=8.1
VES Vestal, Richgr 82.55 53 P **P 11 26 39.3 +0.3**
baz=301,SNR=16
GRER 82.55 318⇑*i*P **P 11 26 40.4 +1.6**
QLMT Earthquake Lak 82.58 42 *e*P **P 11 26 40.3 +1.0**
BLS5 Blasjo 82.61 337 *e*P **P 11 26 38.3 -0.5**

YHB	Horse Butte	82.76	42	*e*P		P		11 26 41.5	+1.3	
	comp=Z,56nm,0.7s									
AMRR	Amara	82.78	318	⇑*i*P		P		11 26 40.0	+0.1	
AMRR	Amara	82.78	318	⇑P		P		11 26 40.0	+0.1	
PGOR	Pogoanele	82.82	318	⇑*i*P		P		11 26 41.8	+1.7	
SBC	Santa Barbara	82.83	54	P		P		11 26 40.6	+0.2	
	baz=301									
CWC	Cottonwood Cre	82.93	52	P		P		11 26 41.5	+0.4	
	baz=302									
YHH	Holmes Hill	82.94	42	*e*P		P		11 26 42.3	+1.1	
	comp=Z,15nm,0.7s									
YMR	Madison River	82.94	42	*e*P		P		11 26 42.5	+1.4	
	comp=Z,47nm,0.7s									
ISR	Istrita	82.95	318	⇑*i*P		P		11 26 42.1	+1.2	
ISR	Istrita	82.95	318	⇑P		P		11 26 42.1	+1.2	
ARCR	ARCALIA	83.03	321	⇑*i*P		P		11 26 42.1	+0.9	
GCMT	Greycliff	83.04	41	*e*P		P		11 26 42.5	+1.1	
ISA	Isabella, Lake	83.06	53	*e*P		P		11 26 41.3	-0.4	
	comp=Z,17nm,0.7s									
ISA	Isabella, Lake	83.06	53	*e*P		P		11 26 41.3	-0.4	
ISA					pmax	pmax				
	comp=Z,17nm,0.7s									
ISA	Isabella, Lake	83.06	53	P		P		11 26 41.5	-0.1	
	baz=302,SNR=28									
MLR	Muntele Rosu	83.08	319	*e*P		P		11 26 42.0	+0.4	
	comp=Z,43nm,0.8s									
MLR	Muntele Rosu	83.08	319	⇑*i*P		P		11 26 42.3	+0.7	
MLR	Muntele Rosu	83.08	319	⇑P		P		11 26 42.3	+0.7	
YNR	Norris Junctio	83.08	42	*e*P		P		11 26 43.1	+1.3	
	comp=Z,19nm,0.9s									
ARVC	Arvin	83.10	54	P		P		11 26 42.5	+0.7	
	baz=302,SNR=12									
DOPR	Dopca	83.12	320	⇑*i*P		P		11 26 43.0	+1.4	
GRAC	Grapevine Rang	83.12	51	P		P		11 26 42.9	+0.9	
	baz=302,SNR=6.2									
COP	Copenhagen	83.13	332	*i* P		P		11 26 41.1	-0.3	
	comp=Z,71nm,0.8s									
COP	Copenhagen	83.13	332	*i* P		P		11 26 41.1	-0.3	
COP					pmax	pmax				
	comp=Z,71nm,0.8s									
BMR	Baia Mare	83.14	322	⇑*i*P		P		11 26 43.0	+1.3	
BMR	Baia Mare	83.14	322	⇑P		P		11 26 43.0	+1.3	
YFT	Old Faithful	83.14	42	*e*P		P		11 26 43.4	+1.3	
	comp=Z,48nm,0.8s									
SNART	Snartemo	83.17	336	*e*P		P		11 26 41.6	+0.1	
UZH	Uzhgorod	83.20	323	*e*P		P		11 26 40.4	-1.5	
UZH				*e*				11 29 58.0		
UZH				*i* S		S		11 36 14.3	-5.7	
YPP	Pitchstone Pla	83.27	42	*e*P		P		11 26 44.0	+1.2	
	comp=Z,9.9nm,0.7s									
SECR		83.28	319	⇑*i*P		P		11 26 43.6	+1.2	
H17A	Grant Village	83.33	42	*e*P		P		11 26 43.9	+0.8	
	comp=Z,42nm,0.8s									
H17A	Grant Village	83.33	42	P		P		11 26 45.0	+1.9	
	baz=306,SNR=16									
LKWY	Lake	83.33	42	*e*P		P		11 26 44.6	+1.5	
	comp=Z,64nm,0.7s									
DAC	Darwin (Calif)	83.35	52	*e*P		P		11 26 43.6	+0.3	
	comp=Z,22nm,0.7s									
SULR		83.38	318	⇑*i*P		P		11 26 44.0	+1.1	
SFJD	Kangerlussuaq	83.38	3	*e*P		P		11 26 42.7	+0.3	
	comp=Z,66nm,0.7s									
SFJD	Kangerlussuaq	83.38	3	*i* P		P		11 26 42.7	+0.3	
	comp=Z,48nm,0.6s									
SFJD	Kangerlussuaq	83.38	3	*e*P		P		11 26 42.7	+0.3	
SFJD					pmax	pmax				
	comp=Z,65nm,0.7s									
TRPA	Tarpa	83.38	322	⇑*i*P		P		11 26 43.3	+0.5	
TRPA	Tarpa	83.38	322	⇓*ex*		P		11 26 42.8	0.0	
IMW	Indian Meadow	83.40	43	*e*P		P		11 26 44.8	+1.3	
	comp=Z,34nm,0.8s									
FLWY	Flagg Ranch	83.44	43	*e*P		P		11 26 45.3	+1.8	
	comp=Z,37nm,0.8s									
OSI	Osito Audit: C	83.44	54	*e*P		P		11 26 44.4	+0.9	
	comp=Z,51nm,0.8s									
OSI	Osito Audit: C	83.44	54	P		P		11 26 44.5	+0.9	
	baz=302,SNR=5.1									
OJC	Ojcow	83.48	325	*e*P		P		11 26 43.1	-0.2	
OJC	Ojcow	83.48	325	*e*P		P		11 26 43.0	-0.3	
	comp=Z,124nm,1.4s									
OJC	Ojcow	83.48	325	*e*P		P		11 26 43.1	-0.2	
HVU	Hansel Valley	83.50	45	*e*P		P		11 26 45.0	+1.2	
	comp=Z,56nm,0.6s									
HVU	Hansel Valley	83.50	45	*e*P		P		11 26 45.0	+1.2	
HVU					pmax	pmax				
	comp=Z,56nm,0.6s									
FXWY	Fox Creek	83.50	43	*e*P		P		11 26 45.1	+1.2	
	comp=Z,12nm,0.8s									
MPMC	Manual Prospec	83.54	52	P		P		11 26 44.8	+0.6	
	baz=302,SNR=47									
PRD	Provadia	83.55	316	*i* P		P		11 26 44.8	+1.0	
SNCC	San Nicolas Is	83.58	55	P		P		11 26 45.1	+0.9	
	baz=301									
R11A	Troy Canyon, C	83.59	49	*e*P		P		11 26 45.0	+0.6	
	comp=Z,17nm,0.8s									
R11A	Troy Canyon, C	83.59	49	P		P		11 26 45.1	+0.7	
	baz=303,SNR=58									
MOOW	Moose Ponds	83.60	43	*e*P		P		11 26 45.6	+1.2	
	comp=Z,15nm,0.9s									
VOIR		83.62	319	⇑*i*P		P		11 26 44.8	+0.5	
VOIR		83.62	319	⇑P		P		11 26 44.8	+0.5	
TPAW	Teton Pass	83.63	43	*e*P		P		11 26 45.9	+1.3	
	comp=Z,24nm,0.7s									
RLMT	Red Lodge	83.66	41	*e*P		P		11 26 45.7	+1.1	
	comp=Z,35nm,0.6s									
RLMT	Red Lodge	83.66	41	P		P		11 26 45.8	+1.1	
	baz=306,SNR=51									
LRMC	Laurel Mtn Rad	83.71	53	P		P		11 26 45.6	+0.6	
	baz=302,SNR=32									
NIE	Niedzica	83.73	324	*e*P		P		11 26 44.9	+0.2	
NIE	Niedzica	83.73	324	*e*P		P		11 26 44.9	+0.2	
FURC	Furnace Creek,	83.75	52	P		P		11 26 45.9	+1.0	
	baz=302,SNR=54									
REDW	Red Top Meadow	83.76	43	*e*P		P		11 26 46.2	+1.0	
	comp=Z,78nm,0.8s									
SNOW	Snow King Moun	83.76	43	*e*P		P		11 26 46.4	+1.1	
	comp=Z,20nm,0.8s									
LOHW	Long Hollow	83.77	43	*e*P		P		11 26 46.2	+1.0	
	comp=Z,12nm,0.8s									
EDW2	Edwards Air Fo	83.81	53	P		P		11 26 45.9	+0.6	
	baz=302,SNR=43									
BGU	Big Grassy Mou	83.82	46	*e*P		P		11 26 46.5	+1.0	
	comp=Z,14nm,0.7s									
MUD	Monsted U'grnd	83.85	334	*i* P		P		11 26 44.4	-0.6	
	comp=Z,40nm,0.9s									
MUD	Monsted U'grnd	83.85	334	*i* P		P		11 26 44.4	-0.6	
MUD					pmax	pmax				
	comp=Z,40nm,0.9s									
ARR	Arges	83.90	319	⇑*i*P		P		11 26 47.0	+1.4	
DECC	Green Verdugo	83.90	54	P		P		11 26 46.2	+0.4	
	baz=302,SNR=12									
TPNV	Topopah Spring	83.91	51	*e*P		P		11 26 46.4	+0.4	
	comp=Z,37nm,0.6s									
TPNV	Topopah Spring	83.91	51	*e*P		P		11 26 46.4	+0.4	
TPNV					pmax	pmax				
	comp=Z,37nm,0.6s									
TPNV	Topopah Spring	83.91	51	P		P		11 26 46.4	+0.4	
	baz=303,SNR=65									
AHID	Auburn Hatcher	83.96	44	*e*P		P		11 26 47.0	+0.8	
	comp=Z,17nm,0.8s									
PASC	Pasadena Art C	84.05	54	*e*P		P		11 26 47.0	+0.5	
	comp=Z,23nm,0.6s									
PPT2	Papeete2	84.10	114	*e*S		S		11 36 29.0	-0.9	
	comp=Z,974nm,25.2s									
MWC	Mount Wilson	84.11	54	*e*P		P		11 26 47.3	+0.2	
	comp=Z,29nm,0.6s									
MWC	Mount Wilson	84.11	54	*e*P		P		11 26 47.3	+0.2	
MWC					pmax	pmax				
	comp=Z,29nm,0.6s									
FMP	Fort Macarthur	84.21	54	P		P		11 26 48.0	+0.7	
	baz=302,SNR=5.1									
CSS	Mathiatis	84.26	307	*e*P		P		11 26 47.4	-0.1	
	comp=Z,70nm,0.7s									
CIS	Catalina Islan	84.29	55	P		P		11 26 48.1	+0.3	
	baz=302									
LANS	Liptovska Anna	84.33	325	*e*P		P		11 26 48.3	+0.7	
LANS	Liptovska Anna	84.33	325	*e*P		P		11 26 48.3	+0.7	
LOT	Lotru	84.34	320	⇑*i*P		P		11 26 47.8	0.0	
HWUT	Hardware Ranch	84.34	45	*e*P		P		11 26 49.0	+0.9	
	comp=Z,40nm,0.8s									
DUG	Dugway, Tooele	84.36	47	*e*P		P		11 26 48.9	+0.7	
	comp=Z,23nm,0.8s									
DUG	Dugway, Tooele	84.36	47	P		P		11 26 48.8	+0.7	
	baz=304									
DGMT	Dagmar	84.37	36	*e*P		P		11 26 48.0	+0.2	
	comp=Z,94nm,1.6s									
DGMT	Dagmar	84.37	36	P		P		11 26 48.3	+0.4	
	baz=309									
BFSC	Mount Baldy Ra	84.38	54	P		P		11 26 49.0	+0.6	
	baz=302,SNR=12									
SZH	Strazhica	84.39	317	*i* P		P		11 26 48.3	+0.3	
GSC	Goldstone, Bar	84.41	52	*e*P		P		11 26 48.6	+0.2	
	comp=Z,27nm,0.8s									
GSC	Goldstone, Bar	84.41	52	*e*P		P		11 26 48.6	+0.2	
GSC					pmax	pmax				
	comp=Z,27nm,0.8s									
GSC	Goldstone, Bar	84.41	52	P		P		11 26 49.0	+0.6	
	baz=303,SNR=30									
LAO	LASA Array	84.41	39	*e*P		P		11 26 49.0	+0.9	
	comp=Z,121nm,1.8s									
LAO	LASA Array	84.41	39	P		P		11 26 49.3	+1.1	
	baz=308									
LRW	Lerwick	84.42	341	*e*P		P		11 26 48.2	+0.5	
LRW					IAmb	IAmb		11 26 55.4		
	comp=Z,147nm,1.5s									
SHOC	Shoshone, Teco	84.45	52	P		P		11 26 49.2	+0.7	
	baz=303,SNR=17									
JMB	Yambol	84.47	316	*i* P		P		11 26 47.9	-0.5	
OKC	Ostrava-Krasne	84.54	326	AMS		AMS		12 09 30.0		
	comp=Z,500nm,16.0s									
PSUT	Pine Spring	84.63	48	*e*P		P		11 26 50.2	+0.7	
	comp=Z,12nm,0.8s									
TCUT	Toone Canyon	84.72	45	*e*P		P		11 26 51.0	+1.0	
	comp=Z,43nm,0.7s									
CTU	Camp Tracy	84.75	46	*e*P		P		11 26 51.1	+1.1	
	comp=Z,21nm,0.8s									
KSP	Ksiaz	84.76	327	*e*P		P		11 26 49.3	-0.4	
KSP	Ksiaz	84.76	327	*e*P		P		11 26 49.3	-0.4	
MORC	Moravsky Berou	84.87	326	*e*P		P		11 26 50.1	-0.1	
	comp=Z,80nm,1.7s									
MORC	Moravsky Berou	84.87	326	⇑*i*P		P		11 26 50.2	-0.1	
MORC	Moravsky Berou	84.87	326	⇑P		P		11 26 50.2	-0.1	
MORC	Moravsky Berou	84.87	326	⇓*i*P		P		11 26 50.0	-0.3	
BW06	Boulder Array	84.88	43	*e*P		P		11 26 50.8	+0.1	
	comp=Z,12nm,0.8s									
BW06	Boulder Array	84.88	43	P		P		11 26 51.2	+0.4	
	baz=306									
PD31	Pinedale Array	84.88	43	*e*P		P		11 26 50.7	0.0	
PDAR	Pinedale Array	84.88	43	P		P		11 26 50.9	+0.2	
	comp=Z,8.0nm,0.6s,baz=286,slow=2.5,SNR=86									
PDAR					pP	pP		11 28 42.4	+1.3	
	comp=Z,1.8nm,0.6s,baz=267,slow=1.8,SNR=3.9									
PDAR					PKKPbc	PKKPbc		11 44 54.8	-0.7	
	comp=Z,0.3nm,0.4s,baz=112,slow=4.0,SNR=5.9									
SHPR	Sheep Range	84.88	51	*e*P		P		11 26 51.9	+1.2	
	comp=Z,14nm,0.7s									
BBRC	Big Bear Solar	84.89	53	P		P		11 26 51.2	+0.3	
	baz=303,SNR=15									
PSZ	Piszkesteto	84.89	323	*e*P		P		11 26 50.5	+0.1	
	comp=Z,116nm,1.7s									
PSZ	Piszkesteto	84.89	323	⇑*i*P		P		11 26 50.6	+0.1	
PSZ	Piszkesteto	84.89	323	⇓*ex*		P		11 26 50.0	-0.5	
PSZ	Piszkesteto	84.89	323	⇑P		P		11 26 50.6	+0.1	
GZR	Gura Zlata	84.92	320	⇑*i*P		P		11 26 50.2	-0.5	
GZR	Gura Zlata	84.92	320	⇑P		P		11 26 50.2	-0.5	
TUQ	Turquoise Moun	84.94	52	P		P		11 26 51.8	+0.7	
	baz=303,SNR=14									
NLU	North Lily Min	84.97	47	*e*P		P		11 26 52.2	+1.0	
	comp=Z,18nm,1.1s									
JLU	Jordanelle	84.99	46	*e*P		P		11 26 52.5	+1.1	
	comp=Z,15nm,0.7s									
JLU				*e*pP		pP		11 28 43.2	+1.5	
HEC	Hector,Ludlow	84.99	53	P		P		11 26 52.0	+0.8	
	baz=303,SNR=12									
SIRR	Siria	85.00	321	⇑*i*P		P		11 26 51.6	+0.7	
KRLC	Kraliky	85.04	326	*e*P		P		11 26 50.8	-0.3	
KRLC	Kraliky	85.04	326	*e*P		P		11 26 50.8	-0.3	
MURC	Murrieta	85.05	54	P		P		11 26 52.1	+0.7	
	baz=302,SNR=14									
VYHS	Vyhne	85.07	324	*e*P		P		11 26 50.8	-0.4	
VYHS					pmax	pmax				
	comp=Z,69nm,1.7s									
VYHS	Vyhne	85.07	324	*e*P		P		11 26 50.8	-0.4	
DPC	Dobruska-Polom	85.08	327	*e*P		P		11 26 51.0	-0.3	
DPC				*e*S		S		11 36 34.7	-3.8	
DPC				*e*XS		sS		11 39 52.4	-2.8	
DPC					AMS	AMS		12 05 00.0		
	comp=Z,500nm,16.6s									
DPC	Dobruska-Polom	85.08	327	*e*P		P		11 26 51.0	-0.3	
DPC				*e*				11 36 34.7		
DPC					MLR	MLR				
	comp=Z,500nm,16.6s									
MPU	Maple Canyon	85.21	46	*e*P		P		11 26 53.4	+1.1	
	comp=Z,13nm,0.7s									
MPU				*e*pP		pP		11 28 45.2	+2.4	
JAVC	Velka Javorina	85.41	325	⇓*i*P		P		11 26 53.6	+0.6	
BZS	Buzias	85.43	321	⇑*i*P		P		11 26 52.4	-0.6	
BZS	Buzias	85.43	321	⇑P		P		11 26 52.4	-0.6	
HERR	Herculane	85.44	320	⇑*i*P		P		11 26 51.4	-1.7	
GMRC	Granite Mounta	85.48	52	P		P		11 26 54.4	+0.7	
	baz=303,SNR=12									
109C	Camp Elliot, M	85.49	55	P		P		11 26 54.1	+0.6	
	baz=303									
CPE	Camp Elliot	85.49	55	*e*P		P		11 26 54.4	+0.8	
	comp=Z,16nm,0.9s									
CCUT	Cedar City	85.50	49	*e*P		P		11 26 54.9	+1.1	
	comp=Z,8.5nm,1.0s									
MANT	Manisa	85.52	312	*e*P		P		11 26 53.4	-0.5	
	comp=Z,42nm,0.7s									
FRD	Ford Ranch, An	85.52	54	P		P		11 26 54.6	+0.8	
	baz=303,SNR=10									
PFO	Pinyon Flats O	85.56	54	*e*P		P		11 26 54.6	+0.6	
	comp=Z,27nm,0.7s									
PFO	Pinyon Flats O	85.56	54	*i* P		P		11 26 54.9	+0.8	
PFO	Pinyon Flats O	85.56	54	P		P		11 26 54.7	+0.6	
	baz=303,SNR=25									
VRAC	Vranov	85.65	326	⇑*i*P		P		11 26 54.1	+0.1	
VRAC	Vranov	85.65	326	⇑P		P		11 26 54.1	+0.1	
VRAC	Vranov	85.65	326	⇓*i*P		P		11 26 53.7	-0.3	
KDZ	Kurdzhali	85.65	316	*i* P		P		11 26 57.9	+3.7	
SZCU	Shurtz Canyon	85.65	49	*e*P		P		11 26 54.9	+0.4	
	comp=Z,7.4nm,1.1s									
BELC	Belle Mtn. Jos	85.67	53	P		P		11 26 55.2	+0.5	
	baz=303,SNR=21									
ALN	Alexandroupoli	85.71	315	*e*P		P		11 26 53.9	-0.5	
	comp=Z,6.8nm,0.8s									
ALN	Alexandroupoli	85.71	315	*e*P		P		11 26 53.9	-0.5	
ALN					pmax	pmax				
	comp=Z,7.0nm,0.8s									
MSU	Marysvale	85.72	48	*e*P		P		11 26 56.0	+1.1	
PVCC	Panska Ves	85.78	328	*e*P		P		11 26 54.8	+0.2	
PVCC				*e*XS		sS		11 40 03.6	+1.4	
PVCC	Panska Ves	85.78	328	*e*P		P		11 26 54.8	+0.2	
BRG	Berggiesshubel	85.83	328	*e*P		P		11 26 54.3	-0.5	
	comp=Z,70nm,1.6s									
BRG				*e*P		sP		11 29 35.0	-1.9	
BRG				S		S		11 36 41.0	-4.6	
BRG				*i*				11 40 00.0		
BRG				SS		SS		11 42 30.0	-5.9	
BRG	Berggiesshubel	85.83	328	*e*P		P		11 26 54.3	-0.5	
BRG				*SP		sP		11 29 35.0	-1.9	
BRG				S		S		11 36 41.0	-4.6	
BRG				pmax		pmax				
	comp=Z,70nm,1.6s									
PGB	Panagyurishte	85.86	317	*i* P		P		11 26 54.9	-0.3	
LCMT	Little Creek M	85.88	49	*e*P		P		11 26 56.6	+1.0	
	comp=Z,15nm,0.9s									
TMUT	Trail Mountain	85.89	47	*e*P		P		11 26 56.6	+0.8	
	comp=Z,33nm,2.0s									
MDVR	Moldovita	85.90	320	⇑*i*P		P		11 26 54.9	-0.4	
KRUC	Moravsky	85.91	326	⇓*i*P		P		11 26 54.8	-0.4	
BAR	Barrett	85.91	55	*e*P		P		11 26 56.3	+0.7	
	comp=Z,16nm,0.8s									
MODS	Modra-Piesok	85.93	325	*e*P		P		11 26 54.8	-0.6	
MODS					pmax	pmax				
	comp=Z,178nm,2.0s									
MODS	Modra-Piesok	85.93	325	*e*P		P		11 26 54.8	-0.6	
CLL	Collm	85.96	329	*e*P		P		11 26 54.5	-1.0	
	comp=Z,67nm,1.4s									
CLL	Collm	85.96	329	⇓*i*P		P		11 26 54.4	-1.0	
	comp=Z,141nm,1.8s									
CLL				*e*(pP)		pP		11 28 53.0	+6.9	
CLL				*e*sP		sP		11 29 35.0	-2.5	
CLL				*e*PP		PP		11 30 23.0	-0.5	
CLL				*e*sPP				11 32 53.0		
CLL				*e*SKSac		SKSac		11 36 30.0	-2.9	
CLL				*e*S		S		11 36 49.0	+2.3	
CLL				*e*				11 37 41.0		
CLL				*e*				11 39 06.0		
CLL				*e*sS		sS		11 40 02.0	-1.9	
CLL				*e*sPS				11 40 54.0		
CLL				*e*SS		SS		11 42 36.0	-1.6	
CLL				*e*sSS				11 45 25.0		
CLL				*e*SSS		SSS		11 46 30.0		
CLL				*e*				11 48 24.0		
CLL				*e*SSSS				11 49 36.0		
CLL	Collm	85.96	329	⇓*i*P		P		11 26 54.4	-1.0	
CLL				*e**SP		sP		11 29 32.0	-5.5	
CLL				*e*				11 36 30.0		
CLL				*e*S		S		11 36 49.0	+2.3	
CLL					pmax	pmax				
	comp=Z,141nm,1.8s									
MONP2	Monument Peak	85.98	54	P		P		11 26 57.0	+0.8	
	baz=303,SNR=15									
DAMY	Dhamar	85.99	284	*e*P		P		11 26 56.2	-0.4	
	comp=Z,39nm,1.0s									
MTPU	Mount Pierson	85.99	48	*e*P		P		11 26 56.8	+0.5	
	comp=Z,40nm,1.8s									
RZN	Rozhen	86.05	316	*i* P		P		11 26 55.7	-0.6	
P17A	Butcher Ranch,	86.09	46	*e*P		P		11 26 57.7	+1.1	
	comp=Z,17nm,0.8s									
KNB	Kanab	86.16	49	*e*P		P		11 26 58.1	+1.2	
	comp=Z,24nm,0.8s									
IRM	Iron Mountain	86.18	53	P		P		11 26 57.6	+0.7	
	baz=304,SNR=6.4									
TREC	Trest	86.19	326	*e*P		P		11 26 56.6	0.0	
TREC	Trest	86.19	326	*e*P		P		11 26 56.6	0.0	
BC3	Big Chuckawall	86.24	53	P		P		11 26 57.9	+0.6	
	baz=303,SNR=7.7									
PKCU	Pink Cliffs	86.25	49	*e*P		P		11 26 58.8	+1.3	
	comp=Z,49nm,1.7s									
IKP	In-Ko-Pah, Jac	86.33	54	P		P		11 26 58.6	+0.9	
	baz=303,SNR=9.8									
VTS	Vitosha	86.39	318	*e*P		P		11 26 57.9	0.0	
	comp=Z,44nm,1.4s									
VTS	Vitosha	86.39	318	⇑*i*P		P		11 26 58.0	+0.1	
VTS	Vitosha	86.39	318	⇑P		P		11 26 58.0	+0.1	
SRU	San Rafael Swe	86.43	47	*e*P		P		11 26 58.6	+0.4	
	comp=Z,10nm,0.8s									
SRU	San Rafael Swe	86.43	47	*e*P		P		11 26 58.6	+0.4	
SRU					pmax	pmax				
	comp=Z,10.0nm,0.8s									
W13A	Hualapai Mount	86.52	51	*e*P		P		11 26 58.0	-0.7	
	comp=Z,12nm,1.5s									
MORH	M˝r˙igy, Hung	86.65	323	⇓*ex*		P		11 26 57.8	-1.0	
MMB	Musomiste	86.70	317	*i* P		P		11 26 58.5	-0.7	
K22A	Casper	86.73	42	*e*P		P		11 26 59.9	+0.4	
	comp=Z,22nm,0.6s									
K22A	Casper	86.73	42	P		P		11 26 60.0	+0.4	
	baz=308									
SOP	Sopron	86.75	325	⇓*ex*		P		11 26 58.8	-0.5	
Y12C	Blythe	86.83	53	*e*P		P		11 27 00.5	+0.5	
	comp=Z,17nm,1.0s									
Y12C	Blythe	86.83	53	P		P		11 27 00.7	+0.7	
	baz=304,SNR=9.5									
U15A	North Rim	86.84	50	*e*P		P		11 27 00.2	-0.1	
	comp=Z,14nm,1.0s									
KKB	Krupnik	86.91	317	*i* P		P		11 26 59.7	-0.5	
RWWY	Rawlins	86.92	43	*e*P		P		11 27 00.5	0.0	
	comp=Z,17nm,0.7s									
CONA	Conrad Observa	86.93	325	*i* PcP		P		11 27 00.1	-0.1	
	comp=Z,27nm,0.8s,SNR=19									
NKC	Novy Kostel	86.97	328	*e*P		P		11 27 00.5	+0.2	
NKC				*e*S		S		11 36 53.2	-3.2	
NKC				*e*SP		SPn		11 37 58.0	-1.4	
NKC				*e*XS		sS		11 40 15.7	+1.6	
NKC	Novy Kostel	86.97	328	*e*P		P		11 27 00.5	+0.2	
NKC				*e*				11 36 53.2		
NKC				*e*				11 37 58.0		
GLA	Glamis	87.01	53	*e*P		P		11 27 01.0	+0.2	
	comp=Z,19nm,1.0s									
GLA	Glamis	87.01	53	*e*P		P		11 27 01.0	+0.2	
GLA					pmax	pmax				
	comp=Z,19nm,1.0s									
GLA	Glamis	87.01	53	P		P		11 27 01.2	+0.4	
	baz=304									
RSC	Scourie	87.04	342	*e*P		P		11 27 00.7	+0.3

	comp=Z,18nm,0.8s								
PV03	**Paradox Valley**	**88.00**	**46**	*e*P	**P**	**11 27 06.2**	**+0.6**
KPL	**Plockton**	**88.04**	**341**	*e*P	**P**	**11 27 04.3**	**-0.7**
KPL				IAmb	IAmb	11 27 07.9	
	comp=Z,99nm,0.7s						
KPL	**Plockton**	**88.04**	**341**	*e*P	**P**	**11 27 04.6**	**-0.4**
PV13	**Radium Mtn., P**	**88.07**	**46**	*e*P	**P**	**11 27 06.5**	**+0.6**
	comp=Z,16nm,0.7s						
PV02	**Paradox Valley**	**88.10**	**46**	*e*P	**P**	**11 27 07.0**	**+0.9**
	comp=Z,9.8nm,0.7s						
N23A	**Red Feather La**	**88.16**	**43**	*e*P	**P**	**11 27 07.5**	**+1.1**
	comp=Z,24nm,0.8s						
N23A				*e*pP	**pP**	**11 28 58.5**	**+0.7**
N23A	**Red Feather La**	**88.16**	**43**	P	**P**	**11 27 07.5**	**+1.1**
	baz=309						
PERS	**Pernice**	**88.18**	**325**	*e*P	**P**	**11 27 05.7**	**-0.4**
PERS	**Pernice**	**88.18**	**325**	*e*P	**P**	**11 27 05.7**	**-0.4**
SOKA	**Soboth**	**88.20**	**325**	*i* P	**P**	**11 27 05.5**	**-0.7**
	comp=Z,50nm,1.0s,SNR=12						
PV01	**Paradox Valley**	**88.24**	**46**	*e*P	**P**	**11 27 07.3**	**+0.5**
KRUS	**Krusevo**	**88.30**	**318**	*i* P	**P**	**11 27 05.5**	**-1.3**
ESY	**Stoneypath**	**88.35**	**339**	*e*P	**P**	**11 27 06.8**	**+0.2**
LIT	**Litokhoron**	**88.35**	**316**	*e*P	**P**	**11 27 05.7**	**-1.3**
	comp=Z,53nm,0.6s						
LIT	**Litokhoron**	**88.35**	**316**	*e*P	**P**	**11 27 05.7**	**-1.3**
LIT				pmax	pmax		
	comp=Z,53nm,0.6s						
BLY	**Banja Luka**	**88.39**	**322**	*e*P	**P**	**11 27 06.4**	**-0.5**
	comp=Z,26nm,1.0s						
X16A	**Lo Mia Camp, P**	**88.56**	**51**	*e*P	**P**	**11 27 07.8**	**-0.5**
	comp=Z,9.4nm,1.1s						
AGMN	**Agassiz Nation**	**88.59**	**33**	*e*P	**P**	**11 27 07.1**	**-0.7**
	comp=Z,20nm,0.9s						
AGMN	**Agassiz Nation**	**88.59**	**33**	P	**P**	**11 27 08.0**	**+0.2**
	baz=315,SNR=7.0						
FNA	**Florina**	**88.59**	**317**	*e*P	**P**	**11 27 07.7**	**-0.4**
	comp=Z,79nm,2.0s						
FNA	**Florina**	**88.59**	**317**	*e*P	**P**	**11 27 07.7**	**-0.4**
FNA				pmax	pmax		
	comp=Z,79nm,2.0s						
SMCO	**Snowmass**	**88.60**	**45**	*e*P	**P**	**11 27 08.9**	**+0.3**
	comp=Z,11nm,0.8s						
EAB	**Aberfoyle**	**88.64**	**340**	*e*P	**P**	**11 27 07.9**	**0.0**
KBA	**Koelnbreinsper**	**88.76**	**326**	*i* P	**P**	**11 27 07.7**	**-1.2**
	comp=Z,8.4nm,0.4s,SNR=7.5						
PDG	**Podgorica**	**88.77**	**320⇑**	*i* P	**P**	**11 27 08.2**	**-0.6**
ATD	**Arta Tunnel**	**88.79**	**282**	*e*P	**P**	**11 27 12.4**	**+2.9**
	comp=Z,70nm,1.7s						
MVCO	**Mesa Verde**	**88.84**	**47**	*e*P	**P**	**11 27 10.4**	**+0.8**
	comp=Z,40nm,1.9s						
MVCO	**Mesa Verde**	**88.84**	**47**	P	**P**	**11 27 10.2**	**+0.6**
	baz=307						
BOJS	**Bojanci**	**88.89**	**324**	*i* P	**P**	**11 27 08.9**	**-0.4**
BOJS	**Bojanci**	**88.89**	**324**	*i* P	**P**	**11 27 08.9**	**-0.4**
LAWE	**Loch Awe, Argy**	**88.89**	**341**	*e*P	**P**	**11 27 08.9**	**-0.1**
VISS	**Visnje**	**88.89**	**324**	*i* P	**P**	**11 27 08.8**	**-0.5**
VISS	**Visnje**	**88.89**	**324**	*i* P	**P**	**11 27 08.8**	**-0.5**
MYKA	**Terra Mystica**	**88.92**	**325**	*i* P	**P**	**11 27 08.1**	**-1.4**
	comp=Z,13nm,0.4s,SNR=7.8						
214A	**Organ Pipe Nat**	**89.03**	**53**	P	**P**	**11 27 10.7**	**+0.4**
	baz=305						
ESK	**Eskdalemuir**	**89.03**	**339**	*e*P	**P**	**11 27 10.1**	**+0.4**
ESK				IAmb	IAmb	11 27 12.9	
	comp=Z,19nm,0.8s						
ISCO	**Idaho Springs**	**89.04**	**44**	*e*P	**P**	**11 27 10.8**	**+0.2**
	comp=Z,9.3nm,0.8s						
ISCO	**Idaho Springs**	**89.04**	**44**	*e*P	**P**	**11 27 10.8**	**+0.2**
ISCO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ISCO	**Idaho Springs**	**89.04**	**44**	P	**P**	**11 27 10.7**	**+0.1**
	baz=309,SNR=6.2						
BHH	**Howats Hill**	**89.22**	**339**	*e*P	**P**	**11 27 10.8**	**+0.1**
JAVS	**Javornik**	**89.22**	**325**	*e*P	**P**	**11 27 09.6**	**-1.4**
JAVS	**Javornik**	**89.22**	**325**	*e*P	**P**	**11 27 09.6**	**-1.4**
ABTA	**Abfaltersbach**	**89.40**	**326**	*i* P	**P**	**11 27 10.2**	**-1.6**
	comp=Z,21nm,0.6s,SNR=13						
WATA	**Walderalm**	**89.43**	**327**	*i* PcP	**P**	**11 27 11.6**	**-0.4**
	comp=Z,11nm,0.6s,SNR=5.7						
WTTA	**Wattenberg**	**89.45**	**327**	*i* P	**P**	**11 27 11.1**	**-1.0**
	comp=Z,24nm,1.1s						
MEM	**Membach**	**89.48**	**332**	⇓P	**P**	**11 27 10.9**	**-1.0**
STU	**Stuttgart**	**89.49**	**329**	*e*P	**P**	**11 27 11.5**	**-0.5**
	comp=Z,234nm,2.0s						
STU	**Stuttgart**	**89.49**	**329**	*e*P	**P**	**11 27 11.5**	**-0.5**
STU				pmax	pmax		
	comp=Z,234nm,2.0s						
X18A	**Snowflake**	**89.50**	**50**	*e*P	**P**	**11 27 13.3**	**+0.7**
	comp=Z,5.6nm,0.8s						
S22A	**4UR Ranch, Cre**	**89.57**	**46**	*e*P	**P**	**11 27 14.0**	**+1.0**
	comp=Z,11nm,1.0s						
S22A	**4UR Ranch, Cre**	**89.57**	**46**	P	**P**	**11 27 13.8**	**+0.8**
	baz=308,SNR=15						
MOTA	**Moosalm**	**89.65**	**327**	*i* P	**P**	**11 27 11.8**	**-1.2**
	comp=Z,11nm,0.7s,SNR=7.4						
HPK	**Haverah Park**	**89.66**	**338**	*e*P	**P**	**11 27 12.0**	**-0.7**
SQTA	**Sankt Quirin**	**89.69**	**327**	*i* P	**P**	**11 27 12.1**	**-1.0**
	comp=Z,26nm,0.8s,SNR=10						
RETA	**Reutte**	**89.71**	**327**	*i* P	**P**	**11 27 12.4**	**-0.8**
	comp=Z,50nm,1.5s,SNR=13						
SUSD	**Miller**	**89.75**	**37**	P	**P**	**11 27 13.4**	**+0.1**
	baz=313						
Q24A	**Divide**	**89.85**	**44**	*e*P	**P**	**11 27 14.6**	**+0.3**
	comp=Z,7.1nm,0.8s						
Q24A	**Divide**	**89.85**	**44**	P	**P**	**11 27 14.8**	**+0.4**
	baz=309,SNR=6.9						
BCLA	**Clavier**	**89.92**	**332**	⇑P	**P**	**11 27 13.6**	**-0.4**
FETA	**Feichten**	**90.06**	**327**	*i* PcP	**P**	**11 27 14.1**	**-0.8**
	comp=Z,33nm,0.9s,SNR=14						
CLGH	**Cloghs, Cushen**	**90.11**	**340**	*e*P	**P**	**11 27 15.1**	**+0.3**
CLGH				IAmb	IAmb	11 27 16.5	
	comp=Z,39nm,0.8s						
WLF	**Walferdange**	**90.14**	**331**	*e*P	**P**	**11 27 14.6**	**-0.4**
	comp=Z,97nm,1.6s						
WLF	**Walferdange**	**90.14**	**331**	⇓P	**P**	**11 27 15.2**	**+0.2**
	comp=Z,35nm,1.7s						
LBWR	**Ladybower, Pea**	**90.15**	**337**	*e*P	**P**	**11 27 14.6**	**-0.4**
LBWR				IAmb	IAmb	11 27 17.5	
	comp=Z,76nm,1.1s						
BFO	**Black Forest**	**90.20**	**329**	*e*P	**P**	**11 27 14.5**	**-0.9**
	comp=Z,26nm,0.7s						
BFO	**Black Forest**	**90.20**	**329**	*i* P	**P**	**11 27 14.8**	**-0.6**
TUC	**Tucson**	**90.23**	**52**	*e*P	**P**	**11 27 16.7**	**+0.8**
	comp=Z,11nm,0.9s						
TUC	**Tucson**	**90.23**	**52**	*e*P	**P**	**11 27 16.7**	**+0.8**
TUC				pmax	pmax		
	comp=Z,11nm,0.9s						
TUC	**Tucson**	**90.23**	**52**	P	**P**	**11 27 16.7**	**+0.8**
	baz=306						
SNF	**Seneffe**	**90.26**	**333**	⇑P	**P**	**11 27 15.3**	**-0.2**
DAVA	**Damuels**	**90.26**	**328**	*i* PcP	**P**	**11 27 15.1**	**-0.8**
	comp=Z,67nm,1.1s,SNR=16						
SDCO	**Great Sand Dun**	**90.40**	**45**	*e*P	**P**	**11 27 17.1**	**+0.2**
	comp=Z,9.3nm,0.8s						
SDCO	**Great Sand Dun**	**90.40**	**45**	P	**P**	**11 27 17.4**	**+0.5**
	baz=309,SNR=13						
OGNE	**Ogallala**	**90.41**	**41**	*e*P	**P**	**11 27 16.8**	**+0.2**
	comp=Z,30nm,0.7s						
OGNE	**Ogallala**	**90.41**	**41**	P	**P**	**11 27 17.0**	**+0.4**
	baz=311,SNR=8.9						
DOU	**Dourbes**	**90.46**	**332**	⇑P	**P**	**11 27 16.1**	**-0.4**
ITM	**Ithomi**	**90.51**	**314**	*e*P	**P**	**11 27 15.8**	**-1.2**
	comp=Z,39nm,0.8s						
CWF	**Charnwood Fore**	**90.56**	**337**	*e*P	**P**	**11 27 16.3**	**-0.6**
CWF				IAmb	IAmb	11 27 17.2	
	comp=Z,38nm,0.9s						
FUORN	**Ofenpass-Fuorn**	**90.57**	**327**	*e*P	**P**	**11 27 17.4**	**0.0**
	comp=Z,70nm,1.0s						
ECH	**Echery**	**90.81**	**330**	*e*P	**P**	**11 27 17.1**	**-1.1**
	comp=Z,53nm,1.4s						
ECH	**Echery**	**90.81**	**330**	*e*P	**P**	**11 27 17.1**	**-1.1**
ECH				pmax	pmax		
	comp=Z,53nm,1.4s						
EYMN	**Ely**	**90.84**	**31**	P	**P**	**11 27 18.5**	**+0.2**
	baz=319						
FOEL	**Foel Wylfa**	**91.07**	**338**	*e*P	**P**	**11 27 18.2**	**-1.0**
FOEL				IAmb	IAmb	11 27 20.0	
	comp=Z,59nm,0.8s						
TUE	**Stuetta**	**91.11**	**327**	*e*P	**P**	**11 27 18.8**	**-1.0**
	comp=Z,175nm,1.8s						
WLF1	**Llynfaes**	**91.12**	**339**	*e*P	**P**	**11 27 19.1**	**-0.4**
WLF1				IAmb	IAmb	11 27 21.5	
	comp=Z,62nm,0.9s						
HLM1	**Long Mynd**	**91.28**	**337**	*e*P	**P**	**11 27 19.9**	**-0.3**
LAZ	**Ladron**	**91.43**	**49**	*e*P	**P**	**11 27 22.8**	**+1.2**
ECSD	**EROS Data Cent**	**91.45**	**36**	*e*P	**P**	**11 27 21.3**	**+0.1**
	comp=Z,12nm,1.1s						
ECSD	**EROS Data Cent**	**91.45**	**36**	P	**P**	**11 27 21.4**	**+0.1**
	baz=315,SNR=6.5						
T25A	**Trinidad**	**91.45**	**45**	*e*P	**P**	**11 27 22.3**	**+0.7**
	comp=Z,11nm,0.9s						
T25A	**Trinidad**	**91.45**	**45**	P	**P**	**11 27 22.3**	**+0.7**
	baz=310,SNR=7.1						
ANMO	**Albuquerque**	**91.53**	**48**	P	**P**	**11 27 22.6**	**+0.5**
	comp=Z,18nm,0.7s,baz=283,slow=3.6,SNR=87						
ANMO	**Albuquerque**	**91.53**	**48**	*e*P	**P**	**11 27 22.8**	**+0.7**
	comp=Z,18nm,0.8s						
ANMO	**Albuquerque**	**91.53**	**48**	*de*P	**P**	**11 27 22.5**	**+0.5**
ANMO				pmax	pmax		
	comp=Z,16nm,0.7s						
ANMO	**Albuquerque**	**91.53**	**48**	P	**P**	**11 27 22.6**	**+0.5**
	baz=308						
LENM	**Lemitar**	**91.68**	**49**	*e*P	**P**	**11 27 23.4**	**+0.7**
MCH1	**Michaelchurch**	**91.75**	**337**	*e*P	**P**	**11 27 21.9**	**-0.5**
MCH1				IAmb	IAmb	11 27 24.2	
	comp=Z,44nm,0.8s						
LPM	**Los Pinos Moun**	**91.81**	**48**	*e*P	**P**	**11 27 23.9**	**+0.6**
319A	**Douglas**	**91.82**	**52**	*e*P	**P**	**11 27 24.4**	**+1.1**
	comp=Z,28nm,0.6s						
E38A	**The Farm, Brul**	**91.82**	**32**	*e*P	**P**	**11 27 23.1**	**+0.2**
	comp=Z,23nm,0.6s						
E38A	**The Farm, Brul**	**91.82**	**32**	P	**P**	**11 27 23.0**	**+0.2**
	baz=319						
BNM	**Barren Site**	**91.92**	**49**	*e*P	**P**	**11 27 24.7**	**+0.8**
HSIG		**92.03**	**55**	*e*P	**P**	**11 27 25.5**	**+1.3**
	comp=Z,16nm,0.8s						
121A	**Cookes Peak, D**	**92.14**	**50**	P	**P**	**11 27 25.5**	**+0.7**
	baz=308						
SENIN	**Lac Senin/Sane**	**92.14**	**328**	*e*P	**P**	**11 27 23.8**	**-0.9**
	comp=Z,79nm,1.8s						
F38A	**Pierce - Schro**	**92.16**	**32**	P	**P**	**11 27 24.8**	**+0.4**
	baz=318,SNR=5.1						
BGNE	**Belgrade**	**92.26**	**39**	*e*P	**P**	**11 27 24.2**	**-0.9**
	comp=Z,51nm,0.6s						
BGNE	**Belgrade**	**92.26**	**39**	P	**P**	**11 27 24.8**	**-0.2**
	baz=314,SNR=5.4						
SPMN	**Marine on St.**	**92.27**	**33**	*e*P	**P**	**11 27 25.4**	**+0.5**
	comp=Z,16nm,0.6s						
SPMN	**Marine on St.**	**92.27**	**33**	P	**P**	**11 27 25.4**	**+0.5**
	baz=318,SNR=6.1						
E39A	**Mellen**	**92.45**	**31**	P	**P**	**11 27 25.9**	**+0.1**
	baz=319						
E40A	**Wakefield**	**92.69**	**31**	P	**P**	**11 27 27.3**	**+0.5**
	baz=320						
H38A	**Maiden Rock**	**92.92**	**33**	P	**P**	**11 27 28.4**	**+0.5**
	baz=318,SNR=5.2						
E41A	**Kenton**	**93.09**	**30**	P	**P**	**11 27 29.2**	**+0.5**
	baz=320,SNR=5.4						
SCHQ	**Schefferville**	**93.13**	**14**	P	**P**	**11 27 28.6**	**-0.1**
	comp=Z,10nm,0.7s,baz=312,slow=3.3,SNR=14						
SCHQ				PKKP	**PKKPbc**	**11 44 33.6**	**-2.1**
	comp=Z,3.7nm,0.5s,baz=186,slow=1.5,SNR=5.4						
SCHQ	**Schefferville**	**93.13**	**14**	*e*P	**P**	**11 27 28.6**	**-0.1**
	comp=Z,61nm,1.5s						
H39A	**Augusta**	**93.39**	**33**	P	**P**	**11 27 30.1**	**0.0**
	baz=319						
BNI	**Bardonecchia**	**93.41**	**328**	*e*P	**P**	**11 27 29.4**	**-1.0**
	comp=Z,59nm,1.8s						
BNI	**Bardonecchia**	**93.41**	**328**	*e*P	**P**	**11 27 29.4**	**-1.0**
BNI				pmax	pmax		
	comp=Z,59nm,1.8s						
G40A	**Rib Lake**	**93.45**	**32**	*e*P	**P**	**11 27 30.4**	**0.0**
	comp=Z,13nm,0.6s						
G40A	**Rib Lake**	**93.45**	**32**	P	**P**	**11 27 30.7**	**+0.3**
	baz=320						
I39A	**Houston**	**93.90**	**33**	*e*P	**P**	**11 27 32.1**	**-0.4**
	comp=Z,16nm,0.8s						
I39A	**Houston**	**93.90**	**33**	P	**P**	**11 27 32.2**	**-0.2**
	baz=318						
J39A	**Decorah**	**94.20**	**34**	P	**P**	**11 27 33.6**	**-0.2**
	baz=318						
SSB	**Saint Sauveur**	**94.21**	**329**	*e*P	**P**	**11 27 33.2**	**-0.7**
	comp=Z,13nm,0.7s						
SSB	**Saint Sauveur**	**94.21**	**329**	*e*P	**P**	**11 27 33.2**	**-0.7**
SSB				pmax	pmax		
	comp=Z,13nm,0.7s						
MNTX	**Cornudas Mount**	**94.25**	**50**	*e*P	**P**	**11 27 35.1**	**+0.8**
	comp=Z,8.9nm,1.3s						
MNTX	**Cornudas Mount**	**94.25**	**50**	P	**P**	**11 27 34.3**	**0.0**
	baz=309						
I40A	**Norwalk**	**94.30**	**33**	P	**P**	**11 27 34.2**	**0.0**
	baz=319						
F43A	**Flat Rock, Esc**	**94.37**	**30**	P	**P**	**11 27 35.0**	**+0.5**
	baz=322						
I41A	**Arkdale**	**94.53**	**32**	P	**P**	**11 27 35.4**	**+0.2**
	baz=320						
F44A	**Big Bay de Noc**	**94.58**	**29**	P	**P**	**11 27 35.6**	**+0.2**
	baz=322						
K39A	**Oelwein**	**94.58**	**34**	P	**P**	**11 27 35.0**	**-0.6**
	baz=318						
AMTX	**Amarillo**	**94.60**	**45**	*e*P	**P**	**11 27 36.7**	**+0.8**
	comp=Z,15nm,0.9s						
AMTX	**Amarillo**	**94.60**	**45**	P	**P**	**11 27 35.8**	**-0.1**
	baz=311						
J40A	**Soldiers Grove**	**94.62**	**33**	P	**P**	**11 27 35.7**	**0.0**
	baz=319						
KSU1	**Kansas State U**	**94.71**	**40**	*e*P	**P**	**11 27 36.5**	**+0.2**
	comp=Z,26nm,0.7s						
KSU1	**Kansas State U**	**94.71**	**40**	P	**P**	**11 27 36.2**	**0.0**
	baz=315						
K40A	**Galesburg**	**94.95**	**34**	P	**P**	**11 27 37.5**	**+0.3**
	baz=319						
L39A	**Vinton**	**94.95**	**35**	P	**P**	**11 27 37.4**	**+0.1**
	baz=318						
J41A	**Loganville**	**94.98**	**33**	P	**P**	**11 27 37.2**	**-0.1**
	baz=320						
D47A	**Chapleau**	**95.06**	**27**	P	**P**	**11 27 37.6**	**-0.1**
	baz=325						
I42A	**Draeger Farm,**	**95.10**	**32**	P	**P**	**11 27 38.0**	**+0.1**
	baz=320						
JFWS	**Jewell Farm**	**95.22**	**33**	P	**P**	**11 27 38.2**	**-0.2**
	baz=319						
M39A	**Webster**	**95.35**	**35**	P	**P**	**11 27 39.3**	**+0.3**
	baz=318						
K41A	**Shullsburg**	**95.42**	**34**	P	**P**	**11 27 39.2**	**-0.2**
	baz=319						
D48A	**Paudash Townsh**	**95.47**	**26**	P	**P**	**11 27 39.1**	**-0.4**
	baz=326						
E47A	**Iron Bridge**	**95.49**	**27**	P	**P**	**11 27 39.7**	**+0.1**
	baz=325						
LSQQ	**Lebel-sur-Quev**	**95.59**	**22**	P	**P**	**11 27 39.9**	**-0.1**
	baz=330						
N39A	**Derby Farms, D**	**95.62**	**36**	P	**P**	**11 27 40.7**	**+0.4**
	baz=318						
CHGQ	**Chibougamau**	**95.67**	**20**	P	**P**	**11 27 39.3**	**-1.0**
	baz=332						
J43A	**Natural Harves**	**95.72**	**32**	P	**P**	**11 27 40.0**	**-0.7**
	baz=321						
L41A	**Preston**	**95.73**	**34**	P	**P**	**11 27 40.4**	**-0.3**
	baz=319						
M40A	**Post Highland**	**95.73**	**35**	P	**P**	**11 27 40.3**	**-0.5**
	baz=318						
K42A	**Prairie Point,**	**95.75**	**33**	P	**P**	**11 27 40.8**	**0.0**
	baz=320						
G46A	**Petoskey**	**95.76**	**29**	P	**P**	**11 27 40.8**	**0.0**
	baz=324						
E48A	**Lozeyer**	**95.91**	**27**	P	**P**	**11 27 41.4**	**0.0**
	baz=326						
N40A	**Mertquake, Sal**	**96.08**	**36**	P	**P**	**11 27 42.4**	**0.0**
	baz=318						
TX31	**Lajitas Ar. Si**	**96.89**	**51**	*e*P	**P**	**11 27 46.8**	**+0.4**
TX31				*e*P	**P**	**11 27 47.1**	**+0.8**
LTX	**Lajitas**	**96.89**	**51**	*e*P	**P**	**11 27 47.0**	**+0.6**
LTX				*e*pP	**pP**	**11 29 39.9**	**+1.2**
LTX	**Lajitas**	**96.89**	**51**	*e*P	**P**	**11 27 47.0**	**+0.6**
LTX				*e**PP	**pP**	**11 29 39.9**	**+1.2**
TXAR	**Lajitas Array**	**96.89**	**51**	P	**P**	**11 27 47.0**	**+0.6**
	comp=Z,6.7nm,0.6s,baz=304,slow=2.7,SNR=39						
TXAR				pP	**pP**	**11 29 39.9**	**+1.2**
	comp=Z,4.4nm,0.8s,baz=261,slow=1.5,SNR=4.5						
F51A	**Arnstein**	**97.23**	**26**	P	**P**	**11 27 45.2**	**-2.2**
	baz=328						
P41A	**Barry, Barry**	**97.25**	**36**	P	**P**	**11 27 47.1**	**-0.5**
	baz=319						
BASO	**Ashfield**	**98.14**	**28**	P	Pdif	11 27 51.0	-0.5
	baz=326						
BWLO	**Walkerton**	**98.27**	**27**	P	Pdif	11 27 51.5	-0.6
	baz=326						
PEMO	**Pembroke**	**98.42**	**24**	P	Pdif	11 27 52.5	-0.2
	baz=330						
DRWO	**Darlington Wes**	**99.42**	**26**	P	**Pdif**	**11 27 56.3**	**-0.9**
	baz=328						
ABPO	**Ambohimpanom**	**99.85**	**254**	*e*Pdif	**Pdif**	**11 28 00.1**	**+0.4**
	comp=Z,68nm,1.8s						
KMBO	**Kilima Mbogo**	**99.91**	**274**	P	**Pdif**	**11 27 59.3**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=48,slow=7.0,SNR=6.1						
KMBO				PP	**PP**	**11 32 09.5**	**-3.6**
	comp=Z,0.7nm,0.4s,baz=18,slow=5.6,SNR=3.2						
KMBO	**Kilima Mbogo**	**99.91**	**274**	*e*Pdif	**Pdif**	**11 27 59.3**	**-0.9**
	comp=Z,6.2nm,1.5s						
KMBO				PP	**PP**	**11 32 09.5**	**-3.6**
KMBO	**Kilima Mbogo**	**99.91**	**274**	*e*P	**Pdif**	**11 27 59.3**	**-0.9**
KMBO						11 32 09.5	
KMBO				pmax	pmax		
	comp=Z,6.0nm,1.5s						
ESDC	**Sonseca Array**	**102.44**	**331**	PP	PP	11 32 29.5	-0.6
	comp=Z,1.9nm,0.7s,baz=38,slow=7.8,SNR=8.6						
VNDA	**Vanda**	**107.95**	**175**	PKiKP	**PKiKP**	**11 32 38.0**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=360,slow=1.6,SNR=5.6						
VNDA				PP	**PP**	**11 33 08.3**	**-2.4**
	comp=Z,0.9nm,0.8s,baz=340,slow=11,SNR=4.7						
VNDA				PKKPbc	**PKKPbc**	**11 43 53.1**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=124,slow=1.5,SNR=6.9						
CMIG	**Matias Romero**	**110.97**	**55**	PKiKP	**PKiKP**	**11 32 45.6**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=282,slow=1.9,SNR=5.4						
CMIG				PKKPab	**PKKPab**	**11 43 55.7**	**-1.5**
	comp=Z,1.9nm,0.7s,baz=207,slow=2.3,SNR=4.0						
MAW	**Mawson**	**111.72**	**203**	PP	PP	11 33 36.8	-0.9
	comp=Z,10nm,0.9s,baz=55,slow=8.6,SNR=10						
MAW				PKKPbc	**PKKPbc**	**11 43 40.0**	**-1.8**
	comp=Z,2.0nm,0.5s,baz=253,slow=1.9,SNR=7.0						
BLWY	**Bulawayo**	**116.13**	**261**	*i* P	**PKPdf**	**11 32 56.0**	**+0.6**
BLWY	**Bulawayo**	**116.13**	**261**	*i* P	**PKPdf**	**11 32 56.0**	**+0.6**
MATP	**Matopo**	**116.34**	**261**	*i* P	**PKPdf**	**11 32 56.2**	**+0.5**
MATP	**Matopo**	**116.34**	**261**	*i* P	**PKPdf**	**11 32 56.2**	**+0.5**
QSPA	**South Pole Qui**	**119.47**	**180**	PKP	**PKPdf**	**11 32 59.9**	**-0.4**
	comp=Z,5.2nm,0.6s,baz=302,slow=0.8,SNR=41						
TOA1	**Torodi Ar. Sit**	**120.10**	**309**	*e*PKPdf	**PKPdf**	**11 33 01.1**	**-2.0**
TOA1				*e*PP	**PP**	**11 34 31.7**	**-4.1**
TOA0	**Torodi Ar. Sit**	**120.10**	**309**	*e*PKPdf	**PKPdf**	**11 33 02.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**120.10**	**309**	PKP	**PKPdf**	**11 33 01.1**	**-2.0**
	comp=Z,4.3nm,0.3s,baz=3.0,slow=4.2,SNR=80						
TORD				PP	**PP**	**11 34 31.7**	**-4.1**
	comp=Z,1.7nm,0.6s,baz=57,slow=5.5,SNR=4.1						
TORD				SKP		11 35 50.5	
	comp=Z,2.4nm,0.8s,baz=21,slow=2.0,SNR=4.2						
TORD				PKKPbc	**PKKPbc**	**11 43 12.7**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=227,slow=2.9,SNR=15						
LBTB	**Lobatse**	**120.56**	**257**	*e*PKPdf	**PKPdf**	**11 33 03.6**	**-0.1**
LBTB	**Lobatse**	**120.56**	**257**	*e*PKIKP	**PKPdf**	**11 33 03.7**	**-0.1**
BOSA	**Boshof**	**122.06**	**253**	*i* P	**PKPdf**	**11 33 07.0**	**+0.4**
BOSA	**Boshof**	**122.06**	**253**	PKP	**PKPdf**	**11 33 06.8**	**+0.2**
	comp=Z,6.5nm,0.4s,baz=44,slow=1.1,SNR=30						
BOSA	**Boshof**	**122.06**	**253**	*e*PKPdf	**PKPdf**	**11 33 06.8**	**+0.2**
BOSA				*e*PKPdf	**PKiKP**	**11 33 07.1**	**+0.4**
BOSA	**Boshof**	**122.06**	**253**	*i* P	**PKPdf**	**11 33 07.0**	**+0.4**
TSUM	**Tsumeb**	**125.29**	**267**	*e*PKPdf	**PKPdf**	**11 33 13.6**	**+0.6**
DBIC	**Dimbokro**	**129.21**	**309**	PKP	**PKPdf**	**11 33 20.3**	**-0.2**
	comp=Z,6.4nm,0.4s,baz=25,slow=2.5,SNR=16						
DBIC				PP	**PP**	**11 35 38.7**	**+2.9**
	comp=Z,4.1nm,0.6s,baz=31,slow=6.2,SNR=4.0						
DBIC				SKPbc	SKPab	11 35 54.4	-0.1
	comp=Z,18nm,0.7s,baz=21,slow=4.3,SNR=14						
TIC	**Toumodi**	**129.34**	**309**	*e*PKP1	**PKPdf**	**11 33 21.3**	**+0.5**
KIC	**Kosan Boka**	**129.36**	**309**	*e*PKP1	**PKPdf**	**11 33 20.9**	**+0.1**
	comp=Z,20nm,0.6s						
LIC	**Lamto**	**129.65**	**309**	*e*PKP1	**PKPdf**	**11 33 20.4**	**-1.0**
	comp=Z,23nm,0.4s						
CODC	**Agust`>n Codaz**	**130.28**	**42**	*e*P	**PKPdf**	**11 33 21.8**	**-0.7**
SMLC	**San Mart`>n de**	**130.81**	**44**	*e*P	**PKPdf**	**11 33 23.5**	**0.0**
ZARC	**Zaragoza, Cauc**	**131.35**	**46**	*e*P	**PKPdf**	**11 33 24.5**	**-0.1**
OCAC	**Ocana**	**131.71**	**44**	*e*P	**PKPdf**	**11 33 26.2**	**+0.8**
PTBC	**PUERTO BERRIO**	**132.33**	**46**	*e*P	**PKPdf**	**11

ABH	**Alteburg**	**0.84**	**333**	Pg	**Pg**	**11**	**21**	**26.2 -0.1**
WLS	**Welschbruch**	**0.90**	**216**	Pg	**Pg**	**11**	**21**	**27.4 0.0**
CDF	**Champ du Feu**	**0.93**	**219**	*e*Pg	**Pg**	**11**	**21**	**27.5 -0.5**
CDF				*e*Sg	**Sg**	**11**	**21**	**40.4 +0.3**
	2.5nm,0.2s							
ECH	**Echery**	**1.13**	**216**	Pg	**Pb**	**11**	**21**	**31.6 -0.1**
HINF	**Hinteralfeld**	**1.58**	**213**	*e*Pg	**Pb**	**11**	**21**	**39.8 +0.4**
HINF				*e*Sg	**Sb**	**11**	**21**	**59.8 +0.5**
	1.9nm,0.2s							
PAGF	**Fort de Pagny**	**1.70**	**251**	*e*Pg	**Pb**	**11**	**21**	**41.5 +0.1**
PAGF				*e*Sg	**Sb**	**11**	**22**	**03.9 +1.1**
	2.2nm,0.3s							
MEZF	**Maizieres J'vi**	**2.14**	**254**	*e*Sg	**Sg**	**11**	**22**	**17.5 -1.4**
	2.6nm,0.3s							

TAP 12 11:22:31.7, 25°03'N×121°69'E, h131km, ML3.1, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWF	**Wu-fen Shan**	**0.09**	**62**	*e*P	Pn	11 22 49.5	-0.1
	baz=52						
NWF				*e*S	Sn	11 23 02.6	-0.4
	baz=52						
WFSB	**Wu-fen Shan**	**0.09**	**62**	*e*P	Pn	11 22 49.4	-0.1
	baz=52						
WFSB				*e*S	Sn	11 23 02.5	-0.4
	baz=52						
TWA	**Mucha**	**0.11**	**244**	P	Pn	11 22 49.5	0.0
	baz=240						
TWA				*e*S	Sn	11 23 02.6	-0.3
	baz=240						
TWA	**Mucha**	**0.11**	**244**	*e*S	Sn	11 23 02.9	-0.1
	baz=351						
TIPB	**Shuangxi**	**0.13**	**115**	*e*P	Pn	11 22 49.8	+0.2
	baz=125						
TIPB				*e*S	Sn	11 23 02.6	-0.5
	baz=125						
YM07	**YM07**	**0.16**	**336**	*e*P	Pn	11 22 49.6	-0.1
	baz=322						
YM07				*e*S	Sn	11 23 02.8	-0.5
	baz=322						
YM01	**YM01**	**0.16**	**316**	*e*P	Pn	11 22 49.7	0.0
	baz=314						
YM10	**YM10**	**0.17**	**316**	*e*P	Pn	11 22 49.6	-0.1
	baz=313						
YM10				*e*S	Sn	11 23 01.9	-1.4
	baz=313						
YM05	**YM05**	**0.18**	**319**	*e*P	Pn	11 22 49.7	-0.1
	baz=304						
YM05				*e*S	Sn	11 23 03.1	-0.3
	baz=304						
TWS1	**Kuangyinshan**	**0.26**	**286**	*e*P	Pn	11 22 49.9	+0.1
	baz=286						
TWY	**Chenhua**	**0.26**	**341**	P	Pn	11 22 49.8	0.0
	baz=335						
TWY				*e*S	Sn	11 23 03.2	-0.4
	baz=335						
TWB1	**Santiao Chiao**	**0.27**	**94**	*e*P	Pn	11 22 49.9	+0.1
	baz=95						
TWB1				*e*S	Sn	11 23 03.4	-0.2
	baz=95						
EGS		**0.28**	**130**	*e*P	Pn	11 22 49.4	-0.5
	baz=130						
TWE	**Neicheng**	**0.31**	**184**	P	Pn	11 22 50.2	+0.2
	baz=190						
TWE				*e*S	Sn	11 23 04.0	+0.2
	baz=190						
ENTT	**Nioudou**	**0.40**	**197**	*e*S	Sn	11 23 03.9	-0.7
	baz=202						
YHNB	**Yeheng**	**0.46**	**219**	*e*P	Pn	11 22 50.6	-0.2
	baz=211						
YHNB				*e*S	Sn	11 23 03.0	-2.2
	baz=211						
NCU	**National Centr**	**0.46**	**263**	*e*P	Pn	11 22 50.8	+0.1
	baz=268						
NSK	**Sanguang**	**0.47**	**221**	P	Pn	11 22 50.6	-0.2
	baz=212						
NSK				*e*S	Sn	11 23 03.8	-1.4
	baz=212						
NNS	**Nan Shan**	**0.66**	**206**	P	Pn	11 22 52.3	+0.2
	baz=206						
NNS				*e*S	Sn	11 23 06.1	-1.3
	baz=206						
NNSB	**Datong**	**0.66**	**205**	*e*S	Sn	11 23 06.3	-1.2
	baz=205						
LIOB	**Emei**	**0.72**	**238**	*e*P	Pn	11 22 52.6	+0.2
	baz=234						
LIOB				*e*S	Sn	11 23 07.2	-0.8
	baz=234						
NSTT	**Nanjuang**	**0.74**	**238**	P	Pn	11 22 52.7	+0.2
	baz=233						
NSTT				S	Sn	11 23 07.8	-0.5
	baz=233						
TDCB	**Techi**	**0.91**	**212**	*e*P	Pn	11 22 54.7	+0.6
	baz=215						
TDCB				*e*S	Sn	11 23 11.2	+0.1
	baz=215						
WHF	**Hehuan Shan**	**0.96**	**204**	*e*S	Sn	11 23 11.8	-0.6
	baz=198						
CHGB	**Renai**	**1.07**	**206**	*e*P	Pn	11 22 56.2	+0.5
	baz=205						
CHGB				*e*S	Sn	11 23 13.3	-0.5
	baz=205						
TWQ1	**Liyutan**	**1.08**	**231**	*e*P	Pn	11 22 55.4	0.0
	baz=227						
SSLB	**Suanglung**	**1.41**	**209**	*e*P	Pn	11 22 59.4	+0.4
	baz=215						
SSLB				*e*S	Sn	11 23 19.8	+0.2
	baz=215						

TAP 12 11:22:45.6, 24°48'N×121°68'E, h16km, ML2.2, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.08**	**130**	P	Pg	11 22 49.3	+0.5
	baz=127						
ENA				*e*S	Sg	11 22 52.0	+1.1
	baz=127						
ENTT	**Nioudou**	**0.19**	**328**	P	Pb	11 22 50.6	-0.1
	baz=329						
ENTT	**Nioudou**	**0.19**	**328**	*i* P	Pb	11 22 50.6	-0.2
	baz=202						
TWC	**Suao**	**0.20**	**50**	*e*P	Pb	11 22 51.5	+0.5
	baz=52						
TWC				*e*S	Sb	11 22 54.7	+0.1
	baz=52						
TWE	**Neicheng**	**0.24**	**358**	*e*P	Pb	11 22 51.5	-0.1
	baz=1.0						
NNSB	**Datong**	**0.27**	**260**	*e*P	Pb	11 22 52.4	+0.1
	baz=259						
NNSB	**Datong**	**0.27**	**260**	*e*P	Pb	11 22 52.4	+0.2
	baz=205						
NACB	**Ninganchiao**	**0.31**	**194**	*e*P	Pb	11 22 53.1	+0.3
	baz=193						
NACB				*e*S	Sb	11 22 57.7	0.0
	baz=193						
YHNB	**Yeheng**	**0.33**	**305**	*e*P	Pg	11 22 52.6	0.0
	baz=304						
EOS1	**EOS1**	**0.42**	**80**	*e*P	Pb	11 22 54.6	0.0
	baz=80						
EOS1				S	Sb	11 23 01.4	+0.7
	baz=80						
WHF	**Hehuan Shan**	**0.50**	**229**	*e*P	Pg	11 22 56.0	+0.2
	baz=227						
WHF				*e*S	Sg	11 23 02.4	-0.1
	baz=227						
WHF	**Hehuan Shan**	**0.50**	**229**	*e*P	Pg	11 22 55.9	+0.2
	baz=198						

*DJA **12** 11:34:09.2±0.5, 5°N±11°×12°4E±°, h518km±19km, M4.2/8, mb4.1/6, mB4.9/5, MLv4.2/8, Mw(mB)4.1/5*

*ISCJB **12** 11:34:13.7±1.1, 4°1N±0°1×123°5E±0°1, h500km, mb3.6/5, Error ellipse: s-maj=20.9km s-min=16.3km az=28.9*

*IDC **12** 11:34:15.5±3.0, 4°15N×123°56E, h499km±36km, mb3.1/5, mb1 3.2/6, mb1mx2.8/41, mbtmp4.0/6, Error ellipse: s-maj=57.3km s-min=20.4km az=68.0*

ISC 12 11:34:15.2±1.2, 4°1N±0°2×123°6E±0°1, h500km, n12, σ1§38/14, mb3.8/5, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**3.95**	**204**	P	**P**	**11**	**35**	**32.4 -0.9**
TNTI	**Ternate**	**5.06**	**131**	P	**P**	**11**	**35**	**40.7 -2.1**
LUWI	**Luwuk**	**5.18**	**189**	P	**P**	**11**	**35**	**42.8 -1.1**
MPSI	**Mapaga**	**5.23**	**224**	P	**P**	**11**	**35**	**42.8 -1.6**
APSI	**Ampana**	**5.34**	**201**	P	**P**	**11**	**35**	**44.9 -0.5**
SANI	**Sanana**	**6.59**	**158**	P	**P**	**11**	**35**	**54.5 -2.9**
SIJI	**Sorong**	**9.16**	**123**	P	**P**	**11**	**36**	**24.3 +0.4**
	2.2nm,0.3s,baz=318,slow=20,SNR=5.7							
FITZ	**Fitzroy Crossi**	**22.17**	**175**	P	**P**	**11**	**38**	**34.2 +0.6**
	2.2nm,0.6s,baz=10.0,slow=8.6,SNR=14							
WRA	**Warramunga Arr**	**26.15**	**156**	P	**P**	**11**	**39**	**08.8 -0.2**
	1.0nm,0.3s,baz=334,slow=10,SNR=48							
WRA				PcP	**PcP**	**11**	**42**	**19.9 -0.2**
	0.3nm,0.8s,baz=333,slow=2.6,SNR=3.5							
ASAR	**Alice Springs**	**29.40**	**160**	P	**P**	**11**	**39**	**38.1 +0.6**
	0.7nm,0.3s,baz=334,slow=7.9,SNR=38							
ASAR				PcP	**PcP**	**11**	**42**	**28.1 0.0**
	0.2nm,0.7s,baz=349,slow=2.6,SNR=2.9							
STKA	**Stephens Creek**	**39.70**	**156**	P	**P**	**11**	**41**	**05.2 +1.5**
	1.4nm,0.3s,baz=338,slow=8.1,SNR=8.3							
MKAR	**Makanchi Array**	**55.46**	**327**	P	**P**	**11**	**43**	**02.3 +0.2**
	0.2nm,0.3s,baz=116,slow=8.7,SNR=4.5							

MEX 12 11:34:43.3±0.4, 13°93'N×92°45'W, h32km±10km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.99**	**11**	*e*P	Pn	11 34 59.3	-1.7
THIG				*i* S	Sn	11 35 10.8	-3.1
PCIG		**1.91**	**337**	*e*P	Pn	11 35 11.7	-2.0
PCIG				*i* S	Sn	11 35 34.4	-2.3
CCIG	**Comitan**	**2.36**	**7**	*e*P	Pn	11 35 18.0	-2.0
CCIG				*i* S	Sn	11 35 44.8	-3.1
TGIG		**2.90**	**347**	*e*P	Pn	11 35 26.2	-1.2
TGIG				*i* S	Sn	11 35 59.2	-2.0

IDC 12 12:00:00.6±27.0, 15°18S×171°19E, h653km±105km, mb3.2/5, mb1 3.3/5, mb1mx2.9/40, mbtmp4.4/5, Error ellipse: s-maj=369.9km s-min=69.9km az=66.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**31.67**	**233**	P	P	12 05 34.9	+1.0
	2.4nm,0.5s,baz=74,slow=7.8,SNR=5.6						
WRA	**Warramunga Arr**	**35.40**	**257**	P	P	12 06 04.9	-0.1
	1.6nm,0.7s,baz=89,slow=8.6,SNR=18						
WRA				ScP	ScP	12 11 01.3	+0.2
	0.5nm,0.9s,baz=87,slow=3.4,SNR=3.3						
ASAR	**Alice Springs**	**36.08**	**251**	P	P	12 06 10.8	+0.3
	2.9nm,0.5s,baz=78,slow=9.2,SNR=9						
ASAR				ScP	ScP	12 11 03.2	-0.4
	0.4nm,0.9s,baz=90,slow=3.7,SNR=6.0						
FITZ	**Fitzroy Crossi**	**43.66**	**260**	P	P	12 07 11.1	+0.4
	3.1nm,0.6s,baz=102,slow=7.8,SNR=18						
NWAO	**Narrogin (SRO)**	**51.79**	**240**	P	P	12 08 09.6	-1.0
	7.1nm,0.8s,baz=315,slow=7.1,SNR=3.8						

KRSC 12 12:00:08.2±1.0, 52°48N×159°47E, h102km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.58**	**266**	*e*P	Pn	12 00 26.3	+1.6
RUS				*e*S	Sn	12 00 38.1	+1.0
NLC	**Nalytchevo**	**0.69**	**354**	*e*P	Pn	12 00 27.7	+2.1
NLC				*e*S	Sn	12 00 40.3	+1.6
DALK	**Dalny**	**0.70**	**322**	*e*P	Pn	12 00 27.3	+1.6
DALK				*e*S	Sn	12 00 39.4	+0.6
SPN	**Mys Shipunski**	**0.70**	**29**	*e*P	Pn	12 00 27.8	+2.1
SPN				*e*S	Sn	12 00 40.4	+1.5
PET	**Petropavlovsk**	**0.73**	**318**	*e*P	Pn	12 00 27.6	+1.6
PET				*e*S	Sn	12 00 39.9	+0.5
MTVR	**Mutnovka**	**0.78**	**271**	*e*P	Pn	12 00 28.4	+1.8
MTVR				*e*S	Sn	12 00 41.4	+0.9
UGLR	**Uglovaya**	**0.82**	**332**	*e*P	Pn	12 00 29.0	+2.0
UGLR				*e*S	Sn	12 00 42.4	+1.2
SDLR	**Sedlovina**	**0.87**	**336**	*e*P	Pn	12 00 29.3	+1.8
SDLR				*e*S	Sn	12 00 43.1	+1.1
SMAR	**Somma**	**0.88**	**333**	*e*P	Pn	12 00 29.4	+1.7
KRMR	**Karymshinskiy**	**0.89**	**294**	*e*P	Pn	12 00 28.6	+1.2
KRMR				*e*S	Sn	12 00 42.6	+0.6
AVH	**Avacha**	**0.90**	**331**	*e*P	Pn	12 00 29.8	+2.1
AVH				*e*S	Sn	12 00 43.9	+1.5
KOK	**Koryaka**	**0.95**	**329**	*e*P	Pn	12 00 30.2	+1.9
KOK				*e*S	Sn	12 00 45.1	+1.7
KRX	**Arik**	**1.01**	**331**	*e*P	Pn	12 00 30.6	+1.7
KRX				*e*S	Sn	12 00 45.4	+0.9
KDTR	**Khodutka, Kamc**	**1.09**	**232**	*e*P	Pn	12 00 31.2	+1.6
KDTR				*e*S	Sn	12 00 46.5	+0.7
APC	**Apacha**	**1.47**	**288**	*e*P	Pn	12 00 35.9	+1.8
APC				*e*S	Sn	12 00 54.9	+1.1
GNL	**Ganaly**	**1.52**	**324**	*e*P	Pn	12 00 35.8	+0.9
GNL				*e*S	Sn	12 00 55.0	-0.1
KII	**Karymskiy**	**1.56**	**360**	*e*P	Pn	12 00 37.1	+1.9
KII				*e*S	Sn	12 00 58.5	+2.7
PAU	**Pauzhetka**	**1.93**	**239**	P	Pn	12 00 41.8	+2.0
PAU				*e*S	Sn	12 01 06.3	+2.3
MKZ	**Mys Kozlova**	**2.48**	**32**	*e*P	Pn	12 00 48.8	+1.9
MKZ				*e*S	Sn	12 01 17.3	+0.6
KZV	**Kizimen**	**2.68**	**10**	*e*P	Pn	12 00 52.1	+2.3
KZV				*e*S	Sn	12 01 23.7	+1.9
SKR	**Severo-Kuril's**	**2.76**	**231**	*e*P	Pn	12 00 52.7	+2.0
SKR				*e*S	Sn	12 01 24.4	+1.1
TUMR	**Tumrok**	**2.83**	**8**	*e*P	Pn	12 00 54.7	+2.9
KMNR	**Kamenistaya**	**3.31**	**8**	*e*P	Pn	12 01 00.8	+2.7
BZMR	**Bezymyannaya**	**3.51**	**9**	*e*P	Pn	12 01 03.3	+2.5
KPT	**Kopyto**	**3.52**	**7**	*e*P	Pn	12 01 02.6	+1.7
BZGR	**Bezymyannyi-Gr**	**3.54**	**11**	*e*P	Pn	12 01 03.8	+2.6
BZWR	**Bezymyannyi-We**	**3.54**	**9**	*e*P	Pn	12 01 03.0	+1.7
KBTR	**Krutoberegovo**	**4.22**	**26**	*e*P	Pn	12 01 12.3	+2.1
KBTR				*e*S	Sn	12 01 58.5	+0.2
SMKR	**Semkarok**	**4.27**	**15**	*e*P	Pn	12 01 13.7	+2.7
SRKR	**Sorokina**	**4.30**	**13**	*e*P	Pn	12 01 14.3	+3.0
BKI	**Bering**	**4.72**	**52**	*e*S	Sn	12 02 08.1	-2.3

*ISCJB **12** 12:08:10.8±0.2, 10°63N±0°02×61°93W±0°03, h73km±3km, mb4.2/26, Error ellipse: s-maj=4.7km s-min=3.0km az=29.9*

*CAR **12** 12:08:11.0±0.0, 10°77N×61°65W, h33km*

*NEIC **12** 12:08:12.2±0.3, 10°59N×61°91W, h71km±3km, mb4.5/14, MD4.1(TRN), MW4.2(CAR), Error ellipse: s-maj=4.1km s-min=4.0km az=201.0*

NEIC Felt [III] at Carenage, Chaguanas, Port of Spain, Toco and Woodbrook, Trinidad. Also felt at Couva, Mucurapo, Saint Joseph, San Fernando, San Juan and Tunapuna.

*TRN **12** 12:08:12.6, 10°64N×61°88W, h59km, MD4.1*

TRN Felt in Trinidad MMI II, III.

*IDC **12** 12:08:13.7±1.6, 10°77N×61°99W, h77km±15km, mb3.8/14, mb1 4.0/17, mb1mx3.8/43, mbtmp4.2/17, MS3.4/5, Ms1 3.4/5, ms1mx3.0/37, Error ellipse: s-maj=14.9km s-min=12.8km az=143.0*

ISC 12 12:08:11.6±0.7, 10°64N±0°04×61°96W±0°04, h64km±7km, n159, σ1§29/185, mb4.4/26, 1C-4D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.54**	**89**	*i* P	**Pn**	**12**	**08**	**24.2 -0.1**
TRN				*e*S	**Sn**	**12**	**08**	**32.6 -1.0**
TRN	**Trinidad (W)**	**0.54**	**89**	↓*i* P	**Pn**	**12**	**08**	**24.2 -0.1**
TRN				*e*S	**Sn**	**12**	**08**	**32.6 -1.0**
TPP	**Pointe-a-Pierr**	**0.59**	**123**	*e*P	**Pn**	**12**	**08**	**25.7 +0.9**
TPP				*e*S	**Sn**	**12**	**08**	**34.1 -0.4**
TPP	**Pointe-a-Pierr**	**0.59**	**123**	*e*P	**Pn**	**12**	**08**	**25.7 +0.9**
TPP				*e*S	**Sn**	**12**	**08**	**34.1 -0.4**
TBH	**Brigand Hill**	**0.89**	**100**	*e*P	**Pn**	**12**	**08**	**28.8 +0.5**
TBH				*e*S	**Sn**	**12**	**08**	**40.5 -0.3**
TBH	**Brigand Hill**	**0.89**	**100**	*e*P	**Pn**	**12**	**08**	**28.8 +0.5**
TBH				*e*S	**Sn**	**12**	**08**	**40.5 -0.3**
TPR	**Prospect**	**1.28**	**65**	*i* P	**Pn**	**12**	**08**	**34.2 +0.7**
TPR				*e*S	**Sn**	**12**	**08**	**49.1 -0.7**
TPR	**Prospect**	**1.28**	**65**	↓*i*P	**Pn**	**12**	**08**	**34.2 +0.7**
TPR				*e*S	**Sn**	**12**	**08**	**49.1 -0.7**
BOT	**Bacolet**	**1.32**	**67**	*i* P	**Pn**	**12**	**08**	**34.6 +0.6**
BOT				*e*S	**Sn**	**12**	**08**	**49.9 -0.9**
BOT	**Bacolet**	**1.32**	**67**	↓*i*P	**Pn**	**12**	**08**	**34.6 +0.6**
BOT				*e*S	**Sn**	**12**	**08**	**49.9 -0.9**
GRGR	**Grenville**	**1.51**	**11**	*e*Pn	**Pn**	**12**	**08**	**36.7 +0.1**
TOSP	**Speyside**	**1.54**	**65**	*i* P	**Pn**	**12**	**08**	**36.2 -0.6**
TOSP				*e*S	**Sn**	**12**	**08**	**55.2 -0.8**
TOSP	**Speyside**	**1.54**	**65**	↓*i*P	**Pn**	**12**	**08**	**36.3 -0.6**
TOSP				*e*S	**Sn**	**12**	**08**	**55.2 -0.8**
FCV	**Fort Charlotte**	**2.60**	**15**	*e*P	**Pn**	**12**	**08**	**52.5 +1.2**
FCV				*e*S	**Sn**	**12**	**09**	**21.2 -0.5**
FCV	**Fort Charlotte**	**2.60**	**15**	*e*P	**Pn**	**12**	**08**	**52.5 +1.2**
FCV				*e*S	**Sn**	**12**	**09**	**21.2 -0.5**
PCRV	**Puerto La Cruz**	**2.68**	**260**	P	**Pn**	**12**	**08**	**55.1 +2.8**
	58nm,0.3s,baz=78,slow=3.9,SNR=218							
PCRV				S	**Sn**	**12**	**09**	**25.4 +1.7**
	34nm,0.3s,baz=359,slow=16,SNR=8.0							
SVB	**Belmont**	**2.70**	**15**	*e*Pn	**Pn**	**12**	**08**	**53.1 +0.4**
SVB				*e*Sn	**Sn**	**12**	**09**	**26.7 +2.3**
SVB	**Belmont**	**2.70**	**15**	*e*P	**Pn**	**12**	**08**	**53.4 +0.7**
SVB				*e*S	**Sn**	**12**	**09**	**23.8 -0.6**
SVCV	**St. Vincent, C**	**2.73**	**17**	*e*P	**Pn**	**12**	**08**	**54.0 +0.9**
SVCV				*e*S	**Sn**	**12**	**09**	**24.4 -0.6**
SVV	**Soufriere Volc**	**2.76**	**15**	*e*P	**Pn**	**12**	**08**	**55.1 +1.7**
SVV				*e*S	**Sn**	**12**	**09**	**26.0 +0.3**
SVV	**Soufriere Volc**	**2.76**	**15**	*e*P	**Pn**	**12**	**08**	**55.1 +1.7**
SVV				*e*S	**Sn**	**12**	**09**	**26.0 +0.3**
SSV	**Crater Summit**	**2.77**	**16**	*e*P	**Pn**	**12**	**08**	**55.5 +1.8**
SSV	**Crater Summit**	**2.77**	**16**	*e*P	**Pn**	**12**	**08**	**55.5 +1.8**
SFAN	**Fancy Village**	**2.83**	**16**	*e*P	**Pn**	**12**	**08**	**55.3 +0.9**
SFAN				*e*S	**Sn**	**12**	**09**	**27.2 -0.2**
MCLT	**Moule a Chique**	**3.21**	**18**	*e*P	**Pn**	**12**	**09**	**00.5 +0.9**
MCLT				*e*S	**Sn**	**12**	**09**	**35.5 -1.1**
MCLT	**Moule a Chique**	**3.21**	**18**	*e*P	**Pn**	**12**	**09**	**00.5 +0.9**
MCLT				*e*S	**Sn**	**12**	**09**	**35.5 -1.1**
SLB	**Belfond**	**3.29**	**16**	*e*P	**Pn**	**12**	**09**	**02.5 +1.8**
SLB				*e*S	**Sn**	**12**	**09**	**38.7 -0.1**
SLB	**Belfond**	**3.29**	**16**	*e*P	**Pn**	**12**	**09**	**02.5 +1.8**
SLB				*e*S	**Sn**	**12**	**09**	**38.7 -0.1**
BBGH	**Gun Hill**	**3.42**	**43**	*e*Pn	**Pn**	**12**	**09**	**04.3 +1.8**
BBGH				*e*S	**Sn**	**12**	**09**	**40.7 -1.2**
BBGH	**Gun Hill**	**3.42**	**43**	*e*P	**Pn**	**12**	**09**	**03.1 +0.6**
BBGH				*e*S	**Sn**	**12**	**09**	**40.7 -1.2**
SLW	**Petit Monier**	**3.50**	**16**	*e*P	**Pn**	**12**	**09**	**04.9 +1.3**
H05S1	**Guadeloupe/Mar**	**3.92**	**16**	P	**Pn**	**12**	**09**	**10.4 +1.1**
H05S1				S	**Sn**	**12**	**09**	**53.4 -0.6**
	SNR=348							
BIM	**Bigot**	**3.95**	**13**	*e*P	**Pn**	**12**	**09**	**10.7 +0.9**
BIM				*e*S	**Sn**	**12**	**09**	**54.6 -0.2**
TRMF	**Trois Ilets**	**3.97**	**13**	*e*P	**Pn**	**12**	**09**	**10.9 +0.9**
ZAM	**Aeronautique**	**4.01**	**13**	*e*P	**Pn**	**12**	**09**	**11.7 +1.1**
MVM	**Montagne Vaucl**	**4.03**	**15**	*e*P	**Pn**	**12**	**09**	**11.9 +1.1**
LPMF	**Morne Lapointe**	**4.03**	**14**	*e*P	**Pn**	**12**	**09**	**12.0 +1.2**
FDF	**Fort de France**	**4.14**	**11**	*e*Pn	**Pn**	**12**	**09**	**13.1 +0.7**
FDF				*e*S	**Sn**	**12**	**09**	**59.2 -0.4**
FDF	**Fort de France**	**4.14**	**11**	*e*P	**Pn**	**12**	**09**	**13.4 +1.0**
PML	**Morne Lenard**	**4.18**	**10**	*e*P	**Pn**	**12**	**09**	**14.2 +1.2**
GBMF	**Grand Be**	**4.20**	**11**	*e*P	**Pn**	**12**	**09**	**14.3 +1.0**
PCM	**Pelee Case Pet**	**4.21**	**10**	*e*P	**Pn**	**12**	**09**	**14.2 +0.8**
CXM	**Morne La Croix**	**4.22**	**10**	*e*P	**Pn**	**12**	**09**	**14.6 +1.1**
BAMF	**Morne Balai**	**4.22**	**11**	*e*P	**Pn**	**12**	**09**	**14.5 +0.9**
DLPL	**La Plaine**	**4.71**	**8**	*e*P	**Pn**	**12**	**09**	**21.3 +1.1**
DLPL	**La Plaine**	**4.71**	**8**	*e*P	**Pn**	**12**	**09**	**21.3 +1.1**
BBL	**Barber's Block**	**4.88**	**6**	*e*P	**Pn**	**12**	**09**	**23.5 +1.0**
BBL	**Barber's Block**	**4.88**	**6**	*e*P	**Pn**	**12**	**09**	**23.5 +1.0**
MDPO	**Dominica; Chan**	**4.93**	**6**	*e*P	**Pn**	**12**	**09**	**25.1 +2.0**
MDVC	**Dominica, Viel**	**4.97**	**6**	*e*P	**Pn**	**12**	**09**	**25.6 +1.8**
MDPV	**Dominica, Penn**	**4.98**	**6**	*e*P	**Pn**	**12**	**09**	**24.8 +0.9**
TBG	**Guadaloupe-3**	**5.19**	**3**	*e*P	**Pn**	**12**	**09**	**27.0 +1.1**
MGG	**Marie-Galante**	**5.28**	**7**	*e*P	**Pn**	**12**	**09**	**30.0 +2.0**
MGG	**Marie-Galante**	**5.28**	**7**	*e*P	**Pn**	**12**	**09**	**30.0 +2.0**
FNG	**Fond-Bernard**	**5.39**	**3**	↑*i*P	**Pn**	**12**	**09**	**30.9 +1.3**
LZG	**Guadaloupe-1**	**5.47**	**2**	*e*P	**Pn**	**12**	**09**	**31.8 +1.2**
DEG	**La Desirade**	**5.71**	**9**	*e*P	**Pn**	**12**	**09**	**35.3 +1.5**
DEG	**La Desirade**	**5.71**	**9**	*e*P	**Pn**	**12**	**09**	**35.3 +1.5**
H05N1	**Guadeloupe/Mar**	**5.71**	**9**	P	**Pn**	**12**	**09**	**35.1 +1.2**
	SNR=62							
MLYT	**Lee's Yard**	**6.05**	**358**	*e*P	**Pn**	**12**	**09**	**40.5 +2.0**
MLYT	**Lee's Yard**	**6.05**	**358**	*e*S	**Sn**	**12**	**10**	**44.6 -1.8**
BPA	**Boggy Peak**	**6.37**	**1**	*e*P	**Pn**	**12**	**09**	**44.8 +1.9**
BPA				*e*S	**Sn**	**12**	**10**	**51.5 -2.8**
BPA	**Boggy Peak**	**6.37**	**1**	*e*P	**Pn**	**12**	**09**	**44.8 +1.9**
NEV	**Hard Times**	**6.48**	**355**	*e*P	**Pn**	**12**	**09**	**47.1 +2.7**
NEV	**Hard Times**	**6.48**	**355**	*e*P	**Pn**	**12**	**09**	**47.1 +2.7**
SEUS	**St. Eustatius**	**6.88**	**352**	*e*Pn	**Pn**	**12**	**09**	**51.5 +1.6**
SEUS	**St. Eustatius**	**6.88**	**352**	*e*P	**Pn**	**12**	**09**	**52.2 +2.3**
ANWB	**Willy Bob**	**6.99**	**1**	*e*Pn	**Pn**	**12**	**09**	**53.0 +1.6**
ANWB				*e*S	**Sn**	**12**	**11**	**07.3 -2.1**
ANWB	**Willy Bob**	**6.99**	**1**	*e*P	**Pn**	**12**	**09**	**53.5 +2.1**
SABA	**Saba**	**7.05**	**350**	*e*Pn	**Pn**	**12**	**09**	**53.2 +1.0**
SABA	**Saba**	**7.05**	**350**	*e*P	**Pn**	**12**	**09**	**54.1 +1.9**
SMRT	**St. Maarten**	**7.45**	**352**	*e*Pn	**Pn**	**12**	**09**	**59.2 +1.6**
SMRT	**St. Ma

LTX					*e*PP	**PcP**	**12 17 56.2**	**+1.3**
TXAR	**Lajitas Array**	**43.10**	**302**	P	**P**	**12 16 06.8**	**+1.0**
	0.4nm,0.4s,baz=127,slow=9.2,SNR=9.2							
TXAR					PcP	**PcP**	**12 17 56.2**	**+1.3**
	0.8nm,0.5s,baz=120,slow=5.9,SNR=7.9							
TX31	**Lajitas Ar. Si**	**43.10**	**302**	*e*P	**P**	**12 16 05.6**	**-0.3**
MSTX	**Muleshoe**	**43.92**	**308**	*e*P	**P**	**12 16 12.5**	**+0.1**
	8.1nm,0.6s							
SCHQ	**Schefferville**	**44.25**	**356**	P	**P**	**12 16 15.1**	**+0.5**
	4.1nm,0.7s,baz=202,slow=16,SNR=3.8							
SDCO	**Great Sand Dun**	**47.42**	**312**	*e*P	**P**	**12 16 39.7**	**-0.4**
	2.5nm,0.6s							
ULM	**Lac du Bonnet**	**48.37**	**331**	P	**P**	**12 16 45.0**	**-1.9**
	5.5nm,0.7s,baz=128,slow=8.3,SNR=8.9							
PV01	**Paradox Valley**	**49.81**	**311**	*e*P	**P**	**12 16 59.5**	**+0.9**
PV14	**Lion Creek, Pa**	**50.23**	**312**	*e*P	**P**	**12 17 02.1**	**+0.4**
	4.1nm,0.6s							
H10N3	**ASCENSION HYDR**	**50.68**	**109**	T	T	13 12 11.0		
	baz=293,slow=75,SNR=19							
H10N2	**ASCENSION HYDR**	**50.69**	**109**	T	T	13 12 11.6		
	baz=293,slow=75,SNR=18							
H10N1	**ASCENSION HYDR**	**50.70**	**109**	T	T	13 12 11.6		
	baz=293,slow=75,SNR=19							
H10S3	**ASCENSION HYDR**	**50.92**	**111**	T	T	13 12 31.6		
	baz=294,slow=75,SNR=15							
H10S1	**ASCENSION HYDR**	**50.93**	**111**	T	T	13 12 32.2		
	baz=294,slow=75,SNR=15							
H10S2	**ASCENSION HYDR**	**50.94**	**111**	T	T	13 12 33.0		
	baz=294,slow=75,SNR=12							
SRU	**San Rafael Swe**	**51.59**	**312**	*e*P	**P**	**12 17 11.4**	**-0.4**
	3.2nm,0.7s							
PD31	**Pinedale Array**	**52.25**	**317**	*e*P	**P**	**12 17 16.5**	**-0.2**
PDAR	**Pinedale Array**	**52.25**	**317**	P	**P**	**12 17 16.2**	**-0.5**
	1.9nm,0.6s,baz=108,slow=8.8,SNR=21							
PDAR	**Pinedale Array**	**52.25**	**317**	*e*P	**P**	**12 17 15.9**	**-0.8**
PSUT	**Pine Spring**	**53.88**	**310**	*e*P	**P**	**12 17 28.6**	**-0.1**
	1.6nm,0.7s							
HLID	**Hailey**	**55.85**	**316**	*e*P	**P**	**12 17 43.2**	**+0.4**
	1.5nm,0.7s							
DBIC	**Dimbokro**	**56.53**	**89**	P	**P**	**12 17 48.3**	**+0.4**
	2.1nm,0.5s,baz=252,slow=8.5,SNR=3.8							
MDT	**Midelt**	**56.93**	**58**	LR	LR	12 38 08.5		
	comp=Z,22nm,21.0s,baz=10.0,slow=32							
NVAR	**Mina Array Bea**	**57.22**	**309**	P	**P**	**12 17 52.3**	**-0.5**
	0.3nm,0.5s,baz=104,slow=6.7,SNR=5.3							
NEW	**Newport**	**59.22**	**320**	*e*P	**P**	**12 18 06.0**	**-0.3**
	3.5nm,0.6s							
TOA1	**Torodi Ar. Sit**	**62.19**	**81**	*e*P	**P**	**12 18 27.2**	**+0.2**
TOA0	**Torodi Ar. Sit**	**62.19**	**81**	*e*P	**P**	**12 18 26.3**	**-0.7**
TORD	**Torodi Ar. Bea**	**62.19**	**81**	P	**P**	**12 18 27.2**	**+0.2**
	1.1nm,0.3s,baz=282,slow=5.8,SNR=24							
YKA	**Yellowknife Ar**	**63.94**	**336**	P	**P**	**12 18 36.5**	**-1.2**
	0.7nm,0.6s,baz=109,slow=7.2,SNR=4.4							
ILAR	**Eielson Array**	**78.29**	**334**	P	**P**	**12 20 04.0**	**-0.6**
	0.5nm,0.5s,baz=90,slow=4.5,SNR=12							
ARA0	**ARCESS Array S**	**79.22**	**21**	*e*P	**P**	**12 20 09.2**	**-0.3**
ARCES	**ARCESS Array B**	**79.22**	**21**	P	**P**	**12 20 09.2**	**-0.3**
	2.5nm,0.9s,baz=255,slow=3.5,SNR=3.3							
FIA0	**FINESS Array S**	**79.80**	**29**	*e*P	**P**	**12 20 13.2**	**+0.4**
FINES	**FINESS Array B**	**79.80**	**29**	P	**P**	**12 20 13.2**	**+0.4**
	3.7nm,0.9s,baz=282,slow=7.0,SNR=3.1							
FINES				LR	LR	12 53 10.7		
	comp=Z,44nm,18.8s,baz=214,slow=34							
KDAK	**Kodiak Island**	**81.42**	**327**	P	**P**	**12 20 21.6**	**+0.1**
	3.2nm,0.6s,baz=339,slow=4.4,SNR=4.0							
LZH	**Lanzhou**	**131.63**	**15**	*e*PKP	**PKPdf**	**12 27 15.8**	**-2.2**
LZH				pPKP	pPKPdf	12 27 37.9	+1.4
LZH				sPKP		12 27 47.2		
LZH				LR	LR			
	comp=N,75nm,18.0s							
LZH				LR	LR			
	comp=E,78nm,17.9s							
LZH				LR	LR			
	comp=Z,90nm,20.1s							
CMAR	**Chiang Mai Arr**	**145.49**	**33**	PKPbc	**PKPab**	**12 27 44.1**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=311,slow=4.7,SNR=4.3							

AZER ***12*** *12:10:16.7±3.5,38.°38N×46.°42E,h20km,ml4.0/23,Error ellipse: s-maj=4.3km s-min=1.1km az=34.0*
TEH ***12*** *12:10:18.0,38.°47N×46.°54E,h9km,ML3.7*
THR ***12*** *12:10:18.0±0.5,38.°51N×46.°52E,h14km±9km,ML3.7*

ISC 12 12:10:18.5±1.0,38.°47N±0.°02×46.°56E±0.°02,h17km±9km, n71,σ1°88/82,22C-16D,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ITBZ	**Tabriz**	**0.40**	**234**	*e*Pg	**Pg**	**12 10 25.9**	**-0.9**
ITBZ				IAMB	IAmb	12 10 28.1	
	comp=Z,49μm,0.2s						
ITBZ				IAMB	IAmb	12 10 32.3	
	comp=E,52μm,0.3s						
ITBZ				IAMB	IAmb	12 10 34.6	
	comp=N,54μm,0.3s						
IHSH	**Hashtrud**	**0.58**	**106**	*e*Pg	Pn	12 10 42.4	+10
IHSH				IAMB	IAmb	12 10 43.7	
	comp=E,51μm,0.1s						
IHSH				IAMB	IAmb	12 11 02.6	
	comp=E,85μm,0.3s						
IHSH				IAMB	IAmb	12 11 02.7	
	comp=N,43μm,0.2s						
ORD	**Ordubad**	**0.64**	**316**	⇓P	**Pb**	**12 10 30.8**	**-0.4**
ORD				⇑S	**Sb**	**12 10 40.7**	**+0.8**
ORD	**Ordubad**	**0.64**	**316**	*e*Pg	**Pb**	**12 10 30.8**	**-0.4**
IMRD	**Marand**	**0.71**	**290**	*e*Pg	**Pb**	**12 10 32.1**	**-0.5**
IMRD				IAMB	IAmb	12 10 45.3	
	comp=N,72nm,0.1s						
IMRD				IAMB	IAmb	12 10 46.6	
	comp=Z,43μm,0.3s						
IMRD				IAMB	IAmb	12 10 54.9	
	comp=E,75μm,0.3s						
ISHB	**Shabestar**	**0.76**	**256**	*e*Pg	**Pb**	**12 10 32.9**	**-0.6**
ISHB				IAMB	IAmb	12 10 49.1	
	comp=Z,24μm,0.3s						
ISHB				IAMB	IAmb	12 10 55.0	
	comp=E,50μm,0.6s						
ISHB				IAMB	IAmb	12 10 55.2	
	comp=N,31μm,0.4s						
IBST	**Bostanabad**	**0.81**	**161**	*e*Pg	**Pg**	**12 10 32.3**	**-2.1**
IBST				IAMB	IAmb	12 10 32.6	
	comp=N,58μm,0.2s						
IBST				IAMB	IAmb	12 10 32.6	
	comp=Z,75μm,0.2s						
IBST				IAMB	IAmb	12 10 45.4	
	comp=E,43μm,0.2s						
IAZR	**Azarshahr**	**0.91**	**210**	*e*Pg	**Pg**	**12 10 35.0**	**-1.3**
IAZR				IAMB	IAmb	12 10 52.8	
	comp=Z,38μm,0.3s						
IAZR				IAMB	IAmb	12 10 53.4	
	comp=N,79μm,0.3s						
IAZR				IAMB	IAmb	12 10 57.6	
	comp=E,14μm,0.2s						
ISRB	**Sarab**	**1.09**	**126**	*e*Pg	**Pb**	**12 10 37.7**	**-1.3**
ISRB				IAMB	IAmb	12 10 58.0	
	comp=E,51μm,0.2s						
ISRB				IAMB	IAmb	12 11 00.3	
	comp=Z,20μm,0.2s						
ISRB				IAMB	IAmb	12 11 01.5	
	comp=N,43μm,0.2s						
NAX	**Nakhchivan**	**1.09**	**311**	⇑P	**Pg**	**12 10 39.4**	**-0.3**
	SNR=43						
NAX				⇓S	**Sn**	**12 10 55.3**	**+1.5**
NAX	**Nakhchivan**	**1.09**	**311**	*e*Pg	**Pg**	**12 10 39.3**	**-0.3**
GRMI	**Germi**	**1.10**	**72**	*e*Pg	**Pb**	**12 10 38.6**	**-0.6**
GRMI				*e*Sg	**Sg**	**12 10 54.2**	**-0.1**
GRMI				IAML		12 10 56.1	
	comp=E,2μm,0.2s						
GRMI				IAML		12 10 57.3	
	comp=N,1μm,0.2s						
GRMI	**Germi**	**1.10**	**72**	*e*Pg	**Pb**	**12 10 38.6**	**-0.6**
SBZ	**Shahbuz**	**1.21**	**320**	⇓P	**Pb**	**12 10 40.6**	**-0.5**
SBZ				⇓S	**Sg**	**12 10 59.8**	**+2.0**
SBZ	**Shahbuz**	**1.21**	**320**	*e*Pg	**Pb**	**12 10 40.6**	**-0.5**
LRK	**Lerik**	**1.41**	**82**	⇓P	**Pb**	**12 10 44.6**	**0.0**
	SNR=87						
LRK				⇓S	**Sg**	**12 11 05.4**	**+1.3**
LRK	**Lerik**	**1.41**	**82**	*e*Pg	**Pb**	**12 10 44.5**	**0.0**
GLBA	**Clilabad**	**1.63**	**61**	P	**Pg**	**12 10 49.3**	**-0.6**
	SNR=44						
GLBA				⇓S	**Sg**	**12 11 13.6**	**+2.6**
GLBA	**Clilabad**	**1.63**	**61**	*e*Pn	**Pg**	**12 10 49.3**	**-0.6**
ASTR	**Astara**	**1.76**	**86**	P	**Pb**	**12 10 50.3**	**0.0**
	SNR=29						
ASTR				⇓S	**Sg**	**12 11 15.8**	**+0.7**
ASTR	**Astara**	**1.76**	**86**	*e*Pn	**Pb**	**12 10 50.3**	**0.0**
LKRN	**Lenkeran, Azer**	**1.76**	**81**	⇓P	**Pb**	**12 10 50.8**	**+0.5**
	SNR=39						
LKRN				⇓S	**Sg**	**12 11 15.4**	**+0.2**
LKRN	**Lenkeran, Azer**	**1.76**	**81**	*e*Pn	**Pb**	**12 10 50.8**	**+0.5**
HYR	**Heyderabad**	**1.82**	**314**	⇑P	**Pb**	**12 10 50.1**	**-1.4**
HYR				⇑S	**Sg**	**12 11 16.9**	**-0.3**
HYR	**Heyderabad**	**1.82**	**314**	*e*Pn	**Pb**	**12 10 50.0**	**-1.4**
BRDA	**Brd**	**1.86**	**15**	⇑P	**Pb**	**12 10 51.8**	**-0.3**
	SNR=5.5						
BRDA				⇑S	**Sg**	**12 11 20.3**	**+2.0**
BRDA	**Brd**	**1.86**	**15**	*e*Pn	**Pg**	**12 10 51.7**	**-0.3**
YOVA	**Hakkari_Y`...kse**	**1.99**	**245**	*i*P	**Pg**	**12 10 55.2**	**-1.7**
YOVA				*i*S	**Sg**	**12 11 24.7**	**+2.0**
ZRD	**Zardab**	**2.01**	**25**	⇑P	**Pb**	**12 10 54.2**	**-0.5**
	SNR=4.9						
ZRD				⇑S	**Sg**	**12 11 24.1**	**+0.9**
ZRD	**Zardab**	**2.01**	**25**	*e*Pn	**Pb**	**12 10 54.1**	**-0.5**
CLDR	**Caldiran**	**2.17**	**289**	*i*P	**Pg**	**12 11 00.1**	**-0.1**
CLDR				*i*S	**Sg**	**12 11 31.2**	**+2.9**
GANJ	**Ganja**	**2.18**	**355**	⇑P	**Pb**	**12 10 56.1**	**-1.6**
	SNR=31						
GANJ				⇑S	**Sg**	**12 11 26.7**	**-2.1**
GANJ	**Ganja**	**2.18**	**355**	*e*Pn	**Pb**	**12 10 56.0**	**-1.6**
KDMR	**Kurdemir**	**2.29**	**33**	⇓S	**Sg**	**12 11 30.8**	**-1.2**
GDB	**GEDABAY**	**2.33**	**345**	⇑P	**Pn**	**12 10 57.8**	**+1.4**
	SNR=79						
GDB				⇓S	**Sb**	**12 11 30.1**	**+1.3**
GDB	**GEDABAY**	**2.33**	**345**	*e*Pn	**Pn**	**12 10 57.7**	**+1.4**
MNGR	**Mingechevir, A**	**2.34**	**10**	⇓S	**Sg**	**12 11 32.2**	**-1.5**
ZNJK	**Zanjan**	**2.47**	**136**	*e*Pn	**Pb**	**12 11 00.7**	**-1.8**
ZNJK				*e*Sg	**Sg**	**12 11 36.9**	**-1.0**
ZNJK	**Zanjan**	**2.47**	**136**	*e*Pn	**Pb**	**12 11 00.7**	**-1.8**
IML	**Ismayilli**	**2.64**	**28**	⇑S	**Sb**	**12 11 37.5**	**-0.1**
QZX	**Qazax, Azerbai**	**2.74**	**341**	⇑P	**Pn**	**12 11 03.3**	**+1.5**
	SNR=17						
QZX				⇓S	**Sb**	**12 11 38.5**	**-2.0**
QZX	**Qazax, Azerbai**	**2.74**	**341**	*e*Pn	**Pn**	**12 11 03.3**	**+1.5**
GBS	**Qobustan**	**2.77**	**41**	⇑P	**Pn**	**12 11 04.8**	**+2.6**
	SNR=6.3						
GBS	**Qobustan**	**2.77**	**41**	*e*Pn	**Pn**	**12 11 04.8**	**+2.6**
SEKA	**Sheki**	**2.78**	**10**	⇑P	**Pn**	**12 11 04.7**	**+2.3**
	SNR=12						
SEKA	**Sheki**	**2.78**	**10**	*e*Pn	**Pn**	**12 11 04.7**	**+2.3**
PQL	**Pirkuli**	**2.80**	**34**	⇑P	**Pn**	**12 11 05.1**	**+2.4**
	SNR=16						
PQL	**Pirkuli**	**2.80**	**34**	*e*Pn	**Pn**	**12 11 05.1**	**+2.4**
XNQ	**Khinaliq**	**2.96**	**24**	⇓P	**Pn**	**12 11 07.5**	**+2.4**
	SNR=33						
XNQ	**Khinaliq**	**2.96**	**24**	*e*Pn	**Pn**	**12 11 07.4**	**+2.4**
ATGJ	**Altiaghaj**	**3.02**	**37**	⇓P	**Pn**	**12 11 08.3**	**+2.7**
	SNR=22						
ATGJ	**Altiaghaj**	**3.02**	**37**	*e*Pn	**Pn**	**12 11 08.3**	**+2.7**
SIZA	**Siyzn**	**3.17**	**34**	⇑P	**Pn**	**12 11 10.4**	**+2.7**
	SNR=11						
SIZA	**Siyzn**	**3.17**	**34**	*e*Pn	**Pn**	**12 11 10.4**	**+2.7**
QSAR	**Qusar**	**3.31**	**23**	⇑P	**Pn**	**12 11 12.0**	**+2.4**
	SNR=9.5						
QSAR	**Qusar**	**3.31**	**23**	*e*Pn	**Pn**	**12 11 12.0**	**+2.4**
ILIN	**Lien**	**3.56**	**175**	IAMB	IAmb	12 11 28.5	
	comp=Z,489nm,0.6s						
IGZV	**Ghazvin**	**3.58**	**124**	*e*Pn	**Pn**	**12 11 17.0**	**+3.5**
IGZV				IAMB	IAmb	12 12 20.8	
	comp=Z,949nm,0.6s						
IGZV				IAMB	IAmb	12 12 23.9	
	comp=E,2μm,0.6s						
IGZV				IAMB	IAmb	12 12 28.0	
	comp=N,3μm,0.6s						
HKZM	**Kohzaman**	**3.61**	**148**	*e*Pn	**Pn**	**12 11 17.4**	**+3.4**
HKZM				IAMB	IAmb	12 11 28.5	
	comp=E,0.0nm,0.4s						
HKZM				IAMB	IAmb	12 11 28.5	
	comp=Z,0.0nm,0.4s						
HKZM				IAMB	IAmb	12 12 46.6	
	comp=N,0.0nm,0.0s						
QABG	**Abgarm-Qazvin**	**3.67**	**138**	*e*Pn	**Pn**	**12 11 17.4**	**+2.7**
QABG				IAMB	IAmb	12 12 23.9	
	comp=E,0.0nm,0.7s						
QABG				IAMB	IAmb	12 12 24.1	
	comp=N,0.0nm,0.4s						
QABG				IAMB	IAmb	12 12 25.0	
	comp=Z,0.0nm,1.1s						
QALM	**Alamut, Qazvin**	**3.84**	**121**	*e*Pn	**Pn**	**12 11 20.7**	**+3.6**
QALM				IAMB	IAmb	12 12 32.6	
	comp=N,0.0nm,0.9s						
QALM				IAMB	IAmb	12 12 35.8	
	comp=E,0.0nm,0.9s						
QALM				IAMB	IAmb	12 12 42.0	
	comp=Z,0.0nm,1.1s						
IRAZ	**Razeghan**	**4.08**	**138**	IAMB	IAmb	12 11 38.6	
	comp=Z,939nm,0.4s						
IRAZ				IAMB	IAmb	12 12 32.8	
	comp=E,2μm,0.6s						
IRAZ				IAMB	IAmb	12 12 36.7	
	comp=N,456nm,0.5s						
IKOM	**Komasi**	**4.35**	**170**	IAMB	IAmb	12 12 51.4	
	comp=N,0.0nm,0.8s						
IKOM				IAMB	IAmb	12 12 55.0	
	comp=E,0.0nm,1.3s						
HSAM	**Samen**	**4.56**	**158**	IAMB	IAmb	12 11 47.5	
HSAM	comp=E,0.0nm,0.6s			IAMB	IAmb	12 12 51.9	
	comp=N,0.0nm,0.3s						
IDMV	**Damavand**	**5.25**	**122**	IAMB	IAmb	12 12 07.5	
	comp=Z,290nm,0.6s						
IDMV				IAMB	IAmb	12 13 21.0	
	comp=E,305nm,0.5s						
IDMV				IAMB	IAmb	12 13 27.4	
	comp=N,315nm,0.6s						
GHVR	**GHOM**	**5.51**	**135**	*e*Pn	**Pn**	**12 11 42.4**	**+2.4**
GHVR	**GHOM**	**5.51**	**135**	*e*Pn	**Pn**	**12 11 42.4**	**+2.4**
IALA	**Alasht**	**5.53**	**114**	*e*Pn	**Pn**	**12 11 44.8**	**+4.5**
IALA				IAMB	IAmb	12 12 10.0	
	comp=Z,306nm,0.6s						
IALA				IAMB	IAmb	12 13 31.4	
	comp=E,454nm,0.6s						
KRSH	**Karshahi**	**6.36**	**133**	IAMB	IAmb	12 13 51.0	
	comp=Z,0.0nm,0.6s						
KRSH				IAMB	IAmb	12 14 04.3	
	comp=N,0.0nm,0.9s						
AB31	**Akbulak array**	**14.45**	**37**	⇑Pn	**Pn**	**12 13 39.7**	**-2.5**
	comp=N,1.4nm,0.7s,baz=215,slow=12,SNR=14						
AB31				⇑Sn	Sn	12 16 10.2	-12
	comp=N,1.1nm,0.6s,baz=215,slow=24						
AKTO	**Aktyubinsk**	**14.47**	**31**	⇑Pn	**Pn**	**12 13 42.8**	**+0.3**
	comp=N,3.8nm,0.8s						
AKTO				⇑Sn	**Sn**	**12 16 18.1**	**-4.4**
	comp=N,3.0nm,0.7s						

IDC ***12*** *12:40:40.2±1.2,13.°72N×92.°54W,h0km,mb3.9/6, mb1 4.2/10,mb1mx3.9/45,mbtmp3.9/10,ML3.7/4,MS3.2/7, Ms1 3.3/7,ms1mx2.9/36,Error ellipse: s-maj=32.1km s-min=17.9km az=38.0*
NEIC ***12*** *12:40:47.1±0.7,13.°91N×92.°47W,h35km,mb4.3/36, MD3.9(MEX),Error ellipse: s-maj=11.8km s-min=8.5km az=175.0*
MEX ***12*** *12:40:50.3±0.3,14.°23N×92.°66W,h28km±13km,MD3.9*

ISC 12 12:40:43.3±1.5,14.°01N±0.°07×92.°43W±0.°06,h12km±8km, n81,σ1°92/80,mb4.4/38,MS3.4/6,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.91**	**10**	*e*Pg	**Pn**	**12 41 03.0**	**+1.2**
THIG				*e*Sn	**Sg**	**12 41 12.2**	**-0.4**
THIG		**0.91**	**10**	*i*P	**Pn**	**12 41 03.0**	**+1.2**
THIG				*e*S	**Sg**	**12 41 12.2**	**-0.4**
PCIG		**1.85**	**336**	*e*Pn	**Pn**	**12 41 14.1**	**-0.7**
PCIG		**1.85**	**336**	*e*P	**Pn**	**12 41 14.0**	**-0.8**
PCIG				*i*S	**Sn**	**12 41 32.4**	**-5.7**
APG	**El Apazote**	**2.14**	**62**	Pn	**Pb**	**12 41 21.9**	**-0.3**
	11nm,0.3s,baz=258,slow=7.3,SNR=34						
APG				LR	LR	12 41 42.3	
	comp=Z,77nm,20.6s,baz=170,slow=26						
APG				Sn	**Sg**	**12 41 53.1**	**+0.8**
	22nm,0.3s,baz=93,slow=15,SNR=6.1						
CCIG	**Comitan**	**2.27**	**7**	*e*Pn	**Pb**	**12 41 24.1**	**-0.3**
CCIG	**Comitan**	**2.27**	**7**	*e*P	**Pn**	**12 41 22.2**	**+1.4**
CCIG				*i*S	**Sn**	**12 41 46.3**	**-2.6**
TGIG		**2.83**	**346**	*e*Pn	**Pn**	**12 41 30.1**	**+1.7**
TGIG		**2.83**	**346**	*e*P	**Pn**	**12 41 27.9**	**-0.5**
TGIG				*i*S	**Sn**	**12 41 57.5**	**-4.9**
CMIG	**Matias Romero**	**3.87**	**323**	Pn	**Pn**	**12 41 42.6**	**0.0**
	2.5nm,0.3s,baz=139,slow=11,SNR=11						
TLIG	**Tlapa**	**6.88**	**302**	*e*Pn	**Pn**	**12 42 25.4**	**+1.2**
TEIG	**Tepich**	**7.34**	**32**	*e*Pn	**Pn**	**12 42 35.0**	**+4.6**
JTS	**JuntasAbangare**	**8.19**	**116**	Pn	**Pn**	**12 42 39.2**	**-2.8**
	2.0nm,0.3s,baz=338,slow=12,SNR=5.1						
MOIG	**Morelia**	**10.10**	**305**	*e*Pn	**Pn**	**12 43 10.9**	**+2.4**
348A	**Jackson**	**17.81**	**13**	*e*Pn	**P**	**12 44 53.4**	**+1.6**
	32nm,0.6s						
LTX	**Lajitas**	**18.46**	**327**	*e*Pn	**Pn**	**12 44 59.4**	**+0.2**
TXAR	**Lajitas Array**	**18.46**	**327**	P	**Pn**	**12 44 59.4**	**+0.2**
	0.1nm,0.3s,baz=152,slow=11,SNR=11						
TX31	**Lajitas Ar. Si**	**18.46**	**327**	*e*Pn	**Pn**	**12 45 01.3**	**+2.1**
TX31				*e*Pn	**pP**	**12 45 01.6**	**-1.0**
ABTX	**Abilene, Hawle**	**19.66**	**342**	*e*P	**Pn**	**12 45 14.3**	**+0.7**
	7.1nm,0.8s						
MIAR	**Mount Ida**	**20.47**	**357**	*e*P	**P**	**12 45 22.3**	**+1.4**
	9.6nm,0.9s						
OXF	**Oxford**	**20.59**	**7**	*e*P	Pn	12 45 25.0	+0.6
	21nm,1.1s						
GDL2	**Guadalupe Moun**	**21.14**	**331**	*e*P	**P**	**12 45 30.2**	**+1.8**
MNTX	**Cornudas Mount**	**21.23**	**328**	*e*P	**P**	**12 45 30.8**	**+1.6**
	5.3nm,0.9s						
WMOK	**Wichita Mounta**	**21.42**	**346**	*e*P	**P**	**12 45 32.6**	**+1.4**
	2.6nm,0.8s						
SDV	**Santo Domingo**	**21.95**	**101**	LR	LR	12 56 08.2	
	comp=Z,13nm,19.0s,baz=346,slow=42						
MSTX	**Muleshoe**	**21.97**	**336**	*e*P	**P**	**12 45 39.5**	**+2.2**
	8.0nm,0.8s						
AMTX	**Amarillo**	**22.40**	**340**	*e*P	**P**	**12 45 42.8**	**+1.0**
	21nm,0.7s						
TKL	**Tuckaleechee C**	**22.92**	**18**	LR	LR	12 55 49.6	
	comp=Z,126nm,18.5s,baz=202,slow=39						
BNM	**Barren Site**	**23.82**	**330**	*e*P	**P**	**12 45 58.0**	**+1.5**
LPM	**Los Pinos Moun**	**23.96**	**330**	*e*P	**P**	**12 45 59.5**	**+1.8**
LENM	**Lemitar**	**24.01**	**329**	*e*P	**P**	**12 46 00.1**	**+1.9**
LAZ	**Ladron**	**24.28**	**329**	*e*P	**P**	**12 46 00.4**	**-0.4**
ANMO	**Albuquerque**	**24.39**	**331**	P	**P**	**12 46 02.5**	**+0.8**
	0.9nm,0.6s,baz=180,slow=5.1,SNR=2.4						
ANMO	**Albuquerque**	**24.39**	**331**	*e*P	**P**	**12 46 04.9**	**+3.2**
	1.9nm,0.8s						
T25A	**Trinidad**	**25.39**	**337**	*e*P	**P**	**12 46 13.2**	**+2.3**
	13nm,1.0s						
SJG	**San Juan**	**25.57**	**77**	LR	LR	12 56 55.5	
	comp=Z,99nm,18.3s,baz=318,slow=38						
W18A	**Petrified Fore**	**26.18**	**326**	*e*P	**P**	**12 46 19.2**	**+1.3**
	4.4nm,0.9s						
SDCO	**Great Sand Dun**	**26.34**	**336**	*e*P	**P**	**12 46 21.8**	**+2.3**
	3.9nm,1.1s						
S22A	**4UR Ranch, Cre**	**26.89**	**334**	*e*P	**P**	**12 46 26.2**	**+1.8**
	4.8nm,1.0s						
MVCO	**Mesa Verde**	**27.19**	**331**	*e*P	**P**	**12 46 28.2**	**+1.1**
	9.1nm,0.9s						
PCRV	**Puerto La Cruz**	**27.43**	**95**	LR	LR	12 56 23.4	
	comp=Z,88nm,21.4s,baz=62,slow=34						
PV01	**Paradox Valley**	**27.97**	**332**	*e*P	**P**	**12 46 34.8**	**+0.7**
PV13	**Radium Mtn., P**	**28.11**	**332**	*e*P	**P**	**12 46 36.9**	**+1.6**
	6.3nm,1.0s						
PV03	**Paradox Valley**	**28.20**	**332**	*e*P	**P**	**12 46 38.5**	**+2.4**
PV12	**Saucer Basin,**	**28.23**	**332**	*e*P	**P**	**12 46 38.6**	**+2.2**
	9.9nm,1.1s						
PV11	**David Mesa, Pa**	**28.24**	**332**	*e*P	**P**	**12 46 38.9**	**+2.4**
	8.9nm,1.0s						
PV17	**East Wray Mesa**	**28.27**	**332**	*e*P	P	12 46 42.1	+5.4
	8.0nm,1.1s						
PV16	**Nyswonger Mesa**	**28.27**	**332**	*e*P	**P**	**12 46 38.9**	**+2.1**
	7.1nm,1.2s						
PV14	**Lion Creek, Pa**	**28.37**	**332**	*e*P	**P**	**12 46 39.5**	**+1.9**
	7.1nm,1.1s						
PV22	**Blue Mesa, Par**	**28.40**	**332**	*e*P	**P**	**12 46 39.2**	**+1.4**
	4.5nm,0.9s						
PD31	**Pinedale Array**	**32.24**	**336**	*e*P	**P**	**12 47 12.8**	**+1.0**
PDAR	**Pinedale Array**	**32.24**	**336**	P	**P**	**12 47 12.0**	**+0.2**
	0.6nm,0.9s,baz=128,slow=13,SNR=4.2						
HVU	**Hansel Valley**	**32.82**	**331**	*e*P	**P**	**12 47 18.6**	**+1.8**
	6.1nm,1.1s						
REDW	**Red Top Meadow**	**33.26**	**335**	*e*P	**P**	**12 47 22.3**	**+1.6**
	14nm,1.1s						
NV11	**Mina Array Sit**	**33.31**	**322**	*e*P	**P**	**12 47 23.4**	**+2.2**
	0.3nm,1.0s						
LOHW	**Long Hollow**	**33.37**	**336**	*e*P	**P**	**12 47 23.5**	**+1.8**
	2.3nm,0.9s						
NV01	**Mina Array Sit**	**33.40**	**321**	*e*P	**P**	**12 47 23.8**	**+1.8**
NVAR

IDC **12** *12:42:19.5±1.2,29˚29N×81˚37E, h0km, mb3.6/7, mb1 3.7/10,mb1mx3.5/49,mbtmp3.6/10,ML3.3/3,Error ellipse: s-maj=41.4km s-min=17.9km az=58.0*
ISCJB **12** *12:42:24.3±0.8,29˚66N±0˚09×81˚6E±0˚1, h27km, mb3.6/7, Error ellipse: s-maj=19.0km s-min=4.8km az=138.2*
DMN **12** *12:42:24.0±0.4,29˚55N×81˚31E, h10km, Ml4.6/6, Error ellipse: s-maj=13.8km s-min=7.3km az=29.0*

ISC 12 12:42:26.0±0.7, 29˚64N±0˚08×81˚69E±0˚05, h27km, n22, σ1º52/29, mb3.6/7, Nepal

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PYUN	**Piuthan**	**1.92**	**143**	*e*Pn		**Pn**		**12 42 57.0**	**-0.1**
PYUN				*e*Sn		**Sn**		**12 43 21.5**	**+1.1**
	524nm,0.4s								
DANN	**Dangsing**	**2.23**	**125**	*e*Pn		**Pn**		**12 43 03.2**	**+1.8**
DANN				*e*Sn		**Sb**		**12 43 31.8**	**-1.2**
	908nm,0.5s								
KOLN	**Koldanda**	**2.51**	**138**	*e*Pn		**Pn**		**12 43 06.0**	**+0.7**
GKN	**Gorkha**	**3.06**	**122**	*e*Pn		**Pn**		**12 43 14.6**	**+1.8**
DMN	**Daman**	**3.62**	**123**	*e*Pn		**Pn**		**12 43 21.8**	**+1.2**
KKN	**Kakani**	**3.66**	**119**	*e*Pn		**Pn**		**12 43 22.2**	**+1.2**
PKIN	**Phulchoki**	**3.86**	**121**	*e*Pn		**Pn**		**12 43 25.1**	**+1.3**
PKIN				*e*Sn		**Sn**		**12 44 10.0**	**+1.6**
	131nm,0.2s								
PKI	**Pulchoki**	**3.87**	**121**	*e*Pn		**Pn**		**12 43 25.1**	**+1.1**
PKI				*e*Sn		**Sn**		**12 44 10.0**	**+1.2**
	122nm,0.2s								
NDI	**New Delhi**	**4.03**	**257**	*e*P		**Pb**		**12 43 37.0**	**+0.8**
NDI				*e*P		**Sb**		**12 44 26.0**	**+1.5**
GUN	**Gumba**	**4.06**	**114**	*e*Pn		**Pn**		**12 43 28.0**	**+1.3**
JIRN	**Jiri**	**4.42**	**115**	*e*Pn		**Pn**		**12 43 32.8**	**+1.1**
JIRN				*e*Sn		**Sn**		**12 44 25.1**	**+2.6**
	198nm,0.2s								
RAMN	**Ramite**	**5.09**	**121**	*e*Pn		**Pn**		**12 43 41.7**	**+0.9**
RAMN				*e*Sn		**Sn**		**12 44 39.0**	**+0.1**
	249nm,0.2s								
AAK	**Ala-Archa**	**14.20**	**338**	Pn		**Pn**		**12 45 45.3**	**-0.1**
	0.2nm,0.3s,baz=352,slow=20,SNR=3.9								
MKAR	**Makanchi Array**	**17.13**	**1**	P		**Pn**		**12 46 23.1**	**-0.3**
	0.2nm,0.3s,baz=186,slow=13,SNR=4.9								
CMAR	**Chiang Mai Arr**	**19.27**	**121**	P		**P**		**12 46 47.5**	**-1.2**
	0.0nm,0.3s,baz=319,slow=11,SNR=3.9								
KURBB	**Kurchatov Arra**	**21.09**	**354**	P		**P**		**12 47 07.7**	**-0.5**
	1.1nm,0.4s,baz=178,slow=10,SNR=5.9								
ZALV	**Zalesovo Beam**	**24.39**	**4**	P		**P**		**12 47 42.1**	**+0.2**
	1.6nm,0.5s,baz=189,slow=10,SNR=8.0								
SONM	**Songino Array**	**26.30**	**39**	P		**P**		**12 48 02.5**	**+3.1**
	0.6nm,0.6s,baz=232,slow=9.8,SNR=5.3								
AKASG	**Malin Array Be**	**44.19**	**314**	P		**P**		**12 50 31.0**	**-1.5**
	0.7nm,0.4s,baz=87,slow=6.9,SNR=3.2								
ARCES	**ARCESS Array B**	**50.87**	**338**	P		**P**		**12 51 23.8**	**-0.3**
	2.1nm,0.9s,baz=109,slow=7.7,SNR=3.6								
WRA	**Warramunga Arr**	**70.73**	**128**	P		**P**		**12 53 37.4**	**-2.6**
	0.4nm,0.8s,baz=322,slow=6.1,SNR=5.3								
ASAR	**Alice Springs**	**72.98**	**131**	P		**P**		**12 53 50.8**	**-2.7**
	0.3nm,0.6s,baz=329,slow=6.6,SNR=7.9								

SKHL **12** *12:52:18.7±0.8,43˚46N×147˚78E, h42km±7km, mb4.4/6*
JMA **12** *12:52:19.2±0.3,43˚41N×147˚48E, h12km, M3.5*

ISC 12 12:52:20.2±2.5, 43˚57N±0˚09×147˚6E±0˚1, h29km±17km, n18, σ0º83/28, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.65**	**297**	*i* P		**Pb**		**12 52 33.0**	**0.0**
SHO					AMB	AMB		12 52 34.0	
	70nm,0.3s								
SHO					AMB	AMB		12 52 34.0	
	180nm,0.3s								
SHO				*i* S		**Sn**		**12 52 43.0**	**+0.3**
SHO				A		A		12 52 44.0	
	610nm,0.3s								
SHO				A		A		12 52 44.0	
	1µm,0.3s								
YUK	**Yuzh-Kuril'sk**	**1.36**	**290**	*e*P		**Pn**		**12 52 42.0**	**-1.2**
YUK					AMB	AMB		12 52 45.0	
	40nm,0.4s								
YUK					AMB	AMB		12 52 45.0	
	90nm,0.4s								
YUK					AMB	AMB		12 52 45.0	
	190nm,0.4s								
YUK				*i* S		**Sn**		**12 53 00.0**	**-0.2**
YUK				A		A		12 53 04.0	
	1µm,0.4s								
YUK				A		A		12 53 04.0	
	449nm,0.4s								
NEM2	**Nemuro 2**	**1.39**	**262**	P		**Pn**		**12 52 42.6**	**-1.0**
NEM2				*e*S		**Sn**		**12 52 59.4**	**-1.5**
GRPR	**Tuman**	**1.41**	**288**	*e*P		**Pn**		**12 52 43.0**	**-0.9**
GRPR					AMB	AMB		12 52 44.0	
	120nm,0.2s								
GRPR					AMB	AMB		12 52 44.0	
	4µm,0.2s								
GRPR				*i* S		**Sn**		**12 53 01.0**	**-0.5**
GRPR				A		A		12 53 04.0	
	1µm,0.5s								
GRPR				A		A		12 53 04.0	
	529nm,0.5s								
LAGR	**Lagunnoye**	**1.42**	**291**	*e*P		**Pn**		**12 52 43.0**	**-1.0**
LAGR					AMB	AMB		12 52 46.0	
	150nm,0.3s								
LAGR					AMB	AMB		12 52 46.0	
	4µm,0.3s								
LAGR				*i* S		**Sn**		**12 53 02.0**	**+0.3**
LAGR				A		A		12 53 08.0	
	1µm,0.4s								
LAGR				A		A		12 53 08.0	
	869nm,0.4s								
GLVR	**Golovnino**	**1.54**	**277**	*e*P		**Pn**		**12 52 45.0**	**-0.6**
GLVR					AMB	AMB		12 52 50.0	
	200nm,0.5s								
GLVR					AMB	AMB		12 52 50.0	
	4µm,0.5s								
GLVR				*i* S		**Sn**		**12 53 05.0**	**+0.3**
GLVR				A		A		12 53 08.0	
	560nm,0.4s								
GLVR				A		A		12 53 08.0	
	729nm,0.4s								
KUR	**Kuril'sk**	**1.67**	**6**	*e*P		**Pn**		**12 52 47.2**	**-0.2**
KUR					AMB	AMB		12 52 48.0	
	20nm,0.4s								
KUR					AMB	AMB		12 52 48.0	
	30nm,0.4s								
KUR					AMB	AMB		12 52 48.0	
	80nm,0.4s								
KUR				*e*S		**Sn**		**12 53 08.0**	**+0.1**
KUR				A		A		12 53 12.0	
	90nm,0.3s								
KUR				A		A		12 53 12.0	
	128nm,0.3s								
JRA	**Rausu**	**1.85**	**282**	P		**Pn**		**12 52 50.5**	**+0.6**
JRA				*e*S		**Sn**		**12 53 13.4**	**+1.0**
JNK	**Nakash**	**2.12**	**271**	P		**Pn**		**12 52 53.2**	**-0.4**
JNK				*e*S		**Sn**		**12 53 18.8**	**-0.1**
JAK	**Akkeshi**	**2.22**	**256**	P		**Pn**		**12 52 54.4**	**-0.6**
JAK				*e*S		**Sn**		**12 53 20.9**	**-0.5**
JTKR	**Abashiri--Toko**	**2.73**	**280**	P		**Pn**		**12 53 02.9**	**+1.0**
JAR	**Ashorobuto**	**2.83**	**266**	P		**Pn**		**12 53 03.9**	**+0.6**
JOB	**Onbets**	**2.85**	**258**	P		**Pn**		**12 53 04.1**	**+0.4**
JCH	**Churui**	**3.27**	**254**	P		**Pn**		**12 53 09.2**	**-0.2**
HRK	**Horoka**	**3.27**	**270**	*e*P		**Pn**		**12 53 11.1**	**+1.5**
JEM	**Erimo**	**3.64**	**246**	P		**Pn**		**12 53 15.7**	**+1.2**
JFR	**Furan**	**3.69**	**265**	P		**Pn**		**12 53 16.7**	**+1.4**
JNBK	**Urakawa-nobuka**	**3.81**	**252**	P		**Pn**		**12 53 16.5**	**-0.3**

MEX 12 12:53:26.7±0.7, 14˚34N×92˚21W, h107km±10km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THIG		**0.56**	**355**	*e*P		Pn		12 53 41.7	-2.0
THIG				*e*S		Sn		12 53 55.1	-1.4
PCIG		**1.67**	**324**	*e*P		Pn		12 53 54.4	-1.0
PCIG				*i* S		Sn		12 54 15.4	-1.9
CCIG	**Comitan**	**1.93**	**2**	*e*P		Pn		12 53 57.3	-1.6
CCIG				*i* S		Sn		12 54 21.5	-1.9
TGIG		**2.58**	**340**	*i* P		Pn		12 54 05.7	-1.4
TGIG				*i* S		Sn		12 54 37.5	-0.6

IDC 12 13:12:12.3±2.8, 5˚31S×149˚91E, h381km±28km, mb3.2/5, mb1 3.4/6, mb1mx3.1/34, mbtmp3.9/6, Error ellipse: s-maj=53.0km s-min=21.0km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.90**	**214**	P		**Pn**		**13 13 32.3**	**0.0**
	0.9nm,0.3s,baz=280,slow=11,SNR=2.9								
WRA	**Warramunga Arr**	**21.00**	**225**	P		**P**		**13 16 27.7**	**+0.3**
	3.6nm,0.4s,baz=52,slow=9.7,SNR=99								
ASAR	**Alice Springs**	**23.89**	**219**	P		**P**		**13 16 54.2**	**+0.6**
	0.6nm,0.4s,baz=49,slow=8.5,SNR=40								
FITZ	**Fitzroy Crossi**	**26.90**	**240**	P		**P**		**13 17 19.4**	**-1.0**
	7.7nm,1.1s,baz=52,slow=9.5,SNR=38								
SONM	**Songino Array**	**65.25**	**329**	P		**P**		**13 22 14.9**	**+0.2**
	0.4nm,0.4s,baz=144,slow=5.7,SNR=3.2								
ILAR	**Eielson Array**	**83.72**	**23**	P		**P**		**13 23 59.0**	**-0.3**
	0.4nm,0.6s,baz=246,slow=5.1,SNR=7.7								
TORD	**Torodi Ar. Bea**	**147.70**	**286**	PKPbc		**PKPbc**		**13 31 13.2**	**-0.7**
	0.2nm,0.4s,baz=82,slow=2.7,SNR=5.7								

IDC **12** *13:24:18.9±1.9,5˚50S×151˚61E, h0km, mb3.7/4, mb1 3.9/5,mb1mx3.6/26,mbtmp3.7/5,ML1.1/1,Error ellipse: s-maj=114.2km s-min=22.8km az=130.0*

ISC 12 13:24:25.9±2.2, 5˚7S±0˚7×151˚7E±0˚7, h57km, n6, σ2º09/7, mb3.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.80**	**231**	Pn		**Pn**		**13 25 46.4**	**-3.0**
	0.3nm,0.3s,baz=166,slow=16,SNR=1.4								
PMG					Sn		**Sn**	**13 26 56.9**	**+2.4**
	2.8nm,0.3s,baz=150,slow=20,SNR=2.9								
WRA	**Warramunga Arr**	**22.02**	**229**	P		**P**		**13 29 15.8**	**+0.1**
	1.2nm,0.7s,baz=54,slow=9.9,SNR=12								
ASAR	**Alice Springs**	**24.73**	**222**	P		**P**		**13 29 43.8**	**+1.7**
	1.2nm,0.7s,baz=53,slow=9.2,SNR=12								
FITZ	**Fitzroy Crossi**	**28.26**	**242**	P		**P**		**13 30 14.3**	**+0.4**
	1.3nm,0.5s,baz=78,slow=9.5,SNR=6.0								
ILAR	**Eielson Array**	**83.43**	**22**	P		**P**		**13 36 47.1**	**+0.3**
	0.3nm,0.6s,baz=249,slow=5.6,SNR=3.5								
TORD	**Torodi Ar. Bea**	**149.55**	**286**	PKPbc		**PKPbc**		**13 44 10.2**	**+0.2**
	baz=98,slow=3.2								

IDC **12** *13:24:38.6±1.9,5˚68S×151˚93E, h0km, mb4.0/4, mb1 4.2/5,mb1mx3.8/26,mbtmp4.0/5,ML2.0/1,MS3.1/4, Ms1 3.1/4,ms1mx2.7/34,Error ellipse: s-maj=110.7km s-min=23.5km az=131.0*

ISC 12 13:24:44.9±2.2, 5˚8S±0˚7×151˚9E±0˚7, h45km, n8, σ0º51/7, mb3.8/4, MS3.2/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.96**	**232**	Pn		**Pn**		**13 26 10.9**	**+0.3**
	2.5nm,0.3s,baz=31,slow=8.4,SNR=4.0								
PMG					Sn		**Sn**	**13 27 17.9**	**+0.2**
	5.7nm,0.3s,baz=352,slow=17,SNR=5.7								
PMG					LR		LR	13 28 06.5	
	comp=Z,74nm,19.2s,baz=228,slow=35								
DZM	**Mont Dzumac**	**21.44**	**141**	LR		LR		13 36 01.3	
	comp=Z,121nm,18.0s,baz=142,slow=32								
WRA	**Warramunga Arr**	**22.17**	**229**	P		**P**		**13 29 36.9**	**-0.4**
	2.7nm,0.7s,baz=53,slow=10.0,SNR=8.3								
WRA					LR		LR	13 38 23.4	
	comp=Z,45nm,20.8s,baz=55,slow=37								
ASAR	**Alice Springs**	**24.86**	**222**	P		**P**		**13 30 03.6**	**0.0**
	1.5nm,0.6s,baz=58,slow=8.9,SNR=10								
FITZ	**Fitzroy Crossi**	**28.45**	**242**	P		**P**		**13 30 35.7**	**-0.1**
	1.7nm,0.4s,baz=57,slow=10,SNR=7.7								
NWAO	**Narrogin (SRO)**	**42.10**	**226**	LR		LR		13 50 03.0	
	comp=Z,32nm,18.5s,baz=256,slow=36								
ILAR	**Eielson Array**	**83.37**	**22**	P		**P**		**13 37 07.5**	**+0.4**
	0.6nm,0.7s,baz=246,slow=5.2,SNR=6.8								
TORD	**Torodi Ar. Bea**	**149.76**	**286**	PKPbc		**PKPbc**		**13 44 30.3**	**-0.7**
	1.0nm,1.0s,baz=101,slow=4.2,SNR=4.1								

ISCJB **12** *13:43:11.2±1.1,8˚4S±0˚1×123˚8E±0˚1, h200km, mb3.2/1, Error ellipse: s-maj=18.6km s-min=8.7km az=44.8*
DJA **12** *13:43:12.6±0.9,8˚5±6˚×12˚4E±˚, h10km, M3.7/4, mb4.2/1, MLv3.5/4*
IDC **12** *13:43:12.9±1.7,8˚58S×123˚34E, h209km±17km, mb3.1/1, mb1 3.4/4, mb1mx3.1/32, mbtmp3.8/4, Error ellipse: s-maj=83.9km s-min=20.1km az=60.0*

ISC 12 13:43:12.4±1.3, 8˚5S±0˚1×123˚8E±0˚2, h200km, n9, σ1º82/12, Flores region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.37**	**159**	P		**Pn**		**13 43 43.9**	**-1.2**
SOEI				S		**Sn**		**13 44 09.1**	**-1.5**
BATI	**Baumata**	**1.72**	**183**	P		**Pn**		**13 43 48.5**	**+0.2**
	31nm,0.3s,baz=201,slow=1.4,SNR=38								
BATI				S		**Sn**		**13 44 17.2**	**+1.0**
	15nm,0.3s,baz=0.0,slow=20,SNR=7.9								
BATI	**Baumata**	**1.72**	**183**	P		**Pn**		**13 43 48.3**	**0.0**
BATI				S		**Sn**		**13 44 16.5**	**+0.3**
EDFI	**Ende, Flores**	**2.07**	**262**	P		**Pn**		**13 43 51.5**	**-0.3**
PLAI	**Plampang**	**5.93**	**266**	P		Pn		13 44 39.7	+0.9
FITZ	**Fitzroy Crossi**	**9.74**	**169**	P		**Pn**		**13 45 28.0**	**-0.3**
	0.5nm,0.3s,baz=358,slow=8.5,SNR=21								
FITZ				S		**Sn**		**13 47 13.9**	**-3.4**
	1.1nm,0.3s,baz=163,slow=13,SNR=10								
WRA	**Warramunga Arr**	**15.32**	**139**	P		**Pn**		**13 46 40.5**	**+1.8**
	0.5nm,0.3s,baz=317,slow=12,SNR=23								
WRA				S		S		13 49 21.3	-7.6
	0.2nm,0.3s,baz=319,slow=24,SNR=5.1								
ASAR	**Alice Springs**	**17.96**	**148**	P		**P**		**13 47 10.8**	**+2.9**
	0.4nm,0.3s,baz=329,slow=12,SNR=46								
MKAR	**Makanchi Array**	**66.24**	**330**	P		**P**		**13 53 37.7**	**-1.3**
	0.3nm,0.5s,baz=126,slow=9.2,SNR=3.5								

ISCJB **12** *13:52:17.1±0.7,5˚68S±0˚04×149˚00E±0˚06, h185km±7km, mb4.5/43, Error ellipse: s-maj=10.5km s-min=6.2km az=14.5*
NEIC **12** *13:52:17.1±0.2,5˚69S×149˚06E, mb4.7/31, Error ellipse: s-maj=6.7km s-min=3.9km az=108.0*
IDC **12** *13:52:17.7±0.8,5˚71S×149˚02E, h177km±7km, mb4.1/17, mb1 4.2/20,mb1mx4.1/35,mbtmp4.6/20,MS3.2/5, Ms1 3.2/5,ms1mx2.7/33,Error ellipse: s-maj=15.4km s-min=9.2km az=91.0*

ISC 12 13:52:17.4±0.6, 5˚74S±0˚05×149˚06E±0˚08, h176km±5km, h176km:pP-P, n81, σ0º84/93, mb4.6/44, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.45**	**64**	*e*Pn		**Pn**		**13 53 10.9**	**-0.6**
MANU	**Manus Island**	**4.04**	**335**	*e*Pn		**Pn**		**13 53 19.5**	**+0.5**
PMG	**Port Moresby**	**4.11**	**207**	P		**Pn**		**13 53 19.6**	**-0.2**
	14nm,0.3s,baz=51,slow=6.1,SNR=40								
PMG					S		**Sn**	**13 54 10.6**	**+2.0**
	39nm,0.3s,baz=127,slow=22,SNR=11								
JAY	**Jayapura**	**8.93**	**291**	P		**Pn**		**13 54 21.8**	**-1.3**
	baz=159,slow=14								
COEN	**Coen**	**10.02**	**215**	*e*Pn		**Pn**		**13 54 38.9**	**+1.5**
CTA	**Charters Tower**	**14.53**	**191**	P		**P**		**13 55 36.6**	**-0.1**
	0.3nm,0.3s,baz=8.3,slow=12,SNR=10								
CTAO	**Charters Tower**	**14.53**	**191**	*e*Pn		**P**		**13 55 36.1**	**-0.6**
MTN	**Manton Dam**	**19.04**	**247**	*e*P		**P**		**13 56 26.4**	**+0.1**
	101nm,0.6s								
EIDS	**Eidsvold**	**19.62**	**175**	*e*P		**P**		**13 56 34.0**	**+1.6**
	31nm,0.8s								
WRAB	**Tennant Creek**	**20.09**	**224**	*e*P		**P**		**13 56 37.7**	**0.0**
	49nm,1.4s								
WB2	**Warramunga Arr**	**20.10**	**224**	*e*P		**P**		**13 56 37.8**	**+0.1**
WRA	**Warramunga Arr**	**20.11**	**224**	P		**P**		**13 56 38.1**	**+0.3**
	12nm,0.5s,baz=50,slow=11,SNR=152								
WRA					pP		**pP**	**13 57 08.6**	**+0.8**
	7.8nm,0.6s,baz=49,slow=11,SNR=3.4								
WRA					S		**S**	**14 00 12.9**	**-1.2**
	5.5nm,0.8s,baz=49,slow=20,SNR=15								
WRA					ScP		**ScP**	**14 04 05.4**	**-0.2**
	2.7nm,0.7s,baz=47,slow=2.6,SNR=14								
WRA					LR		LR	14 04 45.7	
	comp=Z,90nm,19.6s,baz=160,slow=37								
AS01	**Alice Springs**	**23.01**	**218**	*e*P		**P**		**13 57 07.5**	**+0.4**
AS31	**Alice Springs**	**23.04**	**218**	*e*P		**P**		**13 57 07.8**	**+0.5**
	4.3nm,0.6s								
ASAR	**Alice Springs**	**23.04**	**218**	P		**P**		**13 57 08.3**	**+0.9**
	4.5nm,0.6s,baz=53,slow=8.3,SNR=173								
ASAR					pP		**pP**	**13 57 41.1**	**+1.3**
	11nm,0.7s,baz=52,slow=10,SNR=5.8								
ASAR					PcP		**PcP**	**14 00 51.5**	**+0.1**
	0.5nm,0.6s,baz=35,slow=5.2,SNR=4.5								
ASAR					S		**S**	**14 01 04.8**	**-0.1**
	2.1nm,0.8s,baz=50,slow=13,SNR=6.5								
ASAR					ScP		**ScP**	**14 04 13.7**	**+0.8**
	1.8nm,0.8s,baz=54,slow=4.0,SNR=7.2								
ASAR					LR		LR	14 05 53.6	
	comp=Z,60nm,18.7s,baz=42,slow=35								
DZM	**Mont Dzumac**	**23.37**	**136**	P		**P**		**13 57 11.5**	**+1.0**
	12nm,0.6s,baz=301,slow=21,SNR=16								
DZM	**Mont Dzumac**	**23.37**	**136**	*e*P		**P**		**13 57 10.9**	**+0.4**
	15nm,0.7s								
ARMA	**Armidale**	**24.67**	**175**	*e*P		**P**		**13 57 23.1**	**+0.8**
	43nm,1.5s								
FITZ	**Fitzroy Crossi**	**25.96**	**240**	P		**P**		**13 57 33.9**	**0.0**
	33nm,0.7s,baz=57,slow=9.8,SNR=168								
FITZ					pP		**pP**	**13 58 09.5**	**-0.4**
	27nm,1.0s,baz=68,slow=8.6,SNR=4.3								
FITZ					LR		LR	14 08 20.7	
	comp=Z,60nm,18.0s,baz=64,slow=37								
FITZ	**Fitzroy Crossi**	**25.96**	**240**	*e*P		**P**		**13 57 33.7**	**-0.1**
	29nm,0.8s								
FITZ					pP		**pP**	**13 58 09.5**	**-0.4**
STKA	**Stephens Creek**	**26.93**	**194**	P		**P**		**13 57 42.8**	**+0.4**
	2.3nm,0.7s,baz=36,slow=16,SNR=6.2								
STKA					pP		**pP**	**13 58 19.3**	**+0.8**
	5.7nm,0.8s,baz=359,slow=6.9,SNR=5.2								
STKA					LR		LR	14 08 46.1	
	comp=Z,40nm,18.6s,baz=28,slow=37								
MBWA	**Marble Bar**	**32.29**	**239**	*e*P		**P**		**13 58 29.3**	**-0.6**
	19nm,0.6s								
JNU	**Nakatsue**	**42.33**	**337**	P		**P**		**13 59 54.6**	**+0.5**
	25nm,0.5s,baz=93,slow=0.5,SNR=40								
JNU					LR		LR	14 15 47.4	
	comp=Z,25nm,21.8s,baz=116,slow=33								
JNU	**Nakatsue**	**42.33**	**337**	*e*P		**P**		**13 59 54.5**	**+0.3**
	54nm,1.0s								
MJAR	**Matsushiro Arr**	**43.27**	**347**	P		**P**		**14 00 01.2**	**-0.4**
	18nm,0.9s,baz=174,slow=8.4,SNR=26								
MAJO	**Matsushiro**	**43.27**	**347**	*e*P		**P**		**14 00 02.2**	**+0.6**
	44nm,1.1s								
MAT	**Matsushiro**	**43.27**	**347**	P		**P**		**14 00 01.6**	**0.0**
MJB9	**Matsu-Tunnel**	**43.27**	**347**	*e*P		**P**		**14 00 01.9**	**+0.3**
	43nm,1.1s								
KSRS	**Korea Array**	**47.28**	**337**	P		**P**		**14 00 33.9**	**+0.8**
	12nm,0.6s,baz=155,slow=8.6,SNR=43								
KS15	**Wonju Array Si**	**47.28**	**337**	*e*P		**P**		**14 00 33.3**	**+0.2**
KSAR	**Wonju Array Be**	**47.28**	**337**	P		**P**		**14 00 33.9**	**+0.8**
KS01	**Wonju Array Si**	**47.31**	**337**	*e*P		**P**		**14 00 33.4**	**+0.1**
ASAJ	**Asahikawa**	**49.97**	**354**	P		**P**		**14 00 54.0**	**+0.6**
	20nm,0.9s,baz=210,slow=9.4,SNR=7.5								
USRK	**Ussuriysk Ar.**	**52.04**	**344**	P		**P**		**14 01 10.1**	**+1.2**
	15nm,0.7s,baz=185,slow=6.9,SNR=26								
XAN	**Xi'an**	**54.81**	**319**	P		**P**		**14 01 29.6**	**+0.2**
XAN					pmax		pmax		
	comp=Z,11nm,0.8s								
XAN					pmax		pmax		
	comp=Z,130nm,5.6s								
CMAR	**Chiang Mai Arr**	**54.95**	**297**	P		**P**		**14 01 29.9**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=124,slow=6.2,SNR=14								
PEA0B	**Petropavlovsk-**	**59.08**	**6**	*e*P		**P**		**14 01 59.7**	**+0.7**
	comp=Z,28nm,0.7s								
PETK	**Petropavlovsk-**	**59.08**	**6**	P		**P**		**14 01 59.8**	**+0.8**
	comp=Z,17nm,0.5s,baz=166,slow=7.7,SNR=71								
PETK	**Petropavlovsk-**	**59.08**	**6**	*e*P		**P**		**14 01 59.4**	**+0.5**
GTA	**Gaotai**	**63.87**	**319**	*e*P		**P**		**14 02 32.8**	**+1.2**
GTA					pmax		pmax		
	comp=Z,3.0nm,1.0s								
SONM	**Songino Array**	**65.19**	**330**	P		**P**		**14 02 39.6**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=139,slow=4.5,SNR=14								
SONM					pP		**pP**	**14 03 20.3**	**-1.1**
	comp=Z,2.6nm,1.1s,baz=147,slow=7.1,SNR=3.8								
SONA1	**Songino Array**	**65.20**	**330**	*e*P		**P**		**14 02 39.6**	**-0.4**
SONA1					*e*pP		**pP**	**14 03 21.2**	**-0.2**
VNDA	**Vanda**	**72.06**	**177**	pP		pP		14 04 02.2	-1.8
	comp=Z,2.9nm,0.9s,baz=322,slow=7.8,SNR=10								
VNDA	**Vanda**	**72.06**	**177**	*e*P		**P**		**14 03 22.3**	**+0.5**
VNDA					*e*pP		**pP**	**14 04 02.1**	**-2.0**
BILL	**Bilibino**	**74.60**	**7**	*e*P		**P**		**14 03 36.9**	**+0.2**
	comp=Z,9.1nm,0.8s								
MKAR	**Makanchi Array**	**78.61**	**320**	P		**P**		**14 03 58.5**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=97,slow=8.4,SNR=12								
SVW2	**Sparrevohn**	**79.16**	**24**	*e*P		**P**		**14 04 03.2**	**+0.8**
	comp=Z,51nm,2.0s								
ZAA0	**Zalesovo Array**	**79.89**	**327**	*e*P		**P**		**14 04 05.4**	**-1.0**

	baz=317								
TWGBT				eS		Sn	14 01 33.0	-2.0	
	baz=317								
TWG	**Pinlang**	**0.38**	**324**	P		Pn	14 01 23.2	-0.5	
	baz=317								
TWG				S		Sn	14 01 33.2	-1.9	
	baz=317								
TAW	**Tawu**	**0.42**	**249**	P		Pn	14 01 23.7	-0.2	
	baz=251								
TAW				S		Sn	14 01 34.1	-1.2	
	baz=251								
EAST	**Anshuo**	**0.45**	**254**	*i* P		Pn	14 01 24.2	+0.1	
	baz=255								
EAST				S		Sn	14 01 35.0	-0.8	
	baz=255								
CHKT	**Chengkung**	**0.59**	**4**	P		Pn	14 01 25.3	+0.2	
	baz=358								
CHKT				S		Sn	14 01 37.0	-0.6	
	baz=358								
MASBT	**Mashibuluo**	**0.64**	**279**	*e*P		Pn	14 01 26.1	+0.6	
	baz=279								
MASBT				eS		Sn	14 01 37.4	-0.9	
	baz=279								
SCZT	**Fangliau**	**0.66**	**258**	*i* P		Pn	14 01 26.1	+0.5	
	baz=265								
SCZT				S		Sn	14 01 37.6	-0.9	
	baz=265								
SSD	**Sandimen**	**0.67**	**291**	*i* P		Pn	14 01 26.6	+0.8	
	baz=289								
SSD				S		Sn	14 01 38.4	-0.4	
	baz=289								
FULB	**Fuli**	**0.69**	**358**	*e*P		Pn	14 01 26.5	+0.5	
	baz=346								
FULB				eS		Sn	14 01 39.5	+0.4	
	baz=346								
TSEB	**Hengchuen, Pin**	**0.72**	**212**	*e*P		Pn	14 01 26.9	+0.7	
	baz=219								
TSEB				eS		Sn	14 01 40.4	+1.0	
	baz=219								
ELDTW	**Lidau**	**0.73**	**338**	P		Pn	14 01 26.8	+0.3	
	baz=335								
ELDTW				eS		Sn	14 01 39.4	-0.5	
	baz=335								
HEN	**Hengchun**	**0.73**	**227**	P		Pn	14 01 26.9	+0.6	
	baz=229								
HEN				eS		Sn	14 01 39.6	-0.1	
	baz=229								
TWKBT	**Hengchun**	**0.73**	**220**	*e*P		Pn	14 01 26.8	+0.5	
	baz=223								
TWKBT				eS		Sn	14 01 39.5	-0.3	
	baz=223								
TWK1	**Hengchun**	**0.73**	**220**	P		Pn	14 01 26.8	+0.5	
	baz=223								
TWK1				eS		Sn	14 01 39.7	-0.1	
	baz=223								
SLGT	**Liugui**	**0.78**	**308**	*e*P		Pn	14 01 27.6	+0.8	
	baz=297								
SLGT				eS		Sn	14 01 40.5	-0.1	
	baz=297								
SGLT	**Jiouru**	**0.79**	**286**	*e*P		Pn	14 01 28.3	+1.5	
	baz=285								
SGLT				eS		Sn	14 01 42.2	+1.5	
	baz=285								
STYT	**Tauyuan**	**0.83**	**322**	*i* P		Pn	14 01 28.1	+0.8	
	baz=320								
STYT				S		Sn	14 01 41.5	0.0	
	baz=320								
TWF1	**Yuli**	**0.84**	**359**	P		Pn	14 01 27.3	-0.1	
	baz=350								
TWF1				eS		Sn	14 01 40.5	-1.1	
	baz=350								
YULB	**Yu-li**	**0.88**	**359**	*e*P		Pn	14 01 27.6	-0.2	
	baz=356								
YULB				eS		Sn	14 01 40.7	-1.6	
	baz=356								
WLCH	**Liuqiu**	**0.88**	**260**	*e*P		Pn	14 01 29.8	+2.1	
	baz=253								
WLCH				eS		Sn	14 01 44.7	+2.5	
	baz=253								
TWM1	**Shoushan**	**0.88**	**291**	*e*P		Pn	14 01 29.5	+1.7	
	baz=290								
TWM1				eS		Sn	14 01 44.2	+1.9	
	baz=290								
SGST	**Jiashian**	**0.88**	**310**	*i* P		Pn	14 01 28.8	+1.0	
	baz=309								
SGST				S		Sn	14 01 42.5	+0.1	
	baz=309								
TWP	**Hsiaoliuchiu**	**0.90**	**260**	*e*P		Pn	14 01 29.7	+1.9	
	baz=261								
TWP				eS		Sn	14 01 45.4	+2.9	
	baz=261								
KAU	**Kaohsiung**	**0.93**	**274**	*e*P		Pn	14 01 29.8	+1.5	
	baz=274								
KAU				eS		Sn	14 01 45.2	+2.0	
	baz=274								
WTP	**Ta-pu**	**0.98**	**319**	*i* P		Pn	14 01 29.7	+0.9	
	baz=317								
WTP				S		Sn	14 01 44.3	+0.1	
	baz=317								
HGSD	**Ruisui**	**0.98**	**6**	*e*P		Pn	14 01 29.4	+0.6	
	baz=3.0								
HGSD				eS		Sn	14 01 44.7	+0.6	
	baz=3.0								
CHN1	**Nanshi**	**0.99**	**313**	*i* P		Pn	14 01 29.7	+0.8	
	baz=311								
CHN1				S		Sn	14 01 44.5	+0.2	
	baz=311								
EHY	**Hungye**	**0.99**	**0**	P		Pn	14 01 28.9	-0.1	
	baz=357								
EHY				S		Sn	14 01 42.8	-1.6	
	baz=357								
TPUB	**Ta-pu**	**1.01**	**321**	*e*P		Pn	14 01 29.8	+0.7	
	baz=319								
TPUB				eS		Sn	14 01 44.4	-0.3	
	baz=319								
YUS	**Yu-Shan**	**1.03**	**341**	eS		Sn	14 01 47.5	+1.6	
	baz=328								
CHN4	**Tsaushan**	**1.07**	**322**	*i* P		Pn	14 01 30.6	+0.8	
	baz=320								
CHN4				S		Sn	14 01 45.9	+0.1	
	baz=320								
TWK	**Hsinying**	**1.07**	**315**	P		Pn	14 01 30.5	+0.7	
	baz=314								
TWK				S		Sn	14 01 45.9	-0.1	
	baz=314								
TAI1	**Yung-k'ang**	**1.13**	**298**	*e*P		Pn	14 01 31.4	+1.0	
	baz=297								
TAI1				eS		Sn	14 01 47.6	+0.6	
	baz=297								
EGFH	**Guangfu**	**1.16**	**5**	*e*P		Pn	14 01 30.8	0.0	
	baz=357								
EGFH				eS		Sn	14 01 46.5	-1.1	
	baz=357								
SCLT	**Jiali**	**1.23**	**303**	P		Pn	14 01 32.5	+1.0	
	baz=302								
SCLT				S		Sn	14 01 50.0	+1.0	
	baz=302								
CHN5	**Tsauling**	**1.23**	**332**	P		Pn	14 01 32.2	+0.5	
	baz=321								
CHN5				eS		Sn	14 01 49.4	+0.2	
	baz=321								
CHN2	**Minshiung**	**1.28**	**323**	*e*P		Pn	14 01 32.9	+0.8	
	baz=321								
CHN2				eS		Sn	14 01 50.5	+0.4	
	baz=321								
CHY	**Chiayi**	**1.28**	**320**	P		Pn	14 01 32.8	+0.6	
	baz=319								
CHY				eS		Sn	14 01 50.0	-0.1	
	baz=319								
ESL	**Shilin**	**1.30**	**5**	*e*P		Pn	14 01 32.2	-0.3	
	baz=2.0								
ESL				eS		Sn	14 01 48.4	-2.2	
	baz=2.0								
SSLB	**Suanglung**	**1.31**	**345**	*e*P		Pn	14 01 33.1	+0.5	
	baz=333								
SSLB				eS		Sn	14 01 51.0	+0.1	
	baz=333								
CHN8	**Yiju**	**1.32**	**310**	P		Pn	14 01 33.3	+0.8	
	baz=309								
CHN8				S		Sn	14 01 51.2	+0.4	
	baz=309								
WGK	**Gukeng**	**1.36**	**330**	P		Pn	14 01 33.8	+0.7	
	baz=319								
WGK				S		Sn	14 01 52.2	+0.4	
	baz=319								
WDLH	**Douliu**	**1.38**	**329**	*e*P		Pn	14 01 34.0	+0.7	
	baz=327								
WDLH				eS		Sn	14 01 52.1	0.0	
	baz=327								
WJS	**Zhushan**	**1.41**	**338**	*e*P		Pn	14 01 34.7	+1.0	
	baz=335								
WJS				eS		Sn	14 01 53.4	+0.5	
	baz=335								
SMLT	**Sun Moon Lake**	**1.42**	**344**	P		Pn	14 01 34.7	+0.7	
	baz=333								
SMLT				eS		Sn	14 01 54.0	+0.8	
	baz=333								
WNT	**Mingjian**	**1.48**	**337**	*i* P		Pn	14 01 35.7	+1.1	
	baz=335								
WNT				S		Sn	14 01 55.1	+0.7	
	baz=335								
WSF	**Szhu**	**1.51**	**318**	*i* P		Pn	14 01 35.2	+0.4	
	baz=317								
WSF				S		Sn	14 01 54.8	-0.1	
	baz=317								
CHGB	**Renai**	**1.55**	**355**	*e*P		Pn	14 01 36.9	+1.3	
	baz=344								
CHGB				eS		Sn	14 01 56.7	+0.5	
	baz=344								
TWD	**Chiawan**	**1.58**	**9**	*e*P		Pn	14 01 36.2	+0.4	
	baz=356								
TWD				eS		Sn	14 01 56.3	-0.3	
	baz=356								
WHF	**Hehuan Shan**	**1.63**	**358**	*e*P		Pn	14 01 37.8	+1.0	
	baz=349								
WHF				eS		Sn	14 01 58.1	-0.2	
	baz=349								
RLNB	**Erlin**	**1.63**	**328**	*e*P		Pn	14 01 36.6	+0.2	
	baz=326								
RLNB				eS		Sn	14 01 57.6	0.0	
	baz=326								
WTCT	**Ta-ch'eng**	**1.65**	**325**	*e*P		Pn	14 01 36.9	+0.3	
	baz=324								
WTCT				eS		Sn	14 01 58.0	0.0	
	baz=324								
NACB	**Ninganchiao**	**1.68**	**9**	*e*P		Pn	14 01 37.0	0.0	
	baz=357								
NACB				eS		Sn	14 01 57.9	-0.8	
	baz=357								
WDGT	**Dungji**	**1.70**	**296**	P		Pn	14 01 37.6	+0.4	
	baz=296								
WDGT				S		Sn	14 01 57.7	-1.4	
	baz=296								
WCHH	**Zhanghua**	**1.71**	**336**	P		Pn	14 01 38.1	+0.8	
	baz=334								
WCHH				S		Sn	14 02 00.6	+1.2	
	baz=334								
TCU	**Taichung**	**1.73**	**340**	*e*P		Pn	14 01 38.9	+1.2	
	baz=330								
TCU				eS		Sn	14 02 00.8	+0.8	
	baz=330								
TWT	**Tachien**	**1.74**	**356**	*e*P		Pn	14 01 39.1	+1.1	
	baz=342								
TWT				eS		Sn	14 02 01.8	+1.4	
	baz=342								
TDCB	**Techi**	**1.74**	**355**	*e*P		Pn	14 01 39.2	+1.3	
	baz=342								
TDCB				eS		Sn	14 02 01.4	+1.0	
	baz=342								
VCHM	**Qimei**	**1.87**	**292**	*e*P		Pn	14 01 39.4	0.0	
	baz=292								
VCHM				eS		Sn	14 02 01.7	-1.4	
	baz=292								
PHUB	**P'eng-hu**	**1.89**	**302**	*e*P		Pn	14 01 39.8	+0.2	
	baz=308								
PHUB				eS		Sn	14 02 01.8	-1.7	
	baz=308								
TWQ1	**Liyutan**	**1.90**	**345**	*e*P		Pn	14 01 40.5	+0.7	
	baz=342								
TWQ1				eS		Sn	14 02 04.9	+1.2	
	baz=342								
NNSB	**Datong**	**1.91**	**2**	*e*P		Pn	14 01 41.3	+1.2	
	baz=6.0								
NNSB				eS		Sn	14 02 04.5	+0.3	
	baz=6.0								
NNS	**Nan Shan**	**1.92**	**2**	*e*P		Pn	14 01 42.0	+1.7	
	baz=6.0								
NNS				eS		Sn	14 02 04.9	+0.5	
	baz=6.0								
PNG	**Penghu**	**1.93**	**303**	P		Pn	14 01 40.5	+0.3	
	baz=309								
PNG				eS		Sn	14 02 03.0	-1.4	
	baz=309								
ENA	**Nanau**	**1.95**	**11**	*e*P		Pn	14 01 41.7	+1.2	
	baz=357								
ENA				eS		Sn	14 02 04.5	-0.3	
	baz=357								
NSY	**Sanyi**	**1.96**	**345**	*e*P		Pn	14 01 41.9	+1.2	
	baz=342								
NSY				eS		Sn	14 02 06.7	+1.5	
	baz=342								
PTSB	**Yuanli**	**2.01**	**344**	*e*P		Pn	14 01 42.1	+0.9	
	baz=341								
PTSB				eS		Sn	14 02 06.8	+0.6	
	baz=341								
NMLH	**Miaoli**	**2.08**	**347**	*e*S		Sn	14 02 07.9	+0.2	
	baz=344								
NSTT	**Nanjuang**	**2.13**	**352**	*e*P		Pn	14 01 43.3	+0.5	
	baz=339								
NSTT				eS		Sn	14 02 08.6	-0.4	
	baz=339								
ENTT	**Nioudou**	**2.13**	**6**	*e*P		Pn	14 01 44.0	+1.2	
	baz=10.0								
ENTT				eS		Sn	14 02 09.2	+0.1	
	baz=10.0								
LIOB	**Emei**	**2.15**	**353**	*e*P		Pn	14 01 43.5	+0.5	
	baz=339								
LIOB				eS		Sn	14 02 09.3	0.0	
	baz=339								
YHNB	**Yeheng**	**2.15**	**1**	*e*P		Pn	14 01 44.5	+1.4	
	baz=6.0								
YHNB				eS		Sn	14 02 10.2	+0.6	
	baz=6.0								
NSK	**Sanguang**	**2.16**	**1**	*e*P		Pn	14 01 45.1	+1.9	
	baz=5.0								
NSK				eS		Sn	14 02 10.7	+1.0	
	baz=5.0								
EOS1	**EOS1**	**2.16**	**20**	P		Pn	14 01 44.6	+1.5	
	baz=25								
EOS1				S		Sn	14 02 10.7	+1.0	
	baz=25								
TWE	**Neicheng**	**2.23**	**8**	*e*P		Pn	14 01 45.0	+1.0	
	baz=6.0								
TWE				eS		Sn	14 02 11.5	+0.3	
	baz=6.0								
SLBB	**Yuanshan**	**2.25**	**7**	*e*P		Pn	14 01 45.5	+1.1	
	baz=11								
SLBB				eS		Sn	14 02 12.4	+0.5	
	baz=11								
NWLT	**Wulai**	**2.27**	**4**	*e*P		Pn	14 01 46.2	+1.7	
	baz=2.0								
NWLT				eS		Sn	14 02 13.0	+0.8	
	baz=2.0								
NTC	**Toucheng**	**2.38**	**11**	eS		Sn	14 02 17.3	+2.4	
	baz=358								
TATO	**Taipei**	**2.46**	**4**	*e*P		Pn	14 01 49.3	+2.2	
	baz=11								
TATO				eS		Sn	14 02 18.0	+1.3	
	baz=11								
YOJ	**Yonaguni jima**	**2.49**	**38**	eS		Sn	14 02 18.2	+0.8	
	baz=45								
YOJ	**Yonaguni jima**	**2.49**	**38**	P		Pn	14 01 48.7	+1.3	
NWF	**Wu-fen Shan**	**2.59**	**9**	*e*P		Pn	14 01 50.7	+1.9	
	baz=355								
NWF				eS		Sn	14 02 20.7	+0.9	
	baz=355								
YM01	**YM01**	**2.64**	**5**	eS		Sn	14 02 21.7	+0.8	
	baz=2.0								
YM04	**YM04**	**2.64**	**4**	eS		Sn	14 02 21.9	+0.9	
	baz=2.0								
YM10	**YM10**	**2.64**	**5**	*e*P		Pn	14 01 50.4	+0.8	
	baz=4.0								
YM05	**YM05**	**2.65**	**5**	*e*P		Pn	14 01 50.9	+1.2	
	baz=2.0								
YM05				eS		Sn	14 02 21.4	+0.1	
	baz=2.0								
YM07	**YM07**	**2.67**	**6**	eS		Sn	14 02 22.5	+0.8	
	baz=3.0								
HATJ	**Hateruma jima**	**2.76**	**56**	P		Pn	14 01 51.3	+0.3	
HATJ				S		Sn	14 02 23.2	-0.6	
IRIF	**Iriomote-Funau**	**2.87**	**50**	P		Pn	14 01 52.9	+0.5	
VWUC	**VWUC**	**3.00**	**326**	*e*P		Pn	14 01 54.3	+0.1	
	baz=325								
VWUC				eS		Sn	14 02 27.9	-1.6	
	baz=325								
JKRS	**Kuro-shima**	**3.02**	**55**	P		Pn	14 01 54.6	+0.2	
JKRS				S		Sn	14 02 30.4	+0.6	
JIJ	**Ishigaki jima**	**3.19**	**54**	P		Pn	14 01 57.1	+0.4	
JIJ				eS		Sn	14 02 33.3	-0.6	
PTMZ	**Houxiangcun**	**3.22**	**322**	*e*P		Pn	14 01 57.5	+0.3	
	baz=322								
KNM	**Kinmen**	**3.26**	**306**	*e*P		Pn	14 01 59.3	+1.7	
	baz=303								
PTTC	**Pingtan**	**3.30**	**335**	*e*P		Pn	14 01 58.0	-0.2	
	baz=339								
PTTC				eS		Sn	14 02 34.5	-2.1	
	baz=339								
KNMB	**Chin-men Tao**	**3.32**	**306**	*e*P		Pn	14 01 58.8	+0.3	
	baz=305								
JISG	**Ishigakijimahi**	**3.44**	**52**	P		Pn	14 01 59.7	-0.4	
JISG				eS		Sn	14 02 39.3	-0.7	
ZPLA	**Ao Xicun**	**3.57**	**294**	*e*P		Pn	14 02 02.5	+0.6	
	baz=293								
ZPLA				eS		Sn	14 02 41.5	-1.7	
	baz=293								
JTJ	**Tarama**	**3.76**	**55**	S		Sn	14 02 46.6	-1.2	
MATB	**Ma-tsu**	**3.84**	**341**	*e*P		Pn	14 02 05.3	-0.1	
	baz=338								
MATB				eS		Sn	14 02 46.7	-2.8	
	baz=338								
AXDP	**Jialang**	**3.88**	**308**	*e*P		Pn	14 02 06.2	+0.2	
	baz=309								
AXDP				eS		Sn	14 02 49.3	-1.3	
	baz=309								
ZZJH	**Jiuhuzhen**	**3.91**	**301**	*e*P		Pn	14 02 06.7	+0.3	
	baz=299								
ZZJH				eS		Sn	14 02 49.6	-1.6	
	baz=299								
MHZQ	**Yeshan**	**4.14**	**330**	*e*P		Pn	14 02 09.5	0.0	
	baz=329								
MHZQ				eS		Sn	14 02 55.0	-1.8	
	baz=329								
LYJJ	**Jianjiangzhen**	**4.26**	**341**	*e*P		Pn	14 02 11.0	-0.2	
	baz=337								
LYJJ				eS		Sn	14 02 58.3	-1.6	
	baz=337								
XPSS	**Dashiqiu**	**4.52**	**347**	*e*P		Pn	14 02 14.1	-0.5	
	baz=342								
XPSS				eS		Sn	14 03 02.8	-3.2	
	baz=342								
VDOS	**Pratas Island**	**4.63**	**248**	*e*S		Sn	14 03 07.2	-1.6	
	baz=250								

RSNC 12 14:07:52.2±1.3, 6°27N×77°57W, h11km±4km, ML3.0, Mw3.9, 1C, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**0.17**	**105**	*e*P	Pg	14 07 55.5	-0.4
SOLC				*i* Pg	Pb	14 07 56.0	-1.3
SOLC				eS	Sg	14 07 58.8	+0.4
PTAC	**Punta Ardita,**	**0.90**	**345**	*e*S	Sg	14 08 20.3	-1.1
DBBC	**Dabeiba**	**1.54**	**61**	*e*P	Pn	14 08 17.0	-2.7
HELC	**Santa Helena**	**2.03**	**92**	*i*P	Pn	14 08 24.7	-2.0
HELC				eS	Sn	14 08 51.2	-1.0
HELC				*i*		14 08 54.0	
	comp=N,75nm,0.5s						
UPD2	**Meteti**	**2.31**	**349**	*e*P	Pn	14 08 29.6	-0.6
UPD2				eS	Sn	14 08 58.6	+0.1
UPD2				*i*		14 09 09.5	
	comp=N,491nm,0.6s						
GUYC	**Guyana, Colomb**	**2.41**	**116**	*e*P	Pn	14 08 31.7	-0.2
RREF	**El Recreo**	**2.60**	**121**	*e*P	Pn	14 08 34.5	-0.2
RREF				eS	Sn	14 09 06.0	-0.6
RREF				*i*		14 09 17.0	
	comp=Z,21nm,0.5s						
ZARC	**Zaragoza, Cauc**	**2.95**	**66**	*e*P	Pn	14 08 38.0	-1.1
ZARC				eS	Sn	14 09 13.8	-0.7
AZU	**Azuero**	**3.08**	**300**	*e*P	Pn	14 08 38.4	-2.4
PTBC	**PUERTO BERRIO,**	**3.10**	**85**	*e*P	Pn	14 08 40.9	-0.4
PTBC				*i*		14 09 29.5	
	comp=N,36nm,0.4s						
MOTC	**Monteria, Cord**	**3.13**	**37**	*e*P	Pn	14 08 39.6	-1.9
MOTC				eS	Sn	14 09 16.7	-2.1
MOTC				*i*		14 09 21.5	
	comp=N,43nm,0.5s						

IGQ **12** *14:08:10.0±4.4, 7°S±29°×7°6W±2°8, h250km±40km, M5.3/7, mb5.2/7, mB5.5/5, MLv5.5/7, Mw(mB)4.9/5*
IDC **12** *14:08:29.2±0.8, 5°17S×76°48W, h0km, mb3.9/8, mb1 4.2/13, mb1mx4.0/34, mbtmp4.0/13, ML3.9/5, MS3.3/2, Ms1 3.3/2, ms1mx2.6/34, Error ellipse: s-maj=22.9km s-min=17.0km az=77.0*
ISCJB **12** *14:08:31.2±0.3, 5°24S±0°04×76°52W±0°05, h33km, mb4.2/12, MS3.9/1, Error ellipse: s-maj=8.0km s-min=4.2km az=154.3*
NEIC **12** *14:08:33.5±0.4, 5°24S×76°45W, h35km, mb4.6/7, Error ellipse: s-maj=11.0km s-min=8.1km az=69.0*

ISC 12 14:08:33.4±0.5, 5°18S±0°05×76°54W±0°08, h35km, n79, σ1§11/80, mb4.3/12, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZUMB	**Zumba**	**2.62**	**277**	P		**Pn**	**14 09 11.6**	**-1.7**
ZUMB	**Zumba**	**2.62**	**277**	P		**Pn**	**14 09 11.6**	**-1.7**
ATAH	**Atahualpa**	**2.68**	**223**	Pn		**Pn**	**14 09 15.9**	**+1.5**
	24nm,0.3s,baz=21,slow=11,SNR=60							
ATAH				Lg	Lg		14 09 51.5	
	54nm,0.3s,baz=41,slow=20,SNR=9.2							
ATAH				LR	LR		14 10 18.2	
	comp=Z,182nm,21.1s,baz=105,slow=40							
GONZ	**Gonzanamá**	**3.00**	**288**	P		**Pn**	**14 09 18.1**	**-0.7**
MCRA	**Macará, Loja**	**3.50**	**283**	P		**Pn**	**14 09 23.8**	**-1.6**
COHC	**Cochancay**	**3.82**	**315**	P		**Pn**	**14 09 29.6**	**-0.2**
COHC	**Cochancay**	**3.82**	**315**	P		**Pn**	**14 09 29.6**	**-0.2**
RIOE1	**Riobamba**	**4.00**	**329**	P		**Pn**	**14 09 33.5**	**+0.9**
RIOE1	**Riobamba**	**4.00**	**329**	P		**Pn**	**14 09 33.5**	**+0.9**
PAT1	**Patacocha**	**4.12**	**333**	P		**Pn**	**14 09 34.3**	**+0.1**
PAT1	**Patacocha**	**4.12**	**333**	P		**Pn**	**14 09 34.3**	**+0.1**
BPAT	**Tungurahua Vol**	**4.12**	**333**	P		**Pn**	**14 09 34.0**	**-0.3**
BPAT	**Tungurahua Vol**	**4.12**	**333**	P		**Pn**	**14 09 34.0**	**-0.3**
ARRY	**Arrayan**	**4.12**	**332**	P		**Pn**	**14 09 33.5**	**-0.7**
ARRY	**Arrayan**	**4.12**	**332**	P		**Pn**	**14 09 33.5**	**-0.7**
BMAS	**Trigal station**	**4.14**	**332**	P		**Pn**	**14 09 35.2**	**+0.7**
BMAS	**Trigal station**	**4.14**	**332**	P		**Pn**	**14 09 35.2**	**+0.7**
BULB	**Ulba Tungurahu**	**4.16**	**333**	P		**Pn**	**14 09 33.6**	**-1.2**
BULB	**Ulba Tungurahu**	**4.16**	**333**	P		**Pn**	**14 09 33.6**	**-1.2**
RETU	**Refugio**	**4.17**	**333**	P		**Pn**	**14 09 35.9**	**+0.9**
RETU	**Refugio**	**4.17**	**333**	P		**Pn**	**14 09 35.9**	**+0.9**
BRUN	**Tungurahua Vol**	**4.18**	**333**	P		**Pn**	**14 09 35.3**	**+0.3**
BRUN	**Tungurahua Vol**	**4.18**	**333**	P		**Pn**	**14 09 35.3**	**+0.3**
JUI6	**Juive**	**4.20**	**333**	P		**Pn**	**14 09 37.2**	**+2.0**
JUI6	**Juive**	**4.20**	**333**	P		**Pn**	**14 09 37.2**	**+2.0**
PIS1	**Pisayambo**	**4.49**	**336**	P		**Pn**	**14 09 39.8**	**+0.3**
PIS1	**Pisayambo**	**4.49**	**336**	P		**Pn**	**14 09 39.8**	**+0.3**
PISA	**Pisayambo**	**4.49**	**336**	P		**Pn**	**14 09 39.0**	**-0.5**
PISA	**Pisayambo**	**4.49**	**336**	P		**Pn**	**14 09 39.0**	**-0.5**
MORR	**Playas El Morr**	**4.55**	**304**	P		**Pn**	**14 09 39.0**	**-0.9**
MORR	**Playas El Morr**	**4.55**	**304**	P		**Pn**	**14 09 39.0**	**-0.9**
BMOR	**Cotopaxi Volca**	**4.82**	**337**	P		**Pn**	**14 09 43.9**	**-0.1**
BMOR	**Cotopaxi Volca**	**4.82**	**337**	P		**Pn**	**14 09 43.9**	**-0.1**
BTAM	**Cotopaxi Volca**	**4.85**	**337**	P		**Pn**	**14 09 44.8**	**+0.4**
BTAM	**Cotopaxi Volca**	**4.85**	**337**	P		**Pn**	**14 09 44.8**	**+0.4**
BREF	**Cotopaxi Volca**	**4.87**	**337**	P		**Pn**	**14 09 46.3**	**+1.5**
BREF	**Cotopaxi Volca**	**4.87**	**337**	P		**Pn**	**14 09 46.3**	**+1.5**
BVC2	**Cotopaxi Volca**	**4.87**	**337**	P		**Pn**	**14 09

61nm,1.9s
PB04 IPOC Station P 18.14 161 *e*Pn **Pn** 14 12 39.5 **-3.2**
84nm,1.6s
SIV San Ignacio 18.60 126 Pn **P** 14 12 47.1 **-0.7**
0.1nm,0.3s,baz=351,slow=19,SNR=1.9
SJG San Juan 25.32 24 P **P** 14 13 59.0 **+2.1**
10nm,0.3s,baz=217,slow=7.4,SNR=7.2
CPUP Villa Florida 27.92 141 P **P** 14 14 20.1 **-0.2**
2.3nm,0.7s,baz=329,slow=12,SNR=3.7
CPUP Villa Florida 27.92 141 *e*P **P** 14 14 19.4 **-1.0**
29nm,1.9s
PLCA Paso Flores 35.80 172 P **P** 14 15 29.9 **+0.4**
1.0nm,0.6s,baz=3.7,slow=11,SNR=5.1
PLCA Paso Flores 35.80 172 *e*P **P** 14 15 29.2 **-0.3**
19nm,1.8s
LTX Lajitas 43.09 324 *e*P **P** 14 16 31.4 **+1.0**
TXAR Lajitas Array 43.09 324 P **P** 14 16 31.4 **+1.0**
0.8nm,0.6s,baz=146,slow=9.1,SNR=4.7
ANMO Albuquerque 48.85 327 *e*P **P** 14 17 16.6 **+0.7**
3.4nm,0.8s
X16A Lo Mia Camp, P 51.33 323 *e*P **P** 14 17 34.9 **+0.1**
2.5nm,0.8s
NV01 Mina Array Sit 58.14 322 *e*P **P** 14 18 24.2 **+0.2**
NVAR Mina Array Bea 58.14 322 P **P** 14 18 25.2 **+1.2**
0.3nm,0.4s,baz=116,slow=11,SNR=4.9
SCHQ Schefferville 60.34 6 LR LR 14 46 41.3
comp=Z,84nm,19.3s,baz=336,slow=38
SCHQ Schefferville 60.34 6 *e*P **P** 14 18 39.1 **+0.4**
72nm,1.6s
DBIC Dimbokro 72.51 81 P **P** 14 19 58.2 **+0.9**
4.2nm,0.8s,baz=182,slow=6.6,SNR=3.7
DBIC Dimbokro 72.51 81 *e*P **P** 14 19 56.8 **-0.6**
22nm,1.1s
TOA1 Torodi Ar. Sit 79.77 76 *e*P **P** 14 20 40.3 **+1.7**
TORD Torodi Ar. Bea 79.77 76 P **P** 14 20 40.3 **+1.7**
0.2nm,0.3s,baz=264,slow=5.4,SNR=4.3
ILAR Eielson Array 86.42 336 P **P** 14 21 12.2 **+0.3**
0.3nm,0.5s,baz=123,slow=3.3,SNR=3.5
VNDA Vanda 91.49 191 P **P** 14 21 38.0 **+2.2**
0.4nm,0.5s,baz=101,slow=2.6,SNR=3.6
VNDA Vanda 91.49 191 *e*P **P** 14 21 34.5 **-1.2**
ASAR Alice Springs 138.72 225 PKhKP PKPpre 14 27 48.5
0.3nm,0.8s,baz=114,slow=3.4,SNR=3.6
ASAR PKP **PKiKP** 14 27 58.0 **-0.8**
0.3nm,0.7s,baz=128,slow=2.9,SNR=4.4
WR1 Warramunga Arr 140.69 230 *e*PKPdf **PKPdf** 14 28 01.8 **+1.4**
WRA Warramunga Arr 140.69 230 PKP **PKPdf** 14 28 01.8 **+1.4**
0.4nm,0.8s,baz=118,slow=1.9,SNR=5.4

*IDC **12** 14:09:53.5±5.8, 52.˚85N×173.˚79W, h75km±54km, mb3.5/7, mb1 3.9/10, mb1mx3.4/57, mbtmp3.9/10, ML4.0/3, Error ellipse: s-maj=34.2km s-min=17.8km az=163.0*
*ISCJB **12** 14:09:59.6±0.3, 52.˚65N±0.˚07×173.˚56W±0.˚06, h146km±4km, mb3.9/12, Error ellipse: s-maj=12.7km s-min=4.3km az=160.4*
*NEIC **12** 14:10:00.6±0.2, 52.˚63N×173.˚59W, h144km±2km, mb4.2/24, ML3.9(AEIC), Error ellipse: s-maj=7.8km s-min=3.0km az=158.0*
*AEIC **12** 14:10:02.2±0.0, 52.˚29N×173.˚38W, h134km*
ISC 12 14:10:00.2±0.7, **52.˚7N**±0.˚1×**173.˚59W**±0.˚06, **h142**km±8km, **n73**, σ1°**13**/74, **mb3.9**/12, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KONE	**Korovin Northe**	**0.42**	**230**	P	**Pn**	**14 10 20.8**	**+0.5**
KOSE	**Korovin Southe**	**0.43**	**222**	P	**Pn**	**14 10 20.5**	**+0.2**
KOFP	**Korovin Flat P**	**0.50**	**219**	P	**Pn**	**14 10 20.8**	**+0.1**
KOWE	**Korovin West**	**0.51**	**234**	P	**Pn**	**14 10 21.5**	**+0.8**
ATKA	**Atka Island**	**0.59**	**219**	P	**Pn**	**14 10 20.8**	**-0.4**
ATKA				S	**Sn**	**14 10 36.4**	**-0.6**
GSMY	**Great Sitkin M**	**1.64**	**249**	P	**Pn**	**14 10 31.0**	**+0.3**
GSTD	**Great Sitkin T**	**1.68**	**250**	P	**Pn**	**14 10 31.6**	**+0.4**
GSTD				S	**Sn**	**14 10 54.8**	**-0.2**
ETKA	**Kagalaska Isla**	**1.91**	**246**	P	**Pn**	**14 10 34.0**	**+0.3**
ADK	**Adak**	**2.06**	**249**	P	**Pn**	**14 10 35.8**	**+0.3**
ADK				S	**Sn**	**14 11 02.3**	**-0.2**
KIWB	**Kanaga Island**	**2.34**	**251**	P	**Pn**	**14 10 39.9**	**+1.0**
KIWB				S	**Sn**	**14 11 09.9**	**+1.3**
KIMD	**Kanaga Island**	**2.42**	**250**	P	**Pn**	**14 10 40.7**	**+0.8**
TAFP	**Tanaga Falls P**	**2.81**	**256**	P	**Pn**	**14 10 45.6**	**+0.8**
TAFP				S	**Sn**	**14 11 20.4**	**+1.2**
NIKH	**Nikolski High**	**2.89**	**82**	P	**Pn**	**14 10 45.4**	**-0.4**
NIKH				S	**Sn**	**14 11 19.3**	**-1.6**
OKSO	**Okmok South**	**3.35**	**76**	P	**Pn**	**14 10 52.3**	**+0.6**
OKCE	**Okmok Cone E**	**3.36**	**75**	P	**Pn**	**14 10 52.7**	**+0.9**
OKTU	**Okmok Mt. Tuli**	**3.42**	**76**	P	**Pn**	**14 10 53.3**	**+0.6**
MREP	**Makushin Rep't**	**4.27**	**72**	P	**Pn**	**14 11 04.4**	**+0.6**
MSW	**Makushin Switc**	**4.27**	**70**	P	**Pn**	**14 11 04.6**	**+0.9**
MNAT	**Makushin Natee**	**4.32**	**71**	P	**Pn**	**14 11 05.5**	**+1.1**
UNV	**Unalaska Valle**	**4.42**	**72**	P	**Pn**	**14 11 06.1**	**+0.5**
AKMO	**Akutan Morgan**	**4.75**	**70**	P	**Pn**	**14 11 11.4**	**+1.3**
ZRO	**Akutan Zero**	**4.77**	**70**	P	**Pn**	**14 11 11.7**	**+1.3**
AKGG	**Akutan Green G**	**4.79**	**68**	P	**Pn**	**14 11 12.0**	**+1.3**
AHB	**Akutan Harbor**	**4.87**	**70**	P	**Pn**	**14 11 12.8**	**+1.1**
AKUT	**Akutan**	**4.90**	**69**	*e*Pn	**Pn**	**14 11 13.1**	**+1.0**
WESP	**Westdahl Peak**	**5.59**	**67**	P	**Pn**	**14 11 22.4**	**+1.1**
FALS	**False Pass**	**6.42**	**66**	P	**Pn**	**14 11 33.0**	**+0.7**
DRIA	**Deer Island**	**7.09**	**67**	P	**Pn**	**14 11 40.9**	**-0.4**
DT1	**Dutton Round H**	**7.12**	**65**	P	**Pn**	**14 11 41.5**	**-0.1**
DOL	**Dolgoi Island**	**7.36**	**66**	P	**Pn**	**14 11 45.0**	**+0.1**
KDAK	**Kodiak Island**	**13.01**	**59**	P	**Pn**	**14 12 56.5**	**-3.1**
	0.7nm,0.3s,baz=215,slow=3.1,SNR=36						
KDAK				S	Sn	14 15 12.1	-11
	0.5nm,0.3s,baz=200,slow=5.2,SNR=3.8						
PPLA	**Purkeypile**	**15.25**	**39**	*e*Pn	**P**	**14 13 31.8**	**+2.1**
	58nm,2.0s						
PMR	**Palmer**	**15.91**	**46**	*e*Pn	**Pn**	**14 13 36.3**	**+0.4**
	16nm,1.6s						
TRF	**Thorofare Moun**	**16.28**	**39**	*e*Pn	**P**	**14 13 42.2**	**+1.3**
	22nm,1.7s						
BPAW	**Bear Paw Mtn.**	**16.36**	**37**	*e*Pn	**P**	**14 13 43.3**	**+1.5**
	7.1nm,0.8s						
IM3	**Indian Mountai**	**16.64**	**29**	*e*P	**P**	**14 13 45.7**	**+1.0**
RND	**Reindeer**	**16.82**	**41**	*e*P	**P**	**14 13 47.0**	**+0.1**
	6.9nm,0.8s						
MCK	**McKinley**	**16.94**	**40**	*e*P	**P**	**14 13 48.8**	**+0.6**
	8.7nm,0.7s						
MLY	**Manley**	**16.99**	**34**	*e*P	**Pn**	**14 13 50.9**	**+1.9**
	4.4nm,0.6s						
DHY	**Denali Highway**	**17.27**	**43**	*e*P	**P**	**14 13 52.2**	**+0.4**
	32nm,1.7s						
PETK	**Petropavlovsk-**	**17.29**	**283**	P	**P**	**14 13 47.1**	**-4.9**
	0.6nm,0.3s,baz=107,slow=15,SNR=24						
WRH	**Wood River Hil**	**17.63**	**38**	*e*P	**P**	**14 13 55.4**	**-0.2**
	6.2nm,0.4s						
CCB	**Clear Creek Bu**	**17.83**	**38**	*e*P	**P**	**14 13 57.4**	**-0.4**
	5.8nm,0.4s						
MDM	**Murphy Dome**	**17.83**	**37**	*e*P	**P**	**14 13 58.3**	**+0.5**
	19nm,1.7s						
HDA	**Harding Lake**	**18.04**	**39**	*e*P	**P**	**14 14 00.1**	**+0.1**
	25nm,0.4s						
IL1	**Eielson Array**	**18.23**	**38**	*e*P	**P**	**14 14 01.7**	**-0.5**
ILAR	**Eielson Array**	**18.23**	**38**	P	**P**	**14 14 00.8**	**-1.4**
	2.5nm,0.3s,baz=219,slow=9.3,SNR=164						
ILAR				S	**S**	**14 17 21.3**	**-1.9**
	0.1nm,0.3s,baz=235,slow=17,SNR=5.3						
ILB	**Eielson Array**	**18.23**	**38**	*e*P	**P**	**14 14 01.4**	**-0.8**
RIDG	**Independ'e Rid**	**18.58**	**42**	*e*P	**P**	**14 14 06.3**	**+0.3**
	14nm,0.8s						
DOT	**Dot Lake**	**18.86**	**43**	*e*P	**P**	**14 14 08.8**	**-0.4**
	16nm,0.6s						
SCRK	**Sand Creek**	**19.02**	**42**	*e*P	**P**	**14 14 11.0**	**0.0**
	38nm,0.8s						
TOLK	**Toolik Lake Re**	**19.64**	**26**	*e*P	**P**	**14 14 19.7**	**+2.1**
	9.9nm,0.9s						
EGAK	**Eagle**	**20.46**	**41**	*e*P	**P**	**14 14 26.9**	**+0.6**
	8.9nm,0.7s						
DAWY	**Dawson**	**20.96**	**44**	*e*P	**P**	**14 14 33.1**	**+1.4**
	6.0nm,0.6s						
INK	**Inuvik**	**24.55**	**35**	P	**P**	**14 15 06.0**	**-0.3**
	2.7nm,0.6s,baz=234,slow=10.0,SNR=12						
INK	**Inuvik**	**24.55**	**35**	*e*P	**P**	**14 15 06.5**	**+0.3**
	17nm,1.8s						
DLBC	**Dease Lake**	**24.95**	**59**	P	**P**	**14 15 11.1**	**+1.0**
	0.9nm,0.6s,baz=287,slow=6.5,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**36.20**	**212**	T	T	14 54 28.2	
	baz=19,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy**	**36.21**	**212**	T	T	14 54 15.3	
	baz=19,slow=76,SNR=25						
H11N1	**WAKE ISLAND Hy**	**36.22**	**212**	T	T	14 54 35.9	
	baz=19,slow=76,SNR=19						
H11S1	**WAKE ISLAND Hy**	**37.41**	**212**	T	T	14 56 22.4	
	baz=19,slow=76,SNR=37						
H11S2	**WAKE ISLAND Hy**	**37.43**	**212**	T	T	14 56 15.9	
	baz=19,slow=76,SNR=9.3						
H11S3	**WAKE ISLAND Hy**	**37.43**	**212**	T	T	14 56 16.2	
	baz=19,slow=76,SNR=18						
BOZ	**Bozeman (W)**	**40.02**	**74**	*e*P	**P**	**14 17 21.1**	**0.0**
	14nm,0.8s						
NVAR	**Mina Array Bea**	**40.24**	**88**	P	**P**	**14 17 23.6**	**+0.5**
	1.0nm,0.7s,baz=299,slow=6.9,SNR=9.1						
TPNV	**Topopah Spring**	**42.44**	**88**	*e*P	**P**	**14 17 41.3**	**+0.4**
	3.1nm,0.7s						
OSI	**Osito Audit: C**	**42.47**	**93**	*e*P	**P**	**14 17 40.7**	**-0.5**
	19nm,0.4s						
PDAR	**Pinedale Array**	**42.86**	**77**	P	**P**	**14 17 44.6**	**+0.2**
	1.0nm,0.6s,baz=294,slow=3.7,SNR=9.7						
GSC	**Goldstone, Bar**	**43.18**	**90**	*e*P	**P**	**14 17 46.6**	**-0.3**
	4.9nm,0.9s						
LCMT	**Little Creek M**	**44.22**	**86**	*e*P	**P**	**14 17 56.4**	**+1.2**
	2.3nm,0.9s						
TXAR	**Lajitas Array**	**55.31**	**86**	P	**P**	**14 19 19.5**	**+0.4**
	1.6nm,0.7s,baz=288,slow=4.7,SNR=9.1						
CMAR	**Chiang Mai Arr**	**74.03**	**279**	P	**P**	**14 21 20.6**	**+0.1**
	0.4nm,0.5s,baz=28,slow=6.9,SNR=4.3						
ASAR	**Alice Springs**	**88.67**	**227**	P	**P**	**14 22 37.5**	**+0.3**
	0.4nm,0.9s,baz=17,slow=5.3,SNR=5.1						

BEO 12 14:16:57.6±1.2, **42.˚41N×23.˚14E, h0**km, **ML1.3**/3, **Bulgaria**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VTS	**Vitosha**	**0.19**	**15**	*e*Pg	Pg	14 17 00.9	-0.3
VTS				*e*Sg	Sg	14 17 03.4	-0.3
ZAPS	**Zavoj**	**0.94**	**337**	*e*Pg	Pg	14 17 14.6	-1.0
ZAPS				*e*Sg	Sg	14 17 27.8	0.0
BARS	**Barje**	**1.06**	**293**	*e*Pg	Pg	14 17 17.1	-0.8
BARS				*e*Sg	Sg	14 17 31.5	-0.1
SELS	**Selova**	**1.69**	**299**	*e*Pg	Pn	14 17 27.6	-0.9
SELS				*e*Sg	Sn	14 17 50.8	-0.1

*UCR **12** 14:18:21.5±0.5, 14.˚09N×92.˚79W, h108km±67km, ML3.6, mb4.4(NEIC)*
*IDC **12** 14:18:23.8±1.1, 13.˚75N×92.˚44W, h0km, mb3.9/6, mb1 4.1/10, mb1mx3.9/43, mbtmp3.9/10, ML3.7/4, MS2.4/1, Ms1 2.4/1, ms1mx2.1/43, Error ellipse: s-maj=30.5km s-min=17.8km az=39.0*
*ISCJB **12** 14:18:26.1±0.6, 13.˚66N±0.˚08×92.˚50W±0.˚04, h35km, mb4.2/19, Error ellipse: s-maj=11.4km s-min=5.1km az=20.5*
*NEIC **12** 14:18:26.9±3.4, 13.˚69N×92.˚49W, h24km±24km, mb4.4/13, Error ellipse: s-maj=17.3km s-min=9.7km az=217.0*
ISC 12 14:18:28.5±0.8, **13.˚76N**±0.˚10×**92.˚53W**±0.˚06, **h35**km, **n43,** σ1°**47**/42, **mb4.3**/18, **Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**2.36**	**58**	Pn	**Pn**	**14 19 03.5**	**-1.5**
	16nm,0.3s,baz=245,slow=6.6,SNR=49						
APG				Sn	**Sn**	**14 19 32.6**	**-0.1**
	75nm,0.3s,baz=136,slow=23,SNR=9.2						
CCIG	**Comitan**	**2.54**	**9**	*e*Pn	**Pn**	**14 19 07.8**	**+0.4**
CEVE	**Cerro Verde**	**2.83**	**88**	*e*P	**Pn**	**14 19 09.8**	**-1.6**
CEVE				*e*S	**Sn**	**14 19 47.8**	**+3.4**
CEVE				IAML		14 20 06.4	
	comp=Z,1μm,0.5s						
SNJE	**San Jose**	**2.84**	**87**	*e*P	**Pn**	**14 19 09.9**	**-1.7**
MTO3	**Montecristo**	**3.14**	**78**	*e*P	**Pn**	**14 19 13.4**	**-2.3**
MTO3				IAML		14 19 58.9	
	comp=Z,65nm,0.5s						
LFU	**La Fuente**	**3.32**	**90**	*e*P	**Pn**	**14 19 15.7**	**-2.3**
LFRS	**El Faro**	**3.37**	**92**	*e*P	**Pn**	**14 19 17.2**	**-1.6**
CMIG	**Matias Romero**	**4.02**	**326**	Pn	**Pn**	**14 19 26.3**	**-1.3**
	comp=Z,7.7nm,0.3s,baz=138,slow=9.9,SNR=16						
CMIG				Sn	**Sn**	**14 20 12.9**	**-0.5**
	comp=Z,24nm,0.3s,baz=0.6,slow=7.5,SNR=4.2						
LCND	**La Ca¯ada**	**4.54**	**95**	*e*P	**Pn**	**14 19 32.9**	**-1.7**
TLIG	**Tlapa**	**6.94**	**304**	*e*Pn	**Pn**	**14 20 08.4**	**+0.6**
TEIG	**Tepich**	**7.61**	**32**	*e*Pn	**Pn**	**14 20 15.4**	**-1.6**
JTS	**JuntasAbangare**	**8.17**	**114**	Pn	**Pn**	**14 20 23.8**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=23,slow=17,SNR=3.8						
TXAR	**Lajitas Array**	**18.62**	**328**	P	**Pn**	**14 22 44.8**	**+1.1**
	comp=Z,0.0nm,0.3s,baz=167,slow=13,SNR=4.0						
TX31	**Lajitas Ar. Si**	**18.62**	**328**	*e*P	**Pn**	**14 22 47.7**	**+4.0**
LPIG	**La Paz**	**19.69**	**304**	LR	LR	14 29 57.5	
	comp=Z,10nm,20.4s,baz=150,slow=35						
MIAR	**Mount Ida**	**20.72**	**358**	*e*P	Pn	14 23 09.0	+0.6
	comp=Z,19nm,0.9s						
X37A	**Clayton**	**20.90**	**353**	*e*P	Pn	14 23 10.8	+0.3
	comp=Z,41nm,1.7s						
UALR	**University of**	**20.93**	**0**	*e*P	Pn	14 23 10.8	0.0
	comp=Z,11nm,0.6s						
X48A	**Hartselle**	**21.20**	**13**	*e*P	**P**	**14 23 12.0**	**+1.0**
	comp=Z,11nm,0.8s						
MNTX	**Coudas Mount**	**21.40**	**329**	*e*P	**P**	**14 23 13.5**	**+0.2**
	comp=Z,2.7nm,0.8s						
SNOW	**Snow King Moun**	**33.49**	**336**	*e*P	**P**	**14 25 05.0**	**+0.2**
	comp=Z,20nm,1.3s						
NV01	**Mina Array Sit**	**33.54**	**322**	*e*P	**P**	**14 25 06.7**	**+1.4**
NVAR	**Mina Array Bea**	**33.54**	**322**	P	**P**	**14 25 07.3**	**+2.0**
	comp=Z,1.9nm,0.7s,baz=135,slow=8.3,SNR=13						
TPAW	**Teton Pass**	**33.59**	**335**	*e*P	**P**	**14 25 06.3**	**+0.5**
	comp=Z,3.4nm,0.9s						
MCMT	**McKenzie Canyo**	**35.47**	**335**	*e*P	**P**	**14 25 22.9**	**+1.0**
NADM	**Allendale**	**35.84**	**319**	*e*P	**P**	**14 25 23.1**	**-1.8**
J08A	**Circle Bar Ran**	**36.97**	**328**	*e*P	**P**	**14 25 34.5**	**-0.2**
	comp=Z,4.7nm,0.6s						
F10A	**Beach Ranch, E**	**38.28**	**332**	*e*P	**P**	**14 25 45.9**	**+0.3**
	comp=Z,6.9nm,0.9s						
SIV	**San Ignacio**	**42.90**	**132**	P	**P**	**14 26 24.1**	**0.0**
	comp=Z,0.8nm,0.7s,baz=312,slow=13,SNR=6.8						
YKA	**Yellowknife Ar**	**51.15**	**347**	P	**P**	**14 27 27.2**	**-0.5**
	comp=Z,2.5nm,0.6s,baz=151,slow=7.3,SNR=6.2						
ILAR	**Eielson Array**	**62.86**	**337**	P	**P**	**14 28 50.5**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=144,slow=4.6,SNR=13						
RND	**Reindeer**	**63.03**	**335**	*e*P	**P**	**14 28 51.6**	**-0.3**
	comp=Z,28nm,1.8s						
MLY	**Manley**	**64.45**	**336**	*e*P	**P**	**14 29 01.1**	**-0.1**
	comp=Z,3.4nm,0.8s						
WRA	**Warramunga Arr**	**134.84**	**256**	PKP	**PKPdf**	**14 37 44.8**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=77,slow=2.2,SNR=6.4						
ASAR	**Alice Springs**	**135.10**	**250**	PKP	**PKPdf**	**14 37 44.9**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=120,slow=1.2,SNR=4.3						
CMAR	**Chiang Mai Arr**	**146.05**	**340**	PKPbc	**PKPab**	**14 38 05.7**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=341,slow=4.4,SNR=11						

*IDC **12** 14:29:11.4±1.4, 22.˚64N×95.˚87E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/55, mbtmp3.3/4, ML3.6/1, Error ellipse: s-maj=38.4km s-min=18.8km az=60.0*
ISC 12 14:29:11.8±2.1, **22.˚1N**±0.˚5×**95.˚2E**±0.˚6, **h10**km, **n7,** σ2°**00**/10, **mb3.4**/3, **Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHTO	**Chiang Mai**	**4.78**	**132**	P	**Pn**	**14 30 26.0**	**+2.2**
	69nm,0.7s						
CHTO				P	**Pg**	**14 30 41.6**	**-1.7**
	69nm,0.7s						
CMMT	**Chiang Mai**	**4.78**	**132**	P	**Pn**	**14 30 25.7**	**+1.8**
	16nm,0.7s						
CMMT				P	**Pg**	**14 30 41.1**	**-2.3**
	16nm,0.7s						
CMAR	**Chiang Mai Arr**	**5.03**	**135**	Pn	**Pn**	**14 30 28.1**	**+0.8**
	0.6nm,0.3s,baz=322,slow=14,SNR=12						
CMAR				Pg	**Pg**	**14 30 45.5**	**-2.6**
	1.9nm,0.3s,baz=323,slow=17,SNR=31						
CMAR				Lg	Lg	14 31 52.2	
	3.4nm,0.3s,baz=319,slow=30,SNR=8.6						
LAMP	**Lampang**	**5.45**	**130**	P	**Pg**	**14 30 56.0**	**-0.3**
MKAR	**Makanchi Array**	**26.78**	**340**	P	**P**	**14 34 50.4**	**-1.5**
	0.4nm,0.7s,baz=140,slow=13,SNR=3.5						
WRA	**Warramunga Arr**	**56.62**	**135**	P	**P**	**14 38 55.7**	**+0.4**
	0.3nm,0.7s,baz=326,slow=7.7,SNR=3.5						
ASAR	**Alice Springs**	**59.03**	**138**	P	**P**	**14 39 13.8**	**+1.6**
	0.2nm,0.6s,baz=320,slow=6.8,SNR=5.6						

NNC 12 14:30:54.7±1.9, **37.˚64N×72.˚74E, h0**km, **mb3.8, mpv3.4, 11C-4D, Error ellipse: s-maj=15.3km s-min=13.8km az=111.0, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.45**	**14**	⇑Pn	Pn	14 31 35.4	-0.8
	14nm,0.3s						
SFK				⇑Lg	Lg	14 32 13.0	
	56nm,0.5s						
MNAS	**Manas**	**4.85**	**358**	⇓Pn	Pn	14 32 10.1	+1.1
	3.0nm,0.5s						
MNAS				⇑Sn	Sn	14 33 08.0	+2.0
	4.6nm,0.5s						
AAK	**Ala-Archa**	**5.17**	**15**	⇓Pn	Pn	14 32 14.4	+0.8
	7.4nm,0.9s						
AAK				⇑Lg	Lg	14 33 39.0	
	13nm,0.8s						
TKM2	**Tokmak 2**	**5.71**	**22**	⇑Pn	Pn	14 32 21.2	+0.2
	4.7nm,1.1s						
TKM2				⇑Sn	Sn	14 33 27.9	+0.5
	4.5nm,0.9s						
TKM2				⇓Lg	Lg	14 33 55.3	
	9.5nm,0.8s						
KK31	**Karatay Array**	**5.72**	**343**	⇑Pn	Pn	14 32 22.1	+1.1
	0.7nm,0.3s,baz=154,slow=12,SNR=26						
KK31				⇑Pg	Pg	14 32 40.8	-3.5
	2.4nm,0.5s,baz=159,slow=16,SNR=5.3						
KK31				⇑Sn	Sn	14 33 28.3	+1.1
	3.1nm,0.5s,baz=163,slow=24						
KK31				⇑Lg	Lg	14 33 54.0	
	2.9nm,0.5s						
AB31	**Akbulak array**	**14.85**	**326**	⇓Pn	Pn	14 34 23.5	-2.4
	0.4nm,0.5s,baz=131,slow=13,SNR=12						
AB31				⇑Sn	Sn	14 37 08.6	-2.4
	1.7nm,0.8s,baz=143,slow=22,SNR=4.5						

GUC 12 14:42:06.8±0.5, **23.˚78S×67.˚65W, h234**km±15km, **ML3.5, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB06	**IPOC Station P**	**2.06**	**301**	*e*P	Pn	14 42 50.3	+1.5
PB06				*i* S	S	14 43 23.4	+1.8
PB06				IAML		14 43 25.8	
	comp=E,253nm,0.2s						
PB09	**IPOC Station P**	**2.46**	**323**	*e*P	Pn	14 42 54.9	+2.2
PB09				*i* S	S	14 43 32.0	+3.3
PB09				IAML		14 43 37.2	
	comp=E,38nm,0.5s						
PB05	**IPOC Station P**	**2.52**	**291**	*e*P	Pn	14 42 55.0	+1.8
PB05				*i* S	S	14 43 31.3	+1.7
PB05				IAML		14 43 34.6	
	comp=N,68nm,0.2s						
PB03	**IPOC Station P**	**2.59**	**311**	*e*P	Pn	14 42 55.9	+1.8
PB03				*e*S	S	14 43 33.4	+2.3
PB04	**IPOC Station P**	**2.71**	**302**	*e*P	Pn	14 42 57.8	+2.4
PB04				*e*S	S	14 43 36.1	+2.7
PB04				IAML		14 43 40.0	
	comp=E,117nm,0.2s						
PB07	**IPOC Station P**	**2.90**	**314**	*e*P	Pn	14 42 59.5	+2.1
PB07				*i* S	S	14 43 39.7	+2.5
PB07				IAML		14 43 44.0	
	comp=E,68nm,0.3s						
PB01	**IPOC Station P**	**3.21**	**328**	*e*P	Pn	14 43 02.5	+1.7
PB01				*e*S	S	14 43 45.3	+2.1

*MOS **12** 14:47:39.7±1.0, 24.˚11S×178.˚95E, h537km, mb5.2/37, Error ellipse: s-maj=8.3km s-min=7.5km az=88.8*
*ISCJB **12** 14:47:40.9±0.3, 24.˚23S±0.˚02×178.˚87E±0.˚02, h556km±4km, mb5.2/355, Error ellipse: s-maj=3.6km s-min=2.7km az=149.3*
*IDC **12** 14:47:40.6±0.5, 24.˚18S×178.˚97E, h541km±4km, mb4.9/43, mb1 4.9/45, mb1mx4.9/48, mbtmp5.7/45, Error ellipse: s-maj=7.3km s-min=6.8km az=31.0*
*BJI **12** 14:47:41.5, 23.˚94S×179.˚11E, h561km, mb5.2/53, mB5.5/41*
*NEIC **12** 14:47:41.5±0.1, 24.˚28S×178.˚92E, mb5.2/240, Error ellipse: s-maj=3.3km s-min=2.3km az=141.0*
*WEL **12** 14:47:44.5±0.9, 25.˚5S±7.˚1×18.˚0W±2.˚3, h644km±14km*
*GCMT **12** 14:47:44.5±0.1, 24.˚13S±0.˚01×178.˚87E±0.˚02, h551km±1km, MW5.7/126, Moment Tensor Solution. s126,c214; Duration: 1ᵗˢ8 Moment tensor: Scale 10¹⁷Nm; M_{rr}-3.42±.06; $M_{\theta\theta}$2.24±.10; $M_{\phi\phi}$1.18±.10; $M_{r\theta}$-1.74±.10; $M_{\theta\phi}$-2.31±.09; $M_{\phi r}$-2.93±.09; Best double couple: $M_{\circ}$4.91200×10¹⁷ NP1:ϕ_s339.00000°, δ58.00000°, λ-50.00000°. NP2:ϕ_s101.00000°, δ49.00000°, λ-136.00000°. Principal axes: T 4.1220, Plg5.0000°, Azm42.0000°; N 1.5800, Plg33.0000°, Azm136.0000°; P -5.7020, Plg56.0000°, Azm304.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
ISC 12 14:47:41.5±0.2, **24.˚22S**±0.˚03×**179.˚03E**±0.˚04, **h556**km±2km, **h557**km:**pP-P, n1472,** σ1°**50**/1719, **mb5.2**/354, **56C-100D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**5.69**	**152**	P	**P**	**14 49 18.8**	**+1.3**
RIZ				S	**S**	**14 50 36.4**	**+0.2**
RAO	**Raoul Island**	**5.70**	**152**	P	**P**	**14 49 18

OPRZ S S 14 53 02.5 -0.4
RUGZ Raukumara Rang 13.75 184 P P 14 50 35.2 -2.8
RUGZ S S 14 52 58.4 -4.8
RUGZ Raukumara Rang 13.75 184 P S 14 52 59.1 -4.2
PUZ Puketiti 13.82 183 P P 14 50 36.0 -2.7
PUZ S S 14 52 58.3 -6.2
PUZ Puketiti 13.82 183 P S 14 53 00.1 -4.4
KMRZ Kaimai 13.83 190 P P 14 50 40.6 +1.8
MARZ Manawahe 13.87 188 P P 14 50 39.6 +0.5
LIRZ Lichensteins R 13.92 189 P P 14 50 41.2 +1.5
TWGZ Tauwhareparae 13.94 183 P P 14 50 37.4 -2.5
TWGZ S S 14 53 02.7 -4.0
TWGZ Tauwhareparae 13.94 183 P S 14 53 07.3 +0.6
KARZ Kaharoa 13.96 189 P P 14 50 41.4 +1.2
EDRZ Edgecumbe 13.98 187 P P 14 50 40.9 +0.6
OMRZ Omania 14.02 189 P P 14 50 42.1 +1.3
MKRZ Makatiti 14.04 188 P P 14 50 42.3 +1.3
NGRZ Ngongotaha 14.05 189 P P 14 50 42.2 +1.2
URZ Urewera 14.09 186 P P 14 50 38.5 -2.9
62nm,0.3s,baz=353,slow=3.5,SNR=175
URZ S S 14 53 03.7 -5.6
12nm,0.3s,baz=239,slow=23,SNR=9.1
URZ Urewera 14.09 186 P P 14 50 37.7 -3.7
URZ S S 14 53 02.4 -7.0
MWZ Matawai 14.12 185 P P 14 50 38.6 -3.2
MWZ S S 14 53 05.3 -4.9
MWZ Matawai 14.12 185 P S 14 53 05.4 -4.9
TARZ Mount Tarawera 14.13 188 P P 14 50 42.4 +0.5
HLRZ Highlands Stat 14.17 189 P P 14 50 42.6 +0.4
TKGZ Te Karaka 14.21 184 P P 14 50 39.5 -3.1
TKGZ S S 14 53 06.0 -5.7
TKGZ Te Karaka 14.21 184 P S 14 53 07.5 -4.2
CNGZ Carnagh Statio 14.23 183 P P 14 50 41.0 -1.8
CNGZ S S 14 53 09.2 -2.9
CNGZ Carnagh Statio 14.23 183 P S 14 53 10.3 -1.8
RRRZ Republican Roa 14.23 188 P P 14 50 42.6 -0.3
HSRZ Hossack Road 14.24 189 P P 14 50 43.9 +0.9
RAGZ Rawiri 14.29 185 P P 14 50 41.3 -2.3
RAGZ S S 14 53 08.4 -5.0
RAGZ Rawiri 14.29 185 P S 14 53 09.0 -4.5
GRRZ Galatos Road 14.30 189 P P 14 50 45.2 +1.6
HRRZ Handcock Road 14.31 189 P P 14 50 43.7 -0.1
MUGZ Murupara 14.34 187 P P 14 50 41.7 -2.2
MUGZ S S 14 53 09.2 -4.9
TLZ Tolley Road 14.37 191 P P 14 50 45.4 +1.1
RTZ Ruatahuna 14.45 186 P P 14 50 42.2 -2.6
RTZ S S 14 53 11.4 -5.1
RTZ Ruatahuna 14.45 186 P S 14 53 14.1 -2.3
WPRZ Whakapapatarin 14.46 189 P P 14 50 46.2 +1.0
ALRZ Allen Road 14.48 188 P P 14 50 45.5 +0.1
RIGZ Rimuhau 14.48 184 P P 14 50 42.4 -3.0
RIGZ S S 14 53 10.2 -6.6
RIGZ Rimuhau 14.48 184 P S 14 53 11.8 -5.0
SNGZ Shannon Statio 14.58 185 P P 14 50 44.2 -2.2
SNGZ S S 14 53 13.5 -5.3
SNGZ Shannon Statio 14.58 185 P S 14 53 15.0 -3.8
HIZ Hauiti 14.68 193 eP S 14 50 47.8 +0.4
PRGZ Paritu Road 14.69 184 P S 14 53 15.1 -5.5
MTHZ Maungataniwha 14.70 187 P P 14 50 46.3 -1.3
MTHZ Maungataniwha 14.70 187 P S 14 53 17.6 -3.3
RAHZ Arahi 14.74 186 P P 14 50 46.0 -2.1
RAHZ S S 14 53 17.4 -4.2
RAHZ Arahi 14.74 186 P S 14 53 21.2 -0.5
KNZ Kokohu 14.80 184 P S 14 53 18.6 -3.6
WHHZ Waihua 14.89 185 P S 14 53 19.1 -5.1
MHGZ Mahia Peninsul 14.91 183 P S 14 53 25.3 +0.5
NMHZ Naumai 14.95 187 P S 14 53 22.7 -2.8
BKZ Black Stump Fm 15.05 188 eP P 14 50 47.7 -3.6
127nm,0.7s
BKZ Black Stump Fm 15.05 188 P P 14 50 47.7 -3.6
BKZ S S 14 53 22.5 -4.7
BKZ Black Stump Fm 15.05 188 P S 14 53 23.1 -4.2
BKZ P S 14 53 23.1 -4.2
ARHZ Aropaoanui 15.09 186 P S 14 53 24.0 -3.9
NGZ Ngauruhoe 15.19 190 P S 14 53 31.7 +1.9
COVZ Chateau Observ 15.22 190 P S 14 53 37.7 +7.3
TUVZ Tukino 15.27 190 P S 14 53 31.2 0.0
MCHZ McNeill Hill 15.30 187 P S 14 53 28.5 -3.0
KWHZ Kaweka Forest 15.31 188 P S 14 53 25.7 -6.1
PKVZ Pokaka 15.34 191 P S 14 53 30.9 +7.6
MOVZ Moawhango 15.39 190 P S 14 53 29.7 -3.4
BHHZ Black Hill Sta 15.43 189 P S 14 53 31.7 -2.0
BHHZ P S 14 53 31.9 -1.8
CKHZ Cape Kidnapper 15.48 186 P S 14 53 33.7 -0.7
KRHZ Kereru 15.54 188 P S 14 53 33.0 -2.5
FUNA Funafuti 15.61 1 eP P 14 50 54.3 -2.9
451nm,0.9s
KAHZ Kahuranaki 15.63 186 P S 14 53 33.6 -3.5
PNHZ Pukenui 15.82 188 P S 14 53 36.9 -3.5
WAZ Wanganui 15.86 191 P S 14 53 44.6 +3.8
PXZ Pawanui 15.87 186 P S 14 53 36.3 -4.7
PXZ S S 14 53 37.1 -3.8
WPHZ Waipukurau 15.95 187 P S 14 53 41.2 -1.1
TSZ Takapari Road 16.00 189 P S 14 53 41.4 -1.8
PRHZ Porangahau 16.12 187 P S 14 53 41.0 -4.2
DVHZ Dannevirke 16.27 188 P S 14 53 45.5 -1.2
ANWZ Angora Road 16.33 187 P S 14 53 45.3 -3.2
POWZ Post Office Ro 16.35 189 P S 14 53 47.5 -1.5
PRWZ Pori Road 16.49 188 P S 14 53 49.2 -1.9
PRWZ P S 14 53 50.5 -0.6
BFZ Birch Farm 16.58 187 eP P 14 51 03.4 -2.5
169nm,0.6s
BFZ Birch Farm 16.58 187 P S 14 53 48.4 -4.2
MRZ Mangatainoka R 16.64 189 P S 14 53 51.9 -1.8
TIWZ Tintock 16.71 188 P S 14 53 50.7 -4.2
TIWZ P S 14 53 50.9 -4.0
HOWZ Holdsworth Sta 16.89 189 P S 14 53 55.8 -1.9
KIW Kapiti Island 16.95 191 P S 14 53 58.0 -0.6
TMWZ Te Maipa 17.04 188 P S 14 53 58.4 -1.8
MTW Mount Morrison 17.14 189 P S 14 53 59.7 -2.2
CAW Cannon Point 17.16 192 P S 14 53 59.5 -2.6
TCW Tory Channel 17.40 192 P S 14 54 04.4 -1.6
SNZO South Karori 17.42 191 eP P 14 51 11.9 -1.6
305nm,0.6s
NNZ Nelson 17.59 194 P S 14 54 10.0 +0.9
TUWZ Tuamarina 17.68 193 P S 14 54 08.5 -2.0
CMWZ Cape Campbell 17.93 192 P P 14 51 21.0 +2.7
BSWZ Blackbirch Sta 17.96 193 P S 14 51 18.3 -0.3
BSWZ Blackbirch Sta 17.96 193 P S 14 54 14.9 -0.3
BSWZ P S 14 54 15.6 +0.4
THZ Tophouse 18.22 195 eP P 14 51 19.9 -1.1
1µm,1.9s
THZ Tophouse 18.22 195 P S 14 54 19.1 -0.4
DSZ Denniston Nort 18.48 197 P P 14 51 23.4 +0.1
KHZ Kahutara 18.71 193 eP P 14 51 23.6 -1.7
497nm,1.4s
KHZ Kahutara 18.71 193 P P 14 51 23.5 -1.8
KHZ Kahutara 18.71 193 P S 14 54 24.3 -2.9
LHI Lord Howe Isla 19.07 243 eP P 14 51 28.1 -0.7
692nm,0.7s
LTZ Lake Taylor 19.34 195 eP P 14 51 29.2 -1.9
279nm,0.5s
LTZ eS S 14 54 36.8 -0.7
LTZ Lake Taylor 19.34 195 P P 14 51 29.4 -1.7
LTZ Lake Taylor 19.34 195 P S 14 54 36.4 -1.0
INZ Inchbonnie 19.49 197 P P 14 51 31.1 -1.4
INZ Inchbonnie 19.49 197 P S 14 54 39.0 -0.8
AMCZ Amberley 19.62 194 P P 14 51 32.5 -1.2
RAR Rarotonga 19.78 86 P P 14 51 34.9 -0.5
4.9nm,0.3s,baz=247,slow=7.9,SNR=26
RAR Rarotonga 19.78 86 eP P 14 51 35.1 -0.3
974nm,1.8s
RAR Rarotonga 19.78 86 eP P 14 51 35.1 -0.3
RAR pmax pmax
comp=Z,974nm,1.8s
OXZ Oxford 19.91 195 eP P 14 51 33.8 -2.4
comp=Z,485nm,0.5s
OXZ Oxford 19.91 195 P P 14 51 34.2 -2.1
CRLZ Canterbury Las 20.01 194 eP P 14 51 35.4 -1.7
comp=Z,106nm,0.7s
CRLZ Canterbury Las 20.01 194 P P 14 51 35.6 -1.5
WVZ Waitaha Valley 20.01 198 P P 14 51 36.5 -0.6
MQZ McQueen's Vall 20.13 194 eP P 14 51 36.4 -1.8
comp=Z,86nm,0.6s
MQZ eS S 14 54 50.9 +1.0
MQZ McQueen's Vall 20.13 194 P P 14 51 36.8 -1.4
RPZ Rata Peaks 20.52 197 P P 14 51 40.6 -1.1
comp=Z,114nm,0.5s,baz=0.9,slow=1.7,SNR=33
RPZ Rata Peaks 20.52 197 eP P 14 51 40.2 -1.6
comp=Z,136nm,0.6s
RPZ Rata Peaks 20.52 197 P P 14 51 41.0 -0.8

FOZ Fox Glacier 20.70 199 eP P 14 51 41.8 -1.5
comp=Z,111nm,0.5s
FOZ Fox Glacier 20.70 199 P P 14 51 41.6 -1.7
LBZ Lake Benmore 21.37 198 eP P 14 51 47.9 -1.6
comp=Z,39nm,0.6s
LBZ Lake Benmore 21.37 198 P P 14 51 47.0 -2.5
JCZ Jackson Bay 21.50 200 P P 14 51 50.0 -0.8
ODZ Otahua Downs 21.86 196 eP P 14 51 52.0 -1.8
comp=Z,23nm,0.7s
ODZ Otahua Downs 21.86 196 P P 14 51 51.8 -2.1
WKZ Wanaka 22.11 199 eP P 14 51 54.3 -1.9
comp=Z,73nm,0.8s
WKZ eS S 14 55 20.1 -1.3
WKZ Wanaka 22.11 199 P P 14 51 54.2 -1.9
MSZ Milford Sound 22.32 201 P P 14 52 00.1 +2.2
EAZ Earnscleugh 22.39 198 P P 14 51 57.9 -0.7
MLZ Mavora Lakes 22.88 200 eP P 14 52 02.4 -0.6
comp=Z,111nm,0.8s
MLZ eS S 14 55 35.5 +2.1
TUZ Tuapeka 22.97 197 P P 14 52 02.8 -0.9
KNTN Kanton 23.12 24 eP P 14 52 04.3 -1.1
comp=Z,556nm,0.7s
DCZ Deep Cove 23.27 201 eP P 14 52 05.7 -0.7
comp=Z,88nm,1.0s
WHZ Wether Hill Ro 23.40 200 eP P 14 52 06.5 -1.0
comp=Z,230nm,0.7s
WHZ Wether Hill Ro 23.40 200 P P 14 52 06.7 -0.9
HNR Honiara 23.40 306 P P 14 52 06.3 -1.6
comp=Z,530nm,0.7s,baz=144,slow=1.5,SNR=44
HNR Honiara 23.40 306 eP P 14 52 04.9 -3.1
comp=Z,436nm,0.6s
PYZ Puysegur Point 24.05 201 eP P 14 52 13.2 -0.1
comp=Z,46nm,0.7s
ARMA Armidale 25.08 250 eP P 14 52 22.2 -0.6
comp=Z,152nm,0.8s
EIDS Eidsvold 25.38 262 eP P 14 52 25.1 -0.3
comp=Z,292nm,1.3s
TARA Tarawa 26.11 346 eP P 14 52 31.3 -0.6
comp=Z,543nm,0.9s
CAN Canberra 28.21 240 eP P 14 52 50.7 +0.5
comp=Z,290nm,1.0s
CAN Canberra 28.21 240 eP P 14 52 50.7 +0.5
CAN pmax pmax
comp=Z,290nm,1.0s
TBI Tubuai 28.82 95 eP P 14 52 56.1 +0.6
comp=Z,222nm,0.8s
PAE Paea 29.99 83 eP P 14 53 05.7 0.0
comp=Z,24nm,0.9s
PPT2 Papeete2 30.02 83 eP P 14 53 06.3 +0.3
comp=Z,148nm,1.0s
PPT Papeete 30.02 83 P P 14 53 06.3 +0.3
comp=Z,115nm,0.7s,baz=136,slow=2.9,SNR=22
PPT Papeete 30.02 83 eP P 14 53 06.7 +0.7
PPT Papeete 30.02 83 eP P 14 53 06.7 +0.7
PPTF Pamatai, Papee 30.03 83 eP P 14 53 06.6 +0.5
comp=Z,134nm,0.8s
TIAR Tiarei 30.24 83 eP P 14 53 08.1 +0.2
comp=Z,73nm,0.9s
TVO Taravao 30.25 84 eP P 14 53 08.0 0.0
comp=Z,55nm,0.8s
CTA Charters Tower 30.59 271 P P 14 53 11.2 +0.3
comp=Z,303nm,0.4s,baz=94,slow=11,SNR=487
CTA S S 14 57 35.2 +0.8
comp=Z,39nm,1.2s,baz=330,slow=21,SNR=15
CTA ScP ScP 14 58 45.6 +3.4
comp=Z,34nm,0.9s,baz=115,slow=4.5,SNR=5.8
CTAO Charters Tower 30.59 271 eP P 14 53 10.9 0.0
comp=Z,320nm,0.6s
CTAO Charters Tower 30.59 271 eP P 14 53 10.9 0.0
CTAO pmax pmax
comp=Z,321nm,0.6s
TAU Tasmania Unive 32.07 227 eP P 14 53 23.4 +0.3
comp=Z,119nm,0.8s
TAU Tasmania Unive 32.07 227 eP P 14 53 23.4 +0.3
TAU pmax pmax
comp=Z,119nm,0.8s
PMOR Pomariorio Ree 32.41 80 eP P 14 53 26.4 0.0
comp=Z,259nm,1.0s
VAH Vaihoa 32.57 80 eP P 14 53 27.6 -0.1
comp=Z,145nm,0.8s
RABL Rabaul 32.66 303 eP P 14 53 27.0 -1.6
comp=Z,400nm,0.4s
PMG Port Moresby 33.77 290 P P 14 53 37.6 -0.3
comp=Z,343nm,0.7s,baz=90,slow=5.0,SNR=79
PMG S S 14 58 21.0 -1.8
comp=Z,12nm,0.8s,baz=177,slow=23,SNR=6.5
STKA Stephens Creek 33.78 248 P P 14 53 38.0 +0.3
comp=Z,176nm,0.5s,baz=94,slow=11,SNR=313
STKA S S 14 58 21.4 -1.3
comp=Z,19nm,0.9s,baz=326,slow=22,SNR=5.2
STKA PKiKP PKiKP 15 03 23.4 -0.4
comp=Z,3.0nm,0.8s,baz=77,slow=8.4,SNR=4.1
STKA Stephens Creek 33.78 248 eP P 14 53 37.8 0.0
comp=Z,131nm,1.4s
STKA S S 14 58 21.4 -1.3
STKA PKiKP PKiKP 15 03 23.4 -0.4
XMAS Kiritimati 34.70 44 eP P 14 53 46.4 +0.7
comp=Z,386nm,0.8s
COEN Coen 35.29 280 eP P 14 53 50.4 -0.2
comp=Z,332nm,1.2s
MANU Manus Island 37.72 301 eP P 14 54 09.7 -0.9
comp=Z,287nm,1.0s
BBOO Buckleboo 38.50 247 eP P 14 54 15.5 -1.2
comp=Z,373nm,1.1s
AS01 Alice Springs 41.06 261 eP P 14 54 36.7 -0.7
AS31 Alice Springs 41.10 261 eP P 14 54 37.2 -0.5
comp=Z,128nm,1.0s
ASAR Alice Springs 41.11 261 P P 14 54 37.4 -0.4
comp=Z,148nm,0.4s,baz=94,slow=7.4,SNR=869
ASAR ScP ScP 14 59 24.9 +3.8
comp=Z,3.9nm,0.4s,baz=123,slow=3.3,SNR=4.7
ASAR S S 15 00 10.8 -0.5
comp=Z,18nm,0.8s,baz=99,slow=14,SNR=13
ASAR P3KPbc 15 24 01.0
comp=Z,0.2nm,0.5s,baz=285,slow=4.4,SNR=5.8
WB2 Warramunga Arr 41.49 267 eP P 14 54 39.4 -1.4
WRAB Tennant Creek 41.49 267 eP P 14 54 39.7 -1.1
comp=Z,449nm,0.9s
WRAB Tennant Creek 41.49 267 eP P 14 54 39.7 -1.1
WRAB pmax pmax
comp=Z,449nm,0.9s
WRA Warramunga Arr 41.50 267 P P 14 54 39.8 -1.1
comp=Z,304nm,0.5s,baz=103,slow=8.2,SNR=840
WRA PcP PcP 14 56 25.4 +0.1
comp=Z,5.9nm,0.4s,baz=100,slow=5.4,SNR=7.4
WRA ScP ScP 14 59 26.3 +3.6
comp=Z,15nm,0.9s,baz=102,slow=4.2,SNR=7.3
WRA S S 15 00 13.6 -3.3
comp=Z,39nm,1.0s,baz=102,slow=15,SNR=25
WRA PKiKP PKiKP 15 03 29.6 -0.9
comp=Z,1.4nm,0.6s,baz=66,slow=0.5,SNR=5.2
WRA P3KPbc 15 23 59.8
comp=Z,0.3nm,0.6s,baz=301,slow=3.1,SNR=7.0
TAOE Nuku Hiva Isla 41.83 76 eP P 14 54 43.3 -0.3
comp=Z,374nm,0.8s
TAOE Nuku Hiva Isla 41.83 76 eP P 14 54 45.0 +1.4
comp=Z,187nm,0.9s
RKT Rikitea 42.00 98 eP P 14 54 45.2 +0.5
comp=Z,36nm,0.8s
JAY Jayapura 42.83 294 P P 14 54 50.9 -0.5
GENI Genyem 43.24 294 P P 14 54 54.9 +0.4
SMPI Sarmi 44.78 293 P P 14 55 05.5 -1.0
WAKE Wake Island 44.89 343 eP P 14 55 07.2 +0.1
comp=Z,380nm,0.8s
FORT Forrest 45.37 250 eP P 14 55 09.5 -1.2
comp=Z,615nm,0.6s
MTN Manton Dam 46.60 275 eP P 14 55 18.4 -1.9
comp=Z,100nm,0.6s
SRPI Seni, Papua 46.93 292 P P 14 55 23.5 +0.7
KMPI Kaimana, Papua 48.20 288 P P 14 55 31.8 -0.5
comp=Z,395nm,0.5s,comp=Z,6µm
SAUI Saumlaki 48.35 281 P P 14 55 34.1 +0.7
RKPI Ransiki, Papua 48.87 291 P P 14 55 36.6 -0.7
comp=Z,154nm,0.7s
FAKI Fak Fak 49.83 288 eP P 14 55 42.5 -1.8
comp=Z,977nm,2.0s
FAKI Fak Fak 49.83 288 P P 14 55 42.9 -1.4
FITZ Fitzroy Crossi 49.92 266 P P 14 55 44.6 -0.3
comp=Z,91nm,0.4s,baz=119,slow=5.5,SNR=379
FITZ Fitzroy Crossi 49.92 266 eP P 14 55 44.4 -0.5
comp=Z,134nm,0.6s
FITZ epP pP 14 57 29.1 +0.7
KHLU Kahalu'u 49.94 31 eP P 14 55 44.9 -0.2
comp=Z,123nm,0.7s
MLH Mauna Loa 50.10 32 eP P 14 55 46.4 0.0
comp=Z,171nm,0.9s
HMH Humu'ula Sheep 50.14 32 eP P 14 55 47.3 +0.5
comp=Z,259nm,0.8s
POHA Pohakuloa 50.25 32 eP P 14 55 48.0 +0.5
comp=Z,104nm,1.0s
GUMO Guam 50.26 315 P P 14 55 46.1 -1.3
comp=Z,174nm,0.6s,baz=206,slow=9.3,SNR=15
HPAH Hawaii Prepara 50.41 31 eP P 14 55 48.6 +0.1
comp=Z,239nm,0.8s
MHA Mahukona 50.45 31 eP P 14 55 48.9 +0.3
MHA Mahukona 50.45 31 eP P 14 55 48.9 +0.3
BNDI Bandanaira 51.13 284 P P 14 55 54.9 +1.1
SIJI Sorong 51.70 289 P P 14 55 57.4 -0.5
comp=Z,295nm,0.5s,baz=106,slow=5.0,SNR=117
SWI Sorong 51.71 289 P P 14 55 57.7 -0.3
ANA2 Anatahan 51.80 318 eP P 14 55 57.3 -1.3
comp=Z,239nm,0.6s
SARN Sarigan 52.03 318 eP P 14 55 58.4 -1.9
comp=Z,60nm,0.8s
MSAI Masohi 52.53 285 P P 14 56 04.7 +0.8
AAI Ambon 53.02 284 P P 14 56 06.3 -1.1
comp=Z,467nm,0.9s,comp=Z,6µm
VNDA Vanda 53.99 185 P P 14 56 14.0 +0.8
comp=Z,4.2nm,0.5s,baz=3.9,slow=8.2,SNR=54
VNDA PcP PcP 14 57 11.6 +2.1
comp=Z,7.4nm,0.6s,baz=360,slow=5.4,SNR=11
VNDA Vanda 53.99 185 eP P 14 56 13.7 +0.5
comp=Z,9.9nm,0.8s
VNDA PcP PcP 14 57 11.6 +2.1
SOEI Soe 53.99 276 eP P 14 56 14.4 +0.1
comp=Z,405nm,0.8s
SOEI Soe 53.99 276 P P 14 56 15.7 +1.3
SBA Scott Base 54.01 183 eP P 14 56 14.6 +1.3
comp=Z,18nm,0.8s
SBA Scott Base 54.01 183 eP P 14 56 14.6 +1.3
SBA pmax pmax
comp=Z,18nm,0.8s
NLAI Namlea 54.20 284 P P 14 56 14.8 -0.9
NWAO Narrogin (SRO) 54.29 246 P P 14 56 15.0 -1.1
comp=Z,35nm,0.5s,baz=345,slow=6.0,SNR=62
NWAO Narrogin (SRO) 54.29 246 eP P 14 56 15.0 -1.1
comp=Z,58nm,0.7s
NWAO Narrogin (SRO) 54.29 246 eP P 14 56 15.0 -1.1
NWAO pmax pmax
comp=Z,58nm,0.7s
BATI Baumata 54.37 275 P P 14 56 18.2 +1.3
MBWA Marble Bar 54.44 261 eP P 14 56 15.9 -1.4
comp=Z,449nm,1.5s
MBWA Marble Bar 54.44 261 P P 14 56 16.1 -1.2
SNR=11
LBMI Labuha 55.08 287 P P 14 56 22.6 +0.8
comp=Z,352nm,0.6s,comp=Z,5µm
SANI Sanana 55.73 285 P P 14 56 25.4 -1.0
comp=Z,233nm,0.7s,comp=Z,3µm
TNTI Ternate 55.89 289 eP P 14 56 26.3 -1.1
comp=Z,1µm,2.0s
TNTI Ternate 55.89 289 P P 14 56 26.8 -0.7
comp=Z,268nm,0.9s,comp=Z,3µm
MMRI Maumere 56.27 276 eP P 14 56 28.7 -1.4
comp=Z,266nm,1.0s
MMRI Maumere 56.27 276 P P 14 56 29.0 -1.1
comp=Z,256nm,0.7s,comp=Z,6µm
H01W1 Cape Leeuwin H 56.56 243 P P 14 56 32.9 +1.4
baz=130,slow=5.2,SNR=4.6
H01W2 Cape Leeuwin H 56.58 243 P P 14 56 33.3 +1.7
baz=130,slow=5.2,SNR=3.9
H01W3 Cape Leeuwin H 56.58 243 P P 14 56 32.3 +0.7
baz=130,slow=5.2,SNR=4.6
EDFI Ende, Flores 56.72 275 P P 14 56 32.5 -0.8
comp=Z,382nm,0.6s,comp=Z,4µm
BASI Baing, Sumba 57.17 273 P P 14 56 35.9 -0.4
comp=Z,588nm,1.3s,comp=Z,7µm
BBSI Bau Bau 57.25 279 P P 14 56 38.3 +1.5
WBSI Waikabubak, Su 58.47 273 P P 14 56 44.4 -0.7
comp=Z,284nm,1.2s,comp=Z,4µm
KMSI Cibinong 58.74 287 P P 14 56 47.3 +0.4
LUWI Luwuk 59.04 284 eP P 14 56 47.6 -1.3
comp=Z,476nm,1.2s
LUWI Luwuk 59.04 284 P P 14 56 48.5 -0.4
comp=Z,292nm,0.8s,comp=Z,5µm
CASY Casey 59.43 206 eP P 14 56 50.1 -0.6
comp=Z,139nm,1.4s
BKSI Bulukumba 59.53 278 P P 14 56 51.5 -0.7
BNSI Bone 59.93 279 P P 14 56 54.0 -0.9
comp=Z,171nm,1.3s,comp=Z,3µm
APSI Ampana 60.10 284 P P 14 56 55.5 -0.4
comp=Z,193nm,0.9s,comp=Z,3µm
PLAI Plampang 60.25 274 P P 14 56 56.2 -0.8
comp=Z,822nm,1.0s,comp=Z,8µm
SPSI Sap Palu 60.42 280 P P 14 56 56.3 -1.8
comp=Z,79nm,0.9s,comp=Z,937nm
MRSI Marisa 60.48 285 P P 14 56 56.9 -1.6
comp=Z,110nm,0.6s,comp=Z,1µm
DAV Davao City (W) 60.68 294 P P 14 56 59.7 0.0
comp=Z,152nm,0.5s,baz=77,slow=3.9,SNR=7.9
DAV Davao City (W) 60.68 294 P P 14 56 59.7 0.0
SNR=6.1
TWSI Taliwang, Sumb 61.10 273 P P 14 57 01.9 -0.7
comp=Z,314nm,1.4s,comp=Z,4µm
CBIJ Chichi jima 62.19 323 P P 14 57 09.6 +0.2
JCJ Chichijima 62.19 323 P P 14 57 09.6 +0.2
comp=Z,115nm,0.6s,baz=81,slow=22,SNR=13
MPSI Mapaga 62.22 284 P P 14 57 08.6 -1.3
comp=Z,102nm,0.5s,comp=Z,2µm
DNP Denpasar 62.65 273 P P 14 57 13.5 +0.9
comp=Z,316nm,0.4s,comp=Z,12µm
IGBI Denpasar 62.65 272 P P 14 57 12.1 -0.6
comp=Z,2µm,0.9s,comp=Z,19µm
SRBI Singaraja 62.88 273 P P 14 57 13.1 -1.0
comp=Z,176nm,0.9s,comp=Z,2µm
JAGI Jajag, Banyuwa 63.69 272 eP P 14 57 17.5 -1.8
comp=Z,186nm,0.6s
JAGI Jajag, Banyuwa 63.69 272 P P 14 57 18.1 -1.2
comp=Z,353nm,0.6s,comp=Z,4µm
SMKI Samarinda 64.26 282 P P 14 57 25.4 +2.5
GMJI Gumukmas 64.42 272 P P 14 57 22.6 -1.3
comp=Z,222nm,0.7s,comp=Z,3µm
KMMI Kalianget 64.42 274 P P 14 57 23.9 0.0
comp=Z,250nm,0.9s,comp=Z,3µm
BLJI Banyuglugur 64.48 273 P P 14 57 23.7 -0.6
comp=Z,312nm,0.6s,comp=Z,4µm
MYLDM Lahad Datu 65.75 288 eP P 14 57 32.8 +0.6
comp=Z,86nm,1.0s
GRJI Gresik 65.83 273 P P 14 57 32.6 -0.2
comp=Z,658nm,0.6s,comp=Z,7µm
QSPA South Pole Qui 65.86 180 P P 14 57 33.1 +0.8
comp=Z,52nm,0.8s,baz=343,slow=0.4,SNR=184
QSPA South Pole Qui 65.86 180 eP P 14 57 32.9 +0.6
comp=Z,61nm,0.8s
PWJI Pagerwojo 66.01 272 P P 14 57 32.9 -1.0
comp=Z,327nm,0.7s,comp=Z,3µm
PCJI Pacitan 66.51 271 P P 14 57 36.6 -0.4
comp=Z,788nm,0.6s,comp=Z,9µm
NGJI Ngawi 66.58 272 P P 14 57 37.7 +0.3
comp=Z,129nm,1.3s
WOJI Wonogiri, Jawa 66.88 272 P P 14 57 38.9 -0.4
comp=Z,227nm,1.3s,comp=Z,3µm
UGM Wanagama 67.22 271 eP P 14 57 40.4 -1.0
comp=Z,162nm,0.6s
UGM Wanagama 67.22 271 P P 14 57 40.4 -1.0
comp=Z,265nm,0.7s
SMRI Semarang 67.63 272 eP P 14 57 43.2 -0.7
comp=Z,817nm,1.8s
SMRI Semarang 67.63 272 P P 14 57 43.8 -0.1
comp=Z,234nm,1.5s
JHJ2 Mitsune 68.17 325 eP P 14 57 46.9 +0.2
comp=Z,3µm,1.9s
JHJ Hachijo jima 2 68.19 325 P P 14 57 46.4 -0.5
comp=Z,378nm,0.6s,baz=187,slow=13,SNR=14
PBKI Pangkalan Bun 68.27 277 P P 14 57 47.7 -0.1
comp=Z,588nm,1.1s
TGY Tagaytay City 68.32 298 P P 14 57 48.0 -0.1
comp=Z,204nm,0.4s,baz=337,slow=17,SNR=5.4
KPJI Karang Pucung 68.90 271 P P 14 57 50.6 -1.0
comp=Z,188nm,0.6s,comp=Z,3µm
CMJI Cimerak 69.16 271 P P 14 57 51.2 -2.0
comp=Z,69nm,0.7s,comp=Z,2µm
STKI Sintang 69.62 280 P P 14 57 55.8 -0.1
comp=Z,158nm,0.8s,comp=Z,7µm
CISI Cisompet, Garu 69.83 271 eP P 14 57 55.5 -1.7
comp=Z,508nm,1.5s
CISI Cisompet, Garu 69.83 271 P P 14 57 55.6 -1.7
comp=Z,205nm,1.1s,comp=Z,6µm
SBUM Sibu 70.01 282 eP P 14 57 57.7 -0.5
comp=Z,18nm,0.9s
SBUM Sibu 70.01 282 P P 14 57 58.0 -0.2
LEM Lembang 70.29 271 P P 14 57 59.9 -0.3
comp=Z,222nm,0.7s,baz=127,slow=4.5,SNR=22
LEM Lembang 70.29 271 P P 14 57 59.6 -0.5
comp=Z,4µm,0.8s,comp=Z,44µm

JOW **Kunigami** 70.55 313 P P 14 58 01.2 +0.1
comp=Z,134nm,0.8s,baz=139,slow=7.1,SNR=30
JOW **Kunigami** 70.55 313 *e*P P 14 58 00.8 -0.3
comp=Z,138nm,0.8s
SKJI **Sukabumi** 71.19 271 P P 14 58 04.1 -1.1
comp=Z,249nm,0.6s,comp=Z,3µm
KSM **Kuching** 71.29 280 *e*P P 14 58 05.2 -0.6
comp=Z,201nm,1.2s
KSM **Kuching** 71.29 280 P P 14 58 05.0 -0.8
INU **Inuyama** 71.36 325 *e*P P 14 58 05.7 0.0
comp=Z,124nm,0.9s
MJAR **Matsushiro Arr** 71.67 326 P P 14 58 07.0 -0.5
comp=Z,100nm,0.7s,baz=166,slow=5.6,SNR=128
MJAR **Matsushiro Arr** 71.67 326 P P 14 58 07.0 -0.5
MAJO **Matsushiro** 71.67 326 *e*P P 14 58 07.2 -0.3
comp=Z,153nm,0.7s
MAJO **Matsushiro** 71.67 326 *c e*P P 14 58 07.5 0.0
MAJO pmax pmax
comp=Z,180nm,0.8s
MJB9 **Matsu-Tunnel** 71.67 326 *e*P P 14 58 07.2 -0.3
comp=Z,158nm,0.7s
SBJI **Serang** 71.93 271 P P 14 58 08.5 -1.0
comp=Z,248nm,1.5s,comp=Z,5µm
CGJI **Cibinong** 72.14 271 P P 14 58 09.1 -1.6
comp=Z,348nm,0.5s,comp=Z,4µm
YOJ **Yonaguni jima** 72.72 308 *e*P P 14 58 12.9 -0.9
comp=Z,175nm,0.9s
YOJ **Yonaguni jima** 72.72 308 *e*P P 14 58 12.9 -0.9
YOJ pmax pmax
comp=Z,175nm,0.9s
JNU **Nakatsue** 73.19 319 P P 14 58 16.0 -0.3
comp=Z,88nm,0.8s,baz=87,slow=3.4,SNR=41
JNU **Nakatsue** 73.19 319 *e*P P 14 58 15.8 -0.5
comp=Z,98nm,0.8s
YULB **Yu-li** 73.33 306 *e*P P 14 58 15.1 -2.3
comp=Z,21nm,0.6s
PPBI **Pangkal Pinang** 73.52 275 P P 14 58 18.2 -0.4
comp=Z,53nm,1.4s,comp=Z,3µm
NACB **Ninganchiao** 73.58 307 *e*P P 14 58 17.2 -1.5
comp=Z,177nm,1.2s
KLI **Kotabumi** 73.59 272 P P 14 58 17.1 -1.9
comp=Z,179nm,0.8s
KASI **Kota Agung** 73.66 271 P P 14 58 17.7 -1.7
comp=Z,228nm,0.8s
TPUB **Ta-pu** 73.78 305 *e*P P 14 58 17.7 -2.2
comp=Z,76nm,0.7s
SSLB **Suanglung** 73.82 306 *e*P P 14 58 17.6 -2.6
comp=Z,58nm,0.6s
YHNB **Yeheng** 74.03 307 *e*P P 14 58 18.8 -2.6
comp=Z,58nm,0.9s
TATO **Taipei** 74.13 307 *e*P P 14 58 20.4 -1.4
comp=Z,156nm,1.0s
LWLI **Liwa** 74.26 272 P P 14 58 21.7 -1.3
comp=Z,127nm,0.7s,comp=Z,4µm
MDSI **Maura Dua** 74.36 272 P P 14 58 21.6 -1.8
comp=Z,97nm,0.8s,comp=Z,2µm
YUK **Yuzh-Kuril'sk** 74.42 336 *c i*P P 14 58 14.4 -8.6
YUK *e* 15 01 07.4
YUK pmax pmax
comp=Z,985nm,1.1s
YUK pmax pmax
comp=N,676nm,1.2s
YUK pmax pmax
comp=E,820nm,1.2s
YUK pmax pmax
comp=Z,846nm,2.0s
KUR **Kuril'sk** 74.73 338 *e*P P 14 58 24.3 -0.4
KUR *e* 14 58 35.0
KUR *e**SP **PP** **15 01 21.6 -0.8**
KUR S **S** **15 07 22.1 +5.8**
DSRI **Dabo** 75.63 276 P P 14 58 27.8 -2.7
comp=Z,174nm,1.1s,comp=Z,3µm
ASAJ **Asahikawa** 75.76 334 P P 14 58 31.3 +0.9
comp=Z,58nm,0.7s,baz=197,slow=4.4,SNR=31
ASAJ **Asahikawa** 75.76 334 *e*P P 14 58 31.9 +1.4
comp=Z,73nm,0.8s
QZH **Quanzhou** 76.24 306 ⇓ *i*P P 14 58 33.7 +0.1
QZH pmax pmax
comp=Z,520nm,5.7s
TPRI **Tanjung Pinang** 76.27 277 P P 14 58 33.2 -0.8
ATKA **Atka Island** 76.33 4 *e*P P 14 58 32.5 -0.9
comp=Z,161nm,0.8s
MASI **Maura Aman, Be** 76.67 273 P P 14 58 35.2 -1.1
comp=Z,400nm,0.8s
MAW **Mawson** 77.14 201 P P 14 58 38.1 +0.4
comp=Z,25nm,0.5s,baz=132,slow=7.1,SNR=85
MAW **Mawson** 77.14 201 *e*P P 14 58 37.7 0.0
comp=Z,6.0nm,0.7s
MYKOM **Kota Tinggi** 77.25 278 *e*P P 14 58 38.6 -0.7
comp=Z,56nm,0.8s
MYKOM **Kota Tinggi** 77.25 278 P P 14 58 39.0 -0.3
SKR **Severo-Kuril's** 77.28 345 *e*P P 14 58 36.2 -2.4
SKR *e*S **S** **15 07 46.2 +2.9**
SKR *e* 15 08 29.8
SKR pmax pmax
comp=Z,200nm,4.8s
SKR pmax pmax
comp=Z,600nm,5.6s
SKR pmax pmax
comp=Z,124nm,1.5s
TJN **Taejon** 77.52 320 *c i*P P 14 58 40.9 +0.6
RGRI **Rengat** 77.73 275 P P 14 58 42.4 +0.5
comp=Z,204nm,0.7s
KRJI **Kerinci** 77.81 273 P P 14 58 41.9 -0.6
comp=Z,126nm,0.7s
KSRS **Korea Array** 77.93 321 P P 14 58 43.1 +0.7
comp=Z,45nm,0.8s,baz=133,slow=5.3,SNR=73
KS15 **Wonju Array Si** 77.94 321 *e*P P 14 58 42.9 +0.4
KSAR **Wonju Array Be** 77.94 321 P P 14 58 43.1 +0.6
KSAR **Wonju Array Be** 77.94 321 P P 14 58 43.1 +0.6
KS01 **Wonju Array Si** 77.96 321 *e*P P 14 58 42.7 0.0
YSS **Yuzh-Sakhalins** 78.06 336 *e*P P 14 58 43.8 +0.9
comp=Z,182nm,1.0s
YSS **Yuzh-Sakhalins** 78.06 336 ⇓ *i*P P 14 58 44.4 +1.5
YSS pmax pmax
comp=Z,160nm,1.0s
SDSI **Sungai Dareh** 78.31 274 P P 14 58 43.6 -1.5
comp=Z,54nm,1.0s,comp=Z,4µm
UNV **Unalaska Valle** 78.75 9 *e*P P 14 58 45.8 -0.6
comp=Z,61nm,0.7s
PET **Petropavlovsk** 78.94 348 *e*P P 14 58 47.1 -0.3
comp=Z,54nm,0.6s
PET **Petropavlovsk** 78.94 348 *e*P P 14 58 47.3 -0.1
PET *e**SP **sP** **15 01 40.8 -1.2**
PET *e*S **S** **15 08 00.9 +0.4**
PET pmax pmax
comp=Z,400nm,5.2s
PET pmax pmax
comp=Z,76nm,0.6s
PET pmax pmax
comp=Z,300nm,15.3s
PMSA **Palmer Station** 78.96 157 P P 14 58 47.8 +0.3
comp=Z,34nm,0.9s,baz=356,slow=14,SNR=9.8
PDSI **Padang** 79.20 274 P P 14 58 48.5 -1.3
comp=Z,60nm,0.5s,comp=Z,1µm
PEA0B **Petropavlovsk-** 79.21 347 *e*P P 14 58 49.2 +0.3
comp=Z,110nm,0.8s
PETK **Petropavlovsk-** 79.21 347 P P 14 58 49.3 +0.4
comp=Z,54nm,0.7s,baz=125,slow=5.9,SNR=62
PETK PKiKP **PKiKP** **15 04 16.8 +0.5**
comp=Z,9.5nm,1.2s,baz=123,slow=4.8,SNR=5.3
PETK **Petropavlovsk-** 79.21 347 *e*P P 14 58 49.0 +0.1
PETK *ep*P **pP** **15 00 50.3 +3.4**
PETK PKiKP **PKiKP** **15 04 16.8 +0.5**
MSHR **Mys Shultsa** 79.79 326 ⇑ *e*P P 14 58 54.2 +2.0
VLA **Vladivostok** 79.82 327 ⇑ *e*P P 14 58 54.5 +2.2
VLA pmax pmax
comp=Z,57nm,1.3s
QIZ **Qiongzhong** 79.94 296 *e*P P 14 58 52.6 -0.9
NJ2 **Nanjing** 80.21 312 *e*P P 14 58 55.0 +0.4
NJ2 pmax pmax
comp=Z,42nm,0.9s
USA0B **Ussuriysk Arra** 80.56 328 *e*P P 14 58 56.2 0.0
comp=Z,95nm,1.0s
USRK **Ussuriysk Ar.** 80.56 328 P P 14 58 57.0 +0.9
comp=Z,38nm,0.7s,baz=131,slow=4.2,SNR=48
IPM **Ipoh** 80.94 279 *e*P P 14 58 58.2 -0.7
comp=Z,125nm,0.5s
TYV **Tymovskoe** 81.36 338 *e*P P 14 59 01.6 +1.5
TYV *e*S **S** **15 08 23.8 -1.5**
TYV pmax pmax
comp=Z,1µm,3.1s
TYV pmax pmax
comp=Z,101nm,1.0s
TYV smax smax
comp=E,17nm,1.9s
TYV smax smax
comp=E,1µm,6.1s
KULM **Kulim** 81.62 280 *e*P P 14 59 01.7 -0.7
comp=E,59nm,0.7s
KULM **Kulim** 81.62 280 P P 14 59 02.0 -0.4
MDJ **Mudanjiang** 82.04 327 P P 14 59 03.3 -0.5
MDJ pmax pmax
comp=E,59nm,0.9s
MDJ pmax pmax
comp=E,1µm,4.7s
MDJ **Mudanjiang** 82.04 327 *e*P P 14 59 04.0 +0.2
comp=E,71nm,0.8s
PSI **Prapat** 82.13 277 P P 14 59 03.5 -1.6
comp=E,48nm,0.9s,baz=0.0,slow=1.0,SNR=8.6
PSI **Prapat** 82.13 277 *e*P P 14 59 03.1 -2.0
comp=E,98nm,1.2s
SCI2 **San Clemente I** 82.29 49 P P 14 59 07.9 +2.6
baz=235
SKLT **Songkhla** 82.45 281 P P 14 59 07.8 +1.3
comp=E,79nm,1.4s,comp=E,1µm
CHGN **Chignik** 82.46 12 *e*P P 14 59 05.5 0.0
comp=E,191nm,1.4s
SYO **Syowa Base** 82.49 194 ⇓ *e*P P 14 59 04.6 -1.1
SYO **Syowa Base** 82.49 194 ⇓ *i*PcP P 14 59 06.0 +0.3
WHN **Wuhan** 82.50 308 ⇓ *i*P P 14 59 06.7 +0.3
WHN sP **sP** **15 01 58.2 -3.8**
WHN S S 15 08 27.0 -11
WHN pmax pmax
comp=E,150nm,1.0s
WHN pmax pmax
comp=E,2µm,6.1s
PKM **Mcpherson Peak** 82.55 47 P P 14 59 08.5 +1.7
baz=234
SAO **San Andreas Ge** 82.61 44 *e*P P 14 59 07.6 +0.7
comp=E,62nm,1.6s
SAO **San Andreas Ge** 82.61 44 *e*P P 14 59 07.6 +0.7
SAO pmax pmax
comp=Z,62nm,1.6s
DL2 **Dalian** 82.61 318 P P 14 59 09.0 +2.2
DL2 sP **sP** **15 02 04.3 +1.9**
DL2 S **S** **15 08 38.3 0.0**
DL2 pmax pmax
comp=Z,57nm,1.1s
DL2 pmax pmax
comp=Z,930nm,5.9s
SMMC **Simmler** 82.68 46 P P 14 59 09.2 +1.9
baz=234
PMPB **Monarch Peak** 82.69 45 *e*P P 14 59 08.1 +0.7
comp=Z,30nm,1.2s
GSI **Gunungsitoli** 82.74 275 *e*P P 14 59 07.9 -0.1
comp=Z,162nm,0.6s
GSI **Gunungsitoli** 82.74 275 P P 14 59 08.1 0.0
PAGB **Antelope Grade** 82.76 46 *e*P P 14 59 08.0 +0.3
comp=Z,66nm,1.7s
HOPS **Hopland Field** 82.97 42 *e*P P 14 59 08.8 +0.2
comp=Z,45nm,1.2s
KCPM **Cahto Peak** 83.10 41 *e*P P 14 59 09.8 +0.4
comp=Z,47nm,1.0s
CPE **Camp Elliot** 83.23 50 *e*P P 14 59 10.8 +0.7
comp=Z,42nm,1.4s
MWC **Mount Wilson** 83.34 48 *e*P P 14 59 11.6 +0.8
comp=Z,32nm,1.4s
MWC **Mount Wilson** 83.34 48 *e*P P 14 59 11.6 +0.8
MWC pmax pmax
comp=Z,33nm,1.4s
KMRM **Mail Ridge** 83.36 40 *e*P P 14 59 12.0 +1.3
comp=Z,42nm,0.9s
BAR **Barrett** 83.42 50 *e*P P 14 59 11.0 -0.1
comp=Z,29nm,1.3s
KCSI **Kocane, Aceh** 83.48 277 P P 14 59 10.3 -1.4
comp=Z,45nm,0.8s,comp=Z,818nm
TRTT **Trang** 83.56 282 P P 14 59 12.8 +0.7
comp=Z,33nm,1.4s,comp=Z,696nm
MURC **Murrieta** 83.57 49 P P 14 59 13.0 +1.3
baz=235
VES **Vestal, Richgr** 83.59 46 P P 14 59 13.1 +1.4
baz=234,SNR=7.3
GRNR **Gornyy** 83.60 334 *e*P P 14 59 16.0 +4.5
GRNR pmax pmax
comp=Z,55nm,1.0s
BFSC **Mount Baldy Ra** 83.62 48 P P 14 59 13.2 +1.1
baz=235,SNR=11
CN2 **Changchun** 83.62 324 ⇓ *i*P P 14 59 12.1 +0.4
CN2 pmax pmax
comp=Z,20nm,0.7s
MONP2 **Monument Peak** 83.71 50 P P 14 59 14.0 +1.2
baz=236,SNR=17
SLBS **Sierra La Lagu** 83.73 61 *e*P P 14 59 14.2 +1.3
comp=Z,194nm,2.0s
EDW2 **Edwards Air Fo** 83.76 47 P P 14 59 14.0 +1.3
baz=235,SNR=18
KHMM **Horse Mountain** 83.76 40 *e*P P 14 59 15.2 +2.5
comp=Z,190nm,2.0s
IKP **In-Ko-Pah, Jac** 83.79 50 P P 14 59 14.5 +1.5
baz=236,SNR=9.8
TIA **Tai'an** 83.81 314 P P 14 59 13.5 +0.6
TIA pmax pmax
comp=Z,87nm,0.9s
SKNT **Sakolnakorn** 83.85 292 P P 14 59 13.9 +0.4
comp=Z,155nm,0.8s,comp=Z,2µm
O02D **Mt. Diablo Mer** 83.88 41 P P 14 59 15.3 +2.1
baz=231,SNR=16
ISA **Isabella, Lake** 83.89 47 *e*P P 14 59 14.3 +1.0
comp=Z,34nm,0.9s
ISA *ep*P **pP** **15 01 13.5 +0.4**
ISA **Isabella, Lake** 83.89 47 P P 14 59 15.1 +1.8
baz=234,SNR=37
TPTI **Tokyo** 83.90 276 P P 14 59 13.4 -0.4
comp=Z,62nm,0.8s,comp=Z,838nm
FRD **Ford Ranch, An** 83.92 49 P P 14 59 14.9 +1.3
baz=236,SNR=13
NKL **Nikolayevsk** 83.94 338 *e*P P 14 59 13.5 +0.5
NKL *e*S S 15 09 00.0 +9.3
NKL pmax pmax
comp=E,20nm,1.0s
NKL pmax pmax
comp=Z,130nm,1.0s
NKL pmax pmax
comp=Z,1µm,7.0s
NKL smax smax
comp=E,1µm,13.0s
CMB **Columbia Colle** 84.05 44 *e*P P 14 59 14.7 +0.6
comp=E,25nm,0.9s
CMB *ep*P **pP** **15 01 14.9 +1.1**
PFO **Pinyon Flats O** 84.08 49 *e*P P 14 59 14.8 +0.4
comp=E,19nm,1.1s
PFO *ep*P **pP** **15 01 15.4 +1.1**
PFO **Pinyon Flats O** 84.08 49 P P 14 59 15.8 +1.4
baz=236
XPFO **Piæon Flat** 84.09 49 *e*P P 14 59 14.8 +0.3
comp=E,19nm,1.1s
XPFO *ep*P **pP** **15 01 15.1 +0.9**
KRAB **Krabi** 84.17 282 P P 14 59 16.0 +0.9
comp=E,88nm,0.6s,comp=E,935nm
SWSC **Sam W. Stewart** 84.17 50 P P 14 59 16.3 +1.6
baz=236,SNR=6.2
SRAK **Srakaew** 84.18 288 P P 14 59 13.9 -1.2
comp=E,116nm,1.6s,comp=E,1µm
AFDM **Forest Hills D** 84.23 43 *e*P P 14 59 15.4 +0.5
comp=E,26nm,1.0s
AFDM *ep*P **pP** **15 01 15.6 +0.9**
ORV **Oroville** 84.28 42 *e*P P 14 59 15.8 +0.7
comp=E,22nm,0.9s
ORV *ep*P **pP** **15 01 15.9 +1.0**
ORV **Oroville** 84.28 42 *e*P P 14 59 15.8 +0.7
ORV *e**PP **pP** **15 01 15.9 +1.0**
ORV pmax pmax
comp=Z,22nm,0.9s
WDC **Whiskeytown Da** 84.28 41 *e*P P 14 59 15.8 +0.8
comp=Z,22nm,0.9s
WDC *ep*P **pP** **15 01 16.3 +1.4**
WDC **Whiskeytown Da** 84.28 41 *e*P P 14 59 15.9 +0.8
WDC *e**PP **pP** **15 01 16.3 +1.4**
WDC pmax pmax
comp=Z,22nm,0.9s
LRMC **Laurel Mtn Rad** 84.31 47 P P 14 59 16.8 +1.3
baz=235
SNAA **Sanae** 84.36 179 *e*P P 14 59 14.1 -1.0
comp=Z,59nm,1.5s
SNAA **Sanae** 84.36 179 ⇓ *e*P P 14 59 14.4 -0.7
SNAA pmax pmax
comp=Z,3µm,1.6s
KLR **Kul'dur** 84.38 331 P P 14 59 15.5 +0.1
comp=Z,11nm,0.6s,baz=155,slow=3.2,SNR=23
KLR **Kul'dur** 84.38 331 ⇓ *i*P P 14 59 15.7 +0.4
OHAK **Old Harbor** 84.41 15 *e*P P 14 59 15.2 -0.1
comp=Z,63nm,1.0s
N02D **Trinity Center** 84.43 40 P P 14 59 17.8 +1.9
baz=231,SNR=7.5
O03E **Paynes Creek** 84.55 41 P P 14 59 18.1 +1.6
baz=232,SNR=13
CWC **Cottonwood Cre** 84.60 46 P P 14 59 18.1 +1.2
baz=235
M02C **Callahan** 84.60 40 P P 14 59 18.5 +1.7
baz=231,SNR=8.0
BELC **Belle Mtn. Jos** 84.62 49 P P 14 59 18.4 +1.3
baz=236,SNR=22
MDPB **Devils Postpil** 84.64 45 *e*P P 14 59 16.9 -0.4
comp=Z,27nm,1.3s
MDPB *ep*P **pP** **15 01 18.6 +1.3**
PATY **Pattaya** 84.72 287 P P 14 59 19.6 +1.8
MPMC **Manual Prospec** 84.77 47 P P 14 59 19.2 +1.4
baz=235,SNR=17
GSC **Goldstone, Bar** 84.80 48 *e*P P 14 59 18.5 +0.6
comp=Z,22nm,1.0s
GSC **Goldstone, Bar** 84.80 48 P P 14 59 19.3 +1.5
baz=236,SNR=16
RUBR **Rubicon Trail** 84.80 43 *e*P P 14 59 18.2 +0.2
comp=Z,25nm,0.8s
BC3 **Big Chuckawall** 84.81 50 P P 14 59 19.4 +1.5
baz=236,SNR=10
DAC **Darwin (Calif)** 84.82 46 *e*P P 14 59 18.1 0.0
comp=Z,4.6nm,0.7s
DAC **Darwin (Calif)** 84.82 46 *e*P P 14 59 18.1 0.0
DAC pmax pmax
comp=Z,5.0nm,0.7s
NVL **N'lazarevskaya** 84.84 184 *e*P P 14 59 18.7 +1.3
NVL *e*S **SKSac** **15 08 47.3 -1.2**
NVL pmax pmax
comp=Z,27nm,0.9s
HEC **Hector,Ludlow** 84.85 48 P P 14 59 19.7 +1.6
baz=236,SNR=12
YBH **Yreka Blue Hor** 84.90 40 *e*P P 14 59 20.4 +2.2
comp=Z,16nm,0.8s
GLA **Glamis** 84.92 50 *e*P P 14 59 18.9 +0.4
comp=Z,31nm,0.9s
GLA *ep*P **pP** **15 01 20.1 +1.6**
GLA **Glamis** 84.92 50 P P 14 59 20.2 +1.7
baz=237,SNR=5.3
WAKR **Walker** 84.93 44 *e*P P 14 59 18.9 +0.4
comp=Z,29nm,1.1s
WAKR *ep*P **pP** **15 01 20.1 +1.5**
LHMI **Lhok Sumawe** 84.93 278 *e*P P 14 59 17.9 -1.0
comp=Z,97nm,0.6s
MLSI **Meulaboh, Aceh** 85.02 277 P P 14 59 18.8 -0.5
comp=Z,188nm,0.9s
NONG **Nongkai** 85.06 292 P P 14 59 20.0 +0.6
comp=Z,2.9nm,1.4s,comp=Z,72nm
CHAI **Chaiyaphum** 85.07 290 P P 14 59 20.2 +0.7
comp=Z,12nm,0.8s,comp=Z,122nm
KDAK **Kodiak Island** 85.08 15 P P 14 59 18.2 -0.3
comp=Z,25nm,0.8s,baz=240,slow=3.5,SNR=21
J01E **Myrtle Point** 85.10 38 P P 14 59 21.0 +2.0
baz=230
BEKR **Beckworth** 85.16 42 *e*P P 14 59 20.3 +0.7
comp=Z,77nm,1.8s
BEKR *ep*P **pP** **15 01 20.8 +1.0**
PNTR **Pine Nut** 85.17 43 *e*P P 14 59 20.2 +0.5
comp=Z,40nm,0.8s
PNTR *ep*P **pP** **15 01 20.9 +1.0**
GMRC **Granite Mounta** 85.29 49 P P 14 59 21.7 +1.4
baz=236,SNR=8.7
IRM **Iron Mountain** 85.30 49 P P 14 59 21.8 +1.6
baz=237,SNR=18
YERR **Yerington** 85.33 44 *e*P P 14 59 20.9 +0.4
comp=Z,21nm,1.1s
YERR *ep*P **pP** **15 01 21.9 +1.2**
L04D **Klamath Falls** 85.44 40 P P 14 59 22.7 +1.8
baz=231
M04C **Macdoel** 85.44 40 P P 14 59 22.3 +1.4
baz=232,SNR=5.2
TUQ **Turquoise Moun** 85.47 48 P P 14 59 22.4 +1.3
baz=236
SHOC **Shoshone, Teco** 85.49 47 P P 14 59 22.0 +0.9
baz=236
Y12C **Blythe** 85.51 50 *e*P P 14 59 21.4 +0.2
comp=Z,23nm,1.1s
Y12C **Blythe** 85.51 50 P P 14 59 23.0 +1.8
baz=237
113A **Mohawk Valley,** 85.51 51 *e*P P 14 59 22.2 +1.0
comp=Z,44nm,1.5s
RYN **Ryan** 85.58 44 *e*P P 14 59 22.3 +0.7
comp=Z,24nm,1.4s
NV01 **Mina Array Sit** 85.60 44 *e*P P 14 59 22.0 +0.2
NVAR **Mina Array Bea** 85.60 44 P P 14 59 22.6 +0.8
comp=Z,9.9nm,0.7s,baz=223,slow=8.9,SNR=54
NVAR pP **pP** **15 01 21.7 -0.5**
comp=Z,1.9nm,0.8s,baz=216,slow=9.0,SNR=3.4
NVAR PKKPbc **PKKPbc** **15 17 24.5 +2.7**
comp=Z,1.2nm,0.7s,baz=86,slow=5.0,SNR=7.3
NVAR PKPPKP **P'P'df** **15 25 29.1 +2.7**
comp=Z,0.8nm,0.7s,baz=84,slow=2.5,SNR=7.1
HSIG **85.63 56** *e*P P 14 59 22.8 +0.9
comp=Z,19nm,0.8s
PAHR **Pah Rah Range** 85.67 43 *e*P P 14 59 22.4 +0.4
comp=Z,16nm,0.9s
PAHR *ep*P **pP** **15 01 23.3 +0.9**
NV11 **Mina Array Sit** 85.70 44 *e*P P 14 59 22.4 +0.3
comp=Z,1.0nm,0.9s
NV11 *ep*P **pP** **15 01 23.8 +1.2**
214A **Organ Pipe Nat** 85.77 52 P P 14 59 24.3 +1.8
baz=238
I03D **Drain, OR** 85.77 38 P P 14 59 23.7 +1.6
baz=231
PHET **Kaeng Krachan** 85.80 286 P P 14 59 24.6 +1.6
comp=Z,48nm,0.9s,comp=Z,450nm
ENH **Enshi** 85.90 306 *e*P P 14 59 22.9 -0.3
comp=Z,68nm,0.9s
K04D **Chiloquin, OR** 86.01 39 P P 14 59 25.1 +1.6
baz=232
PDMCI **Parker Dam,Lak** 86.07 50 P P 14 59 25.6 +1.7
baz=237
KVN **Kaiserville** 86.09 44 *e*P P 14 59 24.6 +0.5
comp=Z,16nm,0.7s
KVN **Kaiserville** 86.09 44 *e*P P 14 59 24.6 +0.5
KVN pmax pmax
comp=Z,16nm,0.7s
TPNV **Topopah Spring** 86.09 47 *e*P P 14 59 24.7 +0.6
comp=Z,16nm,0.7s
TPNV **Topopah Spring** 86.09 47 *e*P P 14 59 24.7 +0.6
TPNV pmax pmax
comp=Z,16nm,0.7s
TPNV **Topopah Spring** 86.09 47 P P 14 59 24.8 +0.7
baz=236,SNR=22
GYA **Guiyang** 86.15 301 ⇑ *i*P P 14 59 25.6 +1.0
GYA pP pP 15 01 29.4 +4.3
GYA sP sP 15 02 25.3 +4.1
GYA PP **PP** **15 02 58.8 +3.0**
GYA SKS **SKSac** **15 08 56.0 -2.2**
GYA S **S** **15 09 12.2 -1.3**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.9s
J04D **Umpqua Nationa** 86.19 39 P P 14 59 26.1 +1.6
baz=232
I04A **Tendick Farm,** 86.36 38 P P 14 59 26.3 +1.3
baz=231
MOD **Modoc Plateau** 86.42 41 *e*P P 14 59 25.7 +0.1
comp=Z,28nm,0.8s
K05A **Summer Lake** 86.58 40 *e*P P 14 59 26.7 +0.4
comp=Z,68nm,1.1s
SHPR **Sheep Range** 86.58 47 *e*P P 14 59 27.1 +0.7
comp=Z,11nm,0.9s
H04D **Lebanon** 86.64 38 P P 14 59 28.7 +2.4
baz=231
BJT **Baijiatuau** 86.65 317 *e*P P 14 59 26.1 -0.3
comp=Z,56nm,0.8s
BJI **Beijing** 86.65 317 ⇓ *i*P P 14 59 27.2 +0.8
BJI SKS **SKSac** **15 08 58.9 -1.4**
BJI S **ScS** **15 09 20.7 -1.9**
BJI pmax pmax
comp=Z,53nm,1.5s
BJI pmax pmax
comp=Z,770nm,4.1s
MA2 **Magadan** 86.67 346 P P 14 59 26.1 0.0
comp=Z,88nm,0.7s,baz=143,slow=5.1,SNR=30
MA2 **Magadan** 86.67 346 *e*P P 14 59 26.0 0.0
comp=Z,99nm,0.8s
MA2 **Magadan** 86.67 346 *d i*P P 14 59 25.9 -0.2
MA2 pmax pmax
comp=Z,113nm,0.8s
W13A **Hualapai Mount** 86.68 49 *e*P P 14 59 26.9 -0.1
comp=Z,14nm,0.8s

J05D	**Fort Rock, OR**	**86.72**	**39**	P		**P**		**14 59 28.6**	**+1.7**	
	baz=232,SNR=17									
SRDT	**SRDT**	**86.87**	**287**	P		**P**		**14 59 29.6**	**+1.6**	
	comp=Z,114nm,1.5s,comp=Z,2µm									
CNPM	**China Poot**	**86.96**	**15**	*e*P		**P**		**14 59 27.5**	**+0.1**	
	comp=Z,311nm,2.0s									
HOM	**Homer**	**86.99**	**14**	*e*P		**P**		**14 59 29.5**	**+2.0**	
H04A	**Detroit Lake**	**87.04**	**38**	*e*P		**P**		**14 59 28.9**	**+0.6**	
	comp=Z,34nm,1.0s									
UTHA	**Uthaitani**	**87.11**	**288**	P		**P**		**14 59 30.3**	**+1.2**	
	comp=Z,34nm,1.0s,comp=Z,268nm									
UTTA	**Uttaradit**	**87.12**	**291**	P		**P**		**14 59 30.4**	**+1.3**	
	comp=Z,12nm,1.5s,comp=Z,132nm									
PINE	**Pine Mountain**	**87.20**	**39**	*e*P		**P**		**14 59 29.9**	**+0.7**	
	comp=Z,102nm,1.2s									
BRLK	**Bradley Lake**	**87.25**	**15**	*e*P		**P**		**14 59 28.8**	**0.0**	
	comp=Z,159nm,1.6s									
I05D	**Terrebonne, OR**	**87.31**	**38**	P		**P**		**14 59 31.2**	**+1.7**	
	baz=232									
R11A	**Troy Canyon, C**	**87.31**	**46**	*e*P		**P**		**14 59 29.7**	**-0.2**	
	comp=Z,6.1nm,1.0s									
R11A	**Troy Canyon, C**	**87.31**	**46**	P		**P**		**14 59 31.2**	**+1.3**	
	baz=236									
TUC	**Tucson**	**87.42**	**53**	*e*P		**P**		**14 59 31.2**	**+0.8**	
	comp=Z,24nm,0.9s									
TUC					*e*pP		**pP**	**15 01 32.5**	**+1.1**	
TUC	**Tucson**	**87.42**	**53**	P		**P**		**14 59 32.1**	**+1.8**	
	baz=239									
BMN	**Battle Mountai**	**87.44**	**43**	*e*P		**P**		**14 59 30.4**	**0.0**	
	comp=Z,29nm,0.9s									
BMN					*e*pP		**pP**	**15 01 32.3**	**+0.9**	
BMN	**Battle Mountai**	**87.44**	**43**	*e*P		**P**		**14 59 30.4**	**0.0**	
BMN					*e**PP		**pP**	**15 01 32.3**	**+0.9**	
BMN					pmax		pmax			
	comp=Z,29nm,0.9s									
SVW2	**Sparrevohn**	**87.47**	**12**	*e*P		**P**		**14 59 29.4**	**-0.4**	
	comp=Z,77nm,1.8s									
WVOR	**Wild Horse Val**	**87.73**	**41**	*e*P		**P**		**14 59 32.2**	**+0.5**	
	comp=Z,32nm,0.9s									
WVOR					*e*pP		**pP**	**15 01 34.0**	**+1.2**	
WVOR	**Wild Horse Val**	**87.73**	**41**	*e*P		**P**		**14 59 32.2**	**+0.5**	
WVOR					*e**PP		**pP**	**15 01 34.0**	**+1.2**	
WVOR					pmax		pmax			
	comp=Z,33nm,0.9s									
TIY	**Taiyuan**	**87.76**	**313**	*e*P		**P**		**14 59 31.3**	**-0.5**	
TIY				SKS		**SKSac**		**15 09 08.9**	**+1.7**	
TIY				S		**S**		**15 09 28.3**	**+0.4**	
TIY				SS		**SS**		**15 15 33.4**	**+1.1**	
SUKH	**Sukhothai**	**87.79**	**290**	P		**P**		**14 59 33.6**	**+1.3**	
	comp=Z,22nm,0.8s									
G05D	**Wamic, OR**	**87.87**	**38**	P		**P**		**14 59 33.7**	**+1.6**	
	baz=232									
SEW	**Seward**	**87.89**	**15**	*e*P		**P**		**14 59 31.8**	**+0.1**	
	comp=Z,42nm,1.0s									
UMPA	**Umpang Tak**	**87.90**	**289**	P		**P**		**14 59 34.2**	**+1.3**	
	comp=Z,14nm,1.1s,comp=Z,2µm									
E04D	**Cinebar**	**88.01**	**36**	P		**P**		**14 59 34.5**	**+1.9**	
	baz=231									
X16A	**Lo Mia Camp, P**	**88.03**	**51**	*e*P		**P**		**14 59 33.6**	**+0.3**	
	comp=Z,16nm,1.0s									
319A	**Douglas**	**88.06**	**54**	*e*P		**P**		**14 59 34.4**	**+1.0**	
	comp=Z,57nm,1.2s									
319A					*e*pP		**pP**	**15 01 36.4**	**+1.8**	
LCMT	**Little Creek M**	**88.14**	**48**	*e*P		**P**		**14 59 34.3**	**+0.6**	
	comp=Z,20nm,1.0s									
F05D	**White Salmon**	**88.19**	**37**	P		**P**		**14 59 34.5**	**+1.0**	
	baz=232									
I07A	**Izee**	**88.20**	**39**	*e*P		**P**		**14 59 34.2**	**+0.4**	
	comp=Z,22nm,0.8s									
XAN	**Xi'an**	**88.25**	**309**	P		**P**		**14 59 35.0**	**+0.9**	
XAN				pP		pP		15 01 33.2	-2.2	
XAN				sP		sP		15 02 27.2	-4.1	
XAN				PP		**PP**		**15 03 10.5**	**-1.6**	
XAN				pmax		pmax				
	comp=Z,73nm,1.0s									
XAN				pmax		pmax				
	comp=Z,670nm,6.1s									
LAMP	**Lampang**	**88.25**	**291**	P		**P**		**14 59 35.8**	**+1.4**	
	comp=Z,19nm,0.7s,comp=Z,203nm									
G06A	**Carlson Farm,**	**88.25**	**38**	*e*P		**P**		**14 59 34.5**	**+0.6**	
	comp=Z,42nm,0.9s									
D04E	**Lakebay**	**88.29**	**35**	P		**P**		**14 59 35.6**	**+1.7**	
	baz=231									
D03D	**Eldon**	**88.35**	**35**	P		**P**		**14 59 36.1**	**+1.9**	
	baz=231									
CCUT	**Cedar City**	**88.35**	**47**	*e*P		**P**		**14 59 35.8**	**+1.0**	
	comp=Z,17nm,1.0s									
J08A	**Circle Bar Ran**	**88.37**	**40**	*e*P		**P**		**14 59 35.6**	**+1.0**	
	comp=Z,35nm,0.8s									
PAYA	**Payao**	**88.41**	**292**	P		**P**		**14 59 36.2**	**+1.0**	
	comp=Z,19nm,0.9s,comp=Z,213nm									
KNB	**Kanab**	**88.43**	**48**	*e*P		**P**		**14 59 36.1**	**+0.9**	
	comp=Z,36nm,1.2s									
U15A	**North Rim**	**88.48**	**49**	*e*P		**P**		**14 59 36.5**	**+1.0**	
	comp=Z,30nm,0.8s									
U15A					*e*pP		**pP**	**15 01 38.2**	**+1.4**	
LON	**Longmire**	**88.53**	**36**	*e*P		**P**		**14 59 35.8**	**+0.6**	
	comp=Z,23nm,0.8s									
LON	**Longmire**	**88.53**	**36**	*e*P		**P**		**14 59 35.8**	**+0.6**	
LON				pmax		pmax				
	comp=Z,23nm,0.8s									
PSUT	**Pine Spring**	**88.55**	**46**	*e*P		**P**		**14 59 36.4**	**+0.8**	
	comp=Z,47nm,1.8s									
SZCU	**Shurtz Canyon**	**88.56**	**47**	*e*P		**P**		**14 59 36.8**	**+1.0**	
	comp=Z,22nm,1.1s									
KMI	**Kunming**	**88.63**	**298**	P		**P**		**14 59 37.4**	**+1.0**	
KMI				pP		pP		15 01 40.6	+2.9	
KMI				sP		sP		15 02 34.6	+1.0	
KMI				pmax		pmax				
	comp=Z,53nm,0.9s									
WUAZ	**Wupatki**	**88.64**	**50**	*e*P		**P**		**14 59 37.0**	**+0.9**	
	comp=Z,46nm,1.5s									
WUAZ					*e*pP		**pP**	**15 01 39.6**	**+2.1**	
WUAZ	**Wupatki**	**88.64**	**50**	P		**P**		**14 59 37.9**	**+1.8**	
	baz=239									
GO06	**Curarrehue**	**88.66**	**133**	*e*P		**P**		**14 59 36.0**	**-0.2**	
	comp=Z,17nm,1.1s									
PLCA	**Paso Flores**	**88.67**	**135**	P		**P**		**14 59 37.5**	**+1.3**	
	comp=Z,8.0nm,0.7s,baz=258,slow=4.4,SNR=18									
PLCA					pP		**pP**	**15 01 37.1**	**-0.4**	
	comp=Z,1.1nm,0.6s,baz=236,slow=1.5,SNR=2.0									
PLCA					PKKPbc		**PKKPbc**	**15 17 14.9**	**+0.9**	
	comp=Z,1.1nm,0.5s,baz=66,slow=4.0,SNR=6.0									
PLCA	**Paso Flores**	**88.67**	**135**	*e*P		**P**		**14 59 36.6**	**+0.4**	
	comp=Z,20nm,0.9s									
PLCA					*e*pP		**pP**	**15 01 40.1**	**+2.6**	
PLCA					PKKPbc		**PKKPbc**	**15 17 14.9**	**+0.9**	
PLCA	**Paso Flores**	**88.67**	**135**	P		**P**		**14 59 37.5**	**+1.3**	
PLCA					*PP		**pP**	**15 01 37.1**	**-0.4**	
PLCA					pmax		pmax			
	comp=Z,8.0nm,0.7s									
PLCA					pmax		pmax			
	comp=Z,1.0nm,0.6s									
PLCA					pmax		pmax			
	comp=Z,1.0nm,0.5s									
HPIG		**88.69**	**60**	*e*P		**P**		**14 59 37.9**	**+1.4**	
D05A	**Enumclaw**	**88.71**	**36**	*e*P		**P**		**14 59 37.6**	**+1.7**	
	comp=Z,102nm,1.0s									
CM01	**Chiang Mai Arr**	**88.78**	**291**	*e*P		**P**		**14 59 37.8**	**+0.9**	
SUA	**Susitna One**	**88.80**	**14**	*e*P		**P**		**14 59 36.1**	**-0.1**	
	comp=Z,71nm,0.8s									
SUA					*e*pP		**pP**	**15 01 40.6**	**+3.0**	
CM31	**Chiang Mai Arr**	**88.81**	**291**	*e*P		**P**		**14 59 37.7**	**+0.7**	
CM31	**Chiang Mai Arr**	**88.81**	**291**	PcP		**PcP**		**14 59 38.2**	**+0.1**	
	SNR=18									
CMAR	**Chiang Mai Arr**	**88.81**	**291**	P		**P**		**14 59 38.1**	**+1.1**	
	comp=Z,17nm,0.8s,baz=136,slow=3.3,SNR=75									
CMAR					PP		**PP**	**15 03 17.2**	**+0.5**	
	comp=Z,7.2nm,0.8s,baz=127,slow=5.9,SNR=15									
CMAR					PKiKP		**PKiKP**	**15 04 33.1**	**+0.3**	
	comp=Z,1.2nm,0.7s,baz=228,slow=1.2,SNR=6.9									
CMAR					PKKPbc		**PKKPbc**	**15 17 15.0**	**+2.1**	
	comp=Z,2.3nm,0.7s,baz=287,slow=4.2,SNR=14									
CMAR					PKPPKP		**P'P'df**	**15 25 24.5**	**+2.6**	
	comp=Z,0.4nm,0.6s,baz=286,slow=5.0,SNR=5.0									
CMMT	**Chiang Mai**	**88.96**	**291**	P		**P**		**14 59 38.6**	**+0.9**	
	comp=Z,48nm,1.5s,comp=Z,809nm									
CHTO	**Chiang Mai**	**88.96**	**291**	*e*P		**P**		**14 59 38.2**	**+0.5**	
	comp=Z,66nm,1.3s									
CHTO	**Chiang Mai**	**88.96**	**291**	PcP		**PcP**		**14 59 39.0**	**+0.2**	
	SNR=15									
CHTO	**Chiang Mai**	**88.96**	**291**	P		**P**		**14 59 38.7**	**+0.9**	
	comp=Z,162nm,1.1s,comp=Z,4µm									
PKCU	**Pink Cliffs**	**89.00**	**48**	*e*P		**P**		**14 59 39.6**	**+1.7**	
	comp=Z,37nm,0.9s									
F07A	**Phinny Hill Vi**	**89.05**	**38**	*e*P		**P**		**14 59 37.7**	**+0.2**	
	comp=Z,28nm,0.9s									
SKT	**Skwentna**	**89.09**	**13**	*e*P		**P**		**14 59 36.2**	**-1.2**	
	comp=Z,15nm,0.9s									
X18A	**Snowflake**	**89.15**	**51**	*e*P		**P**		**14 59 38.9**	**+0.4**	
	comp=Z,16nm,0.8s									
GLI	**Glacier Island**	**89.15**	**16**	*e*P		**P**		**14 59 37.2**	**-0.4**	
	comp=Z,73nm,0.8s									
FID	**Port Fidalgo**	**89.19**	**16**	*e*P		**P**		**14 59 37.5**	**-0.3**	
	comp=Z,38nm,1.0s									
FID					*e*pP		**pP**	**15 01 41.7**	**+2.3**	
EYAK	**Cordova Ski Ar**	**89.21**	**17**	*e*P		**P**		**14 59 37.8**	**-0.1**	
	comp=Z,36nm,1.0s									
G08A	**Pilot Rock**	**89.23**	**39**	*e*P		**P**		**14 59 39.0**	**+0.4**	
	comp=Z,19nm,0.9s									
G08A					*e*pP		**pP**	**15 01 41.4**	**+1.3**	
PMR	**Palmer**	**89.28**	**15**	*e*P		**P**		**14 59 38.1**	**-0.1**	
PMR					*e*pP		**pP**	**15 01 42.0**	**+2.2**	
PMR	**Palmer**	**89.28**	**15**	*e*P		**P**		**14 59 38.1**	**-0.1**	
PMR					*e**PP		**pP**	**15 01 42.0**	**+2.2**	
B05A	**Bryant**	**89.33**	**35**	P		**P**		**14 59 40.5**	**+1.8**	
	baz=231									
RAGM	**Ragged Mountai**	**89.35**	**17**	*e*P		**P**		**14 59 38.6**	**0.0**	
	comp=Z,53nm,1.1s									
SEY	**Seymchan**	**89.40**	**348**	P		**P**		**14 59 38.8**	**+0.1**	
	comp=Z,46nm,0.7s,baz=266,slow=0.7,SNR=19									
SEY	**Seymchan**	**89.40**	**348**	*e*P		**P**		**14 59 38.6**	**-0.1**	
MTPU	**Mount Pierson**	**89.40**	**47**	*e*P		**P**		**14 59 40.8**	**+1.0**	
	comp=Z,23nm,1.0s									
MTPU					*e*pP		**pP**	**15 01 43.1**	**+1.7**	
EFI	**East Falkland**	**89.40**	**148**	*e*P		**P**		**14 59 39.7**	**+0.5**	
	comp=Z,40nm,0.8s									
EFI					*e*pP		**pP**	**15 01 42.7**	**+2.0**	
EFI	**East Falkland**	**89.40**	**148**	*e*P		**P**		**14 59 39.8**	**+0.5**	
EFI					pmax		pmax			
	comp=Z,45nm,0.8s									
LTY	**Liberty**	**89.46**	**36**	*e*P		**P**		**14 59 39.4**	**-0.1**	
	comp=Z,19nm,0.9s									
E07A	**Sunnyside**	**89.48**	**37**	*e*P		**P**		**14 59 38.9**	**-0.7**	
	comp=Z,32nm,0.8s									
GHO	**Glory Hole Cre**	**89.49**	**15**	*e*P		**P**		**14 59 39.1**	**-0.1**	
	comp=Z,72nm,0.8s									
HAWA	**Hanford**	**89.56**	**37**	*e*P		**P**		**14 59 40.4**	**+0.5**	
	comp=Z,28nm,0.9s									
ZEA	**Zeya**	**89.58**	**332**	*e*P		P		14 59 50.0	+10	
ZEA					pmax		pmax			
	comp=N,42nm,0.8s									
ZEA					pmax		pmax			
	comp=Z,51nm,0.8s									
W18A	**Petrified Fore**	**89.59**	**51**	*e*P		**P**		**14 59 43.3**	**+2.7**	
	comp=Z,25nm,1.1s									
W18A	**Petrified Fore**	**89.59**	**51**	P		**P**		**14 59 42.9**	**+2.3**	
	baz=240									
MSU	**Marysvale**	**89.65**	**47**	*e*P		**P**		**14 59 40.1**	**-0.7**	
MSU	**Marysvale**	**89.65**	**47**	*e*P		**P**		**14 59 40.1**	**-0.7**	
SML	**Sawmill**	**89.65**	**15**	*e*P		**P**		**14 59 39.4**	**-0.6**	
	comp=Z,16nm,0.9s									
SML					*e*pP		**pP**	**15 01 44.4**	**+2.7**	
SML	**Sawmill**	**89.65**	**15**	*e*P		**P**		**14 59 39.4**	**-0.6**	
SML					pmax		pmax			
	comp=Z,16nm,0.9s									
DIV	**Divide**	**89.69**	**16**	*e*P		**P**		**14 59 39.9**	**-0.3**	
	comp=Z,27nm,1.0s									
DIV					*e*pP		**pP**	**15 01 45.4**	**+3.5**	
121A	**Cookes Peak, D**	**89.73**	**54**	P		**P**		**14 59 43.2**	**+2.0**	
	baz=241									
C06D	**Leavenworth**	**89.75**	**36**	P		**P**		**14 59 42.2**	**+1.5**	
	baz=232									
BMRM	**Bremner River**	**89.86**	**17**	*e*P		**P**		**14 59 40.7**	**-0.3**	
	comp=Z,35nm,1.0s									
BMRM					*e*pP		**pP**	**15 01 45.9**	**+3.2**	
E08A	**Dider Farm, El**	**89.89**	**38**	*e*P		**P**		**14 59 41.0**	**-0.3**	
	comp=Z,14nm,0.8s									
SCM	**Sheep Creek Mo**	**89.91**	**15**	*e*P		**P**		**14 59 41.1**	**-0.1**	
	comp=Z,48nm,0.8s									
SCM					*e*pP		**pP**	**15 01 46.1**	**+3.1**	
SCM	**Sheep Creek Mo**	**89.91**	**15**	*e*P		**P**		**14 59 41.1**	**-0.1**	
SCM					pmax		pmax			
	comp=Z,48nm,0.8s									
BMO	**Blue Mountains**	**89.93**	**40**	*e*P		**P**		**14 59 41.8**	**+0.1**	
	comp=Z,7.1nm,0.8s									
BMO	**Blue Mountains**	**89.93**	**40**	*e*P		**P**		**14 59 41.8**	**+0.1**	
BMO					pmax		pmax			
	comp=Z,7.0nm,0.8s									
KLU	**Klutina**	**89.97**	**16**	*e*P		**P**		**14 59 40.9**	**-0.6**	
HHC	**Hu-ho-hao-te**	**90.02**	**316**	*e*P		**P**		**14 59 46.1**	**+3.8**	
HHC					pmax		pmax			
	comp=Z,27nm,0.7s									
HHC					pmax		pmax			
	comp=Z,250nm,6.3s									
DUG	**Dugway, Tooele**	**90.12**	**45**	*e*P		**P**		**14 59 43.4**	**+0.6**	
	comp=Z,12nm,0.8s									
DUG	**Dugway, Tooele**	**90.12**	**45**	*e*P		**P**		**14 59 43.4**	**+0.6**	
DUG					pmax		pmax			
	comp=Z,12nm,0.8s									
DUG	**Dugway, Tooele**	**90.12**	**45**	P		**P**		**14 59 44.3**	**+1.5**	
	baz=238									
HIA	**Hailar**	**90.16**	**326**	*e*P		**P**		**14 59 42.4**	**-0.2**	
	comp=Z,48nm,1.4s									
HIA	**Hailar**	**90.16**	**326**	*e*P		**P**		**14 59 42.4**	**-0.2**	
HIA					pmax		pmax			
	comp=Z,48nm,1.4s									
WRAK	**Wrangell Islan**	**90.22**	**25**	*e*P		**P**		**14 59 43.4**	**+0.7**	
	comp=Z,41nm,0.8s									
CAST	**Castle Rocks**	**90.27**	**13**	*e*P		**P**		**14 59 43.3**	**+0.4**	
D08A	**Wollman Farm,**	**90.30**	**37**	*e*P		**P**		**14 59 44.0**	**+0.7**	
	comp=Z,61nm,1.6s									
PCA	**Pinnacle**	**90.36**	**19**	*e*P		**P**		**14 59 44.6**	**+1.2**	
BGU	**Big Grassy Mou**	**90.37**	**45**	*e*P		**P**		**14 59 44.2**	**+0.3**	
	comp=Z,30nm,1.7s									
E09A	**Wood Farm, Sta**	**90.41**	**38**	*e*P		**P**		**14 59 44.6**	**+0.8**	
	comp=Z,11nm,0.9s									
TLIG	**Tlapa**	**90.42**	**71**	*e*P		**P**		**14 59 45.4**	**+0.7**	
	comp=Z,17nm,1.0s									
NLU	**North Lily Min**	**90.48**	**46**	*e*P		**P**		**14 59 45.4**	**+0.8**	
	comp=Z,15nm,0.8s									
CD2	**Chengdu**	**90.52**	**304**	P		**P**		**14 59 46.0**	**+1.2**	
CD2					pP		pP	15 01 49.9	+3.4	
CD2					sP		sP	15 02 47.1	+4.9	
CD2					S		**S**	**15 09 53.3**	**+0.1**	
CD2					SS		**SS**	**15 16 13.4**	**+1.5**	
CD2					pmax		pmax			
	comp=Z,90nm,0.6s									
CD2					pmax		pmax			
	comp=Z,710nm,4.7s									
BALM	**Baldy**	**90.53**	**18**	*e*P		**P**		**14 59 44.3**	**+0.2**	
	comp=Z,24nm,0.8s									
BALM	**Baldy**	**90.53**	**18**	*e*P		**P**		**14 59 44.3**	**+0.2**	
BALM					pmax		pmax			
	comp=Z,25nm,0.8s									
F10A	**Beach Ranch, E**	**90.62**	**39**	*e*P		**P**		**14 59 45.1**	**+0.2**	
	comp=Z,18nm,0.9s									
TRF	**Thorofare Moun**	**90.67**	**13**	*e*P		**P**		**14 59 44.2**	**-0.6**	
	comp=Z,30nm,0.8s									
TRF					*e*pP		**pP**	**15 01 49.3**	**+2.7**	
TMUT	**Trail Mountain**	**90.71**	**47**	*e*P		**P**		**14 59 46.6**	**+0.9**	
	comp=Z,32nm,0.8s									
TMUT					*e*pP		**pP**	**15 01 49.0**	**+1.4**	
MPU	**Maple Canyon**	**90.80**	**46**	*e*P		**P**		**14 59 46.9**	**+0.9**	
	comp=Z,21nm,0.8s									
B08A	**Colville Reser**	**90.84**	**36**	*e*P		**P**		**14 59 45.5**	**-0.4**	
	comp=Z,19nm,1.3s									
HLID	**Hailey**	**90.93**	**42**	*e*P		**P**		**14 59 46.5**	**0.0**	
	comp=Z,6.6nm,0.8s									
HLID					*e*pP		**pP**	**15 01 49.8**	**+1.4**	
HLID	**Hailey**	**90.93**	**42**	P		**P**		**14 59 47.9**	**+1.4**	
	baz=237									
RND	**Reindeer**	**90.94**	**14**	*e*P		**P**		**14 59 45.2**	**-0.7**	
RND					*e*pP		**pP**	**15 01 50.8**	**+3.0**	
RND	**Reindeer**	**90.94**	**14**	*e*P		**P**		**14 59 45.2**	**-0.7**	
DHY	**Denali Highway**	**90.98**	**15**	*e*P		**P**		**14 59 45.5**	**-0.8**	
	comp=Z,8.2nm,0.8s									
HVU	**Hansel Valley**	**90.99**	**44**	*e*P		**P**		**14 59 47.2**	**+0.4**	
	comp=Z,22nm,0.7s									
SRU	**San Rafael Swe**	**91.07**	**47**	*e*P		**P**		**14 59 47.8**	**+0.6**	
	comp=Z,36nm,0.9s									
SRU					*e*pP		**pP**	**15 01 51.7**	**+2.6**	
CTU	**Camp Tracy**	**91.07**	**45**	*e*P		**P**		**14 59 47.8**	**+0.5**	
	comp=Z,25nm,0.9s									
C09A	**Chrisman Ranch**	**91.09**	**37**	*e*P		**P**		**14 59 47.4**	**+0.4**	
	comp=Z,62nm,1.8s									
LENM	**Lemitar**	**91.11**	**53**	*e*P		**P**		**14 59 48.5**	**+0.9**	
MNTX	**Cornudas Mount**	**91.13**	**56**	*e*P		**P**		**14 59 48.7**	**+1.2**	
	comp=Z,9.1nm,0.8s									
MNTX					*e*pP		**pP**	**15 01 50.8**	**+1.4**	
MNTX	**Cornudas Mount**	**91.13**	**56**	P		**P**		**14 59 48.8**	**+1.3**	
	baz=242									
MCK	**McKinley**	**91.20**	**14**	*e*P		**P**		**14 59 46.6**	**-0.5**	
MCK					*e*pP		**pP**	**15 01 52.2**	**+3.3**	
MCK	**McKinley**	**91.20**	**14**	*e*P		**P**		**14 59 46.6**	**-0.5**	
JLU	**Jordanelle**	**91.22**	**46**	*e*P		**P**		**14 59 48.7**	**+0.6**	
	comp=Z,17nm,0.8s									
BNM	**Barren Site**	**91.36**	**53**	*e*P		**P**		**14 59 48.9**	**+0.1**	
TX31	**Lajitas Ar. Si**	**91.36**	**58**	*e*P		**P**		**14 59 49.1**	**+0.4**	
TX31					*e*pP		**pP**	**15 01 51.7**	**+1.1**	
TXAR	**Lajitas Array**	**91.36**	**58**	P		**P**		**14 59 50.3**	**+1.6**	
	comp=Z,7.2nm,0.7s,baz=214,slow=6.4,SNR=27									
TXAR					pP		**pP**	**15 01 49.6**	**-1.0**	
	comp=Z,5.6nm,1.0s,baz=210,slow=7.2,SNR=6.3									
TXAR					PKKPbc		**PKKPbc**	**15 17 08.2**	**+1.1**	
	comp=Z,2.4nm,0.6s,baz=100,slow=2.6,SNR=18									
LPM	**Los Pinos Moun**	**91.43**	**53**	*e*P		**P**		**14 59 49.7**	**+0.6**	
BWN	**Browne**	**91.48**	**13**	*e*P		**P**		**14 59 48.6**	**+0.2**	
	comp=Z,28nm,1.0s									
BWN					*e*pP		**pP**	**15 01 53.3**	**+3.1**	
MVCO	**Mesa Verde**	**91.50**	**50**	P		**P**		**14 59 51.1**	**+1.7**	
	baz=240									
TCUT	**Toone Canyon**	**91.52**	**45**	*e*P		**P**		**14 59 50.0**	**+0.6**	
	comp=Z,49nm,0.8s									
HWUT	**Hardware Ranch**	**91.67**	**45**	*e*P		**P**		**14 59 50.2**	**+0.2**	
	comp=Z,12nm,1.0s									
PV09	**Paradox Valley**	**91.70**	**48**	*e*P		**P**		**14 59 50.6**	**+0.2**	
PV10	**Paradox Valley**	**91.70**	**48**	*e*P		**P**		**14 59 50.5**	**+0.2**	
PV19	**Morning Glory**	**91.71**	**48**	*e*P		**P**		**14 59 51.0**	**+0.7**	
	comp=Z,51nm,1.9s									
PV19					*e*pP		**pP**	**15 01 54.8**	**+2.6**	
PV17	**East Wray Mesa**	**91.71**	**48**	*e*P		**P**		**14 59 50.2**	**-0.1**	
	comp=Z,6.3nm,0.8s									
PV17					*e*pP		**pP**	**15 01 54.1**	**+2.0**	
PV14	**Lion Creek, Pa**	**91.71**	**48**	*e*P		**P**		**14 59 50.1**	**-0.2**	
	comp=Z,9.2nm,1.0s									
PV18	**Skein Mesa, Pa**	**91.73**	**49**	*e*P		**P**		**14 59 53.8**	**+3.5**	
	comp=Z,13nm,1.2s									
PV20	**West Nyswonger**	**91.73**	**48**	*e*P		**P**		**14 59 51.0**	**+0.6**	
	comp=Z,14nm,1.2s									
PV16	**Nyswonger Mesa**	**91.75**	**48**	*e*P		**P**		**14 59 51.2**	**+0.7**	
	comp=Z,17nm,1.3s									
PV23	**Carpenter Ridg**	**91.76**	**48**	*e*P		**P**		**14 59 51.3**	**+0.7**	
	comp=Z,12nm,0.8s									
PV03	**Paradox Valley**	**91.77**	**49**	*e*P		**P**		**14 59 52.6**	**+2.0**	
HYT	**Haines Junctio**	**91.78**	**20**	*e*P		**P**		**14 59 50.4**	**+0.4**	
	comp=Z,8.6nm,1.1s									
PV11	**David Mesa, Pa**	**91.78**	**49**	*e*P		**P**		**14 59 54.2**	**+3.6**	
	comp=Z,5.7nm,0.7s									
PV12	**Saucer Basin,**	**91.84**	**49**	*e*P		**P**		**14 59 50.6**	**-0.3**	
	comp=Z,63nm,2.0s									
PV12					*e*pP		**pP**	**15 01 55.0**	**+2.2**	
PV21	**Cone Mtn., Par**	**91.84**	**48**	*e*P		**P**		**14 59 50.8**	**-0.1**	
	comp=Z,12nm,0.8s									
ANMO	**Albuquerque**	**91.86**	**52**	*e*P		**P**		**14 59 51.3**	**+0.2**	
	comp=Z,9.9nm,1.0s									
ANMO					*e*pP		**pP**	**15 01 54.0**	**+1.1**	
ANMO	**Albuquerque**	**91.86**	**52**	*i*P	

baz=240
PD31 Pinedale Array 93.54 44 *e*P **P 14 59 58.2 -0.4**
PD31 *e*pP **pP 15 02 00.8 +0.2**
PDAR Pinedale Array 93.54 44 P **P 14 59 58.8 +0.2**
comp=Z,3.3nm,0.7s,baz=202,slow=2.7,SNR=26
PDAR pP **pP 15 01 59.8 -0.8**
comp=Z,1.8nm,0.9s,baz=230,slow=3.7,SNR=4.3
PDAR PKKPbc **PKKPbc 15 17 03.1 +0.9**
comp=Z,1.1nm,0.6s,baz=75,slow=5.0,SNR=9.7
PDAR Pinedale Array 93.54 44 *e*P **P 14 59 58.0 -0.6**
PDAR *e*pP **pP 15 02 01.0 +0.4**
PDAR PKKPbc **PKKPbc 15 17 03.1 +0.9**
YMR Madison River 93.62 42 *e*P **P 14 59 59.9 +1.0**
YMR *e*pP **pP 15 02 02.6 +1.6**
YHH Holmes Hill 93.75 42 *e*P **P 15 00 01.1 +1.5**
YHH *e*pP **pP 15 02 03.7 +2.1**
DAWY Dawson 93.79 17 *e*P **P 14 59 59.5 +0.5**
comp=Z,19nm,0.8s
SDCO Great Sand Dun 93.85 50 *e*P **P 15 00 00.7 +0.5**
comp=Z,6.6nm,0.8s
SDCO *e*pP **pP 15 02 04.2 +1.9**
SDCO Great Sand Dun 93.85 50 P **P 15 00 00.9 +0.7**
baz=242
EGAK Eagle 93.91 16 *e*P **P 14 59 59.9 +0.4**
comp=Z,18nm,0.6s
EGAK *e*pP **pP 15 02 04.6 +3.1**
COLD Coldfoot 94.04 12 *e*pP pP 15 02 05.2 +3.1
MSTX Muleshoe 94.11 55 *e*P **P 15 00 03.8 +2.5**
HRY Holter Researc 94.15 40 *e*P **P 15 00 01.3 +0.2**
HRY *e*pP **pP 15 02 05.5 +2.3**
T25A Trinidad 94.34 51 *e*P **P 15 00 03.4 +1.0**
T25A Trinidad 94.34 51 P **P 15 00 03.4 +1.0**
baz=243
YAK Yakutsk 94.56 339 P **P 15 00 02.2 -0.2**
comp=Z,13nm,0.5s,baz=40,slow=0.6,SNR=14
YAK Yakutsk 94.56 339 *e*P **P 15 00 01.9 -0.5**
comp=Z,37nm,0.9s
YAK Yakutsk 94.56 339 *e*P **P 15 00 00.9 -1.5**
YAK *e* 15 04 00.9
YAK *e*S **S 15 10 33.1 +6.2**
YAK pmax pmax
comp=Z,10.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.4s
YAK pmax pmax
comp=E,111nm,3.4s
YAK pmax pmax
comp=Z,155nm,3.3s
YAK pmax pmax
comp=N,111nm,3.3s
YAK smax smax
comp=E,234nm,16.8s
YAK smax smax
comp=N,326nm,19.0s
Q24A Divide 94.66 49 *e*P **P 15 00 05.3 +1.4**
Q24A Divide 94.66 49 P **P 15 00 05.0 +1.2**
baz=243
ISCO Idaho Springs 94.72 48 P **P 15 00 04.4 +0.2**
baz=242
RLMT Red Lodge 94.89 42 *e*pP pP 15 02 08.0 +1.2
RLMT Red Lodge 94.89 42 P **P 15 00 05.9 +1.3**
baz=240
TOLK Toolik Lake Re 95.40 11 *e*P **P 15 00 06.4 +0.2**
comp=N,16nm,1.5s
TOLK Toolik Lake Re 95.40 11 P **P 15 00 08.1 +1.9**
baz=209
EPYK Eagle Plains 96.30 16 P **P 15 00 10.4 +0.1**
baz=220
SONM Songino Array 96.77 320 P **P 15 00 12.6 -0.4**
comp=N,2.8nm,0.5s,baz=144,slow=4.4,SNR=20
SONM pP **pP 15 02 12.0 -3.3**
comp=N,1.1nm,0.9s,baz=81,slow=4.5,SNR=2.0
SONM PP **PP 15 04 15.2 -2.5**
comp=N,2.1nm,1.0s,baz=133,slow=5.9,SNR=4.2
SONM PKKPbc **PKKPbc 15 16 53.1 -0.6**
comp=N,1.7nm,0.8s,baz=282,slow=4.2,SNR=5.6
SONA1 Songino Array 96.77 320 *e*P **P 15 00 12.1 -0.9**
SONA1 *e*pP **pP 15 02 17.4 +2.1**
GTA Gaotai 97.22 310 P Pdif 15 00 15.0 -0.2
GTA pP pP 15 02 14.7 -2.8
GTA sP sP 15 03 09.0 -4.1
GTA SKS **SKSac 15 10 00.4 +1.4**
GTA S **ScS 15 10 48.5 -2.4**
GTA SS **SS 15 17 41.6 -4.5**
GTA pmax pmax
comp=N,4.0nm,1.3s
GTA pmax pmax
comp=N,82nm,4.8s
INK Inuvik 98.58 16 P Pdif 15 00 19.9 -0.4
comp=N,5.2nm,0.7s,baz=224,slow=4.9,SNR=15
INK PKiKP **PKiKP 15 04 49.4 +1.1**
comp=N,1.8nm,0.6s,baz=60,slow=2.6,SNR=5.9
INK PKKPbc **PKKPbc 15 16 47.5 -1.8**
comp=N,1.4nm,0.7s,baz=13,slow=10,SNR=3.8
INK Inuvik 98.58 16 *e*Pdif Pdif 15 00 20.1 -0.2
comp=N,6.0nm,0.8s
INK *e*pP pP 15 02 26.1 +3.2
INK PKiKP **PKiKP 15 04 49.4 +1.1**
INK PKKPbc **PKKPbc 15 16 47.5 -1.8**
INK Inuvik 98.58 16 *e*P Pdif 15 00 20.1 -0.2
INK pmax pmax
comp=Z,6.0nm,0.8s
ZAK Zakamensk 99.76 321 *e*P **Pdif 15 00 25.7 -0.5**
ZAK pmax pmax
comp=Z,6.0nm,1.6s
YKA Yellowknife Ar 101.04 26 PKiKP **PKiKP 15 04 52.7 -0.1**
comp=Z,1.0nm,0.6s,baz=247,slow=1.5,SNR=4.7
YKA PKKPbc **PKKPbc 15 16 39.8 -2.3**
comp=Z,2.5nm,0.6s,baz=45,slow=2.5,SNR=14
TIXI Tiksi 101.64 346 P **Pdif 15 00 33.2 -0.7**
comp=Z,2.1nm,0.9s,baz=19,slow=2.1,SNR=7.6
TIXI PKiKP **PKiKP 15 04 54.1 +0.4**
comp=Z,2.6nm,0.6s,baz=52,slow=1.6,SNR=12
LPAZ La Paz 103.10 115 PKKPbc PKKPbc 15 16 35.7 -0.1
comp=Z,1.5nm,0.9s,baz=28,slow=5.5,SNR=5.1
PKIN Phulchoki 103.84 294 *e*P **Pdif 15 00 45.5 +0.4**
comp=Z,4.7nm,0.5s
PKIN Phulchoki 103.84 294 *e*P **PKiKP 15 04 58.2 -1.2**
comp=Z,10nm,0.7s
SIV San Ignacio 109.03 118 PKKPbc PKKPbc 15 16 16.8 -0.4
comp=Z,2.8nm,0.5s,baz=82,slow=1.1,SNR=13
ZALV Zalesovo Beam 111.64 321 Pdiff **Pdif 15 01 21.2 +2.5**
comp=Z,0.9nm,0.6s,baz=148,slow=6.3,SNR=3.4
ZALV PKiKP **PKiKP 15 05 11.9 -0.9**
comp=Z,5.9nm,0.6s,baz=165,slow=2.0,SNR=18
ZALV PKKPbc **PKKPbc 15 16 09.7 +0.3**
comp=Z,1.1nm,0.6s,baz=231,slow=4.6,SNR=4.3
MK31 Makanchi Array 111.72 313 *i* PKiKP **PKiKP 15 05 11.9 -1.4**
MK31 pmax pmax
comp=Z,6.0nm,0.7s
MKAR Makanchi Array 111.72 313 Pdiff **Pdif 15 01 21.3 +2.0**
comp=Z,2.2nm,0.5s,baz=89,slow=5.7,SNR=24
MKAR PKiKP **PKiKP 15 05 12.3 -0.9**
comp=Z,5.6nm,0.5s,baz=168,slow=0.7,SNR=30
MKAR PKKPbc **PKKPbc 15 16 10.3 +1.3**
comp=Z,1.6nm,0.7s,baz=284,slow=3.6,SNR=7.0
RES Resolute Bay 112.13 17 PKiKP **PKiKP 15 05 12.9 -0.2**
comp=Z,5.8nm,0.6s,baz=216,slow=1.1,SNR=11
RES Resolute Bay 112.13 17 PKIKP **PKiKP 15 05 13.0 -0.2**
PDGK Podgornoye 112.92 309 PKIKP **PKiKP 15 05 14.6 -1.2**
PDGK pmax pmax
comp=Z,12nm,0.9s
NRIK Noril'sk 112.94 337 PKiKP **PKiKP 15 05 14.3 -0.6**
comp=Z,3.8nm,0.6s,baz=83,slow=3.6,SNR=6.1
KSH Kashi 114.72 304 PKP PKPdf 15 05 21.1 +1.7
KSH AMB AMB
comp=Z,230nm,4.1s
KURK Kurchatov 114.82 316 *e*PKPdf PKPdf 15 05 18.2 -0.8
KURK PP **PP 15 06 26.0 -2.3**
KURK Kurchatov 114.82 316 *i* PKIKP PKPdf 15 05 18.5 -0.5
KURK pmax pmax
comp=Z,37nm,1.3s
KURBB Kurchatov Arra 114.86 316 PKP PKPdf 15 05 17.7 -1.4
comp=Z,16nm,0.8s,baz=97,slow=1.8,SNR=51
KURBB PP **PP 15 06 26.0 -2.6**
comp=Z,1.3nm,0.5s,baz=94,slow=7.3,SNR=5.5
E53A Dumoine, Ponti 116.10 49 P **PKPdf 15 05 21.3 -0.3**
baz=262
AAK Ala-Archa 116.39 307 PKP **PKPdf 15 05 22.1 -0.5**
comp=Z,6.7nm,0.7s,baz=156,slow=5.0,SNR=24
AAK PKKPbc **PKKPbc 15 15 53.7 +0.3**
comp=Z,4.8nm,0.8s,baz=185,slow=2.4,SNR=12
AAK Ala-Archa 116.39 307 *e*PKPdf **PKPdf 15 05 21.6 -0.9**
AAK PKKPbc **PKKPbc 15 15 53.7 +0.3**
E54A Lac Daplat, Po 116.43 49 P **PKPdf 15 05 21.6 -0.6**
baz=262
N59A State Game Lan 116.59 55 P **PKPdf 15 05 22.2 -0.6**
baz=260
OPO Ambohidratompo 116.65 232 PKP **PKPdf 15 05 24.0 +0.2**
comp=Z,12nm,0.6s,baz=127,slow=1.3,SNR=18
SFK Sufi-Kurgan 116.68 304 PKiKP **PKPdf 15 05 23.1 -0.2**
SFK pmax pmax
comp=Z,18nm,0.8s
D54A Lac Fusel, La 116.89 48 P **PKPdf 15 05 22.7 -0.5**
baz=263
PTGA Pitinga 117.72 105 *e*PKPdf **PKPdf 15 05 24.6 -1.2**
MNAS Manas 117.82 307 PKIKP **PKPdf 15 05 23.7 -1.6**
MNAS pmax pmax
comp=Z,25nm,0.9s
LONY Lake Ozonia 118.01 51 P **PKPdf 15 05 25.0 -0.4**
baz=263
OTUK Ortayu 118.60 313 PKIKP **PKPdf 15 05 24.8 -1.6**
OTUK pmax pmax
comp=Z,14nm,0.5s
KBL Kabul 119.20 297 *e*PKPdf **PKPdf 15 05 27.9 -0.4**
QUA2 Belchertown 119.33 54 *e*PKPdf **PKPdf 15 05 27.5 -0.5**
BDFB Brasilia 119.35 126 PKP **PKPdf 15 05 28.2 -0.8**
comp=Z,8.0nm,0.7s,baz=195,slow=2.7,SNR=10
BDFB PKKPbc **PKKPbc 15 15 43.2 +0.2**
comp=Z,4.5nm,0.6s,baz=7.8,slow=3.2,SNR=5.5
KK31 Karatay Array 119.35 307 *e*PKPdf **PKPdf 15 05 27.2 -0.8**
KK31 Karatay Array 119.35 307 *i* PKIKP **PKPdf 15 05 27.6 -0.4**
KK31 pmax pmax
comp=Z,19nm,0.7s
KKAR Karatay Array 119.35 307 *e*PKPdf **PKPdf 15 05 27.2 -0.8**
KKAR Karatay Array 119.35 307 *e*PKIKP **PKPdf 15 05 27.3 -0.8**
SJG San Juan 119.38 82 PKP **PKPdf 15 05 27.9 -0.9**
baz=7.1,slow=8.1
HUMP Col San Antoni 119.66 82 *e*PKPdf **PKPdf 15 05 28.4 -0.9**
LBNH Lisbon 119.86 52 P **PKPdf 15 05 29.3 +0.3**
baz=264
HRV Adam Dziewonsk 119.94 54 P **PKPdf 15 05 29.0 -0.2**
baz=264
SUR Sutherland 119.99 201 *e*PKPdf **PKPdf 15 05 29.9 -0.1**
BVAR Borovoye Array 120.09 319 PKP **PKPdf 15 05 28.6 -0.5**
comp=Z,23nm,0.6s,baz=123,slow=1.7,SNR=57
BRVK Borovoye 120.16 319 *e*PKPdf **PKPdf 15 05 28.2 -1.0**
BRVK Borovoye 120.16 319 PKPdf **PKPdf 15 05 29.4 +0.2**
SNR=8.6
BRVK Borovoye 120.16 319 *c* PKIKP **PKPdf 15 05 28.8 -0.4**
BRVK pmax pmax
comp=Z,52nm,1.7s
BOSA Boshof 121.71 207 PKP **PKPdf 15 05 33.6 +0.3**
comp=Z,14nm,0.7s,baz=143,slow=1.7,SNR=21
BOSA PKKPbc **PKKPbc 15 15 33.8 -1.2**
comp=Z,4.0nm,0.6s,baz=318,slow=4.7,SNR=6.5
BOSA Boshof 121.71 207 *e*PKIKP **PKPdf 15 05 33.4 +0.1**
PKME Peaks-Kenny Pk 121.81 51 *e*PKPdf **PKPdf 15 05 32.1 -0.5**
PQI Presque Isle 122.76 49 *e*PKPdf **PKPdf 15 05 33.2 -1.2**
SCHQ Schefferville 123.28 39 PKP **PKPdf 15 05 34.9 -0.4**
comp=Z,7.0nm,0.6s,baz=225,slow=1.2,SNR=7.8
BATG Bathurst New B 124.10 48 *e*PKPdf **PKPdf 15 05 36.0 -1.0**
LBTB Lobatse 124.70 210 *e*PKPdf **PKPdf 15 05 37.6 -1.4**
LBTB Lobatse 124.70 210 *e*PKIKP **PKPdf 15 05 37.6 -1.4**
KBS Kingsbay 124.92 357 *e*PKPdf **PKPdf 15 05 38.4 +0.7**
LMN Caledonia Moun 124.97 50 *e*PKPdf **PKPdf 15 05 37.9 -0.9**
SPA0 Spitsbergen Ar 125.38 356 *e*PKPdf **PKPdf 15 05 38.5 -0.1**
SPA0 Spitsbergen Ar 125.38 356 *e*PKPdf **PKPdf 15 05 38.9 +0.2**
SPITS Spitsbergen Ar 125.38 356 PKP **PKPdf 15 05 38.8 +0.2**
comp=Z,40nm,0.7s,baz=98,slow=6.0,SNR=22
SVE Sverdlovsk 125.41 324 *e*PKIKP **PKPdf 15 05 39.0 -0.2**
SVE pmax pmax
comp=Z,31nm,0.8s
WSAR Wadi Sarin 125.80 282 PKiKP **PKiKP 15 05 41.6 +0.1**
SNR=8.1
ILULI Ilulissat 126.16 20 *i* P **PKPdf 15 05 39.7 -0.5**
comp=Z,23nm,0.6s
ILULI Ilulissat 126.16 20 *i* PKIKP **PKPdf 15 05 39.7 -0.5**
ILULI pmax pmax
comp=Z,23nm,0.6s
ARU Arti 126.61 323 *e*PKPdf **PKPdf 15 05 41.9 +0.4**
ARU Arti 126.61 323 *c* PKIKP **PKPdf 15 05 42.3 +0.8**
ARU pmax pmax
comp=Z,97nm,1.7s
DAG Danmarks Havn 126.68 5 *i* P **PKPdf 15 05 39.9 -1.2**
comp=Z,6.2nm,0.5s
DAG Danmarks Havn 126.68 5 *i* PKIKP **PKPdf 15 05 39.9 -1.2**
DAG pmax pmax
comp=Z,4.0nm,0.5s
AB31 Akbulak array 126.80 314 *i* PKIKP **PKPdf 15 05 41.4 -0.7**
AB31 pmax pmax
comp=Z,19nm,1.0s
ABKAR Akbulak array 126.80 314 *e*PKPdf **PKPdf 15 05 41.5 -0.6**
MDP Montagnes des 126.87 102 PKP **PKPdf 15 05 43.8 +0.5**
comp=Z,11nm,0.6s,baz=205,slow=1.8,SNR=7.6
MATP Matopo 127.15 215 PKP **PKPdf 15 05 44.0 +0.2**
comp=Z,20nm,0.6s,baz=149,slow=1.6,SNR=38
MATP SKPbc SKPbc 15 08 10.4
comp=Z,5.6nm,0.8s,baz=131,slow=4.3,SNR=4.2
GBN Guysborough 127.29 50 *e*PKPdf **PKPdf 15 05 42.7 -0.4**
SUMG Summit 127.40 13 *e*PKPdf **PKPdf 15 05 43.1 0.0**
SUMG Summit 127.40 13 *i* P **PKPdf 15 05 43.5 +0.4**
SUMG Summit 127.40 13 *i* PKIKP **PKPdf 15 05 43.5 +0.4**
SFJD Kangerlussuaq 127.41 22 *e*PKPdf **PKPdf 15 05 42.5 -0.2**
SFJD Kangerlussuaq 127.41 22 *i* P **PKPdf 15 05 42.3 -0.4**
comp=Z,13nm,0.6s
SFJD Kangerlussuaq 127.41 22 *i* PKIKP **PKPdf 15 05 42.3 -0.4**
SFJD pmax pmax
comp=Z,13nm,0.6s
SOHO SOHO 127.88 283 *i* PKPdf **PKPdf 15 05 44.4 -0.5**
SNR=47
MDH Madha 128.33 284 *i* PKPdf **PKPdf 15 05 45.4 -0.3**
SNR=7.6
UOSS Minazif 128.34 283 *e*PKPdf **PKPdf 15 05 44.7 -1.1**
UOSS Minazif 128.34 283 PKPdf **PKPdf 15 05 45.6 -0.2**
SNR=7.8
UOSS Minazif 128.34 283 *i* PKPdf **PKPdf 15 05 45.5 -0.3**
SNR=12
GEYT Alibeck 128.36 300 PKP **PKPdf 15 05 46.2 +0.7**
comp=Z,10.0nm,0.7s,baz=150,slow=1.2,SNR=22
GEYT PP **PP 15 08 02.4 +3.1**
comp=Z,1.7nm,0.8s,baz=317,slow=10,SNR=5.1
GEYT SKPbc SKPbc 15 08 16.4
comp=Z,4.4nm,0.8s,baz=79,slow=7.7,SNR=5.2
GYA0B ALIBECK ARRAY 128.36 300 *e*PKPdf **PKPdf 15 05 45.0 -0.5**
HATD Hatta, Dubai 128.38 283 PKiKP **PKiKP 15 05 46.3 -0.3**
SNR=14
HATD Hatta, Dubai 128.38 283 *i* PKPdf **PKPdf 15 05 45.9 +0.1**
SNR=21
ASHO Ashiyiah 128.42 283 PKPdf **PKPdf 15 05 45.5 -0.4**
SNR=15
ASHO Ashiyiah 128.42 283 *i* PKPdf **PKPdf 15 05 45.6 -0.4**
SNR=18
BANOM Banah 128.46 285 PKPdf **PKPdf 15 05 44.5 -1.5**
MSFE Esma-Masafi 128.47 284 *i* PKPdf **PKPdf 15 05 45.8 -0.3**
SNR=9.7
ALNE Al Ain 128.56 282 *i* PKPdf **PKPdf 15 05 45.8 -0.5**
SNR=14
SHME Shamm 128.62 285 *i* PKPdf **PKPdf 15 05 46.2 -0.1**
SNR=7.0
NAZ Nazwa, Dubai 128.84 283 PKiKP **PKiKP 15 05 48.5 +1.0**
SNR=13
NAZ Nazwa, Dubai 128.84 283 *i* PKiKP **PKPdf 15 05 47.0 +0.3**
SNR=7.8
FAQ Al Faqa, Dubai 128.85 283 *i* PKPdf **PKPdf 15 05 46.5 -0.2**
SNR=16
ASUD Al Ashush, Dub 129.06 283 *i* PKiKP **PKPdf 15 05 47.3 +0.2**
SNR=6.8
AJN Ajban 129.35 283 *i* PKiKP **PKiKP 15 05 48.5 0.0**
SNR=5.1
MZR Muzera 130.36 280 *i* PKiKP **PKiKP 15 05 51.0 +0.4**
SNR=19
PRGR Permogore 131.15 333 *e*PKIKP **PKPdf 15 05 49.2 -0.7**
PRGR pmax pmax
comp=Z,12nm,0.5s
HAMF Hammerfest 131.40 349 *e*PKPdf **PKPdf 15 05 47.9 -2.3**
LSZ Lusaka 131.50 219 PKP **PKPdf 15 05 53.7 +1.5**
comp=Z,14nm,0.6s,baz=55,slow=2.7,SNR=22
LSZ SKPbc **SKPab 15 08 27.6 +0.4**
comp=Z,14nm,0.7s,baz=122,slow=2.2,SNR=13
LSZ Lusaka 131.50 219 *e*PKPdf **PKPdf 15 05 51.2 -1.0**
LSZ SKPbc **SKPab 15 08 27.6 +0.4**
LSZ Lusaka 131.50 219 PKiKP **PKPdf 15 05 53.7 +1.5**
SNR=5.7
ARCES ARCESS Array B 132.02 348 PKhKP PKPpre 15 05 42.0
comp=Z,2.8nm,0.4s,baz=123,slow=1.1,SNR=23
ARCES PKP **PKiKP 15 05 52.4 -0.2**
comp=Z,23nm,0.6s,baz=5.3,slow=0.7,SNR=30
ARCES SKPbc **SKPab 15 08 27.4 -0.2**
comp=Z,23nm,0.9s,baz=50,slow=6.5,SNR=9.1
ARCES ARCESS Array B 132.02 348 PKPpre PKPpre 15 05 42.0
ARCES *e*PKPdf **PKPdf 15 05 50.9 -0.5**
ARCES SKPbc **SKPab 15 08 27.4 -0.2**
ARCES ARCESS Array B 132.02 348 PKHKP PKPpre 15 05 42.0
ARCES *e* 15 05 50.9
ARCES 15 08 27.5
ARE0 ARCESS Array S 132.02 348 *e*PKPdf **PKPdf 15 05 51.2 -0.2**
ARE0 ARCESS Array S 132.02 348 *e*PKPdf **PKPdf 15 05 51.4 0.0**
SCO Scoresbysund 132.13 9 *i* P **PKPdf 15 05 51.7 +0.2**
comp=Z,6.7nm,0.6s
SCO Scoresbysund 132.13 9 *i* PKIKP **PKPdf 15 05 51.7 +0.2**
SCO pmax pmax
comp=Z,7.0nm,0.6s
NRS Narsarsuaq 132.29 27 *i* P **PKPdf 15 05 52.7 +0.6**
NRS Narsarsuaq 132.29 27 *i* PKIKP **PKPdf 15 05 52.7 +0.6**
KTK1 Kautokeino 132.89 348 *e*PKPdf **PKPdf 15 05 53.0 -0.1**
TRO Tromso 133.06 351 *e*PKPdf **PKPdf 15 05 53.7 +0.4**
TSUM Tsumeb 133.20 204 PKhKP PKPpre 15 05 48.8
comp=Z,2.5nm,0.6s,baz=120,slow=1.8,SNR=6.6
TSUM PKP **PKiKP 15 05 56.1 -0.5**
comp=Z,9.9nm,0.7s,baz=228,slow=1.8,SNR=14
TSUM SKPbc **SKPab 15 08 33.9 -0.5**
comp=Z,13nm,0.7s,baz=121,slow=2.3,SNR=14
KMBO Kilima Mbogo 135.16 241 PKP **PKPdf 15 06 00.7 +1.4**
comp=Z,5.7nm,0.7s,baz=70,slow=3.9,SNR=16
KMBO SKPbc **SKPab 15 08 41.5 -2.0**
comp=Z,13nm,0.9s,baz=54,slow=1.1,SNR=17
KMBO Kilima Mbogo 135.16 241 *e*PKPdf **PKPdf 15 05 58.7 -0.6**
KMBO SKPbc **SKPab 15 08 41.5 -2.0**
KMBO Kilima Mbogo 135.16 241 PKiKP **PKPdf 15 05 59.7 +0.4**
SNR=6.8
ATD Arta Tunnel 136.61 261 SKPbc **SKiKP 15 08 45.5 -1.6**
comp=Z,27nm,1.0s,baz=79,slow=5.6,SNR=7.1
STOK Stokkvaagen 136.96 352 *e* 14 56 51.1
GROC Groznyy 137.36 308 *e*PKIKP **PKPdf 15 06 03.6 +1.5**
GROC *e* 15 08 56.9
GROC *e* 15 09 03.5
GROC pmax pmax
comp=Z,82nm,1.5s
RAYN Ar Rayn 137.65 279 *e*PKPpre PKPpre 15 05 53.8
VRH Novokhopyorsk 137.67 321 *e*PKIKP **PKPdf 15 06 03.8 +1.4**
VRH pmax pmax
comp=Z,50nm,0.6s
TBLG Delisi 138.40 306 *e*PKPdf **PKPdf 15 06 04.8 +0.6**
FIA1 FINESS Array S 138.46 341 *e*PKPdf **PKPdf 15 06 04.1 +0.6**
FIA1 *e*PKPdf **PKiKP 15 06 04.4 -1.4**
FINES FINESS Array B 138.46 341 PKhKP PKPpre 15 05 53.7
comp=Z,3.7nm,0.4s,baz=71,slow=5.2,SNR=27
FINES PKP **PKPdf 15 06 04.6 +1.0**
comp=Z,16nm,0.5s,baz=96,slow=4.2,SNR=27
FINES SKPbc **SKPbc 15 08 47.1 +1.0**
comp=Z,23nm,0.5s,baz=34,slow=3.3,SNR=22
OBN Obninsk 138.58 328 *i* PKIKP **PKPdf 15 06 03.3 -0.6**
OBN *i* SS SS 15 26 37.2 +4.7
OBN pmax pmax
comp=Z,31nm,1.0s
LPSR Galich'ya Gora 138.64 324 *e*PKIKP **PKPdf 15 06 03.6 -0.5**
LPSR pmax pmax
comp=Z,30nm,1.5s
ZEI Tsey 138.80 308 *i* PKHKP PKPpre 15 05 55.7
ZEI pmax pmax
comp=Z,23nm,1.1s
NCK Nalchik 138.87 309 *i* PKIKP **PKPdf 15 06 06.9 +2.0**
VSR Storozhevoye 139.13 322 *e*PKIKP **PKPdf 15 06 04.8 -0.3**
VSR pmax pmax
comp=Z,20nm,0.7s
KBZ Khabaz 139.30 310 PKhKP PKPpre 15 05 58.6
comp=Z,3.4nm,0.7s,baz=105,slow=3.7,SNR=7.8
KBZ PP sPKPdf 15 09 09.2 -0.1
comp=Z,2.9nm,0.8s,baz=101,slow=3.4,SNR=3.6
AKH Akhalkalaki 139.37 306 *i* P PKPpre 15 06 01.6
KIV Kislovodsk 139.40 310 *e*PKIKP **PKPdf 15 06 07.6 +1.6**
KIV pmax pmax
comp=Z,16nm,1.1s
EPOS Posof 139.92 306 *i* P **PKPdf 15 06 08.6 +1.5**
SENK Senkaya-Erzuru 140.38 305 *e*P PKPpre 15 06 03.8
SENK Senkaya-Erzuru 140.38 305 *e*P PKPpre 15 06 03.8
MBAR Mbarara 140.57 236 *i* PKHKP PKPpre 15 06 05.0
ARTV Artvin 140.57 306 *i* P PKPpre 15 06 04.2
DAGI Agillar 140.60 306 *i* P PKPpre 15 06 04.1
DOMB Dombas 141.59 352 *e* PKPpre 15 06 05.0
AKN Aaknes 141.68 354 *e*PKPdf **PKPdf 15 06 06.8 -2.6**
BNGB Bing'll 141.93 303 *e*P **PKPdf 15 06 08.0 -2.7**
BNGB Bing'll 141.93 303 *e*P **PKPdf 15 06 08.0 -2.7**
YEDI Yedisu-Bingol 141.96 304 *i* P PKPpre 15 06 07.7
YEDI Yedisu-Bingol 141.96 304 *e*P PKPpre 15 06 07.7
BAYB BAYBURT 142.01 305 *i* P PKPpre 15 06 07.7
NC303 NORSAR Array S 142.06 350 *e*PKPpre PKPpre 15 06 06.0
NC204 NORSAR Array S 142.10 351 *e*PKPpre PKPpre 15 06 06.9
NC405 NORSAR Array S 142.11 350 *e*PKPpre PKPpre 15 06 06.4
NB201 NORSAR Array S 142.24 350 *e*PKPpre PKPpre 15 06 06.9
NB201 NORSAR Array S 142.24 350 *e*PKPdf PKPpre 15 06 07.0
HANI Diyarbakir_Han 142.25 302 *i* P PKPpre 15 06 07.4
NB2 NORSAR Subarra 142.26 350 PKP PKPpre 15 06 06.5
comp=Z,37nm,0.8s,baz=16,slow=3.2
NB2 NORSAR Subarra 142.26 350 PKP PKPpre 15 06 06.5
baz=16,slow=3.2
NOA NORSAR Array B 142.26 350 PKhKP PKPpre 15 06 06.7
comp=Z,48nm,0.7s,baz=16,slow=4.9,SNR=138
NOA SKPbc **SKiKP 15 08 57.3 0.0**
comp=Z,5.8nm,0.6s,baz=15,slow=4.1,SNR=8.5
NBO00 NORSAR Array S 142.33 351 *e*PKPpre PKPpre 15 06 07.3
MAZI Mazidag 142.36 300 *e*P **PKPdf 15 06 09.9 -1.6**
MAZI Mazidag 142.36 300 *e*P **PKPdf 15 06 09.9 -1.6**
FOO Floro 142.42 355 *e*PKPdf **PKPdf 15 06 08.9 -1.8**
NAO01 NORSAR Array S 142.49 350 *e*PKPpre PKPpre 15 06 07.6
NC602 NORSAR Array S 142.49 350 *e*PKPpre PKPpre 15 06 07.2
ANN Anapa 142.74 313 *c* PKIKP **PKPdf 15 06 10.1 -1.6**
ANN pmax pmax
comp=Z,148nm,1.2s
HYA Hoyanger 142.75 354 *e*PKPdf **PKPdf 15 06 08.6 -2.6**
KELT Kelkit 142.78 305 *i* P **PKPdf 15 06 10.2 -2.1**
MICGM Minsk 142.92 332 *i* P **PKPdf 15 06 09.0 -2.8**
MICGM PM 15 06 10.0
comp=Z,0.9nm,1.0s
PTK Pertek 142.94 303 *i* P **PKPdf 15 06 11.6 -1.0**
PTK Pertek 142.94 303 *e*P **PKPdf 15 06 11.6 -1.0**
SUE Sulen 142.97 355 *e*PKPdf **PKPdf 15 06 09.7 -1.9**
REFA Refahiye_ERZ 143.31 304 *i* P PKPab 15 06 11.6 +0.1
ELZG Elazig 143.33 302 *i* P **PKPdf 15 06 12.8 -0.5**
OSL Oslo 143.38 350 *e*P PKPab 15 06 09.8 -0.9
ILIC ilic-Erzincan 143.45 304 *e*P **PKPdf 15 06 14.2 +0.8**
ILIC ilic-Erzincan 143.45 304 *e*P **PKPdf 15 06 14.2 +0.8**
ASK Askoy 143.51 355 *e*PKPab PKPab 15 06 11.2 0.0
KEMA Kemaliye 143.55 304 *i* P PKPbc 15 06 12.8 +0.4
SANL SANLIURFA_Mer 143.56 300 *i* P PKPbc 15 06 12.8 +0.4
BER Bergen 143.60 355 *e*PKPbc PKPab 15 06 11.3 -0.3
URFA Urfa 143.64 301 *i* P **PKPdf 15 06 13.5 -0.2**
URFA Urfa 143.64 301 *e*P **PKPdf 15 06 13.5 -0.2**
KONO Kongsberg 143.83 351 *e*PKPbc PKPbc 15 06 12.3 -0.1
KONO Kongsberg 143.83 351 *e*PKIKP PKPbc 15 06 12.4 0.0
KONO Kongsberg 143.83 351 *e*PKPab PKPbc 15 06 12.1 -0.3
ODD1 Odda 143.94 354 *e*PKPbc PKPbc 15 06 12.3 -0.5
CUZAR Zara_SIVAS 143.95 305 *i* P **PKPdf 15 06 14.3 0.0**
HEKM Malatya_Hekimh 144.04 303 *i* P **PKPdf 15 06 14.7 +0.1**
LRW Lerwick 144.11 0 *e*P PKPbc 15 06 11.8 -1.4
AKCD Akcadag 144.19 302 *i* P **PKPab 15 06 15.0 +0.3**
SCER sogukcermik 144.44 305 *i* P **PKPab 15 06 16.2 +0.5**
BLS5 Blasjo 144.44 353 *e*PKPdf **PKPdf 15 06 14.2 -0.1**
DARE Darende-Malaty 144.47 303 *i* P **PKPab 15 06 16.5 +0.7**
DARE Darende-Malaty 144.47 303 *e*P **PKPab 15 06 16.5 +0.7**
ERBA Erbaa 144.50 307 *i* P **PKPab 15 06 15.7 0.0**
SVSK Karacayir 144.52 305 *e*P **PKPab 15 06 16.3 +0.6**
SVSK Karacayir 144.52 305 *e*P **PKPab 15 06 16.3 +0.6**
CUGUR Gurin_S˙VAS 144.59 303 *i* P **PKPab 15 06 16.7 +0.4**
TOKT Tokat 144.75 306 *e*P PKPbc 15 06 16.0 0.0
TOKT Tokat 144.75 306 *e*P PKPbc 15 06 16.0 0.0
AKASG Malin Array Be 144.75 326 PKP **PKPdf 15 06 14.9 -0.1**
comp=Z,94nm,0.5s,baz=44,slow=4.2,SNR=179
AKASG SKPbc **SKiKP 15 09 03.4 +0.7**
comp=Z,15nm,0.8s,baz=47,slow=2.7,SNR=8.3
AKASG SKKPbc **SKKPab 15 17 05.7 +0.7**
comp=Z,0.9nm,0.5s,baz=240,slow=5.0,SNR=7.6
AKASG Malin Array Be 144.75 326 PKIKP **PKPdf 15 06 15.0 -0.1**
AKASG pmax pmax
comp=Z,94nm,0.5s
AKASG pmax pmax
comp=N,15nm,0.8s
AKASG pmax pmax
comp=N,1.0nm,0.5s
KIEV Kiev 144.77 326 *e*PKPdf **PKPdf 15 06 14.9 -0.2**
KIEV Kiev 144.77 326 *d* PKIKP **PKPdf 15 06 14.8 -0.3**
ELBS KAHRAMANMARAS 144.79 303 *i* P **PKPab 15 06 16.8 -0.2**
CUALT Altinyayla-SIV 144.86 304 *i* P **PKPab 15 06 17.5 +0.2**
SIM Simferopol' 144.86 315 *e*PKIKP **PKPab 15 06 17.2 +0.3**

SIM				pmax	pmax		
	comp=Z,177nm,0.8s						
GAZ	Gaziantep	144.96	301	*i* P	PKPab	15 06 18.0	+0.3
GAZ	Gaziantep	144.96	301	*e*P	PKPab	15 06 18.0	+0.3
KUZU	Kuzuini	145.13	300	⇓*i*P	PKPab	15 06 17.8	-0.5
HAVZ	Havza	145.14	308	*i* P	PKPbc	15 06 17.6	+0.5
SUW	Suwalki	145.19	335	*e*PKP	PKPbc	15 06 16.6	-0.1
SUW	Suwalki	145.19	335	*e*PKPdf	PKPdf	15 06 16.2	+0.5
SUW	Suwalki	145.19	335	*e*PKIKP	PKPbc	15 06 16.6	-0.1
CUSAR	Sarkisla-SIVAS	145.21	305	⇓*i*P	PKPab	15 06 18.9	+0.3
DIKM	Dikmen	145.29	309	*e*P	PKPab	15 06 18.9	+0.2
DIKM	Dikmen	145.29	309	*e*P	PKPab	15 06 18.9	+0.2
HOMB	Homborsund	145.31	351	*e*PKPbc	PKPbc	15 06 17.1	+0.2
SNART	Snartemo	145.41	352	*e*PKPbc	PKPbc	15 06 16.8	-0.4
ANDN	Andirin	145.55	302	⇓*i*P	PKPbc	15 06 19.1	+0.6
BNN	Bunyan	145.65	304	*i* P	PKPbc	15 06 19.3	+0.5
BNN	Bunyan	145.65	304	*e*P	PKPbc	15 06 19.3	+0.5
BIGH	Upper Bighouse	145.69	3	*e*P	PKPbc	15 06 17.6	-0.5
RSC	Scourie	145.77	4	*e*P	PKPdf	15 06 17.2	+0.7
KLNR	Kaliningrad	145.81	338	*ce*PKIKP	PKPbc	15 06 18.2	-0.3
YOZ	Yozgat	145.84	306	*e*P	PKPbc	15 06 19.6	+0.3
YOZ	Yozgat	145.84	306	*e*P	PKPbc	15 06 19.6	+0.3
TAHT	Tahtakopru-Hat	145.91	300	*e*P	PKPbc	15 06 20.3	+0.9
TAHT	Tahtakopru-Hat	145.91	300	*e*P	PKPbc	15 06 20.3	+0.9
COAL	Corum-Alaca	145.91	307	*i* P	PKPdf	15 06 18.2	+0.6
CTAK	Corum_Osmancik	145.94	307	*i* P	PKPab	15 06 21.1	-0.5
KOZT	Kozan	145.98	302	*e*P	PKPab	15 06 21.1	-0.5
KOZT	Kozan	145.98	302	*e*P	PKPab	15 06 21.1	-0.5
BZK	Bozkurt	146.07	310	*e*P	PKPdf	15 06 17.8	+0.2
BZK	Bozkurt	146.07	310	*e*P	PKPdf	15 06 17.8	+0.2
RRH	Rhenigidale	146.08	5	*e*P	PKPbc	15 06 18.8	-0.3
CORM	Corum	146.20	307	*e*P	PKPdf	15 06 18.4	+0.3
CORM	Corum	146.20	307	*e*P	PKPdf	15 06 18.4	+0.3
RRR	Rubha Reidh	146.22	5	*e*P	PKPbc	15 06 18.8	-0.7
AVNS	Nevsehir-Avano	146.41	304	⇓*i*P	PKPbc	15 06 20.9	0.0
CDAG	Cicekdag	146.55	306	*i* P	PKPbc	15 06 21.2	0.0
ILGA	Ilgaz	146.58	309	*i* P	PKPdf	15 06 19.6	+0.7
ILGA	Ilgaz	146.58	309	*e*PKPbc	PKPbc	15 06 20.2	-1.2
KAC	Achnashellach	146.61	4	*e*P	PKPbc	15 06 20.6	-0.1
MCD	Coleburn Disti	146.63	2	*e*P	PKPbc	15 06 20.2	-0.5
MDO	Dochfour	146.72	3	*e*P	PKPbc	15 06 20.6	-0.3
KPL	Plockton	146.74	5	*e*P	PKPbc	15 06 21.1	+0.2
CANT	Cankiri	146.80	308	*i* P	PKPbc	15 06 20.8	-1.0
CANT	Cankiri	146.80	308	*e*P	PKPbc	15 06 20.8	-1.0
GULE	Gulek	146.84	302	*i* P	PKPbc	15 06 22.4	+0.2
MUD	Monsted U'grnd	146.96	350	*i* PKP2	PKPbc	15 06 23.0	+1.4
MUD				pmax	pmax		
	comp=Z,54nm,0.6s						
BSD	Bornholm Skovb	146.98	343	⇓*i* PKP2	PKPbc	15 06 23.0	+1.3
BSD				pmax	pmax		
	comp=Z,130nm,0.8s						
GULA	Gulagac	147.00	304	*e*P	PKPbc	15 06 23.5	+1.0
GULA	Gulagac	147.00	304	*e*P	PKPbc	15 06 23.5	+1.0
BR131	Keskin Array S	147.06	306	*e*PKPdf	PKPdf	15 06 19.2	-0.4
BR131				*e*PKPbc	PKPbc	15 06 22.5	-0.1
BR131	Keskin Array S	147.06	306	PKPdf	PKPdf	15 06 20.3	+0.8
	SNR=34						
BRTR	Keskin Array B	147.06	306	PKPbc	PKPbc	15 06 22.4	-0.3
	comp=Z,44nm,0.7s,baz=134,slow=3.7,SNR=67						
COP	Copenhagen	147.06	346	⇓*i* PKP2	PKPbc	15 06 22.9	+1.1
COP				pmax	pmax		
	comp=Z,45nm,0.6s						
KAMT	Kaman	147.11	306	*i* P	PKPbc	15 06 23.1	+0.4
KAMT	Kaman	147.11	306	*e*P	PKPbc	15 06 23.1	+0.4
KIS	Kishinev	147.12	321	*e*PKP	PKPdf	15 06 20.0	+0.8
KIS	Kishinev	147.12	321	*e*PKIKP	PKPdf	15 06 20.0	+0.8
KIS				*e*		15 08 24.0	
MERS	Mersin	147.12	301	*e*P	PKPbc	15 06 24.0	+1.2
MERS	Mersin	147.12	301	*e*P	PKPbc	15 06 24.0	+1.2
YAYX	Yaylak	147.16	305	*e*P	PKPbc	15 06 22.8	-0.1
YAYX	Yaylak	147.16	305	*e*P	PKPbc	15 06 22.8	-0.1
AKSY	AKSARAY - Alti	147.28	304	⇓*i*P	PKPbc	15 06 23.1	-0.1
KERG	Konya-Eregli	147.31	302	⇓*i*P	PKPbc	15 06 22.8	-0.6
DRUM	Mains of Drumt	147.32	4	*e*P	PKPbc	15 06 21.9	-0.7
SERE	Sereflikochisa	147.34	305	*e*P	PKPbc	15 06 24.6	+1.2
SERE	Sereflikochisa	147.34	305	*e*P	PKPbc	15 06 24.6	+1.2
BTIN	Bart¨–n	147.41	310	⇓*i*P	PKPbc	15 06 23.3	0.0
BBAL	Bala	147.49	306	⇓*i*P	PKPbc	15 06 23.8	+0.1
KIZK	Mersin	147.50	300	*e*P	PKPbc	15 06 23.9	+0.2
KIZK	Mersin	147.50	300	*e*P	PKPbc	15 06 23.9	+0.2
KIZK	Mersin	147.50	300	⇓*i*P	PKPbc	15 06 23.7	0.0
AFSR	Af¨ar-Bala (A	147.56	306	*i* P	PKPbc	15 06 24.4	+0.5
AFSR	Af¨ar-Bala (A	147.56	306	*e*P	PKPbc	15 06 24.4	+0.5
SULT	Sultanhani-AKS	147.58	304	*e*P	PKPbc	15 06 23.4	-0.6
SULT	Sultanhani-AKS	147.58	304	*e*P	PKPbc	15 06 23.4	-0.6
ANTO	Ankara	147.63	307	*i* P	PKPdf	15 06 21.7	+1.3
ANTO	Ankara	147.63	307	*e*P	PKPdf	15 06 21.7	+1.3
ANTO	Ankara	147.63	307	*e*PKPdf	PKPdf	15 06 20.1	-0.3
ANTO				*e*PKPbc	PKPbc	15 06 24.1	+0.1
ANTO	Ankara	147.63	307	⇓*i*P	PKPdf	15 06 21.2	+0.8
ANTO	Ankara	147.63	307	PKPdf	PKPdf	15 06 21.0	+0.6
	SNR=28						
ANTO	Ankara	147.63	307	⇓PKIKP	PKPdf	15 06 21.2	+0.8
LOD	Lodumlu	147.65	307	*e*P	PKPbc	15 06 25.5	+1.4
LOD	Lodumlu	147.65	307	*e*P	PKPbc	15 06 25.5	+1.4
BR231	Keskin MP Arra	147.66	307	*e*PKPdf	PKPdf	15 06 20.8	+0.3
BR231				*e*PKPbc	PKPbc	15 06 24.7	+0.6
CMDR	Camlidere-ANKA	147.66	308	*i* P	PKPbc	15 06 23.7	-0.5
EREN	Erenkoy	147.67	299	*e*P	PKPbc	15 06 24.6	+0.5
EREN	Erenkoy	147.67	299	*e*P	PKPbc	15 06 24.6	+0.5
EDU	Dundee	147.68	2	*e*P	PKPbc	15 06 23.0	-0.4
KULU	Kulu	147.73	305	*e*P	PKPbc	15 06 24.9	+0.6
KULU	Kulu	147.73	305	*e*P	PKPbc	15 06 24.9	+0.6
LEOM	Leova	147.73	321	⇓*i*P	PKPbc	15 06 24.3	+0.4
LEOM	Leova	147.73	321	⇓PKP2	PKPbc	15 06 24.3	+0.4
INVG	Invergeldie, C	147.75	3	*e*P	PKPbc	15 06 23.4	-0.2
KKUL	Konya-Kulu	147.76	306	⇓*i*P	PKPbc	15 06 23.6	+0.2
BEL	Belsk	147.79	334	*e*PKP	PKPbc	15 06 24.5	+0.6
BEL	Belsk	147.79	334	*e*PKP2	PKPbc	15 06 24.5	+0.6
LAWE	Loch Awe, Argy	147.83	5	*e*P	PKPbc	15 06 23.6	-0.3
BCAM	Yenicaga	147.84	309	⇓*i*P	PKPbc	15 06 24.3	-0.2
KEBE	Keben-Mersin	147.85	300	*e*P	PKPbc	15 06 25.2	+0.5
KEBE	Keben-Mersin	147.85	300	*e*P	PKPbc	15 06 25.2	+0.5
LVV	L'vov	147.87	329	*e*PKP2	PKPbc	15 06 24.3	+0.1
PHNC	Paralimni	147.88	298	P	PKPab	15 06 27.3	-2.0
GKP	Gorka Klasztor	147.90	339	*e*PKP	PKPbc	15 06 24.4	+0.3
GKP	Gorka Klasztor	147.90	339	*e*PKP2	PKPbc	15 06 24.4	+0.3
IKL	Isikli	147.92	300	*i* P	PKPbc	15 06 24.9	+0.2
IKL	Isikli	147.92	300	*e*P	PKPbc	15 06 24.9	+0.2
CHBY	Cihanbeyli	147.95	305	*e*P	PKPbc	15 06 23.7	-1.2
CHBY	Cihanbeyli	147.95	305	*e*P	PKPbc	15 06 23.7	-1.2
EAB	Aberfoyle	147.97	4	*e*P	PKPbc	15 06 24.0	-0.2
AKKU	Akkuyu-Mersin	148.04	300	*e*P	PKPbc	15 06 23.4	-1.6
AKKU	Akkuyu-Mersin	148.04	300	*e*P	PKPbc	15 06 23.4	-1.6
GULN	MERSIN_Gulnar	148.04	300	⇓*i*P	PKPbc	15 06 23.6	-0.5
TEVE	Tevekalti-Mers	148.06	300	*e*P	PKPbc	15 06 26.4	+1.2
TEVE	Tevekalti-Mers	148.06	300	*e*P	PKPbc	15 06 26.4	+1.2
TLCR		148.08	318	⇑*i*P	PKPbc	15 06 25.3	+0.5
TLCR		148.08	318	⇑PKP2	PKPbc	15 06 25.3	+0.5
LFK	Lefkose	148.23	298	P	PKPbc	15 06 26.4	+0.8
LFK	Lefkose	148.23	298	*e*P	PKPbc	15 06 26.4	+0.8
BERE	Bereket-Mersin	148.26	300	*e*P	PKPbc	15 06 25.2	-0.6
BERE	Bereket-Mersin	148.26	300	*e*P	PKPbc	15 06 25.2	-0.6
EDI	Edinburgh	148.29	2	*e*P	PKPbc	15 06 24.6	-0.4
ESY	Stoneypath	148.32	2	*e*P	PKPbc	15 06 24.8	-0.3
TEKE	Tekeli-Mersin	148.39	300	*e*P	PKPbc	15 06 25.8	-0.1
TEKE	Tekeli-Mersin	148.39	300	*e*P	PKPbc	15 06 25.8	-0.1
CSS	Mathiatis	148.45	298	P	PKPbc	15 06 24.7	-1.4
CSS				*e*PKPbc	PKiKP	15 06 26.2	-1.0
LADK	Ladik-KONYA	148.45	304	*e*P	PKPbc	15 06 25.8	-0.4
LADK	Ladik-KONYA	148.45	304	*e*P	PKPbc	15 06 25.8	-0.4
CFR	Carcaliu	148.50	319	⇓*i*P	PKPbc	15 06 26.1	+0.2
CFR	Carcaliu	148.50	319	⇓PKP2	PKPbc	15 06 26.1	+0.2
MAMC	Mammari	148.50	298	P	PKPbc	15 06 26.8	+0.6
KONT	Konya--Tatoy	148.53	304	*i* P	PKPbc	15 06 26.1	-0.2
KONT	Konya--Tatoy	148.53	304	*e*P	PKPbc	15 06 26.1	-0.2
KONT	Konya--Tatoy	148.53	304	⇓*i*P	PKPbc	15 06 25.8	-0.5
KDHN	Kadinhani	148.55	305	⇓*i*P	PKPbc	15 06 26.2	-0.2
MDUB	Mudurnu	148.58	309	*i* P	PKPbc	15 06 26.7	+0.3
MDUB	Mudurnu	148.58	309	*e*P	PKPbc	15 06 26.7	+0.3
KWP	Kalwaria Pacla	148.61	330	*e*PKP	PKPbc	15 06 26.5	+0.5
KWP	Kalwaria Pacla	148.61	330	*e*PKP2	PKPbc	15 06 26.5	+0.5
KIZT	Kizilcal	148.62	306	*i* P	PKPbc	15 06 26.8	+0.2
KIZT	Kizilcal	148.62	306	*e*P	PKPbc	15 06 26.8	+0.2
BIZ	Bicaz	148.67	323	⇓*i*P	PKPbc	15 06 27.2	+0.9
SAHE	Sakarya_HENDEK	148.68	310	⇓*i*P	PKPbc	15 06 26.0	-0.5
BTAS	Taskesti	148.68	309	⇓*i*P	PKPbc	15 06 26.2	-0.4
SVRH	Sivrihisar-ESK	148.70	307	*e*P	PKPbc	15 06 27.0	+0.3
SVRH	Sivrihisar-ESK	148.70	307	*e*P	PKPbc	15 06 27.0	+0.3
TIRR	Tirgusor	148.70	317	*e*PKPbc	PKPbc	15 06 26.6	+0.2
TIRR	Tirgusor	148.70	317	⇓*i*P	PKPbc	15 06 26.8	+0.4
TIRR	Tirgusor	148.70	317	⇓PKP2	PKPbc	15 06 26.8	+0.4
BUR08	Bucovina Ar. S	148.72	325	*e*PKPbc	PKPbc	15 06 28.3	+1.7
BUR04	Bucovina Ar. S	148.73	325	*e*PKPbc	PKPbc	15 06 28.1	+1.6
BURAR	Bucovina Array	148.73	325	⇓*i*P	PKPbc	15 06 28.0	+1.5
BURAR	Bucovina Array	148.73	325	⇓PKP2	PKPbc	15 06 28.0	+1.5
LEF	Lefka	148.78	298	*i* P	PKPbc	15 06 27.1	+0.2
LEF	Lefka	148.78	298	*e*P	PKPbc	15 06 27.1	+0.2
SZAC	Souni	148.85	298	P	PKPbc	15 06 27.5	+0.3
TLB	Topalu	148.86	318	⇓*i*P	PKPbc	15 06 27.3	+0.5
HARR	Harsova	148.88	318	⇓*i*P	PKPbc	15 06 27.5	+0.7
HARR	Harsova	148.88	318	⇓PKP2	PKPbc	15 06 27.5	+0.7
ESK	Eskdalemuir	148.90	2	*e*PKPbc	PKPbc	15 06 27.2	+0.6
ESK	Eskdalemuir	148.90	2	*e*P	PKPbc	15 06 25.9	-0.7
ESK	Eskdalemuir	148.90	2	*i* PKP2	PKPbc	15 06 27.3	+0.8
CLGH	Cloghs, Cushen	148.94	6	*e*P	PKPbc	15 06 26.8	+0.1
VRI	Vrincioaia	148.95	321	⇑*i*P	PKPbc	15 06 27.2	+0.2
GAZI	Gazipasa	149.00	301	*i* P	PKPab	15 06 31.2	-2.7
GAZI	Gazipasa	149.00	301	*e*P	PKPab	15 06 31.2	-2.7
GAZI	Gazipasa	149.00	301	*i* P	PKPbc	15 06 30.1	+2.6
PLOR	Plostina	149.00	321	⇑*i*P	PKPbc	15 06 27.3	+0.1
ALFC	Alefka	149.00	298	P	PKPbc	15 06 27.2	-0.3
DOGA	KONYA_Doganhis	149.01	304	*i* P	PKPbc	15 06 28.3	+0.7
KAND	Kocaeli-Kandir	149.05	310	*i* P	PKPbc	15 06 27.2	-0.2
GRER		149.08	320	⇑*i*P	PKPbc	15 06 29.8	+2.5
SAUV	Serdivan-Sakar	149.09	310	*e*P	PKPbc	15 06 29.1	+1.6
SAUV	Serdivan-Sakar	149.09	310	*e*P	PKPbc	15 06 29.1	+1.6
BHH	Howats Hill	149.12	3	*e*P	PKPbc	15 06 26.8	-0.3
SPNC	Sapanca-Adapaz	149.13	310	*e*P	PKPbc	15 06 28.8	+1.2
SPNC	Sapanca-Adapaz	149.13	310	*e*P	PKPbc	15 06 28.8	+1.2
GEYV	SAKARYA_Geyve	149.21	309	*i* P	PKPbc	15 06 27.8	0.0
PSN	Preselentsi	149.23	316	*e*P	PKPbc	15 06 27.3	-0.4
PSN	Preselentsi	149.23	316	*e*P	PKPbc	15 06 27.3	-0.4
PPCY	Paphos	149.26	298	P	PKPbc	15 06 26.8	-1.3
AMRR	Amara	149.28	318	⇓*i*P	PKPbc	15 06 28.7	+0.9
BORA	Eskisehir	149.32	308	*e*P	PKPbc	15 06 27.6	-0.6
BORA	Eskisehir	149.32	308	*e*P	PKPbc	15 06 27.6	-0.6
BOLV	Bolvadin	149.36	306	⇓*i*P	PKPbc	15 06 29.3	+0.9
KEPZ	Antalya-Kepez	149.39	302	⇓*i*P	PKPbc	15 06 27.2	-1.2
SILT	Sile	149.41	311	*e*P	PKPbc	15 06 28.8	+0.6
SILT	Sile	149.41	311	*e*P	PKPbc	15 06 28.8	+0.6
EDMD	Edmundbyers	149.42	1	*e*P	PKPbc	15 06 27.2	-0.6
OJC	Ojcow	149.44	333	*e*PKP	PKPbc	15 06 28.3	+0.3
OJC	Ojcow	149.44	333	*e*PKPbc	PKPbc	15 06 28.0	0.0
ISR	Istrita	149.48	320	⇑*i*P	PKPbc	15 06 30.0	+1.6
ISR	Istrita	149.48	320	⇑PKP2	PKPbc	15 06 30.0	+1.6
UZH	Uzhgorod	149.51	329	⇓*i*PKP2	PKPbc	15 06 29.4	+1.2
ARCR	ARCALIA	149.52	325	⇓*i*P	PKPbc	15 06 29.1	+0.8
HRT	Hereke	149.52	310	*e*P	PKPbc	15 06 29.5	+0.9
HRT	Hereke	149.52	310	*e*P	PKPbc	15 06 29.5	+0.9
BMR	Baia Mare	149.58	326	⇓*i*P	PKPdf	15 06 25.7	+2.5
MLR	Muntele Rosu	149.61	321	*e*PKPdf	PKPdf	15 06 23.4	-0.1
MLR				*e*PKPbc	PKiKP	15 06 29.8	+0.3
MLR	Muntele Rosu	149.61	321	*e*PKIKP	PKPdf	15 06 23.4	-0.1
KESW	Keswick, Cumbr	149.63	2	*e*P	PKPbc	15 06 27.4	-0.9
DOPR	Dopca	149.65	322	⇓*i*P	PKPbc	15 06 29.6	+0.9
SUTC	Sutluce-Ispart	149.70	303	*e*P	PKPbc	15 06 28.3	-0.9
SUTC	Sutluce-Ispart	149.70	303	*e*P	PKPbc	15 06 28.3	-0.9
BAGO	Egridir - ISPA	149.70	304	*i* P	PKPbc	15 06 28.7	-0.5
TRPA	Tarpa	149.74	328	⇓*i*P	PKPbc	15 06 29.5	+0.7
TRPA	Tarpa	149.74	328	⇓*ex*	PKPbc	15 06 28.9	+0.1
GMM	Mts of Mourne	149.79	6	*e*P	PKPbc	15 06 28.6	-0.1
SECR		149.80	320	⇓*i*P	PKPbc	15 06 29.4	+0.3
YLV	Yalova	149.83	310	*e*P	PKPbc	15 06 29.7	+0.3
YLV	Yalova	149.83	310	*e*P	PKPbc	15 06 29.7	+0.3
NIE	Niedzica	149.84	332	*e*PKP	PKPbc	15 06 30.0	+1.0
ISK	Istanbul-Kandi	149.84	311	*e*P	PKPbc	15 06 29.7	+0.4
ISK	Istanbul-Kandi	149.84	311	*e*P	PKPbc	15 06 29.7	+0.4
KAVV	Kandilli-Istan	149.84	311	P	PKPbc	15 06 29.7	+0.4
KAVV	Kandilli-Istan	149.84	311	*e*P	PKPbc	15 06 29.7	+0.4
IOMK	Kirk Michael	149.88	4	*e*P	PKPbc	15 06 28.4	-0.5
SULR		149.89	319	⇑*i*P	PKPbc	15 06 28.5	-0.7
BUY	Buyukada	149.89	311	*e*P	PKPbc	15 06 28.8	-0.6
BUY	Buyukada	149.89	311	*e*P	PKPbc	15 06 28.8	-0.6
BUY	Buyukada	149.89	311	*i* P	PKPbc	15 06 29.1	-0.3
ISP	Isparta	149.96	304	*e*P	PKPbc	15 06 28.5	-1.3
ISP	Isparta	149.96	304	*e*P	PKPbc	15 06 28.5	-1.3
ISP	Isparta	149.96	304	*e*PKPbc	PKPbc	15 06 29.0	-0.8
ISP	Isparta	149.96	304	P	PKPbc	15 06 28.9	-0.9
PRD	Provadia	149.97	316	P	PKPbc	15 06 30.1	+0.6
WIM	Isle of Man	149.99	4	*e*P	PKPbc	15 06 28.9	-0.3
BGKT	Bogazkoy	149.99	312	*e*P	PKPbc	15 06 28.5	-1.1
BGKT	Bogazkoy	149.99	312	*e*P	PKPbc	15 06 28.5	-1.1
GEMT	Gemlik	150.01	310	*e*P	PKPbc	15 06 30.6	+0.9
GEMT	Gemlik	150.01	310	*e*P	PKPbc	15 06 30.6	+0.9
KZIL	AFYON_Kiziloren	150.10	305	⇓*i*P	PKPbc	15 06 29.9	-0.2
SBT5	Esenkoy-Cinarc	150.15	310	*e*P	PKPbc	15 06 30.3	+0.4
SBT5	Esenkoy-Cinarc	150.15	310	*e*P	PKPbc	15 06 30.3	+0.4
CTKS	Kestanelik-??a	150.15	312	*e*P	PKPbc	15 06 29.4	-0.6
CTKS	Kestanelik-??a	150.15	312	*e*P	PKPbc	15 06 29.4	-0.6
VOIR		150.16	322	⇑*i*P	PKPbc	15 06 30.2	+0.2
VOIR		150.16	322	⇑PKIKP	PKPbc	15 06 30.2	+0.2
CJR	Cluj-Napoca	150.16	325	⇓*i*P	PKPbc	15 06 30.4	+0.5
CJR	Cluj-Napoca	150.16	325	⇓PKIKP	PKPbc	15 06 30.4	+0.5
ARMT	Armutlu	150.19	310	*e*P	PKPbc	15 06 30.1	0.0
ARMT	Armutlu	150.19	310	*e*P	PKPbc	15 06 30.1	0.0
TVSB	Tavsanli	150.19	308	*i* P	PKPbc	15 06 30.6	+0.3
TVSB	Tavsanli	150.19	308	*e*P	PKPbc	15 06 30.6	+0.3
CTYL	Yalikoy Yolu	150.19	312	*i* P	PKPbc	15 06 29.4	-0.7
CTYL	Yalikoy Yolu	150.19	312	*e*P	PKPbc	15 06 29.4	-0.7
MDNY	Mudanya-Bursa	150.25	310	*i* P	PKPbc	15 06 31.5	+1.3
MDNY	Mudanya-Bursa	150.25	310	*e*P	PKPbc	15 06 31.5	+1.3
KSP	Ksiaz	150.26	338	*e*PKP	PKPbc	15 06 30.6	+0.7
KSP	Ksiaz	150.26	338	*e*PKIKP	PKPbc	15 06 30.6	+0.7
HPK	Haverah Park	150.30	1	*e*P	PKPbc	15 06 29.8	-0.1
KORT	Korkueli	150.33	303	*e*P	PKPbc	15 06 30.7	0.0
KORT	Korkueli	150.33	303	*e*P	PKPbc	15 06 30.7	0.0
KORT	Korkueli	150.33	303	⇓*i*P	PKPbc	15 06 30.4	-0.3
BRDR	BURDUR-Merkez	150.34	304	⇓*i*P	PKPbc	15 06 30.0	-0.6
GEDZ	Gediz	150.38	307	*e*P	PKPbc	15 06 31.2	+0.5
GEDZ	Gediz	150.38	307	*e*P	PKPbc	15 06 31.2	+0.5
LANS	Liptovska Anna	150.40	332	*e*PKIKP	PKPdf	15 06 26.0	+1.6
LANS	Liptovska Anna	150.40	332	*e*PKP	PKPdf	15 06 26.0	+1.6
LANS				*e*		15 06 31.8	
LANS				*e*		15 08 44.1	
OKC	Ostrava-Krasne	150.40	335	⇑*i*P	PKPbc	15 06 30.9	+0.6
OKC				*e*PKP	PKPab	15 08 43.7	+0.5
OKC	Ostrava-Krasne	150.40	335	*e*PKIKP	PKPbc	15 06 30.9	+0.6
ARR	Arges	150.43	322	⇑*i*P	PKPdf	15 06 27.5	+2.8
LTVH	L¨tav¨rtes,	150.57	327	⇓*ex*	PKiKP	15 06 32.9	+1.1
DPC	Dobruska-Polom	150.66	337	*i*PKP	PKPbc	15 06 31.6	+0.7
DPC				*e*PKPAB	PKPab	15 06 41.6	+1.2
DPC				*e*PKP	PKPab	15 08 44.1	-0.2
DPC	Dobruska-Polom	150.66	337	*e*PKIKP	PKPbc	15 06 31.6	+0.7
SIMA	Simav-Kutahya	150.67	307	*e*P	PKPbc	15 06 34.4	+3.0
SIMA	Simav-Kutahya	150.67	307	*e*P	PKPbc	15 06 34.4	+3.0
MORC	Moravsky Berou	150.68	335	*e*PKPbc	PKPbc	15 06 31.1	+0.1
MORC	Moravsky Berou	150.68	335	⇑*i*P	PKPbc	15 06 31.2	+0.2
MORC	Moravsky Berou	150.68	335	⇑PKIKP	PKPbc	15 06 31.2	+0.2
MORC	Moravsky Berou	150.68	335	*e*PKP	PKPdf	15 06 25.5	+0.6
MORC				*e*		15 06 31.4	
MORC				*e*		15 08 43.6	
KRLC	Kraliky	150.72	336	⇑*i*PKP	PKPbc	15 06 31.6	+0.5
KRLC				*e*PKPAB	PKPab	15 06 40.9	+0.2
KRLC				*e*PKP	PKPab	15 08 44.6	0.0
KRLC	Kraliky	150.72	336	*e*PKIKP	PKPbc	15 06 31.6	+0.5
KRLC				*e*		15 06 40.9	
HUMB	Humele	150.73	320	⇑*i*P	PKPbc	15 06 30.1	-1.1
DSB	Dublin	150.73	7	*e*PKPbc	PKPbc	15 06 31.5	+0.6
ELL	Elmali	150.74	302	*e*P	PKPbc	15 06 31.8	+0.1
ELL	Elmali	150.74	302	*e*P	PKPbc	15 06 31.8	+0.1
WME	Myndd Eilian	150.76	4	*e*P	PKPbc	15 06 30.5	-0.4
DURS	Dursunbey	150.84	309	*i* P	PKPbc	15 06 31.2	-0.5
SZH	Strazhica	150.85	317	P	PKPbc	15 06 31.7	+0.2
JMB	Yambol	150.85	315	P	PKPbc	15 06 31.8	+0.2
LBWR	Ladybower, Pea	150.86	1	*e*P	PKPbc	15 06 31.2	-0.1
WLF1	Llynfaes	150.86	4	*e*P	PKPbc	15 06 30.4	-0.7
GOLH	Golhisar	150.86	304	*i* P	PKPbc	15 06 31.5	-0.4
LOT	Lotru	150.87	323	⇓*i*P	PKPbc	15 06 31.3	-0.4
YRC	Rhoscolyn	150.89	4	*e*P	PKPbc	15 06 30.5	-0.7
CLL	Collm	150.90	342	*e*PKPdf	PKPdf	15 06 25.1	0.0
CLL				*e*PKPbc	PKPbc	15 06 31.4	+0.1
CLL				*e*PKPab	PKPab	15 06 42.0	+0.8
CLL	Collm	150.90	342	⇓*e*PKIKP	PKPdf	15 06 26.0	+1.0
CLL				pmax	pmax		
	comp=Z,166nm,0.7s						
CLL				pmax	pmax		
	comp=Z,93nm,0.7s						
WPM1	Penmaenmawr	150.92	4	*e*P	PKPbc

GERES PKPbc **PKPbc** **15 06 35.5 -0.5**
comp=Z,11nm,0.8s,baz=5.7,slow=1.3,SNR=11
GERES PKPab **PKPab** **15 06 50.2 +0.5**
comp=Z,12nm,0.7s,baz=20,slow=4.3,SNR=12
GERES pPKPbc **pPKPbc** **15 08 42.8 -2.4**
comp=Z,2.8nm,0.7s,baz=45,slow=2.1,SNR=4.3
GERES pPKPab **pPKPab** **15 08 49.1 -4.2**
comp=Z,18nm,0.8s,baz=48,slow=2.0,SNR=18
GEA0 GERESS Array S 152.85 338 *e*PKPdf **PKPdf** **15 06 27.5 -0.7**
GEA0 *e*PKPbc **PKPbc** **15 06 35.9 -0.1**
GEA0 *e*PKPab **PKPab** **15 06 49.7 0.0**
GRFO Grafenberg 152.85 343 *e*PKPbc **PKPbc** **15 06 36.0 +0.3**
GRFO *e*PKPab **PKPab** **15 06 50.0 +0.4**
NIS1 Nisyros Isl. 152.87 304 *e*PKPbc **PKPbc** **15 06 37.0 +0.7**
NIS1 Nisyros Isl. 152.87 304 P **PKPbc** **15 06 37.0 +0.7**
VTS Vitosha 152.89 318 *e*PKPdf **PKPdf** **15 06 28.0 -0.5**
VTS *e*PKPbc **PKiKP** **15 06 37.4 +1.0**
VTS *e*PKPab **PKPab** **15 06 51.2 +0.9**
VTS Vitosha 152.89 318 ⇑ *i*P **PKPbc** **15 06 35.7 -0.6**
VTS Vitosha 152.89 318 P **PKPbc** **15 06 36.4 +0.1**
VTS Vitosha 152.89 318 ⇑ PKiKP **PKPbc** **15 06 35.7 -0.6**
HGN Heimansgroeve 152.97 350 *e*PKPdf **PKPdf** **15 06 29.8 +1.6**
HGN *e*PKPbc **PKiKP** **15 06 37.7 +1.7**
HGN *e*PKPab **PKPab** **15 06 49.9 -0.1**
MORH M¯ŧr¯igy, Hung 152.97 329 ⇓ *ex* **PKPdf** **15 06 29.2 +0.9**
BEBN Eben Emael 152.98 351 ⇑ PKPbc **PKPbc** **15 06 37.6 +1.7**
BEBN ⇑ PKPab **PKPab** **15 06 51.0 +0.9**
THAS Thassos island 152.99 313 P **PKPab** **15 06 49.0 -1.5**
MEM Membach 153.11 350 ⇑ PKPbc **PKPbc** **15 06 35.9 -0.3**
MEM ⇓ PKPab **PKPab** **15 06 51.7 +1.0**
MMB Musomiste 153.13 316 P **PKPbc** **15 06 36.2 -0.5**
NVR Nevrokopi 153.17 316 P **PKPbc** **15 06 36.1 -0.7**
NVR Nevrokopi 153.17 316 P **PKPbc** **15 06 36.1 -0.7**
KARP Karpathos 153.22 301 *e*PKPbc **PKPbc** **15 06 36.9 -0.1**
KKB Krupnik 153.38 317 P **PKPbc** **15 06 36.9 -0.3**
BCLA Clavier 153.40 351 ⇑ PKPbc **PKPbc** **15 06 38.4 +1.5**
BCLA ⇓ PKPbc **PKPbc** **15 06 51.5 -0.4**
SNF Seneffe 153.44 352 ⇓ PKPbc **PKPbc** **15 06 37.0 0.0**
SNF ⇓ PKPab **PKPab** **15 06 52.0 0.0**
SRS Serrai 153.46 315 *e*PKPbc **PKPbc** **15 06 35.4 -2.0**
SRS Serrai 153.46 315 P **PKPbc** **15 06 35.4 -2.0**
MOA Molln 153.50 337 *e*PKPdf **PKPdf** **15 06 29.4 +0.4**
comp=Z,5.7nm,0.9s
MOA *i* PKiKP **PKiKP** **15 06 38.2 +0.9**
comp=Z,11nm,0.6s
MOA *e*PKPab **PKPab** **15 06 53.1 +0.7**
comp=Z,32nm,1.2s
ARSA Arzberg 153.51 334 *i* PKPdf **PKPdf** **15 06 29.5 +0.4**
comp=Z,9.5nm,1.4s
ARSA *i* PKiKP **PKiKP** **15 06 38.8 +1.4**
comp=Z,4.0nm,0.6s
ARSA *e*PKPab **PKPab** **15 06 53.1 +0.5**
comp=Z,17nm,1.1s
BEHE Becsehely 153.62 332 *ex* **PKPbc** **15 06 38.2 +0.7**
DIVS Divibare 153.79 324 *e*PKPbc **PKPbc** **15 06 38.2 +0.2**
DIVS *e*PKPab **PKPab** **15 06 54.0 +0.1**
DOU Dourbes 153.81 352 ⇑ PKPbc **PKPbc** **15 06 38.9 +1.1**
DOU ⇑ PKPab **PKPab** **15 06 53.4 -0.2**
PLG Polygyros 153.94 314 P **PKPab** **15 06 54.5 -0.2**
WLF Walferdange 154.00 349 *e*PKPbc **PKPbc** **15 06 38.6 +0.4**
WLF *e*PKPab **PKPab** **15 06 56.0 +1.5**
VAY Valandovo 154.00 317 *i* P **PKPbc** **15 06 39.3 +0.8**
STIP Stip 154.03 318 *i* P **PKPbc** **15 06 38.1 -0.4**
SOKA Soboth 154.18 334 *e*PKPdf **PKPdf** **15 06 29.7 -0.4**
comp=Z,16nm,1.2s
SOKA *e*PKiKP **PKiKP** **15 06 39.5 +0.7**
comp=Z,18nm,0.8s
SOKA *e*PKPab **PKPab** **15 06 56.3 +0.8**
comp=Z,35nm,1.1s
SKO Skopje 154.32 319 *i* P **PKPab** **15 06 57.6 +1.4**
KBA Koelnbreinsper 154.48 337 *e*PKPdf **PKPdf** **15 06 29.7 -1.0**
comp=Z,10nm,1.5s
KBA *i* PKiKP **PKiKP** **15 06 39.5 0.0**
comp=Z,13nm,0.7s
KBA *e*PKPab **PKPab** **15 06 57.9 +1.0**
comp=Z,20nm,0.8s
OBKA Obir 154.51 335 *e*PKPdf **PKPdf** **15 06 29.5 -1.1**
comp=Z,5.1nm,0.6s
OBKA *e*PKiKP **PKiKP** **15 06 40.1 +0.6**
comp=Z,6.3nm,0.6s
OBKA *e*PKPab **PKPab** **15 06 57.7 +0.8**
comp=Z,9.8nm,0.6s
XOR Xorichti 154.62 312 P **PKPbc** **15 06 39.0 -0.9**
XOR Xorichti 154.62 312 P **PKPbc** **15 06 39.0 -0.9**
MYKA Terra Mystica 154.75 336 *e*PKPdf **PKPdf** **15 06 31.7 +0.9**
comp=Z,7.9nm,0.9s
MYKA *e*PKPab **PKPab** **15 06 57.7 -0.3**
comp=Z,29nm,0.8s
KRUS Krusevo 154.79 318 *i* P **PKPdf** **15 06 30.4 -0.7**
BFO Black Forest 154.84 345 *e*PKPdif **PKPbc** **15 06 40.5 +0.5**
BFO *e*PKPab **PKPab** **15 06 58.2 0.0**
WATA Walderalm 154.85 340 *i* PKPdf **PKPdf** **15 06 31.7 +0.6**
comp=Z,3.0nm,0.3s
WATA *i* PKPab **PKPab** **15 06 59.2 +0.7**
comp=Z,20nm,0.5s
WTTA Wattenberg 154.90 339 *e*PKPdf **PKPdf** **15 06 32.8 +1.6**
comp=Z,16nm,1.0s
WTTA *i* PKPab **PKPab** **15 06 59.3 +0.6**
comp=Z,29nm,0.6s
VISS Visnje 154.97 333 *i* PKPdf **PKPdf** **15 06 31.2 +0.1**
VISS *e*PKPbc **PKPbc** **15 06 42.1 +1.7**
VISS *e*PKPab **PKPab** **15 06 59.0 +0.2**
VISS *ep*PKPbc **pPKPbc** **15 08 53.8 +3.9**
VISS Visnje 154.97 333 *i* PKPdf **PKPdf** **15 06 31.2 +0.1**
VISS *e*PKPbc **PKPbc** **15 06 42.1 +1.7**
VISS *e*PKPab **PKPab** **15 06 59.0 +0.2**
VISS *ep*PKPbc **pPKPbc** **15 08 53.8 +3.9**
RETA Reutte 154.97 341 *i* PKPdf **PKPdf** **15 06 32.5 +1.3**
comp=Z,12nm,1.2s
RETA *e*PKPab **PKPab** **15 06 59.6 +0.8**
comp=Z,51nm,0.9s,SNR=9.0
MOTA Moosalm 154.99 340 *e*PKPdf **PKPdf** **15 06 31.5 +0.2**
comp=Z,7.3nm,0.8s
MOTA *e*PKPab **PKPab** **15 06 59.5 +0.5**
comp=Z,17nm,0.7s
BOJS Bojanci 155.03 332 *i* PKPdf **PKPdf** **15 06 32.4 +1.2**
BOJS *i* PKPbc PKPbc 15 06 41.2
BOJS *e*PKPab **PKPab** **15 07 00.5 +1.4**
BOJS *ep*PKPbc pPKPbc 15 08 54.1 +4.2
BOJS Bojanci 155.03 332 *i* PKPdf **PKPdf** **15 06 32.4 +1.2**
BOJS *i* PKPbc PKPbc 15 06 41.2
BOJS *e*PKPab **PKPab** **15 07 00.5 +1.4**
BOJS *ep*PKPbc pPKPbc 15 08 54.1 +4.2
FNA Florina 155.05 317 *e*PKPdf **PKPdf** **15 06 30.9 -0.5**
FNA *e*PKPdif PKPbc 15 06 40.1
FNA *e*PKPab **PKPab** **15 06 59.6 +0.2**
FNA Florina 155.05 317 *e*PKIKP **PKPdf** **15 06 30.9 -0.5**
FNA *e* 15 06 40.1
FNA *e* 15 06 59.6
ABTA Abfaltersbach 155.06 338 *e*PKPdf **PKPdf** **15 06 30.7 -0.6**
comp=Z,10nm,0.9s
ABTA *e*PKPab **PKPab** **15 06 59.8 +0.5**
comp=Z,22nm,0.7s
SQTA Sankt Quirin 155.07 340 *i* PKPdf **PKPdf** **15 06 31.2 -0.2**
comp=Z,8.2nm,0.6s
SQTA *e*PKPab **PKPab** **15 07 00.1 +0.7**
comp=Z,32nm,0.7s
ECH Echery 155.20 347 *e*PKPab **PKPab** **15 06 59.2 -0.5**
JAVS Javornik 155.20 334 *i* PKPdf **PKPdf** **15 06 32.0 +0.5**
JAVS *i* PKPbc PKPbc 15 06 41.8
JAVS *e*PKPab **PKPab** **15 06 59.5 -0.4**
JAVS *ep*PKPbc pPKPbc 15 08 54.4 +3.9
JAVS Javornik 155.20 334 *i* PKPdf **PKPdf** **15 06 32.0 +0.5**
JAVS *i* PKPbc PKPbc 15 06 41.8
JAVS *e*PKPab **PKPab** **15 06 59.5 -0.4**
JAVS *ep*PKPbc pPKPbc 15 08 54.4 +3.9
OHR Ohrid 155.22 318 *i* P **PKPab** **15 07 02.4 +11**
PDG Podgorica 155.30 322 ⇑ *i*P **PKPab** **15 07 00.8 +0.5**
TTG Podgorica 155.30 322 *e*PKPab **PKPab** **15 07 00.5 +0.1**
FETA Feichten 155.40 341 *e*PKPdf **PKPdf** **15 06 31.9 0.0**
comp=Z,18nm,0.9s,SNR=6.6
FETA *e*PKPab **PKPab** **15 07 01.5 +0.7**
comp=Z,33nm,0.9s
DAVA Damuels 155.41 342 *i* PKPdf **PKPdf** **15 06 31.7 -0.2**
comp=Z,12nm,1.1s
DAVA *e*PKPab **PKPab** **15 07 01.6 +0.7**
comp=Z,57nm,1.1s,SNR=8.4
DID Didima 155.44 308 P **PKPab** **15 06 58.6 -2.7**
TIR Tirane 155.64 320 *e*PKPab **PKPab** **15 07 01.8 -0.1**
TIR Tirane 155.64 320 ⇓ *i*P **PKPab** **15 07 03.3 +1.4**
FUORN Ofenpass-Fuorn 155.90 341 *e*PKPdf **PKPdf** **15 06 32.4 -0.3**
FUORN *e*PKPab **PKPab** **15 07 03.6 +0.5**
KLV Kalavryta, Ach 155.97 310 P **PKPab** **15 07 02.5 -1.0**

VLX Vlachokerasia 156.12 309 *e*PKPdif PKPdf 15 06 44.9 +12
VLX Vlachokerasia 156.12 309 P PKPdf 15 06 44.9 +12
TUE Stuetta 156.30 342 *e*PKPdf **PKPdf** **15 06 32.6 -0.4**
TUE *e*PKPab **PKPab** **15 07 05.0 +0.2**
DYR Agios Nikonas 156.42 307 P **PKPab** **15 07 00.9 -4.6**
SENIN Lac Senin/Sane 156.93 345 *e*PKPab **PKPab** **15 07 07.7 +0.2**
MATE Matera 157.91 322 ⇓ *i*P **PKPab** **15 07 11.8 +0.1**
SSB Saint Sauveur 158.52 349 *e*PKPab **PKPab** **15 07 14.1 -0.1**
TIP Timpagrande 158.85 319 *e*PKPab **PKPab** **15 07 16.5 +0.5**
TIP Timpagrande 158.85 319 ⇑ *i*P **PKPab** **15 07 16.2 +0.2**
CEL Celeste 159.95 318 *e*PKPab **PKPab** **15 07 21.5 +0.6**
PGAV Gavieira, Arco 161.29 17 *e*PKPdf **PKPdf** **15 06 40.9 +2.0**
PGAV Gavieira, Arco 161.29 17 *e*PKPab **PKPab** **15 07 27.0 +0.5**
PCAB Cabril 161.60 17 *e*PKPdf **PKPdf** **15 06 40.3 +1.2**
PCAB Cabril 161.60 17 *e*PKPab **PKPab** **15 07 28.0 +0.2**
PBRG Braganca 161.82 14 *e*PKPab **PKPab** **15 07 29.0 +0.2**
POLO Lamas de Olo 161.97 17 *e*PKPab **PKPab** **15 07 30.0 +0.5**
DBIC Dimbokro 162.15 167 PKP **PKPdf** **15 06 39.5 -1.0**
comp=Z,10.0nm,0.9s,baz=62,slow=1.6,SNR=7.6
DBIC PKPab **PKPab** **15 07 30.4 -0.4**
comp=Z,5.8nm,0.7s,baz=143,slow=6.8,SNR=4.6
MVO Moncorvo 162.36 15 *e*PKPdf **PKPdf** **15 06 40.4 +0.4**
MVO Moncorvo 162.36 15 *e*PKPab **PKPab** **15 07 33.0 +1.8**
PVIS Viseu 162.56 18 *e*PKPab **PKPab** **15 07 32.1 0.0**
MTE Manteigas 162.95 17 *e*PKPdf **PKPdf** **15 06 42.0 +1.5**
MTE Manteigas 162.95 17 *e*PKPab **PKPab** **15 07 34.5 +0.7**
PTOM Tomar 163.41 21 *e*PKPab **PKPab** **15 07 34.6 -1.2**
PCBR Castelo Branco 163.49 18 *e*PKPdf **PKPdf** **15 06 42.4 +1.4**
PCBR Castelo Branco 163.49 18 *e*PKPab **PKPab** **15 07 36.7 +0.6**
PMAFR Mafra 163.71 24 *e*PKPab **PKPab** **15 07 38.8 +1.7**
PMRV Marv??o 163.90 18 *e*PKPdf **PKPdf** **15 06 44.7 +3.3**
PMRV Marv??o 163.90 18 *e*PKPab **PKPab** **15 07 40.8 +2.9**
ES19 SONSECA Array 164.37 8 *e*PKPdf **PKPdf** **15 06 41.5 -0.4**
ES19 *e*PKPab **PKPab** **15 07 39.8 -0.3**
ESDC Sonseca Array 164.39 9 PKPab **PKPab** **15 07 39.8 -0.3**
comp=Z,5.8nm,0.7s,baz=352,slow=3.9,SNR=20
ESDC pPKPab **sPKPdf** **15 09 44.8 -1.6**
comp=Z,1.9nm,0.7s,baz=354,slow=4.2,SNR=6.5
ESDC PP **PP** **15 11 28.6 +1.6**
comp=Z,0.5nm,0.6s,baz=352,slow=6.1,SNR=3.3
ESLA Sonseca Array 164.39 9 *e*PKPab **PKPab** **15 07 39.8 -0.3**
PNCL Nicolau / Gran 164.73 23 *e*PKPdf **PKPdf** **15 06 43.2 +1.1**
PNCL Nicolau / Gran 164.73 23 *e*PKPab **PKPab** **15 07 41.8 +0.2**
KEST Kesra 165.47 324 PKPab **PKPab** **15 07 45.1 -0.1**
comp=Z,14nm,1.1s,baz=123,slow=1.6,SNR=4.8
PVAQ Vaqueiros 165.65 22 *e*PKPdf **PKPdf** **15 06 45.4 +2.5**
PVAQ Vaqueiros 165.65 22 *e*PKPab **PKPab** **15 07 48.3 +2.6**
PBDV Barranco-do-Ve 165.72 23 *e*PKPdf **PKPdf** **15 06 45.6 +2.6**
TOA0 Torodi Ar. Sit 168.70 193 *e*PKPdf **PKPdf** **15 06 44.3 -1.4**
TOA0 *e*PKPdf **PKPdf** **15 06 44.5 -1.2**
TOA0 *e*PKPab **PKPab** **15 07 58.6 -0.9**
TOA0 *e*PKPab **PKPab** **15 07 59.0 -0.6**
TOA0 Torodi Ar. Sit 168.70 193 PKPdf **PKPdf** **15 06 44.9 -0.8**
SNR=5.3
TORD Torodi Ar. Bea 168.70 193 PKP **PKPdf** **15 06 44.3 -1.4**
comp=Z,6.6nm,0.9s,baz=138,slow=1.8,SNR=24
TORD PKPab **PKPab** **15 07 58.8 -0.8**
comp=Z,20nm,0.8s,baz=157,slow=3.3,SNR=30
TORD pPKPab **pPKPab** **15 10 05.2 +3.0**
comp=Z,4.4nm,1.0s,baz=191,slow=2.3,SNR=5.1
TORD PP **PP** **15 11 51.3 +2.6**
comp=Z,3.5nm,1.0s,baz=145,slow=8.1,SNR=5.6
MDT Midelt 170.87 20 PKPab **PKPab** **15 08 09.2 +0.2**
baz=21,slow=3.9
TAM Tamanrasset 173.87 258 *e*PKPdf **PKPdf** **15 06 48.8 +0.6**
TAM *e*PKPab **PKPab** **15 08 23.1 0.0**
TAM Tamanrasset 173.87 258 *e*PKIKP **PKPdf** **15 06 48.8 +0.6**
TAM *e* 15 08 23.1

IDC ***12*** *14:58:08.7±0.4, 17.66S×173.06W, h0km, mb4.8/29, mb1 4.9/30, mb1mx4.8/56, mbtmp4.8/30, ML4.1/1, MS4.7/33, Ms1 4.7/33, ms1mx4.6/46, Error ellipse: s-maj=17.6km s-min=12.4km az=126.0*
NEIC ***12*** *14:58:09.7±0.1, 17.63S×173.09W, h10km, mb5.1/76, Error ellipse: s-maj=8.3km s-min=3.8km az=122.0*
ISCJB ***12*** *14:58:11.1±0.1, 17.72S×0.04×173.08W±0.04, h28km, mb5.0/127, MS4.8/36, Error ellipse: s-maj=7.0km s-min=3.7km az=42.8*
BJI ***12*** *14:58:14.5, 17.57S×173.34W, h35km, mb5.2/35, mB5.6/25, Ms5.2/21, Ms7 4.9/14*
GCMT ***12*** *14:58:14.6±0.2, 17.61S±0.02×172.40W±0.01, h21km, MW5.2/108, Moment Tensor Solution. s58,c75; s108,c162; Duration: 1ſ0 Moment tensor: Scale 10¹⁷ Nm; Mrr0.86±.03; Mθθ-0.30±.02; Mϕϕ-0.55±.02; Mrθ0.06±.04; Mθϕ-0.33±.01; Mϕr0.35±.03; Best double couple: M0.89000×10¹⁷ NP1:ϕ₁25.00000°, δ56.00000°, λ81.00000°. NP2:ϕ₂222.00000°, δ35.00000°, λ104.00000°. Principal axes: T 0.9400, Plg77.0000°, Azm266.0000°; N -0.0990, Plg8.0000°, Azm30.0000°; P -0.8410, Plg11.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 14:58:13.1±0.3, 17.56S±0.06×173.15W±0.07, h28km, n340, σ1ſ34/338, mb5.1/127, MS4.8/38, 31C-10D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.86**	**20**	Pn	Pn			14 59 03.8	-6.9
	12nm,0.3s,baz=54,slow=1.7,SNR=21								
AFI				Sn	**Sn**			**14 59 47.4**	**-7.8**
	82nm,0.3s,baz=170,slow=19,SNR=7.6								
AFI				LR	LR			15 00 20.1	
	comp=Z,5μm,18.2s,baz=174,slow=34								
RAR	**Rarotonga**	**13.14**	**108**	Pn	Pn			15 01 04.9	-13
	5.0nm,0.3s,baz=268,slow=7.8,SNR=22								
RAR				LR	LR			15 05 25.8	
	comp=Z,3μm,19.3s,baz=282,slow=34								
RAR	**Rarotonga**	**13.14**	**108**	*e*P	Pn			15 01 04.6	-13
DZM	**Mont Dzumac**	**19.71**	**254**	P	**P**			**15 02 40.9**	**+0.4**
	0.5nm,0.3s,baz=101,slow=19,SNR=11								
DZM				LR	LR			15 09 20.4	
	comp=Z,2μm,18.5s,baz=86,slow=34								
DZM	**Mont Dzumac**	**19.71**	**254**	*e*P	**P**			**15 02 41.2**	**+0.7**
	156nm,1.3s								
DZM				*e*LR	LR			15 07 28.2	
	1μm,21.9s								
DZM	**Mont Dzumac**	**19.71**	**254**	*e*P	**P**			**15 02 39.3**	**-1.2**
	27nm,0.8s								
OUZ	**Omahuta**	**21.18**	**211**	*e*P	**P**			**15 02 55.7**	**-0.6**
	115nm,1.1s								
URZ	**Urewera**	**22.32**	**201**	P	**P**			**15 03 06.8**	**-1.6**
	209nm,0.9s,baz=9.0,slow=7.3,SNR=38								
URZ				S	**S**			**15 07 11.5**	**-0.8**
	34nm,0.9s,baz=64,slow=23,SNR=6.4								
URZ	**Urewera**	**22.32**	**201**	*e*P	**P**			**15 03 06.8**	**-1.6**
	214nm,0.9s								
URZ				S	**S**			**15 07 11.5**	**-0.8**
PPT2	**Papeete2**	**22.48**	**94**	*e*LQ	LQ			15 07 16.5	
	3μm,25.5s								
PPT2				*e*LR	LR			15 08 21.5	
	1μm,21.0s,baz=254								
PPT	**Papeete**	**22.48**	**94**	P	**P**			**15 03 14.3**	**+3.9**
	58nm,1.0s,baz=318,slow=9.5,SNR=3.8								
PPT				LR	LR			15 10 11.7	
	comp=Z,2μm,18.1s,baz=260,slow=32								
TBI	**Tubuai**	**22.92**	**109**	*e*LQ	LQ			15 07 33.3	
	2μm,25.0s								
TBI				*e*LR	LR			15 08 33.0	
	2μm,28.2s,baz=288								
BKZ	**Black Stump Fm**	**23.34**	**201**	*e*P	**P**			**15 03 17.4**	**-1.7**
	72nm,0.9s								
HIZ	**Hauiti**	**23.36**	**204**	*e*P	**P**			**15 03 19.2**	**-0.1**
	355nm,1.0s								
BFZ	**Birch Farm**	**24.79**	**199**	*e*P	**P**			**15 03 31.9**	**-0.7**
	40nm,0.8s								
THZ	**Tophouse**	**26.92**	**203**	*e*P	**P**			**15 03 50.5**	**-1.4**
	24nm,0.7s								
KHZ	**Kahutara**	**27.25**	**202**	*e*P	**P**			**15 03 57.4**	**+2.6**
	33nm,0.8s								
HNR	**Honiara**	**27.35**	**284**	LR	LR			15 13 10.4	
	comp=Z,2μm,18.7s,baz=112,slow=33								
LTZ	**Lake Taylor**	**28.04**	**203**	*e*P	**P**			**15 03 59.4**	**-2.5**
	51nm,0.7s								
OXZ	**Oxford**	**28.59**	**203**	*e*P	**P**			**15 04 03.9**	**-2.9**
	134nm,0.9s								
CRLZ	**Canterbury Las**	**28.59**	**202**	*e*P	**P**			**15 04 04.7**	**-2.1**
	79nm,1.3s								
MQZ	**McQueen's Vall**	**28.70**	**202**	*e*P	**P**			**15 04 05.6**	**-2.1**
	85nm,1.5s								
LHI	**Lord Howe Isla**	**28.74**	**236**	*e*P	**P**			**15 04 09.6**	**+1.3**

	73nm,1.2s						
RPZ	**Rata Peaks**	**29.30**	**204**	P	**P**	**15 04 14.1**	**+1.1**
	57nm,0.7s,baz=333,slow=2.0,SNR=34						
RPZ	**Rata Peaks**	**29.30**	**204**	*e*P	**P**	**15 04 11.9**	**-1.1**
	170nm,1.4s						
FOZ	**Fox Glacier**	**29.64**	**206**	*e*P	**P**	**15 04 16.0**	**0.0**
	55nm,0.8s						
LBZ	**Lake Benmore**	**30.20**	**204**	*e*P	**P**	**15 04 20.0**	**-1.0**
	37nm,1.4s						
ODZ	**Otahua Downs**	**30.58**	**203**	*e*P	**P**	**15 04 24.4**	**0.0**
	43nm,1.2s						
WKZ	**Wanaka**	**31.03**	**205**	*e*P	**P**	**15 04 28.1**	**-0.3**
	93nm,1.3s						
MLZ	**Mavora Lakes**	**31.84**	**205**	*e*P	**P**	**15 04 33.3**	**-2.2**
	18nm,0.9s						
DCZ	**Deep Cove**	**32.32**	**206**	*e*P	**P**	**15 04 37.9**	**-1.7**
	16nm,0.9s						
WHZ	**Wether Hill Ro**	**32.33**	**205**	*e*P	**P**	**15 04 39.4**	**-0.4**
	97nm,1.2s						
TAOE	**Nuku Hiva Isla**	**33.23**	**79**	*e*LR	LR	15 13 18.4	
	794nm,31.2s,baz=275						
RKT	**Rikitea**	**36.15**	**105**	*e*LR	LR	15 14 20.9	
	843nm,31.2s,baz=275						
CTAO	**Charters Tower**	**38.44**	**260**	*e*P	**P**	**15 05 31.7**	**-1.0**
	18nm,0.8s						
STKA	**Stephens Creek**	**43.20**	**242**	P	**P**	**15 06 10.8**	**-1.1**
	14nm,1.0s,baz=92,slow=11,SNR=11						
STKA				LR	LR	15 23 32.2	
	comp=Z,2μm,18.1s,baz=71,slow=35						
STKA	**Stephens Creek**	**43.20**	**242**	*e*P	**P**	**15 06 09.7**	**-2.1**
	8.7nm,1.3s						
BBOO	**Buckleboo**	**47.97**	**241**	*e*P	**P**	**15 06 46.9**	**-2.7**
	33nm,0.8s						
WB2	**Warramunga Arr**	**49.60**	**259**	*e*P	**P**	**15 07 00.3**	**-2.0**
	24nm,0.8s						
WRAB	**Tennant Creek**	**49.61**	**259**	*e*P	**P**	**15 07 00.0**	**-2.3**
	20nm,0.7s						
WRA	**Warramunga Arr**	**49.62**	**259**	P	**P**	**15 07 01.1**	**-1.3**
	13nm,0.6s,baz=96,slow=7.8,SNR=115						
WRA				LR	LR	15 28 43.9	
	comp=Z,2μm,18.4s,baz=90,slow=37						
AS01	**Alice Springs**	**49.66**	**254**	*e*P	**P**	**15 07 00.9**	**-1.8**
AS31	**Alice Springs**	**49.70**	**254**	*e*P	**P**	**15 07 01.5**	**-1.5**
	24nm,0.7s						
ASAR	**Alice Springs**	**49.70**	**254**	P	**P**	**15 07 01.8**	**-1.3**
	85nm,0.7s,baz=89,slow=8.4,SNR=342						
ASAR				S	**S**	**15 14 07.8**	**-2.7**
	2.2nm,0.9s,baz=93,slow=16,SNR=8.5						
ASAR				LR	LR	15 27 43.9	
	comp=Z,531nm,19.5s,baz=102,slow=36						
SIJI	**Sorong**	**57.07**	**281**	LR	LR	15 32 39.9	
	comp=Z,486nm,18.1s,baz=93,slow=36						
FITZ	**Fitzroy Crossi**	**58.02**	**259**	LR	LR	15 33 12.6	
	comp=Z,767nm,18.8s,baz=100,slow=36						
SOEI	**Soe**	**61.09**	**268**	P	**P**	**15 08 26.4**	**+1.2**
SBA	**Scott Base**	**61.13**	**185**	*e*P	**P**	**15 08 24.6**	**+0.2**
	26nm,1.1s						
VNDA	**Vanda**	**61.27**	**186**	P	**P**	**15 08 24.9**	**-0.3**
	6.2nm,0.9s,baz=14,slow=6.8,SNR=19						
VNDA				LR	LR	15 31 27.6	
	comp=Z,278nm,19.5s,baz=20,slow=33						
VNDA	**Vanda**	**61.27**	**186**	*e*P	**P**	**15 08 24.5**	**-0.8**
	17nm,1.1s						
SANI	**Sanana**	**61.65**	**277**	P	**P**	**15 08 27.3**	**-1.6**
MBWA	**Marble Bar**	**63.01**	**255**	*e*P	**P**	**15 08 37.3**	**-0.6**
	23nm,1.0s						
NWAO	**Narrogin (SRO)**	**63.79**	**241**	P	**P**	**15 08 42.4**	**-0.5**
	25nm,1.2s,baz=344,slow=11,SNR=3.0						
NWAO				LR	LR	15 36 00.9	
	comp=Z,747nm,18.4s,baz=318,slow=36						
EDFI	**Ende, Flores**	**63.80**	**269**	P	**P**	**15 08 43.5**	**+0.1**
DAV	**Davao City (W)**	**65.26**	**287**	LR	LR	15 35 08.7	
	comp=Z,199nm,18.4s,baz=111,slow=34						
APSI	**Ampana**	**66.12**	**277**	P	**P**	**15 09 00.3**	**+2.0**
	44nm,1.5s,640nm						
MRSI	**Marisa**	**66.29**	**278**	P	**P**	**15 09 00.4**	**+1.0**
BNSI	**Bone**	**66.52**	**273**	P	**P**	**15 09 02.2**	**+1.3**
	25nm,1.5s,713nm						
PLAI	**Plampang**	**67.51**	**268**	P	**P**	**15 09 07.8**	**+0.6**
	66nm,1.1s						
MPSI	**Mapaga**	**68.18**	**278**	P	**P**	**15 09 12.4**	**+1.0**
	14nm,1.0s,308nm						
TWSI	**Taliwang, Sumb**	**68.39**	**267**	P	**P**	**15 09 13.0**	**+0.3**
	61nm,1.2s,869nm						
CASY	**Casey**	**68.56**	**205**	*e*P	**P**	**15 09 12.2**	**-0.7**
	41nm,1.2s						
MJAR	**Matsushiro Arr**	**70.74**	**320**	P	**P**	**15 09 28.3**	**+1.6**
	12nm,1.0s,baz=164,slow=6.3,SNR=13						
MJAR				LR	LR	15 35 39.1	
	comp=Z,325nm,21.3s,baz=110,slow=32						
MAT	**Matsushiro**	**70.74**	**320**	P	**P**	**15 09 28.0**	**+1.2**
JAGJ	**Jagaj, Banyuwa**	**71.06**	**267**	P	**P**	**15 09 28.5**	**-0.7**
GMJI	**Gumukmas**	**71.79**	**267**	P	**P**	**15 09 33.8**	**+0.2**
QSPA	**South Pole Qui**	**72.50**	**180**	*e*P	**P**	**15 09 36.5**	**-0.6**
	51nm,1.5s						
PWJI	**Pagerwojo**	**73.42**	**267**	P	**P**	**15 09 43.3**	**0.0**
	78nm,1.2s						
JNU	**Nakatsue**	**73.44**	**313**	P	**P**	**15 09 44.0**	**+1.0**
	19nm,0.9s,baz=90,slow=5.2,SNR=6.4						
MONP2	**Monument Peak**	**73.84**	**47**	P	**P**	**15 09 45.7**	**0.0**
	baz=236						
EDW2	**Edwards Air Fo**	**73.90**	**45**	P	**P**	**15 09 45.5**	**-0.2**
	baz=234						
NGJI	**Ngawi**	**73.92**	**267**	P	**P**	15 10 04.1	+18
PCJI	**Pacitan**	**73.97**	**266**	P	**P**	**15 09 47.6**	**+1.1**
	243nm,1.1s						
LPIG	**La Paz**	**73.97**	**58**	LR	LR	15 36 10.0	
	comp=Z,448nm,18.3s,baz=223,slow=31						
ISA	**Isabella, Lake**	**74.03**	**44**	P	**P**	**15 09 48.2**	**+1.6**
	baz=234						
FRD	**Ford Ranch, An**	**74.06**	**46**	P	**P**	**15 09 46.4**	**-0.3**
	baz=236						
O02D	**Mt. Diablo Mer**	**74.12**	**38**	P	**P**	**15 09 47.1**	**+0.

NV11 Mina Array Sit 75.87 42 *e*P P 15 09 56.4 -0.8
1.0nm,1.3s
NACB Ninganchiao 75.96 301 *e*P P 15 09 56.3 -1.5
55nm,1.0s
STKI Sintang 76.08 275 P P 15 10 00.8 +2.1
33nm,0.6s
I02D Swisshome 76.11 34 P P 15 09 58.7 +0.6
baz=228
SBUM Sibu 76.12 277 P P 15 10 01.0 +2.0
TPNV Topopah Spring 76.24 44 *e*P P 15 09 58.4 -1.0
4.4nm,1.0s
TPNV Topopah Spring 76.24 44 P P 15 10 01.1 +1.7
baz=235
KVN Kaiserville 76.27 41 *e*P P 15 09 58.9 -0.7
5.0nm,1.0s
KPJI Karang Pucung 76.34 267 P P 15 10 00.9 +0.7
56nm,1.5s
TATO Taipei 76.40 302 *e*P P 15 10 01.2 +0.9
J05D Fort Rock, OR 77.01 36 P P 15 10 03.6 +0.1
baz=230
CISI Cisompet, Garu 77.34 266 P P 15 10 06.1 +0.1
68nm,2.1s,2µm
R11A Troy Canyon, C 77.47 43 P P 15 10 06.0 -0.3
baz=235
TUC Tucson 77.58 50 *e*P P 15 10 06.7 -0.2
8.0nm,1.1s
TUC Tucson 77.58 50 P P 15 10 06.7 -0.2
baz=240
KSM Kuching 77.62 276 P P 15 10 09.0 +1.5
BMN Battle Mountai 77.63 40 *e*P P 15 10 06.8 -0.3
21nm,1.5s
LEM Lembang 77.74 267 P P 15 10 09.1 +0.8
75nm,0.8s,baz=120,slow=6.5,SNR=12
LEM Lembang 77.74 267 P P 15 10 09.5 +1.2
2µm,1.4s,20µm
KSRS Korea Array 77.86 316 P P 15 10 09.7 +1.5
17nm,1.0s,baz=132,slow=6.3,SNR=22
KSRS LR LR 15 40 03.8
comp=Z,138nm,20.0s,baz=123,slow=32
KSAR Wonju Array Be 77.88 316 P P 15 10 09.7 +1.4
WVOR Wild Horse Val 77.97 38 *e*P P 15 10 08.4 -0.5
15nm,1.1s
G05D Wamic, OR 78.21 35 P P 15 10 13.1 +3.0
baz=230
SKJI Sukabumi 78.70 266 P P 15 10 18.1 +4.7
PSUT Pine Spring 78.70 43 *e*P P 15 10 11.9 -1.2
2.2nm,0.8s
QZH Quanzhou 78.75 301 ⇑*i*P P 15 10 08.8 -4.6
QZH pmax pmax
comp=Z,350nm,4.2s
WUAZ Wupatki 78.78 47 P P 15 10 14.2 +0.6
baz=239
USRK Ussuriysk Ar. 79.24 323 P P 15 10 16.6 +1.0
comp=Z,4.8nm,1.0s,baz=123,slow=7.0,SNR=5.7
USRK LR LR 15 39 51.2
comp=Z,404nm,20.7s,baz=117,slow=32
MTPU Mount Pierson 79.54 45 *e*P P 15 10 18.4 +0.5
comp=Z,5.9nm,1.1s
CGJI Cibinong 79.63 266 P P 15 10 18.5 0.0
BBB Bella Bella 79.70 26 LR LR 15 39 33.3
comp=Z,470nm,18.8s,baz=208,slow=31
MSU Marysvale 79.79 44 *e*P P 15 10 19.0 -0.2
121A Cookes Peak, D 79.90 51 P P 15 10 19.6 -0.2
baz=242
E08A Dider Farm, El 80.22 35 *e*P P 15 10 19.4 -1.6
comp=Z,8.0nm,0.4s
DUG Dugway, Tooele 80.28 42 P P 15 10 19.9 -1.7
baz=237
PPBI Pangkal Pinang 80.50 271 P P 15 10 24.9 +1.7
BGU Big Grassy Mou 80.54 42 *e*P P 15 10 22.1 -0.9
comp=Z,2.2nm,1.1s
SUA Susitna One 80.77 11 *e*P P 15 10 22.7 -1.0
comp=Z,19nm,0.8s
GLI Glacier Island 80.93 13 *e*P P 15 10 23.4 -1.0
comp=Z,24nm,1.0s
KASI Kota Agung 81.08 267 P P 15 10 26.4 +0.1
SKT Skwentna 81.11 10 *e*P P 15 10 24.1 -1.3
comp=Z,10nm,1.0s
HLID Hailey 81.14 39 *e*P P 15 10 25.3 -0.9
comp=Z,6.0nm,0.9s
HLID Hailey 81.14 39 P P 15 10 25.3 -0.9
baz=235
MNTX Cornudas Mount 81.32 53 *e*P P 15 10 25.9 -1.3
comp=Z,5.0nm,0.9s
MNTX Cornudas Mount 81.32 53 P P 15 10 25.7 -1.5
baz=243
GHO Glory Hole Cre 81.38 11 *e*P P 15 10 26.6 -0.3
comp=Z,19nm,0.9s
DIV Divide 81.43 13 *e*P P 15 10 26.2 -1.0
comp=Z,20nm,1.0s
BMRM Bremner River 81.55 14 *e*P P 15 10 27.2 -0.6
comp=Z,25nm,1.2s
TXAR Lajitas Array 81.62 56 P P 15 10 29.1 +0.1
comp=Z,1.0nm,0.8s,baz=198,slow=7.5,SNR=6.7
TXAR LR LR 15 41 10.7
comp=Z,268nm,18.0s,baz=0.0,slow=32
NJ2 Nanjing 81.65 307 *e*P P 15 10 29.2 +0.3
NJ2 pmax pmax
comp=Z,18nm,0.5s
SCM Sheep Creek Mo 81.75 12 *e*P P 15 10 28.6 -0.2
comp=Z,20nm,0.9s
HWUT Hardware Ranch 81.83 42 *e*P P 15 10 27.7 -2.2
comp=Z,6.5nm,1.4s
ANMO Albuquerque 82.01 50 P P 15 10 31.6 +0.6
comp=Z,3.8nm,1.0s,baz=200,slow=7.2,SNR=5.5
ANMO Albuquerque 82.01 50 P P 15 10 31.0 0.0
baz=242
BALM Baldy 82.13 15 *e*P P 15 10 30.4 -0.6
comp=Z,15nm,1.0s
NEW Newport 82.35 34 LR LR 15 43 55.0
comp=Z,1µm,18.1s,baz=220,slow=33
NEW Newport 82.35 34 P P 15 10 32.9 +0.6
baz=233
KLR Kul'dur 82.45 327 P P 15 10 32.8 +0.1
comp=Z,4.8nm,1.0s,baz=146,slow=8.2,SNR=5.0
TRF Thorofare Moun 82.70 10 *e*P P 15 10 32.9 -1.0
comp=Z,22nm,0.9s
DL2 Dalian 82.85 314 P P 15 10 39.9 +4.9
DL2 pmax pmax
comp=Z,58nm,1.4s
DL2 LR LR
comp=Z,420nm,13.5s
DL2 LR LR
comp=Z,610nm,13.6s
CN2 Changchun 82.89 320 *e*P P 15 10 36.7 +1.6
CN2 pmax pmax
comp=Z,20nm,1.0s
RND Reindeer 82.90 11 *e*P P 15 10 35.2 +0.4
comp=Z,21nm,1.0s
S22A 4UR Ranch, Cre 83.06 47 P P 15 10 36.0 -0.5
baz=242
MCK McKinley 83.19 11 *e*P P 15 10 35.7 -0.5
comp=Z,21nm,0.8s
HYT Haines Junctio 83.20 17 *e*P P 15 10 36.6 +0.1
comp=Z,19nm,1.1s
O20A White River Ci 83.25 44 P P 15 10 38.3 +1.0
baz=240
MSO Missoula 83.26 36 P P 15 10 37.7 +0.5
baz=235
LRM Limekiln Ridge 83.56 38 *e*P P 15 10 40.6 +1.7
DLBC Dease Lake 83.61 21 P P 15 10 38.0 -0.6
comp=Z,3.2nm,0.9s,baz=210,slow=7.3,SNR=5.2
DLBC LR LR 15 45 38.9
comp=Z,441nm,18.0s,baz=181,slow=34
BW06 Boulder Array 83.71 42 *e*P P 15 10 39.3 -0.4
comp=Z,6.6nm,1.0s
BW06 Boulder Array 83.71 42 P P 15 10 39.7 -0.1
baz=239
PDAR Pinedale Array 83.71 42 P P 15 10 39.5 -0.2
comp=Z,2.1nm,0.7s,baz=203,slow=3.0,SNR=12
PDAR LR LR 15 43 52.4
comp=Z,451nm,18.4s,baz=256,slow=33
PDAR Pinedale Array 83.71 42 *e*P P 15 10 38.9 -0.8
MYKOM Kota Tinggi 83.86 274 P P 15 10 43.0 +2.2
H17A Grant Village 83.92 40 P P 15 10 41.9 +1.1
baz=238
BOZ Bozeman (W) 83.92 38 P P 15 10 41.5 +0.9
baz=237
QIZ Qiongzhong 83.93 292 P P 15 10 41.7 +0.7
QIZ pP pP 15 10 50.8 +0.8
QIZ S S 15 21 03.0 -0.5
QIZ sS sS 15 21 19.4 +1.0
QIZ pmax pmax
comp=Z,180nm,7.3s
QIZ LR LR
comp=Z,290nm,13.5s
SDCO Great Sand Dun 83.99 47 P P 15 10 41.3 0.0
baz=242
WRH Wood River Hil 84.02 11 *e*P P 15 10 39.8 -0.6
comp=Z,60nm,1.4s
DOT Dot Lake 84.05 13 *e*P P 15 10 38.0 -2.7
comp=Z,13nm,0.9s
MLY Manley 84.10 9 *e*P P 15 10 39.7 -1.2
comp=Z,9.7nm,1.1s
HDA Harding Lake 84.17 11 P P 15 10 41.1 -0.2
baz=205
CCB Clear Creek Bu 84.23 11 *e*P P 15 10 40.4 -1.1
comp=Z,16nm,1.0s
MSTX Muleshoe 84.29 52 P P 15 10 43.1 +0.3
baz=244
SCRK Sand Creek 84.36 12 *e*P P 15 10 42.1 -0.2
comp=Z,9.1nm,1.0s
TCOL CIGO, UAF Yank 84.43 11 P P 15 10 42.7 +0.2
baz=204
COLA College 84.43 11 *e*P P 15 10 41.8 -0.7
comp=Z,22nm,0.8s
MDM Murphy Dome 84.44 10 *e*P P 15 10 41.9 -0.7
comp=Z,18nm,1.1s
WHN Wuhan 84.50 304 P P 15 10 45.8 +2.1
WHN S S 15 21 11.5 +2.8
WHN LR LR
comp=Z,790nm,19.4s
ILAR Eielson Array 84.51 11 P P 15 10 42.0 -0.9
comp=Z,1.4nm,1.0s,baz=224,slow=6.2,SNR=8.0
ILAR LR LR 15 43 54.3
comp=Z,361nm,19.8s,baz=210,slow=32
ILB Eielson Array 84.51 11 *e*P P 15 10 42.0 -0.9
IL1 Eielson Array 84.51 11 *e*P P 15 10 42.1 -0.9
IM3 Indian Mountai 84.57 8 *e*P P 15 10 43.2 0.0
SEY Seymchan 84.65 345 P P 15 10 43.0 -0.7
comp=Z,19nm,1.0s,baz=153,slow=6.3,SNR=14
POKR Poker Plat Res 84.72 11 P P 15 10 44.4 +0.4
baz=204
RLMT Red Lodge 85.09 40 P P 15 10 46.1 -0.5
baz=239
GCMT Greyclif 85.19 39 *e*P P 15 10 46.4 -0.7
DAWY Dawson 85.44 14 *e*P P 15 10 47.8 0.0
comp=Z,22nm,1.1s
AMTX Amarillo 85.50 51 *e*P P 15 10 48.5 -0.2
comp=Z,16nm,1.1s
AMTX Amarillo 85.50 51 P P 15 10 48.6 -0.2
baz=245
EGAK Eagle 85.66 13 *e*P P 15 10 48.4 -0.2
comp=Z,9.2nm,0.9s
MAW Mawson 85.83 199 P P 15 10 48.2 -1.5
comp=Z,2.6nm,0.8s,baz=45,slow=11,SNR=3.1
MAW LR LR 15 48 41.9
comp=Z,1µm,18.4s,baz=88,slow=35
ABTX Abilene, Hawle 86.12 54 P P 15 10 52.1 +0.3
baz=246
BILL Bilibino 86.67 352 *e*P P 15 10 54.2 +0.5
comp=Z,23nm,0.9s
BJI Beijing 87.12 314 ⇑*i*P P 15 10 58.9 +2.5
BJI S S 15 21 31.5 -2.6
BJI pmax pmax
comp=Z,25nm,1.6s
BJI pmax pmax
comp=Z,430nm,4.3s
BJI LR LR
comp=Z,220nm,12.7s
BJI LR LR
comp=Z,330nm,17.9s
PLCA Paso Flores 87.89 132 P P 15 10 59.7 -0.8
comp=Z,4.6nm,1.0s,baz=245,slow=3.8,SNR=4.2
PLCA LR LR 15 43 30.1
comp=Z,545nm,18.0s,baz=304,slow=31
KULM Kulim 87.96 276 P P 15 11 03.0 +1.9
EPYK Eagle Plains 88.00 14 P P 15 11 00.4 +0.3
baz=214
PSI Prapat 88.86 273 P P 15 11 06.0 +0.5
comp=Z,14nm,0.8s,baz=180,slow=3.3,SNR=11
GYA Guiyang 89.26 298 *e*P P 15 11 09.6 +2.5
GYA pP sP 15 11 18.8 -0.6
GYA sP pP 15 11 23.5 +7.3
GYA PP PP 15 14 40.0 +1.8
GYA SKS SKSac 15 21 32.6 -3.1
GYA S S 15 21 52.4 -2.9
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,6.8s
XAN Xi'an 90.08 306 P P 15 11 12.9 +2.2
XAN pP sP 15 11 22.2 -0.8
XAN sP pP 15 11 26.8 +7.0
XAN pmax pmax
comp=Z,15nm,1.7s
XAN pmax pmax
comp=Z,310nm,7.7s
INK Inuvik 90.30 14 P P 15 11 11.2 +0.4
comp=Z,4.3nm,0.8s,baz=178,slow=5.0,SNR=8.4
SYO Syowa Base 90.54 191 ⇓*i*pP P 15 11 13.0 +0.9
SYO Syowa Base 90.54 191 ⇓*i*P P 15 11 28.0 +16
HHC Hu-ho-hao-te 90.66 313 *e*P P 15 11 14.7 +1.4
HHC PP PP 15 14 52.3 +3.3
HHC S S 15 22 05.5 -2.1
HHC pmax pmax
comp=Z,18nm,0.6s
HHC LR LR
comp=Z,120nm,6.1s
HHC LR LR
comp=Z,260nm,8.6s
VNA3 Neumayer Olymp 90.70 175 P P 15 11 11.5 -1.4
SNAA Sanae 90.75 177 P P 15 11 12.0 -1.2
SNAA Sanae 90.75 177 *e*P P 15 11 11.6 -1.7
comp=Z,16nm,1.3s
VNA2 Neumayer--Watz 91.19 175 P P 15 11 15.0 -0.2
baz=203,slow=3.2
VNA1 Neumayer--Stat 91.39 175 P P 15 11 12.8 -3.2
BTO Baotou 91.65 312 *e*P P 15 11 21.1 +3.2
YKA Yellowknife Ar 91.97 23 P P 15 11 19.5 +0.8
comp=Z,2.0nm,0.8s,baz=224,slow=3.5,SNR=4.1
KMI Kunming 92.17 296 P P 15 11 20.8 0.0
KMI pP sP 15 11 32.0 -1.1
KMI sP pP 15 11 35.9 +6.0
KMI pmax pmax
comp=Z,21nm,0.8s
KMI LR LR
comp=Z,160nm,14.8s
KMI LR LR
comp=Z,250nm,19.4s
KMI LR LR
comp=Z,220nm,19.4s
NNA Nana 92.33 103 LR LR 15 44 42.9
comp=Z,349nm,18.6s,baz=274,slow=30
CD2 Chengdu 93.13 301 P P 15 11 24.8 -0.1
CD2 S S 15 22 29.0 -1.2
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,370nm,14.4s
CD2 LR LR
comp=Z,550nm,13.9s
CD2 LR LR
comp=Z,510nm,17.4s
CMAR Chiang Mai Arr 93.51 288 P P 15 11 29.4 +2.5
comp=Z,7.1nm,1.1s,baz=103,slow=2.7,SNR=29
CMAR LR LR 15 52 40.8
comp=Z,166nm,19.1s,baz=109,slow=35
CHTO Chiang Mai 93.62 288 *e*P P 15 11 26.0 -1.4
comp=Z,16nm,1.4s
LZH Lanzhou 94.69 306 *e*P P 15 11 33.5 +1.4
LZH pP sP 15 11 45.1 +0.7
LZH sP pP 15 11 49.4 +8.2
LZH SKS SKSac 15 22 04.8 -1.2
LZH *e*S S 15 22 40.6 -3.3
LZH sS sS 15 22 57.5 -1.5
LZH SS SS 15 29 09.0 +0.7
LZH pmax pmax
comp=Z,63nm,1.5s
LZH pmax pmax
comp=Z,300nm,6.8s
LZH LR LR
comp=Z,490nm,18.4s
LZH LR LR
comp=Z,610nm,19.0s
LZH LR LR
comp=Z,2µm,20.0s
ULM Lac du Bonnet 95.45 39 LR LR 15 52 20.6
comp=Z,932nm,18.5s,baz=252,slow=34
SONM Songino Array 96.60 318 P P 15 11 41.7 +1.2
comp=Z,0.2nm,0.4s,baz=59,slow=5.6,SNR=3.3
SONM LR LR 15 49 28.1
comp=Z,166nm,21.9s,baz=148,slow=32
TIXI Tiksi 97.13 344 P P 15 11 42.2 0.0
comp=Z,1.7nm,0.9s,baz=140,slow=9.0,SNR=3.5
GTA Gaotai 98.70 308 P Pdif 15 11 51.8 +1.6
GTA pP sP 15 12 02.8 +0.3
GTA sP pP 15 12 08.6 +9.3
GTA S S 15 23 17.7 -0.5
GTA sS sS 15 23 32.9 -0.5
GTA pmax pmax
comp=Z,2.0nm,1.1s
GTA pmax pmax
comp=Z,130nm,5.4s
GTA LR LR
comp=Z,220nm,18.2s
GTA LR LR
comp=Z,290nm,19.6s
GTA LR LR
comp=Z,410nm,20.6s
LPAZ La Paz 98.85 110 LR LR 15 47 42.1
comp=Z,270nm,19.2s,baz=275,slow=30
ROSC El Rosal 99.85 88 LR LR 15 47 58.4
comp=Z,81nm,19.6s,baz=134,slow=30
ZALV Zalesovo Beam 111.06 322 PKiKP **PKiKP** 15 16 45.5 +1.8
comp=Z,1.1nm,0.6s,baz=129,slow=2.0,SNR=3.9
MKAR Makanchi Array 112.50 314 PKiKP **PKiKP** 15 16 46.3 -0.4
comp=Z,2.9nm,1.0s,baz=85,slow=3.0,SNR=3.1
KSH Kashi 116.94 306 *e*PKP **PKPdf** 15 16 57.0 +1.4
AAK Ala-Archa 118.04 309 *e*PKPdf **PKPdf** 15 16 57.2 -0.5
BRVK Borovoye 119.77 322 *e*PKPdf **PKPdf** 15 17 00.8 +0.4
KK31 Karatay Array 120.94 310 *e*PKPdf **PKPdf** 15 17 03.1 +0.1
KKAR Karatay Array 120.94 310 *e*PKPdf **PKPdf** 15 17 03.0 0.0
KBL Kabul 122.45 300 *e*PKPdf **PKPdf** 15 17 06.5 +0.1
ARCES ARCESS Array B 126.77 352 PKP **PKPdf** 15 17 13.1 -0.3
comp=Z,6.2nm,1.0s,baz=57,slow=4.6,SNR=4.0
ABKAR Akbulak array 127.00 319 *e*PKPdf **PKPdf** 15 17 14.8 +0.5
GEYT Alibeck 130.96 305 PKP **PKPdf** 15 17 23.6 +1.3
comp=Z,1.6nm,0.8s,baz=207,slow=2.9,SNR=4.5
FINES FINESS Array B 134.09 347 PKP **PKPdf** 15 17 28.7 +1.3
comp=Z,6.5nm,1.0s,baz=53,slow=5.4,SNR=3.9
AKASG Malin Array Be 142.41 337 PKP **PKPdf** 15 17 43.9 +0.8
comp=Z,1.1nm,0.6s,baz=36,slow=2.6,SNR=5.6
RAYN Ar Rayn 143.40 286 PKPdf PKPbc 15 17 44.3 +1.3
KMBO Kilima Mbogo 144.76 241 PKP **PKPdf** 15 17 49.0 +0.3
comp=Z,27nm,1.0s,baz=83,slow=5.1,SNR=35
KMBO Kilima Mbogo 144.76 241 *e*PKPdf **PKPdf** 15 17 48.4 -0.3
KWP Kalwaria Pacla 145.54 342 *e*PKP **PKPab** 15 17 49.8 +0.9
OJC Ojcow 145.79 345 *e*PKP **PKPab** 15 17 50.4 +0.5
KSP Ksiaz 145.95 349 *e*PKP **PKPab** 15 17 51.1 +0.6
CLL Collm 145.97 353 *e*PKPdf **PKPbc** 15 17 50.1 +0.1
CLL Collm 145.97 353 ⇑*i*PKPbc **PKPab** 15 17 50.6 +0.1
comp=Z,102nm,1.0s
CLL *i* pPKPbc **PKiKP** 15 17 53.3 -0.1
CLL LmV 16 30 00.0
comp=Z,300nm,18.1s
BRG Berggiesshubel 146.28 352 *i* PKP **PKPab** 15 17 51.9 +0.2
comp=Z,61nm,1.2s
NIE Niedzica 146.41 344 *e*PKP **PKPab** 15 17 52.8 +0.5
DPC Dobruska-Polom 146.41 349 *e*PKP **PKPab** 15 17 52.7 +0.4
BUR04 Bucovina Ar. S 146.44 337 *e*PKPbc **PKPbc** 15 17 51.8 +0.1
BURAR Bucovina Array 146.44 337 ⇑*i*P **PKPab** 15 17 52.9 +0.3
PVCC Panska Ves 146.53 351 *e*PKP **PKPab** 15 17 52.8 +0.1
KRLC Kraliky 146.59 348 *e*PKP **PKPab** 15 17 53.7 +0.7
BIZ Bicaz 146.67 336 ⇑*i*P **PKPab** 15 17 54.0 +0.7
MORC Moravsky Berou 146.72 347 ⇑*i*P **PKPab** 15 17 53.3 -0.2
MORC Moravsky Berou 146.72 347 *e*PKP **PKPab** 15 17 53.2 -0.3
UCC Uccle 146.78 3 ⇑*i*PKP **PKPab** 15 17 53.0 -0.6
BEBN Eben Emael 146.83 1 ⇑PKP **PKPbc** 15 17 53.0 +0.5
LANS Liptovska Anna 146.87 345 *e*PKP **PKPab** 15 17 54.5 +0.4
TLCR 146.89 331 ⇑*i*P **PKPab** 15 17 54.8 +0.6
TRPA Tarpa 146.92 341 ⇑*i*P **PKPab** 15 17 53.9 -0.3
TRPA Tarpa 146.92 341 ⇑*e*PKPdf **PKPab** 15 17 53.8 -0.4
BMR Baia Mare 147.00 339 ⇑*i*P **PKPab** 15 17 54.4 -0.2
MEM Membach 147.02 1 ⇑PKP **PKPbc** 15 17 53.6 +0.5
SNF Seneffe 147.06 3 ⇑PKP **PKPab** 15 17 54.0 -0.7
BCLA Clavier 147.19 2 ⇓⇓PKP **PKPbc** 15 17 53.9 +0.3
CFR Carcaliu 147.21 332 ⇑*i*P **PKPab** 15 17 54.9 -0.6
VRI Vrincioaia 147.28 334 ⇓⇓*i*P **PKPdf** 15 17 52.3 +0.6
PLOR Plostina 147.33 334 ⇑*i*P **PKPab** 15 17 55.8 -0.2
VRAC Vranov 147.36 348 *e*PKP **PKPab** 15 17 55.2 -0.8
DOU Dourbes 147.49 3 ⇑PKP **PKPbc** 15 17 55.0 +0.6
JAVC Velka Javorina 147.56 347 *e*PKP **PKPab** 15 17 56.8 0.0
VYHS Vyhne 147.63 345 *e*PKP **PKPbc** 15 17 55.8 +0.9
KRUC Moravsky 147.63 348 *e*PKP **PKPbc** 15 17 55.5 +0.7
HARR Harsova 147.68 331 ⇓⇓*i*P **PKPbc** 15 17 56.1 +1.0
TLB Topalu 147.71 331 ⇑⇑*i*P **PKPab** 15 17 57.1 -0.3
DOPR Dopca 147.75 335 ⇑⇑*i*P **PKPab** 15 17 57.0 -0.6
LTVH L"tav"rtes, 147.78 341 ⇓⇓*e*PKPdf **PKPab** 15 18 01.6 +4.0
PSZ Piszkesteto 147.89 343 ⇑⇑*e*PKPdf **PKPbc** 15 17 56.5 +0.8
MLR Muntele Rosu 147.91 334 ⇑⇑*i*P **PKPab** 15 17 57.3 -1.1
BRTR Keskin Array B 147.96 319 PKPbc **PKPbc** 15 17 57.2 +1.0
comp=Z,21nm,1.0s,baz=128,slow=2.0,SNR=20
WLF Walferdange 147.97 1 ⇑PKP **PKPab** 15 17 57.3 -1.1
DRGR 148.03 339 ⇑⇑*i*P **PKPbc** 15 17 57.0 +0.9
KHC Kasperske Hory 148.04 352 *e*PKPbc **PKPdf** 15 17 53.7 +0.9
KHC Kasperske Hory 148.04 352 *e*PKP **PKPbc** 15 17 57.1 +1.1
KHC *ex* x 15 18 19.2
MODS Modra-Piesok 148.11 347 *e*PKP **PKPbc** 15 17 56.7 +0.5
GEC2 GERESS Array S 148.30 351 *e*PKPbc **PKPbc** 15 17 56.8 +0.1
GERES GERESS Array B 148.30 351 PKPbc **PKPbc** 15 17 56.9 +0.1
comp=Z,5.0nm,0.8s,baz=29,slow=3.0,SNR=21
GEA0 GERESS Array S 148.31 351 *e*PKPbc **PKPbc** 15 17 57.2 +0.4
VOIR 148.32 335 ⇑⇑*i*P **PKPab** 15 17 58.6 -1.4
BUD Budapest 148.52 344 ⇓⇓*e*PKPdf **PKPbc** 15 17 58.8 +1.6
ARR Arges 148.54 336 ⇑⇑*i*P **PKPab** 15 18 00.1 -0.8
LOT Lotru 148.81 337 ⇑⇑*i*P **PKPbc** 15 17 57.6 -0.6
CONA Conrad Observa 148.82 348 *i* PKiKP **PKiKP** 15 17 59.2 -0.3
comp=Z,31nm,1.3s,SNR=13
SIRR Siria 148.84 340 ⇑⇑*i*P **PKPbc** 15 17 59.4 +1.3
SOP Sopron 148.92 347 ⇓⇓*e*PKPdf **PKPbc** 15 18 00.1 +1.9
MOA Molln 149.18 350 *i* PKiKP **PKiKP** 15 17 59.6 -0.6
comp=Z,16nm,1.2s
ASF Jabal al Asfar 149.22 304 PKPbc **PKPbc** 15 18 00.4 +0.7
comp=Z,2.4nm,0.4s,baz=171,slow=3.0,SNR=5.5
BFO Black Forest 149.28 358 *e*PKPbc **PKPbc** 15 17 59.5 +0.3
BZS Buzias 149.43 339 ⇑⇑*i*P **PKPbc** 15 18 01.0 +1.4
ARSA Arzberg 149.54 348 *i* PKiKP **PKPbc** 15 18 00.1 +0.2
comp=Z,16nm,1.3s
MORH M¯‡r¡gy, Hung 149.79 344 ⇑⇑*e*PKPdf **PKPbc** 15 18 00.8 +0.4
HERR Herculane 149.79 338 ⇑⇑*i*P **PKPbc** 15 18 01.2 +0.7
RETA Reutte 149.98 355 *i* PKiKP **PKiKP** 15 18 01.6 -0.3
comp=Z,17nm,1.2s
BEHE Becsehely 150.02 346 ⇓⇓*e*PKPdf **PKPbc** 15 18 01.4 +0.4
MMAI Mount Meron Ar 150.07 306 PKPbc **PKPbc** 15 18 02.9 +1.2
comp=Z,27nm,1.0s,baz=53,slow=4.1,SNR=12
KBA Koelnbreinsper 150.08 351 *e*PKiKP **PKPbc** 15 18 01.1 -0.3
comp=Z,14nm,1.0s
MOTA Moosalm 150.09 354 *e*PKiKP **PKPbc** 15 18 01.7 +0.3
comp=Z,18nm,0.9s,SNR=5.7
WTTA Wattenberg 150.12 353 *i* PKiKP **PKiKP** 15 18 02.2 -0.2
comp=Z,15nm,0.9s
MDVR Moldovita 150.13 338 ⇓⇓*i*P **PKPbc** 15 18 02.1 +0.7
SOKA Soboth 150.18 349 *e*PKiKP **PKPbc** 15 18 01.5 0.0
comp=Z,21nm,1.0s
SQTA Sankt Quirin 150.20 354 *e*PKiKP **PKiKP** 15 18 02.0 -0.4
comp=Z,18nm,0.9s
PERS Pernice 150.21 348 *i* PKPdf **PKPbc** 15 18 01.5 0.0
PERS Pernice 150.21 348 *i* PKPdf **PKPbc** 15 18 01.5 0.0
DAVA Damuels 150.25 356 *i* PKiKP **PKiKP** 15 18 02.4 -0.2
comp=Z,27nm,1.1s,SNR=6.1
FETA Feichten 150.44 355 *e*PKiKP **PKiKP** 15 18 03.1 +0.1
comp=Z,28nm,1.0s,SNR=9.1
MYKA Terra Mystica 150.47 350 *e*PKiKP **PKPbc** 15 18 01.7 -0.5
comp=Z,11nm,0.9s
ABTA Abfaltersbach 150.52 352 *e*PKiKP **PKPbc** 15 18 02.4 0.0
comp=Z,28nm,1.0s,SNR=10
DAVOX Davos/Dischmat 150.75 356 PKPbc **PKPbc** 15 18 03.3 +0.3
VISS Visnje 151.06 348 *e*PKPdf **PKPbc** 15 18 04.5 +1.0
VISS Visnje 151.06 348 *e*PKPdf **PKPbc** 15 18 04.5 +1.0
JAVS Javornik 151.12 350 *i* PKPdf **PKPbc** 15 18 04.1 +0.3
JAVS Javornik 151.12 350 *i* PKPdf **PKPbc** 15 18 04.1 +0.3
BOJS Bojanci 151.27 348 *i* PKPdf **PKPbc** 15 18 05.1 +1.1
BOJS Bojanci 151.27 348 *i* PKPdf **PKPbc** 15 18 05.1 +1.1
VTS Vitosha 151.42 334 ⇑⇑*i*P **PKPab** 15 18 09.4 -3.5
ESDC Sonseca Array 156.05 21 PKPab **PKPab** 15 18 31.3 -1.1
comp=Z,0.6nm,0.4s,baz=326,slow=4.7,SNR=4.9
TORD Torodi Ar. Bea 173.37 131 PKP **PKPdf** 15 18 21.9 +1.1
comp=Z,0.9nm,0.8s,baz=353,slow=2.2,SNR=3.7
TORD PKPab **PKPab** 15 19 47.3 -1.8
comp=Z,6.1nm,1.1s,baz=265,slow=3.2,SNR=11

UCR **12** *15:08:03.6±1.0, 14°21N×92°74W, h87km±93km, ML3.7,*

mb4.5(NEIC)
IDC ***12*** *15:08:03.5±1.2, 13˚.75N×92˚.43W, h0km, mb3.8/4, mb1 4.0/7, mb1mx3.7/53, mbtmp3.8/7, ML3.8/3, MS4.0/4, Ms1 4.0/4, ms1mx3.3/43, Error ellipse: s-maj=33.3km s-min=18.8km az=36.0*
ISCJB ***12*** *15:08:04.3±1.4, 13˚.89N±0˚.05×92˚.59W±0˚.05, h19km±10km, mb4.0/5, Error ellipse: s-maj=10.6km s-min=4.7km az=41.6*
MEX ***12*** *15:08:08.6±0.5, 13˚.95N×92˚.50W, h35km±27km, MD4.0*
NEIC ***12*** *15:08:08.2±0.8, 13˚.81N×92˚.47W, h35km, mb4.5/2, MD4.0(MEX), Error ellipse: s-maj=13.7km s-min=8.4km az=213.0*

ISC 12 15:08:08.5±4.0, 13˚.98N±0˚.09×92˚.53W±0˚.08, h33km±21km, n36, σ1§86/43, mb3.9/5, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.96**	**15**	*i* P	**Pn**	**15 08 24.4**	**-1.3**
THIG				*e*S	**Sn**	**15 08 36.2**	**-2.1**
THIG		**0.96**	**15**	*i* P	**Pn**	**15 08 24.4**	**-1.3**
THIG				*e*S	**Sn**	**15 08 36.2**	**-2.1**
PCIG		**1.84**	**339**	*e*P	**Pn**	**15 08 36.4**	**-1.5**
PCIG		**1.84**	**339**	*e*P	**Pn**	**15 08 36.4**	**-1.5**
PCIG				*e*S	**Sn**	**15 08 58.8**	**-1.2**
APG	**El Apazote**	**2.25**	**63**	Pn	**Pn**	**15 08 43.6**	**0.0**
	20nm,0.3s,baz=249,slow=6.9,SNR=102						
APG				Sn	**Sn**	**15 09 12.1**	**+1.7**
	49nm,0.3s,baz=338,slow=18,SNR=9.4						
APG				LR	LR	15 09 41.0	
	comp=Z,375nm,18.4s,baz=291,slow=43						
CCIG	**Comitan**	**2.32**	**9**	*e*Pn	**Pn**	**15 08 46.6**	**+1.9**
CCIG	**Comitan**	**2.32**	**9**	*i* P	**Pn**	**15 08 43.6**	**-1.1**
CCIG				*i* S	**Sn**	**15 09 10.6**	**-1.6**
RTR	**El Retiro**	**2.80**	**91**	*e*P	**Pn**	**15 08 51.0**	**-0.3**
CEVE	**Cerro Verde**	**2.83**	**93**	*e*P	**Pn**	**15 08 50.4**	**-1.3**
CEVE				*e*S	**Sn**	**15 09 27.6**	**+2.9**
CEVE				IAML		15 09 33.8	
	comp=Z,1μm,0.5s						
SBLS	**San Blas**	**2.83**	**92**	*e*P	**Pn**	**15 08 50.1**	**-1.5**
SNJE	**San Jose**	**2.84**	**92**	*e*P	**Pn**	**15 08 50.6**	**-1.2**
TGIG		**2.84**	**348**	*e*P	**Pn**	**15 08 52.1**	**+0.4**
TGIG		**2.84**	**348**	*i* P	**Pn**	**15 08 50.4**	**-1.4**
TGIG				*i* S	**Sn**	**15 09 24.3**	**-0.6**
MTO3	**Montecristo**	**3.10**	**82**	*e*P	**Pn**	**15 08 54.0**	**-1.5**
MTO3				IAML		15 09 41.6	
	comp=Z,99nm,0.5s						
BOQS	**Boqueron**	**3.17**	**94**	*e*P	**Pn**	**15 08 55.6**	**-0.7**
BOQS				*e*S	**Sn**	**15 09 35.9**	**+2.8**
SNET	**Serv Nac Est T**	**3.22**	**95**	*e*Pn	**Pn**	**15 08 55.5**	**-1.4**
LFRS	**El Faro**	**3.39**	**96**	*e*P	**Pn**	**15 08 57.8**	**-1.4**
CMIG	**Matias Romero**	**3.84**	**324**	Pn	**Pn**	**15 09 05.5**	**+0.1**
	comp=Z,4.0nm,0.3s,baz=138,slow=13,SNR=12						
CMIG				Sn	**Sn**	**15 09 52.0**	**+2.7**
	comp=Z,13nm,0.3s,baz=105,slow=12,SNR=5.2						
LCND	**La Ca˜–ada**	**4.56**	**98**	*e*P	**Pn**	**15 09 14.2**	**-1.1**
LCND				*e*S	**Sn**	**15 10 09.2**	**+2.0**
ESTN	**Estel**	**6.05**	**98**	*e*Pn	**Pn**	**15 09 33.8**	**-2.1**
LVIG	**Laguna Verde**	**6.82**	**327**	*e*Pn	**Pn**	**15 09 47.8**	**+1.4**
TEIG	**Tepich**	**7.43**	**33**	*e*Pn	**Pn**	**15 09 56.0**	**+1.3**
JTS	**JuntasAbangare**	**8.27**	**115**	*e*Pn	**Pn**	**15 10 05.2**	**-1.0**
TXAR	**Lajitas Array**	**18.44**	**328**	P	**Pn**	**15 12 24.9**	**+3.2**
	comp=Z,0.1nm,0.3s,baz=144,slow=7.8,SNR=2.2						
LTX	**Lajitas**	**18.44**	**328**	*e*P	**P**	**15 12 24.9**	**+3.2**
ROSC	**El Rosal**	**20.11**	**115**	*e*P	**P**	**15 12 36.7**	**-3.5**
	comp=Z,14nm,1.1s						
NVAR	**Mina Array Bea**	**33.37**	**322**	P	**P**	**15 14 47.7**	**+3.6**
	comp=Z,0.6nm,0.8s,baz=139,slow=7.0,SNR=2.6						
PTGA	**Pitinga**	**35.41**	**112**	P	**P**	**15 14 59.7**	**-2.0**
	comp=Z,0.9nm,0.3s,baz=38,slow=19,SNR=4.3						
SIV	**San Ignacio**	**43.05**	**133**	P	**P**	**15 16 03.9**	**-1.7**
	comp=Z,1.6nm,0.6s,baz=302,slow=9.5,SNR=6.3						
INK	**Inuvik**	**60.31**	**344**	LR	LR	15 50 59.8	
	comp=Z,478nm,18.5s,baz=214,slow=42						
ILAR	**Eielson Array**	**62.66**	**337**	P	**P**	**15 18 29.9**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=134,slow=7.7,SNR=3.3						
SKT	**Skwentna**	**63.41**	**333**	*e*P	**P**	**15 18 35.2**	**+0.6**
	comp=Z,6.3nm,0.6s						
AFI	**Afiamalu**	**83.19**	**254**	LR	LR	15 47 26.3	
	comp=Z,135nm,20.3s,baz=284,slow=28						
URZ	**Urewera**	**98.79**	**233**	LR	LR	15 57 59.1	
	comp=Z,125nm,21.4s,baz=18,slow=30						
CM31	**Chiang Mai Arr**	**145.84**	**340**	*e*PKPdf	**PKPdf**	**15 27 43.7**	**-1.2**
CMAR	**Chiang Mai Arr**	**145.84**	**340**	PKPbc	**PKPdf**	**15 27 44.5**	**-0.3**
	comp=Z,1.3nm,0.9s,baz=337,slow=3.5,SNR=4.8						

SJA ***12*** *15:11:59.0±0.6, 28˚.05S×66˚.77W, h190km±3km, ML3.5, MW3.3*
ISCJB ***12*** *15:12:00.3±0.6, 28˚.06S±0˚.05×66˚.82W±0˚.08, h176km±6km, mb3.5/1, Error ellipse: s-maj=12.6km s-min=5.5km az=31.8*
IDC ***12*** *15:12:06.1±3.7, 27˚.63S×67˚.07W, h191km±29km, mb3.5/1, mb1 3.1/4, mb1mx3.0/32, mbtmp3.6/4, Error ellipse: s-maj=43.6km s-min=24.4km az=26.0*

ISC 12 15:12:01.2±0.8, 27˚.99S±0˚.05×66˚.90W±0˚.07, h170km±7km, n19, σ1§53/26, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYA	**Choya**	**1.07**	**115**	*e*P	**Pn**	**15 12 28.9**	**+0.4**
CYA				IAML		15 12 28.9	
	comp=Z,81nm,0.2s						
CYA				*e*S	**Sn**	**15 12 48.9**	**-0.7**
VCA	**Vinchina**	**1.37**	**237**	*e*P	**Pn**	**15 12 31.6**	**+0.4**
VCA				IAML		15 12 33.0	
	comp=Z,792nm,0.4s						
VCA				*e*S	**Sn**	**15 12 56.2**	**+1.6**
ACLC	**CERRO LA CRUZ**	**1.43**	**182**	*e*P	**Pn**	**15 12 31.9**	**0.0**
ACLC				*e*S	**Sn**	**15 12 55.1**	**-0.6**
AHML	**Horco Molle**	**1.84**	**50**	*e*P	**Pn**	**15 12 35.3**	**-0.6**
AHML				IAML		15 12 36.4	
	comp=Z,178nm,0.2s						
AHML				*e*S	**Sn**	**15 13 01.7**	**-1.0**
FSA	**Cafayete**	**2.04**	**24**	*e*P	**Pn**	**15 12 38.5**	**+0.2**
FSA				IAML		15 12 39.2	
	comp=Z,61nm,0.3s						
FSA				*e*S	**Sn**	**15 13 07.2**	**+0.2**
AGUA	**GUANDACOL**	**2.04**	**223**	*e*P	**Pn**	**15 12 38.3**	**+0.1**
AGUA				*e*S	**Sn**	**15 13 07.6**	**+0.7**
AROD	**Rodeo**	**3.13**	**225**	*e*P	**Pn**	**15 12 51.7**	**+0.4**
RTLL	**Cerro Villicun**	**3.60**	**202**	*e*P	**Pn**	**15 12 55.9**	**-1.0**
RTLL				*e*S	**Sn**	**15 13 38.2**	**-2.2**
RTLL				AMSG		15 13 40.0	
	comp=E,2μm,0.3s						
RTLL				IAML		15 13 40.9	
	comp=E,182nm,0.4s						
RTLL				AMSG		15 13 42.2	
	comp=Z,3μm,0.1s						
RTLL				AMSG		15 13 42.2	
	comp=Z,2μm,0.1s						
SJA	**San Juan**	**3.81**	**202**	AMSG		15 13 30.4	
	comp=Z,10μm,0.0s						
RTCV	**Cerro Valdivia**	**4.11**	**200**	*e*P	**Pn**	**15 13 02.3**	**-1.2**
RTCV				*e*S	**Sn**	**15 13 49.3**	**-2.9**
RTLS	**Leoncito**	**4.33**	**208**	*e*P	**Pn**	**15 13 05.9**	**-0.6**
RTLS				IAML		15 14 00.6	
	comp=Z,52nm,0.3s						
LVC	**Limon Verde**	**5.66**	**341**	P	**Pn**	**15 13 24.3**	**+0.3**
	comp=Z,1.8nm,0.3s,baz=140,slow=12,SNR=16						
LVC				S	**Sn**	**15 14 25.6**	**-3.2**
	comp=Z,1.3nm,0.3s,baz=292,slow=21,SNR=12						
CPUP	**Villa Florida**	**8.68**	**81**	P	Pn	15 14 11.1	+7.5
	comp=Z,0.3nm,0.3s,baz=277,slow=8.6,SNR=4.3						
SIV	**San Ignacio**	**13.10**	**26**	P	**Pn**	**15 15 00.6**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=236,slow=18,SNR=3.1						
TORD	**Torodi Ar. Bea**	**77.94**	**68**	P	**P**	**15 23 42.3**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=258,slow=5.7,SNR=7.5						
ASAR	**Alice Springs**	**124.86**	**203**	PKP	**PKPdf**	**15 30 43.7**	**+2.2**
	comp=Z,0.4nm,1.0s,baz=139,slow=1.4,SNR=3.1						
WRA	**Warramunga Arr**	**128.11**	**206**	PKP	**PKPdf**	**15 30 49.7**	**+2.0**
	comp=Z,0.5nm,0.9s,baz=152,slow=1.9,SNR=4.8						
ZALV	**Zalesovo Beam**	**146.81**	**31**	PKPbc	**PKPab**	**15 31 25.3**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=321,slow=3.7,SNR=3.4						
MKAR	**Makanchi Array**	**149.44**	**44**	PKPbc	**PKPab**	**15 31 32.7**	**-2.6**
	comp=Z,0.5nm,0.6s,baz=277,slow=2.3,SNR=3.4						

UCR 12 15:12:57.0±2.8, 12˚.29N×89˚.31W, h34km±31km, MD4.3, ML3.5, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**1.34**	**10**	*e*P	Pn	15 13 19.4	-0.1
TECA	**Tecapa**	**1.43**	**33**	*e*P	Pn	15 13 20.6	-0.2
BOQS	**Boqueron**	**1.43**	**1**	*e*P	Pn	15 13 20.6	-0.3
LFU	**La Fuente**	**1.46**	**7**	*e*P	Pn	15 13 21.1	0.0
LBRS	**Las Brisas**	**1.46**	**10**	*e*P	Pn	15 13 20.9	-0.2
CEVE	**Cerro Verde**	**1.56**	**349**	*e*P	Pn	15 13 22.2	-0.3
CEVE				*e*S	Sb	15 13 43.5	-1.3
CEVE				IAML		15 13 58.4	
	comp=Z,1μm,0.4s						
SBLS	**San Blas**	**1.57**	**349**	*e*P	Pn	15 13 22.6	-0.1
SBLS				*e*S	Sb	15 13 43.9	-1.3
SNJE	**San Jose**	**1.59**	**350**	*e*P	Pn	15 13 23.0	0.0
RTR	**El Retiro**	**1.63**	**348**	*e*P	Pn	15 13 24.8	+1.4
LCND	**La Ca˜–ada**	**1.71**	**54**	*e*P	Pn	15 13 24.1	-0.4
LCND				IAML		15 14 00.7	
	comp=Z,382nm,0.4s						
MTO3	**Montecristo**	**2.09**	**359**	*e*P	Pn	15 13 30.5	+0.5
CRIN	**San Cristobal**	**2.24**	**79**	*e*P	Pn	15 13 31.9	0.0
CRIN				*e*S	Sb	15 14 01.5	-2.8
CRIN				IAML		15 14 03.4	
	comp=N,254nm,0.3s						
COPN	**Copaltepe**	**2.66**	**92**	*e*P	Pn	15 13 37.1	-0.4
MOMN	**Momotombo**	**2.71**	**87**	*e*P	Pn	15 13 37.7	-0.5
NY14	**Universidad de**	**4.05**	**113**	*i* P	Pn	15 13 57.0	+0.4
LAPC	**Finca la Perla**	**4.09**	**111**	*i* P	Pn	15 13 58.0	+0.7
BUEV	**Buena Vista**	**4.10**	**111**	*i* P	Pn	15 13 59.9	+2.4
BUEV				*i* S	Sn	15 14 41.9	-2.5
MESS	**Mesas**	**4.32**	**111**	*i* P	Pn	15 14 02.4	+1.9
CUI	**Cuipilapa**	**4.38**	**111**	*i* P	Pn	15 14 02.9	+1.7

NNC 12 15:18:59.0±3.6, 37˚.04N×70˚.87E, h0km, mb3.8, mpv3.4, 2C-4D, Error ellipse: s-maj=29.3km s-min=25.6km az=138.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.61**	**34**	⇓Pn	Pn	15 19 57.1	+0.6
	5.2nm,0.3s						
SFK				⇓Sn	Sn	15 20 41.8	+1.9
	0.9nm,0.2s						
MNAS	**Manas**	**5.58**	**13**	⇑Pn	Pn	15 20 23.2	-0.3
	1.6nm,0.6s						
MNAS				⇑Sn	Sn	15 21 29.5	+1.1
	3.1nm,0.7s						
KK31	**Karatay Array**	**6.06**	**358**	⇓Pn	Pn	15 20 30.9	+1.0
	0.9nm,0.3s,baz=182,slow=13,SNR=14						
KK31				⇓Sn	Sn	15 21 41.6	+1.7
	0.4nm,0.3s,baz=188,slow=24,SNR=4.6						
AAK	**Ala-Archa**	**6.25**	**25**	Pn	Pn	15 20 30.3	-2.3
	1.5nm,0.4s						
AAK				Sn	Sn	15 21 44.0	-0.7
	4.6nm,1.1s						

ISCJB ***12*** *15:27:51.0±0.4, 6˚.63S±0˚.04×127˚.52E±0˚.06, h408km, mb3.6/4, Error ellipse: s-maj=8.5km s-min=6.0km az=7.3*
DJA ***12*** *15:27:51.0±0.8, 7˚.S±4˚×127˚.7E±˚, h432km±13km, M4.1/12, mb3.9/6, mB4.5/2, MLv4.2/12, Mw(mB)3.7/2*
IDC ***12*** *15:27:51.5±1.3, 6˚.64S×127˚.45E, h409km±15km, mb3.3/4, mb1 3.6/9, mb1mx3.2/38, mbtmp4.3/9, Error ellipse: s-maj=22.2km s-min=10.5km az=68.0*

ISC 12 15:27:51.5±0.8, 6˚.64S±0˚.06×127˚.47E±0˚.09, h408km, n19, σ1§16/24, mb3.7/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.02**	**14**	P	**P**	**15 28 57.1**	**+1.6**
NLAI	**Namlea**	**3.40**	**354**	P	**P**	**15 29 00.4**	**+1.8**
NLAI				S	**S**	**15 29 54.1**	**+1.0**
MSAI	**Masohi**	**3.58**	**24**	P	**P**	**15 28 59.4**	**-0.8**
SAUI	**Saumlaki**	**4.03**	**110**	P	**P**	**15 29 05.6**	**+1.4**
SOEI	**Soe**	**4.43**	**225**	P	**P**	**15 29 09.6**	**+1.4**
SOEI				S	**S**	**15 30 09.9**	**-0.8**
SANI	**Sanana**	**4.79**	**342**	P	**P**	**15 29 11.4**	**-0.2**
BATI	**Baumata**	**5.17**	**226**	P	**P**	**15 29 15.7**	**+0.2**
	7.9nm,0.3s,baz=70,slow=4.3,SNR=13						
BATI				S	**S**	**15 30 23.9**	**-0.2**
	32nm,0.3s,baz=271,slow=18,SNR=17						
BATI	**Baumata**	**5.17**	**226**	P	**P**	**15 29 17.4**	**+1.9**
	23nm,0.9s,0.4nm						
FAKI	**Fak Fak**	**6.03**	**52**	P	**P**	**15 29 24.5**	**0.0**
EDFI	**Ende, Flores**	**6.10**	**250**	P	**P**	**15 29 26.5**	**+1.2**
SIJI	**Sorong**	**6.87**	**34**	P	**P**	**15 29 33.2**	**-1.3**
	2.4nm,0.3s,baz=88,slow=20,SNR=15						
MRSI	**Marisa**	**8.96**	**322**	P	**P**	**15 29 57.5**	**0.0**
FITZ	**Fitzroy Crossi**	**11.53**	**189**	P	**P**	**15 30 26.2**	**+0.4**
	0.4nm,0.3s,baz=9.8,slow=5.6,SNR=23						
WRA	**Warramunga Arr**	**14.81**	**154**	P	**P**	**15 31 02.1**	**+0.3**
	5.0nm,0.3s,baz=333,slow=11,SNR=380						
WRA				S	**S**	**15 33 36.7**	**-2.6**
	0.5nm,0.3s,baz=333,slow=21,SNR=7.9						
ASAR	**Alice Springs**	**18.03**	**161**	P	**P**	**15 31 36.7**	**+0.6**
	2.7nm,0.3s,baz=341,slow=12,SNR=263						
ASAR				S	**S**	**15 34 41.0**	**-0.6**
	0.3nm,0.3s,baz=332,slow=16,SNR=6.1						
STKA	**Stephens Creek**	**28.37**	**154**	P	**P**	**15 33 11.3**	**+1.0**
	0.5nm,0.7s,baz=141,slow=6.5,SNR=4.8						
CMAR	**Chiang Mai Arr**	**37.60**	**312**	P	**P**	**15 34 28.8**	**-0.7**
	4.2nm,0.3s,baz=334,slow=9.3,SNR=35						
MKAR	**Makanchi Array**	**66.57**	**328**	P	**P**	**15 37 59.6**	**+0.2**
	0.7nm,0.5s,baz=124,slow=7.9,SNR=16						
ZALV	**Zalesovo Beam**	**70.17**	**335**	P	**P**	**15 38 20.8**	**-0.5**
	1.9nm,0.8s,baz=141,slow=7.5,SNR=4.2						

TIR ***12*** *15:29:27.9, 41˚.58N×19˚.78E, h33km, Md2.9/4*
SAR ***12*** *15:29:29.7±0.9, 41˚.66N×19˚.78E, h11km±4km, ML2.5/6*
PDG ***12*** *15:29:29.5±0.3, 41˚.59N×19˚.70E, h13km, ML2.6/13, Error ellipse: s-maj=0.4km s-min=0.8km az=0.0*
ISCJB ***12*** *15:29:29.3±0.3, 41˚.62N±0˚.02×19˚.69E±0˚.03, h12km±2km, Error ellipse: s-maj=3.9km s-min=2.1km az=138.4*
BEO ***12*** *15:29:30.0±0.5, 41˚.57N×19˚.72E, h17km±4km, ML2.4/7*
THE ***12*** *15:29:30.8, 41˚.62N×19˚.77E, h8km±1km, ML2.1/6, Error ellipse: s-maj=1.7km s-min=0.9km az=317.0*

ISC 12 15:29:28.4±1.0, 41˚.56N±0˚.02×19˚.64E±0˚.02, h11km±9km, n64, σ1§33/107, 12C-10D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.27**	**142**	*e*Pg	**Pb**	**15 29 35.7**	**+0.3**
TIR				*e*Sg	**Sb**	**15 29 41.4**	**+1.4**
TIR	**Tirane**	**0.27**	**142**	⇓*i*P	**Pb**	**15 29 35.6**	**+0.2**
TIR				S	**Sb**	**15 29 41.3**	**+1.3**
TIR	**Tirane**	**0.27**	**142**	P	**Pb**	**15 29 35.6**	**+0.2**
TIR				S	**Sb**	**15 29 41.4**	**+1.4**
TIR	**Tirane**	**0.27**	**142**	*i* PG	**Pb**	**15 29 35.5**	**+0.1**
TIR				*i* SG	**Sb**	**15 29 41.3**	**+1.3**
ULC	**Ulcinj**	**0.50**	**324**	⇓*i*Pg	**Pb**	**15 29 39.1**	**-0.2**
ULC				*e*Sg	**Sb**	**15 29 47.4**	**+0.8**
PUK	**Puka**	**0.52**	**21**	*i* PG	**Pg**	**15 29 38.4**	**-0.1**
PUK				*i* SG	**Sb**	**15 29 46.5**	**-0.7**
PHP	**Peshkopia**	**0.61**	**78**	P	**Pg**	**15 29 39.8**	**-0.5**
PHP				S	**Sg**	**15 29 48.1**	**-0.3**
PHP	**Peshkopia**	**0.61**	**78**	*i* PG	**Pg**	**15 29 39.8**	**-0.5**
PHP				*i* SG	**Sg**	**15 29 48.6**	**+0.2**
DRME	**Dracevica, Mon**	**0.71**	**331**	⇑*i*Pg	**Pb**	**15 29 43.1**	**+0.2**
DRME				*e*Sg	**Sn**	**15 29 54.5**	**-1.0**
DRME	**Dracevica, Mon**	**0.71**	**331**	*e*Pg	**Pb**	**15 29 42.6**	**-0.3**
DRME				*e*Sg	**Sb**	**15 29 52.7**	**0.0**
BCI	**Bajram Curri**	**0.86**	**21**	*i* PG	**Pg**	**15 29 44.4**	**-0.8**
BCI				*i* SG	**Sb**	**15 29 57.4**	**+0.2**
PDG	**Podgorica**	**0.91**	**342**	*e*Pg	**Pn**	**15 29 47.1**	**-0.2**
PDG				*e*Sg	**Sn**	**15 30 00.7**	**+0.3**
PDG	**Podgorica**	**0.91**	**342**	⇑*i*P	**Pn**	**15 29 47.4**	**+0.1**
PDG				S	**Sn**	**15 30 00.6**	**+0.2**
PDG	**Podgorica**	**0.91**	**342**	P	**Pn**	**15 29 47.2**	**-0.1**
PDG				S	**Sn**	**15 30 01.2**	**+0.8**
PDG	**Podgorica**	**0.91**	**342**	*e*Pg	**Pg**	**15 29 45.3**	**-0.8**
PDG				*e*Sg	**Sg**	**15 29 57.3**	**-0.7**
TTG	**Podgorica**	**0.91**	**342**	⇓*i*Pg	**Pg**	**15 29 46.5**	**-0.8**
TTG				*e*Sg	**Sn**	**15 30 00.3**	**-0.1**
BUM	**Brajici-Budva**	**0.93**	**323**	⇑*i*Pg	**Pn**	**15 29 47.0**	**-0.5**
BUM				*e*Sg	**Sn**	**15 30 01.9**	**+1.0**
OHR	**Ohrid**	**0.98**	**117**	*i* Pg	**Pg**	**15 29 47.2**	**-0.1**
OHR				*i* Sg	**Sn**	**15 30 01.8**	**-0.4**
PVY	**Plav**	**1.06**	**13**	⇑*i*Pg	**Pb**	**15 29 48.8**	**-0.1**
PVY				*e*Sg	**Sn**	**15 30 04.8**	**+0.6**
CEME	**Cevo**	**1.12**	**332**	⇑*i*Pg	**Pn**	**15 29 50.3**	**+0.1**
CEME				*e*Sg	**Sn**	**15 30 08.1**	**+2.4**
KRUS	**Krusevo**	**1.22**	**99**	*i* Pg	**Pn**	**15 29 50.3**	**-1.3**
KRUS				*i* Sg	**Sn**	**15 30 08.8**	**+0.6**
HCY	**Herceg Novi**	**1.23**	**316**	⇓*i*Pg	**Pg**	**15 29 52.6**	**+0.5**
HCY				*e*Sg	**Sn**	**15 30 12.2**	**+3.9**
HCY	**Herceg Novi**	**1.23**	**316**	*e*Pg	**Pg**	**15 29 52.2**	**+0.1**
HCY				*e*Sg	**Sn**	**15 30 09.4**	**+1.1**
KOME	**Kolasin**	**1.29**	**356**	⇑*i*Pg	**Pg**	**15 29 53.3**	**0.0**
KOME				*e*Sg	**Sn**	**15 30 12.8**	**+2.9**
NKME	**Niksic**	**1.31**	**337**	⇓*i*Pg	**Pg**	**15 29 53.3**	**-0.3**
NKME				*e*Sg	**Sg**	**15 30 13.4**	**+2.8**
IVA	**Berane**	**1.32**	**8**	⇓*i*Pg	**Pb**	**15 29 53.1**	**-0.3**
IVA				*e*Sg	**Sg**	**15 30 13.8**	**+2.8**
NKY	**Niksic**	**1.34**	**339**	⇑*i*Pg	**Pg**	**15 29 54.1**	**-0.1**
NKY				*e*Sg	**Sg**	**15 30 14.1**	**+2.5**
TREB	**Trebinje**	**1.50**	**321**	*e*Pg	**Pg**	**15 29 56.8**	**-0.5**
TREB	**Trebinje**	**1.50**	**321**	⇓*i*Pg	**Pb**	**15 29 55.8**	**-0.6**
TREB				*e*Sg	**Sg**	**15 30 17.1**	**+0.3**
FNA	**Florina**	**1.52**	**120**	P	**Pb**	**15 29 56.9**	**+0.2**
FNA				S	**Sg**	**15 30 17.8**	**+0.4**
NEST	**Nestorio**	**1.56**	**137**	P	**Pg**	**15 29 58.2**	**-0.3**
NEST				S	**Sg**	**15 30 20.0**	**+1.2**
BRY	**Bratogost**	**1.57**	**329**	⇓*i*Pg	**Pg**	**15 29 57.8**	**-0.8**
BRY				*e*Sg	**Sg**	**15 30 20.8**	**+1.8**
BRY	**Bratogost**	**1.57**	**329**	*e*Pg	**Pb**	**15 29 57.3**	**-0.3**
BRY				*e*Sg	**Sg**	**15 30 18.3**	**-0.7**
SJES	**Sjenica**	**1.72**	**8**	*e*Pg	**Pb**	**15 30 00.3**	**+0.2**
SJES				*e*Sg	**Sg**	**15 30 24.1**	**+0.5**
UPM	**Unac-Piva**	**1.73**	**342**	⇓*i*Pn	**Pb**	**15 30 00.3**	**-0.1**
UPM				*e*Sn	**Sg**	**15 30 24.3**	**+0.2**
UPM	**Unac-Piva**	**1.73**	**342**	*e*Pn	**Pn**	**15 29 58.4**	**-0.3**
UPM				*e*Sn	**Sn**	**15 30 20.7**	**-0.1**
PENT	**Pentalofos**	**1.77**	**140**	P	**Pg**	**15 30 01.9**	**-0.6**
PENT				S	**Sb**	**15 30 24.2**	**+0.8**
PLE	**Pljevlja**	**1.78**	**354**	⇑*i*Pn	**Pb**	**15 30 01.2**	**+0.1**
PLE				*e*Sn	**Sg**	**15 30 25.1**	**-0.5**
KEK	**Kerkira**	**1.85**	**176**	P	**Pb**	**15 30 02.3**	**0.0**
KEK				S	**Sg**	**15 30 27.4**	**-0.5**
STIP	**Stip**	**1.91**	**85**	*i* Pn	**Pb**	**15 30 03.3**	**-0.1**
STON	**Ston**	**1.95**	**313**	*e*Pn	**Pn**	**15 30 01.9**	**+0.4**
STON				Sn	**Sn**	**15 30 25.5**	**-0.4**
SELS	**Selova**	**1.98**	**33**	*e*Pn	**Pn**	**15 30 01.9**	**-0.1**
SGD	**Sagiada**	**2.00**	**167**	P	**Pb**	**15 30 04.6**	**-0.2**
IVAS	**Ivanjica**	**2.05**	**10**	*e*Pn	**Pn**	**15 30 02.9**	**0.0**
GRG	**Griva**	**2.17**	**105**	P	**Pn**	**15 30 04.8**	**+0.3**
GRG				S	**Sn**	**15 30 32.8**	**+1.4**
VAY	**Valandovo**	**2.21**	**95**	P	**Pn**	**15 30 05.2**	**+0.1**
VAY				S	**Sn**	**15 30 32.4**	**-0.1**
VAY	**Valandovo**	**2.21**	**95**	*i* Pn	**Pn**	**15 30 04.2**	**-0.9**
BBLS	**Lazići**	**2.31**	**356**	*e*Pn	**Pn**	**15 30 07.8**	**+1.3**
BBLS	**Lazići**	**2.31**	**356**	*e*Pn	**Pn**	**15 30 07.8**	**+1.3**
BBLS	**Lazići**	**2.31**	**356**	*e*Pn	**Pn**	**15 30 06.9**	**+0.4**
BBLS				*e*Sn	**Sn**	**15 30 33.6**	**-1.4**
MATE	**Matera**	**2.40**	**249**	⇑*i*P	**Pb**	**15 30 09.2**	**-2.4**
MATE	**Matera**	**2.40**	**249**	S	**Sg**	**15 30 43.1**	**-2.4**
GRUS	**Gruza**	**2.46**	**18**	*e*Pn	**Pn**	**15 30 09.8**	**+1.3**
DIVS	**Divibare**	**2.55**	**6**	*e*Pn	**Pn**	**15 30 10.0**	**+0.2**
DIVS				*e*Sn	**Sn**	**15 30 39.6**	**-1.3**
HAPS	**Han Pijesak,Bl**	**2.57**	**349**	*e*Pn	**Pn**	**15 30 09.9**	**-0.3**
HAPS				*e*Sn	**Sn**	**15 30 41.1**	**-0.5**
ZAPS	**Zavoj**	**2.80**	**51**	*e*Pn	**Pn**	**15 30 14.1**	**+0.9**
VTS	**Vitosha**	**2.85**	**68**	⇓*i*P	Pn	15 30 06.1	-7.9
KUBS	**Kucevo**	**3.22**	**27**	*e*Pn	**Pn**	**15 30 18.8**	**-0.1**
MDVR	**Mo

TWGBT				S	Sg	15 48 44.6	-0.1		
	baz=120								
TTN	**Taitung**	**0.20**	**126**	P	**Pg**	**15 48 44.7**	**+1.3**		
	baz=126								
TTN				*i* S	Sg	15 48 49.2	+2.6		
	baz=126								
ECL	**Taimali**	**0.27**	**184**	⇑*i*P	**Pg**	**15 48 44.5**	**-0.1**		
	baz=175								
ECL				*i* S	Sg	15 48 48.3	-0.4		
	baz=175								
ELDTW	**Lidau**	**0.32**	**7**	⇑*i*P	**Pg**	**15 48 44.4**	**-1.2**		
	baz=16								
ELDTW				S	Sg	15 48 48.5	-1.8		
	baz=16								
SSD	**Sandimen**	**0.34**	**249**	⇑*i*P	**Pg**	**15 48 44.4**	**-1.4**		
	baz=236								
SSD				S	Sg	15 48 48.7	-2.0		
	baz=236								
STYT	**Tauyuan**	**0.36**	**325**	⇑*i*P	**Pg**	**15 48 44.8**	**-1.3**		
	baz=329								
STYT				*i* S	Sg	15 48 49.1	-2.2		
	baz=329								
MASBT	**Mashibuluo**	**0.41**	**231**	⇑P	**Pg**	**15 48 46.1**	**-0.9**		
	baz=225								
MASBT				S	Sg	15 48 51.1	-1.5		
	baz=225								
SGST	**Jiashian**	**0.42**	**300**	⇑*i*P	**Pg**	**15 48 46.5**	**-0.8**		
	baz=304								
SGST				S	Sg	15 48 52.0	-1.1		
	baz=304								
CHKT	**Chengkung**	**0.43**	**57**	⇑*i*P	**Pb**	**15 48 48.3**	**+0.6**		
	baz=81								
CHKT				S	Sb	15 48 55.4	+1.5		
	baz=81								
FULB	**Fuli**	**0.44**	**42**	⇑*i*P	**Pb**	**15 48 47.8**	**-0.2**		
	baz=38								
FULB				S	Sb	15 48 54.1	-0.2		
	baz=38								
SGLT	**Jiouru**	**0.47**	**252**	P	**Pb**	**15 48 48.1**	**-0.4**		
	baz=244								
SGLT				*e*S	Sb	15 48 54.9	-0.2		
	baz=244								
EAST	**Anshuo**	**0.50**	**194**	⇑*i*P	**Pb**	**15 48 48.7**	**-0.2**		
	baz=189								
EAST				*e*S	Sb	15 48 55.0	-0.9		
	baz=189								
WTP	**Ta-pu**	**0.50**	**318**	⇑*i*P	**Pg**	**15 48 48.3**	**-0.5**		
	baz=319								
WTP				*e*S	Sg	15 48 55.1	-0.5		
	baz=319								
TWM1	**Shoushan**	**0.51**	**265**	⇑*i*P	**Pb**	**15 48 49.1**	**-0.1**		
	baz=255								
TWM1				*e*S	Sb	15 48 56.7	+0.3		
	baz=255								
TAW	**Tawu**	**0.51**	**188**	P	**Pb**	**15 48 49.1**	**-0.1**		
	baz=185								
TAW				*e*S	Sb	15 48 56.0	-0.4		
	baz=185								
CHN1	**Nanshi**	**0.52**	**307**	⇑*i*P	**Pg**	**15 48 48.8**	**-0.3**		
	baz=310								
CHN1				S	Sg	15 48 56.2	+0.1		
	baz=310								
TPUB	**Ta-pu**	**0.54**	**323**	⇑P	**Pg**	**15 48 49.0**	**-0.4**		
	baz=330								
TPUB				*e*S	Sg	15 48 56.1	-0.5		
	baz=330								
TWF1	**Yuli**	**0.56**	**31**	⇑*i*P	**Pb**	**15 48 49.2**	**-0.9**		
	baz=36								
TWF1				S	Sg	15 48 56.2	-1.3		
	baz=36								
SCZT	**Fangliau**	**0.59**	**214**	⇑*i*P	**Pb**	**15 48 49.9**	**-0.6**		
	baz=209								
SCZT				S	Sb	15 48 57.9	-0.7		
	baz=209								
CHN4	**Tsaushan**	**0.60**	**324**	⇑P	**Pg**	**15 48 50.2**	**-0.3**		
	baz=329								
CHN4				*e*S	Sg	15 48 58.6	+0.1		
	baz=329								
TWK	**Hsinying**	**0.60**	**311**	⇑*i*P	**Pg**	**15 48 50.5**	**-0.1**		
	baz=314								
TWK				S	Sg	15 48 58.7	+0.1		
	baz=314								
YULB	**Yu-li**	**0.60**	**29**	⇑P	**Pg**	**15 48 49.6**	**-0.9**		
	baz=33								
YULB				*e*S	Sg	15 48 57.0	-1.5		
	baz=33								
YUS	**Yu-Shan**	**0.62**	**358**	*e*P	**Pg**	**15 48 49.7**	**-1.4**		
	baz=2.0								
ALS	**Alishan**	**0.66**	**346**	*e*P	**Pg**	**15 48 51.0**	**-0.7**		
	baz=349								
ALS				*e*S	Sg	15 49 00.4	-0.2		
	baz=349								
KAU	**Kaohsiung**	**0.69**	**244**	*e*P	**Pn**	**15 48 53.8**	**+0.2**		
	baz=230								
EHY	**Hungye**	**0.71**	**27**	⇑P	**Pg**	**15 48 51.5**	**-1.1**		
	baz=30								
EHY				*e*S	Sg	15 49 00.4	-1.7		
	baz=30								
TAI1	**Yung-k'ang**	**0.71**	**284**	*e*P	**Pn**	**15 48 53.8**	**-0.1**		
	baz=282								
HGSD	**Ruisui**	**0.74**	**33**	⇓P	**Pb**	**15 48 53.2**	**0.0**		
	baz=28								
HGSD				S	Sb	15 49 03.8	+0.8		
	baz=28								
WLCH	**Liuqiu**	**0.76**	**227**	*e*P	**Pn**	**15 48 56.1**	**+1.6**		
	baz=215								
TWP	**Hsiaoliuchiu**	**0.77**	**228**	*e*P	**Pn**	**15 48 56.0**	**+1.3**		
	baz=213								
CHN5	**Tsauling**	**0.78**	**339**	*e*P	**Pg**	**15 48 53.4**	**-0.5**		
	baz=352								
SCLT	**Jiali**	**0.78**	**293**	*e*P	**Pn**	**15 48 55.2**	**+0.3**		
	baz=292								
CHN2	**Minshiung**	**0.81**	**325**	*e*P	**Pb**	**15 48 55.1**	**+0.9**		
	baz=341								
CHN2				*e*S	Sb	15 49 06.6	+1.8		
	baz=341								
CHN8	**Yiju**	**0.85**	**304**	*e*P	**Pb**	**15 48 55.2**	**+0.2**		
	baz=304								
CHN8				*e*S	Sn	15 49 08.7	+0.9		
	baz=304								
WLGB	**Puzi**	**0.87**	**314**	⇑P	**Pn**	**15 48 56.2**	**+0.1**		
	baz=314								
WLGB				*e*S	Sn	15 49 09.3	+1.0		
	baz=314								
HEN	**Hengchun**	**0.89**	**194**	*e*P	**Pn**	**15 48 56.8**	**+0.5**		
	baz=200								
EGFH	**Guangfu**	**0.90**	**27**	*e*P	**Pg**	**15 48 54.7**	**-1.4**		
	baz=41								
WGK	**Gukeng**	**0.90**	**335**	*e*P	**Pn**	**15 48 56.7**	**+0.2**		
	baz=336								
WGK				*e*S	Sb	15 49 09.6	+2.2		
	baz=336								
WDLH	**Douliu**	**0.91**	**334**	*e*P	**Pn**	**15 48 57.0**	**+0.4**		
	baz=335								
SSLB	**Suanglung**	**0.92**	**359**	*e*P	**Pg**	**15 48 55.2**	**-1.3**		
	baz=1.0								
TWK1	**Hengchun**	**0.93**	**190**	*e*P	**Pn**	**15 48 57.9**	**+0.9**		
	baz=187								
TWKBT	**Hengchun**	**0.94**	**189**	*e*P	**Pn**	**15 48 57.6**	**+0.6**		
	baz=187								
TSEB	**Hengchuen, Pin**	**0.97**	**184**	*e*P	**Pn**	**15 48 59.3**	**+1.9**		
	baz=192								
WJS	**Zhushan**	**0.98**	**347**	*e*P	**Pn**	**15 48 58.0**	**+0.4**		
	baz=355								
WJS				*e*S	Sn	15 49 12.0	+1.0		
	baz=355								
SMLT	**Sun Moon Lake**	**1.01**	**356**	*e*P	**Pb**	**15 48 57.9**	**+0.1**		
	baz=7.0								
SMLT				*e*S	Sn	15 49 13.3	+1.3		
	baz=7.0								
ESL	**Shilin**	**1.03**	**24**	⇓P	**Pg**	**15 48 57.7**	**-1.0**		
	baz=32								
ESL				*e*S	Sg	15 49 10.5	-1.7		
	baz=32								
WSF	**Szhu**	**1.03**	**318**	*e*P	**Pb**	**15 48 58.5**	**+0.4**		
	baz=318								
WSF				*e*S	Sn	15 49 13.5	+1.2		
	baz=318								
WNT	**Mingjian**	**1.04**	**345**	*e*P	**Pn**	**15 48 59.5**	**+1.0**		
	baz=347								
WNT				*e*S	Sn	15 49 13.7	+1.1		
	baz=347								
RLNB	**Erlin**	**1.17**	**331**	*e*P	**Pb**	**15 49 00.3**	**0.0**		
	baz=332								
WTCT	**Ta-ch'eng**	**1.18**	**327**	*e*P	**Pn**	**15 48 59.2**	**-1.1**		
	baz=328								
CHGB	**Renai**	**1.20**	**9**	*e*P	**Pb**	**15 49 00.6**	**-0.4**		
	baz=19								
CHGB				*e*S	Sb	15 49 17.5	+1.2		
	baz=19								
WCHH	**Zhanghua**	**1.27**	**342**	*e*P	**Pg**	**15 49 03.2**	**+0.1**		
	baz=343								
WDGT	**Dungji**	**1.27**	**288**	⇓P	**Pn**	**15 49 01.7**	**+0.1**		
	baz=286								
WDGT				*e*S	Sb	15 49 18.4	+0.2		
	baz=286								
WHF	**Hehuan Shan**	**1.30**	**12**	*e*P	**Pn**	**15 49 02.4**	**0.0**		
	baz=19								
WHF				*e*S	Sb	15 49 19.9	+0.5		
	baz=19								
TCU	**Taichung**	**1.30**	**348**	*e*P	**Pg**	**15 49 03.6**	**-0.2**		
	baz=349								
TCU				*e*S	Sg	15 49 21.9	+1.1		
	baz=349								
TWD	**Chiawan**	**1.33**	**25**	*e*P	**Pg**	**15 49 03.5**	**-0.9**		
	baz=35								
TWD				*e*S	Sg	15 49 20.8	-1.0		
	baz=35								
TDCB	**Techi**	**1.39**	**7**	*e*P	**Pb**	**15 49 04.3**	**+0.1**		
	baz=8.0								
TDCB				*e*S	Sn	15 49 22.6	+1.3		
	baz=8.0								
TWT	**Tachien**	**1.39**	**8**	*e*P	**Pg**	**15 49 05.1**	**-0.4**		
	baz=9.0								
TWT				*e*S	Sg	15 49 25.1	+1.5		
	baz=9.0								
NACB	**Ninganchiao**	**1.42**	**23**	*e*P	**Pn**	**15 49 03.9**	**+0.2**		
	baz=37								
NACB				*e*S	Sg	15 49 23.5	-1.0		
	baz=37								
PHUB	**P'eng-hu**	**1.44**	**297**	P	**Pn**	**15 49 03.9**	**-0.1**		
	baz=295								
PHUB				*e*S	Sn	15 49 22.4	-0.1		
	baz=295								
VCHM	**Qimei**	**1.46**	**284**	*e*P	**Pn**	**15 49 04.3**	**0.0**		
	baz=296								
PNG	**Penghu**	**1.48**	**298**	*e*P	**Pn**	**15 49 04.6**	**+0.1**		
	baz=296								
PNG				*e*S	Sn	15 49 23.3	-0.1		
	baz=296								
TWQ1	**Liyutan**	**1.48**	**353**	*e*P	**Pg**	**15 49 06.9**	**-0.4**		
	baz=356								
TWQ1				*e*S	Sg	15 49 27.4	+0.8		
	baz=356								
NSY	**Sanyi**	**1.55**	**353**	*e*P	**Pg**	**15 49 07.7**	**-0.9**		
	baz=355								
NSY				*e*S	Sg	15 49 29.8	+0.9		
	baz=355								
PTSB	**Yuanli**	**1.59**	**351**	*e*P	**Pg**	**15 49 08.4**	**-0.8**		
	baz=354								
PTSB				*e*S	Sg	15 49 30.8	+0.8		
	baz=354								
NNSB	**Datong**	**1.60**	**13**	*e*P	**Pb**	**15 49 07.3**	**-0.4**		
	baz=24								
NNSB				*e*S	Sb	15 49 28.9	+1.2		
	baz=24								
NNS	**Nan Shan**	**1.61**	**13**	*e*P	**Pb**	**15 49 07.8**	**-0.2**		
	baz=29								
NNS				*e*S	Sb	15 49 28.9	+0.9		
	baz=29								
ENA	**Nanau**	**1.70**	**24**	*e*P	**Pb**	**15 49 09.2**	**-0.3**		
	baz=26								
NANB	**Nanao**	**1.71**	**24**	*e*P	**Pb**	**15 49 08.8**	**-0.7**		
	baz=26								
NSTT	**Nanjuang**	**1.75**	**1**	*e*P	**Pb**	**15 49 10.9**	**+0.5**		
	baz=4.0								
NSTT				*e*S	Sg	15 49 34.1	-1.1		
	baz=4.0								
LIOB	**Emei**	**1.77**	**1**	*e*P	**Pb**	**15 49 11.3**	**+0.6**		
	baz=344								
YHNB	**Yeheng**	**1.83**	**11**	*e*P	**Pb**	**15 49 11.7**	**-0.1**		
	baz=15								
YHNB				*e*S	Sg	15 49 36.3	-1.3		
	baz=15								
ENTT	**Nioudou**	**1.84**	**17**	*e*P	**Pb**	**15 49 12.3**	**+0.4**		
	baz=32								
ENTT				*e*S	Sg	15 49 36.5	-1.6		
	baz=32								
TWC	**Suao**	**1.91**	**25**	*e*P	**Pb**	**15 49 12.7**	**-0.3**		
	baz=28								
TWC				*e*S	Sb	15 49 37.5	+0.9		
	baz=28								
TWE	**Neicheng**	**1.95**	**19**	*e*P	**Pb**	**15 49 14.2**	**+0.5**		
	baz=38								
SLBB	**Yuanshan**	**1.97**	**18**	*e*P	**Pg**	**15 49 15.3**	**-1.2**		
	baz=32								
SLBB				*e*S	Sb	15 49 40.1	+1.7		
	baz=32								
EOS1	**EOS1**	**1.98**	**32**	*e*P	**Pb**	**15 49 14.0**	**-0.1**		
	baz=48								
WLTB	**Daxi**	**1.99**	**7**	*e*P	**Pg**	**15 49 15.7**	**-1.2**		
	baz=352								
TATO	**Taipei**	**2.15**	**12**	*e*P	**Pg**	**15 49 18.4**	**-1.5**		
	baz=24								
TATO				*e*S	Sg	15 49 46.2	-1.6		
	baz=24								
EGS		**2.15**	**24**	*e*P	**Pb**	**15 49 17.7**	**+0.6**		
	baz=40								
TWA	**Mucha**	**2.17**	**15**	*e*P	**Pb**	**15 49 18.3**	**+0.7**		
	baz=359								
NWF	**Wu-fen Shan**	**2.31**	**18**	*e*P	**Pb**	**15 49 19.4**	**-0.6**		
	baz=37								
YM01	**YM01**	**2.33**	**13**	*e*P	**Pb**	**15 49 20.3**	**+0.1**		
	baz=358								
YM04	**YM04**	**2.33**	**13**	*e*P	**Pn**	**15 49 18.3**	**+2.0**		
	baz=358								
YM05	**YM05**	**2.35**	**13**	*e*P	**Pb**	**15 49 20.3**	**-0.2**		
	baz=359								
YM05				*e*S	Sb	15 49 49.7	+0.4		
	baz=359								
YM11	**YM11**	**2.35**	**13**	*e*P	**Pb**	**15 49 19.7**	**-0.9**		
	baz=358								
YM03	**YM03**	**2.36**	**13**	*e*P	**Pb**	**15 49 19.7**	**-1.0**		
	baz=358								
YM07	**YM07**	**2.37**	**14**	*e*P	**Pb**	**15 49 19.7**	**-1.2**		
	baz=359								
JYNG	**Yonagunijimaku**	**2.40**	**49**	P	**Pn**	**15 49 16.0**	**-1.1**		
JYNG				S	Sn	15 49 45.3	-0.7		
YOJ	**Yonaguni jima**	**2.45**	**49**	*e*P	**Pn**	**15 49 18.2**	**+0.4**		
	baz=61								
VWUC	**VWUC**	**2.53**	**327**	*e*P	**Pn**	**15 49 20.1**	**+1.2**		
	baz=330								
PTMZ	**Houxiangcun**	**2.75**	**322**	*e*P	**Pn**	**15 49 23.5**	**+1.5**		
	baz=325								
KNM	**Kinmen**	**2.79**	**304**	*e*P	**Pn**	**15 49 24.6**	**+2.1**		
	baz=302								
HATJ	**Hateruma jima**	**2.85**	**65**	*e*S	**Sn**	**15 49 57.2**	**-0.1**		
IRIF	**Iriomote-Funau**	**2.92**	**59**	P	**Pn**	**15 49 24.9**	**+0.7**		
IRIF				*e*S	Sn	15 49 59.9	+1.0		
JKRS	**Kuro-shima**	**3.10**	**63**	P	**Pn**	**15 49 27.9**	**+1.2**		
JKRS				*e*S	Sn	15 50 01.1	-2.3		
ZPLA	**Ao Xicun**	**3.15**	**290**	*e*P	**Pn**	**15 49 28.0**	**+0.6**		
	baz=289								
JIJ	**Ishigaki jima**	**3.26**	**62**	P	**Pn**	**15 49 29.8**	**+0.8**		
JIJ				*e*S	Sn	15 50 06.2	-1.3		
MATB	**Ma-tsu**	**3.40**	**344**	*e*P	**Pn**	**15 49 32.1**	**+1.2**		
	baz=347								
AXDP	**Jialang**	**3.42**	**307**	*e*P	**Pn**	**15 49 32.1**	**+1.0**		
	baz=309								
JISG	**Ishigakijimahi**	**3.50**	**60**	P	**Pn**	**15 49 32.7**	**+0.4**		
JISG				*e*S	Sn	15 50 13.4	+0.1		
MHZQ	**Yeshan**	**3.67**	**332**	*e*P	**Pn**	**15 49 35.9**	**+1.3**		
	baz=336								
LYJJ	**Jianjiangzhen**	**3.83**	**343**	*e*P	**Pn**	**15 49 38.9**	**+2.1**		
	baz=348								

JMA ***12*** *15:50:30.6±0.1, 23.97N×121.73E, h32km±1km, M2.4*
ISCJB ***12*** *15:50:31.1±0.3, 23.98N±0.01×121.74E±0.02, h27km±2km,*
Error ellipse: s-maj=3.0km s-min=1.7km az=28.3
TAP ***12*** *15:50:31.5, 24.01N×121.67E, h26km, ML2.7, C*
ISC 12 15:50:31.1±0.9**, 23.98N**±0.02×**121.72E**±0.02**, h31**km±5km**,**
n76,σ**0.974**/135**, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.10**	**270**	*e*P	**Pb**	**15 50 37.0**	**+0.3**
	baz=234						
HWA				*e*S	Sb	15 50 41.4	+0.9
	baz=234						
TWD	**Chiawan**	**0.15**	**313**	*i* P	**Pn**	**15 50 36.8**	**-0.5**
	baz=318						
TWD				*i* S	Sb	15 50 41.0	0.0
	baz=318						
NACB	**Ninganchiao**	**0.23**	**330**	*e*P	**Pb**	**15 50 37.3**	**-0.5**
	baz=336						
NACB				*e*S	Sb	15 50 41.8	-0.5
	baz=336						
ESL	**Shilin**	**0.31**	**238**	P	**Pb**	**15 50 38.5**	**-0.3**
	baz=226						
ESL				*e*S	Sb	15 50 43.9	-0.1
	baz=226						
EGFH	**Guangfu**	**0.41**	**221**	*e*P	**Pb**	**15 50 40.2**	**0.0**
	baz=213						
EGFH				*e*S	Sn	15 50 47.0	-0.3
	baz=213						
WHF	**Hehuan Shan**	**0.45**	**292**	P	**Pb**	**15 50 40.5**	**-0.7**
	baz=289						
WHF				S	Sb	15 50 47.1	-0.9
	baz=289						
ENA	**Nanau**	**0.45**	**3**	*e*P	**Pb**	**15 50 40.8**	**0.0**
	baz=9.0						
ENA				*e*S	Sn	15 50 47.6	-0.8
	baz=9.0						
NANB	**Nanao**	**0.45**	**4**	*e*P	**Pb**	**15 50 40.4**	**-0.4**
	baz=9.0						
NANB				*e*S	Sb	15 50 47.5	+0.1
	baz=9.0						
CHGB	**Renai**	**0.51**	**280**	*e*P	**Pb**	**15 50 41.4**	**-0.4**
	baz=275						
CHGB				*e*S	Sb	15 50 48.7	-0.5
	baz=275						
NNSB	**Datong**	**0.54**	**326**	*e*P	**Pb**	**15 50 41.7**	**-0.7**
	baz=327						
NNSB				*e*S	Sb	15 50 49.1	-1.1
	baz=327						
HGSD	**Ruisui**	**0.55**	**209**	*e*P	**Pn**	**15 50 42.9**	**+0.2**
	baz=203						
HGSD				*e*S	Sn	15 50 52.1	+1.2
	baz=203						
NNS	**Nan Shan**	**0.56**	**326**	*e*P	**Pb**	**15 50 41.9**	**-0.7**
	baz=327						
NNS				*e*S	Sb	15 50 49.6	-1.0
	baz=327						
TDCB	**Techi**	**0.58**	**298**	*e*P	**Pb**	**15 50 42.5**	**-0.6**
	baz=296						
TDCB				*e*S	Sb	15 50 50.0	-1.2
	baz=296						
EHY	**Hungye**	**0.59**	**218**	*e*P	**Pb**	**15 50 41.9**	**-1.2**
	baz=211						
EHY				*e*S	Sb	15 50 50.5	-0.8
	baz=211						
TWC	**Suao**	**0.64**	**11**	*e*P	**Pn**	**15 50 44.1**	**+0.1**
	baz=16						
TWC				*e*S	Sn	15 50 52.7	-0.4
	baz=16						
ENTT	**Nioudou**	**0.68**	**348**	*e*P	**Pb**	**15 50 44.0**	**-0.5**
	baz=351						
ENTT				*e*S	Sb	15 50 53.0	-0.6
	baz=351						
EOS1	**EOS1**	**0.68**	**33**	*e*P	**Pn**	**15 50 45.1**	**+0.6**
	baz=38						
EOS1				S	Sn	15 50 55.3	+1.3
	baz=38						
YULB	**Yu-li**	**0.70**	**214**	*e*P	**Pb**	**15 50 43.7**	**-1.1**
	baz=209						
YULB				*e*S	Sb	15 50 53.1	-1.1
	baz=209						
SSLB	**Suanglung**	**0.72**	**255**	*e*P	**Pb**	**15 50 44.6**	**-0.7**
	baz=251						
SSLB				*e*S	Sb	15 50 53.9	-1.1
	baz=251						
TWF1	**Yuli**	**0.73**	**212**	*e*P	**Pb**	**15 50 44.1**	**-1.3**
	baz=206						
TWF1				*e*S	Sb	15 50 54.1	-1.1
	baz=206						
TWE	**Neicheng**	**0.74**	**356**	*e*P	**Pn**	**15 50 45.7**	**+0.3**
TWE				*e*S	Sb	15 50 55.1	-0.3
SMLT	**Sun Moon Lake**	**0.76**	**263**	*e*P	**Pb**	**15 50 45.3**	**-0.6**
	baz=259						
SMLT				*e*S	Sb	15 50 55.4	-0.5
	baz=259						
YHNB	**Yeheng**	**0.76**	**336**	*e*P	**Pb**	**15 50 44.9**	**-1.0**
	baz=337						
YHNB				*e*S	Sb	15 50 54.2	-1.8
	baz=337						
NSK	**Sanguang**	**0.77**	**335**	*e*P	**Pb**	**15 50 45.1**	**-1.0**
	baz=337						
NSK				*e*S	Sb	15 50 55.0	-1.3
	baz=337						
NWLT	**Wulai**	**0.82**	**346**	*e*P	**Pn**	**15 50 46.4**	**-0.1**
	baz=348						
NWLT				*e*S	Sb	15 50 56.4	-1.3
	baz=348						
YUS	**Yu-Shan**	**0.85**	**236**	*e*P	**Pn**	**15 50 47.3**	**0.0**
	baz=231						
YUS				*e*S	Sb	15 50 58.1	-0.9
	baz=231						
FULB	**Fuli**	**0.87**	**207**	*e*P	**Pb**	**15 50 47.8**	**+0.1**
	baz=203						
FULB				*e*S	Sn	15 51 00.4	+1.7
	baz=203						
NTC	**Toucheng**	**0.88**	**7**	*e*P	**Pb**	**15 50 48.2**	**+0.3**
	baz=9.0						
NTC				*e*S	Sn	15 51 00.4	+1.4
	baz=9.0						
EGS		**0.89**	**13**	*e*P	**Pb**	**15 50 49.0**	**+1.0**
	baz=16						
WJS	**Zhushan**	**0.92**	**261**	*e*P	**Pb**	**15 50 48.7**	**+0.2**
	baz=257						
WJS				*e*S	Sn	15 51 00.9	+0.9
	baz=257						
NSTT	**Nanjuang**	**0.92**	**315**	P	**Pb**	**15 50 48.4**	**-0.3**
	baz=315						
NSTT				S	Sn	15 50 59.9	-0.2
	baz=315						
LIOB	**Emei**	**0.93**	**316**	*e*P	**Pb**	**15 50 48.4**	**-0.3**
	baz=316						
LIOB				*e*S	Sn	15 51 00.3	+0.1
	baz=316						
CHKT	**Chengkung**	**0.93**	**200**	*e*P	**Pn**	**15 50 48.3**	**+0.3**
	baz=196						
CHKT				*e*S	Sb	15 51 01.1	+0.3
	baz=196						
TWQ1	**Liyutan**	**0.94**	**293**	*e*P	**Pb**	**15 50 48.9**	**0.0**
	baz=292						
TWQ1				*e*S	Sb	15 51 01.4	+0.3
	baz=292						
WNT	**Mingjian**	**0.95**	**264**	*e*P	**Pb**	**15 50 49.3**	**+0.2**
	baz=261						
WNT				*e*S	Sb	15 51 02.2	+0.8
	baz=261						
ALS	**Alishan**	**0.96**	**241**	*e*P	**Pb**	**15 50 49.1**	**-0.3**
	baz=237						
ALS				*e*S	Sn	15 51 01.4	+0.1
	baz=237						
TCU	**Taichung**	**0.97**	**280**	*e*P	**Pb**	**15 50 49.7**	**+0.4**
	baz=278						
TCU				*e*S	Sb	15 51 02.1	+0.3
	baz=278						
WLTB	**Daxi**	**0.97**	**334**	*e*S	**Sb**	**15 51 02.1**	**+0.2**
	baz=335						
NSY	**Sanyi**	**0.98**	**297**	*e*P	**Pb**	**15 50 49.1**	**-0.4**
	baz=295						
ELDTW	**Lidau**	**1.01**	**220**	*e*P	**Pn**	**15 50 48.7**	**-0.6**
	baz=215						
ELDTW				*e*S	Sn	15 51 01.4	-1.1
	baz=215						
NMLH	**Miaoli**	**1.01**	**304**	*e*P	**Pb**	**15 50 49.9**	**-0.3**
	baz=302						
NMLH				*e*S	Sb	15 51 03.1	0.0
	baz=302						
TATO	**Taipei**	**1.02**	**348**	*e*S	**Sb**	**15 51 02.4**	**-0.8**
	baz=350						
CHN5	**Tsauling**	**1.03**	**249**	P	**Pb**	**15 50 50.4**	**0.0**
	baz=245						
CHN5				*e*S	Sb	15 51 04.3	+0.8
	baz=245						
TWB1	**Santiao Chiao**	**1.06**	**13**	*e*P	**Pb**	**15 50 50.6**	**-0.2**
	baz=16						
TWB1				*e*S	Sb

baz=251
NCUH Zhongli 1.10 334 *e*S **Sb 15 51 05.5 -0.1**
baz=335
WDLH Douliu 1.12 255 *e*P **Pb 15 50 51.8 -0.1**
baz=252
WDLH *e*S **Sb 15 51 06.2 +0.1**
baz=252
TWS1 Kuangyinshan 1.15 346 *e*S **Sb 15 51 06.9 -0.2**
baz=349
YM01 YM01 1.17 353 *e*P **Pb 15 50 52.6 -0.2**
baz=355
YM01 *e*S **Sb 15 51 07.8 +0.1**
baz=355
YM10 YM10 1.18 353 *e*P **Pn 15 50 52.0 +0.4**
baz=354
YM04 YM04 1.18 352 *e*P **Pb 15 50 52.8 -0.2**
baz=353
YM05 YM05 1.19 353 *e*P **Pn 15 50 52.0 +0.4**
baz=355
YM11 YM11 1.19 354 *e*P **Pn 15 50 51.8 +0.1**
baz=355
YM07 YM07 1.20 356 *e*P **Pn 15 50 52.2 +0.5**
baz=357
STYT Tauyuan 1.20 228 *e*P **Pn 15 50 52.5 +0.8**
baz=224
STYT *e*S **Sb 15 51 07.9 -0.5**
baz=224
TPUB Ta-pu 1.20 236 *e*P **Pb 15 50 53.0 -0.3**
baz=233
TPUB *e*S **Sb 15 51 08.9 +0.3**
baz=233
CHN4 Tsaushan 1.21 239 *e*P **Pb 15 50 53.1 -0.3**
baz=236
CHN4 *e*S **Sb 15 51 09.7 +1.1**
baz=236
RLNB Erlin 1.25 266 *e*P **Pb 15 50 53.7 -0.3**
baz=264
RLNB *e*S **Sb 15 51 09.9 +0.1**
baz=264
TWGBT Beinan 1.29 207 *e*S **Sn 15 51 07.5 -1.7**
baz=204
TWG Pinlang 1.29 207 *e*S **Sn 15 51 07.7 -1.5**
baz=204
TWK Hsinying 1.33 238 *e*P **Pb 15 50 54.9 -0.7**
baz=235
TWK *e*S **Sb 15 51 12.7 +0.4**
baz=235
CHN1 Nanshi 1.35 234 *e*P **Pb 15 50 55.1 -0.6**
baz=231
CHN1 *e*S **Sb 15 51 13.6 +1.0**
baz=231
SGST Jiashian 1.37 230 *e*P **Pb 15 50 55.7 -0.5**
baz=226
SGST *e*S **Sb 15 51 14.0 +0.7**
baz=226
SLGT Liugui 1.39 225 *e*P **Pb 15 50 56.3 -0.2**
baz=222
SLGT *e*S **Sb 15 51 14.2 +0.3**
baz=222
SSD Sandimen 1.58 219 *e*P **Pn 15 50 58.4 +1.4**
baz=216
MASBT Mashibuluo 1.69 217 *e*P **Pb 15 51 00.1 -1.4**
baz=214
MASBT *e*S **Sb 15 51 21.3 -1.0**
baz=214
EAST Anshuo 1.78 207 *e*P **Pn 15 51 01.2 +1.5**
baz=204
IRIF Iriomote-Funau 1.87 79 P **Pn 15 51 01.0 +0.1**
IRIF *e*S **Sn 15 51 23.0 -0.5**
WDGT Dungji 2.02 250 *e*S **Pn 15 51 03.3 +0.4**
baz=247
PHUB P'eng-hu 2.02 257 *e*S **Sn 15 51 28.1 +1.0**
baz=255
PNG Penghu 2.02 259 *e*P **Pn 15 51 03.9 +0.9**
baz=256
PNG *e*S **Sn 15 51 28.4 +1.2**
baz=256
JKRS Kuro-shima 2.11 82 P **Pn 15 51 05.1 +0.9**
JKRS S **Sn 15 51 30.2 +0.9**
JIJ Ishigaki jima 2.25 80 P **Pn 15 51 06.4 +0.3**
JIJ *e*S **Sn 15 51 31.8 -1.0**
JISG Ishigakijimahi 2.44 75 P **Pn 15 51 08.8 0.0**
JISG *e*S **Sn 15 51 36.2 -1.4**

IDC **12** *16:00:57.4±2.3,24°.81S×179°.99W,h455km±27km, mb3.2/6, mb1 3.5/8, mb1mx3.2/32, mbtmp4.1/8, Error ellipse: s-maj=27.2km s-min=19.0km az=138.0*
ISCJB **12** *16:00:59.4±0.8,24°.80S±0°.10×180°.0E±0°.2, h496km, mb3.6/5, Error ellipse: s-maj=21.7km s-min=11.2km az=20.7*
ISC 12 16:01:00.2±0.9,**24°.9S**±0°.1×**179°.9W**±0°.2, **h496**km,**n8, σ2s10/10, mb3.6/5, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**13.36**	**36**	P			**P**	**16 03 52.5**	**-0.9**
	2.4nm,0.3s,baz=289,slow=18,SNR=3.5								
URZ	**Urewera**	**13.54**	**190**	P			**P**	**16 03 54.0**	**-1.0**
	1.4nm,0.3s,baz=90,slow=2.0,SNR=11								
URZ				S			**S**	**16 06 19.6**	**+0.6**
	0.4nm,0.3s,baz=245,slow=23,SNR=5.8								
RPZ	**Rata Peaks**	**20.16**	**199**	P			**P**	**16 04 59.8**	**-0.5**
	7.7nm,0.6s,baz=20,slow=4.5,SNR=8.0								
STKA	**Stephens Creek**	**34.44**	**249**	P			**P**	**16 07 05.6**	**-0.1**
	1.3nm,0.4s,baz=83,slow=9.4,SNR=6.9								
ASAR	**Alice Springs**	**41.97**	**262**	P			**P**	**16 08 06.7**	**-0.6**
	0.8nm,0.4s,baz=94,slow=7.3,SNR=72								
WRA	**Warramunga Arr**	**42.44**	**267**	P			**P**	**16 08 10.0**	**-1.0**
	1.6nm,0.4s,baz=99,slow=7.0,SNR=108								
WRA				ScP			**ScP**	**16 13 01.2**	**+5.1**
	0.1nm,0.3s,baz=103,slow=4.2,SNR=5.1								
NVAR	**Mina Array Bea**	**85.42**	**44**	P			**P**	**16 12 46.3**	**+1.2**
	0.6nm,0.8s,baz=224,slow=9.9,SNR=4.1								
ILAR	**Eielson Array**	**92.99**	**14**	P			**P**	**16 13 19.1**	**-0.4**
	0.7nm,1.2s,baz=217,slow=5.7,SNR=3.3								

IDC **12** *16:09:40.5±2.5,30°.88S×177°.52W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/43, mbtmp3.9/4, ML2.8/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/33, Error ellipse: s-maj=57.9km s-min=26.8km az=111.0*
NEIC **12** *16:09:41.9±1.2,30°.87S×177°.59W, h10km, mb4.3/5, Error ellipse: s-maj=29.3km s-min=9.7km az=102.0*
ISCJB **12** *16:09:42.5±2.8,30°.95S±0°.07×177°.6W±0°.4, h27km, mb4.0/5, MS3.5/1, Error ellipse: s-maj=55.0km s-min=6.9km az=7.8*
ISC 12 16:09:43.2±2.2,**30°.91S**±0°.08×**177°.4W**±0°.3, **h27**km,**n14, σ0s98/16, mb4.0/5, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.72**	**344**	Pn			**Pn**	**16 10 10.6**	**-0.8**
	161nm,0.3s,baz=67,slow=12,SNR=9.6								
RAO				Sn			**Sn**	**16 10 32.4**	**-0.1**
	207nm,0.3s,baz=256,slow=23,SNR=4.2								
URZ	**Urewera**	**8.62**	**210**	Pn			**Pn**	**16 11 44.1**	**-2.0**
	0.1nm,0.3s,baz=68,slow=19,SNR=2.8								
URZ				Sn			**Sn**	**16 13 22.5**	**+0.1**
	1.3nm,0.3s,baz=42,slow=23,SNR=9.5								
THZ	**Tophouse**	**13.35**	**213**	*e*Pn			**Pn**	**16 12 51.9**	**+1.0**
WKZ	**Wanaka**	**17.52**	**214**	*e*Pn			**Pn**	**16 13 45.2**	**-0.3**
	112nm,1.9s								
WHZ	**Wether Hill Ro**	**18.82**	**213**	*e*P			**Pn**	**16 14 02.2**	**+0.8**
	64nm,1.8s								
STKA	**Stephens Creek**	**34.89**	**258**	P			**P**	**16 16 34.3**	**+1.9**
	1.3nm,0.4s,baz=102,slow=14,SNR=5.5								
STKA	**Stephens Creek**	**34.89**	**258**	*e*P			**P**	**16 16 31.5**	**-0.9**
	1.6nm,1.1s								
PMG	**Port Moresby**	**39.31**	**295**	LR			LR	16 30 57.0	
	comp=Z,84nm,22.0s,baz=130,slow=33								
AS31	**Alice Springs**	**43.62**	**267**	*e*P			**P**	**16 17 45.7**	**+0.3**
	0.8nm,0.9s								
ASAR	**Alice Springs**	**43.62**	**267**	P			**P**	**16 17 45.6**	**+0.1**
	0.6nm,0.6s,baz=106,slow=7.3,SNR=23								
ASAR				PcP			**PcP**	**16 19 33.6**	**+0.9**
	0.2nm,0.4s,baz=115,slow=3.9,SNR=4.9								
WR1	**Warramunga Arr**	**44.65**	**272**	*e*P			**P**	**16 17 53.6**	**-0.2**
	29nm,1.9s								
WRA	**Warramunga Arr**	**44.65**	**272**	P			**P**	**16 17 53.6**	**-0.2**
	1.3nm,0.6s,baz=112,slow=7.9,SNR=33								
FIA0	**FINESS Array S**	**145.81**	**340**	*e*PKPdf			**PKPab**	**16 29 20.1**	**+0.6**
FINES	**FINESS Array B**	**145.81**	**340**	PKPbc			**PKPab**	**16 29 20.1**	**+0.6**
	2.2nm,0.4s,baz=50,slow=3.8,SNR=16								

IDC **12** *16:21:04.2±2.9, 14°.15N×92°.46W, h0km, mb3.4/3, mb1 3.8/6, mb1mx3.5/48, mbtmp3.4/6, ML3.4/2, Error ellipse: s-maj=51.0km s-min=20.2km az=20.0*
MEX **12** *16:21:06.4±0.3, 13°.88N×92°.41W, h32km±6km, MD3.9*
ISC 12 16:21:05.9±2.8,**14°.0N**±0°.1×**92°.48W**±0°.07, **h16**km±13km, **n10, σ0s44/16, mb3.3/3, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		**0.89**	**14**	*e*P			**Pg**	**16 21 22.9**	**-0.3**
THIG				*i* S			**Sg**	**16 21 35.3**	**+0.3**
PCIG		**1.81**	**337**	*e*P			**Pn**	**16 21 35.9**	**-0.4**
PCIG				*e*S			**Sn**	**16 21 59.0**	**+0.1**
APG	**El Apazote**	**2.18**	**64**	Pn			**Pn**	**16 21 42.0**	**+0.3**
	12nm,0.3s,baz=241,slow=8.5,SNR=98								
APG				Sn			**Sn**	**16 22 08.3**	**0.0**
	22nm,0.3s,baz=339,slow=10,SNR=10								
CCIG	**Comitan**	**2.26**	**8**	*i* P			**Pn**	**16 21 42.8**	**+0.2**
CCIG				*i* S			**Sn**	**16 22 09.6**	**-0.6**
TGIG		**2.79**	**347**	*i* P			**Pn**	**16 21 50.5**	**+0.6**
TGIG				*e*S			**Sn**	**16 22 24.0**	**+0.6**
CMIG	**Matias Romero**	**3.82**	**323**	Pn			**Pn**	**16 22 04.4**	**+0.4**
	3.6nm,0.3s,baz=134,slow=8.7,SNR=13								
CMIG				Sn			**Sn**	**16 22 48.4**	**-0.2**
	2.8nm,0.3s,baz=90,slow=14,SNR=5.8								
CMIG				Lg			Lg	16 23 03.1	
	7.6nm,0.3s,baz=262,slow=17,SNR=6.6								
TXAR	**Lajitas Array**	**18.41**	**328**	P			**Pn**	**16 25 20.8**	**+0.2**
	baz=151,slow=13,SNR=2.8								
NVAR	**Mina Array Bea**	**33.35**	**322**	P			**P**	**16 27 43.9**	**+0.3**
	0.1nm,0.3s,baz=133,slow=8.7,SNR=2.0								
YKA	**Yellowknife Ar**	**50.88**	**347**	P			**P**	**16 30 05.1**	**-0.7**
	1.7nm,0.9s,baz=153,slow=7.6,SNR=3.0								
ILAR	**Eielson Array**	**62.62**	**337**	P			**P**	**16 31 29.2**	**+0.1**
	0.2nm,0.8s,baz=113,slow=7.0,SNR=3.7								

IDC 12 16:21:49.2±3.5,**18°.19S×177°.30W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.8/48, mbtmp4.2/4, Error ellipse: s-maj=152.7km s-min=38.1km az=143.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.45**	**261**	P			P	16 28 40.7	+1.8
	7.9nm,0.9s,baz=89,slow=9.6,SNR=7.4								
STKA	**Stephens Creek**	**39.43**	**242**	P			P	16 29 19.8	-1.3
	1.0nm,0.5s,baz=81,slow=13,SNR=4.7								
WRA	**Warramunga Arr**	**45.62**	**260**	P			P	16 30 11.5	-0.2
	1.2nm,0.4s,baz=89,slow=9.1,SNR=49								
ASAR	**Alice Springs**	**45.74**	**254**	P			P	16 30 11.9	-0.7
	3.6nm,0.7s,baz=95,slow=8.6,SNR=68								
BRTR	**Keskin Array B**	**145.73**	**315**	PKPbc			PKPbc	16 41 30.5	0.0
	0.5nm,0.6s,baz=68,slow=5.3,SNR=3.5								
GERES	**GERESS Array B**	**148.14**	**346**	PKPbc			PKPbc	16 41 35.6	-1.5
	0.4nm,0.5s,baz=0.0,slow=2.2,SNR=5.3								

IDC **12** *16:56:11.9±3.4, 13°.98N×92°.41W, h0km, mb3.2/2, mb1 3.7/5, mb1mx3.4/42, mbtmp3.3/5, ML3.4/3, MS2.7/1, Ms1 2.7/1, ms1mx2.2/19, Error ellipse: s-maj=68.6km s-min=25.5km az=1.0*
MEX **12** *16:56:15.7±0.4, 13°.96N×92°.37W, h25km±14km, MD3.8*
ISC 12 16:56:16.7±3.8,**14°.1N**±0°.1×**92°.44W**±0°.07, **h25**km±23km, **n10, σ0s97/16, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		**0.78**	**12**	*e*P			**Pn**	**16 56 30.8**	**-1.3**
THIG				*e*S			**Sb**	**16 56 42.1**	**+0.4**
PCIG		**1.73**	**334**	*e*P			**Pn**	**16 56 44.1**	**-1.0**
PCIG				*i* S			**Sn**	**16 57 07.1**	**+0.8**
APG	**El Apazote**	**2.09**	**66**	Pn			**Pn**	**16 56 49.8**	**-0.6**
	7.1nm,0.3s,baz=237,slow=8.2,SNR=67								
APG				Sn			**Sn**	**16 57 17.4**	**+1.6**
	14nm,0.3s,baz=289,slow=17,SNR=7.4								
APG				LR			LR	16 57 57.5	
	comp=Z,151nm,18.5s,baz=256,slow=49								
CCIG	**Comitan**	**2.15**	**8**	*e*P			**Pn**	**16 56 50.6**	**-0.5**
CCIG				*i* S			**Sn**	**16 57 17.1**	**+0.1**
TGIG		**2.70**	**346**	*e*P			**Pn**	**16 56 58.3**	**-0.2**
TGIG				*i* S			**Sn**	**16 57 30.7**	**+0.2**
CMIG	**Matias Romero**	**3.76**	**322**	Pn			**Pn**	**16 57 13.1**	**0.0**
	2.7nm,0.3s,baz=138,slow=10,SNR=17								
CMIG				Sn			**Sn**	**16 57 57.3**	**+0.7**
	6.4nm,0.3s,baz=109,slow=9.8,SNR=7.4								
TXAR	**Lajitas Array**	**18.34**	**327**	P			**P**	**17 00 28.8**	**-0.7**
	0.0nm,0.3s,baz=150,slow=11,SNR=2.8								
NVAR	**Mina Array Bea**	**33.29**	**321**	P			**P**	**17 02 54.2**	**+1.6**
	0.1nm,0.5s,baz=131,slow=9.7,SNR=2.4								
ILAR	**Eielson Array**	**62.54**	**337**	P			**P**	**17 06 37.3**	**-0.8**
	0.4nm,0.9s,baz=125,slow=7.4,SNR=4.3								
CMAR	**Chiang Mai Arr**	**145.72**	**341**	PKPbc			**PKPdf**	**17 15 53.4**	**-0.6**
	0.3nm,0.9s,baz=347,slow=2.8,SNR=3.0								

NIED **12** *17:16:00, 40°.30N×142°.30E, h38km, Mw3.8 Best double couple: M0 5.08000×10^14 NP1:φs348.00000°,δ11.00000°, λ-173.00000°. NP2:φs252.00000°,δ89.00000°, λ-79.00000°.*
ISCJB **12** *17:16:01.7±0.8, 40°.33N±0°.04×142°.36E±0°.06, h26km, mb3.9/8, MS3.6/1, Error ellipse: s-maj=7.0km s-min=4.8km az=23.9*
JMA **12** *17:16:02.8±0.1, 40°.26N×142°.31E, h32km±1km, M3.5*
IDC **12** *17:16:05.2±2.3, 40°.30N×142°.52E, h68km±20km, mb3.7/8, mb1 3.7/11, mb1mx3.5/39, mbtmp3.9/11, MS3.1/3, Ms1 3.1/3, ms1mx2.6/33, Error ellipse: s-maj=32.1km s-min=14.3km az=94.0*
ISC 12 17:16:02.0±0.9,**40°.29N**±0°.05×**142°.32E**±0°.07, **h26**km,**n29, σ1s71/31, mb4.0/8, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JKEN	**Kujiedanarisaw**	**0.47**	**260**	P			**Pb**	**17 16 12.4**	**+0.6**
JKEN				*e*S			**Sb**	**17 16 19.3**	**+0.8**
JTH	**Tanohata**	**0.50**	**225**	P			**Pb**	**17 16 12.7**	**+0.5**
JANG	**Nango**	**0.62**	**278**	P			**Pb**	**17 16 14.7**	**+0.4**
JANG				*e*S			**Sb**	**17 16 23.0**	**+0.4**
JKZ	**Kuzumaki**	**0.82**	**248**	P			**Pb**	**17 16 17.8**	**+0.2**
JKZ				*e*S			**Sb**	**17 16 28.5**	**+0.2**
JARK	**Aomorirokkasho**	**1.02**	**315**	P			**Pn**	**17 16 20.7**	**+0.1**
JARK				*e*S			**Sn**	**17 16 33.4**	**-0.6**
JTM	**Tenmabayashi**	**1.07**	**298**	P			**Pn**	**17 16 21.9**	**+0.6**
JTM				*e*S			**Sn**	**17 16 35.2**	**-0.2**
JOM	**Ohasama**	**1.14**	**224**	P			**Pn**	**17 16 22.6**	**+0.4**
JAH	**Hinai**	**1.29**	**266**	P			**Pn**	**17 16 25.5**	**+1.1**
JAH				*e*S			**Sn**	**17 16 41.9**	**+1.1**
JOT	**Ohata**	**1.45**	**319**	P			**Pn**	**17 16 27.3**	**+0.7**
JOT				*e*S			**Sn**	**17 16 44.8**	**0.0**
JRG	**Rokugo**	**1.58**	**236**	P			**Pb**	**17 16 30.1**	**-0.4**
JRG				*e*S			**Sn**	**17 16 49.4**	**+1.6**
ASAJ	**Asahikawa**	**3.83**	**3**	P			**Pn**	**17 17 01.4**	**+2.2**
	2.6nm,0.3s,baz=202,slow=11,SNR=26								
ASAJ				S			**Sn**	**17 17 46.2**	**+2.9**
	4.7nm,0.3s,baz=75,slow=33,SNR=6.0								
ASAJ				LR			LR	17 18 59.5	
	comp=Z,129nm,20.3s,baz=182,slow=46								
MAT	**Matsushiro**	**4.94**	**222**	P			**Pn**	**17 17 18.5**	**+3.9**
MJAR	**Matsushiro Arr**	**4.94**	**222**	P			**Pn**	**17 17 18.4**	**+3.8**
	1.6nm,0.3s,baz=32,slow=12,SNR=37								
USRK	**Uusuriysk Ar.**	**8.60**	**300**	P			**Pn**	**17 18 08.2**	**+3.6**
	baz=109,slow=15								
KLR	**Kul'dur**	**11.66**	**324**	LR			LR	17 22 50.3	
	comp=Z,65nm,18.1s,baz=110,slow=34								
YAK	**Yakutsk**	**23.08**	**345**	P			**P**	**17 21 03.2**	**-2.1**
	3.6nm,0.3s,baz=166,slow=4.7,SNR=4.4								
SONM	**Songino Array**	**26.70**	**298**	P			**P**	**17 21 38.5**	**-0.6**
	0.4nm,0.5s,baz=90,slow=7.3,SNR=3.1								
H11N2	**WAKE ISLAND Hy**	**29.38**	**127**	T			T	17 52 44.7	
	baz=318,slow=75,SNR=44								
H11N1	**WAKE ISLAND Hy**	**29.39**	**127**	T			T	17 52 57.7	
	baz=318,slow=75,SNR=36								
H11N3	**WAKE ISLAND Hy**	**29.39**	**127**	T			T	17 52 59.5	
	baz=318,slow=75,SNR=32								
H11S1	**WAKE ISLAND Hy**	**30.19**	**129**	T			T	17 54 25.5	
	baz=321,slow=76,SNR=11								
H11S3	**WAKE ISLAND Hy**	**30.20**	**129**	T			T	17 53 55.4	
	baz=321,slow=76,SNR=10								
H11S2	**WAKE ISLAND Hy**	**30.21**	**129**	T			T	17 54 00.5	
	baz=321,slow=76,SNR=9.9								
ZALV	**Zalesovo Beam**	**40.31**	**310**	P			**P**	**17 23 37.0**	**+0.1**
	1.3nm,0.5s,baz=95,slow=7.9,SNR=5.9								
MKAR	**Makanchi Array**	**43.06**	**299**	P			**P**	**17 23 59.5**	**-0.1**
	0.5nm,0.4s,baz=83,slow=12,SNR=10								
WRA	**Warramunga Arr**	**60.38**	**189**	P			**P**	**17 26 07.2**	**-1.8**
	1.5nm,1.1s,baz=6.6,slow=6.9,SNR=6.8								
ASAR	**Alice Springs**	**64.11**	**189**	P			**P**	**17 26 32.9**	**-1.0**
	0.6nm,0.8s,baz=4.9,slow=5.1,SNR=7.7								
ASAR				LR			LR	17 55 14.5	
	comp=Z,33nm,18.3s,baz=140,slow=37								
FINES	**FINESS Array B**	**66.27**	**332**	P			**P**	**17 26 48.1**	**+0.6**
	4.0nm,1.0s,baz=74,slow=6.1,SNR=3.1								
NOA	**NORSAR Array B**	**71.46**	**337**	P			**P**	**17 27 16.9**	**-3.0**
	1.1nm,0.9s,baz=42,slow=6.8,SNR=2.4								

RSNC 12 17:33:56.5±0.9,**7°.39N×77°.90W, h4**km±11km,**ML3.6, 1C, Panama-Colombia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.26**	**161**	*i* P			Pg	17 34 01.1	-0.4
PTAC				*e*S			Sg	17 34 05.4	+0.4
PTAC				*i*				17 34 06.2	
	comp=N,8μm,0.2s								
PTAC				*i*				17 34 07.3	
	comp=Z,9μm,0.1s								
UPD2	**Meteti**	**1.15**	**354**	*e*P			Pg	17 34 16.3	-2.4
UPD2				*i*				17 34 35.3	
	comp=N,760nm,0.3s								
SOLC	**Bahia Solano**	**1.26**	**157**	*e*S			Sg	17 34 35.4	-1.5
DBBC	**Dabeiba**	**1.71**	**102**	*e*P			Pn	17 34 26.3	-1.0
DBBC				*e*S			Sn	17 34 47.9	-1.7
MOTC	**Monteria, Cord**	**2.60**	**58**	*e*P			Pn	17 34 38.4	-1.0

NORS **12** *17:45:50.5±0.0, 42°.58N×43°.51E, h11km, MPVA3.0*
ISC 12 17:45:50.3±3.0,**42°.6N**±0°.2×**43°.4E**±0°.1, **h16**km±10km, **n6, σ0s24/12, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.04**	**9**	P			**Pg**	**17 45 53.5**	**+0.2**
ONI				S			**Sg**	**17 45 55.1**	**-0.2**
DIGR	**Digorskoe uzhe**	**0.36**	**16**	*i* Pg			**Pb**	**17 45 58.5**	**+0.1**
DIGR				*e*Sg			**Sb**	**17 46 04.0**	**0.0**
ZEI	**Tsey**	**0.41**	**55**	*i* Pg			**Pb**	**17 45 59.4**	**+0.1**
ZEI				*e*Sg			**Sb**	**17 46 05.4**	**0.0**
LACR	**Lac**	**0.69**	**66**	*i* Pg			**Pb**	**17 46 04.2**	**+0.2**
LACR				*e*Sg			**Sb**	**17 46 13.3**	**+0.1**
KORR	**Kora**	**0.70**	**41**	*e*Pg			**Pn**	**17 46 05.1**	**-0.5**
KORR				*e*Sg			**Sn**	**17 46 16.1**	**-0.1**
LSNR	**Lesken**	**0.78**	**21**	*e*Pg			**Pn**	**17 46 06.7**	**0.0**
LSNR				*e*Sg			**Sn**	**17 46 18.2**	**+0.2**

IDC **12** *17:51:20.3±1.0, 0°.23S×125°.00E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.5/35, mbtmp3.5/6, ML3.3/1, Error ellipse: s-maj=39.8km s-min=18.4km az=60.0*
ISCJB **12** *17:51:25.4±0.6, 0°.08S±0°.06×125°.42E±0°.05, h53km, mb3.5/5, Error ellipse: s-maj=9.4km s-min=6.7km az=27.6*
DJA **12** *17:51:25.6±0.3, 0°.5S±3°×12°.5E±°, h10km, M3.9/11, mb4.0/3, MLv3.9/11*
ISC 12 17:51:27.4±0.8,**0°.11S**±0°.07×**125°.42E**±0°.05, **h53**km,**n16, σ1s77/19, mb3.6/5, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.59**	**295**	P			**Pn**	**17 51 51.9**	**-1.3**
SANI	**Sanana**	**2.01**	**164**	P			**Pn**	**17 51 57.0**	**-2.0**
SANI				S			**Sn**	**17 52 23.2**	**+0.2**
TNTI	**Ternate**	**2.14**	**66**	P			**Pn**	**17 51 58.7**	**-2.0**
LBMI	**Labuha**	**2.15**	**104**	P			**Pn**	**17 51 59.6**	**-1.3**
LBMI				S			**Sn**	**17 52 30.4**	**+4.0**
LUWI	**Luwuk**	**2.80**	**251**	P			**Pn**	**17 52 11.3**	**+1.5**
MRSI	**Marisa**	**3.52**	**279**	P			**Pn**	**17 52 19.0**	**-0.7**
APSI	**Ampana**	**3.85**	**258**	P			**Pn**	**17 52 24.7**	**+0.5**
MPSI	**Mapaga**	**5.54**	**275**	P			**Pn**	**17 52 47.4**	**+0.1**
SIJI	**Sorong**	**5.90**	**97**	Pn			**Pn**	**17 52 55.5**	**+3.2**
	0.8nm,0.3s,baz=270,slow=20,SNR=3.5								
SIJI				Sn			Sn	17 54 09.2	+11
	0.1nm,0.3s,baz=234,slow=19,SNR=1.9								
BNSI	**Bone**	**6.81**	**231**	P			**Pn**	**17 53 02.5**	**-2.3**
SPSI	**Sidrap Palu**	**6.82**	**236**	P			**Pn**	**17 53 05.1**	**+0.1**
WRA	**Warramunga Arr**	**21.56**	**157**	P			**P**	**17 56 11.6**	**-1.1**
	0.8nm,0.7s,baz=337,slow=11,SNR=18								
ASAR	**Alice Springs**	**24.83**	**161**	P			**P**	**17 56 45.0**	**0.0**
	0.2nm,0.4s,baz=349,slow=13,SNR=11								
ASAR				PcP			**PcP**	**18 00 21.4**	**+1.2**
	0.4nm,1.0s,baz=350,slow=2.0,SNR=4.3								
STKA	**Stephens Creek**	**35.11**	**156**	P			**P**	**17 58 15.7**	**-0.2**
	0.8nm,0.5s,baz=352,slow=7.1,SNR=2.2								
SONM	**Songino Array**	**50.54**	**343**	P			**P**	**18 00 20.8**	**+0.2**
	0.5nm,0.7s,baz=157,slow=4.7,SNR=3.3								
MKAR	**Makanchi Array**	**59.99**	**327**	P			**P**	**18 01 27.2**	**-1.4**
	0.5nm,0.6s,baz=126,slow=7.8,SNR=7.3								

ISCJB **12** *18:08:42.0±0.3, 24°.25N±0°.04×122°.97E±0°.02, h41km±8km, Error ellipse: s-maj=6.0km s-min=2.8km az=174.9*
JMA **12** *18:08:42.0±0.1, 24°.30N×122°.96E, h47km±3km, M2.2*
TAP **12** *18:08:42.1, 24°.33N×122°.95E, h43km, ML2.7, D*
ISC 12 18:08:42.7±1.4,**24°.24N**±0°.03×**122°.98E**±0°.02, **h33**km±3km, **n47, σ1s23/87, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.22**	**352**	P			**Pn**	**18 08 49.6**	**+0.7**
JYNG				S			**Sb**	**18 08 55.1**	**+0.9**
YOJ	**Yonaguni jima**	**0.23**	**8**	P			**Pn**	**18 08 49.8**	**+0.7**
	baz=21								
YOJ				S			**Sb**	**18 08 55.1**	**+0.8**
	baz=21								
YOJ	**Yonaguni jima**	**0.23**	**8**	P			**Pn**	**18 08 49.8**	**+0.7**
YOJ				S			**Sb**	**18 08 55.1**	**+0.8**
IRIF	**Iriomote-Funau**	**0.69**	**82**	P			**Pn**	**18 08 55.6**	**-0.5**
IRIF				S			**Sn**	**18 09 05.5**	**-0.2**
EOS1	**EOS1**	**0.83**	**292**	P			**Pn**	**18 08

EGFH				*e*S		**Sn**	**18 09 26.1**	**-0.2**
	baz=244							
NSK	**Sanguang**	**1.54 287**	*e*P		**Pn**	**18 09 08.4**	**+0.6**
	baz=293							
NSK				*e*S		**Sn**	**18 09 27.7**	**+1.0**
	baz=293							
YM07	**YM07**	**1.55 307**	*e*S		**Sn**	**18 09 24.5**	**-2.5**
	baz=306							
YM01	**YM01**	**1.57 306**	*e*S		**Sn**	**18 09 26.2**	**-1.3**
	baz=304							
HGSD	**Ruisui**	**1.60 243**	*e*P		**Pn**	**18 09 07.4**	**-1.2**
	baz=239							
HGSD				*e*S		**Sn**	**18 09 26.2**	**-2.0**
	baz=239							
JTJ	**Tarama**	**1.62 75**	P		**Pn**	**18 09 08.7**	**-0.2**
JTJ			S		**Sn**	**18 09 28.2**	**-0.5**
CHGB	**Renai**	**1.66 264**	*e*P		**Pn**	**18 09 09.6**	**-0.1**
	baz=249							
CHGB				*e*S		**Sn**	**18 09 29.0**	**-0.8**
	baz=249							
EHY	**Hungye**	**1.68 245**	*e*P		**Pn**	**18 09 08.9**	**-0.8**
	baz=241							
EHY				*e*S		**Sn**	**18 09 28.9**	**-1.3**
	baz=241							
YULB	**Yu-li**	**1.75 242**	*e*P		**Pn**	**18 09 09.8**	**-0.9**
	baz=238							
YULB				*e*S		**Sn**	**18 09 31.5**	**-0.4**
	baz=238							
TWF1	**Yuli**	**1.77 241**	*e*P		**Pn**	**18 09 10.5**	**-0.5**
	baz=237							
TWF1				*e*S		**Sn**	**18 09 31.2**	**-1.2**
	baz=237							
LIOB	**Emei**	**1.83 283**	*e*S		**Sn**	**18 09 35.7**	**+1.8**
	baz=293							
FULB	**Fuli**	**1.86 237**	*e*P		**Pn**	**18 09 10.9**	**-1.3**
	baz=222							
FULB				*e*S		**Sn**	**18 09 33.0**	**-1.5**
	baz=222							
CHKT	**Chengkung**	**1.86 233**	*e*P		**Pn**	18 09 10.2	-2.1	
	baz=219							
CHKT				*e*S		**Sn**	**18 09 32.0**	**-2.5**
	baz=219							
SSLB	**Suanglung**	**1.90 257**	*e*P		**Pn**	**18 09 12.4**	**-0.4**
	baz=254							
SSLB				*e*S		**Sn**	**18 09 35.9**	**+0.2**
	baz=254							
SMLT	**Sun Moon Lake**	**1.93 260**	*e*P		**Pn**	**18 09 13.0**	**-0.3**
	baz=246							
SMLT				*e*S		**Sn**	**18 09 35.7**	**-0.8**
	baz=246							
ELDTW	**Lidau**	**2.08 240**	*e*P		**Pn**	**18 09 14.0**	**-1.3**
	baz=237							
ELDTW				*e*S		**Sn**	**18 09 37.9**	**-2.1**
	baz=237							
ALS	**Alishan**	**2.12 250**	*e*P		**Pn**	**18 09 16.9**	**+0.9**
	baz=247							
ALS				*e*S		**Sn**	**18 09 42.1**	**+0.8**
	baz=247							
CHN5	**Tsauling**	**2.20 254**	*e*P		**Pn**	**18 09 19.0**	**+2.0**
	baz=242							
CHN5				*e*S		**Sn**	**18 09 45.3**	**+2.3**
	baz=242							
TWGBT	**Beinan**	**2.24 231**	*e*P		**Pn**	**18 09 17.3**	**-0.2**
	baz=220							
TWGBT				*e*S		**Sn**	**18 09 43.7**	**-0.3**
	baz=220							
TWG	**Pinlang**	**2.25 232**	*e*P		**Pn**	**18 09 17.2**	**-0.3**
	baz=220							
TWG				*e*S		**Sn**	**18 09 43.7**	**-0.4**
	baz=220							
STYT	**Tauyuan**	**2.30 243**	*e*P		**Pn**	**18 09 18.7**	**+0.4**
	baz=231							
STYT				*e*S		**Sn**	**18 09 45.2**	**-0.2**
	baz=231							
TPUB	**Ta-pu**	**2.34 247**	*e*P		**Pn**	**18 09 20.2**	**+1.3**
	baz=244							
TPUB				*e*S		**Sn**	**18 09 48.1**	**+1.5**
	baz=244							
CHN4	**Tsaushan**	**2.35 249**	*e*P		**Pn**	**18 09 21.1**	**+2.0**
	baz=246							
CHN4				*e*S		**Sn**	**18 09 48.5**	**+1.7**
	baz=246							
WTP	**Ta-pu**	**2.38 246**	*e*P		**Pn**	**18 09 20.7**	**+1.3**
	baz=243							
WTP				*e*S		**Sn**	**18 09 49.6**	**+2.2**
	baz=243							
SLGT	**Liugui**	**2.47 240**	*e*P		**Pn**	**18 09 22.0**	**+1.4**
	baz=229							
SLGT				*e*S		**Sn**	**18 09 50.5**	**+0.9**
	baz=229							
CHN1	**Nanshi**	**2.48 246**	*e*P		**Pn**	**18 09 20.8**	**+0.1**
	baz=242							
CHN1				*e*S		**Sn**	**18 09 51.2**	**+1.3**
	baz=242							
TWK	**Hsinying**	**2.48 248**	*e*P		**Pn**	**18 09 22.6**	**+1.8**
	baz=244							
TWK				*e*S		**Sn**	**18 09 51.3**	**+1.4**
	baz=244							
SGST	**Jiashian**	**2.48 243**	*e*P		**Pn**	**18 09 22.3**	**+1.6**
	baz=239							
SGST				*e*S		**Sn**	**18 09 52.9**	**+3.0**
	baz=239							

IDC 12 18:13:43.7±2.2, 4°38S×151°41E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/25, mbtmp3.2/3, Error ellipse: s-maj=164.7km s-min=30.0km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.71**	**226**	P	P	18 18 49.1	+1.7
	0.5nm,0.7s,baz=50,slow=10,SNR=5.1						
ASAR	**Alice Springs**	**25.55**	**220**	P	P	18 19 13.1	-1.4
	0.3nm,0.7s,baz=55,slow=9.7,SNR=5.3						
ILAR	**Eielson Array**	**82.30**	**22**	P	P	18 26 07.1	+0.2
	0.2nm,0.9s,baz=243,slow=4.0,SNR=4.5						

ISCJB ***12*** *18:24:29.9±1.1, 13°92S±0°.08×166°.4E±0°.2, h43km, mb3.8/7, Error ellipse: s-maj=25.6km s-min=9.5km az=167.7*
IDC ***12*** *18:24:31.7±3.4, 13°.81S×166°.47E, h46km±31km, mb3.7/7, mb1 3.9/9, mb1mx3.6/36, mbtmp3.9/9, ML3.7/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/34, Error ellipse: s-maj=36.1km s-min=26.2km az=111.0*
ISC 12 18:24:31.9±1.1, 13°.82S±0°.09×166°.3E±0°.2, h43km, n9, σ1§67/11, mb3.8/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.62**	**304**	P	**Pn**	**18 26 21.6**	**+1.2**
	1.9nm,0.3s,baz=353,slow=19,SNR=2.3						
HNR				S	**Sn**	**18 27 42.8**	**-2.8**
	3.7nm,0.3s,baz=283,slow=19,SNR=2.1						
DZM	**Mont Dzumac**	**8.21**	**179**	P	**Pn**	**18 26 28.9**	**+0.4**
	0.4nm,0.3s,baz=197,slow=20,SNR=8.4						
DZM				S	**Sn**	**18 27 58.0**	**-2.1**
	baz=143,slow=20,SNR=1.7						
DZM				LR	LR	18 29 30.6	
	comp=Z,109nm,18.1s,baz=34,slow=36						
STKA	**Stephens Creek**	**28.91**	**227**	P	**P**	**18 30 28.5**	**+1.6**
	1.6nm,0.5s,baz=37,slow=6.3,SNR=4.9						
WRA	**Warramunga Arr**	**31.18**	**254**	P	**P**	**18 30 46.8**	**-0.4**
	0.4nm,0.6s,baz=85,slow=9.1,SNR=8.9						
ASAR	**Alice Springs**	**32.16**	**247**	P	**P**	**18 30 55.6**	**-0.2**
	1.1nm,0.7s,baz=74,slow=9.7,SNR=2.1						
CMAR	**Chiang Mai Arr**	**73.75**	**294**	P	**P**	**18 36 03.3**	**+1.1**
	0.8nm,0.9s,baz=135,slow=7.0,SNR=5.1						
SONM	**Songino Array**	**81.23**	**324**	P	**P**	**18 36 44.6**	**+1.2**
	0.3nm,0.6s,baz=163,slow=4.6,SNR=3.5						
ILAR	**Eielson Array**	**85.95**	**18**	P	**P**	**18 37 05.4**	**-1.7**
	0.7nm,0.6s,baz=240,slow=4.8,SNR=11						
MKAR	**Makanchi Array**	**95.92**	**317**	P	**P**	**18 37 53.6**	**-0.6**
	0.5nm,0.8s,baz=94,slow=6.3,SNR=3.6						

IDC 12 18:45:00.5±21.0, 20°.72S×178°.03W, h493km±193km, mb3.2/6, mb1 3.3/6, mb1mx3.0/30, mbtmp4.1/6, Error ellipse: s-maj=144.2km s-min=88.5km az=93.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.44**	**265**	P	P	18 50 58.0	0.0
	1.6nm,0.4s,baz=95,slow=9.6,SNR=4.7						
STKA	**Stephens Creek**	**37.67**	**244**	P	P	18 51 34.1	+1.1
	1.0nm,0.6s,baz=58,slow=10.0,SNR=3.3						
ASAR	**Alice Springs**	**44.44**	**257**	P	P	18 52 27.1	-0.1
	2.5nm,0.5s,baz=96,slow=7.5,SNR=58						
ASAR				PcP	PcP	18 53 59.9	-0.5
	0.3nm,0.5s,baz=114,slow=3.9,SNR=5.7						
WRA	**Warramunga Arr**	**44.54**	**262**	P	P	18 52 27.3	-0.7
	1.1nm,0.3s,baz=97,slow=7.6,SNR=95						
FITZ	**Fitzroy Crossi**	**52.97**	**263**	P	P	18 53 30.1	-0.6
	0.7nm,0.4s,baz=122,slow=2.1,SNR=10						
CMAR	**Chiang Mai Arr**	**90.16**	**290**	P	P	18 57 09.6	+1.4
	0.1nm,0.3s,baz=123,slow=3.3,SNR=4.8						
AKASG	**Malin Array Be**	**143.19**	**331**	PKP	PKPab	19 03 35.2	-0.3
	0.2nm,0.4s,baz=46,slow=4.6,SNR=5.6						
BRTR	**Keskin Array B**	**146.96**	**312**	PKPbc	PKPbc	19 03 47.6	-0.1
	0.3nm,0.5s,baz=96,slow=5.9,SNR=2.7						

MAN 12 18:46:22.2, 8°.16N×126°.16E, h59km, mb4.8, ML3.6, MS3.6, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.20**	**83**	*i* P	Pn	18 46 31.2	-0.3
BIPH				*i* S	Sn	18 46 40.0	+1.7
BUTP	**Butuan**	**0.96**	**327**	*e*P	Pn	18 46 40.7	+0.9
BUTP				*e*S	Sn	18 46 54.5	+1.8
BUKP	**Musuan**	**1.12**	**256**	*e*P	Pn	18 46 43.5	+1.7
BUKP				*e*S	Sn	18 46 57.5	+1.0

ISCJB ***12*** *18:51:32.8±0.3, 5°.16S±0°.05×151°.34E±0°.05, h150km, mb4.1/17, Error ellipse: s-maj=7.2km s-min=5.9km az=42.6*
IDC ***12*** *18:51:34.0±2.1, 5°.18S×151°.31E, h147km±20km, mb3.8/13, mb1 4.0/15, mb1mx3.8/39, mbtmp4.3/15, Error ellipse: s-maj=16.0km s-min=14.0km az=103.0*
NEIC ***12*** *18:51:34.4±0.6, 5°.19S×151°.33E, h154km±6km, mb4.4/6, Error ellipse: s-maj=8.8km s-min=6.6km az=115.0*
ISC 12 18:51:34.0±0.5, 5°.22S±0°.06×151°.33E±0°.06, h150km, n42, σ1§11/49, mb4.1/17, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.32**	**39**	*e*Pn	**Pn**	**18 52 01.4**	**-0.4**
MANU	**Manus Island**	**5.06**	**308**	*e*Pn	**Pn**	**18 52 49.0**	**+0.7**
PMG	**Port Moresby**	**5.87**	**225**	P	**Pn**	**18 52 58.9**	**-0.1**
	22nm,0.3s,baz=45,slow=5.6,SNR=49						
PMG				S	**Sn**	**18 54 05.4**	**-0.1**
	52nm,0.3s,baz=168,slow=18,SNR=13						
HNR	**Honiara**	**9.52**	**117**	P	**Pn**	**18 53 49.0**	**+1.3**
	4.4nm,0.3s,baz=237,slow=6.6,SNR=3.6						
HNR				S	**Sn**	**18 55 31.7**	**-1.6**
	2.7nm,0.3s,baz=327,slow=22,SNR=6.4						
CTA	**Charters Tower**	**15.58**	**198**	P	**P**	**18 55 08.9**	**+2.1**
	0.9nm,0.3s,baz=32,slow=9.5,SNR=8.8						
WRAB	**Tennant Creek**	**22.07**	**227**	*e*P	**P**	**18 56 17.0**	**-0.1**
	9.4nm,0.9s						
WB2	**Warramunga Arr**	**22.07**	**227**	*e*P	**P**	**18 56 16.6**	**-0.5**
WR1	**Warramunga Arr**	**22.08**	**227**	*e*P	**P**	**18 56 16.8**	**-0.5**
	7.6nm,1.0s						
WR1				*e*S	**S**	**19 00 07.9**	**-2.4**
WR1				*e*ScP	**ScP**	**19 03 33.5**	**+0.7**
WRA	**Warramunga Arr**	**22.08**	**227**	P	**P**	**18 56 16.8**	**-0.5**
	2.7nm,0.5s,baz=52,slow=9.8,SNR=51						
WRA				S	**S**	**19 00 07.9**	**-2.4**
	0.8nm,0.7s,baz=48,slow=16,SNR=5.1						
WRA				ScP	**ScP**	**19 03 33.5**	**+0.7**
	1.5nm,0.9s,baz=52,slow=2.9,SNR=7.1						
DZM	**Mont Dzumac**	**22.24**	**140**	P	**P**	**18 56 19.3**	**+0.5**
	5.8nm,0.7s,baz=258,slow=5.5,SNR=8.5						
DZM	**Mont Dzumac**	**22.24**	**140**	*e*P	**P**	**18 56 19.3**	**+0.5**
	75nm,1.9s						
AS01	**Alice Springs**	**24.83**	**221**	*e*P	**P**	**18 56 42.8**	**+0.2**
AS31	**Alice Springs**	**24.86**	**221**	*e*P	**P**	**18 56 43.0**	**0.0**
	2.2nm,0.6s						
ASAR	**Alice Springs**	**24.86**	**221**	P	**P**	**18 56 43.6**	**+0.7**
	2.7nm,0.3s,baz=54,slow=9.1,SNR=46						
ASAR				S	**S**	**19 00 52.3**	**-2.8**
	0.3nm,0.5s,baz=52,slow=17,SNR=2.8						
STKA	**Stephens Creek**	**28.04**	**198**	P	**P**	**18 57 11.6**	**+0.2**
	0.9nm,0.4s,baz=44,slow=16,SNR=3.3						
FITZ	**Fitzroy Crossi**	**28.17**	**241**	P	**P**	**18 57 12.2**	**-0.5**
	2.4nm,0.5s,baz=47,slow=3.0,SNR=18						
FITZ	**Fitzroy Crossi**	**28.17**	**241**	*e*P	**P**	**18 57 12.2**	**-0.5**
	24nm,1.8s						
RPZ	**Rata Peaks**	**42.10**	**159**	P	**P**	**18 59 12.4**	**+1.1**
	5.2nm,0.5s,baz=339,slow=3.2,SNR=5.7						
CM01	**Chiang Mai Arr**	**56.71**	**296**	*e*P	**P**	**19 01 03.8**	**+1.3**
CM31	**Chiang Mai Arr**	**56.73**	**296**	*e*P	**P**	**19 01 01.5**	**-1.1**
CMAR	**Chiang Mai Arr**	**56.73**	**296**	P	**P**	**19 01 03.6**	**+0.9**
	0.6nm,0.5s,baz=128,slow=5.8,SNR=8.1						
PETK	**Petropavlovsk-**	**58.36**	**5**	P	**P**	**19 01 13.1**	**-0.3**
	1.2nm,0.5s,baz=172,slow=8.5,SNR=10						
PEA1	**Petropavlovsk-**	**58.36**	**5**	*e*P	**P**	**19 01 13.1**	**-0.3**
SONA0	**Songino Array**	**65.91**	**329**	*e*P	**P**	**19 02 05.4**	**+1.4**
SONM	**Songino Array**	**65.91**	**329**	P	**P**	**19 02 05.4**	**+1.4**
	2.3nm,0.6s,baz=145,slow=4.8,SNR=19						
SONA1	**Songino Array**	**65.91**	**329**	*e*P	**P**	**19 02 05.0**	**+1.0**
MK32	**Makanchi Array**	**79.68**	**319**	*e*P	**P**	**19 03 25.3**	**+0.2**
MKAR	**Makanchi Array**	**79.68**	**319**	P	**P**	**19 03 25.3**	**+0.2**
	0.8nm,0.5s,baz=101,slow=7.2,SNR=14						
ZALV	**Zalesovo Beam**	**80.69**	**327**	P	**P**	**19 03 28.9**	**-1.4**
	1.4nm,0.3s,baz=109,slow=5.5,SNR=6.7						
ZALV	**Zalesovo Beam**	**80.69**	**327**	*e*P	**P**	**19 03 29.5**	**-0.8**
ZAA1	**Zalesovo Array**	**80.69**	**327**	*e*P	**P**	**19 03 28.9**	**-1.4**
MLY	**Manley**	**81.80**	**21**	*e*P	**P**	**19 03 36.4**	**+0.4**
	25nm,2.0s						
IL1	**Eielson Array**	**83.10**	**22**	*e*P	**P**	**19 03 41.3**	**-1.3**
ILAR	**Eielson Array**	**83.10**	**22**	P	**P**	**19 03 41.4**	**-1.3**
	2.1nm,0.6s,baz=248,slow=5.1,SNR=25						
ILB	**Eielson Array**	**83.10**	**22**	*e*P	**P**	**19 03 41.6**	**-1.1**
NV01	**Mina Array Sit**	**93.50**	**52**	*e*P	**P**	**19 04 31.9**	**-1.4**
NVAR	**Mina Array Bea**	**93.50**	**52**	P	**P**	**19 04 34.2**	**+0.9**
	0.8nm,0.7s,baz=261,slow=6.0,SNR=7.7						
GERES	**GERESS Array B**	**123.64**	**328**	PKP	**PKPdf**	**19 10 13.6**	**-0.5**
	0.6nm,0.7s,baz=50,slow=2.1,SNR=5.1						
LPAZ	**La Paz**	**135.50**	**119**	PKP	**PKPdf**	**19 10 38.7**	**+0.6**
	0.6nm,0.5s,baz=240,slow=5.6,SNR=3.7						
LPAZ	**La Paz**	**135.50**	**119**	*e*PKPdf	**PKPdf**	**19 10 37.2**	**-0.9**
TORD	**Torodi Ar. Bea**	**149.03**	**287**	PKPbc	**PKPbc**	**19 11 04.5**	**-1.0**
	3.3nm,0.7s,baz=80,slow=2.5,SNR=18						
TOA1	**Torodi Ar. Sit**	**149.04**	**287**	*e*PKPbc	**PKPbc**	**19 11 04.5**	**-1.0**

IDC 12 18:57:15.2±5.7, 5°.96S×147°.82E, h182km±66km, mb3.0/1, mb1 3.2/3, mb1mx2.9/36, mbtmp3.6/3, Error ellipse: s-maj=156.7km s-min=45.6km az=122.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.49**	**191**	P	Pn	18 58 11.8	+1.8
	3.7nm,0.3s,baz=333,slow=19,SNR=14						
PMG				S	Sn	18 58 52.4	-0.5
	4.7nm,0.3s,baz=223,slow=23,SNR=8.2						
WRA	**Warramunga Arr**	**19.11**	**222**	P	P	19 01 24.2	-0.2
	0.2nm,0.3s,baz=48,slow=12,SNR=11						
ASAR	**Alice Springs**	**22.12**	**216**	P	P	19 01 57.2	+0.9
	0.6nm,0.4s,baz=48,slow=8.5,SNR=15						
TORD	**Torodi Ar. Bea**	**145.87**	**285**	PKPbc	PKPdf	19 16 32.6	-0.8
	baz=101,slow=4.6						

MEX 12 19:00:56.8±0.5, 16°.30N×97°.99W, h2km±3km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.16**	**303**	*i* P	Pg	19 00 59.7	-0.3
PNIG				*i* S	Sg	19 01 02.5	+0.3
TLIG	**Tlapa**	**1.37**	**336**	*e*P	Pg	19 01 19.0	-4.1
TLIG				*e*S	Sg	19 01 36.2	-4.7
CAIG	**El Cayaco**	**2.31**	**289**	*e*P	Pn	19 01 33.3	-2.6
CAIG				*e*S	Sn	19 02 00.4	-4.5

IDC 12 19:10:04.1±1.6, 2°.31S×138°.99E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.2/23, mbtmp3.1/3, ML3.3/1, Error ellipse: s-maj=30.2km s-min=14.8km az=4.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.73**	**97**	Pg	Pn	19 10 36.0	+0.6
	8.6nm,0.3s,baz=229,slow=8.7,SNR=56						
JAY				Lg	Lg	19 10 58.6	
	10nm,0.3s,baz=246,slow=16,SNR=9.2						
WRA	**Warramunga Arr**	**18.11**	**194**	P	Pn	19 14 16.4	-0.7
	0.1nm,0.3s,baz=18,slow=12,SNR=8.2						
ASAR	**Alice Springs**	**21.79**	**193**	P	P	19 14 57.9	+0.1
	0.3nm,0.7s,baz=22,slow=10,SNR=3.6						
MKAR	**Makanchi Array**	**69.64**	**322**	P	P	19 21 15.5	0.0
	0.4nm,0.5s,baz=116,slow=7.4,SNR=5.1						

DDA ***12*** *19:29:06.0, 38°.92N×31°.50E, h7km, Ml2.8*
ISK ***12*** *19:29:06.5, 38°.88N×31°.48E, h5km, ML2.2/11*
ISC 12 19:29:06.6±1.1, 38°.90N±0°.03×31°.48E±0°.02, h9km±10km, n23, σ0§58/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIZT	**Kizilcal**	**0.31**	**94**	PG	**Pg**	**19 29 13.2**	**+0.3**
KIZT				SG	**Sg**	**19 29 17.9**	**+0.8**
BOLV	**Bolvadin**	**0.45**	**246**	*i* P	**Pg**	**19 29 15.7**	**+0.2**
BOLV				*i* S	**Sg**	**19 29 21.4**	**+0.1**
SVRH	**Sivrihisar-ESK**	**0.55**	**4**	PG	**Pb**	**19 29 17.8**	**-0.6**
KDHN	**Kadinhani**	**0.63**	**127**	*i* P	**Pg**	**19 29 18.6**	**-0.2**
KDHN				*i* S	**Sb**	**19 29 27.8**	**-0.9**
ESKT	**Eskisehir**	**0.79**	**322**	PG	**Pb**	**19 29 22.6**	**+0.1**
DOGA	**KONYA_Doganhis**	**0.81**	**169**	*i* P	**Pg**	**19 29 22.1**	**-0.1**
DOGA				*i* S	**Sb**	**19 29 33.5**	**-0.4**
LADK	**Ladik-KONYA**	**0.99**	**135**	PG	**Pb**	**19 29 25.5**	**-0.4**
CHBY	**Cihanbeyli**	**1.15**	**106**	PN	**Pn**	**19 29 29.1**	**+0.2**
KKUL	**Konya-Kulu**	**1.15**	**76**	*i* P	**Pg**	**19 29 27.1**	**-1.6**
KKUL				*i* S	**Sn**	**19 29 46.0**	**+1.1**
KONT	**Konya--Tatoy**	**1.18**	**144**	PN	**Pb**	**19 29 28.9**	**-0.2**
KONT	**Konya--Tatoy**	**1.18**	**144**	*i* P	**Pn**	**19 29 29.1**	**-0.1**
KONT				*i* S	**Sn**	**19 29 45.6**	**+0.2**
KZIL	**AFYON_Kizioren**	**1.23**	**239**	*i* P	**Pg**	**19 29 29.8**	**-0.3**
KZIL				*i* S	**Sn**	**19 29 47.6**	**+0.8**
BORA	**Eskisehir**	**1.26**	**321**	*i* P	**Pg**	**19 29 30.1**	**-0.7**
BORA				*i* S	**Sb**	**19 29 47.4**	**+0.5**
AFSR	**Af˘ar-Bala (A**	**1.35**	**66**	PN	**Pg**	**19 29 32.9**	**+0.3**
ANTO	**Ankara**	**1.41**	**46**	PN	**Pg**	**19 29 33.9**	**+0.3**
SUTC	**Sutluce-Ispart**	**1.47**	**195**	PN	**Pb**	**19 29 33.9**	**-0.2**
MDUB	**Mudurnu**	**1.58**	**352**	PN	**Pb**	**19 29 36.5**	**-0.5**
SERE	**Sereflikochisa**	**1.63**	**88**	PN	**Pb**	**19 29 36.7**	**-0.1**
TVSB	**Tavsanli**	**1.66**	**290**	PN	**Pb**	**19 29 37.1**	**-0.3**
GULT	**Gulveren**	**1.70**	**334**	PN	**Pb**	**19 29 38.0**	**-0.1**
KAMT	**Kaman**	**1.80**	**74**	PN	**Pb**	**19 29 39.4**	**-0.4**
CAVI	**Cavuskoy**	**1.81**	**316**	PN	**Pb**	**19 29 39.2**	**-0.7**
YAYX	**Yaylak**	**1.82**	**88**	PN	**Pb**	**19 29 39.6**	**-0.5**

ISCJB ***12*** *19:33:25.3±0.6, 39°.93N±0°.03×36°.75E±0°.03, h5km±6km, Error ellipse: s-maj=5.3km s-min=4.4km az=160.6*
ISK ***12*** *19:33:25.1, 39°.89N×36°.76E, h5km, ML1.9/5*
DDA ***12*** *19:33:25.9, 39°.86N×36°.81E, h7km, Ml2.7*
ISC 12 19:33:25.4±1.0, 39°.90N±0°.03×36°.77E±0°.03, h10km±9km, n13, σ0§69/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SVSK	**Karacayir**	**0.18**	**84**	PG	**Pg**	**19 33 29.3**	**0.0**
SVSK				SG	**Sg**	**19 33 32.2**	**+0.3**
SCER	**sogukcermik**	**0.28**	**97**	*i* P	**Pg**	**19 33 31.2**	**0.0**
SCER				*i* S	**Sg**	**19 33 35.3**	**+0.3**
TOKT	**Tokat**	**0.46**	**338**	PG	**Pg**	**19 33 34.4**	**0.0**
CUALT	**Altinyayla-SIV**	**0.62**	**180**	*i* P	**Pb**	**19 33 37.9**	**-0.6**
CUALT				*i* S	**Sb**	**19 33 47.8**	**+0.4**
CUSAR	**Sarkisla-SIVAS**	**0.62**	**220**	*i* P	**Pg**	**19 33 37.8**	**+0.3**
CUSAR				*i* S	**Sb**	**19 33 47.1**	**-0.4**
CUZAR	**Zara_SIVAS**	**0.77**	**90**	*i* P	**Pb**	**19 33 40.7**	**-0.4**
CUZAR				*i* S	**Sb**	**19 33 51.0**	**-0.7**
ERBA	**Erbaa**	**0.78**	**359**	*i* P	**Pg**	**19 33 42.0**	**+0.7**
ERBA				*i* S	**Sg**	**19 33 48.8**	**-2.0**
YOZ	**Yozgat**	**1.14**	**257**	PN	**Pg**	**19 33 47.2**	**-0.2**
SUSE	**Susehri**	**1.15**	**74**	*i* P	**Pg**	**19 33 47.1**	**-0.3**
SUSE				*i* S	**Sn**	**19 34 03.6**	**0.0**
BNN	**Bunyan**	**1.26**	**215**	PN	**Pg**	**19 33 49.4**	**-0.3**
KEMA	**Kemaliye**	**1.48**	**115**	*i* P	**Pn**	**19 33 52.4**	**+0.2**
KEMA				*i* S	**Sg**	**19 34 12.7**	**-0.2**
CORM	**Corum**	**1.66**	**280**	PN	**Pn**	**19 33 55.6**	**+0.8**
PTK	**Pertek**	**2.27**	**115**	PN	**Pn**	**19 34 04.3**	**+1.1**

IDC ***12*** *19:42:59.6±0.8, 41°.77N×144°.28E, h0km, mb3.9/14, mb1 4.0/15, mb1mx3.9/50, mbtmp3.9/15, ML3.0/2, MS3.3/9, Ms1 3.3/9, ms1mx2.9/54, Error ellipse: s-maj=23.3km s-min=16.7km az=103.0*
ISCJB ***12*** *19:43:00.7±0.5, 41°.62N±0°.04×144°.42E±0°.07, h25km, mb4.0/18, MS3.5/4, Error ellipse: s-maj=7.5km s-min=5.6km az=177.9*
NIED ***12*** *19:43:00, 41°.70N×144°.30E, h23km, Mw4.1 Best double couple: M₀1.73000×10¹⁵ NP1:φ₀=90.00000°, δ57.00000°, λ168.00000°. NP2:φ₀ 187.00000°, δ80.00000°, λ33.00000°.*
JMA ***12*** *19:43:03.3±0.2, 41°.74N×144°.33E, h28km±2km, M3.9*
NEIC ***12*** *19:43:04.4±0.5, 41°.63N×144°.28E, h35km, mb4.5/6, Error ellipse: s-maj=10.3km s-min=7.4km az=100.0*
ISC 12 19:43:02.8±0.7, 41°.73N±0°.05×144°.34E±0°.06, h25km, n61, σ1§31/53, mb4.1/18, MS3.5/4, Hokkaido region

| Code | Station Name | Δ° | AZ° | Phase ID | | Time | Res |
|---|---|---|---|---|---|---

MKAR	**Makanchi Array**	**43.71 299**	P	**P**	**19 51 04.8**	**-0.9**
	1.3nm,0.8s,baz=80,slow=8.8,SNR=7.2						
MKAR	**Makanchi Array**	**43.71 299**	*eP*	**P**	**19 51 05.4**	**-0.2**
	15nm,0.7s						
LSA	**Lhasa**	**44.19 272**	*eP*	**P**	**19 51 11.3**	**+1.2**
	4.6nm,1.1s						
ILAR	**Eielson Array**	**44.34 35**	P	**P**	**19 51 11.8**	**+1.4**
	0.7nm,1.1s,baz=245,slow=5.9,SNR=4.8						
ILB	**Eielson Array**	**44.34 35**	*eP*	**P**	**19 51 11.8**	**+1.4**
CM31	**Chiang Mai Arr**	**44.96 253**	*eP*	**P**	**19 51 17.3**	**+1.4**
CMAR	**Chiang Mai Arr**	**44.96 253**	P	**P**	**19 51 17.3**	**+1.4**
	0.6nm,0.7s,baz=42,slow=7.1,SNR=7.8						
INK	**Inuvik**	**49.18 29**	P	**P**	**19 51 48.7**	**+0.5**
	1.3nm,0.5s,baz=352,slow=4.8,SNR=4.8						
INK	**Inuvik**	**49.18 29**	*eP*	**P**	**19 51 48.7**	**+0.5**
	3.2nm,0.8s						
KK31	**Karatay Array**	**52.83 298**	*eP*	**P**	**19 52 16.2**	**+0.1**
KKAR	**Karatay Array**	**52.83 298**	*eP*	**P**	**19 52 16.2**	**+0.1**
ABKAR	**Akbulak array**	**56.77 309**	*eP*	**P**	**19 52 44.4**	**+0.3**
RES	**Resolute Bay**	**57.48 16**	P	**P**	**19 52 48.8**	**-0.3**
	2.9nm,0.8s,baz=313,slow=6.5,SNR=5.3						
WR1	**Warramunga Arr**	**62.05 191**	*eP*	**P**	**19 53 21.2**	**+0.1**
	20nm,0.9s						
WRA	**Warramunga Arr**	**62.05 191**	P	**P**	**19 53 21.2**	**+0.1**
	0.2nm,0.5s,baz=7.1,slow=6.8,SNR=4.0						
FIA0	**FINESS Array S**	**65.72 332**	*eP*	**P**	**19 53 44.5**	**-0.3**
FINES	**FINESS Array B**	**65.72 332**	P	**P**	**19 53 44.5**	**-0.3**
	11nm,1.2s,baz=1.8,slow=5.9,SNR=4.3						
ASAR	**Alice Springs**	**65.78 190**	P	**P**	**19 53 47.6**	**+2.0**
	0.2nm,0.6s,baz=358,slow=5.6,SNR=2.5						
KBZ	**Khabaz**	**69.57 311**	P	**P**	**19 54 10.5**	**+1.2**
	1.6nm,0.9s,baz=181,slow=15,SNR=4.1						
NB200	**NORSAR Array S**	**70.72 338**	*eP*	**P**	**19 54 16.2**	**0.0**
NOA	**NORSAR Array B**	**70.72 338**	P	**P**	**19 54 16.3**	**0.0**
	0.8nm,0.8s,baz=34,slow=6.3,SNR=3.3						
AKASG	**Malin Array Be**	**71.96 323**	P	**P**	**19 54 24.1**	**+0.3**
	0.6nm,0.4s,baz=44,slow=6.8,SNR=3.2						
AKBB	**Malin Array Si**	**71.96 323**	*eP*	**P**	**19 54 24.1**	**+0.3**
CLL	**Collm**	**78.12 331**	*iP*	**P**	**19 55 00.0**	**+0.7**
VRAC	**Vranov**	**78.38 328**	LR	LR	20 34 40.0	
	comp=Z,31nm,19.6s,baz=10,slow=40						
GERES	**GERESS Array B**	**79.88 329**	P	**P**	**19 55 09.7**	**+0.6**
	0.3nm,0.7s,baz=104,slow=1.7,SNR=3.7						
IDI	**Anoyia**	**85.39 314**	LR	LR	20 37 01.9	
	comp=Z,13nm,18.2s,baz=122,slow=38						

*ISCJB **12** 19:49:08.9±0.3,6.62S±0.05×154.94E±0.04, h56km, mb4.3/19, MS3.4/10, Error ellipse: s-maj=6.8km s-min=5.9km az=14.9*
*IDC **12** 19:49:09.3±2.8,6.61S×154.97E, h49km±25km, mb4.1/14, mb1 4.2/16, mb1mx4.0/44, mbtmp4.3/16, ML2.6/2, MS3.5/13, Ms1 3.5/13, ms1mx3.3/39, Error ellipse: s-maj=21.1km s-min=15.4km az=96.0*
*NEIC **12** 19:49:10.9±0.8,6.64S×154.96E, h64km±7km, mb4.6/5, Error ellipse: s-maj=8.5km s-min=7.4km az=101.0*

ISC 12 19:49:11.0±0.4,**6.60S**±0.07×**154.91E**±0.06,**h56**km,**n69,** σ1s**59**/68,**mb4.2**/19,**MS3.5**/10,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.64**	**311**	*e*Pn		**Pn**	**19 50 03.6**	**-1.3**
HNR	**Honiara**	**5.72**	**120**	P		**Pn**	**19 50 35.2**	**+1.7**
	8.0nm,0.3s,baz=236,slow=15,SNR=3.1							
HNR				S		**Sn**	**19 51 38.3**	**+0.4**
	8.4nm,0.3s,baz=112,slow=19,SNR=2.3							
HNR				LR		LR	19 52 42.7	
	comp=Z,734nm,20.9s,baz=280,slow=38							
HNR	**Honiara**	**5.72**	**120**	*e*Pn		**Pn**	**19 50 31.9**	**-1.5**
HNR				*e*Sn		**Sn**	**19 51 38.3**	**+0.4**
PMG	**Port Moresby**	**8.17**	**250**	P		**Pn**	**19 51 07.8**	**+0.7**
	1.0nm,0.3s,baz=21,slow=15,SNR=2.7							
PMG				S		**Sn**	**19 52 39.2**	**+1.1**
	1.8nm,0.3s,baz=150,slow=20,SNR=7.1							
PMG				LR		LR	19 54 11.4	
	comp=Z,478nm,19.2s,baz=60,slow=37							
MANU	**Manus Island**	**8.78**	**301**	*e*Pn		**Pn**	**19 51 16.3**	**+0.9**
COEN	**Coen**	**13.67**	**237**	*e*Pn		**Pn**	**19 52 24.3**	**+2.1**
PATS	**Pohnpei**	**13.77**	**14**	*e*Pn		**Pn**	**19 52 24.6**	**+1.1**
DZM	**Mont Dzumac**	**18.99**	**145**	P		**P**	**19 53 27.2**	**-1.0**
	0.2nm,0.3s,baz=311,slow=20,SNR=1.9							
DZM				LR		LR	19 59 51.9	
	comp=Z,152nm,20.7s,baz=250,slow=34							
DZM	**Mont Dzumac**	**18.99**	**145**	*e*LR		LR	19 58 16.9	
	306nm,25.0s							
GUMO	**Guam**	**22.40**	**334**	LR		LR	20 01 19.7	
	comp=Z,51nm,21.8s,baz=132,slow=33							
WRAB	**Tennant Creek**	**23.96**	**234**	*e*P		**P**	**19 54 20.3**	**-0.1**
	80nm,1.8s							
WB2	**Warramunga Arr**	**23.97**	**234**	*e*P		**P**	**19 54 19.2**	**-1.3**
WR1	**Warramunga Arr**	**23.98**	**234**	*e*P		**P**	**19 54 19.7**	**-0.9**
WR1				*e*PcP		**PcP**	**19 58 01.4**	**-0.4**
WRA	**Warramunga Arr**	**23.98**	**234**	P		**P**	**19 54 19.7**	**-0.9**
	12nm,0.8s,baz=56,slow=9.6,SNR=52							
WRA				PcP		**PcP**	**19 58 01.4**	**-0.4**
	2.2nm,0.7s,baz=55,slow=2.6,SNR=9.5							
WRA				LR		LR	20 03 29.3	
	comp=Z,141nm,18.5s,baz=45,slow=36							
SIJI	**Sorong**	**24.27**	**283**	P		**P**	**19 54 22.6**	**-0.6**
	46nm,0.9s,baz=60,slow=8.6,SNR=11							
AS01	**Alice Springs**	**26.34**	**228**	*e*P		**P**	**19 54 40.3**	**-1.7**
AS31	**Alice Springs**	**26.38**	**228**	*e*P		**P**	**19 54 40.8**	**-1.5**
	1.2nm,0.8s							
ASAR	**Alice Springs**	**26.38**	**228**	P		**P**	**19 54 41.0**	**-1.3**
	1.7nm,0.4s,baz=61,slow=8.6,SNR=28							
ASAR				PcP		**PcP**	**19 58 06.5**	**-0.6**
	1.3nm,0.9s,baz=61,slow=2.4,SNR=5.8							
ASAR				ScP		**ScP**	**20 01 43.3**	**+0.9**
	0.6nm,0.8s,baz=59,slow=3.6,SNR=2.9							
ASAR				LR		LR	20 04 21.4	
	comp=Z,152nm,21.4s,baz=86,slow=34							
STKA	**Stephens Creek**	**28.06**	**205**	P		**P**	**19 54 55.5**	**-1.8**
	0.8nm,0.3s,baz=15,slow=15,SNR=3.6							
STKA				LR		LR	20 05 47.6	
	comp=Z,156nm,19.9s,baz=24,slow=36							
DAV	**Davao City (W)**	**32.26**	**294**	LR		LR	20 06 48.1	
	comp=Z,44nm,20.6s,baz=100,slow=33							
AFI	**Afiamalu**	**33.54**	**105**	LR		LR	20 07 24.9	
	comp=Z,124nm,18.0s,baz=308,slow=33							
URZ	**Urewera**	**37.39**	**151**	LR		LR	20 11 09.5	
	comp=Z,91nm,19.0s,baz=324,slow=35							
RPZ	**Rata Peaks**	**39.59**	**162**	LR		LR	20 12 35.0	
	comp=Z,91nm,18.8s,baz=331,slow=36							
JOW	**Kunigami**	**42.08**	**323**	LR		LR	20 13 35.4	
	comp=Z,53nm,18.3s,baz=165,slow=35							
KSRS	**Korea Array**	**50.55**	**332**	P		**P**	**19 58 02.9**	**-1.0**
	2.1nm,0.9s,baz=149,slow=8.8,SNR=4.5							
KSAR	**Wonju Array Be**	**50.56**	**332**	P		**P**	**19 58 02.9**	**-1.1**
PPT2	**Papeete2**	**55.19**	**107**	*e*LR		LR	20 15 05.7	
	56nm,22.8s							
TBI	**Tubuai**	**55.91**	**114**	*e*LR		LR	20 15 12.4	
	142nm,32.8s							
UTTA	**Uttaradit**	**58.86**	**295**	P		**P**	**19 59 05.4**	**+0.9**
KLR	**Kul'dur**	**59.17**	**343**	P		**P**	**19 59 05.5**	**-0.6**
	4.9nm,1.0s,baz=105,slow=5.6,SNR=5.7							
UTHA	**Uthaitani**	**59.18**	**292**	P		**P**	**19 59 08.3**	**+1.5**
PETK	**Petropavlovsk-**	**59.52**	**2**	P		**P**	**19 59 08.6**	**+0.1**
	10nm,1.0s,baz=149,slow=6.3,SNR=6.3							
PEA1	**Petropavlovsk-**	**59.53**	**2**	*e*P		**P**	**19 59 08.6**	**+0.1**
SUKH	**Sukhothai**	**59.61**	**295**	P		**P**	**19 59 11.3**	**+1.6**
LAMP	**Lampang**	**59.95**	**296**	P		**P**	**19 59 13.1**	**+1.1**
PAYA	**Payao**	**60.02**	**297**	P		**P**	**19 59 13.1**	**+0.6**
CM01	**Chiang Mai Arr**	**60.52**	**295**	*e*P		**P**	**19 59 15.8**	**-0.1**
CM31	**Chiang Mai Arr**	**60.54**	**295**	*e*P		**P**	**19 59 17.1**	**+1.0**
CMAR	**Chiang Mai Arr**	**60.54**	**295**	P		**P**	**19 59 16.4**	**+0.3**
	12nm,0.8s,baz=116,slow=5.1,SNR=102							
CMAR				LR		LR	20 26 25.3	
	comp=Z,25nm,19.4s,baz=86,slow=37							
CMMT	**Chiang Mai**	**60.65**	**296**	P		**P**	**19 59 17.3**	**+0.4**
CHTO	**Chiang Mai**	**60.66**	**296**	*e*P		**P**	**19 59 17.2**	**+0.3**
	16nm,1.1s							
CHTO	**Chiang Mai**	**60.66**	**296**	P		**P**	**19 59 17.4**	**+0.5**
SONA0	**Songino Array**	**68.96**	**327**	*e*P		**P**	**20 00 10.1**	**-0.5**
SONM	**Songino Array**	**68.96**	**327**	P		**P**	**20 00 10.1**	**-0.5**
	1.5nm,0.9s,baz=128,slow=4.8,SNR=7.7							
VNDA	**Vanda**	**70.98**	**178**	P		**P**	**20 00 21.7**	**-0.6**
	1.4nm,0.9s,baz=326,slow=6.7,SNR=10							
VNDA	**Vanda**	**70.98**	**178**	*e*P		**P**	**20 00 21.9**	**-0.4**
	6.4nm,1.5s							
LSA	**Lhasa**	**70.98**	**304**	*e*P		**P**	**20 00 24.7**	**+1.0**
	4.6nm,1.0s							
RAMN	**Ramite**	**73.97**	**300**	*e*P		**P**	**20 00 41.2**	**-0.1**
JIRN	**Jiri**	**74.51**	**301**	*e*P		**P**	**20 00 44.5**	**-0.1**
	12nm,0.4s							
GUN	**Gumba**	**74.85**	**301**	*e*P		**P**	**20 00 46.5**	**0.0**
	33nm,0.7s							
PKI	**Pulchoki**	**75.15**	**301**	*e*P		**P**	**20 00 47.9**	**-0.4**
PKIN	**Phulchoki**	**75.17**	**301**	*e*P		**P**	**20 00 47.8**	**-0.5**
	6.7nm,0.5s							
KKN	**Kakani**	**75.32**	**301**	*e*P		**P**	**20 00 48.9**	**-0.2**
	12nm,0.5s							
DMN	**Daman**	**75.42**	**301**	*e*P		**P**	**20 00 49.8**	**+0.1**
	47nm,1.0s							
KOLN	**Koldanda**	**76.75**	**300**	*e*P		**P**	**20 00 56.7**	**-0.5**
	31nm,1.0s							
DANN	**Dangsing**	**76.77**	**301**	*e*P		**P**	**20 00 56.6**	**-0.8**
PYUN	**Piuthan**	**77.36**	**301**	*e*P		**P**	**20 00 59.9**	**-0.7**
	32nm,1.0s							
ILAR	**Eielson Array**	**83.04**	**22**	P		**P**	**20 01 28.2**	**-1.9**
	1.5nm,1.0s,baz=237,slow=5.6,SNR=6.7							
MK01	**Makanchi Array**	**83.04**	**319**	*e*P		**P**	**20 01 29.7**	**-0.9**
MK32	**Makanchi Array**	**83.06**	**319**	*e*P		**P**	**20 01 29.9**	**-0.8**
MKAR	**Makanchi Array**	**83.06**	**319**	P		**P**	**20 01 29.9**	**-0.8**
	2.2nm,0.9s,baz=143,slow=4.2,SNR=8.4							
QSPA	**South Pole Qui**	**83.37**	**180**	*e*P		**P**	**20 01 31.5**	**-0.6**
	7.6nm,1.0s							
ZALV	**Zalesovo Beam**	**83.81**	**326**	P		**P**	**20 01 31.6**	**-2.6**
	0.5nm,0.4s,baz=116,slow=3.4,SNR=3.1							
ZAA1	**Zalesovo Array**	**83.81**	**326**	*e*P		**P**	**20 01 31.6**	**-2.7**
NV01	**Mina Array Sit**	**91.54**	**52**	*e*P		**P**	**20 02 12.0**	**-0.2**
NV01				*e*pP		**PcP**	**20 02 20.0**	**+6.8**
NVAR	**Mina Array Bea**	**91.54**	**52**	P		**P**	**20 02 11.6**	**-0.7**
	0.7nm,0.7s,baz=265,slow=5.4,SNR=6.7							
GERES	**GERESS Array B**	**126.67**	**329**	PKP		**PKPdf**	**20 08 07.3**	**-1.2**
	0.6nm,0.8s,baz=337,slow=1.3,SNR=4.4							
TORD	**Torodi Ar. Bea**	**152.84**	**286**	PKPbc		**PKPdf**	**20 09 00.6**	**+4.9**
	3.1nm,0.9s,baz=52,slow=2.4,SNR=15							
TOA1	**Torodi Ar. Sit**	**152.84**	**286**	*e*PKPbc		**PKPdf**	**20 09 00.6**	**+4.9**

*ISCJB **12** 19:53:40.6±0.4,24.06S±0.06×179.9W±0.1, h518km, mb3.9/15, Error ellipse: s-maj=12.7km s-min=8.6km az=5.4*
*IDC **12** 19:53:40.2±1.2,23.91S×179.94W, h496km±12km, mb3.6/16, mb1 3.8/18, mb1mx3.6/43, mbtmp4.5/18, Error ellipse: s-maj=18.7km s-min=13.9km az=157.0*

ISC 12 19:53:41.1±0.5,**24.22S**±0.07×**179.87W**±0.09,**h518**km, **n27,** σ2s**03**/35,**mb4.0**/15,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.31**	**161**	P		**P**	**19 55 11.9**	**+0.2**
	319nm,0.3s,baz=78,slow=7.4,SNR=21							
RAO				S		**S**	**19 56 20.1**	**-5.7**
	44nm,0.3s,baz=37,slow=20,SNR=3.1							
AFI	**Afiamalu**	**12.78**	**38**	P		**P**	**19 56 25.2**	**-2.8**
	4.2nm,0.3s,baz=135,slow=5.7,SNR=3.2							
AFI				S		S	19 58 31.2	-14
	1.8nm,0.3s,baz=276,slow=19,SNR=3.0							
URZ	**Urewera**	**14.24**	**190**	P		**P**	**19 56 44.5**	**+1.6**
	4.4nm,0.3s,baz=37,slow=3.5,SNR=13							
URZ				S		**S**	**19 59 11.5**	**-1.2**
	2.3nm,0.3s,baz=55,slow=21,SNR=12							
RPZ	**Rata Peaks**	**20.83**	**199**	P		**P**	**19 57 48.6**	**+2.4**
	8.2nm,0.5s,baz=2.3,slow=1.2,SNR=4.2							
CTA	**Charters Tower**	**31.60**	**271**	P		**P**	**19 59 22.2**	**+0.9**
	11nm,0.4s,baz=90,slow=11,SNR=26							
STKA	**Stephens Creek**	**34.72**	**249**	P		**P**	**19 59 49.0**	**+1.4**
	0.9nm,0.6s,baz=84,slow=7.8,SNR=4.7							
ASAR	**Alice Springs**	**42.10**	**261**	P		**P**	**20 00 48.2**	**+0.5**
	3.7nm,0.8s,baz=95,slow=6.9,SNR=24							
ASAR				ScP		**ScP**	**20 05 34.9**	**+3.2**
	1.5nm,0.8s,baz=107,slow=4.6,SNR=9.7							
ASAR				S		**S**	**20 06 26.5**	**-3.3**
	0.2nm,0.5s,baz=96,slow=17,SNR=3.4							
WRA	**Warramunga Arr**	**42.51**	**266**	P		**P**	**20 00 50.6**	**-0.3**
	7.8nm,0.6s,baz=103,slow=8.4,SNR=110							
WRA				ScP		**ScP**	**20 05 36.9**	**+3.6**
	1.4nm,0.9s,baz=98,slow=3.8,SNR=6.0							
WRA				S		**S**	**20 06 31.4**	**-4.2**
	0.5nm,0.7s,baz=112,slow=15,SNR=4.5							
JAY	**Jayapura**	**43.75**	**293**	P		**P**	**20 00 59.2**	**-1.5**
	11nm,0.7s,baz=94,slow=4.6,SNR=7.7							
SIJI	**Sorong**	**52.65**	**289**	P		**P**	**20 02 05.9**	**-1.2**
	17nm,0.6s,baz=44,slow=5.8,SNR=8.5							
MJAR	**Matsushiro Arr**	**72.22**	**326**	P		**P**	**20 04 12.4**	**-1.1**
	3.3nm,0.9s,baz=168,slow=6.1,SNR=3.6							
KSRS	**Korea Array**	**78.57**	**320**	P		**P**	**20 04 48.7**	**0.0**
	1.7nm,0.7s,baz=120,slow=6.2,SNR=5.3							
PETK	**Petropavlovsk-**	**79.43**	**346**	P		**P**	**20 04 52.4**	**-0.6**
	4.3nm,0.6s,baz=120,slow=7.0,SNR=6.8							
USRK	**Ussuriysk Ar.**	**81.09**	**327**	P		**P**	**20 05 02.0**	**+0.1**
	2.0nm,0.6s,baz=144,slow=4.5,SNR=5.0							
SNAA	**Sanae**	**84.35**	**179**	P		**P**	**20 05 19.2**	**+1.1**
VNA3	**Neumayer Olymp**	**84.56**	**177**	P		**P**	**20 05 20.4**	**+1.4**
NVAR	**Mina Array Bea**	**84.89**	**44**	P		**P**	**20 05 21.8**	**+0.4**
	0.4nm,0.7s,baz=223,slow=7.6,SNR=3.6							
VNA2	**Neumayer--Watz**	**84.97**	**178**	P		**P**	**20 05 22.7**	**+1.7**
	baz=199,slow=3.1							
VNA1	**Neumayer--Stat**	**85.21**	**177**	P		**P**	**20 05 21.8**	**-0.3**
SEY	**Seymchan**	**89.60**	**348**	P		**P**	**20 05 42.5**	**-0.2**
	1.1nm,0.6s,baz=199,slow=10,SNR=4.4							
CMAR	**Chiang Mai Arr**	**89.75**	**290**	P		**P**	**20 05 45.9**	**+1.4**
	1.4nm,0.9s,baz=134,slow=3.0,SNR=11							
TXAR	**Lajitas Array**	**90.49**	**58**	P		**P**	**20 05 48.9**	**+1.1**
	1.3nm,0.7s,baz=212,slow=6.4,SNR=14							
PDAR	**Pinedale Array**	**92.83**	**44**	P		**P**	**20 05 58.6**	**+0.2**
	0.4nm,0.7s,baz=164,slow=3.6,SNR=3.4							
FINES	**FINESS Array B**	**138.78**	**341**	PKP		**PKPdf**	**20 12 07.5**	**0.0**
	8.0nm,1.1s,baz=116,slow=6.3,SNR=3.8							
FINES				SKPbc		**SKPbc**	**20 14 54.2**	**+0.7**
	2.7nm,0.7s,baz=56,slow=2.4,SNR=9.1							
AKASG	**Malin Array Be**	**145.30**	**327**	PKPbc		**PKPdf**	**20 12 19.5**	**+0.1**
	0.8nm,0.4s,baz=46,slow=4.7,SNR=8.5							
AKASG				SKPbc		**SKiKP**	**20 15 11.3**	**+0.8**
	1.6nm,0.5s,baz=47,slow=3.1,SNR=6.8							
BRTR	**Keskin Array B**	**147.86**	**307**	PKPbc		**PKPbc**	**20 12 26.9**	**-1.1**
	0.6nm,0.5s,baz=119,slow=1.5,SNR=4.0							
GERES	**GERESS Array B**	**153.19**	**340**	PKPbc		**PKPbc**	**20 12 43.0**	**+3.0**
	0.6nm,0.6s,baz=33,slow=5.1,SNR=7.0							

*NIED **12** 20:00:00,36.30N×142.50E, h8km, Mw4.0 Best double couple: M0 1.09000×10^15 NP1:φs=212.00000°, δ38.00000°, λ109.00000°. NP2:φs=8.00000°, δ55.00000°, λ76.00000°.*
*IDC **12** 20:00:01.9±0.8,36.19N×142.53E, h0km, mb3.9/9, mb1 4.1/14, mb1mx3.9/52, mbtmp4.0/14, ML3.9/4, MS3.0/5, Ms1 3.0/5, ms1mx2.6/46, Error ellipse: s-maj=22.9km s-min=17.2km az=78.0*
*ISCJB **12** 20:00:04.4±1.4,36.18N±0.04×142.49E±0.04, h30km±10km, mb4.0/11, MS3.1/2, Error ellipse: s-maj=6.4km s-min=5.6km az=24.3*
*JMA **12** 20:00:04.4±0.2,36.25N×142.51E, h80km, M3.6*
*NEIC **12** 20:00:06.3±2.7,36.10N×142.44E, h30km±18km, mb4.9/3, Error ellipse: s-maj=10.5km s-min=6.8km az=94.0*

ISC 12 20:00:02.7±2.5,**36.15N**±0.05×**142.57E**±0.06,**h13**km±15km, **n64,** σ1s**96**/69,**mb3.9**/11,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.46**	**253**	P		**Pb**	**20 00 29.3**	**-0.4**
CHOJ				S		**Sg**	**20 00 48.1**	**-1.6**
JHYU	**Hitachinakayam**	**1.61**	**277**	P		**Pn**	**20 00 30.8**	**-0.1**
JHYU				S		**Sn**	**20 00 50.7**	**-0.9**
JIHU	**Itakohorinouch**	**1.67**	**264**	P		**Pb**	**20 00 32.3**	**-1.0**
JHO	**Hitachi**	**1.68**	**287**	P		**Pn**	**20 00 31.2**	**-0.7**
JHO				S		**Sn**	**20 00 51.3**	**-2.0**
ONAJ	**Iwakimizuishiy**	**1.71**	**304**	P		**Pn**	**20 00 31.3**	**-1.1**
JFK	**Kawauchi**	**1.82**	**312**	P		**Pn**	**20 00 32.6**	**-1.3**
JFK				S		**Sn**	**20 00 53.6**	**-3.3**
BSO1	**Boso 1**	**1.98**	**222**	P		**Pn**	**20 00 37.0**	**+1.5**
BSO3	**Boso 3**	**2.15**	**232**	P		**Pn**	**20 00 39.2**	**+1.1**
JMM	**Marumori**	**2.23**	**321**	P		**Pn**	**20 00 38.2**	**-1.2**
JFT	**Otama**	**2.25**	**308**	P		**Pn**	**20 00 39.8**	**0.0**
JFT				S		**Sn**	**20 01 06.2**	**-1.3**
JAG	**Ashikaga**	**2.53**	**277**	P		**Pn**	**20 00 43.5**	**-0.1**
JAG				*e*S		**Sn**	**20 01 12.4**	**-2.0**
JOD2	**Odawara 2**	**2.97**	**254**	P		**Pn**	**20 00 50.4**	**+0.8**
JRY	**Ryogami san**	**2.97**	**269**	P		**Pn**	**20 00 49.8**	**+0.1**
JRY				S		**Sn**	**20 01 23.9**	**-1.4**
JMK	**Ichinoseki**	**3.00**	**339**	P		**Pn**	**20 00 49.5**	**-0.4**
MJAR	**Matsushiro Arr**	**3.54**	**278**	Pn		**Pn**	**20 00 58.1**	**+0.6**
	7.6nm,0.3s,baz=93,slow=15,SNR=72							
MJAR				Sn		**Sn**	**20 01 36.5**	**-2.8**
	4.0nm,0.3s,baz=64,slow=30,SNR=5.2							
MJAR				LR		LR	20 02 26.8	
	comp=Z,161nm,18.2s,baz=110,slow=42							
MAJO	**Matsushiro**	**3.54**	**278**	*e*Pn		**Pn**	**20 00 58.7**	**+1.2**
MAJO				*e*Sn		**Sn**	**20 01 36.5**	**-2.9**
MAT	**Matsushiro**	**3.54**	**278**	P		**Pn**	**20 00 58.7**	**+1.2**
MAT				S		**Sn**	**20 01 40.3**	**+1.0**
MJB9	**Matsu-Tunnel**	**3.55**	**278**	*e*Pn		**Pn**	**20 00 58.9**	**+1.3**
JHJ2	**Mitsune**	**3.79**	**218**	*e*Sn		**Sn**	**20 01 41.2**	**-4.1**
JHJ	**Hachijo jima 2**	**3.80**	**218**	Pn		**Pn**	**20 01 01.1**	**+0.1**
	27nm,0.3s,baz=112,slow=23,SNR=7.1							
JHJ				Sn		**Sn**	**20 01 43.6**	**-1.9**
	92nm,0.3s,baz=73,slow=19,SNR=14							
INU	**Inuyama**	**4.59**	**262**	*e*Pn		**Pn**	**20 01 14.1**	**+2.3**
ASAJ	**Asahikawa**	**7.96**	**0**	P		**Pn**	**20 01 56.4**	**-1.7**
	1.0nm,0.3s,baz=215,slow=12,SNR=11							
ASAJ				Sn		**Sn**	**20 03 23.2**	**-4.7**
	0.8nm,0.3s,baz=140,slow=17,SNR=2.8							
ASAJ	**Asahikawa**	**7.96**	**0**	*e*Pn		**Pn**	**20 01 58.7**	**+0.6**
ASAJ				Sn		**Sn**	**20 03 23.2**	**-4.7**
CBIJ	**Chichi jima**	**9.03**	**182**	Pn		**Pn**	**20 02 12.6**	**-0.3**
CBIJ				Sn		**Sn**	**20 03 48.5**	**-6.0**
JCJ	**Chichijima**	**9.03**	**182**	Pn		**Pn**	**20 02 12.6**	**-0.3**
	4.9nm,0.3s,baz=288,slow=21,SNR=5.5							
JCJ				Sn		**Sn**	**20 03 48.5**	**-6.0**
	7.9nm,0.3s,baz=323,slow=20,SNR=4.6							
JNU	**Nakatsue**	**10.10**	**256**	LR		LR	20 06 51.4	
	comp=Z,86nm,21.5s,baz=116,slow=41							
USRK	**Ussuriysk Ar.**	**11.40**	**318**	Pn		**Pn**	**20 02 46.2**	**+0.9**
	0.2nm,0.3s,baz=121,slow=13,SNR=5.2							
KSRS	**Korea Array**	**11.82**	**281**	LR		LR	20 06 48.6	
	comp=Z,55nm,19.4s,baz=83,slow=34							
MA2	**Magadan**	**24.04**	**10**	LR		LR	20 15 20.8	
	comp=Z,48nm,20.0s,baz=178,slow=38							
H11N2	**WAKE ISLAND Hy**	**26.90**	**121**	T		T	20 34 00.9	
	baz=312,slow=75,SNR=10							
H11N1	**WAKE ISLAND Hy**	**26.90**	**121**	T		T	20 34 03.3	
	baz=312,slow=75,SNR=12							
H11N3	**WAKE ISLAND Hy**	**26.91**	**121**	T		T	20 34 03.4	
	baz=312,slow=75,SNR=12							
YAK	**Yakutsk**	**27.14**	**347**	LR		LR	20 16 34.0	
	comp=Z,58nm,18.3s,baz=129,slow=37							
H11S1	**WAKE ISLAND Hy**	**27.60**	**123**	T		T	20 34 54.1	
	baz=314,slow=76,SNR=10							
H11S3	**WAKE ISLAND Hy**	**27.60**	**123**	T		T	20 34 51.9	
	baz=314,slow=76,SNR=9.9							
H11S2	**WAKE ISLAND Hy**	**27.61**	**123**	T		T	20 34 54.7	
	baz=314,slow=76,SNR=7.2							
SONA1	**Songino Array**	**29.05**	**305**	*e*P		**P**	**20 06 04.2**	**+1.4**
SONA0	**Songino Array**	**29.05**	**305**	*e*P		**P**	**20 06 04.5**	**+1.8**
SONM	**Songino Array**	**29.05**	**305**	P		**P**	**20 06 04.5**	**+1.8**
	2.5nm,0.6s,baz=104,slow=9.0,SNR=

PXZ	Pawanui	15.11 189	S	S	20 25 14.0	-1.1		
DVHZ	Dannevirke	15.48 191	P	P	20 22 39.3	-2.0		
DVHZ			S	S	20 25 18.9	-3.4		
ANWZ	Angora Road	15.59 190	S	S	20 25 23.9	-0.3		
BFZ	Birch Farm	15.84 190	eP	P	20 22 44.7	-0.4		
	66nm,1.3s							
BFZ	Birch Farm	15.84 190	P	P	20 22 44.4	-0.6		
BFZ			S	S	20 25 25.1	-3.9		
MRZ	Mangatainoka R	15.94 192	P	P	20 22 43.8	-2.3		
MRZ			S	S	20 25 27.3	-3.5		
HOWZ	Holdsworth Sta	16.18 192	P	P	20 22 47.0	-1.7		
HOWZ			S	S	20 25 30.3	-5.0		
KIW	Kapiti Island	16.26 194	P	P	20 22 48.8	-0.7		
TMWZ	Te Maipa	16.31 191	P	P	20 22 48.0	-2.1		
CAW	Cannon Point	16.47 193	P	P	20 22 49.9	-1.8		
LTZ	Lake Taylor	18.72 198	eP	P	20 23 12.9	-0.2		
	122nm,1.9s							
OXZ	Oxford	19.29 198	eP	P	20 23 17.3	-1.0		
	25nm,0.5s							
LHI	Lord Howe Isla	19.39 246	eP	P	20 23 22.0	+2.7		
	148nm,0.6s							
RPZ	Rata Peaks	19.93 199	P	P	20 23 21.6	-2.4		
	5.7nm,0.4s,baz=308,slow=2.3,SNR=8.6							
HNR	Honiara	24.53 306	P	P	20 24 03.9	-1.9		
	89nm,0.6s,baz=210,slow=0.8,SNR=4.1							
ARMA	Armidale	25.51 252	eP	P	20 24 16.1	+1.7		
	28nm,0.8s							
EIDS	Eidsvold	26.02 263	eP	P	20 24 19.7	+0.8		
	37nm,0.8s							
CTAO	Charters Tower	31.38 272	eP	P	20 25 06.0	+0.3		
	49nm,0.7s							
STKA	Stephens Creek	34.18 250	P	P	20 25 29.6	+0.3		
	5.2nm,0.5s,baz=94,slow=11,SNR=44							
STKA	Stephens Creek	34.18 250	eP	P	20 25 29.6	+0.3		
	1.6nm,0.6s							
AS01	Alice Springs	41.69 262	eP	P	20 26 30.3	-0.6		
AS31	Alice Springs	41.73 262	eP	P	20 26 30.8	-0.5		
	5.7nm,0.6s							
ASAR	Alice Springs	41.73 262	P	P	20 26 30.9	-0.3		
	14nm,0.6s,baz=86,slow=9.1,SNR=130							
ASAR			ScP	ScP	20 31 20.3	+1.8		
	1.2nm,0.8s,baz=123,slow=4.0,SNR=6.4							
ASAR			S	S	20 32 09.9	-1.9		
	1.0nm,0.7s,baz=99,slow=14,SNR=6.6							
WB2	Warramunga Arr	42.21 267	eP	P	20 26 33.1	-1.9		
WB2			eS	S	20 32 17.6	-1.0		
WRAB	Tennant Creek	42.21 268	eP	P	20 26 34.0	-1.0		
	20nm,0.6s							
WRA	Warramunga Arr	42.22 267	P	P	20 26 34.2	-0.8		
	23nm,0.6s,baz=99,slow=6.9,SNR=343							
WRA			ScP	ScP	20 31 21.7	+1.3		
	4.2nm,0.8s,baz=102,slow=4.0,SNR=16							
WRA			S	S	20 32 15.8	-3.0		
	2.9nm,0.9s,baz=100,slow=15,SNR=9.1							
FORT	Forrest	45.79 251	eP	P	20 27 01.8	-0.9		
	44nm,1.0s							
FITZ	Fitzroy Crossi	50.63 267	eP	P	20 27 38.9	0.0		
	19nm,0.8s							
SBA	Scott Base	53.19 183	eP	P	20 27 59.6	+3.1		
	5.2nm,0.9s							
VNDA	Vanda	53.19 185	P	P	20 27 56.4	-0.1		
	0.8nm,0.5s,baz=7.7,slow=8.2,SNR=8.5							
VNDA			ScP	ScP	20 32 06.8	+1.0		
	0.7nm,0.7s,baz=359,slow=3.8,SNR=4.9							
SOEI	Soe	54.83 276	eP	P	20 28 10.2	+0.9		
	44nm,1.0s							
MBWA	Marble Bar	55.06 261	eP	P	20 28 10.0	-0.6		
	20nm,1.0s							
TNTI	Ternate	56.89 289	eP	P	20 28 22.6	-0.8		
	22nm,1.0s							
QSPA	South Pole Qui	65.00 180	eP	P	20 29 17.4	+1.3		
	10nm,0.8s							
MJAR	Matsushiro Arr	72.81 326	P	P	20 30 02.5	-1.1		
	2.7nm,0.9s,baz=176,slow=5.7,SNR=4.3							
MAW	Mawson	76.60 201	P	P	20 30 25.2	+0.8		
	1.5nm,0.6s,baz=130,slow=12,SNR=5.9							
SNAA	Sanae	83.48 179	P	P	20 30 59.3	-1.3		
VNA3	Neumayer Olymp	83.70 177	P	P	20 31 01.8	+0.2		
ISA	Isabella, Lake	83.93 46	eP	P	20 31 04.0	+0.7		
	3.7nm,0.9s							
VNA2	Neumayer--Watz	84.11 178	P	P	20 31 04.0	+0.4		
	baz=192,slow=4.0							
VNA1	Neumayer--Stat	84.35 177	P	P	20 31 05.0	+0.3		
PLCA	Paso Flores	87.53 134	P	P	20 31 20.7	0.0		
	1.4nm,0.7s,baz=268,slow=8.0,SNR=3.6							
U15A	North Rim	88.48 48	eP	P	20 31 26.3	+0.9		
	13nm,1.8s							
CM01	Chiang Mai Arr	89.79 290	eP	P	20 31 32.3	+0.8		
CMAR	Chiang Mai Arr	89.82 290	P	P	20 31 32.8	+1.2		
	2.6nm,0.9s,baz=139,slow=3.3,SNR=22							
CMMT	Chiang Mai	89.98 291	P	P	20 31 33.7	+1.4		
	6.8nm,1.1s,0.0nm							
CHTO	Chiang Mai	89.98 291	eP	P	20 31 33.4	+1.0		
	4.6nm,0.8s							
CHTO	Chiang Mai	89.98 291	P	P	20 31 33.8	+1.5		
	30nm,2.3s,0.1nm							
TMUT	Trail Mountain	90.75 46	eP	P	20 31 37.2	+1.4		
	12nm,0.4s							
HVU	Hansel Valley	91.08 44	eP	P	20 31 37.0	-0.1		
	14nm,1.8s							
TX31	Lajitas Ar. Si	91.16 58	eP	P	20 31 38.0	+0.3		
TXAR	Lajitas Array	91.16 58	P	P	20 31 37.8	+0.1		
	1.8nm,0.8s,baz=217,slow=6.5,SNR=16							
ILAR	Eielson Array	93.21 14	P	P	20 31 44.5	-1.7		
	0.2nm,0.6s,baz=210,slow=5.2,SNR=2.6							
PDAR	Pinedale Array	93.63 44	P	P	20 31 47.5	-1.4		
	0.1nm,0.4s,baz=165,slow=6.2,SNR=3.9							
HFS	Hagfors	143.68 348	PKP	PKPab	20 38 00.7	-1.4		
	1.9nm,0.4s,baz=46,slow=4.3,SNR=16							
AKASG	Malin Array Be	145.90 326	PKPbc	PKPdf	20 38 07.8	+0.4		
	0.7nm,0.4s,baz=47,slow=4.8,SNR=5.3							
BRTR	Keskin Array B	148.18 306	PKPbc	PKPbc	20 38 14.8	-0.9		
	0.5nm,0.6s,baz=40,slow=2.1,SNR=4.0							
MLR	Muntele Rosu	150.76 321	PKPbc	PKPbc	20 38 19.8	-1.9		
	0.4nm,0.6s,baz=60,slow=20,SNR=2.6							
TORD	Torodi Ar. Bea	168.00 189	PKPab	PKPab	20 39 45.2	-1.1		
	1.1nm,0.7s,baz=187,slow=2.9,SNR=8.6							

MOS **12** *20:42:13.3±0.8,57.˚78N×142.˚84W,h10km,mb6.1/126, MS6.1/139, Error ellipse: s-maj=7.1km s-min=3.2km az=101.2*

BJI **12** *20:42:13.8,57.˚56N×142.˚89W,h30km,mb5.7/80, mB6.2/73,Ms6.5/77,Ms7 6.4/79*

IDC **12** *20:42:13.6±0.3,57.˚80N×142.˚79W,h0km,mb5.5/39, mb1 5.6/44,mb1mx5.6/45,mbtmp5.5/44,ML5.1/5,MS6.0/43, Ms1 6.0/43,ms1mx5.9/51,Error ellipse: s-maj=8.9km s-min=5.7km az=33.0*

NEIC **12** *20:42:14.6±0.1,57.˚79N×142.˚86W,h9km,mb6.0/300, ME6.4,MS6.2/299,MW6.3,ML5.8(AEIC), Error ellipse: s-maj=1.7km s-min=0.9km az=40.0 Broadband fault plane solution: P waves. NP1:φs270.00000°,δ85.00000°, λ20.00000°. NP2:φs178.00000°,δ70.00000°,λ175.00000°. Principal axes: T Plg17.0000°, Azm136.0000°; N Plg0.0000°, Azm0.0000°; P Plg11.0000°, Azm42.0000°; Depth from synthetics of broadband displacement seismograms. Apparent Stress 0.59 MPa. Energy computed from BB mechanism.*

NEIC Felt (II) at Cordova. Also felt at Anchorage, Eagle River, Homer, Sitka, Skagway, Valdez and Yakutat. Felt at Whitehorse, British Columbia.

NEIC **12** *20:42:14.0±0.0,57.˚75N×142.˚91W,h13km,Moment Tensor Solution. s47 Moment tensor: Scale 1018Nm; Mrr=0.24; Mθθ-0.24; Mϕϕ0.48; Mrθ-0.31; Mϕθ3.15; Mϕr0.67; Best double couple: M○3.30000×1018 NP1:φs177.00000°, δ84.00000°,λ-167.00000°. NP2:φs86.00000°,δ77.00000°, λ-5.00000°. Principal axes: T 3.3200, Plg4.0000°, Azm311.0000°; N -0.1100, Plg76.0000°, Azm201.0000°; P -3.2100, Plg12.0000°, Azm42.0000°:*

ISCJB **12** *20:42:16.3±0.1,57.˚77N±0.˚01×142.˚74W±0.˚02,h30km, mb5.9/633,MS6.2/708 Error ellipse: s-maj=2.0km s-min=1.0km az=135.7*

AEIC **12** *20:42:16.8±0.0,57.˚59N×142.˚88W,h11km*

GCMT **12** *20:42:16.6±0.1,57.˚70N×142.˚97W,h16km,MW6.3/149, Moment Tensor Solution. s141,c328; s149,c602; Duration: 36 Moment tensor: Scale 1018Nm; Mrr-0.46±.02; Mθθ-0.27±.02; Mϕϕ0.72±.02; Mrθ-1.56±.07; Mϕθ3.59±.02; Mϕr-1.21±.06; Best double couple: M○4.02700×1018 NP1:φs267.00000°,δ82.00000°, λ21.00000°. NP2:φs174.00000°,δ69.00000°,λ171.00000°.*

Principal axes: T 4.5980, Plg21.0000°, Azm132.0000°; N -1.1420, Plg67.0000°, Azm287.0000°; P -3.4560, Plg9.0000°, Azm39.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function

ISC 12 20:42:15.9±0.4,57.56N±0.03×142.86W±0.02,h19km±1km, h19km:pP-P,n2514,σ1978/2633,mb6.0/673,MS6.2/730, 62C-282D,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time h m s	Res ISC
KAIM	Kayak Island	2.51	342	eSn	Sn	20 43 18.9	-6.8
SUCK	Suckling Hills	2.57	350	P	Pn	20 42 53.5	-2.9
SUCK				S	Sn	20 43 20.8	-6.3
YKU2	Yakutat	2.58	39	ePn	Pn	20 42 53.6	-2.9
BGLC	Bering Glacier	2.58	355	ePn	Pn	20 42 53.8	-2.7
BGLC				eSn	Sn	20 43 22.3	-5.1
MID	Middleton Isla	2.62	317	P	Pn	20 42 53.4	-3.6
MID	Middleton Isla	2.62	317	P	Pn	20 42 53.4	-3.6
SNH	Sunshine Point	2.63	0	ePn	Pn	20 42 54.1	-3.2
SNH				eSn	Sn	20 43 23.0	-5.7
MESA	MESA	2.67	10	P	Pn	20 42 54.8	-3.3
MESA				S	Sn	20 43 24.9	-5.1
KULT	Kultieth River	2.70	1	P	Pn	20 42 55.0	-3.3
KULT				S	Sn	20 43 24.7	-5.8
GRIN	Grindle Hills	2.74	355	P	Pn	20 42 55.9	-3.0
NICHA	Nichawak Mount	2.75	348	P	Pn	20 42 55.7	-3.2
PNL	Peninsula	2.79	39	ePn	Pn	20 42 56.0	-3.5
SAMH	Samovar Hills	2.80	22	P	Pn	20 42 56.7	-3.0
HMT	Hamilton	2.88	346	ePn	Pn	20 42 57.4	-3.4
PCA	Pinnacle	2.88	27	ePn	Pn	20 42 57.5	-3.3
DHAK	Deception Hill	2.89	56	ePn	Pn	20 42 57.4	-3.6
KHIT	Khitrov Hills	2.90	356	P	Pn	20 42 57.6	-3.5
WAX	Waxell Ridge	2.90	0	ePn	Pn	20 42 57.5	-3.5
BCPM	Bancas Point	2.93	34	ePn	Pn	20 42 58.0	-3.4
BCPM				eSn	Sn	20 43 29.4	-6.7
BAGL	Bagley Icefiel	2.97	7	ePn	Pn	20 42 58.6	-3.2
RAGM	Ragged Mountai	2.99	342	ePn	Pn	20 42 58.7	-3.5
TABL	Table Mountain	3.03	16	P	Pn	20 42 59.8	-3.1
ISLE	Juniper Island	3.07	5	P	Pn	20 42 60.0	-3.4
SGAM	Sherman Glacie	3.19	339	ePn	Pn	20 43 01.8	-3.2
SGAM				eSn	Sn	20 43 37.9	-4.6
EYAK	Cordova Ski Ar	3.35	335	ePn	Pn	20 43 03.3	-3.9
KIAG	Kiagna River	3.39	4	P	Pn	20 43 04.5	-3.3
HIN	Hinchinbrook I	3.42	328	ePn	Pn	20 43 04.5	-3.5
BALM	Baldy	3.50	4	ePn	Pn	20 43 06.1	-3.2
BALM	Baldy	3.50	4	eP	Pn	20 43 06.1	-3.2
BMRM	Bremner River	3.54	346	P	Pn	20 43 06.0	-3.8
BARN	Barnard Glacie	3.57	9	ePn	Pn	20 43 07.0	-3.3
VRDI	Verde Repeater	3.69	356	P	Pn	20 43 08.5	-3.5
VRDI				S	Sn	20 43 49.0	-6.1
FID	Port Fidalgo	3.71	331	P	Pn	20 43 08.2	-3.8
DIV	Divide	3.88	339	ePn	Pn	20 43 10.6	-3.9
VMT	TAPS Tl Valdez	3.97	335	ePn	Pn	20 43 11.9	-3.6
GLI	Glacier Island	3.98	329	P	Pn	20 43 11.7	-4.1
JPK	Jack Peak	4.00	333	ePn	Pn	20 43 12.1	-4.0
KLU	Klutina	4.24	340	ePn	Pn	20 43 16.1	-3.4
SEW	Seward	4.27	309	ePn	Pn	20 43 15.9	-3.8
HYT	Haines Junctio	4.28	38	ePn	Pn	20 43 17.4	-2.6
PWL	Port Wells	4.35	322	ePn	Pn	20 43 16.6	-4.3
BESE	Bessie Mountai	4.37	73	P	Pn	20 43 17.7	-3.6
SKAG	Skagway	4.39	61	ePn	Pn	20 43 18.5	-2.8
JIS	Juneau Island	4.58	77	ePn	Pn	20 43 20.3	-3.7
PS11	TAPS Pump St11	4.72	345	ePn	Pn	20 43 23.8	-2.2
BRLK	Bradley Lake	4.74	301	ePn	Pn	20 43 23.1	-3.1
KNK	Knik Glacier	4.80	326	ePn	Pn	20 43 23.9	-3.3
CNPM	China Poot	4.81	298	P	Pn	20 43 24.2	-3.1
SCM	Sheep Creek Mo	4.85	334	ePn	Pn	20 43 24.4	-3.4
SCM	Sheep Creek Mo	4.85	334	eP	Pn	20 43 24.4	-3.4
HARP	HAARP	5.00	348	ePn	Pn	20 43 27.5	-2.3
HOM	Homer	5.05	298	P	Pn	20 43 28.1	-2.4
SML	Sawmill	5.09	329	ePn	Pn	20 43 27.6	-3.4
SML	Sawmill	5.09	329	eP	Pn	20 43 27.6	-3.4
PMR	Palmer	5.15	324	ePn	Pn	20 43 28.4	-3.4
PMR	Palmer	5.15	324	eP	Pn	20 43 28.4	-3.4
WHY	Whitehorse	5.16	50	ePn	Pn	20 43 29.2	-2.9
FIB	Fire Island	5.21	317	ePn	Pn	20 43 29.7	-2.9
FIB	Fire Island	5.21	317	eP	Pn	20 43 29.7	-2.9
GHO	Glory Hole Cre	5.23	327	ePn	Pn	20 43 29.9	-3.1
KDAK	Kodiak Island	5.23	277	Pn	Pn	20 43 30.8	-2.1
	3μm,0.3s,baz=76,slow=6.9,SNR=1796						
KDAK				Sn	Sn	20 44 26.3	-6.2
	1μm,0.3s,baz=302,slow=21,SNR=13						
NKA	Nikishka	5.37	310	ePn	Pn	20 43 33.5	-1.3
PAX	Paxson	5.58	348	P	Pn	20 43 34.9	-3.0
PAX	Paxson	5.58	348	P	Pn	20 43 34.9	-3.0
SUA	Susitna One	5.61	318	ePn	Pn	20 43 34.4	-3.8
OHAK	Old Harbor	5.65	271	ePn	Pn	20 43 36.3	-2.4
CRAG	Craig	5.78	107	P	Pn	20 43 35.7	-4.8
IVE	Iliamna Volcan	5.83	299	P	Pn	20 43 38.5	-2.8
ILS	Iliamna Low So	5.83	299	P	Pn	20 43 38.7	-2.7
AUL	Augustine Lava	5.84	293	P	Pn	20 43 39.8	-1.6
AUW	Augustine West	5.86	293	P	Pn	20 43 39.7	-1.9
WRAK	Wrangell Islan	5.86	97	ePn	Pn	20 43 37.4	-4.2
RED	Redoubt Volcan	5.87	303	P	Pn	20 43 38.2	-3.6
RDWB	Redoubt West	5.93	304	P	Pn	20 43 39.2	-3.5
RDLH	Redoubt Lisurge	5.96	305	P	Pn	20 43 40.3	-2.8
DHY	Denali Highway	5.97	340	ePn	Pn	20 43 41.1	-2.2
FONW	Fourpeaked Sta	5.99	287	P	Pn	20 43 41.7	-1.8
SPCG	Spurr Capps Gl	5.99	313	P	Pn	20 43 40.3	-3.2
SPCR	Spurr Chakacha	6.01	311	P	Pn	20 43 40.8	-3.0
PS10	TAPS Pump St10	6.06	348	ePn	Pn	20 43 42.2	-2.2
DOT	Dot Lake	6.14	355	ePn	Pn	20 43 42.9	-2.6
SKT	Skwentna	6.23	319	ePn	Pn	20 43 43.2	-3.5
SII	Sitkinak Islan	6.26	266	P	Pn	20 43 45.5	-1.6
RIDG	Independ'e Rid	6.28	352	ePn	Pn	20 43 45.4	-2.0
SPNN	North Nagishla	6.30	311	ePn	Pn	20 43 45.5	-2.3
KAWH	Katmai	6.41	282	P	Pn	20 43 47.9	-1.2
SCRK	Sand Creek	6.47	356	P	Pn	20 43 47.0	-3.0
RND	Reindeer	6.57	336	ePn	Pn	20 43 48.5	-2.9
RND	Reindeer	6.57	336	eP	Pn	20 43 48.5	-2.9
CAHL	Cahill	6.67	280	P	Pn	20 43 50.9	-1.9
DAWY	Dawson	6.75	13	ePn	Pn	20 43 51.5	-2.3
ANCK	Angle Creek	6.77	281	P	Pn	20 43 53.1	-1.2
KJL	Kejulik	6.81	280	P	Pn	20 43 53.3	-1.4
MCK	McKinley	6.88	337	ePn	Pn	20 43 53.5	-2.0
MCK	McKinley	6.88	337	eP	Pn	20 43 53.5	-2.0
DLBC	Dease Lake	6.88	77	Pn	Pn	20 43 53.0	-2.7
	41nm,0.3s,baz=248,slow=10,SNR=264						
DLBC				Sn	Sn	20 45 05.8	-7.6
	67nm,0.3s,baz=259,slow=10,SNR=4.8						
DLBC				LR	LR	20 45 43.6	
	comp=Z,20μm,19.0s,baz=272,slow=31						
DLBC	Dease Lake	6.88	77	ePn	Pn	20 43 54.0	-1.6
DLBC				Sn	Sn	20 45 05.8	-7.6
TRF	Thorofare Moun	6.95	331	ePn	Pn	20 43 54.7	-2.1
CNTC	Contact Creek	6.98	281	P	Pn	20 43 55.1	-1.9
PPLA	Purkeypile	7.08	323	ePn	Pn	20 43 57.1	-1.4
HDA	Harding Lake	7.16	346	ePn	Pn	20 43 55.8	-3.6
HDA	Harding Lake	7.16	346	P	Pn	20 43 55.7	-3.7
	baz=162,SNR=267						
PLK3	Peulik 3	7.20	277	P	Pn	20 43 58.9	-1.2
PS08	TAPS Pump Stn8	7.27	346	ePn	Pn	20 43 57.3	-3.6
H02N1	VAN INLET T-PH	7.29	122	Pn	Pn	20 43 57.5	-3.8
H02N1				Sn	Sn	20 45 14.3	-9.1
	SNR=18						
EGAK	Eagle	7.29	6	ePn	Pn	20 43 59.1	-2.1
DIB	Dawson Inlet,	7.35	122	ePn	Pn	20 43 57.4	-4.5
H02S1	DAWSON INLET T	7.35	122	Pn	Pn	20 43 57.9	-4.1
H02S1				Sn	Sn	20 45 14.8	-10
	SNR=9.1						
BWN	Browne	7.37	337	P	Pn	20 43 58.4	-3.9
WRH	Wood River Hil	7.39	342	ePn	Pn	20 43 58.6	-3.9
SVW2	Sparrevohn	7.41	304	ePn	Pn	20 43 59.6	-3.2
CAST	Castle Rocks	7.43	326	P	Pn	20 44 00.5	-2.7
IL1	Eielson Array	7.50	347	ePn	Pn	20 44 00.0	-4.0
ILAR	Eielson Array	7.50	347	Pn	Pn	20 43 60.0	-4.1
	29nm,0.3s,baz=173,slow=13,SNR=337						
ILAR				Sn	Sn	20 45 17.9	-10
	16nm,0.3s,baz=167,slow=20,SNR=5.2						
ILAR				LR	LR	20 47 01.5	
	comp=Z,211μm,19.0s,baz=166,slow=40						
ILB	Eielson Array	7.50	347	P	Pn	20 43 59.9	-4.1
PLBL	Peulik Blue Cr	7.50	277	P	Pn	20 44 03.1	-1.0
CCB	Clear Creek Bu	7.50	343	P	Pn	20 43 60.0	-4.1
NEA	Nenana	7.66	339	ePn	Pn	20 44 02.5	-3.7
BPAW	Bear Paw Mtn.	7.67	332	ePn	Pn	20 44 03.1	-3.3
COLA	College	7.72	344	ePn	Pn	20 44 02.6	-4.5
COLA	College	7.72	344	eP	Pn	20 44 02.6	-4.5
TCOL	CIGO, UAF Yank	7.73	344	P	Pn	20 44 03.5	-3.6
	baz=159,SNR=61						
MDM	Murphy Dome	7.86	343	P	Pn	20 44 05.0	-4.1
POKR	Poker Flat Res	7.90	346	P	Pn	20 44 05.9	-3.6
	baz=161,SNR=125						
PRP	Porcupine Dome	8.09	352	ePn	Pn	20 44 09.8	-2.5
PS07	TAPS Pump Stn7	8.20	344	ePn	Pn	20 44 09.9	-3.8
ANPK	Aniakchak Peak	8.32	272	P	Pn	20 44 14.2	-1.3
MLY	Manley	8.40	337	ePn	Pn	20 44 13.1	-3.3
ANPB	Aniakchak Plen	8.41	271	P	Pn	20 44 15.5	-1.2
TT01	Tatalina	8.46	315	ePn	Pn	20 44 13.6	-3.6
CHGN	Chignik	8.60	268	P	Pn	20 44 17.9	-1.2
PS06	TAPS Pump Stn6	8.94	342	ePn	Pn	20 44 20.6	-3.2
VNSG	Veniaminof 6	9.01	268	P	Pn	20 44 24.7	-0.1
FYU	Fort Yukon	9.11	354	ePn	Pn	20 44 23.6	-2.4
VNFG	Veniaminof 2	9.22	269	P	Pn	20 44 27.2	-0.5
EPYK	Eagle Plains	9.30	15	P	Pn	20 44 26.0	-2.8
	baz=201,SNR=132						
GCSA	Galena City Sc	9.87	323	ePn	Pn	20 44 33.8	-2.7
IM3	Indian Mountai	9.89	333	P	Pn	20 44 32.9	-3.8
BM3	Burnt Mountain	9.93	356	ePn	Pn	20 44 34.8	-2.7
SDPT	Sand Point	10.00	265	ePn	Pn	20 44 37.7	-0.6
BBB	Bella Bella	10.05	116	Pn	Pn	20 44 35.3	-3.7
	41nm,0.3s,baz=310,slow=7.7,SNR=127						
BBB				Sn	Sn	20 46 23.2	-7.9
	35nm,0.3s,baz=304,slow=18,SNR=5.6						
BBB				LR	LR	20 47 54.4	
	comp=Z,168μm,21.2s,baz=310,slow=34						
BBB	Bella Bella	10.05	116	ePn	Pn	20 44 36.5	-2.5
BBB				Sn	Sn	20 46 23.2	-7.9
COLD	Coldfoot	10.28	344	ePn	Pn	20 44 38.5	-3.5
TOLK	Toolik Lake Re	11.52	348	ePn	Pn	20 44 56.9	-2.3
TOLK	Toolik Lake Re	11.52	348	P	Pn	20 44 56.4	-2.7
	baz=161,SNR=55						
INK	Inuvik	11.58	17	Pn	Pn	20 44 56.1	-3.7
	4.1nm,0.3s,baz=197,slow=14,SNR=216						
INK				Sn	Sn	20 46 58.0	-10
	3.6nm,0.3s,baz=248,slow=5.4,SNR=2.9						
FALS	False Pass	11.75	265	ePn	Pn	20 45 01.7	-0.6
EDB	Eliza Dome	12.06	123	ePn	Pn	20 45 05.7	-0.9
ANM	Nome	12.91	312	ePn	Pn	20 45 15.8	-2.2
ANM	Nome	12.91	312	eP	Pn	20 45 15.8	-2.2
AKUT	Akutan	13.30	265	ePn	Pn	20 45 24.3	+0.9
UNV	Unalaska Valle	13.81	264	ePn	Pn	20 45 29.5	-0.8
RDOG	Red Dog Mine	13.87	327	ePn	Pn	20 45 28.4	-2.7
PGC	Sidney	14.63	119	ePn	Pn	20 45 41.7	+0.1
YKA	Yellowknife Ar	14.88	59	Pn	Pn	20 45 41.5	-3.5
	5.8nm,0.3s,baz=262,slow=13,SNR=57						
YKA				Sn	Sn	20 48 19.7	-9.3
	3.3nm,0.3s,baz=253,slow=22,SNR=7.9						
YKB5	Yellowknife Ar	14.88	59	ePn	Pn	20 45 39.7	-5.2
YKW3	Yellowknife Ar	14.89	59	ePn	Pn	20 45 41.0	-4.0
A04D	Lummi Island	14.93	118	P	Pn	20 45 45.6	-0.1
	baz=315,SNR=24						
A05A	Maple Falls	15.04	116	ePn	Pn	20 45 46.7	-0.5
	211nm,1.3s						
NIKH	Nikolski High	15.46	264	ePn	Pn	20 45 53.0	+0.3
	819nm,1.0s						
HDW	Hoodsport	15.53	121	ePn	Pn	20 45 54.5	+0.7
B05A	Bryant	15.54	118	P	Pn	20 45 53.9	+0.2
	baz=315,SNR=117						
D03D	Eldon	15.60	122	P	Pn	20 45 55.1	+0.6
	baz=318,SNR=119						
B06A	Marblemount	15.66	116	ePn	Pn	20 45 55.0	-0.2
	2μm,1.6s						
D04E	Lakebay	16.01	122	P	Pn	20 46 01.2	+1.5
	baz=319,SNR=33						
E03A	Lebam	16.13	125	ePn	Pn	20 46 01.2	-0.1
	1μm,1.1s						
C06D	Leavenworth	16.36	117	P	Pn	20 46 04.6	+0.4
	baz=315,SNR=30						
D05A	Enumclaw	16.36	120	ePn	Pn	20 46 05.3	+1.0
	3μm,1.4s						
E04D	Cinebar	16.57	123	P	Pn	20 46 07.6	+0.7
	baz=320,SNR=105						
F03A	Seaside	16.61	126	ePn	Pn	20 46 08.0	+0.5
	6μm,1.6s						
F04D	Rainier, OR	16.73	125	P	Pn	20 46 09.9	+0.9
	baz=321,SNR=24						
LON	Longmire	16.77	121	ePn	Pn	20 46 09.9	+0.4
	2μm,1.7s						
LON	Longmire	16.77	121	eP

K04D Chiloquin, OR 20.04 129 P Pn 20 46 49.4 -0.1
baz=326,SNR=68
KRMB Red Mountain 20.10 135 *e*P Pn 20 46 50.8 +0.6
comp=Z,4µm,1.7s
KRMB LR LR
comp=Z,70µm,20.0s
L04D Klamath Falls 20.15 131 P Pn 20 46 50.6 -0.2
baz=327,SNR=125
ADK Adak 20.19 268 *e*P **P** **20 46 48.8 -0.3**
comp=Z,788nm,1.1s
ADK LR LR
comp=Z,50µm,19.0s
ADK Adak 20.19 268 *e*P **P** **20 46 48.8 -0.3**
ADK pmax pmax
comp=Z,788nm,1.1s
ADK MLR MLR
comp=Z,50µm,19.0s
BMO Blue Mountains 20.29 118 *e*P Pn 20 46 51.6 -0.8
comp=Z,794nm,1.4s
BMO LR LR
comp=Z,57µm,22.0s
BMO Blue Mountains 20.29 118 *e*P Pn 20 46 51.6 -0.8
BMO pmax pmax
comp=Z,794nm,1.4s
BMO MLR MLR
comp=Z,57µm,22.0s
K05A Summer Lake 20.32 127 *e*P Pn 20 46 53.0 +0.2
comp=Z,3µm,1.5s
K05A LR LR
comp=Z,77µm,22.0s
YBH Yreka Blue Hor 20.39 132 P Pn 20 46 54.0 +0.4
comp=Z,215nm,0.9s,baz=344,slow=8.2,SNR=66
YBH S Sn 20 50 46.2 +3.5
comp=Z,10nm,1.1s,baz=11,slow=13,SNR=1.5
YBH LR LR 20 53 09.4
comp=Z,53µm,18.6s,baz=333,slow=32
YBH Yreka Blue Hor 20.39 132 *e*P Pn 20 46 53.8 +0.2
YBH *es*P pP 20 46 54.2 -2.7
YBH S Sn 20 50 46.2 +3.5
YBH LR LR
comp=Z,67µm,20.0s
MSO Missoula 20.56 109 *e*P **P** **20 46 54.0 +0.7**
comp=Z,1µm,1.5s
MSO LR LR
comp=Z,168µm,18.0s
MSO Missoula 20.56 109 P **P** **20 46 54.0 +0.7**
baz=313,SNR=181
M02C Callahan 20.62 133 P Pn 20 46 56.6 +0.3
baz=329,SNR=181
JCC Jacoby Creek, 20.67 136 *e*P Pn 20 46 56.9 +0.2
comp=Z,2µm,1.5s
JCC LR LR
comp=Z,24µm,18.0s
M04C Macdoel 20.70 131 P Pn 20 46 57.0 -0.3
baz=327,SNR=166
KHMM Horse Mountain 20.73 135 *e*P Pn 20 46 58.0 +0.4
comp=Z,2µm,1.7s
KHMM LR LR
comp=Z,45µm,18.0s
CHMT Chamberlain Mo 20.85 108 *e*P **P** **20 46 57.3 +0.8**
J08A Circle Bar Ran 20.88 122 *e*P Pn 20 46 58.1 -1.3
comp=Z,904nm,1.3s
J08A LR LR
comp=Z,72µm,22.0s
N02D Trinity Center 21.04 133 P **P** **20 47 01.3 +2.9**
baz=329,SNR=305
MOD Modoc Plateau 21.24 128 *e*P **P** **20 47 02.4 +1.7**
comp=Z,906nm,1.4s
MOD LR LR
comp=Z,63µm,18.0s
KMRM Mail Ridge 21.30 136 *e*P **P** **20 47 04.2 +2.9**
comp=Z,2µm,1.2s
KMRM LR LR
comp=Z,64µm,21.0s
WDC Whiskeytown Da 21.44 134 *e*P **P** **20 47 04.9 +2.2**
comp=Z,6µm,2.0s
WDC LR LR
comp=Z,51µm,20.0s
WDC Whiskeytown Da 21.44 134 *e*P **P** **20 47 04.9 +2.2**
WDC pmax pmax
comp=Z,6µm,2.0s
WDC MLR MLR
comp=Z,51µm,20.0s
WVOR Wild Horse Val 21.54 124 *e*P **P** **20 47 05.3 +1.4**
comp=Z,1µm,1.5s
WVOR LR LR
comp=Z,62µm,18.0s
WVOR Wild Horse Val 21.54 124 *e*P **P** **20 47 05.3 +1.4**
WVOR pmax pmax
comp=Z,1µm,1.5s
WVOR MLR MLR
comp=Z,62µm,18.0s
O02D Mt. Diablo Mer 21.69 135 P **P** **20 47 07.7 +2.2**
baz=330,SNR=183
LBCM Butte Creek Ri 21.70 131 *e*P **P** **20 47 07.7 +2.1**
HRY Holter Researc 21.72 107 *e*P **P** **20 47 06.1 +0.3**
KCPM Cahto Peak 21.82 137 *e*P **P** **20 47 09.0 +2.1**
comp=Z,2µm,1.4s
KCPM LR LR
comp=Z,92µm,22.0s
EGMT Eagleton 21.97 101 *e*P **P** **20 47 08.1 -0.3**
comp=Z,1µm,1.2s
EGMT LR LR
comp=Z,156µm,18.0s
EGMT Eagleton 21.97 101 P **P** **20 47 08.6 +0.2**
baz=309,SNR=208
O03E Paynes Creek 21.98 133 P **P** **20 47 09.8 +1.3**
baz=329,SNR=277
MFID Camas Ranch 22.07 118 PFAKE 20 47 20.0 +10
MFID LR LR
comp=Z,46µm,20.0s
GASB Alder Springs 22.17 135 *e*P **P** **20 47 13.1 +2.4**
DLMT Dillon 22.24 110 *e*P **P** **20 47 12.2 +0.7**
comp=Z,686nm,1.0s
DLMT LR LR
comp=Z,85µm,19.0s
GHOM Hamilton Openi 22.40 137 *e*P **P** **20 47 14.5 +1.5**
MCMT McKenzie Canyo 22.49 112 *e*P **P** **20 47 15.0 +0.7**
BOZ Bozeman (W) 22.57 109 *e*P **P** **20 47 15.4 +0.4**
comp=Z,567nm,1.0s
BOZ LR LR
comp=Z,105µm,21.0s
BOZ Bozeman (W) 22.57 109 P **P** **20 47 15.3 +0.3**
baz=314,SNR=33
GHLM Highland Sprin 22.60 137 *e*P **P** **20 47 16.5 +1.4**
HOPS Hopland Field 22.62 137 *e*P **P** **20 47 16.8 +1.5**
comp=Z,1µm,1.5s
HOPS LR LR
comp=Z,52µm,19.0s
GSNM Snow Mountain 22.62 137 *e*P **P** **20 47 16.9 +1.5**
HLID Hailey 22.64 116 *e*P **P** **20 47 16.4 +0.7**
comp=Z,570nm,1.0s
HLID LR LR
comp=Z,42µm,18.0s
HLID Hailey 22.64 116 P **P** **20 47 16.4 +0.7**
baz=319,SNR=451
FFC Flin Flon 22.71 80 *e*P **P** **20 47 14.7 -1.4**
comp=Z,921nm,1.3s
FFC LR LR
comp=Z,32µm,21.0s
FFC Flin Flon 22.71 80 *i* P **P** **20 47 16.1 0.0**
ORV Oroville 22.73 133 *e*P **P** **20 47 17.2 +0.7**
comp=Z,573nm,1.5s
ORV LR LR
comp=Z,28µm,18.0s
ORV Oroville 22.73 133 *e*P **P** **20 47 17.2 +0.7**
ORV pmax pmax
comp=Z,573nm,1.5s
ORV MLR MLR
comp=Z,28µm,18.0s
GDXM Geysers 22.88 136 *e*P **P** **20 47 19.5 +1.3**
comp=Z,793nm,1.7s
GDXM LR LR
comp=Z,67µm,20.0s
GHCM House Creek 22.91 137 *e*P **P** **20 47 19.8 +1.3**
BEKR Beckworth 22.92 131 *e*P **P** **20 47 20.0 +1.4**
comp=Z,1µm,1.8s
BEKR LR LR
comp=Z,78µm,20.0s
QLMT Earthquake Lak 23.21 110 *e*P **P** **20 47 22.3 +0.7**
NIMB Iron Mountain 23.30 136 *e*P **P** **20 47 23.5 +1.1**
YHB Horse Butte 23.38 110 *e*P **P** **20 47 24.2 +0.8**
comp=Z,3µm,1.9s
YHB LR LR
comp=Z,89µm,19.0s
MCCM Marconi Confer 23.44 137 *e*P **P** **20 47 24.9 +1.2**
comp=Z,992nm,1.6s
MCCM LR LR
comp=Z,76µm,21.0s
GCMT Greycliff 23.45 106 *e*P **P** **20 47 24.8 +0.8**
PAHR Pah Rah Range 23.46 129 *e*P **P** **20 47 25.3 +1.2**
comp=Z,1µm,2.0s
PAHR LR LR
comp=Z,59µm,21.0s
AFDM Forest Hills D 23.46 133 *e*P **P** **20 47 24.8 +0.8**
comp=Z,2µm,2.0s
AFDM LR LR
comp=Z,17µm,20.0s
YHH Holmes Hill 23.53 109 *e*P **P** **20 47 25.6 +0.6**
comp=Z,271nm,1.0s
YHH LR LR
comp=Z,124µm,19.0s
YMR Madison River 23.56 109 *e*P **P** **20 47 26.0 +0.9**
comp=Z,1µm,1.5s
YMR LR LR
comp=Z,109µm,18.0s
YNR Norris Junctio 23.67 109 *e*P **P** **20 47 27.6 +1.4**
comp=Z,983nm,1.6s
YNR LR LR
comp=Z,107µm,18.0s
VCNR Virginia City 23.69 130 *e*P **P** **20 47 28.1 +1.6**
comp=Z,2µm,2.0s
VCNR LR LR
comp=Z,87µm,19.0s
RUBR Rubicon Trail 23.70 132 *e*P **P** **20 47 27.9 +1.4**
comp=Z,2µm,1.6s
RUBR LR LR
comp=Z,49µm,19.0s
YFT Old Faithful 23.77 110 *e*P **P** **20 47 29.2 +1.9**
comp=Z,2µm,2.0s
YFT LR LR
comp=Z,136µm,18.0s
BMN Battle Mountai 23.78 125 *e*P **P** **20 47 28.6 +1.3**
comp=Z,798nm,1.9s
BMN LR LR
comp=Z,44µm,18.0s
BMN Battle Mountai 23.78 125 *e*P **P**
BMN pmax pmax **20 47 28.6 +1.3**
comp=Z,798nm,1.9s
BMN MLR MLR
comp=Z,44µm,18.0s
PNTR Pine Nut 23.89 131 *e*P **P** **20 47 30.0 +1.7**
comp=Z,4µm,1.9s
PNTR LR LR
comp=Z,86µm,21.0s
LKWY Lake 23.92 109 *e*P **P** **20 47 30.3 +1.7**
comp=Z,2µm,1.8s
LKWY LR LR
comp=Z,144µm,18.0s
LKWY Lake 23.92 109 *e*P **P**
LKWY pmax pmax **20 47 30.3 +1.7**
comp=Z,2µm,1.8s
LKWY MLR MLR
comp=Z,144µm,18.0s
YPP Pitchstone Pla 23.92 110 *e*P **P** **20 47 30.3 +1.6**
comp=Z,312nm,1.3s
YPP LR LR
comp=Z,87µm,18.0s
H17A Grant Village 23.95 109 *e*P **P** **20 47 31.0 +2.1**
comp=Z,3µm,2.0s
H17A LR LR
comp=Z,116µm,19.0s
H17A Grant Village 23.95 109 P **P** **20 47 31.2 +2.3**
baz=316,SNR=102
FLWY Flagg Ranch 24.11 110 *e*P **P** **20 47 31.7 +1.3**
comp=Z,1µm,1.8s
FLWY LR LR
comp=Z,62µm,20.0s
RLMT Red Lodge 24.11 107 *e*P **P** **20 47 31.3 +0.9**
comp=Z,1µm,1.8s
RLMT LR LR
comp=Z,112µm,20.0s
RLMT Red Lodge 24.11 107 P **P** **20 47 31.5 +1.1**
baz=314,SNR=138
IMW Indian Meadow 24.12 111 *e*P **P** **20 47 31.6 +1.1**
comp=Z,2µm,1.9s
IMW LR LR
comp=Z,63µm,21.0s
YERR Yerington 24.12 130 *e*P **P** **20 47 32.0 +1.5**
comp=Z,308nm,1.1s
YERR LR LR
comp=Z,86µm,20.0s
FXWY Fox Creek 24.26 111 *e*P **P** **20 47 32.7 +0.9**
comp=Z,503nm,1.4s
MOOW Moose Ponds 24.32 111 *e*P **P** **20 47 33.2 +0.9**
comp=Z,238nm,1.1s
MOOW LR LR
comp=Z,66µm,20.0s
TPAW Teton Pass 24.40 111 *e*P **P** **20 47 34.3 +1.2**
comp=Z,1µm,1.8s
TPAW LR LR
comp=Z,74µm,19.0s
MCUB Copperopolis B 24.44 134 *e*P **P** **20 47 35.3 +2.1**
WAKR Walker 24.45 131 *e*P **P** **20 47 35.3 +1.7**
comp=Z,948nm,1.8s
WAKR LR LR
comp=Z,64µm,20.0s
CMB Columbia Colle 24.48 133 *e*P **P** **20 47 35.0 +1.4**
comp=Z,856nm,1.9s
CMB LR LR
comp=Z,28µm,20.0s
CMB Columbia Colle 24.48 133 *e*P **P**
CMB pmax pmax **20 47 35.0 +1.4**
comp=Z,856nm,1.9s
CMB MLR MLR
comp=Z,28µm,20.0s
LOHW Long Hollow 24.49 111 *e*P **P** **20 47 34.9 +1.0**
comp=Z,1µm,1.7s
LOHW LR LR
comp=Z,67µm,19.0s
SNOW Snow King Moun 24.52 111 *e*P **P** **20 47 35.7 +1.5**
comp=Z,1µm,1.8s
SNOW LR LR
comp=Z,79µm,19.0s
KVN Kaiserville 24.55 128 *e*P **P** **20 47 36.0 +1.6**
comp=Z,166nm,1.0s
KVN LR LR
comp=Z,48µm,22.0s
REDW Red Top Meadow 24.55 111 *e*P **P** **20 47 35.5 +1.1**
comp=Z,1µm,1.5s
REDW LR LR
comp=Z,76µm,20.0s
DGMT Dagmar 24.66 95 *e*P **P** **20 47 35.6 +0.5**
comp=Z,1µm,1.4s
DGMT LR LR
comp=Z,39µm,21.0s
DGMT Dagmar 24.66 95 P **P** **20 47 35.5 +0.3**
baz=307,SNR=9.0
LAO LASA Array 24.67 100 *e*P **P** **20 47 36.0 +0.7**
comp=Z,653nm,1.3s
LAO LR LR
comp=Z,138µm,18.0s
LAO LASA Array 24.67 100 P **P** **20 47 35.7 +0.4**
baz=310,SNR=37
BILL Bilibino 24.72 316 *e*P **P** **20 47 35.3 -0.2**
comp=Z,1µm,1.3s
BILL LR LR
comp=Z,73µm,20.0s
BILL Bilibino 24.72 316 *c i*P **P** **20 47 35.4 0.0**
BILL *i* S **S** **20 51 51.2 -4.8**
BILL pmax pmax
comp=Z,2µm,2.5s
BILL MLR MLR
comp=Z,78µm,20.0s
RYN Ryan 24.72 129 *e*P **P** **20 47 37.5 +1.6**
comp=Z,740nm,1.7s
RYN LR LR
comp=Z,68µm,20.0s
SMY Shemya 24.74 277 *e*P **P** **20 47 35.2 -0.6**
comp=Z,995nm,1.4s
SMY Shemya 24.74 277 *e*P **P**
SMY pmax pmax **20 47 35.2 -0.6**
comp=Z,995nm,1.4s
HVU Hansel Valley 24.78 117 *e*P **P** **20 47 38.0 +1.6**
comp=Z,296nm,1.3s
HVU LR LR
comp=Z,45µm,22.0s
HVU Hansel Valley 24.78 117 *e*P **P** **20 47 38.0 +1.6**
HVU pmax pmax
comp=Z,296nm,1.3s
HVU MLR MLR
comp=Z,45µm,22.0s
RES Resolute Bay 24.78 28 P **P** **20 47 35.6 -0.3**
comp=Z,312nm,0.8s,baz=252,slow=11,SNR=320
RES S **S** **20 51 59.3 +2.4**
comp=Z,17nm,1.0s,baz=241,slow=19,SNR=1.6
RES LR LR 20 57 38.7
comp=Z,58µm,20.6s,baz=246,slow=38
RES Resolute Bay 24.78 28 *e*P **P** **20 47 35.5 -0.4**
comp=Z,2µm,1.5s
RES S **S** **20 51 59.3 +2.4**
AHID Auburn Hatcher 24.86 113 *e*P **P** **20 47 37.9 +0.7**
comp=Z,373nm,1.4s
AHID LR LR
comp=Z,34µm,22.0s
NV01 Mina Array Sit 24.98 129 *e*P **P** **20 47 38.9 +0.5**
NV01 *e*PcP **PcP** **20 51 12.0 -1.0**
NVAR Mina Array Bea 24.98 129 P **P** **20 47 40.0 +1.6**
comp=Z,167nm,0.9s,baz=308,slow=9.5,SNR=322
NVAR PcP **PcP** **20 51 12.0 -1.0**
comp=Z,7.8nm,0.9s,baz=270,slow=2.7,SNR=4.3
NVAR S **S** **20 52 07.5 +6.3**
comp=Z,3.2nm,1.1s,baz=300,slow=26,SNR=1.9
NVAR LR LR 20 56 14.3
comp=Z,71µm,18.4s,baz=330,slow=33
NVAR P3KPbc 21 20 43.5
comp=Z,0.6nm,0.8s,baz=151,slow=5.0,SNR=6.3
NV11 Mina Array Sit 25.04 129 *e*P **P** **20 47 40.6 +1.8**
comp=Z,54nm,1.5s
NV11 LR LR
comp=Z,6µm,19.0s
LHV Little Huntoon 25.05 130 *e*P **P** **20 47 40.8 +2.1**
SAO San Andreas Ge 25.19 136 *e*P **P** **20 47 41.5 +1.6**
comp=Z,198nm,1.0s
SAO LR LR
comp=Z,59µm,18.0s
SAO San Andreas Ge 25.19 136 *e*P **P** **20 47 41.5 +1.6**
SAO pmax pmax
comp=Z,198nm,1.0s
SAO MLR MLR
comp=Z,59µm,18.0s
SPUT South Promonto 25.30 117 *e*P **P** **20 47 42.9 +1.8**
comp=Z,632nm,1.7s
SPUT LR LR
comp=Z,42µm,22.0s
FCC Fort Churchill 25.31 66 *e*P **P** **20 47 40.1 -0.7**
comp=Z,303nm,1.3s
FCC LR LR
comp=Z,61µm,22.0s
FCC Fort Churchill 25.31 66 *e*P **P** **20 47 40.1 -0.7**
FCC pmax pmax
comp=Z,303nm,1.3s
FCC MLR MLR
comp=Z,61µm,22.0s
BGU Big Grassy Mou 25.32 118 *e*P **P** **20 47 42.7 +1.4**
comp=Z,366nm,1.6s
BGU LR LR
comp=Z,35µm,20.0s
MDPB Devils Postpil 25.35 132 *e*P **P** **20 47 43.8 +2.1**
comp=Z,230nm,1.0s
MDPB LR LR
comp=Z,32µm,20.0s
MRDM Red Cones 25.38 132 *e*P **P** **20 47 44.2 +2.1**
OMMB Old Mammoth Mi 25.39 131 *e*P **P** **20 47 44.3 +2.1**
comp=Z,1µm,2.0s
OMMB LR LR
comp=Z,30µm,21.0s
MLAC Mammoth, Mammo 25.45 131 P **P** **20 47 44.9 +2.4**
baz=330,SNR=23
BVL Bear Valley 25.45 136 *e*P **P** **20 47 44.5 +2.2**
HWUT Hardware Ranch 25.50 115 *e*P **P** **20 47 44.2 +1.3**
comp=Z,3µm,1.9s
HWUT LR LR
comp=Z,46µm,19.0s
BBGB Big Mountain B 25.50 136 *e*P **P** **20 47 45.2 +2.3**
BCWM Chews Ridge 25.55 137 *e*P **P** **20 47 45.5 +2.1**
BW06 Boulder Array 25.63 111 *e*P **P** **20 47 44.5 +0.4**
comp=Z,283nm,1.1s
BW06 LR LR
comp=Z,62µm,19.0s
BW06 Boulder Array 25.63 111 P **P** **20 47 44.8 +0.6**
baz=317,SNR=113
PD31 Pinedale Array 25.63 111 *e*P **P** **20 47 44.5 +0.3**
PDAR Pinedale Array 25.63 111 P **P** **20 47 44.5 +0.3**
comp=Z,36nm,1.0s,baz=306,slow=5.3,SNR=82
PDAR S S 20 52 24.1 +13
comp=Z,1.1nm,0.9s,baz=331,slow=25,SNR=1.8
PDAR LR LR 20 57 31.0
comp=Z,56µm,19.6s,baz=325,slow=36
PDAR P3KPbc 21 20 40.2
comp=Z,0.9nm,0.9s,baz=94,slow=1.9,SNR=4.4
PDAR Pinedale Array 25.63 111 *e*P **P** **20 47 43.9 -0.3**
PDAR S S 20 52 24.1 +13
PDAR *e* 21 20 40.2
FRI Friant 25.65 133 *e*P **P** **20 47 46.2 +2.1**
FRI Friant 25.65 133 *e*P **P** **20 47 46.2 +2.1**
PCCM Crazy Canyon 25.89 137 *e*P **P** **20 47 47.4 +1.1**
PMPB Monarch Peak 25.91 136 *e*P **P** **20 47 49.1 +2.6**
comp=Z,3µm,1.8s
PMPB LR LR
comp=Z,50µm,18.0s
TCUT Toone Canyon 25.95 116 *e*P **P** **20 47 48.7 +1.6**
comp=Z,771nm,1.2s
TCUT LR LR
comp=Z,69µm,20.0s
DUG Dugway, Tooele 25.99 119 *e*P **P** **20 47 48.5 +1.1**
comp=Z,563nm,1.4s
DUG LR LR
comp=Z,41µm,19.0s
DUG Dugway, Tooele 25.99 119 *e*P **P** **20 47 48.5 +1.1**
DUG pmax pmax
comp=Z,563nm,1.4s
DUG MLR MLR
comp=Z,41µm,19.0s
DUG Dugway, Tooele 25.99 119 P **P** **20 47 48.7 +1.3**
baz=323,SNR=107
CTU Camp Tracy 26.11 117 *e*P **P** **20 47 49.6 +1.1**
comp=Z,437nm,1.3s
CTU LR LR
comp=Z,32µm,20.0s
PHSB Hesperia Broad 26.16 137 *e*P **P** **20 47 51.2 +2.4**
TIN Tinemaha, Big 26.19 131 P **P** **20 47 51.8 +2.6**
baz=330,SNR=30
R11A Troy Canyon, C 26.22 125 *e*P **P** **20 47 50.8 +1.3**
comp=Z,458nm,1.5s
R11A LR LR
comp=Z,47µm,18.0s
R11A Troy Canyon, C 26.22 125 P **P** **20 47 50.9 +1.5**
baz=327,SNR=196
PHCM Hearst Castle 26.25 137 *e*P **P** **20 47 52.0 +2.3**
JLU Jordanelle 26.32 117 *e*P **P** **20 47 51.6 +1.1**
comp=Z,622nm,1.6s
JLU LR LR
comp=Z,48µm,21.0s
NLU North Lily Min 26.53 118 *e*P **P** **20 47 53.3 +1.0**
comp=Z,524nm,1.5s
NLU LR LR
comp=Z,43µm,20.0s
PAGB Antelope Grade 26.55 136 *e*P **P** **20 47 54.5 +2.2**
comp=Z,676nm,1.5s
PAGB LR LR
comp=Z,47µm,20.0s
GRAC Grapevine Rang 26.59 130 P **P** **20 47 55.1 +2.4**
baz=329,SNR=90
MPU Maple Canyon 26.69 118 *e*P **P** **20 47 54.9 +1.1**
comp=Z,356nm,1.5s
MPU LR LR
comp=Z,39µm,21.0s
CWC Cottonwood Cre 26.78 131 P **P** **20 47 56.6 +2.0**
baz=330
PSUT Pine Spring 26.84 123 *e*P **P** **20 47 56.7 +1.6**
comp=Z,373nm,1.1s
PSUT LR LR
comp=Z,62µm,22.0s
VES Vestal, Richgr 26.90 134 P **P** **20 47 56.8 +1.4**
baz=332,SNR=26
SMMC Simmler 27.01 136 P **P** **20 47 58.6 +2.1**
baz=333,SNR=46
TPNV Topopah Spring 27.10 128 *e*P **P** **20 47 59.1 +1.6**
comp=Z,2µm,1.9s
TPNV LR LR
comp=Z,62µm,21.0s
TPNV Topopah Spring 27.10 128 *e*P **P** **20 47 59.1 +1.6**
TPNV pmax pmax
comp=Z,2µm,1.9s
TPNV MLR MLR
comp=Z,62µm,21.0s
TPNV Topopah Spring 27.10 128 P **P** **20 47 59.1 +1.6**
baz=328,SNR=168
DAC Darwin (Calif) 27.11 131 *e*P **P** **20 47 59.5 +2.0**
comp=Z,631nm,1.7s
DAC LR LR

comp=Z,63µm,22.0s
DAC Darwin (Calif) 27.11 131 *e*P P **20 47 59.6 +2.0**
DAC pmax pmax
comp=Z,631nm,1.7s
DAC MLR MLR
comp=Z,63µm,22.0s
FURC Furnace Creek, 27.25 130 P P **20 48 00.8 +2.2**
baz=329,SNR=62
K22A Casper 27.26 107 *e*P P **20 47 59.1 +0.3**
comp=Z,360nm,1.5s
K22A LR LR
comp=Z,85µm,18.0s
K22A Casper 27.26 107 P P **20 47 59.2 +0.3**
baz=316,SNR=20
ISA Isabella, Lake 27.29 133 *e*P P **20 48 00.5 +1.4**
comp=Z,314nm,1.4s
ISA LR LR
comp=Z,30µm,22.0s
ISA Isabella, Lake 27.29 133 *e*P P **20 48 00.5 +1.4**
ISA pmax pmax
comp=Z,314nm,1.4s
ISA MLR MLR
comp=Z,30µm,22.0s
ISA Isabella, Lake 27.29 133 P P **20 48 00.5 +1.4**
baz=331,SNR=110
MPMC Manual Prospec 27.35 131 P P **20 48 01.9 +2.3**
baz=330,SNR=137
TCRU Three Creeks R 27.42 121 *e*P P **20 48 01.6 +1.2**
comp=Z,392nm,1.5s
TCRU LR LR
comp=Z,45µm,20.0s
PKM Mcpherson Peak 27.46 136 P P **20 48 03.2 +2.5**
baz=333,SNR=66
TMUT Trail Mountain 27.46 118 *e*P P **20 48 02.1 +1.3**
comp=Z,155nm,1.1s
TMUT LR LR
comp=Z,30µm,20.0s
MDND Maddock 27.50 92 *e*P P **20 48 01.6 +0.8**
comp=Z,423nm,1.1s
MDND LR LR
comp=Z,47µm,22.0s
MDND Maddock 27.50 92 P P **20 48 01.8 +1.0**
baz=308,SNR=30
RSSD Black Hills 27.53 102 *e*P P **20 48 02.4 +1.1**
comp=Z,318nm,0.9s
RSSD LR LR
comp=Z,52µm,19.0s
RSSD Black Hills 27.53 102 *e*P P **20 48 02.4 +1.1**
RSSD pmax pmax
comp=Z,318nm,0.9s
RSSD MLR MLR
comp=Z,52µm,19.0s
RSSD Black Hills 27.53 102 P P **20 48 02.4 +1.1**
baz=314
P17A Butcher Ranch, 27.54 117 *e*P P **20 48 02.6 +1.2**
comp=Z,430nm,1.8s
P17A LR LR
comp=Z,34µm,20.0s
RWWY Rawlins 27.61 110 *e*P P **20 48 01.6 -0.4**
comp=Z,652nm,1.8s
RWWY LR LR
comp=Z,72µm,20.0s
ARVC Arvin 27.62 134 P P **20 48 02.7 +0.7**
baz=332
MSU Marysvale 27.63 120 *e*P P **20 48 04.0 +1.8**
MSU Marysvale 27.63 120 *e*P P **20 48 04.0 +1.8**
LRMC Laurel Mtn Rad 27.77 132 P P **20 48 05.1 +1.7**
baz=331,SNR=55
CCUT Cedar City 27.86 123 *e*P P **20 48 05.9 +1.5**
comp=Z,784nm,1.9s
CCUT LR LR
comp=Z,55µm,20.0s
SBC Santa Barbara 27.89 136 P P **20 48 06.9 +2.6**
baz=334
SRU San Rafael Swe 27.93 117 *e*P P **20 48 06.2 +1.3**
SRU *es*P P **20 48 06.3 +1.5**
SRU LR LR
comp=Z,38µm,22.0s
SRU San Rafael Swe 27.93 117 *e*P P **20 48 06.2 +1.3**
SRU *e**SP P **20 48 06.4 +1.5**
SRU MLR MLR
comp=Z,38µm,22.0s
SHPR Sheep Range 27.94 127 *e*P P **20 48 06.3 +1.3**
comp=Z,664nm,2.0s
SHPR LR LR
comp=Z,61µm,22.0s
SZCU Shurtz Canyon 27.95 123 *e*P P **20 48 06.7 +1.5**
comp=Z,605nm,1.7s
SZCU LR LR
comp=Z,48µm,21.0s
SHOC Shoshone, Teco 27.98 129 P P **20 48 07.3 +2.1**
baz=330,SNR=6.7
MTPU Mount Pierson 28.00 121 *e*P P **20 48 07.6 +1.9**
comp=Z,255nm,1.5s
MTPU LR LR
comp=Z,42µm,19.0s
OSI Osito Audit: C 28.12 134 *e*P P **20 48 08.3 +1.9**
comp=Z,471nm,1.6s
OSI LR LR
comp=Z,58µm,20.0s
OSI Osito Audit: C 28.12 134 P P **20 48 08.2 +1.8**
baz=333,SNR=6.4
ULM Lac du Bonnet 28.13 85 P P **20 48 06.4 +0.1**
comp=Z,64nm,0.9s,baz=302,slow=10.0,SNR=30
ULM S S **20 52 51.8 +1.5**
comp=Z,15nm,1.0s,baz=54,slow=14,SNR=1.7
ULM LR LR 20 58 50.8
comp=Z,42µm,18.4s,baz=307,slow=36
ULM Lac du Bonnet 28.13 85 *e*P P **20 48 06.5 +0.1**
comp=Z,156nm,1.3s
ULM S S **20 52 51.8 +1.5**
ULM Lac du Bonnet 28.13 85 *e*P P **20 48 06.5 +0.1**
ULM S S **20 52 51.8 +1.5**
ULM pmax pmax
comp=Z,156nm,1.3s
EDW2 Edwards Air Fo 28.17 133 P P **20 48 08.0 +1.1**
baz=332,SNR=36
O20A White River Ci 28.25 113 *e*P P **20 48 08.6 +0.8**
comp=Z,154nm,0.9s
O20A LR LR
comp=Z,19µm,20.0s
O20A White River Ci 28.25 113 P P **20 48 08.4 +0.7**
baz=320,SNR=48
GSC Goldstone, Bar 28.28 131 *e*P P **20 48 09.6 +1.7**
comp=Z,1µm,1.9s
GSC LR LR
comp=Z,44µm,22.0s
GSC Goldstone, Bar 28.28 131 *e*P P **20 48 09.6 +1.7**
GSC pmax pmax
comp=Z,1µm,1.9s
GSC MLR MLR
comp=Z,44µm,22.0s
GSC Goldstone, Bar 28.28 131 P P **20 48 09.8 +2.0**
baz=330,SNR=56
SCZ2 Santa Cruz Isl 28.32 136 P P **20 48 09.9 +1.7**
baz=334,SNR=13
LCMT Little Creek M 28.36 124 *e*P P **20 48 10.4 +1.7**
comp=Z,139nm,1.1s
LCMT LR LR
comp=Z,50µm,22.0s
PKCU Pink Cliffs 28.43 122 *e*P P **20 48 11.7 +2.1**
comp=Z,745nm,1.7s
PKCU LR LR
comp=Z,37µm,21.0s
BLG Laguna Peak, P 28.43 135 P P **20 48 11.1 +1.9**
baz=333,SNR=12
TUQ Turquoise Moun 28.53 129 P P **20 48 12.1 +2.0**
baz=330,SNR=35
KNB Kanab 28.55 123 *e*P P **20 48 12.2 +1.9**
comp=Z,620nm,1.7s
KNB LR LR
comp=Z,52µm,21.0s
KNB Kanab 28.55 123 *e*P P **20 48 12.3 +1.9**
KNB pmax pmax
comp=Z,620nm,1.7s
KNB MLR MLR
comp=Z,52µm,21.0s
RRX Edison Barstow 28.57 131 P P **20 48 12.5 +2.1**
baz=331,SNR=9.4
DECC Green Verdugo 28.59 134 P P **20 48 12.5 +1.9**
baz=333,SNR=8.4
PASC Pasadena Art C 28.71 134 *e*P P **20 48 13.5 +1.8**
comp=Z,786nm,1.8s
PASC LR LR
comp=Z,58µm,21.0s
MWC Mount Wilson 28.72 134 *e*P P **20 48 13.8 +1.9**
comp=Z,1µm,2.0s
MWC LR LR
comp=Z,60µm,18.0s
MWC Mount Wilson 28.72 134 *e*P P **20 48 13.8 +1.9**
MWC pmax pmax
comp=Z,1µm,2.0s
MWC MLR MLR
comp=Z,60µm,18.0s
PHWY Pilot Hill 28.78 108 PFAKE 20 48 30.0 +17
PHWY LR LR
comp=Z,80µm,18.0s
N23A Red Feather La 28.84 109 *e*P P **20 48 13.8 +0.7**
comp=Z,205nm,1.4s
N23A LR LR
comp=Z,69µm,19.0s
N23A Red Feather La 28.84 109 P P **20 48 13.7 +0.7**
baz=318,SNR=54
BFSC Mount Baldy Ra 28.86 133 P P **20 48 15.3 +2.1**
baz=332,SNR=87
HEC Hector,Ludlow 28.88 130 P P **20 48 15.1 +1.8**
baz=331,SNR=51
SNCC San Nicolas Is 29.03 137 *e*P P **20 48 15.8 +1.4**
comp=Z,816nm,1.8s
SNCC LR LR
comp=Z,49µm,19.0s
SNCC San Nicolas Is 29.03 137 P P **20 48 16.4 +1.9**
baz=334,SNR=5.4
FMP Fort Macarthur 29.08 135 P P **20 48 16.5 +1.6**
baz=333
PV09 Paradox Valley 29.08 116 *e*P P **20 48 16.2 +1.0**
PV21 Cone Mtn., Par 29.11 116 *e*P P **20 48 16.3 +0.9**
comp=Z,519nm,1.8s
PV21 LR LR
comp=Z,47µm,20.0s
BBRC Big Bear Solar 29.13 132 P P **20 48 17.7 +2.0**
baz=332
LDFC Landfair 29.18 128 *e*P P **20 48 17.3 +1.4**
comp=Z,419nm,1.3s
LDFC LR LR
comp=Z,52µm,18.0s
PV23 Carpenter Ridg 29.18 116 *e*P P **20 48 17.1 +1.0**
comp=Z,455nm,1.5s
PV23 LR LR
comp=Z,56µm,20.0s
GMRC Granite Mounta 29.20 130 P P **20 48 17.7 +1.5**
baz=330,SNR=81
PV22 Blue Mesa, Par 29.22 116 *e*P P **20 48 17.3 +0.9**
comp=Z,385nm,1.4s
PV22 LR LR
comp=Z,50µm,20.0s
PV10 Paradox Valley 29.22 116 *e*P P **20 48 18.1 +1.6**
PV14 Lion Creek, Pa 29.23 116 *e*P P **20 48 17.5 +0.9**
comp=Z,456nm,1.5s
PV14 LR LR
comp=Z,58µm,21.0s
AGMN Agassiz Nation 29.25 88 *e*P P **20 48 16.3 0.0**
comp=Z,56nm,0.9s
AGMN LR LR
comp=Z,45µm,18.0s
AGMN Agassiz Nation 29.25 88 P P **20 48 16.4 0.0**
baz=307,SNR=10
U15A North Rim 29.27 123 *e*P P **20 48 18.6 +1.7**
comp=Z,923nm,2.0s
U15A LR LR
comp=Z,56µm,19.0s
PV20 West Nyswonger 29.29 116 *e*P P **20 48 18.1 +1.2**
comp=Z,539nm,1.7s
PV20 LR LR
comp=Z,49µm,21.0s
PV19 Morning Glory 29.30 116 *e*P P **20 48 17.9 +0.8**
comp=Z,428nm,1.6s
CIS Catalina Islan 29.31 135 P P **20 48 18.7 +1.7**
baz=333,SNR=12
PV16 Nyswonger Mesa 29.33 116 *e*P P **20 48 18.4 +1.0**
comp=Z,454nm,1.6s
PV16 LR LR
comp=Z,49µm,21.0s
PV17 East Wray Mesa 29.34 116 *e*P P **20 48 18.4 +1.0**
comp=Z,514nm,1.6s
PV17 LR LR
comp=Z,57µm,21.0s
PV11 David Mesa, Pa 29.36 116 *e*P P **20 48 18.7 +1.1**
comp=Z,492nm,1.5s
PV11 LR LR
comp=Z,59µm,21.0s
PV12 Saucer Basin, 29.38 116 *e*P P **20 48 18.9 +1.0**
comp=Z,359nm,1.4s
PV12 LR LR
comp=Z,64µm,21.0s
PV18 Skein Mesa, Pa 29.39 116 *e*P P **20 48 18.9 +1.0**
comp=Z,341nm,1.5s
PV18 LR LR
comp=Z,48µm,21.0s
PV03 Paradox Valley 29.41 116 *e*P P **20 48 18.9 +0.8**
PV05 Paradox Valley 29.43 117 *e*P P **20 48 19.3 +1.0**
PV13 Radium Mtn., P 29.50 116 *e*P P **20 48 19.9 +1.0**
comp=Z,388nm,1.4s
PV13 LR LR
comp=Z,49µm,22.0s
PV02 Paradox Valley 29.50 116 *e*P P **20 48 20.0 +1.1**
comp=Z,513nm,1.7s
MURC Murrieta 29.61 133 P P **20 48 21.0 +1.4**
baz=332,SNR=15
SMCO Snowmass 29.61 113 *e*P P **20 48 20.6 +0.5**
comp=Z,62nm,0.8s
SMCO LR LR
comp=Z,42µm,22.0s
SCI2 San Clemente I 29.63 136 P P **20 48 21.9 +2.1**
baz=334,SNR=23
PV01 Paradox Valley 29.64 116 *e*P P **20 48 21.1 +1.0**
NEE2 Needles Airpor 29.65 128 P P **20 48 21.8 +1.9**
baz=329
W13A Hualapai Mount 29.68 127 *e*P P **20 48 22.2 +1.7**
comp=Z,347nm,1.6s
W13A LR LR
comp=Z,28µm,20.0s
BELC Belle Mtn. Jos 29.74 131 P P **20 48 22.8 +1.9**
baz=331,SNR=69
ISCO Idaho Springs 29.82 110 *e*P P **20 48 22.7 +0.9**
comp=Z,47nm,1.0s
ISCO LR LR
comp=Z,55µm,20.0s
ISCO Idaho Springs 29.82 110 *e*P P **20 48 22.7 +0.9**
ISCO pmax pmax
comp=Z,47nm,1.0s
ISCO MLR MLR
comp=Z,55µm,20.0s
ISCO Idaho Springs 29.82 110 P P **20 48 22.6 +0.8**
baz=320,SNR=17
PFO Pinyon Flats O 29.89 132 *e*P P **20 48 23.4 +1.2**
comp=Z,336nm,1.4s
PFO LR LR
comp=Z,62µm,19.0s
PFO Pinyon Flats O 29.89 132 *e*P P **20 48 23.4 +1.2**
PFO pmax pmax
comp=Z,336nm,1.4s
PFO MLR MLR
comp=Z,62µm,19.0s
PFO Pinyon Flats O 29.89 132 P P **20 48 23.5 +1.3**
baz=332,SNR=53
XPFO Piæon Flat 29.89 132 *e*P P **20 48 23.4 +1.2**
comp=Z,307nm,1.4s
XPFO LR LR
comp=Z,59µm,18.0s
FRD Ford Ranch, An 29.93 132 P P **20 48 24.3 +1.7**
baz=332,SNR=60
IRM Iron Mountain 29.95 129 P P **20 48 24.8 +2.1**
baz=330,SNR=94
SUSD Miller 30.01 97 P P **20 48 23.5 +0.3**
baz=312,SNR=6.3
PDMCI Parker Dam,Lak 30.25 128 P P **20 48 27.1 +1.8**
baz=330,SNR=22
BC3 Big Chuckawall 30.26 130 P P **20 48 27.1 +1.6**
baz=331,SNR=52
109C Camp Elliot, M 30.27 134 P P **20 48 27.5 +2.1**
baz=333,SNR=17
CPE Camp Elliot 30.27 134 *e*P P **20 48 27.7 +2.3**
comp=Z,536nm,1.4s
CPE LR LR
comp=Z,44µm,21.0s
MVCO Mesa Verde 30.41 117 *e*P P **20 48 27.8 +0.8**
comp=Z,398nm,1.5s
MVCO LR LR
comp=Z,35µm,20.0s
MVCO Mesa Verde 30.41 117 P P **20 48 27.8 +0.8**
baz=324,SNR=61
WUAZ Wupatki 30.44 123 *e*P P **20 48 29.0 +1.9**
comp=Z,374nm,1.3s
WUAZ LR LR
comp=Z,50µm,21.0s
WUAZ Wupatki 30.44 123 P P **20 48 29.0 +1.8**
baz=327,SNR=104
MONP2 Monument Peak 30.53 132 P P **20 48 30.1 +2.1**
baz=332,SNR=104
Y12C Blythe 30.56 129 *e*P P **20 48 29.9 +1.8**
comp=Z,503nm,1.5s
Y12C LR LR
comp=Z,44µm,18.0s
Y12C Blythe 30.56 129 P P **20 48 30.2 +2.1**
baz=330,SNR=42
BAR Barrett 30.62 133 *e*P P **20 48 30.6 +2.0**
comp=Z,765nm,1.8s
BAR LR LR
comp=Z,43µm,21.0s
Q24A Divide 30.69 111 *e*P P **20 48 29.9 +0.4**
comp=Z,165nm,1.6s
Q24A LR LR
comp=Z,45µm,18.0s
Q24A Divide 30.69 111 P P **20 48 30.6 +1.1**
baz=320,SNR=14
SWSC Sam W. Stewart 30.74 132 P P **20 48 31.3 +1.8**
baz=332,SNR=31
S22A 4UR Ranch, Cre 30.80 114 *e*P P **20 48 31.8 +1.3**
comp=Z,403nm,1.9s
S22A LR LR
comp=Z,33µm,19.0s
S22A 4UR Ranch, Cre 30.80 114 P P **20 48 31.9 +1.5**
baz=322,SNR=58
OGNE Ogallala 30.81 105 *e*P P **20 48 31.4 +1.1**
comp=Z,682nm,1.8s
OGNE LR LR
comp=Z,84µm,21.0s
OGNE Ogallala 30.81 105 P P **20 48 31.0 +0.7**
baz=317,SNR=13
IKP In-Ko-Pah, Jac 30.87 132 P P **20 48 33.0 +2.1**
baz=332,SNR=75
GLA Glamis 31.04 130 *e*P P **20 48 34.3 +1.9**
comp=Z,294nm,1.3s
GLA LR LR
comp=Z,42µm,18.0s
GLA Glamis 31.04 130 *e*P P **20 48 34.3 +1.9**
GLA pmax pmax
comp=Z,294nm,1.3s
GLA MLR MLR
comp=Z,42µm,18.0s
GLA Glamis 31.04 130 P P **20 48 34.2 +1.9**
baz=331,SNR=28
X16A Lo Mia Camp, P 31.33 124 *e*P P **20 48 37.0 +2.0**
comp=Z,336nm,1.8s
X16A LR LR
comp=Z,47µm,20.0s
SEY Seymchan 31.34 307 P P **20 48 35.0 +0.5**
comp=Z,109nm,1.1s,baz=82,slow=8.5,SNR=44
SEY Seymchan 31.34 307 *ce*P P **20 48 34.8 +0.2**
TULEG Thule 31.40 26 PFAKE 20 48 50.0 +15
TULEG LR LR
comp=Z,57µm,19.0s
SDCO Great Sand Dun 31.45 113 *e*P P **20 48 37.4 +1.2**
comp=Z,240nm,1.5s
SDCO LR LR
comp=Z,40µm,22.0s
SDCO Great Sand Dun 31.45 113 P P **20 48 37.6 +1.4**
baz=322,SNR=70
W18A Petrified Fore 31.52 121 *e*P P **20 48 38.5 +1.8**
comp=Z,912nm,1.9s
W18A LR LR
comp=Z,51µm,19.0s
W18A Petrified Fore 31.52 121 P P **20 48 38.6 +1.8**
baz=326,SNR=47
113A Mohawk Valley, 31.73 129 *e*P P **20 48 39.9 +1.6**
comp=Z,447nm,1.8s
113A LR LR
comp=Z,40µm,19.0s
ECSD EROS Data Cent 31.74 96 *e*P P **20 48 38.3 -0.1**
comp=Z,112nm,1.0s
ECSD LR LR
comp=Z,96µm,21.0s
ECSD EROS Data Cent 31.74 96 P P **20 48 38.3 -0.1**
baz=313,SNR=63
EYMN Ely 31.81 85 *e*P P **20 48 39.5 +0.5**
comp=Z,169nm,0.8s
EYMN LR LR
comp=Z,38µm,22.0s
EYMN Ely 31.81 85 P P **20 48 39.4 +0.5**
baz=308,SNR=30
X18A Snowflake 31.91 122 *e*P P **20 48 42.2 +2.1**
comp=Z,375nm,1.4s
X18A LR LR
comp=Z,49µm,22.0s
KSCO Kaye Shedlock' 31.93 108 *e*P P **20 48 41.5 +1.2**
comp=Z,430nm,1.4s
KSCO LR LR
comp=Z,56µm,18.0s
KSCO Kaye Shedlock' 31.93 108 P P **20 48 41.5 +1.2**
baz=319,SNR=32
T25A Trinidad 32.47 112 *e*P P **20 48 45.6 +0.6**
comp=Z,450nm,1.9s
T25A LR LR
comp=Z,30µm,21.0s
T25A Trinidad 32.47 112 P P **20 48 46.3 +1.2**
baz=322,SNR=12
BGNE Belgrade 32.52 100 *e*P P **20 48 46.3 +1.0**
comp=Z,963nm,0.9s
BGNE LR LR
comp=Z,51µm,18.0s
BGNE Belgrade 32.52 100 P P **20 48 46.2 +0.9**
baz=316,SNR=80
F37A Hinrichs Farm, 32.58 89 P P **20 48 46.1 +0.4**
baz=310
E38A The Farm, Brul 32.60 87 *e*P P **20 48 45.9 0.0**
comp=Z,256nm,1.0s
E38A LR LR
comp=Z,38µm,20.0s
E38A The Farm, Brul 32.60 87 P P **20 48 46.3 +0.4**
baz=309,SNR=34
PET Petropavlovsk 32.71 288 *e*P P **20 48 46.9 +0.2**
comp=Z,225nm,1.3s
PET LR LR
comp=Z,26µm,20.0s
PET Petropavlovsk 32.71 288 *ce*P P **20 48 46.5 -0.2**
PET *e* 20 49 56.8
PET *e*S S **20 54 01.2 -0.6**
PET *e*SS SnSn **20 56 05.7 +8.5**
PET pmax pmax
comp=Z,3µm,11.1s
PET pmax pmax
comp=Z,154nm,2.3s
PET pmax pmax
comp=Z,4µm,14.0s
PET pmax pmax
comp=Z,4µm,13.6s
PET pmax pmax
comp=Z,3µm,9.4s
PET MLR MLR
comp=Z,29µm,19.0s
PET MLR MLR
comp=Z,25µm,19.0s
SPMN Marine on St. 32.81 90 *e*P P **20 48 48.3 +0.6**
comp=Z,237nm,1.6s
SPMN LR LR
comp=Z,49µm,19.0s
SPMN Marine on St. 32.81 90 P P **20 48 48.3 +0.6**
baz=311,SNR=13
214A Organ Pipe Nat 32.83 128 P P **20 48 50.1 +2.0**
baz=331,SNR=35
F38A Pierce - Schro 32.84 88 P P **20 48 48.7 +0.8**
baz=310,SNR=50
PEA1 Petropavlovsk- 33.15 288 *e*P P **20 48 51.0 +0.4**
PEA0B Petropavlovsk- 33.15 288 *e*P P **20 48 51.1 +0.5**
comp=Z,168nm,1.0s
PEA0B LR LR
comp=Z,19µm,18.0s
PETK Petropavlovsk- 33.15 288 P P **20 48 51.0 +0.4**
comp=Z,81nm,0.8s,baz=75,slow=11,SNR=42
PETK LR LR 21 03 33.7
comp=Z,16µm,18.6s,baz=68,slow=39
ANMO Albuquerque 33.21 117 P P **20 48 53.0 +1.4**
comp=Z,38nm,1.1s,baz=317,slow=9.2,SNR=89
ANMO PcP **PcP** **20 51 34.5 +0.7**
comp=Z,30nm,1.1s,baz=311,slow=2.8,SNR=2.9
ANMO Albuquerque 33.21 117 *e*P P **20 48 52.9 +1.4**
comp=Z,361nm,1.7s
ANMO *e*PcP **PcP** **20 51 34.5 +0.7**
ANMO LR LR
comp=Z,19µm,21.0s
ANMO Albuquerque 33.21 117 *c i*P P **20 48 53.1 +1.6**
ANMO pmax pmax
comp=Z,385nm,2.5s

ANMO MLR MLR
comp=Z,18µm,16.0s
ANMO Albuquerque 33.21 117 P **P** 20 48 53.0 +1.4
baz=325
E39A Mellen 33.28 87 P **P** 20 48 51.6 -0.3
baz=310
LAZ Ladron 33.33 119 *e*P **P** 20 48 54.5 +1.9
F39A Loretta 33.38 88 P **P** 20 48 53.1 +0.4
baz=310,SNR=21
MA2 Magadan 33.38 302 *e*P **P** 20 48 53.9 +1.4
MA2 LR LR
comp=Z,25µm,20.0s
MA2 Magadan 33.38 302 *c i*P **P** 20 48 54.0 +1.4
MA2 pmax pmax
comp=Z,1µm,1.7s
MA2 MLR MLR
comp=Z,25µm,17.0s
TUC Tucson 33.40 125 *e*P **P** 20 48 55.3 +2.2
comp=Z,705nm,2.0s
TUC LR LR
comp=Z,26µm,22.0s
TUC Tucson 33.40 125 *e*P **P** 20 48 55.3 +2.2
TUC pmax pmax
comp=Z,705nm,2.0s
TUC MLR MLR
comp=Z,26µm,22.0s
TUC Tucson 33.40 125 P **P** 20 48 55.3 +2.2
baz=329
H38A Maiden Rock 33.45 90 P **P** 20 48 54.0 +0.8
baz=312,SNR=22
CBKS Cedar Bluff 33.58 105 *e*P **P** 20 48 55.8 +1.3
comp=Z,588nm,1.4s
CBKS LR LR
comp=Z,48µm,22.0s
CBKS Cedar Bluff 33.58 105 *e*P **P** 20 48 55.8 +1.3
CBKS pmax pmax
comp=Z,588nm,1.4s
CBKS MLR MLR
comp=Z,48µm,22.0s
CBKS Cedar Bluff 33.58 105 P **P** 20 48 55.3 +0.8
baz=319,SNR=29
E40A Wakefield 33.59 86 P **P** 20 48 55.3 +0.8
baz=310,SNR=6.6
LENM Lemitar 33.60 119 *e*P **P** 20 48 56.6 +1.8
LPM Los Pinos Moun 33.64 118 *e*P **P** 20 48 56.9 +1.6
G39A Holcombe 33.65 89 P **P** 20 48 55.1 +0.1
baz=311,SNR=31
Y22D IRIS PASSCAL I 33.70 119 PFAKE 20 49 10.0 +14
Y22D LR LR
comp=Z,18µm,20.0s
Y22D IRIS PASSCAL I 33.70 119 P **P** 20 48 58.1 +2.4
baz=326
BNM Barren Site 33.77 118 *e*P **P** 20 48 58.1 +1.6
F40A Park Falls 33.81 87 P **P** 20 48 56.7 +0.3
baz=310,SNR=44
D41A Chassel 33.92 84 *e*P **P** 20 48 58.7 +1.3
comp=Z,342nm,1.3s
D41A LR LR
comp=Z,41µm,21.0s
D41A Chassel 33.92 84 P **P** 20 48 57.0 -0.4
baz=309,SNR=7.0
H39A Augusta 33.98 90 P **P** 20 48 58.4 +0.5
baz=311,SNR=38
E41A Kenton 34.08 85 P **P** 20 48 59.2 +0.4
baz=310,SNR=16
G40A Rib Lake 34.18 88 *e*P **P** 20 49 00.0 +0.3
comp=Z,89nm,0.9s
G40A LR LR
comp=Z,48µm,18.0s
G40A Rib Lake 34.18 88 P **P** 20 48 60.0 +0.3
baz=311,SNR=22
COWI Conover 34.22 86 *e*P **P** 20 49 00.2 +0.2
comp=Z,79nm,0.9s
COWI LR LR
comp=Z,23µm,19.0s
I39A Houston 34.40 91 *e*P **P** 20 49 01.9 +0.3
comp=Z,176nm,0.8s
I39A LR LR
comp=Z,62µm,18.0s
I39A Houston 34.40 91 P **P** 20 49 01.8 +0.3
baz=312,SNR=34
F41A Three Lakes 34.47 86 PFAKE 20 49 10.0 +7.8
F41A LR LR
comp=Z,38µm,18.0s
H40A Chili 34.50 89 P **P** 20 49 03.3 +0.8
baz=312,SNR=42
121A Cookes Peak, D 34.57 121 P **P** 20 49 05.7 +2.3
baz=327,SNR=64
J39A Decorah 34.65 92 P **P** 20 49 03.8 +0.1
baz=313,SNR=32
KULLO Kullorsuaq 34.66 28 *i*P **P** 20 49 03.5 +0.1
KULLO Kullorsuaq 34.66 28 *i*P **P** 20 49 03.5 +0.1
E42A Champion 34.67 84 P **P** 20 49 04.6 +0.7
baz=310,SNR=16
G41A Antigo 34.77 87 P **P** 20 49 05.8 +1.0
baz=311
SCIA State Center 34.81 95 *e*P **P** 20 49 05.5 +0.4
comp=Z,215nm,1.3s
SCIA LR LR
comp=Z,64µm,22.0s
SCIA State Center 34.81 95 P **P** 20 49 05.6 +0.4
baz=314,SNR=8.2
I40A Norwalk 34.86 90 P **P** 20 49 06.1 +0.5
baz=312,SNR=27
319A Douglas 34.87 124 *e*P **P** 20 49 08.1 +2.3
comp=Z,913nm,1.9s
319A LR LR
comp=Z,40µm,21.0s
H41A Junction City 34.90 88 *e*P **P** 20 49 06.3 +0.5
comp=Z,71nm,0.9s
H41A LR LR
comp=Z,46µm,19.0s
H41A Junction City 34.90 88 P **P** 20 49 06.2 +0.3
baz=312,SNR=12
K39A Oelwein 34.98 93 P **P** 20 49 06.4 -0.1
baz=314,SNR=62
F42A Maple Grove Fa 34.98 86 P **P** 20 49 07.9 +1.4
baz=310,SNR=9.2
FRB Frobisher Bay 34.99 48 P **P** 20 49 06.2 -0.2
comp=Z,84nm,1.1s,baz=289,slow=9.8,SNR=10
KSU1 Kansas State U 35.01 102 *e*P **P** 20 49 07.7 +0.8
comp=Z,456nm,1.4s
KSU1 LR LR
comp=Z,55µm,22.0s
KSU1 Kansas State U 35.01 102 P **P** 20 49 07.5 +0.6
baz=318,SNR=25
J40A Soldiers Grove 35.13 91 P **P** 20 49 08.1 +0.3
baz=313,SNR=27
G42A Mountain 35.15 86 *e*P **P** 20 49 08.9 +0.9
comp=Z,194nm,1.0s
G42A LR LR
comp=Z,48µm,19.0s
G42A Mountain 35.15 86 P **P** 20 49 09.0 +0.9
baz=311,SNR=28
I41A Arkdale 35.15 89 *e*P **P** 20 49 08.8 +0.8
comp=Z,104nm,0.8s
I41A LR LR
comp=Z,56µm,18.0s
I41A Arkdale 35.15 89 P **P** 20 49 09.0 +0.9
baz=312,SNR=14
E43A Lone Tree Farm 35.20 84 *e*P **P** 20 49 09.2 +0.8
comp=Z,118nm,0.9s
E43A LR LR
comp=Z,35µm,19.0s
E43A Lone Tree Farm 35.20 84 P **P** 20 49 09.3 +0.9
baz=310,SNR=16
SKR Severo-Kuril's 35.31 286 *e*P **P** 20 49 07.1 -2.2
SKR *e*PPP PPP 20 50 27.2
SKR *e*S **S** 20 54 44.4 +2.3
SKR pmax pmax
comp=Z,167nm,1.4s
SKR pmax pmax
comp=Z,2µm,14.2s
SKR pmax pmax
comp=Z,3µm,13.1s
SKR MLR MLR
comp=Z,8µm,20.0s
SKR MLR MLR
comp=Z,8µm,19.0s
L39A Vinton 35.31 94 P **P** 20 49 09.3 -0.2
baz=314,SNR=14
K40A Colesburg 35.38 92 P **P** 20 49 10.0 -0.1
baz=314,SNR=14
F43A Flat Rock, Esc 35.45 85 P **P** 20 49 11.3 +0.8
baz=310,SNR=8.9
J41A Loganville 35.54 90 P **P** 20 49 11.7 +0.3
baz=313,SNR=25

G43A Wallace 35.54 86 *e*P **P** 20 49 12.5 +1.1
comp=Z,138nm,0.9s
G43A LR LR
comp=Z,26µm,21.0s
G43A Wallace 35.54 86 P **P** 20 49 12.1 +0.7
baz=311,SNR=12
H42A Shiocton 35.58 88 *e*P **P** 20 49 12.3 +0.6
comp=Z,129nm,0.9s
H42A LR LR
comp=Z,51µm,21.0s
H42A Shiocton 35.58 88 P **P** 20 49 12.0 +0.4
baz=312,SNR=9.7
AMTX Amarillo 35.60 112 *e*P **P** 20 49 13.7 +1.6
comp=Z,858nm,1.5s
AMTX LR LR
comp=Z,42µm,19.0s
AMTX Amarillo 35.60 112 P **P** 20 49 13.7 +1.6
baz=323
E44A Grand Marais A 35.62 83 *e*P **P** 20 49 13.6 +1.6
comp=Z,208nm,0.9s
E44A LR LR
comp=Z,50µm,22.0s
E44A Grand Marais A 35.62 83 P **P** 20 49 14.6 +2.6
baz=310
M39A Webster 35.67 94 P **P** 20 49 12.5 0.0
baz=315,SNR=13
JFWS Jewell Farm 35.72 91 *e*P **P** 20 49 12.9 -0.1
comp=Z,139nm,1.0s
JFWS LR LR
comp=Z,44µm,19.0s
JFWS Jewell Farm 35.72 91 *e*P **P** 20 49 12.9 -0.1
JFWS pmax pmax
comp=Z,139nm,1.0s
JFWS MLR MLR
comp=Z,44µm,19.0s
JFWS Jewell Farm 35.72 91 P **P** 20 49 12.8 -0.1
baz=313,SNR=18
F44A Big Bay de Noc 35.76 84 P **P** 20 49 14.1 +0.9
baz=310,SNR=12
L40A Anamosa 35.78 93 *e*P **P** 20 49 13.2 -0.2
comp=Z,164nm,0.9s
L40A LR LR
comp=Z,58µm,18.0s
L40A Anamosa 35.78 93 P **P** 20 49 13.1 -0.4
baz=314,SNR=33
I42A Draeger Farm, 35.78 89 *e*P **P** 20 49 14.2 +0.7
comp=Z,194nm,0.9s
I42A LR LR
comp=Z,47µm,18.0s
I42A Draeger Farm, 35.78 89 P **P** 20 49 14.2 +0.7
baz=312,SNR=28
MSTX Muleshoe 35.79 114 *e*P **P** 20 49 15.0 +1.3
comp=Z,557nm,1.5s
MSTX LR LR
comp=Z,34µm,18.0s
MSTX Muleshoe 35.79 114 P **P** 20 49 14.9 +1.1
baz=324
EPT El Paso 35.80 120 *e*P **P** 20 49 15.6 +1.8
comp=Z,386nm,1.6s
EPT LR LR
comp=Z,39µm,19.0s
U32A Winter Ranch, 35.80 107 *e*P **P** 20 49 15.1 +1.3
comp=Z,586nm,1.3s
U32A LR LR
comp=Z,66µm,18.0s
K41A Shullsburg 35.90 91 P **P** 20 49 14.6 +0.1
baz=314,SNR=32
N39A Derby Farms, D 35.91 95 *e*P **P** 20 49 14.4 -0.2
comp=Z,127nm,1.1s
N39A LR LR
comp=Z,103µm,22.0s
N39A Derby Farms, D 35.91 95 P **P** 20 49 14.4 -0.2
baz=316,SNR=17
H43A Windswept, Lux 36.01 87 *e*P **P** 20 49 15.7 +0.3
comp=Z,163nm,0.9s
H43A LR LR
comp=Z,60µm,21.0s
H43A Windswept, Lux 36.01 87 P **P** 20 49 17.3 +1.8
baz=312,SNR=10
J42A Columbus 36.05 90 P **P** 20 49 16.3 +0.5
baz=313,SNR=32
M40A Post Highland 36.08 94 P **P** 20 49 15.8 -0.2
baz=315,SNR=15
L41A Preston 36.16 92 P **P** 20 49 16.5 -0.2
baz=314,SNR=15
HSIG 36.17 128 *e*P **P** 20 49 18.9 +1.9
comp=Z,649nm,1.8s
HSIG LR LR
comp=Z,34µm,20.0s
E45A Wooded Hills, 36.18 83 P **P** 20 49 17.8 +1.0
baz=310,SNR=13
I43A Langenfeld Bro 36.20 88 P **P** 20 49 17.6 +0.6
baz=312,SNR=22
K42A Prairie Point, 36.30 90 P **P** 20 49 18.2 +0.3
baz=313,SNR=13
MNTX Cornudas Mount 36.38 119 *e*P **P** 20 49 20.1 +1.4
comp=Z,467nm,1.7s
MNTX LR LR
comp=Z,27µm,20.0s
MNTX Cornudas Mount 36.38 119 P **P** 20 49 20.5 +1.8
baz=327,SNR=139
J43A Natural Harves 36.39 89 P **P** 20 49 19.1 +0.5
baz=313,SNR=20
N40A Mertquake, Sal 36.40 95 P **P** 20 49 18.5 -0.3
baz=315,SNR=13
F45A CMU Biological 36.43 84 P **P** 20 49 20.3 +1.3
baz=311,SNR=6.3
GDL2 Guadalupe Moun 36.45 117 *e*P **P** 20 49 21.1 +1.7
TIXI Tiksi 36.48 328 *e*P **P** 20 49 18.0 -1.1
comp=Z,113nm,1.2s
TIXI LR LR
comp=Z,35µm,20.0s
TIXI Tiksi 36.48 328 *d i*P **P** 20 49 18.2 -0.9
TIXI pmax pmax
comp=Z,188nm,2.5s
TIXI MLR MLR
comp=Z,25µm,16.0s
M41A Milan 36.62 93 P **P** 20 49 20.4 -0.2
baz=315,SNR=19
L42A Oliver, Polo 36.65 92 *e*P **P** 20 49 20.6 -0.3
comp=Z,115nm,1.0s
L42A LR LR
comp=Z,65µm,18.0s
L42A Oliver, Polo 36.65 92 P **P** 20 49 20.7 -0.2
baz=314,SNR=14
G45A Suttons Bay 36.77 85 P **P** 20 49 23.2 +1.3
baz=311
F46A Macinaw City C 36.78 83 P **P** 20 49 23.1 +1.2
baz=311,SNR=9.4
D47A Chapleau 36.84 80 P **P** 20 49 23.6 +1.1
baz=310,SNR=9.3
K43A Burlington 36.89 90 *e*P **P** 20 49 23.1 +0.2
comp=Z,354nm,1.0s
K43A LR LR
comp=Z,64µm,18.0s
K43A Burlington 36.89 90 P **P** 20 49 23.1 +0.2
baz=314,SNR=20
N41A Harden Midland 36.92 94 *e*P **P** 20 49 23.0 -0.2
comp=Z,278nm,1.0s
N41A LR LR
comp=Z,46µm,21.0s
N41A Harden Midland 36.92 94 P **P** 20 49 23.0 -0.2
baz=316,SNR=30
M42A Sheffield 36.99 92 P **P** 20 49 23.4 -0.3
baz=315
G46A Petoskey 37.02 84 P **P** 20 49 25.7 +1.7
baz=311
L43A Garden Prairie 37.03 91 P **P** 20 49 23.9 -0.2
baz=314,SNR=16
I45A Fountain 37.13 86 P **P** 20 49 27.0 +2.1
baz=312
E47A Iron Bridge 37.13 81 P **P** 20 49 25.8 +0.8
baz=310
SRIG Santa Rosalia 37.13 131 *e*P **P** 20 49 27.4 +2.3
comp=Z,1µm,1.9s
SRIG LR LR
comp=Z,18µm,18.0s
WMOK Wichita Mounta 37.19 109 *e*P **P** 20 49 26.5 +0.9
comp=Z,362nm,1.5s
WMOK LR LR
comp=Z,54µm,20.0s
WMOK Wichita Mounta 37.19 109 *e*P **P** 20 49 26.5 +0.9
WMOK pmax pmax
comp=Z,362nm,1.5s
WMOK MLR MLR
comp=Z,54µm,20.0s
WMOK Wichita Mounta 37.19 109 P **P** 20 49 26.5 +0.9
baz=322,SNR=88

N42A Yates City 37.28 93 P **P** 20 49 26.0 -0.2
baz=315,SNR=13
O41A Passleys Farm, 37.33 95 P **P** 20 49 26.6 -0.1
baz=316,SNR=27
H46A Fife Lake 37.35 85 P **P** 20 49 28.4 +1.6
baz=312
M43A Waltham Townsh 37.43 92 P **P** 20 49 27.4 -0.1
baz=315,SNR=7.7
D48A Paudash Townsh 37.46 79 P **P** 20 49 28.3 +0.6
baz=310,SNR=16
GLMI Grayling 37.47 84 *e*P **P** 20 49 30.1 +2.2
comp=Z,332nm,1.1s
GLMI LR LR
comp=Z,33µm,20.0s
GLMI Grayling 37.47 84 P **P** 20 49 28.7 +0.8
baz=312
L44A Lake County Fo 37.48 90 P **P** 20 49 28.4 +0.5
baz=314,SNR=11
OPA Opana 37.50 204 *e*P **P** 20 49 29.7 +1.5
comp=Z,1µm,1.9s
OPA LR LR
comp=Z,34µm,18.0s
OPA Opana 37.50 204 *e*P **P** 20 49 29.7 +1.5
OPA pmax pmax
comp=Z,1µm,1.9s
OPA MLR MLR
comp=Z,34µm,18.0s
P41A Barry, Barry 37.55 96 P **P** 20 49 28.3 -0.2
baz=316,SNR=32
KEKH Kekaha 37.60 206 *e*P **P** 20 49 33.0 +3.9
comp=Z,366nm,1.0s
KEKH LR LR
comp=Z,38µm,21.0s
I46A Reed City 37.61 86 P **P** 20 49 30.4 +1.3
baz=312
N43A Stutzman Famil 37.66 92 P **P** 20 49 29.1 -0.4
baz=315
O42A Bath 37.70 94 P **P** 20 49 30.1 +0.3
baz=316,SNR=10
E48A Lockeyer 37.71 80 P **P** 20 49 30.5 +0.7
baz=310,SNR=11
KIP Kipapa 37.76 203 *e*P **P** 20 49 34.3 +3.9
comp=Z,511nm,1.1s
KIP LR LR
comp=Z,39µm,19.0s
KIP Kipapa 37.76 203 *d i*P **P** 20 49 34.0 +3.6
KIP pmax pmax
comp=Z,3µm,1.7s
TUL1 Leonard 37.82 104 *e*P **P** 20 49 31.4 +0.5
comp=Z,503nm,1.7s
TUL1 LR LR
comp=Z,69µm,18.0s
TUL1 Leonard 37.82 104 P **P** 20 49 30.5 -0.4
baz=320,SNR=21
HON Honolulu 37.85 203 *e*P **P** 20 49 32.8 +1.6
comp=Z,518nm,1.0s
HON LR LR
comp=Z,38µm,18.0s
HON Honolulu 37.85 203 *e*P **P** 20 49 32.8 +1.6
HON pmax pmax
comp=Z,518nm,1.0s
HON MLR MLR
comp=Z,38µm,18.0s
HDIL Hopedale 37.87 93 *e*P **P** 20 49 30.5 -0.7
comp=Z,227nm,1.0s
HDIL LR LR
comp=Z,18µm,21.0s
HDIL Hopedale 37.87 93 P **P** 20 49 31.0 -0.2
baz=316,SNR=19
KHLH Kahului Airpor 37.94 201 *e*P **P** 20 49 34.9 +2.9
comp=Z,530nm,1.1s
KHLH LR LR
comp=Z,30µm,21.0s
M44A Midewin, Midew 37.96 91 *e*P **P** 20 49 32.1 +0.2
comp=Z,234nm,1.0s
M44A LR LR
comp=Z,35µm,21.0s
M44A Midewin, Midew 37.96 91 P **P** 20 49 32.3 +0.3
baz=315,SNR=21
Q41A Truxton 37.97 97 P **P** 20 49 31.8 -0.3
baz=317,SNR=30
MIDW Midway 37.99 234 *e*P **P** 20 49 34.3 +2.0
comp=Z,416nm,0.8s
MIDW LR LR
comp=Z,34µm,20.0s
P42A Winchester 37.99 95 *e*P **P** 20 49 32.4 +0.1
comp=Z,190nm,1.4s
P42A LR LR
comp=Z,73µm,22.0s
P42A Winchester 37.99 95 P **P** 20 49 31.9 -0.4
baz=316,SNR=14
MATQ Matagami 38.03 73 P **P** 20 49 32.5 -0.1
baz=308,SNR=17
HLK Haleakala 38.05 201 *e*P **P** 20 49 36.0 +2.8
comp=Z,539nm,1.1s
HLK LR LR
comp=Z,37µm,21.0s
O43A Sugar Creek Fa 38.05 93 P **P** 20 49 32.9 +0.1
baz=316
I47A Gladwin 38.06 85 P **P** 20 49 33.7 +0.8
baz=312
H48A Harrisville 38.25 83 P **P** 20 49 35.4 +1.1
baz=312
K46A Dorr 38.28 88 P **P** 20 49 35.0 +0.3
baz=314,SNR=6.7
N44A Piper City 38.32 92 P **P** 20 49 34.9 -0.1
baz=315,SNR=11
R41A Rosebud 38.37 97 P **P** 20 49 35.1 -0.5
baz=318,SNR=37
Q42A Golden Eagle 38.38 96 P **P** 20 49 35.7 +0.1
baz=317,SNR=15
I48A Sherman Twp 38.38 84 P **P** 20 49 36.5 +0.9
baz=312
P43A Skaggs, Pawnee 38.40 94 P **P** 20 49 35.5 -0.1
baz=316,SNR=15
J47A Sunmer 38.42 86 P **P** 20 49 36.4 +0.6
baz=313,SNR=6.6
ABTX Abilene, Hawle 38.42 112 *e*P **P** 20 49 36.8 +0.8
comp=Z,780nm,1.8s
ABTX LR LR
comp=Z,55µm,19.0s
ABTX Abilene, Hawle 38.42 112 P **P** 20 49 36.5 +0.4
baz=324,SNR=45
L46A Eue Claire 38.47 89 P **P** 20 49 37.1 +0.8
baz=314
D50A G1974 Best Tow 38.50 78 P **P** 20 49 34.1 -2.4
baz=310
E50A Wahnapitae 38.50 79 P **P** 20 49 35.8 -0.7
baz=310,SNR=6.9
HHAR Hobbs 38.51 102 *e*P **P** 20 49 36.4 -0.3
comp=Z,322nm,1.5s
HHAR LR LR
comp=Z,49µm,18.0s
MHA Mahukona 38.54 200 *e*P P 20 49 43.7 +6.7
O44A Mansfield 38.60 93 P **P** 20 49 37.0 -0.4
baz=316,SNR=6.3
N45A Kentland 38.62 91 P **P** 20 49 38.2 +0.7
baz=315,SNR=12
CCM Cathedral Cave 38.62 98 *e*P **P** 20 49 37.0 -0.6
comp=Z,165nm,1.5s
CCM LR LR
comp=Z,81µm,18.0s
CCM Cathedral Cave 38.62 98 *e*P **P** 20 49 37.0 -0.6
CCM pmax pmax
comp=Z,165nm,1.5s
CCM MLR MLR
comp=Z,81µm,18.0s
CCM Cathedral Cave 38.62 98 P **P** 20 49 36.8 -0.8
baz=318
HPAH Hawaii Prepara 38.65 200 *e*P **P** 20 49 40.1 +2.1
comp=Z,451nm,1.0s
HPAH LR LR
comp=Z,25µm,20.0s
ILULI Ilulissat 38.66 35 PFAKE 20 49 50.0 +12
ILULI LR LR
comp=Z,45µm,19.0s
ILULI Ilulissat 38.66 35 *i*P **P** 20 49 37.1 -0.4
comp=Z,51µm,16.0s
ILULI Ilulissat 38.66 35 *i*P **P** 20 49 37.1 -0.4
ILULI MLR MLR
comp=Z,51µm,16.0s
R42A Luebbering 38.70 97 P **P** 20 49 37.6 -0.6
baz=318,SNR=21
S41A Jillco Farms, 38.70 99 P **P** 20 49 37.4 -0.9
baz=318,SNR=108
K47A Vermontville 38.71 87 P **P** 20 49 38.9 +0.6
baz=314,SNR=6.0
SLM Saint Louis 38.74 96 *e*P **P** 20 49 39.1 +0.5

comp=Z,262nm,1.4s
SLM LR LR
comp=Z,79µm,18.0s
SLM Saint Louis 38.74 96 eP P 20 49 39.1 +0.5
SLM pmax pmax
comp=Z,262nm,1.4s
SLM MLR MLR
comp=Z,79µm,18.0s
D51A Lot 18 Range I 38.79 77 P P 20 49 38.9 0.0
baz=310,SNR=40
LSQQ Lebel-sur-Quev 38.80 73 P P 20 49 38.5 -0.5
baz=309
Q43A New Douglas 38.80 95 P P 20 49 39.5 +0.4
baz=317,SNR=59
M46A Old House Fiel 38.85 89 PFAKE 20 49 50.0 +10
M46A LR LR
comp=Z,45µm,21.0s
M46A Old House Fiel 38.85 89 P P 20 49 39.9 +0.4
baz=315
TOBO Tobermory, Bru 38.86 81 P P 20 49 40.8 +1.2
baz=312
POHA Pohakuloa 38.89 199 eP P 20 49 42.7 +2.4
comp=Z,370nm,0.9s
POHA LR LR
comp=Z,28µm,19.0s
O45A Potomac 38.93 92 P P 20 49 40.5 +0.4
baz=316,SNR=16
J48A Bridge Port 38.94 85 P P 20 49 42.0 +1.8
baz=313,SNR=12
P44A Sand Creek, Wi 39.01 94 P P 20 49 40.6 -0.2
baz=316,SNR=34
N46A Monticello 39.01 90 P P 20 49 40.6 -0.2
baz=315,SNR=10
HUH Hualalai 39.02 200 PFAKE 20 50 00.0 +19
HUH LR LR
comp=Z,28µm,20.0s
I49A Point Hope 39.02 84 P P 20 49 41.8 +0.9
baz=313,SNR=6.3
U40A Yellville 39.03 101 P P 20 49 40.3 -0.8
baz=320,SNR=39
HMH Humu'ula Sheep 39.03 199 eP P 20 49 43.8 +2.2
comp=Z,446nm,1.0s
HMH LR LR
comp=Z,38µm,20.0s
X37A Clayton 39.06 105 eP P 20 49 42.2 +0.9
comp=Z,435nm,1.4s
X37A LR LR
comp=Z,70µm,18.0s
S42A Caledonia 39.07 97 P P 20 49 40.8 -0.6
baz=318,SNR=28
L47A Sherwood 39.08 88 P P 20 49 41.9 +0.5
baz=314,SNR=13
E51A G1948 Merrick 39.09 78 P P 20 49 40.3 -1.1
baz=311,SNR=18
K48A Perry 39.09 86 P P 20 49 42.7 +1.2
baz=314,SNR=13
T41A Mountain View 39.09 99 P P 20 49 40.9 -0.7
baz=319,SNR=30
FVM French Village 39.11 97 eP P 20 49 41.0 -0.7
comp=Z,218nm,1.4s
FVM LR LR
comp=Z,117µm,18.0s
FVM French Village 39.11 97 eP P 20 49 41.0 -0.7
FVM pmax pmax
comp=Z,218nm,1.4s
FVM MLR MLR
comp=Z,117µm,18.0s
MLOA Mauna Loa Obse 39.11 199 eP P 20 49 45.8 +3.4
comp=Z,1µm,1.3s
MLOA LR LR
comp=Z,33µm,20.0s
KHLU Kahalu'u 39.12 200 eP P 20 49 45.1 +3.2
comp=Z,678nm,1.1s
KHLU LR LR
comp=Z,32µm,18.0s
MLH Mauna Loa 39.12 199 eP P 20 49 46.2 +4.0
comp=Z,523nm,0.9s
MLH LR LR
comp=Z,35µm,21.0s
VLDQ Val d'Or 39.15 75 eP P 20 49 40.3 -1.6
comp=Z,181nm,1.1s
VLDQ LR LR
comp=Z,19µm,18.0s
R43A Red Bud 39.16 96 P P 20 49 41.9 -0.2
baz=318,SNR=33
TX31 Lajitas Ar. Si 39.17 119 eP P 20 49 43.4 +1.0
LTX Lajitas 39.17 119 eP P 20 49 44.0 +1.6
LTX ePcP PcP 20 51 51.6 +0.1
LTX Lajitas 39.17 119 eP P 20 49 44.0 +1.6
LTX e 20 51 51.6
TXAR Lajitas Array 39.17 119 P P 20 49 44.0 +1.6
comp=Z,44nm,1.1s,baz=330,slow=7.2,SNR=127
TXAR PcP PcP 20 51 51.6 +0.1
comp=Z,16nm,1.0s,baz=297,slow=2.9,SNR=2.7
TXAR S S 20 55 36.5 -4.9
comp=Z,0.7nm,0.9s,baz=260,slow=30,SNR=2.3
TXAR LR LR 21 05 45.6
comp=Z,19µm,18.1s,baz=0.0,slow=36
MWH Moku'aweowe 39.17 199 eP P 20 49 45.6 +2.7
comp=Z,506nm,1.2s
MWH LR LR
comp=Z,28µm,20.0s
HATHI Halema'uma'u T 39.17 199 PFAKE 20 50 00.0 +18
HATHI LR LR
comp=Z,39µm,21.0s
NPOC North of Pu'u 39.17 198 PFAKE 20 50 00.0 +18
NPOC LR LR
comp=Z,28µm,20.0s
SFIN Lafayette 39.18 91 eP P 20 49 42.6 +0.4
comp=Z,89nm,0.8s
SFIN LR LR
comp=Z,42µm,21.0s
SFIN Lafayette 39.18 91 P P 20 49 42.5 +0.4
baz=316,SNR=20
OBL Observatory Le 39.18 199 PFAKE 20 50 00.0 +17
OBL LR LR
comp=Z,34µm,21.0s
BYL Byron's Ledge 39.18 199 PFAKE 20 50 00.0 +17
BYL LR LR
comp=Z,36µm,22.0s
JCUZ Jacuzzi 39.18 198 PFAKE 20 50 00.0 +18
JCUZ LR LR
comp=Z,41µm,18.0s
STCH Steam Cracks 39.18 199 PFAKE 20 50 00.0 +17
STCH LR LR
comp=Z,31µm,20.0s
NPH North Pit 39.18 199 PFAKE 20 50 00.0 +17
NPH LR LR
comp=Z,28µm,20.0s
WRMHI West Rim 39.19 199 PFAKE 20 50 00.0 +17
WRMHI LR LR
comp=Z,32µm,21.0s
KKO Keanakako'i 39.20 199 eP P 20 49 48.9 +6.2
comp=Z,649nm,1.1s
KKO LR LR
comp=Z,31µm,18.0s
Q44A Meyer Farm, Va 39.20 95 P P 20 49 42.3 -0.1
baz=317,SNR=17
RIM Rim 39.20 199 PFAKE 20 50 00.0 +17
RIM LR LR
comp=Z,34µm,19.0s
SDHHI Sand Hill 39.21 199 PFAKE 20 50 00.0 +17
SDHHI LR LR
comp=Z,36µm,19.0s
PUH Pauahi 39.21 199 eP P 20 49 44.7 +2.0
comp=Z,406nm,0.9s
PUH LR LR
comp=Z,30µm,18.0s
J49A Marlette 39.24 85 P P 20 49 43.9 +1.1
baz=313,SNR=16
AIN Ainahou 39.25 199 eP P 20 49 46.0 +2.8
comp=Z,662nm,1.1s
AIN LR LR
comp=Z,32µm,18.0s
F51A Arnstein 39.26 79 P P 20 49 42.4 -0.4
baz=311,SNR=5.5
M47A Cromwell 39.28 89 P P 20 49 43.1 +0.1
baz=315,SNR=12
HLP Hilina Pali 39.30 199 eP P 20 49 45.7 +2.2
comp=Z,919nm,1.1s
HLP LR LR
comp=Z,21µm,18.0s
W39A Magazine 39.42 103 eP P 20 49 44.3 0.0
comp=Z,576nm,1.8s
W39A LR LR
comp=Z,70µm,18.0s
W39A Magazine 39.42 103 P P 20 49 44.6 +0.3
baz=321,SNR=37
P45A Graceland, Par 39.43 93 eP P 20 49 44.5 +0.1
comp=Z,154nm,1.0s
P45A LR LR
comp=Z,25µm,20.0s
P45A Graceland, Par 39.43 93 P P 20 49 44.3 -0.1
baz=316,SNR=31
BMRO Meriville Lake 39.44 82 P P 20 49 46.4 +2.0
baz=312,SNR=7.0
T42A Van Buren 39.46 98 eP P 20 49 43.5 -1.2
comp=Z,59nm,1.0s
T42A LR LR
comp=Z,55µm,18.0s
T42A Van Buren 39.46 98 P P 20 49 42.7 -2.0
baz=319,SNR=39
K49A Clarkson 39.47 86 P P 20 49 45.9 +1.3
baz=314
KLBO Killbear Provi 39.47 80 P P 20 49 45.2 +0.5
baz=312,SNR=7.9
L48A N Adams 39.52 87 P P 20 49 42.6 -2.4
baz=314,SNR=18
U41A Viola 39.54 100 P P 20 49 44.3 -1.0
baz=319,SNR=13
BRCO Bruce Peninsul 39.56 82 P P 20 49 46.2 +0.9
baz=312
N47A Urbana 39.58 90 P P 20 49 45.3 -0.2
baz=315,SNR=26
BASO Ashfield 39.59 83 P P 20 49 46.6 +1.0
baz=313,SNR=10
S43A Fulton Ridge, 39.60 97 P P 20 49 45.3 -0.5
baz=318,SNR=79
CHGQ Chibougamau 39.61 71 P P 20 49 45.2 -0.6
baz=309,SNR=14
R44A Waltonville 39.64 95 P P 20 49 45.6 -0.6
baz=318,SNR=13
F52A Sundridge 39.66 79 P P 20 49 45.3 -0.9
baz=311,SNR=9.0
P46A Rosedale 39.66 92 P P 20 49 46.8 +0.5
baz=316,SNR=30
Q45A Warren Harvey, 39.67 94 P P 20 49 46.2 -0.2
baz=317,SNR=56
M48A Edgerton 39.68 88 eP P 20 49 46.6 +0.2
comp=Z,84nm,0.9s
M48A LR LR
comp=Z,46µm,20.0s
M48A Edgerton 39.68 88 P P 20 49 46.6 +0.2
baz=315,SNR=6.4
AAM Ann Arbor 39.69 86 eP P 20 49 45.4 -1.0
comp=Z,77nm,1.0s
AAM LR LR
comp=Z,41µm,20.0s
AAM Ann Arbor 39.69 86 eP P 20 49 45.4 -1.0
AAM pmax pmax
comp=Z,77nm,1.0s
AAM MLR MLR
comp=Z,41µm,20.0s
AAM Ann Arbor 39.69 86 P P 20 49 46.9 +0.4
baz=314
L49A Milan 39.76 87 P P 20 49 48.3 +1.2
baz=314,SNR=18
O47A Sheridan 39.77 91 P P 20 49 46.9 -0.3
baz=316,SNR=17
BWLO Walkerton 39.80 82 P P 20 49 47.2 -0.2
baz=313
OLIL Olney 39.81 94 eP P 20 49 47.7 +0.2
comp=Z,264nm,0.9s
OLIL LR LR
comp=Z,40µm,18.0s
V41A Mountainview 39.83 101 P P 20 49 46.4 -1.4
baz=320,SNR=57
BUKO Buck Lake 39.85 79 P P 20 49 48.3 +0.6
baz=312,SNR=14
T43A Greenville 39.85 98 P P 20 49 47.4 -0.4
baz=319,SNR=24
U42A Revenden 39.89 99 P P 20 49 47.2 -1.0
baz=319,SNR=22
K50A Casco 39.92 85 P P 20 49 49.7 +1.3
baz=314
N48A Decatur 39.95 89 P P 20 49 48.4 -0.3
baz=315,SNR=14
S44A Carbondale 39.95 96 P P 20 49 48.4 -0.4
baz=318,SNR=34
SIUC Southern Illin 39.96 96 eP P 20 49 48.6 -0.2
comp=Z,218nm,1.2s
SIUC LR LR
comp=Z,130µm,18.0s
SFJD Kangerlussuaq 39.98 38 P P 20 49 49.0 +0.5
comp=Z,78nm,0.9s,baz=308,slow=9.8,SNR=30
SFJD Kangerlussuaq 39.98 38 eP P 20 49 49.0 +0.5
SFJD LR LR
comp=Z,75nm,19.0s
SFJD Kangerlussuaq 39.98 38 *i* P P 20 49 49.5 +0.9
SFJD *i* 20 51 25.3
comp=Z,71µm,18.0s
SFJD Kangerlussuaq 39.98 38 *i* P P 20 49 49.5 +0.9
SFJD *i* 20 51 25.3
SFJD MLR MLR
comp=Z,71µm,18.0s
PBMO Poplar Bluff 40.00 98 eP P 20 49 48.3 -0.8
comp=Z,255nm,1.5s
PBMO LR LR
comp=Z,62µm,19.0s
Q46A CEJHS Indians, 40.01 93 P P 20 49 49.1 0.0
baz=317
CLWO Collingwood 40.03 81 P P 20 49 50.6 +1.3
baz=312,SNR=8.9
MIAR Mount Ida 40.03 103 eP P 20 49 49.8 +0.4
comp=Z,428nm,1.3s
MIAR LR LR
comp=Z,42µm,19.0s
MIAR Mount Ida 40.03 103 eP P 20 49 49.8 +0.4
MIAR pmax pmax
comp=Z,428nm,1.3s
MIAR MLR MLR
comp=Z,42µm,19.0s
MIAR Mount Ida 40.03 103 P P 20 49 49.6 +0.2
baz=321,SNR=117
WHTX Lake Whitney, 40.03 110 eP P 20 49 50.4 +0.9
comp=Z,363nm,1.4s
WHTX LR LR
comp=Z,35µm,19.0s
WHTX Lake Whitney, 40.03 110 P P 20 49 50.1 +0.7
baz=324,SNR=17
R45A Skylar, Fairfi 40.04 95 P P 20 49 49.8 +0.4
baz=317,SNR=42
JCT Junction City 40.08 114 eP P 20 49 50.7 +0.8
comp=Z,858nm,1.7s
JCT LR LR
comp=Z,22µm,20.0s
JCT Junction City 40.08 114 eP P 20 49 50.7 +0.8
JCT pmax pmax
comp=Z,858nm,1.7s
JCT MLR MLR
comp=Z,22µm,20.0s
JCT Junction City 40.08 114 P P 20 49 50.6 +0.8
baz=326,SNR=47
M49A Liberty Center 40.09 87 P P 20 49 50.4 +0.6
baz=315,SNR=15
WHAR Wooly Hollow 40.14 101 eP P 20 49 49.7 -0.6
comp=Z,193nm,1.8s
WHAR LR LR
comp=Z,34µm,20.0s
E53A Dumoine, Ponti 40.15 77 P P 20 49 50.4 +0.1
baz=311
D54A Lac Fusel, La 40.18 75 P P 20 49 50.8 +0.3
baz=311,SNR=19
V42A Cord 40.22 100 P P 20 49 49.9 -1.1
baz=320,SNR=18
T44A Benton 40.22 97 P P 20 49 50.7 -0.3
baz=318,SNR=10
ALGO Algonquin Park 40.23 78 P P 20 49 51.0 +0.1
baz=311,SNR=37
W41B Gary Mavity, V 40.25 101 eP P 20 49 50.4 -0.8
comp=Z,276nm,1.9s
W41B LR LR
comp=Z,36µm,19.0s
W41B Gary Mavity, V 40.25 101 P P 20 49 50.2 -1.0
baz=320,SNR=11
P47A Martinsville 40.26 92 P P 20 49 51.2 0.0
baz=316,SNR=27
HPIG 40.28 123 eP P 20 49 53.7 +1.9
comp=Z,66nm,1.1s
HPIG LR LR
comp=Z,56µm,21.0s
SUMG Summit 40.29 27 eP P 20 49 51.2 -0.4
comp=Z,2µm,2.0s
SUMG LR LR
comp=Z,26µm,20.0s
SUMG Summit 40.29 27 ⇓*i* P P 20 49 51.6 0.0
SUMG *i* 20 51 24.0
comp=Z,77µm,16.0s
SUMG Summit 40.29 27 ⇓*i* P P 20 49 51.6 0.0
SUMG *i* 20 51 24.0
SUMG MLR MLR
comp=Z,77µm,16.0s
O48A Farmland 40.31 90 P P 20 49 51.3 -0.4
baz=316,SNR=20
U43A Rector 40.32 99 P P 20 49 50.9 -0.9
baz=319
S45A Carrier Mills 40.33 96 P P 20 49 51.7 -0.1
baz=318,SNR=8.6
SCHQ Schefferville 40.33 60 P P 20 49 51.7 0.0
comp=Z,112nm,1.0s,baz=314,slow=8.7,SNR=35
SCHQ LR LR 21 05 06.0
comp=Z,29µm,20.2s,baz=312,slow=34
SCHQ Schefferville 40.33 60 eP P 20 49 51.1 -0.5
comp=Z,235nm,1.4s
SCHQ LR LR
comp=Z,32µm,21.0s
ELFO Elginfield 40.33 83 P P 20 49 53.3 +1.5
baz=313,SNR=16
BLO Bloomington 40.35 92 eP P 20 49 52.1 +0.1
comp=Z,162nm,1.0s
BLO LR LR
comp=Z,56µm,18.0s
BLO Bloomington 40.35 92 eP P 20 49 52.1 +0.1
BLO pmax pmax
comp=Z,162nm,1.0s
BLO MLR MLR
comp=Z,56µm,18.0s
N49A Columbus Grove 40.36 88 eP P 20 49 52.1 0.0
comp=Z,210nm,1.4s
N49A LR LR
comp=Z,38µm,19.0s
N49A Columbus Grove 40.36 88 P P 20 49 52.1 0.0
baz=315,SNR=18
E54A Lac Daplat, Po 40.37 77 P P 20 49 51.5 -0.5
baz=311,SNR=55
SADO Sadowa 40.43 80 P P 20 49 53.2 +0.6
comp=Z,59nm,1.0s,baz=330,slow=9.4,SNR=13
SADO Sadowa 40.43 80 eP P 20 49 52.9 +0.3
comp=Z,107nm,1.1s
SADO LR LR
comp=Z,34µm,19.0s
PARMO Parma 40.45 98 eP P 20 49 52.9 0.0
comp=Z,1µm,1.9s
PARMO LR LR
comp=Z,84µm,18.0s
UALR University of 40.50 102 eP P 20 49 53.0 -0.3
comp=Z,95nm,1.0s
UALR LR LR
comp=Z,54µm,20.0s
R46A Gibon Southern 40.51 94 P P 20 49 53.3 0.0
baz=317,SNR=29
Q47A Bedord North L 40.57 92 P P 20 49 53.9 +0.1
baz=317,SNR=51
U44A Portageville 40.60 98 P P 20 49 54.0 -0.1
baz=319,SNR=9.5
USIN University of 40.61 94 eP P 20 49 54.2 +0.1
comp=Z,280nm,0.8s
USIN LR LR
comp=Z,51µm,19.0s
X41A Kaden, Bauxite 40.63 102 P P 20 49 54.8 +0.5
baz=321
M50A Fremont 40.64 87 PFAKE 20 50 10.0 +16
M50A LR LR
comp=Z,32µm,18.0s
PVMO Portageville 40.67 98 PFAKE 20 50 10.0 +15
PVMO LR LR
comp=Z,78µm,19.0s
ACTO Acton 40.72 82 P P 20 49 56.8 +1.8
baz=313,SNR=10
P48A Milroy 40.73 91 P P 20 49 54.3 -0.8
baz=316,SNR=14
LPIG La Paz 40.78 131 P P 20 49 57.9 +2.3
comp=Z,18nm,0.3s,baz=324,slow=3.4,SNR=12
LPIG LR LR 21 04 35.8
comp=Z,18µm,19.0s,baz=342,slow=33
T45A Paducah 40.78 96 eP P 20 49 55.0 -0.5
comp=Z,242nm,1.1s
T45A LR LR
comp=Z,124µm,19.0s
T45A Paducah 40.78 96 P P 20 49 55.5 0.0
baz=318
S46A Don Dixon Farm 40.79 95 P P 20 49 55.2 -0.4
baz=318,SNR=13
O49A Covington 40.80 89 eP P 20 49 55.0 -0.8
comp=Z,118nm,1.6s
O49A LR LR
comp=Z,42µm,18.0s
O49A Covington 40.80 89 P P 20 49 55.1 -0.6
baz=316,SNR=6.7
HBAR Harrisburg 40.80 100 PFAKE 20 50 10.0 +14
HBAR LR LR
comp=Z,42µm,21.0s
PEMO Pembroke 40.83 78 P P 20 49 56.0 +0.1
baz=312,SNR=31
GNAR Gosnell 40.83 99 PFAKE 20 50 10.0 +14
GNAR LR LR
comp=Z,44µm,20.0s
BANO Bancroft 40.91 79 P P 20 49 57.4 +0.9
baz=312,SNR=33
U44B Burton Farm, H 40.91 98 P P 20 49 56.7 0.0
baz=319,SNR=8.5
435B Jarrell 40.94 111 eP P 20 49 58.4 +1.4
comp=Z,312nm,1.3s
435B LR LR
comp=Z,50µm,18.0s
435B Jarrell 40.94 111 P P 20 49 58.2 +1.2
baz=325,SNR=9.5
Q48A North Vernon 40.95 92 P P 20 49 56.7 -0.3
baz=317,SNR=17
R47A Wooly Knot Far 40.98 93 P P 20 49 56.7 -0.5
baz=317,SNR=37
GLAT Glass 40.99 98 PFAKE 20 50 10.0 +13
GLAT LR LR
comp=Z,98µm,19.0s
PKRO Pickering 41.01 81 P P 20 49 58.4 +1.1
baz=313,SNR=8.2
N50A Nevada 41.03 88 P P 20 49 58.2 +0.6
baz=315,SNR=17
Y41A Eaglette Beard 41.05 103 P P 20 49 58.0 +0.2
baz=321,SNR=16
X42A Stuttgart 41.05 102 P P 20 49 57.5 -0.3
baz=321
YAK Yakutsk 41.06 314 eP P 20 49 57.3 -0.2
comp=Z,549nm,1.6s
YAK LR LR
comp=Z,58µm,20.0s
YAK Yakutsk 41.06 314 eP P 20 49 57.3 -0.2
YAK pmax pmax
comp=Z,549nm,1.6s
YAK MLR MLR
comp=Z,58µm,20.0s
P49A Miami Univ. Ec 41.06 90 P P 20 49 57.0 -0.8
baz=316,SNR=8.0
M51A Elyria 41.15 86 P P 20 49 59.0 +0.4
baz=315
WCI Wyandotte Cave 41.15 93 eP P 20 49 58.5 -0.2
comp=Z,150nm,1.1s
WCI LR LR
comp=Z,36µm,20.0s
WCI Wyandotte Cave 41.15 93 eP P 20 49 58.5 -0.2
WCI pmax pmax
comp=Z,150nm,1.1s
WCI MLR MLR
comp=Z,36µm,20.0s
WCI Wyandotte Cave 41.15 93 P P 20 49 58.4 -0.2
baz=317
T46A Princeton 41.16 96 P P 20 49 58.8 +0.1
baz=318,SNR=38
UTMT University of 41.17 97 eP P 20 49 58.2 -0.5
comp=Z,352nm,1.0s
TYNO Tyneside 41.17 82 P P 20 49 59.8 +1.1
baz=314,SNR=12
O50A Cable 41.21 89 P P 20 49 59.0 -0.1
baz=316,SNR=12
U45A Rockin P Farm, 41.22 97 P P 20 49 59.2 0.0
baz=319,SNR=12
HALT Halls 41.24 98 eP P 20 49 58.7 -0.6
comp=Z,438nm,1.2s
HALT LR LR
comp=Z,67µm,18.0s
DRWO Darlington Wes 41.25 81 P P 20 50 00.5 +1.2
baz=313,SNR=10
R48A Northridge Ran 41.26 92 P P 20 49 59.2 -0.2

baz=317,SNR=9.8
DRCO St. Marys Ceme 41.27 81 P **P** **20 50 00.3 +0.8**
baz=313,SNR=10
SLBS Sierra La Lagu 41.30 131 *e*P **P** **20 50 02.3 +2.3**
comp=Z,114nm,1.4s
SLBS LR LR
comp=Z,17µm,19.0s
S47A Hartford 41.30 94 P **P** **20 49 59.7 -0.1**
baz=318,SNR=15
N51A Ashland 41.34 87 *e*P **P** **20 50 00.9 +0.8**
comp=Z,282nm,1.5s
N51A LR LR
comp=Z,54µm,18.0s
N51A Ashland 41.34 87 P **P** **20 50 00.4 +0.2**
baz=315,SNR=10
PLVO Plevna 41.34 78 *e*P **P** **20 50 00.8 +0.7**
comp=Z,227nm,1.1s
PLVO LR LR
comp=Z,39µm,20.0s
PLVO Plevna 41.34 78 P **P** **20 50 00.6 +0.5**
baz=312,SNR=24
Q49A Aurora 41.34 91 P **P** **20 49 59.7 -0.5**
baz=317
DELO Deloro Mine 41.41 79 P **P** **20 50 01.4 +0.8**
baz=313,SNR=14
DAG Danmarks Havn 41.42 17⇓ *i*P **P** **20 49 59.8 -0.6**
comp=Z,94nm,0.5s
comp=Z,51µm,18.0s
DAG Danmarks Havn 41.42 17⇓ *i*P **P** **20 49 59.8 -0.6**
DAG pmax pmax
comp=Z,66nm,0.5s
DAG MLR MLR
comp=Z,52µm,18.0s
Z41A Richland Creek 41.43 104 *e*P **P** **20 50 01.8 +0.8**
comp=Z,264nm,1.3s
Z41A LR LR
comp=Z,41µm,21.0s
Z41A Richland Creek 41.43 104 P **P** **20 50 01.2 +0.2**
baz=322,SNR=12
CCAR Cane Creek 41.46 102 PFAKE 20 50 10.0 +8.8
CCAR LR LR
comp=Z,40µm,19.0s
STCO Saint Catharin 41.47 82 P **P** **20 50 01.1 -0.1**
baz=314,SNR=6.2
X43A Marvell 41.47 101 *e*P **P** **20 50 01.3 0.0**
comp=Z,308nm,1.4s
X43A LR LR
comp=Z,33µm,21.0s
X43A Marvell 41.47 101 P **P** **20 50 01.2 0.0**
baz=321,SNR=6.8
ACSO Alum Creek Sta 41.50 88 *e*P **P** **20 50 01.7 +0.3**
comp=Z,143nm,1.0s
ACSO LR LR
comp=Z,34µm,18.0s
ACSO Alum Creek Sta 41.50 88 P **P** **20 50 01.9 +0.5**
baz=316,SNR=26
P50A Jamestown 41.50 89 P **P** **20 50 01.2 -0.3**
baz=316,SNR=13
MET Memphis--Engin 41.52 99 PFAKE 20 50 10.0 +8.4
MET LR LR
comp=Z,40µm,20.0s
Y42A Garnett, Star 41.52 102 P **P** **20 50 02.3 +0.6**
baz=321,SNR=9.4
U46A Springville 41.52 96 P **P** **20 50 01.3 -0.3**
baz=319
NKL Nikolayevsk 41.55 298 *i*P **P** **20 50 02.5 +0.8**
NKL *i*S **S** **20 56 16.0 -0.2**
NKL *e* 20 59 23.0
NKL pmax pmax
comp=N,180nm,2.0s
NKL pmax pmax
comp=E,340nm,2.0s
NKL pmax pmax
comp=Z,2µm,2.0s
NKL pmax pmax
comp=N,2µm,12.0s
NKL pmax pmax
comp=E,2µm,12.0s
NKL pmax pmax
comp=Z,6µm,12.0s
NKL smax smax
comp=N,7µm,16.0s
NKL smax smax
comp=E,10µm,16.0s
V45A Humboldt 41.57 98 P **P** **20 50 02.1 +0.1**
baz=319,SNR=9.4
T47A Sharon Grove 41.63 95 *e*P **P** **20 50 02.5 -0.1**
comp=E,131nm,1.1s
T47A LR LR
comp=Z,80µm,21.0s
T47A Sharon Grove 41.63 95 P **P** **20 50 02.5 -0.1**
baz=318,SNR=33
NATX Nacogdoches 41.65 107 *e*P **P** **20 50 04.0 +1.3**
comp=Z,147nm,1.1s
NATX LR LR
comp=Z,44µm,19.0s
NATX Nacogdoches 41.65 107 P **P** **20 50 03.7 +1.0**
baz=323
S48A Wiedeman Farm, 41.70 93 P **P** **20 50 03.2 +0.1**
baz=318,SNR=51
R49A Shelbyville 41.71 92 P **P** **20 50 02.0 -1.2**
baz=317,SNR=7.6
O51A Pataskala 41.76 88 P **P** **20 50 03.5 -0.1**
baz=316,SNR=24
ERPA Erie 41.78 84 *e*P **P** **20 50 04.2 +0.5**
comp=Z,138nm,1.1s
ERPA LR LR
comp=Z,41µm,22.0s
ERPA Erie 41.78 84 P **P** **20 50 04.5 +0.7**
baz=314
Z42A Norrel Spur, H 41.87 103 P **P** **20 50 05.0 +0.4**
baz=322,SNR=6.1
X44A Crenshaw 41.88 100 P **P** **20 50 04.0 -0.6**
baz=320,SNR=6.5
WVT Waverly 41.88 96 *e*P **P** **20 50 04.6 0.0**
comp=Z,78nm,1.0s
WVT LR LR
comp=Z,119µm,18.0s
WVT Waverly 41.88 96 *e*P **P** **20 50 04.6 0.0**
WVT pmax pmax
comp=Z,78nm,1.0s
WVT MLR MLR
comp=Z,119µm,18.0s
WVT Waverly 41.88 96 P **P** **20 50 04.3 -0.3**
baz=319
MEDO Medina 41.88 81 P **P** **20 50 04.6 +0.1**
baz=314,SNR=9.0
W45A Hickory Valley 41.89 99 P **P** **20 50 04.8 +0.2**
baz=320,SNR=11
240A Hunter Patters 41.89 106 *e*P **P** **20 50 05.7 +1.0**
comp=Z,325nm,1.4s
240A LR LR
comp=Z,37µm,22.0s
240A Hunter Patters 41.89 106 P **P** **20 50 05.4 +0.7**
baz=323
ORIO Orleans, Innes 41.89 77 P **P** **20 50 04.9 +0.3**
baz=312,SNR=12
Y43A Makayla and Ka 41.91 101 P **P** **20 50 05.5 +0.6**
baz=321,SNR=8.6
T48A Bowling Green 41.92 94 P **P** **20 50 04.9 -0.1**
baz=318,SNR=41
U47A Clarksville 41.94 96 P **P** **20 50 05.2 +0.1**
baz=319,SNR=26
Q50A Georgetown 41.95 90 P **P** **20 50 04.8 -0.4**
baz=317,SNR=11
V46A Holladay 41.97 97 P **P** **20 50 05.4 +0.1**
baz=319,SNR=30
P51A Williamsport 41.99 89 *e*P **P** **20 50 05.8 +0.4**
comp=Z,190nm,1.5s
P51A LR LR
comp=Z,4µm,22.0s
P51A Williamsport 41.99 89 P **P** **20 50 05.5 0.0**
baz=316,SNR=8.2
TYV Tymovskoe 42.02 294 *e*P **P** **20 50 06.9 +1.4**
TYV *e*S **S** **20 56 27.8 +4.6**
TYV pmax pmax
comp=Z,2µm,3.8s
TYV pmax pmax
comp=Z,133nm,1.4s
TYV smax smax
comp=E,17nm,1.3s
TYV smax smax
comp=E,12µm,9.3s
TYV MLR MLR
comp=Z,29µm,21.0s
TYV MLR MLR
comp=E,23µm,21.0s
S49A Springfield 42.02 92 P **P** **20 50 05.7 0.0**
baz=318,SNR=15
ALLY Alegheny Colle 42.03 84 *e*P **P** **20 50 06.7 +0.9**
comp=E,249nm,1.0s
ALLY LR LR
comp=Z,37µm,21.0s
LATQ La Tuque 42.03 73 P **P** **20 50 05.5 -0.2**
baz=311,SNR=8.2
833A Chaparral WMA, 42.06 115 *e*P **P** **20 50 07.7 +1.5**
comp=Z,529nm,1.8s
833A LR LR
comp=Z,37µm,18.0s
833A Chaparral WMA, 42.06 115 P **P** **20 50 07.2 +1.1**
baz=327,SNR=9.2
ALFO Alfred 42.10 76 P **P** **20 50 06.3 0.0**
baz=312,SNR=28
Q51A Peebles 42.16 90 *e*P **P** **20 50 07.0 0.0**
comp=Z,69nm,0.9s
Q51A LR LR
comp=Z,39µm,21.0s
Q51A Peebles 42.16 90 P **P** **20 50 06.9 0.0**
baz=317,SNR=15
R50A Paris 42.17 91 P **P** **20 50 06.9 -0.1**
baz=317,SNR=29
O52A Adamsville 42.20 87 *e*P **P** **20 50 07.2 +0.1**
comp=Z,210nm,1.2s
O52A LR LR
comp=Z,27µm,19.0s
O52A Adamsville 42.20 87 P **P** **20 50 07.1 -0.1**
baz=316,SNR=24
Y44A Strider, Charl 42.25 101 P **P** **20 50 07.8 +0.2**
baz=321,SNR=7.8
OXF Oxford 42.26 99 *e*P **P** **20 50 07.7 0.0**
comp=Z,366nm,1.0s
OXF LR LR
comp=Z,45µm,21.0s
OXF Oxford 42.26 99 *e*P **P** **20 50 07.7 0.0**
OXF pmax pmax
comp=Z,367nm,1.0s
OXF MLR MLR
comp=Z,45µm,21.0s
OXF Oxford 42.26 99 P **P** **20 50 07.7 0.0**
baz=320,SNR=62
V47A Nunnelly 42.27 96 P **P** **20 50 07.0 -0.8**
baz=319,SNR=22
U48A Cassie Pea, Po 42.29 95 P **P** **20 50 08.1 +0.2**
baz=319,SNR=52
Z43A Armstrong Fami 42.29 102 P **P** **20 50 08.2 +0.3**
baz=322
X45A UM Field Stati 42.33 100 P **P** **20 50 08.1 -0.3**
baz=320,SNR=19
W46A Michie 42.34 98 P **P** **20 50 08.2 -0.1**
baz=320,SNR=15
241A Mo Tay, Goldon 42.34 105 PFAKE 20 50 20.0 +12
241A LR LR
comp=Z,78µm,19.0s
241A Mo Tay, Goldon 42.34 105 P **P** **20 50 09.8 +1.4**
baz=323,SNR=6.1
M54A Oil Creek Stat 42.38 84 *e*P **P** **20 50 09.2 +0.5**
comp=Z,166nm,1.1s
M54A LR LR
comp=Z,34µm,18.0s
M54A Oil Creek Stat 42.38 84 P **P** **20 50 08.7 0.0**
baz=315,SNR=16
P52A Corning 42.38 88 P **P** **20 50 08.1 -0.5**
baz=316,SNR=28
T49A Edmonton 42.39 93 *e*P **P** **20 50 08.6 -0.2**
comp=Z,85nm,1.2s
T49A LR LR
comp=Z,22µm,19.0s
T49A Edmonton 42.39 93 P **P** **20 50 08.6 -0.2**
baz=318,SNR=19
142A Monroe 42.44 104 P **P** **20 50 10.1 +1.0**
baz=322
MMNY Mt. Morris Dam 42.47 81 *e*P **P** **20 50 09.8 +0.5**
comp=Z,132nm,1.2s
MMNY LR LR
comp=Z,25µm,19.0s
HKT Hockley 42.50 110 *e*P **P** **20 50 11.4 +1.8**
comp=Z,476nm,1.6s
HKT LR LR
comp=Z,44µm,22.0s
HKT Hockley 42.50 110 *e*P **P** **20 50 11.4 +1.8**
HKT pmax pmax
comp=Z,476nm,1.6s
HKT MLR MLR
comp=Z,44µm,22.0s
R51A Hillsboro 42.56 90 P **P** **20 50 10.1 0.0**
baz=317,SNR=18
S50A Richmond 42.58 92 P **P** **20 50 09.9 -0.3**
baz=318,SNR=23
N54A Moraine State 42.59 85 *e*P **P** **20 50 10.8 +0.4**
comp=Z,217nm,1.1s
N54A LR LR
comp=Z,34µm,19.0s
N54A Moraine State 42.59 85 P **P** **20 50 10.7 +0.3**
baz=315,SNR=33
143A Socs Landing, 42.60 103 *e*P **P** **20 50 11.0 +0.5**
comp=Z,686nm,1.5s
143A LR LR
comp=Z,54µm,22.0s
143A Socs Landing, 42.60 103 P **P** **20 50 11.2 +0.7**
baz=322,SNR=16
PLAL Pickwick Lake 42.61 98 *e*P **P** **20 50 10.7 +0.1**
comp=Z,261nm,1.3s
PLAL LR LR
comp=Z,81µm,18.0s
X46A Booneville 42.66 99 P **P** **20 50 10.8 -0.2**
baz=320,SNR=12
W47A Westpoint 42.66 97 P **P** **20 50 11.1 +0.1**
baz=320,SNR=47
Z44A Pea Ridge, Bel 42.66 102 P **P** **20 50 11.2 +0.2**
baz=321,SNR=9.8
Y45A Yeager Farm, C 42.68 100 P **P** **20 50 11.4 +0.3**
baz=321,SNR=11
U49A Red Boiling Sp 42.69 94 P **P** **20 50 11.5 +0.3**
baz=319,SNR=27
242A Grayson 42.71 104 P **P** **20 50 12.0 +0.6**
baz=322
V48A Smith Brothers 42.71 96 *e*P **P** **20 50 11.4 +0.1**
comp=Z,165nm,1.4s
V48A LR LR
comp=Z,118µm,18.0s
V48A Smith Brothers 42.71 96 P **P** **20 50 11.8 +0.4**
baz=319,SNR=22
341A Kurthwood 42.76 106 *e*P **P** **20 50 12.7 +0.9**
comp=Z,294nm,1.5s
341A LR LR
comp=Z,44µm,20.0s
341A Kurthwood 42.76 106 P **P** **20 50 12.7 +0.9**
baz=323,SNR=9.1
Q52A Bidwell 42.79 89 P **P** **20 50 11.4 -0.6**
baz=317,SNR=42
T50A Nancy 42.82 93 P **P** **20 50 12.9 +0.6**
baz=318,SNR=24
P53A Whipple 42.89 87 *e*P **P** **20 50 12.8 0.0**
comp=Z,126nm,1.0s
P53A LR LR
comp=Z,16µm,21.0s
P53A Whipple 42.89 87 P **P** **20 50 12.5 -0.3**
baz=316,SNR=21
KBS Kingsbay 42.94 7 *e*P **P** **20 50 13.4 +0.7**
comp=Z,540nm,1.7s
KBS LR LR
comp=Z,16µm,20.0s
KBS Kingsbay 42.94 7 *d i*P **P** **20 50 13.3 +0.6**
KBS pmax pmax
comp=Z,958nm,1.3s
KBS MLR MLR
comp=Z,79nm,16.0s
KBS Kingsbay 42.94 7 *e*P **P** **20 50 12.6 -0.1**
KBS *e*S **S** **20 56 38.7 +2.5**
KBS *e*SS **SS** **20 59 48.4 +1.1**
LONY Lake Ozonia 42.94 77 *e*P **P** **20 50 13.2 0.0**
comp=Z,131nm,1.3s
LONY LR LR
comp=Z,20µm,18.0s
LONY Lake Ozonia 42.94 77 P **P** **20 50 12.2 -1.0**
baz=313,SNR=14
Z45A Winona 42.98 101 *e*P **P** **20 50 13.5 -0.1**
comp=Z,384nm,1.4s
Z45A LR LR
comp=Z,48µm,22.0s
Z45A Winona 42.98 101 P **P** **20 50 13.8 +0.2**
baz=321,SNR=8.0
Y46A Houston 43.03 100 P **P** **20 50 14.6 +0.6**
baz=321,SNR=24
S51A Beattyville 43.04 91 *e*P **P** **20 50 14.0 0.0**
comp=Z,122nm,1.0s
S51A LR LR
comp=Z,57µm,22.0s
S51A Beattyville 43.04 91 P **P** **20 50 14.4 +0.4**
baz=318,SNR=27
R52A Catlettsburg 43.04 90 P **P** **20 50 14.0 -0.1**
baz=317,SNR=13
KUR Kuril'sk 43.05 284 *e*P **P** **20 50 14.5 +0.6**
KUR *e* 20 51 52.2
KUR *i*S **S** **20 56 43.2 +4.8**
KUR pmax pmax
comp=Z,4µm,4.4s
X47A Russelville 43.08 98 P **P** **20 50 14.2 -0.2**
baz=320,SNR=15
W48A Pulaski 43.10 97 P **P** **20 50 14.9 +0.3**
baz=320,SNR=18
342A Flagon Creek P 43.16 105 *e*P **P** **20 50 16.4 +1.3**
comp=Z,178nm,1.2s
342A LR LR
comp=Z,72µm,19.0s
342A Flagon Creek P 43.16 105 P **P** **20 50 16.5 +1.4**
baz=323,SNR=7.4
144A Alexander Plac 43.17 102 P **P** **20 50 15.5 +0.4**
baz=322
V49A McMinnville 43.18 95 P **P** **20 50 15.4 +0.2**
baz=319,SNR=43
243A Waterproof 43.20 104 P **P** **20 50 16.3 +1.0**
baz=322
441A DeRidder 43.21 107 P **P** **20 50 16.4 +1.0**
baz=324
U50A Jamestown 43.27 93 P **P** **20 50 15.7 -0.3**
baz=319,SNR=18
S52A Salyersville 43.29 91 P **P** **20 50 16.3 +0.2**
baz=318,SNR=8.1
FRNY Flat Rock 43.31 76 *e*P **P** **20 50 15.6 -0.6**
comp=Z,113nm,1.1s
FRNY LR LR
comp=Z,12µm,18.0s
T51A Gray 43.34 92 P **P** **20 50 16.6 +0.1**
baz=318,SNR=44
KVTX Kingsville 43.44 114 PFAKE 20 50 30.0 +13
KVTX LR LR
comp=Z,38µm,19.0s
VBMS Vicksburg 43.44 103 *e*P **P** **20 50 18.3 +1.0**
comp=Z,993nm,1.8s
VBMS LR LR
comp=Z,52µm,19.0s
VBMS Vicksburg 43.44 103 P **P** **20 50 18.3 +1.0**
baz=322,SNR=10
145A Houston Renfro 43.45 102 P **P** **20 50 18.6 +1.2**
baz=322,SNR=6.4
W49A Belvidere 43.48 96 P **P** **20 50 17.8 +0.2**
baz=320,SNR=22
244A Avery, Jackson 43.49 103 P **P** **20 50 18.9 +1.1**
baz=322,SNR=29
Y47A UCPARC, Winfie 43.55 99 P **P** **20 50 18.6 +0.3**
baz=321,SNR=112
X48A Hartselle 43.56 97 *e*P **P** **20 50 18.4 +0.2**
comp=Z,728nm,1.7s
X48A LR LR
comp=Z,90µm,19.0s
X48A Hartselle 43.56 97 P **P** **20 50 18.5 +0.2**
baz=320,SNR=65
NCB Newcomb 43.57 77 *e*P **P** **20 50 18.2 0.0**
comp=Z,167nm,1.1s
NCB LR LR
comp=Z,26µm,19.0s
SWET Sewanee 43.58 96 *e*P **P** **20 50 18.3 -0.1**
comp=Z,124nm,1.2s
SWET LR LR
comp=Z,63µm,22.0s
MCWV Mont Chateau 43.59 86 PFAKE 20 50 30.0 +12
MCWV LR LR
comp=Z,21µm,18.0s
MCWV Mont Chateau 43.59 86 P **P** **20 50 18.8 +0.3**
baz=316,SNR=15
MOQ Mont Orford 43.69 74 *e*P **P** **20 50 19.1 -0.2**
V50A Pikevile 43.69 94 P **P** **20 50 18.9 -0.4**
baz=319,SNR=12
U51A La Follette 43.74 93 P **P** **20 50 19.7 -0.1**
baz=319,SNR=11
T52A Hallie 43.76 91 P **P** **20 50 20.5 +0.6**
baz=318,SNR=33
541A Lake Charles 43.76 107 PFAKE 20 50 30.0 +10
541A LR LR
comp=Z,36µm,18.0s
O56A Blue Knob Stat 43.85 84 *e*P **P** **20 50 20.5 0.0**
comp=Z,86nm,1.1s
O56A LR LR
comp=Z,33µm,21.0s
O56A Blue Knob Stat 43.85 84 P **P** **20 50 20.6 0.0**
baz=316,SNR=13
BINY Binghamton 43.86 80 *e*P **P** **20 50 21.1 +0.4**
comp=Z,292nm,1.1s
BINY LR LR
comp=Z,23µm,19.0s
BINY Binghamton 43.86 80 P **P** **20 50 20.9 +0.3**
baz=315,SNR=42
TZTN Tazewell 43.87 92 *e*P **P** **20 50 20.5 -0.2**
comp=Z,73nm,1.1s
TZTN LR LR
comp=Z,82µm,19.0s
TZTN Tazewell 43.87 92 P **P** **20 50 21.3 +0.6**
baz=318,SNR=12
146A Union 43.89 101 *e*P **P** **20 50 21.0 +0.1**
comp=Z,184nm,0.8s
146A LR LR
comp=Z,44µm,18.0s
146A Union 43.89 101 P **P** **20 50 21.0 +0.1**
baz=322,SNR=8.1
X49A Woodville 43.90 97 P **P** **20 50 21.2 +0.2**
baz=320,SNR=18
Y48A Jasper 43.91 98 P **P** **20 50 21.2 +0.1**
baz=320,SNR=20
245A Little AP, Sta 43.92 102 P **P** **20 50 21.5 +0.4**
baz=322,SNR=9.2
SPA0 Spitsbergen Ar 43.92 6 *e*P **P** **20 50 20.3 -0.4**
SPA0 Spitsbergen Ar 43.92 6 *e*P **P** **20 50 19.9 -0.8**
SPA0 *e*S **S** **20 56 51.6 +0.9**
W50A Signal Mountai 43.93 95 *e*P **P** **20 50 21.5 +0.3**
comp=Z,191nm,1.3s
W50A LR LR
comp=Z,91nm,18.0s
W50A Signal Mountai 43.93 95 P **P** **20 50 21.5 +0.3**
baz=320,SNR=32
344A Westbrook Farm 43.93 104 *e*P **P** **20 50 23.2 +1.9**
comp=Z,415nm,1.5s
344A LR LR
comp=Z,48µm,22.0s
344A Westbrook Farm 43.93 104 P **P** **20 50 22.7 +1.4**
baz=323,SNR=5.5
SSPA Standing Stone 43.95 84 *e*P **P** **20 50 21.6 +0.3**
comp=Z,220nm,1.2s
SSPA LR LR
comp=Z,32µm,18.0s
Z47A Carrollton 43.98 99 P **P** **20 50 22.1 +0.5**
baz=321,SNR=42
V51A Loudon 43.99 94 *e*P **P** **20 50 21.9 +0.2**
comp=Z,73nm,1.1s
V51A LR LR
comp=Z,50µm,19.0s
V51A Loudon 43.99 94 P **P** **20 50 21.2 -0.5**
baz=319,SNR=18
U52A Thorn Hill 44.08 92 P **P** **20 50 22.7 +0.3**
baz=319,SNR=14
VT1 Waterbury 44.09 76 *e*P **P** **20 50 22.8 +0.3**
comp=Z,116nm,1.3s
Z48A Northport 44.12 99 P **P** **20 50 23.0 +0.3**
baz=321,SNR=68
CPCT Cooper Cave 44.16 94 *e*P **P** **20 50 23.5 +0.4**
comp=Z,130nm,1.7s
CPCT LR LR
comp=Z,36µm,21.0s
W51A Cleveland 44.25 95 P **P** **20 50 23.3 -0.5**
baz=320,SNR=9.7
ACCN Adirondack Com 44.27 78 *e*P **P** **20 50 24.0 +0.1**
comp=Z,166nm,1.0s
ACCN LR LR
comp=Z,30µm,20.0s
147A Livingston 44.28 100 *e*P **P** **20 50 24.4 +0.4**
comp=Z,1µm,1.7s
147A LR LR
comp=Z,43µm,18.0s
147A Livingston 44.28 100 P **P** **20 50 24.2 +0.2**
baz=322,SNR=35
IVI Ivigtut 44.30 44 *e*P **P** **20 50 23.9 0.0**
comp=Z,682nm,2.0s
IVI LR LR
comp=Z,67µm,18.0s

X50B	**Fort Payne**	**44.30**	**96**	P	**P**	**20 50 24.3**	**0.0**
	baz=320,SNR=37						
Y49A	**Blount Mountai**	**44.36**	**97**	*e*P	**P**	**20 50 24.8**	**+0.1**
	comp=Z,200nm,1.4s						
Y49A				LR	LR		
	comp=Z,86µm,19.0s						
Y49A	**Blount Mountai**	**44.36**	**97**	P	**P**	**20 50 24.6**	**0.0**
	baz=320,SNR=26						
V52A	**Sevierville**	**44.37**	**93**	*e*P	**P**	**20 50 25.0**	**+0.2**
	comp=Z,109nm,1.1s						
V52A				LR	LR		
	comp=Z,35µm,18.0s						
V52A	**Sevierville**	**44.37**	**93**	P	**P**	**20 50 25.0**	**+0.2**
	baz=319,SNR=14						
KSPA	**Keystone Colle**	**44.43**	**81**	*e*P	**P**	**20 50 25.8**	**+0.6**
	comp=Z,136nm,1.2s						
KSPA				LR	LR		
	comp=Z,35µm,18.0s						
543A	**St. Martinvill**	**44.43**	**106**	PFAKE		20 50 40.0	+15
543A				LR	LR		
	comp=Z,75nm,18.0s						
YSS	**Yuzh-Sakhalins**	**44.52**	**290**	*e*P	**P**	**20 50 27.4**	**+1.6**
	comp=Z,202nm,1.2s						
YSS				LR	LR		
	comp=Z,12µm,18.0s						
YSS	**Yuzh-Sakhalins**	**44.52**	**290**	*ω*e*P*	**P**	**20 50 26.9**	**+1.1**
YSS				*e*		20 50 34.2	
YSS				*e*		20 52 04.7	
YSS				*e*		20 52 10.3	
YSS				*e*PPP	PPP	20 52 51.0	
YSS				*i* S	**S**	**20 56 58.1**	**-1.8**
YSS				*e*SS	**SS**	**21 00 20.7**	**+1.5**
YSS				pmax	pmax		
	comp=Z,120nm,1.1s						
YSS				pmax	pmax		
	comp=N,60nm,1.5s						
YSS				pmax	pmax		
	comp=E,70nm,1.1s						
YSS				pmax	pmax		
	comp=Z,2µm,6.1s						
YSS				pmax	pmax		
	comp=N,1µm,6.7s						
YSS				pmax	pmax		
	comp=Z,4µm,6.5s						
YSS				smax	smax		
	comp=N,10µm,8.6s						
YSS				smax	smax		
	comp=E,8.0nm,14.0s						
YSS				MLR	MLR		
	comp=Z,18µm,18.0s						
YSS				MLR	MLR		
	comp=N,10µm,15.0s						
U53A	**Fall Branch**	**44.53**	**92**	P	**P**	**20 50 26.4**	**+0.4**
	baz=319,SNR=8.6						
247A	**Quitman**	**44.58**	**101**	P	**P**	**20 50 27.5**	**+1.1**
	baz=322,SNR=9.6						
LBNH	**Lisbon**	**44.59**	**75**	*e*P	**P**	**20 50 26.4**	**+0.1**
	comp=N,86nm,1.1s						
LBNH				LR	LR		
	comp=Z,30µm,22.0s						
LBNH	**Lisbon**	**44.59**	**75**	*e*P	**P**	**20 50 26.5**	**+0.1**
LBNH				pmax	pmax		
	comp=Z,86nm,1.1s						
LBNH				MLR	MLR		
	comp=Z,30µm,22.0s						
LBNH	**Lisbon**	**44.59**	**75**	P	**P**	**20 50 26.5**	**+0.1**
	baz=314,SNR=8.8						
346A	**Big Creek Wild**	**44.65**	**102**	*e*P	**P**	**20 50 27.3**	**+0.3**
	comp=Z,302nm,1.4s						
346A				LR	LR		
	comp=Z,52µm,21.0s						
346A	**Big Creek Wild**	**44.65**	**102**	P	**P**	**20 50 28.3**	**+1.3**
	baz=322						
X51A	**Calhoun**	**44.65**	**95**	*e*P	**P**	**20 50 27.4**	**+0.4**
	comp=Z,114nm,0.9s						
X51A				LR	LR		
	comp=Z,94nm,18.0s						
X51A	**Calhoun**	**44.65**	**95**	P	**P**	**20 50 27.4**	**+0.4**
	baz=320,SNR=22						
148A	**Greensboro**	**44.67**	**99**	P	**P**	**20 50 27.5**	**+0.4**
	baz=321,SNR=7.0						
LRAL	**Lakeview Retre**	**44.67**	**99**	*e*P	**P**	**20 50 27.6**	**+0.4**
	comp=Z,351nm,1.8s						
LRAL				LR	LR		
	comp=Z,45µm,20.0s						
LRAL	**Lakeview Retre**	**44.67**	**99**	P	**P**	**20 50 27.4**	**+0.2**
	baz=321,SNR=19						
Y50A	**Piedmont**	**44.69**	**97**	P	**P**	**20 50 27.7**	**+0.3**
	baz=320,SNR=20						
TRY	**Troy**	**44.72**	**78**	*e*P	**P**	**20 50 28.8**	**+1.3**
	comp=Z,77nm,1.0s						
W52A	**Murphy**	**44.75**	**94**	*e*P	**P**	**20 50 28.6**	**+0.7**
	comp=Z,42nm,0.9s						
W52A				LR	LR		
	comp=Z,55µm,18.0s						
HNH	**Hanover**	**44.77**	**76**	*e*P	**P**	**20 50 28.6**	**+0.7**
	comp=Z,80nm,1.0s						
Z49A	**Columbiana**	**44.80**	**98**	P	**P**	**20 50 28.4**	**+0.2**
	baz=321,SNR=18						
PAGS	**Pennsylvania G**	**44.86**	**83**	*e*P	**P**	**20 50 28.9**	**+0.3**
	comp=Z,158nm,1.2s						
PAGS				LR	LR		
	comp=Z,33µm,20.0s						
N59A	**State Game Lan**	**44.88**	**82**	*e*P	**P**	**20 50 28.7**	**-0.1**
	comp=Z,120nm,1.0s						
N59A				LR	LR		
	comp=Z,18µm,18.0s						
N59A	**State Game Lan**	**44.88**	**82**	P	**P**	**20 50 27.7**	**-1.1**
	baz=316,SNR=30						
LNIG	**Linares**	**44.90**	**118**	*e*P	**P**	**20 50 29.6**	**+0.5**
	comp=Z,266nm,1.4s						
LNIG				LR	LR		
	comp=Z,20µm,21.0s						
YUK	**Yuzh-Kuril'sk**	**44.91**	**285**	*c* *i*P	**P**	**20 50 29.7**	**+0.8**
YUK				*i* S	**S**	**20 57 09.9**	**+4.3**
YUK				*i* *SS	sS	20 57 24.7	+9.3
YUK				*e*SS	**ScS**	**21 00 25.2**	**+0.4**
YUK				*i* SSS	SSS	21 01 15.4	
YUK				pmax	pmax		
	comp=Z,772nm,1.8s						
YUK				pmax	pmax		
	comp=Z,710nm,1.3s						
YUK				pmax	pmax		
	comp=N,499nm,1.0s						
YUK				pmax	pmax		
	comp=E,535nm,0.8s						
YUK				MLR	MLR		
	comp=E,11µm,17.0s						
YUK				MLR	MLR		
	comp=Z,10µm,17.0s						
YUK				MLR	MLR		
	comp=N,6µm,15.0s						
V53A	**Saluda**	**44.92**	**92**	*e*P	**P**	**20 50 29.7**	**+0.5**
	comp=N,156nm,1.5s						
V53A				LR	LR		
	comp=Z,41µm,18.0s						
V53A	**Saluda**	**44.92**	**92**	P	**P**	**20 50 29.7**	**+0.5**
	baz=319,SNR=22						
PQI	**Presque Isle**	**44.94**	**70**	*e*P	**P**	**20 50 29.0**	**-0.1**
	comp=Z,232nm,1.4s						
ANGG	**Ammassalik, Gr**	**44.97**	**35**	*e*P	**P**	**20 50 28.7**	**-0.3**
	comp=Z,513nm,1.4s						
ANGG				LR	LR		
	comp=Z,38µm,22.0s						
248A	**Dixon Mills**	**45.01**	**100**	P	**P**	**20 50 30.9**	**+1.0**
	baz=322,SNR=23						
HSPB	**Hornsund (broa**	**45.01**	**7**	*e*P	**P**	**20 50 30.8**	**+1.5**
HSPB				*e*S	**S**	**20 57 13.0**	**+6.6**
HSPB				MLR	MLR		
	comp=Z,26µm,19.6s						
HSPB	**Hornsund (broa**	**45.01**	**7**	*e*P	**P**	**20 50 28.6**	**-0.7**
HSPB				*e*PP	**PP**	**20 52 15.2**	**+1.0**
HSPB				*e*S	**S**	**20 56 57.6**	**-8.7**
HSPB				*e*SS	**SS**	**21 00 29.8**	**+2.2**
Y51A	**Rockmart**	**45.05**	**96**	P	**P**	**20 50 30.0**	**-0.2**
	baz=320,SNR=8.6						
BLA	**Blacksburg**	**45.06**	**89**	*e*P	**P**	**20 50 31.0**	**+0.7**
	comp=Z,118nm,0.9s						
BLA				LR	LR		
	comp=Z,33µm,18.0s						
BLA	**Blacksburg**	**45.06**	**89**	*e*P	**P**	**20 50 31.0**	**+0.7**
BLA				pmax	pmax		
	comp=Z,117nm,0.9s						
BLA				MLR	MLR		
	comp=Z,33µm,18.0s						
BLA	**Blacksburg**	**45.06**	**89**	P	**P**	**20 50 30.8**	**+0.5**
	baz=318,SNR=18						
Z50A	**Ashland**	**45.08**	**97**	*e*P	**P**	**20 50 30.6**	**+0.2**
	comp=Z,186nm,1.3s						
Z50A				LR	LR		
	comp=Z,61µm,20.0s						
Z50A	**Ashland**	**45.08**	**97**	P	**P**	**20 50 30.7**	**+0.2**
	baz=321,SNR=28						
GRNR	**Gornyy**	**45.10**	**298**	*e*P	**P**	**20 50 33.5**	**+3.1**
GRNR				pmax	pmax		
	comp=N,46nm,1.0s						
GRNR				pmax	pmax		
	comp=E,55nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,130nm,1.0s						
W53A	**Cullowhee**	**45.10**	**93**	P	**P**	**20 50 31.2**	**+0.5**
	baz=319,SNR=10.0						
149A	**Jones**	**45.12**	**99**	P	**P**	**20 50 30.8**	**+0.1**
	baz=321,SNR=34						
347A	**Saraland**	**45.12**	**101**	P	**P**	**20 50 31.8**	**+1.0**
	baz=322						
X52A	**Dahlonega**	**45.14**	**94**	P	**P**	**20 50 31.1**	**+0.2**
	baz=320,SNR=8.6						
545A	**Edgard**	**45.17**	**104**	PFAKE		20 50 40.0	+8.8
545A				LR	LR		
	comp=Z,104µm,18.0s						
MVL	**Millersville**	**45.23**	**83**	*e*P	**P**	**20 50 32.1**	**+0.6**
	comp=Z,102nm,1.2s						
MVL				LR	LR		
	comp=Z,36µm,21.0s						
PKME	**Peaks-Kenny Pk**	**45.25**	**73**	*e*P	**P**	**20 50 31.6**	**0.0**
	comp=Z,169nm,1.2s						
PKME				LR	LR		
	comp=Z,26µm,19.0s						
PKME	**Peaks-Kenny Pk**	**45.25**	**73**	P	**P**	**20 50 31.6**	**0.0**
	baz=314,SNR=14						
FFD	**Franklin Falls**	**45.26**	**76**	*e*P	**P**	**20 50 32.6**	**+0.8**
	comp=Z,84nm,1.1s						
ZAIG	**Zacatecas**	**45.28**	**123**	*e*P	**P**	**20 50 34.4**	**+1.9**
	comp=Z,159nm,1.9s						
ZAIG				LR	LR		
	comp=Z,25µm,22.0s						
LUPA	**Lehigh Univers**	**45.32**	**82**	*e*P	**P**	**20 50 33.0**	**+0.7**
	comp=Z,17nm,1.1s						
LUPA				LR	LR		
	comp=Z,2µm,19.0s						
NRS	**Narsarsuaq**	**45.35**	**43**	PFAKE		20 50 40.0	+7.8
NRS				LR	LR		
	comp=Z,85µm,18.0s						
BG3	**Lake Jocassee**	**45.36**	**93**	*e*P	**P**	**20 50 32.7**	**0.0**
	comp=Z,64nm,1.1s						
BG3				LR	LR		
	comp=Z,34µm,20.0s						
JOHN	**Johnston Islan**	**45.37**	**217**	PFAKE		20 50 50.0	+17
JOHN				LR	LR		
	comp=Z,24µm,21.0s						
ODNJ	**Ogdensburg**	**45.38**	**81**	*e*P	**P**	**20 50 32.8**	**+0.1**
	comp=Z,149nm,1.3s						
ODNJ				LR	LR		
	comp=Z,26µm,18.0s						
SDMD	**Soldier's Deli**	**45.39**	**84**	*e*P	**P**	**20 50 33.3**	**+0.5**
	comp=Z,30nm,1.1s						
SDMD				LR	LR		
	comp=Z,17µm,19.0s						
249A	**Camden**	**45.43**	**100**	P	**P**	**20 50 33.7**	**+0.5**
	baz=322,SNR=13						
Z51A	**Franklin**	**45.43**	**97**	P	**P**	**20 50 33.6**	**+0.3**
	baz=321,SNR=16						
348A	**Jackson**	**45.45**	**101**	*e*P	**P**	**20 50 34.3**	**+0.9**
	comp=Z,441nm,1.4s						
348A				LR	LR		
	comp=Z,45µm,21.0s						
348A	**Jackson**	**45.45**	**101**	P	**P**	**20 50 34.2**	**+0.9**
	baz=322						
BATG	**Bathurst New B**	**45.52**	**68**	*e*P	**P**	**20 50 33.8**	**0.0**
	comp=Z,224nm,1.1s						
BATG				LR	LR		
	comp=Z,35µm,18.0s						
150A	**Eclectic**	**45.53**	**98**	P	**P**	**20 50 33.9**	**-0.1**
	baz=321,SNR=11						
X53A	**Estanollee**	**45.53**	**94**	P	**P**	**20 50 34.2**	**+0.2**
	baz=320						
447A	**Lucedale**	**45.54**	**102**	PFAKE		20 50 50.0	+16
447A				LR	LR		
	comp=Z,46µm,20.0s						
WVL	**Waterville**	**45.54**	**73**	*e*P	**P**	**20 50 33.8**	**-0.1**
	comp=Z,132nm,1.1s						
SCO	**Scoresbysund**	**45.55**	**24**	*e*P	**P**	**20 50 33.0**	**-0.6**
	comp=Z,822nm,2.0s						
SCO				LR	LR		
	comp=Z,34µm,18.0s						
SCO	**Scoresbysund**	**45.55**	**24⇓**	*i*P	**P**	**20 50 33.1**	**-0.6**
	comp=Z,32µm,14.0s						
SCO	**Scoresbysund**	**45.55**	**24⇓**	*i*P	**P**	**20 50 33.1**	**-0.6**
SCO				MLR	MLR		
	comp=Z,32µm,14.0s						
Y52A	**Lilburn**	**45.61**	**95**	*e*P	**P**	**20 50 35.2**	**+0.6**
	comp=Z,361nm,1.7s						
Y52A				LR	LR		
	comp=Z,96µm,18.0s						
Y52A	**Lilburn**	**45.61**	**95**	P	**P**	**20 50 35.5**	**+0.8**
	baz=320,SNR=26						
QUA2	**Belchertown**	**45.73**	**78**	*e*P	**P**	**20 50 35.5**	**+0.1**
	comp=Z,114nm,1.0s						
PSUB	**Penn St. - Bra**	**45.76**	**82**	*e*P	**P**	**20 50 36.1**	**+0.4**
	comp=Z,91nm,1.2s						
PSUB				LR	LR		
	comp=Z,47µm,21.0s						
PAL	**Palisades**	**45.81**	**80**	*e*P	**P**	**20 50 36.8**	**+0.7**
	comp=Z,91nm,1.1s						
PAL				LR	LR		
	comp=Z,34µm,18.0s						
PAL	**Palisades**	**45.81**	**80**	*e*P	**P**	**20 50 36.8**	**+0.7**
PAL				pmax	pmax		
	comp=Z,91nm,1.1s						
PAL				MLR	MLR		
	comp=Z,34µm,18.0s						
PAL	**Palisades**	**45.81**	**80**	P	**P**	**20 50 36.9**	**+0.8**
	baz=316,SNR=8.2						
Y53A	**Monroe**	**45.87**	**95**	P	**P**	**20 50 37.1**	**+0.3**
	baz=320,SNR=15						
349A	**Repton**	**45.88**	**100**	P	**P**	**20 50 37.6**	**+0.8**
	baz=322						
R58B	**Mineral**	**45.88**	**86**	P	**P**	**20 50 37.1**	**+0.4**
	baz=318,SNR=22						
250A	**Grady**	**45.88**	**99**	*e*P	**P**	**20 50 37.7**	**+0.9**
	comp=Z,330nm,1.5s						
250A				LR	LR		
	comp=Z,43µm,20.0s						
250A	**Grady**	**45.88**	**99**	P	**P**	**20 50 37.1**	**+0.3**
	baz=322,SNR=12						
CPNY	**Central Park**	**45.93**	**80**	*e*P	**P**	**20 50 38.4**	**+1.4**
	comp=Z,105nm,1.2s						
CPNY				LR	LR		
	comp=Z,31nm,19.0s						
Z52A	**Williamson**	**45.94**	**96**	P	**P**	**20 50 37.8**	**+0.5**
	baz=321,SNR=22						
151A	**Opelika**	**45.96**	**97**	P	**P**	**20 50 37.2**	**-0.2**
	baz=321,SNR=9.1						
HOPEN	**Hopen**	**45.97**	**4**	*e*P	**P**	**20 50 36.1**	**-0.8**
CBN	**Corbin Frederi**	**45.98**	**85**	PFAKE		20 50 50.0	+13
CBN				LR	LR		
	comp=Z,22µm,18.0s						
HRV	**Adam Dziewonsk**	**45.99**	**77**	*e*P	**P**	**20 50 38.3**	**+0.8**
	comp=Z,100nm,1.1s						
HRV				LR	LR		
	comp=Z,22µm,18.0s						
HRV	**Adam Dziewonsk**	**45.99**	**77**	*e*P	**P**	**20 50 38.3**	**+0.8**
HRV				pmax	pmax		
	comp=Z,100nm,1.1s						
HRV				MLR	MLR		
	comp=Z,22µm,18.0s						
HRV	**Adam Dziewonsk**	**45.99**	**77**	P	**P**	**20 50 37.0**	**-0.5**
	baz=315						
PAULI	**Pauline**	**46.09**	**92**	*e*P	**P**	**20 50 38.2**	**-0.2**
	comp=Z,85nm,1.3s						
PAULI				LR	LR		
	comp=Z,45µm,18.0s						
BRAL	**Brewton**	**46.10**	**100**	PFAKE		20 50 50.0	+12
BRAL				LR	LR		
	comp=Z,54µm,18.0s						
BRAL	**Brewton**	**46.10**	**100**	P	**P**	**20 50 39.2**	**+0.7**
	baz=322						
YLE	**Yale**	**46.10**	**79**	*e*P	**P**	**20 50 39.5**	**+1.1**
	comp=Z,348nm,1.1s						
YLE				LR	LR		
	comp=Z,29µm,20.0s						
KMSC	**Kings Mountain**	**46.11**	**92**	*e*P	**P**	**20 50 39.0**	**+0.3**
	comp=Z,107nm,1.3s						
KMSC				LR	LR		
	comp=Z,54µm,18.0s						
KMSC	**Kings Mountain**	**46.11**	**92**	P	**P**	**20 50 38.9**	**+0.3**
	baz=319,SNR=17						
152A	**Waverly Hall**	**46.17**	**97**	*e*P	**P**	**20 50 39.1**	**0.0**
	comp=Z,107nm,1.0s						
152A				LR	LR		
	comp=Z,83µm,21.0s						
152A	**Waverly Hall**	**46.17**	**97**	P	**P**	**20 50 39.1**	**0.0**
	baz=321,SNR=26						
WES	**Weston**	**46.20**	**77**	*e*P	**P**	**20 50 40.0**	**+0.9**
	comp=Z,199nm,1.0s						
WES	**Weston**	**46.20**	**77**	*e*P	**P**	**20 50 40.0**	**+0.9**
WES				pmax	pmax		
	comp=Z,199nm,1.0s						
251A	**Midway**	**46.25**	**98**	P	**P**	**20 50 39.5**	**-0.2**
	baz=322,SNR=16						
GOGA	**Godfrey**	**46.28**	**95**	*e*P	**P**	**20 50 40.1**	**+0.2**
	comp=Z,97nm,1.2s						
GOGA				LR	LR		
	comp=Z,85µm,18.0s						
GOGA	**Godfrey**	**46.28**	**95**	*e*P	**P**	**20 50 40.1**	**+0.2**
GOGA				pmax	pmax		
	comp=Z,97nm,1.2s						
GOGA				MLR	MLR		
	comp=Z,85µm,18.0s						
GOGA	**Godfrey**	**46.28**	**95**	P	**P**	**20 50 40.4**	**+0.5**
	baz=320,SNR=17						
350A	**Dozier**	**46.28**	**99**	P	**P**	**20 50 40.8**	**+0.9**
	baz=322						
HODGE	**Hodges**	**46.30**	**93**	*e*P	**P**	**20 50 40.5**	**+0.4**
	comp=Z,48nm,0.9s						
HODGE				LR	LR		
	comp=Z,26µm,21.0s						
BCX	**Boston College**	**46.31**	**77**	*e*P	**P**	**20 50 40.6**	**+0.6**
	comp=Z,165nm,1.1s						
Z53A	**Monticello**	**46.32**	**95**	P	**P**	**20 50 40.5**	**+0.3**
	baz=321,SNR=15						
Y54A	**Tignall**	**46.35**	**94**	P	**P**	**20 50 40.7**	**+0.2**
	baz=320,SNR=28						
BRYW	**Bryant College**	**46.41**	**77**	*e*P	**P**	**20 50 41.8**	**+0.9**
	comp=Z,150nm,1.1s						
ASAJ	**Asahikawa**	**46.55**	**287**	P	**P**	**20 50 43.4**	**+1.5**
	comp=Z,56nm,1.0s,baz=32,slow=2.0,SNR=13						
ASAJ	**Asahikawa**	**46.55**	**287**	*e*P	**P**	**20 50 42.6**	**+0.7**
	comp=Z,314nm,1.5s						
ASAJ				LR	LR		
	comp=Z,11µm,18.0s						
EMMW	**East Machias**	**46.57**	**72**	*e*P	**P**	**20 50 42.2**	**+0.2**
	comp=Z,128nm,1.1s						
GGN	**Saint George**	**46.60**	**71**	*e*P	**P**	**20 50 42.4**	**+0.1**
	comp=Z,162nm,1.3s						
GGN				LR	LR		
	comp=Z,42µm,18.0s						
153A	**Fort Valley**	**46.66**	**96**	P	**P**	**20 50 43.4**	**+0.5**
	baz=321						
Z54A	**Sparta**	**46.75**	**95**	P	**P**	**20 50 43.8**	**+0.2**
	baz=321,SNR=23						
351A	**Pinckard**	**46.78**	**99**	P	**P**	**20 50 44.3**	**+0.5**
	baz=322,SNR=7.8						
JSC	**Jenkinsville**	**46.80**	**92**	*e*P	**P**	**20 50 44.5**	**+0.5**
	comp=Z,130nm,1.1s						
JSC				LR	LR		
	comp=Z,49µm,19.0s						
JSC	**Jenkinsville**	**46.80**	**92**	*e*P	**P**	**20 50 44.5**	**+0.5**
JSC				pmax	pmax		
	comp=Z,130nm,1.1s						
JSC				MLR	MLR		
	comp=Z,49µm,19.0s						
253A	**Americus**	**46.96**	**97**	*e*P	**P**	**20 50 45.5**	**+0.3**
	comp=Z,370nm,1.3s						
253A				LR	LR		
	comp=Z,114µm,18.0s						
253A	**Americus**	**46.96**	**97**	P	**P**	**20 50 45.2**	**0.0**
	baz=321,SNR=5.5						
352A	**Blakely**	**46.98**	**98**	*e*P	**P**	**20 50 45.6**	**+0.2**
	comp=Z,134nm,0.9s						
352A				LR	LR		
	comp=Z,57µm,18.0s						
352A	**Blakely**	**46.98**	**98**	P	**P**	**20 50 46.0**	**+0.6**
	baz=322,SNR=6.7						
154A	**Montrose**	**47.08**	**95**	*e*P	**P**	**20 50 46.8**	**+0.6**
	comp=Z,159nm,1.0s						
154A				LR	LR		
	comp=Z,87µm,19.0s						
154A	**Montrose**	**47.08**	**95**	P	**P**	**20 50 46.4**	**+0.2**
	baz=321,SNR=6.8						
LMN	**Caledonia Moun**	**47.13**	**69**	*e*P	**P**	**20 50 46.5**	**+0.1**
	comp=Z,215nm,1.3s						
LMN				LR	LR		
	comp=Z,31µm,19.0s						
451A	**Vernon**	**47.22**	**99**	PFAKE		20 51 00.0	+13
451A				LR	LR		
	comp=Z,40µm,20.0s						
ZEA	**Zeya**	**47.30**	**306**	*e*P	**P**	**20 50 48.4**	**+0.8**
ZEA				*e*		20 52 43.0	
ZEA				*e*PPP	PPP	20 53 32.0	
ZEA				*e*S	**S**	**20 57 38.0**	**-1.7**
ZEA				*e*SS	**ScS**	**21 00 44.0**	**+4.0**
ZEA				*e*SSS	SSS	21 02 14.0	
ZEA				pmax	pmax		
	comp=E,160nm,1.8s						
ZEA				pmax	pmax		
	comp=N,58nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,190nm,1.4s						
ZEA				pmax	pmax		
	comp=Z,4µm,10.0s						
ZEA				pmax	pmax		
	comp=E,2µm,11.0s						
ZEA				pmax	pmax		
	comp=N,1µm,12.0s						
ZEA				pmax	pmax		
	comp=Z,5µm,9.0s						
ZEA				pmax	pmax		
	comp=E,2µm,10.0s						
ZEA				pmax	pmax		
	comp=N,2µm,9.0s						
ZEA				smax	smax		
	comp=E,7µm,13.0s						
ZEA				smax	smax		
	comp=N,10µm,12.0s						
ZEA				MLR	MLR		
	comp=E,20µm,13.0s						
ZEA				MLR	MLR		
	comp=Z,44µm,13.0s						
ZEA				MLR	MLR		
	comp=N,17µm,12.0s						
452A	**Marianna**	**47.34**	**99**	P	**P**	**20 50 49.2**	**+1.0**
	baz=322,SNR=5.8						
155A	**Kite**	**47.42**	**95**	P	**P**	**20 50 48.5**	**-0.3**
	baz=321,SNR=18						
353A	**Camilla**	**47.47**	**97**	P	**P**	**20 50 49.2**	**+0.1**
	baz=322,SNR=12						
254A	**Abbeville**	**47.50**	**96**	P	**P**	**20 50 49.3**	**-0.1**
	baz=321,SNR=23						
BJO	**Bjornoya**	**47.67**	**6**	*e*P	**P**	**20 50 50.1**	**-0.1**
BJO				*e*S	**S**	**20 57 42.7**	**-1.7**
TIGA	**Tifton**	**47.73**	**97**	*e*P	**P**	**20 50 51.5**	**+0.2**
	comp=N,185nm,1.0s						
TIGA				LR	LR		
	comp=Z,110µm,18.0s						
TIGA	**Tifton**	**47.73**	**97**	P	**P**	**20 50 51.3**	**0.0**
	baz=322,SNR=8.7						
ERM	**Erimo**	**47.74**	**285**	*e*P	**P**	**20 50 52.5**	**+1.3**
	comp=Z,204nm,1.0s						
ERM				LR	LR		
	comp=Z,12µm,18.0s						
ERM	**Erimo**	**47.74**	**285**	*e*P	**P**	**20 50 52.5**	**+1.3**
ERM				pmax	pmax		
	comp=Z,204nm,1.0s						
ERM				MLR	MLR		
	comp=Z,12µm,18.0s						
JMIC	**Jan Mayen**	**47.76**	**18**	*e*P	**P**	**20 50 50.5**	**-0.5**
JMIC				*e*PP	**PP**	**20 52 42.6**	**+0.3**
JMIC				*e*S	**S**	**20 57 51.1**	**+5.3**
453A	**Whigham**	**47.80**	**98**	*e*P	**P**	**20 50 52.7**	**+0.9**
	comp=Z,135nm,1.1s						
453A				LR	LR		
	comp=Z,50µm,18.0s						
453A	**Whigham**	**47.80**	**98**	P	**P**	**20 50 52.2**	**+0.5**
	baz=322						
552A	**Lynn Haven**	**47.84**	**99**	P	**P**	**20 50 53.3**	**+1.2**
	baz=323						
CNNC	**Cliffs of the**	**47.89**	**89**	PFAKE		20 51 00.0	+7.5
CNNC				LR	LR		
	comp=Z,31nm,18.0s						
156A	**Sylvania**	**47.92**	**94**	P	**P**	**20 50 53.3**	**+0.6**
	baz=321,SNR=6.4						

255A	**Hazlehurst**	**47.95**	**95**	*e*P		**P**	**20 50 53.1**	**+0.2**		comp=Z,167nm,0.9s	
255A				LR	LR						
	comp=Z,81µm,19.0s										
255A	**Hazlehurst**	**47.95**	**95**	P		**P**	**20 50 53.3**	**+0.3**		baz=321,SNR=7.5	
JRQG	**Juriquilla Cam**	**48.04**	**122**	*e*P		**P**	**20 50 56.4**	**+2.4**		comp=Z,2µm,2.0s	
355A	**Pearson**	**48.20**	**96**	P		**P**	**20 50 54.5**	**-0.4**		baz=322,SNR=10.0	
256A	**Glennville**	**48.22**	**95**	P		**P**	**20 50 55.2**	**+0.2**		baz=321	
553A	**Crawfordville**	**48.26**	**99**	P		**P**	**20 50 56.0**	**+0.6**		baz=322,SNR=11	
NRIK	**Noril'sk**	**48.27**	**339**	P		**P**	**20 50 54.8**	**-0.2**		comp=Z,187nm,1.0s,baz=48,slow=6.7,SNR=67	
NRIK				S		**S**	**20 57 53.1**	**-0.1**		comp=Z,1.8nm,0.3s,baz=342,slow=20,SNR=5.7	
NRIK				LR	LR		21 14 47.8				
	comp=Z,26µm,18.7s,baz=48,slow=41										
NHSC	**New Hope**	**48.28**	**92**	*e*P		**P**	**20 50 56.7**	**+1.2**		comp=Z,386nm,0.9s	
NHSC				LR	LR						
	comp=Z,26µm,21.0s										
NHSC	**New Hope**	**48.28**	**92**	P		**P**	**20 50 56.5**	**+1.0**		baz=320,SNR=20	
DRLN	**Deer Lake**	**48.32**	**61**	*e*P		**P**	**20 50 55.9**	**+0.3**		comp=Z,440nm,1.3s	
DRLN				LR	LR						
	comp=Z,47µm,18.0s										
KLR	**Kul'dur**	**48.36**	**299**	P		**P**	**20 50 56.5**	**+0.6**		comp=Z,83nm,1.0s,baz=32,slow=8.5,SNR=52	
RGRS	**Roger Stewart**	**48.42**	**93**	*e*P		**P**	**20 50 58.2**	**+1.7**		comp=Z,2µm,0.9s	
CSU	**Charleston Sou**	**48.43**	**92**	*e*P		**P**	**20 50 58.4**	**+1.8**			
455A	**Stateville**	**48.58**	**97**	P		**P**	**20 50 57.9**	**+0.2**		baz=322,SNR=11	
HAL	**Halifax**	**48.59**	**69**	*e*P		**P**	**20 50 58.3**	**+0.6**		comp=Z,79nm,1.1s	
HAL				LR	LR						
	comp=Z,30µm,18.0s										
HAL	**Halifax**	**48.59**	**69**	*e*P		**P**	**20 50 58.3**	**+0.6**			
HAL				pmax	pmax						
	comp=Z,79nm,1.1s										
HAL				MLR	MLR						
	comp=Z,30µm,18.0s										
MOIG	**Morelia**	**48.60**	**123**	*e*P		**P**	**20 50 59.8**	**+1.4**		comp=Z,700nm,1.9s	
MOIG				LR	LR						
	comp=Z,26µm,18.0s										
356A	**Blackshear**	**48.60**	**96**	P		**P**	**20 50 58.7**	**+0.7**		baz=322	
257A	**Skidaway Islan**	**48.69**	**94**	PFAKE			20 51 10.0	+11			
257A				LR	LR						
	comp=Z,65µm,19.0s										
554A	**Perry**	**48.74**	**98**	P		**P**	**20 50 59.5**	**+0.5**		baz=322,SNR=6.4	
GBN	**Guysborough**	**49.08**	**67**	*e*P		**P**	**20 51 02.0**	**+0.5**		comp=Z,500nm,1.9s	
GBN				LR	LR						
	comp=Z,31µm,19.0s										
555A	**McAlpin**	**49.09**	**97**	*e*P		**P**	**20 51 02.4**	**+0.6**		comp=Z,264nm,1.4s	
555A				LR	LR						
	comp=Z,55µm,21.0s										
555A	**McAlpin**	**49.09**	**97**	P		**P**	**20 51 02.1**	**+0.3**		baz=322	
456A	**Hilliard**	**49.13**	**96**	*e*P		**P**	**20 51 02.3**	**+0.3**		comp=Z,210nm,0.8s	
456A				LR	LR						
	comp=Z,84µm,19.0s										
456A	**Hilliard**	**49.13**	**96**	P		**P**	**20 51 02.6**	**+0.6**		baz=322	
655A	**Horseshoe Beac**	**49.42**	**98**	P		**P**	**20 51 04.7**	**+0.5**		baz=323,SNR=7.1	
457A	**Yulee**	**49.46**	**96**	P		**P**	**20 51 05.0**	**+0.5**		baz=322	
556A	**Lake Butler**	**49.49**	**97**	P		**P**	**20 51 05.3**	**+0.6**		baz=322,SNR=8.1	
BOD	**Bodaibo**	**49.76**	**317**	*e*P		**P**	**20 51 05.8**	**-0.7**			
BOD				pmax	pmax						
	comp=Z,154nm,1.8s										
UNM	**Universidad Na**	**49.82**	**121**	PFAKE			20 51 20.0	+12			
UNM				LR	LR						
	comp=Z,35µm,18.0s										
557A	**Orange Park**	**49.84**	**96**	P		**P**	**20 51 08.2**	**+0.8**		baz=322,SNR=12	
656A	**Willston**	**49.91**	**98**	*e*P		**P**	**20 51 09.2**	**+1.1**		comp=Z,369nm,1.5s	
656A				LR	LR						
	comp=Z,58µm,21.0s										
656A	**Willston**	**49.91**	**98**	P		**P**	**20 51 08.8**	**+0.7**		baz=323,SNR=6.8	
657A	**Interlachen**	**50.10**	**97**	P		**P**	**20 51 10.3**	**+0.8**		baz=322,SNR=7.1	
BORG	**Borgarnes**	**50.21**	**28**	PFAKE			20 51 20.0	+10			
BORG				LR	LR						
	comp=Z,24µm,18.0s										
757A	**Oxford**	**50.50**	**98**	P		**P**	**20 51 12.8**	**+0.4**		baz=323,SNR=8.6	
658A	**Bunnell**	**50.56**	**96**	PFAKE			20 51 30.0	+17			
658A				LR	LR						
	comp=Z,98µm,18.0s										
658A	**Bunnell**	**50.56**	**96**	P		**P**	**20 51 13.1**	**+0.2**		baz=323	
LVIG	**Laguna Verde**	**50.77**	**118**	PFAKE			20 51 30.0	+15			
LVIG				LR	LR						
	comp=Z,14µm,20.0s										
758A	**Lake Helen**	**50.95**	**97**	P		**P**	**20 51 16.4**	**+0.6**		baz=323	
857A	**Zephyrhills**	**50.95**	**98**	P		**P**	**20 51 16.3**	**+0.4**		baz=323	
957A	**Wimauma**	**51.42**	**99**	*e*P		**P**	**20 51 21.6**	**+2.2**		comp=Z,159nm,0.8s	
957A				LR	LR						
	comp=Z,46µm,18.0s										
DWPF	**Disney Wildern**	**51.50**	**98**	PFAKE			20 51 30.0	+10			
DWPF				LR	LR						
	comp=Z,50µm,22.0s										
DWPF	**Disney Wildern**	**51.50**	**98**	P		**P**	**20 51 21.6**	**+1.6**		baz=323	
TLIG	**Tlapa**	**51.63**	**122**	*e*P		**P**	**20 51 22.5**	**+1.3**		comp=Z,599nm,1.8s	
TLIG				LR	LR						
	comp=Z,24µm,22.0s										
HAMF	**Hammerfest**	**51.74**	**6**	*e*P		**P**	**20 51 21.1**	**-0.1**			
HAMF				*e*S		**S**	**20 58 41.3**	**-0.1**			
859A	**Kempfer Cattle**	**51.83**	**97**	P		**P**	**20 51 23.5**	**+1.1**		baz=323	
USA0B	**Ussuriysk Arra**	**51.83**	**294**	*e*P		**P**	**20 51 22.5**	**+0.2**		comp=Z,172nm,1.8s	
USA0B				LR	LR						
	comp=Z,26µm,18.0s										
USRK	**Ussuriysk Ar.**	**51.83**	**294**	P		**P**	**20 51 22.6**	**+0.3**		comp=Z,28nm,1.1s,baz=54,slow=5.4,SNR=16	
USRK				LR	LR		21 15 07.5				
	comp=Z,25µm,18.5s,baz=47,slow=38										
058A	**Arcadia**	**52.14**	**99**	P		**P**	**20 51 25.7**	**+1.0**		baz=324	
TRO	**Tromso**	**52.43**	**8**	*e*P		**P**	**20 51 23.8**	**-2.5**			
TRO				*e*PP		**PP**	**20 53 25.9**	**+1.3**			
TRO				*e*S		**S**	**20 58 50.6**	**-0.3**			
TRO				*e*ScS		**ScS**	**21 01 14.0**	**-0.4**			
059A	**Moore Haven**	**52.56**	**98**	PFAKE			20 51 40.0	+12			
059A				LR	LR						
	comp=Z,46µm,18.0s										
H11N2	**WAKE ISLAND Hy**	**52.60**	**246**	T		T	21 48 18.1			baz=32,slow=76,SNR=225	
H11N3	**WAKE ISLAND Hy**	**52.60**	**246**	T		T	21 48 18.5			baz=32,slow=76,SNR=219	
H11N1	**WAKE ISLAND Hy**	**52.62**	**246**	T		T	21 48 16.8			baz=32,slow=76,SNR=182	
VLA	**Vladivostok**	**52.68**	**293**	*de*P		**P**	**20 51 29.5**	**+0.9**			
VLA				pmax	pmax						
	comp=Z,113nm,1.1s										
VLA				MLR	MLR						
	comp=Z,23µm,18.0s										
MDJ	**Mudanjiang**	**52.70**	**296**	P		**P**	**20 51 31.1**	**+2.4**			
MDJ				S		**S**	**20 58 56.6**	**+1.4**			
MDJ				pmax	pmax						
	comp=Z,44nm,1.0s										
MDJ				pmax	pmax						
	comp=Z,3µm,6.1s										
MDJ				LR	LR						
	comp=Z,18µm,17.9s										
MDJ				LR	LR						
	comp=Z,16µm,21.9s										
MDJ	**Mudanjiang**	**52.70**	**296**	*e*P		**P**	**20 51 29.5**	**+0.8**		comp=Z,147nm,1.5s	
MDJ				LR	LR						
	comp=Z,42µm,18.0s										
KEV	**Kevo**	**52.78**	**4**	*e*P		**P**	**20 51 27.4**	**-1.6**		comp=Z,207nm,1.3s	
KEV				LR	LR						
	comp=Z,14µm,18.0s										
KEV	**Kevo**	**52.78**	**4**	*e*P		**P**	**20 51 27.4**	**-1.6**			
KEV				pmax	pmax						
	comp=Z,207nm,1.3s										
KEV				MLR	MLR						
	comp=Z,14µm,18.0s										
060A	**Indiantown**	**52.93**	**97**	PFAKE			20 51 40.0	+9.4			
060A				LR	LR						
	comp=Z,69µm,22.0s										
ARA0	**ARCESS Array S**	**52.93**	**5**	*e*P		**P**	**20 51 28.8**	**-1.3**			
ARCES	**ARCESS Array B**	**52.93**	**5**	P		**P**	**20 51 28.8**	**-1.3**		comp=Z,21nm,0.6s,baz=8.1,slow=7.4,SNR=48	
ARCES				LR	LR		21 15 05.2				
	comp=Z,388nm,19.3s,baz=350,slow=37										
ARE0	**ARCESS Array S**	**52.93**	**5**	*e*P		**P**	**20 51 28.6**	**-1.5**			
ARE0				*e*S		**S**	**20 58 57.9**	**+0.1**			
MYIG	**MØrida**	**53.00**	**111**	PFAKE			20 51 40.0	+8.8			
MYIG				LR	LR						
	comp=Z,14µm,20.0s										
WAKE	**Wake Island**	**53.10**	**246**	PFAKE			20 51 50.0	+18			
WAKE				LR	LR						
	comp=Z,11µm,20.0s										
KTK1	**Kautokeino**	**53.33**	**6**	*e*P		**P**	**20 51 31.8**	**-1.3**			
LOF	**Lofoten**	**53.42**	**11**	*e*P		**P**	**20 51 33.5**	**-0.2**			
LOF				*e*S		**S**	**20 59 04.1**	**-0.3**			
MSHR	**Mys Shultsa**	**53.44**	**293**	⇑*e*P		**P**	**20 51 34.9**	**+0.7**			
061Z	**Ochoppi**	**53.57**	**99**	PFAKE			20 51 50.0	+15			
061Z				LR	LR						
	comp=Z,38µm,21.0s										
H11S1	**WAKE ISLAND Hy**	**53.73**	**245**	T		T	21 49 43.6			baz=31,SNR=87	
H11S2	**WAKE ISLAND Hy**	**53.75**	**245**	T		T	21 49 43.6			baz=31,slow=74,SNR=113	
H11S3	**WAKE ISLAND Hy**	**53.75**	**245**	T		T	21 49 44.1			baz=31,slow=74,SNR=84	
CMIG	**Matias Romero**	**53.76**	**118**	P		**P**	**20 51 38.1**	**+1.3**		comp=Z,80nm,1.1s,baz=326,slow=5.2,SNR=30	
CMIG				S		**S**	**20 59 14.8**	**+4.6**			
	comp=Z,21nm,0.6s,baz=343,slow=19,SNR=1.5										
CMIG				LR	LR		21 16 48.5				
	comp=Z,9µm,18.6s,baz=315,slow=38										
HIA	**Hailar**	**53.77**	**306**	*e*P		**P**	**20 51 37.0**	**+0.4**		comp=Z,183nm,1.2s	
HIA				LR	LR						
	comp=Z,34µm,19.0s										
HIA	**Hailar**	**53.77**	**306**	*e*P		**P**	**20 51 37.0**	**+0.4**			
HIA				pmax	pmax						
	comp=Z,183nm,1.2s										
HIA				MLR	MLR						
	comp=Z,34µm,19.0s										
STEI	**Steigen**	**53.78**	**10**	*e*P		**P**	**20 51 35.8**	**-0.6**			
CIT	**Chita**	**54.27**	**312**	*e*P		**P**	**20 51 41.1**	**+0.9**			
CIT				*e*			20 53 44.0				
CIT				*e*			20 59 17.8				
CIT				pmax	pmax						
	comp=Z,391nm,2.0s										
TEIG	**Tepich**	**54.35**	**110**	*e*P		**P**	**20 51 42.0**	**+0.9**		comp=Z,100nm,1.1s	
MJB9	**Matsu-Tunnel**	**54.36**	**283**	*e*P		**P**	**20 51 42.1**	**+1.1**		comp=Z,158nm,1.1s	
MJB9				LR	LR						
	comp=Z,6µm,21.0s										
MAJO	**Matsushiro**	**54.36**	**283**	*e*P		**P**	**20 51 41.6**	**+0.5**		comp=Z,155nm,1.1s	
MAJO				LR	LR						
	comp=Z,6µm,18.0s										
MAJO	**Matsushiro**	**54.36**	**283**	*c*P		**P**	**20 51 42.1**	**+1.0**			
MAJO				pmax	pmax						
	comp=Z,106nm,1.0s										
MAT	**Matsushiro**	**54.36**	**283**	P		**P**	**20 51 42.1**	**+1.0**			
MAT				S		S	20 59 09.0	-9.0			
MJAR	**Matsushiro Arr**	**54.36**	**283**	P		**P**	**20 51 42.1**	**+1.0**		comp=Z,42nm,1.1s,baz=16,slow=5.3,SNR=29	
MJAR				S		**S**	**20 59 14.8**	**-3.3**			
	comp=Z,1.7nm,0.9s,baz=352,slow=15,SNR=2.7										
MJAR				LR	LR		21 16 56.5				
	comp=Z,4µm,18.5s,baz=55,slow=38										
KONS	**Konsvik**	**54.96**	**12**	*e*P		**P**	**20 51 45.0**	**0.0**			
STOK	**Stokkvaagen**	**55.11**	**12**	*e*P		**P**	**20 51 45.5**	**-0.4**			
APA	**Apatity**	**55.15**	**2**	⇓*i*P		**P**	**20 51 44.5**	**-1.8**			
APA				*i*			20 53 58.0				
APA				*i*	S	**S**	**20 59 25.0**	**-2.8**			
APA				*i*	PS	**PnS**	**20 59 36.0**	**-2.3**			
APA				*i*			21 01 39.0				
APA				*i*	SS	**SS**	**21 03 05.0**	**-5.9**			
APA				pmax	pmax						
	comp=Z,30nm,0.9s										
APA				MLR	MLR						
	comp=Z,16µm,19.0s										
CN2	**Changchun**	**55.29**	**298**	*e*P		**P**	**20 51 47.5**	**-0.1**			
CN2				*e*S		**S**	**20 59 26.2**	**-4.1**			
CN2				pmax	pmax						
	comp=Z,150nm,1.3s										
CN2				pmax	pmax						
	comp=Z,2µm,5.0s										
CN2				LR	LR						
	comp=Z,20µm,15.0s										
CN2				LR	LR						
	comp=Z,19µm,15.0s										
CN2				LR	LR						
	comp=Z,21µm,15.0s										
MOR8	**Moi Rana**	**55.42**	**11**	*e*P		**P**	**20 51 45.8**	**-2.4**			
MOR8				*e*S		**S**	**20 59 30.9**	**-0.6**			
CCIG	**Comitan**	**55.78**	**116**	PFAKE			20 52 00.0	+8.4			
CCIG				LR	LR						
	comp=Z,10µm,21.0s										
INU	**Inuyama**	**55.90**	**283**	*e*P		**P**	**20 51 52.7**	**+0.6**		comp=Z,147nm,1.3s	
INU				LR	LR						
	comp=Z,8µm,20.0s										
JHJ2	**Mitsune**	**56.14**	**280**	PFAKE			20 52 10.0	+16			
JHJ2				LR	LR						
	comp=Z,11µm,20.0s										
XMAS	**Kiritimati**	**56.55**	**198**	*e*P		**P**	**20 51 59.0**	**+2.0**		comp=Z,361nm,1.0s	
XMAS				LR	LR						
	comp=Z,17µm,19.0s										
NSS	**Namsos**	**56.73**	**13**	*e*P		**P**	**20 51 57.0**	**-0.6**			
NSS				*e*S		**S**	**20 59 50.4**	**+1.5**			
BBSR	**BB Station**	**57.16**	**80**	*e*P		**P**	**20 52 01.2**	**+0.1**		comp=Z,140nm,1.0s	
IRK	**Irkutsk**	**57.63**	**318**	*e*P		**P**	**20 52 04.1**	**-0.1**			
IRK				*e*			20 54 08.8				
IRK				pmax	pmax						
	comp=Z,334nm,2.4s										
SNY	**Shenyang**	**57.68**	**298**	⇑P		**P**	**20 52 05.3**	**+0.6**			
SNY				S		**S**	**21 00 04.6**	**+2.6**			
SNY				pmax	pmax						
	comp=Z,150nm,2.1s										
SNY				pmax	pmax						
	comp=Z,3µm,4.6s										
SNY				LR	LR						
	comp=Z,27µm,18.4s										
SNY				LR	LR						
	comp=Z,28µm,16.3s										
SNY				LR	LR						
	comp=Z,27µm,21.8s										
TBLU	**Trondheim**	**57.75**	**14**	*e*P		**P**	**20 52 04.4**	**-0.4**			
TBLU				*e*S		**S**	**20 59 59.8**	**-2.5**			
MOL	**Molde**	**58.03**	**16**	*e*P		**P**	**20 52 06.0**	**-0.8**			
TLY	**Talaya**	**58.31**	**318**	*e*P		**P**	**20 52 10.2**	**+1.2**		comp=Z,324nm,1.3s	
TLY				LR	LR						
	comp=Z,22µm,19.0s										
TLY	**Talaya**	**58.31**	**318**	P		**P**	**20 52 09.7**	**+0.6**		SNR=23	
TLY	**Talaya**	**58.31**	**318**	*d*/*i*P		**P**	**20 52 09.6**	**+0.6**			
TLY				*e*			20 53 02.8				
TLY				*e*			20 54 18.4				
TLY				*e*PPP		PPP	20 55 41.4				
TLY				*e*S		**S**	**21 00 12.4**	**+2.4**			
TLY				*e*SS		**SS**	**21 04 06.5**	**+5.4**			
TLY				pmax	pmax						
	comp=Z,278nm,1.3s										
TLY				MLR	MLR						
	comp=Z,21nm,16.0s										
AKN	**Aaknes**	**58.32**	**16**	*e*P		**P**	**20 52 09.2**	**+0.3**			
FOO	**Floro**	**58.57**	**17**	*e*P		**P**	**20 52 10.7**	**+0.1**			
FOO				*e*S		**S**	**21 00 15.1**	**+2.1**			
DOMB	**Dombas**	**58.75**	**15**	*e*P		**P**	**20 52 10.6**	**-1.4**			
DOMB				*e*S		**S**	**21 00 15.9**	**+0.4**			
KS01	**Wonju Array Si**	**58.94**	**292**	*e*P		**P**	**20 52 14.3**	**+0.7**			
KSRS	**Korea Array**	**58.94**	**292**	P		**P**	**20 52 14.8**	**+1.3**		comp=Z,96nm,1.1s,baz=41,slow=6.4,SNR=59	
KSRS				LR	LR		21 18 11.1				
	comp=Z,6µm,19.1s,baz=36,slow=37										
KS15	**Wonju Array Si**	**58.97**	**292**	*e*P		**P**	**20 52 15.1**	**+1.3**			
KSAR	**Wonju Array Be**	**58.97**	**292**	P		**P**	**20 52 14.8**	**+1.1**			
KSAR	**Wonju Array Be**	**58.97**	**292**	P		**P**	**20 52 14.9**	**+1.1**			
SUE	**Sulen**	**59.04**	**18**	*e*P		**P**	**20 52 12.9**	**-0.9**			
SUE				*e*S		**S**	**21 00 19.6**	**+0.6**			
HYA	**Hoyanger**	**59.16**	**17**	*e*P		**P**	**20 52 14.1**	**-0.6**			
HYA				*e*S		**S**	**21 00 20.1**	**-0.6**			
MOY	**Mondy**	**59.27**	**319**	*e*P		**P**	**20 52 16.8**	**+1.0**			
MOY				pmax	pmax						
	comp=Z,440nm,2.1s										
SNET	**Serv Nac Est T**	**59.42**	**115**	PFAKE			20 52 30.0	+13			
SNET				LR	LR						
	comp=Z,19µm,20.0s										
ZAK	**Zakamensk**	**59.51**	**317**	*e*P		**P**	**20 52 16.6**	**-0.8**			
ZAK				pmax	pmax						
	comp=Z,58nm,1.3s										
CBIJ	**Chichi jima**	**59.58**	**273**	*e*P		**P**	**20 52 18.4**	**+0.3**		comp=Z,342nm,0.8s	
CBIJ				LR	LR						
	comp=Z,6µm,20.0s										
ASK	**Askoy**	**59.65**	**18**	*e*P		**P**	**20 52 18.0**	**-0.1**			
NC204	**NORSAR Array S**	**59.72**	**14**	*e*P		**P**	**20 52 18.0**	**-0.7**			
BER	**Bergen**	**59.77**	**18**	*e*P		**P**	**20 52 18.0**	**-0.9**			
NC303	**NORSAR Array S**	**59.85**	**14**	*e*P		**P**	**20 52 18.9**	**-0.6**			
NBO00	**NORSAR Array S**	**59.96**	**14**	*e*P		**P**	**20 52 19.2**	**-1.1**			
NC405	**NORSAR Array S**	**60.00**	**14**	*e*P		**P**	**20 52 19.9**	**-0.7**			
NB2	**NORSAR Subarra**	**60.01**	**14**	P		**P**	**20 52 19.6**	**-1.0**		comp=Z,1µm,2.5s,baz=349,slow=6.5	
NB2	**NORSAR Subarra**	**60.01**	**14**	P		**P**	**20 52 19.6**	**-1.0**		baz=349,slow=6.5	
NB200	**NORSAR Array S**	**60.01**	**14**	*e*P		**P**	**20 52 19.7**	**-1.0**			
NOA	**NORSAR Array B**	**60.01**	**14**	P		**P**	**20 52 19.7**	**-1.0**		comp=Z,77nm,1.2s,baz=347,slow=6.8,SNR=63	
NOA				LR	LR		21 19 17.7				
	comp=Z,10µm,20.2s,baz=340,slow=37										
NB201	**NORSAR Array S**	**60.01**	**14**	*e*P		**P**	**20 52 20.4**	**-0.3**			
TJN	**Taejon**	**60.06**	**291**	*c*/*i*P		**P**	**20 52 22.5**	**+1.2**			
TGUH	**Tegucigalpa,Un**	**60.07**	**113**	*e*P		**P**	**20 52 22.8**	**+1.2**		comp=Z,130nm,1.2s	
TGUH				LR	LR						
	comp=Z,14µm,19.0s										
NAO01	**NORSAR Array S**	**60.15**	**14**	*e*P		**P**	**20 52 20.8**	**-0.8**			
NAO01	**NORSAR Array S**	**60.15**	**14**	*e*P		**P**	**20 52 20.4**	**-1.2**			
NAO01				*e*S		**S**	**21 00 34.2**	**+0.6**			
NC602	**NORSAR Array S**	**60.35**	**14**	*e*P		**P**	**20 52 22.3**	**-0.6**			
SONA1	**Songino Array**	**60.40**	**314**	*e*P		**P**	**20 52 24.2**	**+0.6**			
SONA0	**Songino Array**	**60.41**	**314**	*e*P		**P**	**20 52 24.4**	**+0.7**			
SONA0				*e*S		**S**	**21 00 40.0**	**+2.5**			
SONM	**Songino Array**	**60.41**	**314**	P		**P**	**20 52 24.4**	**+0.7**		comp=Z,116nm,1.1s,baz=34,slow=3.9,SNR=183	
SONM				S		**S**	**21 00 40.0**	**+2.5**			
	comp=Z,1.2nm,1.1s,baz=358,slow=20,SNR=2.6										
SONM				LR	LR		21 20 11.2				
	comp=Z,39µm,18.4s,baz=30,slow=38										
SONM				PKPPKP	P'P'df		21 21 42.5	-9.1			
	comp=Z,2.1nm,1.1s,baz=193,slow=3.0,SNR=6.0										
ODD1	**Odda**	**60.42**	**17**	*e*P		**P**	**20 52 23.7**	**+0.2**			
ODD1				*e*S		**S**	**21 00 37.6**	**+0.5**			
KPL	**Plockton**	**60.45**	**25**	⇓*e*P		**P**	**20 52 22.7**	**-0.9**			
KPL				IAmb	IAmb		20 52 24.9				
	comp=Z,993nm,2.2s										
KPL				IAMs_20	IAMs_20		21 18 54.4				
	comp=Z,25µm,17.5s										
MCD	**Coleburn Disti**	**60.76**	**24**	⇓*e*P		**P**	**20 52 25.1**	**-0.6**			
JNU	**Nakatsue**	**60.82**	**286**	*e*P		**P**	**20 52 27.6**	**+1.1**		comp=Z,158nm,1.1s	
BLS5	**Blasjo**	**60.86**	**17**	*e*P		**P**	**20 52 26.4**	**-0.1**			
BLS5				*i*			20 56 13.1				
BLS5				*e*S		**S**	**21 00 40.5**	**-2.2**			
DL2	**Dalian**	**60.89**	**297**	⇑P		**P**	**20 52 27.6**	**+0.7**			
DL2				S		**S**	**21 00 43.3**	**-0.3**			
DL2				pmax	pmax					comp=Z,160nm,1.3s	
DL2				pmax	pmax					comp=Z,2µm,6.5s	
DL2				LR	LR						
	comp=Z,11µm,19.1s										
DL2				LR	LR						
	comp=Z,20µm,18.6s										
DL2				LR	LR						
	comp=Z,15µm,16.5s										
PRGR	**Permogore**	**60.96**	**355**	⇓*i*P		**P**	**20 52 26.9**	**-0.1**			
PRGR				pmax	pmax						
	comp=Z,358nm,1.4s										
OSL	**Oslo**	**61.01**	**15**	*e*P		**P**	**20 52 26.9**	**-0.4**			
OSL				*e*S		**S**	**21 00 45.7**	**+1.3**			
FIA1	**FINESS Array S**	**61.02**	**6**	*e*P		**P**	**20 52 26.4**	**-1.0**			
FIA0	**FINESS Array S**	**61.02**	**6**	*e*P		**P**	**20 52 26.3**	**-1.1**			
FIA0	**FINESS Array S**	**61.02**	**6**	*e*P		**P**	**20 52 26.3**	**-1.1**			
FINES	**FINESS Array B**	**61.02**	**6**	P		**P**	**20 52 26.3**	**-1.1**		comp=Z,54nm,0.6s,baz=3.3,slow=7.8,SNR=163	
KONO	**Kongsberg**	**61.13**	**16**	*e*P		**P**	**20 52 28.0**	**-0.2**			
KONO				LR	LR					comp=Z,393nm,1.5s	
	comp=Z,12µm,19.0s										
KONO	**Kongsberg**	**61.13**	**16**	*de*P		**P**	**20 52 27.8**	**-0.4**			
KONO				pmax	pmax						
	comp=Z,306nm,1.7s										
KONO				MLR	MLR						
	comp=Z,11µm,18.0s										
KONO	**Kongsberg**	**61.13**	**16**	*e*P		**P**	**20 52 28.0**	**-0.2**			
KONO				*e*S		**S**	**21 00 46.8**	**+0.8**			
ESTN	**Estel**	**61.34**	**112**	*e*P		**P**	**20 52 31.1**	**+0.8**			
ESTN				LR	LR					comp=Z,328nm,1.3s	
	comp=Z,16µm,20.0s										
**

comp=Z,26µm,20.0s
ZALV Zalesovo Beam 62.30 330 P **P** 20 52 35.8 -0.4
comp=Z,160nm,1.0s,baz=23,slow=6.4,SNR=125
ZALV S **S** 21 00 59.9 -1.1
comp=Z,0.5nm,0.3s,baz=347,slow=21,SNR=2.4
ZALV PKP2bc 21 21 45.6
comp=Z,0.8nm,0.3s,baz=211,slow=1.7,SNR=4.4
ZALV LR LR 21 22 02.8
comp=Z,25µm,20.5s,baz=3.5,slow=38
ZALV Zalesovo Beam 62.30 330 *e*P **P** **20 52 35.4 -0.8**
ZALV S **S** **21 00 59.9 -1.1**
ZALV ⇑*e* 21 21 45.6
ZALV Zalesovo Beam 62.30 330 P **P** **20 52 35.8 -0.4**
ZALV S **S** **21 00 59.9 -1.1**
ZALV pmax pmax
comp=Z,161nm,1.0s
ZALV smax smax
comp=N,1.0nm,0.3s
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV MLR MLR
comp=Z,25µm,20.5s
GRTK Grand Turk 62.33 93 PFAKE 20 52 50.0 +13
GRTK LR LR
comp=Z,18µm,20.0s
ESY Stoneypath 62.43 24⇓*e*P **P** **20 52 35.9 -1.2**
BJI Beijing 62.55 302⇑*i*P **P** **20 52 38.8 +0.8**
BJI S **S** **21 01 06.0 +1.5**
BJI pmax pmax
comp=Z,87nm,1.3s
BJI LR LR
comp=Z,6µm,14.1s
BJI LR LR
comp=Z,9µm,14.3s
BJT Baijiatuau 62.57 302 *e*P **P** **20 52 38.0 -0.2**
comp=Z,184nm,1.2s
BJT LR LR
comp=Z,23µm,19.0s
ESK Eskdalemuir 62.85 25 *e*P **P** **20 52 38.0 -1.9**
comp=Z,429nm,1.7s
ESK LR LR
comp=Z,21µm,19.0s
ESK Eskdalemuir 62.85 25 *e*P **P** **20 52 39.0 -0.8**
ESK IAmb IAmb 20 52 41.2
comp=Z,402nm,1.6s
ESK IAMs_20 IAMs_20 21 18 37.8
comp=Z,23µm,20.5s
ESK Eskdalemuir 62.85 25 *i*P **P** **20 52 40.0 +0.1**
PUL Pulkovo 62.89 4*d*P **P** **20 52 39.3 -0.7**
PUL pmax pmax
comp=Z,384nm,1.3s
PUL MLR MLR
comp=Z,11µm,17.0s
BHH Howats Hill 63.06 25 *e*P **P** **20 52 39.8 -1.4**
ESPN Las Esperanzas 63.15 111 *e*P **P** **20 52 42.3 0.0**
comp=Z,173nm,1.5s
ESPN LR LR
comp=Z,13µm,18.0s
IOMK Kirk Michael 63.51 26⇓*e*P **P** **20 52 42.8 -1.4**
IOMK IAmb IAmb 20 52 45.3
comp=Z,500nm,1.9s
IOMK IAMs_20 IAMs_20 21 18 58.5
comp=Z,23µm,21.0s
EDMD Edmundbyers 63.58 24⇓*e*P **P** **20 52 44.1 -0.6**
EDMD IAmb IAmb 20 52 46.0
comp=Z,366nm,1.7s
EDMD IAMs_20 IAMs_20 21 20 58.6
comp=Z,19µm,18.2s
HHC Hu-ho-hao-te 63.96 306 *e*P **P** **20 52 47.2 -0.4**
HHC PP **PP** **20 55 09.6 +1.8**
HHC S **S** **21 01 15.9 -6.5**
HHC LR LR
comp=Z,11µm,12.1s
LGNH LØogne 63.98 96 *e*P **P** **20 52 50.1 +2.3**
comp=Z,141nm,1.2s
DSB Dublin 64.00 27 PFAKE 20 53 00.0 +12
DSB LR LR
comp=Z,17µm,19.0s
VSU Vasula 64.03 6 *e*P **P** **20 52 46.0 -1.6**
VSU IAmb IAmb 20 52 56.7
comp=Z,959nm,1.3s
VSU Vasula 64.03 6*d*P **P** **20 52 46.6 -1.0**
VSU pmax pmax
comp=Z,1µm,1.7s
VSU MLR MLR
comp=Z,18µm,16.0s
MUD Monsted U'grnd 64.14 17⇓*i*P **P** **20 52 48.5 +0.2**
comp=Z,283nm,1.4s
comp=Z,16µm,18.0s
MUD Monsted U'grnd 64.14 17⇓*i*P **P** **20 52 48.5 +0.2**
MUD pmax pmax
comp=Z,280nm,1.4s
MUD MLR MLR
comp=Z,16µm,18.0s
VAL Valentia 64.18 30⇑*i*P **P** **20 52 49.1 +0.5**
SDDR Presa de Saban 64.31 95 *e*P **P** **20 52 50.8 +0.8**
comp=Z,97nm,1.0s
SDDR LR LR
comp=Z,18µm,20.0s
SVE Sverdlovsk 64.42 346*c*P **P** **20 52 49.7 -0.5**
SVE *e* 20 55 10.9
SVE eS **S** **21 01 23.9 -3.4**
SVE *e* 21 08 29.2
SVE pmax pmax
comp=Z,2µm,10.7s
SVE pmax pmax
comp=Z,245nm,1.2s
SVE MLR MLR
comp=Z,15µm,23.0s
WLF1 Llynfaes 64.44 26⇓*e*P **P** **20 52 49.5 -0.8**
WLF1 IAmb IAmb 20 52 51.5
comp=Z,862nm,1.8s
WLF1 IAMs_20 IAMs_20 21 21 55.8
comp=Z,27µm,18.4s
JTS JuntasAbangare 64.45 112 PFAKE 20 53 00.0 +9.1
JTS LR LR
comp=Z,14µm,19.0s
JTS JuntasAbangare 64.45 112⇑*e*P **P** **20 52 49.4 -1.5**
HPK Haverah Park 64.46 24⇓*e*P **P** **20 52 50.1 -0.4**
HPK IAmb IAmb 20 52 51.9
comp=Z,603nm,1.9s
HPK IAMs_20 IAMs_20 21 21 27.3
comp=Z,22µm,16.9s
KNTN Kanton 64.47 212 PFAKE 20 53 00.0 +9.1
KNTN LR LR
comp=Z,17µm,20.0s
SLIT Slitere, Latvi 64.55 9 *e*P **P** **20 52 49.4 -1.6**
SLIT IAmb IAmb 20 52 60.0
comp=Z,2µm,1.2s
BTO Baotou 64.83 306 *e*P **P** **20 52 52.9 -0.4**
LBWR Ladybower, Pea 64.96 25⇓*e*P **P** **20 52 53.0 -0.7**
LBWR IAmb IAmb 20 52 55.0
comp=Z,338nm,1.6s
FOEL Foel Wylfa 65.09 26⇓*e*P **P** **20 52 54.3 -0.4**
FOEL IAmb IAmb 20 52 56.0
comp=Z,669nm,1.8s
FOEL IAMs_20 IAMs_20 21 19 42.9
comp=Z,22µm,21.3s
HDC Heredia 65.11 112 PFAKE 20 53 10.0 +15
HDC LR LR
comp=Z,20µm,21.0s
TIA Tai'an 65.19 299 P **P** **20 52 56.2 +0.7**
TIA pP **pP** **20 53 00.4 -1.3**
TIA sP **sP** **20 53 03.6 -0.4**
TIA S **S** **21 01 39.6 +2.1**
TIA sS **sS** **21 01 46.5 -1.1**
TIA pmax pmax
comp=Z,72nm,1.4s
TIA pmax pmax
comp=Z,2µm,6.6s
TIA LR LR
comp=Z,13µm,15.5s
TIA LR LR
comp=Z,17µm,14.7s
TIA LR LR
comp=Z,12µm,16.5s
LMK Market Rasen 65.21 24⇓*e*P **P** **20 52 54.8 -0.6**
LMK IAmb IAmb 20 52 56.5
comp=Z,1µm,2.1s
LMK IAMs_20 IAMs_20 21 23 05.1
comp=Z,17µm,15.8s
DGZ Jazzator, Alta 65.36 327*d*P **P** **20 52 56.7 +0.1**
DGZ pmax pmax
comp=Z,51nm,1.4s
DGZ MLR MLR
comp=Z,14µm,16.0s

COP Copenhagen 65.36 15⇓*i*P **P** **20 52 55.8 -0.5**
comp=Z,299nm,1.5s
COP *i* 20 53 05.3
comp=Z,6µm,25.0s
COP Copenhagen 65.36 15⇓*i*P **P** **20 52 55.8 -0.5**
COP pmax pmax
comp=Z,300nm,1.5s
COP MLR MLR
comp=Z,6µm,25.0s
HLM1 Long Mynd 65.51 26⇓*e*P **P** **20 52 56.5 -0.9**
HLM1 IAmb IAmb 20 52 58.8
comp=Z,197nm,1.8s
HLM1 IAMs_20 IAMs_20 21 19 54.8
comp=Z,10µm,25.1s
CWF Charnwood Fore 65.67 25⇓*e*P **P** **20 52 58.0 -0.4**
CWF IAmb IAmb 20 52 59.8
comp=Z,512nm,1.8s
CWF IAMs_20 IAMs_20 21 20 49.0
comp=Z,21µm,18.2s
MCH1 Michaelchurch 65.97 26⇓*e*P **P** **20 52 59.3 -1.0**
MCH1 IAmb IAmb 20 53 01.6
comp=Z,564nm,1.8s
MCH1 IAMs_20 IAMs_20 21 20 22.1
comp=Z,21µm,20.8s
TARA Tarawa 66.05 230 *e*P **P** **20 53 03.0 +1.8**
comp=Z,427nm,1.1s
TARA LR LR
comp=Z,30µm,20.0s
TIY Taiyuan 66.14 303 *e*P **P** **20 53 02.6 +0.9**
TIY PP **PP** **20 55 33.3 +6.4**
TIY S **S** **21 01 51.3 +2.2**
TIY pmax pmax
comp=Z,190nm,1.6s
TIY pmax pmax
comp=Z,1µm,6.2s
TIY LR LR
comp=Z,12µm,16.3s
TAOE Nuku Hiva Isla 66.22 177 *e*P **P** **20 53 02.6 +0.3**
comp=Z,478nm,1.3s
TAOE *e*S **S** **21 01 48.5 -1.8**
comp=Z,5µm,24.2s
TAOE *e*LQ LQ 21 09 45.4
comp=Z,60µm,29.1s
TAOE *e*LR LR 21 12 59.4
comp=Z,16µm,22.5s,baz=5.7
TAOE Nuku Hiva Isla 66.22 177 *e*T T 22 03 49.6
comp=Z,64nm,0.2s
TAOE Nuku Hiva Isla 66.22 177 PFAKE 20 53 20.0 +18
TAOE LR LR
comp=Z,14µm,21.0s
BSD Bornholm Skovb 66.25 14⇓*i*P **P** **20 53 01.6 -0.4**
comp=Z,472nm,1.5s
comp=Z,9µm,21.0s
BSD Bornholm Skovb 66.25 14⇓*i*P **P** **20 53 01.6 -0.4**
BSD pmax pmax
comp=Z,470nm,1.5s
BSD MLR MLR
comp=Z,9µm,21.0s
OLDB Oldbury-Upon-S 66.39 26⇓*e*P **P** **20 53 02.5 -0.4**
OLDB IAmb IAmb 20 20 34.5
comp=Z,23µm,22.4s
BRVK Borovoye 66.48 339 *e*P **P** **20 53 03.1 -0.5**
comp=Z,178nm,1.1s
BRVK LR LR
comp=Z,20µm,20.0s
BRVK Borovoye 66.48 339 P **P** **20 53 03.3 -0.3**
SNR=122
BRVK Borovoye 66.48 339*d*P **P** **20 53 03.0 -0.5**
BRVK pmax pmax
comp=Z,333nm,1.7s
BRVK MLR MLR
comp=Z,18µm,19.0s
RGN Rugen 66.59 15 *e*P **P** **20 53 04.7 +0.5**
comp=Z,1µm,1.7s
RGN LR LR
comp=Z,8µm,18.0s
KURK Kurchatov 66.83 333 *e*P **P** **20 53 05.5 -0.3**
comp=Z,304nm,1.4s
KURK LR LR
comp=Z,24µm,20.0s
KURK Kurchatov 66.83 333 P **P** **20 53 05.5 -0.3**
SNR=60
KURK Kurchatov 66.83 333*d*P **P** **20 53 05.3 -0.5**
KURK pmax pmax
comp=Z,320nm,1.7s
KURK MLR MLR
comp=Z,21µm,18.0s
MOS Moscow 67.06 360 *e*P **P** **20 53 03.5 -3.7**
MOS *e* 20 55 37.2
MOS *i*S **S** **21 01 56.9 -2.6**
MOS *e* 21 03 01.6
MOS *e*SS **SS** **21 06 24.2 +7.0**
MOS *i*SSS SSS 21 09 14.7
MOS pmax pmax
comp=Z,397nm,1.7s
MOS pmax pmax
comp=N,165nm,1.6s
MOS pmax pmax
comp=Z,2µm,3.1s
MOS pmax pmax
comp=N,2µm,3.9s
MOS smax smax
comp=E,6µm,6.6s
MOS smax smax
comp=E,2µm,4.2s
MOS MLR MLR
comp=N,7µm,18.0s
MOS MLR MLR
comp=Z,7µm,18.0s
MOS MLR MLR
comp=E,4µm,20.0s
CCA1 Carnmenellis 67.09 28⇓*e*P **P** **20 53 06.8 -0.7**
CCA1 IAmb IAmb 20 53 08.9
comp=Z,266nm,1.4s
CCA1 IAMs_20 IAMs_20 21 23 10.8
comp=Z,23µm,15.4s
MPR Mayaguez 67.17 92 PFAKE 20 53 20.0 +12
MPR LR LR
comp=Z,12µm,19.0s
JOW Kunigami 67.19 284 *e*P **P** **20 53 09.6 +1.2**
comp=Z,357nm,1.2s
EMPR Esperanza - Ma 67.28 91 PFAKE 20 53 20.0 +11
EMPR LR LR
comp=Z,6µm,19.0s
CRPR Cabo Rojo, PR 67.35 92 *e*P **P** **20 53 10.9 +1.3**
comp=Z,108nm,0.9s
CRPR LR LR
comp=Z,23µm,20.0s
KLNR Kaliningrad 67.35 11*d*P **P** **20 53 08.0 -1.1**
KLNR pmax pmax
comp=Z,897nm,1.8s
SSE Sheshan 67.36 292 P **P** **20 53 08.1 -1.4**
SSE S **S** **21 02 03.2 -0.7**
SSE pmax pmax
comp=Z,63nm,1.1s
SSE pmax pmax
comp=Z,940nm,10.0s
SSE LR LR
comp=Z,4µm,14.6s
SSE LR LR
comp=Z,7µm,15.7s
NACGM Naroch 67.58 6 *e*P **P** **20 53 09.0 -1.5**
NACGM *e*P **P** **20 53 09.0 -1.5**
NACGM *e*PP PP 20 55 22.0 -17
NACGM *e*S **S** **21 02 06.0 +0.2**
NACGM *e*PS **PnS** **21 02 32.0 +3.4**
NACGM *e*ScS **SKiKP** **21 03 03.0 -3.7**
NACGM *e*SS **SS** **21 06 18.0 -7.3**
NACGM *e*SSS SSS 21 09 28.0
NACGM *e*LQ LQ 21 13 06.0
NACGM *e*LR LR 21 18 46.0
NACGM LRM MLR 21 25 00.0
comp=Z,27nm,18.0s
OBIP Obispado Ponce 67.59 92 *e*P **P** **20 53 11.9 +0.8**
comp=Z,124nm,1.0s
OBIP LR LR
comp=Z,12µm,18.0s
OBN Obninsk 67.68 0 *e*P **P** **20 53 10.5 -0.7**
comp=Z,203nm,0.9s
OBN LR LR
comp=Z,8µm,19.0s
OBN Obninsk 67.68 0*d*P **P** **20 53 10.4 -0.7**
OBN *i* 20 53 18.6
OBN *e* 20 55 38.5
OBN *i*S **S** **21 02 07.9 +0.9**
OBN *e*SS **SS** **21 06 27.7 +0.9**

OBN pmax pmax
comp=Z,451nm,1.7s
OBN MLR MLR
comp=Z,8µm,16.0s
NJ2 Nanjing 67.74 295 *e*P **P** **20 53 12.5 +0.7**
NJ2 S **S** **21 02 11.6 +3.2**
NJ2 sS **sS** **21 02 23.9 +5.4**
NJ2 pmax pmax
comp=Z,120nm,1.2s
NJ2 pmax pmax
comp=Z,2µm,4.4s
NJ2 LR LR
comp=Z,15µm,15.7s
NJ2 LR LR
comp=Z,10µm,18.4s
NJ2 LR LR
comp=Z,17µm,19.5s
ICMP Isla Caja de M 67.77 92 *e*P **P** **20 53 13.2 +1.1**
comp=Z,178nm,1.0s
ICMP LR LR
comp=Z,22µm,19.0s
SJG San Juan 67.78 91 PFAKE 20 53 20.0 +7.7
SJG LR LR
comp=Z,10µm,18.0s
H07S1 FLORES T-PHASE 67.78 51 *e*P **P** **20 53 11.8 -0.3**
CBYP Canovanas 67.81 91 *e*P **P** **20 53 13.2 +0.7**
comp=Z,84nm,1.2s
CBYP LR LR
comp=Z,20µm,21.0s
PATS Pohnpei 67.87 247 *e*P **P** **20 53 15.0 +2.1**
comp=Z,327nm,1.5s
HUMP Col San Antoni 67.92 91 *e*P **P** **20 53 13.7 +0.5**
comp=Z,116nm,1.0s
HUMP LR LR
comp=Z,12µm,20.0s
BCIP Isla Barro Col 67.99 108 *e*P **P** **20 53 14.3 +0.7**
comp=Z,169nm,1.4s
BCIP LR LR
comp=Z,16µm,21.0s
WTSB Winterswijk 68.04 20 *i*P **P** **20 53 13.3 -0.2**
comp=Z,2µm,2.3s
MICGM Minsk 68.05 6⇓*e*P **P** **20 53 12.0 -1.4**
MICGM *e*P **P** **20 53 12.0 -1.4**
MICGM PM 20 53 13.0
comp=Z,1.1nm,1.8s
MICGM PM 20 53 14.0
comp=N,0.9nm,1.5s
MICGM *e*PcP **sP** **20 53 21.0 -0.9**
MICGM *e*PP PP 20 55 54.0 +11
MICGM *e*S **S** **21 02 08.0 -3.4**
MICGM *e*SS **SS** **21 06 26.0 -6.5**
MICGM *e*SSS SSS 21 09 36.0
MICGM *e*LQ LQ 21 16 04.0
MICGM *e*LR LR 21 20 24.0
MICGM LRM MLR 21 24 40.0
comp=N,9.5nm,20.0s
MICGM LRM MLR 21 24 44.0
comp=Z,22nm,20.0s
MICGM LRM MLR 21 24 46.0
comp=Z,20nm,20.0s
MTP Monte Pirata 68.12 91 *e*P **P** **20 53 14.8 +0.4**
comp=Z,388nm,1.6s
MTP LR LR
comp=Z,23µm,18.0s
ZSN Zaisan 68.13 327⇓*i*P **P** **20 53 14.4 +0.2**
comp=Z,152nm,3.5s
ZSN *i*S **S** **21 02 14.4 +1.6**
ZSN LR LR 21 25 54.3
comp=Z,3µm,15.7s
SUW Suwalki 68.21 9 *e*P **P** **20 53 13.4 -1.1**
SUW *e*PP **PP** **20 55 45.4 +1.1**
SUW *e*S **S** **21 02 15.4 +2.0**
SUW *e*SS **SS** **21 06 39.9 +4.8**
SUW LMZ LR 21 18 11.0
comp=Z,9µm,29.3s
SUW Suwalki 68.21 9 *e*P **P** **20 53 13.1 -1.4**
comp=Z,336nm,1.1s
SUW LR LR
comp=Z,10µm,20.0s
SUW Suwalki 68.21 9⇓*e*P **P** **20 53 13.4 -1.1**
SUW *e* 20 55 45.4
SUW *e*S **S** **21 02 15.4 +2.0**
SUW *e*SS **SS** **21 06 39.8 +4.8**
SUW MLR MLR
comp=Z,9µm,29.3s
STVI Saint Thomas 68.23 90 PFAKE 20 53 30.0 +15
STVI LR LR
comp=Z,20µm,20.0s
ABVI Anegada Island 68.26 89 PFAKE 20 53 30.0 +15
ABVI LR LR
comp=Z,25µm,20.0s
GKP Gorka Klasztor 68.34 13 *e*P **P** **20 53 15.2 -0.1**
GKP *e*PP **PP** **20 55 46.1 +0.6**
GKP *i*S **S** **21 02 17.8 +2.8**
GKP *e*SKSac **SKiKP** **21 03 09.7 +1.8**
GKP LMZ LR 21 23 50.2
comp=Z,15µm,22.1s
GKP Gorka Klasztor 68.34 13⇓*e*P **P** **20 53 15.2 -0.1**
GKP *e* 20 55 46.1
GKP *i*S **S** **21 02 17.8 +2.8**
GKP *e* 21 03 09.6
GKP MLR MLR
comp=Z,15µm,22.1s
UCC Uccle 68.69 22 *e*P **P** **20 53 17.7 +0.2**
comp=Z,435nm,1.8s
UCC LR LR
comp=Z,12µm,18.0s
UCC Uccle 68.69 22 *e*P **P** **20 53 17.7 +0.2**
UCC pmax pmax
comp=Z,435nm,1.8s
UCC MLR MLR
comp=Z,12µm,18.0s
UCC Uccle 68.69 22 ⇓P **P** **20 53 17.0 -0.5**
comp=Z,94nm,2.5s
JSA Saint Aubin 68.78 26⇓*e*P **P** **20 53 17.5 -0.6**
JSA IAmb IAmb 20 53 18.2
comp=Z,470nm,2.0s
JSA IAMs_20 IAMs_20 21 21 59.3
comp=Z,20µm,20.9s
CDVI St. Croix 68.82 90 *e*P **P** **20 53 19.4 +0.6**
comp=Z,111nm,0.9s
BRZS Berezniki 68.89 336⇓*i*P **P** **20 53 18.2 -0.7**
comp=Z,245nm,1.7s
AZU Azuero 68.94 110 *e*P **P** **20 53 19.4 -0.1**
BEBN Eben Emael 68.95 21⇑P **P** **20 53 18.6 -0.6**
HGN Heimansgroeve 69.03 21 *i*P **P** **20 53 19.5 -0.2**
comp=Z,1µm,2.2s
HGN *e*S **S** **21 02 29.2 +6.0**
HGN *e*SS **SS** **21 06 48.0 +0.1**
HGN *e*SSS SSS 21 10 08.7
MEM Membach 69.19 21 ⇓P **P** **20 53 20.3 -0.4**
BCLA Clavier 69.24 21 ⇓P **P** **20 53 20.5 -0.5**
DOU Dourbes 69.41 22 ⇓P **P** **20 53 21.7 -0.3**
comp=Z,95nm,2.5s
PGRA Graciosa 69.41 49 *e*P **P** **20 53 22.1 -0.1**
comp=Z,603nm,1.2s
MK31 Makanchi Array 69.46 329 *e*P **P** **20 53 21.5 -1.0**
MK31 Makanchi Array 69.46 329 *i*P **P** **20 53 21.7 -0.8**
MK31 pmax pmax
comp=Z,142nm,1.2s
MK32 Makanchi Array 69.46 329 *e*P **P** **20 53 21.4 -1.1**
MK32 *e*S **S** **21 02 27.7 -0.9**
MKAR Makanchi Array 69.46 329 P **P** **20 53 21.4 -1.1**
comp=Z,71nm,1.0s,baz=42,slow=6.0,SNR=98
MKAR S **S** **21 02 27.7 -0.9**
comp=Z,1.5nm,1.1s,baz=19,slow=9.2,SNR=3.3
MKAR PKP2bc 21 21 26.7
comp=Z,3.8nm,1.1s,baz=204,slow=2.7,SNR=9.3
MKAR LR LR 21 26 17.3
comp=Z,23µm,21.4s,baz=18,slow=38
MKAR Makanchi Array 69.46 329 *e*P **P** **20 53 21.5 -1.0**
comp=Z,430nm,1.0s
MKAR S **S** **21 02 27.7 -0.9**
MKAR ⇑*e* 21 21 26.7
MKAR Makanchi Array 69.46 329 *e*P **P** **20 53 21.5 -1.0**
MKAR S **S** **21 02 27.7 -0.9**
MKAR pmax pmax
comp=Z,430nm,1.0s
MK01 Makanchi Array 69.48 329 *e*P **P** **20 53 20.9 -1.7**
SMRT St. Maarten 69.49 89 PFAKE 20 53 40.0 +17
SMRT LR LR
comp=Z,15µm,21.0s
ROSA Rosais 69.57 49 PFAKE 20 53 30.0 +6.8
ROSA LR LR
comp=Z,8µm,18.0s

PICO Pico 69.68 50 *e*P **P 20 53 23.5 -0.5**
comp=Z,327nm,1.3s
PCAN Candelaria 69.69 50 *e*P **P 20 53 23.5 -0.5**
comp=Z,382nm,1.6s
CLL Collm 69.70 16 *e*P **P 20 53 23.1 -0.7**
comp=Z,268nm,1.5s
CLL LR LR
comp=Z,12µm,18.0s
CLL Collm 69.70 16⇓*i*P **P 20 53 23.1 -0.7**
comp=Z,454nm,1.9s
CLL *e*Pmax 20 53 26.0
CLL *i* 20 53 31.8
CLL *e*PP **PP 20 55 56.0 -1.2**
CLL *e*S **S 21 02 35.0 +3.9**
CLL *e*SKSac **SKSac 21 03 18.0 -5.0**
CLL *e*SS **SS 21 07 00.0 +1.9**
CLL *e* 21 08 06.0
CLL *e*SSS SSS 21 10 24.0
CLL *e*PKPPKPbc P'P'bc 21 21 27.0 -9.0
CLL *e*PKPPKPdf **P'P'df 21 21 30.0 -6.9**
comp=Z,50nm,1.4s
CLL LmV 21 23 00.0
comp=Z,9µm,20.7s
CLL Lm MLR 21 26 00.0
comp=N,11µm,18.3s
CLL Lm MLR 21 26 00.0
comp=E,8µm,19.2s
CLL Lmax 21 26 00.0
CLL Lm(360 23 18 00.0
comp=N,600nm,21.7s
CLL Lm(360 23 18 00.0
comp=E,200nm,19.0s
CLL Lm(360 23 18 00.0
comp=Z,700nm,22.0s
CLL Collm 69.70 16 *e*P pmax pmax **P 20 53 23.1 -0.7**
CLL
comp=Z,268nm,1.5s
CLL MLR MLR
comp=Z,12µm,18.0s
PMAN Manadas 69.71 49 *e*P **P 20 53 23.3 -0.8**
comp=Z,304nm,2.6s
SABA Saba 69.75 89 PFAKE 20 53 40.0 +15
SABA LR LR
comp=Z,13µm,21.0s
URIC Uribia, Colomb 69.95 100 *e*P **P 20 53 26.2 +0.4**
SEUS St. Eustatius 70.00 89 PFAKE 20 53 40.0 +14
SEUS LR LR
comp=Z,16µm,22.0s
ADH Angra Heroismo 70.03 49 *e*P **P 20 53 26.1 0.0**
comp=Z,283nm,1.8s
GTA Gaotai 70.07 313⇓P **P 20 53 26.6 +0.2**
GTA pP sP 20 53 40.8 +5.9
GTA S **S 21 02 34.7 -1.4**
GTA SKS **SKiKP 21 03 18.7 +7.7**
GTA SS **SS 21 07 04.1 -0.6**
GTA pmax pmax
comp=Z,100nm,1.6s
GTA pmax pmax
comp=Z,2µm,8.1s
GTA LR LR
comp=Z,30µm,19.2s
GTA LR LR
comp=Z,26µm,19.2s
GTA LR LR
comp=Z,45µm,18.2s
WLF Walferdange 70.12 21 *e*P **P 20 53 26.7 +0.3**
comp=Z,717nm,2.0s
WLF LR LR
comp=Z,21µm,18.0s
WLF Walferdange 70.12 21 *e*P **P 20 53 26.7 +0.3**
WLF pmax pmax
comp=Z,717nm,2.0s
WLF MLR MLR
comp=Z,21µm,18.0s
WLF Walferdange 70.12 21⇑P **P 20 53 26.5 +0.1**
comp=Z,168nm,2.2s
BEL Belsk 70.15 11 *e*P **P 20 53 26.2 -0.3**
BEL *e*PP **PP 20 56 00.4 -0.6**
BEL *e*PPP PPP 20 57 47.0
BEL *e*S **S 21 02 39.1 +2.9**
BEL *e*SS **SS 21 07 12.7 +7.8**
BEL LMZ LR 21 20 27.5
comp=Z,13µm,25.1s
BEL Belsk 70.15 11⇓*e*P **P 20 53 26.2 -0.3**
BEL *e* 20 56 00.4
BEL *e*PPP PPP 20 57 47.0
BEL *e*S **S 21 02 39.2 +2.9**
BEL *e*SS **SS 21 07 12.7 +7.8**
BEL MLR MLR
comp=Z,13µm,25.1s
LPSR Galich'ya Gora 70.19 359 *e*P **P 20 53 26.2 -0.6**
LPSR *e*S **S 21 02 34.4 -2.4**
LPSR pmax pmax
comp=Z,140nm,0.9s
LPSR smax smax
comp=E,270nm,4.1s
BRG Berggiesshubel 70.26 15 *i*P **P 20 53 27.1 -0.2**
comp=E,629nm,1.7s
BRG *i* 20 53 36.2
comp=E,278nm,1.4s
BRG PP **PP 20 55 59.0 -3.1**
BRG S **S 21 02 41.0 +3.3**
BRG SS **SS 21 07 09.0 +2.2**
BRG *e*PKPPKP P'P'df 21 21 24.9 -11
comp=E,36nm,1.4s
comp=N,9µm,20.2s
comp=E,5µm,17.3s
comp=Z,11µm,15.5s
BRG Berggiesshubel 70.26 15 *i*P **P 20 53 27.1 -0.2**
BRG *i* 20 53 36.2
BRG 20 55 59.0
BRG S **S 21 02 41.0 +3.3**
BRG SS **SS 21 07 09.0 +2.2**
BRG pmax pmax
comp=Z,629nm,1.7s
BRG pmax pmax
comp=Z,278nm,1.4s
BRG pmax pmax
comp=Z,36nm,1.4s
BRG MLR MLR
comp=N,9µm,20.2s
BRG MLR MLR
comp=E,5µm,17.3s
BRG MLR MLR
comp=Z,11µm,15.5s
MOTC Monteria, Cord 70.47 105 *e*P **P 20 53 28.7 -0.3**
ANWB Willy Bob 70.50 88 PFAKE 20 53 40.0 +11
ANWB LR LR
comp=Z,11µm,20.0s
WMQ Urumqi 70.53 324 P **P 20 53 28.5 -0.6**
WMQ pP sP 20 53 37.8 +0.2
WMQ sP PcP 20 53 46.6 -3.7
WMQ PP **PP 20 56 03.8 -0.9**
WMQ S S 21 02 30.8 -10
WMQ pmax pmax
comp=Z,380nm,1.9s
WMQ pmax pmax
comp=Z,510nm,3.6s
WMQ LR LR
comp=Z,26µm,23.3s
WMQ LR LR
comp=Z,40µm,20.7s
OTUK Ortayu 70.61 336 P **P 20 53 28.2 -1.3**
OTUK pmax pmax
comp=Z,147nm,1.1s
KSP Ksiaz 70.61 14 *e*P **P 20 53 29.4 0.0**
KSP *e*PP **PP 20 56 05.2 +0.1**
KSP *i* S **S 21 02 44.7 +2.9**
KSP *e*SS **SS 21 07 14.8 +2.6**
KSP LMZ LR 21 19 57.5
comp=Z,7µm,28.6s
KSP Ksiaz 70.61 14⇓*e*P **P 20 53 29.4 0.0**
KSP *e* 20 56 05.2
KSP *i* S **S 21 02 44.7 +2.9**
KSP *e*SS **SS 21 07 14.8 +2.6**
KSP MLR MLR
comp=Z,7µm,28.6s
NKC Novy Kostel 70.66 17 *e*P **P 20 53 30.0 +0.2**
NKC *ex* x 20 53 39.0
NKC *e*S **S 21 02 45.8 +3.3**
NKC *e*SS **SS 21 07 13.1 +0.1**
NKC AMS AMS 21 27 20.0
comp=Z,12µm,17.3s
NKC Novy Kostel 70.66 17 *e*P **P 20 53 30.0 +0.2**
NKC *e* 20 53 39.0
NKC *e*S **S 21 02 45.8 +3.3**
NKC *e*SS **SS 21 07 13.1 +0.1**
NKC MLR MLR
comp=Z,12µm,17.3s
CODC Agust`›n Codaz 70.67 102 *e*P **P 20 53 29.6 -0.6**
PVCC Panska Ves 70.69 15 *e*P **P 20 53 30.3 +0.4**
PVCC *e*PP **PP 20 56 04.6 -1.1**
PVCC *e*S **S 21 02 46.2 +3.5**
PVCC *e*SS **SS 21 07 16.2 +2.9**
PVCC AMS AMS 21 27 00.0
comp=Z,9µm,16.6s
PVCC Panska Ves 70.69 15 *e*P **P 20 53 30.3 +0.4**
PVCC *e* 20 56 04.6
PVCC *e*S **S 21 02 46.2 +3.5**
PVCC *e*SS **SS 21 07 16.2 +2.9**
PVCC MLR MLR
comp=Z,9µm,16.6s
XAN Xi'an 70.77 303 P **P 20 53 30.5 -0.2**
XAN PcP **PcP 20 53 50.1 -1.3**
XAN PP **PP 20 56 11.0 +4.0**
XAN S **S 21 02 43.0 -1.3**
XAN SKS **SKSac 21 03 22.7 -9.1**
XAN SS **SS 21 07 17.4 +1.8**
XAN pmax pmax
comp=Z,120nm,1.5s
XAN pmax pmax
comp=Z,1µm,3.6s
XAN LR LR
comp=Z,29µm,14.7s
XAN LR LR
comp=Z,39µm,15.2s
XAN LR LR
comp=Z,18µm,20.1s
GRFO Grafenberg 71.00 17 *e*P **P 20 53 31.6 -0.1**
comp=Z,504nm,1.8s
GRFO LR LR
comp=Z,10µm,19.0s
GRFO Grafenberg 71.00 17 *e*P **P 20 53 31.7 -0.1**
GRFO pmax pmax
comp=Z,504nm,1.8s
GRFO MLR MLR
comp=Z,10µm,19.0s
AKTO Aktyubinsk 71.01 346 P **P 20 53 31.2 -0.6**
AKTO pmax pmax
comp=Z,163nm,1.2s
DPC Dobruska-Polom 71.10 14 *e*P **P 20 53 32.7 +0.3**
DPC *ex* x 20 53 41.6
DPC *e*PP **PP 20 56 07.1 -2.2**
DPC *e*S **S 21 02 51.0 +3.4**
DPC *e*SS **SS 21 07 22.4 +2.7**
DPC AMS AMS 21 31 40.0
comp=Z,9µm,14.5s
DPC Dobruska-Polom 71.10 14 *e*P **P 20 53 32.7 +0.3**
DPC *e* 20 53 41.6
DPC *e* 20 56 07.1
DPC *e*S **S 21 02 51.0 +3.4**
DPC *e*SS **SS 21 07 22.4 +2.7**
DPC MLR MLR
comp=Z,9µm,14.5s
PRA Prague 71.11 15 *e*P **P 20 53 32.8 +0.3**
PRA *e*PP **PP 20 56 09.8 +0.4**
PRA *e*S **S 21 02 50.4 +2.7**
PRA AMS AMS 21 29 30.0
comp=Z,11µm,14.9s
PRA Prague 71.11 15 *e*P **P 20 53 32.8 +0.3**
PRA *e* 20 56 09.8
PRA *e*S **S 21 02 50.4 +2.7**
PRA MLR MLR
comp=Z,11µm,14.9s
VORR Voronezh 71.12 359 *e*P **P 20 53 30.0 -2.4**
VORR pmax pmax
comp=Z,450nm,1.8s
WHN Wuhan 71.16 297⇓*i*P **P 20 53 33.2 +0.2**
WHN PP **PP 20 56 13.3 +2.9**
WHN S **S 21 02 50.2 +1.5**
WHN pmax pmax
comp=Z,330nm,1.3s
WHN pmax pmax
comp=Z,3µm,5.8s
WHN LR LR
comp=Z,18µm,13.5s
WHN LR LR
comp=Z,26µm,15.3s
WHN LR LR
comp=Z,39µm,17.9s
LZH Lanzhou 71.26 308⇓P **P 20 53 34.0 +0.2**
LZH PP **PP 20 56 13.7 +2.4**
LZH S **S 21 02 45.3 -4.9**
LZH SS **SS 21 07 20.6 -2.7**
LZH pmax pmax
comp=Z,350nm,1.3s
LZH pmax pmax
comp=Z,4µm,7.2s
LZH LR LR
comp=Z,63µm,17.9s
PSET Sete Cidades 71.36 48 *e*P **P 20 53 33.7 -0.5**
comp=Z,572nm,1.8s
KRLC Kraliky 71.42 14 *e*P **P 20 53 34.7 +0.3**
KRLC *ex* x 20 53 43.3
KRLC *e*S **S 21 02 55.1 +3.7**
KRLC Kraliky 71.42 14 *e*P **P 20 53 34.7 +0.3**
KRLC *e* 20 53 43.3
KRLC *e*S **S 21 02 55.1 +3.7**
PAYG Puerto Ayora 71.47 123 *e*P **P 20 53 35.3 +0.3**
comp=Z,201nm,1.5s
PAYG LR LR
comp=Z,8µm,18.0s
PCALD Caldeiras da R 71.47 48 *e*P **P 20 53 34.8 -0.1**
comp=Z,310nm,1.9s
CMLA Cha da Macela 71.49 48 *e*P **P 20 53 34.5 -0.5**
comp=Z,506nm,1.8s
CMLA Cha da Macela 71.49 48 PFAKE 20 53 50.0 +15
CMLA LR LR
comp=Z,9µm,18.0s
CMLA Cha da Macela 71.49 48 *i*P **P 20 53 37.9 +2.9**
VRH Novokhopyorsk 71.54 357 *e*P **P 20 53 33.8 -1.2**
VRH *e*S **S 21 02 51.6 -0.9**
VRH pmax pmax
comp=Z,180nm,1.4s
VRH smax smax
comp=N,240nm,6.1s
VRH MLR MLR
comp=Z,15µm,19.0s
STU Stuttgart 71.54 19 *e*P **P 20 53 35.0 -0.1**
comp=Z,69nm,1.1s
STU LR LR
comp=Z,13µm,19.0s
STU Stuttgart 71.54 19 *e*P **P 20 53 35.0 -0.1**
STU pmax pmax
comp=Z,69nm,1.1s
STU MLR MLR
comp=Z,13µm,19.0s
VSR Storozhevoye 71.58 359*d i*P **P 20 53 33.2 -2.0**
VSR pmax pmax
comp=Z,101nm,1.0s
VSR MLR MLR
comp=Z,13µm,19.0s
RAC Raciborz 71.59 13 *e*P **P 20 53 34.3 -1.0**
RAC MLR MLR
comp=Z,11µm,18.8s
BART Pico Bartolome 71.62 48 *e*P **P 20 53 35.5 -0.3**
comp=Z,272nm,1.7s
OJC Ojcow 71.64 12 *e*P **P 20 53 35.3 -0.4**
OJC *e*PP **PP 20 56 13.5 -0.5**
OJC *e*S **S 21 02 54.3 +0.5**
OJC *e*SS **SS 21 07 32.9 +4.9**
OJC LMZ LR 21 21 07.2
comp=Z,12µm,25.7s
OJC Ojcow 71.64 12 *e*P **P 20 53 35.3 -0.4**
comp=Z,615nm,2.0s
OJC Ojcow 71.64 12⇓*e*P **P 20 53 35.3 -0.4**
OJC *e* 20 56 13.5
OJC *e*S **S 21 02 54.3 +0.5**
OJC *e*SS **SS 21 07 32.8 +4.9**
OJC MLR MLR
comp=Z,12µm,25.7s
DBBC Dabeiba 71.68 106 *e*P **P 20 53 36.1 -0.4**
ECH Echery 71.70 21 *e*P **P 20 53 35.8 -0.3**
comp=Z,253nm,1.6s
ECH LR LR
comp=Z,18µm,18.0s
BFO Black Forest 71.81 20 *e*P **P 20 53 36.1 -0.7**
comp=Z,224nm,1.6s
BFO LR LR
comp=Z,12µm,19.0s
BFO Black Forest 71.81 20 *i*P **P 20 53 36.9 +0.1**
MORC Moravsky Berou 71.81 13 *e*P **P 20 53 36.4 -0.3**
comp=Z,279nm,1.6s
MORC LR LR
comp=Z,7µm,19.0s
MORC Moravsky Berou 71.81 13⇑*i*P **P 20 53 36.1 -0.7**
MORC Moravsky Berou 71.81 13⇓*i*P **P 20 53 36.3 -0.5**
MORC *e*PP **PP 20 56 13.6 -1.9**
MORC *e*S **S 21 02 57.8 +1.9**
MORC *e*SS **SS 21 07 36.7 +6.0**
VORD Divnogorie 71.83 359 *e*P **P 20 53 35.5 -1.2**
VORD *e*S **S 21 02 52.5 -3.3**
VORD pmax pmax
comp=Z,90nm,1.0s
VORD smax smax
comp=E,240nm,4.6s
OKC Ostrava-Krasne 71.83 13 *e*P **P 20 53 36.9 +0.1**
OKC *ex* x 20 53 45.7
OKC *e*S **S 21 02 56.5 +0.6**
OKC *e*SS **SS 21 07 38.7 +7.9**
OKC AMS AMS 21 27 40.0
comp=E,8µm,18.9s
OKC Ostrava-Krasne 71.83 13 *e*P **P 20 53 36.9 +0.1**
OKC *e* 20 53 45.7
OKC *e*S **S 21 02 56.5 +0.6**
OKC *e*SS **SS 21 07 38.7 +7.9**
OKC MLR MLR
comp=Z,8µm,18.9s
YOJ Yonaguni jima 71.85 287 PFAKE 20 53 50.0 +13
YOJ LR LR
comp=Z,7µm,18.0s
AB31 Akbulak array 71.90 345 *i*P **P 20 53 37.0 -0.2**
AB31 pmax pmax
comp=Z,303nm,1.4s
ABKAR Akbulak array 71.90 345 *e*P **P 20 53 36.8 -0.4**
KHC Kasperske Hory 71.91 16 *e*P **P 20 53 37.3 0.0**
comp=Z,250nm,1.7s
KHC LR LR
comp=Z,3µm,20.0s
KHC Kasperske Hory 71.91 16 *e*P **P 20 53 37.6 +0.3**
KHC *ex* x 20 53 49.9
KHC *e*PP **PP 20 56 16.0 -0.3**
KHC *e*S **S 21 02 59.2 +2.2**
KHC *e*SS **SS 21 07 32.9 +0.7**
KHC AMS AMS 21 28 20.0
comp=Z,8µm,19.7s
KHC Kasperske Hory 71.91 16 *e*P **P 20 53 37.6 +0.3**
KHC *e* 20 53 49.9
KHC *e* 20 56 16.0
KHC *e*S **S 21 02 59.2 +2.2**
KHC *e*SS **SS 21 07 32.9 +0.7**
KHC MLR MLR
comp=Z,8µm,19.7s
AKASG Malin Array Be 71.91 5 P **P 20 53 36.0 -1.2**
comp=Z,23nm,0.5s,baz=359,slow=6.0,SNR=103
AKASG S **S 21 02 54.2 -2.6**
comp=Z,0.3nm,0.4s,baz=325,slow=29,SNR=2.2
AKASG PKP2bc 21 21 20.4
comp=Z,0.2nm,0.3s,baz=270,slow=0.9,SNR=3.6
AKASG LR LR 21 27 37.3
comp=Z,10µm,18.3s,baz=350,slow=38
AKBB Malin Array Si 71.91 5 *e*P **P 20 53 36.0 -1.2**
KIEV Kiev 71.91 5 *e*P **P 20 53 35.2 -2.1**
comp=Z,281nm,1.4s
KIEV LR LR
comp=Z,12µm,18.0s
KIEV Kiev 71.91 5 *i*P **P 20 53 36.0 -1.2**
SNR=54
KIEV Kiev 71.91 5*d i*P **P 20 53 35.9 -1.3**
KIEV pmax pmax
comp=Z,85nm,1.1s
KIEV MLR MLR
comp=Z,12µm,17.0s
ZARC Zaragoza, Cauc 71.98 105 *e*P **P 20 53 36.9 -1.2**
TREC Trest 72.02 15 *e*P **P 20 53 38.1 +0.1**
TREC *e*PP **PP 20 56 14.1 -3.1**
TREC *e*S **S 21 03 01.1 +2.9**
TREC *e*SS **SS 21 07 37.2 +3.4**
TREC AMS AMS 21 30 00.0
comp=Z,10µm,15.0s
TREC Trest 72.02 15 *e*P **P 20 53 38.1 +0.1**
TREC *e* 20 56 14.1
TREC *e*S **S 21 03 01.1 +2.9**
TREC *e*SS **SS 21 07 37.2 +3.4**
TREC MLR MLR
comp=Z,10µm,15.0s
VRAC Vranov 72.15 14⇓*i*P **P 20 53 38.0 -0.8**
VRAC Vranov 72.15 14⇓*i*P **P 20 53 38.6 -0.2**
VRAC *e*PP **PP 20 56 17.0 -1.4**
VRAC *e*S **S 21 03 02.0 +2.3**
VRAC *e*SS **SS 21 07 39.3 +3.4**
OCAC Ocana 72.16 103 *e*P **P 20 53 38.9 -0.5**
TDK Taldygorghan 72.17 331 *i*P **P 20 53 38.9 -0.1**
comp=Z,319nm,1.7s
TDK *i*S **S 21 03 01.2 +1.1**
TDK LR LR 21 28 09.8
comp=Z,24µm,16.6s
GEC2 GERESS Array S 72.20 16 *e*P **P 20 53 38.9 -0.3**
comp=Z,477nm,1.8s
GEC2 LR LR
comp=Z,8µm,22.0s
GEC2 GERESS Array S 72.20 16 *e*P **P 20 53 38.9 -0.3**
GEC2 pmax pmax
comp=Z,477nm,1.8s
GEC2 MLR MLR
comp=Z,8µm,22.0s
GERES GERESS Array B 72.20 16 P **P 20 53 38.7 -0.5**
comp=Z,9.3nm,0.5s,baz=354,slow=4.6,SNR=81
GERES S **S 21 03 01.1 +0.6**
comp=Z,0.4nm,0.9s,baz=343,slow=9.2,SNR=2.3
GERES PKPPKP **P'P'df 21 21 25.1 -7.5**
comp=Z,1.5nm,1.0s,baz=129,slow=1.9,SNR=5.6
GERES LR LR 21 25 47.5
comp=Z,6µm,21.9s,baz=347,slow=36
GEA0 GERESS Array S 72.21 16 *e*P **P 20 53 38.2 -1.0**
TATO Taipei 72.21 288 PFAKE 20 53 50.0 +11
TATO LR LR
comp=Z,8µm,18.0s
PSMA Santa Maria 72.31 48 *e*P **P 20 53 39.4 -0.5**
comp=Z,303nm,1.4s
PSMN Pico do Norte, 72.33 48 *e*P **P 20 53 39.5 -0.5**
comp=Z,274nm,1.3s
KRUC Moravsky 72.37 14⇓*i*P **P 20 53 39.7 -0.3**
KRUC *e*PP **PP 20 56 18.9 -1.3**
KRUC *e*S **S 21 03 03.9 +1.7**
KRUC *e*SS **SS 21 07 41.9 +2.8**
PMOR Pomariorio Ree 72.41 185 *e*P **P 20 53 40.3 -0.2**
comp=Z,159nm,1.2s
PMOR Pomariorio Ree 72.41 185 *e*T T 22 11 46.0
comp=Z,122nm,0.3s
LVV L'vov 72.44 9⇓*i*P **P 20 53 39.4 -1.1**
LVV *e*PS **S 21 03 03.3 +0.3**
LVV MLR MLR
comp=N,7µm,16.0s
LVV MLR MLR
comp=E,4µm,16.0s
LVV MLR MLR
comp=Z,8µm,16.0s
NIE Niedzica 72.48 11 *e*P **P 20 53 40.8 0.0**
NIE *e*PP **PP 20 56 21.1 -0.1**
NIE *e*S **S 21 03 06.3 +2.8**
NIE *e*SS **SS 21 07 45.5 +4.6**
NIE LMZ LR 21 21 34.9
comp=Z,6µm,26.4s
NIE Niedzica 72.48 11⇓*e*P **P 20 53 40.8 0.0**
NIE *e* 20 56 21.1
NIE *e*S **S 21 03 06.3 +2.8**
NIE *e*SS **SS 21 07 45.5 +4.6**
NIE MLR MLR
comp=Z,6µm,26.4s
KWP Kalwaria Pacla 72.51 10 *e*P **P 20 53 40.7 -0.2**
KWP *e*PP **PP 20 56 22.5 +1.1**
KWP *e*S **S 21 03 02.6 -1.2**
KWP *e*SS **SS 21 07 46.7 +5.4**
KWP LMZ LR 21 25 29.1
comp=Z,12µm,21.9s
KWP Kalwaria Pacla 72.51 10 PFAKE 20 53 50.0 +9.1
KWP LR LR
comp=Z,100µm,20.0s
KWP Kalwaria Pacla 72.51 10⇓*e*P **P 20 53 40.7 -0.2**
KWP *e* 20 56 22.5
KWP *e*S **S 21 03 02.6 -1.2**
KWP *e*SS **SS 21 07 46.7 +5.4**
KWP MLR MLR

YHNB Yeheng 72.52 288 *e*P P 20 53 40.5 -0.9
comp=Z,49nm,1.1s
YHNB LR LR
comp=Z,8µm,19.0s
VAH Vaihoa 72.63 185 *e*P P 20 53 41.5 -0.3
comp=Z,248nm,1.1s
VAH Vaihoa 72.63 185 *e*T T 22 12 09.0
comp=Z,17nm,0.4s
LANS Liptovska Anna 72.66 12 *e*P P 20 53 42.4 +0.6
LANS *e* 20 56 22.8
LANS Liptovska Anna 72.66 12 *e*P P 20 53 42.4 +0.6
LANS *e*PP PP 20 56 22.8 +0.1
JAVC Velka Javorina 72.73 13⇓*i*P P 20 53 43.0 +0.7
JAVC *e*PP PP 20 56 23.1 -0.3
JAVC *e*S S 21 03 07.5 +1.1
JAVC *e*SS SS 21 07 46.4 +1.6
HELC Santa Helena 72.73 106 *e*P P 20 53 42.3 -0.8
FUNA Funafuti 72.76 220 *e*P P 20 53 42.7 0.0
comp=Z,414nm,1.5s
NACB Ninganchiao 72.82 288 *e*P P 20 53 43.2 +0.1
comp=Z,93nm,0.9s
NACB LR LR
comp=Z,5µm,19.0s
BRRC Barranca, Sant 72.91 104 *e*P P 20 53 42.9 -0.8
PTBC PUERTO BERRIO, 73.00 105 *e*P P 20 53 43.0 -1.3
SDV Santo Domingo 73.03 100 LR LR 21 27 40.7
comp=Z,14µm,20.2s,baz=344,slow=37
SDV Santo Domingo 73.03 100 *e*P P 20 53 45.5 +0.8
comp=Z,54nm,0.9s
SDV LR LR
comp=Z,17µm,19.0s
RETA Reutte 73.06 18 *i*pP P 20 53 44.2 -0.1
comp=Z,128nm,1.8s,SNR=32
DAVA Damuels 73.10 19 *i*pP P 20 53 44.7 +0.1
comp=Z,160nm,1.5s,SNR=36
KOLL Kolacno 73.10 13 *e*P P 20 53 43.9 -0.5
KOLL Kolacno 73.10 13 *e*P P 20 53 43.9 -0.5
MODS Modra-Piesok 73.16 14 *e*P P 20 53 44.1 -0.7
MODS pmax pmax
comp=Z,402nm,1.5s
MODS Modra-Piesok 73.16 14 *e*P P 20 53 44.1 -0.7
MODS *e*PP PP 20 56 25.0 -2.0
MODS *e*S S 21 03 11.3 +0.1
MODS *e*L L 21 25 19.8
GIRC Giron, Santand 73.20 104 *e*P P 20 53 44.6 -1.0
VYHS Vyhne 73.23 13 *e*P P 20 53 44.9 -0.3
VYHS pmax pmax
comp=Z,137nm,1.6s
VYHS Vyhne 73.23 13 *e*P P 20 53 44.9 -0.3
VYHS *e*PP PP 20 56 25.9 -1.7
VYHS *e*S S 21 03 11.6 -0.5
VYHS *e*L L 21 28 49.7
BTLS Baital 73.24 334⇓*i*P P 20 53 45.1 -0.2
comp=Z,118nm,1.8s
BTLS *e*S S 21 03 13.4 +1.2
PAMC Pamplona, Colo 73.24 103 *e*P P 20 53 45.5 -0.7
MOTA Moosalm 73.25 18 *i*pP P 20 53 45.3 -0.2
comp=Z,146nm,1.4s,SNR=29
FDF Fort de France 73.26 89 PFAKE 20 54 00.0 +14
FDF LR LR
comp=Z,14µm,19.0s
MOA Molln 73.26 16 *i*pP P 20 53 45.1 -0.3
comp=Z,158nm,1.8s,SNR=37
ZST Bratislava 73.31 14 *e*S SKiKP 21 03 17.7 +2.4
WATA Walderalm 73.34 18 *i*pP P 20 53 46.1 +0.1
comp=Z,706nm,1.7s,SNR=42
SQTA Sankt Quirin 73.39 18 *i*pP P 20 53 46.5 +0.2
comp=Z,309nm,1.5s,SNR=94
CONA Conrad Observa 73.41 15 *i*pP P 20 53 46.5 +0.1
comp=Z,297nm,1.6s,SNR=106
WTTA Wattenberg 73.42 18 *i*pP P 20 53 46.8 +0.3
comp=Z,543nm,1.7s,SNR=82
KECS Kecovo 73.43 11 *e*P P 20 53 45.2 -1.1
KECS pmax pmax
comp=Z,573nm,2.0s
KECS Kecovo 73.43 11 *e*P P 20 53 45.2 -1.1
KECS *e*S S 21 03 14.3 +0.1
PDGK Podgornoye 73.43 329 P P 20 53 45.8 -0.8
PDGK pmax pmax
comp=Z,204nm,1.3s
PLMC San Jos¯ del 73.44 107 *e*P P 20 53 45.4 -1.5
SSLB Suanglung 73.46 288 *e*P P 20 53 47.1 +0.2
comp=Z,98nm,1.0s
SSLB LR LR
comp=Z,5µm,20.0s
UZH Uzhgorod 73.47 10⇑*i*P P 20 53 46.0 -0.5
UZH *i* 20 54 00.7
UZH *e* 20 56 26.3
UZH *e*S S 21 03 12.3 -2.3
UZH MLR MLR
comp=Z,2µm,20.0s
FETA Feichten 73.50 19 *i*pP P 20 53 47.3 +0.3
comp=Z,149nm,1.4s,SNR=67
SENIN Lac Senin/Sane 73.51 21 *e*P P 20 53 47.3 +0.2
comp=Z,395nm,1.8s
SENIN LR LR
comp=Z,19µm,18.0s
KPKS Kokpek 73.52 330⇓*i*P P 20 53 47.1 0.0
comp=Z,155nm,1.7s
KPKS *i*S SKiKP 21 03 17.1 +1.2
KPKS LR LR 21 29 32.9
comp=Z,5µm,14.0s
SHLS Shalkode 73.59 329⇓*i*P P 20 53 47.4 -0.2
comp=Z,252nm,1.4s
SHLS *i*S S 21 03 16.8 +0.2
SHLS LR LR 21 29 29.4
comp=Z,4µm,14.0s
YULB Yu-li 73.61 288 *e*P P 20 53 48.2 +0.4
comp=Z,53nm,1.0s
YULB LR LR
comp=Z,5µm,20.0s
BARC Barichara 73.62 104 *e*P P 20 53 48.0 -0.2
GUYC Guyana, Colomb 73.63 107 *e*P P 20 53 48.2 -0.3
ENH Enshi 73.68 301 *e*P P 20 53 48.4 +0.3
comp=Z,400nm,1.3s
ENH LR LR
comp=Z,14µm,20.0s
QZH Quanzhou 73.71 291⇑*i*P P 20 53 48.9 +0.6
QZH PP PP 20 56 36.4 +4.1
QZH S SKiKP 21 03 17.4 +0.9
QZH pmax pmax
comp=Z,79nm,1.4s
QZH pmax pmax
comp=Z,1µm,6.8s
QZH LR LR
comp=Z,3µm,11.2s
QZH LR LR
comp=Z,11µm,16.4s
UZB Uzynbulak 73.73 329⇓*i*P P 20 53 48.3 -0.1
comp=Z,82nm,1.7s
UZB *i*S S 21 03 19.3 +1.1
UZB LR LR 21 29 35.7
comp=Z,3µm,14.6s
SOP Sopron 73.74 14⇓*e*P P 20 53 48.2 0.0
KUU Kurty 73.74 332⇓*i*P P 20 53 47.4 -0.9
comp=Z,195nm,2.3s
KUU *i*S S 21 03 18.4 +0.3
KUU LR LR 21 29 09.1
comp=Z,6µm,12.0s
TUE Stuetta 73.79 20 *e*P P 20 53 49.0 +0.2
comp=Z,727nm,2.0s
TUE LR LR
comp=Z,14µm,20.0s
PGAV Gavieira, Arco 73.80 34⇓*e*P P 20 53 48.8 0.0
comp=Z,262nm,1.8s
PGAV *e*S S 21 03 22.2 +3.3
PGAV Gavieira, Arco 73.80 34 *e*LR LR 21 16 48.5
comp=Z,13µm,20.0s
FUORN Ofenpass-Fuorn 73.81 19 *e*P P 20 53 49.5 +0.5
comp=Z,482nm,1.6s
FUORN LR LR
comp=Z,9µm,20.0s
ZHN Zhinishke 73.87 330⇓*i*P P 20 53 49.1 0.0
comp=Z,73nm,1.3s
KBA Koelnbreinsper 73.87 17 *i*pP P 20 53 49.5 +0.3
comp=Z,449nm,1.5s,SNR=130
PSZ Piszkesteto 73.92 12 *e*P P 20 53 49.5 +0.2
comp=Z,324nm,1.4s
PSZ LR LR
comp=Z,12µm,21.0s
PSZ Piszkesteto 73.92 12⇑*i*P P 20 53 49.3 0.0
PSZ Piszkesteto 73.92 12⇓*e*P P 20 53 49.5 +0.2
PSZ Piszkesteto 73.92 12 *e*P P 20 53 49.5 +0.2
PSZ pmax pmax
comp=Z,324nm,1.4s
PSZ MLR MLR
comp=Z,12µm,21.0s
RREF El Recreo 73.92 107 *e*P P 20 53 50.2 -0.2
SATY Saty 73.98 330⇓*i*P P 20 53 50.0 +0.2
comp=Z,240nm,1.7s
SATY *e*S S 21 03 22.1 +1.2
TRPA Tarpa 73.98 10⇑*i*P P 20 53 49.3 -0.3
TRPA Tarpa 73.98 10⇓*e*P P 20 53 49.5 -0.1
SSB Saint Sauveur 73.99 23 *e*P P 20 53 49.5 -0.2
comp=Z,314nm,1.9s
SSB LR LR
comp=Z,17µm,18.0s
SSB Saint Sauveur 73.99 23 *e*P P 20 53 49.5 -0.2
SSB pmax pmax
comp=Z,314nm,1.9s
SSB MLR MLR
comp=Z,17µm,18.0s
ARSA Arzberg 74.03 15 *i*pP P 20 53 50.0 +0.1
comp=Z,132nm,1.4s,SNR=54
TPUB Ta-pu 74.03 288 *e*P P 20 53 49.8 -0.5
comp=Z,101nm,1.1s
TPUB LR LR
comp=Z,6µm,22.0s
ABTA Abfaltersbach 74.06 17 *i*pP P 20 53 49.9 -0.3
comp=Z,133nm,1.8s,SNR=30
YOTC Yotoco, Valle 74.19 108 *e*P P 20 53 50.4 -1.0
TWG Pinlang 74.20 288 *e*P P 20 53 52.3 +1.1
comp=Z,146nm,1.0s
TWG LR LR
comp=Z,21µm,18.0s
AAA Alma-Ata 74.23 331⇓*i*P P 20 53 51.6 +0.4
comp=Z,366nm,1.9s
AAA *i*LR LR 21 29 42.6
comp=Z,8µm,14.2s
MDOK Medeo 74.24 331 *i*P P 20 53 51.0 -0.4
comp=Z,1µm,1.8s
MDOK *i*S S 21 03 24.8 +0.9
MDOK LR LR 21 29 19.6
comp=Z,12µm,15.8s
ANIL Santa Ana 74.24 107 *e*P P 20 53 51.6 -0.3
BUD Budapest 74.25 13⇓*e*P P 20 53 51.3 +0.2
RUSC La Rusia 74.26 104 *e*P P 20 53 51.0 -1.2
MYKA Terra Mystica 74.36 17 *i*pP P 20 53 51.4 -0.4
comp=Z,99nm,1.5s,SNR=21
PBRG Braganca 74.40 33⇓*e*P P 20 53 52.1 -0.1
comp=Z,173nm,1.6s
PBRG Braganca 74.40 33 *e*PP PP 20 56 37.5 -0.3
PBRG *e*S S 21 03 28.5 +3.0
PBRG *e*SS SS 21 08 23.4 +13
PBRG *e*LR LR 21 17 19.5
comp=Z,18µm,20.0s
SVB Belmont 74.41 90 PFAKE 20 54 00.0 +7.5
SVB LR LR
comp=Z,18µm,22.0s
PTO Porto 74.46 34 *e*P P 20 53 52.4 -0.1
comp=Z,260nm,1.6s
TAMC Tame, Arauca 74.48 103 *e*P P 20 53 53.1 +0.1
POLO Lamas de Olo 74.49 33⇓*e*P P 20 53 52.7 -0.1
comp=Z,100nm,1.7s
POLO Lamas de Olo 74.49 33 *e*PP PP 20 56 40.9 +2.3
POLO *e*S S 21 03 28.5 +1.9
POLO *e*SS SS 21 08 30.7 +19
POLO *e*LR LR 21 17 17.9
comp=Z,6µm,20.0s
ROSC El Rosal 74.51 106 P P 20 53 54.1 +0.6
comp=Z,34nm,1.0s,baz=314,slow=2.3,SNR=21
ROSC S S 21 03 29.7 +1.7
comp=Z,1.8nm,0.4s,baz=342,slow=20,SNR=4.3
ROSC El Rosal 74.51 106 *e*P P 20 53 54.5 +0.9
comp=Z,39nm,1.0s
ROSC LR LR
comp=Z,10µm,22.0s
ROSC El Rosal 74.51 106 *e*P P 20 53 53.9 +0.4
SOKA Soboth 74.52 16 *i*pP P 20 53 52.5 -0.3
comp=Z,304nm,1.5s,SNR=98
BMR Baia Mare 74.53 10⇑*i*P P 20 53 53.1 +0.4
PERS Pernice 74.57 16 *i*P P 20 53 52.9 -0.2
PERS *i* 20 54 01.6
PERS *e*S S 21 03 29.2 +1.9
PERS *e* 21 03 32.4
PERS *e*SKSac SKSac 21 03 59.8 -0.2
PERS Pernice 74.57 16 *i*P P 20 53 52.9 -0.2
PERS *i* 20 54 01.6
PERS *e*S S 21 03 29.2 +1.9
PERS *e* 21 03 32.4
PERS *e*SKSac SKSac 21 03 59.8 -0.2
SGDS Sogindy 74.59 333⇓*i*P P 20 53 53.4 +0.1
comp=Z,215nm,1.8s
SGDS *i*LR LR 21 31 35.8
comp=Z,5µm,12.0s
OBKA Obir 74.61 16 *i*pP P 20 53 53.2 -0.1
comp=Z,194nm,1.2s,SNR=35
BNI Bardonecchia 74.65 22 *e*P P 20 53 54.4 +0.7
comp=Z,233nm,1.6s
BNI LR LR
comp=Z,16µm,19.0s
BNI Bardonecchia 74.65 22 *e*P P 20 53 54.4 +0.7
BNI pmax pmax
comp=Z,233nm,1.6s
BNI MLR MLR
comp=Z,16µm,19.0s
LTVH L¯tav¯rtes, 74.66 11⇓*e*P P 20 53 54.1 +0.6
TIH Tihany 74.69 14⇓*e*P P 20 53 54.1 +0.4
BUR08 Bucovina Ar. S 74.70 8 *e*P P 20 53 53.7 -0.2
BUR04 Bucovina Ar. S 74.72 8 *e*P P 20 53 52.8 -1.3
BURAR Bucovina Array 74.73 8⇑*i*P P 20 53 54.1 0.0
USP Ospenovka 74.80 333 P P 20 53 54.8 +0.3
SNR=44
TUMC Tumaco 74.83 111 *e*P P 20 53 55.6 +0.6
TKM2 Tokmak 2 74.84 332 P P 20 53 55.1 +0.2
SNR=65
TKM2 Tokmak 2 74.84 332 P P 20 53 55.2 +0.2
TKM2 pmax pmax
comp=Z,164nm,1.2s
MVO Moncorvo 74.91 33⇓*e*P P 20 53 55.0 -0.2
comp=Z,176nm,1.6s
MVO Moncorvo 74.91 33 *e*PP PP 20 56 42.6 +0.5
MVO *e*S S 21 03 35.0 +3.8
MVO *e*SS SS 21 08 28.6 +10
MVO *e*LR LR 21 17 27.8
comp=Z,15µm,20.0s
BEHE Becsehely 74.96 14⇓*e*P P 20 53 55.4 +0.1
BEHE Becsehely 74.96 14⇓*i*P P 20 53 55.3 0.0
CHMS Chumysh 74.98 332 P P 20 53 55.9 +0.3
SNR=58
CHIC Chingaza 74.99 105 *e*P P 20 53 54.5 -1.9
TIAR Tiarei 75.03 186 *e*P P 20 53 55.6 -0.2
comp=Z,44nm,1.1s
TIAR Tiarei 75.03 186 *e*T T 22 14 55.2
comp=Z,12nm,0.2s
PPT Papeete 75.05 187 P P 20 53 58.0 +2.0
comp=Z,108nm,1.1s,baz=292,slow=18,SNR=4.2
PPT LR LR 21 20 38.2
comp=Z,11µm,19.5s,baz=0.5,slow=31
PPT Papeete 75.05 187 P P 20 53 58.0 +2.0
PPT pmax pmax
comp=Z,108nm,1.1s
PPT MLR MLR
comp=Z,11µm,19.5s
PRAR RASCA 75.06 8⇑*i*P P 20 53 55.0 -0.8
LJU Ljubljana 75.06 16⇓*i*P P 20 53 54.9 -1.0
PVIS Viseu 75.06 34⇓*e*P P 20 53 55.1 -0.9
comp=Z,201nm,1.8s
PPTF Pamatai, Papee 75.07 187 PFAKE 20 54 10.0 +14
PPTF LR LR
comp=Z,15µm,20.0s
PPT2 Papeete2 75.07 187 *e*P P 20 53 56.0 -0.2
comp=Z,140nm,1.2s
PPT2 *e*S S 21 03 31.0 -2.2
comp=Z,3µm,25.2s
PPT2 *e*SS SS 21 08 14.3 -8.6
comp=Z,6µm,27.0s
PPT2 *e*LQ LQ 21 13 23.0
comp=Z,29µm,26.5s
PPT2 *e*LR LR 21 17 02.2
comp=Z,15µm,22.8s,baz=358
AFI Afiamalu 75.11 209 PFAKE 20 54 10.0 +14
AFI LR LR
comp=Z,12µm,20.0s
GRGR Grenville 75.14 91 PFAKE 20 54 10.0 +13
GRGR LR LR
comp=Z,14µm,18.0s
JAVS Javornik 75.14 16 *i*P P 20 53 54.9 -1.6
JAVS *i* 20 54 04.0
JAVS *e*S S 21 03 35.2 +1.5
JAVS Javornik 75.14 16 *i*P P 20 53 54.9 -1.6
JAVS *i* 20 54 04.0
JAVS *e*S S 21 03 35.2 +1.5
PAE Paea 75.14 187 *e*P P 20 53 55.9 -0.6
comp=Z,20nm,1.2s
PCRV Puerto La Cruz 75.16 94 LR LR 21 26 56.5
comp=Z,9µm,20.1s,baz=318,slow=36
KDJ Kajisay 75.17 330 *e*P P 20 53 58.2 +1.4
comp=Z,150nm,1.1s
KDJ LR LR
comp=Z,29µm,18.0s
PRAC Prado 75.17 107 *e*P P 20 53 55.5 -1.4
FRU Bishkek 75.17 332⇓*i*P P 20 53 56.0 -0.6
FRU *i*S S 21 03 35.0 +0.9
FRU pmax pmax
comp=Z,530nm,2.0s
FRU smax smax
comp=E,6µm,8.0s
ARCR ARCALIA 75.18 9⇑*i*P P 20 53 57.1 +0.5
FRU1 Bishkek 75.19 332 *e*P P 20 53 57.4 +0.6
comp=E,286nm,1.1s
FRU1 LR LR
comp=Z,22µm,22.0s
TVO Taravao 75.24 186 *e*P P 20 53 56.9 -0.2
comp=Z,32nm,1.0s
TVO Taravao 75.24 186 *e*T T 22 15 12.4
comp=Z,5.7nm,0.3s
POPC Popayan, Colom 75.25 109 *e*P P 20 53 56.8 -0.8
KBK Karagaybulak 75.26 332 P P 20 53 57.8 +0.5
SNR=69
MEH Mehetia 75.27 185 *e*T T 22 14 55.9
comp=Z,1.0nm,0.2s
TRI Trieste 75.27 17 *e*P P 20 53 56.6 -0.5
comp=Z,40nm,1.0s
TRI LR LR
comp=Z,6µm,22.0s
TRI Trieste 75.27 17 *e*P P 20 53 56.6 -0.5
TRI pmax pmax
comp=Z,40nm,1.0s
TRI MLR MLR
comp=Z,6µm,22.0s
ULHL Ulahol 75.31 331 P P 20 53 57.7 +0.1
SNR=8.5
IAS Iasi 75.31 7⇓*i*P P 20 53 56.7 -0.6
DRGR 75.33 10⇓*i*P P 20 53 57.1 -0.4
VISS Visnje 75.34 16 *i*P P 20 53 56.5 -1.0
VISS *e* 20 54 05.2
VISS *i*S S 21 03 35.7 -0.1
VISS Visnje 75.34 16 *i*P P 20 53 56.5 -1.0
VISS *e* 20 54 05.2
VISS *i*S S 21 03 35.7 -0.1
CEY Cerknica 75.34 16⇓*i*P P 20 53 56.7 -0.9
MARP Paez Belalcaza 75.36 108 *e*P P 20 53 57.5 -0.8
AAK Ala-Archa 75.39 332 P P 20 53 58.5 +0.4
SNR=46
AAK Ala-Archa 75.39 332 *e*P P 20 53 58.4 +0.4
comp=Z,212nm,1.2s
AAK LR LR
comp=Z,16µm,19.0s
AAK Ala-Archa 75.39 332 P P 20 53 58.3 +0.3
SNR=65
AAK S S 21 03 38.2 +1.5
AAK Ala-Archa 75.39 332 *i*P P 20 53 58.1 +0.1
SNR=83
AAK Ala-Archa 75.39 332 *e*P P 20 53 58.4 +0.4
AAK pmax pmax
comp=Z,212nm,1.2s
AAK MLR MLR
comp=Z,16µm,19.0s
CRES Cresnjev 75.41 15⇓*i*P P 20 53 56.7 -1.2
BBGH Gun Hill 75.43 88 PFAKE 20 54 10.0 +12
BBGH LR LR
comp=Z,36µm,22.0s
VILC Villavicencio, 75.45 106 *e*P P 20 53 56.8 -1.9
MORH M¨¨r¨igy, Hung 75.45 13⇓*e*P P 20 53 57.9 -0.2
MORH M¨¨r¨igy, Hung 75.45 13⇓*i*P P 20 53 57.6 -0.5
MTE Manteigas 75.46 34⇓*e*P P 20 53 57.5 -0.8
comp=Z,252nm,1.7s
MTE *e*S S 21 03 41.8 +4.4
MTE *e*SS SS 21 08 31.7 +5.0
MTE *e*LR LR 21 17 36.1
comp=Z,14µm,18.0s
MTE Manteigas 75.46 34 *e*P P 20 53 58.0 -0.4
comp=Z,167nm,1.3s
MTE LR LR
comp=Z,14µm,20.0s
BIZ Bicaz 75.47 8⇑*i*P P 20 53 58.1 -0.1
CJR Cluj-Napoca 75.49 10⇑*i*P P 20 53 58.7 +0.3
PCAS Casmilo, Conde 75.49 35⇓*e*P P 20 53 58.0 -0.4
comp=Z,355nm,1.7s
PCAS *e*S S 21 03 39.5 +1.9
PCAS Casmilo, Conde 75.49 35 *e*LR LR 21 17 35.1
comp=Z,23µm,20.0s
EKS2 Erkin-Say 75.54 333 P P 20 53 59.4 +0.6
SNR=69
PCON Cinco Dias 75.58 109 *e*P P 20 53 59.4 -0.5
KIS Kishinev 75.58 6 *i*P P 20 53 56.0 -2.8
comp=Z,3µm,8.0s
KIS Kishinev 75.58 6 *i*PP PP 20 56 43.0 -4.5
KIS Kishinev 75.58 6 *e*PPP PPP 20 58 34.0
KIS *e*S S 21 03 30.0 -8.3
comp=Z,2µm,14.0s
KIS Kishinev 75.58 6 *e*PS 21 03 58.0
KIS *e*SS SS 21 08 16.0 -12
KIS *e*SSS SSS 21 11 16.0
KIS *e*LQ LQ 21 15 10.0
KIS *e*LR LR 21 25 12.0
comp=Z,9µm,18.0s
KIS Kishinev 75.58 6*d*P P 20 53 56.0 -2.8
KIS *i* 20 54 06.0
KIS *i* 20 56 43.0
KIS *e*PPP PPP 20 58 34.0
KIS *e*S S 21 03 30.0 -8.3
KIS *e*PS PnS 21 03 58.0 -17
KIS pmax pmax
comp=Z,3µm,8.0s
KIS pmax pmax
comp=Z,2µm,12.0s
KIS smax smax
comp=N,2µm,14.0s
KIS smax smax
comp=E,3µm,16.0s
KIS MLR MLR
comp=N,8µm,18.0s
KIS MLR MLR
comp=E,5µm,18.0s
KIS MLR MLR
comp=Z,9µm,18.0s
KIS MLR MLR
comp=Z,9µm,18.0s
SOTA Rioblanco 75.64 109 *e*P P 20 53 59.5 -0.7
BOJS Bojanci 75.70 16 *e*P P 20 53 58.6 -0.9
BOJS *i* 20 54 07.6
BOJS *e*S S 21 03 42.8 +3.2
BOJS *i*SKSac SKSac 21 04 02.8 -5.6
BOJS Bojanci 75.70 16 *e*P P 20 53 58.6 -0.9
BOJS *i* 20 54 07.6
BOJS *e*S S 21 03 42.8 +3.2
BOJS *i*SKSac SKSac 21 04 02.8 -5.6
CD2 Chengdu 75.72 306 P P 20 53 59.7 -0.3
CD2 sP sP 20 54 08.0 -0.5
CD2 PcP PcP 20 54 12.8 +0.1
CD2 PP PP 20 56 49.0 -0.2
CD2 S S 21 03 40.1 -0.4
CD2 pmax pmax
comp=Z,140nm,0.8s
CD2 pmax pmax
comp=Z,3µm,4.5s
CD2 LR LR
comp=Z,33µm,16.9s
CD2 LR LR
comp=Z,55µm,16.1s
CD2 LR LR
comp=Z,37µm,14.1s
KZA Kyzart 75.72 332 P P 20 54 01.2 +1.0
SNR=23
SIRR Siria 75.74 11⇓*i*P P 20 53 59.9 +0.1
UCH Uchtor 75.77 332 P P 20 54 00.9 +0.3
SNR=23
KK31 Karatay Array 75.89 335 *e*P P 20 54 00.7 -0.1
KK31 Karatay Array 75.89 335 *i*P P 20 54 00.8 +0.1
KK31 pmax pmax
comp=Z,97nm,1.0s
KKAR Karatay Array 75.89 335 *e*P P 20 54 00.7 0.0
KKAR Karatay Array 75.89 335 *e*P P 20 54 00.7 0.0

PTOM	**Tomar**	**75.91**	**35**	*e*P		**P**	**20 54 00.3**	**-0.6**	
	comp=Z,204nm,1.7s								
PTOM	**Tomar**	**75.91**	**35**	*e*PP		PP	20 56 48.9	-1.6	
PCBR	**Castelo Branco**	**75.99**	**34**⇓	*e*P		**P**	**20 54 00.8**	**-0.5**	
	comp=Z,171nm,1.7s								
MNAS	**Manas**	**76.02**	**334**	P		**P**	**20 54 01.8**	**+0.2**	
MNAS				pmax	pmax				
	comp=Z,241nm,1.4s								
GCUF	**Volcan Galeras**	**76.04**	**110**	*e*P		**P**	**20 54 02.4**	**-0.1**	
CMBC	**Cumbal**	**76.04**	**111**	*e*P		**P**	**20 54 02.4**	**-0.1**	
AML	**Almayashu**	**76.06**	**333**	P		**P**	**20 54 03.0**	**+0.8**	
	SNR=49								
MDB	**Medias**	**76.12**	**9**⇑	*i*P		**P**	**20 54 02.0**	**0.0**	
NRN	**Naryn**	**76.13**	**331**	*e*P		**P**	**20 54 03.1**	**+0.7**	
	comp=Z,92nm,1.1s								
NRN				LR	LR				
	comp=Z,24μm,19.0s								
NRN	**Naryn**	**76.13**	**331**	*e*P		**P**	**20 54 03.2**	**+0.7**	
NRN				pmax	pmax				
	comp=Z,92nm,1.1s								
NRN				MLR	MLR				
	comp=Z,24μm,19.0s								
VLC	**Villacollemand**	**76.21**	**19**	*e*P		**P**	**20 54 02.7**	**+0.2**	
	comp=Z,898nm,2.0s								
VLC				LR	LR				
	comp=Z,13μm,19.0s								
PMAFR	**Mafra**	**76.25**	**36**⇓	*e*P		**P**	**20 54 02.1**	**-0.7**	
	comp=Z,358nm,1.7s								
PMAFR	**Mafra**	**76.25**	**36**	*e*PP		PP	20 56 57.3	+3.9	
PMAFR				*e*S		**S**	**21 03 48.3**	**+2.3**	
PMAFR				*e*SS		**SS**	**21 08 47.6**	**+9.0**	
PMAFR				*e*LR		LR	21 18 05.7		
	comp=Z,14μm,18.0s								
ALMR	**Almeirim**	**76.29**	**35**	*e*P		**P**	**20 54 02.1**	**-0.8**	
ALMR				*e*S		**S**	**21 03 42.9**	**-3.4**	
ALMR				AMS	AMS		21 26 22.3		
	comp=Z,24μm,13.7s								
ALMR	**Almeirim**	**76.29**	**35**⇓	*e*P		**P**	**20 54 04.1**	**+1.1**	
	comp=Z,315nm,1.6s								
OTAV	**Otavalo**	**76.33**	**112**	*e*P		**P**	**20 54 05.0**	**+0.9**	
	comp=Z,103nm,1.5s								
OTAV				LR	LR				
	comp=Z,4μm,20.0s								
OTAV	**Otavalo**	**76.33**	**112**	*e*P		**P**	**20 54 05.0**	**+0.9**	
OTAV				pmax	pmax				
	comp=Z,103nm,1.5s								
OTAV				MLR	MLR				
	comp=Z,4μm,20.0s								
DOPR	**Dopca**	**76.38**	**8**⇑	*i*P		**P**	**20 54 03.7**	**+0.3**	
BZS	**Buzias**	**76.38**	**11**⇓	*i*P		**P**	**20 54 03.3**	**-0.1**	
PMRV	**Marv??o**	**76.40**	**34**⇓	*e*P		**P**	**20 54 03.7**	**0.0**	
	comp=Z,157nm,1.8s								
PMRV	**Marv??o**	**76.40**	**34**	*e*PP		PP	20 57 00.1	+5.5	
PMRV				*e*S		**S**	**21 03 49.3**	**+1.7**	
PMRV				*e*SS		**SS**	**21 08 49.5**	**+8.7**	
PMRV				*e*LR		LR	21 18 05.9		
	comp=Z,18μm,20.0s								
PMST	**Lisbon--Monsan**	**76.48**	**36**⇓	*e*P		**P**	**20 54 03.8**	**-0.3**	
	comp=Z,306nm,1.6s								
PMST	**Lisbon--Monsan**	**76.48**	**36**	*e*PP		PP	20 57 00.0	+4.7	
LIS	**Lisbon**	**76.51**	**36**	*e*P		**P**	**20 54 03.5**	**-0.8**	
LIS				AMS	AMS		21 26 03.9		
	comp=Z,12μm,21.4s								
LIS	**Lisbon**	**76.51**	**36**⇓	*e*P		**P**	**20 54 04.0**	**-0.2**	
	comp=Z,309nm,1.9s								
LIS	**Lisbon**	**76.51**	**36**	*e*PP		PP	20 56 59.7	+4.2	
VRI	**Vrincioaia**	**76.58**	**7**⇓	*i*P		**P**	**20 54 04.1**	**-0.5**	
PLOR	**Plostina**	**76.59**	**8**⇑	*i*P		**P**	**20 54 04.1**	**-0.6**	
FLOC	**Florencia**	**76.59**	**109**	*e*P		**P**	**20 54 04.9**	**-0.2**	
FRGS	**Fruska Gora**	**76.64**	**13**⇓	*i*P		**P**	**20 54 04.3**	**-0.6**	
BLY	**Banja Luka**	**76.71**	**14**	*e*P		**P**	**20 54 05.1**	**-0.2**	
	comp=Z,48nm,1.2s								
BLY				LR	LR				
	comp=Z,6μm,19.0s								
BLY	**Banja Luka**	**76.71**	**14**⇓	*i*P		**P**	**20 54 04.6**	**-0.7**	
GZR	**Gura Zlata**	**76.72**	**10**⇓	*i*P		**P**	**20 54 05.1**	**-0.3**	
LOT	**Lotru**	**76.76**	**10**⇑	*i*P		P	20 53 52.0	-14	
UCM	**Universidad Co**	**76.78**	**31**⇓	*i*P		**P**	**20 54 05.0**	**-0.8**	
UCM				*i* S		**S**	**21 03 55.7**	**+3.9**	
CHM	**Chimkent**	**76.84**	**336**⇓	*i*P		**P**	**20 54 06.4**	**+0.3**	
	comp=Z,295nm,1.7s								
CHM				*e*S		**S**	**21 03 53.8**	**+1.4**	
PESTR	**Estremoz**	**76.85**	**34**⇓	*e*P		**P**	**20 54 05.5**	**-0.7**	
	comp=Z,154nm,1.7s								
PESTR	**Estremoz**	**76.85**	**34**	*e*LR		LR	21 18 18.9		
	comp=Z,22μm,20.0s								
PESTR	**Estremoz**	**76.85**	**34**	*e*P		**P**	**20 54 05.1**	**-1.1**	
	comp=Z,130nm,1.7s								
PESTR				LR	LR				
	comp=Z,13μm,20.0s								
VOIR		**76.88**	**9**⇑	*i*P		**P**	**20 54 06.3**	**-0.1**	
MLR	**Muntele Rosu**	**76.89**	**8**	*e*P		**P**	**20 54 06.0**	**-0.5**	
	comp=Z,278nm,1.6s								
MLR				LR	LR				
	comp=Z,16μm,19.0s								
MLR	**Muntele Rosu**	**76.89**	**8**⇑	*i*P		**P**	**20 54 06.6**	**+0.1**	
MLR	**Muntele Rosu**	**76.89**	**8**	*e*P		**P**	**20 54 06.0**	**-0.5**	
MLR				pmax	pmax				
	comp=Z,278nm,1.6s								
MLR				MLR	MLR				
	comp=Z,16μm,19.0s								
IUG	**Iuzhnay**	**76.91**	**336**⇓	*i*P		**P**	**20 54 07.0**	**+0.4**	
	comp=Z,284nm,1.8s								
IUG				*i* S		**S**	**21 03 54.6**	**+1.3**	
IUG				*i* LR		LR	21 32 12.1		
	comp=Z,1μm,11.7s								
ARR	**Arges**	**76.91**	**9**⇓	*i*P		**P**	**20 54 06.4**	**-0.1**	
EVO	**Evora**	**77.03**	**35**⇓	*e*P		**P**	**20 54 08.7**	**+1.5**	
	comp=Z,252nm,1.6s								
EVO	**Evora**	**77.03**	**35**⇓	*i*P		**P**	**20 54 08.5**	**+1.3**	
EVO				*i* S		**S**	**21 03 59.2**	**+4.6**	
ES19	**SONSECA Array**	**77.16**	**31**	*e*P		**P**	**20 54 07.9**	**-0.1**	
ESDC	**Sonseca Array**	**77.17**	**31**	P		**P**	**20 54 08.0**	**-0.1**	
	comp=Z,16nm,0.8s,baz=337,slow=5.2,SNR=65								
ESDC				PKPPKP		**P'P'df**	**21 21 17.0**	**-6.1**	
	comp=Z,1.2nm,0.9s,baz=32,slow=1.0,SNR=5.9								
ESDC				LR	LR		21 27 15.5		
	comp=Z,7μm,19.7s,baz=330,slow=35								
ESLA	**Sonseca Array**	**77.17**	**31**	*e*P		**P**	**20 54 08.1**	**+0.1**	
	comp=Z,195nm,1.4s								
ESLA				LR	LR				
	comp=Z,12μm,20.0s								
PAB	**San Pablo**	**77.18**	**32**	*e*P		**P**	**20 54 08.0**	**-0.1**	
	comp=Z,239nm,1.7s								
PAB				LR	LR				
	comp=Z,13μm,22.0s								
PAB	**San Pablo**	**77.18**	**32**	*e*P		**P**	**20 54 08.0**	**-0.1**	
PAB				pmax	pmax				
	comp=Z,239nm,1.7s								
PAB				MLR	MLR				
	comp=Z,13μm,22.0s								
HERR	**Herculane**	**77.19**	**11**⇑	*i*P		**P**	**20 54 07.7**	**-0.3**	
TEKS	**Tekeris**	**77.20**	**13**	*e*P		**P**	**20 54 07.9**	**-0.2**	
MDVR	**Moldovita**	**77.22**	**11**⇑	*i*P		**P**	**20 54 07.6**	**-0.6**	
PNCL	**Nicolau / Gran**	**77.26**	**35**⇓	*e*P		**P**	**20 54 08.3**	**-0.2**	
	comp=Z,271nm,1.7s								
PNCL	**Nicolau / Gran**	**77.26**	**35**	*e*PP		PP	20 57 05.9	+4.1	
PNCL				*e*S		**S**	**21 03 58.3**	**+1.3**	
PNCL				*e*SS		**SS**	**21 08 55.4**	**+1.6**	
PNCL				*e*LR		LR	21 18 22.9		
	comp=Z,17μm,20.0s								
ISR	**Istrita**	**77.31**	**8**⇑	*i*P		**P**	**20 54 07.8**	**-0.9**	
CFR	**Carcaliu**	**77.36**	**7**⇑	*i*P		**P**	**20 54 08.2**	**-0.7**	
SECR		**77.36**	**8**⇑	*i*P		**P**	**20 54 09.4**	**+0.4**	
TLCR		**77.39**	**6**⇑	*i*P		**P**	**20 54 09.1**	**0.0**	
GOLR		**77.46**	**9**⇑	*i*P		**P**	**20 54 09.8**	**+0.3**	
SRE	**Strehaia**	**77.48**	**10**⇑	*i*P		**P**	**20 54 09.2**	**-0.5**	
PBEJ	**Beja**	**77.54**	**35**⇓	*e*P		**P**	**20 54 10.4**	**+0.3**	
	comp=Z,149nm,1.7s								
PGOR	**Pogoanele**	**77.55**	**7**⇑	*i*P		**P**	**20 54 09.6**	**-0.4**	
HAPS	**Han Pijesak,BI**	**77.59**	**13**	*e*P		**P**	**20 54 09.2**	**-1.2**	
MESJ	**Messejana**	**77.60**	**35**	*e*P		**P**	**20 54 09.5**	**-0.9**	
MESJ				*e*S		**S**	**21 03 57.2**	**-3.6**	
MESJ				AMS	AMS		21 26 58.9		
	comp=Z,17μm,17.6s								
MESJ	**Messejana**	**77.60**	**35**⇓	*e*P		**P**	**20 54 09.9**	**-0.5**	
	comp=Z,149nm,1.8s								
MESJ	**Messejana**	**77.60**	**35**	*e*PP		PP	20 57 07.8	+3.1	
GOF	**Gofitskoye**	**77.63**	**356**⇓	*i*P		**P**	**20 54 10.1**	**-0.4**	
GOF				*e*S		**S**	**21 04 01.9**	**+1.0**	
GOF				pmax	pmax				
	comp=Z,370nm,1.4s								
GOF				smax	smax				
	comp=N,60nm,1.6s								
GOF				smax	smax				
	comp=E,120nm,1.6s								
DIVS	**Divibare**	**77.70**	**13**	*e*P		**P**	**20 54 10.3**	**-0.7**	
	comp=E,204nm,1.5s								
DIVS				LR	LR				
	comp=E,8μm,18.0s								
DIVS	**Divibare**	**77.70**	**13**⇓	*i*P		**P**	**20 54 10.3**	**-0.7**	
PTEO	**Sao Teotonio**	**77.72**	**36**	*e*P		**P**	**20 54 10.3**	**-0.7**	
	comp=Z,197nm,1.8s								
HARR	**Harsova**	**77.83**	**7**⇑	*i*P		**P**	**20 54 11.3**	**-0.3**	
SIM	**Simferopol'**	**77.83**	**2**	*de*P		**P**	**20 54 11.2**	**-0.4**	
SIM				S		**S**	**21 04 03.1**	**+0.1**	
SIM				pmax	pmax				
	comp=Z,58nm,1.3s								
SIM				pmax	pmax				
	comp=Z,1μm,10.3s								
SIM				MLR	MLR				
	comp=Z,9μm,17.0s								
BBLS	**Lazići**	**77.86**	**13**⇓	*i*P		**P**	**20 54 11.7**	**-0.2**	
GZH	**Guangzhou**	**77.88**	**294**	P		P	20 54 06.9	-5.2	
GZH				pP		**PcP**	**20 54 21.2**	**-0.8**	
GZH				PP		**PP**	**20 57 02.7**	**-4.8**	
GZH				S		**S**	**21 03 58.2**	**-5.8**	
GZH				SS		**SS**	**21 08 58.6**	**-5.4**	
GZH				LR	LR				
	comp=Z,10μm,21.3s								
GZH				LR	LR				
	comp=Z,9μm,16.6s								
KSH	**Kashi**	**77.94**	**330**	P		**P**	**20 54 15.3**	**+2.9**	
KSH				PP		**PP**	**20 57 14.3**	**+6.7**	
KSH				S		**S**	**21 04 07.4**	**+2.8**	
KSH				SS		**SS**	**21 09 12.4**	**+8.2**	
KSH				pmax	pmax				
	comp=Z,350nm,1.7s								
KSH				pmax	pmax				
	comp=Z,5μm,6.7s								
TLB	**Topalu**	**77.94**	**7**⇑	*i*P		**P**	**20 54 11.7**	**-0.5**	
MORF	**Marmelete**	**77.96**	**36**	*e*P		**P**	**20 54 11.5**	**-0.9**	
MORF				*e*S		**S**	**21 04 01.1**	**-3.7**	
MORF				AMS	AMS		21 26 53.0		
	comp=E,10μm,17.3s								
MORF	**Marmelete**	**77.96**	**36**⇓	*e*P		**P**	**20 54 11.8**	**-0.7**	
	comp=E,279nm,1.8s								
MORF	**Marmelete**	**77.96**	**36**	*e*PP		PP	20 57 11.3	+3.5	
MORF				*e*S		**S**	**21 04 07.1**	**+2.4**	
MORF				*e*SS		**SS**	**21 09 13.4**	**+8.9**	
MORF	**Marmelete**	**77.96**	**36**	*e*LR		LR	21 21 13.4		
	comp=E,10μm,20.0s								
ANN	**Anapa**	**78.01**	**360**	*d*	*i*P	**P**	**20 54 11.5**	**-1.0**	
ANN					*e**PP	**pP**	**20 54 14.7**	**-4.1**	
ANN					*e*		20 57 06.4		
ANN					*e*S	**S**	**21 04 04.4**	**-0.5**	
ANN					*e*		21 04 27.8		
ANN					*e*SS	**SS**	**21 09 06.8**	**+2.2**	
ANN					*e*SSS	SSS	21 12 25.2		
ANN				pmax	pmax				
	comp=N,81nm,1.9s								
ANN				pmax	pmax				
	comp=E,33nm,1.9s								
ANN				pmax	pmax				
	comp=Z,171nm,1.9s								
ANN				pmax	pmax				
	comp=N,440nm,5.4s								
ANN				pmax	pmax				
	comp=Z,2μm,5.4s								
PFVI	**Vila Bisbo**	**78.06**	**36**⇓	*e*P		**P**	**20 54 12.2**	**-0.8**	
	comp=Z,310nm,1.8s								
PFVI				*e*S		**S**	**21 04 07.1**	**+1.4**	
PFVI				*e*SS		**SS**	**21 09 15.1**	**+9.1**	
PFVI				*e*LR		LR	21 18 54.6		
	comp=Z,11μm,20.0s								
PFVI	**Vila Bisbo**	**78.06**	**36**	PFAKE			20 54 20.0	+7.0	
PFVI				LR	LR				
	comp=Z,12μm,20.0s								
TIRR	**Tirgusor**	**78.09**	**6**	*e*P		**P**	**20 54 12.5**	**-0.5**	
	comp=Z,206nm,1.5s								
TIRR				LR	LR				
	comp=Z,9μm,20.0s								
TIRR	**Tirgusor**	**78.09**	**6**⇑	*i*P		**P**	**20 54 12.2**	**-0.8**	
TIRR	**Tirgusor**	**78.09**	**6**	*e*P		**P**	**20 54 12.5**	**-0.5**	
TIRR				pmax	pmax				
	comp=Z,206nm,1.5s								
TIRR				MLR	MLR				
	comp=Z,9μm,20.0s								
SFK	**Sufi-Kurgan**	**78.11**	**332**	P		**P**	**20 54 12.8**	**-0.7**	
SFK				pmax	pmax				
	comp=Z,410nm,1.4s								
PVAQ	**Vaqueiros**	**78.16**	**35**⇓	*e*P		**P**	**20 54 13.3**	**-0.2**	
	comp=Z,358nm,1.7s								
PVAQ	**Vaqueiros**	**78.16**	**35**	*e*PP		PP	20 57 06.4	-3.0	
PVAQ				*e*S		**S**	**21 04 08.2**	**+1.4**	
PVAQ	**Vaqueiros**	**78.16**	**35**	*e*LR		LR	21 19 05.0		
	comp=Z,17μm,20.0s								
GYA	**Guiyang**	**78.22**	**301**⇑	*i*P		**P**	**20 54 14.5**	**+0.3**	
GYA				PcP		**PcP**	**20 54 26.2**	**+2.6**	
GYA				PP		**PP**	**20 57 14.0**	**+3.6**	
GYA				S		**S**	**21 04 08.6**	**+0.7**	
GYA				SS		**SS**	**21 09 12.8**	**+3.6**	
GYA				pmax	pmax				
	comp=Z,100nm,1.1s								
GYA				pmax	pmax				
	comp=Z,2μm,10.1s								
GYA				LR	LR				
	comp=Z,19μm,19.2s								
GYA				LR	LR				
	comp=Z,20μm,19.9s								
GYA				LR	LR				
	comp=Z,19μm,19.9s								
PBDV	**Barranco-do-Ve**	**78.24**	**35**⇓	*e*P		**P**	**20 54 14.0**	**0.0**	
	comp=Z,353nm,1.7s								
PBDV	**Barranco-do-Ve**	**78.24**	**35**	*e*PP		PP	20 57 09.8	-0.3	
PBDV				*e*S		**S**	**21 04 08.9**	**+1.2**	
PBDV	**Barranco-do-Ve**	**78.24**	**35**	*e*LR		LR	21 19 19.1		
	comp=Z,14μm,18.0s								
PLE	**Pljevlja**	**78.39**	**13**⇓	*i*P		**P**	**20 54 14.3**	**-0.5**	
UPM	**Unac-Piva**	**78.45**	**14**⇓	*i*P		**P**	**20 54 14.3**	**-1.0**	
UPM	**Unac-Piva**	**78.45**	**14**⇓	*i*P		**P**	**20 54 14.4**	**-0.9**	
AQU	**L'Aquila**	**78.48**	**18**	*e*P		**P**	**20 54 15.0**	**-0.3**	
	comp=Z,248nm,1.4s								
AQU				LR	LR				
	comp=Z,8μm,20.0s								
AQU	**L'Aquila**	**78.48**	**18**	*e*P		**P**	**20 54 15.0**	**-0.3**	
AQU				pmax	pmax				
	comp=Z,248nm,1.4s								
AQU				MLR	MLR				
	comp=Z,8μm,20.0s								
AQU	**L'Aquila**	**78.48**	**18**⇓	*i*P		**P**	**20 54 15.0**	**-0.3**	
MCO	**Taipa Grande**	**78.58**	**293**	P		**P**	**20 54 18.0**	**+1.9**	
ZIMR		**78.67**	**9**⇑	*i*P		**P**	**20 54 16.2**	**0.0**	
BRY	**Bratogost**	**78.70**	**14**⇓	*i*P		**P**	**20 54 15.4**	**-1.2**	
BRY	**Bratogost**	**78.70**	**14**⇓	*i*P		**P**	**20 54 15.5**	**-1.2**	
KIV	**Kislovodsk**	**78.75**	**356**	*e*P		**P**	**20 54 16.4**	**-0.4**	
	comp=Z,150nm,1.2s								
KIV				LR	LR				
	comp=Z,6μm,20.0s								
KIV	**Kislovodsk**	**78.75**	**356**	P		**P**	**20 54 16.8**	**0.0**	
	SNR=28								
KIV	**Kislovodsk**	**78.75**	**356**	*i* P		**P**	**20 54 16.3**	**-0.5**	
	SNR=27								
KIV	**Kislovodsk**	**78.75**	**356**	*e*P		**P**	**20 54 16.4**	**-0.4**	
KIV				*e*			20 57 14.1		
KIV				*e*S		**S**	**21 04 13.9**	**+0.8**	
KIV				*e*SS		**SS**	**21 09 18.2**	**+2.2**	
KIV				*e*SSS		SSS	21 12 43.7		
KIV				pmax	pmax				
	comp=Z,115nm,1.0s								
KIV				pmax	pmax				
	comp=Z,938nm,4.7s								
KIV				MLR	MLR				
	comp=Z,6μm,19.0s								
MPEP	**Malo Peshtene**	**78.83**	**10**	P		**P**	**20 54 15.9**	**-1.2**	
NKY	**Niksic**	**78.85**	**14**⇓	*i*P		**P**	**20 54 16.5**	**-0.9**	
PSN	**Preselentsi**	**78.85**	**7**	P		**P**	**20 54 17.4**	**+0.2**	
TREB	**Trebinje**	**78.86**	**14**	*e*P		**P**	**20 54 15.9**	**-1.4**	
KOME	**Kolasin**	**78.87**	**13**⇓	*i*P		**P**	**20 54 16.5**	**-1.0**	
NKME	**Niksic**	**78.89**	**14**⇓	*i*P		**P**	**20 54 16.2**	**-1.3**	
IVA	**Berane**	**78.90**	**13**⇓	*i*P		**P**	**20 54 17.0**	**-0.6**	
KBZ	**Khabaz**	**78.97**	**356**	P		**P**	**20 54 17.9**	**+0.1**	
	comp=Z,32nm,1.0s,baz=12,slow=4.4,SNR=29								
KBZ				S		**S**	**21 04 15.6**	**+0.4**	
	comp=Z,1.4nm,0.9s,baz=59,slow=5.9,SNR=1.8								
KBZ				LR	LR		21 35 47.2		
	comp=Z,3μm,18.2s,baz=1.0,slow=41								
MAHO	**Mahon**	**79.06**	**25**⇓	*i*P		**P**	**20 54 18.8**	**+0.4**	
PMOZ	**Porto Moniz, M**	**79.06**	**44**	*e*S		**S**	**21 04 22.6**	**+5.8**	
PMOZ	**Porto Moniz, M**	**79.06**	**44**	*e*LR		LR	21 19 36.0		
	comp=Z,11μm,18.0s								
CEME	**Cevo**	**79.10**	**14**⇓	*i*P		**P**	**20 54 17.8**	**-0.9**	
SZH	**Strazhica**	**79.11**	**8**	P		**P**	**20 54 17.7**	**-0.9**	
PVL	**Pavlikeni**	**79.11**	**9**	P		**P**	**20 54 18.2**	**-0.4**	
HCY	**Herceg Novi**	**79.14**	**14**⇓	*i*P		**P**	**20 54 17.8**	**-1.1**	
HCY	**Herceg Novi**	**79.14**	**14**	*e*P		**P**	**20 54 17.6**	**-1.3**	
NCK	**Nalchik**	**79.17**	**355**	*d*	*i*P	**P**	**20 54 19.2**	**+0.2**	
NCK				pmax	pmax				
	comp=Z,127nm,1.4s								
PVY	**Plav**	**79.18**	**13**⇓	*i*P		**P**	**20 54 18.4**	**-0.8**	
PMAR	**Madeira**	**79.25**	**44**	*e*P		**P**	**20 54 20.4**	**+0.5**	
PDG	**Podgorica**	**79.26**	**13**⇑	*i*P		**P**	**20 54 18.1**	**-1.4**	
PDG	**Podgorica**	**79.26**	**13**	P		**P**	**20 54 18.2**	**-1.3**	
PDG	**Podgorica**	**79.26**	**13**⇓	*i*P		**P**	**20 54 18.4**	**-1.1**	
TTG	**Podgorica**	**79.26**	**13**⇓	*i*P		**P**	**20 54 18.9**	**-0.5**	
TTG	**Podgorica**	**79.26**	**13**	*e*P		**P**	**20 54 19.0**	**-0.5**	
	comp=Z,196nm,1.3s								
TTG				LR	LR				
	comp=Z,8μm,18.0s								
PRD	**Provadia**	**79.28**	**7**	P		**P**	**20 54 19.7**	**+0.1**	
LIJA	**Lijar**	**79.32**	**33**	*i* P		**P**	**20 54 20.0**	**-0.1**	
FUL	**Funchal**	**79.33**	**44**	*e*P		**P**	**20 54 21.0**	**+1.0**	
BUM	**Brajici-Budva**	**79.34**	**14**⇓	*i*P		**P**	**20 54 18.7**	**-1.3**	
GROC	**Groznyy**	**79.34**	**354**	*e*P		**P**	**20 54 18.6**	**-1.3**	
GROC				*e*			20 57 18.3		
GROC				*e*S		**S**	**21 04 16.1**	**-3.1**	
GROC				pmax	pmax				
	comp=Z,174nm,1.7s								
NEY	**Neytrino**	**79.45**	**356**	*de*P		**P**	**20 54 20.8**	**0.0**	
NEY				pmax	pmax				
	comp=Z,11nm,1.5s								
MAK	**Makhachkala**	**79.47**	**352**⇓	*i*P		**P**	**20 54 18.6**	**-2.0**	
MAK				*e*			20 57 18.7		
MAK				*e*PPP		PPP	20 59 07.5		
MAK				*e*S		**S**	**21 04 20.0**	**-0.6**	
MAK				pmax	pmax				
	comp=Z,613nm,1.5s								
MAK				smax	smax				
	comp=E,430nm,1.1s								
MAK				smax	smax				
	comp=N,261nm,1.1s								
DRME	**Dracevica, Mon**	**79.49**	**13**⇓	*i*P		**P**	**20 54 20.0**	**-0.8**	
DRME	**Dracevica, Mon**	**79.49**	**13**⇓	*i*P		**P**	**20 54 19.4**	**-1.4**	
SFS	**San Fernando**	**79.49**	**34**	*e*P		**P**	**20 54 22.1**	**+1.2**	
	comp=N,169nm,1.3s								
SFS				LR	LR				
	comp=Z,10μm,19.0s								
SFS	**San Fernando**	**79.49**	**34**⇓	*i*P		**P**	**20 54 21.2**	**+0.4**	
SFS				*i* S		**S**	**21 04 25.4**	**+4.5**	
VTS	**Vitosha**	**79.54**	**10**	P		**P**	**20 54 18.9**	**-2.3**	
VTS	**Vitosha**	**79.54**	**10**⇑	*i*P		**P**	**20 54 20.2**	**-1.0**	
VTS	**Vitosha**	**79.54**	**10**	P		**P**	**20 54 19.7**	**-1.5**	
VTS	**Vitosha**	**79.54**	**10**	P		**P**	**20 54 18.9**	**-2.3**	
VTS	**Vitosha**	**79.54**	**10**	P		**P**	**20 54 18.9**	**-2.3**	
CNIL	**Conil**	**79.62**	**34**	*i* P		**P**	**20 54 21.2**	**-0.3**	
PGB	**Panagyurishte**	**79.67**	**10**	P		**P**	**20 54 20.8**	**-1.0**	
ULC	**Ulcinj**	**79.72**	**13**⇓	*i*P		**P**	**20 54 20.9**	**-1.1**	
EMAL	**Malaga-Limoner**	**79.74**	**33**⇓	*i*P		**P**	**20 54 22.0**	**-0.2**	
ZEI	**Tsey**	**79.86**	**355**	*e*P		**P**	**20 54 21.2**	**-1.8**	
ZEI				*e*			20 57 26.8		
ZEI				*e*S		**S**	**21 04 24.3**	**-0.9**	
ZEI				pmax	pmax				
	comp=Z,107nm,1.6s								
CART	**Cartagena**	**79.93**	**30**	*e*P		**P**	**20 54 23.4**	**+0.2**	
	comp=Z,154nm,1.3s								
CART				LR	LR				
	comp=Z,15μm,20.0s								
CART	**Cartagena**	**79.93**	**30**⇓	*i*P		**P**	**20 54 22.4**	**-0.8**	
JMB	**Yambol**	**79.95**	**8**	P		**P**	**20 54 22.3**	**-0.9**	
SKO	**Skopje**	**79.97**	**12**	*e*P		**P**	**20 54 22.8**	**-0.6**	
SKO	**Skopje**	**79.97**	**12**	P		**P**	**20 54 22.8**	**-0.6**	
SKO	**Skopje**	**79.97**	**12**	*i* P		**P**	**20 54 23.2**	**-0.1**	
SKO	**Skopje**	**79.97**	**12**	*e*P		**P**	**20 54 22.8**	**-0.6**	
PHP	**Peshkopia**	**80.14**	**13**	*e*P		**P**	**20 54 23.3**	**-1.0**	
PHP	**Peshkopia**	**80.14**	**13**	P		**P**	**20 54 23.3**	**-1.0**	
PHP	**Peshkopia**	**80.14**	**13**	*e*P		**P**	**20 54 23.3**	**-1.0**	
PLD	**Plovdiv**	**80.16**	**9**	P		**P**	**20 54 23.3**	**-1.1**	
BAI	**Bari**	**80.24**	**15**	*e*P		**P**	**20 54

RDO	Rodhopi	81.18	9	P		P		20 54 29.3	-0.5
EPOS	Posof	81.19	356	⇓	iP	P		20 54 29.8	-0.4
AKH	Akhalkalaki	81.25	355		eP	P		20 54 31.1	+0.6
	comp=Z,130nm,1.6s								
AKH	Akhalkalaki	81.25	355	⇑	iP	P		20 54 31.0	+0.5
PVLZ	Peæn de	81.26	33	⇓	iP	P		20 54 28.1	-2.3
KAST	KASTAMONU	81.28	2	⇓	iP	P		20 54 30.2	-0.3
SOH	Sokhos	81.30	11		P	P		20 54 30.0	-0.6
SOH	Sokhos	81.30	11		P	P		20 54 30.0	-0.6
SOH	Sokhos	81.30	11		P	P		20 54 30.0	-0.6
HNR	Honiara	81.31	237		LR	LR		21 23 24.1	
	comp=Z,11µm,21.2s,baz=26,slow=30								
DBOC	Borcka	81.39	357	⇓	iP	P		20 54 30.2	-0.9
THE	Thessaloniki	81.45	11		P	P		20 54 30.4	-0.9
THE	Thessaloniki	81.45	11		P	P		20 54 30.4	-0.9
THE	Thessaloniki	81.45	11		P	P		20 54 30.4	-0.9
NEST	Nestorio	81.46	12		P	P		20 54 30.8	-0.7
ALN	Alexandroupoli	81.47	8		P	P		20 54 30.8	-0.6
ALN	Alexandroupoli	81.47	8		P	P		20 54 30.8	-0.6
ALN	Alexandroupoli	81.47	8		P	P		20 54 30.8	-0.6
HORT	Hortiatis	81.50	11		P	P		20 54 30.5	-1.2
HORT	Hortiatis	81.50	11		P	P		20 54 30.5	-1.2
ARTV	Artvin	81.54	356	⇓	iP	P		20 54 31.7	-0.4
KAND	Kocaeli-Kandir	81.54	5	⇓	iP	P		20 54 31.0	-0.7
MELI	Melilla	81.54	32	⇓	iP	P		20 54 30.1	-1.7
RTC	Rabat Centre	81.58	36		PFAKE			20 54 40.0	+7.9
RTC					LR	LR			
	comp=Z,41µm,21.0s								
KESN	Edirne-Kesan	81.59	8	⇓	iP	P		20 54 31.4	-1.1
THAS	Thassos island	81.64	10		P	P		20 54 31.7	-0.6
DAGI	Agillar	81.65	356	⇓	iP	P		20 54 31.4	-1.1
KZN	Kozani	81.65	12		P	P		20 54 31.1	-1.4
KZN	Kozani	81.65	12		P	P		20 54 31.1	-1.4
KZN	Kozani	81.65	12		P	P		20 54 31.1	-1.4
PENT	Pentalofos	81.69	12		P	P		20 54 31.8	-0.9
ILGA	Ilgaz	81.71	3	⇓	iP	P		20 54 32.7	-0.3
ILGA	Ilgaz	81.71	3		eP	P		20 54 34.1	+1.1
	comp=Z,142nm,1.3s								
ILGA					LR	LR			
	comp=Z,8µm,21.0s								
DBAD	Bademkaya	81.72	357	⇓	iP	P		20 54 31.6	-1.3
BUY	Buyukada	81.72	6	⇓	iP	P		20 54 31.7	-1.0
HAVZ	Havza	81.73	1	⇓	iP	P		20 54 33.3	+0.5
PLG	Polygyros	81.76	11		P	P		20 54 31.8	-1.2
PLG	Polygyros	81.76	11		P	P		20 54 31.8	-1.2
SART	Tekirdag	81.76	8	⇓	iP	P		20 54 32.4	-0.7
SAHE	Sakarya_HENDEK	81.81	5	⇓	iP	P		20 54 31.6	-1.7
ORDU	Ordu-Boztepe	81.81	359	⇓	iP	P		20 54 32.7	-0.6
DDEM	Demirkent	81.84	356	⇓	iP	P		20 54 33.6	0.0
MACK	Trabzon	81.84	358	⇓	iP	P		20 54 32.6	-0.9
OUR	Ouranopolis	81.85	10		P	P		20 54 31.8	-1.6
OUR	Ouranopolis	81.85	10		P	P		20 54 31.8	-1.6
OUR	Ouranopolis	81.85	10		P	P		20 54 31.8	-1.6
SMTH	Samothraki Isl	81.85	9		eP	P		20 54 32.2	-1.2
SMTH	Samothraki Isl	81.85	9		P	P		20 54 32.2	-1.2
SRN	Sarande	81.86	13		eP	P		20 54 31.8	-1.7
SRN	Sarande	81.86	13		P	P		20 54 31.8	-1.7
BCAM	Yenicaga	81.90	4	⇓	iP	P		20 54 32.5	-0.3
LIT	Litokhoron	81.93	11		P	P		20 54 32.7	-1.2
LIT	Litokhoron	81.93	11		P	P		20 54 32.7	-1.2
LIT	Litokhoron	81.93	11		P	P		20 54 32.7	-1.2
EAK	Akyaka	81.97	355	⇓	iP	P		20 54 34.6	+0.4
LSA	Lhasa	81.97	315		P	P		20 54 36.2	+1.4
LSA					pmax	pmax			
	comp=Z,120nm,1.5s								
LSA					pmax	pmax			
	comp=Z,2µm,10.8s								
LSA					LR	LR			
	comp=Z,7µm,18.2s								
LSA					LR	LR			
	comp=Z,4µm,21.1s								
LSA					LR	LR			
	comp=Z,20µm,18.2s								
LSA	Lhasa	81.97	315		eP	P		20 54 36.2	+1.4
	comp=Z,276nm,1.5s								
LSA					LR	LR			
	comp=Z,20µm,18.0s								
LSA	Lhasa	81.97	315		P	P		20 54 36.3	+1.4
KEK	Kerkira	82.00	13		P	P		20 54 32.6	-1.6
KEK	Kerkira	82.00	13		P	P		20 54 32.6	-1.6
AVE	Averroes	82.04	36	⇓	iP	P		20 54 34.7	+0.1
BTAS	Taskesti	82.10	5	⇓	iP	P		20 54 34.4	-0.4
TIP	Timpagrande	82.11	16		eP	P		20 54 33.8	-1.1
TIP					LR	LR			
	comp=Z,10µm,21.0s								
TIP	Timpagrande	82.11	16	⇑	iP	P		20 54 34.8	-0.1
TIP	Timpagrande	82.11	16		P	P		20 54 33.8	-1.1
ERBA	Erbaa	82.13	0	⇓	iP	P		20 54 35.5	+0.5
CTAK	Corum_Osmancik	82.14	2	⇓	iP	P		20 54 35.7	+0.5
GEYV	SAKARYA_Geyve	82.15	5	⇓	iP	P		20 54 34.7	-0.3
SGD	Sagiada	82.15	13		P	P		20 54 34.4	-0.6
GADA	Gvkgeada	82.16	9		P	P		20 54 33.7	-1.3
GADA	Gvkgeada	82.16	9		P	P		20 54 33.7	-1.3
JAN	Janina	82.19	13		eP	P		20 54 34.5	-0.8
JAN	Janina	82.19	13		P	P		20 54 34.5	-0.8
KNL	Bal¯-kesir	82.20	7	⇓	iP	P		20 54 34.8	-0.5
LKP	Lekhapani	82.21	310		eP	P		20 54 36.1	+0.6
LKP					IAmb	IAmb		20 54 37.6	
	comp=Z,76nm,0.4s								
CMDR	Camlidere-ANKA	82.23	4	⇓	iP	P		20 54 35.6	0.0
IGT	Igoumenitsa	82.25	13		eP	P		20 54 34.3	-1.2
IGT	Igoumenitsa	82.25	13		P	P		20 54 34.3	-1.2
IGT	Igoumenitsa	82.25	13		eP	P		20 54 34.3	-1.2
DIGO	Kars	82.25	355	⇓	iP	P		20 54 36.2	+0.3
ELDT	Eldivan	82.27	3	⇓	iP	P		20 54 36.4	+0.5
LIA	Limnos Island	82.39	9		P	P		20 54 34.5	-1.7
LIA	Limnos Island	82.39	9		P	P		20 54 34.5	-1.7
THL	Klokotos Trika	82.41	12		P	P		20 54 34.9	-1.4
GNI	Garni	82.45	354		eP	P		20 54 38.0	+1.2
	comp=Z,199nm,1.4s								
GNI	Garni	82.45	354		P	P		20 54 37.3	+0.5
	SNR=6.4								
GNI	Garni	82.45	354		*i* P	P		20 54 37.5	+0.7
	SNR=8.4								
GNI	Garni	82.45	354	*d*	iP	P		20 54 37.3	+0.5
GNI					pmax	pmax			
	comp=Z,676nm,1.7s								
GNI					MLR	MLR			
	comp=Z,14µm,21.0s								
TOKA	Tokat	82.48	1	⇓	iP	P		20 54 37.0	+0.2
BAYB	BAYBURT	82.51	358	⇓	iP	P		20 54 37.6	+0.4
COAL	Corum-Alaca	82.54	2	⇓	iP	P		20 54 37.6	+0.4
IFR	Ifrane	82.55	35	⇓	iP	P		20 54 36.2	-1.2
EZN	Ezine	82.56	8		P	P		20 54 35.4	-1.7
EZN	Ezine	82.56	8		P	P		20 54 35.4	-1.7
EZN	Ezine	82.56	8		P	P		20 54 35.4	-1.7
SUSE	Susehri	82.59	359	⇓	iP	P		20 54 37.8	+0.2
CAEH	¯Ain El Ouahch	82.62	24		P	P		20 54 37.5	0.0
DFRA	Djebel Bou Aff	82.63	25		P	P		20 54 41.9	+4.2
KELT	Kelkit	82.64	358	⇓	iP	P		20 54 37.8	0.0
ATAH	Atahualpa	82.72	115		LR	LR		21 33 23.2	
	comp=Z,3µm,21.4s,baz=348,slow=37								
XOR	Xorichti	82.73	11		P	P		20 54 36.5	-1.6
XOR	Xorichti	82.73	11		P	P		20 54 36.5	-1.6
IGDI	IGDIR	82.76	355	⇓	iP	P		20 54 38.2	-0.1
BORA	Eskisehir	82.76	5	⇓	iP	P		20 54 37.5	-0.9
NEO	Neokhori	82.79	11		P	P		20 54 36.2	-2.2
NEO	Neokhori	82.79	11		P	P		20 54 36.2	-2.2
EATA	Eleskirt	82.84	356	⇓	iP	P		20 54 39.4	+0.3
SET	Setif	82.85	25		P	P		20 54 40.0	+1.2
ZIRO	ZIRO	82.85	312		eP	P		20 54 38.0	-1.1
ANTO	Ankara	82.87	3		eP	P		20 54 39.3	+0.4
	comp=Z,187nm,1.1s								
ANTO	Ankara	82.87	3	⇑	iP	P		20 54 39.2	+0.4
ANTO	Ankara	82.87	3		P	P		20 54 39.4	+0.6
	SNR=46								
CEL	Celeste	82.88	17		PFAKE			20 54 50.0	+11
CEL					LR	LR			
	comp=Z,8µm,18.0s								
BR231	Keskin MP Arra	82.90	3		eP	P		20 54 39.9	+0.8
CUZAR	Zara_SIVAS	82.92	360	⇓	iP	P		20 54 39.8	+0.6
DURS	Dursunbey	82.93	7	⇓	iP	P		20 54 38.0	-1.2
SCER	sogukcermik	82.94	0	⇓	iP	P		20 54 39.8	+0.5
CKFL	Kef-Lekhel	82.96	24		P	P		20 54 38.4	-1.0
AGG	Agios Georgios	82.98	12		eP	P		20 54 38.1	-1.3
AGG					LR	LR			
	comp=Z,7µm,21.0s								
AGG	Agios Georgios	82.98	12		P	P		20 54 38.1	-1.3
AGG	Agios Georgios	82.98	12		eP	P		20 54 38.1	-1.3
AGG					MLR	MLR			
	comp=Z,7µm,21.0s								
AOS	Alonnisos	82.99	10		P	P		20 54 37.2	-2.2
AOS	Alonnisos	82.99	10		P	P		20 54 37.2	-2.2
PTCN	Pitcairn Islan	83.00	168		PFAKE			20 54 50.0	+11
PTCN					LR	LR			
	comp=Z,14µm,18.0s								
LKD2	Lefkada island	83.02	13		P	P		20 54 37.4	-2.2
LKD2	Lefkada island	83.02	13		P	P		20 54 37.4	-2.2
EVR	Evrytania	83.03	12		P	P		20 54 39.0	-0.7
EVR	Evrytania	83.03	12		P	P		20 54 39.0	-0.7
QIZ	Qiongzhong	83.03	294		P	P		20 54 34.4	-5.5
QIZ					pP	sP		20 54 46.7	-1.8
QIZ					S	S		21 04 51.0	-7.2
QIZ					sS	ScS		21 05 12.2	-0.3
QIZ					SS	SS		21 10 16.8	-4.4
QIZ					LR	LR			
	comp=Z,8µm,15.2s								
QIZ					LR	LR			
	comp=Z,10µm,19.6s								
QIZ					LR	LR			
	comp=Z,8µm,19.6s								
QIZ	Qiongzhong	83.03	294		eP	P		20 54 41.6	+1.7
	comp=Z,132nm,1.3s								
QIZ					LR	LR			
	comp=Z,9µm,20.0s								
BR101	Keskin Array S	83.04	3		eP	P		20 54 39.5	-0.3
BR101					ePKKPbc	PKKPbc		21 12 59.4	+0.6
BR131	Keskin Array S	83.04	3		eP	P		20 54 39.6	-0.2
BR131	Keskin Array S	83.04	3		P	P		20 54 39.7	-0.2
	SNR=46								
BR131					S	S		21 04 53.6	-4.4
BRTR	Keskin Array B	83.04	3		P	P		20 54 39.5	-0.2
	comp=Z,20nm,0.7s,baz=357,slow=2.5,SNR=77								
BRTR					PKKPbc	PKKPbc		21 12 59.4	+0.6
	comp=Z,1.8nm,1.0s,baz=188,slow=4.7,SNR=5.7								
BRTR					PKPPKP	P'P'df		21 21 02.2	-11
	comp=Z,1.4nm,1.0s,baz=183,slow=9.9,SNR=4.6								
BRTR					LR	LR		21 32 28.2	
	comp=Z,5µm,21.6s,baz=352,slow=36								
CASM	Ain Smara	83.04	25		P	P		20 54 39.6	-0.2
CKHR	Kef el Ahmar	83.05	25		P	P		20 54 43.2	+3.3
EUZM	Uzumlu	83.08	358	⇓	iP	P		20 54 40.4	+0.4
AYVA	Ayvalik	83.10	8	⇓	iP	P		20 54 39.0	-1.0
STEP	BALIKESIR_Sava	83.10	7	⇓	iP	P		20 54 39.0	-1.1
CLTB	Caltabellotta	83.11	19		eP	P		20 54 40.8	+0.6
	comp=Z,198nm,1.4s								
CLTB					LR	LR			
	comp=Z,11µm,18.0s								
DYDN	Diyadin	83.11	355	⇓	iP	P		20 54 40.5	+0.3
PRK	Paraskevi	83.13	8		P	P		20 54 38.5	-1.6
PRK	Paraskevi	83.13	8		P	P		20 54 38.5	-1.6
PRK	Paraskevi	83.13	8		P	P		20 54 38.5	-1.6
SIGR	SIGRI	83.13	9		eP	P		20 54 38.8	-1.3
SIGR	SIGRI	83.13	9		P	P		20 54 38.8	-1.3
ECAT	Cat-ERZURUM	83.15	357	⇓	iP	P		20 54 40.9	+0.4
CDAG	Cicekdag	83.16	2	⇓	iP	P		20 54 40.3	-0.1
EVGI	Lefkada island	83.18	13		P	P		20 54 39.5	-0.9
BBAL	Bala	83.20	3	⇓	iP	P		20 54 40.3	-0.4
CTEI	Djebel Teioual	83.21	25		P	P		20 54 40.5	-0.3
GEYT	Alibeck	83.25	343		P	P		20 54 40.8	-0.1
	comp=Z,24nm,1.1s,baz=76,slow=20,SNR=56								
GEYT					S	S		21 05 01.6	+1.6
	comp=Z,0.4nm,0.6s,baz=346,slow=31,SNR=2.3								
GEYT					LR	LR		21 37 18.0	
	comp=Z,6µm,18.8s,baz=295,slow=40								
GYA0B	ALIBECK ARRAY	83.25	343		eP	P		20 54 41.3	+0.5
	comp=Z,131nm,1.3s								
GYA0B					LR	LR			
	comp=Z,12µm,19.0s								
PVO	Paravola	83.29	12		P	P		20 54 40.4	-0.6
FSK	Fiskardo	83.33	13		P	P		20 54 40.2	+1.0
ANX	Ano Chora	83.36	12		P	P		20 54 40.7	-0.7
JORH	JORHAT	83.38	311		eP	P		20 54 42.2	+0.6
CUSAR	Sarkisla-SIVAS	83.39	1	⇓	iP	P		20 54 41.4	-0.3
REFA	Refahiye_ERZ¯	83.40	359	⇓	iP	P		20 54 38.8	-3.0
LKR	Lokris	83.42	11		P	P		20 54 39.4	-2.2
LKR	Lokris	83.42	11		P	P		20 54 39.4	-2.2
EKAR	Karacoban	83.46	356	⇓	iP	P		20 54 43.0	+0.9
DEMI	Demirci	83.50	7	⇓	iP	P		20 54 41.5	-0.7
EFP	Efpalio	83.52	12		P	P		20 54 41.9	-0.2
KEMA	Kemaliye	83.53	359	⇓	iP	P		20 54 42.5	+0.2
CUALT	Altinyayla-SIV	83.53	0	⇓	iP	P		20 54 41.7	-0.7
SERG	Sergoula	83.55	12		P	P		20 54 41.1	-1.2
KKUL	Konya-Kulu	83.57	3	⇓	iP	P		20 54 41.4	-1.2
VRTB	Varto-Mus	83.58	357	⇓	iP	P		20 54 43.0	+0.3
TAWA	Tawang	83.58	313		eP	P		20 54 43.2	+0.2
TAWA					IAmb	IAmb		20 54 47.0	
	comp=Z,408nm,1.9s								
AKHS	Akhisar	83.61	7	⇓	iP	P		20 54 41.4	-1.2
VLS	Valsamata	83.61	13		P	P		20 54 41.6	-1.1
VLS	Valsamata	83.61	13		P	P		20 54 41.6	-1.1
VLS	Valsamata	83.61	13		P	P		20 54 41.6	-1.1
MOKO	MOKOCHONG	83.65	310		eP	P		20 54 44.2	+1.1
VMUR	Van-Muradiye	83.66	355	⇓	iP	P		20 54 43.6	+0.5
TNCL	Tunceli-Merkez	83.67	358	⇓	iP	P		20 54 44.9	+1.8
BGOL	Bingol	83.77	357	⇓	iP	P		20 54 44.2	+0.6
BNGL	BINGOL	83.79	357	⇓	iP	P		20 54 44.6	+0.8
RLS	Riolos of Patr	83.83	12		P	P		20 54 43.8	0.0
RLS	Riolos of Patr	83.83	12		P	P		20 54 43.8	0.0
ADCV	BITLIS_Adilcev	83.88	356	⇓	iP	P		20 54 44.6	+0.4
HEKM	Malatya_Hekimh	83.92	359	⇓	iP	P		20 54 44.6	+0.1
KLV	Kalavryta, Ach	83.93	12		P	P		20 54 43.4	-0.9
KLV	Kalavryta, Ach	83.93	12		P	P		20 54 43.4	-0.9
BOLV	Bolvadin	83.94	5	⇓	iP	P		20 54 43.8	-0.8
CHOS	Chios island	83.96	9		P	P		20 54 43.5	-1.0
CHOS	Chios island	83.96	9		P	P		20 54 43.5	-1.0
DRO	Drossia	83.97	12		P	P		20 54 44.0	-0.5
AVNS	Nevsehir-Avano	83.98	2	⇓	iP	P		20 54 44.8	+0.1
URLA	Izmir	84.03	8	⇓	iP	P		20 54 43.4	-1.4
LTK	Loutraki	84.03	11		P	P		20 54 42.7	-2.1
LTK	Loutraki	84.03	11		P	P		20 54 42.7	-2.1
MANT	Manisa	84.04	7	⇓	iP	P		20 54 44.0	-1.2
MANT	Manisa	84.04	7		eP	P		20 54 44.6	-0.5
	comp=Z,460nm,1.2s								
CUGUR	Gurin_S¯VAS	84.08	360	⇓	iP	P		20 54 46.0	+0.8
TEZP	TEZPUR	84.08	312		eP	P		20 54 43.9	-1.2
PTL	Penteli	84.10	11	⇓	iP	P		20 54 43.9	-1.3
PTL	Penteli	84.10	11		P	P		20 54 43.9	-1.3
AKSY	AKSARAY - Alti	84.11	3	⇓	iP	P		20 54 45.2	-0.1
TVAN	Van	84.13	355	⇓	iP	P		20 54 45.7	+0.1
KEST	Kesra	84.16	22		P	P		20 54 45.6	0.0
	comp=Z,40nm,0.8s,baz=283,slow=2.1,SNR=23								
KEST					S	S		21 05 08.0	-1.4
	comp=Z,9.1nm,1.2s,baz=54,slow=19,SNR=2.8								
KEST					LR	LR		21 33 15.7	
	comp=Z,8µm,19.3s,baz=299,slow=36								
KEST	Kesra	84.16	22		eP	P		20 54 46.0	+0.4
	comp=Z,138nm,1.1s								
KEST					S	S		21 05 08.0	-1.4
KEST					LR	LR			
	comp=Z,9µm,18.0s								
ATH	Athens Observa	84.16	11		P	P		20 54 44.1	-1.3
ATH	Athens Observa	84.16	11		P	P		20 54 44.1	-1.3
ATH	Athens Observa	84.16	11		P	P		20 54 44.1	-1.3
KDHN	Kadinhani	84.19	4	⇓	iP	P		20 54 44.8	-0.9
KHAL	Karahalli	84.22	6	⇓	iP	P		20 54 44.8	-1.1
VLY	Voula,Athens	84.29	11		eP	P		20 54 44.1	-2.0
VLY	Voula,Athens	84.29	11		P	P		20 54 44.1	-2.0
ELZG	Elazig	84.29	359	⇓	iP	P		20 54 47.0	+0.7
KOHI	KOHIMA	84.35	311		eP	P		20 54 46.3	-0.4
HANI	Diyarbakir_Han	84.35	357	⇓	iP	P		20 54 46.9	+0.4
DGB	¯zmir	84.36	8	⇓	iP	P		20 54 45.2	-1.2
GEVA	Gevas	84.36	355	⇓	iP	P		20 54 46.8	+0.1
KZIL	AFYON_Kizioren	84.36	6	⇓	iP	P		20 54 45.3	-1.3
AMT	Artemida-Makis	84.38	12		P	P		20 54 45.6	-1.0
KBL	Kabul	84.40	334		eP	P		20 54 45.9	-1.1
	comp=Z,115nm,1.3s								
KBL					LR	LR			
	comp=Z,9µm,20.0s								
KBL	Kabul	84.40	334		eP	P		20 54 45.9	-1.1
KBL					pmax	pmax			
	comp=Z,115nm,1.3s								
KBL					MLR	MLR			
	comp=Z,9µm,20.0s								
ELBS	KAHRAMANMARAS	84.48	0	⇓	iP	P		20 54 47.9	+0.6
AKCD	Akcadag	84.51	359	⇓	iP	P		20 54 48.0	+0.6
DID	Didima	84.58	11		eP	P		20 54 45.6	-2.0
DID	Didima	84.58	11		P	P		20 54 45.6	-2.0
DOGA	KONYA_Doganhis	84.59	4	⇓	iP	P		20 54 47.6	-0.2
SVAN	Silvan-Diyarba	84.59	357	⇓	iP	P		20 54 47.6	-0.1
VLX	Vlachokerasia	84.62	12		eP	P		20 54 47.0	-0.9
VLX	Vlachokerasia	84.62	12		P	P		20 54 47.0	-0.9
DHRM	DHARAMSHALA	84.66	327		eP	P		20 54 48.0	-0.3
DHRM					IAmb	IAmb		20 54 52.7	
	comp=Z,122nm,0.8s								
BAGO	Egridir - ISPA	84.66	5	⇓	iP	P		20 54 48.0	-0.1
SMG	Samos	84.70	8		P	P		20 54 46.6	-1.6
GCAM	G?zelcaml?	84.74	8	⇓	iP	P		20 54 46.9	-1.5
ITM	Ithomi	84.75	12		P	P		20 54 47.0	-1.5
ITM	Ithomi	84.75	12		P	P		20 54 47.0	-1.5
KONT	Konya--Tatoy	84.77	4	⇓	iP	P		20 54 47.9	-0.6
AYDN	Tasoluk	84.82	7	⇓	iP	P		20 54 48.1	-0.8
DIYA	Diyarbakir	84.85	358	⇓	iP	P		20 54 49.6	+0.6
BTMN	Batman	84.85	357	⇓	iP	P		20 54 49.2	+0.2
JAY	Jayapura	84.86	257		P	P		20 54 50.3	+1.1
	comp=Z,69nm,1.1s,baz=346,slow=3.3,SNR=8.5								
JAY	Jayapura	84.86	257		P	P		20 54 50.3	+1.1
JAY					pmax	pmax			
	comp=Z,62nm,1.1s								
DNZL	Cakiroluk	84.87	6	⇓	iP	P		20 54 49.3	0.0
BRDR	BURDUR-Merkez	84.92	6	⇓	iP	P		20 54 47.9	-1.5
DAV	Davao City (W)	84.93	275		LR	LR		21 33 02.2	
	comp=Z,2µm,18.6s,baz=60,slow=36								
DAV	Davao City (W)	84.93	275	⇑	eP	P		20 54 49.9	+0.3
DAV	Davao City (W)	84.93	275		eP	P		20 54 50.8	+1.2
	comp=Z,230nm,0.6s								
DAV	Davao City (W)	84.93	275		P	P		20 54 52.7	+3.1
	SNR=9.2								
KMER	Konya-Meram	84.95	4	⇓	iP	P		20 54 48.5	-1.1
PYL	PYLOS	85.02	12		P	P		20 54 48.4	-1.4
PYL	PYLOS	85.02	12		P	P		20 54 48.4	-1.4
YOVA	Hakkari_Y¯…kse	85.03	354	⇓	iP	P		20 54 49.9	-0.2
WDD	Wied Dalam	85.03	18		PFAKE			20 55 00.0	+10
WDD					LR	LR			
	comp=Z,6µm,20.0s								
GTK	Tadong	85.08	316		eP	P		20 54 50.5	0.0
GTK					IAmb	IAmb		20 54 52.9	
HAKT	HAKKARI	85.08	355	⇓	iP	P		20 54 49.8	-0.6
TAVA	DENIZLI_Tavas	85.08	7	⇓	iP	P		20 54 49.0	-1.3
SIRN	S¯-rnak	85.20	356	⇓	iP	P		20 54 50.9	+0.1
DYR	Agios Nikonas	85.21	12		P	P		20 54 49.8	-1.0
ANDN	Andirin	85.22	1	⇓	iP	P		20 54 51.1	+0.2
APE	Apeiranthos	85.23	9		eP	P		20 54 48.3	-2.6
APE	Apeiranthos	85.23	9		P	P		20 54 48.3	-2.6
APE	Apeiranthos	85.23	9	*d*	eP	P		20 54 48.1	-2.8
APE					pmax	pmax			
	comp=Z,107nm,1.8s								
APE					MLR	MLR			
	comp=Z,7µm,21.0s								
VLI	Veliai	85.32	11		P	P		20 54 48.9	-2.4
VLI	Veliai	85.32	11		P	P		20 54 48.9	-2.4
GOLH	Golhisar	85.35	6	⇓	iP	P		20 54 51.4	-0.2
KERG	Konya-Eregli	85.35	2	⇓	iP	P		20 54 50.8	-0.8
SHL	Shillong	85.38	312		eP	P		20 54 51.8	-0.2
	comp=Z,177nm,1.2s								
SHL					LR	LR			
	comp=Z,30µm,18.0s								
SHL	Shillong	85.38	312		eP	P		20 54 51.8	-0.2
SHL					pmax	pmax			
	comp=Z,177nm,1.2s								
SHL					MLR	MLR			
	comp=Z,30µm,18

NNA LR LR
comp=Z,8µm,20.0s
NNA Nana 87.67 117 *i* P **P** **20 55 03.1 +0.1**
SAIH SAIHA 87.68 310 *e*P **P** **20 55 03.8 +0.5**
SAIH IAmb IAmb 20 55 04.8
comp=Z,206nm,1.2s
NDI New Delhi 87.72 326 *e*P **P** **20 55 03.0 -0.2**
PHNC Paralimni 87.76 3 P **P** **20 55 06.8 +3.5**
CSS Mathiatis 87.78 3 P **P** **20 55 02.7 -0.7**
CSS Mathiatis 87.78 3 P **P** **20 55 04.0 +0.6**
CSS Mathiatis 87.78 3 P **P** **20 55 02.7 -0.7**
PPCY Paphos 87.82 4 P **P** **20 55 02.2 -1.4**
SZAC Souni 87.97 4 P **P** **20 55 03.8 -0.5**
CHTO Chiang Mai 88.35 303 *e*P **P** **20 55 06.8 +0.4**
comp=Z,107nm,1.4s
CHTO LR LR
comp=Z,16µm,20.0s
CHTO Chiang Mai 88.35 303 P **P** **20 55 06.4 0.0**
SNR=28
CHTO Chiang Mai 88.35 303 *e*P **P** **20 55 06.8 +0.4**
CHTO pmax pmax
comp=Z,107nm,1.4s
CHTO MLR MLR
comp=Z,16µm,20.0s
SIJI Sorong 88.50 266 P **P** **20 55 08.1 +1.0**
comp=Z,30nm,1.0s,baz=54,slow=6.1,SNR=6.1
CM31 Chiang Mai Arr 88.67 303 *e*P **P** **20 55 08.2 +0.4**
CM31 *e*PKKPbc **PKKPbc** **21 12 47.9 +2.6**
CM31 Chiang Mai Arr 88.67 303 P **P** **20 55 08.5 +0.7**
SNR=45
CMAR Chiang Mai Arr 88.67 303 P **P** **20 55 08.2 +0.4**
comp=Z,71nm,1.1s,baz=12,slow=4.7,SNR=142
CMAR PKKPbc **PKKPbc** **21 12 47.9 +2.6**
comp=Z,0.7nm,1.0s,baz=229,slow=4.5,SNR=4.5
CMAR LR LR 21 38 19.3
comp=Z,14µm,19.5s,baz=36,slow=38
CM01 Chiang Mai Arr 88.69 303 *e*P **P** **20 55 07.3 -0.6**
BHL Bhannes 88.88 1 *e*P **P** **20 55 08.5 -0.2**
RPN Rapa Nui 88.94 151 LR LR 21 26 34.0
comp=Z,9µm,18.3s,baz=344,slow=30
RPN Rapa Nui 88.94 151 PFAKE 20 55 20.0 +11
RPN LR LR
comp=Z,12µm,19.0s
DQRL Deir Qamar 89.08 1 *e*P **P** **20 55 09.5 -0.2**
BOK Bokaro 89.29 316 *e*P **P** **20 55 09.6 -1.1**
BOK IAmb IAmb 20 55 11.5
comp=Z,521nm,2.6s
SHBL Chebaa 89.44 1 *e*P **P** **20 55 11.3 -0.1**
CHAI Chaiyaphum 89.49 299 P **P** **20 55 12.6 +0.9**
FAKI Fak Fak 89.69 264 *e*P **P** **20 55 12.8 +0.1**
comp=Z,92nm,1.3s
KDM Kudat 89.71 282 P **P** **20 55 14.0 +1.3**
DZM Mont Dzumac 89.88 226 LR LR 21 33 57.8
comp=Z,6µm,18.0s,baz=32,slow=34
DZM Mont Dzumac 89.88 226 *e*P **P** **20 55 12.6 -0.7**
comp=Z,75nm,1.2s
DZM Mont Dzumac 89.88 226 *e*PP PP 20 58 45.9 -0.5
comp=Z,265nm,24.4s
DZM *e*S **S** **21 06 00.2 -4.3**
comp=Z,5µm,24.9s
DZM *e*SS **SS** **21 12 00.6 -2.3**
comp=Z,5µm,26.0s
DZM Mont Dzumac 89.88 226 *e*LR LR 21 23 57.0
comp=Z,11µm,25.2s
SRAK Srakaew 91.10 298 P **P** **20 55 19.1 -0.1**
RAO Raoul Island 91.37 210 LR LR 21 28 17.1
comp=Z,8µm,21.7s,baz=20,slow=30
RAO Raoul Island 91.37 210 PFAKE 20 55 30.0 +10
RAO LR LR
comp=Z,8µm,22.0s
SAML Samuel 91.99 103 PFAKE 20 55 30.0 +6.8
SAML LR LR
comp=Z,19µm,19.0s
BWNR Bhubaneshwar 92.51 315 *e*P **P** **20 55 24.3 -1.3**
BWNR IAmb IAmb 20 55 28.3
comp=Z,42nm,1.0s
BHPL Bhopal 92.74 323 *e*P **P** **20 55 25.3 -1.5**
BHPL IAmb IAmb 20 55 26.9
comp=Z,55nm,1.1s
PHET Kaeng Krachan 93.20 300 P **P** **20 55 31.2 +2.3**
LUWI Luwuk 93.22 273 *e*P **P** **20 55 27.6 -1.4**
comp=Z,144nm,1.2s
NGP Nagpur 94.15 321 *e*P **P** **20 55 31.8 -1.4**
NGP IAmb IAmb 20 55 33.5
comp=Z,32nm,1.2s
BHJ Bhuj 95.01 330 *e*P **P** **20 55 37.0 -0.1**
BHJ IAMs_20 IAMs_20 21 36 30.9
comp=Z,6µm,23.5s
SHME Shamm 95.20 343 *i* P **P** **20 55 37.6 -0.4**
SNR=14
BANOM Banah 95.30 343 P **P** **20 55 39.7 +1.2**
SNR=13
BANOM Banah 95.30 343 *i* P **P** **20 55 39.7 +1.2**
SNR=12
LPAZ La Paz 95.65 111 P **P** **20 55 38.6 -2.1**
comp=Z,4.1nm,0.8s,baz=337,slow=3.4,SNR=14
LPAZ S **SKSac** **21 06 15.1 -1.1**
comp=Z,0.4nm,0.5s,baz=43,slow=7.5,SNR=1.5
LPAZ PKKPbc **PKKPdf** **21 12 31.2 +1.6**
comp=Z,2.4nm,1.0s,baz=34,slow=2.3,SNR=6.1
LPAZ LR LR 21 42 47.5
comp=Z,6µm,19.0s,baz=328,slow=38
LPAZ La Paz 95.65 111 *e*P **P** **20 55 38.9 -1.8**
LPAZ *e*PcP **PcP** **20 55 39.5 -1.5**
LPAZ S **SKSac** **21 06 15.1 -1.1**
LPAZ PKKPbc **PKKPdf** **21 12 31.2 +1.6**
LPAZ La Paz 95.65 111 *e*P **P** **20 55 38.9 -1.8**
LPAZ *e* 20 55 39.5
LPAZ S **SKSac** **21 06 15.1 -1.1**
TAM Tamanrasset 95.69 29 *e*P **P** **20 55 39.9 -0.5**
TAM LR LR
comp=Z,13µm,19.0s
MSFE Esma-Masafi 95.87 343 *i* P **P** **20 55 40.3 -0.8**
SNR=7.9
SBUM Sibu 95.91 284 *e*P **P** **20 55 41.8 +0.5**
comp=Z,20nm,1.2s
SBUM LR LR
comp=Z,2µm,20.0s
MDH Madha 95.91 343 *i* P **P** **20 55 39.8 -1.4**
SNR=8.4
UOSS Minazif 96.27 343 *e*P **P** **20 55 42.2 -0.6**
comp=Z,57nm,1.5s
UOSS LR LR
comp=Z,7µm,20.0s
UOSS Minazif 96.27 343 P **P** **20 55 41.6 -1.2**
SNR=14
UOSS Minazif 96.27 343 *i* P **P** **20 55 41.5 -1.4**
SNR=8.8
NAZ Nazwa, Dubai 96.31 343 P **P** **20 55 42.4 -0.7**
SNR=18
NAZ Nazwa, Dubai 96.31 343 *i* P **P** **20 55 42.4 -0.7**
SNR=13
HATD Hatta, Dubai 96.40 343 P **P** **20 55 42.7 -0.8**
SNR=24
HATD Hatta, Dubai 96.40 343 *i* P **P** **20 55 42.5 -0.9**
SNR=12
ASHO Ashiyiah 96.55 343 P **P** **20 55 43.2 -1.0**
SNR=18
ASHO Ashiyiah 96.55 343 *i* P **P** **20 55 43.3 -0.9**
SNR=18
FAQ Al Faqa, Dubai 96.56 343 P **P** **20 55 43.2 -1.0**
SNR=9.6
FAQ Al Faqa, Dubai 96.56 343 *i* P **P** **20 55 43.3 -1.0**
SNR=7.5
ASUD Al Ashush, Dub 96.72 343 P **P** **20 55 44.6 -0.3**
SNR=11
ASUD Al Ashush, Dub 96.72 343 *i* P **P** **20 55 44.6 -0.3**
SNR=14
AJN Ajban 96.83 344 *i* P **P** **20 55 44.5 -0.9**
SNR=6.7
CTA Charters Tower 96.99 243 LR LR 21 33 24.0
comp=Z,3µm,20.2s,baz=24,slow=32
CTAO Charters Tower 96.99 243 PFAKE 20 56 00.0 +14
CTAO LR LR
comp=Z,5µm,21.0s
SOHO SOHO 97.01 342 *i* P **P** **20 55 45.0 -1.2**
SNR=9.6
ALNE Al Ain 97.21 343 *i* P **P** **20 55 46.5 -0.7**
SNR=5.6
MNMC Minye Minye 97.33 114 *e*P Pdif 20 55 48.2 +0.2
comp=Z,21nm,1.1s
MNMC LR LR
comp=Z,4µm,20.0s
BIDO Bidbid 97.34 341 P Pdif 20 55 48.0 +0.2
SNR=6.6
PBA Port Blair 97.43 305 PFAKE 20 56 00.0 +12
PBA LR LR
comp=Z,14µm,21.0s
WSAR Wadi Sarin 97.52 340 P Pdif 20 55 48.7 +0.1
SNR=16
KSM Kuching 97.73 285 *e*P Pdif 20 55 52.4 +2.8
comp=Z,44nm,1.2s
KSM LR LR
comp=Z,2µm,20.0s
KSM Kuching 97.73 285 P Pdif 20 55 52.0 +2.4
HYB Hyderabad 97.78 320 *i* P **P** **20 55 48.0 -1.8**
HYB *e*PP **PP** **20 59 50.0 +2.8**
HYB *e*SKS **SKSac** **21 06 28.0 +1.5**
HYB *e*S **S** **21 07 10.0 -4.7**
HYB *e*PS **PS** **21 08 38.0 -1.0**
HYB *e*SS **SS** **21 13 56.0 +2.0**
SMDO Samad 97.80 341 P **P** **20 55 49.4 -0.5**
SNR=6.2
PB11 IPOC Station P 97.84 114 *e*P **P** **20 55 49.8 -0.2**
comp=Z,21nm,1.0s
PB11 LR LR
comp=Z,6µm,22.0s
BOM Bombay 98.25 326 *ex* **SKSac** **21 06 25.5 -3.2**
BSY Bisya 98.26 341 P Pdif 20 55 52.5 +0.6
SNR=8.4
POO Poona 98.28 325 *e*P **P** **20 55 51.5 -0.5**
POO *e*P Pdif 20 55 52.0 -0.1
POO IAMs_20 IAMs_20 21 38 48.5
comp=Z,5µm,18.5s
MZR Muzera 98.59 345 *i* P **P** **20 55 52.6 -0.7**
SNR=7.5
RAYN Ar Rayn 98.93 352 *e*P Pdif 20 55 55.0 +0.1
comp=Z,116nm,1.6s
RAYN LR LR
comp=Z,6µm,20.0s
RAYN Ar Rayn 98.93 352 *i* P **P** **20 55 54.5 -0.5**
SNR=33
RAYN Ar Rayn 98.93 352 *e*P Pdif 20 55 55.0 +0.1
RAYN pmax pmax
comp=Z,116nm,1.6s
RAYN MLR MLR
comp=Z,6µm,20.0s
SIV San Ignacio 99.01 105 PKKPbc PKKPbc 21 12 22.5 +3.7
comp=Z,1.7nm,1.1s,baz=89,slow=7.4,SNR=3.8
PB01 IPOC Station P 99.01 115 *e*P **Pdif** **20 55 54.7 -0.4**
comp=Z,14nm,1.0s
PB01 LR LR
comp=Z,4µm,20.0s
EIDS Eidsvold 99.27 237 PFAKE 20 56 10.0 +14
EIDS LR LR
comp=Z,8µm,20.0s
KULM Kulim 99.34 295 PFAKE 20 56 10.0 +13
KULM LR LR
comp=Z,7µm,18.0s
KULM Kulim 99.34 295 P **Pdif** **20 55 58.0 +1.2**
OUZ Omahuta 99.42 215 PFAKE 20 56 10.0 +14
OUZ LR LR
comp=Z,8µm,20.0s
PB04 IPOC Station P 99.78 116 PFAKE 20 56 10.0 +11
PB04 LR LR
comp=Z,4µm,19.0s
IPM Ipoh 99.86 295 PFAKE 20 56 10.0 +11
IPM LR LR
comp=Z,7µm,18.0s
MXZ Matakaoa Point 100.23 210 PFAKE 20 56 10.0 +10
MXZ LR LR
comp=Z,9µm,20.0s
KOWA Kowa 100.58 40 PFAKE 20 56 10.0 +7.7
KOWA LR LR
comp=Z,14µm,18.0s
PB10 IPOC Station P 100.59 117 PFAKE 20 56 10.0 +8.0
PB10 LR LR
comp=Z,4µm,19.0s
LVC Limon Verde 100.62 115 PFAKE 20 56 10.0 +7.4
LVC LR LR
comp=Z,5µm,21.0s
MYKOM Kota Tinggi 100.77 291 PFAKE 20 56 10.0 +6.9
MYKOM LR LR
comp=Z,6µm,20.0s
MYKOM Kota Tinggi 100.77 291 P **Pdif** **20 56 05.0 +1.9**
LHMI Lhok Sumawe 101.17 299 PFAKE 20 56 20.0 +15
LHMI LR LR
comp=Z,5µm,19.0s
URZ Urewera 101.21 211 PFAKE 20 56 20.0 +16
URZ LR LR
comp=Z,10µm,22.0s
LHI Lord Howe Isla 101.23 228 PFAKE 20 56 20.0 +15
LHI LR LR
comp=Z,8µm,20.0s
BKZ Black Stump Fm 102.23 211 PFAKE 20 56 20.0 +11
BKZ LR LR
comp=Z,10µm,20.0s
PSI Prapat 102.34 296 *e*Pdif **Pdif** **20 56 11.1 +0.8**
PSI LR LR
comp=Z,8µm,18.0s
PSI Prapat 102.34 296 *e*P **Pdif** **20 56 11.1 +0.8**
PSI MLR MLR
comp=Z,8µm,18.0s
WB0 Warramunga Arr 102.66 253 PFAKE 20 56 20.0 +8.7
WB0 LR LR
comp=Z,4µm,21.0s
WC2 Warramunga Arr 102.80 253 PFAKE 20 56 20.0 +8.1
WC2 LR LR
comp=Z,4µm,20.0s
WRAB Tennant Creek 102.82 253 PFAKE 20 56 20.0 +8.0
WRAB LR LR
comp=Z,4µm,20.0s
WR2 Warramunga Arr 102.82 253 PFAKE 20 56 20.0 +8.0
WR2 LR LR
comp=Z,4µm,20.0s
WB2 Warramunga Arr 102.82 253 *e*Pdif **Pdif** **20 56 10.3 -1.7**
WB2 LR LR
comp=Z,5µm,21.0s
WR1 Warramunga Arr 102.83 253 *e*Pdif **Pdif** **20 56 12.1 0.0**
WR1 *e*PKKPbc **PKKPbc** **21 12 06.7 -1.2**
WR1 LR LR
comp=Z,4µm,20.0s
WRA Warramunga Arr 102.83 253 P **Pdif** **20 56 12.1 0.0**
comp=Z,2.6nm,1.0s,baz=39,slow=5.2,SNR=10.0
WRA PKiKP **PKiKP** **21 00 31.5 -1.0**
comp=Z,5.8nm,1.1s,baz=17,slow=1.7,SNR=4.9
WRA PKKPbc **PKKPbc** **21 12 06.7 -1.2**
comp=Z,0.6nm,0.7s,baz=222,slow=2.6,SNR=8.0
ARMA Armidale 103.38 234 PFAKE 20 56 30.0 +16
ARMA LR LR
comp=Z,6µm,22.0s
BKNI Bangkinang 103.44 293 PFAKE 20 56 30.0 +15
BKNI LR LR
comp=Z,6µm,18.0s
BFZ Birch Farm 103.71 211 PFAKE 20 56 30.0 +15
BFZ LR LR
comp=Z,10µm,20.0s
TOA1 Torodi Ar. Sit 103.73 36 *e*Pdif **Pdif** **20 56 17.1 +0.8**
TOA1 *e*PKKPbc **PKKPbc** **21 12 05.9 +1.0**
TOA1 LR LR
comp=Z,14µm,21.0s
TOC2 Torodi Ar. Sit 103.73 36 PFAKE 20 56 30.0 +14
TOC2 LR LR
comp=Z,14µm,21.0s
TOA0 Torodi Ar. Sit 103.73 36 PFAKE 20 56 30.0 +14
TOA0 LR LR
comp=Z,15µm,21.0s
TORD Torodi Ar. Bea 103.73 36 Pdiff **Pdif** **20 56 17.1 +0.8**
comp=Z,0.5nm,1.1s,baz=316,slow=4.0,SNR=4.2
TORD PKKPbc **PKKPbc** **21 12 05.9 +1.0**
comp=Z,3.1nm,1.1s,baz=140,slow=1.9,SNR=12
TOB3 Torodi Ar. Sit 103.75 36 PFAKE 20 56 30.0 +14
TOB3 LR LR
comp=Z,14µm,21.0s
RCBR Riachuelo 103.97 79 PFAKE 20 56 30.0 +13
RCBR LR LR
comp=Z,8µm,22.0s
GO03 Copiap 104.19 119 PFAKE 20 56 30.0 +12
GO03 LR LR
comp=Z,3µm,22.0s
GSI Gunungsitoli 104.29 296 PFAKE 20 56 30.0 +11
GSI LR LR
comp=Z,7µm,21.0s
SNZO South Karori 104.73 212 PFAKE 20 56 30.0 +10
SNZO LR LR
comp=Z,5µm,20.0s
LCO Las Campanas 105.17 120 PFAKE 21 00 50.0
LCO LR LR
comp=Z,4µm,20.0s
BDFB Brasilia 105.64 95 PFAKE 21 00 50.0
BDFB LR LR
comp=Z,14µm,21.0s
THZ Tophouse 105.66 213 PFAKE 21 00 50.0
THZ LR LR
comp=Z,10µm,20.0s
KHZ Kahutara 106.08 212 PFAKE 21 00 50.0
KHZ LR LR
comp=Z,6µm,19.0s
GO04 Tololo Observa 106.11 121 PFAKE 21 00 50.0
GO04 LR LR
comp=Z,3µm,20.0s
ASAR Alice Springs 106.14 251 Pdiff **Pdif** **20 56 27.6 +0.8**
comp=Z,1.1nm,1.1s,baz=34,slow=5.2,SNR=3.6
ASAR PKiKP **PKiKP** **21 00 37.8 -0.6**
comp=Z,2.3nm,1.1s,baz=47,slow=1.2,SNR=3.0
ASAR PKKPbc **PKKPbc** **21 11 57.0 -1.0**
comp=Z,1.1nm,0.9s,baz=201,slow=3.5,SNR=6.0
CISI Cisompet, Garu 106.67 282 PFAKE 21 00 50.0
CISI LR LR
comp=Z,3µm,19.0s
LTZ Lake Taylor 106.78 213 PFAKE 21 00 50.0
LTZ LR LR
comp=Z,8µm,21.0s
OXZ Oxford 107.35 213 PFAKE 21 00 50.0
OXZ LR LR
comp=Z,7µm,19.0s
MQZ McQueen's Vall 107.52 212 PFAKE 21 00 50.0
MQZ LR LR
comp=Z,5µm,21.0s
DAMY Dhamar 107.89 353 PFAKE 21 00 50.0
DAMY LR LR
comp=Z,6µm,22.0s
RPZ Rata Peaks 108.00 213 PFAKE 21 00 50.0
RPZ LR LR
comp=Z,8µm,20.0s
MNCI Minicoy 108.15 322 PFAKE 21 00 50.0
MNCI LR LR
comp=Z,8µm,20.0s
FOZ Fox Glacier 108.20 214 PFAKE 21 00 50.0
FOZ LR LR
comp=Z,6µm,22.0s
PEL Peldehue 108.66 123 PFAKE 21 01 00.0
PEL LR LR
comp=Z,4µm,22.0s
CAN Canberra 108.70 233 PFAKE 21 01 00.0
CAN LR LR
comp=Z,3µm,19.0s
LBZ Lake Benmore 108.86 214 PFAKE 21 01 00.0
LBZ LR LR
comp=Z,8µm,22.0s
STKA Stephens Creek 109.16 241 PKiKP **PKiKP** **21 00 43.1 -0.6**
comp=Z,3.2nm,1.1s,baz=27,slow=2.3,SNR=2.5
STKA Stephens Creek 109.16 241 PKiKP **PKiKP** **21 00 43.1 -0.6**
STKA LR LR
comp=Z,2µm,19.0s
WKZ Wanaka 109.62 214 PFAKE 21 01 00.0
WKZ LR LR
comp=Z,7µm,20.0s
GO05 HualaæØ 109.66 125 PFAKE 21 01 00.0
GO05 LR LR
comp=Z,4µm,19.0s
DCZ Deep Cove 110.76 215 PFAKE 21 01 00.0
DCZ LR LR
comp=Z,6µm,20.0s
ATD Arta Tunnel 111.00 354 PFAKE 21 01 00.0
ATD LR LR
comp=Z,4µm,20.0s
PYZ Puysegur Point 111.54 215 PFAKE 21 01 00.0
PYZ LR LR
comp=Z,6µm,22.0s
SPB Sao Paulo 112.46 99 PFAKE 21 01 00.0
SPB LR LR
comp=Z,9µm,18.0s
BBOO Buckleboo 112.57 244 PFAKE 21 01 00.0
BBOO LR LR
comp=Z,3µm,20.0s
GO06 Curarrehue 113.68 127 PFAKE 21 01 00.0
GO06 LR LR
comp=Z,4µm,21.0s
FURI Furi 113.77 358 PFAKE 21 01 10.0
FURI LR LR
comp=Z,4µm,21.0s
FORT Forrest 114.93 252 PFAKE 21 01 10.0 +15
FORT LR LR
comp=Z,6µm,22.0s
PLCA Paso Flores 115.03 127 PKP **PKPdf** **21 00 54.0 -0.8**
comp=Z,3.0nm,1.0s,baz=257,slow=8.9,SNR=3.6
COCO West Island 116.27 290 PFAKE 21 01 10.0 +12
COCO LR LR
comp=Z,4µm,20.0s
ASCN Ascension 116.61 60 PFAKE 21 01 10.0 +11
ASCN LR LR
comp=Z,5µm,20.0s
TRQA Tornquist 116.72 119 PFAKE 21 01 10.0 +12
TRQA LR LR
comp=Z,7µm,19.0s
LODK Lodwar 119.20 2 *e*P **PKPdf** **21 01 05.2 +1.5**
LODK *e* 21 01 39.4
baz=14,slow=6.9
LODK AMP 21 41 25.8
comp=E,517nm,31.9s
LODK AMP 21 47 13.4
comp=N,308nm,31.9s
LODK Lodwar 119.20 2 *e*P **PP** **21 02 16.2 -6.9**
NWAO Narrogin (SRO) 122.25 258 PFAKE 21 01 20.0 +11
NWAO LR LR
comp=Z,4µm,19.0s
DGAR Diego Garcia 122.97 317 PFAKE 21 01 20.0 +9.2
DGAR LR LR
comp=Z,7µm,20.0s
MBAR Mbarara 122.98 8 PFAKE 21 01 20.0 +8.9
MBAR LR LR
comp=Z,4µm,20.0s
KMBO Kilima Mbogo 123.74 360 PKP **PKPdf** **21 01 13.7 +1.1**
comp=Z.6.3nm,0.8s,baz=14,slow=2.7,SNR=7.6
KMBO Kilima Mbogo 123.74 360 *e*PKPdf **PKPdf** **21 01 13.7 +1.1**
KMBO LR LR
comp=Z,3µm,20.0s
KMBO Kilima Mbogo 123.74 360 *i* P **PKPdf** **21 01 13.1 +0.5**
SNR=11
KMBO Kilima Mbogo 123.74 360 *e*PKIKP **PKPdf** **21 01 13.7 +1.1**
KMBO MLR MLR
comp=Z,3µm,20.0s
SHEL Horse Pasture 127.59 56 PFAKE 21 01 30.0 +10
SHEL LR LR
comp=Z,6µm,18.0s
EFI East Falkland 128.95 127 *e*PKPdf **PKPdf** **21 01 21.0 +0.1**
EFI LR LR
comp=Z,6µm,18.0s
EFI East Falkland 128.95 127 *e*PKIKP **PKPdf** **21 01 21.0 +0.1**
EFI MLR MLR
comp=Z,6µm,18.0s
LSZ Lusaka 137.26 13 *e*PKPpre PKPpre 21 01 30.2
LSZ LR LR
comp=Z,7µm,21.0s
LSZ Lusaka 137.26 13 *e*PKHKP PKPpre 21 01 30.2
LSZ MLR MLR
comp=Z,7µm,21.0s
SBA Scott Base 138.62 194 *e*PKPpre PKPpre 21 01 33.8
SBA LR LR
comp=Z,10µm,20.0s
VNDA Vanda 139.06 196 PKhKP PKPpre 21 01 32.5
comp=Z,0.9nm,1.0s,baz=333,slow=4.7,SNR=4.0
VNDA Vanda 139.06 196 *e*PKPpre PKPpre 21 01 32.5
VNDA *e*PKPdf **PKPdf** **21 01 38.9 -0.3**
VNDA Vanda 139.06 196 *e*PKHKP PKPpre 21 01 32.5
VNDA *e* 21 01 38.9
TSUM Tsumeb 139.06 29 *e*PKPdf **PKPdf** **21 01 40.0 -1.1**
TSUM LR LR
comp=Z,10µm,22.0s
OPO Ambohidratompo 140.36 345 PKP **PKPdf** **21 01 42.6 -1.0**
comp=Z,3.8nm,0.7s,baz=18,slow=6.4,SNR=3.2
HOPE Hope Point 140.48 118 PFAKE 21 01 50.0 +7.6
HOPE LR LR
comp=Z,7µm,21.0s
ABPO Ambohimpanom 140.80 345 PFAKE 21 02 00.0 +16
ABPO LR LR
comp=Z,4µm,18.0s
MATP Matopo 142.38 13 PKhKP PKPpre 21 01 42.0
comp=Z,5.2nm,0.9s,baz=345,slow=1.7,SNR=7.0
CASY Casey 146.37 224 *e*PKPdf **PKPbc** **21 01 53.7 -0.1**
CASY LR LR
comp=Z,3µm,22.0s
LBTB Lobatse 146.44 19 *e*PKPdf **PKPbc** **21 01 55.0 -0.3**
LBTB Lobatse 146.44 19 *e*PKP2 **PKPbc** **21 01 55.1 -0.3**
QSPA South Pole Qui 147.36 180 PFAKE 21 02 10.0 +11
QSPA LR LR

	comp=Z,10µm,20.0s							
BOSA	**Boshof**	**149.89**	**21**	PKPbc	**PKPbc**	**21 02 03.9**	**-0.5**
	comp=Z,48nm,0.7s,baz=348,slow=2.4,SNR=86							
BOSA	**Boshof**	**149.89**	**21**	*e*PKPdf	**PKPdf**	**21 02 00.2**	**+0.7**
SUR	**Sutherland**	**152.45**	**31**	*e*PKPbc	**PKPbc**	**21 02 08.7**	**-1.6**
SUR				LR	LR			
	comp=Z,9µm,22.0s							
MIR	**Mirnyy**	**153.24**	**227**	⇓*i*PKIKP	**PKPbc**	**21 02 14.0**	**+3.3**
MIR				*i*		21 02 19.0		
MIR				pmax	pmax			
	comp=Z,81nm,1.5s							
MIR				MLR	MLR			
	comp=N,1µm,18.0s							
MIR				MLR	MLR			
	comp=E,2µm,18.0s							
MIR				MLR	MLR			
	comp=Z,4µm,18.0s							
VNA3	**Neumayer Olymp**	**156.40**	**144**	P	**PKPdf**	**21 02 05.3**	**-2.3**
VNA1	**Neumayer--Stat**	**156.97**	**143**	P	**PKPdf**	**21 02 06.4**	**-1.8**
VNA2	**Neumayer--Watz**	**157.19**	**144**	P	**PKPdf**	**21 02 04.2**	**-4.3**
	baz=270,slow=3.6							
SNAA	**Sanae**	**158.39**	**147**	P	**PKPdf**	**21 02 04.6**	**-5.5**
SNAA	**Sanae**	**158.39**	**147**	PFAKE		21 02 20.0	+10
SNAA				LR	LR			
	comp=Z,6µm,20.0s							
NVL	**N'lazarevskaya**	**162.97**	**151**	*e*PKP2	**PKPab**	**21 03 06.3**	**+1.5**
NVL				*e*SS	SS	21 28 21.3	+68
MAW	**Mawson**	**164.59**	**219**	PKP	**PKPdf**	**21 02 18.4**	**+1.9**
	comp=Z,7.6nm,1.1s,baz=171,slow=1.4,SNR=5.0							
MAW				PKPab	**PKPab**	**21 03 12.2**	**+0.3**
	comp=Z,66nm,1.1s,baz=106,slow=5.0,SNR=11							
MAW	**Mawson**	**164.59**	**219**	*e*PKPdf	**PKPdf**	**21 02 19.9**	**+3.4**
MAW				*e*PKPab	**PKPab**	**21 03 12.9**	**+1.0**
SYO	**Syowa Base**	**168.45**	**184**	⇑*e*PKPdf	**PKPdf**	**21 02 21.6**	**+2.2**
SYO	**Syowa Base**	**168.45**	**184**	⇓*iX*	**PKPab**	**21 03 28.8**	**-0.1**

NNC 12 20:45:31.5±7.4, 36.84N×70.41E, h0km, mb3.5, mpv3.1, 4C-2D, Error ellipse: s-maj=57.4km s-min=48.5km az=170.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.99**	**37**	⇑Pn	Pn	20 46 33.6	-0.5
	0.5nm,0.2s						
SFK				⇓Sn	Sn	20 47 22.5	+0.8
	0.9nm,0.2s						
MNAS	**Manas**	**5.87**	**15**	⇑Pn	Pn	20 46 59.8	0.0
	4.2nm,1.4s						
MNAS				⇓Sn	Sn	20 48 08.5	+0.7
	3.6nm,1.4s						
KK31	**Karatay Array**	**6.26**	**1**	⇑Pn	Pn	20 47 07.0	+2.0
	0.9nm,0.3s,baz=176,slow=12,SNR=44						
KK31				⇑Sn	Sn	20 48 19.5	+2.2
	0.2nm,0.3s,baz=186,slow=25,SNR=6.1						

MEX 12 20:57:05.4±0.6, 16.35N×98.21W, h15km±2km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.09**	**61**	*i* P	Pg	20 57 07.5	-1.1
PNIG				*i* S	Sg	20 57 10.3	-0.5
TLIG	**Tlapa**	**1.25**	**344**	*e*P	Pn	20 57 24.9	-3.7
TLIG				*i* S	Sb	20 57 39.6	-5.3
VHO	**Vista Hermosa**	**1.59**	**63**	*e*P	Pn	20 57 30.5	-2.7
VHO				*i* S	Sn	20 57 47.8	-5.7
CAIG	**El Cayaco**	**2.09**	**290**	*i* P	Pn	20 57 36.2	-3.7
CAIG				*i* S	Sn	20 58 01.1	-4.6

PRU 12 21:02:18.6±0.0, 50.34N×19.29E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.35**	**110**	*e*Pg	Pg	21 02 25.5	+0.2
OJC				*e*Sg	Sg	21 02 29.8	+0.1
OKC	**Ostrava-Krasne**	**0.89**	**236**	*e*SG	Sg	21 02 47.3	+0.1
MORC	**Moravsky Berou**	**1.26**	**244**	*e*PG	Pg	21 02 42.2	-0.5
MORC				*e*SG	Sg	21 02 58.6	-0.4
KRLC	**Kraliky**	**1.63**	**262**	*e*SG	Sn	21 03 09.9	-0.5
DPC	**Dobruska-Polom**	**1.90**	**271**	*e*PG	Pn	21 02 53.0	+0.7
DPC				*e*SG	Sg	21 03 19.7	+0.1

*ISCJB **12** 21:08:11.0±0.6, 57.65N×0.04×142.84W±0.07, h14km, mb3.3/2, Error ellipse: s-maj=6.3km s-min=5.0km az=167.8*
*IDC **12** 21:08:13.5±1.5, 57.72N×142.86W, h0km, mb3.4/2, mb1 3.7/5, mb1mx3.4/55, mbtmp3.5/5, ML2.9/2, Error ellipse: s-maj=30.0km s-min=21.7km az=29.0*
*NEIC **12** 21:08:15.9±0.0, 57.58N×142.83W, h10km, ML3.6(AEIC), After AEIC.*

ISC 12 21:08:12.6±1.0, 57.63N±0.06×142.82W±0.05, h14km, n52, σ1§45/60, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAIM	**Kayak Island**	**2.45**	**341**	P	**Pn**	**21 08 51.8**	**-0.4**
KAIM				S	Sn	21 09 18.9	-3.0
SUCK	**Suckling Hills**	**2.50**	**349**	P	**Pn**	**21 08 53.0**	**+0.1**
YKU2	**Yakutat**	**2.51**	**40**	P	**Pn**	**21 08 52.7**	**-0.2**
BGLC	**Bering Glacier**	**2.51**	**355**	P	**Pn**	**21 08 53.0**	**0.0**
BGLC				S	Sn	21 09 22.6	-0.8
MID	**Middleton Isla**	**2.58**	**316**	P	**Pn**	**21 08 53.1**	**-0.8**
CHX	**Chaix Hills**	**2.60**	**19**	P	**Pn**	**21 08 53.7**	**-0.6**
GRIN	**Grindle Hills**	**2.67**	**355**	P	**Pn**	**21 08 55.1**	**-0.1**
NICHA	**Nichawak Mount**	**2.68**	**348**	P	**Pn**	**21 08 55.3**	**0.0**
PNL	**Peninsula**	**2.72**	**40**	P	**Pn**	**21 08 55.2**	**-0.6**
SAMH	**Samovar Hills**	**2.72**	**22**	P	**Pn**	**21 08 55.9**	**-0.1**
YAH	**Yahtse**	**2.80**	**11**	P	**Pn**	**21 08 56.6**	**-0.5**
YAH				S	Sn	21 09 27.8	-3.0
PCA	**Pinnacle**	**2.81**	**27**	P	**Pn**	**21 08 56.9**	**-0.2**
BERG	**Berg Lake**	**2.81**	**351**	P	**Pn**	**21 08 57.0**	**-0.1**
HMT	**Hamilton**	**2.82**	**345**	P	**Pn**	**21 08 57.2**	**0.0**
WAX	**Waxell Ridge**	**2.83**	**360**	P	**Pn**	**21 08 57.0**	**-0.4**
DHAK	**Deception Hill**	**2.83**	**57**	P	**Pn**	**21 08 56.4**	**-1.1**
BCPM	**Bancas Point**	**2.86**	**34**	P	**Pn**	**21 08 57.3**	**-0.5**
BAGL	**Bagley Icefiel**	**2.90**	**7**	P	**Pn**	**21 08 58.4**	**+0.1**
BAGL				S	Sn	21 09 30.7	-2.0
RAGM	**Ragged Mountai**	**2.93**	**342**	P	**Pn**	**21 08 58.3**	**-0.5**
TABL	**Table Mountain**	**2.95**	**16**	P	**Pn**	**21 08 59.3**	**+0.1**
TABL				S	Sn	21 09 31.8	-2.7
ISLE	**Juniper Island**	**2.99**	**4**	P	**Pn**	**21 08 59.3**	**-0.5**
ISLE				S	Sn	21 09 34.6	-0.9
SGAM	**Sherman Glacie**	**3.14**	**338**	P	**Pn**	**21 09 01.5**	**0.0**
EYAK	**Cordova Ski Ar**	**3.30**	**334**	P	**Pn**	**21 09 02.6**	**-1.1**
EYAK				S	Sn	21 09 39.7	-3.0
HIN	**Hinchinbrook I**	**3.37**	**327**	P	**Pn**	**21 09 04.3**	**-0.5**
BALM	**Baldy**	**3.43**	**4**	P	**Pn**	**21 09 05.4**	**-0.3**
BMRM	**Bremner River**	**3.47**	**345**	P	**Pn**	**21 09 05.7**	**-0.6**
VRDI	**Verde Repeater**	**3.63**	**355**	P	**Pn**	**21 09 08.3**	**-0.2**
FID	**Port Fidalgo**	**3.66**	**331**	P	**Pn**	**21 09 08.1**	**-0.6**
GLB	**Gilahina Butte**	**3.86**	**353**	P	**Pn**	**21 09 11.3**	**-0.3**
GLI	**Glacier Island**	**3.93**	**328**	P	**Pn**	**21 09 11.4**	**-1.1**
KLU	**Klutina**	**4.19**	**339**	P	**Pn**	**21 09 15.6**	**-0.5**
SEW	**Seward**	**4.25**	**309**	P	**Pn**	**21 09 16.0**	**-0.8**
PWL	**Port Wells**	**4.30**	**321**	P	**Pn**	**21 09 16.2**	**-1.4**
BESE	**Bessie Mountai**	**4.33**	**74**	P	**Pn**	**21 09 17.1**	**-1.0**
BRLK	**Bradley Lake**	**4.72**	**300**	P	**Pn**	**21 09 23.4**	**0.0**
KNK	**Knik Glacier**	**4.76**	**325**	P	**Pn**	**21 09 24.2**	**+0.3**
SCM	**Sheep Creek Mo**	**4.80**	**333**	P	**Pn**	**21 09 24.0**	**-0.4**
CNPM	**China Poot**	**4.80**	**297**	P	**Pn**	**21 09 24.4**	**-0.1**
GHO	**Glory Hole Cre**	**5.18**	**326**	P	**Pn**	**21 09 30.0**	**+0.3**
KDAK	**Kodiak Island**	**5.24**	**276**	Pn	**Pn**	**21 09 30.5**	**+0.1**
	10nm,0.3s,baz=86,slow=9.6,SNR=34						
KDAK				Sn	Sn	21 10 26.3	-4.3
	2.8nm,0.3s,baz=108,slow=20,SNR=2.7						
SUA	**Susitna One**	**5.57**	**317**	P	**Pn**	**21 09 35.3**	**+0.2**
OHAK	**Old Harbor**	**5.67**	**270**	P	**Pn**	**21 09 36.2**	**-0.2**
RED	**Redoubt Volcan**	**5.85**	**303**	P	**Pn**	**21 09 38.8**	**-0.2**
RDWB	**Redoubt West**	**5.91**	**303**	P	**Pn**	**21 09 39.5**	**-0.3**
DAWY	**Dawson**	**6.67**	**13**	*e*Pn	**Pn**	**21 09 51.8**	**+1.6**
	2.4nm,0.4s						
DLBC	**Dease Lake**	**6.84**	**78**	Sn	**Sn**	**21 11 06.0**	**-4.0**
	0.4nm,0.3s,baz=221,slow=20,SNR=3.1						
H02N1	**VAN INLET T-PH**	**7.30**	**123**	Pn	**Pn**	**21 09 56.6**	**-2.2**
	SNR=2.9						
H02S1	**DAWSON INLET T**	**7.37**	**123**	Pn	**Pn**	**21 09 58.3**	**-1.3**
ILAR	**Eielson Array**	**7.43**	**346**	Pn	**Pn**	**21 10 00.6**	**+0.1**
	0.1nm,0.3s,baz=161,slow=13,SNR=7.2						
YKA	**Yellowknife Ar**	**14.83**	**59**	Pn	**Pn**	**21 11 41.6**	**0.0**
	0.1nm,0.3s,baz=263,slow=9.7,SNR=2.9						
NVAR	**Mina Array Bea**	**25.01**	**130**	P	**P**	**21 13 39.4**	**+3.3**
	0.3nm,0.6s,baz=314,slow=7.0,SNR=2.8						
SONM	**Songino Array**	**60.38**	**314**	P	**P**	**21 18 24.5**	**+3.5**
	0.6nm,0.9s,baz=37,slow=7.4,SNR=3.5						

*MOS **12** 21:09:07.3±2.6, 53.77N×142.61E, h11km, mb4.0/1, Error ellipse: s-maj=25.5km s-min=19.3km az=88.0*
MOS Felt (II) at Okha.
*SKHL **12** 21:09:10.0±0.6, 53.37N×142.62E, h10km, mb4.2/5, Feil (II) at Okha*

ISC 12 21:09:11.2±1.2, 53.62N±0.07×142.62E±0.04, h34km±3km, n12, σ0§55/16, 3C-2D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKH	**Okha**	**0.20**	**111**	*e*Pg	**Pb**	**21 09 17.5**	**-0.3**
OKH				AMB	AMB	21 09 17.9	
	620nm,0.2s						
OKH				*i* Sg	**Sb**	**21 09 22.6**	**+0.2**
OKH				A	A	21 09 23.0	
	4µm,0.5s						
OKH				A	A	21 09 23.0	
	11µm,0.5s						
OKH	**Okha**	**0.20**	**111**	⇓*i*PN	**Pb**	**21 09 17.3**	**-0.5**
OKH				*i* S	**Sb**	**21 09 22.4**	**0.0**
OKH				pmax	pmax		
	comp=Z,1.0nm,0.4s						
OKH				smax	smax		
	comp=N,6.0nm,0.7s						
OKH				smax	smax		
	comp=E,11nm,0.4s						
NKL	**Nikolayevsk**	**1.25**	**249**	*i* Pg	**Pb**	**21 09 34.0**	**-0.3**
NKL				AMB	AMB	21 09 34.4	
	comp=E,70nm,0.5s						
NKL				*e*Sg	**Sb**	**21 09 50.5**	**+0.4**
NKL				A	A	21 09 52.8	
	comp=E,690nm,0.5s						
NKL	**Nikolayevsk**	**1.25**	**249**	*i* PN	**Pb**	**21 09 33.9**	**-0.3**
NKL				*e*S	**Sb**	**21 09 50.8**	**+0.7**
NKL				pmax	pmax		
	comp=Z,70nm,0.5s						
NKL				smax	smax		
	comp=E,690nm,0.5s						
TYV	**Tymovskoe**	**2.77**	**180**	*e*P	**Pn**	**21 09 52.0**	**-1.0**
TYV				AMB	AMB	21 09 53.6	
	comp=E,10.0nm,0.3s						
TYV				*e*Pg	**Pb**	**21 10 00.0**	**+0.1**
TYV				*e*Sg	**Sb**	**21 10 34.0**	**+0.7**
TYV				A	A	21 10 34.6	
	comp=E,30nm,0.9s						
TYV	**Tymovskoe**	**2.77**	**180**	*e*PN	**Pn**	**21 09 52.3**	**-0.7**
TYV				pmax	pmax		
	comp=Z,10.0nm,0.3s						
GRNR	**Gornyy**	**4.76**	**236**	*e*Sg	Sb	21 11 45.0	+14
GRNR				A	A	21 11 45.5	
	comp=Z,19nm,0.4s						
GRNR				A	A	21 11 45.5	
	comp=Z,15nm,0.4s						
EKMR	**Ekimchan**	**5.82**	**268**	*e*Pg	Pb	21 11 04.7	+13
EKMR				AMB	AMB	21 11 09.4	
	comp=Z,4.0nm,0.5s						
EKMR				*e*Sg	Sb	21 12 25.0	+24
EKMR				A	A	21 12 34.6	
	comp=Z,30nm,0.9s						
EKMR				A	A	21 12 34.6	
	comp=Z,14nm,0.9s						
EKMR				A	A	21 12 34.6	
	comp=Z,13nm,0.9s						
MA2	**Magadan**	**7.47**	**34**	⇓*e*PN	**Pn**	**21 10 57.5**	**0.0**
SKR	**Severo-Kuril's**	**8.80**	**104**	⇑*e*PN	**Pn**	**21 11 16.4**	**+0.5**
HIA	**Hailar**	**14.89**	**262**	⇑*e*P	**Pn**	**21 12 39.2**	**+0.2**
DGZ	**Jazzator, Alta**	**33.73**	**286**	⇑*e*P	**P**	**21 15 49.3**	**+0.1**

*ISCJB **12** 21:09:10.5±0.5, 43.82N±0.04×105.35W±0.06, h0km, Error ellipse: s-maj=6.0km s-min=5.5km az=28.2*
*NEIC **12** 21:09:12.5±0.4, 43.79N×105.32W, h0km, MN3.0, Error ellipse: s-maj=6.5km s-min=5.1km az=148.0, Suspected Mining explosion.*
NEIC 57 km [35 miles] SSE of Gillette.
*IDC **12** 21:09:12.0±1.8, 43.76N×105.51W, h0km, mb1 3.9/3, mb1mx3.5/51, mbtmp3.6/3, ML3.5/3, Error ellipse: s-maj=55.3km s-min=8.7km az=149.0*

ISC 12 21:09:12.4±0.8, 43.75N±0.04×105.36W±0.04, h0km, n18, σ2§20/28, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.03**	**69**	*e*Pg	**Pg**	**21 09 31.4**	**-0.7**
LAO	**LASA Array**	**3.00**	**349**	*e*Pn	**Pn**	**21 10 01.0**	**-0.2**
LAO				*e*S	**Sn**	**21 10 35.1**	**-2.9**
RLMT	**Red Lodge**	**3.11**	**297**	*e*Pn	**Pn**	**21 10 03.3**	**+0.3**
RLMT				*e*S	**Sb**	**21 10 46.1**	**-1.3**
PDAR	**Pinedale Array**	**3.22**	**254**	Pn	**Pn**	**21 10 05.5**	**+1.1**
	6.7nm,0.3s,baz=75,slow=14,SNR=56						
PDAR				Lg	Lg	21 10 49.4	
	15nm,0.3s,baz=74,slow=23,SNR=8.0						
BW06	**Boulder Array**	**3.22**	**254**	*e*Pn	**Pn**	**21 10 05.2**	**+0.8**
BW06				*e*S	**Sb**	**21 10 49.9**	**-0.5**
OGNE	**Ogallala**	**3.74**	**138**	*e*Pn	**Pn**	**21 10 12.0**	**+0.5**
OGNE				*e*S	**Sb**	**21 11 01.8**	**-3.4**
ISCO	**Idaho Springs**	**3.96**	**183**	*e*Pn	**Pn**	**21 10 14.9**	**+0.3**
ISCO				*e*S	**Sb**	**21 11 13.6**	**+1.9**
AHID	**Auburn Hatcher**	**4.30**	**259**	*e*Pn	**Pn**	**21 10 17.7**	**-1.7**
AHID				*e*S	**Sn**	**21 11 09.3**	**-1.1**
DGMT	**Dagmar**	**4.79**	**9**	*e*Pn	**Pn**	**21 10 26.2**	**+0.4**
DGMT				*e*S	**Sb**	**21 11 39.0**	**+3.6**
HWUT	**Hardware Ranch**	**5.05**	**247**	*e*Pn	**Pn**	**21 10 29.6**	**+0.1**
	13nm,0.5s						
HWUT				*e*S	**Sn**	**21 11 35.1**	**+6.4**
EGMT	**Eagleton**	**5.26**	**326**	*e*Pn	**Pn**	**21 10 32.0**	**-0.3**
	19nm,0.4s						
EGMT				*e*S	**Sn**	**21 11 31.9**	**-1.7**
CBKS	**Cedar Bluff**	**6.50**	**137**	*e*Pn	**Pn**	**21 10 49.2**	**-0.2**
	44nm,0.9s						
DUG	**Dugway, Tooele**	**6.59**	**240**	*e*Pn	**Pn**	**21 10 50.6**	**-0.1**
	2.2nm,0.4s						
DUG				*e*S	**Sg**	**21 12 40.2**	**-3.9**
MVCO	**Mesa Verde**	**6.96**	**201**	*e*Pn	**Pn**	**21 10 57.7**	**+1.9**
	4.8nm,0.5s						
AGMN	**Agassiz Nation**	**8.02**	**52**	*e*Pn	**Pn**	**21 11 08.9**	**-1.3**
	11nm,0.5s						
AGMN				*e*Pg	**Pb**	**21 11 34.9**	**+2.7**
AGMN				*e*S	Sg	21 13 19.3	-11
I10CA	**LAC DU BONNET**	**9.07**	**41**	*i*		22 05 00.0	
	baz=220,slow=323,SNR=2.1						
ULM	**Lac du Bonnet**	**9.17**	**42**	Pn	**Pn**	**21 11 24.4**	**-1.5**
	1.3nm,0.3s,baz=231,slow=10,SNR=12						
ULM				Lg	Lg	21 13 55.1	
	0.6nm,0.3s,baz=207,slow=4.5,SNR=2.3						
NVAR	**Mina Array Bea**	**11.12**	**246**	Pn	**Pn**	**21 11 54.1**	**+1.3**
	0.2nm,0.3s,baz=62,slow=13,SNR=5.0						

*IDC **12** 21:21:55.9±5.0, 5.18S×150.73E, h119km±28km, mb3.6/4, mb1 3.8/5, mb1mx3.4/46, mbtmp4.0/5, Error ellipse: s-maj=79.3km s-min=23.6km az=107.0*

ISC 12 21:21:53.1±2.3, 5.25S±0.3×151.0E±0.5, h100km, n6, σ1§40/8, mb3.9/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.65**	**222**	P	**Pn**	**21 23 15.9**	**+1.2**
	6.2nm,0.3s,baz=58,slow=7.8,SNR=9.1						
PMG				S	**Sn**	**21 24 17.8**	**-0.4**
	3.6nm,0.3s,baz=52,slow=12,SNR=3.9						
WRA	**Warramunga Arr**	**21.85**	**227**	P	**P**	**21 26 37.1**	**-0.7**
	2.0nm,0.4s,baz=49,slow=10,SNR=37						
WRA				ScP	**ScP**	**21 34 00.1**	**-2.2**
	0.6nm,1.0s,baz=56,slow=2.7,SNR=2.6						
ASAR	**Alice Springs**	**24.66**	**220**	P	**P**	**21 27 04.3**	**-0.5**
	4.5nm,0.6s,baz=54,slow=9.0,SNR=38						
FITZ	**Fitzroy Crossi**	**27.90**	**241**	P	**P**	**21 27 33.4**	**-0.6**
	1.3nm,0.3s,baz=62,slow=10,SNR=36						
SONM	**Songino Array**	**65.75**	**329**	P	**P**	**21 32 27.5**	**0.0**
	0.3nm,0.6s,baz=145,slow=5.3,SNR=2.5						
TORD	**Torodi Ar. Bea**	**148.74**	**287**	PKPbc	**PKPdf**	**21 41 27.6**	**+1.5**
	0.1nm,0.3s,baz=85,slow=1.8,SNR=4.1						

ISC 12 21:23:13.6±1.0, 45.26N±0.03×14.50E±0.03, h14km±7km, n25, σ0§64/43, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNDS	**Knezji Dol**	**0.28**	**343**	*i* Pg	**Pg**	**21 23 19.1**	**-0.6**
KNDS				*i* Sg	**Sg**	**21 23 24.3**	**+0.6**
KNDS	**Knezji Dol**	**0.28**	**343**	*i* Pg	**Pg**	**21 23 19.1**	**-0.6**
KNDS				*i* Sg	**Sg**	**21 23 24.3**	**+0.6**
GBRS	**Gornja Briga**	**0.35**	**39**	*i* Pg	**Pg**	**21 23 20.4**	**-0.5**
GBRS				*e*Sg	**Sg**	**21 23 25.9**	**+0.2**
GBRS	**Gornja Briga**	**0.35**	**39**	*i* Pg	**Pg**	**21 23 20.4**	**-0.5**
GBRS				*e*Sg	**Sg**	**21 23 25.9**	**+0.2**
SKDS	**Skadanscina**	**0.45**	**310**	*i* Pg	**Pg**	**21 23 21.8**	**-0.8**
SKDS				*i* Sg	**Sg**	**21 23 29.1**	**+0.5**
SKDS	**Skadanscina**	**0.45**	**310**	*i* Pg	**Pg**	**21 23 21.8**	**-0.8**
SKDS				*i* Sg	**Sg**	**21 23 29.1**	**+0.5**
CEY	**Cerknica**	**0.48**	**354**	*e*Pg	**Pg**	**21 23 23.4**	**+0.2**
CEY				*e*Sg	**Sb**	**21 23 31.1**	**+0.1**
CEY	**Cerknica**	**0.48**	**354**	*e*Pg	**Pg**	**21 23 23.4**	**+0.2**
CEY				*e*Sg	**Sb**	**21 23 31.1**	**+0.1**
BOJS	**Bojanci**	**0.59**	**65**	*e*Pg	**Pg**	**21 23 24.3**	**-0.8**
BOJS				*e*Sg	**Sg**	**21 23 32.7**	**-0.2**
BOJS	**Bojanci**	**0.59**	**65**	*e*Pg	**Pg**	**21 23 24.3**	**-0.8**
BOJS				*e*Sg	**Sg**	**21 23 32.7**	**-0.2**
VISS	**Visnje**	**0.60**	**24**	*e*Pg	**Pg**	**21 23 24.4**	**-0.9**
VISS	**Visnje**	**0.60**	**24**	*e*Pg	**Pg**	**21 23 24.4**	**-0.9**
GBAS	**Gorenja Brezov**	**0.68**	**357**	*e*Pg	**Pg**	**21 23 26.2**	**-0.6**
GBAS				*e*Sg	**Sb**	**21 23 37.0**	**+0.5**
GBAS	**Gorenja Brezov**	**0.68**	**357**	*e*Pg	**Pg**	**21 23 26.2**	**-0.6**
GBAS				*e*Sg	**Sb**	**21 23 37.0**	**+0.5**
JAVS	**Javornik**	**0.70**	**335**	*e*Pg	**Pg**	**21 23 26.3**	**-1.1**
JAVS	**Javornik**	**0.70**	**335**	*e*Pg	**Pg**	**21 23 26.3**	**-1.1**
NVLJ	**Novalja**	**0.74**	**159**	*i* Pg	**Pg**	**21 23 27.4**	**-0.7**
NVLJ				Sg	**Sb**	**21 23 39.0**	**+0.7**
OZLJ	**Ozalj**	**0.77**	**62**	Sg	**Sg**	**21 23 38.4**	**-0.3**
VNDS	**Vrh nad Dolski**	**0.86**	**10**	*e*Pg	**Pb**	**21 23 30.7**	**+0.4**
VNDS	**Vrh nad Dolski**	**0.86**	**10**	*e*Pg	**Pb**	**21 23 30.7**	**+0.4**
PDKS	**Podkum**	**0.88**	**23**	*i* Pg	**Pn**	**21 23 31.9**	**+0.3**
PDKS				*i* Sg	**Sb**	**21 23 42.4**	**+0.1**
PDKS	**Podkum**	**0.88**	**23**	*i* Pg	**Pn**	**21 23 31.9**	**+0.3**
PDKS				*i* Sg	**Sb**	**21 23 42.4**	**+0.1**
VOJS	**Vojsko**	**0.89**	**331**	*e*Pg	**Pg**	**21 23 29.5**	**-1.3**
VOJS				*e*Sg	**Sn**	**21 23 43.9**	**-0.6**
VOJS	**Vojsko**	**0.89**	**331**	*e*Pg	**Pg**	**21 23 29.5**	**-1.3**
VOJS				*e*Sg	**Sn**	**21 23 43.9**	**-0.6**
UDBI	**Udbina**	**1.16**	**129**	*e*Pg	**Pb**	**21 23 35.5**	**0.0**
UDBI				Sg	**Sn**	**21 23 51.6**	**+0.5**

*IDC **12** 21:26:21.3±1.6, 0.55S×123.46E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/41, mbtmp3.4/4, Error ellipse: s-maj=140.4km s-min=21.5km az=57.0*
*ISCJB **12** 21:26:25.3±0.8, 0.62S±0.09×123.34E±0.07, h35km, mb3.4/4, Error ellipse: s-maj=13.9km s-min=8.5km az=26.4*
*DJA **12** 21:26:26.7±0.3, 1°S±4'×12°3E±°, h10km, M3.8/9, MLv3.8/9*

ISC 12 21:26:27.3±1.0, 0.75S±0.07×123.24E±0.05, h35km, n13, σ1§93/13, mb3.4/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.55**	**238**	P	**Pn**	**21 26 37.3**	**-1.3**
KMSI	**Cibinong**	**1.51**	**29**	P	**Pn**	**21 26 54.7**	**+2.8**
APSI	**Ampana**	**1.60**	**264**	P	**Pn**	**21 26 55.5**	**+2.5**
MRSI	**Marisa**	**1.78**	**313**	P	**Pn**	**21 26 53.9**	**-1.7**
SANI	**Sanana**	**3.04**	**115**	P	**Pn**	**21 27 12.6**	**-0.2**
MPSI	**Mapaga**	**3.51**	**288**	P	**Pn**	**21 27 21.5**	**+2.1**
NLAI	**Namlea**	**4.58**	**123**	P	**Pn**	**21 27 34.9**	**+0.8**
SPSI	**Sidrap Palu**	**4.71**	**227**	P	**Pn**	**21 27 38.7**	**+2.8**
BNSI	**Bone**	**4.79**	**221**	P	**Pn**	**21 27 38.9**	**+2.0**
WRA	**Warramunga Arr**	**21.95**	**151**	P	**P**	**21 31 17.7**	**-0.4**
	0.7nm,0.4s,baz=335,slow=9.8,SNR=11						
ASAR	**Alice Springs**	**25.02**	**156**	P	**P**	**21 31 47.9**	**-0.3**
	0.5nm,0.5s,baz=344,slow=15,SNR=5.2						
CMAR	**Chiang Mai Arr**	**30.58**	**310**	P	**P**	**21 32 37.2**	**-0.8**
	0.3nm,0.4s,baz=149,slow=7.6,SNR=5.3						
MKAR	**Makanchi Array**	**59.38**	**328**	P	**P**	**21 36 25.2**	**-0.9**
	0.4nm,0.7s,baz=125,slow=8.0,SNR=3.4						

MEX 12 21:38:11.9±0.5, 16.33N×98.27W, h11km±2km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.15**	**63**	*i* P	Pg	21 38 14.7	-0.8
PNIG				*i* S	Sg	21 38 17.6	-0.3
TLIG	**Tlapa**	**1.26**	**347**	*e*P	Pn	21 38 31.9	-3.7
TL

comp=Z,0.3nm,0.7s,baz=172,slow=9.1,SNR=3.2
NVAR Mina Array Bea 33.39 322 P **P 21 45 28.3 +2.8**
comp=Z,0.8nm,0.6s,baz=140,slow=8.3,SNR=8.3
SIV San Ignacio 43.03 133 P **P 21 46 45.6 -1.0**
comp=Z,2.4nm,0.7s,baz=309,slow=8.0,SNR=12
YKA Yellowknife Ar 50.95 347 P **P 21 47 48.7 +0.9**
comp=Z,2.9nm,0.6s,baz=151,slow=7.2,SNR=12
INK Inuvik 60.34 344 P **P 21 48 54.7 -0.5**
comp=Z,1.9nm,0.7s,baz=142,slow=7.3,SNR=6.9
ILAR Eielson Array 62.68 337 P **P 21 49 11.5 +0.4**
comp=Z,0.6nm,0.8s,baz=171,slow=5.6,SNR=8.3
EKA Eskdalemuir Ar 78.29 36 P **P 21 50 44.5 -2.0**
comp=Z,0.8nm,0.5s,baz=273,slow=6.5,SNR=5.7
WRA Warramunga Arr 134.90 256 PKP **PKPdf 21 58 05.9 -0.5**
comp=Z,0.5nm,0.9s,baz=90,slow=3.2,SNR=4.1
CMAR Chiang Mai Arr 145.87 340 PKPbc **PKPdf 21 58 25.8 -0.5**
comp=Z,1.2nm,0.4s,baz=337,slow=3.4,SNR=9.8

*ISCJB **12** 21:49:28.2±0.4,24°.33N±0°.03×122°.99E±0°.02,h55km±6km, Error ellipse: s-maj=5.8km s-min=2.8km az=2.0*
*JMA **12** 21:49:28.3±0.1,24°.44N×123°.01E,h59km±1km,M2.8*
*TAP **12** 21:49:28.4,24°.31N×122°.95E,h52km±1km,ML3.3,D*
ISC 12 21:49:28.7±1.2,**24°.33N**±0°.05×**123°.00E**±0°.02,**h54**km±7km, **n58,σ0s73/93,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.13**	**338**	P		**Pn**	**21 49 37.0**	**-0.1**
JYNG				S		**Sn**	**21 49 43.3**	**+0.2**
YOJ	**Yonaguni jima**	**0.13**	**4**	*i* P		**Pn**	**21 49 37.0**	**-0.1**
	baz=16							
YOJ				S		**Sn**	**21 49 43.3**	**+0.2**
	baz=16							
YOJ	**Yonaguni jima**	**0.13**	**4**	P		**Pn**	**21 49 37.0**	**-0.1**
YOJ				S		**Sn**	**21 49 43.1**	**0.0**
IRIF	**Iriomote-Funau**	**0.67**	**89**	P		**Pn**	**21 49 42.0**	**-0.2**
IRIF				S		**Sn**	**21 49 51.8**	**-0.2**
HATJ	**Hateruma jima**	**0.78**	**110**	P		**Pn**	**21 49 44.1**	**+0.4**
HATJ				S		**Sn**	**21 49 55.4**	**+0.8**
EOS1	**EOS1**	**0.82**	**286**	*e*P		**Pn**	**21 49 43.9**	**-0.2**
	baz=288							
EOS1				*e*S		**Sn**	**21 49 55.8**	**+0.3**
	baz=288							
JKRS	**Kuro-shima**	**0.93**	**95**	P		**Pn**	**21 49 45.9**	**+0.4**
JKRS				S		**Sn**	**21 49 58.6**	**+0.7**
JIJ	**Ishigaki jima**	**1.04**	**88**	P		**Pn**	**21 49 46.6**	**-0.5**
JIJ				S		**Sn**	**21 50 00.0**	**-0.7**
TWC	**Suao**	**1.08**	**285**	*e*P		**Pn**	**21 49 46.8**	**-0.9**
	baz=286							
TWC				*e*S		**Sn**	**21 50 00.8**	**-0.9**
	baz=286							
EGS		**1.10**	**298**	*e*P		**Pn**	**21 49 47.5**	**-0.4**
	baz=300							
NANB	**Nanao**	**1.14**	**275**	*e*P		**Pn**	**21 49 48.4**	**-0.1**
	baz=276							
NANB				*e*S		**Sn**	**21 50 02.9**	**-0.3**
	baz=276							
ENA	**Nanau**	**1.15**	**275**	*e*P		**Pn**	**21 49 48.4**	**-0.1**
	baz=276							
ENA				*e*S		**Sn**	**21 50 03.3**	**0.0**
	baz=276							
JISG	**Ishigakijimahi**	**1.22**	**78**	P		**Pn**	**21 49 48.9**	**-0.6**
JISG				S		**Sn**	**21 50 04.1**	**-0.9**
TWE	**Neicheng**	**1.28**	**288**	*e*P		**Pn**	**21 49 49.9**	**-0.3**
	baz=289							
TWE				*e*S		**Sn**	**21 50 05.9**	**-0.4**
	baz=289							
NACB	**Ninganchiao**	**1.29**	**263**	*e*P		**Pn**	**21 49 50.1**	**-0.3**
	baz=263							
NACB				*e*S		**Sn**	**21 50 06.1**	**-0.6**
	baz=263							
TWD	**Chiawan**	**1.30**	**259**	*e*P		**Pn**	**21 49 50.0**	**-0.6**
	baz=259							
TWD				*e*S		**Sn**	**21 50 06.2**	**-0.8**
	baz=259							
NWF	**Wu-fen Shan**	**1.33**	**304**	*e*P		**Pn**	**21 49 50.9**	**-0.2**
	baz=305							
NWF				*e*S		**Sn**	**21 50 09.1**	**+1.3**
	baz=305							
ENTT	**Nioudou**	**1.34**	**284**	*e*P		**Pn**	**21 49 51.5**	**+0.4**
	baz=284							
ENTT				*e*S		**Sn**	**21 50 07.3**	**-0.7**
	baz=284							
NWLT	**Wulai**	**1.44**	**288**	*e*P		**Pn**	**21 49 52.5**	**+0.1**
	baz=289							
NNS	**Nan Shan**	**1.49**	**275**	*e*P		**Pn**	**21 49 53.0**	**-0.3**
	baz=275							
NNS				*e*S		**Sn**	**21 50 11.6**	**0.0**
	baz=275							
YM07	**YM07**	**1.51**	**304**	*e*P		**Pn**	**21 49 53.4**	**-0.1**
	baz=305							
YM07				*e*S		**Sn**	**21 50 11.4**	**-0.6**
	baz=305							
YHNB	**Yeheng**	**1.52**	**283**	*e*P		**Pn**	**21 49 53.9**	**+0.3**
	baz=284							
YHNB				*e*S		**Sn**	**21 50 12.1**	**-0.2**
	baz=284							
TATO	**Taipei**	**1.52**	**295**	*e*P		**Pn**	**21 49 53.6**	**0.0**
	baz=296							
TATO				*e*S		**Sn**	**21 50 11.8**	**-0.4**
	baz=296							
ESL	**Shilin**	**1.52**	**251**	*e*P		**Pn**	**21 49 53.1**	**-0.5**
	baz=250							
YM01	**YM01**	**1.54**	**302**	*e*P		**Pn**	**21 49 54.4**	**+0.6**
	baz=303							
YM01				*e*S		**Sn**	**21 50 12.8**	**+0.1**
	baz=303							
EGFH	**Guangfu**	**1.58**	**246**	*e*P		**Pn**	**21 49 54.0**	**-0.3**
	baz=245							
JTJ	**Tarama**	**1.58**	**78**	P		**Pn**	**21 49 54.3**	**-0.1**
JTJ				*e*S		**Sn**	**21 50 13.5**	**-0.2**
WHF	**Hehuan Shan**	**1.59**	**264**	*e*P		**Pn**	**21 49 54.6**	**-0.3**
	baz=264							
HGSD	**Ruisui**	**1.67**	**240**	*e*P		**Pn**	**21 49 54.9**	**-0.6**
	baz=239							
HGSD				*e*S		**Sn**	**21 50 14.9**	**-0.8**
	baz=239							
TWT	**Tachien**	**1.67**	**268**	*e*S		**Sn**	**21 50 16.6**	**+0.6**
	baz=268							
TDCB	**Techi**	**1.68**	**268**	P		**Pn**	**21 49 56.4**	**+0.5**
	baz=268							
TDCB				*e*S		**Sn**	**21 50 16.7**	**+0.3**
	baz=268							
CHGB	**Renai**	**1.69**	**261**	P		**Pn**	**21 49 56.2**	**+0.2**
	baz=261							
CHGB				*e*S		**Sn**	**21 50 16.8**	**+0.2**
	baz=261							
EHY	**Hungye**	**1.74**	**242**	*e*P		**Pn**	**21 49 56.2**	**-0.3**
	baz=241							
YULB	**Yu-li**	**1.81**	**240**	P		**Pn**	**21 49 57.3**	**-0.3**
	baz=239							
YULB				*e*S		**Sn**	**21 50 18.2**	**-1.3**
	baz=239							
LIOB	**Emei**	**1.83**	**280**	*e*P		**Pn**	**21 49 58.7**	**+0.8**
	baz=280							
TWF1	**Yuli**	**1.84**	**238**	P		**Pn**	**21 49 57.6**	**-0.3**
	baz=237							
TWF1				*e*S		**Sn**	**21 50 19.3**	**-0.7**
	baz=237							
NSTT	**Nanjuang**	**1.85**	**280**	*e*P		**Pn**	**21 49 59.0**	**+1.0**
	baz=280							
FULB	**Fuli**	**1.93**	**235**	*e*P		**Pn**	**21 49 58.3**	**-0.8**
	baz=234							
CHKT	**Chengkung**	**1.93**	**231**	*e*P		**Pn**	**21 49 58.9**	**-0.3**
	baz=230							
SSLB	**Suanglung**	**1.95**	**254**	*e*P		**Pn**	**21 49 59.6**	**+0.2**
	baz=254							
SSLB				*e*S		**Sn**	**21 50 21.8**	**-0.9**
	baz=254							
SMLT	**Sun Moon Lake**	**1.97**	**257**	*e*P		**Pn**	**21 50 00.4**	**+0.7**
	baz=257							
SMLT				*e*S		**Sn**	**21 50 22.4**	**-1.0**
	baz=257							
TWQ1	**Liyutan**	**2.03**	**271**	*e*P		**Pn**	**21 50 01.8**	**+1.3**
	baz=271							
TWQ1				*e*S		**Sn**	**21 50 25.9**	**+1.1**
	baz=271							
YUS	**Yu-Shan**	**2.05**	**246**	*e*P		**Pn**	**21 50 01.6**	**+0.3**
	baz=245							
YUS				*e*S		**Sn**	**21 50 25.1**	**-0.8**
	baz=245							
WJS	**Zhushan**	**2.14**	**257**	*e*P		**Pn**	**21 50 03.8**	**+1.8**
	baz=256							
ELDTW	**Lidau**	**2.14**	**238**	P		**Pn**	**21 50 01.8**	**-0.4**
	baz=237							
ELDTW				*e*S		**Sn**	**21 50 26.3**	**-1.3**
	baz=237							
ALS	**Alishan**	**2.17**	**248**	*e*P		**Pn**	**21 50 03.5**	**+0.9**
	baz=247							
ALS				*e*S		**Sn**	**21 50 28.1**	**-0.4**
	baz=247							
TWG	**Pinlang**	**2.32**	**230**	*e*P		**Pn**	**21 50 04.5**	**0.0**
	baz=229							
STYT	**Tauyuan**	**2.36**	**241**	*e*P		**Pn**	**21 50 06.1**	**+1.0**
	baz=240							
TPUB	**Ta-pu**	**2.40**	**245**	*e*P		**Pn**	**21 50 07.1**	**+1.5**
	baz=244							
CHN4	**Tsaushan**	**2.41**	**247**	*e*P		**Pn**	**21 50 07.7**	**+2.0**
	baz=246							
WTP	**Ta-pu**	**2.44**	**244**	*e*P		**Pn**	**21 50 07.7**	**+1.6**
	baz=243							
TWK	**Hsinying**	**2.53**	**246**	*e*P		**Pn**	**21 50 08.1**	**+0.7**
	baz=245							
CHN1	**Nanshi**	**2.53**	**244**	*e*P		**Pn**	**21 50 07.9**	**+0.5**
	baz=243							
SLGT	**Liugui**	**2.53**	**239**	*e*P		**Pn**	**21 50 08.1**	**+0.7**
	baz=238							
SLGT				*e*S		**Sn**	**21 50 37.6**	**+0.5**
	baz=238							
SGST	**Jiashian**	**2.54**	**241**	*e*P		**Pn**	**21 50 08.0**	**+0.5**
	baz=240							
SSD	**Sandimen**	**2.68**	**235**	*e*P		**Pn**	**21 50 11.4**	**+2.0**
	baz=233							
MASBT	**Mashibuluo**	**2.76**	**232**	*e*P		**Pn**	**21 50 11.8**	**+1.2**
	baz=231							
VWUC	**VWUC**	**3.30**	**282**	*e*P		**Pn**	**21 50 17.1**	**-0.7**
	baz=282							

*NEIC **12** 21:54:03.2±0.0,17°.26N×101°.37W,h3km,MD4.0(MEX), After MEX.*
MEX 12 21:54:03.4±0.5,**17°.28N×101°.34W,h5**km±7km,**MD4.0, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.34**	**340**	*e*P		Pg	21 54 10.0	0.0
ZIIG				*e*S		Sg	21 54 14.3	-0.3
ZIIG	**Zihuatanejo**	**0.34**	**340**	*e*P		Pg	21 54 10.0	0.0
ZIIG				*e*S		Sg	21 54 14.3	-0.3
CAIG	**El Cayaco**	**1.05**	**103**	*e*P		Pg	21 54 20.5	-3.1
CAIG				*e*S		Sg	21 54 33.8	-3.5
CAIG	**El Cayaco**	**1.05**	**103**	*e*P		Pg	21 54 20.5	-3.1
CAIG				*i* S		Sg	21 54 35.0	-2.4
ARIG	**Puente Sto Nin**	**1.37**	**44**	*e*P		Pn	21 54 27.6	-1.7
ARIG	**Puente Sto Nin**	**1.37**	**44**	*i* P		Pn	21 54 26.0	-3.3
ARIG				*i* S		Sb	21 54 43.0	-4.5
MEIG	**Mezcala**	**1.76**	**68**	*i* P		Pn	21 54 34.9	+0.2
MEIG	**Mezcala**	**1.76**	**68**	*i* P		Pn	21 54 31.5	-3.3
MEIG				*i* S		Sn	21 54 52.9	-4.8
PLIG	**Platanillo**	**2.07**	**58**	*e*P		Pn	21 54 39.9	+0.9
PLIG	**Platanillo**	**2.07**	**58**	*e*P		Pn	21 54 35.9	-3.1
PLIG				*i* S		Sn	21 55 00.9	-4.4
MMIG	**Aquila**	**2.15**	**298**	*e*P		Pn	21 54 36.6	-3.4
MMIG	**Aquila**	**2.15**	**298**	*e*P		Pn	21 54 36.6	-3.5
MMIG				*i* S		Sn	21 55 02.9	-4.3
MOIG	**Morelia**	**2.39**	**3**	*e*Pn		Pn	21 54 39.5	-4.0
TLIG	**Tlapa**	**2.66**	**84**	*e*Pn		Pn	21 54 48.4	+1.2

MEX 12 22:04:05.8±0.4,**14°.58N×92°.33W,h80**km±6km,**MD3.6, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
THIG		**0.33**	**12**	*i* P		Pn	22 04 17.1	-1.2
THIG				*i* S		Sn	22 04 25.8	-1.7
PCIG		**1.41**	**323**	*e*P		Pn	22 04 28.9	-1.0
PCIG				*i* S		Sn	22 04 46.2	-1.9
CCIG	**Comitan**	**1.70**	**6**	*i* P		Pn	22 04 31.7	-2.2
CCIG				*i* S		Sn	22 04 54.0	-1.2
TGIG		**2.31**	**341**	*i* P		Pn	22 04 40.5	-1.4
TGIG				*e*S		Sn	22 05 08.5	-1.0

NEIC 12 22:16:41.0±0.0,**57°.57N×142°.86W,h12**km,**ML3.5**(AEIC), **After AEIC., Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAIM	**Kayak Island**	**2.50**	**342**	P		Pn	22 17 16.9	-4.6
SUCK	**Suckling Hills**	**2.56**	**350**	P		Pn	22 17 18.1	-4.2
SUCK				S		Sn	22 17 47.1	-6.2
YKU2	**Yakutat**	**2.57**	**39**	P		Pn	22 17 17.7	-4.6
BGLC	**Bering Glacier**	**2.57**	**355**	P		Pn	22 17 18.2	-4.2
MID	**Middleton Isla**	**2.61**	**317**	P		Pn	22 17 17.9	-5.0
MID				*e*Sn		Sn	22 17 47.7	-6.9
SNH	**Sunshine Point**	**2.62**	**0**	P		Pn	22 17 18.8	-4.4
SNH				S		Sn	22 17 47.6	-7.3
CHX	**Chaix Hills**	**2.66**	**19**	P		Pn	22 17 19.4	-4.4
MESA	**MESA**	**2.66**	**10**	P		Pn	22 17 19.2	-4.7
MESA				S		Sn	22 17 49.5	-6.7
KULT	**Kultieth River**	**2.69**	**1**	P		Pn	22 17 19.5	-4.7
KULT				S		Sn	22 17 48.6	-8.0
GRIN	**Grindle Hills**	**2.73**	**355**	P		Pn	22 17 20.4	-4.2
GRIN				S		Sn	22 17 50.7	-7.0
NICHA	**Nichawak Mount**	**2.74**	**348**	P		Pn	22 17 20.2	-4.5
NICHA				S		Sn	22 17 50.7	-7.1
PNL	**Peninsula**	**2.78**	**39**	P		Pn	22 17 20.2	-5.1
SAMH	**Samovar Hills**	**2.79**	**22**	P		Pn	22 17 21.1	-4.4
SAMH				S		Sn	22 17 51.3	-7.8
BARK	**Barkley Ridge**	**2.85**	**4**	P		Pn	22 17 21.8	-4.6
YAH	**Yahtse**	**2.87**	**11**	P		Pn	22 17 22.1	-4.6
BERG	**Berg Lake**	**2.87**	**352**	P		Pn	22 17 21.8	-4.7
PCA	**Pinnacle**	**2.88**	**27**	P		Pn	22 17 21.9	-4.8
PCA				S		Sn	22 17 52.7	-8.5
DHAK	**Deception Hill**	**2.89**	**56**	P		Pn	22 17 21.4	-5.3
DHAK				*e*Sn		Sn	22 17 52.9	-8.5
KHIT	**Khitrov Hills**	**2.89**	**356**	P		Pn	22 17 22.1	-4.8
KHIT				S		Sn	22 17 53.7	-7.9
WAX	**Waxell Ridge**	**2.89**	**0**	P		Pn	22 17 22.0	-4.9
BCPM	**Bancas Point**	**2.92**	**34**	P		Pn	22 17 22.2	-5.0
BAGL	**Bagley Icefiel**	**2.96**	**7**	P		Pn	22 17 23.1	-4.6
RAGM	**Ragged Mountai**	**2.98**	**342**	P		Pn	22 17 23.3	-4.8
TABL	**Table Mountain**	**3.02**	**16**	P		Pn	22 17 24.3	-4.4
TABL				S		Sn	22 17 57.5	-7.4
ISLE	**Juniper Island**	**3.06**	**5**	P		Pn	22 17 24.5	-4.7
SGAM	**Sherman Glacie**	**3.19**	**339**	P		Pn	22 17 26.4	-4.5
EYAK	**Cordova Ski Ar**	**3.34**	**335**	*e*Pn		Pn	22 17 28.1	-4.9
KIAG	**Kiagna River**	**3.38**	**4**	P		Pn	22 17 29.1	-4.6
KIAG				S		Sn	22 18 05.5	-8.2
HIN	**Hinchinbrook I**	**3.41**	**328**	P		Pn	22 17 29.3	-4.6
BALM	**Baldy**	**3.49**	**4**	P		Pn	22 17 30.6	-4.6
BALM				S		Sn	22 18 08.4	-8.0
BMRM	**Bremner River**	**3.53**	**346**	P		Pn	22 17 30.5	-5.1
BARN	**Barnard Glacie**	**3.56**	**9**	P		Pn	22 17 31.5	-4.7
VRDI	**Verde Repeater**	**3.69**	**356**	P		Pn	22 17 33.2	-4.7
FID	**Port Fidalgo**	**3.70**	**331**	P		Pn	22 17 32.9	-5.0
FID				*e*Sn		Sn	22 18 13.7	-7.7
DIV	**Divide**	**3.88**	**339**	*e*Pn		Pn	22 17 35.4	-4.9
DIV				*e*Sn		Sn	22 18 18.1	-7.6
GLB	**Gilahina Butte**	**3.92**	**353**	P		Pn	22 17 36.1	-4.8
GLI	**Glacier Island**	**3.97**	**329**	P		Pn	22 17 36.3	-5.4
SIT	**Sitka**	**4.12**	**94**	P		Pn	22 17 38.2	-4.4
KLU	**Klutina**	**4.24**	**340**	*e*Pn		Pn	22 17 40.4	-4.9
KLU				*e*Sn		Sn	22 18 27.1	-7.7
SEW	**Seward**	**4.27**	**309**	P		Pn	22 17 40.4	-5.3
HYT	**Haines Junctio**	**4.27**	**38**	*e*Pn		Pn	22 17 42.4	-3.5
PWL	**Port Wells**	**4.34**	**322**	P		Pn	22 17 41.2	-5.5
BESE	**Bessie Mountai**	**4.37**	**73**	P		Pn	22 17 41.4	-5.7
BESE				*e*Sn		Sn	22 18 29.3	-8.7
SKAG	**Skagway**	**4.38**	**61**	*e*Pn		Pn	22 17 40.6	-6.6
JIS	**Juneau Island**	**4.57**	**77**	*e*Pn		Pn	22 17 45.9	-4.0
BRLK	**Bradley Lake**	**4.74**	**301**	P		Pn	22 17 47.8	-4.4
KNK	**Knik Glacier**	**4.80**	**326**	P		Pn	22 17 48.7	-4.3
CNPM	**China Poot**	**4.81**	**298**	P		Pn	22 17 48.8	-4.3
CNPM				*e*Sn		Sn	22 18 39.8	-9.0
SCM	**Sheep Creek Mo**	**4.84**	**334**	P		Pn	22 17 48.7	-5.0
HARP	**HAARP**	**4.99**	**348**	*e*Pn		Pn	22 17 52.2	-3.4
HOM	**Homer**	**5.05**	**298**	*e*Pn		Pn	22 17 52.1	-4.4
SML	**Sawmill**	**5.08**	**329**	*e*Pn		Pn	22 17 52.5	-4.3
PMR	**Palmer**	**5.14**	**324**	*e*Pn		Pn	22 17 52.4	-5.3
WHY	**Whitehorse**	**5.15**	**50**	*e*Pn		Pn	22 17 53.5	-4.4
GHO	**Glory Hole Cre**	**5.22**	**326**	P		Pn	22 17 54.6	-4.2
PAX	**Paxson**	**5.58**	**348**	*e*Pn		Pn	22 18 00.8	-2.9
SUA	**Susitna One**	**5.60**	**318**	*e*Pn		Pn	22 18 00.7	-3.4
CRAG	**Craig**	**5.78**	**107**	P		Pn	22 17 59.7	-6.7
RED	**Redoubt Volcan**	**5.87**	**303**	P		Pn	22 18 03.4	-4.3
RDWB	**Redoubt West**	**5.93**	**304**	P		Pn	22 18 04.2	-4.5
DHY	**Denali Highway**	**5.97**	**340**	*e*Pn		Pn	22 18 05.4	-3.7
DOT	**Dot Lake**	**6.13**	**355**	*e*Pn		Pn	22 18 08.7	-2.6
SKT	**Skwentna**	**6.23**	**319**	*e*Pn		Pn	22 18 10.1	-2.4
RIDG	**Independ'e Rid**	**6.27**	**352**	*e*Pn		Pn	22 18 11.1	-2.1
SCRK	**Sand Creek**	**6.46**	**356**	*e*Pn		Pn	22 18 12.1	-3.8
RND	**Reindeer**	**6.56**	**336**	*e*Pn		Pn	22 18 13.4	-3.9
DAWY	**Dawson**	**6.74**	**13**	*e*Pn		Pn	22 18 16.1	-3.6
MCK	**McKinley**	**6.87**	**337**	*e*Pn		Pn	22 18 17.8	-3.5
TRF	**Thorofare Moun**	**6.95**	**331**	*e*Pn		Pn	22 18 19.4	-3.2
PPLA	**Purkeypile**	**7.08**	**323**	*e*Pn		Pn	22 18 20.9	-3.5
HDA	**Harding Lake**	**7.15**	**346**	*e*Pn		Pn	22 18 22.6	-2.6
DIB	**Dawson Inlet,**	**7.35**	**122**	*e*Pn		Pn	22 18 22.2	-5.7
WRH	**Wood River Hil**	**7.38**	**342**	*e*Pn		Pn	22 18 24.6	-3.8
SVW2	**Sparrevohn**	**7.41**	**304**	*e*Pn		Pn	22 18 24.7	-4.1
CAST	**Castle Rocks**	**7.43**	**326**	*e*Pn		Pn	22 18 25.5	-3.5
IL1	**Eielson Array**	**7.49**	**347**	*e*Pn		Pn	22 18 24.0	-5.9
ILB	**Eielson Array**	**7.49**	**347**	*e*Pn		Pn	22 18 24.7	-5.2
CCB	**Clear Creek Bu**	**7.50**	**343**	*e*Pn		Pn	22 18 26.9	-3.1
BPAW	**Bear Paw Mtn.**	**7.66**	**332**	*e*Pn		Pn	22 18 28.1	-4.1
MDM	**Murphy Dome**	**7.86**	**343**	*e*Pn		Pn	22 18 29.2	-5.7
MLY	**Manley**	**8.39**	**336**	*e*Pn		Pn	22 18 37.9	-4.4
IM3	**Indian Mountai**	**9.88**	**333**	*e*Pn		Pn	22 18 59.0	-3.6

*ISCJB **12** 22:18:42.8±0.8,57°.73N±0°.03×142°.89W±0°.04,h10km±6km, mb4.1/14,MS4.7/4,Error ellipse: s-maj=4.4km s-min=3.8km az=19.5*
*IDC **12** 22:18:43.9±0.8,57°.71N×142°.76W,h0km,mb4.0/10, mb1 4.2/17,mb1mx3.9/45,mbtmp4.0/17,ML3.7/7,MS4.5/4, Ms1 4.4/4,ms1mx3.7/52,Error ellipse: s-maj=19.9km s-min=12.1km az=21.0*
*NEIC **12** 22:18:47.2±0.0,57°.58N×142°.83W,h11km,mb4.1/4, ML4.0(AEIC),After AEIC.*
ISC 12 22:18:45.2±3.0,**57.68N**±0°.06×**142°.73W**±0°.04, **h12**km±19km,**n130,σ1s84/136,mb4.2**/14,**MS4.7**/4,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAIM	**Kayak Island**	**2.41**	**339**	P		**Pn**	**22 19 22.9**	**-1.5**
YKU2	**Yakutat**	**2.44**	**40**	P		**Pn**	**22 19 23.7**	**-1.1**
YKU2				S		**Sn**	**22 19 52.7**	**-1.7**
SUCK	**Suckling Hills**	**2.46**	**348**	P		**Pn**	**22 19 24.1**	**-1.0**
SUCK				S		**Sn**	**22 19 52.0**	**-3.0**
BGLC	**Bering Glacier**	**2.46**	**354**	P		**Pn**	**22 19 24.2**	**-0.9**
BGLC				S		**Sn**	**22 19 53.3**	**-1.7**
SNH	**Sunshine Point**	**2.50**	**359**	P		**Pn**	**22 19 24.7**	**-1.0**
SNH				S		**Sn**	**22 19 53.5**	**-2.7**
CHX	**Chaix Hills**	**2.53**	**19**	P		**Pn**	**22 19 25.4**	**-0.8**
MESA	**MESA**	**2.54**	**9**	P		**Pn**	**22 19 25.1**	**-1.2**
MESA				S		**Sn**	**22 19 55.2**	**-2.0**
KULT	**Kultieth River**	**2.57**	**0**	P		**Pn**	**22 19 25.5**	**-1.2**
KULT				S		**Sn**	**22 19 55.2**	**-2.8**
MID	**Middleton Isla**	**2.58**	**314**	P		**Pn**	**22 19 23.9**	**-2.7**
GRIN	**Grindle Hills**	**2.62**	**354**	P		**Pn**	**22 19 26.4**	**-1.0**
NICHA	**Nichawak Mount**	**2.64**	**347**	P		**Pn**	**22 19 26.2**	**-1.3**
NICHA				S		**Sn**	**22 19 56.9**	**-2.5**
PNL	**Peninsula**	**2.65**	**40**	P		**Pn**	**22 19 26.2**	**-1.5**
PNL				S		**Sn**	**22 19 55.9**	**-3.7**
SAMH	**Samovar Hills**	**2.66**	**22**	P		**Pn**	**22 19 27.2**	**-0.6**
BARK	**Barkley Ridge**	**2.73**	**3**	P		**Pn**	**22 19 27.7**	**-1.2**
BARK				S		**Sn**	**22 19 58.3**	**-3.5**
YAH	**Yahtse**	**2.74**	**10**	P		**Pn**	**22 19 28.0**	**-1.1**
PCA	**Pinnacle**	**2.74**	**27**	P		**Pn**	**22 19 27.8**	**-1.2**
BERG	**Berg Lake**	**2.76**	**350**	P		**Pn**	**22 19 27.8**	**-1.5**
DHAK	**Deception Hill**	**2.77**	**57**	P		**Pn**	**22 19 27.6**	**-1.8**
DHAK				S		**Sn**	**22 19 58.3**	**-4.4**
HMT	**Hamilton**	**2.78**	**344**	P		**Pn**	**22 19 27.7**	**-1.7**
WAX	**Waxell Ridge**	**2.78**	**359**	P		**Pn**	**22 19 28.0**	**-1.5**
KHIT	**Khitrov Hills**	**2.78**	**355**	P		**Pn**	**22 19 28.2**	**-1.4**
BCPM	**Bancas Point**	**2.79**	**34**	P		**Pn**	**22 19 28.2**	**-1.4**
BAGL	**Bagley Icefiel**	**2.83**	**6**	P		**Pn**	**22 19 29.4**	**-0.8**
BAGL				S		**Sn**	**22 20 01.4**	**-2.9**
TABL	**Table Mountain**	**2.88**	**16**	P		**Pn**	**22 19 30.0**	**-1.1**
RAGM	**Ragged Mountai**	**2.89**	**341**	P		**Pn**	**22 19 29.3**	**-1.7**
ISLE	**Juniper Island**	**2.94**	**4**	P		**Pn**	**22 19 30.5**	**-1.2**
SGAM	**Sherman Glacie**	**3.10**	**337**	P		**Pn**	**22 19 32.5**	**-1.4**
KIAG	**Kiagna River**	**3.26**	**3**	P		**Pn**	**22 19 35.0**	**-1.2**
EYAK	**Cordova Ski Ar

YKA	Yellowknife Ar	14.76	59	Pn		Pn	22 22 12.7	-0.7
	0.2nm,0.3s,baz=264,slow=13,SNR=3.9							
YKB5	Yellowknife Ar	14.76	59	*e*Pn		P	22 22 20.0	+0.6
NEW	Newport	17.97	111	P		P	22 22 55.3	+0.1
	0.2nm,0.3s,baz=321,slow=11,SNR=4.3							
BMO	Blue Mountains	20.29	118	*e*P		Pn	22 23 21.6	-1.1
	11nm,1.6s							
EGMT	Eagleton	21.93	102	*e*P		P	22 23 37.8	-0.5
	3.4nm,0.7s							
HLID	Hailey	22.64	116	*e*P		P	22 23 46.5	+0.5
SKG	Skaggs Springs	22.94	137	*e*P		P	22 23 47.6	-1.4
SKG				*e*Sn		Sn	22 28 09.8	-4.6
IMW	Indian Meadow	24.10	111	*e*P		P	22 24 03.5	+2.7
	9.8nm,1.4s							
RES	Resolute Bay	24.64	28	P		P	22 24 06.3	+1.3
	5.6nm,0.7s,baz=262,slow=12,SNR=12							
RES	Resolute Bay	24.64	28	*e*P		P	22 24 06.5	+1.5
	7.9nm,0.8s							
NV01	Mina Array Sit	25.01	130	*e*P		P	22 24 10.1	+1.1
NVAR	Mina Array Bea	25.01	130	P		P	22 24 09.2	+0.2
	1.3nm,0.6s,baz=315,slow=9.4,SNR=12							
PDAR	Pinedale Array	25.61	111	P		P	22 24 15.9	+1.5
	0.7nm,0.8s,baz=317,slow=6.1,SNR=5.8							
PETK	Petropavlovsk-	33.18	288	P		P	22 25 21.7	+0.4
	1.4nm,0.7s,baz=80,slow=11							
YAK	Yakutsk	41.02	314	LR		LR	22 46 09.3	
	comp=Z,544nm,18.5s,baz=76,slow=40							
NRIK	Noril'sk	48.18	339	P		P	22 27 26.3	+1.6
	2.7nm,0.9s,baz=32,slow=9.5,SNR=3.5							
H11N2	WAKE ISLAND Hy	52.71	246	T		T	23 24 54.3	
	baz=31,slow=76,SNR=11							
H11N3	WAKE ISLAND Hy	52.72	246	T		T	23 24 56.7	
	baz=31,slow=76,SNR=11							
H11N1	WAKE ISLAND Hy	52.73	246	T		T	23 24 59.6	
	baz=31,slow=76,SNR=8.8							
H11S1	WAKE ISLAND Hy	53.85	245	T		T	23 26 22.0	
	baz=28							
H11S2	WAKE ISLAND Hy	53.86	245	T		T	23 26 22.4	
	baz=28,slow=74,SNR=4.6							
H11S3	WAKE ISLAND Hy	53.87	245	T		T	23 26 22.4	
	baz=28,slow=74,SNR=5.5							
SONM	Songino Array	60.37	314	P		P	22 28 55.1	+1.2
	0.9nm,0.7s,baz=47,slow=8.7,SNR=7.3							
FINES	FINESS Array B	60.89	6	P		P	22 28 57.3	+0.3
	4.1nm,0.9s,baz=308,slow=6.8,SNR=3.5							
ZALV	Zalesovo Beam	62.22	330	P		P	22 29 06.3	+0.2
	0.9nm,0.6s,baz=26,slow=5.1,SNR=5.1							
ZALV	Zalesovo Beam	62.22	330	*e*P		P	22 29 05.9	-0.2
HHC	Hu-ho-hao-te	63.94	306	*e*P		P	22 29 19.2	+1.3
HHC				PP		PP	22 31 41.3	+3.3
HHC				S		S	22 37 52.2	-1.1
HHC				pmax	pmax			
	comp=Z,14nm,0.6s							
HHC				pmax	pmax			
	comp=Z,750nm,6.4s							
HHC				LR	LR			
	comp=N,380nm,11.2s							
HHC				LR	LR			
	comp=E,380nm,14.7s							
HHC				LR	LR			
	comp=Z,600nm,13.0s							
MKAR	Makanchi Array	69.39	329	P		P	22 29 52.5	0.0
	comp=Z,0.7nm,0.7s,baz=46,slow=6.9,SNR=4.8							
WMQ	Urumqi	70.47	324	*e*P		P	22 30 03.2	+4.0
LZH	Lanzhou	71.23	308	*e*P		P	22 30 04.5	+0.4
LZH				pP		sP	22 30 08.0	-1.6
LZH				sP		pP	22 30 09.6	+1.5
LZH				*e*PP		PP	22 32 44.3	+2.8
LZH				pmax	pmax			
	comp=Z,15nm,1.3s							
LZH				pmax	pmax			
	comp=Z,42nm,7.5s							
AAK	Ala-Archa	75.31	333	LR		LR	23 08 42.3	
	comp=Z,433nm,19.2s,baz=216,slow=40							
KK31	Karatay Array	75.80	336	*e*P		P	22 30 31.3	+0.6
KKAR	Karatay Array	75.80	336	*e*P		P	22 30 31.3	+0.6
KBZ	Khabaz	78.84	356	LR		LR	23 09 14.6	
	comp=Z,389nm,21.9s,baz=180,slow=38							
CMAR	Chiang Mai Arr	88.65	303	P		P	22 31 38.8	+0.6
	comp=Z,0.7nm,0.4s,baz=3.4,slow=4.6,SNR=3.9							

ISCJB ***12*** *22:20:50.2s 0.2, 57.72N±0.02×142.89W±0.04, h10km, mb4.4/75, MS4.9/1, Error ellipse: s-maj=3.2km s-min=1.8km az=138.7*

MOS ***12*** *22:20:50.4s 0.9, 57.77N×142.73W, h10km, mb4.7/17, Error ellipse: s-maj=15.2km s-min=5.4km az=110.5*

IDC ***12*** *22:20:51.0s 0.6, 57.71N×142.82W, h0km, mb4.2/18, mb1 4.4/24, mb1mx4.2/43, mbtmp4.2/24, ML3.6/5, MS4.0/1, Ms1 4.0/1, ms1mx3.3/44, Error ellipse: s-maj=17.4km s-min=10.5km az=25.0*

NEIC ***12*** *22:20:54.9s 0.0, 57.60N×142.78W, h10km, mb4.4/62, ML4.2(AEIC), After AEIC.*

ISC 12 22:20:51.9s 0.4, 57.70N±0.06×142.78W±0.04, h10km, n251, σ1s 29/262, mb 4.5/75, 10C-4D, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAIM	Kayak Island	2.39	340	P	Pn	22 21 30.9	-0.3
SUCK	Suckling Hills	2.44	348	P	Pn	22 21 31.5	-0.2
SUCK				S	Sn	22 22 00.3	-1.3
YKU2	Yakutat	2.44	40	P	Pn	22 21 31.2	-0.5
YKU2				S	Sn	22 21 59.9	-1.7
BGLC	Bering Glacier	2.44	354	P	Pn	22 21 31.8	0.0
BGLC				S	Sn	22 22 01.0	-0.7
SNH	Sunshine Point	2.49	359	P	Pn	22 21 32.3	-0.3
SNH				S	Sn	22 22 01.6	-1.4
CHX	Chaix Hills	2.52	19	P	Pn	22 21 32.9	-0.2
MESA	MESA	2.53	9	P	Pn	22 21 32.8	-0.4
MID	Middleton Isla	2.55	314	P	Pn	22 21 31.4	-1.8
MID	Middleton Isla	2.55	314	P	Pn	22 21 31.4	-1.8
KULT	Kultieth River	2.56	1	P	Pn	22 21 33.0	-0.5
GRIN	Grindle Hills	2.61	354	P	Pn	22 21 33.9	-0.2
NICHA	Nichawak Mount	2.62	347	P	Pn	22 21 33.8	-0.5
NICHA				S	Sn	22 22 04.8	-1.4
PNL	Peninsula	2.65	40	P	Pn	22 21 33.7	-1.0
SAMH	Samovar Hills	2.65	22	P	Pn	22 21 34.5	-0.2
BARK	Barkley Ridge	2.72	3	P	Pn	22 21 35.2	-0.6
YAH	Yahtse	2.73	11	P	Pn	22 21 35.7	-0.3
YAH				S	Sn	22 22 06.3	-2.8
PCA	Pinnacle	2.74	27	P	Pn	22 21 35.4	-0.6
PCA				S	Sn	22 22 05.4	-3.8
BERG	Berg Lake	2.75	350	P	Pn	22 21 35.5	-0.5
HMT	Hamilton	2.76	344	P	Pn	22 21 35.5	-0.7
WAX	Waxell Ridge	2.76	359	P	Pn	22 21 35.6	-0.7
WAX				S	Sn	22 22 07.0	-2.7
KHIT	Khitrov Hills	2.77	355	P	Pn	22 21 35.7	-0.6
DHAK	Deception Hill	2.78	58	P	Pn	22 21 34.8	-1.7
BCPM	Bancas Point	2.79	35	P	Pn	22 21 35.7	-0.9
BAGL	Bagley Icefiel	2.82	7	P	Pn	22 21 36.9	-0.2
RAGM	Ragged Mountai	2.87	341	P	Pn	22 21 37.0	-0.8
TABL	Table Mountain	2.88	16	P	Pn	22 21 37.9	-0.1
TABL				S	Sn	22 22 10.6	-2.1
ISLE	Juniper Island	2.92	4	P	Pn	22 21 37.9	-0.7
SGAM	Sherman Glacie	3.08	337	P	Pn	22 21 40.2	-0.4
SGAM				S	Sn	22 22 16.3	-1.1
KIAG	Kiagna River	3.24	4	P	Pn	22 21 42.4	-0.6
EYAK	Cordova Ski Ar	3.24	333	P	Pn	22 21 41.5	-1.3
HIN	Hinchinbrook I	3.32	326	P	Pn	22 21 42.8	-1.1
BALM	Baldy	3.36	4	P	Pn	22 21 44.1	-0.4
BALM	Baldy	3.36	4	P	Pn	22 21 44.1	-0.4
BMRM	Bremner River	3.41	345	P	Pn	22 21 44.1	-1.1
BARN	Barnard Glacie	3.42	9	P	Pn	22 21 44.9	-0.6
VRDI	Verde Repeater	3.56	355	P	Pn	22 21 46.6	-0.7
FID	Port Fidalgo	3.60	330	P	Pn	22 21 46.5	-1.3
DIV	Divide	3.77	337	*e*Pn	Pn	22 21 49.2	-0.9
GLI	Glacier Island	3.88	327	*e*Pn	Pn	22 21 50.0	-1.6
SIT	Sitka	4.09	96	P	Pn	22 21 49.2	-5.2
SIT	Sitka	4.09	96	P	Pn	22 21 49.2	-5.2
KLU	Klutina	4.13	339	P	Pn	22 21 54.0	-1.1
KLU				S	Sn	22 22 40.4	-3.0
SEW	Seward	4.22	308	P	Pn	22 21 54.0	-2.2
PWL	Port Wells	4.26	320	P	Pn	22 21 54.5	-2.3
SKAG	Skagway	4.28	62	P	Pn	22 21 56.0	-1.1
BESE	Bessie Mountai	4.29	75	P	Pn	22 21 55.1	-2.2
JIS	Juneau Island	4.51	79	P	Pn	22 21 58.5	-1.7
BRLK	Bradley Lake	4.71	300	P	Pn	22 22 01.1	-1.9
SCM	Sheep Creek Mo	4.74	333	P	Pn	22 22 02.4	-1.1
SCM	Sheep Creek Mo	4.74	333	P	Pn	22 22 02.4	-1.1
CNPM	China Poot	4.79	296	P	Pn	22 22 02.0	-2.1
SML	Sawmill	4.99	328	*e*Pn	Pn	22 22 06.4	-0.4
SML	Sawmill	4.99	328	*e*P	Pn	22 22 06.4	-0.4

HOM	Homer	5.03	297	*e*Pn		Pn	22 22 06.9	-0.4
WHY	Whitehorse	5.03	51	*e*Pn		Pn	22 22 06.6	-0.9
PMR	Palmer	5.06	323	*e*Pn		Pn	22 22 07.7	-0.1
PMR	Palmer	5.06	323	*e*P		Pn	22 22 07.7	-0.1
GHO	Glory Hole Cre	5.13	325	P		Pn	22 22 08.1	-0.8
KDAK	Kodiak Island	5.25	275	Pn		Pn	22 22 08.6	-1.8
	190nm,0.3s,baz=76,slow=8.2,SNR=101							
KDAK				Sn		Sn	22 23 07.2	-3.7
	17nm,0.3s,baz=130,slow=22,SNR=3.7							
KDAK				LR		LR	22 23 59.2	
	comp=Z,2μm,19.4s,baz=42,slow=36							
PAX	Paxson	5.46	347	*e*Pn		Pn	22 22 13.2	-0.1
PAX	Paxson	5.46	347	*e*P		Pn	22 22 13.2	-0.1
SUA	Susitna One	5.53	316	P		Pn	22 22 12.8	-1.5
SUA				S		Sn	22 23 14.8	-3.2
OHAK	Old Harbor	5.69	270	P		Pn	22 22 13.9	-2.5
CRAG	Craig	5.79	109	P		Pn	22 22 11.9	-5.8
RED	Redoubt Volcan	5.83	302	P		Pn	22 22 16.8	-1.7
WRAK	Wrangell Islan	5.84	98	*e*Pn		Pn	22 22 16.6	-1.8
	75nm,0.5s							
WRAK				*e*S		Sn	22 23 16.5	-8.8
AUW	Augustine West	5.85	291	P		Pn	22 22 18.6	+0.1
DHY	Denali Highway	5.86	339	*e*Pn		Pn	22 22 18.4	-0.4
RDWB	Redoubt West	5.89	303	P		Pn	22 22 17.5	-1.8
RDJH	Redoubt Jeurge	5.92	304	P		Pn	22 22 17.8	-1.8
SPCG	Spurr Capps Gl	5.93	311	P		Pn	22 22 18.6	-1.1
SPCR	Spurr Chakacha	5.95	310	P		Pn	22 22 19.4	-0.7
RIDG	Independ'e Rid	6.15	351	*e*Pn		Pn	22 22 23.4	+0.7
SKT	Skwentna	6.15	318	*e*Pn		Pn	22 22 22.3	-0.5
SPNN	North Nagishla	6.24	310	P		Pn	22 22 23.8	-0.4
SCRK	Sand Creek	6.33	355	*e*Pn		Pn	22 22 25.1	-0.2
RND	Reindeer	6.46	335	*e*Pn		Pn	22 22 26.9	-0.2
RND	Reindeer	6.46	335	*e*P		Pn	22 22 26.9	-0.2
DAWY	Dawson	6.60	13	*e*Pn		Pn	22 22 29.3	+0.4
CAHL	Cahill	6.69	278	P		Pn	22 22 28.8	-1.4
DLBC	Dease Lake	6.81	78	Pn		Pn	22 22 31.8	0.0
	0.6nm,0.3s,baz=191,slow=20,SNR=4.1							
DLBC				Sn		Sn	22 23 44.4	-5.0
	5.6nm,0.3s,baz=17,slow=26,SNR=6.4							
TRF	Thorofare Moun	6.85	331	*e*Pn		Pn	22 22 32.8	+0.3
PPLA	Purkeypile	7.00	322	*e*Pn		Pn	22 22 35.1	+0.6
CAST	Castle Rocks	7.34	325	*e*Pn		Pn	22 22 38.9	-0.1
SVW2	Sparrevohn	7.37	303	*e*Pn		Pn	22 22 37.6	-1.9
ILAR	Eielson Array	7.37	346	Pn		Pn	22 22 39.1	-0.3
	0.3nm,0.3s,baz=168,slow=24,SNR=4.2							
ILB	Eielson Array	7.37	346	*e*Pn		Pn	22 22 38.5	-0.9
BPAW	Bear Paw Mtn.	7.56	332	*e*Pn		Pn	22 22 41.3	-0.8
MLY	Manley	8.28	336	*e*Pn		Pn	22 22 51.2	-0.8
CHGN	Chignik	8.65	267	*e*Pn		Pn	22 22 55.5	-1.5
SDPT	Sand Point	10.05	264	*e*Pn		Pn	22 23 15.5	-0.7
BBB	Bella Bella	10.07	117	Pn		Pn	22 23 15.7	-0.8
	1.5nm,0.3s,baz=315,slow=20,SNR=2.9							
INK	Inuvik	11.43	18	Pn		Pn	22 23 35.9	+0.9
	0.2nm,0.3s,baz=204,slow=14,SNR=5.1							
INK	Inuvik	11.43	18	*e*Pn		Pn	22 23 34.6	-0.3
INK	Inuvik	11.43	18	*e*P		Pn	22 23 34.6	-0.3
ANM	Nome	12.84	312	*e*Pn		Pn	22 23 54.4	+0.1
ANM	Nome	12.84	312	*e*P		Pn	22 23 54.4	+0.1
UNV	Unalaska Valle	13.87	264	*e*Pn		Pn	22 24 07.1	-1.2
YKA	Yellowknife Ar	14.77	59	Pn		Pn	22 24 19.6	-1.0
	0.2nm,0.3s,baz=260,slow=12,SNR=5.2							
LON	Longmire	16.81	122	*e*Pn		Pn	22 24 45.9	-1.3
	14nm,1.0s							
LON	Longmire	16.81	122	*e*P		Pn	22 24 45.9	-1.3
LON				pmax	pmax			
	comp=Z,14nm,1.0s							
B08A	Colville Reser	16.84	114	*e*Pn		Pn	22 24 47.0	-0.6
	comp=Z,19nm,1.1s							
LTY	Liberty	16.96	119	*e*Pn		Pn	22 24 49.7	+0.5
	comp=Z,26nm,1.2s							
C09A	Chrisman Ranch	17.74	113	*e*Pn		Pn	22 24 57.8	-1.0
	comp=Z,14nm,1.0s							
E07A	Sunnyside	17.86	119	*e*Pn		Pn	22 25 00.2	0.0
	comp=Z,68nm,1.8s							
D08A	Wollman Farm,	17.94	116	*e*Pn		Pn	22 25 00.7	-0.6
	comp=Z,53nm,1.8s							
NEW	Newport	18.00	111	P		Pn	22 25 02.6	+0.6
	baz=318,slow=12,SNR=9.1							
NEW	Newport	18.00	111	*e*Pn		Pn	22 25 02.6	+0.6
	comp=Z,32nm,1.2s							
NEW	Newport	18.00	111	*e*P		Pn	22 25 02.6	+0.6
NEW				pmax	pmax			
	comp=Z,32nm,1.2s							
HAWA	Hanford	18.13	119	*e*Pn		Pn	22 25 03.5	0.0
	comp=Z,13nm,1.1s							
E08A	Dider Farm, El	18.28	118	*e*Pn		Pn	22 25 05.5	0.0
	comp=Z,18nm,0.9s							
E09A	Wood Farm, Sta	18.70	116	*e*P		P	22 25 09.8	-0.4
	comp=Z,33nm,1.3s							
WALA	Waterton Lakes	19.14	104	*e*P		P	22 25 15.6	+0.4
	comp=Z,41nm,1.2s							
G08A	Pilot Rock	19.21	120	*e*P		P	22 25 16.5	+0.5
G08A				*e*PcP		PcP	22 29 33.8	-5.1
PINE	Pine Mountain	19.49	126	*e*P		P	22 25 20.4	+1.4
	comp=Z,16nm,0.9s							
F10A	Beach Ranch, E	19.53	116	*e*P		P	22 25 19.6	+0.2
	comp=Z,25nm,1.3s							
JTMT	Jette	19.78	108	*e*P		P	22 25 22.9	+0.7
	comp=Z,36nm,1.5s							
BMO	Blue Mountains	20.32	118	*e*P		P	22 25 28.1	+0.1
	comp=Z,9.9nm,0.9s							
BMO	Blue Mountains	20.32	118	*e*P		P	22 25 28.1	+0.1
BMO				pmax	pmax			
	comp=Z,10.0nm,0.9s							
YBH	Yreka Blue Hor	20.46	133	P		Pn	22 25 31.8	+0.1
	comp=Z,4.7nm,0.9s,baz=296,slow=16,SNR=3.2							
MSO	Missoula	20.56	109	*e*P		P	22 25 30.6	-0.1
	comp=Z,13nm,1.0s							
J08A	Circle Bar Ran	20.92	123	*e*P		P	22 25 35.2	+0.6
	comp=Z,21nm,1.3s							
MOD	Modoc Plateau	21.30	128	*e*P		P	22 25 38.4	-0.2
	comp=Z,13nm,0.9s							
WDC	Whiskeytown Da	21.51	134	*e*P		P	22 25 41.4	+0.7
	comp=Z,15nm,0.9s							
WDC	Whiskeytown Da	21.51	134	*e*P		P	22 25 41.4	+0.7
WDC				pmax	pmax			
	comp=Z,15nm,0.9s							
WVOR	Wild Horse Val	21.59	125	*e*P		P	22 25 42.4	+0.7
	comp=Z,11nm,1.0s							
WVOR	Wild Horse Val	21.59	125	*e*P		P	22 25 42.4	+0.7
WVOR				pmax	pmax			
	comp=Z,11nm,1.0s							
HRY	Holter Researc	21.72	107	*e*P		P	22 25 43.2	+0.1
EGMT	Eagleton	21.95	102	*e*P		P	22 25 45.3	-0.3
	comp=Z,33nm,0.9s							
DLMT	Dillon	22.25	111	*e*P		P	22 25 49.4	+0.5
	comp=Z,42nm,1.3s							
MCMT	McKenzie Canyo	22.50	112	*e*P		P	22 25 52.3	+0.6
FFC	Flin Flon	22.64	80	*e*P		P	22 25 53.3	+0.6
	comp=Z,14nm,0.8s							
FFC	Flin Flon	22.64	80	*ce*P		P	22 25 54.9	+2.1
FFC				pmax	pmax			
	comp=Z,38nm,1.7s							
HLID	Hailey	22.66	116	*e*P		P	22 25 53.8	+0.4
	comp=Z,20nm,0.9s							
SKG	Skaggs Springs	22.97	137	*e*P		P	22 25 52.8	-3.6
BEKR	Beckworth	22.98	131	*e*P		P	22 25 57.9	+1.3
	comp=Z,10nm,1.3s							
QLMT	Earthquake Lak	23.21	110	*e*P		P	22 26 00.3	+1.3
PAHR	Pah Rah Range	23.51	130	*e*P		P	22 26 03.4	+1.3
	comp=Z,22nm,1.5s							
YHH	Holmes Hill	23.54	109	*e*P		P	22 26 03.4	+1.0
	comp=Z,29nm,1.9s							
YMR	Madison River	23.56	110	*e*P		P	22 26 03.6	+1.0
	comp=Z,26nm,1.3s							
PNTR	Pine Nut	23.95	131	*e*P		P	22 26 07.0	+0.7
	comp=Z,15nm,0.9s							
RLMT	Red Lodge	24.11	107	*e*P		P	22 26 08.1	+0.3
	comp=Z,25nm,1.6s							
IMW	Indian Meadow	24.13	111	*e*P		P	22 26 09.2	+1.1
	comp=Z,16nm,0.9s							
YERR	Yerington	24.18	131	*e*P		P	22 26 08.4	-0.1
	comp=Z,8.0nm,0.9s							
FXWY	Fox Creek	24.27	112	*e*P		P	22 26 11.8	+2.4
	comp=Z,13nm,1.5s							
MOOW	Moose Ponds	24.33	111	*e*P		P	22 26 11.2	+1.3
	comp=Z,9.5nm,1.2s							
TPAW	Teton Pass	24.41	112	*e*P		P	22 26 12.1	+1.4
	comp=Z,12nm,1.0s							
LOHW	Long Hollow	24.50	111	*e*P		P	22 26 13.1	+1.7
	comp=Z,12nm,1.4s							
REDW	Red Top Meadow	24.56	112	*e*P		P	22 26 13.1	+1.2
	comp=Z,13nm,1.1s							
KVN	Kaiserville	24.60	129	*e*P		P	22 26 13.0	+0.7
	comp=Z,6.6nm,1.3s							

KVN	Kaiserville	24.60	129	*e*P		P	22 26 13.0	+0.7
KVN				pmax	pmax			
	comp=Z,7.0nm,1.3s							
RES	Resolute Bay	24.64	28	P		P	22 26 13.6	+1.5
	comp=Z,11nm,0.8s,baz=258,slow=11,SNR=14							
RES	Resolute Bay	24.64	28	*e*P		P	22 26 13.8	+1.7
	comp=Z,19nm,1.0s							
RES	Resolute Bay	24.64	28	*e*P		P	22 26 13.8	+1.7
RES				pmax	pmax			
	comp=Z,19nm,1.0s							
BILL	Bilibino	24.65	316	*d*P		P	22 26 12.7	+0.5
BILL				*i*			22 26 45.3	
BILL				pmax	pmax			
	comp=Z,23nm,1.3s							
HVU	Hansel Valley	24.80	117	*e*P		P	22 26 15.5	+1.4
	comp=Z,4.1nm,0.9s							
HVU	Hansel Valley	24.80	117	*e*P		P	22 26 15.5	+1.4
HVU				pmax	pmax			
	comp=Z,4.0nm,0.9s							
NVAR	Mina Array Bea	25.04	130	P		P	22 26 16.8	+0.5
	comp=Z,1.9nm,0.7s,baz=313,slow=8.6,SNR=7.6							
NV11	Mina Array Sit	25.10	130	*e*P		P	22 26 17.6	+0.9
	comp=Z,1.4nm,1.2s							
BGU	Big Grassy Mou	25.34	119	*e*P		P	22 26 19.3	+0.4
	comp=Z,8.4nm,1.3s							
MDPB	Devils Postpil	25.41	132	*e*P		P	22 26 19.1	-0.5
	comp=Z,16nm,1.5s							
OMMB	Old Mammoth Mi	25.46	132	*e*P		P	22 26 20.7	+0.5
	comp=Z,5.7nm,0.9s							
HWUT	Hardware Ranch	25.52	116	*e*P		P	22 26 21.3	+0.7
	comp=Z,21nm,1.1s							
BW06	Boulder Array	25.64	111	*e*P		P	22 26 22.4	+0.7
	comp=Z,9.4nm,1.4s							
PD31	Pinedale Array	25.64	111	*e*P		P	22 26 21.0	-0.7
PDAR	Pinedale Array	25.64	111	P		P	22 26 22.6	+0.9
	comp=Z,2.6nm,1.1s,baz=308,slow=5.5,SNR=6.6							
PDAR	Pinedale Array	25.64	111	*e*P		P	22 26 21.7	0.0
TCUT	Toone Canyon	25.97	116	*e*P		P	22 26 25.1	+0.4
	comp=Z,17nm,0.9s							
DUG	Dugway, Tooele	26.02	119	*e*P		P	22 26 26.2	+1.2
	comp=Z,10.0nm,1.0s							
DUG	Dugway, Tooele	26.02	119	*e*P		P	22 26 26.3	+1.2
DUG				pmax	pmax			
	comp=Z,10.0nm,1.0s							
R11A	Troy Canyon, C	26.26	126	*e*P		P	22 26 27.9	+0.6
	comp=Z,9.2nm,1.1s							
JLU	Jordanelle	26.35	117	*e*P		P	22 26 27.8	-0.3
	comp=Z,19nm,1.3s							
PSUT	Pine Spring	26.88	123	*e*P		P	22 26 33.1	+0.2
	comp=Z,8.1nm,0.9s							
TPNV	Topopah Spring	27.15	128	*e*P		P	22 26 36.0	+0.6
	comp=Z,15nm,1.3s							
TPNV	Topopah Spring	27.15	128	*e*P		P	22 26 36.0	+0.6
TPNV				pmax	pmax			
	comp=Z,15nm,1.3s							
ISA	Isabella, Lake	27.36	133	*e*P		P	22 26 37.4	+0.3
	comp=Z,6.9nm,1.1s							
ISA	Isabella, Lake	27.36	133	*e*P		P	22 26 37.4	+0.3
ISA				pmax	pmax			
	comp=Z,7.0nm,1.1s							
MSU	Marysvale	27.66	121	*e*P		P	22 26 41.0	+1.1
MSU	Marysvale	27.66	121	*e*P		P	22 26 41.0	+1.1
CCUT	Cedar City	27.91	123	*e*P		P	22 26 42.2	+0.1
	comp=Z,4.7nm,0.8s							
SRU	San Rafael Swe	27.96	118	*e*P		P	22 26 43.0	+0.4
	comp=Z,8.3nm,1.2s							
SRU	San Rafael Swe	27.96	118	*e*P		P	22 26 43.0	+0.4
SRU				pmax	pmax			
	comp=Z,8.0nm,1.2s							
O20A	White River Ci	28.27	113	*e*P		P	22 26 44.9	-0.4
	comp=Z,15nm,1.0s							
O20A				*e*S		S	22 31 33.8	+2.4
PV22	Blue Mesa, Par	29.24	116	*e*P		P	22 26 54.3	+0.3
	comp=Z,8.3nm,0.9s							
U15A	North Rim	29.31	123	*e*P		P	22 26 55.0	+0.3
	comp=Z,16nm,1.8s							
PV13	Radium Mtn., P	29.52	117	*e*P		P	22 26 56.6	+0.1
	comp=Z,13nm,1.0s							
PV01	Paradox Valley	29.66	116	*e*P		P	22 26 58.7	+0.9

comp=Z,530nm,7.0s
HHC LR LR
comp=N,290nm,13.0s
HHC LR LR
comp=E,460nm,13.0s
HHC LR LR
comp=Z,840nm,16.4s
ARU Arti 64.94 347 *c i*P **P 22 31 31.6 +0.5**
ARU 22 32 03.4
ARU 22 33 51.3
ARU S **S 22 40 07.6 -4.6**
ARU pmax pmax
comp=Z,14nm,1.7s
DGZ Jazzator, Alta 65.26 327 *c i*P **P 22 31 34.2 +0.7**
DGZ pmax pmax
comp=Z,5.0nm,1.6s
BRVK Borovoye 66.36 339 *c i*P **P 22 31 40.7 +0.4**
BRVK pmax pmax
comp=Z,13nm,1.7s
KURK Kurchatov 66.72 333 ‖ *e*P **P 22 31 43.0 +0.3**
KURK pmax pmax
comp=Z,70nm,1.3s
OBN Obninsk 67.54 0 *e*P **P 22 31 47.2 -0.6**
OBN pmax pmax
comp=Z,5.0nm,0.9s
MK31 Makanchi Array 69.36 329 *e*P **P 22 31 59.1 -0.3**
MK31 Makanchi Array 69.36 329 *e*P **P 22 31 59.1 -0.3**
MKAR Makanchi Array 69.36 329 P **P 22 31 58.6 -0.7**
comp=Z,2.7nm,0.8s,baz=36,slow=6.4,SNR=14
GTA Gaotai 70.00 313 P **P 22 32 04.1 +0.5**
GTA pP sP 22 32 10.3 +2.3
GTA sP pP 22 32 13.2 +6.4
GTA pmax pmax
comp=Z,8.0nm,1.5s
WMQ Urumqi 70.44 324 *e*P P 22 32 12.0 +5.9
XAN Xi'an 70.73 303 P **P 22 32 07.7 -0.3**
XAN pP sP 22 32 15.7 +3.3
XAN pmax pmax
comp=Z,9.0nm,1.4s
XAN pmax pmax
comp=Z,560nm,17.1s
LZH Lanzhou 71.21 308 *e*P **P 22 32 11.2 +0.2**
LZH pP sP 22 32 17.5 +2.0
LZH sP pP 22 32 20.1 +5.8
LZH *e*PP **PP 22 34 51.3 +3.0**
LZH pmax pmax
comp=Z,17nm,1.3s
LZH pmax pmax
comp=Z,43nm,7.6s
AKASG Malin Array Be 71.76 5 P **P 22 32 13.5 -0.4**
comp=Z,0.9nm,0.5s,baz=346,slow=5.5,SNR=3.7
ABKAR Akbulak array 71.77 345 *e*P **P 22 32 14.6 +0.6**
AAK Ala-Archa 75.28 332 ‖ *e*P **P 22 32 35.9 +0.9**
AAK pmax pmax
comp=Z,14nm,1.7s
KK31 Karatay Array 75.78 335 *e*P **P 22 32 37.8 +0.2**
KK31 Karatay Array 75.78 335 *e*P **P 22 32 37.8 +0.2**
KKAR Karatay Array 75.78 335 *e*P **P 22 32 37.8 +0.2**
KKAR Karatay Array 75.78 335 *e*P **P 22 32 37.8 +0.2**
KBZ Khabaz 78.83 356 P **P 22 32 55.8 +1.2**
comp=Z,1.6nm,0.8s,baz=105,slow=7.1,SNR=3.4
BRTR Keskin Array B 82.89 3 P **P 22 33 17.4 +0.8**
comp=Z,2.1nm,1.0s,baz=343,slow=3.3,SNR=5.3
CMAR Chiang Mai Arr 88.62 303 P **P 22 33 46.0 +0.8**
comp=Z,2.4nm,0.6s,baz=16,slow=4.9,SNR=11
CM01 Chiang Mai Arr 88.65 303 *e*P **P 22 33 45.8 +0.5**
BOSA Boshof 149.74 21 PKPbc **PKPbc 22 40 41.6 0.0**
comp=Z,3.3nm,0.7s,baz=207,slow=2.1,SNR=6.3

NEIC 12 22:43:56.0±0.0,**56.14N**×**152.70W,h26**km**,ML2.7**(AEIC),
After AEIC., Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**0.93**	**297**	P	Pn	22 44 11.4	-1.9
SII				S	Sb	22 44 24.6	-0.7
OHAK	**Old Harbor**	**1.13**	**343**	P	Pn	22 44 14.4	-1.6
OHAK				S	Sn	22 44 29.5	-1.2
KABR	**Katmai Barrier**	**2.35**	**329**	P	Pn	22 44 31.6	-1.2
CAHL	**Cahill**	**2.38**	**324**	P	Pn	22 44 32.3	-1.1
CAHL				S	Sn	22 45 01.7	-0.1
KJL	**Kejulik**	**2.48**	**322**	P	Pn	22 44 33.4	-1.2
KCE	**Katmai Mt Cerb**	**2.50**	**328**	P	Pn	22 44 34.0	-1.0
KAHG	**Katmai Hook Gl**	**2.56**	**338**	P	Pn	22 44 36.3	+0.5
FONW	**Fourpeaked Sta**	**2.78**	**347**	P	Pn	22 44 38.6	-0.1
ANNE	**Aniakchak Nort**	**3.07**	**287**	P	Pn	22 44 42.6	-0.2
CHGN	**Chignik**	**3.20**	**275**	*e*Pn	Pn	22 44 42.3	-2.2
CHGN				*e*Sn	Sn	22 45 19.0	-2.7
AUL	**Augustine Lava**	**3.27**	**353**	P	Pn	22 44 45.2	-0.3
CNPM	**China Poot**	**3.48**	**12**	P	Pn	22 44 47.2	-1.2
CNPM				S	Sn	22 45 27.2	-1.5
BRLK	**Bradley Lake**	**3.76**	**14**	P	Pn	22 44 50.3	-1.9
BRLK				S	Sn	22 45 32.5	-3.1
RDWB	**Redoubt West**	**4.36**	**359**	P	Pn	22 44 59.9	-0.6
SVW2	**Sparrevohn**	**5.19**	**344**	*e*Pn	Pn	22 45 11.2	-0.7
BMRM	**Bremner River**	**6.43**	**38**	*e*Pn	Pn	22 45 26.8	-2.1
GRIN	**Grindle Hills**	**6.46**	**46**	P	Pn	22 45 34.9	+5.6
KHIT	**Khitrov Hills**	**6.58**	**45**	P	Pn	22 45 36.3	+5.3
KHIT				S	Sn	22 46 07.5	-38
SNH	**Sunshine Point**	**6.60**	**48**	P	Pn	22 45 30.8	-0.4
SNH				S	Sn	22 46 01.6	-44
KULT	**Kultieth River**	**6.69**	**48**	P	Pn	22 45 31.7	-0.7
KULT				S	Sn	22 46 02.4	-45
BARK	**Barkley Ridge**	**6.87**	**47**	P	Pn	22 45 34.5	-0.4
BARK				S	Sn	22 46 06.7	-45
MESA	**MESA**	**6.97**	**50**	P	Pn	22 45 34.0	-2.5
MESA				S	Sn	22 46 03.9	-51
ISLE	**Juniper Island**	**7.04**	**46**	P	Pn	22 45 36.0	-1.4
KIAG	**Kiagna River**	**7.22**	**44**	P	Pn	22 45 42.2	+2.3
BALM	**Baldy**	**7.30**	**44**	*e*Pn	Pn	22 45 39.4	-1.4
TABL	**Table Mountain**	**7.45**	**50**	P	Pn	22 45 39.0	-4.0
TABL				S	Sn	22 46 11.6	-55
SAMH	**Samovar Hills**	**7.46**	**53**	P	Pn	22 45 35.8	-7.3

NEIC 12 22:44:55.4±0.0,**57.61N**×**142.82W,h10**km**,ML2.5**(AEIC),
After AEIC., Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAIM	**Kayak Island**	**2.47**	**341**	P	Pn	22 45 31.3	-4.4
SUCK	**Suckling Hills**	**2.52**	**349**	P	Pn	22 45 32.6	-3.8
SUCK				S	Sn	22 46 00.4	-6.8
MID	**Middleton Isla**	**2.60**	**316**	P	Pn	22 45 32.6	-4.8
NICHA	**Nichawak Mount**	**2.71**	**348**	P	Pn	22 45 34.8	-4.0
NICHA				S	Sn	22 46 05.2	-6.4
PNL	**Peninsula**	**2.74**	**39**	P	Pn	22 45 35.1	-4.2
YAH	**Yahtse**	**2.82**	**11**	P	Pn	22 45 36.8	-3.9
YAH				S	Sn	22 46 08.0	-6.8
YAH	**Yahtse**	**2.82**	**11**	*e*Pn	Pn	22 45 36.8	-3.9
YAH				*e*Sn	Sn	22 46 08.0	-6.8
PCA	**Pinnacle**	**2.83**	**27**	P	Pn	22 45 36.6	-4.1
DHAK	**Deception Hill**	**2.85**	**57**	P	Pn	22 45 36.5	-4.3
BCPM	**Bancas Point**	**2.88**	**34**	P	Pn	22 45 37.0	-4.3
BAGL	**Bagley Icefiel**	**2.92**	**7**	P	Pn	22 45 36.6	-5.1
BAGL				S	Sn	22 46 10.6	-6.2
BAGL	**Bagley Icefiel**	**2.92**	**7**	*e*Pn	Pn	22 45 36.6	-5.1
BAGL				*e*Sn	Sn	22 46 10.6	-6.2
SGAM	**Sherman Glacie**	**3.16**	**338**	P	Pn	22 45 40.9	-4.1
HIN	**Hinchinbrook I**	**3.39**	**327**	P	Pn	22 45 43.6	-4.7
HYT	**Haines Junctio**	**4.23**	**38**	*e*Pn	Pn	22 45 59.5	-0.4

ISCJB ***12*** *23:02:22.9±0.3,37.83S±0.05×77.96E±0.07,h10km, mb4.6/43,MS4.7/36, Error ellipse: s-maj=8.5km s-min=6.9km az=25.8*
IDC ***12*** *23:02:23.4±0.5,37.88S×77.95E, h0km, mb4.4/20, mb1 4.4/20,mb1mx4.3/37, mbtmp4.4/20,MS4.6/31, Ms1 4.6/31,ms1mx4.5/40, Error ellipse: s-maj=16.0km s-min=14.4km az=178.0*
NEIC ***12*** *23:02:24.9±0.3,37.82S×77.95E,h10km,mb4.8/18, Error ellipse: s-maj=9.4km s-min=8.6km az=168.0*
GCMT ***12*** *23:02:25.9±0.2,37.66S±0.02×77.90E±0.02,h17km±1km, MW5.3/92,Moment Tension Solution. s33,c35; s92,c135; Duration: 1ꢀ0 Moment tensor: Scale 10¹⁷Nm; Mrr-0.12±.04; Mθθ-0.52±.03; Mϕϕ0.63±.03; Mrθ-0.00±.08; Mθϕ-0.64±.03; Mϕr0.49±.11; Best double couple: M₀0.97700×10¹⁷ NP1:ϕs21.00000°,δ88.00000°, λ27.00000°. NP2:ϕs289.00000°,δ63.00000°,λ177.00000°.*

2012 NOV

Principal axes: T 1.0900, Plg21.0000°, Azm248.0000°; N -0.2260, Plg63.0000°, Azm25.0000°; P -0.8650, Plg17.0000°, Azm152.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 12 23:02:25.3±0.4,**37.87S**±0.07×**77.89E**±0.09,**h10**km,**n96,**
σ1ꢀ56/79,mb4.8/43,MS4.7/36,2D,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**29.21**	**95**	T	T	23 38 46.4	
	baz=254,slow=75,SNR=372						
H01W3	**Cape Leeuwin H**	**29.22**	**95**	T	T	23 38 53.2	
	baz=254,slow=75,SNR=372						
H01W1	**Cape Leeuwin H**	**29.23**	**95**	T	T	23 38 54.0	
	baz=254,slow=75,SNR=435						
H08S2	**Diego Garcia H**	**30.48**	**349**	T	T	23 40 19.6	
	baz=172,slow=76,SNR=2426						
H08S1	**Diego Garcia H**	**30.49**	**349**	T	T	23 40 23.2	
	baz=172,slow=76,SNR=2358						
H08S3	**Diego Garcia H**	**30.50**	**349**	T	T	23 40 24.4	
	baz=172,slow=76,SNR=2409						
MAW	**Mawson**	**30.96**	**191**	P	**P**	**23 08 43.8**	**+1.6**
	2.9nm,0.8s,baz=293,slow=10.0,SNR=2.9						
MAW				LR	LR	23 18 51.2	
	comp=Z,798nm,19.0s,baz=25,slow=32						
OPO	**Ambohidratompo**	**32.97**	**297**	P	**P**	**23 08 59.9**	**-0.6**
	4.9nm,0.9s,baz=87,slow=4.5,SNR=3.6						
CASY	**Casey**	**34.04**	**157**	*e*P	**P**	**23 09 08.9**	**-0.2**
SYO	**Syowa Base**	**37.44**	**202**	‖ *e*P	**P**	**23 09 37.8**	**-0.4**
SYO	**Syowa Base**	**37.44**	**202**	‖ *e*pP	pP	23 09 41.0	-0.3
LEM	**Lembang**	**41.01**	**49**	P	**P**	**23 10 09.9**	**+1.1**
	44nm,0.7s,baz=178,slow=8.6,SNR=12						
LEM				LR	LR	23 23 28.8	
	comp=Z,2μm,20.8s,baz=220,slow=31						
LEM	**Lembang**	**41.01**	**49**	P	P	23 10 15.6	+6.7
	908nm,1.3s						
BOSA	**Boshof**	**44.48**	**266**	P	**P**	**23 10 36.2**	**-0.7**
	19nm,0.8s,baz=119,slow=6.6,SNR=46						
BOSA				LR	LR	23 24 60.0	
	comp=Z,760nm,19.7s,baz=111,slow=30						
BOSA	**Boshof**	**44.48**	**266**	*e*P	**P**	**23 10 36.3**	**-0.7**
	20nm,0.8s						
PSI	**Prapat**	**44.92**	**31**	P	**P**	**23 10 40.2**	**-0.2**
	1.5nm,0.3s,baz=0.4,slow=3.9,SNR=2.8						
PSI				LR	LR	23 25 19.3	
	comp=Z,1μm,21.0s,baz=269,slow=31						
PALK	**Pallekele**	**44.99**	**4**	P	**P**	**23 10 40.2**	**-0.7**
	16nm,1.1s,baz=116,slow=6.6,SNR=2.6						
PALK				LR	LR	23 24 44.3	
	comp=Z,977nm,21.2s,baz=115,slow=30						
LBTB	**Lobatse**	**45.88**	**271**	*e*P	**P**	**23 10 47.1**	**-1.0**
	11nm,0.9s						
MATP	**Matopo**	**45.96**	**278**	P	**P**	**23 10 47.8**	**-1.0**
	3.8nm,1.0s,baz=135,slow=8.6,SNR=3.6						
MATP				LR	LR	23 27 30.8	
	comp=Z,910nm,18.2s,baz=130,slow=33						
PLAI	**Plampang**	**46.10**	**62**	P	**P**	**23 10 49.1**	**-0.7**
SUR	**Sunderland**	**46.39**	**259**	*e*P	**P**	**23 10 52.2**	**0.0**
	18nm,0.8s						
LHMI	**Lhok Sumawe**	**46.40**	**27**	*e*P	**P**	**23 10 50.3**	**-1.7**
	30nm,1.1s						
LSZ	**Lusaka**	**49.16**	**283**	P	**P**	**23 11 12.3**	**-1.4**
	3.8nm,0.7s						
LSZ				LR	LR	23 27 41.8	
	comp=Z,543nm,21.9s,baz=125,slow=31						
LSZ	**Lusaka**	**49.16**	**283**	*e*P	**P**	**23 11 12.9**	**-0.8**
	4.7nm,0.8s						
ASAR	**Alice Springs**	**49.48**	**90**	P	**P**	**23 11 14.2**	**-1.9**
	4.9nm,1.1s,baz=235,slow=6.5,SNR=15						
ASAR				LR	LR	23 30 08.5	
	comp=Z,867nm,18.2s,baz=238,slow=34						
AS31	**Alice Springs**	**49.49**	**90**	*e*P	**P**	**23 11 15.0**	**-1.0**
	1.6nm,0.8s						
AS01	**Alice Springs**	**49.52**	**90**	*e*P	**P**	**23 11 14.3**	**-2.0**
SNAA	**Sanae**	**51.67**	**203**	P	**P**	**23 11 31.5**	**-0.4**
SNAA	**Sanae**	**51.67**	**203**	*e*P	**P**	**23 11 32.1**	**+0.2**
	4.9nm,1.1s						
STKA	**Stephens Creek**	**51.72**	**104**	P	**P**	**23 11 31.3**	**-1.4**
	5.6nm,1.0s,baz=283,slow=3.9,SNR=6.0						
STKA				LR	LR	23 29 14.3	
	comp=Z,671nm,20.1s,baz=245,slow=31						
STKA	**Stephens Creek**	**51.72**	**104**	*e*P	**P**	**23 11 32.9**	**+0.2**
	1.7nm,1.0s						
WRA	**Warramunga Arr**	**51.77**	**86**	P	**P**	**23 11 31.0**	**-2.3**
	4.5nm,0.7s,baz=237,slow=7.3,SNR=29						
WRA				LR	LR	23 30 46.4	
	comp=Z,974nm,20.2s,baz=235,slow=33						
WB2	**Warramunga Arr**	**51.78**	**86**	*e*P	**P**	**23 11 31.5**	**-1.9**
	9.9nm,0.9s						
WRAB	**Tennant Creek**	**51.79**	**86**	*e*P	**P**	**23 11 31.4**	**-2.0**
	14nm,1.0s						
VNDA	**Vanda**	**52.06**	**164**	P	**P**	**23 11 35.0**	**+0.4**
	0.7nm,0.7s,baz=302,slow=5.2,SNR=3.8						
VNDA				LR	LR	23 32 06.3	
	comp=Z,1μm,18.3s,baz=264,slow=34						
VNDA	**Vanda**	**52.06**	**164**	*e*P	**P**	**23 11 35.2**	**+0.5**
	2.7nm,1.1s						
KMBO	**Kilima Mbogo**	**52.24**	**305**	P	**P**	**23 11 38.0**	**+0.9**
	0.8nm,0.6s,baz=123,slow=11,SNR=3.0						
KMBO				LR	LR	23 31 16.5	
	comp=Z,252nm,18.1s,baz=90,slow=33						
QSPA	**South Pole Qui**	**52.29**	**180**	P	**P**	**23 11 36.4**	**-0.3**
	8.7nm,0.9s,baz=301,slow=1.7,SNR=7.8						
QSPA	**South Pole Qui**	**52.29**	**180**	*e*P	**P**	**23 11 36.2**	**-0.5**
	25nm,1.1s						
SBA	**Scott Base**	**53.08**	**165**	*e*P	**P**	**23 11 43.9**	**+1.7**
	1.1nm,1.1s						
VNA2	**Neumayer--Watz**	**53.22**	**204**	P	**P**	**23 11 43.2**	**-0.1**
	baz=90,slow=7.8						
VNA1	**Neumayer--Stat**	**53.56**	**204**	P	**P**	**23 11 46.9**	**+1.1**
VNA3	**Neumayer Olymp**	**53.89**	**204**	P	**P**	**23 11 47.2**	**-1.1**
TSUM	**Tsumeb**	**55.23**	**272**	LR	LR	23 31 47.4	
	comp=Z,1μm,20.7s,baz=122,slow=32						
TSUM	**Tsumeb**	**55.23**	**272**	*e*P	**P**	**23 11 58.1**	**-0.7**
	8.9nm,0.8s						
PBKT	**Sadao Pong**	**58.34**	**26**	*e*P	**P**	**23 12 20.3**	**-0.3**
	16nm,0.9s						
CM01	**Chiang Mai Arr**	**59.39**	**23**	*e*P	**P**	**23 12 27.2**	**-0.7**
CMAR	**Chiang Mai Arr**	**59.42**	**23**	P	**P**	**23 12 28.2**	**+0.1**
	1.3nm,0.3s,baz=209,slow=6.4,SNR=15						
CMAR				LR	LR	23 34 17.5	
	comp=Z,168nm,18.9s,baz=235,slow=32						
CHTO	**Chiang Mai**	**59.76**	**23**	*e*P	**P**	**23 12 28.2**	**-2.3**
	4.7nm,1.0s						
CTA	**Charters Tower**	**61.12**	**94**	LR	LR	23 37 03.9	
	comp=Z,977nm,18.9s,baz=243,slow=34						
SIJI	**Sorong**	**61.23**	**66**	LR	LR	23 35 38.2	
	comp=Z,261nm,21.1s,baz=100,slow=33						
DAV	**Davao City (W)**	**63.00**	**55**	LR	LR	23 37 21.0	
	comp=Z,401nm,20.2s,baz=191,slow=33						
RAMN	**Ramite**	**65.00**	**9**	*e*P	**P**	**23 13 04.2**	**-1.5**
	68nm,1.2s						
PKI	**Puhoki**	**65.48**	**7**	*e*P	**P**	**23 13 07.0**	**-1.9**
	55nm,1.4s						
DMN	**Daman**	**65.49**	**7**	*e*P	**P**	**23 13 06.8**	**-2.0**
	43nm,1.0s						
KOLN	**Koldanda**	**65.52**	**6**	*e*P	**P**	**23 13 06.8**	**-2.2**
	50nm,1.2s						
TGY	**Tagaytay City**	**65.60**	**47**	LR	LR	23 39 40.3	
	comp=Z,315nm,21.2s,baz=147,slow=34						
JIRN	**Jiri**	**65.65**	**8**	*e*P	**P**	**23 13 08.3**	**-1.7**
	46nm,1.0s						
PYUN	**Piuthan**	**65.80**	**5**	*e*P	**P**	**23 13 08.3**	**-2.5**
	90nm,1.3s						
GUN	**Gumba**	**65.86**	**8**	*e*P	**P**	**23 13 09.8**	**-1.6**
	194nm,1.5s						
DANN	**Dangsing**	**66.10**	**6**	*e*P	**P**	**23 13 10.5**	**-2.3**
	38nm,0.8s						
KMI	**Kunming**	**66.87**	**24**	P	**P**	**23 13 20.8**	**+3.1**
KMI				pmax	pmax		
	comp=Z,11nm,0.7s						
KMI				pmax	pmax		
	comp=Z,150nm,4.5s						
PMG	**Port Moresby**	**67.93**	**85**	LR	LR	23 40 26.3	
	comp=Z,645nm,19.8s,baz=228,slow=34						
RAYN	**Ar Rayn**	**68.24**	**328**	*e*P	**P**	**23 13 24.5**	**-1.7**
	7.1nm,1.1s						
LSA	**Lhasa**	**68.36**	**12**	*e*P	**P**	**23 13 27.9**	**+0.6**
	19nm,1.2s						
GYA	**Guiyang**	**69.45**	**27**	*e*P	**P**	**23 13 36.8**	**+3.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CD2	**Chengdu**	**72.57**	**23**	P	**P**	**23 13 53.0**	**+0.5**
URZ	**Urewera**	**73.91**	**126**	LR	LR	23 40 56.4	
	comp=Z,288nm,18.6s,baz=214,slow=31						
DZM	**Mont Dzumac**	**75.70**	**107**	LR	LR	23 42 27.8	
	comp=Z,382nm,18.6s,baz=250,slow=32						
KSH	**Kashi**	**77.03**	**358**	P	**P**	**23 14 18.7**	**+0.4**
KSH				pP	sP	23 14 23.8	+1.0
KSH				PP	**PP**	**23 17 14.7**	**+2.5**
KSH				S	**S**	**23 24 04.9**	**-1.9**
KSH				sS	sS	23 24 11.6	-0.6
KSH				SS	**SS**	**23 29 04.0**	**-0.7**
KSH				pmax	pmax		
	comp=Z,19nm,1.0s						
KSH				pmax	pmax		
	comp=Z,500nm,5.4s						
KSH				LR	LR		
	comp=N,440nm,8.3s						
KSH				LR	LR		
	comp=E,360nm,7.2s						
KSH				LR	LR		
	comp=Z,1μm,21.3s						
XAN	**Xi'an**	**77.14**	**26**	P	**P**	**23 14 19.5**	**+0.6**
XAN				pP	PcP	23 14 27.2	-2.5
XAN				pmax	pmax		
	comp=Z,13nm,1.3s						
LZH	**Lanzhou**	**77.41**	**21**	*e*P	**P**	**23 14 22.0**	**+1.4**
LZH				pP	pP	23 14 23.2	-0.7
LZH				sP	sP	23 14 26.8	+1.7
LZH				*e*PP	**PP**	**23 17 19.3**	**+3.8**
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
LZH				pmax	pmax		
	comp=Z,97nm,8.2s						
LZH				LR	LR		
	comp=N,240nm,14.7s						
LZH				LR	LR		
	comp=E,250nm,15.2s						
LZH				LR	LR		
	comp=Z,370nm,18.4s						
GEYT	**Alibeck**	**77.60**	**344**	P	**P**	**23 14 22.9**	**+1.5**
	1.8nm,1.0s,baz=297,slow=9.8,SNR=8.3						
GEYT				LR	LR	23 43 26.2	
	comp=Z,346nm,21.9s,baz=260,slow=32						
HNR	**Honiara**	**78.03**	**93**	LR	LR	23 45 27.2	
	comp=Z,579nm,21.1s,baz=252,slow=33						
NJ2	**Nanjing**	**79.36**	**34**	*e*P	**P**	**23 14 32.0**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GTA	**Gaotai**	**79.50**	**17**	P	**P**	**23 14 31.5**	**-0.5**
GTA				pP	sP	23 14 36.3	-0.2
GTA				sP	PcP	23 14 38.5	-1.4
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GTA				LR	LR		
	comp=N,280nm,20.3s						
GTA				LR	LR		
	comp=E,300nm,19.2s						
GTA				LR	LR		
	comp=Z,440nm,17.9s						
KK31	**Karatay Array**	**80.88**	**355**	*e*P	**P**	**23 14 42.2**	**+3.0**
KKAR	**Karatay Array**	**80.88**	**355**	*e*P	**P**	**23 14 42.2**	**+3.0**
WMQ	**Urumqi**	**81.80**	**7**	P	**P**	**23 14 45.4**	**+1.3**
WMQ				pP	pP	23 14 46.9	-0.5
WMQ				sP	PcP	23 14 54.9	+5.1
WMQ				pmax	pmax		
	comp=Z,31nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,240nm,6.5s						
WMQ				LR	LR		
	comp=N,2μm,30.3s						
WMQ				LR	LR		
	comp=E,700nm,27.5s						
WMQ				LR	LR		
	comp=Z,610nm,24.9s						
HHC	**Hu-ho-hao-te**	**84.18**	**25**	*e*P	**P**	**23 14 57.1**	**+0.5**
HHC				PP	**PP**	**23 18 13.3**	**+1.8**
HHC				S	**S**	**23 25 20.3**	**-1.2**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,320nm,5.4s						
HHC				LR	LR		
	comp=N,170nm,9.5s						
HHC				LR	LR		
	comp=E,160nm,10.4s						
HHC				LR	LR		
	comp=Z,640nm,13.0s						
MK01	**Makanchi Array**	**84.36**	**3**	*e*P	**P**	**23 14 54.8**	**-2.5**
MK31	**Makanchi Array**	**84.38**	**3**	*e*P	**P**	**23 14 56.0**	**-1.3**
MKAR	**Makanchi Array**	**84.38**	**3**	P	**P**	**23 14 55.5**	**-1.8**
	7.1nm,0.9s,baz=165,slow=5.0,SNR=21						
MKAR				LR	LR	23 49 50.0	
	comp=Z,510nm,20.1s,baz=198,slow=34						
KBZ	**Khabaz**	**87.20**	**335**	LR	LR	23 50 50.8	
	comp=Z,306nm,20.3s,baz=149,slow=33						
BRTR	**Keskin Array B**	**87.25**	**327**	P	**P**	**23 15 11.3**	**-0.6**
	0.9nm,0.9s,baz=138,slow=14,SNR=3.5						
TORD	**Torodi Ar. Bea**	**87.38**	**289**	LR	LR	23 53 27.7	
	comp=Z,338nm,18.1s,baz=340,slow=35						
DBIC	**Dimbokro**	**88.36**	**280**	LR	LR	23 52 47.7	
	comp=Z,290nm,18.0s,baz=100,slow=34						
SONM	**Songino Array**	**89.03**	**19**	P	**P**	**23 15 20.2**	**0.0**
	1.1nm,0.8s,baz=156,slow=4.6,SNR=6.7						
ZALV	**Zalesovo Beam**	**91.64**	**4**	P	**P**	**23 15 32.1**	**+0.1**
	0.8nm,0.3s,baz=155,slow=4.9,SNR=4.3						
ZALV				LR	LR	23 54 30.6	
	comp=Z,483nm,19.6s,baz=343,slow=34						
MJAR	**Matsushiro Arr**	**92.68**	**44**	LR	LR	23 54 25.0	
	comp=Z,143nm,21.1s,baz=245,slow=34						
USRK	**Ussuriysk Ar.**	**95.22**	**36**	LR	LR	23 58 01.7	
	comp=Z,221nm,19.4s,baz=220,slow=35						
MLR	**Muntele Rosu**	**95.24**	**326**	*e*P	**P**	**23 15 52.3**	**+3.3**
	4.1nm,1.1s						
PLCA	**Paso Flores**	**96.61**	**204**	LR	LR	23 53 56.1	
	comp=Z,149nm,21.7s,baz=178,slow=32						
INK	**Inuvik**	**144.94**	**20**	PKP	**PKPab**	**23 21 59.2**	**-1.6**
	4.7nm,1.0s,baz=306,slow=5.3,SNR=6.8						
SCHQ	**Schefferville**	**150.74**	**317**	PKPbc	**PKPbc**	**23 22 17.8**	**+0.7**
	5.5nm,0.8s,baz=209,slow=3.9,SNR=3.6						
YKA	**Yellowknife Ar**	**154.18**	**13**	PKPbc	**PKPbc**	**23 22 24.9**	**+0.4**
	1.2nm,0.9s,baz=335,slow=2.8,SNR=2.9						

MEX 12 23:13:07.8±0.3,**18.31N**×**100.52W,h35**km±4km**,MD3.5,**
Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.17**	**101**	*i* P	Pn	23 13 13.0	-1.4
ARIG				*i* S	Sn	23 13 17.0	-1.9
MEIG	**Mezcala**	**0.94**	**114**	*e*P	Pn	23 13 22.7	-1.9
MEIG				*i* S	Sn	23 13 34.7	-2.2
PLIG	**Platanillo**	**0.97**	**85**	*i* P	Pn	23 13 23.0	-2.1
PLIG				*i* S	Sn	23 13 35.6	-2.1

TIR ***12*** *23:18:40.3,42.59N×18.96E,h10km,Md4.2/9*
THE ***12*** *23:18:41.2,42.65N×18.99E,h0km±1km,ML4.1/8, Error ellipse: s-maj=2.0km s-min=1.1km az=333.0*
ROM ***12*** *23:18:42.0±0.1,42.53N±0.01×18.989E±0.009,h10km, ML4.6/49*
MOS ***12*** *23:18:41.9±1.1,42.57N×18.95E,h26km,mb4.4/8, Error ellipse: s-maj=4.6km s-min=2.8km az=109.7*
ISCJB ***

IDC ***12*** *23:18:47.4±1.2,42.6°60N×19.0°02E,h59km±11km,mb4.0/26, mb1 4.0/42,mb1mx4.0/69,mbtmp4.2/42,MS3.9/4, Ms1 3.9/4,ms1mx3.4/57,Error ellipse: s-maj=9.3km s-min=7.8km az=127.0*

ISC 12 23:18:43.0±0.5,42.55N±0.01×18.99E±0.01,h19km±1km, n671,σ1ş92/805,mb4.5/47,57C-40D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NKME	**Niksic**	**0.21**	**353**	⇓*i*Pg		**Pb**	**23 19 48.0**	**+0.2**
NKME				*e*Sg		**Sg**	**23 18 52.6**	**+0.7**
PDG	**Podgorica**	**0.23**	**122**	*e*Pg		**Pb**	**23 18 47.2**	**-1.0**
PDG				*e*Sg		**Sb**	**23 18 51.1**	**-0.7**
PDG	**Podgorica**	**0.23**	**122**	P		**Pb**	**23 18 47.2**	**-1.0**
PDG				S		**Sb**	**23 18 51.0**	**-0.7**
PDG	**Podgorica**	**0.23**	**122**	P		**Pb**	**23 18 47.4**	**-0.9**
PDG				S		**Sb**	**23 18 51.0**	**-0.7**
PDG	**Podgorica**	**0.23**	**122**	⇑*i*Pg		**Pb**	**23 18 47.3**	**-1.0**
PDG				*e*Sg		**Sb**	**23 18 50.9**	**-0.7**
TTG	**Podgorica**	**0.23**	**122**	⇑*i*Pg		**Pb**	**23 18 47.2**	**-1.0**
TTG				*e*Sg		**Sb**	**23 18 51.0**	**-0.7**
TTG	**Podgorica**	**0.23**	**122**	*e*Pg		**Pb**	**23 18 47.3**	**-1.0**
NKY	**Niksic**	**0.26**	**1**	⇑*i*Pg		**Pb**	**23 18 48.5**	**-0.5**
NKY				*e*Sg		**Sg**	**23 18 53.6**	**+0.4**
BUM	**Brajici-Budva**	**0.26**	**195**	⇓*i*Pg		**Pg**	**23 18 48.7**	**-0.3**
BUM				*i* Sg		**Sg**	**23 18 53.7**	**+0.5**
HCY	**Herceg Novi**	**0.38**	**254**	⇑*i*Pg		**Pb**	**23 18 51.2**	**0.0**
HCY				*i* Sg		**Sb**	**23 18 58.4**	**+1.7**
HCY	**Herceg Novi**	**0.38**	**254**	⇓*i*Pg		**Pb**	**23 18 51.2**	**0.0**
HCY				*e*Sg		**Sb**	**23 18 58.4**	**+1.7**
DRME	**Dracevica, Mon**	**0.40**	**158**	⇑*i*Pg		**Pg**	**23 18 50.2**	**-1.0**
DRME				*i* Sg		**Sg**	**23 18 57.1**	**+0.3**
DRME	**Dracevica, Mon**	**0.40**	**158**	⇓*i*Pg		**Pg**	**23 18 50.2**	**-1.0**
DRME				*e*Sg		**Sg**	**23 18 56.8**	**0.0**
BRY	**Bratogost**	**0.48**	**317**	⇓*i*Pg		**Pg**	**23 18 52.7**	**-0.1**
BRY				*e*Sg		**Sb**	**23 19 01.2**	**+1.6**
BRY	**Bratogost**	**0.48**	**317**	⇓*i*Pg		**Pg**	**23 18 52.6**	**-0.2**
BRY				*e*Sg		**Sb**	**23 19 01.1**	**+1.5**
KOME	**Kolasin**	**0.49**	**53**	⇓*i*Pg		**Pg**	**23 18 51.7**	**-1.3**
KOME				*i* Sg		**Sg**	**23 18 59.6**	**-0.1**
TREB	**Trebinje**	**0.50**	**289**	*e*Pg		**Pb**	**23 18 53.6**	**+0.5**
TREB				*e*Sg		**Sn**	**23 19 02.7**	**-0.4**
TREB	**Trebinje**	**0.50**	**289**	⇑*i*Pg		**Pg**	**23 18 53.0**	**-0.1**
TREB				*e*Sg		**Sn**	**23 19 02.5**	**-0.6**
ULC	**Ulcinj**	**0.62**	**162**	⇑*i*Pg		**Pb**	**23 18 53.9**	**-1.2**
ULC				*e*Sg		**Sb**	**23 19 03.6**	**+0.2**
UPM	**Unac-Piva**	**0.65**	**355**	⇓*i*Pg		**Pb**	**23 18 54.9**	**-0.9**
UPM				*e*Sg		**Sg**	**23 19 05.8**	**+1.1**
UPM	**Unac-Piva**	**0.65**	**355**	⇓*i*Pg		**Pb**	**23 18 55.1**	**-0.7**
UPM				*e*Sg		**Sg**	**23 19 05.0**	**+0.3**
PVY	**Plav**	**0.72**	**86**	⇓*i*Pg		**Pb**	**23 18 55.5**	**-1.4**
PVY				*e*Sg		**Sb**	**23 19 06.5**	**+0.1**
IVA	**Berane**	**0.74**	**64**	⇓*i*Pg		**Pb**	**23 18 56.0**	**-1.3**
IVA				*e*Sg		**Sb**	**23 19 07.2**	**+0.2**
BCI	**Bajram Curri**	**0.82**	**103**	*i* PG		**Pb**	**23 18 57.2**	**-1.4**
BCI				*i* SG		**Sb**	**23 19 09.4**	**+0.1**
PLE	**Pljevlja**	**0.83**	**21**	⇓*i*Pg		**Pb**	**23 18 58.1**	**-0.7**
PLE				*e*Sg		**Sg**	**23 19 11.0**	**+0.7**
PUK	**Puka**	**0.84**	**127**	*i* PG		**Pb**	**23 18 58.0**	**-1.1**
PUK				*i* SG		**Sg**	**23 19 11.1**	**+0.4**
PUK	**Puka**	**0.84**	**127**	P		**Pb**	**23 18 57.7**	**-1.3**
PUK				S		**Sb**	**23 19 10.1**	**+0.1**
PUK				AML	AML			
	comp=E,11350μm,1.5s							
PUK				AML	AML			
	comp=N,11550μm,1.6s							
PUK				AML	AML			
	comp=E,11350μm,1.5s							
PUK				AML	AML			
	comp=N,11550μm,1.6s							
PUK				AML	AML			
	comp=E,11350μm,1.5s							
PUK				AML	AML			
	comp=N,11550μm,1.6s							
STON	**Ston**	**1.00**	**289**	*i* Pg		**Pn**	**23 19 01.8**	**-0.1**
STON				Sg		**Sn**	**23 19 17.4**	**+1.9**
SJES	**Sjenica**	**1.01**	**45**	*e*Pg		**Pb**	**23 19 01.8**	**-0.1**
IVAS	**Ivanjica**	**1.33**	**39**	*e*Pg		**Pn**	**23 19 07.1**	**+0.5**
BBLS	**Lazići**	**1.35**	**13**	*e*Pg		**Pb**	**23 19 07.8**	**+0.2**
BBLS	**Lazići**	**1.35**	**13**	⇓*i*Pg		**Pb**	**23 19 07.4**	**-0.2**
BBLS				*e*Sg		**Sg**	**23 19 25.8**	**-0.8**
TIR	**Tirane**	**1.37**	**151**	*e*Pg		**Pn**	**23 19 07.5**	**+0.4**
TIR				*e*Sg		**Sb**	**23 19 26.4**	**+1.3**
TIR	**Tirane**	**1.37**	**151**	*e*Pn		**Pn**	**23 19 06.7**	**-0.4**
TIR				S		**Sg**	**23 19 28.5**	**+1.1**
TIR	**Tirane**	**1.37**	**151**	⇑*i*P		**Pn**	**23 19 07.3**	**+0.2**
TIR	**Tirane**	**1.37**	**151**	S		**Sg**	**23 19 28.3**	**+0.9**
TIR	**Tirane**	**1.37**	**151**	P		**Pn**	**23 19 07.4**	**+0.4**
TIR				S		**Sg**	**23 19 28.5**	**+1.1**
TIR	**Tirane**	**1.37**	**151**	*e*P		**Pn**	**23 19 06.7**	**-0.4**
TIR				S		**Sg**	**23 19 28.5**	**+1.1**
TIR	**Tirane**	**1.37**	**151**	*i* PN		**Pb**	**23 19 07.9**	**-0.1**
TIR				*i* SN		**Sg**	**23 19 27.6**	**+0.2**
TIR	**Tirane**	**1.37**	**151**	P		**Pn**	**23 19 07.6**	**+0.5**
TIR				AML	AML			
	comp=E,14150μm,1.4s							
TIR				AML	AML			
	comp=N,12800μm,0.6s							
TIR				AML	AML			
	comp=E,14150μm,1.4s							
TIR				AML	AML			
	comp=N,12800μm,0.6s							
TIR				AML	AML			
	comp=E,14150μm,1.4s							
TIR				AML	AML			
	comp=N,12800μm,0.6s							
PHP	**Peshkopia**	**1.39**	**128**	P		**Pn**	**23 19 07.0**	**-0.3**
PHP				S		**Sg**	**23 19 29.2**	**+1.3**
PHP	**Peshkopia**	**1.39**	**128**	P		**Pn**	**23 19 07.0**	**-0.3**
PHP				S		**Sg**	**23 19 29.2**	**+1.3**
PHP	**Peshkopia**	**1.39**	**128**	P		**Pn**	**23 19 07.0**	**-0.3**
PHP				S		**Sg**	**23 19 29.2**	**+1.3**
PHP	**Peshkopia**	**1.39**	**128**	*i* PN		**Pn**	**23 19 07.9**	**+0.5**
PHP				*i* SN		**Sg**	**23 19 29.2**	**+1.3**
HAPS	**Han Pijesak,BI**	**1.53**	**359**	⇑*i*Pn		**Pn**	**23 19 09.8**	**+0.4**
HAPS				*e*Sn		**Sb**	**23 19 30.6**	**+0.7**
SELS	**Selova**	**1.70**	**66**	*e*Pn		**Pn**	**23 19 11.9**	**+0.2**
DIVS	**Divibare**	**1.71**	**25**	*e*Pn		**Pn**	**23 19 12.4**	**+0.6**
DIVS				*e*Sg		**Sg**	**23 19 37.5**	**-0.6**
DIVS	**Divibare**	**1.71**	**25**	*e*Pn		**Pn**	**23 19 12.0**	**+0.2**
DIVS	**Divibare**	**1.71**	**25**	P		**Pn**	**23 19 12.1**	**+0.2**
DIVS				S		**Sb**	**23 19 34.9**	**0.0**
DIVS				AML	AML			
	comp=E,3670μm,0.8s							
DIVS				AML	AML			
	comp=N,3115μm,1.5s							
DIVS				AML	AML			
	comp=E,3670μm,0.8s							
DIVS				AML	AML			
	comp=N,3115μm,1.5s							
DIVS				AML	AML			
	comp=N,3115μm,1.5s							
DIVS				AML	AML			
	comp=E,3670μm,0.8s							
DIVS	**Divibare**	**1.71**	**25**	⇓*i*Pn		**Pn**	**23 19 12.0**	**+0.2**
DIVS				*e*Sn		**Sb**	**23 19 34.6**	**-0.3**
GRUS	**Gruza**	**1.84**	**43**	*e*Pn		**Pn**	**23 19 14.2**	**+0.7**
SKO	**Skopje**	**1.91**	**107**	P		**Pb**	**23 19 16.2**	**-1.0**
SKO				S		**Sb**	**23 19 41.8**	**+1.1**
SKO	**Skopje**	**1.91**	**107**	P		**Pb**	**23 19 16.2**	**-1.0**
SKO				S		**Sb**	**23 19 41.8**	**+1.1**
SKO	**Skopje**	**1.91**	**107**	*i* Pn		**Pn**	**23 19 15.9**	**+1.4**
SKO	**Skopje**	**1.91**	**107**	P		**Pb**	**23 19 16.2**	**-1.0**
SKO				S		**Sb**	**23 19 41.8**	**+1.1**
TRUS	**Trudelj**	**1.96**	**31**	*e*Pn		**Pn**	**23 19 15.9**	**+0.7**
OHR	**Ohrid**	**1.98**	**136**	*i* Pn		**Pb**	**23 19 18.3**	**-0.1**
OHR				*i* Sn		**Sb**	**23 19 44.8**	**+2.1**
TEKS	**Tekeris**	**2.03**	**11**	*e*Pg		**Pb**	**23 19 18.4**	**-0.9**
TEKS	**Tekeris**	**2.03**	**11**	*e*Pn		**Pn**	**23 19 16.8**	**+0.6**
TEKS				*e*Sn		**Sn**	**23 19 42.2**	**+1.1**
KRUS	**Krusevo**	**2.06**	**124**	*i* Pn		**Pn**	**23 19 18.2**	**+1.6**
BARS	**Barje**	**2.10**	**82**	*e*Pn		**Pb**	**23 19 18.0**	**+0.9**
BARS	**Barje**	**2.10**	**82**	*e*Pn		**Pg**	**23 19 24.8**	**+1.5**
BARS	**Barje**	**2.10**	**82**	*e*Pn		**Pg**	**23 19 25.3**	**+2.0**
VLO	**Vlora**	**2.12**	**169**	P		**Pn**	**23 19 17.7**	**+0.4**
VLO				S		**Sb**	**23 19 48.3**	**+1.7**
VLO	**Vlora**	**2.12**	**169**	P		**Pn**	**23 19 17.7**	**+0.4**
VLO				S		**Sb**	**23 19 48.3**	**+1.7**
VLO	**Vlora**	**2.12**	**169**	P		**Pn**	**23 19 17.7**	**+0.4**
VLO				S		**Sb**	**23 19 48.3**	**+1.7**
VLO	**Vlora**	**2.12**	**169**	*i* PN		**Pb**	**23 19 19.5**	**-1.2**
FASA	**Fasano**	**2.12**	**216**	⇑*i*Pn		**Pn**	**23 19 17.3**	**-0.1**
FASA				Sn		**Sn**	**23 19 43.0**	**-0.2**
BAI	**Bari**	**2.14**	**228**	⇓*i*Pn		**Pn**	**23 19 17.4**	**-0.2**
BAI				Sn		**Sn**	**23 19 44.2**	**+0.6**
CGL1	**Ceglie Messapi**	**2.21**	**211**	⇑*i*Pn		**Pn**	**23 19 18.3**	**-0.3**
CGL1				Sn		**Sb**	**23 19 48.8**	**-0.5**
BLJ	**Bijeljina**	**2.24**	**5**	*e*Pn		**Pn**	**23 19 19.3**	**+0.3**
BLJ				*e*Sn		**Sn**	**23 19 46.4**	**+0.4**
BOVS	**Bovan**	**2.27**	**61**	*e*Pn		**Pn**	**23 19 19.6**	**+0.2**
DOB	**Doboj**	**2.27**	**344**	*e*Pn		**Pn**	**23 19 21.1**	**+1.7**
DOB				*e*Sn		**Sb**	**23 19 49.5**	**-1.5**
NOCI	**Noci**	**2.28**	**220**	P		**Pn**	**23 19 19.2**	**-0.4**
NOCI				AML	AML			
	comp=E,6405μm,0.9s							
NOCI				AML	AML			
	comp=N,9175μm,1.3s							
NOCI				AML	AML			
	comp=N,9175μm,1.3s							
NOCI				AML	AML			
	comp=E,6405μm,0.9s							
BIA	**Bitola**	**2.33**	**130**	P		**Pb**	**23 19 22.7**	**-1.6**
BIA	**Bitola**	**2.33**	**130**	P		**Pb**	**23 19 22.7**	**-1.6**
BIA	**Bitola**	**2.33**	**130**	*i* Pn		**Pb**	**23 19 22.5**	**-1.8**
KBN	**Korca**	**2.35**	**144**	P		**Pn**	**23 19 22.7**	**+2.0**
KBN	**Korca**	**2.35**	**144**	P		**Pn**	**23 19 22.7**	**+2.0**
KBN	**Korca**	**2.35**	**144**	P		**Pn**	**23 19 22.7**	**+2.0**
KBN	**Korca**	**2.35**	**144**	*i* PN		**Pb**	**23 19 23.3**	**-1.5**
KBN				*i* SN		**Sb**	**23 19 56.0**	**+2.5**
MASS	**Massafra**	**2.37**	**216**	⇓*i*Pn		**Pn**	**23 19 20.1**	**-0.6**
MASS				Sn		**Sn**	**23 19 49.9**	**+0.7**
TPE	**Tepelena**	**2.38**	**161**	*i* PN		**Pb**	**23 19 23.5**	**-1.7**
TAR1	**Taranto**	**2.40**	**213**	⇓*i*Pn		**Pn**	**23 19 20.4**	**-0.7**
TAR1				Sn		**Sn**	**23 19 50.8**	**+0.9**
AMUR	**Altamura**	**2.43**	**228**	P		**Pn**	**23 19 21.4**	**-0.2**
AMUR				AML	AML			
	comp=E,4810μm,0.7s							
AMUR				AML	AML			
	comp=N,3240μm,0.9s							
AMUR				AML	AML			
	comp=N,3240μm,0.9s							
AMUR				AML	AML			
	comp=E,4810μm,0.7s							
SG1	**Sgolgore (BA)**	**2.43**	**226**	⇓*i*Pn		**Pn**	**23 19 21.5**	**-0.2**
SG1				Sn		**Sn**	**23 19 51.4**	**+0.5**
MSAG	**Monte S. Angel**	**2.44**	**251**	P		**Pn**	**23 19 22.0**	**+0.2**
MSAG				AML	AML			
	comp=E,9095μm,0.6s							
MSAG				AML	AML			
	comp=N,15100μm,0.5s							
MSAG				AML	AML			
	comp=E,9655μm,0.6s							
MSAG				AML	AML			
	comp=N,15400μm,0.5s							
MSAG				AML	AML			
	comp=E,9655μm,0.6s							
MSAG				AML	AML			
	comp=E,9095μm,0.6s							
MSAG				AML	AML			
	comp=N,15100μm,0.5s							
MSAG				AML	AML			
	comp=N,15400μm,0.5s							
SCTE	**Santa Cesarea**	**2.51**	**189**	P		**Pn**	**23 19 22.1**	**-0.6**
SCTE				AML	AML			
	comp=E,1122μm,0.8s							
SCTE				AML	AML			
	comp=N,1205μm,0.8s							
SCTE				AML	AML			
	comp=N,1205μm,0.8s							
SCTE				AML	AML			
	comp=E,1122μm,0.8s							
FNA	**Florina**	**2.52**	**134**	*e*P		**Pn**	**23 19 23.3**	**+0.4**
FNA	**Florina**	**2.52**	**134**	*e*Pn		**Pn**	**23 19 24.7**	**+1.8**
FNA				S		**Sb**	**23 19 57.7**	**-0.4**
FNA	**Florina**	**2.52**	**134**	P		**Pn**	**23 19 24.4**	**+1.5**
FNA				S		**Sb**	**23 19 57.7**	**-0.4**
FNA	**Florina**	**2.52**	**134**	*e*P		**Pn**	**23 19 24.7**	**+1.8**
FNA				S		**Sb**	**23 19 57.7**	**-0.4**
STIP	**Stip**	**2.53**	**109**	*i* Pn		**Pn**	**23 19 25.5**	**+2.5**
SGRT	**San Giovanni R**	**2.54**	**253**	P		**Pn**	**23 19 23.3**	**0.0**
SGRT				AML	AML			
	comp=E,10565μm,0.6s							
SGRT				AML	AML			
	comp=N,7955μm,0.6s							
SGRT				AML	AML			
	comp=E,10565μm,0.6s							
SGRT				AML	AML			
	comp=N,7955μm,0.6s							
BLY	**Banja Luka**	**2.55**	**330**	*e*Pn		**Pb**	**23 19 26.3**	**-1.9**
BLY	**Banja Luka**	**2.55**	**330**	*e*Pn		**Pb**	**23 19 26.1**	**-2.1**
BLY	**Banja Luka**	**2.55**	**330**	⇑*i*P		**Pn**	**23 19 25.7**	**+2.4**
BLY	**Banja Luka**	**2.55**	**330**	S		**Sn**	**23 19 49.5**	**-4.4**
BLY	**Banja Luka**	**2.55**	**330**	P		**Pn**	**23 19 24.9**	**+1.5**
BLY				AML	AML			
	comp=E,7930μm,0.8s							
BLY				AML	AML			
	comp=N,6670μm,0.7s							
BLY				AML	AML			
	comp=E,8190μm,0.8s							
BLY				AML	AML			
	comp=N,6950μm,0.7s							
BLY				AML	AML			
	comp=N,6950μm,0.7s							
BLY				AML	AML			
	comp=N,6670μm,0.7s							
BLY				AML	AML			
	comp=E,8190μm,0.8s							
BLY				AML	AML			
	comp=E,7930μm,0.8s							
BLY	**Banja Luka**	**2.55**	**330**	⇑*i*Pn		**Pn**	**23 19 25.8**	**+2.4**
BLY				*e*Sn		**Sb**	**23 19 57.4**	**-1.8**
MATE	**Matera**	**2.56**	**223**	⇓*i*P		**Pn**	**23 19 23.5**	**+0.1**
MATE	**Matera**	**2.56**	**223**	S		**Sn**	**23 19 55.2**	**+1.2**
MATE	**Matera**	**2.56**	**223**	P		**Pn**	**23 19 23.1**	**-0.3**
MATE				AML	AML			
	comp=E,5625μm,1.3s							
MATE				AML	AML			
	comp=N,6060μm,0.7s							
MATE				AML	AML			
	comp=N,6060μm,0.7s							
MATE				AML	AML			
	comp=E,5625μm,1.3s							
MRVN	**Minervino Murg**	**2.56**	**235**	P		**Pn**	**23 19 23.6**	**+0.1**
MRVN				AML	AML			
	comp=E,3175μm,0.8s							
MRVN				AML	AML			
	comp=N,2410μm,0.5s							
MRVN				AML	AML			
	comp=E,3175μm,0.8s							
MRVN				AML	AML			
	comp=N,2410μm,0.5s							
NEST	**Nestorio**	**2.64**	**143**	P		**Pn**	**23 19 25.9**	**+1.3**
FRGS	**Fruska Gora**	**2.67**	**13**	*e*Pn		**Pn**	**23 19 25.5**	**+0.5**
FRGS	**Fruska Gora**	**2.67**	**13**	*e*Pn		**Pn**	**23 19 25.1**	**+0.1**
FRGS				*e*Sn		**Sn**	**23 19 58.2**	**+1.4**
KUBS	**Kucevo**	**2.70**	**46**	*e*Pn		**Pn**	**23 19 25.2**	**-0.1**
MIGL	**Miglionico**	**2.73**	**225**	P		**Pn**	**23 19 25.7**	**-0.1**
MIGL				AML	AML			
	comp=E,18900μm,1.1s							
MIGL				AML	AML			
	comp=N,18950μm,0.8s							
MIGL				AML	AML			
	comp=N,18950μm,0.8s							
MIGL				AML	AML			
	comp=E,18900μm,1.1s							
ZAPS	**Zavoj**	**2.77**	**74**	*e*Pn		**Pn**	**23 19 27.6**	**+1.2**
PALZ	**Palazzo San Ge**	**2.78**	**236**	P		**Pn**	**23 19 26.6**	**+0.2**
PALZ				AML	AML			
	comp=E,14550μm,0.9s							
PALZ				AML	AML			
	comp=N,12400μm,1.2s							
PALZ				AML	AML			
	comp=E,14550μm,0.9s							
PALZ				AML	AML			
	comp=N,12400μm,1.2s							
SRN	**Sarande**	**2.78**	**164**	P		**Pn**	**23 19 26.1**	**-0.3**
SRN	**Sarande**	**2.78**	**164**	P		**Pn**	**23 19 26.1**	**-0.3**
SRN	**Sarande**	**2.78**	**164**	*i* PN		**Pn**	**23 19 27.5**	**+1.1**
SRN	**Sarande**	**2.78**	**164**	P		**Pn**	**23 19 26.5**	**+0.1**
SRN				AML	AML			
	comp=E,2435μm,1.2s							
SRN				AML	AML			
	comp=N,2755μm,1.6s							
SRN				AML	AML			
	comp=E,2435μm,1.2s							
SRN				AML	AML			
	comp=N,2755μm,1.6s							
PENT	**Pentalofos**	**2.86**	**145**	P		**Pn**	**23 19 29.1**	**+1.5**
ACER	**Acerenza**	**2.88**	**233**	P		**Pn**	**23 19 27.6**	**-0.3**
ACER				AML	AML			
	comp=E,8950μm,1.1s							
ACER				AML	AML			
	comp=N,8305μm,0.7s							
ACER				AML	AML			
	comp=E,9190μm,1.1s							
ACER				AML	AML			
	comp=N,8595μm,0.7s							
ACER				AML	AML			
	comp=E,8950μm,1.1s							
ACER				AML	AML			
	comp=E,9190μm,1.1s							
ACER				AML	AML			
	comp=N,8305μm,0.7s							
ACER				AML	AML			
	comp=N,8595μm,0.7s							
MRAK	**Mrakovica**	**2.88**	**329**	*e*Pn		**Pn**	**23 19 30.0**	**+2.0**
MRAK				*e*Sn		**Sn**	**23 20 04.3**	**+2.1**
KEK	**Kerkira**	**2.90**	**168**	P		**Pn**	**23 19 27.8**	**-0.3**
KEK	**Kerkira**	**2.90**	**168**	P		**Pn**	**23 19 27.8**	**-0.3**
KEK				S		**Sn**	**23 20 05.8**	**+3.3**
KEK	**Kerkira**	**2.90**	**168**	P		**Pn**	**23 19 28.0**	**-0.1**
KEK				AML	AML			
	comp=E,336μm,0.9s							
KEK				AML	AML			
	comp=N,302μm,0.8s							
KEK				AML	AML			
	comp=N,302μm,0.8s							
KEK				AML	AML			
	comp=E,336μm,0.9s							
VAY	**Valandovo**	**2.94**	**114**	*e*Pn		**Pn**	**23 19 30.1**	**+1.4**
VAY	**Valandovo**	**2.94**	**114**	P		**Pn**	**23 19 29.8**	**+1.1**
VAY	**Valandovo**	**2.94**	**114**	P		**Pn**	**23 19 29.8**	**+1.1**
VAY	**Valandovo**	**2.94**	**114**	*i* Pn		**Pn**	**23 19 29.5**	**+0.9**
VAY	**Valandovo**	**2.94**	**114**	P		**Pn**	**23 19 29.8**	**+1.1**
MDVR	**Moldovita**	**2.98**	**41**	⇑*i*P		**Pn**	**23 19 29.5**	**+0.3**
MDVR	**Moldovita**	**2.98**	**41**	S		**Sn**	**23 20 01.7**	**-2.7**
VULT	**Monte Vulture**	**2.98**	**239**	P		**Pn**	**23 19 29.6**	**+0.3**
VULT				AML	AML			
	comp=E,5480μm,0.9s							
VULT				AML	AML			
	comp=N,11085μm,0.7s							
VULT				AML	AML			
	comp=N,11085μm,0.7s							
VULT				AML	AML			
	comp=E,5480μm,0.9s							
PTRP	**Pietrapertosa**	**2.99**	**228**	P		**Pn**	**23 19 29.8**	**+0.3**
MELA	**Melanico ??? S**	**2.99**	**255**	P		**Pn**	**23 19 30.2**	**+0.9**
MELA				AML	AML			
	comp=E,8850μm,0.9s							
MELA				AML	AML			
	comp=N,10950μm,0.9s							
MELA				AML	AML			
	comp=E,8975μm,0.9s							
MELA				AML	AML			
	comp=N,11250μm,0.9s							
MELA				AML	AML			
	comp=E,8975μm,0.9s							
MELA				AML	AML			
	comp=E,8850μm,0.9s							
MELA				AML	AML			
	comp=N,11250μm,0.9s							
MELA				AML	AML			
	comp=N,10950μm,0.9s							
GRG	**Griva**	**3.01**	**121**	*e*P		**Pn**	**23 19 29.5**	**-0.2**
GRG	**Griva**	**3.01**	**121**	P		**Pn**	**23 19 30.9**	**+1.2**
GRG	**Griva**	**3.01**	**121**	P		**Pn**	**23 19 30.9**	**+1.2**
GRG				S		**Sn**	**23 20 08.0**	**+2.8**
GRG	**Griva**	**3.01**	**121**	P		**Pn**	**23 19 30.9**	**+1.2**
SGTA	**Sant Agata di**	**3.06**	**244**	P		**Pn**	**23 19 30.8**	**+0.5**
SGTA				AML	AML			
	comp=E,8295μm,1.0s							
SGTA				AML	AML			
	comp=N,4990μm,0.7s							
SGTA				AML	AML			
	comp=E,8240μm,1.0s							
SGTA				AML	AML			
	comp=N,5110μm,0.7s							
SGTA				AML	AML			
	comp=N,5110μm,0.7s							
SGTA				AML	AML			
	comp=N,4990μm,0.7s							
SGTA				AML	AML			
	comp=E,8240μm,1.0s							
SGTA				AML	AML			
	comp=E,8295μm,1.0s							
UDBI	**Udbina**	**3.06**	**311**	*i* Pn		**Pb**	**23 19 34.4**	**-2.5**
UDBI				Sn		**Sb**	**23 20 11.8**	**-2.0**
KZN	**Kozani**	**3.07**	**136**	P		**Pn**	**23 19 32.0**	**+1.5**
KZN				S		**Sb**	**23 20 11.7**	**-2.4**
KZN	**Kozani**	**3.07**	**136**	P		**Pn**	**23 19 32.0**	**+1.5**
KZN				S		**Sb**	**23 20 11.7**	**-2.4**
SGD	**Sagiada**	**3.09**	**162**	P		**Pn**	**23 19 30.7**	**+0.1**
MOCO	**Biccari - m.te**	**3.09**	**249**	P		**Pn**	**23 19 32.0**	**+1.2**
MOCO				AML	AML			
	comp=E,3860μm,0.7s							
MOCO				AML	AML			
	comp=N,3255μm,0.8s							
MOCO				AML	AML			
	comp=E,3915μm,0.7s							
MOCO				AML	AML			
	comp=N,3310μm,0.8s							
MOCO				AML	AML			
	comp=E,3915μm,0.7s							
MOCO				AML	AML			
	comp=E,3860μm,0.7s							
MOCO				AML	AML			
	comp=N,3255μm,0.8s							
MOCO				AML	AML			
	comp=N,3310μm,0.8s							
VTS	**Vitosha**	**3.12**	**88**	*e*Pn		**Pn**	**23 19 31.9**	**+0.7**
VTS				S		**Sn**	**23 20 10.1**	**+2.1**
VTS	**Vitosha**	**3.12**	**88**	⇑*i*P		**Pn**	**23 19 32.0**	**+0.8**
VTS	**Vitosha**	**3.12**	**88**	S		**Sn**	**23 20 10.0**	**+2.1**
VTS	**Vitosha**	**3.12**	**88**	P		**Pn**	**23 19 32.1**	**+0.8**
VTS				S		**Sn**	**23 20 10.1**	**+2.1**
CIGN	**Sant'Elia a Pi**	**3.17**	**255**	P		**Pn**	**23 19 32.9**	**+1.2**
CIGN				A

CAFE AML AML
comp=N,3985µm,1.0s
GATE Gambatesa 3.21 252 AML AML
comp=N,6240µm,0.7s
GATE AML AML
comp=E,3850µm,0.8s
GATE AML AML
comp=N,6150µm,0.7s
GATE AML AML
comp=E,2270µm,1.6s
GATE AML AML
comp=E,3850µm,0.8s
GATE AML AML
comp=N,6240µm,0.7s
GATE AML AML
comp=N,6150µm,0.7s
GATE AML AML
comp=E,2270µm,1.6s
SCHR S. Chirico Rap 3.21 224 P **Pn 23 19 32.0 -0.5**
SCHR AML AML
comp=E,2055µm,0.9s
SCHR AML AML
comp=N,2185µm,1.0s
SCHR AML AML
comp=E,2055µm,0.9s
SCHR AML AML
comp=N,2185µm,1.0s
JAN Janina 3.22 153 P **Pn 23 19 33.4 +0.9**
JAN Janina 3.22 153 P **Pn 23 19 33.4 +0.9**
JAN Janina 3.22 153 P **Pn 23 19 33.4 +0.9**
BANR Banloc 3.23 28 ⇓*i*P **Pn 23 19 32.8 +0.3**
BANR Banloc 3.23 28 S **Sn 23 20 12.9 +2.5**
KNT Kendrikon 3.23 114 P **Pn 23 19 33.7 +1.0**
KNT Kendrikon 3.23 114 P **Pn 23 19 33.7 +1.0**
KNT Kendrikon 3.23 114 P **Pn 23 19 33.7 +1.0**
SNAL S. Angelo Dei 3.26 241 P **Pn 23 19 33.2 +0.1**
MCEL Monticello 3.27 228 AML AML
comp=E,2605µm,0.7s
MCEL AML AML
comp=E,2555µm,0.7s
MCEL AML AML
comp=N,2800µm,0.7s
MCEL AML AML
comp=E,2605µm,0.7s
MCEL AML AML
comp=N,2860µm,0.7s
MCEL AML AML
comp=E,2555µm,0.7s
MCEL AML AML
comp=N,2860µm,0.7s
MCEL AML AML
comp=N,2800µm,0.7s
MRB1 Monte Rocchett 3.32 246 AML AML
comp=N,5000µm,0.8s
MRB1 AML AML
comp=E,5080µm,0.9s
MRB1 AML AML
comp=N,5000µm,0.8s
MRB1 AML AML
comp=E,5260µm,0.9s
MRB1 AML AML
comp=N,5265µm,0.8s
MRB1 AML AML
comp=E,5260µm,0.9s
MRB1 AML AML
comp=E,5080µm,0.9s
MRB1 AML AML
comp=N,5265µm,0.8s
SLCN Sala Consilina 3.32 230 AML AML
comp=E,3920µm,0.6s
SLCN AML AML
comp=N,2615µm,1.6s
SLCN AML AML
comp=E,4015µm,0.5s
SLCN AML AML
comp=N,2700µm,1.6s
SLCN AML AML
comp=E,4015µm,0.5s
SLCN AML AML
comp=E,3920µm,0.6s
SLCN AML AML
comp=N,2700µm,1.6s
SLCN AML AML
comp=N,2615µm,1.6s
SALB San Lorenzo Be 3.33 218 AML AML
comp=N,1615µm,0.9s
SALB AML AML
comp=E,1860µm,0.9s
SALB AML AML
comp=N,1420µm,0.8s
SALB AML AML
comp=E,1760µm,0.9s
SALB AML AML
comp=E,1860µm,0.9s
SALB AML AML
comp=E,1760µm,0.9s
SALB AML AML
comp=N,1615µm,0.9s
SALB AML AML
comp=N,1420µm,0.8s
SIRI Monte Sirino - 3.34 226 AML AML
comp=E,1700µm,1.0s
SIRI AML AML
comp=E,1665µm,1.0s
SIRI AML AML
comp=N,2010µm,0.7s
SIRI AML AML
comp=N,2050µm,0.7s
SIRI AML AML
comp=N,2010µm,0.7s
SIRI AML AML
comp=N,2050µm,0.7s
SIRI AML AML
comp=E,1700µm,1.0s
SIRI AML AML
comp=E,1665µm,1.0s
MTSN Montesano sull 3.34 228 AML AML
comp=N,1580µm,0.7s
MTSN AML AML
comp=E,2030µm,1.0s
MTSN AML AML
comp=N,1580µm,0.7s
MTSN AML AML
comp=E,2030µm,1.0s
MCRV Calabrutti - M 3.36 240 AML AML
comp=N,2095µm,0.6s
MCRV AML AML
comp=E,2505µm,0.6s
MCRV AML AML
comp=N,2095µm,0.6s
MCRV AML AML
comp=E,2505µm,0.6s
PSB1 Pescosannita 3.39 248 AML AML
comp=E,2250µm,1.4s
PSB1 AML AML
comp=N,2595µm,0.8s
PSB1 AML AML
comp=E,2235µm,0.7s
PSB1 AML AML
comp=N,2790µm,0.8s
PSB1 AML AML
comp=N,2790µm,0.8s
PSB1 AML AML
comp=N,2595µm,0.8s
PSB1 AML AML
comp=E,2250µm,1.4s
PSB1 AML AML
comp=E,2235µm,0.7s
TRIV Trivento 3.39 258 P **Pn 23 19 36.6 +1.8**
TRIV AML AML
comp=E,4285µm,0.7s
TRIV AML AML
comp=N,3710µm,0.6s
TRIV AML AML
comp=E,4285µm,0.7s
TRIV AML AML
comp=N,3710µm,0.6s
SACR S. Croce Del S 3.40 252 AML AML
comp=N,1830µm,1.0s
SACR AML AML
comp=E,1880µm,1.5s
SACR AML AML
comp=N,1830µm,1.0s
SACR AML AML
comp=E,1875µm,0.7s
SACR AML AML
comp=N,1840µm,1.0s
SACR AML AML
comp=E,1875µm,0.7s
SACR AML AML
comp=E,1880µm,1.5s
SACR AML AML
comp=N,1840µm,1.0s
HERR Herculane 3.40 46 ⇑*i*P **Pn 23 19 35.5 +0.5**
CDRU Civita di Ruta 3.45 235 AML AML
comp=N,916µm,1.1s
CDRU AML AML
comp=E,1440µm,0.7s
CDRU AML AML
comp=E,1440µm,0.7s
CDRU AML AML
comp=N,916µm,1.1s
MMN Mormanno 3.49 221 AML AML
comp=N,1140µm,0.8s
MMN AML AML
comp=E,792µm,0.6s
MMN AML AML
comp=E,792µm,0.6s
MMN AML AML
comp=N,1140µm,0.8s
CUC Castrocucco 3.50 224 *e*Pn **Pn 23 19 36.7 +0.3**
CUC Castrocucco 3.50 224 AML AML
comp=N,1535µm,0.8s
CUC AML AML
comp=E,2015µm,0.9s
CUC AML AML
comp=N,1535µm,0.8s
CUC AML AML
comp=E,2330µm,0.9s
CUC AML AML
comp=N,1800µm,0.8s
CUC AML AML
comp=N,1800µm,0.8s
CUC AML AML
comp=E,2015µm,0.9s
CUC AML AML
comp=E,2330µm,0.9s
PTRJ Pietraroja 3.53 252 AML AML
comp=E,4935µm,1.0s
PTRJ AML AML
comp=N,7175µm,0.7s
PTRJ AML AML
comp=N,7175µm,0.7s
PTRJ AML AML
comp=E,4935µm,1.0s
MGR Morigerati 3.54 228 AML AML
comp=E,1575µm,0.7s
MGR AML AML
comp=E,1575µm,0.7s
MGR AML AML
comp=N,1085µm,1.0s
MGR AML AML
comp=E,1465µm,0.7s
MGR AML AML
comp=N,1320µm,0.8s
MGR AML AML
comp=N,1085µm,1.0s
MGR AML AML
comp=E,1465µm,0.7s
MGR AML AML
comp=N,1320µm,0.8s
THE Thessaloniki 3.55 121 P **Pn 23 19 38.3 +1.3**
THE Thessaloniki 3.55 121 P **Pn 23 19 38.3 +1.3**
CMPR Campora 3.56 232 AML AML
comp=E,1550µm,0.9s
CMPR AML AML
comp=N,1028µm,0.8s
CMPR AML AML
comp=N,1028µm,0.8s
CMPR AML AML
comp=E,1550µm,0.9s
TIM Timisoara 3.56 26 ⇑*i*P **Pg 23 19 51.8 +0.6**
T0702 Acquaformosa (3.58 219 AML AML
comp=N,2058µm,0.7s
T0702 AML AML
comp=E,2026µm,0.8s
T0702 AML AML
comp=N,2058µm,0.7s
T0702 AML AML
comp=E,2026µm,0.8s
LPEL Lama dei Pelig 3.60 264 P **Pn 23 19 39.6 +1.9**
LPEL AML AML
comp=E,3180µm,0.7s
LPEL AML AML
comp=N,2345µm,0.9s
LPEL AML AML
comp=E,3180µm,0.7s
LPEL AML AML
comp=N,2345µm,0.9s
BZS Buzias 3.60 31 *e*Pn **Pn 23 19 38.1 +0.4**
BZS Buzias 3.60 31 ⇓*i*P **Pn 23 19 37.7 0.0**
BZS Buzias 3.60 31 S **Sn 23 20 19.4 -0.3**
BZS Buzias 3.60 31 AML AML
comp=E,816µm,1.2s
BZS AML AML
comp=E,834µm,1.2s
BZS AML AML
comp=N,787µm,0.5s
BZS AML AML
comp=N,778µm,0.5s
BZS AML AML
comp=N,778µm,0.5s
BZS AML AML
comp=N,787µm,0.5s
BZS AML AML
comp=E,816µm,1.2s
BZS AML AML
comp=E,834µm,1.2s
LIT Litokhoron 3.60 132 *e*Pn **Pn 23 19 37.4 -0.3**
LIT Litokhoron 3.60 132 P **Pn 23 19 38.4 +0.7**
LIT Litokhoron 3.60 132 *e*P **Pn 23 19 37.4 -0.3**
NVLJ Novalja 3.60 305 *i* Pn **Pn 23 19 40.0 +2.3**
NVLJ Sn **Sn 23 20 22.9 +3.2**
SGG Gregorio Mates 3.63 253 AML AML
comp=N,2585µm,0.6s
SGG AML AML
comp=E,2110µm,0.7s
SGG AML AML
comp=N,2585µm,0.6s
SGG AML AML
comp=E,2110µm,0.7s
MIDA Miranda 3.64 257 AML AML
comp=E,1820µm,1.2s
MIDA AML AML
comp=N,1850µm,0.6s
MIDA AML AML
comp=N,1850µm,0.6s
MIDA AML AML
comp=E,1820µm,1.2s
PAOL Paolisi 3.64 247 AML AML
comp=N,1650µm,1.2s
PAOL AML AML
comp=E,1970µm,1.1s
PAOL AML AML
comp=N,1650µm,1.2s
PAOL AML AML
comp=E,1930µm,1.1s
PAOL AML AML
comp=N,1700µm,1.0s
PAOL AML AML
comp=E,1930µm,1.1s
PAOL AML AML
comp=E,1970µm,1.1s
PAOL AML AML
comp=N,1700µm,1.0s
HORT Hortiatis 3.65 121 *e*P **Pn 23 19 38.8 +0.3**
HORT Hortiatis 3.65 121 P **Pn 23 19 39.4 +0.9**
HORT Hortiatis 3.65 121 P **Pn 23 19 39.4 +0.9**
CELI Celico 3.67 212 AML AML
comp=N,2505µm,1.0s
CELI AML AML
comp=E,1150µm,1.2s
CELI AML AML
comp=N,1000µm,1.0s
CELI AML AML
comp=E,2640µm,1.2s
CELI AML AML
comp=N,2505µm,1.0s
CELI AML AML
comp=N,1000µm,1.0s
CELI AML AML
comp=E,1150µm,1.2s
CELI AML AML
comp=E,2640µm,1.2s
MORH M¯‡r¯igy, Hung 3.67 356 ⇑*e*SKKPdf Sn 23 19 39.4 -42
MORH *e*PP Pg 23 20 22.4 +29
MORH M¯‡r¯igy, Hung 3.67 356 ⇓*i*Pn **Pn 23 19 39.1 +0.5**
MORH *e*Sn **Sn 23 20 22.2 +0.9**
BULG Bulgheria - Ca 3.67 229 AML AML
comp=N,3215µm,0.8s
BULG AML AML
comp=E,1440µm,1.0s
BULG AML AML
comp=E,1490µm,1.0s
BULG AML AML
comp=N,3310µm,0.8s
BULG AML AML
comp=E,1440µm,1.0s
BULG AML AML
comp=E,1490µm,1.0s
BULG AML AML
comp=N,3310µm,0.8s
BULG AML AML
comp=N,3215µm,0.8s
RNI2 Rionero Sannit 3.69 258 P **Pn 23 19 40.9 +1.8**
RNI2 AML AML
comp=E,2520µm,1.6s
RNI2 AML AML
comp=N,2510µm,1.0s
RNI2 AML AML
comp=E,2560µm,1.6s
RNI2 AML AML
comp=N,2570µm,1.0s
RNI2 AML AML
comp=N,2570µm,1.0s
RNI2 AML AML
comp=N,2510µm,1.0s
RNI2 AML AML
comp=E,2560µm,1.6s
RNI2 AML AML
comp=E,2520µm,1.6s
SOH Sokhos 3.70 116 P **Pn 23 19 40.4 +1.3**
SOH Sokhos 3.70 116 P **Pn 23 19 40.4 +1.3**
SOH Sokhos 3.70 116 P **Pn 23 19 40.4 +1.3**
SRE Strehaia 3.72 54 ⇑*i*P **Pn 23 19 40.3 +1.0**
VAGA Valle Agricola 3.72 254 AML AML
comp=N,3725µm,0.7s
VAGA AML AML
comp=E,2140µm,0.8s
VAGA AML AML
comp=N,3725µm,0.7s
VAGA AML AML
comp=E,2220µm,0.8s
VAGA AML AML
comp=N,3845µm,0.7s
VAGA AML AML
comp=E,2220µm,0.8s
VAGA AML AML
comp=E,2140µm,0.8s
VAGA AML AML
comp=N,3845µm,0.7s
THL Klokotos Trika 3.76 142 P **Pn 23 19 40.6 +0.7**
TIP Timpagrande 3.77 207 *e*Pn **Pn 23 19 39.8 -0.4**
TIP Timpagrande 3.77 207 ⇓*i*P **Pn 23 19 39.6 -0.5**
TIP Timpagrande 3.77 207 P **Pn 23 19 39.7 -0.4**
TIP Timpagrande 3.77 207 AML AML
comp=E,780µm,1.1s
TIP AML AML
comp=E,780µm,1.1s
TIP AML AML
comp=N,810µm,1.3s
TIP AML AML
comp=N,810µm,1.3s
CET2 Cetraro 3.79 218 AML AML
comp=N,6110µm,0.9s
CET2 AML AML
comp=E,2970µm,0.9s
CET2 AML AML
comp=E,2970µm,0.9s
CET2 AML AML
comp=N,6110µm,0.9s
VCEL Villa Celiera 3.81 269 P **Pn 23 19 41.9 +1.2**
VCEL AML AML
comp=E,2900µm,0.9s
VCEL AML AML
comp=N,3620µm,1.0s
VCEL AML AML
comp=N,3620µm,1.0s
VCEL AML AML
comp=E,2900µm,0.9s
NVR Nevrokopi 3.83 107 P **Pn 23 19 42.6 +1.7**
NVR Nevrokopi 3.83 107 P **Pn 23 19 42.6 +1.7**
SERS Sersale 3.92 207 AML AML
comp=E,868µm,0.9s
SERS AML AML
comp=E,646µm,1.1s
SERS AML AML
comp=N,800µm,1.4s
SERS AML AML
comp=N,676µm,1.6s
SERS AML AML
comp=N,800µm,1.4s
SERS AML AML
comp=E,868µm,0.9s
SERS AML AML
comp=N,676µm,1.6s
SERS AML AML
comp=E,646µm,1.1s
CRAR CRAIOVA 3.93 62 ⇑*i*P **Pg 23 19 59.6 +1.4**
GZR Gura Zlata 3.94 43 ⇑*i*P **Pn 23 19 42.6 +0.1**
LKD2 Lefkada island 3.97 161 P **Pn 23 19 42.0 -0.8**
LKD2 Lefkada island 3.97 161 P **Pn 23 19 42.0 -0.8**
OZLJ Ozalj 3.97 322 *e*Pn **Pn 23 19 45.1 +2.3**
TERO Teramo 3.98 273 P **Pn 23 19 44.2 +1.3**
TERO AML AML
comp=E,1730µm,1.6s
TERO AML AML
comp=N,1510µm,0.6s
TERO AML AML
comp=E,603µm,1.5s
TERO AML AML
comp=N,619µm,0.6s
TERO AML AML
comp=E,603µm,1.5s
TERO AML AML
comp=E,1730µm,1.6s
TERO AML AML
comp=N,1510µm,0.6s
TERO AML AML
comp=N,619µm,0.6s
BOJS Bojanci 3.99 319 *e*Pn **Pn 23 19 45.3 +2.2**
BOJS *i* Sn **Sn 23 20 34.2 +4.9**
BOJS Bojanci 3.99 319 *e*Pn **Pn 23 19 45.3 +2.2**
BOJS *i* Sn **Sn 23 20 34.2 +4.9**
PLG Polygyros 4.00 122 P **Pn 23 19 44.5 +1.3**
PLG Polygyros 4.00 122 P **Pn 23 19 44.5 +1.3**
PLG Polygyros 4.00 122 P **Pn 23 19 44.5 +1.3**
FAGN Fagnano 4.01 268 P **Pn 23 19 45.2 +1.8**
FAGN AML AML
comp=E,5150µm,0.5s
FAGN AML AML
comp=N,3980µm,0.6s
FAGN AML AML
comp=E,5150µm,0.5s
FAGN AML AML
comp=N,3980µm,0.6s
POFI Posta Fibreno 4.01 260 P **Pn 23 19 45.0 +1.6**
POFI AML AML
comp=E,1420µm,0.8s
POFI AML AML
comp=N,814µm,0.7s
POFI AML AML
comp=E,1510µm,0.8s
POFI AML AML
comp=N,835µm,0.7s
POFI AML AML
comp=E,1510µm,0.8s
POFI AML AML
comp=E,1420µm,0.8s
POFI AML AML
comp=N,835µm,0.7s
POFI AML AML
comp=N,814µm,0.7s
VVLD Villa Vallelon 4.04 262 P **Pn 23 19 45.3 +1.4**
MODR Mondragone 4.07 251 AML AML
comp=E,1335µm,0.7s
MODR AML AML
comp=E,1335µm,0.7s
MODR AML AML
comp=N,1740µm,0.9s
MODR AML AML
comp=N,1740µm,0.9s

AOI	**Ancona**	**4.07**	**286**	P	**Pn**	**23**	**19**	**45.9**	**+1.7**
AOI	comp=E,1740µm,0.8s			AML	AML				
AOI	comp=N,1505µm,0.8s			AML	AML				
AOI	comp=N,1505µm,0.8s			AML	AML				
AOI	comp=E,1740µm,0.8s			AML	AML				
CAMP	**Campotosto**	**4.12**	**272**	AML	AML				
CAMP	comp=N,1255µm,0.7s			AML	AML				
CAMP	comp=E,1295µm,0.7s			AML	AML				
CAMP	comp=E,1295µm,0.7s			AML	AML				
EVGI	**Lefkada island**	**4.13**	**162**	P	**Pn**	**23**	**19**	**44.1**	**-0.9**
AQU	**L'Aquila**	**4.14**	**269**	*e*Pn	**Pn**	**23**	**19**	**47.2**	**+2.0**
AQU	**L'Aquila**	**4.14**	**269**	*e*P	**Pn**	**23**	**19**	**47.2**	**+2.0**
AQU	**L'Aquila**	**4.14**	**269**	AML	AML				
AQU	comp=N,2030µm,1.0s			AML	AML				
AQU	comp=E,1710µm,1.2s			AML	AML				
AQU	comp=E,1685µm,1.1s			AML	AML				
AQU	comp=N,1905µm,1.0s			AML	AML				
AQU	comp=E,1685µm,1.1s			AML	AML				
AQU	comp=E,1710µm,1.2s			AML	AML				
AQU	comp=N,1905µm,1.0s			AML	AML				
AQU	comp=N,2030µm,1.0s			AML	AML				
AQU	**L'Aquila**	**4.14**	**269** ⇑	*i*Pn	**Pn**	**23**	**19**	**47.1**	**+2.0**
AQU				*e*Sn	**Sn**	**23**	**20**	**36.0**	**+3.0**
CRES	**Cresnjev**	**4.14**	**323** ⇑	*i*Pn	**Pn**	**23**	**19**	**47.3**	**+2.2**
CRES				*e*Sn	**Sn**	**23**	**20**	**35.3**	**+2.3**
SMA1	**SAN MARTINO**	**4.17**	**273**	AML	AML				
SMA1	comp=N,2230µm,0.8s			AML	AML				
SMA1	comp=E,1890µm,0.7s			AML	AML				
SMA1	comp=E,1890µm,0.7s			AML	AML				
SMA1	comp=N,2230µm,0.8s			AML	AML				
SIRR	**Siria**	**4.18**	**26** ⇑	*i*P	**Pn**	**23**	**19**	**45.7**	**0.0**
SIRR	**Siria**	**4.18**	**26**	S	**Sn**	**23**	**20**	**32.6**	**-1.3**
PTQR	**Pietraquaria**	**4.18**	**265**	AML	AML				
PTQR	comp=N,894µm,0.8s			AML	AML				
PTQR	comp=E,744µm,1.2s			AML	AML				
PTQR	comp=N,894µm,0.8s			AML	AML				
PTQR	comp=E,744µm,1.2s			AML	AML				
EVR	**Evrytania**	**4.22**	**149**	P	**Pn**	**23**	**19**	**47.4**	**+1.1**
EVR	**Evrytania**	**4.22**	**149**	P	**Pn**	**23**	**19**	**47.4**	**+1.1**
BEHE	**Becsehely**	**4.22**	**339** ⇑	*e*Pn	**Pn**	**23**	**19**	**48.7**	**+2.4**
BEHE				*e*PP	**Sn**	**23**	**20**	**37.4**	**+2.4**
BEHE	**Becsehely**	**4.22**	**339**	*e*Pn	**Pn**	**23**	**19**	**47.8**	**+1.5**
BEHE				*e*Sn	**Sn**	**23**	**20**	**36.3**	**+1.3**
PLD	**Plovdiv**	**4.26**	**94**	*e*P	**Pn**	**23**	**19**	**48.1**	**+1.3**
FSK	**Fiskardo**	**4.26**	**163**	P	**Pn**	**23**	**19**	**45.5**	**-1.3**
CING	**Cingoli**	**4.33**	**283**	AML	AML				
CING	comp=N,1173µm,1.2s			AML	AML				
CING	comp=E,1420µm,0.6s			AML	AML				
CING	comp=N,1173µm,1.2s			AML	AML				
CING	comp=E,1420µm,0.6s			AML	AML				
NRCA	**Norcia**	**4.34**	**276**	AML	AML				
NRCA	comp=E,982µm,0.8s			AML	AML				
NRCA	comp=N,1265µm,0.9s			AML	AML				
NRCA	comp=N,1265µm,0.9s			AML	AML				
NRCA	comp=E,982µm,0.8s			AML	AML				
AGG	**Agios Georgios**	**4.35**	**143**	*e*P	**Pn**	**23**	**19**	**46.3**	**-1.7**
AGG	**Agios Georgios**	**4.35**	**143**	*e*Pn	**Pn**	**23**	**19**	**48.8**	**+0.8**
AGG	**Agios Georgios**	**4.35**	**143**	P	**Pn**	**23**	**19**	**48.4**	**+0.4**
AGG	**Agios Georgios**	**4.35**	**143**	*e*P	**Pn**	**23**	**19**	**48.8**	**+0.8**
FIAM	**Fiamignano**	**4.36**	**268**	AML	AML				
FIAM	comp=E,1570µm,0.6s			AML	AML				
FIAM	comp=N,1240µm,0.6s			AML	AML				
FIAM	comp=E,1570µm,0.6s			AML	AML				
FIAM	comp=N,1240µm,0.6s			AML	AML				
KOGS	**Kog**	**4.36**	**334**	AML	AML				
KOGS	comp=N,2195µm,1.0s			AML	AML				
KOGS	comp=E,2690µm,1.3s			AML	AML				
KOGS	comp=N,2195µm,1.0s			AML	AML				
KOGS	comp=E,2690µm,1.3s			AML	AML				
DEV	**Deva**	**4.36**	**39** ⇑	*i*P	**Pg**	**23**	**20**	**05.2**	**-1.2**
OUR	**Ouranopolis**	**4.36**	**119**	*e*P	**Pn**	**23**	**19**	**47.5**	**-0.6**
OUR	**Ouranopolis**	**4.36**	**119**	P	**Pn**	**23**	**19**	**49.7**	**+1.6**
OUR	**Ouranopolis**	**4.36**	**119**	P	**Pn**	**23**	**19**	**49.7**	**+1.6**
PVO	**Paravola**	**4.38**	**153**	P	**Pn**	**23**	**19**	**49.1**	**+0.6**
GIUL	**Giuliano Di Ro**	**4.38**	**259**	AML	AML				
GIUL	comp=N,884µm,0.8s			AML	AML				
GIUL	comp=E,500µm,0.9s			AML	AML				
GIUL	comp=N,884µm,0.8s			AML	AML				
GIUL	comp=E,500µm,0.9s			AML	AML				
VISS	**Visnje**	**4.41**	**319**	*e*Pn	**Pn**	**23**	**19**	**52.1**	**+3.2**
VISS				*i*Sn	**Sn**	**23**	**20**	**44.4**	**+4.7**
VISS	**Visnje**	**4.41**	**319**	*e*Pn	**Pn**	**23**	**19**	**52.1**	**+3.2**
VISS				*i*Sn	**Sn**	**23**	**20**	**44.4**	**+4.7**
TIH	**Tihany**	**4.42**	**350** ⇓	*e*Pn	**Pn**	**23**	**19**	**50.3**	**+1.4**
TIH				*e*PP	**Sn**	**23**	**20**	**41.4**	**+1.7**
CERT	**Cerreto**	**4.50**	**264**	AML	AML				
CERT	comp=N,852µm,1.0s			AML	AML				
CERT	comp=E,1028µm,0.6s			AML	AML				
CERT	comp=E,1028µm,0.6s			AML	AML				
CERT	comp=N,852µm,1.0s			AML	AML				
LOT	**Lotru**	**4.50**	**48** ⇑	*i*P	**Pn**	**23**	**19**	**51.0**	**+0.8**
XOR	**Xorichti**	**4.50**	**134**	P	**Pn**	**23**	**19**	**49.9**	**-0.3**
XOR	**Xorichti**	**4.50**	**134**	P	**Pn**	**23**	**19**	**49.9**	**-0.3**
PLAC	**Placanica**	**4.54**	**206**	AML	AML				
PLAC	comp=N,752µm,1.1s			AML	AML				
PLAC	comp=E,670µm,0.6s			AML	AML				
PLAC	comp=N,752µm,1.1s			AML	AML				
PLAC	comp=E,670µm,0.6s			AML	AML				
VLS	**Valsamata**	**4.54**	**164**	P	**Pn**	**23**	**19**	**48.9**	**-1.8**
VLS	**Valsamata**	**4.54**	**164**	P	**Pn**	**23**	**19**	**48.9**	**-1.8**
VLS	**Valsamata**	**4.54**	**164**	P	**Pn**	**23**	**19**	**48.9**	**-1.8**
ANX	**Ano Chora**	**4.54**	**150**	P	**Pn**	**23**	**19**	**52.0**	**+1.2**
CEY	**Cerknica**	**4.57**	**316** ⇑	*i*Pn	**Pn**	**23**	**19**	**53.3**	**+2.2**
CEY				*e*Sn	**Sn**	**23**	**20**	**45.0**	**+1.3**
JOPP	**Joppolo**	**4.60**	**212**	AML	AML				
JOPP	comp=E,966µm,0.7s			AML	AML				
JOPP	comp=E,966µm,0.7s			AML	AML				
JOPP	comp=N,806µm,0.7s			AML	AML				
JOPP	comp=N,806µm,0.7s			AML	AML				
EFP	**Efpalio**	**4.69**	**151**	P	**Pn**	**23**	**19**	**53.5**	**+0.9**
ATCC	**AVT- Casa Cast**	**4.71**	**280**	AML	AML				
ATCC	comp=E,1775µm,1.1s			AML	AML				
ATCC	comp=N,2260µm,0.9s			AML	AML				
ATCC	comp=N,2260µm,0.9s			AML	AML				
ATCC	comp=E,1775µm,1.1s			AML	AML				
THAS	**Thassos island**	**4.72**	**112**	P	**Pn**	**23**	**19**	**53.8**	**+0.7**
LJU	**Ljubljana**	**4.73**	**319**	AML	AML				
LJU	comp=N,4650µm,1.2s			AML	AML				
LJU	comp=E,5120µm,0.8s			AML	AML				
LJU	comp=N,4650µm,1.2s			AML	AML				
LJU	comp=N,4650µm,1.2s			AML	AML				
LJU	comp=E,5120µm,0.8s			AML	AML				
LJU	**Ljubljana**	**4.73**	**319** ⇑	*i*Pn	**Pn**	**23**	**19**	**55.2**	**+1.9**
LJU				*e*Sn	**Sn**	**23**	**20**	**48.9**	**+1.3**
SERG	**Sergoula**	**4.75**	**149**	P	**Pn**	**23**	**19**	**54.2**	**+0.6**
JAVS	**Javornik**	**4.86**	**315**	*e*Pn	**Pn**	**23**	**19**	**57.1**	**+2.0**
JAVS				*i*Sn	**Sn**	**23**	**20**	**54.4**	**+3.4**
JAVS	**Javornik**	**4.86**	**315**	*e*Pn	**Pn**	**23**	**19**	**57.1**	**+2.0**
JAVS				*i*Sn	**Sn**	**23**	**20**	**54.4**	**+3.4**
CEL	**Celeste**	**4.90**	**210**	*e*Pn	**Pn**	**23**	**19**	**54.8**	**-0.8**
TRI	**Trieste**	**4.91**	**312**	*e*Pn	**Pn**	**23**	**19**	**57.1**	**+1.5**
TRI	**Trieste**	**4.91**	**312**	*e*P	**Pn**	**23**	**19**	**57.1**	**+1.5**
ATPI	**Pietralunga -**	**4.91**	**283**	AML	AML				
ATPI	comp=E,1210µm,0.7s			AML	AML				
ATPI	comp=N,1340µm,0.8s			AML	AML				
ATPI	comp=N,1340µm,0.8s			AML	AML				
ATPI	comp=E,1210µm,0.7s			AML	AML				
PERS	**Pernice**	**4.93**	**327**	*i*Pn	**Pn**	**23**	**19**	**58.0**	**+2.0**
PERS				*i*Sn	**Sn**	**23**	**20**	**54.6**	**+2.1**
PERS	**Pernice**	**4.93**	**327**	*i*Pn	**Pn**	**23**	**19**	**58.0**	**+2.0**
PERS				*i*Sn	**Sn**	**23**	**20**	**54.6**	**+2.1**
BUD	**Budapest**	**4.93**	**0** ⇓	*e*Pn	**Pn**	**23**	**19**	**56.9**	**+0.9**
BUD				*e*PKiKP	**Sn**	**23**	**20**	**52.3**	**-0.1**
ARR	**Arges**	**4.95**	**53** ⇓	*i*P	**Pn**	**23**	**19**	**57.7**	**+1.4**
LKR	**Lokris**	**4.95**	**141**	P	**Pn**	**23**	**19**	**56.3**	**0.0**
LKR	**Lokris**	**4.95**	**141**	P	**Pn**	**23**	**19**	**56.3**	**0.0**
MSCL	**Scilla**	**4.96**	**211**	AML	AML				
MSCL	comp=E,1145µm,0.5s			AML	AML				
MSCL	comp=N,1870µm,0.6s			AML	AML				
MSCL	comp=N,1870µm,0.6s			AML	AML				
MSCL	comp=E,1145µm,0.5s			AML	AML				
SOKA	**Soboth**	**5.00**	**327**	*i*Pn	**Pn**	**23**	**19**	**59.4**	**+2.4**
SOKA	comp=E,104nm,0.6s,SNR=31			*e*Sn	**Sn**	**23**	**20**	**57.8**	**+3.6**
DRGR	comp=E,79nm,0.5s	**5.00**	**31** ⇓	*i*P	**Pn**	**23**	**19**	**57.2**	**+0.2**
DRGR		**5.00**	**31**	S	**Sn**	**23**	**20**	**52.2**	**-2.1**
AOS	**Alonnisos**	**5.02**	**131**	*e*P	**Pn**	**23**	**19**	**56.1**	**-1.1**
DRO	**Drossia**	**5.05**	**155**	P	**Pn**	**23**	**19**	**57.7**	**+0.1**
OBKA	**Obir**	**5.07**	**323**	*e*Pn	**Pn**	**23**	**20**	**01.6**	**+3.6**
OBKA	comp=E,28nm,0.3s			*e*Sn	**Sn**	**23**	**21**	**00.4**	**+4.4**
RDO	comp=E,240nm,0.4s **Rodhopi**	**5.09**	**104**	*e*P	**Pn**	**23**	**19**	**57.3**	**-0.9**
RDO	**Rodhopi**	**5.09**	**104**	P	**Pn**	**23**	**19**	**59.8**	**+1.6**
RDO	**Rodhopi**	**5.09**	**104**	P	**Pn**	**23**	**19**	**59.8**	**+1.6**
VOIR		**5.24**	**55** ⇑	*i*P	**Pn**	**23**	**20**	**01.3**	**+1.3**
LTVH	**L¯tav¯rtes,**	**5.25**	**22** ⇓	*e*Pn	**Pn**	**23**	**20**	**01.6**	**+1.2**
LTVH				*e*PKiKP	**Sn**	**23**	**21**	**00.7**	**+0.3**
ARSA	**Arzberg**	**5.30**	**334**	*i*Pn	**Pn**	**23**	**20**	**04.0**	**+2.9**
ARSA	comp=E,39nm,0.4s,SNR=34			*e*Sn	**Sn**	**23**	**21**	**03.7**	**+2.1**
CJR	comp=E,70nm,0.5s **Cluj-Napoca**	**5.30**	**37** ⇑	*i*P	**Pn**	**23**	**20**	**03.3**	**+2.2**
SGRR	**Singureni**	**5.36**	**69** ⇑	*i*P	**Pn**	**23**	**20**	**02.5**	**+0.7**
PSZ	**Piszkesteto**	**5.40**	**6**	*e*Pn	**Pn**	**23**	**20**	**02.7**	**+0.2**
PSZ	**Piszkesteto**	**5.40**	**6** ⇓	*i*P	**Pn**	**23**	**20**	**02.9**	**+0.4**
PSZ	**Piszkesteto**	**5.40**	**6** ⇓	*e*Pn	**Pn**	**23**	**20**	**02.9**	**+0.4**
PSZ				*e*PKiKP	**Sn**	**23**	**21**	**02.6**	**-1.6**
PSZ	**Piszkesteto**	**5.40**	**6**	*e*P	**Pn**	**23**	**20**	**02.7**	**+0.2**
SOP	**Sopron**	**5.41**	**342** ⇓	*e*Pn	**Pn**	**23**	**20**	**04.4**	**+1.9**
SOP				*e*	**Sn**	**23**	**21**	**05.5**	**+1.3**
AMT	**Artemida-Makis**	**5.43**	**157**	P	**Pn**	**23**	**20**	**02.5**	**-0.4**
ALN	**Alexandroupoli**	**5.54**	**105**	*e*P	**Pn**	**23**	**20**	**04.2**	**-0.1**
ALN	**Alexandroupoli**	**5.54**	**105**	*e*Pn	**Pn**	**23**	**20**	**06.2**	**+1.9**
ALN	**Alexandroupoli**	**5.54**	**105**	P	**Pn**	**23**	**20**	**06.0**	**+1.7**
ALN	**Alexandroupoli**	**5.54**	**105**	*e*P	**Pn**	**23**	**20**	**06.2**	**+1.9**
MYKA	**Terra Mystica**	**5.58**	**319**	*e*Pn	**Pn**	**23**	**20**	**07.7**	**+2.7**
MYKA	comp=E,27nm,0.3s			*e*Sn	**Sn**	**23**	**21**	**13.1**	**+4.5**
ENEZ	comp=E,146nm,0.7s **Enez**	**5.67**	**106**	*e*P	**Pn**	**23**	**20**	**07.9**	**+1.8**
SULR		**5.69**	**66** ⇑	*i*P	**Pn**	**23**	**20**	**07.9**	**+1.5**
DOPR	**Dopca**	**5.72**	**51** ⇑	*i*P	**Pn**	**23**	**20**	**08.6**	**+1.7**
ZST	**Bratislava**	**5.80**	**347**	*e*P	**Pn**	**23**	**20**	**09.0**	**+1.1**
ZST				*e*		23	21	11.9	
ZST	**Bratislava**	**5.80**	**347**	*e*PN	**Pn**	**23**	**20**	**09.0**	**+1.1**
ZST				*e*SN	**Sn**	**23**	**21**	**11.9**	**-1.9**
EDRB	**Edirne**	**5.80**	**94**	*e*P	**Pn**	**23**	**20**	**09.2**	**+1.2**
CONA	**Conrad Observa**	**5.81**	**339**	*i*Pn	**Pn**	**23**	**20**	**10.5**	**+2.3**
CONA	comp=E,14nm,0.3s,SNR=12			*e*Sn	**Sn**	**23**	**21**	**16.8**	**+2.6**
MLR	comp=E,119nm,0.7s **Muntele Rosu**	**5.81**	**57**	P	**Pn**	**23**	**20**	**10.1**	**+1.9**
MLR	comp=E,1.6nm,0.3s,baz=217,slow=3.7,SNR=31			S	**Sn**	**23**	**21**	**19.9**	**+5.5**
MLR	comp=E,3.1nm,0.3s,baz=264,slow=23,SNR=3.2			LR	LR	23	23	22.7	
MLR	comp=E,2µm,21.3s,baz=234,slow=48 **Muntele Rosu**	**5.81**	**57** ⇓	*i*P	**Pn**	**23**	**20**	**10.1**	**+1.9**
ITM	**Ithomi**	**5.82**	**156**	*e*P	**Pn**	**23**	**20**	**06.2**	**-2.1**
ITM	**Ithomi**	**5.82**	**156**	*e*Pn	**Pn**	**23**	**20**	**08.4**	**+0.1**
ITM	**Ithomi**	**5.82**	**156**	P	**Pn**	**23**	**20**	**07.5**	**-0.8**
ARCR	**ARCALIA**	**5.92**	**38** ⇑	*i*P	**Pn**	**23**	**20**	**11.2**	**+1.6**
VYHS	**Vyhne**	**5.94**	**359**	*e*P	**Pn**	**23**	**20**	**10.5**	**+0.6**
VYHS				*e*		23	21	17.1	
VYHS	**Vyhne**	**5.94**	**359**	*e*PN	**Pn**	**23**	**20**	**10.5**	**+0.6**
VYHS				*e*SN	**Sn**	**23**	**21**	**17.1**	**-0.3**
MODS	**Modra-Piesok**	**5.94**	**349**	*e*P	**Pn**	**23**	**20**	**10.3**	**+0.4**
MODS				*e*		23	21	15.8	
MODS	**Modra-Piesok**	**5.94**	**349**	*e*PN	**Pn**	**23**	**20**	**10.3**	**+0.4**
MODS				*e*SN	**Sn**	**23**	**21**	**15.8**	**-1.6**
ERIK	**Erikli-Kesan**	**5.95**	**106**	*e*P	**Pn**	**23**	**20**	**10.5**	**+0.6**
VLY	**Voula,Athens**	**5.96**	**140**	P	**Pn**	**23**	**20**	**09.9**	**-0.3**
VLY	**Voula,Athens**	**5.96**	**140**	P	**Pn**	**23**	**20**	**09.9**	**-0.3**
GELI	**Tayfur-Gelibol**	**6.02**	**108**	*e*P	**Pn**	**23**	**20**	**12.1**	**+1.1**
KECS	**Kecovo**	**6.02**	**10**	*e*P	**Pn**	**23**	**20**	**11.2**	**+0.2**
KECS				*e*		23	21	16.1	
KECS	**Kecovo**	**6.02**	**10**	*e*PN	**Pn**	**23**	**20**	**11.2**	**+0.2**
KECS				*e*SN	**Sn**	**23**	**21**	**16.1**	**-3.2**
OZUR		**6.03**	**52** ⇑	*i*P	**Pn**	**23**	**20**	**12.5**	**+1.4**
BMR	**Baia Mare**	**6.03**	**30** ⇑	*i*P	**Pn**	**23**	**20**	**10.0**	**-1.1**
ISR	**Istrita**	**6.04**	**62** ⇑	*i*P	**Pn**	**23**	**20**	**12.4**	**+1.2**
PYL	**PYLOS**	**6.04**	**159**	P	**Pn**	**23**	**20**	**09.4**	**-1.8**
PYL	**PYLOS**	**6.04**	**159**	P	**Pn**	**23**	**20**	**09.4**	**-1.8**
KOLL	**Kolacno**	**6.04**	**356**	*e*P	**Pn**	**23**	**20**	**12.8**	**+1.6**
KOLL				*e*		23	21	18.3	
KOLL	**Kolacno**	**6.04**	**356**	*e*PN	**Pn**	**23**	**20**	**12.8**	**+1.6**
KOLL				*e*SN	**Sn**	**23**	**21**	**18.3**	**-1.4**
KBA	**Koelnbreinsper**	**6.05**	**320**	*i*Pn	**Pn**	**23**	**20**	**14.0**	**+2.6**
KBA	comp=E,8.2nm,0.2s,SNR=9.4			*e*Sn	**Sn**	**23**	**21**	**24.4**	**+4.3**
TRPA	comp=E,154nm,0.6s **Tarpa**	**6.11**	**23** ⇓	*i*P	**Pn**	**23**	**20**	**12.1**	**-0.1**
TRPA	**Tarpa**	**6.11**	**23** ⇓	*e*PP	**Pn**	**23**	**20**	**12.7**	**+0.5**
TRPA				*e*Sn	**Sn**	**23**	**21**	**16.9**	**-4.6**
VAE	**Valguarnera**	**6.17**	**216**	P	**Pn**	**23**	**20**	**15.6**	**+2.5**
VAE	comp=E,1.2nm,0.3s,baz=356,slow=4.5,SNR=4.2			S	**Sn**	**23**	**21**	**30.9**	**+7.9**
SIGR	comp=E,2.2nm,0.3s,baz=165,slow=6.3,SNR=3.6 **SIGRI**	**6.18**	**120**	*e*P	**Pn**	**23**	**20**	**14.3**	**+1.1**
ABTA	**Abfaltersbach**	**6.24**	**314**	*i*Pn	**Pn**	**23**	**20**	**15.6**	**+1.6**
ABTA	comp=E,12nm,0.2s,SNR=13			*e*Sn	**Sn**	**23**	**21**	**26.3**	**+1.6**
MOA	comp=E,858nm,0.0s **Molln**	**6.26**	**329**	*i*Pn	**Pn**	**23**	**20**	**17.3**	**+3.1**
MOA	comp=E,11nm,0.2s,SNR=15			*e*Sn	**Sn**	**23**	**21**	**28.7**	**+3.5**
JAVC	comp=E,101nm,0.4s **Velka Javorina**	**6.37**	**352**	*e*PN	**Pn**	**23**	**20**	**17.8**	**+2.0**
JAVC				*e*SN	**Sn**	**23**	**21**	**29.4**	**+1.3**
RKY	**Sarkoy-Tekirda**	**6.42**	**104**	*e*P	**Pn**	**23**	**20**	**16.8**	**+0.4**
PLOR	**Plostina**	**6.42**	**56** ⇑	*i*P	**Pn**	**23**	**20**	**17.6**	**+1.2**
VLC	**Villacollemand**	**6.47**	**287**	*e*Pn	**Pn**	**23**	**20**	**19.9**	**+2.8**
VRI	**Vrincioaia**	**6.47**	**57** ⇑	*i*P	**Pn**	**23**	**20**	**18.2**	**+1.0**
UZH	**Uzhgorod**	**6.50**	**20**	*e*P	**Pn**	**23**	**20**	**19.0**	**+1.4**
UZH				*e*S	**Sn**	**23**	**21**	**34.2**	**+3.0**
UZH	comp=Z,200nm,12.0s			MLR	MLR				
KRBG	**Karabiga-Canak**	**6.60**	**106**	*e*P	**Pn**	**23**	**20**	**20.4**	**+1.4**
LANS	**Liptovska Anna**	**6.61**	**3**	*e*P	**Pn**	**23**	**20**	**21.2**	**+2.2**
LANS				*e*		23	21	32.5	
LANS	**Liptovska Anna**	**6.61**	**3**	*e*PN	**Pn**	**23**	**20**	**21.2**	**+2.2**
LANS				*e*SN	**Sn**	**23**	**21**	**32.5**	**-1.3**
SBT4	**Kumbag-Tekirda**	**6.63**	**102**	*e*P	**Pn**	**23**	**20**	**20.6**	**+1.5**
ODBI	**Odobesti**	**6.63**	**58** ⇑	*i*P	**Pn**	**23**	**20**	**22.2**	**+2.9**
CLTB	**Caltabellotta**	**6.65**	**224**	*e*Pn	**Pn**	**23**	**20**	**22.0**	**+2.2**
BURAR	**Bucovina Array**	**6.71**	**39** ⇑	*i*P	**Pn**	**23**	**20**	**22.4**	**+1.9**
BUR04	**Bucovina Ar. S**	**6.71**	**39**	*e*Pn	**Pn**	**23**	**20**	**23.8**	**+3.3**
BUR08	**Bucovina Ar. S**	**6.72**	**39**	*e*Pn	**Pn**	**23**	**20**	**22.5**	**+1.8**
MRMT	**Marmara Adasi**	**6.74**	**104**	*e*P	**Pn**	**23**	**20**	**22.6**	**+1.7**
KRUC	**Moravsky**	**6.75**	**345**	*e*Pn	**Pn**	**23**	**20**	**22.5**	**+1.5**
KRUC				*e*SN	**Sn**	**23**	**21**	**36.7**	**-0.7**
CHOS	**Chios island**	**6.81**	**125**	*e*P	**Pn**	**23**	**20**	**22.6**	**+0.7**
TLB	**Topalu**	**6.88**	**70** ⇑	*i*P	**Pn**	**23**	**20**	**23.6**	**+0.8**
NIE	**Niedzica**	**6.93**	**7**	*e*P	**Pn**	**23**	**20**	**25.7**	**+2.3**
NIE				*e*S	**Sn**	**23**	**21**	**42.9**	**+1.3**
NIE	**Niedzica**	**6.93**	**7**	*e*P	**Pn**	**23**	**20**	**25.7**	**+2.3**
NIE				*e*S	**Sn**	**23**	**21**	**42.9**	**+1.3**
DKL	**Dikili**	**6.94**	**117**	*e*P	**Pn**	**23**	**20**	**27.1**	**+3.5**
VRAC	**Vranov**	**6.96**	**347**	P	**Pn**	**23**	**20**	**25.1**	**+1.3**
VRAC	comp=Z,0.5nm,0.3s,baz=174,slow=12,SNR=14			S	**Sn**	**23**	**21**	**47.0**	**+4.6**
VRAC	comp=Z,5.5nm,0.3s,baz=268,slow=5.3,SNR=7.7			LR	LR	23	23	25.0	
VRAC	comp=Z,1µm,19.3s,baz=182,slow=40 **Vranov**	**6.96**	**347**	*e*PN	**Pn**	**23**	**20**	**25.2**	**+1.3**
VRAC				*e*SN	**Sn**	**23**	**21**	**41.8**	**-0.6**
CTYL	**Yalikoy Yolu**	**7.01**	**96**	*e*P	**Pn**	**23**	**20**	**24.9**	**+0.4**
WTTA	**Wattenberg**	**7.03**	**315**	*i*Pn	**Pn**	**23**	**20**	**27.6**	**+2.7**
WTTA	comp=Z,10nm,0.2s,SNR=10			*e*Sn	**Sn**	**23**	**21**	**47.1**	**+2.8**
WATA	comp=Z,214nm,0.5s **Walderalm**	**7.11**	**315**	*i*Pn	**Pn**	**23**	**20**	**28.6**	**+2.6**
WATA	comp=Z,19nm,0.2s,SNR=50			*i*Sn	**Sn**	**23**	**21**	**49.2**	**+3.0**
CFR	comp=Z,120nm,0.5s **Carcaliu**	**7.11**	**65** ⇑	*i*P	**Pn**	**23**	**20**	**27.5**	**+1.6**
TIRR	**Tirgusor**	**7.11**	**71**	*e*Pn	**Pn**	**23**	**20**	**26.6**	**+0.7**
TIRR	**Tirgusor**	**7.11**	**71** ⇑	*i*P	**Pn**	**23**	**20**	**26.4**	**+0.5**
TIRR	**Tirgusor**	**7.11**	**71**	*e*P	**Pn**	**23**	**20**	**26.6**	**+0.7**
TREC	**Trest**	**7.17**	**341**	*e*PN	**Pn**	**23**	**20**	**29.0**	**+2.3**
TREC	comp=Z,2µm,11.7s			AMS	AMS	23	23	20.0	
TREC	**Trest**	**7.17**	**341**	*e*P	**Pn**	**23**	**20**	**29.0**	**+2.3**
TREC	comp=Z,2µm,11.7s			MLR	MLR				
CTKS	**Kestanelik-??a**	**7.22**	**97**	*e*P	**Pn**	**23**	**20**	**28.3**	**+0.8**
SQTA	**Sankt Quirin**	**7.23**	**313**	*i*Pn	**Pn**	**23**	**20**	**30.3**	**+2.7**
SQTA	comp=Z,23nm,0.3s,SNR=21			*e*Sn	**Sn**	**23**	**21**	**51.6**	**+2.4**
GEA0	comp=Z,185nm,0.4s **GERESS Array S**	**7.29**	**331**	*e*Pn	**Pn**	**23**	**20**	**30.5**	**+2.1**
MORC	**Moravsky Berou**	**7.29**	**353**	*e*Pn	**Pn**	**23**	**20**	**29.9**	**+1.5**
MORC	**Moravsky Berou**	**7.29**	**353**	*e*P	**Pn**	**23**	**20**	**29.9**	**+1.5**
MORC	**Moravsky Berou**	**7.29**	**353**	*e*PN	**Pn**	**23**	**20**	**30.0**	**+1.5**
MORC				*e*SN	**Sn**	**23**	**21**	**51.0**	**+0.3**
GEC2	**GERESS Array S**	**7.30**	**331**	*e*Pn	**Pn**	**23**	**20**	**31.1**	**+2.6**
GEC2	**GERESS Array S**	**7.30**	**331**	*e*P	**Pn**	**23**	**20**	**31.2**	**+2.6**
GERES	**GERESS Array B**	**7.30**	**331**	P	**Pn**	**23**	**20**	**30.6**	**+2.0**
GERES	comp=Z,3.4nm,0.3s,baz=152,slow=12,SNR=101			S	**Sn**	**23**	**21**	**52.5**	**+1.7**
OKC	comp=Z,5.1nm,0.3s,baz=146,slow=22,SNR=4.9 **Ostrava-Krasne**	**7.31**	**356**	*e*PN	**Pn**	**23**	**20**	**30.3**	**+1.7**
OKC				*e*SN	**Sn**	**23**	**21**	**49.1**	**-1.9**
OKC	comp=Z,2µm,11.1s			AMS	AMS	23	23	40.0	
OKC	**Ostrava-Krasne**	**7.31**	**356**	*e*P	**Pn**	**23**	**20**	**30.3**	**+1.7**
OKC				*e*		23	21	49.1	
OKC	comp=Z,2µm,11.1s			MLR	MLR				
BALB	**Balikesir**	**7.32**	**110**	*e*P	**Pn**	**23**	**20**	**30.8**	**+2.0**
MOTA	**Moosalm**	**7.36**	**313**	*i*Pn	**Pn**	**23**	**20**	**31.5**	**+2.0**
MOTA	comp=Z,23nm,0.3s,SNR=41			*e*Sn	**Sn**	**23**	**21**	**55.8**	**+3.3**
PGF	comp=Z,240nm,0.8s **Pioggiola** SNR=1.0	**7.38**	**273**	*e*Pn	**Pn**	**23**	**20**	**31.6**	**+1.9**
PGF	**Pioggiola**	**7.38**	**273**	*e*Pn	**Pn**	**23**	**20**	**31.6**	**+1.9**
PGF	**Pioggiola**	**7.38**	**273**	*e*P	**Pn**	**23**	**20**	**31.6**	**+1.9**
FETA	**Feichten**	**7.38**	**310**	*i*Pn	**Pn**	**23**	**20**	**31.7**

SBF eSn Sn 23 22 19.3 -2.1
SBF Sospel 8.54 283 eP Pn 23 20 46.2 +0.6
SBF e 23 22 19.3
IDI Anoyia 8.59 146 eP Pn 23 20 44.3 -2.0
IDI Anoyia 8.59 146 P Pn 23 20 44.8 -1.5
comp=Z,0.7nm,0.3s,baz=261,slow=13,SNR=20
IDI S Sn 23 22 16.5 -6.1
comp=Z,5.4nm,0.3s,baz=320,slow=20,SNR=7.1
NKC Novy Kostel 8.91 332 AMS AMS 23 24 20.0
comp=Z,1µm,15.6s
GULT Gulveren 8.91 100 eP Pn 23 20 53.3 +2.6
GRFO Grafenberg 8.94 326 ePn Pn 23 20 53.9 +2.9
GRFO eS Sn 23 22 28.6 -2.5
BRG Berggiesshubel 9.01 339 PG Pn 23 20 54.8 +2.8
BRG i 23 21 03.3
BRG Berggiesshubel 9.01 339 SG Sn 23 22 54.8 +22
comp=Z,14nm,0.8s
comp=N,846nm,16.4s
comp=E,1µm,12.7s
comp=Z,1µm,14.3s
BRG Berggiesshubel 9.01 339 P Pn 23 20 54.8 +2.8
BRG MLR MLR
comp=N,846nm,16.4s
BRG MLR MLR
comp=E,1µm,12.7s
BRG MLR MLR
comp=Z,1µm,14.3s
FRF La Foret Royal 9.09 281 ePn Pn 23 20 53.9 +0.8
SNR=1.0
FRF eSn Sn 23 22 31.6 -3.3
comp=Z,23nm,0.6s,SNR=1.0
FRF La Foret Royal 9.09 281 ePn Pn 23 20 53.9 +0.8
FRF eSn Sn 23 22 31.6 -3.3
MBDF Montbardon 9.12 288 ePn Pn 23 20 53.4 -0.2
SNR=1.0
MBDF eSn Sn 23 22 32.6 -3.2
comp=Z,78nm,0.7s,SNR=1.0
MBDF Montbardon 9.12 288 ePn Pn 23 20 53.4 -0.2
MBDF eSn Sn 23 22 32.6 -3.2
MBDF Montbardon 9.12 288 eP Pn 23 20 53.4 -0.2
MBDF e 23 22 32.6
SENIN Lac Senin/Sane 9.18 298 ePn Pn 23 20 56.2 +1.7
LMR La Mourre 9.19 279 ePn Pn 23 20 55.7 +1.3
SNR=1.0
LMR eSn Sn 23 22 34.3 -2.9
comp=Z,4.7nm,0.3s
LMR La Mourre 9.19 279 ePn Pn 23 20 55.7 +1.3
LMR eSn Sn 23 22 34.3 -2.9
BNI Bardonecchia 9.24 290 ePn Pn 23 20 55.3 0.0
BNI Bardonecchia 9.24 290 eP Pn 23 20 55.3 0.0
STU Stuttgart 9.25 316 ePn Pn 23 20 55.8 +0.6
LPG La Plagne 9.29 293 ePn Pn 23 20 55.7 -0.4
SNR=1.0
LPG eSn Sn 23 22 35.6 -4.6
comp=Z,148nm,0.7s
LPG La Plagne 9.29 293 ePn Pn 23 20 55.7 -0.4
LPG eSn Sn 23 22 35.6 -4.6
LPG La Plagne 9.29 293 eP Pn 23 20 55.7 -0.4
LPG e 23 22 35.6
LPL La Plagne 9.31 293 ePn Pn 23 20 56.3 0.0
SNR=1.0
LPL eSn Sn 23 22 37.1 -3.4
comp=Z,168nm,0.8s
LPL La Plagne 9.31 293 ePn Pn 23 20 56.3 0.0
LPL eSn Sn 23 22 37.1 -3.4
LPL La Plagne 9.31 293 eP Pn 23 20 56.3 0.0
LPL e 23 22 37.1
KARP Karpathos 9.45 135 eP Pn 23 20 56.3 -1.8
BFO Black Forest 9.45 311 ePn Pn 23 20 58.4 +0.3
BFO eS Sn 23 22 41.6 -2.2
BFO Black Forest 9.45 311 eP Pn 23 20 58.4 +0.3
BFO eS Sn 23 22 41.6 -2.2
CLL Collm 9.66 337 ePn Pn 23 21 03.2 +2.4
CLL Collm 9.66 337 *i* Pn Pn 23 21 03.4 +2.5
comp=Z,20nm,1.2s
CLL e 23 21 12.0
CLL ePg 23 21 42.0
CLL eSn Sn 23 22 38.0 -11
CLL eSb 23 23 18.0
CLL eSg 23 23 45.0
CLL eLmax 23 24 21.0
CLL **Collm** 9.66 337 *i* P Pn 23 21 03.4 +2.5
CLL pmax pmax
comp=Z,20nm,1.2s
ORIF Oris-en-Rattie 9.78 288 ePn Pn 23 21 03.9 +1.3
SNR=1.0
ORIF eSn Sn 23 22 47.8 -4.0
comp=Z,78nm,0.6s,SNR=1.0
ORIF Oris-en-Rattie 9.78 288 ePn Pn 23 21 03.9 +1.3
ORIF eSn Sn 23 22 47.8 -4.0
ORIF Oris-en-Rattie 9.78 288 eP Pn 23 21 03.9 +1.3
ORIF e 23 22 47.8
HINF Hinteralfeld 10.05 306 ePn Pn 23 21 06.8 +0.6
SNR=1.0
HINF eSn Sn 23 22 53.8 -4.6
comp=Z,36nm,0.4s,SNR=1.0
HINF Hinteralfeld 10.05 306 ePn Pn 23 21 06.8 +0.6
HINF eSn Sn 23 22 53.8 -4.6
CABF La Chapelle 10.05 298 ePn Pn 23 21 06.3 -0.1
SNR=1.0
CABF eSn Sn 23 22 54.3 -4.3
comp=Z,39nm,0.6s,SNR=1.0
CABF La Chapelle 10.05 298 ePn Pn 23 21 06.3 -0.1
CABF eSn Sn 23 22 54.3 -4.3
CABF La Chapelle 10.05 298 eP Pn 23 21 06.3 -0.1
CABF e 23 22 54.3
ECH Echery 10.06 308 ePn Pn 23 21 05.7 -0.7
ECH Echery 10.06 308 eP Pn 23 21 05.7 -0.7
CDF Champ du Feu 10.09 309 ePn Pn 23 21 07.4 +0.5
SNR=1.0
CDF Champ du Feu 10.09 309 ePn Pn 23 21 07.4 +0.5
CDF Champ du Feu 10.09 309 eP Pn 23 21 07.4 +0.5
KEST Kesra 10.12 231 P Pn 23 21 10.6 +3.4
comp=Z,1.2nm,0.3s,baz=336,slow=6.2,SNR=20
KEST Kesra 10.12 231 ePn Pn 23 21 04.2 -3.0
KIZT Kizilcal 10.45 106 eP Pn 23 21 14.2 +2.4
VIVF Saint-Julien-l 10.62 287 ePn Pn 23 21 14.5 +0.5
SNR=1.0
VIVF eSn Sn 23 23 08.5 -3.9
comp=Z,26nm,0.9s
VIVF Saint-Julien-l 10.62 287 ePn Pn 23 21 14.5 +0.5
VIVF eSn Sn 23 23 08.5 -3.9
VIVF Saint-Julien-l 10.62 287 eP Pn 23 21 14.5 +0.5
VIVF e 23 23 08.5
KIEV Kiev 10.75 37⇓eP Pn 23 21 16.3 +0.6
AKASG Malin Array Be 10.76 37 P Pn 23 21 17.6 +1.8
comp=Z,0.4nm,0.3s,baz=227,slow=13,SNR=12
AKASG LR LR 23 25 52.5
comp=Z,1µm,18.1s,baz=205,slow=40
SSB Saint Sauveur 10.77 290 ePn Pn 23 21 15.8 -0.4
SSB Saint Sauveur 10.77 290 eP Pn 23 21 15.8 -0.4
PAGF Fort de Pagny 11.06 307 ePn Pn 23 21 22.8 +2.8
baz=126
PAGF eSn Sn 23 23 20.4 -2.7
comp=Z,36nm,0.8s
PAGF Fort de Pagny 11.06 307 ePn Pn 23 21 22.8 +2.8
PAGF eSn Sn 23 23 20.4 -2.7
SFTF Sexfontaines 11.31 305 ePn Pn 23 21 25.7 +2.2
baz=125
SFTF eSn Sn 23 23 25.4 -3.9
comp=Z,31nm,0.8s
SFTF Sexfontaines 11.31 305 ePn Pn 23 21 25.7 +2.2
SFTF eSn Sn 23 23 25.4 -3.9
WLF Walferdange 11.39 313 ePn Pn 23 21 24.6 +0.1
WLF Walferdange 11.39 313 eP Pn 23 21 24.6 +0.1
WLF Walferdange 11.39 313 ⇓P Pn 23 21 24.3 -0.2
BR131 Keskin Array S 11.40 99 ePn Pn 23 21 26.4 +1.5
BRTR Keskin Array B 11.41 99 P Pn 23 21 25.6 +0.7
comp=Z,0.2nm,0.3s,baz=301,slow=39,SNR=8.2
MEZF Maizieres J'vi 11.43 306 ePn Pn 23 21 27.9 +2.8
baz=126,SNR=1.0
MEZF eSn Sn 23 23 28.5 -3.7
comp=Z,10nm,0.5s
MEZF Maizieres J'vi 11.43 306 ePn Pn 23 21 27.9 +2.8
MEZF eSn Sn 23 23 28.5 -3.7
SMF Signal de Mont 11.54 296 ePn Pn 23 21 26.1 -0.6
SNR=1.0
SMF eSn Sn 23 23 30.6 -4.4
comp=Z,119nm,0.8s
SMF Signal de Mont 11.54 296 ePn Pn 23 21 26.1 -0.6
SMF eSn Sn 23 23 30.6 -4.4
SMF Signal de Mont 11.54 296 eP Pn 23 21 26.1 -0.6
SMF e 23 23 30.6
LOR Lormes 11.71 299 ePn Pn 23 21 29.8 +0.8
baz=116,SNR=1.0
LOR eSn Sn 23 23 34.2 -4.9
LOR Lormes 11.71 299 ePn Pn 23 21 29.8 +0.8
LOR eSn Sn 23 23 34.2 -4.9
LOR Lormes 11.71 299 eP Pn 23 21 29.8 +0.8
LOR e 23 23 34.2
SSF Saint Saulge 11.88 298 ePn Pn 23 21 31.3 +0.1
SNR=1.0
SSF eSn Sn 23 23 38.5 -4.7
comp=Z,27nm,0.5s
SSF Saint Saulge 11.88 298 ePn Pn 23 21 31.3 +0.1
SSF eSn Sn 23 23 38.5 -4.7
SSF Saint Saulge 11.88 298 eP Pn 23 21 31.3 +0.1
SSF e 23 23 38.5
AVF Avril sur Loir 11.91 296 ePn Pn 23 21 32.1 +0.5
SNR=1.0
AVF eSn Sn 23 23 38.2 -5.6
comp=Z,36nm,0.8s
AVF Avril sur Loir 11.91 296 ePn Pn 23 21 32.1 +0.5
AVF eSn Sn 23 23 38.2 -5.6
AVF Avril sur Loir 11.91 296 eP Pn 23 21 32.1 +0.5
AVF e 23 23 38.2
MEM Membach 12.01 317 ⇑PP P 23 21 39.8 -6.1
BGF Bois d'Agland 12.19 295 ePn Pn 23 21 34.2 -1.2
SNR=1.0
BGF eSn Sn 23 23 46.4 -4.3
comp=Z,57nm,0.7s
BGF Bois d'Agland 12.19 295 ePn Pn 23 21 34.2 -1.2
BGF eSn Sn 23 23 46.4 -4.3
BGF Bois d'Agland 12.19 295 eP Pn 23 21 34.2 -1.2
BGF e 23 23 46.4
BCLA Clavier 12.27 315 ⇑P Pn 23 21 35.6 -0.9
BEBN Eben Emael 12.29 317 ⇑P Pn 23 21 36.7 -0.1
GIVF Givet 12.35 313 ePn Pn 23 21 39.8 +2.2
GIVF eSn Sn 23 23 49.7 -4.9
comp=Z,3.4nm,0.2s
GIVF Givet 12.35 313 ePn Pn 23 21 39.8 +2.2
GIVF eSn Sn 23 23 49.7 -4.9
GIVF Givet 12.35 313 eP Pn 23 21 39.8 +2.2
GIVF e 23 23 49.7
CAF Calviac 12.47 287 ePn Pn 23 21 40.2 +0.9
SNR=1.0
CAF Calviac 12.47 287 ePn Pn 23 21 40.2 +0.9
CAF Calviac 12.47 287 eP Pn 23 21 40.2 +0.9
DOU Dourbes 12.47 312 ⇓PP Pn 23 21 44.4 +5.1
HYF Humbligny 12.51 298 ePn Pn 23 21 40.8 +1.0
HYF eSn Sn 23 23 53.7 -4.8
HYF Humbligny 12.51 298 ePn Pn 23 21 40.8 +1.0
HYF eSn Sn 23 23 53.7 -4.8
TCF Toulx Ste Croi 12.56 293 ePn Pn 23 21 40.6 0.0
SNR=1.0
TCF eSn Sn 23 23 54.3 -5.6
comp=Z,21nm,0.7s
TCF Toulx Ste Croi 12.56 293 ePn Pn 23 21 40.6 0.0
TCF eSn Sn 23 23 54.3 -5.6
TCF Toulx Ste Croi 12.56 293 eP Pn 23 21 40.6 0.0
TCF e 23 23 54.3
BAIF Baives 12.66 311 ePn Pn 23 21 43.4 +1.5
BAIF Baives 12.66 311 ePn Pn 23 21 43.4 +1.5
BAIF Baives 12.66 311 eP Pn 23 21 43.4 +1.5
RJF Les Rejaudoux 12.89 288 ePn Pn 23 21 44.1 -1.0
SNR=1.0
RJF eSn Sn 23 24 02.6 -5.3
comp=Z,14nm,0.8s
RJF Les Rejaudoux 12.89 288 ePn Pn 23 21 44.1 -1.0
RJF eSn Sn 23 24 02.6 -5.3
RJF Les Rejaudoux 12.89 288 eP Pn 23 21 44.1 -1.0
RJF e 23 24 02.6
MUD Monsted U'grnd 15.28 339 *i* P P 23 22 22.9 +0.8
comp=Z,22nm,0.9s
MUD Monsted U'grnd 15.28 339 *i* P P 23 22 22.9 +0.8
MUD pmax pmax
comp=Z,22nm,0.9s
MMAI Mount Meron Ar 16.07 121 P Pn 23 22 29.2 +1.3
comp=Z,0.9nm,0.3s,baz=331,slow=8.5,SNR=9.2
VSR Storozhevoye 16.25 51⇓eP Pn 23 22 28.5 -1.5
VSU Vasula 16.65 14⇑eP Pn 23 22 34.7 -0.3
LPSR Galich'ya Gora 16.74 46 eP Pn 23 22 34.9 -1.3
LPSR pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 17.02 36 P Pn 23 22 38.8 -0.8
comp=Z,0.3nm,0.3s,baz=240,slow=20,SNR=4.8
OBN LR LR 23 29 40.4
comp=Z,162nm,19.7s,baz=197,slow=38
OBN Obninsk 17.02 36⇑*i*P Pn 23 22 38.2 -1.5
OBN eS Sn 23 25 48.4 +0.2
OBN pmax pmax
comp=Z,33nm,1.4s
OBN MLR MLR
comp=Z,620nm,18.0s
KIV Kislovodsk 17.31 77 eP Pn 23 22 42.5 -1.0
KIV pmax pmax
comp=Z,10.0nm,1.0s
KBZ Khabaz 17.48 78 P P 23 22 48.3 +1.7
comp=Z,0.1nm,0.3s,baz=266,slow=16,SNR=4.7
ESDC Seneca Array 17.52 268 P P 23 22 52.7 +5.5
comp=Z,0.2nm,0.3s,baz=67,slow=12,SNR=6.9
ASF Jabal al Asfar 17.57 120 P P 23 22 53.2 +5.3
comp=Z,0.1nm,0.3s,baz=68,slow=12,SNR=2.5
VRH Novokhopyorsk 17.73 53 eP Pn 23 22 47.2 -1.3
VRH pmax pmax
comp=Z,10.0nm,0.8s
MOS Moscow 17.88 36 eP Pn 23 22 48.2 -2.2
MOS pmax pmax
comp=Z,49nm,1.5s
HFS Hagfors 17.90 351 P Pn 23 22 50.5 -0.1
comp=Z,1.1nm,0.3s,baz=158,slow=12,SNR=22
KONO Kongsberg 18.07 345⇓eP Pn 23 22 52.6 -0.1
KONO pmax pmax
comp=Z,16nm,1.1s
ZEI Tsey 18.31 81 eP P 23 23 01.2 +5.2
ZEI pmax pmax
comp=Z,11nm,1.4s
NC602 NORSAR Array S 18.76 349 eP P 23 23 00.5 -0.1
NAO01 NORSAR Array S 18.96 348 eP P 23 23 02.9 +0.1
TBLG Delisi 19.10 84 eP Pn 23 23 06.2 +0.9
comp=Z,4.1nm,0.8s
NB201 NORSAR Array S 19.10 349 eP P 23 23 04.1 -0.2
NC405 NORSAR Array S 19.10 349 eP P 23 23 04.0 -0.4
NB2 NORSAR Subarra 19.10 348 P P 23 23 03.8 -0.6
comp=Z,11nm,1.1s,baz=162,slow=11
NOA NORSAR Array B 19.10 348 P P 23 23 03.4 -1.0
comp=Z,0.1nm,0.3s,baz=162,slow=18,SNR=8.3
NBO00 NORSAR Array S 19.16 348 eP P 23 23 03.5 -1.5
NC303 NORSAR Array S 19.26 349 eP P 23 23 06.1 +0.1
EKA Eskdalemuir Ar 19.26 319 P P 23 23 05.9 -0.1
baz=113,slow=8.9,SNR=16
FINES FINESS Array B 19.39 10 P P 23 23 06.7 -0.8
comp=Z,0.3nm,0.3s,baz=165,slow=11,SNR=10.0
FIA1 FINESS Array S 19.39 10 eP P 23 23 06.5 -1.0
NC204 NORSAR Array S 19.39 348 eP P 23 23 07.9 +0.3
GNI Garni 19.46 88 P P 23 23 09.0 +0.4
comp=Z,0.6nm,0.3s,baz=288,slow=5.6,SNR=7.2
GNI Garni 19.46 88 eP Pn 23 23 09.8 -0.1
comp=Z,17nm,0.9s
GNI Garni 19.46 88*c*eP P 23 23 07.8 -0.8
GNI pmax pmax
comp=Z,108nm,1.6s
GROC Groznyy 19.63 79 eP Pn 23 23 11.2 -0.5
GROC eS S 23 26 51.3 +0.4
GROC pmax pmax
comp=Z,16nm,1.1s
PESTR Estremoz 20.45 269 eP Pn 23 23 22.3 +0.9
MDT Midelt 21.00 250 P P 23 23 25.5 +0.2
comp=Z,4.0nm,0.9s,baz=85,slow=7.8,SNR=5.3
PVAQ Vaqueiros 21.06 265 eP P 23 23 31.7 +5.9
MESJ Messejana 21.27 266 eP P 23 23 29.5 +1.5
PNCL Nicolau / Gran 21.40 267 eP P 23 23 31.1 +1.7
PFVI Vila Bisbo 21.98 265 eP P 23 23 38.9 +3.2
TAM Tamanrasset 22.68 214 eP P 23 23 44.5 +1.1
comp=Z,7.3nm,1.1s
TAM Tamanrasset 22.68 214 eP P 23 23 44.5 +1.1
TAM pmax pmax
comp=Z,7.0nm,1.1s
PRGR Permogore 24.85 31 eP P 23 24 01.6 -2.2
PRGR pmax pmax
comp=Z,35nm,0.6s
ARCES ARCESS Array B 27.26 5 P P 23 24 24.5 -1.1
comp=Z,3.7nm,0.8s,baz=206,slow=8.0,SNR=3.4
AKTO Aktyubinsk 27.74 60 P P 23 24 29.1 -0.9
comp=Z,1.0nm,0.6s,baz=265,slow=6.4,SNR=4.8
ARU Arti 28.76 47 P P 23 24 38.0 -1.0
comp=Z,1.1nm,0.4s,baz=241,slow=3.7,SNR=4.3
ARU Arti 28.76 47*c i*P P 23 24 38.1 -1.0
ARU 23 25 27.8
ARU S S 23 29 29.3 +2.0
ARU SS SnSn 23 30 52.5 +3.9
ARU pmax pmax
comp=Z,13nm,1.7s
ABKAR Akbulak array 29.00 62 eP P 23 24 40.5 -0.8
GEYT Alibeck 30.04 86 P P 23 24 49.3 -1.3
comp=Z,2.5nm,0.4s,baz=272,slow=5.6,SNR=16
GYA0B ALIBECK ARRAY 30.04 86 eP P 23 24 50.2 -0.5
comp=Z,6.6nm,1.0s
TOA0 Torodi Ar. Sit 32.91 212 eP P 23 25 17.1 +1.1
TORD Torodi Ar. Bea 32.91 212 P P 23 25 16.6 +0.6
comp=Z,6.5nm,1.2s,baz=10,slow=9.5
BRVK Borovoye 35.30 55 eP P 23 25 36.2 -0.3
comp=Z,8.2nm,0.5s
BRVK Borovoye 35.30 55*de*P P 23 25 36.6 +0.1
BRVK pmax pmax
comp=Z,5.0nm,1.1s
SPITS Spitsbergen Ar 35.75 359 P P 23 25 39.9 -0.2
comp=Z,14nm,1.0s,baz=116,slow=11,SNR=3.8
AAK Ala-Archa 40.22 70 P P 23 26 18.9 +0.5
comp=Z,0.7nm,0.4s,baz=221,slow=11,SNR=4.0
DBIC Dimbokro 41.49 217 P P 23 26 28.8 0.0
comp=Z,1.9nm,0.4s,baz=15,slow=11,SNR=7.0
KSH Kashi 42.40 74 eP P 23 26 27.0 -9.3
NRIK Noril'sk 43.47 29 P P 23 26 44.6 +0.3
comp=Z,0.8nm,0.4s,baz=314,slow=7.1,SNR=3.6
ZALV Zalesovo Beam 43.75 51 P P 23 26 46.2 -0.7
comp=Z,1.2nm,0.4s,baz=281,slow=8.4,SNR=5.2
MK31 Makanchi Array 44.14 62 eP P 23 26 49.6 -0.5
MK31 Makanchi Array 44.14 62 eP P 23 26 49.6 -0.5
MKAR Makanchi Array 44.14 62 P P 23 26 49.4 -0.7
comp=Z,2.7nm,0.5s,baz=278,slow=8.1,SNR=74
MKAR Makanchi Array 44.14 62 eP P 23 26 49.6 -0.5
comp=Z,25nm,0.5s
MKAR Makanchi Array 44.14 62 eP P 23 26 49.6 -0.5
MKAR pmax pmax
comp=Z,25nm,0.5s
MK01 Makanchi Array 44.15 62 eP P 23 26 49.1 -1.0
DGZ Jazzator, Alta 46.47 56⇓eP P 23 27 07.2 -1.5
DGZ pmax pmax
comp=Z,2.0nm,1.4s
WMQ Urumqi 48.77 64 eP P 23 27 28.9 +2.4
WMQ LR LR
comp=N,790nm,25.9s
WMQ LR LR
comp=E,610nm,27.5s
WMQ LR LR
comp=Z,690nm,24.3s
PYUN Piuthan 53.00 84 eP P 23 27 57.3 -1.4
comp=Z,16nm,0.6s
DANN Dangsing 53.42 83 eP P 23 28 00.7 -1.3
comp=Z,11nm,0.4s
KOLN Koldanda 53.63 84 eP P 23 28 01.8 -1.6
comp=Z,13nm,0.7s
DMN Daman 54.83 83 eP P 23 28 10.7 -1.5
KKN Kakani 54.85 83 eP P 23 28 10.6 -1.7
comp=Z,8.1nm,0.6s
PKIN Phulchoki 55.06 83 eP P 23 28 12.2 -1.6
comp=Z,10nm,0.6s
PKI Pulchoki 55.07 83 eP P 23 28 12.4 -1.6
comp=Z,5.6nm,0.5s
GUN Gumba 55.22 82 eP P 23 28 13.5 -1.6
TLY Talaya 55.24 49*ce*P P 23 28 13.0 -1.5
TLY pmax pmax
comp=Z,16nm,1.3s
JIRN Jiri 55.59 82 eP P 23 28 16.5 -1.3
comp=Z,13nm,0.6s
TIXI Tiksi 55.98 21⇑eP P 23 28 17.9 -1.5
TIXI pmax pmax
comp=Z,2.0nm,1.0s
RAMN Ramite 56.29 83 eP P 23 28 20.9 -1.8
comp=Z,12nm,0.5s
LSZ Lusaka 58.16 170 P P 23 28 36.2 +0.6
baz=0.0,slow=7.1
SONA1 Songino Array 58.64 52 eP P 23 28 38.0 -0.9
SONM Songino Array 58.64 52 P P 23 28 37.4 -1.4
comp=Z,5.6nm,1.1s,baz=289,slow=7.0,SNR=16
GTA Gaotai 58.85 63 P P 23 28 40.0 -0.4
GTA pP pP 23 28 45.7 -0.8
GTA sP sP 23 28 48.1 -0.7
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA pmax pmax
comp=Z,140nm,4.6s
GTA LR LR
comp=N,500nm,19.6s
GTA LR LR
comp=E,280nm,19.9s
GTA LR LR
comp=Z,270nm,17.9s
TSUM Tsumeb 61.46 182 P P 23 28 59.0 +0.7
comp=Z,1.3nm,0.3s,baz=36,slow=9.1,SNR=3.3
LZH Lanzhou 63.33 65 eP P 23 29 11.9 +1.0
LZH pP pP 23 29 16.5 -0.6
LZH sP sP 23 29 19.0 -0.4
LZH ePP PP 23 31 31.2 +1.3
LZH pmax pmax
comp=Z,22nm,1.3s
LZH pmax pmax
comp=Z,78nm,7.4s
LZH LR LR
comp=N,190nm,14.8s
LZH LR LR
comp=E,200nm,15.0s
LZH LR LR
comp=Z,290nm,18.2s
HHC Hu-ho-hao-te 65.55 56 eP P 23 29 25.4 +0.1
HHC PP PP 23 31 51.8 +2.6
HHC S S 23 38 07.1 -2.5
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,230nm,6.7s
HHC LR LR
comp=N,300nm,13.8s
HHC LR LR
comp=E,230nm,13.8s
HHC LR LR
comp=Z,620nm,14.7s
BILL Bilibino 67.02 13 *i* P P 23 29 29.5 -4.6
BILL *i* 23 29 57.4
BILL pmax pmax
comp=Z,5.0nm,1.5s
INK Inuvik 67.55 349 P P 23 29 35.7 -1.8
comp=Z,1.6nm,0.7s,baz=358,slow=3.5,SNR=5.2
XAN Xi'an 67.91 64 P P 23 29 40.1 -0.2
XAN pP pP 23 29 46.3 -0.2
XAN pmax pmax
comp=Z,11nm,1.3s
XAN pmax pmax
comp=Z,250nm,15.3s
YKA Yellowknife Ar 68.89 339 P P 23 29 45.2 -0.7
comp=Z,2.4nm,0.8s,baz=31,slow=6.7,SNR=6.0
RCBR Riachuelo 69.22 241 P P 23 29 47.7 -1.0
comp=Z,72nm,0.8s,baz=46,slow=1.8,SNR=3.4
CHTO Chiang Mai 70.24 82 eP P 23 29 53.1 -1.9
comp=Z,3.7nm,0.8s
CHTO Chiang Mai 70.24 82 eP P 23 29 53.1 -1.9
CHTO pmax pmax
comp=Z,4.0nm,0.8s
CHTO Chiang Mai 70.24 82 P P 23 29 54.4 -0.6
comp=Z,33nm,1.2s
CMMT Chiang Mai 70.25 82 P P 23 29 54.4 -0.6
comp=Z,7.3nm,1.1s
CMAR Chiang Mai Arr 70.47 83 P P 23 29 54.9 -1.5
comp=Z,1.6nm,0.3s,baz=307,slow=7.5,SNR=17
BOSA Boshof 71.05 174 P P 23 29 59.6 0.0
comp=Z,3.9nm,1.1s,baz=0.5,slow=4.0,SNR=4.2
ULM Lac du Bonnet 71.51 322 P P 23 30 01.7 -0.5
comp=Z,4.2nm,1.1s,baz=81,slow=8.6,SNR=3.2
IM3 Indian Mountai 71.65 357 eP P 23 30 02.1 -0.6
DAWY Dawson 72.35 350 eP P 23 30 07.3 +0.2
comp=Z,6.9nm,0.9s
MDM Murphy Dome 72.36 354 eP P 23 30 07.1 0.0
comp=Z,8.7nm,1.0s
ILAR Eielson Array 72.44 354 P P 23 30 07.4 -0.1
comp=Z,1.1nm,0.9s,baz=359,slow=5.7,SNR=9.8
HDA Harding Lake 72.80 354 eP P 23 30 09.9 +0.2
comp=Z,7.6nm,1.0s
RIDG Independ'e Rid 73.27 353 eP P 23 30 13.5 +0.9
comp=Z,9.7nm,1.1s
CAST Castle Rocks 74.13 356 eP P 23 30 18.0 +0.4
comp=Z,6.6nm,1.1s
DHY Denali Highway 74.15 354 eP P 23 30 17.7 -0.1
comp=Z,7.4nm,0.9s

USRK	**Ussuriysk Ar.**	**74.90**	**43**	P		**P**	**23 30 20.8**	**-1.5**
	comp=Z,1.4nm,0.6s								
NJ2	**Nanjing**	**75.62**	**60**	*e*P		**P**	**23 30 27.6**	**+0.9**
NJ2				pmax		pmax			
	comp=Z,12nm,0.6s								
DLBC	**Dease Lake**	**76.12**	**344**	P		**P**	**23 30 30.2**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=72,slow=9.6,SNR=3.9								
KSAR	**Wonju Array Be**	**77.44**	**50**	P		**P**	**23 30 36.8**	**-0.1**
KSAR	**Wonju Array Be**	**77.44**	**50**	P		**P**	**23 30 36.8**	**-0.1**
KSRS	**Korea Array**	**77.45**	**50**	P		**P**	**23 30 36.8**	**-0.2**
	comp=Z,2.9nm,0.9s,baz=327,slow=6.6,SNR=6.3								
MID	**Middleton Isla**	**77.66**	**352**	P		**P**	**23 30 41.9**	**+4.2**
MID	**Middleton Isla**	**77.66**	**352**	P		**P**	**23 30 41.9**	**+4.2**
PDAR	**Pinedale Array**	**83.29**	**325**	P		**P**	**23 31 08.2**	**-0.4**
	comp=Z,2.9nm,1.0s,baz=69,slow=8.1,SNR=7.1								
MJAR	**Matsushiro Arr**	**83.75**	**45**	P		**P**	**23 31 10.8**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=308,slow=4.5,SNR=3.6								
TXAR	**Lajitas Array**	**91.13**	**313**	P		**P**	**23 31 47.2**	**+0.5**
	comp=Z,2.1nm,0.9s,baz=70,slow=4.4,SNR=12								
ASAR	**Alice Springs**	**123.67**	**92**	PKP		**PKPdf**	**23 37 37.1**	**-2.3**
	comp=Z,0.4nm,0.6s,baz=319,slow=1.6,SNR=5.0								

NEIC 12 23:20:07.8±0.0, 57.60N×142.84W, h12km, ML3.5(AEIC),
After AEIC., Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAIM	**Kayak Island**	**2.48**	**341**	P	Pn	23 20 43.1	-4.8
SUCK	**Suckling Hills**	**2.53**	**349**	P	Pn	23 20 44.3	-4.3
YKU2	**Yakutat**	**2.54**	**40**	P	Pn	23 20 44.0	-4.7
BGLC	**Bering Glacier**	**2.54**	**355**	P	Pn	23 20 44.5	-4.3
SNH	**Sunshine Point**	**2.59**	**0**	P	Pn	23 20 45.1	-4.4
SNH				S	Sn	23 21 14.0	-6.9
MID	**Middleton Isla**	**2.60**	**316**	P	Pn	23 20 44.4	-5.1
CHX	**Chaix Hills**	**2.63**	**19**	P	Pn	23 20 45.8	-4.3
MESA	**MESA**	**2.63**	**10**	P	Pn	23 20 45.4	-4.7
MESA				S	Sn	23 21 15.8	-6.3
KULT	**Kultieth River**	**2.66**	**1**	P	Pn	23 20 45.7	-4.8
GRIN	**Grindle Hills**	**2.70**	**355**	P	Pn	23 20 46.5	-4.5
NICHA	**Nichawak Mount**	**2.71**	**348**	P	Pn	23 20 46.5	-4.6
PNL	**Peninsula**	**2.75**	**39**	P	Pn	23 20 46.5	-5.1
BARK	**Barkley Ridge**	**2.82**	**4**	P	Pn	23 20 47.7	-5.0
BARK				S	Sn	23 21 20.0	-7.7
BCPM	**Bancas Point**	**2.89**	**34**	P	Pn	23 20 48.6	-5.0
BCPM				S	Sn	23 21 19.1	-9.1
BAGL	**Bagley Icefiel**	**2.93**	**7**	P	Pn	23 20 50.2	-3.8
RAGM	**Ragged Mountai**	**2.96**	**342**	*e*Pn	Pn	23 20 51.4	-3.1
TABL	**Table Mountain**	**2.98**	**16**	P	Pn	23 20 50.6	-4.4
ISLE	**Juniper Island**	**3.02**	**5**	P	Pn	23 20 50.9	-4.7
SGAM	**Sherman Glacie**	**3.16**	**338**	P	Pn	23 20 52.8	-4.5
EYAK	**Cordova Ski Ar**	**3.32**	**334**	P	Pn	23 20 54.0	-5.5
KIAG	**Kiagna River**	**3.34**	**4**	P	Pn	23 20 54.3	-5.7
HIN	**Hinchinbrook I**	**3.39**	**328**	P	Pn	23 20 55.3	-5.1
BALM	**Baldy**	**3.46**	**4**	P	Pn	23 20 57.0	-4.5
VRDI	**Verde Repeater**	**3.66**	**355**	P	Pn	23 20 59.4	-4.8
SEW	**Seward**	**4.25**	**309**	*e*Pn	Pn	23 21 07.5	-4.8
SEW				*e*Sn	Sn	23 21 54.4	-7.4
BRLK	**Bradley Lake**	**4.73**	**301**	*e*Pn	Pn	23 21 14.6	-4.2

*ATH **12** 23:28:51.2, 40.80N×19.70E, h27km±1km, ML3.4/9, Error ellipse: s-maj=1.9km s-min=1.3km az=355.0*
*TIR **12** 23:28:51.5, 40.70N×19.74E, h12km, Md3.6/8*
*ISCJB **12** 23:28:52.2±0.4, 40.75N±0.02×19.61E±0.03, h20km±4km, mb3.8/7, Error ellipse: s-maj=3.5km s-min=3.1km az=41.2*
*THE **12** 23:28:52.5, 40.69N×19.73E, h0km±2km, ML3.3/6, Error ellipse: s-maj=2.5km s-min=0.7km az=264.0*
*IDC **12** 23:28:55.0±2.0, 40.63N×19.63E, h41km±21km, mb3.5/9, mb1 3.6/15, mb1mx3.5/45, mbtmp3.7/15, ML3.2/6, MS3.7/1, Ms1 3.7/1, ms1mx2.8/46, Error ellipse: s-maj=19.4km s-min=14.2km az=55.0*

ISC 12 23:28:52.6±0.8, 40.68N±0.02×19.69E±0.02, h19km±2km, n117, σ1$37/143, mb3.7/9, 14C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.26**	**214**	P	**Pg**	**23 28 57.6**	**-1.0**
VLO				S	**Sb**	**23 29 02.7**	**+0.3**
VLO	**Vlora**	**0.26**	**214**	*i* PG	**Pg**	**23 28 57.5**	**-1.0**
VLO				*i* SG	**Sb**	**23 29 03.1**	**+0.7**
TPE	**Tepelena**	**0.46**	**147**	*i* PG	**Pg**	**23 29 00.6**	**-1.4**
TPE				*i* SG	**Sb**	**23 29 08.6**	**0.0**
TIR	**Tirane**	**0.68**	**11**	⇑*i* P	**Pb**	**23 29 05.0**	**-0.8**
TIR				S	**Sn**	**23 29 18.4**	**+1.1**
TIR	**Tirane**	**0.68**	**11**	P	**Pb**	**23 29 03.6**	**-2.2**
TIR				AML	AML	23 29 30.8	
	comp=E,10595μm,1.0s						
TIR				AML	AML	23 29 33.9	
	comp=N,11360μm,0.6s						
TIR	**Tirane**	**0.68**	**11**	P	**Pb**	**23 29 04.5**	**-1.3**
TIR				S	**Sg**	**23 29 15.5**	**+0.4**
TIR	**Tirane**	**0.68**	**11**	*i* PG	**Pb**	**23 29 04.8**	**-1.0**
TIR				*i* SG	**Sb**	**23 29 14.8**	**0.0**
SRN	**Sarande**	**0.84**	**163**	P	**Pb**	**23 29 07.4**	**-1.2**
SRN	**Sarande**	**0.84**	**163**	*i* PG	**Pn**	**23 29 09.5**	**+0.1**
SRN				*i* SG	**Sn**	**23 29 21.9**	**+0.7**
KBN	**Korca**	**0.84**	**94**	P	**Pb**	**23 29 06.8**	**-1.9**
KBN				S	**Sg**	**23 29 20.5**	**+0.3**
KBN	**Korca**	**0.84**	**94**	*i* PG	**Pb**	**23 29 07.3**	**-1.4**
KBN				*i* SG	**Sn**	**23 29 21.6**	**+0.2**
OHR	**Ohrid**	**0.94**	**63**	*i* Pn	**Pb**	**23 29 08.9**	**-1.5**
KEK	**Kerkira**	**0.97**	**175**	P	**Pg**	**23 29 12.2**	**+0.6**
KEK				S	**Sn**	**23 29 27.5**	**+2.9**
KEK				AML	AML	23 29 29.8	
	comp=E,4582μm,1.0s						
KEK				AML	AML	23 29 33.6	
	comp=N,2485μm,0.9s						
KEK	**Kerkira**	**0.97**	**175**	P	**Pb**	**23 29 10.3**	**-0.6**
NEST	**Nestorio**	**1.07**	**104**	P	**Pb**	**23 29 11.7**	**-0.9**
NEST				S	**Sg**	**23 29 27.4**	**-0.2**
NEST				AML	AML	23 29 38.0	
	comp=N,1440μm,0.6s						
NEST				AML	AML	23 29 40.6	
	comp=E,2294μm,0.6s						
NEST	**Nestorio**	**1.07**	**104**	P	**Pb**	**23 29 11.7**	**-0.9**
NEST				S	**Sn**	**23 29 26.9**	**-0.3**
SCTE	**Santa Cesarea**	**1.11**	**237**	P	**Pn**	**23 29 13.1**	**-0.2**
SCTE				S	**Sg**	**23 29 30.2**	**+1.3**
SCTE				AML	AML	23 29 34.6	
	comp=E,908μm,0.6s						
SCTE				AML	AML	23 29 34.8	
	comp=N,894μm,0.5s						
SGD	**Sagiada**	**1.15**	**158**	P	**Pb**	**23 29 14.3**	**+0.4**
PHP	**Peshkopia**	**1.15**	**29**	P	**Pn**	**23 29 12.2**	**-1.6**
PHP	**Peshkopia**	**1.15**	**29**	*i* PN	**Pg**	**23 29 14.4**	**-0.5**
PHP				*i* SN	**Sg**	**23 29 32.3**	**+2.2**
PENT	**Pentalofos**	**1.21**	**113**	P	**Pn**	**23 29 14.5**	**-0.1**
PENT				AML	AML	23 29 41.3	
	comp=N,2223μm,0.5s						
PENT				AML	AML	23 29 44.4	
	comp=E,2207μm,1.0s						
PENT	**Pentalofos**	**1.21**	**113**	P	**Pn**	**23 29 14.4**	**-0.3**
IGT	**Igoumenitsa**	**1.25**	**156**	P	**Pg**	**23 29 16.3**	**-0.5**
IGT				S	**Sg**	**23 29 34.9**	**+1.7**
IGT				AML	AML	23 29 39.9	
	comp=N,2242μm,0.6s						
IGT				AML	AML	23 29 44.3	
	comp=E,2836μm,0.6s						
IGT	**Igoumenitsa**	**1.25**	**156**	P	**Pb**	**23 29 15.5**	**-0.1**
IGT				S	**Sg**	**23 29 34.4**	**+1.2**
BIA	**Bitola**	**1.29**	**74**	P	**Pb**	**23 29 16.2**	**-0.1**
BIA	**Bitola**	**1.29**	**74**	*i* Pn	**Pn**	**23 29 15.1**	**-0.5**
FNA	**Florina**	**1.29**	**85**	P	**Pn**	**23 29 15.0**	**-0.7**
FNA				S	**Sb**	**23 29 32.5**	**0.0**
FNA				AML	AML	23 29 41.6	
	comp=E,3548μm,0.8s						
FNA				AML	AML	23 29 45.1	
	comp=N,3868μm,0.9s						
FNA	**Florina**	**1.29**	**85**	P	**Pn**	**23 29 14.8**	**-0.9**
FNA				S	**Sg**	**23 29 35.4**	**+1.0**
JAN	**Janina**	**1.36**	**139**	P	**Pg**	**23 29 18.2**	**-0.6**
JAN				S	**Sg**	**23 29 38.3**	**+1.6**
JAN				AML	AML	23 29 46.7	
	comp=E,4107μm,0.5s						
JAN				AML	AML	23 29 48.4	
	comp=N,3529μm,0.9s						
JAN	**Janina**	**1.36**	**139**	P	**Pg**	**23 29 18.3**	**-0.6**
KRUS	**Krusevo**	**1.37**	**59**	*i* Pn	**Pn**	**23 29 16.0**	**-0.8**
PUK	**Puka**	**1.37**	**6**	*i* PN	**Pb**	**23 29 17.9**	**+0.2**
PUK				*i* SN	**Sg**	**23 29 38.6**	**+1.7**
KZN	**Kozani**	**1.63**	**103**	P	**Pn**	**23 29 20.9**	**+0.4**
KZN				S	**Sb**	**23 29 42.0**	**-0.5**
KZN				AML	AML	23 29 55.2	
	comp=N,2414μm,0.5s						
KZN				AML	AML	23 29 59.7	
	comp=E,2618μm,0.5s						
KZN	**Kozani**	**1.63**	**103**	P	**Pn**	**23 29 20.9**	**+0.4**
CGL1	**Ceglie Messapi**	**1.68**	**270**	*e*Pn	**Pb**	**23 29 23.1**	**+0.1**
CGL1				Sn	**Sg**	**23 29 46.4**	**-0.5**
BCI	**Bajram Curri**	**1.71**	**10**	*i* PN	**Pb**	**23 29 23.3**	**-0.2**
BCI				*i* SN	**Sg**	**23 29 48.1**	**+0.4**
PDG	**Podgorica**	**1.77**	**350**	⇑*i* P	**Pb**	**23 29 24.3**	**-0.3**
PDG	**Podgorica**	**1.77**	**350**	P	**Pb**	**23 29 24.3**	**-0.3**
FASA	**Fasano**	**1.78**	**275**	*e*Pn	**Pn**	**23 29 21.5**	**-0.8**
TAR1	**Taranto**	**1.84**	**266**	*e*Pn	**Pg**	**23 29 27.9**	**0.0**
SKO	**Skopje**	**1.84**	**45**	P	**Pb**	**23 29 25.1**	**-0.7**
SKO	**Skopje**	**1.84**	**45**	*i* Pn	**Pb**	**23 29 24.7**	**-1.0**
MASS	**Massafra**	**1.94**	**269**	*e*Pn	**Pb**	**23 29 26.8**	**-0.5**
NOCI	**Noci**	**2.00**	**274**	P	**Pn**	**23 29 25.1**	**-0.3**
LKD2	**Lefkada island**	**2.04**	**158**	P	**Pn**	**23 29 26.9**	**+1.0**
GRG	**Griva**	**2.08**	**82**	P	**Pn**	**23 29 28.0**	**+1.5**
THL	**Klokotos Trika**	**2.10**	**121**	P	**Pn**	**23 29 28.0**	**+1.2**
THL	**Klokotos Trika**	**2.10**	**121**	P	**Pb**	**23 29 29.5**	**-0.7**
STIP	**Stip**	**2.14**	**61**	*i* Pn	**Pb**	**23 29 31.0**	**+0.2**
BAI	**Bari**	**2.17**	**282**	*e*Pn	**Pn**	**23 29 27.1**	**-0.6**
EVGI	**Lefkada island**	**2.19**	**160**	P	**Pn**	**23 29 29.2**	**+1.1**
LIT	**Litokhoron**	**2.22**	**104**	P	**Pb**	**23 29 30.6**	**-1.5**
MATE	**Matera**	**2.27**	**270**	⇑*i* P	**Pn**	**23 29 30.0**	**+0.9**
MATE	**Matera**	**2.27**	**270**	S	**Sg**	**23 30 05.5**	**-0.1**
VAY	**Valandovo**	**2.27**	**73**	P	**Pn**	**23 29 30.6**	**+1.5**
VAY	**Valandovo**	**2.27**	**73**	*i* Pn	**Pn**	**23 29 30.7**	**+1.5**
SG1	**Sgolgore (BA)**	**2.29**	**275**	*e*Pn	**Pn**	**23 29 30.0**	**+0.6**
SG1				Sn	**Sg**	**23 30 06.8**	**+0.5**
EVR	**Evrytania**	**2.41**	**137**	P	**Pb**	**23 29 34.1**	**-1.3**
KNT	**Kendrikon**	**2.48**	**78**	P	**Pn**	**23 29 33.4**	**+1.4**
PVO	**Paravola**	**2.50**	**145**	P	**Pn**	**23 29 34.3**	**+1.9**
HORT	**Hortiatis**	**2.60**	**91**	P	**Pn**	**23 29 35.1**	**+1.4**
VLS	**Valsamata**	**2.60**	**164**	P	**Pn**	**23 29 33.5**	**-0.2**
AGG	**Agios Georgios**	**2.62**	**128**	P	**Pb**	**23 29 36.6**	**-2.5**
STON	**Ston**	**2.64**	**326**	*e*Pg	**Pn**	**23 29 36.6**	**+2.4**
STON				Sg	Sn	23 29 55.0	-11
TIP	**Timpagrande**	**2.71**	**237**	⇑*i* P	**Pn**	**23 29 34.9**	**-0.3**
TIP	**Timpagrande**	**2.71**	**237**	P	**Pn**	**23 29 35.2**	**0.0**
ANX	**Ano Chora**	**2.71**	**140**	P	**Pb**	**23 29 38.0**	**-2.5**
SOH	**Sokhos**	**2.79**	**86**	P	**Pn**	**23 29 38.2**	**+1.9**
EFP	**Efpalio**	**2.83**	**142**	P	**Pn**	**23 29 39.4**	**+2.6**
PLG	**Polygyros**	**2.88**	**95**	P	**Pn**	**23 29 39.4**	**+1.8**
SERG	**Sergoula**	**2.92**	**140**	P	**Pn**	**23 29 40.8**	**+2.8**
SRS	**Serrai**	**2.99**	**80**	P	**Pn**	**23 29 40.7**	**+1.6**
XOR	**Xorichti**	**3.00**	**115**	P	**Pn**	**23 29 40.8**	**+1.7**
NEO	**Neokhori**	**3.04**	**116**	P	**Pn**	**23 29 41.9**	**+2.1**
NEO	**Nevrokopi**	**3.23**	**77**	P	**Pn**	**23 29 44.4**	**+2.1**
VTS	**Vitosha**	**3.26**	**53**	⇑*i* P	**Pn**	**23 29 44.5**	**+1.7**
VTS	**Vitosha**	**3.26**	**53**	S	**Sn**	**23 30 24.6**	**+3.5**
VTS	**Vitosha**	**3.26**	**53**	P	**Pn**	**23 29 44.9**	**+2.1**
OUR	**Ouranopolis**	**3.29**	**95**	P	**Pn**	**23 29 45.0**	**+1.8**
MDVR	**Moldovita**	**4.36**	**19**	⇑*i* P	**Pn**	**23 29 58.3**	**+0.4**
BLY	**Banja Luka**	**4.46**	**336**	⇑*i* P	**Pn**	**23 30 00.1**	**+0.8**
HERR	**Herculane**	**4.65**	**25**	⇑*i* P	**Pn**	**23 30 02.5**	**+0.7**
UDBI	**Udbina**	**4.81**	**324**	*e*Pn	**Pn**	**23 30 04.4**	**+0.3**
BZS	**Buzias**	**5.13**	**15**	⇑*i* P	**Pn**	**23 30 08.5**	**+0.1**
GZR	**Gura Zlata**	**5.22**	**25**	⇑*i* P	**Pn**	**23 30 11.5**	**+1.7**
NVLJ	**Novalja**	**5.26**	**319**	*e*Pn	**Pn**	**23 30 08.7**	**-1.5**
MORH	**M¯‡r¡gy, Hung**	**5.58**	**353**	⇓*e*ScP	**Pn**	**23 30 16.6**	**+2.0**
SIRR	**Siria**	**5.76**	**14**	⇑*i* P	**Pn**	**23 30 17.9**	**+0.8**
ARR	**Arges**	**5.92**	**36**	⇑*i* P	**Pn**	**23 30 20.7**	**+1.3**
DRGR		**6.49**	**19**	⇑*i* P	**Pn**	**23 30 28.9**	**+1.8**
MLR	**Muntele Rosu**	**6.64**	**42**	P	**Pn**	**23 30 32.5**	**+3.2**
	comp=E,0.3nm,0.3s,baz=221,slow=10,SNR=11						
MLR	**Muntele Rosu**	**6.64**	**42**	⇓*i* P	**Pn**	**23 30 30.1**	**+0.8**
IDI	**Anoyia**	**6.77**	**141**	P	**Pn**	**23 30 30.2**	**-0.9**
	comp=E,0.3nm,0.3s,baz=287,slow=18,SNR=4.7						
IDI				S	**Sn**	**23 31 47.7**	**0.0**
	comp=E,1.0nm,0.3s,baz=86,slow=20,SNR=3.7						
SOKA	**Soboth**	**6.88**	**332**	*e*Pn	**Pn**	**23 30 32.6**	**+0.1**
	comp=E,2.4nm,0.4s						
SOKA				*e*Sn	**Sn**	**23 31 45.1**	**-5.1**
	comp=E,3.6nm,0.5s						
TLB	**Topalu**	**7.29**	**55**	⇑*i* P	**Pn**	**23 30 39.5**	**+1.4**
VRI	**Vrincioaia**	**7.29**	**42**	⇑*i* P	**Pn**	**23 30 39.9**	**+1.7**
KECS	**Kecovo**	**7.82**	**4**	*e*PN	Pn	23 30 51.1	+5.8
VYHS	**Vyhne**	**7.83**	**356**	*e*SN	**Sn**	**23 32 11.2**	**-2.5**
VYHS				*e*PG		23 32 49.0	
VYHS				*e*SN	Sb	23 33 07.5	+27
BURAR	**Bucovina Array**	**7.99**	**28**	⇓*i* P	**Pn**	**23 30 50.4**	**+2.7**
MOA	**Molln**	**8.15**	**333**	*i* Pn	**Pn**	**23 30 50.6**	**+0.7**
	comp=E,0.8nm,0.2s						
MOA				*e*Sn	**Sn**	**23 32 18.3**	**-3.2**
	comp=E,0.8nm,0.3s						
WATA	**Walderalm**	**8.85**	**321**	*i* Pn	**Pn**	**23 30 59.4**	**-0.2**
	comp=E,3.3nm,0.4s						
VRAC	**Vranov**	**8.90**	**347**	LR	LR	23 34 57.2	
	comp=E,393nm,18.6s,baz=166,slow=40						
SQTA	**Sankt Quirin**	**8.95**	**320**	*i* Pn	**Pn**	**23 31 00.7**	**-0.2**
	comp=E,3.3nm,0.4s						
SQTA				*e*Sn	**Sn**	**23 32 39.2**	**-1.9**
	comp=E,7.9nm,0.7s						
MOTA	**Moosalm**	**9.08**	**320**	*i* Pn	**Pn**	**23 31 02.8**	**0.0**
	comp=E,6.0nm,0.7s						
GERES	**GERESS Array B**	**9.20**	**334**	P	**Pn**	**23 31 03.7**	**-0.7**
	comp=E,0.1nm,0.3s,baz=152,slow=13,SNR=3.6						
DAVOX	**Davos/Dischmat**	**9.35**	**314**	P	**Pn**	**23 31 07.9**	**+1.4**
	comp=E,0.2nm,0.3s,baz=126,slow=19,SNR=2.9						
BRTR	**Keskin Array B**	**10.72**	**91**	P	**Pn**	**23 31 27.6**	**+2.4**
	comp=E,0.1nm,0.3s,baz=264,slow=11,SNR=2.6						
KBZ	**Khabaz**	**17.45**	**72**	P	**P**	**23 32 57.6**	**+1.6**
	comp=E,0.1nm,0.3s,baz=284,slow=8.3,SNR=2.9						
EKA	**Eskdalemuir Ar**	**21.04**	**322**	P	**P**	**23 33 35.1**	**0.0**
	comp=E,2.7nm,0.8s,baz=127,slow=11,SNR=4.8						
NOA	**NORSAR Array B**	**21.04**	**348**	P	**P**	**23 33 36.1**	**+1.0**
	comp=E,0.6nm,0.9s,baz=157,slow=10,SNR=3.3						
FINES	**FINESS Array B**	**21.15**	**9**	P	**P**	**23 33 35.7**	**-0.6**
	comp=E,3.9nm,1.0s,baz=181,slow=11,SNR=2.6						
GEYT	**Alibeck**	**29.71**	**83**	P	**P**	**23 34 56.8**	**-0.7**
	comp=E,0.7nm,0.5s,baz=280,slow=8.4,SNR=4.4						
TORD	**Torodi Ar. Bea**	**31.64**	**215**	P	**P**	**23 35 14.2**	**-0.4**
	comp=E,0.3nm,0.7s,baz=11,slow=9.5						
ZALV	**Zalesovo Beam**	**44.54**	**50**	P	**P**	**23 37 02.6**	**-0.2**
	comp=E,2.6nm,0.6s,baz=279,slow=8.0,SNR=6.8						
MKAR	**Makanchi Array**	**44.58**	**60**	P	**P**	**23 37 02.6**	**-0.8**
	comp=E,0.6nm,0.5s,baz=283,slow=7.4,SNR=14						
NRIK	**Noril'sk**	**44.87**	**28**	P	**P**	**23 37 05.7**	**+0.4**
	comp=E,2.1nm,0.4s,baz=147,slow=5.6,SNR=3.8						
SONM	**Songino Array**	**59.38**	**51**	P	**P**	**23 38 54.1**	**+0.4**
	comp=E,1.0nm,0.9s,baz=293,slow=12,SNR=7.5						

NEIC 12 23:30:04.9±0.0, 57.58N×142.75W, h11km, ML2.9(AEIC),
After AEIC., Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAIM	**Kayak Island**	**2.51**	**340**	P	Pn	23 30 40.7	-5.0
SUCK	**Suckling Hills**	**2.56**	**348**	P	Pn	23 30 41.8	-4.5
SNH	**Sunshine Point**	**2.61**	**359**	P	Pn	23 30 42.5	-4.6
SNH				S	Sn	23 31 11.6	-7.1
CHX	**Chaix Hills**	**2.63**	**18**	P	Pn	23 30 43.2	-4.1
MESA	**MESA**	**2.64**	**9**	P	Pn	23 30 43.1	-4.5
MESA				S	Sn	23 31 13.4	-6.3
KULT	**Kultieth River**	**2.68**	**0**	P	Pn	23 30 43.2	-4.8
KULT				S	Sn	23 31 12.7	-7.7
GRIN	**Grindle Hills**	**2.73**	**354**	P	Pn	23 30 44.1	-4.5
PNL	**Peninsula**	**2.73**	**38**	P	Pn	23 30 44.0	-4.6
NICHA	**Nichawak Mount**	**2.74**	**347**	P	Pn	23 30 44.0	-4.8
NICHA				S	Sn	23 31 14.6	-7.3
SAMH	**Samovar Hills**	**2.75**	**21**	P	Pn	23 30 44.8	-4.3
SAMH				S	Sn	23 31 15.3	-7.0
DHAK	**Deception Hill**	**2.83**	**56**	P	Pn	23 30 45.3	-4.8
DHAK				*e*Sn	Sn	23 31 16.2	-7.9
BARK	**Barkley Ridge**	**2.83**	**3**	P	Pn	23 30 45.4	-4.8
PCA	**Pinnacle**	**2.84**	**26**	P	Pn	23 30 45.0	-5.2
PCA				S	Sn	23 31 16.6	-7.8
PCA	**Pinnacle**	**2.84**	**26**	*e*Pn	Pn	23 30 45.0	-5.2
PCA				*e*Sn	Sn	23 31 16.6	-7.8
YAH	**Yahtse**	**2.84**	**10**	P	Pn	23 30 45.9	-4.5
BERG	**Berg Lake**	**2.87**	**350**	P	Pn	23 30 45.6	-4.9
BCPM	**Bancas Point**	**2.88**	**33**	P	Pn	23 30 45.8	-4.9
WAX	**Waxell Ridge**	**2.88**	**359**	P	Pn	23 30 45.8	-5.0
WAX	**Waxell Ridge**	**2.88**	**359**	*e*Pn	Pn	23 30 45.8	-5.0
KHIT	**Khitrov Hills**	**2.88**	**355**	P	Pn	23 30 46.0	-4.9
KHIT				S	Sn	23 31 17.3	-8.2
BAGL	**Bagley Icefiel**	**2.94**	**6**	P	Pn	23 30 46.9	-4.6
TABL	**Table Mountain**	**2.99**	**15**	P	Pn	23 30 48.2	-4.2
RAGM	**Ragged Mountai**	**2.99**	**341**	*e*Pn	Pn	23 30 47.4	-4.9
RAGM				*e*Sn	Sn	23 31 18.7	-9.3
ISLE	**Juniper Island**	**3.04**	**4**	P	Pn	23 30 48.3	-4.7
SGAM	**Sherman Glacie**	**3.19**	**338**	P	Pn	23 30 50.2	-4.9
EYAK	**Cordova Ski Ar**	**3.36**	**334**	P	Pn	23 30 51.6	-5.6
KIAG	**Kiagna River**	**3.36**	**3**	P	Pn	23 30 52.7	-4.8
HIN	**Hinchinbrook I**	**3.43**	**327**	P	Pn	23 30 53.1	-5.2
BALM	**Baldy**	**3.47**	**3**	P	Pn	23 30 54.4	-4.6
BALM				*e*Sn	Sn	23 31 32.8	-7.3
BMRM	**Bremner River**	**3.53**	**345**	P	Pn	23 30 54.1	-5.6
BMRM	**Bremner River**	**3.53**	**345**	*e*Pn	Pn	23 30 54.1	-5.6
BARN	**Barnard Glacie**	**3.54**	**9**	P	Pn	23 30 55.3	-4.6
VRDI	**Verde Repeater**	**3.68**	**355**	P	Pn	23 30 57.0	-4.9
FID	**Port Fidalgo**	**3.71**	**330**	P	Pn	23 30 56.7	-5.5
FID	**Port Fidalgo**	**3.71**	**330**	*e*Pn	Pn	23 30 57.1	-5.1
DIV	**Divide**	**3.88**	**338**	*e*Pn	Pn	23 31 00.6	-3.9
GLB	**Gilahina Butte**	**3.91**	**352**	*e*Pn	Pn	23 30 59.9	-5.0
GLI	**Glacier Island**	**3.99**	**328**	P	Pn	23 30 60.0	-6.0
HYT	**Haines Junctio**	**4.22**	**37**	*e*Pn	Pn	23 31 05.2	-4.1
KLU	**Klutina**	**4.25**	**339**	*e*Pn	Pn	23 31 04.2	-5.3
SEW	**Seward**	**4.30**	**309**	P	Pn	23 31 05.0	-5.2
BESE	**Bessie Mountai**	**4.31**	**73**	P	Pn	23 31 05.6	-4.8
PWL	**Port Wells**	**4.37**	**321**	P	Pn	23 31 04.9	-6.2
BRLK	**Bradley Lake**	**4.78**	**301**	P	Pn	23 31 11.9	-4.9
CNPM	**China Poot**	**4.86**	**297**	P	Pn	23 31 13.3	-4.6
SCM	**Sheep Creek Mo**	**4.86**	**333**	*e*Pn	Pn	23 31 13.0	-4.9
SCM				*e*Sn	Sn	23 32 06.3	-7.8
WHY	**Whitehorse**	**5.09**	**49**	*e*Pn	Pn	23 31 17.6	-3.6
GHO	**Glory Hole Cre**	**5.24**	**326**	*e*Pn	Pn	23 31 18.7	-4.5

IDC 12 23:32:27.3±1.1, 37.72S×78.02E, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.8/44, mbtmp4.1/5, MS3.9/1, Ms1 3.9/1, ms1mx3.3/26, Error ellipse: s-maj=38.8km s-min=26.0km az=172.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**29.12**	**96**	T	T	00 08 53.1	
	baz=254,slow=75,SNR=70						
H01W3	**Cape Leeuwin H**	**29.13**	**96**	T	T	00 08 53.6	
	baz=254,slow=75,SNR=61						
H01W1	**Cape Leeuwin H**	**29.14**	**96**	T	T	00 08 54.6	
	baz=254,slow=75,SNR=62						
H08S2	**Diego Garcia H**	**30.36**	**349**	T	T	00 10 23.5	
	baz=172,slow=76,SNR=352						
H08S1	**Diego Garcia H**	**30.36**	**349**	T	T	00 10 25.4	
	baz=172,slow=76,SNR

KHIT	Khitrov Hills	2.72	356	P		Pn	23 54 45.4	-1.4
KHIT				S		Sn	23 55 17.5	-1.3
WAX	Waxell Ridge	2.72	0	P		Pn	23 54 45.3	-1.4
WAX				S		Sn	23 55 17.2	-1.6
PCA	Pinnacle	2.73	29	P		Pn	23 54 45.2	-1.6
BAGL	Bagley Icefiel	2.79	8	P		Pn	23 54 46.6	-0.9
BAGL				S		Sn	23 55 19.8	-0.5
BCPM	Bancas Point	2.79	36	P		Pn	23 54 45.8	-1.9
DHAK	Deception Hill	2.81	59	P		Pn	23 54 45.2	-2.8
RAGM	Ragged Mountai	2.81	342	P		Pn	23 54 46.5	-1.5
TABL	Table Mountain	2.85	18	P		Pn	23 54 47.7	-1.0
TABL				S		Sn	23 55 20.2	-2.1
ISLE	Juniper Island	2.88	5	P		Pn	23 54 47.8	-1.3
SGAM	Sherman Glacie	3.02	338	P		Pn	23 54 49.6	-1.2
SGAM				S		Sn	23 55 25.6	-0.4
EYAK	Cordova Ski Ar	3.18	334	P		Pn	23 54 50.9	-2.0
KIAG	Kiagna River	3.20	5	P		Pn	23 54 52.3	-1.2
HIN	Hinchinbrook I	3.25	327	P		Pn	23 54 52.3	-1.7
HIN				S		Sn	23 55 31.0	-0.9
BALM	Baldy	3.32	5	P		Pn	23 54 53.8	-1.2
BMRM	Bremner River	3.35	346	P		Pn	23 54 53.7	-1.8
BARN	Barnard Glacie	3.39	10	P		Pn	23 54 54.8	-1.2
VRDI	Verde Repeater	3.51	356	P		Pn	23 54 56.5	-1.2
FID	Port Fidalgo	3.54	330	P		Pn	23 54 56.0	-1.9
FID				S		Sn	23 55 37.2	-1.6
DIV	Divide	3.70	338	P		Pn	23 54 58.3	-1.9
GLB	Gilahina Butte	3.74	353	P		Pn	23 54 59.3	-1.5
GLI	Glacier Island	3.81	327	P		Pn	23 54 59.4	-2.4
JPK	Jack Peak	3.83	332	P		Pn	23 54 59.8	-2.2
KLU	Klutina	4.07	339	P		Pn	23 55 03.4	-1.8
SEW	Seward	4.14	308	P		Pn	23 55 04.2	-2.0
HYT	Haines Junctio	4.15	39	*e*Pn		Pn	23 55 05.3	-1.1
PWL	Port Wells	4.19	321	P		Pn	23 55 04.1	-2.8
SKAG	Skagway	4.31	63	P		Pn	23 55 06.7	-1.9
BESE	Bessie Mountai	4.34	75	P		Pn	23 55 05.8	-3.1
JIS	Juneau Island	4.56	80	*e*Pn		Pn	23 55 09.0	-2.9
BRLK	Bradley Lake	4.63	299	*e*Pn		Pn	23 55 11.0	-2.0
KNK	Knik Glacier	4.64	325	P		Pn	23 55 11.8	-1.4
SCM	Sheep Creek Mo	4.68	333	P		Pn	23 55 11.9	-1.7
CNPM	China Poot	4.71	296	P		Pn	23 55 12.0	-2.1
HARP	HAARP	4.82	347	*e*Pn		Pn	23 55 16.0	+0.5
SML	Sawmill	4.92	328	P		Pn	23 55 16.4	-0.5
PMR	Palmer	4.99	323	P		Pn	23 55 17.5	-0.3
WHY	Whitehorse	5.05	51	*e*Pn		Pn	23 55 17.1	-1.6
GHO	Glory Hole Cre	5.06	326	P		Pn	23 55 17.6	-1.3
KDAK	Kodiak Island	5.19	275	Pn		Pn	23 55 18.6	-2.0
	17nm,0.3s,baz=85,slow=6.9,SNR=74							
KDAK				Sn		Sn	23 56 15.7	-3.9
	7.0nm,0.3s,baz=328,slow=22,SNR=5.9							
BCA3	Beaver Creek A	5.37	5	P		Pn	23 55 22.5	-0.6
PAX	Paxson	5.40	347	P		Pn	23 55 23.2	-0.3
SUA	Susitna One	5.46	316	P		Pn	23 55 22.6	-1.8
OHAK	Old Harbor	5.63	269	P		Pn	23 55 24.3	-2.4
RED	Redoubt Volcan	5.76	302	P		Pn	23 55 26.8	-1.7
DHY	Denali Highway	5.79	339	P		Pn	23 55 28.2	-0.8
RDWB	Redoubt West	5.82	302	P		Pn	23 55 27.4	-1.9
SPCG	Spurr Capps Gl	5.85	311	P		Pn	23 55 28.5	-1.3
CRAG	Craig	5.86	109	P		Pn	23 55 23.7	-6.0
DOT	Dot Lake	5.96	355	*e*Pn		Pn	23 55 31.2	+0.1
SKT	Skwentna	6.08	318	P		Pn	23 55 32.2	-0.6
RIDG	Independ'e Rid	6.10	352	P		Pn	23 55 33.2	+0.2
SPNN	North Nagishla	6.17	310	P		Pn	23 55 33.5	-0.7
SCRK	Sand Creek	6.28	356	P		Pn	23 55 35.0	-0.6
RND	Reindeer	6.40	336	P		Pn	23 55 36.8	-0.4
DAWY	Dawson	6.57	14	*e*Pn		Pn	23 55 39.6	+1.0
MCK	McKinley	6.70	336	P		Pn	23 55 41.2	-0.1
TRF	Thorofare Moun	6.78	331	P		Pn	23 55 42.3	-0.3
DLBC	Dease Lake	6.86	79	Pn		Pn	23 55 43.0	-0.5
	0.7nm,0.3s,baz=262,slow=5.2,SNR=11							
DLBC				Sn		Sn	23 56 56.1	-4.6
	1.6nm,0.3s,baz=358,slow=25,SNR=3.7							
PPLA	Purkeypile	6.93	322	*e*Pn		Pn	23 55 44.6	+0.1
HDA	Harding Lake	6.97	345	*e*Pn		Pn	23 55 48.0	+3.0
EGAK	Eagle	7.11	6	*e*Pn		Pn	23 55 47.6	+0.7
BWN	Browne	7.20	336	*e*Pn		Pn	23 55 48.0	-0.1
WRH	Wood River Hil	7.21	342	*e*Pn		Pn	23 55 48.3	+0.1
CAST	Castle Rocks	7.27	325	*e*Pn		Pn	23 55 48.3	-0.8
SVW2	Sparrevohn	7.29	303	*e*Pn		Pn	23 55 47.2	-2.0
IL1	Eielson Array	7.31	349	*e*Pn		Pn	23 55 48.3	-1.3
ILAR	Eielson Array	7.31	346	Pn		Pn	23 55 47.7	-2.0
	0.6nm,0.3s,baz=174,slow=13,SNR=25							
ILB	Eielson Array	7.31	346	*e*Pn		Pn	23 55 48.0	-1.7
CCB	Clear Creek Bu	7.32	343	*e*Pn		Pn	23 55 48.5	-1.3
DIB	Dawson Inlet,	7.46	123	*e*Pn		Pn	23 55 46.8	-4.9
BPAW	Bear Paw Mtn.	7.50	332	*e*Pn		Pn	23 55 51.1	-1.2
MDM	Murphy Dome	7.68	343	*e*Pn		Pn	23 55 55.5	+0.8
MLY	Manley	8.22	336	*e*Pn		Pn	23 56 01.7	-0.5
IM3	Indian Mountai	9.71	333	*e*Pn		Pn	23 56 20.7	-1.9
BBB	Bella Bella	10.15	117	LR		LR	23 59 40.8	
	comp=Z,832nm,20.9s,baz=307,slow=33							
INK	Inuvik	11.40	18	LR		LR	00 01 17.5	
	comp=Z,539nm,21.3s,baz=204,slow=38							
YKA	Yellowknife Ar	14.80	59	Pn		Pn	23 57 30.1	-1.9
	0.2nm,0.3s,baz=264,slow=13,SNR=5.5							
NEW	Newport	18.07	111	LR		LR	00 04 40.9	
	comp=Z,738nm,19.2s,baz=318,slow=35							
HLID	Hailey	22.74	116	*e*P		P	23 59 05.2	+0.5
	2.4nm,0.9s							
RES	Resolute Bay	24.62	28	P		P	23 59 23.9	+1.4
	3.7nm,0.6s,baz=254,slow=9.8,SNR=12							
RES				LR		LR	00 09 33.1	
	comp=Z,688nm,20.3s,baz=229,slow=38							
NV01	Mina Array Sit	25.11	130	*e*P		P	23 59 28.7	+1.2
NVAR	Mina Array Bea	25.11	130	P		P	23 59 28.4	+0.9
	1.2nm,0.7s,baz=326,slow=8.8,SNR=11							
NVAR				LR		LR	00 07 29.7	
	comp=Z,466nm,21.5s,baz=340,slow=32							
PDAR	Pinedale Array	25.71	111	P		P	23 59 34.8	+1.9
	0.3nm,0.8s,baz=296,slow=11,SNR=2.7							
PETK	Petropavlovsk-	33.08	288	P		P	00 00 39.8	+1.9
	0.9nm,0.6s							
USRK	Ussuriysk Ar.	51.74	294	LR		LR	00 25 19.3	
	comp=Z,170nm,21.1s,baz=35,slow=36							
H11N2	WAKE ISLAND Hy	52.66	246	T		T	01 00 13.9	
	baz=31,slow=76,SNR=12							
H11N3	WAKE ISLAND Hy	52.66	246	T		T	01 00 13.0	
	baz=31,slow=76,SNR=13							
H11N1	WAKE ISLAND Hy	52.68	246	T		T	01 00 14.9	
	baz=31,slow=76,SNR=9.9							
H11S1	WAKE ISLAND Hy	53.80	245	T		T	01 01 38.8	
	baz=31,slow=76,SNR=8.9							
H11S2	WAKE ISLAND Hy	53.81	245	T		T	01 01 39.6	
	baz=31,slow=76,SNR=11							
H11S3	WAKE ISLAND Hy	53.82	245	T		T	01 01 40.6	
	baz=31,slow=76,SNR=14							
NOA	NORSAR Array B	59.83	14	LR		LR	00 33 44.4	
	comp=Z,78nm,18.1s,baz=340,slow=40							
SONM	Songino Array	60.27	313	P		P	00 04 12.4	+1.7
	0.4nm,0.6s,baz=45,slow=7.5,SNR=4.5							
SONM				LR		LR	00 32 32.6	
	comp=Z,186nm,18.1s,baz=12,slow=38							
ZALV	Zalesovo Beam	62.13	330	P		P	00 04 23.8	+0.9
	1.0nm,0.4s,baz=20,slow=7.1,SNR=3.6							
MKAR	Makanchi Array	69.30	329	P		P	00 05 09.6	+0.3
	0.5nm,0.6s,baz=64,slow=5.5,SNR=5.2							
CMAR	Chiang Mai Arr	88.55	303	LR		LR	00 50 27.4	
	comp=Z,72nm,20.2s,baz=27,slow=38							

UCR ***13*** *00:11:57.9±1.2, 10°.19N×85°.75W, h15km±3km, MD3.8, ML4.0, mb4.2(NEIC)*
ISCJB ***13*** *00:11:59.0±0.7, 10°.24N±0°.05×85°.70W±0°.04, h40km±6km, mb4.1/31, MS4.0/2, Error ellipse: s-maj=9.5km s-min=4.7km az=35.3*
IDC ***13*** *00:12:00.7±1.9, 10°.86N×85°.22W, h33km±21km, mb3.9/8, mb1 4.1/11, mb1mx3.8/41, mbtmp4.1/11, ML3.3/3, MS4.1/3, Ms1 4.0/3, ms1mx3.3/34, Error ellipse: s-maj=44.5km s-min=15.7km az=38.0*
NEIC ***13*** *00:12:01.6±0.9, 10°.37N×85°.54W, h52km±7km, mb4.2/23, MD4.0(UCR), Error ellipse: s-maj=16.4km s-min=7.5km az=211.0*
NEIC Felt in Guanacaste.

ISC 13 00:11:57.9±0.8, 10°.20N±0°.04×85°.73W±0°.04, h27km±5km, n87, σ1°33/101, mb4.2/31, 7D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VCR	Vista de Mar	0.12	125	*e*P		Pb	00 12 02.2	-1.0
NY14	Universidad de	0.49	24	*i* P		Pb	00 12 08.4	+0.3
LAPC	Finca la Perla	0.64	28	*i* P		Pb	00 12 10.2	-0.4
LAPC				*i* S		Sb	00 12 19.4	+0.2
GBS3	Finca Las Im˜¡	0.64	25	*i* P		Pb	00 12 10.4	-0.2
GPS3	Bodega del ICE	0.66	33	⇓*i* P		Pb	00 12 10.8	-0.2
BUEV	Buena Vista	0.68	28	⇓*i* P		Pb	00 12 10.9	-0.3
BUEV				*e*P		Pb	00 12 10.9	-0.3
LIM1	Limonal	0.69	44	*i* P		Pb	00 12 11.2	-0.2
COLC	Colonia	0.70	48	*i* P		Pb	00 12 11.4	-0.2
COLC				*i* S		Sb	00 12 21.3	+0.5
GB1A	Borinquen Arri	0.70	28	⇓*i* P		Pb	00 12 11.3	-0.3
GB1A				*e*P		Pb	00 12 11.3	-0.3
GUAB	Guayabo de Bag	0.71	44	⇓*i* P		Pb	00 12 11.5	-0.3
GUAB				*i* S		Sb	00 12 21.4	+0.2
CUI	Cuipilapa	0.72	51	⇓*i* P		Pb	00 12 11.8	-0.2
CUI				*i* S		Sb	00 12 22.0	+0.4
HORNC	Hornillas	0.75	47	*i* P		Pb	00 12 12.1	-0.3
MESS	Mesas	0.76	45	⇓*i* P		Pb	00 12 12.3	-0.3
MESS				*e*P		Pb	00 12 12.3	-0.3
JTS	JuntasAbangare	0.77	83	Pg		Pb	00 12 12.3	-0.6
	311nm,0.3s,baz=343,slow=7.6,SNR=927							
JTS				Lg		Lg	00 12 23.4	
	543nm,0.3s,baz=313,slow=19,SNR=62							
JTS	JuntasAbangare	0.77	83	*e*Pn		Pb	00 12 12.2	-0.6
JTS				Lg		Lg	00 12 23.4	
JTS				*e*Sn		Sb	00 12 23.5	+0.4
JTS	JuntasAbangare	0.77	83	*e*P		Pb	00 12 12.2	-0.6
JTS				*e*S		Sn	00 12 23.9	0.0
ACAL	Aguas Claras	0.81	58	*i* P		Pb	00 12 13.4	-0.1
PACM	Arenal	0.99	73	⇓*i* P		Pn	00 12 10.9	-5.2
ARE1	Arenal 1	1.03	75	*e*P		Pb	00 12 17.2	0.0
SRA1	San Ram˜‡n	1.24	95	*e*P		Pn	00 12 20.1	+0.5
SRA1				*e*S		Sb	00 12 36.5	0.0
CONN	Concepcion	1.36	4	*e*P		Pn	00 12 21.9	+0.7
HDC	Heredia	1.61	97	*e*Pn		Pn	00 12 25.7	+1.1
HDC	Heredia	1.61	97	*e*P		Pb	00 12 26.0	-1.1
HDC				*e*S		Sb	00 12 48.4	+1.4
LCR2	La Lucha 2	1.76	105	*e*P		Pn	00 12 27.7	+0.8
ACON	Acoyapa	1.84	17	*e*P		Pn	00 12 28.4	+0.6
ACON				*e*S		Sb	00 12 52.8	-0.8
CVTR	Volcan Turrial	1.95	95	*e*P		Pn	00 12 31.1	+1.5
URSC	Urasca	1.96	100	*e*P		Pn	00 12 31.3	+1.8
MGAN	Managua	2.00	345	*e*P		Pn	00 12 30.9	+1.0
MGAN				*e*S		Sb	00 12 57.7	-0.4
COPN	Copaltepe	2.14	337	*e*P		Pn	00 12 32.6	+0.7
BOAB	BOACO BROADBAN	2.24	2	*e*Pn		Pn	00 12 33.7	+0.5
BOAB	BOACO BROADBAN	2.24	2	*e*P		Pn	00 12 34.0	+0.8
MOMN	Momotombo	2.33	340	*e*P		Pn	00 12 35.2	+0.7
ESPN	Las Esperanzas	2.43	35	*e*Pn		Pn	00 12 36.7	+0.9
ESPN	Las Esperanzas	2.43	35	*e*P		Pn	00 12 36.6	+0.8
CNGN	Cerro Negro	2.48	338	*e*P		Pn	00 12 36.3	-0.2
MATN	Matagalpa	2.72	356	*e*P		Pn	00 12 40.9	+1.0
CRIN	San Cristobal	2.80	333	*e*P		Pn	00 12 41.9	+0.9
CRIN				*e*S		Sn	00 13 17.4	+3.4
CRIN				IAML			00 13 27.3	
	comp=N,1μm,0.7s							
ESTN	Estel	2.95	348	*e*Pn		Pn	00 12 44.4	+1.2
ESTN	Estel	2.95	348	*e*P		Pn	00 12 44.3	+1.2
CSGN	Cosiguina Volc	3.29	327	*e*Pn		Pn	00 12 49.8	+2.1
CSGN	Cosiguina Volc	3.29	327	*e*P		Pn	00 12 49.8	+2.1
BCIP	Isla Barro Col	5.90	100	*e*Pn		Pn	00 13 26.5	+2.8
APG	El Apazote	6.64	316	Pn		Pn	00 13 37.0	+3.0
	comp=N,1.3nm,0.3s,baz=138,slow=8.7,SNR=8.4							
APG				Lg		Lg	00 15 25.5	
	comp=N,0.2nm,0.3s,baz=12,slow=18,SNR=2.5							
CMIG	Matias Romero	11.22	309	Pn		Pn	00 14 38.6	+2.0
	comp=N,0.6nm,0.3s,baz=163,slow=12,SNR=6.1							
ROSC	El Rosal	12.50	114	Pn		Pn	00 14 56.1	+1.6
	comp=N,1.0nm,0.3s,baz=330,slow=20,SNR=4.0							
TLIG	Tlapa	14.44	302	*e*Pn		P	00 15 25.4	-1.9
LNIG	Linares	19.60	320	*e*P		P	00 16 23.1	-1.1
	comp=N,4.1nm,0.8s							
152A	Waverly Hall	22.38	2	*e*P		P	00 16 54.1	0.0
	comp=N,12nm,0.6s							
Y52A	Lilburn	23.60	3	*e*P		P	00 17 06.0	-0.7
	comp=N,8.3nm,0.8s							
JCT	Junction City	24.06	329	*e*P		P	00 17 10.9	-0.2
	comp=N,5.4nm,0.6s							
BG3	Lake Jocassee	24.81	5	*e*P		P	00 17 18.6	+0.8
	comp=N,8.6nm,0.6s							
MIAR	Mount Ida	25.27	345	*e*P		P	00 17 22.4	+0.4
	comp=N,7.4nm,0.9s							
TXAR	Lajitas Array	25.37	321	P		P	00 17 23.7	+0.7
	comp=N,3.7nm,0.7s,baz=141,slow=10.0,SNR=22							
TXAR				pP		sP	00 17 34.1	-0.3
	comp=N,3.9nm,0.6s,baz=152,slow=10,SNR=11							
TXAR				PcP		PcP	00 20 56.9	+1.6
	comp=N,0.4nm,0.7s,baz=134,slow=3.9,SNR=3.0							
TX31	Lajitas Ar. Si	25.37	321	*e*P		P	00 17 24.1	+1.0
V53A	Saluda	25.49	6	*e*P		P	00 17 25.8	+1.7
	comp=N,10nm,0.8s							
WMOK	Wichita Mounta	27.18	336	*e*P		P	00 17 41.9	+2.6
	comp=N,4.7nm,0.9s							
PTGA	Pitinga	27.84	111	P		P	00 17 46.3	+0.9
	comp=N,1.6nm,0.3s,baz=322,slow=11,SNR=5.6							
Q51A	Peebles	28.79	4	*e*P		P	00 17 52.8	-0.8
	comp=N,13nm,0.9s							
MVCO	Mesa Verde	33.84	326	*e*P		P	00 18 38.9	+0.6
	comp=N,2.4nm,0.9s							
PSUT	Pine Spring	37.81	323	*e*P		P	00 19 14.0	+1.7
	comp=N,3.2nm,0.8s							
TPNV	Topoah Spring	38.31	319	*e*P		P	00 19 19.2	+2.7
	comp=N,2.2nm,0.8s							
PDAR	Pinedale Array	38.54	331	P		P	00 19 17.3	-1.2
	comp=N,0.6nm,0.7s,baz=140,slow=9.4,SNR=6.2							
PDAR				PcP		PcP	00 21 30.6	-0.3
	comp=N,0.2nm,0.4s,baz=157,slow=3.7,SNR=2.8							
PDAR				LR		LR	00 37 52.6	
	comp=N,176nm,18.2s,baz=120,slow=41							
HWUT	Hardware Ranch	38.66	328	*e*P		P	00 19 19.1	-0.4
	comp=N,4.8nm,0.8s							
REDW	Red Top Meadow	39.61	331	*e*P		P	00 19 27.1	-0.3
	comp=N,4.1nm,0.9s							
NV11	Mina Array Sit	40.40	319	*e*P		P	00 19 35.7	+1.8
	comp=N,0.3nm,0.8s							
NV01	Mina Array Sit	40.50	319	*e*P		P	00 19 36.2	+1.4
NVAR	Mina Array Bea	40.50	319	P		P	00 19 36.8	+2.0
	comp=N,5.4nm,0.6s,baz=122,slow=7.9,SNR=46							
MDPB	Devils Postpil	40.55	318	*e*P		P	00 19 38.1	+2.8
	comp=N,3.1nm,0.8s							
KVN	Kaiserville	40.73	320	*e*P		P	00 19 38.3	+1.6
	comp=N,3.8nm,0.7s							
RYN	Ryan	40.75	319	*e*P		P	00 19 39.0	+2.2
	comp=N,3.4nm,0.8s							
BMN	Battle Mountai	41.02	323	*e*P		P	00 19 40.0	+0.9
	comp=N,3.8nm,0.8s							
WAKR	Walker	41.27	319	*e*P		P	00 19 44.1	+2.9
	comp=N,3.6nm,0.8s							
YERR	Yerington	41.41	319	*e*P		P	00 19 42.9	+0.5
	comp=N,4.1nm,0.6s							
JHC	Johnson Canyon	41.55	315	*e*P		P	00 19 44.2	+1.0
PNTR	Pine Nut	41.70	319	*e*P		P	00 19 45.9	+1.2
	comp=N,6.1nm,0.7s							
WVOR	Wild Horse Val	43.10	324	*e*P		P	00 19 56.9	+0.9
	comp=N,3.8nm,0.6s							
ORV	Oroville	43.19	319	*e*P		P	00 19 59.2	+2.7
	comp=N,2.9nm,0.8s							
NEW	Newport	46.18	331	LR		LR	00 42 55.7	
	comp=N,257nm,19.4s,baz=53,slow=40							
SCHQ	Schefferville	46.98	15	P		P	00 20 23.4	-3.0
	comp=N,4.7nm,0.9s,baz=232,slow=12,SNR=5.1							
BBB	Bella Bella	54.10	329	LR		LR	00 45 41.3	
	comp=N,170nm,22.0s,baz=100,slow=38							
YKA	Yellowknife Ar	56.22	344	P		P	00 21 32.9	-2.4
	comp=N,0.8nm,0.7s,baz=132,slow=8.3,SNR=4.3							
ILAR	Eielson Array	68.75	336	P		P	00 22 57.8	-1.3
	comp=N,0.9nm,0.6s,baz=125,slow=4.0,SNR=14							
ILB	Eielson Array	68.75	336	*e*P		P	00 22 58.0	-1.1
ESDC	Sonseca Array	77.25	52	P		P	00 23 47.3	-2.7
	comp=N,0.6nm,0.7s,baz=285,slow=5.5,SNR=3.8							
LZH	Lanzhou	133.09	349	*e*PKP		PKPdf	00 31 11.2	-0.6
LZH				pPKP		sPKPdf	00 31 23.7	-0.4
LZH				sPKP			00 31 28.3	
WRA	Warramunga Arr	140.20	251	PKP		PKPdf	00 31 25.7	+0.5
	comp=N,0.5nm,0.7s,baz=94,slow=2.6,SNR=4.0							
CMAR	Chiang Mai Arr	151.15	351	PKPbc		PKPbc	00 31 49.6	0.0
	comp=N,1.6nm,0.7s,baz=328,slow=3.7,SNR=8.9							

KRSC 13 00:12:22.6±2.7, 48°.18N×156°.16E, h16km±91km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDTR	Khodutka, Kamc	3.84	18	*e*P		Pn	00 13 24.0	+3.0
KDTR				*e*S		Sn	00 14 10.1	+4.4
MTVR	Mutnovka	4.50	16	*e*P		Pn	00 13 33.8	+3.6
MTVR				S		Sn	00 14 26.9	+4.6
RUS	Russkaya	4.52	19	*e*P		Pn	00 13 32.9	+2.6
UGLR	Uglovaya	5.31	18	*i* P		Pn	00 13 48.1	+6.8
AVH	Avacha	5.35	17	*i* P		Pn	00 13 46.7	+4.9
KOK	Koryaka	5.36	16	*e*P		Pn	00 13 46.9	+5.0
SDLR	Sedlovina	5.39	18	*e*P		Pn	00 13 45.6	+3.2
SPN	Mys Shipunski	5.50	25	*e*P		Pn	00 13 47.9	+4.0
GNL	Ganaly	5.64	11	*e*P		Pn	00 13 49.4	+3.6

NEIC ***13*** *00:19:16.5±0.0, 35°.51N×116°.25W, h0km, ML2.9(PAS), After PAS.*
PAS ***13*** *00:19:16.5, 35°.51N×116°.25W, ML2.9*
SCEDC ***13*** *00:19:16.5, 35°.51N×116°.25W*
ANF ***13*** *00:19:16.1±0.1, 35°.51N×116°.25W, h13km±1km, ML2.9/31, Error ellipse: s-maj=1.2km s-min=0.8km az=77.0*

ISC 13 00:19:16.3±1.0, 35°.51N±0°.02×116°.24W±0°.02, h9km±9km, n47, σ1°24/71, Central California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TUQ	Turquoise Moun	0.27	106	P		Pg	00 19 22.1	+0.3
	baz=286,SNR=491							
TUQ				S		Sg	00 19 26.0	+0.5
	baz=286							
SHOC	Shoshone, Teco	0.39	356	P		Pg	00 19 24.2	+0.1
	baz=176,SNR=130							
SHOC				S		Sg	00 19 29.8	+0.6
	baz=176							
GSC	Goldstone, Bar	0.51	246	*e*Pg		Pg	00 19 26.4	+0.1
GSC				*e*Sg		Sg	00 19 32.2	-0.6
GSC	Goldstone, Bar	0.51	246	P		Pg	00 19 26.3	+0.1
	baz=65,SNR=214							
GSC				S		Sg	00 19 33.3	+0.4
	baz=65							
HEC	Hector,Ludlow	0.68	187	P		Pg	00 19 29.6	0.0
	baz=6.1,SNR=53							
HEC				S		Sg	00 19 39.1	+0.7
	baz=6.1							
GMRC	Granite Mounta	0.86	146	P		Pg	00 19 32.7	-0.4
	baz=327,SNR=59							
GMRC				S		Sg	00 19 45.1	+0.8
	baz=327							
RRX	Edison Barstow	0.89	225	S		Sg	00 19 45.5	+0.6
	baz=44							
LDFC	Landfair	1.02	115	*e*Pg		Pg	00 19 34.3	-1.7
LDFC				*e*Sg		Sg	00 19 45.8	-3.5
FURC	Furnace Creek,	1.08	332	P		Pg	00 19 36.9	-0.3
	baz=152,SNR=30							
FURC				S		Sb	00 19 51.6	+0.2
	baz=152							
MPMC	Manual Prospec	1.15	299	P		Pg	00 19 37.7	-0.8
	baz=118,SNR=83							
MPMC				S		Sg	00 19 53.4	-0.1
	baz=118							
LRMC	Laurel Mtn Rad	1.18	269	P		Pg	00 19 38.0	-1.0
	baz=88,SNR=50							
LRMC				S		Sg	00 19 54.1	-0.1
	baz=88							
SHPR	Sheep Range	1.32	41	*e*Pg		Pn	00 19 40.6	-0.6
DAC	Darwin (Calif)	1.34	305	*e*Pg		Pn	00 19 40.5	-0.9
DAC				*e*S		Sb	00 19 58.8	-0.3
BBRC	Big Bear Solar	1.36	204	P		Pn	00 19 40.4	-1.4
	baz=24							
BBRC				S		Sb	00 19 59.9	+0.2
	baz=24							
TPNV	Topopah Spring	1.44	360	*e*Pn		Pn	00 19 42.7	0.0
TPNV	Topopah Spring	1.44	360	Pb		Pn	00 19 42.7	0.0
	baz=180,SNR=46							
TPNV				Sb		Sn	00 20 02.4	+0.7
	baz=180							

Error ellipse: s-maj=34.8km s-min=9.4km az=146.8

ISC 13 00:26:52.1±1.6,**52.8N**±0.2×**132.3W**±0.3,**h22**km,**n11,**
σ2**13/8,mb3.5/3,Queen Charlotte Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H02S1	**DAWSON INLET T**	**0.40**	**345**	Pg	**Pb**	**00 26 58.2**	**-2.3**
H02N1	**VAN INLET T-PH**	**0.46**	**342**	Pg	**Pb**	**00 26 59.4**	**-2.2**
DLBC	**Dease Lake**	**5.78**	**12**	Pn	**Pn**	**00 28 18.1**	**+1.6**
	0.1nm,0.3s,baz=258,slow=20,SNR=3.4						
DLBC				Lg	Lg	00 29 59.2	
	0.1nm,0.3s,baz=183,slow=17,SNR=1.8						
NVAR	**Mina Array Bea**	**17.35**	**140**	Pn	**Pn**	**00 30 52.6**	**-0.4**
	0.1nm,0.3s,baz=327,slow=13,SNR=3.3						
PDAR	**Pinedale Array**	**18.21**	**114**	P	**P**	**00 31 03.7**	**0.0**
	baz=294,slow=6.8,SNR=5.4						
TXAR	**Lajitas Array**	**31.51**	**127**	P	**P**	**00 33 11.2**	**-1.3**
	0.7nm,0.9s,baz=329,slow=3.4,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**56.93**	**259**	T	T	01 38 38.4	
	baz=39,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**56.94**	**259**	T	T	01 38 39.2	
	baz=39,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy**	**56.95**	**259**	T	T	01 38 37.2	
	baz=39,slow=76,SNR=14						
KURBB	**Kurchatov Arra**	**73.70**	**340**	P	**P**	**00 38 25.7**	**+2.0**
	0.3nm,0.2s,baz=19,slow=5.9,SNR=3.2						
MKAR	**Makanchi Array**	**76.46**	**336**	P	**P**	**00 38 41.8**	**+2.1**
	0.5nm,0.9s,baz=36,slow=7.5,SNR=2.5						

IDC ***13*** *00:42:49.9±1.3,14.2N×92.6W,h0km,mb3.7/5, mb1 3.9/8,mb1mx3.6/41,mbtmp3.6/8,ML3.2/3,Error ellipse: s-maj=34.4km s-min=19.9km az=36.0*

ISCJB ***13*** *00:42:54.7±1.1,14.2N±0.1×92.6W±0.0?,h46km,mb3.7/5, Error ellipse: s-maj=20.7km s-min=9.7km az=8.2*

ISC 13 00:42:56.1±1.2,**14.2N**±0.2×**92.59W**±0.08,**h46**km,**n9,**
σ1**53/10,mb3.6/5,Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**2.21**	**69**	Pn	**Pn**	**00 43 28.6**	**-1.9**
	2.4nm,0.3s,baz=242,slow=10,SNR=26						
APG				Sn	**Sn**	**00 43 58.1**	**+1.5**
	11nm,0.3s,baz=327,slow=7.2,SNR=4.5						
CMIG	**Matias Romero**	**3.62**	**323**	Pn	**Pn**	**00 43 48.0**	**-1.7**
	1.3nm,0.3s,baz=132,slow=10,SNR=6.4						
CMIG				Lg	Lg	00 44 42.5	
	1.6nm,0.3s,baz=106,slow=19,SNR=2.8						
TXAR	**Lajitas Array**	**18.21**	**328**	Pn	**Pn**	**00 47 07.0**	**+1.3**
	0.1nm,0.3s,baz=144,slow=9.3,SNR=3.8						
NVAR	**Mina Array Bea**	**33.15**	**321**	P	**P**	**00 49 29.9**	**+1.4**
	0.7nm,0.7s,baz=125,slow=8.5,SNR=6.7						
LPAZ	**La Paz**	**38.76**	**141**	P	**P**	**00 50 17.7**	**+0.7**
	0.6nm,0.6s,baz=339,slow=7.7,SNR=1.6						
YKA	**Yellowknife Ar**	**50.70**	**347**	P	**P**	**00 51 51.0**	**+0.2**
	1.3nm,0.7s,baz=154,slow=7.2,SNR=4.3						
INK	**Inuvik**	**60.08**	**344**	P	**P**	**00 52 57.9**	**-0.3**
	0.8nm,0.6s,baz=127,slow=3.8,SNR=5.2						
ILAR	**Eielson Array**	**62.43**	**337**	P	**P**	**00 53 13.6**	**-0.6**
	0.3nm,0.8s,baz=115,slow=6.1,SNR=3.3						
CMAR	**Chiang Mai Arr**	**145.61**	**340**	PKPbc	**PKPdf**	**01 02 28.7**	**-1.7**
	0.6nm,0.4s,baz=341,slow=2.2,SNR=3.3						

ISK ***13*** *00:45:11.9,40.84N×35.24E,h3km,ML2.8/19*

ISCJB ***13*** *00:45:12.6±0.5,40.86N±0.02×35.24E±0.02,h0km±4km, Error ellipse: s-maj=3.3km s-min=2.8km az=161.7*

DDA ***13*** *00:45:12.5,40.87N×35.22E,h18km,Ml3.6*

ISC 13 00:45:13.1±1.0,**40.86N**±0.02×**35.23E**±0.02,**h9**km±9km,
n41,σ0**83/63,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAK	**Corum_Osmancik**	**0.40**	**238**	*i* P	**Pg**	**00 45 20.9**	**0.0**
CTAK				*i* S	**Sg**	**00 45 27.1**	**+0.9**
HAVZ	**Havza**	**0.43**	**59**	*i* P	**Pg**	**00 45 21.3**	**-0.2**
HAVZ				*i* S	**Sg**	**00 45 27.8**	**+0.7**
COAL	**Corum-Alaca**	**0.63**	**197**	*i* P	**Pg**	**00 45 24.7**	**-0.6**
COAL				*i* S	**Sg**	**00 45 34.3**	**+0.7**
DIKM	**Dikmen**	**0.79**	**1**	PG	**Pg**	**00 45 28.3**	**-0.1**
DIKM				SG	**Sb**	**00 45 40.4**	**+0.5**
CORM	**Corum**	**0.82**	**214**	PG	**Pg**	**00 45 27.3**	**-1.6**
CORM				SG	**Sg**	**00 45 39.7**	**+0.1**
SAMS	**Samsun-Alacam**	**0.88**	**55**	*i* P	**Pg**	**00 45 30.1**	**0.0**
SAMS				*i* S	**Sg**	**00 45 42.4**	**+0.8**
TOS	**Tosya**	**0.93**	**281**	PG	**Pg**	**00 45 30.7**	**-0.4**
TOKA	**Tokat**	**1.09**	**119**	*i* P	**Pb**	**00 45 33.8**	**-0.4**
TOKA				*i* S	**Sn**	**00 45 49.3**	**-0.5**
TOKT	**Tokat**	**1.13**	**118**	PN	**Pb**	**00 45 34.0**	**-0.9**
TOKT				SN	**Sb**	**00 45 50.0**	**+0.2**
SINO	**SINOP_Merkez**	**1.16**	**359**	*i* P	**Pb**	**00 45 35.7**	**+0.3**
SINO				*i* S	**Sn**	**00 45 52.0**	**+0.4**
SNOP	**Sinop**	**1.16**	**359**	PN	**Pn**	**00 45 35.1**	**-0.5**
ILGA	**Ilgaz**	**1.17**	**280**	*i* P	**Pb**	**00 45 34.7**	**-0.9**
ILGA				*i* S	**Sb**	**00 45 50.8**	**-0.1**
ERBA	**Erbaa**	**1.17**	**98**	*i* P	**Pb**	**00 45 33.7**	**-1.8**
ERBA				*i* S	**Sg**	**00 45 51.3**	**+0.5**
KAST	**KASTAMONU**	**1.17**	**303**	*i* P	**Pn**	**00 45 34.2**	**-1.6**
KAST				*i* S	**Sb**	**00 45 50.7**	**-0.2**
YOZ	**Yozgat**	**1.22**	**177**	PN	**Pn**	**00 45 36.0**	**-0.5**
CANT	**Cankiri**	**1.25**	**259**	PN	**Pn**	**00 45 36.4**	**-0.5**
CDAG	**Cicekdag**	**1.40**	**208**	*i* P	**Pn**	**00 45 38.8**	**-0.1**
CDAG				*i* S	**Sg**	**00 45 59.2**	**+1.1**
ELDT	**Eldivan**	**1.42**	**256**	*i* P	**Pn**	**00 45 39.4**	**+0.1**
ELDT				*i* S	**Sn**	**00 45 58.0**	**-0.2**
BZK	**Bozkurt**	**1.44**	**320**	PN	**Pn**	**00 45 40.0**	**+0.6**
CUSAR	**Sarkisla-SIVAS**	**1.63**	**151**	*i* P	**Pn**	**00 45 43.0**	**+0.8**
CUSAR				*i* S	**Sg**	**00 46 06.2**	**+0.6**
SVSK	**Karacayir**	**1.64**	**124**	PN	**Pn**	**00 45 41.5**	**-0.6**
SCER	**sogukcermik**	**1.76**	**124**	*i* P	**Pb**	**00 45 45.1**	**-0.5**
SCER				*i* S	**Sn**	**00 46 06.3**	**-0.2**
KAMT	**Kaman**	**1.89**	**219**	PN	**Pn**	**00 45 45.8**	**+0.1**
CUALT	**Altinyayla-SIV**	**1.97**	**143**	*i* P	**Pb**	**00 45 48.9**	**-0.3**
CUALT				*i* S	**Sb**	**00 46 13.2**	**-0.7**
BNN	**Bunyan**	**2.06**	**167**	PN	**Pn**	**00 45 48.8**	**+0.8**
AVNS	**Nevsehir-Avano**	**2.07**	**188**	*i* P	**Pn**	**00 45 49.1**	**+0.9**
AVNS				*i* S	**Sg**	**00 46 18.8**	**-0.8**
BBAL	**Bala**	**2.08**	**232**	*i* P	**Pn**	**00 45 49.2**	**+0.9**
BBAL				*i* S	**Sb**	**00 46 18.4**	**+1.3**
ANTO	**Ankara**	**2.11**	**243**	PN	**Pn**	**00 45 49.5**	**+0.8**
LOD	**Lodumlu**	**2.12**	**244**	PN	**Pn**	**00 45 49.7**	**+0.9**
CMDR	**Camlidere-ANKA**	**2.13**	**261**	*i* P	**Pn**	**00 45 49.6**	**+0.7**
CMDR				*i* S	**Sb**	**00 46 18.4**	**-0.1**
AFSR	**Af˘ar-Bala (A**	**2.17**	**230**	PN	**Pn**	**00 45 50.4**	**+0.8**
YAYX	**Yaylak**	**2.21**	**210**	PN	**Pn**	**00 45 50.9**	**+0.9**
SERE	**Sereflikochisa**	**2.30**	**214**	PN	**Pn**	**00 45 51.6**	**+0.3**
KKUL	**Konya-Kulu**	**2.45**	**227**	*i* P	**Pn**	**00 45 54.6**	**+1.3**
KKUL				*i* S	**Sg**	**00 46 30.4**	**-1.4**
AKSY	**AKSARAY - Alti**	**2.48**	**208**	*i* P	**Pb**	**00 45 57.5**	**-0.4**
AKSY				*i* S	**Sb**	**00 46 30.9**	**+2.3**
KULU	**Kulu**	**2.49**	**224**	PN	**Pn**	**00 45 54.7**	**+0.7**
GULA	**Gulagac**	**2.62**	**197**	PN	**Pn**	**00 45 56.5**	**+0.7**
DARE	**Darende-Malaty**	**2.87**	**142**	PN	**Pn**	**00 45 59.8**	**+0.7**
SVRH	**Sivrihisar-ESK**	**3.17**	**245**	PN	**Pn**	**00 46 03.8**	**+0.5**
KIZT	**Kizilcal**	**3.25**	**234**	PN	**Pn**	**00 46 05.6**	**+1.2**
KOZT	**Kozan**	**3.40**	**172**	PN	**Pn**	**00 46 07.5**	**+1.1**

GUC 13 00:47:04.4±0.6,**20.06S×68.96W,h110**km±4km,**ML3.5,5C,**
Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.20**	**247**	⇑*i* P	Pn	00 47 20.8	+0.5
PB08				*e*S	Sn	00 47 33.1	+0.9
PB08				IAML		00 47 33.7	
	comp=E,2μm,0.3s						
PB11	**IPOC Station P**	**0.72**	**295**	⇑*i* P	Pn	00 47 23.7	+0.6
PB11				*e*S	Sn	00 47 38.5	+1.2
PB11				IAML		00 47 39.3	
	comp=E,2μm,0.2s						
PB01	**IPOC Station P**	**1.09**	**207**	⇑*i* P	Pn	00 47 27.2	+0.5
PB01				*e*S	Sn	00 47 44.6	+1.0
PB01				IAML		00 47 45.1	
	comp=N,1μm,0.2s						
PSGC	**Pisagua**	**1.19**	**293**	⇑*i* P	Pn	00 47 28.2	+0.5
PSGC				*e*S	Sn	00 47 46.0	+0.6
PB02	**IPOC Station P**	**1.53**	**215**	⇑*i* P	Pn	00 47 32.1	+0.4
PB02				*e*S	Sn	00 47 53.5	+1.1
PB02				IAML		00 47 56.8	
	comp=E,713nm,0.4s						

ISCJB ***13*** *00:52:32.2±1.2,57.4S±0.2×147.8W±0.3,h10km,mb3.8/5, MS3.8/10,Error ellipse: s-maj=28.6km s-min=20.6km az=33.9*

IDC ***13*** *00:52:33.2±0.8,57.54S×147.70W,h0km,mb3.9/5, mb1 4.1/5,mb1mx3.9/24,mbtmp3.9/5,MS3.8/10, Ms1 3.8/10,ms1mx3.6/22,Error ellipse: s-maj=31.5km s-min=23.8km az=7.0*

ISC 13 00:52:34.7±0.9,**57.5S**±0.2×**147.8W**±0.2,**h10**km,**n41,**
σ0**97/17,mb4.0/5,MS3.8/10,Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**26.29**	**202**	P	**P**	**00 58 10.2**	**+0.4**
	0.7nm,1.1s,baz=76,slow=12,SNR=2.3						
VNDA				LR	LR	01 06 16.4	
	comp=Z,189nm,18.1s,baz=70,slow=31						
RPZ	**Rata Peaks**	**29.05**	**280**	LR	LR	01 07 52.0	
	comp=Z,199nm,18.1s,baz=138,slow=32						
URZ	**Urewera**	**29.93**	**295**	LR	LR	01 07 05.5	
	comp=Z,131nm,21.7s,baz=104,slow=29						
QSPA	**South Pole Qui**	**32.63**	**180**	P	**P**	**00 59 06.2**	**-0.2**
	0.8nm,0.4s,baz=55,slow=3.8,SNR=5.5						
TBI	**Tubuai**	**34.15**	**357**	*e*LR	LR	01 08 15.1	
	431nm,28.2s						
TBI	**Tubuai**	**34.15**	**357**	*e*T	T	01 35 23.6	
	16nm,0.3s						
RKT	**Rikitea**	**35.59**	**20**	*e*T	T	01 37 06.7	
	3.3nm,0.2s						
TVO	**Taravao**	**39.69**	**358**	*e*T	T	01 42 18.6	
	4.3nm,0.4s						
PPT2	**Papeete2**	**39.88**	**357**	*e*LR	LR	01 10 50.8	
	422nm,26.0s						
PPT	**Papeete**	**39.91**	**357**	LR	LR	01 12 08.6	
	comp=Z,123nm,21.4s,baz=184,slow=30						
VAH	**Vaihoa**	**42.20**	**0**	*e*T	T	01 45 26.3	
	48nm,0.3s						
VNA3	**Neumayer Olymp**	**48.19**	**163**	P	**P**	**01 01 14.6**	**+0.1**
SNAA	**Sanae**	**48.78**	**166**	P	**P**	**01 01 18.5**	**-0.7**
VNA2	**Neumayer--Watz**	**48.82**	**164**	P	**P**	**01 01 19.6**	**+0.2**
	baz=210,slow=7.6						
TAOE	**Nuku Hiva Isla**	**48.90**	**10**	*e*LR	LR	01 15 09.5	
	297nm,26.5s						
VNA1	**Neumayer--Stat**	**48.93**	**163**	P	**P**	**01 01 20.7**	**+0.4**
PLCA	**Paso Flores**	**50.35**	**106**	LR	LR	01 17 29.3	
	comp=Z,78nm,19.6s,baz=234,slow=30						
MAW	**Mawson**	**53.15**	**194**	LR	LR	01 22 29.0	
	comp=Z,150nm,19.5s,baz=195,slow=34						
STKA	**Stephens Creek**	**53.52**	**267**	LR	LR	01 21 39.3	
	comp=Z,114nm,18.6s,baz=71,slow=33						
ASAR	**Alice Springs**	**64.15**	**266**	P	**P**	**01 03 08.6**	**-0.6**
	1.3nm,0.8s,baz=139,slow=6.7,SNR=7.7						
H01W1	**Cape Leeuwin H**	**65.35**	**244**	T	T	02 15 02.2	
	baz=143,slow=76,SNR=15						
H01W2	**Cape Leeuwin H**	**65.36**	**244**	T	T	02 15 09.9	
	baz=143,slow=76,SNR=15						
H01W3	**Cape Leeuwin H**	**65.37**	**244**	T	T	02 15 13.1	
	baz=143,slow=76,SNR=13						
NWAO	**Narrogin (SRO)**	**65.43**	**247**	LR	LR	01 24 19.8	
	comp=Z,75nm,22.0s,baz=339,slow=29						
WRA	**Warramunga Arr**	**66.93**	**269**	P	**P**	**01 03 26.4**	**-0.8**
	1.5nm,1.0s,baz=147,slow=5.4,SNR=5.4						
LPAZ	**La Paz**	**70.85**	**90**	P	**P**	**01 03 51.5**	**-0.9**
	0.7nm,0.6s,baz=233,slow=5.1,SNR=3.9						
BOSA	**Boshof**	**94.00**	**174**	LR	LR	01 43 23.2	
	comp=Z,101nm,20.6s,baz=208,slow=32						
ANMO	**Albuquerque**	**98.45**	**33**	LR	LR	01 40 37.2	
	comp=Z,26nm,21.8s,baz=225,slow=29						
H10S3	**ASCENSION HYDR**	**103.54**	**132**	T	T	03 02 40.1	
	baz=204,slow=75,SNR=34						
H10S2	**ASCENSION HYDR**	**103.54**	**132**	T	T	03 02 42.2	
	baz=204,slow=75,SNR=40						
H10S1	**ASCENSION HYDR**	**103.55**	**132**	T	T	03 02 42.2	
	baz=204,slow=75,SNR=41						
H10N3	**ASCENSION HYDR**	**104.61**	**132**	T	T	03 04 03.1	
	baz=204,slow=75,SNR=51						
H10N1	**ASCENSION HYDR**	**104.62**	**132**	T	T	03 04 07.2	
	baz=204,slow=75,SNR=65						
H10N2	**ASCENSION HYDR**	**104.63**	**132**	T	T	03 04 02.4	
	baz=204,slow=75,SNR=58						
ILAR	**Eielson Array**	**121.97**	**0**	PKP	**PKPdf**	**01 11 28.9**	**+1.3**
	1.1nm,0.9s,baz=255,slow=2.4,SNR=9.1						
MKAR	**Makanchi Array**	**148.19**	**272**	PKPbc	**PKPbc**	**01 12 19.0**	**-0.8**
	1.8nm,0.9s,baz=90,slow=4.6,SNR=4.1						
ESDC	**Sonseca Array**	**150.62**	**112**	PKPbc	**PKPbc**	**01 12 25.5**	**-0.7**
	0.6nm,0.7s,baz=235,slow=3.2,SNR=3.6						
ESDC				PKPab	**sPKPbc**	**01 12 31.1**	**+0.3**
	3.8nm,1.0s,baz=226,slow=1.4,SNR=11						
ZALV	**Zalesovo Beam**	**150.80**	**286**	PKPab	**PKPab**	**01 12 32.4**	**-0.9**
	0.5nm,0.3s,baz=132,slow=2.1,SNR=2.5						
KURBB	**Kurchatov Arra**	**152.44**	**276**	PKPbc	**PKPbc**	**01 12 31.9**	**+2.1**
	1.1nm,0.2s,baz=136,slow=2.2,SNR=2.9						
BVAR	**Borovoye Array**	**158.02**	**275**	PKPab	**PKPab**	**01 13 05.2**	**+1.1**
	0.6nm,0.8s,baz=101,slow=4.6,SNR=2.6						
GERES	**GERESS Array B**	**165.94**	**120**	PKPab	**PKPab**	**01 13 39.9**	**+1.0**
	0.1nm,0.3s,baz=254,slow=2.8,SNR=3.8						

DJA 13 01:04:00.6±0.8,**10˚S**±6˚×**11˚9E**±˚,**h13**km±6km,**M3.6/7,**
MLv3.6/7,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.71**	**57**	P	Pg	01 04 13.5	-0.9
WBSI				S	Sb	01 04 24.4	-0.1
PLAI	**Plampang**	**1.56**	**320**	P	Pn	01 04 26.6	-1.4
BASI	**Baing, Sumba**	**1.77**	**96**	P	Pn	01 04 30.6	-0.4
TWSI	**Taliwang, Sumb**	**2.28**	**304**	P	Pn	01 04 37.8	-0.2
EDFI	**Ende, Flores**	**3.13**	**66**	P	Pn	01 04 49.4	-0.4
BKSI	**Bulukumba**	**4.86**	**16**	P	Pn	01 05 13.4	-0.1

NNC 13 01:15:09.9±2.1,**36.80N×70.60E,h158**km±47km,**mb2.7,**
mpv3.6,4C-3D,Error ellipse: s-maj=26.4km
s-min=15.6km az=64.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.94**	**35**	⇓P	Pn	01 16 09.8	0.0
	9.6nm,0.5s						
SFK				⇑S	Sn	01 16 57.3	+0.9
	6.6nm,0.5s						
MNAS	**Manas**	**5.87**	**14**	⇓P	Pn	01 16 35.2	+0.2
	2.3nm,0.4s						
MNAS				⇓S	Sn	01 17 42.4	+0.7
	3.9nm,0.4s						
KK31	**Karatay Array**	**6.30**	**359**	P	Pn	01 16 40.8	+0.2
	1.4nm,0.3s,baz=182,slow=11,SNR=87						
KK31				S	Sn	01 17 51.8	0.0
	0.9nm,0.2s,baz=190,slow=20,SNR=12						
AAK	**Ala-Archa**	**6.56**	**26**	⇑P	Pn	01 16 44.2	0.0
	1.6nm,0.3s						
AAK				⇑S	Sn	01 17 58.6	+0.4
	3.5nm,0.6s						
TKM2	**Tokmak 2**	**7.22**	**31**	⇑P	Pn	01 16 51.7	-1.3
	3.4nm,0.7s						
AB31	**Akbulak array**	**14.67**	**331**	P	P	01 18 31.5	-0.2
	0.2nm,0.3s,baz=148,slow=11,SNR=13						

ISCJB ***13*** *01:17:27.6±0.8,6.28S±0.06×130.2E±0.1,h146km, mb3.2/1,Error ellipse: s-maj=17.6km s-min=7.1km az=18.4*

IDC ***13*** *01:17:28.6±2.6,6.25S×130.12E,h147km±37km,mb3.1/1, mb1 3.3/4,mb1mx3.0/34,mbtmp3.7/4,Error ellipse: s-maj=68.9km s-min=20.4km az=88.0*

DJA ***13*** *01:17:38.1±1.1,6˚S±7˚×13˚0E±˚,h75km±45km,M4.5/6, mb5.0/1,MLv4.2/6*

ISC 13 01:17:28.7±1.0,**6.21S**±0.08×**130.20E**±0.09,**h146**km,**n9,**
σ2**55/13,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**3.85**	**32**	P	**Pn**	**01 18 29.1**	**+2.1**
FAKI				S	**Sn**	**01 19 10.2**	**-2.0**
SIJI	**Sorong**	**5.41**	**11**	P	**Pn**	**01 18 48.4**	**+0.8**
	2.4nm,0.3s,baz=217,slow=18,SNR=18						
SIJI				S	**Sn**	**01 19 46.7**	**-2.4**
	12nm,0.3s,baz=90,slow=20,SNR=22						
SWI	**Sorong**	**5.42**	**11**	P	**Pn**	**01 18 49.4**	**+1.8**
SWI				S	**Sn**	**01 19 45.2**	**-4.0**
SANI	**Sanana**	**5.89**	**314**	P	**Pn**	**01 18 57.3**	**+3.3**
RKPI	**Ransiki, Papua**	**6.12**	**40**	P	**Pn**	**01 19 00.6**	**+3.5**
RKPI				S	**Sn**	**01 20 07.6**	**+1.4**
FITZ	**Fitzroy Crossi**	**12.63**	**200**	P	**Pn**	**01 20 22.0**	**-1.3**
	0.3nm,0.3s,baz=37,slow=12,SNR=14						
FITZ				S	Sn	01 22 31.6	-11
	0.6nm,0.3s,baz=330,slow=20,SNR=6.3						
WRA	**Warramunga Arr**	**14.23**	**164**	P	**Pn**	**01 20 41.9**	**-1.9**
	0.6nm,0.3s,baz=347,slow=13,SNR=20						
WRA				S	Sn	01 23 11.4	-10
	0.4nm,0.3s,baz=342,slow=22,SNR=5.9						
ASAR	**Alice Springs**	**17.72**	**169**	P	**Pn**	**01 21 26.4**	**0.0**
	0.3nm,0.3s,baz=349,slow=12,SNR=9.0						
MKAR	**Makanchi Array**	**67.68**	**327**	P	**P**	**01 28 09.7**	**-0.5**
	0.3nm,0.6s,baz=118,slow=6.9,SNR=4.1						

IDC 13 01:26:57.6±1.9,**15.05S×179.41W,h0**km,**mb3.7/6,**
mb1 4.1/6,mb1mx3.8/33,mbtmp3.7/6,Error ellipse:
s-maj=130.9km s-min=24.4km az=151.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.27**	**257**	P	P	01 35 09.7	+0.3
	0.6nm,1.0s,baz=91,slow=8.5,SNR=2.8						
ASAR	**Alice Springs**	**44.71**	**251**	P	P	01 35 12.6	-0.3
	0.6nm,0.5s,baz=86,slow=8.7,SNR=8.6						
NVAR	**Mina Array Bea**	**78.06**	**45**	P	P	01 39 00.0	+1.3
	0.5nm,0.6s,baz=220,slow=8.3,SNR=6.5						
ILAR	**Eielson Array**	**83.34**	**13**	P	P	01 39 25.7	-0.3
	0.4nm,0.6s,baz=225,slow=5.5,SNR=7.3						
TXAR	**Lajitas Array**	**85.30**	**58**	P	P	01 39 36.4	-0.6
	0.3nm,0.6s,baz=216,slow=5.6,SNR=1.6						
PDAR	**Pinedale Array**	**85.96**	**44**	P	P	01 39 39.4	-0.8
	0.6nm,0.6s,baz=197,slow=1.9,SNR=7.9						

SJA ***13*** *01:41:52.4±0.6,32.33S×70.48W,h83km±7km,ML2.4, MW3.0*

ISCJB ***13*** *01:41:53.8±1.2,32.31S±0.07×70.35W±0.08, h106km±12km,Error ellipse: s-maj=15.1km s-min=5.7km az=136.9*

GUC ***13*** *01:41:54.8±0.4,32.31S×70.35W,h98km±10km,ML2.6*

ISC 13 01:41:55.6±2.4,**32.32S**±0.07×**70.32W**±0.07,**h91**km±21km,
n13,σ0**75/23,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.80**	**83**	*i* P	**Pn**	**01 42 12.6**	**-0.9**
AUSP				*i* S	**Sn**	**01 42 27.2**	**+0.3**
ROCH	**El Roble**	**0.87**	**221**	*e*P	**Pn**	**01 42 14.2**	**0.0**
ROCH				*e*S	**Sn**	**01 42 28.5**	**+0.4**
ROCH				IAML		01 42 30.2	
	comp=N,169nm,0.5s						
PEL	**Peldehue**	**0.88**	**200**	*e*P	**Pn**	**01 42 13.6**	**-0.4**
PEL				*e*S	**Sn**	**01 42 27.7**	**-0.2**
PEL				IAML		01 42 28.6	
	comp=E,186nm,0.3s						
FCH	**Farellones**	**1.01**	**178**	*e*P	**Pn**	**01 42 15.1**	**-0.7**
FCH				*e*S	**Sn**	**01 42 31.1**	**+0.2**
FCH				IAML		01 42 31.7	
	comp=E,209nm,0.2s						
RTLS	**Leoncito**	**1.01**	**60**	*i* P	**Pn**	**01 42 15.3**	**-0.5**
RTLS				IAML		01 42 16.0	
	comp=Z,40nm,0.2s						
RTLS				*i* S	**Sn**	**01 42 31.9**	**+1.0**
CLCH	**Cerro Calan**	**1.09**	**189**	*e*P	**Pn**	**01 42 16.5**	**+0.1**
ANTU	**Antumapu**	**1.27**	**192**	*e*P	**Pn**	**01 42 18.0**	**-0.6**
ANTU				*e*S	**Sn**	**01 42 36.0**	**0.0**
ARCO	**CERRO ARCO**	**1.28**	**114**	*i* P	**Pn**	**01 42 18.1**	**-0.8**
ARCO				*i* S	**Sn**	**01 42 36.7**	**+0.2**
ARCO				IAML		01 42 36.8	
	comp=Z,74nm,0.3s						
ASAL	**Salagasta**	**1.29**	**103**	*i* P	**Pn**	**01 42 18.2**	**-0.6**
ASAL				*i* S	**Sn**	**01 42 37.5**	**+1.1**
LMEL	**Las Melosas**	**1.53**	**176**	*e*P	**Pn**	**01 42 21.6**	**-0.3**
LMEL				*e*S	**Sn**	**01 42 43.4**	**+1.5**
LMEL				IAML		01 42 46.4	
	comp=N,166nm,0.2s						
RTCV	**Cerro Valdivia**	**1.58**	**74**	*i* P	**Pn**	**01 42 21.6**	**-0.8**
RTCV				*i* S	**Sn**	**01 42 44.0**	**+1.2**
RTLL	**Cerro Villicun**	**1.86**	**58**	*i* P	**Pn**	**01 42 25.3**	**-0.7**
AMOG	**MOGNA**	**2.08**	**49**	*i* P	**Pn**	**01 42 28.6**	**-0.4**

SJA ***13*** *01:44:58.3±0.5,28.29S×69.85W,h148km±6km,ML3.5, MW3.8*

ISCJB ***13*** *01:44:59.5±0.5,28.27S±0.04×69.91W±0.06,h122km±7km, mb3.3/3,Error ellipse: s-maj=8.4km s-min=6.7km az=7.2*

GUC ***13*** *01:45:00.6±0.5,28.42S×69.88W,h112km±5km,ML3.7*

IDC ***13*** *01:45:00.5±6.8,28.26S×69.74W,h108km±51km,mb3.2/3, mb1 3.5/5,mb1mx3.3/25,mbtmp3.6/5,Error ellipse: s-maj=53.4km s-min=35.0km az=27.0*

ISC 13 01:45:00.9±0.8,**28.28S**±0.05×**69.92W**±0.05,**

	215nm,28.8s							
TBI	**Tubui**	**34.17**	**358**	*e*T		T		02 30 31.5
	8.1nm,0.3s							
RKT	**Rikitea**	**35.66**	**21**	*e*T		T		02 32 20.0
	1.4nm,0.2s							
TVO	**Taravao**	**39.70**	**358**	*e*T		T		02 37 25.9
	2.7nm,0.4s							
PPT2	**Papeete2**	**39.90**	**358**	*e*LR		LR		02 06 05.9
	240nm,27.0s							
VAH	**Vaihoa**	**42.23**	**1**	*e*T		T		02 40 34.3
	15nm,0.3s							
VNA3	**Neumayer Olymp**	**48.20**	**163**	P		**P**		**01 56 28.3 -1.9**
SNAA	**Sanae**	**48.79**	**166**	P		**P**		**01 56 33.5 -1.2**
VNA2	**Neumayer--Watz**	**48.83**	**164**	P		**P**		**01 56 33.1 -1.9**
	baz=218,slow=3.3							
TAOE	**Nuku Hiva Isla**	**48.95**	**10**	*e*LR		LR		02 10 38.6
	239nm,26.1s							
VNA1	**Neumayer--Stat**	**48.95**	**163**	P		**P**		**01 56 34.8 -1.0**
MAW	**Mawson**	**53.10**	**194**	LR		LR		02 17 13.2
	comp=Z,84nm,18.8s,baz=88,slow=33							
STKA	**Stephens Creek**	**53.38**	**267**	LR		LR		02 17 12.0
	comp=Z,51nm,18.4s,baz=203,slow=33							
ASAR	**Alice Springs**	**64.01**	**266**	P		**P**		**01 58 23.4 -0.4**
	0.2nm,0.4s,baz=134,slow=6.6,SNR=3.6							
H01W1	**Cape Leeuwin H**	**65.22**	**244**	T		T		03 10 20.3
	baz=143,slow=76,SNR=5.6							
H01W2	**Cape Leeuwin H**	**65.23**	**244**	T		T		03 10 20.0
	baz=143,slow=76,SNR=6.1							
H01W3	**Cape Leeuwin H**	**65.24**	**244**	T		T		03 10 21.7
	baz=143,slow=76,SNR=5.5							
WRA	**Warramunga Arr**	**66.79**	**269**	P		**P**		**01 58 40.5 -1.3**
	0.5nm,0.7s,baz=150,slow=5.9,SNR=3.1							
LPAZ	**La Paz**	**70.99**	**90**	LR		LR		02 22 13.8
	comp=Z,105nm,19.2s,baz=358,slow=29							
SIJI	**Sorong**	**84.28**	**277**	LR		LR		02 34 44.2
	comp=Z,26nm,21.6s,baz=79,slow=34							
H10S3	**ASCENSION HYDR**	**03.62**	**132**	T		T		03 58 04.4
	baz=204							
H10S2	**ASCENSION HYDR**	**03.63**	**132**	T		T		03 58 00.9
	baz=204							
H10S1	**ASCENSION HYDR**	**03.64**	**132**	T		T		03 58 05.9
	baz=204							
H10N3	**ASCENSION HYDR**	**04.70**	**132**	T		T		03 59 23.7
	baz=205							
H10N1	**ASCENSION HYDR**	**04.70**	**132**	T		T		03 59 23.5
	baz=205							
H10N2	**ASCENSION HYDR**	**04.72**	**132**	T		T		03 59 28.8
	baz=205							
ILAR	**Eielson Array**	**121.99**	**1**	PKP		**PKPdf**		**02 06 45.7 +2.6**
	0.5nm,0.8s,baz=280,slow=2.0,SNR=4.2							
MKAR	**Makanchi Array**	**148.06**	**272**	PKPbc		**PKPbc**		**02 07 33.9 -1.0**
	0.8nm,0.7s,baz=125,slow=3.7,SNR=5.2							
ESDC	**Sonseca Array**	**150.74**	**112**	PKPbc		**PKPbc**		**02 07 42.1 +0.2**
	2.0nm,0.9s,baz=221,slow=2.1,SNR=3.2							

ISCJB ***13*** *01:52:16.5±0.2, 19°.15N±0°.03×95°.91E±0°.02, h10km, mb4.6/73, MS3.7/11, Error ellipse: s-maj=4.1km s-min=2.7km az=30.9*

IDC ***13*** *01:52:16.5±0.5, 19°.11N×95°.84E, h0km, mb4.4/22, mb1 4.6/23, mb1mx4.5/34, mbtmp4.4/23, ML4.1/1, MS3.6/11, Ms1 3.6/11, ms1mx3.3/37, Error ellipse: s-maj=18.0km s-min=11.7km az=42.0*

BJI ***13*** *01:52:18.0, 19°.05N×95°.86E, h21km, mb4.5/48, mB4.8/31, ML4.5/2, Ms4.5/30, Ms7 4.2/28*

NEIC ***13*** *01:52:19.8±0.7, 19°.12N×96°.00E, h22km±5km, mb4.8/34, Error ellipse: s-maj=6.8km s-min=4.6km az=221.0*

MOS ***13*** *01:52:19.7±1.1, 19°.09N×95°.94E, h34km, mb4.9/25, Error ellipse: s-maj=10.8km s-min=5.3km az=122.4*

NDI ***13*** *01:52:20.8±2.5, 19°.18N×96°.09E, h22km, mb4.8, ML4.6, mb4.8(NEIC)*

ISC 13 01:52:18.6±0.3**, 19°.19N**±0°.04×**95°.95E**±0°.04**, h10**km**, n241,** σ18**85**/267**, mb4.7**/73**, MS3.6**/12**, 22C-23D, Myanmar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHTO	**Chiang Mai**	**2.86**	**97**	*e*Pn	**Pn**	**01 53 03.2**	**-1.1**
CHTO				*e*Sn	**Sn**	**01 53 34.2**	**-4.6**
CHTO	**Chiang Mai**	**2.86**	**97**	*e*P	**Pn**	**01 53 03.2**	**-1.1**
CHTO				*e*		01 53 34.2	
CHTO	**Chiang Mai**	**2.86**	**97**	P	**Pn**	**01 53 03.7**	**-0.6**
CMMT	**Chiang Mai**	**2.86**	**97**	P	**Pn**	**01 53 03.6**	**-0.7**
CM31	**Chiang Mai Arr**	**2.92**	**104**	*e*Pn	**Pn**	**01 53 05.0**	**-0.3**
CM31				*e*Sn	**Sn**	**01 53 36.9**	**-3.6**
CMAR	**Chiang Mai Arr**	**2.92**	**104**	Pn	**Pn**	**01 53 04.3**	**-0.9**
	6.0nm,0.3s,baz=278,slow=15,SNR=34						
CMAR				Pg	**Pb**	**01 53 12.3**	**+1.5**
	85nm,0.3s,baz=279,slow=17,SNR=240						
CMAR				Lg	Lg	01 53 47.9	
	263nm,0.3s,baz=277,slow=31,SNR=17						
CMAR				LR	LR	01 54 21.5	
	comp=Z,1μm,18.6s,baz=280,slow=42						
CM01	**Chiang Mai Arr**	**2.95**	**104**	*e*Pn	**Pn**	**01 53 02.3**	**-3.2**
CM01				*e*Sn	**Sn**	**01 53 35.9**	**-5.2**
LAMP	**Lampang**	**3.55**	**100**	P	**Pn**	**01 53 14.9**	**+1.1**
PAYA	**Payao**	**3.71**	**87**	P	**Pn**	**01 53 15.2**	**-0.8**
SUKH	**Sukhothai**	**3.88**	**115**	P	**Pn**	**01 53 17.6**	**-0.8**
UMPA	**Umpang Tak**	**4.06**	**136**	P	**Pn**	**01 53 21.0**	**+0.2**
SAIH	**SAIHA**	**4.30**	**320**	*e*P	**Pn**	**01 53 27.6**	**+3.3**
SAIH				*e*S	**Sn**	**01 54 13.3**	**-1.2**
UTHA	**Uthaitani**	**4.91**	**137**	P	**Pn**	**01 53 31.2**	**-1.4**
BRDH	**Bariadhala**	**5.32**	**312**	Pn	Pn	01 53 43.2	+5.1
	27nm,0.3s,baz=105,slow=17,SNR=6.8						
BRDH				Sn	**Sn**	**01 54 43.6**	**+4.1**
	9.1nm,0.3s,baz=248,slow=19,SNR=3.1						
PBKT	**Sadao Pong**	**5.44**	**118**	*e*Pn	**Pn**	**01 53 39.1**	**-0.8**
PBKT				*e*Sn	**Sn**	**01 54 39.5**	**-3.0**
PBKT	**Sadao Pong**	**5.44**	**118**	P	**Pn**	**01 53 39.0**	**-0.8**
	82nm,0.8s,1μm3.2nm						
SRDT	**SRDT**	**5.69**	**147**	P	**Pn**	**01 53 45.8**	**+2.6**
	102nm,0.5s,2μm2.3nm						
BELO	**BELONIA**	**5.83**	**315**	*e*P	**Pn**	**01 53 48.6**	**+3.5**
BELO				*ex*	x	01 54 57.1	
BELO				IAML		01 57 04.8	
	comp=N,5μm,0.0s						
BELO				IAML		01 57 06.6	
	comp=E,4μm,0.2s						
IMP	**Imphal**	**5.92**	**342**	*e*P	**Pn**	**01 53 48.0**	**+1.5**
IMP				*e*S	**Sn**	**01 54 51.5**	**-2.9**
SILR	**SILCHAR**	**6.29**	**333**	*ex*	Pn	01 53 48.4	-3.1
SILR				*ex*	x	01 54 45.9	
SILR				IAML		01 56 37.5	
	comp=N,208nm,0.1s						
SILR				IAML		01 56 39.4	
	comp=E,206nm,0.7s						
CHAI	**Chaiyaphum**	**6.62**	**119**	P	Pn	01 54 00.9	+4.9
	comp=E,13nm,0.8s,comp=E,248nm						
KOHI	**KOHIMA**	**6.72**	**346**	*e*P	**Pn**	**01 53 58.5**	**+0.9**
KOHI				*e*S	Sn	01 55 07.7	-6.7
NONG	**Nongkai**	**6.91**	**98**	P	**Pn**	**01 54 04.4**	**+4.3**
	comp=E,0.9nm,1.1s,comp=E,0.0nm						
MOKO	**MOKOCHONG**	**7.22**	**350**	*e*P	**Pn**	**01 54 02.8**	**-1.6**
SHL	**Shillong**	**7.38**	**330**	*e*Pn	**Pn**	**01 54 08.2**	**+1.5**
SHL				*e*Sn	**Sn**	**01 55 27.4**	**-3.2**
SHL	**Shillong**	**7.38**	**330**	*e*P	**Pn**	**01 54 08.2**	**+1.5**
SHL				*e*		01 55 27.4	
SHL	**Shillong**	**7.38**	**330**	*e*P	**Pn**	**01 54 07.3**	**+0.7**
SHL				*e*S	**Sn**	**01 55 25.7**	**-4.9**
SRAK	**Srakaew**	**7.78**	**130**	P	Pb	01 54 24.8	-8.9
TEZP	**TEZPUR**	**7.95**	**339**	*e*P	**Pn**	**01 54 15.4**	**+1.2**
TEZP				*e*S	**Sn**	**01 55 38.6**	**-5.6**
SKNT	**Sakolnakorn**	**7.95**	**105**	P	**Pn**	**01 54 17.8**	**+3.5**
	comp=E,16nm,1.1s,comp=E,874nmcomp=E,0.3nm						
GUWA	**GUWAHATI**	**8.01**	**331**	*e*P	**Pn**	**01 54 16.0**	**+1.0**
GUWA				*ex*	x	01 55 27.4	
PBA	**Port Blair**	**8.10**	**203**	*e*Pn	Pn	01 54 16.6	+0.3
ITAN	**ITANAGAR**	**8.18**	**346**	*e*P	**Pn**	**01 54 17.5**	**0.0**
ITAN				*e*S	**Sn**	**01 55 44.1**	**-5.9**
TURI	**Tura**	**8.19**	**322**	*e*P	**Pn**	**01 54 19.9**	**+2.2**
TURI				*e*S	**Sn**	**01 55 45.8**	**-4.6**
ZIRO	**ZIRO**	**8.52**	**347**	*e*P	**Pn**	**01 54 23.9**	**+1.6**
ZIRO				*e*S	Sn	01 55 52.4	-6.3
KMI	**Kunming**	**8.63**	**46**	P	**Pn**	**01 54 24.8**	**+1.0**
KMI				smax	smax		
	comp=E,110nm,1.4s						
KMI				smax	smax		
	comp=E,79nm,1.4s						
KMI				LR	LR		
	comp=E,2μm,9.0s						
KMI				LR	LR		
	comp=E,1μm,7.5s						
KMI				LR	LR		
	comp=E,1μm,8.0s						
TAWA	**Tawang**		**9.17**	**337**	*e*P	**Pn**	**01 54 30.3 -1.0**
BOK	**Bokaro**		**10.43**	**298**	*e*P	**Pn**	**01 54 50.8 +2.4**
BOK					*ex*	x	01 56 36.1
GTK	**Tadong**		**10.54**	**322**	*ex*	Pn	01 54 46.6 -3.4
GTK					*ex*	x	01 56 15.5
ODAN	**Odare**		**10.97**	**316**	*e*Pn	**Pn**	**01 54 56.3 +0.3**
LSA	**Lhasa**		**11.34**	**338**	*e*Pn	**Pn**	**01 54 58.7 -2.5**
LSA	**Lhasa**		**11.34**	**338**	*e*P	**Pn**	**01 54 58.7 -2.5**
RAMN	**Ramite**		**11.56**	**314**	*e*Pn	**Pn**	**01 55 04.9 +0.9**
RAMN					*e*Sn	**Sn**	**01 57 12.7 -0.7**
	comp=E,65nm,0.9s						
GYA	**Guiyang**		**12.24**	**52**	P	**Pn**	**01 55 14.7 +1.5**
GYA					PP	**PnPn**	**01 55 24.3 +3.2**
GYA					S	**Sn**	**01 57 30.0 +0.1**
GYA					SS	**SnSn**	**01 57 45.4 +3.2**
GYA					pmax	pmax	
	comp=E,10.0nm,1.0s						
GYA					pmax	pmax	
	comp=E,110nm,4.2s						
GYA					LR	LR	
	comp=E,2μm,10.8s						
GYA					LR	LR	
	comp=E,1μm,10.6s						
GYA					LR	LR	
	comp=E,2μm,10.6s						
JIRN	**Jiri**		**12.30**	**315**	*e*Pn	**Pn**	**01 55 13.9 -0.3**
JIRN					*e*Sn	**Sn**	**01 57 30.6 -1.1**
	comp=E,97nm,0.8s						
GUN	**Gumba**		**12.67**	**315**	*e*Pn	**Pn**	**01 55 19.6 +0.3**
GUN					*e*Sn	**Sn**	**01 57 39.7 -1.0**
	comp=E,67nm,0.8s						
PKI	**Pulchoki**		**12.78**	**313**	*e*Pn	**Pn**	**01 55 20.4 -0.3**
PKI					*e*Sn	**Sn**	**01 57 40.2 -3.0**
	comp=E,26nm,0.8s						
PKIN	**Phulchoki**		**12.79**	**313**	*e*Pn	**Pn**	**01 55 20.5 -0.3**
PKIN					*e*Sn	**Sn**	**01 57 40.2 -3.2**
DMN	**Daman**		**13.01**	**312**	*e*Pn	**Pn**	**01 55 24.6 +0.8**
QIZ	**Qiongzhong**		**13.13**	**88**	P	**Pn**	**01 55 24.9 -0.4**
QIZ					S	**Sn**	**01 57 50.8 -0.8**
QIZ					LR	LR	
	comp=E,2μm,13.3s						
QIZ					LR	LR	
	comp=E,690nm,10.6s						
QIZ					LR	LR	
	comp=E,490nm,14.7s						
CD2	**Chengdu**		**13.64**	**30**	P	**Pn**	**01 55 34.4 +2.1**
CD2					S	**Sn**	**01 58 05.7 +1.7**
CD2					pmax	pmax	
	comp=E,30nm,0.5s						
CD2					pmax	pmax	
	comp=E,110nm,5.8s						
CD2					LR	LR	
	comp=E,1μm,9.1s						
CD2					LR	LR	
	comp=E,2μm,9.6s						
CD2					LR	LR	
	comp=E,1μm,8.3s						
KOLN	**Koldanda**		**14.18**	**309**	*e*Pn	**Pn**	**01 55 38.7 -1.1**
KOLN					*e*Sn	**Sn**	**01 58 11.8 -5.7**
	comp=E,23nm,0.6s						
DANN	**Dangsing**		**14.40**	**312**	*e*Pn	**Pn**	**01 55 41.9 -1.0**
PYUN	**Piuthan**		**14.81**	**309**	*e*Pn	**Pn**	**01 55 47.5 -1.0**
PYUN					*e*Sn	**Sn**	**01 58 27.4 -5.5**
	comp=E,43nm,0.8s						
KCSI	**Kotacane, Aceh**		**15.67**	**173**	P	**P**	**01 56 05.6 +1.8**
	comp=E,65nm,1.0s						
ENH	**Enshi**		**16.51**	**45**	*e*Pn	**Pn**	**01 56 08.2 -2.1**
	comp=E,34nm,1.0s						
PSI	**Prapat**		**16.54**	**170**	Pn	**P**	**01 56 14.9 +1.3**
	comp=E,1.1nm,0.3s,baz=360,slow=7.8,SNR=8.5						
PSI					LR	LR	02 03 09.6
	comp=E,187nm,18.3s,baz=90,slow=39						
PSI	**Prapat**		**16.54**	**170**	*e*Pn	**Pn**	**01 56 10.8 -0.2**
	comp=E,25nm,1.0s						
PSI	**Prapat**		**16.54**	**170**	*e*P	**Pn**	**01 56 10.8 -0.2**
PSI					pmax	pmax	
	comp=Z,25nm,1.0s						
HYB	**Hyderabad**		**16.61**	**267**	*i* P	**P**	**01 56 17.0 +2.7**
BHPL	**Bhopal**		**17.74**	**286**	*e*P	**P**	**01 56 28.4 +1.7**
BHPL					IAmb	IAmb	01 56 33.0
	comp=E,12nm,0.6s						
BHPL					*ex*	x	01 59 29.9
LZH	**Lanzhou**		**18.22**	**21**	*e*P	**Pn**	**01 56 33.3 +1.5**
LZH					pP	sP	01 56 37.8 +1.6
LZH					sP	pP	01 56 40.8 +5.9
LZH					PP	**PnPn**	**01 56 49.0 +5.8**
LZH					*e*S	**Sn**	**01 59 53.8 -1.5**
LZH					SS	**SnSn**	**02 00 16.5 +7.2**
LZH					pmax	pmax	
	comp=Z,73nm,1.2s						
LZH					pmax	pmax	
	comp=Z,220nm,4.3s						
LZH					LR	LR	
	comp=Z,770nm,11.5s						
LZH					LR	LR	
	comp=Z,2μm,11.9s						
LZH					LR	LR	
	comp=Z,2μm,13.2s						
XAN	**Xi'an**		**18.77**	**35**	P	**P**	**01 56 38.1 +0.1**
XAN					pP	pP	01 56 42.8 +2.0
XAN					S	**Sn**	**02 00 05.5 -3.0**
XAN					pmax	pmax	
	comp=Z,23nm,1.0s						
XAN					LR	LR	
	comp=Z,520nm,9.0s						
XAN					LR	LR	
	comp=Z,480nm,9.4s						
XAN					LR	LR	
	comp=Z,320nm,11.1s						
GTA	**Gaotai**		**20.43**	**9**	||P	Pn	01 56 59.3 +1.0
GTA					pP	sP	01 57 04.7 +4.3
GTA					sP	pP	01 57 08.0 +8.9
GTA					S	Sn	02 00 51.6 +3.0
GTA					pmax	pmax	
	comp=Z,14nm,1.1s						
GTA					pmax	pmax	
	comp=Z,68nm,4.3s						
GTA					LR	LR	
	comp=Z,230nm,15.6s						
GTA					LR	LR	
	comp=Z,130nm,15.6s						
GTA					LR	LR	
	comp=Z,260nm,14.6s						
SMLA	**Simla**		**20.71**	**309**	*e*P	**P**	**01 56 59.7 +0.5**
SMLA					IAmb	IAmb	01 57 02.0
	comp=Z,124nm,0.7s						
DHRM	**DHARAMSHALA**		**21.92**	**310**	*e*P	**P**	**01 57 12.7 +0.2**
DHRM					IAmb	IAmb	01 57 15.5
NJ2	**Nanjing**		**24.24**	**54**	*e*P	**P**	**01 57 35.6 -0.2**
NJ2					pmax	pmax	
	comp=Z,18nm,0.7s						
BTO	**Baotou**		**24.52**	**26**	*e*P	**P**	**01 57 40.0 +1.6**
TIA	**Tai'an**		**25.19**	**43**	P	**P**	**01 57 47.7 +3.3**
TIA					pmax	pmax	
	comp=Z,19nm,1.0s						
HHC	**Hu-ho-hao-te**		**25.40**	**28**	*e*P	**P**	**01 57 48.4 +2.1**
HHC					S	**S**	**02 02 07.4 -5.7**
HHC					pmax	pmax	
	comp=Z,22nm,0.8s						
HHC					pmax	pmax	
	comp=Z,160nm,4.0s						
HHC					LR	LR	
	comp=Z,320nm,9.0s						
HHC					LR	LR	
	comp=Z,440nm,8.7s						
HHC					LR	LR	
	comp=Z,550nm,8.2s						
WMQ	**Urumqi**		**25.52**	**346**	P	**P**	**01 57 49.9 +2.5**
WMQ					pP	sP	01 57 53.5 +1.8
WMQ					sP	pP	01 57 56.5 +6.0
WMQ					pmax	pmax	
	comp=Z,43nm,0.9s						
WMQ					pmax	pmax	
	comp=Z,120nm,6.1s						
KSH	**Kashi**		**26.60**	**324**	P	**P**	**01 57 55.8 -1.5**
KSH					pP	pP	01 58 01.9 +1.5
KSH					PP	**PnPn**	**01 58 39.8 +2.0**
KSH					S	**S**	**02 02 25.1 -7.1**
KSH					SS	**SnSn**	**02 03 35.8 +1.3**
KSH					pmax	pmax	
	comp=Z,23nm,0.6s						
KSH					pmax	pmax	
	comp=Z,170nm,4.8s						
KSH					LR	LR	
	comp=Z,220nm,10.0s						
KSH					LR	LR	
	comp=Z,380nm,7.3s						
KSH					LR	LR	
	comp=Z,310nm,9.0s						
BJI	**Beijing**		**27.10**	**36**	P	**P**	**01 58 03.4 +1.8**
BJI					pmax	pmax	
	comp=Z,8.0nm,1.8s						
KBL	**Kabul**		**28.34**	**308**	*e*P	**P**	**01 58 12.2 -0.8**
	comp=Z,18nm,0.8s						
KBL	**Kabul**		**28.34**	**308**	*e*P	**P**	**01 58 12.3 -0.8**
KBL					pmax	pmax	
	comp=Z,18nm,0.8s						
AAK	**Ala-Archa**		**29.59**	**327**	P	**P**	**01 58 24.2 +0.2**
	comp=Z,4.2nm,0.6s,baz=127,slow=4.6,SNR=12						
AAK	**Ala-Archa**		**29.59**	**327**	*e*P	**P**	**01 58 24.7 +0.6**
AAK	**Ala-Arcba**		**29.59**	**327**	*de*P	**P**	**01 58 24.5 +0.5**
AAK					pmax	pmax	
	comp=Z,7.0nm,0.9s						
MK01	**Makanchi Array**		**29.71**	**341**	*e*P	**P**	**01 58 24.8 0.0**
MK31	**Makanchi Array**		**29.73**	**341**	*e*P	**P**	**01 58 25.4 +0.3**
MK31	**Makanchi Array**		**29.73**	**341**	*e*P	**P**	**01 58 25.4 +0.3**
MK32	**Makanchi Array**		**29.73**	**341**	*e*P	**P**	**01 58 24.6 -0.4**
MK32					*e*PcP	**PcP**	**02 01 28.7 -0.2**
MKAR	**Makanchi Array**		**29.73**	**341**	P	**P**	**01 58 24.6 -0.4**
	comp=Z,12nm,0.7s,baz=148,slow=8.3,SNR=54						
MKAR					PcP	**PcP**	**02 01 28.7 -0.2**
	comp=Z,0.5nm,0.5s,baz=151,slow=3.3,SNR=4.9						
MKAR					LR	LR	02 13 38.1
	comp=Z,28nm,18.6s,baz=135,slow=43						
MKAR	**Makanchi Array**		**29.73**	**341**	*e*P	**P**	**01 58 25.4 +0.3**
	comp=Z,56nm,0.6s						
MKAR	**Makanchi Array**		**29.73**	**341**	*e*P	**P**	**01 58 25.4 +0.3**
MKAR					pmax	pmax	
	comp=Z,56nm,0.6s						
SONA0	**Songino Array**		**29.82**	**14**	*e*P	**P**	**01 58 25.8 -0.1**
SONM	**Songino Array**		**29.82**	**14**	P	**P**	**01 58 25.8 -0.1**
	comp=Z,4.1nm,1.0s,baz=198,slow=9.1,SNR=20						
SONM					LR	LR	02 12 19.6
	comp=Z,112nm,19.9s,baz=168,slow=40						
SONA1	**Songino Array**		**29.83**	**14**	*e*P	**P**	**01 58 26.5 +0.5**
ULN	**Ulaanbaatar**		**30.00**	**15**	*e*P	**P**	**01 58 30.7 +3.1**
	comp=Z,6.6nm,1.2s						
ULN	**Ulaanbaatar**		**30.00**	**15**	||*e*P	**P**	**01 58 29.7 +2.1**
ULN					pmax	pmax	
	comp=Z,6.0nm,1.2s						
DGZ	**Jazzator, Alta**		**31.20**	**349**	↑*e*P	**P**	**01 58 40.4 +2.2**
DGZ					pmax	pmax	
	comp=Z,4.0nm,0.7s						
ZAK	**Zakamensk**		**31.67**	**9**	*e*P	**P**	**01 58 43.2 +1.0**
ZAK					pmax	pmax	
	comp=Z,6.0nm,1.1s						
KK31	**Karatay Array**		**32.06**	**324**	*e*P	**P**	**01 58 46.4 +0.8**
KK31	**Karatay Array**		**32.06**	**324**	*e*P	**P**	**01 58 46.4 +0.8**
KKAR	**Karatay Array**		**32.06**	**324**	*e*P	**P**	**01 58 46.4 +0.8**
KKAR	**Karatay Array**		**32.06**	**324**	*e*P	**P**	**01 58 46.4 +0.8**
TLY	**Talaya**		**32.99**	**9**	*e*P	**P**	**01 58 54.1 +0.4**
TLY					pmax	pmax	
	comp=Z,29nm,1.6s						
TLY					MLR	MLR	
	comp=Z,31nm,7.0s						
KS15	**Wonju Array Si**		**33.26**	**50**	*e*P	**P**	**01 58 53.5 -2.7**
KSRS	**Korea Array**		**33.29**	**50**	LR	LR	02 12 58.5
	comp=Z,56nm,18.6s,baz=238,slow=37						
KURK	**Kurchatov**		**34.34**	**340**	*e*P	**P**	**01 59 05.5 +0.2**
	comp=Z,17nm,0.7s						
KURK	**Kurchatov**		**34.34**	**340**	*d i*P	**P**	**01 59 06.6 +1.2**
KURK					pmax	pmax	
	comp=Z,93nm,0.7s						
HIA	**Hailar**		**35.58**	**27**	||*e*P	**P**	**01 59 16.0 -0.2**
HIA					pmax	pmax	
	comp=Z,8.0nm,1.1s						
ZAA0	**Zalesovo Array**		**35.74**	**349**	*e*P	**P**	**01 59 17.9 +0.4**
	comp=Z,18nm,0.8s						
ZALV	**Zalesovo Beam**		**35.74**	**349**	P	**P**	**01 59 17.7 +0.3**
	comp=Z,17nm,0.5s,baz=173,slow=9.9,SNR=43						
ZAA1	**Zalesovo Array**		**35.75**	**349**	*e*P	**P**	**01 59 17.7 +0.2**
NVS	**Novosibirsk**		**36.89**	**348**	*i* P	**P**	**01 59 28.9 +1.7**
GEYT	**Alibeck**		**37.79**	**308**	P	**P**	**01 59 35.6 +0.4**
	comp=Z,5.5nm,0.9s,baz=104,slow=18,SNR=16						
GYA0B	**ALIBECK ARRAY**		**37.79**	**308**	*e*P	**P**	**01 59 35.3 +0.1**
	comp=Z,16nm,1.0s						
USRK	**Ussuriysk Ar.**		**39.05**	**42**	P	**P**	**01 59 46.9 +1.3**
	comp=Z,2.5nm,0.8s,baz=270,slow=5.8,SNR=4.4						
USRK					LR	LR	02 17 39.7
	comp=Z,207nm,18.9s,baz=222,slow=39						
BRVK	**Borovoye**		**39.23**	**336**	*e*P	**P**	**01 59 46.4 -0.7**
	comp=Z,4.4nm,0.6s						
BRVK	**Borovoye**		**39.23**	**336**	||*e*P	**P**	**01 59 47.8 +0.8**
BRVK					pmax	pmax	
	comp=Z,20nm,1.3s						
MJAR	**Matsushiro Ar**		**40.80**	**56**	LR	LR	02 18 55.8
	comp=Z,100nm,19.6s,baz=240,slow=39						
KLR	**Kul'dur**		**41.48**	**35**	P	**P**	**02 00 07.3 +1.6**
	comp=Z,3.1nm,0.9s,baz=285,slow=10.0,SNR=4.7						
ABKAR	**Akbulak array**		**41.61**	**325**	*e*P	**P**	**02 00 06.4 -0.4**
SVE	**Sverdlovsk**		**45.83**	**334**	||*e*P	**P**	**02 00 42.3 +1.7**
SVE					pmax	pmax	
	comp=Z,42nm,0.9s						
ZEI	**Tsey**		**49.54**	**310**	*e*P	**P**	**02 01 09.7 -0.2**
ZEI					pmax	pmax	
	comp=Z,17nm,0.9s						
AKH	**Akhalkalaki**		**49.58**	**308**	*e*P	**P**	**02 01 12.5 +2.3**
	comp=Z,14nm,0.9s						
AKH	**Akhalkalaki**		**49.58**	**308**	*e*P	**P**	**02 01 12.5 +2.3**
AKH					pmax	pmax	
	comp=Z,14nm,0.9s						
KBZ	**Khabaz**		**50.44**	**311**	P	**P**	**02 01 16.9 +0.4**
	comp=Z,3.4nm,0.8s,baz=141,slow=9.5,SNR=5.4						
NEY	**Neytrino**		**50.47**	**311**	↑*e*P	**P**	**02 01 19.0 +2.0**
NEY					pmax	pmax	
	comp=Z,4.0nm,0.9s						
KIV	**Kislovodsk**		**50.64**	**312**	*e*P	**P**	**02 01 20.7 +2.6**
	comp=Z,19nm,0.9s						
KIV	**Kislovodsk**		**50.64**	**312**	*e*P	**P**	**02 01 19.9 +1.8**
KIV					pmax	pmax	
	comp=Z,26nm,1.1s						
VRH	**Novokhopyorsk**		**53.02**	**320**	*e*P	**P**	**02 01 34.9 -0.7**
VRH					pmax	pmax	
	comp=

comp=Z,8.6nm,0.7s
KIEV Kiev 60.70 318|| *e*P **P** 02 02 30.3 +0.2
KIEV pmax pmax
comp=Z,12nm,1.0s
TIRR Tirgusor 60.88 311 *e*P **P** 02 02 29.5 -2.0
comp=Z,24nm,1.4s
TIRR Tirgusor 60.88 311 *e*P **P** 02 02 29.5 -2.0
TIRR pmax pmax
comp=Z,24nm,1.4s
KMBO Kilima Mbogo 61.02 258 P **P** 02 02 31.3 -1.9
comp=Z,1.0nm,0.5s,baz=73,slow=6.5,SNR=4.0
KMBO LR LR 02 28 27.0
comp=Z,34nm,18.1s,baz=96,slow=36
KMBO Kilima Mbogo 61.02 258 *e*P **P** 02 02 31.3 -1.9
comp=Z,6.6nm,1.5s
KMBO Kilima Mbogo 61.02 258 *e*P **P** 02 02 31.3 -1.9
KMBO pmax pmax
comp=Z,7.0nm,1.5s
CFR Carcaliu 61.10 312|| *i*P **P** 02 02 34.1 +1.2
CFR Carcaliu 61.10 312|| P **P** 02 02 34.1 +1.2
TLB Topalu 61.15 311↑ *i*P **P** 02 02 34.6 +1.3
TLB Topalu 61.15 311↑ P **P** 02 02 34.6 +1.3
VRI Vrincioaia 62.10 312↑ *i*P **P** 02 02 39.7 -0.1
VRI Vrincioaia 62.10 312↑ P **P** 02 02 39.7 -0.1
PLOR Plostina 62.15 312|| *i*P **P** 02 02 40.7 +0.5
PLOR Plostina 62.15 312|| P **P** 02 02 40.7 +0.5
BIZ Bicaz 62.55 314↑ *i*P **P** 02 02 42.4 -0.3
MLR Muntele Rosu 62.65 312 *e*P **P** 02 02 43.9 +0.3
comp=Z,23nm,0.9s
MLR Muntele Rosu 62.65 312|| *i*P **P** 02 02 44.1 +0.5
MLR Muntele Rosu 62.65 312|| P **P** 02 02 44.1 +0.5
DOPR Dopca 63.03 312↑ P **P** 02 02 48.8 +2.8
BURAR Bucovina Array 63.16 314|| *i*P **P** 02 02 46.7 -0.2
BURAR Bucovina Array 63.16 314|| P **P** 02 02 46.7 -0.2
BUR04 Bucovina Ar. S 63.16 314 *e*P **P** 02 02 46.3 -0.6
BUR08 Bucovina Ar. S 63.17 314 *e*P **P** 02 02 46.7 -0.3
VOIR 63.27 312↑ *i*P **P** 02 02 48.9 +1.2
VOIR 63.27 312↑ P **P** 02 02 48.9 +1.2
ARR Arges 63.57 312↑ *i*P **P** 02 02 48.0 -1.6
FIA0 FINESS Array S 63.72 330 *e*P **P** 02 02 49.4 -0.8
FIA0 FINESS Array S 63.72 330 *e*P **P** 02 02 49.4 -0.8
FINES FINESS Array B 63.72 330 P **P** 02 02 49.4 -0.8
comp=Z,8.0nm,0.8s,baz=106,slow=5.3,SNR=18
ARCR ARCALIA 63.74 314↑ *i*P **P** 02 02 52.4 +1.7
CJR Cluj-Napoca 64.27 313↑ *i*P **P** 02 02 54.9 +0.7
CJR Cluj-Napoca 64.27 313↑ P **P** 02 02 54.9 +0.7
SUW Suwalki 64.60 321 *e*P **P** 02 02 57.7 +1.6
comp=Z,32nm,1.0s
VTS Vitosha 64.70 309 *e*P **P** 02 02 56.5 -0.7
comp=Z,6.0nm,0.9s
VTS Vitosha 64.70 309↑ *i*P **P** 02 02 56.7 -0.5
VTS Vitosha 64.70 309↑ P **P** 02 02 56.7 -0.5
DRGR 64.87 313|| *i*P **P** 02 02 58.2 0.0
DRGR 64.87 313|| P **P** 02 02 58.2 0.0
TRPA Tarpa 64.96 315↑ *i*P **P** 02 02 58.6 0.0
BILL Bilibino 65.01 23|| *e*P **P** 02 02 59.7 +1.1
BILL *e* 02 03 07.9
BILL 02 03 28.0
BILL 02 05 24.0
BILL pmax pmax
comp=Z,13nm,1.6s
BILL MLR MLR
comp=Z,491nm,19.0s
HERR Herculane 65.15 311↑ *i*P **P** 02 03 00.4 +0.5
ARA0 ARCESS Array S 65.35 339 *e*P **P** 02 03 00.3 -0.5
ARCES ARCESS Array B 65.35 339 P **P** 02 03 00.3 -0.5
comp=Z,2.9nm,0.5s,baz=91,slow=7.1,SNR=18
STIP Stip 65.52 308 *i* P **P** 02 03 02.0 -0.4
SIRR Siria 65.62 313↑ *i*P **P** 02 03 03.0 0.0
MDVR Moldovita 65.66 311↑ *i*P **P** 02 03 03.7 +0.4
BZS Buzias 65.68 312|| *i*P **P** 02 03 02.5 -0.8
BZS Buzias 65.68 312|| P **P** 02 03 02.5 -0.8
FNA Florina 66.21 307 *e*P **P** 02 03 06.3 -0.6
comp=Z,9.8nm,0.9s
FNA Florina 66.21 307 *e*P **P** 02 03 06.3 -0.6
FNA pmax pmax
comp=Z,10.0nm,0.9s
STKA Stephens Creek 67.02 139 P **P** 02 03 11.8 -0.2
comp=Z,4.2nm,0.6s,baz=326,slow=7.4,SNR=14
STKA Stephens Creek 67.02 139 *e*P **P** 02 03 11.8 -0.2
comp=Z,0.9nm,0.6s
STKA Stephens Creek 67.02 139 *e*P **P** 02 03 11.8 -0.2
STKA pmax pmax
comp=Z,1.0nm,0.6s
VYHS Vyhne 67.41 315 *e*P **P** 02 03 14.1 -0.3
VYHS Vyhne 67.41 315 *e*P **P** 02 03 14.1 -0.3
CONA Conrad Observa 69.44 315 *e*P **P** 02 03 27.2 0.0
comp=Z,4.3nm,1.2s
SOKA Soboth 70.15 314 *e*P **P** 02 03 31.4 -0.1
comp=Z,3.5nm,0.9s
BRG Berggiesshubel 70.37 318 *e*P **P** 02 03 30.9 -1.8
comp=Z,1.2nm,0.8s
BRG *i* 02 03 34.4
comp=Z,7.4nm,1.1s
BRG Berggiesshubel 70.37 318 *e*P **P** 02 03 30.9 -1.8
BRG pmax pmax
comp=Z,1.0nm,0.8s
BRG pmax pmax
comp=Z,7.0nm,1.1s
MOA Molln 70.52 315 *e*P **P** 02 03 33.1 -0.6
comp=Z,3.3nm,0.6s
GEC2 GERESS Array S 70.77 316 *e*P **P** 02 03 35.5 +0.2
comp=Z,6.3nm,0.9s
GERES GERESS Array B 70.77 316 P **P** 02 03 34.9 -0.4
comp=Z,3.0nm,0.5s,baz=79,slow=5.6,SNR=29
GEA0 GERESS Array S 70.77 316 *e*P **P** 02 03 35.1 -0.2
NB2 NORSAR Subarra 70.88 329 P **P** 02 03 34.4 -1.3
comp=Z,3.4nm,0.7s,baz=83,slow=6.2
NB200 NORSAR Array S 70.88 329 *e*P **P** 02 03 34.7 -1.0
NOA NORSAR Array B 70.88 329 P **P** 02 03 34.7 -1.0
comp=Z,5.0nm,0.7s,baz=85,slow=5.9,SNR=21
NOA LR LR 02 39 33.1
comp=Z,29nm,19.1s,baz=255,slow=40
CLL Collm 70.91 319 *e*P **P** 02 03 38.0 +2.0
CLL Collm 70.91 319 *e*P **P** 02 03 38.0 +2.0
MOTA Moosalm 72.71 315 *i* P **P** 02 03 46.5 -0.6
comp=Z,4.5nm,0.7s
RETA Reutte 72.91 315 *e*P **P** 02 03 47.1 -1.2
comp=Z,5.6nm,0.5s
LSZ Lusaka 74.95 248 *e*P **P** 02 04 00.9 +0.3
comp=Z,5.2nm,0.8s
LSZ Lusaka 74.95 248 *e*P **P** 02 04 00.9 +0.3
LSZ pmax pmax
comp=Z,5.0nm,0.8s
KEST Kesra 76.38 303 P **P** 02 04 07.7 -0.9
comp=Z,5.9nm,0.9s,baz=90,slow=3.0,SNR=4.4
KEST Kesra 76.38 303 *e*P **P** 02 04 07.7 -0.9
comp=Z,21nm,1.3s
IM3 Indian Mountai 80.57 23 *e*P **P** 02 04 29.9 -1.1
MLY Manley 82.12 23 *e*P **P** 02 04 40.0 +0.7
comp=Z,8.9nm,1.1s
CAST Castle Rocks 82.38 25 *e*P **P** 02 04 41.0 +0.3
comp=Z,5.3nm,1.0s
MDM Murphy Dome 83.08 23 *e*P **P** 02 04 44.5 +0.2
comp=Z,12nm,1.1s
TAM Tamanrasset 83.15 292 *e*P **P** 02 04 44.4 -1.2
comp=Z,3.1nm,1.1s
TAM Tamanrasset 83.15 292 *e*P **P** 02 04 44.4 -1.2
TAM pmax pmax
comp=Z,3.0nm,1.1s
BOSA Boshof 83.16 237 P **P** 02 04 45.1 -0.3
comp=Z,2.7nm,0.7s,baz=64,slow=4.5,SNR=7.0
IL1 Eielson Array 83.67 23 *e*P **P** 02 04 47.0 -0.3
ILAR Eielson Array 83.67 23 P **P** 02 04 46.1 -1.2
comp=Z,1.2nm,0.8s,baz=318,slow=4.8,SNR=8.5
ILB Eielson Array 83.67 23 *e*P **P** 02 04 46.1 -1.2
SCRK Sand Creek 85.16 23 *e*P **P** 02 04 54.9 -0.1
comp=Z,5.0nm,1.0s
ES19 SONSECA Array 85.23 310 *e*P **P** 02 04 57.9 +2.1
ESDC Sonseca Array 85.29 310 P **P** 02 04 55.2 -0.9
comp=Z,1.8nm,0.9s,baz=62,slow=5.0,SNR=6.6
INK Inuvik 85.70 16 *e*P **P** 02 04 56.9 -0.5
comp=Z,6.4nm,1.0s
INK Inuvik 85.70 16 *e*P **P** 02 04 56.9 -0.5
INK pmax pmax
comp=Z,6.0nm,1.0s
TOA0 Torodi Ar. Sit 89.69 284 *e*P **P** 02 05 15.3 -2.3
TORD Torodi Ar. Bea 89.69 284 P **P** 02 05 15.9 -1.7
comp=Z,1.9nm,1.0s,baz=12,slow=7.4,SNR=9.3
TOA1 Torodi Ar. Sit 89.69 284 *e*P **P** 02 05 15.9 -1.7
BDFB Brasilia 145.47 270 PKPbc **PKPdf** 02 11 57.6 -0.5
comp=Z,8.5nm,0.8s,baz=74,slow=4.2,SNR=7.9
BDFB Brasilia 145.47 270 *e*PKPdf **PKPdf** 02 11 57.6 -0.5
BDFB *e*PKPdf **PKPbc** 02 11 58.1 +0.1
SDV Santo Domingo 149.13 333 *e*PKPbc **PKPdf** 02 12 07.1 +2.8
ROSC El Rosal 154.28 337 PKPbc **PKPbc** 02 12 22.0 +1.4
comp=Z,4.5nm,0.6s,baz=55,slow=12,SNR=7.6
CPUP Villa Florida 154.39 249 PKPbc **PKPbc** 02 12 18.5 -1.5
comp=Z,2.9nm,0.7s,baz=94,slow=3.2,SNR=6.8

IDC ***13*** *01:56:39.8±0.5, 1°.72S×81°.70W, h0km, mb4.7/22, mb1 4.9/27, mb1mx4.9/32, mbtmp4.8/27, ML4.2/5, MS4.1/18, Ms1 4.1/18, ms1mx3.9/28, Error ellipse: s-maj=17.3km s-min=10.3km az=57.0*

GCMT ***13*** *01:56:41.8±0.2, 1°.86S±0°.01×81°.72W±0°.01, h12km, MW5.1/110, Moment Tensor Solution. s66,c79; s110,c162; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=5.36±.09; Mθθ0.45±.07; Mϕϕ4.92±.10; Mrθ1.53±.30; Mθϕ0.87±.08; Mϕr1.36±.30; Best double couple: Mo5.59500×10^16 NP1:φ202.00000°, δ55.00000°, λ-77.00000°. NP2:φ360.00000°, δ37.00000°, λ-108.00000°. Principal axes: T 5.3360, Plg9.0000°, Azm283.0000°; N 0.5280, Plg11.0000°, Azm15.0000°; P -5.8550, Plg76.0000°, Azm155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISCJB ***13*** *01:56:44.2±0.4, 1°.69S±0°.02×81°.63W±0°.02, h39km±3km, mb5.0/290, MS4.2/18 Error ellipse: s-maj=4.2km s-min=2.9km az=147.5*

MOS ***13*** *01:56:44.4±0.9, 1°.68S×81°.63W, h38km, mb5.2/54, Error ellipse: s-maj=11.5km s-min=5.4km az=113.7*

IGQ ***13*** *01:56:44.5±0.5, 2°.5±2°×8°.1W±°, h7km±4km, M5.4/12, MLv5.4/12*

BJI ***13*** *01:56:45.5, 1°.80S×81°.60W, h30km, mB5.4/16, Ms5.4/6, Ms7 5.1/4*

NEIC ***13*** *01:56:46.8±0.4, 1°.74S×81°.58W, h47km±4km, mb5.1/260, MD5.2(IGQ), Error ellipse: s-maj=3.9km s-min=2.2km az=57.0*

NEIC Felt at Bahia de Caraquez, Guayaquil, Manta, Puerto Lopez and Salinas.

ISC 13 01:56:43.3±0.9, 1°.83S±0°.04×81°.65W±0°.04, h23km±6km, n924, σ1=$29/949, mb5.1/300, MS4.1/19, 11C-10D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SALI	**Salinas**	**0.75**	**118**	P		**Pb**	**01 56 55.9**	**-1.8**
SALI	**Salinas**	**0.75**	**118**	P		**Pb**	**01 56 55.9**	**-1.8**
MORR	**Playas El Morr**	**1.54**	**122**	P		**Pn**	**01 57 07.5**	**-2.0**
MORR	**Playas El Morr**	**1.54**	**122**	P		**Pn**	**01 57 07.5**	**-2.0**
MILO	**Milagro-Astudi**	**2.14**	**102**	P		**Pn**	**01 57 14.8**	**-2.9**
MILO	**Milagro-Astudi**	**2.14**	**102**	P		**Pn**	**01 57 14.8**	**-2.9**
COHC	**Cochancay**	**2.48**	**105**	P		**Pn**	**01 57 21.2**	**-1.1**
COHC				S		**Sn**	**01 57 49.9**	**-2.0**
COHC				S		**Sb**	**01 57 50.4**	**-7.0**
COHC	**Cochancay**	**2.48**	**105**	P		**Pn**	**01 57 21.2**	**-1.1**
COHC				S		**Sn**	**01 57 49.9**	**-2.0**
COHC				S		**Sb**	**01 57 50.4**	**-7.0**
MAG1	**Magdalena**	**2.56**	**47**	P		**Pn**	**01 57 21.8**	**-1.7**
MAG1	**Magdalena**	**2.56**	**47**	P		**Pn**	**01 57 21.8**	**-1.7**
RIOE1	**Riobamba**	**3.02**	**89**	P		**Pn**	**01 57 29.1**	**-1.0**
RIOE1				S		**Sn**	**01 58 05.7**	**-0.2**
RIOE1	**Riobamba**	**3.02**	**89**	P		**Pn**	**01 57 29.1**	**-1.0**
RIOE1				S		**Sn**	**01 58 05.7**	**-0.2**
MCRA	**Macar¯¡, Loja**	**3.04**	**146**	P		**Pn**	**01 57 29.6**	**-0.6**
MCRA				S		**Sn**	**01 58 03.6**	**-2.3**
SAGO	**Sagoatoa**	**3.06**	**77**	P		**Pn**	**01 57 30.3**	**-0.5**
SAGO	**Sagoatoa**	**3.06**	**77**	P		**Pn**	**01 57 30.3**	**-0.5**
ILLI	**Illinizas Sur**	**3.13**	**69**	P		**Pn**	**01 57 30.7**	**-1.0**
ILLI	**Illinizas Sur**	**3.13**	**69**	P		**Pn**	**01 57 30.7**	**-1.0**
BIL2	**Estacion Bilba**	**3.17**	**83**	P		**Pn**	**01 57 33.0**	**+0.8**
BIL2	**Estacion Bilba**	**3.17**	**83**	P		**Pn**	**01 57 33.0**	**+0.8**
BBIL	**Ulba Tungurahu**	**3.19**	**83**	P		**Pn**	**01 57 32.8**	**+0.5**
BBIL	**Ulba Tungurahu**	**3.19**	**83**	P		**Pn**	**01 57 32.8**	**+0.5**
BMAS	**Trigal station**	**3.19**	**84**	P		**Pn**	**01 57 33.6**	**+1.1**
BMAS				S		**Sn**	**01 58 12.9**	**+3.0**
BMAS	**Trigal station**	**3.19**	**84**	P		**Pn**	**01 57 33.6**	**+1.1**
BMAS				S		**Sn**	**01 58 12.9**	**+3.0**
JUI6	**Juive**	**3.21**	**83**	P		**Pn**	**01 57 33.1**	**+0.4**
JUI6	**Juive**	**3.21**	**83**	P		**Pn**	**01 57 33.1**	**+0.4**
ARRY	**Arrayan**	**3.21**	**84**	P		**Pn**	**01 57 32.4**	**-0.3**
ARRY	**Arrayan**	**3.21**	**84**	P		**Pn**	**01 57 32.4**	**-0.3**
POND	**Pondoa**	**3.23**	**83**	P		**Pn**	**01 57 33.3**	**+0.4**
POND	**Pondoa**	**3.23**	**83**	P		**Pn**	**01 57 33.3**	**+0.4**
RETU	**Refugio**	**3.23**	**83**	P		**Pn**	**01 57 33.5**	**+0.4**
RETU	**Refugio**	**3.23**	**83**	P		**Pn**	**01 57 33.5**	**+0.4**
PAT1	**Patacocha**	**3.23**	**84**	P		**Pn**	**01 57 33.5**	**+0.4**
PAT1	**Patacocha**	**3.23**	**84**	P		**Pn**	**01 57 33.5**	**+0.4**
BPAT	**Tungurahua Vol**	**3.23**	**84**	P		**Pn**	**01 57 33.3**	**+0.1**
BPAT				S		**Sn**	**01 58 13.0**	**+1.8**
BPAT	**Tungurahua Vol**	**3.23**	**84**	P		**Pn**	**01 57 33.3**	**+0.1**
BPAT				S		**Sn**	**01 58 13.0**	**+1.8**
RUN5	**Runtun**	**3.25**	**83**	P		**Pn**	**01 57 34.0**	**+0.7**
RUN5	**Runtun**	**3.25**	**83**	P		**Pn**	**01 57 34.0**	**+0.7**
BRUN	**Tungurahua Vol**	**3.27**	**83**	P		**Pn**	**01 57 33.6**	**+0.2**
BRUN	**Tungurahua Vol**	**3.27**	**83**	P		**Pn**	**01 57 33.6**	**+0.2**
BULB	**Ulba Tungurahu**	**3.27**	**83**	P		**Pn**	**01 57 33.9**	**+0.4**
BULB				S		**Sn**	**01 58 13.5**	**+1.7**
BULB	**Ulba Tungurahu**	**3.27**	**83**	P		**Pn**	**01 57 33.9**	**+0.4**
BULB				S		**Sn**	**01 58 13.5**	**+1.7**
GONZ	**Gonzanam¯¡**	**3.29**	**137**	P		**Pn**	**01 57 34.9**	**+1.0**
GONZ				S		**Sn**	**01 58 12.2**	**-0.3**
GONZ	**Gonzanam¯¡**	**3.29**	**137**	P		**Pn**	**01 57 34.9**	**+1.0**
GONZ				S		**Sn**	**01 58 12.2**	**-0.3**
PIS1	**Pisayambo**	**3.35**	**77**	P		**Pn**	**01 57 35.5**	**+0.7**
PIS1	**Pisayambo**	**3.35**	**77**	P		**Pn**	**01 57 35.5**	**+0.7**
PISA	**Pisayambo**	**3.35**	**77**	P		**Pn**	**01 57 35.7**	**+0.9**
PISA	**Pisayambo**	**3.35**	**77**	P		**Pn**	**01 57 35.7**	**+0.9**
BNAS	**Cotopaxi Volca**	**3.37**	**70**	P		**Pn**	**01 57 35.6**	**+0.5**
BNAS	**Cotopaxi Volca**	**3.37**	**70**	P		**Pn**	**01 57 35.6**	**+0.5**
BMOR	**Cotopaxi Volca**	**3.37**	**71**	P		**Pn**	**01 57 35.9**	**+0.7**
BMOR	**Cotopaxi Volca**	**3.37**	**71**	P		**Pn**	**01 57 35.9**	**+0.7**
NAS2	**Nasa**	**3.39**	**70**	P		**Pn**	**01 57 36.7**	**+1.3**
NAS2	**Nasa**	**3.39**	**70**	P		**Pn**	**01 57 36.7**	**+1.3**
BREF	**Cotopaxi Volca**	**3.41**	**70**	P		**Pn**	**01 57 37.6**	**+1.9**
BREF	**Cotopaxi Volca**	**3.41**	**70**	P		**Pn**	**01 57 37.6**	**+1.9**
BVC2	**Cotopaxi Volca**	**3.44**	**70**	P		**Pn**	**01 57 37.1**	**+1.0**
BVC2	**Cotopaxi Volca**	**3.44**	**70**	P		**Pn**	**01 57 37.1**	**+1.0**
BTAM	**Cotopaxi Volca**	**3.45**	**71**	P		**Pn**	**01 57 36.9**	**+0.7**
BTAM	**Cotopaxi Volca**	**3.45**	**71**	P		**Pn**	**01 57 36.9**	**+0.7**
PITA	**Cotopaxi Volc**	**3.46**	**69**	P		**Pn**	**01 57 37.0**	**+0.8**
PITA	**Cotopaxi Volc**	**3.46**	**69**	P		**Pn**	**01 57 37.0**	**+0.8**
COV1	**Cotopaxi Volc**	**3.50**	**71**	P		**Pn**	**01 57 37.1**	**0.0**
COV1	**Cotopaxi Volc**	**3.50**	**71**	P		**Pn**	**01 57 37.1**	**0.0**
YANA	**Yana**	**3.52**	**61**	P		**Pn**	**01 57 35.7**	**-1.3**
YANA	**Yana**	**3.52**	**61**	P		**Pn**	**01 57 35.7**	**-1.3**
PAC1	**Pacto, Para^›s**	**3.54**	**54**	P		**Pn**	**01 57 34.4**	**-2.6**
PAC1				S		**Sn**	**01 58 19.3**	**+1.1**
PAC1	**Pacto, Para^›s**	**3.54**	**54**	P		**Pn**	**01 57 34.4**	**-2.6**
PAC1				S		**Sn**	**01 58 19.3**	**+1.1**
ANTG	**Antisana-Guama**	**3.64**	**69**	P		**Pn**	**01 57 39.5**	**+0.7**
ANTG	**Antisana-Guama**	**3.64**	**69**	P		**Pn**	**01 57 39.5**	**+0.7**
PUYO	**Puyo, Santa Ro**	**3.64**	**85**	P		**Pn**	**01 57 40.2**	**+1.7**
PUYO	**Puyo, Santa Ro**	**3.64**	**85**	P		**Pn**	**01 57 40.2**	**+1.7**
PULU	**Pululahua**	**3.65**	**60**	P		**Pn**	**01 57 37.8**	**-0.9**
PULU	**Pululahua**	**3.65**	**60**	P		**Pn**	**01 57 37.8**	**-0.9**
ANTM	**Antisana-La Mi**	**3.66**	**70**	P		**Pn**	**01 57 39.7**	**+0.6**
ANTM	**Antisana-La Mi**	**3.66**	**70**	P		**Pn**	**01 57 39.7**	**+0.6**
ANTS	**Antisana-Sarah**	**3.72**	**69**	P		**Pn**	**01 57 40.8**	**+0.8**
ANTS	**Antisana-Sarah**	**3.72**	**69**	P		**Pn**	**01 57 40.8**	**+0.8**
ANTI	**Antisana**	**3.75**	**69**	P		**Pn**	**01 57 41.4**	**+1.1**
ANTI	**Antisana**	**3.75**	**69**	P		**Pn**	**01 57 41.4**	**+1.1**
OTAV	**Otavalo**	**3.80**	**57**	*e*Pn		**Pn**	**01 57 39.7**	**-1.2**
OTAV				*e*Sn		**Sn**	**01 58 23.4**	**-1.8**
OTAV	**Otavalo**	**3.80**	**57**	*e*P		**Pn**	**01 57 40.1**	**-0.9**
OTAV	**Otavalo**	**3.80**	**57**	P		**Pn**	**01 57 39.3**	**-1.7**
OTAV	**Otavalo**	**3.80**	**57**	*e*P		**Pn**	**01 57 40.1**	**-0.9**
OTAV	**Otavalo**	**3.80**	**57**	P		**Pn**	**01 57 39.3**	**-1.7**
OTAV	**Otavalo**	**3.80**	**57**	*ce*P		**Pn**	**01 57 39.5**	**-1.4**
OTAV				pmax	pmax			
	comp=Z,362nm,1.0s							
CUIC	**Cuicocha-Domo**	**3.91**	**57**	P		**Pn**	**01 57 41.1**	**-1.3**
CUIC	**Cuicocha-Domo**	**3.91**	**57**	P		**Pn**	**01 57 41.1**	**-1.3**
ZUMB	**Zumba**	**3.92**	**140**	P		**Pn**	**01 57 43.6**	**+1.3**
ZUMB				P		**Pn**	**01 57 44.1**	**+1.8**
ZUMB				S		**Sn**	**01 58 28.5**	**+0.8**
ZUMB				S		**Sn**	**01 58 28.6**	**+0.8**
ZUMB	**Zumba**	**3.92**	**140**	P		**Pn**	**01 57 43.6**	**+1.3**
ZUMB				P		Pb	01 57 44.1	-7.9
ZUMB				S		**Sn**	**01 58 28.6**	**+0.8**
ARDO	**Archidona, Ten**	**3.94**	**78**	P		**Pn**	**01 57 43.2**	**+0.7**
ARDO				S		**Sn**	**01 58 27.8**	**-0.2**
ARDO	**Archidona, Ten**	**3.94**	**78**	P		**Pn**	**01 57 43.2**	**+0.7**
ARDO				S		**Sn**	**01 58 27.8**	**-0.2**
COTA	**Cotacachi**	**3.95**	**57**	P		**Pn**	**01 57 42.8**	**-0.2**
COTA	**Cotacachi**	**3.95**	**57**	P		**Pn**	**01 57 42.8**	**-0.2**
IMBA	**Imbabura, San**	**4.04**	**59**	P		**Pn**	**01 57 44.8**	**+0.6**
IMBA	**Imbabura, San**	**4.04**	**59**	P		**Pn**	**01 57 44.8**	**+0.6**
URCU	**Urcuqui**	**4.07**	**57**	P		**Pn**	**01 57 44.8**	**+0.1**
URCU	**Urcuqui**	**4.07**	**57**	P		**Pn**	**01 57 44.8**	**+0.1**
CAYA	**Cayambe**	**4.12**	**63**	P		**Pn**	**01 57 46.6**	**+1.2**
CAYA	**Cayambe**	**4.12**	**63**	P		**Pn**	**01 57 46.6**	**+1.2**
YAHU	**Yahuarcocha**	**4.19**	**59**	P		**Pn**	**01 57 47.4**	**+1.1**
YAHU	**Yahuarcocha**	**4.19**	**59**	P		**Pn**	**01 57 47.4**	**+1.1**
LITE1	**Lita**	**4.20**	**52**	P		**Pn**	**01 57 43.6**	**-2.5**
LITE1				S		**Sn**	**01 58 32.4**	**-2.1**
LITE1	**Lita**	**4.20**	**52**	P		**Pn**	**01 57 43.6**	**-2.5**
LITE1				S		**Sn**	**01 58 32.4**	**-2.1**
CONE	**Cono NE Rev Vo**	**4.37**	**67**	P		**Pn**	**01 57 51.9**	**+3.2**
CONE	**Cono NE Rev Vo**	**4.37**	**67**	P		**Pn**	**01 57 51.9**	**+3.2**
TUMC	**Tumaco**	**4.66**	**39**	*e*P		**Pn**	**01 57 50.2**	**-2.1**
TUMC	**Tumaco**	**4.66**	**39**	*e*P		**Pn**	**01 57 50.2**	**-2.1**
GCUF	**Volcan Galeras**	**5.27**	**55**	*e*P		**Pn**	**01 58 01.7**	**+0.6**
GCUF	**Volcan Galeras**	**5.27**	**55**	*e*P		**Pn**	**01 58 01.7**	**+0.6**
CPAS2	**Pasto**	**5.34**	**56**	*e*P		Pb	01 58 10.2	-6.0
CPAS2	**Pasto**	**5.34**	**56**	*e*P		Pb	01 58 10.2	-6.0
GRGC	**Isla de Gorgon**	**5.93**	**36**	*e*P		**Pn**	**01 58 06.6**	**-3.2**
GRGC	**Isla de Gorgon**	**5.93**	**36**	*e*P		**Pn**	**01 58 06.6**	**-3.2**
ATAH	**Atahualpa**	**6.19**	**148**	Pn		**Pn**	**01 58 15.9**	**+2.1**
	comp=Z,18nm,0.3s,baz=342,slow=7.8,SNR=49							
ATAH						Sn	**01 59 25.6**	**+1.4**
	comp=Z,24nm,0.3s,baz=2.4,slow=17,SNR=4.6							
SOTA	**Rioblanco**	**6.40**	**52**	*e*P		**Pn**	**01 58 16.1**	**-0.5**
SOTA	**Rioblanco**	**6.40**	**52**	*e*P		**Pn**	**01 58 16.1**	**-0.5**
PCON	**Cinco Dias**	**6.68**	**52**	*e*P		**Pn**	**01 58 20.5**	**-0.1**
PCON	**Cinco Dias**	**6.68**	**52**	*e*P		**Pn**	**01 58 20.5**	**-0.1**
FLOC	**Florencia**	**6.89**	**61**	*e*P		**Pn**	**01 58 25.1**	**+2.1**
FLOC	**Florencia**	**6.89**	**61**	*e*P		**Pn**	**01 58 25.1**	**+2.1**
HORQ	**Saladito**	**7.29**	**44**	*e*P		**Pn**	**01 58 26.5**	**-2.2**
HORQ	**Saladito**	**7.29**	**44**	*e*P		**Pn**	**01 58 26.5**	**-2.2**
MARP	**Paez Belalcaza**	**7.34**	**51**	*e*P		**Pn**	**01 58 29.9**	**+0.4**
MARP	**Paez Belalcaza**	**7.34**	**51**	*e*P		**Pn**	**01 58 29.9**	**+0.4**
BETC	**Betania**	**7.66**	**54**	*e*P		**Pn**	**01 58 34.8**	**+1.2**
BETC	**Betania**	**7.66**	**54**	*e*P		**Pn**	**01 58 34.8**	**+1.2**
YOTC	**Yotoco, Valle**	**7.84**	**43**	*e*P		**Pn**	**01 58 37.6**	**+1.4**
YOTC	**Yotoco, Valle**	**7.84**	**43**	*e*P		**Pn**	**01 58 37.6**	**+1.4**
PAYG	**Puerto Ayora**	**8.71**	**277**	*e*Pn		**Pn**	**01 58 49.0**	**+1.1**
PAYG				*e*Sn		**Sn**	**02 00 18.4**	**-7.1**
PRAC	**Prado**	**8.72**	**51**	*e*P		**Pn**	**01 58 47.7**	**-0.5**
PRAC	**Prado**	**8.72**	**51**	*e*P		**Pn**	**01 58 47.7**	**-0.5**
ANIL	**Santa Ana**	**8.85**	**45**	*e*P		**Pn**	**01 58 49.1**	**-1.1**
ANIL	**Santa Ana**	**8.85**	**45**	*e*P		**Pn**	**01 58 49.1**	**-1.1**
RREF	**El Recreo**	**9.18**	**43**	*e*P		Pn	01 59 02.2	+7.1
RREF	**El Recreo**	**9.18**	**43**	*e*P		Pn	01 59 02.2	+7.1
SJAC	**San Juan de Ar**	**9.22**	**57**	*e*P		**Pn**	**01 58 56.0**	**+1.0**
SJAC	**San Juan de Ar**	**9.22**	**57**	*e*P		**Pn**	**01 58 56.0**	**+1.0**
GUYC	**Guyana, Colomb**	**9.39**	**42**	*e*P		**Pn**	**01 59 01.0**	**+3.2**
GUYC	**Guyana, Colomb**	**9.39**	**42**	*e*P		**Pn**	**01 59 01.0**	**+3.2**
ROSC	**El Rosal**	**9.88**	**48**	Pn		**Pn**	**01 59 04.2**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=270,slow=8.1,SNR=3.2							
ROSC	**El Rosal**	**9.88**	**48**	*e*Pn		**Pn**	**01 59 05.6**	**+1.3**
ROSC	**El Rosal**	**9.88**	**48**	*e*P		**Pn**	**01 59 07.7**	**+3.4**
ROSC	**El Rosal**	**9.88**	**48**	*e*P		**Pn**	**01 59 07.7**	**+3.4**
VILC	**Villavicencio,**	**9.90**	**53**	*e*P		**Pn**	**01 59 04.2**	**-0.2**
VILC	**Villavicencio,**	**9.90**	**53**	*e*P		**Pn**	**01 59 04.2**	**-0.2**
HELC	**Santa Helena**	**10.04**	**37**	*e*P		**Pn**	**01 59 09.9**	**+3.3**
HELC	**Santa Helena**	**10.04**	**37**	*e*P		**Pn**	**01 59 09.9**	**+3.3**
CHIC	**Chingaza**	**10.19**	**51**	*e*P		**Pn**	**01 59 08.6**	**-0.1**
CHIC	**Chingaza**	**10.19**	**51**	*e*P		**Pn**	**01 59 08.6**	**-0.1**
DBBC	**Dabeiba**	**10.33**	**32**	*e*P		**Pn**	**01 59 13.0**	**+2.7**
DBBC	**Dabeiba**	**10.33**	**32**	*e*P		**Pn**	**01 59 13.0**	**+2.7**

comp=Z,179nm,1.3s
ICMP Isla Caja de M 24.61 37 *e*P **P 02 02 02.3 +0.2**
comp=Z,182nm,1.3s
SIV San Ignacio 24.68 126 P **P 02 02 03.9 +1.0**
comp=Z,23nm,0.7s,baz=306,slow=9.4,SNR=111
OBIP Obispado Ponce 24.69 36 *e*P **P 02 02 02.7 -0.1**
comp=Z,88nm,1.2s
SJG San Juan 25.01 37 P **P 02 02 06.0 +0.3**
comp=Z,38nm,0.6s,baz=229,slow=5.7,SNR=10
SJG San Juan 25.01 37 *e*P **P 02 02 06.0 +0.3**
HUMP Col San Antoni 25.22 37 *e*P **P 02 02 07.4 -0.2**
comp=Z,112nm,1.2s
CBYP Canovanas 25.31 37 *e*P **P 02 02 08.7 +0.2**
comp=Z,178nm,1.0s
MTP Monte Pirata 25.36 38 *e*P **P 02 02 08.9 -0.1**
comp=Z,120nm,1.3s
TLIG Tlapa 25.48 320 *e*P **P 02 02 10.4 +0.3**
comp=Z,37nm,1.2s
CDVI St. Croix 25.60 40 *e*P **P 02 02 13.1 +2.0**
comp=Z,128nm,0.9s
MOIG Morelia 28.71 319 *e*P **P 02 02 40.8 +1.4**
comp=Z,54nm,1.4s
JRQG Juriquilla Cam 28.99 322 *e*P **P 02 02 42.7 +1.0**
comp=Z,76nm,1.2s
MDP Montagnes des 29.79 77 P **P 02 02 48.4 -0.3**
comp=Z,15nm,0.9s,baz=253,slow=8.9,SNR=5.0
GO04 TOLOlo Observa 30.02 161 *e*P **P 02 02 51.2 +0.4**
comp=Z,26nm,1.0s
657A Interlachen 31.23 360 P **P 02 03 01.4 +0.2**
baz=179
556A Lake Butler 31.66 359 P **P 02 03 04.5 -0.4**
baz=178
552A Lynn Haven 31.97 354 P **P 02 03 07.9 +0.2**
baz=173
ROC1 El Roble 32.56 163 *e*P **P 02 03 14.1 +0.9**
comp=Z,47nm,0.7s
450A Crestview 32.79 352 P **P 02 03 14.6 -0.3**
baz=171
PEL Peldehue 32.81 163 *e*P **P 02 03 16.0 +0.9**
comp=Z,26nm,0.9s
PEL Peldehue 32.81 163 *e*P **P 02 03 16.0 +0.9**
PEL pmax pmax
comp=Z,26nm,0.9s
349A Repton 33.41 351 P **P 02 03 20.4 +0.1**
baz=170
254A Abbeville 33.62 357 P **P 02 03 21.3 -0.9**
baz=177
CPUP Villa Florida 33.77 138 P **P 02 03 23.6 +0.1**
comp=Z,2.5nm,0.7s,baz=324,slow=9.6,SNR=7.6
CPUP LR LR 02 20 08.9
comp=Z,270nm,18.4s,baz=310,slow=42
CPUP Villa Florida 33.77 138 *e*P **P 02 03 24.7 +1.2**
comp=Z,11nm,1.0s
CPUP Villa Florida 33.77 138 *e*P **P 02 03 24.7 +1.2**
CPUP pmax pmax
comp=Z,11nm,1.0s
249A Camden 34.01 352 P **P 02 03 24.7 -0.8**
baz=170
344A Westbrook Farm 34.20 346 P **P 02 03 26.9 -0.3**
baz=164
248A Dixon Mills 34.22 351 P **P 02 03 26.6 -0.7**
baz=169
GO05 HualaæØ 34.23 166 *e*P **P 02 03 28.6 +1.1**
comp=Z,42nm,0.7s
154A Montrose 34.28 358 P **P 02 03 27.3 -0.5**
baz=177
156A Sylvania 34.29 0 P **P 02 03 28.4 +0.4**
baz=180
247A Quitman 34.33 349 P **P 02 03 27.4 -1.0**
baz=168
151A Opelika 34.34 354 P **P 02 03 26.8 -1.6**
baz=173
HKT Hockley 34.38 338 *e*P **P 02 03 29.1 +0.4**
comp=Z,24nm,1.5s
HKT Hockley 34.38 338 *e*P **P 02 03 29.1 +0.4**
HKT pmax pmax
comp=Z,24nm,1.5s
150A Eclectic 34.49 353 P **P 02 03 28.6 -1.1**
baz=172
342A Flagon Creek P 34.54 344 P **P 02 03 29.3 -0.9**
baz=161
149A Jones 34.58 352 P **P 02 03 29.1 -1.4**
baz=171
Z54A Sparta 34.89 358 P **P 02 03 31.9 -1.2**
baz=178
Z52A Williamson 34.92 356 P **P 02 03 32.3 -1.1**
baz=175
Z53A Monticello 34.96 357 P **P 02 03 32.6 -1.2**
baz=176
LRAL Lakeview Retre 35.04 352 *e*P **P 02 03 33.5 -0.9**
LRAL Lakeview Retre 35.04 352 P **P 02 03 33.5 -0.9**
baz=171,SNR=6.1
GOGA Godfrey 35.09 357 P **P 02 03 32.9 -1.9**
baz=177
Z51A Franklin 35.11 355 P **P 02 03 34.0 -1.1**
baz=174
Z50A Ashland 35.12 354 *e*P **P 02 03 34.4 -0.8**
comp=Z,13nm,0.9s
Z50A Ashland 35.12 354 P **P 02 03 33.9 -1.3**
baz=172
Z49A Columbiana 35.13 353 P **P 02 03 34.3 -1.0**
baz=171
241A Mo Tay, Goldon 35.32 343 P **P 02 03 36.3 -0.5**
baz=160
Z47A Carrollton 35.36 351 P **P 02 03 35.8 -1.4**
baz=169,SNR=5.3
Z48A Northport 35.45 351 P **P 02 03 36.8 -1.2**
baz=170
Y54A Tignall 35.51 359 P **P 02 03 37.3 -1.2**
baz=178
Y53A Monroe 35.54 357 P **P 02 03 37.4 -1.3**
baz=177
Y51A Rockmart 35.68 355 P **P 02 03 38.7 -1.2**
baz=174
Y50A Piedmont 35.73 354 P **P 02 03 39.2 -1.2**
baz=173
Y49A Blount Mountai 35.77 353 P **P 02 03 39.1 -1.6**
baz=172
BDFB Brasilia 35.89 114 P **P 02 03 42.4 +0.3**
comp=Z,11nm,1.0s,baz=284,slow=10,SNR=10.0
BDFB LR LR 02 19 29.0
comp=Z,1µm,22.0s,baz=260,slow=38
Y48A Jasper 35.93 352 P **P 02 03 40.5 -1.5**
baz=170
Y47A UCPARC, Winfie 36.01 351 P **P 02 03 41.2 -1.6**
baz=169
Y46A Houston 36.16 350 P **P 02 03 42.9 -1.2**
baz=168,SNR=8.6
Z42A Norrel Spur, H 36.24 345 P **P 02 03 43.9 -0.8**
baz=162
Y45A Yeager Farm, C 36.27 349 P **P 02 03 44.5 -0.5**
baz=166,SNR=8.1
X50B Fort Payne 36.29 354 P **P 02 03 43.6 -1.5**
baz=173
X52A Dahlonega 36.30 357 P **P 02 03 43.9 -1.3**
baz=176
X51A Calhoun 36.32 356 P **P 02 03 44.3 -1.2**
baz=174
X49A Woodville 36.41 353 P **P 02 03 44.8 -1.4**
baz=172
X48A Hartselle 36.44 352 P **P 02 03 44.7 -1.7**
baz=171
Z41A Richland Creek 36.45 344 *e*P **P 02 03 46.5 0.0**
comp=Z,95nm,1.5s
Z41A Richland Creek 36.45 344 P **P 02 03 45.4 -1.1**
baz=161
JCT Junction City 36.49 333 *e*P **P 02 03 47.5 +0.5**
comp=Z,42nm,0.9s
JCT Junction City 36.49 333 *e*P **P 02 03 47.5 +0.5**
JCT pmax pmax
comp=Z,42nm,0.9s
JCT Junction City 36.49 333 P **P 02 03 47.3 +0.3**
baz=148,SNR=12
Y44A Strider, Charl 36.50 348 P **P 02 03 46.3 -0.6**
baz=165
X47A Russelville 36.62 351 P **P 02 03 46.6 -1.4**
baz=170
Y42A Garnett, Star 36.73 346 P **P 02 03 48.5 -0.4**
baz=163
KMSC Kings Mountain 36.78 0 P **P 02 03 48.1 -1.1**
baz=180
W52A Murphy 36.79 357 P **P 02 03 49.3 -0.1**
baz=176
WHTX Lake Whitney, 36.82 337 *e*P **P 02 03 50.1 +0.4**
comp=Z,25nm,1.0s
WHTX Lake Whitney, 36.82 337 P **P 02 03 49.0 -0.7**
baz=153
W53A Cullowhee 36.83 358 P **P 02 03 48.7 -1.2**
baz=177
W51A Cleveland 36.91 356 P **P 02 03 49.2 -1.2**
baz=175
WLAR White Oak Lake 36.94 344 *e*P **P 02 03 51.8 +1.1**
comp=Z,81nm,1.4s
Y41A Eaglette Beard 36.98 345 P **P 02 03 50.2 -0.9**
baz=162
W50A Signal Mountai 36.99 355 P **P 02 03 49.6 -1.6**
baz=174
W49A Belvidere 37.01 354 P **P 02 03 49.4 -1.8**
baz=172
SWET Sewanee 37.07 354 *e*P **P 02 03 50.7 -1.1**
comp=Z,13nm,1.0s
W48A Pulaski 37.10 353 P **P 02 03 50.4 -1.7**
baz=171
PLAL Pickwick Lake 37.11 351 *e*P **P 02 03 50.7 -1.4**
comp=Z,8.9nm,1.0s
PLAL *e*PcP **PcP 02 06 11.8 -0.6**
CPCT Cooper Cave 37.18 356 *e*P **P 02 03 52.0 -0.8**
comp=Z,19nm,1.2s
W47A Westpoint 37.30 352 P **P 02 03 51.9 -1.8**
baz=170,SNR=9.2
W46A Michie 37.30 351 P **P 02 03 52.2 -1.6**
baz=169
V53A Saluda 37.32 358 P **P 02 03 52.7 -1.3**
baz=178
SLBS Sierra La Lagu 37.42 314 *e*P **P 02 03 56.3 +1.2**
comp=Z,30nm,1.0s
V50A Pikevile 37.44 355 P **P 02 03 54.0 -1.0**
baz=174
W45A Hickory Valley 37.46 350 P **P 02 03 53.7 -1.4**
baz=168
LTX Lajitas 37.47 327 *e*P **P 02 03 55.1 -0.2**
LTX *e*PcP **PcP 02 06 14.1 +0.4**
LTX Lajitas 37.47 327 *e*P **P 02 03 55.2 -0.2**
LTX *e* 02 06 14.1
TXAR Lajitas Array 37.47 327 P **P 02 03 55.1 -0.2**
comp=Z,2.8nm,0.8s,baz=148,slow=11,SNR=13
TXAR PcP **PcP 02 06 14.1 +0.4**
comp=Z,5.0nm,1.0s,baz=145,slow=7.2,SNR=8.1
TXAR LR LR 02 16 07.3
comp=Z,216nm,22.0s,baz=0.0,slow=31
TX31 Lajitas Ar. Si 37.47 327 *e*P **P 02 03 55.7 +0.3**
TX31 *e*PcP **PcP 02 06 13.9 +0.1**
V52A Sevierville 37.52 357 *e*P **P 02 03 54.5 -1.2**
comp=Z,18nm,1.3s
V52A Sevierville 37.52 357 P **P 02 03 54.4 -1.2**
baz=177
V51A Loudon 37.52 356 P **P 02 03 54.8 -0.7**
baz=176
X41A Kaden, Bauxite 37.54 345 P **P 02 03 55.0 -0.7**
baz=162
V49A McMinnville 37.61 354 P **P 02 03 54.5 -1.9**
baz=173
V48A Smith Brothers 37.68 353 *e*P **P 02 03 55.9 -1.1**
comp=Z,18nm,1.1s
V48A Smith Brothers 37.68 353 P **P 02 03 55.5 -1.5**
baz=171
UALR University of 37.77 346 *e*P **P 02 03 57.8 +0.1**
comp=Z,26nm,1.2s
MIAR Mount Ida 37.87 344 *e*P **P 02 03 57.9 -0.7**
comp=Z,21nm,1.3s
MIAR Mount Ida 37.87 344 *e*P **P 02 03 57.9 -0.7**
MIAR pmax pmax
comp=Z,21nm,1.3s
MIAR Mount Ida 37.87 344 P **P 02 03 57.7 -0.9**
baz=160,SNR=6.1
V46A Holladay 37.92 351 P **P 02 03 56.8 -2.1**
baz=169
U52A Thorn Hill 38.06 358 P **P 02 03 58.8 -1.3**
baz=177
W41B Gary Mavity, V 38.12 346 P **P 02 03 59.7 -0.9**
baz=163
U50A Jamestown 38.16 356 P **P 02 03 59.4 -1.6**
baz=175
WVT Waverly 38.20 352 *e*P **P 02 03 59.4 -1.9**
comp=Z,11nm,0.9s
WVT Waverly 38.20 352 *e*P **P 02 03 59.4 -1.9**
WVT pmax pmax
comp=Z,11nm,0.9s
WVT Waverly 38.20 352 P **P 02 03 59.2 -2.1**
baz=170
WHAR Wooly Hollow 38.24 346 *e*P **P 02 04 01.2 -0.5**
comp=Z,12nm,1.1s
ABTX Abilene, Hawle 38.26 335 *e*P **P 02 04 02.3 +0.4**
comp=Z,40nm,1.4s
ABTX Abilene, Hawle 38.26 335 P **P 02 04 01.2 -0.7**
baz=150,SNR=8.2
U49A Red Boiling Sp 38.34 355 P **P 02 04 00.8 -1.7**
baz=173
U48A Cassie Pea, Po 38.41 354 P **P 02 04 01.8 -1.3**
baz=172
X37A Clayton 38.45 342 *e*P **P 02 04 04.3 +0.9**
comp=Z,30nm,1.3s
V42A Cord 38.53 347 P **P 02 04 02.6 -1.5**
baz=164
W39A Magazine 38.54 344 *e*P **P 02 04 04.5 +0.3**
comp=Z,24nm,1.0s
W39A Magazine 38.54 344 P **P 02 04 03.6 -0.6**
baz=160,SNR=11
V41A Mountainview 38.68 346 P **P 02 04 04.3 -1.1**
baz=163,SNR=5.5
GO06 Curarrehue 38.71 167 *e*P **P 02 04 07.4 +1.6**
comp=Z,22nm,0.8s
T50A Nancy 38.76 356 P **P 02 04 04.2 -1.9**
baz=175
T49A Edmonton 38.90 355 *e*P **P 02 04 05.8 -1.5**
comp=Z,28nm,1.4s
T49A Edmonton 38.90 355 P **P 02 04 05.1 -2.1**
baz=174
T47A Sharon Grove 38.95 353 P **P 02 04 05.6 -2.0**
baz=171
T48A Bowling Green 38.99 354 P **P 02 04 06.0 -1.9**
baz=172
U42A Revenden 39.02 348 P **P 02 04 06.7 -1.5**
baz=165
T46A Princeton 39.10 352 P **P 02 04 06.9 -2.0**
baz=170,SNR=7.5
U41A Viola 39.16 347 P **P 02 04 08.3 -1.1**
baz=164,SNR=5.2
S51A Beattyville 39.31 358 P **P 02 04 09.0 -1.6**
baz=177
S50A Richmond 39.39 357 P **P 02 04 09.2 -2.1**
baz=176
U40A Yellville 39.39 346 P **P 02 04 10.3 -1.1**
baz=162,SNR=9.7
T43A Greenville 39.53 349 P **P 02 04 10.9 -1.7**
baz=166,SNR=5.2
S49A Springfield 39.55 355 P **P 02 04 10.6 -2.1**
baz=174
HHAR Hobbs 39.60 344 *e*P **P 02 04 12.9 -0.2**
comp=Z,12nm,0.9s
T42A Van Buren 39.64 348 *e*P **P 02 04 12.0 -1.4**
comp=Z,12nm,0.7s
T42A Van Buren 39.64 348 P **P 02 04 11.9 -1.4**
baz=165,SNR=8.0
R58B Mineral 39.74 5 P **P 02 04 12.8 -1.4**
baz=186
WMOK Wichita Mounta 39.76 338 *e*P **P 02 04 14.2 -0.3**
comp=Z,14nm,1.1s
WMOK Wichita Mounta 39.76 338 *e*P **P 02 04 14.2 -0.3**
WMOK pmax pmax
comp=Z,14nm,1.1s
WMOK Wichita Mounta 39.76 338 P **P 02 04 14.0 -0.5**
baz=152,SNR=11
TUL1 Leonard 39.80 342 *e*P **P 02 04 14.4 -0.3**
comp=Z,73nm,1.4s
TUL1 Leonard 39.80 342 P **P 02 04 13.8 -0.9**
baz=158,SNR=6.5
T41A Mountain View 39.80 347 P **P 02 04 13.4 -1.3**
baz=164
S44A Carbondale 39.95 351 P **P 02 04 14.3 -1.6**
baz=168
SIUC Southern Illin 39.96 351 *e*P **P 02 04 15.0 -1.1**
comp=Z,20nm,0.9s
R51A Hillsboro 39.97 358 P **P 02 04 14.5 -1.6**
baz=177
S43A Fulton Ridge, 39.97 350 P **P 02 04 14.4 -1.7**
baz=167,SNR=5.1
R50A Paris 39.98 357 P **P 02 04 14.5 -1.7**
baz=176
PLCA Paso Flores 40.01 167 P **P 02 04 17.4 +0.8**
comp=Z,14nm,0.9s,baz=2.5,slow=9.0,SNR=20
PLCA PcP **PcP 02 06 22.4 +1.0**
comp=Z,4.8nm,0.9s,baz=341,slow=4.9,SNR=3.1
PLCA Paso Flores 40.01 167 *e*P **P 02 04 17.8 +1.2**
comp=Z,36nm,1.1s
PLCA *e*PcP **PcP 02 06 22.4 +1.0**
PLCA Paso Flores 40.01 167 *e*P **P 02 04 17.8 +1.2**
PLCA *e* 02 06 22.4
PLCA pmax pmax
comp=Z,36nm,1.1s
R49A Shelbyville 40.05 356 P **P 02 04 14.8 -2.0**
baz=174
MNTX Cornudas Mount 40.23 328 *e*P **P 02 04 18.1 -0.4**
comp=Z,20nm,0.9s
MNTX Cornudas Mount 40.23 328 P **P 02 04 18.1 -0.4**
baz=141,SNR=25
S42A Caledonia 40.30 349 P **P 02 04 17.1 -1.7**
baz=166
S41A Jillco Farms, 40.32 348 P **P 02 04 17.7 -1.3**
baz=164,SNR=5.1
TRQA Tornquist 40.33 156 *e*P **P 02 04 20.1 +1.0**
comp=Z,42nm,0.8s
TRQA Tornquist 40.33 156 *ce*P **P 02 04 20.2 +1.0**
TRQA pmax pmax
comp=Z,51nm,1.7s
R45A Skylar, Fairfi 40.39 352 P **P 02 04 17.8 -1.8**
baz=170
FVM French Village 40.43 349 *e*P **P 02 04 18.8 -1.2**
comp=Z,12nm,0.8s
FVM French Village 40.43 349 *e*P **P 02 04 18.8 -1.2**
FVM pmax pmax
comp=Z,12nm,0.8s
R44A Waltonville 40.46 351 P **P 02 04 18.6 -1.6**
baz=168
R43A Red Bud 40.63 350 P **P 02 04 20.3 -1.3**
baz=167,SNR=5.6
CCM Cathedral Cave 40.66 348 *e*P **P 02 04 20.8 -1.0**
comp=Z,19nm,1.1s
CCM Cathedral Cave 40.66 348 *e*P **P 02 04 20.8 -1.0**
CCM pmax pmax
comp=Z,19nm,1.1s
CCM Cathedral Cave 40.66 348 P **P 02 04 20.5 -1.4**
baz=165
Q51A Peebles 40.68 358 *e*P **P 02 04 20.6 -1.4**
comp=Z,33nm,1.4s
Q51A Peebles 40.68 358 P **P 02 04 20.2 -1.8**
baz=177
Q48A North Vernon 40.73 355 P **P 02 04 20.2 -2.2**
baz=174
Q49A Aurora 40.74 356 P **P 02 04 21.0 -1.5**
baz=175
MSTX Muleshoe 40.78 333 *e*P **P 02 04 22.7 -0.4**
comp=Z,49nm,0.9s
MSTX Muleshoe 40.78 333 P **P 02 04 22.5 -0.5**
baz=146,SNR=21
R42A Luebbering 40.79 349 P **P 02 04 21.3 -1.6**
baz=166
Q47A Bedord North L 40.80 354 P **P 02 04 21.8 -1.2**
baz=173
R41A Rosebud 40.92 348 P **P 02 04 22.6 -1.4**
baz=165,SNR=6.6
Q45A Warren Harvey, 40.96 352 P **P 02 04 22.4 -1.9**
baz=170
AMTX Amarillo 41.06 335 *e*P **P 02 04 25.2 -0.2**
comp=Z,29nm,0.9s
AMTX Amarillo 41.06 335 P **P 02 04 24.7 -0.6**
baz=149
Q44A Meyer Farm, Va 41.09 351 P **P 02 04 23.3 -2.1**
baz=169
P48A Milroy 41.23 356 P **P 02 04 24.1 -2.5**
baz=174
P49A Miami Univ. Ec 41.26 356 P **P 02 04 25.2 -1.5**
baz=175
P50A Jamestown 41.28 357 P **P 02 04 24.8 -2.1**
baz=177
U32A Winter Ranch, 41.30 339 *e*P **P 02 04 27.1 -0.2**
comp=Z,57nm,1.0s
P45A Graceland, Par 41.53 353 P **P 02 04 26.6 -2.3**
baz=171
O51A Pataskala 41.78 359 P **P 02 04 29.0 -2.1**
baz=178
O50A Cable 41.81 358 P **P 02 04 30.1 -1.2**
baz=177
MVL Millersville 41.91 6 *e*P **P 02 04 31.8 -0.2**
comp=Z,18nm,1.0s
P42A Winchester 41.98 350 P **P 02 04 30.8 -1.8**
baz=167
O56A Blue Knob Stat 41.99 4 *e*P **P 02 04 32.8 0.0**
comp=Z,44nm,1.4s
O56A Blue Knob Stat 41.99 4 P **P 02 04 31.6 -1.2**
baz=184
O48A Farmland 42.00 356 P **P 02 04 30.6 -2.2**
baz=175
PAGS Pennsylvania G 42.09 6 *e*P **P 02 04 33.1 -0.4**
comp=Z,37nm,1.3s
121A Cookes Peak, D 42.18 326 P **P 02 04 35.7 +1.1**
baz=139,SNR=16
319A Douglas 42.18 324 *e*P **P 02 04 35.6 +1.0**
comp=Z,27nm,0.9s
SSPA Standing Stone 42.40 4 *e*P **P 02 04 35.8 -0.3**
comp=Z,36nm,1.3s
SSPA Standing Stone 42.40 4 P **P 02 04 36.2 +0.2**
baz=186
O41A Passleys Farm, 42.59 350 P **P 02 04 35.6 -2.0**
baz=166
LUPA Lehigh Univers 42.61 7 *e*P **P 02 04 37.9 +0.1**
comp=Z,4.2nm,1.3s
BNM Barren Site 42.80 329 *e*P **P 02 04 40.5 +0.7**
N59A State Game Lan 42.88 7 *e*P **P 02 04 38.0 -2.0**
comp=Z,18nm,0.8s
N59A State Game Lan 42.88 7 P **P 02 04 39.2 -0.8**
baz=188,SNR=6.4
LPM Los Pinos Moun 42.93 329 *e*P **P 02 04 41.2 +0.5**
LPM *e*PcP **PcP 02 06 33.7 +2.4**
KSU1 Kansas State U 42.99 343 *e*P **P 02 04 40.9 0.0**
comp=Z,60nm,1.4s
KSU1 Kansas State U 42.99 343 P **P 02 04 40.5 -0.4**
baz=158
M49A Liberty Center 43.15 357 P **P 02 04 41.2 -0.9**
baz=176
LAZ Ladron 43.26 329 *e*P **P 02 04 44.2 +0.8**
ANMO Albuquerque 43.34 330 *e*P **P 02 04 44.6 +0.5**
comp=Z,29nm,0.9s
ANMO Albuquerque 43.34 330 *d i*P **P 02 04 44.5 +0.5**
ANMO pmax pmax
comp=Z,30nm,0.8s
ANMO Albuquerque 43.34 330 P **P 02 04 44.0 0.0**
baz=142
KSPA Keystone Colle 43.51 6 *e*P **P 02 04 44.7 -0.4**
comp=Z,24nm,1.1s
L47A Sherwood 43.72 356 P **P 02 04 45.4 -1.3**
baz=175
TUC Tucson 43.74 323 *e*P **P 02 04 47.6 +0.4**
comp=Z,10nm,0.9s
TUC Tucson 43.74 323 *e*P **P 02 04 47.6 +0.4**
TUC pmax pmax
comp=Z,10.0nm,0.9s
TUC Tucson 43.74 323 P **P 02 04 47.4 +0.2**
baz=135
BINY Binghamton 44.12 6 *e*P **P 02 04 49.5 -0.5**
BINY Binghamton 44.12 6 P **P 02 04 48.8 -1.2**
baz=188,SNR=7.0
T25A Trinidad 44.15 334 *e*P **P 02 04 51.3 +0.7**
comp=Z,33nm,1.0s
T25A Trinidad 44.15 334 P **P 02 04 51.3 +0.7**
baz=146,SNR=18
L40A Anamosa 44.54 350 *e*P **P 02 04 54.5 +1.2**
comp=Z,40nm,1.3s
L40A Anamosa 44.54 350 P **P 02 04 52.9 -0.4**
baz=166
214A Organ Pipe Nat 44.73 321 P **P 02 04 55.6 +0.5**
baz=133,SNR=7.2
X18A Snowflake 44.87 326 *e*P **P 02 04 57.0 +0.7**
comp=Z,22nm,0.8s
TRY Troy 44.94 8 *e*P **P 02 04 56.4 -0.1**
comp=Z,56nm,1.1s
KSCO Kaye Shedlock' 44.99 337 *e*P **P 02 04 57.8 +0.7**
comp=Z,62nm,1.3s
KSCO Kaye Shedlock' 44.99 337 P **P 02 04 57.1 -0.1**
baz=150
SDCO Great Sand Dun 45.14 333 *e*P **P 02 04 58.7 +0.2**
comp=Z,30nm,1.3s
SDCO Great Sand Dun 45.14 333 P **P 02 04 58.9 +0.3**
baz=145,SNR=24
W18A Petrified Fore 45.19 327 *e*P **P 02 04 60.0 +1.1**
comp=Z,42nm,1.0s
W18A Petrified Fore 45.19 327 P **P 02 04 59.5 +0.7**
baz=138,SNR=11
BGNE Belgrade 45.57 343 P **P 02 05 01.0 -0.6**
baz=156
ACCN Adirondack Com 45.58 8 *e*P **P 02 05 01.2 -0.4**
comp=Z,42nm,1.2s
X16A Lo Mia Camp, P 45.63 325 *e*P **P 02 05 03.1 +0.7**
comp=Z,16nm,1.1s

BWLO	Walkerton	45.74	1	P		P	02 05 00.9	-1.9	
	baz=181								
S22A	4UR Ranch, Cre	45.75	332	eP		P	02 05 04.0	+0.6	
	comp=Z,17nm,1.2s								
S22A				ePcP		PcP	02 06 42.2	+1.2	
S22A	4UR Ranch, Cre	45.75	332	P		P	02 05 03.8	+0.4	
	baz=144,SNR=16								
J40A	Soldiers Grove	45.75	351	P		P	02 05 00.8	-2.1	
	baz=167								
J39A	Decorah	45.86	350	P		P	02 05 03.0	-0.7	
	baz=166								
CHRN	Cochrane	45.93	171	eP		P	02 05 06.8	+2.5	
	comp=Z,9.0nm,0.8s								
Q24A	Divide	45.99	334	eP		P	02 05 05.8	+0.5	
	comp=Z,26nm,1.5s								
Q24A	Divide	45.99	334	P		P	02 05 05.1	-0.2	
	baz=146,SNR=7.0								
MVCO	Mesa Verde	46.14	330	eP		P	02 05 06.9	+0.5	
	comp=Z,36nm,1.4s								
MVCO	Mesa Verde	46.14	330	P		P	02 05 06.6	+0.2	
	baz=141,SNR=10								
BMRO	Meriville Lake	46.22	0	P		P	02 05 04.3	-2.2	
	baz=180								
DELO	Deloro Mine	46.28	4	P		P	02 05 05.6	-1.5	
	baz=186								
WUAZ	Wupatki	46.38	326	eP		P	02 05 09.1	+0.8	
	comp=Z,39nm,1.1s								
WUAZ	Wupatki	46.38	326	P		P	02 05 08.8	+0.5	
	baz=137,SNR=25								
VT1	Waterbury	46.64	9	eP		P	02 05 09.4	-0.5	
	comp=Z,57nm,1.3s								
LONY	Lake Ozonia	46.67	7	eP		P	02 05 08.9	-1.2	
	comp=Z,55nm,1.5s								
LONY	Lake Ozonia	46.67	7	P		P	02 05 08.5	-1.6	
	baz=190,SNR=5.6								
LBNH	Lisbon	46.68	10	P		P	02 05 09.8	-0.5	
	baz=193								
GLA	Glamis	46.73	321	eP		P	02 05 11.4	+0.5	
	comp=Z,22nm,1.3s								
GLA	Glamis	46.73	321	eP		P	02 05 11.4	+0.5	
GLA				pmax		pmax			
	comp=Z,22nm,1.3s								
GLA	Glamis	46.73	321	P		P	02 05 10.6	-0.3	
	baz=131								
BANO	Bancroft	46.76	4	P		P	02 05 07.9	-2.9	
	baz=185								
PLVO	Plevna	46.84	4	P		P	02 05 09.6	-1.8	
	baz=186								
ISCO	Idaho Springs	46.88	335	eP		P	02 05 12.2	-0.1	
	comp=Z,17nm,1.3s								
ISCO	Idaho Springs	46.88	335	eP		P	02 05 12.2	-0.1	
ISCO				pmax		pmax			
	comp=Z,17nm,1.3s								
ISCO	Idaho Springs	46.88	335	P		P	02 05 12.4	+0.1	
	baz=146,SNR=14								
PV01	Paradox Valley	46.90	331	eP		P	02 05 13.0	+0.7	
SMCO	Snowmass	46.97	333	eP		P	02 05 13.5	+0.4	
	comp=Z,14nm,1.0s								
Y12C	Blythe	47.00	322	eP		P	02 05 13.4	+0.5	
	comp=Z,21nm,1.1s								
Y12C	Blythe	47.00	322	P		P	02 05 13.1	+0.2	
	baz=132,SNR=6.2								
FRNY	Flat Rock	47.01	8	eP		P	02 05 11.9	-0.9	
	comp=Z,26nm,1.0s								
PV02	Paradox Valley	47.03	331	eP		P	02 05 13.6	+0.2	
	comp=Z,24nm,0.9s								
PV13	Radium Mtn., P	47.04	331	eP		P	02 05 14.0	+0.5	
	comp=Z,26nm,1.0s								
H39A	Augusta	47.09	351	P		P	02 05 13.6	+0.2	
	baz=167								
BUKO	Buck Lake	47.11	2	P		P	02 05 11.6	-1.9	
	baz=183								
PV05	Paradox Valley	47.11	330	eP		P	02 05 14.5	+0.5	
PV03	Paradox Valley	47.12	331	eP		P	02 05 14.3	+0.3	
PDMCI	Parker Dam,Lak	47.14	323	P		P	02 05 14.2	+0.1	
	baz=133								
PV18	Skein Mesa, Pa	47.15	331	eP		P	02 05 14.7	+0.4	
	comp=Z,27nm,1.1s								
PV12	Saucer Basin,	47.15	331	eP		P	02 05 14.7	+0.4	
	comp=Z,44nm,1.1s								
PV11	David Mesa, Pa	47.17	331	eP		P	02 05 15.0	+0.5	
	comp=Z,38nm,1.2s								
PV17	East Wray Mesa	47.20	331	eP		P	02 05 15.1	+0.4	
	comp=Z,20nm,1.0s								
PV16	Nyswonger Mesa	47.20	331	eP		P	02 05 15.2	+0.5	
	comp=Z,26nm,1.2s								
PV19	Morning Glory	47.23	331	eP		P	02 05 15.4	+0.4	
	comp=Z,19nm,1.2s								
PV20	West Nyswonger	47.25	331	eP		P	02 05 15.4	+0.4	
	comp=Z,32nm,1.5s								
SWSC	Sam W. Stewart	47.28	320	P		P	02 05 15.3	+0.2	
	baz=130								
IKP	In-Ko-Pah, Jac	47.29	319	P		P	02 05 15.6	+0.3	
	baz=130								
ECSD	EROS Data Cent	47.30	345	eP		P	02 05 13.8	-1.3	
	comp=Z,30nm,1.4s								
ECSD	EROS Data Cent	47.30	345	P		P	02 05 14.0	-1.1	
	baz=159,SNR=9.5								
PV14	Lion Creek, Pa	47.30	331	eP		P	02 05 15.8	+0.3	
	comp=Z,33nm,1.3s								
PV10	Paradox Valley	47.31	331	eP		P	02 05 13.8	-1.8	
PV22	Blue Mesa, Par	47.31	331	eP		P	02 05 16.0	+0.4	
	comp=Z,22nm,1.2s								
PV23	Carpenter Ridg	47.36	331	eP		P	02 05 16.3	+0.3	
	comp=Z,16nm,1.1s								
PV21	Cone Mtn., Par	47.43	331	eP		P	02 05 16.9	+0.4	
	comp=Z,8.3nm,1.2s								
PV09	Paradox Valley	47.46	331	eP		P	02 05 16.3	-0.4	
PEMO	Pembroke	47.46	4	P		P	02 05 14.3	-1.9	
	baz=186								
BC3	Big Chuckawall	47.52	321	P		P	02 05 17.5	+0.4	
	baz=131,SNR=12								
W13A	Hualapai Mount	47.53	324	eP		P	02 05 17.2	-0.1	
	comp=Z,10nm,0.8s								
U15A	North Rim	47.56	326	eP		P	02 05 18.8	+1.2	
	comp=Z,31nm,1.3s								
ALFO	Alfred	47.63	6	P		P	02 05 16.1	-1.5	
	baz=189								
MONP2	Monument Peak	47.65	320	P		P	02 05 17.8	-0.4	
	baz=130								
IRM	Iron Mountain	47.66	322	P		P	02 05 18.4	+0.3	
	baz=132,SNR=16								
BAR	Barrett	47.68	319	eP		P	02 05 19.4	+1.2	
	comp=Z,9.9nm,1.0s								
ALGO	Algonquin Park	47.68	3	P		P	02 05 15.7	-2.3	
	baz=185								
SPMN	Marine on St.	47.88	349	eP		P	02 05 17.9	-1.7	
	comp=Z,14nm,1.0s								
SPMN	Marine on St.	47.88	349	P		P	02 05 20.3	+0.7	
	baz=165								
N23A	Red Feather La	47.93	335	eP		P	02 05 20.1	-0.3	
	comp=Z,14nm,1.2s								
N23A	Red Feather La	47.93	335	P		P	02 05 20.4	0.0	
	baz=146,SNR=5.7								
BELC	Belle Mtn. Jos	48.09	321	P		P	02 05 21.7	+0.1	
	baz=131,SNR=7.8								
109C	Camp Elliot, M	48.09	319	P		P	02 05 21.8	+0.4	
	baz=129								
E48A	Lockeyer	48.10	360	P		P	02 05 19.4	-1.8	
	baz=179								
XPFO	Pigeon Flat	48.13	320	eP		P	02 05 22.8	+1.0	
	comp=Z,12nm,1.0s								
F40A	Park Falls	48.13	352	P		P	02 05 20.1	-1.4	
	baz=168								
PFO	Pinyon Flats O	48.13	320	eP		P	02 05 22.8	+0.9	
	comp=Z,12nm,1.0s								
PFO	Pinyon Flats O	48.13	320	eP		P	02 05 22.8	+0.9	
PFO				pmax		pmax			
	comp=Z,11nm,1.0s								
PFO	Pinyon Flats O	48.13	320	P		P	02 05 22.2	+0.3	
	baz=130								
FRD	Ford Ranch, An	48.15	320	P		P	02 05 22.7	+0.7	
	baz=130,SNR=8.0								
PKME	Peaks-Kenny Pk	48.16	12	eP		P	02 05 21.8	+0.1	
	comp=Z,40nm,1.0s								
PKME	Peaks-Kenny Pk	48.16	12	P		P	02 05 21.5	-0.2	
	baz=197,SNR=7.6								
E51A	G1948 Merrick	48.19	2	P		P	02 05 20.3	-1.6	
	baz=183								
E54A	Lac Daplat, Po	48.22	4	P		P	02 05 21.2	-0.9	
	baz=186								
KNB	Kanab	48.28	326	eP		P	02 05 24.1	+1.1	
	comp=Z,15nm,1.2s								
KNB	Kanab	48.28	326	eP		P	02 05 24.1	+1.1	
KNB				pmax		pmax			
	comp=Z,15nm,1.2s								
PKCU	Pink Cliffs	48.30	327	eP		P	02 05 24.4	+1.0	
	comp=Z,39nm,1.2s								
O20A	White River Ci	48.32	333	eP		P	02 05 23.8	+0.4	
	comp=Z,34nm,1.4s								
O20A	White River Ci	48.32	333	P		P	02 05 23.3	0.0	
	baz=143,SNR=8.0								
GMRC	Granite Mounta	48.39	322	P		P	02 05 24.3	+0.4	
	baz=132,SNR=11								
F38A	Pierce - Schro	48.43	350	P		P	02 05 23.8	0.0	
	baz=166								
LCMT	Little Creek M	48.51	326	eP		P	02 05 25.7	+1.0	
	comp=Z,19nm,1.5s								
SRU	San Rafael Swe	48.62	330	eP		P	02 05 25.9	+0.3	
	comp=Z,19nm,1.3s								
SRU	San Rafael Swe	48.62	330	eP		P	02 05 25.9	+0.3	
SRU				pmax		pmax			
	comp=Z,19nm,1.3s								
MTPU	Mount Pierson	48.67	328	eP		P	02 05 27.5	+1.3	
	comp=Z,3.9nm,0.9s								
D53A	Lac Vacive, Po	48.83	4	P		P	02 05 26.6	-0.2	
	baz=185								
SZCU	Shurtz Canyon	48.84	327	eP		P	02 05 28.4	+1.0	
	comp=Z,14nm,1.1s								
HEC	Hector,Ludlow	48.84	322	P		P	02 05 27.8	+0.5	
	baz=131,SNR=8.5								
P18A	Preston Nutter	48.88	331	eP		P	02 05 28.1	+0.4	
	comp=Z,14nm,1.3s								
CCUT	Cedar City	48.96	326	eP		P	02 05 29.4	+1.1	
	comp=Z,19nm,1.1s								
D54A	Lac Fusel, La	48.97	5	P		P	02 05 26.1	-1.9	
	baz=186								
TUQ	Turquoise Moun	48.99	322	P		P	02 05 28.7	+0.3	
	baz=132,SNR=6.3								
P17A	Butcher Ranch,	49.00	330	eP		P	02 05 28.9	+0.4	
	comp=Z,22nm,1.3s								
MSU	Marysvale	49.02	328	eP		P	02 05 29.5	+0.8	
MSU	Marysvale	49.02	328	eP		P	02 05 29.5	+0.8	
TMUT	Trail Mountain	49.10	330	eP		P	02 05 29.9	+0.5	
	comp=Z,11nm,1.3s								
TMUT				ePcP		PcP	02 06 52.5	-0.4	
SHPR	Sheep Range	49.25	324	eP		P	02 05 31.2	+0.7	
	comp=Z,9.8nm,1.1s								
SHPR				ePcP		PcP	02 06 54.5	+1.2	
CIS	Catalina Islan	49.27	319	P		P	02 05 30.0	-0.6	
	baz=128								
BFSC	Mount Baldy Ra	49.30	320	P		P	02 05 30.6	-0.2	
	baz=129,SNR=9.1								
GSC	Goldstone, Bar	49.44	322	eP		P	02 05 32.5	+0.6	
	comp=Z,28nm,1.3s								
GSC	Goldstone, Bar	49.44	322	eP		P	02 05 32.5	+0.6	
GSC				pmax		pmax			
	comp=Z,28nm,1.3s								
GSC	Goldstone, Bar	49.44	322	P		P	02 05 32.4	+0.5	
	baz=131,SNR=12								
SHOC	Shoshone, Teco	49.51	323	P		P	02 05 32.7	+0.4	
	baz=132,SNR=7.4								
MWC	Mount Wilson	49.55	320	eP		P	02 05 33.6	+0.8	
	comp=Z,14nm,1.0s								
MWC	Mount Wilson	49.55	320	eP		P	02 05 33.6	+0.8	
MWC				pmax		pmax			
	comp=Z,14nm,1.0s								
LATQ	La Tuque	49.62	8	P		P	02 05 31.7	-1.2	
	baz=192								
K22A	Casper	49.64	336	eP		P	02 05 33.0	-0.3	
	comp=Z,9.8nm,0.8s								
K22A	Casper	49.64	336	P		P	02 05 32.8	-0.6	
	baz=146								
LMN	Caledonia Moun	49.76	15	eP		P	02 05 33.8	-0.2	
	comp=Z,78nm,1.4s								
PQI	Presque Isle	49.76	12	eP		P	02 05 34.0	0.0	
	comp=Z,51nm,1.3s								
MPU	Maple Canyon	49.86	330	eP		P	02 05 35.5	+0.4	
	comp=Z,7.7nm,1.1s								
GO09	Cerro Castillo	49.89	172	eP		P	02 05 37.6	+2.7	
	comp=Z,37nm,0.8s								
EDW2	Edwards Air Fo	49.92	320	P		P	02 05 35.3	-0.1	
	baz=129,SNR=9.2								
PSUT	Pine Spring	49.93	327	eP		P	02 05 36.6	+0.9	
	comp=Z,10nm,1.0s								
RSSD	Black Hills	49.94	339	eP		P	02 05 36.1	+0.5	
	comp=Z,30nm,1.2s								
RSSD	Black Hills	49.94	339	eP		P	02 05 36.1	+0.5	
RSSD				pmax		pmax			
	comp=Z,30nm,1.2s								
RSSD	Black Hills	49.94	339	P		P	02 05 35.8	+0.2	
	baz=150								
NLU	North Lily Min	50.04	329	eP		P	02 05 37.0	+0.5	
	comp=Z,11nm,1.4s								
LRMC	Laurel Mtn Rad	50.10	321	P		P	02 05 37.5	+0.5	
	baz=130,SNR=8.8								
TPNV	Topopah Spring	50.20	324	eP		P	02 05 38.8	+1.1	
	comp=Z,12nm,1.1s								
TPNV	Topopah Spring	50.20	324	eP		P	02 05 38.8	+1.1	
TPNV				pmax		pmax			
	comp=Z,12nm,1.1s								
TPNV	Topopah Spring	50.20	324	P		P	02 05 38.5	+0.9	
	baz=132,SNR=11								
JLU	Jordanelle	50.22	331	eP		P	02 05 38.4	+0.5	
	comp=Z,29nm,1.4s								
FURC	Furnace Creek,	50.24	323	P		P	02 05 38.3	+0.5	
	baz=131,SNR=10								
MPMC	Manual Prospec	50.35	322	P		P	02 05 39.0	0.0	
	baz=130,SNR=13								
CTU	Camp Tracy	50.43	330	eP		P	02 05 40.0	+0.6	
	comp=Z,25nm,1.4s								
DAC	Darwin (Calif)	50.56	322	eP		P	02 05 40.7	+0.2	
	comp=Z,9.9nm,1.0s								
DAC	Darwin (Calif)	50.56	322	eP		P	02 05 40.7	+0.2	
DAC				pmax		pmax			
	comp=Z,10.0nm,1.0s								
TCUT	Toone Canyon	50.59	331	eP		P	02 05 41.3	+0.6	
	comp=Z,57nm,1.4s								
DUG	Dugway, Tooele	50.59	329	eP		P	02 05 41.3	+0.7	
	comp=Z,18nm,1.3s								
DUG	Dugway, Tooele	50.59	329	eP		P	02 05 41.3	+0.7	
DUG				pmax		pmax			
	comp=Z,18nm,1.3s								
DUG	Dugway, Tooele	50.59	329	P		P	02 05 40.5	-0.1	
	baz=138,SNR=14								
ARVC	Arvin	50.60	320	P		P	02 05 41.0	+0.4	
	baz=129								
ISA	Isabella, Lake	50.72	321	eP		P	02 05 42.5	+1.0	
	comp=Z,10nm,1.1s								
ISA	Isabella, Lake	50.72	321	eP		P	02 05 42.5	+1.0	
ISA				pmax		pmax			
	comp=Z,10.0nm,1.1s								
ISA	Isabella, Lake	50.72	321	P		P	02 05 42.0	+0.5	
	baz=129,SNR=5.6								
R11A	Troy Canyon, C	50.77	325	eP		P	02 05 42.5	+0.6	
	comp=Z,6.6nm,1.0s								
R11A	Troy Canyon, C	50.77	325	P		P	02 05 42.4	+0.4	
	baz=134,SNR=10								
BATG	Bathurst New B	50.78	14	eP		P	02 05 41.7	+0.1	
	comp=Z,59nm,1.3s								
GRAC	Grapevine Rang	50.89	323	P		P	02 05 43.3	+0.5	
	baz=131								
CWC	Cottonwood Cre	50.97	322	P		P	02 05 43.5	0.0	
	baz=130								
BW06	Boulder Array	51.02	334	eP		P	02 05 43.1	-0.8	
	comp=Z,20nm,1.4s								
BW06	Boulder Array	51.02	334	P		P	02 05 43.0	-0.8	
	baz=143,SNR=8.5								
PD31	Pinedale Array	51.02	334	eP		P	02 05 43.1	-0.8	
PD31				ePcP		PcP	02 06 58.2	-1.5	
PDAR	Pinedale Array	51.02	334	P		P	02 05 43.0	-0.8	
	comp=Z,4.5nm,0.9s,baz=130,slow=8.0,SNR=30								
PDAR				PcP		PcP	02 06 58.2	-1.5	
	comp=Z,1.9nm,0.9s,baz=150,slow=4.7,SNR=2.9								
PDAR				LR		LR	02 27 34.5		
	comp=Z,152nm,20.6s,baz=146,slow=36								
PDAR	Pinedale Array	51.02	334	PcP		PcP	02 06 58.2	-1.5	
PDAR	Pinedale Array	51.02	334	eP		P	02 05 42.5	-1.4	
HWUT	Hardware Ranch	51.04	331	eP		P	02 05 43.6	-0.4	
	comp=Z,36nm,1.3s								
PKM	Mcpherson Peak	51.09	319	P		P	02 05 44.5	0.0	
	baz=128								
SPUT	South Promonto	51.24	330	eP		P	02 05 45.5	0.0	
	comp=Z,26nm,1.2s								
BGU	Big Grassy Mou	51.25	330	eP		P	02 05 45.7	+0.2	
	comp=Z,23nm,1.2s								
AGMN	Agassiz Nation	51.43	348	eP		P	02 05 46.3	-0.3	
	comp=Z,28nm,0.8s								
AGMN	Agassiz Nation	51.43	348	P		P	02 05 45.8	-0.8	
	baz=162,SNR=11								
MATQ	Matagami	51.50	3	P		P	02 05 44.6	-2.4	
	baz=185								
AHID	Auburn Hatcher	51.72	333	eP		P	02 05 48.8	-0.3	
	comp=Z,32nm,1.4s								
HVU	Hansel Valley	51.76	331	eP		P	02 05 49.4	0.0	
	comp=Z,16nm,1.2s								
HVU	Hansel Valley	51.76	331	eP		P	02 05 49.4	0.0	
HVU				pmax		pmax			
	comp=Z,16nm,1.2s								
MDND	Maddock	51.90	345	eP		P	02 05 50.2	+0.2	
	comp=Z,88nm,1.0s								
MDND	Maddock	51.90	345	P		P	02 05 49.8	-0.3	
	baz=157,SNR=10.0								
CHGQ	Chibougamau	51.91	6	P		P	02 05 47.7	-2.5	
	baz=189								
REDW	Red Top Meadow	52.07	333	eP		P	02 05 51.5	-0.2	
	comp=Z,63nm,1.4s								
SNOW	Snow King Moun	52.11	333	eP		P	02 05 52.1	+0.1	
	comp=Z,24nm,1.3s								
LOHW	Long Hollow	52.16	334	eP		P	02 05 52.3	0.0	
	comp=Z,24nm,1.4s								
MLAC	Mammoth, Mammo	52.19	323	P		P	02 05 52.8	0.0	
	baz=130								
TPAW	Teton Pass	52.22	333	eP		P	02 05 52.6	-0.3	
	comp=Z,18nm,1.2s								
OMMB	Old Mammoth Mi	52.28	322	eP		P	02 05 54.4	+0.8	
	comp=Z,28nm,1.1s								
NV11	Mina Array Sit	52.31	324	eP		P	02 05 54.2	+0.7	
	comp=Z,2.6nm,1.1s								
MOOW	Moose Ponds	52.33	334	eP		P	02 05 53.5	-0.1	
	comp=Z,11nm,1.2s								
MDPB	Devils Postpil	52.34	322	eP		P	02 05 54.6	+0.7	
	comp=Z,18nm,1.0s								
FXWY	Fox Creek	52.37	333	eP		P	02 05 53.8	-0.1	
	comp=Z,12nm,1.4s								
NV01	Mina Array Sit	52.40	324	eP		P	02 05 54.5	+0.3	
NVAR	Mina Array Bea	52.40	324	P		P	02 05 54.4	+0.2	
	comp=Z,16nm,1.0s,baz=138,slow=6.7,SNR=59								
NVAR				LR		LR	02 27 53.4		
	comp=Z,170nm,18.4s,baz=129,slow=36								
IMW	Indian Meadow	52.53	334	eP		P	02 05 55.2	0.0	
	comp=Z,18nm,1.3s								
FLWY	Flagg Ranch	52.57	334	eP		P	02 05 55.4	0.0	
	comp=Z,38nm,1.2s								
RYN	Ryan	52.66	324	eP		P	02 05 56.8	+0.8	
	comp=Z,23nm,1.2s								
KVN	Kaiserville	52.69	324	eP		P	02 05 56.8	+0.5	
	comp=Z,14nm,1.1s								
KVN	Kaiserville	52.69	324	eP		P	02 05 56.8	+0.5	
KVN				pmax		pmax			
	comp=Z,14nm,1.1s								
H17A	Grant Village	52.77	334	eP		P	02 05 59.8	+2.9	
	comp=Z,22nm,1.4s								
H17A	Grant Village	52.77	334	P		P	02 05 57.8	+0.9	
	baz=143								
YPP	Pitchstone Pla	52.77	334	eP		P	02 05 57.7	+0.7	
	comp=Z,29nm,1.5s								
RLMT	Red Lodge	52.80	336	eP		P	02 05 56.9	-0.2	
	comp=Z,22nm,1.4s								
RLMT	Red Lodge	52.80	336	P		P	02 05 56.5	-0.6	
	baz=144,SNR=5.8								
YFT	Old Faithful	52.92	334	eP		P	02 05 59.7	+1.6	
	comp=Z,35nm,1.4s								
LAO	LASA Array	52.93	339	eP		P	02 05 57.5	-0.3	
	comp=Z,12nm,1.1s								
LAO	LASA Array	52.93	339	P		P	02 05 57.1	-0.7	
	baz=149								
YNR	Norris Junctio	53.06	334	eP		P	02 05 59.9	+0.8	
	comp=Z,19nm,1.4s								
BMN	Battle Mountai	53.12	326	eP		P	02 06 00.1	+0.6	
WAKR	Walker	53.12	323	eP		P	02 06 00.4	+0.9	
	comp=Z,24nm,1.3s								
YMR	Madison River	53.15	334	eP		P	02 06 00.3	+0.6	
	comp=Z,19nm,1.0s								
YHH	Holmes Hill	53.20	334	eP		P	02 06 00.8	+0.7	
	comp=Z,17nm,1.1s								
ULM	Lac du Bonnet	53.29	349	P		P	02 05 59.6	-0.6	
	comp=Z,34nm,0.7s,baz=157,slow=8.0,SNR=47								
ULM	Lac du Bonnet	53.29	349	eP		P	02 05 59.7	-0.6	
	comp=Z,38nm,0.8s								
ULM	Lac du Bonnet	53.29	349	eP		P	02 05 59.7	-0.6	
ULM				pmax		pmax			
	comp=Z,38nm,0.8s								
YERR	Yerington	53.31	324	eP		P	02 06 01.7	+0.8	
	comp=Z,21nm,1.2s								
YHB	Horse Butte	53.32	334	eP		P	02 06 02.5	+1.5	
	comp=Z,12nm,1.0s								
CMB	Columbia Colle	53.40	322	eP		P	02 06 01.6	+0.2	
	comp=Z,11nm,1.1s								
CMB	Columbia Colle	53.40	322	eP		P	02 06 01.6	+0.2	
CMB				pmax		pmax			
	comp=Z,11nm,1.1s								
QLMT	Earthquake Lak	53.48	334	eP		P	02 06 03.1	+0.9	
GCMT	Greycliff	53.50	336	eP		P	02 06 02.3	+0.1	
PNTR	Pine Nut	53.59	324	eP		P	02 06 04.3	+1.2	
	comp=Z,17nm,1.2s								
VCNR	Virginia City	53.76	324	eP		P	02 06 05.4	+1.1	
	comp=Z,17nm,1.2s								
PAHR	Pah Rah Range	53.87	324	eP		P	02 06 05.7	+0.8	
	comp=Z,11nm,1.3s								
HLID	Hailey	53.90	331	eP		P	02 06 05.3	+0.2	
	comp=Z,18nm,1.1s								
HLID	Hailey	53.90	331	P		P	02 06 04.7	-0.4	
	baz=138,SNR=25								
MCMT	McKenzie Canyo	54.12	333	eP		P	02 06 07.6	+0.8	
BOZ	Bozeman (W)	54.17	334	P		P	02 06 07.1	0.0	
	baz=142								
AFDM	Forest Hills D	54.33	323	eP		P	02 06 08.6	+0.4	
	comp=Z,19nm,1.3s								
DLMT	Dillon	54.41	334	eP		P	02 06 09.3	+0.4	
	comp=Z,31nm,1.4s								
BEKR	Beckworth	54.54	324	eP		P	02 06 10.7	+0.8	
	comp=Z,29nm,1.4s								
ORV	Oroville	55.03	323	eP		P	02 06 13.9	+0.7	
	comp=Z,41nm,1.3s								
ORV	Oroville	55.03	323	eP		P	02 06 13.9	+0.7	
ORV				pmax		pmax			
	comp=Z,41nm,1.3s

baz=130,SNR=5.4
SCHQ Schefferville 57.78 10 P **P 02 06 31.5 -1.0**
comp=Z,6.9nm,0.8s,baz=220,slow=9.8,SNR=4.2
SCHQ LR LR 02 32 54.8
comp=Z,84nm,18.9s,baz=164,slow=38
SCHQ Schefferville 57.78 10 *e*P **P 02 06 31.5 -1.0**
comp=Z,44nm,1.4s
WALA Waterton Lakes 57.85 336 *e*P **P 02 06 33.6 +0.3**
comp=Z,19nm,1.1s
E09A Wood Farm, Sta 57.86 331 *e*P **P 02 06 33.0 -0.3**
comp=Z,18nm,0.9s
L02E Cave Junction 57.89 324 P **P 02 06 33.3 -0.3**
baz=128
I05D Terrebonne, OR 58.00 327 P **P 02 06 34.9 +0.6**
baz=131,SNR=7.6
G06A Carlson Farm, 58.23 328 *e*P **P 02 06 37.2 +1.3**
comp=Z,59nm,1.3s
I04A Tendick Farm, 58.24 326 P **P 02 06 35.9 -0.1**
baz=130
K02D Willamette Mer 58.26 325 P **P 02 06 36.1 -0.1**
baz=128,SNR=5.5
E08A Dider Farm, El 58.29 330 *e*P **P 02 06 36.1 -0.1**
comp=Z,24nm,1.4s
F07A Phinny Hill Vi 58.31 329 *e*P **P 02 06 38.1 +1.7**
comp=Z,36nm,1.2s
HAWA Hanford 58.45 330 *e*P **P 02 06 37.8 +0.3**
comp=Z,7.1nm,0.8s
G05D Wamic, OR 58.59 328 P **P 02 06 39.2 +0.8**
baz=132
TAOE Nuku Hiva Isla 58.60 261 *e*LR LR 02 23 48.9
comp=Z,364nm,27.3s
D08A Wollman Farm, 58.62 331 *e*P **P 02 06 38.9 +0.3**
comp=Z,14nm,0.9s
NEW Newport 58.64 333 LR LR 02 31 42.7
comp=Z,97nm,21.2s,baz=138,slow=36
NEW Newport 58.64 333 *e*P **P 02 06 38.3 -0.4**
comp=Z,32nm,1.3s
NEW Newport 58.64 333 *e*P **P 02 06 38.3 -0.4**
NEW pmax pmax
comp=Z,33nm,1.3s
NEW Newport 58.64 333 P **P 02 06 38.4 -0.4**
baz=137,SNR=14
J01E Myrtle Point 58.70 325 P **P 02 06 39.5 +0.3**
baz=128
I03D Drain, OR 58.70 326 P **P 02 06 39.4 +0.3**
baz=129
E07A Sunnyside 58.73 330 *e*P **P 02 06 40.4 +1.0**
comp=Z,66nm,1.4s
FFC Flin Flon 58.81 346 *ce*P **P 02 06 40.1 +0.4**
FFC pmax pmax
comp=Z,69nm,2.5s
C09A Chrisman Ranch 58.84 332 *e*P **P 02 06 40.5 +0.4**
F05D White Salmon 59.09 329 P **P 02 06 42.2 +0.3**
baz=132,SNR=5.6
I02D Swisshome 59.24 326 P **P 02 06 43.5 +0.6**
baz=129
LTY Liberty 59.62 330 *e*P **P 02 06 46.1 +0.5**
comp=Z,24nm,1.1s
B08A Colville Reser 59.73 332 *e*P **P 02 06 46.4 +0.1**
comp=Z,11nm,1.4s
E04D Cinebar 60.11 329 P **P 02 06 49.1 +0.2**
baz=131
D05A Enumclaw 60.23 329 *e*P **P 02 06 50.2 +0.5**
comp=Z,69nm,1.4s
E03A Lebam 60.63 328 *e*P **P 02 06 53.2 +0.9**
comp=Z,105nm,1.4s
B05A Bryant 61.01 330 P **P 02 06 54.3 -0.6**
baz=132,SNR=5.3
D03D Eldon 61.02 329 P **P 02 06 55.4 +0.3**
baz=131
FCC Fort Churchill 61.21 353 *e*P **P 02 06 55.8 -0.3**
comp=Z,136nm,1.4s
FCC Fort Churchill 61.21 353 *e*P **P 02 06 55.8 -0.3**
FCC pmax pmax
comp=Z,136nm,1.4s
A04D Lummi Island 61.61 330 P **P 02 06 59.3 +0.3**
baz=132
PPT2 Papeete2 68.42 252 *e*LR LR 02 28 28.8
comp=Z,500nm,27.5s
YKA Yellowknife Ar 68.81 344 P **P 02 07 44.5 -0.9**
comp=Z,3.4nm,0.6s,baz=145,slow=6.5,SNR=14
YKB5 Yellowknife Ar 68.81 344 *e*P **P 02 07 44.5 -0.9**
TBI Tubuai 68.93 246 *e*S **S 02 16 51.7 +1.1**
comp=Z,326nm,31.2s
TBI Tubuai 68.93 246 *e*LR LR 02 28 37.5
comp=Z,286nm,29.5s
TBI Tubuai 68.93 246 *e*T T 03 22 43.2
comp=Z,4.2nm,0.2s
HYT Haines Junctio 75.68 335 *e*P **P 02 08 28.6 +1.9**
comp=Z,20nm,1.4s
LIC Lamto 76.91 83 *e*P **P 02 08 34.9 +0.3**
comp=Z,92nm,1.2s
TIC Toumodi 76.94 83 *e*P **P 02 08 35.0 +0.2**
DBIC Dimbokro 77.11 83 P **P 02 08 35.5 -0.1**
comp=Z,16nm,0.9s,baz=245,slow=5.9,SNR=14
DBIC LR LR 02 39 48.9
comp=Z,207nm,20.2s,baz=242,slow=34
DBIC Dimbokro 77.11 83 *e*P **P 02 08 35.5 -0.1**
comp=Z,39nm,1.1s
DBIC Dimbokro 77.11 83 *e*P **P 02 08 35.5 -0.1**
DBIC pmax pmax
comp=Z,39nm,1.1s
KIC Kosan Boka 77.20 83 *e*P **P 02 08 36.7 +0.5**
comp=Z,78nm,0.9s
PNCL Nicolau / Gran 77.91 51 *e*P **P 02 08 40.8 +1.1**
comp=Z,36nm,2.2s
DAWY Dawson 78.10 338 *e*P **P 02 08 40.2 -0.1**
comp=Z,32nm,1.4s
RAR Rarotonga 78.27 249 LR LR 02 33 04.3
comp=Z,66nm,20.5s,baz=99,slow=28
PCAS Casmilo, Conde 78.34 49 *e*P **P 02 08 42.8 +0.8**
comp=Z,58nm,1.5s
EPYK Eagle Plains 78.36 340 P **P 02 08 42.0 +0.4**
baz=123
EVO Evora 78.39 50 *e*P **P 02 08 44.8 +2.5**
comp=Z,23nm,1.7s
INK Inuvik 78.46 343 *e*P **P 02 08 41.6 -0.4**
comp=Z,60nm,1.5s
INK Inuvik 78.46 343 *e*P **P 02 08 41.6 -0.4**
INK pmax pmax
comp=Z,60nm,1.5s
PESTR Estremoz 78.79 50 *e*P **P 02 08 45.3 +0.8**
comp=Z,44nm,1.6s
PESTR Estremoz 78.79 50 *e*PP PP 02 11 41.6 -1.5
PESTR Estremoz 78.79 50 *e*P **P 02 08 45.1 +0.6**
comp=Z,22nm,1.3s
BMRM Bremner River 78.81 334 *e*P **P 02 08 44.8 +0.6**
comp=Z,51nm,1.4s
PGAV Gavieira, Arco 78.93 47 *e*P **P 02 08 45.5 +0.2**
PVIS Viseu 78.94 48 *e*P **P 02 08 45.5 +0.2**
comp=Z,45nm,1.6s
PMRV Marv??o 79.05 49 *e*P **P 02 08 42.0 -4.0**
comp=Z,20nm,1.9s
PCBR Castelo Branco 79.07 49 *e*P **P 02 08 46.5 +0.5**
comp=Z,28nm,1.6s
SUMG Summit 79.09 12 *i* P **P 02 08 45.0 -0.9**
comp=Z,39nm,1.0s
SUMG Summit 79.09 12 *i* P **P 02 08 45.0 -0.9**
SUMG pmax pmax
comp=Z,39nm,1.0s
EGAK Eagle 79.12 338 *e*P **P 02 08 45.9 +0.1**
comp=Z,40nm,1.3s
MTE Manteigas 79.13 48 *e*P **P 02 08 47.5 +1.1**
comp=Z,25nm,1.6s
POLO Lamas de Olo 79.15 47 *e*P **P 02 08 46.7 +0.1**
comp=Z,23nm,1.6s
KLU Klutina 79.61 334 *e*P **P 02 08 48.3 -0.3**
comp=Z,20nm,1.1s
MVO Moncorvo 79.67 48 *e*P **P 02 08 49.6 +0.2**
comp=Z,57nm,1.6s
SCRK Sand Creek 79.84 337 *e*P **P 02 08 49.7 -0.2**
comp=Z,20nm,1.2s
PBRG Braganca 80.01 47 *e*P **P 02 08 51.6 +0.4**
comp=Z,36nm,1.4s
PAX Paxson 80.02 335 *e*P **P 02 08 50.6 -0.2**
comp=Z,26nm,1.0s
RIDG Independ'e Rid 80.08 336 *e*P **P 02 08 51.3 +0.2**
comp=Z,39nm,1.2s
SCM Sheep Creek Mo 80.36 334 *e*P **P 02 08 49.4 -3.3**
comp=Z,18nm,0.8s
SCM Sheep Creek Mo 80.36 334 *e*P **P 02 08 49.4 -3.3**
SCM pmax pmax
comp=Z,18nm,0.8s
SML Sawmill 80.79 334 *e*P **P 02 08 54.9 0.0**
comp=Z,55nm,1.4s
SML Sawmill 80.79 334 *e*P **P 02 08 54.9 0.0**
SML pmax pmax
comp=Z,55nm,1.4s

DHY Denali Highway 80.86 335 *e*P **P 02 08 55.5 +0.1**
comp=Z,8.8nm,1.0s
HDA Harding Lake 81.20 336 *e*P **P 02 08 56.5 -0.5**
comp=Z,15nm,1.0s
HDA Harding Lake 81.20 336 P **P 02 08 56.5 -0.5**
baz=113
BRLK Bradley Lake 81.25 331 *e*P **P 02 08 57.3 -0.2**
comp=Z,48nm,1.1s
IL1 Eielson Array 81.32 337 *e*P **P 02 08 56.1 -1.5**
ILAR Eielson Array 81.32 337 P **P 02 08 56.7 -0.9**
comp=Z,7.1nm,1.0s,baz=136,slow=3.7,SNR=28
ILAR PP PP 02 12 06.8 +3.3
comp=Z,0.9nm,1.0s,baz=92,slow=6.9,SNR=4.3
ILB Eielson Array 81.32 337 *e*P **P 02 08 56.8 -0.9**
FYU Fort Yukon 81.44 339 *e*P **P 02 08 58.4 +0.2**
comp=Z,55nm,1.4s
POKR Poker Plat Res 81.67 337 P **P 02 08 59.5 0.0**
baz=113
ESDC Sonseca Array 81.70 50 P **P 02 09 00.4 +0.1**
comp=Z,6.3nm,0.9s,baz=272,slow=5.1,SNR=19
ESLA Sonseca Array 81.70 50 *e*P **P 02 09 00.9 +0.6**
comp=Z,24nm,1.3s
SUA Susitna One 81.75 333 *e*P **P 02 09 00.2 +0.1**
comp=Z,16nm,0.9s
ES19 SONSECA Array 81.75 50 *e*P **P 02 08 58.7 -1.9**
MCK McKinley 81.75 335 *e*P **P 02 08 59.9 -0.1**
comp=Z,26nm,1.2s
MCK McKinley 81.75 335 *e*P **P 02 08 59.9 -0.1**
MCK pmax pmax
comp=Z,26nm,1.2s
MDM Murphy Dome 81.92 337 *e*P **P 02 09 00.6 -0.3**
comp=Z,28nm,1.3s
BWN Browne 82.13 336 *e*P **P 02 09 01.7 -0.2**
comp=Z,43nm,1.0s
TRF Thorofare Moun 82.22 335 *e*P **P 02 09 02.3 -0.4**
comp=Z,19nm,1.0s
VNA3 Neumayer Olymp 82.53 162 P **P 02 09 04.7 +0.7**
BPAW Bear Paw Mtn. 82.73 336 *e*P **P 02 09 04.4 -0.7**
comp=Z,30nm,1.0s
VNA1 Neumayer--Stat 82.82 161 P **P 02 09 06.2 +0.8**
PPLA Purkeypile 82.85 334 *e*P **P 02 09 04.9 -1.0**
comp=Z,78nm,1.4s
CAST Castle Rocks 82.97 335 *e*P **P 02 09 05.3 -1.0**
comp=Z,48nm,1.3s
VNA2 Neumayer--Watz 83.16 161 P **P 02 09 07.7 +0.5**
baz=295,slow=5.4
COLD Coldfoot 83.50 339 *e*P **P 02 09 09.7 +0.8**
comp=Z,6.9nm,0.9s
TOLK Toolik Lake Re 83.79 340 P **P 02 09 09.9 -0.6**
baz=111
TOA1 Torodi Ar. Sit 83.93 77 *e*P **P 02 09 10.2 -2.1**
TOA0 Torodi Ar. Sit 83.94 77 *e*P **P 02 09 11.1 -1.2**
TORD Torodi Ar. Bea 83.94 77 P **P 02 09 10.2 -2.1**
comp=Z,13nm,1.3s,baz=266,slow=4.5,SNR=28
TORD LR LR 02 43 47.5
comp=Z,302nm,21.8s,baz=290,slow=34
IM3 Indian Mountai 84.44 337 *e*P **P 02 09 12.7 -1.1**
SNAA Sanae 84.76 162 P **P 02 09 15.7 +0.3**
SNAA Sanae 84.76 162 *e*P **P 02 09 14.7 -0.8**
comp=Z,17nm,1.0s
SNAA Sanae 84.76 162*j* *e*P **P 02 09 14.6 -0.8**
SNAA pmax pmax
comp=Z,1μm,1.0s
DAG Danmarks Havn 85.77 12 *i* P **P 02 09 19.7 -0.6**
comp=Z,16nm,0.9s
DAG Danmarks Havn 85.77 12 *i* P **P 02 09 19.7 -0.6**
DAG pmax pmax
comp=Z,13nm,0.9s
TAM Tamanrasset 88.09 67 *e*P **P 02 09 33.3 +0.4**
comp=Z,8.6nm,1.2s
TAM Tamanrasset 88.09 67 *e*P **P 02 09 33.3 +0.4**
TAM pmax pmax
comp=Z,9.0nm,1.2s
QSPA South Pole Qui 88.24 180 *e*P **P 02 09 33.2 +0.6**
comp=Z,28nm,0.8s
RDOG Red Dog Mine 88.41 338 *e*P **P 02 09 33.8 +0.6**
comp=Z,31nm,1.3s
DOU Dourbes 88.97 40 ⇑P **P 02 09 36.6 +0.3**
NVL N'Iazarevskaya 89.44 161 *e*P P 02 09 44.9 +6.9
NVL pmax pmax
comp=Z,15nm,0.8s
BCLA Clavier 89.45 40 ⇓P **P 02 09 37.2 -1.2**
AFI Afiamalu 89.69 256 LR LR 02 41 08.2
comp=Z,83nm,19.4s,baz=49,slow=30
WLF Walferdange 89.95 40 ⇓P **P 02 09 41.7 +0.9**
comp=Z,18nm,1.6s
ECH Echery 90.55 42 *e*P **P 02 09 43.2 -0.5**
comp=Z,18nm,1.2s
ECH Echery 90.55 42 *e*P **P 02 09 43.2 -0.5**
ECH pmax pmax
comp=Z,18nm,1.2s
SENIN Lac Senin/Sane 90.58 44 *e*P **P 02 09 44.9 +0.7**
comp=Z,11nm,1.4s
BFO Black Forest 91.34 42 *ce*P **P 02 09 47.9 +0.5**
BFO pmax pmax
comp=Z,3.0nm,2.5s
KEST Kesra 91.87 54 P **P 02 09 50.5 +0.3**
comp=Z,3.9nm,0.8s,baz=237,slow=6.3,SNR=4.4
KEST LR LR 02 52 26.8
comp=Z,18nm,18.6s,baz=286,slow=36
KEST Kesra 91.87 54 *e*P **P 02 09 50.5 +0.3**
comp=Z,13nm,1.2s
TUE Stuetta 92.00 44 *e*P **P 02 09 51.0 +0.2**
comp=Z,17nm,1.2s
DAVA Damuels 92.37 43 *e*PcP **P 02 09 53.0 +0.7**
comp=Z,26nm,1.3s,SNR=6.1
FUORN Ofenpass-Fuorn 92.64 44 *e*P **P 02 09 54.3 +0.6**
comp=Z,18nm,1.2s
SBA Scott Base 92.69 191 *e*P **P 02 09 54.9 +1.9**
comp=Z,11nm,1.1s
SBA Scott Base 92.69 191 *e*P **P 02 09 54.9 +1.9**
SBA pmax pmax
comp=Z,11nm,1.1s
FETA Feichten 92.95 43 *e*PcP **P 02 09 55.8 +0.7**
comp=Z,24nm,1.2s,SNR=9.0
RETA Reutte 92.97 43 *e*P **P 02 09 54.3 -0.7**
comp=Z,11nm,1.2s
NOA NORSAR Array B 92.98 29 LR LR 02 49 11.4
comp=Z,30nm,19.7s,baz=295,slow=34
MOTA Moosalm 93.20 43 *e*PcP **P 02 09 56.4 +0.2**
comp=Z,11nm,1.1s,SNR=6.9
SQTA Sankt Quirin 93.28 43 *e*PcP **P 02 09 56.9 +0.4**
comp=Z,17nm,1.1s
WTTA Wattenberg 93.57 43 *e*PcP **P 02 09 58.5 +0.6**
comp=Z,9.3nm,1.0s
VNDA Vanda 93.79 191 P **P 02 09 59.7 +1.6**
comp=Z,2.2nm,0.9s,baz=136,slow=4.3,SNR=13
VNDA LR LR 02 44 04.2
comp=Z,56nm,21.1s,baz=124,slow=30
VNDA Vanda 93.79 191 *e*P **P 02 09 59.9 +1.8**
comp=Z,4.4nm,0.8s
VNDA Vanda 93.79 191 *e*P **P 02 09 59.9 +1.8**
VNDA pmax pmax
comp=Z,4.0nm,0.8s
ABTA Abfaltersbach 94.18 43 *e*PcP **P 02 10 00.9 +0.3**
comp=Z,16nm,1.1s
CLL Collm 94.33 39 *i* P **P 02 10 01.7 +0.6**
comp=Z,32nm,1.8s
CLL Collm 94.33 39 *i* P **P 02 10 01.7 +0.6**
CLL pmax pmax
comp=Z,10.0nm,1.8s
KHC Kasperske Hory 94.80 41 *e*P **P 02 10 04.1 +0.7**
comp=Z,9.7nm,1.3s
KHC Kasperske Hory 94.80 41 *e*P **P 02 10 04.1 +0.7**
KHC Kasperske Hory 94.80 41 *e*P **P 02 10 04.1 +0.7**
GEA0 GERESS Array S 94.90 41 *e*P **P 02 10 03.5 -0.3**
GEC2 GERESS Array S 94.90 41 *e*P **P 02 10 04.3 +0.4**
comp=Z,12nm,1.2s
GEC2 GERESS Array S 94.90 41 *e*P **P 02 10 04.3 +0.4**
GEC2 pmax pmax
comp=Z,12nm,1.2s
GERES GERESS Array B 94.90 41 P **P 02 10 04.2 +0.3**
comp=Z,3.6nm,1.0s,baz=279,slow=2.6,SNR=15
GERES LR LR 02 46 31.8
comp=Z,68nm,21.3s,baz=270,slow=32
BRG Berggiesshubel 94.95 39 *e*PKP **P 02 10 04.7 +0.8**
comp=Z,21nm,1.5s
BRG Berggiesshubel 94.95 39 *e*P **P 02 10 04.7 +0.8**
BRG pmax pmax
comp=Z,21nm,1.5s
MYKA Terra Mystica 94.96 44 *i* PcP **P 02 10 04.2 0.0**
comp=Z,12nm,1.0s
MOA Molln 95.33 42 *e*PcP **P 02 10 06.1 +0.4**
comp=Z,14nm,1.3s
TREC Trest 96.04 41 *e*P **P 02 10 10.0 +1.0**
TREC Trest 96.04 41 *e*P **P 02 10 10.0 +1.0**
ARSA Arzberg 96.21 43 *e*PcP **P 02 10 10.0 +0.2**

comp=Z,13nm,1.7s
CONA Conrad Observa 96.39 42 *e*PcP **P 02 10 11.3 +0.6**
comp=Z,16nm,1.3s,SNR=6.2
KRUC Moravsky 96.65 41 *e*P **P 02 10 12.4 +0.7**
VRAC Vranov 96.76 41 *e*P **P 02 10 12.9 +0.7**
MORC Moravsky Berou 97.33 40 *e*P Pdif 02 10 15.4 +0.5
comp=Z,12nm,1.3s
MORC Moravsky Berou 97.33 40 *e*P Pdif **02 10 15.4 +0.5**
MORC pmax pmax
comp=Z,12nm,1.3s
MORC Moravsky Berou 97.33 40 *e*P Pdif 02 10 15.8 +0.9
JAVC Velka Javorina 97.51 41 *e*P Pdif 02 10 17.4 +1.6
VYHS Vyhne 98.32 41 *e*P Pdif 02 10 20.5 +1.2
VYHS Vyhne 98.32 41 *e*P Pdif 02 10 20.5 +1.2
SYO Syowa Base 99.05 162⇑ *e*Pdiff **Pdif 02 10 22.0 -0.1**
BILL Bilibino 99.82 339⇓ *e*P **Pdif 02 10 24.4 -1.1**
BILL *PP **pP 02 10 35.0 +1.8**
BILL pmax pmax
comp=Z,12nm,1.4s
H11S2 WAKE ISLAND Hyl 11.09 289 T T 04 15 24.9
baz=86,slow=75,SNR=8.7
H11S1 WAKE ISLAND Hyl 11.09 289 T T 04 15 29.7
baz=86,slow=75,SNR=11
H11S3 WAKE ISLAND Hyl 11.10 289 T T 04 15 26.4
baz=86,slow=75,SNR=7.7
ABKAR Akbulak array 122.49 29 *e*PKPdf **PKPdf 02 15 37.1 +0.1**
BRVK Borovoye 123.89 20⇓ *i*PKIKP **PKPdf 02 15 38.6 -1.0**
KLR Kul'dur 124.81 334 *i* PKIKP **PKPdf 02 15 40.0 -1.5**
ZAA1 Zalesovo Array 126.86 10 *e*PKPdf **PKPdf 02 15 44.0 -1.3**
ZAA0 Zalesovo Array 126.86 10 *e*PKPdf **PKPdf 02 15 44.6 -0.6**
ZALV Zalesovo Beam 126.86 10 PKP **PKPdf 02 15 44.0 -1.3**
comp=Z,5.3nm,0.9s,baz=299,slow=1.5,SNR=14
ZALV Zalesovo Beam 126.86 10 *e*PKIKP **PKPdf 02 15 44.0 -1.3**
STKA Stephens Creek 127.07 227 PKP **PKPdf 02 15 46.4 +0.1**
comp=Z,3.3nm,0.8s,baz=82,slow=3.1,SNR=5.2
USRK Ussuriysk Ar. 128.35 329 PKP **PKPdf 02 15 47.9 -0.5**
comp=Z,2.4nm,0.8s,baz=20,slow=4.6
KURK Kurchatov 128.50 16 *e*PKPdf **PKPdf 02 15 49.0 +0.5**
KURK Kurchatov 128.50 16⇑ *i*PKIKP **PKPdf 02 15 48.4 0.0**
KURK pmax pmax
comp=Z,58nm,1.3s
GEYT Alibeck 128.52 41 PKP **PKPdf 02 15 48.9 -0.1**
comp=Z,2.8nm,0.9s,baz=291,slow=4.6,SNR=8.9
GYA0B ALIBECK ARRAY 128.52 41 *e*PKPdf **PKPdf 02 15 49.8 +0.9**
DGZ Jazzator, Alta 131.40 9*c* *i*PKIKP **PKPdf 02 15 54.0 -0.2**
ZAK Zakamensk 131.44 356 *e*PKIKP **PKPdf 02 15 52.9 -1.3**
ZAK pmax pmax
comp=Z,6.0nm,1.4s
MK32 Makanchi Array 133.07 15 *e*PKPdf **PKPdf 02 15 55.9 -1.5**
MKAR Makanchi Array 133.07 15 PKP **PKPdf 02 15 55.9 -1.5**
comp=Z,3.0nm,1.1s,baz=349,slow=4.3,SNR=7.0
MK01 Makanchi Array 133.10 15 *e*PKPdf **PKPdf 02 15 56.1 -1.2**
ULN Ulaanbaatar 133.52 352⇓ *i*PKIKP **PKPdf 02 15 58.6 +0.3**
SONA1 Songino Array 133.63 353 *e*PKPdf **PKPdf 02 15 56.1 -2.4**
SONA0 Songino Array 133.64 353 *e*PKPdf **PKPdf 02 15 56.4 -2.1**
SONA0 *e*PP **PP 02 18 25.3 -0.6**
SONM Songino Array 133.64 353 PKP **PKPdf 02 15 56.4 -2.1**
comp=Z,2.2nm,0.9s,baz=303,slow=3.0,SNR=8.1
SONM PP PP 02 18 25.3 -0.6
comp=Z,1.3nm,1.1s,baz=0.0,slow=7.7,SNR=4.6
AAK Ala-Archa 134.10 25⇓ *i*PKIKP **PKPdf 02 16 00.9 +1.4**
KSRS Korea Array 135.31 326 PKP **PKPdf 02 16 01.5 -0.2**
comp=Z,2.8nm,0.8s,baz=17,slow=1.3,SNR=5.8
KS01 Wonju Array Si 135.31 326 *e*PKPdf **PKPdf 02 16 01.6 -0.1**
KS15 Wonju Array Si 135.34 326 *e*PKPdf **PKPdf 02 16 01.5 -0.3**
KSAR Wonju Array Be 135.34 326 PKP **PKPdf 02 16 01.5 -0.3**
WMQ Urumqi 137.12 11 *e*PKP **PKPdf 02 16 04.7 -0.3**
WMQ LR LR
comp=Z,110nm,16.5s
AS31 Alice Springs 137.13 232 *e*PKPdf **PKPdf 02 16 04.8 -0.8**
ASAR Alice Springs 137.13 232 PKhKP PKPpre 02 15 54.0
comp=Z,0.6nm,0.4s,baz=117,slow=3.2,SNR=5.5
ASAR PKP **PKPdf 02 16 04.4 -1.2**
comp=Z,7.4nm,1.1s,baz=114,slow=2.8,SNR=12
KSH Kashi 137.31 26 PKP **PKPdf 02 16 06.6 +1.0**
KSH PP **PP 02 18 54.6 +5.1**
KSH SKS **SKSdf 02 23 11.6 -3.7**
KSH AMB AMB
comp=Z,220nm,7.4s
KSH LR LR
comp=Z,280nm,9.1s
KSH LR LR
comp=Z,260nm,6.7s
KSH LR LR
comp=Z,440nm,7.2s
WRAB Tennant Creek 138.59 237 *e*PKPdf **PKPdf 02 16 08.7 +0.4**
WRAB Tennant Creek 138.59 237⇓ *i*PKIKP **PKPdf 02 16 08.5 +0.2**
WRAB pmax pmax
comp=Z,14nm,1.3s
WR1 Warramunga Arr 138.59 237 *e*PKPdf **PKPdf 02 16 07.2 -1.1**
WRA Warramunga Arr 138.60 237 PKhKP PKPpre 02 16 00.4
comp=Z,0.7nm,0.4s,baz=109,slow=2.0,SNR=13
WRA PKP **PKPdf 02 16 07.2 -1.1**
comp=Z,6.8nm,1.0s,baz=109,slow=2.4,SNR=15
HHC Hu-ho-hao-te 139.35 345 *e*PKP **PKPdf 02 16 11.0 +1.7**
H01W1 Cape Leeuwin H 140.58 201 T T 04 54 01.9
baz=153,slow=76,SNR=12
H01W2 Cape Leeuwin H 140.58 201 T T 04 53 56.9
baz=153,slow=76,SNR=12
H01W3 Cape Leeuwin H 140.60 201 T T 04 53 55.3
baz=153,slow=76,SNR=12
GTA Gaotai 142.57 358 *e*PKP **PKPdf 02 16 10.3 -4.8**
GTA pPKP PKiKP 02 16 20.5 +2.3
GTA AMB AMB
comp=Z,95nm,8.6s
GTA LR LR
comp=Z,130nm,17.5s
GTA LR LR
comp=Z,110nm,18.1s
NJ2 Nanjing 144.26 329 *e*PKP PKPbc 02 16 16.3 0.0
LZH Lanzhou 145.53 352 *e*PKPbc **PKPdf 02 16 20.2 -0.2**
LZH pPKP sPKPdf 02 16 31.6 +0.6
LZH sPKP 02 16 35.8
LZH PP **PP 02 19 44.1 +4.9**
LZH AMB AMB
comp=Z,230nm,9.4s
LZH LR LR
comp=Z,140nm,17.9s
LZH LR LR
comp=Z,140nm,18.1s
LZH LR LR
comp=Z,190nm,20.0s
XAN Xi'an 146.46 344 PKPbc **PKPdf 02 16 20.4 -1.5**
XAN pPKP PKiKP 02 16 27.9 +1.6
XAN AMB AMB
comp=Z,330nm,3.6s
FITZ Fitzroy Crossi 146.62 232 *e*PKPdf **PKPbc 02 16 24.7 +0.6**
WHN Wuhan 147.66 334⇑ PKPbc **PKPbc 02 16 26.1 -0.5**
MBWA Marble Bar 149.02 221 *e*PKPbc **PKPbc 02 16 30.1 -0.4**
ENH Enshi 149.80 341 *e*PKPbc **PKPbc 02 16 31.7 -0.5**
CD2 Chengdu 150.62 350 PKPbc **PKPdf 02 16 27.0 -1.8**
LSA Lhasa 151.45 13 *e*PKPbc **PKPbc 02 16 36.8 +0.1**
GYA Guiyang 154.24 343 *e*PKPbc **PKPdf 02 16 32.5 -1.9**
GYA PKPab **PKPab 02 16 56.0 -0.2**
GYA PKS **PKSdf 02 20 06.2 -2.7**
GYA PP **PP 02 20 32.2 +2.5**
GYA AMB AMB
comp=Z,120nm,8.4s
HYB Hyderabad 155.13 50 *i* PKP **PKPdf 02 16 35.0 -0.7**
KMI Kunming 156.45 350 PKP **PKPdf 02 16 35.8 -1.7**
KMI AMB AMB
comp=Z,170nm,4.3s
CM31 Chiang Mai Arr 163.46 358 *e*PKPdf **PKPdf 02 16 44.8 -0.5**
CMAR Chiang Mai Arr 163.46 358 PKP **PKPdf 02 16 44.8 -0.5**
comp=Z,0.9nm,0.3s,baz=272,slow=3.5,SNR=5.8
CMAR PKPab **PKPab 02 17 34.4 -1.7**
comp=Z,1.0nm,0.4s,baz=347,slow=5.0,SNR=7.4
PSI Prapat 178.87 329 *e*PKPdf **PKPdf 02 16 51.9 -1.5**
PSI Prapat 178.87 329 *e*PKIKP **PKPdf 02 16 51.9 -1.5**

PRU 13 02:09:16.2±0.0, 50°28'N×18°76E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MORC	**Moravsky Berou**	**0.93**	**238**	*e*PG	Pg	02 09 34.1	0.0
MORC				*e*SG	Sg	02 09 46.5	+0.4
KRLC	**Kraliky**	**1.29**	**262**	*e*PG	Pg	02 09 39.6	-1.3
KRLC				*e*SG	Sg	02 09 56.6	-1.0
DPC	**Dobruska-Polom**	**1.56**	**274**	*e*PG	Pn	02 09 45.4	+0.1
DPC				*e*SG	Sn	02 10 05.9	-0.4
KHC	**Kasperske Hory**	**3.56**	**253**	*e*SG	Sg	02 11 09.4	-0.9

KRNET ***13*** *02:42:06.0±0.1, 39.12N×70.78E, mb3.2*
NNC ***13*** *02:42:08.1±1.5, 39.05N×70.51E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=11.5km s-min=10.6km az=13.0*

ISC 13 02:42:10.0±2.6, 39.3N±0.1×70.87E±0.08, h10km, n15, σ28.34/29, 18C-17D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**0.75**	**73**	⇑*i*P	**Pg**	**02 42 22.8**	**-1.7**
	baz=65						
DRK				⇑*i*S	**Sb**	**02 42 35.4**	**-0.3**
	baz=65						
BTK	**Batken**	**0.79**	**357**	⇑*i*P	**Pg**	**02 42 24.1**	**-1.1**
	baz=2.0						
BTK				⇑*i*S	**Sb**	**02 42 37.1**	**+0.5**
	baz=2.0						
SFK	**Sufi-Kurgan**	**2.16**	**69**	⇑Pn	**Pg**	**02 42 50.3**	**-1.1**
	5.2nm,0.3s						
SFK				⇑Lg	Lg	02 43 27.3	
	88nm,0.8s						
SFK	**Sufi-Kurgan**	**2.16**	**69**	⇑*i*P	**Pb**	**02 42 47.6**	**-1.7**
	baz=66						
SFK				⇑*i*S	**Sb**	**02 43 17.2**	**+0.9**
	baz=66						
ARSB	**Arslanbob**	**2.61**	**37**	⇑*i*P	**Pb**	**02 42 53.9**	**-3.0**
	baz=37						
ARSB				⇑*i*S	**Sb**	**02 43 28.9**	**-0.2**
	baz=37						
ARK	**Arkit**	**2.66**	**18**	⇓*e*P	**Pn**	**02 42 53.9**	**+0.9**
	baz=19						
ARK				⇓*i*S	**Sb**	**02 43 29.2**	**-1.3**
	baz=19						
MNAS	**Manas**	**3.44**	**21**	⇓Pn	**Pb**	**02 43 08.4**	**-2.7**
	3.5nm,0.4s						
MNAS				⇑Sn	**Sb**	**02 43 53.7**	**+0.6**
	19nm,1.0s						
MNAS	**Manas**	**3.44**	**21**	⇓*i*P	**Pn**	**02 43 05.6**	**+1.8**
	baz=21						
MNAS				⇓*i*S	**Sn**	**02 43 48.8**	**+4.1**
	baz=21						
ARLS	**Aral**	**3.69**	**44**	⇓*i*P	**Pn**	**02 43 08.3**	**+1.1**
	baz=44						
ARLS				⇓*i*S	**Sn**	**02 43 53.8**	**+3.0**
	baz=44						
KK31	**Karatay Array**	**3.84**	**356**	⇓Pn	**Pn**	**02 43 11.3**	**+2.2**
	1.9nm,0.4s,baz=179,slow=12,SNR=44						
KK31				⇓Pg	**Pg**	**02 43 21.5**	**-2.0**
	4.7nm,0.5s						
KK31				⇓Lg	Lg	02 44 15.1	
	7.1nm,0.6s,baz=180,slow=29,SNR=4.9						
UCH	**Uchtor**	**4.05**	**42**	⇓*i*P	**Pn**	**02 43 14.3**	**+1.9**
	baz=41						
UCH				⇓*i*S	**Sn**	**02 44 03.7**	**+3.7**
	baz=41						
AAK	**Ala-Archa**	**4.34**	**38**	⇓Pn	Pb	02 43 21.4	-5.0
	4.6nm,0.6s						
AAK				⇓Pg	**Pg**	**02 43 32.7**	**-0.4**
	7.1nm,0.6s						
AAK				⇑Sn	**Sb**	**02 44 17.4**	**-1.4**
	21nm,1.3s						
AAK				⇑Lg	Lg	02 44 35.7	
	28nm,1.2s						
KZA	**Kyzart**	**4.35**	**48**	⇓*i*P	**Pn**	**02 43 18.3**	**+1.8**
	baz=48						
KZA				⇓*i*S	**Sn**	**02 44 10.9**	**+3.4**
	baz=48						
KBK	**Karagaybulak**	**4.58**	**41**	⇑*e*P	**Pn**	**02 43 21.4**	**+2.0**
	baz=41						
KBK				⇑*i*S	**Sn**	**02 44 16.1**	**+3.4**
	baz=41						
TKM2	**Tokmak 2**	**5.10**	**43**	⇑Pn	Pn	02 43 30.2	+3.5
	5.1nm,0.7s						
TKM2				⇑Pg	**Pg**	**02 43 45.7**	**-2.0**
	6.1nm,0.9s						
TKM2				⇑Sn	**Sb**	**02 44 36.2**	**-4.7**
	4.1nm,0.6s						
TKM2				⇓Lg	Lg	02 45 00.3	
	16nm,1.4s						

GCMT 13 03:10:38.0±0.5, 45.76S±0.02×77.40W±0.03, h12km, MW4.8/79, Moment Tensor Solution. s8,c8; s79,c104; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 0.19±.10; Mθθ 1.01±.08; Mϕϕ -1.20±.10; Mrθ -0.51±.25; Mθϕ -1.75±.07; Mϕr -1.00±.27; **Best double couple:** M0 2.29400×10^16 **NP1:** ϕs 342.00000°, δ 76.00000°, λ -17.00000°. **NP2:** ϕs 76.00000°, δ 74.00000°, λ -165.00000°. **Principal axes:** T 1.9760, Plg 1.0000°, Azm 29.0000°; N 0.6360, Plg 68.0000°, Azm 123.0000°; P -2.6130, Plg 22.0000°, Azm 299.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Off coast of southern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**40.40**	**152**	P	P	03 18 10.0	-5.4
VNA1	**Neumayer--Stat**	**40.86**	**152**	P	P	03 18 14.1	-5.0
VNA2	**Neumayer--Watz**	**41.14**	**152**	P	P	03 18 17.4	-4.1
	baz=269,slow=8.6						
SNAA	**Sanae**	**42.58**	**153**	P	P	03 18 31.6	-1.7

ISCJB ***13*** *03:11:22.8±0.3, 20.33S±0.02×68.84W±0.03, h83km±3km, mb4.9/231 Error ellipse: s-maj=5.3km s-min=3.5km az=168.7*
MOS ***13*** *03:11:24.4±1.3, 20.41S×68.89W, h91km, mb5.0/37, Error ellipse: s-maj=12.1km s-min=5.7km az=107.6*
NEIC ***13*** *03:11:24.9±0.3, 20.44S×68.89W, h83km±3km, mb4.9/219, ML5.1(GUC), Error ellipse: s-maj=4.4km s-min=2.9km az=72.0*
NEIC Felt [V] at Huara; [IV] at Alto Hospicio, Iquique, La Tirana, Pica and Pozo Almonte; [III] at Quillagua; [II] at Codpa, Cuya and Oficina Maria Elena. Also felt at Arica.
GUC ***13*** *03:11:25.0, 20.54S×69.03W, h93km, ML5.1*
IDC ***13*** *03:11:26.1±0.3, 20.40S×68.97W, h95km±3km, mb4.4/21, mb1 4.5/26, mb1mx4.5/34, mbtmp4.8/26, MS3.7/6, Ms1 3.7/6, ms1mx3.3/24, Error ellipse: s-maj=12.9km s-min=6.4km az=83.0*
GCMT ***13*** *03:11:28.9±0.4, 20.43S±0.02×69.40W±0.03, h137km±3km, MW5.0/55, Moment Tensor Solution. s28,c32; s55,c73; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr -1.66±.17; Mθθ 2.04±.20; Mϕϕ -0.38±.27; Mrθ 1.20±.11; Mθϕ -1.18±.17; Mϕr -2.80±.14; Best double couple: M0 3.76100×10^16 NP1: ϕs 326.00000°, δ 76.00000°, λ -64.00000°. NP2: ϕs 83.00000°, δ 29.00000°, λ -150.00000°. Principal axes: T 3.6210, Plg 26.0000°, Azm 36.0000°; N 0.2760, Plg 25.0000°, Azm 139.0000°; P -3.9020, Plg 52.0000°, Azm 267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 03:11:26.1±0.3, 20.42S±0.03×69.07W±0.04, h97km±2km, h97km:pP-P, n828, σ1s 27/905, mb4.9/231, 13C-8D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.74**	**212**	*e*Pn	**Pn**	**03 11 41.4**	**-2.3**
PB01				*e*Sn	**Sn**	**03 11 54.0**	**-3.0**
PB01	**IPOC Station P**	**0.74**	**212**	⇑*i*P	**Pn**	**03 11 41.5**	**-2.3**
PB01				*e*S	**Sn**	**03 11 53.9**	**-3.0**
PB01				IAML		03 11 56.7	
	comp=E,113μm,0.2s						
PB11	**IPOC Station P**	**0.85**	**320**	*e*Pn	**Pn**	**03 11 44.3**	**-0.6**
PB11				*e*Sn	**Sn**	**03 11 59.3**	**+0.2**
PB11	**IPOC Station P**	**0.85**	**320**	⇓*i*P	**Pn**	**03 11 44.5**	**-0.5**
PB11				*e*S	**Sn**	**03 11 58.7**	**-0.4**
PSGC	**Pisagua**	**1.28**	**309**	*e*P	**Pn**	**03 11 48.8**	**-0.9**
PSGC				*e*S	**Sn**	**03 12 06.4**	**-1.1**
PSGC				IAML		03 12 09.5	
	comp=N,51μm,0.4s						
MNMC	**Minye Minye**	**1.37**	**339**	*e*Pn	**Pn**	**03 11 51.1**	**+0.2**
MNMC				*e*Sn	**Sn**	**03 12 08.8**	**-0.9**
MNMC	**Minye Minye**	**1.37**	**339**	*e*P	**Pn**	**03 11 51.5**	**+0.5**
MNMC				*e*S	**Sn**	**03 12 11.8**	**+2.1**
PB09	**IPOC Station P**	**1.38**	**187**	⇑*i*P	**Pn**	**03 11 49.6**	**-1.4**
PB09				*e*S	**Sn**	**03 12 07.7**	**-2.1**
PB09				IAML		03 12 10.3	
	comp=N,65μm,0.8s						
PB07	**IPOC Station P**	**1.51**	**210**	⇑*i*P	**Pn**	**03 11 50.4**	**-2.2**
PB07				*e*S	**Sn**	**03 12 09.0**	**-3.5**
PB07				IAML		03 12 12.2	
	comp=E,33μm,0.3s						
PB03	**IPOC Station P**	**1.75**	**201**	⇑*i*P	**Pn**	**03 11 53.4**	**-2.2**
PB03				*e*S	**Sn**	**03 12 14.6**	**-3.2**
PB03				IAML		03 12 19.5	
	comp=N,35μm,0.8s						
PB04	**IPOC Station P**	**2.16**	**208**	*e*Pn	**Pn**	**03 11 58.6**	**-2.3**
PB04				*e*Sn	**Sn**	**03 12 21.1**	**-6.2**
PB04	**IPOC Station P**	**2.16**	**208**	⇑*i*P	**Pn**	**03 11 58.4**	**-2.4**
PB04				IAML		03 12 30.3	
	comp=E,21μm,0.5s						
LVC	**Limon Verde**	**2.19**	**176**	P	**Pn**	**03 12 01.7**	**+0.3**
	comp=E,396nm,0.3s,baz=350,slow=9.0,SNR=1719						
LVC				S	**Sn**	**03 12 28.6**	**+0.2**
	comp=E,2μm,0.3s,baz=310,slow=22,SNR=15						
LVC	**Limon Verde**	**2.19**	**176**	*e*Pn	**Pn**	**03 12 01.3**	**-0.2**
LVC				*e*Sn	**Sn**	**03 12 26.1**	**-2.2**
LVC	**Limon Verde**	**2.19**	**176**	*e*P	**Pn**	**03 12 01.3**	**-0.2**
LVC				*e*		03 12 26.1	
PB06	**IPOC Station P**	**2.33**	**191**	*e*P	**Pn**	**03 12 01.1**	**-2.0**
PB06				*e*S	**Sn**	**03 12 27.1**	**-4.1**
PB10	**IPOC Station P**	**3.38**	**204**	*e*Pn	**Pn**	**03 12 13.1**	**-3.8**
PB10				*e*Sn	**Sn**	**03 12 52.8**	**-3.3**
YJA	**Yavi**	**3.75**	**118**	*i* P	**Pn**	**03 12 25.2**	**+2.8**
YJA				*i* S	Sn	03 13 18.4	+13
YJA				IAML		03 13 22.3	
	comp=Z,60nm,0.6s						
LPAZ	**La Paz**	**4.20**	**12**	P	**Pn**	**03 12 32.3**	**+3.7**
	comp=Z,357nm,0.3s,baz=188,slow=7.9,SNR=1446						
LPAZ				S	**Sn**	**03 13 11.3**	**-5.7**
	comp=Z,12nm,0.3s,baz=224,slow=9.1,SNR=1.4						
LPAZ	**La Paz**	**4.20**	**12**	*e*Pn	**Pn**	**03 12 29.2**	**+0.6**
LPAZ				*e*Sn	**Sn**	**03 13 11.3**	**-5.7**
LPAZ	**La Paz**	**4.20**	**12**	*e*P	**Pn**	**03 12 29.2**	**+0.6**
LPAZ				*e*		03 13 11.3	
HJA	**Humahuaca**	**4.39**	**130**	*i* P	**Pn**	**03 12 32.8**	**+1.8**
HJA				IAML		03 12 35.1	
	comp=Z,156nm,0.5s						
AZAP	**Zapla**	**5.30**	**136**	*i* P	**Pn**	**03 12 43.1**	**-0.1**
AZAP				IAML		03 13 17.0	
	comp=Z,70nm,0.5s						
SLA	**San Lorenzo**	**5.41**	**143**	*i* P	**Pn**	**03 12 45.0**	**+0.5**
SLA				IAML		03 13 16.5	
	comp=Z,136nm,0.7s						
FSA	**Cafayete**	**6.34**	**154**	*i* P	**Pn**	**03 12 56.8**	**-0.4**
AHML	**Horco Molle**	**7.21**	**152**	*i* P	**Pn**	**03 13 06.4**	**-2.5**
LCO	**Las Campanas**	**8.69**	**189**	*e*Pn	Pn	03 13 23.3	-5.9
LCO	**Las Campanas**	**8.69**	**189**	*e*P	Pn	03 13 23.3	-5.9
SIV	**San Ignacio**	**8.78**	**61**	P	**Pn**	**03 13 29.0**	**-1.3**
	comp=Z,49nm,0.3s,baz=259,slow=11,SNR=1038						
SIV				S	**Sn**	**03 15 03.3**	**-4.4**
	baz=335,slow=13,SNR=3.2						
GO04	**Tololo Observa**	**9.84**	**189**	*e*Pn	Pn	03 13 40.1	-4.8
NNA	**Nana**	**11.22**	**317**	P	**Pn**	**03 14 03.6**	**0.0**
	comp=Z,2.1nm,0.3s,baz=182,slow=9.1,SNR=6.1						
NNA				S	**Sn**	**03 16 03.7**	**-3.3**
	comp=Z,4.7nm,0.3s,baz=207,slow=20,SNR=1.9						
CPUP	**Villa Florida**	**12.28**	**121**	P	**Pn**	**03 14 15.3**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=307,slow=12,SNR=13						
CPUP				S	**Sn**	**03 16 35.9**	**+3.2**
	comp=Z,0.4nm,0.3s,baz=224,slow=16,SNR=1.3						
CPUP	**Villa Florida**	**12.28**	**121**	*e*Pn	**Pn**	**03 14 15.9**	**-1.8**
CPUP				*e*Sn	**Sn**	**03 16 35.9**	**+3.2**
CPUP	**Villa Florida**	**12.28**	**121**	*e*P	**Pn**	**03 14 15.9**	**-1.8**
CPUP				*e*		03 16 35.9	
SAML	**Samuel**	**12.74**	**27**	*e*Pn	**Pn**	**03 14 21.7**	**-2.1**
	comp=Z,35nm,0.6s						
SAML	**Samuel**	**12.74**	**27**	*e*P	**Pn**	**03 14 21.7**	**-2.1**
SAML				pmax	pmax		
	comp=Z,35nm,0.6s						
ATAH	**Atahualpa**	**16.00**	**324**	P	**P**	**03 15 07.2**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=175,slow=10,SNR=8.8						
ATAH				S	**S**	**03 18 08.1**	**-3.0**
	comp=Z,0.5nm,0.3s,baz=68,slow=5.5,SNR=1.2						
TRQA	**Tornquist**	**18.62**	**162**	*e*P	**P**	**03 15 35.0**	**-1.1**
	comp=Z,51nm,0.8s						
TRQA	**Tornquist**	**18.62**	**162**	*e*P	**P**	**03 15 35.0**	**-1.1**
TRQA				pmax	pmax		
	comp=Z,51nm,0.8s						
GO06	**Curarrehue**	**19.22**	**186**	*e*P	**P**	**03 15 41.9**	**-0.8**
	comp=Z,40nm,0.8s						
PLCA	**Paso Flores**	**20.29**	**183**	P	**P**	**03 15 53.4**	**-0.9**
	comp=Z,52nm,0.9s,baz=29,slow=13,SNR=42						
PLCA				PcP	**PcP**	**03 20 04.1**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=90,slow=1.0,SNR=4.1						
PLCA				LR	LR	03 23 46.8	
	comp=Z,230nm,18.1s,baz=3.0,slow=36						
PLCA	**Paso Flores**	**20.29**	**183**	*e*P	**P**	**03 15 53.3**	**-0.9**
	comp=Z,80nm,0.9s						
PLCA				*e*PcP	**PcP**	**03 20 04.1**	**+0.1**
PLCA	**Paso Flores**	**20.29**	**183**	*e*P	**P**	**03 15 53.3**	**-0.9**
PLCA				*e*		03 20 04.1	
PLCA				pmax	pmax		
	comp=Z,80nm,0.9s						
SPB	**Sao Paulo**	**20.31**	**103**	*e*P	**P**	**03 15 54.1**	**-0.3**
	comp=Z,21nm,1.1s						
BDFB	**Brasilia**	**20.57**	**80**	P	**P**	**03 15 55.5**	**-2.0**
	comp=Z,8.1nm,0.4s,baz=265,slow=9.7,SNR=17						
BDFB				LR	LR	03 25 12.4	
	comp=Z,338nm,18.6s,baz=218,slow=40						
PTGA	**Pitinga**	**21.49**	**26**	P	**P**	**03 16 05.4**	**-1.8**
	comp=Z,12nm,0.3s,baz=325,slow=22,SNR=23						
PTGA				S	**S**	**03 19 55.1**	**-5.1**
	comp=Z,5.9nm,0.6s,baz=322,slow=22,SNR=2.7						
PTGA	**Pitinga**	**21.49**	**26**	*e*P	**P**	**03 16 05.3**	**-1.9**
	comp=Z,60nm,1.4s						
PTGA				*e*S	**S**	**03 19 53.5**	**-6.7**
OTAV	**Otavalo**	**22.49**	**335**	*e*P	**P**	**03 16 19.5**	**+1.3**
	comp=Z,18nm,0.8s						
OTAV	**Otavalo**	**22.49**	**335**	*e*P	**P**	**03 16 20.7**	**+2.5**
OTAV	**Otavalo**	**22.49**	**335**	*ce*P	**P**	**03 16 20.1**	**+1.9**
OTAV				pmax	pmax		
	comp=Z,10.0nm,0.8s						
FLOC	**Florencia**	**22.79**	**343**	*e*P	**P**	**03 16 20.7**	**-0.2**
GO07	**Milladeo Hill,**	**22.96**	**189**	*e*P	**P**	**03 16 21.8**	**-0.4**
	comp=Z,49nm,0.8s						
GCUF	**Volcan Galeras**	**22.98**	**338**	*e*P	**P**	**03 16 26.1**	**+2.8**
CRUC	**La Cruz**	**23.17**	**340**	*e*P	**P**	**03 16 28.5**	**+3.6**
SOTA	**Rioblanco**	**23.60**	**341**	*e*P	**P**	**03 16 31.1**	**+2.2**
PCON	**Cinco Dias**	**23.72**	**342**	*e*P	**P**	**03 16 32.9**	**+2.8**
POPC	**Popayan, Colom**	**24.00**	**341**	*e*P	**P**	**03 16 34.1**	**+1.9**
SJAC	**San Juan de Ar**	**24.02**	**348**	*e*P	**P**	**03 16 38.9**	**+6.5**
PRAC	**Prado**	**24.65**	**346**	*e*P	**P**	**03 16 37.8**	**-0.1**
VILC	**Villavicencio,**	**24.79**	**349**	*e*P	**P**	**03 16 40.8**	**+1.5**
HORQ	**Saladito**	**24.88**	**342**	*e*P	**P**	**03 16 41.2**	**+0.9**
YOTC	**Yotoco, Valle**	**25.28**	**343**	*e*P	**P**	**03 16 44.6**	**+0.9**
CHIC	**Chingaza**	**25.31**	**349**	*e*P	**P**	**03 16 45.5**	**+1.2**
ANIL	**Santa Ana**	**25.52**	**345**	*e*P	**P**	**03 16 42.3**	**-3.8**
TOLC	**Tolima**	**25.59**	**345**	*e*P	**P**	**03 16 47.8**	**+1.0**
ROSC	**El Rosal**	**25.62**	**348**	P	**P**	**03 16 47.5**	**+0.4**
	comp=Z,11nm,0.7s,baz=58,slow=24,SNR=10.0						
ROSC	**El Rosal**	**25.62**	**348**	*e*P	**P**	**03 16 48.0**	**+0.8**
	comp=Z,7.9nm,0.8s						
ROSC	**El Rosal**	**25.62**	**348**	*e*P	**P**	**03 16 49.1**	**+1.9**
RREF	**El Recreo**	**25.90**	**346**	*e*P	**P**	**03 16 52.0**	**+2.0**
PLMC	**San Jos" del**	**26.14**	**344**	*e*P	**P**	**03 16 52.2**	**+0.7**
GUYC	**Guyana, Colomb**	**26.22**	**346**	*e*P	**P**	**03 16 53.9**	**+1.2**
RUSC	**La Rusia**	**26.44**	**351**	*e*P	**P**	**03 16 55.6**	**+0.9**
CHRN	**Cochrane**	**26.92**	**185**	*e*P	**P**	**03 16 57.6**	**-0.6**
	comp=Z,21nm,1.0s						
BARC	**Barichara**	**27.14**	**351**	*e*P	**P**	**03 17 01.7**	**+1.0**
HELC	**Santa Helena**	**27.19**	**346**	*e*P	**P**	**03 17 01.3**	**+0.1**
PTBC	**PUERTO BERRIO,**	**27.30**	**348**	*e*P	**P**	**03 17 00.2**	**-1.7**
GIRC	**Giron, Santand**	**27.62**	**351**	*e*P	**P**	**03 17 04.2**	**-0.7**
PAMC	**Pamplona, Colo**	**27.81**	**352**	*e*P	**P**	**03 17 07.3**	**+0.4**
DBBC	**Dabeiba**	**28.15**	**345**	*e*P	**P**	**03 17 10.4**	**+0.9**
ZARC	**Zaragoza, Cauc**	**28.31**	**348**	*e*P	**P**	**03 17 09.7**	**-1.1**
PAYG	**Puerto Ayora**	**28.55**	**311**	*e*P	**P**	**03 17 13.2**	**+0.2**
	comp=Z,42nm,1.1s						
OCAC	**Ocana**	**28.78**	**351**	*e*P	**P**	**03 17 13.7**	**-1.5**
SDV	**Santo Domingo**	**29.16**	**357**	P	**P**	**03 17 18.1**	**-0.5**
	comp=Z,9.2nm,0.7s,baz=187,slow=5.8,SNR=18						
SDV				pP	**pP**	**03 17 40.5**	**+0.2**
	comp=Z,9.5nm,0.4s,baz=188,slow=19,SNR=4.7						
SDV	**Santo Domingo**	**29.16**	**357**	*e*P	**P**	**03 17 17.9**	**-0.7**
	comp=Z,16nm,0.8s						
SDV				*e*pP	**pP**	**03 17 40.5**	**+0.2**
SDV	**Santo Domingo**	**29.16**	**357**	*e*P	**P**	**03 17 17.7**	**-0.8**
MDP	**Montagnes des**	**30.06**	**34**	LR	LR	03 30 36.4	
	comp=Z,297nm,19.1s,baz=223,slow=38						
CODC	**Agust"n Codaz**	**30.46**	**351**	*e*P	**P**	**03 17 26.3**	**-3.6**
EFI	**East Falkland**	**32.37**	**167**	*e*P	**P**	**03 17 45.7**	**-0.5**
	comp=Z,52nm,1.0s						
EFI	**East Falkland**	**32.37**	**167**	⇓*e*P	**P**	**03 17 45.3**	**-0.9**
EFI				pmax	pmax		
	comp=Z,63nm,1.1s						
JTS	**JuntasAbangare**	**34.28**	**331**	⇑*e*P	**P**	**03 18 04.6**	**+1.3**
RCBR	**Riachuelo**	**35.30**	**70**	*e*P	**P**	**03 18 09.7**	**-2.5**
	comp=Z,40nm,1.1s						
RCBR	**Riachuelo**	**35.30**	**70**	*e*P	**P**	**03 18 09.7**	**-2.5**
RCBR				pmax	pmax		
	comp=Z,40nm,1.1s						
FDF	**Fort de France**	**35.78**	**13**	*e*P	**P**	**03 18 15.3**	**-0.9**
	comp=Z,40nm,0.6s						
FDF	**Fort de France**	**35.78**	**13**	*e*P	**P**	**03 18 15.3**	**-0.9**
FDF				pmax	pmax		
	comp=Z,40nm,0.6s						
CSGN	**Cosiguina Volc**	**37.84**	**330**	*e*P	**P**	**03 18 35.1**	**+1.4**
	comp=Z,43nm,0.6s						
ICMP	**Isla Caja de M**	**38.15**	**4**	*e*P	**P**	**03 18 35.4**	**-0.7**
	comp=Z,48nm,0.6s						
CRPR	**Cabo Rojo, PR**	**38.23**	**3**	*e*P	**P**	**03 18 35.9**	**-0.9**
	comp=Z,81nm,0.8s						
OBIP	**Obispado Ponce**	**38.30**	**4**	*e*P	**P**	**03 18 36.8**	**-0.5**
	comp=Z,61nm,0.8s						
SJG	**San Juan**	**38.40**	**4**	*e*P	**P**	**03 18 36.9**	**-1.3**
	comp=Z,64nm,1.0s						
SJG	**San Juan**	**38.40**	**4**	*e*P	**P**	**03 18 36.6**	**-1.5**
SJG	**San Juan**	**38.40**	**4**	*e*P	**P**	**03 18 36.9**	**-1.3**
SJG				pmax	pmax		
	comp=Z,63nm,1.0s						
MTP	**Monte Pirata**	**38.43**	**5**	*e*P	**P**	**03 18 36.7**	**-1.8**
	comp=Z,22nm,0.7s						
MTP				*e*pP	**pP**	**03 18 59.1**	**-1.8**
MPR	**Mayaguez**	**38.43**	**3**	*e*P	**P**	**03 18 37.5**	**-1.0**
	comp=Z,42nm,0.9s						
HUMP	**Col San Antoni**	**38.45**	**5**	*e*P	**P**	**03 18 37.8**	**-0.9**
	comp=Z,72nm,1.5s						
CBYP	**Canovanas**	**38.58**	**5**	*e*P	**P**	**03 18 38.3**	**-1.5**
	comp=Z,106nm,1.1s						
CCIG	**Comitan**	**42.93**	**326**	*e*P	**P**	**03 19 16.2**	**+0.5**
	comp=Z,34nm,1.3s						
TEIG	**Tepich**	**44.55**	**334**	*e*P	**P**	**03 19 28.7**	**+0.2**
	comp=Z,52nm,1.5s						
062Z	**Marathon**	**46.36**	**345**	P	**P**	**03 19 43.7**	**+1.0**
	baz=164						
061Z	**Ochoppi**	**47.42**	**345**	*e*P	**P**	**03 19 51.8**	**+0.9**
	comp=Z,282nm,1.4s						
061Z	**Ochoppi**	**47.42**	**345**	P	**P**	**03 19 51.8**	**+0.9**
	baz=165						
TLIG	**Tlapa**	**47.56**	**320**	*e*P	**P**	**03 19 52.3**	**0.0**
	comp=Z,111nm,0.7s						
060A	**Indiantown**	**48.42**	**346**	P	**P**	**03 19 59.6**	**+1.0**
	baz=166						
059A	**Moore Haven**	**48.53**	**346**	P	**P**	**03 20 00.3**	**+0.8**
	baz=165						
058A	**Arcadia**	**48.78**	**345**	P	**P**	**03 20 02.0**	**+0.7**
	baz=164						
959A	**Okeechobee**	**49.01**	**346**	P	**P**	**03 20 03.6**	**+0.5**
	baz=165						
957A	**Wimauma**	**49.47**	**345**	P	**P**	**03 20 07.5**	**+0.8**
	baz=164						
859A	**Kempfer Cattle**	**49.53**	**346**	P	**P**	**03 20 07.4**	**+0.4**
	baz=165						
DWPF	**Disney Wildern**	**49.70**	**346**	P	**P**	**03 20 09.0**	**+0.6**
	baz=165						
858A	**St. Cloud**	**49.78**	**346**	P	**P**	**03 20 10.0**	**+1.0**
	baz=165						
857A	**Zephyrhills**	**50.04**	**345**	P	**P**	**03 20 11.6**	**+0.7**
	baz=164						
758A	**Lake Helen**	**50.47**	**346**	P	**P**	**03 20 14.4**	**+0.2**
	baz=165						
757A	**Oxford**	**50.65**	**345**	P	**P**	**03 20 16.1**	**+0.6**
	baz=164						
656A	**Willston**	**51.17**	**345**	*e*P	**P**	**03 20 20.2**	**+0.8**
	comp=Z,43nm,0.8s						
656A	**Willston**	**51.17**	**345**	P	**P**	**03 20 19.5**	**+0.1**
	baz=164						
657A	**Interlachen**	**51.22**	**346**	P	**P**	**03 20 20.4**	**+0.7**
	baz=164						
655A	**Horseshoe Beac**	**51.48**	**344**	P	**P**	**03 20 22.3**	**+0.6**
	baz=163						
557A	**Orange Park**	**51.60**	**346**	P	**P**	**03 20 23.2**	**+0.6**
	baz=165						
556A	**Lake Butler**	**51.74**	**345**	P	**P**	**03 20 24.4**	**+0.7**
	baz=164						
555A	**McAlpin**	**51.99**	**345**	*e*P	**P**	**03 20 26.6**	**+1.0**
	comp=Z,63nm,1.0s						
555A	**McAlpin**	**51.99**	**345**	P	**P**	**03 20 26.3**	**+0.7**
	baz=163						
554A	**Perry**	**52.14**	**344**	P	**P**	**03 20 27.4**	**+0.7**
	baz=162						
456A	**Hilliard**	**52.35**	**346**	*e*P	**P**	**03 20 29.6**	**+1.4**
	comp=Z,85nm,0.8s						
456A	**Hilliard**	**52.35**	**346**	P	**P**	**03 20 28.9**	**+0.8**
	baz=164						
553A	**Crawfordville**	**52.44**	**343**	P	**P**	**03 20 29.9**	**+1.0**
	baz=162						
356A	**Blackshear**	**52.95**	**346**	P	**P**	**03 20 33.4**	**+0.8**
	baz=164						
453A	**Whigham**	**53.04**	**344**	P	**P**	**03 20 33.5**	**+0.2**
	baz=162						
355A	**Pearson**	**53.13**	**345**	P	**P**	**03 20 34.2**	**+0.3**
	baz=164						
257A	**Skidaway Islan**	**53.34**	**347**	P	**P**	**03 20 36.5**	**+1.1**

JSC pmax pmax
comp=Z,11nm,0.9s
148A Greensboro 55.65 341 P P 03 20 51.3 -0.8
baz=159
Y53A Monroe 55.71 345 P P 03 20 52.2 -0.4
baz=163
Z50A Ashland 55.74 343 eP P 03 20 53.0 +0.2
comp=Z,23nm,0.8s
Z50A Ashland 55.74 343 P P 03 20 52.2 -0.6
baz=161,SNR=7.1
245A Little AP, Sta 55.84 339 P P 03 20 53.4 -0.1
baz=156
LRAL Lakeview Retre 55.84 342 P P 03 20 53.0 -0.6
baz=160
Z49A Columbiana 55.85 342 P P 03 20 53.2 -0.4
baz=160
342A Flagon Creek P 56.12 336 eP P 03 20 56.7 +1.2
comp=Z,29nm,0.7s
342A Flagon Creek P 56.12 336 P P 03 20 55.4 -0.2
baz=153
Y51A Rockmart 56.12 344 P P 03 20 55.0 -0.5
baz=162,SNR=5.2
PAULI Pauline 56.25 347 eP P 03 20 57.5 +1.1
comp=Z,14nm,1.1s
X53A Estanollee 56.27 346 P P 03 20 56.3 -0.3
baz=164
Y50A Piedmont 56.29 343 P P 03 20 55.9 -0.9
baz=161
Z47A Carrollton 56.32 341 P P 03 20 56.2 -0.7
baz=158
Z48A Northport 56.33 341 P P 03 20 56.1 -0.9
baz=159
Y49A Blount Mountai 56.45 343 P P 03 20 57.1 -0.7
baz=160
KMSC Kings Mountain 56.46 348 eP P 03 20 58.9 +1.0
comp=Z,26nm,1.3s
KMSC Kings Mountain 56.46 348 P P 03 20 57.8 -0.2
baz=166
X52A Dahlonega 56.50 345 P P 03 20 57.9 -0.4
baz=163
Z46A Louisville 56.58 340 P P 03 20 58.9 +0.1
baz=158
833A Chaparral WMA, 56.62 328 eP P 03 20 59.9 +0.7
comp=Z,27nm,0.6s
833A Chaparral WMA, 56.62 328 P P 03 20 59.1 -0.1
baz=145
X51A Calhoun 56.70 344 P P 03 20 59.7 +0.1
baz=162
Y48A Jasper 56.71 342 P P 03 20 59.0 -0.7
baz=160
X50B Fort Payne 56.81 344 P P 03 21 00.0 -0.4
baz=161
W53A Cullowhee 56.88 346 P P 03 21 01.0 0.0
baz=164
Y47A UCPARC, Winfie 56.90 341 P P 03 21 00.4 -0.6
baz=159,SNR=7.5
241A Mo Tay, Goldon 56.93 336 eP P 03 21 02.0 +0.7
comp=Z,27nm,1.3s
Z45A Winona 56.99 339 P P 03 21 01.2 -0.4
baz=157
X49A Woodville 57.04 343 P P 03 21 01.3 -0.7
baz=160
Z44A Pea Ridge, Bel 57.15 339 P P 03 21 02.4 -0.4
baz=156
X48A Hartselle 57.18 342 eP P 03 21 02.4 -0.6
comp=Z,17nm,0.8s
X48A Hartselle 57.18 342 P P 03 21 02.2 -0.8
baz=160,SNR=9.5
Y46A Houston 57.19 340 P P 03 21 02.5 -0.6
baz=158
W51A Cleveland 57.24 345 P P 03 21 03.2 -0.2
baz=162
V53A Saluda 57.28 347 P P 03 21 03.5 -0.2
baz=164
Y45A Yeager Farm, C 57.40 340 P P 03 21 04.1 -0.4
baz=157
W50A Signal Mountai 57.42 344 eP P 03 21 04.7 0.0
comp=Z,13nm,0.8s
W50A Signal Mountai 57.42 344 P P 03 21 04.2 -0.6
baz=162
CPCT Cooper Cave 57.46 345 eP P 03 21 05.3 +0.3
comp=Z,10.0nm,0.9s
X47A Russelville 57.48 342 P P 03 21 04.2 -0.9
baz=159,SNR=7.5
W49A Belvidere 57.59 343 P P 03 21 05.2 -0.7
baz=161
SWET Sewanee 57.59 344 eP P 03 21 05.7 -0.2
comp=Z,18nm,0.6s
V52A Sevierville 57.62 346 eP P 03 21 06.0 0.0
comp=Z,21nm,1.1s
V52A epP pP 03 21 31.4 +1.4
V52A Sevierville 57.62 346 P P 03 21 05.6 -0.5
baz=164,SNR=6.0
W48A Pulaski 57.79 343 P P 03 21 06.8 -0.5
baz=160,SNR=9.1
V50A Pikevile 57.81 345 P P 03 21 07.2 -0.2
baz=162,SNR=12
X45A UM Field Stati 57.86 340 P P 03 21 07.0 -0.8
baz=157
U53A Fall Branch 57.90 347 P P 03 21 07.8 -0.3
baz=165
OXF Oxford 57.95 340 eP P 03 21 07.9 -0.5
comp=Z,31nm,0.9s
OXF Oxford 57.95 340 eP P 03 21 07.9 -0.5
OXF pmax pmax
comp=Z,31nm,0.9s
OXF Oxford 57.95 340 P P 03 21 07.3 -1.1
baz=157,SNR=5.7
PLAL Pickwick Lake 57.98 342 eP P 03 21 07.7 -0.9
comp=Z,13nm,0.9s
W47A Westpoint 58.09 342 P P 03 21 08.3 -1.0
baz=159,SNR=6.6
U52A Thorn Hill 58.09 346 P P 03 21 09.1 -0.4
baz=164
V49A McMinnville 58.11 344 P P 03 21 08.8 -0.7
baz=161,SNR=10.0
W46A Michie 58.20 341 P P 03 21 09.3 -0.9
baz=158
U51A La Follette 58.23 346 P P 03 21 09.7 -0.7
baz=163
BLA Blacksburg 58.31 349 eP P 03 21 12.5 +1.6
comp=Z,23nm,1.4s
BLA Blacksburg 58.31 349 eP P 03 21 12.5 +1.6
BLA pmax pmax
comp=Z,23nm,1.4s
BLA Blacksburg 58.31 349 P P 03 21 11.2 +0.3
baz=167
V48A Smith Brothers 58.33 343 eP P 03 21 10.7 -0.4
comp=Z,20nm,0.8s
V48A Smith Brothers 58.33 343 P P 03 21 10.4 -0.6
baz=160,SNR=8.2
X43A Marvell 58.44 339 eP P 03 21 12.1 +0.3
comp=Z,33nm,1.0s
X43A Marvell 58.44 339 P P 03 21 11.4 -0.4
baz=156
U50A Jamestown 58.46 345 P P 03 21 11.4 -0.5
baz=162,SNR=7.5
Y41A Eaglette Beard 58.47 337 P P 03 21 12.2 +0.2
baz=154
W45A Hickory Valley 58.47 341 P P 03 21 11.0 -1.0
baz=158,SNR=6.4
JCT Junction City 58.60 329 P P 03 21 12.2 -0.9
baz=146
V47A Nunnelly 58.60 342 P P 03 21 11.9 -1.0
baz=160
R58B Mineral 58.66 352 P P 03 21 13.4 +0.2
baz=170
V46A Holladay 58.75 342 P P 03 21 12.8 -1.2
baz=159
T51A Gray 58.77 346 P P 03 21 13.8 -0.3
baz=164
WHTX Lake Whitney, 58.78 332 eP P 03 21 14.8 +0.6
comp=Z,12nm,0.7s
WHTX Lake Whitney, 58.78 332 P P 03 21 14.4 +0.1
baz=148
U49A Red Boiling Sp 58.78 344 P P 03 21 13.4 -0.8
baz=162,SNR=6.3
HPIG 58.93 322 eP P 03 21 16.5 +0.8
comp=Z,9.3nm,0.6s
V45A Humboldt 58.94 341 P P 03 21 14.1 -1.2
baz=158
WVT Waverly 58.97 342 eP P 03 21 14.8 -0.7
comp=Z,24nm,0.7s
WVT Waverly 58.97 342 eP P 03 21 14.8 -0.7
WVT pmax pmax
comp=Z,24nm,0.7s
WVT Waverly 58.97 342 P P 03 21 14.3 -1.1
baz=159
U48A Cassie Pea, Po 58.98 344 P P 03 21 15.1 -0.4
baz=161,SNR=6.6
X41A Kaden, Bauxite 58.98 337 P P 03 21 15.0 -0.6
baz=154
T50A Nancy 59.03 345 P P 03 21 15.1 -0.8
baz=163
U47A Clarksville 59.11 343 P P 03 21 15.5 -1.0
baz=160,SNR=9.4
UALR University of 59.18 338 eP P 03 21 16.9 0.0
comp=Z,11nm,0.9s
SLBS Sierra La Lagu 59.22 316 eP P 03 21 18.6 +1.0
comp=Z,28nm,1.2s
T49A Edmonton 59.28 345 eP P 03 21 17.4 -0.2
comp=Z,21nm,0.8s
T49A Edmonton 59.28 345 P P 03 21 17.0 -0.6
baz=162,SNR=9.7
U46A Springville 59.29 342 P P 03 21 16.7 -1.0
baz=159,SNR=7.8
MIAR Mount Ida 59.42 337 eP P 03 21 18.8 +0.2
comp=Z,10nm,0.7s
MIAR Mount Ida 59.42 337 eP P 03 21 18.8 +0.2
MIAR pmax pmax
comp=Z,10.0nm,0.7s
MIAR Mount Ida 59.42 337 P P 03 21 18.3 -0.3
baz=153,SNR=7.7
U45A Rockin P Farm, 59.45 342 P P 03 21 18.2 -0.5
baz=158
W41B Gary Mavity, V 59.50 338 P P 03 21 18.6 -0.5
baz=155
T48A Bowling Green 59.50 344 P P 03 21 18.6 -0.5
baz=161
S50A Richmond 59.56 346 P P 03 21 19.2 -0.3
baz=163,SNR=5.6
T47A Sharon Grove 59.58 343 eP P 03 21 19.4 -0.2
comp=Z,33nm,0.8s
T47A epP pP 03 21 42.3 -1.3
T47A Sharon Grove 59.58 343 P P 03 21 19.0 -0.6
baz=160,SNR=12
U44B Burton Farm, H 59.62 341 P P 03 21 19.5 -0.4
baz=158
WHAR Wooly Hollow 59.62 338 eP P 03 21 20.1 +0.1
comp=Z,9.0nm,0.9s
LTX Lajitas 59.66 325 eP P 03 21 20.6 +0.1
LTX epP pP 03 21 44.3 -0.2
LTX Lajitas 59.66 325 eP P 03 21 20.6 +0.1
LTX e*PP pP 03 21 44.3 -0.2
TXAR Lajitas Array 59.66 325 P P 03 21 20.6 +0.1
comp=Z,2.6nm,0.6s,baz=153,slow=8.2,SNR=25
TXAR pP pP 03 21 44.3 -0.2
comp=Z,1.0nm,0.7s,baz=156,slow=9.6,SNR=2.9
TX31 Lajitas Ar. Si 59.66 325 eP P 03 21 20.6 +0.1
V42A Cord 59.78 339 P P 03 21 20.3 -0.7
baz=156
T46A Princeton 59.84 343 P P 03 21 20.7 -0.8
baz=159,SNR=9.0
S49A Springfield 59.87 345 P P 03 21 20.8 -0.8
baz=162
U44A Portageville 59.87 341 P P 03 21 21.0 -0.6
baz=158
S48A Wiedeman Farm, 59.94 344 P P 03 21 20.8 -1.3
baz=161,SNR=7.8
U43A Rector 59.97 340 P P 03 21 21.7 -0.6
baz=157,SNR=5.9
R51A Hillsboro 59.97 347 P P 03 21 22.0 -0.3
baz=164
V41A Mountainview 60.02 338 P P 03 21 21.9 -0.8
baz=155,SNR=7.6
T45A Paducah 60.04 342 P P 03 21 21.8 -1.0
baz=159
PARMO Parma 60.04 341 eP P 03 21 23.2 +0.4
comp=Z,36nm,0.7s
W39A Magazine 60.08 337 eP P 03 21 23.8 +0.7
comp=Z,16nm,0.8s
W39A epP pP 03 21 50.9 +3.8
W39A Magazine 60.08 337 P P 03 21 23.2 +0.1
baz=153,SNR=7.2
S47A Hartford 60.09 344 P P 03 21 22.0 -1.1
baz=161,SNR=5.2
R50A Paris 60.12 346 P P 03 21 22.7 -0.6
baz=163
X37A Clayton 60.15 335 eP P 03 21 24.4 +0.8
comp=Z,14nm,0.8s
U42A Revenden 60.23 339 P P 03 21 23.3 -0.8
baz=156,SNR=8.1
ABTX Abilene, Hawle 60.30 330 eP P 03 21 25.1 +0.3
comp=Z,14nm,1.0s
ABTX Abilene, Hawle 60.30 330 P P 03 21 24.7 0.0
baz=147
R49A Shelbyville 60.32 345 P P 03 21 24.1 -0.6
baz=162
Q52A Bidwell 60.34 348 P P 03 21 24.8 -0.1
baz=166
PBMO Poplar Bluff 60.35 340 eP P 03 21 24.6 -0.3
comp=Z,22nm,0.6s
T44A Benton 60.38 341 P P 03 21 24.4 -0.7
baz=158
S46A Don Dixon Farm 60.40 343 P P 03 21 24.4 -0.8
baz=160
U41A Viola 60.45 339 P P 03 21 24.9 -0.7
baz=155,SNR=11
WCI Wyandotte Cave 60.54 344 eP P 03 21 25.6 -0.6
comp=Z,14nm,0.8s
WCI Wyandotte Cave 60.54 344 eP P 03 21 25.6 -0.6
WCI pmax pmax
comp=Z,13nm,0.8s
WCI Wyandotte Cave 60.54 344 P P 03 21 25.3 -0.8
baz=161
Q50A Georgetown 60.58 347 P P 03 21 25.8 -0.6
baz=164
T43A Greenville 60.59 341 P P 03 21 25.8 -0.7
baz=157
R48A Northridge Ran 60.59 345 P P 03 21 26.0 -0.6
baz=162
MCWV Mont Chateau 60.60 350 P P 03 21 26.8 +0.2
baz=168,SNR=8.1
Q51A Peebles 60.62 347 P P 03 21 26.8 0.0
baz=164
S45A Carrier Mills 60.63 342 P P 03 21 26.2 -0.6
baz=159
R47A Wooly Knot Far 60.66 344 P P 03 21 26.0 -1.0
baz=161
P53A Whipple 60.69 349 eP P 03 21 27.8 +0.6
comp=Z,36nm,0.9s
P53A Whipple 60.69 349 P P 03 21 27.4 +0.2
baz=167,SNR=7.9
U40A Yellville 60.78 338 P P 03 21 27.4 -0.5
baz=154,SNR=10
T42A Van Buren 60.80 340 eP P 03 21 27.2 -0.8
comp=Z,6.3nm,0.8s
T42A Van Buren 60.80 340 P P 03 21 26.9 -1.0
baz=156
R46A Gibon Southern 60.84 343 P P 03 21 26.8 -1.4
baz=160
S44A Carbondale 60.84 342 P P 03 21 27.7 -0.6
baz=158,SNR=5.1
SIUC Southern Illin 60.85 342 eP P 03 21 28.1 -0.2
comp=Z,19nm,0.9s
Q49A Aurora 60.94 346 P P 03 21 28.6 -0.3
baz=163
P52A Corning 60.97 348 P P 03 21 28.2 -0.9
baz=166
S43A Fulton Ridge, 60.98 341 P P 03 21 28.3 -0.9
baz=157,SNR=9.2
P51A Williamsport 61.00 348 P P 03 21 29.4 +0.1
baz=165
O56A Blue Knob Stat 61.01 352 eP P 03 21 28.5 -0.9
comp=Z,15nm,0.8s
O56A Blue Knob Stat 61.01 352 P P 03 21 29.6 +0.1
baz=170
T41A Mountain View 61.03 339 P P 03 21 29.3 -0.3
baz=156
Q48A North Vernon 61.06 345 P P 03 21 28.9 -0.8
baz=162
HHAR Hobbs 61.10 337 eP P 03 21 30.0 -0.1
comp=Z,13nm,0.9s
R45A Skylar, Fairfi 61.12 343 P P 03 21 29.2 -0.9
baz=159,SNR=11
VNA3 Neumayer Olymp 61.15 161 P P 03 21 29.9 -0.1
Q47A Bedord North L 61.24 345 P P 03 21 30.2 -0.7
baz=161,SNR=6.2
P50A Jamestown 61.28 347 P P 03 21 30.7 -0.4
baz=164
SSPA Standing Stone 61.29 352 P P 03 21 31.3 +0.1
baz=170
R44A Waltonville 61.30 342 P P 03 21 30.5 -0.9
baz=158
VNA1 Neumayer--Stat 61.35 161 P P 03 21 31.6 +0.3
S42A Caledonia 61.38 340 P P 03 21 31.2 -0.7
baz=157
O52A Adamsville 61.38 349 P P 03 21 31.6 -0.3
baz=166
P49A Miami Univ. Ec 61.40 346 P P 03 21 31.4 -0.6
baz=163
FVM French Village 61.46 341 eP P 03 21 32.4 -0.1
comp=Z,26nm,0.8s
FVM French Village 61.46 341 eP P 03 21 32.4 -0.1
FVM pmax pmax
comp=Z,26nm,0.8s
TUL1 Leonard 61.47 335 eP P 03 21 32.7 +0.1
comp=Z,14nm,1.0s
TUL1 Leonard 61.47 335 P P 03 21 32.2 -0.4
baz=151
P48A Milroy 61.49 346 P P 03 21 31.5 -1.1
baz=162
S41A Jillco Farms, 61.52 340 P P 03 21 32.3 -0.6
baz=156,SNR=10.0
O51A Pataskala 61.56 348 P P 03 21 32.2 -0.9
baz=165
R43A Red Bud 61.58 341 P P 03 21 32.3 -1.0
baz=158
Q45A Warren Harvey, 61.65 343 P P 03 21 32.5 -1.2
baz=160,SNR=6.6
ACSO Alum Creek Sta 61.71 348 eP P 03 21 34.1 0.0
comp=Z,21nm,0.9s
ACSO epP pP 03 22 00.8 +2.6
ACSO Alum Creek Sta 61.71 348 P P 03 21 33.5 -0.5
baz=165
VNA2 Neumayer--Watz 61.72 161 P P 03 21 33.6 -0.2
baz=284,slow=7.7
P47A Martinsville 61.72 345 P P 03 21 33.0 -1.2
baz=162,SNR=8.2
O50A Cable 61.76 347 P P 03 21 33.8 -0.6
baz=164
CCM Cathedral Cave 61.78 340 eP P 03 21 34.3 -0.3
comp=Z,15nm,0.8s
CCM Cathedral Cave 61.78 340 eP P 03 21 34.3 -0.3
CCM pmax pmax
comp=Z,15nm,0.8s
CCM Cathedral Cave 61.78 340 P P 03 21 33.9 -0.6
baz=156
R42A Luebbering 61.85 341 P P 03 21 34.2 -0.8
baz=157,SNR=9.9
Q44A Meyer Farm, Va 61.90 342 P P 03 21 34.1 -1.2
baz=159
N54A Moraine State 61.90 351 eP P 03 21 36.3 +1.0
comp=Z,32nm,0.9s
N54A Moraine State 61.90 351 P P 03 21 35.9 +0.5
baz=168
O49A Covington 61.95 347 P P 03 21 35.4 -0.3
baz=164
R41A Rosebud 62.05 340 P P 03 21 35.8 -0.6
baz=156,SNR=10
BRYW Bryant College 62.06 358 eP P 03 21 37.3 +0.9
comp=Z,31nm,0.9s
P46A Rosedale 62.08 344 P P 03 21 35.5 -1.0
baz=161
Q43A New Douglas 62.13 342 P P 03 21 36.1 -0.8
baz=158
P45A Graceland, Par 62.13 344 eP P 03 21 36.0 -0.9
comp=Z,42nm,1.0s
P45A epP pP 03 22 02.9 +1.8
P45A Graceland, Par 62.13 344 P P 03 21 35.3 -1.6
baz=160,SNR=8.3
O48A Farmland 62.19 346 P P 03 21 36.1 -1.2
baz=163,SNR=5.4
N51A Ashland 62.26 349 P P 03 21 36.6 -1.1
baz=166
N50A Nevada 62.26 348 P P 03 21 36.9 -0.9
baz=165
P44A Sand Creek, Wi 62.31 343 P P 03 21 36.8 -1.3
baz=159
Q42A Golden Eagle 62.35 341 P P 03 21 37.7 -0.6
baz=157,SNR=7.5
M54A Oil Creek Stat 62.38 351 eP P 03 21 39.6 +1.0
comp=Z,31nm,0.8s
M54A Oil Creek Stat 62.38 351 P P 03 21 38.4 -0.2
baz=169,SNR=5.0
O47A Sheridan 62.41 345 P P 03 21 37.7 -1.0
baz=162,SNR=5.5
MNTX Cornudas Mount 62.42 325 eP P 03 21 38.8 -0.2
comp=Z,5.0nm,0.7s
MNTX Cornudas Mount 62.42 325 P P 03 21 38.8 -0.2
baz=141,SNR=9.0
Q41A Truxton 62.60 341 P P 03 21 39.5 -0.6
baz=156,SNR=10
N49A Columbus Grove 62.62 347 eP P 03 21 40.0 -0.1
comp=Z,36nm,0.8s
N49A Columbus Grove 62.62 347 P P 03 21 39.8 -0.3
baz=164,SNR=7.3
BINY Binghamton 62.62 354 eP P 03 21 41.4 +1.2
comp=Z,23nm,0.9s
BINY Binghamton 62.62 354 P P 03 21 40.7 +0.6
baz=172
M51A Elyria 62.62 349 P P 03 21 39.9 -0.2
baz=166
HRV Adam Dziewonsk 62.65 358 eP P 03 21 41.1 +0.9
comp=Z,15nm,0.8s
HRV Adam Dziewonsk 62.65 358 eP P 03 21 41.1 +0.9
HRV pmax pmax
comp=Z,15nm,0.8s
HRV Adam Dziewonsk 62.65 358 P P 03 21 40.1 -0.1
baz=177
P43A Skaggs, Pawnee 62.73 342 P P 03 21 40.0 -0.8
baz=158,SNR=6.2
N48A Decatur 62.74 346 P P 03 21 40.1 -0.8
baz=163
SFIN Lafayette 62.77 345 P P 03 21 39.9 -1.2
baz=161
O45A Potomac 62.81 344 P P 03 21 40.1 -1.3
baz=160,SNR=8.4
MSTX Muleshoe 62.89 329 eP P 03 21 41.5 -0.8
comp=Z,16nm,0.8s
MSTX epP pP 03 22 06.1 -0.4
MSTX esP PcP 03 22 19.0 -0.6
MSTX Muleshoe 62.89 329 P P 03 21 41.7 -0.5
baz=144,SNR=10
N47A Urbana 62.91 346 P P 03 21 41.6 -0.4
baz=162
O44A Mansfield 62.91 343 P P 03 21 40.5 -1.5
baz=159
P42A Winchester 62.91 342 eP P 03 21 41.5 -0.6
comp=Z,21nm,0.8s
P42A Winchester 62.91 342 P P 03 21 41.0 -1.1
baz=157,SNR=7.4
TRY Troy 62.97 356 eP P 03 21 43.8 +1.4
comp=Z,25nm,0.8s
ERPA Erie 63.03 351 P P 03 21 42.1 -0.8
baz=168
M49A Liberty Center 63.11 347 P P 03 21 43.2 -0.1
baz=164
AMTX Amarillo 63.12 330 P P 03 21 43.0 -0.7
baz=145
N46A Monticello 63.17 345 P P 03 21 43.0 -0.8
baz=161
P41A Barry, Barry 63.21 341 P P 03 21 43.2 -0.8
baz=157,SNR=6.9
N45A Kentland 63.31 344 P P 03 21 43.7 -1.0
baz=160
M47A Cromwell 63.35 346 P P 03 21 44.0 -1.0
baz=162
SNAA Sanae 63.35 161 P P 03 21 44.5 -0.2
SNAA Sanae 63.35 161 eP P 03 21 44.6 -0.2
comp=Z,18nm,0.8s
SNAA Sanae 63.35 161 *d* *i*P P 03 21 44.3 -0.4
SNAA *i* *P pP 03 22 08.5 -0.5
SNAA pmax pmax
comp=Z,1μm,0.9s
O42A Bath 63.40 342 P P 03 21 44.5 -0.8
baz=158
N44A Piper City 63.42 344 P P 03 21 44.1 -1.3
baz=160
HDIL Hopedale 63.51 343 eP P 03 21 45.3 -0.7
comp=Z,31nm,0.7s
HDIL Hopedale 63.51 343 P P 03 21 44.9 -1.1
baz=159
O41A Passleys Farm, 63.56 341 P P 03 21 45.1 -1.2
baz=157,SNR=5.1
L48A N Adams 63.65 347 P P 03 21 46.0 -1.0
baz=164
N43A Stutzman Famil 63.84 343 P P 03 21 47.4 -0.8
baz=159,SNR=7.1
L47A Sherwood 63.84 347 P P 03 21 47.1 -1.1
baz=163
N42A Yates City 63.97 342 P P 03 21 48.0 -1.0
baz=158
K50A Casco 64.10 349 P P 03 21 49.1 -0.7

baz=166
M43A **Waltham Townsh** 64.24 344 P P 03 21 50.0 -0.8
baz=159
K49A **Clarkson** 64.27 348 P P 03 21 50.1 -0.9
baz=165
319A **Douglas** 64.34 322 *e*P P 03 21 53.2 +1.4
comp=Z,31nm,0.8s
121A **Cookes Peak, D** 64.37 324 P P 03 21 53.2 +1.2
baz=139,SNR=7.1
K48A **Perry** 64.41 348 P P 03 21 51.3 -0.6
baz=164
M42A **Sheffield** 64.48 343 P P 03 21 51.3 -1.0
baz=158
N40A **Mertquake, Sal** 64.48 341 P P 03 21 51.2 -1.1
baz=156
KSU1 **Kansas State U** 64.58 337 P P 03 21 52.3 -0.7
baz=151
M41A **Milan** 64.62 342 P P 03 21 52.2 -1.1
baz=158
N39A **Derby Farms, D** 64.75 341 *e*P P 03 21 53.8 -0.4
comp=Z,14nm,0.8s
N39A **Derby Farms, D** 64.75 341 P P 03 21 53.5 -0.7
baz=156
L43A **Garden Prairie** 64.88 344 P P 03 21 54.0 -1.0
baz=160
LONY **Lake Ozonia** 64.91 356 *e*P P 03 21 56.1 +1.0
comp=Z,12nm,1.0s
LONY **Lake Ozonia** 64.91 356 P P 03 21 55.0 -0.1
baz=174
M40A **Post Highland** 64.93 342 P P 03 21 54.4 -0.9
baz=157,SNR=5.2
L42A **Oliver, Polo** 64.96 343 P P 03 21 54.5 -1.0
baz=158
J47A **Sunmer** 64.97 347 P P 03 21 54.7 -0.9
baz=164
BNM **Barren Site** 64.98 326 *e*P P 03 21 56.0 -0.1
LPM **Los Pinos Moun** 65.11 326 *e*P P 03 21 58.0 +1.1
LENM **Lemitar** 65.18 326 *e*P P 03 21 58.5 +1.2
M39A **Webster** 65.20 341 P P 03 21 56.8 -0.2
baz=156
L41A **Preston** 65.26 343 P P 03 21 56.3 -1.1
baz=158
K43A **Burlington** 65.27 344 P P 03 21 56.8 -0.6
baz=160
PKME **Peaks-Kenny Pk** 65.36 360 P P 03 21 58.7 +0.8
baz=180
LAZ **Ladron** 65.45 326 *e*P P 03 21 58.6 -0.4
L40A **Anamosa** 65.45 342 *e*P P 03 21 58.7 +0.1
comp=Z,18nm,0.9s
L40A **Anamosa** 65.45 342 P P 03 21 58.5 -0.2
baz=157
ANMO **Albuquerque** 65.51 327 *e*P P 03 22 00.1 +0.6
comp=Z,4.7nm,0.8s
ANMO **Albuquerque** 65.51 327 ⇓*i*P P 03 22 00.0 +0.6
ANMO pmax pmax
comp=Z,5.0nm,0.8s
ANMO **Albuquerque** 65.51 327 P P 03 22 00.3 +0.9
baz=141
CBKS **Cedar Bluff** 65.56 334 *e*P P 03 22 00.0 +0.6
comp=Z,22nm,0.9s
CBKS *e*pP PcP 03 22 27.7 -2.7
CBKS Cedar Bluff 65.56 334 *e*P P 03 22 00.0 +0.6
CBKS *e**PP PcP 03 22 27.7 -2.7
CBKS pmax pmax
comp=Z,22nm,0.9s
CBKS **Cedar Bluff** 65.56 334 P P 03 21 59.1 -0.3
baz=148,SNR=5.7
K42A **Prairie Point,** 65.60 344 P P 03 21 58.8 -0.8
baz=159
K41A **Shullsburg** 65.70 343 P P 03 21 59.4 -0.8
baz=158
L39A **Vinton** 65.74 341 P P 03 21 59.7 -0.8
baz=156
TUC **Tucson** 65.89 322 *e*P P 03 22 03.2 +1.4
comp=Z,17nm,1.5s
TUC **Tucson** 65.89 322 *e*P P 03 22 03.2 +1.4
TUC pmax pmax
comp=Z,17nm,1.5s
TUC **Tucson** 65.89 322 P P 03 22 02.7 +0.8
baz=137
J43A **Natural Harves** 65.93 345 P P 03 22 01.1 -0.6
baz=160
JFWS **Jewell Farm** 65.97 343 P P 03 22 01.8 -0.2
baz=158
K40A **Colesburg** 66.02 342 P P 03 22 01.6 -0.7
baz=157
PEMO **Pembroke** 66.19 354 P P 03 22 03.3 0.0
baz=172
BUKO **Buck Lake** 66.21 352 P P 03 22 03.0 -0.4
baz=169
KLBO **Killbear Provi** 66.24 351 P P 03 22 02.8 -0.8
baz=168
K39A **Oelwein** 66.24 342 P P 03 22 02.5 -1.2
baz=156,SNR=5.5
T25A **Trinidad** 66.24 330 *e*P P 03 22 05.2 +1.1
comp=Z,4.4nm,0.8s
T25A **Trinidad** 66.24 330 P P 03 22 04.7 +0.6
baz=144
J41A **Loganville** 66.32 343 P P 03 22 03.9 -0.3
baz=158
I42A **Draeger Farm,** 66.53 344 P P 03 22 05.1 -0.5
baz=160
J40A **Soldiers Grove** 66.55 343 P P 03 22 05.1 -0.5
baz=158
ALGO **Algonquin Park** 66.55 353 P P 03 22 06.0 +0.3
baz=171
J39A **Decorah** 66.76 342 P P 03 22 06.3 -0.7
baz=157,SNR=11
214A **Organ Pipe Nat** 66.83 320 P P 03 22 09.3 +1.5
baz=135,SNR=8.0
I41A **Arkdale** 66.93 344 P P 03 22 07.9 -0.1
baz=159
E54A **Lac Daplat, Po** 66.94 354 P P 03 22 08.6 +0.6
baz=172
KSCO **Kaye Shedlock'** 66.95 332 *e*P P 03 22 09.1 +0.6
comp=Z,20nm,1.0s
KSCO **Kaye Shedlock'** 66.95 332 P P 03 22 08.3 -0.2
baz=146
I40A **Norwalk** 66.97 343 P P 03 22 07.8 -0.6
baz=158
H42A **Shiocton** 67.01 345 P P 03 22 08.0 -0.5
baz=160
X18A **Snowflake** 67.06 324 *e*P P 03 22 11.0 +1.7
comp=Z,5.2nm,0.8s
BGNE **Belgrade** 67.16 337 *e*P P 03 22 09.9 +0.2
comp=Z,57nm,0.6s
BGNE **Belgrade** 67.16 337 P P 03 22 09.3 -0.3
baz=150,SNR=8.2
I39A **Houston** 67.19 343 *e*P P 03 22 09.6 -0.1
comp=Z,26nm,0.8s
I39A **Houston** 67.19 343 P P 03 22 09.0 -0.7
baz=157
SDCO **Great Sand Dun** 67.24 329 *e*P P 03 22 11.4 +0.8
comp=Z,7.1nm,0.6s
SDCO **Great Sand Dun** 67.24 329 P P 03 22 11.3 +0.8
baz=143,SNR=16
H40A **Chili** 67.59 344 P P 03 22 11.8 -0.5
baz=158,SNR=5.1
D54A **Lac Fusel, La** 67.60 354 P P 03 22 12.3 +0.1
baz=172
D53A **Lac Vacive, Po** 67.63 354 P P 03 22 12.3 -0.1
baz=171
X16A **Lo Mia Camp, P** 67.80 323 *e*P P 03 22 15.7 +1.6
comp=Z,8.1nm,0.8s
G41A **Antigo** 67.83 345 P P 03 22 13.2 -0.6
baz=160
H39A **Augusta** 67.88 343 P P 03 22 13.9 -0.2
baz=157
S22A **4UR Ranch, Cre** 67.89 328 *e*P P 03 22 15.7 +1.1
comp=Z,3.0nm,0.8s
S22A **4UR Ranch, Cre** 67.89 328 P P 03 22 14.8 +0.2
baz=142,SNR=5.6
NVL **N'lazarevskaya** 67.89 159 ⇓*i*P P 03 22 13.1 -0.8
NVL pmax pmax
comp=Z,32nm,1.0s
F44A **Big Bay de Noc** 67.92 347 P P 03 22 14.7 +0.4
baz=162
113A **Mohawk Valley,** 67.98 320 *e*P P 03 22 16.3 +1.4
comp=Z,4.7nm,0.8s
Q24A **Divide** 68.05 330 *e*P P 03 22 16.8 +1.1
comp=Z,9.8nm,0.8s
Q24A *e*pP pP 03 22 40.4 +0.2
Q24A Divide 68.05 330 P P 03 22 16.5 +0.9
baz=143,SNR=8.3
LIC **Lamto** 68.23 74 *e*P P 03 22 16.0 -0.9
comp=Z,51nm,1.0s
D48A **Paudash Townsh** 68.25 351 P P 03 22 17.2 +0.9
baz=167

F41A **Three Lakes** 68.31 345 P P 03 22 16.6 -0.2
baz=160
MVCO **Mesa Verde** 68.31 327 *e*P P 03 22 18.1 +0.9
comp=Z,9.9nm,0.7s
MVCO **Mesa Verde** 68.31 327 P P 03 22 18.0 +0.9
baz=140,SNR=11
G39A **Holcombe** 68.41 343 P P 03 22 17.3 -0.1
baz=158
TIC **Toumodi** 68.42 74 *e*P P 03 22 18.3 +0.2
KIC **Kosan Boka** 68.55 74 *e*P P 03 22 18.2 -0.7
comp=Z,71nm,1.1s
WUAZ **Wupatki** 68.57 324 *e*P P 03 22 20.5 +1.7
comp=Z,21nm,0.9s
WUAZ **Wupatki** 68.57 324 P P 03 22 20.1 +1.4
baz=137,SNR=17
DBIC **Dimbokro** 68.58 74 P P 03 22 18.5 -0.6
comp=Z,29nm,0.9s,baz=218,slow=4.8,SNR=21
DBIC pP PcP 03 22 43.4 -0.1
comp=Z,12nm,0.7s,baz=209,slow=11,SNR=4.2
DBIC Dimbokro 68.58 74 *e*P P 03 22 18.5 -0.6
comp=Z,43nm,1.0s
DBIC *e*pP PcP 03 22 43.4 -0.1
DBIC Dimbokro 68.58 74 *e*P P 03 22 18.5 -0.6
DBIC *e**PP PcP 03 22 43.4 -0.1
DBIC pmax pmax
comp=Z,43nm,1.0s
ECSD **EROS Data Cent** 68.66 339 P P 03 22 19.1 +0.2
baz=152
F40A **Park Falls** 68.73 344 P P 03 22 19.1 -0.2
baz=159,SNR=5.1
SPMN **Marine on St.** 68.81 342 *e*P P 03 22 19.5 -0.3
comp=Z,8.6nm,0.7s
SPMN **Marine on St.** 68.81 342 P P 03 22 19.0 -0.8
baz=156
F39A **Loretta** 68.93 344 P P 03 22 20.9 +0.3
baz=158
ISCO **Idaho Springs** 68.93 331 *e*P P 03 22 22.0 +0.9
comp=Z,5.3nm,0.8s
ISCO **Idaho Springs** 68.93 331 *e*P P 03 22 22.0 +0.9
ISCO pmax pmax
comp=Z,5.0nm,0.8s
ISCO **Idaho Springs** 68.93 331 P P 03 22 21.9 +0.7
baz=143,SNR=7.7
PV01 **Paradox Valley** 69.05 328 *e*P P 03 22 23.3 +1.5
SMCO **Snowmass** 69.08 329 *e*P P 03 22 23.6 +1.5
comp=Z,9.5nm,1.0s
Y12C **Blythe** 69.12 321 *e*P P 03 22 23.6 +1.6
comp=Z,14nm,0.8s
Y12C **Blythe** 69.12 321 P P 03 22 23.1 +1.1
baz=134,SNR=7.2
E40A **Wakefield** 69.16 345 P P 03 22 21.7 -0.3
baz=159
F38A **Pierce - Schro** 69.22 343 P P 03 22 22.5 +0.1
baz=157
E39A **Mellen** 69.27 344 P P 03 22 22.6 0.0
baz=158
PV03 **Paradox Valley** 69.29 327 *e*P P 03 22 24.6 +1.4
PV18 **Skein Mesa, Pa** 69.31 327 *e*P P 03 22 24.9 +1.5
comp=Z,4.3nm,0.8s
PV12 **Saucer Basin,** 69.31 327 *e*P P 03 22 24.8 +1.4
comp=Z,5.7nm,0.8s
IKP **In-Ko-Pah, Jac** 69.33 319 P P 03 22 25.1 +1.7
baz=133
SWSC **Sam W. Stewart** 69.33 319 P P 03 22 24.7 +1.4
baz=133
PV22 **Blue Mesa, Par** 69.47 328 *e*P P 03 22 25.6 +1.3
comp=Z,5.2nm,0.8s
LSQQ **Lebel-sur-Quev** 69.52 354 P P 03 22 24.6 +0.5
baz=172
PV21 **Cone Mtn., Par** 69.58 328 *e*P P 03 22 26.8 +1.7
comp=Z,4.1nm,0.8s
BC3 **Big Chuckawall** 69.61 320 P P 03 22 26.6 +1.5
baz=134,SNR=12
MONP2 **Monument Peak** 69.68 319 P P 03 22 27.2 +1.4
baz=133,SNR=6.9
W13A **Hualapai Mount** 69.69 322 *e*P P 03 22 27.6 +1.8
comp=Z,9.4nm,0.6s
BAR **Barrett** 69.69 318 *e*P P 03 22 27.5 +1.9
comp=Z,19nm,0.9s
U15A **North Rim** 69.74 324 *e*P P 03 22 28.1 +2.0
comp=Z,18nm,0.8s
IRM **Iron Mountain** 69.77 320 P P 03 22 27.6 +1.5
baz=134,SNR=15
QSPA **South Pole Qui** 69.77 180 LR LR 03 55 57.6
comp=Z,63nm,18.2s,baz=178,slow=38
QSPA **South Pole Qui** 69.77 180 *e*P P 03 22 26.3 +0.5
comp=Z,24nm,1.2s
N23A **Red Feather La** 69.96 331 *e*P P 03 22 28.5 +1.1
comp=Z,14nm,1.3s
N23A **Red Feather La** 69.96 331 P P 03 22 28.1 +0.8
baz=143
BELC **Belle Mtn. Jos** 70.18 320 P P 03 22 30.1 +1.4
baz=133,SNR=6.8
XPFO **Piæon Flat** 70.19 319 *e*P P 03 22 30.5 +1.8
comp=Z,12nm,0.8s
PFO **Pinyon Flats O** 70.19 319 *e*P P 03 22 30.5 +1.7
comp=Z,11nm,0.8s
PFO **Pinyon Flats O** 70.19 319 *e*P P 03 22 30.5 +1.7
PFO pmax pmax
comp=Z,11nm,0.8s
PFO **Pinyon Flats O** 70.19 319 P P 03 22 30.4 +1.6
baz=133,SNR=9.7
FRD **Ford Ranch, An** 70.20 319 P P 03 22 30.7 +1.9
baz=133,SNR=12
MATQ **Matagami** 70.27 354 P P 03 22 28.1 -0.6
baz=171
LDFC **Landfair** 70.39 321 *e*P P 03 22 32.2 +2.3
comp=Z,19nm,0.8s
O20A **White River Ci** 70.44 329 *e*P P 03 22 31.6 +1.4
comp=Z,10nm,0.8s
O20A **White River Ci** 70.44 329 P P 03 22 31.4 +1.1
baz=141,SNR=9.9
KNB **Kanab** 70.46 324 *e*P P 03 22 32.5 +2.1
comp=Z,32nm,0.9s
KNB **Kanab** 70.46 324 *e*P P 03 22 32.5 +2.1
KNB pmax pmax
comp=Z,32nm,0.9s
PKCU **Pink Cliffs** 70.49 325 *e*P P 03 22 32.8 +2.0
comp=Z,9.2nm,0.7s
GMRC **Granite Mounta** 70.51 321 P P 03 22 32.4 +1.7
baz=134,SNR=19
MURC **Murrieta** 70.64 319 P P 03 22 32.3 +0.9
baz=132
LCMT **Little Creek M** 70.69 324 *e*P P 03 22 33.5 +1.7
comp=Z,12nm,0.8s
SRU **San Rafael Swe** 70.79 327 *e*P P 03 22 33.5 +1.1
comp=Z,20nm,0.7s
SRU **San Rafael Swe** 70.79 327 *e*P P 03 22 33.5 +1.1
SRU pmax pmax
comp=Z,20nm,0.7s
MTPU **Mount Pierson** 70.86 325 *e*P P 03 22 34.4 +1.4
comp=Z,9.9nm,0.7s
BBRC **Big Bear Solar** 70.91 319 P P 03 22 35.1 +1.8
baz=133
HEC **Hector,Ludlow** 70.94 320 P P 03 22 34.8 +1.6
baz=133,SNR=8.9
SZCU **Shurtz Canyon** 71.03 324 *e*P P 03 22 35.9 +2.0
comp=Z,6.8nm,0.7s
P18A **Preston Nutter** 71.04 327 *e*P P 03 22 35.4 +1.4
comp=Z,19nm,0.7s
SCI2 **San Clemente I** 71.07 318 P P 03 22 35.3 +1.3
baz=131
TUQ **Turquoise Moun** 71.12 321 P P 03 22 35.6 +1.3
baz=134,SNR=7.2
CCUT **Cedar City** 71.15 324 *e*P P 03 22 36.9 +2.3
comp=Z,27nm,0.7s
P17A **Butcher Ranch,** 71.17 327 *e*P P 03 22 36.0 +1.3
comp=Z,19nm,0.8s
MSU **Marysvale** 71.20 326 *e*P P 03 22 36.6 +1.7
MSU **Marysvale** 71.20 326 *e*P P 03 22 36.6 +1.7
TMUT **Trail Mountain** 71.28 327 *e*P P 03 22 37.0 +1.5
comp=Z,8.0nm,0.7s
BFSC **Mount Baldy Ra** 71.35 319 P P 03 22 37.1 +1.3
baz=132,SNR=8.9
SHPR **Sheep Range** 71.41 322 *e*P P 03 22 38.0 +1.8
comp=Z,12nm,0.7s
GSC **Goldstone, Bar** 71.55 320 *e*P P 03 22 38.6 +1.7
comp=Z,8.9nm,0.8s
GSC **Goldstone, Bar** 71.55 320 *e*P P 03 22 38.6 +1.7
GSC pmax pmax
comp=Z,9.0nm,0.8s
GSC **Goldstone, Bar** 71.55 320 P P 03 22 38.5 +1.6
baz=133,SNR=10.0
MWC **Mount Wilson** 71.59 319 *e*P P 03 22 38.8 +1.5
comp=Z,15nm,0.7s
MWC **Mount Wilson** 71.59 319 *e*P P 03 22 38.8 +1.5
MWC pmax pmax
comp=Z,15nm,0.7s

K22A **Casper** 71.62 332 *e*P P 03 22 38.5 +1.2
comp=Z,13nm,1.3s
K22A **Casper** 71.62 332 P P 03 22 38.1 +0.8
baz=143
PASC **Pasadena Art C** 71.63 319 *e*P P 03 22 39.2 +1.9
comp=Z,18nm,1.0s
SHOC **Shoshone, Teco** 71.64 321 P P 03 22 38.7 +1.3
baz=134,SNR=5.8
RSSD **Black Hills** 71.76 334 *e*P P 03 22 39.2 +1.0
comp=Z,7.2nm,0.8s
RSSD *e*PcP PcP 03 22 55.8 -0.7
RSSD Black Hills 71.76 334 *e*P P 03 22 39.2 +1.0
RSSD *e* 03 22 55.8
RSSD pmax pmax
comp=Z,7.0nm,0.8s
RSSD **Black Hills** 71.76 334 P P 03 22 38.9 +0.7
baz=146
DECC **Green Verdugo** 71.78 319 P P 03 22 39.6 +1.4
baz=132
EDW2 **Edwards Air Fo** 71.98 319 P P 03 22 40.6 +1.1
baz=132,SNR=14
MPU **Maple Canyon** 72.03 327 *e*P P 03 22 41.5 +1.6
comp=Z,12nm,0.9s
PSUT **Pine Spring** 72.12 325 *e*P P 03 22 42.1 +1.7
comp=Z,18nm,0.7s
LRMC **Laurel Mtn Rad** 72.20 320 P P 03 22 42.3 +1.5
baz=132,SNR=8.4
TPNV **Topopah Spring** 72.35 322 *e*P P 03 22 43.8 +2.0
comp=Z,15nm,0.7s
TPNV Topopah Spring 72.35 322 *e*P P 03 22 43.8 +2.0
TPNV pmax pmax
comp=Z,15nm,0.7s
TPNV **Topopah Spring** 72.35 322 P P 03 22 43.8 +2.0
baz=134,SNR=21
FURC **Furnace Creek,** 72.38 321 P P 03 22 43.4 +1.8
baz=133,SNR=16
JLU **Jordanelle** 72.38 327 *e*P P 03 22 43.6 +1.7
comp=Z,14nm,0.7s
SCZ2 **Santa Cruz Isl** 72.42 318 P P 03 22 43.2 +1.2
baz=131
MPMC **Manual Prospec** 72.47 321 P P 03 22 43.7 +1.2
baz=133,SNR=14
AGMN **Agassiz Nation** 72.48 342 *e*P P 03 22 42.1 +0.1
comp=Z,14nm,0.8s
AGMN **Agassiz Nation** 72.48 342 P P 03 22 41.7 -0.4
baz=154,SNR=7.8
CTU **Camp Tracy** 72.60 327 *e*P P 03 22 44.5 +1.4
comp=Z,5.1nm,0.7s
DAC **Darwin (Calif)** 72.68 321 *e*P P 03 22 45.2 +1.4
comp=Z,13nm,0.8s
DAC **Darwin (Calif)** 72.68 321 *e*P P 03 22 45.2 +1.4
DAC pmax pmax
comp=Z,13nm,0.8s
TCUT **Toone Canyon** 72.74 328 *e*P P 03 22 45.5 +1.4
comp=Z,13nm,0.7s
DUG **Dugway, Tooele** 72.77 326 *e*P P 03 22 45.7 +1.5
comp=Z,11nm,0.8s
DUG Dugway, Tooele 72.77 326 *e*P P 03 22 45.7 +1.5
DUG pmax pmax
comp=Z,11nm,0.8s
DUG **Dugway, Tooele** 72.77 326 P P 03 22 45.7 +1.5
baz=137,SNR=15
ISA **Isabella, Lake** 72.80 320 *e*P P 03 22 46.2 +1.9
comp=Z,18nm,0.8s
ISA Isabella, Lake 72.80 320 *e*P P 03 22 46.2 +1.9
ISA pmax pmax
comp=Z,18nm,0.8s
ISA **Isabella, Lake** 72.80 320 P P 03 22 46.0 +1.7
baz=132,SNR=27
R11A **Troy Canyon, C** 72.95 323 *e*P P 03 22 47.1 +1.8
comp=Z,7.4nm,0.7s
R11A **Troy Canyon, C** 72.95 323 P P 03 22 47.0 +1.8
baz=135,SNR=26
GRAC **Grapevine Rang** 73.03 321 P P 03 22 47.2 +1.5
baz=133
CWC **Cottonwood Cre** 73.08 320 P P 03 22 47.5 +1.5
baz=132
BW06 **Boulder Array** 73.10 330 *e*P P 03 22 46.7 +0.5
BW06 Boulder Array 73.10 330 P P 03 22 47.2 +1.1
baz=140
PD31 **Pinedale Array** 73.10 330 *e*P P 03 22 46.7 +0.5
PDAR Pinedale Array 73.10 330 P P 03 22 46.6 +0.4
comp=Z,1.7nm,0.7s,baz=117,slow=6.9,SNR=14
PDAR LR LR 03 57 09.7
comp=Z,13nm,18.9s,baz=107,slow=38
PDAR Pinedale Array 73.10 330 *e*P P 03 22 46.1 -0.1
PKM **Mcpherson Peak** 73.11 318 P P 03 22 47.6 +1.3
baz=131,SNR=13
HWUT **Hardware Ranch** 73.19 328 *e*P P 03 22 47.3 +0.7
comp=Z,17nm,0.7s
MDND **Maddock** 73.27 339 *e*P P 03 22 47.4 +0.6
comp=Z,55nm,0.7s
MDND *e*pP pP 03 23 09.1 -2.5
MDND Maddock 73.27 339 P P 03 22 47.2 +0.5
baz=150,SNR=11
VES **Vestal, Richgr** 73.29 319 P P 03 22 48.6 +1.5
baz=131,SNR=9.2
SPUT **South Promonto** 73.41 327 *e*P P 03 22 49.4 +1.4
comp=Z,14nm,0.8s
BGU **Big Grassy Mou** 73.42 327 *e*P P 03 22 49.0 +1.0
comp=Z,8.2nm,0.9s
SMMC **Simmler** 73.50 319 P P 03 22 50.3 +1.8
baz=131,SNR=10.0
AHID **Auburn Hatcher** 73.83 329 *e*P P 03 22 51.2 +0.8
comp=Z,16nm,0.8s
HVU **Hansel Valley** 73.92 327 *e*P P 03 22 52.0 +1.1
comp=Z,9.3nm,0.8s
HVU Hansel Valley 73.92 327 *e*P P 03 22 52.0 +1.1
HVU pmax pmax
comp=Z,9.0nm,0.8s
PAGB **Antelope Grade** 73.93 319 *e*P P 03 22 53.1 +2.1
comp=Z,18nm,0.9s
REDW **Red Top Meadow** 74.17 330 *e*P P 03 22 53.6 +1.2
comp=Z,7.5nm,0.8s
SNOW **Snow King Moun** 74.19 330 *e*P P 03 22 54.0 +1.4
comp=Z,9.4nm,0.8s
LOHW **Long Hollow** 74.24 330 *e*P P 03 22 54.1 +1.3
comp=Z,6.5nm,0.8s
ULM **Lac du Bonnet** 74.24 342 P P 03 22 52.1 -0.1
comp=Z,13nm,0.6s,baz=151,slow=6.5,SNR=22
ULM pP pP 03 23 16.1 -1.2
comp=Z,12nm,0.7s,baz=168,slow=5.0,SNR=6.2
ULM Lac du Bonnet 74.24 342 *e*P P 03 22 52.2 -0.1
comp=Z,15nm,0.8s
ULM pP pP 03 23 16.1 -1.2
ULM Lac du Bonnet 74.24 342 *e*P P 03 22 52.3 0.0
ULM *PP pP 03 23 16.1 -1.2
ULM pmax pmax
comp=Z,15nm,0.8s
TPAW **Teton Pass** 74.31 330 *e*P P 03 22 54.0 +0.8
comp=Z,8.4nm,0.8s
MOOW **Moose Ponds** 74.41 330 *e*P P 03 22 54.0 +0.2
comp=Z,4.0nm,0.8s
OMMB **Old Mammoth Mi** 74.41 321 *e*P P 03 22 55.5 +1.4
comp=Z,18nm,0.8s
FXWY **Fox Creek** 74.46 330 *e*P P 03 22 55.3 +1.2
comp=Z,5.1nm,0.9s
NV11 **Mina Array Sit** 74.47 322 *e*P P 03 22 55.4 +1.2
comp=Z,0.4nm,0.9s
MDPB **Devils Postpil** 74.47 321 *e*P P 03 22 56.0 +1.7
comp=Z,9.4nm,0.7s
NV01 Mina Array Sit 74.55 322 *e*P P 03 22 55.6 +0.9
NV01 *e*pP pP 03 23 19.9 +0.3
NVAR **Mina Array Bea** 74.55 322 P P 03 22 56.1 +1.4
comp=Z,7.7nm,0.8s,baz=154,slow=6.7,SNR=49
NVAR pP pP 03 23 19.9 +0.3
comp=Z,3.1nm,0.8s,baz=170,slow=9.0,SNR=3.2
PMPB **Monarch Peak** 74.58 319 *e*P P 03 22 57.2 +2.4
comp=Z,21nm,0.8s
IMW **Indian Meadow** 74.61 330 *e*P P 03 22 56.5 +1.5
comp=Z,7.4nm,0.8s
FLWY **Flagg Ranch** 74.64 330 *e*P P 03 22 56.7 +1.6
comp=Z,17nm,0.8s
LAO **LASA Array** 74.75 334 *e*P P 03 22 56.5 +1.0
comp=Z,10nm,1.0s
LAO **LASA Array** 74.75 334 P P 03 22 56.5 +1.0
baz=144
RLMT **Red Lodge** 74.79 332 *e*P P 03 22 57.3 +1.4
comp=Z,8.8nm,0.8s
RLMT **Red Lodge** 74.79 332 P P 03 22 57.0 +1.1
baz=141,SNR=5.5
RYN **Ryan** 74.81 322 *e*P P 03 22 57.9 +1.7
comp=Z,9.2nm,0.9s
H17A **Grant Village** 74.82 331 P P 03 22 57.5 +1.3
baz=140
KVN **Kaiserville** 74.85 322 *e*P P 03 22 57.5 +1.1
comp=Z,14nm,0.8s

KVN	**Kaiserville**	**74.85**	**322**	*e*P		**P**		**03 22 57.5**	**+1.1**
KVN				pmax		pmax				
	comp=Z,14nm,0.8s									
SCHQ	**Schefferville**	**74.96**	**1**	P		**P**		**03 22 56.8**	**+0.4**
	comp=Z,10nm,0.8s,baz=198,slow=6.1,SNR=7.4									
SCHQ				pP		**pP**		**03 23 20.9**	**-0.5**
	comp=Z,9.9nm,0.9s,baz=172,slow=6.6,SNR=3.2									
SCHQ	**Schefferville**	**74.96**	**1**	*e*P		**P**		**03 22 56.8**	**+0.4**
	comp=Z,12nm,0.8s									
SCHQ				*e*pP		**pP**		**03 23 20.9**	**-0.5**
YFT	**Old Faithful**	**74.99**	**330**	*e*P		**P**		**03 23 00.3**	**+3.2**
	comp=Z,9.4nm,1.1s									
YNR	**Norris Junctio**	**75.12**	**331**	*e*P		**P**		**03 23 00.4**	**+2.6**
	comp=Z,6.0nm,0.7s									
YHH	**Holmes Hill**	**75.25**	**331**	*e*P		**P**		**03 23 00.7**	**+2.0**
	comp=Z,15nm,0.9s									
WAKR	**Walker**	**75.26**	**321**	*e*P		**P**		**03 23 01.0**	**+2.2**
	comp=Z,6.3nm,0.9s									
YHB	**Horse Butte**	**75.38**	**330**	*e*P		**P**		**03 23 01.4**	**+2.0**
	comp=Z,14nm,0.9s									
DGMT	**Dagmar**	**75.42**	**337**	*e*P		**P**		**03 23 00.7**	**+1.4**
	comp=Z,20nm,0.8s									
DGMT				*e*pP		**pP**		**03 23 28.0**	**+3.8**
DGMT	**Dagmar**	**75.42**	**337**	P		**P**		**03 23 00.2**	**+0.9**
	baz=146,SNR=7.9									
YERR	**Yerington**	**75.47**	**322**	*e*P		**P**		**03 23 01.6**	**+1.6**
	comp=Z,22nm,1.4s									
GCMT	**Greycliff**	**75.49**	**332**	*e*P		**P**		**03 23 01.1**	**+1.3**
CMB	**Columbia Colle**	**75.51**	**320**	*e*P		**P**		**03 23 01.4**	**+1.4**
	comp=Z,3.8nm,0.8s									
CMB	**Columbia Colle**	**75.51**	**320**	*e*P		**P**		**03 23 01.4**	**+1.4**
CMB				pmax		pmax				
	comp=Z,4.0nm,0.8s									
PNTR	**Pine Nut**	**75.74**	**322**	*e*P		**P**		**03 23 03.7**	**+2.1**
	comp=Z,14nm,0.8s									
VCNR	**Virginia City**	**75.91**	**322**	*e*P		**P**		**03 23 04.5**	**+2.0**
	comp=Z,5.8nm,0.8s									
PAHR	**Pah Rah Range**	**76.03**	**322**	*e*P		**P**		**03 23 04.8**	**+1.7**
	comp=Z,28nm,0.8s									
HLID	**Hailey**	**76.05**	**328**	*e*P		**P**		**03 23 04.8**	**+1.6**
	comp=Z,12nm,0.8s									
HLID	**Hailey**	**76.05**	**328**	P		**P**		**03 23 04.7**	**+1.6**
	baz=136,SNR=25									
MCMT	**McKenzie Canyo**	**76.22**	**330**	*e*P		**P**		**03 23 05.8**	**+1.7**
BOZ	**Bozeman (W)**	**76.22**	**331**	*e*P		**P**		**03 23 04.0**	**0.0**
	comp=Z,6.2nm,0.7s									
BOZ	**Bozeman (W)**	**76.22**	**331**	*e*P		**P**		**03 23 04.0**	**0.0**
BOZ				pmax		pmax				
	comp=Z,6.0nm,0.7s									
BOZ	**Bozeman (W)**	**76.22**	**331**	P		**P**		**03 23 03.7**	**-0.4**
	baz=139									
AFDM	**Forest Hills D**	**76.46**	**321**	*e*P		**P**		**03 23 06.3**	**+0.9**
	comp=Z,8.7nm,0.9s									
DLMT	**Dillon**	**76.50**	**330**	*e*P		**P**		**03 23 07.2**	**+1.6**
	comp=Z,9.7nm,1.1s									
BEKR	**Beckworth**	**76.70**	**322**	*e*P		**P**		**03 23 08.2**	**+1.4**
	comp=Z,6.6nm,0.9s									
SBA	**Scott Base**	**76.86**	**190**	*e*P		**P**		**03 23 08.1**	**+1.0**
	comp=Z,26nm,1.4s									
SBA	**Scott Base**	**76.86**	**190**	*e*P		**P**		**03 23 08.1**	**+1.0**
SBA				pmax		pmax				
	comp=Z,26nm,1.4s									
TOA1	**Torodi Ar. Sit**	**77.14**	**71**	*e*P		**P**		**03 23 08.7**	**-1.0**
TOA1				*e*pP		**pP**		**03 23 34.6**	**-0.1**
TOA0	**Torodi Ar. Sit**	**77.14**	**71**	*e*P		**P**		**03 23 09.1**	**-0.5**
TORD	**Torodi Ar. Bea**	**77.14**	**71**	P		**P**		**03 23 08.7**	**-1.0**
	comp=Z,6.3nm,0.5s,baz=242,slow=5.4									
TORD				pP		**pP**		**03 23 34.6**	**-0.1**
	comp=Z,5.6nm,0.8s,baz=218,slow=6.7,SNR=15									
HRY	**Holter Researc**	**77.16**	**331**	*e*P		**P**		**03 23 10.6**	**+1.4**
ORV	**Oroville**	**77.16**	**321**	*e*P		**P**		**03 23 10.8**	**+1.5**
	comp=Z,16nm,1.0s									
ORV	**Oroville**	**77.16**	**321**	*e*P		**P**		**03 23 10.8**	**+1.5**
ORV				pmax		pmax				
	comp=Z,17nm,1.0s									
EGMT	**Eagleton**	**77.26**	**333**	*e*P		**P**		**03 23 10.7**	**+0.9**
	comp=Z,12nm,0.8s									
EGMT	**Eagleton**	**77.26**	**333**	P		**P**		**03 23 10.4**	**+0.6**
	baz=141,SNR=5.5									
SYO	**Syowa Base**	**77.57**	**160**	⇑*e*P		**P**		**03 23 10.8**	**-0.3**
SYO	**Syowa Base**	**77.57**	**160**	⇓*e*pP		pP		03 23 32.0	-4.1
O03E	**Paynes Creek**	**77.82**	**321**	P		**P**		**03 23 13.0**	**0.0**
	baz=130									
VNDA	**Vanda**	**77.89**	**190**	P		**P**		**03 23 13.6**	**+0.8**
	comp=Z,2.5nm,0.8s,baz=128,slow=5.2,SNR=18									
VNDA				pP		**pP**		**03 23 40.1**	**+2.3**
	comp=Z,0.8nm,0.8s,baz=124,slow=4.0,SNR=3.4									
VNDA				LR		LR		03 56 20.1		
	comp=Z,25nm,19.9s,baz=152,slow=35									
VNDA	**Vanda**	**77.89**	**190**	*e*P		**P**		**03 23 14.0**	**+1.2**
	comp=Z,3.2nm,0.8s									
VNDA				pP		**pP**		**03 23 40.1**	**+2.3**
VNDA	**Vanda**	**77.89**	**190**	*e*P		**P**		**03 23 14.0**	**+1.2**
VNDA				*PP		**pP**		**03 23 40.1**	**+2.3**
VNDA				pmax		pmax				
	comp=Z,3.0nm,0.8s									
J08A	**Circle Bar Ran**	**78.00**	**326**	*e*P		**P**		**03 23 15.5**	**+1.5**
MOD	**Modoc Plateau**	**78.01**	**323**	*e*P		**P**		**03 23 15.7**	**+1.6**
	comp=Z,7.7nm,0.8s									
MSO	**Missoula**	**78.21**	**330**	*e*P		**P**		**03 23 16.6**	**+1.6**
	comp=Z,6.0nm,1.0s									
MSO	**Missoula**	**78.21**	**330**	P		**P**		**03 23 16.7**	**+1.6**
	baz=137									
O02D	**Mt. Diablo Mer**	**78.32**	**321**	P		**P**		**03 23 15.9**	**+0.1**
	baz=129									
BMO	**Blue Mountains**	**78.43**	**327**	*e*P		**P**		**03 23 17.4**	**+1.1**
	comp=Z,10nm,0.8s									
WDC	**Whiskeytown Da**	**78.43**	**321**	*e*P		**P**		**03 23 16.2**	**-0.1**
	comp=Z,8.3nm,0.8s									
WDC	**Whiskeytown Da**	**78.43**	**321**	*e*P		**P**		**03 23 16.2**	**-0.1**
WDC				pmax		pmax				
	comp=Z,8.0nm,0.8s									
N02D	**Trinity Center**	**78.78**	**322**	P		**P**		**03 23 18.3**	**0.0**
	baz=130									
M04C	**Macdoel**	**78.80**	**323**	P		**P**		**03 23 19.4**	**+0.9**
	baz=130,SNR=7.4									
K05A	**Summer Lake**	**78.89**	**324**	*e*P		**P**		**03 23 20.9**	**+1.9**
	comp=Z,21nm,0.8s									
I07A	**Izee**	**79.04**	**326**	*e*P		**P**		**03 23 21.6**	**+1.9**
	comp=Z,7.1nm,0.8s									
JTMT	**Jette**	**79.04**	**331**	*e*P		**P**		**03 23 21.2**	**+1.5**
	comp=Z,11nm,1.1s									
M02C	**Callahan**	**79.13**	**322**	P		**P**		**03 23 20.6**	**+0.4**
	baz=130									
YBH	**Yreka Blue Hor**	**79.27**	**322**	P		**P**		**03 23 20.8**	**-0.2**
	comp=Z,6.2nm,0.7s,baz=152,slow=3.2,SNR=11									
K04D	**Chiloquin, OR**	**79.30**	**323**	P		**P**		**03 23 22.3**	**+1.2**
	baz=131									
L04D	**Klamath Falls**	**79.34**	**323**	P		**P**		**03 23 21.8**	**+0.4**
	baz=130									
J05D	**Fort Rock, OR**	**79.44**	**324**	P		**P**		**03 23 22.8**	**+0.9**
	baz=131									
G08A	**Pilot Rock**	**79.57**	**327**	*e*P		**P**		**03 23 23.8**	**+1.2**
	comp=Z,5.4nm,0.6s									
PINE	**Pine Mountain**	**79.61**	**325**	*e*P		**P**		**03 23 24.5**	**+1.6**
	comp=Z,15nm,0.8s									
WALA	**Waterton Lakes**	**79.85**	**332**	*e*P		**P**		**03 23 25.1**	**+1.1**
	comp=Z,7.6nm,0.8s									
J04D	**Umpqua Nationa**	**79.90**	**324**	P		**P**		**03 23 25.7**	**+1.3**
	baz=130									
FFC	**Flin Flon**	**79.96**	**341**	*ce*P		**P**		**03 23 28.0**	**+3.7**
FFC				pmax		pmax				
	comp=Z,71nm,2.5s									
E09A	**Wood Farm, Sta**	**80.01**	**328**	*e*P		**P**		**03 23 25.8**	**+1.1**
	comp=Z,12nm,1.4s									
L02E	**Cave Junction**	**80.05**	**322**	P		**P**		**03 23 26.5**	**+1.4**
	baz=129									
I05D	**Terrebonne, OR**	**80.19**	**325**	P		**P**		**03 23 27.5**	**+1.6**
	baz=131									
I04A	**Tendick Farm,**	**80.42**	**324**	P		**P**		**03 23 27.6**	**+0.5**
	baz=130									
K02D	**Willamette Mer**	**80.42**	**322**	P		**P**		**03 23 28.4**	**+1.2**
	baz=129									
HAWA	**Hanford**	**80.62**	**327**	*e*P		**P**		**03 23 29.4**	**+1.3**
	comp=Z,14nm,0.8s									
NEW	**Newport**	**80.74**	**330**	P		**P**		**03 23 29.1**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=85,slow=7.1,SNR=3.5									
NEW				pP		**pP**		**03 23 53.3**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=141,slow=7.4,SNR=2.1									
NEW	**Newport**	**80.74**	**330**	P		**P**		**03 23 28.7**	**0.0**
	baz=135									
D08A	**Wollman Farm,**	**80.77**	**328**	*e*P		**P**		**03 23 30.4**	**+1.6**
	comp=Z,13nm,1.4s									
G05D	**Wamic, OR**	**80.78**	**326**	P		**P**		**03 23 30.6**	**+1.7**
	baz=131									
J01E	**Myrtle Point**	**80.87**	**323**	P		**P**		**03 23 30.7**	**+1.3**
	baz=129									

I03D	**Drain, OR**	**80.88**	**323**	P		**P**		**03 23 30.8**	**+1.4**
	baz=130									
C09A	**Chrisman Ranch**	**80.96**	**329**	*e*P		**P**		**03 23 31.0**	**+1.2**
	comp=Z,20nm,0.7s									
C09A				*e*pP		**pP**		**03 23 55.3**	**+0.2**
F05D	**White Salmon**	**81.27**	**326**	P		**P**		**03 23 33.1**	**+1.6**
	baz=131									
LTY	**Liberty**	**81.78**	**327**	*e*P		**P**		**03 23 35.4**	**+1.2**
	comp=Z,8.7nm,0.8s									
B08A	**Colville Reser**	**81.86**	**329**	*e*P		**P**		**03 23 35.3**	**+0.7**
	comp=Z,7.9nm,1.1s									
D05A	**Enumclaw**	**82.41**	**327**	*e*P		**P**		**03 23 38.5**	**+1.1**
	comp=Z,27nm,0.8s									
B06A	**Marblemount**	**83.03**	**328**	*e*P		**P**		**03 23 41.1**	**+0.6**
	comp=Z,18nm,0.7s									
B05A	**Bryant**	**83.17**	**327**	P		**P**		**03 23 41.6**	**+0.3**
	baz=131									
D03D	**Eldon**	**83.20**	**326**	P		**P**		**03 23 42.9**	**+1.4**
	baz=130									
FRB	**Frobisher Bay**	**83.88**	**0**	pP		pP		03 24 08.9	-1.0
	comp=Z,19nm,1.0s,baz=191,slow=5.2,SNR=1.7									
BOSA	**Boshof**	**84.09**	**118**	P		**P**		**03 23 47.0**	**+0.2**
	comp=Z,4.5nm,0.9s,baz=258,slow=6.4,SNR=6.4									
BOSA				pP		**pP**		**03 24 12.2**	**+0.1**
	comp=Z,13nm,0.9s,baz=257,slow=3.7,SNR=11									
BOSA	**Boshof**	**84.09**	**118**	*e*P		**P**		**03 23 46.7**	**-0.1**
	comp=Z,8.3nm,1.0s									
BOSA				*e*pP		**pP**		**03 24 12.2**	**+0.1**
BOSA	**Boshof**	**84.09**	**118**	*e*P		**P**		**03 23 46.7**	**-0.1**
BOSA				*e**PP		**pP**		**03 24 12.3**	**+0.1**
BOSA				pmax		pmax				
	comp=Z,8.0nm,1.0s									
TAM	**Tamanrasset**	**84.47**	**63**	*e*P		**P**		**03 23 49.8**	**+1.0**
	comp=Z,4.1nm,1.1s									
TAM				*e*pP		**pP**		**03 24 15.9**	**+1.8**
TAM	**Tamanrasset**	**84.47**	**63**	*e*P		**P**		**03 23 49.8**	**+1.0**
TAM				*e**PP		**pP**		**03 24 15.9**	**+1.8**
TAM				pmax		pmax				
	comp=Z,4.0nm,1.1s									
ESDC	**Sonseca Array**	**85.17**	**45**	P		**P**		**03 23 52.5**	**+0.8**
	comp=Z,3.7nm,1.0s,baz=232,slow=5.5,SNR=9.9									
ESDC				pP		**pP**		**03 24 17.2**	**0.0**
	comp=Z,2.6nm,0.9s,baz=244,slow=5.2,SNR=5.3									
ES19	**SONSECA Array**	**85.23**	**45**	*e*P		**P**		**03 23 52.6**	**+0.6**
ES19				*e*pP		**pP**		**03 24 18.4**	**+1.0**
MAW	**Mawson**	**85.41**	**163**	P		**P**		**03 23 52.7**	**+0.2**
	comp=Z,5.1nm,0.6s,baz=204,slow=6.9,SNR=17									
MAW	**Mawson**	**85.41**	**163**	*e*P		**P**		**03 23 52.7**	**+0.2**
	comp=Z,1.4nm,0.6s									
MAW	**Mawson**	**85.41**	**163**	*e*P		**P**		**03 23 52.7**	**+0.2**
MAW				pmax		pmax				
	comp=Z,1.0nm,0.6s									
LBTB	**Lobatse**	**85.61**	**115**	*e*P		**P**		**03 23 53.0**	**-1.5**
	comp=Z,5.7nm,0.8s									
LBTB				*e*pP		**pP**		**03 24 20.8**	**+0.9**
LBTB	**Lobatse**	**85.61**	**115**	*e*P		**P**		**03 23 53.0**	**-1.5**
LBTB				*e**PP		**pP**		**03 24 20.8**	**+0.9**
LBTB				pmax		pmax				
	comp=Z,6.0nm,0.8s									
YKA	**Yellowknife Ar**	**90.12**	**341**	P		**P**		**03 24 14.9**	**+0.1**
	comp=Z,9.8nm,0.8s,baz=132,slow=4.7,SNR=28									
YKA				pP		**pP**		**03 24 39.8**	**-0.7**
	comp=Z,14nm,0.7s,baz=133,slow=4.7,SNR=12									
YKB5	**Yellowknife Ar**	**90.12**	**341**	*e*P		**P**		**03 24 14.9**	**+0.1**
YKB5				*e*pP		**pP**		**03 24 40.2**	**-0.3**
YKW3	**Yellowknife Ar**	**90.17**	**341**	*e*P		**P**		**03 24 15.2**	**+0.2**
	comp=Z,18nm,1.0s									
YKW3				*e*pP		**pP**		**03 24 43.3**	**+2.5**
DLBC	**Dease Lake**	**93.18**	**333**	P		**P**		**03 24 29.2**	**0.0**
	comp=Z,2.4nm,0.5s,baz=231,slow=24,SNR=4.4									
DLBC				pP		**pP**		**03 24 53.4**	**-1.6**
	comp=Z,4.2nm,1.0s,baz=188,slow=25,SNR=1.7									
DLBC	**Dease Lake**	**93.18**	**333**	*e*P		**P**		**03 24 29.2**	**0.0**
	comp=Z,14nm,1.5s									
DLBC				*e*pP		**pP**		**03 24 53.3**	**-1.6**
CASY	**Casey**	**93.57**	**180**	*e*P		**P**		**03 24 32.1**	**+1.1**
	comp=Z,8.7nm,0.9s									
INK	**Inuvik**	**99.88**	**340**	P		**Pdif**		**03 24 60.0**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=130,slow=7.9,SNR=2.9									
ILAR	**Eielson Array**	**103.21**	**335**	PKiKP		**PKiKP**		**03 29 34.1**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=122,slow=3.3,SNR=6.8									
TOLK	**Toolik Lake Re**	**105.42**	**338**	P		**PKiKP**		**03 29 40.5**	**+3.4**
	baz=106									
BR101	**Keskin Array S**	**112.33**	**54**	*e*PKiKP		**PKiKP**		**03 29 51.0**	**-0.1**
BRTR	**Keskin Array B**	**112.33**	**54**	PKiKP		**PKiKP**		**03 29 51.0**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=282,slow=3.5,SNR=4.4									
KBZ	**Khabaz**	**119.55**	**51**	PKP		**PKPdf**		**03 30 05.0**	**+0.4**
	comp=Z,2.9nm,0.9s,baz=282,slow=8.7,SNR=3.7									
STKA	**Stephens Creek**	**120.28**	**210**	PKP		**PKPdf**		**03 30 06.1**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=132,slow=5.9,SNR=4.6									
ARU	**Arti**	**127.34**	**34**	*i* PKIKP		PKPdf		03 30 31.4	+12
H11S2	**WAKE ISLAND Hyl**	**127.59**	**278**	T		T		05 50 11.3		
	baz=101,slow=74,SNR=75									
H11S1	**WAKE ISLAND Hyl**	**127.59**	**278**	T		T		05 50 14.0		
	baz=101,slow=74,SNR=37									
H11S3	**WAKE ISLAND Hyl**	**127.60**	**278**	T		T		05 50 17.3		
	baz=101,slow=74,SNR=323									
H11N3	**WAKE ISLAND Hyl**	**127.64**	**280**	T		T		05 50 17.6		
	baz=102,slow=74,SNR=86									
H11N2	**WAKE ISLAND Hyl**	**127.65**	**280**	T		T		05 50 22.4		
	baz=102,slow=74,SNR=94									
H11N1	**WAKE ISLAND Hyl**	**127.65**	**280**	T		T		05 50 22.6		
	baz=102,slow=74,SNR=73									
TIXI	**Tiksi**	**127.70**	**353**	*e*PKPdf		**PKPdf**		**03 30 18.6**	**-0.8**
TIXI	**Tiksi**	**127.70**	**353**	⇑*i* PKIKP		**PKPdf**		**03 30 19.1**	**-0.3**
ABKAR	**Akbulak array**	**130.45**	**42**	*e*PKPdf		**PKPdf**		**03 30 26.3**	**+1.0**
AS01	**Alice Springs**	**130.78**	**208**	*e*PKPdf		**PKPdf**		**03 30 26.0**	**-0.9**
ASAR	**Alice Springs**	**130.80**	**208**	PKP		**PKPdf**		**03 30 26.2**	**-0.7**
	comp=Z,3.2nm,0.8s,baz=142,slow=2.3,SNR=26									
ASAR				pPKP		**pPKPdf**		**03 30 53.8**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=163,slow=2.2,SNR=2.0									
AS31	**Alice Springs**	**130.80**	**208**	*e*PKPdf		**PKPdf**		**03 30 26.5**	**-0.4**
AS31				*ep*PKPdf		**pPKPdf**		**03 30 53.8**	**+0.1**
WB2	**Warramunga Arr**	**133.80**	**211**	*e*PKPdf		**PKPdf**		**03 30 32.3**	**-0.3**
WR1	**Warramunga Arr**	**133.80**	**211**	*e*PKPdf		**PKPdf**		**03 30 32.2**	**-0.3**
WR1				*ep*PKPdf		**pPKPdf**		**03 31 00.6**	**+1.2**
WRA	**Warramunga Arr**	**133.80**	**211**	PKP		**PKPdf**		**03 30 32.2**	**-0.3**
	comp=Z,3.3nm,0.7s,baz=156,slow=1.7,SNR=49									
WRA				pPKP		**pPKPdf**		**03 31 00.6**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=146,slow=1.4,SNR=2.7									
ZAA1	**Zalesovo Array**	**141.03**	**24**	*e*PKPdf		**PKPdf**		**03 30 43.7**	**-1.1**
ZAA0	**Zalesovo Array**	**141.04**	**24**	*e*PKPdf		**PKPdf**		**03 30 45.5**	**+0.7**
ZALV	**Zalesovo Beam**	**141.04**	**24**	PKiKP		PKPpre		03 30 38.1		
	comp=Z,0.8nm,0.4s,baz=326,slow=7.0,SNR=2.3									
ZALV				PKP		**PKPdf**		**03 30 43.7**	**-1.1**
	comp=Z,6.6nm,0.7s,baz=308,slow=2.0,SNR=13									
ZALV				pPKP		pPKPdf		03 31 11.2	-0.3	
	comp=Z,3.7nm,0.6s,baz=318,slow=2.0,SNR=3.2									
ZALV				sPKP				03 31 27.1		
	comp=Z,2.7nm,0.6s,baz=292,slow=2.7,SNR=3.9									
BOD	**Bodaibo**	**142.58**	**357**	*e*PKHKP		PKPpre		03 30 41.4		
BOD				pmax		pmax				
	comp=Z,6.0nm,1.8s									
ZEA	**Zeya**	**144.46**	**343**	*e*PKIKP		PKPbc		03 30 50.0	+0.4	
KSH	**Kashi**	**144.53**	**50**	PKP		**PKPdf**		**03 30 51.4**	**-0.2**
KSH				PP		**PP**		**03 34 11.3**	**+2.6**
KSH				PKS		**PKSdf**		**03 34 25.9**	**-1.4**
KSH				SS		SS		03 52 47.6	-0.8	
KSH				AMB		AMB				
	comp=Z,200nm,5.3s									
MK31	**Makanchi Array**	**144.84**	**35**	*e*PKPbc		**PKPdf**		**03 30 51.7**	**-0.1**
MK31	**Makanchi Array**	**144.84**	**35**	*e*PKIKP		**PKPdf**		**03 30 51.7**	**-0.1**
MK32	**Makanchi Array**	**144.84**	**35**	*e*PKPbc		**PKPdf**		**03 30 51.6**	**-0.2**
MKAR	**Makanchi Array**	**144.84**	**35**	PKP		**PKPdf**		**03 30 51.6**	**-0.2**
	comp=Z,10nm,0.8s,baz=320,slow=3.2,SNR=48									
MKAR				pPKP		**pPKPdf**		**03 31 17.6**	**-1.0**
	comp=Z,3.8nm,0.6s,baz=307,slow=2.6,SNR=3.9									
MK01	**Makanchi Array**	**144.86**	**35**	*e*PKPbc		PKPbc		03 30 51.5	+0.3	
DGZ	**Jazzator, Alta**	**145.31**	**27**	*ce*PKIKP		**PKPab**		**03 30 53.5**	**+0.6**
ERM	**Erimo**	**145.34**	**316**	*e*PKPdf		**PKPab**		**03 30 54.6**	**+1.6**
ERM	**Erimo**	**145.34**	**316**	*e*PKP2		**PKPab**		**03 30 54.6**	**+1.6**
KLR	**Kul'dur**	**146.78**	**335**	*ce*PKP2		**PKPbc**		**03 30 57.4**	**+0.5**
SOEI	**Soe**	**147.27**	**205**	*e*PKPbc		**PKPbc**		**03 31 00.2**	**+0.7**
MOY	**Mondy**	**147.85**	**12**	*e*PKP2		**PKPbc**		**03 31 01.1**	**+1.2**
MOY				pmax		pmax				
	comp=Z,19nm,1.3s									
KNGR	**Kungurtug, Tuv**	**148.06**	**16**	⇓*e*PKIKP		**PKPdf**		**03 30 57.8**	**+0.6**
FAKI	**Fak Fak**	**148.77**	**224**	*e*PKPbc		**PKPbc**		**03 31 03.9**	**+0.6**
ZAK	**Zakamensk**	**149.49**	**10**	*e*PKP2		**PKPbc**		**03 31 03.3**	**-0.8**
ZAK				pmax		pmax				
	comp=Z,6.0nm,1.2s									
WMQ	**Urumqi**	**149.67**	**34**	*e*PKPbc		**PKPdf**		**03 31 00.1**	**+0.1**
WMQ				LR		LR				
	comp=Z,500nm,19.3s									
WMQ				LR		LR				
	comp=Z,660nm,26.3s									

HIA	**Hailar**	**150.36**	**348**	*e*PKPbc		**PKPbc**		**03 31 06.6**	**+0.4**
HIA	**Hailar**	**150.36**	**348**	⇓*i* PKIKP		**PKPbc**		**03 31 06.3**	**+0.1**
USRK	**Ussuriysk Ar.**	**150.51**	**328**	PKPbc		**PKPbc**		**03 31 07.3**	**+0.7**
	comp=Z,9.9nm,0.7s,baz=295,slow=1.2,SNR=20									
USRK				pPKPbc		**pPKPbc**		**03 31 33.0**	**-0.2**
	comp=Z,7.2nm,0.9s,baz=26,slow=1.1,SNR=5.9									
MJAR	**Matsushiro Arr**	**151.27**	**310**	PKPbc		**PKPbc**		**03 31 08.8**	**+0.1**
	comp=Z,8.6nm,0.8s,baz=105,slow=1.0,SNR=15									
MJAR				pPKPbc		**pPKPbc**		**03 31 35.4**	**0.0**
	comp=Z,3.4nm,0.8s,baz=94,slow=1.0,SNR=2.7									
MAJO	**Matsushiro**	**151.27**	**310**	*e*PKPbc		**PKPbc**		**03 31 09.1**	**+0.4**
MAT	**Matsushiro**	**151.27**	**310**	PKP		**PKPbc**		**03 31 08.8**	**+0.1**
MJB9	**Matsu-Tunnel**	**151.28**	**310**	*e*PKPbc		**PKPbc**		**03 31 09.2**	**+0.5**
SONA1	**Songino Array**	**152.39**	**7**	*e*PKPdf		**PKPdf**		**03 31 05.2**	**+1.1**
SONA0	**Songino Array**	**152.40**	**7**	*e*PKPdf		**PKPdf**		**03 31 04.8**	**+0.7**
SONA0				*e*PKPbc		**PKiKP**		**03 31 11.5**	**+0.2**
SONM	**Songino Array**	**152.40**	**7**	PKP		**PKPdf**		**03 31 04.8**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=327,slow=0.4,SNR=9.2									
SONM				PKPbc		**PKiKP**		**03 31 11.5**	**+0.2**
	comp=Z,7.9nm,0.7s,baz=304,slow=1.3,SNR=34									
SONM				pPKPbc		**pPKPbc**		**03 31 39.0**	**+1.3**
	comp=Z,5.3nm,0.9s,baz=322,slow=1.5,SNR=4.7									
ULN	**Ulaanbaatar**	**152.44**	**6**	*e*PKPbc		**PKPbc**		**03 31 11.9**	**+0.8**
ULN	**Ulaanbaatar**	**152.44**	**6**	*e*PKIKP		**PKPbc**		**03 31 11.9**	**+0.8**
KAPI	**Kappang**	**153.28**	**200**	*c i* PKIKP		**PKPbc**		**03 31 15.2**	**+1.4**
KAPI				pmax		pmax				
	comp=Z,19nm,1.7s									
KSRS	**Korea Array**	**157.49**	**323**	PKPab		**PKPab**		**03 31 43.2**	**-0.1**
	comp=Z,3.9nm,0.8s,baz=59,slow=4.5,SNR=

comp=Z,398nm,18.1s,baz=64,slow=43
PMG Port Moresby 17.33 272 LR LR 04 29 04.7
comp=Z,172nm,18.8s,baz=28,slow=38
CTA Charters Tower 20.11 240 P P 04 22 44.2 +0.4
18nm,0.9s,baz=69,slow=13,SNR=9.0
H11S2 WAKE ISLAND Hy 29.01 4 T T 04 54 47.5
baz=184,slow=76,SNR=11
H11S3 WAKE ISLAND Hy 29.02 4 T T 04 54 47.6
baz=184,slow=76,SNR=12
H11S1 WAKE ISLAND Hy 29.03 4 T T 04 54 45.5
baz=184,slow=76,SNR=12
STKA Stephens Creek 30.05 222 P P 04 24 20.1 +0.8
2.2nm,0.7s,baz=57,slow=9.8,SNR=3.7
H11N1 WAKE ISLAND Hy 30.24 4 T T 04 56 27.4
baz=182,slow=76,SNR=8.9
H11N3 WAKE ISLAND Hy 30.24 4 T T 04 56 23.3
baz=182,slow=76,SNR=7.2
H11N2 WAKE ISLAND Hy 30.26 4 T T 04 56 28.7
baz=182,slow=76,SNR=7.9
WRA Warramunga Arr 30.67 249 P P 04 24 24.8 -0.1
1.5nm,0.9s,baz=78,slow=8.9,SNR=4.7
GUMO Guam 31.10 320 LR LR 04 37 43.2
comp=Z,32nm,18.3s,baz=109,slow=38
ASAR Alice Springs 32.07 242 P P 04 24 35.9 -1.3
0.9nm,0.7s,baz=72,slow=9.6,SNR=7.9
FITZ Fitzroy Crossi 38.51 254 P P 04 25 33.1 +0.4
2.0nm,0.8s,baz=90,slow=9.1,SNR=2.6
VNDA Vanda 66.88 181 P P 04 29 01.7 -0.1
0.4nm,0.7s,baz=14,slow=4.2,SNR=2.3
ILAR Eielson Array 83.46 19 P P 04 30 37.6 +0.1
0.3nm,0.8s,baz=224,slow=5.0,SNR=4.3

MAN 13 04:20:35.7, 11.60N×125.44E, h26km, mb4.2, ML3.1, MS2.8, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.01**	**351**	*e*P	Pb	04 20 40.0	-0.1
BESP				*e*S	Sb	04 20 44.6	+1.5
PLP	**Palo**	**0.62**	**227**	*i*P	Pb	04 20 48.4	+0.4
PLP				*i*S	Sn	04 20 59.0	+1.0
OCLP	**Ormoc**	**0.98**	**236**	*e*P	Pb	04 20 54.9	+0.9
OCLP				*e*S	Sn	04 21 13.5	+6.7
CNP	**Catarman**	**1.19**	**320**	*e*P	Pn	04 20 55.0	-1.6
CNP				*e*S	Sb	04 21 12.7	+0.2
MSLP	**Maasin**	**1.56**	**201**	*e*P	Pb	04 21 03.5	-0.4
MSLP				*e*S	Sn	04 21 22.0	+0.9
LLP	**Lapu-Lapu**	**1.93**	**229**	*e*P	Pn	04 21 07.7	+0.9
LLP				*e*S	Sb	04 21 36.4	+2.7

*ISCJB **13** 04:26:17.5±0.3, 2.42S±0.03×138.78E±0.04, h10km, mb4.2/17, MS3.0/1, Error ellipse: s-maj=6.4km s-min=4.5km az=162.5*
*IDC **13** 04:26:17.6±0.6, 2.38S×138.81E, h0km, mb4.1/14, mb1 4.2/16, mb1mx4.1/47, mbtmp4.1/16, ML3.9/2, MS3.1/3, Ms1 3.1/3, ms1mx2.7/47, Error ellipse: s-maj=15.5km s-min=12.4km az=31.0*
*NEIC **13** 04:26:19.4±3.5, 2.39S×138.80E, h12km±22km, mb4.3/7, Error ellipse: s-maj=7.3km s-min=6.8km az=103.0*
*DJA **13** 04:26:20.8±1.1, 2.2°S±24'×13°E±', h19km±17km, M4.2/3, MLv4.2/3*
ISC 13 04:26:18.7±0.5, 2.49S±0.04×138.75E±0.05, h10km, n43, σ2.9°07/50, mb4.2/17, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.49**	**355**	P	**Pg**	**04 26 27.0**	**-1.4**
SMPI				S	**Sg**	**04 26 32.2**	**-2.7**
GENI	**Genyem**	**1.42**	**94**	P	**Pn**	**04 26 45.0**	**+0.4**
JAY	**Jayapura**	**1.95**	**91**	Pg	**Pn**	**04 26 52.8**	**+0.8**
	15nm,0.3s,baz=240,slow=8.5,SNR=26						
JAY				Lg	Lg	04 27 17.6	
	33nm,0.3s,baz=56,slow=16,SNR=7.5						
JAY				LR	LR	04 27 36.1	
	comp=Z,507nm,18.1s,baz=170,slow=41						
JAY	**Jayapura**	**1.95**	**91**	P	**Pn**	**04 26 52.6**	**+0.7**
SRPI	**Serui, Papua**	**2.58**	**284**	P	**Pn**	**04 27 02.0**	**+1.4**
SRPI				S	**Sn**	**04 27 33.1**	**+1.0**
FAKI	**Fak Fak**	**6.51**	**266**	*e*Pn	**Pn**	**04 27 56.8**	**+2.2**
FAKI				*e*Sn	**Sn**	**04 29 06.6**	**-2.5**
SIJI	**Sorong**	**7.65**	**282**	LR	LR	04 31 15.2	
	comp=Z,146nm,21.2s,baz=138,slow=39						
RABL	**Rabaul**	**13.49**	**98**	*e*Pn	**Pn**	**04 29 29.7**	**-0.7**
DAV	**Davao City (W)**	**16.22**	**306**	LR	LR	04 36 16.0	
	comp=Z,666nm,19.2s,baz=48,slow=37						
WB2	**Warramunga Arr**	**17.88**	**194**	*e*Pn	**Pn**	**04 30 28.5**	**+0.8**
WR1	**Warramunga Arr**	**17.88**	**194**	*e*Pn	**Pn**	**04 30 29.3**	**+1.6**
	20nm,1.4s						
WR1				*e*Sn	**Sn**	**04 33 42.5**	**-4.8**
WRA	**Warramunga Arr**	**17.88**	**194**	P	**Pn**	**04 30 29.3**	**+1.6**
	0.4nm,0.3s,baz=17,slow=13,SNR=15						
WRA				S	**Sn**	**04 33 42.5**	**-4.8**
	0.2nm,0.3s,baz=16,slow=22,SNR=5.3						
CTA	**Charters Tower**	**18.97**	**158**	P	**P**	**04 30 41.2**	**+0.9**
	0.3nm,0.3s,baz=326,slow=3.6,SNR=2.6						
CTAO	**Charters Tower**	**18.97**	**158**	*e*P	**P**	**04 30 40.4**	**0.0**
	188nm,2.5s						
CTAO				*e*Sn	**Sn**	**04 34 11.2**	**-2.4**
FITZ	**Fitzroy Crossi**	**20.15**	**219**	P	**P**	**04 30 54.8**	**+1.5**
	1.6nm,0.7s,baz=41,slow=11,SNR=4.1						
FITZ				S	**S**	**04 34 32.5**	**-7.2**
	6.1nm,0.9s,baz=210,slow=17,SNR=7.1						
FITZ				LR	LR	04 40 02.7	
	comp=Z,62nm,18.7s,baz=38,slow=41						
FITZ	**Fitzroy Crossi**	**20.15**	**219**	*e*P	**P**	**04 30 54.8**	**+1.5**
	8.4nm,1.3s						
FITZ				*e*S	**S**	**04 34 34.6**	**-5.1**
AS01	**Alice Springs**	**21.56**	**192**	*e*P	**P**	**04 31 10.0**	**+1.5**
AS31	**Alice Springs**	**21.57**	**192**	*e*P	**P**	**04 31 13.1**	**+4.4**
	3.3nm,1.1s						
ASAR	**Alice Springs**	**21.57**	**192**	P	**P**	**04 31 10.2**	**+1.5**
	1.6nm,0.5s,baz=20,slow=11,SNR=19						
ASAR				S	**S**	**04 35 09.6**	**+1.7**
	2.0nm,0.9s,baz=11,slow=26,SNR=5.6						
STKA	**Stephens Creek**	**29.36**	**175**	P	**P**	**04 32 22.7**	**+0.7**
	0.6nm,0.3s,baz=345,slow=15,SNR=2.0						
STKA	**Stephens Creek**	**29.36**	**175**	*e*P	**P**	**04 32 22.7**	**+0.7**
	9.9nm,2.5s						
PSI	**Prapat**	**40.16**	**277**	*e*P	**P**	**04 33 54.5**	**-1.1**
	13nm,1.0s						
KS15	**Wonju Array Si**	**40.99**	**347**	*e*P	**P**	**04 34 01.6**	**-0.3**
KSAR	**Wonju Array Be**	**40.99**	**347**	P	**P**	**04 34 01.6**	**-0.3**
KSRS	**Korea Array**	**40.99**	**347**	P	**P**	**04 34 01.6**	**-0.3**
	1.8nm,0.9s,baz=144,slow=10,SNR=4.0						
CM31	**Chiang Mai Arr**	**44.36**	**300**	*e*P	**P**	**04 34 29.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**44.36**	**300**	P	**P**	**04 34 29.5**	**-0.2**
	1.9nm,0.4s,baz=120,slow=5.3,SNR=4.7						
SONA0	**Songino Array**	**57.54**	**335**	*e*P	**P**	**04 36 08.9**	**+0.4**
SONM	**Songino Array**	**57.54**	**335**	P	**P**	**04 36 08.9**	**+0.4**
	0.6nm,0.6s,baz=155,slow=7.6,SNR=4.8						
MK32	**Makanchi Array**	**69.64**	**322**	*e*P	**P**	**04 37 29.3**	**+0.8**
MKAR	**Makanchi Array**	**69.64**	**322**	P	**P**	**04 37 29.3**	**+0.8**
	2.0nm,0.9s,baz=113,slow=8.0,SNR=8.3						
ZALV	**Zalesovo Beam**	**71.76**	**330**	P	**P**	**04 37 41.0**	**-0.2**
	0.7nm,0.4s,baz=142,slow=7.3,SNR=2.4						
ZAA1	**Zalesovo Array**	**71.77**	**330**	*e*P	**P**	**04 37 41.0**	**-0.2**
KURK	**Kurchatov**	**73.56**	**325**	*e*P	**P**	**04 37 52.1**	**+0.2**
KURBB	**Kurchatov Arra**	**73.57**	**325**	P	**P**	**04 37 52.1**	**+0.1**
	0.9nm,0.3s,baz=112,slow=5.7,SNR=6.6						
VNDA	**Vanda**	**76.00**	**175**	P	**P**	**04 38 07.5**	**+1.8**
	0.7nm,0.5s,baz=332,slow=7.0,SNR=6.3						
BVAR	**Borovoye Array**	**79.15**	**325**	P	**P**	**04 38 24.2**	**+0.5**
	1.6nm,0.6s,baz=113,slow=7.2,SNR=11						
SII	**Sitkinak Islan**	**79.65**	**31**	*e*P	**P**	**04 38 26.1**	**-0.2**
	698nm,2.9s						
KDAK	**Kodiak Island**	**80.89**	**30**	P	**P**	**04 38 33.4**	**+0.5**
	6.6nm,1.0s,baz=228,slow=4.9,SNR=2.5						
RND	**Reindeer**	**84.40**	**26**	*e*P	**P**	**04 38 51.3**	**+0.1**
	14nm,1.2s						
ABKAR	**Akbulak array**	**84.58**	**320**	*e*P	**P**	**04 38 52.8**	**+0.5**
ILAR	**Eielson Array**	**85.61**	**24**	P	**P**	**04 38 56.1**	**-1.1**
	1.3nm,0.9s,baz=260,slow=4.7,SNR=8.4						
QSPA	**South Pole Qui**	**87.46**	**180**	P	**P**	**04 39 07.6**	**+1.2**
	1.1nm,0.5s,baz=258,slow=0.9,SNR=10						

*PGC **13** 04:31:20.8±3.6, 52.45N×133.11W, h25km±9km, 124km Wsw of Sandspit, Bc Haida Gwaii Region*
*IDC **13** 04:31:23.5±0.9, 52.55N×132.66W, h0km, mb4.0/10, mb1 4.2/17, mb1mx3.9/70, mbtmp3.9/17, ML3.4/6, MS3.2/6, Ms1 3.2/6, ms1mx3.0/60, Error ellipse: s-maj=18.2km s-min=7.0km az=83.0*

*ISCJB **13** 04:31:25.5±0.3, 52.93N±0.03×132.28W±0.07, h10km, mb4.2/38, MS3.5/1, Error ellipse: s-maj=6.7km s-min=3.0km az=151.8*
*NEIC **13** 04:31:27.7±0.4, 52.90N×132.45W, h10km, mb4.1/72, Error ellipse: s-maj=10.8km s-min=3.5km az=55.0*
ISC 13 04:31:27.0±0.7, 52.77N±0.05×132.41W±0.07, h10km, n249, σ19.51/242, mb4.3/44, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H02S1	**DAWSON INLET T**	**0.43**	**355**	Pg	**Pg**	**04 31 36.4**	**+0.8**
H02S1				Lg	Lg	04 31 45.7	
H02N1	**VAN INLET T-PH**	**0.49**	**351**	Pg	**Pg**	**04 31 37.0**	**+0.4**
H02N1				Lg	Lg	04 31 47.1	
BBB	**Bella Bella**	**2.69**	**101**	Pn	**Pn**	**04 32 08.4**	**-1.9**
	5.6nm,0.3s,baz=258,slow=7.4,SNR=3.4						
BBB				Pg	**Pb**	**04 32 15.6**	**+0.4**
	16nm,0.3s,baz=286,slow=15,SNR=5.5						
BBB				LR	LR	04 32 38.9	
	comp=Z,221nm,19.2s,baz=240,slow=27						
BBB				Sn	**Sn**	**04 32 41.0**	**-1.9**
	24nm,0.3s,baz=344,slow=23,SNR=2.3						
BBB				Lg	Lg	04 32 54.3	
	43nm,0.3s,baz=349,slow=19,SNR=5.0						
DLBC	**Dease Lake**	**5.84**	**12**	Pn	**Pn**	**04 32 55.9**	**+2.3**
	1.2nm,0.3s,baz=200,slow=8.4,SNR=6.1						
DLBC				Sn	**Sn**	**04 34 03.5**	**+2.9**
	0.8nm,0.3s,baz=97,slow=22,SNR=1.4						
DLBC				Lg	Lg	04 34 33.9	
	1.1nm,0.3s,baz=316,slow=4.6,SNR=4.1						
DLBC	**Dease Lake**	**5.84**	**12**	*e*Pn	**Pn**	**04 32 52.2**	**-1.4**
DLBC				*e*Sn	**Sn**	**04 34 03.5**	**+2.9**
DLBC				*e*Sg	**Sg**	**04 34 33.0**	**-1.3**
WHY	**Whitehorse**	**8.03**	**351**	*e*Pn	**Pn**	**04 33 23.6**	**-0.1**
WHY				*e*Lg	Lg	04 35 52.5	
LON	**Longmire**	**9.13**	**127**	*e*Pn	**Pn**	**04 33 40.1**	**+1.4**
LTY	**Liberty**	**9.35**	**121**	*e*Pn	**Pn**	**04 33 43.6**	**+1.7**
NEW	**Newport**	**10.72**	**109**	Pn	**Pn**	**04 34 03.3**	**+2.7**
	0.1nm,0.3s,baz=295,slow=14,SNR=3.1						
NEW				Lg	Lg	04 37 08.5	
	0.1nm,0.3s,baz=343,slow=15,SNR=2.8						
NEW				LR	LR	04 37 38.2	
	comp=Z,73nm,21.5s,baz=187,slow=35						
I04A	**Tendick Farm,**	**11.17**	**140**	P	**Pn**	**04 34 07.8**	**+1.0**
	baz=327						
KLU	**Klutina**	**11.39**	**325**	*e*Pn	**Pn**	**04 34 09.7**	**0.0**
DAWY	**Dawson**	**11.89**	**345**	*e*Pn	Pn	04 34 13.1	-3.4
J05D	**Fort Rock, OR**	**12.07**	**137**	P	**Pn**	**04 34 18.6**	**-0.6**
	baz=326						
KDAK	**Kodiak Island**	**12.53**	**302**	LR	LR	04 38 06.9	
	comp=Z,170nm,18.6s,baz=120,slow=32						
YBH	**Yreka Blue Hor**	**12.85**	**145**	Pn	**Pn**	**04 34 32.2**	**+2.5**
	0.1nm,0.3s,baz=346,slow=12,SNR=4.7						
YBH				LR	LR	04 38 20.1	
	comp=Z,80nm,18.7s,baz=324,slow=33						
EGAK	**Eagle**	**12.85**	**343**	*e*Pn	**Pn**	**04 34 29.3**	**-0.1**
J08A	**Circle Bar Ran**	**13.23**	**130**	*e*Pn	**Pn**	**04 34 38.1**	**+3.2**
MSO	**Missoula**	**13.31**	**109**	P	**Pn**	**04 34 35.4**	**-0.6**
	baz=304						
N02D	**Trinity Center**	**13.52**	**147**	P	**Pn**	**04 34 40.7**	**+1.8**
	baz=334						
YKA	**Yellowknife Ar**	**13.58**	**37**	Pn	**Pn**	**04 34 37.7**	**-1.8**
	0.1nm,0.3s,baz=229,slow=12,SNR=3.6						
YKA				Lg	Lg	04 38 41.9	
	0.1nm,0.3s,baz=226,slow=28,SNR=3.2						
YKB5	**Yellowknife Ar**	**13.58**	**37**	*e*Pn	**Pn**	**04 34 37.7**	**-1.8**
MOD	**Modoc Plateau**	**13.60**	**138**	*e*Pn	**Pn**	**04 34 42.9**	**+2.9**
RND	**Reindeer**	**13.70**	**327**	*e*Pn	**Pn**	**04 34 42.7**	**+1.5**
EPYK	**Eagle Plains**	**13.81**	**353**	P	Pn	04 34 38.5	-4.1
	baz=169						
WVOR	**Wild Horse Val**	**13.88**	**133**	*e*Pn	**Pn**	**04 34 47.0**	**+3.3**
IL1	**Eielson Array**	**14.13**	**334**	*e*Pn	**Pn**	**04 34 46.4**	**-0.5**
ILAR	**Eielson Array**	**14.13**	**334**	Pn	**Pn**	**04 34 46.1**	**-0.9**
	0.0nm,0.3s,baz=154,slow=12,SNR=16						
ILB	**Eielson Array**	**14.13**	**334**	*e*Pn	**Pn**	**04 34 47.2**	**+0.3**
CCB	**Clear Creek Bu**	**14.29**	**332**	*e*P	**P**	**04 34 56.7**	**+0.3**
LRM	**Limekiln Ridge**	**14.73**	**110**	*e*Pn	Pn	04 34 48.7	-6.9
BPAW	**Bear Paw Mtn.**	**14.87**	**327**	*e*Pn	**Pn**	**04 34 56.0**	**-1.1**
DLMT	**Dillon**	**14.92**	**112**	*e*Pn	**Pn**	**04 35 00.3**	**+2.2**
	8.2nm,0.9s						
SVW2	**Sparrevohn**	**15.07**	**313**	*e*Pn	**P**	**04 35 04.1**	**-1.1**
	12nm,1.0s						
HLID	**Hailey**	**15.10**	**120**	*e*Pn	**Pn**	**04 35 03.0**	**+2.5**
	8.6nm,0.9s						
HLID	**Hailey**	**15.10**	**120**	P	**Pn**	**04 35 01.0**	**+0.6**
	baz=314,SNR=9.7						
MCMT	**McKenzie Canyo**	**15.11**	**114**	*e*Pn	**P**	**04 35 08.0**	**+2.1**
FYU	**Fort Yukon**	**15.22**	**340**	*e*Pn	**Pn**	**04 35 03.2**	**+1.4**
	9.4nm,0.7s						
BEKR	**Beckworth**	**15.33**	**143**	*e*Pn	**P**	**04 35 10.1**	**+1.8**
	11nm,1.4s						
MLY	**Manley**	**15.43**	**330**	*e*Pn	**P**	**04 35 09.6**	**+0.5**
	10nm,1.2s						
INK	**Inuvik**	**15.60**	**358**	Pn	**Pn**	**04 35 06.5**	**-0.1**
	baz=179,slow=14,SNR=1.4						
INK				LR	LR	04 41 50.4	
	comp=Z,136nm,21.0s,baz=136,slow=40						
INK	**Inuvik**	**15.60**	**358**	*e*Pn	**P**	**04 35 11.1**	**+0.2**
	8.5nm,1.1s						
PAHR	**Pah Rah Range**	**15.84**	**140**	*e*Pn	**Pn**	**04 35 12.4**	**+2.3**
	12nm,1.3s						
QLMT	**Earthquake Lak**	**15.90**	**112**	*e*Pn	**P**	**04 35 16.7**	**+2.0**
AFDM	**Forest Hills D**	**15.93**	**146**	*e*Pn	**P**	**04 35 19.0**	**+4.2**
	11nm,1.1s						
YHB	**Horse Butte**	**16.08**	**111**	*e*Pn	**Pn**	**04 35 16.7**	**+3.4**
	9.9nm,0.9s						
BMN	**Battle Mountai**	**16.12**	**134**	*e*Pn	**Pn**	**04 35 15.1**	**+1.4**
	9.7nm,1.1s						
YHH	**Holmes Hill**	**16.26**	**111**	*e*Pn	**Pn**	**04 35 17.6**	**+2.0**
	9.4nm,1.1s						
YMR	**Madison River**	**16.26**	**111**	*e*Pn	**Pn**	**04 35 17.5**	**+1.9**
	19nm,1.0s						
YERR	**Yerington**	**16.52**	**141**	*e*Pn	**P**	**04 35 23.1**	**+1.5**
	8.7nm,1.4s						
H17A	**Grant Village**	**16.65**	**111**	*e*Pn	**P**	**04 35 27.1**	**+4.1**
	8.8nm,1.0s						
IMW	**Indian Meadow**	**16.76**	**113**	*e*Pn	**P**	**04 35 27.3**	**+3.0**
	8.6nm,1.0s						
FXWY	**Fox Creek**	**16.88**	**114**	*e*Pn	**P**	**04 35 27.1**	**+1.6**
	8.0nm,0.9s						
KVN	**Kaiserville**	**16.91**	**139**	*e*Pn	**Pn**	**04 35 26.1**	**+2.3**
	12nm,1.2s						
MOOW	**Moose Ponds**	**16.96**	**113**	*e*Pn	**Pn**	**04 35 26.5**	**+2.0**
	4.3nm,0.8s						
RLMT	**Red Lodge**	**16.97**	**108**	*e*Pn	**P**	**04 35 29.6**	**+3.1**
	14nm,1.3s						
RLMT	**Red Lodge**	**16.97**	**108**	P	**Pn**	**04 35 24.9**	**+0.3**
	baz=306						
IM3	**Indian Mountai**	**17.00**	**329**	*e*Pn	**Pn**	**04 35 26.8**	**+2.3**
TPAW	**Teton Pass**	**17.01**	**114**	*e*Pn	**P**	**04 35 28.3**	**+1.2**
	14nm,0.9s						
LOHW	**Long Hollow**	**17.13**	**114**	*e*Pn	**P**	**04 35 31.9**	**+3.6**
	3.7nm,0.9s						
SNOW	**Snow King Moun**	**17.14**	**114**	*e*Pn	**P**	**04 35 31.2**	**+2.7**
	8.1nm,0.9s						
REDW	**Red Top Meadow**	**17.15**	**115**	*e*Pn	**P**	**04 35 31.2**	**+2.7**
	12nm,1.1s						
NV01	**Mina Array Sit**	**17.36**	**140**	*e*Pn	**Pn**	**04 35 28.2**	**-1.3**
NVAR	**Mina Array Bea**	**17.36**	**140**	P	**Pn**	**04 35 28.2**	**-1.3**
	0.1nm,0.3s,baz=314,slow=11,SNR=10						
BGU	**Big Grassy Mou**	**17.71**	**124**	*e*Pn	**P**	**04 35 36.3**	**+1.7**
	2.7nm,0.9s						
TOLK	**Toolik Lake Re**	**17.88**	**339**	P	**Pn**	**04 35 31.8**	**-3.7**
	baz=144						
LAO	**LASA Array**	**17.93**	**99**	*e*Pn	**P**	**04 35 38.9**	**+1.9**
	127nm,2.7s						
LAO	**LASA Array**	**17.93**	**99**	P	**Pn**	**04 35 38.0**	**+1.7**
	baz=300						
HWUT	**Hardware Ranch**	**17.97**	**120**	*e*Pn	**P**	**04 35 39.6**	**+2.1**
	4.6nm,0.9s						
BW06	**Boulder Array**	**18.26**	**114**	*e*Pn	**P**	**04 35 44.0**	**+3.3**
	7.7nm,1.1s						
BW06	**Boulder Array**	**18.26**	**114**	P	**Pn**	**04 35 41.4**	**+0.8**
	baz=312						
PDAR	**Pinedale Array**	**18.26**	**114**	P	**Pn**	**04 35 39.8**	**-0.7**
	0.1nm,0.3s,baz=325,slow=7.7,SNR=4.4						
DGMT	**Dagmar**	**18.35**	**92**	*e*P	**P**	**04 35 44.0**	**+2.5**
	17nm,0.9s						
DGMT	**Dagmar**	**18.35**	**92**	P	**Pn**	**04 35 42.0**	**+0.5**
	baz=295						
DUG	**Dugway, Tooele**	**18.37**	**125**	*e*P	**Pn**	**04 35 43.5**	**+1.6**
	9.4nm,1.2s						
DUG	**Dugway, Tooele**	**18.37**	**125**	P	**Pn**	**04 35 42.0**	**+0.1**
	baz=320,SNR=6.9						
R11A	**Troy Canyon, C**	**18.55**	**134**	*e*P	**P**	**04 35 44.8**	**+0.9**
	4.4nm,1.0s						
R11A	**Troy Canyon, C**	**18.55**	**134**	P	**P**	**04 35 44.6**	**+0.6**
	baz=327,SNR=6.3						
GRAC	**Grapevine Rang**	**18.97**	**140**	P	**P**	**04 35 50.0**	**+1.6**
	baz=331						
PSUT	**Pine Spring**	**19.18**	**131**	*e*P	**P**	**04 35 52.5**	**+1.6**
	7.7nm,1.2s						
CWC	**Cottonwood Cre**	**19.19**	**143**	P	**P**	**04 35 50.8**	**-0.2**
	baz=333						
TPNV	**Topopah Spring**	**19.46**	**138**	*e*P	**P**	**04 35 56.0**	**+2.1**
	20nm,1.4s						
TPNV	**Topopah Spring**	**19.46**	**138**	P	**P**	**04 35 55.1**	**+1.2**
	baz=330,SNR=9.0						
FURC	**Furnace Creek,**	**19.63**	**140**	P	**P**	**04 35 55.0**	**-0.5**
	baz=331						
ISA	**Isabella, Lake**	**19.75**	**145**	*e*P	**Pn**	**04 36 00.2**	**+1.9**
	14nm,1.4s						
ISA	**Isabella, Lake**	**19.75**	**145**	P	**P**	**04 35 57.6**	**+0.7**
	baz=335						
MPMC	**Manual Prospec**	**19.75**	**142**	P	**P**	**04 35 56.9**	**-0.3**
	baz=333						
P17A	**Butcher Ranch,**	**19.96**	**123**	*e*P	**P**	**04 36 01.3**	**+2.0**
	8.1nm,1.0s						
MSU	**Marysvale**	**19.99**	**127**	*e*P	**P**	**04 36 01.6**	**+1.9**
K22A	**Casper**	**20.04**	**110**	*e*P	**P**	**04 36 01.2**	**+1.0**
	20nm,1.0s						
K22A	**Casper**	**20.04**	**110**	P	**P**	**04 36 00.7**	**+0.5**
	baz=310,SNR=7.0						
P18A	**Preston Nutter**	**20.10**	**122**	*e*P	**P**	**04 36 03.2**	**+2.2**
	17nm,1.4s						
LRMC	**Laurel Mtn Rad**	**20.19**	**143**	P	**P**	**04 36 02.1**	**+0.2**
	baz=334						
CCUT	**Cedar City**	**20.20**	**131**	*e*P	**P**	**04 36 03.5**	**+1.4**
	21nm,1.5s						
SHPR	**Sheep Range**	**20.29**	**136**	*e*P	**P**	**04 36 03.8**	**+0.8**
	6.3nm,1.1s						
SZCU	**Shurtz Canyon**	**20.29**	**131**	*e*P	**P**	**04 36 04.3**	**+1.3**
	19nm,1.2s						
SRU	**San Rafael Swe**	**20.34**	**123**	*e*P	**P**	**04 36 05.8**	**+2.3**
	9.4nm,1.0s						
MTPU	**Mount Pierson**	**20.36**	**128**	*e*P	**P**	**04 36 05.7**	**+1.8**
	6.2nm,1.3s						
SHOC	**Shoshone, Teco**	**20.36**	**140**	P	**P**	**04 36 05.1**	**+1.6**
	baz=331						
RSSD	**Black Hills**	**20.60**	**103**	*e*P	**P**	**04 36 07.6**	**+1.2**
	12nm,0.8s						
RSSD	**Black Hills**	**20.60**	**103**	P	**P**	**04 36 07.7**	**+1.4**
	baz=305						
GSC	**Goldstone, Bar**	**20.68**	**141**	*e*P	**P**	**04 36 08.5**	**+1.4**
	6.5nm,1.0s						
GSC	**Goldstone, Bar**	**20.68**	**141**	P	**P**	**04 36 07.5**	**+0.5**
	baz=333						
LCMT	**Little Creek M**	**20.70**	**132**	*e*P	**P**	**04 36 08.7**	**+1.4**
	9.5nm,1.0s						
PKCU	**Pink Cliffs**	**20.77**	**130**	*e*P	**P**	**04 36 10.2**	**+1.8**
	15nm,1.1s						
O20A	**White River Ci**	**20.78**	**118**	*e*P	**P**	**04 36 09.9**	**+1.6**
	11nm,0.9s						
O20A	**White River Ci**	**20.78**	**118**	P	**P**	**04 36 09.2**	**+0.9**
	baz=316,SNR=6.8						
KNB	**Kanab**	**20.89**	**131**	*e*P	Pn	04 36 12.6	+0.7
	14nm,1.4s						
HEC	**Hector,Ludlow**	**21.27**	**141**	P	**P**	**04 36 14.5**	**+1.0**
	baz=333						
BFSC	**Mount Baldy Ra**	**21.32**	**145**	P	**P**	**04 36 13.5**	**-0.5**
	baz=335						
MDND	**Maddock**	**21.41**	**90**	*e*P	**P**	**04 36 16.9**	**+2.1**
	37nm,0.9s						
PV09	**Paradox Valley**	**21.52**	**122**	*e*P	**P**	**04 36 18.1**	**+1.8**
N23A	**Red Feather La**	**21.52**	**113**	*e*P	**P**	**04 36 17.4**	**+1.1**
	8.8nm,0.9s						
N23A	**Red Feather La**	**21.52**	**113**	P	**P**	**04 36 15.9**	**-0.4**
	baz=313,SNR=6.1						
PV21	**Cone Mtn., Par**	**21.55**	**122**	*e*P	**P**	**04 36 19.6**	**+2.9**
	8.5nm,1.2s						
GMRC	**Granite Mounta**	**21.57**	**140**	P	**P**	**04 36 16.8**	**0.0**
	baz=332						
U15A	**North Rim**	**21.61**	**131**	*e*P	**P**	**04 36 18.6**	**+1.3**
	10nm,0.9s						
PV23	**Carpenter Ridg**	**21.61**	**122**	*e*P	**P**	**04 36 18.3**	**+1.0**
	20nm,1.3s						
PV10	**Paradox Valley**	**21.66**	**122**	*e*P	**P**	**04 36 19.9**	**+2.2**
PV22	**Blue Mesa, Par**	**21.67**	**122**	*e*P	**P**	**04 36 19.6**	**+1.8**
	6.3nm,0.9s						
PV14	**Lion Creek, Pa**	**21.67**	**122**	*e*P	**P**	**04 36 18.5**	**+0.6**
	19nm,1.2s						
PV19	**Morning Glory**	**21.73**	**122**	*e*P	**P**	**04 36 19.4**	**+0.9**
	13nm,1.0s						
PV16	**Nyswonger Mesa**

baz=307
M40A Post Highland 29.68 96 P **P 04 37 33.2 +0.4**
baz=307
WMOK Wichita Mounta 29.87 114 P **P 04 37 34.3 -0.2**
baz=318
E44A Grand Marais A 30.26 83 P **P 04 37 37.4 -0.5**
baz=299
N41A Harden Midland 30.50 96 P **P 04 37 39.8 -0.2**
baz=308
O41A Passleys Farm, 30.84 97 P **P 04 37 43.2 +0.1**
baz=309
Q41A Truxton 31.36 99 P **P 04 37 46.9 -0.8**
baz=310
LTX Lajitas 31.54 127 *e*P **P 04 37 48.2 -1.2**
TXAR Lajitas Array 31.54 127 P **P 04 37 48.2 -1.2**
1.5nm,0.8s,baz=332,slow=7.8,SNR=12
R41A Rosebud 31.70 101 P **P 04 37 50.1 -0.5**
baz=311,SNR=5.8
CCM Cathedral Cave 31.94 101 P **P 04 37 51.9 -0.8**
baz=311
P43A Skaggs, Pawnee 31.96 97 P **P 04 37 53.2 +0.4**
baz=309
U40A Yellville 32.12 105 P **P 04 37 54.1 -0.3**
baz=314,SNR=5.5
Q43A New Douglas 32.29 98 P **P 04 37 56.2 +0.4**
baz=310
T41A Mountain View 32.30 103 P **P 04 37 54.3 -1.6**
baz=313
S42A Caledonia 32.39 101 P **P 04 37 55.4 -1.4**
baz=312
K47A Vermontville 32.90 89 P **P 04 37 59.1 -2.0**
baz=305
V41A Mountainview 32.92 105 P **P 04 38 00.7 -0.7**
baz=314,SNR=5.9
S43A Fulton Ridge, 32.95 100 P **P 04 38 01.0 -0.6**
baz=312
MIAR Mount Ida 32.97 108 P **P 04 38 02.3 +0.6**
baz=316
P45A Graceland, Par 33.10 95 P **P 04 38 02.6 -0.3**
baz=309
T43A Greenville 33.15 101 P **P 04 38 01.9 -1.4**
baz=312
S44A Carbondale 33.36 99 P **P 04 38 03.7 -1.5**
baz=311
Q47A Bedord North L 34.27 95 P **P 04 38 13.3 +0.2**
baz=309
T46A Princeton 34.61 99 P **P 04 38 15.0 -1.0**
baz=312
R47A Wooly Knot Far 34.62 96 P **P 04 38 15.2 -0.9**
baz=310
WCI Wyandotte Cave 34.80 96 P **P 04 38 17.1 -0.6**
baz=310
V46A Holladay 35.30 101 P **P 04 38 20.3 -1.8**
baz=313
S48A Wiedeman Farm, 35.31 96 P **P 04 38 21.5 -0.6**
baz=311
OXF Oxford 35.42 104 P **P 04 38 22.3 -0.8**
baz=315
T48A Bowling Green 35.47 98 P **P 04 38 22.1 -1.3**
baz=311
V47A Nunnelly 35.64 100 P **P 04 38 22.3 -2.6**
baz=313
S49A Springfield 35.69 96 P **P 04 38 25.3 -0.1**
baz=311
Y46A Houston 36.19 104 P **P 04 38 28.6 -1.1**
baz=315
U49A Red Boiling Sp 36.23 98 P **P 04 38 27.0 -3.0**
baz=312
R51A Hillsboro 36.40 94 P **P 04 38 30.6 -0.8**
baz=310
244A Avery, Jackson 36.44 108 P **P 04 38 29.8 -2.0**
baz=317
V49A McMinnville 36.65 99 P **P 04 38 32.8 -0.8**
baz=313
U50A Jamestown 36.86 97 P **P 04 38 35.0 -0.4**
baz=312
N54A Moraine State 36.94 87 P **P 04 38 35.2 -0.8**
baz=307
P53A Whipple 36.98 90 P **P 04 38 34.6 -1.8**
baz=309
T51A Gray 37.04 96 P **P 04 38 35.6 -1.2**
baz=311
V51A Loudon 37.56 97 P **P 04 38 40.2 -1.2**
baz=312
X50B Fort Payne 37.69 100 P **P 04 38 42.0 -0.5**
baz=314
MCWV Mont Chateau 37.82 89 P **P 04 38 42.7 -0.7**
baz=308
V52A Sevierville 37.99 97 P **P 04 38 44.0 -0.9**
baz=312
X51A Calhoun 38.10 99 *e*P **P 04 38 46.3 +0.4**
16nm,0.8s
X51A Calhoun 38.10 99 P **P 04 38 43.9 -1.9**
baz=314
W52A Murphy 38.30 98 *e*P **P 04 38 47.8 +0.3**
15nm,0.8s
W52A Murphy 38.30 98 P **P 04 38 46.6 -0.9**
baz=313
546A Slidell 38.33 109 P **P 04 38 48.1 +0.3**
baz=319
Y51A Rockmart 38.43 100 P **P 04 38 48.2 -0.5**
baz=314
V53A Saluda 38.58 96 P **P 04 38 48.7 -1.3**
baz=312
X52A Dahlonega 38.65 98 P **P 04 38 49.7 -0.8**
baz=314
W53A Cullowhee 38.70 97 P **P 04 38 50.6 -0.5**
baz=313
BLA Blacksburg 39.02 92 P **P 04 38 52.1 -1.5**
baz=311
X53A Estanollee 39.08 98 P **P 04 38 52.7 -1.4**
baz=314
Y54A Tignall 39.88 98 P **P 04 38 59.7 -1.1**
baz=314
R58B Mineral 40.08 89 P **P 04 39 01.1 -1.3**
baz=310
H11N2 WAKE ISLAND Hy 56.86 259 T T 05 42 58.7
baz=39,slow=76,SNR=16
H11N3 WAKE ISLAND Hy 56.86 259 T T 05 42 58.8
baz=39,slow=76,SNR=24
H11N1 WAKE ISLAND Hy 56.87 259 T T 05 43 00.8
baz=39,slow=76,SNR=19
H11S1 WAKE ISLAND Hy 57.92 258 T T 05 44 23.2
baz=45,slow=74
H11S2 WAKE ISLAND Hy 57.93 258 T T 05 44 26.0
baz=45
H11S3 WAKE ISLAND Hy 57.94 258 T T 05 44 22.8
baz=45,slow=74
NB2 NORSAR Subarra 62.89 19 P **P 04 41 52.5 -0.3**
comp=Z,1.5nm,0.8s,baz=338,slow=6.9
NB200 NORSAR Array S 62.89 19 *e*P **P 04 41 52.9 +0.1**
NOA NORSAR Array B 62.89 19 P **P 04 41 52.9 +0.1**
comp=Z,2.9nm,0.8s,baz=338,slow=6.7,SNR=6.6
CLL Collm 72.28 22 *e*P **P 04 42 52.0 -0.2**
comp=Z,14nm,1.5s
BRG Berggiesshubel 72.90 22 *e*PDIFF **P 04 42 56.3 +0.4**
comp=Z,12nm,1.4s
KURK Kurchatov 73.61 340 *e*P **P 04 42 59.1 -1.0**
KURBB Kurchatov Arra 73.72 340 P **P 04 42 59.1 -1.6**
comp=Z,0.7nm,0.2s,baz=20,slow=5.6,SNR=3.8
DPC Dobruska-Polom 73.91 20 *e*P **P 04 43 02.9 +1.0**
KHC Kasperske Hory 74.45 22 *e*P **P 04 43 06.1 +1.0**
GERES GERESS Array B 74.75 22 P **P 04 43 07.0 +0.1**
comp=Z,1.6nm,0.7s,baz=336,slow=5.9,SNR=12
SQTA Sankt Quirin 75.66 25 *e*P **P 04 43 11.8 -0.4**
comp=Z,6.2nm,1.2s
FETA Feichten 75.72 25 *e*pP **P 04 43 13.7 +1.2**
comp=Z,4.9nm,1.2s
WTTA Wattenberg 75.72 24 *i* P **P 04 43 12.1 -0.5**
comp=Z,5.2nm,1.0s
AKASG Malin Array Be 75.74 12 P **P 04 43 11.6 -0.8**
comp=Z,0.3nm,0.2s,baz=341,slow=5.3,SNR=3.4
AKBB Malin Array Si 75.74 12 *e*P **P 04 43 11.6 -0.8**
CONA Conrad Observa 76.10 21 *i* pP **P 04 43 15.6 +1.0**
comp=Z,4.2nm,0.9s
KBA Koelnbreinsper 76.32 23 *e*pP **P 04 43 17.0 +1.0**
comp=Z,7.4nm,1.1s
MK32 Makanchi Array 76.47 336 *e*P **P 04 43 15.1 -1.6**
MKAR Makanchi Array 76.47 336 P **P 04 43 15.1 -1.6**
comp=Z,0.8nm,0.8s,baz=17,slow=5.3,SNR=4.4
ARSA Arzberg 76.66 22 *i* pP **P 04 43 18.7 +0.9**
comp=Z,5.9nm,1.3s
SOKA Soboth 77.09 22 *e*pP **P 04 43 21.5 +1.2**
comp=Z,7.0nm,1.4s
ESDC Sonseca Array 77.67 38 P **P 04 43 23.4 -0.2**
comp=Z,1.7nm,0.8s,baz=329,slow=5.8,SNR=8.9
LPAZ La Paz 88.18 120 P **P 04 44 16.8 -2.0**
comp=Z,1.3nm,0.8s,baz=16,slow=9.1,SNR=3.9

IDC ***13*** *04:31:24.8±0.5, 45.˚75S×77.˚23W, h0km, mb4.6/23, mb1 4.7/24, mb1mx4.6/35, mbtmp4.6/24, ML4.7/1, MS5.7/17, Ms1 5.7/17, ms1mx5.5/21, Error ellipse: s-maj=20.5km s-min=11.0km az=99.0*

BJI ***13*** *04:31:25.3, 45.˚57S×77.˚55W, h10km, mB5.4/30, Ms6.0/33, Ms7 5.9/31*

NEIC ***13*** *04:31:26.8±0.2, 45.˚76S×77.˚05W, h9km, mb5.7/3, ME6.2, MS5.7/299, MW6.0, MW6.1, MW6.1, Error ellipse: s-maj=6.3km s-min=4.7km az=74.0 Best double couple: NP1:φ=258.00000°, δ73.00000°, λ-174.00000°. NP2: φ=166.00000°, δ84.00000°, λ-17.00000°. Principal axes: T 1.0300, Plg8.0000°, Azm213.0000°; N 0.1300, Plg72.0000°, Azm329.0000°; P -1.1600, Plg16.0000°, Azm121.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC ***13*** *04:31:27.0±0.0, 45.˚64S×77.˚57W, h11km, Moment Tensor Solution. s8 Moment tensor: Scale 10¹⁸Nm; Mrr0.11; Mθθ0.40; Mφφ-0.51; Mrθ0.63; Mφθ-1.63; Mφr-0.41; Best double couple: M₀1.90000×10¹⁸ NP1:φ=80.00000°, δ76.00000°, λ163.00000°. NP2:φ=174.00000°, δ73.00000°, λ15.00000°. Principal axes: T 1.9400, Plg22.0000°, Azm36.0000°; N -0.1900, Plg67.0000°, Azm221.0000°; P -1.7500, Plg1.0000°, Azm127.0000°;*

GUC ***13*** *04:31:27.7±0.6, 45.˚76S×77.˚05W, h9km±999km, MW6.1(NEIC)*

ISCJB ***13*** *04:31:28.7±0.2, 45.˚71S±0.˚03×76.˚90W±0.˚05, h33km, mb4.7/30, MS5.8/516, Error ellipse: s-maj=4.6km s-min=4.0km az=168.0*

MOS ***13*** *04:31:28.1±1.1, 45.˚73S×77.˚11W, h26km, mb5.3/13, MS5.6/21, Error ellipse: s-maj=15.5km s-min=7.8km az=89.2*

GCMT ***13*** *04:31:29.8±0.1, 45.˚80S×77.˚54W, h18km, MW6.0/137, Moment Tensor Solution. s131, c279; s137, c485; Duration: 2ᵉ5 Moment tensor: Scale 10¹⁸Nm; Mrr-0.03±.01; Mθθ0.60±.01; Mφφ-0.56±.01; Mrθ0.17±.02; Mφθ-1.25±.01; Mφr-0.26±.02; Best double couple: M₀1.41000×10¹⁸ NP1:φ=168.00000°, δ86.00000°, λ11.00000°. NP2:φ=77.00000°, δ79.00000°, λ176.00000°. Principal axes: T 1.4470, Plg11.0000°, Azm33.0000°; N -0.0740, Plg78.0000°, Azm185.0000°; P -1.3730, Plg5.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***13*** *04:31:46.9±0.0, 45.˚73S×76.˚79W, h10km, Moment Tensor Solution. s38 Moment tensor: Scale 10¹⁸Nm; Mrr-0.10; Mθθ0.56; Mφφ-0.46; Mrθ-0.91; Mφθ-1.25; Mφr-0.07; Best double couple: M₀1.60000×10¹⁸ NP1:φ=349.00000°, δ56.00000°, λ-1.00000°. NP2:φ=80.00000°, δ89.00000°, λ-146.00000°. Principal axes: T 1.7000, Plg23.0000°, Azm209.0000°; N -0.1500, Plg56.0000°, Azm81.0000°; P -1.5500, Plg24.0000°, Azm310.0000°;*

ISC 13 04:31:31.0±0.2, 45.˚67S±0.˚04×77.˚08W±0.˚05, h35km, n1116, σ1°64/708, mb4.6/30, MS5.7/516, 20C-9D, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHRN	**Cochrane**	**3.48**	**119**	*e*Pn		**Pn**	**04 32 20.8**	**-1.8**
CHRN				*e*Sn		**Sn**	**04 32 56.5**	**-6.2**
CHRN	**Cochrane**	**3.48**	**119**	*e*P		**Pn**	**04 32 21.3**	**-1.4**
COYC	**Coyhaique**	**3.51**	**90**	*e*P		**Pn**	**04 32 21.4**	**-1.6**
GO07	**Milladeo Hill,**	**3.54**	**45**	*e*Pn		**Pn**	**04 32 20.1**	**-3.3**
GO07				*e*Sn		**Sn**	**04 33 04.2**	**+0.2**
GO07	**Milladeo Hill,**	**3.54**	**45**	*e*P		**Pn**	**04 32 20.8**	**-2.6**
GO09	**Cerro Castillo**	**6.43**	**152**	*e*Pn		**Pn**	**04 33 00.6**	**-2.5**
GO09	**Cerro Castillo**	**6.43**	**152**	*e*P		**Pn**	**04 33 00.9**	**-2.2**
PLCA	**Paso Flores**	**6.86**	**46**	Pn		**Pn**	**04 33 08.9**	**-0.3**
	3.0nm,0.3s,baz=249,slow=12,SNR=70							
PLCA				Sn		Sn	04 34 41.6	+16
	baz=66,slow=23,SNR=0.7							
PLCA				LR		LR	04 35 52.3	
	comp=Z,141μm,19.8s,baz=236,slow=38							
PLCA	**Paso Flores**	**6.86**	**46**	*e*P		**Pn**	**04 33 06.7**	**-2.5**
GO06	**Curarrehue**	**7.35**	**36**	*e*Pn		**Pn**	**04 33 14.0**	**-1.9**
GO06	**Curarrehue**	**7.35**	**36**	*e*P		**Pn**	**04 33 13.8**	**-2.1**
GO10	**Punta Arenas**	**8.46**	**155**	*e*Pn		**Pn**	**04 33 28.4**	**-2.6**
TRQA	**Tornquist**	**13.57**	**61**	*e*Pn		**Pn**	**04 34 42.1**	**+1.2**
TRQA				*e*Sn		**Sn**	**04 37 07.5**	**-2.9**
TRQA	**Tornquist**	**13.57**	**61**	*ce*P		**Pn**	**04 34 43.0**	**+2.1**
TRQA				pmax		pmax		
	comp=Z,78nm,0.8s							
EFI	**East Falkland**	**13.91**	**122**	*e*Pn		**Pn**	**04 34 41.7**	**-3.7**
EFI	**East Falkland**	**13.91**	**122**	*e*P		**Pn**	**04 34 43.8**	**-1.6**
LCO	**Las Campanas**	**17.38**	**19**	*e*Pn		**Pn**	**04 35 26.8**	**-4.1**
LCO	**Las Campanas**	**17.38**	**19**	*e*P		**Pn**	**04 35 26.8**	**-4.1**
LPA	**La Plata**	**18.09**	**60**	*ce*P		**P**	**04 35 41.0**	**+1.5**
LPA				*e*PP		**PnPn**	**04 35 50.0**	**-0.7**
LPA				*e*pP			04 35 53.0	
LPA				*e*PPP		PPP	04 35 58.0	
LPA				*e*PPP		PPP	04 36 47.0	
LPA				*e*S		**S**	**04 39 03.0**	**-1.9**
LPA	**La Plata**	**18.09**	**60**	*e*SN		**S**	**04 39 07.0**	**+2.1**
LPA				*e*sS		sS	04 39 13.0	-6.4
LPA				*e*sS		Sn	04 39 29.0	+29
LPA				*e*SSS		SSS	04 39 31.0	
LPA				*e*PCP		**PcP**	**04 40 11.0**	**-1.2**
LPA				*e*SSS		SSS	04 40 38.0	
LPA				*e*SSS		SSS	04 41 29.0	
LPA				*e*SCS		**ScS**	**04 47 28.0**	**+2.8**
LPA				*e*PKIKS			04 51 36.0	
LPA				*e*SKIKS			04 55 08.0	
	comp=Z,48μm,20.0s							
PMSA	**Palmer Station**	**20.46**	**164**	LR		LR	04 42 01.3	
	comp=Z,16μm,20.9s,baz=330,slow=31							
PB10	**IPOC Station P**	**22.73**	**16**	*e*P		**P**	**04 36 31.1**	**+1.3**
PB10				LR		LR		
	comp=Z,13μm,19.0s							
LVC	**Limon Verde**	**23.95**	**19**	P		**P**	**04 36 42.2**	**-0.1**
	comp=Z,5.8nm,0.4s,baz=183,slow=10,SNR=18							
LVC				S		**S**	**04 41 00.6**	**+3.8**
	comp=Z,2.6nm,0.9s,baz=127,slow=18,SNR=1.5							
LVC				LR		LR	04 46 25.0	
	comp=Z,12μm,18.1s,baz=193,slow=37							
LVC	**Limon Verde**	**23.95**	**19**	*e*P		**P**	**04 36 42.4**	**+0.1**
LVC				*e*S		**S**	**04 41 00.6**	**+3.8**
LVC				LR		LR		
	comp=Z,14μm,19.0s							
PB04	**IPOC Station P**	**23.96**	**16**	*e*P		**P**	**04 36 42.5**	**+0.4**
PB04				*e*S		**S**	**04 40 54.7**	**-1.9**
PB04				LR		LR		
	comp=Z,11μm,20.0s							
CPUP	**Villa Florida**	**24.94**	**46**	P		**P**	**04 36 51.1**	**+0.3**
	comp=Z,8.9nm,0.7s,baz=234,slow=12,SNR=3.5							
CPUP				LR		LR	04 47 22.8	
	comp=Z,42μm,18.8s,baz=217,slow=38							
PB01	**IPOC Station P**	**25.34**	**17**	*e*P		**P**	**04 36 55.3**	**+0.6**
PB01				*e*S		**S**	**04 41 22.5**	**+3.9**
PB01				LR		LR		
	comp=Z,9μm,19.0s							
PB11	**IPOC Station P**	**26.56**	**16**	*e*P		**P**	**04 37 06.7**	**+0.9**
PB11				*e*S		**S**	**04 41 37.3**	**-0.7**
PB11				LR		LR		
	comp=Z,12μm,18.0s							
HOPE	**Hope Point**	**27.16**	**123**	PFAKE			04 37 20.0	+9.3
HOPE				LR		LR		
	comp=Z,30μm,21.0s							
MNMC	**Minye Minye**	**27.18**	**16**	*e*P		**P**	**04 37 15.2**	**+3.7**
MNMC				*e*S		**S**	**04 41 51.0**	**+2.9**
MNMC				LR		LR		
	comp=Z,10μm,19.0s							
LPAZ	**La Paz**	**30.24**	**17**	P		**P**	**04 37 39.8**	**+0.7**
	comp=Z,1.9nm,0.9s,baz=204,slow=9.0,SNR=8.1							
RPN	**Rapa Nui**	**31.58**	**295**	*e*P		**P**	**04 37 49.6**	**-0.6**
RPN				LR		LR		
	comp=Z,23μm,20.0s							
RPN	**Rapa Nui**	**31.58**	**295**	*e*P		**P**	**04 37 49.6**	**-0.6**
RPN				MLR		MLR		
	comp=Z,23μm,20.0s							
SIV	**San Ignacio**	**32.49**	**30**	P		**P**	**04 37 57.6**	**-0.7**
	comp=Z,6.8nm,0.9s,baz=224,slow=10,SNR=12							
SPB	**Sao Paulo**	**32.57**	**57**	PFAKE			04 38 10.0	+11
SPB				LR		LR		
	comp=Z,25μm,18.0s							
NNA	**Nana**	**33.57**	**0**	P		**P**	**04 38 07.3**	**-0.5**
	comp=Z,12nm,1.0s,baz=198,slow=8.5,SNR=3.0							
NNA				LR		LR	04 48 32.6	
	comp=Z,12μm,19.9s,baz=185,slow=30							
NNA	**Nana**	**33.57**	**0**	*e*P		**P**	**04 38 07.2**	**-0.5**
NNA				*e*S		S	04 43 38.1	+10
NNA				LR		LR		
	comp=Z,15μm,22.0s							
ATAH	**Atahualpa**	**38.41**	**358**	P		**P**	**04 38 48.5**	**-1.0**
	comp=Z,4.5nm,1.0s,baz=180,slow=11,SNR=2.5							
SAML	**Samuel**	**38.49**	**22**	*e*P		**P**	**04 38 48.4**	**-1.4**
SAML				LR		LR		
	comp=Z,14μm,19.0s							
SAML	**Samuel**	**38.49**	**22**	*e*P		**P**	**04 38 48.4**	**-1.4**
SAML				MLR		MLR		
	comp=Z,14μm,19.0s							
BDFB	**Brasilia**	**38.60**	**49**	P		**P**	**04 38 51.7**	**+0.8**
	comp=Z,8.5nm,0.8s,baz=205,slow=8.7,SNR=5.8							
BDFB				LR		LR	04 56 23.8	
	comp=Z,40μm,18.3s,baz=209,slow=39							
BDFB	**Brasilia**	**38.60**	**49**	*e*P		**P**	**04 38 51.7**	**+0.8**
BDFB				LR		LR		
	comp=Z,103μm,18.0s							
BDFB	**Brasilia**	**38.60**	**49**	*e*P		**P**	**04 38 51.7**	**+0.8**
BDFB				MLR		MLR		
	comp=Z,103μm,18.0s							
VNA3	**Neumayer Olymp**	**40.38**	**153**	P		**P**	**04 39 04.9**	**-0.1**
VNA1	**Neumayer--Stat**	**40.83**	**152**	P		**P**	**04 39 08.9**	**+0.2**
VNA2	**Neumayer--Watz**	**41.12**	**152**	P		**P**	**04 39 11.1**	**+0.1**
	baz=272,slow=8.9							
SNAA	**Sanae**	**42.56**	**153**	P		**P**	**04 39 22.7**	**-0.2**
SNAA	**Sanae**	**42.56**	**153**	*e*P		**P**	**04 39 20.8**	**-2.1**
SNAA				LR		LR		
	comp=Z,5μm,20.0s							
SNAA	**Sanae**	**42.56**	**153**	*c i*P		**P**	**04 39 22.0**	**-0.9**
QSPA	**South Pole Qui**	**44.58**	**180**	P		**P**	**04 39 37.1**	**-2.2**
	comp=Z,16nm,0.9s,baz=172,slow=3.5,SNR=21							
QSPA	**South Pole Qui**	**44.58**	**180**	*e*P		**P**	**04 39 37.7**	**-1.6**
QSPA				*e*S		**S**	**04 46 13.7**	**+1.3**
QSPA				LR		LR		
	comp=Z,6μm,18.0s							
OTAV	**Otavalo**	**45.73**	**358**	*e*P		**P**	**04 39 50.0**	**+0.7**
OTAV				LR		LR		
	comp=Z,6μm,21.0s							
OTAV	**Otavalo**	**45.73**	**358**	*e*P		**P**	**04 39 48.7**	**-0.6**
OTAV	**Otavalo**	**45.73**	**358**	*ce*P		**P**	**04 39 50.7**	**+1.4**
OTAV				pmax		pmax		
	comp=Z,29nm,1.3s							
PAYG	**Puerto Ayora**	**46.29**	**342**	PFAKE			04 40 10.0	+17
PAYG				LR		LR		
	comp=Z,4μm,20.0s							
CRUC	**La Cruz**	**47.03**	**0**	*e*P		**P**	**04 39 59.8**	**+0.4**
FLOC	**Florencia**	**47.07**	**2**	*e*P		**P**	**04 39 58.3**	**-0.9**
PTGA	**Pitinga**	**47.23**	**24**	*e*P		**P**	**04 39 59.4**	**-1.1**
PTGA				LR		LR		
	comp=Z,11μm,19.0s							
TUMC	**Tumaco**	**47.31**	**358**	*e*P		**P**	**04 40 03.4**	**+2.3**
NVL	**N'lazarevskaya**	**47.38**	**153**	*i*P		**P**	**04 40 01.2**	**+0.1**
NVL				*e*			04 41 51.8	
NVL				*i* S		**S**	**04 46 53.6**	**+1.3**
NVL				*e*			04 49 48.6	
NVL				pmax		pmax		
	comp=Z,54nm,1.3s							
NVL				pmax		pmax		
	comp=N,3μm,13.0s							
SOTA	**Rioblanco**	**47.60**	**1**	*e*P		**P**	**04 40 05.8**	**+1.9**
PCON	**Cinco Dias**	**47.79**	**1**	*e*P		**P**	**04 40 07.9**	**+2.4**
POPC	**Popayan, Colom**	**48.00**	**1**	*e*P		**P**	**04 40 07.9**	**+1.1**
MARP	**Paez Belalcaza**	**48.31**	**2**	*e*P		P	04 40 14.4	+5.2
GRGC	**Isla de Giorgon**	**48.47**	**359**	*e*P		**P**	**04 40 13.8**	**+3.7**
HORQ	**Saladito**	**48.94**	**1**	*e*P		**P**	**04 40 14.6**	**+0.6**
PRAC	**Prado**	**49.20**	**3**	*e*P		**P**	**04 40 16.5**	**+0.7**
YOTC	**Yotoco, Valle**	**49.44**	**1**	*e*P		**P**	**04 40 14.7**	**-3.0**
VILC	**Villavicencio,**	**49.65**	**4**	*e*P		**P**	**04 40 21.5**	**+2.2**
ANIL	**Santa Ana**	**49.96**	**2**	*e*P		**P**	**04 40 22.8**	**+1.0**
TOLC	**Tolima**	**50.06**	**2**	*e*P		P	04 40 28.6	+6.0
CHIC	**Chingaza**	**50.16**	**4**	*e*P		**P**	**04 40 20.6**	**-3.0**
ROSC	**El Rosal**	**50.34**	**4**	P		**P**	**04 40 25.1**	**+0.2**
	comp=N,5.7nm,0.9s,baz=129,slow=6.6,SNR=12							
ROSC				LR		LR	04 59 08.0	
	comp=N,12μm,21.5s,baz=204,slow=33							
ROSC	**El Rosal**	**50.34**	**4**	*e*P		**P**	**04 40 25.1**	**+0.2**
ROSC				LR		LR		
	comp=Z,9μm,20.0s							
ROSC	**El Rosal**	**50.34**	**4**	*e*P		**P**	**04 40 26.9**	**+2.0**
RREF	**El Recreo**	**50.37**	**2**	*e*P		**P**	**04 40 26.8**	**+1.4**
GUYC	**Guyana, Colomb**	**50.69**	**2**	*e*P		**P**	**04 40 26.7**	**-0.8**
SBA	**Scott Base**	**50.85**	**194**	*e*P		**P**	**04 40 26.9**	**-0.7**
SBA				LR		LR		
	comp=Z,6μm,19.0s							
SBA	**Scott Base**	**50.85**	**194**	*e*P		**P**	**04 40 26.9**	**-0.7**
SBA				MLR		MLR		
	comp=Z,6μm,19.0s							
RUSC	**La Rusia**	**51.45**	**5**	*e*P		**P**	**04 40 32.8**	**-0.5**
RKT	**Rikitea**	**51.57**	**276**	*e*S		**S**	**04 47 51.4**	**-0.6**
	comp=Z,4μm,28.2s							
RKT				*e*LQ		LQ	04 53 08.5	
	comp=Z,9μm,34.5s							
RKT				*e*LR		LR	04 55 21.6	
	comp=Z,7μm,29.2s,baz=132							
RKT	**Rikitea**	**51.57**	**276**	*e*T		T	05 35 25.5	
	comp=Z,1.4nm,0.3s							
HELC	**Santa Helena**	**51.65**	**2**	*e*P		**P**	**04 40 33.4**	**-1.2**
VNDA	**Vanda**	**51.89**	**194**	P		**P**	**04 40 34.5**	**-0.8**
	comp=Z,7.0nm,0.9s,baz=123,slow=5.1,SNR=13							
VNDA				LR		LR	04 59 10.2	
	comp=Z,6μm,19.6s,baz=134,slow=32							
PTBC	**PUERTO BERRIO,**	**52.03**	**3**	*e*P		**P**	**04 40 34.5**	**-2.5**
BARC	**Barichara**	**52.14**	**5**	*e*P		**P**	**04 40 35.5**	**-2.6**
DBBC	**Dabeiba**	**52.45**	**1**	*e*P		**P**	**04 40 41.4**	**+1.2**
BRRC	**Barranca, Sant**	**52.62**	**4**	*e*P		P	04 40 35.2	-6.2
PAMC	**Pamplona, Colo**	**52.91**	**5**	*e*P		**P**	**04 40 43.6**	**-0.6**
ZARC	**Zaragoza, Cauc**	**52.96**	**3**	*e*P		**P**	**04 40 40.5**	**-3.4**
RCBR	**Riachuelo**	**53.35**	**55**	*e*P		**P**	**04 40 44.8**	**-2.1**
RCBR				LR		LR		
	comp=Z,11μm,18.0s							
RCBR	**Riachuelo**	**53.35**	**55**	*e*P		**P**	**04 40 44.8**	**-2.1**
RCBR				MLR		MLR		
	comp=Z,11μm,18.0s							
OCAC	**Ocana**	**53.77**	**5**	*e*P		**P**	**04 40 48.8**	**-1.2**
UPD2	**Meteti**	**53.97**	**359**	*e*P		P	04 40 59.9	+8.6
MOTC	**Monteria, Cord**	**54.21**	**2**	*e*P		**P**	**04 40 51.3**	**-1.8**
SMLC	**San Mart`›n de**	**54.29**	**4**	*e*P		**P**	**04 40 51.0**	**-2.6**
UPA	**Univ. de Panam**	**54.44**	**357**	*e*P		**P**	**04 40 53.8**	**-0.9**
SDV	**Santo Domingo**	**54.61**	**8**	PFAKE			04 41 10.0	+14
SDV				LR		LR		
	comp=Z,11μm,22.0s							
CODC	**Agust`›n Codaz**	**55.44**	**4**	*e*P		**P**	**04 40 59.3**	**-2.7**
HDC	**Heredia**	**55.77**	**352**	PFAKE			04 41 20.0	+15
HDC				LR		LR		
	comp=Z,3μm,20.0s							
JTS	**JuntasAbangare**	**56.15**	**351**	P		**P**	**04 41 07.4**	**+0.3**
	comp=Z,6.0nm,1.0s,baz=178,slow=8.5,SNR=3.2							
JTS	**JuntasAbangare**	**56.15**	**351**	*e*P		**P**	**04 41 07.4**	**+0.3**
JTS				LR		LR		
	comp=Z,3μm,19.0s							
JTS	**JuntasAbangare**	**56.15**	**351**	*e*P		**P**	**04 41 07.4**	**+0.3**
JTS				MLR		MLR		
	comp=Z,3μm,19.0s							
SMRC	**Santa Marta, M**	**56.63**	**3**	*e*P		P	04 41 02.2	-8.2
URIC	**Uribia, Colomb**	**57.29**	**6**	*e*P		P	04 41 10.2	-4.9
ESPN	**Las Esperanzas**	**57.96**	**352**	PFAKE			04 41 30.0	+10
ESPN				LR		LR		
	comp=Z,3μm,19.0s							
ESTN	**Estel**	**59.09**	**349**	*e*P		**P**	**04 41 32.3**	**+4.4**
	comp=Z,77nm,1.3s							
CSGN	**Cosiguina Volc**	**59.13**	**348**	PFAKE			04 41 40.0	+12
CSGN				LR		LR		
	comp=Z,2μm,22.0s							
GRGR	**Grenville**	**59.19**	**18**	PFAKE			04 41 40.0	+12
GRGR				LR		LR		
	comp=Z,7μm,22.0s							
SVB	**Belmont**	**60.38**	**18**	PFAKE			04 41 50.0	+13
SVB				LR		LR		
	comp=Z,7μm,21.0s							
BBGH	**Gun Hill**	**60.64**	**20**	PFAKE			04 41 50.0	+12
BBGH				LR		LR		
	comp=Z,8μm,20.0s							
TBI	**Tubuai**	**61.57

APG **El Apazote** **61.59 345** P **P** **04 41 44.2 -0.9**
comp=Z,6.1nm,0.8s,baz=325,slow=10,SNR=4.8

FDF **Fort de France** **61.82 18** PFAKE 04 42 00.0 +14
FDF LR LR
comp=Z,8μm,22.0s

MAW **Mawson** **63.07 164** P **P** **04 41 53.3 -0.8**
comp=Z,4.0nm,0.4s,baz=54,slow=22,SNR=18
MAW LR LR 05 08 02.3
comp=Z,16μm,21.4s,baz=206,slow=35

MAW **Mawson** **63.07 164** *e*P **P** **04 41 53.3 -0.8**
MAW LR LR
comp=Z,3μm,21.0s

MAW **Mawson** **63.07 164** *e*P **P** **04 41 53.3 -0.8**
MAW MLR MLR
comp=Z,3μm,21.0s

MTDJ **Mount Denham** **63.59 360** PFAKE 04 42 10.0 +12
MTDJ LR LR
comp=Z,2μm,21.0s

ICMP **Isla Caja de M** **63.97 11** PFAKE 04 42 10.0 +9.4
ICMP LR LR
comp=Z,4μm,20.0s

CRPR **Cabo Rojo, PR** **64.02 11** PFAKE 04 42 10.0 +9.2
CRPR LR LR
comp=Z,6μm,22.0s

OBIP **Obispado Ponce** **64.12 11** PFAKE 04 42 10.0 +8.5
OBIP LR LR
comp=Z,5μm,22.0s

SEUS **St. Eustatius** **64.15 15** PFAKE 04 42 10.0 +8.2
SEUS LR LR
comp=Z,6μm,21.0s

MPR **Mayaguez** **64.21 11** PFAKE 04 42 10.0 +7.9
MPR LR LR
comp=Z,4μm,20.0s

SABA **Saba** **64.23 15** PFAKE 04 42 10.0 +7.7
SABA LR LR
comp=Z,8μm,22.0s

SJG **San Juan** **64.25 12** PFAKE 04 42 10.0 +7.6
SJG LR LR
comp=Z,7μm,20.0s

HUMP **Col San Antoni** **64.32 12** PFAKE 04 42 20.0 +17
HUMP LR LR
comp=Z,8μm,18.0s

MTP **Monte Pirata** **64.32 12** PFAKE 04 42 20.0 +17
MTP LR LR
comp=Z,10μm,21.0s

AGP **Aguadilla** **64.41 10** PFAKE 04 42 20.0 +17
AGP LR LR
comp=Z,5μm,18.0s

CBYP **Canovanas** **64.45 12** PFAKE 04 42 20.0 +16
CBYP LR LR
comp=Z,9μm,18.0s

CMIG **Matias Romero** **64.52 341** P **P** **04 42 04.1 -0.1**
comp=Z,3.8nm,1.0s,baz=174,slow=4.7,SNR=2.8

ANWB **Willy Bob** **64.55 16** PFAKE 04 42 20.0 +16
ANWB LR LR
comp=Z,6μm,21.0s

EMPR **Esperanza - Ma** **64.56 11** PFAKE 04 42 20.0 +16
EMPR LR LR
comp=Z,4μm,21.0s

SDDR **Presa de Saban** **64.56 6** PFAKE 04 42 20.0 +16
SDDR LR LR
comp=Z,6μm,22.0s

STVI **Saint Thomas** **64.66 13** PFAKE 04 42 20.0 +15
STVI LR LR
comp=Z,6μm,22.0s

SMRT **St. Maarten** **64.68 15** PFAKE 04 42 20.0 +15
SMRT LR LR
comp=Z,7μm,22.0s

TAOE **Nuku Hiva Isla** **64.98 284** *e*S **S** **04 50 43.7 -3.5**
comp=Z,9μm,27.3s
TAOE *e*LQ LQ 04 58 50.0
comp=Z,5μm,30.2s
TAOE *e*LR LR 05 01 35.6
comp=Z,6μm,29.0s,baz=142

TVO **Taravao** **65.10 270** *e*T T 05 52 18.4
comp=Z,3.8nm,0.3s

ABVI **Anegada Island** **65.13 13** PFAKE 04 42 20.0 +12
ABVI LR LR
comp=Z,7μm,22.0s

GTBY **Guantanamo Bay** **65.31 2** *e*P **P** **04 42 09.0 -0.2**
comp=Z,136nm,1.3s
GTBY LR LR
comp=Z,2μm,21.0s

TIAR **Tiarei** **65.32 270** *e*T T 05 52 34.7
comp=Z,6.1nm,0.2s

PAE **Paea** **65.41 270** *e*T T 05 52 35.5
comp=Z,3.4nm,0.3s

ASCN **Ascension** **65.41 76** PFAKE 04 42 20.0 +10
ASCN LR LR
comp=Z,4μm,20.0s

PPT2 **Papeete2** **65.46 270** *e*S **S** **04 50 53.5 +0.5**
comp=Z,9μm,28.2s

PPT2 **Papeete2** **65.46 270** *e*LR LR 05 01 35.2
comp=Z,5μm,26.0s,baz=133

PPT2 **Papeete2** **65.46 270** *e*T T 05 52 21.7
comp=Z,4.1nm,0.2s

SHEL **Horse Pasture** **65.75 88** PFAKE 04 42 20.0 +7.5
SHEL LR LR
comp=Z,4μm,20.0s

TLIG **Tlapa** **65.88 337** *e*P **P** **04 42 13.7 +0.5**
TLIG LR LR
comp=Z,3μm,19.0s

GRTK **Grand Turk** **67.08 6** PFAKE 04 42 30.0 +9.4
GRTK LR LR
comp=Z,4μm,21.0s

UNM **Universidad Na** **67.73 337** PFAKE 04 42 40.0 +15
UNM LR LR
comp=Z,3μm,20.0s

CASY **Casey** **68.23 183** *e*P **P** **04 42 27.4 0.0**
CASY LR LR
comp=Z,8μm,19.0s

MOIG **Morelia** **68.62 336** PFAKE 04 42 40.0 +9.3
MOIG LR LR
comp=Z,3μm,20.0s

MCQ **Macquarie Isla** **69.47 211** PFAKE 04 42 50.0 +15
MCQ LR LR
comp=Z,9μm,22.0s

MQZ **McQueen's Vall** **71.65 226** PFAKE 04 43 00.0 +11
MQZ LR LR
comp=Z,9μm,20.0s

ODZ **Otahua Downs** **71.67 224** PFAKE 04 43 00.0 +11
ODZ LR LR
comp=Z,6μm,19.0s

CRLZ **Canterbury Las** **71.76 226** PFAKE 04 43 00.0 +11
CRLZ LR LR
comp=Z,9μm,19.0s

BFZ **Birch Farm** **71.94 230** PFAKE 04 43 00.0 +9.4
BFZ LR LR
comp=Z,10μm,20.0s

ZAIG **Zacatecas** **71.95 335** *e*P **P** **04 42 52.1 +1.1**
ZAIG LR LR
comp=Z,3μm,19.0s

KHZ **Kahutara** **72.13 227** *e*P **P** **04 42 50.0 -1.7**
KHZ LR LR
comp=Z,7μm,21.0s

OXZ **Oxford** **72.24 226** PFAKE 04 43 00.0 +7.7
OXZ LR LR
comp=Z,10μm,20.0s

SNZO **South Karori** **72.31 229** PFAKE 04 43 00.0 +7.2
SNZO LR LR
comp=Z,10μm,21.0s

WHZ **Wether Hill Ro** **72.33 222** PFAKE 04 43 00.0 +7.1
WHZ LR LR
comp=Z,5μm,22.0s

LBZ **Lake Benmore** **72.38 224** PFAKE 04 43 00.0 +6.8
LBZ LR LR
comp=Z,4μm,21.0s

059A **Moore Haven** **72.38 356** PFAKE 04 43 10.0 +17
059A LR LR
comp=Z,2μm,21.0s

060A **Indiantown** **72.42 357** PFAKE 04 43 10.0 +17
060A LR LR
comp=Z,3μm,20.0s

RPZ **Rata Peaks** **72.44 225** PFAKE 04 43 00.0 +6.4
RPZ LR LR
comp=Z,12μm,20.0s

LTZ **Lake Taylor** **72.51 226** PFAKE 04 43 10.0 +16
LTZ LR LR
comp=Z,5μm,19.0s

WKZ **Wanaka** **72.62 223** PFAKE 04 43 10.0 +15
WKZ LR LR
comp=Z,12μm,20.0s

SUR **Sutherland** **72.63 119** *e*P **P** **04 42 58.3 +3.1**
SUR LR LR
comp=Z,7μm,20.0s

MLZ **Mavora Lakes** **72.64 222** PFAKE 04 43 10.0 +15
MLZ LR LR
comp=Z,7μm,22.0s

PYZ **Puysegur Point** **72.71 221** PFAKE 04 43 10.0 +15
PYZ LR LR
comp=Z,6μm,18.0s

BKZ **Black Stump Fm** **72.88 231** PFAKE 04 43 10.0 +14
BKZ LR LR
comp=Z,4μm,20.0s

THZ **Tophouse** **72.93 227** *e*P **P** **04 42 56.2 -0.4**
THZ LR LR
comp=Z,9μm,22.0s

MXZ **Matakaoa Point** **73.01 234** PFAKE 04 43 10.0 +13
MXZ LR LR
comp=Z,4μm,21.0s

DCZ **Deep Cove** **73.02 222** PFAKE 04 43 10.0 +13
DCZ LR LR
comp=Z,4μm,21.0s

957A **Wimauma** **73.14 355** PFAKE 04 43 10.0 +12
957A LR LR
comp=Z,2μm,20.0s

URZ **Urewera** **73.18 232** PFAKE 04 43 10.0 +12
URZ LR LR
comp=Z,5μm,20.0s

FOZ **Fox Glacier** **73.19 224** PFAKE 04 43 10.0 +12
FOZ LR LR
comp=Z,9μm,20.0s

DWPF **Disney Wildern** **73.53 356** PFAKE 04 43 10.0 +10
DWPF LR LR
comp=Z,1μm,19.0s

HIZ **Hauiti** **74.24 231** PFAKE 04 43 20.0 +16
HIZ LR LR
comp=Z,5μm,21.0s

658A **Bunnell** **74.83 356** PFAKE 04 43 20.0 +13
658A LR LR
comp=Z,2μm,22.0s

656A **Willston** **74.85 355** PFAKE 04 43 20.0 +12
656A LR LR
comp=Z,3μm,20.0s

KVTX **Kingsville** **75.28 341** PFAKE 04 43 20.0 +10
KVTX LR LR
comp=Z,2μm,19.0s

LPIG **La Paz** **75.73 329** LR LR 05 07 34.6
comp=Z,910nm,21.5s,baz=156,slow=29

456A **Hilliard** **76.17 356** PFAKE 04 43 30.0 +15
456A LR LR
comp=Z,3μm,22.0s

545A **Edgard** **76.33 348** PFAKE 04 43 30.0 +14
545A LR LR
comp=Z,4μm,22.0s

833A **Chaparral WMA,** **76.39 340** *e*P **P** **04 43 16.7 +0.3**
833A **Chaparral WMA,** **76.39 340** P **P** **04 43 15.2 -1.2**
baz=164

453A **Whigham** **76.44 354** PFAKE 04 43 30.0 +13
453A LR LR
comp=Z,3μm,19.0s

RAO **Raoul Island** **76.62 242** PFAKE 04 43 30.0 +12
RAO LR LR
comp=Z,3μm,20.0s

HPIG **76.79 334** *e*P **P** **04 43 18.8 -0.2**
HPIG LR LR
comp=Z,5μm,18.0s

TIGA **Tifton** **76.97 354** PFAKE 04 43 30.0 +10
TIGA LR LR
comp=Z,3μm,19.0s

BRAL **Brewton** **77.01 351** P **P** **04 43 18.4 -1.5**
baz=173

349A **Repton** **77.20 351** P **P** **04 43 19.5 -1.5**
baz=173

OUZ **Omahuta** **77.33 232** PFAKE 04 43 30.0 +8.1
OUZ LR LR
comp=Z,4μm,19.0s

257A **Skidaway Islan** **77.36 357** PFAKE 04 43 30.0 +8.2
257A LR LR
comp=Z,3μm,21.0s

255A **Hazlehurst** **77.39 355** PFAKE 04 43 30.0 +8.1
255A LR LR
comp=Z,5μm,21.0s

255A **Hazlehurst** **77.39 355** P **P** **04 43 21.7 -0.3**
baz=176

256A **Glennville** **77.41 356** P **P** **04 43 24.6 +2.5**
baz=177

253A **Americus** **77.63 354** PFAKE 04 43 40.0 +17
253A LR LR
comp=Z,3μm,19.0s

253A **Americus** **77.63 354** P **P** **04 43 24.1 +0.8**
baz=175

250A **Grady** **77.73 352** PFAKE 04 43 40.0 +16
250A LR LR
comp=Z,4μm,21.0s

250A **Grady** **77.73 352** P **P** **04 43 23.8 -0.1**
baz=173

344A **Westbrook Farm** **77.75 348** PFAKE 04 43 40.0 +16
344A LR LR
comp=Z,2μm,20.0s

344A **Westbrook Farm** **77.75 348** P **P** **04 43 23.3 -0.7**
baz=170

251A **Midway** **77.77 353** P **P** **04 43 24.0 0.0**
baz=174

249A **Camden** **77.81 351** P **P** **04 43 22.6 -1.7**
baz=173

CRZF **Crozet Islands** **77.88 147** PFAKE 04 43 40.0 +15
CRZF LR LR
comp=Z,3μm,22.0s

342A **Flagon Creek P** **77.92 347** *e*P **P** **04 43 27.0 +2.0**
342A LR LR
comp=Z,2μm,20.0s

342A **Flagon Creek P** **77.92 347** P **P** **04 43 24.2 -0.7**
baz=169

248A **Dixon Mills** **78.00 351** P **P** **04 43 25.3 -0.1**
baz=172

BOSA **Boshof** **78.00 119** P **P** **04 43 25.1 -0.8**
comp=Z,8.9nm,0.9s,baz=174,slow=6.7,SNR=10
BOSA LR LR 05 13 43.6
comp=Z,5μm,20.8s,baz=222,slow=32

BOSA **Boshof** **78.00 119** *e*P **P** **04 43 26.2 +0.2**
BOSA **Boshof** **78.00 119** *e*P **P** **04 43 26.2 +0.2**
341A **Kurthwood** **78.02 346** *e*P **P** **04 43 26.8 +1.3**
341A **Kurthwood** **78.02 346** P **P** **04 43 24.8 -0.7**
baz=169

156A **Sylvania** **78.06 356** P **P** **04 43 24.0 -1.7**
baz=177

247A **Quitman** **78.06 350** P **P** **04 43 24.8 -0.9**
baz=172

155A **Kite** **78.08 355** P **P** **04 43 23.3 -2.5**
baz=176

154A **Montrose** **78.11 355** PFAKE 04 43 40.0 +14
154A LR LR
comp=Z,4μm,18.0s

151A **Opelika** **78.19 353** P **P** **04 43 25.5 -0.9**
baz=174

245A **Little AP, Sta** **78.20 349** P **P** **04 43 26.7 +0.2**
baz=171

152A **Waverly Hall** **78.28 353** PFAKE 04 43 40.0 +13
152A LR LR
comp=Z,5μm,19.0s

152A **Waverly Hall** **78.28 353** P **P** **04 43 27.1 +0.2**
baz=175

244A **Avery, Jackson** **78.33 348** P **P** **04 43 27.1 -0.1**
baz=170

150A **Eclectic** **78.33 352** P **P** **04 43 26.6 -0.6**
baz=174

435B **Jarrell** **78.34 342** P **P** **04 43 26.5 -0.8**
baz=166

149A **Jones** **78.40 352** P **P** **04 43 26.9 -0.6**
baz=173

NHSC **New Hope** **78.46 357** PFAKE 04 43 40.0 +12
NHSC LR LR
comp=Z,3μm,20.0s

NHSC **New Hope** **78.46 357** P **P** **04 43 29.3 +1.4**
baz=178

LTX **Lajitas** **78.46 336** *e*P **P** **04 43 27.4 -0.7**
LTX **Lajitas** **78.46 336** *e*P **P** **04 43 27.4 -0.7**
TXAR **Lajitas Array** **78.46 336** P **P** **04 43 27.4 -0.7**
comp=Z,4.3nm,1.0s,baz=156,slow=6.7,SNR=24
TXAR LR LR 05 12 18.0
comp=Z,3μm,19.7s,baz=0.0,slow=31

VBMS **Vicksburg** **78.47 348** PFAKE 04 43 40.0 +12
VBMS LR LR
comp=Z,2μm,19.0s

BBSR **BB Station** **78.48 11** PFAKE 04 43 40.0 +12
BBSR LR LR
comp=Z,2μm,20.0s

JCT **Junction City** **78.55 340** *e*P **P** **04 43 28.3 -0.2**
JCT **Junction City** **78.55 340** *e*P **P** **04 43 28.3 -0.2**
JCT **Junction City** **78.55 340** P **P** **04 43 28.2 -0.4**
baz=164

242A **Grayson** **78.56 347** P **P** **04 43 28.4 -0.1**
baz=169

147A **Livingston** **78.63 350** *e*P **P** **04 43 30.6 +1.7**
147A LR LR
comp=Z,2μm,20.0s

147A **Livingston** **78.63 350** P **P** **04 43 28.5 -0.3**
baz=172

241A **Mo Tay, Goldon** **78.65 346** PFAKE 04 43 40.0 +11
241A LR LR
comp=Z,2μm,19.0s

241A **Mo Tay, Goldon** **78.65 346** P **P** **04 43 27.7 -1.2**
baz=169

146A **Union** **78.69 350** PFAKE 04 43 40.0 +11
146A LR LR
comp=Z,2μm,22.0s

NATX **Nacogdoches** **78.70 345** P **P** **04 43 29.6 +0.4**
baz=168

Z54A **Sparta** **78.71 355** P **P** **04 43 29.3 0.0**
baz=176

Z52A **Williamson** **78.77 354** P **P** **04 43 28.5 -1.2**
baz=175

Z53A **Monticello** **78.80 354** P **P** **04 43 28.4 -1.4**
baz=175

240A **Hunter Patters** **78.81 346** PFAKE 04 43 40.0 +10
240A LR LR
comp=Z,2μm,18.0s

LRAL **Lakeview Retre** **78.85 352** *e*P **P** **04 43 30.8 +0.8**
LRAL LR LR
comp=Z,2μm,22.0s

LRAL **Lakeview Retre** **78.85 352** P **P** **04 43 28.3 -1.7**
baz=173

144A **Alexander Plac** **78.87 349** P **P** **04 43 29.5 -0.7**
baz=171

GOGA **Godfrey** **78.92 355** *e*P **P** **04 43 30.1 -0.3**
GOGA LR LR
comp=Z,3μm,19.0s

GOGA **Godfrey** **78.92 355** *e*P **P** **04 43 30.1 -0.3**
GOGA MLR MLR
comp=Z,3μm,19.0s

GOGA **Godfrey** **78.92 355** P **P** **04 43 29.3 -1.1**
baz=175

Z51A **Franklin** **78.96 353** P **P** **04 43 30.3 -0.3**
baz=174

Z49A **Columbiana** **78.96 352** P **P** **04 43 30.0 -0.6**
baz=173

Z50A **Ashland** **78.96 352** PFAKE 04 43 40.0 +9.3
Z50A LR LR
comp=Z,2μm,21.0s

Z50A **Ashland** **78.96 352** P **P** **04 43 31.2 +0.5**
baz=174

143A **Socs Landing,** **79.08 348** *e*P **P** **04 43 31.4 +0.1**
143A LR LR
comp=Z,2μm,20.0s

143A **Socs Landing,** **79.08 348** P **P** **04 43 31.5 +0.2**
baz=170

Z47A **Carrollton** **79.13 351** P **P** **04 43 32.3 +0.8**
baz=172

Z46A **Louisville** **79.23 350** P **P** **04 43 32.0 -0.1**
baz=172

Z48A **Northport** **79.25 351** P **P** **04 43 31.6 -0.6**
baz=173

Y54A **Tignall** **79.32 355** P **P** **04 43 32.0 -0.6**
baz=176

Y53A **Monroe** **79.37 354** P **P** **04 43 32.3 -0.6**
baz=175

Y52A **Lilburn** **79.42 354** *e*P **P** **04 43 35.1 +1.9**
Y52A LR LR
comp=Z,3μm,21.0s

Y52A **Lilburn** **79.42 354** P **P** **04 43 32.3 -0.9**
baz=175

WHTX **Lake Whitney,** **79.47 342** PFAKE 04 43 50.0 +16
WHTX LR LR
comp=Z,2μm,20.0s

WHTX **Lake Whitney,** **79.47 342** P **P** **04 43 32.2 -1.4**
baz=166

Z45A **Winona** **79.50 349** PFAKE 04 43 50.0 +16
Z45A LR LR
comp=Z,3μm,20.0s

Z45A **Winona** **79.50 349** P **P** **04 43 33.2 -0.4**
baz=171

Z44A **Pea Ridge, Bel** **79.50 349** P **P** **04 43 33.8 +0.2**
baz=171

Y51A **Rockmart** **79.53 353** P **P** **04 43 33.4 -0.3**
baz=174

Z43A **Armstrong Fami** **79.55 348** P **P** **04 43 34.3 +0.5**
baz=170

Y50A **Piedmont** **79.58 353** P **P** **04 43 34.2 +0.2**
baz=174

Y49A **Blount Mountai** **79.61 352** PFAKE 04 43 50.0 +16
Y49A LR LR
comp=Z,3μm,19.0s

Y49A **Blount Mountai** **79.61 352** P **P** **04 43 32.7 -1.5**
baz=173

JSC **Jenkinsville** **79.67 356** *es*P P 04 43 39.9 +5.4
JSC LR LR
comp=Z,5μm,20.0s

TSUM **Tsumeb** **79.68 107** PFAKE 04 43 50.0 +15
TSUM LR LR
comp=Z,4μm,19.0s

Y48A **Jasper** **79.74 351** P **P** **04 43 34.3 -0.6**
baz=173

Y47A **UCPARC, Winfie** **79.80 351** P **P** **04 43 35.1 -0.1**
baz=172

Z41A **Richland Creek** **79.84 347** *e*P **P** **04 43 37.0 +1.5**
Z41A LR LR
comp=Z,2μm,19.0s

Z41A **Richland Creek** **79.84 347** P **P** **04 43 36.1 +0.7**
baz=169

Y46A **Houston** **79.90 350** P **P** **04 43 36.2 +0.5**
baz=172

Y45A **Yeager Farm, C** **79.97 349** P **P** **04 43 35.7 -0.4**
baz=171

X53A **Estanollee** **80.00 355** P **P** **04 43 37.1 +0.8**
baz=176

X50B **Fort Payne** **80.13 353** P **P** **04 43 37.0 -0.1**
baz=174

X52A **Dahlonega** **80.14 354** P **P** **04 43 37.0 -0.1**
baz=175

Y44A **Strider, Charl** **80.15 349** P **P** **04 43 37.3 +0.2**
baz=171

X51A **Calhoun** **80.17 353** *e*P **P** **04 43 38.8 +1.6**
X51A LR LR
comp=Z,2μm,21.0s

X51A **Calhoun** **80.17 353** P **P** **04 43 37.2 0.0**
baz=174

Y43A **Makayla and Ka** **80.20 348** P **P** **04 43 37.8 +0.5**
baz=170

PAULI **Pauline** **80.23 356** *e*P **P** **04 43 38.8 +1.3**
PAULI LR LR
comp=Z,3μm,19.0s

X49A **Woodville** **80.25 352** P **P** **04 43 37.6 -0.1**
baz=174

Y42A **Garnett, Star** **80.25 348** P **P** **04 43 37.2 -0.4**
baz=170

X48A **Hartselle** **80.26 352** *e*P **P** **04 43 37.9 +0.2**
X48A LR LR
comp=Z,2μm,22.0s

X48A **Hartselle** **80.26 352** P **P** **04 43 37.6 -0.1**
baz=173

CCAR **Cane Creek** **80.33 348** PFAKE 04 43 50.0 +12
CCAR LR LR
comp=Z,2μm,22.0s

X47A **Russelville** **80.41 351** P **P** **04 43 37.6 -0.9**
baz=172

Y41A **Eaglette Beard** **80.42 347** P **P** **04 43 39.3 +0.7**
baz=169

HSIG **80.45 330** PFAKE 04 43 50.0 +11
HSIG LR LR
comp=Z,2μm,20.0s

BG3 **Lake Jocassee** **80.46 355** PFAKE 04 43 50.0 +11
BG3 LR LR
comp=Z,4μm,18.0s

X45A **UM Field Stati** **80.50 350** P **P** **04 43 38.9 -0.1**
baz=171

KMSC **Kings Mountain** **80.53 356** *e*P **P** **04 43 40.1 +1.0**
KMSC LR LR
comp=Z,4μm,21.0s

KMSC **Kings Mountain** **80.53 356** P **P** **04 43 37.7 -1.4**
baz=177

X46A **Booneville** **80.53 350** P **P** **04 43 39.6 +0.5**
baz=172

CNNC **Cliffs of the** **80.54 359** PFAKE 04 43 50.0 +11
CNNC LR LR
comp=Z,2μm,22.0s

ABTX **Abilene, Hawle** **80.57 341** *e*P **P** **04 43 38.9 -0.6**
ABTX **Abilene, Hawle** **80.57 341** P **P** **04 43 37.7 -1.7**
baz=164

OXF **Oxford** 80.58 350 *e*P P 04 43 43.3 +3.9
OXF LR LR
comp=Z,2µm,22.0s
OXF **Oxford** 80.58 350 P P 04 43 39.6 +0.2
baz=171
W52A **Murphy** 80.63 354 PFAKE 04 43 50.0 +10
W52A LR LR
comp=Z,4µm,21.0s
W52A **Murphy** 80.63 354 P P 04 43 39.3 -0.4
baz=175
W53A **Cullowhee** 80.65 355 P P 04 43 39.5 -0.5
baz=176
W51A **Cleveland** 80.75 354 P P 04 43 41.4 +1.1
baz=175
LBTB **Lobatse** 80.78 116 *e*P P 04 43 43.0 +1.9
X43A **Marvell** 80.79 348 P P 04 43 41.5 +1.0
baz=170
W50A **Signal Mountai** 80.84 353 *e*P P 04 43 40.2 -0.6
W50A LR LR
comp=Z,4µm,18.0s
W50A **Signal Mountai** 80.84 353 P P 04 43 39.9 -0.9
baz=174
W49A **Belvidere** 80.84 352 P P 04 43 40.5 -0.3
baz=174
PLAL **Pickwick Lake** 80.89 351 PFAKE 04 43 50.0 +8.9
PLAL LR LR
comp=Z,2µm,19.0s
SWET **Sewanee** 80.91 353 *e*P P 04 43 40.7 -0.5
SWET LR LR
comp=Z,2µm,20.0s
W48A **Pulaski** 80.93 352 P P 04 43 39.2 -2.0
baz=173
X42A **Stuttgart** 80.93 348 P P 04 43 40.6 -0.7
baz=170
X41A **Kaden, Bauxite** 81.00 347 P P 04 43 39.9 -1.8
baz=169
CPCT **Cooper Cave** 81.02 354 *e*P P 04 43 42.7 +0.9
CPCT LR LR
comp=Z,4µm,18.0s
W47A **Westpoint** 81.11 351 P P 04 43 41.3 -0.9
baz=173
V53A **Saluda** 81.13 355 PFAKE 04 43 50.0 +7.6
V53A LR LR
comp=Z,7µm,18.0s
V53A **Saluda** 81.13 355 P P 04 43 41.2 -1.2
baz=176
MNTX **Cornudas Mount** 81.17 336 *e*P P 04 43 41.7 -1.0
MNTX LR LR
comp=Z,3µm,19.0s
MNTX **Cornudas Mount** 81.17 336 P P 04 43 41.7 -1.0
baz=160
W45A **Hickory Valley** 81.19 350 P P 04 43 41.2 -1.5
baz=172
MIAR **Mount Ida** 81.23 346 *e*P P 04 43 42.9 +0.1
MIAR LR LR
comp=Z,2µm,20.0s
MIAR **Mount Ida** 81.23 346 *e*P P 04 43 42.9 +0.1
MIAR MLR MLR
comp=Z,2µm,20.0s
MIAR **Mount Ida** 81.23 346 P P 04 43 40.5 -2.4
baz=168
UALR **University of** 81.25 347 PFAKE 04 43 50.0 +7.0
UALR LR LR
comp=Z,4µm,19.0s
V50A **Pikevile** 81.29 353 P P 04 43 43.1 -0.1
baz=174
V52A **Sevierville** 81.35 355 PFAKE 04 44 00.0 +17
V52A LR LR
comp=Z,4µm,18.0s
V52A **Sevierville** 81.35 355 P P 04 43 41.5 -2.0
baz=175
V51A **Loudon** 81.36 354 PFAKE 04 44 00.0 +16
V51A LR LR
comp=Z,5µm,18.0s
V51A **Loudon** 81.36 354 P P 04 43 43.0 -0.6
baz=175
V49A **McMinnville** 81.45 353 P P 04 43 43.1 -0.9
baz=174
V48A **Smith Brothers** 81.51 352 *e*P P 04 43 43.5 -0.8
V48A LR LR
comp=Z,4µm,18.0s
V48A **Smith Brothers** 81.51 352 P P 04 43 43.2 -1.2
baz=173
EPT **El Paso** 81.57 335 PFAKE 04 44 00.0 +15
EPT LR LR
comp=Z,4µm,21.0s
X37A **Clayton** 81.58 345 PFAKE 04 44 00.0 +15
X37A LR LR
comp=Z,2µm,19.0s
W41B **Gary Mavity, V** 81.63 347 *e*P P 04 43 46.0 +1.1
W41B **Gary Mavity, V** 81.63 347 P P 04 43 44.3 -0.7
baz=169
V47A **Nunnelly** 81.67 351 P P 04 43 44.0 -1.2
baz=173
V46A **Holladay** 81.71 351 P P 04 43 43.6 -1.7
baz=172
WHAR **Wooly Hollow** 81.75 347 *e*P P 04 43 46.3 +0.7
U53A **Fall Branch** 81.81 356 P P 04 43 45.3 -0.6
baz=176
U52A **Thorn Hill** 81.88 355 P P 04 43 46.3 -0.1
baz=176
W39A **Magazine** 81.90 346 *e*P P 04 43 46.5 +0.2
W39A LR LR
comp=Z,4µm,21.0s
W39A **Magazine** 81.90 346 *e*P P 04 43 46.5 +0.2
W39A **Magazine** 81.90 346 P P 04 43 45.9 -0.5
baz=168,SNR=7.3
U51A **La Follette** 81.91 354 P P 04 43 47.5 +1.0
baz=175
V43A **Jonesboro** 81.99 349 P P 04 43 45.9 -0.9
baz=171
WVT **Waverly** 82.00 351 *e*P P 04 43 46.4 -0.5
WVT LR LR
comp=Z,2µm,21.0s
WVT **Waverly** 82.00 351 *e*P P 04 43 46.4 -0.5
WVT MLR MLR
comp=Z,2µm,21.0s
WVT **Waverly** 82.00 351 P P 04 43 45.4 -1.4
baz=172
U50A **Jamestown** 82.01 354 P P 04 43 46.3 -0.6
baz=174
TZTN **Tazewell** 82.04 355 *e*PcP PcP 04 43 53.0 +0.4
TZTN **Tazewell** 82.04 355 P P 04 43 46.8 -0.3
baz=175
319A **Douglas** 82.06 333 *e*P P 04 43 48.4 +0.8
319A LR LR
comp=Z,4µm,19.0s
LIC **Lamto** 82.07 73 *e*P P 04 43 42.6 -5.3
comp=Z,99nm,1.3s
GNAR **Gosnell** 82.09 349 PFAKE 04 44 00.0 +13
GNAR LR LR
comp=Z,3µm,22.0s
V42A **Cord** 82.12 348 P P 04 43 47.2 -0.4
baz=170
U49A **Red Boiling Sp** 82.18 353 P P 04 43 47.0 -0.9
baz=174
V41A **Mountainview** 82.22 348 P P 04 43 46.8 -1.3
baz=169
U48A **Cassie Pea, Po** 82.25 352 P P 04 43 48.4 +0.2
baz=173
U47A **Clarksville** 82.25 352 P P 04 43 47.3 -0.9
baz=173
U46A **Springville** 82.26 351 P P 04 43 47.7 -0.6
baz=172
GLAT **Glass** 82.30 350 *e*P P 04 43 50.4 +1.9
GLAT LR LR
comp=Z,3µm,22.0s
U45A **Rockin P Farm,** 82.32 351 P P 04 43 47.9 -0.6
baz=172
KIC **Kosan Boka** 82.36 73 *e*P P 04 43 45.4 -4.0
comp=Z,184nm,2.0s
U44B **Burton Farm, H** 82.38 350 P P 04 43 48.5 -0.3
baz=171
TIC **Toumodi** 82.38 72 *e*P P 04 43 45.6 -3.9
WMOK **Wichita Mounta** 82.41 342 *e*P P 04 43 47.1 -2.0
WMOK **Wichita Mounta** 82.41 342 *e*P P 04 43 47.1 -2.0
WMOK **Wichita Mounta** 82.41 342 P P 04 43 48.3 -0.8
baz=165
T51A **Gray** 82.49 354 P P 04 43 49.1 -0.3
baz=175
DBIC **Dimbokro** 82.51 73 P P 04 43 51.0 +0.8
comp=Z,3.3nm,0.7s,baz=260,slow=6.4,SNR=3.0
DBIC **Dimbokro** 82.51 73 *e*P P 04 43 51.0 +0.8
U43A **Rector** 82.54 349 P P 04 43 49.6 -0.1
baz=171
BLA **Blacksburg** 82.56 357 PFAKE 04 44 00.0 +10
BLA LR LR
comp=Z,2µm,20.0s
BLA **Blacksburg** 82.56 357 P P 04 43 50.3 +0.5
baz=178
T52A **Hallie** 82.57 355 P P 04 43 51.0 +1.1
baz=176
U44A **Portageville** 82.58 350 P P 04 43 51.5 +1.6
baz=171
T50A **Nancy** 82.61 354 P P 04 43 49.7 -0.3
baz=174
MSTX **Muleshoe** 82.61 339 *e*P P 04 43 50.0 -0.3
MSTX LR LR
comp=Z,3µm,21.0s
MSTX **Muleshoe** 82.61 339 P P 04 43 50.4 +0.1
baz=162
U42A **Revenden** 82.64 349 P P 04 43 49.6 -0.6
baz=170
121A **Cookes Peak, D** 82.66 334 P P 04 43 51.4 +0.7
baz=159
U41A **Viola** 82.73 348 P P 04 43 49.5 -1.2
baz=170
T49A **Edmonton** 82.75 353 *e*P P 04 43 50.3 -0.5
T49A LR LR
comp=Z,4µm,18.0s
T49A **Edmonton** 82.75 353 P P 04 43 48.5 -2.3
baz=174
PARMO **Parma** 82.75 350 PFAKE 04 44 00.0 +9.2
PARMO LR LR
comp=Z,2µm,19.0s
T47A **Sharon Grove** 82.78 352 *e*P P 04 43 48.0 -2.9
comp=Z,65nm,1.4s
T47A LR LR
comp=Z,2µm,20.0s
T47A **Sharon Grove** 82.78 352 P P 04 43 48.4 -2.6
baz=173
T48A **Bowling Green** 82.83 353 P P 04 43 49.8 -1.4
baz=173
U40A **Yellville** 82.88 347 P P 04 43 50.3 -1.3
baz=169,SNR=10.0
T46A **Princeton** 82.91 351 P P 04 43 51.5 -0.1
baz=172
TUL1 **Leonard** 82.94 345 *e*P P 04 43 50.9 -1.0
TUL1 LR LR
comp=Z,1µm,19.0s
TUL1 **Leonard** 82.94 345 P P 04 43 50.7 -1.1
baz=167,SNR=11
PBMO **Poplar Bluff** 82.95 349 *e*P P 04 43 51.2 -0.7
PBMO LR LR
comp=Z,2µm,21.0s
PBMO **Poplar Bluff** 82.95 349 *e*P P 04 43 51.2 -0.7
T45A **Paducah** 82.97 351 PFAKE 04 44 00.0 +8.1
T45A LR LR
comp=Z,2µm,21.0s
HHAR **Hobbs** 82.98 346 *e*P P 04 43 51.5 -0.6
HHAR LR LR
comp=Z,2µm,19.0s
S51A **Beattyville** 83.14 355 *e*P P 04 43 54.8 +2.0
S51A LR LR
comp=Z,4µm,21.0s
S51A **Beattyville** 83.14 355 P P 04 43 51.9 -0.9
baz=175
AMTX **Amarillo** 83.21 340 *e*P P 04 43 53.0 -0.4
AMTX LR LR
comp=Z,2µm,21.0s
AMTX **Amarillo** 83.21 340 P P 04 43 52.1 -1.3
baz=163
S50A **Richmond** 83.23 354 P P 04 43 51.6 -1.7
baz=175
T43A **Greenville** 83.23 349 P P 04 43 52.1 -1.2
baz=171
R58B **Mineral** 83.26 359 P P 04 43 52.3 -1.1
baz=179
T42A **Van Buren** 83.29 349 *e*P P 04 43 52.5 -1.0
T42A LR LR
comp=Z,5µm,20.0s
T42A **Van Buren** 83.29 349 *e*P P 04 43 52.5 -1.0
T42A **Van Buren** 83.29 349 P P 04 43 52.3 -1.2
baz=170
S48A **Wiedeman Farm,** 83.34 353 P P 04 43 52.1 -1.7
baz=174
TAU **Tasmania Unive** 83.36 211 PFAKE 04 44 00.0 +5.8
TAU LR LR
comp=Z,4µm,19.0s
T41A **Mountain View** 83.39 348 P P 04 43 51.5 -2.6
baz=170
S49A **Springfield** 83.40 353 P P 04 43 52.2 -2.0
baz=174
TUC **Tucson** 83.41 332 *e*P P 04 43 54.9 +0.5
TUC LR LR
comp=Z,4µm,21.0s
TUC **Tucson** 83.41 332 *e*P P 04 43 54.9 +0.5
TUC MLR MLR
comp=Z,4µm,21.0s
TUC **Tucson** 83.41 332 P P 04 43 52.4 -2.1
baz=157
S46A **Don Dixon Farm** 83.53 352 P P 04 43 53.0 -1.7
baz=172
S43A **Fulton Ridge,** 83.69 350 P P 04 43 53.3 -2.3
baz=171
S44A **Carbondale** 83.70 350 P P 04 43 54.2 -1.5
baz=172
SIUC **Southern Illin** 83.72 350 *e*P P 04 43 54.9 -0.9
SIUC **Southern Illin** 83.72 350 *e*P P 04 43 54.9 -0.9
214A **Organ Pipe Nat** 83.78 330 P P 04 43 54.0 -2.3
baz=156
R51A **Hillsboro** 83.79 355 P P 04 43 54.7 -1.4
baz=175
USIN **University of** 83.80 352 PFAKE 04 44 10.0 +14
USIN LR LR
comp=Z,1µm,21.0s
R50A **Paris** 83.83 354 P P 04 43 55.7 -0.6
baz=175
Y22D **IRIS PASSCAL I** 83.84 335 PFAKE 04 44 10.0 +13
Y22D LR LR
comp=Z,3µm,18.0s
R49A **Shelbyville** 83.90 354 P P 04 43 56.3 -0.3
baz=174
S41A **Jillco Farms,** 83.92 348 P P 04 43 55.9 -1.0
baz=170
WCI **Wyandotte Cave** 83.93 353 P P 04 43 56.5 -0.3
baz=174
LENM **Lemitar** 83.94 335 *e*P P 04 43 56.7 -0.6
S42A **Caledonia** 83.97 349 P P 04 43 56.1 -1.0
baz=170
LPM **Los Pinos Moun** 83.98 336 *e*P P 04 43 58.0 +0.6
R47A **Wooly Knot Far** 84.02 353 P P 04 43 56.1 -1.2
baz=173
U32A **Winter Ranch,** 84.03 342 *e*P P 04 43 57.4 -0.1
R48A **Northridge Ran** 84.06 353 P P 04 43 58.6 +1.1
baz=174
FVM **French Village** 84.14 349 *e*P P 04 43 57.9 -0.1
FVM LR LR
comp=Z,2µm,21.0s
FVM **French Village** 84.14 349 *e*P P 04 43 57.9 -0.1
R45A **Skylar, Fairfi** 84.19 351 P P 04 43 58.3 +0.2
baz=172
LAZ **Ladron** 84.21 335 *e*P P 04 43 59.1 +0.4
CCM **Cathedral Cave** 84.31 349 *e*P P 04 43 57.4 -1.4
CCM **Cathedral Cave** 84.31 349 *e*P P 04 43 57.4 -1.4
CCM **Cathedral Cave** 84.31 349 P P 04 43 57.6 -1.2
baz=170
Q50A **Georgetown** 84.36 355 P P 04 43 58.4 -0.6
baz=175
R43A **Red Bud** 84.36 350 P P 04 43 57.8 -1.2
baz=171
Q52A **Bidwell** 84.38 356 P P 04 43 58.0 -1.1
baz=176
R42A **Luebbering** 84.48 349 P P 04 43 58.7 -0.9
baz=170
Q51A **Peebles** 84.50 355 *e*P P 04 44 04.1 +4.4
Q51A LR LR
comp=Z,6µm,21.0s
Q51A **Peebles** 84.50 355 P P 04 43 60.0 +0.2
baz=176
ANMO **Albuquerque** 84.52 336 P P 04 43 59.4 -0.8
comp=Z,6.8nm,1.0s,baz=165,slow=7.1,SNR=22
ANMO LR LR 05 16 07.3
comp=Z,3µm,18.9s,baz=164,slow=32
ANMO **Albuquerque** 84.52 336 *e*P P 04 43 59.7 -0.4
ANMO LR LR
comp=Z,3µm,18.0s
ANMO **Albuquerque** 84.52 336*ce*P P 04 44 00.6 +0.4
ANMO pmax pmax
comp=Z,32nm,2.5s
ANMO **Albuquerque** 84.52 336 P P 04 43 59.8 -0.4
baz=160
R41A **Rosebud** 84.57 349 P P 04 43 59.1 -1.0
baz=170
Q48A **North Vernon** 84.58 353 P P 04 43 59.2 -0.9
baz=174
Q49A **Aurora** 84.58 354 P P 04 44 00.7 +0.5
baz=174
OLIL **Olney** 84.61 351 PFAKE 04 44 10.0 +10
OLIL LR LR
comp=Z,3µm,22.0s
Q47A **Bedord North L** 84.64 353 P P 04 44 00.1 -0.3
baz=173
SLM **Saint Louis** 84.75 350 PFAKE 04 44 10.0 +9.0
SLM LR LR
comp=Z,4µm,19.0s
Q45A **Warren Harvey,** 84.77 351 P P 04 44 00.7 -0.4
baz=172
P53A **Whipple** 84.86 357 *e*P P 04 44 02.3 +0.7
P53A LR LR
comp=Z,3µm,18.0s
P53A **Whipple** 84.86 357 P P 04 44 02.1 +0.5
baz=177
Q44A **Meyer Farm, Va** 84.87 351 P P 04 44 02.3 +0.8
baz=172
BLO **Bloomington** 84.89 353 *e*P P 04 44 02.6 +0.9
BLO **Bloomington** 84.89 353 *e*P P 04 44 02.6 +0.9
P51A **Williamsport** 84.94 355 PFAKE 04 44 10.0 +8.1
P51A LR LR
comp=Z,3µm,22.0s
P51A **Williamsport** 84.94 355 P P 04 44 01.3 -0.6
baz=176
MCWV **Mont Chateau** 84.98 358 PFAKE 04 44 10.0 +7.9
MCWV LR LR
comp=Z,1µm,21.0s
Q43A **New Douglas** 84.99 350 P P 04 44 01.0 -1.2
baz=171
P52A **Corning** 85.04 356 P P 04 44 02.1 -0.3
baz=176
Q42A **Golden Eagle** 85.06 350 P P 04 44 01.9 -0.7
baz=171
P48A **Milroy** 85.08 354 P P 04 44 01.4 -1.2
baz=174
P49A **Miami Univ. Ec** 85.10 354 P P 04 44 02.9 +0.2
baz=175
P50A **Jamestown** 85.11 355 P P 04 44 02.7 -0.1
baz=175
P47A **Martinsville** 85.17 353 P P 04 44 01.9 -1.2
baz=174
X18A **Snowflake** 85.18 333 *e*P P 04 44 04.0 +0.5
X18A LR LR
comp=Z,3µm,18.0s
Q41A **Truxton** 85.20 349 P P 04 44 02.5 -0.7
baz=170
PSUB **Penn St. - Bra** 85.23 1 PFAKE 04 44 10.0 +6.7
PSUB LR LR
comp=Z,3µm,18.0s
P45A **Graceland, Par** 85.35 352 *e*P P 04 44 07.7 +3.7
P45A **Graceland, Par** 85.35 352 P P 04 44 03.4 -0.6
baz=172
P44A **Sand Creek, Wi** 85.39 351 P P 04 44 02.9 -1.2
baz=172
P46A **Rosedale** 85.39 352 P P 04 44 04.9 +0.8
baz=173
GLA **Glamis** 85.49 329 PFAKE 04 44 20.0 +15
GLA LR LR
comp=Z,3µm,19.0s
O52A **Adamsville** 85.51 356 *e*P P 04 44 03.3 -1.5
O52A LR LR
comp=Z,2µm,22.0s
O52A **Adamsville** 85.51 356 P P 04 44 05.0 +0.2
baz=177
PAGS **Pennsylvania G** 85.52 0 PFAKE 04 44 20.0 +15
PAGS LR LR
comp=Z,2µm,21.0s
X16A **Lo Mia Camp, P** 85.56 332 *e*P P 04 44 06.2 +0.8
O56A **Blue Knob Stat** 85.57 359 PFAKE 04 44 20.0 +15
O56A LR LR
comp=Z,2µm,20.0s
O56A **Blue Knob Stat** 85.57 359 P P 04 44 06.1 +1.0
baz=179
O51A **Pataskala** 85.58 356 P P 04 44 05.3 +0.2
baz=176
IKP **In-Ko-Pah, Jac** 85.60 328 P P 04 44 06.7 +1.1
baz=154
O50A **Cable** 85.64 355 P P 04 44 06.4 +1.0
baz=175
W18A **Petrified Fore** 85.66 334 *e*P P 04 44 06.4 +0.5
W18A LR LR
comp=Z,3µm,19.0s
W18A **Petrified Fore** 85.66 334 P P 04 44 06.3 +0.4
baz=158,SNR=9.4
ACSO **Alum Creek Sta** 85.68 355 *e*P P 04 44 09.6 +4.0
ACSO LR LR
comp=Z,3µm,19.0s
ACSO **Alum Creek Sta** 85.68 355 P P 04 44 06.7 +1.1
baz=176
P42A **Winchester** 85.70 350 P P 04 44 06.5 +0.7
baz=171
O49A **Covington** 85.72 354 PFAKE 04 44 20.0 +14
O49A LR LR
comp=Z,2µm,19.0s
O49A **Covington** 85.72 354 P P 04 44 06.6 +0.8
baz=175
SWSC **Sam W. Stewart** 85.75 328 P P 04 44 07.1 +1.0
baz=154
O48A **Farmland** 85.85 354 P P 04 44 04.7 -1.7
baz=174
P41A **Barry, Barry** 85.88 349 P P 04 44 05.7 -1.0
baz=170
O47A **Sheridan** 85.91 353 P P 04 44 05.8 -0.9
baz=174
SSPA **Standing Stone** 85.92 359 PFAKE 04 44 20.0 +13
SSPA LR LR
comp=Z,2µm,20.0s
SSPA **Standing Stone** 85.92 359 P P 04 44 08.2 +1.4
baz=179
MONP2 **Monument Peak** 85.93 328 P P 04 44 07.5 +0.1
baz=154
Y12C **Blythe** 86.01 329 *e*P P 04 44 08.6 +1.2
Y12C LR LR
comp=Z,2µm,20.0s
Y12C **Blythe** 86.01 329 P P 04 44 08.2 +0.8
baz=155
T25A **Trinidad** 86.03 338 *e*P P 04 44 08.3 +0.5
T25A LR LR
comp=Z,1µm,20.0s
T25A **Trinidad** 86.03 338 P P 04 44 07.7 0.0
baz=161,SNR=10
O44A **Mansfield** 86.05 351 P P 04 44 07.9 +0.5
baz=172
O45A **Potomac** 86.07 352 P P 04 44 07.7 +0.2
baz=173
SFIN **Lafayette** 86.13 352 PFAKE 04 44 20.0 +12
SFIN LR LR
comp=Z,2µm,21.0s
KSU1 **Kansas State U** 86.19 345 *e*P P 04 44 07.6 -0.6
KSU1 LR LR
comp=Z,2µm,19.0s
KSU1 **Kansas State U** 86.19 345 P P 04 44 06.6 -1.6
baz=166
N59A **State Game Lan** 86.21 1 PFAKE 04 44 20.0 +12
N59A LR LR
comp=Z,4µm,21.0s
N59A **State Game Lan** 86.21 1 P P 04 44 07.4 -0.9
baz=181
N50A **Nevada** 86.23 355 P P 04 44 06.6 -1.7
baz=176
BC3 **Big Chuckawall** 86.26 329 P P 04 44 07.1 -1.6
baz=154
O43A **Sugar Creek Fa** 86.27 351 P P 04 44 09.0 +0.5
baz=172
O42A **Bath** 86.27 350 P P 04 44 09.3 +0.7
baz=171
N54A **Moraine State** 86.29 358 PFAKE 04 44 20.0 +11
N54A LR LR
comp=Z,3µm,22.0s
O41A **Passleys Farm,** 86.29 349 P P 04 44 08.0 -0.7
baz=170
N51A **Ashland** 86.33 356 PFAKE 04 44 20.0 +11
N51A LR LR
comp=Z,2µm,22.0s
PAL **Palisades** 86.34 2 PFAKE 04 44 20.0 +11
PAL LR LR
comp=Z,3µm,19.0s
ODNJ **Ogdensburg** 86.40 2 PFAKE 04 44 20.0 +11
ODNJ LR LR
comp=Z,3µm,20.0s
N48A **Decatur** 86.44 354 P P 04 44 09.3 -0.1
baz=174
N49A **Columbus Grove** 86.44 355 P P 04 44 09.3 -0.1

baz=175
CBKS Cedar Bluff 86.53 342 eP P 04 44 09.5 -0.4
CBKS LR LR
comp=Z,2µm,19.0s
CBKS Cedar Bluff 86.53 342 eP P 04 44 09.5 -0.4
CBKS MLR MLR
comp=Z,2µm,19.0s
CBKS Cedar Bluff 86.53 342 P P 04 44 09.5 -0.4
baz=164,SNR=8.0
HDIL Hopedale 86.54 351 PFAKE 04 44 20.0 +10
HDIL LR LR
comp=Z,2µm,20.0s
HDIL Hopedale 86.54 351 P P 04 44 09.4 -0.4
baz=172
FRD Ford Ranch, An 86.54 328 P P 04 44 09.9 -0.3
baz=154
WUAZ Wupatki 86.55 333 eP P 04 44 10.5 +0.2
WUAZ Wupatki 86.55 333 P P 04 44 10.0 -0.2
baz=157,SNR=11
XPFO Piæon Flat 86.59 328 eP P 04 44 11.6 +1.2
XPFO LR LR
comp=Z,2µm,21.0s
PFO Pinyon Flats O 86.59 328 eP P 04 44 11.6 +1.2
PFO Pinyon Flats O 86.59 328 eP P 04 44 11.6 +1.2
PFO Pinyon Flats O 86.59 328 P P 04 44 10.6 +0.2
baz=154,SNR=6.4
IRM Iron Mountain 86.60 329 P P 04 44 10.8 +0.4
baz=154
N45A Kentland 86.64 352 P P 04 44 10.8 +0.5
baz=173
YLE Yale 86.68 3 PFAKE 04 44 20.0 +10
YLE LR LR
comp=Z,4µm,20.0s
BELC Belle Mtn. Jos 86.77 328 P P 04 44 11.0 -0.3
baz=154
M54A Oil Creek Stat 86.82 358 PFAKE 04 44 20.0 +8.8
M54A LR LR
comp=Z,2µm,21.0s
KSPA Keystone Colle 86.85 1 PFAKE 04 44 20.0 +8.7
KSPA LR LR
comp=Z,4µm,20.0s
M50A Fremont 86.85 356 PFAKE 04 44 20.0 +8.7
M50A LR LR
comp=Z,2µm,22.0s
MURC Murrieta 86.85 327 P P 04 44 12.0 +0.3
baz=153
N41A Harden Midland 86.87 350 eP P 04 44 11.2 -0.3
N41A Harden Midland 86.87 350 P P 04 44 11.1 -0.4
baz=170
SDCO Great Sand Dun 86.89 338 eP P 04 44 12.0 0.0
SDCO LR LR
comp=Z,2µm,18.0s
SDCO Great Sand Dun 86.89 338 P P 04 44 11.7 -0.3
baz=161,SNR=14
W13A Hualapai Mount 87.00 331 eP P 04 44 13.3 +0.8
M46A Old House Fiel 87.09 353 PFAKE 04 44 20.0 +7.5
M46A LR LR
comp=Z,5µm,19.0s
N40A Mertquake, Sal 87.14 349 P P 04 44 11.8 -1.0
baz=170
MVCO Mesa Verde 87.22 335 eP P 04 44 14.0 +0.5
MVCO Mesa Verde 87.22 335 P P 04 44 13.6 +0.1
baz=159
M44A Midewin, Midew 87.23 352 PFAKE 04 44 20.0 +6.9
M44A LR LR
comp=Z,4µm,20.0s
S22A 4UR Ranch, Cre 87.25 337 eP P 04 44 14.3 +0.6
S22A 4UR Ranch, Cre 87.25 337 P P 04 44 13.8 0.0
baz=160,SNR=18
N39A Derby Farms, D 87.26 348 eP P 04 44 12.3 -1.0
N39A LR LR
comp=Z,4µm,22.0s
N39A Derby Farms, D 87.26 348 P P 04 44 12.3 -1.0
baz=169
BBRC Big Bear Solar 87.34 328 P P 04 44 14.3 +0.1
baz=153
GMRC Granite Mounta 87.35 329 P P 04 44 14.6 +0.5
baz=154
KSCO Kaye Shedlock' 87.37 340 eP P 04 44 14.8 +0.7
KSCO Kaye Shedlock' 87.37 340 P P 04 44 14.7 +0.6
baz=162
ERPA Erie 87.44 358 PFAKE 04 44 30.0 +16
ERPA LR LR
comp=Z,6µm,20.0s
M42A Sheffield 87.48 350 P P 04 44 14.5 +0.1
baz=171
BINY Binghamton 87.49 1 PFAKE 04 44 30.0 +16
BINY LR LR
comp=Z,2µm,20.0s
BINY Binghamton 87.49 1 P P 04 44 15.2 +0.7
baz=181
M41A Milan 87.49 350 P P 04 44 13.7 -0.7
baz=171
BFSC Mount Baldy Ra 87.60 327 P P 04 44 15.8 +0.5
baz=153
U15A North Rim 87.68 332 eP P 04 44 16.7 +0.8
AAM Ann Arbor 87.78 355 PFAKE 04 44 30.0 +14
AAM LR LR
comp=Z,2µm,22.0s
M39A Webster 87.81 349 P P 04 44 15.5 -0.5
baz=170
LHI Lord Howe Isla 87.86 225 PFAKE 04 44 30.0 +13
LHI LR LR
comp=Z,6µm,21.0s
HRV Adam Dziewonsk 87.93 4 PFAKE 04 44 30.0 +14
HRV LR LR
comp=Z,4µm,21.0s
Q24A Divide 87.94 338 eP P 04 44 17.4 +0.3
Q24A Divide 87.94 338 P P 04 44 16.8 -0.3
baz=161,SNR=10
L42A Oliver, Polo 88.01 351 eP P 04 44 20.8 +3.9
L42A LR LR
comp=Z,4µm,22.0s
L42A Oliver, Polo 88.01 351 eP P 04 44 20.8 +3.9
L42A Oliver, Polo 88.01 351 P P 04 44 17.9 +1.0
baz=171
MMNY Mt. Morris Dam 88.02 359 PFAKE 04 44 30.0 +13
MMNY LR LR
comp=Z,4µm,21.0s
PV01 Paradox Valley 88.10 336 eP P 04 44 18.2 +0.5
L41A Preston 88.18 350 P P 04 44 17.5 -0.2
baz=171
PV13 Radium Mtn., P 88.20 335 eP P 04 44 18.4 +0.2
PV05 Paradox Valley 88.20 335 eP P 04 44 18.6 +0.4
PV02 Paradox Valley 88.22 336 eP P 04 44 18.6 +0.3
GSC Goldstone, Bar 88.22 328 eP P 04 44 19.3 +1.1
GSC Goldstone, Bar 88.22 328 eP P 04 44 19.3 +1.1
GSC Goldstone, Bar 88.22 328 P P 04 44 18.6 +0.4
baz=154,SNR=6.5
L40A Anamosa 88.25 350 eP P 04 44 16.4 -1.7
L40A LR LR
comp=Z,6µm,18.0s
L40A Anamosa 88.25 350 P P 04 44 16.5 -1.6
baz=170
EDW2 Edwards Air Fo 88.29 327 P P 04 44 18.0 -0.6
baz=153
PV03 Paradox Valley 88.30 336 eP P 04 44 19.0 +0.3
PV18 Skein Mesa, Pa 88.31 335 eP P 04 44 19.0 +0.3
PV12 Saucer Basin, 88.34 336 eP P 04 44 19.6 +0.7
PV11 David Mesa, Pa 88.34 336 eP P 04 44 19.1 +0.3
PV17 East Wray Mesa 88.35 335 eP P 04 44 19.0 +0.1
PV16 Nyswonger Mesa 88.37 335 eP P 04 44 19.2 +0.2
SCIA State Center 88.37 348 eP P 04 44 19.5 +0.8
SCIA LR LR
comp=Z,5µm,19.0s
SCIA State Center 88.37 348 P P 04 44 17.3 -1.3
baz=169
KNB Kanab 88.39 332 eP P 04 44 20.0 +0.9
KNB Kanab 88.39 332 eP P 04 44 20.0 +0.9
PV19 Morning Glory 88.39 335 eP P 04 44 20.6 +1.6
PV20 West Nyswonger 88.41 335 eP P 04 44 20.9 +1.7
L39A Vinton 88.42 349 P P 04 44 17.0 -1.8
baz=170
PV14 Lion Creek, Pa 88.46 335 eP P 04 44 19.7 +0.2
PV23 Carpenter Ridg 88.53 335 eP P 04 44 20.8 +1.0
PV22 Blue Mesa, Par 88.54 336 eP P 04 44 20.6 +0.9
K43A Burlington 88.56 352 PFAKE 04 44 30.0 +11
K43A LR LR
comp=Z,3µm,22.0s
K43A Burlington 88.56 352 P P 04 44 21.0 +1.5
baz=172
SHOC Shoshone, Teco 88.57 329 P P 04 44 18.7 -1.0
baz=154
PV09 Paradox Valley 88.60 335 eP P 04 44 20.7 +0.5
PKCU Pink Cliffs 88.61 333 eP P 04 44 19.8 -0.5
PV21 Cone Mtn., Par 88.62 336 eP P 04 44 21.2 +1.0
SMCO Snowmass 88.63 337 eP P 04 44 21.0 +0.6
K41A Shullsburg 88.68 350 P P 04 44 19.3 -0.7
baz=171
LRMC Laurel Mtn Rad 88.71 328 P P 04 44 17.1 -3.4
baz=153
SHPR Sheep Range 88.72 330 eP P 04 44 18.9 -1.8
ACCN Adirondack Com 88.72 2 PFAKE 04 44 30.0 +10
ACCN LR LR
comp=Z,2µm,19.0s
K42A Prairie Point, 88.74 351 P P 04 44 20.5 +0.1
baz=172
J48A Bridge Port 88.78 355 P P 04 44 22.1 +1.6
baz=175
KOWA Kowa 88.83 68 PFAKE 04 44 30.0 +8.6
KOWA LR LR
comp=Z,5µm,21.0s
ISCO Idaho Springs 88.85 338 eP P 04 44 21.6 +0.2
ISCO Idaho Springs 88.85 338 eP P 04 44 21.6 +0.2
ISCO Idaho Springs 88.85 338 P P 04 44 20.3 -1.1
baz=160,SNR=6.3
K40A Colesburg 88.87 350 P P 04 44 20.0 -1.0
baz=170
K39A Oelwein 88.97 349 P P 04 44 20.7 -0.7
baz=170
JFWS Jewell Farm 88.97 350 eP P 04 44 23.2 +1.8
JFWS LR LR
comp=Z,5µm,19.0s
JFWS Jewell Farm 88.97 350 eP P 04 44 23.3 +1.8
JFWS MLR MLR
comp=Z,5µm,19.0s
JFWS Jewell Farm 88.97 350 P P 04 44 21.8 +0.4
baz=171
MPMC Manual Prospec 89.15 328 P P 04 44 21.2 -1.5
baz=153
ISA Isabella, Lake 89.17 327 eP P 04 44 23.5 +0.9
ISA Isabella, Lake 89.17 327 eP P 04 44 23.5 +0.9
ISA Isabella, Lake 89.17 327 P P 04 44 21.8 -0.8
baz=152
J42A Columbus 89.25 351 P P 04 44 22.8 +0.1
baz=172
CAN Canberra 89.28 216 PFAKE 04 44 30.0 +6.5
CAN LR LR
comp=Z,4µm,20.0s
FURC Furnace Creek, 89.28 329 P P 04 44 21.3 -1.7
baz=154
NCB Newcomb 89.29 2 PFAKE 04 44 30.0 +7.1
NCB LR LR
comp=Z,3µm,18.0s
DAC Darwin (Calif) 89.38 328 eP P 04 44 24.8 +1.0
J41A Loganville 89.39 351 P P 04 44 24.3 +1.0
J40A Soldiers Grove 89.51 350 P P 04 44 22.9 -1.0
baz=170
LSZ Lusaka 89.52 111 eP P 04 44 28.9 +3.9
LSZ LR LR
comp=Z,5µm,21.0s
MSU Marysvale 89.54 333 eP P 04 44 24.0 -0.5
MSU Marysvale 89.54 333 eP P 04 44 24.0 -0.5
VES Vestal, Richgr 89.56 327 P P 04 44 23.6 -0.7
baz=152
J39A Decorah 89.57 349 P P 04 44 23.2 -1.0
baz=170
SRU San Rafael Swe 89.58 335 eP P 04 44 24.6 0.0
SRU San Rafael Swe 89.58 335 eP P 04 44 24.6 0.0
LBNH Lisbon 89.64 4 PFAKE 04 44 40.0 +15
LBNH LR LR
comp=Z,3µm,19.0s
I42A Draeger Farm, 89.79 351 PFAKE 04 44 40.0 +15
I42A LR LR
comp=Z,3µm,20.0s
PAGB Antelope Grade 89.91 326 PFAKE 04 44 40.0 +14
PAGB LR LR
comp=Z,3µm,19.0s
LONY Lake Ozonia 89.93 2 PFAKE 04 44 40.0 +14
LONY LR LR
comp=Z,3µm,20.0s
GRAC Grapevine Rang 89.94 329 P P 04 44 25.2 -1.0
baz=153
TMUT Trail Mountain 89.96 334 eP P 04 44 27.5 +1.0
N23A Red Feather La 89.97 339 eP P 04 44 27.0 +0.5
N23A Red Feather La 89.97 339 P P 04 44 24.9 -1.6
baz=160
P17A Butcher Ranch, 89.98 335 eP P 04 44 27.2 +0.7
I40A Newalk 89.98 350 P P 04 44 26.3 +0.1
baz=171
I39A Houston 90.06 350 eP P 04 44 25.6 -0.9
I39A LR LR
comp=Z,4µm,21.0s
I39A Houston 90.06 350 P P 04 44 25.2 -1.3
baz=170
I41A Arkdale 90.06 351 PFAKE 04 44 40.0 +14
I41A LR LR
comp=Z,2µm,22.0s
SADO Sadowa 90.07 359 PFAKE 04 44 40.0 +13
SADO LR LR
comp=Z,2µm,21.0s
PSUT Pine Spring 90.10 332 eP P 04 44 28.0 +0.8
FRNY Flat Rock 90.17 2 PFAKE 04 44 40.0 +13
FRNY LR LR
comp=Z,5µm,19.0s
H43A Windswept, Lux 90.25 352 PFAKE 04 44 40.0 +13
H43A LR LR
comp=Z,2µm,21.0s
PLVO Plevna 90.32 0 PFAKE 04 44 40.0 +12
PLVO LR LR
comp=Z,2µm,20.0s
GLMI Grayling 90.36 355 PFAKE 04 44 40.0 +12
GLMI LR LR
comp=Z,2µm,20.0s
H42A Shiocton 90.36 352 PFAKE 04 44 40.0 +12
H42A LR LR
comp=Z,2µm,19.0s
R11A Troy Canyon, C 90.52 331 eP P 04 44 30.6 +1.6
R11A Troy Canyon, C 90.52 331 P P 04 44 30.1 +1.1
baz=154
H41A Junction City 90.59 351 PFAKE 04 44 40.0 +11
H41A LR LR
comp=Z,3µm,22.0s
ECSD EROS Data Cent 90.69 346 eP P 04 44 27.8 -1.7
ECSD EROS Data Cent 90.69 346 P P 04 44 28.4 -1.1
baz=166
HAL Halifax 90.71 10 PFAKE 04 44 40.0 +11
HAL LR LR
comp=Z,4µm,22.0s
MPU Maple Canyon 90.75 334 eP P 04 44 30.9 +0.8
PKME Peaks-Kenny Pk 90.81 5 PFAKE 04 44 40.0 +10
PKME LR LR
comp=Z,4µm,21.0s
NLU North Lily Min 90.83 334 eP P 04 44 31.0 +0.5
GGN Saint George 90.86 7 PFAKE 04 44 40.0 +10
GGN LR LR
comp=Z,4µm,21.0s
G43A Wallace 91.03 353 PFAKE 04 44 40.0 +9.1
G43A LR LR
comp=Z,2µm,22.0s
MLAC Mammoth, Mammo 91.04 328 P P 04 44 32.2 +0.7
baz=152
OMMB Old Mammoth Mi 91.09 328 eP P 04 44 33.1 +1.2
MDPB Devils Postpil 91.13 328 eP P 04 44 34.4 +2.4
DUG Dugway, Tooele 91.28 333 eP P 04 44 33.2 +0.8
DUG Dugway, Tooele 91.28 333 eP P 04 44 33.3 +0.8
DUG Dugway, Tooele 91.28 333 P P 04 44 32.9 +0.4
baz=156
SAO San Andreas Ge 91.28 326 PFAKE 04 44 40.0 +7.6
SAO LR LR
comp=Z,3µm,20.0s
G40A Rib Lake 91.29 351 PFAKE 04 44 40.0 +7.8
G40A LR LR
comp=Z,3µm,20.0s
DZM Mont Dzumac 91.35 236 P P 04 44 32.7 -0.7
comp=Z,4.2nm,0.9s,baz=152,slow=3.7,SNR=1.8
DZM LR LR 05 16 44.9
comp=Z,2µm,21.5s,baz=160,slow=30
DZM Mont Dzumac 91.35 236 ePS PS 04 56 42.9 +0.5
comp=Z,971nm,28.6s
DZM Mont Dzumac 91.35 236 eLQ LQ 05 10 07.0
comp=Z,6µm,31.6s
DZM eLR LR 05 13 53.0
comp=Z,13µm,30.6s
DZM Mont Dzumac 91.35 236 eP P 04 44 32.7 -0.7
DZM LR LR
comp=Z,2µm,20.0s
NV01 Mina Array Sit 91.55 329 eP P 04 44 34.6 +0.8
NVAR Mina Array Bea 91.55 329 P P 04 44 34.8 +1.0
comp=Z,2.1nm,1.0s,baz=151,slow=6.9,SNR=7.8
NVAR LR LR 05 17 18.2
comp=Z,1µm,18.3s,baz=138,slow=30
SPMN Marine on St. 91.57 349 eP P 04 44 33.8 +0.3
SPMN Marine on St. 91.57 349 P P 04 44 32.8 -0.7
baz=169
TOC5 Torodi Ar. Sit 91.59 73 PFAKE 04 44 50.0 +16
TOC5 LR LR
comp=Z,4µm,19.0s
TOC4 Torodi Ar. Sit 91.60 73 PFAKE 04 44 50.0 +16
TOC4 LR LR
comp=Z,4µm,19.0s
TOB4 Torodi Ar. Sit 91.60 73 PFAKE 04 44 50.0 +16
TOB4 LR LR
comp=Z,3µm,19.0s
TOA3 Torodi Ar. Sit 91.61 73 PFAKE 04 44 50.0 +16
TOA3 LR LR
comp=Z,4µm,19.0s
TOB5 Torodi Ar. Sit 91.61 73 PFAKE 04 44 50.0 +16
TOB5 LR LR
comp=Z,4µm,19.0s
TOB3 Torodi Ar. Sit 91.62 73 PFAKE 04 44 50.0 +16
TOB3 LR LR
comp=Z,4µm,19.0s
TOA0 Torodi Ar. Sit 91.62 73 eP P 04 44 37.8 +3.4
TOA0 LR LR
comp=Z,4µm,19.0s
TORD Torodi Ar. Bea 91.62 73 P P 04 44 34.1 -0.3
comp=Z,1.0nm,0.9s,baz=233,slow=5.1
TOC7 Torodi Ar. Sit 91.62 73 PFAKE 04 44 50.0 +16
TOC7 LR LR
comp=Z,3µm,19.0s
TOA1 Torodi Ar. Sit 91.62 73 eP P 04 44 34.1 -0.4
TOA1 LR LR
comp=Z,4µm,19.0s
TOA2 Torodi Ar. Sit 91.62 73 PFAKE 04 44 50.0 +16
TOA2 LR LR
comp=Z,4µm,19.0s
TOC3 Torodi Ar. Sit 91.63 73 PFAKE 04 44 50.0 +15
TOC3 LR LR
comp=Z,4µm,19.0s
TOB2 Torodi Ar. Sit 91.63 73 PFAKE 04 44 50.0 +15
TOB2 LR LR
comp=Z,4µm,19.0s
TOC1 Torodi Ar. Sit 91.64 73 PFAKE 04 44 50.0 +15
TOC1 LR LR
comp=Z,4µm,19.0s
TOC2 Torodi Ar. Sit 91.64 73 PFAKE 04 44 50.0 +15
TOC2 LR LR
comp=Z,4µm,19.0s
TCUT Toone Canyon 91.69 335 eP P 04 44 35.3 +0.8
K22A Casper 91.76 339 eP P 04 44 35.1 +0.4
K22A Casper 91.76 339 P P 04 44 34.4 -0.3
baz=160
LMN Caledonia Moun 91.78 9 PFAKE 04 44 50.0 +16
LMN LR LR
comp=Z,4µm,21.0s
CMB Columbia Colle 91.98 327 PFAKE 04 44 50.0 +14
CMB LR LR
comp=Z,3µm,19.0s
COWI Conover 92.00 352 PFAKE 04 44 50.0 +15
COWI LR LR
comp=Z,2µm,19.0s
WAKR Walker 92.03 328 eP P 04 44 38.7 +2.6
F37A Hinrichs Farm, 92.04 349 P P 04 44 34.6 -1.0
baz=169
E43A Lone Tree Farm 92.08 353 PFAKE 04 44 50.0 +14
E43A LR LR
comp=Z,4µm,18.0s
SPUT South Promonto 92.18 334 eP P 04 44 36.6 -0.1
HWUT Hardware Ranch 92.19 335 eP P 04 44 36.3 -0.4
E44A Grand Marais A 92.23 354 PFAKE 04 44 50.0 +13
E44A LR LR
comp=Z,3µm,21.0s
ARMA Armidale 92.32 221 PFAKE 04 44 50.0 +12
ARMA LR LR
comp=Z,4µm,21.0s
PNTR Pine Nut 92.61 328 PFAKE 04 44 50.0 +11
PNTR LR LR
comp=Z,1µm,20.0s
PD31 Pinedale Array 92.68 337 eP P 04 44 38.0 -1.0
PDAR Pinedale Array 92.68 337 P P 04 44 38.0 -1.0
comp=Z,0.7nm,0.7s,baz=141,slow=5.8,SNR=3.9
PDAR Pinedale Array 92.68 337 P P 04 44 38.0 -1.0
HVU Hansel Valley 92.71 334 eP P 04 44 40.7 +1.6
HVU Hansel Valley 92.71 334 eP P 04 44 40.7 +1.6
RUBR Rubicon Trail 92.78 328 PFAKE 04 44 50.0 +10
RUBR LR LR
comp=Z,2µm,19.0s
VCNR Virginia City 92.81 328 PFAKE 04 44 50.0 +10
VCNR LR LR
comp=Z,1µm,18.0s
AFDM Forest Hills D 93.00 327 PFAKE 04 44 50.0 +10
AFDM LR LR
comp=Z,3µm,18.0s
BATG Bathurst New B 93.07 7 PFAKE 04 44 50.0 +10
BATG LR LR
comp=Z,3µm,22.0s
VLDQ Val d'Or 93.40 360 PFAKE 04 44 50.0 +8.2
VLDQ LR LR
comp=Z,3µm,22.0s
BEKR Beckworth 93.57 328 PFAKE 04 44 50.0 +6.9
BEKR LR LR
comp=Z,2µm,19.0s
GDXM Geysers 93.58 326 PFAKE 04 44 50.0 +7.0
GDXM LR LR
comp=Z,3µm,19.0s
ORV Oroville 93.73 327 eP P 04 44 45.5 +1.9
ORV LR LR
comp=Z,3µm,19.0s
ORV Oroville 93.73 327 eP P 04 44 45.5 +1.9
ORV MLR MLR
comp=Z,3µm,19.0s
YPP Pitchstone Pla 94.42 336 PFAKE 04 45 00.0 +13
YPP LR LR
comp=Z,2µm,22.0s
YNR Norris Junctio 94.79 337 PFAKE 04 45 00.0 +11
YNR LR LR
comp=Z,2µm,19.0s
YMR Madison River 94.83 336 PFAKE 04 45 00.0 +11
YMR LR LR
comp=Z,2µm,21.0s
YHH Holmes Hill 94.90 337 eP P 04 44 49.9 +0.6
YHH LR LR
comp=Z,2µm,20.0s
CMLA Cha da Macela 95.12 39 PFAKE 04 45 00.0 +10
CMLA LR LR
comp=Z,5µm,19.0s
WVOR Wild Horse Val 95.21 330 PFAKE 04 45 00.0 +9.5
WVOR LR LR
comp=Z,2µm,21.0s
STKA Stephens Creek 95.22 212 P P 04 44 49.4 -1.6
comp=Z,0.6nm,0.2s,baz=154,slow=9.2,SNR=2.2
STKA LR LR 05 19 55.7
comp=Z,6µm,19.5s,baz=140,slow=31
STKA Stephens Creek 95.22 212 eP P 04 44 49.4 -1.6
STKA LR LR
comp=Z,1µm,20.0s
STKA Stephens Creek 95.22 212 eP P 04 44 49.4 -1.6
STKA MLR MLR
comp=Z,1µm,20.0s
MOD Modoc Plateau 95.33 329 PFAKE 04 45 00.0 +8.9
MOD LR LR
comp=Z,2µm,18.0s
LAO LASA Array 95.48 340 PFAKE 04 45 00.0 +8.5
LAO LR LR
comp=Z,2µm,21.0s
NPOC North of Pu'u 95.62 292 PFAKE 04 45 00.0 +7.1
NPOC LR LR
comp=Z,2µm,20.0s
KKO Keanakako'i 95.73 292 PFAKE 04 45 00.0 +6.6
KKO LR LR
comp=Z,5µm,22.0s
SDHHI Sand Hill 95.74 292 PFAKE 04 45 00.0 +6.5
SDHHI LR LR
comp=Z,5µm,22.0s
OBL Observatory Le 95.75 292 PFAKE 04 45 00.0 +6.5
OBL LR LR
comp=Z,5µm,22.0s
BOZ Bozeman (W) 95.86 336 PFAKE 04 45 10.0 +17
BOZ LR LR
comp=Z,2µm,19.0s
DLMT Dillon 95.93 336 PFAKE 04 45 10.0 +16
DLMT LR LR
comp=Z,2µm,22.0s

MWH	**Moku'aweowe**	**96.01**	**292**	PFAKE		04 45 10.0	+15				
MWH				LR	LR						
	comp=Z,4µm,20.0s										
DRLN	**Deer Lake**	**96.07**	**13**	PFAKE		04 45 10.0	+16				
DRLN				LR	LR						
	comp=Z,5µm,22.0s										
YBH	**Yreka Blue Hor**	**96.07**	**327**	LR	LR	05 21 04.7					
	comp=Z,907nm,18.0s,baz=153,slow=31										
POHA	**Pohakuloa**	**96.16**	**292**	PFAKE		04 45 10.0	+14				
POHA				LR	LR						
	comp=Z,5µm,20.0s										
K05A	**Summer Lake**	**96.26**	**329**	PFAKE		04 45 10.0	+15				
K05A				LR	LR						
	comp=Z,3µm,18.0s										
BBOO	**Buckleboo**	**96.31**	**208**	PFAKE		04 45 10.0	+14				
BBOO				LR	LR						
	comp=Z,4µm,19.0s										
HPAH	**Hawaii Prepara**	**96.47**	**292**	PFAKE		04 45 10.0	+13				
HPAH				LR	LR						
	comp=Z,5µm,21.0s										
EIDS	**Eidsvold**	**96.85**	**223**	PFAKE		04 45 10.0	+12				
EIDS				LR	LR						
	comp=Z,4µm,19.0s										
HUMO	**Hull Mountain**	**96.92**	**328**	PFAKE		04 45 10.0	+12				
HUMO				LR	LR						
	comp=Z,2µm,21.0s										
I07A	**Izee**	**96.96**	**331**	PFAKE		04 45 10.0	+12				
I07A				LR	LR						
	comp=Z,800nm,22.0s										
PINE	**Pine Mountain**	**97.21**	**330**	PFAKE		04 45 10.0	+10				
PINE				LR	LR						
	comp=Z,3µm,19.0s										
MSO	**Missoula**	**97.65**	**335**	PFAKE		04 45 10.0	+8.5				
MSO				LR	LR						
	comp=Z,2µm,19.0s										
G08A	**Pilot Rock**	**97.84**	**332**	PFAKE		04 45 10.0	+7.6				
G08A				LR	LR						
	comp=Z,2µm,20.0s										
ABPO	**Ambohimpanom**	**98.22**	**128**	PFAKE		04 45 20.0	+15				
ABPO				LR	LR						
	comp=Z,2µm,20.0s										
G06A	**Carlson Farm,**	**98.36**	**331**	PFAKE		04 45 20.0	+15				
G06A				LR	LR						
	comp=Z,3µm,22.0s										
H04A	**Detroit Lake**	**98.43**	**329**	PFAKE		04 45 20.0	+15				
H04A				LR	LR						
	comp=Z,1µm,18.0s										
E09A	**Wood Farm, Sta**	**98.66**	**333**	PFAKE		04 45 20.0	+14				
E09A				LR	LR						
	comp=Z,2µm,22.0s										
C09A	**Chrisman Ranch**	**99.83**	**333**	PFAKE		04 45 20.0	+8.9				
C09A				LR	LR						
	comp=Z,2µm,21.0s										
NEW	**Newport**	**99.89**	**334**	PFAKE		04 45 20.0	+8.7				
NEW				LR	LR						
	comp=Z,2µm,18.0s										
LON	**Longmire**	**100.08**	**331**	PFAKE		04 45 20.0	+7.7				
LON				LR	LR						
	comp=Z,2µm,18.0s										
LTY	**Liberty**	**100.14**	**332**	PFAKE		04 45 20.0	+7.5				
LTY				LR	LR						
	comp=Z,2µm,20.0s										
SCHQ	**Schefferville**	**100.50**	**6**	PFAKE		04 45 30.0	+16				
SCHQ				LR	LR						
	comp=Z,2µm,20.0s										
D05A	**Enumclaw**	**100.53**	**331**	PFAKE		04 45 30.0	+16				
D05A				LR	LR						
	comp=Z,2µm,20.0s										
FORT	**Forrest**	**100.56**	**202**	PFAKE		04 45 30.0	+15				
FORT				LR	LR						
	comp=Z,3µm,19.0s										
B08A	**Colville Reser**	**100.66**	**333**	PFAKE		04 45 30.0	+15				
B08A				LR	LR						
	comp=Z,1µm,19.0s										
AVE	**Averroes**	**100.69**	**53**	*i* SKS		**SKSac**		**04 56 01.5**	**+10**		
NWAO	**Narrogin (SRO)**	**100.70**	**192**	PFAKE		04 45 30.0	+14				
NWAO				LR	LR						
	comp=Z,3µm,20.0s										
TAM	**Tamanrasset**	**101.03**	**69**	PFAKE		04 45 30.0	+13				
TAM				LR	LR						
	comp=Z,3µm,19.0s										
B06A	**Marblemount**	**101.50**	**332**	PFAKE		04 45 30.0	+12				
B06A				LR	LR						
	comp=Z,3µm,21.0s										
RTC	**Rabat Centre**	**101.52**	**53**	PFAKE		04 45 30.0	+11				
RTC				LR	LR						
	comp=Z,22µm,20.0s										
MBAR	**Mbarara**	**101.96**	**103**	PFAKE		04 45 30.0	+8.4				
MBAR				LR	LR						
	comp=Z,7µm,21.0s										
IFR	**Ifrane**	**102.15**	**54**	*i* PP	PP	04 49 42.9	+8.3				
IFR				*e*SKS		04 56 22.0					
FFC	**Flin Flon**	**102.23**	**346**	PFAKE		04 45 30.0	+8.5				
FFC				LR	LR						
	comp=Z,2µm,22.0s										
PFVI	**Vila Bisbo**	**102.77**	**50**	PFAKE		04 45 40.0	+16				
PFVI				LR	LR						
	comp=Z,6µm,22.0s										
CTAO	**Charters Tower**	**103.64**	**222**	PFAKE		04 45 40.0	+11				
CTAO				LR	LR						
	comp=Z,3µm,18.0s										
SFS	**San Fernando**	**103.69**	**52**	PFAKE		04 45 40.0	+12				
SFS				LR	LR						
	comp=Z,2µm,19.0s										
SFS	**San Fernando**	**103.69**	**52**	*i* PS	PS	04 59 13.3	+17				
EVO	**Evora**	**104.23**	**49**	*i* PP	PP	04 49 59.2	+9.3				
EVO	**Evora**	**104.23**	**49**	*i* PS	PS	04 59 06.1	+4.3				
EMAL	**Malaga-Limoner**	**104.89**	**52**	*i* PP	PP	04 49 59.7	+4.9				
EMAL				*e*SS	SS	05 03 56.2	-50				
FCC	**Fort Churchill**	**105.01**	**351**	PFAKE		04 50 00.0					
FCC				LR	LR						
	comp=Z,2µm,19.0s										
HNR	**Honiara**	**105.09**	**239**	PFAKE		04 50 00.0					
HNR				LR	LR						
	comp=Z,2µm,19.0s										
NAI	**Nairobi**	**105.55**	**108**	PFAKE		04 50 00.0					
NAI				LR	LR						
	comp=Z,4µm,22.0s										
MTE	**Manteigas**	**105.85**	**48**	PFAKE		04 50 00.0					
MTE				LR	LR						
	comp=Z,6µm,19.0s										
KMBO	**Kilima Mbogo**	**105.96**	**109**	PFAKE		04 50 00.0					
KMBO				LR	LR						
	comp=Z,3µm,22.0s										
PAB	**San Pablo**	**106.93**	**51**	PFAKE		04 50 00.0					
PAB				LR	LR						
	comp=Z,6µm,22.0s										
ESLA	**Sonseca Array**	**107.23**	**51**	PFAKE		04 50 00.0					
ESLA				LR	LR						
	comp=Z,5µm,22.0s										
CART	**Cartagena**	**107.40**	**54**	*e*PP	PP	04 50 09.2	-4.1				
CART	**Cartagena**	**107.40**	**54**	*i* PS	PS	04 59 42.6	+8.0				
UCM	**Universidad Co**	**108.07**	**51**	*i* PP	PP	04 50 22.2	+4.0				
UCM	**Universidad Co**	**108.07**	**51**	*i* PS	PS	04 59 45.6	+4.1				
WR0	**Warramunga Arr**	**108.64**	**211**	PFAKE		04 50 10.0					
WR0				LR	LR						
	comp=Z,8µm,20.0s										
WR9	**Warramunga Arr**	**108.66**	**211**	PFAKE		04 50 10.0					
WR9				LR	LR						
	comp=Z,7µm,20.0s										
WR7	**Warramunga Arr**	**108.67**	**211**	PFAKE		04 50 10.0					
WR7				LR	LR						
	comp=Z,7µm,20.0s										
WR6	**Warramunga Arr**	**108.68**	**211**	PFAKE		04 50 10.0					
WR6				LR	LR						
	comp=Z,8µm,21.0s										
WR5	**Warramunga Arr**	**108.69**	**211**	PFAKE		04 50 10.0					
WR5				LR	LR						
	comp=Z,7µm,20.0s										
WR4	**Warramunga Arr**	**108.70**	**211**	PFAKE		04 50 10.0					
WR4				LR	LR						
	comp=Z,8µm,22.0s										
WC3	**Warramunga Arr**	**108.71**	**211**	PFAKE		04 50 10.0					
WC3				LR	LR						
	comp=Z,8µm,21.0s										
WR3	**Warramunga Arr**	**108.71**	**211**	PFAKE		04 50 10.0					
WR3				LR	LR						
	comp=Z,8µm,21.0s										
WC4	**Warramunga Arr**	**108.72**	**211**	PFAKE		04 50 10.0					
WC4				LR	LR						
	comp=Z,8µm,21.0s										
WR2	**Warramunga Arr**	**108.72**	**211**	PFAKE		04 50 10.0					
WR2				LR	LR						
	comp=Z,8µm,22.0s										
WB2	**Warramunga Arr**	**108.73**	**211**	PFAKE		04 50 10.0					
WB2				LR	LR						
	comp=Z,8µm,20.0s										
WR1	**Warramunga Arr**	**108.73**	**211**	PFAKE		04 50 10.0					
WR1				LR	LR						
	comp=Z,9µm,22.0s										
WRAB	**Tennant Creek**	**108.74**	**211**	PFAKE		04 50 10.0					
WRAB				LR	LR						
	comp=Z,8µm,20.0s										
WC2	**Warramunga Arr**	**108.74**	**211**	PFAKE		04 50 10.0					
WC2				LR	LR						
	comp=Z,8µm,20.0s										
WB3	**Warramunga Arr**	**108.75**	**211**	PFAKE		04 50 10.0					
WB3				LR	LR						
	comp=Z,7µm,20.0s										
WC1	**Warramunga Arr**	**108.75**	**211**	PFAKE		04 50 10.0					
WC1				LR	LR						
	comp=Z,6µm,21.0s										
WB4	**Warramunga Arr**	**108.76**	**211**	PFAKE		04 50 10.0					
WB4				LR	LR						
	comp=Z,7µm,20.0s										
WB5	**Warramunga Arr**	**108.78**	**211**	PFAKE		04 50 10.0					
WB5				LR	LR						
	comp=Z,7µm,20.0s										
WB6	**Warramunga Arr**	**108.81**	**211**	PFAKE		04 50 10.0					
WB6				LR	LR						
	comp=Z,7µm,20.0s										
WB8	**Warramunga Arr**	**108.84**	**211**	PFAKE		04 50 10.0					
WB8				LR	LR						
	comp=Z,7µm,20.0s										
WB9	**Warramunga Arr**	**108.86**	**211**	PFAKE		04 50 10.0					
WB9				LR	LR						
	comp=Z,16µm,20.0s										
WB0	**Warramunga Arr**	**108.88**	**211**	PFAKE		04 50 10.0					
WB0				LR	LR						
	comp=Z,8µm,20.0s										
COEN	**Coen**	**110.40**	**222**	PFAKE		04 50 10.0					
COEN				LR	LR						
	comp=Z,3µm,21.0s										
MBWA	**Marble Bar**	**111.76**	**197**	PFAKE		04 50 10.0					
MBWA				LR	LR						
	comp=Z,2µm,20.0s										
YKW3	**Yellowknife Ar**	**111.98**	**342**	PFAKE		04 50 10.0					
YKW3				LR	LR						
	comp=Z,2µm,20.0s										
KEST	**Kesra**	**112.27**	**61**	PFAKE		04 50 10.0					
KEST				LR	LR						
	comp=Z,8µm,22.0s										
PMG	**Port Moresby**	**112.33**	**228**	PFAKE		04 50 10.0					
PMG				LR	LR						
	comp=Z,2µm,20.0s										
DLBC	**Dease Lake**	**112.59**	**333**	PFAKE		04 50 10.0					
DLBC				LR	LR						
	comp=Z,1µm,20.0s										
VAL	**Valentia**	**112.90**	**38**	*e*PP	PP	04 50 47.3	-5.5				
FITZ	**Fitzroy Crossi**	**113.27**	**204**	PFAKE		04 50 20.0					
FITZ				LR	LR						
	comp=Z,3µm,20.0s										
RABL	**Rabaul**	**113.88**	**236**	PFAKE		04 50 20.0					
RABL				LR	LR						
	comp=Z,2µm,22.0s										
FURI	**Furi**	**114.25**	**103**	PFAKE		04 50 20.0	+13				
FURI				LR	LR						
	comp=Z,4µm,21.0s										
DSB	**Dublin**	**115.51**	**39**	PFAKE		04 50 20.0	+12				
DSB				LR	LR						
	comp=Z,6µm,22.0s										
WDD	**Wied Dalam**	**115.57**	**64**	PFAKE		04 50 20.0	+11				
WDD				LR	LR						
	comp=Z,4µm,21.0s										
SSB	**Saint Sauveur**	**115.65**	**51**	PFAKE		04 50 20.0	+11				
SSB				LR	LR						
	comp=Z,5µm,20.0s										
CLTB	**Caltabellotta**	**115.84**	**62**	PFAKE		04 50 20.0	+11				
CLTB				LR	LR						
	comp=Z,4µm,22.0s										
MTN	**Manton Dam**	**116.43**	**211**	PFAKE		04 50 20.0	+8.7				
MTN				LR	LR						
	comp=Z,7µm,20.0s										
BNI	**Bardonecchia**	**116.67**	**52**	PFAKE		04 50 20.0	+9.1				
BNI				LR	LR						
	comp=Z,5µm,21.0s										
SENIN	**Lac Senin/Sane**	**117.83**	**51**	PFAKE		04 50 20.0	+6.8				
SENIN				LR	LR						
	comp=Z,7µm,21.0s										
CEL	**Celeste**	**117.93**	**63**	PFAKE		04 50 30.0	+17				
CEL				LR	LR						
	comp=Z,4µm,20.0s										
VLC	**Villacollemand**	**118.21**	**55**	PFAKE		04 50 30.0	+16				
VLC				LR	LR						
	comp=Z,2µm,22.0s										
ESK	**Eskdalemuir**	**118.28**	**39**	PFAKE		04 50 30.0	+17				
ESK				LR	LR						
	comp=Z,5µm,22.0s										
MANU	**Manus Island**	**118.36**	**233**	PFAKE		04 50 30.0	+15				
MANU				LR	LR						
	comp=Z,2µm,21.0s										
BALM	**Baldy**	**118.68**	**330**	PFAKE		04 50 30.0	+16				
BALM				LR	LR						
	comp=Z,1µm,19.0s										
AQU	**L'Aquila**	**118.88**	**58**	PFAKE		04 50 30.0	+15				
AQU				LR	LR						
	comp=Z,5µm,21.0s										
ECH	**Echery**	**118.88**	**49**	PFAKE		04 50 30.0	+15				
ECH				LR	LR						
	comp=Z,4µm,20.0s										
CUC	**Castrocucco**	**118.92**	**61**	PFAKE		04 50 30.0	+15				
CUC				LR	LR						
	comp=Z,4µm,22.0s										
ATD	**Arta Tunnel**	**118.98**	**104**	PFAKE		04 50 30.0	+14				
ATD				LR	LR						
	comp=Z,3µm,20.0s										
UCC	**Uccle**	**119.00**	**46**	PFAKE		04 50 30.0	+15				
UCC				LR	LR						
	comp=Z,4µm,22.0s										
TIP	**Timpagrande**	**119.02**	**62**	PFAKE		04 50 30.0	+14				
TIP				LR	LR						
	comp=Z,4µm,22.0s										
TUE	**Stuetta**	**119.02**	**52**	PFAKE		04 50 30.0	+15				
TUE				LR	LR						
	comp=Z,5µm,21.0s										
WLF	**Walferdange**	**119.23**	**48**	PFAKE		04 50 30.0	+15				
WLF				LR	LR						
	comp=Z,5µm,21.0s										
BFO	**Black Forest**	**119.58**	**50**	PFAKE		04 50 30.0	+14				
BFO				LR	LR						
	comp=Z,5µm,21.0s										
FUORN	**Ofenpass-Fuorn**	**119.62**	**52**	PFAKE		04 50 30.0	+13				
FUORN				LR	LR						
	comp=Z,5µm,20.0s										
DAWY	**Dawson**	**119.81**	**333**	PFAKE		04 50 30.0	+14				
DAWY				LR	LR						
	comp=Z,2µm,22.0s										
STU	**Stuttgart**	**120.30**	**50**	PFAKE		04 50 30.0	+12				
STU				LR	LR						
	comp=Z,4µm,21.0s										
KDAK	**Kodiak Island**	**120.53**	**323**	PFAKE		04 50 30.0	+12				
KDAK				LR	LR						
	comp=Z,2µm,20.0s										
DGAR	**Diego Garcia**	**120.53**	**144**	PFAKE		04 50 30.0	+11				
DGAR				LR	LR						
	comp=Z,3µm,22.0s										
RES	**Resolute Bay**	**120.66**	**355**	PFAKE		04 50 30.0	+13				
RES				LR	LR						
	comp=Z,3µm,20.0s										
EGAK	**Eagle**	**120.85**	**333**	PFAKE		04 50 30.0	+12				
EGAK				LR	LR						
	comp=Z,2µm,22.0s										
SCM	**Sheep Creek Mo**	**121.01**	**329**	PFAKE		04 50 30.0	+11				
SCM				LR	LR						
	comp=Z,2µm,22.0s										
DOT	**Dot Lake**	**121.04**	**331**	PFAKE		04 50 30.0	+11				
DOT				LR	LR						
	comp=Z,2µm,22.0s										
TRI	**Trieste**	**121.06**	**55**	PFAKE		04 50 30.0	+11				
TRI				LR	LR						
	comp=Z,2µm,20.0s										
PAX	**Paxson**	**121.08**	**330**	PFAKE		04 50 30.0	+11				
PAX				LR	LR						
	comp=Z,1µm,22.0s										
ITM	**Ithomi**	**121.11**	**67**	PFAKE		04 50 30.0	+10				
ITM				LR	LR						
	comp=Z,2µm,20.0s										
INK	**Inuvik**	**121.18**	**339**	PFAKE		04 50 30.0	+11				
INK				LR	LR						
	comp=Z,2µm,21.0s										
SCRK	**Sand Creek**	**121.23**	**332**	PFAKE		04 50 30.0	+11				
SCRK				LR	LR						
	comp=Z,1µm,20.0s										
H11S2	**WAKE ISLAND Hyl**	**121.24**	**265**	T	T	07 02 48.6					
	baz=135										
H11S1	**WAKE ISLAND Hyl**	**121.26**	**265**	T	T	07 02 56.5					
	baz=135										
H11S3	**WAKE ISLAND Hyl**	**121.26**	**265**	T	T	07 02 52.5					
	baz=135										
SML	**Sawmill**	**121.36**	**328**	PFAKE		04 50 30.0	+11				
SML				LR	LR						
	comp=Z,1µm,21.0s										
RIDG	**Independ'e Rid**	**121.36**	**331**	PFAKE		04 50 30.0	+11				
RIDG				LR	LR						
	comp=Z,2µm,22.0s										
GHO	**Glory Hole Cre**	**121.56**	**328**	PFAKE		04 50 30.0	+10				
GHO				LR	LR						
	comp=Z,1µm,20.0s										
SOEI	**Soe**	**121.58**	**205**	PFAKE		04 50 30.0	+8.6				
SOEI				LR	LR						
	comp=Z,5µm,20.0s										
DHY	**Denali Highway**	**121.81**	**330**	PFAKE		04 50 30.0	+10				
DHY				LR	LR						
	comp=Z,1µm,20.0s										
GRFO	**Grafenberg**	**121.92**	**50**	PFAKE		04 50 30.0	+9.3				
GRFO				LR	LR						
	comp=Z,3µm,20.0s										
H11N3	**WAKE ISLAND Hyl**	**121.92**	**266**	T	T	07 03 32.2					
	baz=132,slow=76,SNR=38										
H11N1	**WAKE ISLAND Hyl**	**121.93**	**266**	T	T	07 03 26.7					
	baz=132,slow=76,SNR=42										
H11N2	**WAKE ISLAND Hyl**	**121.94**	**266**	T	T	07 03 28.8					
	baz=132,slow=76,SNR=42										
IDI	**Anoyia**	**121.94**	**71**	PFAKE		04 50 30.0	+8.7				
IDI				LR	LR						
	comp=Z,2µm,21.0s										
SUA	**Susitna One**	**122.05**	**327**	PFAKE		04 50 30.0	+9.3				
SUA				LR	LR						
	comp=Z,1µm,20.0s										
DAMY	**Dhamar**	**122.19**	**103**	PFAKE		04 50 30.0	+7.4				
DAMY				LR	LR						
	comp=Z,4µm,19.0s										
TIR	**Tirane**	**122.22**	**62**	PFAKE		04 50 30.0	+8.5				
TIR				LR	LR						
	comp=Z,4µm,20.0s										
AGG	**Agios Georgios**	**122.44**	**66**	PFAKE		04 50 30.0	+7.9				
AGG				LR	LR						
	comp=Z,2µm,20.0s										
TTG	**Podgorica**	**122.45**	**61**	PFAKE		04 50 30.0	+8.1				
TTG				LR	LR						
	comp=Z,2µm,22.0s										
HDA	**Harding Lake**	**122.50**	**331**	PFAKE		04 50 30.0	+8.7				
HDA				LR	LR						
	comp=Z,1µm,21.0s										
BLY	**Banja Luka**	**122.51**	**57**	PFAKE		04 50 30.0	+8.1				
BLY				LR	LR						
	comp=Z,5µm,22.0s										
RND	**Reindeer**	**122.54**	**330**	PFAKE		04 50 30.0	+8.5				
RND				LR	LR						
	comp=Z,2µm,22.0s										
SKT	**Skwentna**	**122.66**	**327**	PFAKE		04 50 30.0	+8.3				
SKT				LR	LR						
	comp=Z,600nm,18.0s										
ILAR	**Eielson Array**	**122.71**	**331**	PKP		**PKPdf**		**04 50 20.5**	**-1.2**		
	comp=Z,1.4nm,0.8s,baz=151,slow=2.1,SNR=12										
MCK	**McKinley**	**122.77**	**330**	PFAKE		04 50 30.0	+8.1				
MCK				LR	LR						
	comp=Z,2µm,21.0s										
GEA0	**GERESS Array S**	**122.79**	**52**	*e*PKPdf		**PKPdf**		**04 50 21.9**	**-0.5**		
GEC2	**GERESS Array S**	**122.79**	**52**	PFAKE		04 50 30.0	+7.5				
GEC2				LR	LR						
	comp=Z,4µm,20.0s										
GERES	**GERESS Array B**	**122.79**	**52**	PKP		**PKPdf**		**04 50 22.0**	**-0.5**		
	comp=Z,2.1nm,0.8s,baz=219,slow=1.7,SNR=12										
GERES	**GERESS Array B**	**122.79**	**52**	PKIKP		**PKPdf**		**04 50 22.0**	**-0.5**		
FNA	**Florina**	**122.84**	**63**	PFAKE		04 50 30.0	+7.2				
FNA				LR	LR						
	comp=Z,2µm,20.0s										
NKC	**Novy Kostel**	**122.88**	**50**	AMS	AMS	05 41 10.0					
	comp=Z,4µm,22.8s										
KHC	**Kasperske Hory**	**122.88**	**51**	PFAKE		04 50 30.0	+7.4				
KHC				LR	LR						
	comp=Z,2µm,21.0s										
KHC	**Kasperske Hory**	**122.88**	**51**	*e*SS	SS	05 08 53.9	+11				
KHC				AMS	AMS	05 40 40.0					
	comp=Z,5µm,21.5s										
WRH	**Wood River Hil**	**122.93**	**331**	PFAKE		04 50 30.0	+7.9				
WRH				LR	LR						
	comp=Z,2µm,21.0s										
CCB	**Clear Creek Bu**	**122.94**	**331**	PFAKE		04 50 30.0	+7.9				
CCB				LR	LR						
	comp=Z,1µm,21.0s										
SANT	**Santorini**	**122.95**	**70**	PFAKE		04 50 30.0	+6.9				
SANT				LR	LR						
	comp=Z,2µm,22.0s										
TRF	**Thorofare Moun**	**123.08**	**329**	PFAKE		04 50 30.0	+7.3				
TRF				LR	LR						
	comp=Z,2µm,21.0s										
COLA	**College**	**123.10**	**331**	PFAKE		04 50 30.0	+7.6				
COLA				LR	LR						
	comp=Z,1µm,21.0s										
LIT	**Litokhoron**	**123.15**	**65**	PFAKE		04 50 30.0	+6.6				
LIT				LR	LR						
	comp=Z,2µm,19.0s										
BWN	**Browne**	**123.23**	**330**	PFAKE		04 50 30.0	+7.3				
BWN				LR	LR						
	comp=Z,1µm,20.0s										
MMRI	**Maumere**	**123.23**	**203**	PFAKE		04 50 40.0	+16				
MMRI				LR	LR						
	comp=Z,4µm,21.0s										
MDM	**Murphy Dome**	**123.28**	**331**	PFAKE		04 50 30.0	+7.2				
MDM				LR	LR						
	comp=Z,2µm,22.0s										
FYU	**Fort Yukon**	**123.30**	**334**	PFAKE		04 50 30.0	+7.2				
FYU				LR	LR						
	comp=Z,2µm,22.0s										
PPLA	**Purkeypile**	**123.45**	**328**	PFAKE		04 50 40.0	+17				
PPLA				LR	LR						
	comp=Z,1µm,18.0s										
KARP	**Karpathos**	**123.60**	**72**	PFAKE		04 50 40.0	+16				
KARP				LR	LR						
	comp=Z,2µm,20.0s										
CAST	**Castle Rocks**	**123.72**	**329**	*e*PKPdf		**PKPdf**		**04 50 23.2**	**-0.5**		
CAST				LR	LR						
	comp=Z,1µm,20.0s						

comp=Z,4μm,21.7s
TREC Trest 124.02 52 AMS AMS 05 41 50.0
comp=Z,4μm,21.2s
BRG Berggiesshubel 124.03 50 *e* **PKPdf** **04 50 26.7 +2.0**
comp=Z,19nm,1.8s
PVCC Panska Ves 124.18 50 AMS AMS 05 44 10.0
comp=Z,3μm,19.9s
MLY Manley 124.18 331 PFAKE 04 50 40.0 +15
MLY LR LR
comp=Z,1μm,20.0s
VTS Vitosha 124.98 62 PFAKE 04 50 40.0 +13
VTS LR LR
comp=Z,2μm,22.0s
DPC Dobruska-Polom 125.04 51 *e*SS SS 05 09 23.5 +13
DPC AMS AMS 05 40 50.0
comp=Z,3μm,20.2s
FAKI Fak Fak 125.06 217 PFAKE 04 50 40.0 +12
FAKI LR LR
comp=Z,3μm,22.0s
JAGI Jajag, Banyuwa 125.17 194 PFAKE 04 50 40.0 +12
JAGI LR LR
comp=Z,2μm,19.0s
MORC Moravsky Berou 125.42 52 PFAKE 04 50 40.0 +13
MORC LR LR
comp=Z,4μm,22.0s
VYHS Vyhne 125.48 54 *e*PKIKP **PKPdf** **04 50 27.8 +0.2**
VYHS Vyhne 125.48 54 *e*PKP **PKPdf** **04 50 27.8 +0.2**
BZS Buzias 125.61 59⇓ *i*P **PKPdf** **04 50 27.4 -0.5**
BZS Buzias 125.61 59 ⇓PKIKP **PKPdf** **04 50 27.4 -0.5**
RGN Rugen 125.62 46 PFAKE 04 50 40.0 +12
RGN LR LR
comp=Z,4μm,20.0s
HERR Herculane 125.71 60⇑ *i*P **PKPdf** **04 50 24.1 -4.0**
IM3 Indian Mountai 125.75 331 *e*PKPdf **PKPdf** **04 50 27.1 -0.4**
OKC Ostrava-Krasne 125.78 53 AMS AMS 05 42 50.0
comp=Z,3μm,19.8s
PSZ Piszkesteto 125.79 55 PFAKE 04 50 40.0 +12
PSZ LR LR
comp=Z,3μm,21.0s
ALN Alexandroupoli 125.86 66 PFAKE 04 50 40.0 +12
ALN LR LR
comp=Z,800nm,19.0s
TOLK Toolik Lake Re 125.88 334 *e*PKPpre PKPpre 04 50 19.1
TOLK LR LR
comp=Z,2μm,22.0s
GZR Gura Zlata 126.19 59⇓ *i*P **PKPdf** **04 50 30.8 +1.7**
GZR Gura Zlata 126.19 59 ⇓PKIKP **PKPdf** **04 50 30.8 +1.7**
KONO Kongsberg 126.41 39 PFAKE 04 50 40.0 +11
KONO LR LR
comp=Z,5μm,20.0s
CISI Cisompet, Garu 126.84 186 PFAKE 04 50 40.0 +8.6
CISI LR LR
comp=Z,2μm,20.0s
DRGR 126.87 58⇑ *i*P **PKPdf** **04 50 28.7 -1.6**
DRGR 126.87 58 ⇑PKIKP **PKPdf** **04 50 28.7 -1.6**
ISP Isparta 127.11 71 PFAKE 04 50 40.0 +8.9
ISP LR LR
comp=Z,900nm,20.0s
ARR Arges 127.31 60⇑ *i*P **PKPdf** **04 50 29.7 -1.5**
KAPI Kappang 127.35 201 PFAKE 04 50 40.0 +7.7
KAPI LR LR
comp=Z,2μm,21.0s
CSS Mathiatis 127.42 76 PFAKE 04 50 40.0 +8.3
CSS LR LR
comp=Z,1μm,22.0s
TRPA Tarpa 127.44 56⇑ *i*P **PKPdf** **04 50 31.8 +0.6**
VOIR 127.59 60⇑ *i*P **PKPdf** **04 50 31.7 -0.1**
VOIR 127.59 60 ⇑PKIKP **PKPdf** **04 50 31.7 -0.1**
NB2 NORSAR Subarra 127.78 38 PKPdf **PKPdf** **04 50 36.6 +5.0**
comp=Z,46nm,2.0s,baz=248,slow=1.9
NB2 NORSAR Subarra 127.78 38 PKPdf **PKPdf** **04 50 36.6 +5.0**
baz=248,slow=1.9
NB200 NORSAR Array S 127.78 38 *e*PKPdf **PKPdf** **04 50 30.6 -1.0**
NOA NORSAR Array B 127.78 38 PKP **PKPdf** **04 50 30.6 -1.0**
comp=Z,2.0nm,1.1s,baz=251,slow=1.8,SNR=3.0
MLR Muntele Rosu 128.17 61 *e*PKPdf **PKPdf** **04 50 32.7 -0.3**
MLR LR LR
comp=Z,5μm,20.0s
MLR Muntele Rosu 128.17 61⇓ *i*P **PKPdf** **04 50 32.8 -0.1**
MLR Muntele Rosu 128.17 61 ⇓PKIKP **PKPdf** **04 50 32.9 0.0**
KWP Kalwaria Pacla 128.26 55 PFAKE 04 50 40.0 +7.2
KWP LR LR
comp=Z,35μm,21.0s
BUR04 Bucovina Ar. S 128.76 58 *e*PKPdf **PKPdf** **04 50 34.9 +1.0**
BURAR Bucovina Array 128.76 58⇑ *i*P **PKPdf** **04 50 36.9 +2.9**
BURAR Bucovina Array 128.76 58 ⇑PKIKP **PKPdf** **04 50 36.9 +2.9**
PLOR Plostina 128.78 61⇑ *i*P **PKPdf** **04 50 35.8 +1.8**
PLOR Plostina 128.78 61 ⇑PKIKP **PKPdf** **04 50 35.8 +1.8**
VRI Vrincioaia 128.83 61⇑ *i*P **PKPdf** **04 50 33.5 -0.5**
VRI Vrincioaia 128.83 61 ⇑PKIKP **PKPdf** **04 50 33.5 -0.5**
RAYN Ar Rayn 129.02 95 PFAKE 04 50 50.0 +15
RAYN LR LR
comp=Z,4μm,22.0s
TIRR Tirgusor 129.18 63 *e*PKPdf **PKPdf** **04 50 35.0 +0.3**
TIRR LR LR
comp=Z,3μm,22.0s
TIRR Tirgusor 129.18 63⇑ *i*P **PKPdf** **04 50 35.9 +1.2**
TIRR Tirgusor 129.18 63 *e*PKIKP **PKPdf** **04 50 35.0 +0.3**
TIRR MLR MLR
comp=Z,3μm,22.0s
ANM Nome 129.35 326 PFAKE 04 50 50.0 +16
ANM LR LR
comp=Z,1μm,20.0s
ANTO Ankara 129.70 70 PFAKE 04 50 50.0 +14
ANTO LR LR
comp=Z,2μm,20.0s
RDOG Red Dog Mine 129.90 331 PFAKE 04 50 50.0 +15
RDOG LR LR
comp=Z,1μm,21.0s
BR101 Keskin Array S 130.18 71 *e*PKPdf **PKPdf** **04 50 36.7 -0.3**
BRTR Keskin Array B 130.18 71 PKP **PKPdf** **04 50 36.7 -0.3**
comp=Z,1.4nm,0.9s,baz=211,slow=1.4,SNR=6.2
LUWI Luwuk 130.28 206 PFAKE 04 50 50.0 +12
LUWI LR LR
comp=Z,2μm,21.0s
TNTI Ternate 130.38 213 PFAKE 04 50 50.0 +12
TNTI LR LR
comp=Z,1μm,21.0s
SUW Suwalki 130.49 50 PFAKE 04 50 50.0 +13
SUW LR LR
comp=Z,3μm,21.0s
ILGA Ilgaz 130.90 69 PFAKE 04 50 50.0 +12
ILGA LR LR
comp=Z,2μm,19.0s
AKASG Malin Array Be 132.49 56 PKP **PKPdf** **04 50 39.5 -1.2**
comp=Z,0.3nm,0.3s,baz=252,slow=1.9,SNR=4.2
AKBB Malin Array Si 132.49 56 *e*PKPdf **PKPdf** **04 50 39.5 -1.2**
AKBB Malin Array Si 132.49 56 *e*PKIKP **PKPdf** **04 50 39.5 -1.2**
HMDM Hanimaadhoo 133.49 137 PFAKE 04 51 00.0 +16
HMDM LR LR
comp=Z,3μm,22.0s
MNCI Minicoy 134.74 136 PFAKE 04 51 00.0 +14
MNCI LR LR
comp=Z,4μm,18.0s
BKNI Bangkinang 134.82 177 PFAKE 04 51 00.0 +14
BKNI LR LR
comp=Z,3μm,21.0s
ANN Anapa 135.06 66 *i* PKIKP **PKPdf** **04 50 50.1 +4.3**
ANN pmax pmax
comp=Z,50nm,1.1s
KSM Kuching 135.51 191 PFAKE 04 51 00.0 +12
KSM LR LR
comp=Z,2μm,22.0s
GSI Gunungsitoli 135.57 172 PFAKE 04 51 00.0 +12
GSI LR LR
comp=Z,3μm,21.0s
SBUM Sibu 136.19 193 PFAKE 04 51 00.0 +11
SBUM LR LR
comp=Z,800nm,22.0s
MYKOM Kota Tinggi 136.29 181 PFAKE 04 51 00.0 +11
MYKOM LR LR
comp=Z,3μm,22.0s
DAV Davao City (W) 136.83 214 PFAKE 04 51 00.0 +10
DAV LR LR
comp=Z,1μm,20.0s
PSI Prapat 137.16 174 PFAKE 04 51 00.0 +9.1
PSI LR LR
comp=Z,3μm,20.0s
UOSS Minazif 137.35 103 PFAKE 04 51 00.0 +9.3
UOSS LR LR
comp=Z,4μm,20.0s
MYLDM Lahad Datu 137.45 203 PFAKE 04 51 00.0 +8.8
MYLDM LR LR
comp=Z,2μm,19.0s
AKH Akhalkalaki 137.57 74 PFAKE 04 51 00.0 +9.2
AKH LR LR
comp=Z,2μm,19.0s
GNI Garni 137.84 76 PFAKE 04 51 00.0 +8.6
GNI LR LR
comp=Z,2μm,22.0s
KIV Kislovodsk 138.12 70 PFAKE 04 51 00.0 +8.3
KIV LR LR
comp=Z,1μm,20.0s
KIV Kislovodsk 138.12 70 *i* PKIKP **PKPdf** **04 50 51.1 -0.6**
KIV pmax pmax
comp=Z,20nm,1.1s
OBN Obninsk 138.17 52 PFAKE 04 51 00.0 +8.8
OBN LR LR
comp=Z,2μm,21.0s
OBN Obninsk 138.17 52⇑ *e*PKIKP **PKPdf** **04 50 52.7 +1.5**
OBN *i* 04 50 57.4
OBN *e* 04 53 38.7
OBN *e*SSS SSS 05 16 57.1
OBN pmax pmax
comp=Z,8.0nm,0.5s
OBN pmax pmax
comp=Z,10.0nm,0.6s
ZEI Tsey 138.44 72 *i* PKIKP PKPdf 04 51 01.3 +8.9
ZEI pmax pmax
comp=Z,8.0nm,1.2s
VSR Storozhevoye 138.53 58 *e*PKIKP **PKPdf** **04 50 49.9 -2.1**
VSR pmax pmax
comp=Z,10.0nm,1.5s
LPSR Galich'ya Gora 138.81 56 *e*PKIKP **PKPdf** **04 50 53.6 +1.1**
LPSR pmax pmax
comp=Z,20nm,1.4s
APA Apatity 138.81 33⇓ *i*PKHKP PKPpre 04 50 37.7
APA pmax pmax
comp=Z,8.0nm,1.1s
APA pmax pmax
comp=Z,13nm,1.0s
IPM Ipoh 138.94 177 PFAKE 04 51 10.0 +16
IPM LR LR
comp=Z,2μm,22.0s
LHMI Lhok Sumawe 139.38 171 PFAKE 04 51 10.0 +15
LHMI LR LR
comp=Z,2μm,21.0s
KULM Kulim 139.73 177 PFAKE 04 51 10.0 +15
KULM LR LR
comp=Z,2μm,20.0s
VRH Novokhopyorsk 140.06 59 *e*PKIKP **PKPdf** **04 50 54.4 -0.4**
VRH pmax pmax
comp=Z,10.0nm,1.0s
BILL Bilibino 141.16 328 PFAKE 04 51 10.0 +14
BILL LR LR
comp=Z,2μm,22.0s
PET Petropavlovsk 143.77 302 PFAKE 04 51 10.0 +8.7
PET LR LR
comp=Z,2μm,20.0s
PET Petropavlovsk 143.77 302 *i* PKIKP **PKPdf** **04 51 07.9 +6.6**
PET *e* 04 54 25.2
PET *e*SS SS 05 13 00.0 +4.2
PET pmax pmax
comp=Z,16nm,1.3s
PET pmax pmax
comp=Z,200nm,17.0s
PET MLR MLR
comp=Z,1μm,17.0s
PET MLR MLR
comp=Z,1μm,17.0s
PRGR Permogore 143.84 43 *e*PKIKP PKPbc 04 50 59.1 +0.1
PRGR pmax pmax
comp=Z,70nm,1.0s
PEA0B Petropavlovsk- 144.35 302 PFAKE 04 51 10.0 +7.6
PEA0B LR LR
comp=Z,2μm,20.0s
PETK Petropavlovsk- 144.35 302 PKP **PKPab** **04 51 00.4 -0.2**
comp=Z,1.3nm,0.5s,baz=87,slow=4.9
PETK Petropavlovsk- 144.35 302 *e*PKPdf **PKPdf** **04 51 04.8 +2.4**
PEA1 Petropavlovsk- 144.35 302 *e*PKPdf **PKPab** **04 51 00.4 -0.2**
SKR Severo-Kuril's 144.81 298 *i* PKHKP PKPpre 04 50 42.4
SKR MLR MLR
comp=Z,1μm,18.0s
SKR MLR MLR
comp=Z,1μm,17.0s
PBA Port Blair 145.01 162 PFAKE 04 51 20.0 +15
PBA LR LR
comp=Z,4μm,21.0s
HYB Hyderabad 145.28 136 *i* PKP **PKPbc** **04 51 03.0 -1.9**
HYB *e* 04 51 13.0
GEYT Alibeck 146.09 87 PKPbc **PKPbc** **04 51 06.5 -0.4**
comp=Z,2.3nm,0.4s,baz=241,slow=4.8,SNR=2.0
GYA0B ALIBECK ARRAY 146.09 87 *e*PKPdf **PKPab** **04 51 08.2 +0.7**
GYA0B LR LR
comp=Z,3μm,22.0s
SEY Seymchan 147.40 320 PKPbc **PKPbc** **04 51 09.3 -0.5**
comp=Z,6.8nm,0.7s,baz=113,slow=3.6,SNR=6.4
MA2 Magadan 148.56 314 PFAKE 04 51 20.0 +3.4
MA2 LR LR
comp=Z,2μm,21.0s
SRDT SRDT 148.62 173 P **PKPab** **04 51 19.7 +1.7**
YUK Yuzn-Kuril'sk 149.78 283 *d* PKHKP PKPpre 04 51 11.6
YUK *e* 04 54 50.3
YUK *e*PPP PPP 04 58 10.6
YUK *i* SS SS 05 14 07.3 +3.0
YUK *e*SSS SSS 05 19 48.5
UTHA Uthaitani 149.84 173 P **PKPab** **04 51 21.0 -1.9**
CHAI Chaiyaphum 150.31 178 P **PKPab** **04 51 31.3 +6.4**
UMPA Umpang Tak 150.43 172 P **PKPab** **04 51 26.5 +1.1**
ARU Arti 150.62 52 *e*PKPbc **PKPbc** **04 51 17.7 -0.4**
ARU Arti 150.62 52 *i* PKIKP **PKPbc** **04 51 19.8 +1.7**
ARU SS SS 05 14 17.3 +4.3
PBKT Sadao Pong 150.94 176 *e*PKPab **PKPab** **04 51 28.0 +0.6**
PBKT Sadao Pong 150.94 176 P **PKPbc** **04 51 20.4 +0.3**
ERM Erimo 150.96 277 PFAKE 04 51 20.0 +0.6
ERM LR LR
comp=Z,2μm,21.0s
ABKAR Akbulak array 151.02 67 *e*PKPdf **PKPdf** **04 51 15.1 +1.6**
TIXI Tiksi 151.16 343 *e*PKPdf **PKPdf** **04 51 15.9 +2.8**
TIXI LR LR
comp=Z,1μm,21.0s
TIXI Tiksi 151.16 343 *e*PKIKP **PKPdf** **04 51 15.9 +2.8**
TIXI MLR MLR
comp=Z,1μm,21.0s
SUKH Sukhothai 151.76 173 P **PKPbc** **04 51 24.7 +2.7**
KBL Kabul 152.01 101 PFAKE 04 51 30.0 -1.9
KBL LR LR
comp=Z,2μm,21.0s
ASAJ Asahikawa 152.04 281 PFAKE 04 51 30.0 -1.5
ASAJ LR LR
comp=Z,1μm,20.0s
MJAR Matsushiro Arr 152.08 264 PKPbc **PKPbc** **04 51 21.1 -1.1**
comp=Z,3.4nm,0.9s,baz=173,slow=3.3,SNR=4.1
MAJO Matsushiro 152.08 264 *e*PKPbc **PKPbc** **04 51 21.1 -1.1**
MAJO LR LR
comp=Z,1μm,20.0s
MAJO Matsushiro 152.08 264 *e*PKIKP **PKPbc** **04 51 21.1 -1.1**
MAJO MLR MLR
comp=Z,1μm,20.0s
MJB9 Matsu-Tunnel 152.08 264 *e*PKPab **PKPab** **04 51 34.1 +2.2**
MJB9 LR LR
comp=Z,1μm,22.0s
JOW Kunigami 152.41 236 PFAKE 04 51 30.0 -3.5
JOW LR LR
comp=Z,2μm,20.0s
NONG Nongkai 152.47 180 P **PKPab** **04 51 31.7 -2.1**
CM01 Chiang Mai Arr 152.63 172 *e*PKPbc **PKPbc** **04 51 23.1 -0.9**
YSS Yuzn-Sakhalins 152.65 287 PFAKE 04 51 30.0 -3.9
YSS LR LR
comp=Z,1μm,19.0s
YSS Yuzn-Sakhalins 152.65 287 *e*PKIKP **PKPab** **04 51 32.0 -1.9**
YSS *e* 04 58 24.4
YSS *e*SS SS 05 15 31.0 +55
CM31 Chiang Mai Arr 152.66 172 *e*PKPbc **PKPbc** **04 51 22.2 -1.8**
CMAR Chiang Mai Arr 152.66 172 PKPbc **PKPbc** **04 51 22.2 -1.8**
comp=Z,2.0nm,0.4s,baz=221,slow=3.2,SNR=9.3
QIZ Qiongzhong 152.82 194 PKPbc **PKPdf** **04 51 17.8 +0.6**
QIZ PP **PP** **04 55 09.9 +2.6**
QIZ SS SS 05 14 42.6 +6.7
QIZ LR LR
comp=Z,1μm,19.4s
QIZ LR LR
comp=Z,650nm,17.5s
QIZ LR LR
comp=Z,1μm,24.0s
QIZ Qiongzhong 152.82 194 PFAKE 04 51 30.0 -5.3
QIZ LR LR
comp=Z,2μm,21.0s
TWG Pinlang 152.84 219 PFAKE 04 51 30.0 -5.3
TWG LR LR
comp=Z,2μm,22.0s
CMMT Chiang Mai 153.02 172 P **PKPab** **04 51 33.5 -2.6**
CHTO Chiang Mai 153.02 172 PFAKE 04 51 30.0 +5.2
CHTO LR LR
comp=Z,2μm,20.0s
CHTO Chiang Mai 153.02 172 P **PKPab** **04 51 33.5 -2.6**
YULB Yu-li 153.23 220 PFAKE 04 51 30.0 +4.8
YULB LR LR
comp=Z,700nm,22.0s
YOJ Yonaguni jima 153.34 224 PFAKE 04 51 30.0 +4.7
YOJ LR LR
comp=Z,2μm,22.0s
TPUB Ta-pu 153.45 219 PFAKE 04 51 30.0 +4.4
TPUB LR LR
comp=Z,900nm,22.0s
SSLB Suanglung 153.73 220 PFAKE 04 51 30.0 +3.7
SSLB LR LR
comp=Z,800nm,22.0s
NACB Ninganchiao 153.77 221 PFAKE 04 51 30.0 +3.7
NACB LR LR
comp=Z,800nm,21.0s
YHNB Yeheng 154.30 222 PFAKE 04 51 30.0 +2.5
YHNB LR LR
comp=Z,1μm,22.0s
TATO Taipei 154.50 222 PFAKE 04 51 30.0 +2.2
TATO LR LR
comp=Z,1μm,21.0s
NRIK Noril'sk 155.03 13 PKPab **PKPab** **04 51 42.2 -1.1**
comp=Z,4.9nm,0.6s,baz=352,slow=6.1,SNR=4.0
JNU Nakatsue 155.16 250 PFAKE 04 51 30.0 +10
JNU LR LR
comp=Z,2μm,20.0s
YAK Yakutsk 157.51 326 PFAKE 04 51 30.0 +7.8
YAK LR LR
comp=Z,2μm,22.0s
YAK Yakutsk 157.51 326 *e*PKP2 **PKPab** **04 51 52.3 -1.9**
YAK pmax pmax
comp=Z,20nm,1.3s
YAK pmax pmax
comp=N,3.0nm,1.5s
YAK pmax pmax
comp=E,8.0nm,1.5s
BRVK Borovoye 157.65 59 PFAKE 04 51 30.0 +7.3
BRVK LR LR
comp=Z,2μm,19.0s
KSH Kashi 159.29 98 PKP **PKPdf** **04 51 26.9 +1.6**
KSH PP **PP** **04 55 47.3 +2.7**
KSH SKS **SKSdf** **04 58 31.0 +3.1**
KSH SS **SS** **05 15 49.8 +1.8**
KSH AMB AMB
comp=Z,670nm,6.8s
KSH LR LR
comp=Z,2μm,15.7s
KSH LR LR
comp=Z,3μm,16.0s
KSH LR LR
comp=Z,7μm,19.9s
USA0B Ussuriysk Arra 159.41 276 PFAKE 04 51 40.0 +15
USA0B LR LR
comp=Z,1μm,22.0s
AAK Ala-Archa 159.43 88 PFAKE 04 51 40.0 +15
AAK LR LR
comp=Z,3μm,21.0s
KMI Kunming 159.50 180 PKP **PKPdf** **04 51 24.0 -2.1**
KMI pPKP pPKPdf 04 51 26.9 -11
KMI sPKP 04 51 29.4
FRU1 Bishkek 159.58 88 PFAKE 04 51 40.0 +15
FRU1 LR LR
comp=Z,2μm,21.0s
SSE Sheshan 159.65 231 PKP **PKPdf** **04 51 26.6 +0.9**
SSE PP **PP** **04 55 49.3 +3.4**
SSE AMB AMB
comp=Z,160nm,8.2s
SSE LR LR
comp=Z,430nm,22.6s
SSE LR LR
comp=Z,340nm,22.6s
GYA Guiyang 160.60 190 PKP **PKPdf** **04 51 26.5 -0.6**
GYA PKPab **PKPab** **04 52 10.0 +1.3**
GYA PKS **PKSdf** **04 54 58.6 -2.1**
GYA SKKS 05 02 39.6
GYA SS **SS** **05 16 02.8 +3.3**
GYA AMB AMB
comp=Z,260nm,9.6s
GYA LR LR
comp=Z,420nm,21.8s
GYA LR LR
comp=Z,510nm,22.0s
GYA LR LR
comp=Z,340nm,21.6s
NJ2 Nanjing 161.64 228 *e*PKP **PKPdf** **04 51 29.1 +1.2**
NJ2 LR LR
comp=Z,880nm,19.5s
NJ2 LR LR
comp=Z,890nm,19.5s
NJ2 LR LR
comp=Z,2μm,20.3s
WHN Wuhan 162.45 215 PKP **PKPdf** **04 51 34.8 +6.0**
WHN PP **PP** **04 55 56.5 -4.0**
WHN AMB AMB
comp=Z,650nm,17.6s
WHN LR LR
comp=N,3μm,18.3s
WHN LR LR
comp=E,3μm,25.1s
WHN LR LR
comp=Z,5μm,24.3s
NVS Novosibirsk 164.47 47 *i* PKIKP **PKPdf** **04 51 28.5 -1.3**
DL2 Dalian 164.61 251 *e*PKP **PKPdf** **04 51 23.9 -6.6**
DL2 PP **PP** **04 56 08.8 -3.9**
DL2 SS SS 05 16 40.3 -2.6
DL2 AMB AMB
comp=Z,210nm,3.5s
DL2 LR LR
comp=Z,2μm,26.7s
DL2 LR LR
comp=Z,2μm,21.0s
DL2 LR LR
comp=Z,2μm,21.4s
CD2 Chengdu 165.25 183 PKP **PKPdf** **04 51 31.3 -0.1**
CD2 pPKP pPKPdf 04 51 34.6 -8.3
CD2 sPKP 04 51 35.9
CD2 PP **PP** **04 56 15.5 +0.6**
CD2 SKS **SKSdf** **04 58 35.8 +2.9**
CD2 SKKS **SKKSac** **05 03 02.9 +2.5**
CD2 SS **SS** **05 16 52.0 +4.5**
CD2 AMB AMB
comp=Z,410nm,6.8s
CD2 LR LR
comp=Z,2μm,27.3s
CD2 LR LR
comp=Z,1μm,22.5s
CD2 LR LR
comp=Z,1μm,25.0s
MK32 Makanchi Array 165.68 78 *e*PKPab **PKPab** **04 52 30.9 +0.3**
MKAR Makanchi Array 165.68 78 PKPab **PKPab** **04 52 30.8 +0.3**
comp=Z,0.9nm,0.8s,baz=268,slow=4.6,SNR=3.5
ZAA1 Zalesovo Array 165.71 48 *e*PKPdf **PKPdf** **04 51 29.7 -1.3**
ZAA0 Zalesovo Array 165.71 48 *e*PKPdf **PKPdf** **04 51 29.9 -1.0**
ZALV Zalesovo Beam 165.71 48 PKP **PKPdf** **04 51 29.7 -1.3**
comp=Z,0.9nm,0.3s,baz=308,slow=3.5,SNR=7.2
ZALV Zalesovo Beam 165.71 48 *e*PKPdf **PKPdf** **04 51 28.5 -2.4**
ZALV Zalesovo Beam 165.71 48 *e*PKIKP **PKPdf** **04 51 28.5 -2.4**
BOD Bodaibo 166.06 335 *e*PKP2 **PKPab** **04 52 29.4 -2.3**
BOD pmax pmax
comp=Z,13nm,2.2s
XAN Xi'an 167.51 204 PKP **PKPdf** **04 51 34.8 +1.7**
XAN PP **PP** **04 56 24.8 -2.0**
XAN SKKS 05 03 13.8
XAN SS **SS** **05 17 07.0 -3.8**
XAN LR LR
comp=Z,1μm,23.5s
XAN LR LR
comp=Z,970nm,21.6s
XAN LR LR
comp=Z,2μm,25.5s
BJI Beijing 168.76 245 PKP **PKPdf** **04 51 34.6 +1.0**
BJI PP **PP** **04 56 29.5 -4.5**
BJI LR LR
comp=Z,710nm,27.0s
BJI LR LR
comp=Z,750nm,28.4s
BJI LR LR
comp=Z,2μm,31.9s

WMQ	**Urumqi**	**169.01**	**94**	*e*PKP	**PKPdf**	**04 51 34.1**	**+0.3**		
WMQ				AMB	AMB				
	comp=Z,610nm,5.1s								
WMQ				LR	LR				
	comp=Z,6μm,21.5s								
WMQ				LR	LR				
	comp=Z,3μm,23.9s								
WMQ				LR	LR				
	comp=Z,4μm,23.9s								
LZH	**Lanzhou**	**170.40**	**185**	*e*PKP	**PKPdf**	**04 51 36.0**	**+1.0**		
LZH				pPKP	pPKPdf	04 51 39.3	-7.2		
LZH				sPKP		04 51 40.6			
LZH				PP	**PP**	**04 56 44.6**	**+3.2**		
LZH				SKS	**SKSdf**	**04 58 38.8**	**+3.0**		
LZH				SKKS	**SKKSac**	**05 03 28.6**	**+2.6**		
LZH				SS	**SS**	**05 17 44.4**	**+4.9**		
LZH				AMB	AMB				
	comp=Z,630nm,9.2s								
LZH				LR	LR				
	comp=Z,3μm,18.4s								
LZH				LR	LR				
	comp=Z,2μm,19.0s								
LZH				LR	LR				
	comp=Z,4μm,20.2s								
HHC	**Hu-ho-hao-te**	**172.06**	**236**	*e*PKP	**PKPdf**	**04 51 34.9**	**-0.7**		
HHC				PP	**PP**	**04 56 47.0**	**-3.5**		
HHC				SKKS		05 03 36.8			
HHC				AMB	AMB				
	comp=Z,210nm,9.7s								
HHC				LR	LR				
	comp=Z,1μm,21.6s								
HHC				LR	LR				
	comp=Z,1μm,22.7s								
HHC				LR	LR				
	comp=Z,2μm,21.2s								
GTA	**Gaotai**	**173.34**	**159**	*e*PKP	**PKPdf**	**04 51 36.5**	**+0.3**		
GTA				pPKP	pPKPdf	04 51 43.4	-4.3		
GTA				PKPab	**PKPab**	**04 53 06.5**	**+1.9**		
GTA				PP	**PP**	**04 57 00.0**	**+4.0**		
GTA				SS	SS	05 18 06.8	-1.7		
GTA				AMB	AMB				
	comp=Z,200nm,11.4s								
GTA				LR	LR				
	comp=Z,2μm,20.0s								
GTA				LR	LR				
	comp=Z,2μm,21.3s								
GTA				LR	LR				
	comp=Z,3μm,22.8s								
SONA1	**Songino Array**	**176.76**	**314**	*e*PKPdf	**PKPdf**	**04 51 35.1**	**-1.8**		
SONA0	**Songino Array**	**176.77**	**313**	*e*PKPdf	**PKPdf**	**04 51 35.1**	**-1.8**		
SONA0				*e*PKPab	**PKPab**	**04 53 17.3**	**-2.5**		
SONM	**Songino Array**	**176.77**	**313**	PKP	**PKPdf**	**04 51 35.1**	**-1.8**		
	comp=Z,1.4nm,1.1s,baz=27,slow=1.7,SNR=5.7								
SONM				PKPab	**PKPab**	**04 53 17.3**	**-2.5**		
	comp=Z,0.9nm,1.0s,baz=61,slow=2.3,SNR=3.2								

NEIC ***13*** *04:32:44.8±3.4, 30.°37S×72.°23W, h3km±21km, ML4.0(GUC), Error ellipse: s-maj=17.0km s-min=6.0km az=89.0*

NEIC Felt [II] at Andacollo, Coquimbo and Ovalle. Also felt at La Serena.

IDC ***13*** *04:32:44.9±1.2, 30.°36S×72.°22W, h0km, mb4.4/2, mb1 3.9/6, mb1mx3.8/37, mbtmp3.8/6, ML3.3/3, Error ellipse: s-maj=61.8km s-min=23.0km az=108.0*

GUC ***13*** *04:32:50.5±0.6, 30.°50S×71.°56W, h65km±5km, ML4.0*

SJA ***13*** *04:32:53.9±0.8, 30.°49S×71.°65W, h40km±44km, ML4.3, MW4.5*

ISC 13 04:32:46.9±1.6, 30.°41S±0.°03×71.°84W±0.°06, h13km±10km, n52, σ1§86/64, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSCH	**La Serena**	**0.71**	**46**	*e*P	**Pn**	**04 33 05.0**	**+2.3**
LSCH				*e*S	**Sn**	**04 33 15.2**	**+1.8**
LSCH				IAML		04 33 16.0	
	comp=N,4μm,0.2s						
GO04	**Tololo Observa**	**0.93**	**76**	*e*Pn	**Pn**	**04 33 07.2**	**+1.4**
GO04				*e*Sn	**Sn**	**04 33 19.3**	**+0.2**
GO04	**Tololo Observa**	**0.93**	**76**	*e*P	**Pg**	**04 33 07.2**	**+1.4**
GO04				*e*S	**Sn**	**04 33 19.5**	**+0.4**
LCO	**Las Campanas**	**1.71**	**36**	*e*Pn	**Pg**	**04 33 18.8**	**-0.9**
LCO				*e*Sn	**Sg**	**04 33 43.6**	**+1.8**
LCO	**Las Campanas**	**1.71**	**36**	*e*P	**Pg**	**04 33 19.4**	**-0.3**
LCO				*e*S	**Sg**	**04 33 41.2**	**-0.6**
LCO				IAML		04 33 45.4	
	comp=E,1μm,0.4s						
VACH	**Vallenar**	**2.05**	**28**	*e*P	**Pb**	**04 33 24.2**	**+0.2**
VACH				*e*S	**Sb**	**04 33 49.6**	**+0.2**
AROD	**Rodeo**	**2.06**	**84**	*i* P	**Pg**	**04 33 25.6**	**-0.7**
AROD				*i* S	**Sb**	**04 33 50.5**	**+0.6**
ACDV	**Cuesta del Vie**	**2.36**	**85**	*i* P	**Pg**	**04 33 30.5**	**-1.7**
ACCO	**Cerro Coronel**	**2.40**	**95**	*i* P	**Pg**	**04 33 31.3**	**-1.6**
RTLS	**Leoncito**	**2.58**	**123**	*i* P	**Pb**	**04 33 33.2**	**0.0**
RTLS				IAML		04 33 45.7	
	comp=Z,2μm,0.4s						
ROCH	**El Roble**	**2.65**	**165**	*e*P	**Pn**	**04 33 30.8**	**+1.3**
ROCH				IAML		04 34 15.3	
	comp=N,2μm,0.1s						
ROC1	**El Roble**	**2.66**	**165**	*e*Pn	**Pn**	**04 33 31.1**	**+1.4**
ROC1				*e*Sn	**Sn**	**04 33 59.7**	**-2.1**
AUSP	**Uspallata**	**2.77**	**131**	*i* P	**Pb**	**04 33 35.9**	**-0.6**
PEL	**Peldehue**	**2.90**	**161**	*e*Pn	**Pn**	**04 33 34.7**	**+1.9**
PEL				*e*Sn	**Sn**	**04 34 05.3**	**-2.2**
AMOG	**MOGNA**	**2.93**	**101**	*i* P	**Pb**	**04 33 38.2**	**-0.8**
RTLL	**Cerro Villicun**	**3.03**	**109**	*i* P	**Pb**	**04 33 39.2**	**-1.6**
RTCV	**Cerro Valdivia**	**3.18**	**118**	*i* P	**Pb**	**04 33 41.2**	**-2.0**
FCH	**Farellones**	**3.19**	**156**	*e*P	**Pn**	**04 33 38.3**	**+1.2**
FCH				IAML		04 34 21.9	
	comp=E,990nm,0.1s						
VCA	**Vinchina**	**3.57**	**63**	*i* P	**Pb**	**04 33 48.2**	**-1.8**
GO05	**HualaæØ**	**4.59**	**181**	*e*Pn	**Pn**	**04 33 56.0**	**0.0**
GO05				*e*Sn	**Sb**	**04 35 04.7**	**+2.2**
PB10	**IPOC Station P**	**6.96**	**10**	*e*Pn	**Pn**	**04 34 29.2**	**+0.7**
PB10				*e*Sn	**Sn**	**04 35 43.0**	**-4.6**
PB04	**IPOC Station P**	**8.18**	**11**	*e*Pn	**Pn**	**04 34 45.7**	**+0.3**
PB04				*e*Sn	**Sn**	**04 36 13.8**	**-4.2**
LVC	**Limon Verde**	**8.20**	**19**	Pn	**Pn**	**04 34 46.3**	**+0.4**
	comp=E,0.1nm,0.3s,baz=186,slow=8.3,SNR=4.8						
LVC				Sn	**Sn**	**04 36 15.5**	**-3.0**
	comp=E,0.6nm,0.3s,baz=283,slow=21,SNR=1.2						
LVC	**Limon Verde**	**8.20**	**19**	*e*Pn	**Pn**	**04 34 46.2**	**+0.4**
LVC				*e*Sn	**Sn**	**04 36 15.5**	**-3.0**
LVC				*e*Sn	Sb	04 36 24.8	-22
PB01	**IPOC Station P**	**9.56**	**13**	*e*Pn	**Pn**	**04 35 06.8**	**+2.5**
PB01				*e*Sn	**Sn**	**04 36 56.5**	**+4.8**
PB11	**IPOC Station P**	**10.78**	**11**	*e*Pn	**Pn**	**04 35 19.0**	**-2.2**
PB11				*e*Sn	Sn	04 37 07.6	-14
MNMC	**Minye Minye**	**11.41**	**11**	*e*Pn	**Pn**	**04 35 28.2**	**-1.6**
MNMC				*e*Sn	Sn	04 37 19.8	-18
CPUP	**Villa Florida**	**13.40**	**76**	Pn	**Pn**	**04 36 00.7**	**+3.9**
	comp=E,0.1nm,0.3s,baz=294,slow=4.5,SNR=2.5						
CPUP	**Villa Florida**	**13.40**	**76**	Pn	**Pn**	**04 36 00.7**	**+3.9**
LPAZ	**La Paz**	**14.46**	**14**	Pn	**Pn**	**04 36 11.8**	**0.0**
	baz=192,slow=9.3,SNR=0.8						
LPAZ	**La Paz**	**14.46**	**14**	Pn	**Pn**	**04 36 11.8**	**0.0**
SIV	**San Ignacio**	**17.41**	**37**	P	**P**	**04 36 51.4**	**+0.5**
	comp=E,0.1nm,0.3s,baz=229,slow=11,SNR=6.5						
SIV	**San Ignacio**	**17.41**	**37**	*e*Pn	**P**	**04 36 51.4**	**+0.5**
GO10	**Punta Arenas**	**22.74**	**179**	*e*P	**P**	**04 37 46.1**	**-2.4**
PMSA	**Palmer Station**	**34.73**	**174**	*e*P	**P**	**04 39 36.5**	**+0.2**
QSPA	**South Pole Qui**	**59.82**	**180**	P	**P**	**04 42 52.7**	**+0.9**
	comp=E,3.1nm,0.8s,baz=124,slow=11,SNR=4.9						
QSPA	**South Pole Qui**	**59.82**	**180**	P	**P**	**04 42 52.7**	**+0.9**
PLAL	**Pickwick Lake**	**66.82**	**346**	*e*P	**P**	**04 43 34.7**	**-3.4**
MAW	**Mawson**	**76.57**	**164**	P	**P**	**04 44 37.1**	**+0.6**
	comp=E,2.0nm,0.4s,baz=223,slow=11,SNR=6.4						
MAW	**Mawson**	**76.57**	**164**	*e*P	**P**	**04 44 37.1**	**+0.6**
WR1	**Warramunga Arr**	**123.96**	**210**	*e*PKPdf	**PKPdf**	**04 51 44.8**	**-0.7**
WRA	**Warramunga Arr**	**123.96**	**210**	PKP	**PKPdf**	**04 51 44.8**	**-0.7**
	comp=E,0.5nm,0.7s,baz=156,slow=1.7,SNR=6.6						
WRA	**Warramunga Arr**	**123.96**	**210**	PKP	**PKPdf**	**04 51 44.8**	**-0.7**
H11S2	**WAKE ISLAND Hy**	**25.92**	**272**	T	T	07 10 35.9	
	baz=115						
H11S1	**WAKE ISLAND Hy**	**25.93**	**272**	T	T	07 10 36.3	
	baz=115						
H11S3	**WAKE ISLAND Hy**	**25.94**	**272**	T	T	07 10 35.5	
	baz=115						
ZAA1	**Zalesovo Array**	**151.05**	**29**	*e*PKPbc	**PKPbc**	**04 52 40.0**	**+1.0**
ZALV	**Zalesovo Beam**	**151.05**	**29**	PKPbc	**PKPbc**	**04 52 40.0**	**+1.0**
	comp=E,9.9nm,0.5s,baz=299,slow=3.4,SNR=12						
ZALV	**Zalesovo Beam**	**151.05**	**29**	PKPbc	**PKPbc**	**04 52 40.0**	**+1.0**
MK32	**Makanchi Array**	**154.16**	**43**	*e*PKPbc	**PKPbc**	**04 52 46.6**	**+0.3**
MKAR	**Makanchi Array**	**154.16**	**43**	PKPbc	**PKPbc**	**04 52 46.6**	**+0.3**
	comp=E,1.0nm,0.6s,baz=274,slow=4.0,SNR=5.1						
MKAR	**Makanchi Array**	**154.16**	**43**	PKPbc	**PKPbc**	**04 52 46.6**	**+0.3**

NNC 13 04:33:40.5±3.2, 37.°11N×70.°49E, h0km, mb3.6, mpv3.2, 4C-2D, Error ellipse: s-maj=24.8km s-min=22.1km az=173.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.74**	**38**	⇓P	Pn	04 34 40.2	+0.5
	1.5nm,0.3s						
SFK				⇑S	Sn	04 35 25.8	+1.2
	6.3nm,0.4s						
MNAS	**Manas**	**5.59**	**15**	⇑P	Pn	04 35 03.8	-1.3
	3.7nm,0.7s						
MNAS				⇑S	Sn	04 36 10.9	+0.8
	7.5nm,0.5s						
KK31	**Karatay Array**	**5.99**	**0**	⇑P	Pn	04 35 10.8	+0.4
	0.5nm,0.3s,baz=162,slow=11,SNR=3.0						
KK31				⇓S	Sn	04 36 21.5	+1.8
	1.6nm,0.5s,baz=185,slow=23,SNR=4.8						

PGC ***13*** *04:38:43.2±4.0, 52.°41N×133.°18W, h24km±10km, 130km Wsw of Sandspit, Bc Haida Gwaii Region*

IDC ***13*** *04:39:29.7±2.2, 52.°56N×132.°58W, h0km, mb1 3.5/6, mb1mx3.4/56, mbtmp3.2/6, ML3.1/6, Error ellipse: s-maj=31.6km s-min=9.2km az=73.0*

ISCJB ***13*** *04:39:30.8±1.4, 52.°7N±0.°1×132.°3W±0.°2, h10km, Error ellipse: s-maj=20.1km s-min=6.9km az=136.4*

ISC 13 04:39:32.4±1.6, 52.°8N±0.°1×132.°2W±0.°1, h10km, n12, σ1§67/10, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H02S1	**DAWSON INLET T**	**0.49**	**337**	Pg	**Pg**	**04 39 42.3**	**+0.3**
H02S1				Lg	Lg	04 39 51.8	
H02N1	**VAN INLET T-PH**	**0.55**	**336**	Pg	**Pg**	**04 39 42.8**	**-0.4**
H02N1				Lg	Lg	04 39 52.4	
BBB	**Bella Bella**	**2.54**	**101**	Pn	**Pn**	**04 40 14.4**	**+0.8**
	1.5nm,0.3s,baz=278,slow=7.1,SNR=7.3						
BBB				Pg	**Pg**	**04 40 22.1**	**+1.1**
	4.9nm,0.3s,baz=319,slow=11,SNR=8.1						
BBB				Sn	**Sb**	**04 40 46.8**	**-2.5**
	10.0nm,0.3s,baz=173,slow=23,SNR=7.0						
BBB				Lg	Lg	04 41 07.2	
	12nm,0.3s,baz=1.1,slow=16,SNR=5.3						
DLBC	**Dease Lake**	**5.83**	**11**	Pn	**Pn**	**04 41 01.7**	**+2.9**
	0.8nm,0.3s,baz=194,slow=12,SNR=5.7						
DLBC				Lg	Lg	04 42 37.2	
	0.1nm,0.3s,baz=290,slow=16,SNR=4.1						
NEW	**Newport**	**10.57**	**109**	Lg	Lg	04 45 12.8	
	0.1nm,0.3s,baz=322,slow=22,SNR=2.1						
YKA	**Yellowknife Ar**	**13.51**	**37**	Pn	**Pn**	**04 42 44.0**	**+0.2**
	0.1nm,0.3s,baz=223,slow=12,SNR=2.9						
YKA				Lg	Lg	04 46 37.8	
	baz=230,slow=26,SNR=2.0						
ILAR	**Eielson Array**	**14.21**	**334**	Pn	**Pn**	**04 42 52.0**	**-1.5**
	0.0nm,0.3s,baz=153,slow=12,SNR=12						
NVAR	**Mina Array Bea**	**17.25**	**141**	P	**Pn**	**04 43 34.1**	**+0.7**
	0.0nm,0.3s,baz=330,slow=8.6,SNR=2.2						
PDAR	**Pinedale Array**	**18.11**	**114**	P	**P**	**04 43 45.0**	**+0.5**
	0.0nm,0.3s,baz=303,slow=8.2,SNR=1.4						
H11N2	**WAKE ISLAND Hy**	**57.00**	**259**	T	T	05 51 05.8	
	baz=39						
H11N3	**WAKE ISLAND Hy**	**57.00**	**259**	T	T	05 51 05.8	
	baz=39						
H11N1	**WAKE ISLAND Hy**	**57.02**	**259**	T	T	05 51 08.9	
	baz=39						

ISCJB ***13*** *04:40:12.1±0.6, 18.°69N±0.°09×145.°5E±0.°2, h250km, mb3.8/12, Error ellipse: s-maj=21.2km s-min=11.4km az=169.7*

IDC ***13*** *04:40:13.7±4.3, 18.°72N×145.°52E, h249km±41km, mb3.6/12, mb1 3.7/14, mb1mx3.5/58, mbtmp4.2/14, Error ellipse: s-maj=23.9km s-min=10.2km az=84.0*

ISC 13 04:40:13.6±0.6, 18.°7N±0.°1×145.°5E±0.°2, h250km, n18, σ0§69/18, mb4.0/12, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**17.84**	**300**	P	**P**	**04 44 05.2**	**+0.7**
	2.7nm,0.3s,baz=117,slow=14,SNR=3.7						
MJAR	**Matsushiro Arr**	**18.92**	**342**	P	**P**	**04 44 15.9**	**-0.1**
	0.7nm,0.3s,baz=167,slow=11,SNR=3.3						
H11S3	**WAKE ISLAND Hy**	**20.06**	**87**	T	T	05 05 27.5	
	baz=274,slow=74,SNR=7.2						
H11S1	**WAKE ISLAND Hy**	**20.07**	**87**	T	T	05 05 28.4	
	baz=274,slow=74,SNR=7.2						
H11S2	**WAKE ISLAND Hy**	**20.08**	**87**	T	T	05 05 28.8	
	baz=274,slow=74,SNR=5.5						
WRA	**Warramunga Arr**	**39.93**	**197**	P	**P**	**04 47 24.5**	**+0.6**
	3.0nm,0.3s,baz=18,slow=8.7,SNR=43						
WRA				PcP	**PcP**	**04 49 24.6**	**+0.5**
	0.8nm,0.4s,baz=18,slow=3.4,SNR=9.5						
FITZ	**Fitzroy Crossi**	**41.45**	**209**	P	**P**	**04 47 37.0**	**+0.7**
	2.2nm,0.3s,baz=37,slow=11,SNR=19						
SONM	**Songino Array**	**43.05**	**321**	P	**P**	**04 47 48.7**	**-0.3**
	0.3nm,0.5s,baz=131,slow=9.9,SNR=3.0						
ASAR	**Alice Springs**	**43.60**	**196**	P	**P**	**04 47 54.0**	**+0.5**
	0.6nm,0.3s,baz=22,slow=8.3,SNR=11						
ASAR				PcP	**PcP**	**04 49 36.6**	**+0.4**
	0.7nm,0.6s,baz=21,slow=4.2,SNR=4.8						
DZM	**Mont Dzumac**	**45.39**	**152**	P	**P**	**04 48 07.2**	**-0.4**
	6.2nm,0.7s,baz=326,slow=3.6,SNR=1.9						
STKA	**Stephens Creek**	**50.42**	**184**	P	**P**	**04 48 44.7**	**-1.2**
	0.8nm,0.4s,baz=354,slow=13,SNR=3.8						
ZALV	**Zalesovo Beam**	**57.92**	**323**	P	**P**	**04 49 39.4**	**-0.2**
	1.4nm,0.3s,baz=111,slow=8.0,SNR=3.0						
MKAR	**Makanchi Array**	**58.35**	**314**	P	**P**	**04 49 42.8**	**+0.1**
	0.8nm,0.6s,baz=91,slow=7.4,SNR=9.7						
MKAR				PcP	**PcP**	**04 50 31.4**	**+0.6**
	0.8nm,0.7s,baz=97,slow=5.1,SNR=3.3						
YKA	**Yellowknife Ar**	**78.07**	**28**	P	**P**	**04 51 44.5**	**0.0**
	1.0nm,0.5s,baz=288,slow=4.8,SNR=4.5						
RES	**Resolute Bay**	**79.47**	**14**	P	**P**	**04 51 52.2**	**+0.3**
	2.8nm,0.8s,baz=346,slow=4.2,SNR=3.4						
NVAR	**Mina Array Bea**	**83.27**	**52**	P	**P**	**04 52 13.7**	**+0.8**
	1.8nm,0.7s,baz=272,slow=6.3,SNR=6.7						
FINES	**FINESS Array B**	**86.82**	**335**	P	**P**	**04 52 28.0**	**-1.5**
	0.9nm,0.3s,baz=64,slow=4.8,SNR=16						
LPAZ	**La Paz**	**147.84**	**91**	PKPbc	**PKPbc**	**04 59 31.0**	**+0.3**
	1.6nm,0.5s,baz=243,slow=4.5,SNR=10						

PGC ***13*** *04:41:49.5±3.6, 52.°44N×133.°11W, h25km±9km, 124km Wsw of Sandspit, Bc Haida Gwaii Region*

IDC ***13*** *04:41:52.4±1.3, 52.°56N×132.°65W, h0km, mb3.9/5, mb1 4.0/11, mb1mx3.7/56, mbtmp3.7/11, ML3.0/6, Error ellipse: s-maj=26.6km s-min=7.7km az=84.0*

ISCJB ***13*** *04:41:54.3±0.9, 52.°70N±0.°06×132.°5W±0.°1, h18km, mb3.8/5, Error ellipse: s-maj=13.9km s-min=6.8km az=150.3*

ISC 13 04:41:55.6±1.1, 52.°66N±0.°09×132.°4W±0.°1, h18km, n17, σ1§58/17, mb4.0/5, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H02S1	**DAWSON INLET T**	**0.55**	**354**	Pg	**Pb**	**04 42 05.2**	**-1.4**
H02S1				Lg	Lg	04 42 13.6	
H02N1	**VAN INLET T-PH**	**0.60**	**351**	Pg	**Pb**	**04 42 05.6**	**-2.0**
H02N1				Lg	Lg	04 42 15.9	
BBB	**Bella Bella**	**2.66**	**99**	Pn	**Pn**	**04 42 37.2**	**-0.3**
	0.9nm,0.3s,baz=68,slow=23,SNR=0.9						
BBB				Pg	**Pg**	**04 42 44.5**	**-2.0**
	6.5nm,0.3s,baz=289,slow=16,SNR=4.2						
BBB				Sn	**Sn**	**04 43 10.2**	**+1.0**
	14nm,0.3s,baz=307,slow=18,SNR=1.8						
BBB				Lg	Lg	04 43 19.8	
	20nm,0.3s,baz=30,slow=22,SNR=3.7						
DLBC	**Dease Lake**	**5.94**	**12**	Pn	**Pn**	**04 43 23.8**	**+1.1**
	0.7nm,0.3s,baz=197,slow=11,SNR=3.8						
DLBC				Sn	**Sn**	**04 44 31.6**	**+1.4**
	0.4nm,0.3s,baz=6.6,slow=17,SNR=1.4						
DLBC				Lg	Lg	04 45 01.9	
	0.8nm,0.3s,baz=342,slow=2.9,SNR=2.3						
YKA	**Yellowknife Ar**	**13.66**	**37**	Pn	**Pn**	**04 45 08.5**	**+0.4**
	0.1nm,0.3s,baz=228,slow=12,SNR=3.2						
YKA				Lg	Lg	04 49 14.7	
	0.1nm,0.3s,baz=236,slow=29,SNR=2.7						
ILAR	**Eielson Array**	**14.23**	**334**	Pn	**Pn**	**04 45 14.9**	**-1.2**
	0.1nm,0.3s,baz=153,slow=12,SNR=7.7						
INK	**Inuvik**	**15.71**	**358**	Pn	**Pn**	**04 45 34.4**	**-1.2**
	0.0nm,0.3s,baz=170,slow=6.1,SNR=1.4						
NVAR	**Mina Array Bea**	**17.27**	**140**	P	**P**	**04 45 57.2**	**-0.1**
	0.0nm,0.3s,baz=340,slow=9.6,SNR=3.4						
PDAR	**Pinedale Array**	**18.20**	**114**	P	**P**	**04 46 11.4**	**+3.8**
	0.1nm,0.3s,baz=320,slow=8.2,SNR=5.1						
TXAR	**Lajitas Array**	**31.46**	**127**	P	**P**	**04 48 15.9**	**-0.2**
	0.6nm,0.7s,baz=339,slow=7.0,SNR=6.0						
H11N2	**WAKE ISLAND Hy**	**56.85**	**259**	T	T	05 53 32.0	
	baz=38,slow=76,SNR=21						
H11N3	**WAKE ISLAND Hy**	**56.86**	**259**	T	T	05 53 32.6	
	baz=38,slow=76,SNR=20						
H11N1	**WAKE ISLAND Hy**	**56.87**	**259**	T	T	05 53 31.0	
	baz=38,slow=76,SNR=22						
NOA	**NORSAR Array B**	**62.98**	**19**	P	**P**	**04 52 21.5**	**+0.8**
	1.3nm,0.8s,baz=328,slow=8.4,SNR=3.1						
GERES	**GERESS Array B**	**74.84**	**22**	P	**P**	**04 53 35.7**	**+1.0**
	0.9nm,0.6s,baz=338,slow=4.4,SNR=6.2						
ESDC	**Sonseca Array**	**77.75**	**38**	P	**P**	**04 53 52.3**	**+1.0**
	0.9nm,0.8s,baz=324,slow=5.5,SNR=5.1						
LPAZ	**La Paz**	**88.11**	**120**	P	**P**	**04 54 45.4**	**-0.4**
	0.5nm,0.6s,baz=354,slow=9.2,SNR=2.8						

PGC ***13*** *04:46:51.0±0.3, 52.°49N×133.°00W, h28km, 115km Wsw of Sandspit, Bc Haida Gwaii Region*

IDC ***13*** *04:46:52.7±0.8, 52.°53N×132.°72W, h0km, mb4.1/10, mb1 4.2/16, mb1mx4.0/52, mbtmp4.0/16, ML3.5/6, MS2.9/1, Ms1 2.9/1, ms1mx2.5/54, Error ellipse: s-maj=17.3km s-min=7.3km az=88.0*

NEIC ***13*** *04:46:56.9±0.4, 52.°85N×132.°62W, h10km, mb4.1/75, Error ellipse: s-maj=10.3km s-min=3.0km az=54.0*

ISC 13 04:46:56.5±0.7, 52.°77N±0.°06×132.°48W±0.°08, h10km, n286, σ1§37/282, mb4.3/38, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H02S1	**DAWSON INLET T**	**0.43**	**1**	Pg	**Pg**	**04 47 05.7**	**+0.7**
H02S1				Lg	Lg	04 47 15.7	
H02N1	**VAN INLET T-PH**	**0.48**	**356**	Pg	**Pg**	**04 47 06.3**	**+0.4**
H02N1				Lg	Lg	04 47 16.9	
CRAG	**Craig**	**2.73**	**352**	*e*Pn	**Pn**	**04 47 37.4**	**-2.8**
BBB	**Bella Bella**	**2.74**	**101**	Pn	**Pn**	**04 47 38.2**	**-2.2**
	6.4nm,0.3s,baz=277,slow=15,SNR=8.0						
BBB				Pg	**Pb**	**04 47 45.5**	**0.0**
	21nm,0.3s,baz=285,slow=16,SNR=32						
BBB				Sn	**Sn**	**04 48 11.3**	**-2.1**
	58nm,0.3s,baz=213,slow=13,SNR=4.8						
BBB				Lg	Lg	04 48 24.8	
	68nm,0.3s,baz=195,slow=22,SNR=5.3						
WRAK	**Wrangell Islan**	**3.66**	**1**	*e*Pn	**Pn**	**04 47 52.7**	**-0.3**
WRAK				*e*Sn	**Sn**	**04 48 31.1**	**-5.0**
DLBC	**Dease Lake**	**5.85**	**13**	Pn	**Pn**	**04 48 25.5**	**+2.4**
	2.7nm,0.3s,baz=207,slow=12,SNR=13						
DLBC				Sn	**Sn**	**04 49 32.9**	**+2.6**
	0.8nm,0.3s,baz=166,slow=6.4,SNR=1.3						
DLBC				LR	LR	04 49 57.4	
	comp=Z,111nm,20.8s,baz=143,slow=30						
DLBC				Lg	Lg	04 50 04.1	
	3.3nm,0.3s,baz=297,slow=9.8,SNR=3.4						
DLBC	**Dease Lake**	**5.85**	**13**	*e*Pn	**Pn**	**04 48 26.0**	**+2.8**
DLBC				*e*Sn	**Sn**	**04 49 32.8**	**+2.6**
DLBC				Lg	Lg	04 50 04.1	
B05A	**Bryant**	**8.01**	**120**	P	**Pn**	**04 48 51.1**	**-1.7**
	baz=308						
WHY	**Whitehorse**	**8.02**	**352**	*e*Pn	**Pn**	**04 48 52.7**	**-0.2**
PCA	**Pinnacle**	**8.51**	**333**	*e*Pn	**Pn**	**04 48 59.5**	**-0.2**
LON	**Longmire**	**9.16**	**127**	*e*Pn	**Pn**	**04 49 09.9**	**+1.3**
LTY	**Liberty**	**9.39**	**121**	*e*Pn	**Pn**	**04 49 13.3**	**+1.5**
NEW	**Newport**	**10.77**	**109**	Pn	Pn	04 49 25.5	-5.1
	0.1nm,0.3s,baz=299,slow=13,SNR=1.9						
NEW				Lg	Lg	04 52 41.7	
	0.1nm,0.3s,baz=81,slow=7.3,SNR=6.7						
KLU	**Klutina**	**11.36**	**326**	*e*Pn	**Pn**	**04 49 39.1**	**+0.4**
SCM	**Sheep Creek Mo**	**12.09**	**325**	*e*Pn	**Pn**	**04 49 48.8**	**+0.2**
PAX	**Paxson**	**12.31**	**331**	*e*Pn	**Pn**	**04 49 49.9**	**-1.8**
KDAK	**Kodiak Island**	**12.49**	**302**	Pn	Pn	04 49 49.8	-4.2
	0.1nm,0.3s,baz=104,slow=15,SNR=2.6						
RIDG	**Independ'e Rid**	**12.75**	**334**	*e*Pn	**Pn**	**04 49 58.2**	**+0.6**
YBH	**Yreka Blue Hor**	**12.87**	**145**	Pn	**Pn**	**04 49 57.

0.1nm,0.3s,baz=316,slow=11,SNR=12
NV11 **Mina Array Sit** 17.45 140 *e*Pn P 04 51 02.3 +1.2
1.9nm,1.5s
BGU **Big Grassy Mou** 17.75 124 *e*Pn P 04 51 05.8 +1.4
2.5nm,0.7s
LAO **LASA Array** 17.98 99 P Pn 04 51 05.9 -0.4
baz=300
HWUT **Hardware Ranch** 18.01 120 *e*Pn P 04 51 09.0 +1.7
4.1nm,0.9s
BW06 **Boulder Array** 18.30 114 *e*Pn P 04 51 13.0 +2.3
8.9nm,1.1s
BW06 **Boulder Array** 18.30 114 P P 04 51 12.4 +1.8
baz=311,SNR=5.2
PD31 **Pinedale Array** 18.30 114 *e*Pn P 04 51 12.9 +2.3
PDAR **Pinedale Array** 18.30 114 P Pn 04 51 10.8 +0.3
0.3nm,0.3s,baz=317,slow=11,SNR=24
PDAR **Pinedale Array** 18.30 114 *e*Pn P 04 51 12.8 +2.2
DGMT **Dagmar** 18.40 92 *e*Pn Pn 04 51 14.2 +2.8
22nm,1.1s
DGMT **Dagmar** 18.40 92 P P 04 51 10.3 -1.2
baz=294
DUG **Dugway, Tooele** 18.41 125 *e*P Pn 04 51 13.4 +1.7
6.4nm,1.0s
DUG **Dugway, Tooele** 18.41 125 P P 04 51 12.2 +0.4
baz=320,SNR=5.0
R11A **Troy Canyon, C** 18.59 134 *e*P P 04 51 14.6 +0.8
5.2nm,1.0s
R11A **Troy Canyon, C** 18.59 134 P P 04 51 14.1 +0.4
baz=326,SNR=6.3
NLU **North Lily Min** 18.96 124 *e*P P 04 51 18.6 +0.7
3.2nm,0.8s
GRAC **Grapevine Rang** 19.00 140 P Pn 04 51 19.9 +1.0
baz=331
PSUT **Pine Spring** 19.21 130 *e*P Pn 04 51 22.4 +0.8
6.4nm,1.0s
CWC **Cottonwood Cre** 19.22 142 P P 04 51 22.1 +1.4
baz=333
TPNV **Topopah Spring** 19.49 138 *e*P P 04 51 24.9 +1.3
40nm,1.4s
TPNV **Topopah Spring** 19.49 138 P P 04 51 24.0 +0.4
baz=330,SNR=9.1
FURC **Furnace Creek,** 19.66 140 P P 04 51 26.3 +1.0
baz=331
ISA **Isabella, Lake** 19.77 144 *e*P Pn 04 51 29.4 +1.3
10nm,1.3s
ISA **Isabella, Lake** 19.77 144 P P 04 51 28.0 +1.4
baz=334
MPMC **Manual Prospec** 19.78 142 P P 04 51 28.4 +1.5
baz=332
TMUT **Trail Mountain** 19.89 124 *e*P P 04 51 29.9 +1.7
4.3nm,0.9s
P17A **Butcher Ranch,** 20.00 123 *e*P P 04 51 31.2 +2.0
6.4nm,0.9s
MSU **Marysvale** 20.02 127 *e*P P 04 51 31.6 +2.0
PKM **Mcpherson Peak** 20.02 148 P P 04 51 31.0 +1.5
baz=337
K22A **Casper** 20.08 110 *e*P P 04 51 31.5 +1.4
31nm,1.4s
K22A **Casper** 20.08 110 P P 04 51 30.5 +0.4
baz=310,SNR=5.1
P18A **Preston Nutter** 20.13 122 *e*P P 04 51 32.8 +2.0
22nm,1.5s
LRMC **Laurel Mtn Rad** 20.22 143 P P 04 51 31.2 -0.4
baz=333
CCUT **Cedar City** 20.24 131 *e*P P 04 51 32.7 +0.9
18nm,1.5s
SHPR **Sheep Range** 20.32 136 *e*P P 04 51 33.8 +1.1
8.8nm,1.2s
SZCU **Shurtz Canyon** 20.33 131 *e*P P 04 51 33.6 +0.8
7.3nm,0.9s
SRU **San Rafael Swe** 20.38 123 *e*P Pn 04 51 36.0 +0.6
8.7nm,0.9s
SHOC **Shoshone, Teco** 20.39 139 P P 04 51 33.8 +0.6
baz=331
MTPU **Mount Pierson** 20.39 128 *e*P Pn 04 51 36.9 +1.1
3.3nm,1.0s
RSSD **Black Hills** 20.65 103 *e*P P 04 51 38.5 +2.2
14nm,0.8s
GSC **Goldstone, Bar** 20.71 141 *e*P P 04 51 37.7 +0.9
12nm,1.1s
GSC **Goldstone, Bar** 20.71 141 P P 04 51 37.1 +0.3
baz=332
LCMT **Little Creek M** 20.73 132 *e*P P 04 51 38.1 +1.0
8.2nm,0.9s
PKCU **Pink Cliffs** 20.81 129 *e*P P 04 51 40.1 +1.9
26nm,1.3s
O20A **White River Ci** 20.82 118 *e*P P 04 51 39.6 +1.4
105nm,1.8s
O20A **White River Ci** 20.82 118 P P 04 51 38.2 0.0
baz=316
KNB **Kanab** 20.92 131 *e*P Pn 04 51 42.5 +0.7
7.1nm,1.1s
HEC **Hector,Ludlow** 21.30 141 P P 04 51 43.5 +0.3
baz=332,SNR=6.7
BFSC **Mount Baldy Ra** 21.34 144 P P 04 51 45.0 +1.3
baz=335
MDND **Maddock** 21.45 90 *e*P P 04 51 46.0 +1.4
40nm,0.8s
MDND **Maddock** 21.45 90 P P 04 51 43.7 -0.9
baz=296
PV09 **Paradox Valley** 21.55 122 *e*P P 04 51 48.0 +1.9
N23A **Red Feather La** 21.56 113 *e*P P 04 51 46.7 +0.5
8.2nm,0.8s
N23A **Red Feather La** 21.56 113 P P 04 51 46.1 -0.1
baz=313,SNR=5.5
BBRC **Big Bear Solar** 21.59 143 P P 04 51 47.6 +1.1
baz=334
PV21 **Cone Mtn., Par** 21.59 122 *e*P P 04 51 47.8 +1.3
6.9nm,0.8s
GMRC **Granite Mounta** 21.60 140 P P 04 51 47.6 +1.1
baz=332
U15A **North Rim** 21.64 131 *e*P P 04 51 47.9 +0.7
8.6nm,0.8s
PV23 **Carpenter Ridg** 21.65 122 *e*P P 04 51 48.8 +1.6
9.9nm,0.9s
PV10 **Paradox Valley** 21.69 122 *e*P P 04 51 49.7 +2.1
PV22 **Blue Mesa, Par** 21.70 122 *e*P P 04 51 48.6 +1.0
7.7nm,0.9s
PV14 **Lion Creek, Pa** 21.70 122 *e*P P 04 51 49.1 +1.4
16nm,1.1s
PV19 **Morning Glory** 21.77 122 *e*P P 04 51 49.8 +1.4
9.3nm,0.9s
PV16 **Nyswonger Mesa** 21.81 122 *e*P P 04 51 50.3 +1.5
12nm,1.3s
PV17 **East Wray Mesa** 21.81 122 *e*P P 04 51 50.3 +1.5
36nm,1.6s
PV11 **David Mesa, Pa** 21.84 122 *e*P P 04 51 50.7 +1.6
10nm,0.8s
PV12 **Saucer Basin,** 21.86 122 *e*P P 04 51 50.4 +1.0
9.3nm,0.9s
PV03 **Paradox Valley** 21.88 122 *e*P P 04 51 50.4 +0.8
PV13 **Radium Mtn., P** 21.97 122 *e*P P 04 51 51.5 +1.0
18nm,1.4s
W13A **Hualapai Mount** 22.06 136 *e*P P 04 52 51.1 +0.6
12nm,1.4s
PV01 **Paradox Valley** 22.12 122 *e*P P 04 51 53.2 +1.0
SMCO **Snowmass** 22.19 118 *e*P P 04 51 53.6 +0.5
9.7nm,1.0s
IRM **Iron Mountain** 22.36 139 P P 04 51 55.6 +1.1
baz=332
ISCO **Idaho Springs** 22.49 114 P P 04 51 54.6 -1.6
baz=314
BC3 **Big Chuckawall** 22.68 141 P P 04 51 58.7 +0.7
baz=333
ULM **Lac du Bonnet** 22.77 82 P P 04 51 57.5 -1.2
4.2nm,0.7s,baz=305,slow=6.8,SNR=5.4
WUAZ **Wupatki** 22.82 131 P P 04 51 59.5 -0.1
baz=326
MVCO **Mesa Verde** 22.86 123 *e*P P 04 52 00.7 +0.7
18nm,1.5s
MVCO **Mesa Verde** 22.86 123 P P 04 52 00.3 +0.2
baz=321
Y12C **Blythe** 22.96 139 P P 04 52 01.4 +0.6
baz=331
MONP2 **Monument Peak** 23.00 143 P P 04 52 01.9 +0.5
baz=335
S22A **4UR Ranch, Cre** 23.32 120 *e*P P 04 52 05.3 +0.5
26nm,1.9s
S22A **4UR Ranch, Cre** 23.32 120 P P 04 52 04.6 -0.2
baz=318
IKP **In-Ko-Pah, Jac** 23.33 143 P P 04 52 05.6 +0.9
baz=334
GLA **Glamis** 23.45 140 P P 04 52 06.9 +1.0
baz=332
AGMN **Agassiz Nation** 23.53 86 P P 04 52 05.6 -0.9
baz=295
W18A **Petrified Fore** 23.91 129 P P 04 52 10.9 +0.4
baz=325

SDCO **Great Sand Dun** 24.02 118 *e*P P 04 52 12.2 +0.5
4.9nm,0.9s
SDCO **Great Sand Dun** 24.02 118 P P 04 52 11.7 0.0
baz=318,SNR=6.2
X18A **Snowflake** 24.29 130 *e*P P 04 52 14.7 +0.7
6.0nm,0.9s
KSCO **Kaye Shedlock'** 24.71 112 *e*P P 04 52 20.2 +2.4
15nm,0.8s
KSCO **Kaye Shedlock'** 24.71 112 P P 04 52 18.1 +0.4
baz=314
T25A **Trinidad** 25.06 117 P P 04 52 21.4 +0.4
baz=318
ECSD **EROS Data Cent** 25.31 96 *e*P P 04 52 23.5 +0.6
17nm,1.0s
ECSD **EROS Data Cent** 25.31 96 P P 04 52 22.3 -0.7
baz=304,SNR=8.7
ANMO **Albuquerque** 25.66 124 P P 04 52 27.4 +1.0
baz=322
BGNE **Belgrade** 25.74 102 P P 04 52 27.3 +0.3
baz=308
TUC **Tucson** 25.77 134 *e*P P 04 52 29.3 +2.0
3.7nm,0.9s
TUC **Tucson** 25.77 134 P P 04 52 29.0 +1.6
baz=329
SPMN **Marine on St.** 26.82 90 P P 04 52 37.3 +0.6
baz=301
121A **Cooks Peak, D** 26.95 129 P P 04 52 38.8 +0.7
baz=326
H38A **Maiden Rock** 27.43 91 P P 04 52 41.2 -0.8
baz=302
I39A **Houston** 28.32 92 P P 04 52 48.7 -1.4
baz=303
J39A **Decorah** 28.50 93 P P 04 52 51.0 -0.7
baz=304
MNTX **Cornudas Mount** 28.80 126 P P 04 52 55.5 +1.0
baz=325
E43A **Lone Tree Farm** 29.77 84 P P 04 53 01.9 -1.0
baz=300
WMOK **Wichita Mounta** 29.91 114 *e*P P 04 53 05.2 +0.9
17nm,1.9s
WMOK **Wichita Mounta** 29.91 114 P P 04 53 04.5 +0.2
baz=318
Q41A **Truxton** 31.41 99 P P 04 53 16.5 -0.9
baz=310
P42A **Winchester** 31.54 98 P P 04 53 17.9 -0.7
baz=309
LTX **Lajitas** 31.58 127 *e*P P 04 53 18.4 -0.7
TXAR **Lajitas Array** 31.58 127 P P 04 53 18.4 -0.7
1.2nm,0.7s,baz=327,slow=7.8,SNR=13
R41A **Rosebud** 31.74 101 P P 04 53 19.6 -0.8
baz=311,SNR=6.7
Q42A **Golden Eagle** 31.85 99 P P 04 53 20.0 -1.4
baz=310
CCM **Cathedral Cave** 31.98 101 *e*P P 04 53 22.5 0.0
45nm,1.9s
CCM **Cathedral Cave** 31.98 101 P P 04 53 22.1 -0.5
baz=311
S41A **Jillco Farms,** 31.99 102 P P 04 53 22.2 -0.4
baz=312
R42A **Luebbering** 32.10 100 P P 04 53 23.2 -0.3
baz=311
U40A **Yellville** 32.16 105 P P 04 53 23.2 -0.9
baz=314,SNR=5.5
T41A **Mountain View** 32.34 103 P P 04 53 25.1 -0.6
baz=312
S42A **Caledonia** 32.44 101 P P 04 53 25.0 -1.5
baz=311
R43A **Red Bud** 32.62 99 P P 04 53 27.3 -0.8
baz=311
P44A **Sand Creek, Wi** 32.66 96 P P 04 53 27.2 -1.2
baz=309
U41A **Viola** 32.72 104 P P 04 53 28.2 -0.8
baz=313
V41A **Mountainview** 32.97 105 P P 04 53 29.7 -1.5
baz=314,SNR=11
S43A **Fulton Ridge,** 33.00 100 P P 04 53 31.1 -0.3
baz=311
MIAR **Mount Ida** 33.01 108 P P 04 53 32.2 +0.7
baz=316
SFIN **Lafayette** 33.02 94 *e*P P 04 53 32.3 +0.7
14nm,0.6s
SFIN **Lafayette** 33.02 94 P P 04 53 30.7 -0.8
baz=312
P45A **Graceland, Par** 33.15 95 P P 04 53 32.1 -0.6
baz=309
T43A **Greenville** 33.19 101 P P 04 53 32.1 -1.0
baz=312
L47A **Sherwood** 33.22 90 P P 04 53 32.5 -0.8
baz=306
Q45A **Warren Harvey,** 33.30 97 P P 04 53 33.4 -0.6
baz=310
S44A **Carbondale** 33.41 99 P P 04 53 34.6 -0.4
baz=311
P46A **Rosedale** 33.42 95 P P 04 53 34.2 -0.8
baz=309
R45A **Skylar, Fairfi** 33.60 98 P P 04 53 35.3 -1.4
baz=310
O48A **Farmland** 34.27 92 P P 04 53 41.5 -0.9
baz=308
Q47A **Bedord North L** 34.32 95 P P 04 53 42.3 -0.5
baz=309
S46A **Don Dixon Farm** 34.34 98 P P 04 53 42.1 -1.0
baz=311
T46A **Princeton** 34.65 99 P P 04 53 45.4 -0.4
baz=312
R47A **Wooly Knot Far** 34.66 96 P P 04 53 46.2 +0.4
baz=310
WCI **Wyandotte Cave** 34.84 96 P P 04 53 46.8 -0.7
baz=310
T47A **Sharon Grove** 35.16 98 P P 04 53 48.5 -1.7
baz=312
S48A **Wiedeman Farm,** 35.36 96 P P 04 53 50.8 -1.1
baz=311,SNR=6.8
U47A **Clarksville** 35.41 99 P P 04 53 52.1 -0.3
baz=312
OXF **Oxford** 35.47 104 P P 04 53 52.5 -0.4
baz=315
S49A **Springfield** 35.74 96 P P 04 53 55.0 -0.1
baz=310
R50A **Paris** 36.00 94 P P 04 53 56.5 -0.9
baz=310
T49A **Edmonton** 36.03 97 P P 04 53 56.9 -0.8
baz=311
W47A **Westpoint** 36.03 101 P P 04 53 56.8 -0.9
baz=313
Y46A **Houston** 36.23 104 P P 04 53 58.5 -1.0
baz=315
U49A **Red Boiling Sp** 36.27 98 P P 04 53 58.6 -1.2
baz=312
S50A **Richmond** 36.34 95 P P 04 53 59.2 -1.2
baz=310
O52A **Adamsville** 36.37 90 P P 04 53 59.4 -1.2
baz=308
R51A **Hillsboro** 36.44 93 P P 04 54 00.8 -0.3
baz=310
W48A **Pulaski** 36.51 100 P P 04 54 01.2 -0.5
baz=313
T50A **Nancy** 36.51 96 P P 04 54 01.5 -0.3
baz=311
V49A **McMinnville** 36.70 99 P P 04 54 02.5 -0.9
baz=313
U50A **Jamestown** 36.90 97 P P 04 54 03.9 -1.2
baz=312,SNR=5.9
X48A **Hartselle** 36.91 101 P P 04 54 04.0 -1.2
baz=314
W49A **Belvidere** 36.92 100 P P 04 54 04.9 -0.4
baz=313
N54A **Moraine State** 36.98 87 P P 04 54 04.9 -0.8
baz=307
T51A **Gray** 37.08 95 P P 04 54 06.1 -0.6
baz=311
V50A **Pikevile** 37.24 98 P P 04 54 07.6 -0.5
baz=313
X49A **Woodville** 37.30 101 P P 04 54 08.3 -0.2
baz=314
W50A **Signal Mountai** 37.44 99 P P 04 54 08.9 -0.8
baz=313
V51A **Loudon** 37.61 97 P P 04 54 10.7 -0.4
baz=312
X50B **Fort Payne** 37.74 100 P P 04 54 11.4 -0.9
baz=314
W51A **Cleveland** 37.79 98 P P 04 54 12.4 -0.3
baz=313
V52A **Sevierville** 38.04 97 *e*P P 04 54 14.9 +0.2
10nm,0.8s
V52A **Sevierville** 38.04 97 P P 04 54 14.6 -0.1
baz=312
545A **Edgard** 38.08 110 P P 04 54 15.0 -0.1
baz=319
Y50A **Piedmont** 38.08 101 P P 04 54 14.3 -0.8
baz=314
Z49A **Columbiana** 38.09 102 P P 04 54 14.2 -1.0
baz=315
LONY **Lake Ozonia** 38.14 78 P P 04 54 15.1 -0.5
baz=304
X51A **Calhoun** 38.14 99 *e*P P 04 54 15.6 -0.1
19nm,0.8s
X51A **Calhoun** 38.14 99 P P 04 54 15.3 -0.3
baz=314
W52A **Murphy** 38.34 98 *e*P P 04 54 17.1 -0.2
18nm,0.9s
W52A **Murphy** 38.34 98 P P 04 54 15.7 -1.6
baz=313,SNR=5.5
149A **Jones** 38.36 103 P P 04 54 16.8 -0.7
baz=316
Z50A **Ashland** 38.41 102 P P 04 54 17.3 -0.6
baz=315
V53A **Saluda** 38.62 96 P P 04 54 19.3 -0.5
baz=312
BINY **Binghamton** 38.67 83 P P 04 54 19.1 -1.0
baz=306
X52A **Dahlonega** 38.69 98 P P 04 54 20.0 -0.4
baz=313
W53A **Cullowhee** 38.75 97 P P 04 54 20.5 -0.4
baz=313
150A **Eclectic** 38.81 103 P P 04 54 20.8 -0.4
baz=316
BLA **Blacksburg** 39.06 92 P P 04 54 22.5 -0.9
baz=311
X53A **Estanollee** 39.12 98 P P 04 54 23.4 -0.5
baz=314
Z52A **Williamson** 39.36 100 P P 04 54 25.6 -0.2
baz=315
Y53A **Monroe** 39.39 99 P P 04 54 26.1 0.0
baz=314
152A **Waverly Hall** 39.54 101 P P 04 54 26.5 -0.9
baz=315
GOGA **Godfrey** 39.77 99 P P 04 54 28.2 -1.1
baz=314
Z53A **Monticello** 39.80 99 P P 04 54 28.8 -0.7
baz=315
Y54A **Tignall** 39.93 98 P P 04 54 30.1 -0.5
baz=314
R58B **Mineral** 40.12 89 P P 04 54 31.5 -0.6
baz=310
H11N2 **WAKE ISLAND Hy** 56.81 259 T T 05 58 30.0
baz=39,slow=76,SNR=48
H11N3 **WAKE ISLAND Hy** 56.82 259 T T 05 58 30.2
baz=39,slow=76,SNR=67
H11N1 **WAKE ISLAND Hy** 56.83 259 T T 05 58 31.3
baz=39,slow=76,SNR=47
H11S1 **WAKE ISLAND Hy** 57.88 258 T T 05 59 44.7
baz=39,slow=22,SNR=6.4
H11S2 **WAKE ISLAND Hy** 57.89 258 T T 05 59 41.1
baz=39,slow=22,SNR=6.0
H11S3 **WAKE ISLAND Hy** 57.90 258 T T 05 59 42.1
baz=39,slow=22,SNR=5.2
NB2 **NORSAR Subarra** 62.90 19 P P 04 57 22.6 +0.3
comp=Z,3.6nm,0.8s,baz=338,slow=6.9
NB200 **NORSAR Array S** 62.90 19 *e*P P 04 57 22.0 -0.3
NOA **NORSAR Array B** 62.90 19 P P 04 57 22.0 -0.3
comp=Z,2.1nm,0.7s,baz=337,slow=6.7,SNR=8.3
NOA **NORSAR Array B** 62.90 19 P P 04 57 22.0 -0.3
FIA0 **FINESS Array S** 64.86 11 *e*P P 04 57 34.1 -0.9
FINES **FINESS Array B** 64.86 11 P P 04 57 34.1 -0.9
comp=Z,3.1nm,0.9s,baz=339,slow=10,SNR=4.9
DPC **Dobruska-Polom** 73.92 20 *e*P P 04 58 31.1 -0.3
DPC *e*pP sP 04 58 38.4 +2.5
KHC **Kasperske Hory** 74.47 22 *e*P P 04 58 35.3 +0.7
KHC *e*pP sP 04 58 41.9 +2.8
GERES **GERESS Array B** 74.76 22 P P 04 58 36.5 +0.1
comp=Z,2.2nm,0.7s,baz=340,slow=5.1,SNR=20
AKASG **Malin Array Be** 75.75 12 P P 04 58 40.4 -1.5
comp=Z,0.8nm,0.5s,baz=330,slow=5.4,SNR=3.7
AKBB **Malin Array Si** 75.75 12 *e*P P 04 58 40.4 -1.5
MK32 **Makanchi Array** 76.45 336 *e*P P 04 58 44.0 -2.0
MKAR **Makanchi Array** 76.45 336 P P 04 58 44.0 -2.0
comp=Z,1.0nm,0.7s,baz=47,slow=7.1,SNR=4.9
ESDC **Sonseca Array** 77.70 38 P P 04 58 52.8 -0.4
comp=Z,1.4nm,0.7s,baz=319,slow=5.1,SNR=12
ESDC LR LR 05 31 46.3
comp=Z,3μm,21.9s,baz=235,slow=34
BR101 **Keskin Array S** 87.09 11 *e*P P 04 59 42.1 -0.3
BRTR **Keskin Array B** 87.09 11 P P 04 59 42.1 -0.3
comp=Z,0.5nm,0.8s,baz=339,slow=6.3,SNR=3.0
LPAZ **La Paz** 88.21 120 P P 04 59 45.9 -2.6
comp=Z,1.5nm,0.6s,baz=315,slow=1.4,SNR=5.5
BOSA **Boshof** 150.78 43 PKPbc PKPdf 05 06 47.0 +3.8
comp=Z,1.4nm,0.8s,baz=14,slow=4.2,SNR=4.0

BJI ***13*** *04:55:43.0, 52.˚80N × 132.˚00W, h10km, mb5.2/51, mB5.4/37, Ms5.3/30, Ms7 5.0/29*
IDC ***13*** *04:55:44.4±0.4, 52.˚62N × 132.˚13W, h0km, mb5.1/41, mb1 5.0/49, mb1mx5.0/60, mbtmp5.0/49, ML4.1/8, MS4.8/13, Ms1 4.8/13, ms1mx4.4/45, Error ellipse: s-maj=10.2km s-min=5.5km az=56.0*
ISCJB ***13*** *04:55:45.8±0.4, 52.˚81N±0.˚01 × 131.˚98W±0.˚02, h13km±2km, mb5.2/271, MS5.1/18, Error ellipse: s-maj=3.2km s-min=1.2km az=139.8*
PGC ***13*** *04:55:46.0±7.0, 52.˚71N × 132.˚03W, h22km, mb5.1, ML5.3/16, Mw5.1, 62km Ssw of Sandspit, Bc Haida Gwaii Region*
NEIC ***13*** *04:55:45.0±0.0, 52.˚71N × 132.˚03W, h22km, mb5.1/260, MW5.1(OTT), After OTT.*
NEIC Felt [III] at Prince Rupert. Also felt at Port Hardy and Queen Charlotte.
MOS ***13*** *04:55:46.9±0.9, 52.˚76N × 132.˚14W, h22km, mb5.5/82, Error ellipse: s-maj=8.6km s-min=3.7km az=104.5*
GCMT ***13*** *04:55:52.0±0.5, 52.˚56N±0.˚03 × 132.˚07W±0.˚04, h29km±1km, MW5.5/65, Moment Tensor Solution. s18,c22; s65,c82; Duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr 1.63±.19; Mθθ-1.84±.12; Mϕϕ 0.20±.12; Mrθ 0.72±.14; Mθϕ 1.17±.06; Mϕr 0.21±.16; Best double couple: M0 2.18000×10^17 NP1:ϕs 94.00000°, δ57.00000°, λ63.00000°. NP2:ϕs 317.00000°, δ42.00000°, λ124.00000°. Principal axes: T 1.9100, Plg66.0000°, Azm312.0000°; N 0.5380, Plg22.0000°, Azm110.0000°; P -2.4500, Plg8.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 13 04:55:47.6±0.5, **52.˚71N**±0.˚03 × **132.˚04W**±0.˚03, **h17**km±2km, **n1324**, σ1**849**/1358, **mb5.3**/283, **MS5.1**/20, **56C-20D, Queen Charlotte Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.22**	**127**	P	**Pb**	**04 55 51.5**	**-1.6**
BNB				S	**Sb**	**04 55 55.2**	**-1.7**
DIB	**Dawson Inlet,**	**0.56**	**332**	*e*Pg	**Pg**	**04 55 56.8**	**-1.9**
DIB				*e*Sg	**Sg**	**04 56 04.1**	**-2.1**
DIB	**Dawson Inlet,**	**0.56**	**332**	P	**Pg**	**04 55 56.8**	**-1.9**
DIB				S	**Sg**	**04 56 04.5**	**-1.8**
H02S1	**DAWSON INLET T**	**0.56**	**332**	Pg	**Pg**	**04 55 56.8**	**-1.9**
H02S1				Lg	Lg	04 56 04.8	
H02N1	**VAN INLET T-PH**	**0.62**	**331**	Pg	**Pb**	**04 55 57.8**	**-2.2**
H02N1				Lg	Lg	04 56 06.7	
VIB	**Van Inlet**	**0.62**	**331**	P	**Pb**	**04 55 57.8**	**-2.2**
VIB				S	**Sg**	**04 56 06.5**	**-1.8**
HG4B	**Hotspring**	**0.66**	**129**	P	**Pb**	**04 55 58.4**	**-2.3**
HG4B				S	**Sb**	**04 56 07.2**	**-2.3**
RUBB	**Prince Rupert**	**1.94**	**33**	Pn	**Pn**	**04 56 17.9**	**-1.7**
RUBB				Sn	**Sn**	**04 56 41.2**	**-2.4**
RUBB				Sg	**Sb**	**04 56 47.1**	**+0.8**
BBB	**Bella Bella**	**2.46**	**101**	Pn	**Pn**	**04 56 24.6**	**-2.2**
BBB	23nm,0.3s,baz=281,slow=8.3,SNR=91			Pg	**Pb**	**04 56 32.0**	**+0.7**
BBB	183nm,0.3s,baz=278,slow=15,SNR=56			Sn	**Sn**	**04 56 54.1**	**-2.3**
BBB	447nm,0.3s,baz=334,slow=20,SNR=5.3			Lg	Lg	04 57 00.8	
BBB	2μm,0.3s,baz=193,slow=24,SNR=8.5			LR	LR	04 57 11.9	
BBB	comp=Z,3μm,18.1s,baz=340,slow=35 **Bella Bella**	**2.46**	**101**	*e*Pn	**Pn**	**04 56 24.6**	**-2.2**
BBB				*e*Sn	**Sn**	**04 56 55.5**	**-0.9**
BBB	**Bella Bella**	**2.46**	**101**	Pn	**Pn**	**04 56 24.6**	**-2.2**
BBB				Sn	**Sn**	**04 56 53.1**	**-3.3**
BBB				Sg	**Sb**	**04 57 01.4**	**+0.3**

CRAG Craig 2.84 347 ePn Pn 04 56 30.4 -1.7
CRAG eSn Sn 04 57 05.2 -0.6
PHC Port Hardy 3.50 123 ePn Pn 04 56 38.0 -3.0
PHC Port Hardy 3.50 123 Pn Pn 04 56 38.0 -3.0
PHC Sn Sn 04 57 17.2 -4.8
PACB Port Alice, BC 3.64 127 Pn Pn 04 56 39.8 -3.2
PACB Sn Sn 04 57 20.1 -5.4
WRAK Wrangell Islan 3.72 357 ePn Pn 04 56 43.3 -0.9
WRAK eSn Sn 04 57 27.0 -0.5
TLCB Telegraph Cove 3.90 122 Pn Pn 04 56 43.8 -2.8
TLCB Sn Sn 04 57 28.3 -3.6
EDB Eliza Dome 4.19 131 Pn Pn 04 56 49.0 -1.6
EDB Sn Sn 04 57 35.5 -3.7
WOSB Woss 4.27 125 Pn Pn 04 56 49.2 -2.6
NCRB Newcastle Ridg 4.39 119 Pn Pn 04 56 51.6 -1.9
SIT Sitka 4.75 338 ePn Pn 04 56 56.2 -2.1
SIT Sitka 4.75 338 eP Pn 04 56 56.2 -2.1
GDR Gold River 4.78 125 Pn Pn 04 56 57.0 -1.6
ETB Estevan Point 4.81 132 Pn Pn 04 56 57.8 -1.3
UBRB Upper Baezaeko 4.83 85 Pn Pn 04 57 00.0 +0.5
UBRB Sg Sb 04 58 15.3 +5.7
SPLB Strathcona Par 4.90 123 Pn Pn 04 56 58.6 -1.8
FSB Fort Saint Jam 4.92 66 Pn Pn 04 56 59.9 -0.8
CBB Campbell River 4.96 120 Pn Pn 04 56 59.8 -1.5
CBB Sn Sn 04 57 55.6 -2.7
MWAB Mount Washingt 5.17 122 Pn Pn 04 57 03.5 -0.7
MWAB Sn Sn 04 57 59.8 -3.6
BTB Buttle Lake 5.23 126 Pn Pn 04 57 04.1 -1.1
TOFB Tofino 5.26 130 Pn Pn 04 57 03.6 -1.7
OZB Mount Ozzard 5.59 130 Pn Pn 04 57 08.2 -1.7
B012 Ucluelet 5.59 130 Sn Sn 04 58 09.6 -4.1
TXB Texada 5.65 119 Pn Pn 04 57 09.6 -1.1
ALB Alberni 5.71 124 Pn Pn 04 57 11.0 -0.4
JIS Juneau Island 5.74 348 ePn Pn 04 57 11.2 -0.6
JIS eSn Sn 04 58 12.8 -4.3
B927 Port Alberni 5.75 125 Pn Pn 04 57 11.2 -0.7
B927 Sn Sn 04 58 14.1 -3.3
B928 Bamfield 5.85 129 Pn Pn 04 57 12.4 -0.9
DLBC Dease Lake 5.85 10 Pn Pn 04 57 15.6 +2.1
42nm,0.3s,baz=172,slow=7.0,SNR=174
DLBC Sn Sn 04 58 22.6 +2.5
21nm,0.3s,baz=229,slow=19,SNR=2.6
DLBC Lg Lg 04 58 47.3
28nm,0.3s,baz=315,slow=16,SNR=9.3
DLBC Dease Lake 5.85 10 ePn Pn 04 57 15.3 +1.8
DLBC eSn Sn 04 58 17.7 -2.5
DLBC Dease Lake 5.85 10 Pn Pn 04 57 13.4 -0.1
MGB Mount Grey 5.95 126 Pn Pn 04 57 14.1 -0.9
GHNB Nanoose 5.99 122 Pn Pn 04 57 14.9 -0.3
GHNB Sn Sn 04 58 19.4 -4.0
SHB Sechelt 6.01 118 Pn Pn 04 57 15.2 -0.4
SHB Sn Sn 04 58 19.9 -4.1
BESE Bessie Mountai 6.10 346 ePn Pn 04 57 16.4 -0.4
BESE eSn Sn 04 58 24.7 -1.4
BESE Bessie Mountai 6.10 346 Pn Pn 04 57 16.0 -0.8
NLLB Nanaimo Lost L 6.16 121 Pn Pn 04 57 16.7 -1.0
YOUB Youbou, Lake C 6.23 125 Pn Pn 04 57 18.1 -0.6
WPB Watts Point 6.34 115 Pn Pn 04 57 20.0 0.0
B926 Mesachie Lake 6.35 125 Pn Pn 04 57 20.3 0.0
PFB Port Renfrew 6.36 128 Pn Pn 04 57 20.2 -0.3
BIB Bowen Island 6.42 118 Pn Pn 04 57 20.8 -0.5
BPCB Bare Point 6.50 122 Pn Pn 04 57 22.3 +0.8
GOBB Galiano Island 6.58 121 Pn Pn 04 57 22.9 -0.6
LZB Mount Lazard 6.64 125 Pn Pn 04 57 23.8 -0.5
BMBC Bull Mountain 6.68 56 Pn Pn 04 57 25.0 +0.1
B010 North Saanich 6.80 123 Pn Pn 04 57 27.0 +0.6
PA01 PA01 North 6.80 123 Pn Pn 04 57 26.4 -0.1
PA02 PA02 Ocean 6.80 123 Pn Pn 04 57 27.3 +0.8
PGC Sidney 6.80 123 ePn Pn 04 57 28.1 +1.7
PGC eSn Sn 04 58 48.1 +4.7
PGC Sidney 6.80 123 Pn Pn 04 57 27.1 +0.6
B009 North Saanich 6.80 123 Pn Pn 04 57 26.7 +0.3
B011 North Saanich 6.80 123 Pn Pn 04 57 27.1 +0.6
B011 Sn Sn 04 58 38.9 -4.6
PA03 PA03 Flamable 6.80 123 Pn Pn 04 57 27.4 +0.9
PA04 PA04 Cage 6.80 123 Pn Pn 04 57 27.8 +1.3
PA12 PA12 Sannich 6.80 123 Pn Pn 04 57 27.3 +0.8
SKAG Skagway 7.01 346 ePn Pn 04 57 29.4 0.0
SKAG eSg Sg 04 59 23.2 -9.1
VGZ Gonzales 7.02 124 Pn Pn 04 57 30.2 +0.8
A04D Lummi Island 7.14 120 P Pn 04 57 31.8 +0.7
baz=308,SNR=9.5
PLBC Pleasant Camp 7.18 342 Pn Pn 04 57 30.7 -0.9
DHAK Deception Hill 7.28 334 ePn Pn 04 57 31.7 -1.3
VDB Vedder Mountai 7.29 116 Pn Pn 04 57 33.4 +0.2
HOPB Hope 7.47 112 Pn Pn 04 57 36.3 +0.6
D03D Eldon 7.74 128 P Pn 04 57 40.8 +1.5
baz=315
B05A Bryant 7.74 121 P Pn 04 57 40.3 +0.9
baz=309,SNR=32
B06A Marblemount 7.91 118 ePn Pn 04 57 44.8 +3.0
FNBB Fort Nelson 8.01 36 Pn Pn 04 57 43.0 -0.1
PNL Peninsula 8.09 332 Pn Pn 04 57 43.5 -0.7
PNL Sn Sn 04 59 10.9 -4.1
WHY Whitehorse 8.12 350 ePn Pn 04 57 45.0 +0.3
WHY Whitehorse 8.12 350 Pn Pn 04 57 44.8 +0.1
WHY Sn Sn 04 59 10.9 -5.1
D04E Lakebay 8.14 129 P Pn 04 57 47.8 +2.9
baz=316
E03A Lebam 8.26 135 ePn Pn 04 57 48.6 +2.2
D05A Enumclaw 8.51 126 ePn Pn 04 57 51.7 +1.7
YUK7 Dusty Glacier 8.53 339 Pn Pn 04 57 51.1 +0.8
PNT Penticton 8.54 109 Pn Pn 04 57 52.5 +2.3
C06D Leavenworth 8.59 119 P Pn 04 57 53.5 +2.5
baz=308
HYT Haines Junctio 8.67 342 ePn Pn 04 57 52.7 +0.5
HYT Haines Junctio 8.67 342 Pn Pn 04 57 52.0 -0.2
PCA Pinnacle 8.69 332 ePn Pn 04 57 52.2 -0.2
PCA Pinnacle 8.69 332 Pn Pn 04 57 51.2 -1.1
E04D Cinebar 8.70 131 P Pn 04 57 54.0 +1.6
baz=319,SNR=24
SLEB Sale Mountain 8.73 95 Pn Pn 04 57 53.9 +0.8
F04D Rainier, OR 8.86 135 P Pn 04 57 57.3 +2.6
baz=322
LON Longmire 8.91 128 ePn Pn 04 57 56.1 +0.7
LON Longmire 8.91 128 eP Pn 04 57 56.2 +0.7
YUK6 Outpost Mounta 8.95 340 Pn Pn 04 57 57.2 +1.1
YUK5 Granite Creek 9.02 342 Pn Pn 04 57 56.9 -0.1
B201 Coldwater, Mou 9.02 131 ePn Pn 04 57 59.0 +2.0
B203 Quarry, Mount 9.13 132 ePn Pn 04 58 00.1 +2.2
B202 Windy Ridge, M 9.13 131 ePn Pn 04 58 00.5 +2.0
LTY Liberty 9.13 122 ePn Pn 04 57 59.6 +1.2
B08A Colville Reser 9.19 113 ePn Pn 04 58 00.8 +1.6
YUK4 Talbot Arm 9.37 340 Pn Pn 04 58 03.4 +1.6
EBG Ellensburg 9.41 124 ePn Pn 04 58 04.0 +1.7
G03D McMinnville, O 9.46 139 P Pn 04 58 06.0 +3.1
baz=326,SNR=9.3
F05D White Salmon 9.71 130 P Pn 04 58 08.7 +2.4
baz=319,SNR=21
COR Corvallis 9.97 141 ePn Pn 04 58 14.8 +4.9
E07A Sunnyside 10.01 123 ePn Pn 04 58 12.1 +1.6
BALM Baldy 10.06 330 ePn Pn 04 58 11.6 +0.4
BALM Baldy 10.06 330 Pn Pn 04 58 10.3 -0.9
BALM Sn Sn 05 00 00.7 -2.8
BALM Baldy 10.06 330 eP Pn 04 58 11.6 +0.4
C09A Chrisman Ranch 10.09 114 ePn Pn 04 58 13.1 +1.6
YUK3 Moose Creek 10.16 337 Pn Pn 04 58 12.6 0.0
D08A Wollman Farm, 10.18 119 ePn Pn 04 58 13.4 +0.7
I02D Swisshome 10.18 144 P Pn 04 58 16.1 +3.3
baz=331
H04D Lebanon 10.24 139 P Pn 04 58 16.4 +2.8
baz=326
G05D Wamic, OR 10.26 132 P Pn 04 58 16.5 +2.6
baz=321
YUK2 White River 10.26 336 Pn Pn 04 58 14.1 +0.1
HAWA Hanford 10.29 123 ePn Pn 04 58 14.4 +0.1
H04A Detroit Lake 10.33 137 ePn Pn 04 58 17.3 +2.4
RAGM Ragged Mountai 10.37 323 ePn Pn 04 58 17.5 +2.2
RDEA Red Earth Cree 10.42 62 Pn Pn 04 58 18.9 +2.9
F07A Phinny Hill Vi 10.43 126 ePn Pn 04 58 18.8 +2.5
E08A Dider Farm, El 10.46 121 ePn Pn 04 58 16.6 -0.1
NEW Newport 10.49 109 Pn Pn 04 58 19.1 +2.0
0.6nm,0.3s,baz=293,slow=11,SNR=17
NEW Lg Lg 05 01 07.8
0.4nm,0.3s,baz=282,slow=1.4,SNR=4.0
NEW Newport 10.49 109 ePn Pn 04 58 19.6 +2.5
NEW Newport 10.49 109 eP Pn 04 58 19.6 +2.5
NEW Newport 10.49 109 P Pn 04 58 19.1 +2.0
baz=301,SNR=36
YUK1 Sand Pete Hill 10.51 338 Pn Pn 04 58 17.9 +0.6
G06A Carlson Farm, 10.58 130 ePn Pn 04 58 20.9 +2.6
I03D Drain, OR 10.71 144 P Pn 04 58 22.1 +2.1
baz=330,SNR=12
BMRM Bremner River 10.74 325 ePn Pn 04 58 20.7 +0.2
BVCY Beaver Creek 10.81 338 Pn Pn 04 58 21.7 +0.4
EYAK Cordova Ski Ar 10.88 322 ePn Pn 04 58 23.6 +1.4
E09A Wood Farm, Sta 10.93 119 ePn Pn 04 58 23.5 +0.5
I05D Terrebonne, OR 10.97 136 P Pn 04 58 25.3 +1.7
baz=324,SNR=6.3
I04A Tendick Farm, 10.98 141 P Pn 04 58 26.0 +2.2
baz=328,SNR=27
J01E Myrtle Point 10.98 147 P Pn 04 58 26.8 +3.0
baz=333,SNR=11
KEBM Edson Butte 11.12 149 ePn Pn 04 58 30.1 +4.5
PRDA Priddis 11.15 92 Pn Pn 04 58 28.1 +2.0
DIV Divide 11.27 324 ePn Pn 04 58 28.1 +0.5
DIV eSn Sn 05 00 32.9 -0.2
DIV Divide 11.27 324 Pn Pn 04 58 27.8 +0.2
FID Port Fidalgo 11.28 321 ePn Pn 04 58 28.9 +1.1
G08A Pilot Rock 11.34 126 ePn Pn 04 58 30.4 +1.6
K02D Willamette Mer 11.49 147 P Pn 04 58 34.0 +3.3
baz=334,SNR=20
J04D Umpqua Nationa 11.56 141 P Pn 04 58 35.5 +3.6
baz=328,SNR=11
KLU Klutina 11.57 325 ePn Pn 04 58 32.0 +0.3
PINE Pine Mountain 11.58 136 ePn Pn 04 58 34.3 +2.2
GLI Glacier Island 11.60 321 ePn Pn 04 58 32.2 +0.1
KBO Bosley Butte 11.75 150 ePn Pn 04 58 38.4 +4.0
F10A Beach Ranch, E 11.77 119 ePn Pn 04 58 35.2 +0.6
HUMO Hull Mountain 11.81 145 ePn Pn 04 58 39.3 +4.3
J05D Fort Rock, OR 11.87 138 P Pn 04 58 39.4 +3.3
baz=326,SNR=26
HARP HAARP 11.98 329 ePn Pn 04 58 39.8 +2.5
HARP HAARP 11.98 329 Pn Pn 04 58 38.0 +0.7
I07A Izee 11.98 131 ePn Pn 04 58 40.2 +2.7
L02E Cave Junction 11.99 148 P Pn 04 58 41.0 +3.4
baz=335
DAWY Dawson 12.01 344 ePn Pn 04 58 38.2 +0.4
DAWY Dawson 12.01 344 Pn Pn 04 58 37.8 0.0
WALA Waterton Lakes 12.01 100 ePn Pn 04 58 39.4 +1.5
WALA Waterton Lakes 12.01 100 Pn Pn 04 58 39.5 +1.5
BSMT Bassoo Peak 12.05 107 Pn Pn 04 58 41.9 +3.3
SEW Seward 12.13 314 ePn Pn 04 58 37.4 -1.9
K04D Chiloquin, OR 12.23 142 P Pn 04 58 42.7 +1.8
baz=329,SNR=8.3
SCM Sheep Creek Mo 12.30 324 ePn Pn 04 58 42.0 +0.3
SCM Sheep Creek Mo 12.30 324 eP Pn 04 58 42.0 +0.3
L04D Klamath Falls 12.38 144 P Pn 04 58 45.2 +2.3
baz=331
JTMT Jette 12.40 107 ePn Pn 04 58 46.6 +3.4
JTMT Jette 12.40 107 Pn Pn 04 58 45.8 +2.6
KRMB Red Mountain 12.47 151 ePn Pn 04 58 48.4 +4.1
K05A Summer Lake 12.48 139 ePn Pn 04 58 48.0 +3.6
BMO Blue Mountains 12.48 123 ePn Pn 04 58 46.1 +1.8
FBMT Ferry Basin 12.49 108 Pn Pn 04 58 46.9 +2.4
PAX Paxson 12.50 331 ePn Pn 04 58 45.2 +0.7
PAX Paxson 12.50 331 Pn Pn 04 58 44.5 +0.1
PAX Paxson 12.50 331 eP Pn 04 58 45.2 +0.7
YBMT Yellow Bay 12.50 106 Pn Pn 04 58 46.9 +2.3
BRLK Bradley Lake 12.61 312 ePn Pn 04 58 45.0 -1.0
DOT Dot Lake 12.64 335 Pn Pn 04 58 44.9 -1.4
SML Sawmill 12.65 323 ePn Pn 04 58 46.8 +0.3
YBH Yreka Blue Hor 12.67 146 Pn Pn 04 58 47.9 +1.0
0.2nm,0.3s,baz=350,slow=7.9,SNR=16
YBH LR LR 05 02 58.7
comp=Z,3µm,19.3s,baz=332,slow=34
YBH Yreka Blue Hor 12.67 146 ePn Pn 04 58 51.1 +4.2
CNPM China Poot 12.67 310 ePn Pn 04 58 45.7 -1.1
SWMT Swartz Lake 12.68 107 Pn Pn 04 58 49.9 +2.8
KDAK Kodiak Island 12.75 302 Pn Pn 04 58 45.6 -2.2
1.7nm,0.3s,baz=105,slow=8.4,SNR=25
KDAK LR LR 05 02 40.4
comp=Z,4µm,19.5s,baz=89,slow=33
PMR Palmer 12.82 321 ePn Pn 04 58 47.8 -0.9
PMR eSn Sn 05 01 18.1 +7.3
PMR Palmer 12.82 321 eP Pn 04 58 47.8 -0.9
PMR e 05 01 18.1
SCRK Sand Creek 12.89 336 ePn Pn 04 58 50.3 +0.5
HOM Homer 12.91 310 ePn Pn 04 58 51.8 +1.8
RIDG Independ'e Rid 12.92 334 ePn Pn 04 58 51.2 +1.0
M02C Callahan 12.92 148 P Pn 04 58 53.8 +3.4
baz=334,SNR=6.7
M04C Macdoel 12.93 144 P Pn 04 58 52.3 +1.8
baz=331,SNR=19
EGAK Eagle 12.97 342 ePn Pn 04 58 51.9 +1.0
OHAK Old Harbor 13.00 299 ePn Pn 04 58 49.5 -1.7
J08A Circle Bar Ran 13.01 131 ePn Pn 04 58 53.8 +2.2
MSO Missoula 13.08 110 ePn Pn 04 58 54.8 +2.3
MSO Missoula 13.08 110 P Pn 04 58 54.0 +1.5
baz=303,SNR=32
SLMT Seeley Lake 13.12 107 Pn Pn 04 58 56.0 +3.0
KHMM Horse Mountain 13.12 151 ePn Pn 04 58 57.4 +4.3
DHY Denali Highway 13.16 328 ePn Pn 04 58 54.3 +0.7
N02D Trinity Center 13.35 148 P Pn 04 58 59.4 +3.2
baz=335,SNR=18
SII Sitkinak Islan 13.37 296 ePn Pn 04 58 57.4 +1.0
SUA Susitna One 13.38 318 ePn Pn 04 58 56.3 -0.2
MOD Modoc Plateau 13.41 139 ePn Pn 04 58 59.6 +2.6
YKA Yellowknife Ar 13.49 37 Pn Pn 04 58 56.1 -1.8
3.1nm,0.3s,baz=229,slow=13,SNR=77
YKA Sn Sn 05 01 23.0 -4.3
0.5nm,0.3s,baz=232,slow=24,SNR=3.8
YKA Lg Lg 05 02 50.1
0.5nm,0.3s,baz=228,slow=28,SNR=3.8
YKB5 Yellowknife Ar 13.49 37 ePn Pn 04 58 55.8 -2.1
YKB5 eSn Sn 05 01 23.0 -4.3
OVMT Ovando 13.50 107 Pn Pn 04 59 01.0 +2.7
YKW1 Yellowknife Ar 13.53 37 Pn Pn 04 58 57.3 -1.1
YKW3 Yellowknife Ar 13.53 36 ePn Pn 04 58 57.4 -1.1
YKW3 Yellowknife Ar 13.53 36 Pn Pn 04 58 57.1 -1.3
BPMT Black Pine Rid 13.58 110 Pn Pn 04 59 01.6 +2.2
WVOR Wild Horse Val 13.67 133 ePn Pn 04 59 03.6 +3.0
KMRM Mail Ridge 13.73 152 ePn P 04 59 05.9 -4.1
WDC Whiskeytown Da 13.76 148 ePn Pn 04 59 04.7 +3.1
RND Reindeer 13.88 327 ePn Pn 04 59 03.4 +0.1
RND Reindeer 13.88 327 eP Pn 04 59 03.4 +0.1
EPYK Eagle Plains 13.90 352 P Pn 04 59 04.7 +1.2
baz=168,SNR=61
HDA Harding Lake 14.02 333 eP P 04 59 09.7 -3.3
HDA Harding Lake 14.02 333 P Pn 04 59 05.7 +0.5
baz=140,SNR=10.0
O02D Mt. Diablo Mer 14.05 150 P Pn 04 59 08.5 +2.7
baz=336,SNR=9.7
ELMT Elliston 14.08 108 Pn Pn 04 59 08.4 +2.2
MCK McKinley 14.13 328 eP Pn 04 59 09.0 +2.3
O03E Paynes Creek 14.26 147 P Pn 04 59 10.2 +1.5
baz=334,SNR=7.9
KCPM Cahto Peak 14.27 153 eP P 04 59 14.3 -1.7
IL1 Eielson Array 14.29 334 ePn Pn 04 59 08.1 -0.7
ILAR Eielson Array 14.29 334 Pn Pn 04 59 08.6 -0.2
0.2nm,0.3s,baz=149,slow=12,SNR=19
ILAR Lg Lg 05 03 16.2
0.1nm,0.3s,baz=144,slow=28,SNR=3.7
ILAR LR LR 05 04 35.8
comp=Z,4µm,19.0s,baz=144,slow=37
ILB Eielson Array 14.29 334 ePn Pn 04 59 08.5 -0.2
HRY Holter Researc 14.36 107 eP Pn 04 59 12.6 +2.5
HRY Holter Researc 14.36 107 Pn Pn 04 59 12.2 +2.1
TRF Thorofare Moun 14.39 326 ePn Pn 04 59 10.3 -0.1
WRH Wood River Hil 14.40 331 ePn Pn 04 59 11.6 +1.3
CCB Clear Creek Bu 14.45 332 ePn Pn 04 59 13.1 +2.1
LRM Limekiln Ridge 14.50 111 eP P 04 59 17.0 -1.7
LRM Limekiln Ridge 14.50 111 Pn Pn 04 59 12.0 0.0
BWN Browne 14.60 329 eP P 04 59 18.7 -0.7
COLA College 14.63 333 ePn P 04 59 19.6 -0.1
COLA College 14.63 333 eP P 04 59 19.6 -0.1
TCOL CIGO, UAF Yank 14.63 333 P Pn 04 59 13.1 -0.4
baz=139,SNR=8.6
CLVN Colville Lake 14.67 9 Pn Pn 04 59 14.1 +0.1
DLMT Dillon 14.69 112 ePn Pn 04 59 16.7 +2.1
POKR Poker Flat Res 14.70 334 P Pn 04 59 13.9 -0.6
baz=140,SNR=12
PPLA Purkeypile 14.74 322 ePn Pn 04 59 15.6 +0.5
MDM Murphy Dome 14.80 332 ePn Pn 04 59 16.5 +2.7
HLID Hailey 14.87 121 ePn Pn 04 59 18.4 +1.4
HLID Hailey 14.87 121 P Pn 04 59 18.5 +1.4
baz=314,SNR=37
MCMT McKenzie Canyo 14.88 114 ePn Pn 04 59 19.1 +1.9
EGMT Eagleton 14.95 99 ePn Pn 04 59 19.2 +1.2
EGMT Eagleton 14.95 99 P Pn 04 59 18.6 +0.6
baz=297,SNR=16
CAST Castle Rocks 15.01 323 ePn Pn 04 59 18.0 -0.6
309nm,1.1s
ORV Oroville 15.03 147 ePn Pn 04 59 20.1 +1.2
55nm,1.3s
ORV Oroville 15.03 147 eP Pn 04 59 20.1 +1.2
ORV pmax pmax
comp=Z,55nm,1.3s
BPAW Bear Paw Mtn. 15.05 327 ePn Pn 04 59 19.2 +0.1
comp=Z,156nm,1.0s
HOPS Hopland Field 15.05 152 ePn Pn 04 59 21.8 +2.4
comp=Z,127nm,1.5s
BOZ Bozeman (W) 15.10 110 ePn P 04 59 25.2 0.0
comp=Z,118nm,1.4s
BOZ Bozeman (W) 15.10 110 eP P 04 59 25.2 0.0
BOZ pmax pmax
comp=Z,118nm,1.4s
BOZ Bozeman (W) 15.10 110 P Pn 04 59 21.0 +1.0
baz=305,SNR=7.1
BEKR Beckworth 15.14 143 ePn Pn 04 59 23.2 +2.5
comp=Z,109nm,1.3s
MOMT Monida 15.28 114 Pn Pn 04 59 24.2 +1.7
SVW2 Sparrevohn 15.28 313 ePn Pn 04 59 20.4 -1.8
comp=Z,303nm,1.0s
GDXM Geysers 15.31 152 ePn P 04 59 25.3 -2.2
comp=Z,35nm,1.4s
FYU Fort Yukon 15.36 340 ePn Pn 04 59 24.5 +1.3
comp=Z,152nm,1.1s
MLY Manley 15.59 330 ePn Pn 04 59 27.0 +0.7
comp=Z,200nm,1.4s
TPMT Tepee Creek 15.60 113 Pn Pn 04 59 28.3 +1.6
DHRN Dharma Camp 15.63 18 Pn Pn 04 59 26.6 -0.1
PAHR Pah Rah Range 15.65 141 ePn P 04 59 29.6 -1.7
comp=Z,119nm,1.3s
INK Inuvik 15.67 358 Pn Pn 04 59 26.8 -0.4
comp=Z,0.5nm,0.3s,baz=170,slow=12,SNR=23
INK Lg Lg 05 03 53.2
comp=Z,0.1nm,0.3s,baz=112,slow=30,SNR=5.7
INK LR LR 05 05 10.5
comp=Z,2µm,18.7s,baz=172,slow=36
INK Inuvik 15.67 358 ePn Pn 04 59 27.2 +0.1
comp=Z,79nm,1.0s
INK Inuvik 15.67 358 Pn Pn 04 59 26.9 -0.2
INK Inuvik 15.67 358 eP Pn 04 59 27.3 +0.1
INK pmax pmax
comp=Z,79nm,1.0s
QLMT Earthquake Lak 15.67 112 ePn Pn 04 59 29.5 +1.9
QLMT Earthquake Lak 15.67 112 Pn Pn 04 59 28.5 +0.9
CHGN Chignik 15.69 294 ePn Pn 04 59 26.5 -1.1
comp=Z,115nm,1.1s
AFDM Forest Hills D 15.75 147 ePn Pn 04 59 29.8 +1.3
comp=Z,118nm,1.5s
YHB Horse Butte 15.85 112 ePn P 04 59 31.9 -1.7
comp=Z,160nm,1.2s
MCCM Marconi Confer 15.90 153 ePn P 04 59 36.9 +3.0
comp=Z,59nm,1.3s
VCNR Virginia City 15.90 143 ePn P 04 59 33.1 -1.1
comp=Z,36nm,1.0s
BMN Battle Mountai 15.91 135 ePn P 04 59 36.2 +1.9
BMN Battle Mountai 15.91 135 eP P 04 59 36.2 +1.9
YHH Holmes Hill 16.02 111 ePn P 04 59 34.4 -1.3
comp=Z,114nm,1.3s
YMR Madison River 16.03 112 ePn P 04 59 34.6 -1.0
comp=Z,216nm,1.1s
PNTR Pine Nut 16.11 143 ePn P 04 59 35.5 -1.0
comp=Z,160nm,1.4s
GCMT Greycliff 16.12 106 ePn Pn 04 59 28.1 -5.2
YNR Norris Junctio 16.16 111 ePn P 04 59 37.3 +0.2
comp=Z,190nm,1.4s
YFT Old Faithful 16.24 112 ePn P 04 59 41.1 +3.2
comp=Z,103nm,1.3s
YERR Yeringn 16.33 142 ePn P 04 59 38.3 -0.7
comp=Z,95nm,1.2s
YPP Pitchstone Pla 16.37 113 ePn P 04 59 41.6 +2.2
comp=Z,91nm,1.3s
LKWY Lake 16.41 111 ePn P 04 59 44.7 +4.7
H17A Grant Village 16.42 112 ePn P 04 59 41.0 +1.0
comp=Z,132nm,1.1s
H17A ePcP PcP 05 04 31.1 +2.1
H17A Grant Village 16.42 112 P P 04 59 39.6 -0.4
baz=308,SNR=30
IMW Indian Meadow 16.53 114 ePn P 04 59 41.4 +0.2
comp=Z,2nm,1.1s
FLWY Flagg Ranch 16.54 113 ePn P 04 59 41.7 +0.4
comp=Z,106nm,1.0s
FXWY Fox Creek 16.64 115 ePn P 04 59 43.2 +0.8
comp=Z,108nm,1.1s
WAKR Walker 16.68 143 ePn P 04 59 42.7 -0.2
comp=Z,103nm,1.3s
KVN Kaiserville 16.71 139 ePn P 04 59 43.9 +0.8
comp=Z,140nm,1.2s
MOOW Moose Ponds 16.73 114 ePn P 04 59 44.8 +1.5
comp=Z,124nm,1.1s
RLMT Red Lodge 16.73 108 ePn P 04 59 46.3 +2.9
comp=Z,102nm,1.1s
RLMT Red Lodge 16.73 108 P P 04 59 42.8 -0.6
baz=305,SNR=32
CMB Columbia Colle 16.77 146 ePn P 04 59 42.7 -1.0
comp=Z,33nm,1.2s
CMB Columbia Colle 16.77 146 eP P 04 59 42.7 -1.0
CMB pmax pmax
comp=Z,33nm,1.2s
TPAW Teton Pass 16.78 115 ePn P 04 59 45.3 +1.3
comp=Z,237nm,1.2s
SDPT Sand Point 16.86 290 ePn Pn 04 59 43.0 +0.5
comp=Z,210nm,1.0s
LOHW Long Hollow 16.89 114 ePn P 04 59 46.7 +1.5
comp=Z,162nm,1.4s
SNOW Snow King Moun 16.91 115 ePn P 04 59 47.3 +1.9
comp=Z,113nm,1.3s
RYN Ryan 16.91 141 ePn P 04 59 45.4 0.0
comp=Z,98nm,1.3s
REDW Red Top Meadow 16.92 115 ePn P 04 59 47.6 +2.1
comp=Z,152nm,1.3s
HVU Hansel Valley 16.99 122 ePn P 04 59 46.7 +0.5
comp=Z,57nm,1.1s
HVU Hansel Valley 16.99 122 eP P 04 59 46.7 +0.5
HVU pmax pmax
comp=Z,57nm,1.1s
COLD Coldfoot 17.05 336 ePn P 04 59 46.2 -0.3
comp=Z,32nm,1.0s
COLD Coldfoot 17.05 336 Pn Pn 04 59 44.3 -0.5
IM3 Indian Mountai 17.17 329 ePn Pn 04 59 45.3 -1.0
NV01 Mina Array Sit 17.17 141 ePn P 04 59 48.3 0.0
NV01 ePcP PcP 05 04 31.1 +0.9
NVAR Mina Array Bea 17.17 141 P Pn 04 59 46.7 0.0
comp=Z,0.1nm,0.3s,baz=322,slow=12,SNR=15
NVAR PcP PcP 05 04 30.6 +0.5
comp=Z,0.0nm,0.3s,baz=278,slow=1.6,SNR=4.5
NVAR LR LR 05 06 06.1
comp=Z,2µm,18.5s,baz=309,slow=36
AHID Auburn Hatcher 17.18 117 ePn P 04 59 50.0 +1.6
comp=Z,156nm,1.3s
NV11 Mina Array Sit 17.23 140 ePn P 04 59 49.4 +0.6
comp=Z,6.0nm,1.4s
BGU Big Grassy Mou 17.49 125 ePn P 04 59 51.9 +0.2
comp=Z,51nm,1.4s
SPUT South Promonto 17.50 123 ePn P 04 59 54.5 +2.7
comp=Z,43nm,1.3s
MDPB Devils Postpil 17.58 144 ePn P 04 59 54.0 +1.1
comp=Z,26nm,1.2s
SAO San Andreas Ge 17.60 151 ePn P 04 59 56.6 +3.8
comp=Z,66nm,1.3s
OMMB Old Mammoth Mi 17.63 144 ePn P 04 59 55.0 +1.6
comp=Z,38nm,1.4s
MLAC Mammoth, Mammo 17.67 143 P P 04 59 55.3 +1.4
baz=333
LAO LASA Array 17.70 100 ePn P 04 59 55.3 +1.4
comp=Z,49nm,1.1s
LAO LASA Array 17.70 100 P P 04 59 54.3 +0.4
baz=299,SNR=15
HWUT Hardware Ranch 17.74 121 ePn P 04 59 55.8 +1.3
comp=Z,75nm,1.2s
FFC Flin Flon 17.84 72 ePn Pn 04 59 54.3 -0.4
comp=Z,76nm,1.1s
FFC Flin Flon 17.84 72 i P Pn 04 59 54.5 -0.2
TOLK Toolik Lake Re 18.02 339 ePn P 04 59 58.4 +1.2
comp=Z,168nm,1.4s
TOLK Toolik Lake Re 18.02 339 P P 04 59 57.3 +0.1
baz=144,SNR=49
BW06 Boulder Array 18.03 115 ePn P 05 00 00.2 +2.5
comp=Z,175nm,1.5s
BW06 Boulder Array 18.03 115 P P 04 59 58.0 +0.3
baz=311,SNR=50
PD31 Pinedale Array 18.03 115 ePn P 05 00 00.2 +2.5
PDAR Pinedale Array 18.03 115 P P 04 59 58.4 +0.7
comp=Z,0.3nm,0.3s,baz=316,slow=8.3,SNR=40
PDAR Pinedale Array 18.03 115 ePn P 04 59 59.6 +1.9
DGMT Dagmar 18.12 92 ePn P 04 59 59.1 +0.6
comp=Z,191nm,1.0s
DGMT Dagmar 18.12 92 P P 04 59 58.9 +0.4

baz=294,SNR=39
DUG **Dugway, Tooele** 18.15 126 *e*Pn P 05 00 00.2 +1.2
comp=Z,54nm,1.3s
DUG **Dugway, Tooele** 18.15 126 *e*P P 05 00 00.2 +1.2
DUG pmax pmax
comp=Z,54nm,1.3s
DUG **Dugway, Tooele** 18.15 126 P P 04 59 59.4 +0.4
baz=320,SNR=27
TCUT **Toone Canyon** 18.18 121 *e*Pn P 05 00 03.3 +3.9
comp=Z,49nm,1.0s
PMPB **Monarch Peak** 18.30 150 *e*Pn P 05 00 03.7 +3.1
comp=Z,177nm,1.2s
R11A **Troy Canyon, C** 18.35 135 *e*P P 05 00 02.9 +1.6
comp=Z,55nm,1.4s
R11A **Troy Canyon, C** 18.35 135 P P 05 00 02.1 +0.8
baz=327,SNR=22
TIN **Tinemaha, Big** 18.41 143 P Pn 05 00 03.6 +1.7
baz=333
JLU **Jordanelle** 18.53 123 *e*P Pn 05 00 07.1 +3.6
comp=Z,23nm,1.2s
NLU **North Lily Min** 18.70 125 *e*P Pn 05 00 06.9 +1.4
comp=Z,64nm,1.4s
GRAC **Grapevine Rang** 18.78 141 P Pn 05 00 08.2 +1.8
baz=332,SNR=16
MPU **Maple Canyon** 18.88 124 *e*P Pn 05 00 09.4 +1.8
comp=Z,15nm,1.2s
PAGB **Antelope Grade** 18.92 149 *e*P Pn 05 00 09.6 +1.7
comp=Z,73nm,1.3s
PSUT **Pine Spring** 18.97 131 *e*P Pn 05 00 10.1 +1.4
comp=Z,52nm,1.3s
CWC **Cottonwood Cre** 19.01 143 P Pn 05 00 10.5 +1.3
baz=333
VES **Vestal, Richgr** 19.19 146 P Pn 05 00 12.8 +1.6
baz=336,SNR=7.3
TPNV **Topopah Spring** 19.26 139 *e*P Pn 05 00 13.3 +1.1
comp=Z,121nm,1.3s
TPNV **Topopah Spring** 19.26 139 *e*P Pn 05 00 13.4 +1.1
TPNV pmax pmax
comp=Z,121nm,1.3s
TPNV **Topopah Spring** 19.26 139 P Pn 05 00 13.2 +0.9
baz=330,SNR=52
DAC **Darwin (Calif)** 19.33 142 *e*P Pn 05 00 14.9 +1.8
comp=Z,75nm,1.2s
DAC **Darwin (Calif)** 19.33 142 *e*P Pn 05 00 14.9 +1.8
DAC pmax pmax
comp=Z,75nm,1.2s
SMMC **Simmler** 19.38 149 P Pn 05 00 14.5 +0.9
baz=338,SNR=6.0
FURC **Furnace Creek,** 19.44 141 P Pn 05 00 15.0 +0.8
baz=332,SNR=24
ISA **Isabella, Lake** 19.56 145 *e*P Pn 05 00 16.8 +1.0
comp=Z,125nm,1.4s
ISA **Isabella, Lake** 19.56 145 *e*P Pn 05 00 16.8 +1.0
ISA pmax pmax
comp=Z,125nm,1.4s
ISA **Isabella, Lake** 19.56 145 P Pn 05 00 16.7 +0.9
baz=335,SNR=41
MPMC **Manual Prospec** 19.56 143 P Pn 05 00 16.8 +0.9
baz=333,SNR=29
TMUT **Trail Mountain** 19.64 125 *e*P Pn 05 00 17.8 +1.0
comp=Z,42nm,1.2s
P17A **Butcher Ranch,** 19.74 124 *e*P Pn 05 00 19.0 +1.1
comp=Z,45nm,1.3s
MSU **Marysvale** 19.77 128 *e*P Pn 05 00 19.1 +0.7
MSU **Marysvale** 19.77 128 *e*P Pn 05 00 19.1 +0.7
K22A **Casper** 19.81 110 *e*P Pn 05 00 19.1 +0.3
comp=Z,134nm,1.1s
K22A **Casper** 19.81 110 P Pn 05 00 18.0 -0.7
baz=309,SNR=28
PKM **Mcpherson Peak** 19.83 149 P Pn 05 00 19.3 +0.2
baz=338,SNR=15
P18A **Preston Nutter** 19.87 122 *e*P Pn 05 00 20.9 +1.2
comp=Z,47nm,1.1s
ARVC **Arvin** 19.93 147 P Pn 05 00 19.5 -0.5
baz=336,SNR=8.1
CCUT **Cedar City** 19.99 132 *e*P Pn 05 00 21.2 +0.1
comp=Z,76nm,1.4s
LRMC **Laurel Mtn Rad** 20.01 144 P Pn 05 00 21.1 -0.1
baz=334,SNR=17
SZCU **Shurtz Canyon** 20.08 131 *e*P Pn 05 00 22.1 0.0
comp=Z,79nm,1.2s
SHPR **Sheep Range** 20.09 137 *e*P Pn 05 00 21.9 -0.2
comp=Z,64nm,1.3s
SRU **San Rafael Swe** 20.12 124 *e*P Pn 05 00 23.4 +0.9
comp=Z,109nm,1.1s
SRU **San Rafael Swe** 20.12 124 *e*P Pn 05 00 23.4 +0.9
SRU pmax pmax
comp=Z,109nm,1.1s
MTPU **Mount Pierson** 20.14 129 *e*P Pn 05 00 23.4 +0.5
comp=Z,36nm,1.2s
SHOC **Shoshone, Teco** 20.16 140 P Pn 05 00 22.7 -0.2
baz=331
SBC **Santa Barbara** 20.27 149 P Pn 05 00 24.5 +0.4
baz=338
RSSD **Black Hills** 20.37 104 *e*P Pn 05 00 25.9 +0.5
comp=Z,63nm,1.0s
RSSD **Black Hills** 20.37 104 *e*P Pn 05 00 25.9 +0.5
RSSD pmax pmax
comp=Z,63nm,1.0s
RSSD **Black Hills** 20.37 104 P Pn 05 00 24.6 -0.8
baz=305
OSI **Osito Audit: C** 20.43 147 P Pn 05 00 25.8 -0.3
baz=336
EDW2 **Edwards Air Fo** 20.44 145 P Pn 05 00 25.2 -0.9
baz=335,SNR=14
GSC **Goldstone, Bar** 20.49 142 *e*P Pn 05 00 26.8 0.0
comp=Z,122nm,1.3s
GSC **Goldstone, Bar** 20.49 142 *e*P Pn 05 00 26.8 +0.1
GSC pmax pmax
comp=Z,122nm,1.3s
GSC **Goldstone, Bar** 20.49 142 P Pn 05 00 26.6 -0.1
baz=333,SNR=29
LCMT **Little Creek M** 20.49 133 *e*P Pn 05 00 26.6 -0.1
comp=Z,98nm,1.3s
O20A **White River Ci** 20.55 118 *e*P Pn 05 00 27.6 0.0
comp=Z,123nm,1.1s
O20A **White River Ci** 20.55 118 P Pn 05 00 26.8 -0.8
baz=316,SNR=29
PKCU **Pink Cliffs** 20.56 130 *e*P Pn 05 00 27.9 0.0
comp=Z,96nm,1.3s
KNB **Kanab** 20.68 132 *e*P Pn 05 00 28.8 -0.2
comp=Z,48nm,1.4s
TUQ **Turquoise Moun** 20.71 140 P Pn 05 00 28.5 -0.8
baz=332
SCZ2 **Santa Cruz Isl** 20.71 150 P Pn 05 00 28.7 -0.6
baz=338
ANM **Nome** 20.72 318 *e*P P 05 00 27.7 +0.9
comp=Z,550nm,1.2s
ANM **Nome** 20.72 318 *e*P P 05 00 27.7 +0.9
ANM pmax pmax
comp=Z,550nm,1.2s
BLG **Laguna Peak, P** 20.79 148 P Pn 05 00 29.5 -0.7
baz=338
DECC **Green Verdugo** 20.89 147 P Pn 05 00 30.4 -1.0
baz=336
MWC **Mount Wilson** 21.01 146 *e*P P 05 00 32.6 +2.3
comp=Z,86nm,1.2s
MWC **Mount Wilson** 21.01 146 *e*P P 05 00 32.6 +2.3
MWC pmax pmax
comp=Z,86nm,1.2s
PASC **Pasadena Art C** 21.02 146 *e*P P 05 00 32.0 +1.8
comp=Z,56nm,1.1s
HEC **Hector,Ludlow** 21.09 142 P P 05 00 33.0 +2.1
baz=333,SNR=9.1
BFSC **Mount Baldy Ra** 21.14 145 P P 05 00 33.4 +1.8
baz=335,SNR=19
MDND **Maddock** 21.18 90 *e*P P 05 00 33.6 +1.8
comp=Z,388nm,1.3s
MDND **Maddock** 21.18 90 P P 05 00 32.4 +0.5
baz=296,SNR=12
N23A **Red Feather La** 21.29 113 *e*P P 05 00 35.0 +1.6
comp=Z,136nm,1.2s
N23A **Red Feather La** 21.29 113 P P 05 00 35.7 +2.4
baz=313,SNR=34
PV09 **Paradox Valley** 21.29 123 *e*P P 05 00 35.6 +2.2
RDOG **Red Dog Mine** 21.30 328 *e*P P 05 00 33.5 +0.6
comp=Z,108nm,0.9s
PV21 **Cone Mtn., Par** 21.32 122 *e*P P 05 00 37.5 +3.8
comp=Z,42nm,1.2s
LDFC **Landfair** 21.34 139 *e*P P 05 00 35.5 +1.7
comp=Z,202nm,1.4s
BBRC **Big Bear Solar** 21.38 144 P P 05 00 36.1 +1.8
baz=334,SNR=8.4
GMRC **Granite Mounta** 21.38 140 P P 05 00 35.6 +1.4
baz=332,SNR=28
PV23 **Carpenter Ridg** 21.39 123 *e*P P 05 00 36.4 +1.9
comp=Z,56nm,1.0s
FMP **Fort Macarthur** 21.40 147 P P 05 00 35.5 +1.3
baz=337
U15A **North Rim** 21.40 132 *e*P P 05 00 36.3 +1.7
comp=Z,93nm,1.3s
PV10 **Paradox Valley** 21.43 123 *e*P P 05 00 37.6 +2.8
SNCC **San Nicolas Is** 21.44 150 P P 05 00 36.5 +1.8
baz=339
PV22 **Blue Mesa, Par** 21.44 122 *e*P P 05 00 36.7 +1.8
comp=Z,126nm,1.3s
PV14 **Lion Creek, Pa** 21.44 123 *e*P P 05 00 36.7 +1.8
comp=Z,86nm,1.1s
PV20 **West Nyswonger** 21.50 123 *e*P P 05 00 37.5 +2.0
comp=Z,78nm,1.2s
PV19 **Morning Glory** 21.51 123 *e*P P 05 00 37.2 +1.6
comp=Z,68nm,1.1s
PV16 **Nyswonger Mesa** 21.54 123 *e*P P 05 00 37.8 +1.7
comp=Z,52nm,1.0s
PV17 **East Wray Mesa** 21.55 123 *e*P P 05 00 37.8 +1.7
comp=Z,93nm,1.2s
PV11 **David Mesa, Pa** 21.58 123 *e*P P 05 00 38.1 +1.8
comp=Z,86nm,1.1s
PV18 **Skein Mesa, Pa** 21.60 123 *e*P P 05 00 38.3 +1.7
comp=Z,55nm,1.1s
PV12 **Saucer Basin,** 21.60 123 *e*P P 05 00 38.5 +1.9
comp=Z,68nm,1.2s
PV03 **Paradox Valley** 21.62 123 *e*P P 05 00 38.5 +1.6
PV05 **Paradox Valley** 21.63 123 *e*P P 05 00 39.0 +2.0
CIS **Catalina Islan** 21.64 148 P P 05 00 38.5 +1.6
baz=337
PV13 **Radium Mtn., P** 21.71 123 *e*P P 05 00 39.5 +1.7
comp=Z,81nm,1.1s
PV02 **Paradox Valley** 21.71 123 *e*P P 05 00 39.2 +1.3
comp=Z,80nm,1.2s
W13A **Hualapai Mount** 21.82 137 *e*P P 05 00 40.4 +1.4
comp=Z,53nm,1.4s
PV01 **Paradox Valley** 21.86 122 *e*P P 05 00 41.0 +1.6
MURC **Murrieta** 21.88 145 P P 05 00 40.7 +1.3
baz=335
SMCO **Snowmass** 21.92 118 *e*P P 05 00 41.7 +1.4
comp=Z,138nm,1.2s
BELC **Belle Mtn. Jos** 21.95 142 P P 05 00 41.7 +1.4
baz=333,SNR=11
FCC **Fort Churchill** 21.98 59 *e*P P 05 00 41.7 +1.5
comp=Z,132nm,0.8s
FCC **Fort Churchill** 21.98 59 Pn P 05 00 40.5 +0.3
FCC **Fort Churchill** 21.98 59 *e*P P 05 00 41.7 +1.5
FCC pmax pmax
comp=Z,132nm,0.8s
SCI2 **San Clemente I** 21.99 148 P P 05 00 41.9 +1.3
baz=338
PFO **Pinyon Flats O** 22.13 143 *e*P P 05 00 43.5 +1.3
comp=Z,14nm,1.0s
PFO **Pinyon Flats O** 22.13 143 *e*P P 05 00 43.5 +1.3
PFO pmax pmax
comp=Z,14nm,1.0s
PFO **Pinyon Flats O** 22.13 143 P P 05 00 43.2 +1.0
baz=334
XPFO **Pigeon Flat** 22.13 143 *e*P P 05 00 43.5 +1.3
comp=Z,16nm,1.0s
IRM **Iron Mountain** 22.13 140 P P 05 00 43.2 +0.9
baz=332,SNR=14
FRD **Ford Ranch, An** 22.18 144 P P 05 00 43.9 +1.1
baz=335
ISCO **Idaho Springs** 22.22 115 P P 05 00 44.9 +1.5
baz=314,SNR=37
PDMCI **Parker Dam,Lak** 22.41 138 P P 05 00 47.3 +2.2
baz=331,SNR=8.9
BC3 **Big Chuckawall** 22.46 141 P P 05 00 47.1 +1.3
baz=333
ULM **Lac du Bonnet** 22.51 82 P P 05 00 45.7 -0.4
comp=Z,35nm,1.0s,baz=292,slow=10.0,SNR=18
ULM **Lac du Bonnet** 22.51 82 *e*P P 05 00 46.3 +0.2
comp=Z,70nm,1.1s
ULM **Lac du Bonnet** 22.51 82 Pn P 05 00 46.0 0.0
ULM **Lac du Bonnet** 22.51 82 *e*P P 05 00 46.3 +0.2
ULM pmax pmax
comp=Z,70nm,1.1s
109C **Camp Elliot, M** 22.55 146 P P 05 00 48.1 +1.5
baz=336
CPE **Camp Elliot** 22.55 146 *e*P P 05 00 48.4 +1.7
comp=Z,62nm,1.3s
WUAZ **Wupatki** 22.57 131 *e*P P 05 00 48.6 +1.6
comp=Z,140nm,1.5s
WUAZ **Wupatki** 22.57 131 P P 05 00 48.7 +1.7
baz=326,SNR=42
MVCO **Mesa Verde** 22.60 124 *e*P P 05 00 48.8 +1.4
comp=Z,101nm,1.3s
MVCO **Mesa Verde** 22.60 124 P P 05 00 48.0 +0.6
baz=321,SNR=20
Y12C **Blythe** 22.74 140 *e*P P 05 00 50.2 +1.6
comp=Z,94nm,1.5s
Y12C **Blythe** 22.74 140 P P 05 00 50.0 +1.5
baz=332
MONP2 **Monument Peak** 22.79 144 P P 05 00 50.8 +1.5
baz=335,SNR=7.0
SWSC **Sam W. Stewart** 22.96 143 P P 05 00 52.0 +1.0
baz=334,SNR=6.3
S22A **4UR Ranch, Cre** 23.05 120 *e*P P 05 00 54.6 +2.4
comp=Z,155nm,1.5s
S22A **4UR Ranch, Cre** 23.05 120 P P 05 00 53.7 +1.6
baz=319,SNR=39
Q24A **Divide** 23.06 116 *e*P P 05 00 54.3 +1.9
comp=Z,87nm,1.4s
Q24A **Divide** 23.06 116 P P 05 00 53.7 +1.4
baz=316,SNR=17
IKP **In-Ko-Pah, Jac** 23.12 144 P P 05 00 54.0 +1.3
baz=335,SNR=10.0
SUSD **Miller** 23.23 98 P P 05 00 54.3 +0.6
baz=303,SNR=16
GLA **Glamis** 23.23 141 *e*P P 05 00 55.2 +1.4
comp=Z,98nm,1.3s
GLA **Glamis** 23.23 141 *e*P P 05 00 55.2 +1.4
GLA pmax pmax
comp=Z,99nm,1.3s
GLA **Glamis** 23.23 141 P P 05 00 54.9 +1.1
baz=333,SNR=7.5
AGMN **Agassiz Nation** 23.26 86 *e*P P 05 00 54.8 +0.9
comp=Z,158nm,1.4s
AGMN **Agassiz Nation** 23.26 86 P P 05 00 54.6 +0.7
baz=295,SNR=20
X16A **Lo Mia Camp, P** 23.46 133 *e*P P 05 00 57.8 +1.6
comp=Z,17nm,1.1s
OGNE **Ogallala** 23.48 108 *e*P P 05 00 59.1 +2.9
comp=Z,323nm,1.2s
OGNE **Ogallala** 23.48 108 P P 05 00 57.5 +1.3
baz=310,SNR=14
W18A **Petrified Fore** 23.66 129 *e*P P 05 00 59.9 +1.7
comp=Z,104nm,1.4s
W18A **Petrified Fore** 23.66 129 P P 05 00 59.1 +0.9
baz=325,SNR=11
SDCO **Great Sand Dun** 23.75 118 *e*P P 05 01 01.9 +2.8
comp=Z,72nm,1.3s
SDCO **Great Sand Dun** 23.75 118 P P 05 01 00.9 +1.7
baz=318,SNR=52
X18A **Snowflake** 24.04 130 *e*P P 05 01 04.0 +2.2
comp=Z,57nm,1.0s
KSCO **Kaye Shedlock'** 24.43 112 *e*P P 05 01 07.9 +2.6
comp=Z,102nm,1.0s
KSCO **Kaye Shedlock'** 24.43 112 P P 05 01 06.1 +0.8
baz=314,SNR=8.8
T25A **Trinidad** 24.79 118 P P 05 01 09.3 +0.7
baz=318,SNR=9.8
SOLO **Sioux Lookout** 24.87 80 Pn P 05 01 09.5 +0.5
214A **Organ Pipe Nat** 25.00 139 P P 05 01 11.3 +1.0
baz=332
ECSD **EROS Data Cent** 25.03 97 *e*P P 05 01 11.1 +0.6
comp=Z,92nm,1.1s
ECSD **EROS Data Cent** 25.03 97 P P 05 01 10.8 +0.3
baz=304,SNR=34
ANMO **Albuquerque** 25.40 124 P P 05 01 14.0 -0.1
comp=Z,5.7nm,1.1s,baz=310,slow=8.5,SNR=9.4
ANMO PcP PcP 05 04 46.5 +0.4
comp=Z,2.3nm,0.8s,baz=228,slow=3.3,SNR=3.6
ANMO **Albuquerque** 25.40 124 *e*P P 05 01 14.6 +0.5
comp=Z,24nm,1.1s
ANMO *e*PcP PcP 05 04 46.5 +0.4
ANMO **Albuquerque** 25.40 124 *e*P P 05 01 14.6 +0.5
ANMO *e* 05 04 46.5
ANMO pmax pmax
comp=Z,24nm,1.1s
ANMO **Albuquerque** 25.40 124 P P 05 01 14.8 +0.7
baz=322
BGNE **Belgrade** 25.46 103 *e*P P 05 01 15.6 +1.1
comp=Z,180nm,1.1s
BGNE **Belgrade** 25.46 103 P P 05 01 14.9 +0.4
baz=308,SNR=9.7
LAZ **Ladron** 25.49 126 *e*P P 05 01 18.4 +3.4
TUC **Tucson** 25.54 135 P P 05 01 17.0 +1.8
baz=329
LENM **Lemitar** 25.76 126 *e*P P 05 01 19.3 +1.9
BNM **Barren Site** 25.94 126 *e*P P 05 01 20.9 +1.8
EYMN **Ely** 26.06 84 P P 05 01 19.1 -0.7
baz=296
CBKS **Cedar Bluff** 26.21 109 *e*P P 05 01 22.6 +1.3
comp=Z,58nm,1.1s
CBKS **Cedar Bluff** 26.21 109 *e*P P 05 01 22.6 +1.3
CBKS pmax pmax
comp=Z,57nm,1.1s
CBKS **Cedar Bluff** 26.21 109 P P 05 01 21.4 +0.1
baz=313
F37A **Hinrichs Farm,** 26.41 89 P P 05 01 23.1 +0.1
baz=300
SPMN **Marine on St.** 26.55 91 *e*P P 05 01 25.9 +1.6
comp=Z,43nm,1.0s
SPMN **Marine on St.** 26.55 91 P P 05 01 24.6 +0.3
baz=301,SNR=5.2
RES **Resolute Bay** 26.62 21 P P 05 01 24.9 +0.3
comp=Z,8.3nm,0.7s,baz=230,slow=11,SNR=14
RES **Resolute Bay** 26.62 21 *e*P P 05 01 25.5 +0.9
comp=Z,39nm,1.1s
RES **Resolute Bay** 26.62 21 Pn P 05 01 25.0 +0.4
RES **Resolute Bay** 26.62 21 *e*P P 05 01 25.5 +0.9
RES pmax pmax
comp=Z,39nm,1.1s
E38A **The Farm, Brul** 26.63 87 P P 05 01 25.7 +0.7
baz=298
121A **Cookes Peak, D** 26.70 129 P P 05 01 28.0 +2.0
baz=326
F38A **Pierce - Schro** 26.75 88 P P 05 01 27.6 +1.6
baz=299,SNR=11
TBO **Thunder Bay** 27.02 81 Pn P 05 01 30.1 +1.6
H38A **Maiden Rock** 27.15 91 P P 05 01 30.2 +0.5
baz=302
E39A **Mellen** 27.35 87 P P 05 01 32.6 +1.2
baz=299
F39A **Loretta** 27.35 88 P P 05 01 33.0 +1.5
baz=300
G39A **Holcombe** 27.52 89 P P 05 01 34.0 +1.1
baz=301
E40A **Wakefield** 27.72 86 P P 05 01 35.9 +1.1
baz=299
H39A **Augusta** 27.76 90 P P 05 01 35.9 +0.8
baz=302
KSU1 **Kansas State U** 27.84 105 *e*P P 05 01 37.6 +1.7
comp=Z,33nm,1.1s
KSU1 **Kansas State U** 27.84 105 P P 05 01 36.9 +1.0
baz=311,SNR=7.1
EPT **El Paso** 27.94 128 *e*P P 05 01 43.3 +6.3
comp=Z,35nm,1.4s
AMTX **Amarillo** 27.94 118 P P 05 01 38.3 +1.4
baz=319
I39A **Houston** 28.05 92 *e*P P 05 01 39.5 +1.8
comp=Z,56nm,1.1s
I39A **Houston** 28.05 92 P P 05 01 38.4 +0.7
baz=303
MSTX **Muleshoe** 28.06 120 *e*P P 05 01 39.5 +1.5
comp=Z,36nm,1.4s
MSTX **Muleshoe** 28.06 120 P P 05 01 39.4 +1.5
baz=321
SCIA **State Center** 28.12 97 *e*P P 05 01 43.8 +5.4
comp=Z,69nm,1.2s
SCIA **State Center** 28.12 97 P P 05 01 39.4 +1.0
baz=306
J39A **Decorah** 28.22 93 P P 05 01 39.8 +0.5
baz=304
U32A **Winter Ranch,** 28.32 112 *e*P P 05 01 46.0 +5.8
comp=Z,90nm,1.1s
K39A **Oelwein** 28.47 94 P P 05 01 42.5 +1.0
baz=305
MNTX **Cornudas Mount** 28.54 127 *e*P P 05 01 43.5 +1.3
comp=Z,33nm,1.4s
MNTX **Cornudas Mount** 28.54 127 P P 05 01 44.0 +1.8
baz=325,SNR=8.9
F41A **Three Lakes** 28.54 87 P P 05 01 42.8 +0.7
baz=300
I40A **Norwalk** 28.58 91 P P 05 01 42.9 +0.5
baz=303
L39A **Vinton** 28.73 95 P P 05 01 43.9 +0.1
baz=306,SNR=5.9
J40A **Soldiers Grove** 28.78 92 P P 05 01 44.5 +0.3
baz=304
VIMO **Victor Mine** 28.79 70 Pn P 05 01 44.2 0.0
K40A **Colesburg** 28.93 94 P P 05 01 46.4 +0.9
baz=305
M39A **Webster** 29.01 97 P P 05 01 47.0 +0.7
baz=307,SNR=7.8
N39A **Derby Farms, D** 29.17 98 *e*P P 05 01 48.2 +0.5
comp=Z,27nm,1.1s
N39A **Derby Farms, D** 29.17 98 P P 05 01 48.3 +0.6
baz=308
L40A **Anamosa** 29.24 95 P P 05 01 49.1 +0.8
baz=306
JFWS **Jewell Farm** 29.34 93 P P 05 01 49.2 0.0
baz=304
M40A **Post Highland** 29.45 96 P P 05 01 50.2 0.0
baz=307,SNR=11
K41A **Shullsburg** 29.48 93 P P 05 01 50.8 +0.4
baz=305
WMOK **Wichita Mounta** 29.64 114 *e*P P 05 01 53.3 +1.4
comp=Z,107nm,1.4s
WMOK **Wichita Mounta** 29.64 114 *e*P P 05 01 53.3 +1.4
WMOK pmax pmax
comp=Z,107nm,1.4s
WMOK **Wichita Mounta** 29.64 114 P P 05 01 52.9 +1.0
baz=318,SNR=37
L41A **Preston** 29.67 94 P P 05 01 53.3 +1.2
baz=306
M41A **Milan** 30.05 95 P P 05 01 55.9 +0.4
baz=306,SNR=6.9
L42A **Oliver, Polo** 30.22 94 P P 05 01 57.5 +0.5
baz=306
M42A **Sheffield** 30.48 95 P P 05 01 59.3 0.0
baz=306
TUL1 **Leonard** 30.49 109 *e*P P 05 02 00.5 +1.1
comp=Z,72nm,1.4s
TUL1 **Leonard** 30.49 109 P P 05 01 60.0 +0.6
baz=315,SNR=5.9
O41A **Passleys Farm,** 30.61 98 P P 05 02 00.8 +0.3
baz=308,SNR=11
N42A **Yates City** 30.69 96 P P 05 02 01.2 +0.1
baz=307,SNR=7.6
ABTX **Abilene, Hawle** 30.76 118 P P 05 02 03.3 +1.5
baz=320,SNR=5.6
P41A **Barry, Barry** 30.78 98 P P 05 02 02.4 +0.5
baz=309
O42A **Bath** 31.05 97 P P 05 02 05.3 +1.0
baz=308
Q41A **Truxton** 31.13 100 P P 05 02 05.2 +0.1
baz=310,SNR=19
N43A **Stutzman Famil** 31.14 95 P P 05 02 05.3 +0.1
baz=307
EUNU **Eureka** 31.18 14 Pn P 05 02 05.1 -0.1
P42A **Winchester** 31.27 98 *e*P P 05 02 06.7 +0.5
comp=Z,50nm,1.1s
P42A **Winchester** 31.27 98 P P 05 02 06.4 +0.2
baz=309,SNR=5.6
HHAR **Hobbs** 31.30 106 *e*P P 05 02 07.3 +0.7
comp=Z,68nm,1.5s
HDIL **Hopedale** 31.30 96 *e*P P 05 02 07.7 +1.2
comp=Z,101nm,1.1s
HDIL **Hopedale** 31.30 96 P P 05 02 06.5 0.0
baz=308,SNR=7.9
TX31 **Lajitas Ar. Si** 31.32 127 *e*P P 05 02 08.0 +1.1
TX31 *e*PcP PcP 05 05 00.2 -0.4
LTX **Lajitas** 31.32 127 *e*P P 05 02 07.9 +1.0
LTX *e*PcP PcP 05 05 00.6 0.0
LTX **Lajitas** 31.32 127 *e*P P 05 02 07.9 +1.0
LTX *e* 05 05 00.6
TXAR **Lajitas Array** 31.32 127 P P 05 02 07.9 +1.0
comp=Z,2.8nm,0.7s,baz=328,slow=7.5,SNR=26
TXAR PcP PcP 05 05 00.6 0.0
comp=Z,1.2nm,0.7s,baz=202,slow=1.0,SNR=7.3
O43A **Sugar Creek Fa** 31.45 96 P P 05 02 08.3 +0.4
baz=308
R41A **Rosebud** 31.46 101 P P 05 02 08.1 +0.2
baz=311,SNR=34
Q42A **Golden Eagle** 31.58 99 P P 05 02 08.9 -0.1
baz=310
X37A **Clayton** 31.67 110 *e*P P 05 02 11.4 +1.6
comp=Z,66nm,1.4s
CCM **Cathedral Cave** 31.70 101 *e*P P 05 02 10.1 0.0
comp=Z,77nm,1.1s
CCM **Cathedral Cave** 31.70 101 *e*P P 05 02 10.1 0.0
CCM pmax pmax
comp=Z,77nm,1.1s
CCM **Cathedral Cave** 31.70 101 P P 05 02 10.1 0.0
baz=311

S41A Jillco Farms, 31.71 102 P P 05 02 10.1 -0.1
baz=312,SNR=6.4
P43A Skaggs, Pawnee 31.73 97 P P 05 02 10.1 -0.1
baz=309,SNR=9.4
R42A Luebbering 31.83 100 P P 05 02 11.0 -0.2
baz=311,SNR=6.0
U40A Yellville 31.89 105 P P 05 02 11.6 -0.2
baz=313,SNR=40
O44A Mansfield 32.05 95 P P 05 02 12.5 -0.6
baz=308
Q43A New Douglas 32.06 98 P P 05 02 13.2 0.0
baz=310
T41A Mountain View 32.06 103 P P 05 02 12.7 -0.6
baz=312,SNR=7.6
W39A Magazine 32.15 108 eP P 05 02 14.9 +0.9
comp=Z,72nm,1.3s
W39A Magazine 32.15 108 P P 05 02 13.3 -0.7
baz=315,SNR=6.8
S42A Caledonia 32.16 101 P P 05 02 13.6 -0.5
baz=311,SNR=20
FVM French Village 32.24 100 eP P 05 02 15.0 +0.2
comp=Z,49nm,1.3s
FVM French Village 32.24 100 eP P 05 02 15.0 +0.2
FVM pmax pmax
comp=Z,49nm,1.3s
R43A Red Bud 32.35 99 P P 05 02 16.2 +0.5
baz=310
JCT Junction City 32.35 121 eP P 05 02 16.4 +0.6
comp=Z,12nm,0.8s
JCT Junction City 32.35 121 eP P 05 02 16.4 +0.6
JCT pmax pmax
comp=Z,12nm,0.8s
JCT Junction City 32.35 121 P P 05 02 16.5 +0.6
baz=323
E48A Lockeyer 32.37 81 P P 05 02 15.6 -0.2
baz=300
P44A Sand Creek, Wi 32.38 97 P P 05 02 16.6 +0.6
baz=309
WHTX Lake Whitney, 32.43 116 P P 05 02 17.3 +0.8
baz=320
O45A Potomac 32.44 95 P P 05 02 16.4 -0.2
baz=308
U41A Viola 32.44 104 P P 05 02 16.6 0.0
baz=313
BILL Bilibino 32.45 322 eP P 05 02 17.2 +0.8
comp=Z,125nm,1.1s
BILL Bilibino 32.45 322 c iP P 05 02 17.0 +0.7
BILL i 05 02 24.0
BILL pmax pmax
comp=Z,196nm,1.7s
BILL MLR MLR
comp=Z,1μm,18.0s
J47A Sunmer 32.47 88 P P 05 02 16.7 0.0
baz=304
T42A Van Buren 32.47 102 eP P 05 02 16.5 -0.4
comp=Z,35nm,1.3s
T42A ePcP PcP 05 05 03.2 -0.3
T42A Van Buren 32.47 102 P P 05 02 16.4 -0.4
baz=312,SNR=7.1
Q44A Meyer Farm, Va 32.49 98 P P 05 02 16.5 -0.5
baz=310,SNR=7.9
V41A Mountainview 32.69 105 P P 05 02 18.3 -0.5
baz=314,SNR=42
S43A Fulton Ridge, 32.72 101 P P 05 02 18.6 -0.4
baz=311,SNR=32
MIAR Mount Ida 32.73 108 eP P 05 02 20.4 +1.3
comp=Z,119nm,1.4s
MIAR Mount Ida 32.73 108 eP P 05 02 20.4 +1.3
MIAR pmax pmax
comp=Z,119nm,1.4s
MIAR Mount Ida 32.73 108 P P 05 02 19.3 +0.2
baz=316,SNR=35
U42A Revenden 32.84 103 P P 05 02 19.2 -0.9
baz=313,SNR=7.5
KILO Kirkland Lake 32.86 76 Pn P 05 02 20.7 +0.6
P45A Graceland, Par 32.87 96 eP P 05 02 20.9 +0.6
comp=Z,111nm,0.9s
P45A Graceland, Par 32.87 96 P P 05 02 19.9 -0.4
baz=309,SNR=11
R44A Waltonville 32.88 99 P P 05 02 19.1 -1.2
baz=310,SNR=6.0
T43A Greenville 32.91 101 P P 05 02 19.3 -1.4
baz=312,SNR=14
WHAR Wooly Hollow 32.95 106 eP P 05 02 21.7 +0.6
comp=Z,48nm,1.3s
Q45A Warren Harvey, 33.02 97 P P 05 02 20.2 -1.4
baz=309,SNR=8.7
PBMO Poplar Bluff 33.03 102 eP P 05 02 21.5 -0.3
comp=Z,40nm,1.2s
W41B Gary Mavity, V 33.06 106 P P 05 02 22.3 +0.3
baz=315,SNR=7.5
V42A Cord 33.12 104 P P 05 02 21.9 -0.6
baz=314,SNR=7.4
S44A Carbondale 33.13 100 P P 05 02 22.2 -0.4
baz=311
SIUC Southern Illin 33.14 100 eP P 05 02 22.8 +0.1
comp=Z,58nm,1.3s
P46A Rosedale 33.14 95 P P 05 02 22.4 -0.3
baz=308,SNR=6.6
OLIL Olney 33.16 97 eP P 05 02 23.7 +0.9
comp=Z,92nm,1.0s
UALR University of 33.28 107 eP P 05 02 24.8 +0.9
comp=Z,79nm,1.4s
435B Jarrell 33.29 117 P P 05 02 25.9 +1.9
baz=321
U43A Rector 33.32 103 P P 05 02 23.6 -0.7
baz=313,SNR=5.7
R45A Skylar, Fairfi 33.33 98 P P 05 02 24.1 -0.2
baz=310,SNR=9.5
T44A Benton 33.33 101 P P 05 02 24.6 +0.3
baz=312
S45A Carrier Mills 33.55 99 P P 05 02 26.5 +0.3
baz=311
V43A Jonesboro 33.64 103 P P 05 02 28.4 +1.4
baz=313
FRB Frobisher Bay 33.74 46 P P 05 02 28.3 +0.7
comp=Z,50nm,1.1s,baz=267,slow=9.8,SNR=4.1
Y41A Eaglette Beard 33.76 108 P P 05 02 28.9 +0.8
baz=316,SNR=7.3
P47A Martinsville 33.79 94 P P 05 02 28.4 0.0
baz=308
R46A Gibson Southern 33.84 97 P P 05 02 29.6 +0.8
baz=310
USIN University of 33.91 98 eP P 05 02 31.0 +1.7
comp=Z,92nm,1.2s
T45A Paducah 33.94 100 P P 05 02 29.9 +0.2
baz=312
E51A G1948 Merrick 33.94 79 P P 05 02 29.3 -0.3
baz=300
U44B Burton Farm, H 33.97 102 P P 05 02 29.5 -0.4
baz=312,SNR=5.8
O48A Farmland 33.99 92 P P 05 02 29.6 -0.6
baz=308
F51A Arnstein 34.00 80 P P 05 02 30.3 +0.2
baz=301
Q47A Bedord North L 34.04 95 P P 05 02 30.5 0.0
baz=309,SNR=8.5
GLAT Glass 34.06 102 eP P 05 02 35.9 +5.3
comp=Z,125nm,1.3s
S46A Don Dixon Farm 34.06 98 P P 05 02 30.7 0.0
baz=311,SNR=8.2
Z41A Richland Creek 34.10 109 P P 05 02 31.6 +0.5
baz=317,SNR=5.8
NATX Nacogdoches 34.15 113 P P 05 02 29.1 -2.4
comp=Z,68nm,1.2s
NATX Nacogdoches 34.15 113 P P 05 02 33.6 +2.1
baz=319
LSQQ Lebel-sur-Quev 34.21 74 P P 05 02 31.6 -0.3
baz=298
Y42A Garnett, Star 34.27 107 P P 05 02 33.6 +1.0
baz=316,SNR=5.5
833A Chaparral WMA, 34.29 122 eP P 05 02 38.7 +6.0
comp=Z,50nm,1.4s
833A Chaparral WMA, 34.29 122 P P 05 02 33.7 +1.0
baz=324
U45A Rockin P Farm, 34.32 101 P P 05 02 33.4 +0.5
baz=312
P48A Milroy 34.32 94 P P 05 02 32.3 -0.6
baz=308
T46A Princeton 34.38 99 P P 05 02 33.7 +0.3
baz=312,SNR=11
VLDQ Val d'Or 34.38 75 eP P 05 02 32.5 -0.9
comp=Z,40nm,1.1s
VLDQ Val d'Or 34.38 75 Pn P 05 02 28.9 -4.4
R47A Wooly Knot Far 34.38 96 P P 05 02 33.7 +0.2
baz=310,SNR=21
Q48A North Vernon 34.47 95 P P 05 02 34.2 0.0
baz=309,SNR=5.5

BUKO Buck Lake 34.56 81 P P 05 02 35.3 +0.4
baz=302
WCI Wyandotte Cave 34.57 96 eP P 05 02 36.0 +0.9
comp=Z,61nm,1.0s
WCI Wyandotte Cave 34.57 96 eP P 05 02 36.0 +0.9
WCI pmax pmax
comp=Z,61nm,1.0s
WCI Wyandotte Cave 34.57 96 P P 05 02 35.4 +0.3
baz=310
Z42A Norrel Spur, H 34.58 108 P P 05 02 36.0 +0.7
baz=316,SNR=5.8
S47A Hartford 34.62 98 P P 05 02 35.6 +0.1
baz=311,SNR=6.8
U46A Springville 34.66 100 P P 05 02 35.9 0.0
baz=312
P49A Miami Univ. Ec 34.70 93 P P 05 02 37.2 +1.0
baz=308
R48A Northridge Ran 34.72 96 P P 05 02 36.4 +0.1
baz=310,SNR=6.3
Y43A Makayla and Ka 34.72 106 P P 05 02 38.6 +2.2
baz=316
D53A Lac Vacive, Po 34.74 77 P P 05 02 35.9 -0.6
baz=300
X44A Crenshaw 34.76 105 P P 05 02 36.9 +0.1
baz=315
W45A Hickory Valley 34.87 103 P P 05 02 37.4 -0.4
baz=314
T47A Sharon Grove 34.88 99 eP P 05 02 38.4 +0.6
comp=Z,44nm,1.1s
T47A Sharon Grove 34.88 99 P P 05 02 37.5 -0.3
baz=311,SNR=7.5
HKT Hockley 34.88 116 eP P 05 02 43.8 +6.0
comp=Z,79nm,1.5s
241A Mo Tay, Goldon 34.94 111 eP P 05 02 40.2 +1.8
comp=Z,112nm,1.3s
241A Mo Tay, Goldon 34.94 111 P P 05 02 39.3 +1.0
baz=318,SNR=6.3
WVT Waverly 35.02 100 eP P 05 02 39.3 +0.3
comp=Z,42nm,1.2s
WVT Waverly 35.02 100 eP P 05 02 39.3 +0.3
WVT pmax pmax
comp=Z,42nm,1.2s
WVT Waverly 35.02 100 P P 05 02 39.3 +0.3
baz=312
Z43A Armstrong Fami 35.04 107 P P 05 02 41.4 +2.3
baz=316
SADO Sadowa 35.07 81 PcP PcP 05 05 10.7 -0.1
comp=Z,18nm,1.0s,baz=280,slow=6.1,SNR=3.2
V46A Holladay 35.07 101 P P 05 02 39.2 -0.2
baz=313,SNR=7.0
S48A Wiedeman Farm, 35.08 97 P P 05 02 39.5 0.0
baz=310,SNR=29
ALGO Algonquin Park 35.10 79 P P 05 02 39.6 0.0
baz=301
Y44A Strider, Charl 35.10 105 P P 05 02 40.0 +0.3
baz=315,SNR=6.6
142A Monroe 35.11 109 P P 05 02 40.6 +0.8
baz=317
E53A Dumoine, Ponti 35.11 78 P P 05 02 39.3 -0.4
baz=301
U47A Clarksville 35.14 99 P P 05 02 40.1 +0.1
baz=312,SNR=8.1
OXF Oxford 35.19 104 eP P 05 02 40.5 +0.1
comp=Z,194nm,1.0s
OXF Oxford 35.19 104 eP P 05 02 40.5 +0.1
OXF pmax pmax
comp=Z,194nm,1.0s
OXF Oxford 35.19 104 P P 05 02 40.2 -0.2
baz=314,SNR=14
R49A Shelbyville 35.21 95 P P 05 02 40.5 -0.1
baz=310
P50A Jamestown 35.22 92 P P 05 02 40.6 -0.1
baz=308
T48A Bowling Green 35.23 98 P P 05 02 41.0 +0.1
baz=311,SNR=9.0
X45A UM Field Stati 35.26 104 P P 05 02 41.0 0.0
baz=315,SNR=5.4
143A Socs Landing, 35.31 108 eP P 05 02 43.6 +2.1
comp=Z,150nm,1.1s
341A Kurthwood 35.31 112 P P 05 02 42.1 +0.6
baz=319
D54A Lac Fusel, La 35.32 76 P P 05 02 40.9 -0.6
baz=300
242A Grayson 35.35 110 P P 05 02 42.9 +1.0
baz=318,SNR=5.9
E54A Lac Daplat, Po 35.37 78 P P 05 02 41.3 -0.6
baz=301
W46A Michie 35.37 102 P P 05 02 41.5 -0.5
baz=314,SNR=5.0
V47A Nunnelly 35.41 100 P P 05 02 42.4 +0.1
baz=313,SNR=8.3
Z44A Pea Ridge, Bel 35.46 107 P P 05 02 42.5 -0.3
baz=316
S49A Springfield 35.46 96 P P 05 02 42.2 -0.6
baz=310,SNR=7.2
U48A Cassie Pea, Po 35.54 99 P P 05 02 43.0 -0.5
baz=312,SNR=6.8
Y45A Yeager Farm, C 35.56 105 P P 05 02 43.7 0.0
baz=315,SNR=5.3
Q50A Georgetown 35.58 93 P P 05 02 45.2 +1.4
baz=309
X46A Booneville 35.65 103 P P 05 02 43.5 -0.9
baz=314
PLAL Pickwick Lake 35.65 102 eP P 05 02 44.4 -0.1
comp=Z,76nm,1.2s
PEMO Pembroke 35.73 79 P P 05 02 45.3 +0.3
baz=302
R50A Paris 35.73 94 P P 05 02 44.1 -0.9
baz=310,SNR=6.8
P51A Williamsport 35.74 92 P P 05 02 44.3 -0.9
baz=308
T49A Edmonton 35.76 97 P P 05 02 45.2 -0.2
baz=311,SNR=7.8
W47A Westpoint 35.76 101 P P 05 02 45.4 +0.1
baz=313
342A Flagon Creek P 35.76 111 eP P 05 02 47.4 +2.0
comp=Z,155nm,1.0s
342A Flagon Creek P 35.76 111 P P 05 02 45.8 +0.4
baz=318,SNR=9.0
Z45A Winona 35.83 106 eP P 05 02 50.9 +4.9
comp=Z,93nm,1.0s
Z45A Winona 35.83 106 P P 05 02 46.1 +0.1
baz=316,SNR=6.1
V48A Smith Brothers 35.89 100 eP P 05 02 46.6 +0.2
comp=Z,31nm,1.2s
V48A Smith Brothers 35.89 100 P P 05 02 46.3 -0.1
baz=313,SNR=5.1
Y46A Houston 35.95 104 P P 05 02 46.9 -0.1
baz=315,SNR=6.7
U49A Red Boiling Sp 36.00 98 P P 05 02 47.1 -0.3
baz=312,SNR=9.5
S50A Richmond 36.07 95 P P 05 02 47.5 -0.5
baz=310,SNR=5.8
X47A Russelville 36.10 102 P P 05 02 48.0 -0.3
baz=314
DELO Deloro Mine 36.12 81 P P 05 02 48.8 +0.4
baz=303
PLVO Plevna 36.16 80 P P 05 02 50.6 +1.8
baz=302
R51A Hillsboro 36.17 94 P P 05 02 49.3 +0.5
baz=310,SNR=8.1
VBMS Vicksburg 36.18 108 eP P 05 02 50.1 +1.1
comp=Z,206nm,1.4s
VBMS Vicksburg 36.18 108 P P 05 02 49.5 +0.6
baz=317
244A Avery, Jackson 36.21 108 P P 05 02 49.7 +0.5
baz=317,SNR=23
W48A Pulaski 36.23 101 P P 05 02 49.0 -0.4
baz=313,SNR=6.6
T50A Nancy 36.23 96 P P 05 02 49.4 0.0
baz=311,SNR=7.9
V49A McMinnville 36.42 99 P P 05 02 51.2 +0.2
baz=312,SNR=7.1
Y47A UCPARC, Winfie 36.54 103 P P 05 02 51.9 -0.2
baz=315,SNR=6.2
VABQ Val Des Bois 36.58 77 Pn P 05 02 51.9 -0.4
S51A Beattyville 36.58 95 P P 05 02 51.9 -0.5
baz=310
344A Westbrook Farm 36.61 109 P P 05 02 53.3 +0.7
baz=318,SNR=5.5
U50A Jamestown 36.63 97 P P 05 02 52.5 -0.3
baz=312,SNR=30
X48A Hartselle 36.63 102 eP P 05 02 52.6 -0.2
comp=Z,38nm,1.1s
X48A Hartselle 36.63 102 P P 05 02 52.4 -0.4
baz=314,SNR=5.3
W49A Belvidere 36.64 100 P P 05 02 53.0 0.0
baz=313,SNR=7.9

245A Little AP, Sta 36.67 107 P P 05 02 54.0 +0.8
baz=317
N54A Moraine State 36.71 87 P P 05 02 53.2 -0.3
baz=307
146A Union 36.72 106 eP P 05 02 58.5 +4.8
comp=Z,88nm,1.1s
146A Union 36.72 106 P P 05 02 53.6 0.0
baz=316
GAC Glen Almond 36.76 78 Pn P 05 02 54.1 +0.2
SWET Sewanee 36.77 100 eP P 05 02 54.4 +0.3
comp=Z,27nm,1.2s
T51A Gray 36.81 96 P P 05 02 54.3 0.0
baz=311,SNR=9.0
ORIO Orleans, Innes 36.88 78 P P 05 02 55.1 +0.3
baz=302
Z47A Carrollton 36.90 104 P P 05 02 55.0 -0.1
baz=315
Y48A Jasper 36.93 102 P P 05 02 55.3 -0.1
baz=314
V50A Pikevile 36.97 98 P P 05 02 55.4 -0.3
baz=312
X49A Woodville 37.02 101 P P 05 02 56.0 -0.2
baz=314,SNR=5.5
Z48A Northport 37.08 103 P P 05 02 56.2 -0.5
baz=315,SNR=6.3
U51A La Follette 37.15 97 P P 05 02 58.0 +0.7
baz=312,SNR=6.9
ALFO Alfred 37.16 77 P P 05 02 57.8 +0.7
baz=302
W50A Signal Mountai 37.16 99 eP P 05 02 57.5 +0.2
comp=Z,41nm,1.1s
W50A Signal Mountai 37.16 99 P P 05 02 57.1 -0.2
baz=313,SNR=6.7
T52A Hallie 37.30 95 P P 05 02 58.2 -0.3
baz=311
TZTN Tazewell 37.32 96 P P 05 02 59.1 +0.4
baz=311,SNR=9.6
V51A Loudon 37.33 98 eP P 05 02 59.1 +0.4
comp=Z,57nm,1.0s
V51A Loudon 37.33 98 P P 05 02 58.9 +0.1
baz=312,SNR=8.4
SCHQ Schefferville 37.35 60 P P 05 02 59.0 +0.1
comp=Z,10nm,0.6s,baz=305,slow=11,SNR=8.5
SCHQ Schefferville 37.35 60 eP P 05 02 59.8 +1.0
comp=Z,63nm,1.5s
SCHQ Schefferville 37.35 60 Pn P 05 02 58.9 +0.1
346A Big Creek Wild 37.39 108 P P 05 02 58.5 -0.8
baz=318
247A Quitman 37.41 106 P P 05 02 59.3 -0.1
baz=317,SNR=5.1
ZAIG Zacatecas 37.41 132 eP P 05 03 05.6 +5.7
comp=Z,44nm,1.3s
Y49A Blount Mountai 37.42 102 eP P 05 03 00.0 +0.4
comp=Z,64nm,1.3s
Y49A Blount Mountai 37.42 102 P P 05 02 59.2 -0.4
baz=314,SNR=5.6
X50B Fort Payne 37.46 100 P P 05 02 59.8 -0.1
baz=314,SNR=9.9
CPCT Cooper Cave 37.46 98 eP P 05 03 00.3 +0.4
comp=Z,66nm,1.1s
W51A Cleveland 37.52 99 P P 05 03 00.5 +0.2
baz=313,SNR=12
U52A Thorn Hill 37.53 96 P P 05 03 01.2 +0.7
baz=312,SNR=6.4
LRAL Lakeview Retre 37.65 103 eP P 05 03 01.8 +0.3
comp=Z,37nm,1.1s
LRAL Lakeview Retre 37.65 103 P P 05 03 02.0 +0.5
baz=315,SNR=5.8
V52A Sevierville 37.76 97 eP P 05 03 02.8 +0.4
comp=Z,140nm,1.4s
V52A Sevierville 37.76 97 P P 05 03 02.6 +0.2
baz=312,SNR=12
Y50A Piedmont 37.80 101 P P 05 03 02.5 -0.3
baz=314,SNR=7.8
Z49A Columbiana 37.82 103 P P 05 03 02.8 -0.1
baz=315
DPQ Saint Jean 37.85 75 Pn P 05 03 03.0 0.0
X51A Calhoun 37.86 100 eP P 05 03 03.9 +0.6
comp=Z,147nm,1.1s
X51A Calhoun 37.86 100 P P 05 03 03.1 -0.2
baz=314,SNR=24
LONY Lake Ozonia 37.88 79 eP P 05 03 08.1 +4.7
comp=Z,34nm,1.2s
LONY Lake Ozonia 37.88 79 P P 05 03 03.1 -0.3
baz=303
248A Dixon Mills 37.89 105 P P 05 03 03.9 +0.4
baz=316
446A Poplarville 37.89 108 P P 05 03 06.6 +3.1
baz=318
347A Saraland 37.92 107 P P 05 03 04.2 +0.5
baz=317
O56A Blue Knob Stat 38.00 87 P P 05 03 05.5 +1.1
baz=308
U53A Fall Branch 38.03 95 P P 05 03 04.5 -0.2
baz=312
W52A Murphy 38.06 98 eP P 05 03 05.4 +0.4
comp=Z,138nm,1.0s
W52A Murphy 38.06 98 P P 05 03 04.8 -0.2
baz=313,SNR=32
149A Jones 38.08 104 P P 05 03 04.8 -0.3
baz=316,SNR=24
Z50A Ashland 38.14 102 eP P 05 03 05.8 +0.2
comp=Z,52nm,1.1s
Z50A Ashland 38.14 102 P P 05 03 05.2 -0.4
baz=315,SNR=8.4
Y51A Rockmart 38.20 100 P P 05 03 06.0 -0.1
baz=314,SNR=7.3
249A Camden 38.34 105 P P 05 03 07.5 +0.2
baz=316,SNR=6.8
V53A Saluda 38.35 96 eP P 05 03 08.1 +0.6
comp=Z,90nm,1.4s
V53A Saluda 38.35 96 P P 05 03 07.5 +0.1
baz=312,SNR=9.9
FRNY Flat Rock 38.36 78 eP P 05 03 08.0 +0.7
comp=Z,36nm,1.0s
X52A Dahlonega 38.42 99 P P 05 03 08.1 +0.1
baz=313,SNR=11
W53A Cullowhee 38.47 97 P P 05 03 08.9 +0.4
baz=313,SNR=37
150A Eclectic 38.53 103 P P 05 03 08.9 0.0
baz=316,SNR=10
Z51A Franklin 38.54 101 P P 05 03 09.0 0.0
baz=315,SNR=6.3
BG3 Lake Jocassee 38.73 97 eP P 05 03 11.8 +1.2
comp=Z,80nm,1.2s
349A Repton 38.74 105 P P 05 03 10.9 +0.2
baz=317
BLA Blacksburg 38.79 92 eP P 05 03 11.9 +0.8
comp=Z,56nm,1.0s
BLA Blacksburg 38.79 92 eP P 05 03 11.9 +0.8
BLA pmax pmax
comp=Z,56nm,1.0s
BLA Blacksburg 38.79 92 P P 05 03 10.9 -0.2
baz=310,SNR=5.5
Y52A Lilburn 38.82 100 P P 05 03 11.4 0.0
baz=314,SNR=10
250A Grady 38.84 104 P P 05 03 13.2 +1.7
baz=316
X53A Estanollee 38.84 98 P P 05 03 11.7 +0.1
baz=313,SNR=9.1
BRAL Brewton 38.96 105 P P 05 03 15.5 +3.0
baz=317
151A Opelika 39.00 102 P P 05 03 13.1 +0.2
baz=315
Z52A Williamson 39.08 101 P P 05 03 13.3 -0.2
baz=315,SNR=9.8
Y53A Monroe 39.12 99 P P 05 03 13.6 -0.3
baz=314,SNR=9.2
VT1 Waterbury 39.13 78 eP P 05 03 14.9 +1.0
comp=Z,34nm,1.1s
SEY Seymchan 39.19 315 P P 05 03 14.8 +0.7
comp=Z,78nm,0.9s,baz=76,slow=7.8,SNR=60
SEY Seymchan 39.19 315 eP P 05 03 15.0 +0.9
251A Midway 39.26 103 P P 05 03 14.8 -0.3
baz=316,SNR=8.1
152A Waverly Hall 39.27 102 eP P 05 03 14.9 -0.2
comp=Z,60nm,1.1s
152A Waverly Hall 39.27 102 P P 05 03 14.7 -0.4
baz=315,SNR=9.7
N59A State Game Lan 39.30 84 eP P 05 03 15.2 -0.1
comp=Z,30nm,1.2s
N59A State Game Lan 39.30 84 P P 05 03 14.6 -0.7
baz=307
GOGA Godfrey 39.49 100 eP P 05 03 17.2 +0.2
comp=Z,70nm,1.1s
GOGA Godfrey 39.49 100 eP P 05 03 17.2 +0.2
GOGA pmax pmax
comp=Z,70nm,1.1s

GOGA Godfrey 39.49 100 P P 05 03 16.7 -0.3
baz=314,SNR=9.2
Z53A Monticello 39.52 100 P P 05 03 16.8 -0.4
baz=314,SNR=9.5
KMSC Kings Mountain 39.60 96 P P 05 03 17.8 -0.1
baz=312
Y54A Tignall 39.65 98 P P 05 03 18.1 -0.2
baz=314,SNR=7.7
LBNH Lisbon 39.67 77 P P 05 03 18.4 0.0
baz=304
252A Lumpkin 39.73 102 P P 05 03 18.8 -0.2
baz=316,SNR=5.4
153A Fort Valley 39.81 101 P P 05 03 20.3 +0.8
baz=315
R58B Mineral 39.85 90 P P 05 03 19.4 -0.4
baz=310
ODNJ Oglesnsburg 39.91 83 eP P 05 03 25.2 +4.9
comp=Z,65nm,1.5s
352A Blakely 39.99 103 P P 05 03 20.8 -0.3
baz=316
Z54A Sparta 39.99 99 P P 05 03 20.8 -0.3
baz=314,SNR=6.7
253A Americus 40.05 102 eP P 05 03 25.9 +4.3
comp=Z,171nm,1.3s
253A Americus 40.05 102 P P 05 03 21.8 +0.2
baz=316,SNR=6.8
SFJD Kangerlussuaq 40.05 37 P P 05 03 21.1 -0.1
comp=Z,25nm,1.1s,baz=292,slow=8.5,SNR=3.7
JSC Jenkinsville 40.22 97 eP P 05 03 24.7 +1.7
comp=Z,68nm,1.4s
JSC Jenkinsville 40.22 97 eP P 05 03 24.7 +1.7
JSC pmax pmax
comp=Z,68nm,1.4s
154A Montrose 40.27 100 P P 05 03 22.9 -0.5
baz=315,SNR=5.7
PET Petropavlovsk 40.33 299 eP P 05 03 24.7 +1.1
comp=Z,86nm,1.0s
PET Petropavlovsk 40.33 299⇓iP P 05 03 24.3 +0.6
PET eS S 05 09 31.9 +1.5
PET pmax pmax
comp=Z,48nm,0.8s
PAL Palisades 40.37 83 P P 05 03 24.8 +0.6
baz=307
Z55A Blythe 40.43 99 P P 05 03 25.4 +0.7
baz=314
353A Camilla 40.50 103 P P 05 03 26.3 +0.9
baz=316
254A Abbeville 40.63 101 P P 05 03 26.2 -0.2
baz=316,SNR=5.1
155A Kite 40.65 100 P P 05 03 26.5 -0.1
baz=315,SNR=8.0
PKME Peaks-Kenny Pk 40.66 74 P P 05 03 28.8 +2.3
baz=304
PEA1 Petropavlovsk- 40.79 300 eP P 05 03 27.8 +0.2
PEA0B Petropavlovsk- 40.80 300 eP P 05 03 28.5 +0.9
comp=Z,48nm,0.9s
PETK Petropavlovsk- 40.80 300 P P 05 03 27.8 +0.2
comp=Z,30nm,0.7s,baz=88,slow=11,SNR=59
PETK Petropavlovsk- 40.80 300 eP P 05 03 27.9 +0.3
453A Whigham 40.80 103 P P 05 03 27.7 -0.1
baz=317
TIGA Tifton 40.81 102 P P 05 03 29.6 +1.7
baz=316
HRV Adam Dziewonsk 40.89 79 P P 05 03 28.2 -0.3
baz=306
255A Hazlehurst 41.13 100 P P 05 03 30.7 +0.2
baz=315
156A Sylvania 41.21 99 P P 05 03 31.2 +0.1
baz=315,SNR=5.8
553A Crawfordville 41.22 104 P P 05 03 33.8 +2.5
baz=317
MA2 Magadan 41.26 311 P P 05 03 31.4 +0.2
comp=Z,62nm,0.9s,baz=73,slow=7.0,SNR=12
MA2 LR LR 05 20 14.2
comp=Z,602nm,21.4s,baz=68,slow=36
MA2 Magadan 41.26 311 eP P 05 03 32.1 +0.9
comp=Z,118nm,1.1s
MA2 Magadan 41.26 311d iP P 05 03 32.6 +1.3
MA2 pmax pmax
comp=Z,137nm,1.3s
355A Pearson 41.32 101 P P 05 03 34.9 +2.8
baz=316
NHSC New Hope 41.69 97 eP P 05 03 40.3 +5.2
comp=Z,223nm,1.1s
NHSC New Hope 41.69 97 P P 05 03 35.3 +0.2
baz=314,SNR=8.3
554A Perry 41.73 103 P P 05 03 35.8 +0.4
baz=317
356A Blackshear 41.77 101 P P 05 03 37.8 +2.0
baz=316
SUMG Summit 41.82 27 eP P 05 03 37.1 +1.0
comp=Z,143nm,1.2s
SUMG Summit 41.82 27⇑iP P 05 03 37.3 +1.1
comp=Z,288nm,1.1s
SUMG Summit 41.82 27⇑iP P 05 03 37.3 +1.1
SUMG pmax pmax
comp=Z,290nm,1.1s
655A Horseshoe Beac 42.41 104 P P 05 03 41.3 +0.4
baz=317
556A Lake Butler 42.55 102 P P 05 03 43.8 +1.7
baz=317
SKR Severo-Kuril's 42.87 297⇓eP P 05 03 44.9 +0.4
656A Willston 42.94 103 P P 05 03 45.7 +0.4
baz=317
557A Orange Park 42.94 102 P P 05 03 48.2 +2.9
baz=317
757A Oxford 43.53 103 P P 05 03 53.4 +3.3
baz=318
TIXI Tiksi 43.76 333 P P 05 03 51.3 -0.1
comp=Z,10nm,0.7s,baz=72,slow=8.9,SNR=21
TIXI PcP PcP 05 05 36.1 -1.7
comp=Z,9.3nm,0.9s,baz=69,slow=2.2,SNR=6.3
TIXI LR LR 05 25 23.6
comp=Z,645nm,18.5s,baz=48,slow=41
TIXI Tiksi 43.76 333 eP P 05 03 51.0 -0.4
comp=Z,43nm,1.4s
TIXI ePcP PcP 05 05 36.1 -1.7
TIXI Tiksi 43.76 333c iP P 05 03 51.3 -0.1
TIXI pmax pmax
comp=Z,31nm,1.3s
857A Zephyrhills 43.93 104 P P 05 03 56.6 +3.3
baz=318
DAG Danmarks Havn 44.22 18 iP P 05 03 55.5 +0.4
comp=Z,4μm,20.0s
DAG Danmarks Havn 44.22 18 iP P 05 03 55.5 +0.4
DAG MLR MLR
comp=Z,4μm,20.0s
DRLN Deer Lake 45.10 63 eP P 05 04 04.0 +1.6
comp=Z,68nm,1.2s
DRLN Deer Lake 45.10 63 Pn P 05 04 00.4 -2.1
KBS Kingsbay 46.88 9⇓eP P 05 04 19.1 +3.0
KBS pmax pmax
comp=Z,108nm,0.9s
SPITS Spitsbergen Ar 47.96 8 P P 05 04 24.7 +0.2
comp=Z,9.4nm,0.8s,baz=19,slow=9.2,SNR=3.7
SPITS PcP PcP 05 05 52.3 -0.1
comp=Z,9.9nm,0.9s,baz=294,slow=3.9,SNR=1.4
YAK Yakutsk 48.81 322 P P 05 04 31.2 0.0
comp=Z,99nm,0.7s,baz=327,slow=1.0,SNR=29
YAK LR LR 05 26 11.1
comp=Z,952nm,18.9s,baz=85,slow=37
YAK Yakutsk 48.81 322 eP P 05 04 31.9 +0.7
comp=Z,142nm,0.8s
YAK Yakutsk 48.81 322c iP P 05 04 31.4 +0.2
YAK e*PP sP 05 04 38.1 -0.6
YAK e 05 05 51.8
YAK e 05 06 23.5
YAK ePPP PPP 05 07 18.9
YAK eS S 05 11 32.7 -0.4
YAK e*SS sS 05 11 48.6 +6.5
YAK pmax pmax
comp=Z,98nm,0.8s
YAK pmax pmax
comp=E,29nm,1.3s
YAK pmax pmax
comp=N,16nm,1.6s
YAK pmax pmax
comp=Z,52nm,1.4s
YAK pmax pmax
comp=N,19nm,1.6s
YAK pmax pmax
comp=E,64nm,2.2s
YAK smax smax
comp=N,40nm,2.7s
YAK smax smax
comp=E,206nm,3.5s
YAK MLR MLR
comp=Z,1μm,20.0s
YAK MLR MLR
comp=E,883nm,20.0s
YAK MLR MLR
comp=N,2μm,29.0s
NKL Nikolayevsk 49.39 308 eP P 05 04 34.0 -1.8
NKL e 05 04 48.0
NKL pmax pmax
comp=Z,800nm,4.0s
NKL pmax pmax
comp=Z,68nm,1.0s
BORG Borgarnes 51.35 31 P P 05 04 50.6 +0.2
comp=Z,43nm,1.0s,baz=296,slow=8.1,SNR=4.0
BORG Borgarnes 51.35 31 eP P 05 04 50.6 +0.2
comp=Z,212nm,1.4s
BORG Borgarnes 51.35 31 eP P 05 04 50.6 +0.2
BORG pmax pmax
comp=Z,212nm,1.4s
YSS Yuzh-Sakhalins 52.20 300 eP P 05 04 57.3 +0.3
YSS e 05 05 06.1
YSS e 05 12 20.5
GRNR Gornyy 52.94 307 eP P 05 05 04.2 +1.7
GRNR pmax pmax
comp=Z,42nm,1.0s
ASAJ Asahikawa 54.13 298 P P 05 05 10.9 -0.4
comp=Z,27nm,0.8s,baz=340,slow=6.3,SNR=9.7
ASAJ Asahikawa 54.13 298 eP P 05 05 11.5 +0.2
comp=Z,53nm,1.1s
NRIK Noril'sk 54.86 344 P P 05 05 15.9 -0.3
comp=Z,41nm,0.9s,baz=56,slow=5.4,SNR=22
NRIK LR LR 05 30 06.9
comp=Z,276nm,20.4s,baz=38,slow=38
ZEA Zeya 55.16 315 eP P 05 05 17.0 -1.7
ZEA pmax pmax
comp=Z,43nm,1.2s
ERM Erimo 55.23 295 eP P 05 05 20.7 +1.4
comp=Z,85nm,1.2s
ERM Erimo 55.23 295 eP P 05 05 20.7 +1.4
ERM pmax pmax
comp=Z,85nm,1.2s
KLR Kul'dur 56.21 308 P P 05 05 25.4 -0.8
comp=Z,3.7nm,0.8s,baz=46,slow=8.6,SNR=5.9
KLR Kul'dur 56.21 308⇓eP P 05 05 24.5 -1.7
ARA0 ARCESS Array S 56.97 9 eP P 05 05 31.6 +0.3
ARCES ARCESS Array B 56.97 9 P P 05 05 31.6 +0.3
comp=Z,5.1nm,0.8s,baz=352,slow=6.1,SNR=4.1
H11N2 WAKE ISLAND Hy 57.07 259 T T 06 07 21.2
baz=39,slow=76,SNR=3934
H11N3 WAKE ISLAND Hy 57.07 259 T T 06 07 24.0
baz=39,slow=76,SNR=3616
H11N1 WAKE ISLAND Hy 57.09 259 T T 06 07 24.0
baz=39,slow=76,SNR=3989
BOD Bodaibo 57.44 325 eP P 05 05 33.1 -1.7
BOD pmax pmax
comp=Z,50nm,1.2s
SDDR Presa de Saban 57.46 102 eP P 05 05 35.9 +0.4
comp=Z,24nm,0.9s
H11S1 WAKE ISLAND Hy 58.13 258 T T 06 08 41.6
baz=39,slow=76,SNR=196
H11S2 WAKE ISLAND Hy 58.14 258 T T 06 08 43.8
baz=39,slow=76,SNR=146
H11S3 WAKE ISLAND Hy 58.15 258 T T 06 08 47.4
baz=39,slow=76,SNR=150
USRK Ussuriysk Ar. 59.61 304 P P 05 05 49.5 -0.7
comp=Z,13nm,0.9s,baz=46,slow=6.2,SNR=15
HIA Hailar 61.64 315 eP P 05 06 03.5 -0.5
comp=Z,14nm,0.8s
HIA Hailar 61.64 315 eP P 05 06 03.5 -0.5
HIA pmax pmax
comp=Z,14nm,0.8s
MAJO Matsushiro 61.80 294 eP P 05 06 04.8 -0.4
comp=Z,36nm,0.9s
MAJO Matsushiro 61.80 294c iP P 05 06 04.4 -0.8
MAJO pmax pmax
comp=Z,40nm,0.9s
MAT Matsushiro 61.80 294 P P 05 06 04.1 -1.1
MAT S S 05 14 33.0 +5.5
MJAR Matsushiro Arr 61.80 294 P P 05 06 04.5 -0.7
comp=Z,15nm,0.9s,baz=36,slow=4.5,SNR=18
MJB9 Matsu-Tunnel 61.80 294 eP P 05 06 04.8 -0.4
comp=Z,37nm,0.9s
NC204 NORSAR Array S 62.56 19 eP P 05 06 11.0 +1.0
NC303 NORSAR Array S 62.73 19 eP P 05 06 12.1 +1.0
URIC Uribia, Colomb 62.77 107 eP P 05 06 10.7 -1.2
NB2 NORSAR Subarra 62.87 19 P P 05 06 12.1 +0.1
comp=Z,4.4nm,0.6s,baz=337,slow=6.9
NB200 NORSAR Array S 62.87 19 eP P 05 06 12.4 +0.4
NOA NORSAR Array B 62.87 19 P P 05 06 12.4 +0.4
comp=Z,9.5nm,0.8s,baz=338,slow=6.6,SNR=29
NC405 NORSAR Array S 62.90 19 eP P 05 06 13.1 +0.9
NA001 NORSAR Array S 62.98 19 eP P 05 06 13.6 +0.9
MOTC Monteria, Cord 63.04 113 eP P 05 06 12.8 -0.9
CN2 Changchun 63.13 308 eP P 05 06 13.0 -1.0
CN2 eS S 05 14 46.3 +2.2
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,300nm,5.0s
CN2 LR LR
comp=Z,400nm,20.0s
CN2 LR LR
comp=Z,300nm,20.0s
CN2 LR LR
comp=Z,300nm,22.0s
KONO Kongsberg 63.81 21 eP P 05 06 19.4 +1.2
comp=Z,37nm,1.2s
KONO Kongsberg 63.81 21⇓eP P 05 06 19.3 +1.2
KONO pmax pmax
comp=Z,27nm,1.4s
ZARC Zaragoza, Cauc 64.55 113 eP P 05 06 23.2 -0.4
FIA1 FINESS Array S 64.87 11 eP P 05 06 24.9 -0.2
FIA0 FINESS Array S 64.87 11 eP P 05 06 25.0 -0.1
FIA0 FINESS Array S 64.87 11 eP P 05 06 25.0 -0.1
FINES FINESS Array B 64.87 11 P P 05 06 25.0 -0.1
comp=Z,20nm,0.8s,baz=20,slow=6.3,SNR=29
HELC Santa Helena 65.24 114 eP P 05 06 28.0 -0.6
BRRC Barranca, Sant 65.51 112 eP P 05 06 29.0 -0.9
PTBC PUERTO BERRIO, 65.55 113 eP P 05 06 29.3 -0.9
PAMC Pamplona, Colo 65.89 111 eP P 05 06 32.2 -0.7
TLY Talaya 65.95 326 eP P 05 06 32.8 +0.5
comp=Z,51nm,1.1s
TLY Talaya 65.95 326 eP P 05 06 32.6 +0.3
TLY pmax pmax
comp=Z,56nm,1.1s
PRGR Permogore 65.99 1 eP P 05 06 31.2 -1.1
PRGR pmax pmax
comp=Z,44nm,0.9s
GUYC Guyana, Colomb 66.11 115 eP P 05 06 34.4 0.0
BARC Barichara 66.23 112 eP P 05 06 34.2 -0.6
RREF El Recreo 66.41 115 eP P 05 06 38.2 +1.8
YOTC Yotoco, Valle 66.62 116 eP P 05 06 36.9 -0.2
KS01 Wonju Array Si 66.66 301 eP P 05 06 36.1 -0.9
KS01 ePcP PcP 05 07 05.2 -0.9
KSRS Korea Array 66.66 301 P P 05 06 37.1 +0.1
comp=Z,4.2nm,0.9s,baz=48,slow=7.3,SNR=6.4
KSRS PcP PcP 05 07 05.9 -0.2
comp=Z,4.8nm,1.0s,baz=31,slow=6.5,SNR=5.1
KS15 Wonju Array Si 66.69 301 eP P 05 06 37.1 -0.1
KS15 ePcP PcP 05 07 05.9 -0.3
KSAR Wonju Array Be 66.69 301 P P 05 06 37.1 -0.1
KSAR Wonju Array Be 66.69 301 P P 05 06 37.1 -0.1
RUSC La Rusia 66.85 112 eP P 05 06 38.3 -0.8
MOY Mondy 66.86 327 eP P 05 06 39.1 +0.9
MOY pmax pmax
comp=Z,86nm,1.6s
HORQ Saladito 66.88 117 eP P 05 06 33.9 -5.2
ROSC El Rosal 67.03 114 P P 05 06 40.8 +0.7
comp=Z,5.5nm,0.8s,baz=148,slow=14,SNR=5.7
ROSC El Rosal 67.03 114 eP P 05 06 41.2 +1.1
comp=Z,13nm,1.0s
ROSC El Rosal 67.03 114 eP P 05 06 40.7 +0.7
ZAK Zakamensk 67.17 325 eP P 05 06 39.7 -0.5
ZAK pmax pmax
comp=Z,12nm,1.2s
CHIC Chingaza 67.53 113 eP P 05 06 42.9 -0.4
POPC Popayan, Colom 67.64 117 eP P 05 06 43.1 -0.6
PRAC Prado 67.64 115 eP P 05 06 42.3 -1.2
VSU Vasula 67.85 12c iP P 05 06 44.2 0.0
VSU pmax pmax
comp=Z,137nm,1.7s
ULN Ulaanbaatar 67.90 321 eP P 05 06 44.3 -0.6
comp=Z,11nm,1.0s
ULN Ulaanbaatar 67.90 321c iP P 05 06 44.6 -0.3
ULN pmax pmax
comp=Z,15nm,1.3s
PCON Cinco Dias 67.97 117 eP P 05 06 46.6 +0.4
SOTA Rioblanco 68.02 117 eP P 05 06 46.8 +0.4
SONA1 Songino Array 68.16 322 eP P 05 06 46.5 -0.1
SONA0 Songino Array 68.17 322 eP P 05 06 46.4 -0.2
SONA0 ePP PP 05 09 18.3 +1.9
SONM Songino Array 68.17 322 P P 05 06 46.4 -0.2
comp=Z,7.1nm,1.0s,baz=57,slow=5.5,SNR=30
SONM PP PP 05 09 18.3 +1.9
comp=Z,2.7nm,1.0s,baz=17,slow=9.3,SNR=5.5
BETC Betania 68.19 116 eP P 05 06 45.3 -1.8
JNU Nakatsue 68.37 296 P P 05 06 47.2 -0.8
comp=Z,21nm,0.9s,baz=35,slow=8.1,SNR=5.7
JNU Nakatsue 68.37 296 eP P 05 06 47.2 -0.8
comp=Z,76nm,1.4s
OTAV Otavalo 68.63 120 eP P 05 06 47.6 -2.7
comp=Z,28nm,1.4s
OTAV Otavalo 68.63 120 eP P 05 06 51.2 +1.0
OTAV Otavalo 68.63 120 eP P 05 06 47.6 -2.7
OTAV pmax pmax
comp=Z,28nm,1.4s
DL2 Dalian 68.72 307 P P 05 06 46.4 -3.6
DL2 S S 05 15 48.8 -3.5
DL2 pmax pmax
comp=Z,290nm,3.6s
DL2 LR LR
comp=Z,1μm,31.6s
DL2 LR LR
comp=Z,1μm,26.5s
DL2 LR LR
comp=Z,650nm,23.8s
KNGR Kungurtug, Tuv 68.89 329⇓iP P 05 06 51.4 +0.3
NVS Novosibirsk 68.90 339⇓iP P 05 06 50.2 -0.6
NVS pmax pmax
comp=Z,64nm,1.3s
NVS pmax pmax
comp=N,39nm,0.8s
NVS pmax pmax
comp=E,25nm,0.9s
FLOC Florencia 68.99 117 eP P 05 06 52.2 +0.2
ZAA1 Zalesovo Array 69.36 338 eP P 05 06 53.1 -0.7
ZAA0 Zalesovo Array 69.37 338 eP P 05 06 52.8 -1.0
comp=E,44nm,0.8s
ZALV Zalesovo Beam 69.37 338 P P 05 06 53.1 -0.7
comp=E,33nm,0.6s,baz=16,slow=5.8,SNR=84
ZALV Zalesovo Beam 69.37 338 eP P 05 06 52.6 -1.2
ZALV Zalesovo Beam 69.37 338 eP P 05 06 52.6 -1.2
WTSB Winterswijk 70.12 26 ePKP P 05 06 59.1 +0.7
comp=E,84nm,1.3s
SVE Sverdlovsk 70.33 353d iP P 05 06 59.5 -0.1
SVE pmax pmax
comp=Z,55nm,1.0s
BEBN Eben Emael 70.87 27⇑P P 05 07 03.7 +0.7
ARU Arti 70.88 354 eP P 05 07 02.8 -0.1
comp=Z,64nm,1.0s
ARU Arti 70.88 354c iP P 05 07 02.7 -0.3
ARU S S 05 16 19.5 +2.5
ARU SS SS 05 20 48.7 +0.4
ARU pmax pmax
comp=Z,70nm,1.0s
HGN Heimansgroeve 70.97 27 ePKP P 05 07 04.2 +0.6
comp=Z,57nm,1.0s
BCLA Clavier 71.11 27⇑P P 05 07 04.5 0.0
comp=Z,19nm,1.3s
MEM Membach 71.13 27⇑P P 05 07 05.2 +0.5
comp=Z,15nm,1.0s
DOU Dourbes 71.20 28⇑P P 05 07 05.6 +0.5
comp=Z,9.5nm,1.3s
GKP Gorka Klasztor 71.31 19 eP P 05 07 06.5 +0.8
GKP Gorka Klasztor 71.31 19 eP P 05 07 06.5 +0.8
NACGM Naroch 71.33 13 eP P 05 07 06.0 +0.3
NACGM PM 05 07 07.0
comp=Z,0.2nm,1.0s
NACGM eLR LR 05 38 32.0
MOS Moscow 71.58 6 eP P 05 07 06.1 -1.1
SUW Suwalki 71.66 15 eP P 05 07 07.3 -0.5
SUW Suwalki 71.66 15 eP P 05 07 07.3 -0.5
comp=Z,81nm,1.0s
SUW Suwalki 71.66 15 eP P 05 07 07.3 -0.5
HHC Hu-ho-hao-te 71.83 314 eP P 05 07 07.4 -1.8
HHC S S 05 16 17.3 -12
HHC pmax pmax
comp=Z,26nm,1.4s
HHC pmax pmax
comp=Z,250nm,7.7s
HHC LR LR
comp=Z,680nm,14.6s
HHC LR LR
comp=Z,610nm,15.8s
HHC LR LR
comp=Z,1μm,13.7s
WLF Walferdange 72.03 27⇑P P 05 07 11.3 +1.2
OBN Obninsk 72.13 7c iP P 05 07 10.1 -0.4
OBN i*SP pP 05 07 15.0 -1.1
OBN e 05 07 18.3
OBN 05 07 28.0
OBN pmax pmax
comp=Z,75nm,1.0s
CLL Collm 72.25 22 eP P 05 07 11.2 -0.2
comp=Z,12nm,1.0s
CLL Collm 72.25 22 iP P 05 07 11.8 +0.4
comp=Z,31nm,1.4s
CLL epP pP 05 07 16.0 -1.0
CLL Collm 72.25 22 eP P 05 07 11.2 -0.2
CLL pmax pmax
comp=Z,12nm,1.0s
DGZ Jazzator, Alta 72.63 334c iP P 05 07 14.1 +0.3
DGZ pmax pmax
comp=Z,19nm,1.0s
BRG Berggiesshubel 72.87 22 iP P 05 07 15.7 +0.5
comp=Z,34nm,1.2s
comp=N,2μm,19.3s
comp=E,2μm,19.9s
comp=Z,4μm,20.6s
BRG Berggiesshubel 72.87 22 iP P 05 07 15.6 +0.5
BRG pmax pmax
comp=Z,34nm,1.2s
BRG MLR MLR
comp=N,2μm,19.3s
BRG MLR MLR
comp=E,2μm,19.9s
BRG MLR MLR
comp=Z,4μm,20.6s
BRVK Borovoye 72.96 346 eP P 05 07 15.2 -0.3
comp=Z,49nm,0.8s
BRVK Borovoye 72.96 346c iP P 05 07 15.0 -0.6
BRVK pmax pmax
comp=Z,52nm,0.8s
BVA0 Borovoye Array 72.98 346 P P 05 07 14.8 -0.9
BVA0 pmax pmax
comp=Z,36nm,0.9s
BVAR Borovoye Array 72.98 346 P P 05 07 15.0 -0.6
comp=Z,25nm,0.8s,baz=20,slow=4.7,SNR=103
PVCC Panska Ves 73.34 22 eP P 05 07 19.1 +1.3
PVCC Panska Ves 73.34 22 eP P 05 07 19.1 +1.3
BEL Belsk 73.35 17 eP P 05 07 18.6 +0.7
BEL Belsk 73.35 17 eP P 05 07 18.6 +0.7
KSP Ksiaz 73.42 20 eP P 05 07 19.2 +0.9
KSP Ksiaz 73.42 20 eP P 05 07 19.2 +0.9
ECH Echery 73.62 27 eP P 05 07 19.8 +0.3
comp=Z,18nm,1.1s
KURK Kurchatov 73.75 340 eP P 05 07 19.8 -0.4
comp=Z,54nm,0.9s
KURK Kurchatov 73.75 340c iP P 05 07 19.5 -0.7
KURK pmax pmax
comp=Z,61nm,1.0s
BFO Black Forest 73.84 26 eP P 05 07 21.0 +0.1
comp=Z,30nm,1.1s
BFO Black Forest 73.84 26 eP P 05 07 21.0 +0.1
BFO pmax pmax
comp=Z,30nm,1.1s
KURBB Kurchatov Arra 73.85 340 P P 05 07 20.0 -0.8
comp=Z,51nm,0.9s,baz=20,slow=5.7,SNR=116
DPC Dobruska-Polom 73.89 20 eP P 05 07 22.3 +1.2
DPC ex x 05 07 30.3
DPC Dobruska-Polom 73.89 20 eP P 05 07 22.3 +1.2
DPC e 05 07 30.3
PGAV Gavieira, Arco 73.95 40 eP P 05 07 22.0 +0.3
comp=Z,36nm,1.5s
PGAV Gavieira, Arco 73.95 40 ePP PP 05 09 49.2 -17
PGAV eS S 05 17 37.8 +45
PGAV eSS SS 05 21 49.0 +13
PGAV eLR LR 05 27 14.3
comp=Z,5μm,22.0s
KRLC Kraliky 74.25 20 eP P 05 07 24.4 +1.2
KRLC Kraliky 74.25 20 eP P 05 07 24.4 +1.2

PCAB Cabril 74.26 40 *e*P **P 05 07 23.9 +0.5**
KHC Kasperske Hory 74.42 23 *e*P **P 05 07 25.2 +0.9**
comp=Z,14nm,1.3s
KHC Kasperske Hory 74.42 23 *e*P **P 05 07 25.5 +1.2**
KHC *ex* x 05 07 33.6
KHC Kasperske Hory 74.42 23 *e*P **P 05 07 25.2 +0.9**
KHC pmax pmax
comp=Z,14nm,1.3s
PTO Porto 74.52 41 *e*P **P 05 07 25.6 +0.7**
POLO Lamas de Olo 74.64 40 *e*P **P 05 07 26.4 +0.7**
comp=Z,28nm,1.3s
POLO *e*S **SKiKP 05 16 53.8 +3.7**
POLO Lamas de Olo 74.64 40 *e*LR LR 05 26 55.3
comp=Z,3µm,18.0s
JOW Kunigami 74.64 294 P **P 05 07 25.7 -0.1**
comp=Z,6.9nm,0.5s,baz=72,slow=3.2,SNR=4.9
JOW Kunigami 74.64 294 *e*P **P 05 07 25.7 -0.1**
comp=Z,50nm,0.9s
PBRG Braganca 74.68 39 *e*P **P 05 07 26.5 +0.6**
comp=Z,23nm,1.2s
PBRG Braganca 74.68 39 *e*PP PP 05 10 04.2 -8.0
PBRG Braganca 74.68 39 *e*SS SS 05 21 44.8 -2.4
PBRG *e*LR LR 05 26 59.1
comp=Z,8µm,18.0s
MORC Moravsky Berou 74.69 20 *e*P **P 05 07 26.4 +0.6**
comp=Z,14nm,1.1s
MORC Moravsky Berou 74.69 20⇑*i*P **P 05 07 26.2 +0.5**
MORC Moravsky Berou 74.69 20 *e*P **P 05 07 26.3 +0.5**
TREC Trest 74.70 21 *e*P **P 05 07 26.6 +0.7**
TREC Trest 74.70 21 *e*P **P 05 07 26.6 +0.7**
OJC Ojcow 74.72 18 *e*P **P 05 07 26.6 +0.6**
OJC Ojcow 74.72 18 *e*P **P 05 07 26.2 +0.3**
comp=Z,19nm,0.9s
OJC Ojcow 74.72 18 *e*P **P 05 07 26.2 +0.3**
OJC pmax pmax
comp=Z,19nm,0.9s
GEC2 GERESS Array S 74.72 23 *e*P **P 05 07 27.0 +1.0**
comp=Z,18nm,1.2s
GEC2 GERESS Array S 74.72 23 *e*P **P 05 07 27.0 +1.0**
GEC2 pmax pmax
comp=Z,18nm,1.2s
GERES GERESS Array B 74.72 23 P **P 05 07 26.4 +0.4**
comp=Z,5.8nm,0.9s,baz=350,slow=5.0,SNR=33
GERES PP **PP 05 10 08.0 -4.4**
comp=Z,0.6nm,0.7s,baz=338,slow=6.9,SNR=3.6
GERES LR LR 05 41 48.6
comp=Z,4µm,20.4s,baz=258,slow=37
GEA0 GERESS Array S 74.72 23 *e*P **P 05 07 26.4 +0.3**
OKC Ostrava-Krasne 74.75 19 *e*P **P 05 07 26.7 +0.6**
OKC Ostrava-Krasne 74.75 19 *e*P **P 05 07 26.7 +0.6**
LPSR Galich'ya Gora 74.79 6 *e*P **P 05 07 25.7 -0.5**
LPSR pmax pmax
comp=Z,30nm,0.8s
VRAC Vranov 74.93 21⇓*i*P **P 05 07 28.0 +0.8**
VRAC Vranov 74.93 21 *e*P **P 05 07 27.8 +0.6**
MVO Moncorvo 75.12 40 *e*P **P 05 07 29.0 +0.5**
comp=Z,30nm,1.3s
MVO Moncorvo 75.12 40 *e*SS SS 05 22 37.5 +44
MVO *e*LR LR 05 27 06.7
comp=Z,7µm,20.0s
KRUC Moravsky 75.12 21 *e*P **P 05 07 28.4 +0.2**
PVIS Viseu 75.16 41 *e*P **P 05 07 28.8 +0.1**
comp=Z,38nm,1.2s
DAVA Damuels 75.21 26 *e*pP **P 05 07 30.9 +1.9**
comp=Z,26nm,1.3s,SNR=6.1
RETA Reutte 75.26 25 *i* pP **P 05 07 30.1 +1.0**
comp=Z,9.9nm,1.1s
SENIN Lac Senin/Sane 75.35 28 *e*P **P 05 07 30.9 +1.0**
comp=Z,15nm,0.9s
MOTA Moosalm 75.48 25 *i* pP **P 05 07 30.4 -0.1**
comp=Z,16nm,1.2s,SNR=6.5
PCAS Casmilo, Conde 75.48 41 *e*P **P 05 07 31.0 +0.5**
comp=Z,65nm,1.7s
PCAS *e*S **S 05 17 17.8 +7.9**
PCAS *e*LR LR 05 26 05.9
comp=Z,7µm,20.0s
NJ2 Nanjing 75.52 304 *e*P **P 05 07 29.1 -1.7**
NJ2 pmax pmax
comp=Z,27nm,0.7s
MTE Manteigas 75.57 41 *e*P **P 05 07 31.2 +0.1**
comp=Z,38nm,1.4s
MTE Manteigas 75.57 41 *e*S **SKSac 05 17 40.6 +0.5**
MTE *e*LR LR 05 26 05.9
comp=Z,6µm,18.0s
NIE Niedzica 75.58 18 *e*P **P 05 07 31.9 +1.0**
NIE Niedzica 75.58 18 *e*P **P 05 07 31.9 +1.0**
JAVC Velka Javorina 75.58 20 *e*P **P 05 07 32.3 +1.3**
SQTA Sankt Quirin 75.62 25 *i* pP **P 05 07 32.3 +1.0**
comp=Z,32nm,1.3s,SNR=8.2
LANS Liptovska Anna 75.67 19 *e*P **P 05 07 32.8 +1.3**
LANS *e* 05 07 40.6
LANS Liptovska Anna 75.67 19 *e*P **P 05 07 32.8 +1.3**
LANS *es*P **sP 05 07 40.6 +1.4**
FETA Feichten 75.68 25 *i* pP **P 05 07 32.9 +1.2**
comp=Z,19nm,1.1s,SNR=6.5
WTTA Wattenberg 75.69 25 *i* pP **P 05 07 32.7 +0.9**
comp=Z,30nm,1.6s
AKASG Malin Array Be 75.75 12 P **P 05 07 31.1 -0.7**
comp=Z,24nm,0.8s,baz=354,slow=5.7,SNR=49
AKBB Malin Array Si 75.75 12 *e*P **P 05 07 31.1 -0.7**
AKBB Malin Array Si 75.75 12 *e*P **P 05 07 31.1 -0.7**
KIEV Kiev 75.76 12 *e*P **P 05 07 31.5 -0.3**
comp=Z,38nm,1.0s
KIEV Kiev 75.76 12*c i*P **P 05 07 31.6 -0.3**
KIEV pmax pmax
comp=Z,34nm,1.0s
MOA Molln 75.78 23 *i* pP **P 05 07 33.4 +1.3**
comp=Z,13nm,1.4s
KWP Kalwaria Pacla 75.81 17 *e*P **P 05 07 32.8 +0.6**
KWP Kalwaria Pacla 75.81 17 *e*P **P 05 07 32.8 +0.6**
TUE Stuetta 75.82 26 *e*P **P 05 07 33.5 +1.0**
comp=Z,33nm,1.4s
LVV L'vov 75.85 16 *e*P **P 05 07 32.1 -0.3**
MODS Modra-Piesok 75.96 21 *e*P **P 05 07 33.4 +0.3**
MODS *e* 05 07 40.5
MODS pmax pmax
comp=Z,47nm,1.3s
MODS Modra-Piesok 75.96 21 *e*P **P 05 07 33.4 +0.3**
MODS *es*P **sP 05 07 40.5 -0.3**
CONA Conrad Observa 76.07 22 *i* pP **P 05 07 34.7 +0.8**
comp=Z,20nm,1.1s,SNR=9.3
PCBR Castelo Branco 76.08 41 *e*P **P 05 07 34.0 +0.1**
comp=Z,24nm,1.7s
PMAFR Mafra 76.10 42 *e*P **P 05 07 34.3 +0.3**
comp=Z,84nm,1.4s
PMAFR *e*S **S 05 17 10.2 -6.5**
PMAFR *e*LR LR 05 25 31.7
comp=Z,6µm,20.0s
VYHS Vyhne 76.17 19 *e*P **P 05 07 34.6 +0.3**
VYHS pmax pmax
comp=Z,7.0nm,1.0s
VYHS Vyhne 76.17 19 *e*P **P 05 07 34.6 +0.3**
VSR Storozhevoye 76.18 6 *e*P **P 05 07 32.3 -2.0**
VSR pmax pmax
comp=Z,60nm,1.3s
ALMR Almeirim 76.22 42 *e*P **P 05 07 34.8 +0.1**
comp=Z,55nm,1.2s
KBA Koelnbreinsper 76.28 24 *e*pP **P 05 07 36.0 +0.8**
comp=Z,32nm,1.2s,SNR=12
VRH Novokhopyorsk 76.33 4 *e*P **P 05 07 33.7 -1.4**
VRH pmax pmax
comp=Z,60nm,1.3s
LIS Lisbon 76.36 43 *e*P **P 05 07 36.7 +1.2**
VORD Divnogorie 76.44 6 *e*P **P 05 07 34.8 -0.9**
VORD pmax pmax
comp=Z,30nm,1.2s
SOP Sopron 76.46 21⇑*e*P **P 05 07 36.9 +1.0**
PMRV Marv??o 76.46 41 *e*LQ LQ 05 15 50.4
PMRV *e*S **S 05 17 21.6 +0.9**
PMRV *e*LR LR 05 25 31.7
comp=Z,4µm,20.0s
KECS Kecovo 76.51 18 *e*P **P 05 07 35.8 -0.4**
KECS *e* 05 07 43.5
KECS pmax pmax
comp=Z,34nm,1.0s
KECS Kecovo 76.51 18 *e*P **P 05 07 35.8 -0.4**
KECS *es*P **sP 05 07 43.5 -0.4**
MK31 Makanchi Array 76.62 337 *e*P **P 05 07 36.1 -0.9**
MK31 Makanchi Array 76.62 337 *i* P **P 05 07 36.0 -0.9**
MK31 pmax pmax
comp=Z,22nm,0.8s
MK32 Makanchi Array 76.62 337 *e*P **P 05 07 36.2 -0.7**
MK32 *e*PP PP 05 10 17.3 -11
MKAR Makanchi Array 76.62 337 P **P 05 07 36.2 -0.7**
comp=Z,20nm,0.7s,baz=36,slow=5.3,SNR=97
MKAR PP PP 05 10 17.3 -11
comp=Z,1.8nm,0.9s,baz=32,slow=8.5,SNR=2.6
MKAR Makanchi Array 76.62 337 *e*P **P 05 07 36.1 -0.8**
comp=Z,129nm,0.8s
MKAR Makanchi Array 76.62 337 *e*P **P 05 07 36.1 -0.8**
MKAR pmax pmax
comp=Z,129nm,0.8s
ARSA Arzberg 76.64 22 *e*pP **P 05 07 37.8 +0.9**
comp=Z,22nm,1.5s,SNR=7.4
MK01 Makanchi Array 76.64 337 *e*P **P 05 07 36.2 -0.8**
PESTR Estremoz 76.86 41 *e*P **P 05 07 38.0 -0.3**
comp=Z,28nm,1.3s
PESTR Estremoz 76.86 41 *e*LR LR 05 25 12.7
comp=Z,6µm,20.0s
PESTR Estremoz 76.86 41 *e*P **P 05 07 38.1 -0.3**
comp=Z,7.7nm,0.9s
AKTO Aktyubinsk 76.88 353 P **P 05 07 37.5 -0.7**
comp=Z,26nm,0.8s,baz=4.3,slow=5.4,SNR=63
AKTO Aktyubinsk 76.88 353 P **P 05 07 36.9 -1.4**
AKTO pmax pmax
comp=Z,30nm,0.8s
PSZ Piszkesteto 76.93 19 *e*P **P 05 07 39.5 +0.8**
comp=Z,32nm,1.0s
PSZ Piszkesteto 76.93 19⇑*i*P **P 05 07 39.8 +1.1**
PSZ Piszkesteto 76.93 19⇑*e*P **P 05 07 39.9 +1.2**
PSZ Piszkesteto 76.93 19 *e*P **P 05 07 39.5 +0.8**
PSZ pmax pmax
comp=Z,32nm,1.0s
EVO Evora 76.98 42 *e*P **P 05 07 41.1 +2.1**
comp=Z,40nm,2.0s
SOKA Soboth 77.06 23 *e*pP **P 05 07 39.9 +0.5**
comp=Z,38nm,1.3s,SNR=12
OBKA Obir 77.11 23 *e*pP **P 05 07 39.8 +0.1**
comp=Z,27nm,1.2s
PERS Pernice 77.12 23 *i* P **P 05 07 40.1 +0.3**
PERS Pernice 77.12 23 *i* P **P 05 07 40.1 +0.3**
PNCL Nicolau / Gran 77.13 42 *e*P **P 05 07 40.2 +0.4**
comp=Z,40nm,1.8s
PNCL Nicolau / Gran 77.13 42 *e*LR LR 05 24 27.1
comp=Z,7µm,20.0s
TRPA Tarpa 77.23 17⇑*i*P **P 05 07 41.0 +0.7**
TRPA Tarpa 77.23 17⇑*e*P **P 05 07 40.9 +0.7**
OTUK Ortayu 77.30 344 P **P 05 07 40.1 -0.6**
OTUK pmax pmax
comp=Z,57nm,1.4s
GROS Grobnik 77.38 22 *i* P **P 05 07 41.1 -0.1**
GROS Grobnik 77.38 22 *i* P **P 05 07 41.1 -0.1**
PBEJ Beja 77.47 42 *e*P **P 05 07 42.9 +1.1**
MESJ Messejana 77.48 42 *e*P **P 05 07 42.5 +0.7**
TIH Tihany 77.49 21⇑*e*P **P 05 07 43.3 +1.6**
ESDC Sonseca Array 77.58 38 P **P 05 07 42.4 -0.1**
comp=Z,7.1nm,0.8s,baz=323,slow=5.2,SNR=41
ES19 SONSECA Array 77.58 38 *e*P **P 05 07 42.5 0.0**
BEHE Becsehely 77.66 21⇑*e*P **P 05 07 43.8 +1.1**
PMOZ Porto Moniz, M 77.71 51 *e*LR LR 05 23 41.5
comp=Z,6µm,20.0s
MORF Marmelete 77.76 43 *e*P **P 05 07 43.8 +0.3**
comp=Z,36nm,1.8s
MORF Marmelete 77.76 43 *e*LR LR 05 23 48.9
comp=Z,6µm,22.0s
PFVI Vila Bisbo 77.84 43 *e*P **P 05 07 43.9 +0.1**
PFVI Vila Bisbo 77.84 43 *e*LR LR 05 23 39.3
comp=Z,5µm,22.0s
GTA Gaotai 77.84 321 ⇑P **P 05 07 42.4 -1.6**
GTA pP pP 05 07 48.5 -1.1
GTA sP sP 05 07 51.5 -0.2
GTA S **S 05 17 37.4 +1.5**
GTA sS sS 05 17 47.1 +1.8
GTA SKS **SKSac 05 17 52.8 -4.2**
GTA pmax pmax
comp=Z,10.0nm,1.5s
GTA pmax pmax
comp=Z,340nm,7.8s
GTA LR LR
comp=Z,660nm,17.8s
GTA LR LR
comp=Z,410nm,16.8s
GTA LR LR
comp=Z,800nm,18.4s
AB31 Akbulak array 77.90 352 P **P 05 07 43.3 -0.7**
AB31 pmax pmax
comp=Z,52nm,1.1s
ABKAR Akbulak array 77.90 352 *e*P **P 05 07 43.4 -0.6**
PMPS Porto Santo 77.92 51 *e*P **P 05 07 42.1 -2.3**
WMQ Urumqi 77.94 332 P **P 05 07 44.5 +0.1**
WMQ pP pP 05 07 49.3 -0.8
WMQ PP **PP 05 10 44.3 +4.7**
WMQ S **S 05 17 39.6 +2.8**
WMQ sS sS 05 17 51.4 +5.3
WMQ pmax pmax
comp=Z,59nm,1.7s
WMQ pmax pmax
comp=Z,470nm,3.6s
WMQ LR LR
comp=Z,5µm,39.1s
WMQ LR LR
comp=Z,2µm,37.1s
WMQ LR LR
comp=Z,1µm,24.9s
PVAQ Vaqueiros 78.06 42 *e*P **P 05 07 45.5 +0.4**
comp=Z,29nm,2.2s
PVAQ Vaqueiros 78.06 42 *e*LR LR 05 23 53.7
comp=Z,5µm,22.0s
PBDV Barranco-do-Ve 78.11 42 *e*LR LR 05 23 53.7
comp=Z,5µm,22.0s
BUR08 Bucovina Ar. S 78.16 16 *e*P **P 05 07 46.6 +1.0**
BUR04 Bucovina Ar. S 78.18 16 *e*P **P 05 07 46.1 +0.4**
BURAR Bucovina Array 78.19 16⇑*i*P **P 05 07 46.2 +0.5**
BOJS Bojanci 78.22 23 *e*P **P 05 07 46.0 +0.2**
BOJS Bojanci 78.22 23 *e*P **P 05 07 46.0 +0.2**
MORH M¨‡r¨igy, Hung 78.30 20⇑*e*P **P 05 07 46.2 0.0**
DRGR 78.55 17⇑*i*P **P 05 07 48.1 +0.4**
ARCR ARCALIA 78.56 16⇑*i*P **P 05 07 48.7 +1.0**
XAN Xi'an 78.64 312 P **P 05 07 47.1 -1.3**
XAN pP pP 05 07 52.1 -2.0
XAN S **S 05 17 46.9 +2.4**
XAN pmax pmax
comp=Z,22nm,1.2s
XAN pmax pmax
comp=Z,170nm,4.3s
XAN LR LR
comp=Z,280nm,9.4s
XAN LR LR
comp=Z,470nm,13.7s
XAN LR LR
comp=Z,410nm,28.4s
SIRR Siria 78.86 18⇑*i*P **P 05 07 49.7 +0.3**
BIZ Bicaz 78.98 15⇑*i*P **P 05 07 50.9 +0.9**
WHN Wuhan 78.99 306 ⇓P **P 05 07 49.3 -1.0**
WHN S **S 05 17 45.9 -2.2**
WHN pmax pmax
comp=Z,56nm,1.0s
WHN LR LR
comp=Z,2µm,37.0s
LZH Lanzhou 79.11 317 ⇑P **P 05 07 50.6 -0.5**
LZH pP pP 05 07 53.8 -3.0
LZH sP sP 05 07 55.3 -3.5
LZH PP **PP 05 10 51.8 +2.1**
LZH S **S 05 17 46.8 -2.9**
LZH sS pS 05 17 54.8 -2.0
LZH SS **SS 05 22 54.6 +0.1**
LZH pmax pmax
comp=Z,56nm,1.3s
LZH pmax pmax
comp=Z,310nm,8.0s
LZH LR LR
comp=Z,1µm,16.3s
LZH LR LR
comp=Z,950nm,16.4s
LZH LR LR
comp=Z,1µm,18.3s
KIS Kishinev 79.33 13 *e*P **P 05 07 51.0 -0.9**
KIS LRM MLR 05 51 36.0
comp=Z,3µm,20.0s
KIS Kishinev 79.33 13 *e*P **P 05 07 51.0 -0.9**
KIS *e* 05 12 40.0
KIS *e* 05 18 12.0
KIS *e* 05 18 42.0
BZS Buzias 79.48 18⇑*i*P **P 05 07 53.0 +0.3**
LEOM Leova 79.76 14⇑*i*P **P 05 07 54.3 +0.1**
PTGA Pitinga 79.79 105 *e*P **P 05 07 54.9 +0.1**
comp=Z,38nm,1.2s
DOPR Dopca 79.81 16⇑*i*P **P 05 07 54.9 +0.3**
NNA Nana 79.86 125 *i* P **P 05 07 56.6 +1.4**
GZR Gura Zlata 79.91 18⇑*i*P **P 05 07 55.3 +0.1**
LOT Lotru 80.04 17⇓*i*P **P 05 07 55.5 -0.4**
VRI Vrincioaia 80.13 15⇑*i*P **P 05 07 56.8 +0.5**
PLOR Plostina 80.13 15⇓*i*P **P 05 07 56.8 +0.5**
ARR Arges 80.27 16⇑*i*P **P 05 07 57.6 +0.5**
VOIR 80.27 16⇑*i*P **P 05 07 57.4 +0.3**
MDVR Moldovita 80.30 19⇓*i*P **P 05 07 57.1 -0.2**
HERR Herculane 80.34 18⇑*i*P **P 05 07 57.7 +0.3**
MLR Muntele Rosu 80.37 16 *e*P **P 05 07 58.3 +0.6**
comp=Z,12nm,1.0s
MLR Muntele Rosu 80.37 16⇑*i*P **P 05 07 58.8 +1.1**
MLR Muntele Rosu 80.37 16 *e*P **P 05 07 58.3 +0.6**
MLR pmax pmax
comp=Z,12nm,1.0s
DIVS Divibare 80.61 20 *e*P **P 05 07 59.3 +0.3**
comp=Z,13nm,1.0s
CFR Carcaliu 81.01 14⇑*i*P **P 05 08 01.1 +0.1**
TLCR 81.11 14⇓*i*P **P 05 08 01.5 0.0**
HARR Harsova 81.46 14⇑*i*P **P 05 08 03.7 +0.3**
ENH Enshi 81.54 310 *e*P **P 05 08 03.3 -0.8**
comp=Z,31nm,0.9s
TLB Topalu 81.58 14⇑*i*P **P 05 08 04.0 0.0**
USP Ospenovka 81.70 341 P **P 05 08 05.0 +0.3**
SNR=12
TIRR Tirgusor 81.76 14 *e*P **P 05 08 03.9 -1.0**
comp=Z,16nm,0.9s
TIRR Tirgusor 81.76 14⇓*i*P **P 05 08 05.1 +0.2**
TIRR Tirgusor 81.76 14 *e*P **P 05 08 03.9 -1.0**
TIRR pmax pmax
comp=Z,16nm,0.9s
TKM2 Tokmak 2 81.81 340 P **P 05 08 05.5 0.0**
SNR=13
TKM2 Tokmak 2 81.81 340 P **P 05 08 04.4 -1.1**
TKM2 pmax pmax
comp=Z,51nm,1.1s
CHMS Chumysh 81.91 340 P **P 05 08 05.9 +0.1**
SNR=13
SIM Simferopol' 81.99 10*de*P **P 05 08 07.1 +0.9**
SIM *e*S **S 05 18 15.0 -4.3**
SIM pmax pmax
comp=Z,26µm,1.2s
PDG Podgorica 82.05 21⇓*i*P **P 05 08 06.3 -0.2**
TTG Podgorica 82.05 21 *e*P **P 05 08 06.3 -0.2**
comp=Z,12nm,0.8s
TTG Podgorica 82.05 21 *e*P **P 05 08 06.3 -0.2**
TTG pmax pmax
comp=Z,12nm,0.8s
KBK Karagaybulak 82.19 340 P **P 05 08 07.5 0.0**
SNR=18
AAK Ala-Archa 82.31 341 P **P 05 08 07.9 -0.2**
comp=Z,22nm,0.9s,baz=124,slow=1.1,SNR=28
AAK Ala-Archa 82.31 341 P **P 05 08 08.1 -0.1**
SNR=14
AAK Ala-Archa 82.31 341 *e*P **P 05 08 08.0 -0.1**
comp=Z,29nm,1.0s
AAK Ala-Archa 82.31 341 P **P 05 08 06.7 -1.4**
AAK pmax pmax
comp=Z,30nm,1.1s
EKS2 Erkin-Say 82.42 341 P **P 05 08 08.8 +0.2**
SNR=14
ANN Anapa 82.45 8 *e*P **P 05 08 06.7 -1.8**
ANN *e*S **S 05 18 25.5 +1.7**
ANN pmax pmax
comp=Z,50nm,1.0s
GOF Gofitskoye 82.52 4 *e*P **P 05 08 08.8 -0.1**
GOF pmax pmax
comp=Z,30nm,0.8s
KK31 Karatay Array 82.60 344 *e*P **P 05 08 08.8 -0.6**
KK31 Karatay Array 82.60 344 *i* P **P 05 08 08.6 -0.8**
KK31 pmax pmax
comp=Z,20nm,0.9s
KKAR Karatay Array 82.60 344 *e*P **P 05 08 08.8 -0.6**
KKAR Karatay Array 82.60 344 *e*P **P 05 08 08.9 -0.6**
VTS Vitosha 82.70 18 *e*P **P 05 08 09.8 -0.3**
comp=Z,14nm,0.9s
VTS Vitosha 82.70 18⇑*i*P **P 05 08 09.7 -0.4**
VTS Vitosha 82.70 18 *e*P **P 05 08 09.8 -0.3**
VTS pmax pmax
comp=Z,14nm,0.9s
MNAS Manas 82.84 342 P **P 05 08 10.1 -0.8**
MNAS pmax pmax
comp=Z,53nm,1.5s
SKO Skopje 82.95 20 *i* P **P 05 08 11.4 +0.2**
AML Almayashu 82.95 341 P **P 05 08 12.5 +0.7**
SNR=14
NRN Naryn 83.14 339 *e*P **P 05 08 13.1 +0.4**
comp=Z,18nm,0.9s
NRN Naryn 83.14 339 *e*P **P 05 08 13.1 +0.4**
NRN pmax pmax
comp=Z,18nm,0.9s
MATE Matera 83.15 23⇓*i*P **P 05 08 11.4 -0.9**
STIP Stip 83.36 19 *i* P **P 05 08 13.6 +0.2**
KRUS Krusevo 83.49 20 *i* P **P 05 08 14.0 -0.1**
CD2 Chengdu 83.59 314 P **P 05 08 15.0 +0.2**
CD2 pP PcP 05 08 18.3 -0.7
CD2 sP pP 05 08 19.6 -0.9
CD2 PP **PP 05 11 26.1 -0.5**
CD2 S **S 05 18 36.0 -0.1**
CD2 sS SKKSac 05 18 41.6 +0.3
CD2 SS **SS 05 24 01.6 +0.4**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,220nm,5.6s
CD2 LR LR
comp=Z,2µm,27.3s
CD2 LR LR
comp=Z,1µm,22.5s
CD2 LR LR
comp=Z,1µm,25.0s
KIV Kislovodsk 83.61 4 *e*P **P 05 08 14.7 0.0**
comp=Z,62nm,0.8s
KIV Kislovodsk 83.61 4 *e*P **P 05 08 14.5 -0.2**
KIV pmax pmax
comp=Z,91nm,1.1s
OHR Ohrid 83.64 20 *i* P **P 05 08 15.5 +0.6**
VAY Valandovo 83.80 19 *i* P **P 05 08 15.6 0.0**
BIA Bitola 83.84 20 *i* P **P 05 08 16.4 +0.4**
KBZ Khabaz 83.84 4 P **P 05 08 16.2 +0.5**
comp=Z,32nm,0.9s,baz=249,slow=4.5,SNR=42
FNA Florina 84.08 20 *e*P **P 05 08 17.3 +0.2**
comp=Z,53nm,0.6s
NCK Nalchik 84.10 3⇑*i*P **P 05 08 18.1 +0.9**
NCK pmax pmax
comp=Z,47nm,1.4s
NEY Neytrino 84.31 4⇓*i*P **P 05 08 19.0 +0.6**
NEY pmax pmax
comp=Z,9.0nm,1.0s
TIP Timpagrande 84.56 24 *e*P **P 05 08 19.5 -0.2**
comp=Z,24nm,1.1s
TIP Timpagrande 84.56 24⇑*i*P **P 05 08 19.0 -0.6**
SAML Samuel 84.59 112 *e*P **P 05 08 17.1 -2.8**
comp=Z,17nm,1.2s
SAML Samuel 84.59 112 *e*P **P 05 08 17.1 -2.8**
SAML pmax pmax
comp=Z,17nm,1.2s
ZEI Tsey 84.82 3 *e*P **P 05 08 18.7 -2.3**
ZEI pmax pmax
comp=Z,10.0nm,0.9s
LIT Litokhoron 84.96 19 *e*P **P 05 08 21.8 +0.3**
comp=Z,28nm,0.9s
LIT Litokhoron 84.96 19 *e*P **P 05 08 21.8 +0.3**
LIT pmax pmax
comp=Z,28nm,0.9s
KSH Kashi 84.98 339 P **P 05 08 23.8 +2.0**
KSH sP sP 05 08 30.9 +1.3
KSH PP **PP 05 11 42.1 +4.3**
KSH S **S 05 18 49.3 -0.6**
KSH SS **SS 05 24 25.1 +3.8**
KSH pmax pmax
comp=Z,88nm,1.0s
KSH pmax pmax
comp=Z,350nm,4.1s
KSH LR LR
comp=Z,350nm,7.4s
KSH LR LR
comp=Z,520nm,8.3s
KSH LR LR
comp=Z,3µm,20.1s
SFK Sufi-Kurgan 85.03 341 P **P 05 08 21.4 -0.8**
SFK pmax pmax
comp=Z,61nm,1.0s
KEST Kesra 85.72 31 P **P 05 08 26.1 +0.6**
comp=Z,14nm,0.9s,baz=287,slow=7.7,SNR=6.2
KEST Kesra 85.72 31 *e*P **P 05 08 26.1 +0.6**
comp=Z,34nm,1.3s

ILGA	**Ilgaz**	**85.80**	**11**	*e*P		**P**	**05 08 27.2**	**+1.2**
	comp=Z,34nm,1.0s							
TBLG	**Delisi**	**85.89**	**2**	*e*P		**P**	**05 08 26.8**	**+0.6**
	comp=Z,50nm,0.9s							
TBLG	**Delisi**	**85.89**	**2**	*e*P		**P**	**05 08 26.8**	**+0.6**
TBLG				pmax		pmax		
	comp=Z,50nm,0.9s							
GYA	**Guiyang**	**86.08**	**310**	*e*P		**P**	**05 08 28.4**	**+0.9**
GYA				PP		**PP**	**05 11 50.0**	**+2.9**
GYA				SKS		**SKSac**	**05 18 51.4**	**-1.4**
GYA				S		**SKKSac**	**05 19 00.6**	**+0.3**
GYA				pmax		pmax		
	comp=Z,20nm,1.0s							
GYA				pmax		pmax		
	comp=Z,130nm,6.3s							
AKH	**Akhalkalaki**	**86.18**	**3⇑**	*i*P		**P**	**05 08 28.5**	**+0.7**
ANTO	**Ankara**	**86.86**	**12**	*e*P		**P**	**05 08 31.9**	**+0.8**
	comp=Z,37nm,1.0s							
ANTO	**Ankara**	**86.86**	**12⇑**	*i*P		**P**	**05 08 31.4**	**+0.3**
ANTO	**Ankara**	**86.86**	**12**	*e*P		**P**	**05 08 31.9**	**+0.8**
ANTO				pmax		pmax		
	comp=Z,37nm,1.0s							
BR101	**Keskin Array S**	**87.10**	**11**	*e*P		**P**	**05 08 32.0**	**-0.3**
BR131	**Keskin Array S**	**87.10**	**11**	*e*P		**P**	**05 08 32.5**	**+0.2**
BRTR	**Keskin Array B**	**87.10**	**11**	P		**P**	**05 08 32.0**	**-0.3**
	comp=Z,11nm,0.9s,baz=2.4,slow=1.7,SNR=50							
BRTR				LR		LR	05 52 44.2	
	comp=Z,1μm,19.2s,baz=239,slow=39							
BRTR	**Keskin Array B**	**87.10**	**11**	P		**P**	**05 08 32.0**	**-0.3**
GNI	**Garni**	**87.47**	**2**	*e*P		**P**	**05 08 35.3**	**+1.2**
	comp=Z,44nm,1.1s							
GNI	**Garni**	**87.47**	**2***c*	*i*P		**P**	**05 08 34.8**	**+0.7**
GNI				pmax		pmax		
	comp=Z,96nm,1.3s							
MANT	**Manisa**	**87.62**	**15**	*e*P		**P**	**05 08 35.5**	**+0.5**
	comp=Z,84nm,1.1s							
LPAZ	**La Paz**	**87.95**	**120**	P		**P**	**05 08 35.6**	**-1.4**
	comp=Z,13nm,0.8s,baz=350,slow=4.2,SNR=49							
LPAZ	**La Paz**	**87.95**	**120**	*e*P		**P**	**05 08 35.6**	**-1.4**
	comp=Z,16nm,0.9s							
LPAZ	**La Paz**	**87.95**	**120**	*e*P		**P**	**05 08 35.7**	**-1.4**
LPAZ				pmax		pmax		
	comp=Z,16nm,0.9s							
KMI	**Kunming**	**89.03**	**312**	P		**P**	**05 08 43.4**	**+1.6**
KMI				pmax		pmax		
	comp=Z,9.0nm,0.5s							
KMI				pmax		pmax		
	comp=Z,67nm,4.0s							
GEYT	**Alibeck**	**89.30**	**352**	P		**P**	**05 08 42.3**	**-0.4**
	comp=Z,7.9nm,1.0s,baz=343,slow=3.0,SNR=4.6							
GYA0B	**ALIBECK ARRAY**	**89.30**	**352**	*e*P		**P**	**05 08 43.1**	**+0.4**
	comp=Z,24nm,1.3s							
PB11	**IPOC Station P**	**90.06**	**123**	*e*P		**P**	**05 08 45.4**	**-1.0**
	comp=Z,16nm,1.0s							
KBL	**Kabul**	**91.19**	**343**	*e*P		**P**	**05 08 50.9**	**-0.8**
	comp=Z,19nm,1.1s							
KBL	**Kabul**	**91.19**	**343**	*e*P		**P**	**05 08 50.9**	**-0.8**
KBL				pmax		pmax		
	comp=Z,19nm,1.1s							
TAPN	**Taplejung**	**93.06**	**325**	*e*P		**P**	**05 09 00.1**	**-0.5**
	comp=Z,49nm,1.1s							
GUN	**Gumba**	**93.17**	**327**	*e*P		**P**	**05 09 00.5**	**-0.7**
	comp=Z,57nm,1.1s							
JIRN	**Jiri**	**93.30**	**327**	*e*P		**P**	**05 09 01.2**	**-0.6**
	comp=Z,112nm,1.1s							
DANN	**Dangsing**	**93.44**	**329**	*e*P		**P**	**05 09 01.7**	**-0.7**
	comp=Z,76nm,1.0s							
KKN	**Kakani**	**93.48**	**327**	*e*P		**P**	**05 09 01.8**	**-0.6**
ODAN	**Odare**	**93.62**	**325**	*e*P		**P**	**05 09 02.5**	**-0.6**
	comp=Z,34nm,1.0s							
PKIN	**Phulchoki**	**93.64**	**327**	*e*P		**P**	**05 09 02.0**	**-1.2**
PKI	**Pulchoki**	**93.64**	**327**	*e*P		**P**	**05 09 02.2**	**-1.1**
DMN	**Daman**	**93.70**	**328**	*e*P		**P**	**05 09 02.9**	**-0.6**
	comp=Z,49nm,1.1s							
RAMN	**Ramite**	**93.81**	**326**	*e*P		**P**	**05 09 02.8**	**-1.2**
	comp=Z,30nm,1.1s							
PYUN	**Piuthan**	**93.92**	**329**	*e*P		**P**	**05 09 03.5**	**-0.9**
	comp=Z,91nm,1.1s							
KOLN	**Koldanda**	**94.03**	**329**	*e*P		**P**	**05 09 04.0**	**-1.0**
	comp=Z,33nm,1.0s							
CM31	**Chiang Mai Arr**	**96.54**	**312**	*e*P		**P**	**05 09 15.5**	**-0.8**
CMAR	**Chiang Mai Arr**	**96.54**	**312**	P		**P**	**05 09 15.5**	**-0.8**
	comp=Z,5.3nm,0.9s,baz=9.8,slow=4.6,SNR=28							
CMAR				LR		LR	05 57 09.0	
	comp=Z,1μm,18.6s,baz=202,slow=38							
CM01	**Chiang Mai Arr**	**96.56**	**312**	*e*P		**P**	**05 09 14.8**	**-1.6**
WR1	**Warramunga Arr**	**107.77**	**260**	*e*PKiKP		**PKiKP**	**05 14 12.4**	**-1.3**
WRA	**Warramunga Arr**	**107.77**	**260**	PKiKP		**PKiKP**	**05 14 12.4**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=26,slow=2.1,SNR=7.3							
AS31	**Alice Springs**	**110.87**	**258**	*e*PKiKP		**PKiKP**	**05 14 18.2**	**-1.3**
ASAR	**Alice Springs**	**110.87**	**258**	PKiKP		**PKiKP**	**05 14 18.2**	**-1.3**
	comp=Z,1.5nm,0.8s,baz=53,slow=2.7,SNR=11							
KMBO	**Kilima Mbogo**	**127.82**	**14**	PKP		**PKPdf**	**05 14 53.3**	**+0.7**
	comp=Z,6.8nm,0.9s,baz=13,slow=4.8,SNR=14							
VNDA	**Vanda**	**136.14**	**197**	PKP		**PKPdf**	**05 15 06.4**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=359,slow=4.9,SNR=4.5							
VNDA	**Vanda**	**136.14**	**197**	*e*PKPdf		**PKPdf**	**05 15 07.7**	**+1.7**
VNDA	**Vanda**	**136.14**	**197**	*e*PKIKP		**PKPdf**	**05 15 07.7**	**+1.7**
TSUM	**Tsumeb**	**139.07**	**47**	*e*PKPdf		**PKPdf**	**05 15 14.0**	**+0.7**
LSZ	**Lusaka**	**139.50**	**30**	*e*PKPdf		**PKPdf**	**05 15 15.0**	**+0.8**
LSZ	**Lusaka**	**139.50**	**30**	*e*PKIKP		**PKPdf**	**05 15 15.0**	**+0.8**
QSPA	**South Pole Qui**	**142.51**	**180**	*e*PKPdf		PKPpre	05 15 14.5	
ABPO	**Ambohimpanom**	**146.37**	**1**	*e*PKPdf		**PKPbc**	**05 15 27.5**	**0.0**
ABPO	**Ambohimpanom**	**146.37**	**1**	*e*PKP2		**PKPbc**	**05 15 27.5**	**0.0**
CASY	**Casey**	**147.05**	**221**	*e*PKPdf		**PKPdf**	**05 15 26.8**	**+1.1**
LBTB	**Lobatse**	**147.59**	**40**	*e*PKPbc		**PKPdf**	**05 15 28.4**	**+0.3**
LBTB	**Lobatse**	**147.59**	**40**	*e*PKIKP		**PKPdf**	**05 15 28.4**	**+0.3**
VNA3	**Neumayer Olymp**	**148.91**	**148**	P		**PKPdf**	**05 15 27.3**	**-1.4**
VNA1	**Neumayer--Stat**	**149.43**	**147**	P		**PKPdf**	**05 15 25.8**	**-3.7**
VNA2	**Neumayer--Watz**	**149.68**	**148**	P		**PKPdf**	**05 15 28.8**	**-1.1**
BOSA	**Boshof**	**150.64**	**44**	PKPbc		**PKPbc**	**05 15 37.6**	**-0.8**
	comp=Z,22nm,0.8s,baz=341,slow=2.6,SNR=34							
BOSA	**Boshof**	**150.64**	**44**	*e*PKPbc		**PKPdf**	**05 15 33.5**	**+0.6**
BOSA	**Boshof**	**150.64**	**44**	*e*PKIKP		**PKPdf**	**05 15 33.5**	**+0.6**
SNAA	**Sanae**	**150.99**	**150**	P		**PKPdf**	**05 15 31.0**	**-1.0**
SUR	**Sutherland**	**151.77**	**55**	*e*PKPbc		**PKPbc**	**05 15 41.3**	**+0.3**
NVL	**N'lazarevskaya**	**155.73**	**152**	*e*PKIKP		PKPdf	05 15 52.1	+13
NVL				pmax		pmax		
	comp=Z,6.0nm,0.5s							
SYO	**Syowa Base**	**163.18**	**170⇑**	*e*X		**PKPab**	**05 16 31.0**	**-6.8**
SYO	**Syowa Base**	**163.18**	**170⇓**	*e*PKPab		pPKPab	05 16 44.6	+1.1

*JMA **13** 04:56:22.5±0.1,24°.93N×122°.89E,h26km±2km,M2.3*
*TAP **13** 04:56:23.4,24°.86N×122°.87E,h29km,ML2.9,C*
*ISCJB **13** 04:56:24.7±0.6,24°.77N±0°.07×122°.88E±0°.03,*
h34km±15km, Error ellipse: s-maj=11.9km s-min=4.1km az=7.2
ISC 13 04:56:23.7±1.3,**24°.82N**±0°.07×**122°.88E**±0°.03,**h33**km±6km,
n36,σ0s90/48,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.38**	**170**	P	**Pb**	**04 56 32.1**	**-0.3**
JYNG				*e*S	**Sb**	**04 56 39.2**	**+0.8**
YOJ	**Yonaguni jima**	**0.38**	**161⇑**	*i*P	**Pb**	**04 56 32.4**	**-0.1**
	baz=163						
YOJ				S	**Sb**	**04 56 38.6**	**+0.2**
	baz=163						
YOJ	**Yonaguni jima**	**0.38**	**161**	P	**Pb**	**04 56 32.2**	**-0.3**
YOJ				*e*S	**Sb**	**04 56 38.9**	**+0.4**
EOS1	**EOS1**	**0.73**	**248**	P	**Pn**	**04 56 37.8**	**+0.1**
	baz=239						
EOS1				S	**Sb**	**04 56 47.8**	**0.0**
	baz=239						
EGS		**0.86**	**272**	*e*P	**Pb**	**04 56 40.7**	**+0.5**
	baz=269						
EGS				*e*S	**Sb**	**04 56 50.2**	**-1.2**
	baz=269						
IRIF	**Iriomote-Funau**	**0.92**	**122**	P	**Pn**	**04 56 40.3**	**0.0**
TWC	**Suao**	**0.96**	**257**	*e*P	**Pb**	**04 56 41.2**	**-0.6**
	baz=265						
TWC				S	**Sn**	**04 56 52.8**	**-0.6**
	baz=265						
WFSB	**Wu-fen Shan**	**1.02**	**284**	*e*P	**Pb**	**04 56 43.3**	**+0.4**
	baz=282						
NANB	**Nanao**	**1.10**	**249**	*e*P	**Pn**	**04 56 42.4**	**-0.3**
	baz=247						
NANB				*e*S	**Sn**	**04 56 56.7**	**-0.2**
	baz=247						
ENA	**Nanau**	**1.11**	**249**	*e*P	**Pb**	**04 56 43.5**	**-0.8**
	baz=247						
ENA				*e*S	**Sn**	**04 56 57.1**	**+0.1**
	baz=247						
HATJ	**Hateruma jima**	**1.14**	**132**	P	**Pn**	**04 56 43.7**	**+0.4**
HATJ				*e*S	**Sn**	**04 56 58.0**	**+0.2**
JKRS	**Kuro-shima**	**1.19**	**119**	P	**Pn**	**04 56 44.6**	**+0.7**
JKRS				*e*S	**Sb**	**04 57 00.6**	**0.0**
YM07	**YM07**	**1.19**	**287**	*e*P	**Pb**	**04 56 44.8**	**-1.0**
	baz=285						
JIJ	**Ishigaki jima**	**1.24**	**111**	P	**Pn**	**04 56 44.5**	**-0.2**
JISG	**Ishigakijimahi**	**1.32**	**100**	P	**Pn**	**04 56 45.8**	**-0.1**
NACB	**Ninganchiao**	**1.33**	**241**	P	**Pn**	**04 56 46.7**	**+0.6**
	baz=240						
NACB				*e*S	**Sn**	**04 57 04.0**	**+1.3**
	baz=240						
YHNB	**Yeheng**	**1.37**	**264**	*e*P	**Pb**	**04 56 48.4**	**-0.5**
	baz=262						
TWD	**Chiawan**	**1.38**	**238**	*e*P	**Pb**	**04 56 48.1**	**-0.9**
	baz=237						
NSK	**Sanguang**	**1.39**	**264**	*e*P	**Pb**	**04 56 48.9**	**-0.2**
	baz=263						
NNSB	**Datong**	**1.42**	**254**	*e*P	**Pb**	**04 56 49.4**	**-0.2**
	baz=253						
NNS	**Nan Shan**	**1.42**	**255**	*e*P	**Pn**	**04 56 48.1**	**+0.8**
	baz=253						
WHF	**Hehuan Shan**	**1.62**	**246**	*e*P	**Pb**	**04 56 51.8**	**-1.4**
	baz=245						
WHF				*e*S	**Sn**	**04 57 10.1**	**-0.1**
	baz=245						
TWT	**Tachien**	**1.65**	**250**	*e*P	**Pb**	**04 56 53.2**	**-0.4**
	baz=235						
ESL	**Shilin**	**1.66**	**233**	*e*P	**Pn**	**04 56 50.1**	**-0.4**
	baz=232						
TDCB	**Techi**	**1.67**	**250**	*e*P	**Pb**	**04 56 53.0**	**-0.8**
	baz=236						
NSTT	**Nanjuang**	**1.72**	**264**	*e*P	**Pb**	**04 56 54.1**	**-0.5**
	baz=263						
CHGB	**Renai**	**1.73**	**244**	*e*P	**Pn**	**04 56 52.9**	**+1.3**
	baz=231						
HGSD	**Ruisui**	**1.88**	**225**	*e*P	**Pn**	**04 56 53.8**	**+0.3**
	baz=224						
YULB	**Yu-li**	**2.03**	**226**	*e*P	**Pn**	**04 56 55.5**	**-0.1**
	baz=215						
SMLT	**Sun Moon Lake**	**2.03**	**243**	*e*P	**Pb**	**04 56 58.9**	**-1.2**
	baz=231						
SSLB	**Suanglung**	**2.04**	**240**	*e*P	**Pn**	**04 56 57.8**	**+2.1**
	baz=226						
TYC	**Yuchr**	**2.06**	**244**	*e*P	**Pb**	**04 56 58.2**	**-2.2**
	baz=230						
FULB	**Fuli**	**2.17**	**222**	*e*P	**Pn**	**04 56 56.9**	**-0.6**
	baz=221						
YUS	**Yu-Shan**	**2.20**	**233**	*e*P	**Pn**	**04 56 59.8**	**+1.3**
	baz=233						
CHN4	**Tsaushan**	**2.55**	**235**	*e*P	**Pn**	**04 57 05.0**	**+2.2**
	baz=223						
WLGB	**Puzi**	**2.71**	**241**	*e*P	**Pn**	**04 57 06.8**	**+1.8**
	baz=254						

*DDA **13** 05:06:43.9,40°.61N×29°.07E,h7km,Ml2.8*
*ISCJB **13** 05:06:44.4±0.3,40°.64N±0°.02×29°.06E±0°.02,h7km±3km,*
Error ellipse: s-maj=3.2km s-min=3.0km az=149.0
*ISK **13** 05:06:44.1,40°.63N×29°.06E,h7km,ML2.6/18*
ISC 13 05:06:44.5±0.8,**40°.62N**±0°.02×**29°.06E**±0°.02,**h14**km±6km,
n45,σ0s59/58,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBT5	**Esenkoy-Cinarc**	**0.14**	**276**	PG	**Pg**	**05 06 48.0**	**-0.1**
ARMT	**Armutlu**	**0.16**	**252**	PG	**Pg**	**05 06 48.2**	**-0.3**
ARMT				SG	**Sg**	**05 06 50.7**	**-0.5**
GEMT	**Gemlik**	**0.21**	**152**	PG	**Pg**	**05 06 48.9**	**-0.2**
GEMT				SG	**Sg**	**05 06 52.1**	**-0.2**
BUY	**Buyukada**	**0.24**	**10**	PG	**Pg**	**05 06 49.6**	**-0.2**
BUY				SG	**Sg**	**05 06 53.2**	**0.0**
BUY	**Buyukada**	**0.24**	**10**	*i* P	**Pg**	**05 06 49.5**	**-0.2**
BUY				*i* S	**Sg**	**05 06 53.2**	**0.0**
YLV	**Yalova**	**0.24**	**102**	PG	**Pg**	**05 06 49.8**	**0.0**
YLV				SG	**Sg**	**05 06 53.6**	**+0.2**
MDNY	**Mudanya-Bursa**	**0.28**	**209**	PG	**Pg**	**05 06 50.4**	**0.0**
MDNY				SG	**Sb**	**05 06 55.1**	**-0.9**
IZI	**Iznik**	**0.42**	**132**	PG	**Pg**	**05 06 52.5**	**-0.4**
KAVV	**Kandilli-Istan**	**0.45**	**360**	PG	**Pg**	**05 06 53.2**	**-0.2**
ISK	**Istanbul-Kandi**	**0.45**	**360**	PG	**Pg**	**05 06 53.1**	**-0.4**
ISK				SG	**Sg**	**05 06 58.9**	**-0.6**
HRT	**Hereke**	**0.50**	**66**	PG	**Pg**	**05 06 54.1**	**-0.4**
ORLT	**Orhaneli**	**0.58**	**193**	PG	**Pg**	**05 06 55.8**	**-0.2**
BGKT	**Bogazkoy**	**0.60**	**339**	PG	**Pg**	**05 06 55.8**	**-0.6**
KLYT	**Kilyos**	**0.64**	**359**	PG	**Pg**	**05 06 56.6**	**-0.4**
KCTX	**Karacabey (Bur**	**0.64**	**237**	PG	**Pg**	**05 06 56.9**	**-0.2**
SILT	**Sile**	**0.69**	**39**	PG	**Pg**	**05 06 57.7**	**-0.3**
CAVI	**Cavuskoy**	**0.72**	**125**	PG	**Pb**	**05 06 58.5**	**-0.4**
CTKS	**Kestanelik-??a**	**0.75**	**326**	PG	**Pg**	**05 06 58.3**	**-0.8**
GEYV	**SAKARYA_Geyve**	**0.95**	**98**	*i* P	**Pb**	**05 07 02.9**	**+0.2**
GEYV				*i* S	**Sb**	**05 07 16.0**	**+0.8**
SPNC	**Sapanca-Adapaz**	**0.95**	**85**	PG	**Pn**	**05 07 03.3**	**-0.1**
SAUV	**Serdivan-Sakar**	**0.97**	**82**	PG	**Pb**	**05 07 03.5**	**+0.4**
KAND	**Kocaeli-Kandir**	**0.98**	**61**	*i* P	**Pb**	**05 07 03.1**	**-0.2**
KAND				*i* S	**Sg**	**05 07 15.2**	**-1.1**
CTYL	**Yalikoy Yolu**	**1.04**	**326**	PG	**Pg**	**05 07 03.6**	**-1.0**
DST	**Dursunbey**	**1.07**	**199**	PN	**Pn**	**05 07 05.3**	**+0.2**
DURS	**Dursunbey**	**1.11**	**204**	*i* P	**Pb**	**05 07 05.6**	**+0.1**
DURS				*i* S	**Sn**	**05 07 21.3**	**+0.4**
MRMT	**Marmara Adasi**	**1.12**	**270**	PN	**Pg**	**05 07 05.4**	**-0.7**
GULT	**Gulveren**	**1.12**	**99**	PN	**Pn**	**05 07 06.6**	**+0.7**
CRLT	**Corlu**	**1.13**	**297**	PN	**Pn**	**05 07 06.3**	**+0.4**
SBT4	**Kumbag-Tekirda**	**1.18**	**281**	PN	**Pn**	**05 07 07.3**	**+0.9**
GONE	**Gonen-Balikesi**	**1.20**	**242**	PN	**Pn**	**05 07 07.6**	**+0.8**
TVSB	**Tavsanli**	**1.21**	**165**	PN	**Pn**	**05 07 07.4**	**+0.3**
BORA	**Eskisehir**	**1.29**	**124**	PN	**Pb**	**05 07 08.7**	**0.0**
BORA	**Eskisehir**	**1.29**	**124**	*i* P	**Pb**	**05 07 08.7**	**0.0**
BORA				*i* S	**Sg**	**05 07 25.6**	**-0.7**
BALB	**Balikesir**	**1.33**	**223**	PN	**Pg**	**05 07 09.7**	**-0.4**
KRBG	**Karabiga-Canak**	**1.36**	**261**	PN	**Pg**	**05 07 10.1**	**-0.6**
SAHE	**Sakarya_HENDEK**	**1.38**	**80**	*i* P	**Pg**	**05 07 09.9**	**-0.2**
SAHE				*i* S	**Sg**	**05 07 28.7**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.44**	**273**	PN	**Pb**	**05 07 11.2**	**+0.1**
SIMA	**Simav-Kutahya**	**1.53**	**182**	PN	**Pb**	**05 07 13.1**	**+0.3**
PHSR	**Pinarhisar**	**1.54**	**312**	PN	**Pb**	**05 07 12.6**	**-0.3**
DEMI	**Demirci**	**1.59**	**190**	*i* P	**Pg**	**05 07 15.0**	**-0.2**
DEMI				*i* S	**Sg**	**05 07 35.5**	**-0.3**
ERIK	**Erikli-Kesan**	**1.94**	**272**	PN	**Pn**	**05 07 18.3**	**+1.3**
GELI	**Tayfur-Gelibol**	**1.99**	**265**	PN	**Pn**	**05 07 18.9**	**+1.2**
KULA	**Kula-Manisa**	**2.12**	**189**	PN	**Pb**	**05 07 21.5**	**-1.3**
EDRB	**Edirne**	**2.14**	**306**	PN	**Pn**	**05 07 21.0**	**+1.2**
ALN	**Alexandroupoli**	**2.31**	**278**	PN	**Pn**	**05 07 23.4**	**+1.3**

*IDC **13** 05:10:04.8±1.6,48°.39N×155°.11E,h0km,mb3.4/3,*
mb1 3.8/4,mb1mx3.4/52,mbtmp3.4/4,ML2.8/1,MS4.1/2,
Ms1 4.1/2,ms1mx3.3/32, Error ellipse: s-maj=79.3km
s-min=23.4km az=117.0
*MOS **13** 05:10:10.6±2.5,48°.60N×156°.34E,h30km,mb4.3/1, Error*
ellipse: s-maj=45.0km s-min=8.3km az=77.7
*SKHL **13** 05:10:10.9±0.8,48°.46N×156°.23E,h35km±2km,mb4.2/1*
*KRSC **13** 05:10:10.7±1.5,48°.60N×156°.34E,h30km±21km,ML4.2*
*ISCJB **13** 05:10:12.1±0.9,48°.59N±0°.07×156°.0E±0°.2,h33km,*
mb3.4/3,MS4.0/1, Error ellipse: s-maj=17.6km
s-min=6.7km az=24.4
ISC 13 05:10:14.6±1.2,**48°.64N**±0°.10×**155°.9E**±0°.1,**h35**km,**n32,**
σ1s59/45,mb3.6/3,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.05**	**4**	*e*P	**Pn**	**05 10 44.8**	**-1.7**
SKR				AMB	AMB	05 10 45.5	
	40nm,0.4s						
SKR				AMB	AMB	05 10 45.5	
	4μm,0.4s						
SKR				*e*S	**Sn**	**05 11 10.0**	**-0.8**
SKR				A	A	05 11 11.6	
	310nm,0.7s						
SKR				A	A	05 11 11.6	
	298nm,0.7s						
SKR	**Severo-Kuril's**	**2.05**	**4**	*e*P	**Pn**	**05 10 45.1**	**-1.4**
SKR				*e*S	**Sn**	**05 11 09.2**	**-1.6**
SKR	**Severo-Kuril's**	**2.05**	**4**	*e*PN	**Pn**	**05 10 44.9**	**-1.6**
SKR				*e*S	**Sn**	**05 11 09.0**	**-1.8**
SKR				pmax	pmax		
	comp=Z,44nm,0.4s						
SKR				smax	smax		
	comp=E,286nm,0.6s						
SKR				smax	smax		
	comp=N,312nm,0.7s						
PAU	**Pauzhetka**	**2.89**	**12**	*e*P	**Pn**	**05 10 57.3**	**-0.8**
PAU				*e*S	**Sn**	**05 11 32.8**	**+1.2**
PAU				A	A	05 11 36.3	
	comp=N,330nm,0.7s						
PAU				A	A	05 11 36.3	
	comp=N,279nm,0.7s						
PAU	**Pauzhetka**	**2.89**	**12**	*e*P	**Pn**	**05 10 57.3**	**-0.8**
PAU				*e*S	**Sn**	**05 11 32.8**	**+1.2**
PAU	**Pauzhetka**	**2.89**	**12**	PN	**Pn**	**05 10 57.3**	**-0.8**
PAU				S	**Sn**	**05 11 32.8**	**+1.2**
KDTR	**Khodutka, Kamc**	**3.47**	**23**	*e*P	**Pn**	**05 11 06.0**	**-0.1**
KDTR				*e*S	**Sn**	**05 11 46.0**	**+0.1**
MTVR	**Mutnovka**	**4.12**	**20**	*e*P	**Pn**	**05 11 16.0**	**+0.9**
MTVR				*e*S	**Sn**	**05 12 03.3**	**+1.3**
MTVR	**Mutnovka**	**4.12**	**20**	PN	**Pn**	**05 11 16.0**	**+0.9**
MTVR				S	**Sn**	**05 12 03.3**	**+1.3**
RUS	**Russkaya**	**4.15**	**23**	*e*P	**Pn**	**05 11 15.0**	**-0.4**
RUS				*e*S	**Sn**	**05 12 02.6**	**0.0**
RUS	**Russkaya**	**4.15**	**23**	*e*P	**Pn**	**05 11 15.0**	**-0.4**
RUS				*e*S	**Sn**	**05 12 02.6**	**0.0**
RUS	**Russkaya**	**4.15**	**23**	PN	**Pn**	**05 11 15.0**	**-0.4**
RUS				S	**Sn**	**05 12 02.6**	**0.0**
PETK	**Petropavlovsk-**	**4.62**	**14**	Pn	**Pn**	**05 11 22.4**	**+0.5**
	comp=N,2.0nm,0.3s,baz=204,slow=12,SNR=20						
PETK				Sn	**Sn**	**05 12 21.0**	**+6.8**
	baz=221,slow=34,SNR=2.1						
PET	**Petropavlovsk**	**4.73**	**21**	*e*P	**Pn**	**05 11 23.9**	**+0.6**
PET				*e*S	**Sn**	**05 12 16.4**	**-0.4**
PET				A	A	05 12 29.3	
	comp=N,60nm,0.6s						
PET				A	A	05 12 29.3	
	comp=N,68nm,0.6s						
PET	**Petropavlovsk**	**4.73**	**21**	*e*PN	**Pn**	**05 11 27.9**	**+4.6**
PET				*e*S	**Sn**	**05 12 18.0**	**+1.2**
PET				smax	smax		
	comp=E,62nm,0.6s						
PET				smax	smax		
	comp=N,59nm,0.6s						
DALK	**Dalny**	**4.76**	**21**	*e*S	**Sn**	**05 12 19.0**	**+1.4**
SPN	**Mys Shipunski**	**5.17**	**29**	*e*P	**Pn**	**05 11 30.3**	**+0.8**
SPN				*e*S	**Sn**	**05 12 27.3**	**-0.6**
SPN	**Mys Shipunski**	**5.17**	**29**	PN	**Pn**	**05 11 30.3**	**+0.8**
SPN				S	**Sn**	**05 12 27.3**	**-0.6**
GNL	**Ganaly**	**5.22**	**14**	*e*P	**Pn**	**05 11 31.4**	**+1.1**
GNL	**Ganaly**	**5.22**	**14**	PN	**Pn**	**05 11 31.4**	**+1.1**
MKZ	**Mys Kozlova**	**6.95**	**29**	*e*P	**Pn**	**05 11 53.3**	**-0.5**
MKZ	**Mys Kozlova**	**6.95**	**29**	*e*P	**Pn**	**05 11 53.3**	**-0.5**
MKZ	**Mys Kozlova**	**6.95**	**29**	PN	**Pn**	**05 11 53.3**	**-0.5**
SHO	**Shikotan**	**7.88**	**236**	*e*P	**Pn**	**05 12 07.7**	**+1.1**
SHO	**Shikotan**	**7.88**	**236**	*e*PN	Pn	05 11 56.9	-10
SHO				pmax	pmax		
	comp=Z,18nm,0.4s						
KBTR	**Krutoberegovo**	**8.68**	**27**	*e*P	**Pn**	**05 12 17.6**	**+0.1**
KBTR	**Krutoberegovo**	**8.68**	**27**	PN	**Pn**	**05 12 17.6**	**+0.1**
SEY	**Seymchan**	**14.46**	**354**	LR	LR	05 19 56.0	
	comp=Z,1μm,19.6s,baz=132,slow=40						
ILAR	**Eielson Array**	**33.90**	**40**	P	**P**	**05 16 52.6**	**-1.1**
	comp=Z,0.2nm,0.7s,baz=257,slow=7.3,SNR=3.0						
ARCES	**ARCESS Array B**	**56.67**	**341**	LR	LR	05 45 57.8	
	comp=Z,131nm,21.9s,baz=261,slow=38						
NVAR	**Mina Array Bea**	**59.92**	**65**	P	**P**	**05 20 16.6**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=287,slow=9.2,SNR=2.4						
WRA	**Warramunga Arr**	**70.94**	**201**	P	P	05 21 21.4	-6.8
	comp=Z,0.4nm,0.7s,baz=16,slow=6.7,SNR=2.9						

*NEIC **13** 05:31:57.0±0.2, 13°.72N×92°.03W,h35km, mb4.6/214,*
MD4.8(MEX), Error ellipse: s-maj=4.1km s-min=2.8km
az=216.0
NEIC Felt at San Marcos.
*ISCJB **13** 05:31:58.6±0.4, 13°.88N±0°.02×91°.93W±0°.02, h64km±3km,*
*mb4.6/191, Error ellipse: s-maj=4

PTJ1 Puerto Jim˜ne 10.11 120 eP Pn 05 34 22.7 +1.9
MOIG Morelia 10.47 305 ePn Pn 05 34 27.0 +1.1
BRU2 Volcan 10.49 117 eP Pn 05 34 25.1 -1.1
JRQG Juriquilla Cam 10.50 312 ePn Pn 05 34 27.7 +1.3
BCIP Isla Barro Col 12.88 110 ePn Pn 05 35 00.6 +2.0
LNIG Linares 13.02 329 ePn Pn 05 35 03.8 +3.3
ZAIG Zacatecas 13.33 313 ePn Pn 05 35 06.2 +1.1
833A Chaparral WMA, 15.94 336 ePn Pn 05 35 39.4 +0.2
comp=N,42nm,0.9s
833A Chaparral WMA, 15.94 336 P Pn 05 35 38.8 -0.4
baz=153,SNR=9.5
059Z Ave Maria 15.96 37 P Pn 05 35 38.2 -1.3
baz=220
058A Arcadia 16.31 35 P Pn 05 35 43.9 +0.1
baz=218
HKT Hockley 16.42 348 eP P 05 35 48.3 +1.2
comp=N,8.2nm,1.0s
059A Moore Haven 16.61 36 P Pn 05 35 47.4 -0.2
baz=220
958A Wauchula 16.75 34 P P 05 35 50.7 -0.3
baz=217
441A DeRidder 16.88 357 P P 05 35 53.2 +0.8
baz=176
MOTC Monteria, Cord 16.88 106 eP Pn 05 35 48.3 -2.8
445A Amite 16.91 5 P P 05 35 53.4 +0.8
baz=186
DBBC Dabeiba 17.02 112 eP Pn 05 35 50.5 -2.4
857A Zephyrhills 17.06 31 P P 05 35 54.1 -0.3
baz=214
DWPF Disney Wildern 17.34 33 P Pn 05 35 56.4 -0.3
baz=217
341A Kurthwood 17.46 357 ePn P 05 35 59.9 +1.1
comp=N,16nm,0.8s
341A Kurthwood 17.46 357 P P 05 35 59.8 +1.1
baz=176
858A St. Cloud 17.46 33 P P 05 35 58.7 -0.1
baz=217
342A Flagon Creek P 17.47 359 P P 05 35 59.6 +0.7
baz=179
345A Thompson Farm, 17.51 6 P P 05 36 00.2 +0.9
baz=186
344A Westbrook Farm 17.59 4 ePn P 05 36 00.9 +0.7
comp=N,31nm,0.9s
344A Westbrook Farm 17.59 4 P P 05 36 00.9 +0.7
baz=184
859A Kempfer Cattle 17.59 35 P Pn 05 35 59.2 -0.6
baz=218
435B Jarrell 17.62 344 ePn P 05 36 01.6 +1.0
comp=N,18nm,0.8s
655A Horseshoe Beac 17.63 26 P Pn 05 35 59.7 -0.5
baz=209
346A Big Creek Wild 17.65 7 P P 05 36 02.0 +1.2
baz=188
757A Oxford 17.69 30 P P 05 36 01.2 -0.1
baz=213
553A Crawfordville 17.76 22 P Pn 05 36 01.2 -0.6
baz=205
347A Saraland 17.80 10 P Pn 05 36 02.0 -0.3
baz=191
656A Willston 17.83 28 ePn P 05 36 03.5 +0.6
656A eP Pn 05 36 04.1 +1.4
656A Willston 17.83 28 P P 05 36 02.8 -0.1
baz=211
BRAL Brewton 17.88 14 P Pn 05 36 02.7 -0.6
baz=196
348A Jackson 17.93 12 ePn P 05 36 07.3 +3.4
comp=N,240nm,1.4s
348A Jackson 17.93 12 P P 05 36 03.9 0.0
baz=193
554A Perry 17.95 24 P Pn 05 36 04.9 +0.7
baz=207
HELC Santa Helena 17.99 113 eP Pn 05 36 05.5 +0.4
NATX Nacogdoches 18.01 353 eP Pn 05 36 05.5 +0.7
NATX Nacogdoches 18.01 353 P Pn 05 36 06.2 +1.4
baz=172
349A Repton 18.02 14 P Pn 05 36 05.8 +0.8
baz=195
JCT Junction City 18.03 338 eP Pn 05 36 06.4 +1.2
comp=N,15nm,0.9s
JCT eSn Sn 05 39 25.5 -0.2
241A Mo Tay, Goldon 18.13 358 eP Pn 05 36 07.7 +1.4
comp=N,38nm,0.9s
241A Mo Tay, Goldon 18.13 358 P Pn 05 36 07.0 +0.7
baz=177
244A Avery, Jackson 18.18 4 P Pn 05 36 08.4 +1.4
baz=184
HPIG 18.19 318 eP Pn 05 36 08.5 +1.1
comp=N,22nm,1.1s
245A Little AP, Sta 18.24 6 P Pn 05 36 08.7 +1.0
baz=187
555A McAlpin 18.28 26 eP Pn 05 36 09.2 +1.0
comp=N,114nm,0.8s
555A McAlpin 18.28 26 P Pn 05 36 09.6 +1.4
baz=209
657A Interlachen 18.32 29 P Pn 05 36 09.3 +0.5
baz=213
YOTC Yotoco, Valle 18.37 121 eP P 05 36 08.5 -0.6
VBMS Vicksburg 18.37 4 eP Pn 05 36 10.5 +1.3
VBMS Vicksburg 18.37 4 P Pn 05 36 10.0 +0.8
baz=185
351A Pinckard 18.37 18 P Pn 05 36 10.5 +1.2
baz=200
453A Whigham 18.40 22 P Pn 05 36 09.4 -0.3
baz=204
HORQ Saladito 18.41 123 eP Pn 05 36 12.9 +2.7
556A Lake Butler 18.43 28 P Pn 05 36 10.1 +0.1
baz=211,SNR=5.7
247A Quitman 18.43 9 P Pn 05 36 11.1 +1.1
baz=190
GUYC Guyana, Colomb 18.55 116 eP Pn 05 36 14.3 +2.2
248A Dixon Mills 18.62 12 P Pn 05 36 12.8 +0.5
baz=193
249A Camden 18.64 13 P Pn 05 36 13.1 +0.6
baz=195
142A Monroe 18.64 0 P Pn 05 36 13.1 +0.6
baz=180
WHTX Lake Whitney, 18.74 346 eP Pn 05 36 14.5 +0.8
comp=N,18nm,0.8s
WHTX Lake Whitney, 18.74 346 P Pn 05 36 14.4 +0.7
baz=164
RREF El Recreo 18.75 117 eP Pn 05 36 15.9 +1.3
352A Blakely 18.77 19 P Pn 05 36 14.2 +0.1
baz=202
LTX Lajitas 18.79 327 eP Pn 05 36 15.9 +1.4
LTX eS S 05 39 48.0 +3.2
TXAR Lajitas Array 18.79 327 P Pn 05 36 15.9 +1.4
comp=N,0.3nm,0.3s,baz=157,slow=11,SNR=37
TXAR S S 05 39 48.0 +3.2
comp=N,0.0nm,0.3s,baz=156,slow=32,SNR=2.2
TX31 Lajitas Ar. Si 18.79 327 eP Pn 05 36 15.6 +1.1
TX31 eP P 05 36 16.0 +2.4
145A Houston Renfro 18.80 6 P Pn 05 36 14.8 +0.3
baz=186
455A Stateville 18.80 25 P Pn 05 36 14.4 -0.1
baz=208
143A Socs Landing, 18.80 2 eP Pn 05 36 14.7 +0.2
comp=N,42nm,1.0s
143A Socs Landing, 18.80 2 P Pn 05 36 14.4 -0.1
baz=182
PTBC PUERTO BERRIO, 18.81 111 eP P 05 36 13.9 +0.1
250A Grady 18.84 16 P P 05 36 13.4 -0.6
baz=197
353A Camilla 18.89 21 P P 05 36 14.7 +0.2
baz=204
POPC Popayan, Colom 18.92 125 eP Pn 05 36 16.2 -0.2
TOLC Tolima 18.92 117 eP Pn 05 36 18.0 +1.5
147A Livingston 19.09 10 eP Pn 05 36 18.0 +0.1
comp=N,18nm,0.8s
147A Livingston 19.09 10 P Pn 05 36 17.7 -0.2
baz=191
OTAV Otavalo 19.10 134 eP P 05 36 17.9 +0.5
comp=N,8.9nm,1.0s
OTAV Otavalo 19.10 134 eP Pn 05 36 18.4 -0.3
148A Greensboro 19.19 12 P Pn 05 36 18.5 -0.6
baz=193
251A Midway 19.19 18 P Pn 05 36 18.5 -0.6
baz=200
TIGA Tifton 19.20 23 eP Pn 05 36 18.8 -0.4
comp=N,42nm,0.9s
TIGA Tifton 19.20 23 P Pn 05 36 18.8 -0.4
baz=206
456A Hilliard 19.21 27 eP Pn 05 36 20.3 +0.9
comp=N,54nm,0.7s
456A Hilliard 19.21 27 P P 05 36 17.7 -0.4
baz=211
SOTA Rioblanco 19.22 126 eP Pn 05 36 20.4 +0.3
GCUF Volcan Galeras 19.23 129 eP Pn 05 36 20.6 +0.4

BRRC Barranca, Sant 19.27 108 eP P 05 36 18.1 -0.7
PCON Cinco Dias 19.27 125 eP Pn 05 36 20.2 -0.6
252A Lumpkin 19.31 19 P Pn 05 36 20.1 -0.4
baz=202
149A Jones 19.31 14 P Pn 05 36 19.9 -0.6
baz=195
CRUC La Cruz 19.31 128 eP Pn 05 36 21.0 -0.1
Z41A Richland Creek 19.36 358 eP P 05 36 20.1 +0.4
comp=N,52nm,1.0s
Z41A Richland Creek 19.36 358 P P 05 36 20.0 +0.4
baz=178
Z42A Norrel Spur, H 19.36 0 P Pn 05 36 21.0 -0.1
baz=180
Z44A Pea Ridge, Bel 19.43 4 P P 05 36 20.5 +0.2
baz=185
Z46A Louisville 19.50 8 P P 05 36 21.9 +0.8
baz=189
150A Eclectic 19.51 16 P Pn 05 36 22.0 -0.8
baz=198
SLBS Sierra La Lagu 19.52 303 eP P 05 36 22.4 +0.9
comp=N,16nm,1.1s
253A Americus 19.57 21 eP Pn 05 36 24.0 +0.4
comp=N,21nm,0.8s
253A Americus 19.57 21 P Pn 05 36 23.4 -0.2
baz=203
Z45A Winona 19.58 6 eP Pn 05 36 24.1 +0.3
comp=N,68nm,1.1s
Z45A Winona 19.58 6 P Pn 05 36 22.9 -0.9
baz=187
151A Opelika 19.62 17 P P 05 36 23.0 +0.4
baz=200,SNR=7.8
Z47A Carrollton 19.64 10 P P 05 36 23.2 +0.5
baz=191,SNR=16
ROSC El Rosal 19.67 115 P P 05 36 22.0 -1.7
baz=354,slow=12,SNR=1.2
ROSC El Rosal 19.67 115 eP Pn 05 36 26.2 +0.8
comp=N,22nm,1.1s
ROSC El Rosal 19.67 115 eP Pn 05 36 26.1 +0.7
356A Blackshear 19.68 26 P P 05 36 23.1 -0.1
baz=210
LRAL Lakeview Retre 19.68 13 eP Pn 05 36 25.7 +0.7
comp=N,22nm,1.0s
LRAL Lakeview Retre 19.68 13 P P 05 36 23.9 +0.7
baz=194
PRAC Prado 19.74 119 eP Pn 05 36 25.1 -0.7
GIRC Giron, Santand 19.76 108 eP P 05 36 25.1 +0.8
254A Abbeville 19.76 23 P P 05 36 24.5 +0.5
baz=206
Z48A Northport 19.90 11 P P 05 36 26.3 +0.8
baz=193
152A Waverly Hall 19.93 19 eP Pn 05 36 27.3 -0.7
comp=N,31nm,0.8s
152A Waverly Hall 19.93 19 P Pn 05 36 27.9 -0.1
baz=201
Z49A Columbiana 19.94 14 P Pn 05 36 27.9 -0.1
baz=196
ABTX Abilene, Hawle 19.94 341 eP Pn 05 36 27.9 -0.2
comp=N,28nm,1.0s
ABTX Abilene, Hawle 19.94 341 P Pn 05 36 27.2 -0.9
baz=158
BARC Barichara 19.95 109 eP Pn 05 36 27.5 -1.0
Y41A Eaglette Beard 19.97 359 P P 05 36 26.1 -0.3
baz=178
LPIG La Paz 20.00 303 LR LR 05 43 55.6
comp=N,675nm,18.8s,baz=122,slow=35
CCAR Cane Creek 20.01 1 eP Pn 05 36 28.7 0.0
comp=N,34nm,1.1s
255A Hazlehurst 20.06 24 eP Pn 05 36 28.4 -1.1
comp=N,22nm,0.8s
255A Hazlehurst 20.06 24 P P 05 36 27.3 0.0
baz=208
Y45A Yeager Farm, C 20.09 6 P P 05 36 27.5 -0.1
baz=187
PAMC Pamplona, Colo 20.12 107 eP Pn 05 36 29.8 -1.0
Y44A Strider, Charl 20.12 5 P P 05 36 28.3 +0.4
baz=185
Z50A Ashland 20.15 15 eP Pn 05 36 29.6 -0.8
comp=N,18nm,0.8s
Z50A Ashland 20.15 15 P P 05 36 28.6 +0.4
baz=197
Y46A Houston 20.19 8 P P 05 36 29.2 +0.6
baz=189
153A Fort Valley 20.21 21 P P 05 36 29.2 +0.4
baz=204
CHIC Chingaza 20.29 115 eP Pn 05 36 32.4 -0.3
FLOC Floncia 20.31 125 eP Pn 05 36 31.6 -1.0
RUSC La Rusia 20.32 111 eP P 05 36 31.3 +0.6
256A Glennville 20.35 26 P P 05 36 29.4 -1.0
baz=209
Y47A UCPARC, Winfie 20.36 10 P P 05 36 31.0 +0.5
baz=192
Z51A Franklin 20.41 17 P Pn 05 36 33.1 -0.5
baz=199
154A Montrose 20.43 22 eP P 05 36 31.6 +0.3
comp=N,74nm,0.8s
154A Montrose 20.43 22 P P 05 36 30.6 -0.7
baz=205
Y48A Jasper 20.50 12 P P 05 36 32.5 +0.5
baz=194
Z52A Williamson 20.51 19 P P 05 36 31.7 -0.5
baz=201,SNR=6.6
VILC Villavicencio, 20.57 116 eP P 05 36 33.6 +0.5
X41A Kaden, Bauxite 20.59 359 P P 05 36 32.6 -0.3
baz=179,SNR=6.3
Y49A Blount Mountai 20.60 14 eP Pn 05 36 34.8 -1.1
comp=N,19nm,1.1s
Y49A Blount Mountai 20.60 14 P P 05 36 32.9 -0.3
baz=196
X43A Marvell 20.63 3 eP Pn 05 36 37.1 +0.9
comp=N,44nm,1.0s
X45A UM Field Stati 20.66 6 P P 05 36 34.3 +0.6
baz=187
X44A Crenshaw 20.66 5 P P 05 36 34.3 +0.5
baz=185
MIAR Mount Ida 20.68 357 eP Pn 05 36 35.8 -0.9
comp=N,21nm,0.9s
MIAR Mount Ida 20.68 357 P P 05 36 34.2 +0.3
baz=176,SNR=5.3
155A Kite 20.68 24 P P 05 36 33.6 -0.4
baz=207,SNR=5.5
OXF Oxford 20.74 6 eP Pn 05 36 36.5 -1.0
comp=N,63nm,1.1s
OXF Oxford 20.74 6 P P 05 36 34.3 -0.3
baz=187
SJAC San Juan de Ar 20.77 119 eP Pn 05 36 38.7 +0.7
Y50A Piedmont 20.80 15 P P 05 36 35.2 -0.1
baz=197
UALR University of 20.86 359 eP P 05 36 37.2 +1.3
comp=N,28nm,1.0s
Z53A Monticello 20.87 20 P P 05 36 36.1 0.0
baz=204
X37A Clayton 20.89 352 eP Pn 05 36 37.8 -1.4
comp=N,24nm,0.8s
X46A Boneville 20.89 8 P P 05 36 36.8 +0.6
baz=189
X47A Russelville 20.96 10 P P 05 36 37.9 +0.9
baz=191
Y51A Rockmart 20.98 17 P P 05 36 37.4 +0.1
baz=199
GOGA Godfrey 21.02 20 eP P 05 36 38.2 +0.5
comp=N,16nm,0.8s
GOGA Godfrey 21.02 20 P P 05 36 37.5 -0.2
baz=204,SNR=5.3
X48A Hartselle 21.04 12 eP P 05 36 38.1 +0.2
comp=N,20nm,1.0s
X48A Hartselle 21.04 12 P P 05 36 37.6 -0.3
baz=194
Z54A Sparta 21.09 22 P P 05 36 38.6 +0.3
baz=205
156A Sylvania 21.10 26 P P 05 36 39.0 +0.5
baz=209
Y52A Lilburn 21.25 19 eP P 05 36 41.2 +1.1
comp=N,16nm,0.8s
Y52A Lilburn 21.25 19 P P 05 36 40.4 +0.4
baz=202
X49A Woodville 21.25 13 P P 05 36 41.3 +1.2
baz=195
W41B Gary Mavity, V 21.26 360 eP P 05 36 42.1 +1.9
comp=N,9.3nm,0.9s
W41B Gary Mavity, V 21.26 360 P P 05 36 40.9 +0.7
baz=179
W39A Magazine 21.34 356 eP P 05 36 44.7 +3.7
comp=N,8.8nm,0.8s
W39A eSP pP 05 36 56.0 +3.3
W39A Magazine 21.34 356 P P 05 36 42.5 +1.4
baz=175
Z55A Blythe 21.34 23 P P 05 36 42.1 +1.1
baz=207

X50B Fort Payne 21.36 15 P P 05 36 41.2 -0.2
baz=197,SNR=12
WHAR Wooly Hollow 21.38 360 eP P 05 36 43.8 +2.4
comp=N,12nm,1.0s
PLAL Pickwick Lake 21.38 9 eP P 05 36 43.0 +1.5
comp=N,20nm,1.1s
Y53A Monroe 21.39 20 P P 05 36 41.8 +0.2
baz=203
W45A Hickory Valley 21.40 7 P P 05 36 42.2 +0.4
baz=188
GDL2 Guadalupe Moun 21.46 331 eP P 05 36 44.4 +1.9
W46A Michie 21.48 8 P P 05 36 43.4 +0.9
baz=190
MNTX Cornudas Mount 21.56 328 eP P 05 36 44.1 +0.6
comp=N,29nm,1.1s
MNTX Cornudas Mount 21.56 328 P P 05 36 44.1 +0.6
baz=143,SNR=37
SDV Santo Domingo 21.61 101 P P 05 36 42.4 -1.9
comp=N,13nm,0.2s,baz=304,slow=15,SNR=2.9
SDV Santo Domingo 21.61 101 eP P 05 36 44.4 0.0
comp=N,16nm,0.8s
X51A Calhoun 21.67 16 eP P 05 36 47.0 +2.4
comp=N,49nm,1.1s
X51A Calhoun 21.67 16 P P 05 36 45.5 +0.9
baz=199
WMOK Wichita Mounta 21.68 345 eP P 05 36 45.0 +0.2
comp=N,18nm,1.0s
WMOK Wichita Mounta 21.68 345 P P 05 36 44.5 -0.3
baz=162,SNR=13
Y54A Tignall 21.70 22 P P 05 36 44.8 -0.2
baz=205
W47A Westpoint 21.72 10 P P 05 36 44.5 -0.6
baz=192
W48A Pulaski 21.73 12 P P 05 36 44.6 -0.6
baz=193
W49A Belvidere 21.85 13 P P 05 36 46.1 -0.4
baz=195,SNR=11
V41A Mountainview 21.87 360 P P 05 36 46.0 -0.7
baz=180
V42A Cord 21.90 2 P P 05 36 46.8 -0.3
baz=182
X52A Dahlonega 21.98 18 P P 05 36 47.6 -0.4
baz=201
V45A Humboldt 22.01 7 P P 05 36 46.9 -1.2
baz=188
SWET Sewanee 22.02 14 eP P 05 36 48.2 -0.1
comp=N,32nm,0.8s
HALT Halls 22.13 6 eP P 05 36 49.0 -0.6
comp=N,33nm,0.6s
W50A Signal Mountai 22.15 15 eP P 05 36 50.0 +0.2
comp=N,20nm,0.9s
W50A Signal Mountai 22.15 15 P P 05 36 50.0 +0.2
baz=197
V46A Holladay 22.18 9 P P 05 36 48.5 -1.5
baz=190
EPT El Paso 22.21 326 eP P 05 36 51.0 +0.3
comp=N,11nm,0.8s
TUL1 Leonard 22.24 352 eP P 05 36 51.6 +0.9
comp=N,21nm,1.0s
TUL1 Leonard 22.24 352 P P 05 36 50.4 -0.4
baz=170
W51A Cleveland 22.25 16 P P 05 36 50.1 -0.8
baz=199
MSTX Muleshoe 22.27 336 eP P 05 36 51.1 -0.1
comp=N,41nm,1.0s
MSTX Muleshoe 22.27 336 P P 05 36 50.7 -0.6
baz=152,SNR=24
V47A Nunnelly 22.30 10 P P 05 36 50.4 -0.9
baz=192
V48A Smith Brothers 22.34 11 eP P 05 36 51.2 -0.6
comp=N,32nm,0.8s
V48A Smith Brothers 22.34 11 P P 05 36 50.6 -1.2
baz=193,SNR=8.3
HHAR Hobbs 22.43 356 eP P 05 36 51.9 -0.9
comp=N,7.8nm,0.7s
U41A Viola 22.43 0 P P 05 36 52.0 -0.8
baz=180
W52A Murphy 22.43 18 eP P 05 36 53.1 +0.3
comp=N,10nm,0.6s
W52A Murphy 22.43 18 P P 05 36 52.5 -0.3
baz=201
U42A Revenden 22.45 2 P P 05 36 52.2 -0.8
baz=182
U40A Yellville 22.45 358 P P 05 36 52.5 -0.5
baz=178
GLAT Glass 22.49 6 eP P 05 36 53.1 -0.3
comp=N,70nm,1.1s
U43A Rector 22.50 4 P P 05 36 52.9 -0.6
baz=184
WVT Waverly 22.54 9 eP P 05 36 53.0 -0.9
comp=N,15nm,0.8s
WVT Waverly 22.54 9 P P 05 36 52.8 -1.1
baz=191
V49A McMinnville 22.55 13 P P 05 36 53.0 -1.1
baz=196,SNR=10
U44B Burton Farm, H 22.56 6 P P 05 36 52.3 -1.8
baz=187
CPCT Cooper Cave 22.59 16 eP P 05 36 55.2 +0.7
comp=N,21nm,1.0s
JSC Jenkinsville 22.61 24 eP P 05 36 54.5 -0.3
comp=N,16nm,0.9s
U45A Rockin P Farm, 22.63 7 P P 05 36 54.0 -0.8
baz=188
BG3 Lake Jocassee 22.65 20 eP P 05 36 55.8 +0.7
comp=N,17nm,0.9s
V50A Pikevile 22.65 15 P P 05 36 54.8 -0.3
baz=198
AMTX Amarillo 22.68 339 eP P 05 36 55.4 -0.2
comp=N,47nm,0.8s
AMTX Amarillo 22.68 339 P P 05 36 55.6 0.0
baz=155
U44A Portageville 22.69 5 P P 05 36 55.4 -0.1
baz=186
U46A Springville 22.72 8 P P 05 36 54.1 -1.7
baz=190,SNR=14
PARMO Parma 22.84 5 eP P 05 36 56.6 -0.5
comp=N,47nm,0.7s
PAULI Pauline 22.88 22 eP P 05 36 58.2 +0.7
comp=N,16nm,0.9s
PBMO Poplar Bluff 22.91 3 eP P 05 36 57.1 -0.7
comp=N,18nm,0.8s
U47A Clarksville 22.93 10 P P 05 36 56.5 -1.5
baz=192
V51A Loudon 22.97 16 eP P 05 36 58.7 +0.3
comp=N,49nm,1.1s
V51A Loudon 22.97 16 P P 05 36 58.4 0.0
baz=199
T41A Mountain View 23.13 1 P P 05 36 58.2 -1.8
baz=181
T42A Van Buren 23.13 2 eP P 05 37 00.9 +0.9
comp=N,8.5nm,0.8s
T42A Van Buren 23.13 2 P P 05 36 57.7 -2.3
baz=182
U48A Cassie Pea, Po 23.14 11 P P 05 36 58.1 -1.9
baz=194
T43A Greenville 23.22 4 P P 05 36 59.6 -1.3
baz=184
V52A Sevierville 23.22 18 eP P 05 37 01.1 +0.1
comp=N,13nm,0.9s
V52A Sevierville 23.22 18 P P 05 36 59.3 -1.6
baz=201
U49A Red Boiling Sp 23.29 13 P P 05 37 00.4 -1.2
baz=195,SNR=18
U32A Winter Ranch, 23.30 346 eP P 05 37 01.5 -0.2
comp=N,31nm,1.0s
V53A Saluda 23.30 19 eP P 05 37 02.3 +0.5
comp=N,13nm,0.8s
V53A Saluda 23.30 19 P P 05 37 01.0 -0.8
baz=203
KMSC Kings Mountain 23.34 23 eP P 05 37 01.6 -0.5
comp=N,19nm,0.9s
KMSC Kings Mountain 23.34 23 P P 05 37 00.2 -1.9
baz=207
U50A Jamestown 23.42 15 P P 05 37 01.9 -1.0
baz=198,SNR=6.8
T46A Princeton 23.43 8 P P 05 37 02.2 -0.7
baz=190
121A Cookes Peak, D 23.50 325 P P 05 37 04.7 +0.9
baz=139,SNR=14
T47A Sharon Grove 23.50 10 eP P 05 37 02.4 -1.1
comp=N,39nm,0.8s
T47A Sharon Grove 23.50 10 P P 05 37 02.4 -1.1
baz=192,SNR=17
319A Douglas 23.54 321 eP P 05 37 05.3 +1.2
comp=N,28nm,1.1s
U51A La Follette 23.60 16 P P 05 37 04.1 -0.5
baz=200,SNR=10
S41A Jillco Farms, 23.67 1 P P 05 37 03.5 -1.6

	baz=181							
S43A	**Fulton Ridge,** baz=185	23.72	4	P	P	05 37 04.2	-1.4	
T48A	**Bowling Green** baz=194	23.74	11	P	P	05 37 05.0	-0.8	
U52A	**Thorn Hill** baz=201	23.80	18	P	P	05 37 05.4	-1.0	
S42A	**Caledonia** baz=183	23.88	3	P	P	05 37 06.1	-1.0	
TZTN	**Tazewell** comp=N,23nm,1.0s	23.89	17	eP	P	05 37 07.0	-0.2	
TZTN	**Tazewell** baz=201	23.89	17	P	P	05 37 06.0	-1.2	
S44A	**Carbondale** baz=187,SNR=25	23.91	6	P	P	05 37 06.4	-0.9	
T49A	**Edmonton** comp=N,11nm,0.8s	23.92	13	eP	P	05 37 06.7	-0.8	
T49A	**Edmonton** baz=196	23.92	13	P	P	05 37 06.2	-1.3	
SIUC	**Southern Illin** comp=N,68nm,0.8s	23.93	6	eP	P	05 37 06.6	-0.9	
S45A	**Carrier Mills** baz=188	23.96	7	P	P	05 37 06.7	-1.1	
T50A	**Nancy** baz=197	24.00	14	P	P	05 37 06.6	-1.6	
U53A	**Fall Branch** baz=203	24.02	19	P	P	05 37 07.3	-1.1	
S46A	**Don Dixon Farm** baz=190	24.08	9	P	P	05 37 06.4	-2.5	
FVM	**French Village** comp=N,3.6nm,0.8s	24.11	3	eP	P	05 37 09.6	+0.4	
S47A	**Hartford** baz=192	24.13	10	P	P	05 37 07.9	-1.5	
BNM	**Barren Site**	24.14	329	eP	P	05 37 12.2	+2.3	
CCM	**Cathedral Cave** comp=N,15nm,1.1s	24.15	2	eP	P	05 37 09.2	-0.3	
CCM	**Cathedral Cave** baz=182	24.15	2	P	P	05 37 06.5	-3.0	
T51A	**Gray** baz=199	24.17	16	P	P	05 37 09.3	-0.5	
Y22D	**IRIS PASSCAL I** comp=N,67nm,1.1s	24.23	329	eP	P	05 37 10.5	-0.1	
LPM	**Los Pinos Moun**	24.28	330	eP	P	05 37 12.3	+1.3	
LENM	**Lemitar**	24.33	329	eP	P	05 37 13.4	+2.0	
S48A	**Wiedeman Farm,** baz=194	24.34	12	P	P	05 37 10.0	-1.3	
USIN	**University of** comp=N,41nm,0.8s	24.37	9	eP	P	05 37 11.4	-0.1	
R41A	**Rosebud** baz=182	24.39	1	P	P	05 37 10.5	-1.2	
R42A	**Luebbering** baz=183	24.39	2	P	P	05 37 10.4	-1.4	
R43A	**Red Bud** baz=185	24.43	4	P	P	05 37 10.9	-1.2	
R44A	**Waltonville** baz=187	24.47	6	P	P	05 37 11.3	-1.2	
T52A	**Hallie** baz=201	24.58	18	P	P	05 37 12.5	-1.0	
LAZ	**Ladron**	24.60	329	eP	P	05 37 15.8	+1.8	
R45A	**Skylar, Fairfi** baz=189,SNR=6.3	24.61	7	P	P	05 37 12.7	-1.0	
S49A	**Springfield** baz=196	24.62	13	P	P	05 37 13.0	-0.9	
R46A	**Gibson Southern** baz=190	24.63	9	P	P	05 37 13.6	-0.3	
ANMO	**Albuquerque** comp=N,8.4nm,0.9s,baz=141,slow=13,SNR=15	24.70	331	P	P	05 37 16.3	+1.3	
ANMO	**Albuquerque** comp=N,8.9nm,0.8s	24.70	331	eP	P	05 37 16.5	+1.6	
ANMO	**Albuquerque** baz=145	24.70	331	P	P	05 37 16.2	+1.3	
S50A	**Richmond** baz=198	24.73	15	P	P	05 37 13.2	-1.7	
SLM	**Saint Louis** comp=N,20nm,0.9s	24.77	3	eP	P	05 37 16.2	+1.0	
WCI	**Wyandotte Cave** comp=N,70nm,0.8s	24.85	11	eP	P	05 37 15.2	-0.7	
WCI	**Wyandotte Cave** baz=193	24.85	11	P	P	05 37 15.1	-0.8	
R47A	**Wooly Knot Far** baz=193,SNR=6.8	24.87	10	P	P	05 37 14.7	-1.4	
ATAH	**Atahualpa** comp=N,9.3nm,0.8s,baz=332,slow=12,SNR=3.0	24.88	146	P	P	05 37 15.8	-1.0	
S51A	**Beattyville** comp=N,29nm,1.0s	24.90	16	eP	P	05 37 16.4	0.0	
S51A	**Beattyville** baz=200	24.90	16	P	P	05 37 15.7	-0.7	
Q42A	**Golden Eagle** baz=183	25.03	3	P	P	05 37 17.6	0.0	
Q41A	**Truxton** baz=182,SNR=6.7	25.04	2	P	P	05 37 17.4	-0.3	
OLIL	**Olney** comp=N,56nm,0.8s	25.06	7	eP	P	05 37 18.2	+0.4	
S52A	**Salyersville** baz=201	25.08	17	P	P	05 37 18.1	0.0	
R48A	**Northridge Ran** baz=194	25.09	12	P	P	05 37 17.2	-0.9	
TUC	**Tucson**	25.11	320	eP	P	05 37 19.2	+0.8	
TUC				epP	P	05 37 20.0	+1.6	
TUC	**Tucson** baz=133	25.11	320	P	P	05 37 18.4	0.0	
Q44A	**Meyer Farm, Va** baz=187	25.13	6	P	P	05 37 17.5	-0.9	
R49A	**Shelbyville** baz=196	25.14	13	P	P	05 37 17.2	-1.3	
Q45A	**Warren Harvey,** baz=189	25.21	7	P	P	05 37 18.5	-0.7	
SJG	**San Juan** comp=N,462nm,19.5s,baz=288,slow=37	25.30	77	LR	LR	05 47 25.9		
R50A	**Paris** baz=198	25.32	14	P	P	05 37 18.6	-1.6	
KSU1	**Kansas State U** comp=N,10nm,0.8s	25.49	352	eP	P	05 37 22.6	+0.8	
KSU1	**Kansas State U** baz=170	25.49	352	P	P	05 37 21.6	-0.2	
Q47A	**Bedord North L** baz=193	25.51	10	P	P	05 37 20.9	-1.0	
R51A	**Hillsboro** baz=199	25.52	16	P	P	05 37 20.7	-1.4	
Q48A	**North Vernon** baz=194	25.63	12	P	P	05 37 21.8	-1.3	
T25A	**Trinidad** comp=N,23nm,1.0s	25.69	337	eP	P	05 37 25.2	+1.4	
T25A	**Trinidad** baz=152,SNR=12	25.69	337	P	P	05 37 24.5	+0.7	
P42A	**Winchester** baz=184	25.71	3	P	P	05 37 23.7	0.0	
BLO	**Bloomington** comp=N,24nm,0.8s	25.73	10	eP	P	05 37 23.4	-0.4	
P44A	**Sand Creek, Wi** baz=188	25.73	6	P	P	05 37 23.2	-0.7	
P41A	**Barry, Barry** baz=182	25.77	2	P	P	05 37 25.2	+1.0	
CBKS	**Cedar Bluff** comp=N,14nm,0.9s	25.79	346	eP	P	05 37 25.6	+1.0	
CBKS	**Cedar Bluff** baz=163	25.79	346	P	P	05 37 24.3	-0.2	
R52A	**Catlettsburg** baz=201	25.82	17	P	P	05 37 23.6	-1.2	
P43A	**Skaggs, Pawnee** baz=186	25.82	5	P	P	05 37 24.0	-0.7	
Q49A	**Aurora** baz=196	25.88	13	P	P	05 37 23.5	-1.8	
P45A	**Graceland, Par** comp=N,30nm,0.8s	25.89	8	eP	P	05 37 25.5	+0.2	
P45A	**Graceland, Par** baz=190	25.89	8	P	P	05 37 23.7	-1.7	
Q50A	**Georgetown** baz=198	25.94	15	P	P	05 37 24.5	-1.3	
P46A	**Rosedale** baz=191	26.05	9	P	P	05 37 26.1	-0.7	
P47A	**Martinsville** baz=193	26.08	10	P	P	05 37 25.8	-1.2	
X18A	**Snowflake** comp=N,5.7nm,0.8s	26.19	325	eP	P	05 37 29.6	+1.3	
P48A	**Milroy** baz=195	26.21	12	P	P	05 37 26.2	-2.0	
Q51A	**Peebles** comp=N,26nm,0.7s	26.27	16	eP	P	05 37 27.9	-1.0	
Q51A	**Peebles** baz=199,SNR=6.9	26.27	16	P	P	05 37 27.8	-1.0	
O44A	**Mansfield** baz=188	26.42	6	P	P	05 37 29.4	-0.7	
P49A	**Miami Univ. Ec** baz=196	26.43	13	P	P	05 37 28.4	-1.8	
Q52A	**Bidwell** baz=202	26.51	17	P	P	05 37 29.3	-1.6	
O45A	**Potomac**	26.60	7	P	P	05 37 31.1	-0.7	

	baz=189							
SDCO	**Great Sand Dun** comp=N,5.4nm,0.9s	26.64	336	eP	P	05 37 34.0	+1.5	
SDCO	**Great Sand Dun** baz=150	26.64	336	P	P	05 37 33.1	+0.6	
KSCO	**Kaye Shedlock'** comp=N,12nm,0.9s	26.76	342	eP	P	05 37 34.2	+0.8	
P51A	**Williamsport** comp=N,13nm,0.6s	26.77	16	eP	P	05 37 32.9	-0.4	
P51A	**Williamsport** baz=200	26.77	16	P	P	05 37 31.5	-1.8	
SFIN	**Lafayette** comp=N,16nm,0.8s	26.82	8	eP	P	05 37 35.0	+1.3	
SFIN	**Lafayette** baz=191	26.82	8	P	P	05 37 32.0	-1.7	
O47A	**Sheridan** baz=193	26.82	10	P	P	05 37 32.1	-1.7	
N39A	**Derby Farms, D** baz=179	26.95	359	P	P	05 37 33.1	-1.8	
X16A	**Lo Mia Camp, P** comp=N,8.6nm,1.0s	26.96	323	eP	P	05 37 37.2	+1.9	
O48A	**Farmland** baz=195	27.03	12	P	P	05 37 33.9	-1.7	
S22A	**4UR Ranch, Cre** comp=N,14nm,1.1s	27.19	334	eP	P	05 37 39.6	+2.2	
S22A	**4UR Ranch, Cre** baz=147,SNR=13	27.19	334	P	P	05 37 38.5	+1.0	
P53A	**Whipple** baz=203	27.25	18	P	P	05 37 37.6	0.0	
O50A	**Cable** baz=198	27.26	14	P	P	05 37 37.6	-0.2	
M41A	**Milan** baz=183	27.48	3	P	P	05 37 39.6	-0.1	
ACSO	**Alum Creek Sta** baz=199	27.50	15	P	P	05 37 40.2	+0.3	
MVCO	**Mesa Verde** comp=N,29nm,1.0s	27.50	331	eP	P	05 37 41.9	+1.7	
MVCO	**Mesa Verde** baz=144,SNR=19	27.50	331	P	P	05 37 41.6	+1.4	
O51A	**Pataskala** baz=200	27.52	16	P	P	05 37 39.8	-0.2	
N47A	**Urbana** baz=193	27.53	11	P	P	05 37 39.6	-0.5	
CBN	**Corbin Frederi** comp=N,14nm,0.8s	27.58	26	eP	P	05 37 40.0	-0.6	
N48A	**Decatur** baz=195	27.64	12	P	P	05 37 41.0	-0.1	
M43A	**Waltham Townsh** baz=186	27.65	5	P	P	05 37 40.7	-0.4	
O52A	**Adamsville** baz=202	27.70	17	P	P	05 37 41.5	-0.2	
WUAZ	**Wupatki**	27.70	325	eP	P	05 37 43.5	+1.6	
WUAZ	**Wupatki** baz=136,SNR=11	27.70	325	P	P	05 37 42.6	+0.7	
M45A	**Boilermakers S** baz=190	27.79	8	P	P	05 37 43.1	+0.7	
PV01	**Paradox Valley**	28.29	332	eP	P	05 37 49.3	+2.1	
PV13	**Radium Mtn., P** comp=N,34nm,1.1s	28.42	332	eP	P	05 37 50.6	+2.2	
PV02	**Paradox Valley** comp=N,33nm,1.1s	28.42	332	eP	P	05 37 50.5	+2.1	
Y12C	**Blythe** baz=129	28.42	318	P	P	05 37 48.5	+0.3	
SMCO	**Smonass** comp=N,6.9nm,1.1s	28.46	335	eP	P	05 37 49.8	+0.9	
ISCO	**Idaho Springs** comp=N,5.5nm,1.0s	28.48	338	eP	P	05 37 50.1	+1.2	
ISCO	**Idaho Springs** baz=152	28.48	338	P	P	05 37 49.7	+0.8	
PV05	**Paradox Valley**	28.48	331	eP	P	05 37 51.2	+2.2	
PV03	**Paradox Valley**	28.51	332	eP	P	05 37 51.2	+2.0	
PDMCI	**Parker Dam,Lak** baz=130	28.53	319	P	P	05 37 49.5	+0.4	
PV18	**Skein Mesa, Pa** comp=N,28nm,1.0s	28.53	332	eP	P	05 37 51.0	+1.6	
PV12	**Saucer Basin,** comp=N,31nm,0.9s	28.54	332	eP	P	05 37 51.4	+2.0	
PV11	**David Mesa, Pa** comp=N,24nm,0.9s	28.56	332	eP	P	05 37 51.8	+2.3	
PV17	**East Wray Mesa** comp=N,21nm,0.9s	28.58	332	eP	P	05 37 52.0	+2.3	
PV16	**Nyswonger Mesa** comp=N,24nm,1.1s	28.59	332	eP	P	05 37 52.3	+2.4	
PV19	**Morning Glory** comp=N,18nm,1.0s	28.62	332	eP	P	05 37 51.7	+1.6	
PV20	**West Nyswonger** comp=N,20nm,1.0s	28.64	332	eP	P	05 37 51.4	+1.2	
PV14	**Lion Creek, Pa** comp=N,24nm,1.1s	28.69	332	eP	P	05 37 52.5	+1.7	
PV10	**Paradox Valley**	28.70	332	eP	P	05 37 52.5	+1.6	
PV22	**Blue Mesa, Par** comp=N,13nm,0.9s	28.71	332	eP	P	05 37 52.6	+1.7	
PV23	**Carpenter Ridg** comp=N,22nm,0.8s	28.75	332	eP	P	05 37 53.0	+1.7	
PV21	**Cone Mtn., Par** comp=N,11nm,1.1s	28.82	332	eP	P	05 37 53.6	+1.7	
PV09	**Paradox Valley**	28.84	332	eP	P	05 37 53.8	+1.6	
U15A	**North Rim** comp=N,5.4nm,0.9s	28.88	325	eP	P	05 37 54.2	+1.7	
W13A	**Hualapai Mount** comp=N,3.2nm,1.0s	28.89	321	eP	P	05 37 54.5	+2.0	
O56A	**Blue Knob Stat** baz=208	28.90	22	P	P	05 37 52.5	+0.1	
BC3	**Big Chuckawall** baz=128,SNR=7.9	28.97	317	P	P	05 37 54.2	+1.0	
JFWS	**Jewell Farm** baz=184	29.03	3	P	P	05 37 55.7	+2.2	
IRM	**Iron Mountain** baz=129	29.08	318	P	P	05 37 55.5	+1.4	
K47A	**Vermontville** baz=194	29.39	11	P	P	05 37 57.6	+0.9	
SSPA	**Standing Stone** comp=N,10nm,0.9s	29.47	22	eP	P	05 37 57.2	-0.1	
SSPA	**Standing Stone** baz=209	29.47	22	P	P	05 37 56.3	-1.0	
MVL	**Millersville** comp=N,24nm,1.0s	29.52	25	eP	P	05 37 59.0	+1.2	
KNB	**Kanab** comp=N,16nm,1.1s	29.59	325	eP	P	05 38 00.5	+1.8	
PFO	**Pinyon Flats O** comp=N,214nm,18.8s,baz=154,slow=38	29.62	316	LR	LR	05 51 05.9		
PKCU	**Pink Cliffs** comp=N,14nm,1.2s	29.62	326	eP	P	05 38 01.4	+2.2	
LDFC	**Landfair** comp=N,18nm,1.0s	29.64	320	eP	P	05 38 00.9	+1.8	
FRD	**Ford Ranch, An** baz=126	29.65	316	P	P	05 37 59.3	+0.1	
O20A	**White River Ci** baz=147	29.79	335	P	P	05 38 00.9	+0.4	
GMRC	**Granite Mounta** baz=129	29.80	319	P	P	05 38 00.7	+0.2	
LCMT	**Little Creek M** comp=N,6.0nm,1.2s	29.83	325	eP	P	05 38 02.5	+1.7	
SRU	**San Rafael Swe** comp=N,9.0nm,1.0s	29.98	331	eP	P	05 38 04.2	+2.0	
MTPU	**Mount Pierson** comp=N,6.4nm,0.9s	30.00	327	eP	P	05 38 04.1	+1.6	
SZCU	**Shurtz Canyon** comp=N,17nm,1.1s	30.16	326	eP	P	05 38 05.8	+2.1	
P18A	**Preston Nutter** comp=N,11nm,1.2s	30.26	331	eP	P	05 38 06.5	+1.7	
CCUT	**Cedar City** comp=N,16nm,1.2s	30.28	325	eP	P	05 38 07.0	+2.2	
MSU	**Marysvale**	30.34	328	eP	P	05 38 07.1	+1.7	
P17A	**Butcher Ranch,** comp=N,15nm,0.9s	30.37	331	eP	P	05 38 07.1	+1.6	
TUQ	**Turquoise Moun** baz=129	30.38	319	P	P	05 38 06.3	+0.6	
TMUT	**Trail Mountain** comp=N,12nm,1.1s	30.46	330	eP	P	05 38 07.9	+1.4	
SHPR	**Sheep Range** comp=N,6.0nm,1.1s	30.60	322	eP	P	05 38 09.8	+2.2	
MPU	**Maple Canyon** comp=N,18nm,1.2s	31.22	330	eP	P	05 38 15.0	+1.9	
PSUT	**Pine Spring** comp=N,7.3nm,1.0s	31.25	326	eP	P	05 38 15.4	+2.0	
SPMN	**Marine on St.** baz=179	31.30	359	P	P	05 38 14.1	+0.6	
K22A	**Casper** baz=152	31.31	339	P	P	05 38 14.3	+0.5	
NLU	**North Lily Min** comp=N,7.0nm,1.0s	31.39	330	eP	P	05 38 16.3	+1.7	
PAL	**Palisades** baz=215	31.39	27	P	P	05 38 14.9	+0.5	
BINY	**Binghamton** comp=N,12nm,0.8s	31.53	23	eP	P	05 38 17.4	+1.8	
BINY	**Binghamton** baz=211	31.53	23	P	P	05 38 14.8	-0.8	

LRMC	**Laurel Mtn Rad** baz=127	31.54	318	P	P	05 38 16.9	+1.1	
TPNV	**Topopah Spring** comp=N,6.9nm,1.0s	31.55	321	eP	P	05 38 18.5	+2.5	
TPNV	**Topopah Spring** baz=131	31.55	321	P	P	05 38 17.3	+1.3	
JLU	**Jordanelle** comp=N,7.4nm,1.1s	31.59	331	eP	P	05 38 17.6	+1.1	
FURC	**Furnace Creek,** baz=129	31.62	320	P	P	05 38 17.9	+1.6	
MPMC	**Manual Prospec** baz=128	31.76	319	P	P	05 38 18.9	+1.0	
CTU	**Camp Tracy** comp=N,12nm,1.0s	31.81	331	eP	P	05 38 19.6	+1.4	
RSSD	**Black Hills** comp=N,4.4nm,0.8s	31.88	344	eP	P	05 38 19.4	+0.5	
DUG	**Dugway, Tooele** comp=N,6.3nm,1.1s	31.94	329	eP	P	05 38 22.0	+2.6	
DUG	**Dugway, Tooele** baz=140	31.94	329	P	P	05 38 21.6	+2.2	
DAC	**Darwin (Calif)** comp=N,5.5nm,1.1s	31.96	319	eP	P	05 38 21.9	+2.2	
TCUT	**Toone Canyon** comp=N,37nm,1.0s	31.98	332	eP	P	05 38 22.2	+2.3	
R11A	**Troy Canyon, C** comp=N,4.5nm,1.1s	32.09	324	eP	P	05 38 22.9	+2.2	
R11A	**Troy Canyon, C** baz=133	32.09	324	P	P	05 38 21.9	+1.1	
ISA	**Isabella, Lake**	32.17	317	epP	pP	05 38 28.8	-5.5	
ISA	**Isabella, Lake** baz=126	32.17	317	P	P	05 38 24.1	+2.7	
GRAC	**Grapevine Rang** baz=129	32.27	320	P	P	05 38 24.5	+2.4	
CWC	**Cottonwood Cre** baz=128	32.37	319	P	P	05 38 23.8	+0.6	
HWUT	**Hardware Ranch** comp=N,10nm,1.0s	32.44	332	eP	P	05 38 25.7	+1.9	
HWUT				ePcP	PcP	05 41 11.5	+1.3	
PD31	**Pinedale Array**	32.54	336	eP	P	05 38 25.8	+1.1	
PD31				ePcP	PcP	05 41 10.7	+0.3	
PDAR	**Pinedale Array** comp=N,1.1nm,0.8s,baz=138,slow=9.0,SNR=9.4	32.54	336	P	P	05 38 25.8	+1.1	
PDAR	comp=N,0.7nm,0.6s,baz=139,slow=4.3,SNR=3.9			PcP	PcP	05 41 10.7	+0.3	
PDAR	**Pinedale Array**	32.54	336	eP	P	05 38 26.4	+1.7	
PDAR				PcP	PcP	05 41 10.7	+0.3	
BGU	**Big Grassy Mou** comp=N,8.8nm,0.9s	32.60	330	eP	P	05 38 27.6	+2.4	
SPUT	**South Promonto** comp=N,19nm,1.2s	32.62	331	eP	P	05 38 27.5	+2.2	
VES	**Vestal, Richgr** baz=125	32.67	317	P	P	05 38 28.5	+2.8	
HVU	**Hansel Valley** comp=N,16nm,1.0s	33.14	331	eP	P	05 38 32.2	+2.4	
AHID	**Auburn Hatcher** comp=N,12nm,0.9s	33.17	334	eP	P	05 38 31.5	+1.3	
REDW	**Red Top Meadow** comp=N,27nm,1.0s	33.56	335	eP	P	05 38 35.1	+1.5	
SNOW	**Snow King Moun** comp=N,22nm,0.8s	33.60	335	eP	P	05 38 35.6	+1.6	
HRV	**Adam Dziewonsk** baz=218	33.65	28	P	P	05 38 33.3	-0.7	
NV11	**Mina Array Sit** comp=N,1.0nm,1.0s	33.66	322	eP	P	05 38 36.9	+2.5	
LOHW	**Long Hollow** comp=N,9.7nm,1.1s	33.67	335	eP	P	05 38 35.5	+1.0	
OMMB	**Old Mammoth Mi** comp=N,4.3nm,1.2s	33.67	320	eP	P	05 38 36.5	+1.8	
OMMB				epP	pP	05 38 47.2	-0.6	
TPAW	**Teton Pass** comp=N,16nm,1.1s	33.71	335	eP	P	05 38 36.3	+1.4	
MDPB	**Devils Postpil** comp=N,10.0nm,1.2s	33.73	320	eP	P	05 38 37.1	+1.9	
NV01	**Mina Array Sit**	33.75	321	eP	P	05 38 37.4	+2.1	
NV01				ePcP	PcP	05 41 15.9	+2.0	
NVAR	**Mina Array Bea** comp=N,6.9nm,0.8s,baz=135,slow=8.6,SNR=49	33.75	321	P	P	05 38 37.2	+2.0	
NVAR				PcP	PcP	05 41 15.5	+1.6	
NVAR	comp=N,2.4nm,0.8s,baz=133,slow=4.0,SNR=4.1 comp=N,1µm,18.6s,baz=96,slow=39			LR	LR	05 54 09.7		
MOOW	**Moose Ponds** comp=N,6.3nm,0.9s	33.84	335	eP	P	05 38 37.1	+1.1	
FXWY	**Fox Creek** comp=N,6.3nm,1.1s	33.86	335	eP	P	05 38 37.7	+1.5	
KVN	**Kaiserville** comp=N,11nm,1.1s	34.02	322	eP	P	05 38 39.3	+1.7	
IMW	**Indian Meadow** comp=N,5.7nm,0.8s	34.04	335	eP	P	05 38 39.2	+1.4	
LONY	**Lake Ozonia** baz=211	34.13	23	P	P	05 38 36.5	-1.8	
BMN	**Battle Mountai** comp=N,5.8nm,0.8s	34.44	325	eP	P	05 38 43.4	+2.2	
WAKR	**Walker** comp=N,5.6nm,1.0s	34.49	320	eP	P	05 38 43.5	+1.8	
MDND	**Maddock** baz=167	34.49	351	P	P	05 38 42.0	+0.6	
AGMN	**Agassiz Nation** baz=173	34.51	356	P	P	05 38 41.6	+0.1	
YERR	**Yerington** comp=N,9.7nm,1.1s	34.66	321	eP	P	05 38 45.2	+2.0	
YMR	**Madison River** comp=N,6.9nm,0.9s	34.69	336	eP	P	05 38 44.7	+1.3	
YHH	**Holmes Hill** comp=N,2.4nm,0.8s	34.74	336	eP	P	05 38 45.3	+1.4	
CMB	**Columbia Colle** comp=N,3.2nm,1.0s	34.80	319	eP	P	05 38 45.6	+1.4	
LAO	**LASA Array** comp=N,9.5nm,0.9s	34.84	343	eP	P	05 38 45.6	+1.1	
LAO	**LASA Array** baz=156	34.84	343	P	P	05 38 45.3	+0.9	
E54A	**Lac Daplat, Po** baz=206	34.85	18	P	P	05 38 46.3	+1.9	
PNTR	**Pine Nut** comp=N,12nm,0.9s	34.95	321	eP	P	05 38 47.7	+2.0	
PTGA	**Pitinga** comp=N,429nm,18.1s,baz=281,slow=36	34.97	112	LR	LR	05 52 58.9		
PTGA	**Pitinga** comp=N,14nm,0.8s	34.97	112	eP	P	05 38 46.3	+0.4	
VCNR	**Virginia City** comp=N,3.3nm,0.9s	35.11	321	eP	P	05 38 48.7	+1.7	
PAHR	**Pah Rah Range** comp=N,7.6nm,1.1s	35.21	322	eP	P	05 38 49.5	+1.7	
HLID	**Hailey** comp=N,14nm,0.9s	35.28	331	eP	P	05 38 50.5	+2.1	
HLID	**Hailey** baz=140,SNR=25	35.28	331	P	P	05 38 50.0	+1.6	
MCMT	**McKenzie Canyo**	35.59	334	eP	P	05 38 53.6	+2.5	
DLMT	**Dillon** comp=N,17nm,1.1s	35.92	335	eP	P	05 38 56.1	+2.3	
ORV	**Oroville** comp=N,3.7nm,0.9s	36.40	320	eP	P	05 39 00.2	+2.3	
WVOR	**Wild Horse Val** comp=N,11nm,1.1s	36.58	326	eP	P	05 39 01.4	+1.9	
EGMT	**Eagleton** baz=151	37.12	340	P	P	05 39 04.0	+0.1	
J08A	**Circle Bar Ran** comp=N,22nm,0.7s	37.14	328	eP	P	05 39 05.8	+1.6	
MOD	**Modoc Plateau** comp=N,10.0nm,1.1s	37.15	324	eP	P	05 39 06.0	+1.7	
BMO	**Blue Mountains** comp=N,6.1nm,1.1s	37.62	330	eP	P	05 39 09.7	+1.4	
MSO	**Missoula** comp=N,12nm,1.0s	37.65	335	eP	P	05 39 10.0	+1.5	
MSO	**Missoula** baz=144,SNR=8.3	37.65	335	P	P	05 39 09.6	+1.0	
M04C	**Macdoel** baz=128	37.96	323	P	P	05 39 12.7	+1.5	
LPAZ	**La Paz** comp=N,1.6nm,0.6s,baz=333,slow=6.6,SNR=8.2	38.16	141	P	P	05 39 13.2	-0.5	
LPAZ	**La Paz** comp=N,3.6nm,0.8s	38.16	141	eP	P	05 39 13.1	-0.5	
F10A	**Beach Ranch, E** comp=N,25nm,0.8s	38.42	332	eP	P	05 39 15.9	+1.0	
K04D	**Chiloquin, OR** baz=130	38.44	324	P	P	05 39 15.4	+0.1	
L04D	**Klamath Falls** baz=128	38.50	323	P	P	05 39 17.5	+1.7	
JTMT	**Jette** comp=N,8.9nm,1.0s	38.53	336	eP	P	05 39 17.8	+1.9	
J05D	**Fort Rock, OR** baz=131	38.57	325	P	P	05 39 16.5	+0.1	
J04D	**Umpqua Nationa** baz=130	39.03	325	P	P	05 39 21.0	+0.8	
E09A	**Wood Farm, Sta** comp=N,12nm,1.1s	39.24	331	eP	P	05 39 22.6	+0.9	
I05D	**Terrebonne, OR** baz=132	39.32	326	P	P	05 39 23.0	+0.5	

LMN	**Caledonia Moun** comp=N,35nm,1.1s	**39.36**	**30**	*eP*	**P**	**05 39 21.9**	**-0.9**
MNMC	**Minye Minye**	**39.55**	**145**	*eP*	**P**	**05 39 25.1**	**+0.3**
I04A	**Tendick Farm,** baz=130	**39.55**	**325**	P	**P**	**05 39 24.7**	**+0.2**
G05D	**Wamic, OR** baz=132	**39.91**	**327**	P	**P**	**05 39 27.5**	**+0.1**
H04A	**Detroit Lake** comp=N,23nm,1.0s	**40.00**	**326**	*eP*	**P**	**05 39 28.8**	**+0.6**
PB11	**IPOC Station P** comp=N,13nm,0.9s	**40.02**	**146**	*eP*	**P**	**05 39 28.9**	**+0.2**
NEW	**Newport** comp=N,7.5nm,1.1s	**40.11**	**334**	*eP*	**P**	**05 39 29.9**	**+0.9**
NEW	**Newport** baz=140	**40.11**	**334**	P	**P**	**05 39 29.2**	**+0.2**
C09A	**Chrisman Ranch** comp=N,13nm,0.9s	**40.26**	**333**	*eP*	**P**	**05 39 31.1**	**+0.9**
F05D	**White Salmon** baz=133	**40.42**	**328**	P	**P**	**05 39 32.8**	**+1.3**
G03D	**McMinnville, O** baz=130	**40.93**	**326**	P	**P**	**05 39 36.7**	**+1.0**
LTY	**Liberty** comp=N,6.3nm,0.9s	**40.98**	**330**	*eP*	**P**	**05 39 37.4**	**+1.2**
B08A	**Colville Reser** comp=N,6.4nm,1.1s	**41.15**	**332**	*eP*	**P**	**05 39 39.1**	**+1.5**
LON	**Longmire** comp=N,6.8nm,0.9s	**41.19**	**329**	*eP*	**P**	**05 39 39.1**	**+1.2**
E04D	**Cinebar** baz=132	**41.44**	**328**	P	**P**	**05 39 40.3**	**+0.4**
B05A	**Bryant** baz=134	**42.37**	**330**	P	**P**	**05 39 47.6**	**+0.2**
LVC	**Limon Verde** comp=N,6.4nm,0.9s,baz=311,slow=7.3,SNR=5.4	**42.75**	**148**	P	**P**	**05 39 51.1**	**-0.1**
LVC	**Limon Verde**	**42.75**	**148**	*eP*	**P**	**05 39 51.1**	**-0.1**
LVC				*eP*	**P**	**05 39 51.2**	**0.0**
A04D	**Lummi Island** baz=134	**42.98**	**330**	P	**P**	**05 39 52.6**	**+0.2**
PGC	**Sidney**	**43.29**	**330**	*eP*	**P**	**05 39 56.6**	**+1.8**
SCHQ	**Schefferville** comp=N,6.4nm,0.9s,baz=252,slow=8.5,SNR=5.0	**45.42**	**20**	P	**P**	**05 40 10.0**	**-1.9**
SCHQ	comp=N,726nm,20.9s,baz=204,slow=37			LR	LR	06 00 03.7	
LCO	**Las Campanas** comp=N,13nm,0.9s	**47.34**	**154**	*eP*	**P**	**05 40 27.4**	**-0.2**
YKA	**Yellowknife Ar** comp=N,6.5nm,0.7s,baz=151,slow=7.4,SNR=19	**51.17**	**347**	P	**P**	**05 40 55.8**	**-0.2**
YKA	comp=N,2.4nm,0.8s,baz=147,slow=4.0,SNR=3.3			PcP	**PcP**	**05 42 11.5**	**+0.7**
YKB5	**Yellowknife Ar**	**51.17**	**347**	*eP*	**P**	**05 40 57.1**	**+1.1**
YKW3	**Yellowknife Ar** comp=N,18nm,1.1s	**51.24**	**347**	*eP*	**P**	**05 40 57.3**	**+0.8**
CPUP	**Villa Florida** comp=N,2.6nm,0.8s,baz=337,slow=9.9,SNR=6.2	**52.31**	**140**	P	**P**	**05 41 03.3**	**-1.7**
CPUP	**Villa Florida** comp=N,5.8nm,1.1s	**52.31**	**140**	*eP*	**P**	**05 41 03.3**	**-1.7**
BDFB	**Brasilia** comp=N,6.9nm,1.0s,baz=297,slow=6.9,SNR=6.8	**52.51**	**122**	P	**P**	**05 41 04.9**	**-2.0**
BDFB	**Brasilia**	**52.51**	**122**	*eP*	**P**	**05 41 04.9**	**-2.0**
BDFB				*eP*	**P**	**05 41 06.1**	**-0.7**
DLBC	**Dease Lake** comp=N,4.6nm,0.5s,baz=161,slow=7.1,SNR=6.6	**52.77**	**336**	P	**P**	**05 41 09.8**	**+1.7**
DLBC	**Dease Lake** comp=N,16nm,0.9s	**52.77**	**336**	*eP*	**P**	**05 41 10.5**	**+2.4**
PLCA	**Paso Flores** comp=N,3.7nm,1.0s,baz=346,slow=10.0,SNR=3.9	**57.84**	**161**	P	**P**	**05 41 43.7**	**-1.0**
PLCA	**Paso Flores** comp=N,5.4nm,1.1s	**57.84**	**161**	*eP*	**P**	**05 41 43.7**	**-1.0**
DAWY	**Dawson** comp=N,4.3nm,1.1s	**59.80**	**338**	*eP*	**P**	**05 42 00.3**	**+2.2**
EPYK	**Eagle Plains** baz=128	**60.26**	**341**	P	**P**	**05 42 01.7**	**+0.5**
BMRM	**Bremner River** comp=N,8.6nm,0.8s	**60.28**	**334**	*eP*	**P**	**05 42 03.6**	**+2.1**
EGAK	**Eagle** comp=N,12nm,1.1s	**60.84**	**338**	*eP*	**P**	**05 42 05.8**	**+0.8**
DIV	**Divide** comp=N,17nm,1.0s	**60.86**	**333**	*eP*	**P**	**05 42 06.0**	**+0.6**
MHA	**Mahukona**	**61.03**	**286**	*eP*	**P**	**05 42 08.2**	**+1.1**
KLU	**Klutina** comp=N,17nm,1.0s	**61.09**	**334**	*eP*	**P**	**05 42 08.5**	**+1.5**
HARP	**HAARP** comp=N,37nm,1.1s	**61.19**	**335**	*eP*	**P**	**05 42 08.9**	**+1.4**
SCRK	**Sand Creek** comp=N,5.2nm,1.0s	**61.47**	**337**	*eP*	**P**	**05 42 11.8**	**+2.3**
PAX	**Paxson** comp=N,15nm,1.2s	**61.58**	**335**	*eP*	**P**	**05 42 11.5**	**+1.3**
RIDG	**Independ'e Rid** comp=N,18nm,1.2s	**61.69**	**336**	*eP*	**P**	**05 42 12.9**	**+2.0**
SCM	**Sheep Creek Mo** comp=N,14nm,1.0s	**61.84**	**334**	*eP*	**P**	**05 42 13.7**	**+1.7**
PMR	**Palmer** comp=N,11nm,1.0s	**62.53**	**333**	*eP*	**P**	**05 42 17.7**	**+1.3**
KDAK	**Kodiak Island** comp=N,6.0nm,0.7s,baz=83,slow=9.7,SNR=5.7	**62.81**	**328**	P	**P**	**05 42 19.8**	**+1.3**
HDA	**Harding Lake** comp=N,14nm,1.0s	**62.82**	**336**	*eP*	**P**	**05 42 19.3**	**+0.9**
HDA	**Harding Lake** baz=117	**62.82**	**336**	P	**P**	**05 42 18.8**	**+0.4**
IL1	**Eielson Array**	**62.96**	**337**	*eP*	**P**	**05 42 19.7**	**+0.4**
ILAR	**Eielson Array** comp=N,8.8nm,1.1s,baz=132,slow=4.4,SNR=22	**62.96**	**337**	P	**P**	**05 42 19.6**	**+0.3**
ILB	**Eielson Array**	**62.96**	**337**	*eP*	**P**	**05 42 20.4**	**+1.0**
RND	**Reindeer** comp=N,24nm,1.0s	**63.15**	**335**	*eP*	**P**	**05 42 22.3**	**+1.6**
CCB	**Clear Creek Bu** comp=N,9.3nm,1.2s	**63.26**	**337**	*eP*	**P**	**05 42 21.7**	**+0.4**
MCK	**McKinley** comp=N,18nm,1.2s	**63.31**	**335**	*eP*	**P**	**05 42 22.9**	**+1.2**
POKR	**Poker Plat Res** baz=117	**63.33**	**337**	P	**P**	**05 42 22.4**	**+0.6**
MDM	**Murphy Dome** comp=N,8.6nm,1.1s	**63.56**	**337**	*eP*	**P**	**05 42 24.4**	**+1.1**
BPAW	**Bear Paw Mtn.** comp=N,13nm,1.0s	**64.29**	**335**	*eP*	**P**	**05 42 29.0**	**+0.9**
CAST	**Castle Rocks** comp=N,15nm,1.1s	**64.49**	**334**	*eP*	**P**	**05 42 30.0**	**+0.5**
MLY	**Manley** comp=N,24nm,1.1s	**64.56**	**336**	*eP*	**P**	**05 42 31.1**	**+1.1**
COLD	**Coldfoot** comp=N,8.0nm,1.0s	**65.26**	**339**	*eP*	**P**	**05 42 36.2**	**+1.8**
SVW2	**Sparrevohn**	**65.28**	**331**	*eP*	**P**	**05 42 35.3**	**+0.7**
TOLK	**Toolik Lake Re** baz=116	**65.65**	**340**	P	**P**	**05 42 38.0**	**+1.1**
IM3	**Indian Mountai**	**66.08**	**337**	*eP*	**P**	**05 42 39.8**	**+0.2**
ESDC	**Sonseca Array** comp=N,1.6nm,0.9s,baz=299,slow=6.3,SNR=4.5	**79.90**	**52**	P	**P**	**05 43 59.9**	**-2.1**
ES19	**SONSECA Array**	**79.95**	**52**	*eP*	**P**	**05 44 02.0**	**-0.3**
NB2	**NORSAR Subarra** comp=Z,1.4nm,0.8s,baz=290,slow=5.3	**84.35**	**28**	P	**P**	**05 44 24.5**	**-0.3**
NB200	**NORSAR Array S**	**84.35**	**28**	*eP*	**P**	**05 44 24.6**	**-0.3**
NOA	**NORSAR Array B** comp=Z,1.6nm,0.8s,baz=289,slow=5.3,SNR=3.3	**84.35**	**28**	P	**P**	**05 44 24.6**	**-0.3**
GERES	**GERESS Array B** comp=Z,0.2nm,0.4s,baz=289,slow=3.0,SNR=2.5	**89.80**	**39**	P	**P**	**05 44 49.0**	**-2.6**
TIXI	**Tiksi** comp=Z,11nm,0.9s	**90.41**	**348**	*eP*	**P**	**05 44 54.0**	**+0.2**
TOA1	**Torodi Ar. Sit**	**90.51**	**76**	*eP*	**P**	**05 44 54.2**	**-1.2**
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.9s,baz=304,slow=6.4,SNR=2.9	**90.52**	**76**	P	**P**	**05 44 54.2**	**-1.2**
SONA0	**Songino Array**	**116.44**	**346**	*e*PKPdf	**PKPdf**	**05 50 36.1**	**-0.6**
SONM	**Songino Array** comp=Z,0.6nm,0.8s,baz=53,slow=0.7,SNR=2.3	**116.44**	**346**	PKP	**PKPdf**	**05 50 36.1**	**-0.6**
BOSA	**Boshof** comp=Z,3.1nm,0.7s,baz=276,slow=3.8,SNR=6.2	**120.37**	**115**	PKP	**PKPdf**	**05 50 45.1**	**+0.3**
KSH	**Kashi**	**125.78**	**11**	*e*PKP	**PKPdf**	**05 50 55.9**	**+1.0**
STKA	**Stephens Creek** comp=Z,1.9nm,0.7s,baz=56,slow=2.2,SNR=4.3	**127.88**	**240**	PKP	**PKPdf**	**05 50 58.1**	**-0.7**
LZH	**Lanzhou**	**128.12**	**344**	*e*PKP	**PKPdf**	**05 50 59.0**	**-0.5**
LZH				pPKP	pPKPdf	05 51 10.5	-4.3
LZH				sPKP		05 51 14.6	
LZH	comp=N,120nm,18.0s			LR	LR		
LZH	comp=E,120nm,18.2s			LR	LR		
LZH	comp=Z,150nm,20.1s			LR	LR		
XAN	**Xi'an**	**128.37**	**338**	PKP	**PKPdf**	**05 51 01.0**	**+1.1**
XAN				sPKP		05 51 14.6	
CD2	**Chengdu**	**132.98**	**341**	PKP	**PKPdf**	**05 51 08.0**	**-0.7**
WR1	**Warramunga Arr**	**135.25**	**256**	*e*PKPdf	**PKPdf**	**05 51 13.0**	**-0.1**
WRA	**Warramunga Arr** comp=Z,0.8nm,0.8s,baz=82,slow=1.0,SNR=8.6	**135.25**	**256**	PKP	**PKPdf**	**05 51 13.0**	**-0.1**
AS31	**Alice Springs**	**135.51**	**250**	*e*PKPdf	**PKPdf**	**05 51 12.4**	**-1.1**
ASAR	**Alice Springs** comp=Z,1.0nm,0.9s,baz=87,slow=2.1,SNR=7.1	**135.51**	**250**	PKP	**PKPdf**	**05 51 12.4**	**-1.1**
CHTO	**Chiang Mai**	**145.79**	**341**	*e*PKPdf	**PKPbc**	**05 51 32.5**	**-0.1**
CM31	**Chiang Mai Arr**	**146.12**	**341**	*e*PKPdf	**PKPdf**	**05 51 33.0**	**+0.2**
CMAR	**Chiang Mai Arr** comp=Z,9.7nm,0.8s,baz=342,slow=3.8,SNR=32	**146.12**	**341**	PKPbc	**PKPab**	**05 51 34.7**	**+0.4**
HYB	**Hyderabad**	**147.62**	**17**	*i* PKP	**PKPbc**	**05 51 38.0**	**0.0**

ISCJB ***13*** *05:48:24.0±0.5, 9.°34S±0.°05×74.°30W±0.°07, h150km, mb3.8/7, Error ellipse: s-maj=10.1km s-min=7.4km az=164.1*

IDC ***13*** *05:48:24.6±1.8, 9.°19S×74.°16W, h141km±22km, mb3.6/7, mb1 3.7/12, mb1mx3.6/32, mbtmp4.1/12, Error ellipse: s-maj=27.1km s-min=13.8km az=38.0*

ISC 13 05:48:24.6±0.6, 9.°33S±0.°07×74.°33W±0.°08, h150km, n27, σ2=03/31, mb3.8/7, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**3.61**	**223**	P	**Pn**	**05 49 21.2**	**+1.4**
	88nm,0.3s,baz=248,slow=16,SNR=65						
NNA				S	**Sn**	**05 49 59.7**	**-3.1**
	27nm,0.3s,baz=197,slow=19,SNR=2.6						
ATAH	**Atahualpa**	**4.58**	**298**	P	**Pn**	**05 49 33.9**	**+1.0**
	7.7nm,0.3s,baz=128,slow=1.9,SNR=77						
ATAH				S	**Sn**	**05 50 21.5**	**-4.4**
	7.3nm,0.3s,baz=107,slow=15,SNR=5.1						
LPAZ	**La Paz**	**9.18**	**139**	P	**Pn**	**05 50 35.4**	**+1.0**
	0.1nm,0.3s,baz=321,slow=13,SNR=4.3						
PRAC	**Prado**	**12.97**	**358**	*eP*	**P**	**05 51 28.0**	**-0.4**
GUYC	**Guyana, Colomb**	**14.50**	**356**	*eP*	**P**	**05 51 48.5**	**+2.7**
SIV	**San Ignacio**	**14.53**	**118**	P	**P**	**05 51 44.2**	**-1.5**
	0.7nm,0.3s,baz=314,slow=10,SNR=22						
RUSC	**La Rusia**	**15.18**	**5**	*eP*	**P**	**05 51 54.7**	**+1.3**
HELC	**Santa Helena**	**15.47**	**356**	*eP*	**P**	**05 52 02.1**	**+5.7**
PTBC	**PUERTO BERRIO,**	**15.77**	**360**	*eP*	**P**	**05 51 59.4**	**-0.1**
BARC	**Barichara**	**15.86**	**4**	*eP*	**P**	**05 52 01.7**	**+1.0**
BRRC	**Barranca, Sant**	**16.34**	**2**	*eP*	**P**	**05 52 05.1**	**-0.7**
GIRC	**Giron, Santand**	**16.34**	**4**	*eP*	**P**	**05 52 05.7**	**-0.3**
DBBC	**Dabeiba**	**16.35**	**353**	*eP*	**P**	**05 52 06.2**	**+0.3**
PAMC	**Pamplona, Colo**	**16.64**	**6**	*eP*	**P**	**05 52 11.5**	**+2.0**
PTGA	**Pitinga**	**16.66**	**60**	P	**P**	**05 52 07.8**	**-1.5**
	3.8nm,0.3s,baz=241,slow=12,SNR=27						
MOTC	**Monteria, Cord**	**18.04**	**356**	*eP*	**Pn**	**05 52 27.9**	**+1.9**
CODC	**Agust`›n Codaz**	**19.16**	**3**	*eP*	**P**	**05 52 34.1**	**-2.5**
URIC	**Uribia, Colomb**	**21.03**	**6**	*eP*	**P**	**05 52 53.8**	**-2.8**
CPUP	**Villa Florida**	**23.36**	**139**	P	**P**	**05 53 20.4**	**+0.8**
	0.6nm,0.4s,baz=338,slow=12,SNR=4.2						
BDFB	**Brasilia**	**26.43**	**106**	P	**P**	**05 53 48.2**	**+0.4**
	1.9nm,0.5s,baz=276,slow=7.6,SNR=4.7						
SJG	**San Juan**	**28.44**	**17**	P	**P**	**05 54 03.9**	**-1.5**
	8.4nm,0.8s,baz=156,slow=10.0,SNR=2.8						
TXAR	**Lajitas Array**	**47.72**	**325**	P	**P**	**05 56 48.2**	**+1.7**
	0.4nm,0.4s,baz=151,slow=9.1,SNR=16						
PDAR	**Pinedale Array**	**61.01**	**331**	P	**P**	**05 58 23.1**	**+0.6**
	0.3nm,0.6s,baz=121,slow=4.3,SNR=3.3						
DBIC	**Dimbokro**	**71.03**	**80**	P	**P**	**05 59 26.4**	**-0.4**
	3.0nm,0.4s,baz=237,slow=7.0,SNR=10						
TORD	**Torodi Ar. Bea**	**78.71**	**75**	P	**P**	**06 00 10.4**	**-0.6**
	1.8nm,1.0s,baz=234,slow=5.1,SNR=7.3						
TORD				pP	**pP**	**06 00 46.0**	**-2.1**
	0.7nm,0.7s,baz=274,slow=6.9,SNR=4.2						
ASAR	**Alice Springs**	**137.13**	**220**	PKP	**PKPdf**	**06 07 31.8**	**+1.0**
	0.4nm,0.6s,baz=108,slow=2.0,SNR=3.8						
WRA	**Warramunga Arr**	**139.46**	**224**	PKP	**PKPdf**	**06 07 36.1**	**+1.0**
	0.9nm,0.5s,baz=130,slow=2.0,SNR=16						
WRA				pPKP	**pPKPdf**	**06 08 16.0**	**+1.0**
	0.3nm,0.4s,baz=128,slow=1.8,SNR=2.4						

IDC ***13*** *06:11:27.8±1.7, 13.°88N×92.°23W, h0km, mb3.6/4, mb1 4.0/10, mb1mx3.8/39, mbtmp3.8/10, ML3.3/5, Error ellipse: s-maj=39.1km s-min=18.3km az=21.0*

ISCJB ***13*** *06:11:30.6±0.6, 13.°68N±0.°08×92.°25W±0.°06, h54km, mb3.7/4, Error ellipse: s-maj=11.9km s-min=7.5km az=30.8*

ISC 13 06:11:33.5±0.9, 13.°8N±0.°1×92.°25W±0.°07, h54km, n16, σ2=14/18, mb3.6/4, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**2.08**	**56**	Pn	**Pn**	**06 12 04.7**	**-1.6**
	28nm,0.3s,baz=252,slow=9.6,SNR=157						
APG				Sn	**Sn**	**06 12 31.2**	**+0.1**
	28nm,0.3s,baz=270,slow=12,SNR=9.9						
CMIG	**Matias Romero**	**4.11**	**322**	Pn	**Pn**	**06 12 32.6**	**-1.2**
	1.7nm,0.3s,baz=136,slow=10.0,SNR=17						
CMIG				Sn	**Sn**	**06 13 18.1**	**-2.4**
	5.1nm,0.3s,baz=102,slow=9.9,SNR=4.8						
JTS	**JuntasAbangare**	**7.96**	**116**	Pn	**Pn**	**06 13 24.1**	**-2.6**
	0.9nm,0.3s,baz=38,slow=20,SNR=7.6						
JTS				Sn	Sn	06 14 45.1	-10
	0.3nm,0.3s,baz=48,slow=19,SNR=2.1						
TXAR	**Lajitas Array**	**18.69**	**327**	P	**P**	**06 15 47.9**	**+0.4**
	0.0nm,0.3s,baz=146,slow=9.1,SNR=8.5						
POPC	**Popayan, Colom**	**19.05**	**126**	*eP*	**P**	**06 15 50.9**	**-0.9**
SOTA	**Rioblanco**	**19.35**	**126**	*eP*	**Pn**	**06 16 00.8**	**+4.0**
ROSC	**El Rosal**	**19.81**	**115**	P	**P**	**06 16 01.6**	**+1.4**
	0.3nm,0.3s,baz=350,slow=12,SNR=4.9						
LPIG	**La Paz**	**19.87**	**304**	P	**P**	**06 16 01.4**	**+1.1**
	4.0nm,0.3s,baz=135,slow=1.4,SNR=3.6						
CHIC	**Chingaza**	**20.43**	**115**	*eP*	**P**	**06 16 07.5**	**+0.6**
FLOC	**Florencia**	**20.45**	**125**	*eP*	**P**	**06 16 04.2**	**-2.5**
RUSC	**La Rusia**	**20.46**	**111**	*eP*	**P**	**06 16 05.0**	**-2.3**
SJAC	**San Juan de Ar**	**20.90**	**119**	*eP*	**P**	**06 16 08.2**	**-3.6**
ANMO	**Albuquerque**	**24.62**	**331**	P	**P**	**06 16 50.8**	**+1.8**
	0.9nm,0.8s,baz=142,slow=11,SNR=4.5						
NVAR	**Mina Array Bea**	**33.64**	**321**	P	**P**	**06 18 11.0**	**+1.7**
	0.8nm,0.7s,baz=134,slow=9.6,SNR=7.0						
INK	**Inuvik**	**60.52**	**344**	P	**P**	**06 21 37.3**	**-0.4**
	1.1nm,0.7s,baz=115,slow=3.1,SNR=4.8						
ILAR	**Eielson Array**	**62.88**	**337**	P	**P**	**06 21 54.5**	**+0.8**
	0.3nm,0.7s,baz=149,slow=3.9,SNR=4.4						

IDC ***13*** *06:11:49.7±1.1, 24.°18N×121.°35E, h0km, mb3.8/9, mb1 3.8/10, mb1mx3.7/41, mbtmp3.8/10, ML3.6/1, Error ellipse: s-maj=63.3km s-min=17.9km az=65.0*

ISCJB ***13*** *06:11:51.0±0.2, 24.°41N±0.°01×121.°50E±0.°01, h8km±2km, mb3.7/10, Error ellipse: s-maj=2.2km s-min=1.7km az=44.2*

JMA ***13*** *06:11:50.0±0.1, 24.°38N×121.°44E, h1km±2km, M3.6*

TAP ***13*** *06:11:50.1, 24.°39N×121.°49E, h6km, ML3.8, C*

BJI ***13*** *06:11:53.0, 24.°40N×121.°50E, h8km, ML3.4/5*

ISC 13 06:11:51.0±0.9, 24.°39N±0.°01×121.°49E±0.°01, h4km±7km, n116, σ0=98/152, mb3.9/10, 26C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNSB	**Datong**	**0.10**	**294**	⇓P	**Pg**	**06 11 52.9**	**-0.3**
	baz=291						
NNSB				S	**Sg**	**06 11 54.2**	**-0.5**
	baz=291						
NNS	**Nan Shan**	**0.12**	**297**	⇓*i*P	**Pg**	**06 11 53.1**	**-0.4**
	baz=295						
NNS				*i* S	**Sg**	**06 11 54.6**	**-0.5**
	baz=295						
NACB	**Ninganchiao**	**0.23**	**155**	⇑P	**Pg**	**06 11 56.0**	**+0.5**
	baz=156						
NACB				S	**Sg**	**06 11 59.3**	**+0.8**
	baz=156						
ENA	**Nanau**	**0.23**	**79**	⇑*i*P	**Pg**	**06 11 55.5**	**0.0**
	baz=80						
ENA				*e*S	**Sg**	**06 11 59.1**	**+0.4**
	baz=80						
NANB	**Nanao**	**0.24**	**80**	⇑*i*P	**Pg**	**06 11 55.5**	**-0.2**
	baz=80						
NANB				S	**Sg**	**06 11 58.7**	**-0.2**
	baz=80						
ENTT	**Nioudou**	**0.26**	**16**	⇑*i*P	**Pg**	**06 11 55.9**	**-0.3**
	baz=6.0						
ENTT				S	**Sg**	**06 11 59.3**	**-0.3**
	baz=6.0						
YHNB	**Yeheng**	**0.30**	**340**	⇑P	**Pg**	**06 11 56.8**	**-0.1**
	baz=339						
YHNB				S	**Sg**	**06 12 00.7**	**-0.2**
	baz=339						
NSK	**Sanguang**	**0.31**	**338**	⇑*i*P	**Pg**	**06 11 57.0**	**-0.1**
	baz=338						
NSK				*i* S	**Sg**	**06 12 01.0**	**-0.3**
	baz=338						
TWT	**Tachien**	**0.31**	**245**	⇑*i*P	**Pg**	**06 11 57.1**	**0.0**
	baz=234						
TWT				*e*S	**Sb**	**06 12 02.5**	**-2.4**
	baz=234						
WHF	**Hehuan Shan**	**0.31**	**220**	⇑*i*P	**Pg**	**06 11 57.1**	**-0.1**
	baz=220						
WHF				*e*S	**Sg**	**06 12 02.2**	**+0.8**
	baz=220						
TWD	**Chiawan**	**0.32**	**162**	P	**Pg**	**06 11 57.6**	**+0.4**
	baz=161						
TWD				S	**Sg**	**06 12 02.2**	**+0.8**
	baz=161						
TDCB	**Techi**	**0.33**	**246**	⇑P	**Pg**	**06 11 57.2**	**-0.2**
	baz=235						
TDCB				*e*S	**Sg**	**06 12 02.6**	**+0.9**
	baz=235						
TWE	**Neicheng**	**0.37**	**26**	⇑*i*P	**Pg**	**06 11 58.0**	**-0.2**
	baz=39						
NWLT	**Wulai**	**0.39**	**2**	*e*P	**Pg**	**06 11 58.5**	**-0.1**
	baz=349						
TWC	**Suao**	**0.40**	**56**	⇑*i*P	**Pg**	**06 11 58.3**	**-0.3**
	baz=45						
TWC				S	**Sg**	**06 12 03.5**	**-0.3**
	baz=45						
HWA	**Hwalien**	**0.42**	**165**	*e*P	**Pb**	**06 12 00.1**	**-0.9**
	baz=165						
CHGB	**Renai**	**0.43**	**222**	⇑P	**Pg**	**06 11 59.1**	**-0.3**
	baz=222						
CHGB				*e*S	**Sb**	**06 12 07.2**	**-1.1**
	baz=222						
ILA	**Ilan**	**0.45**	**32**	*e*P	**Pg**	**06 11 59.2**	**-0.4**
	baz=29						
LIOB	**Emei**	**0.50**	**301**	⇑P	**Pg**	**06 12 01.2**	**+0.6**
	baz=302						
LIOB				S	**Sg**	**06 12 08.0**	**+0.7**
	baz=302						
NSTT	**Nanjuang**	**0.51**	**299**	⇑*i*P	**Pg**	**06 12 01.2**	**+0.4**
	baz=300						
NSTT				S	**Sg**	**06 12 07.6**	**+0.2**
	baz=300						
NTC	**Toucheng**	**0.56**	**34**	*e*P	**Pg**	**06 12 01.5**	**-0.3**
	baz=39						
ESL	**Shilin**	**0.57**	**185**	⇑*i*P	**Pg**	**06 12 02.0**	**0.0**
	baz=174						
TATO	**Taipei**	**0.59**	**360**	*e*P	**Pg**	**06 12 02.7**	**+0.3**
	baz=358						
TWA	**Mucha**	**0.60**	**8**	*e*P	**Pg**	**06 12 02.5**	**0.0**
	baz=22						
EOS1	**EOS1**	**0.61**	**74**	*e*P	**Pg**	**06 12 02.7**	**0.0**
	baz=74						
EOS1				*e*S	**Sg**	**06 12 12.2**	**+1.7**
	baz=74						
EGS		**0.61**	**41**	⇑P	**Pg**	**06 12 02.5**	**-0.2**
	baz=40						
SBCB	**Hsinchu**	**0.61**	**312**	⇑P	**Pb**	**06 12 03.7**	**-0.5**
	baz=322						
HSN	**Hsinchu**	**0.63**	**311**	*e*P	**Pb**	**06 12 04.5**	**-0.1**
	baz=316						
NCUH	**Zhongli**	**0.64**	**335**	*e*P	**Pb**	**06 12 04.6**	**-0.2**
	baz=341						
NCU	**National Centr**	**0.64**	**335**	*e*P	**Pb**	**06 12 04.4**	**-0.5**
	baz=335						
NCU				*e*S	**Sb**	**06 12 14.4**	**+0.2**
	baz=335						
TAP1	**Taipei**	**0.65**	**3**	*e*P	**Pg**	**06 12 04.0**	**+0.5**
	baz=1.0						
TAP1				*e*S	**Sg**	**06 12 12.2**	**+0.2**
	baz=1.0						
NMLH	**Miaoli**	**0.65**	**284**	*e*P	**Pb**	**06 12 04.7**	**-0.3**
	baz=284						
NMLH				*e*S	**Sb**	**06 12 14.1**	**-0.4**
	baz=284						
TWQ1	**Liyutan**	**0.65**	**267**	⇑P	**Pb**	**06 12 04.4**	**-0.6**
	baz=268						
TWQ1				S	**Sb**	**06 12 12.8**	**-1.7**
	baz=268						
NSY	**Sanyi**	**0.66**	**273**	⇑P	**Pb**	**06 12 05.0**	**-0.2**
	baz=274						
EGFH	**Guangfu**	**0.71**	**184**	*e*P	**Pg**	**06 12 04.7**	**0.0**
	baz=177						
TWS1	**Kuangyinshan**	**0.71**	**355**	*e*P	**Pb**	**06 12 05.7**	**-0.4**
	baz=353						
PTSB	**Yuanli**	**0.72**	**275**	P	**Pb**	**06 12 06.2**	**+0.1**
	baz=277						
NWF	**Wu-fen Shan**	**0.73**	**21**	*e*P	**Pg**	**06 12 05.0**	**-0.1**
	baz=18						
WFSB	**Wu-fen Shan**	**0.73**	**21**	*e*P	**Pg**	**06 12 04.9**	**-0.2**
	baz=18						
SMLT	**Sun Moon Lake**	**0.73**	**227**	⇑*i*P	**Pg**	**06 12 05.0**	**-0.1**
	baz=240						
TYC	**Yuchr**	**0.75**	**230**	⇑*i*P	**Pg**	**06 12 05.1**	**-0.3**
	baz=243						
YM01	**YM01**	**0.76**	**6**	⇑*e*P	**Pb**	**06 12 07.0**	**+0.1**
	baz=4.0						
YM01				*e*S	**Sg**	**06 12 15.9**	**+0.3**
	baz=4.0						
YM04	**YM04**	**0.77**	**3**	*e*P	**Pg**	**06 12 06.3**	**+0.6**
	baz=1.0						
TWB1	**Santiao Chiao**	**0.77**	**36**	*e*P	**Pg**	**06 12 05.1**	**-0.7**
	baz=35						
TWB1				*e*S	**Sg**	**06 12 14.7**	**-1.1**
	baz=35						
SSLB	**Suanglung**	**0.77**	**219**	⇑P	**Pg**	**06 12 04.9**	**-0.9**
	baz=221						
YM10	**YM10**	**0.77**	**5**	*e*P	**Pg**	**06 12 06.0**	**+0.2**
	baz=2.0						
NTST	**Danshui**	**0.78**	**357**	*e*P	**Pb**	**06 12 07.0**	**-0.1**
	baz=344						
TCU	**Taichung

YOJ	**Yonaguni jima**	**1.39**	**87**	P		**Pn**	**06 12 16.8**	**-0.4**
YOJ				*e*S		**Sb**	**06 12 32.5**	**-3.1**
CHN1	**Nanshi**	**1.48**	**217**	⇑P		**Pg**	**06 12 19.3**	**-0.2**
	baz=217							
CHN1				*e*S		**Sg**	**06 12 40.9**	**+2.1**
	baz=217							
SGST	**Jiashian**	**1.54**	**213**	*e*P		**Pg**	**06 12 20.4**	**-0.2**
	baz=203							
CHN8	**Yiju**	**1.56**	**229**	*e*P		**Pb**	**06 12 20.0**	**-0.4**
	baz=230							
TWG	**Pinlang**	**1.60**	**194**	*e*P		**Pb**	**06 12 20.9**	**-0.3**
	baz=177							
TWGBT	**Beinan**	**1.60**	**194**	*e*P		**Pn**	**06 12 20.0**	**-0.2**
	baz=177							
SSD	**Sandimen**	**1.81**	**206**	*e*P		**Pb**	**06 12 24.4**	**-0.3**
	baz=207							
ECL	**Taimali**	**1.85**	**196**	*e*P		**Pb**	**06 12 24.7**	**-0.6**
	baz=181							
MASBT	**Mashibuluo**	**1.93**	**204**	*e*P		**Pg**	**06 12 27.3**	**-0.8**
	baz=205							
PNG	**Penghu**	**1.95**	**246**	*e*P		**Pb**	**06 12 26.1**	**-0.9**
	baz=246							
VWUC	**VWUC**	**1.95**	**288**	*e*P		**Pn**	**06 12 23.7**	**-1.2**
	baz=289							
PHUB	**P'eng-hu**	**1.96**	**244**	*e*P		**Pn**	**06 12 24.2**	**-0.7**
	baz=246							
WDGT	**Dungji**	**2.02**	**237**	*e*P		**Pb**	**06 12 27.0**	**-1.2**
	baz=237							
IRIF	**Iriomote-Funau**	**2.04**	**91**	P		**Pn**	**06 12 26.1**	**-0.1**
IRIF				*e*S		**Sn**	**06 12 50.8**	**-1.4**
EAST	**Anshuo**	**2.08**	**197⇓**	*e*P		**Pb**	**06 12 28.2**	**-1.1**
	baz=181							
HATJ	**Hateruma jima**	**2.14**	**98**	P		**Pb**	**06 12 29.3**	**-1.0**
SCZT	**Fangliau**	**2.16**	**202**	*e*P		**Pb**	**06 12 29.7**	**-0.9**
	baz=221							
VCHM	**Qimei**	**2.22**	**239**	*e*P		**Pb**	**06 12 30.0**	**-1.7**
	baz=238							
MATB	**Ma-tsu**	**2.25**	**322**	*e*P		**Pn**	**06 12 28.2**	**-0.8**
	baz=319							
PTMZ	**Houxiangcun**	**2.25**	**287**	*e*P		**Pn**	**06 12 27.8**	**-1.3**
	baz=286							
JKRS	**Kuro-shima**	**2.30**	**93**	P		**Pn**	**06 12 30.3**	**+0.5**
JKRS				*e*S		**Sn**	**06 12 58.3**	**-0.3**
JIJ	**Ishigaki jima**	**2.42**	**90**	P		**Pn**	**06 12 31.4**	**0.0**
JIJ				*e*S		**Sn**	**06 12 58.6**	**-2.9**
JISG	**Ishigakijimahi**	**2.58**	**85**	P		**Pn**	**06 12 33.5**	**0.0**
JISG				*e*S		**Sn**	**06 13 04.1**	**-1.3**
LYJJ	**Jianjiangzhen**	**2.66**	**324**	*e*P		**Pn**	**06 12 33.8**	**-0.9**
	baz=323							
QZH	**Quanzhou**	**2.69**	**283**	*e*Pn		**Pn**	**06 12 34.9**	**-0.2**
QZH				Sn		**Sn**	**06 13 04.9**	**-3.3**
QZH				smax		smax		
	comp=N,98nm,1.0s							
QZH				smax		smax		
	comp=E,76nm,0.8s							
XPSS	**Dashiqiu**	**2.79**	**335**	*e*P		**Pn**	**06 12 34.8**	**-1.7**
	baz=334							
MHZQ	**Yeshan**	**2.81**	**308**	*e*P		**Pn**	**06 12 36.3**	**-0.3**
	baz=306							
JTJ	**Tarama**	**2.94**	**84**	P		**Pn**	**06 12 39.3**	**+0.8**
JTJ				*e*S		**Sn**	**06 13 14.0**	**-0.2**
AXDP	**Jialang**	**3.24**	**280**	*e*P		**Pn**	**06 12 42.6**	**0.0**
	baz=279							
KSRS	**Korea Array**	**14.14**	**21**	Pn		**Pn**	**06 15 15.1**	**+3.0**
	0.3nm,0.3s,baz=208,slow=14,SNR=3.5							
GTA	**Gaotai**	**23.64**	**314**	*e*P		**P**	**06 17 09.3**	**+5.8**
GTA				pP		sP	06 17 14.9	+10
GTA				sP		pP	06 17 17.9	+13
GTA				pmax		pmax		
	comp=Z,4.0nm,0.8s							
SONM	**Songino Array**	**26.29**	**337**	P		**P**	**06 17 28.3**	**+0.6**
	comp=Z,2.9nm,0.9s,baz=161,slow=11,SNR=10							
MKAR	**Makanchi Array**	**38.39**	**316**	P		**P**	**06 19 14.2**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=108,slow=7.9,SNR=6.1							
ZALV	**Zalesovo Beam**	**40.23**	**327**	P		**P**	**06 19 28.4**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=126,slow=7.7,SNR=4.1							
KURBB	**Kurchatov Arra**	**42.13**	**320**	P		**P**	**06 19 43.0**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=98,slow=6.9,SNR=2.2							
WRA	**Warramunga Arr**	**45.80**	**163**	P		**P**	**06 20 12.3**	**-1.8**
	comp=Z,0.4nm,0.6s,baz=344,slow=8.7,SNR=6.5							
BVAR	**Borovoye Array**	**47.70**	**321**	P		**P**	**06 20 28.4**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=105,slow=9.3,SNR=3.7							
ASAR	**Alice Springs**	**49.26**	**165**	P		**P**	**06 20 38.7**	**-2.3**
	comp=Z,0.3nm,0.8s,baz=340,slow=8.1,SNR=2.9							
AKASG	**Malin Array Be**	**72.91**	**318**	P		**P**	**06 23 20.6**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=51,slow=8.2,SNR=3.1							
BRTR	**Keskin Array B**	**73.28**	**306**	P		**P**	**06 23 24.4**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=141,slow=6.2,SNR=4.3							

IDC ***13*** *06:21:30.7±0.5,29°.89N×42°.81W,h0km,mb4.4/35, mb1 4.5/35,mb1mx4.4/59,mbtmp4.4/35,MS4.5/25, Ms1 4.5/25,ms1mx4.3/42,Error ellipse: s-maj=14.3km s-min=11.9km az=179.0*

ISCJB ***13*** *06:21:31.7±0.2,29°.88N±0°.04×42°.84W±0°.02,h18km, mb4.7/157,MS4.6/31,Error ellipse: s-maj=5.6km s-min=2.9km az=177.3*

NEIC ***13*** *06:21:32.2±0.1,29°.83N×42°.78W,h10km,mb4.8/117, Error ellipse: s-maj=4.2km s-min=2.3km az=180.0*

GCMT ***13*** *06:21:35.2±0.3,29°.86N±0°.02×42°.82W±0°.01,h12km, MW5.2/102,Moment Tensor Solution. s39,c45; s102,c161; Duration: 1ᵗ0 Moment tensor: Scale 10¹⁷ Nm; Mrr=0.78±.02; Mθθ=0.11±.02; Mφφ=0.66±.02; Mrθ=-0.38±.08; Mθφ=0.19±.02; Mφr=-0.27±.05; Best double couple: M=0.87400×10¹⁷ NP1:φs=34.00000°,δ=60.00000°, λ=-74.00000°. NP2:φs=184.00000°,δ=34.00000°, λ=-116.00000°. Principal axes: T 0.8120, Plg=14.0000°, Azm=112.0000°; N 0.1230, Plg=14.0000°, Azm=206.0000°; P -0.9350, Plg=70.0000°, Azm=339.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 06:21:33.4±0.3,29°.88N±0°.07×42.77W±0°.06,h18km,n422, σ0ᵗ99/401,mb4.8/163,MS4.5/32,6C-5D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**24.30**	**246**	LR	LR	06 34 32.6	
	comp=Z,634nm,21.2s,baz=70,slow=32						
PMAFR	**Mafra**	**28.94**	**63**	*e*LR	LR	06 34 55.8	
PFVI	**Vila Bisbo**	**29.10**	**67**	*e*LR	LR	06 35 07.5	
	2μm,20.0s						
MORF	**Marmelete**	**29.26**	**66**	*e*LR	LR	06 34 48.4	
	2μm,20.0s						
PNCL	**Nicolau / Gran**	**29.43**	**65**	*e*LR	LR	06 35 07.7	
	2μm,20.0s						
PCAS	**Casmilo, Conde**	**29.71**	**61**	*e*LR	LR	06 35 24.8	
	1μm,20.0s						
PBDV	**Barranco-do-Ve**	**29.83**	**66**	*e*LR	LR	06 35 25.1	
	2μm,20.0s						
PVAQ	**Vaqueiros**	**30.01**	**66**	*e*LR	LR	06 35 18.7	
	2μm,20.0s						
R58B	**Mineral**	**30.09**	**295**	P	**P**	**06 27 40.1**	**-1.7**
	baz=95						
PESTR	**Estremoz**	**30.24**	**63**	*e*LR	LR	06 35 28.4	
	1μm,20.0s						
SCHQ	**Schefferville**	**30.33**	**332**	P	**P**	**06 27 43.5**	**-0.3**
	3.0nm,0.7s,baz=138,slow=15,SNR=2.8						
SCHQ				LR	LR	06 38 33.6	
	comp=Z,1μm,21.7s,baz=114,slow=34						
SCHQ	**Schefferville**	**30.33**	**332**	*e*P	**P**	**06 27 43.5**	**-0.3**
	71nm,1.6s						
SSPA	**Standing Stone**	**30.43**	**300**	*e*P	**P**	**06 27 45.0**	**+0.1**
	14nm,1.1s						
SSPA	**Standing Stone**	**30.43**	**300**	P	**P**	**06 27 43.6**	**-1.3**
	baz=100						
MTE	**Manteigas**	**30.48**	**60**	*e*LR	LR	06 35 53.2	
	1μm,20.0s						
O56A	**Blue Knob Stat**	**30.89**	**299**	P	**P**	**06 27 47.9**	**-1.0**
	baz=98						
MCWV	**Mont Chateau**	**31.79**	**298**	P	**P**	**06 27 56.4**	**-0.4**
	baz=96						
P53A	**Whipple**	**32.96**	**297**	P	**P**	**06 28 06.5**	**-0.6**
	baz=95						
ESDC	**Sonseca Array**	**33.12**	**62**	P	**P**	**06 28 08.3**	**-0.3**
	0.2nm,0.3s,baz=267,slow=8.3,SNR=6.8						
ESDC				LR	LR	06 38 33.1	
	comp=Z,782nm,20.3s,baz=160,slow=31						
ES19	**SONSECA Array**	**33.17**	**62**	*e*P	**P**	**06 28 08.4**	**-0.6**
959A	**Okeechobee**	**33.41**	**276**	P	**P**	**06 28 10.9**	**-0.2**
	baz=77						
Q52A	**Bidwell**	**33.60**	**296**	P	**P**	**06 28 12.4**	**-0.2**
	baz=94						
O51A	**Pataskala**	**33.95**	**298**	P	**P**	**06 28 15.5**	**-0.2**
	baz=95						
V53A	**Saluda**	**33.99**	**290**	P	**P**	**06 28 15.2**	**-1.0**
	baz=88						
556A	**Lake Butler**	**34.23**	**280**	P	**P**	**06 28 18.2**	**0.0**
	baz=80						
ACSO	**Alum Creek Sta**	**34.24**	**299**	P	**P**	**06 28 18.4**	**+0.1**
	baz=95						
P51A	**Williamsport**	**34.25**	**297**	P	**P**	**06 28 18.2**	**-0.1**
	baz=94						
W53A	**Cullowhee**	**34.29**	**290**	P	**P**	**06 28 18.8**	**-0.1**
	baz=87						
N50A	**Nevada**	**34.42**	**299**	P	**P**	**06 28 19.6**	**-0.2**
	baz=96						
U52A	**Thorn Hill**	**34.42**	**292**	P	**P**	**06 28 19.7**	**-0.2**
	baz=89						
Q51A	**Peebles**	**34.44**	**296**	P	**P**	**06 28 19.6**	**-0.4**
	baz=93						
PTGA	**Pitinga**	**34.58**	**211**	*e*P	**P**	**06 28 21.8**	**+0.5**
	14nm,1.0s						
S51A	**Beattyville**	**34.59**	**294**	P	**P**	**06 28 21.7**	**+0.4**
	baz=91						
R51A	**Hillsboro**	**34.60**	**295**	P	**P**	**06 28 21.3**	**-0.1**
	baz=92						
Z53A	**Monticello**	**34.77**	**286**	P	**P**	**06 28 21.9**	**-1.0**
	baz=84						
P50A	**Jamestown**	**34.82**	**297**	P	**P**	**06 28 23.2**	**-0.1**
	baz=93,SNR=5.7						
N49A	**Columbus Grove**	**35.21**	**300**	P	**P**	**06 28 25.4**	**-1.2**
	baz=95						
V51A	**Loudon**	**35.23**	**291**	P	**P**	**06 28 26.7**	**-0.2**
	baz=88						
S50A	**Richmond**	**35.23**	**294**	P	**P**	**06 28 26.3**	**-0.6**
	baz=90						
D47A	**Chapleau**	**35.47**	**310**	P	**P**	**06 28 28.9**	**+0.1**
	baz=104						
T50A	**Nancy**	**35.59**	**293**	P	**P**	**06 28 29.6**	**-0.3**
	baz=89						
U50A	**Jamestown**	**35.61**	**292**	P	**P**	**06 28 29.8**	**-0.3**
	baz=88						
Q49A	**Aurora**	**35.65**	**296**	P	**P**	**06 28 30.4**	**+0.1**
	baz=92						
152A	**Waverly Hall**	**35.79**	**285**	P	**P**	**06 28 32.3**	**+0.6**
	baz=83						
S49A	**Springfield**	**35.94**	**294**	P	**P**	**06 28 32.9**	**0.0**
	baz=90						
PAMC	**Pamplona, Colo**	**35.95**	**237**	*e*P	**P**	**06 28 34.7**	**+1.0**
W50A	**Signal Mountai**	**36.05**	**290**	P	**P**	**06 28 34.1**	**+0.2**
	baz=86						
T49A	**Edmonton**	**36.14**	**293**	P	**P**	**06 28 33.1**	**-1.6**
	baz=89						
U49A	**Red Boiling Sp**	**36.36**	**292**	P	**P**	**06 28 36.2**	**-0.3**
	baz=88						
X50B	**Fort Payne**	**36.38**	**289**	P	**P**	**06 28 35.3**	**-1.4**
	baz=85						
R48A	**Northridge Ran**	**36.40**	**295**	P	**P**	**06 28 35.9**	**-0.9**
	baz=90						
251A	**Midway**	**36.45**	**285**	P	**P**	**06 28 36.5**	**-0.8**
	baz=82						
V49A	**McMinnville**	**36.49**	**291**	P	**P**	**06 28 37.3**	**-0.4**
	baz=87						
Y50A	**Piedmont**	**36.50**	**288**	P	**P**	**06 28 37.7**	**-0.1**
	baz=84						
S48A	**Wiedeman Farm,**	**36.55**	**294**	P	**P**	**06 28 36.8**	**-1.3**
	baz=89						
P47A	**Martinsville**	**36.73**	**297**	P	**P**	**06 28 38.4**	**-1.2**
	baz=92						
WCI	**Wyandotte Cave**	**36.73**	**295**	P	**P**	**06 28 37.6**	**-2.1**
	baz=90						
351A	**Pinckard**	**36.73**	**283**	P	**P**	**06 28 38.4**	**-1.3**
	baz=81						
W49A	**Belvidere**	**36.83**	**290**	P	**P**	**06 28 39.4**	**-1.2**
	baz=86						
U48A	**Cassie Pea, Po**	**36.97**	**292**	P	**P**	**06 28 38.4**	**-3.3**
	baz=87						
Y49A	**Blount Mountai**	**37.07**	**288**	P	**P**	**06 28 40.9**	**-1.7**
	baz=84						
RUSC	**La Rusia**	**37.21**	**236**	*e*P	**P**	**06 28 44.1**	**-0.3**
V48A	**Smith Brothers**	**37.24**	**291**	P	**P**	**06 28 42.4**	**-1.6**
	baz=86						
Z49A	**Columbiana**	**37.24**	**287**	P	**P**	**06 28 43.4**	**-0.7**
	baz=83						
MOTC	**Monteria, Cord**	**37.25**	**242**	*e*P	**P**	**06 28 44.3**	**+0.1**
W48A	**Pulaski**	**37.38**	**290**	P	**P**	**06 28 44.2**	**-1.0**
	baz=85						
SFIN	**Lafayette**	**37.39**	**298**	P	**P**	**06 28 44.3**	**-0.9**
	baz=92						
T47A	**Sharon Grove**	**37.40**	**293**	P	**P**	**06 28 45.0**	**-0.4**
	baz=88						
ZARC	**Zaragoza, Cauc**	**37.45**	**240**	*e*P	**P**	**06 28 45.8**	**-0.2**
P46A	**Rosedale**	**37.45**	**297**	P	**P**	**06 28 44.9**	**-0.9**
	baz=91						
149A	**Jones**	**37.54**	**286**	P	**P**	**06 28 45.5**	**-1.1**
	baz=82						
PTBC	**PUERTO BERRIO,**	**37.78**	**238**	*e*P	**P**	**06 28 49.0**	**+0.2**
V47A	**Nunnelly**	**37.80**	**291**	P	**P**	**06 28 48.4**	**-0.4**
	baz=86						
S46A	**Don Dixon Farm**	**37.87**	**294**	P	**P**	**06 28 48.5**	**-0.8**
	baz=88						
T46A	**Princeton**	**38.03**	**293**	P	**P**	**06 28 50.3**	**-0.4**
	baz=87						
WVT	**Waverly**	**38.03**	**292**	*e*P	**P**	**06 28 50.5**	**-0.2**
	38nm,1.8s						
WVT	**Waverly**	**38.03**	**292**	P	**P**	**06 28 49.7**	**-1.0**
	baz=86						
X47A	**Russelville**	**38.19**	**289**	P	**P**	**06 28 50.6**	**-1.4**
	baz=84						
Y47A	**UCPARC, Winfie**	**38.25**	**288**	P	**P**	**06 28 52.3**	**-0.3**
	baz=83						
V46A	**Holladay**	**38.29**	**291**	P	**P**	**06 28 51.7**	**-1.2**
	baz=86						
R45A	**Skylar, Fairfi**	**38.30**	**295**	P	**P**	**06 28 52.1**	**-0.8**
	baz=89						
U46A	**Springville**	**38.30**	**292**	P	**P**	**06 28 52.3**	**-0.6**
	baz=86						
PLAL	**Pickwick Lake**	**38.32**	**290**	*e*P	**P**	**06 28 53.8**	**+0.6**
	23nm,1.4s						
Z47A	**Carrollton**	**38.52**	**287**	P	**P**	**06 28 53.6**	**-1.2**
	baz=82						
P44A	**Sand Creek, Wi**	**38.55**	**297**	P	**P**	**06 28 55.0**	**0.0**
	baz=90						
J43A	**Natural Harves**	**38.56**	**303**	P	**P**	**06 28 53.4**	**-1.6**
	baz=95						
DBBC	**Dabeiba**	**38.78**	**241**	*e*P	**P**	**06 28 58.7**	**+1.4**
HELC	**Santa Helena**	**38.80**	**239**	*e*P	**P**	**06 28 57.6**	**-0.2**
ROSC	**El Rosal**	**38.82**	**236**	LR	LR	06 44 57.6	
	comp=Z,430nm,19.9s,baz=30,slow=36						
ROSC	**El Rosal**	**38.82**	**236**	*e*P	**P**	**06 28 56.7**	**-1.3**
	4.9nm,0.9s						
Q44A	**Meyer Farm, Va**	**38.86**	**296**	P	**P**	**06 28 57.6**	**0.0**
	baz=89						
R44A	**Waltonville**	**38.93**	**295**	P	**P**	**06 28 56.6**	**-1.6**
	baz=88						
S44A	**Carbondale**	**39.09**	**294**	P	**P**	**06 28 59.1**	**-0.4**
	baz=87						
Y46A	**Houston**	**39.09**	**288**	P	**P**	**06 28 59.5**	**-0.1**
	baz=83						
D41A	**Chassel**	**39.13**	**309**	P	**P**	**06 29 00.3**	**+0.5**
	baz=100						
247A	**Quitman**	**39.14**	**285**	P	**P**	**06 28 58.8**	**-1.3**
	baz=81						
W45A	**Hickory Valley**	**39.21**	**290**	P	**P**	**06 29 01.2**	**+0.5**
	baz=84						
P43A	**Skaggs, Pawnee**	**39.24**	**297**	P	**P**	**06 29 00.2**	**-0.6**
	baz=90						
GUYC	**Guyana, Colomb**	**39.34**	**238**	*e*P	**P**	**06 29 03.6**	**+1.2**
Q43A	**New Douglas**	**39.39**	**296**	P	**P**	**06 29 01.4**	**-0.7**
	baz=89						
OXF	**Oxford**	**39.47**	**289**	P	**P**	**06 29 02.7**	**-0.1**
	baz=84						
RREF	**El Recreo**	**39.53**	**237**	*e*P	**P**	**06 29 07.7**	**+3.5**
R43A	**Red Bud**	**39.59**	**295**	P	**P**	**06 29 02.8**	**-1.0**
	baz=88						
Y45A	**Yeager Farm, C**	**39.65**	**288**	P	**P**	**06 29 03.9**	**-0.4**
	baz=83						
S43A	**Fulton Ridge,**	**39.74**	**294**	P	**P**	**06 29 05.3**	**+0.2**
	baz=87						
JFWS	**Jewell Farm**	**39.87**	**302**	P	**P**	**06 29 06.0**	**0.0**
	baz=93						
P42A	**Winchester**	**39.88**	**297**	P	**P**	**06 29 05.3**	**-0.8**
	baz=89						
E40A	**Wakefield**	**39.94**	**308**	P	**P**	**06 29 06.7**	**+0.1**
	baz=98						
PRAC	**Prado**	**40.00**	**236**	*e*P	**P**	**06 29 05.9**	**-1.6**
R42A	**Luebbering**	**40.27**	**295**	P	**P**	**06 29 09.4**	**-0.1**
	baz=87						
O41A	**Passleys Farm,**	**40.28**	**298**	P	**P**	**06 29 08.5**	**-1.0**
	baz=89						
S42A	**Caledonia**	**40.30**	**294**	P	**P**	**06 29 09.2**	**-0.5**
	baz=87						
P41A	**Barry, Barry**	**40.43**	**297**	P	**P**	**06 29 09.7**	**-1.0**
	baz=89						
F39A	**Loretta**	**40.58**	**307**	P	**P**	**06 29 10.8**	**-1.2**
	baz=96						
Q41A	**Truxton**	**40.59**	**296**	P	**P**	**06 29 10.6**	**-1.4**
	baz=88						
T42A	**Van Buren**	**40.59**	**293**	*e*P	**P**	**06 29 12.0**	**0.0**
	33nm,1.5s						
T42A	**Van Buren**	**40.59**	**293**	P	**P**	**06 29 11.8**	**-0.3**
	baz=86,SNR=7.3						
CCM	**Cathedral Cave**	**40.64**	**295**	*e*P	**P**	**06 29 12.7**	**+0.2**
	7.8nm,0.9s						
CCM	**Cathedral Cave**	**40.64**	**295**	P	**P**	**06 29 10.8**	**-1.6**
	baz=87						
R41A	**Rosebud**	**40.73**	**295**	P	**P**	**06 29 11.9**	**-1.3**
	baz=87						
U42A	**Revenden**	**40.76**	**292**	P	**P**	**06 29 11.8**	**-1.6**
	baz=85						
I39A	**Houston**	**40.84**	**304**	P	**P**	**06 29 13.8**	**-0.3**
	baz=93						
YOTC	**Yotoco, Valle**	**40.88**	**237**	*e*P	**P**	**06 29 12.6**	**-2.2**
244A	**Avery, Jackson**	**40.88**	**286**	P	**P**	**06 29 14.2**	**-0.3**
	baz=80						
V42A	**Cord**	**40.94**	**291**	P	**P**	**06 29 13.9**	**-1.0**
	baz=84						
J39A	**Decorah**	**40.95**	**303**	P	**P**	**06 29 14.7**	**-0.3**
	baz=93						
S41A	**Jillco Farms,**	**41.06**	**294**	P	**P**	**06 29 16.1**	**+0.1**
	baz=86						
T41A	**Mountain View**	**41.12**	**293**	P	**P**	**06 29 16.2**	**-0.3**
	baz=85,SNR=8.2						
L39A	**Vinton**	**41.13**	**301**	P	**P**	**06 29 16.2**	**-0.3**
	baz=91						
F38A	**Pierce - Schro**	**41.25**	**307**	P	**P**	**06 29 16.4**	**-1.1**
	baz=95						
M39A	**Webster**	**41.26**	**300**	P	**P**	**06 29 17.5**	**0.0**
	baz=90						
U41A	**Viola**	**41.31**	**292**	P	**P**	**06 29 17.6**	**-0.4**
	baz=84						
HORQ	**Saladito**	**41.42**	**237**	*e*P	**P**	**06 29 20.2**	**+0.8**
N39A	**Derby Farms, D**	**41.51**	**299**	*e*P	**P**	**06 29 19.6**	**0.0**
	18nm,1.0s						
N39A	**Derby Farms, D**	**41.51**	**299**	P	**P**	**06 29 18.2**	**-1.4**
	baz=89						
V41A	**Mountainview**	**41.56**	**292**	P	**P**	**06 29 18.6**	**-1.5**
	baz=84						
W41B	**Gary Mavity, V**	**41.70**	**291**	P	**P**	**06 29 20.6**	**-0.7**
	baz=83						
UALR	**University of**	**41.83**	**290**	*e*P	**P**	**06 29 22.2**	**-0.1**
	18nm,1.0s						
SPMN	**Marine on St.**	**41.84**	**306**	P	**P**	**06 29 21.8**	**-0.5**
	baz=94						
U40A	**Yellville**	**42.06**	**292**	P	**P**	**06 29 22.5**	**-1.7**
	baz=84						
242A	**Grayson**	**42.10**	**286**	P	**P**	**06 29 24.0**	**-0.5**
	baz=80						
Y41A	**Eaglette Beard**	**42.18**	**289**	P	**P**	**06 29 25.0**	**-0.1**
	baz=81						
SOTA	**Rioblanco**	**42.33**	**236**	*e*P	**P**	**06 29 28.4**	**+1.2**
TIC	**Toumodi**	**42.34**	**115**	*e*P	**P**	**06 29 26.3**	**-0.4**
DBIC	**Dimbokro**	**42.46**	**115**	P	**P**	**06 29 27.4**	**-0.2**
	5.8nm,0.9s,baz=292,slow=10,SNR=6.2						
DBIC				LR	LR	06 45 03.6	
	comp=Z,2μm,19.4s,baz=284,slow=33						
DBIC	**Dimbokro**	**42.46**	**115**	*e*P	**P**	**06 29 27.4**	**-0.2**
	29nm,1.5s						
LIC	**Lamto**	**42.59**	**116**	*e*P	**P**	**06 29 28.6**	**-0.1**
	53nm,1.0s						
KIC	**Kosan Boka**	**42.74**	**116**	*e*P	**P**	**06 29 29.8**	**-0.1**
	100nm,1.9s						
SUMG	**Summit**	**42.81**	**2**	*i* P	**P**	**06 29 30.4**	**+0.1**
	44nm,1.1s						
BFO	**Black Forest**	**42.85**	**50**	*e*P	**P**	**06 29 30.7**	**+0.2**
	21nm,1.3s						
MIAR	**Mount Ida**	**42.87**	**290**	P	**P**	**06 29 30.0**	**-0.8**
	baz=82						
HHAR	**Hobbs**	**42.94**	**292**	*e*P	**P**	**06 29 31.3**	**-0.1**
	10nm,1.2s						
W39A	**Magazine**	**42.95**	**291**	P	**P**	**06 29 29.4**	**-2.0**
	baz=82						
SAML	**Samuel**	**43.31**	**210**	*e*P	**P**	**06 29 33.8**	**-0.6**
	6.8nm,0.9s						
TUE	**Stuetta**	**43.38**	**53**	*e*P	**P**	**06 29 36.2**	**+1.2**
	9.3nm,0.9s						
TAM	**Tamanrasset**	**43.60**	**87**	*e*P	**P**	**06 29 37.8**	**+0.7**
	12nm,1.3s						
DAVOX	**Davos/Dischmat**	**43.77**	**52**	LR	LR	06 44 50.4	
	comp=Z,504nm,18.9s,baz=9.5,slow=32						
KEST	**Kesra**	**43.77**	**68**	P	**P**	**06 29 38.4**	**+0.2**
	12nm,0.9s,baz=234,slow=9.9,SNR=5.7						
KEST				LR	LR	06 46 13.8	
	comp=Z,559nm,19.9s,baz=210,slow=34						
DAVA	**Damuels**	**43.80**	**51**	*e*pP	**P**	**06 29 39.7**	**+1.3**
	11nm,0.9s						
TOA1	**Torodi Ar. Sit**	**44.29**	**102**	*e*P	**P**	**06 29 40.9**	**-1.5**
TOA0	**Torodi Ar. Sit**	**44.29**	**102**	*e*P	**P**	**06 29 41.1**	**-1.3**
TOA0				*e*P	**pP**	**06 29 42.3**	**-5.8**
TORD	**Torodi Ar. Bea**	**44.29**	**102**	P	**P**	**06 29 40.9**	**-1.5**
	8.9nm,0.8s,baz=302,slow=8.5,SNR=51						
TORD				LR	LR	06 46 38.0	
	comp=Z,809nm,19.5s,baz=290,slow=34						
FETA	**Feichten**	**44.36**	**52**	*e*pP	**P**	**06 29 44.4**	**+1.6**
	16nm,1.3s						
ULM	**Lac du Bonnet**	**44.37**	**313**	P	**P**	**06 29 41.7**	**-1.0**
	2.8nm,0.8s,baz=79,slow=7.8,SNR=3.1						
ULM				LR	LR	06 46 37.6	
	comp=Z,633nm,21.4s,baz=27,slow=34						
RETA	**Reutte**	**44.41**	**51**	*i* pP	**P**	**06 29 44.3**	**+1.2**
	13nm,1.0s						
TUL1	**Leonard**	**44.47**	**292**	*e*P	**P**	**06 29 43.2**	**-0.5**
	17nm,0.9s						
TUL1	**Leonard**	**44.47**	**292**	P	**P**	**06 29 42.2**	**-1.4**
	baz=82						
ECSD	**EROS Data

baz=78
BRG Berggiesshubel 46.73 47 *e*P **P 06 30 04.7 +3.4**
comp=Z,3.8nm,0.7s
MOA Molln 46.79 51 *e*pP **P 06 30 03.7 +1.8**
comp=Z,8.5nm,0.9s
OBKA Obir 46.98 53 *e*P **P 06 30 03.1 -0.3**
comp=Z,13nm,0.7s
NB2 NORSAR Subarra 47.04 33 P **P 06 30 05.0 +1.4**
comp=Z,11nm,1.1s,baz=254,slow=7.9
NB200 NORSAR Array S 47.04 33 *e*P **P 06 30 04.9 +1.3**
NOA NORSAR Array B 47.04 33 P **P 06 30 04.9 +1.3**
comp=Z,4.9nm,0.9s,baz=254,slow=8.1,SNR=4.5
NOA LR LR 06 46 33.7
comp=Z,151nm,20.9s,baz=240,slow=32
WMOK Wichita Mounta 47.07 291 *e*P **P 06 30 04.5 +0.2**
comp=Z,11nm,1.1s
WMOK Wichita Mounta 47.07 291 P **P 06 30 03.7 -0.6**
baz=80
PVCC Panska Ves 47.10 47 AMS AMS 06 47 10.0
comp=Z,1μm,18.2s
H10S1 ASCENSION HYDR 47.14 141 T T 07 20 20.0
baz=326,slow=75,SNR=904
H10S3 ASCENSION HYDR 47.14 141 T T 07 20 20.5
baz=326,slow=75,SNR=1025
H10S2 ASCENSION HYDR 47.15 141 T T 07 20 21.7
baz=326,slow=75,SNR=890
CBKS Cedar Bluff 47.21 297 P **P 06 30 04.1 -1.2**
baz=83
SOKA Soboth 47.31 52 *i* P **P 06 30 05.7 -0.3**
comp=Z,12nm,1.3s
ARSA Arzberg 47.64 52 *e*P **P 06 30 08.6 +0.1**
comp=Z,12nm,1.1s
HFS Hagfors 47.99 34 LR LR 06 47 19.2
comp=Z,532nm,19.8s,baz=142,slow=32
ABTX Abilene, Hawle 48.20 289 *e*P **P 06 30 13.3 +0.2**
comp=Z,14nm,0.9s
ABTX Abilene, Hawle 48.20 289 P **P 06 30 12.2 -0.9**
baz=77
DPC Dobruska-Polom 48.21 47 *e*P **P 06 30 14.6 +1.7**
DPC AMS AMS 06 48 30.0
comp=Z,700nm,17.3s
DAG Danmarks Havn 48.33 7 *i* P **P 06 30 14.2 +0.9**
KRLC Kraliky 48.50 48 *e*P **P 06 30 15.6 +0.5**
OGNE Ogallala 48.71 300 *e*P **P 06 30 16.9 0.0**
comp=Z,20nm,0.8s
OGNE Ogallala 48.71 300 P **P 06 30 16.4 -0.6**
baz=84
MODS Modra-Piesok 48.81 50 *e*P **P 06 30 18.0 +0.5**
JCT Junction City 48.84 286 *e*P **P 06 30 18.5 +0.5**
comp=Z,14nm,1.0s
JCT Junction City 48.84 286 P **P 06 30 17.4 -0.6**
baz=75
AMTX Amarillo 49.39 292 *e*P **P 06 30 22.5 +0.2**
comp=Z,32nm,1.4s
KSCO Kaye Shedlock' 49.42 297 *e*P **P 06 30 22.8 +0.3**
comp=Z,16nm,1.0s
KSCO Kaye Shedlock' 49.42 297 P **P 06 30 21.8 -0.7**
baz=82
DGMT Dagmar 49.73 310 P **P 06 30 24.8 +0.3**
baz=89
MORH M¯‡r¡gy, Hung 49.82 53⇓ *e*P **P 06 30 26.7 +1.5**
VYHS Vyhne 49.85 50 *e*P **P 06 30 26.6 +1.2**
RSSD Black Hills 49.86 304 P **P 06 30 24.9 -1.0**
baz=85
MSTX Muleshoe 50.46 291 *e*P **P 06 30 30.6 +0.2**
comp=Z,11nm,0.9s
MSTX Muleshoe 50.46 291 P **P 06 30 29.7 -0.7**
baz=77
PDG Podgorica 50.60 58⇓ *i*P **P 06 30 31.5 +0.4**
TTG Podgorica 50.60 58 *e*P **P 06 30 31.1 -0.1**
comp=Z,23nm,1.2s
DIVS Divibare 50.94 56 *e*P **P 06 30 34.5 +0.7**
comp=Z,7.6nm,1.0s
T25A Trinidad 51.12 295 *e*P **P 06 30 36.2 +0.7**
comp=Z,14nm,1.1s
T25A Trinidad 51.12 295 P **P 06 30 35.6 +0.1**
baz=79
Q24A Divide 51.36 298 *e*P **P 06 30 37.5 +0.1**
comp=Z,19nm,1.3s
Q24A Divide 51.36 298 P **P 06 30 36.9 -0.5**
baz=80,SNR=7.1
ISCO Idaho Springs 51.58 299 *e*P **P 06 30 39.8 +0.8**
comp=Z,4.8nm,1.0s
ISCO Idaho Springs 51.58 299 P **P 06 30 38.4 -0.6**
baz=80
N23A Red Feather La 51.65 300 P **P 06 30 38.6 -0.9**
baz=81
K22A Casper 51.83 303 P **P 06 30 39.5 -1.1**
baz=82
SDCO Great Sand Dun 51.86 296 *e*P **P 06 30 41.9 +0.8**
comp=Z,5.7nm,1.0s
SDCO Great Sand Dun 51.86 296 P **P 06 30 40.5 -0.6**
baz=79
SIRR Siria 51.90 53⇑ *i*P **P 06 30 41.4 +0.5**
BZS Buzias 51.94 54⇑ *i*P **P 06 30 41.9 +0.7**
LPAZ La Paz 52.01 211 P **P 06 30 41.9 -0.8**
comp=Z,5.0nm,0.7s,baz=15,slow=5.7,SNR=18
LPAZ LR LR 06 51 38.5
comp=Z,476nm,19.6s,baz=15,slow=35
LPAZ La Paz 52.01 211 *e*P **P 06 30 42.0 -0.6**
MDVR Moldovita 52.09 55⇓ *i*P **P 06 30 40.8 -1.6**
LTX Lajitas 52.38 286 *e*P **P 06 30 44.4 -0.4**
TX31 Lajitas Ar. Si 52.38 286 *e*P **P 06 30 44.7 -0.1**
TXAR Lajitas Array 52.38 286 P **P 06 30 44.4 -0.4**
comp=Z,1.9nm,0.8s,baz=95,slow=8.5,SNR=14
TXAR LR LR 06 51 51.5
comp=Z,373nm,20.0s,baz=0.0,slow=35
DRGR 52.57 52⇑ *i*P **P 06 30 47.1 +1.1**
SMCO Snowmass 52.72 298 *e*P **P 06 30 48.4 +0.8**
comp=Z,12nm,1.5s
GZR Gura Zlata 52.77 54⇑ *i*P **P 06 30 47.2 -0.3**
S22A 4UR Ranch, Cre 52.89 297 *e*P **P 06 30 48.9 +0.2**
comp=Z,6.6nm,1.0s
S22A 4UR Ranch, Cre 52.89 297 P **P 06 30 49.4 +0.7**
baz=78
MNTX Cornudas Mount 53.15 289 P **P 06 30 49.9 -0.5**
baz=74
ANMO Albuquerque 53.21 293 *e*P **P 06 30 52.0 +1.0**
comp=Z,5.4nm,0.9s
ANMO Albuquerque 53.21 293 P **P 06 30 50.5 -0.5**
baz=76
EGMT Eagleton 53.46 310 *e*P **P 06 30 53.1 +0.6**
comp=Z,20nm,1.0s
RLMT Red Lodge 53.47 306 *e*P **P 06 30 52.6 -0.2**
comp=Z,11nm,1.1s
LPM Los Pinos Moun 53.50 292 *e*P **P 06 30 53.7 +0.6**
O20A White River Ci 53.51 300 *e*P **P 06 30 53.8 +0.6**
comp=Z,14nm,1.3s
O20A White River Ci 53.51 300 P **P 06 30 51.7 -1.4**
baz=79
BNM Barren Site 53.53 292 *e*P **P 06 30 54.3 +0.9**
LENM Lemitar 53.81 292 *e*P **P 06 30 56.6 +1.2**
LAZ Ladron 53.88 293 *e*P **P 06 30 56.1 +0.1**
BW06 Boulder Array 54.02 303 *e*P **P 06 30 56.5 -0.5**
comp=Z,14nm,1.0s
BW06 Boulder Array 54.02 303 P **P 06 30 56.3 -0.7**
baz=80,SNR=15
PD31 Pinedale Array 54.02 303 *e*P **P 06 30 56.5 -0.5**
PDAR Pinedale Array 54.02 303 P **P 06 30 56.5 -0.5**
comp=Z,6.6nm,0.8s,baz=75,slow=7.2,SNR=43
PDAR LR LR 06 53 40.6
comp=Z,2μm,18.1s,baz=80,slow=36
PDAR Pinedale Array 54.02 303 *e*P **P 06 30 56.3 -0.6**
BUR08 Bucovina Ar. S 54.17 51 *e*P **P 06 30 58.2 +0.5**
FIA0 FINESS Array S 54.18 34 *e*P **P 06 30 57.2 -0.2**
FINES FINESS Array B 54.18 34 P **P 06 30 57.2 -0.2**
comp=Z,6.8nm,0.8s,baz=263,slow=6.4,SNR=9.6
FINES LR LR 06 49 51.5
comp=Z,400nm,21.9s,baz=314,slow=31
BUR04 Bucovina Ar. S 54.18 51 *e*P **P 06 30 58.5 +0.7**
BURAR Bucovina Array 54.18 51⇑ *i*P **P 06 30 58.8 +1.0**
MVCO Mesa Verde 54.30 296 *e*P **P 06 31 00.2 +1.2**
comp=Z,10nm,1.0s
MVCO Mesa Verde 54.30 296 P **P 06 30 58.7 -0.3**
baz=77
VOIR 54.35 53⇓ *i*P **P 06 30 59.3 +0.2**
H17A Grant Village 54.49 305 P **P 06 30 59.9 -0.5**
baz=81
YHH Holmes Hill 54.63 306 *e*P **P 06 31 02.3 +0.9**
comp=Z,16nm,1.7s
FLWY Flagg Ranch 54.63 305 *e*P **P 06 31 01.6 +0.3**
comp=Z,18nm,1.4s
LOHW Long Hollow 54.64 304 *e*P **P 06 31 01.4 +0.1**
comp=Z,6.1nm,1.0s
MOOW Moose Ponds 54.72 305 *e*P **P 06 31 01.5 -0.4**
comp=Z,19nm,2.0s
YMR Madison River 54.73 306 *e*P **P 06 31 02.5 +0.5**
comp=Z,18nm,1.3s
SNOW Snow King Moun 54.77 304 *e*P **P 06 31 02.7 +0.3**
comp=Z,13nm,1.1s
HPIG 54.79 283 *e*P **P 06 31 01.9 -0.8**
comp=Z,6.9nm,1.0s
IMW Indian Meadow 54.83 305 *e*P **P 06 31 03.2 +0.3**
comp=Z,11nm,1.0s
REDW Red Top Meadow 54.86 304 *e*P **P 06 31 03.1 +0.1**
comp=Z,13nm,1.1s
BIZ Bicaz 54.87 51⇑ *i*P **P 06 31 03.6 +0.9**
YHB Horse Butte 54.87 306 *e*P **P 06 31 03.8 +0.7**
comp=Z,23nm,1.1s
TPAW Teton Pass 54.91 304 *e*P **P 06 31 03.7 +0.3**
comp=Z,13nm,1.1s
FXWY Fox Creek 54.94 305 *e*P **P 06 31 03.6 +0.1**
comp=Z,7.8nm,1.0s
MLR Muntele Rosu 54.97 53 *e*P **P 06 31 04.5 +0.9**
comp=Z,20nm,1.2s
MLR Muntele Rosu 54.97 53⇓ *i*P **P 06 31 03.6 0.0**
BOZ Bozeman (W) 55.05 307 *e*P **P 06 31 03.9 -0.3**
comp=Z,10nm,0.7s
BOZ Bozeman (W) 55.05 307 P **P 06 31 04.4 +0.2**
baz=81,SNR=7.0
P18A Preston Nutter 55.12 300 *e*P **P 06 31 05.1 +0.1**
comp=Z,12nm,0.8s
AHID Auburn Hatcher 55.14 303 *e*P **P 06 31 04.7 -0.3**
comp=Z,11nm,1.1s
MNMC Minye Minye 55.16 211 *e*P **P 06 31 04.3 -1.0**
comp=Z,15nm,0.8s
SRU San Rafael Swe 55.44 299 *e*P **P 06 31 07.4 +0.2**
comp=Z,12nm,0.9s
YKA Yellowknife Ar 55.62 328 P **P 06 31 07.0 -0.8**
comp=Z,1.1nm,0.7s,baz=86,slow=7.7,SNR=3.9
YKB5 Yellowknife Ar 55.62 328 *e*P **P 06 31 07.0 -0.8**
TCUT Toone Canyon 55.68 302 *e*P **P 06 31 08.2 -0.8**
comp=Z,33nm,1.6s
HWUT Hare Ranch 55.70 302 *e*P **P 06 31 08.8 -0.2**
comp=Z,14nm,1.1s
PB11 IPOC Station P 55.74 211 *e*P **P 06 31 07.5 -1.8**
comp=Z,32nm,0.8s
JLU Jordanelle 55.82 301 *e*P **P 06 31 10.1 +0.1**
comp=Z,15nm,1.2s
TMUT Trail Mountain 55.92 299 *e*P **P 06 31 11.0 +0.2**
comp=Z,23nm,1.7s
MPU Maple Canyon 56.08 300 *e*P **P 06 31 11.9 +0.1**
comp=Z,8.8nm,1.1s
AKASG Malin Array Be 56.41 47 P **P 06 31 12.4 -1.3**
comp=Z,5.0nm,0.8s,baz=276,slow=6.0,SNR=11
AKASG LR LR 06 53 45.4
comp=Z,560nm,18.3s,baz=275,slow=34
AKBB Malin Array Si 56.41 47 *e*P **P 06 31 12.4 -1.3**
SPUT South Promonto 56.41 302 *e*P **P 06 31 14.4 +0.3**
comp=Z,9.1nm,1.1s
NLU North Lily Min 56.43 300 *e*P **P 06 31 14.9 +0.6**
comp=Z,14nm,1.2s
MSO Missoula 56.44 309 P **P 06 31 14.2 0.0**
baz=81
HVU Hansel Valley 56.55 303 *e*P **P 06 31 14.9 -0.2**
comp=Z,7.6nm,1.3s
PB01 IPOC Station P 56.79 210 *e*P **P 06 31 17.3 +0.6**
comp=Z,13nm,1.0s
MSU Marysvale 56.83 299 *e*P **P 06 31 18.0 +0.7**
BGU Big Grassy Mou 56.92 302 *e*P **P 06 31 17.9 +0.1**
comp=Z,11nm,1.3s
DUG Dugway, Tooele 56.92 301 *e*P **P 06 31 18.3 +0.6**
comp=Z,10nm,0.9s
DUG Dugway, Tooele 56.92 301 P **P 06 31 17.8 +0.1**
baz=77,SNR=7.7
MTPU Mount Pierson 56.95 298 *e*P **P 06 31 19.2 +1.0**
comp=Z,15nm,1.8s
WUAZ Wupatki 56.96 295 *e*P **P 06 31 19.2 +1.1**
comp=Z,13nm,1.2s
WUAZ Wupatki 56.96 295 P **P 06 31 17.6 -0.5**
baz=75
X16A Lo Mia Camp, P 57.31 294 *e*P **P 06 31 21.1 +0.4**
comp=Z,7.9nm,1.3s
HLID Hailey 57.37 305 P **P 06 31 19.9 -1.0**
baz=78
U15A North Rim 57.44 296 *e*P **P 06 31 22.2 +0.6**
comp=Z,5.7nm,1.0s
CPUP Villa Florida 57.61 195 LR LR 06 56 01.1
comp=Z,182nm,19.0s,baz=21,slow=36
SZCU Shurtz Canyon 57.76 298 *e*P **P 06 31 24.0 +0.3**
comp=Z,17nm,1.1s
CCUT Cedar City 57.98 298 *e*P **P 06 31 26.2 +0.9**
comp=Z,7.9nm,0.9s
LCMT Little Creek M 58.03 297 *e*P **P 06 31 24.9 -0.7**
comp=Z,14nm,1.8s
PSUT Pine Spring 58.10 299 *e*P **P 06 31 26.7 +0.5**
comp=Z,9.7nm,1.2s
NEW Newport 58.31 311 *e*P **P 06 31 27.2 -0.1**
comp=Z,21nm,1.0s
NEW Newport 58.31 311 P **P 06 31 27.0 -0.2**
baz=79,SNR=15
F10A Beach Ranch, E 58.83 308 *e*P **P 06 31 30.5 -0.5**
comp=Z,17nm,1.4s
W13A Hualapai Mount 59.05 295 *e*P **P 06 31 33.0 +0.2**
comp=Z,4.9nm,1.1s
R11A Troy Canyon, C 59.47 299 *e*P **P 06 31 36.1 +0.5**
comp=Z,8.1nm,1.3s
R11A Troy Canyon, C 59.47 299 P **P 06 31 34.2 -1.4**
baz=74,SNR=6.2
D08A Wollman Farm, 59.74 310 *e*P **P 06 31 37.1 0.0**
comp=Z,14nm,1.0s
J08A Circle Bar Ran 60.29 306 *e*P **P 06 31 41.9 +0.8**
comp=Z,20nm,1.4s
IRM Iron Mountain 60.32 295 P **P 06 31 41.1 -0.3**
baz=72
TPNV Topopah Spring 60.36 298 *e*P **P 06 31 42.1 +0.4**
comp=Z,12nm,1.1s
TPNV Topopah Spring 60.36 298 P **P 06 31 41.9 +0.2**
baz=73
GMRC Granite Mounta 60.54 295 P **P 06 31 42.8 -0.1**
baz=72
FURC Furnace Creek, 60.97 298 P **P 06 31 46.1 +0.4**
baz=73
KVN Kaiserville 61.16 301 *e*P **P 06 31 47.6 +0.4**
comp=Z,11nm,1.1s
SWSC Sam W. Stewart 61.22 293 P **P 06 31 47.5 +0.1**
baz=71
GSC Goldstone, Bar 61.28 296 P **P 06 31 47.5 -0.4**
baz=72
NV11 Mina Array Sit 61.38 300 *e*P **P 06 31 48.5 -0.1**
comp=Z,0.5nm,1.3s
NV01 Mina Array Sit 61.49 300 *e*P **P 06 31 48.4 -1.1**
NVAR Mina Array Bea 61.49 300 P **P 06 31 49.3 -0.2**
comp=Z,2.0nm,0.9s,baz=73,slow=6.7,SNR=9.9
NVAR LR LR 06 57 00.5
comp=Z,1μm,21.4s,baz=41,slow=35
B05A Bryant 61.56 312 P **P 06 31 50.9 +1.5**
baz=76
MPMC Manual Prospec 61.58 297 P **P 06 31 50.2 +0.1**
baz=72
DAC Darwin (Calif) 61.59 298 *e*P **P 06 31 50.2 +0.1**
comp=Z,12nm,1.5s
MONP2 Monument Peak 61.73 294 P **P 06 31 51.4 +0.3**
baz=71
BR101 Keskin Array S 61.78 58 *e*P **P 06 31 51.5 +0.1**
BR131 Keskin Array S 61.78 58 *e*P **P 06 31 51.2 -0.1**
BRTR Keskin Array B 61.78 58 P **P 06 31 51.5 +0.1**
comp=Z,5.6nm,0.8s,baz=276,slow=4.0,SNR=23
BRTR LR LR 06 59 01.2
comp=Z,216nm,18.0s,baz=302,slow=36
CWC Cottonwood Cre 61.91 298 P **P 06 31 52.2 -0.1**
baz=72
PAHR Pah Rah Range 61.93 302 *e*P **P 06 31 52.1 -0.3**
comp=Z,11nm,1.2s
MOD Modoc Plateau 61.98 304 *e*P **P 06 31 53.2 +0.6**
comp=Z,28nm,1.8s
VCNR Virginia City, 62.25 301 *e*P **P 06 31 55.0 +0.5**
comp=Z,12nm,1.4s
OMMB Old Mammoth Mi 62.26 299 *e*P **P 06 31 55.0 +0.3**
comp=Z,5.2nm,1.1s
MDPB Devils Postpil 62.31 299 *e*P **P 06 31 55.6 +0.5**
comp=Z,6.0nm,1.1s
EDW2 Edwards Air Fo 62.33 296 P **P 06 31 53.9 -1.1**
baz=72
ISA Isabella, Lake 62.46 297 *e*P **P 06 31 55.7 -0.2**
comp=Z,5.7nm,1.1s
ISA Isabella, Lake 62.46 297 P **P 06 31 55.3 -0.5**
baz=72
INK Inuvik 62.88 335 P **P 06 31 57.3 -0.6**
comp=Z,5.0nm,0.8s,baz=71,slow=10.0,SNR=10
INK Inuvik 62.88 335 *e*P **P 06 31 58.0 +0.1**
comp=Z,11nm,0.9s
CMB Columbia Colle 63.18 300 *e*P **P 06 32 00.9 +0.3**
comp=Z,5.0nm,1.0s
ORV Oroville 63.53 302 *e*P **P 06 32 03.4 +0.6**
comp=Z,10nm,1.5s
MMAI Mount Meron Ar 65.27 65 P **P 06 32 14.5 +0.1**
comp=Z,0.7nm,0.3s,baz=309,slow=6.9,SNR=3.2
DAWY Dawson 66.35 332 *e*P **P 06 32 21.7 +0.9**
comp=Z,9.9nm,1.3s
ASF Jabal al Asfar 66.75 65 P **P 06 32 23.2 -0.7**
comp=Z,5.7nm,0.9s,baz=297,slow=16,SNR=4.5
KVAR Kislovodsk Arr 66.90 52 P **P 06 32 26.9 +2.2**
comp=Z,2.8nm,0.3s,baz=101,slow=19,SNR=2.2
KBZ Khabaz 67.11 52 P **P 06 32 27.4 +1.5**
comp=Z,3.0nm,0.8s,baz=286,slow=8.1,SNR=5.6
FYU Fort Yukon 67.71 335 *e*P **P 06 32 30.5 +1.2**
comp=Z,93nm,2.0s
TOLK Toolik Lake Re 68.33 338 *e*P **P 06 32 34.0 +0.8**
comp=Z,25nm,1.5s
TOLK Toolik Lake Re 68.33 338 P **P 06 32 32.9 -0.3**
baz=64
IL1 Eielson Array 69.08 334 *e*P **P 06 32 37.2 -0.7**
ILAR Eielson Array 69.08 334 P **P 06 32 38.4 +0.5**
comp=Z,2.6nm,0.9s,baz=65,slow=3.6,SNR=16
ILAR LR LR 07 02 55.2
comp=Z,761nm,19.1s,baz=48,slow=36
ILB Eielson Array 69.08 334 *e*P **P 06 32 38.2 +0.3**
COLA College 69.41 334 *e*P **P 06 32 39.9 0.0**
comp=Z,7.1nm,1.0s
CCB Clear Creek Bu 69.49 334 *e*P **P 06 32 41.2 +0.8**
comp=Z,20nm,1.2s
WRH Wood River Hil 69.68 334 *e*P **P 06 32 42.4 +0.8**
comp=Z,11nm,1.0s
BWN Browne 70.35 334 *e*P **P 06 32 45.9 +0.2**
comp=Z,37nm,1.1s
BPAW Bear Paw Mtn. 70.97 334 *e*P **P 06 32 49.9 +0.3**
comp=Z,29nm,1.8s
TRF Thorofare Moun 71.01 333 *e*P **P 06 32 50.6 +0.6**
comp=Z,11nm,1.0s
IM3 Indian Mountai 71.03 336 *e*P **P 06 32 50.7 +0.8**
ARU Arti 71.50 35 P **P 06 32 52.4 -0.4**
ARU Arti 71.50 35 *e*P **P 06 32 53.9 +1.0**
comp=Z,11nm,1.0s
SUA Susitna One 72.17 331 *e*P **P 06 32 57.3 +0.3**
comp=Z,40nm,0.9s
H09N1 TRISTAN DA CUN 72.46 155 T T 07 52 03.2
SNR=3.7
H09W1 TRISTAN DA CUN 72.48 155 T T 07 52 07.2
SNR=2.7
AKTO Aktyubinsk 73.91 41 P **P 06 33 07.8 +0.5**
comp=Z,6.2nm,0.8s,baz=300,slow=4.1,SNR=16
NRIK Noril'sk 74.70 16 P **P 06 33 13.1 +1.5**
comp=Z,2.0nm,0.4s,baz=70,slow=4.6,SNR=5.1
PLCA Paso Flores 74.83 202 P **P 06 33 13.7 +1.1**
comp=Z,2.2nm,0.8s,baz=71,slow=8.1,SNR=5.3
ABKAR Akbulak array 75.57 41 *e*P **P 06 33 17.3 +0.4**
TIXI Tiksi 78.58 3 P **P 06 33 34.4 +0.9**
comp=Z,0.9nm,0.4s,baz=332,slow=4.9,SNR=4.5
TIXI Tiksi 78.58 3 *e*P **P 06 33 34.4 +0.9**
TIXI *e*P **pP 06 33 34.9 -4.5**
BVAR Borovoye Array 79.12 34 P **P 06 33 36.9 +0.1**
comp=Z,3.8nm,0.8s,baz=316,slow=4.0,SNR=7.1
GEYT Alibeck 80.00 52 P **P 06 33 42.3 +0.4**
comp=Z,0.9nm,0.3s,baz=268,slow=9.8,SNR=3.2
GEYT LR LR 07 09 55.7
comp=Z,64nm,18.3s,baz=315,slow=36
LSZ Lusaka 81.74 113 *e*P **P 06 33 52.5 +1.0**
comp=Z,15nm,1.4s
KMBO Kilima Mbogo 81.91 96 P **P 06 33 53.1 +0.4**
comp=Z,1.2nm,0.8s,baz=315,slow=4.3,SNR=2.2
KMBO LR LR 07 09 55.2
comp=Z,1μm,18.8s,baz=278,slow=35
KMBO Kilima Mbogo 81.91 96 *e*P **P 06 33 52.7 0.0**
comp=Z,6.6nm,1.2s
KURK Kurchatov 84.55 33 *e*P **P 06 34 05.7 +0.3**
comp=Z,10nm,1.0s
KURK *e*P **PcP 06 34 05.9 -3.0**
KURBB Kurchatov Arra 84.57 33 P **P 06 34 05.9 +0.4**
comp=Z,5.2nm,0.8s,baz=314,slow=5.3,SNR=7.1
ZAA1 Zalesovo Array 85.03 28 *e*P **P 06 34 08.1 +0.4**
ZAA0 Zalesovo Array 85.03 28 *e*P **P 06 34 08.5 +0.8**
comp=Z,9.1nm,1.1s
ZALV Zalesovo Beam 85.03 28 P **P 06 34 08.1 +0.4**
comp=Z,5.7nm,0.9s,baz=285,slow=7.5,SNR=9.4
ZALV Zalesovo Beam 85.03 28 *e*P **P 06 34 08.4 +0.6**
UOSS Minazif 85.13 64 *e*P **P 06 34 08.6 -0.2**
comp=Z,25nm,1.0s
BOSA Boshof 87.16 125 P **P 06 34 20.9 +2.2**
comp=Z,3.7nm,1.1s,baz=313,slow=9.3,SNR=1.8
BOSA LR LR 07 10 34.2
comp=Z,204nm,18.0s,baz=356,slow=34
WSAR Wadi Sarin 87.91 64 P **P 06 34 23.0 +0.5**
comp=Z,4.3nm,0.6s,baz=331,slow=2.0,SNR=4.6
MK32 Makanchi Array 89.01 34 *e*P **P 06 34 28.5 +1.2**
MKAR Makanchi Array 89.01 34 P **P 06 34 28.5 +1.2**
comp=Z,2.3nm,0.9s,baz=306,slow=2.5,SNR=5.7
KSH Kashi 90.51 43 *e*P **P 06 34 34.1 -0.5**
KSH Kashi 90.51 43 S **S 06 45 23.8 -5.5**
KSH pmax pmax
comp=Z,310nm,4.4s
WMQ Urumqi 93.78 33 *e*P **P 06 34 51.6 +2.0**
WMQ LR LR
comp=E,520nm,26.7s
WMQ LR LR
comp=Z,530nm,24.9s
PETK Petropavlovsk- 95.46 348 LR LR 07 17 15.9
comp=Z,150nm,21.4s,baz=55,slow=35
LZH Lanzhou 107.26 28 *e*Pdif **Pdif 06 35 50.9 +0.6**
LZH LR LR
comp=N,140nm,17.5s
LZH LR LR
comp=E,140nm,17.8s
LZH LR LR
comp=Z,180nm,19.7s
CD2 Chengdu 111.67 31 Pdif **Pdif 06 36 08.0 -1.8**
VNDA Vanda 130.96 187 PKP **PKPdf 06 40 43.0 +0.3**
comp=Z,2.4nm,0.9s,baz=248,slow=2.7,SNR=10
SIJI Sorong 150.60 12 PKPbc **PKPbc 06 41 24.7 -0.3**
comp=Z,5.5nm,0.4s,baz=180,slow=1.0,SNR=3.9
WR1 Warramunga Arr 169.77 15 *e*PKPab **PKPab 06 42 55.7 +1.3**
WRA Warramunga Arr 169.77 15 PKPab **PKPab 06 42 55.7 +1.3**
comp=Z,1.3nm,0.9s,baz=352,slow=6.6,SNR=4.1
ASAR Alice Springs 173.14 26 PKP **PKPdf 06 41 42.5 +0.4**
comp=Z,0.7nm,0.9s,baz=48,slow=1.9,SNR=6.2

IDC ***13*** *06:27:45.7±1.1,22.37N×95.64E,h0km,mb3.9/7, mb1 4.0/8,mb1mx3.7/61,mbtmp3.9/8,ML4.3/1,Error ellipse: s-maj=53.9km s-min=14.9km az=58.0*
ISCJB ***13*** *06:27:46.6±0.4,22.43N±0.06×95.79E±0.06,h10km, mb3.8/7,Error ellipse: s-maj=11.4km s-min=3.5km az=135.6*
NDI ***13*** *06:27:51.5±2.4,22.46N×95.78E,h10km,ML3.3*
ISC 13 06:27:49.5±0.7,22.58N±0.06×95.80E±0.06,h10km,n41, o2522/51,mb3.9/7,1D,Myanmar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SAIH	**SAIH**	**2.60**	**269**	*e*P	P		**Pn**	**06 28 35.9**	**-0.5**
SAIH				*e*S	S		**Sn**	**06 29 05.3**	**+1.8**
SAIH				IAML				06 29 23.3	
	comp=E,201nm,0.2s								
SAIH				IAML				06 29 23.5	
	comp=N,140nm,0.3s								
IMP	**Imphal**	**2.81**	**323**	*e*P	P		**Pn**	**06 28 38.4**	**+3.8**
IMP				*e*S	S		**Sn**	**06 29 13.3**	**+4.7**
IMP				IAML				06 29 36.6	
	comp=E,43nm,0.3s								
IMP				IAML				06 29 37.2	
	comp=N,333nm,1.0s								
KOHI	**KOHIMA**	**3.49**	**334**	*e*P	P		**Pn**	**06 28 46.4**	**+2.4**
KOHI				*e*S	S		**Sn**	**06 29 25.6**	**+0.1**
KOHI				IAML				06 29 46.7	
	comp=N,146nm,0.8s								
KOHI				IAML				06 29 46.8	
	comp=E,86nm,0.9s								
MOKO	**MOKOCHONG**	**3.90**	**343**	*e*P	P		**Pn**	**06 28 54.0**	**+4.3**
MOKO				*e*S	S		**Sn**	**06 29 38.4**	**+2.7**
MOKO				IAML				06 30 04.7	
	comp=E,79nm,0.3s								
MOKO				IAML				06 30 12.3	
	comp=N,104nm,0.6s								
SHL	**Shillong**	**4.65**	**310**	*e*P	P		**Pn**	**06 29 02.0**	**+1.9**
SHL				*e*P	P		**Pn**	**06 29 02.9**	**+2.8**
SHL				*e*S	S		**Sn**	**06 29 56.0**	**+1.8**
SHL				*i* S	S		**Sn**	**06 29 57.0**	**+2.7**
SHL				IAML				06 29 59.0	
	comp=N,23nm,0.2s								
SHL				IAML				06 30 01.2	
	comp=E,21nm,0.4s								

CHTO	Chiang Mai	4.76	141	P		Pn	06 28 58.6	-2.9
CHTO	Chiang Mai	4.76	141	P		Sb	06 30 13.1	+2.5
	comp=E,8.0nmcomp=E,19µmcomp=E,2µm,0.7s							
CMMT	Chiang Mai	4.77	141	P		Pn	06 28 58.4	-3.1
	comp=E,126nm,0.7s,comp=E,1µmcomp=E,1.8nm							
CMMT				S		Sb	06 30 12.5	+1.8
	comp=E,126nm,0.7s,comp=E,1µmcomp=E,1.8nm							
CMMT	Chiang Mai	4.77	141	P		Sb	06 30 13.0	+2.3
TEZP	TEZPUR	4.86	326	eP		Pn	06 29 04.8	+2.1
PAYA	Payao	4.97	129	P		Pn	06 29 00.7	-3.6
	comp=E,62nm,0.8s,comp=E,3µmcomp=E,0.7nm							
CMAR	Chiang Mai Arr	5.05	144	Pn		Pn	06 29 02.4	-3.0
	comp=E,2.9nm,0.3s,baz=320,slow=14,SNR=27							
CMAR				Pg		Pb	06 29 19.0	+1.0
	comp=E,26nm,0.3s,baz=321,slow=17,SNR=65							
CMAR				Lg		Lg	06 30 22.1	
	comp=E,17nm,0.3s,baz=322,slow=27,SNR=8.5							
GUWA	GUWAHATI	5.19	315	eP		Pn	06 29 08.7	+1.4
GUWA				eS		Sn	06 30 06.5	-0.8
GUWA				IAML			06 30 13.4	
	comp=N,159nm,1.0s							
GUWA				IAML			06 30 14.5	
	comp=E,17nm,0.1s							
ZIRO	ZIRO	5.23	341	ex		Pn	06 29 06.7	-1.4
ZIRO				ex		Sn	06 29 55.8	-13
LAMP	Lampang	5.40	138	P		Pn	06 29 07.4	-2.8
	comp=E,40nm,0.6s,comp=E,406nmcomp=E,0.7nm							
LAMP	Lampang	5.40	138	P		Sb	06 30 33.2	+4.2
TURI	Tura	5.80	302	eP		Pn	06 29 18.3	+2.5
TURI				eS		Sn	06 30 22.3	-0.1
NANT	Nan	5.93	128	P		Pn	06 29 13.0	-4.5
	comp=E,22nm,0.7s,comp=E,224nmcomp=E,0.2nm							
TAWA	Tawang	6.13	325	ex		Pn	06 29 10.1	-11
SUKH	Sukhothai	6.22	144	P		Pn	06 29 20.7	-0.7
DHUB	DHUBRI	6.31	304	eP		Pn	06 29 23.6	+1.0
DHUB				ex		x	06 30 46.8	
DHUB				IAML			06 30 49.4	
	comp=E,73nm,0.2s							
DHUB				IAML			06 30 49.8	
	comp=N,103nm,0.2s							
UMPA	Umpang Tak	6.97	155	P		Pn	06 29 35.1	+3.3
UTHA	Uthaitani	7.79	153	P		Pn	06 29 42.6	-0.4
NONG	Nongkai	8.23	122	P		Pg	06 30 22.1	-5.0
	comp=N,0.3nm,0.7s,comp=N,0.0nm							
TAPN	Taplejung	8.74	305	ePn		Pn	06 29 57.8	+1.5
ODAN	Odare	8.75	301	ePn		Pn	06 29 58.3	+1.9
RAMN	Ramite	9.42	299	ePn		Pn	06 30 07.0	+1.4
JIRN	Jiri	10.07	302	ePn		Pn	06 30 16.1	+1.5
JIRN				eSn		Sn	06 32 06.9	-0.9
GUN	Gumba	10.43	303	ePn		Pn	06 30 20.5	+1.0
GUN				eSn		Sn	06 32 17.6	+0.9
	comp=N,33nm,0.6s							
PKI	Pulchoki	10.65	300	ePn		Pn	06 30 23.5	+1.0
PKIN	Phulchoki	10.66	300	ePn		Pn	06 30 23.5	+0.9
KOLN	Koldanda	12.19	298	ePn		Pn	06 30 43.3	-0.3
KOLN				eSn		Sn	06 32 57.2	-2.5
	comp=N,12nm,0.5s							
DANN	Dangsing	12.30	300	ePn		Pn	06 30 45.0	0.0
PYUN	Piuthan	12.82	298	ePn		Pn	06 30 51.2	-0.9
MKAR	Makanchi Array	26.51	339	P		P	06 33 27.2	0.0
	comp=N,3.0nm,0.8s,baz=147,slow=11,SNR=15							
SONM	Songino Array	26.59	16	P		P	06 33 28.2	+0.1
	comp=N,1.3nm,0.8s,baz=207,slow=9.8,SNR=8.0							
AAK	Ala-Archa	26.74	323	P		P	06 33 29.1	-0.3
	comp=N,1.4nm,0.7s,baz=149,slow=16,SNR=2.3							
WRA	Warramunga Arr	56.59	135	P		P	06 37 30.3	-2.5
	comp=N,2.2nm,1.0s,baz=325,slow=7.7,SNR=6.3							
ASAR	Alice Springs	59.04	139	P		P	06 37 47.9	-2.1
	comp=N,1.0nm,0.6s,baz=307,slow=6.9,SNR=6.5							
NOA	NORSAR Array B	67.92	328	P		P	06 38 44.8	-3.5
	comp=N,0.7nm,0.9s,baz=82,slow=6.3,SNR=2.2							
ILAR	Eielson Array	80.61	23	P		P	06 40 00.8	-1.4
	comp=N,0.3nm,0.7s,baz=301,slow=5.1,SNR=3.2							

DRS ***13*** *06:34:30.6±0.0, 41°.93N×48°.57E, h18km*
AZER ***13*** *06:34:31.5±2.5, 41°.70N×48°.12E, h49km, ml3.3/23, Error ellipse: s-maj=3.6km s-min=1.5km az=13.0*
ISCJB ***13*** *06:34:31.9±0.3, 41°.74N±0°.02×48°.25E±0°.03, h61km±3km, mb3.6/6, Error ellipse: s-maj=4.5km s-min=2.5km az=154.8*
NORS ***13*** *06:34:31.7±0.0, 41°.85N×47°.95E, h11km, MPVA4.4*
MOS ***13*** *06:34:32.0±0.0, 41°.88N×47°.94E, h4km, MPVA4.5*
IDC ***13*** *06:34:33.5±1.8, 42°.40N×48°.32E, h47km±34km, mb3.0/3, mb1 3.2/7, mb1mx3.1/59, mbtmp3.3/7, ML3.1/3, Error ellipse: s-maj=19.8km s-min=15.0km az=130.0*
NNC ***13*** *06:34:38.8±10.0, 42°.03N×49°.84E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=102.7km s-min=34.5km az=76.0*

ISC 13 06:34:32.1±0.7, 41°.75N±0°.02×48°.27E±0°.03, h46km±5km, n89, σ2s 20/134, mb3.5/6, 31C-26D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSMR	**Kasumkent**	0.18	216	↓P	G	Pn	06 34 40.0	0.0
KSMR				*i* S		Sn	06 34 46.5	+1.0
KSMR				pmax		pmax		
	comp=Z,2µm,0.1s							
KSMR	**Kasumkent**	0.18	216	*i* Pg		Pn	06 34 40.0	0.0
KSMR				*i* Sg		Sn	06 34 46.5	+1.0
QSAR	**Qusar**	0.23	181	↓P		Pn	06 34 41.0	+0.6
	SNR=982							
QSAR				↑S		Sn	06 34 48.5	+2.4
DRN	**Derbent**	0.28	9	↓*i*PG		Pn	06 34 40.6	-0.1
DRN				*i*			06 34 48.1	
DRN				pmax		pmax		
	comp=Z,7µm,0.4s							
DRN				smax		smax		
	comp=N,6µm,0.5s							
DRN	**Derbent**	0.28	9	*i* Pg		Pn	06 34 40.6	-0.1
DRN				eSg		Sn	06 34 48.2	+1.4
QUBA	**Quba, Azerbaij**	0.43	157	↑P		Pn	06 34 43.3	+1.0
	SNR=13							
QUBA				↓S		Sn	06 34 52.9	+3.4
AKT	**Akhty**	0.49	237	↓*i*PG		Pn	06 34 42.8	-0.2
AKT				eS		Sn	06 34 51.4	+0.6
AKT				pmax		pmax		
	comp=Z,1µm,0.5s							
AKT	**Akhty**	0.49	237	*i* Pg		Pn	06 34 42.9	-0.2
AKT				eSg		Sn	06 34 51.5	+0.6
XNQ	**Khinaliq**	0.59	190	↑P		Pn	06 34 44.7	+0.3
	SNR=782							
XNQ				↑S		Sn	06 34 55.3	+2.2
URKR	**Urkarakh**	0.63	311	↓*i*PG		Pn	06 34 43.9	-1.0
URKR				*e*			06 34 54.0	
URKR	**Urkarakh**	0.63	311	*i* Pg		Pn	06 34 44.0	-1.0
URKR				eSg		Sn	06 34 54.0	-0.1
SIZA	**Siyzn**	0.82	145	↑P		Pn	06 34 48.6	+1.2
	SNR=12							
SIZA				↓S		Sn	06 35 02.0	+3.4
QBL	**Gabala**	0.87	202	↑P		Pn	06 34 48.3	+0.3
	SNR=26							
QBL				↑S		Sn	06 35 02.2	+2.7
KMKR	**Kumukh**	0.95	294	↓*i*PG		Pn	06 34 48.5	-0.8
KMKR				*i* S		Sn	06 35 02.5	+0.6
KMKR				pmax		pmax		
	comp=Z,193nm,0.1s							
KMKR	**Kumukh**	0.95	294	*i* Pg		Pn	06 34 48.5	-0.8
KMKR				*i* Sg		Sn	06 35 02.5	+0.6
IML	**Ismayilli**	0.96	184	↓P		Pn	06 34 50.4	+1.2
	SNR=12							
IML				↑S		Sn	06 35 04.7	+3.0
SEKA	**Sheki**	0.97	237	PG		Pn	06 34 49.4	+0.1
SEKA	**Sheki**	0.97	237	↑P		Pn	06 34 49.5	+0.1
	SNR=14							
SEKA				↓S		Sn	06 35 02.9	+0.8
PQL	**Pirkuli**	0.99	166	↑P		Pn	06 34 50.8	+1.1
	SNR=29							
PQL				↓S		Sn	06 35 05.4	+2.7
ATGJ	**Altiaghaj**	1.02	150	↓P		Pn	06 34 51.1	+1.1
	SNR=9.6							
ATGJ				↓S		Sn	06 35 08.2	+4.9
GNBR	**Gunib**	1.16	304	↓*e*PG		Pn	06 34 52.3	+0.3
GNBR				*e*			06 35 10.3	
GNBR				pmax		pmax		
	comp=Z,174nm,0.6s							
GNBR				smax		smax		
	comp=N,660nm,0.6s							
GNBR	**Gunib**	1.16	304	*e*Pg		Pn	06 34 51.9	-0.1
GNBR				eSg		Sn	06 35 05.5	-1.3
ZKTA	**Zakatala**	1.24	265	PG		Pn	06 34 53.3	+0.4
ZKTA	**Zakatala**	1.24	265	↑P		Pn	06 34 53.4	+0.4
	SNR=9.3							
ZKTA				↓S		Sn	06 35 10.3	+1.7
ARKR	**Arakani**	1.27	312	*e*PG		Pn	06 34 54.0	+0.5
ARKR				*i* S		Sn	06 35 11.0	+1.5
ARKR				pmax		pmax		
	comp=Z,93nm,0.1s							
ARKR	**Arakani**	1.27	312	*e*Pg		Pn	06 34 54.0	+0.5
ARKR				*i* Sg		Sn	06 35 11.0	+1.5
GBS	**Qobustan**	1.31	157	↓P		Pn	06 34 55.3	+1.2
	SNR=4.8							
GBS				↑S		Sn	06 35 12.8	+2.3
MAK	**Makhachkala**	1.34	335	↑*i*PG		Pn	06 34 54.7	+0.5
MAK				*e*			06 35 12.7	
MAK				pmax		pmax		
	comp=Z,288nm,0.3s							
MAK				smax		smax		
	comp=E,2µm,0.5s							
MAK				smax		smax		
	comp=E,2µm,0.8s							
MAK	**Makhachkala**	1.34	335	*e*Pg		Pn	06 34 54.8	+0.5
MAK				*e*Sg		Sn	06 35 12.8	+1.9
KDMR	**Kurdemir**	1.37	183	↓S		Sn	06 35 13.8	+2.1
BUJR	**Buynaksk**	1.38	322	*e*PG		Pn	06 34 54.5	-0.4
BUJR				eS		Sn	06 35 12.5	+0.6
BUJR	**Buynaksk**	1.38	322	*e*Pg		Pn	06 34 54.5	-0.4
BUJR				eSg		Sn	06 35 12.5	+0.6
XNZR	**Khunzakh**	1.41	305	↓*e*PG		Pn	06 34 57.2	+1.8
XNZR				*e*			06 35 16.8	
XNZR	**Khunzakh**	1.41	305	*e*Pg		Pn	06 34 56.2	+0.8
XNZR				eSg		Sn	06 35 13.2	+0.3
UNCR	**Uncukul**	1.46	312	*i* PG		Pn	06 34 56.0	0.0
UNCR				eS		Sn	06 35 15.0	+1.0
UNCR				pmax		pmax		
	comp=Z,107nm,0.2s							
UNCR	**Uncukul**	1.46	312	*i* Pg		Pn	06 34 56.0	0.0
UNCR				eSg		Sn	06 35 15.0	+1.0
KRNR	**Karanay**	1.48	317	*e*PG		Pn	06 34 57.0	+0.7
KRNR				*i* S		Sn	06 35 15.5	+1.0
KRNR				pmax		pmax		
	comp=Z,52nm,0.2s							
KRNR	**Karanay**	1.48	317	*e*Pg		Pn	06 34 57.0	+0.7
KRNR				*i* Sg		Sn	06 35 15.5	+1.0
ZRD	**Zardab**	1.54	197	↓S		Sn	06 35 17.8	+2.1
DBC	**Dubki**	1.66	320	↓*i*PG		Pn	06 34 59.2	+0.4
DBC				*i* S		Sn	06 35 20.7	+1.8
DBC				pmax		pmax		
	comp=Z,73nm,0.3s							
DBC	**Dubki**	1.66	320	*i* Pg		Pn	06 34 59.2	+0.4
DBC				*i* Sg		Sn	06 35 20.7	+1.8
BRDA	**Brd**	1.70	209	↓P		Pn	06 34 58.8	-0.4
BRDA				↑S		Sn	06 35 20.8	+1.0
BTLR	**Botlikh**	1.77	302	↓*e*PN		Pn	06 35 04.1	+3.8
BTLR				*e*			06 35 28.3	
BTLR				pmax		pmax		
	comp=Z,64nm,0.6s							
BTLR				smax		smax		
	comp=N,157nm,0.5s							
BTLR	**Botlikh**	1.77	302	*e*Pg		Pn	06 35 01.1	+0.7
BTLR				eSg		Sn	06 35 25.2	+3.4
DLMR	**Dylym**	1.79	318	*e*PN		Pn	06 35 02.0	+1.5
DLMR				*i* S		Sn	06 35 26.0	+3.9
DLMR				pmax		pmax		
	comp=Z,137nm,0.3s							
DLMR	**Dylym**	1.79	318	*e*Pg		Pn	06 35 02.0	+1.5
DLMR				*i* Sg		Sn	06 35 26.0	+3.9
GANJ	**Ganja**	1.84	234	PN		Pn	06 35 00.2	-0.9
GANJ	**Ganja**	1.84	234	↑P		Pn	06 35 00.3	-0.9
	SNR=11							
GANJ				↑S		Sn	06 35 21.7	-1.5
ALIB	**Äli-Bayra**	1.88	162	↑S		Sn	06 35 25.3	+1.3
DVE	**Vedeno**	2.00	308	*i* PN		Pn	06 35 05.3	+1.9
DVE				pmax		pmax		
	comp=Z,79nm,0.2s							
DVE	**Vedeno**	2.00	308	*e*Pg		Pn	06 35 05.9	+2.5
DVE				*e*Sg		Sn	06 35 31.5	+4.4
GDB	**GEDABAY**	2.16	242	↑P		Pn	06 35 04.2	-1.5
	SNR=9.8							
GDB				↑S		Sn	06 35 29.6	-1.7
QZX	**Qazax, Azerbai**	2.29	253	↓P		Pn	06 35 06.1	-1.3
QZX				↑S		Sn	06 35 32.6	-1.7
GROC	**Groznyy**	2.34	309	*e*PN		Pn	06 35 10.6	+2.6
GROC				eS		Sn	06 35 37.3	+1.9
GROC				pmax		pmax		
	comp=Z,59nm,0.3s							
GROC				smax		smax		
	comp=N,476nm,1.1s							
GROC				smax		smax		
	comp=N,200nm,1.0s							
GROC	**Groznyy**	2.34	309	*e*Pg		Pn	06 35 11.4	+3.4
GROC				*e*Sg		Sn	06 35 41.0	+5.6
GLBA	**Clilabad**	2.51	178	↑P		Pn	06 35 10.6	+0.3
GLBA				↑S		Sn	06 35 39.2	-0.5
LKRN	**Lenkeran, Azer**	3.06	173	↓S		Sn	06 35 52.4	-0.8
LRK	**Lerik**	3.10	179	↓P		Pn	06 35 17.9	-0.8
LRK				↑S		Sn	06 35 54.3	-0.3
GNI	**Garni**	3.11	240	P		Pn	06 35 24.4	+5.6
	comp=N,2.4nm,0.3s,baz=333,slow=14,SNR=3.1							
GNI				S		Sn	06 36 07.0	+12
	comp=N,3.8nm,0.3s,baz=165,slow=20,SNR=2.9							
GNI	**Garni**	3.11	240	*i* PN		Pn	06 35 23.1	+4.3
GNI	**Garni**	3.11	240	*e*Pn		Pn	06 35 23.1	+4.3
ASTR	**Astara**	3.21	173	↓S		Sn	06 35 55.9	-1.0
ORD	**Ordubad**	3.31	212	↓S		Sn	06 35 59.8	+0.2
NCK	**Nalchik**	3.87	298	*i* PN		Pn	06 35 32.0	+3.0
NCK	**Nalchik**	3.87	298	*e*Pn		Pn	06 35 32.0	+3.0
NEY	**Neytrino**	4.37	292	*i* PN		Pn	06 35 38.5	+2.5
NEY	**Neytrino**	4.37	292	*e*Pn		Pn	06 35 38.9	+2.9
NEY				*e*Sn		Sn	06 36 27.9	+2.2
KBZ	**Khabaz**	4.42	298	P		Pn	06 35 34.2	-2.3
	comp=N,0.1nm,0.3s,baz=170,slow=17,SNR=3.0							
KBZ				S		Sn	06 36 23.4	-3.4
	comp=N,1.3nm,0.3s,baz=288,slow=6.4,SNR=3.7							
KVAR	**Kislovodsk Arr**	4.65	300	S		Sn	06 36 30.0	-2.6
	baz=274,slow=19,SNR=3.4							
KIV	**Kislovodsk**	4.66	300	*e*PN		Pn	06 35 41.8	+1.9
KIV				eS		Sn	06 36 35.4	+2.7
KIV				pmax		pmax		
	comp=Z,10.0nm,1.1s							
KIV	**Kislovodsk**	4.66	300	*e*Pn		Pn	06 35 41.8	+1.9
ANN	**Anapa**	8.47	295	*e*P		Pn	06 36 39.1	+7.0
ANN				eS		Sn	06 38 13.6	+7.3
ANN				pmax		pmax		
	comp=Z,48nm,1.4s							
GEYT	**Alibeck**	8.48	114	P		Pn	06 36 29.3	-3.0
	comp=Z,0.7nm,0.3s,baz=309,slow=12,SNR=3.3							
GYA0B	**ALIBECK ARRAY**	8.48	114	↑Pn		Pn	06 36 30.1	-2.2
	comp=Z,1.6nm,0.3s							
GYA0B				↑Sn		Sn	06 37 56.8	-10
	comp=Z,6.6nm,0.5s							
AKTO	**Aktyubinsk**	11.00	35	P		Pn	06 37 01.5	-5.2
	comp=Z,0.5nm,0.3s,baz=212,slow=12,SNR=9.2							
AKTO				S		Sn	06 38 55.9	-12
	comp=Z,0.7nm,0.3s,baz=253,slow=19,SNR=4.7							
AKTO	**Aktyubinsk**	11.00	35	↑Pn		Pn	06 37 06.9	+0.2
	comp=Z,7.0nm,1.2s							
AKTO				↑Sn		Sn	06 39 00.6	-7.7
	comp=Z,3.5nm,0.6s							
AB31	**Akbulak array**	11.10	44	↑Pn		Pn	06 37 06.3	-1.7
	comp=Z,0.2nm,0.2s,baz=234,slow=13							
AB31				↑Sn		Sn	06 38 59.1	-12
	comp=Z,1.3nm,0.3s,baz=234,slow=23							
OBN	**Obninsk**	15.43	334	↑*e*P		Pn	06 38 08.2	+1.8
OBN				pmax		pmax		
	comp=Z,6.0nm,0.7s							
KIEV	**Kiev**	15.90	311	*i* P		Pn	06 38 13.4	+0.9
KIEV				pmax		pmax		
	comp=Z,3.0nm,1.1s							
ARU	**Arti**	16.14	21	*i* P		P	06 38 19.3	+1.3
ARU				pmax		pmax		
	comp=Z,3.0nm,1.0s							
BRVK	**Borovoye**	18.62	45	*i* P		Pn	06 38 49.3	+3.1
BRVK				pmax		pmax		
	comp=Z,11nm,2.3s							
BVAR	**Borovoye Array**	18.66	45	P		P	06 38 42.7	-3.2
	comp=Z,0.2nm,0.3s,baz=245,slow=9.4,SNR=2.3							
VSU	**Vasula**	21.53	328	*i* P		P	06 39 18.7	+1.7
VSU				pmax		pmax		
	comp=Z,29nm,1.1s							
KURBB	**Kurchatov Arra**	22.62	57	P		P	06 39 26.8	-1.9
	comp=Z,0.2nm,0.5s,baz=268,slow=9.8,SNR=2.9							
KURK	**Kurchatov**	22.69	56	P		P	06 39 26.8	-2.7
FINES	**FINESS Array B**	23.84	333	P		P	06 39 36.8	-3.7
	comp=Z,1.5nm,0.7s,baz=136,slow=11,SNR=4.8							
MKAR	**Makanchi Array**	24.75	67	P		P	06 39 47.1	-2.0
	comp=Z,0.2nm,0.5s,baz=265,slow=10.0,SNR=2.5							
DGZ	**Jazzator, Alta**	28.21	60	*i* P		P	06 40 25.2	+4.8
DGZ				pmax		pmax		
	comp=Z,1.0nm,1.2s							
TLY	**Talaya**	38.39	56	*i* P		P	06 41 54.0	+5.4
TLY				pmax		pmax		
	comp=Z,7.0nm,1.0s							

JMA 13 06:34:33.5±0.1, 40°.27N×142°.33E, h31km±1km, M3.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JKEN	**Kujiedanarisaw**	0.48	262	P		Pb	06 34 43.3	-0.3
JKEN				S		Sb	06 34 50.3	-0.3
JTH	**Tanohata**	0.49	227	P		Pb	06 34 43.7	-0.1
JANG	**Nango**	0.63	280	P		Pb	06 34 45.6	-0.5
JKZ	**Kuzumaki**	0.82	250	P		Pn	06 34 48.7	-0.2
JKZ				S		Sb	06 34 59.5	-0.5
JARK	**Aomorirokkasho**	1.04	315	P		Pn	06 34 51.6	-0.3
JARK				S		Sn	06 35 04.7	-0.7
JTM	**Tenmabayashi**	1.09	299	P		Pn	06 34 52.7	+0.1
JTM				S		Sn	06 35 06.2	-0.5
JOM	**Ohasama**	1.13	225	P		Pn	06 34 53.5	+0.4
JAH	**Hinai**	1.30	267	P		Pn	06 34 56.4	+0.9
JAH				S		Sb	06 35 13.3	-0.3
JOT	**Ohata**	1.48	319	P		Pn	06 34 58.1	+0.2
JOT				*e*S		Sn	06 35 15.7	-0.5

IDC ***13*** *06:34:50.6±1.9, 52°.57N×169°.29W, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.5/66, mbtmp3.7/8, ML3.4/2, MS4.1/1, Ms1 4.1/1, ms1mx3.1/54, Error ellipse: s-maj=51.0km s-min=21.0km az=178.0*
ISCJB ***13*** *06:34:53.5±1.6, 52°.44N±0°.3×169°.44W±0°.2, h40km, mb3.7/6, MS4.1/1, Error ellipse: s-maj=37.6km s-min=14.9km az=168.5*

ISC 13 06:34:55.8±1.7, 52°.4N±0°.3×169°.4W±0°.1, h40km, n10, σ1s 15/9, mb3.6/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDAK	**Kodiak Island**	10.99	54	Pn		Pn	06 37 30.1	-0.1
	0.2nm,0.3s,baz=232,slow=12,SNR=2.6							
ILAR	**Eielson Array**	16.89	34	Pn		Pn	06 38 49.7	+0.8
	0.0nm,0.3s,baz=228,slow=9.5,SNR=3.9							
PETK	**Petropavlovsk-**	19.84	285	P		P	06 39 21.3	-1.7
	0.8nm,0.3s,baz=90,slow=13,SNR=19							
INK	**Inuvik**	23.29	33	P		P	06 39 57.8	-1.7
	0.9nm,0.5s,baz=219,slow=6.5,SNR=5.0							
NRIK	**Noril'sk**	46.36	331	LR		LR	07 05 01.0	
	comp=Z,183nm,18.5s,baz=358,slow=39							
SONM	**Songino Array**	51.26	301	P		P	06 43 56.2	+0.8
	0.2nm,0.4s,baz=40,slow=6.4,SNR=2.2							
TXAR	**Lajitas Array**	52.75	89	P		P	06 44 06.9	+0.2
	0.3nm,0.9s,baz=303,slow=5.3,SNR=2.4							
BVAR	**Borovoye Array**	63.64	324	P		P	06 45 22.8	+0.5
	1.2nm,0.5s,baz=52,slow=7.0,SNR=7.5							
HFS	**Hagfors**	67.75	358	P		P	06 45 49.5	+0.8
	0.5nm,0.3s,baz=33,slow=3.4,SNR=4.5							
AKASG	**Malin Array Be**	76.03	348	P		P	06 46 38.4	-0.1
	0.4nm,0.5s,baz=16,slow=5.0,SNR=2.4							

NNC 13 06:41:58.5±5.6, 36°.84N×72°.17E, h0km, mb3.6, mpv3.3, 4C-2D, Error ellipse: s-maj=53.1km s-min=39.3km az=126.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SFK	**Sufi-Kurgan**	3.34	18	↓Pn		Pn	06 42 51.6	-0.5
	11nm,0.6s							
SFK				↑Sn		Sn	06 43 34.4	+1.8
	15nm,0.6s							
MNAS	**Manas**	5.64	3	↓Pn		Pn	06 43 25.3	+1.5
	5.4nm,1.3s							
MNAS				↑Sn		Sn	06 44 31.2	+1.8
	3.2nm,0.8s							
KK31	**Karatay Array**	6.38	349	↑Pn		Pn	06 43 33.2	-0.6
	0.3nm,0.3s,baz=165,slow=16,SNR=16							
KK31				↑Sn		Sn	06 44 45.8	-1.6
	1.2nm,0.5s,baz=165,slow=24							

IDC ***13*** *06:44:11.3±0.5, 2°.99S×139°.61E, h0km, mb4.4/19, mb1 4.6/21, mb1mx4.5/40, mbtmp4.5/21, ML4.8/2, MS3.8/5, Ms1 3.8/5, ms1mx3.4/32, Error ellipse: s-maj=17.5km s-min=11.7km az=108.0*
ISCJB ***13*** *06:44:15.7±0.2, 3°.07S±0°.03×139°.74E±0°.03, h46km, mb4.6/42, MS3.6/2, Error ellipse: s-maj=4.9km s-min=4.0km az=37.2*
BJI ***13*** *06:44:15.4, 3°.07S×140°.03E, h48km, mb5.0/13, mB5.1/8, Ms4.8/5, Ms7 4.5/5*
NEIC ***13*** *06:44:16.9±0.9, 3°.01S×139°.66E, h41km±9km, mb4.8/23, Error ellipse: s-maj=8.4km s-min=5.8km az=105.0*
DJA ***13*** *06:44:18.3±0.3, 3°.S±7°×14°.0E±°, h59km±6km, M4.9/13, mB5.2/6, mb4.9/13, MLv5.1/6, Mw(mB)4.6/6*

ISC 13 06:44:17.3±0.4, 3°.13S±0°.04×139°.72E±0°.05, h46km, n103, σ2s 16/111, mb4.7/42, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res

16nm,0.8s,baz=176,slow=9.0,SNR=4.3
FITZ LR LR 06 56 33.8
comp=Z,325nm,20.6s,baz=14,slow=36
FITZ Fitzroy Crossi 20.29 222 *eP* **P 06 48 49.9 +0.5**
16nm,0.8s
FITZ *eS* **S 06 52 29.9 -4.6**
AS01 Alice Springs 21.16 195 *eP* **P 06 48 60.0 +1.1**
AS31 Alice Springs 21.18 195 *eP* **P 06 49 00.4 +1.4**
10nm,0.4s
AS31 *eS* **S 06 52 46.7 -5.4**
ASAR Alice Springs 21.18 195 P **P 06 48 60.0 +1.0**
9.7nm,0.5s,baz=21,slow=9.6,SNR=62
ASAR S **S 06 52 45.9 -6.3**
1.3nm,0.7s,baz=0.0,slow=11,SNR=2.4
ASAR LR LR 06 57 49.6
comp=Z,235nm,18.7s,baz=5.0,slow=38
WBSI Waikabubak, Su 21.20 251 P **P 06 49 01.1 +1.8**
47nm,0.7s
MYLDM Lahad Datu 22.75 291 *eP* **P 06 49 14.6 -1.2**
12nm,0.9s
EIDS Eidsvold 24.67 155 *eP* **P 06 49 37.6 +3.6**
28nm,1.1s
MBWA Marble Bar 26.45 226 *eP* **P 06 49 51.5 +1.3**
8.7nm,0.6s
STKA Stephens Creek 28.65 177 P **P 06 50 10.8 +1.0**
2.1nm,0.6s,baz=5.1,slow=10,SNR=4.5
STKA Stephens Creek 28.65 177 *eP* **P 06 50 10.8 +1.0**
1.1nm,1.1s
FORT Forrest 29.63 201 *eP* **P 06 50 20.8 +2.3**
10nm,0.9s
NWAO Narrogin (SRO) 36.36 213 P **P 06 51 18.1 +0.9**
5.3nm,0.7s,baz=98,slow=7.1,SNR=5.5
NJ2 Nanjing 40.21 332 *eP* **P 06 51 49.3 -0.2**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
KSAR Wonju Array Be 41.84 346 P **P 06 52 01.9 -0.8**
KSRS Korea Array 41.84 346 P **P 06 52 01.9 -0.8**
3.3nm,0.7s,baz=156,slow=8.7,SNR=8.8
CMAR Chiang Mai Arr 45.52 300 P **P 06 52 31.1 -1.6**
1.0nm,0.4s,baz=119,slow=6.5,SNR=7.5
KMI Kunming 45.56 310 P **P 06 52 34.1 +0.9**
KMI pmax pmax
comp=Z,19nm,0.5s
KMI pmax pmax
comp=Z,100nm,6.0s
USRK Ussuriysk Ar. 47.62 352 P **P 06 52 48.4 -0.4**
5.1nm,0.8s,baz=173,slow=7.7,SNR=11
CD2 Chengdu 48.17 317 *eP* **P 06 52 52.5 -0.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 Changchun 48.45 346 *eP* **P 06 52 54.6 -0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
LZH Lanzhou 51.42 323 *eP* **P 06 53 19.3 +1.2**
LZH pP pP 06 53 33.1 +2.2
LZH sP sP 06 53 38.5 +2.3
LZH *ePP* **PP 06 55 17.3 +1.6**
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,85nm,7.0s
LZH LR LR
comp=N,320nm,14.6s
LZH LR LR
comp=E,330nm,14.9s
LZH LR LR
comp=Z,450nm,17.6s
KLR Kul'dur 52.60 353 P **P 06 53 26.3 -0.1**
10nm,0.7s,baz=189,slow=4.5,SNR=23
PETK Petropavlovsk- 58.04 13 P **P 06 54 06.1 +0.6**
4.5nm,0.8s,baz=176,slow=4.5,SNR=4.6
PEA1 Petropavlovsk- 58.04 13 *eP* **P 06 54 06.1 +0.6**
SONA0 Songino Array 58.53 334 *eP* **P 06 54 09.8 +0.6**
SONM Songino Array 58.53 334 P **P 06 54 09.8 +0.6**
1.0nm,0.5s,baz=158,slow=7.6,SNR=10
ODAN Odare 58.62 304 *eP* **P 06 54 10.1 -0.2**
11nm,0.6s
RAMN Ramite 59.30 304 *eP* **P 06 54 14.6 -0.5**
6.5nm,0.4s
JIRN Jiri 59.90 304 *eP* **P 06 54 18.8 -0.6**
11nm,0.4s
GUN Gumba 60.25 305 *eP* **P 06 54 21.3 -0.5**
8.9nm,0.4s
PKI Pulchoki 60.52 304 *eP* **P 06 54 22.5 -1.1**
PKIN Phulchoki 60.53 304 *eP* **P 06 54 22.9 -0.7**
KKN Kakani 60.70 304 *eP* **P 06 54 24.6 -0.1**
12nm,0.7s
DMN Daman 60.78 304 *eP* **P 06 54 24.7 -0.6**
20nm,0.8s
RAR Rarotonga 61.44 112 LR LR 07 18 12.4
comp=Z,132nm,21.9s,baz=358,slow=33
KOLN Koldanda 62.09 304 *eP* **P 06 54 33.4 -0.6**
6.4nm,0.5s
DANN Dangsing 62.16 304 *eP* **P 06 54 34.2 -0.4**
12nm,0.5s
PYUN Piuthan 62.71 304 *eP* **P 06 54 37.5 -0.7**
23nm,0.6s
WMQ Urumqi 65.96 321 *eP* **P 06 55 00.3 +1.3**
WMQ LR LR
comp=E,520nm,28.7s
WMQ LR LR
comp=Z,490nm,19.7s
CASY Casey 66.28 192 *eP* **P 06 55 00.9 +0.4**
9.2nm,1.0s
SEY Seymchan 66.58 6 P **P 06 55 01.8 -0.6**
2.4nm,0.8s,baz=176,slow=7.4,SNR=5.7
MK32 Makanchi Array 70.73 322 *eP* **P 06 55 28.1 -0.6**
MKAR Makanchi Array 70.73 322 P **P 06 55 28.1 -0.6**
1.4nm,0.6s,baz=93,slow=8.7,SNR=9.5
KSH Kashi 72.10 313 *eP* **P 06 55 40.3 +3.0**
ZALV Zalesovo Beam 72.80 330 P **P 06 55 39.8 -1.1**
0.7nm,0.3s,baz=120,slow=5.2,SNR=3.7
ZAA1 Zalesovo Array 72.80 330 *eP* **P 06 55 39.8 -1.2**
TIXI Tiksi 74.98 356 P **P 06 55 52.7 -0.6**
1.5nm,0.3s,baz=191,slow=2.5,SNR=4.1
VNDA Vanda 75.28 175 P **P 06 55 56.4 +1.4**
1.8nm,0.7s,baz=318,slow=7.6,SNR=15
VNDA Vanda 75.28 175 *eP* **P 06 55 57.0 +1.9**
1.8nm,0.7s
KDAK Kodiak Island 80.95 30 P **P 06 56 26.5 -0.3**
7.0nm,0.7s,baz=245,slow=5.1,SNR=6.2
MAW Mawson 82.12 202 P **P 06 56 34.6 +1.9**
2.2nm,0.7s,baz=76,slow=9.4,SNR=5.4
IM3 Indian Mountai 83.49 22 *eP* **P 06 56 39.9 0.0**
SML Sawmill 84.30 27 *eP* **P 06 56 43.8 -0.4**
14nm,0.9s
MLY Manley 84.31 24 *eP* **P 06 56 44.2 0.0**
9.0nm,1.2s
RND Reindeer 84.56 25 *eP* **P 06 56 44.7 -0.8**
9.3nm,0.9s
MCK McKinley 84.63 25 *eP* **P 06 56 45.4 -0.4**
6.5nm,0.9s
DHY Denali Highway 85.10 26 *eP* **P 06 56 48.2 -0.1**
9.5nm,1.0s
WRH Wood River Hil 85.21 24 *eP* **P 06 56 48.0 -0.6**
12nm,1.2s
GEYT Ailbeck 85.29 308 P **P 06 56 50.0 +0.3**
0.9nm,0.5s,baz=111,slow=11,SNR=3.9
DIV Divide 85.29 28 *eP* **P 06 56 48.8 -0.4**
15nm,0.8s
CCB Clear Creek Bu 85.38 24 *eP* **P 06 56 48.7 -0.8**
8.6nm,0.9s
IL1 Eielson Array 85.80 24 *eP* **P 06 56 50.0 -1.6**
ILAR Eielson Array 85.80 24 P **P 06 56 50.2 -1.3**
6.1nm,0.9s,baz=257,slow=4.9,SNR=43
ILB Eielson Array 85.80 24 *eP* **P 06 56 50.3 -1.3**
QSPA South Pole Qui 86.82 180 *eP* **P 06 56 57.6 +0.8**
3.9nm,0.9s
EGAK Eagle 88.18 25 *eP* **P 06 57 03.5 +0.3**
6.3nm,0.9s
DAWY Dawson 88.81 26 *eP* **P 06 57 06.5 +0.3**
9.1nm,1.0s
HYT Haines Junctio 89.18 29 *eP* **P 06 57 08.7 +0.6**
9.1nm,0.9s
MNMC Minye Minye 143.66 129 *e*PKPdf **PKPdf 07 03 47.4 -1.2**
DBIC Dimbokro 144.54 277 PKP **PKPab 07 03 47.9 -0.4**
8.6nm,0.7s,baz=87,slow=3.8,SNR=14
ROSC El Rosal 146.00 86 *e*PKPdf **PKPdf 07 03 51.5 -1.4**
LPAZ La Paz 146.39 126 PKPbc **PKPab 07 03 55.9 0.0**
2.3nm,0.8s,baz=276,slow=2.1,SNR=11
PAMC Pamplona, Colo 147.46 81 *eP* **PKPdf 07 03 56.5 +1.0**

IDC ***13*** *06:48:05.4±4.3,32.°04S×178.°96W,h0km,mb4.4/2, mb1 4.7/2,mb1mx3.9/31,mbtmp4.4/2,Error ellipse: s-maj=221.1km s-min=43.7km az=163.0*

WEL ***13*** *06:48:07.3±0.8,33.°5S×7.°×17.°8W×2.°0,h33km,ML5.0/17*
ISC 13 06:48:05.8±0.9,32.°70S±0.°07×178.°5W±0.°2,h33km,n52,
σ2ş46/40,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
GLKZ	**Green Lake**	**3.46**	**8**	P		**Pb**	**06 49 03.4**	**-3.0**
GLKZ				S		**Sb**	**06 49 43.6**	**-4.4**
RIZ	**Raoul Island**	**3.48**	**8**	P		**Pn**	**06 49 01.0**	**+3.4**
RIZ				S		**Sb**	**06 49 45.9**	**-2.6**
MXZ	**Matakaoa Point**	**5.52**	**208**	P		**Pn**	**06 49 24.3**	**-1.4**
MXZ				S		Sn	06 50 23.2	-4.8
WMGZ	**Waiomatatini S**	**5.71**	**206**	P		**Pn**	**06 49 27.7**	**-0.5**
WMGZ				S		**Sn**	**06 50 29.4**	**-3.1**
PKGZ	**Pakihiroa**	**5.89**	**208**	P		**Pn**	**06 49 29.8**	**-1.1**
PKGZ				S		**Sn**	**06 50 33.1**	**-4.2**
HAZ	**Te Kaha**	**5.90**	**210**	P		**Pn**	**06 49 30.1**	**-0.8**
HAZ				S		**Sn**	**06 50 35.5**	**-1.9**
PUZ	**Puketiti**	**5.99**	**206**	P		Pn	06 49 30.7	-1.4
PUZ				S		**Sn**	**06 50 35.6**	**-3.9**
RUGZ	**Raukumara Rang**	**6.12**	**210**	P		**Pn**	**06 49 32.8**	**-1.3**
RUGZ				S		**Sn**	**06 50 38.7**	**-4.4**
GRZ	**Great Barrier**	**6.14**	**233**	P		**Pn**	**06 49 36.1**	**+1.9**
TWGZ	**Tauwhareparae**	**6.18**	**207**	P		**Pn**	**06 49 33.6**	**-1.3**
TWGZ				S		**Sn**	**06 50 39.9**	**-4.6**
WHRZ	**Whale Island**	**6.35**	**215**	P		**Pn**	**06 49 38.6**	**+1.5**
CNGZ	**Carnagh Statio**	**6.37**	**204**	P		**Pn**	**06 49 36.4**	**-1.0**
TKGZ	**Te Karaka**	**6.46**	**207**	P		**Pn**	**06 49 37.6**	**-1.1**
MWZ	**Matawai**	**6.50**	**209**	P		Pn	06 49 37.5	-1.6
MWZ				S		Sn	06 50 46.6	-5.5
OPRZ	**Ohinepanea**	**6.55**	**217**	P		**Pn**	**06 49 40.9**	**+1.1**
URZ	**Urewera**	**6.61**	**212**	P		Pn	06 49 38.9	-1.8
URZ				S		Sn	06 50 48.9	-6.0
RIGZ	**Rimuhau**	**6.73**	**206**	P		**Pn**	**06 49 41.6**	**-0.7**
RIGZ				S		Sn	06 50 51.0	-6.8
KMRZ	**Kaimai**	**6.87**	**220**	P		**Pn**	**06 49 46.1**	**+1.8**
PRGZ	**Paritu Road**	**6.88**	**205**	P		Pn	06 49 42.3	-2.0
MUGZ	**Murupara**	**6.95**	**213**	P		Pn	06 49 42.5	-2.8
SNGZ	**Shannon Statio**	**6.96**	**208**	P		Pn	06 49 43.3	-2.2
RTZ	**Ruatahuna**	**6.97**	**211**	P		Pn	06 49 43.1	-2.5
MHGZ	**Mahia Peninsul**	**7.08**	**204**	P		Pn	06 49 44.4	-2.6
RAHZ	**Arahi**	**7.17**	**209**	P		**Pn**	**06 49 47.5**	**-1.0**
MTHZ	**Maungataniwha**	**7.22**	**211**	P		**Pn**	**06 49 47.9**	**-1.2**
WHHZ	**Waihua**	**7.25**	**208**	P		**Pn**	**06 49 49.7**	**+0.2**
NMHZ	**Naumai**	**7.44**	**210**	P		**Pn**	**06 49 51.1**	**-1.1**
ARHZ	**Aropaoanui**	**7.51**	**208**	P		Pn	06 49 51.2	-1.8
BKZ	**Black Stump Fm**	**7.63**	**211**	P		Pn	06 49 52.5	-2.3
MCHZ	**McNeill Hill**	**7.78**	**209**	P		**Pn**	**06 49 55.9**	**-0.9**
KWHZ	**Kaweka Forest**	**7.88**	**210**	P		Pn	06 49 56.1	-2.0
KRVZ	**Karewarewa**	**7.97**	**215**	P		**Pn**	**06 49 58.9**	**-0.5**
KAHZ	**Kahuranaki**	**8.01**	**207**	P		Pn	06 49 56.2	-3.7
TWVZ	**Taurewa**	**8.05**	**216**	P		**Pn**	**06 50 00.1**	**-0.5**
NGZ	**Ngauruhoe**	**8.05**	**215**	P		**Pn**	**06 50 00.5**	**-0.1**
BHHZ	**Black Hill Sta**	**8.09**	**212**	P		Pn	06 49 59.0	-2.0
TUVZ	**Tukino**	**8.10**	**214**	P		**Pn**	**06 50 00.8**	**-0.4**
MOVZ	**Moawhango**	**8.16**	**213**	P		Pn	06 49 59.8	-2.3
PXZ	**Pawanui**	**8.22**	**206**	P		Pn	06 50 00.1	-2.7
PNHZ	**Pukenui**	**8.38**	**209**	P		Pn	06 50 01.2	-3.8
PRHZ	**Porangahau**	**8.51**	**206**	P		Pn	06 50 02.2	-4.6
POWZ	**Post Office Ro**	**8.96**	**210**	P		Pn	06 50 10.8	-2.1
BFZ	**Birch Farm**	**9.02**	**207**	P		Pn	06 50 08.7	-5.1
TMWZ	**Te Maipa**	**9.52**	**207**	P		Pn	06 50 16.2	-4.4
ASAR	**Alice Springs**	**42.64**	**270**	P		**P**	**06 56 00.1**	**+0.7**
	2.5nm,0.6s,baz=104,slow=7.1,SNR=4.4							
WRA	**Warramunga Arr**	**43.84**	**275**	P		**P**	**06 56 09.8**	**+0.7**
	2.6nm,0.3s,baz=116,slow=8.2,SNR=21							
SNAA	**Sanae**	**75.87**	**179**	P		**P**	**06 59 51.6**	**+3.1**
VNA3	**Neumayer Olymp**	**76.04**	**176**	P		**P**	**06 59 53.1**	**+3.6**
VNA2	**Neumayer--Watz**	**76.47**	**177**	P		**P**	**06 59 56.0**	**+4.1**
NB2	**NORSAR Subarra**	**150.96**	**350**	PKP		**PKPbc**	**07 07 57.4**	**+2.9**
	comp=Z,0.8nm,0.5s,baz=19,slow=2.6							
NOA	**NORSAR Array B**	**150.96**	**350**	PKPbc		**PKPbc**	**07 07 57.7**	**+3.2**
	comp=Z,1.0nm,0.6s,baz=15,slow=4.1,SNR=5.3							
HFS	**Hagfors**	**151.41**	**347**	PKPbc		**PKPbc**	**07 07 58.0**	**+2.5**
	comp=Z,1.5nm,0.7s,baz=84,slow=5.9,SNR=4.1							

BJI ***13*** *06:48:16.4,29.°70N×42.°60W,h10km,mb5.2/4,mB5.4/3, Ms5.0/3,Ms7 4.7/3*
MOS ***13*** *06:48:17.3±1.0,29.°83N×42.°65W,h10km,mb5.0/46,Error ellipse: s-maj=8.6km s-min=6.7km az=136.6*
ISCJB ***13*** *06:48:17.4±0.2,29.°78N±0.°04×42.°64W±0.°02,h10km, mb4.8/174,MS4.2/32,Error ellipse: s-maj=5.8km s-min=2.7km az=175.2*
IDC ***13*** *06:48:17.4±0.5,29.°87N×42.°75W,h0km,mb4.3/28, mb1 4.5/28,mb1mx4.4/44,mbtmp4.3/28,MS4.2/27, Ms1 4.2/27,ms1mx4.1/41,Error ellipse: s-maj=14.8km s-min=12.3km az=154.0*
NEIC ***13*** *06:48:19.1±0.1,29.°76N×42.°61W,h10km,mb4.9/128, Error ellipse: s-maj=4.6km s-min=2.6km az=179.0*
GCMT ***13*** *06:48:23.1±0.3,29.°97N±0.°04×42.°83W±0.°02,h13km±1km, MW5.0/90,Moment Tensor Solution. s15,c16; s90,c142; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-4.04±.30; Mθθ0.13±.17; Mϕϕ3.91±.19; Mrθ0.39±.61; Mθϕ0.12±.10; Mϕr-0.40±.36; Best double couple: M=4.01500×10^16 NP1:ϕs356.00000°,δ48.00000°,λ-97.00000°. NP2: ϕs187.00000°,δ43.00000°,λ-82.00000°. Principal axes: T 3.9320, Plg3.0000°, Azm91.0000°; N 0.1640, Plg5.0000°, Azm1.0000°; P -4.0970, Plg84.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 13 06:48:19.1±0.3,29.°72N±0.°07×42.°69W±0.°06,h10km,n510,
σ1ş00/504,mb4.9/179,MS4.2/32,19C-5D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SJG	**San Juan**	**24.31**	**247**	LR		LR	07 01 08.8	
	comp=Z,521nm,21.9s,baz=58,slow=32							
MDP	**Montagnes des**	**26.23**	**203**	LR		LR	07 01 51.6	
	comp=Z,400nm,21.0s,baz=14,slow=31							
HNH	**Hanover**	**27.36**	**309**	*e*P		**P**	**06 54 06.7**	**+2.4**
	92nm,1.8s							
CPNY	**Central Park**	**27.68**	**302**	*e*P		**P**	**06 54 05.8**	**-1.5**
	41nm,1.3s							
N59A	**State Game Lan**	**29.05**	**302**	P		**P**	**06 54 17.2**	**-2.3**
	baz=102							
BINY	**Binghamton**	**29.50**	**304**	P		**P**	**06 54 20.9**	**-2.6**
	baz=104							
SCHQ	**Schefferville**	**30.51**	**332**	LR		LR	07 05 21.5	
	comp=Z,313nm,21.6s,baz=78,slow=34							
SSPA	**Standing Stone**	**30.57**	**300**	P		**P**	**06 54 32.6**	**-0.4**
	baz=100							
O56A	**Blue Knob Stat**	**31.03**	**300**	P		**P**	**06 54 36.0**	**-1.1**
	baz=98							
KMSC	**Kings Mountain**	**32.92**	**290**	P		**P**	**06 54 51.9**	**-1.8**
	baz=88							
ESDC	**Sonseca Array**	**33.13**	**62**	P		**P**	**06 54 55.3**	**-0.3**
	0.2nm,0.3s,baz=268,slow=11,SNR=4.7							
ESDC				LR		LR	07 04 58.7	
	comp=Z,544nm,21.3s,baz=275,slow=30							
156A	**Sylvania**	**33.20**	**285**	P		**P**	**06 54 55.9**	**-0.2**
	baz=84							
Q52A	**Bidwell**	**33.73**	**297**	P		**P**	**06 55 00.5**	**-0.2**
	baz=94							
R52A	**Catlettsburg**	**33.99**	**295**	P		**P**	**06 55 04.0**	**+1.0**
	baz=92							
155A	**Kite**	**34.02**	**285**	P		**P**	**06 55 01.2**	**-2.1**
	baz=84							
O51A	**Pataskala**	**34.09**	**299**	P		**P**	**06 55 02.0**	**-1.8**
	baz=95							
ACSO	**Alum Creek Sta**	**34.38**	**299**	*e*P		**P**	**06 55 07.5**	**+1.2**
	46nm,1.3s							
W53A	**Cullowhee**	**34.41**	**290**	P		**P**	**06 55 07.0**	**+0.2**
	baz=87							
PTGA	**Pitinga**	**34.48**	**212**	*e*P		**P**	**06 55 08.3**	**+0.9**
	13nm,1.1s							
U52A	**Thorn Hill**	**34.54**	**292**	P		**P**	**06 55 09.1**	**+1.2**
	baz=89							
N50A	**Nevada**	**34.56**	**300**	P		**P**	**06 55 06.7**	**-1.2**
	baz=96							
Q51A	**Peebles**	**34.58**	**297**	*e*P		**P**	**06 55 09.2**	**+1.1**
	38nm,1.5s							
Q51A	**Peebles**	**34.58**	**297**	P		**P**	**06 55 06.8**	**-1.2**
	baz=93							
R51A	**Hillsboro**	**34.73**	**295**	P		**P**	**06 55 09.1**	**-0.3**
	baz=92							
GOGA	**Godfrey**	**34.78**	**287**	P		**P**	**06 55 10.2**	**+0.3**
	baz=85							
Y53A	**Monroe**	**34.84**	**288**	P		**P**	**06 55 10.7**	**+0.3**
	baz=85							
O50A	**Cable**	**34.86**	**299**	P		P	**06 55 11.8**	**+1.3**
	baz=94							
Z53A	**Monticello**	**34.88**	**287**	P		**P**	**06 55 10.1**	**-0.6**
	baz=84							
P50A	**Jamestown**	**34.96**	**298**	P		**P**	**06 55 11.4**	**0.0**
	baz=93							
T51A	**Gray**	**35.00**	**293**	P		**P**	**06 55 12.4**	**+0.6**
	baz=90							
W52A	**Murphy**	**35.04**	**290**	P		**P**	**06 55 12.8**	**+0.6**
	baz=87							
X52A	**Dahlonega**	**35.04**	**289**	P		**P**	**06 55 13.1**	**+0.9**
	baz=86							
M49A	**Liberty Center**	**35.25**	**301**	P		**P**	**06 55 12.6**	**-1.2**
	baz=96							
R50A	**Paris**	**35.32**	**295**	P		**P**	**06 55 15.1**	**+0.6**
	baz=91							
S50A	**Richmond**	**35.37**	**294**	P		**P**	**06 55 14.9**	**0.0**
	baz=90							
O49A	**Covington**	**35.41**	**299**	P		**P**	**06 55 14.9**	**-0.3**
	baz=94							
Z52A	**Williamson**	**35.60**	**286**	P		**P**	**06 55 16.9**	**0.0**
	baz=84							
L48A	**N Adams**	**35.64**	**302**	P		**P**	**06 55 16.9**	**-0.3**
	baz=96							
P49A	**Miami Univ. Ec**	**35.66**	**297**	P		**P**	**06 55 16.8**	**-0.6**
	baz=93							
T50A	**Nancy**	**35.72**	**293**	P		**P**	**06 55 17.6**	**-0.4**
	baz=89							
W51A	**Cleveland**	**35.72**	**290**	P		**P**	**06 55 18.2**	**+0.3**
	baz=86							
U50A	**Jamestown**	**35.73**	**292**	P		**P**	**06 55 18.7**	**+0.6**
	baz=88							
Q49A	**Aurora**	**35.78**	**296**	P		**P**	**06 55 19.1**	**+0.6**
	baz=92							
PAMC	**Pamplona, Colo**	**35.92**	**238**	*e*P		**P**	**06 55 21.5**	**+1.1**
V50A	**Pikevile**	**35.97**	**291**	P		**P**	**06 55 20.1**	**0.0**
	baz=87							
252A	**Lumpkin**	**36.00**	**285**	P		**P**	**06 55 19.8**	**-0.7**
	baz=82							
O48A	**Farmland**	**36.04**	**299**	P		**P**	**06 55 20.6**	**0.0**
	baz=93							
W50A	**Signal Mountai**	**36.17**	**290**	P		**P**	**06 55 22.7**	**+0.8**
	baz=86							
P48A	**Milroy**	**36.21**	**297**	P		**P**	**06 55 22.4**	**+0.3**
	baz=92							
T49A	**Edmonton**	**36.27**	**293**	P		**P**	**06 55 23.9**	**+1.2**
	baz=89							
U49A	**Red Boiling Sp**	**36.48**	**292**	P		**P**	**06 55 24.8**	**+0.3**
	baz=88							
X50B	**Fort Payne**	**36.50**	**289**	P		**P**	**06 55 25.2**	**+0.5**
	baz=85							
251A	**Midway**	**36.56**	**285**	P		**P**	**06 55 25.1**	**0.0**
	baz=82							
V49A	**McMinnville**	**36.62**	**291**	P		**P**	**06 55 25.6**	**-0.1**
	baz=87							
Y50A	**Piedmont**	**36.62**	**288**	P		**P**	**06 55 26.3**	**+0.6**
	baz=84							
S48A	**Wiedeman Farm,**	**36.68**	**294**	P		**P**	**06 55 26.1**	**-0.1**
	baz=89							
O47A	**Sheridan**	**36.82**	**298**	P		**P**	**06 55 23.5**	**-3.8**
	baz=93							
WCI	**Wyandotte Cave**	**36.86**	**295**	P		**P**	**06 55 26.7**	**-1.0**
	baz=90							
W49A	**Belvidere**	**36.95**	**290**	P		**P**	**06 55 27.8**	**-0.7**
	baz=86							
T48A	**Bowling Green**	**36.96**	**293**	P		**P**	**06 55 30.0**	**+1.5**
	baz=88							
150A	**Eclectic**	**37.00**	**286**	P		**P**	**06 55 30.1**	**+1.2**
	baz=82							
X49A	**Woodville**	**37.05**	**289**	P		**P**	**06 55 30.2**	**+0.9**
	baz=85							
RUSC	**La Rusia**	**37.18**	**236**	*e*P		**P**	**06 55 29.1**	**-2.1**
Y49A	**Blount Mountai**	**37.19**	**288**	P		**P**	**06 55 29.8**	**-0.7**
	baz=84							
MOTC	**Monteria, Cord**	**37.24**	**243**	*e*P		**P**	**06 55 33.1**	**+2.0**
Z49A	**Columbiana**	**37.36**	**287**	P		**P**	**06 55 31.6**	**-0.4**
	baz=83							
V48A	**Smith Brothers**	**37.37**	**291**	P		**P**	**06 55 31.6**	**-0.4**
	baz=86							
ZARC	**Zaragoza, Cauc**	**37.43**	**240**	*e*P		**P**	**06 55 33.4**	**+0.6**
W48A	**Pulaski**	**37.50**	**290**	P		**P**	**06 55 32.7**	**-0.4**
	baz=85							
SFIN	**Lafayette**	**37.53**	**299**	P		**P**	**06 55 32.9**	**-0.4**
	baz=92							
T47A	**Sharon Grove**	**37.53**	**293**	P		**P**	**06 55 33.6**	**+0.2**
	baz=88							
SFJD	**Kangerlussuaq**	**37.61**	**355**	LR		LR	07 07 14.1	
	comp=Z,324nm,21.8s,baz=208,slow=30							
149A	**Jones**	**37.65**	**286**	P		**P**	**06 55 34.0**	**-0.4**
	baz=82							
X48A	**Hartselle**	**37.65**	**289**	P		**P**	**06 55 35.0**	**+0.5**
	baz=84							
PTBC	**PUERTO BERRIO,**	**37.75**	**239**	*e*P		**P**	**06 55 34.0**	**-1.4**
LRAL	**Lakeview Retre**	**37.77**	**287**	P		**P**	**06 55 37.5**	**+2.1**
	baz=83							
FRB	**Frobisher Bay**	**37.82**	**342**	LR		LR	07 08 51.0	
	comp=Z,180nm,21.3s,baz=183,slow=33							
N45A	**Kentland**	**37.87**	**299**	P		**P**	**06 55 36.4**	**+0.2**
	baz=92							
V47A	**Nunnelly**	**37.93**	**291**	P		**P**	**06 55 37.6**	**+0.8**
	baz=86							
S46A	**Don Dixon Farm**	**37.99**	**294**	P		**P**	**06 55 36.6**	**-0.7**
	baz=88							
P45A	**Graceland, Par**	**38.00**	**297**	P		**P**	**06 55 38.5**	**+1.2**
	baz=91							
249A	**Camden**	**38.01**	**285**	P		**P**	**06 55 38.1**	**+0.6**
	baz=81							
WVT	**Waverly**	**38.16**	**292**	*e*P		**P**	**06 55 38.3**	**-0.4**
	7.4nm,1.0s							
WVT	**Waverly**	**38.16**	**292**	*e*P		**P**	**06 55 38.3**	**-0.4**
WVT				pmax		pmax		
	comp=Z,7.0nm,1.0s							
WVT	**Waverly**	**38.16**	**292**	P		**P**	**06 55 39.2**	**+0.5**
	baz=86							
T46A	**Princeton**	**38.16**	**293**	P		**P**	**06 55 40.2**	**+1.5**
	baz=87							
349A	**Repton**	**38.17**	**284**	P		**P**	**06 55 40.6**	**+1.8**
	baz=80							
Z48A	**Northport**	**38.19**	**287**	P		**P**	**06 55 40.7**	**+1.8**
	baz=83							
X47A	**Russelville**	**38.31**	**289**	P		**P**	**06 55 40.5**	**+0.5**
	baz=84							
Q45A	**Warren Harvey,**	**38.32**	**296**	P		**P**	**06 55 40.6**	**+0.5**
	baz=90							
N44A	**Piper City**	**38.33**	**299**	P		**P**	**06 55 40.3**	**+0.2**
	baz=92							
Y47A	**UCPARC, Winfie**	**38.37**	**288**	P		**P**	**06 55 41.3**	**+0.8**
	baz=83							
V46A	**Holladay**	**38.41**	**291**	P		**P**	**06 55 41.0**	**+0.2**
	baz=86							
R45A	**Skylar, Fairfi**	**38.43**	**295**	P		**P**	**06 55 40.8**	**-0.1**
	baz=89							
PLAL	**Pickwick Lake**	**38.45**	**290**	*e*P		**P**	**06 55 41.6**	**+0.5**
	comp=Z,16nm,1.2s							
O44A	**Mansfield**	**38.57**	**298**	P		**P**	**06 55 42.3**	**+0.2**
	baz=91							
HELC	**Santa Helena**	**38.78**	**239**	*e*P		**P**	**06 55 44.8**	**+0.2**
ROSC	**El Rosal**	**38.79**	**237**	LR		LR	07 11 54.6	
	comp=Z,259nm,20.4s,baz=31,slow=36							
147A	**Livingston**	**38.88**	**286**	P		**P**	**06 55 45.9**	**+1.2**
	baz=82							
Q44A	**Meyer Farm, Va**	**38.99**	**296**	P		**P**	**06 55 47.4**	**+1.8**
	baz=89							

OXF pmax pmax
comp=Z,34nm,1.2s
OXF Oxford 39.59 289 P **P 06 55 50.9 +0.2**
baz=84
R43A Red Bud 39.73 295 P **P 06 55 52.3 +0.5**
baz=88
I41A Arkdale 39.82 304 P **P 06 55 53.6 +1.1**
baz=95
J41A Loganville 39.87 303 P **P 06 55 52.8 -0.1**
baz=94
S43A Fulton Ridge, 39.87 294 P **P 06 55 53.2 +0.2**
baz=87
PRAC Prado 39.97 236 *e*P **P 06 55 52.7 -1.5**
T43A Greenville 40.07 293 P **P 06 55 54.8 +0.2**
baz=86
PBMO Poplar Bluff 40.20 293 *e*P **P 06 55 55.4 -0.4**
comp=Z,20nm,1.3s
H40A Chili 40.24 305 P **P 06 55 55.2 -0.8**
baz=95
R42A Luebbering 40.41 295 P **P 06 55 57.3 -0.2**
baz=87
O41A Passleys Farm, 40.42 298 P **P 06 55 57.7 +0.2**
baz=89
S42A Caledonia 40.43 295 P **P 06 55 58.8 +1.1**
baz=87
P41A Barry, Barry 40.57 297 P **P 06 55 58.3 -0.5**
baz=89
T42A Van Buren 40.72 293 *e*P **P 06 55 59.5 -0.6**
comp=Z,25nm,1.3s
T42A Van Buren 40.72 293 P **P 06 55 59.3 -0.8**
baz=86,SNR=7.3
Q41A Truxton 40.72 296 P **P 06 55 59.6 -0.4**
baz=88,SNR=5.2
F39A Loretta 40.74 307 P **P 06 55 60.0 -0.1**
baz=96
CCM Cathedral Cave 40.77 295 *e*P **P 06 56 00.5 0.0**
comp=Z,14nm,1.3s
CCM Cathedral Cave 40.77 295 *e*P **P 06 56 00.5 0.0**
CCM pmax pmax
comp=Z,14nm,1.3s
CCM Cathedral Cave 40.77 295 P **P 06 56 00.9 +0.5**
baz=87
R41A Rosebud 40.86 295 P **P 06 56 01.7 +0.4**
baz=87
U42A Revenden 40.89 292 P **P 06 56 01.0 -0.5**
baz=85
M40A Post Highland 40.90 300 P **P 06 56 01.0 -0.5**
baz=90
V42A Cord 41.06 292 P **P 06 56 02.7 -0.2**
baz=84
J39A Decorah 41.10 303 P **P 06 56 02.3 -0.8**
baz=92
S41A Jillco Farms, 41.20 294 P **P 06 56 03.2 -0.8**
baz=86
K39A Oelwein 41.21 302 P **P 06 56 03.5 -0.5**
baz=92
T41A Mountain View 41.25 294 P **P 06 56 04.2 -0.3**
baz=85,SNR=6.2
L39A Vinton 41.28 301 P **P 06 56 04.7 +0.1**
baz=91
M39A Webster 41.40 300 P **P 06 56 06.4 +0.8**
baz=90
U41A Viola 41.44 292 P **P 06 56 05.2 -0.8**
baz=84
BNI Bardonecchia 41.46 54 *e*P **P 06 56 07.4 +1.2**
comp=Z,29nm,1.3s
BNI Bardonecchia 41.46 54 *e*P **P 06 56 07.4 +1.2**
BNI pmax pmax
comp=Z,29nm,1.3s
143A Socs Landing, 41.48 287 P **P 06 56 06.2 -0.2**
baz=80
N39A Derby Farms, D 41.65 299 P **P 06 56 07.5 -0.2**
baz=89
V41A Mountainview 41.68 292 P **P 06 56 07.2 -0.9**
baz=84
W41B Gary Mavity, V 41.83 291 *e*P **P 06 56 09.5 +0.3**
comp=Z,18nm,1.3s
W41B Gary Mavity, V 41.83 291 P **P 06 56 09.0 -0.2**
baz=83
Z42A Norrel Spur, H 41.84 288 P **P 06 56 09.8 +0.5**
baz=81
F37A Hinrichs Farm, 41.91 307 P **P 06 56 10.5 +0.8**
baz=94
UALR University of 41.95 290 *e*P **P 06 56 10.6 +0.4**
comp=Z,26nm,1.2s
SPMN Marine on St. 41.99 306 *e*P **P 06 56 11.2 +0.8**
comp=Z,35nm,1.5s
SPMN Marine on St. 41.99 306 P **P 06 56 10.9 +0.5**
baz=94
POPC Popayan, Colom 42.07 236 *e*P P 06 56 17.7 +6.1
X41A Kaden, Bauxite 42.13 290 P **P 06 56 12.4 +0.7**
baz=82
SCIA State Center 42.18 301 P **P 06 56 13.0 +1.0**
baz=90
U40A Yellville 42.19 293 P **P 06 56 12.8 +0.7**
baz=84
Y41A Eaglette Beard 42.30 289 P **P 06 56 13.8 +0.7**
baz=81
DBIC Dimbokro 42.32 115 P **P 06 56 14.6 +1.2**
comp=Z,4.7nm,0.9s,baz=280,slow=14,SNR=4.5
DBIC LR LR 07 11 30.3
comp=Z,810nm,19.8s,baz=291,slow=33
BFO Black Forest 42.90 50 *e*P **P 06 56 17.6 -0.2**
comp=Z,30nm,1.4s
BFO Black Forest 42.90 50*ce*P **P 06 56 18.2 +0.4**
BFO pmax pmax
comp=Z,6.0nm,2.5s
SUMG Summit 42.97 2 *i* P **P 06 56 19.9 +1.4**
SUMG Summit 42.97 2 *e*P **P 06 56 19.9 +1.4**
HHAR Hobbs 43.07 293 *e*P **P 06 56 19.3 0.0**
comp=Z,16nm,1.4s
W39A Magazine 43.07 291 P **P 06 56 17.9 -1.5**
baz=82
SAML Samuel 43.21 210 *e*P **P 06 56 21.0 +0.5**
comp=Z,15nm,1.2s
SAML Samuel 43.21 210 *e*P **P 06 56 21.0 +0.5**
SAML pmax pmax
comp=Z,15nm,1.2s
TUE Stuetta 43.42 52 *e*P **P 06 56 22.3 0.0**
comp=Z,21nm,1.4s
GCUF Volcan Galeras 43.46 236 *e*P **P 06 56 25.7 +2.5**
TAM Tamanrasset 43.54 87 *e*P **P 06 56 24.2 +0.8**
comp=Z,15nm,1.6s
TAM Tamanrasset 43.54 87 *e*P **P 06 56 24.2 +0.8**
TAM pmax pmax
comp=Z,15nm,1.6s
KEST Kesra 43.77 68 P **P 06 56 25.2 +0.2**
comp=Z,11nm,0.9s,baz=242,slow=6.1,SNR=4.5
KEST LR LR 07 12 06.4
comp=Z,266nm,21.2s,baz=206,slow=33
KEST Kesra 43.77 68 *e*P **P 06 56 25.2 +0.2**
comp=Z,31nm,1.2s
DAVOX Davos/Dischmat 43.81 52 P **P 06 56 25.0 -0.4**
comp=Z,3.8nm,0.8s,baz=311,slow=20,SNR=3.8
DAVOX LR LR 07 11 32.0
comp=Z,297nm,20.0s,baz=258,slow=32
DAVOX Davos/Dischmat 43.81 52 P **P 06 56 25.0 -0.4**
DAVA Damuels 43.84 51 *e*pP **P 06 56 26.2 +0.6**
comp=Z,32nm,1.6s
JTS JuntasAbangare 43.85 253 *i* P **P 06 56 25.0 -0.9**
TOA1 Torodi Ar. Sit 44.18 102 *e*P **P 06 56 28.2 -0.2**
TOA0 Torodi Ar. Sit 44.19 102 *e*P **P 06 56 28.7 +0.2**
comp=Z,21nm,1.1s
TOA0 Torodi Ar. Sit 44.19 102 P **P 06 56 28.9 +0.4**
SNR=7.7
TORD Torodi Ar. Bea 44.19 102 P **P 06 56 28.2 -0.3**
comp=Z,9.8nm,0.9s,baz=302,slow=7.8,SNR=44
TORD LR LR 07 13 24.9
comp=Z,391nm,19.2s,baz=290,slow=34
AGMN Agassiz Nation 44.33 310 P **P 06 56 26.9 -2.4**
baz=95
FETA Feichten 44.41 52 *i* pP **P 06 56 30.4 +0.3**
comp=Z,29nm,1.9s
RETA Reutte 44.46 51 *e*pP **P 06 56 30.7 +0.3**
comp=Z,24nm,1.9s
ULM Lac du Bonnet 44.53 313 P **P 06 56 29.0 -1.8**
comp=Z,11nm,1.1s,baz=42,slow=9.3,SNR=3.4
ULM LR LR 07 14 04.7
comp=Z,271nm,19.1s,baz=35,slow=35
TUL1 Leonard 44.60 292 *e*P **P 06 56 31.7 +0.1**
comp=Z,22nm,1.0s
TUL1 Leonard 44.60 292 P **P 06 56 32.3 +0.7**
baz=82
ECSD EROS Data Cent 44.67 304 P **P 06 56 30.6 -1.5**
baz=90
MOTA Moosalm 44.68 51 *e*pP **P 06 56 32.3 +0.1**
comp=Z,6.0nm,0.8s
SQTA Sankt Quirin 44.74 51 *i* pP **P 06 56 33.1 +0.4**
comp=Z,6.6nm,0.7s
KSU1 Kansas State U 44.89 297 *e*P **P 06 56 33.2 -0.7**
comp=Z,15nm,1.0s
KSU1 Kansas State U 44.89 297 P **P 06 56 31.7 -2.2**
baz=85
OTAV Otavalo 44.93 236 *e*P **P 06 56 36.3 +1.3**
comp=Z,24nm,1.5s
OTAV Otavalo 44.93 236*ce*P **P 06 56 36.7 +1.7**
OTAV pmax pmax
comp=Z,11nm,1.3s
BDFB Brasilia 45.39 187 P **P 06 56 39.5 +1.4**
comp=Z,5.1nm,0.8s,baz=2.8,slow=3.3,SNR=6.4
BDFB LR LR 07 14 10.8
comp=Z,285nm,18.4s,baz=33,slow=34
BDFB Brasilia 45.39 187 *e*P **P 06 56 39.0 +1.0**
comp=Z,66nm,1.7s
BDFB *e*P **P 06 56 39.5 +1.4**
BDFB Brasilia 45.39 187 *e*P **P 06 56 39.1 +1.0**
BDFB *e* 06 56 39.5
BDFB pmax pmax
comp=Z,66nm,1.7s
JMIC Jan Mayen 45.42 15 LR LR 07 09 41.7
comp=Z,92nm,21.0s,baz=94,slow=28
ABTA Abfaltersbach 45.62 52 *i* P **P 06 56 39.4 -0.2**
comp=Z,20nm,1.1s
BGNE Belgrade 45.89 300 *e*P **P 06 56 42.4 +0.6**
comp=Z,68nm,1.4s
BGNE Belgrade 45.89 300 P **P 06 56 41.8 0.0**
baz=86
H10N2 ASCENSION HYDR 46.15 140 T T 07 45 57.1
baz=325,slow=75,SNR=728
H10N3 ASCENSION HYDR 46.15 140 T T 07 45 57.3
baz=325,slow=75,SNR=549
H10N1 ASCENSION HYDR 46.16 140 T T 07 45 58.5
baz=325,slow=75,SNR=451
KBA Koelnbreinsper 46.19 52 *e*P **P 06 56 44.0 -0.3**
comp=Z,6.1nm,1.0s
CLL Collm 46.23 46⇑ *i*P **P 06 56 44.1 -0.2**
CLL *e*S **S 07 03 36.0 +5.2**
CLL LmV 07 12 00.0
comp=Z,400nm,20.6s
CLL Collm 46.23 46⇑ *i*P **P 06 56 44.1 -0.2**
CLL *e*S S 07 03 42.0 +11
CLL MLR MLR
comp=Z,400nm,20.6s
MYKA Terra Mystica 46.39 52 *i* P **P 06 56 45.4 -0.3**
comp=Z,8.1nm,0.9s
KHC Kasperske Hory 46.43 49 *e*P **P 06 56 45.2 -0.8**
comp=Z,3.4nm,1.1s
KHC Kasperske Hory 46.43 49 *e*P **P 06 56 45.7 -0.3**
KHC Kasperske Hory 46.43 49 *e*P **P 06 56 45.7 -0.3**
GEA0 GERESS Array S 46.50 49 *e*P **P 06 56 45.7 -0.9**
GEC2 GERESS Array S 46.50 49 *e*P **P 06 56 46.2 -0.4**
comp=Z,26nm,1.6s
GEC2 GERESS Array S 46.50 49 *e*P **P 06 56 46.2 -0.4**
GEC2 pmax pmax
comp=Z,26nm,1.6s
GERES GERESS Array B 46.50 49 P **P 06 56 45.1 -1.5**
comp=Z,1.6nm,0.7s,baz=266,slow=7.8,SNR=11
GERES LR LR 07 12 20.4
comp=Z,144nm,20.4s,baz=254,slow=31
WHTX Lake Whitney, 46.65 287 *e*P **P 06 56 49.1 +1.3**
comp=Z,28nm,1.3s
WHTX Lake Whitney, 46.65 287 P **P 06 56 48.5 +0.6**
baz=78
BRG Berggiesshubel 46.78 47 *e*P **P 06 56 50.9 +2.2**
comp=Z,7.2nm,1.2s
BRG Berggiesshubel 46.78 47 *e*P **P 06 56 50.9 +2.2**
BRG pmax pmax
comp=Z,7.0nm,1.2s
MDND Maddock 46.81 309 *e*P **P 06 56 48.8 -0.1**
comp=Z,81nm,1.6s
MDND Maddock 46.81 309 P **P 06 56 48.3 -0.6**
baz=91
MOA Molln 46.84 51 *e*P **P 06 56 48.5 -0.7**
comp=Z,8.8nm,1.3s
H10S1 ASCENSION HYDR 46.97 141 T T 07 46 59.3
baz=326,slow=75,SNR=622
H10S3 ASCENSION HYDR 46.99 141 T T 07 46 59.4
baz=326,slow=75,SNR=387
H10S2 ASCENSION HYDR 46.99 141 T T 07 47 00.5
baz=326,slow=75,SNR=700
OBKA Obir 47.02 53 *e*P **P 06 56 50.4 -0.3**
comp=Z,22nm,1.0s
NB2 NORSAR Subarra 47.13 32 P **P 06 56 50.9 -0.4**
comp=Z,1.1nm,0.8s,baz=254,slow=7.9
NB200 NORSAR Array S 47.13 32 *e*P **P 06 56 50.8 -0.5**
NOA NORSAR Array B 47.13 32 P **P 06 56 50.8 -0.5**
comp=Z,2.6nm,0.9s,baz=254,slow=7.8,SNR=4.8
NOA LR LR 07 13 39.2
comp=Z,96nm,18.5s,baz=240,slow=32
PVCC Panska Ves 47.16 47 AMS AMS 07 14 00.0
comp=Z,900nm,17.8s
WMOK Wichita Mounta 47.20 291 *e*P **P 06 56 53.0 +0.8**
comp=Z,13nm,1.3s
WMOK Wichita Mounta 47.20 291 *e*P **P 06 56 53.0 +0.8**
WMOK pmax pmax
comp=Z,13nm,1.3s
WMOK Wichita Mounta 47.20 291 P **P 06 56 52.1 -0.1**
baz=80,SNR=6.4
CBKS Cedar Bluff 47.34 297 P **P 06 56 52.9 -0.4**
baz=83
SOKA Soboth 47.35 52 *i* P **P 06 56 52.3 -0.9**
comp=Z,5.7nm,1.0s
ARSA Arzberg 47.68 52 *e*P **P 06 56 54.9 -0.9**
comp=Z,8.6nm,0.8s
CONA Conrad Observa 47.91 51 *e*P **P 06 56 56.8 -0.8**
comp=Z,10.0nm,1.4s
HFS Hagfors 48.08 34 LR LR 07 14 04.0
comp=Z,278nm,18.4s,baz=248,slow=32
DPC Dobruska-Polom 48.27 47 *e*P **P 06 56 58.8 -1.5**
DPC AMS AMS 07 15 10.0
comp=Z,500nm,20.2s
DPC Dobruska-Polom 48.27 47 *e*P **P 06 56 58.8 -1.5**
DPC MLR MLR
comp=Z,500nm,20.2s
KRUC Moravsky 48.28 49 *e*P **P 06 56 59.8 -0.5**
ABTX Abilene, Hawle 48.32 289 *e*P **P 06 57 01.8 +0.8**
comp=Z,23nm,1.2s
ABTX Abilene, Hawle 48.32 289 P **P 06 57 01.2 +0.3**
baz=77
VRAC Vranov 48.41 49 *e*P **P 06 57 00.8 -0.6**
OGNE Ogallala 48.85 300 *e*P **P 06 57 05.0 0.0**
comp=Z,92nm,1.6s
OGNE Ogallala 48.85 300 P **P 06 57 04.8 -0.2**
baz=84
JCT Junction City 48.95 286 *e*P **P 06 57 06.4 +0.6**
comp=Z,13nm,0.9s
JCT Junction City 48.95 286 *e*P **P 06 57 06.4 +0.6**
JCT pmax pmax
comp=Z,13nm,0.9s
JCT Junction City 48.95 286 P **P 06 57 07.6 +1.8**
baz=76
AMTX Amarillo 49.51 292 *e*P **P 06 57 10.9 +0.7**
comp=Z,23nm,1.3s
AMTX Amarillo 49.51 292 P **P 06 57 11.2 +1.1**
baz=78
KSCO Kaye Shedlock' 49.55 298 *e*P **P 06 57 10.8 +0.4**
comp=Z,16nm,1.0s
KSCO Kaye Shedlock' 49.55 298 P **P 06 57 11.4 +1.0**
baz=82
DGMT Dagmar 49.88 310 P **P 06 57 12.9 +0.2**
baz=88
RSSD Black Hills 50.01 304 P **P 06 57 13.6 -0.3**
baz=85
LNIG Linares 50.26 279 *e*P **P 06 57 16.4 +0.6**
comp=Z,50nm,1.7s
MSTX Muleshoe 50.59 291 *e*P **P 06 57 19.2 +0.9**
comp=Z,24nm,1.2s
MSTX Muleshoe 50.59 291 P **P 06 57 20.0 +1.7**
baz=77
PDG Podgorica 50.62 58⇑ *i*P **P 06 57 17.2 -1.1**
TTG Podgorica 50.62 58 *e*P **P 06 57 18.2 -0.1**
comp=Z,22nm,1.3s
TTG Podgorica 50.62 58 *e*P **P 06 57 18.2 -0.1**
TTG pmax pmax
comp=Z,22nm,1.3s
DIVS Divibare 50.97 55 *e*P **P 06 57 20.9 -0.1**
comp=Z,6.9nm,1.0s
T25A Trinidad 51.25 296 *e*P **P 06 57 24.1 +0.7**
comp=Z,12nm,1.3s
T25A Trinidad 51.25 296 P **P 06 57 25.8 +2.3**
baz=79,SNR=6.4
Q24A Divide 51.50 298 *e*P **P 06 57 26.7 +1.3**
comp=Z,26nm,1.4s
Q24A Divide 51.50 298 P **P 06 57 26.3 +0.9**
baz=80,SNR=8.6
ISCO Idaho Springs 51.72 299 *e*P **P 06 57 27.6 +0.7**
comp=Z,24nm,1.9s
ISCO Idaho Springs 51.72 299 *e*P **P 06 57 27.7 +0.7**
ISCO pmax pmax
comp=Z,24nm,1.9s
ISCO Idaho Springs 51.72 299 P **P 06 57 27.4 +0.5**
baz=80
N23A Red Feather La 51.80 301 *e*P **P 06 57 28.6 +1.1**
comp=Z,23nm,1.6s
N23A Red Feather La 51.80 301 P **P 06 57 27.4 -0.1**
baz=81
LPAZ La Paz 51.91 212 P **P 06 57 29.6 +0.8**
comp=Z,8.0nm,0.9s,baz=13,slow=7.4,SNR=22
LPAZ LR LR 07 18 34.7
comp=Z,333nm,19.9s,baz=18,slow=35
LPAZ La Paz 51.91 212 *e*P **P 06 57 29.4 +0.6**
LPAZ *e*pP **P 06 57 29.6 +0.8**
LPAZ La Paz 51.91 212 *e*P **P 06 57 29.4 +0.6**
LPAZ *e*PP **P 06 57 29.6 +0.8**
SIRR Siria 51.94 53⇑ *i*P **P 06 57 27.4 -0.8**
BZS Buzias 51.97 53⇑ *i*P **P 06 57 29.0 +0.6**
K22A Casper 51.98 303 P **P 06 57 27.4 -1.3**
baz=82
SDCO Great Sand Dun 51.99 297 *e*P **P 06 57 29.8 +0.7**
comp=Z,8.3nm,1.4s
SDCO Great Sand Dun 51.99 297 P **P 06 57 28.6 -0.5**
baz=79
MDVR Moldovita 52.13 54⇓ *i*P **P 06 57 29.6 0.0**
LTX Lajitas 52.49 286 *e*P **P 06 57 32.1 -0.5**
LTX *e*PcP **PcP 06 58 42.4 -0.8**
LTX Lajitas 52.49 286 *e*P **P 06 57 32.1 -0.5**
LTX *e* 06 58 42.4
TXAR Lajitas Array 52.49 286 P **P 06 57 32.1 -0.5**
comp=Z,2.9nm,1.0s,baz=100,slow=6.5,SNR=13
TXAR PcP **PcP 06 58 42.4 -0.8**
comp=Z,0.7nm,0.9s,baz=98,slow=4.6,SNR=2.3
TX31 Lajitas Ar. Si 52.49 286 *e*P **P 06 57 32.1 -0.5**
TX31 *e*P **P 06 57 32.5 0.0**
TX31 *e*PcP **PcP 06 58 47.8 +4.6**
DRGR 52.62 52⇑ *i*P **P 06 57 32.9 -0.3**
SMCO Snowmass 52.86 299 *e*P **P 06 57 36.9 +1.3**
comp=Z,8.4nm,1.2s
S22A 4UR Ranch, Cre 53.02 297 *e*P **P 06 57 37.1 +0.4**
comp=Z,8.4nm,1.1s
S22A 4UR Ranch, Cre 53.02 297 P **P 06 57 37.4 +0.7**
baz=78,SNR=8.9
MNTX Cornudas Mount 53.27 289 P **P 06 57 38.4 +0.2**
baz=74
ANMO Albuquerque 53.33 293 *e*P **P 06 57 39.5 +0.6**
comp=Z,19nm,1.8s
ANMO Albuquerque 53.33 293*ce*P **P 06 57 40.1 +1.2**
ANMO pmax pmax
comp=Z,10.0nm,1.8s
ANMO Albuquerque 53.33 293 P **P 06 57 39.5 +0.6**
baz=76
RLMT Red Lodge 53.62 306 *e*P **P 06 57 39.8 -1.1**
comp=Z,7.1nm,0.6s
RLMT Red Lodge 53.62 306 P **P 06 57 39.5 -1.4**
baz=82,SNR=6.5
EGMT Eagleton 53.62 310 *e*P **P 06 57 42.0 +1.3**
comp=Z,62nm,1.5s
EGMT Eagleton 53.62 310 P **P 06 57 40.7 +0.1**
baz=84
LPM Los Pinos Moun 53.62 293 *e*P **P 06 57 40.8 -0.2**
O20A White River Ci 53.65 300 *e*P **P 06 57 41.7 +0.6**
comp=Z,15nm,1.3s
BNM Barren Site 53.66 292 *e*P **P 06 57 42.5 +1.1**
LENM Lemitar 53.93 292 *e*P **P 06 57 43.9 +0.6**
LAZ Ladron 54.01 293 *e*P **P 06 57 44.1 +0.2**
ARR Arges 54.11 53⇓ *i*P **P 06 57 43.6 -0.7**
PD31 Pinedale Array 54.17 303 *e*P **P 06 57 43.9 -1.1**
PDAR Pinedale Array 54.17 303 P **P 06 57 43.7 -1.3**
comp=Z,6.2nm,1.0s,baz=76,slow=7.8,SNR=24
PDAR LR LR 07 19 32.5
comp=Z,927nm,18.9s,baz=101,slow=35
PDAR Pinedale Array 54.17 303 *e*P **P 06 57 43.4 -1.5**
BW06 Boulder Array 54.17 303 *e*P **P 06 57 43.9 -1.1**
comp=Z,26nm,1.1s
BW06 Boulder Array 54.17 303 P **P 06 57 43.8 -1.2**
baz=80,SNR=24
BUR08 Bucovina Ar. S 54.21 51 *e*P **P 06 57 45.2 +0.2**
BUR04 Bucovina Ar. S 54.22 51 *e*P **P 06 57 44.2 -0.9**
BURAR Bucovina Array 54.23 51⇑ *i*P **P 06 57 45.4 +0.3**
FIA0 FINESS Array S 54.27 33 *e*P **P 06 57 43.5 -1.5**
FIA0 FINESS Array S 54.27 33 *e*P **P 06 57 43.6 -1.5**
FINES FINESS Array B 54.27 33 P **P 06 57 43.6 -1.5**
comp=Z,4.9nm,0.7s,baz=244,slow=6.9,SNR=10
FINES LR LR 07 17 43.2
comp=Z,134nm,21.9s,baz=283,slow=33
FIA1 FINESS Array S 54.27 33 *e*P **P 06 57 44.3 -0.8**
PV01 Paradox Valley 54.29 298 *e*P **P 06 57 46.4 +0.5**
VOIR 54.39 53⇑ *i*P **P 06 57 45.1 -1.2**
MVCO Mesa Verde 54.44 296 *e*P **P 06 57 47.5 +0.5**
comp=Z,15nm,1.3s
MVCO Mesa Verde 54.44 296 P **P 06 57 46.8 -0.1**
baz=77
VSU Vasula 54.53 37 *i* P **P 06 57 45.4 -1.6**
VSU pmax pmax
comp=Z,26nm,0.6s
DOPR Dopca 54.55 53⇓ *i*P **P 06 57 46.1 -1.3**
YHH Holmes Hill 54.78 306 *e*P **P 06 57 50.8 +1.4**
comp=Z,11nm,1.4s
FLWY Flagg Ranch 54.78 305 *e*P **P 06 57 51.1 +1.8**
comp=Z,22nm,1.4s
LOHW Long Hollow 54.79 305 *e*P **P 06 57 50.7 +1.3**
comp=Z,12nm,1.4s
MOOW Moose Ponds 54.87 305 *e*P **P 06 57 51.0 +1.0**
comp=Z,16nm,1.6s
ARA0 ARCESS Array S 54.87 24 *e*P **P 06 57 47.3 -2.1**
ARCES ARCESS Array B 54.87 24 P **P 06 57 47.3 -2.1**
comp=Z,4.0nm,0.9s,baz=270,slow=8.1,SNR=3.5
YMR Madison River 54.88 306 *e*P **P 06 57 51.0 +1.0**
comp=Z,31nm,1.4s
BIZ Bicaz 54.91 51⇑ *i*P **P 06 57 50.3 +0.3**
SNOW Snow King Moun 54.92 304 *e*P **P 06 57 51.2 +0.7**
comp=Z,38nm,1.5s
IMW Indian Meadow 54.98 305 *e*P **P 06 57 51.0 +0.1**
comp=Z,16nm,1.3s
MLR Muntele Rosu 55.01 53 *e*P **P 06 57 50.7 -0.1**
comp=Z,40nm,1.5s
MLR Muntele Rosu 55.01 53⇑ *i*P **P 06 57 51.5 +0.7**
MLR Muntele Rosu 55.01 53 *e*P **P 06 57 50.7 -0.1**
MLR pmax pmax
comp=Z,40nm,1.5s
REDW Red Top Meadow 55.01 304 *e*P **P 06 57 51.1 0.0**
comp=Z,13nm,1.1s
YHB Horse Butte 55.03 306 *e*P **P 06 57 51.6 +0.5**
comp=Z,36nm,1.4s
TPAW Teton Pass 55.06 304 *e*P **P 06 57 51.5 +0.1**
comp=Z,15nm,1.3s
MNMC Minye Minye 55.06 211 *e*P **P 06 57 51.0 -0.5**
comp=Z,19nm,1.0s
FXWY Fox Creek 55.09 305 *e*P **P 06 57 52.0 +0.4**
comp=Z,10nm,1.3s
P18A Preston Nutter 55.26 300 *e*P **P 06 57 52.4 -0.6**
comp=Z,14nm,1.0s
AHID Auburn Hatcher 55.29 304 *e*P **P 06 57 53.0 0.0**
comp=Z,21nm,1.5s
PLOR Plostina 55.44 53⇓ *i*P **P 06 57 50.1 -3.8**
SRU San Rafael Swe 55.58 299 *e*P **P 06 57 54.8 -0.3**
comp=Z,11nm,0.9s
PB11 IPOC Station P 55.64 211 *e*P **P 06 57 54.9 -0.7**
comp=Z,47nm,1.1s
YKA Yellowknife Ar 55.79 328 P **P 06 57 54.8 -1.2**
comp=Z,2.7nm,0.9s,baz=90,slow=7.4,SNR=4.0
TCUT Toone Canyon 55.83 302 *e*P **P 06 57 57.1 +0.1**
comp=Z,29nm,1.3s
HWUT Hardware Ranch 55.85 302 *e*P **P 06 57 57.8 +0.7**
comp=Z,16nm,1.2s
DLMT Dillon 55.91 307 *e*P **P 06 57 58.6 +1.2**
comp=Z,27nm,1.5s
JLU Jordanelle 55.96 301 *e*P **P 06 57 58.6 +0.6**
comp=Z,27nm,1.4s
TMUT Trail Mountain 56.06 300 *e*P **P 06 57 59.1 +0.3**
comp=Z,11nm,1.2s
MPU Maple Canyon 56.22 300 *e*P **P 06 57 59.2 -0.6**
comp=Z,10nm,1.2s
KIEV Kiev 56.46 46 *e*P **P 06 58 00.2 -0.9**
comp=Z,51nm,1.9s
KIEV Kiev 56.46 46⇑ *i*P **P 06 58 00.1 -0.9**
KIEV pmax pmax
comp=Z,20nm,1.4s
AKASG Malin Array Be 56.47 46 P **P 06 57 59.6 -1.4**
comp=Z,4.9nm,0.8s,baz=273,slow=6.1,SNR=12
AKASG LR LR 07 20 22.9
comp=Z,325nm,18.7s,baz=265,slow=34

AKBB	Malin Array Si	56.47	46	*e*P		P	06 57 59.6	-1.4	
AKBB	Malin Array Si	56.47	46	*e*P		P	06 57 59.6	-1.4	
SPUT	South Promonto	56.56	302	*e*P		P	06 58 02.6	+0.5	
	comp=Z,19nm,1.3s								
NLU	North Lily Min	56.57	300	*e*P		P	06 58 01.7	-0.6	
	comp=Z,26nm,1.5s								
MSO	Missoula	56.59	309	P		P	06 58 02.5	+0.3	
	baz=80								
PB01	IPOC Station P	56.69	210	*e*P		P	06 58 02.2	-0.8	
	comp=Z,21nm,1.2s								
HVU	Hansel Valley	56.70	303	*e*P		P	06 58 03.5	+0.4	
	comp=Z,11nm,1.4s								
HVU	Hansel Valley	56.70	303	*e*P		P	06 58 03.5	+0.4	
HVU					pmax	pmax			
	comp=Z,11nm,1.4s								
MSU	Marysvale	56.97	299	*e*P		P	06 58 06.2	+1.0	
MSU	Marysvale	56.97	299	*e*P		P	06 58 06.2	+1.0	
BGU	Big Grassy Mou	57.07	302	*e*P		P	06 58 07.1	+1.4	
	comp=Z,15nm,1.4s								
DUG	Dugway, Tooele	57.07	301	*e*P		P	06 58 06.7	+1.0	
	comp=Z,14nm,1.2s								
DUG	Dugway, Tooele	57.07	301	*e*P		P	06 58 06.7	+1.0	
DUG					pmax	pmax			
	comp=Z,14nm,1.2s								
DUG	Dugway, Tooele	57.07	301	P		P	06 58 05.5	-0.2	
	baz=77,SNR=8.0								
WUAZ	Wupatki	57.09	295	*e*P		P	06 58 07.3	+1.3	
	comp=Z,21nm,1.4s								
WUAZ	Wupatki	57.09	295	P		P	06 58 05.6	-0.4	
	baz=75,SNR=7.4								
X16A	Lo Mia Camp, P	57.44	294	*e*P		P	06 58 08.6	+0.1	
	comp=Z,5.6nm,1.2s								
CPUP	Villa Florida	57.47	196	P		P	06 58 08.1	-0.2	
	comp=Z,2.3nm,1.1s,baz=24,slow=12,SNR=2.4								
CPUP					LR	LR	07 22 02.9		
	comp=Z,149nm,18.6s,baz=33,slow=35								
U15A	North Rim	57.58	296	*e*P		P	06 58 10.8	+1.2	
	comp=Z,24nm,1.6s								
LVC	Limon Verde	57.82	209	LR		LR	07 22 51.9		
	comp=Z,240nm,18.5s,baz=8.5,slow=36								
LVC	Limon Verde	57.82	209	*e*P		P	06 58 11.2	-0.1	
	comp=Z,16nm,1.1s								
LVC	Limon Verde	57.82	209	*ce*P		P	06 58 12.1	+0.8	
LVC					pmax	pmax			
	comp=Z,7.0nm,1.0s								
KNB	Kanab	57.84	297	*e*P		P	06 58 10.7	-0.5	
	comp=Z,26nm,1.9s								
KNB	Kanab	57.84	297	*e*P		P	06 58 10.7	-0.5	
KNB					pmax	pmax			
	comp=Z,26nm,1.9s								
SZCU	Shurtz Canyon	57.89	298	*e*P		P	06 58 11.9	+0.2	
	comp=Z,19nm,1.8s								
CCUT	Cedar City	58.12	298	*e*P		P	06 58 13.3	0.0	
	comp=Z,11nm,1.2s								
PSUT	Pine Spring	58.24	299	*e*P		P	06 58 14.5	+0.4	
	comp=Z,15nm,1.5s								
NEW	Newport	58.47	311	*e*P		P	06 58 15.2	-0.1	
	comp=Z,35nm,1.6s								
NEW	Newport	58.47	311	*e*P		P	06 58 15.2	-0.1	
NEW					pmax	pmax			
	comp=Z,35nm,1.6s								
NEW	Newport	58.47	311	P		P	06 58 15.7	+0.4	
	baz=79								
W13A	Hualapai Mount	59.18	295	*e*P		P	06 58 20.7	0.0	
	comp=Z,9.2nm,1.4s								
214A	Organ Pipe Nat	59.25	292	P		P	06 58 22.4	+1.4	
	baz=72								
R11A	Troy Canyon, C	59.60	299	*e*P		P	06 58 24.5	+1.0	
	comp=Z,17nm,1.5s								
R11A	Troy Canyon, C	59.60	299	P		P	06 58 23.6	+0.1	
	baz=74,SNR=8.6								
D08A	Wollman Farm,	59.90	310	*e*P		P	06 58 24.9	-0.2	
	comp=Z,27nm,1.5s								
OBN	Obninsk	60.21	41⇑	*e*P		P	06 58 26.0	-1.1	
OBN				*e**PP		pP	06 58 29.7	-0.6	
OBN				*i* *SP		sP	06 58 32.1	+0.6	
OBN					pmax	pmax			
	comp=Z,12nm,0.9s								
J08A	Circle Bar Ran	60.45	306	*e*P		P	06 58 29.6	+0.4	
	comp=Z,24nm,1.4s								
IRM	Iron Mountain	60.45	295	P		P	06 58 27.4	-1.8	
	baz=72								
TPNV	Topopah Spring	60.50	298	*e*P		P	06 58 30.4	+0.7	
	comp=Z,9.9nm,1.1s								
TPNV	Topopah Spring	60.50	298	*e*P		P	06 58 30.4	+0.7	
TPNV					pmax	pmax			
	comp=Z,10.0nm,1.1s								
TPNV	Topopah Spring	60.50	298	P		P	06 58 30.2	+0.5	
	baz=73								
GMRC	Granite Mounta	60.67	295	P		P	06 58 30.8	-0.1	
	baz=72								
MOS	Moscow	60.69	40	*e*P		P	06 58 29.1	-1.3	
LTY	Liberty	61.02	310	*e*P		P	06 58 33.0	+0.1	
	comp=Z,29nm,1.7s								
FURC	Furnace Creek,	61.11	298	P		P	06 58 35.0	+1.4	
	baz=73								
KVN	Kaiserville	61.31	301	*e*P		P	06 58 35.1	-0.1	
	comp=Z,12nm,1.3s								
KVN	Kaiserville	61.31	301	*e*P		P	06 58 35.1	-0.1	
KVN					pmax	pmax			
	comp=Z,12nm,1.3s								
GRAC	Grapevine Rang	61.34	298	P		P	06 58 38.1	+2.9	
	baz=73								
GSC	Goldstone, Bar	61.41	296	P		P	06 58 36.1	+0.3	
	baz=72								
NV11	Mina Array Sit	61.52	300	*e*P		P	06 58 38.0	+1.4	
	comp=Z,1.1nm,1.5s								
NV01	Mina Array Sit	61.63	300	*e*P		P	06 58 37.0	-0.4	
NVAR	Mina Array Bea	61.63	300	P		P	06 58 36.1	-1.3	
	comp=Z,2.6nm,1.1s,baz=75,slow=6.3,SNR=8.7								
NVAR					LR	LR	07 23 37.4		
	comp=Z,420nm,21.2s,baz=64,slow=34								
IKP	In-Ko-Pah, Jac	61.69	293	P		P	06 58 38.3	+0.7	
	baz=71								
MPMC	Manual Prospec	61.71	297	P		P	06 58 39.1	+1.1	
	baz=72								
DAC	Darwin (Calif)	61.73	298	*e*P		P	06 58 37.7	-0.3	
	comp=Z,23nm,1.8s								
DAC	Darwin (Calif)	61.73	298	*e*P		P	06 58 37.7	-0.3	
DAC					pmax	pmax			
	comp=Z,23nm,1.8s								
BR101	Keskin Array S	61.80	58	*e*P		P	06 58 38.4	-0.1	
BR131	Keskin Array S	61.80	58	*e*P		P	06 58 37.8	-0.6	
BR131	Keskin Array S	61.80	58	P		P	06 58 38.1	-0.3	
	SNR=6.4								
BRTR	Keskin Array B	61.80	58	P		P	06 58 38.4	-0.1	
	comp=Z,6.7nm,1.0s,baz=284,slow=5.0,SNR=20								
BRTR					LR	LR	07 24 00.9		
	comp=Z,162nm,19.3s,baz=278,slow=35								
CWC	Cottonwood Cre	62.05	298	P		P	06 58 41.6	+1.4	
	baz=72								
PAHR	Pah Rah Range	62.08	302	*e*P		P	06 58 40.8	+0.5	
	comp=Z,16nm,1.3s								
LPSR	Galich'ya Gora	62.08	43	*e*P		P	06 58 38.7	-1.2	
LPSR					pmax	pmax			
	comp=Z,10.0nm,1.0s								
MOD	Modoc Plateau	62.13	304	*e*P		P	06 58 41.5	+0.9	
	comp=Z,8.0nm,1.2s								
I05D	Terrebonne, OR	62.20	307	P		P	06 58 40.9	0.0	
	baz=74								
VCNR	Virginia City	62.39	301	*e*P		P	06 58 42.9	+0.5	
	comp=Z,7.7nm,1.2s								
MDPB	Devils Postpil	62.45	300	*e*P		P	06 58 43.5	+0.5	
	comp=Z,9.0nm,1.3s								
EDW2	Edwards Air Fo	62.47	296	P		P	06 58 43.5	+0.6	
	baz=72								
VSR	Storozhevoye	62.55	45	*e*P		P	06 58 40.8	-2.2	
VSR					pmax	pmax			
	comp=Z,10.0nm,0.9s								
ISA	Isabella, Lake	62.60	297	*e*P		P	06 58 44.4	+0.7	
	comp=Z,17nm,1.6s								
ISA	Isabella, Lake	62.60	297	*e*P		P	06 58 44.4	+0.7	
ISA					pmax	pmax			
	comp=Z,17nm,1.6s								
ISA	Isabella, Lake	62.60	297	P		P	06 58 44.7	+0.9	
	baz=72								
BEKR	Beckworth	62.75	302	*e*P		P	06 58 45.6	+0.8	
	comp=Z,7.8nm,1.4s								
INK	Inuvik	63.05	335	*e*P		P	06 58 45.3	-0.8	
	comp=Z,17nm,1.1s								
INK	Inuvik	63.05	335	*e*P		P	06 58 45.3	-0.8	
INK					pmax	pmax			
	comp=Z,17nm,1.1s								
CMB	Columbia Colle	63.32	300	*e*P		P	06 58 48.6	+0.1	
	comp=Z,17nm,1.5s								
CMB	Columbia Colle	63.32	300	*e*P		P	06 58 48.6	+0.1	
CMB					pmax	pmax			
	comp=Z,17nm,1.5s								
ORV	Oroville	63.68	302	*e*P		P	06 58 52.0	+1.2	
	comp=Z,18nm,1.6s								
ORV	Oroville	63.68	302	*e*P		P	06 58 52.0	+1.2	
ORV					pmax	pmax			
	comp=Z,18nm,1.6s								
VRH	Novokhopyorsk	64.11	44	*e*P		P	06 58 52.1	-1.2	
VRH					pmax	pmax			
	comp=Z,20nm,1.2s								
L02E	Cave Junction	64.41	306	P		P	06 58 56.2	+0.7	
	baz=72								
EPYK	Eagle Plains	64.74	334	P		P	06 58 57.0	-0.3	
	baz=74								
DAWY	Dawson	66.52	332	*e*P		P	06 59 08.8	-0.1	
	comp=Z,11nm,1.2s								
KIV	Kislovodsk	66.93	51	*e*P		P	06 59 10.7	-1.2	
KIV					pmax	pmax			
	comp=Z,14nm,1.0s								
KBZ	Khabaz	67.15	52	P		P	06 59 12.5	-0.6	
	comp=Z,3.2nm,1.0s,baz=272,slow=10,SNR=3.8								
NEY	Neytrino	67.20	52	*i* P		P	06 59 14.3	+0.6	
NEY					pmax	pmax			
	comp=Z,4.0nm,1.2s								
FYU	Fort Yukon	67.88	335	*e*P		P	06 59 17.8	+0.4	
	comp=Z,37nm,1.4s								
ZEI	Tsey	68.17	52	*e*P		P	06 59 18.8	-1.1	
ZEI					pmax	pmax			
	comp=Z,35nm,2.0s								
TOLK	Toolik Lake Re	68.50	338	P		P	06 59 21.6	+0.2	
	baz=63								
IL1	Eielson Array	69.25	334	*e*P		P	06 59 24.9	-1.1	
ILAR	Eielson Array	69.25	334	P		P	06 59 25.4	-0.6	
	comp=Z,1.9nm,1.0s,baz=77,slow=4.0,SNR=11								
ILB	Eielson Array	69.25	334	*e*P		P	06 59 25.7	-0.3	
TCOL	CIGO, UAF Yank	69.58	334	P		P	06 59 27.7	-0.3	
	baz=64								
CCB	Clear Creek Bu	69.66	334	*e*P		P	06 59 28.7	+0.2	
	comp=Z,39nm,1.5s								
MDM	Murphy Dome	69.69	334	*e*P		P	06 59 28.2	-0.5	
	comp=Z,40nm,1.9s								
GNI	Garni	69.72	55	*i* P		P	06 59 28.9	-0.6	
GNI					pmax	pmax			
	comp=Z,36nm,1.0s								
WRH	Wood River Hil	69.85	334	*e*P		P	06 59 29.2	-0.4	
	comp=Z,20nm,1.3s								
BWN	Browne	70.52	334	*e*P		P	06 59 33.8	0.0	
	comp=Z,25nm,0.5s								
MLY	Manley	70.60	335	*e*P		P	06 59 34.6	+0.3	
	comp=Z,32nm,1.9s								
IM3	Indian Mountai	71.21	336	*e*P		P	06 59 37.5	-0.4	
ARU	Arti	71.59	35	*e*P		P	06 59 40.4	0.0	
	comp=Z,35nm,1.5s								
ARU	Arti	71.59	35	*c* *i*P		P	06 59 40.2	-0.2	
ARU							07 02 16.3		
ARU					S	S	07 09 01.6	+2.1	
ARU					SS	SS	07 13 35.5	+1.6	
ARU					pmax	pmax			
	comp=Z,36nm,2.5s								
SVE	Sverdlovsk	72.44	34	*e*P		P	06 59 45.6	+0.1	
SVE					pmax	pmax			
	comp=Z,27nm,1.5s								
RDOG	Red Dog Mine	72.99	340	*e*P		P	06 59 49.4	+0.8	
	comp=Z,19nm,1.1s								
GO06	Curarrehue	73.97	203	*e*P		P	06 59 55.1	+0.4	
	comp=Z,17nm,1.3s								
PLCA	Paso Flores	74.70	202	P		P	06 59 59.9	+1.0	
	comp=Z,2.6nm,1.0s,baz=358,slow=3.2,SNR=3.8								
PLCA	Paso Flores	74.70	202	*e*P		P	06 59 59.9	+1.0	
	comp=Z,22nm,1.4s								
NRIK	Noril'sk	74.83	16	P		P	06 59 59.9	+0.6	
	comp=Z,1.2nm,0.3s,baz=334,slow=7.5,SNR=5.7								
ABKAR	Akbulak array	75.64	41	*e*P		P	07 00 03.7	-0.7	
RAYN	Ar Rayn	77.24	70	*e*P		P	07 00 13.0	-0.9	
	comp=Z,13nm,1.3s								
RAYN	Ar Rayn	77.24	70	*e*P		P	07 00 13.0	-0.9	
RAYN					pmax	pmax			
	comp=Z,13nm,1.3s								
TIXI	Tiksi	78.74	3	*e*P		P	07 00 21.2	-0.1	
	comp=Z,17nm,1.4s								
TIXI	Tiksi	78.74	3	*i* P		P	07 00 20.9	-0.4	
TIXI					pmax	pmax			
	comp=Z,19nm,2.6s								
BRVK	Borovoye	79.14	34	*e*P		P	07 00 22.9	-1.1	
	comp=Z,19nm,1.4s								
BRVK	Borovoye	79.14	34	*ce*P		P	07 00 23.8	-0.1	
BRVK					pmax	pmax			
	comp=Z,11nm,1.4s								
GEYT	Alibeck	80.04	52	P		P	07 00 29.4	+0.2	
	comp=Z,2.0nm,0.7s,baz=347,slow=6.1,SNR=4.9								
BILL	Bilibino	80.17	349⇓	*i* P		P	07 00 31.8	+2.6	
BILL				*e**PP		sP	07 00 33.6	-0.1	
BILL							07 00 38.0		
BILL					S	S	07 10 36.0	+2.3	
BILL					pmax	pmax			
	comp=Z,19nm,1.5s								
BILL					MLR	MLR			
	comp=Z,129nm,18.0s								
LSZ	Lusaka	81.61	113	*e*P		P	07 00 36.9	-0.9	
	comp=Z,36nm,1.8s								
LSZ	Lusaka	81.61	113	*e*P		P	07 00 36.9	-0.9	
LSZ					pmax	pmax			
	comp=Z,36nm,1.8s								
KMBO	Kilima Mbogo	81.82	96	P		P	07 00 40.1	+0.9	
	comp=Z,1.1nm,0.3s,baz=336,slow=5.4,SNR=5.3								
KMBO	Kilima Mbogo	81.82	96	*e*P		P	07 00 37.4	-1.9	
	comp=Z,22nm,1.9s								
KMBO	Kilima Mbogo	81.82	96	*e*P		P	07 00 37.4	-1.9	
KMBO					pmax	pmax			
	comp=Z,22nm,1.9s								
KURK	Kurchatov	84.64	33	*e*P		P	07 00 52.7	-0.2	
	comp=Z,15nm,1.3s								
KURK	Kurchatov	84.64	33	*ce*P		P	07 00 52.1	-0.8	
KURK					pmax	pmax			
	comp=Z,137nm,2.5s								
KK31	Karatay Array	85.13	43	*e*P		P	07 00 55.1	-0.5	
KKAR	Karatay Array	85.13	43	*e*P		P	07 00 54.5	-1.1	
KKAR	Karatay Array	85.13	43	*e*P		P	07 00 54.5	-1.1	
ZAA1	Zalesovo Array	85.13	28	*e*P		P	07 00 54.9	-0.4	
UOSS	Minazif	85.14	64	*e*P		P	07 00 55.0	-0.9	
	comp=Z,28nm,1.1s								
UOSS	Minazif	85.14	64	P		P	07 00 55.8	-0.1	
	SNR=8.2								
ZALV	Zalesovo Beam	85.14	28	P		P	07 00 54.9	-0.4	
	comp=Z,2.7nm,0.7s,baz=289,slow=4.4,SNR=3.7								
ZALV	Zalesovo Beam	85.14	28	*e*P		P	07 00 54.5	-0.8	
ZALV	Zalesovo Beam	85.14	28	*e*P		P	07 00 54.5	-0.8	
HATD	Hatta, Dubai	85.14	64	P		P	07 00 56.1	+0.2	
	SNR=11								
ASHO	Ashiyiah	85.15	64	P		P	07 00 56.0	0.0	
	SNR=9.6								
SEY	Seymchan	86.88	353	P		P	07 01 03.2	-0.5	
	comp=Z,2.3nm,0.9s,baz=166,slow=15,SNR=3.3								
BOSA	Boshof	87.01	125	LR		LR	07 37 38.9		
	comp=Z,120nm,18.0s,baz=342,slow=34								
AAK	Ala-Archa	87.73	41	*i* P		P	07 01 01.8	-6.7	
AAK					pmax	pmax			
	comp=Z,4.0nm,1.2s								
MK32	Makanchi Array	89.10	34	*e*P		P	07 01 14.4	-0.3	
MKAR	Makanchi Array	89.10	34	P		P	07 01 14.4	-0.3	
	comp=Z,2.6nm,1.0s,baz=324,slow=6.0,SNR=6.1								
MK01	Makanchi Array	89.12	34	*e*P		P	07 01 14.2	-0.7	
DGZ	Jazzator, Alta	89.36	30	*i* P		P	07 01 16.3	+0.2	
DGZ					pmax	pmax			
	comp=Z,3.0nm,1.1s								
MA2	Magadan	90.34	353	*i* P		P	07 01 23.3	+3.1	
MA2					pmax	pmax			
	comp=Z,6.0nm,0.6s								
KSH	Kashi	90.58	43	*e*P		P	07 01 20.0	-1.9	
WMQ	Urumqi	93.88	34	*e*P		P	07 01 37.6	+0.6	
WMQ					LR	LR			
	comp=Z,340nm,24.3s								
WMQ					LR	LR			
	comp=Z,370nm,26.3s								
LZH	Lanzhou	107.37	28	*e*Pdif		Pdif	07 02 36.8	-1.0	
LZH					LR	LR			
	comp=Z,140nm,17.4s								
LZH					LR	LR			
	comp=Z,150nm,17.5s								
LZH					LR	LR			
	comp=Z,200nm,19.7s								
CD2	Chengdu	111.78	31	Pdif		Pdif	07 02 55.3	-2.0	
PALK	Pallekele	114.39	65	*i* PKIKP		PKPdf	07 07 04.7	+4.7	
NJ2	Nanjing	116.12	17	*e*PKP		PKPdf	07 07 01.9	-1.0	
VNDA	Vanda	130.81	187	*e*PKPdf		PKPdf	07 07 29.1	-0.4	
VNDA	Vanda	130.81	187	*e*PKIKP		PKPdf	07 07 29.1	-0.4	
WR1	Warramunga Arr	169.90	16	*e*PKPab		PKPab	07 09 40.5	-1.6	
	comp=Z,1.0nm,1.0s,baz=359,slow=5.7,SNR=4.1								
AS31	Alice Springs	173.25	28	*e*PKPdf		PKPdf	07 08 27.5	-1.8	
ASAR	Alice Springs	173.25	28	PKP		PKPdf	07 08 28.6	-0.6	
	comp=Z,0.6nm,0.9s,baz=126,slow=0.8,SNR=4.8								

IDC ***13*** *06:57:58.8s 0.6,29°.86N×42°.70W,h0km,mb4.2/20, mb1 4.4/20,mb1mx4.2/52,mbtmp4.2/20,MS3.5/2, Ms1 3.6/2,ms1mx3.1/44,Error ellipse: s-maj=17.4km s-min=14.0km az=154.0*

ISCJB ***13*** *06:57:59.3s 0.3,29°.82N±0°.06×42°.66W±0°.04,h14km, mb4.4/98,MS3.5/2,Error ellipse: s-maj=9.0km s-min=4.9km az=177.9*

NEIC ***13*** *06:58:00.4±0.2,29°.82N×42°.64W,h10km,mb4.5/78,Error ellipse: s-maj=5.6km s-min=3.2km az=178.0*

ISC 13 06:58:01.2±0.4,29°.87N±0°.09×42°.66W±0°.08,h14km,n146, σ0.83/142,mb4.5/98,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DRLN	Deer Lake	22.42	334		*e*P	P		07 03 00.5	+1.2
	11nm,1.0s								
MDP	Montagnes des	26.38	203	LR		LR		07 11 41.3	
	comp=Z,148nm,21.9s,baz=42,slow=31								
MOQ	Mont Orford	27.86	312		*e*P	P		07 03 46.8	-3.6
ESDC	Sonseca Array	33.04	62	P		P		07 04 34.4	-1.8
	0.2nm,0.3s,baz=268,slow=13,SNR=3.5								
PTGA	Pitinga	34.62	212		*e*P	P		07 04 50.3	+0.3
	7.1nm,0.8s								
EKA	Eskdalemuir Ar	37.85	36	*e*PcP		PcP		07 07 30.6	-2.8
PBMO	Poplar Bluff	40.17	293		*e*P	P		07 05 37.2	+0.2
	10nm,1.0s								
HHAR	Hobbs	43.03	293		*e*P	P		07 06 00.5	0.0
	6.6nm,1.1s								
TOA1	Torodi Ar. Sit	44.19	102		*e*P	P		07 06 08.9	-1.0
TOA0	Torodi Ar. Sit	44.19	102		*e*P	P		07 06 10.1	+0.1
TOA0					*e*P	P		07 06 10.4	+0.5
TORD	Torodi Ar. Bea	44.19	102	P		P		07 06 09.0	-1.0
	2.2nm,0.7s,baz=318,slow=6.0,SNR=12								
KSU1	Kansas State U	44.85	297		*e*P	P		07 06 14.5	-0.5
OTAV	Otavalo	45.04	236		*e*P	P		07 06 18.1	+0.9
	10nm,1.1s								
BDFB	Brasilia	45.54	187	P		P		07 06 20.3	-0.4
	3.5nm,0.6s,baz=15,slow=6.5,SNR=6.9								
BDFB	Brasilia	45.54	187		*e*P	P		07 06 21.9	+1.3
BDFB					*e*P	P		07 06 26.0	+1.2
CLL	Collm	46.11	46		*e*P	P		07 06 26.0	+1.2
	comp=Z,7.0nm,1.1s								
CLL					Lm	MLR		07 22 00.0	
	comp=N,100nm,20.2s								
CLL					Lm	MLR		07 22 00.0	
	comp=E,200nm,18.4s								
CLL					Lm	MLR		07 22 00.0	
	comp=Z,200nm,19.2s								
H10N2	ASCENSION HYDR	46.24	140		T	T		07 55 41.4	
	baz=325,slow=75								
H10N3	ASCENSION HYDR	46.24	140		T	T		07 55 42.0	
	baz=325,slow=75								
H10N1	ASCENSION HYDR	46.26	140		T	T		07 55 42.9	
	baz=325,slow=75								
GEA0	GERESS Array S	46.38	49		*e*P	P		07 06 26.8	-0.3
GERES	GERESS Array B	46.38	49		P	P		07 06 26.7	-0.4
	comp=Z,0.4nm,0.2s,baz=282,slow=7.6,SNR=7.8								
BRG	Berggiesshubel	46.67	47		*e*P	P		07 06 26.5	-2.7
	comp=Z,3.9nm,0.8s								
NB200	NORSAR Array S	47.00	33		*e*P	P		07 06 31.5	-0.1
NOA	NORSAR Array B	47.00	33		P	P		07 06 31.5	-0.1
	comp=Z,4.1nm,1.1s,baz=255,slow=7.9,SNR=3.3								
NOA					LR	LR		07 23 59.6	
	comp=Z,46nm,18.7s,baz=255,slow=33								
H10S1	ASCENSION HYDR	47.07	141		T	T		07 56 42.7	
	baz=326,slow=75								
H10S3	ASCENSION HYDR	47.07	141		T	T		07 56 48.2	
	baz=326,slow=75								
H10S2	ASCENSION HYDR	47.08	141		T	T		07 56 41.5	
	baz=326,slow=75								
WMOK	Wichita Mounta	47.17	291		*e*P	P		07 06 33.0	-0.4
	comp=Z,7.7nm,1.1s								
ABTX	Abilene, Hawle	48.30	289		*e*P	P		07 06 42.2	0.0
	comp=Z,8.1nm,0.9s								
OGNE	Ogallala	48.80	300		*e*P	P		07 06 45.7	-0.3
	comp=Z,15nm,0.9s								
JCT	Junction City	48.93	286		*e*P	P		07 06 47.0	-0.1
	comp=Z,12nm,1.1s								
TIR	Tirane	51.11	59		*e*P	P		07 07 04.2	+0.7
	comp=Z,14nm,0.7s								
SRN	Sarande	51.44	61		*e*P	P		07 07 05.6	-0.3
Q24A	Divide	51.46	298		*e*P	P		07 07 06.6	+0.1
	comp=Z,5.0nm,1.0s								
PHP	Peshkopia	51.49	59		*e*P	P		07 07 04.5	-1.9
ISCO	Idaho Springs	51.67	299		*e*P	P		07 07 08.8	+0.7
	comp=Z,3.0nm,0.9s								
IGT	Igoumenitsa	51.75	61		*e*P	P		07 07 07.5	-0.7
KBN	Korca	51.91	60		*e*P	P		07 07 08.9	-0.6
SDCO	Great Sand Dun	51.95	296		*e*P	P		07 07 10.9	+0.8
	comp=Z,2.5nm,1.0s								
LPAZ	La Paz	52.05	212	P		P		07 07 11.1	-0.2
	comp=Z,4.8nm,0.8s,baz=22,slow=6.4,SNR=13								
LPAZ	La Paz	52.05	212		*e*P	P		07 07 11.5	+0.2
	comp=Z,6.8nm,0.9s

PB11	**IPOC Station P**	**55.77**	**211**	*e*P		**P**	**07 07 36.8**	**-1.1**
	comp=Z,25nm,0.8s							
HWUT	**Hardware Ranch**	**55.79**	**302**	*e*P		**P**	**07 07 38.0**	**0.0**
	comp=Z,6.6nm,1.1s							
JLU	**Jordanelle**	**55.91**	**301**	*e*P		**P**	**07 07 38.6**	**-0.4**
	comp=Z,8.0nm,1.1s							
TMUT	**Trail Mountain**	**56.01**	**299**	*e*P		**P**	**07 07 39.6**	**-0.2**
	comp=Z,4.0nm,1.2s							
MPU	**Maple Canyon**	**56.17**	**300**	*e*P		**P**	**07 07 41.0**	**+0.2**
	comp=Z,4.4nm,1.0s							
AKASG	**Malin Array Be**	**56.35**	**47**	P		**P**	**07 07 41.0**	**-0.6**
	comp=Z,6.4nm,1.0s,baz=274,slow=5.9,SNR=13							
AKBB	**Malin Array Si**	**56.35**	**47**	*e*P		**P**	**07 07 41.0**	**-0.7**
SPUT	**South Promonto**	**56.50**	**302**	*e*P		**P**	**07 07 43.5**	**+0.4**
	comp=Z,3.3nm,1.1s							
NLU	**North Lily Min**	**56.52**	**300**	*e*P		**P**	**07 07 44.0**	**+0.7**
	comp=Z,8.6nm,1.1s							
HVU	**Hansel Valley**	**56.64**	**303**	*e*P		**P**	**07 07 44.1**	**0.0**
	comp=Z,1.8nm,1.0s							
MSU	**Marysvale**	**56.93**	**299**	*e*P		**P**	**07 07 47.0**	**+0.7**
BGU	**Big Grassy Mou**	**57.01**	**302**	*e*P		**P**	**07 07 46.9**	**+0.1**
	comp=Z,5.0nm,1.1s							
DUG	**Dugway, Tooele**	**57.02**	**301**	*e*P		**P**	**07 07 46.9**	**+0.2**
	comp=Z,6.5nm,1.0s							
WUAZ	**Wupatki**	**57.06**	**295**	*e*P		**P**	**07 07 48.0**	**+0.9**
	comp=Z,6.1nm,1.0s							
X16A	**Lo Mia Camp, P**	**57.41**	**294**	*e*P		**P**	**07 07 50.2**	**+0.5**
	comp=Z,2.1nm,1.0s							
SZCU	**Shurtz Canyon**	**57.85**	**298**	*e*P		**P**	**07 07 53.2**	**+0.5**
	comp=Z,5.5nm,1.2s							
CCUT	**Cedar City**	**58.07**	**298**	*e*P		**P**	**07 07 54.8**	**+0.5**
	comp=Z,6.0nm,0.9s							
PSUT	**Pine Spring**	**58.20**	**299**	*e*P		**P**	**07 07 55.5**	**+0.3**
	comp=Z,4.8nm,1.1s							
NEW	**Newport**	**58.39**	**311**	*e*P		**P**	**07 07 55.9**	**-0.3**
	comp=Z,7.7nm,1.0s							
W13A	**Hualapai Mount**	**59.15**	**295**	*e*P		**P**	**07 08 02.2**	**+0.4**
	comp=Z,3.9nm,1.1s							
R11A	**Troy Canyon, C**	**59.56**	**299**	*e*P		**P**	**07 08 04.3**	**-0.3**
	comp=Z,4.3nm,1.1s							
G08A	**Pilot Rock**	**60.25**	**308**	*e*P		**P**	**07 08 09.7**	**+0.5**
	comp=Z,0.7nm,0.9s							
J08A	**Circle Bar Ran**	**60.38**	**306**	*e*P		**P**	**07 08 10.2**	**+0.2**
	comp=Z,3.4nm,1.0s							
TPNV	**Topopah Spring**	**60.45**	**298**	*e*P		**P**	**07 08 11.7**	**+1.0**
	comp=Z,6.3nm,1.0s							
WVOR	**Wild Horse Val**	**60.73**	**305**	*e*P		**P**	**07 08 12.8**	**+0.3**
	comp=Z,2.5nm,1.1s							
LTY	**Liberty**	**60.94**	**310**	*e*P		**P**	**07 08 13.5**	**-0.3**
	comp=Z,2.8nm,1.1s							
KVN	**Kaiserville**	**61.25**	**301**	*e*P		**P**	**07 08 16.2**	**0.0**
	comp=Z,4.0nm,1.1s							
NV11	**Mina Array Sit**	**61.47**	**300**	*e*P		**P**	**07 08 17.2**	**-0.5**
	comp=Z,0.3nm,1.1s							
NV01	**Mina Array Sit**	**61.58**	**300**	*e*P		**P**	**07 08 17.8**	**-0.7**
NVAR	**Mina Array Bea**	**61.58**	**300**	P		**P**	**07 08 17.9**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=74,slow=6.1,SNR=7.2							
DAC	**Darwin (Calif)**	**61.68**	**298**	*e*P		**P**	**07 08 20.5**	**+1.3**
	comp=Z,2.2nm,1.0s							
BR101	**Keskin Array S**	**61.70**	**58**	*e*P		**P**	**07 08 20.2**	**+1.0**
BRTR	**Keskin Array B**	**61.70**	**58**	P		**P**	**07 08 20.2**	**+1.0**
	comp=Z,3.9nm,1.1s,baz=271,slow=6.1,SNR=11							
PAHR	**Pah Rah Range**	**62.02**	**302**	*e*P		**P**	**07 08 21.4**	**+0.1**
	comp=Z,5.7nm,1.1s							
VCNR	**Virginia City**	**62.34**	**301**	*e*P		**P**	**07 08 22.7**	**-0.8**
	comp=Z,4.0nm,1.2s							
MDPB	**Devils Postpil**	**62.41**	**299**	*e*P		**P**	**07 08 24.2**	**+0.2**
	comp=Z,2.3nm,1.1s							
WAKR	**Walker**	**62.41**	**300**	*e*P		**P**	**07 08 24.7**	**+0.6**
	comp=Z,0.6nm,0.9s							
ISA	**Isabella, Lake**	**62.55**	**297**	*e*P		**P**	**07 08 24.9**	**+0.1**
	comp=Z,5.2nm,1.1s							
INK	**Inuvik**	**62.93**	**335**	P		**P**	**07 08 26.6**	**-0.1**
	comp=Z,5.1nm,0.9s,baz=60,slow=7.1,SNR=11							
INK	**Inuvik**	**62.93**	**335**	*e*P		**P**	**07 08 27.1**	**+0.5**
	comp=Z,8.4nm,1.0s							
CMB	**Columbia Colle**	**63.27**	**300**	*e*P		**P**	**07 08 29.8**	**+0.2**
	comp=Z,4.4nm,1.1s							
DAWY	**Dawson**	**66.41**	**332**	*e*P		**P**	**07 08 50.1**	**+0.5**
	comp=Z,5.4nm,1.1s							
IL1	**Eielson Array**	**69.13**	**334**	*e*P		**P**	**07 09 06.0**	**-0.7**
ILAR	**Eielson Array**	**69.13**	**334**	P		**P**	**07 09 07.1**	**+0.5**
	comp=Z,2.8nm,1.0s,baz=69,slow=4.0,SNR=19							
ILB	**Eielson Array**	**69.13**	**334**	*e*P		**P**	**07 09 06.6**	**0.0**
CCB	**Clear Creek Bu**	**69.54**	**334**	*e*P		**P**	**07 09 09.9**	**+0.7**
	comp=Z,4.9nm,1.1s							
MDM	**Murphy Dome**	**69.57**	**334**	*e*P		**P**	**07 09 09.8**	**+0.4**
	comp=Z,5.7nm,1.2s							
WRH	**Wood River Hil**	**69.73**	**334**	*e*P		**P**	**07 09 11.1**	**+0.7**
	comp=Z,6.0nm,1.2s							
BPAW	**Bear Paw Mtn.**	**71.02**	**334**	*e*P		**P**	**07 09 18.8**	**+0.5**
	comp=Z,6.2nm,1.2s							
IM3	**Indian Mountai**	**71.09**	**336**	*e*P		**P**	**07 09 19.4**	**+0.8**
NRIK	**Noril'sk**	**74.68**	**16**	P		**P**	**07 09 40.7**	**+0.9**
	comp=Z,1.3nm,0.5s,baz=277,slow=3.1,SNR=4.3							
PLCA	**Paso Flores**	**74.85**	**202**	P		**P**	**07 09 41.7**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=31,slow=4.8,SNR=5.1							
ABKAR	**Akbulak array**	**75.52**	**41**	*e*P		**P**	**07 09 45.1**	**+0.1**
TIXI	**Tiksi**	**78.59**	**3**	*e*P		**P**	**07 10 03.0**	**+1.1**
	comp=Z,6.2nm,1.1s							
BRVK	**Borovoye**	**79.01**	**34**	*e*P		**P**	**07 10 05.2**	**+0.7**
	comp=Z,5.5nm,1.0s							
GEYT	**Alibeck**	**79.93**	**52**	P		**P**	**07 10 10.7**	**+0.7**
	comp=Z,192nm,0.3s,baz=308,slow=7.1,SNR=4.4							
BILL	**Bilibino**	**80.03**	**349**	*e*P		**P**	**07 10 09.5**	**-0.3**
	comp=Z,4.1nm,1.1s							
ZAA1	**Zalesovo Array**	**84.99**	**28**	*e*P		**P**	**07 10 37.1**	**+1.2**
ZAA0	**Zalesovo Array**	**85.00**	**28**	*e*P		**P**	**07 10 35.9**	**-0.1**
	comp=Z,4.1nm,0.9s							
ZALV	**Zalesovo Beam**	**85.00**	**28**	P		**P**	**07 10 37.1**	**+1.2**
	comp=Z,4.6nm,1.0s,baz=302,slow=8.5,SNR=6.9							
ZALV	**Zalesovo Beam**	**85.00**	**28**	*e*P		**P**	**07 10 35.9**	**-0.1**
UOSS	**Minazif**	**85.05**	**64**	*e*P		**P**	**07 10 37.1**	**+0.2**
	comp=Z,11nm,0.9s							
MK32	**Makanchi Array**	**88.96**	**34**	*e*P		**P**	**07 10 56.5**	**+1.0**
MKAR	**Makanchi Array**	**88.96**	**34**	P		**P**	**07 10 56.5**	**+1.0**
	comp=Z,1.7nm,1.0s,baz=298,slow=3.9,SNR=5.1							
MK01	**Makanchi Array**	**88.98**	**34**	*e*P		**P**	**07 10 56.5**	**+1.0**
VNDA	**Vanda**	**130.96**	**187**	PKP		**PKPdf**	**07 17 10.8**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=225,slow=2.2,SNR=5.6							
WR1	**Warramunga Arr**	**169.75**	**16**	*e*PKPab		**PKPab**	**07 19 22.7**	**-0.1**
WRA	**Warramunga Arr**	**169.75**	**16**	PKPab		**PKPab**	**07 19 22.7**	**-0.1**
	comp=Z,1.2nm,1.1s,baz=344,slow=6.4,SNR=4.3							

*ISCJB **13** 06:58:55.7±0.7, 29.°8N±0.°2×42.°8W±0.°1, h14km, mb4.2/13, MS3.9/1, Error ellipse: s-maj=23.5km s-min=15.5km az=174.8*

*IDC **13** 06:58:55.2±0.9, 29.°77N×42.°74W, h0km, mb4.2/13, mb1 4.4/13, mb1mx4.0/54, mbtmp4.2/13, MS3.9/1, Ms1 3.8/1, ms1mx3.0/42, Error ellipse: s-maj=29.9km s-min=18.8km az=180.0*

ISC 13 06:58:57.4±0.9, 29.°8N±0.°2×42.°7W±0.°1, h14km, n22, σ0s67/14, mb4.3/13, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**44.23**	**102**	P		**P**	**P**	**07 07 05.4**	**-1.1**
	2.4nm,0.9s,baz=311,slow=12,SNR=7.6								
ULM	**Lac du Bonnet**	**44.48**	**313**	LR		LR	LR	07 24 57.1	
	comp=Z,136nm,18.0s,baz=62,slow=35								
H10N2	**ASCENSION HYDR**	**46.20**	**140**	T		T	T	07 56 41.0	
	baz=325,slow=75								
H10N3	**ASCENSION HYDR**	**46.20**	**140**	T		T	T	07 56 39.7	
	baz=325,slow=75								
H10N1	**ASCENSION HYDR**	**46.22**	**140**	T		T	T	07 56 43.7	
	baz=325,slow=75								
H10S1	**ASCENSION HYDR**	**47.02**	**141**	T		T	T	07 57 40.3	
	baz=326,slow=75								
H10S3	**ASCENSION HYDR**	**47.02**	**141**	T		T	T	07 57 44.7	
	baz=326,slow=75								
H10S2	**ASCENSION HYDR**	**47.04**	**141**	T		T	T	07 57 44.5	
	baz=326,slow=75								
LPAZ	**La Paz**	**51.93**	**212**	P		**P**	**P**	**07 08 07.3**	**+0.6**
	2.3nm,0.8s,baz=15,slow=7.5,SNR=3.5								
TXAR	**Lajitas Array**	**52.45**	**286**	P		**P**	**P**	**07 08 09.7**	**-0.2**
	1.3nm,0.8s,baz=96,slow=8.0,SNR=7.3								
AXS	**Araxos**	**52.88**	**63**	P		P	P	07 08 21.3	+8.4
PDAR	**Pinedale Array**	**54.12**	**303**	P		**P**	**P**	**07 08 21.4**	**-0.8**
	3.7nm,0.8s,baz=76,slow=7.9,SNR=10								
MLR	**Muntele Rosu**	**55.00**	**53**	P		**P**	**P**	**07 08 29.8**	**+1.3**
	3.1nm,0.9s,baz=145,slow=0.9,SNR=3.0								
AKASG	**Malin Array Be**	**56.46**	**47**	P		**P**	**P**	**07 08 38.9**	**+0.3**
	3.5nm,0.9s,baz=273,slow=6.3,SNR=4.3								
NVAR	**Mina Array Bea**	**61.59**	**300**	P		**P**	**P**	**07 09 15.0**	**+0.2**
	0.7nm,0.7s,baz=92,slow=10,SNR=3.9								
BRTR	**Keskin Array B**	**61.80**	**58**	P		**P**	**P**	**07 09 16.1**	**0.0**
	2.1nm,0.9s,baz=269,slow=7.3,SNR=6.0								
INK	**Inuvik**	**62.99**	**335**	P		**P**	**P**	**07 09 23.0**	**-0.3**
	4.8nm,0.9s,baz=44,slow=10,SNR=6.7								
ILAR	**Eielson Array**	**69.20**	**334**	P		**P**	**P**	**07 10 03.7**	**+0.4**
	1.8nm,0.9s,baz=68,slow=4.3,SNR=7.6								
NRIK	**Noril'sk**	**74.79**	**16**	P		**P**	**P**	**07 10 36.5**	**-0.2**
	1.6nm,0.5s,baz=117,slow=9.0,SNR=2.8								
ZALV	**Zalesovo Beam**	**85.11**	**28**	P		**P**	**P**	**07 11 32.8**	**0.0**
	0.8nm,0.3s,baz=284,slow=6.0,SNR=4.0								
MKAR	**Makanchi Array**	**89.08**	**34**	P		**P**	**P**	**07 11 52.8**	**+0.5**
	1.9nm,1.0s,baz=267,slow=2.4,SNR=4.8								
WRA	**Warramunga Arr**	**169.86**	**16**	PKPab		**PKPab**	**PKPab**	**07 20 19.1**	**-0.4**
	0.4nm,0.9s,baz=242,slow=1.8,SNR=3.3								

*MOS **13** 07:06:31.9±1.0, 38.°30N×15.°91E, h58km, mb4.2/14, Error ellipse: s-maj=7.5km s-min=4.4km az=49.4*

*ISCJB **13** 07:06:32.7±0.1, 38.°28N±0.°01×15.°98E±0.°02, h79km±1km, mb4.1/18, Error ellipse: s-maj=2.5km s-min=2.2km az=171.5*

*LDG **13** 07:06:32.7±0.1, 38.°19N×15.°86E, h75km, Ml3.8/3, Error ellipse: s-maj=3.2km s-min=2.8km az=121.0*

*ROM **13** 07:06:33.3±0.1, 38.°235N±0.°007×15.°85E±0.°01, h78km±1km, ML4.4/58*

*NEIC **13** 07:06:33.0±0.0, 38.°27N×15.°84E, h76km, mb4.3/6, ML4.4(ROM), After ROM.*

NEIC Felt [II] in northeastern Sicily and in much of Calabria.

*PDG **13** 07:06:34.0±0.3, 38.°43N×16.°10E, h75km±9km, ML4.5/11, Error ellipse: s-maj=1.2km s-min=1.1km az=90.0*

*IDC **13** 07:06:34.9±1.4, 38.°44N×15.°72E, h82km±17km, mb3.7/9, mb1 3.7/17, mb1mx3.5/58, mbtmp3.9/17, Error ellipse: s-maj=18.2km s-min=12.6km az=132.0*

*BEO **13** 07:06:36.4±1.8, 38.°67N×16.°24E, h0km, ML4.7/8*

*GII **13** 07:06:48.7±0.0, 37.°64N×17.°77E, h8km, mb4.5/1, MD4.4/1*

ISC 13 07:06:34.0±0.5, 38.°31N±0.°03×15.°89E±0.°03, h71km±5km, n474, σ1s78/463, mb4.2/19, 20C-15D, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEL	**Celeste**	**0.05**	**180**	*e*Pn		**Pn**		**07 06 44.7**	**+0.3**
CEL				*e*Sn		**Sn**		**07 06 52.9**	**+0.8**
CEL	**Celeste**	**0.05**	**180**	*e*P		**Pn**		**07 06 44.9**	**+0.4**
CEL				S		**Sn**		**07 06 53.1**	**+1.1**
CEL	comp=E,31100μm,0.2s				AML	AML			
CEL	comp=N,68250μm,0.3s				AML	AML			
CEL	comp=E,38550μm,0.2s				AML	AML			
CEL	comp=N,83900μm,0.3s				AML	AML			
CEL	comp=E,31100μm,0.2s				AML	AML			
CEL	comp=N,68250μm,0.3s				AML	AML			
CEL	comp=E,38550μm,0.2s				AML	AML			
CEL	comp=N,83900μm,0.3s				AML	AML			
CEL	comp=E,31100μm,0.2s				AML	AML			
CEL	comp=N,68200μm,0.3s				AML	AML			
CEL	comp=E,38550μm,0.2s				AML	AML			
CEL	comp=N,83900μm,0.3s				AML	AML			
CEL	comp=E,31100μm,0.2s				AML	AML			
CEL	comp=E,38550μm,0.2s				AML	AML			
CEL	comp=N,68200μm,0.3s				AML	AML			
CEL	comp=N,83900μm,0.3s				AML	AML			
MSCL	**Scilla**	**0.11**	**227**	P		**Pn**		**07 06 45.0**	**+0.4**
MSCL				S		**Sn**		**07 06 52.7**	**+0.4**
MSCL					AML	AML			
MSCL					AML	AML			
MSCL					AML	AML			
MSCL					AML	AML			
MSCL					AML	AML			
MSCL					AML	AML			
MSCL					AML	AML			
GMB	**Gambarie**	**0.15**	**200**	*i*P		**Pn**		**07 06 45.2**	**+0.4**
GMB				S		**Sn**		**07 06 53.1**	**+0.5**
GMB					AML	AML			
GMB					AML	AML			
GMB					AML	AML			
GMB					AML	AML			
GMB					AML	AML			
GMB					AML	AML			
SOI	**Samo**	**0.27**	**151**	P		**Pn**		**07 06 45.5**	**+0.3**
SOI				S		**Sn**		**07 06 53.3**	**0.0**
SOI	comp=E,21300μm,0.9s				AML	AML			
SOI	comp=N,24800μm,0.5s				AML	AML			
SOI	comp=E,21300μm,0.9s				AML	AML			
SOI	comp=N,24800μm,0.5s				AML	AML			
SOI	comp=E,21350μm,0.9s				AML	AML			
SOI	comp=N,24800μm,0.5s				AML	AML			
SOI	comp=E,21350μm,0.9s				AML	AML			
SOI	comp=N,24800μm,0.5s				AML	AML			
JOPP	**Joppolo**	**0.30**	**359**	P		**Pn**		**07 06 45.7**	**+0.3**
JOPP					AML	AML			
JOPP	comp=E,16000μm,0.5s				AML	AML			
JOPP	comp=N,23900μm,0.2s				AML	AML			
JOPP	comp=E,16000μm,0.5s				AML	AML			
JOPP	comp=N,23900μm,0.2s				AML	AML			
JOPP	comp=E,16000μm,0.5s				AML	AML			
JOPP	comp=N,23900μm,0.2s				AML	AML			
JOPP	comp=N,23900μm,0.2s				AML	AML			
JOPP	comp=E,16000μm,0.5s				AML	AML			
MSRU	**Castanea**	**0.31**	**262**	*i*P		**Pn**		**07 06 45.2**	**-0.2**
MSRU					AML	AML			
MSRU	comp=E,55800nm,0.3s				AML	AML			
MSRU	comp=N,58250nm,1.1s				AML	AML			
MSRU	comp=N,58250nm,1.1s				AML	AML			
MSRU	comp=E,55800nm,0.3s				AML	AML			
MTTG	**Motta San Giov**	**0.34**	**207**	*i*P		**Pn**		**07 06 46.1**	**+0.4**
MTTG				S		**Sn**		**07 06 54.7**	**+0.5**
MTTG	comp=E,69700μm,0.6s				AML	AML			
MTTG	comp=N,55400μm,0.4s				AML	AML			
MTTG	comp=E,69700μm,0.6s				AML	AML			
MTTG	comp=N,55400μm,0.4s				AML	AML			
MTTG	comp=E,69700μm,0.6s				AML	AML			
MTTG	comp=N,55400μm,0.4s				AML	AML			
MTTG	comp=E,69700μm,0.6s				AML	AML			
MTTG	comp=N,55400μm,0.4s				AML	AML			
MPAZ	**Palizzi**	**0.36**	**166**	*i*P		**Pn**		**07 06 46.0**	**+0.2**
MPAZ				S		**Sn**		**07 06 54.4**	**-0.1**
MPAZ	comp=E,20800μm,0.6s				AML	AML			
MPAZ	comp=N,44950μm,0.3s				AML	AML			
MPAZ	comp=E,20800μm,0.6s				AML	AML			
MPAZ	comp=N,44950μm,0.3s				AML	AML			
MPAZ	comp=N,44950μm,0.3s				AML	AML			
MPAZ	comp=N,44950μm,0.3s				AML	AML			
MPAZ	comp=E,20800μm,0.6s				AML	AML			
ATN	**Antennamare**	**0.37**	**247**	P		**Pn**		**07 06 46.1**	**+0.1**
ATN				S		**Sn**		**07 06 54.2**	**-0.6**
PLAC	**Placanica**	**0.45**	**71**	*i*P		**Pn**		**07 06 47.5**	**+0.9**
PLAC				S		**Sn**		**07 06 57.1**	**+1.3**
PLAC					AML	AML			
PLAC	comp=E,61750μm,0.6s				AML	AML			
PLAC	comp=N,46450μm,0.3s				AML	AML			
PLAC	comp=E,61750μm,0.6s				AML	AML			
PLAC	comp=N,46450μm,0.3s				AML	AML			
PLAC	comp=N,46450μm,0.3s				AML	AML			
PLAC	comp=E,61750μm,0.6s				AML	AML			
MPNC	**Port Mandanici**	**0.46**	**249**	*e*P		**Pn**		**07 06 46.3**	**-0.3**
MPNC				S		**Sn**		**07 06 55.4**	**-0.4**
MPNC					AML	AML			
MPNC	comp=E,67300μm,0.3s				AML	AML			
MPNC	comp=N,68050μm,0.4s				AML	AML			
MPNC	comp=E,67300μm,0.3s				AML	AML			
MPNC	comp=N,68050μm,0.4s				AML	AML			
MPNC	comp=E,67300μm,0.3s				AML	AML			
MPNC	comp=N,68050μm,0.4s				AML	AML			
MCSR	**Castroreale**	**0.56**	**245**	*i*P		**Pn**		**07 06 47.8**	**+0.1**
MCSR				S		**Sn**		**07 06 58.3**	**+0.6**
GRI	**Girifalco**	**0.66**	**39**	P		**Pn**		**07 06 49.9**	**+1.2**
GRI				S		**Sn**		**07 07 01.6**	**+2.2**
VPL	**Vulcano Piano**	**0.72**	**276**	*i*P		**Pn**		**07 06 49.2**	**-0.1**
VPL				S		**Sn**		**07 06 59.5**	**-1.0**
LLI	**Lipari**	**0.76**	**281**	*i*P		**Pn**		**07 06 50.0**	**+0.3**
LLI				S		**Sn**		**07 07 01.0**	**-0.2**
LLI					AML	AML			
LLI	comp=E,33550μm,1.5s				AML	AML			
LLI	comp=N,72900μm,0.4s				AML	AML			
LLI	comp=E,33550μm,1.5s				AML	AML			
LLI	comp=N,72900μm,0.4s				AML	AML			
LLI	comp=E,33550μm,1.5s				AML	AML			
LLI	comp=N,72900μm,0.4s				AML	AML			
LLI	comp=E,33550μm,1.5s				AML	AML			
LLI	comp=N,72900μm,0.4s				AML	AML			
MUCR	**Ucria**	**0.85**	**252**	*i*P		**Pn**		**07 06 51.2**	**+0.4**
ESLN	**Serra La Nave**	**0.95**	**230**	P		**Pn**		**07 06 51.7**	**-0.5**
ESLN				S		**Sn**		**07 07 04.5**	**-1.1**
ESLN					AML	AML			
ESLN	comp=E,16150μm,0.4s				AML	AML			
ESLN	comp=N,10690μm,1.2s				AML	AML			
ESLN	comp=E,16150μm,0.4s				AML	AML			
ESLN	comp=N,10690μm,1.2s				AML	AML			
ESLN	comp=E,16150μm,0.4s				AML	AML			
SERS	**Sersale**	**0.96**	**40**	P		**Pn**		**07 06 53.5**	**+1.3**
SERS				S		**Sn**		**07 07 07.5**	**+1.8**
SERS					AML	AML			
SERS	comp=E,6350μm,1.6s				AML	AML			
SERS	comp=N,8240μm,0.4s				AML	AML			
SERS	comp=E,8780μm,0.4s				AML	AML			
SERS	comp=N,6190μm,1.6s				AML	AML			
SERS	comp=E,6350μm,1.6s				AML	AML			
SERS	comp=N,8240μm,0.4s				AML	AML			
SERS	comp=E,8780μm,0.4s				AML	AML			
SERS	comp=N,6190μm,1.6s				AML	AML			
SERS	comp=E,8780μm,0.4s				AML	AML			
SERS	comp=N,8240μm,0.4s				AML	AML			
SERS	comp=E,6350μm,1.6s				AML	AML			
SERS	comp=N,6190μm,1.6s				AML	AML			
CAR1	**CAROLEI**	**0.98**	**15**	P		**Pn**		**07 06 52.9**	**+0.5**
CAR1					AML	AML			
CAR1	comp=E,37450μm,0.3s				AML	AML			
CAR1	comp=N,17350μm,0.3s				AML	AML			
CAR1	comp=E,39700μm,0.4s				AML	AML			
CAR1	comp=N,19100μm,1.5s				AML	AML			
CAR1	comp=E,37400μm,0.3s				AML	AML			
CAR1	comp=N,17400μm,0.3s				AML	AML			
CAR1	comp=E,39700μm,0.4s				AML	AML			
CAR1	comp=N,19100μm,1.5s				AML	AML			
CAR1	comp=E,39700μm,0.4s				AML	AML			
CAR1	comp=E,37400μm,0.3s				AML	AML			
CAR1	comp=N,19100μm,1.5s				AML	AML			
CAR1	comp=N,17400μm,0.3s				AML	AML			
MNO	**Monte Soro**	**1.02**	**249**	P		**Pn**		**07 06 53.8**	**+0.8**
MNO					AML	AML			
MNO	comp=E,35350μm,0.7s				AML	AML			
MNO	comp=N,33150μm,0.8s				AML	AML			
MNO	comp=E,35300μm,0.7s				AML	AML			
MNO	comp=N,33200μm,0.8s				AML	AML			
MNO	comp=E,35300μm,0.7s				AML	AML			
MNO	comp=N,33200μm,0.8s				AML	AML			
MSFR	**San Fratello**	**1.06**	**255**	P		**Pn**		**07 06 53.4**	**0.0**
IFIL	**Filicudi I Eol**	**1.07**	**284**	*i*P		**Pn**		**07 06 53.3**	**-0.2**
IFIL					AML	AML			
IFIL	comp=E,91950μm,0.2s				AML	AML			
IFIL	comp=N,30300μm,0.6s				AML	AML			
IFIL	comp=E,91950μm,0.2s				AML	AML			
IFIL	comp=N,30300μm,0.6s				AML	AML			
IFIL	comp=E,91950μm,0.2s				AML	AML			
IFIL	comp=N,30300μm,0.6s				AML	AML			
TIP	**Timpagrande**	**1.10**	**38**	*e*Pn		**Pn**		**07 06 55.2**	**+1.2**
TIP				*e*Sn		**Sn**		**07 07 12.2**	**+3.4**
TIP	**Timpagrande**	**1.10**	**38**	⇑*i*P		**Pn**		**07 06 55.1**	**+1.2**
TIP	**Timpagrande**	**1.10**	**38**	P		**Pn**		**07 06 55.3**	**+1.2**
TIP					AML	AML			
TIP	comp=E,4905μm,0.8s				AML	AML			
TIP	comp=N,5525μm,0.4s				AML	AML			
TIP	comp=E,4905μm,0.8s				AML	AML			
TIP					AML	AML			

| | | |

VULT	**Monte Vulture**	**2.65**	**355**	AML	AML				
	comp=E,1018µm,0.9s								
VULT				AML	AML				
	comp=E,1018µm,0.9s								
VULT				AML	AML				
	comp=N,1234µm,1.0s								
VULT				AML	AML				
	comp=N,1234µm,1.0s								
AMUR	**Altamura**	**2.65**	**12**	AML	AML				
	comp=N,2740µm,1.5s								
AMUR				AML	AML				
	comp=E,2875µm,0.3s								
AMUR				AML	AML				
	comp=E,2875µm,0.3s								
AMUR				AML	AML				
	comp=N,2740µm,1.5s								
SCTE	**Santa Cesarea**	**2.67**	**48**	AML	AML				
	comp=N,608µm,0.3s								
SCTE				AML	AML				
	comp=E,842µm,0.8s								
SCTE				AML	AML				
	comp=N,608µm,0.3s								
SCTE				AML	AML				
	comp=E,842µm,0.8s								
SNAL	**S. Angelo Dei**	**2.67**	**349**	AML	AML				
	comp=E,2500µm,0.6s								
SNAL				AML	AML				
	comp=E,2500µm,0.6s								
SNAL				AML	AML				
	comp=N,1990µm,0.9s								
SNAL				AML	AML				
	comp=N,1990µm,0.9s								
WDD	**Wied Dalam**	**2.70**	**204**	*e*Pn	**Pn**	**07 07 14.3**	**-0.8**		
WDD				*e*Sn	**Sn**	**07 07 44.5**	**-2.1**		
WDD	**Wied Dalam**	**2.70**	**204**	AML	AML				
	comp=E,5135µm,0.8s								
WDD				AML	AML				
	comp=N,2640µm,0.5s								
WDD				AML	AML				
	comp=E,5135µm,0.8s								
WDD				AML	AML				
	comp=N,2640µm,0.5s								
MESG	**Mesagne**	**2.74**	**33**	AML	AML				
	comp=E,3830µm,0.6s								
MESG				AML	AML				
	comp=N,5205µm,0.8s								
MESG				AML	AML				
	comp=E,3830µm,0.6s								
MESG				AML	AML				
	comp=N,5205µm,0.8s								
FASA	**Fasano**	**2.75**	**24**	*e*Pn	**Pn**	**07 07 14.9**	**-0.9**		
FASA				Sn	**Sn**	**07 07 45.8**	**-2.1**		
MRVN	**Minervino Murg**	**2.76**	**5**	AML	AML				
	comp=N,698µm,0.2s								
MRVN				AML	AML				
	comp=E,818µm,0.4s								
MRVN				AML	AML				
	comp=N,698µm,0.2s								
MRVN				AML	AML				
	comp=E,818µm,0.4s								
CAFE	**Carife**	**2.76**	**350**	AML	AML				
	comp=E,1425µm,1.1s								
CAFE				AML	AML				
	comp=E,1415µm,1.1s								
CAFE				AML	AML				
	comp=N,876µm,1.4s								
CAFE				AML	AML				
	comp=E,1425µm,1.1s								
CAFE				AML	AML				
	comp=N,819µm,1.4s								
CAFE				AML	AML				
	comp=E,1415µm,1.1s								
CAFE				AML	AML				
	comp=N,819µm,1.4s								
CAFE				AML	AML				
	comp=N,876µm,1.4s								
BAI	**Bari**	**2.90**	**15**	*e*Pn	**Pn**	**07 07 17.0**	**-0.8**		
BAI				Sn	**Sn**	**07 07 49.5**	**-2.0**		
PAOL	**Paolisi**	**2.91**	**340**	AML	AML				
	comp=E,765µm,0.3s								
PAOL				AML	AML				
	comp=E,698µm,0.3s								
PAOL				AML	AML				
	comp=N,804µm,0.4s								
PAOL				AML	AML				
	comp=N,812µm,0.4s								
PAOL				AML	AML				
	comp=E,698µm,0.3s								
PAOL				AML	AML				
	comp=E,765µm,0.3s								
PAOL				AML	AML				
	comp=N,812µm,0.4s								
PAOL				AML	AML				
	comp=N,804µm,0.4s								
PSB1	**Pescosannita**	**3.03**	**344**	AML	AML				
	comp=N,578µm,0.6s								
PSB1				AML	AML				
	comp=E,770µm,0.7s								
PSB1				AML	AML				
	comp=E,774µm,0.7s								
PSB1				AML	AML				
	comp=N,561µm,0.6s								
PSB1				AML	AML				
	comp=N,561µm,0.6s								
PSB1				AML	AML				
	comp=N,578µm,0.6s								
PSB1				AML	AML				
	comp=E,774µm,0.7s								
PSB1				AML	AML				
	comp=E,770µm,0.7s								
PTRJ	**Pietraroja**	**3.23**	**341**	AML	AML				
	comp=E,748µm,0.5s								
PTRJ				AML	AML				
	comp=E,748µm,0.5s								
PTRJ				AML	AML				
	comp=N,1270µm,0.5s								
PTRJ				AML	AML				
	comp=N,1270µm,0.5s								
MODR	**Mondragone**	**3.23**	**332**	AML	AML				
	comp=E,237µm,1.3s								
MODR				AML	AML				
	comp=N,386µm,0.4s								
MODR				AML	AML				
	comp=N,386µm,0.4s								
MODR				AML	AML				
	comp=E,237µm,1.3s								
SGG	**Gregorio Mates**	**3.29**	**340**	AML	AML				
	comp=N,402µm,0.5s								
SGG				AML	AML				
	comp=E,379µm,0.5s								
SGG				AML	AML				
	comp=N,402µm,0.5s								
SGG				AML	AML				
	comp=E,379µm,0.5s								
KEK	**Kerkira**	**3.35**	**64**	P	**Pn**	**07 07 22.7**	**-1.3**		
KEK	**Kerkira**	**3.35**	**64**	P	**Pn**	**07 07 22.7**	**-1.3**		
KEK	**Kerkira**	**3.35**	**64**	AML	AML				
	comp=E,238µm,0.3s								
KEK				AML	AML				
	comp=N,206µm,0.3s								
KEK				AML	AML				
	comp=N,206µm,0.3s								
KEK				AML	AML				
	comp=E,238µm,0.3s								
VAGA	**Valle Agricola**	**3.36**	**338**	AML	AML				
	comp=N,406µm,0.5s								
VAGA				AML	AML				
	comp=E,232µm,0.7s								
VAGA				AML	AML				
	comp=N,406µm,0.5s								
VAGA				AML	AML				
	comp=E,243µm,1.3s								
VAGA				AML	AML				
	comp=N,415µm,0.5s								
VAGA				AML	AML				
	comp=E,232µm,0.7s								
VAGA				AML	AML				
	comp=E,243µm,1.3s								
VAGA				AML	AML				
	comp=N,415µm,0.5s								
BSSO	**Busso**	**3.39**	**343**	AML	AML				
	comp=N,503µm,0.7s								
BSSO				AML	AML				
	comp=E,457µm,0.5s								
BSSO				AML	AML				
	comp=N,486µm,0.7s								
BSSO				AML	AML				
	comp=E,446µm,0.5s								
BSSO				AML	AML				
	comp=N,503µm,0.7s								
BSSO				AML	AML				
	comp=E,446µm,0.5s								
BSSO				AML	AML				
	comp=E,457µm,0.5s								
BSSO				AML	AML				
	comp=N,486µm,0.7s								
MSAG	**Monte S. Angel**	**3.40**	**0**	AML	AML				
	comp=N,1175µm,0.3s								
MSAG				AML	AML				
	comp=E,748µm,0.8s								
MSAG				AML	AML				
	comp=N,1175µm,0.3s								
MSAG				AML	AML				
	comp=E,748µm,0.8s								
CIGN	**Sant'Elia a Pi**	**3.43**	**348**	AML	AML				
	comp=E,311µm,1.1s								
CIGN				AML	AML				
	comp=E,311µm,1.1s								
CIGN				AML	AML				
	comp=N,208µm,0.8s								
CIGN				AML	AML				
	comp=N,208µm,0.8s								
MELA	**Melanico ??? S**	**3.44**	**350**	AML	AML				
	comp=N,706µm,0.5s								
MELA				AML	AML				
	comp=E,794µm,0.4s								
MELA				AML	AML				
	comp=N,684µm,0.5s								
MELA				AML	AML				
	comp=E,795µm,0.4s								
MELA				AML	AML				
	comp=E,795µm,0.4s								
MELA				AML	AML				
	comp=E,794µm,0.4s								
MELA				AML	AML				
	comp=N,706µm,0.5s								
MELA				AML	AML				
	comp=N,684µm,0.5s								
SGRT	**San Giovanni R**	**3.44**	**358**	AML	AML				
	comp=E,874µm,0.6s								
SGRT				AML	AML				
	comp=N,600µm,1.4s								
SGRT				AML	AML				
	comp=E,874µm,0.6s								
SGRT				AML	AML				
	comp=N,600µm,1.4s								
SRN	**Sarande**	**3.56**	**63**	P	**Pn**	**07 07 25.6**	**-1.2**		
SRN	**Sarande**	**3.56**	**63**	P	**Pn**	**07 07 25.6**	**-1.2**		
TRIV	**Trivento**	**3.61**	**344**	AML	AML				
	comp=E,314µm,1.3s								
TRIV				AML	AML				
	comp=E,314µm,1.3s								
TRIV				AML	AML				
	comp=N,412µm,1.5s								
TRIV				AML	AML				
	comp=N,412µm,1.5s								
SGD	**Sagiada**	**3.63**	**68**	P	**Pn**	**07 07 27.1**	**-0.6**		
FSK	**Fiskardo**	**3.67**	**86**	P	**Pn**	**07 07 28.1**	**-0.3**		
IGT	**Igoumenitsa**	**3.67**	**69**	P	**Pn**	**07 07 27.5**	**-0.9**		
IGT	**Igoumenitsa**	**3.67**	**69**	P	**Pn**	**07 07 27.5**	**-0.9**		
IGT	**Igoumenitsa**	**3.67**	**69**	P	**Pn**	**07 07 27.5**	**-0.9**		
VLS	**Valsamata**	**3.70**	**91**	P	**Pn**	**07 07 28.2**	**-0.6**		
VLS	**Valsamata**	**3.70**	**91**	P	**Pn**	**07 07 28.2**	**-0.6**		
VLS	**Valsamata**	**3.70**	**91**	P	**Pn**	**07 07 28.2**	**-0.6**		
VLS	**Valsamata**	**3.70**	**91**	AML	AML				
	comp=N,278µm,0.4s								
VLS				AML	AML				
	comp=E,282µm,0.3s								
VLS				AML	AML				
	comp=N,278µm,0.4s								
VLS				AML	AML				
	comp=E,282µm,0.3s								
EVGI	**Lefkada island**	**3.75**	**84**	P	**Pn**	**07 07 29.2**	**-0.3**		
LKD2	**Lefkada island**	**3.77**	**81**	P	**Pn**	**07 07 29.2**	**-0.5**		
LKD2	**Lefkada island**	**3.77**	**81**	P	**Pn**	**07 07 29.2**	**-0.5**		
POFI	**Posta Fibreno**	**3.80**	**335**	AML	AML				
	comp=N,92µm,1.6s								
POFI				AML	AML				
	comp=E,118µm,1.4s								
POFI				AML	AML				
	comp=E,118µm,1.4s								
POFI				AML	AML				
	comp=N,92µm,1.6s								
GIUL	**Giuliano Di Ro**	**3.83**	**329**	AML	AML				
	comp=E,154µm,0.5s								
GIUL				AML	AML				
	comp=N,185µm,0.6s								
GIUL				AML	AML				
	comp=N,185µm,0.6s								
GIUL				AML	AML				
	comp=E,154µm,0.5s								
VVLD	**Villa Vallelon**	**3.96**	**335**	AML	AML				
	comp=N,116µm,0.8s								
VVLD				AML	AML				
	comp=E,120µm,1.6s								
VVLD				AML	AML				
	comp=E,120µm,1.6s								
VVLD				AML	AML				
	comp=N,116µm,0.8s								
JAN	**Janina**	**4.09**	**69**	P	**Pn**	**07 07 34.0**	**-0.1**		
JAN	**Janina**	**4.09**	**69**	P	**Pn**	**07 07 34.0**	**-0.1**		
JAN	**Janina**	**4.09**	**69**	P	**Pn**	**07 07 34.0**	**-0.1**		
TIR	**Tirane**	**4.31**	**44**	*e*Pn	**Pn**	**07 07 36.1**	**-1.0**		
TIR	**Tirane**	**4.31**	**44**	⇓*i*P	**Pn**	**07 07 36.4**	**-0.6**		
TIR	**Tirane**	**4.31**	**44**	P	**Pn**	**07 07 36.5**	**-0.6**		
TIR	**Tirane**	**4.31**	**44**	*e*P	**Pn**	**07 07 36.1**	**-1.0**		
TIR	**Tirane**	**4.31**	**44**	AML	AML				
	comp=N,998µm,0.3s								
TIR				AML	AML				
	comp=E,1395µm,0.6s								
TIR				AML	AML				
	comp=N,998µm,0.3s								
TIR				AML	AML				
	comp=E,1395µm,0.6s								
RLS	**Riolos of Patr**	**4.40**	**92**	P	**Pn**	**07 07 38.5**	**+0.2**		
RLS	**Riolos of Patr**	**4.40**	**92**	P	**Pn**	**07 07 38.5**	**+0.2**		
PVI	**Paravola**	**4.43**	**84**	P	**Pn**	**07 07 39.9**	**+1.2**		
KBN	**Korca**	**4.44**	**57**	P	**Pn**	**07 07 38.9**	**0.0**		
KBN	**Korca**	**4.44**	**57**	P	**Pn**	**07 07 38.9**	**0.0**		
KBN	**Korca**	**4.44**	**57**	P	**Pn**	**07 07 38.9**	**0.0**		
ULC	**Ulcinj**	**4.46**	**34**	⇓*i*Pn	**Pn**	**07 07 36.9**	**-2.3**		
ULC				*e*Sn	**Sn**	**07 08 25.0**	**-4.9**		
AQU	**L'Aquila**	**4.47**	**336**	*e*Pn	**Pn**	**07 07 42.0**	**+2.7**		
AQU	**L'Aquila**	**4.47**	**336**	*e*P	**Pn**	**07 07 42.0**	**+2.7**		
PENT	**Pentalofos**	**4.49**	**64**	P	**Pn**	**07 07 39.9**	**+0.3**		
NEST	**Nestorio**	**4.52**	**61**	P	**Pn**	**07 07 41.1**	**+1.1**		
HCY	**Herceg Novi**	**4.59**	**25**	⇑*i*Pn	**Pn**	**07 07 39.2**	**-1.7**		
HCY				*e*Sn	**Sn**	**07 08 28.4**	**-4.4**		
HCY	**Herceg Novi**	**4.59**	**25**	*e*Pn	**Pn**	**07 07 38.2**	**-2.7**		
DRO	**Drossia**	**4.60**	**93**	P	**Pn**	**07 07 41.1**	**0.0**		
BUM	**Brajici-Budva**	**4.60**	**29**	⇑*i*Pn	**Pn**	**07 07 39.5**	**-1.6**		
BUM				*e*Sn	**Sn**	**07 08 29.1**	**-4.2**		
DRME	**Dracevica, Mon**	**4.62**	**32**	⇑*i*Pn	**Pn**	**07 07 39.5**	**-1.8**		
DRME				*e*Sn	**Sn**	**07 08 29.4**	**-4.3**		
DRME	**Dracevica, Mon**	**4.62**	**32**	*e*Pn	**Pn**	**07 07 39.3**	**-2.0**		
AMT	**Artemida-Makis**	**4.66**	**98**	P	**Pn**	**07 07 41.4**	**-0.5**		
EVR	**Evrytania**	**4.67**	**81**	P	**Pn**	**07 07 43.2**	**+1.1**		
EVR	**Evrytania**	**4.67**	**81**	P	**Pn**	**07 07 43.2**	**+1.1**		
OHR	**Ohrid**	**4.71**	**52**	*i* Pn	**Pn**	**07 07 42.2**	**-0.3**		
EFP	**Efpalio**	**4.73**	**87**	P	**Pn**	**07 07 43.9**	**+1.1**		
ANX	**Ano Chora**	**4.74**	**85**	P	**Pn**	**07 07 44.8**	**+1.7**		
STON	**Ston**	**4.76**	**16**	*e*Pn	**Pn**	**07 07 42.4**	**-0.9**		
STON				Sn	**Sn**	**07 08 31.9**	**-5.2**		
TREB	**Trebinje**	**4.79**	**22**	*e*Pn	**Pn**	**07 07 41.6**	**-2.0**		
CEME	**Cevo**	**4.82**	**28**	⇓*i*Pn	**Pn**	**07 07 42.2**	**-1.9**		
CEME				*e*Sn	**Sn**	**07 08 34.5**	**-4.2**		
PUK	**Puka**	**4.83**	**38**	AML	AML				
	comp=E,825µm,0.7s								
PUK				AML	AML				
	comp=N,940µm,1.1s								
PUK				AML	AML				
	comp=N,940µm,1.1s								
PUK				AML	AML				
	comp=E,825µm,0.7s								
SERG	**Sergoula**	**4.84**	**87**	P	**Pn**	**07 07 45.6**	**+1.2**		
PDG	**Podgorica**	**4.85**	**31**	⇓*i*P	**Pn**	**07 07 43.0**	**-1.5**		
PDG	**Podgorica**	**4.85**	**31**	*e*Pn	**Pn**	**07 07 42.9**	**-1.5**		
PYL	**PYLOS**	**4.85**	**105**	P	**Pn**	**07 07 43.8**	**-0.7**		
PYL	**PYLOS**	**4.85**	**105**	P	**Pn**	**07 07 43.8**	**-0.7**		
TTG	**Podgorica**	**4.85**	**31**	⇑*i*Pn	**Pn**	**07 07 43.6**	**-0.9**		
TTG				*e*Sn	**Sn**	**07 08 34.9**	**-4.4**		
TTG	**Podgorica**	**4.85**	**31**	*e*Pn	**Pn**	**07 07 43.4**	**-1.1**		
TTG				*e*Sn	**Sn**	**07 08 34.9**	**-4.4**		
TTG	**Podgorica**	**4.85**	**31**	*e*P	**Pn**	**07 07 43.4**	**-1.1**		
TTG				*e*		07 08 34.9			
PHP	**Peshkopia**	**4.86**	**45**	P	**Pn**	**07 07 44.5**	**-0.1**		
PHP	**Peshkopia**	**4.86**	**45**	P	**Pn**	**07 07 44.5**	**-0.1**		
PHP	**Peshkopia**	**4.86**	**45**	P	**Pn**	**07 07 44.5**	**-0.1**		
FNA	**Florina**	**4.91**	**58**	*e*P	**Pn**	**07 07 44.0**	**-1.3**		
FNA	**Florina**	**4.91**	**58**	*e*Pn	**Pn**	**07 07 44.8**	**-0.5**		
FNA				*e*Sn	**Sn**	**07 08 40.1**	**-0.7**		
FNA	**Florina**	**4.91**	**58**	P	**Pn**	**07 07 45.4**	**+0.1**		
FNA	**Florina**	**4.91**	**58**	*e*P	**Pn**	**07 07 44.8**	**-0.5**		
FNA				*e*		07 08 40.1			
ITM	**Ithomi**	**4.91**	**101**	*e*P	**Pn**	**07 07 44.9**	**-0.4**		
ITM	**Ithomi**	**4.91**	**101**	*e*Pn	**Pn**	**07 07 45.0**	**-0.3**		
ITM				*e*Sn	**Sn**	**07 08 36.5**	**-4.3**		
ITM	**Ithomi**	**4.91**	**101**	P	**Pn**	**07 07 45.0**	**-0.3**		
ITM	**Ithomi**	**4.91**	**101**	AML	AML				
	comp=N,137µm,0.6s								
ITM				AML	AML				
	comp=E,166µm,0.5s								
ITM				AML	AML				
	comp=N,137µm,0.6s								
ITM				AML	AML				
	comp=E,166µm,0.5s								
THL	**Klokotos Trika**	**4.94**	**73**	P	**Pn**	**07 07 46.3**	**+0.7**		
KLV	**Kalavryta, Ach**	**4.94**	**91**	P	**Pn**	**07 07 46.1**	**+0.4**		
KLV	**Kalavryta, Ach**	**4.94**	**91**	P	**Pn**	**07 07 46.1**	**+0.4**		
KZN	**Kozani**	**4.98**	**65**	P	**Pn**	**07 07 46.6**	**+0.3**		
KZN	**Kozani**	**4.98**	**65**	P	**Pn**	**07 07 46.6**	**+0.3**		
KZN	**Kozani**	**4.98**	**65**	P	**Pn**	**07 07 46.6**	**+0.3**		
BIA	**Bitola**	**4.99**	**55**	P	**Pn**	**07 07 46.8**	**+0.4**		
BIA	**Bitola**	**4.99**	**55**	P	**Pn**	**07 07 46.8**	**+0.4**		
BIA	**Bitola**	**4.99**	**55**	*i* Pn	**Pn**	**07 07 46.5**	**+0.1**		
BRY	**Bratogost**	**5.01**	**23**	⇓*i*Pn	**Pn**	**07 07 45.6**	**-1.2**		
BRY				*e*Sn	**Sn**	**07 08 38.6**	**-4.8**		
BRY	**Bratogost**	**5.01**	**23**	*e*Pn	**Pn**	**07 07 45.2**	**-1.6**		
NKME	**Niksic**	**5.03**	**27**	⇓*i*Pn	**Pn**	**07 07 45.5**	**-1.4**		
NKME				*e*Sn	**Sn**	**07 08 39.2**	**-4.5**		
NKY	**Niksic**	**5.08**	**27**	⇑*i*Pn	**Pn**	**07 07 46.6**	**-1.1**		
NKY				*e*Sn	**Sn**	**07 08 40.5**	**-4.6**		
AGG	**Agios Georgios**	**5.09**	**80**	*e*P	**Pn**	**07 07 47.4**	**-0.4**		
AGG	**Agios Georgios**	**5.09**	**80**	*e*Pn	**Pn**	**07 07 48.7**	**+0.9**		
AGG	**Agios Georgios**	**5.09**	**80**	P	**Pn**	**07 07 48.9**	**+1.1**		
AGG	**Agios Georgios**	**5.09**	**80**	*e*P	**Pn**	**07 07 48.7**	**+0.9**		
KRUS	**Krusevo**	**5.13**	**52**	*i* Pn	**Pn**	**07 07 47.6**	**-0.8**		
VLX	**Vlachokerasia**	**5.22**	**98**	P	**Pn**	**07 07 50.1**	**+0.5**		
VLX	**Vlachokerasia**	**5.22**	**98**	P	**Pn**	**07 07 50.1**	**+0.5**		
PVY	**Plav**	**5.29**	**35**	⇑*i*Pn	**Pn**	**07 07 49.5**	**-1.0**		
PVY				*e*Sn	**Sn**	**07 08 45.3**	**-4.9**		
KOME	**Kolasin**	**5.31**	**30**	⇓*i*Pn	**Pn**	**07 07 49.7**	**-1.1**		
KOME				*e*Sn	**Sn**	**07 08 46.1**	**-4.6**		
DYR	**Agios Nikonas**	**5.35**	**105**	P	**Pn**	**07 07 51.2**	**-0.1**		
UPM	**Unac-Piva**	**5.40**	**24**	⇑*i*Pn	**Pn**	**07 07 51.7**	**-0.4**		
UPM				*e*Sn	**Sn**	**07 08 48.0**	**-5.0**		
UPM	**Unac-Piva**	**5.40**	**24**	*e*Pn	**Pn**	**07 07 51.1**	**-1.0**		
LIT	**Litokhoron**	**5.43**	**69**	*e*Pn	**Pn**	**07 07 52.0**	**-0.4**		
LIT				*e*Sn	**Sn**	**07 08 51.7**	**-1.8**		
LIT	**Litokhoron**	**5.43**	**69**	P	**Pn**	**07 07 52.5**	**+0.1**		
LIT	**Litokhoron**	**5.43**	**69**	*e*P	**Pn**	**07 07 52.0**	**-0.4**		
LIT				*e*		07 08 51.7			
IVA	**Berane**	**5.48**	**32**	⇓*i*Pn	**Pn**	**07 07 52.7**	**-0.5**		
IVA				*e*Sn	**Sn**	**07 08 49.9**	**-5.0**		
LTK	**Loutraki**	**5.58**	**91**	P	**Pn**	**07 07 55.9**	**+1.4**		
LTK	**Loutraki**	**5.58**	**91**	P	**Pn**	**07 07 55.9**	**+1.4**		
LKR	**Lokris**	**5.59**	**84**	P	**Pn**	**07 07 54.5**	**0.0**		
LKR	**Lokris**	**5.59**	**84**	P	**Pn**	**07 07 54.5**	**0.0**		
SKO	**Skopje**	**5.61**	**48**	*i* Pn	**Pn**	**07 07 54.0**	**-0.8**		
PLE	**Pljevlja**	**5.67**	**27**	⇓*i*Pn	**Pn**	**07 07 55.3**	**-0.5**		
PLE				*e*Sn	**Sn**	**07 08 54.7**	**-4.9**		
GRG	**Griva**	**5.68**	**60**	*e*P	**Pn**	**07 07 53.5**	**-2.3**		
GRG	**Griva**	**5.68**	**60**	P	**Pn**	**07 07 55.6**	**-0.2**		
GRG	**Griva**	**5.68**	**60**	P	**Pn**	**07 07 55.6**	**-0.2**		
GRG	**Griva**	**5.68**	**60**	P	**Pn**	**07 07 55.6**	**-0.2**		
XOR	**Xorichti**	**5.80**	**77**	P	**Pn**	**07 07 57.0**	**-0.4**		
XOR	**Xorichti**	**5.80**	**77**	P	**Pn**	**07 07 57.0**	**-0.4**		
VLI	**Veliai**	**5.82**	**104**	P	**Pn**	**07 07 59.0**	**+1.3**		
VLI	**Veliai**	**5.82**	**104**	P	**Pn**	**07 07 59.0**	**+1.3**		
KEST	**Kesra**	**5.83**	**246**	P	**Pn**	**07 07 59.3**	**+1.3**		
	comp=E,1.1nm,0.3s,baz=323,slow=2.3,SNR=12								
KEST				S	**Sn**	**07 09 03.2**	**-0.3**		
	baz=90,slow=10,SNR=2.0								
SJES	**Sjenica**	**5.84**	**31**	*e*Pn	**Pn**	**07 07 58.2**	**+0.2**		
DID	**Didima**	**5.86**	**96**	P	**Pn**	**07 07 58.0**	**-0.3**		
DID	**Didima**	**5.86**	**96**	P	**Pn**	**07 07 58.0**	**-0.3**		
STIP	**Stip**	**5.90**	**53**	*i* Pn	**Pn**	**07 07 59.9**	**+1.1**		
VAY	**Valandovo**	**5.96**	**58**	*i* Pn	**Pn**	**07 07 58.7**	**-0.8**		
KTHR	**Kythira**	**6.03**	**108**	P	**Pn**	**07 08 00.8**	**+0.2**		
HORT	**Hortiatis**	**6.03**	**65**	*e*P	**Pn**	**07 07 57.2**	**-3.4**		
HORT	**Hortiatis**	**6.03**	**65**	P	**Pn**	**07 07 59.6**	**-1.0**		
HORT	**Hortiatis**	**6.03**	**65**	P	**Pn**	**07 07 59.6**	**-1.0**		
KYTH	**Kithira**	**6.06**	**107**	*e*Pn	**Pn**	**07 08 01.3**	**+0.3**		
KYTH	**Kithira**	**6.06**	**107**	P	**Pn**	**07 08 01.3**	**+0.3**		
KNT	**Kendrikon**	**6.11**	**60**	*e*P	**Pn**	**07 07 58.7**	**-2.9**		
KNT	**Kendrikon**	**6.11**	**60**	P	**Pn**	**07 08 01.0**	**-0.6**		
KNT	**Kendrikon**	**6.11**	**60**	P	**Pn**	**07 08 01.0**	**-0.6**		
KNT	**Kendrikon**	**6.11**	**60**	P	**Pn**	**07 08 01.0**	**-0.6**		
BBLS	**Lazići**	**6.15**	**24**	*e*Pn	**Pn**	**07 08 02.2**	**-0.1**		
BBLS	**Lazići**	**6.15**	**24**	*e*Pn	**Pn**	**07 08 01.3**	**-1.0**		
IVAS	**Ivanjica**	**6.17**	**30**	*e*Pn	**Pn**	**07 08 01.5**	**-1.1**		
ATH	**Athens Observa**	**6.18**	**91**	P	**Pn**	**07 08 02.6**	**0.0**		
ATH	**Athens Observa**	**6.18**	**91**	P	**Pn**	**07 08 02.6**	**0.0**		
PLG	**Polygyros**	**6.21**	**68**	P	**Pn**	**07 08 01.9**	**-1.1**		
PLG	**Polygyros**	**6.21**	**68**	P	**Pn**	**07 08 01.9**	**-1.1**		
PLG	**Polygyros**	**6.21**	**68**	P	**Pn**	**07 08 01.9**	**-1.1**		
HAPS	**Han Pijesak,BI**	**6.22**	**21**	*e*Pn	**Pn**	**07 08 03.3**	**+0.1**		
VLY	**Voula,Athens**	**6.25**	**92**	*e*Pn	**Pn**	**07 08 03.0**	**-0.6**		
VLY	**Voula,Athens**	**6.25**	**92**	P	**Pn**	**07 08 03.0**	**-0.6**		
PTL	**Penteli**	**6.29**	**90**	*e*Pn	**Pn**	**07 08 04.0**	**-0.1**		
PTL	**Penteli**	**6.29**	**90**	P	**Pn**	**07 08 04.0**	**-0.1**		
SOH	**Sokhos**	**6.29**	**64**	*e*Pn	**Pn**	**07 08 03.5**	**-0.6**		
SOH	**Sokhos**	**6.29**	**64**	P	**Pn**	**07 08 03.5**	**-0.6**		
SOH	**Sokhos**	**6.29**	**64**	*e*P	**Pn**	**07 08 03.5**	**-0.6**		
NVLJ	**Novalja**	**6.30**	**353**	*e*Pn	**Pn**	**07 08 04.3**	**+0.1**		
NVLJ				Sn	**Sn**	**07 09 12.3**	**-2.4**		
AOS	**Alonnisos**	**6.30**	**80**	*e*P	**Pn**	**07 08 02.3**	**-2.0**		
AOS	**Alonnisos**	**6.30**	**80**	*e*Pn	**Pn**	**07 08

MDVR **Moldovita** 7.80 32⇓*i*P Pn 07 08 23.7 -1.1
THR3 **Thira Island,** 7.80 101 P Pn 07 08 23.8 -1.0
THR3 **Thira Island,** 7.80 101 P Pn 07 08 23.8 -1.0
IDI **Anoyia** 7.82 110 *e*P Pn 07 08 21.5 -3.6
IDI **Anoyia** 7.82 110 P Pn 07 08 25.1 -0.1
comp=E,2.0nm,0.3s,baz=276,slow=13,SNR=13
IDI **Anoyia** 7.82 110 *e*Pn Pn 07 08 23.6 -1.6
SIGR **SIGRI** 7.84 80 *e*P Pn 07 08 22.4 -2.9
SANT **Santorini** 7.86 101 *e*P Pn 07 08 21.9 -3.8
SANT **Santorini** 7.86 101 *e*Pn Pn 07 08 24.8 -0.9
RDO **Rodhopi** 7.95 66 *e*P Pn 07 08 24.5 -2.4
CHOS **Chios island** 7.99 86 *e*P Pn 07 08 25.4 -2.0
GADA **Gvkgeada** 7.99 73 *e*P Pn 07 08 24.8 -2.5
MORH **M˙t˙igy, Hung** 8.16 14 *e*Pn Pn 07 08 27.9 -1.7
HERR **Herculane** 8.18 35⇑*i*P Pn 07 08 29.3 -0.7
ALN **Alexandroupoli** 8.25 69 *e*P Pn 07 08 27.4 -3.5
ALN **Alexandroupoli** 8.25 69 *e*Pn Pn 07 08 30.0 -0.9
ALN **Alexandroupoli** 8.25 69 P Pn 07 08 29.7 -1.2
ALN **Alexandroupoli** 8.25 69 *e*P Pn 07 08 30.0 -0.9
ENEZ **Enez** 8.29 70 *e*P Pn 07 08 29.5 -2.0
URLA **Izmir** 8.41 86 *e*P Pn 07 08 31.6 -1.6
GELI **Tayfur-Gelibol** 8.46 72 *e*P Pn 07 08 29.8 -4.0
SBF **Sospel** 8.46 314 *e*Sn Sn 07 10 01.8 -5.9
comp=E,3.5nm,0.3s
ERIK **Erikli-Kesan** 8.54 71 *e*P Pn 07 08 33.9 -1.0
GMLD **Gumuldur** 8.68 88 *e*P Pn 07 08 27.1 -10
GZR **Gura Zlata** 8.74 34⇑*i*P Pn 07 08 37.0 -0.7
KBA **Koelnbreinsper** 8.96 349 *e*Pn Pn 07 08 42.3 +1.5
comp=E,6.4nm,0.8s
RKY **Sarkoy-Tekirda** 9.04 71 *e*P Pn 07 08 35.7 -6.1
KRBG **Karabiga-Canak** 9.08 73 *e*P Pn 07 08 37.4 -4.8
SZH **Strazhica** 9.08 54 P Pn 07 08 42.7 +0.4
NIS1 **Nisyros Isl.** 9.13 97 *e*P Pn 07 08 40.1 -2.9
BODT **Bodrum** 9.14 94 *e*P Pn 07 08 38.9 -4.2
FUORN **Ofenpass-Fuorn** 9.29 335 *e*Pn Pn 07 08 48.3 +3.0
MBDF **Montbardon** 9.37 316 *e*P Pn 07 08 49.7 +3.3
DAT **Datca** 9.42 96 *e*P Pn 07 08 44.2 -2.8
KARP **Karpathos** 9.43 104 *e*P Pn 07 08 44.2 -2.9
KARP **Karpathos** 9.43 104 *e*Pn Pn 07 08 45.2 -1.9
KARP *e*Sn Sn 07 10 25.2 -6.3
TUE **Stuetta** 9.48 331 *e*Pn Pn 07 08 47.2 -0.7
FETA **Feichten** 9.50 338 *e*Pn Pn 07 08 50.0 +1.9
comp=E,9.8nm,0.9s
DAVOX **Davos/Dischmat** 9.56 334 P Pn 07 08 48.4 -0.5
comp=E,0.4nm,0.3s,baz=158,slow=19,SNR=3.3
MOA **Molln** 9.61 353 *i* Pn Pn 07 08 51.1 +1.6
comp=E,9.2nm,0.7s
CONA **Conrad Observa** 9.62 360 *i* Pn Pn 07 08 51.1 +1.5
comp=E,2.1nm,0.5s
MOTA **Moosalm** 9.69 340 *i* Pn Pn 07 08 52.8 +2.1
comp=E,14nm,0.8s
DRGR 9.85 28⇑*i*P Pn 07 08 52.9 +0.1
VOIR 9.86 41⇑*i*P Pn 07 08 52.6 -0.4
LPG **La Plagne** 9.90 319 *e*P Pn 07 08 55.6 +2.0
LPL **La Plagne** 9.92 319 *e*P Pn 07 08 55.1 +1.2
MANT **Manisa** 9.95 85 *e*Pn Pn 07 08 53.6 -0.6
ARG **Arkhangelos** 9.97 98 *e*P Pn 07 08 51.2 -3.2
ORIF **Oris-en-Rattie** 9.99 315 *e*P Pn 07 08 56.6 +1.9
TURN **Turunc** 10.19 94 *e*P Pn 07 08 50.6 -6.8
TURN **Turunc** 10.19 94 *i* P Pn 07 08 54.1 -3.3
DALY **Dalyan (Mu˙la** 10.24 94 *e*P Pn 07 08 54.9 -3.2
DALY **Dalyan (Mu˙la** 10.24 94 *i* P Pn 07 08 58.5 +0.4
SENIN **Lac Senin/Sane** 10.26 324 *e*Pn Pn 07 09 01.1 +2.7
TAVA **DENIZLI_Tavas** 10.33 91 *i* P Pn 07 09 01.0 +1.6
MLR **Muntele Rosu** 10.37 43 P Pn 07 09 00.1 +0.2
comp=E,1.2nm,0.3s,baz=157,slow=15,SNR=10
MLR **Muntele Rosu** 10.37 43 *e*Pn Pn 07 09 01.8 +1.9
MLR **Muntele Rosu** 10.37 43⇓*i*P Pn 07 09 00.7 +0.8
MLR **Muntele Rosu** 10.37 43 *e*P Pn 07 09 01.8 +1.9
ISR **Istrita** 10.47 46⇓*i*P Pn 07 09 00.2 -1.0
GEA0 **GERESS Array S** 10.64 352 *e*Pn Pn 07 09 03.3 -0.4
VIVF **Saint-Julien-l** 10.64 311 *e*P Pn 07 09 05.5 +1.9
GEC2 **GERESS Array S** 10.65 352 *e*Pn Pn 07 09 03.3 -0.5
GEC2 **GERESS Array S** 10.65 352 *e*P Pn 07 09 03.3 -0.5
GERES **GERESS Array B** 10.65 352 P Pn 07 09 03.9 +0.1
comp=E,0.6nm,0.3s,baz=169,slow=14,SNR=9.9
GERES S Sn 07 10 54.3 -7.0
comp=E,0.3nm,0.3s,baz=220,slow=6.0,SNR=2.9
GOLH **Golhisar** 10.87 91 *i* P Pn 07 09 08.6 +1.7
KHC **Kasperske Hory** 10.95 352 *e*Pn Pn 07 09 07.9 +0.1
KHC **Kasperske Hory** 10.95 352 *e*P Pn 07 09 08.5 +0.8
KHC *ex* x 07 09 14.1
KHC **Kasperske Hory** 10.95 352 *e*P Pn 07 09 08.5 +0.8
PLOR **Plostina** 10.98 43⇑*i*P Pn 07 09 08.1 -0.1
PLOR **Plostina** 10.98 43 P Pn 07 09 08.0 -0.1
CABF **La Chapelle** 11.01 322 *e*P Pn 07 09 10.3 +1.7
VRI **Vrincioaia** 11.03 43⇑*i*P Pn 07 09 08.7 -0.2
TLB **Topalu** 11.06 52⇑*i*P Pn 07 09 08.9 -0.3
AKAS **Kas** 11.12 97 *i* P Pn 07 09 09.1 -1.1
TIRR **Tirgusor** 11.23 53 *e*Pn Pn 07 09 12.0 +0.5
TIRR **Tirgusor** 11.23 53⇓*i*P Pn 07 09 10.7 -0.8
TIRR **Tirgusor** 11.23 53 *e*P Pn 07 09 12.0 +0.5
BFO **Black Forest** 11.43 334 *e*Pn Pn 07 09 15.9 +1.7
BFO **Black Forest** 11.43 334 *e*P Pn 07 09 15.9 +1.7
BUR04 **Bucovina Ar. S** 11.53 33 *e*Pn Pn 07 09 17.2 +1.5
BUR08 **Bucovina Ar. S** 11.55 33 *e*Pn Pn 07 09 18.1 +2.1
NIE **Niedzica** 11.55 15 *e*P Pn 07 09 30.6 +15
NIE **Niedzica** 11.55 15 *e*P Pn 07 09 30.6 +15
HINF **Hinteralfeld** 11.57 328 *e*P Pn 07 09 17.7 +1.5
HINF *e*Sn Sn 07 11 16.4 -7.2
comp=E,3.1nm,0.5s
CDF **Champ du Feu** 11.88 331 *e*P Pn 07 09 22.2 +1.7
SMF **Signal de Mont** 12.18 317 *e*Pn Pn 07 09 22.9 -1.6
OJC **Ojcow** 12.23 12 *e*P P 07 09 37.1 +2.3
OJC **Ojcow** 12.23 12 *e*P P 07 09 37.2 +2.3
AVF **Avril sur Loir** 12.53 317 *e*P Pn 07 09 30.4 +1.1
BRG **Berggiesshubel** 12.64 354 *e*P P 07 09 40.6 +1.2
comp=E,7.9nm,0.8s
BRG **Berggiesshubel** 12.64 354 *e*P P 07 09 40.6 +1.2
BRG pmax pmax
comp=Z,8.0nm,0.8s
CLL **Collm** 13.16 352 *e*P P 07 09 44.0 -1.2
comp=Z,5.0nm,0.6s
CLL ⇑*i*P(2) 07 09 46.6
comp=Z,15nm,1.0s
CLL Lm MLR 08 17 00.0
comp=N,100nm,20.2s
CLL Lm MLR 08 17 00.0
comp=E,100nm,18.2s
CLL Lm MLR 08 17 00.0
comp=Z,100nm,18.6s
CLL **Collm** 13.16 352 *e*P P 07 09 44.0 -1.2
CLL pmax pmax
comp=Z,7.0nm,0.6s
BRTR **Keskin Array B** 13.87 79 P Pn 07 09 47.5 0.0
comp=Z,0.4nm,0.3s,baz=262,slow=12,SNR=7.7
MEM **Membach** 14.16 333 ⇑P P 07 09 58.1 +1.8
comp=Z,29nm,0.8s
GIVF **Givet** 14.20 330 *e*P Pn 07 09 52.5 +1.1
CSS **Mathiatis** 14.39 98 *e*Pn Pn 07 09 50.8 -3.3
CSS **Mathiatis** 14.39 98 Sn Sn 07 12 15.0 -17
CSS **Mathiatis** 14.39 98 Sn Sn 07 12 15.0 -17
MFF **Saint Martin d** 14.43 310 *e*P Pn 07 09 55.0 +0.5
UCC **Uccle** 14.93 330 *e*P P 07 10 05.6 +0.8
UCC **Uccle** 14.93 330 *e*P P 07 10 05.6 +0.8
LDF **La Druitiere** 15.49 317 *e*P Pn 07 10 08.8 +0.7
ESDC **Sonseca Array** 15.50 281 P Pn 07 10 06.2 -2.2
comp=Z,0.3nm,0.3s,baz=86,slow=9.3,SNR=3.0
KIEV **Kiev** 15.58 33 *e*P P 07 10 14.4 +2.4
comp=Z,2.5nm,0.5s
KIEV **Kiev** 15.58 33 *i* P Pn 07 10 09.4 +0.3
AKASG **Malin Array Be** 15.59 33 P Pn 07 10 08.8 -0.5
comp=Z,0.6nm,0.3s,baz=227,slow=11,SNR=3.4
FLN **La Foliniere** 15.78 317 *e*P Pn 07 10 12.7 +0.9
SUW **Suwalki** 16.48 15 *e*P P 07 10 21.9 -0.1
comp=Z,46nm,0.5s
SUW **Suwalki** 16.48 15 *e*P P 07 10 22.0 -0.1
SUW pmax pmax
comp=Z,46nm,0.5s
MMA0B **Mount Meron ar** 16.70 103 Sn Sn 07 13 10.2 -18
MMA0B **Mount Meron ar** 16.70 103 Sn Sn 07 13 10.2 -18
MMAI **Mount Meron Ar** 16.70 103 P Pn 07 10 20.8 -2.7
comp=Z,3.1nm,0.3s,baz=309,slow=13,SNR=11
SLTI **Sal'it** 16.75 105 Sn Sn 07 13 11.3 -18
SLTI **Sal'it** 16.75 105 Sn Sn 07 13 11.3 -18
KSDI **Kefar Szold** 16.83 102 Sn Sn 07 13 12.7 -19
KSDI **Kefar Szold** 16.83 102 Sn Sn 07 13 12.7 -19
NATI **Neve Ativ** 16.86 101 Pn Pn 07 10 24.0 -1.4
KZIT **Kziot** 16.91 110 Sn Sn 07 13 14.4 -19
KZIT **Kziot** 16.91 110 Sn Sn 07 13 14.4 -19
MMLI **Mount Malkishu** 16.96 104 Sn Sn 07 13 16.0 -19
MMLI **Mount Malkishu** 16.96 104 Sn Sn 07 13 16.0 -19

HMDT **Nahal Hemdat** 17.12 105 Pn Pn 07 10 28.0 -0.6
HMDT **Nahal Hemdat** 17.12 105 Pn Pn 07 10 28.3 -0.3
HMDT Sn Sn 07 13 20.7 -18
HMDT **Nahal Hemdat** 17.12 105 Sn Sn 07 13 20.7 -18
DSI **Dead Sea** 17.32 107 Pn Pn 07 10 30.1 -0.9
DSI Sn Sn 07 13 25.4 -18
DSI **Dead Sea** 17.32 107 Sn Sn 07 13 25.4 -18
MZDA **Masada** 17.43 108 Sn Sn 07 13 27.0 -19
MZDA **Masada** 17.43 108 Sn Sn 07 13 27.0 -19
GHAJ **Ghor Haditha** 17.59 107 Pn Pn 07 10 33.9 -0.4
GHAJ Sn Sn 07 13 30.8 -19
GHAJ **Ghor Haditha** 17.59 107 Sn Sn 07 13 30.8 -19
PRNI **Paran** 17.65 111 Pn Pn 07 10 34.4 -0.7
PRNI Sn Sn 07 13 32.2 -19
PRNI **Paran** 17.65 111 Sn Sn 07 13 32.2 -19
HRFI **Mount Harif** 17.84 112 Sn Sn 07 13 37.1 -19
HRFI **Mount Harif** 17.84 112 Sn Sn 07 13 37.1 -19
MBRI **Mt Berech** 17.88 113 Pn P 07 10 37.0 -0.8
MBRI Sn Sn 07 13 38.4 -18
MBRI **Mt Berech** 17.88 113 Sn Sn 07 13 38.4 -18
EIL **Elat** 17.98 113 Pn P 07 10 38.5 -0.2
EIL Sn Sn 07 13 40.4 -19
EIL **Elat** 17.98 113 Sn Sn 07 13 40.4 -19
ASF **Jabal al Asfar** 18.20 103 P Pn 07 10 42.3 +0.5
comp=Z,0.4nm,0.3s,baz=198,slow=4.5,SNR=4.3
VSR **Storozhevoye** 20.86 44 *i* P P 07 11 10.3 +0.4
VSR pmax pmax
comp=Z,8.0nm,1.0s
NEY **Neytrino** 20.87 68 *i* P Pn 07 11 11.9 -1.5
KIV **Kislovodsk** 20.91 66 *e*P Pn 07 11 12.6 -1.2
KIV pmax pmax
comp=Z,11nm,1.1s
KBZ **Khabaz** 21.04 66 P P 07 11 13.1 +1.2
comp=Z,2.6nm,0.7s,baz=273,slow=11,SNR=4.5
EKA **Eskdalemuir Ar** 21.33 329 P P 07 11 13.8 -1.1
comp=Z,2.0nm,0.4s,baz=132,slow=9.5,SNR=12
ESK **Eskdalemuir** 21.34 329 *e*P P 07 11 14.8 -0.2
comp=Z,9.5nm,0.8s
ESK **Eskdalemuir** 21.34 329 *e*P P 07 11 14.8 -0.2
ESK pmax pmax
comp=Z,10.0nm,0.8s
VSU **Vasula** 21.36 16 *i* P P 07 11 18.5 +3.3
VSU pmax pmax
comp=Z,108nm,0.8s
ZEI **Tsey** 21.70 69 *e*P P 07 11 22.6 +3.4
ZEI pmax pmax
comp=Z,9.0nm,1.2s
OBN **Obninsk** 21.85 33⇓*e*P P 07 11 23.1 +2.7
OBN *e* 07 11 42.0
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,195nm,17.0s
HFS **Hagfors** 21.89 357 P P 07 11 18.5 -2.3
comp=Z,7.6nm,0.7s,baz=184,slow=13,SNR=14
GNI **Garni** 22.38 76 *i* P P 07 11 28.7 +2.1
GNI pmax pmax
comp=Z,45nm,1.2s
NC602 **NORSAR Array S** 22.62 354 *e*P P 07 11 26.0 -2.6
NB2 **NORSAR Subarra** 22.95 354 P P 07 11 29.5 -2.6
comp=Z,5.7nm,0.8s,baz=171,slow=10
NOA **NORSAR Array B** 22.95 354 P P 07 11 28.8 -3.2
comp=Z,1.2nm,0.5s,baz=170,slow=7.7,SNR=7.7
NB201 **NORSAR Array S** 22.95 354 *e*P P 07 11 30.1 -1.9
NBO00 **NORSAR Array S** 22.97 354 *e*P P 07 11 30.4 -2.0
NC405 **NORSAR Array S** 22.98 355 *e*P P 07 11 31.0 -1.4
NC303 **NORSAR Array S** 23.12 354 *e*P P 07 11 32.7 -1.0
NC204 **NORSAR Array S** 23.22 354 *e*P P 07 11 33.2 -1.5
FINES **FINESS Array B** 24.01 12 P P 07 11 40.5 -1.3
comp=Z,5.0nm,0.5s,baz=186,slow=8.4,SNR=24
FIA1 **FINESS Array S** 24.02 12 *e*P P 07 11 41.4 -0.5
comp=Z,8.9nm,0.9s
TORD **Torodi Ar. Bea** 28.06 211 P P 07 12 18.4 -0.4
comp=Z,0.3nm,0.6s,baz=22,slow=9.7,SNR=3.2
ABKAR **Akbulak array** 33.19 56 *e*P P 07 13 05.3 +1.5
ARU **Arti** 33.42 43*c i*P P 07 13 06.8 +1.2
ARU 07 14 15.3
ARU S S 07 18 26.1 +4.6
ARU SS SnSn 07 20 26.7 -2.8
ARU pmax pmax
comp=Z,12nm,2.5s
BRVK **Borovoye** 39.77 50 *i* P P 07 14 00.7 +1.1
BRVK pmax pmax
comp=Z,1.0nm,0.8s
KK31 **Karatay Array** 41.07 65 *e*P P 07 14 12.1 +1.6
KK31 **Karatay Array** 41.07 65 *e*P P 07 14 12.1 +1.6
KKAR **Karatay Array** 41.07 65 *e*P P 07 14 12.0 +1.5
KKAR **Karatay Array** 41.07 65 *e*P P 07 14 12.0 +1.5
ZALV **Zalesovo Beam** 48.31 48 P P 07 15 08.5 +0.6
comp=Z,2.3nm,0.4s,baz=280,slow=8.5,SNR=4.7
MK31 **Makanchi Array** 48.32 57 *e*P P 07 15 09.6 +1.4
MK31 **Makanchi Array** 48.32 57 *e*P P 07 15 09.6 +1.4
MKAR **Makanchi Array** 48.32 57 P P 07 15 08.9 +0.7
comp=Z,0.9nm,0.5s,baz=282,slow=6.8,SNR=22
MKAR **Makanchi Array** 48.32 57 *e*P P 07 15 09.6 +1.4
comp=Z,17nm,1.0s
MK01 **Makanchi Array** 48.33 57 *e*P P 07 15 08.9 +0.6
WMQ **Urumqi** 52.86 60 *e*P P 07 15 43.8 +1.4
SONM **Songino Array** 63.16 49 P P 07 16 54.7 +0.2
comp=Z,1.2nm,0.8s,baz=291,slow=7.2,SNR=9.7
PALK **Pallekele** 65.81 100 *i* P P 07 17 11.6 -0.4
LZH **Lanzhou** 67.37 61 *e*P P 07 17 22.0 +0.1
LZH pP pP 07 17 43.5 +2.8
LZH sP PcP 07 17 53.0 +3.9
LZH *e*PP PP 07 19 53.1 +2.3
LZH pmax pmax
comp=Z,17nm,1.3s
LZH pmax pmax
comp=Z,45nm,7.8s
LZH LR LR
comp=N,45nm,14.7s
LZH LR LR
comp=E,56nm,14.9s
LZH LR LR
comp=Z,78nm,17.4s
HHC **Hu-ho-hao-te** 69.92 53 *e*P P 07 17 36.6 -1.1
HHC pmax pmax
comp=Z,16nm,1.4s
HHC pmax pmax
comp=Z,280nm,7.8s
TOLK **Toolik Lake Re** 72.82 354 *e*P P 07 17 55.0 +0.5
comp=Z,2.3nm,1.1s

TAP 13 07:13:06.3, 23.95N × 119.57E, h25km, ML3.8, 7C-9D, B,
Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNG	**Penghu**	**0.38**	**182**	⇑*i*P		Pb	07 13 14.6	0.0
PNG	baz=181			*i* S		Sb	07 13 20.7	+0.5
PHUB	**P'eng-hu**	**0.44**	**179**	⇑P		Pb	07 13 15.5	+0.1
PHUB	baz=180			S		Sb	07 13 22.2	+0.6
WTCT	**Ta-ch'eng**	**0.66**	**97**	⇓*i*P		Pb	07 13 19.3	+0.1
WTCT	baz=98			S		Sn	07 13 29.9	+0.4
WSF	**Szhu**	**0.68**	**117**	⇓*e*P		Pb	07 13 19.7	+0.2
WSF	baz=128			S		Sn	07 13 30.7	+0.7
WDGT	**Dungji**	**0.69**	**173**	⇑*i*P		Pb	07 13 19.9	+0.1
WDGT	baz=166			*i* S		Sn	07 13 29.8	-0.6
RLNB	**Erlin**	**0.73**	**95**	⇓P		Pb	07 13 20.4	+0.1
RLNB	baz=95			S		Sn	07 13 31.6	+0.4
VCHM	**Qimei**	**0.75**	**190**	⇑P		Pb	07 13 20.4	-0.3
VCHM	baz=190			S		Sn	07 13 31.2	-0.6
WLGB	**Puzi**	**0.82**	**125**	*e*P		Pn	07 13 22.2	0.0
WLGB	baz=136			*e*S		Sn	07 13 34.8	+1.2
CHN8	**Yiju**	**0.84**	**135**	*e*P		Pn	07 13 22.7	+0.2
CHN8	baz=135			*e*S		Sn	07 13 36.0	+1.9

CHY **Chiayi** 0.91 120 *e*P Pn 07 13 23.8 +0.4
baz=131
CHY *e*S Sn 07 13 37.7 +2.0
baz=131
WCHH **Zhanghua** 0.92 82 *e*P Pb 07 13 23.3 -0.2
baz=82
WCHH *e*S Sn 07 13 37.3 +1.4
baz=82
WDLH **Douliu** 0.93 106 P Pb 07 13 24.0 +0.3
baz=107
CHN2 **Minshiung** 0.93 116 *e*P Pb 07 13 24.0 +0.2
baz=128
CHN2 *e*S Sn 07 13 37.8 +1.6
baz=128
WGK **Gukeng** 0.95 106 P Pb 07 13 24.5 +0.5
baz=106
WGK *e*S Sn 07 13 38.7 +1.9
baz=106
SCLT **Jiali** 0.96 143 *e*P Pb 07 13 24.8 +0.5
baz=143
SCLT *e*S Sn 07 13 39.5 +2.5
baz=143
WNT **Mingjian** 1.02 94 ⇓P Pb 07 13 25.5 +0.2
baz=107
WNT *e*S Sn 07 13 40.5 +1.9
baz=107
TCU **Taichung** 1.03 79 *e*P Pb 07 13 25.5 0.0
baz=79
TCU *e*S Sn 07 13 41.0 +2.2
baz=79
VWUC **VWUC** 1.04 354⇑*e*P Pn 07 13 23.9 -1.4
baz=354
VWUC *e*S Sb 07 13 36.8 -2.1
baz=354
WJS **Zhushan** 1.07 97 ⇓P Pb 07 13 26.2 +0.1
baz=109
WJS *e*S Sn 07 13 41.4 +1.7
baz=109
CHN5 **Tsauling** 1.08 109 ⇓P Pn 07 13 26.1 +0.2
baz=109
CHN5 S Sn 07 13 41.0 +1.0
baz=109
TWK **Hsinying** 1.08 129 ⇑P Pb 07 13 26.4 -0.1
baz=129
TWK *e*S Sb 07 13 41.7 +1.5
baz=129
CHN4 **Tsaushan** 1.11 122 P Pb 07 13 26.7 -0.2
baz=131
CHN4 *e*S Sb 07 13 42.0 +1.0
baz=131
KNM **Kinmen** 1.13 294 ⇓P Pb 07 13 27.7 +0.5
baz=291
KNM S Sb 07 13 43.9 +2.3
baz=291
PTSB **Yuanli** 1.15 64 *e*P Pb 07 13 27.4 -0.1
baz=65
PTSB *e*S Sb 07 13 43.9 +1.9
baz=65
PTMZ **Houxiangcun** 1.16 340 P Pn 07 13 26.1 -0.8
baz=340
PTMZ *e*S Sn 07 13 40.5 -1.4
baz=340
CHN1 **Nanshi** 1.17 131 *e*P Pb 07 13 27.6 -0.2
baz=131
CHN1 *e*S Sb 07 13 43.8 +1.3
baz=131
TPUB **Ta-pu** 1.17 123 *e*P Pn 07 13 27.1 0.0
baz=124
TPUB *e*S Sb 07 13 43.0 +0.4
baz=124
TWQ1 **Liyutan** 1.17 70 *e*P Pb 07 13 27.9 0.0
baz=71
TWQ1 *e*S Sb 07 13 44.0 +1.3
baz=71
NSY **Sanyi** 1.19 67 *e*P Pb 07 13 27.8 -0.3
baz=67
KNMB **Chin-men Tao** 1.19 296 *e*P Pn 07 13 26.6 -0.8
baz=295
KNMB *e*S Sn 07 13 41.5 -1.2
baz=295
ALS **Alishan** 1.22 111 *e*P Pb 07 13 28.7 -0.1
baz=111
ALS *e*S Sn 07 13 43.7 0.0
baz=111
SMLT **Sun Moon Lake** 1.22 93 *e*P Pb 07 13 28.7 -0.1
baz=104
SMLT *e*S Sb 07 13 46.0 +1.8
baz=104
NMLH **Miaoli** 1.26 62 *e*P Pb 07 13 29.7 +0.3
baz=63
SGST **Jiashian** 1.27 133 *e*P Pb 07 13 29.9 +0.3
baz=133
SSLB **Suanglung** 1.28 97 *e*P Pn 07 13 28.5 -0.1
baz=97
STYT **Tauyuan** 1.34 125 *e*P Pn 07 13 29.6 +0.1
baz=126
YUS **Yu-Shan** 1.35 110 *e*P Pn 07 13 30.2 +0.3
baz=110
TWM1 **Shoushan** 1.37 145 *e*P Pb 07 13 32.5 +1.2
baz=161
NSTT **Nanjuang** 1.47 62 *e*P Pb 07 13 32.7 -0.3
baz=63
CHGB **Renai** 1.47 85⇓*e*P Pn 07 13 31.8 +0.4
baz=86
TDCB **Techi** 1.48 78 *e*P Pn 07 13 31.4 -0.1
baz=78
LIOB **Emei** 1.49 62 *e*P Pb 07 13 33.0 -0.4
baz=63
TWT **Tachien** 1.50 78 *e*P Pn 07 13 32.4 +0.7
baz=79
ELDTW **Lidau** 1.53 119 *e*P Pb 07 13 33.5 -0.6
baz=120
PTTC **Pingtan** 1.55 7 *e*P Pn 07 13 32.6 +0.3
baz=7.0
PTTC *e*S Sn 07 13 52.6 +1.0
baz=7.0
WHF **Hehuan Shan** 1.56 83 *e*P Pb 07 13 35.1 +0.3
baz=83
MASBT **Mashibuluo** 1.65 143 *e*P Pb 07 13 35.3 -0.8
baz=144
ZPLA **Ao Xicun** 1.66 270⇓*e*P Pn 07 13 32.6 -1.2
baz=269
YULB **Yu-li** 1.68 109 *e*P Pb 07 13 35.7 -0.8
baz=109
TWF1 **Yuli** 1.69 110 *e*P Pn 07 13 35.4 +1.1
baz=111
ESL **Shilin** 1.71 94 *e*P Pn 07 13 35.5 +1.0
baz=95
NNS **Nan Shan** 1.72 73 *e*P Pb 07 13 36.4 -0.8
baz=74
NNSB **Datong** 1.73 74 *e*P Pn 07 13 35.6 +0.8
baz=74
AXDP **Jialang** 1.73 303⇑*e*P Pn 07 13 33.6 -1.2
baz=303
AXDP *e*S Sb 07 13 57.6 -1.2
baz=303
FULB **Fuli** 1.75 115 *e*P Pb 07 13 37.0 -0.8
baz=115
HGSD **Ruisui** 1.76 105 *e*P Pb 07 13 37.6 -0.3
baz=105
TWG **Pinlang** 1.78 129 *e*P Pb 07 13 38.6 +0.3
baz=129
TWGBT **Beinan** 1.79 129 *e*P Pb 07 13 37.7 -0.7
baz=129
YHNB **Yeheng** 1.80 66 *e*P Pn 07 13 35.8 0.0
baz=54
ZZJH **Jiuhuzhen** 1.84 287 *e*P Pn 07 13 37.3 +1.0
baz=286
ZZJH *e*S Sn 07 14 00.2 +1.4
baz=286
SCZT **Fangliau** 1.85 148 *e*P Pb 07 13 37.9 -1.4
baz=148
TWD **Chiawan** 1.86 86 *e*P Pb 07 13 38.7 -0.8
baz=86
NACB **Ninganchiao** 1.87 83 *e*P Pn 07 13 37.0 +0.3
baz=83
EAST **Anshuo** 1.96 143 *e*P Pn 07 13 39.2 +1.3
baz=143
NANB **Nanao** 2.05 76 *e*P Pn 07 13 39.7 +0.6
baz=77
MHZQ **Yeshan** 2.19 347 *e*P Pn 07 13 41.7 +0.6
baz=347
MATB **Ma-tsu** 2.22 9 *e*P Pn 07 13 40.8 -0.6
baz=9.0
LYJJ **Jianjiangzhen** 2.59 4 *e*P Pn 07 13 45.8 -0.8
baz=4.0
XPSS **Dashiqiu** 3.02 11 *e*P Pn 07 13 51.6 -0.9
baz=11

ISCJB ***13*** *07:17:00.9±0.2, 12°.00N±0°.03×86°.41W±0°.03, h146km±2km, mb4.2/103, Error ellipse: s-maj=6.0km s-min=2.8km az=136.5*

IDC ***13*** *07:17:01.1±0.9, 12°.06N×86°.30W, h142km±10km, mb3.5/11, mb1 3.7/15, mb1mx3.5/40, mbtmp4.0/15, Error ellipse: s-maj=23.7km s-min=9.8km az=47.0*

UCR ***13*** *07:17:02.1±1.3, 11°.95N×86°.46W, h128km±5km, MD4.3, ML4.2, mb4.3(NEIC)*

NEIC ***13*** *07:17:02.2±0.4, 11°.95N×86°.42W, h144km±3km, mb4.3/103, Error ellipse: s-maj=6.1km s-min=4.8km az=49.0*

ISC 13 07:17:01.1±0.6, 11°.98N±0°.04×86°.46W±0°.05, h138km±5km, n376, σ1§12/390, mb4.2/103, 6C-4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
XAVN	**Gruta Xavier**	**0.22**	**38**	*eP*			**Pn**	**07 17 20.3**	**+0.4**
COPN	**Copaltepe**	**0.24**	**328**	*i*	*P*		**Pn**	**07 17 20.1**	**+0.1**
COPN				*eS*			**Sn**	**07 17 33.3**	**-1.0**
MGAN	**Managua**	**0.27**	**51**	*eP*			**Pn**	**07 17 20.4**	**+0.3**
MASN	**Masaya**	**0.31**	**88**	*eP*			**Pn**	**07 17 19.8**	**-0.5**
MOMN	**Momotombo**	**0.44**	**350**	*i*	*P*		**Pn**	**07 17 20.8**	**0.0**
CNGN	**Cerro Negro**	**0.57**	**336**	*e*	*P*		**Pn**	**07 17 20.8**	**-0.7**
TELN	**Telica**	**0.72**	**330**	*eP*			**Pn**	**07 17 22.9**	**+0.3**
BOAB	**BOACO BROADBAN**	**0.91**	**59**	*eP*		n	**Pn**	**07 17 24.1**	**+0.2**
BOAB				*eS*		n	**Sn**	**07 17 41.2**	**0.0**
BOAB	**BOACO BROADBAN**	**0.91**	**59**	*eP*			**Pn**	**07 17 24.4**	**+0.4**
CONN	**Concepcion**	**0.92**	**116**	*eP*			**Pn**	**07 17 24.3**	**+0.3**
CRIN	**San Cristobal**	**0.92**	**322**	*eP*			**Pn**	**07 17 24.6**	**+0.5**
CRIN				*eS*			**Sn**	**07 17 43.3**	**+1.7**
CRIN				IAML				07 17 48.5	
	comp=E,5μm,0.2s								
MATN	**Matagalpa**	**1.08**	**29**	*eP*			**Pn**	**07 17 26.2**	**+0.6**
ESTN	**Estel**	**1.12**	**5**	*e*	*P*	n	**Pn**	**07 17 26.8**	**+0.8**
ESTN				*eS*		n	**Sn**	**07 17 46.0**	**+1.0**
ESTN	**Estel**	**1.12**	**5**	*eP*			**Pn**	**07 17 26.8**	**+0.8**
ACON	**Acoyapa**	**1.26**	**90**	*eP*			**Pn**	**07 17 27.6**	**+0.3**
CSGN	**Cosiguina Volc**	**1.46**	**313**	*e*	*P*	n	**Pn**	**07 17 31.0**	**+1.6**
CSGN				*eS*		n	**Sn**	**07 17 53.1**	**+2.0**
CSGN	**Cosiguina Volc**	**1.46**	**313**	*i*	*P*		**Pn**	**07 17 30.9**	**+1.5**
GBS3	**Finca Las Im¨¡**	**1.54**	**140**	*i*	*P*		**Pn**	**07 17 30.6**	**+0.3**
GB1A	**Borinquen Arri**	**1.55**	**138**	*eP*			**Pn**	**07 17 31.6**	**+1.2**
BUEV	**Buena Vista**	**1.56**	**138**	*eP*			**Pn**	**07 17 31.0**	**+0.4**
LAPC	**Finca la Perla**	**1.57**	**140**	*i*	*P*		**Pn**	**07 17 30.6**	**+0.1**
LAPC				*i*	*S*		**Sn**	**07 17 52.0**	**-1.0**
NY14	**Universidad de**	**1.60**	**145**	*i*	*P*		**Pn**	**07 17 31.6**	**+0.6**
LIM1	**Limonal**	**1.74**	**137**	*i*	*P*		**Pn**	**07 17 33.1**	**+0.6**
LIM1				*i*	*S*		**Sn**	**07 17 56.5**	**0.0**
GUAB	**Guayabo de Bag**	**1.75**	**136**	*i*	*P*		**Pn**	**07 17 33.1**	**+0.5**
MESS	**Mesas**	**1.75**	**134**	*eP*			**Pn**	**07 17 33.1**	**+0.5**
MESS				*i*	*P*			07 17 33.7	
MESS				*i*	*S*		**Sn**	**07 17 56.2**	**-0.5**
HORNC	**Hornillas**	**1.78**	**135**	*i*	*P*		**Pn**	**07 17 33.4**	**+0.4**
COLC	**Colonia**	**1.79**	**136**	*i*	*P*		**Pn**	**07 17 33.6**	**+0.4**
CUI	**Cuipilapa**	**1.83**	**136**	*i*	*S*		**Sn**	**07 17 59.4**	**+1.1**
PTEN	**Parque Tenorio**	**1.92**	**131**	*i*	*P*		**Pn**	**07 17 35.2**	**+0.6**
LCND	**La Ca¨–ada**	**1.92**	**314**	*i*	*P*		**Pn**	**07 17 35.2**	**+0.6**
LCND				*eS*			**Sn**	**07 18 01.6**	**+1.3**
LCND				IAML				07 18 03.3	
	comp=Z,2μm,0.3s								
PLVR	**Palo Verde**	**1.95**	**146**	*e*	*P*		**Pn**	**07 17 36.1**	**+1.0**
VCR	**Vista de Mar**	**2.01**	**156**	*i*	*P*		**Pn**	**07 17 36.6**	**+0.8**
ESPN	**Las Esperanzas**	**2.13**	**84**	*eP*		n	**Pn**	**07 17 37.6**	**+0.6**
ESPN	**Las Esperanzas**	**2.13**	**84**	*eP*			**Pn**	**07 17 37.7**	**+0.6**
TGUH	**Tegucigalpa,Un**	**2.21**	**339**	*eP*		n	**Pn**	**07 17 39.8**	**+1.7**
JTS	**JuntasAbangare**	**2.24**	**138**	P			**Pn**	**07 17 39.3**	**+0.9**
	comp=Z,45nm,0.3s,baz=36,slow=14,SNR=174								
JTS				S			**Sn**	**07 18 06.9**	**-0.2**
	comp=Z,104nm,0.3s,baz=347,slow=21,SNR=25								
JTS	**JuntasAbangare**	**2.24**	**138**	*eP*		n	**Pn**	**07 17 38.9**	**+0.4**
JTS				*eS*		n	**Sn**	**07 18 06.4**	**-0.7**
JTS	**JuntasAbangare**	**2.24**	**138**	*eP*			**Pn**	**07 17 39.1**	**+0.7**
ARE1	**Arenal 1**	**2.28**	**131**	*eP*			**Pn**	**07 17 39.6**	**+0.6**
PACA	**Pacayal**	**2.34**	**309**	*eP*			**Pn**	**07 17 40.9**	**+1.0**
PACA				*eS*			**Sn**	**07 18 11.1**	**+1.5**
TECA	**Tecapa**	**2.50**	**307**	*eP*			**Pn**	**07 17 42.8**	**+1.0**
UESV	**Ojushtada**	**2.67**	**302**	*eP*			**Pn**	**07 17 47.4**	**+3.6**
SRA1	**San Ram¨‡n**	**2.71**	**134**	*e*	*P*		**Pn**	**07 17 44.9**	**+0.5**
HDC	**Heredia**	**3.03**	**130**	*e*	*P*	n	**Pn**	**07 17 49.8**	**+1.3**
HDC				*eS*		n	**Sn**	**07 18 27.2**	**+2.1**
HDC	**Heredia**	**3.03**	**130**	*eP*			**Pn**	**07 17 49.6**	**+1.1**
SNET	**Serv Nac Est T**	**3.19**	**303**	*eP*		n	**Pn**	**07 17 52.2**	**+1.6**
SNET				*eS*		n	**Sn**	**07 18 29.5**	**+0.8**
BOQS	**Boqueron**	**3.26**	**303**	*eP*			**Pn**	**07 17 53.4**	**+1.8**
LCR2	**La Lucha 2**	**3.28**	**132**	*eP*			**Pn**	**07 17 52.2**	**+0.3**
CVTR	**Volcan Turrial**	**3.29**	**126**	*eP*			**Pn**	**07 17 52.8**	**+0.8**
URSC	**Urasca**	**3.39**	**129**	*e*	*P*		**Pn**	**07 17 55.0**	**+1.7**
EDLM	**Las Mercedes**	**3.89**	**133**	*eP*			**Pn**	**07 18 02.4**	**+2.6**
DRK0	**Durika**	**4.16**	**130**	*eP*			**Pn**	**07 18 05.3**	**+2.0**
EDPN	**Palmar Norte**	**4.21**	**135**	*eP*			**Pn**	**07 18 05.9**	**+2.1**
PTJ1	**Puerto Jim¨ne**	**4.62**	**137**	*e*	*P*		**Pn**	**07 18 11.6**	**+2.2**
BRU2	**Volcan**	**4.88**	**130**	*eP*			**Pn**	**07 18 14.3**	**+1.4**
APG	**El Apazote**	**4.92**	**308**	P			**Pn**	**07 18 15.8**	**+2.3**
	comp=Z,4.0nm,0.3s,baz=119,slow=7.4,SNR=18								
CCIG	**Comitan**	**6.97**	**309**	*eP*		n	**Pn**	**07 18 43.5**	**+2.5**
CMIG	**Matias Romero**	**9.61**	**303**	P			**Pn**	**07 19 16.5**	**+0.4**
	comp=Z,2.6nm,0.3s,baz=132,slow=9.8,SNR=17								
CMIG				S			**Sn**	**07 20 55.8**	**-6.7**
	comp=Z,0.6nm,0.3s,baz=247,slow=13.5,SNR=3.8								
TLIG	**Tlapa**	**12.95**	**297**	*eP*		n	**Pn**	**07 20 02.3**	**+2.0**
ROSC	**El Rosal**	**13.94**	**120**	P			**Pn**	**07 20 12.3**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=137,slow=19,SNR=2.1								
OTAV	**Otavalo**	**14.12**	**145**	*eP*			**P**	**07 20 18.3**	**-0.7**
058A	**Arcadia** baz=197	**15.63**	**16**	P			**Pn**	**07 20 34.4**	**+0.5**
757A	**Oxford** baz=194	**17.37**	**13**	P			**P**	**07 20 54.8**	**+0.4**
656A	**Willston** comp=Z,11nm,1.0s	**17.69**	**11**	*eP*			**Pn**	**07 21 00.1**	**+1.2**
656A	**Willston** baz=192	**17.69**	**11**	P			**P**	**07 20 58.0**	**+0.2**
LNIG	**Linares** comp=Z,6.5nm,0.9s	**17.80**	**318**	*eP*			**P**	**07 21 00.8**	**+1.7**
658A	**Bunnell** baz=196	**18.02**	**15**	P			**P**	**07 21 01.3**	**-0.2**
657A	**Interlachen** baz=194	**18.04**	**13**	P			**P**	**07 21 02.4**	**+0.8**
556A	**Lake Butler** baz=192	**18.33**	**11**	P			**P**	**07 21 04.1**	**-0.8**
555A	**McAlpin** comp=Z,27nm,0.8s	**18.35**	**10**	*eP*			**P**	**07 21 06.8**	**+1.7**
555A	**McAlpin** baz=191	**18.35**	**10**	P			**P**	**07 21 04.3**	**-0.7**
557A	**Orange Park** baz=194	**18.48**	**13**	P			**P**	**07 21 07.9**	**+1.4**
447A	**Lucedale** baz=173	**18.84**	**354**	P			**P**	**07 21 10.4**	**+0.1**
541A	**Lake Charles** baz=159	**19.05**	**342**	P			**P**	**07 21 13.0**	**+0.4**
456A	**Hilliard** baz=193	**19.11**	**12**	P			**P**	**07 21 14.1**	**+0.8**
349A	**Repton** baz=178	**19.29**	**358**	P			**P**	**07 21 17.6**	**+2.2**
353A	**Camilla** baz=186	**19.39**	**6**	P			**P**	**07 21 18.6**	**+2.2**
352A	**Blakely** comp=Z,18nm,0.7s	**19.46**	**4**	*eP*			**Pn**	**07 21 19.6**	**-0.1**
352A	**Blakely** baz=184	**19.46**	**4**	P			**P**	**07 21 18.4**	**+1.2**
346A	**Big Creek Wild** baz=171	**19.52**	**352**	P			**P**	**07 21 18.8**	**+1.0**
TIGA	**Tifton** baz=188	**19.55**	**7**	P			**P**	**07 21 19.6**	**+1.5**
356A	**Blackshear** baz=192	**19.67**	**11**	P			**P**	**07 21 19.6**	**+0.2**
344A	**Westbrook Farm** comp=Z,17nm,0.8s	**19.78**	**349**	*eP*			**Pn**	**07 21 26.0**	**+2.5**
344A	**Westbrook Farm** baz=168	**19.78**	**349**	P			**Pn**	**07 21 23.2**	**-0.3**
250A	**Grady** comp=Z,9.5nm,0.8s	**19.91**	**0**	*eP*			**Pn**	**07 21 25.5**	**+0.5**
249A	**Camden** baz=178	**19.91**	**358**	P			**P**	**07 21 20.2**	**-1.8**
251A	**Midway** baz=183	**20.05**	**3**	P			**P**	**07 21 24.4**	**+0.9**
247A	**Quitman** baz=174	**20.08**	**355**	P			**P**	**07 21 22.0**	**-1.8**
254A	**Abbeville** baz=189	**20.09**	**8**	P			**P**	**07 21 24.8**	**+0.9**
255A	**Hazlehurst** comp=Z,20nm,0.9s	**20.19**	**10**	*eP*			**P**	**07 21 27.5**	**+2.5**
255A	**Hazlehurst** baz=191	**20.19**	**10**	P			**P**	**07 21 24.3**	**-0.7**
245A	**Little AP, Sta** baz=170	**20.21**	**352**	P			**P**	**07 21 24.7**	**-0.5**
341A	**Kurthwood** baz=161	**20.24**	**343**	P			**P**	**07 21 24.9**	**-0.6**
833A	**Chaparral WMA,** comp=Z,7.2nm,0.6s	**20.27**	**325**	*e*	*P*		Pn	07 21 29.5	+0.2
833A	**Chaparral WMA,** baz=141	**20.27**	**325**	P			**P**	**07 21 26.0**	**+0.2**
244A	**Avery, Jackson** baz=168	**20.35**	**350**	P			**P**	**07 21 26.8**	**+0.1**
256A	**Glennville** baz=193	**20.35**	**11**	P			**P**	**07 21 26.0**	**-0.7**
149A	**Jones** baz=179,SNR=5.5	**20.53**	**359**	P			**P**	**07 21 30.6**	**+1.9**
150A	**Eclectic** baz=181	**20.54**	**1**	P			**P**	**07 21 31.0**	**+2.2**
148A	**Greensboro** baz=177	**20.60**	**357**	P			**P**	**07 21 31.7**	**+2.3**
152A	**Waverly Hall** comp=Z,24nm,0.7s	**20.66**	**4**	*eP*			**P**	**07 21 31.2**	**+1.2**
152A	**Waverly Hall** baz=185,SNR=10	**20.66**	**4**	P			**P**	**07 21 31.7**	**+1.7**
147A	**Livingston** comp=Z,20nm,0.6s	**20.67**	**356**	*eP*			**P**	**07 21 32.3**	**+2.2**
147A	**Livingston** baz=175	**20.67**	**356**	P			**P**	**07 21 32.7**	**+2.6**
154A	**Montrose** baz=189	**20.77**	**8**	P			**P**	**07 21 33.4**	**+2.2**
155A	**Kite** baz=191	**20.88**	**10**	P			**P**	**07 21 32.0**	**-0.4**
LRAL	**Lakeview Retre** comp=Z,6.5nm,0.6s	**20.97**	**359**	*eP*			**P**	**07 21 35.0**	**+1.7**
LRAL	**Lakeview Retre** baz=178	**20.97**	**359**	P			**P**	**07 21 34.6**	**+1.3**
NATX	**Nacogdoches** baz=157	**21.09**	**340**	P			**P**	**07 21 35.0**	**+0.3**
Z49A	**Columbiana** baz=180	**21.12**	**360**	P			**P**	**07 21 36.3**	**+1.3**
Z47A	**Carrollton** baz=176	**21.18**	**356**	P			**P**	**07 21 36.3**	**+0.7**
Z50A	**Ashland** comp=Z,16nm,0.9s	**21.19**	**1**	*eP*			**P**	**07 21 37.1**	**+1.4**
Z50A	**Ashland** baz=181,SNR=5.0	**21.19**	**1**	P			**P**	**07 21 35.7**	**0.0**
Z52A	**Williamson** baz=185	**21.20**	**5**	P			**P**	**07 21 37.4**	**+1.5**
Z46A	**Louisville** baz=173	**21.24**	**354**	P			**P**	**07 21 37.9**	**+1.6**
Z51A	**Franklin** baz=183	**21.28**	**3**	P			**P**	**07 21 37.9**	**+1.2**
Z48A	**Northport** baz=177	**21.33**	**357**	P			**P**	**07 21 38.1**	**+1.0**
435B	**Jarell** baz=149	**21.36**	**333**	P			**P**	**07 21 37.5**	**-0.1**
Z53A	**Monticello** baz=188	**21.37**	**7**	P			**P**	**07 21 38.5**	**+0.9**
Z54A	**Sparta** baz=190	**21.42**	**8**	P			**P**	**07 21 38.4**	**+0.2**
PCRV	**Puerto La Cruz** comp=Z,11nm,0.6s,baz=225,slow=4.2,SNR=9.2	**21.50**	**93**	P			**P**	**07 21 39.2**	**-0.1**
Z45A	**Winona** comp=Z,16nm,0.7s	**21.50**	**353**	*eP*			**P**	**07 21 40.4**	**+1.4**
Z45A	**Winona** baz=171	**21.50**	**353**	P			**P**	**07 21 39.7**	**+0.7**
GOGA	**Godfrey** comp=Z,6.5nm,0.8s	**21.51**	**7**	*eP*			**P**	**07 21 40.1**	**+0.9**
GOGA	**Godfrey** baz=188	**21.51**	**7**	P			**P**	**07 21 38.8**	**-0.4**
Y49A	**Blount Mountai** comp=Z,13nm,1.0s	**21.78**	**0**	*eP*			**P**	**07 21 43.3**	**+1.3**
Y49A	**Blnt Mountai** baz=180	**21.78**	**0**	P			**P**	**07 21 43.0**	**+0.9**
NHSC	**New Hope** baz=197	**21.81**	**14**	P			**P**	**07 21 42.4**	**+0.1**
Y50A	**Piedmont** baz=182	**21.83**	**2**	P			**P**	**07 21 42.5**	**0.0**
Y48A	**Jasper** baz=178	**21.85**	**358**	P			**P**	**07 21 43.7**	**+1.0**
Y51A	**Rockmart** baz=184	**21.86**	**3**	P			**P**	**07 21 43.8**	**+0.9**
Y47A	**UCPARC, Winfie** baz=176	**21.86**	**357**	P			**P**	**07 21 43.8**	**+1.0**
Y52A	**Lilburn** comp=Z,11nm,0.9s	**21.90**	**5**	*eP*			**P**	**07 21 44.3**	**+1.0**
Y52A	**Lilburn** baz=186	**21.90**	**5**	P			**P**	**07 21 44.5**	**+1.2**
Y46A	**Houston** baz=174,SNR=5.6	**21.92**	**355**	P			**P**	**07 21 44.0**	**+0.6**
Y45A	**Yeager Farm, C** baz=172	**21.97**	**353**	P			**P**	**07 21 45.3**	**+1.3**
Y54A	**Tignall** baz=190	**22.06**	**8**	P			**P**	**07 21 45.5**	**+0.6**
JCT	**Junction City** baz=143	**22.18**	**328**	P			**P**	**07 21 45.4**	**-0.8**
WHTX	**Lake Whitney,** comp=Z,12nm,1.1s	**22.35**	**335**	*eP*			**P**	**07 21 49.2**	**+1.4**
WHTX	**Lake Whitney,** baz=151	**22.35**	**335**	P			**P**	**07 21 47.4**	**-0.4**
X48A	**Hartselle** comp=Z,6.6nm,0.8s	**22.38**	**359**	*eP*			**P**	**07 21 49.6**	**+1.6**
X48A	**Hartselle** baz=178	**22.38**	**359**	P			**P**	**07 21 47.9**	**-0.2**
X50B	**Fort Payne** baz=182	**22.40**	**2**	P			**P**	**07 21 48.9**	**+0.7**
X49A	**Woodville** baz=180,SNR=6.4	**22.44**	**0**	P			**P**	**07 21 49.3**	**+0.7**
X47A	**Russellville** baz=176,SNR=5.7	**22.48**	**357**	P			**P**	**07 21 49.5**	**+0.5**
X45A	**UM Field Stati** baz=172	**22.51**	**354**	P			**P**	**07 21 49.7**	**+0.4**
Y41A	**Eaglette Beard** baz=164	**22.52**	**347**	P			**P**	**07 21 50.0**	**+0.6**
X51A	**Calhoun** comp=Z,11nm,1.0s	**22.54**	**3**	*eP*			**P**	**07 21 50.6**	**+1.0**
X51A	**Calhoun** baz=184	**22.54**	**3**	P			**P**	**07 21 50.2**	**+0.6**
X53A	**Estellee** baz=188	**22.61**	**7**	P			**P**	**07 21 50.8**	**+0.5**
X52A	**Dahlonega** baz=186	**22.65**	**6**	P			**P**	**07 21 51.2**	**+0.5**
JSC	**Jenkinsville** comp=Z,21nm,1.1s	**22.71**	**11**	*eP*			**P**	**07 21 52.3**	**+1.1**
PLAL	**Pickwick Lake** comp=Z,8.2nm,0.7s	**22.95**	**357**	*eP*			**P**	**07 21 54.3**	**+0.8**
W49A	**Belvidere** baz=180,SNR=6.6	**23.04**	**0**	P			**P**	**07 21 54.7**	**+0.4**
W48A	**Pulaski** baz=179,SNR=17	**23.06**	**359**	P			**P**	**07 21 55.1**	**+0.6**
X41A	**Kaden, Bauxite** baz=165	**23.09**	**347**	P			**P**	**07 21 53.7**	**-1.0**
W46A	**Michie** baz=175,SNR=7.6	**23.12**	**356**	P			**P**	**07 21 55.6**	**+0.6**
W52A	**Murphy** comp=Z,6.6nm,0.8s	**23.13**	**5**	*eP*			**P**	**07 21 56.5**	**+1.3**
W52A	**Murphy** baz=186	**23.13**	**5**	P			**P**	**07 21 56.2**	**+1.0**
PAULI	**Pauline** comp=Z,8.1nm,0.7s	**23.13**	**10**	*eP*			**P**	**07 21 56.5**	**+1.3**
W51A	**Cleveland** baz=184	**23.13**	**4**	P			**P**	**07 21 55.7**	**+0.5**
SWET	**Sewanee** comp=Z,7.3nm,0.6s	**23.14**	**1**	*eP*			**P**	**07 21 55.8**	**+0.4**
W50A	**Signal Mountai** comp=Z,12nm,0.6s	**23.14**	**2**	*eP*			**P**	**07 21 55.8**	**+0.5**
W50A	**Signal Mountai** baz=183,SNR=5.6	**23.14**	**2**	P			**P**	**07 21 55.9**	**+0.5**
W47A	**Westpoint** baz=177,SNR=16	**23.20**	**358**	P			**P**	**07 21 56.2**	**+0.4**
W45A	**Hickory Valley** baz=173	**23.21**	**354**	P			**P**	**07 21 55.8**	**-0.1**
UALR	**University of** comp=Z,3.0nm,0.6s	**23.32**	**348**	*eP*			**P**	**07 21 57.9**	**+1.0**
MIAR	**Mount Ida** comp=Z,5.2nm,1.0s	**23.38**	**345**	*eP*			**P**	**07 21 58.0**	**+0.5**
MIAR	**Mount Ida** baz=162	**23.38**	**345**	P			**P**	**07 21 57.4**	**-0.1**
CPCT	**Cooper Cave** comp=Z,16nm,0.9s	**23.44**	**4**	*eP*			**P**	**07 21 59.1**	**+1.1**
KMSC	**Kings Mountain** comp=Z,9.2nm,0.7s	**23.53**	**11**	*eP*			**P**	**07 21 60.0**	**+1.1**
KMSC	**Kings Mountain** baz=192	**23.53**	**11**	P			**P**	**07 21 58.6**	**-0.2**
TXAR	**Lajitas Array** comp=Z,5.1nm,0.6s,baz=139,slow=9.3,SNR=66	**23.55**	**320**	P			**P**	**07 21 59.8**	**+0.6**
TX31	**Lajitas Ar. Si**	**23.56**	**320**	*eP*			**P**	**07 22 00.1**	**+0.8**
V50A	**Pikevile** baz=183,SNR=5.1	**23.62**	**3**	P			**P**	**07 21 59.4**	**-0.3**
V48A	**Smith Brothers** comp=Z,5.7nm,0.6s	**23.66**	**359**	*eP*			**P**	**07 22 01.4**	**+1.3**
V48A	**Smith Brothers** baz=179	**23.66**	**359**	P			**P**	**07 21 59.9**	**-0.1**
V49A	**McMinnville** baz=181,SNR=7.1	**23.69**	**1**	P			**P**	**07 22 00.4**	**+0.1**
V47A	**Nunnelly** baz=177,SNR=7.3	**23.77**	**358**	P			**P**	**07 22 00.4**	**-0.6**
V46A	**Holladay** baz=176	**23.77**	**357**	P			**P**	**07 22 00.6**	**-0.4**
V51A	**Loudon** comp=Z,5.7nm,0.7s	**23.80**	**4**	*eP*			**P**	**07 22 02.3**	**+1.0**
V51A	**Loudon** baz=185	**23.80**	**4**	P			**P**	**07 22 01.0**	**-0.3**
WHAR	**Wooly Hollow** comp=Z,6.6nm,0.8s	**23.80**	**348**	*eP*			**P**	**07 22 00.9**	**-0.4**
V53A	**Saluda** comp=Z,9.7nm,0.6s	**23.82**	**7**	*eP*			**P**	**07 22 02.5**	**+1.0**
V53A	**Saluda** baz=189,SNR=5.4	**23.82**	**7**	P			**P**	**07 22 02.1**	**+0.6**
ABTX	**Abilene, Hawle** comp=Z,6.0nm,0.8s	**23.85**	**332**	*eP*			**P**	**07 22 03.6**	**+1.8**
ABTX	**Abilene, Hawle** baz=147	**23.85**	**332**	P			**P**	**07 22 01.5**	**-0.3**
V52A	**Sevierville** comp=Z,3.7nm,0.6s	**23.90**	**6**	*eP*			**P**	**07 22 03.0**	**+0.8**
V52A	**Sevierville** baz=187	**23.90**	**6**	P			**P**	**07 22 02.2**	**-0.1**
X37A	**Clayton** comp=Z,5.1nm,0.6s	**23.93**	**342**	*eP*			**P**	**07 22 02.8**	**+0.4**
W39A	**Magazine** comp=Z,5.0nm,1.1s	**24.05**	**345**	*eP*			**P**	**07 22 03.7**	**+0.1**
W39A	**Magazine** baz=162	**24.05**	**345**	P			**P**	**07 22 02.5**	**-1.0**
WVT	**Waverly** comp=Z,3.0nm,0.9s	**24.08**	**357**	*eP*			**P**	**07 22 04.2**	**+0.4**
WVT	**Waverly** baz=177	**24.08**	**357**	P			**P**	**07 22 03.1**	**-0.7**
V42A	**Cord** baz=168	**24.14**	**350**	P			**P**	**07 22 03.7**	**-0.7**
V41A	**Mountainview** baz=166,SNR=7.2	**24.26**	**349**	P			**P**	**07 22 05.4**	**-0.1**
U46A	**Springville** baz=176,SNR=7.3	**24.33**	**357**	P			**P**	**07 22 06.1**	**+0.1**
U45A	**Rockin P Farm,** baz=174	**24.36**	**355**	P			**P**	**07 22 06.6**	**+0.3**
U47A	**Clarksville** baz=178	**24.37**	**358**	P			**P**	**07 22 06.4**	**-0.1**
U50A	**Jamestown** baz=184,SNR=5.2	**24.38**	**3**	P			**P**	**07 22 06.6**	**+0.1**
U44B	**Burton Farm, H** baz=173	**24.40**	**354**	P			**P**	**07 22 07.0**	**+0.3**
U48A	**Cassie Pea, Po** baz=180	**24.43**	**360**	P			**P**	**07 22 06.7**	**-0.3**
U49A	**Red Boiling Sp** baz=182	**24.44**	**1**	P			**P**	**07 22 07.3**	**+0.2**
U52A	**Thorn Hill** baz=187	**24.47**	**6**	P			**P**	**07 22 07.4**	**+0.1**
U53A	**Fall Branch** baz=189	**24.54**	**8**	P			**P**	**07 22 08.7**	**+0.7**
TZTN	**Tazewell** comp=Z,8.6nm,0.9s	**24.60**	**6**	*eP*			**P**	**07 22 09.2**	**+0.7**
SVB	**Belmont** comp=Z,10nm,0.6s	**24.63**	**84**	*eP*			**P**	**07 22 10.1**	**+1.0**
U42A	**Revenden** baz=169	**24.65**	**351**	P			**P**	**07 22 08.6**	**-0.3**
U41A	**Viola** baz=167	**24.76**	**349**	P			**P**	**07 22 09.6**	**-0.4**
T47A	**Sharon Grove** comp=Z,5.1nm,0.6s	**24.91**	**359**	*eP*			**P**	**07 22 11.8**	**+0.5**
T47A	**Sharon Grove** baz=178	**24.91**	**359**	P			**P**	**07 22 11.3**	**-0.1**
U40A	**Yellville** baz=165	**24.95**	**348**	P			**P**	**07 22 10.9**	**-0.9**
T46A	**Princeton** baz=177	**24.99**	**357**	P			**P**	**07 22 11.8**	**-0.3**
T45A	**Paducah** comp=Z,30nm,0.4s	**25.01**	**356**	*eP*			**P**	**07 22 13.3**	**+1.0**
T49A	**Edmonton** comp=Z,2.6nm,0.6s	**25.04**	**2**	*eP*			**P**	**07 22 13.3**	**+0.8**
T49A	**Edmonton** baz=182	**25.04**	**2**	P			**P**	**07 22 12.4**	**-0.1**
HHAR	**Hobbs** comp=Z,1.4nm,0.8s	**25.12**	**346**	*eP*			**P**	**07 22 13.7**	**+0.4**
T43A	**Greenville** baz=171	**25.24**	**353**	P			**P**	**07 22 13.3**	**-1.0**
WMOK	**Wichita Mounta** comp=Z,6.3nm,0.8s	**25.28**	**336**	*eP*			**P**	**07 22 17.0**	**+2.3**
WMOK	**Wichita Mounta** baz=151,SNR=6.5	**25.28**	**336**	P			**P**	**07 22 16.6**	**+1.9**
TUL1	**Leonard** comp=Z,2.8nm,0.6s	**25.28**	**342**	*eP*			**P**	**07 22 15.7**	**+1.0**
T42A	**Van Buren** comp=Z,4.5nm,0.8s	**25.29**	**351**	*eP*			**P**	**07 22 14.3**	**-0.5**
T42A	**Van Buren** baz=169	**25.29**	**351**	P			**P**	**07 22 14.1**	**-0.7**
T41A	**Mountain View** baz=168	**25.41**	**350**	P			**P**	**07 22 15.8**	**-0.1**
S51A	**Beattyville** comp=Z,10nm,1.1s	**25.68**	**5**	*eP*			**P**	**07 22 18.9**	**+0.6**
S43A	**Fulton Ridge,** baz=172	**25.69**	**353**	P			**P**	**07 22 16.5**	**-1.9**
S41A	**Jillco Farms,** baz=168	**25.94**	**350**	P			**P**	**07 22 20.3**	**-0.4**
WCI	**Wyandotte Cave** comp=Z,7.1nm,0.9s	**26.14**	**0**	*eP*			**P**	**07 22 23.0**	**+0.5**
WCI	**Wyandotte Cave** baz=180	**26.14**	**0**	P			**P**	**07 22 22.2**	**-0.3**
R47A	**Wooly Knot Far** baz=180	**26.21**	**360**	P			**P**	**07 22 22.3**	**-0.7**
R49A	**Shelbyville** baz=183	**26.23**	**2**	P			**P**	**07 22 22.6**	**-0.7**
MNTX	**Cornudas Mount** comp=Z,1.4nm,0.8s	**26.26**	**321**	*eP*			**P**	**07 22 24.1**	**+0.5**
MNTX	**Cornudas Mount** baz=134	**26.26**	**321**	P			**P**	**07 22 22.9**	**-0.7**
CCM	**Cathedral Cave** comp=Z,4.3nm,0.9s	**26.32**	**351**	*eP*			**P**	**07 22 24.6**	**+0.5**
CCM	**Cathedral Cave** baz=169	**26.32**	**351**	P			**P**	**07 22 24.0**	**0.0**
R51A	**Hillsboro** baz=186	**26.34**	**5**	P			**P**	**07 22 24.1**	**-0.1**
MSTX	**Muleshoe** baz=142	**26.47**	**328**	P			**P**	**07 22 25.4**	**-0.

	comp=Z,4.9nm,0.8s							
HDIL	**Hopedale**	28.58	355	P		P	07 22 43.5	-0.6
	baz=174							
N49A	**Columbus Grove**	28.90	4	*e*P		P	07 22 47.0	0.0
	comp=Z,14nm,0.6s							
N49A	**Columbus Grove**	28.90	4	P		P	07 22 46.7	-0.4
	baz=184							
ANMO	**Albuquerque**	29.20	325	P		P	07 22 50.1	+0.1
	comp=Z,0.7nm,0.5s,baz=124,slow=5.9,SNR=4.4							
ANMO	**Albuquerque**	29.20	325	P		P	07 22 50.0	+0.1
	baz=137							
PAGS	**Pennsylvania G**	29.43	15	*e*P		P	07 22 52.9	+1.2
	comp=Z,13nm,0.6s							
M49A	**Liberty Center**	29.47	4	P		P	07 22 49.8	-2.2
	baz=185							
M41A	**Milan**	29.50	354	P		P	07 22 52.0	-0.3
	baz=172							
SSPA	**Standing Stone**	29.53	13	*e*P		P	07 22 53.4	+0.8
	comp=Z,7.6nm,0.8s							
SSPA	**Standing Stone**	29.53	13	P		P	07 22 52.4	-0.2
	baz=197							
M54A	**Oil Creek Stat**	30.02	10	*e*P		P	07 22 58.3	+1.4
	comp=Z,8.7nm,0.9s							
L42A	**Oliver, Polo**	30.05	355	*e*P		P	07 22 56.6	-0.5
	comp=Z,20nm,0.8s							
L42A	**Oliver, Polo**	30.05	355	P		P	07 22 56.2	-0.9
	baz=174							
TUC	**Tucson**	30.15	316	P		P	07 22 58.3	0.0
	baz=127							
N59A	**State Game Lan**	30.32	16	*e*P		P	07 23 00.8	+1.2
	comp=Z,16nm,0.8s							
N59A	**State Game Lan**	30.32	16	P		P	07 23 00.6	+0.9
	baz=201							
SCIA	**State Center**	30.40	350	*e*P		P	07 23 02.2	+2.0
	comp=Z,6.3nm,0.6s							
K48A	**Perry**	30.78	3	P		P	07 23 02.6	-1.0
	baz=184							
SDCO	**Great Sand Dun**	30.80	330	*e*P		P	07 23 04.9	+0.7
	comp=Z,1.7nm,0.8s							
SDCO	**Great Sand Dun**	30.80	330	P		P	07 23 03.9	-0.3
	baz=142							
KSPA	**Keystone Colle**	30.92	16	*e*P		P	07 23 06.4	+1.5
	comp=Z,13nm,0.9s							
K39A	**Oelwein**	30.98	352	P		P	07 23 03.7	-1.6
	baz=170							
BGNE	**Belgrade**	31.06	343	*e*P		P	07 23 05.7	-0.4
	comp=Z,13nm,0.8s							
W18A	**Petrified Fore**	31.24	321	*e*P		P	07 23 10.8	+2.8
	comp=Z,4.1nm,0.8s							
BINY	**Binghamton**	31.47	15	*e*P		P	07 23 10.5	+0.9
	comp=Z,15nm,0.8s							
BINY	**Binghamton**	31.47	15	P		P	07 23 09.4	-0.3
	baz=200							
S22A	**4UR Ranch, Cre**	31.48	328	*e*P		P	07 23 11.6	+1.4
	comp=Z,0.5nm,0.9s							
S22A	**4UR Ranch, Cre**	31.48	328	P		P	07 23 10.1	0.0
	baz=139							
J40A	**Soldiers Grove**	31.52	354	P		P	07 23 09.2	-1.0
	baz=172							
MMNY	**Mt. Morris Dam**	31.53	12	*e*P		P	07 23 10.6	+0.4
	comp=Z,18nm,1.1s							
J39A	**Decorah**	31.57	353	P		P	07 23 09.9	-0.7
	baz=170							
I43A	**Langenfeld Bro**	31.83	358	P		P	07 23 12.1	-0.7
	baz=177							
X16A	**Lo Mia Camp, P**	31.87	319	*e*P		P	07 23 15.3	+1.8
	comp=Z,2.4nm,1.0s							
I42A	**Draeger Farm,**	31.87	357	*e*P		P	07 23 12.4	-0.7
	comp=Z,19nm,1.0s							
MVCO	**Mesa Verde**	31.97	326	*e*P		P	07 23 15.6	+1.2
	comp=Z,0.9nm,0.6s							
I39A	**Houston**	32.06	353	*e*P		P	07 23 14.3	-0.6
	comp=Z,7.0nm,0.8s							
I39A	**Houston**	32.06	353	P		P	07 23 13.2	-1.6
	baz=171							
TRY	**Troy**	32.60	18	*e*P		P	07 23 21.1	+1.6
	comp=Z,14nm,0.8s							
H41A	**Junction City**	32.64	356	*e*P		P	07 23 19.7	-0.2
	comp=Z,12nm,1.1s							
H40A	**Chili**	32.71	355	P		P	07 23 19.8	-0.7
	baz=173							
ECSD	**EROS Data Cent**	32.84	346	*e*P		P	07 23 20.4	-1.2
	comp=Z,0.9nm,0.8s							
ECSD	**EROS Data Cent**	32.84	346	P		P	07 23 19.7	-1.9
	baz=161							
PV03	**Paradox Valley**	32.92	327	*e*P		P	07 23 23.8	+1.1
PV12	**Saucer Basin,**	32.94	327	*e*P		P	07 23 24.2	+1.4
	comp=Z,2.7nm,0.9s							
PV18	**Skein Mesa, Pa**	32.95	326	*e*P		P	07 23 24.2	+1.3
	comp=Z,3.2nm,0.6s							
PV11	**David Mesa, Pa**	32.96	327	*e*P		P	07 23 24.2	+1.2
	comp=Z,3.6nm,1.0s							
H38A	**Maiden Rock**	32.97	352	P		P	07 23 21.4	-1.3
	baz=170							
PV16	**Nyswonger Mesa**	33.00	327	*e*P		P	07 23 24.6	+1.2
	comp=Z,2.9nm,1.0s							
PV17	**East Wray Mesa**	33.00	326	*e*P		P	07 23 24.5	+1.1
	comp=Z,4.1nm,0.6s							
G42A	**Mountain**	33.19	357	*e*P		P	07 23 23.8	-0.9
	comp=Z,18nm,1.0s							
SADO	**Sadowa**	33.28	10	*e*P		P	07 23 25.2	-0.2
	comp=Z,20nm,1.1s							
G40A	**Rib Lake**	33.33	355	*e*P		P	07 23 25.3	-0.6
	comp=Z,5.2nm,0.8s							
G39A	**Holcombe**	33.44	354	P		P	07 23 25.5	-1.3
	baz=172							
SPMN	**Marine on St.**	33.58	352	*e*P		P	07 23 26.6	-1.4
	comp=Z,10nm,0.9s							
SPMN	**Marine on St.**	33.58	352	P		P	07 23 25.7	-2.2
	baz=169							
F46A	**Macinaw City C**	33.72	2	P		P	07 23 27.2	-2.0
	baz=183							
F39A	**Loretta**	34.04	354	P		P	07 23 30.0	-2.0
	baz=172							
COWI	**Conover**	34.09	357	*e*P		P	07 23 31.6	-0.8
	comp=Z,4.9nm,0.8s							
LONY	**Lake Ozonia**	34.09	15	*e*P		P	07 23 32.8	+0.3
	comp=Z,14nm,1.0s							
LONY	**Lake Ozonia**	34.09	15	P		P	07 23 31.2	-1.3
	baz=201							
F38A	**Pierce - Schro**	34.18	353	P		P	07 23 31.6	-1.6
	baz=170							
E43A	**Lone Tree Farm**	34.29	359	*e*P		P	07 23 33.5	-0.6
	comp=Z,30nm,1.1s							
E39A	**Mellen**	34.46	355	P		P	07 23 34.0	-1.7
	baz=173							
E48A	**Lockeyer**	34.58	5	P		P	07 23 35.3	-1.4
	baz=187							
MTPU	**Mount Pierson**	34.66	323	*e*P		P	07 23 39.6	+1.8
	comp=Z,1.9nm,1.0s							
BELC	**Belle Mtn. Jos**	34.71	314	P		P	07 23 36.0	-2.1
	baz=122							
E51A	**G1948 Merrick**	34.95	8	P		P	07 23 38.4	-1.4
	baz=192							
E53A	**Dumoine, Ponti**	35.09	11	P		P	07 23 39.9	-1.2
	baz=195							
E54A	**Lac Daplat, Po**	35.23	11	P		P	07 23 41.0	-1.2
	baz=196							
D53A	**Lac Vacive, Po**	35.76	10	P		P	07 23 45.6	-1.2
	baz=195							
D54A	**Lac Fusel, La**	36.02	11	P		P	07 23 47.8	-1.2
	baz=196							
PKME	**Peaks-Kenny Pk**	36.27	21	*e*P		P	07 23 52.0	+0.8
	comp=Z,14nm,0.8s							
PKME	**Peaks-Kenny Pk**	36.27	21	P		P	07 23 50.2	-0.9
	baz=209							
BW06	**Boulder Array**	36.65	331	*e*P		P	07 23 55.2	+0.6
	comp=Z,0.3nm,0.4s							
PDAR	**Pinedale Array**	36.65	331	P		P	07 23 53.8	-0.9
	comp=Z,0.4nm,0.6s,baz=130,slow=9.7,SNR=5.1							
PDAR	**Pinedale Array**	36.65	331	*e*P		P	07 23 54.8	+0.1
HWUT	**Hardware Ranch**	36.78	328	*e*P		P	07 23 56.5	+0.8
	comp=Z,1.6nm,1.0s							
MPMC	**Manual Prospec**	36.84	316	P		P	07 23 56.0	-0.4
	baz=123							
R11A	**Troy Canyon, C**	36.92	320	P		P	07 23 56.8	-0.2
	baz=128							
SPUT	**South Promonto**	37.04	327	*e*P		P	07 23 59.1	+1.2
	comp=Z,0.8nm,0.7s							
AGMN	**Agassiz Nation**	37.05	350	*e*P		P	07 23 56.8	-0.9
	comp=Z,3.7nm,0.9s							
AGMN	**Agassiz Nation**	37.05	350	P		P	07 23 56.3	-1.4
	baz=165							
SIV	**San Ignacio**	37.46	137	P		P	07 24 00.2	-1.4
	comp=Z,0.7nm,0.6s,baz=275,slow=22,SNR=7.4							
REDW	**Red Top Meadow**	37.72	331	*e*P		P	07 24 04.0	+0.3
	comp=Z,1.6nm,0.6s							
SNOW	**Snow King Moun**	37.75	331	*e*P		P	07 24 05.5	+1.6
	comp=Z,1.6nm,0.6s							
LOHW	**Long Hollow**	37.79	331	*e*P		P	07 24 05.4	+1.1
	comp=Z,0.4nm,0.8s							
TPAW	**Teton Pass**	37.86	331	*e*P		P	07 24 05.5	+0.5
	comp=Z,2.7nm,1.0s							
LMN	**Caledonia Moun**	38.46	25	*e*P		P	07 24 09.7	+0.2
	comp=Z,18nm,1.1s							
NV01	**Mina Array Sit**	38.69	318	*e*P		P	07 24 13.5	+1.6
NVAR	**Mina Array Bea**	38.69	318	P		P	07 24 12.6	+0.6
	comp=Z,1.0nm,0.7s,baz=130,slow=8.5,SNR=9.0							
NVAR				PcP		PcP	07 26 19.3	-1.8
	comp=Z,0.4nm,0.7s,baz=134,slow=2.6,SNR=3.5							
KVN	**Kaiserville**	38.92	319	*e*P		P	07 24 14.7	+1.0
	comp=Z,2.4nm,0.9s							
ULM	**Lac du Bonnet**	38.94	350	P		P	07 24 11.1	-2.4
	comp=Z,3.7nm,0.7s,baz=175,slow=6.4,SNR=4.8							
HLID	**Hailey**	39.65	328	*e*P		P	07 24 21.2	+1.5
	comp=Z,0.9nm,0.6s							
HLID	**Hailey**	39.65	328	P		P	07 24 20.3	+0.5
	baz=134							
MCMT	**McKenzie Canyo**	39.77	330	*e*P		P	07 24 22.8	+2.0
M02C	**Callahan**	43.24	319	P		P	07 24 50.0	+1.0
	baz=122							
LTY	**Liberty**	45.40	327	*e*P		P	07 25 06.0	0.0
SCHQ	**Schefferville**	45.46	16	P		P	07 25 04.6	-1.7
	comp=Z,3.5nm,0.6s,baz=224,slow=6.0,SNR=12							
SCHQ	**Schefferville**	45.46	16	*e*P		P	07 25 05.0	-1.3
	comp=Z,8.8nm,1.1s							
PLCA	**Paso Flores**	54.47	165	P		P	07 26 14.8	+0.2
	comp=Z,0.6nm,0.4s,baz=334,slow=8.2,SNR=6.3							
PLCA	**Paso Flores**	54.47	165	*e*P		P	07 26 14.7	+0.2
	comp=Z,2.8nm,1.1s							
IL1	**Eielson Array**	66.84	336	*e*P		P	07 27 37.6	-0.3
ILAR	**Eielson Array**	66.84	336	P		P	07 27 36.9	-1.1
	comp=Z,0.3nm,0.7s,baz=100,slow=4.0,SNR=4.7							
RND	**Reindeer**	67.16	334	*e*P		P	07 27 40.3	+0.3
	comp=Z,3.8nm,1.0s							
BPAW	**Bear Paw Mtn.**	68.28	335	*e*P		P	07 27 46.0	-1.0
	comp=Z,2.1nm,1.2s							
ESDC	**Sonseca Array**	76.72	52	P		P	07 28 36.5	-1.0
	comp=Z,0.2nm,0.3s,baz=280,slow=7.2,SNR=2.9							
LZH	**Lanzhou**	131.22	349	*e*PKP		PKPdf	07 35 58.1	+0.5
LZH				pPKP		pPKPdf	07 36 35.0	+0.6
LZH				sPKP			07 36 51.3	
STKA	**Stephens Creek**	131.66	238	PKP		PKPdf	07 35 58.0	-0.3
	comp=Z,1.4nm,0.6s,baz=128,slow=2.6,SNR=7.1							
STKA	**Stephens Creek**	131.66	238	*e*PKPdf		PKPdf	07 35 58.5	+0.2
AS01	**Alice Springs**	139.94	247	*e*PKPdf		PKPdf	07 36 14.0	0.0
AS31	**Alice Springs**	139.98	247	*e*PKPdf		PKPdf	07 36 14.3	+0.2
ASAR	**Alice Springs**	139.98	247	PKiKP		PKPpre	07 36 06.6	
	comp=Z,0.4nm,0.7s,baz=114,slow=4.1,SNR=5.1							
ASAR				PKP		PKPdf	07 36 14.2	+0.2
	comp=Z,1.9nm,0.8s,baz=105,slow=2.1,SNR=5.6							
WRAB	**Tennant Creek**	140.05	253	*e*PKPdf		PKPdf	07 36 14.8	+0.6
WRA	**Warramunga Arr**	140.06	253	PKhKP		PKPpre	07 36 06.3	
	comp=Z,1.4nm,0.7s,baz=88,slow=2.8,SNR=7.0							
WRA				PKP		PKPdf	07 36 14.4	+0.2
	comp=Z,2.5nm,0.7s,baz=89,slow=2.1,SNR=33							
FORT	**Forrest**	143.02	234	*e*PKPdf		PKPbc	07 36 17.1	+0.7
NWAO	**Narrogin (SRO)**	149.89	222	*e*PKPbc		PKPbc	07 36 36.0	+0.3

IGQ 13 07:27:39.4±0.9, 2°S±4°, 8°W±°, h10km±4km, MLv4.1/4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALI	**Salinas**	0.35	142	P		Pb	07 27 47.7	0.0
MORR	**Playas El Morr**	1.13	130	P		Pb	07 28 00.1	-1.0
MILO	**Milagro-Astudi**	1.69	103	P		Pn	07 28 06.1	-2.9
COHC	**Cochancay**	2.02	106	P		Pn	07 28 11.2	-2.4
COHC				S		Sn	07 28 39.9	+1.0
RIOE1	**Riobamba**	2.58	86	P		Pn	07 28 21.4	-0.1
SAGO	**Sagoatoa**	2.65	74	P		Pn	07 28 22.5	-0.1
ILLI	**Illinizas Sur**	2.75	64	P		Pn	07 28 22.4	-1.5
MCRA	**Macar¨¡, Loja**	2.75	153	P		Pn	07 28 20.5	-3.1
ARRY	**Arrayan**	2.78	82	P		Pn	07 28 23.7	-0.5
RETU	**Refugio**	2.79	81	P		Pn	07 28 25.2	+0.5
BPAT	**Tungurahua Vol**	2.80	82	P		Pn	07 28 23.6	-1.0
BULB	**Ulba Tungurahu**	2.83	81	P		Pn	07 28 25.1	+0.1
BRUN	**Tungurahua Vol**	2.83	80	P		Pn	07 28 24.1	-0.9
GONZ	**Gonzanam¨¡**	2.94	142	P		Pn	07 28 25.9	-0.5
PIS1	**Pisayambo**	2.94	73	P		Pn	07 28 27.2	+0.6
BMOR	**Cotopaxi Volca**	2.98	67	P		Pn	07 28 27.4	+0.1
BNAS	**Cotopaxi Volca**	2.99	66	P		Pn	07 28 27.3	0.0
BREF	**Cotopaxi Volca**	3.02	66	P		Pn	07 28 28.1	+0.2
BVC2	**Cotopaxi Volca**	3.06	66	P		Pn	07 28 28.9	+0.6
BTAM	**Cotopaxi Volca**	3.06	66	P		Pn	07 28 29.9	+1.5
PITA	**Cotopaxi Volc**	3.08	64	P		Pn	07 28 28.0	-0.5
PAC1	**Pacto, Para¨s**	3.24	48	P		Pn	07 28 24.9	-5.5
ANTG	**Antisana-Guama**	3.26	65	P		Pn	07 28 31.5	+0.4
ANTM	**Antisana-La Mi**	3.28	65	P		Pn	07 28 30.0	-1.3
ANTS	**Antisana-Sarah**	3.34	65	P		Pn	07 28 34.9	+2.7
ZUMB	**Zumba**	3.58	145	P		Pn	07 28 34.7	-0.5
CUIC	**Cuicocha-Domo**	3.59	52	P		Pn	07 28 32.1	-3.4

IDC 13 07:33:43.8±3.1, 24°11S×179°36E, h0km, mb4.0/3, mb1 4.3/4, mb1mx3.8/35, mbtmp4.2/4, ML4.7/1, Error ellipse: s-maj=63.4km s-min=53.3km az=103.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	14.24	187	Pn		Pn	07 37 06.1	-0.6
	3.5nm,0.3s,baz=279,slow=4.4,SNR=26							
URZ				Sn		Sn	07 39 31.1	-14
	1.2nm,0.3s,baz=49,slow=22,SNR=11							
STKA	**Stephens Creek**	34.11	248	P		P	07 40 30.2	-0.1
	0.5nm,0.3s,baz=90,slow=14,SNR=3.9							
ASAR	**Alice Springs**	41.43	261	P		P	07 41 32.1	-0.3
	1.0nm,0.3s,baz=91,slow=7.0,SNR=24							
WRA	**Warramunga Arr**	41.81	267	P		P	07 41 35.6	0.0
	2.1nm,0.6s,baz=103,slow=7.9,SNR=24							
BRTR	**Keskin Array B**	147.24	307	PKPbc		PKPbc	07 53 28.9	-0.6
	0.4nm,0.4s,baz=94,slow=3.5,SNR=3.1							

*IDC **13** 07:34:15.3±0.7, 52°59N×132°63W, h0km, mb4.1/14, mb1 4.2/20, mb1mx4.1/45, mbtmp4.0/20, ML3.4/7, MS3.9/31, Ms1 3.9/31, ms1mx3.8/45, Error ellipse: s-maj=10.8km s-min=6.0km az=69.0*

*PGC **13** 07:34:17.5±32.0, 52°76N×132°46W, h43km±3km, ML4.4/13, Mw4.7, 69km southwest of Sandspit, Bc Queen Charlotte Islands Region*

*NEIC **13** 07:34:19.0±0.2, 52°82N×132°61W, h10km, mb4.3/135, MW4.7(OTT), Error ellipse: s-maj=5.1km s-min=1.6km az=50.0*

*GCMT **13** 07:34:21.0±0.4, 52°82N±0°04×133°15W±0°05, h20km±1km, MW5.0/77, Moment Tensor Solution. s16,c17; s77,c96; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=3.73±.32; Mθθ 1.30±.18; Mϕϕ 2.43±.19; Mrθ 1.22±.37; Mθϕ -0.88±.10; Mϕr 1.64±.34; Best double couple: M0 3.76600×10¹⁶ NP1: ϕs 174.00000°, δ57.00000°, λ-68.00000°. NP2: ϕs 319.00000°, δ39.00000°, λ-119.00000°. Principal axes: T 3.0530, Plg9.0000°, Azm249.0000°; N 1.4270, Plg18.0000°, Azm342.0000°; P -4.4800, Plg70.0000°, Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 07:34:18.2±0.9, 52.72N±0.04×132.47W±0.05, h9km±5km, n495, σ1$45/473, mb4.4/84, MS3.9/25, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNB	**Barry Inlet**	0.46	108	P		Pg	07 34 27.9	+0.8
BNB				S		Sb	07 34 35.5	-0.1
DIB	**Dawson Inlet,**	0.48	359	*e*Pg		Pg	07 34 27.6	+0.1
DIB	**Dawson Inlet,**	0.48	359	P		Pg	07 34 27.6	+0.1
DIB				S		Sb	07 34 35.9	-0.2
H02S1	**DAWSON INLET T**	0.48	359	Pg		Pg	07 34 27.6	0.0
H02S1				Lg		Lg	07 34 36.0	
H02N1	**VAN INLET T-PH**	0.53	355	Pg		Pg	07 34 28.4	-0.2
H02N1				Lg		Lg	07 34 37.7	
VIB	**Van Inlet**	0.53	355	P		Pg	07 34 28.2	-0.4
VIB				S		Sb	07 34 37.2	-0.5
HG4B	**Hotspring**	0.89	119	P		Pg	07 34 33.4	-1.9
HG4B				S		Sg	07 34 44.8	-2.0
RUBB	**Prince Rupert**	2.08	39	Pn		Pn	07 34 52.0	-1.3
RUBB				Sn		Sn	07 35 02.4	-17
BBB	**Bella Bella**	2.72	100	Pn		Pn	07 35 00.1	-1.9
	6.9nm,0.3s,baz=287,slow=14,SNR=17							
BBB				Pg		Pb	07 35 07.0	0.0
	20nm,0.3s,baz=290,slow=17,SNR=24							
BBB				Sn		Sn	07 35 33.8	-1.2
	54nm,0.3s,baz=274,slow=16,SNR=6.0							
BBB				LR		LR	07 36 09.2	
	comp=Z,2µm,20.4s,baz=288,slow=41							
BBB	**Bella Bella**	2.72	100	Pn		Pn	07 34 58.0	-4.0
BBB				Sn		Sn	07 35 12.1	-23
CRAG	**Craig**	2.78	352	*e*Pn		Pn	07 34 60.0	-2.9
WRAK	**Wrangell Islan**	3.70	1	*e*Pn		Pn	07 35 14.7	-0.9
PHC	**Port Hardy**	3.73	121	Pn		Pn	07 35 12.0	-3.8
PACB	**Port Alice, BC**	3.86	124	Pn		Pn	07 35 14.7	-3.0
TLCB	**Telegraph Cove**	4.13	120	Pn		Pn	07 35 19.8	-1.6
WOSB	**Woss**	4.49	122	Pn		Pn	07 35 24.9	-1.6
NCRB	**Newcastle Ridg**	4.62	118	Pn		Pn	07 35 26.1	-2.3
GDR	**Gold River**	5.00	124	Pn		Pn	07 35 33.1	-0.3
UBRB	**Upper Baezaeko**	5.09	85	Pn		Pn	07 35 35.8	+1.0
FSB	**Fort Saint Jam**	5.16	67	Pn		Pn	07 35 36.5	+1.0
CBB	**Campbell River**	5.20	118	Pn		Pn	07 35 34.8	-1.4
BTB	**Buttle Lake**	5.46	124	Pn		Pn	07 35 38.0	-1.9
JIS	**Juneau Island**	5.67	350	*e*Pn		Pn	07 35 40.9	-1.7
TXB	**Texada**	5.89	118	Pn		Pn	07 35 44.6	-1.0
DLBC	**Dease Lake**	5.89	13	Pn		Pn	07 35 46.3	+0.6
	2.7nm,0.3s,baz=220,slow=15,SNR=31							
DLBC				Sn		Sn	07 36 55.5	+2.2
	0.8nm,0.3s,baz=134,slow=17,SNR=3.5							
DLBC				Lg		Lg	07 37 24.4	
	1.4nm,0.3s,baz=313,slow=10,SNR=4.1							
DLBC	**Dease Lake**	5.89	13	*e*Pn		Pn	07 35 48.0	+2.3
DLBC				Sn		Sn	07 36 55.5	+2.2
DLBC				Lg		Lg	07 37 24.4	
DLBC	**Dease Lake**	5.89	13	Pn		Pn	07 35 47.2	+1.5
BESE	**Bessie Mountai**	6.02	348	*e*Pn		Pn	07 35 45.2	-2.3
MGB	**Mount Grey**	6.17	124	Pn		Pn	07 35 49.5	-0.1
WPB	**Watts Point**	6.58	114	Pn		Pn	07 35 55.2	+0.1
BMBC	**Bull Mountain**	6.89	57	Pn		Pn	07 35 59.8	+0.3
PGC	**Sidney**	7.03	122	*e*Pn		Pn	07 36 03.5	+2.3
PLBC	**Pleasant Camp**	7.09	344	Pn		Pn	07 35 57.2	-4.8
DHAK	**Deception Hill**	7.15	335	*e*Pn		Pn	07 36 01.9	-1.0
A04D	**Lummi Island**	7.38	119	P		Pn	07 36 07.8	+1.7
	baz=307							
D03D	**Eldon**	7.95	127	P		Pn	07 36 16.5	+2.6
	baz=314							
PNL	**Peninsula**	7.96	334	Pn		Pn	07 36 12.8	-1.2
B05A	**Bryant**	7.98	120	P		Pn	07 36 18.1	+3.8
	baz=308							
WHY	**Whitehorse**	8.07	351	*e*Pn		Pn	07 36 14.4	-1.1
WHY	**Whitehorse**	8.07	351	Pn		Pn	07 36 13.9	-1.7
FNBB	**Fort Nelson**	8.15	37	Pn		Pn	07 36 17.2	+0.5
YUK7	**Dusty Glacier**	8.43	341	Pn		Pn	07 36 18.2	-2.4
E03A	**Lebam**	8.46	133	*e*Pn		Pn	07 36 21.9	+1.0
PCA	**Pinnacle**	8.55	333	*e*Pn		Pn	07 36 21.0	-1.2
HYT	**Haines Junctio**	8.58	343	*e*Pn		Pn	07 36 22.1	-0.4
D05A	**Enumclaw**	8.73	125	*e*Pn		Pn	07 36 29.0	+4.4
E04D	**Cinebar**	8.90	130	P		Pn	07 36 30.4	+3.5
	baz=318							
YUK5	**Granite Creek**	8.93	343	Pn		Pn	07 36 24.9	-2.5
SLEB	**Sale Mountain**	8.99	94	Pn		Pn	07 36 30.1	+1.8
LON	**Longmire**	9.12	127	*e*Pn		Pn	07 36 32.1	+2.1
YUK4	**Talbot Arm**	9.27	341	Pn		Pn	07 36 32.8	+0.6
LTY	**Liberty**	9.36	121	*e*Pn		Pn	07 36 35.0	+1.7
B08A	**Colville Reser**	9.43	112	*e*Pn		Pn	07 36 35.1	+0.8
G03D	**McMinnville, O**	9.64	138	P		Pn	07 36 38.4	+1.3
	baz=325							
BALM	**Baldy**	9.92	331	*e*Pn		Pn	07 36 40.4	-0.5
BALM	**Baldy**	9.92	331	Pn		Pn	07 36 40.0	-0.9
YUK3	**Moose Creek**	10.05	338	Pn		Pn	07 36 42.7	-0.1
COR	**Corvallis**	10.14	140	*e*Pn		Pn	07 36 46.6	+2.7
YUK2	**White River**	10.15	337	Pn		Pn	07 36 42.8	-1.3
YUK1	**Sand Pete Hill**	10.39	339	Pn		Pn	07 36 46.8	-0.7
H04D	**Lebanon**	10.42	138	P		Pn	07 36 51.4	+3.7
	baz=326							
G05D	**Wamic, OR**	10.47	131	P		Pn	07 36 51.2	+2.8
	baz=320							
BMRM	**Bremner River**	10.59	326	*e*Pn		Pn	07 36 52.8	+2.8
NEW	**Newport**	10.74	108	Pn		Pn	07 36 50.7	-1.5
	0.1nm,0.3s,baz=176,sl

MFID	Camas Ranch	14.47	123	*e*P		P	07 37 52.2	+2.1
COLA	College	14.50	333	*e*P		P	07 37 51.5	+1.5
PPLA	Purkeypile	14.57	322	*e*Pn		Pn	07 37 43.0	-1.5
PPLA				*e*P		P	07 37 52.8	+1.7
POKR	Poker Plat Res baz=142	14.57	334	P		Pn	07 37 44.7	+0.3
HRY	Holter Researc	14.62	106	*e*Pn		P	07 37 53.4	+1.8
MDM	Murphy Dome	14.67	333	*e*Pn		Pn	07 37 45.5	-0.2
MDM				*e*P		P	07 37 52.0	-0.1
CAST	Castle Rocks	14.84	324	*e*Pn		Pn	07 37 48.8	+0.7
CAST				*e*P		P	07 37 54.2	+0.3
BPAW	Bear Paw Mtn.	14.89	327	*e*Pn		Pn	07 37 47.6	-1.1
BPAW				*e*P		P	07 37 54.3	-0.2
DLMT	Dillon 9.2nm,0.8s	14.94	112	*e*Pn		Pn	07 37 51.4	+1.8
SVW2	Sparrevohn	15.08	313	*e*Pn		Pn	07 37 48.0	-3.2
HLID	Hailey	15.10	120	*e*Pn		Pn	07 37 53.7	+1.8
HLID				*e*P		pP	07 37 59.2	-0.3
HLID	Hailey baz=314,SNR=8.8	15.10	120	P		Pn	07 37 54.2	+2.4
MCMT	McKenzie Canyo	15.12	114	*e*Pn		Pn	07 37 53.3	+1.2
MCMT				*e*P		pP	07 37 59.9	+0.1
ORV	Oroville 7.1nm,1.1s	15.18	146	*e*Pn		P	07 37 55.5	-2.3
EGMT	Eagleton 21nm,1.0s	15.21	99	*e*Pn		Pn	07 37 55.6	+2.5
EGMT	Eagleton baz=297	15.21	99	P		Pn	07 37 55.4	+2.3
FYU	Fort Yukon	15.26	340	*e*Pn		Pn	07 37 53.1	-0.5
FYU				*e*P		P	07 37 59.1	+0.6
BEKR	Beckworth	15.31	142	*e*Pn		Pn	07 37 56.7	+2.1
BEKR				*e*P		pP	07 38 02.8	+0.9
MLY	Manley	15.45	330	*e*Pn		Pn	07 37 56.3	+0.1
MLY				*e*P		P	07 38 01.2	+0.4
INK	Inuvik 0.1nm,0.3s,baz=168,slow=11,SNR=3.5	15.64	359	Pn		Pn	07 37 58.4	-0.2
INK	Inuvik 8.2nm,1.0s	15.64	359	*e*Pn		Pn	07 37 58.9	+0.3
PAHR	Pah Rah Range 17nm,1.1s	15.82	140	*e*Pn		P	07 38 04.3	-0.8
AFDM	Forest Hills D 11nm,1.2s	15.91	145	*e*Pn		P	07 38 04.8	-1.1
QLMT	Earthquake Lak	15.92	111	*e*Pn		P	07 38 05.5	-0.8
VCNR	Virginia City 15nm,1.1s	16.08	142	*e*Pn		P	07 38 08.0	0.0
YHB	Horse Butte 17nm,1.0s	16.10	111	*e*Pn		P	07 38 09.5	+1.3
YHH	Holmes Hill 13nm,1.0s	16.27	111	*e*Pn		P	07 38 10.4	+0.1
PNTR	Pine Nut 14nm,1.1s	16.28	142	*e*Pn		P	07 38 12.2	+2.0
YMR	Madison River 31nm,1.1s	16.28	111	*e*Pn		P	07 38 10.4	+0.1
GCMT	Greycliff	16.38	106	*e*Pn		P	07 38 11.4	+0.1
YNR	Norris Junctio 13nm,1.2s	16.41	111	*e*Pn		P	07 38 13.5	+1.7
YFT	Old Faithful 8.0nm,1.1s	16.48	111	*e*Pn		P	07 38 11.6	-0.9
YERR	Yerington 11nm,1.2s	16.50	141	*e*Pn		P	07 38 14.6	+1.8
H17A	Grant Village 12nm,1.1s	16.66	111	*e*Pn		P	07 38 15.5	+0.9
H17A	Grant Village baz=308	16.66	111	P		P	07 38 14.6	0.0
IMW	Indian Meadow 9.9nm,1.0s	16.77	113	*e*Pn		P	07 38 18.2	+2.5
FLWY	Flagg Ranch 8.2nm,0.9s	16.79	112	*e*Pn		P	07 38 17.2	+1.3
WAKR	Walker 2.1nm,0.8s	16.85	142	*e*Pn		P	07 38 18.9	+2.4
FXWY	Fox Creek 14nm,1.1s	16.89	114	*e*Pn		P	07 38 18.5	+1.5
KVN	Kaiserville 18nm,1.1s	16.89	138	*e*Pn		P	07 38 17.4	+0.4
MOOW	Moose Ponds 10nm,1.1s	16.97	113	*e*Pn		P	07 38 18.4	+0.5
RLMT	Red Lodge 9.6nm,0.9s	16.99	107	*e*Pn		P	07 38 19.1	+1.1
RLMT	Red Lodge baz=305	16.99	107	P		P	07 38 18.9	+0.9
IM3	Indian Mountai	17.02	330	*e*Pn		Pn	07 38 15.0	-1.3
TPAW	Teton Pass 22nm,1.0s	17.02	114	*e*Pn		P	07 38 20.3	+1.7
RYN	Ryan 6.8nm,1.1s	17.09	140	*e*Pn		P	07 38 19.9	+0.8
LOHW	Long Hollow 12nm,1.1s	17.14	113	*e*Pn		P	07 38 21.1	+1.3
SNOW	Snow King Moun 10nm,1.0s	17.15	114	*e*P		P	07 38 22.3	+2.3
REDW	Red Top Meadow 16nm,1.1s	17.16	114	*e*P		P	07 38 22.1	+2.0
HVU	Hansel Valley 6.1nm,1.1s	17.22	122	*e*Pn		P	07 38 21.9	+1.3
NV01	Mina Array Sit	17.35	140	*e*Pn		P	07 38 23.2	+1.1
NVAR	Mina Array Bea 0.0nm,0.3s,baz=318,slow=11,SNR=11	17.35	140	P		P	07 38 23.0	+0.9
NVAR					LR	LR	07 44 11.0	
	comp=Z,190nm,21.9s,baz=298,slow=34							
NV11	Mina Array Sit 0.8nm,1.1s	17.40	140	*e*Pn		P	07 38 23.5	+0.9
AHID	Auburn Hatcher 9.8nm,1.1s	17.42	116	*e*Pn		P	07 38 23.5	+0.7
BGU	Big Grassy Mou 5.5nm,1.0s	17.71	124	*e*Pn		P	07 38 27.4	+1.3
SPUT	South Promonto 3.5nm,0.9s	17.73	122	*e*Pn		P	07 38 28.1	+1.9
MDPB	Devils Postpil 4.7nm,1.0s	17.75	143	*e*Pn		P	07 38 27.1	+0.4
OMMB	Old Mammoth Mi 11nm,1.2s	17.80	143	*e*P		P	07 38 29.8	+2.6
TOLK	Toolik Lake Re 10nm,1.0s	17.91	339	*e*P		Pn	07 38 26.9	-0.3
TOLK	Toolik Lake Re baz=145	17.91	339	P		P	07 38 27.7	-0.3
LAO	LASA Array 10nm,0.8s	17.96	99	*e*Pn		P	07 38 30.3	+1.7
LAO	LASA Array baz=300,SNR=5.7	17.96	99	P		P	07 38 29.9	+1.3
HWUT	Hardware Ranch 6.8nm,1.0s	17.97	120	*e*Pn		P	07 38 30.7	+1.8
BW06	Boulder Array 7.1nm,1.0s	18.27	114	*e*P		P	07 38 34.8	+2.5
BW06	Boulder Array baz=311,SNR=10	18.27	114	P		P	07 38 34.2	+1.9
PD31	Pinedale Array	18.27	114	*e*P		P	07 38 34.5	+2.3
PDAR	Pinedale Array 0.2nm,0.3s,baz=320,slow=12,SNR=24	18.27	114	P		P	07 38 34.0	+1.8
PDAR	Pinedale Array	18.27	114	*e*P		P	07 38 33.6	+1.3
DUG	Dugway, Tooele 12nm,1.1s	18.37	125	*e*P		P	07 38 35.0	+1.7
DUG	Dugway, Tooele baz=320,SNR=15	18.37	125	P		P	07 38 34.3	+1.0
DGMT	Dagmar 28nm,0.9s	18.39	92	*e*P		P	07 38 34.6	+1.4
DGMT	Dagmar baz=294,SNR=6.2	18.39	92	P		P	07 38 34.7	+1.4
TCUT	Toone Canyon 8.0nm,0.9s	18.41	121	*e*P		Pn	07 38 36.1	+2.4
CTU	Camp Tracy 3.7nm,1.0s	18.54	122	*e*P		Pn	07 38 37.1	+1.8
R11A	Troy Canyon, C 8.7nm,1.1s	18.54	134	*e*P		Pn	07 38 37.2	+1.8
R11A	Troy Canyon, C baz=326,SNR=11	18.54	134	P		Pn	07 38 36.3	+0.9
TIN	Tinemaha, Big baz=332	18.58	142	P		Pn	07 38 38.4	+2.7
NLU	North Lily Min 8.6nm,1.1s	18.92	124	*e*P		Pn	07 38 40.8	+0.8
PSUT	Pine Spring 10nm,1.1s	19.17	130	*e*P		Pn	07 38 43.5	+0.4
CWC	Cottonwood Cre baz=333	19.18	142	P		Pn	07 38 43.7	+0.7
TPNV	Topopah Spring 24nm,1.1s	19.45	138	*e*P		Pn	07 38 46.6	+0.4
TPNV	Topopah Spring baz=329,SNR=22	19.45	138	P		Pn	07 38 46.8	+0.5
DAC	Darwin (Calif) 8.6nm,1.1s	19.50	142	*e*P		Pn	07 38 47.6	+0.6
FURC	Furnace Creek, baz=331	19.62	140	P		Pn	07 38 47.9	-0.2
ISA	Isabella, Lake 7.8nm,1.1s	19.73	144	*e*P		Pn	07 38 51.0	+1.5
ISA	Isabella, Lake baz=334,SNR=7.1	19.73	144	P		Pn	07 38 49.5	-0.1
MPMC	Manual Prospec baz=332,SNR=15	19.73	142	P		Pn	07 38 49.5	-0.3
TCRU	Three Creeks R 12nm,1.0s	19.78	128	*e*P		Pn	07 38 50.8	+0.5
AKUT	Akutan 156nm,1.1s	19.80	287	*e*P		P	07 38 47.4	-1.2
TMUT	Trail Mountain 8.1nm,1.0s	19.86	124	*e*P		P	07 38 50.5	+0.7
P17A	Butcher Ranch, 13nm,1.0s	19.96	123	*e*P		Pn	07 38 52.5	+0.1
PKM	Mcpherson Peak baz=337	19.98	148	P		Pn	07 38 53.9	+1.3
MSU	Marysvale	19.98	127	*e*P		Pn	07 38 53.2	+0.5
K22A	Casper 21nm,1.0s	20.06	110	*e*P		Pn	07 38 53.0	-0.5
K22A	Casper baz=309,SNR=7.9	20.06	110	P		P	07 38 52.2	+0.5
ARVC	Arvin baz=335	20.09	146	P		Pn	07 38 54.6	+0.9
P18A	Preston Nutter 11nm,1.0s	20.10	122	*e*P		Pn	07 38 54.5	+0.3
LRMC	Laurel Mtn Rad baz=333,SNR=9.7	20.18	143	P		Pn	07 38 54.5	-0.5
CCUT	Cedar City 19nm,1.1s	20.20	131	*e*P		Pn	07 38 55.0	-0.3
UNV	Unalaska Valle 44nm,1.1s	20.27	287	*e*P		P	07 38 52.5	-1.3
SHPR	Sheep Range 12nm,1.2s	20.28	136	*e*P		Pn	07 38 55.5	-0.6
SZCU	Shurtz Canyon 20nm,1.1s	20.29	131	*e*P		Pn	07 38 55.7	-0.6
RWWY	Rawlins 20nm,1.1s	20.29	113	*e*P		Pn	07 38 57.4	+1.0
SHOC	Shoshone, Teco baz=331,SNR=8.3	20.34	139	P		Pn	07 38 56.2	-0.6
SRU	San Rafael Swe 22nm,1.1s	20.34	123	*e*P		Pn	07 38 57.3	+0.3
MTPU	Mount Pierson 4.4nm,1.1s	20.35	128	*e*P		Pn	07 38 57.5	+0.2
RSSD	Black Hills 13nm,0.8s	20.63	103	*e*P		Pn	07 39 00.1	-0.1
RSSD	Black Hills baz=305	20.63	103	P		P	07 38 58.9	+0.9
GSC	Goldstone, Bar 21nm,1.1s	20.66	141	*e*P		Pn	07 39 00.3	-0.3
GSC	Goldstone, Bar baz=332,SNR=11	20.66	141	P		Pn	07 38 59.7	-0.9
LCMT	Little Creek M 15nm,1.0s	20.69	132	*e*P		Pn	07 39 00.2	-0.8
PKCU	Pink Cliffs 34nm,1.1s	20.77	129	*e*P		Pn	07 39 02.0	-0.1
O20A	White River Ci 21nm,0.8s	20.79	118	*e*P		Pn	07 39 02.3	+0.1
O20A	White River Ci baz=316,SNR=13	20.79	118	P		P	07 39 00.3	+0.6
KNB	Kanab 6.3nm,1.1s	20.88	131	*e*P		Pn	07 39 02.5	-0.8
MWC	Mount Wilson 26nm,1.1s	21.17	145	*e*P		P	07 39 05.4	+1.5
HEC	Hector,Ludlow baz=332,SNR=11	21.26	141	P		P	07 39 05.9	+1.2
BFSC	Mount Baldy Ra baz=335	21.30	144	P		P	07 39 07.5	+2.3
MDND	Maddock 54nm,1.0s	21.44	90	*e*P		P	07 39 07.9	+1.4
MDND	Maddock baz=296,SNR=7.3	21.44	90	P		P	07 39 07.1	+0.6
PV09	Paradox Valley	21.52	122	*e*P		P	07 39 08.8	+1.1
LDFC	Landfair 29nm,1.1s	21.52	138	*e*P		P	07 39 08.8	+1.1
N23A	Red Feather La 22nm,1.0s	21.53	113	*e*P		P	07 39 09.2	+1.4
N23A	Red Feather La baz=312,SNR=5.4	21.53	113	P		P	07 39 08.3	+0.4
BBRC	Big Bear Solar baz=334,SNR=5.4	21.54	143	P		P	07 39 09.2	+1.3
PV21	Cone Mtn., Par 9.3nm,1.0s	21.55	122	*e*P		P	07 39 10.5	+2.5
GMRC	Granite Mounta baz=332,SNR=9.3	21.56	140	P		P	07 39 09.2	+1.2
U15A	North Rim 24nm,1.1s	21.61	131	*e*P		P	07 39 10.3	+1.6
PV23	Carpenter Ridg 19nm,1.1s	21.62	122	*e*P		P	07 39 11.0	+2.3
PV10	Paradox Valley	21.66	122	*e*P		P	07 39 11.0	+1.8
PV14	Lion Creek, Pa 19nm,1.0s	21.67	122	*e*P		P	07 39 10.7	+1.4
PV22	Blue Mesa, Par 14nm,1.1s	21.67	121	*e*P		P	07 39 10.6	+1.4
PV20	West Nyswonger 20nm,1.2s	21.72	122	*e*P		P	07 39 11.4	+1.6
PV19	Morning Glory 20nm,1.1s	21.74	122	*e*P		P	07 39 11.3	+1.3
PV16	Nyswonger Mesa 8.1nm,1.0s	21.77	122	*e*P		P	07 39 11.0	+0.7
PV17	East Wray Mesa 24nm,1.1s	21.77	122	*e*P		P	07 39 12.0	+1.6
PV11	David Mesa, Pa 14nm,1.0s	21.80	122	*e*P		P	07 39 12.1	+1.4
PV18	Skein Mesa, Pa 13nm,1.0s	21.82	122	*e*P		P	07 39 12.5	+1.5
PV12	Saucer Basin, 15nm,1.0s	21.83	122	*e*P		P	07 39 12.2	+1.3
PV03	Paradox Valley	21.85	122	*e*P		P	07 39 12.7	+1.5
PV05	Paradox Valley	21.85	123	*e*P		P	07 39 12.8	+1.5
PV13	Radium Mtn., P 13nm,1.0s	21.94	122	*e*P		P	07 39 12.9	+0.7
PV02	Paradox Valley 7.7nm,1.0s	21.94	122	*e*P		P	07 39 13.3	+1.1
W13A	Hualapai Mount 11nm,1.1s	22.01	136	*e*P		P	07 39 13.9	+0.9
PV01	Paradox Valley	22.08	122	*e*P		P	07 39 14.7	+1.0
BELC	Belle Mtn. Jos baz=333	22.12	141	P		P	07 39 15.6	+1.6
SMCO	Snowmass 14nm,0.9s	22.16	118	*e*P		P	07 39 15.4	+0.7
PFO	Pinyon Flats O baz=334	22.29	143	P		P	07 39 17.5	+1.6
IRM	Iron Mountain baz=332,SNR=12	22.31	139	P		P	07 39 17.1	+1.1
FRD	Ford Ranch, An baz=334	22.35	143	P		P	07 39 16.8	+0.4
ISCO	Idaho Springs baz=314	22.46	114	P		P	07 39 18.8	+0.9
PDMCI	Parker Dam,Lak baz=330	22.59	137	P		P	07 39 20.2	+1.3
BC3	Big Chuckawall baz=333	22.64	141	P		P	07 39 20.6	+1.1
ULM	Lac du Bonnet 6.5nm,0.8s,baz=283,slow=12,SNR=5.5	22.76	81	P		P	07 39 19.9	-0.8
ULM					LR	LR	07 47 51.5	
	comp=Z,426nm,21.1s,baz=294,slow=36							
ULM	Lac du Bonnet 17nm,1.0s	22.76	81	*e*P		P	07 39 21.4	+0.8
WUAZ	Wupatki 14nm,1.1s	22.78	131	*e*P		P	07 39 22.2	+1.2
WUAZ	Wupatki baz=326,SNR=8.7	22.78	131	P		P	07 39 22.8	+1.8
MVCO	Mesa Verde 9.9nm,1.1s	22.82	123	*e*P		P	07 39 22.6	+1.0
MVCO	Mesa Verde baz=321,SNR=7.0	22.82	123	P		P	07 39 23.0	+1.3
Y12C	Blythe 12nm,1.0s	22.92	139	*e*P		P	07 39 24.1	+1.7
Y12C	Blythe baz=331,SNR=5.9	22.92	139	P		P	07 39 23.4	+1.0
MONP2	Monument Peak baz=334	22.95	143	P		P	07 39 24.5	+1.6
BAR	Barrett 5.9nm,1.1s	23.05	144	*e*P		P	07 39 25.3	+1.5
SWSC	Sam W. Stewart baz=334	23.14	142	P		P	07 39 25.2	+0.6
S22A	4UR Ranch, Cre 7.7nm,1.1s	23.28	120	*e*P		P	07 39 27.4	+1.0
S22A	4UR Ranch, Cre baz=318,SNR=8.2	23.28	120	P		P	07 39 27.3	+0.8
IKP	In-Ko-Pah, Jac baz=334	23.29	143	P		P	07 39 28.0	+1.8
Q24A	Divide 4.4nm,1.0s	23.30	115	*e*P		P	07 39 27.6	+0.9
GLA	Glamis 20nm,1.1s	23.41	140	*e*P		P	07 39 28.4	+0.9
GLA	Glamis baz=332	23.41	140	P		P	07 39 27.7	+0.3
SUSD	Miller baz=303	23.49	97	P		P	07 39 28.6	+0.5
AGMN	Agassiz Nation 10.0nm,1.1s	23.52	86	*e*P		P	07 39 29.6	+1.2
AGMN	Agassiz Nation baz=295	23.52	86	P		P	07 39 28.7	+0.3
X16A	Lo Mia Camp, P 3.0nm,0.9s	23.66	132	*e*P		P	07 39 31.1	+1.0
OGNE	Ogallala 10nm,0.9s	23.73	108	*e*P		P	07 39 32.2	+1.6
OGNE	Ogallala baz=310,SNR=6.7	23.73	108	P		P	07 39 31.5	+0.9
W18A	Petrified Fore 9.7nm,1.1s	23.87	128	*e*P		P	07 39 34.2	+2.1
W18A	Petrified Fore baz=325	23.87	128	P		P	07 39 33.3	+1.1
SDCO	Great Sand Dun 4.7nm,0.9s	23.99	118	*e*P		P	07 39 34.7	+1.4
SDCO	Great Sand Dun baz=318,SNR=7.5	23.99	118	P		P	07 39 34.1	+0.8
X18A	Snowflake 15nm,1.1s	24.25	130	*e*P		P	07 39 37.7	+2.0
KSCO	Kaye Shedlock' 19nm,0.9s	24.68	112	*e*P		P	07 39 41.5	+2.0
KSCO	Kaye Shedlock' baz=314	24.68	112	P		P	07 39 40.1	+0.6
T25A	Trinidad baz=318	25.02	117	P		P	07 39 44.1	+1.4
214A	Organ Pipe Nat baz=331	25.18	138	P		P	07 39 45.2	+1.3
ECSD	EROS Data Cent 24nm,1.0s	25.29	96	*e*P		P	07 39 45.8	+1.0
ECSD	EROS Data Cent baz=304,SNR=13	25.29	96	P		P	07 39 45.3	+0.5
ANMO	Albuquerque 0.8nm,0.6s,baz=353,slow=16,SNR=3.6	25.62	124	P		P	07 39 46.5	-1.6
ANMO					LR	LR	07 49 09.7	
	comp=Z,90nm,20.9s,baz=328,slow=35							
ANMO	Albuquerque 2.1nm,0.9s	25.62	124	*e*P		P	07 39 50.4	+2.4
ANMO	Albuquerque baz=322	25.62	124	P		P	07 39 48.7	+0.7
LAZ	Ladron	25.71	125	*e*P		P	07 39 51.6	+2.7
TUC	Tucson 7.5nm,1.0s	25.73	134	*e*P		P	07 39 51.4	+2.5
TUC	Tucson baz=329	25.73	134	P		P	07 39 50.7	+1.7
EYMN	Ely 19nm,1.1s	26.32	84	*e*P		P	07 39 55.1	+1.0
RES	Resolute Bay 3.4nm,1.0s,baz=249,slow=15,SNR=2.8	26.70	21	P		P	07 39 55.9	-1.4
RES					LR	LR	07 51 07.7	
	comp=Z,507nm,20.7s,baz=236,slow=38							
SPMN	Marine on St. 11nm,1.1s	26.81	90	*e*P		P	07 40 00.8	+2.2
121A	Cookes Peak, D baz=326	26.91	129	P		P	07 40 00.7	+0.9
F38A	Pierce - Schro baz=300	27.01	88	P		P	07 40 01.1	+0.8
I39A	Houston 10.0nm,0.8s	28.31	92	*e*P		P	07 40 13.0	+1.0
I39A	Houston baz=303	28.31	92	P		P	07 40 12.9	+0.8
J39A	Decorah baz=304	28.48	93	P		P	07 40 13.8	+0.2
MNTX	Cornudas Mount baz=325	28.76	126	P		P	07 40 17.1	+1.0
M39A	Webster baz=307	29.27	96	P		P	07 40 20.9	+0.4
N39A	Derby Farms, D baz=308	29.43	98	P		P	07 40 21.1	-0.9
WMOK	Wichita Mounta 7.1nm,1.1s	29.88	114	*e*P		P	07 40 26.8	+0.8
WMOK	Wichita Mounta baz=318	29.88	114	P		P	07 40 26.6	+0.5
I43A	Langenfeld Bro baz=303	30.35	89	P		P	07 40 30.2	+0.1
O41A	Passleys Farm, baz=308	30.87	97	P		P	07 40 34.8	+0.1
P41A	Barry, Barry baz=309	31.04	98	P		P	07 40 35.7	-0.5
Q41A	Truxton baz=310	31.39	99	P		P	07 40 39.4	+0.1
TX31	Lajitas Ar. Si	31.54	126	*e*P		P	07 40 41.5	+0.7
LTX	Lajitas	31.54	126	*e*P		P	07 40 41.0	+0.2
TXAR	Lajitas Array 1.8nm,0.8s,baz=328,slow=7.3,SNR=15	31.54	126	P		P	07 40 40.9	+0.2
TXAR					LR	LR	07 53 14.9	
	comp=Z,129nm,18.2s,baz=0.0,slow=36							
HDIL	Hopedale baz=308	31.56	95	P		P	07 40 40.6	-0.2
R41A	Rosebud baz=311,SNR=6.6	31.72	100	P		P	07 40 42.4	+0.2
M44A	Midewin, Midew baz=306	31.82	93	P		P	07 40 41.6	-1.5
CCM	Cathedral Cave 9.5nm,1.0s	31.96	101	*e*P		P	07 40 45.1	+0.8
CCM	Cathedral Cave baz=311	31.96	101	P		P	07 40 43.8	-0.5
S41A	Jillco Farms, baz=312	31.97	102	P		P	07 40 44.2	-0.2
P43A	Skaggs, Pawnee baz=309	31.99	97	P		P	07 40 44.0	-0.5
R42A	Luebbering baz=311	32.09	100	P		P	07 40 45.2	-0.2
U40A	Yellville baz=313,SNR=5.8	32.14	105	P		P	07 40 45.6	-0.3
Q43A	New Douglas baz=310	32.32	98	P		P	07 40 47.2	-0.3
W39A	Magazine baz=315	32.40	107	P		P	07 40 49.7	+1.5
S42A	Caledonia baz=311	32.42	101	P		P	07 40 47.7	-0.7
JCT	Junction City baz=323	32.58	120	P		P	07 40 51.1	+1.2
O45A	Potomac baz=308	32.70	94	P		P	07 40 50.7	-0.1
T42A	Van Buren baz=312	32.73	102	P		P	07 40 50.6	-0.4
V41A	Mountainview baz=314,SNR=11	32.94	105	P		P	07 40 52.1	-0.8
S43A	Fulton Ridge, baz=311	32.98	100	P		P	07 40 52.0	-1.2
MIAR	Mount Ida baz=316	32.98	108	P		P	07 40 53.6	+0.3
U42A	Revenden baz=313	33.10	103	P		P	07 40 53.7	-0.6
P45A	Graceland, Par baz=309	33.13	95	P		P	07 40 54.2	-0.4
LPIG	La Paz comp=Z,122nm,18.6s,baz=335,slow=34	33.16	141	LR	LR	LR	07 53 08.5	
T43A	Greenville baz=312,SNR=5.3	33.17	101	P		P	07 40 54.0	-0.9
Q45A	Warren Harvey, baz=310	33.28	97	P		P	07 40 54.6	-1.3
V42A	Cord baz=314	33.38	104	P		P	07 40 55.5	-1.2
S44A	Carbondale baz=311	33.39	99	P		P	07 40 55.0	-1.8
SIUC	Southern Illin 6.3nm,0.6s	33.40	99	*e*P		P	07 40 57.6	+0.7
R45A	Skylar, Fairfi baz=310	33.59	98	P		P	07 40 57.0	-1.6
BLO	Bloomington 12nm,0.9s	34.09	95	*e*P		P	07 41 04.1	+1.1
Q47A	Bedord North L baz=309	34.30	95	P		P	07 41 04.6	-0.1
T46A	Princeton baz=312	34.63	99	P		P	07 41 07.0	-0.6
R47A	Wooly Knot Far baz=310	34.65	96	P		P	07 41 07.3	-0.4
T47A	Sharon Grove baz=312	35.14	98	P		P	07 41 11.7	-0.3
SADO	Sadowa comp=Z,1µm,19.9s,baz=316,slow=37	35.33	81	LR	LR	LR	07 56 12.8	
V46A	Holladay baz=313	35.33	101	P		P	07 41 12.5	-1.1
S48A	Wiedeman Farm, baz=311,SNR=7.3	35.34	96	P		P	07 41 13.5	-0.2
U47A	Clarksville baz=312	35.40	99	P		P	07 41 14.2	0.0
OXF	Oxford 24nm,1.1s	35.45	104	*e*P		P	07 41 14.6	0.0
OXF	Oxford baz=314	35.45	104	P		P	07 41 13.9	-0.8
R49A	Shelbyville baz=310	35.47	95	P		P	07 41 14.3	-0.5
P50A	Jamestown baz=308	35.48	92	P		P	07 41 14.1	-0.8
T48A	Bowling Green baz=311	35.49	97	P		P	07 41 14.6	-0.4
E54A	Lac Daplat, Po baz=301	35.62	77	P		P	07 41 16.3	+0.3
PLAL	Pickwick Lake 5.5nm,0.8s	35.91	102	*e*P		P	07 41 18.4	-0.3

R50A	**Paris**	**35.99**	**94**	P		**P**	**07 41 19.1**	**-0.2**
	baz=310							
342A	**Flagon Creek P**	**36.01**	**110**	P		**P**	**07 41 21.7**	**+2.2**
	baz=318							
T49A	**Edmonton**	**36.02**	**97**	*eP*		**P**	**07 41 21.1**	**+1.5**
	3.1nm,0.9s							
T49A	**Edmonton**	**36.02**	**97**	P		**P**	**07 41 19.7**	**+0.2**
	baz=311							
U49A	**Red Boiling Sp**	**36.26**	**98**	P		**P**	**07 41 21.4**	**-0.2**
	baz=312							
244A	**Avery, Jackson**	**36.46**	**108**	P		**P**	**07 41 23.6**	**+0.3**
	baz=317							
T50A	**Nancy**	**36.49**	**96**	P		**P**	**07 41 23.1**	**-0.4**
	baz=311							
V49A	**McMinnville**	**36.68**	**99**	P		**P**	**07 41 23.9**	**-1.3**
	baz=313							
S51A	**Beattyville**	**36.84**	**94**	P		**P**	**07 41 26.7**	**+0.1**
	baz=310							
U50A	**Jamestown**	**36.89**	**97**	P		**P**	**07 41 26.2**	**-0.8**
	baz=312							
X48A	**Hartselle**	**36.89**	**101**	*eP*		**P**	**07 41 27.3**	**+0.3**
	4.6nm,0.9s							
X48A	**Hartselle**	**36.89**	**101**	P		**P**	**07 41 25.5**	**-1.5**
	baz=314							
W49A	**Belvidere**	**36.90**	**100**	P		**P**	**07 41 25.8**	**-1.3**
	baz=313							
N54A	**Moraine State**	**36.97**	**87**	*eP*		**P**	**07 41 27.9**	**+0.2**
	12nm,0.8s							
T51A	**Gray**	**37.07**	**95**	P		**P**	**07 41 28.0**	**-0.5**
	baz=311							
543A	**St. Martinvill**	**37.24**	**111**	*eP*		**P**	**07 41 32.2**	**+2.2**
	135nm,0.6s							
543A	**St. Martinvill**	**37.24**	**111**	P		**P**	**07 41 29.8**	**-0.2**
	baz=319							
Z48A	**Northport**	**37.34**	**103**	P		**P**	**07 41 29.7**	**-1.1**
	baz=315							
U51A	**La Follette**	**37.41**	**96**	P		**P**	**07 41 30.3**	**-1.1**
	baz=312							
W50A	**Signal Mountai**	**37.42**	**99**	*eP*		**P**	**07 41 31.8**	**+0.2**
	11nm,1.1s							
T52A	**Hallie**	**37.56**	**94**	P		**P**	**07 41 31.5**	**-1.2**
	baz=311							
SCHQ	**Schefferville**	**37.57**	**60**	LR		LR	07 57 33.2	
	comp=Z,992nm,19.4s,baz=296,slow=37							
V51A	**Loudon**	**37.59**	**97**	*eP*		**P**	**07 41 33.4**	**+0.5**
	7.6nm,0.8s							
V51A	**Loudon**	**37.59**	**97**	P		**P**	**07 41 30.3**	**-2.6**
	baz=312							
Y49A	**Blount Mountai**	**37.68**	**101**	P		**P**	**07 41 32.8**	**-0.9**
	baz=314							
X50B	**Fort Payne**	**37.72**	**100**	P		**P**	**07 41 33.1**	**-1.0**
	baz=314							
CPCT	**Cooper Cave**	**37.72**	**98**	*eP*		**P**	**07 41 34.0**	**-0.1**
	9.2nm,1.1s							
W51A	**Cleveland**	**37.78**	**98**	P		**P**	**07 41 34.1**	**-0.4**
	baz=313							
V52A	**Sevierville**	**38.02**	**96**	*eP*		**P**	**07 41 37.0**	**+0.4**
	8.3nm,0.8s							
V52A	**Sevierville**	**38.02**	**96**	P		**P**	**07 41 36.5**	**-0.1**
	baz=312							
X51A	**Calhoun**	**38.12**	**99**	*eP*		**P**	**07 41 38.1**	**+0.7**
	14nm,0.6s							
X51A	**Calhoun**	**38.12**	**99**	P		**P**	**07 41 37.1**	**-0.4**
	baz=314							
LONY	**Lake Ozonia**	**38.13**	**78**	*eP*		**P**	**07 41 37.9**	**+0.4**
	16nm,1.0s							
LONY	**Lake Ozonia**	**38.13**	**78**	P		**P**	**07 41 36.8**	**-0.7**
	baz=304							
W52A	**Murphy**	**38.32**	**98**	*eP*		**P**	**07 41 39.5**	**+0.3**
	15nm,0.8s							
W52A	**Murphy**	**38.32**	**98**	P		**P**	**07 41 39.0**	**-0.2**
	baz=313,SNR=5.7							
Z50A	**Ashland**	**38.39**	**102**	*eP*		**P**	**07 41 40.0**	**+0.2**
	7.8nm,0.9s							
Z50A	**Ashland**	**38.39**	**102**	P		**P**	**07 41 39.2**	**-0.5**
	baz=315							
SSPA	**Standing Stone**	**38.45**	**86**	*eP*		**P**	**07 41 39.9**	**-0.2**
	3.6nm,1.0s							
249A	**Camden**	**38.59**	**104**	P		**P**	**07 41 40.6**	**-0.8**
	baz=316							
FRNY	**Flat Rock**	**38.61**	**77**	*eP*		**P**	**07 41 42.2**	**+0.8**
	16nm,1.0s							
V53A	**Saluda**	**38.61**	**96**	*eP*		**P**	**07 41 42.6**	**+1.0**
	7.8nm,0.8s							
V53A	**Saluda**	**38.61**	**96**	P		**P**	**07 41 41.4**	**-0.2**
	baz=312							
BINY	**Binghamton**	**38.67**	**83**	*eP*		**P**	**07 41 42.5**	**+0.6**
	12nm,1.0s							
BINY	**Binghamton**	**38.67**	**83**	P		**P**	**07 41 40.6**	**-1.4**
	baz=306							
X52A	**Dahlonega**	**38.68**	**98**	P		**P**	**07 41 40.4**	**-1.7**
	baz=313							
NCB	**Newcomb**	**38.71**	**79**	*eP*		**P**	**07 41 43.2**	**+0.9**
	12nm,1.1s							
W53A	**Cullowhee**	**38.73**	**97**	P		**P**	**07 41 43.1**	**+0.4**
	baz=313							
SEY	**Seymchan**	**39.00**	**315**	P		**P**	**07 41 43.4**	**-1.1**
	3.6nm,0.8s,baz=99,slow=19,SNR=4.2							
BLA	**Blacksburg**	**39.05**	**92**	*eP*		**P**	**07 41 45.8**	**+0.5**
	14nm,0.8s							
BLA	**Blacksburg**	**39.05**	**92**	P		**P**	**07 41 45.2**	**0.0**
	baz=311							
250A	**Grady**	**39.09**	**103**	P		**P**	**07 41 45.4**	**-0.2**
	baz=316							
X53A	**Estanollee**	**39.10**	**98**	P		**P**	**07 41 45.0**	**-0.7**
	baz=313							
Z52A	**Williamson**	**39.34**	**100**	P		**P**	**07 41 48.0**	**+0.3**
	baz=315							
Y53A	**Monroe**	**39.38**	**99**	P		**P**	**07 41 48.5**	**+0.6**
	baz=314							
N59A	**State Game Lan**	**39.56**	**84**	P		**P**	**07 41 48.9**	**-0.6**
	baz=307							
GOGA	**Godfrey**	**39.75**	**99**	*eP*		**P**	**07 41 51.5**	**+0.4**
	4.3nm,0.9s							
GOGA	**Godfrey**	**39.75**	**99**	P		**P**	**07 41 50.8**	**-0.3**
	baz=314							
MVL	**Millersville**	**39.76**	**86**	*eP*		**P**	**07 41 51.3**	**+0.2**
	11nm,1.2s							
Z53A	**Monticello**	**39.78**	**99**	P		**P**	**07 41 51.3**	**0.0**
	baz=314							
Y54A	**Tignall**	**39.91**	**98**	P		**P**	**07 41 52.0**	**-0.4**
	baz=314							
252A	**Lumpkin**	**39.99**	**102**	P		**P**	**07 41 53.0**	**-0.1**
	baz=316							
R58B	**Mineral**	**40.11**	**89**	P		**P**	**07 41 54.2**	**+0.2**
	baz=310							
Z54A	**Sparta**	**40.25**	**99**	P		**P**	**07 41 55.1**	**-0.2**
	baz=314							
PEA1	**Petropavlovsk-**	**40.56**	**300**	*eP*		**P**	**07 41 57.2**	**-0.4**
PETK	**Petropavlovsk-**	**40.56**	**300**	P		**P**	**07 41 57.2**	**-0.4**
	2.6nm,0.8s,baz=98,slow=9.7,SNR=3.7							
PETK					LR	LR	07 57 07.1	
	comp=Z,109nm,19.8s,baz=72,slow=34							
NRIK	**Noril'sk**	**54.78**	**344**	P		**P**	**07 43 45.8**	**-1.8**
	3.2nm,0.6s,baz=44,slow=4.7,SNR=6.7							
H11N2	**WAKE ISLAND Hy**	**56.82**	**259**	T		T	08 45 51.4	
	baz=39,slow=76,SNR=313							
H11N3	**WAKE ISLAND Hy**	**56.82**	**259**	T		T	08 45 49.1	
	baz=39,slow=76,SNR=272							
H11N1	**WAKE ISLAND Hy**	**56.83**	**259**	T		T	08 45 52.9	
	baz=39,slow=76,SNR=217							
SDDR	**Presa de Saban**	**57.72**	**101**	*eP*		**P**	**07 44 10.0**	**+0.7**
	16nm,1.0s							
H11S1	**WAKE ISLAND Hy**	**57.88**	**258**	T		T	08 47 10.8	
	baz=34,slow=75,SNR=11							
H11S2	**WAKE ISLAND Hy**	**57.89**	**258**	T		T	08 47 20.3	
	baz=34,slow=75,SNR=6.1							
H11S3	**WAKE ISLAND Hy**	**57.90**	**258**	T		T	08 47 14.1	
	baz=34,slow=75,SNR=10							
USRK	**Ussuriysk Ar.**	**59.39**	**304**	LR		LR	08 11 09.3	
	comp=Z,90nm,18.7s,baz=31,slow=37							
MJAR	**Matsushiro Arr**	**61.55**	**294**	LR		LR	08 07 56.3	
	comp=Z,45nm,21.6s,baz=0.0,slow=33							
NC303	**NORSAR Array S**	**62.80**	**19**	*eP*		**P**	**07 44 43.9**	**+0.3**
NB2	**NORSAR Subarra**	**62.94**	**19**	P		**P**	**07 44 44.7**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=338,slow=6.5							
NB200	**NORSAR Array S**	**62.94**	**19**	*eP*		**P**	**07 44 44.6**	**+0.1**
NOA	**NORSAR Array B**	**62.94**	**19**	P		**P**	**07 44 44.6**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=338,slow=6.7,SNR=8.1							
NOA					LR	LR	08 11 59.1	
	comp=Z,196nm,20.0s,baz=335,slow=36							
NC405	**NORSAR Array S**	**62.97**	**19**	*eP*		**P**	**07 44 45.1**	**+0.4**
MOTC	**Monteria, Cord**	**63.29**	**112**	*eP*		**P**	**07 44 46.0**	**-1.4**
FIA1	**FINESS Array S**	**64.91**	**11**	*eP*		**P**	**07 44 56.9**	**-0.4**
FIA0	**FINESS Array S**	**64.91**	**11**	*eP*		**P**	**07 44 56.4**	**-1.0**
FINES	**FINESS Array B**	**64.91**	**11**	P		**P**	**07 44 56.4**	**-1.0**
	comp=Z,2.5nm,0.8s,baz=353,slow=6.1,SNR=3.9							
FINES					LR	LR	08 13 21.6	
	comp=Z,93nm,21.6s,baz=0.5,slow=36							
BRRC	**Barranca, Sant**	**65.75**	**111**	*eP*		**P**	**07 45 02.8**	**-0.7**
KSRS	**Korea Array**	**66.43**	**301**	LR		LR	08 14 29.0	
	comp=Z,23nm,18.1s,baz=55,slow=36							
BARC	**Barichara**	**66.47**	**111**	*eP*		**P**	**07 45 07.8**	**-0.7**
YOTC	**Yotoco, Valle**	**66.86**	**116**	*eP*		**P**	**07 45 10.3**	**-0.4**
RUSC	**La Rusia**	**67.10**	**112**	*eP*		**P**	**07 45 13.5**	**+0.8**
SOTA	**Rioblanco**	**68.25**	**117**	*eP*		**P**	**07 45 19.2**	**-0.8**
OTAV	**Otavalo**	**68.86**	**120**	*eP*		**P**	**07 45 24.0**	**+0.3**
	comp=Z,2.6nm,1.0s							
FLOC	**Florencia**	**69.23**	**117**	*eP*		**P**	**07 45 22.4**	**-3.2**
ZALV	**Zalesovo Beam**	**69.26**	**337**	LR		LR	08 19 50.8	
	comp=Z,43nm,18.6s,baz=30,slow=39							
PPT	**Papeete**	**71.55**	**197**	LR		LR	08 09 26.5	
	comp=Z,212nm,19.2s,baz=211,slow=30							
HHC	**Hu-ho-hao-te**	**71.63**	**314**	*eP*		**P**	**07 45 40.9**	**+0.9**
HHC				pmax		pmax		
	comp=Z,21nm,1.1s							
GERES	**GERESS Array B**	**74.80**	**22**	P		**P**	**07 45 58.8**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=333,slow=5.0,SNR=13							
GERES				LR		LR	08 19 09.8	
	comp=Z,93nm,18.2s,baz=344,slow=36							
GEA0	**GERESS Array S**	**74.81**	**22**	*eP*		**P**	**07 45 58.8**	**+0.2**
AKASG	**Malin Array Be**	**75.80**	**12**	P		**P**	**07 46 02.9**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=347,slow=5.3,SNR=3.5							
AKASG				LR		LR	08 21 41.2	
	comp=Z,89nm,18.3s,baz=315,slow=38							
AKBB	**Malin Array Si**	**75.80**	**12**	*eP*		**P**	**07 46 02.9**	**-1.2**
MK32	**Makanchi Array**	**76.50**	**336**	*eP*		**P**	**07 46 06.5**	**-1.8**
MKAR	**Makanchi Array**	**76.50**	**336**	P		**P**	**07 46 06.5**	**-1.8**
	comp=Z,0.8nm,0.7s,baz=30,slow=5.6,SNR=6.2							
MKAR				LR		LR	08 25 10.3	
	comp=Z,40nm,19.2s,baz=18,slow=40							
MK01	**Makanchi Array**	**76.52**	**336**	*eP*		**P**	**07 46 06.9**	**-1.5**
RAR	**Rarotonga**	**77.36**	**206**	LR		LR	08 13 00.5	
	comp=Z,147nm,18.3s,baz=328,slow=30							
ESDC	**Sonseca Array**	**77.73**	**38**	P		**P**	**07 46 14.9**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=324,slow=5.1,SNR=9.0							
ESDC				LR		LR	08 20 01.9	
	comp=Z,103nm,18.3s,baz=210,slow=35							
ESLA	**Sonseca Array**	**77.73**	**38**	*eP*		**P**	**07 46 16.4**	**+1.0**
	comp=Z,3.9nm,1.0s							
ES19	**SONSECA Array**	**77.73**	**38**	*eP*		**P**	**07 46 15.6**	**+0.2**
WMQ	**Urumqi**	**77.81**	**331**	*eP*		**P**	**07 46 16.8**	**+1.1**
LZH	**Lanzhou**	**78.92**	**317**	*eP*		**P**	**07 46 22.8**	**+0.7**
LZH				pP		sP	07 46 26.0	0.0
LZH				sP		pP	07 46 27.5	+2.6
LZH				*e*PP		**PP**	**07 49 22.3**	**+2.2**
LZH				pmax		pmax		
	comp=Z,16nm,1.3s							
LZH				pmax		pmax		
	comp=Z,41nm,7.8s							
KBZ	**Khabaz**	**83.84**	**3**	LR		LR	08 29 08.2	
	comp=Z,42nm,19.4s,baz=339,slow=39							
KSH	**Kashi**	**84.88**	**338**	*eP*		**P**	**07 46 54.8**	**+1.4**
BR101	**Keskin Array S**	**87.14**	**11**	*eP*		**P**	**07 47 03.7**	**-0.8**
BRTR	**Keskin Array B**	**87.14**	**11**	P		**P**	**07 47 03.7**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=321,slow=3.7,SNR=2.8							
BRTR				LR		LR	08 29 35.3	
	comp=Z,48nm,19.5s,baz=323,slow=38							
LPAZ	**La Paz**	**88.18**	**120**	LR		LR	08 30 06.6	
	comp=Z,72nm,18.2s,baz=89,slow=38							
DZM	**Mont Dzumac**	**91.36**	**234**	LR		LR	08 18 51.5	
	comp=Z,155nm,21.4s,baz=290,slow=29							
PMG	**Port Moresby**	**91.64**	**257**	LR		LR	08 21 08.7	
	comp=Z,162nm,21.1s,baz=336,slow=31							
SNAA	**Sanae**	**151.13**	**150**	*e*PKPdf		**PKPbc**	**07 54 09.2**	**-1.0**
SUR	**Sutherland**	**151.97**	**54**	*e*PKPbc		**PKPbc**	**07 54 13.1**	**-0.5**

*PGC **13** 07:40:05.7±3.5,52.46N×133.11W,h25km±9km, 124km Wsw of Sandspit, Bc Haida Gwaii Region*
*IDC **13** 07:40:10.3±1.6,52.64N×132.37W,h0km, mb3.8/3, mb1 4.0/5,mb1mx3.6/41,mbtmp3.7/5,ML3.1/3,Error ellipse: s-maj=22.8km s-min=7.2km az=64.0*

ISC 13 07:40:13.9±0.8,53.21N±0.08×131.84W±0.08,h10km,n10, σ1s71/11,mb4.0/3,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H02S1	**DAWSON INLET T**	**0.38**	**270**	Pg		**Pg**	**07 40 21.1**	**-0.3**
H02S1				Lg		Lg	07 40 29.7	
	SNR=423							
H02N1	**VAN INLET T-PH**	**0.42**	**277**	Pg		**Pg**	**07 40 21.6**	**-0.7**
H02N1				Lg		Lg	07 40 31.2	
	SNR=320							
BBB	**Bella Bella**	**2.49**	**113**	Pn		**Pn**	**07 40 53.5**	**-1.0**
	1.4nm,0.3s,baz=276,slow=18,SNR=4.7							
BBB				Sn		**Sn**	**07 41 25.8**	**+1.0**
	16nm,0.3s,baz=339,slow=23,SNR=7.2							
DLBC	**Dease Lake**	**5.34**	**10**	Pn		Pb	07 41 41.4	-6.0
	0.7nm,0.3s,baz=194,slow=19,SNR=4.6							
DLBC				Sn		**Sb**	**07 42 48.8**	**-2.7**
	0.4nm,0.3s,baz=137,slow=8.1,SNR=1.7							
DLBC				Lg		Lg	07 43 17.6	
	0.8nm,0.3s,baz=212,slow=26,SNR=3.3							
ILAR	**Eielson Array**	**13.90**	**332**	Pn		**Pn**	**07 43 31.1**	**+0.4**
	0.0nm,0.3s,baz=152,slow=13,SNR=5.0							
NVAR	**Mina Array Bea**	**17.49**	**142**	P		**Pn**	**07 44 16.1**	**-1.8**
	0.0nm,0.3s,baz=326,slow=11,SNR=2.9							
PDAR	**Pinedale Array**	**18.13**	**116**	P		**P**	**07 44 27.4**	**+1.1**
	0.1nm,0.3s,baz=298,slow=6.6,SNR=5.9							
TXAR	**Lajitas Array**	**31.53**	**128**	P		**P**	**07 46 35.1**	**-1.1**
	0.5nm,0.8s,baz=332,slow=6.5,SNR=4.2							
NOA	**NORSAR Array B**	**62.36**	**19**	P		**P**	**07 50 38.4**	**+2.2**
	1.5nm,0.9s,baz=339,slow=6.3,SNR=3.4							
GERES	**GERESS Array B**	**74.21**	**23**	P		**P**	**07 51 52.3**	**+1.6**
	1.2nm,0.8s,baz=354,slow=4.9,SNR=5.5							

MAN 13 07:52:08.7,10.94N×122.16E,h27km,mb4.6,ML3.5, MS3.4,2C,Panay

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAP	**San Jose, Anti**	**0.28**	**227**	*e*P		Pn	07 52 17.2	+0.2
GUIM	**Jordan**	**0.53**	**126**	*e*P		Pb	07 52 19.6	+0.1
GUIM				*e*S		Sn	07 52 30.2	+1.7
RCP	**Roxas**	**0.84**	**43**	*e*P		Pn	07 52 27.6	+2.8
RCP				*e*S		Sn	07 52 46.8	+10
CUYO	**Cuyo Island**	**1.12**	**265**	*e*P		Pn	07 52 27.9	-0.7
CUYO				*e*S		Sn	07 52 38.1	-5.1
OTRP	**Odiongan**	**1.42**	**355**	*e*P		Pb	07 52 34.5	-0.1
OTRP				*e*S		Sn	07 52 50.5	0.0

DJA 13 07:53:08.3±2.8,8°S±5.5×12.4E±°,h34km±36km,M3.8/6, mb4.1/1,MLv3.7/6,Flores region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MMRI	**Maumere**	**1.47**	**248**	P		Pn	07 53 32.2	-0.2
MMRI				S		Sn	07 53 51.5	+1.1
SOEI	**Soe**	**1.79**	**159**	P		Pn	07 53 38.2	+1.3
EDFI	**Ende, Flores**	**2.01**	**251**	P		Pn	07 53 40.0	0.0
BATI	**Baumata**	**2.11**	**179**	P		Pn	07 53 41.4	+0.1
BKSI	**Bulukumba**	**4.42**	**308**	P		Pn	07 54 13.2	+0.2
BNSI	**Bone**	**5.05**	**316**	P		Pn	07 54 22.0	+0.3

*NEIC **13** 08:18:11.8±1.1,18.96S×172.55W,h35km,mb4.6/9,Error ellipse: s-maj=23.4km s-min=16.8km az=112.0*
*IDC **13** 08:18:13.2±17.0,18.06S×173.71W,h0km,mb4.3/5, mb1 4.4/5,mb1mx3.9/34,mbtmp4.3/5,Error ellipse: s-maj=338.3km s-min=152.2km az=82.0*

ISC 13 08:18:12.5±1.7,18.1S±0.2×173.0W±0.2,h26km,n17, σ0s51/17,mb4.4/12,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FUNA	**Funafuti**	**12.13**	**320**	*e*Pn		**P**	**08 21 16.1**	**-0.1**
CTA	**Charters Tower**	**38.47**	**260**	P		**P**	**08 25 33.0**	**+0.4**
	3.1nm,0.4s,baz=91,slow=12,SNR=2.2							
CTAO	**Charters Tower**	**38.47**	**260**	*e*P		**P**	**08 25 33.2**	**+0.6**
	5.8nm,0.7s							
STKA	**Stephens Creek**	**43.07**	**242**	P		**P**	**08 26 10.7**	**+0.3**
	1.1nm,0.6s,baz=76,slow=8.3,SNR=4.0							
STKA	**Stephens Creek**	**43.07**	**242**	*e*P		**P**	**08 26 10.8**	**+0.4**
	0.4nm,0.8s							
BBOO	**Buckleboo**	**47.83**	**242**	*e*P		**P**	**08 26 48.2**	**+0.1**
	6.7nm,0.6s							
WB2	**Warramunga Arr**	**49.62**	**259**	*e*P		**P**	**08 27 01.9**	**-0.2**
	4.4nm,1.1s							
AS01	**Alice Springs**	**49.63**	**254**	*e*P		**P**	**08 27 01.4**	**-0.7**
WR1	**Warramunga Arr**	**49.63**	**259**	*e*P		**P**	**08 27 01.6**	**-0.6**
	4.1nm,1.1s							
WRA	**Warramunga Arr**	**49.63**	**259**	P		**P**	**08 27 01.6**	**-0.6**
	1.3nm,0.3s,baz=97,slow=7.6,SNR=69							
AS31	**Alice Springs**	**49.67**	**254**	*e*P		**P**	**08 27 02.0**	**-0.5**
	1.2nm,0.4s							
ASAR	**Alice Springs**	**49.67**	**254**	P		**P**	**08 27 01.9**	**-0.6**
	1.7nm,0.4s,baz=87,slow=8.3,SNR=37							
FORT	**Forrest**	**54.57**	**245**	*e*P		**P**	**08 27 37.9**	**-0.8**
	11nm,0.8s							
FITZ	**Fitzroy Crossi**	**58.04**	**260**	P		**P**	**08 28 04.0**	**+0.3**
	1.5nm,0.4s,baz=104,slow=3.9,SNR=8.5							
FITZ	**Fitzroy Crossi**	**58.04**	**260**	*e*P		**P**	**08 28 04.0**	**+0.3**
	2.9nm,0.7s							
MBWA	**Marble Bar**	**62.99**	**255**	*e*P		**P**	**08 28 37.2**	**-0.3**
	4.6nm,0.8s							
BOZ	**Bozeman (W)**	**84.25**	**38**	*e*P		**P**	**08 30 42.1**	**+0.1**
	12nm,1.0s							

IDC 13 08:24:31.2±1.7,16.88S×178.24W,h0km,mb3.9/6, mb1 4.2/6,mb1mx3.9/29,mbtmp3.9/6,Error ellipse: s-maj=112.9km s-min=23.1km az=149.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**6.89**	**65**	Sn		Sn	08 27 18.8	-14
	2.3nm,0.3s,baz=212,slow=4.9,SNR=5.1							
STKA	**Stephens Creek**	**39.27**	**240**	P		P	08 32 02.9	+1.0
	2.6nm,0.8s,baz=98,slow=12,SNR=5.8							
WRA	**Warramunga Arr**	**44.99**	**259**	P		P	08 32 48.0	-0.7
	0.7nm,0.7s,baz=95,slow=7.3,SNR=9.8							
ASAR	**Alice Springs**	**45.23**	**253**	P		P	08 32 50.1	-0.6
	6.6nm,0.7s,baz=89,slow=8.1,SNR=122							
ILAR	**Eielson Array**	**84.86**	**13**	P		P	08 37 07.8	+0.4
	0.4nm,0.8s,baz=227,slow=5.1,SNR=4.3							
TXAR	**Lajitas Array**	**85.31**	**58**	P		P	08 37 09.3	-1.3
	0.4nm,0.7s,baz=202,slow=3.2,SNR=5.2							

*IDC **13** 08:28:09.7±1.1,11.05N×84.83W,h0km,mb4.0/6, mb1 4.3/8,mb1mx4.0/31,mbtmp3.9/8,ML3.5/2,MS2.9/2, Ms1 2.9/2,ms1mx2.6/28,Error ellipse: s-maj=30.6km s-min=8.1km az=90.0*
*ISCJB **13** 08:28:10.4±0.8,10.08N±0.05×85.70W±0.03,h27km±4km, mb4.1/47,MS3.0/1,Error ellipse: s-maj=8.8km s-min=3.6km az=32.2*
*UCR **13** 08:28:10.5±2.0,10.05N×85.69W,h14km±5km,MD3.7, ML3.8,mb4.1(NEIC)*
*NEIC **13** 08:28:12.5±0.6,10.09N×85.53W,h35km,mb4.1/41,Error ellipse: s-maj=12.3km s-min=6.8km az=198.0*

ISC 13 08:28:11.5±1.0,10.16N±0.05×85.60W±0.04,h27km±7km, n111,σ1s30/122,mb4.2/47,1C,Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VCR	**Vista de Mar**	**0.04**	**227**	*e*P		**Pb**	**08 28 14.8**	**-1.5**
PLVR	**Palo Verde**	**0.31**	**52**	*e*P		**Pn**	**08 28 19.3**	**-1.2**
PLVR				*e*S		**Sn**	**08 28 25.9**	**-0.3**
NY14	**Universidad de**	**0.49**	**8**	*i* P		**Pn**	**08 28 22.5**	**-0.3**
LAPC	**Finca la Perla**	**0.63**	**15**	*i* P		**Pn**	**08 28 24.4**	**-0.4**
COLC	**Colonia**	**0.64**	**38**	*i* P		**Pn**	**08 28 24.8**	**-0.1**
GBS3	**Finca Las Im¨¡**	**0.64**	**13**	*i* P		**Pn**	**08 28 24.5**	**-0.3**
GPS3	**Bodega del ICE**	**0.64**	**21**	*i* P		**Pn**	**08 28 24.7**	**-0.1**
LIM1	**Limonal**	**0.64**	**32**	*i* P		**Pn**	**08 28 24.8**	**-0.1**
JTS	**JuntasAbangare**	**0.65**	**78**	Pg		**Pn**	**08 28 24.6**	**-0.4**
	625nm,0.3s,baz=15,slow=22,SNR=3000							
JTS				Lg		Lg	08 28 35.2	
	880nm,0.3s,baz=270,slow=20,SNR=50							
JTS	**JuntasAbangare**	**0.65**	**78**	*e*P		**Pn**	**08 28 24.6**	**-0.4**
JTS				*e*S		**Sn**	**08 28 36.0**	**+1.6**
CUI	**Cuipilapa**	**0.66**	**41**	*i* P		**Pn**	**08 28 25.1**	**0.0**
CUI				*i* S		**Sn**	**08 28 35.8**	**+1.1**
GUAB	**Guayabo de Bag**	**0.66**	**34**	*i* P		**Pn**	**08 28 25.0**	**-0.1**
BUEV	**Buena Vista**	**0.67**	**17**	*i* P		**Pn**	**08 28 25.0**	**-0.3**
GB1A	**Borinquen Arri**	**0.69**	**17**	*i* P		**Pn**	**08 28 25.4**	**-0.1**
GB1A				*e*S		**Sn**	**08 28 36.0**	**+0.5**
HORNC	**Hornillas**	**0.69**	**37**	*i* P		**Pn**	**08 28 25.5**	**-0.1**
MESS	**Mesas**	**0.70**	**34**	*e*P		**Pn**	**08 28 25.8**	**+0.1**
MESS				*i* P		**Pn**	**08 28 25.9**	**+0.1**
ACAL	**Aguas Claras**	**0.73**	**49**	*i* P		**Pn**	**08 28 26.5**	**+0.3**
BUAI	**Buenos Aires**	**0.76**	**20**	*i* P		**Pn**	**08 28 26.4**	**-0

comp=N,3.8nm,0.8s,baz=138,slow=9.2,SNR=33
TX31 Lajitas Ar. Si 25.49 321 *eP* **P 08 33 38.6 +0.8**
V53A Saluda 25.52 5 *eP* **P 08 33 39.0 +1.1**
comp=N,5.5nm,1.0s
W41B Gary Mavity, V 25.63 347 *eP* **P 08 33 40.3 +1.4**
V52A Sevierville 25.64 4 *eP* **P 08 33 39.6 +0.8**
comp=N,8.6nm,1.1s
WHAR Wooly Hollow 25.75 347 *eP* **P 08 33 40.6 +0.6**
comp=N,1.5nm,0.9s
X37A Clayton 25.91 341 *eP* **P 08 33 41.4 0.0**
comp=N,4.1nm,0.9s
WMOK Wichita Mounta 27.27 336 *eP* **P 08 33 56.3 +2.6**
comp=N,2.9nm,0.8s
BNM Barren Site 30.68 324 *eP* **P 08 34 25.1 +0.8**
N39A Derby Farms, D 31.20 350 *eP* **P 08 34 27.6 -0.9**
comp=N,12nm,1.1s
SDCO Great Sand Dun 32.79 330 *eP* **P 08 34 43.4 +0.5**
comp=N,1.2nm,0.8s
X18A Snowflake 32.93 321 *eP* **P 08 34 46.4 +2.4**
comp=N,2.4nm,1.0s
TPNV Topopah Spring 38.43 319 *eP* **P 08 35 33.6 +2.5**
comp=N,2.4nm,0.9s
PD31 Pinedale Array 38.64 331 *eP* **P 08 35 31.9 -1.1**
PDAR Pinedale Array 38.64 331 P **P 08 35 31.9 -1.1**
comp=N,0.5nm,0.6s,baz=127,slow=8.8,SNR=6.3
PDAR LR LR 08 52 47.4
comp=N,26nm,20.0s,baz=116,slow=39
HWUT Hardware Ranch 38.77 328 *eP* **P 08 35 33.6 -0.4**
comp=N,3.3nm,0.8s
REDW Red Top Meadow 39.71 331 *eP* **P 08 35 41.4 -0.5**
comp=N,2.9nm,0.9s
NV11 Mina Array Sit 40.52 319 *eP* **P 08 35 50.5 +1.9**
comp=N,0.3nm,0.6s
NV01 Mina Array Sit 40.62 319 *eP* **P 08 35 50.8 +1.3**
NV01 *ePcP* **PcP 08 37 52.6 +1.4**
NVAR Mina Array Bea 40.62 319 P **P 08 35 51.2 +1.7**
comp=N,4.8nm,0.6s,baz=124,slow=7.8,SNR=43
NVAR PcP **PcP 08 37 52.6 +1.4**
comp=N,0.6nm,0.7s,baz=123,slow=4.5,SNR=3.6
MDPB Devils Postpil 40.67 318 *eP* **P 08 35 52.5 +2.5**
comp=N,3.0nm,0.9s
KVN Kaiserville 40.85 320 *eP* **P 08 35 52.2 +0.9**
comp=N,3.3nm,1.0s
RYN Ryan 40.87 319 *eP* **P 08 35 53.6 +2.1**
comp=N,3.4nm,1.0s
YERR Yerington 41.53 319 *eP* **P 08 35 58.8 +1.8**
comp=N,3.0nm,0.8s
PNTR Pine Nut 41.82 319 *eP* **P 08 36 01.7 +2.3**
comp=N,4.9nm,0.7s
WVOR Wild Horse Val 43.22 324 *eP* **P 08 36 10.4 -0.1**
comp=N,3.0nm,0.6s
J08A Circle Bar Ran 43.70 325 *eP* **P 08 36 14.5 +0.1**
comp=N,1.4nm,0.8s
F10A Beach Ranch, E 44.75 329 *eP* **P 08 36 23.0 +0.3**
comp=N,0.2nm,0.3s
BDFB Brasilia 45.19 124 *eP* **P 08 36 24.1 -2.5**
YBH Yreka Blue Hor 45.27 321 *eP* **P 08 36 26.2 -0.7**
comp=N,1.0nm,0.9s
KRMB Red Mountain 45.91 320 *eP* **P 08 36 33.4 +1.4**
comp=N,7.2nm,1.1s
KBO Bosley Butte 46.48 320 *eP* **P 08 36 37.9 +1.5**
comp=N,21nm,1.1s
SCHQ Schefferville 46.98 15 P P 08 36 34.8 -5.3
comp=N,4.6nm,0.8s,baz=190,slow=13,SNR=5.9
YKA Yellowknife Ar 56.29 344 P **P 08 37 46.6 -2.9**
comp=N,0.3nm,0.3s,baz=131,slow=8.4,SNR=7.3
YKB5 Yellowknife Ar 56.29 344 *eP* **P 08 37 46.6 -2.9**
HPAH Hawaii Prepara 67.99 288 *eP* **P 08 39 08.4 -0.4**
comp=N,83nm,1.2s
GHO Glory Hole Cre 68.64 333 *eP* **P 08 39 11.6 -0.6**
comp=N,7.2nm,1.1s
ILAR Eielson Array 68.84 336 P **P 08 39 11.8 -1.4**
comp=N,0.6nm,0.8s,baz=126,slow=4.6,SNR=6.7
PPLA Purkeypile 70.43 334 *eP* **P 08 39 22.0 -1.3**
comp=N,2.2nm,1.1s
MLY Manley 70.47 336 *eP* **P 08 39 22.6 -0.8**
comp=N,2.3nm,1.1s
CAST Castle Rocks 70.54 334 *eP* **P 08 39 22.4 -1.4**
comp=N,3.3nm,1.1s

NEIC 13 08:35:13.0±0.6, 37.07N×104.90W, h5km, ML2.7, Error ellipse: s-maj=8.4km s-min=6.4km az=4.0, Colorado

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T25A	**Trinidad**	**0.40**	**80**	*ePg*	Pg	08 35 18.9	-1.8
SDCO	**Great Sand Dun**	**0.83**	**325**	*ePg*	Pg	08 35 25.6	-3.3
SDCO				*ePn*	Pn	08 35 36.9	+5.3
S22A	**4UR Ranch, Cre**	**1.68**	**294**	*ePn*	Pn	08 35 40.9	-2.4
S22A				*eSn*	Sg	08 36 08.3	+1.3
Q24A	**Divide**	**1.90**	**354**	*ePn*	Pn	08 35 45.5	-0.9
Q24A				*eSn*	Sn	08 36 10.9	0.0
ANMO	**Albuquerque**	**2.47**	**211**	*ePn*	Pn	08 35 52.2	-1.8
ANMO				*eSn*	Sb	08 36 27.3	-1.4
KSCO	**Kaye Shedlock'**	**2.64**	**42**	*ePn*	Pn	08 35 56.6	+0.3
KSCO				*eSn*	Sb	08 36 33.1	-0.5
SMCO	**Snowmass**	**2.67**	**323**	*ePn*	Pn	08 35 56.6	-0.4
SMCO				*eSn*	Sb	08 36 36.7	+2.0
ISCO	**Idaho Springs**	**2.79**	**349**	*ePn*	Pn	08 35 58.8	+0.2
ISCO				*eSn*	Sb	08 36 37.6	-0.3
MVCO	**Mesa Verde**	**2.88**	**274**	*ePn*	Pb	08 36 02.4	-2.6
MVCO				*eSn*	Sb	08 36 39.0	-1.7
LPM	**Los Pinos Moun**	**3.09**	**208**	*ePn*	Pn	08 36 05.1	+2.5
PV01	**Paradox Valley**	**3.10**	**291**	*ePn*	Pb	08 36 07.0	-1.9
PV01				*eSg*	Sg	08 36 49.9	-2.8
LAZ	**Ladron**	**3.23**	**215**	*ePn*	Pn	08 36 01.9	-2.5
BNM	**Barren Site**	**3.23**	**206**	*ePn*	Pb	08 36 08.1	-2.9
PV02	**Paradox Valley**	**3.25**	**292**	*ePg*	Pb	08 36 12.5	+1.2
PV13	**Radium Mtn., P**	**3.30**	**290**	*ePn*	Pn	08 36 07.2	+1.6
PV13				*ePg*	Pg	08 36 14.5	-1.7
PV12	**Saucer Basin,**	**3.34**	**293**	*ePn*	Pn	08 36 06.2	+0.1
PV03	**Paradox Valley**	**3.35**	**292**	*ePg*	Pb	08 36 11.5	-1.5
PV03				*eSg*	Sg	08 36 59.2	-1.5
LENM	**Lemitar**	**3.35**	**211**	*ePg*	Pb	08 36 12.6	-0.4
PV11	**David Mesa, Pa**	**3.38**	**292**	*ePn*	Pn	08 36 07.0	+0.3
PV11				*ePg*	Pb	08 36 14.0	+0.4
AMTX	**Amarillo**	**3.40**	**129**	*ePg*	Pb	08 36 13.8	+0.1
PV22	**Blue Mesa, Par**	**3.41**	**297**	*ePg*	Pb	08 36 13.7	-0.3
PV22				*eSg*	Sb	08 36 59.0	+3.1
PV16	**Nyswonger Mesa**	**3.42**	**292**	*ePn*	Pn	08 36 07.0	-0.2
PV16				*ePg*	Pb	08 36 14.8	+0.6
PV17	**East Wray Mesa**	**3.44**	**292**	*ePn*	Pn	08 36 07.7	+0.2
PV17				*ePg*	Pb	08 36 16.1	+1.5
PV19	**Morning Glory**	**3.47**	**292**	*ePn*	Pn	08 36 08.0	+0.1
PV05	**Paradox Valley**	**3.49**	**288**	*ePn*	Pn	08 36 09.0	+0.9
PV14	**Lion Creek, Pa**	**3.52**	**293**	*ePn*	Pn	08 36 09.4	+0.8
PV14				*ePg*	Pg	08 36 19.8	-0.7
PV10	**Paradox Valley**	**3.53**	**293**	*ePg*	Pg	08 36 19.8	-0.9
PV23	**Carpenter Ridg**	**3.54**	**294**	*ePn*	Pn	08 36 10.4	+1.5
PV23				*ePg*	Pg	08 36 21.2	+0.4
MSTX	**Muleshoe**	**3.54**	**150**	*ePg*	Pb	08 36 16.0	-0.2
PV21	**Cone Mtn., Par**	**3.56**	**296**	*ePn*	Pn	08 36 10.8	+1.7
PV21				*eSg*	Sg	08 37 05.4	-1.9
PV09	**Paradox Valley**	**3.65**	**294**	*ePn*	Pn	08 36 11.4	+1.1
PV09				*ePg*	Pb	08 36 19.6	+1.5
PV09				*eSn*	Sn	08 36 55.5	+1.6
N23A	**Red Feather La**	**3.91**	**348**	*ePg*	Pb	08 36 22.9	+0.4
O20A	**White River Ci**	**4.03**	**320**	*ePn*	Pn	08 36 15.8	+0.3
CPRX	**Cap Rock**	**4.12**	**168**	*ePn*	Pn	08 36 19.6	+3.0
CPRX				*ePg*	Pg	08 36 29.4	-2.4
W18A	**Petrified Fore**	**4.38**	**245**	*ePg*	Pb	08 36 29.2	-1.2
CBKS	**Cedar Bluff**	**4.43**	**65**	*ePn*	Pn	08 36 21.9	+0.9
CBKS				*ePg*	Pb	08 36 34.3	+2.9
CBKS				*eSg*	Sg	08 37 31.2	-4.2
OGNE	**Ogallala**	**4.47**	**29**	*ePn*	Pn	08 36 22.1	+0.7
OGNE				*ePg*	Pb	08 36 32.6	+0.7
X18A	**Snowflake**	**4.83**	**240**	*ePg*	Pb	08 36 37.2	-0.9
SRU	**San Rafael Swe**	**4.88**	**296**	*ePn*	Pn	08 36 28.1	+0.9
SRU				*ePg*	Pb	08 36 41.2	+2.1
MNTX	**Cornudas Mount**	**5.37**	**184**	*ePn*	Pn	08 36 35.6	+1.8
MNTX				*ePg*	Pb	08 36 46.6	-0.7
WUAZ	**Wupatki**	**5.46**	**255**	*ePg*	Pb	08 36 48.5	-0.3
WMOK	**Wichita Mounta**	**5.48**	**113**	*ePg*	Pg	08 36 55.7	-2.3
X16A	**Lo Mia Camp, P**	**5.94**	**246**	*ePn*	Pn	08 36 41.5	-0.3
X16A				*ePg*	Pb	08 37 01.3	+4.1
U15A	**North Rim**	**5.97**	**266**	*ePn*	Pn	08 36 45.5	+3.2
U15A				*ePg*	Pg	08 37 02.9	-4.5
BW06	**Boulder Array**	**6.72**	**329**	*ePn*	Pn	08 36 57.4	+4.8
PDAR	**Pinedale Array**	**6.72**	**329**	P	Pg	08 37 17.7	-4.0
	0.2nm,0.5s,baz=212,slow=3.2,SNR=2.6						
PDAR	**Pinedale Array**	**6.72**	**329**	*ePg*	Pg	08 37 17.9	-3.9
BGNE	**Belgrade**	**6.80**	**48**	*ePg*	Pg	08 37 18.6	-4.5
RSSD	**Black Hills**	**7.08**	**5**	*ePg*	Pg	08 37 23.7	-4.8
PSUT	**Pine Spring**	**7.24**	**284**	*eSn*	Sn	08 38 26.8	+4.4
AHID	**Auburn Hatcher**	**7.42**	**322**	*ePg*	Pg	08 37 33.9	-1.2
TX31	**Lajitas Ar. Si**	**7.78**	**172**	*ePn*	Pn	08 37 11.2	+4.2
TX31				*ePg*	Pg	08 37 39.2	-2.8
X37A	**Clayton**	**8.12**	**105**	*ePn*	Pn	08 37 12.4	+0.9

IDC **13** *08:36:22.8±0.7, 23.12N×96.01E, h0km, mb4.0/11, mb1 4.2/12, mb1mx3.9/54, mbtmp4.1/12, ML4.6/1, MS3.6/19, Ms1 3.6/19, ms1mx3.4/40, Error ellipse: s-maj=27.4km s-min=12.0km az=61.0*
ISCJB **13** *08:36:24.6±0.3, 22.93N±0.05×95.70E±0.05, h32km, mb4.2/12, MS3.6/19, Error ellipse: s-maj=8.6km s-min=3.0km az=42.8*
NEIC **13** *08:36:24.2±0.3, 23.10N×96.01E, h10km, mb4.7/3, Error ellipse: s-maj=11.5km s-min=5.3km az=58.0*
NDI **13** *08:36:29.2±2.4, 23.08N×95.61E, h10km, ML3.5*

ISC 13 08:36:27.5±0.5, 23.05N±0.06×95.79E±0.06, h32km, n70, σ1s91/74, mb4.2/12, MS3.7/19, 3C, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**2.44**	**317**	*eP*	**Pn**	**08 37 07.5**	**+2.2**
IMP				*eS*	**Sn**	**08 37 36.6**	**+2.5**
IMP				IAML		08 37 51.6	
	comp=N,590nm,0.9s						
IMP				IAML		08 37 55.1	
	comp=E,273nm,0.8s						
SAIH	**SAIHA**	**2.64**	**258**	*eP*	**Pn**	**08 37 10.8**	**+2.7**
SAIH				*eS*	**Sn**	**08 37 41.3**	**+2.1**
SAIH				IAML		08 37 57.4	
	comp=N,342nm,0.6s						
SAIH				IAML		08 37 58.4	
	comp=E,595nm,0.7s						
KOHI	**KOHIMA**	**3.06**	**330**	*eP*	**Pn**	**08 37 14.8**	**+0.8**
KOHI				*eS*	**Sn**	**08 37 48.9**	**-0.7**
KOHI				IAML		08 38 09.4	
	comp=E,382nm,1.2s						
JORH	**JORHAT**	**3.93**	**340**	*eP*	**Pn**	**08 37 28.8**	**+3.1**
JORH				*eS*	**Sn**	**08 38 13.4**	**+2.7**
SHL	**Shillong**	**4.35**	**306**	*ePn*	**Pn**	**08 37 31.7**	**+0.1**
SHL	**Shillong**	**4.35**	**306**	*eP*	**Pn**	**08 37 32.4**	**+0.8**
SHL				*eS*	**Sn**	**08 38 21.5**	**+0.1**
SHL				IAML		08 38 27.4	
	comp=N,62nm,0.6s						
SHL				IAML		08 38 29.3	
	comp=E,71nm,0.8s						
TEZP	**TEZPUR**	**4.47**	**323**	*eS*	**Sn**	**08 38 22.2**	**-1.8**
GUWA	**GUWAHATI**	**4.86**	**311**	*eS*	**Sn**	**08 38 30.7**	**-3.1**
GUWA				IAML		08 39 03.4	
GUWA				IAML		08 39 06.5	
	comp=E,18nm,0.6s						
CHTO	**Chiang Mai**	**5.15**	**144**	*ePn*	**Pn**	**08 37 40.2**	**-2.3**
CHTO	**Chiang Mai**	**5.15**	**144**	P	**Pn**	**08 37 40.1**	**-2.4**
CMMT	**Chiang Mai**	**5.15**	**144**	P	**Pn**	**08 37 40.1**	**-2.4**
PAYA	**Payao**	**5.29**	**133**	P	**Pn**	**08 37 42.2**	**-2.3**
CM31	**Chiang Mai Arr**	**5.44**	**147**	*ePn*	**Pn**	**08 37 44.5**	**-2.1**
CMAR	**Chiang Mai Arr**	**5.44**	**147**	Pn	**Pn**	**08 37 44.5**	**-2.1**
	comp=E,5.1nm,0.3s,baz=323,slow=14,SNR=63						
CMAR				Pg	**Pb**	**08 38 01.9**	**0.0**
	comp=E,11nm,0.3s,baz=324,slow=17,SNR=31						
CMAR				Lg	Lg	08 39 11.6	
	comp=E,5.0nm,0.3s,baz=309,slow=17,SNR=5.4						
TURI	**Tura**	**5.56**	**298**	*eP*	**Pn**	**08 37 49.4**	**+1.2**
TURI				*eS*	**Sn**	**08 38 50.5**	**-0.4**
TURI				IAML		08 39 02.8	
	comp=E,195nm,0.5s						
TURI				IAML		08 39 02.9	
	comp=N,105nm,0.2s						
LAMP	**Lampang**	**5.77**	**141**	P	**Pn**	**08 37 49.2**	**-1.8**
DHUB	**DHUBRI**	**6.04**	**300**	*ex*	**Pn**	**08 37 53.6**	**-1.1**
DHUB				*eS*	**Sn**	**08 39 00.3**	**-2.5**
NANT	**Nan**	**6.25**	**132**	P	**Pn**	**08 37 53.9**	**-3.6**
SUKH	**Sukhothai**	**6.61**	**146**	P	**Pn**	**08 38 00.8**	**-1.8**
UMPA	**Umpang Tak**	**7.40**	**156**	P	Pn	08 38 18.6	+5.1
	comp=N,12nm,1.0s,comp=N,2μmcomp=N,1.0nm						
LSA	**Lhasa**	**7.81**	**329**	*ePn*	**Pn**	**08 38 20.4**	**+1.0**
UTHA	**Uthaitani**	**8.22**	**155**	P	**Pn**	**08 38 23.7**	**-0.9**
	comp=N,14nm,0.8s,comp=N,217nmcomp=N,0.7nm						
TAPN	**Taplejung**	**8.47**	**302**	*ePn*	**Pn**	**08 38 28.3**	**-0.1**
ODAN	**Odare**	**8.51**	**298**	*ePn*	**Pn**	**08 38 28.8**	**0.0**
ODAN				*eSn*	**Sn**	**08 40 03.4**	**-0.5**
	comp=N,450nm,1.1s						
RAMN	**Ramite**	**9.19**	**297**	*ePn*	**Pn**	**08 38 38.7**	**+0.5**
RAMN				*eSn*	**Sn**	**08 40 18.9**	**-1.7**
	comp=N,267nm,1.1s						
CHAI	**Chaiyaphum**	**9.21**	**139**	P	**Pn**	**08 38 41.7**	**+3.5**
JIRN	**Jiri**	**9.81**	**300**	*ePn*	**Pn**	**08 38 47.6**	**+0.8**
JIRN				*eSn*	**Sn**	**08 40 35.7**	**-0.4**
	comp=N,375nm,1.2s						
GUN	**Gumba**	**10.17**	**300**	*ePn*	**Pn**	**08 38 52.1**	**+0.4**
GUN				*eSn*	**Sn**	**08 40 42.6**	**-2.3**
	comp=N,125nm,0.8s						
PKI	**Pulchoki**	**10.41**	**298**	*ePn*	**Pn**	**08 38 55.5**	**+0.6**
PKIN	**Phulchoki**	**10.42**	**298**	*ePn*	**Pn**	**08 38 55.3**	**+0.3**
KKN	**Kakani**	**10.60**	**299**	*ePn*	**Pn**	**08 38 58.4**	**+0.9**
KKN				*eSn*	**Sn**	**08 40 54.3**	**-0.9**
	comp=N,68nm,0.9s						
DMN	**Daman**	**10.67**	**297**	*eSn*	**Sn**	**08 40 53.1**	**-3.9**
	comp=N,180nm,1.3s						
KOLN	**Koldanda**	**11.97**	**296**	*ePn*	**Pn**	**08 39 14.8**	**-1.4**
KOLN				*eSn*	**Sn**	**08 41 24.5**	**-4.3**
	comp=N,23nm,0.6s						
DANN	**Dangsing**	**12.05**	**298**	*ePn*	**Pn**	**08 39 17.9**	**+0.5**
PYUN	**Piuthan**	**12.59**	**296**	*ePn*	**Pn**	**08 39 23.5**	**-1.2**
PYUN				*eSn*	**Sn**	**08 41 37.6**	**-6.4**
	comp=N,66nm,0.8s						
TRTT	**Trang**	**15.59**	**165**	P	**P**	**08 40 12.5**	**+3.5**
	comp=N,6.7nm,1.2s						
PSI	**Prapat**	**20.36**	**171**	P	**P**	**08 41 01.0**	**-0.7**
	comp=N,10nm,1.0s,baz=360,slow=19,SNR=2.1						
PSI				LR	LR	08 50 40.4	
	comp=N,121nm,18.5s,baz=80,slow=42						
PALK	**Pallekele**	**21.37**	**225**	P	**P**	**08 41 14.4**	**+1.9**
	comp=N,12nm,1.0s,baz=115,slow=3.8,SNR=4.6						
PALK				LR	LR	08 50 36.6	
	comp=N,94nm,20.3s,baz=115,slow=40						
YOJ	**Yonaguni jima**	**24.95**	**81**	*eP*	**P**	**08 41 45.5**	**-2.6**
MK32	**Makanchi Array**	**26.07**	**339**	*eP*	**P**	**08 41 57.7**	**-0.4**
MKAR	**Makanchi Array**	**26.07**	**339**	P	**P**	**08 41 57.7**	**-0.4**
	comp=N,6.0nm,0.9s,baz=138,slow=9.2,SNR=20						
MKAR				LR	LR	08 53 38.4	
	comp=N,108nm,20.6s,baz=148,slow=40						
MKAR	**Makanchi Array**	**26.07**	**339**	*eP*	**P**	**08 41 57.7**	**-0.4**
	comp=N,35nm,0.8s						
SONA0	**Songino Array**	**26.14**	**16**	*eP*	**P**	**08 41 57.6**	**-1.3**
SONM	**Songino Array**	**26.14**	**16**	P	**P**	**08 41 57.6**	**-1.3**
	comp=N,1.6nm,0.9s,baz=201,slow=9.4,SNR=7.2						
SONM				LR	LR	08 53 07.8	
	comp=N,188nm,18.1s,baz=194,slow=39						
AAK	**Ala-Archa**	**26.35**	**323**	P	**P**	**08 42 01.2**	**+0.3**
	comp=N,5.6nm,0.9s,baz=86,slow=6.9,SNR=8.9						
AAK				LR	LR	08 54 10.5	
	comp=N,87nm,21.9s,baz=102,slow=40						
AAK	**Ala-Archa**	**26.35**	**323**	*eP*	**P**	**08 42 02.5**	**+1.6**
	comp=N,15nm,1.1s						
KURBB	**Kurchatov Arra**	**30.63**	**338**	P	**P**	**08 42 37.8**	**-0.9**
	comp=N,1.3nm,0.7s,baz=146,slow=8.3,SNR=8.4						
KURK	**Kurchatov**	**30.68**	**338**	*eP*	**P**	**08 42 37.8**	**-1.3**
KSRS	**Korea Array**	**31.08**	**55**	LR	LR	08 56 42.8	
	comp=N,100nm,19.1s,baz=255,slow=40						
ZALV	**Zalesovo Beam**	**31.94**	**348**	LR	LR	08 57 08.9	
	comp=N,80nm,18.0s,baz=92,slow=39						
GEYT	**Alibeck**	**35.42**	**304**	P	**P**	**08 43 22.3**	**+1.5**
	comp=N,55nm,0.4s,baz=164,slow=5.8,SNR=7.4						
GEYT				LR	LR	09 01 45.4	
	comp=N,81nm,21.5s,baz=230,slow=43						
USRK	**Ussuriysk Ar.**	**36.38**	**46**	LR	LR	08 59 53.9	
	comp=N,202nm,18.0s,baz=213,slow=39						
ABKAR	**Akbulak array**	**38.43**	**322**	*eP*	**P**	**08 43 46.2**	**+0.1**
MJAR	**Matsushiro Arr**	**38.89**	**60**	LR	LR	09 01 36.3	
	comp=N,157nm,18.3s,baz=250,slow=39						
KBZ	**Khabaz**	**47.85**	**309**	P	**P**	**08 45 05.1**	**+2.8**
	comp=N,2.6nm,0.8s,baz=180,slow=0.9,SNR=3.6						
KBZ				LR	LR	09 09 01.0	
	comp=N,77nm,19.2s,baz=90,slow=41						
WRA	**Warramunga Arr**	**56.93**	**136**	P	**P**	**08 46 09.8**	**-0.1**
	comp=N,1.7nm,0.9s,baz=327,slow=7.6,SNR=11						
WRA				LR	LR	09 13 38.4	
	comp=N,31nm,18.9s,baz=185,slow=39						
WR1	**Warramunga Arr**	**56.93**	**136**	*eP*	**P**	**08 46 09.8**	**-0.1**
	comp=N,6.0nm,1.1s						
AKASG	**Malin Array Be**	**57.76**	**316**	P	**P**	**08 46 15.4**	**0.0**
	comp=N,0.3nm,0.2s,baz=81,slow=6.9,SNR=3.3						
AKASG				LR	LR	09 15 31.8	
	comp=N,80nm,18.0s,baz=95,slow=41						
AKBB	**Malin Array Si**	**57.76**	**316**	*eP*	**P**	**08 46 15.4**	**0.0**
ASAR	**Alice Springs**	**59.40**	**139**	P	**P**	**08 46 27.0**	**-0.2**
	comp=N,1.8nm,0.9s,baz=320,slow=6.9,SNR=10.0						
VRI	**Vrincioaia**	**59.43**	**311**	*iP*	**P**	**08 46 27.4**	**+0.2**
PLOR	**Plostina**	**59.49**	**311**	*iP*	**P**	**08 46 27.7**	**+0.1**
PMG	**Port Moresby**	**59.73**	**117**	LR	LR	09 14 33.7	
	comp=N,35nm,18.5s,baz=206,slow=38						
MLR	**Muntele Rosu**	**60.00**	**310**	*iP*	**P**	**08 46 31.4**	**+0.2**
FINES	**FINESS Array B**	**60.33**	**329**	LR	LR	09 15 10.6	
	comp=N,80nm,18.5s,baz=98,slow=38						
NOA	**NORSAR Array B**	**67.51**	**328**	LR	LR	09 19 32.4	
	comp=N,56nm,20.2s,baz=75,slow=38						
GERES	**GERESS Array B**	**67.91**	**315**	LR	LR	09 21 24.6	
	comp=N,59nm,18.9s,baz=60,slow=40						
STKA	**Stephens Creek**	**70.03**	**140**	LR	LR	09 24 09.3	
	comp=N,49nm,19.0s,baz=227,slow=41						
HNR	**Honiara**	**70.57**	**110**	LR	LR	09 20 11.4	
	comp=N,46nm,18.9s,baz=270,slow=37						
ILAR	**Eielson Array**	**80.18**	**23**	P	**P**	**08 48 34.6**	**+0.1**
	comp=N,0.1nm,0.5s,baz=303,slow=5.2,SNR=4.3						

NEIC **13** *08:39:47.5±0.6, 14.57S×166.56E, h10km, mb4.5/5, Error ellipse: s-maj=21.1km s-min=12.3km az=93.0*
ISCJB **13** *08:39:49.3±0.6, 14.66S±0.07×166.6E±0.2, h35km, mb4.1/9, Error ellipse: s-maj=21.9km s-min=10.4km az=2.7*
IDC **13** *08:39:55.2±6.0, 15.09S×166.98E, h92km±58km, mb3.5/5, mb1 3.6/6, mb1mx3.4/44, mbtmp3.8/6, ML3.8/1, Error ellipse: s-maj=38.1km s-min=32.7km az=157.0*

ISC 13 08:39:51.0±0.8, 14.68S±0.08×166.6E±0.2, h35km, n14, σ2s41/15, mb4.2/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.35**	**181**	P	**Pn**	**08 41 35.3**	**-0.7**
	1.6nm,0.3s,baz=202,slow=12,SNR=10.0						
DZM				S	**Sn**	**08 42 52.0**	**-6.3**
	baz=135,slow=20,SNR=1.1						
DZM	**Mont Dzumac**	**7.35**	**181**	*ePn*	**Pn**	**08 41 35.8**	**-0.2**
DZM				*eSn*	**Sn**	**08 43 01.3**	**+3.0**
URZ	**Urewera**	**25.26**	**160**	P	P	08 45 08.4	-5.5
	3.4nm,0.7s,baz=174,slow=18,SNR=1.4						
URZ	**Urewera**	**25.26**	**160**	*eP*	**P**	**08 45 16.4**	**+2.5**
	11nm,1.1s						
BKZ	**Black Stump Fm**	**25.90**	**162**	*eP*	**P**	**08 45 21.7**	**+2.0**
	3.9nm,0.6s						
STKA	**Stephens Creek**	**28.54**	**229**	P	P	**08 45 42.8**	**-0.8**
	0.6nm,0.7s,baz=106,slow=18,SNR=1.5						
WHZ	**Wether Hill Ro**	**31.13**	**178**	*eP*	**P**	**08 46 07.4**	**+1.1**
	12nm,1.2s						
ASAR	**Alice Springs**	**32.09**	**249**	P	**P**	**08 46 14.9**	**-0.2**
	0.5nm,0.7s,baz=72,slow=9.4,SNR=8.1						
HUH	**Hualalai**	**50.32**	**48**	*eP*	**P**	**08 48 43.4**	**-1.6**
	49nm,1.1s						
VNDA	**Vanda**	**62.89**	**181**	*eP*	**P**	**08 50 14.4**	**+1.2**
	0.7nm,0.7s						
AKUT	**Akutan**	**72.49**	**17**	*eP*	**P**	**08 51 14.2**	**+0.4**
SONA0	**Songino Array**	**82.08**	**324**	*eP*	**P**	**08 52 09.0**	**+1.0**
SONM	**Songino Array**	**82.08**	**324**	P	**P**	**08 52 09.0**	**+1.0**
	0.7nm,1.0s,baz=116,slow=3.4,SNR=3.0						
ILAR	**Eielson Array**	**86.68**	**18**	P	**P**	**08 52 29.1**	**-1.7**
	1.0nm,0.7s,baz=241,slow=4.6,SNR=16						

ISCJB **13** *08:42:00.3±0.4, 22.98N±0.06×95.89E±0.05, h10km, mb4.1/11, Error ellipse: s-maj=10.2km s-min=4.2km az=39.3*
IDC **13** *08:42:01.4±1.2, 23.19N×96.12E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.7/50, mbtmp3.9/8, ML4.6/1, MS3.1/1, Ms1 3.3/1, ms1mx2.6/37, Error ellipse: s-maj=60.5km s-min=15.9km az=63.0*
NEIC **13** *08:42:02.5±0.4, 23.11N×96.16E, h10km, mb4.2/4, Error ellipse: s-maj=9.5km s-min=5.6km az=49.0*
NDI **13** *08:42:04.4±2.2, 22.98N×95.95E, h10km, ML3.3*

ISC 13 08:42:02.3±0.6, 23.07N±0.06×95.95E±0.06, h10km, n49, σ2s06/64, mb4.1/11, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**2.54**	**314**	*eP*	**Pn**	**08 42 46.8**	**+3.1**
IMP				*eS*	**Sn**	**08 43 18.4**	**+3.7**
IMP				IAML		08 43 23.5	
	comp=N,184nm,0.3s						
IMP				IAML		08 43 25.1	
	comp=E,141nm,0.4s						
SAIH	**SAIHA

MKAR	**Makanchi Array**	**26.11**	**338**	P		**P**	**08 47 36.9**	**+0.5**
	comp=E,3.5nm,0.8s,baz=152,slow=8.1,SNR=15							
MKAR	**Makanchi Array**	**26.11**	**338**	*eP*		**P**	**08 47 37.1**	**+0.7**
	comp=E,42nm,1.0s							
AAK	**Ala-Archa**	**26.43**	**323**	P		**P**	**08 47 39.8**	**+0.3**
	comp=E,3.2nm,0.7s,baz=141,slow=3.2,SNR=7.3							
KK31	**Karatay Array**	**29.02**	**320**	*eP*		**P**	**08 48 02.7**	**+0.2**
KKAR	**Karatay Array**	**29.02**	**320**	*eP*		**P**	**08 48 02.7**	**+0.2**
KURK	**Kurchatov**	**30.72**	**338**	*eP*		**P**	**08 48 17.0**	**-0.4**
	comp=E,2.8nm,1.0s							
ZALV	**Zalesovo Beam**	**31.96**	**348**	P		**P**	**08 48 28.2**	**-0.1**
	comp=E,0.7nm,0.3s,baz=178,slow=12,SNR=3.0							
ZAA1	**Zalesovo Array**	**31.96**	**348**	*eP*		**P**	**08 48 28.2**	**-0.1**
LUWI	**Luwuk**	**35.44**	**129**	*eP*		**P**	**08 48 57.7**	**-1.3**
	comp=E,49nm,0.5s							
ABKAR	**Akbulak array**	**38.51**	**322**	*eP*		**P**	**08 49 25.3**	**+0.6**
TIXI	**Tiksi**	**52.09**	**13**	*eP*		**P**	**08 51 12.6**	**+0.5**
	comp=E,1.9nm,0.7s							
WRA	**Warramunga Arr**	**56.84**	**136**	P		**P**	**08 51 47.9**	**+0.6**
	comp=E,1.5nm,0.9s,baz=324,slow=7.3,SNR=6.6							
WR1	**Warramunga Arr**	**56.84**	**136**	*eP*		**P**	**08 51 47.9**	**+0.6**
	comp=E,3.2nm,1.1s							
ASAR	**Alice Springs**	**59.31**	**139**	P		**P**	**08 52 05.5**	**+0.8**
	comp=E,0.3nm,0.5s,baz=321,slow=7.3,SNR=5.8							
ILAR	**Eielson Array**	**80.11**	**23**	P		**P**	**08 54 11.9**	**-0.3**
	comp=E,0.7nm,0.9s,baz=297,slow=7.9,SNR=4.1							

IDC 13 08:45:35.0±1.2, 29°.82N×42°.67W, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.6/46, mbtmp3.6/5, MS3.9/2, Ms1 3.9/2, ms1mx3.0/37, Error ellipse: s-maj=40.4km s-min=28.8km az=30.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SADO	**Sadowa**	**32.32**	**308**	LR	LR	09 04 07.6	
	comp=Z,48nm,19.0s,baz=346,slow=34						
TORD	**Torodi Ar. Bea**	**44.19**	**102**	P	P	08 53 45.6	-0.3
	1.2nm,1.0s,baz=325,slow=7.9,SNR=4.6						
H10N2	**ASCENSION HYDR**	**46.21**	**140**	T	T	09 43 21.5	
	baz=325,slow=75,SNR=84						
H10N3	**ASCENSION HYDR**	**46.21**	**140**	T	T	09 43 21.8	
	baz=325,slow=75,SNR=84						
H10N1	**ASCENSION HYDR**	**46.23**	**140**	T	T	09 43 23.0	
	baz=325,slow=75,SNR=75						
H10S1	**ASCENSION HYDR**	**47.04**	**141**	T	T	09 44 22.2	
	baz=326,slow=75,SNR=88						
H10S3	**ASCENSION HYDR**	**47.04**	**141**	T	T	09 44 20.6	
	baz=326,slow=75,SNR=86						
H10S2	**ASCENSION HYDR**	**47.05**	**141**	T	T	09 44 23.5	
	baz=326,slow=75,SNR=103						
CMIG	**Matias Romero**	**49.17**	**267**	LR	LR	09 13 39.6	
	comp=Z,470nm,18.8s,baz=153,slow=34						
LPAZ	**La Paz**	**52.01**	**212**	P	P	08 54 47.1	+0.1
	1.4nm,0.9s,baz=35,slow=6.7,SNR=5.5						
TXAR	**Lajitas Array**	**52.48**	**286**	P	P	08 54 49.7	-0.3
	0.2nm,0.8s,baz=95,slow=8.2,SNR=2.6						
PDAR	**Pinedale Array**	**54.13**	**303**	P	P	08 55 01.6	-0.5
	0.7nm,0.6s,baz=78,slow=9.3,SNR=6.4						
ILAR	**Eielson Array**	**69.17**	**334**	P	P	08 56 43.5	+0.5
	0.4nm,0.8s,baz=77,slow=4.1,SNR=4.2						

ATH 13 08:53:50.6, 38°.70N×22°.87E, h12km±3km, ML1.6/8, Error ellipse: s-maj=3.0km s-min=0.8km az=111.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKR	**Lokris**	**0.11**	**113**	P	Pg	08 53 53.5	-0.1
LKR				S	Sg	08 53 55.7	-0.1
LKR				AML	AML	08 53 56.0	
	comp=E,2338μm,0.1s						
LKR				AML	AML	08 53 56.4	
	comp=N,2169μm,0.1s						
DLFA	**Delphi**	**0.36**	**233**	P	Pb	08 53 58.6	-0.5
DLFA				S	Sb	08 54 04.0	-0.7
AGG	**Agios Georgios**	**0.53**	**308**	P	Pg	08 54 00.8	-0.2
AGG				S	Sg	08 54 08.1	0.0
AGG				AML	AML	08 54 08.9	
	comp=N,84μm,0.4s						
AGG				AML	AML	08 54 11.9	
	comp=E,95μm,0.3s						
NEO	**Neokhori**	**0.67**	**24**	P	Pg	08 54 03.6	-0.1
NEO				S	Sb	08 54 13.4	-0.3
NEO				AML	AML	08 54 17.7	
	comp=E,191μm,0.2s						
NEO				AML	AML	08 54 18.2	
	comp=N,259μm,0.3s						
LTK	**Loutraki**	**0.68**	**173**	P	Pg	08 54 03.4	-0.3
LTK				S	Sg	08 54 13.0	+0.3
LTK				AML	AML	08 54 17.1	
	comp=E,144μm,0.4s						
LTK				AML	AML	08 54 18.2	
	comp=N,154μm,0.2s						
SERG	**Sergoula**	**0.69**	**246**	P	Pg	08 54 03.1	-0.9
SERG				S	Sg	08 54 12.9	-0.4
SERG				AML	AML	08 54 14.9	
	comp=N,172μm,0.3s						
SERG				AML	AML	08 54 15.1	
	comp=E,146μm,0.3s						
XOR	**Xorichti**	**0.72**	**21**	P	Pg	08 54 04.6	0.0
XOR				S	Sg	08 54 14.3	+0.4
XOR				AML	AML	08 54 16.9	
	comp=E,67μm,0.4s						
XOR				AML	AML	08 54 18.2	
	comp=N,95μm,0.2s						
ANX	**Ano Chora**	**0.75**	**263**	P	Pg	08 54 05.2	+0.1
ANX				S	Sb	08 54 16.1	+0.2
ANX				AML	AML	08 54 17.3	
	comp=E,63μm,0.2s						
ANX				AML	AML	08 54 17.4	
	comp=N,96μm,0.3s						
EFP	**Efpalio**	**0.80**	**251**	P	Pg	08 54 05.3	-0.8
EFP				S	Sb	08 54 17.1	-0.1
EFP				AML	AML	08 54 22.7	
	comp=N,75μm,0.4s						
EFP				AML	AML	08 54 22.8	
	comp=E,49μm,0.4s						
KLV	**Kalavryta, Ach**	**0.86**	**221**	P	Pg	08 54 06.9	-0.3
KLV				S	Sg	08 54 18.4	-0.1
AOS	**Alonnisos**	**0.92**	**59**	P	Pg	08 54 08.4	-0.1
AOS				S	Sg	08 54 20.1	-0.4
VLY	**Voula,Athens**	**1.11**	**139**	P	Pb	08 54 11.7	-0.1
VLY				S	Sn	08 54 27.9	+0.6
DID	**Didima**	**1.22**	**166**	P	Pn	08 54 13.2	-0.4
DID				S	Sn	08 54 30.4	+0.4

SAR 13 08:54:57.0±0.5, 42°.54N×19°.05E, h8km±4km, ML1.6/4
PDG 13 08:54:56.0±0.1, 42°.55N×19°.05E, h20km, ML1.6/10, 10C-7D, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEME	**Cevo**	**0.10**	**269**	*i*P	Pg	08 54 59.9	-0.1
CEME				*e*S	Sg	08 55 03.1	+0.4
PDG	**Podgorica**	**0.19**	**129**	*i*P	Pg	08 55 00.8	-0.2
PDG				*e*S	Sg	08 55 04.6	+0.3
TTG	**Podgorica**	**0.19**	**129**	*i*P	Pb	08 55 00.6	+0.2
TTG				*e*S	Sg	08 55 04.7	+0.4
NKME	**Niksic**	**0.23**	**341**	*i*P	Pb	08 55 01.5	+0.1
NKME				*e*S	Sg	08 55 05.9	+0.4
NKY	**Niksic**	**0.27**	**350**	*i*P	Pb	08 55 02.1	0.0
NKY				*e*S	Sg	08 55 07.0	+0.5
BUM	**Brajici-Budva**	**0.28**	**206**	*i*P	Pb	08 55 02.1	-0.1
BUM				*e*S	Sg	08 55 07.2	+0.6
DRME	**Dracevica, Mon**	**0.38**	**165**	*i*P	Pg	08 55 03.8	-0.1
DRME				*e*S	Sb	08 55 10.3	+0.8
DRME	**Dracevica, Mon**	**0.38**	**165**	*e*P	Pg	08 55 03.7	-0.2
DRME				*e*S	Sb	08 55 10.1	+0.6
HCY	**Herceg Novi**	**0.43**	**256**	*i*P	Pg	08 55 04.5	-0.4
HCY				*e*S	Sb	08 55 11.6	+0.6
HCY	**Herceg Novi**	**0.43**	**256**	*e*P	Pg	08 55 04.8	-0.1
HCY				*e*S	Sb	08 55 11.6	+0.6
KOME	**Kolasin**	**0.45**	**48**	*i*P	Pg	08 55 04.9	-0.5
KOME				*e*S	Sb	08 55 12.7	+0.8
BRY	**Bratogost**	**0.52**	**313**	*i*P	Pb	08 55 06.1	-0.4
BRY				*e*S	Sg	08 55 14.8	+1.1
BRY	**Bratogost**	**0.52**	**313**	*i*P	Pb	08 55 06.1	-0.4
BRY				*e*S	Sg	08 55 14.9	+1.2
TREB	**Trebinje**	**0.55**	**288**	*i*P	Pg	08 55 07.1	+0.1
TREB				*e*S	Sg	08 55 15.6	+1.2
ULC	**Ulcinj**	**0.60**	**166**	*i*P	Pb	08 55 07.6	-0.2
ULC				*e*S	Sg	08 55 17.3	+1.2
UPM	**Unac-Piva**	**0.66**	**351**	*i*P	Pb	08 55 08.4	-0.6
UPM				*e*S	Sg	08 55 19.3	+1.1
UPM	**Unac-Piva**	**0.66**	**351**	*i*P	Pb	08 55 08.6	-0.4
UPM				*e*S	Sg	08 55 19.1	+0.9
PVY	**Plav**	**0.67**	**86**	*i*P	Pb	08 55 09.0	-0.1
PVY				*e*S	Sn	08 55 19.7	-0.8
IVA	**Berane**	**0.70**	**62**	*i*P	Pb	08 55 09.4	-0.1
IVA				*e*S	Sn	08 55 20.9	-0.3
STON	**Ston**	**1.05**	**288**	*e*P	Pb	08 55 15.1	-0.4
STON					Sg	08 55 32.0	+1.8
BBLS	**Lazići**	**1.34**	**11**	*e*P	Pg	08 55 21.5	-0.4
BBLS				*e*S	Sg	08 55 40.6	+1.1

IDC 13 09:07:56.8±0.6, 13°.74N×92°.44W, h0km, mb4.4/14, mb1 4.6/17, mb1mx4.5/32, mbtmp4.4/17, ML4.5/3, MS4.0/21, Ms1 4.1/21, ms1mx3.9/32, Error ellipse: s-maj=25.4km s-min=12.6km az=55.0
UCR 13 09:07:59.3±1.1, 14°.06N×92°.53W, h35km, ML4.0, mb4.8(NEIC)
MEX 13 09:08:01.8±0.5, 13°.90N×92°.57W, h22km±12km, MD4.6
NEIC 13 09:08:02.5±0.3, 13°.99N×92°.26W, h35km, mb4.8/168, MD4.6(MEX), Error ellipse: s-maj=5.3km s-min=3.8km az=206.0
ISCJB 13 09:08:03.2±0.4, 14°.05N±0°.02×92°.19W±0°.02, h62km±3km, mb4.7/149, Error ellipse: s-maj=4.7km s-min=2.7km az=140.9
ISC 13 09:07:59.3±1.6, 13°.97N±0°.05×92°.39W±0°.05, h16km±8km, n660, σ1°36/651, mb4.8/149, MS4.0/21, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.94**	**7**	*e*Pn	**Pg**	**09 08 18.3**	**+0.7**
THIG				*e*Sn	**Sg**	**09 08 30.5**	**+0.6**
THIG		**0.94**	**7**	*i* P	**Pg**	**09 08 18.3**	**+0.7**
THIG				*e*S	**Sg**	**09 08 30.5**	**+0.6**
IXG	**Ixpaco**	**1.89**	**84**	*e*P	**Pn**	**09 08 30.8**	**-0.4**
PCIG		**1.90**	**335**	*e*Pn	**Pn**	**09 08 30.4**	**-0.8**
PCIG		**1.90**	**335**	*e*P	**Pn**	**09 08 30.4**	**-0.8**
PCIG				*i* S	**Sn**	**09 08 52.9**	**-1.9**
APG	**El Apazote**	**2.13**	**61**	Pn	**Pb**	**09 08 37.3**	**-0.4**
	59nm,0.3s,baz=233,slow=8.2,SNR=639						
APG				Sn	**Sg**	**09 09 07.4**	**-0.5**
	182nm,0.3s,baz=267,slow=10,SNR=5.7						
CCIG	**Comitan**	**2.31**	**6**	*e*Pn	**Pb**	**09 08 39.6**	**-1.2**
CCIG	**Comitan**	**2.31**	**6**	*e*P	**Pn**	**09 08 38.3**	**+1.4**
CCIG				*i* S	**Sn**	**09 09 06.1**	**+0.9**
RTR	**El Retiro**	**2.67**	**91**	*e*P	**Pn**	**09 08 42.9**	**+1.0**
CEVE	**Cerro Verde**	**2.69**	**93**	*e*P	**Pn**	**09 08 43.1**	**+0.9**
CEVE				*e*S	**Sn**	**09 09 17.3**	**+2.7**
CEVE				IAML		09 09 32.1	
	comp=Z,5μm,0.4s						
SBLS	**San Blas**	**2.69**	**92**	*e*P	**Pn**	**09 08 42.7**	**+0.5**
TGIG		**2.88**	**346**	*e*Pn	**Pn**	**09 08 46.1**	**+1.5**
TGIG		**2.88**	**346**	*e*P	**Pn**	**09 08 45.5**	**+0.8**
TGIG				*i* S	**Sn**	**09 09 17.9**	**-1.1**
MTO3	**Montecristo**	**2.97**	**81**	*e*P	**Pn**	**09 08 46.5**	**+0.4**
BOQS	**Boqueron**	**3.03**	**94**	*e*P	**Pn**	**09 08 47.7**	**+0.9**
UEES	**San Salvador**	**3.07**	**94**	*e*P	**Pn**	**09 08 47.8**	**+0.5**
UEES				IAML		09 09 37.4	
	comp=Z,1μm,0.4s						
SNET	**Serv Nac Est T**	**3.08**	**95**	*e*Pn	**Pn**	**09 08 47.8**	**+0.3**
SNET	**Serv Nac Est T**	**3.08**	**95**	*e*P	**Pn**	**09 08 48.1**	**+0.7**
SNET				IAML		09 09 42.0	
	comp=Z,1μm,0.6s						
OPAM	**San Salvador**	**3.11**	**94**	*e*P	**Pn**	**09 08 48.7**	**+0.9**
OPAM				IAML		09 09 37.7	
	comp=Z,1μm,0.3s						
LFU	**La Fuente**	**3.19**	**94**	*e*P	**Pn**	**09 08 49.6**	**+0.7**
PAVA	**Las Pavas**	**3.36**	**94**	*e*P	**Pn**	**09 08 52.4**	**+1.0**
PAVA				IAML		09 09 56.1	
	comp=Z,558nm,0.5s						
CMIG	**Matias Romero**	**3.92**	**323**	Pn	**Pn**	**09 08 59.9**	**+0.9**
	comp=Z,46nm,0.3s,baz=166,slow=11,SNR=209						
CMIG				Sn	**Sn**	**09 09 47.3**	**+2.5**
	comp=Z,98nm,0.3s,baz=93,slow=14,SNR=4.8						
CMIG				Lg	Lg	09 10 00.1	
	comp=Z,144nm,0.3s,baz=337,slow=14,SNR=8.0						
CMIG	**Matias Romero**	**3.92**	**323**	*e*Pn	**Pn**	**09 08 57.5**	**-1.5**
CMIG				*e*Sn	**Sn**	**09 09 47.3**	**+2.5**
CMIG	**Matias Romero**	**3.92**	**323**	*e*P	**Pn**	**09 08 57.5**	**-1.5**
CMIG				*i* S	**Sn**	**09 09 41.8**	**-3.0**
LCND	**La Ca˜–ada**	**4.42**	**98**	*e*P	**Pn**	**09 09 06.2**	**+0.3**
TGUH	**Tegucigalpa,Un**	**4.97**	**88**	*e*Pn	**Pn**	**09 09 13.9**	**+0.6**
MOMN	**Momotombo**	**5.91**	**105**	*e*P	**Pn**	**09 09 25.9**	**-0.4**
ESTN	**Estel**	**5.92**	**98**	*e*Pn	**Pn**	**09 09 26.8**	**+0.3**
COPN	**Copaltepe**	**5.92**	**107**	*e*P	**Pn**	**09 09 25.9**	**-0.6**
BOAB	**BOACO BROADBAN**	**6.72**	**102**	*e*Pn	**Pn**	**09 09 37.1**	**-0.3**
BOAB	**BOACO BROADBAN**	**6.72**	**102**	*e*P	**Pn**	**09 09 36.9**	**-0.5**
BOAB				IAML		09 11 32.4	
	comp=N,9.2nm,1.1s						
LVIG	**Laguna Verde**	**6.90**	**327**	*e*Pn	**Pn**	**09 09 38.5**	**-1.3**
TLIG	**Tlapa**	**6.94**	**302**	*e*Pn	**Pn**	**09 09 42.4**	**+1.8**
CONN	**Concepcion**	**7.02**	**109**	*e*P	**Pn**	**09 09 41.9**	**+0.3**
TEIG	**Tepich**	**7.36**	**32**	*e*Pn	**Pn**	**09 09 48.8**	**+2.6**
MYIG	**MÖrida**	**7.39**	**20**	*e*Pn	**Pn**	**09 09 48.5**	**+1.9**
JTS	**JuntasAbangare**	**8.14**	**116**	Pn	**Pn**	**09 09 58.4**	**+1.4**
	comp=N,8.7nm,0.3s,baz=31,slow=12,SNR=33						
JTS				Lg	Lg	09 11 56.5	
	baz=343,slow=23,SNR=4.1						
JTS	**JuntasAbangare**	**8.14**	**116**	*e*P	**Pn**	**09 09 58.1**	**+1.1**
SRA1	**San Ram‡n**	**8.65**	**116**	*e*P	**Pn**	**09 10 05.3**	**+1.3**
HDC	**Heredia**	**9.01**	**115**	*e*Pn	**Pn**	**09 10 07.3**	**-1.7**
LCR2	**La Lucha 2**	**9.22**	**116**	*e*P	**Pn**	**09 10 13.9**	**+1.9**
URSC	**Urasca**	**9.38**	**115**	*e*P	**Pn**	**09 10 16.1**	**+2.0**
ICCO	**Coco Island**	**9.88**	**147**	*e*P	**Pn**	**09 10 22.9**	**+2.0**
EDPN	**Palmar Norte**	**10.07**	**119**	*e*P	**Pn**	**09 10 26.6**	**+3.2**
DRK0	**Durika**	**10.11**	**117**	*e*P	**Pn**	**09 10 26.1**	**+2.0**
MOIG	**Morelia**	**10.16**	**305**	*e*Pn	**Pn**	**09 10 28.2**	**+3.4**
PTJ1	**Puerto Jim˜ne**	**10.42**	**120**	*e*P	**Pn**	**09 10 30.3**	**+2.0**
BRU2	**Volcan**	**10.81**	**117**	*e*P	**Pn**	**09 10 35.6**	**+1.9**
LNIG	**Linares**	**12.75**	**330**	*e*Pn	**Pn**	**09 11 02.0**	**+1.9**
ZAIG	**Zacatecas**	**13.03**	**314**	*e*Pn	**Pn**	**09 11 02.1**	**-2.1**
833A	**Chaparral WMA,**	**15.70**	**337**	*e*Pn	**Pn**	**09 11 40.0**	**+0.1**
	comp=N,127nm,1.4s						
833A	**Chaparral WMA,**	**15.70**	**337**	P	**Pn**	**09 11 40.8**	**+0.9**
	baz=154,SNR=10						
061Z	**Ochoppi**	**16.00**	**41**	*e*Pn	**Pn**	**09 11 44.8**	**+0.9**
	comp=N,170nm,0.9s						
059Z	**Ave Maria**	**16.02**	**38**	P	**Pn**	**09 11 43.0**	**-1.0**
	baz=222						
HKT	**Hockley**	**16.22**	**349**	*e*Pn	**Pn**	**09 11 47.4**	**+0.9**
	comp=N,26nm,1.3s						
058A	**Arcadia**	**16.35**	**36**	P	**Pn**	**09 11 48.0**	**-0.3**
	baz=219,SNR=7.5						
957A	**Wimauma**	**16.59**	**33**	*e*Pn	**Pn**	**09 11 51.3**	**-0.1**
	comp=N,105nm,0.8s						
059A	**Moore Haven**	**16.66**	**37**	P	**Pn**	**09 11 51.6**	**-0.7**
	baz=221						
441A	**DeRidder**	**16.72**	**358**	P	**Pn**	**09 11 53.7**	**+0.7**
	baz=177						
443A	**Delano Plantat**	**16.72**	**2**	P	**P**	**09 11 54.4**	**-0.9**
	baz=182						
446A	**Poplarville**	**16.97**	**9**	P	**Pn**	**09 11 55.8**	**-0.4**
	baz=190						
857A	**Zephyrhills**	**17.08**	**32**	P	**Pn**	**09 11 56.7**	**-0.8**
	baz=215						
447A	**Lucedale**	**17.09**	**11**	P	**Pn**	**09 11 57.6**	**-0.1**
	baz=192						
060A	**Indiantown**	**17.18**	**39**	*e*Pn	**P**	**09 12 02.4**	**+2.0**
	comp=N,513nm,1.3s						
060A	**Indiantown**	**17.18**	**39**	P	**Pn**	**09 11 58.9**	**+0.1**
	baz=223						
MOTC	**Monteria, Cord**	**17.18**	**106**	*e*P	**Pn**	**09 11 54.2**	**-4.7**
959A	**Okeechobee**	**17.24**	**37**	P	**Pn**	**09 11 59.1**	**-0.5**
	baz=220						
343A	**Vidalia**	**17.25**	**2**	P	**Pn**	**09 11 59.9**	**+0.3**
	baz=182						
341A	**Kurthwood**	**17.30**	**358**	*e*P	**P**	**09 12 02.1**	**+0.5**
	comp=N,31nm,0.8s						
341A	**Kurthwood**	**17.30**	**358**	P	**Pn**	**09 12 00.5**	**+0.3**
	baz=177						
342A	**Flagon Creek P**	**17.32**	**0**	*e*Pn	**P**	**09 12 02.2**	**+0.3**
	comp=N,134nm,1.4s						
342A	**Flagon Creek P**	**17.32**	**0**	P	**P**	**09 12 02.1**	**+0.2**
	baz=180						
449A	**Pace**	**17.38**	**15**	P	**P**	**09 12 02.2**	**-0.3**
	baz=197						
DWPF	**Disney Wildern**	**17.38**	**34**	*e*Pn	**P**	**09 12 05.4**	**+2.9**
	comp=N,73nm,0.8s						
DWPF	**Disney Wildern**	**17.38**	**34**	P	**Pn**	**09 12 00.6**	**-0.6**
	baz=218						
448A	**Bay Minette**	**17.39**	**13**	P	**Pn**	**09 12 01.8**	**+0.4**
	baz=194						
345A	**Thompson Farm,**	**17.39**	**7**	P	**P**	**09 12 04.8**	**+2.1**
	baz=187						
435B	**Jarrell**	**17.40**	**345**	*e*Pn	**P**	**09 12 06.3**	**+3.5**
	comp=N,44nm,1.0s						
435B	**Jarrell**	**17.40**	**345**	P	**P**	**09 12 05.0**	**+2.2**
	baz=163						
344A	**Westbrook Farm**	**17.47**	**5**	*e*Pn	**P**	**09 12 03.9**	**+0.4**
	comp=N,186nm,1.3s						
344A	**Westbrook Farm**	**17.47**	**5**	P	**P**	**09 12 04.1**	**+0.6**
	baz=185,SNR=10						
858A	**St. Cloud**	**17.49**	**34**	P	**Pn**	**09 12 03.2**	**+0.4**
	baz=218						
346A	**Big Creek Wild**	**17.54**	**8**	*e*Pn	**P**	**09 12 05.7**	**+1.4**
	comp=N,90nm,0.8s						
346A	**Big Creek Wild**	**17.54**	**8**	P	**P**	**09 12 04.8**	**+0.4**
	baz=189,SNR=6.3						
655A	**Horseshoe Beac**	**17.62**	**27**	P	**P**	**09 12 06.4**	**+1.2**
	baz=210,SNR=5.4						
859A	**Kempfer Cattle**	**17.63**	**36**	P	**P**	**09 12 05.2**	**-0.2**
	baz=219						
347A	**Saraland**	**17.70**	**11**	P	**P**	**09 12 07.5**	**+1.4**
	baz=192						
757A	**Oxford**	**17.71**	**31**	P	**P**	**09 12 06.5**	**+0.3**
	baz=214,SNR=8.8						
553A	**Crawfordville**	**17.73**	**23**	P	**P**	**09 12 07.1**	**+0.7**
	baz=206						
JCT	**Junction City**	**17.79**	**339**	*e*Pn	**P**	**09 12 07.3**	**+0.1**
	comp=N,23nm,1.0s						
JCT	**Junction City**	**17.79**	**339**	P	**P**	**09 12 08.2**	**+1.0**
	baz=156,SNR=7.4						
BRAL	**Brewton**	**17.81**	**15**	P	**P**	**09 12 09.2**	**+1.9**
	baz=197						
NATX	**Nacogdoches**	**17.83**	**354**	P	**P**	**09 12 09.7**	**+2.2**
	baz=172,SNR=13						
656A	**Willston**	**17.83**	**29**	*e*Pn	**P**	**09 12 07.9**	**+0.3**
	comp=N,106nm,0.8s						
656A	**Willston**	**17.83**	**29**	P	**P**	**09 12 08.5**	**+1.0**
	baz=212,SNR=9.1						
348A	**Jackson**	**17.84**	**13**	P	**P**	**09 12 10.7**	**+3.1**
	baz=194,SNR=7.7						
243A	**Waterproof**	**17.85**	**3**	P	**P**	**09 12 09.6**	**+2.0**
	baz=182						
554A	**Perry**	**17.94**	**25**	P	**P**	**09 12 09.6**	**+0.9**
	baz=208						
349A	**Repton**	**17.94**	**15**	P	**P**	**09 12 11.2**	**+2.4**
	baz=196,SNR=16						
241A	**Mo Tay, Goldon**	**17.98**	**359**	P	**P**	**09 12 11.1**	**+2.0**
	baz=178,SNR=12						
242A	**Grayson**	**18.01**	**1**	P	**P**	**09 12 11.2**	**+1.7**
	baz=180,SNR=15						
240A	**Hunter Patters**	**18.03**	**356**	P	**P**	**09 12 11.1**	**+1.4**
	baz=175						
244A	**Avery, Jackson**	**18.05**	**5**	P	**P**	**09 12 11.3**	**+1.3**
	baz=185,SNR=14						
452A	**Marianna**	**18.06**	**20**	P	**P**	**09 12 11.6**	**+1.6**
	baz=203						
245A	**Little AP, Sta**	**18.12**	**7**	P	**P**	**09 12 12.0**	**+1.3**
	baz=187						
350A	**Dozier**	**18.24**	**17**	P	**P**	**09 12 13.0**	**+1.0**
	baz=199						
VBMS	**Vicksburg**	**18.24**	**5**	*e*Pn	**P**	**09 12 13.4**	**+1.4**
	comp=N,109nm,0.8s						
VBMS	**Vicksburg**	**18.24**	**5**	P	**P**	**09 12 13.8**	**+1.7**
	baz=185,SNR=7.1						
555A	**McAlpin**	**18.27**	**27**	*e*Pn	**P**	**09 12 14.0**	**+1.5**
	comp=N,94nm,1.0s						
555A	**McAlpin**	**18.27**	**27**	P	**P**	**09 12 13.2**	**+0.8**
	baz=210,SNR=5.2						
HELC	**Santa Helena**	**18.30**	**113**	*e*P	**P**	**09 12 14.9**	**+1.6**
351A	**Pinckard**	**18.32**	**19**	P	**P**	**09 12 13.8**	**+1.0**
	baz=201						
247A	**Quitman**	**18.33**	**10**	P	**P**	**09 12 13.6**	**+0.6**
	baz=191						
657A	**Interlachen**	**18.34**	**30**	P	**Pn**	**09 12 13.7**	**+0.6**
	baz=214,SNR=5.2						
453A	**Whigham**	**18.37**	**23**	*e*P	**P**	**09 12 13.1**	**-0.4**
	comp=N,196nm,1.1s						
453A	**Whigham**	**18.37**	**23**	P	**Pn**	**09 12 14.9**	**+1.4**
	baz=205						
ZARC	**Zaragoza, Cauc**	**18.38**	**109**	*e*P	**Pn**	**09 12 14.6**	**+0.9**
556A	**Lake Butler**	**18.43**	**28**	P	**Pn**	**09 12 16.2**	**+2.0**
	baz=212,SNR=7.2						
H06S1	**SOCORRO T**	**18.43**	**287**	T	T	09 31 08.5	
	SNR=12						
142A	**Monroe**	**18.50**	**1**	P	**Pn**	**09 12 16.3**	**+1.2**
	baz=181,SNR=9.7						
TXAR	**Lajitas Array**	**18.51**	**327**	P	**Pn**	**09 12 17.8**	**+2.4**
	comp=N,0.4nm,0.3s,baz=151,slow=14,SNR=38						
LTX	**Lajitas**	**18.52**	**327**	*e*P	**Pn**	**09 12 17.8**	**+2.4**
TX31	**Lajitas Ar. Si**	**18.52**	**327**	*e*P	**Pn**	**09 12 16.3**	**+0.9**
WHTX	**Lake Whitney,**	**18.53**	**346**	*e*

baz=200,SNR=21
BRRC **Barranca, Sant** 19.58 108 eP P 09 12 26.9 0.0
LRAL **Lakeview Retre** 19.60 14 eP Pn 09 12 28.1 -0.2
comp=N,86nm,1.0s
LRAL **Lakeview Retre** 19.60 14 P P 09 12 27.2 +0.2
baz=195,SNR=14
WLAR **White Oak Lake** 19.64 358 eP Pn 09 12 29.4 +0.7
comp=N,165nm,0.9s
356A **Blackshear** 19.68 27 P P 09 12 27.4 -0.4
baz=210
LPIG **La Paz** 19.69 303 LR LR 09 20 09.1
comp=N,455nm,18.2s,baz=121,slow=37
ABTX **Abilene, Hawle** 19.71 342 eP Pn 09 12 30.5 +0.7
comp=N,28nm,0.8s
ABTX **Abilene, Hawle** 19.71 342 P Pn 09 12 29.5 -0.3
baz=158,SNR=20
254A **Abbeville** 19.74 23 P P 09 12 27.3 -1.2
baz=207
Y42A **Garnett, Star** 19.79 1 P Pn 09 12 30.0 -0.6
baz=181,SNR=6.7
Z48A **Northport** 19.81 12 P P 09 12 29.6 +0.3
baz=194,SNR=8.2
Y41A **Eaglette Beard** 19.82 359 P P 09 12 29.3 -0.1
baz=179
Z49A **Columbiana** 19.87 15 P Pn 09 12 31.0 -0.5
baz=196,SNR=41
152A **Waverly Hall** 19.89 19 eP Pn 09 12 31.8 +0.1
comp=N,30nm,0.8s
152A **Waverly Hall** 19.89 19 P P 09 12 30.9 +0.8
baz=202,SNR=12
Y43A **Makayla and Ka** 19.90 4 P Pn 09 12 31.5 -0.3
baz=184
Y45A **Yeager Farm, C** 19.97 7 P P 09 12 31.6 +0.6
baz=188,SNR=13
ROSC **El Rosal** 19.99 115 P Pn 09 12 34.4 +0.9
comp=N,9nm,0.3s,baz=316,slow=6.7,SNR=14
ROSC **El Rosal** 19.99 115 eP Pn 09 12 35.3 +1.9
Y44A **Strider, Charl** 20.00 5 P P 09 12 32.0 +0.7
baz=186
255A **Hazlehurst** 20.05 25 eP P 09 12 32.7 +0.9
comp=N,121nm,1.4s
255A **Hazlehurst** 20.05 25 P P 09 12 32.6 +0.8
baz=209
PRAC **Prado** 20.05 119 eP P 09 12 32.1 0.0
GIRC **Giron, Santand** 20.07 108 eP P 09 12 33.1 +0.7
Z50A **Ashland** 20.08 16 eP Pn 09 12 33.5 -0.5
comp=N,73nm,1.2s
Z50A **Ashland** 20.08 16 P P 09 12 32.3 +0.1
baz=198,SNR=8.4
Y46A **Houston** 20.08 9 P P 09 12 32.8 +0.6
baz=190,SNR=15
153A **Fort Valley** 20.17 21 P P 09 12 34.0 +0.8
baz=204
BARC **Barichara** 20.26 109 eP Pn 09 12 36.7 +0.1
Y47A **UCPARC, Winfie** 20.27 11 P P 09 12 34.4 +0.2
baz=192,SNR=9.7
256A **Glennville** 20.34 26 P P 09 12 34.9 -0.1
baz=210
Z51A **Franklin** 20.35 18 P Pn 09 12 36.7 -0.5
baz=200
154A **Montrose** 20.40 23 eP P 09 12 36.2 +0.5
comp=N,156nm,1.1s
154A **Montrose** 20.40 23 P P 09 12 35.9 +0.2
baz=206,SNR=7.7
Y48A **Jasper** 20.41 13 P P 09 12 35.8 0.0
baz=194,SNR=6.1
PAMC **Pamplona, Colo** 20.43 107 eP P 09 12 37.8 +1.1
X41A **Kaden, Bauxite** 20.43 360 P P 09 12 36.9 +0.9
baz=179,SNR=8.9
Z52A **Williamson** 20.46 19 P P 09 12 37.1 +0.8
baz=202,SNR=9.5
X43A **Marvell** 20.50 4 P Pn 09 12 38.5 -0.5
baz=184,SNR=14
X42A **Stuttgart** 20.50 2 P Pn 09 12 38.6 -0.4
baz=182
MIAR **Mount Ida** 20.51 357 eP P 09 12 37.6 +0.7
comp=N,168nm,0.9s
MIAR **Mount Ida** 20.51 357 P Pn 09 12 38.2 -0.9
baz=176,SNR=41
Y49A **Blount Mountai** 20.53 14 eP P 09 12 38.3 +1.2
comp=N,34nm,0.9s
Y49A **Blount Mountai** 20.53 14 P P 09 12 38.1 +1.0
baz=196,SNR=12
X44A **Crenshaw** 20.54 5 P Pn 09 12 39.7 +0.3
baz=186
X45A **UM Field Stati** 20.54 7 P P 09 12 37.5 +0.3
baz=188,SNR=7.5
CHIC **Chingaza** 20.60 115 eP Pn 09 12 40.8 +0.1
FLOC **Florencia** 20.63 125 eP P 09 12 39.0 +0.6
RUSC **La Rusia** 20.63 111 eP P 09 12 39.2 +0.4
OXF **Oxford** 20.63 7 eP P 09 12 39.3 +1.2
comp=N,107nm,1.0s
OXF **Oxford** 20.63 7 P P 09 12 38.7 +0.6
baz=188,SNR=8.2
155A **Kite** 20.66 24 P P 09 12 39.2 +0.7
baz=208,SNR=9.1
X37A **Clayton** 20.70 353 eP P 09 12 40.1 +1.1
comp=N,110nm,1.1s
UALR **University of** 20.71 0 eP P 09 12 40.2 +1.1
comp=N,101nm,0.9s
Y50A **Piedmont** 20.73 16 P P 09 12 38.9 -0.4
baz=198
X46A **Booneville** 20.78 9 P P 09 12 40.3 +0.5
baz=190,SNR=8.2
Z53A **Monticello** 20.83 21 P P 09 12 40.6 +0.2
baz=204,SNR=7.8
X47A **Russelville** 20.86 11 P P 09 12 41.0 +0.3
baz=192,SNR=15
VILC **Villavicencio,** 20.88 116 eP Pn 09 12 43.1 -0.7
Y51A **Rockmart** 20.92 17 P P 09 12 41.6 +0.2
baz=200,SNR=10
X48A **Hartselle** 20.96 12 eP P 09 12 42.1 +0.4
comp=N,63nm,0.8s
X48A **Hartselle** 20.96 12 P P 09 12 42.1 +0.4
baz=194,SNR=12
GOGA **Godfrey** 20.99 21 eP P 09 12 41.5 -0.5
comp=N,57nm,0.9s
GOGA **Godfrey** 20.99 21 P P 09 12 42.3 +0.3
baz=204,SNR=6.5
Z54A **Sparta** 21.06 23 P P 09 12 43.7 +0.9
baz=206,SNR=14
SJAC **San Juan de Ar** 21.08 119 eP P 09 12 46.9 +3.6
156A **Sylvania** 21.09 26 P P 09 12 43.1 0.0
baz=210
W41B **Gary Mavity, V** 21.11 0 eP P 09 12 44.8 +1.4
comp=N,48nm,1.0s
W41B **Gary Mavity, V** 21.11 0 P P 09 12 44.5 +1.2
baz=180,SNR=12
W39A **Magazine** 21.17 357 P P 09 12 45.6 +1.6
baz=176,SNR=12
X49A **Woodville** 21.18 14 P P 09 12 45.1 +1.0
baz=196,SNR=18
GDL2 **Guadalupe Moun** 21.20 331 eP P 09 12 47.7 +3.3
Y52A **Lilburn** 21.20 19 eP P 09 12 44.5 +0.2
comp=N,65nm,0.9s
Y52A **Lilburn** 21.20 19 P P 09 12 44.7 +0.4
baz=202
W42A **Bald Knob** 21.23 2 P P 09 12 47.1 +2.6
baz=182
WHAR **Wooly Hollow** 21.23 0 eP P 09 12 45.5 +0.9
comp=N,45nm,0.9s
PLAL **Pickwick Lake** 21.28 10 eP P 09 12 44.8 -0.4
comp=N,88nm,1.5s
MNTX **Cornudas Mount** 21.29 328 eP P 09 12 46.4 +1.1
comp=N,20nm,0.9s
MNTX **Cornudas Mount** 21.29 328 P P 09 12 46.3 +0.9
baz=143,SNR=27
W45A **Hickory Valley** 21.29 7 P P 09 12 45.7 +0.4
baz=188
X50B **Fort Payne** 21.29 15 P P 09 12 45.1 -0.2
baz=198,SNR=18
Z55A **Blythe** 21.32 24 P P 09 12 45.9 +0.3
baz=208,SNR=5.9
Y53A **Monroe** 21.35 20 P P 09 12 46.6 +0.6
baz=204
W46A **Michie** 21.38 9 P P 09 12 46.0 -0.2
baz=190,SNR=12
WMOK **Wichita Mounta** 21.47 345 eP P 09 12 45.6 -1.6
comp=N,14nm,0.7s
WMOK **Wichita Mounta** 21.47 345 P P 09 12 46.9 -0.3
baz=163,SNR=20
TAMC **Tame, Arauca** 21.60 108 eP P 09 12 52.8 +4.0
X51A **Calhoun** 21.61 17 P P 09 12 48.9 +0.2
baz=200,SNR=5.6
W47A **Westpoint** 21.62 11 P P 09 12 48.6 -0.3
baz=192,SNR=9.0
W48A **Pulaski** 21.64 12 P P 09 12 48.6 -0.5
baz=194,SNR=9.7

Y54A **Tignall** 21.67 22 P P 09 12 48.8 -0.6
baz=206,SNR=12
V41A **Mountainview** 21.72 1 P P 09 12 50.4 +0.5
baz=180
V42A **Cord** 21.76 2 P P 09 12 49.5 -0.8
baz=182,SNR=8.8
W49A **Belvidere** 21.77 14 P P 09 12 49.4 -1.0
baz=196,SNR=13
SDV **Santo Domingo** 21.91 101 P P 09 12 55.1 +2.8
comp=N,11nm,0.3s,baz=352,slow=4.0,SNR=2.5
SDV LR LR 09 23 27.8
comp=N,318nm,18.7s,baz=28,slow=42
X52A **Dahlonega** 21.93 19 P P 09 12 51.2 -1.0
baz=202,SNR=6.5
SWET **Sewanee** 21.94 14 eP P 09 12 51.8 -0.6
comp=N,34nm,0.9s
MSTX **Muleshoe** 22.03 336 eP P 09 12 52.9 -0.4
comp=N,32nm,0.8s
MSTX **Muleshoe** 22.03 336 P P 09 12 53.1 -0.2
baz=152,SNR=27
X53A **Estanollee** 22.03 20 P P 09 12 54.5 +1.2
baz=204
NHSC **New Hope** 22.06 28 P P 09 12 51.3 -2.2
baz=213
TUL1 **Leonard** 22.06 353 eP P 09 12 53.0 -0.6
comp=N,60nm,0.9s
TUL1 **Leonard** 22.06 353 P P 09 12 52.6 -1.0
baz=171,SNR=8.2
V46A **Holladay** 22.07 9 P P 09 12 52.3 -1.4
baz=191,SNR=10
W50A **Signal Mountai** 22.08 16 eP P 09 12 54.0 +0.2
comp=N,45nm,0.9s
W50A **Signal Mountai** 22.08 16 P P 09 12 53.5 -0.4
baz=198,SNR=9.0
W51A **Cleveland** 22.19 17 P P 09 12 54.2 -0.7
baz=200
V47A **Nunnelly** 22.20 11 P P 09 12 54.0 -1.0
baz=192,SNR=12
V48A **Smith Brothers** 22.25 12 eP P 09 12 54.6 -1.0
comp=N,33nm,1.0s
V48A **Smith Brothers** 22.25 12 P P 09 12 54.0 -1.6
baz=194,SNR=13
HHAR **Hobbs** 22.26 357 eP P 09 12 55.2 -0.5
comp=N,27nm,0.9s
U41A **Viola** 22.28 1 P P 09 12 54.7 -1.2
baz=181,SNR=7.3
U40A **Yellville** 22.30 359 P P 09 12 56.3 +0.2
baz=178,SNR=7.0
U42A **Revenden** 22.31 2 P P 09 12 55.7 -0.5
baz=183,SNR=11
W52A **Murphy** 22.37 18 eP P 09 12 56.6 -0.4
comp=N,28nm,1.1s
W52A **Murphy** 22.37 18 P P 09 12 55.7 -1.2
baz=202
U43A **Rector** 22.38 4 P P 09 12 56.3 -0.7
baz=185
U44B **Burton Farm, H** 22.44 6 P P 09 12 58.5 +0.9
baz=187
WVT **Waverly** 22.44 10 eP P 09 12 57.0 -0.7
comp=N,20nm,0.8s
WVT **Waverly** 22.44 10 P P 09 12 58.2 +0.6
baz=191
AMTX **Amarillo** 22.45 340 eP P 09 12 58.1 +0.3
comp=N,58nm,0.8s
AMTX **Amarillo** 22.45 340 P P 09 12 58.7 +0.9
baz=156
V49A **McMinnville** 22.47 14 P P 09 12 57.0 -1.0
baz=196,SNR=9.4
U45A **Rockin P Farm,** 22.52 8 P P 09 12 57.9 -0.5
baz=189
CPCT **Cooper Cave** 22.53 17 eP P 09 12 58.3 -0.3
comp=N,33nm,1.0s
V50A **Pilvile** 22.58 16 P P 09 12 59.3 +0.1
baz=198
JSC **Jenkinsville** 22.59 25 eP P 09 12 57.6 -1.7
comp=N,34nm,1.0s
U46A **Springville** 22.61 9 P P 09 12 58.4 -1.1
baz=190,SNR=15
W53A **Cullowhee** 22.69 20 P P 09 12 59.4 -1.0
baz=203
PBMO **Poplar Bluff** 22.78 4 eP P 09 12 59.9 -1.3
comp=N,81nm,1.4s
U47A **Clarksville** 22.84 11 P P 09 13 00.9 -1.0
baz=192,SNR=6.7
V51A **Loudon** 22.91 17 eP P 09 13 01.9 -0.6
comp=N,36nm,1.0s
V51A **Loudon** 22.91 17 P P 09 13 01.8 -0.8
baz=200
T41A **Mountain View** 22.98 1 P P 09 13 02.5 -0.9
baz=181,SNR=9.4
T42A **Van Buren** 22.99 3 eP P 09 13 03.3 -0.2
comp=N,16nm,0.8s
T42A **Van Buren** 22.99 3 P P 09 13 02.7 -0.7
baz=183,SNR=8.2
U48A **Cassie Pea, Po** 23.05 12 P P 09 13 02.6 -1.5
baz=194
T43A **Greenville** 23.09 4 P P 09 13 02.7 -1.8
baz=185,SNR=8.9
T44A **Benton** 23.16 6 P P 09 13 03.8 -1.3
baz=187
V52A **Sevierville** 23.17 18 eP P 09 13 04.5 -0.8
comp=N,28nm,1.2s
V52A **Sevierville** 23.17 18 P P 09 13 04.8 -0.4
baz=202,SNR=5.2
T45A **Paducah** 23.20 8 eP P 09 13 04.4 -1.0
comp=N,65nm,0.6s
T45A **Paducah** 23.20 8 P P 09 13 04.5 -1.0
baz=189
U49A **Red Boiling Sp** 23.21 14 P P 09 13 04.6 -1.1
baz=196,SNR=16
121A **Cookes Peak, D** 23.22 325 P P 09 13 05.7 -0.3
baz=139,SNR=19
V53A **Saluda** 23.26 20 eP P 09 13 06.4 +0.1
comp=N,40nm,0.9s
V53A **Saluda** 23.26 20 P P 09 13 04.0 -2.3
baz=204
KMSC **Kings Mountain** 23.32 23 eP P 09 13 06.3 -0.5
comp=N,22nm,0.8s
KMSC **Kings Mountain** 23.32 23 P P 09 13 05.3 -1.5
baz=208,SNR=7.3
T46A **Princeton** 23.32 9 P P 09 13 04.8 -2.0
baz=191,SNR=9.6
U50A **Jamestown** 23.35 16 P P 09 13 05.3 -1.8
baz=198,SNR=25
T47A **Sharon Grove** 23.40 11 eP P 09 13 05.8 -1.8
comp=N,35nm,0.7s
T47A **Sharon Grove** 23.40 11 P P 09 13 05.9 -1.7
baz=193,SNR=12
S41A **Jillco Farms,** 23.53 1 P P 09 13 07.5 -1.3
baz=181,SNR=5.6
U51A **La Follette** 23.54 17 P P 09 13 07.7 -1.3
baz=200,SNR=19
S43A **Fulton Ridge,** 23.59 5 P P 09 13 08.0 -1.5
baz=185
T48A **Bowling Green** 23.66 12 P P 09 13 08.7 -1.4
baz=194
S42A **Caledonia** 23.75 3 P P 09 13 09.0 -1.9
baz=184
U52A **Thorn Hill** 23.75 18 P P 09 13 10.2 -0.8
baz=202
S44A **Carbondale** 23.79 6 P P 09 13 10.4 -1.0
baz=187,SNR=19
SIUC **Southern Illin** 23.82 6 eP P 09 13 10.5 -1.1
comp=N,70nm,0.8s
TZTN **Tazewell** 23.83 18 eP P 09 13 11.6 -0.2
comp=N,37nm,1.0s
TZTN **Tazewell** 23.83 18 P P 09 13 10.1 -1.7
baz=201
T49A **Edmonton** 23.84 14 eP P 09 13 10.2 -1.7
comp=N,41nm,1.1s
T49A **Edmonton** 23.84 14 P P 09 13 09.8 -2.0
baz=196,SNR=14
S45A **Carrier Mills** 23.85 7 P P 09 13 10.8 -1.1
baz=189
BNM **Barren Site** 23.88 330 eP P 09 13 14.7 +2.1
T50A **Nancy** 23.93 15 P P 09 13 10.8 -1.9
baz=198
Y22D **IRIS PASSCAL I** 23.96 329 eP P 09 13 16.3 +3.0
comp=N,91nm,1.4s
Y22D **IRIS PASSCAL I** 23.96 329 P P 09 13 14.8 +1.5
baz=143
U53A **Fall Branch** 23.97 20 P P 09 13 11.2 -1.9
baz=204,SNR=8.1
S46A **Don Dixon Farm** 23.98 9 P P 09 13 11.0 -2.2
baz=191,SNR=8.8
CCM **Cathedral Cave** 24.01 2 eP P 09 13 11.3 -2.2
comp=N,22nm,1.0s
CCM **Cathedral Cave** 24.01 2 P P 09 13 11.8 -1.6

baz=182
LPM **Los Pinos Moun** 24.01 330 eP P 09 13 11.9 -1.8
S47A **Hartford** 24.03 11 P P 09 13 13.3 -0.4
baz=193
LENM **Lemitar** 24.06 329 eP P 09 13 14.2 0.0
T51A **Gray** 24.11 17 P P 09 13 13.6 -0.9
baz=200
R41A **Rosebud** 24.25 2 P P 09 13 14.4 -1.3
baz=182,SNR=12
R42A **Luebbering** 24.25 3 P P 09 13 14.8 -0.9
baz=184
S48A **Wiedeman Farm,** 24.25 12 P P 09 13 14.3 -1.4
baz=195
USIN **University of** 24.26 9 eP P 09 13 14.3 -1.5
comp=N,47nm,0.9s
R43A **Red Bud** 24.31 5 P P 09 13 15.5 -0.7
baz=186,SNR=9.4
LAZ **Ladron** 24.33 329 eP P 09 13 15.7 -1.1
R44A **Waltonville** 24.36 6 P P 09 13 15.3 -1.3
baz=188
ANMO **Albuquerque** 24.44 331 P P 09 13 19.3 +1.6
comp=N,7.4nm,0.6s,baz=143,slow=12,SNR=40
ANMO LR LR 09 24 33.2
comp=N,175nm,19.8s,baz=192,slow=40
ANMO **Albuquerque** 24.44 331 eP P 09 13 18.1 +0.3
comp=N,7.8nm,0.6s
ANMO **Albuquerque** 24.44 331 P P 09 13 19.0 +1.3
baz=145
R45A **Skylar, Fairfi** 24.50 8 P P 09 13 16.3 -1.6
baz=189,SNR=9.4
T52A **Hallie** 24.52 18 P P 09 13 16.6 -1.6
baz=202,SNR=6.2
R46A **Gibon Southern** 24.53 9 P P 09 13 16.4 -1.8
baz=191
S49A **Springfield** 24.54 14 P P 09 13 16.4 -1.9
baz=196,SNR=11
S50A **Richond** 24.66 15 P P 09 13 17.3 -2.1
baz=198,SNR=9.9
WCI **Wyandotte Cave** 24.76 12 eP P 09 13 19.0 -1.3
comp=N,68nm,0.8s
WCI **Wyandotte Cave** 24.76 12 P P 09 13 19.0 -1.3
baz=194
R47A **Wooly Knot Far** 24.78 11 P P 09 13 19.5 -1.0
baz=193,SNR=11
TUC **Tucson** 24.82 320 eP P 09 13 20.8 -0.2
comp=N,30nm,1.2s
TUC **Tucson** 24.82 320 P P 09 13 22.0 +1.0
baz=133
S51A **Beattyville** 24.84 17 eP P 09 13 20.7 -0.3
comp=N,22nm,0.8s
S51A **Beattyville** 24.84 17 P P 09 13 18.5 -2.6
baz=200
Q42A **Golden Eagle** 24.90 3 P P 09 13 19.3 -2.2
baz=184
Q41A **Truxton** 24.91 2 P P 09 13 19.6 -2.0
baz=182,SNR=10
OLIL **Olney** 24.95 8 eP P 09 13 21.1 -1.0
comp=N,54nm,0.8s
R48A **Northridge Ran** 25.01 12 P P 09 13 20.8 -1.8
baz=195,SNR=8.6
Q44A **Meyer Farm, Va** 25.01 6 P P 09 13 21.7 -0.9
baz=187
S52A **Salyersville** 25.02 18 P P 09 13 21.0 -1.7
baz=201
R49A **Shelbyville** 25.05 14 P P 09 13 21.7 -1.3
baz=196
Q45A **Warren Harvey,** 25.11 8 P P 09 13 22.4 -1.0
baz=189,SNR=7.5
ATAH **Atahualpa** 25.15 146 P P 09 13 25.9 +1.4
comp=N,12nm,0.9s,baz=353,slow=8.5,SNR=6.9
ATAH LR LR 09 21 08.0
comp=N,276nm,21.9s,baz=323,slow=32
R50A **Paris** 25.25 15 P P 09 13 23.2 -1.5
baz=198,SNR=6.2
KSU1 **Kansas State U** 25.31 352 eP P 09 13 24.4 -0.9
comp=N,25nm,0.6s
KSU1 **Kansas State U** 25.31 352 P P 09 13 24.2 -1.1
baz=170,SNR=9.2
Q47A **Bedord North L** 25.42 11 P P 09 13 26.2 -0.1
baz=193,SNR=5.9
T25A **Trinidad** 25.45 337 eP P 09 13 28.4 +1.6
comp=N,23nm,0.9s
T25A **Trinidad** 25.45 337 P P 09 13 27.3 +0.5
baz=152,SNR=17
R51A **Hillsboro** 25.46 16 P P 09 13 25.6 -1.1
baz=200
BLA **Blacksburg** 25.49 23 P P 09 13 26.3 -0.7
baz=208
SJG **San Juan** 25.54 77 LR LR 09 24 19.5
comp=N,770nm,19.1s,baz=261,slow=38
Q48A **North Vernon** 25.55 12 P P 09 13 26.1 -1.3
baz=195,SNR=5.8
P42A **Winchester** 25.58 4 eP P 09 13 27.8 +0.1
comp=N,32nm,1.2s
P42A **Winchester** 25.58 4 P P 09 13 27.4 -0.3
baz=184
CBKS **Cedar Bluff** 25.58 347 eP P 09 13 28.2 +0.4
comp=N,31nm,1.0s
CBKS **Cedar Bluff** 25.58 347 P P 09 13 28.0 +0.1
baz=163
P44A **Sand Creek, Wi** 25.61 7 P P 09 13 27.9 -0.1
baz=188
BLO **Bloomington** 25.63 11 eP P 09 13 27.8 -0.4
comp=N,24nm,0.6s
P41A **Barry, Barry** 25.63 2 P P 09 13 27.1 -1.1
baz=183
P43A **Skaggs, Pawnee** 25.70 5 P P 09 13 27.1 -1.6
baz=186
R52A **Catlettsburg** 25.76 18 P P 09 13 27.1 -2.3
baz=202
P45A **Graceland, Par** 25.78 8 eP P 09 13 28.3 -1.3
comp=N,33nm,0.8s
P45A **Graceland, Par** 25.78 8 P P 09 13 28.4 -1.2
baz=190,SNR=7.7
Q49A **Aurora** 25.80 14 P P 09 13 28.1 -1.6
baz=197
Q50A **Georgetown** 25.87 15 P P 09 13 28.7 -1.6
baz=199
P46A **Rosedale** 25.95 9 P P 09 13 29.9 -1.2
baz=191,SNR=11
P47A **Martinsville** 25.98 11 P P 09 13 30.7 -0.7
baz=193
O41A **Passleys Farm,** 26.08 3 P P 09 13 32.0 -0.3
baz=183
P48A **Milroy** 26.12 12 P P 09 13 30.8 -1.9
baz=195,SNR=8.4
Q51A **Peebles** 26.20 16 eP P 09 13 31.9 -1.6
comp=N,29nm,0.9s
Q51A **Peebles** 26.20 16 P P 09 13 32.0 -1.4
baz=200
O44A **Mansfield** 26.31 7 P P 09 13 32.6 -1.7
baz=188
P49A **Miami Univ. Ec** 26.35 13 P P 09 13 33.1 -1.6
baz=197
O43A **Sugar Creek Fa** 26.35 5 P P 09 13 34.1 -0.6
baz=186
SDCO **Great Sand Dun** 26.39 336 eP P 09 13 36.7 +1.2
comp=N,7.6nm,0.8s
SDCO **Great Sand Dun** 26.39 336 P P 09 13 36.2 +0.7
baz=150,SNR=17
Q52A **Bidwell** 26.45 18 P P 09 13 34.5 -1.1
baz=202
O45A **Potomac** 26.50 8 P P 09 13 34.2 -1.8
baz=190,SNR=9.4
KSCO **Kaye Shedlock'** 26.53 342 P P 09 13 36.4 -0.1
baz=157
HDIL **Hopedale** 26.62 5 eP P 09 13 36.0 -1.2
comp=N,17nm,0.9s
HDIL **Hopedale** 26.62 5 P P 09 13 36.6 -0.6
baz=186
P50A **Jamestown** 26.64 15 P P 09 13 35.8 -1.5
baz=199
X16A **Lo Mia Camp, P** 26.67 323 eP P 09 13 39.9 +1.9
comp=N,7.4nm,0.8s
P51A **Williamsport** 26.71 16 eP P 09 13 36.5 -1.4
comp=N,19nm,0.9s
P51A **Williamsport** 26.71 16 P P 09 13 37.1 -0.8
baz=200
SFIN **Lafayette** 26.71 9 P P 09 13 36.5 -1.5
baz=191
O47A **Sheridan** 26.73 11 P P 09 13 36.6 -1.5
baz=193
N39A **Derby Farms, D** 26.81 360 P P 09 13 38.6 -0.2
baz=180
N40A **Mertquake, Sal** 26.82 1 P P 09 13 38.4 -0.5
baz=182
S22A **4UR Ranch, Cre** 26.94 334 eP P 09 13 40.7 +0.3
comp=N,13nm,0.8s

S22A	4UR Ranch, Cre	26.94	334	P	P	09 13 40.5	+0.1
	baz=148,SNR=21						
O48A	Farmland	26.94	12	P	P	09 13 38.5	-1.6
	baz=195						
N44A	Piper City	26.98	7	P	P	09 13 39.2	-1.2
	baz=189						
O49A	Covington	27.06	14	P	P	09 13 40.4	-0.6
	baz=197						
P52A	Corning	27.11	18	P	P	09 13 41.0	-0.6
	baz=202						
N45A	Kentland	27.11	8	P	P	09 13 40.3	-1.3
	baz=190						
R58B	Mineral	27.15	26	P	P	09 13 39.4	-2.5
	baz=212						
O50A	Cable	27.19	15	P	P	09 13 40.9	-1.4
	baz=199						
P53A	Whipple	27.20	19	eP	P	09 13 41.8	-0.6
	comp=N,16nm,1.0s						
P53A	Whipple	27.20	19	P	P	09 13 40.7	-1.7
	baz=204						
MVCO	Mesa Verde	27.24	331	eP	P	09 13 43.1	0.0
	comp=N,29nm,0.8s						
MVCO	Mesa Verde	27.24	331	P	P	09 13 45.1	+2.0
	baz=144,SNR=38						
N46A	Monticello	27.27	9	P	P	09 13 43.8	+0.8
	baz=192						
M40A	Post Highland	27.34	1	P	P	09 13 44.0	+0.3
	baz=182						
M41A	Milan	27.35	3	P	P	09 13 42.9	-0.8
	baz=184						
PCRV	Puerto La Cruz	27.39	95	LR	LR	09 26 37.0	
	comp=N,209nm,18.1s,baz=310,slow=41						
WUAZ	Wupatki	27.42	325	eP	P	09 13 44.9	+0.3
	comp=N,8.9nm,0.9s						
WUAZ	Wupatki	27.42	325	P	P	09 13 46.1	+1.5
	baz=137						
ACSO	Alum Creek Sta	27.43	16	P	P	09 13 43.6	-0.8
	baz=200						
N47A	Urbana	27.44	11	P	P	09 13 42.7	-1.8
	baz=194						
O51A	Pataskala	27.45	16	P	P	09 13 44.7	0.0
	baz=201						
M43A	Waltham Townsh	27.53	6	P	P	09 13 44.1	-1.2
	baz=187						
M44A	Midewin, Midew	27.58	7	P	P	09 13 44.3	-1.5
	baz=189						
O52A	Adamsville	27.64	18	P	P	09 13 45.2	-1.1
	baz=202						
M45A	Boilermakers S	27.68	8	P	P	09 13 46.0	-0.6
	baz=190						
N50A	Nevada	27.89	15	P	P	09 13 47.8	-0.8
	baz=199						
M47A	Cromwell	27.92	11	P	P	09 13 47.5	-1.3
	baz=194						
PV01	Paradox Valley	28.02	332	eP	P	09 13 51.6	+1.6
L42A	Oliver, Polo	28.03	4	P	P	09 13 48.4	-1.4
	baz=185						
L41A	Preston	28.05	3	P	P	09 13 49.1	-0.8
	baz=184						
PV13	Radium Mtn., P	28.16	332	eP	P	09 13 52.2	+1.0
	comp=N,18nm,0.9s						
PV02	Paradox Valley	28.16	332	eP	P	09 13 52.3	+1.0
	comp=N,30nm,1.2s						
OGNE	Ogallala	28.16	344	P	P	09 13 50.4	-0.7
	baz=160						
SMCO	Snowmass	28.21	336	eP	P	09 13 53.3	+1.3
	comp=N,6.3nm,0.8s						
PV05	Paradox Valley	28.22	331	eP	P	09 13 53.5	+1.7
ISCO	Idaho Springs	28.23	338	eP	P	09 13 51.5	-0.5
	comp=N,5.6nm,0.8s						
ISCO	Idaho Springs	28.23	338	P	P	09 13 52.2	+0.2
	baz=152,SNR=8.8						
PV03	Paradox Valley	28.25	332	eP	P	09 13 54.0	+2.0
PV18	Skein Mesa, Pa	28.27	332	eP	P	09 13 53.3	+1.1
	comp=N,36nm,1.2s						
PV12	Saucer Basin,	28.28	332	eP	P	09 13 54.3	+1.9
	comp=N,32nm,0.9s						
PV11	David Mesa, Pa	28.30	332	eP	P	09 13 54.4	+1.9
	comp=N,37nm,1.1s						
PV17	East Wray Mesa	28.32	332	eP	P	09 13 54.7	+2.0
	comp=N,18nm,0.9s						
PV16	Nyswonger Mesa	28.33	332	eP	P	09 13 54.8	+2.1
	comp=N,26nm,1.2s						
PV19	Morning Glory	28.36	332	eP	P	09 13 54.7	+1.7
	comp=N,37nm,1.5s						
PV20	West Nyswonger	28.37	332	eP	P	09 13 54.5	+1.4
	comp=N,12nm,0.9s						
PV14	Lion Creek, Pa	28.43	332	eP	P	09 13 55.3	+1.6
	comp=N,29nm,1.2s						
PV10	Paradox Valley	28.43	332	eP	P	09 13 56.1	+2.4
PV22	Blue Mesa, Par	28.45	332	eP	P	09 13 55.4	+1.6
	comp=N,16nm,0.8s						
PV23	Carpenter Ridg	28.48	332	eP	P	09 13 55.7	+1.5
	comp=N,26nm,0.8s						
M50A	Fremont	28.52	15	P	P	09 13 52.3	-1.8
	baz=199						
IKP	In-Ko-Pah, Jac	28.52	315	P	P	09 13 55.2	+0.7
	baz=125						
PV21	Cone Mtn., Par	28.56	332	eP	P	09 13 57.0	+2.2
	comp=N,8.3nm,0.8s						
PV09	Paradox Valley	28.58	332	eP	P	09 13 55.1	0.0
U15A	North Rim	28.59	325	eP	P	09 13 56.6	+1.4
	comp=N,4.7nm,0.9s						
W13A	Hualapai Mount	28.60	321	eP	P	09 13 57.5	+2.2
	comp=N,8.8nm,1.3s						
BC3	Big Chuckawall	28.68	317	P	P	09 13 55.3	-0.5
	baz=128						
L48A	N Adams	28.71	12	P	P	09 13 53.1	-2.8
	baz=196						
IRM	Iron Mountain	28.78	318	P	P	09 13 54.7	-2.0
	baz=129						
N54A	Moraine State	28.99	20	P	P	09 13 55.6	-2.8
	baz=205						
J39A	Decorah	29.27	1	P	P	09 13 58.4	-2.4
	baz=181						
GMRC	Granite Mounta	29.51	319	P	P	09 14 04.2	+1.0
	baz=129						
O20A	White River Ci	29.54	335	eP	P	09 14 05.0	+1.5
	comp=N,7.6nm,0.9s						
O20A	White River Ci	29.54	335	P	P	09 14 02.9	-0.6
	baz=147						
K49A	Clarkson	29.73	13	P	P	09 14 03.8	-1.0
	baz=197						
MURC	Murrieta	29.81	315	P	P	09 14 05.3	-0.5
	baz=125						
ECSD	EROS Data Cent	29.88	354	eP	P	09 14 07.0	+0.8
	comp=N,6.1nm,0.9s						
ECSD	EROS Data Cent	29.88	354	P	P	09 14 04.6	-1.7
	baz=172						
P18A	Preston Nutter	30.00	332	eP	P	09 14 10.3	+2.6
	comp=N,19nm,1.5s						
BFSC	Mount Baldy Ra	30.50	316	P	P	09 14 09.8	-2.2
	baz=125						
N59A	State Game Lan	30.52	25	P	P	09 14 10.5	-1.4
	baz=213						
SUSD	Miller	30.88	351	P	P	09 14 15.1	0.0
	baz=167						
K22A	Casper	31.08	340	P	P	09 14 15.7	-1.3
	baz=152						
SPMN	Marine on St.	31.15	359	eP	P	09 14 18.1	+0.6
	comp=N,8.1nm,0.8s						
SPMN	Marine on St.	31.15	359	P	P	09 14 16.3	-1.1
	baz=179						
G39A	Holcombe	31.23	2	P	P	09 14 16.7	-1.4
	baz=182						
LRMC	Laurel Mtn Rad	31.24	318	P	P	09 14 19.2	+0.7
	baz=127						
TPNV	Topopah Spring	31.26	321	P	P	09 14 19.1	+0.5
	baz=131						
FURC	Furnace Creek,	31.33	320	P	P	09 14 17.9	-1.1
	baz=129						
MPMC	Manual Prospec	31.47	319	P	P	09 14 19.8	-0.8
	baz=128						
BINY	Binghamton	31.51	24	P	P	09 14 19.0	-1.7
	baz=211						
RSSD	Black Hills	31.66	344	eP	P	09 14 21.5	-0.7
	comp=N,4.6nm,0.6s						
RSSD	Black Hills	31.66	344	P	P	09 14 21.6	-0.6
	baz=158						
DUG	Dugway, Tooele	31.67	329	P	P	09 14 23.2	+1.0
	baz=140						
R11A	Troy Canyon, C	31.81	324	eP	P	09 14 24.1	+0.6
	comp=N,6.3nm,1.5s						
R11A	Troy Canyon, C	31.81	324	P	P	09 14 25.2	+1.7
	baz=133						
DRCO	St. Marys Ceme	32.03	19	P	P	09 14 24.0	-1.1
	baz=205						
CLWO	Collingwood	32.08	16	P	P	09 14 23.9	-1.7
	baz=202						
HWUT	Hardware Ranch	32.18	332	eP	P	09 14 27.4	+0.6
	comp=N,6.3nm,0.8s						
PD31	Pinedale Array	32.29	336	eP	P	09 14 28.6	+0.9
PDAR	Pinedale Array	32.29	336	P	P	09 14 28.4	+0.7
	comp=N,0.7nm,0.5s,baz=139,slow=8.7,SNR=12						
PDAR				PcP	PcP	09 17 16.2	+0.3
	comp=N,0.7nm,0.7s,baz=97,slow=3.7,SNR=5.5						
PDAR				ScP	ScP	09 21 03.8	+4.7
	comp=N,0.8nm,0.9s,baz=145,slow=5.4,SNR=5.1						
PDAR				LR	LR	09 30 37.3	
	comp=N,171nm,20.3s,baz=159,slow=42						
PDAR	Pinedale Array	32.29	336	eP	P	09 14 28.1	+0.3
AHID	Auburn Hatcher	32.92	334	eP	P	09 14 34.3	+1.1
	comp=N,9.7nm,0.7s						
KLBO	Killbear Provi	32.94	16	P	P	09 14 31.3	-1.9
	baz=202						
DELO	Deloro Mine	32.95	20	P	P	09 14 31.4	-1.8
	baz=207						
BUKO	Buck Lake	33.24	17	P	P	09 14 33.6	-2.2
	baz=203						
REDW	Red Top Meadow	33.31	335	eP	P	09 14 37.9	+1.2
	comp=N,28nm,1.0s						
SNOW	Snow King Moun	33.35	335	eP	P	09 14 38.4	+1.3
	comp=N,48nm,0.8s						
NV11	Mina Array Sit	33.37	322	eP	P	09 14 39.5	+2.3
	comp=N,1.0nm,1.0s						
OMMB	Old Mammoth Mi	33.38	320	eP	P	09 14 40.0	+2.5
	comp=N,3.7nm,1.0s						
LOHW	Long Hollow	33.42	336	eP	P	09 14 38.2	+0.6
	comp=N,9.7nm,0.8s						
TPAW	Teton Pass	33.45	335	eP	P	09 14 39.4	+1.4
	comp=N,36nm,1.4s						
NV01	Mina Array Sit	33.46	321	eP	P	09 14 39.4	+1.4
NVAR	Mina Array Bea	33.46	321	P	P	09 14 40.4	+2.3
	comp=N,4.6nm,0.9s,baz=138,slow=8.2,SNR=21						
NVAR				PcP	PcP	09 17 20.3	+1.2
	comp=N,1.0nm,0.8s,baz=142,slow=3.4,SNR=2.3						
NVAR				ScP	ScP	09 21 07.3	+4.1
	comp=N,0.1nm,0.4s,baz=112,slow=2.4,SNR=2.2						
NVAR				LR	LR	09 30 12.1	
	comp=N,658nm,18.2s,baz=132,slow=40						
MOOW	Moose Ponds	33.59	336	eP	P	09 14 40.0	+0.9
	comp=N,9.6nm,0.9s						
FXWY	Fox Creek	33.61	335	eP	P	09 14 40.3	+1.0
	comp=N,6.9nm,0.8s						
RYN	Ryan	33.72	322	eP	P	09 14 40.3	+0.1
	comp=N,11nm,1.4s						
KVN	Kaiserville	33.74	323	eP	P	09 14 41.0	+0.6
	comp=N,16nm,1.4s						
IMW	Indian Meadow	33.79	336	eP	P	09 14 42.2	+1.3
	comp=N,7.8nm,0.8s						
FLWY	Flagg Ranch	33.85	336	eP	P	09 14 42.9	+1.5
	comp=N,9.1nm,0.8s						
PEMO	Pembroke	34.10	19	P	P	09 14 41.0	-2.2
	baz=207						
ALGO	Algonquin Park	34.10	18	P	P	09 14 41.2	-2.1
	baz=205						
LONY	Lake Ozonia	34.10	23	P	P	09 14 41.3	-2.0
	baz=212						
BMN	Battle Mountai	34.16	325	eP	P	09 14 45.8	+1.8
	comp=N,7.9nm,0.9s						
RLMT	Red Lodge	34.20	339	eP	P	09 14 45.8	+1.4
	comp=N,4.8nm,1.2s						
RLMT	Red Lodge	34.20	339	P	P	09 14 44.5	+0.1
	baz=150						
WAKR	Walker	34.20	321	eP	P	09 14 46.7	+2.3
	comp=N,5.0nm,1.0s						
MDND	Maddock	34.30	351	eP	P	09 14 43.7	-1.3
	comp=N,41nm,0.7s						
MDND	Maddock	34.30	351	P	P	09 14 43.9	-1.1
	baz=167,SNR=9.4						
AGMN	Agassiz Nation	34.35	356	P	P	09 14 44.4	-0.9
	baz=174						
YERR	Yerington	34.38	321	eP	P	09 14 47.6	+1.6
	comp=N,13nm,1.2s						
CMB	Columbia Colle	34.51	319	eP	P	09 14 48.3	+1.4
	comp=N,3.1nm,0.9s						
LAO	LASA Array	34.62	343	P	P	09 14 47.1	-0.8
	baz=156						
QLMT	Earthquake Lak	34.76	336	eP	P	09 14 51.6	+2.4
E54A	Lac Daplat, Po	34.80	19	P	P	09 14 46.5	-2.7
	baz=206						
GCMT	Greycliff	34.91	339	eP	P	09 14 51.2	+0.7
HLID	Hailey	35.02	332	eP	P	09 14 53.1	+1.6
	comp=N,15nm,1.1s						
HLID	Hailey	35.02	332	P	P	09 14 52.4	+1.0
	baz=140,SNR=14						
D53A	Lac Vacive, Po	35.22	17	P	P	09 14 51.1	-1.8
	baz=205						
PTGA	Pitinga	35.28	112	eP	P	09 14 53.3	-0.5
	comp=N,13nm,0.9s						
MCMT	McKenzie Canyo	35.33	335	eP	P	09 14 56.4	+2.2
MFID	Camas Ranch	35.58	330	eP	P	09 14 58.9	+2.7
	comp=N,10nm,1.0s						
D54A	Lac Fusel, La	35.60	19	P	P	09 14 53.2	-3.0
	baz=207						
BEKR	Beckworth	35.60	322	eP	P	09 14 59.1	+2.6
	comp=N,6.0nm,0.9s						
DLMT	Dillon	35.66	335	eP	P	09 14 58.6	+1.6
	comp=N,16nm,1.1s						
DGMT	Dagmar	35.76	347	eP	P	09 14 58.3	+0.7
	comp=N,11nm,0.6s						
DGMT	Dagmar	35.76	347	P	P	09 14 57.4	-0.2
	baz=160						
ULM	Lac du Bonnet	36.29	356	P	P	09 14 59.9	-2.1
	comp=N,4.3nm,0.8s,baz=184,slow=8.8,SNR=4.1						
WVOR	Wild Horse Val	36.31	326	eP	P	09 15 04.2	+1.7
	comp=N,11nm,1.1s						
HRY	Holter Researc	36.48	337	eP	P	09 15 05.0	+1.1
O03E	Paynes Creek	36.74	321	P	P	09 15 06.5	+0.4
	baz=127						
J08A	Circle Bar Ran	36.86	328	eP	P	09 15 08.8	+1.6
	comp=N,35nm,0.9s						
EGMT	Eagleton	36.89	341	eP	P	09 15 08.2	+0.9
	comp=N,8.9nm,0.6s						
EGMT	Eagleton	36.89	341	P	P	09 15 07.6	+0.3
	baz=151						
LATQ	La Tuque	37.11	22	P	P	09 15 07.3	-1.8
	baz=212						
O02D	Mt. Diablo Mer	37.28	320	P	P	09 15 10.2	-0.5
	baz=126						
BMO	Blue Mountains	37.36	330	eP	P	09 15 12.4	+1.1
	comp=N,9.2nm,1.3s						
MSO	Missoula	37.40	335	eP	P	09 15 12.0	+0.3
	comp=N,8.5nm,0.8s						
MSO	Missoula	37.40	335	P	P	09 15 11.4	-0.3
	baz=144						
MATQ	Matagami	37.68	16	P	P	09 15 11.3	-2.5
	baz=204						
F10A	Beach Ranch, E	38.16	332	eP	P	09 15 19.1	+1.0
	comp=N,26nm,0.8s						
L04D	Klamath Falls	38.22	323	P	P	09 15 20.5	+1.8
	baz=128						
JTMT	Jette	38.28	336	eP	P	09 15 19.9	+0.8
	comp=N,9.8nm,0.9s						
J05D	Fort Rock, OR	38.29	325	P	P	09 15 20.1	+0.7
	baz=131						
LPAZ	La Paz	38.45	141	P	P	09 15 19.2	-2.2
	comp=N,1.8nm,0.9s,baz=349,slow=5.0,SNR=5.6						
LPAZ				LR	LR	09 30 18.5	
	comp=N,126nm,21.0s,baz=320,slow=35						
G08A	Pilot Rock	38.48	330	eP	P	09 15 22.4	+1.5
	comp=N,2.2nm,0.8s						
CHGQ	Chibougamau	38.75	19	P	P	09 15 21.5	-1.4
	baz=208						
J04D	Umpqua Nationa	38.75	325	P	P	09 15 25.8	+2.6
	baz=130						
I05D	Terrebonne, OR	39.04	327	P	P	09 15 27.2	+1.6
	baz=132						
I04A	Tendick Farm,	39.27	325	P	P	09 15 30.2	+2.8
	baz=130						
G05D	Wamic, OR	39.64	328	P	P	09 15 31.5	+1.1
	baz=132						
I03D	Drain, OR	39.74	324	P	P	09 15 32.9	+1.7
	baz=129						
J01E	Myrtle Point	39.74	323	P	P	09 15 32.6	+1.4
	baz=127						
MNMC	Minye Minye	39.83	145	eP	P	09 15 31.6	-0.9
	comp=N,42nm,1.2s						
NEW	Newport	39.86	334	P	P	09 15 32.9	+0.7
	baz=141						
H04D	Lebanon	39.92	326	P	P	09 15 33.6	+0.8
	baz=130						
F05D	White Salmon	40.15	328	P	P	09 15 34.6	-0.1
	baz=133						
I02D	Swisshome	40.27	324	P	P	09 15 37.0	+1.4
	baz=128						
G03D	McMinnville, O	40.65	326	P	P	09 15 39.9	+1.1
	baz=130						
LTY	Liberty	40.71	330	eP	P	09 15 41.1	+1.7
	comp=N,5.8nm,0.6s						
D04E	Lakebay	41.69	329	P	P	09 15 46.8	-0.5
	baz=132						
D03D	Eldon	42.09	329	P	P	09 15 52.5	+1.9
	baz=132						
B05A	Bryant	42.10	330	P	P	09 15 51.2	+0.6
	baz=134						
A04D	Lummi Island	42.71	330	P	P	09 15 57.4	+1.8
	baz=134						
LVC	Limon Verde	43.02	147	P	P	09 15 57.6	-1.2
	comp=N,7.4nm,1.0s,baz=294,slow=4.2,SNR=3.5						
SCHQ	Schefferville	45.38	21	P	P	09 16 13.5	-3.5
	comp=N,6.1nm,0.8s,baz=247,slow=15,SNR=3.3						
SCHQ				LR	LR	09 36 29.2	
	comp=N,753nm,18.8s,baz=246,slow=38						
YKA	Yellowknife Ar	50.97	347	P	P	09 16 59.9	-0.1
	comp=N,12nm,0.6s,baz=151,slow=7.3,SNR=48						
YKA				PcP	PcP	09 18 16.8	+0.8
	comp=N,2.0nm,0.9s,baz=154,slow=4.2,SNR=2.8						
TAOE	Nuku Hiva Isla	52.54	247	eT	T	10 13 35.7	
	comp=N,22nm,0.2s						
CPUP	Villa Florida	52.61	140	P	P	09 17 10.6	-2.1
	comp=N,1.7nm,0.7s,baz=278,slow=6.1,SNR=2.7						
CPUP				LR	LR	09 41 03.3	
	comp=N,86nm,18.5s,baz=290,slow=38						
BDFB	Brasilia	52.83	122	P	P	09 17 13.8	-0.8
	comp=N,1.4nm,0.4s,baz=252,slow=9.6,SNR=2.8						
BDFB				LR	LR	09 39 24.2	
	comp=N,87nm,18.8s,baz=210,slow=36						
RKT	Rikitea	55.64	229	eT	T	10 17 14.4	
	comp=N,4.9nm,0.3s						
PLCA	Paso Flores	58.07	161	P	P	09 17 50.3	-1.6
	comp=N,5.9nm,1.1s,baz=359,slow=6.8,SNR=7.2						
PLCA				LR	LR	09 37 05.1	
	comp=N,153nm,18.9s,baz=290,slow=30						
BMRM	Bremner River	60.03	334	eP	P	09 18 06.3	+1.0
	comp=N,38nm,1.5s						
EPYK	Eagle Plains	60.03	341	P	P	09 18 06.0	+0.8
	baz=128						
INK	Inuvik	60.36	344	P	P	09 18 07.4	+0.1
	comp=N,7.2nm,0.8s,baz=121,slow=6.8,SNR=4.4						
INK	Inuvik	60.36	344	eP	P	09 18 06.2	-1.1
	comp=N,15nm,1.1s						
KLU	Klutina	60.84	334	eP	P	09 18 12.5	+1.6
	comp=N,22nm,1.0s						
HARP	HAARP	60.93	335	eP	P	09 18 13.3	+1.9
	comp=N,27nm,1.0s						
SCRK	Sand Creek	61.23	337	eP	P	09 18 15.1	+1.6
	comp=N,6.7nm,1.1s						
PAX	Paxson	61.33	335	eP	P	09 18 14.8	+0.7
	comp=N,7.6nm,0.9s						
RIDG	Independ'e Rid	61.44	336	eP	P	09 18 15.6	+0.7
	comp=N,20nm,1.1s						
PMR	Palmer	62.27	333	eP	P	09 18 22.0	+1.7
	comp=N,11nm,1.0s						
BRLK	Bradley Lake	62.38	331	eP	P	09 18 22.1	+0.9
	comp=N,30nm,1.0s						
HDA	Harding Lake	62.58	337	P	P	09 18 22.0	-0.4
	baz=117,SNR=6.3						
IL1	Eielson Array	62.72	337	eP	P	09 18 23.6	+0.2
ILAR	Eielson Array	62.72	337	P	P	09 18 24.3	+0.9
	comp=N,4.9nm,0.9s,baz=124,slow=4.9,SNR=42						
ILAR				LR	LR	09 49 51.4	
	comp=N,117nm,18.1s,baz=129,slow=40						
ILB	Eielson Array	62.72	337	eP	P	09 18 23.1	-0.3
RND	Reindeer	62.90	335	eP	P	09 18 24.7	+0.1
	comp=N,21nm,1.0s						
SUA	Susitna One	62.93	333	eP	P	09 18 25.4	+0.4
	comp=N,16nm,0.8s						
MCK	McKinley	63.06	335	eP	P	09 18 25.7	0.0
	comp=N,11nm,1.0s						
POKR	Poker Plat Res	63.08	337	P	P	09 18 24.6	-1.2
	baz=117						
TCOL	CIGO, UAF Yank	63.14	337	P	P	09 18 25.8	-0.3
	baz=116						
BWN	Browne	63.46	336	eP	P	09 18 29.0	+0.7
	comp=N,39nm,1.0s						
SKT	Skwentna	63.47	333	eP	P	09 18 27.6	-0.9
	comp=N,15nm,1.1s						
BPAW	Bear Paw Mtn.	64.04	335	eP	P	09 18 32.5	+0.3
	comp=N,15nm,1.1s						
PPLA	Purkeypile	64.09	334	eP	P	09 18 33.0	+0.4
	comp=N,11nm,0.9s						
CAST	Castle Rocks	64.24	334	eP	P	09 18 33.3	-0.1
	comp=N,13nm,1.1s						
MLY	Manley	64.31	336	eP	P	09 18 33.7	-0.3
	comp=N,15nm,1.0s						
PPT	Papeete	64.54	243	LR	LR	09 38 18.4	
	comp=N,102nm,19.6s,baz=199,slow=28						
PPT2	Papeete2	64.55	243	eLR	LR	09 37 34.4	
	comp=N,145nm,26.2s						
SVW2	Sparrevohn	65.01	331	eP	P	09 18 39.2	+0.7
	comp=N,9.2nm,0.8s						
COLD	Coldfoot	65.02	339	eP	P	09 18 39.1	+0.7
	comp=N,6.5nm,1.0s						
CHGN	Chignik	65.22	326	eP	P	09 18 40.1	+0.2
	comp=N,20nm,0.9s						
TOLK	Toolik Lake Re	65.42	340	eP	P	09 18 41.1	0.0
	comp=N,8.4nm,0.7s						
TOLK	Toolik Lake Re	65.42	340	P	P	09 18 40.5	-0.6
	baz=116						
IM3	Indian Mountai	65.84	337	eP	P	09 18 43.5	-0.3
TBI	Tubuai	67.02	237	eLR	LR	09 38 42.0	
	comp=N,174nm,27.2s						
ESDC	Sonseca Array	80.03	52	P	P	09 20 05.1	-3.4
	comp=N,0.2nm,0.3s,baz=282,slow=5.5,SNR=4.0						
NOA	NORSAR Array B	84.35	28	LR	LR	10 00 04.0	
	comp=N,53nm,18.5s,baz=280,slow=37						
DBIC	Dimbokro	86.03	84	P	P	09 20 41.1	+1.1
	comp=N,3.2nm,0.9s,baz=270,slow=11,SNR=2.3						
DBIC				LR	LR	09 56 05.7	
	comp=N,79nm,18.2s,baz=249,slow=34						
ARA0	ARCESS Array S	86.28	18	eP	P	09 20 40.6	+0.5
ARCES	ARCESS Array B	86.28	18	P	P	09 20 40.6	+0.5
	comp=N,4.4nm,1.0s,baz=319,slow=3.6,SNR=3.9						
CLL	Collm	88.57	37	eP	P	09 20 51.0	-0.5
CLL				e		09 20 57.0	
GERES	GERESS Array B	89.86	39	LR	LR	09 59 28.4	
	comp=N,126nm,20.4s,baz=299,slow=34						
FINES	FINESS Array B	90.68	25	LR	LR	10 03 09.5	
	comp=N,87nm,18.7s,baz=252,slow=36						
TOA1	Torodi Ar. Sit	90.75	76	eP	P	09 21 01.9	-0.5
TORD	Torodi Ar. Bea	90.75	76	P	P	09 21 01.9	-0.5
	comp=N,0.6nm,1.0s,baz=228,slow=4.2						
TORD				LR	LR	10 01 04.1	
	comp=N,50nm,18.9s,baz=295,slow=35						
NRIK	Noril'sk	96.91	0	LR	LR	10 10 05.1	
	comp=N,261nm,18.2s,baz=34,slow=38						
SONA0	Songino Array	116.23	346	ePKPdf	PKPdf	09 26 42.7	+0.3
SONM	Songino Array	116.23	346	PKP	PKPdf	09 26 42.7	+0.3
	comp=N,0.4nm,0.4s,baz=91,slow=10,SNR=3.8						
BOSA	Boshof	120.69	115	PKP	PKPdf	09 26 53.5	+2.0
	comp=N,1.8nm,1.0s,baz=270,slow=1.0,SNR=3.2						
KSH	Kashi	125.69	11	ePKP	PKPdf	09 27 01.1	+0.3
LZH	Lanzhou	127.90

BMAS	**Trigal station**	**2.52**	**79**	P		Pn	09 10 24.4	+1.8
ARRY	**Arrayan**	**2.54**	**80**	P		Pn	09 10 22.4	-0.5
ILLI	**Illinizas Sur**	**2.55**	**61**	P		Pn	09 10 22.1	-1.0
BPAT	**Tungurahua Vol**	**2.56**	**80**	P		Pn	09 10 23.8	+0.5
MCRA	**Macar¨¡, Loja**	**2.58**	**157**	P		Pn	09 10 19.5	-3.7
BULB	**Ulba Tungurahu**	**2.60**	**78**	P		Pn	09 10 24.3	+0.6
BRUN	**Tungurahua Vol**	**2.60**	**78**	P		Pb	09 10 26.2	-2.0
GONZ	**Gonzanam¨¡**	**2.73**	**145**	P		Pn	09 10 25.0	-0.6
PAC1	**Pacto, Para¨›s**	**3.10**	**44**	P		Pn	09 10 25.7	-4.7
ZUMB	**Zumba**	**3.39**	**148**	P		Pn	09 10 34.5	0.0

IDC 13 09:23:54.5±3.3, 12°27N×144°03E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/28, mbtmp3.4/3, Error ellipse: s-maj=265.6km s-min=19.1km az=117.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.54**	**32**	P	Pn	09 24 23.1	-0.3
	148nm,0.3s,baz=16,slow=0.7,SNR=77						
GUMO				Sn	Sn	09 24 43.3	-0.8
	58nm,0.3s,baz=220,slow=23,SNR=10						
H11S3	**WAKE ISLAND Hy 22.69**	**71**		T	T	09 52 23.8	
	baz=264,slow=25,SNR=5.2						
H11S1	**WAKE ISLAND Hy 22.71**	**71**		T	T	09 52 23.5	
	baz=264,slow=25,SNR=5.1						
H11S2	**WAKE ISLAND Hy 22.71**	**71**		T	T	09 52 23.9	
	baz=264,slow=25,SNR=5.6						
H11N1	**WAKE ISLAND Hy 23.17**	**68**		T	T	09 53 00.3	
	baz=255,slow=75,SNR=19						
H11N2	**WAKE ISLAND Hy 23.18**	**68**		T	T	09 53 01.7	
	baz=255,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy 23.19**	**68**		T	T	09 53 02.0	
	baz=255,slow=75,SNR=16						
WRA	**Warramunga Arr**	**33.40**	**197**	P	P	09 30 34.2	-0.9
	0.5nm,0.8s,baz=20,slow=9.7,SNR=2.4						
ASAR	**Alice Springs**	**37.06**	**196**	P	P	09 31 06.5	-0.1
	0.2nm,0.6s,baz=20,slow=11,SNR=1.7						
NVAR	**Mina Array Bea**	**88.38**	**51**	P	P	09 36 49.9	+0.9
	0.3nm,0.7s,baz=274,slow=6.1,SNR=2.9						

*ISCJB **13** 09:30:34.1±0.8, 36°.3S±0°.2×52°.8E±0°.2, h10km, mb3.8/6, MS3.5/4, Error ellipse: s-maj=37.9km s-min=19.4km az=28.2*
*IDC **13** 09:30:34.4±0.8, 36°.32S×52°.67E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/33, mbtmp4.0/6, MS3.5/5, Ms1 3.5/5, ms1mx3.2/35, Error ellipse: s-maj=40.2km s-min=21.3km az=32.0*
ISC 13 09:30:35.8±0.9, 36°.3S±0°.3×52°.7E±0°.2, h10km, n15, σ0s80/8, mb4.0/6, MS3.5/4, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**18.32**	**343**	LR	LR	09 40 20.9	
	comp=Z,113nm,20.1s,baz=168,slow=32						
BOSA	**Boshof**	**24.32**	**281**	P	**P**	**09 35 55.1**	**+1.2**
	4.1nm,0.9s,baz=129,slow=12,SNR=6.0						
MAW	**Mawson**	**31.89**	**173**	LR	LR	09 46 38.3	
	comp=Z,98nm,20.6s,baz=244,slow=30						
H01W2	**Cape Leeuwin H**	**49.23**	**108**	T	T	10 31 57.0	
	baz=250,slow=75,SNR=16						
H01W3	**Cape Leeuwin H**	**49.23**	**108**	T	T	10 31 59.4	
	baz=250,slow=75,SNR=15						
H01W1	**Cape Leeuwin H**	**49.25**	**108**	T	T	10 32 00.2	
	baz=250,slow=75,SNR=13						
VNDA	**Vanda**	**58.83**	**166**	P	**P**	**09 40 33.6**	**-0.4**
	1.1nm,1.0s,baz=248,slow=9.8,SNR=6.4						
WSAR	**Wadi Sarin**	**59.48**	**6**	LR	LR	10 00 52.0	
	comp=Z,87nm,21.5s,baz=188,slow=30						
TORD	**Torodi Ar. Bea**	**68.77**	**306**	P	**P**	**09 41 39.1**	**-1.2**
	0.5nm,0.8s,baz=123,slow=2.5,SNR=4.4						
ASAR	**Alice Springs**	**69.61**	**105**	P	**P**	**09 41 46.0**	**+0.3**
	1.5nm,0.8s,baz=233,slow=5.7,SNR=15						
CMAR	**Chiang Mai Arr**	**69.84**	**47**	LR	LR	10 08 07.8	
	comp=Z,20nm,18.9s,baz=241,slow=32						
WRA	**Warramunga Arr**	**71.93**	**102**	P	**P**	**09 42 00.0**	**+0.3**
	2.8nm,0.8s,baz=234,slow=5.2,SNR=18						
BRTR	**Keskin Array B**	**77.66**	**345**	P	**P**	**09 42 32.6**	**+0.1**
	0.6nm,0.7s,baz=134,slow=4.2,SNR=3.2						
BRTR				LR	LR	10 14 07.8	
	comp=Z,24nm,20.6s,baz=282,slow=34						
INK	**Inuvik**	**147.75**	**4**	PKPbc	**PKPbc**	**09 50 19.9**	**+0.2**
	4.6nm,1.0s,baz=65,slow=5.0,SNR=7.8						
ILAR	**Eielson Array**	**149.18**	**16**	PKPbc	**PKPbc**	**09 50 23.6**	**+0.1**
	3.3nm,0.8s,baz=315,slow=3.2,SNR=29						

*NNC **13** 09:44:22.1±1.0, 44°.37N×77°.58E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=8.2km s-min=5.3km az=169.0*
*SOME **13** 09:44:22.2, 44°.30N×77°.60E, h5km*
ISC 13 09:44:22.5±1.2, 44°29N±0°.03×77°.60E±0°.02, h1km±11km, n28, σ1s25/51, 12C-8D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARXS	**Arharly**	**0.18**	**114**	*e*P	**Pg**	**09 44 25.6**	**-0.4**
	81nm,0.3s						
ARXS				*e*S	**Sg**	**09 44 28.0**	**-0.4**
	222nm,0.3s						
MNBS	**Baschi**	**0.61**	**110**	*e*P	**Pg**	**09 44 34.1**	**-0.1**
	22nm,0.2s						
MNBS				*e*S	**Sg**	**09 44 42.2**	**0.0**
	22nm,0.3s						
CHKK	**Chushkaly**	**0.62**	**226**	*e*P	**Pg**	**09 44 34.3**	**0.0**
	5.8nm,0.2s						
CHKK				*e*S	**Sg**	**09 44 43.2**	**+0.9**
	36nm,0.2s						
KTBS	**Karatobe**	**0.88**	**229**	*e*P	**Pg**	**09 44 39.2**	**-0.1**
	10nm,0.2s						
KTBS				*e*S	**Sg**	**09 44 51.5**	**+0.8**
	22nm,0.3s						
KURS	**Kuram**	**0.90**	**152**	⇑*i*P	**Pg**	**09 44 39.4**	**-0.4**
	43nm,0.2s						
KURS				⇓*i*S	**Sg**	**09 44 51.7**	**+0.3**
	24nm,0.2s						
TDK	**Taldyqorghan**	**0.92**	**39**	*e*P	**Pb**	**09 44 40.1**	**-1.2**
	57nm,0.3s						
TDK				*e*S	**Sb**	**09 44 52.9**	**-1.2**
	53nm,0.3s						
KUU	**Kurty**	**0.99**	**247**	⇑*i*P	**Pg**	**09 44 41.3**	**-0.2**
	18nm,0.1s						
KUU				⇑*i*S	**Sg**	**09 44 54.9**	**+0.6**
	30nm,0.1s						
KOTS	**Kotyrbulak**	**1.11**	**199**	*e*P	**Pg**	**09 44 43.4**	**-0.4**
	4.9nm,0.2s						
KOTS				*e*S	**Sg**	**09 44 58.6**	**+0.4**
	11nm,0.2s						
MDOK	**Medeo**	**1.19**	**200**	P	**Pb**	**09 44 46.2**	**+0.2**
	15nm,0.7s						
MDOK				⇓S	**Sn**	**09 45 05.4**	**+1.9**
	10nm,0.6s						
MDOK	**Medeo**	**1.19**	**200**	*e*P	**Pg**	**09 44 45.4**	**+0.1**
	13nm,0.2s						
MDOK				*e*S	**Sg**	**09 45 02.0**	**+1.2**
	15nm,0.2s						
ZHN	**Zhinishke**	**1.27**	**151**	*e*P	**Pg**	**09 44 45.5**	**-1.4**
	8.4nm,0.3s						
ZHN				*e*S	**Sg**	**09 45 02.1**	**-1.3**
	23nm,0.2s						
TNSS	**Tian-Shan**	**1.34**	**201**	⇓*i*P	**Pg**	**09 44 47.4**	**-0.7**
	10nm,0.1s						
TNSS				*e*S	**Sg**	**09 45 05.4**	**0.0**
	45nm,0.4s						
SATY	**Saty**	**1.36**	**154**	*e*P	**Pn**	**09 44 47.3**	**-1.5**
	20nm,0.2s						
SATY				*e*S	**Sg**	**09 45 05.7**	**-0.6**
	65nm,0.2s						
MTBS	**Maitube**	**1.44**	**217**	⇓*i*P	**Pn**	**09 44 49.2**	**-0.6**
	20nm,0.3s						
MTBS				⇓*i*S	**Sb**	**09 45 08.6**	**-0.4**
	31nm,0.2s						
IZV	**Izvestkoviy**	**1.44**	**210**	*e*P	**Pn**	**09 44 49.8**	**-0.2**
	23nm,0.2s						
IZV				*e*S	**Sn**	**09 45 09.8**	**+0.2**
	68nm,0.3s						
UZB	**Uzynbulak**	**1.54**	**137**	*e*P	**Pn**	**09 44 50.5**	**-0.8**
	14nm,0.1s						
UZB				*e*S	**Sn**	**09 45 10.7**	**-1.3**
	13nm,0.2s						
DJR	**Jarkent**	**1.57**	**88**	*e*P	**Pn**	**09 44 51.6**	**-0.1**
	17nm,0.2s						
DJR				*e*S	**Sg**	**09 45 12.7**	**-0.3**
	32nm,0.4s						
KAPS	**Kapalarasan**	**1.60**	**51**	*e*P	**Pg**	**09 44 52.3**	**-0.9**
	7.4nm,0.1s						
KAPS				⇓*i*S	**Sg**	**09 45 14.1**	**+0.2**
	16nm,0.1s						
PDGK	**Podgornoye**	**1.67**	**124**	⇑P	**Pn**	**09 44 52.5**	**-0.6**
	2.2nm,0.2s						
PDGK				⇓S	**Sg**	**09 45 16.7**	**+0.5**
	13nm,0.6s						
DGS	**Degeres**	**1.69**	**232**	*e*P	**Pn**	**09 44 53.5**	**+0.2**
	18nm,0.3s						
DGS				*e*S	**Sb**	**09 45 16.1**	**-0.1**
	53nm,0.4s						
KST	**Kastek**	**1.72**	**224**	*e*P	**Pn**	**09 44 54.1**	**+0.4**
	28nm,0.3s						
KST				*e*S	**Sn**	**09 45 16.8**	**+0.4**
	44nm,0.3s						
SHLS	**Shalkode**	**1.76**	**129**	*e*P	**Pg**	**09 44 59.0**	**+2.7**
	13nm,0.2s						
SHLS				*e*S	**Sg**	**09 45 25.2**	**+6.1**
	17nm,0.4s						
TKM2	**Tokmak 2**	**2.00**	**227**	⇓Pg	**Pb**	**09 44 58.7**	**-1.0**
	9.3nm,0.7s						
TKM2				⇑Lg	Lg	09 45 25.6	
	8.0nm,0.4s						
KTMS	**Ketmen**	**2.16**	**112**	*e*P	**Pb**	**09 45 01.8**	**-0.8**
	13nm,0.2s						
KTMS				*e*S	**Sb**	**09 45 30.3**	**+0.4**
	20nm,0.4s						
AAK	**Ala-Archa**	**2.80**	**235**	⇑Pg	**Pb**	**09 45 12.2**	**-1.2**
	6.6nm,1.1s						
AAK				⇑Lg	Lg	09 45 53.0	
	10nm,0.7s						
MK31	**Makanchi Array**	**4.14**	**51**	⇑Pn	**Pn**	**09 45 27.8**	**+0.9**
	0.4nm,0.3s,baz=231,slow=13,SNR=7.3						
MK31				⇑Pg	**Pb**	**09 45 37.8**	**+1.6**
	0.2nm,0.2s						
MK31				⇑Lg	Lg	09 46 31.8	
	1.7nm,0.6s,baz=234,slow=30,SNR=4.1						
KK31	**Karatay Array**	**5.27**	**259**	Lg	Lg	09 47 09.6	
	2.3nm,0.8s,baz=72,slow=29,SNR=6.3						
OTUK	**Ortayu**	**5.38**	**319**	⇑Pn	**Pn**	**09 45 44.2**	**+0.2**
	1.1nm,0.7s						
OTUK				⇑Lg	Lg	09 47 10.4	
	4.2nm,1.0s						

IDC 13 09:54:51.2±1.9, 2°29N×128°11E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/32, mbtmp3.8/4, Error ellipse: s-maj=136.6km s-min=24.8km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.93**	**165**	P	P	09 59 57.3	+0.2
	0.7nm,0.6s,baz=344,slow=10,SNR=6.6						
ASAR	**Alice Springs**	**26.41**	**168**	P	P	10 00 29.9	+0.2
	0.7nm,0.7s,baz=354,slow=8.6,SNR=10						
STKA	**Stephens Creek**	**36.31**	**160**	P	P	10 01 55.8	-1.0
	1.0nm,0.3s,baz=319,slow=11,SNR=3.3						
H11S3	**WAKE ISLAND Hy 41.08**	**64**		T	T	10 45 44.4	
	baz=252,slow=76,SNR=9.8						
H11S2	**WAKE ISLAND Hy 41.09**	**64**		T	T	10 45 44.3	
	baz=252,slow=76,SNR=5.4						
H11S1	**WAKE ISLAND Hy 41.09**	**64**		T	T	10 45 39.5	
	baz=252,slow=76,SNR=5.0						
H11N1	**WAKE ISLAND Hy 41.65**	**63**		T	T	10 46 23.9	
	baz=250,slow=75,SNR=5.1						
H11N2	**WAKE ISLAND Hy 41.66**	**63**		T	T	10 46 21.5	
	baz=250,slow=75,SNR=3.7						
H11N3	**WAKE ISLAND Hy 41.67**	**63**		T	T	10 46 28.2	
	baz=250,slow=75,SNR=6.5						
MKAR	**Makanchi Array**	**59.52**	**325**	P	P	10 04 56.7	+0.3
	1.5nm,0.9s,baz=126,slow=9.7,SNR=5.2						

IDC 13 10:08:20.9±15.0, 49°.93S×111°.53E, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.7/27, mbtmp3.8/2, Error ellipse: s-maj=724.4km s-min=54.6km az=110.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.14**	**8**	T	T	10 27 56.2	
	baz=187,slow=75,SNR=17						
H01W1	**Cape Leeuwin H**	**15.15**	**8**	T	T	10 27 55.4	
	baz=187,slow=75,SNR=21						
H01W3	**Cape Leeuwin H**	**15.16**	**8**	T	T	10 27 56.1	
	baz=187,slow=75,SNR=22						
ASAR	**Alice Springs**	**31.51**	**42**	P	P	10 14 44.6	+0.1
	0.7nm,0.8s,baz=213,slow=8.1,SNR=8.4						
WRA	**Warramunga Arr**	**35.00**	**39**	P	P	10 15 14.8	-0.1
	1.9nm,0.8s,baz=203,slow=10,SNR=8.7						
TXAR	**Lajitas Array**	**146.42**	**115**	PKPbc	PKPdf	10 28 02.8	+0.5
	0.1nm,0.6s,baz=183,slow=3.6,SNR=4.3						

*SOME **13** 10:38:31.4, 42°.27N×81°.50E, h10km*
*NNC **13** 10:38:37.2±3.2, 42°.43N×81°.22E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=31.3km s-min=9.5km az=151.0*
ISC 13 10:38:29.9±2.6, 42°30N±0°.09×81°63E±0°.08, h14km±12km, n18, σ2s40/32, 1C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.48**	**321**	*e*P	**Pg**	**10 38 59.0**	**+0.6**
	66nm,0.2s						
KTMS				*e*S	**Sg**	**10 39 18.7**	**+1.2**
	107nm,0.3s						
SHLS	**Shalkode**	**1.81**	**299**	*e*P	**Pn**	**10 38 59.5**	**-1.3**
	60nm,0.3s						
SHLS				*e*S	**Sn**	**10 39 19.7**	**-3.9**
	168nm,0.3s						
UZB	**Uzynbulak**	**2.10**	**295**	*e*P	**Pb**	**10 39 08.3**	**+0.6**
	27nm,0.4s						
UZB				*e*S	**Sb**	**10 39 35.0**	**+1.3**
	50nm,0.3s						
DJR	**Jarkent**	**2.43**	**327**	*e*P	**Pb**	**10 39 15.3**	**+1.9**
	13nm,0.3s						
DJR				*e*S	**Sg**	**10 39 47.1**	**-1.0**
	59nm,0.6s						
SATY	**Saty**	**2.50**	**289**	*e*P	**Pg**	**10 39 16.5**	**-1.2**
	46nm,0.4s						
SATY				*e*S	**Sg**	**10 39 48.8**	**-1.3**
	90nm,0.4s						
ZHN	**Zhinishke**	**2.51**	**291**	*e*P	**Pb**	**10 39 16.1**	**+1.3**
	18nm,0.2s						
ZHN				*e*S	**Sg**	**10 39 48.4**	**-2.0**
	83nm,0.2s						
KURS	**Kuram**	**2.81**	**296**	*e*P	**Pb**	**10 39 21.6**	**+1.8**
	7.5nm,0.6s						
KURS				*e*S	**Sg**	**10 39 57.6**	**-2.4**
	28nm,0.6s						
MNBS	**Baschi**	**2.96**	**308**	*e*P	**Pb**	**10 39 23.6**	**+1.3**
	12nm,0.2s						
MNBS				*e*S	**Sb**	**10 40 00.8**	**+2.5**
	62nm,0.4s						
ARXS	**Arharly**	**3.37**	**306**	*e*P	**Pb**	**10 39 31.8**	**+2.4**
	5.7nm,0.4s						
ARXS				*e*S	**Sg**	**10 40 15.2**	**-2.9**
	30nm,0.5s						
KAPS	**Kapalarasan**	**3.41**	**332**	*e*P	**Pb**	**10 39 30.9**	**+0.9**
	2.7nm,0.0s						
KAPS				*e*S	**Sb**	**10 40 13.3**	**+2.0**
	43nm,0.2s						
MDOK	**Medeo**	**3.48**	**286**	⇓Lg	Lg	10 40 17.0	
	22nm,0.6s						
MDOK	**Medeo**	**3.48**	**286**	*e*P	**Pb**	**10 39 32.4**	**+1.0**
	7.8nm,0.4s						
MDOK				*e*S	**Sb**	**10 40 16.4**	**+2.8**
	25nm,0.6s						
TNSS	**Tian-Shan**	**3.53**	**284**	*e*P	**Pb**	**10 39 34.1**	**+1.8**
	8.8nm,0.3s						
TNSS				*e*S	**Sg**	**10 40 18.8**	**-4.5**
	19nm,0.7s						
CHKK	**Chushkaly**	**3.74**	**296**	*e*P	**Pb**	**10 39 37.2**	**+1.6**
	2.2nm,0.2s						
CHKK				*e*S	**Sb**	**10 40 24.5**	**+3.7**
	28nm,0.3s						
KUU	**Kurty**	**4.19**	**294**	*e*P	**Pb**	**10 39 45.4**	**+2.1**
	1.7nm,0.2s						
KUU				*e*S	**Sb**	**10 40 38.1**	**+4.4**
	19nm,0.5s						
TKM2	**Tokmak 2**	**4.50**	**280**	⇓Pg	**Pg**	**10 39 55.7**	**-0.3**
	16nm,0.9s						
TKM2				⇓Lg	Lg	10 40 50.0	
	13nm,0.7s						
MK31	**Makanchi Array**	**4.52**	**6**	Pn	Pn	10 39 45.7	+7.9
	1.2nm,0.6s,baz=185,slow=14,SNR=10						
MK31				⇓Pg	**Pg**	**10 39 57.4**	**+1.1**
	0.5nm,0.3s,baz=193,slow=13,SNR=4.1						
MK31				Sn	**Sb**	**10 40 40.5**	**-2.7**
	1.5nm,0.3s,baz=186,slow=24,SNR=4.2						
MK31				⇓Lg	Lg	10 40 56.9	
	9.0nm,0.8s,baz=190,slow=29,SNR=5.3						
AAK	**Ala-Archa**	**5.29**	**276**	⇑Pg	**Pb**	**10 40 05.5**	**+3.3**
	7.0nm,0.8s						
AAK				⇓Lg	Lg	10 41 15.0	
	7.4nm,0.9s						

*ISCJB **13** 10:39:22.3±0.4, 28°.07N±0°.04×128°.46E±0°.06, h124km±4km, mb3.6/4, Error ellipse: s-maj=10.2km s-min=3.7km az=30.2*
*JMA **13** 10:39:23.7±0.1, 28°.16N×128°.29E, h104km±3km, M3.7*
*IDC **13** 10:39:23.7±1.1, 27°.99N×128°.73E, h125km±13km, mb3.4/4, mb1 3.8/6, mb1mx3.3/54, mbtmp3.9/6, Error ellipse: s-maj=85.8km s-min=14.0km az=104.0*
ISC 13 10:39:22.8±0.8, 28°08N±0°.05×128°42E±0°.06, h120km±6km, n26, σ0s97/44, mb3.9/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**0.55**	**122**	P	**Pn**	**10 39 41.8**	**+0.7**
JTK				*e*S	**Sn**	**10 39 54.9**	**0.0**
JAMN	**Amaminishikomi**	**0.68**	**76**	P	**Pn**	**10 39 42.4**	**+0.4**
JAMN				*e*S	**Sn**	**10 39 56.3**	**-0.2**
JOKE	**Okinoerabujima**	**0.73**	**170**	P	**Pn**	**10 39 43.1**	**+0.7**
JOKE				*e*S	**Sn**	**10 39 57.3**	**+0.1**
JYRO	**Yoronjima**	**1.05**	**179**	P	**Pn**	**10 39 46.0**	**+0.6**
JYRO				*e*S	**Sn**	**10 40 02.4**	**0.0**
JAM	**Amami Oshima**	**1.09**	**72**	P	**Pn**	**10 39 46.5**	**+0.7**
JAM				*e*S	**Sn**	**10 40 03.4**	**+0.2**
JIH	**Iheya**	**1.12**	**201**	P	**Pn**	**10 39 46.6**	**+0.6**
JIH				*e*S	**Sn**	**10 40 03.4**	**-0.2**
JOW	**Kunigami**	**1.25**	**186**	P	**Pn**	**10 39 48.2**	**+0.7**
	234nm,0.3s,baz=75,slow=16,SNR=646						
JOW				S	**Sn**	**10 40 06.0**	**-0.2**
	403nm,0.3s,baz=126,slow=19,SNR=46						
JOW	**Kunigami**	**1.25**	**186**	P	**Pn**	**10 39 48.1**	**+0.6**
JOW				S	**Sn**	**10 40 06.3**	**+0.2**
JTAJ	**Takarajima**	**1.27**	**33**	P	**Pn**	**10 39 47.8**	**+0.2**
JTAJ				S	**Sn**	**10 40 05.7**	**-0.8**
JZK	**Kikaishima**	**1.39**	**80**	P	**Pn**	**10 39 50.9**	**+2.0**
JNTH	**Nagotoyohara**	**1.59**	**193**	P	**Pn**	**10 39 52.1**	**+0.7**
JNTH				*e*S	**Sn**	**10 40 13.0**	**-0.1**
JAGN	**Aguni-jima**	**1.82**	**216**	P	**Pn**	**10 39 54.4**	**+0.4**
JAGN				*e*S	**Sn**	**10 40 17.7**	**-0.2**
JJT3	**Tamagusuku3**	**2.01**	**197**	P	**Pn**	**10 39 57.8**	**+1.4**
JJT3				*e*S	**Sn**	**10 40 23.3**	**+1.2**
JKE	**Kume jima 2**	**2.27**	**220**	P	**Pn**	**10 39 59.9**	**+0.2**
JKE				*e*S	**Sn**	**10 40 27.3**	**-0.7**
JYAK	**Yakushimahirau**	**2.82**	**40**	P	**Pn**	**10 40 07.3**	**+0.6**
JYAK				*e*S	**Sn**	**10 40 38.9**	**-1.7**
JKC	**Kuchinoerabu**	**2.83**	**33**	*e*S	**Sn**	**10 40 11.1**	**+0.2**
JMTN	**Minamitane**	**3.17**	**43**	P	**Pn**	**10 40 12.5**	**+1.2**
JMTN				*e*S	**Sn**	**10 40 47.3**	**-1.4**
JMZ	**Minamidaito 2**	**3.36**	**131**	P	**Pn**	**10 40 15.0**	**+1.1**
JMZ				*e*S	**Sn**	**10 40 52.1**	**-1.2**
JTN	**Tanegashima 3**	**3.40**	**40**	P	**Pn**	**10 40 15.5**	**+1.1**
JTN				*e*S	**Sn**	**10 40 51.8**	**-2.5**
JNU	**Nakatsue**	**5.45**	**22**	P	**Pn**	**10 40 43.2**	**+1.4**
	3.3nm,0.3s,baz=214,slow=15,SNR=36						
JNU				S	**Sn**	**10 41 45.1**	**+1.6**
	1.2nm,0.3s,baz=156,slow=20,SNR=2.6						
KSRS	**Korea Array**	**9.36**	**358**	P	**Pn**	**10 41 35.8**	**+1.3**
	0.5nm,0.3s,baz=177,slow=13,SNR=16						
WRA	**Warramunga Arr**	**48.08**	**173**	P	**P**	**10 47 49.5**	**-0.9**
	0.3nm,0.9s,baz=352,slow=8.4,SNR=2.6						
WRA				pP	**pP**	**10 48 17.5**	**-0.8**
	0.3nm,0.6s,baz=354,slow=8.2,SNR=1.9						
STKA	**Stephens Creek**	**60.93**	**167**	pP	pP	10 49 51.2	-0.9
	2.0nm,0.6s,baz=318,slow=15,SNR=4.4						
ILAR	**Eielson Array**	**62.74**	**29**	P	**P**	**10 49 34.1**	**-0.7**
	0.7nm,0.7s,baz=287,slow=9.7,SNR=19						
YKA	**Yellowknife Ar**	**76.78**	**25**	P	**P**	**10 51 01.5**	**+0.7**
	1.1nm,0.5s,baz=304,slow=6.0,SNR=13						
PDAR	**Pinedale Array**	**91.62**	**39**	P	**P**	**10 52 16.9**	**+0.2**
	0.5nm,0.6s,baz=343,slow=2.8,SNR=5.6						

*ISCJB **13** 10:48:29.4±0.9, 26°.81N±0°.06×35°.04E±0°.07, h12km, mb3.5/4, MS3.2/7, Error ellipse: s-maj=11.5km s-min=5.5km az=136.4*
*IDC **13** 10:48:29.3±1.9, 26°.69N×34°.94E, h0km, mb3.6/4, mb1 3.7/7, mb1mx3.5/41, mbtmp3.6/7, ML3.5/3, MS3.2/10, Ms1 3.2/10, ms1mx2.9/44, Error ellipse: s-maj=41.9km s-min=27.2km az=142.0*
*SGS **13** 10:48:31.6, 26°.78N×35°.03E, h32km*
*GII **13** 10:48:32.0±0.0, 27°.02N×34°.87E, h1km±2km, MD2.6/1*
ISC 13 10:48:30.2±1.0, 26°.77N±0°.06×35°.07E±0°.07, h12km, n47, σ1s35/43, mb3.5/4, MS3.2/7, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WJHS		**1.19**	**92**	P	**Pb**	**10 48 51.6**	**-1.1**
WJHS		**1.19**	**92**	S	**Sb**	**10 49 06.6**	**-1.5**
WJHS		**1.19**	**92**	P	**Pb**	**10 48 51.6**	**-1.1**
WJHS		**1.19**	**92**	S	**Sb**	**10 49 06.6**	**-1.5**
RSHS		**1.54**	**351**	P	**Pn**	**10 48 55.8**	**-1.8**
RSHS		**1.54**	**351**	P	**Pn**	**10 48 55.8**	**-1.8**
BDAS	**Al Bad'**	**1.65**	**1**	P	**Pn**	**10 48 57.6**	**-1.5**
BDAS	**Al Bad'**	**1.65**	**1**	P	**Pn**	**10 48 57.6**	**-1.5**
BIDS	**Bi'r al Bayda'**	**1.69**	**86**	P	**Pn**	**10 48 59.8**	**+0.1**
BIDS	**Bi'r al Bayda'**	**1.69**	**86**	P	**Pn**	**10 48 59.8**	**+0.1**
TBKS	**Tabuk**	**1.95**	**42**	P	**Pn**	**10 49 04.0**	**+0.8**
TBKS	**Tabuk**	**1.95**	**42**	P	**Pn**	**10 49 04.0**	**+0.8**
JLOS		**1.99**	**11**	P	**Pn**	**10 49 03.4**	**-0.5**
JLOS		**1.99**	**11**	P	**Pn**	**10 49 03.4**	**-0.5**
HAQS	**Haql**	**2.27**	**357**	P	**Pn**	**10 49 06.

comp=Z,74nm,21.1s,baz=45,slow=37
ZALV Zalesovo Beam 45.35 39 LR LR 11 18 57.6
comp=Z,30nm,19.3s,baz=48,slow=40
SONM Songino Array 58.41 49 P **P** **10 58 28.3 +2.4**
0.6nm,0.8s,baz=287,slow=7.2,SNR=3.8
CMAR Chiang Mai Arr 59.03 84 LR LR 11 31 38.4
comp=Z,10nm,18.0s,baz=260,slow=44

MEX 13 10:56:50.7±2.4, 13.76N×92.16W, h10km±19km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.14**	**355**	*i* P	Pb	10 57 09.6	-3.0
THIG				*i* S	Sb	10 57 22.9	-4.6
PCIG		**2.19**	**332**	*e*P	Pn	10 57 23.9	-3.3
PCIG				*i* S	Sn	10 57 50.4	-3.9
CCIG	**Comitan**	**2.50**	**0**	*e*P	Pn	10 57 29.5	-2.2
CCIG				*i* S	Sn	10 57 58.9	-3.5
TGIG		**3.14**	**343**	*e*P	Pn	10 57 37.5	-2.8
TGIG				*e*S	Sn	10 58 15.0	-2.9

IDC 13 10:57:22.5±2.4, 10.18S×161.15E, h104km±19km, mb3.1/3, mb1 3.5/4, mb1mx3.2/33, mbtmp3.6/4, Error ellipse: s-maj=31.8km s-min=27.4km az=65.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.40**	**302**	P	Pn	10 57 47.8	0.0
	88nm,0.3s,baz=191,slow=6.7,SNR=16						
HNR				S	Sn	10 58 06.9	-0.1
	406nm,0.3s,baz=9.8,slow=21,SNR=31						
HNR	**Honiara**	**1.40**	**302**	*e*P	Pn	10 57 48.0	+0.2
DZM	**Mont Dzumac**	**12.87**	**157**	P	Pn	11 00 21.4	-0.3
	0.3nm,0.3s,baz=299,slow=23,SNR=20						
WRA	**Warramunga Arr**	**27.61**	**246**	P	P	11 03 00.5	+0.1
	0.4nm,0.7s,baz=75,slow=9.3,SNR=4.6						
WRA				pP	pP	11 03 23.9	+0.5
	0.8nm,0.6s,baz=76,slow=9.4,SNR=5.4						
ASAR	**Alice Springs**	**29.24**	**239**	P	P	11 03 14.7	-0.1
	0.5nm,1.0s,baz=29,slow=7.8,SNR=2.3						
ASAR				pP	pP	11 03 37.1	-0.9
	0.3nm,0.4s,baz=64,slow=9.8,SNR=3.4						
ILAR	**Eielson Array**	**84.18**	**20**	P	P	11 09 41.9	0.0
	0.1nm,0.5s,baz=242,slow=5.8,SNR=4.6						

*IDC **13** 11:00:34.5±3.0, 38.07N×22.33E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.5/38, mbtmp3.7/7, ML2.9/1, Error ellipse: s-maj=68.1km s-min=25.0km az=55.0*
*ISCJB **13** 11:00:38.8±0.3, 37.67N±0.02×21.92E±0.03, h70km±3km, mb3.6/6, Error ellipse: s-maj=3.8km s-min=2.5km az=157.2*
*ATH **13** 11:00:39.1, 37.68N×21.95E, h56km±2km, ML3.1/25, Error ellipse: s-maj=2.7km s-min=0.9km az=248.0*
*THE **13** 11:00:40.9, 37.66N×21.93E, h42km±2km, ML3.1/26, Error ellipse: s-maj=2.4km s-min=0.6km az=236.0*

ISC 13 11:00:38.7±0.8, 37.66N±0.02×21.89E±0.02, h57km±5km, n110, σ1s68/154, mb3.7/6, 5C-1D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMT	**Artemida-Makis**	**0.19**	**228**	P	**Pn**	**11 00 48.0**	**+0.1**
AMT				AML	AML	11 00 55.5	
	comp=N,8169μm,0.3s						
AMT				AML	AML	11 01 00.4	
	comp=E,5736μm,0.4s						
AMT	**Artemida-Makis**	**0.19**	**228**	P	**Pn**	**11 00 48.0**	**+0.1**
AMT				S	**Sn**	**11 00 53.2**	**-1.3**
DRO	**Drossia**	**0.32**	**334**	P	**Pn**	**11 00 49.0**	**+0.2**
DRO				S	**Sn**	**11 00 56.7**	**+0.7**
DRO				AML	AML	11 00 57.4	
	comp=N,10145μm,0.2s						
DRO				AML	AML	11 00 57.9	
	comp=E,16447μm,0.4s						
DRO	**Drossia**	**0.32**	**334**	P	**Pn**	**11 00 49.0**	**+0.2**
DRO				S	**Sn**	**11 00 56.6**	**+0.5**
KLV	**Kalavryta, Ach**	**0.43**	**28**	P	**Pn**	**11 00 50.2**	**+0.3**
KLV				S	**Sn**	**11 00 58.7**	**+0.8**
KLV				AML	AML	11 01 00.1	
	comp=N,1900μm,0.3s						
KLV				AML	AML	11 01 01.1	
	comp=E,2421μm,0.3s						
KLV	**Kalavryta, Ach**	**0.43**	**28**	P	**Pn**	**11 00 50.1**	**+0.3**
KLV				S	**Sn**	**11 00 58.5**	**+0.6**
MES3	**Kyparissia**	**0.45**	**203**	P	**Pn**	**11 00 50.7**	**+0.8**
MES3				S	**Sn**	**11 01 00.7**	**+2.8**
ITM	**Ithomi**	**0.48**	**176**	P	**Pn**	**11 00 50.9**	**+0.6**
ITM				S	**Sn**	**11 01 00.6**	**+1.9**
ITM				AML	AML	11 01 02.4	
	comp=E,5753μm,0.6s						
ITM				AML	AML	11 01 03.6	
	comp=N,4541μm,0.4s						
ITM	**Ithomi**	**0.48**	**176**	P	**Pn**	**11 00 50.9**	**+0.6**
ITM				S	**Sn**	**11 00 59.2**	**+0.5**
VLX	**Vlachokerasia**	**0.49**	**127**	P	**Pn**	**11 00 51.4**	**+1.0**
VLX				AML	AML	11 01 02.2	
	comp=N,3923μm,0.7s						
VLX				AML	AML	11 01 05.3	
	comp=E,4952μm,0.5s						
VLX	**Vlachokerasia**	**0.49**	**127**	P	**Pn**	**11 00 51.4**	**+1.0**
VLX				S	**Sn**	**11 00 59.0**	**+0.1**
RLS	**Riolos of Patr**	**0.52**	**320**	P	**Pn**	**11 00 51.3**	**+0.6**
RLS				S	**Sn**	**11 01 00.7**	**+1.4**
RLS				AML	AML	11 01 01.8	
	comp=N,2439μm,0.4s						
RLS				AML	AML	11 01 02.0	
	comp=E,1463μm,0.5s						
RLS	**Riolos of Patr**	**0.52**	**320**	P	**Pn**	**11 00 51.3**	**+0.6**
RLS				S	**Sn**	**11 01 00.7**	**+1.4**
VTN	**Vitineika**	**0.61**	**295**	P	**Pn**	**11 00 52.6**	**+0.9**
UPR	**University Cam**	**0.62**	**353**	P	**Pn**	**11 00 53.3**	**+1.4**
UPR	**University Cam**	**0.62**	**353**	P	**Pn**	**11 00 53.3**	**+1.4**
UPR				S	**Sn**	**11 01 03.1**	**+1.6**
SERG	**Sergoula**	**0.76**	**10**	P	**Pn**	**11 00 54.8**	**+1.2**
SERG				S	**Sn**	**11 01 06.4**	**+1.9**
SERG				AML	AML	11 01 10.9	
	comp=N,3759μm,0.3s						
SERG				AML	AML	11 01 11.1	
	comp=E,2908μm,0.4s						
SERG	**Sergoula**	**0.76**	**10**	P	**Pn**	**11 00 54.8**	**+1.2**
SERG				S	**Sn**	**11 01 05.5**	**+1.0**
EFP	**Efpalio**	**0.76**	**1**	P	**Pn**	**11 00 55.0**	**+1.4**
EFP				S	**Sn**	**11 01 06.4**	**+1.9**
EFP				AML	AML	11 01 10.0	
	comp=E,2828μm,0.4s						
EFP				AML	AML	11 01 12.7	
	comp=N,2547μm,0.4s						
EFP	**Efpalio**	**0.76**	**1**	P	**Pn**	**11 00 55.0**	**+1.4**
EFP				S	**Sn**	**11 01 06.0**	**+1.5**
PYL	**PYLOS**	**0.78**	**189**	P	**Pn**	**11 00 54.7**	**+1.0**
PYL				S	**Sn**	**11 01 07.3**	**+2.6**
PYL				AML	AML	11 01 09.8	
	comp=N,2212μm,0.3s						
PYL				AML	AML	11 01 10.6	
	comp=E,2026μm,0.5s						
PYL	**PYLOS**	**0.78**	**189**	P	**Pn**	**11 00 54.8**	**+1.0**
PYL				S	**Sn**	**11 01 06.9**	**+2.2**
MES2	**Methoni**	**0.85**	**190**	P	**Pn**	**11 00 55.6**	**+0.9**
MES2				S	**Sn**	**11 01 07.8**	**+1.4**
LTK	**Loutraki**	**0.93**	**67**	P	**Pn**	**11 00 56.3**	**+0.6**
LTK				AML	AML	11 01 10.8	
	comp=E,1824μm,0.3s						
LTK				AML	AML	11 01 12.7	
	comp=N,2117μm,0.5s						
LTK	**Loutraki**	**0.93**	**67**	P	**Pn**	**11 00 56.3**	**+0.6**
LTK				S	**Sn**	**11 01 09.2**	**+1.0**
ANX	**Ano Chora**	**0.93**	**2**	P	**Pn**	**11 00 57.7**	**+1.8**
ANX				AML	AML	11 01 15.0	
	comp=E,6017μm,0.5s						
ANX				AML	AML	11 01 16.0	
	comp=N,4506μm,0.5s						
ANX	**Ano Chora**	**0.93**	**2**	P	**Pn**	**11 00 57.6**	**+1.8**
ANX				S	**Sn**	**11 01 10.5**	**+2.0**
DLFA	**Delphi**	**0.94**	**30**	P	**Pn**	**11 00 57.7**	**+1.8**
DYR	**Agios Nikonas**	**0.97**	**158**	P	**Pn**	**11 00 58.0**	**+1.8**
DYR				AML	AML	11 01 15.0	
	comp=N,690μm,0.5s						
DYR				AML	AML	11 01 16.2	
	comp=E,1051μm,0.5s						
DYR	**Agios Nikonas**	**0.97**	**158**	P	**Pn**	**11 00 57.9**	**+1.7**
DYR				S	**Sn**	**11 01 10.8**	**+1.6**
PVO	**Paravola**	**0.99**	**343**	P	**Pn**	**11 00 58.5**	**+2.0**
PVO				S	**Sn**	**11 01 12.4**	**+2.6**
PVO				AML	AML	11 01 16.6	
	comp=N,5819μm,0.4s						
PVO				AML	AML	11 01 16.8	
	comp=E,4115μm,0.2s						
PVO	**Paravola**	**0.99**	**343**	P	**Pn**	**11 00 58.6**	**+2.0**
PVO				S	**Sn**	**11 01 11.7**	**+1.9**
DID	**Didima**	**1.08**	**98**	P	**Pn**	**11 00 58.8**	**+1.1**
DID				AML	AML	11 01 15.8	
	comp=N,2627μm,0.3s						
DID				AML	AML	11 01 18.6	
	comp=E,2625μm,0.2s						
DID	**Didima**	**1.08**	**98**	P	**Pn**	**11 00 58.8**	**+1.1**
DID				S	**Sn**	**11 01 13.7**	**+1.8**
VLS	**Valsamata**	**1.15**	**297**	P	**Pn**	**11 00 59.5**	**+0.9**
VLS				S	**Sn**	**11 01 17.2**	**+3.7**
VLS	**Valsamata**	**1.15**	**297**	P	**Pn**	**11 00 59.5**	**+0.9**
VLS				S	**Sn**	**11 01 17.1**	**+3.7**
EVR	**Evrytania**	**1.25**	**357**	P	**Pn**	**11 01 02.6**	**+2.5**
EVR				AML	AML	11 01 23.4	
	comp=E,1358μm,0.6s						
EVR				AML	AML	11 01 23.8	
	comp=N,2274μm,0.7s						
EVR	**Evrytania**	**1.25**	**357**	P	**Pn**	**11 01 02.9**	**+2.8**
EVR				S	**Sn**	**11 01 17.6**	**+1.5**
VLI	**Veliai**	**1.26**	**138**	P	**Pn**	**11 01 02.4**	**+2.3**
VLI				AML	AML	11 01 23.3	
	comp=E,831μm,0.5s						
VLI				AML	AML	11 01 31.7	
	comp=N,767μm,0.8s						
VLI	**Veliai**	**1.26**	**138**	P	**Pn**	**11 01 02.4**	**+2.3**
VLI				S	**Sn**	**11 01 16.5**	**+0.4**
FSK	**Fiskardo**	**1.31**	**308**	P	**Pn**	**11 01 03.0**	**+2.2**
FSK				S	**Sn**	**11 01 19.8**	**+2.4**
FSK	**Fiskardo**	**1.31**	**308**	P	**Pn**	**11 01 03.1**	**+2.3**
FSK				S	**Sn**	**11 01 20.7**	**+3.3**
MGNA	**Meganis„**	**1.32**	**319**	P	**Pn**	**11 01 03.4**	**+2.5**
LKR	**Lokris**	**1.32**	**41**	P	**Pn**	**11 01 01.2**	**+0.3**
LKR				AML	AML	11 01 23.2	
	comp=N,1426μm,0.2s						
LKR				AML	AML	11 01 27.3	
	comp=E,1890μm,0.2s						
LKR	**Lokris**	**1.32**	**41**	P	**Pn**	**11 01 01.2**	**+0.3**
LKR				S	**Sn**	**11 01 18.6**	**+1.1**
EVGI	**Lefkada island**	**1.36**	**315**	P	**Pn**	**11 01 03.1**	**+1.7**
EVGI	**Lefkada island**	**1.36**	**315**	P	**Pn**	**11 01 03.2**	**+1.7**
EVGI				S	**Sn**	**11 01 22.6**	**+4.0**
AGG	**Agios Georgios**	**1.40**	**14**	P	**Pn**	**11 01 03.5**	**+1.5**
AGG				S	**Sn**	**11 01 20.1**	**+0.6**
AGG				AML	AML	11 01 25.6	
	comp=N,1266μm,0.4s						
AGG				AML	AML	11 01 26.7	
	comp=E,1101μm,0.3s						
AGG	**Agios Georgios**	**1.40**	**14**	P	**Pn**	**11 01 03.4**	**+1.4**
AGG				S	**Sn**	**11 01 21.3**	**+1.8**
ATH	**Athens Observa**	**1.48**	**77**	P	**Pn**	**11 01 03.8**	**+0.7**
ATH				S	**Sn**	**11 01 21.6**	**+0.2**
ATH				AML	AML	11 01 23.9	
	comp=N,936μm,0.2s						
ATH				AML	AML	11 01 24.0	
	comp=E,1201μm,0.4s						
LKD2	**Lefkada island**	**1.48**	**320**	P	**Pn**	**11 01 04.6**	**+1.4**
LKD2	**Lefkada island**	**1.48**	**320**	P	**Pn**	**11 01 05.3**	**+2.1**
LKD2				S	**Sn**	**11 01 22.9**	**+1.3**
VLY	**Voula,Athens**	**1.52**	**82**	P	**Pn**	**11 01 04.3**	**+0.6**
VLY				S	**Sn**	**11 01 22.5**	**+0.1**
VLY				AML	AML	11 01 25.8	
	comp=N,536μm,0.3s						
VLY				AML	AML	11 01 27.9	
	comp=E,818μm,0.3s						
PTL	**Penteli**	**1.61**	**76**	P	**Pn**	**11 01 05.5**	**+0.7**
PTL				AML	AML	11 01 26.5	
	comp=N,769μm,0.3s						
PTL				AML	AML	11 01 26.8	
	comp=E,954μm,0.4s						
KTHR	**Kythira**	**1.66**	**147**	P	**Pn**	**11 01 08.5**	**+3.0**
KTHR				S	**Sn**	**11 01 27.9**	**+2.1**
KYTH	**Kithira**	**1.68**	**146**	P	**Pn**	**11 01 08.2**	**+2.4**
KYTH				AML	AML	11 01 40.1	
	comp=N,473μm,0.6s						
KYTH				AML	AML	11 01 45.6	
	comp=E,521μm,0.5s						
THL	**Klokotos Trika**	**1.90**	**3**	P	**Pn**	**11 01 10.0**	**+1.2**
THL				AML	AML	11 01 44.8	
	comp=N,278μm,0.5s						
THL				AML	AML	11 01 45.1	
	comp=E,348μm,0.5s						
THL	**Klokotos Trika**	**1.90**	**3**	P	**Pn**	**11 01 09.9**	**+1.1**
THL				S	**Sn**	**11 01 33.0**	**+1.4**
NEO	**Neokhori**	**1.95**	**32**	P	**Pn**	**11 01 10.1**	**+0.7**
NEO				AML	AML	11 01 39.1	
	comp=N,1988μm,0.2s						
NEO				AML	AML	11 01 39.8	
	comp=E,1420μm,0.2s						
NEO	**Neokhori**	**1.95**	**32**	P	**Pn**	**11 01 09.9**	**+0.5**
NEO				S	**Sn**	**11 01 35.8**	**+3.0**
XOR	**Xorichti**	**1.98**	**31**	P	**Pn**	**11 01 10.5**	**+0.6**
XOR				AML	AML	11 01 37.8	
	comp=E,1014μm,0.5s						
XOR				AML	AML	11 01 39.8	
	comp=N,1125μm,0.6s						
XOR	**Xorichti**	**1.98**	**31**	P	**Pn**	**11 01 10.7**	**+0.8**
XOR				S	**Sn**	**11 01 36.4**	**+2.7**
ANKY	**Antikythira Is**	**2.12**	**147**	P	**Pn**	**11 01 14.2**	**+2.4**
JAN	**Janina**	**2.15**	**338**	P	**Pn**	**11 01 13.8**	**+1.6**
AOS	**Alonnisos**	**2.17**	**45**	P	**Pn**	**11 01 12.8**	**+0.4**
AOS	**Alonnisos**	**2.17**	**45**	P	**Pn**	**11 01 12.9**	**+0.5**
AOS				S	**Sn**	**11 01 40.4**	**+2.2**
MHLO	**Agia Marina, M**	**2.23**	**115**	P	**Pn**	**11 01 14.2**	**+1.0**
LIT	**Litokhoron**	**2.48**	**11**	P	**Pn**	**11 01 17.4**	**+0.7**
PENT	**Pentalofos**	**2.60**	**347**	P	**Pn**	**11 01 20.6**	**+2.2**
KZN	**Kozani**	**2.64**	**358**	P	**Pn**	**11 01 20.5**	**+1.6**
IMMV	**Iera Moni Meta**	**2.77**	**142**	P	**Pn**	**11 01 22.2**	**+1.5**
NEST	**Nestorio**	**2.83**	**347**	P	**Pn**	**11 01 23.9**	**+2.5**
VAM	**Vamos**	**2.92**	**140**	P	**Pn**	**11 01 24.6**	**+1.8**
APE	**Apeiranthos**	**2.96**	**100**	⇑*i* P	**Pn**	**11 01 24.0**	**+0.7**
APE	**Apeiranthos**	**2.96**	**100**	S	**Sn**	**11 01 57.7**	**+0.1**
APE	**Apeiranthos**	**2.96**	**100**	P	**Pn**	**11 01 24.2**	**+0.9**
PLG	**Polygyros**	**2.97**	**24**	P	**Pn**	**11 01 24.1**	**+0.7**
HORT	**Hortiatis**	**3.08**	**17**	P	**Pn**	**11 01 25.4**	**+0.5**
OUR	**Ouranopolis**	**3.13**	**31**	P	**Pn**	**11 01 26.0**	**+0.5**
GRD	**Griva**	**3.31**	**7**	P	**Pn**	**11 01 29.0**	**+0.9**
GVD	**Gavdhos**	**3.33**	**147**	P	**Pn**	**11 01 29.7**	**+1.4**
CHOS	**Chios island**	**3.37**	**76**	P	**Pn**	**11 01 29.9**	**+1.0**
IDI	**Anoyia**	**3.39**	**134**	Pn	**Pn**	**11 01 29.7**	**+0.6**
	comp=N,1.2nm,0.3s,baz=221,slow=13,SNR=9.2						
IDI				Sn	**Sn**	**11 02 06.5**	**-1.6**
	comp=N,2.8nm,0.3s,baz=289,slow=18,SNR=4.4						
IDI	**Anoyia**	**3.39**	**134**	⇑*i* P	**Pn**	**11 01 30.0**	**+0.9**
IDI	**Anoyia**	**3.39**	**134**	S	**Sn**	**11 02 09.2**	**+1.1**
SIVA	**Sivas**	**3.54**	**137**	P	**Pn**	**11 01 33.7**	**+2.6**
OHR	**Ohrid**	**3.55**	**347**	*i* Pn	Pn	11 01 39.4	+8.0
KNT	**Kendrikon**	**3.58**	**12**	P	**Pn**	**11 01 33.4**	**+1.6**
VAY	**Valandovo**	**3.69**	**8**	*i* Pn	**Pn**	**11 01 31.6**	**-1.6**
KRUS	**Krusevo**	**3.73**	**353**	*i* Pn	**Pn**	**11 01 34.1**	**+0.2**
KRUS				*i* Sn	**Sn**	**11 02 15.7**	**-1.0**
NPS	**Neapolis**	**3.84**	**127**	P	**Pn**	**11 01 37.2**	**+1.9**
SMG	**Samos**	**3.92**	**88**	P	**Pn**	**11 01 37.8**	**+1.3**
STIP	**Stip**	**4.03**	**3**	*i* Pn	**Pn**	**11 01 39.5**	**+1.6**
TIP	**Timpagrande**	**4.30**	**292**	⇑*i* P	**Pn**	**11 01 41.6**	**-0.1**
TIP	**Timpagrande**	**4.30**	**292**	S	**Sn**	**11 02 29.2**	**-1.5**
MATE	**Matera**	**5.01**	**308**	S	**Sn**	**11 02 43.6**	**-4.3**
VTS	**Vitosha**	**5.03**	**11**	⇑*i* P	**Pn**	**11 01 51.4**	**-0.3**
VTS	**Vitosha**	**5.03**	**11**	S	**Sn**	**11 02 50.1**	**+1.6**
PDG	**Podgorica**	**5.17**	**338**	S	**Sn**	**11 02 50.7**	**-1.1**
STON	**Ston**	**6.11**	**330**	*i* Pn	**Pn**	**11 02 04.3**	**-2.1**
STON				Sn	**Sn**	**11 03 08.7**	**-6.1**
GOLR		**7.53**	**17**	S	**Sn**	**11 03 50.7**	**+0.9**
VOIR		**8.12**	**16**	⇑*i* P	**Pn**	**11 02 34.3**	**+0.4**
MLR	**Muntele Rosu**	**8.39**	**20**	⇑*i* P	**Pn**	**11 02 39.4**	**+1.7**
KRUC	**Moravsky**	**12.07**	**342**	*e*Pn	Pn	11 02 35.9	-52
HFS	**Hagfors**	**23.09**	**350**	P	**P**	**11 05 37.9**	**-1.3**
	comp=N,1.3nm,0.5s,baz=160,slow=13,SNR=5.2						
FINES	**FINESS Array B**	**23.95**	**5**	P	**P**	**11 05 46.2**	**-1.1**
	comp=N,2.7nm,0.8s,baz=183,slow=8.4,SNR=4.2						
NOA	**NORSAR Array B**	**24.35**	**347**	P	**P**	**11 05 51.1**	**+0.1**
	comp=N,0.2nm,0.3s,baz=155,slow=9.3,SNR=3.1						
ARCES	**ARCESS Array B**	**31.99**	**2**	P	**P**	**11 06 58.3**	**-0.8**
	comp=N,3.9nm,0.9s,baz=189,slow=10,SNR=12						
MKAR	**Makanchi Array**	**44.65**	**58**	P	**P**	**11 08 44.6**	**-0.9**
	comp=N,0.3nm,0.3s,baz=273,slow=8.4,SNR=5.7						
ZALV	**Zalesovo Beam**	**45.23**	**48**	P	**P**	**11 08 48.7**	**-1.2**
	comp=N,1.4nm,0.4s,baz=262,slow=8.6,SNR=2.9						

ISC 13 11:01:10.1±2.2, 48.2N±0.1×17.04E±0.08, h3km±11km, n6, σ0s76/11, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZST	**Bratislava**	**0.04**	**92**	*e*PG	**Pg**	**11 01 10.2**	**-0.8**
ZST				*e*SG	**Sg**	**11 01 12.5**	**+0.8**
MODS	**Modra-Piesok**	**0.24**	**42**	*e*PG	**Pg**	**11 01 13.9**	**-0.8**
MODS				*e*SG	**Sg**	**11 01 18.6**	**+0.8**
MODS				*e*LG	Lg	11 01 22.7	
JAVC	**Velka Javorina**	**0.78**	**32**	*e*PG	**Pb**	**11 01 26.5**	**+0.1**
JAVC				*e*SG	**Sn**	**11 01 39.8**	**-0.6**
KRUC	**Moravsky**	**0.97**	**334**	*e*PG	**Pg**	**11 01 28.5**	**-0.1**
VRAC	**Vranov**	**1.15**	**345**	*e*PG	**Pg**	**11 01 31.6**	**-0.5**
VRAC				*e*SG	**Sb**	**11 01 47.8**	**-0.2**
VYHS	**Vyhne**	**1.23**	**75**	*e*PG	**Pb**	**11 01 34.6**	**+0.6**
VYHS				*e*SG	**Sg**	**11 01 50.4**	**+0.7**
VYHS				*e*LG	Lg	11 01 55.8	

IDC 13 11:23:34.9±2.9, 6.84S×129.64E, h131km±38km, mb2.9/1, mb1 3.1/5, mb1mx2.9/47, mbtmp3.5/5, Error ellipse: s-maj=67.8km s-min=20.9km az=89.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.14**	**15**	P	Pn	11 25 03.8	+0.3
	0.6nm,0.3s,baz=162,slow=20,SNR=4.8						
SIJI				S	Sn	11 26 07.0	-5.6
	1.7nm,0.3s,baz=131,slow=19,SNR=4.1						
FITZ	**Fitzroy Crossi**	**11.85**	**199**	P	Pn	11 26 19.6	-0.3
	0.0nm,0.3s,baz=28,slow=13,SNR=3.6						
FITZ				S	Sn	11 28 24.9	-5.7
	0.3nm,0.3s,baz=300,slow=20,SNR=4.5						
WRA	**Warramunga Arr**	**13.80**	**161**	P	Pn	11 26 43.4	-1.8
	0.2nm,0.3s,baz=345,slow=13,SNR=26						
WRA				S	Sn	11 29 10.1	-7.6
	0.4nm,0.3s,baz=341,slow=24,SNR=8.0						
ASAR	**Alice Springs**	**17.23**	**167**	P	Pn	11 27 29.1	+1.4
	0.1nm,0.3s,baz=347,slow=11,SNR=14						
ASAR				S	S	11 30 35.4	-4.7
	0.1nm,0.3s,baz=360,slow=27,SNR=4.1						
MKAR	**Makanchi Array**	**67.89**	**327**	P	P	11 34 19.2	-0.1
	0.1nm,0.3s,baz=128,slow=8.1,SNR=3.8						

*IDC **13** 11:28:39.5±2.5, 50.46N×174.97W, h0km, mb3.3/4, mb1 3.7/5, mb1mx3.4/52, mbtmp3.4/5, Error ellipse: s-maj=72.6km s-min=28.2km az=10.0*
*ISCJB **13** 11:28:41.3±0.9, 50.63N±0.07×175.05W±0.09, h21km, mb3.5/3, Error ellipse: s-maj=10.2km s-min=7.4km az=23.0*
*NEIC **13** 11:28:42.5±0.0, 50.64N×175.11W, h26km, ML3.0(AEIC), After AEIC.*

ISC 13 11:28:43.1±1.2, 50.7N±0.1×175.09W±0.07, h21km, n21, σ0s76/20, mb3.4/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSIG	**Igitkin Island**	**1.41**	**338**	P	**Pn**	**11 29 06.9**	**-0.6**
GSIG				S	**Sn**	**11 29 25.6**	**+0.2**
ETKA	**Kagalaska Isla**	**1.45**	**325**	P	**Pn**	**11 29 07.4**	**-0.6**
GSMY	**Great Sitkin M**	**1.50**	**336**	P	**Pn**	**11 29 08.2**	**-0.5**
GSTD	**Great Sitkin T**	**1.53**	**335**	P	**Pn**	**11 29 08.8**	**-0.4**
GSTD				S	**Sn**	**11 29 28.9**	**+0.4**
ADK	**Adak**	**1.57**	**321**	P	**Pn**	**11 29 08.5**	**-1.2**
ADK				S	**Sn**	**11 29 28.3**	**-1.0**
ATKA	**Atka Island**	**1.62**	**20**	P	**Pn**	**11 29 09.8**	**-0.6**
ATKA				S	**Sn**	**11 29 31.1**	**+0.4**
KIMD	**Kanaga Island**	**1.73**	**310**	P	**Pn**	**11 29 10.8**	**-1.1**
TAPA	**Tanaga Point A**	**2.06**	**305**	P	**Pn**	**11 29 16.1**	**-0.3**
TASE	**Tanaga Southea**	**2.19**	**303**	P	**Pn**	**11 29 18.3**	**+0.1**
TAFP	**Tanaga Falls P**	**2.19**	**305**	P	**Pn**	**11 29 18.3**	**0.0**
TAFP				S	**Sn**	**11 29 44.6**	**-0.1**
PETK	**Petropavlovsk-**	**16.93**	**289**	P	**P**	**11 32 41.4**	**+1.0**
	baz=83,slow=14						
ILAR	**Eielson Array**	**20.39**	**36**	P	**P**	**11 33 19.5**	**+1.3**
	0.2nm,0.4s,baz=224,slow=8.0,SNR=8.4						
H11N2	**WAKE ISLAND Hy**	**34.02**	**211**	T	T	12 11 07.6	
	baz=21,slow=76,SNR=5.4						
H11N3	**WAKE ISLAND Hy**	**34.03**	**211**	T	T	12 11 09.7	
	baz=21,slow=76,SNR=5.3						
H11N1	**WAKE ISLAND Hy**	**34.04**	**211**	T	T	12 11 10.1	
	baz=21,slow=76,SNR=4.6						
H11S1	**WAKE ISLAND Hy**	**35.23**	**211**	T	T	12 12 44.8	
	baz=14						
H11S2	**WAKE ISLAND Hy**	**35.24**	**211**	T	T	12 12 45.1	
	baz=14						
H11S3	**WAKE ISLAND Hy**	**35.24**	**211**	T	T	12 12 51.0	
	baz=14						
PDAR	**Pinedale Array**	**44.27**	**74**	P	**P**	**11 36 50.9**	**-0.3**
	0.2nm,0.5s,baz=294,slow=5.5,SNR=3.3						
TXAR	**Lajitas Array**	**56.42**	**83**	P	**P**	**11 38 22.2**	**-0.9**
	0.3nm,0.8s,baz=304,slow=6.4,SNR=3.6						
BVAR	**Borovoye Array**	**62.91**	**322**	P	**P**	**11 39 07.8**	**+0.4**
	0.7nm,0.5s,baz=84,slow=5.9,SNR=4.2						

TAP 13 11:34:13.7, 23.50N×120.47E, h9km, ML1.6, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHN2	**Minshiung**	**0.04**	**1**	*e*P	Pg	11 34 15.9	+0.4
CHN2				S

	baz=275								
TYC	**Yuchr**	**0.54**	**41**	P	Pb	11 34 25.2	-0.1		
	baz=41								
TYC				*e*S	Sb	11 34 33.9	+0.8		
	baz=41								
TYC	**Yuchr**	**0.54**	**41**	*e*P	Pb	11 34 25.4	+0.1		
	baz=290								
TYC				*e*S	Sb	11 34 34.0	+0.9		
	baz=290								
YULB	**Yu-li**	**0.76**	**98**	*e*P	Pb	11 34 29.3	+0.2		
	baz=97								
YULB				*e*S	Sb	11 34 39.6	0.0		
	baz=97								
SGLT	**Jiouru**	**0.77**	**179**	*e*P	Pn	11 34 30.1	-0.6		
	baz=178								
EHY	**Hungye**	**0.78**	**89**	*e*P	Pb	11 34 29.7	+0.3		
	baz=89								
WDGT	**Dungji**	**0.78**	**253**	*e*P	Pg	11 34 28.6	-0.2		
	baz=252								
PHUB	**P'eng-hu**	**0.83**	**271**	*e*P	Pg	11 34 29.0	-0.7		
	baz=271								
CHGB	**Renai**	**0.85**	**49**	*e*P	Pg	11 34 30.0	-0.1		
	baz=48								
HGSD	**Ruisui**	**0.87**	**90**	*e*P	Pg	11 34 30.5	0.0		
	baz=90								
HGSD				*e*S	Sn	11 34 45.2	+0.3		
	baz=90								

TAP 13 11:34:13.9, 23.74N×121.54E, h33km, ML1.4, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESL	**Shilin**	**0.13**	**308**	*e*P	Pb	11 34 19.8	-0.1
	baz=300						
ESL				*e*S	Sb	11 34 23.7	-0.3
	baz=300						
TWD	**Chiawan**	**0.35**	**8**	*e*P	Pb	11 34 20.4	-2.0
	baz=2.0						
NACB	**Ninganchiao**	**0.44**	**6**	*e*P	Pb	11 34 22.0	-1.6
	baz=359						
NACB				*e*S	Sb	11 34 29.5	-0.8
	baz=359						
NNSB	**Datong**	**0.70**	**348**	*e*P	Pn	11 34 25.8	-1.9
	baz=356						

NNC ***13*** *12:06:01.6±0.2, 42.88N×69.92E, h0km, mb2.6, mpv1.8, Error ellipse: s-maj=1.5km s-min=0.8km az=136.0*
KRNET ***13*** *12:06:02.1±0.1, 43.04N×70.16E, mb2.6*
ISC 13 12:06:05.2±2.6, 42.91N±0.01, 70.2E±0.1, h7km±11km, n15, σ0853/30, 18C-12D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK07	**Karatay Array**	**0.28**	**51**	⇑P	**Pg**	**12 06 10.9**	**+0.1**
KK07				⇓S	**Sb**	**12 06 17.6**	**-0.2**
KK08	**Karatay Array**	**0.29**	**47**	⇑P	**Pg**	**12 06 10.9**	**0.0**
KK08				⇓S	**Sb**	**12 06 17.9**	**-0.2**
KK03	**Karatay Array**	**0.29**	**49**	⇑P	**Pg**	**12 06 11.1**	**+0.1**
KK03				⇓S	**Sb**	**12 06 17.9**	**-0.1**
KK01	**Karatay Array**	**0.30**	**49**	⇑P	**Pg**	**12 06 11.1**	**0.0**
KK01				⇓S	**Sb**	**12 06 17.9**	**-0.2**
KK02	**Karatay Array**	**0.30**	**50**	⇑P	**Pg**	**12 06 11.2**	**+0.1**
KK02				⇓S	**Sb**	**12 06 17.9**	**-0.2**
KK31	**Karatay Array**	**0.30**	**50**	⇑P	**Pg**	**12 06 11.2**	**0.0**
	0.5nm,0.3s,baz=112,slow=11,SNR=110						
KK31				⇓S	**Sb**	**12 06 17.9**	**-0.2**
	1.8nm,0.2s,baz=249,slow=14,SNR=27						
KK04	**Karatay Array**	**0.30**	**49**	⇑P	**Pg**	**12 06 11.1**	**0.0**
KK04				⇑S	**Sb**	**12 06 18.0**	**-0.2**
KK06	**Karatay Array**	**0.30**	**52**	⇑P	**Pg**	**12 06 11.2**	**+0.1**
KK06				⇓S	**Sb**	**12 06 18.1**	**-0.1**
KK09	**Karatay Array**	**0.31**	**46**	⇑P	**Pg**	**12 06 11.2**	**0.0**
KK09				⇓S	**Sb**	**12 06 18.2**	**-0.1**
KK05	**Karatay Array**	**0.32**	**49**	⇑P	**Pg**	**12 06 11.4**	**0.0**
KK05				⇑S	**Sb**	**12 06 18.4**	**-0.2**
ARK	**Arkit**	**1.72**	**130**	⇓*i*P	**Pb**	**12 06 36.7**	**-0.5**
	baz=32						
ARK				⇓*i*S	**Sg**	**12 07 01.7**	**+1.3**
	baz=32						
MNAS	**Manas**	**1.75**	**103**	⇓P	**Pn**	**12 06 35.7**	**-0.4**
	1.5nm,0.8s						
MNAS				⇑S	**Sg**	**12 07 01.9**	**+0.4**
	1.6nm,0.3s						
MNAS	**Manas**	**1.75**	**103**	⇓*i*P	**Pn**	**12 06 35.9**	**-0.3**
	baz=7.0						
MNAS				⇓*i*S	**Sg**	**12 07 00.9**	**-0.6**
	baz=7.0						
EKS2	**Erkin-Say**	**2.65**	**94**	⇑*i*P	**Pn**	**12 06 49.4**	**+1.0**
	baz=97						
EKS2				⇑*i*S	**Sb**	**12 07 24.5**	**-1.3**
	baz=97						
AML	**Almayashu**	**2.70**	**106**	⇑*i*P	**Pn**	**12 06 48.8**	**-0.6**
	baz=8.0						
AML				⇑*i*S	**Sn**	**12 07 23.7**	**+1.2**
	baz=8.0						

NIED ***13*** *12:07:00, 36.90N×141.40E, h8km, Mw3.6 Best double couple: M0 3.07000×10^14 NP1:φ=21.00000°, δ=40.00000°, λ=-92.00000°. NP2:φ=204.00000°, δ=50.00000°, λ=-88.00000°.*
ISCJB ***13*** *12:07:53.8±1.1, 36.89N±0.03×141.47E±0.06, h15km±7km, mb3.5/4, Error ellipse: s-maj=8.4km s-min=5.2km az=14.5*
IDC ***13*** *12:07:53.7±1.1, 36.87N×141.34E, h0km, mb3.5/4, mb1 3.7/7, mb1mx3.5/65, mbtmp3.5/7, ML3.2/3, MS2.3/1, Ms1 2.3/1, ms1mx2.0/35, Error ellipse: s-maj=26.7km s-min=19.2km az=121.0*
JMA ***13*** *12:07:55.4±0.1, 36.89N×141.37E, h33km±1km, M3.8*
JMA Felt I J1.
ISC 13 12:07:54.5±1.5, 36.88N±0.03×141.40E±0.06, h7km±10km, n24, σ0890/29, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.53**	**295**	P	**Pg**	**12 08 05.6**	**+0.7**
ONAJ				S	**Sg**	**12 08 12.9**	**+1.0**
JFK	**Kawauchi**	**0.65**	**319**	P	**Pg**	**12 08 07.4**	**+0.4**
JFK				S	**Sg**	**12 08 16.0**	**+0.5**
JFFD	**Fukushimafurud**	**0.71**	**288**	P	**Pg**	**12 08 08.3**	**+0.2**
JFFD				S	**Sg**	**12 08 17.2**	**-0.2**
JHO	**Hitachi**	**0.72**	**249**	P	**Pg**	**12 08 08.6**	**+0.2**
JHO				S	**Sg**	**12 08 18.5**	**+0.8**
JHYU	**Hitachinakayam**	**0.85**	**231**	P	**Pg**	**12 08 10.6**	**-0.2**
JHYU				S	**Sg**	**12 08 21.9**	**+0.1**
JFT	**Otama**	**1.07**	**307**	P	**Pg**	**12 08 14.6**	**-0.4**
JFT				S	**Sg**	**12 08 28.2**	**-0.7**
JMM	**Marumori**	**1.10**	**334**	P	**Pg**	**12 08 14.5**	**-1.2**
JYT	**Yasato**	**1.17**	**237**	P	**Pg**	**12 08 15.3**	**-1.6**
JYT				S	**Sg**	**12 08 30.0**	**-2.1**
JFY	**Yanaizu**	**1.46**	**292**	P	**Pn**	**12 08 20.7**	**-0.6**
JFY				S	**Sn**	**12 08 39.2**	**-1.4**
MJAR	**Matsushiro Arr**	**2.59**	**264**	Pn	**Pn**	**12 08 36.9**	**+0.1**
	5.9nm,0.3s,baz=89,slow=14,SNR=20						
MJAR				Sn	**Sn**	**12 09 08.5**	**0.0**
	4.9nm,0.3s,baz=300,slow=12,SNR=5.5						
MAT	**Matsushiro**	**2.59**	**264**	P	**Pn**	**12 08 37.4**	**+0.6**
MAT				S	**Sn**	**12 09 09.8**	**+1.3**
JHJ	**Hachijo jima 2**	**3.98**	**200**	Pn	**Pn**	**12 08 56.4**	**+0.6**
	7.7nm,0.3s,baz=253,slow=19,SNR=2.7						
JHJ				Sn	**Sn**	**12 09 43.2**	**+0.5**
	12nm,0.3s,baz=72,slow=20,SNR=2.9						
ASAJ	**Asahikawa**	**7.29**	**7**	Pn	**Pn**	**12 09 41.1**	**-0.3**
	0.2nm,0.3s,baz=98,slow=15,SNR=3.4						
ASAJ				Sn	**Sn**	**12 11 03.2**	**-1.1**
	0.2nm,0.3s,baz=312,slow=18,SNR=2.3						
KSRS	**Korea Array**	**10.78**	**277**	LR	LR	12 14 51.9	
	comp=Z,17nm,19.2s,baz=75,slow=39						
H11N2	**WAKE ISLAND Hy**	**28.07**	**121**	T	T	12 43 12.3	
	baz=313,slow=75,SNR=65						
H11N1	**WAKE ISLAND Hy**	**28.08**	**121**	T	T	12 43 16.1	
	baz=313,slow=75,SNR=75						
H11N3	**WAKE ISLAND Hy**	**28.09**	**121**	T	T	12 43 17.0	
	baz=313,slow=75,SNR=60						
H11S1	**WAKE ISLAND Hy**	**28.78**	**123**	T	T	12 44 03.5	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**28.78**	**123**	T	T	12 44 07.9	
	baz=318,slow=74						
H11S2	**WAKE ISLAND Hy**	**28.80**	**123**	T	T	12 44 11.5	
	baz=318,slow=74						
MKAR	**Makanchi Array**	**44.20**	**302**	P	**P**	**12 16 03.2**	**-0.8**
	0.5nm,0.7s,baz=87,slow=9.0,SNR=2.9						
ILAR	**Eielson Array**	**49.63**	**32**	P	**P**	**12 16 47.0**	**+0.8**
	0.4nm,0.7s,baz=270,slow=6.5,SNR=5.0						
WRA	**Warramunga Arr**	**56.90**	**188**	P	**P**	**12 17 39.8**	**-0.3**
	0.3nm,0.5s,baz=6.1,slow=7.4,SNR=15						
TXAR	**Lajitas Array**	**90.22**	**52**	P	**P**	**12 20 57.2**	**+1.0**
	0.3nm,0.9s,baz=316,slow=5.1,SNR=2.8						

ISCJB ***13*** *12:12:08.7±0.7, 4.88S±0.06×103.01E±0.06, h75km±4km, mb4.4/34, Error ellipse: s-maj=12.8km s-min=4.7km az=44.3*
DJA ***13*** *12:12:09.4±0.6, 5.5S±4×10.3E±, h24km±4km, M4.5/11, mb4.4/6, mB5.2/1, MLv4.5/11, Mw(mB)4.6/1*
NEIC ***13*** *12:12:10.1±0.8, 4.78S×103.12E, h72km±5km, mb4.5/10, Error ellipse: s-maj=17.3km s-min=5.4km az=48.0*
IDC ***13*** *12:12:12.4±3.4, 4.76S×103.09E, h87km±29km, mb4.1/18, mb1 4.2/19, mb1mx4.0/42, mbtmp4.4/19, MS3.0/4, Ms1 3.1/4, ms1mx2.8/31, Error ellipse: s-maj=27.7km s-min=11.9km az=56.0*
ISC 13 12:12:09.3±1.1, 4.95S±0.07×102.99E±0.07, h65km±8km, n160, σ1822/162, mb4.5/34, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.59**	**357**	*e*Pn	**Pn**	**12 12 22.3**	**-0.2**
MNAI				*e*Sn	**Sn**	**12 12 30.5**	**-1.7**
MNAI	**Manna**	**0.59**	**357**	P	**Pn**	**12 12 22.5**	**-0.1**
MNAI				S	**Sn**	**12 12 32.0**	**-0.2**
LWLI	**Liwa**	**1.07**	**94**	P	**Pn**	**12 12 28.0**	**-0.5**
LWLI				S	**Sn**	**12 12 41.2**	**-1.7**
MDSI	**Maura Dua**	**1.27**	**69**	P	**Pn**	**12 12 31.0**	**-0.1**
MDSI				S	**Sn**	**12 12 48.3**	**+0.9**
KASI	**Kota Agung**	**1.61**	**111**	P	**Pn**	**12 12 35.3**	**-0.2**
KASI				S	**Sn**	**12 12 54.2**	**-1.2**
KLI	**Kotabumi**	**1.87**	**87**	P	**Pn**	**12 12 39.9**	**+0.9**
MASI	**Maura Aman, Be**	**1.94**	**337**	P	Pn	12 12 42.7	+2.6
BLSI	**Bandar Lampung**	**2.29**	**101**	P	**Pn**	**12 12 47.9**	**+3.2**
CGJI	**Cibinong**	**3.16**	**122**	P	**Pn**	**12 12 57.7**	**+1.1**
KRJI	**Kerinci**	**3.22**	**332**	P	Pn	12 12 59.5	+1.9
KRJI				S	**Sn**	**12 13 38.5**	**+3.7**
CBJI	**Citeko**	**4.11**	**111**	P	Pn	12 13 18.1	+8.4
PPBI	**Pangkal Pinang**	**4.19**	**49**	P	**Pn**	**12 13 11.1**	**+0.4**
DSRI	**Dabo**	**4.72**	**20**	P	**Pn**	**12 13 19.4**	**+1.5**
PDSI	**Padang**	**4.74**	**328**	P	**Pn**	**12 13 19.7**	**+1.5**
LEM	**Lembang**	**4.97**	**112**	P	Pn	12 13 25.8	+4.2
	4.2nm,0.3s,baz=202,slow=19,SNR=2.2						
LEM				S	**Sn**	**12 14 21.7**	**+3.8**
	2.7nm,0.3s,baz=45,slow=21,SNR=2.4						
LEM				LR	LR	12 15 32.7	
	comp=Z,111nm,19.5s,baz=306,slow=40						
CISI	**Cisompet, Garu**	**5.46**	**119**	*e*Pn	**Pn**	**12 13 27.5**	**-0.6**
CISI				*e*Sn	**Sn**	**12 14 24.1**	**-5.5**
MYKOM	**Kota Tinggi**	**6.75**	**7**	*e*Pn	**Pn**	**12 13 45.0**	**-0.7**
UGM	**Wanagama**	**8.05**	**112**	*e*Pn	**Pn**	**12 14 05.3**	**+1.7**
GSI	**Gunungsitoli**	**8.23**	**319**	*e*Pn	**Pn**	**12 14 05.7**	**-0.4**
PSI	**Prapat**	**8.70**	**332**	LR	LR	12 17 15.1	
	comp=Z,62nm,21.7s,baz=260,slow=36						
IPM	**Ipoh**	**9.57**	**348**	*e*Pn	**Pn**	**12 14 23.0**	**-1.4**
MPSI	**Mapaga**	**17.69**	**73**	P	**P**	**12 16 13.7**	**+2.2**
	8.8nm,0.7s,1μm						
APSI	**Ampana**	**19.06**	**78**	P	**Pn**	**12 16 32.6**	**+4.6**
MRSI	**Marisa**	**19.69**	**75**	P	**Pn**	**12 16 38.0**	**+2.6**
	14nm,0.7s						
CHAI	**Chaiyaphum**	**20.74**	**357**	P	Pn	12 16 48.8	+1.1
BATI	**Baumata**	**21.15**	**106**	P	**P**	**12 16 49.1**	**-0.2**
	14nm,0.4s,baz=45,slow=19,SNR=3.9						
SANI	**Sanana**	**23.14**	**84**	P	**P**	**12 17 12.1**	**+1.8**
	9.6nm,1.2s						
CM01	**Chiang Mai Arr**	**23.56**	**350**	*e*P	**P**	**12 17 13.2**	**-0.9**
CMAR	**Chiang Mai Arr**	**23.60**	**350**	P	**P**	**12 17 13.6**	**-0.9**
	2.4nm,0.6s,baz=183,slow=8.7,SNR=22						
CMAR				LR	LR	12 26 16.7	
	comp=Z,46nm,18.3s,baz=186,slow=36						
CHTO	**Chiang Mai**	**23.95**	**351**	*e*P	**P**	**12 17 16.4**	**-1.2**
	4.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**25.71**	**122**	P	**P**	**12 17 34.2**	**+0.5**
	6.6nm,0.9s,baz=322,slow=7.4,SNR=28						
FITZ	**Fitzroy Crossi**	**25.71**	**122**	*e*P	**P**	**12 17 33.9**	**+0.1**
	6.6nm,0.8s						
FITZ				*e*PcP	**PcP**	**12 20 59.2**	**-3.5**
MTN	**Manton Dam**	**28.87**	**108**	*e*P	**P**	**12 17 59.2**	**-2.9**
	13nm,1.0s						
KMI	**Kunming**	**29.89**	**360**	P	**P**	**12 18 12.4**	**+1.1**
KMI				pmax	pmax		
	comp=Z,13nm,0.7s						
KMI				pmax	pmax		
	comp=Z,120nm,5.2s						
H08S2	**Diego Garcia H**	**30.42**	**263**	T	T	12 49 32.6	
	baz=87,slow=75,SNR=23						
H08S3	**Diego Garcia H**	**30.43**	**263**	T	T	12 49 38.0	
	baz=87,slow=75,SNR=12						
H08S1	**Diego Garcia H**	**30.44**	**263**	T	T	12 49 36.3	
	baz=87,slow=75,SNR=6.7						
H01W3	**Cape Leeuwin H**	**31.52**	**162**	T	T	12 51 46.0	
	baz=340,slow=76,SNR=8.7						
H01W2	**Cape Leeuwin H**	**31.54**	**162**	T	T	12 51 50.3	
	baz=340,slow=76,SNR=12						
H01W1	**Cape Leeuwin H**	**31.54**	**162**	T	T	12 51 48.4	
	baz=340,slow=76,SNR=8.0						
WR1	**Warramunga Arr**	**33.95**	**119**	*e*P	**P**	**12 18 47.0**	**+0.2**
	comp=Z,6.9nm,1.1s						
WR1				*e*PcP	**PcP**	**12 21 24.3**	**+0.3**
WRA	**Warramunga Arr**	**33.95**	**119**	P	**P**	**12 18 47.0**	**+0.2**
	comp=Z,1.7nm,0.5s,baz=303,slow=8.9,SNR=58						
WRA				PcP	**PcP**	**12 21 24.3**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=299,slow=1.9,SNR=6.3						
WRAB	**Tennant Creek**	**33.96**	**119**	*e*P	**P**	**12 18 46.8**	**-0.1**
	comp=Z,4.4nm,0.9s						
WB2	**Warramunga Arr**	**33.97**	**119**	*e*P	**P**	**12 18 46.7**	**-0.2**
	comp=Z,5.5nm,1.0s						
ASAR	**Alice Springs**	**35.12**	**125**	P	**P**	**12 18 57.6**	**+0.8**
	comp=Z,2.5nm,0.4s,baz=295,slow=7.6,SNR=54						
ASAR				PcP	**PcP**	**12 21 28.4**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=302,slow=2.3,SNR=8.8						
AS31	**Alice Springs**	**35.12**	**125**	*e*P	**P**	**12 18 57.6**	**+0.7**
	comp=Z,2.1nm,0.4s						
CD2	**Chengdu**	**35.66**	**1**	*e*P	**P**	**12 19 01.0**	**-0.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XAN	**Xi'an**	**39.18**	**8**	P	**P**	**12 19 29.8**	**-1.3**
XAN				pP	pP	12 19 45.8	-1.4
XAN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
NJ2	**Nanjing**	**39.78**	**21**	*e*P	**P**	**12 19 35.1**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
LZH	**Lanzhou**	**40.83**	**1**	*e*P	**P**	**12 19 47.5**	**+2.7**
LZH				pP	sP	12 20 04.3	-4.2
LZH				sP	pP	12 20 12.6	+12
LZH				*e*PP	**PnPn**	**12 21 26.4**	**+1.6**
LZH				pmax	pmax		
	comp=Z,21nm,1.2s						
LZH				pmax	pmax		
	comp=Z,75nm,5.0s						
LZH				LR	LR		
	comp=N,230nm,12.9s						
LZH				LR	LR		
	comp=E,230nm,13.2s						
LZH				LR	LR		
	comp=Z,290nm,16.7s						
GTA	**Gaotai**	**44.24**	**356**	*e*P	**P**	**12 20 11.8**	**-0.6**
GTA				pP	sP	12 20 27.9	-8.3
GTA				sP	pP	12 20 35.9	+7.2
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
STKA	**Stephens Creek**	**44.98**	**131**	P	**P**	**12 20 19.9**	**+1.5**
	comp=Z,3.4nm,0.5s,baz=308,slow=6.2,SNR=18						
STKA				LR	LR	12 41 31.3	
	comp=Z,43nm,18.4s,baz=21,slow=39						
HHC	**Hu-ho-hao-te**	**46.25**	**9**	*e*P	**P**	**12 20 28.6**	**+0.3**
HHC				pmax	pmax		
	comp=Z,12nm,1.1s						
HHC				pmax	pmax		
	comp=Z,100nm,5.8s						
KSRS	**Korea Array**	**48.16**	**27**	P	**P**	**12 20 42.0**	**-1.0**
	comp=Z,1.7nm,0.6s,baz=226,slow=7.2,SNR=7.4						
WMQ	**Urumqi**	**50.47**	**346**	*e*P	**P**	**12 21 01.5**	**+0.8**
SONA0	**Songino Array**	**52.65**	**3**	*e*P	**P**	**12 21 17.3**	**+0.4**
SONA0				*e*PcP	**PcP**	**12 22 26.1**	**-0.1**
SONM	**Songino Array**	**52.65**	**3**	P	**P**	**12 21 17.3**	**+0.4**
	comp=Z,3.9nm,0.6s,baz=183,slow=9.5,SNR=32						
SONM				PcP	**PcP**	**12 22 26.1**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=196,slow=3.6,SNR=5.7						
SONA1	**Songino Array**	**52.66**	**3**	*e*P	**P**	**12 21 16.2**	**-0.8**
SONA1				*e*PcP	**PcP**	**12 22 25.7**	**-0.5**
MAJO	**Matsushiro**	**52.80**	**36**	*e*P	**P**	**12 21 16.0**	**-2.1**
MJAR	**Matsushiro Arr**	**52.80**	**36**	P	**P**	**12 21 16.0**	**-2.1**
	comp=Z,2.8nm,0.8s,baz=221,slow=7.7,SNR=5.0						
MK01	**Makanchi Array**	**54.66**	**343**	*e*P	**P**	**12 21 29.9**	**-1.7**
MK31	**Makanchi Array**	**54.68**	**343**	*e*P	**P**	**12 21 30.4**	**-1.4**
MK32	**Makanchi Array**	**54.68**	**343**	*e*P	**P**	**12 21 31.1**	**-0.6**
MKAR	**Makanchi Array**	**54.68**	**343**	P	**P**	**12 21 31.1**	**-0.6**
	comp=Z,4.5nm,0.8s,baz=145,slow=8.2,SNR=30						
MKAR	**Makanchi Array**	**54.68**	**343**	*e*P	**P**	**12 21 30.4**	**-1.4**
	comp=Z,25nm,0.8s						
USRK	**Ussuriysk Ar.**	**55.45**	**25**	P	**P**	**12 21 36.6**	**-0.6**
	comp=Z,6.3nm,0.7s,baz=211,slow=5.1,SNR=13						
GEYT	**Alibeck**	**59.61**	**320**	P	**P**	**12 22 06.8**	**+0.1**
	comp=Z,1.3nm,0.4s,baz=284,slow=5.8,SNR=3.0						
ASAJ	**Asahikawa**	**60.44**	**32**	P	**P**	**12 22 11.8**	**-0.4**
	baz=252,slow=6.4						
ASAJ	**Asahikawa**	**60.44**	**32**	*e*P	**P**	**12 22 09.4**	**-2.7**
	comp=Z,11nm,1.1s						
ZALV	**Zalesovo Beam**	**60.63**	**348**	P	**P**	**12 22 12.7**	**-0.6**
	comp=Z,5.6nm,0.6s,baz=168,slow=5.8,SNR=20						
ZALV	**Zalesovo Beam**	**60.63**	**348**	*e*P	**P**	**12 22 11.5**	**-1.7**
ZAA1	**Zalesovo Array**	**60.63**	**348**	*e*P	**P**	**12 22 12.7**	**-0.7**
ABKAR	**Akbulak array**	**65.65**	**331**	*e*P	**P**	**12 22 45.9**	**-0.8**
KBZ	**Khabaz**	**72.47**	**319**	P	**P**	**12 23 29.5**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=130,slow=6.4,SNR=4.8						
BKZ	**Black Stump Fm**	**74.11**	**129**	*e*P	**P**	**12 23 39.6**	**+0.7**
	comp=Z,16nm,1.2s						
BR101	**Keskin Array S**	**77.50**	**312**	*e*P	**P**	**12 23 58.2**	**-0.1**
BRTR	**Keskin Array B**	**77.50**	**312**	P	**P**	**12 23 58.2**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=132,slow=7.5,SNR=9.9						
AKASG	**Malin Array Be**	**83.62**	**322**	P	**P**	**12 24 30.7**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=93,slow=3.9,SNR=4.2						
AKBB	**Malin Array Si**	**83.62**	**322**	*e*P	**P**	**12 24 30.7**	**+0.1**
BUR04	**Bucovina Ar. S**	**85.43**	**318**	*e*P	**P**	**12 24 39.8**	**-0.2**
FIA0	**FINESS Array S**	**88.09**	**332**	*e*P	**P**	**12 24 53.1**	**+0.6**
FINES	**FINESS Array B**	**88.09**	**332**	P	**P**	**12 24 53.1**	**+0.6**
	comp=Z,2.9nm,0.5s,baz=110,slow=5.5,SNR=12						
ARA0	**ARCESS Array S**	**90.24**	**340**	*e*P	**P**	**12 25 02.2**	**-0.2**
ARCES	**ARCESS Array B**	**90.24**	**340**	P	**P**	**12 25 02.2**	**-0.2**
	comp=Z,4.3nm,0.9s,baz=98,slow=5.5,SNR=3.6						
MPMC	**Manual Prospec**	**131.63**	**45**	P	**PKPdf**	**12 31 16.7**	**+1.1**
	baz=300						
R11A	**Troy Canyon, C**	**131.72**	**41**	P	**PKPdf**	**12 31 16.4**	**+0.7**
	baz=304						
SHOC	**Shoshone, Teco**	**132.56**	**44**	P	**PKPdf**	**12 31 18.7**	**+1.6**
	baz=301						
GMRC	**Granite Mounta**	**133.56**	**45**	P	**PKPdf**	**12 31 20.6**	**+1.4**
	baz=301						
E54A	**Lac Daplat, Po**	**138.68**	**0**	P	**PKPdf**	**12 31 29.4**	**+1.3**
	baz=320						
K43A	**Burlington**	**141.08**	**13**	P	**PKPdf**	**12 31 32.7**	**+0.1**
	baz=342						
WMOK	**Wichita Mounta**	**144.16**	**31**	*e*PKPdf	PKPbc	12 31 36.6	+0.1
WMOK	**Wichita Mounta**	**144.16**	**31**	P	**PKPab**	**12 31 35.9**	**-0.2**
	baz=321						
P46A	**Rosedale**	**144.28**	**14**	P	PKPbc	12 31 36.6	-0.1
	baz=342						
R41A	**Rosebud**	**144.32**	**20**	P	**PKPab**	**12 31 36.1**	**-0.4**
	baz=335						
R42A	**Luebbering**	**144.53**	**19**	P	**PKPab**	**12 31 36.8**	**-0.5**
	baz=336						
CCM	**Cathedral Cave**	**144.59**	**20**	P	**PKPab**	**12 31 36.9**	**-0.6**
	baz=335						
TUL1	**Leonard**	**144.67**	**27**	P	**PKPab**	**12 31 37.1**	**-0.8**
	baz=326						
Q45A	**Warren Harvey,**	**144.73**	**15**	P	**PKPab**	**12 31 37.4**	**-0.7**
	baz=340						
S41A	**Jillco Farms,**	**144.84**	**21**	P	**PKPab**	**12 31 37.7**	**-0.8**
	baz=334,SNR=9.1						
P50A	**Jamestown**	**144.96**	**9**	P	**PKPbc**	**12 31 37.9**	**-1.0**
	baz=348						
S42A	**Caledonia**	**145.00**	**19**	P	**PKPbc**	**12 31 38.1**	**-0.9**
	baz=336,SNR=7.1						
LTX	**Lajitas**	**145.01**	**43**	*e*PKPdf	**PKPdf**	**12 31 40.1**	**+0.1**
TXAR	**Lajitas Array**	**145.01**	**43**	PKP	**PKPdf**	**12 31 40.1**	**+0.1**
	comp=Z,2.7nm,0.7s,baz=267,slow=1.0,SNR=34						
R44A	**Waltonville**	**145.08**	**17**	P	**PKPbc**	**12 31 38.6**	**-0.7**
	baz=339						
Q47A	**Bedord North L**	**145.11**	**13**	P	**PKPbc**	**12 31 38.8**	**-0.5**
	baz=343						
P51A	**Williamsport**	**145.19**	**8**	P	**PKPbc**	**12 31 39.0**	**-0.7**
	baz=349						
Q48A	**North Vernon**	**145.26**	**12**	P	**PKPbc**	**12 31 39.3**	**-0.6**
	baz=344						
R45A	**Skylar, Fairfi**	**145.26**	**16**	P	**PKPbc**	**12 31 39.1**	**-0.8**
	baz=340						
ABTX	**Abilene, Hawle**	**145.29**	**35**	P	**PKPbc**	**12 31 39.9**	**-0.2**
	baz=318						
T41A	**Mountain View**	**145.32**	**21**	P	**PKPbc**	**12 31 39.4**	**-0.8**
	baz=334,SNR=9.5						
Q49A

	baz=346							
W48A	**Pulaski**	**148.59**	**16**	P	**PKPbc**	**12 31 49.2**	**-0.3**	
	baz=341							
W49A	**Belvidere**	**148.78**	**15**	P	**PKPbc**	**12 31 49.3**	**-0.7**	
	baz=342							
X47A	**Russelville**	**148.91**	**18**	P	**PKPbc**	**12 31 49.6**	**-0.7**	
	baz=339							
V53A	**Saluda**	**148.97**	**9**	P	**PKPbc**	**12 31 49.9**	**-0.7**	
	baz=349							
X48A	**Hartselle**	**149.21**	**16**	P	**PKPbc**	**12 31 50.5**	**-0.5**	
	baz=340							
W52A	**Murphy**	**149.33**	**11**	P	**PKPbc**	**12 31 50.4**	**-1.0**	
	baz=346							
X49A	**Woodville**	**149.34**	**15**	P	**PKPbc**	**12 31 50.6**	**-0.8**	
	baz=342							
W53A	**Cullowhee**	**149.40**	**10**	P	**PKPbc**	**12 31 51.1**	**-0.6**	
	baz=348							
Y49A	**Blount Mountai**	**149.94**	**16**	P	**PKPbc**	**12 31 52.6**	**-0.3**	
	baz=341							
GOGA	**Godfrey**	**151.05**	**11**	P	**PKPab**	**12 32 01.5**	**-1.6**	
	baz=346							
Z54A	**Sparta**	**151.34**	**10**	P	**PKPab**	**12 32 02.6**	**-1.7**	
	baz=348							

*NEIC **13** 12:13:21.5±2.1, 16°.30S×175°.28W, h267km±8km, mb4.6/40, Error ellipse: s-maj=19.0km s-min=5.4km az=72.0*
*ISCJB **13** 12:13:22.0±0.3, 16°.29S±0°.04×175°.19W±0°.05, h288km, mb4.5/55, Error ellipse: s-maj=7.1km s-min=4.9km az=13.2*
*IDC **13** 12:13:22.4±1.1, 16°.21S×175°.15W, h276km±13km, mb4.1/12, mb1 4.1/14, mb1mx3.7/44, mbtmp4.7/14, Error ellipse: s-maj=15.5km s-min=10.6km az=111.0*
*WEL **13** 12:13:44.2±1.6, 18°S±13'×18°0E±3'7, h209km±24km*

ISC 13 12:13:23.4±0.4, 16°39S±0'06×175°04W±0'07, h288km, n133, σ1§95/140, mb4.6/55, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
AFI	**Afiamalu**	**4.00**	**52**	P		**Pn**	**12 14 28.0**	**-1.2**
	79nm,0.3s,baz=189,slow=2.0,SNR=178							
AFI				S		**S**	**12 15 18.2**	**-3.5**
	179nm,0.3s,baz=37,slow=20,SNR=10							
AFI	**Afiamalu**	**4.00**	**52**	*e*Pn		**Pn**	**12 14 28.0**	**-1.2**
AFI				*e*			12 14 28.1	
AFI				*e*S		**S**	**12 15 20.3**	**-1.4**
RIZ	**Raoul Island**	**13.07**	**191**	S		**S**	**12 18 36.8**	**-7.2**
GLKZ	**Green Lake**	**13.09**	**191**	P		**P**	**12 16 20.6**	**+0.7**
GLKZ				S		**S**	**12 18 38.4**	**-5.9**
RAR	**Rarotonga**	**15.23**	**111**	*e*P		**Pn**	**12 16 47.5**	**+2.5**
	65nm,1.4s							
DZM	**Mont Dzumac**	**18.37**	**249**	P		**P**	**12 17 18.1**	**+0.1**
	0.2nm,0.3s,baz=127,slow=20,SNR=2.5							
TARA	**Tarawa**	**21.26**	**325**	*e*P		**P**	**12 17 46.7**	**-1.1**
	76nm,0.6s							
OUZ	**Omahuta**	**21.33**	**206**	*e*P		**P**	**12 17 47.0**	**-1.3**
	27nm,0.9s							
OUZ	**Omahuta**	**21.33**	**206**	P		**P**	**12 17 49.9**	**+1.6**
GRZ	**Great Barrier**	**21.51**	**201**	P		**P**	**12 17 51.1**	**+1.2**
WCZ	**Waipu Caves**	**21.65**	**204**	P		**P**	**12 17 52.7**	**+1.6**
KUZ	**Kuaotunu**	**21.87**	**200**	P		**P**	**12 17 54.7**	**+1.6**
MXZ	**Matakaoa Point**	**21.89**	**194**	*e*P		**P**	**12 17 54.1**	**+0.7**
	183nm,1.4s							
MXZ	**Matakaoa Point**	**21.89**	**194**	P		**P**	**12 17 54.3**	**+1.0**
ABAZ	**Army Bay**	**22.05**	**202**	P		**P**	**12 17 57.2**	**+2.5**
WIAZ	**Waiheke Island**	**22.11**	**201**	P		**P**	**12 17 57.4**	**+2.0**
WMGZ	**Waiomatatini S**	**22.11**	**194**	P		**P**	**12 17 57.2**	**+1.9**
HAZ	**Te Kaha**	**22.21**	**195**	P		**P**	**12 17 57.2**	**+1.0**
PUZ	**Puketiti**	**22.39**	**194**	P		**P**	**12 18 00.6**	**+2.7**
PUZ				S		**S**	**12 21 46.8**	**+4.5**
KMRZ	**Kaimai**	**22.81**	**199**	P		**P**	**12 18 04.6**	**+2.9**
URZ	**Urewera**	**22.86**	**196**	P		**P**	**12 18 01.3**	**-0.8**
	42nm,0.6s,baz=296,slow=2.1,SNR=34							
URZ				S		**S**	**12 21 56.2**	**+6.6**
	5.4nm,0.8s,baz=90,slow=23,SNR=5.7							
URZ	**Urewera**	**22.86**	**196**	*e*P		**P**	**12 18 01.3**	**-0.8**
URZ				*e*P		**P**	**12 18 01.4**	**-0.7**
URZ				*e*S		**S**	**12 21 56.2**	**+6.6**
URZ	**Urewera**	**22.86**	**196**	P		**P**	**12 18 01.4**	**-0.7**
RRRZ	**Republican Roa**	**23.09**	**197**	P		**P**	**12 18 06.0**	**+1.7**
MUGZ	**Murupara**	**23.15**	**197**	P		**P**	**12 18 05.5**	**+0.8**
RTZ	**Ruatahuna**	**23.23**	**196**	P		**P**	**12 18 06.2**	**+0.7**
SNGZ	**Shannon Statio**	**23.29**	**195**	P		**P**	**12 18 07.6**	**+1.5**
TLZ	**Tolley Road**	**23.38**	**199**	P		**P**	**12 18 10.8**	**+4.0**
KNZ	**Kokohu**	**23.43**	**194**	P		**P**	**12 18 09.3**	**+2.0**
RAHZ	**Arahi**	**23.48**	**196**	P		**P**	**12 18 09.4**	**+1.6**
NMHZ	**Naumai**	**23.72**	**196**	P		**P**	**12 18 11.6**	**+1.5**
HIZ	**Hauiti**	**23.76**	**200**	*e*P		**P**	**12 18 11.9**	**+1.6**
	86nm,1.2s							
HIZ	**Hauiti**	**23.76**	**200**	P		**P**	**12 18 12.2**	**+1.9**
ARHZ	**Aropaoanui**	**23.83**	**195**	P		**P**	**12 18 13.7**	**+2.8**
BKZ	**Black Stump Fm**	**23.87**	**196**	*e*P		**P**	**12 18 10.7**	**-0.6**
	22nm,0.9s							
BKZ	**Black Stump Fm**	**23.87**	**196**	P		**P**	**12 18 10.8**	**-0.6**
MCHZ	**McNeill Hill**	**24.08**	**196**	P		**P**	**12 18 15.1**	**+2.0**
WTVZ	**West Tongariro**	**24.08**	**198**	P		**P**	**12 18 14.8**	**+1.5**
TWVZ	**Taurewa**	**24.09**	**198**	P		**P**	**12 18 13.5**	**+0.1**
KWHZ	**Kaweka Forest**	**24.13**	**196**	P		**P**	**12 18 14.1**	**+0.3**
NGZ	**Ngauruhoe**	**24.13**	**198**	P		**P**	**12 18 16.1**	**+2.3**
BHHZ	**Black Hill Sta**	**24.29**	**197**	P		**P**	**12 18 15.2**	**0.0**
MOVZ	**Moawhango**	**24.30**	**198**	P		**P**	**12 18 15.3**	**0.0**
PKVZ	**Pokaka**	**24.32**	**198**	P		**P**	**12 18 15.7**	**+0.3**
VRZ	**Vera Road**	**24.35**	**200**	P		**P**	**12 18 17.2**	**+1.6**
KRHZ	**Kereru**	**24.35**	**196**	P		**P**	**12 18 16.7**	**+1.0**
KAHZ	**Kahuranaki**	**24.36**	**195**	P		**P**	**12 18 17.7**	**+1.9**
MTVZ	**Mangateitei**	**24.37**	**198**	P		**P**	**12 18 16.3**	**+0.5**
PXZ	**Pawanui**	**24.59**	**195**	P		**P**	**12 18 18.9**	**+1.2**
PNHZ	**Pukenui**	**24.65**	**196**	P		**P**	**12 18 18.7**	**+0.3**
PNHZ				P		**P**	**12 18 18.7**	**+0.3**
TSZ	**Takapari Road**	**24.85**	**197**	P		**P**	**12 18 19.7**	**-0.5**
DVHZ	**Dannevirke**	**25.02**	**196**	P		**P**	**12 18 22.7**	**+1.0**
ANWZ	**Angora Road**	**25.09**	**195**	P		**P**	**12 18 23.8**	**+1.5**
BFZ	**Birch Farm**	**25.36**	**196**	*e*P		**P**	**12 18 25.3**	**+0.6**
	30nm,1.0s							
BFZ	**Birch Farm**	**25.36**	**196**	P		**P**	**12 18 25.1**	**+0.4**
MRZ	**Mangatainoka R**	**25.52**	**197**	P		**P**	**12 18 24.7**	**-1.4**
HOWZ	**Holdsworth Sta**	**25.75**	**197**	P		**P**	**12 18 27.6**	**-0.6**
OGWZ	**Otaki Gorge**	**25.78**	**197**	P		**P**	**12 18 27.8**	**-0.6**
CAW	**Cannon Point**	**26.07**	**197**	P		**P**	**12 18 29.8**	**-1.3**
DUWZ	**D'Urville Isla**	**26.14**	**199**	P		**P**	**12 18 31.5**	**-0.2**
TRWZ	**Traveller**	**26.18**	**196**	P		**P**	**12 18 32.7**	**+0.8**
SNZO	**South Karori**	**26.37**	**198**	*e*P		**P**	**12 18 32.4**	**-1.2**
	38nm,1.0s							
TCW	**Tory Channel**	**26.40**	**198**	P		**P**	**12 18 35.2**	**+1.2**
PLWZ	**Palliser**	**26.45**	**196**	P		**P**	**12 18 33.9**	**-0.5**
QRZ	**Quartz Range**	**26.62**	**201**	P		**P**	**12 18 36.3**	**+0.3**
NNZ	**Nelson**	**26.69**	**200**	P		**P**	**12 18 37.2**	**+0.6**
TUWZ	**Tuamarina**	**26.70**	**199**	P		**P**	**12 18 36.8**	**+0.1**
THZ	**Tophouse**	**27.33**	**200**	*e*P		**P**	**12 18 42.1**	**-0.2**
	14nm,0.5s							
KHZ	**Kahutara**	**27.73**	**198**	*e*P		**P**	**12 18 45.0**	**-0.7**
	16nm,0.9s							
LTZ	**Lake Taylor**	**28.46**	**200**	*e*P		**P**	**12 18 49.7**	**-2.5**
	20nm,0.5s							
OXZ	**Oxford**	**29.02**	**200**	*e*P		**P**	**12 18 56.1**	**-1.0**
	32nm,1.0s							
CRLZ	**Canterbury Las**	**29.06**	**199**	*e*P		**P**	**12 18 55.9**	**-1.6**
	97nm,1.3s							
MQZ	**McQueen's Vall**	**29.17**	**198**	*e*P		**P**	**12 18 57.5**	**-0.9**
	16nm,1.2s							
RPZ	**Rata Peaks**	**29.69**	**201**	P		**P**	**12 19 03.2**	**+0.1**
	14nm,0.6s,baz=8.5,slow=4.8,SNR=9.7							
RPZ	**Rata Peaks**	**29.69**	**201**	*e*P		**P**	**12 19 03.0**	**0.0**
	12nm,0.5s							
RPZ				*e*P		**P**	**12 19 03.2**	**+0.1**
FOZ	**Fox Glacier**	**29.97**	**202**	*e*P		**P**	**12 19 04.0**	**-1.5**
	22nm,1.0s							
LBZ	**Lake Benmore**	**30.58**	**201**	*e*P		**P**	**12 19 09.2**	**-1.7**
	14nm,1.0s							
ODZ	**Otahua Downs**	**31.00**	**200**	*e*P		**P**	**12 19 12.7**	**-1.9**
	20nm,1.1s							
WKZ	**Wanaka**	**31.37**	**202**	*e*P		**P**	**12 19 16.6**	**-1.2**
	14nm,0.8s							
MLZ	**Mavora Lakes**	**32.16**	**203**	*e*P		**P**	**12 19 24.3**	**-0.4**
	22nm,0.9s							
DCZ	**Deep Cove**	**32.61**	**204**	*e*P		**P**	**12 19 28.3**	**-0.2**
	18nm,0.7s							
WHZ	**Wether Hill Ro**	**32.67**	**202**	*e*P		**P**	**12 19 29.4**	**+0.3**
	80nm,0.5s							
CAN	**Canberra**	**37.18**	**233**	*e*P		**P**	**12 20 06.8**	**-0.8**
STKA	**Stephens Creek**	**42.18**	**240**	P		**P**	**12 20 49.0**	**+0.5**
	9.5nm,0.6s,baz=70,slow=7.4,SNR=11							
STKA	**Stephens Creek**	**42.18**	**240**	*e*P		**P**	**12 20 47.1**	**-1.5**
	2.4nm,0.8s							
BBOO	**Buckleboo**	**46.95**	**240**	*e*P		**P**	**12 21 26.2**	**+0.1**
	9.8nm,0.7s							
WC3	**Warramunga Arr**	**48.06**	**258**	*e*P		**P**	**12 21 31.7**	**-3.0**
	8.1nm,1.3s							
WB2	**Warramunga Arr**	**48.08**	**258**	*e*P		**P**	**12 21 32.1**	**-2.8**
WB2				*e*P		P	12 21 32.1	-2.7
WRAB	**Tennant Creek**	**48.08**	**258**	*e*P		**P**	**12 21 34.4**	**-0.5**
	9.5nm,1.4s							
WR1	**Warramunga Arr**	**48.09**	**258**	*e*P		**P**	**12 21 34.5**	**-0.5**
	6.1nm,0.9s							
WR1				*e*PcP		**PcP**	**12 22 57.7**	**-0.1**
WR1				*e*S		**S**	**12 28 07.8**	**-3.6**
WRA	**Warramunga Arr**	**48.09**	**258**	P		**P**	**12 21 34.5**	**-0.5**
	2.6nm,0.5s,baz=92,slow=7.1,SNR=35							
WRA				PcP		**PcP**	**12 22 57.7**	**-0.1**
	0.5nm,0.4s,baz=89,slow=3.7,SNR=3.5							
WRA				S		**S**	**12 28 07.8**	**-3.6**
	0.3nm,0.8s,baz=89,slow=14,SNR=4.1							
AS01	**Alice Springs**	**48.27**	**253**	*e*P		**P**	**12 21 34.2**	**-2.1**
AS31	**Alice Springs**	**48.31**	**253**	*e*P		**P**	**12 21 36.6**	**0.0**
	3.5nm,0.8s							
ASAR	**Alice Springs**	**48.31**	**253**	P		**P**	**12 21 36.4**	**-0.3**
	11nm,0.5s,baz=87,slow=8.1,SNR=121							
ASAR				S		**S**	**12 28 13.1**	**-1.3**
	0.2nm,0.6s,baz=85,slow=15,SNR=4.6							
MTN	**Manton Dam**	**52.09**	**266**	*e*P		**P**	**12 22 03.4**	**-1.5**
	27nm,1.4s							
FORT	**Forrest**	**53.56**	**244**	*e*P		**P**	**12 22 14.7**	**-0.7**
	10nm,0.8s							
SIJI	**Sorong**	**55.08**	**281**	P		**P**	**12 22 26.8**	**+0.3**
	6.9nm,0.5s,baz=74,slow=10,SNR=5.6							
FITZ	**Fitzroy Crossi**	**56.47**	**259**	*e*P		**P**	**12 22 36.9**	**+0.6**
	6.9nm,1.4s							
MBWA	**Marble Bar**	**61.58**	**255**	*e*P		**P**	**12 23 10.3**	**-0.9**
	22nm,1.5s							
SBA	**Scott Base**	**62.15**	**184**	*e*P		**P**	**12 23 16.3**	**+2.4**
	8.8nm,0.8s							
VNDA	**Vanda**	**62.24**	**186**	P		**P**	**12 23 16.4**	**+1.8**
	6.1nm,0.9s,baz=359,slow=7.0,SNR=37							
VNDA	**Vanda**	**62.24**	**186**	*e*P		**P**	**12 23 16.7**	**+2.1**
	6.3nm,0.8s							
NWAO	**Narrogin (SRO)**	**62.76**	**241**	P		**P**	**12 23 18.9**	**+0.1**
	baz=68,slow=8.7							
NWAO	**Narrogin (SRO)**	**62.76**	**241**	*e*P		**P**	**12 23 17.4**	**-1.4**
	25nm,1.4s							
NWAO				*e*P		**P**	**12 23 18.9**	**+0.1**
LUWI	**Luwuk**	**63.08**	**277**	*e*P		**P**	**12 23 19.7**	**-1.4**
	23nm,1.0s							
MJAR	**Matsushiro Arr**	**68.69**	**321**	P		**P**	**12 23 55.1**	**-1.2**
	0.8nm,0.4s,baz=112,slow=30,SNR=4.5							
MAJO	**Matsushiro**	**68.69**	**321**	*e*P		**P**	**12 23 55.1**	**-1.2**
CASY	**Casey**	**68.86**	**205**	*e*P		**P**	**12 23 57.2**	**+0.3**
	3.4nm,0.8s							
ASAJ	**Asahikawa**	**71.56**	**329**	P		**P**	**12 24 14.0**	**+0.6**
	6.5nm,0.8s,baz=273,slow=18,SNR=3.6							
PETK	**Petropavlovsk-**	**73.10**	**343**	P		**P**	**12 24 21.5**	**-0.8**
	2.3nm,0.6s,baz=121,slow=8.5,SNR=9.6							
PEA1	**Petropavlovsk-**	**73.11**	**343**	*e*P		**P**	**12 24 21.5**	**-0.9**
QSPA	**South Pole Qui**	**73.66**	**180**	*e*P		**P**	**12 24 26.6**	**+0.9**
	12nm,0.8s							
NJ2	**Nanjing**	**79.51**	**308**	*e*P		**P**	**12 25 02.8**	**+4.2**
NJ2				pmax		pmax		
	comp=Z,13nm,0.6s							
LTX	**Lajitas**	**82.47**	**57**	*e*P		**P**	**12 25 14.8**	**+0.3**
TXAR	**Lajitas Array**	**82.47**	**57**	P		**P**	**12 25 14.8**	**+0.3**
	comp=Z,0.1nm,0.6s,baz=216,slow=9.0,SNR=2.7							
ILAR	**Eielson Array**	**83.72**	**12**	P		**P**	**12 25 18.4**	**-1.4**
	comp=Z,1.1nm,0.4s,baz=223,slow=5.7,SNR=22							
PDAR	**Pinedale Array**	**84.05**	**42**	P		**P**	**12 25 21.5**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=290,slow=2.6,SNR=3.0							
MAW	**Mawson**	**86.35**	**199**	P		**P**	**12 25 33.4**	**+0.5**
	comp=Z,6.8nm,0.6s,baz=136,slow=5.9,SNR=22							
GYA	**Guiyang**	**87.12**	**298**	*e*P		P	12 25 43.8	+6.2
GYA				pP		pP	12 26 27.4	-19
GYA				sP		sP	12 26 46.8	-29
GYA				PP		**PP**	**12 29 10.0**	**+4.0**
GYA	**Guiyang**	**87.12**	**298**	SKS		**S**	**12 35 50.5**	**-1.9**
GYA	**Guiyang**	**87.12**	**298**	S		S	12 36 03.3	+11
GYA				pmax		pmax		
	comp=Z,20nm,1.0s							
HHC	**Hu-ho-hao-te**	**88.55**	**313**	*e*P		P	12 25 50.9	+6.9
HHC	**Hu-ho-hao-te**	**88.55**	**313**	S		S	12 36 14.8	+10
HHC				pmax		pmax		
	comp=Z,25nm,1.3s							
HHC				pmax		pmax		
	comp=Z,140nm,5.8s							
KMI	**Kunming**	**90.04**	**296**	P		P	12 25 56.4	+5.0
KMI				pmax		pmax		
	comp=Z,13nm,0.5s							
KMI				pmax		pmax		
	comp=Z,140nm,4.7s							
CD2	**Chengdu**	**90.98**	**302**	*e*P		P	12 26 01.0	+5.5
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				pmax		pmax		
	comp=Z,120nm,5.0s							
SYO	**Syowa Base**	**91.32**	**192**↓	*e*P		**P**	**12 25 55.4**	**-0.8**
VNA3	**Neumayer Olymp**	**92.01**	**175**	P		**P**	**12 25 59.4**	**-0.1**
VNA2	**Neumayer--Watz**	**92.49**	**176**	P		**P**	**12 26 02.5**	**+0.9**
	baz=212,slow=4.5							
LZH	**Lanzhou**	**92.54**	**307**	*e*P		P	12 26 09.3	+6.6
LZH				pP		pP	12 26 53.5	-18
LZH				sP		sP	12 28 12.0	+30
LZH				PP		**PP**	**12 29 54.6**	**+5.9**
LZH				pmax		pmax		
	comp=Z,18nm,1.4s							
LZH				pmax		pmax		
	comp=Z,89nm,9.5s							
VNA1	**Neumayer--Stat**	**92.70**	**176**	P		**P**	**12 26 02.1**	**-0.4**
GTA	**Gaotai**	**96.57**	**309**	*e*P		P	12 26 26.5	+5.5
GTA				pP		pP	12 27 09.4	-21
GTA				sP		sP	12 27 28.5	-32
GTA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
KSH	**Kashi**	**114.79**	**306**	*e*PKP		PKPdf	12 31 40.3	+10
BRG	**Berggiesshubel**	**144.85**	**350**	*e*PKP		PKPdf	12 32 50.4	+24
	comp=Z,6.0nm,0.6s							

MEX 13 12:17:38.6±0.6, 14°.49N×92°.87W, h16km±42km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
THIG		**0.72**	**55**	*i* P		Pg	12 17 49.3	-3.3
THIG				*i* S		Sg	12 17 58.9	-3.2
PCIG		**1.25**	**344**	*e*P		Pn	12 17 57.6	-3.9
PCIG				*i* S		Sb	12 18 12.5	-5.3
CCIG	**Comitan**	**1.92**	**22**	*i* P		Pn	12 18 07.5	-3.3
CCIG				*e*S		Sn	12 18 29.9	-4.7
TGIG		**2.29**	**354**	*i* P		Pn	12 18 12.4	-3.4
TGIG				*i* S		Sn	12 18 38.7	-5.0

KRSC 13 12:24:10.0±1.4, 51°.86N×159°.35E, h39km±20km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
RUS	**Russkaya**	**0.77**	**318**	*e*P		Pn	12 24 25.0	+0.7
RUS				*e*S		Sn	12 24 34.7	0.0
KDTR	**Khodutka, Kamc**	**0.79**	**267**	*e*P		Pn	12 24 25.5	+0.9
KDTR				*e*S		Sn	12 24 35.4	+0.2
MTVR	**Mutnovka**	**0.95**	**311**	*e*P		Pn	12 24 28.1	+1.2
MTVR				*e*S		Sn	12 24 40.3	+1.0
GRL	**Gorelyy**	**1.04**	**312**	*e*P		Pn	12 24 30.4	+2.2
GRL				*e*S		Sn	12 24 43.8	+2.1
KRMR	**Karymshinskiy**	**1.22**	**323**	*e*P		Pn	12 24 31.8	+1.2
KRMR				*e*S		Sn	12 24 46.5	+0.6
DALK	**Dalny**	**1.23**	**343**	*e*P		Pn	12 24 31.6	+1.0
DALK				*e*S		Sn	12 24 46.9	+1.0
PET	**Petropavlovsk**	**1.24**	**340**	*e*P		Pn	12 24 31.8	+1.0
PET				*e*S		Sn	12 24 46.4	+0.2
SPN	**Mys Shipunski**	**1.31**	**18**	*e*P		Pn	12 24 33.8	+2.1
SPN				*e*S		Sn	12 24 50.8	+2.9
NLC	**Nalytchevo**	**1.31**	**360**	*e*P		Pn	12 24 32.7	+0.9
UGLR	**Uglovaya**	**1.39**	**347**	*e*P		Pn	12 24 34.2	+1.3
SMAR	**Somma**	**1.44**	**347**	*e*P		Pn	12 24 35.7	+1.9
SDLR	**Sedlovina**	**1.45**	**349**	*e*P		Pn	12 24 34.6	+0.8
AVH	**Avacha**	**1.45**	**345**	*e*P		Pn	12 24 35.2	+1.4
KOK	**Koryaka**	**1.50**	**343**	*e*P		Pn	12 24 36.4	+2.0
KRX	**Arik**	**1.56**	**344**	*e*P		Pn	12 24 37.3	+2.0
PAU	**Pauzhetka**	**1.63**	**257**	*e*P		Pn	12 24 40.0	+3.9
APC	**Apacha**	**1.71**	**309**	*e*P		Pn	12 24 40.0	+2.7
APC				*e*S		Sn	12 25 02.8	+4.9
GNL	**Ganaly**	**2.02**	**336**	*i* P		Pn	12 24 44.0	+2.3
KII	**Karymskiy**	**2.18**	**2**	P		Pn	12 24 47.7	+3.9
SKR	**Severo-Kuril's**	**2.35**	**241**	*e*P		Pn	12 24 48.0	+2.0
SKR				*e*S		Sn	12 25 15.2	+1.7
MKZ	**Mys Kozlova**	**3.06**	**27**	*e*P		Pn	12 24 58.2	+2.5
MKZ				*e*S		Sn	12 25 33.1	+2.1
KZV	**Kizimen**	**3.31**	**9**	*e*P		Pn	12 25 05.3	+6.0

*ISCJB **13** 12:42:49.1±0.2, 0°.27N±0°.04×122°.22E±0°.04, h150km, mb4.4/23, Error ellipse: s-maj=6.8km s-min=3.9km az=38.2*
*DJA **13** 12:42:50.4±0.2, 0°N±4'×12°2E±', h130km±3km, M4.5/12, mb4.5/11, mB5.3/4, MLv4.5/12, Mw(mB)4.8/4*
*NEIC **13** 12:42:50.8±1.2, 0°.25N×122°.29E, h156km±9km, mb4.4/14, Error ellipse: s-maj=16.0km s-min=12.8km az=85.0*
*IDC **13** 12:42:52.6±2.0, 0°.21N×122°.25E, h171km±18km, mb3.9/8, mb1 4.0/11, mb1mx3.7/35, mbtmp4.4/11, MS2.2/1, Ms1 2.2/1, ms1mx2.1/38, Error ellipse: s-maj=25.2km s-min=10.3km az=58.0*

ISC 13 12:42:50.7±0.5, 0°.26N±0°.06×122°.25E±0°.06, h150km, n73, σ1§31/80, mb4.4/23, 1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MRSI	**Marisa**	**0.38**	**305**	P		**Pn**	**12 43 08.8**	**-2.7**
APSI	**Ampana**	**1.31**	**207**	P		**Pn**	**12 43 17.0**	**-1.3**
LUWI	**Luwuk**	**1.40**	**158**	*e*Pn		**Pn**	**12 43 19.1**	**-0.1**
LUWI				*e*Sn		**Sn**	**12 43 40.7**	**-0.3**
LUWI	**Luwuk**	**1.40**	**158**	P		**Pn**	**12 43 19.1**	**-0.1**
KMSI	**Cibinong**	**1.76**	**80**	P		**Pn**	**12 43 23.7**	**+0.6**
MPSI	**Mapaga**	**2.35**	**272**	P		**Pn**	**12 43 28.0**	**-2.0**
SANI	**Sanana**	**4.39**	**122**	P		**Pn**	**12 43 54.5**	**-1.5**
SPSI	**Sidrap Palu**	**4.87**	**211**	P		Pn	12 44 14.9	+12
TNTI	**Ternate**	**5.14**	**84**	*e*Pn		**Pn**	**12 44 05.7**	**-0.3**
TNTI				*e*Sn		**Sn**	**12 45 02.8**	**-2.0**
TNTI	**Ternate**	**5.14**	**84**	P		**Pn**	**12 44 05.9**	**-0.1**
NLAI	**Namlea**	**5.97**	**126**	P		**Pn**	**12 44 18.1**	**+1.1**
MYLDM	**Lahad Datu**	**6.16**	**323**	*e*Pn		**Pn**	**12 44 22.9**	**+3.4**
AAI	**Ambon**	**7.12**	**123**	P		**Pn**	**12 44 33.6**	**+1.2**
DAV	**Davao City (W)**	**7.54**	**26**	LR		LR	12 48 05.4	
	comp=Z,19nm,20.2s,baz=195,slow=41							
MSAI	**Masohi**	**7.58**	**118**	P		**Pn**	**12 44 39.3**	**+0.8**
KKM	**Kota Kinabalu**	**8.32**	**314**	*e*Pn		**Pn**	**12 44 52.6**	**+4.0**
SIJI	**Sorong**	**9.09**	**97**	P		**Pn**	**12 44 59.2**	**+0.6**
	1.6nm,0.3s,baz=280,slow=7.8,SNR=12							
SIJI				S		**Sn**	**12 46 43.3**	**+3.7**
	0.2nm,0.3s,baz=108,slow=20,SNR=2.1							
FAKI	**Fak Fak**	**10.48**	**108**	*e*Pn		**Pn**	**12 45 16.5**	**-0.7**
JAGI	**Jajag, Banyuwa**	**11.85**	**223**	*e*Pn		**Pn**	**12 45 38.3**	**+3.3**
KPJI	**Karang Pucung**	**15.28**	**240**	P		**Pn**	**12 46 19.3**	**+0.7**
MTN	**Manton Dam**	**15.72**	**146**	*e*Pn		**Pn**	**12 46 24.6**	**+0.5**
	26nm,0.5s							
CISI	**Cisompet, Garu**	**16.35**	**241**	*e*P		**Pn**	**12 46 31.6**	**-0.3**
	35nm,0.8s							
FITZ	**Fitzroy Crossi**	**18.55**	**170**	P		**P**	**12 46 56.3**	**+0.3**
	2.2nm,0.3s,baz=9.6,slow=8.2,SNR=72							
FITZ	**Fitzroy Crossi**	**18.55**	**170**	*e*P		**P**	**12 46 56.0**	**0.0**
	6.3nm,0.6s							
JAY	**Jayapura**	**18.66**	**99**	P		**P**	**12 46 58.6**	**+1.2**
	0.9nm,0.3s,baz=197,slow=7.6,SNR=5.4							
MDSI	**Maura Dua**	**18

VNDA	**Vanda**	**80.61**	**172**	P	**P**	**12 54 45.5**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=318,slow=6.5,SNR=7.5							
TORD	**Torodi Ar. Bea**	**119.61**	**285**	PKP	**PKPdf**	**13 01 21.0**	**-2.8**
	comp=Z,0.3nm,0.4s,baz=98,slow=1.9,SNR=4.2							
TOA1	**Torodi Ar. Sit**	**119.62**	**285**	*e*PKPdf	**PKPdf**	**13 01 21.0**	**-2.8**

ISCJB ***13*** *12:52:48.8±2.0, 4.2S±0.2×151.8E±0.2, h153km, mb4.0/4, Error ellipse: s-maj=37.2km s-min=17.0km az=152.3*
IDC ***13*** *12:52:50.5±6.7, 4.29S×151.82E, h152km±50km, mb3.7/4, mb1 3.8/5, mb1mx3.3/33, mbtmp4.1/5, MS2.8/1, Ms1 2.8/1, ms1mx2.3/30, Error ellipse: s-maj=56.3km s-min=30.9km az=4.0*

ISC 13 12:52:50.2±1.8, 4.3S±0.2×151.8E±0.2, h153km, n7, σ0°78/7, mb3.9/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.91**	**222**	P		**Pn**	**12 54 30.3**	**+1.1**
	1.5nm,0.3s,baz=282,slow=19,SNR=4.7							
PMG				S		**Sn**	**12 55 46.0**	**-0.9**
	1.2nm,0.3s,baz=286,slow=20,SNR=3.9							
GUMO	**Guam**	**19.03**	**339**	LR		LR	13 05 23.2	
	comp=Z,26nm,18.1s,baz=97,slow=40							
DZM	**Mont Dzumac**	**22.68**	**143**	P		**P**	**12 57 38.7**	**-0.2**
	4.1nm,0.7s,baz=195,slow=9.3,SNR=3.1							
WRA	**Warramunga Arr**	**23.11**	**226**	P		**P**	**12 57 43.0**	**+0.1**
	3.7nm,0.3s,baz=50,slow=9.4,SNR=298							
ASAR	**Alice Springs**	**25.93**	**220**	P		**P**	**12 58 08.6**	**+0.1**
	0.8nm,0.4s,baz=55,slow=8.4,SNR=27							
FITZ	**Fitzroy Crossi**	**29.09**	**240**	P		**P**	**12 58 36.1**	**-0.5**
	1.6nm,0.7s,baz=59,slow=8.2,SNR=24							
TORD	**Torodi Ar. Bea**	**149.22**	**289**	PKPbc		**PKPbc**	**13 12 21.7**	**-0.1**
	0.5nm,0.3s,baz=77,slow=2.5,SNR=7.5							

IDC 13 12:55:02.2±9.4, 15.59N×91.66W, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.6/26, mbtmp3.6/3, ML3.3/1, Error ellipse: s-maj=338.0km s-min=42.1km az=40.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**17.59**	**323**	P		P	12 59 10.1	0.0
	0.0nm,0.3s,baz=145,slow=14,SNR=3.7							
YKA	**Yellowknife Ar**	**49.56**	**346**	P		P	13 03 54.2	-0.5
	1.2nm,0.9s,baz=154,slow=6.8,SNR=3.9							
TORD	**Torodi Ar. Bea**	**89.69**	**77**	P		P	13 08 03.1	+0.1
	0.7nm,1.0s,baz=299,slow=3.0							

IDC ***13*** *13:11:08.0±1.4, 23.19N×96.22E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/53, mbtmp3.3/4, ML3.9/1, MS2.9/5, Ms1 3.0/5, ms1mx2.8/25, Error ellipse: s-maj=45.4km s-min=18.6km az=62.0*

ISC 13 13:11:09.3±1.6, 23.0N±0.2×96.0E±0.4, h10km, n13, σ1°94/9, mb3.4/3, MS2.7/4, Myanmar

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CHTO	**Chiang Mai**	**4.94**	**146**	P		**Pn**	**13 12 25.9**	**+2.3**
CMMT	**Chiang Mai**	**4.94**	**146**	P		**Pn**	**13 12 25.8**	**+2.1**
PAYA	**Payao**	**5.06**	**134**	P		**Pg**	**13 12 44.5**	**-1.8**
CMAR	**Chiang Mai Arr**	**5.24**	**148**	Pn		**Pn**	**13 12 28.4**	**+0.6**
	0.9nm,0.3s,baz=325,slow=13,SNR=16							
CMAR				Pg		**Pg**	**13 12 47.1**	**-2.6**
	2.5nm,0.3s,baz=327,slow=17,SNR=20							
CMAR				Lg		Lg	13 13 57.4	
	5.4nm,0.3s,baz=330,slow=31,SNR=15							
CMAR				LR		LR	13 14 57.1	
	comp=Z,161nm,18.3s,baz=346,slow=43							
LAMP	**Lampang**	**5.55**	**142**	P		**Pg**	**13 12 55.3**	**-0.4**
SUKH	**Sukhothai**	**6.41**	**148**	P		Pb	13 12 53.8	-7.2
PALK	**Pallekele**	**21.46**	**226**	LR		LR	13 27 12.9	
	comp=Z,32nm,18.6s,baz=116,slow=44							
MKAR	**Makanchi Array**	**26.24**	**338**	P		**P**	**13 16 43.3**	**-1.2**
	1.0nm,0.7s,baz=148,slow=11,SNR=9.2							
AAK	**Ala-Archa**	**26.57**	**323**	LR		LR	13 27 06.2	
	comp=Z,19nm,18.6s,baz=32,slow=36							
KSRS	**Korea Array**	**30.95**	**55**	LR		LR	13 31 16.2	
	comp=Z,11nm,19.1s,baz=75,slow=39							
DAV	**Davao City (W)**	**32.51**	**114**	LR		LR	13 30 38.0	
	comp=Z,30nm,19.9s,baz=66,slow=36							
WRA	**Warramunga Arr**	**56.71**	**136**	P		**P**	**13 20 54.0**	**+0.6**
	0.3nm,0.8s,baz=325,slow=7.3,SNR=3.3							
ASAR	**Alice Springs**	**59.18**	**139**	P		**P**	**13 21 11.4**	**+0.7**
	0.1nm,0.5s,baz=323,slow=6.5,SNR=4.8							

NIC ***13*** *13:20:57.4±0.2, 34.31N×32.69E, h17km, ML3.1*
ISK ***13*** *13:20:59.9, 34.40N×32.79E, h14km, ML3.1/11*
ISCJB ***13*** *13:21:00.2±0.8, 34.44N±0.02×32.70E±0.05, h4km±4km, Error ellipse: s-maj=7.8km s-min=3.8km az=164.9*
GII ***13*** *13:21:01.8±0.0, 34.55N×32.77E, h10km, MD1.7/2*
DDA ***13*** *13:21:11.2, 35.16N×33.03E, h5km, Ml2.4*

ISC 13 13:21:03.1±1.1, 34.56N±0.03×32.77E±0.04, h21km±2km, n36, σ1°17/51, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SZAC	**Souni**	**0.21**	**25**	P		**Pb**	**13 21 07.5**	**-1.6**
	baz=199							
SZAC				S		**Sb**	**13 21 14.4**	**+1.2**
PPCY	**Paphos**	**0.48**	**313**	P		**Pb**	**13 21 10.1**	**-2.7**
	baz=153							
LEF	**Lefka**	**0.56**	**10**	PG		**Pb**	**13 21 13.8**	**-0.6**
LEF				SG		**Sn**	**13 21 24.5**	**-0.2**
ALFC	**Alefka**	**0.61**	**347**	P		**Pb**	**13 21 13.4**	**-1.8**
	baz=174							
ALFC				S		**Sn**	**13 21 25.7**	**-0.1**
CSS	**Mathiatis**	**0.61**	**49**	PG		**Pb**	**13 21 13.6**	**-1.6**
CSS				SG		**Sn**	**13 21 24.7**	**-1.1**
CSS	**Mathiatis**	**0.61**	**49**	P		**Pb**	**13 21 13.4**	**-1.8**
	baz=219							
CSS				S		**Sn**	**13 21 25.3**	**-0.5**
CSS	**Mathiatis**	**0.61**	**49**	Pg		**Pb**	**13 21 13.6**	**-1.6**
AKIN	**Ak¯nc¯lar- K**	**0.73**	**52**	PG		**Pb**	**13 21 17.1**	**0.0**
AKDN	**Akdeniz- K¯br**	**0.75**	**12**	PG		**Pb**	**13 21 18.4**	**-0.1**
LFK	**Lefkose**	**0.95**	**41**	PG		**Pn**	**13 21 21.2**	**-0.1**
EREN	**Erenkoy**	**1.50**	**50**	PN		**Pb**	**13 21 29.1**	**-1.1**
TEKE	**Tekeli-Mersin**	**1.60**	**10**	PN		**Pb**	**13 21 30.6**	**-1.4**
GAZI	**Gazipasa**	**1.71**	**348**	PN		**Pb**	**13 21 32.6**	**-1.2**
GAZI	**Gazipasa**	**1.71**	**348**	*i* P		**Pb**	**13 21 34.4**	**+0.6**
GAZI				*i* S		**Sb**	**13 21 57.4**	**+2.5**
AKKU	**Akkuyu-Mersin**	**1.72**	**22**	PN		**Pn**	**13 21 32.1**	**+0.3**
GULN	**MERSIN_Gulnar**	**1.74**	**21**	*i* P		**Pn**	**13 21 32.4**	**+0.3**
GULN				*i* S		**Sb**	**13 21 56.3**	**+0.6**
BERE	**Bereket-Mersin**	**1.82**	**12**	PN		**Pn**	**13 21 33.2**	**-0.2**
IKL	**Isikli**	**1.83**	**24**	PN		**Pn**	**13 21 33.8**	**+0.4**
TEVE	**Tevekalti-Mers**	**1.95**	**16**	PN		**Pn**	**13 21 35.7**	**+0.6**
KEBE	**Keben-Mersin**	**2.03**	**22**	PN		**Pn**	**13 21 37.1**	**+0.9**
KIZK	**Mersin**	**2.22**	**30**	PN		**Pn**	**13 21 39.4**	**+0.7**
KIZK	**Mersin**	**2.22**	**30**	*i* P		**Pn**	**13 21 39.3**	**+0.7**
KIZK				*i* S		**Sb**	**13 22 11.6**	**+2.1**
HNTI	**Hanita**	**2.49**	**126**	SN		**Sn**	**13 22 12.4**	**+0.3**
MMA0B	**Mount Meron ar**	**2.68**	**124**	Pn		**Pn**	**13 22 14.5**	**-0.6**
MMA0B				SN		**Sn**	**13 22 18.1**	**+1.1**
MERS	**Mersin**	**2.71**	**31**	PN		**Pn**	**13 21 46.0**	**+0.5**
KSDI	**Kefar Szold**	**2.76**	**119**	Pn		**Pn**	**13 21 46.0**	**-0.2**
KSDI				SN		**Sn**	**13 22 19.2**	**+0.2**
KERG	**Konya-Eregli**	**3.05**	**21**	*i* P		**Pb**	**13 21 53.4**	**-3.4**
KERG				*i* S		**Sb**	**13 22 34.2**	**+0.6**
MMLI	**Mount Malkishu**	**3.06**	**133**	Pn		**Pn**	**13 21 50.1**	**-0.3**
MMLI				SN		**Sn**	**13 22 27.7**	**+1.3**
SUTC	**Sutluce-Ispart**	**3.24**	**334**	PN		**Pn**	**13 21 54.4**	**+1.5**
HMDT	**Nahal Hemdat**	**3.26**	**134**	Pn		**Pn**	**13 21 53.1**	**+0.1**
TAHT	**Tahtakopru-Hat**	**3.32**	**56**	PN		**Pn**	**13 21 54.2**	**+0.3**
DSI	**Dead Sea**	**3.70**	**143**	Pn		**Pn**	**13 21 58.5**	**-0.6**
DSI				SN		**Sn**	**13 22 43.1**	**+1.0**
YTIR	**Yattir**	**3.75**	**148**	Pn		**Pn**	**13 22 00.3**	**+0.4**
MZDA	**Masada**	**3.91**	**145**	Pn		**Pn**	**13 22 02.0**	**+0.1**
PRNI	**Paran**	**4.60**	**155**	Pn		**Pn**	**13 22 11.4**	**-0.1**
PRNI				SN		**Sn**	**13 23 05.1**	**+0.7**
MBRI	**Mt Berech**	**5.09**	**159**	Pn		**Pn**	**13 22 18.2**	**-0.1**
MBRI				SN		**Sn**	**13 23 17.4**	**+0.9**

ISK 13 13:29:40.9, 39.58N×32.75E, h14km, ML1.9/8, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AFSR	**Af¯ar-Bala (A**	**0.29**	**118**	PG		Pg	13 29 47.4	+0.4
AFSR				SG		Sb	13 29 52.2	-0.4
ANTO	**Ankara**	**0.29**	**7**	PG		Pg	13 29 46.8	-0.2
ANTO				SG		Sb	13 29 52.5	-0.1
LOD	**Lodumlu**	**0.30**	**3**	PG		Pb	13 29 47.9	-0.3
KULU	**Kulu**	**0.58**	**160**	PG		Pb	13 29 52.9	+0.1
KAMT	**Kaman**	**0.78**	**106**	PG		Pg	13 29 55.6	-0.4
KIZT	**Kizilcal**	**0.97**	**224**	PG		Pn	13 30 00.5	+0.3
CANT	**Cankiri**	**1.22**	**33**	PN		Pb	13 30 03.8	0.0
GULA	**Gulagac**	**1.70**	**136**	PN		Pn	13 30 10.5	+0.3
YOZ	**Yozgat**	**1.99**	**88**	PN		Pb	13 30 15.9	-1.1

KRSC 13 13:45:10.8±0.6, 55.55N×161.86E, h76km±11km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ZLN	**Zelenaya**	**0.76**	**309**	*e*P		Pn	13 45 28.2	+1.3
ZLN				*e*S		Sn	13 45 40.4	+1.5
BZGR	**Bezymyannyi-Gr**	**0.77**	**302**	*e*P		Pn	13 45 27.9	+0.9
BZGR				*e*S		Sn	13 45 40.4	+1.4
CIRR	**Tsirk**	**0.85**	**313**	*e*P		Pn	13 45 29.0	+1.0
CIRR				*e*S		Sn	13 45 41.9	+1.2
LGNR	**Loginova**	**0.85**	**310**	*e*P		Pn	13 45 29.4	+1.3
LGNR				*e*S		Sn	13 45 42.6	+1.6
KBG	**Krutoberegovo**	**0.86**	**33**	*e*P		Pn	13 45 29.2	+1.3
KBG				*e*S		Sn	13 45 42.8	+2.3
KBTR	**Krutoberegovo**	**0.86**	**39**	*i* P		Pn	13 45 29.5	+1.6
KBTR				*e*S		Sn	13 45 43.0	+2.4
BZMR	**Bezymyannaya**	**0.87**	**297**	*e*P		Pn	13 45 28.9	+0.7
BZMR				*e*S		Sn	13 45 43.3	+2.2
BZWR	**Bezymyannyi-We**	**0.88**	**299**	*e*P		Pn	13 45 29.4	+1.1
BZWR				*e*S		Sn	13 45 43.3	+2.0
TUMD	**Tumrok D**	**0.90**	**248**	*e*P		Pn	13 45 29.2	+0.8
TUMD				*e*S		Sn	13 45 42.1	+0.6
KMNR	**Kamenistaya**	**0.94**	**284**	*e*P		Pn	13 45 30.1	+1.1
KMNR				*e*S		Sn	13 45 43.8	+1.2
KIRR	**Kirishev**	**0.95**	**296**	*e*P		Pn	13 45 31.2	+2.0
KIRR				*e*S		Sn	13 45 46.2	+3.4
KRSR	**Krestovskiy**	**0.99**	**313**	*e*P		Pn	13 45 30.2	+0.6
KRSR				*e*S		Sn	13 45 44.0	+0.4
KZV	**Kizimen**	**0.99**	**245**	*e*P		Pn	13 45 30.5	+0.8
KZV				*e*S		Sn	13 45 44.8	+1.1
MKZ	**Mys Kozlova**	**0.99**	**184**	*i* P		Pn	13 45 30.7	+1.2
MKZ				*e*S		Sn	13 45 45.1	+1.7
TUMR	**Tumrok**	**1.01**	**256**	*i* P		Pn	13 45 31.3	+1.4
KPT	**Kopyto**	**1.02**	**295**	*e*P		Pn	13 45 30.9	+1.0
KPT				*e*S		Sn	13 45 45.5	+1.4
KLY	**Klyuchi**	**1.03**	**319**	*e*P		Pn	13 45 29.8	-0.1
KLY				*e*S		Sn	13 45 43.5	-0.6
SMKR	**Semkarok**	**1.06**	**348**	*e*P		Pn	13 45 31.8	+1.4
SMKR				*e*S		Sn	13 45 48.0	+2.9
BDR	**Baidarnaya**	**1.09**	**341**	*e*P		Pn	13 45 32.1	+1.3
BDR				*e*S		Sn	13 45 47.7	+2.0
SRKR	**Sorokina**	**1.18**	**341**	*e*P		Pn	13 45 33.1	+1.2
SRKR				*e*S		Sn	13 45 49.6	+2.0
KOZ	**Kozyrevsk**	**1.23**	**295**	*e*P		Pn	13 45 33.8	+1.3
KOZ				*e*S		Sn	13 45 50.9	+2.1
ESO	**Esso**	**1.83**	**283**	*e*P		Pn	13 45 40.9	+0.6
KII	**Karymskiy**	**2.06**	**224**	*e*P		Pn	13 45 45.4	+2.0
BKI	**Bering**	**2.37**	**97**	*e*P		Pn	13 45 49.4	+1.9
BKI				*e*S		Sn	13 46 17.4	+1.8
SPN	**Mys Shipunski**	**2.68**	**204**	*e*P		Pn	13 45 52.9	+1.2
SPN				*e*S		Sn	13 46 23.4	+0.4
NLC	**Nalytchevo**	**2.80**	**213**	*e*P		Pn	13 45 55.0	+1.7
NLC				*e*S		Sn	13 46 28.1	+2.2
SDLR	**Sedlovina**	**2.86**	**219**	*i* P		Pn	13 45 56.6	+2.3
SDLR				*e*S		Sn	13 46 31.7	+4.0
KRX	**Arik**	**2.88**	**222**	*e*P		Pn	13 45 57.8	+3.2
SMAR	**Somma**	**2.90**	**219**	*i* P		Pn	13 45 57.5	+2.6
AVH	**Avacha**	**2.92**	**220**	*i* P		Pn	13 45 58.0	+2.9
GNL	**Ganaly**	**2.94**	**232**	*e*P		Pn	13 45 57.6	+2.3
UGLR	**Uglovaya**	**2.94**	**218**	*e*P		Pn	13 45 57.9	+2.6
KOK	**Koryaka**	**2.94**	**221**	*e*P		Pn	13 45 58.2	+2.9
DALK	**Dalny**	**3.11**	**217**	*e*P		Pn	13 45 59.8	+2.3
DALK				*e*S		Sn	13 46 36.2	+2.7
PET	**Petropavlovsk**	**3.15**	**218**	*e*P		Pn	13 46 00.5	+2.5
PET				*e*S		Sn	13 46 37.7	+3.2
KRMR	**Karymshinskiy**	**3.49**	**220**	*e*P		Pn	13 46 05.8	+3.1
RUS	**Russkaya**	**3.69**	**214**	*e*P		Pn	13 46 07.3	+1.9
MTVR	**Mutnovka**	**3.76**	**217**	*e*P		Pn	13 46 10.3	+3.8
APC	**Apacha**	**3.81**	**228**	*e*P		Pn	13 46 11.4	+4.4
KDTR	**Khodutka, Kamc**	**4.37**	**213**	P		Pn	13 46 16.9	+2.3

IDC ***13*** *13:50:55.1±10.0, 28.75S×69.26W, h58km±90km, mb3.6/1, mb1 3.7/3, mb1mx3.3/40, mbtmp3.9/3, ML3.7/2, Error ellipse: s-maj=124.6km s-min=56.1km az=151.0*
SJA ***13*** *13:50:59.0±0.5, 28.22S×69.51W, h143km±5km, ML3.7, MW4.0*
ISCJB ***13*** *13:51:00.8±0.6, 28.27S±0.04×69.53W±0.06, h129km±7km, mb3.4/1, Error ellipse: s-maj=8.8km s-min=6.7km az=174.1*
GUC ***13*** *13:51:02.3±0.4, 28.33S×69.52W, h103km±3km, ML3.8*

ISC 13 13:51:02.0±0.8, 28.28S±0.05×69.50W±0.05, h120km±8km, n20, σ1°12/29, 1C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GO03	**Copiap**	**0.94**	**316**	*i* P		**Pn**	**13 51 23.4**	**-0.1**
GO03				*i* S		**Sn**	**13 51 39.5**	**-0.4**
GO03				IAML			13 51 40.6	
	comp=N,2μm,0.1s							
VCA	**Vinchina**	**1.23**	**112**	*i* P		**Pn**	**13 51 26.5**	**0.0**
VCA				IAML			13 51 46.1	
	comp=Z,2μm,0.3s							
VCA				*i* S		**Sn**	**13 51 46.3**	**+1.3**
VCA	**Vinchina**	**1.23**	**112**	*e*P		**Pn**	**13 51 27.0**	**+0.5**
VCA				*i* S		**Sn**	**13 51 45.1**	**0.0**
VCA				IAML			13 51 46.5	
	comp=N,2μm,0.3s							
LCO	**Las Campanas**	**1.29**	**235**	↓*i* P		**Pn**	**13 51 27.1**	**-0.2**
LCO				*i* S		**Sn**	**13 51 46.0**	**-0.5**
LCO				IAML			13 51 48.1	
	comp=E,2μm,0.3s							
AROD	**Rodeo**	**1.88**	**179**	*i* P		**Pn**	**13 51 34.6**	**+0.2**
AROD				*i* S		**Sn**	**13 52 00.9**	**+1.9**
ACDV	**Cuesta del Vie**	**1.92**	**170**	*i* P		**Pn**	**13 51 34.6**	**0.0**
ACDV				*i* S		**Sn**	**13 52 00.8**	**+1.4**
GO04	**Tololo Observa**	**2.21**	**211**	↓*i* P		**Pn**	**13 51 37.4**	**-0.9**
GO04				*i* S		**Sn**	**13 52 04.8**	**-1.3**
GO04				IAML			13 52 06.4	
	comp=E,2μm,0.3s							
AMOG	**MOGNA**	**2.79**	**162**	*i* P		**Pn**	**13 51 44.7**	**-1.0**
AMOG				*i* S		**Sn**	**13 52 19.4**	**+0.1**
CYA	**Choya**	**3.26**	**94**	↓*i* P		**Pn**	**13 51 51.1**	**-0.6**
CYA				*i* S		**Sn**	**13 52 26.5**	**-3.6**
CYA				IAML			13 52 27.4	
	comp=N,98nm,0.3s							
APLL	**PUNTA DE LOS L**	**3.34**	**130**	*i* P		**Pn**	**13 51 52.1**	**-0.8**
RTLS	**Leoncito**	**3.52**	**177**	*i* P		**Pn**	**13 51 55.1**	**-0.2**
RTLS				IAML			13 52 40.8	
	comp=Z,56nm,0.7s							
RTCV	**Cerro Valdivia**	**3.67**	**167**	*i* P		**Pn**	**13 51 56.6**	**-0.5**
SLA	**San Lorenzo**	**5.03**	**46**	*i* P		**Pn**	**13 52 17.1**	**+1.5**
LVC	**Limon Verde**	**5.67**	**5**	P		**Pn**	**13 52 23.1**	**-1.1**
	comp=Z,4.5nm,0.3s,baz=168,slow=5.7,SNR=55							
SIV	**San Ignacio**	**14.49**	**34**	P		**Pn**	**13 54 21.1**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=243,slow=12,SNR=3.8							
TORD	**Torodi Ar. Bea**	**80.18**	**69**	P		**P**	**14 02 59.6**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=252,slow=5.9,SNR=4.6							
ASAR	**Alice Springs**	**123.65**	**206**	PKP		**PKPdf**	**14 09 45.9**	**-0.1**
	comp=Z,1.0nm,1.2s,baz=123,slow=1.4,SNR=4.1							
WRA	**Warramunga Arr**	**126.81**	**208**	PKP		**PKPdf**	**14 09 52.2**	**0.0**
	comp=Z,0.3nm,0.5s,baz=157,slow=1.7,SNR=6.2							
ZALV	**Zalesovo Beam**	**148.21**	**29**	PKPbc		**PKPbc**	**14 10 34.6**	**+1.2**
	comp=Z,1.6nm,0.5s,baz=302,slow=2.8,SNR=5.5							
MKAR	**Makanchi Array**	**151.21**	**42**	PKPbc		**PKPbc**	**14 10 41.8**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=285,slow=1.8,SNR=8.3							

ISCJB ***13*** *13:54:21.9±0.5, 39.47N±0.04×28.12E±0.04, h11km, Error ellipse: s-maj=5.8km s-min=4.0km az=176.3*
ISK ***13*** *13:54:21.4, 39.47N×28.13E, h11km, ML2.1/9*
DDA ***13*** *13:54:22.0, 39.51N×28.08E, h7km, Ml2.6*

ISC 13 13:54:22.0±0.9, 39.50N±0.03×28.12E±0.03, h11km, n17, σ0°71/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.23**	**308**	PG		**Pg**	**13 54 27.1**	**+0.2**
BALB				SG		**Sg**	**13 54 32.2**	**+2.0**
DURS	**Dursunbey**	**0.29**	**69**	*i* P		**Pg**	**13 54 27.9**	**-0.1**
DURS				*i* S		**Sb**	**13 54 33.4**	**-0.9**
STEP	**BALIKESIR_Sava**	**0.33**	**249**	*i* P		**Pg**	**13 54 28.9**	**+0.2**
STEP				*i* S		**Sg**	**13 54 33.2**	**+0.1**
DEMI	**Demirci**	**0.65**	**134**	*i* P		**Pg**	**13 54 34.9**	**+0.3**
DEMI				*i* S		**Sb**	**13 54 45.5**	**+1.1**
DKL	**Dikili**	**1.03**	**246**	PG		**Pg**	**13 54 41.1**	**-0.8**
TVSB	**Tavsanli**	**1.04**	**92**	PG		**Pg**	**13 54 41.9**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.05**	**34**	PG		**Pg**	**13 54 42.4**	**+0.1**
KULA	**Kula-Manisa**	**1.07**	**157**	PG		**Pb**	**13 54 42.3**	**-0.2**
MRMT	**Marmara Adasi**	**1.18**	**340**	PN		**Pg**	**13 54 45.0**	**+0.3**
ARMT	**Armutlu**	**1.21**	**28**	PN		**Pg**	**13 54 45.2**	**-0.1**
GEMT	**Gemlik**	**1.25**	**41**	PN		**Pn**	**13 54 45.2**	**-0.2**
SBTS	**Esenkoy-Cinarc**	**1.28**	**27**	PN		**Pg**	**13 54 46.9**	**+0.4**
LPK	**Lapseki**	**1.36**	**310**	PN		**Pb**	**13 54 47.2**	**-0.3**
YLV	**Yalova**	**1.44**	**42**	PN		**Pn**	**13 54 47.7**	**-0.4**
CAVI	**Cavuskoy**	**1.50**	**61**	PN		**Pn**	**13 54 48.7**	**-0.2**
SIGR	**SIGRI**	**1.78**	**262**	PN		**Pn**	**13 54 52.9**	**+0.3**
GADA	**Gvkgeada**	**1.85**	**293**	PN		**Pb**	**13 54 54.5**	**-1.2**

ISCJB ***13*** *13:58:13.9±0.8, 10.03S±0.07×79.0W±0.1, h55km, mb3.7/6, MS4.0/1, Error ellipse: s-maj=16.5km s-min=7.3km az=152.1*
IDC ***13*** *13:58:18.9±2.0, 9.87S×78.61W, h84km±19km, mb3.4/6, mb1 3.7/9, mb1mx3.5/43, mbtmp3.7/9, MS2.8/4, Ms1 2.9/4, ms1mx2.8/15, Error ellipse: s-maj=40.0km s-min=8.0km az=70.0*

ISC 13 13:58:15.8±0.9, 9.96S±0.09×78.9W±0.2, h55km, n17, σ1°39/13, mb3.8/6, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.84**	**10**	P		**Pn**	**13 58 59.1**	**-0.1**
	26nm,0.3s,baz=174,slow=4.4,SNR=121							
ATAH				S		**Sn**	**13 59 34.5**	**+2.1**
	34nm,0.3s,baz=282,slow=23,SNR=7.2							
ATAH				LR		LR	14 00 12.8	
	comp=Z,133nm,18.4s,baz=190,slow=42							
NNA	**Nana**	**2.84**	**135**	P		**Pn**	**13 58 59.3**	**+0.4**
	38nm,0.3s,baz=308,slow=5.7,SNR=30							
NNA				S		**Sn**	**13 59 33.9**	**+1.9**
	47nm,0.3s,baz=320,slow=12,SNR=8.6							
NNA				LR		LR	14 00 03.8	
	comp=Z,77nm,19.7s,baz=308,slow=38							
LPAZ	**La Paz**	**12.21**	**122**	LR		LR	14 06 21.0	
	comp=Z,56nm,18.2s,baz=278,slow=40							
ROSC	**El Rosal**	**15.39**	**17**	LR		LR	14 08 43.9	
	comp=Z,69nm,18.3s,baz=224,slow=41							
SIV	**San Ignacio**	**18.36**	**111**	P		**P**	**14 02 25.4**	**-0.7**
	0.2nm,0.3s,baz=284,slow=11,SNR=5.5							
PTGA	**Pitinga**	**20.93**	**65**	LR		LR	14 11 59.8	
	comp=Z,753nm,21.9s,baz=158,slow=40							
TXAR	**Lajitas Array**	**45.79**	**329**	P		**P**	**14 06 33.0**	**+0.6**
	0.3nm,0.7s,baz=156,slow=9.3,SNR=4.2							
ANMO	**Albuquerque**	**51.73**	**331**	P		**P**	**14 07 18.8**	**+0.8**
	1.0nm,0.6s,baz=150,slow=8.9,SNR=4.6							
PDAR	**Pinedale Array**	**59.49**	**334**	P		**P**	**14 08 12.8**	**-0.8**
	0.7nm,0.9s,baz=111,slow=11,SNR=4.9							
NVAR	**Mina Array Bea**	**60.57**	**325**	P		**P**	**14 08 22.4**	**+1.4**
	1.0nm,0.7s,baz=126,slow=7.8,SNR=6.1							
YKA	**Yellowknife Ar**	**77.34**	**344**	P		**P**	**14 10 03.2**	**-1.1**
	0.7nm,0.6s,baz=141,slow=6.0,SNR=5.3							
TORD	**Torodi Ar. Bea**	**83.21**	**75**	P		**P**	**14 10 34.7**	**-2.3**
	0.6nm,0.7s,baz=246,slow=4.6,SNR=4.2							
H11N3	**WAKE ISLAND Hyl**	**15.99**

SIGR				S	**Sg**	**14 34 57.6**	**+0.7**	
SIGR				AML	AML	14 34 58.5		
	comp=E,12076μm,0.8s							
SIGR				AML	AML	14 35 00.9		
	comp=N,13986μm,0.7s							
SIGR	**SIGRI**	**0.85**	**333**	P	**Pb**	**14 34 44.7**	**-0.8**	
SIGR				S	**Sb**	**14 34 56.9**	**+0.3**	
AYVA	**Ayvalik**	**0.89**	**17**	*i* P	**Pb**	**14 34 45.7**	**-0.4**	
AYVA				*i* S	**Sg**	**14 34 59.1**	**+0.9**	
GPNR	**Gulpinar-Canak**	**1.01**	**350**	PG	**Pb**	**14 34 47.7**	**-0.6**	
AKHS	**Akhisar**	**1.21**	**69**	*i* P	**Pn**	**14 34 51.1**	**-0.3**	
AKHS				*i* S	**Sb**	**14 35 06.9**	**-0.2**	
GOMA	**Golmarmara-Man**	**1.25**	**78**	PN	**Pb**	**14 34 52.4**	**+0.2**	
AYDB	**Zeytinkoy-Aydi**	**1.31**	**112**	PN	**Pb**	**14 34 53.3**	**0.0**	
EZN	**Ezine**	**1.37**	**359**	PN	**Pn**	**14 34 53.0**	**-0.5**	
EZN	**Ezine**	**1.37**	**359**	P	**Pn**	**14 34 52.8**	**-0.7**	
STEP	**BALIKESIR_Sava**	**1.40**	**49**	*i* P	**Pn**	**14 34 53.7**	**-0.3**	
AYDN	**Tasoluk**	**1.44**	**123**	*i* P	**Pn**	**14 34 54.7**	**+0.3**	
AYDN				*i* S	**Sn**	**14 35 12.2**	**-0.8**	
SKY	**Skiros Island**	**1.48**	**287**	P	**Pn**	**14 34 55.5**	**+0.5**	
APE	**Apeiranthos**	**1.53**	**206**	PN	**Pn**	**14 34 53.9**	**-1.9**	
APE	**Apeiranthos**	**1.53**	**206**	||| *i* P	**Pn**	**14 34 55.2**	**-0.6**
APE	**Apeiranthos**	**1.53**	**206**	S	**Sb**	**14 35 15.4**	**-0.9**	
APE	**Apeiranthos**	**1.53**	**206**	P	**Pn**	**14 34 55.2**	**-0.6**	
APE				AML	AML	14 35 25.3		
	comp=E,1336μm,0.5s							
APE				AML	AML	14 35 26.5		
	comp=N,1079μm,0.4s							
APE	**Apeiranthos**	**1.53**	**206**	P	**Pn**	**14 34 55.2**	**-0.6**	
BODT	**Bodrum**	**1.58**	**151**	PN	**Pn**	**14 34 56.7**	**+0.3**	
BODT	**Bodrum**	**1.58**	**151**	P	**Pn**	**14 34 56.5**	**+0.1**	
MLSB	**Milas**	**1.61**	**135**	PN	**Pb**	**14 34 58.3**	**-0.1**	
AMGA	**Amorgos Island**	**1.66**	**193**	P	**Pn**	**14 34 56.8**	**-0.7**	
AMGA	**Amorgos Island**	**1.66**	**193**	P	**Pn**	**14 34 56.9**	**-0.7**	
AMGA				S	**Sn**	**14 35 17.5**	**-1.0**	
BALB	**Balikesir**	**1.67**	**45**	PN	**Pn**	**14 34 58.3**	**+0.6**	
LIA	**Limnos Island**	**1.71**	**328**	P	**Pn**	**14 34 58.2**	**+0.1**	
LIA				AML	AML	14 35 25.3		
	comp=E,1753μm,0.5s							
LIA				AML	AML	14 35 25.8		
	comp=N,1385μm,0.4s							
LIA	**Limnos Island**	**1.71**	**328**	P	**Pn**	**14 34 58.2**	**+0.1**	
LIA				S	**Sn**	**14 35 19.6**	**0.0**	
MANT	**Manisa**	**1.73**	**88**	*i* P	**Pb**	**14 35 01.1**	**+0.6**	
GADA	**Gvkgeada**	**1.77**	**348**	PN	**Pn**	**14 34 58.8**	**-0.2**	
GADA	**Gvkgeada**	**1.77**	**348**	P	**Pn**	**14 34 58.7**	**-0.2**	
KULA	**Kula-Manisa**	**1.81**	**87**	PN	**Pn**	**14 35 00.7**	**+1.1**	
IOSP	**Ios island**	**1.93**	**207**	P	**Pn**	**14 35 00.5**	**-0.7**	
IOSP	**Ios island**	**1.93**	**207**	P	**Pn**	**14 35 00.5**	**-0.7**	
DEMI	**Demirci**	**1.93**	**72**	*i* P	**Pn**	**14 35 01.6**	**+0.3**	
LPK	**Lapseki**	**1.94**	**9**	PN	**Pn**	**14 35 02.3**	**+1.0**	
GELI	**Tayfur-Gelibol**	**1.94**	**3**	PN	**Pn**	**14 35 01.6**	**+0.2**	
NIS1	**Nisyros Isl.**	**1.96**	**160**	PN	**Pn**	**14 35 02.8**	**+1.2**	
NIS1	**Nisyros Isl.**	**1.96**	**160**	P	**Pn**	**14 35 01.5**	**-0.1**	
DAT	**Datca**	**1.98**	**150**	PN	**Pn**	**14 35 02.3**	**+0.4**	
DAT	**Datca**	**1.98**	**150**	*i* P	**Pn**	**14 35 01.6**	**-0.3**	
DURS	**Dursunbey**	**2.00**	**55**	*i* P	**Pn**	**14 35 02.7**	**+0.4**	
PTL	**Penteli**	**2.01**	**259**	P	**Pn**	**14 35 01.3**	**-1.0**	
AOS	**Alonnisos**	**2.06**	**291**	P	**Pn**	**14 35 03.6**	**+0.5**	
KRBG	**Karabiga-Canak**	**2.07**	**20**	PN	**Pn**	**14 35 03.4**	**+0.3**	
VLY	**Voula,Athens**	**2.11**	**254**	P	**Pn**	**14 35 03.1**	**-0.6**	
VLY	**Voula,Athens**	**2.11**	**254**	P	**Pn**	**14 35 03.5**	**-0.2**	
SMTH	**Samothraki Isl**	**2.11**	**343**	P	**Pn**	**14 35 03.4**	**-0.3**	
SMTH	**Samothraki Isl**	**2.11**	**343**	P	**Pn**	**14 35 03.5**	**-0.3**	
SMTH				S	**Sn**	**14 35 29.8**	**+0.2**	
CMBO	**Columbo, Santo**	**2.12**	**201**	P	**Pn**	**14 35 03.4**	**-0.4**	
THR2	**Thira island,**	**2.14**	**200**	P	**Pn**	**14 35 03.9**	**-0.1**	
ANAF	**Anafi Island**	**2.15**	**193**	P	**Pn**	**14 35 03.5**	**-0.6**	
ANAF	**Anafi Island**	**2.15**	**193**	P	**Pn**	**14 35 03.6**	**-0.6**	
THT2	**Imerovigli**	**2.15**	**201**	P	**Pn**	**14 35 04.1**	**-0.1**	
THR8	**Santorini-Mono**	**2.16**	**199**	P	**Pn**	**14 35 03.7**	**-0.7**	
THR3	**Thira Island,**	**2.18**	**201**	P	**Pn**	**14 35 04.3**	**-0.3**	
THR5	**Thira Island,**	**2.19**	**202**	P	**Pn**	**14 35 04.2**	**-0.5**	
SANT	**Santorini**	**2.20**	**199**	||| *i* P	**Pn**	**14 35 04.3**	**-0.6**
SANT	**Santorini**	**2.20**	**199**	P	**Pn**	**14 35 04.4**	**-0.6**	
ERIK	**Erikli-Kesan**	**2.22**	**3**	PN	**Pn**	**14 35 05.2**	**+0.1**	
THR6	**Thira Island,**	**2.23**	**200**	P	**Pn**	**14 35 05.2**	**-0.1**	
ENEZ	**Enez**	**2.28**	**356**	PN	**Pn**	**14 35 06.8**	**+0.7**	
MHLA	**Plaka, Milos I**	**2.30**	**223**	P	**Pn**	**14 35 05.9**	**-0.3**	
RKY	**Sarkoy-Tekirda**	**2.32**	**16**	PN	**Pn**	**14 35 07.5**	**+0.9**	
MRMT	**Marmara Adasi**	**2.35**	**24**	PN	**Pn**	**14 35 07.3**	**+0.3**	
MHLO	**Agia Marina, M**	**2.35**	**222**	P	**Pn**	**14 35 06.0**	**-1.0**	
MHLO				AML	AML	14 35 50.8		
	comp=N,2147μm,0.6s							
MHLO				AML	AML	14 35 55.5		
	comp=E,3037μm,0.7s							
TURN	**Turunc**	**2.38**	**131**	*i* P	**Pn**	**14 35 06.6**	**-0.8**	
KCTX	**Karacabey (Bur**	**2.38**	**40**	PN	**Pn**	**14 35 08.4**	**+1.0**	
KESN	**Edirne-Kesan**	**2.38**	**6**	*i* P	**Pn**	**14 35 07.7**	**0.0**	
ALN	**Alexandroupoli**	**2.45**	**354**	PN	**Pn**	**14 35 08.1**	**-0.2**	
ALN	**Alexandroupoli**	**2.45**	**354**	P	**Pn**	**14 35 08.2**	**-0.2**	
ALN				AML	AML	14 35 50.6		
	comp=N,675μm,0.5s							
ALN				AML	AML	14 35 52.4		
	comp=E,346μm,0.4s							
ALN	**Alexandroupoli**	**2.45**	**354**	P	**Pn**	**14 35 08.2**	**-0.2**	
ALN				S	**Sn**	**14 35 37.0**	**-0.9**	
THAS	**Thassos island**	**2.50**	**330**	P	**Pn**	**14 35 08.6**	**-0.3**	
GDZ	**Gediz**	**2.52**	**74**	*i* P	**Pg**	**14 35 16.3**	**-1.2**	
SBT4	**Kumbag-Tekirda**	**2.54**	**21**	PN	**Pn**	**14 35 10.9**	**+1.5**	
TVSB	**Tavsanli**	**2.61**	**67**	PN	**Pn**	**14 35 12.2**	**+1.5**	
OUR	**Ouranopolis**	**2.63**	**316**	P	**Pn**	**14 35 10.7**	**0.0**	
OUR	**Ouranopolis**	**2.63**	**316**	P	**Pn**	**14 35 11.2**	**+0.4**	
XOR	**Xorichti**	**2.63**	**291**	P	**Pn**	**14 35 10.3**	**-0.6**	
DID	**Didima**	**2.64**	**250**	P	**Pn**	**14 35 11.2**	**+0.2**	
DID	**Didima**	**2.64**	**250**	P	**Pn**	**14 35 11.5**	**+0.5**	
KARP	**Karpathos**	**2.97**	**167**	P	**Pn**	**14 35 15.7**	**+0.2**	
VLI	**Velíai**	**3.23**	**239**	P	**Pn**	**14 35 18.9**	**-0.1**	
HORT	**Hortiatis**	**3.31**	**311**	P	**Pn**	**14 35 21.0**	**+0.8**	
ZKR	**Zakros**	**3.34**	**182**	P	**Pn**	**14 35 20.7**	**+0.2**	
KLV	**Kalavryta, Ach**	**3.34**	**264**	P	**Pn**	**14 35 21.6**	**+0.9**	
LAST	**Lasithi**	**3.36**	**192**	P	**Pn**	**14 35 20.4**	**-0.6**	
IDI	**Anoyia**	**3.37**	**201**	||| *i* P	**Pn**	**14 35 20.6**	**-0.5**
SRS	**Serrai**	**3.41**	**322**	P	**Pn**	**14 35 21.9**	**+0.4**	
KYTH	**Kithira**	**3.43**	**231**	P	**Pn**	**14 35 21.6**	**-0.2**	
RZN	**Rozhen**	**3.47**	**339**	P	**Pn**	**14 35 23.1**	**+0.6**	
ANX	**Ano Chora**	**3.48**	**274**	P	**Pn**	**14 35 23.4**	**+0.7**	
DIM	**Dimitrovgrad**	**3.65**	**350**	P	**Pn**	**14 35 25.1**	**+0.3**	
MMB	**Musomiste**	**3.73**	**328**	P	**Pn**	**14 35 26.2**	**+0.3**	
VAY	**Valandovo**	**4.09**	**316**	*i* Pn	**Pg**	**14 35 46.9**	**-4.4**	
PGB	**Panagyurishte**	**4.42**	**338**	P	**Pn**	**14 35 35.9**	**+0.4**	
STIP	**Stip**	**4.55**	**317**	*i* Pn	**Pn**	**14 35 37.4**	**+0.2**	
ROIA	**ROIAK**	**4.70**	**9**	P	**Pn**	**14 35 40.0**	**+0.8**	
VTS	**Vitosha**	**4.78**	**331**	||| *i* P	**Pn**	**14 35 41.9**	**+1.4**
VTS	**Vitosha**	**4.78**	**331**	S	**Sn**	**14 36 38.3**	**+2.7**	
VTS	**Vitosha**	**4.78**	**331**	P	**Pn**	**14 35 41.9**	**+1.4**	
PRD	**Provadia**	**4.80**	**9**	P	**Pn**	**14 35 40.8**	**+0.1**	
OHR	**Ohrid**	**5.04**	**304**	*i* Pn	Pn	14 35 34.0	-10	
TIRR	**Tirgusor**	**6.19**	**14**	||| *i* P	**Pn**	**14 36 00.3**	**+0.6**
TLB	**Topalu**	**6.25**	**11**	||| *i* P	**Pn**	**14 36 01.9**	**+1.3**
HARR	**Harsova**	**6.34**	**10**	||| *i* P	**Pn**	**14 36 02.8**	**+1.0**
CFR	**Carcaliu**	**6.85**	**11**	||| *i* P	**Pn**	**14 36 08.8**	**+0.1**
MLR	**Muntele Rosu**	**7.04**	**358**	||| *i* P	**Pn**	**14 36 13.0**	**+1.5**
VOIR		**7.04**	**352**	||| *i* P	**Pn**	**14 36 12.1**	**+0.6**
HERR	**Herculane**	**7.07**	**337**	||| *i* P	**Pn**	**14 36 11.9**	**+0.2**
MDVR	**Moldovita**	**7.21**	**333**	||| *i* P	**Pn**	**14 36 14.7**	**+0.8**
PLOR	**Plostina**	**7.39**	**2**	||| *i* P	**Pn**	**14 36 18.1**	**+1.8**
VRI	**Vrincioaia**	**7.41**	**2**	||| *i* P	**Pn**	**14 36 18.2**	**+1.7**
GZR	**Gura Zlata**	**7.43**	**340**	||| *i* P	**Pn**	**14 36 17.4**	**+0.6**
BZS	**Buzias**	**7.98**	**335**	||| *i* P	**Pn**	**14 36 24.1**	**-0.2**
BIZ	**Bicaz**	**8.48**	**359**	||| *i* P	**Pn**	**14 36 33.1**	**+1.9**
BURAR	**Bucovina Array**	**9.19**	**355**	||| *i* P	**Pn**	**14 36 43.1**	**+2.1**

IDC 13 14:42:43.7±59.0, 20.30S×178.30W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/44, mbtmp3.7/3, Error ellipse: s-maj=1085.0km s-min=159.7km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.62**	**244**	P	P	14 49 59.6	-0.9
	0.7nm,0.4s,baz=67,slow=13,SNR=4.9						
ASAR	**Alice Springs**	**44.29**	**257**	P	P	14 50 55.5	-0.2
	0.5nm,0.4s,baz=97,slow=7.3,SNR=13						
WRA	**Warramunga Arr**	**44.35**	**262**	P	P	14 50 56.6	+0.4
	0.6nm,0.7s,baz=94,slow=8.3,SNR=41						

*NIED **13** 14:46:00, 36.80N×141.40E, h5km, Mw3.7 Best double couple: M=4.12000×10^14 NP1:φs=38.00000°, δ=40.00000°, λ=-57.00000°. NP2:φs=178.00000°, δ=58.00000°, λ=-115.00000°.*

*JMA **13** 14:46:10.5±0.1, 36.84N×141.36E, h27km±1km, M3.8*

JMA Felt I J1.

*IDC **13** 14:46:14.1±5.1, 36.80N×141.35E, h36km±42km, mb3.6/6, mb1 3.7/8, mb1mx3.5/59, mbtmp3.8/8, ML2.9/2, MS2.7/3, Ms1 2.7/3, ms1mx2.3/45, Error ellipse: s-maj=29.8km s-min=21.0km az=87.0*

ISC 13 14:46:09.6±1.9, 36.85N±0.04×141.31E±0.07, h1km±12km, n30, σ1§03/29, mb3.8/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.48**	**302**	P	**Pb**	**14 46 20.8**	**-0.2**
ONAJ				S	**Sb**	**14 46 28.5**	**-0.1**
JFK	**Kawauchi**	**0.63**	**326**	P	**Pb**	**14 46 23.0**	**-0.4**
JFK				S	**Sb**	**14 46 31.8**	**-0.9**
JHO	**Hitachi**	**0.64**	**249**	P	**Pb**	**14 46 23.4**	**-0.2**
JHO				S	**Sb**	**14 46 32.6**	**-0.5**
JFFD	**Fukushimafurud**	**0.65**	**292**	P	**Pb**	**14 46 23.4**	**-0.4**
JFFD				S	**Sb**	**14 46 32.5**	**-0.8**
JHYU	**Hitachinakayam**	**0.77**	**229**	P	**Pb**	**14 46 25.4**	**-0.4**
JHYU				S	**Sg**	**14 46 35.8**	**+1.4**
JFT	**Otama**	**1.03**	**311**	P	**Pb**	**14 46 30.1**	**-0.1**
JFT				S	**Sb**	**14 46 43.9**	**-0.3**
JYT	**Yasato**	**1.09**	**236**	P	**Pg**	**14 46 30.0**	**-0.5**
JMM	**Marumori**	**1.10**	**338**	P	**Pg**	**14 46 30.5**	**-0.1**
JMM				*e*S	**Sg**	**14 46 44.6**	**-0.3**
JSB	**Shiboa**	**1.12**	**277**	P	**Pb**	**14 46 31.9**	**+0.1**
JFY	**Yanaizu**	**1.40**	**294**	P	**Pn**	**14 46 36.0**	**-0.3**
JFY				S	**Sb**	**14 46 54.6**	**-0.4**
MJAR	**Matsushiro Arr**	**2.52**	**264**	Pn	**Pn**	**14 46 52.8**	**+1.1**
	2.8nm,0.3s,baz=91,slow=15,SNR=36						
MAT	**Matsushiro**	**2.52**	**264**	P	**Pn**	**14 46 52.5**	**+0.9**
MAT				S	**Sb**	**14 47 26.7**	**-0.4**
ASAJ	**Asahikawa**	**7.33**	**7**	Pn	**Pn**	**14 47 58.6**	**+1.0**
	0.2nm,0.3s,baz=100,slow=14,SNR=1.1						
KSRS	**Korea Array**	**10.71**	**277**	Pn	Pn	14 48 54.2	+10
	0.1nm,0.3s,baz=89,slow=13,SNR=4.0						
KSRS				LR	LR	14 52 53.7	
	comp=Z,37nm,18.9s,baz=100,slow=37						
KLR	**Kul'dur**	**14.20**	**334**	LR	LR	14 54 51.4	
	comp=Z,21nm,20.8s,baz=102,slow=36						
PETK	**Petropavlovsk-**	**19.89**	**30**	LR	LR	15 00 01.4	
	comp=Z,23nm,18.1s,baz=113,slow=42						
SONM	**Songino Array**	**27.82**	**304**	P	**P**	**14 52 00.6**	**+0.1**
	0.7nm,0.6s,baz=110,slow=8.4,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**28.12**	**120**	T	T	15 21 29.5	
	baz=313,slow=75,SNR=140						
H11N1	**WAKE ISLAND Hy**	**28.13**	**120**	T	T	15 21 30.2	
	baz=313,slow=75,SNR=108						
H11N3	**WAKE ISLAND Hy**	**28.14**	**120**	T	T	15 21 30.9	
	baz=313,slow=75,SNR=90						
H11S1	**WAKE ISLAND Hy**	**28.83**	**122**	T	T	15 22 20.1	
	baz=315,slow=75,SNR=56						
H11S3	**WAKE ISLAND Hy**	**28.83**	**122**	T	T	15 22 23.8	
	baz=315,slow=75,SNR=77						
H11S2	**WAKE ISLAND Hy**	**28.84**	**122**	T	T	15 22 23.9	
	baz=315,slow=75,SNR=48						
ZALV	**Zalesovo Beam**	**41.98**	**313**	P	**P**	**14 54 06.0**	**+4.0**
	2.1nm,0.7s,baz=80,slow=4.3,SNR=8.9						
MKAR	**Makanchi Array**	**44.15**	**302**	P	**P**	**14 54 19.4**	**-0.4**
	1.3nm,0.7s,baz=83,slow=8.9,SNR=3.6						
KURBB	**Kurchatov Arra**	**46.05**	**308**	P	**P**	**14 54 34.4**	**-0.4**
	2.9nm,0.8s,baz=87,slow=8.2,SNR=3.7						
ILAR	**Eielson Array**	**49.69**	**32**	P	**P**	**14 55 02.5**	**-0.2**
	0.7nm,0.8s,baz=265,slow=6.3,SNR=4.6						
BVAR	**Borovoye Array**	**50.64**	**312**	P	P	14 55 16.0	+5.9
	0.8nm,0.6s,baz=88,slow=7.5,SNR=4.3						
WRA	**Warramunga Arr**	**56.87**	**188**	P	**P**	**14 55 54.6**	**-1.4**
	0.9nm,0.7s,baz=6.6,slow=7.3,SNR=12						
ASAR	**Alice Springs**	**60.59**	**188**	P	**P**	**14 56 21.1**	**-0.9**
	0.6nm,0.8s,baz=357,slow=7.9,SNR=6.4						

*JMA **13** 14:53:51.0±0.7, 34.26N×141.79E, h25km±3km, M3.0*

*ISCJB **13** 14:53:53.3±1.1, 34.38N±0.06×141.8E±0.1, h27km, mb3.4/4, MS2.9/1, Error ellipse: s-maj=13.0km s-min=8.2km az=160.3*

*IDC **13** 14:53:57.8±6.8, 34.36N×141.60E, h40km±49km, mb3.2/4, mb1 3.3/5, mb1mx3.1/41, mbtmp3.3/5, ML2.8/1, MS3.0/1, Ms1 3.0/1, ms1mx2.1/19, Error ellipse: s-maj=69.9km s-min=19.6km az=74.0*

ISC 13 14:53:55.8±1.5, 34.42N±0.07×141.6E±0.1, h27km, n12, σ1§43/15, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.55**	**295**	P	**Pb**	**14 54 05.6**	**-1.1**
BSO3	**Boso 3**	**0.97**	**293**	P	**Pn**	**14 54 12.0**	**-1.4**
JKUC	**kamogawauchiur**	**1.36**	**303**	P	**Pn**	**14 54 19.0**	**0.0**
JKUC				*e*S	**Sb**	**14 54 38.0**	**+0.4**
JHJ	**Hachijo jima 2**	**1.99**	**230**	Pn	**Pn**	**14 54 27.8**	**+0.1**
	18nm,0.3s,baz=106,slow=23,SNR=11						
JHJ				Sn	**Sn**	**14 54 52.1**	**+0.5**
	39nm,0.3s,baz=177,slow=23,SNR=8.3						
JYT	**Yasato**	**2.13**	**328**	P	**Pn**	**14 54 29.2**	**-0.5**
MJAR	**Matsushiro Arr**	**3.48**	**308**	Pn	**Pn**	**14 54 49.3**	**+1.2**
	0.9nm,0.3s,baz=23,slow=25,SNR=17						
MJAR				Sn	**Sn**	**14 55 31.8**	**+3.4**
	1.6nm,0.3s,baz=224,slow=45,SNR=2.6						
MAT	**Matsushiro**	**3.48**	**308**	P	**Pn**	**14 54 49.1**	**+0.9**
MAT				S	**Sn**	**14 55 25.9**	**-2.6**
MA2	**Magadan**	**25.88**	**11**	LR	LR	15 11 32.5	
	comp=Z,30nm,18.8s,baz=158,slow=41						
MKAR	**Makanchi Array**	**45.66**	**304**	P	**P**	**15 02 14.8**	**+0.7**
	0.4nm,0.6s,baz=100,slow=7.5,SNR=2.8						
KURBB	**Kurchatov Arra**	**47.75**	**310**	P	**P**	**15 02 30.5**	**+0.2**
	0.4nm,0.6s,baz=96,slow=8.5,SNR=4.2						
WRA	**Warramunga Arr**	**54.50**	**188**	P	**P**	**15 03 21.0**	**-0.2**
	0.2nm,0.4s,baz=5.6,slow=7.6,SNR=12						
ASAR	**Alice Springs**	**58.23**	**188**	P	**P**	**15 03 47.7**	**-0.1**
	0.2nm,0.8s,baz=6.8,slow=8.6,SNR=3.5						

*IDC **13** 15:02:50.5±1.0, 13.31N×92.50W, h0km, mb4.0/8, mb1 4.2/12, mb1mx4.0/38, mbtmp4.0/12, ML3.5/4, MS3.2/5, Ms1 3.2/5, ms1mx2.9/29, Error ellipse: s-maj=30.6km s-min=13.7km az=44.0*

*UCR **13** 15:02:53.9±0.9, 13.44N×92.39W, h35km, ML3.8, mb4.5(NEIC)*

*ISCJB **13** 15:02:54.3±1.7, 13.75N±0.05×92.29W±0.03, h27km±12km, mb4.4/51, MS3.2/2, Error ellipse: s-maj=8.6km s-min=4.2km az=29.6*

*MEX **13** 15:02:54.6±0.3, 13.58N×92.88W, h21km±20km, MD4.1*

*NEIC **13** 15:02:56.9±0.6, 13.69N×92.24W, h35km, mb4.5/47, MD4.1(MEX), Error ellipse: s-maj=11.0km s-min=6.3km az=217.0*

ISC 13 15:02:55.3±3.9, 13.57N±0.08×92.43W±0.07, h28km±29km, n225, σ1§70/233, mb4.4/51, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**2.01**	**72**	*e*P	**Pn**	**15 03 25.7**	**-1.8**
PCIG		**2.25**	**340**	*e*P	Pn	15 03 26.5	-4.2
PCIG				*e*S	**Sn**	**15 03 51.5**	**-6.0**
PCIG		**2.25**	**340**	*e*P	Pn	15 03 26.5	-4.2
PCIG				*e*S	**Sn**	**15 03 51.5**	**-6.0**
APG	**El Apazote**	**2.38**	**53**	Pn	**Pn**	**15 03 33.0**	**+0.3**
	2.4nm,0.3s,baz=114,slow=8.6,SNR=5.0						
APG				Sn	**Sn**	**15 04 06.8**	**+5.7**
	20nm,0.3s,baz=11,slow=21,SNR=5.2						
CCIG	**Comitan**	**2.71**	**6**	*e*Pn	**Pn**	**15 03 39.3**	**+2.1**
CCIG	**Comitan**	**2.71**	**6**	*e*P	**Pn**	**15 03 36.4**	**-0.8**
CCIG				*i* S	**Sn**	**15 04 07.8**	**-1.3**
CEVE	**Cerro Verde**	**2.74**	**84**	*e*P	**Pn**	**15 03 35.8**	**-1.9**
CEVE				*e*S	**Sn**	**15 04 08.5**	**-1.5**
CEVE				IAML		15 04 18.1	
	comp=Z,735nm,0.5s						
SBLS	**San Blas**	**2.74**	**84**	*e*P	**Pn**	**15 03 36.1**	**-1.6**
SBLS				*e*S	**Sn**	**15 04 08.4**	**-1.6**
TGIG		**3.25**	**348**	*e*P	**Pn**	**15 03 41.7**	**-2.9**
TGIG				*e*S	**Sn**	**15 04 17.5**	**-4.9**
TGIG		**3.25**	**348**	*e*P	**Pn**	**15 03 41.7**	**-2.9**
TGIG				*e*S	**Sn**	**15 04 17.7**	**-4.7**
TECA	**Tecapa**	**3.82**	**91**	*e*P	**Pn**	**15 03 50.3**	**-2.2**
CMIG	**Matias Romero**	**4.22**	**326**	Pn	**Pn**	**15 03 57.2**	**-0.6**
	comp=Z,2.8nm,0.3s,baz=149,slow=12,SNR=15						
CMIG				Sn	**Sn**	**15 04 52.6**	**+6.3**

	comp=Z,5.5nm,0.3s,baz=94,slow=9.8,SNR=3.9						
LCND	**La Ca˜–ada**	**4.43**	**93**	*e*P	**Pn**	**15 03 58.8**	**-1.9**
LCND				IAML		15 04 57.1	
	comp=Z,221nm,0.3s						
CSGN	**Cosiguina Volc**	**4.78**	**97**	*e*Pn	**Pn**	**15 04 05.1**	**-0.5**
CSGN				*e*Sn	**Sn**	**15 04 58.1**	**-2.1**
ESTN	**Estel**	**5.92**	**94**	*e*Pn	**Pn**	**15 04 18.9**	**-2.4**
TLIG	**Tlapa**	**7.12**	**305**	*e*Pn	**Pn**	**15 04 37.5**	**-0.3**
TEIG	**Tepich**	**7.72**	**30**	*e*Pn	**Pn**	**15 04 46.3**	**+0.5**
JTS	**JuntasAbangare**	**8.01**	**113**	Pn	**Pn**	**15 04 49.8**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=6.2,slow=20,SNR=3.2						
JTS				Sn	**Sn**	**15 06 21.1**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=92,slow=23,SNR=3.5						
JTS				LR	LR	15 07 22.5	
	comp=Z,66nm,21.3s,baz=6.0,slow=34						
JTS	**JuntasAbangare**	**8.01**	**113**	*e*Pn	**Pn**	**15 04 50.9**	**+1.0**
JTS				Sn	**Sn**	**15 06 21.1**	**+1.4**
JCT	**Junction City**	**18.15**	**339**	Pn	**Pn**	**15 07 05.5**	**+0.1**
656A	**Willston**	**18.20**	**29**	P	**P**	**15 07 07.1**	**+1.0**
	baz=212						
TXAR	**Lajitas Array**	**18.83**	**328**	P	**Pn**	**15 07 15.4**	**+1.7**
	comp=Z,0.0nm,0.3s,baz=150,slow=13,SNR=11						
TXAR				LR	LR	15 14 47.3	
	comp=Z,30nm,18.6s,baz=0.0,slow=38						
TX31	**Lajitas Ar. Si**	**18.83**	**328**	*e*P	**Pn**	**15 07 15.1**	**+1.3**
142A	**Monroe**	**18.89**	**1**	P	**P**	**15 07 13.5**	**-0.2**
	baz=181						
249A	**Camden**	**18.95**	**14**	P	**P**	**15 07 14.9**	**+0.6**
	baz=196						
251A	**Midway**	**19.52**	**18**	P	**P**	**15 07 21.6**	**+1.0**
	baz=200						
Z46A	**Louisville**	**19.79**	**9**	P	**P**	**15 07 23.2**	**-0.2**
	baz=190						
150A	**Eclectic**	**19.83**	**16**	P	**P**	**15 07 24.7**	**+0.8**
	baz=198,SNR=5.4						
Z47A	**Carrollton**	**19.94**	**11**	P	**P**	**15 07 24.8**	**-0.3**
	baz=192						
151A	**Opelika**	**19.95**	**18**	P	**P**	**15 07 25.8**	**+0.5**
	baz=200,SNR=8.4						
LRAL	**Lakeview Retre**	**20.00**	**13**	*e*P	**P**	**15 07 25.6**	**-0.1**
	comp=Z,14nm,0.8s						
LRAL	**Lakeview Retre**	**20.00**	**13**	P	**P**	**15 07 25.4**	**-0.3**
	baz=195,SNR=7.4						
ABTX	**Abilene, Hawle**	**20.08**	**342**	*e*P	**P**	**15 07 27.4**	**+0.8**
	comp=Z,20nm,0.8s						
ABTX	**Abilene, Hawle**	**20.08**	**342**	P	**P**	**15 07 27.4**	**+0.8**
	baz=159,SNR=6.3						
Z48A	**Northport**	**20.21**	**12**	P	**P**	**15 07 27.9**	**-0.1**
	baz=193						
Z49A	**Columbiana**	**20.26**	**14**	P	**P**	**15 07 28.6**	**+0.1**
	baz=196						
Z50A	**Ashland**	**20.47**	**16**	*e*P	**P**	**15 07 31.1**	**+0.2**
	comp=Z,12nm,0.6s						
Z50A

	baz=201							
AMTX	Amarillo	22.81	340	eP		P	15 07 55.9	-0.2
	comp=Z,18nm,0.6s							
AMTX	Amarillo	22.81	340	P		P	15 07 55.8	-0.2
	baz=156							
WVT	Waverly	22.84	10	eP		P	15 07 54.1	-2.1
	comp=Z,8.7nm,0.6s							
WVT	Waverly	22.84	10	P		P	15 07 54.7	-1.6
	baz=191							
V49A	McMinnville	22.87	14	P		P	15 07 55.2	-1.3
	baz=196,SNR=5.0							
JSC	Jenkinsville	22.97	24	eP		P	15 07 55.6	-2.0
	comp=Z,13nm,0.9s							
V50A	Pikevile	22.97	15	P		P	15 07 57.1	-0.6
	baz=198							
W53A	Cullowhee	23.07	20	P		P	15 07 57.7	-1.1
	baz=203							
PBMO	Poplar Bluff	23.18	4	eP		P	15 07 58.2	-1.5
	comp=Z,12nm,0.6s							
U47A	Clarksville	23.23	11	P		P	15 07 58.3	-2.0
	baz=192							
V51A	Loudon	23.30	17	P		P	15 07 59.5	-1.5
	baz=200							
T41A	Mountain View	23.38	1	P		P	15 07 59.9	-1.8
	baz=181							
T42A	Van Buren	23.39	3	eP		P	15 07 60.0	-1.8
	comp=Z,6.3nm,0.8s							
T42A	Van Buren	23.39	3	P		P	15 08 00.3	-1.5
	baz=183							
T43A	Greenville	23.49	4	P		P	15 08 00.6	-2.2
	baz=185,SNR=7.0							
121A	Cookes Peak, D	23.52	326	P		P	15 08 04.2	+0.9
	baz=139							
V52A	Sevierville	23.55	18	eP		P	15 08 02.0	-1.4
	comp=Z,10nm,1.0s							
V52A	Sevierville	23.55	18	P		P	15 08 01.5	-2.0
	baz=202							
U49A	Red Boiling Sp	23.61	13	P		P	15 08 02.2	-1.8
	baz=196,SNR=14							
V53A	Saluda	23.64	20	eP		P	15 08 03.3	-1.1
	comp=Z,9.8nm,1.0s							
V53A	Saluda	23.64	20	P		P	15 08 03.1	-1.3
	baz=204							
KMSC	Kings Mountain	23.70	23	eP		P	15 08 03.8	-1.0
	comp=Z,14nm,0.9s							
KMSC	Kings Mountain	23.70	23	P		P	15 08 03.8	-1.0
	baz=207							
T46A	Princeton	23.72	9	P		P	15 08 03.1	-1.9
	baz=191,SNR=5.9							
U50A	Jamestown	23.74	15	P		P	15 08 03.3	-1.9
	baz=198,SNR=13							
T47A	Sharon Grove	23.80	11	eP		P	15 08 04.4	-1.4
	comp=Z,45nm,1.4s							
T47A	Sharon Grove	23.80	11	P		P	15 08 03.8	-2.0
	baz=192,SNR=5.9							
S41A	Jillco Farms,	23.92	1	P		P	15 08 04.7	-2.3
	baz=181							
U51A	La Follette	23.93	17	P		P	15 08 05.3	-1.8
	baz=200,SNR=6.6							
S43A	Fulton Ridge,	23.99	5	P		P	15 08 05.2	-2.4
	baz=185							
T48A	Bowling Green	24.05	12	P		P	15 08 05.9	-2.3
	baz=194							
S42A	Caledonia	24.14	3	P		P	15 08 06.5	-2.4
	baz=183							
S44A	Carbondale	24.19	6	P		P	15 08 07.7	-1.7
	baz=187,SNR=14							
SIUC	Southern Illin	24.21	6	eP		P	15 08 08.2	-1.4
	comp=Z,49nm,0.8s							
TZTN	Tazewell	24.22	18	eP		P	15 08 08.0	-1.7
	comp=Z,44nm,1.8s							
T49A	Edmonton	24.23	14	eP		P	15 08 08.0	-1.8
	comp=Z,30nm,1.2s							
T49A	Edmonton	24.23	14	P		P	15 08 07.9	-1.9
	baz=196,SNR=7.5							
S45A	Carrier Mills	24.25	7	P		P	15 08 08.2	-1.8
	baz=189							
T50A	Nancy	24.32	15	P		P	15 08 08.8	-1.8
	baz=198,SNR=6.1							
S46A	Don Dixon Farm	24.38	9	P		P	15 08 09.4	-1.7
	baz=191							
CCM	Cathedral Cave	24.41	2	eP		P	15 08 10.6	-0.8
	comp=Z,7.8nm,0.9s							
CCM	Cathedral Cave	24.41	2	P		P	15 08 10.5	-0.8
	baz=182							
S47A	Hartford	24.43	11	P		P	15 08 10.2	-1.4
	baz=193							
T51A	Gray	24.50	17	P		P	15 08 10.7	-1.6
	baz=200,SNR=5.8							
R41A	Rosebud	24.64	2	P		P	15 08 11.0	-2.5
	baz=182							
S48A	Wiedeman Farm,	24.65	12	P		P	15 08 12.0	-1.6
	baz=195							
R42A	Luebbering	24.65	3	P		P	15 08 11.6	-2.0
	baz=183							
R43A	Red Bud	24.70	5	P		P	15 08 12.5	-1.6
	baz=185							
ANMO	Albuquerque	24.77	332	P		P	15 08 17.8	+2.8
	comp=Z,2.4nm,0.6s,baz=147,slow=13,SNR=7.9							
ANMO	Albuquerque	24.77	332	eP		P	15 08 16.4	+1.4
	comp=Z,2.4nm,0.8s							
ANMO	Albuquerque	24.77	332	P		P	15 08 15.4	+0.4
	baz=145							
R45A	Skylar, Fairfi	24.89	8	P		P	15 08 14.2	-1.6
	baz=189,SNR=7.8							
S49A	Springfield	24.94	14	P		P	15 08 15.2	-1.0
	baz=196,SNR=7.0							
S50A	Richmond	25.05	15	P		P	15 08 16.6	-0.6
	baz=198,SNR=6.7							
TUC	Tucson	25.09	321	P		P	15 08 20.2	+2.4
	baz=133							
WCI	Wyandotte Cave	25.15	11	eP		P	15 08 17.0	-1.2
	comp=Z,38nm,0.7s							
WCI	Wyandotte Cave	25.15	11	P		P	15 08 16.9	-1.2
	baz=194							
R47A	Wooly Knot Far	25.17	11	P		P	15 08 17.2	-1.2
	baz=193,SNR=5.4							
S51A	Beattyville	25.23	17	P		P	15 08 17.3	-1.5
	baz=200							
Q42A	Golden Eagle	25.29	3	P		P	15 08 17.6	-1.8
	baz=184							
Q41A	Truxton	25.30	2	P		P	15 08 18.0	-1.5
	baz=182							
OLIL	Olney	25.35	8	eP		P	15 08 19.7	-0.2
	comp=Z,41nm,0.8s							
Q43A	New Douglas	25.38	5	P		P	15 08 18.8	-1.5
	baz=186							
R48A	Northridge Ran	25.40	12	P		P	15 08 18.7	-1.7
	baz=195							
Q44A	Meyer Farm, Va	25.41	6	P		P	15 08 18.9	-1.6
	baz=187							
R49A	Shelbyville	25.45	13	P		P	15 08 19.6	-1.2
	baz=196,SNR=5.7							
Q45A	Warren Harvey,	25.50	8	P		P	15 08 19.1	-2.2
	baz=189							
R50A	Paris	25.64	15	P		P	15 08 21.5	-1.1
	baz=198							
T25A	Trinidad	25.79	338	P		P	15 08 24.4	+0.2
	baz=152,SNR=5.9							
R51A	Hillsboro	25.85	16	P		P	15 08 22.9	-1.6
	baz=200							
Q48A	North Vernon	25.94	12	P		P	15 08 23.6	-1.7
	baz=195							
P42A	Winchester	25.98	4	P		P	15 08 23.8	-1.8
	baz=184							
P44A	Sand Creek, Wi	26.01	7	P		P	15 08 25.0	-1.0
	baz=188							
P41A	Barry, Barry	26.03	2	P		P	15 08 24.4	-1.7
	baz=183							
P45A	Graceland, Par	26.18	8	eP		P	15 08 26.3	-1.2
	comp=Z,16nm,0.7s							
P45A	Graceland, Par	26.18	8	P		P	15 08 25.6	-1.9
	baz=190							
Q49A	Aurora	26.19	13	P		P	15 08 26.1	-1.5
	baz=196							
Q50A	Georgetown	26.26	15	P		P	15 08 27.2	-1.0
	baz=198							
P46A	Rosedale	26.35	9	P		P	15 08 27.6	-1.4
	baz=191							
O41A	Passleys Farm,	26.48	3	P		P	15 08 28.9	-1.1
	baz=183							
P48A	Milroy	26.52	12	P		P	15 08 29.1	-1.4
	baz=195							
SDCO	Great Sand Dun	26.74	337	eP		P	15 08 34.3	+1.4
	comp=Z,4.4nm,1.0s							
SDCO	Great Sand Dun	26.74	337	P		P	15 08 34.1	+1.2
	baz=150,SNR=6.2							
O45A	Potomac	26.89	8	P		P	15 08 32.5	-1.4
	baz=190							
SFIN	Lafayette	27.11	9	P		P	15 08 33.9	-1.9
	baz=191							
O47A	Sheridan	27.12	11	P		P	15 08 34.7	-1.3
	baz=193							
S22A	4UR Ranch, Cre	27.28	335	P		P	15 08 39.2	+1.5
	baz=148,SNR=6.1							
O48A	Farmland	27.34	12	P		P	15 08 36.4	-1.5
	baz=195							
N43A	Stutzman Famil	27.41	5	P		P	15 08 37.4	-1.1
	baz=186							
O49A	Covington	27.45	14	P		P	15 08 37.8	-1.1
	baz=197							
MVCO	Mesa Verde	27.57	331	eP		P	15 08 42.2	+1.9
	comp=Z,8.5nm,0.8s							
MVCO	Mesa Verde	27.57	331	P		P	15 08 42.0	+1.7
	baz=144,SNR=7.0							
WUAZ	Wupatki	27.72	325	P		P	15 08 42.2	+0.6
	baz=137							
M43A	Waltham Townsh	27.92	6	P		P	15 08 40.8	-2.3
	baz=187							
N48A	Decatur	27.94	12	P		P	15 08 41.3	-2.0
	baz=195							
PV12	Saucer Basin,	28.61	332	eP		P	15 08 50.4	+0.8
	comp=Z,5.8nm,0.8s							
PV22	Blue Mesa, Par	28.78	333	eP		P	15 08 51.1	0.0
	comp=Z,9.6nm,1.5s							
PV23	Carpenter Ridg	28.81	332	eP		P	15 08 53.7	+2.3
	comp=Z,5.4nm,0.8s							
BC3	Big Chuckawall	28.94	318	P		P	15 08 53.8	+1.4
	baz=128							
L48A	N Adams	29.11	12	P		P	15 08 51.3	-2.3
	baz=196							
O56A	Blue Knob Stat	29.25	22	P		P	15 08 52.9	-2.1
	baz=208							
GMRC	Granite Mounta	29.78	319	P		P	15 09 01.5	+1.6
	baz=129							
ECSD	EROS Data Cent	30.27	354	P		P	15 09 01.4	-2.5
	baz=172							
MPMC	Manual Prospec	31.74	319	P		P	15 09 18.3	+1.1
	baz=128							
R11A	Troy Canyon, C	32.10	324	P		P	15 09 20.8	+0.4
	baz=134							
PDAR	Pinedale Array	32.64	336	P		P	15 09 26.1	+1.0
	comp=Z,1.2nm,0.9s,baz=151,slow=6.8,SNR=7.1							
PDAR	Pinedale Array	32.64	336	eP		P	15 09 25.7	+0.6
HVU	Hansel Valley	33.20	332	eP		P	15 09 31.8	+1.9
	comp=Z,3.7nm,1.1s							
REDW	Red Top Meadow	33.65	335	eP		P	15 09 35.2	+1.3
	comp=Z,12nm,1.1s							
NV11	Mina Array Sit	33.66	322	eP		P	15 09 35.5	+1.6
	comp=Z,0.4nm,1.1s							
SNOW	Snow King Moun	33.70	336	eP		P	15 09 35.9	+1.6
	comp=Z,16nm,1.1s							
NV01	Mina Array Sit	33.74	322	eP		P	15 09 35.8	+1.0
NVAR	Mina Array Bea	33.74	322	P		P	15 09 36.4	+1.6
	comp=Z,2.8nm,1.0s,baz=136,slow=7.9,SNR=10.0							
NVAR					LR	LR	15 23 59.4	
	comp=Z,36nm,18.2s,baz=116,slow=38							
TPAW	Teton Pass	33.80	335	eP		P	15 09 36.8	+1.6
	comp=Z,8.1nm,1.2s							
MOOW	Moose Ponds	33.93	336	eP		P	15 09 37.6	+1.2
	comp=Z,6.0nm,1.4s							
RLMT	Red Lodge	34.55	339	eP		P	15 09 42.0	+0.3
	comp=Z,16nm,1.9s							
PTGA	Pitinga	35.17	111	eP		P	15 09 48.9	+1.8
	comp=Z,10nm,0.8s							
HLID	Hailey	35.35	332	P		P	15 09 50.3	+1.8
	baz=141							
J08A	Circle Bar Ran	37.17	328	eP		P	15 10 06.2	+2.1
	comp=Z,11nm,0.6s							
LPAZ	La Paz	38.17	140	P		P	15 10 11.1	-2.2
	comp=Z,0.4nm,0.4s,baz=352,slow=7.1,SNR=2.9							
D03D	Eldon	42.41	329	P		P	15 10 49.1	+1.7
	baz=132							
SIV	San Ignacio	42.71	132	P		P	15 10 47.8	-2.5
	comp=Z,0.6nm,0.6s,baz=288,slow=9.9,SNR=3.5							
YKA	Yellowknife Ar	51.34	347	P		P	15 11 57.8	+0.8
	comp=Z,4.3nm,0.8s,baz=149,slow=7.4,SNR=11							
INK	Inuvik	60.73	344	eP		P	15 13 04.4	+0.4
	comp=Z,28nm,1.9s							
IL1	Eielson Array	63.06	337	eP		P	15 13 20.3	+0.5
ILAR	Eielson Array	63.06	337	P		P	15 13 19.8	0.0
	comp=Z,1.4nm,1.0s,baz=144,slow=4.3,SNR=11							
TOLK	Toolik Lake Re	65.78	340	P		P	15 13 36.9	-0.6
	baz=116							
NOA	NORSAR Array B	84.72	28	LR		LR	15 51 47.7	
	comp=Z,14nm,21.2s,baz=245,slow=35							
NRIK	Noril'sk	97.30	0	LR		LR	16 05 06.0	
	comp=Z,36nm,18.2s,baz=26,slow=38							
CMAR	Chiang Mai Arr	146.25	340	PKPbc		PKPdf	15 22 33.0	-0.1
	comp=Z,1.5nm,0.6s,baz=336,slow=3.1,SNR=9.1							

MEX 13 15:26:59.0±0.5, 15°95N×98°18W, h5km, MD3.7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.44	6	eP	Pg	15 27 06.8	-0.7
PNIG				eS	Sg	15 27 13.3	+0.2
TLIG	Tlapa	1.65	347	eP	Pn	15 27 33.0	-3.5
TLIG				i S	Sn	15 27 45.5	-4.8

UCR 13 15:37:31.3±1.0, 14°.10N×92°.83W, h35km±999km, ML3.9, mb4.2(NEIC)
ISCJB 13 15:37:32.7±1.4, 13°.90N±0°.05×92°.59W±0°.04, h13km±10km, mb3.9/4, MS3.2/2, Error ellipse: s-maj=9.7km s-min=4.3km az=38.0
IDC 13 15:37:32.3±1.3, 13°.87N×92°.52W, h0km, mb3.9/4, mb1 4.0/6, mb1mx3.7/39, mbtmp3.9/6, ML3.8/2, MS3.1/4, Ms1 3.1/4, ms1mx2.7/39, Error ellipse: s-maj=33.9km s-min=18.9km az=42.0
MEX 13 15:37:37.6±0.5, 13°.97N×92°.48W, h16km±999km, MD3.8
NEIC 13 15:37:37.4±0.7, 13°.93N×92°.55W, h35km, mb4.2/1, MD3.9(MEX), Error ellipse: s-maj=12.6km s-min=6.0km az=219.0

ISC 13 15:37:35.3±2.0, 14°.02N±0°.06×92°.45W±0°.06, h14km±12km, n43, σ1s56/50, mb3.9/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		0.90	12	i P	Pg	15 37 52.9	+0.1
THIG				eS	Sb	15 38 04.3	-0.2
THIG		0.90	12	i P	Pg	15 37 52.9	+0.1
THIG				eS	Sb	15 38 04.3	-0.2
PCIG		1.83	336	eP	Pn	15 38 05.3	-1.0
PCIG		1.83	336	eP	Pn	15 38 05.3	-1.0
PCIG				i S	Sn	15 38 28.0	-1.3
IXG	Ixpaco	1.94	85	eP	Pn	15 38 06.8	-1.2
APG	El Apazote	2.16	63	Pn	Pn	15 38 12.1	+1.0
	33nm,0.3s,baz=252,slow=6.5,SNR=215						
APG				Sn	Sb	15 38 41.9	+0.9
	52nm,0.3s,baz=309,slow=9.4,SNR=9.3						
CCIG	Comitan	2.27	8	ePn	Pb	15 38 15.4	-0.8
CCIG	Comitan	2.27	8	eP	Pn	15 38 11.9	-0.7
CCIG				i S	Sn	15 38 40.1	-0.3
CEVE	Cerro Verde	2.75	94	eP	Pn	15 38 18.9	-0.3
SBLS	San Blas	2.75	93	eP	Pn	15 38 18.6	-0.7
SNJE	San Jose	2.77	93	eP	Pn	15 38 19.0	-0.4
TGIG		2.82	347	eP	Pn	15 38 20.7	+0.7
TGIG				eS	Sn	15 38 53.7	-0.1
MTO3	Montecristo	3.02	82	eP	Pn	15 38 22.1	-0.8
MTO3				eS	Sb	15 39 02.8	-3.0
BOQS	Boqueron	3.09	95	eP	Pn	15 38 24.2	+0.3
SNET	Serv Nac Est T	3.15	96	ePn	Pn	15 38 26.6	+2.1
LFU	La Fuente	3.25	94	eP	Pn	15 38 25.9	0.0
LFRS	El Faro	3.32	96	eP	Pn	15 38 25.8	-1.1
CMIG	Matias Romero	3.85	323	Pn	Pn	15 38 34.2	+0.1
	4.1nm,0.3s,baz=135,slow=11,SNR=16						
CMIG				Sn	Sn	15 39 21.4	+2.2
	13nm,0.3s,baz=56,slow=21,SNR=9.7						
CMIG				LR	LR	15 40 09.7	
	comp=Z,149nm,21.8s,baz=172,slow=40						
TECA	Tecapa	3.87	97	eP	Pn	15 38 33.7	-1.0
PACA	Pacayal	4.05	97	eP	Pn	15 38 36.8	-0.2
PACA				eS	Sn	15 39 27.7	+3.4
PACA				IAML		15 39 47.7	
	comp=E,534nm,0.5s						
LCND	La Ca˜–ada	4.49	99	eP	Pn	15 38 42.9	0.0
LCND				eS	Sn	15 39 37.5	+2.5
LCND				IAML		15 39 56.3	
	comp=Z,194nm,0.5s						
CSGN	Cosiguina Volc	4.87	102	ePn	Pn	15 38 48.8	+0.5
TGUH	Tegucigalpa,Un	5.03	89	ePn	Pn	15 38 52.8	+2.5
LVIG	Laguna Verde	6.82	327	ePn	Pn	15 39 15.1	+0.1
TEIG	Tepich	7.35	32	ePn	Pn	15 39 24.0	+1.8
JTS	JuntasAbangare	8.22	116	Pn	Pn	15 39 35.9	+1.7
	comp=Z,0.6nm,0.3s,baz=288,slow=16,SNR=2.5						
JTS	JuntasAbangare	8.22	116	ePn	Pn	15 39 35.4	+1.2
UNM	Universidad Na	8.33	310	ePn	Pn	15 39 36.9	+0.9
833A	Chaparral WMA,	15.63	337	ePn	Pn	15 41 15.4	+0.2
	comp=Z,9.6nm,0.6s						
543A	St. Martinvill	16.00	2	ePn	P	15 41 22.1	-1.4
	comp=Z,774nm,0.3s						
545A	Edgard	16.05	6	ePn	P	15 41 23.1	-0.9
	comp=Z,1μm,0.6s						
LTX	Lajitas	18.44	328	eP	Pn	15 41 55.2	+4.5
TXAR	Lajitas Array	18.44	328	P	Pn	15 41 55.2	+4.5
	comp=Z,0.0nm,0.3s,baz=154,slow=13,SNR=3.5						
LPIG	La Paz	19.61	303	LR	LR	15 49 38.9	
	comp=Z,50nm,18.8s,baz=169,slow=37						
NVAR	Mina Array Bea	33.38	322	LR	LR	15 59 03.8	
	comp=Z,71nm,18.9s,baz=75,slow=39						
PTGA	Pitinga	35.35	112	P	P	15 44 30.0	-0.7
	comp=Z,0.9nm,0.4s,baz=302,slow=12,SNR=5.5						
SIV	San Ignacio	43.03	133	P	P	15 45 33.1	-1.7
	comp=Z,2.0nm,0.7s,baz=319,slow=7.2,SNR=9.3						
YKA	Yellowknife Ar	50.91	347	P	P	15 46 35.3	-0.4
	comp=Z,1.0nm,0.6s,baz=136,slow=8.9,SNR=4.0						
YKB5	Yellowknife Ar	50.91	347	eP	P	15 46 34.8	-0.9
ILAR	Eielson Array	62.65	337	P	P	15 47 59.2	+0.1
	comp=Z,0.5nm,0.9s,baz=136,slow=5.1,SNR=5.8						
OBN	Obninsk	98.86	27	LR	LR	16 35 50.6	
	comp=Z,5.6nm,18.1s,baz=232,slow=35						
CMAR	Chiang Mai Arr	145.83	340	PKPbc	PKPdf	15 57 14.3	-0.3
	comp=Z,1.1nm,0.7s,baz=340,slow=3.4,SNR=9.6						
CM01	Chiang Mai Arr	145.86	340	ePKPdf	PKPdf	15 57 13.7	-0.9

GUC 13 15:47:03.9±0.4, 23°.10S×69°.14W, h91km±2km, ML3.9, 5C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB15	IPOC Station P	0.33	251	↑iP	Pn	15 47 18.4	+0.5
PB15				i S	Sn	15 47 29.1	+0.8
PB06	IPOC Station P	0.56	314	↑iP	Pn	15 47 19.8	+0.3
PB06				i S	Sn	15 47 31.8	+0.7
PB06				IAML		15 47 32.1	
	comp=N,7μm,0.2s						
PB05	IPOC Station P	1.01	284	↑iP	Pn	15 47 24.6	+0.6
PB05				i S	Sn	15 47 40.0	+1.0
PB05				IAML		15 47 44.3	
	comp=N,2μm,0.2s						
PB03	IPOC Station P	1.20	331	↑iP	Pn	15 47 26.5	+0.4
PB03				i S	Sn	15 47 43.9	+1.1
PB03				IAML		15 47 45.3	
	comp=E,6μm,0.3s						
PB04	IPOC Station P	1.21	309	↑iP	Pn	15 47 26.8	+0.5
PB04				i S	Sn	15 47 44.7	+1.5
PB04				IAML		15 47 46.9	
	comp=N,5μm,0.1s						
PB09	IPOC Station P	1.30	356	↓iP	Pn	15 47 28.4	+0.9
PB09				i S	Sn	15 47 46.3	+1.1
PB09				IAML		15 47 47.5	
	comp=E,1μm,0.4s						
PB10	IPOC Station P	1.37	252	eP	Pn	15 47 28.3	+0.3
PB10				eS	Sn	15 47 47.1	+0.8
PB10				IAML		15 47 54.0	
	comp=N,734nm,0.1s						
PB07	IPOC Station P	1.54	333	↓iP	Pn	15 47 30.9	+0.6
PB07				i S	Sn	15 47 51.7	+1.4
PB07				IAML		15 47 56.4	
	comp=E,2μm,0.3s						
PB02	IPOC Station P	1.91	338	↓iP	Pn	15 47 35.3	+0.2
PB02				i S	Sn	15 47 59.5	+0.7
PB02				IAML		15 48 01.4	
	comp=E,3μm,0.2s						
PB01	IPOC Station P	2.08	351	↓iP	Pn	15 47 37.4	+0.2
PB01				eS	Sn	15 48 03.3	+0.6
PB01				IAML		15 48 09.5	
	comp=E,2μm,0.2s						

ISN 13 15:54:11.7±0.6, 36°.77N×43°.21E, h27km±2km, ML2.4
ISK 13 15:54:19.9, 36°.31N×43°.03E, h10km, ML2.6/5

ISC 13 15:54:16.0±3.4, 36°.00N±0°.2×43°.04E±0°.07, h8km±15km, n15, σ1s46/24, Iraq

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUKT	Cukurca	1.29	21	PG	Pg	15 54 40.2	-0.5
CUKT				SG	Sn	15 54 55.6	-2.3
CUKT	Cukurca	1.29	21	P	Pg	15 54 40.2	-0.5
CUKT				S	Sn	15 54 55.6	-2.3
CUKT	Cukurca	1.29	21	i P	Pg	15 54 41.2	+0.4
CUKT				i S	Sn	15 54 57.2	-0.7
SIRT	Sirnak	1.54	342	PN	Pb	15 54 44.4	-0.4
SIRT				SN	Sn	15 55 02.4	-1.6
SIRT	Sirnak	1.54	342	P	Pb	15 54 44.4	-0.4
SIRT				S	Sn	15 55 02.4	-1.6
SIRN	S˜–rnak	1.54	341	i P	Pb	15 54 45.2	+0.4
SIRN				i S	Sn	15 55 06.2	+2.0
HAKT	HAKKARI	1.60	19	i P	Pg	15 54 47.0	+0.1
HAKT				i S	Sn	15 55 06.9	+1.0
YOVA	Hakkari_Y˜…kse	1.84	33	i P	Pg	15 54 51.9	+0.6
YOVA				i S	Sb	15 55 14.7	+1.4
MARD	Mardin	2.22	306	i P	Pg	15 54 58.7	+0.1
MARD				i S	Sb	15 55 25.9	+1.8
MAZI	Mazidag	2.52	305	PN	Pb	15 55 00.8	-0.8
MAZI	Mazidag	2.52	305	eP	Pb	15 55 00.8	-0.8
SVAN	Silvan-Diyarba	2.57	326	PN	Pb	15 55 00.0	-2.4
SVAN	Silvan-Diyarba	2.57	326	eP	Pb	15 55 00.0	-2.4
GURO	Guroymak-BITLI	2.63	342	PN	Pn	15 54 59.8	+0.9
GURO	Guroymak-BITLI	2.63	342	eP	Pn	15 54 59.8	+0.9

KRSC 13 15:56:10.9±2.9, 49°.06N×151°.54E, h417km±73km, ML4.7
ISCJB 13 15:56:11.8±0.2, 49°.34N±0°.05×150°.82E±0°.08, h400km, mb3.5/15, Error ellipse: s-maj=9.1km s-min=2.7km az=44.7
MOS 13 15:56:11.2±1.2, 49°.01N×151°.39E, h448km, mb3.9/5, Error ellipse: s-maj=21.6km s-min=7.3km az=59.9
SKHL 13 15:56:13.2±1.1, 49°.22N×150°.99E, h371km±12km, mb4.3/6, msh4.6/2
IDC 13 15:56:14.2±1.6, 49°.60N×150°.69E, h394km±18km, mb3.2/16, mb1 3.4/21, mb1mx3.2/58, mbtmp4.0/21, Error ellipse: s-maj=14.4km s-min=9.3km az=137.0

ISC 13 15:56:13.2±0.5, 49°.34N±0°.07×150°.96E±0°.07, h400km, n100, σ1s96/106, mb3.6/15, 2C, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	3.59	66	eP	Pn	15 57 20.0

KUR pmax pmax
comp=E,10.0nm,0.4s
KUR pmax pmax
comp=Z,30nm,0.4s
KDTR Khodutka, Kamc 5.16 59 *e*P **Pn 15 57 36.1 -0.6**
KDTR *e*S **S 15 58 38.7 -6.0**
MTVR Mutnovka 5.55 53 *e*S **S 15 58 51.9 -0.5**
PETK Petropavlovsk- 5.67 46 P **Pn 15 57 41.6 -0.5**
comp=Z,2.3nm,0.3s,baz=228,slow=8.2,SNR=93
RUS Russkaya 5.69 54 *e*P **Pn 15 57 42.0 -0.3**
RUS Russkaya 5.69 54 *e*P **Pn 15 57 42.0 -0.3**
RUS *e*S **S 15 58 49.0 -6.0**
RUS Russkaya 5.69 54 PN **Pn 15 57 42.0 -0.3**
YSS Yuzh-Sakhalins 5.99 250 *e*P **Pn 15 57 46.5 +0.9**
YSS Yuzh-Sakhalins 5.99 250 ⇑ *i*PN **Pn 15 57 46.6 +0.9**
PET Petropavlovsk 6.08 50 *e*P **Pn 15 57 47.4 +0.9**
PET AMB AMB 15 57 53.1
comp=Z,10.0nm,0.6s
PET AMB AMB 15 57 53.1
comp=Z,3μm,0.6s
PET *e*S **S 15 58 59.1 -3.5**
PET A A 15 59 01.0
comp=Z,30nm,0.9s
PET Petropavlovsk 6.08 50 *i* P **Pn 15 57 47.9 +1.4**
PET Petropavlovsk 6.08 50 PN **Pn 15 57 47.9 +1.4**
DALK Dalny 6.14 50 *e*P **Pn 15 57 47.0 -0.1**
DALK *e*S **S 15 58 58.4 -5.3**
DALK Dalny 6.14 50 PN **Pn 15 57 47.0 -0.1**
DALK S **S 15 58 58.4 -5.3**
GNL Ganaly 6.16 42 *e*P **Pn 15 57 47.2 -0.3**
GNL Ganaly 6.16 42 PN **Pn 15 57 47.2 -0.3**
SHO Shikotan 6.17 209 *i* P **Pn 15 57 45.9 -1.7**
SHO AMB AMB 15 57 47.0
comp=Z,20nm,0.4s
SHO AMB AMB 15 57 47.0
comp=Z,40nm,0.4s
SHO *e*S S 15 58 59.3 -5.3
SHO Shikotan 6.17 209 *c i*PN **Pn 15 57 46.0 -1.7**
SHO *e*S S 15 58 59.1 -5.5
SHO pmax pmax
comp=N,22nm,0.4s
SHO pmax pmax
comp=Z,48nm,0.4s
SHO pmax pmax
comp=E,16nm,0.1s
KOK Koryaka 6.23 48 *i* P **Pn 15 57 47.7 -0.5**
KOK Koryaka 6.23 48 PN **Pn 15 57 47.7 -0.5**
AVH Avacha 6.26 48 *e*P **Pn 15 57 50.0 +1.4**
AVH Avacha 6.26 48 *i* P **Pn 15 57 50.0 +1.4**
AVH Avacha 6.26 48 PN **Pn 15 57 50.0 +1.4**
UGLR Uglovaya 6.27 49 *i* P **Pn 15 57 50.5 +1.8**
UGLR Uglovaya 6.27 49 PN **Pn 15 57 50.5 +1.8**
SMAR Somma 6.29 48 *i* P **Pn 15 57 49.6 +0.5**
SMAR Somma 6.29 48 PN **Pn 15 57 49.6 +0.5**
SDLR Sedlovina 6.34 49 *i* P **Pn 15 57 50.1 +0.6**
SDLR Sedlovina 6.34 49 PN **Pn 15 57 50.1 +0.6**
YUK Yuzh-Kuril'sk 6.36 215 *e*S **S 15 59 06.3 -2.2**
GRPR Tuman 6.43 216 *e*S **S 15 59 09.0 -0.9**
GLVR Golovnino 6.74 216 *e*P **Pn 15 57 55.0 +1.0**
GLVR AMB AMB 15 57 59.0
comp=E,20nm,0.3s
GLVR AMB AMB 15 57 59.0
comp=E,4μm,0.3s
GLVR *e*S **S 15 59 15.1 -1.1**
GLVR Golovnino 6.74 216 *e*PN **Pn 15 57 55.2 +1.2**
GLVR S **S 15 59 16.2 0.0**
GLVR pmax pmax
comp=Z,18nm,0.3s
SPN Mys Shipunski 6.82 53 *e*P **Pn 15 57 53.4 -1.3**
SPN *e*S S 15 59 09.4 -8.2
SPN Mys Shipunski 6.82 53 PN **Pn 15 57 53.4 -1.3**
NEM2 Nemuro 2 6.98 213 P Pn 15 57 53.4 -3.2
NEM2 *e*S S 15 59 11.7 -9.4
JNK Nakash 7.19 219 P **Pn 15 57 57.5 -1.5**
JTKR Abashiri--Toko 7.24 225 P **Pn 15 57 59.7 +0.2**
JMP Maruseppu 7.47 227 P **Pn 15 58 02.5 +0.3**
JAK Akkeshi 7.69 217 P Pn 15 58 01.9 -2.7
JAK *e*S S 15 59 28.2 -7.6
ASAJ Asahikawa 7.76 231 P **Pn 15 58 06.3 +0.8**
JAR Ashorobuto 7.83 222 P **Pn 15 58 05.1 -1.1**
HRK Horoka 7.99 226 *e*P **Pn 15 58 07.9 -0.2**
JOB Onbets 8.12 220 P **Pn 15 58 07.2 -2.3**
JOB *e*S S 15 59 38.2 -6.6
KZV Kizimen 8.14 41 *i* P **P 15 58 10.3 +0.3**
KZV Kizimen 8.14 41 PN **P 15 58 10.3 +0.3**
TUMR Tumrok 8.19 40 *e*P **P 15 58 13.7 +3.1**
TUMR Tumrok 8.19 40 PN **P 15 58 13.7 +3.1**
JAB Ashibetsu 8.39 229 P **Pn 15 58 12.9 +0.2**
MKZ Mys Kozlova 8.45 48 *i* P **Pn 15 58 11.1 -2.0**
MKZ *e*S S 15 59 40.3 -11
MKZ Mys Kozlova 8.45 48 PN **Pn 15 58 11.1 -2.0**
JFR Furan 8.47 226 P **Pn 15 58 13.0 -0.6**
KMNR Kamenistaya 8.55 38 *i* P **P 15 58 18.1 +3.5**
KMNR Kamenistaya 8.55 38 PN **P 15 58 18.1 +3.5**
JCH Churui 8.55 221 P Pn 15 58 11.7 -2.8
JCH *e*S S 15 59 45.6 -8.4
MYR Moyori 8.85 220 *e*P Pn 15 58 14.3 -3.6
JBT2 Biratori 2 8.87 226 P **Pn 15 58 16.6 -1.6**
JNBK Urakawa-nobuka 9.09 222 P P 15 58 17.4 -3.3
JNBK *e*S S 15 59 55.0 -10
JEM Erimo 9.13 220 P **P 15 58 18.8 -2.3**
KBG Krutoberegovo 9.92 41 *e*P **Pn 15 58 30.8 +0.8**
KBG Krutoberegovo 9.92 41 PN **Pn 15 58 30.8 +0.8**
KBTR Krutoberegovo 9.94 42 *e*P **P 15 58 28.4 -1.4**
KBTR *e*S S 16 00 12.7 -10
KBTR Krutoberegovo 9.94 42 PN **P 15 58 28.4 -1.4**
JSH Shimam 10.12 233 P **P 15 58 32.1 0.0**
JSH *e*S **S 16 00 20.4 -6.1**
JKB Kayabe 10.19 227 P **P 15 58 30.3 -2.5**
JKB *e*S S 16 00 18.8 -9.1
MA2 Magadan 10.26 359 P **Pn 15 58 31.8 -2.1**
comp=Z,1.4nm,0.3s,baz=187,slow=7.7,SNR=9.2
JYM2 Yakumo 2 10.34 230 P **P 15 58 33.7 -0.8**
JSR Shiriuchi 10.76 227 P **P 15 58 37.8 -1.3**
JTM Tenmabayashi 11.04 223 *e*S S 16 00 35.7 -10
JANG Nango 11.19 220 P **P 15 58 41.5 -2.4**
JANG *e*S S 16 00 38.8 -9.5
JTH Tanohata 11.41 218 P **P 15 58 44.5 -1.9**
EKMR Ekimchan 11.90 295 *e*P **Pn 15 58 52.2 -0.8**
EKMR AMB AMB 15 58 53.1
comp=Z,5.0nm,0.5s
KLR Kul'dur 12.55 277 P **Pn 15 58 59.1 -1.4**
comp=Z,0.7nm,0.3s,baz=76,slow=8.9,SNR=8.7
USRK Ussuriysk Ar. 13.97 256 P **P 15 59 14.4 0.0**
comp=Z,0.1nm,0.3s,baz=46,slow=8.2,SNR=4.2
MJAR Matsushiro Arr 15.81 221 P **P 15 59 36.4 +2.0**
comp=Z,1.3nm,0.3s,baz=21,slow=9.4,SNR=30
KSRS Korea Array 20.44 243 P **P 16 00 23.5 +2.0**
comp=Z,1.1nm,0.6s,baz=49,slow=10,SNR=4.3
JNU Nakatsue 22.04 230 P **P 16 00 37.9 +1.6**
comp=Z,10nm,0.8s,baz=7.2,slow=4.6,SNR=4.9
ILAR Eielson Array 35.48 41 P **P 16 02 34.2 +0.9**
comp=Z,8.9nm,0.4s,baz=259,slow=5.5,SNR=17
ZALV Zalesovo Beam 39.96 303 P **P 16 03 09.2 -1.3**
comp=Z,1.1nm,0.3s,baz=64,slow=7.2,SNR=5.5
MKAR Makanchi Array 44.52 294 P **P 16 03 46.0 -0.9**
comp=Z,1.6nm,0.5s,baz=65,slow=8.0,SNR=19
MKAR Makanchi Array 44.52 294 *e*P **P 16 03 46.0 -0.9**
MKAR Makanchi Array 44.52 294 P **P 16 03 46.0 -0.9**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
YKA Yellowknife Ar 49.73 37 P **P 16 04 26.9 +0.8**
comp=Z,0.4nm,0.4s,baz=300,slow=6.8,SNR=3.3
CMAR Chiang Mai Arr 51.68 252 P **P 16 04 42.2 +1.0**
comp=Z,0.5nm,0.5s,baz=28,slow=6.2,SNR=5.7
FINES FINESS Array B 61.08 333 P **P 16 05 45.0 -1.0**
comp=Z,1.2nm,0.3s,baz=36,slow=8.0,SNR=11
FINES FINESS Array B 61.08 333 *e*P **P 16 05 45.0 -1.0**
FINES FINESS Array B 61.08 333 P **P 16 05 45.0 -1.0**
FINES pmax pmax
comp=Z,1.0nm,0.4s
NVAR Mina Array Bea 62.51 62 P **P 16 05 56.8 +0.7**
comp=Z,0.2nm,0.5s,baz=316,slow=6.2,SNR=4.3
PDAR Pinedale Array 64.38 54 P **P 16 06 10.1 +1.9**
comp=Z,0.8nm,0.5s,baz=329,slow=1.1,SNR=9.0
NOA NORSAR Array B 65.31 340 P **P 16 06 12.7 -0.7**
comp=Z,0.6nm,0.7s,baz=14,slow=4.6,SNR=2.5
KBZ Khabaz 68.04 312 P **P 16 06 30.9 +0.2**
comp=Z,2.0nm,0.8s,baz=73,slow=16,SNR=3.1
WRA Warramunga Arr 70.54 197 P **P 16 06 47.9 +1.9**
comp=Z,0.5nm,0.6s,baz=11,slow=6.7,SNR=7.3
FITZ Fitzroy Crossi 70.80 206 P **P 16 06 50.2 +2.6**
comp=Z,1.5nm,0.7s,baz=27,slow=11,SNR=3.1

ASAR Alice Springs 74.25 196 P **P 16 07 10.7 +3.0**
comp=Z,1.8nm,0.5s,baz=11,slow=5.8,SNR=46
TXAR Lajitas Array 77.45 60 P **P 16 07 28.1 +2.3**
comp=Z,0.4nm,0.5s,baz=289,slow=3.7,SNR=6.7

*ISCJB **13** 16:01:58.2±0.6, 18°.2S±0°.1×177°.6W±0°.1, h350km, mb3.6/8, Error ellipse: s-maj=23.1km s-min=9.2km az=145.4*
*IDC **13** 16:01:58.5±2.2, 18°.36S×177°.75W, h325km±24km, mb3.5/9, mb1 3.6/10, mb1mx3.3/38, mbtmp4.2/10, Error ellipse: s-maj=21.0km s-min=17.6km az=35.0*
ISC 13 16:01:59.3±0.7, 18°.1S±0°.2×177°.6W±0°.1, h350km, n11, σ1$41/14, mb3.7/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.99**	**54**	P	P	**Pn**	**16 03 43.6**	**+1.9**
	15nm,0.3s,baz=187,slow=0.8,SNR=25							
AFI				S	S	**S**	**16 05 02.0**	**-3.0**
	6.7nm,0.3s,baz=38,slow=20,SNR=6.7							
URZ	**Urewera**	**20.57**	**192**	P	P	**P**	**16 06 10.0**	**-2.5**
	7.9nm,0.5s,baz=256,slow=2.0,SNR=9.6							
CTA	**Charters Tower**	**34.19**	**261**	P	P	**P**	**16 08 13.1**	**-0.1**
	4.6nm,0.7s,baz=90,slow=12,SNR=6.2							
STKA	**Stephens Creek**	**39.21**	**242**	P	P	**P**	**16 08 55.0**	**-0.1**
	1.3nm,0.7s,baz=68,slow=16,SNR=3.1							
WRA	**Warramunga Arr**	**45.37**	**260**	P	P	**P**	**16 09 43.5**	**-0.9**
	0.6nm,0.5s,baz=97,slow=6.9,SNR=14							
WRA				PcP	PcP	**PcP**	**16 11 17.7**	**+0.5**
	0.6nm,0.4s,baz=96,slow=3.5,SNR=5.5							
ASAR	**Alice Springs**	**45.49**	**254**	P	P	**P**	**16 09 44.9**	**-0.4**
	3.9nm,0.4s,baz=90,slow=8.4,SNR=191							
ASAR				PcP	PcP	**PcP**	**16 11 17.6**	**0.0**
	1.0nm,0.5s,baz=103,slow=4.0,SNR=8.6							
FITZ	**Fitzroy Crossi**	**53.77**	**261**	P	P	**P**	**16 10 47.2**	**0.0**
	2.7nm,1.0s,baz=123,slow=7.5,SNR=5.6							
VNDA	**Vanda**	**60.28**	**185**	P	P	**P**	**16 11 32.1**	**+0.7**
	0.7nm,0.6s,baz=360,slow=5.8,SNR=11							
QSPA	**South Pole Qui**	**71.91**	**180**	P	P	**P**	**16 12 45.3**	**+0.3**
	3.5nm,0.7s,baz=17,slow=1.3,SNR=13							
MAW	**Mawson**	**83.91**	**200**	P	P	**P**	**16 13 51.4**	**+1.2**
	0.9nm,0.5s,baz=135,slow=7.1,SNR=5.4							
BRTR	**Keskin Array B**	**145.51**	**315**	PKPbc	**PKPab**	**16 20 58.7**	**+0.5**	
	0.4nm,0.5s,baz=77,slow=0.3,SNR=3.1							

*IDC **13** 16:10:02.9±0.8, 58°.03S×25°.95W, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.9/19, mbtmp3.9/7, ML3.9/1, Error ellipse: s-maj=32.5km s-min=21.2km az=78.0*
*ISCJB **13** 16:10:09.6±0.7, 58°.1S±0°.1×25°.9W±0°.3, h64km, mb3.9/6, Error ellipse: s-maj=22.2km s-min=9.3km az=146.3*
*NEIC **13** 16:10:12.5±1.7, 58°.12S×26°.06W, h77km±15km, mb4.2/2, Error ellipse: s-maj=21.4km s-min=10.6km az=58.0*
ISC 13 16:10:11.3±0.7, 58°.1S±0°.1×25°.9W±0°.2, h64km, n30, σ0$87/24, mb3.9/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.04**	**299**	*e*Pn	P	**Pn**	**16 11 52.4**	**+0.9**
VNA1	**Neumayer--Stat**	**14.60**	**156**	P	P	**Pn**	**16 13 34.0**	**0.0**
VNA3	**Neumayer Olymp**	**14.79**	**159**	P	P	**Pn**	**16 13 36.1**	**-0.4**
VNA2	**Neumayer--Watz**	**15.00**	**156**	P	P	**Pn**	**16 13 39.4**	**+0.3**
	baz=317,slow=15							
SNAA	**Sanae**	**16.55**	**154**	P	P	**P**	**16 13 59.7**	**-0.9**
SNAA	**Sanae**	**16.55**	**154**	Pn	P	**P**	**16 13 59.6**	**-0.9**
	0.5nm,0.3s,baz=304,slow=13,SNR=18							
SNAA	**Sanae**	**16.55**	**154**	*e*Pn	Pn	**Pn**	**16 13 59.3**	**+0.4**
	12nm,1.6s							
QSPA	**South Pole Qui**	**32.11**	**180**	P	P	**P**	**16 16 32.0**	**0.0**
	0.7nm,0.5s,baz=294,slow=0.8,SNR=4.8							
PLCA	**Paso Flores**	**33.08**	**282**	P	P	**P**	**16 16 40.7**	**0.0**
	1.0nm,0.7s,baz=193,slow=7.0,SNR=3.5							
PLCA	**Paso Flores**	**33.08**	**282**	*e*P	P	**P**	**16 16 40.6**	**-0.1**
	13nm,1.7s							
VNDA	**Vanda**	**44.52**	**182**	P	P	**P**	**16 18 15.8**	**+0.1**
	0.6nm,0.5s,baz=177,slow=7.2,SNR=16							
VNDA	**Vanda**	**44.52**	**182**	*e*P	P	**P**	**16 18 15.7**	**0.0**
H10S2	**ASCENSION HYDR**	**49.83**	**15**	T	T		17 13 30.5	
	baz=188,slow=75,SNR=22							
H10S3	**ASCENSION HYDR**	**49.83**	**15**	T	T		17 13 30.8	
	baz=188,slow=75,SNR=15							
H10S1	**ASCENSION HYDR**	**49.84**	**15**	T	T		17 13 31.8	
	baz=188,slow=75,SNR=20							
H10N1	**ASCENSION HYDR**	**50.95**	**15**	T	T		17 14 54.7	
	baz=181,slow=72,SNR=6.0							
H10N3	**ASCENSION HYDR**	**50.95**	**15**	T	T		17 14 54.6	
	baz=181,slow=72,SNR=21							
H10N2	**ASCENSION HYDR**	**50.96**	**15**	T	T		17 14 56.0	
	baz=181,slow=72,SNR=9.0							
LPAZ	**La Paz**	**52.15**	**305**	P	P	**P**	**16 19 15.8**	**+0.1**
	0.6nm,0.4s,baz=192,slow=4.1,SNR=4.4							
LPAZ	**La Paz**	**52.15**	**305**	*e*P	P	**P**	**16 19 14.0**	**-1.8**
TORD	**Torodi Ar. Bea**	**74.56**	**28**	P	P	**P**	**16 21 42.5**	**-0.5**
	0.7nm,0.3s,baz=203,slow=5.8,SNR=13							
TOA1	**Torodi Ar. Sit**	**74.56**	**28**	*e*P	P	**P**	**16 21 42.5**	**-0.5**
ASAR	**Alice Springs**	**96.79**	**161**	P	P	**P**	**16 23 36.2**	**+1.3**
	0.2nm,0.7s,baz=187,slow=4.4,SNR=3.2							
YKA	**Yellowknife Ar**	**138.17**	**316**	PKP	**PKPdf**	**16 29 26.4**	**-0.8**	
	0.4nm,0.5s,baz=131,slow=1.9,SNR=6.2							
YKB5	**Yellowknife Ar**	**138.17**	**316**	*e*PKPdf	**PKPdf**	**16 29 26.4**	**-0.9**	
SONA0	**Songino Array**	**150.12**	**89**	*e*PKPbc	**PKPbc**	**16 29 54.9**	**+1.1**	
SONM	**Songino Array**	**150.12**	**89**	PKPbc	**PKPbc**	**16 29 54.9**	**+1.1**	
	0.5nm,0.6s,baz=170,slow=2.5,SNR=2.8							
NRIK	**Noril'sk**	**150.17**	**41**	PKPbc	**PKPbc**	**16 29 54.5**	**+1.4**	
	1.8nm,0.5s,baz=152,slow=6.3,SNR=3.9							
ILAR	**Eielson Array**	**151.99**	**309**	PKPbc	**PKPbc**	**16 29 56.3**	**-1.1**	
	1.4nm,0.9s,baz=144,slow=1.9,SNR=12							
ILB	**Eielson Array**	**151.99**	**309**	*e*PKPbc	**PKPbc**	**16 29 56.6**	**-0.9**	

*DDA **13** 16:14:53.0, 39°.05N×29°.66E, h7km, Ml2.9*
*ISK **13** 16:14:52.9, 39°.05N×29°.67E, h6km, ML2.3/5*
*ISCJB **13** 16:14:53.3±0.7, 39°.04N±0°.02×29°.67E±0°.04, h6km±5km, Error ellipse: s-maj=5.3km s-min=4.2km az=4.8*
ISC 13 16:14:53.4±1.0, 39°.04N±0°.03×29°.66E±0°.03, h13km±9km, n16, σ0$25/27, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GEDZ	**Gediz**	**0.20**	**272**	PG	P**g**	**Pg**	**16 14 57.9**	**0.0**
GEDZ				SG	S**g**	**Sg**	**16 15 01.1**	**+0.2**
TVSB	**Tavsanli**	**0.44**	**339**	PG	P**g**	**Pg**	**16 15 01.9**	**-0.3**
TVSB				SG	S**g**	**Sg**	**16 15 08.2**	**0.0**
SMAA	**Simav-Kutahya**	**0.53**	**277**	PG	P**g**	**Pb**	**16 15 04.4**	**-0.2**
SMAA				SG	S**g**	**Sb**	**16 15 11.9**	**-0.3**
KHAL	**Karahalli**	**0.68**	**191**	*i* P	P**g**	**Pg**	**16 15 06.3**	**-0.3**
KHAL				*i* S	S**g**	**Sg**	**16 15 15.8**	**+0.2**
DEMI	**Demirci**	**0.74**	**271**	*i* P	P**g**	**Pg**	**16 15 07.9**	**+0.1**
DEMI				*i* S	S**g**	**Sg**	**16 15 17.4**	**-0.1**
KZIL	**AFYON_Kizioren**	**0.86**	**154**	*i* P	P**g**	**Pg**	**16 15 10.0**	**-0.2**
KZIL				*i* S	S**g**	**Sb**	**16 15 22.3**	**+0.5**
KULA	**Kula-Manisa**	**0.94**	**237**	PG	P**g**	**Pg**	**16 15 11.3**	**-0.3**
KULA				SG	S**g**	**Sb**	**16 15 24.3**	**+0.4**
MANT	**Manisa**	**1.02**	**238**	*i* P	P**b**	**Pb**	**16 15 12.9**	**-0.1**
MANT				*i* S	S**b**	**Sb**	**16 15 26.5**	**+0.1**
BORA	**Eskisehir**	**1.04**	**36**	*i* P	P**b**	**Pb**	**16 15 12.9**	**-0.4**
BORA				*i* S	S**g**	**Sg**	**16 15 27.0**	**-0.1**
DURS	**Dursunbey**	**1.08**	**302**	*i* P	P**n**	**Pn**	**16 15 14.3**	**0.0**
DURS				*i* S	S**g**	**Sg**	**16 15 28.6**	**+0.3**
CAVI	**Cavuskoy**	**1.17**	**7**	PN	P**b**	**Pb**	**16 15 15.6**	**+0.1**
CAVI				SN	S**b**	**Sb**	**16 15 30.9**	**+0.3**
BALB	**Balikesir**	**1.51**	**294**	PN	P**b**	**Pb**	**16 15 21.1**	**-0.1**
GULT	**Gulveren**	**1.54**	**25**	PN	P**b**	**Pb**	**16 15 21.7**	**-0.1**
ARMT	**Armutlu**	**1.65**	**338**	PN	P**b**	**Pb**	**16 15 23.8**	**+0.2**
KIZT	**Kizilcal**	**1.74**	**94**	PN	P**b**	**Pb**	**16 15 25.3**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.77**	**232**	PN	P**b**	**Pb**	**16 15 25.5**	**-0.2**

*NEIC **13** 16:22:15.0±0.9, 39°.86N×63°.85E, h10km, mb4.2/1, Error ellipse: s-maj=20.7km s-min=6.3km az=162.0*
*IDC **13** 16:22:14.9±2.7, 40°.05N×63°.74E, h0km, mb3.8/4, mb1 3.8/8, mb1mx3.5/44, mbtmp3.8/8, ML3.4/4, Error ellipse: s-maj=48.6km s-min=17.6km az=143.0*
*NNC **13** 16:22:15.1±0.8, 40°.50N×63°.24E, h10km±5km, mb4.0, mpv3.6, Error ellipse: s-maj=4.6km s-min=2.6km az=148.0*
ISC 13 16:22:15.8±0.8, 40°.27N±0°.09×63°.62E±0°.06, h10km, n36, σ2$65/41, mb3.8/4, 13C-10D, Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GEYT	**Alibeck**	**4.88**	**243**	Pn	P**n**	**Pn**	**16 23 28.4**	**-0.8**
	3.3nm,0.3s,baz=73,slow=13,SNR=44							
GEYT					S**n**	**Sn**	**16 24 20.6**	**-5.1**
	11nm,0.3s,baz=112,slow=25,SNR=10.0							
GYA0B	**ALIBECK ARRAY**	**4.88**	**243**	⇓Pn	P**n**	**Pn**	**16 23 26.5**	**-2.7**
	20nm,0.4s							
GYA0B				⇑Sn	S**n**	**Sn**	**16 24 22.3**	**-3.4**
	28nm,0.3s							
GYA0B				⇓Lg	Lg	Lg	16 24 44.6	
	114nm,0.9s							
GYA0B	**ALIBECK ARRAY**	**4.88**	**243**	*e*Pn	P**n**	**Pn**	**16 23 28.1**	**-1.1**
KK31	**Karatay Array**	**5.88**	**59**	⇓Pn	P**n**	**Pn**	**16 23 45.2**	**+2.2**
	0.5nm,0.2s,baz=239,slow=16,SNR=30							
KK31					Pg	**Pg**	**16 24 04.6**	**-3.9**
	1.8nm,0.3s,baz=240,slow=18,SNR=6.2							
KK31				⇑Lg	Lg	Lg	16 25 25.8	
	22nm,0.6s,baz=250,slow=28,SNR=4.6							
KK31	**Karatay Array**	**5.88**	**59**	*e*Pn	P**n**	**Pn**	**16 23 45.4**	**+2.4**
KKAR	**Karatay Array**	**5.88**	**59**	*e*Pn	P**n**	**Pn**	**16 23 45.4**	**+2.3**
MNAS	**Manas**	**7.04**	**69**	⇓Pn	P**n**	**Pn**	**16 24 01.0**	**+2.0**
	2.1nm,0.8s							
MNAS				⇑Pg	P**g**	**Pg**	**16 24 27.1**	**-3.5**
	6.7nm,0.9s							
MNAS				⇓Sn	S**n**	**Sn**	**16 25 23.2**	**+4.0**
	7.2nm,0.7s							
MNAS				⇑Lg	Lg	Lg	16 26 04.3	
	20nm,0.7s							
SFK	**Sufi-Kurgan**	**7.58**	**89**	⇓Pn	P**n**	**Pn**	**16 24 09.7**	**+3.2**
	1.6nm,0.6s							
SFK				⇑Sn	S**n**	**Sn**	**16 25 40.3**	**+7.8**
	6.1nm,0.6s							
SFK				⇓Lg	Lg	Lg	16 26 24.7	
	14nm,0.6s							
AB31	**Akbulak array**	**9.35**	**345**	⇑Pn	P**n**	**Pn**	**16 24 25.5**	**-5.1**
	0.2nm,0.2s,baz=161,slow=13,SNR=6.4							
AB31				⇑Sn	S**n**	**Sn**	**16 26 08.7**	**-7.1**
	0.4nm,0.3s,baz=152,slow=27,SNR=3.1							
AB31				⇑Lg	Lg	Lg	16 27 03.3	
	8.4nm,0.9s							
ABKAR	**Akbulak array**	**9.35**	**345**	*e*Pn	P**n**	**Pn**	**16 24 28.3**	**-2.2**
NRN	**Naryn**	**9.46**	**79**	*e*Pn	P**n**	**Pn**	**16 24 34.6**	**+2.3**
OTUK	**Ortayu**	**10.12**	**35**	⇑Pn	P**n**	**Pn**	**16 24 41.3**	**+0.1**
	4.3nm,0.4s							
OTUK				⇓Sn	S**n**	**Sn**	**16 26 33.2**	**-1.6**
	2.8nm,0.6s							
OTUK				⇑Lg	Lg	Lg	16 27 35.4	
	15nm,1.3s							
AKTO	**Aktyubinsk**	**10.90**	**341**	Pn	P**n**	**Pn**	**16 24 50.0**	**-1.7**
	0.3nm,0.3s,baz=164,slow=6.7,SNR=5.2							
AKTO					Sn	Sn	16 26 42.8	-11
	0.3nm,0.3s,baz=154,slow=14,SNR=3.9							
AKTO	**Aktyubinsk**	**10.90**	**341**	⇓Pn	P**n**	**Pn**	**16 24 45.9**	**-5.8**
	3.5nm,1.2s							
AKTO				⇓Sn	S**n**	**Sn**	**16 26 47.5**	**-6.1**
	3.0nm,0.9s							
AKTO				⇑Lg	Lg	Lg	16 27 51.0	
	6.0nm,0.7s							
BVA0	**Borovoye Array**	**13.57**	**18**	Pn	P**n**	**Pn**	**16 25 26.1**	**-2.1**
	1.3nm,0.4s,baz=209,slow=13,SNR=15							
BVA0					Sn	**Sn**	**16 27 56.1**	**-2.8**
	1.2nm,0.7s,baz=337,slow=78,SNR=4.2							
BVAR	**Borovoye Array**	**13.57**	**18**	Pn	P**n**	**Pn**	**16 25 26.5**	**-1.7**
	0.4nm,0.3s,baz=215,slow=12,SNR=9.8							
BVAR					Sn	Sn	16 27 52.6	-6.4
	0.3nm,0.3s,baz=210,slow=20,SNR=3.8							
BRVK	**Borovoye**	**13.58**	**17**	⇑Pn	P**n**	**Pn**	**16 25 26.1**	**-2.2**
	6.6nm,1.4s							
BRVK				⇑Sn	S**n**	**Sn**	**16 27 57.3**	**-1.8**
	1.9nm,0.6s							
BRVK	**Borovoye**	**13.58**	**17**	*e*Pn	P**n**	**Pn**	**16 25 25.2**	**-3.1**
KURBB	**Kurchatov Arra**	**14.69**	**40**	Pn	P**n**	**Pn**	**16 25 40.8**	**-2.7**
	0.2nm,0.3s,baz=238,slow=13,SNR=3.4							
KURK	**Kurchatov**	**14.79**	**40**	*e*Pn	P**n**	**Pn**	**16 25 40.8**	**-4.1**
MK01	**Makanchi Array**	**15.01**	**58**	*e*Pn	P**n**	**Pn**	**16 25 47.0**	**-0.9**
MK31	**Makanchi Array**	**15.01**	**58**	*e*Pn	P**n**	**Pn**	**16 25 47.8**	**-0.1**
MK32	**Makanchi Array**	**15.01**	**58**	*e*Pn	P**n**	**Pn**	**16 25 47.8**	**-0.1**
MKAR	**Makanchi Array**	**15.01**	**58**	Pn	P**n**	**Pn**	**16 25 47.8**	**-0.1**
	0.3nm,0.3s,baz=250,slow=15,SNR=11							
MKAR	**Makanchi Array**	**15.01**	**58**	*e*Pn	P**n**	**Pn**	**16 25 47.6**	**-0.4**
AKH	**Akhalkalaki**	**15.28**	**281**	*e*Pn	P**n**	**Pn**	**16 25 54.9**	**+3.2**
	20nm,1.6s							
ZALV	**Zalesovo Beam**	**19.78**	**39**	P	P	**P**	**16 26 46.1**	**+0.2**
	0.2nm,0.3s,baz=241,slow=13,SNR=3.7							
ZAA1	**Zalesovo Array**	**19.78**	**39**	*e*P	P	**P**	**16 26 46.1**	**+0.2**
AKASG	**Malin Array Be**	**26.05**	**305**	P	P	**P**	**16 27 51.1**	**+2.0**
	0.4nm,0.4s,baz=102,slow=8.6,SNR=1.8							
FIA0	**FINESS Array S**	**31.11**	**325**	*e*P	P	**P**	**16 28 36.9**	**+2.8**
FINES	**FINESS Array B**	**31.11**	**325**	P	P	**P**	**16 28 36.9**	**+2.8**
	0.8nm,0.4s,baz=121,slow=10,SNR=6.7							
ARA0	**ARCESS Array S**	**35.47**	**338**	*e*P	P	**P**	**16 29 15.5**	**+3.6**
ARCES	**ARCESS Array B**	**35.47**	**338**	P	P	**P**	**16 29 15.5**	**+3.6**
	1.8nm,0.7s,baz=139,slow=8.4,SNR=3.8							
NB2	**NORSAR Subarra**	**37.85**	**321**	P	P	**P**	**16 29 35.1**	**+2.7**
	comp=Z,1.4nm,0.8s,baz=100,slow=8.6							
NB200	**NORSAR Array S**

ISC 13 16:56:03.0±1.2, 38°38N±0°.03×46°.51E±0°.02, h6km±10km, n46, σ1°75/75, 24C-11D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ITBZ	**Tabriz**	**0.32**	**243**	*e*Pg	**Pb**	**16 56 11.2**	**-0.1**
ITBZ				IAMB	IAmb	16 56 18.2	
	comp=E,12μm,0.2s						
ITBZ				IAMB	IAmb	16 56 18.3	
	comp=N,45μm,0.2s						
ITBZ				IAMB	IAmb	16 56 27.1	
	comp=Z,67μm,0.5s						
ORD	**Ordubad**	**0.68**	**324**	↑P	**Pg**	**16 56 16.3**	**+0.3**
ORD				↑S	**Sb**	**16 56 26.0**	**-1.0**
ISHB	**Shabestar**	**0.71**	**262**	*e*Pg	**Pb**	**16 56 18.4**	**+0.5**
ISHB				IAMB	IAmb	16 56 31.9	
	comp=N,43μm,0.2s						
ISHB				IAMB	IAmb	16 56 31.9	
	comp=Z,19μm,0.2s						
ISHB				IAMB	IAmb	16 56 41.0	
	comp=E,37μm,0.4s						
IAZR	**Azarshahr**	**0.82**	**211**	*e*Pg	**Pn**	**16 56 20.6**	**-0.7**
IAZR				IAMB	IAmb	16 56 35.8	
	comp=E,91μm,0.2s						
IAZR				IAMB	IAmb	16 56 38.3	
	comp=Z,38μm,0.4s						
IAZR				IAMB	IAmb	16 56 43.1	
	comp=N,94μm,0.4s						
ISRB	**Sarab**	**1.07**	**121**	*e*Pg	**Pg**	**16 56 23.0**	**-0.5**
ISRB				IAMB	IAmb	16 56 42.1	
	comp=E,20μm,0.4s						
ISRB				IAMB	IAmb	16 56 46.9	
	comp=Z,10μm,0.4s						
ISRB				IAMB	IAmb	16 56 48.3	
	comp=N,18μm,0.4s						
NAX	**Nakhchivan**	**1.12**	**315**	↑P	**Pn**	**16 56 25.1**	**-0.2**
	SNR=48						
NAX				↓S	**Sn**	**16 56 42.1**	**+1.0**
GRMI	**Germi**	**1.17**	**68**	*e*Pg	**Pb**	**16 56 23.9**	**-1.7**
SBZ	**Shahbuz**	**1.26**	**324**	↑P	**Pg**	**16 56 27.6**	**+0.4**
SBZ				↓S	**Sn**	**16 56 46.3**	**+1.7**
LRK	**Lerik**	**1.46**	**79**	P	**Pn**	**16 56 29.3**	**-0.7**
	SNR=72						
LRK				↑S	**Sg**	**16 56 50.8**	**+0.9**
GLBA	**Clilabad**	**1.70**	**59**	P	**Pb**	**16 56 34.7**	**0.0**
	SNR=75						
GLBA				↑S	**Sg**	**16 57 01.0**	**+3.2**
MAKU	**Maku**	**1.73**	**305**	*e*Pn	**Pb**	**16 56 35.3**	**+0.1**
ASTR	**Astara**	**1.80**	**84**	P	**Pb**	**16 56 35.8**	**-0.5**
	SNR=74						
ASTR				↑S	**Sg**	**16 57 02.4**	**+1.6**
LKRN	**Lenkeran, Azer**	**1.81**	**79**	P	**Pn**	**16 56 35.5**	**+0.9**
	SNR=52						
LKRN				↓S	**Sg**	**16 57 03.5**	**+2.4**
HYR	**Heyderabad**	**1.86**	**316**	↑P	**Pb**	**16 56 37.5**	**+0.1**
HYR				↑S	**Sg**	**16 57 03.8**	**+1.1**
BRDA	**Brd**	**1.95**	**15**	P	**Pg**	**16 56 40.4**	**+0.1**
	SNR=8.2						
ZRD	**Zardab**	**2.10**	**25**	P	**Pg**	**16 56 42.4**	**-0.9**
	SNR=6.7						
ZRD				↑S	**Sg**	**16 57 11.7**	**+1.2**
GANJ	**Ganja**	**2.27**	**356**	P	**Pb**	**16 56 43.3**	**-1.1**
	SNR=89						
GANJ				↑S	**Sb**	**16 57 13.0**	**+0.3**
KDMR	**Kurdemir**	**2.38**	**33**	P	**Pb**	**16 56 47.3**	**+1.1**
	SNR=5.4						
KDMR				↑S	**Sg**	**16 57 18.3**	**-1.0**
GDB	**GEDABAY**	**2.41**	**346**	P	**Pb**	**16 56 47.0**	**+0.2**
	SNR=17						
GDB				↑S	**Sg**	**16 57 21.3**	**+0.9**
MNGR	**Mingechevir, A**	**2.43**	**10**	↑P	**Pb**	**16 56 47.4**	**+0.3**
	SNR=10						
MNGR				↑S	**Sg**	**16 57 20.1**	**-1.0**
ZNJK	**Zanjan**	**2.43**	**134**	*e*Pn	**Pb**	**16 56 46.3**	**-1.0**
ALIB	**Äli-Bayra**	**2.50**	**50**	P	**Pb**	**16 56 48.7**	**+0.5**
	SNR=6.8						
ALIB				↓S	**Sg**	**16 57 28.4**	**+5.2**
IML	**Ismayilli**	**2.73**	**28**	↑P	**Pb**	**16 56 51.5**	**-0.8**
	SNR=7.4						
IML				↑S	**Sb**	**16 57 24.5**	**-1.6**
QBL	**Gabala**	**2.76**	**21**	↓P	**Pg**	**16 56 55.6**	**-0.2**
	SNR=4.7						
QBL				↓S	**Sg**	**16 57 29.2**	**-2.4**
QZX	**Qazax, Azerbai**	**2.81**	**342**	P	**Pb**	**16 56 54.7**	**+1.1**
	SNR=22						
QZX				↓S	**Sg**	**16 57 32.5**	**-0.9**
GBS	**Qobustan**	**2.86**	**40**	P	**Pb**	**16 56 53.8**	**-0.7**
	SNR=4.0						
GBS				↑S	**Sg**	**16 57 34.9**	**0.0**
SEKA	**Sheki**	**2.87**	**10**	P	**Pb**	**16 56 53.4**	**-1.3**
	SNR=12						
SEKA				↑S	**Sb**	**16 57 31.4**	**+1.2**
PQL	**Pirkuli**	**2.89**	**33**	P	**Pb**	**16 56 53.1**	**-2.0**
	SNR=27						
PQL				↓S	**Sb**	**16 57 30.4**	**-0.4**
XNQ	**Khinaliq**	**3.06**	**24**	P	**Pn**	**16 56 53.5**	**+1.5**
	SNR=26						
XNQ				↓S	**Sb**	**16 57 34.1**	**-1.5**
ATGJ	**Altiaghaj**	**3.11**	**36**	↑P	**Pb**	**16 56 56.5**	**-2.2**
	SNR=11						
ATGJ				↓S	**Sg**	**16 57 40.0**	**-2.8**
ZKTA	**Zakatala**	**3.25**	**1**	P	**Pb**	**16 57 00.6**	**-0.6**
	SNR=4.6						
ZKTA				↑S	**Sb**	**16 57 42.1**	**+1.0**
SIZA	**Siyzn**	**3.26**	**34**	P	**Pb**	**16 56 59.6**	**-1.7**
	SNR=9.0						
SIZA				↑S	**Sb**	**16 57 42.6**	**+1.3**
QUBA	**Quba, Azerbaij**	**3.34**	**27**	↓P	**Pb**	**16 57 00.9**	**-1.7**
	SNR=5.1						
QUBA				↑S	**Sb**	**16 57 41.5**	**-2.0**
SNGE	**Sanandaj**	**3.35**	**168**	*e*Pn	**Pb**	**16 57 00.7**	**-2.2**
QSAR	**Qusar**	**3.41**	**23**	P	**Pb**	**16 57 00.8**	**-3.0**
	SNR=14						
QSAR				↑S	**Sb**	**16 57 44.8**	**-0.7**
KZRT	**Kazreti**	**3.41**	**332**	P	**Pg**	**16 57 06.1**	**-2.3**
KZRT				S	**Sg**	**16 57 53.6**	**+1.0**
TBLG	**Delisi**	**3.61**	**338**	P	**Pg**	**16 57 09.7**	**-2.4**
TBLG				S	**Sn**	**16 57 38.1**	**-4.4**
SEAG	**Tbilisi Sea**	**3.62**	**339**	P	**Pb**	**16 57 08.8**	**+1.3**
SEAG				S	**Sg**	**16 57 58.6**	**-0.8**
QABG	**Abgarm-Qazvin**	**3.63**	**136**	*e*Pn	**Pn**	**16 57 03.2**	**+3.3**
QABG				IAMB	IAmb	16 58 06.5	
	comp=N,0.0nm,1.3s						
QABG				IAMB	IAmb	16 58 10.1	
	comp=Z,0.0nm,1.6s						
QABG				IAMB	IAmb	16 58 14.5	
	comp=E,0.0nm,1.1s						
BGD	**Bogdanovka**	**3.65**	**323**	P	**Pg**	**16 57 12.7**	**-0.3**
BGD				S	Sg	16 58 09.2	+9.0
IDHR	**Dehrash**	**3.67**	**182**	*e*Pn	**Pb**	**16 57 04.7**	**-3.8**
IDHR				IAMB	IAmb	16 58 14.2	
	comp=N,805nm,0.4s						
IDHR				IAMB	IAmb	16 58 18.1	
	comp=Z,668nm,0.8s						
AKH	**Akhalkalaki**	**3.81**	**323**	P	**Pg**	**16 57 16.8**	**+0.7**
AKH				S	Sg	16 58 15.2	+10
QALM	**Alamut, Qazvin**	**3.83**	**119**	*e*Pn	**Pn**	**16 57 06.7**	**+4.1**
QALM				IAMB	IAmb	16 58 12.0	
	comp=N,0.0nm,1.1s						
QALM				IAMB	IAmb	16 58 17.8	
	comp=Z,0.0nm,1.0s						
QALM				IAMB	IAmb	16 58 18.5	
	comp=E,0.0nm,1.1s						
DUS	**Dusheti**	**3.96**	**340**	P	**Pg**	**16 57 16.3**	**-2.5**
ONI	**Oni**	**4.81**	**332**	P	**Pb**	**16 57 29.4**	**+1.8**
ONI				S	**Sn**	**16 58 13.5**	**+1.5**
KRSH	**Karshahi**	**6.33**	**132**	IAMB	IAmb	16 59 33.9	
	comp=Z,0.0nm,1.1s						
KRSH				IAMB	IAmb	16 59 46.2	
	comp=N,0.0nm,0.9s						
KRSH				IAMB	IAmb	16 59 53.2	
	comp=E,0.0nm,0.9s						

UCR 13 17:15:02.6±1.0, 10°.29N×84°.60W, h4km±3km, MD3.9, ML3.6, 8C-10D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CASO	**Castillo**	**0.20**	**316**	↓*i*P	Pg	17 15 07.1	+0.7
ARE1	**Arenal 1**	**0.21**	**324**	↓*e*P	Pg	17 15 07.5	+0.8
ARE1				*e*S	Sg	17 15 11.9	+2.5
CEDE	**Laguna Cede˜–o**	**0.22**	**331**	↓*i*P	Pg	17 15 07.8	+0.9
SRA1	**San Ram˜‡n**	**0.24**	**151**	↓*e*P	Pg	17 15 08.2	+1.0
SRA1				*e*S	Sg	17 15 13.1	+2.8
JTS	**JuntasAbangare**	**0.35**	**270**	↑*e*P	Pg	17 15 10.1	+0.6
JTS				*e*S	Sg	17 15 15.5	+1.4
AMAS	**Alto Masis**	**0.50**	**309**	↑*i*P	Pg	17 15 12.8	+0.5
ACAL	**Aguas Claras**	**0.55**	**308**	↓*i*P	Pg	17 15 13.6	+0.4
HDC	**Heredia**	**0.56**	**121**	*e*P	Pg	17 15 13.9	+0.6
HDC				*e*S	Sb	17 15 22.4	-0.9
PTEN	**Parque Tenorio**	**0.57**	**317**	↓*i*P	Pg	17 15 14.2	+0.6
CUI	**Cuipilapa**	**0.67**	**303**	↓*i*P	Pg	17 15 15.8	+0.4
COLC	**Colonia**	**0.70**	**302**	↓*i*P	Pg	17 15 16.4	+0.3
COLC				*i*S	Sb	17 15 26.9	-0.6
HORNC	**Hornillas**	**0.71**	**306**	↓*i*P	Pg	17 15 16.4	+0.1
MESS	**Mesas**	**0.74**	**307**	*e*P	Pg	17 15 16.7	-0.1
LIM1	**Limonal**	**0.76**	**302**	↓*i*P	Pg	17 15 17.4	+0.2
LCR2	**La Lucha 2**	**0.80**	**133**	↑*e*P	Pg	17 15 17.8	-0.2
CVTR	**Volcan Turrial**	**0.87**	**108**	*e*P	Pg	17 15 19.7	+0.5
GPS2	**Hotel Rinc˜‡n**	**0.87**	**302**	↓*i*P	Pg	17 15 19.4	0.0
URSC	**Urasca**	**0.92**	**119**	*e*P	Pg	17 15 20.5	+0.2
BUEV	**Buena Vista**	**0.94**	**302**	*e*P	Pg	17 15 20.7	0.0
GB1A	**Borinquen Arri**	**0.95**	**304**	*e*P	Pg	17 15 21.0	+0.2
LAPC	**Finca la Perla**	**0.95**	**300**	↑*i*P	Pg	17 15 20.6	-0.2
GBS3	**Finca Las Im˜¡**	**0.97**	**300**	↑*i*P	Pg	17 15 21.1	-0.3
NY14	**Universidad de**	**0.99**	**291**	↑*i*P	Pg	17 15 21.7	+0.1
VCR	**Vista de Mar**	**1.03**	**261**	↑*e*P	Pg	17 15 22.3	-0.2
EDBA	**Buenos Aires**	**1.72**	**131**	*e*P	Pn	17 15 33.7	+0.3
ACON	**Acoyapa**	**1.76**	**341**	*e*P	Pn	17 15 33.5	-0.4
ACON				*e*S	Sb	17 15 58.0	+0.1
ACON				IAML		17 15 58.9	
	comp=E,770nm,0.5s						
ESPN	**Las Esperanzas**	**1.91**	**9**	*e*P	Pn	17 15 35.3	-0.7

MEX 13 17:21:19.1±0.4, 13°.90N×92°.98W, h15km±469km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.22**	**34**	*i*P	Pn	17 21 38.7	-2.9
THIG				*i*S	Sb	17 21 52.5	-5.0
PCIG		**1.81**	**353**	*e*P	Pn	17 21 46.4	-3.4
PCIG				*i*S	Sn	17 22 07.8	-4.8
CCIG	**Comitan**	**2.51**	**19**	*e*P	Pn	17 21 56.7	-2.8
CCIG				*e*S	Sn	17 22 25.8	-4.2
TGIG		**2.87**	**357**	*i*P	Pn	17 22 01.5	-2.9
TGIG				*e*S	Sn	17 22 34.6	-4.1

*ISCJB **13** 17:24:23.2±0.7, 5°.87S±0°.06×127°.92E±0°.09, h400km, mb3.5/2, Error ellipse: s-maj=12.8km s-min=7.5km az=19.0*
*IDC **13** 17:24:23.6±1.1, 5°.91S×127°.96E, h399km±14km, mb3.2/2, mb1 3.5/7, mb1mx3.1/38, mbtmp4.3/7, Error ellipse: s-maj=19.0km s-min=11.5km az=94.0*

ISC 13 17:24:23.8±0.9, 5°.83S±0°.08×127°.9E±0°.1, h400km, n7, σ3°22/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.94**	**34**	P	**Pn**	**17 25 57.4**	**+1.5**
	3.0nm,0.3s,baz=247,slow=11,SNR=21						
SIJI				S	**S**	**17 27 08.9**	**-1.9**
	2.5nm,0.3s,baz=218,slow=19,SNR=9.1						
BATI	**Baumata**	**6.07**	**224**	P	**Pn**	**17 25 57.3**	**+0.1**
	13nm,0.3s,baz=33,slow=4.0,SNR=18						
BATI				S	**S**	**17 27 10.3**	**-3.0**
	4.0nm,0.3s,baz=84,slow=5.4,SNR=6.6						
FITZ	**Fitzroy Crossi**	**12.40**	**190**	P	**Pn**	**17 27 08.2**	**-1.4**
	0.3nm,0.3s,baz=11,slow=10,SNR=7.3						
FITZ				S	**S**	**17 29 30.6**	**+7.0**
	0.0nm,0.3s,baz=99,slow=17,SNR=1.5						
WRA	**Warramunga Arr**	**15.35**	**157**	P	**P**	**17 27 40.8**	**+0.7**
	4.1nm,0.3s,baz=334,slow=11,SNR=398						
WRA				S	**S**	**17 30 20.6**	**-2.0**
	0.2nm,0.3s,baz=334,slow=21,SNR=6.4						
ASAR	**Alice Springs**	**18.64**	**163**	P	**P**	**17 28 15.6**	**+0.4**
	2.3nm,0.3s,baz=344,slow=11,SNR=346						
ASAR				S	**S**	**17 31 21.0**	**-4.7**
	baz=338,slow=17,SNR=2.5						
STKA	**Stephens Creek**	**28.89**	**155**	P	**P**	**17 29 48.5**	**+0.7**
	1.0nm,0.5s,baz=328,slow=9.5,SNR=4.4						
MKAR	**Makanchi Array**	**66.14**	**328**	P	**P**	**17 34 30.1**	**+0.3**
	0.5nm,0.4s,baz=124,slow=7.5,SNR=13						

IDC 13 17:29:38.2±5.7, 49°.86S×114°.39E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/27, mbtmp3.8/3, MS3.4/5, Ms1 3.4/5, ms1mx3.0/28, Error ellipse: s-maj=227.0km s-min=27.4km az=101.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**14.96**	**359**	T	T	17 48 35.3	
	baz=186,slow=74,SNR=25						
H01W1	**Cape Leeuwin H**	**14.96**	**359**	T	T	17 48 43.2	
	baz=186,slow=74,SNR=25						
H01W3	**Cape Leeuwin H**	**14.97**	**359**	T	T	17 48 44.3	
	baz=186,slow=74,SNR=26						
STKA	**Stephens Creek**	**27.09**	**59**	LR	LR	17 45 15.0	
	comp=Z,59nm,19.5s,baz=207,slow=35						
ASAR	**Alice Springs**	**30.28**	**37**	P	P	17 35 51.4	+0.4
	0.6nm,0.6s,baz=207,slow=7.9,SNR=13						
ASAR				LR	LR	17 47 18.9	
	comp=Z,63nm,19.9s,baz=239,slow=35						
MAW	**Mawson**	**30.85**	**216**	LR	LR	17 44 47.9	
	comp=Z,88nm,18.5s,baz=45,slow=30						
VNDA	**Vanda**	**32.94**	**163**	P	P	17 36 13.6	-0.1
	0.9nm,0.7s,baz=290,slow=8.3,SNR=7.7						
WRA	**Warramunga Arr**	**33.82**	**35**	P	P	17 36 21.5	-0.6
	1.6nm,0.8s,baz=204,slow=10,SNR=9.3						
LEM	**Lembang**	**43.27**	**350**	LR	LR	17 51 50.8	
	comp=Z,42nm,20.4s,baz=250,slow=31						
RAO	**Raoul Island**	**54.18**	**94**	LR	LR	17 57 52.7	
	comp=Z,43nm,19.4s,baz=341,slow=31						
TXAR	**Lajitas Array**	**144.74**	**111**	PKP	PKPdf	17 49 16.4	-0.3
	0.7nm,0.6s,baz=195,slow=6.0,SNR=7.1						

*IDC **13** 17:31:07.7±1.4, 35°.26N×28°.16E, h0km, mb3.7/4, mb1 3.6/5, mb1mx3.4/36, mbtmp3.6/5, ML2.9/1, Error ellipse: s-maj=113.8km s-min=22.2km az=140.0*
*ISK **13** 17:31:07.8, 35°.98N×27°.55E, h5km, ML3.6/11*
*ISCJB **13** 17:31:09.2±0.6, 35°.97N±0°.02×27°.48E±0°.02, h9km±4km, mb3.6/4, Error ellipse: s-maj=4.5km s-min=2.7km az=146.8*
*ATH **13** 17:31:09.4, 36°.00N×27°.48E, h32km±1km, ML3.3/11, Error ellipse: s-maj=1.6km s-min=0.9km az=10.0*
*THE **13** 17:31:09.8, 36°.02N×27°.50E, h2km±2km, ML3.3/5, Error ellipse: s-maj=2.2km s-min=0.8km az=64.0*
*DDA **13** 17:31:32.6, 35°.93N×27°.37E, h5km, Ml3.4*

ISC 13 17:31:08.9±1.1, 35°.98N±0°.02×27°.49E±0°.02, h5km±9km, n59, σ1°23/89, mb3.7/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.51**	**212**	PG	**Pg**	**17 31 19.1**	**+0.4**
KARP				SG	**Sb**	**17 31 28.3**	**+0.2**
KARP	**Karpathos**	**0.51**	**212**	P	**Pb**	**17 31 20.2**	**-0.2**
KARP				S	**Sb**	**17 31 29.4**	**+1.3**
KARP				AML	AML	17 31 30.0	
	comp=N,3911μm,0.7s						
KARP				AML	AML	17 31 32.3	
	comp=E,4527μm,0.2s						
KARP	**Karpathos**	**0.51**	**212**	P	**Pb**	**17 31 20.2**	**-0.2**
KARP				S	**Sb**	**17 31 29.6**	**+1.5**
ARG	**Arkhangelos**	**0.57**	**66**	PG	**Pg**	**17 31 18.8**	**-1.0**
ARG				SG	**Sg**	**17 31 27.3**	**+0.1**
ARG	**Arkhangelos**	**0.57**	**66**	P	**Pg**	**17 31 20.2**	**+0.4**
ARG				S	**Sb**	**17 31 29.2**	**-0.5**
ARG				AML	AML	17 31 29.6	
	comp=E,12324μm,0.6s						
ARG				AML	AML	17 31 31.7	
	comp=N,8929μm,0.4s						
ARG	**Arkhangelos**	**0.57**	**66**	P	**Pg**	**17 31 20.1**	**+0.3**
ARG				S	**Sb**	**17 31 28.8**	**-0.9**
NIS1	**Nisyros Isl.**	**0.67**	**338**	PG	**Pg**	**17 31 22.4**	**+0.6**
NIS1				SG	**Sb**	**17 31 32.8**	**+0.1**
NIS1	**Nisyros Isl.**	**0.67**	**338**	P	**Pg**	**17 31 22.7**	**+0.9**
NIS1				S	**Sb**	**17 31 32.7**	**+0.1**
NIS1				AML	AML	17 31 39.8	
	comp=E,12391μm,0.6s						
NIS1				AML	AML	17 31 45.4	
	comp=N,9437μm,0.6s						
NIS1	**Nisyros Isl.**	**0.67**	**338**	P	**Pg**	**17 31 22.4**	**+0.6**
NIS1				S	**Sb**	**17 31 32.9**	**+0.3**
NISR	**Nisiros**	**0.69**	**335**	P	**Pg**	**17 31 23.0**	**+0.7**
NISR				S	**Sb**	**17 31 33.7**	**+0.4**
NISR				AML	AML	17 31 37.2	
	comp=N,5121μm,0.6s						
NISR				AML	AML	17 31 37.3	
	comp=E,5861μm,0.5s						
DAT	**Datca**	**0.75**	**6**	PG	**Pg**	**17 31 23.5**	**+0.2**
DAT				SG	**Sb**	**17 31 35.2**	**+0.1**
DAT	**Datca**	**0.75**	**6**	*i*P	**Pg**	**17 31 23.6**	**+0.2**
DAT				*i*S	**Sb**	**17 31 36.2**	**+1.1**
DATC	**Datca-Mugla**	**0.79**	**10**	PG	**Pg**	**17 31 24.4**	**+0.4**
MRSB	**Marmaris-Mugla**	**0.93**	**38**	PG	**Pg**	**17 31 26.1**	**-0.7**
BODT	**Bodrum**	**1.09**	**352**	PN	**Pg**	**17 31 29.5**	**-0.3**
BODT	**Bodrum**	**1.09**	**352**	P	**Pg**	**17 31 29.3**	**-0.5**
BODT				S	**Sb**	**17 31 45.0**	**+0.3**
DALY	**Dalyan (Mu˜la**	**1.26**	**48**	PN	**Pg**	**17 31 32.5**	**-0.5**
DALY	**Dalyan (Mu˜la**	**1.26**	**48**	*i*P	**Pg**	**17 31 32.8**	**-0.2**
DALY				*i*S	**Sg**	**17 31 49.1**	**-0.1**
TURN	**Turunc**	**1.26**	**45**	PG	Pg	17 31 27.4	-5.8
TURN	**Turunc**	**1.26**	**45**	*i*P	Pg	17 31 27.6	-5.6
TURN				*i*S	**Sg**	**17 31 41.2**	**-8.3**
MLSB	**Milas**	**1.33**	**10**	PN	**Pn**	**17 31 34.4**	**+0.2**
ZKR	**Zakros**	**1.35**	**230**	P	**Pn**	**17 31 34.6**	**+0.2**
ZKR				AML	AML	17 31 58.6	
	comp=N,1033μm,0.7s						
ZKR				AML	AML	17 32 04.2	
	comp=E,1486μm,0.5s						
ZKR	**Zakros**	**1.35**	**230**	P	**Pb**	**17 31 35.2**	**+0.5**
ZKR				S	**Sn**	**17 31 53.8**	**+1.0**
STIA	**Sitia Lasithi**	**1.38**	**236**	P	**Pg**	**17 31 35.9**	**+0.5**
STIA				S	**Sg**	**17 31 53.9**	**+0.6**
ANAF	**Anafi Island**	**1.44**	**286**	P	**Pn**	**17 31 35.1**	**-0.6**
ANAF				S	**Sb**	**17 31 53.0**	**-1.9**
ANAF				AML	AML	17 32 00.6	
	comp=N,6527μm,0.5s						
ANAF				AML	AML	17 32 00.8	
	comp=E,6636μm,0.5s						
FETY	**Fethiye**	**1.44**	**63**	PN	**Pn**	**17 31 35.3**	**-0.4**
FETY	**Fethiye**	**1.44**	**63**	P	**Pn**	**17 31 35.5**	**-0.2**
FETY				S	**Sn**	**17 31 55.5**	**+0.4**
THR8	**Santorini-Mono**	**1.68**	**285**	P	**Pn**	**17 31 37.6**	**-1.3**
SANT	**Santorini**	**1.69**	**284**	PN	**Pn**	**17 31 40.1**	**+1.0**
NPS	**Neapolis**	**1.69**	**245**	P	**Pn**	**17 31 39.1**	**0.0**
NPS				S	**Sn**	**17 32 00.2**	**-0.9**
NPS				AML	AML	17 32 06.4	
	comp=E,2026μm,0.5s						
NPS				AML	AML	17 32 08.0	
	comp=N,1803μm,0.7s						
NPS	**Neapolis**	**1.69**	**245**	P	**Pn**	**17 31 39.6**	**+0.5**
NPS				S	**Sn**	**17 32 00.4**	**-0.7**
AYDN	**Tasoluk**	**1.70**	**10**	*i*P	**Pn**	**17 31 39.6**	**+0.3**
AYDN				*i*S	**Sg**	**17 32 05.8**	**+2.1**
KSL	**Kastellorizon**	**1.71**	**84**	P	**Pn**	**17 31 39.5**	**+0.2**
KSL				S	**Sn**	**17 32 01.4**	**-0.1**
KSL				AML	AML	17 32 11.6	
	comp=E,850μm,0.7s						
KSL				AML	AML	17 32 15.5	
	comp=N,601μm,0.8s						
AKAS	**Kas**	**1.73**	**81**	PN	**Pn**	**17 31 40.4**	**+0.6**
AKAS	**Kas**	**1.73**	**81**	*i*P	**Pb**	**17 31 41.6**	**+0.3**
AKAS				*i*S	**Sg**	**17 32 06.0**	**+1.4**
THR6	**Thira Island,**	**1.73**	**283**	P	**Pn**	**17 31 39.6**	**-0.1**
THR3	**Thira Island,**	**1.74**	**285**	P	**Pn**	**17 31 39.7**	**-0.1**
LAST	**Lasithi**	**1.83**	**244**	P	**Pn**	**17 31 41.0**	**+0.1**
LAST				S	**Sn**	**17 32 03.4**	**-1.3**
LAST				AML	AML	17 32 11.0	
	comp=N,605μm,0.5s						
LAST				AML	AML	17 32 16.2	
	comp=E,741μm,1.3s						
LAST	**Lasithi**	**1.83**	**244**	P	**Pn**	**17 31 42.0**	**+0.9**
TAVA	**DENIZLI_Tavas**	**1.87**	**37**	*i*P	**Pb**	**17 31 43.7**	**0.0**
TAVA				*i*S	**Sb**	**17 32 07.9**	**+0.5**
APE	**Apeiranthos**	**1.91**	**305**	PN	**Pn**	**17 31 43.4**	**+1.2**
APE	**Apeiranthos**	**1.91**	**305**	P	**Pn**	**17 31 41.6**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.99**	**9**	PN	**Pn**	**17 31 44.0**	**+0.7**
GOLH	**Golhisar**	**2.08**	**53**	*i*P	**Pb**	**17 31 47.4**	**+0.1**
GOLH				*i*S	**Sg**	**17 32 16.1**	**+0.2**
ELL	**Elmali**	**2.10**	**68**	PN	**Pn**	**17 31 44.9**	**+0.1**
DENT	**Denizli**	**2.16**	**35**	PN	**Pn**	**17 31 46.3**	**+0.7**
IDI	**Anoyia**	**2.23**	**253**	P	**Pn**	**17 31 46.4**	**-0.1**
IDI				S	**Sn**	**17 32 13.1**	**-1.4**
IDI				AML	AML	17 32 23.4	
	comp=E,372μm,0.4s						
IDI				AML	AML	17 32 25.0	
	comp=N,296μm,0.5s						
IDI	**Anoyia**	**2.23**	**253**	P	**Pn**	**17 31 46.4**	**-0.1**
SIVA	**Sivas**	**2.39**	**247**	P	**Pn**	**17 31 48.6**	**-0.1**
SIVA				S	**Sn**	**17 32 17.4**	**-0.9**
SIVA				AML	AML	17 32 32.5	
	comp=E,1029μm,0.5s						
SIVA				AML	AML	17 32 32.7	
	comp=N,693μm,0.6s						
URLA	**Izmir**	**2.48**	**344**	PN	**Pn**	**17 31 51.3**	**+1.3**
KORT	**Korkueli**	**2.52**	**65**	PN	**Pn**	**17 31 51.5**	**+0.8**
KORT	**Korkueli**	**2.52**	**65**	*i*P	**Pb**	**17 31 53.6**	**-1.1**
KORT				*i*S	**Sb**	**17 32 27.8**	**+1.7**
BRDR	**BURDUR-Merkez**	**2.68**	**50**	*i*P	**Pb**	**17 31 59.3**	**+1.8**
BRDR				*i*S	**Sb**	**17 32 30.3**	**-0.3**
KULA	**Kula-Manisa**	**2.69**	**20

ARNR	**Ardon**	**0.74**	**233**	*e*Pg	**Pn**	**17 51 22.5**	**-0.5**
ARNR				*e*Sg	**Sn**	**17 51 33.8**	**-1.2**
KORR	**Kora**	**0.92**	**234**	*e*Pg	**Pn**	**17 51 25.2**	**-0.4**
KORR				*e*Sg	**Sn**	**17 51 39.6**	**+0.2**
LSNR	**Lesken**	**0.99**	**250**	*e*Pg	**Pn**	**17 51 26.5**	**+0.1**
LSNR				*e*Sg	**Sn**	**17 51 42.0**	**+0.9**
LACR	**Lac**	**0.99**	**216**	*e*Pg	**Pb**	**17 51 25.0**	**-0.4**
LACR				*e*Sg	**Sn**	**17 51 40.8**	**-0.5**
DVE	**Vedeno**	**1.01**	**131**	*e*Pg	**Pn**	**17 51 27.1**	**+0.3**
DVE				*e*Sg	**Sn**	**17 51 42.7**	**+1.0**
NCK	**Nalchik**	**1.09**	**264**	*e*Pg	**Pg**	**17 51 25.2**	**-1.2**
ZEI	**Tsey**	**1.21**	**226**	*e*Pg	**Pb**	**17 51 28.9**	**-0.3**
ZEI				*e*Sg	**Sb**	**17 51 45.8**	**+0.4**
KBTC	**Kuba-Taba**	**1.23**	**279**	*e*Pg	**Pn**	**17 51 30.1**	**+0.2**
KBTC				*e*Sg	**Sn**	**17 51 47.8**	**+0.6**
BTLR	**Botlikh**	**1.27**	**139**	*e*Pg	**Pn**	**17 51 30.3**	**-0.1**
BTLR				*e*Sg	**Sn**	**17 51 48.1**	**0.0**
DIGR	**Digorskoe uzhe**	**1.32**	**237**	*e*Pg	**Pg**	**17 51 30.8**	**0.0**
DIGR				*e*Sg	**Sb**	**17 51 48.8**	**+0.2**
PYA1	**Pyatigorsk**	**1.51**	**287**	*e*Pg	**Pn**	**17 51 33.8**	**+0.2**
PYA1				*e*Sg	**Sn**	**17 51 54.1**	**+0.2**
ONI	**Oni**	**1.59**	**230**	P	**Pg**	**17 51 35.7**	**-0.1**
ONI				S	**Sg**	**17 51 56.8**	**+0.5**
ONI	**Oni**	**1.59**	**230**	*e*Pg	**Pg**	**17 51 35.7**	**-0.1**
ONI				*e*Sg	**Sg**	**17 51 56.8**	**+0.5**
XNZR	**Khunzakh**	**1.61**	**132**	*e*Pg	**Pg**	**17 51 36.6**	**+0.5**
XNZR				*e*Sg	**Sg**	**17 51 57.5**	**+0.5**
KIV0	**Kislovodsk Arr**	**1.77**	**281**	*e*Pg	**Pn**	**17 51 36.5**	**-0.7**
KIV0				*e*Sg	**Sn**	**17 52 00.5**	**+0.1**
NEY	**Neytrino**	**1.77**	**258**	*e*Pg	**Pb**	**17 51 38.1**	**-0.6**
NEY				*e*Sg	**Sb**	**17 52 01.4**	**0.0**
SHA1	**Shidzhatmaz**	**1.77**	**274**	*e*Pg	**Pn**	**17 51 36.8**	**-0.6**
SHA1				*e*Sg	**Sn**	**17 52 00.9**	**+0.3**
KIV	**Kislovodsk**	**1.77**	**281**	*e*Pg	**Pn**	**17 51 36.4**	**-0.9**
GNI	**Garni**	**3.49**	**184**	*e*Pn	**Pn**	**17 52 02.0**	**+1.1**

NIED ***13*** *17:58:00,36.˚70N×141.˚10E,h5km,Mw3.8 Best double couple: M0 6.54000×10^14 NP1:φs 332.00000°, δ46.00000°, λ -170.00000°. NP2:φs 235.00000°, δ83.00000°, λ -44.00000°.*

ISCJB ***13*** *17:58:52.4±1.0,36.˚64N±0.˚03×141.˚25E±0.˚05,h2km±5km, mb3.7/7, Error ellipse: s-maj=7.2km s-min=4.2km az=14.3*

IDC ***13*** *17:58:53.5±1.3,36.˚59N×141.˚31E,h0km,mb3.7/7, mb1 3.8/10,mb1mx3.6/43,mbtmp3.8/10,ML3.4/3,MS2.8/4, Ms1 2.8/4,ms1mx2.5/54, Error ellipse: s-maj=30.1km s-min=16.3km az=78.0*

JMA ***13*** *17:58:54.8±0.1,36.˚66N×141.˚12E,h16km±1km,M4.2*

JMA Felt I J1.

ISC 13 17:58:54.7±1.7, 36˚67'N±0˚03'×141˚13'E±0˚06, h2km±10km, n28, σ1§34/33, mb3.7/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.46**	**263**	P	**Pg**	**17 59 03.4**	**0.0**
JHO				S	**Sg**	**17 59 10.1**	**+0.8**
ONAJ	**Iwakimizuishiy**	**0.51**	**328**	P	**Pg**	**17 59 04.9**	**+0.5**
ONAJ				S	**Sg**	**17 59 12.4**	**+1.4**
JHYU	**Hitachinakayam**	**0.55**	**233**	P	**Pg**	**17 59 05.4**	**+0.3**
JHYU				S	**Sg**	**17 59 13.2**	**+1.0**
JFFD	**Fukushimafurud**	**0.62**	**313**	P	**Pg**	**17 59 06.6**	**0.0**
JFFD				S	**Sg**	**17 59 15.3**	**+0.7**
JFK	**Kawauchi**	**0.72**	**344**	P	**Pg**	**17 59 08.0**	**0.0**
JFK				S	**Sg**	**17 59 18.5**	**+0.5**
JYT	**Yasato**	**0.87**	**240**	P	**Pg**	**17 59 10.6**	**-0.8**
JYT				S	**Sg**	**17 59 22.8**	**+0.1**
JSB	**Shiboa**	**1.01**	**287**	P	**Pg**	**17 59 14.1**	**0.0**
JSB				S	**Sg**	**17 59 28.3**	**+1.0**
JFT	**Otama**	**1.06**	**323**	P	**Pg**	**17 59 14.5**	**-0.4**
JFT				S	**Sg**	**17 59 28.8**	**+0.1**
JMM	**Marumori**	**1.22**	**347**	P	**Pn**	**17 59 16.4**	**-2.4**
JMM				*e*S	**Sg**	**17 59 32.6**	**-1.4**
MJAR	**Matsushiro Arr** 13nm,0.3s,baz=86,slow=15,SNR=67	**2.35**	**268**	Pn	**Pn**	**17 59 33.8**	**-0.5**
MJAR				Sn	**Sb**	**18 00 05.8**	**-1.5**
	42nm,0.3s,baz=93,slow=26,SNR=10						
MJAR				LR	LR	18 00 41.3	
	comp=Z,181nm,19.8s,baz=80,slow=44						
MAT	**Matsushiro**	**2.35**	**268**	P	**Pn**	**17 59 33.8**	**-0.6**
MAT				S	**Sb**	**18 00 05.8**	**-1.6**
JHJ	**Hachijo jima 2** 11nm,0.3s,baz=80,slow=18,SNR=4.7	**3.71**	**198**	Pn	**Pn**	**17 59 53.5**	**+0.5**
JHJ				Sn	**Sn**	**18 00 37.3**	**0.0**
	16nm,0.3s,baz=73,slow=19,SNR=4.4						
ASAJ	**Asahikawa** 0.5nm,0.3s,baz=219,slow=16,SNR=7.2	**7.52**	**8**	Pn	**Pn**	**18 00 44.0**	**-1.4**
ASAJ				Sn	**Sn**	**18 02 14.7**	**+3.5**
	0.2nm,0.3s,baz=330,slow=20,SNR=2.0						
ASAJ				LR	LR	18 04 16.6	
	comp=Z,44nm,21.0s,baz=198,slow=43						
JNU	**Nakatsue** comp=Z,54nm,18.9s,baz=118,slow=43	**9.13**	**250**	LR	LR	18 05 28.5	
KSRS	**Korea Array** comp=Z,56nm,19.1s,baz=134,slow=35	**10.59**	**278**	LR	LR	18 05 11.5	
SONM	**Songino Array** 0.6nm,0.8s,baz=94,slow=7.6,SNR=2.9	**27.80**	**305**	P	**P**	**18 04 47.3**	**+2.1**
H11N2	**WAKE ISLAND Hy 28.16** baz=312,slow=75,SNR=231	**120**		T	T	18 34 12.1	
H11N1	**WAKE ISLAND Hy 28.17** baz=312,slow=75,SNR=264	**120**		T	T	18 34 12.7	
H11N3	**WAKE ISLAND Hy 28.18** baz=312,slow=75,SNR=231	**120**		T	T	18 34 15.1	
H11S1	**WAKE ISLAND Hy 28.86** baz=314,slow=75,SNR=429	**122**		T	T	18 35 05.6	
H11S3	**WAKE ISLAND Hy 28.86** baz=314,slow=75,SNR=417	**122**		T	T	18 35 07.0	
H11S2	**WAKE ISLAND Hy 28.87** baz=314,slow=75,SNR=460	**122**		T	T	18 35 08.5	
ZALV	**Zalesovo Beam** 0.6nm,0.4s,baz=86,slow=4.8,SNR=3.6	**41.99**	**313**	P	**P**	**18 06 49.2**	**+2.2**
MKAR	**Makanchi Array** 0.6nm,0.8s,baz=84,slow=9.3,SNR=3.5	**44.12**	**302**	P	**P**	**18 07 04.7**	**+0.3**
KURBB	**Kurchatov Arra** 1.6nm,0.7s,baz=84,slow=7.8,SNR=12	**46.05**	**308**	P	**P**	**18 07 18.0**	**-1.6**
BVAR	**Borovoye Array** 0.5nm,0.6s,baz=79,slow=11,SNR=3.2	**50.65**	**312**	P	**P**	**18 07 55.7**	**+0.6**
WRA	**Warramunga Arr** 1.0nm,0.6s,baz=4.3,slow=7.5,SNR=17	**56.67**	**188**	P	**P**	**18 08 37.7**	**-1.8**
ASAR	**Alice Springs** 0.7nm,0.8s,baz=24,slow=5.4,SNR=7.1	**60.40**	**188**	P	**P**	**18 09 04.1**	**-1.4**

ISCJB ***13*** *17:59:02.1±0.8, 13.˚7N±0.˚1×120.˚9E±0.˚2, h150km, mb3.3/6, Error ellipse: s-maj=32.6km s-min=15.8km az=152.3*

IDC ***13*** *17:59:03.2±0.7, 13.˚73N×120.˚85E,h146km±8km, mb3.1/6, mb1 3.2/6,mb1mx3.0/41,mbtmp3.5/6,MS3.2/1,Ms1 3.2/1, ms1mx2.4/17, Error ellipse: s-maj=49.7km s-min=14.7km az=60.0*

ISC 13 17:59:03.5±1.1, 13˚7'N±0˚2×120˚9'E±0˚3, h150km, n8, σ0§54/8, mb3.2/6, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City** 141nm,0.3s,baz=162,slow=8.5,SNR=9.6	**0.37**	**9**	P	**Pn**	**17 59 25.0**	**+0.7**
TGY				S	**Sn**	**17 59 40.2**	**-0.1**
	106nm,0.3s,baz=337,slow=20,SNR=5.6						
CMAR	**Chiang Mai Arr** 0.4nm,0.6s,baz=90,slow=8.2,SNR=6.0	**21.59**	**285**	P	**P**	**18 03 41.6**	**0.0**
JCJ	**Chichijima** comp=Z,58nm,20.3s,baz=237,slow=34	**23.94**	**53**	LR	LR	18 12 35.1	
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=331,slow=10.0,SNR=9.3	**35.99**	**158**	P	**P**	**18 05 49.7**	**-0.5**
ASAR	**Alice Springs** 0.2nm,0.5s,baz=339,slow=7.2,SNR=9.9	**39.29**	**161**	P	**P**	**18 06 18.1**	**+0.2**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=118,slow=7.6,SNR=6.1	**46.11**	**324**	P	**P**	**18 07 12.7**	**+0.1**
ZALV	**Zalesovo Beam** 0.8nm,0.4s,baz=125,slow=5.7,SNR=2.8	**49.11**	**333**	P	**P**	**18 07 34.7**	**-0.9**
KURBB	**Kurchatov Arra** 1.3nm,0.5s,baz=128,slow=8.3,SNR=7.1	**50.326**		P	**P**	**18 07 44.3**	**0.0**

ISCJB ***13*** *18:12:52.9±0.3,7.˚57N±0.˚04×94.˚35E±0.˚05,h24km, mb4.3/23,MS3.4/1,Error ellipse: s-maj=8.6km s-min=3.7km az=140.0*

IDC ***13*** *18:12:56.3±5.4,7.˚53N×94.˚20E,h37km±46km, mb3.6/10, mb1 3.7/12,mb1mx3.5/42,mbtmp3.8/12,ML4.0/2,MS3.3/2, Ms1 3.4/2,ms1mx2.8/46,Error ellipse: s-maj=46.7km s-min=16.1km az=57.0*

NEIC ***13*** *18:12:57.6±0.6,7.˚54N×94.˚36E,h53km±6km,mb4.6/13, Error ellipse: s-maj=9.0km s-min=4.5km az=61.0*

KLM ***13*** *18:13:10.0,6.˚55N×95.˚00E,h53km,mb4.4*

ISC 13 18:12:55.2±0.5, 7˚65'N±0˚07'×94˚42'E±0˚07, h24km, n72, σ1§67/71, mb4.4/23, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.48**	**134**	*e*Pn	**Pn**	**18 13 49.4**	**+1.6**
LHMI				*e*Sn	**Sn**	**18 14 29.1**	**+0.8**
PBA	**Port Blair**	**4.31**	**338**	*e*Pn	Pn	18 14 02.5	+3.1
PSI	**Prapat** 1.9nm,0.3s,baz=360,slow=11,SNR=5.5	**6.58**	**137**	Pn	**Pn**	**18 14 32.2**	**+1.5**
PSI				Sn	**Sn**	**18 15 48.7**	**+3.7**
	1.2nm,0.3s,baz=0.0,slow=15,SNR=2.8						
PSI	**Prapat**	**6.58**	**137**	*e*Pn	**Pn**	**18 14 31.8**	**+1.2**
PSI				Sn	**Sn**	**18 15 48.7**	**+3.7**
KULM	**Kulim**	**6.62**	**110**	*e*Pn	**Pn**	**18 14 31.7**	**+0.6**
KULM				*e*Sn	**Sn**	**18 15 45.9**	**+0.1**
KULM	**Kulim**	**6.62**	**110**	P	**Pn**	**18 14 30.0**	**-1.1**
GSI	**Gunungsitoli**	**7.04**	**153**	*e*Pn	**Pn**	**18 14 37.4**	**+0.5**
IPM	**Ipoh**	**7.28**	**115**	*e*Pn	**Pn**	**18 14 40.1**	**-0.2**
IPM				*e*Sn	**Sn**	**18 15 59.5**	**-2.8**
BKNI	**Bangkinang**	**9.82**	**137**	*e*Pn	**Pn**	**18 15 15.2**	**+0.1**
PBKT	**Sadao Pong**	**10.94**	**35**	*e*Pn	**Pn**	**18 15 33.3**	**+3.0**
MYKOM	**Kota Tinggi**	**11.05**	**121**	*e*Pn	**Pn**	**18 15 32.6**	**+0.7**
MYKOM	**Kota Tinggi**	**11.05**	**121**	P	**Pn**	**18 15 32.0**	**+0.1**
CM01	**Chiang Mai Arr**	**11.58**	**22**	*e*Pn	**Pn**	**18 15 43.4**	**+4.2**
CM31	**Chiang Mai Arr**	**11.61**	**22**	*e*Pn	**Pn**	**18 15 44.2**	**+4.6**
CMAR	**Chiang Mai Arr** 0.4nm,0.3s,baz=212,slow=14,SNR=15	**11.61**	**22**	Pn	**Pn**	**18 15 42.6**	**+3.0**
CMAR				LR	LR	18 20 14.3	
	comp=Z,94nm,18.7s,baz=214,slow=37						
CHTO	**Chiang Mai**	**11.94**	**21**	*e*Pn	**Pn**	**18 15 47.9**	**+3.8**
PALK	**Pallekele** 0.4nm,0.3s,baz=116,slow=12,SNR=2.9	**13.61**	**269**	Sn	Sn	18 18 20.4	-17
PALK	**Pallekele**	**13.61**	**269**	*e*Pn	**Pn**	**18 16 07.6**	**+0.7**
PALK				Sn	Sn	18 18 20.4	-17
HYB	**Hyderabad**	**18.27**	**304**	*i* P	**P**	**18 17 08.0**	**+0.7**
RAMN	**Ramite** 29nm,0.7s	**20.58**	**340**	*e*P	**P**	**18 17 33.0**	**+0.2**
JIRN	**Jiri**	**21.38**	**340**	*e*P	**P**	**18 17 40.8**	**-0.7**
PKI	**Pulchoki** 12nm,0.6s	**21.58**	**338**	*e*P	**P**	**18 17 43.9**	**+0.3**
PKIN	**Phulchoki** 11nm,0.6s	**21.59**	**338**	*e*P	**P**	**18 17 43.5**	**-0.2**
GUN	**Gunba** 12nm,0.5s	**21.71**	**339**	*e*P	**P**	**18 17 43.9**	**-1.2**
DMN	**Daman** 25nm,0.8s	**21.73**	**337**	*e*P	**P**	**18 17 45.0**	**-0.2**
KKN	**Kakani** 15nm,0.8s	**21.82**	**338**	*e*P	**P**	**18 17 45.3**	**-0.9**
LSA	**Lhasa**	**22.15**	**352**	*e*P	**P**	**18 17 48.3**	**-1.6**
UGM	**Wanagama** 1µm,2.0s	**22.29**	**134**	*e*P	**P**	**18 17 47.7**	**-3.3**
KOLN	**Kolaknda** 9.8nm,0.6s	**22.48**	**334**	*e*P	**P**	**18 17 52.6**	**-0.6**
DANN	**Dangsing** 18nm,0.6s	**22.92**	**335**	*e*P	**P**	**18 17 57.1**	**-0.9**
PYUN	**Piuthan** 20nm,0.8s	**23.04**	**333**	*e*P	**P**	**18 17 58.9**	**-0.1**
CD2	**Chengdu**	**24.74**	**19**	*e*P	**P**	**18 18 15.0**	**0.0**
H08S3	**Diego Garcia H** baz=55,slow=76,SNR=92	**26.62**	**236**	T	T	18 45 14.5	
H08S2	**Diego Garcia H** baz=55,slow=76,SNR=117	**26.62**	**236**	T	T	18 45 14.6	
H08S1	**Diego Carcia H** baz=55,slow=76,SNR=115	**26.64**	**236**	T	T	18 45 12.4	
WMQ	**Urumqi**	**36.51**	**352**	*e*P	**P**	**18 19 59.5**	**+0.7**
WMQ				LR	LR		
	comp=E,740nm,39.1s						
WMQ				LR	LR		
	comp=Z,330nm,28.1s						
MK01	**Makanchi Array**	**40.34**	**347**	*e*P	**P**	**18 20 30.1**	**-0.9**
MK31	**Makanchi Array**	**40.37**	**347**	*e*P	**P**	**18 20 30.1**	**-1.1**
MK32	**Makanchi Array**	**40.37**	**347**	*e*P	**P**	**18 20 30.5**	**-0.7**
MKAR	**Makanchi Array** comp=Z,1.7nm,0.8s,baz=166,slow=8.2,SNR=12	**40.37**	**347**	P	**P**	**18 20 30.5**	**-0.7**
MKAR	**Makanchi Array** comp=Z,14nm,0.9s	**40.37**	**347**	*e*P	**P**	**18 20 29.9**	**-1.3**
SONA0	**Songino Array**	**41.32**	**12**	*e*P	**P**	**18 20 39.7**	**+0.5**
SONM	**Songino Array** comp=Z,0.5nm,0.6s,baz=189,slow=8.5,SNR=4.6	**41.32**	**12**	P	**P**	**18 20 39.7**	**+0.5**
JNU	**Nakatsue**	**42.19**	**48**	*e*P	**P**	**18 20 44.8**	**-1.5**
GEYT	**Alibeck** comp=Z,0.9nm,0.6s,baz=122,slow=17,SNR=4.1	**44.55**	**318**	P	**P**	**18 21 04.5**	**-0.9**
GYA0B	**ALIBECK ARRAY** comp=Z,5.4nm,1.0s	**44.55**	**318**	*e*P	**P**	**18 21 05.0**	**-0.3**
TLY	**Talaya** comp=Z,17nm,1.3s	**44.55**	**8**	*e*P	**P**	**18 21 04.3**	**-0.8**
KURK	**Kurchatov** comp=Z,15nm,1.8s	**44.90**	**346**	*e*P	**P**	**18 21 07.3**	**-0.6**
NWAO	**Narrogin (SRO)** comp=Z,59nm,1.5s	**45.82**	**153**	*e*P	**P**	**18 21 13.6**	**-1.8**
ZAA0	**Zalesovo Array** comp=Z,3.3nm,0.9s	**46.82**	**352**	*e*P	**P**	**18 21 22.9**	**-0.1**
ZALV	**Zalesovo Beam** comp=Z,1.6nm,0.3s,baz=181,slow=7.0,SNR=7.6	**46.82**	**352**	P	**P**	**18 21 23.1**	**+0.2**
ZALV	**Zalesovo Beam**	**46.82**	**352**	*e*P	**P**	**18 21 22.8**	**-0.1**
ZAA1	**Zalesovo Array**	**46.82**	**352**	*e*P	**P**	**18 21 23.1**	**+0.1**
WR1	**Warramunga Arr** comp=Z,28nm,2.0s	**47.91**	**126**	*e*P	**P**	**18 21 32.2**	**+0.2**
WRA	**Warramunga Arr** comp=Z,0.5nm,0.8s,baz=306,slow=8.4,SNR=10.0	**47.91**	**126**	P	**P**	**18 21 32.2**	**+0.2**
WRAB	**Tennant Creek** comp=Z,7.5nm,1.1s	**47.91**	**126**	*e*P	**P**	**18 21 32.5**	**+0.5**
WB2	**Warramunga Arr** comp=Z,25nm,1.9s	**47.91**	**126**	*e*P	**P**	**18 21 31.4**	**-0.6**
WC3	**Warramunga Arr** comp=Z,9.1nm,1.3s	**47.94**	**126**	*e*P	**P**	**18 21 32.2**	**0.0**
RAYN	**Ar Rayn** comp=Z,18nm,1.8s	**49.43**	**294**	*e*P	**P**	**18 21 43.8**	**+0.1**
AS31	**Alice Springs** comp=Z,1.1nm,1.3s	**49.56**	**130**	*e*P	**P**	**18 21 44.4**	**-0.3**
ASAR	**Alice Springs** comp=Z,0.3nm,0.7s,baz=302,slow=7.5,SNR=10	**49.56**	**130**	P	**P**	**18 21 44.3**	**-0.4**
AS01	**Alice Springs**	**49.59**	**130**	*e*P	**P**	**18 21 45.5**	**+0.6**
AKTO	**Aktyubinsk** comp=Z,32nm,18.1s,baz=322,slow=37	**52.28**	**331**	LR	LR	18 45 18.8	
BR101	**Keskin Array S**	**62.79**	**311**	*e*P	**P**	**18 23 17.4**	**-1.7**
BRTR	**Keskin Array B** comp=Z,0.2nm,0.4s,baz=110,slow=7.8,SNR=3.6	**62.79**	**311**	P	**P**	**18 23 17.4**	**-1.7**
TIXI	**Tiksi** comp=Z,6.0nm,1.2s	**67.40**	**11**	*e*P	**P**	**18 23 47.8**	**-0.5**
FIA0	**FINESS Array S**	**73.04**	**332**	*e*P	**P**	**18 24 21.8**	**-1.2**
FINES	**FINESS Array B** comp=Z,3.3nm,0.9s,baz=108,slow=4.2,SNR=5.8	**73.04**	**332**	P	**P**	**18 24 21.7**	**-1.2**
GERES	**GERESS Array B** comp=Z,0.4nm,0.5s,baz=91,slow=5.3,SNR=4.2	**78.18**	**318**	P	**P**	**18 24 52.5**	**-0.4**
CLL	**Collm**	**78.71**	**321**	*e*pP	**pP**	**18 25 09.0**	**+5.6**
CLL				LmV		19 13 00.0	
	comp=Z,200nm,18.9s						
NB200	**NORSAR Array S**	**80.06**	**331**	*e*P	**P**	**18 25 02.1**	**-0.8**
NOA	**NORSAR Array B** comp=Z,1.2nm,1.0s,baz=94,slow=5.5,SNR=2.8	**80.06**	**331**	P	**P**	**18 25 02.1**	**-0.8**

ISCJB ***13*** *18:25:26.0±0.7,45.˚22N±0.˚07×106.˚8W±0.˚1, h0km, Error ellipse: s-maj=12.2km s-min=6.8km az=41.0*

NEIC ***13*** *18:25:26.7±0.7,45.˚19N×106.˚84W, h0km, ML2.9, Error ellipse: s-maj=12.5km s-min=8.3km az=139.0, Suspected Mining explosion.*

NEIC 44 km [28 miles] NNE of Sheridan.

IDC ***13*** *18:25:26.4±1.4,44.˚46N×106.˚13W, h0km, mb1 3.5/3, mb1mx3.3/59,mbtmp3.2/3,ML3.1/3, Error ellipse: s-maj=95.6km s-min=8.4km az=142.0*

ISC 13 18:25:23.3±0.9, 45˚01'N±0˚06'×106˚85'W±0˚05, h0km, n13, σ1§56/13, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLMT	**Red Lodge**	**1.72**	**275**	*e*Pn	**Pg**	**18 25 56.0**	**-0.2**
LAO	**LASA Array**	**1.73**	**14**	*e*Pn	**Pb**	**18 25 55.6**	**-0.4**
RSSD	**Black Hills**	**2.20**	**113**	*e*Pn	**Pg**	**18 26 05.5**	**+0.2**
LKWY	**Lake**	**2.57**	**261**	*e*Pn	**Pg**	**18 26 12.1**	**-0.4**
BW06	**Boulder Array**	**2.98**	**222**	*e*Pn	**Pb**	**18 26 16.4**	**-0.9**
PDAR	**Pinedale Array** 2.9nm,0.3s,baz=61,slow=17,SNR=35	**2.98**	**222**	Pn	**Pb**	**18 26 17.6**	**+0.3**
PDAR				Sn	**Sg**	**18 26 57.2**	**-1.7**
	3.4nm,0.3s,baz=47,slow=33,SNR=11						
EGMT	**Eagleton**	**3.62**	**327**	*e*Pn	**Pn**	**18 26 21.8**	**+1.1**
AHID	**Auburn Hatcher**	**3.81**	**235**	*e*Pn	Pn	18 26 17.6	-5.8
DGMT	**Dagmar**	**3.91**	**27**	*e*Pn	**Pn**	**18 26 26.5**	**+1.9**
HWUT	**Hardware Ranch**	**4.84**	**227**	*e*Pn	**Pb**	**18 26 49.1**	**+0.1**

I10CA	**LAC DU BONNET** baz=234,slow=326,SNR=6.0	**8.96**	**51**	*i*		19 16 50.0	
ULM	**Lac du Bonnet** 0.7nm,0.3s,baz=230,slow=11,SNR=13	**9.07**	**51**	Pn	**Pn**	**18 27 36.6**	**+1.2**
ULM				Sn	**Sn**	**18 29 14.8**	**-3.3**
	0.2nm,0.3s,baz=156,slow=20,SNR=2.0						
ULM				Lg	Lg	18 30 03.6	
	0.2nm,0.3s,baz=302,slow=18,SNR=3.0						
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=65,slow=14,SNR=1.9	**10.79**	**236**	Pn	Pn	18 28 08.6	+9.4
NVAR				Sn	**Sn**	**18 30 02.4**	**+1.7**
	0.3nm,0.3s,baz=356,slow=20,SNR=4.7						

DDA ***13*** *18:25:50.0,36.˚49N×28.˚27E, h9km, Ml3.8*

ISK ***13*** *18:25:49.4,36.˚53N×28.˚24E, h8km, ML4.0/13*

ATH ***13*** *18:25:49.7,36.˚51N×28.˚27E, h27km, ML3.7/8, Error ellipse: s-maj=1.6km s-min=1.0km az=209.0*

THE ***13*** *18:25:49.9,36.˚51N×28.˚32E, h0km±1km, ML3.7/5, Error ellipse: s-maj=2.0km s-min=1.2km az=350.0*

ISCJB ***13*** *18:25:49.7±0.4,36.˚50N±0.˚02×28.˚25E±0.˚02, h9km±3km, mb3.8/10,MS3.1/5, Error ellipse: s-maj=3.4km s-min=2.4km az=174.3*

NIC ***13*** *18:25:50.1±0.3,36.˚70N×28.˚22E, h17km, mb4.2, ML3.8*

IDC ***13*** *18:25:53.7±1.3,36.˚42N×28.˚32E, h41km±15km, mb3.7/10, mb1 3.7/15,mb1mx3.5/56,mbtmp3.8/15,ML3.5/4,MS3.1/12, Ms1 3.1/12,ms1mx2.9/52, Error ellipse: s-maj=15.4km s-min=8.5km az=158.0*

HLW ***13*** *18:25:55.9,35.˚94N×28.˚42E, h0km±5km, Md3.9*

ISC 13 18:25:49.4±1.1, 36˚51'N±0˚02'×28˚28'E±0˚02, h4km±7km, n113, σ1§40/140, mb3.9/10, MS3.1/5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSB	**Marmaris-Mugla**	**0.22**	**342**	PG	**Pg**	**18 25 53.8**	**+0.1**
MRSB				SG	**Sg**	**18 25 57.0**	**+0.4**
ARG	**Arkhangelos**	**0.32**	**204**	PG	**Pg**	**18 25 56.1**	**+0.6**
ARG	**Arkhangelos**	**0.32**	**204**	P	**Pg**	**18 25 56.7**	**+1.1**
ARG				S	**Sb**	**18 26 02.9**	**-0.2**
ARG				AML	AML	18 26 03.5	
	comp=E,54748µm,0.5s						
ARG				AML	AML	18 26 04.1	
	comp=N,21322µm,0.3s						
ARG	**Arkhangelos**	**0.32**	**204**	P	**Pg**	**18 25 56.6**	**+1.1**
ARG				S	**Sb**	**18 26 02.4**	**-0.7**
DALY	**Dalyan (Mu¨la**	**0.43**	**44**	PG	**Pg**	**18 25 57.6**	**-0.1**
DALY				SG	**Sg**	**18 26 04.9**	**+1.6**
DALY	**Dalyan (Mu¨la**	**0.43**	**44**	*i* P	**Pg**	**18 25 58.6**	**+0.9**
DALY				*i* S	**Sg**	**18 26 05.0**	**+1.6**
TURN	**Turunc**	**0.45**	**35**	PG	**Pg**	**18 25 54.7**	**-3.3**
TURN				SG	**Sg**	**18 25 58.7**	**-5.2**
TURN	**Turunc**	**0.45**	**35**	*i* P	**Pg**	**18 25 54.9**	**-3.2**
TURN				*i* S	**Sg**	**18 26 00.1**	**-3.8**
DATC	**Datca-Mugla**	**0.56**	**297**	PG	**Pg**	**18 26 00.6**	**-0.4**
DAT	**Datca**	**0.61**	**292**	PG	**Pg**	**18 26 01.1**	**0.0**
DAT	**Datca**	**0.61**	**292**	*i* P	**Pg**	**18 26 01.6**	**+0.5**
DAT				*i* S	**Sb**	**18 26 11.3**	**-0.4**
FETY	**Fethiye**	**0.66**	**79**	PG	**Pb**	**18 26 03.0**	**-0.5**
FETY	**Fethiye**	**0.66**	**79**	P	**Pg**	**18 26 02.0**	**-0.1**
FETY				S	**Sb**	**18 26 12.0**	**-1.0**
MLSB	**Milas**	**0.89**	**333**	PG	**Pg**	**18 26 06.6**	**+0.2**
NIS1	**Nisyros Isl.**	**0.89**	**276**	PG	**Pg**	**18 26 06.4**	**-0.2**
NIS1	**Nisyros Isl.**	**0.89**	**276**	P	**Pb**	**18 26 07.3**	**-0.3**
NIS1				S	**Sb**	**18 26 20.0**	**+0.2**
NIS1				AML	AML	18 26 26.9	
	comp=N,27819µm,0.6s						
NIS1				AML	AML	18 26 28.0	
	comp=E,21571µm,0.9s						
NIS1	**Nisyros Isl.**	**0.89**	**276**	P	**Pb**	**18 26 07.6**	**+0.1**
NIS1				S	**Sn**	**18 26 23.1**	**+0.9**
NISR	**Nisiros**	**0.94**	**277**	P	**Pb**	**18 26 08.2**	**+0.1**
NISR				S	**Sb**	**18 26 20.7**	**-0.2**
NISR	**Nisiros**	**0.94**	**277**	P	**Pb**	**18 26 08.6**	**+0.4**
BODT	**Bodrum**	**0.96**	**306**	PG	**Pg**	**18 26 07.8**	**0.0**
BODT	**Bodrum**	**0.96**	**306**	P	**Pg**	**18 26 07.7**	**0.0**
TAVA	**DENIZLI_Tavas**	**1.08**	**28**	*i* P	**Pb**	**18 26 11.1**	**+0.3**
TAVA				*i* S	**Sn**	**18 26 29.4**	**+2.4**
AKAS	**Kas**	**1.10**	**104**	PN	**Pn**	**18 26 12.3**	**+0.5**
AKAS	**Kas**	**1.10**	**104**	*i* P	**Pn**	**18

IDI				S		**Sn**	**18 27 14.0**	**-0.5**
	comp=N,5.6nm,0.3s,baz=69,slow=10,SNR=6.8							
TVSB	**Tavsanli**	**3.08**	**17**	PN		**Pn**	**18 26 39.6**	**+0.6**
BALB	**Balikesir**	**3.14**	**354**	PN		**Pn**	**18 26 39.9**	**+0.2**
PRK	**Paraskevi**	**3.16**	**330**	P		**Pn**	**18 26 40.1**	**+0.1**
PRK				AML		AML	18 27 41.3	
	comp=E,1223μm,0.8s							
PRK				AML		AML	18 27 45.1	
	comp=N,643μm,1.2s							
PRK	**Paraskevi**	**3.16**	**330**	P		**Pn**	**18 26 40.0**	**+0.1**
GAZI	**Gazipasa**	**3.27**	**94**	*i* P		**Pb**	**18 26 45.7**	**-2.3**
GAZI				*i* S		**Sb**	**18 27 24.8**	**-3.3**
SIGR	**SIGRI**	**3.31**	**325**	PN		**Pn**	**18 26 42.3**	**+0.3**
SIGR	**SIGRI**	**3.31**	**325**	P		**Pn**	**18 26 41.9**	**-0.1**
KONT	**Konya--Tatoy**	**3.56**	**65**	*i* P		**Pn**	**18 26 48.8**	**+3.4**
IMMV	**Iera Moni Meta**	**3.64**	**255**	P		**Pn**	**18 26 46.5**	**-0.1**
PPCY	**Paphos**	**3.68**	**115**	P		**Pn**	**18 26 47.9**	**+0.8**
	baz=299							
ALFC	**Alefka**	**3.76**	**110**	P		**Pn**	**18 26 48.9**	**+0.7**
	baz=294							
ALFC				S		**Sn**	**18 27 34.2**	**+1.3**
GVD	**Gavdhos**	**3.80**	**245**	P		**Pn**	**18 26 50.4**	**+1.7**
SZAC	**Souni**	**4.13**	**114**	P		**Pn**	**18 26 53.6**	**+0.2**
	baz=298							
SZAC				S		**Sn**	**18 27 44.0**	**+1.8**
DID	**Didima**	**4.16**	**285**	P		**Pn**	**18 26 54.3**	**+0.6**
LIA	**Limnos Island**	**4.17**	**325**	P		**Pn**	**18 26 54.2**	**+0.3**
VLI	**Veliai**	**4.30**	**274**	P		**Pn**	**18 26 56.8**	**+1.1**
VLI	**Veliai**	**4.30**	**274**	P		**Pn**	**18 26 56.9**	**+1.2**
LTK	**Loutraki**	**4.50**	**291**	P		**Pn**	**18 26 59.3**	**+0.9**
ALN	**Alexandroupoli**	**4.72**	**339**	P		**Pn**	**18 27 01.2**	**-0.2**
BRTR	**Keskin Array B**	**5.31**	**51**	P		**Pn**	**18 27 11.7**	**+2.2**
	comp=N,1.1nm,0.3s,baz=226,slow=14,SNR=17							
BRTR				S		**Sn**	**18 28 13.2**	**+2.0**
	comp=N,0.6nm,0.3s,baz=218,slow=26,SNR=5.5							
MMAI	**Mount Meron Ar**	**6.82**	**119**	P		**Pn**	**18 27 29.8**	**-0.5**
	comp=N,6.6nm,0.3s,baz=306,slow=12,SNR=46							
MMAI				S		**Sn**	**18 28 45.1**	**-3.3**
	comp=N,3.2nm,0.3s,baz=297,slow=25,SNR=4.6							
MMAI				LR		LR	18 31 17.7	
	comp=N,62nm,20.9s,baz=245,slow=48							
ASF	**Jabal al Asfar**	**8.33**	**119**	P		**Pn**	**18 27 50.6**	**-0.5**
	comp=N,0.2nm,0.3s,baz=301,slow=12,SNR=2.7							
ASF				S		**Sn**	**18 29 28.0**	**+2.3**
	comp=N,0.3nm,0.3s,baz=307,slow=20,SNR=1.8							
MLR	**Muntele Rosu**	**9.15**	**350**	P		**Pn**	**18 28 04.4**	**+2.2**
	baz=158,slow=19,SNR=2.6							
MLR				LR		LR	18 32 12.6	
	comp=N,199nm,19.2s,baz=170,slow=41							
GNI	**Garni**	**13.42**	**69**	LR		LR	18 35 07.5	
	comp=N,107nm,20.2s,baz=254,slow=41							
VRAC	**Vranov**	**15.37**	**330**	LR		LR	18 36 14.5	
	comp=N,67nm,19.6s,baz=178,slow=40							
GERES	**GERESS Array B**	**16.30**	**324**	P		**P**	**18 29 44.6**	**+2.3**
	comp=N,0.1nm,0.3s,baz=124,slow=11,SNR=10.0							
GERES				LR		LR	18 36 42.2	
	comp=N,93nm,19.9s,baz=126,slow=40							
KHC	**Kasperske Hory**	**16.56**	**324**	*e*P		**P**	**18 29 46.9**	**+1.8**
KHC				*ex*		x	18 29 55.4	
DAVOX	**Davos/Dischmat**	**17.12**	**313**	LR		LR	18 37 36.0	
	comp=N,161nm,19.0s,baz=134,slow=41							
OBN	**Obninsk**	**19.46**	**14**	LR		LR	18 38 44.5	
	comp=N,19nm,20.7s,baz=328,slow=40							
FINES	**FINESS Array B**	**25.00**	**357**	P		**P**	**18 31 14.3**	**+0.3**
	comp=N,2.4nm,0.7s,baz=165,slow=10,SNR=9.7							
FINES				LR		LR	18 41 42.8	
	comp=N,95nm,18.6s,baz=220,slow=38							
HFS	**Hagfors**	**25.44**	**343**	P		**P**	**18 31 16.6**	**-1.4**
	comp=N,3.8nm,0.9s,baz=176,slow=12,SNR=2.9							
HFS				LR		LR	18 42 05.3	
	comp=N,68nm,21.3s,baz=150,slow=38							
NOA	**NORSAR Array B**	**26.84**	**342**	LR		LR	18 45 24.7	
	comp=N,13nm,18.6s,baz=255,slow=44							
MDT	**Midelt**	**27.23**	**272**	LR		LR	18 43 13.4	
	comp=N,40nm,20.3s,baz=81,slow=38							
TORD	**Torodi Ar. Bea**	**33.31**	**233**	P		**P**	**18 32 28.4**	**0.0**
	comp=N,0.5nm,0.4s,baz=28,slow=9.6,SNR=8.8							
KURBB	**Kurchatov Array**	**38.30**	**52**	P		**P**	**18 33 10.8**	**0.0**
	comp=N,0.7nm,0.5s,baz=272,slow=8.7,SNR=7.3							
BORG	**Borgarnes**	**40.62**	**330**	LR		LR	18 51 29.2	
	comp=N,57nm,18.1s,baz=107,slow=38							
MKAR	**Makanchi Array**	**40.91**	**58**	P		**P**	**18 33 33.1**	**+0.3**
	comp=N,0.8nm,0.7s,baz=264,slow=10,SNR=5.3							
SPITS	**Spitsbergen Ar**	**42.08**	**356**	P		**P**	**18 33 41.4**	**-0.5**
	comp=N,17nm,1.0s,baz=161,slow=9.2,SNR=3.7							
ZALV	**Zalesovo Beam**	**42.24**	**47**	P		**P**	**18 33 42.7**	**-0.8**
	comp=N,0.5nm,0.4s,baz=270,slow=9.4,SNR=2.6							
DBIC	**Dimbokro**	**42.40**	**234**	P		**P**	**18 33 44.7**	**-0.5**
	comp=N,0.8nm,0.4s,baz=27,slow=9.0,SNR=2.6							
WMQ	**Urumqi**	**45.13**	**62**	*e*P		**P**	**18 34 08.4**	**+1.4**
TIXI	**Tiksi**	**59.01**	**21**	P		**P**	**18 35 48.3**	**-1.5**
	comp=N,0.4nm,0.4s,baz=314,slow=11,SNR=9.2							
CMAR	**Chiang Mai Arr**	**63.92**	**86**	P		**P**	**18 36 22.0**	**-1.8**
	comp=N,0.9nm,0.8s,baz=310,slow=7.6,SNR=2.7							

ISCJB ***13*** *18:28:11.0±0.9, 22.°87N±0.°02×95.°87E±0.°02, h9km±5km, mb4.7/125, MS4.2/39, Error ellipse: s-maj=3.6km s-min=2.6km az=38.3*

IDC ***13*** *18:28:11.2±0.4, 22.°89N×95.°92E, h0km, mb4.4/34, mb1 4.5/35, mb1mx4.3/72, mbtmp4.4/35, ML4.7/1, MS4.1/30, Ms1 4.1/30, ms1mx4.0/45, Error ellipse: s-maj=13.5km s-min=9.4km az=54.0*

GCMT ***13*** *18:28:12.8±0.3, 22.°83N±0.°02×95.°98E±0.°02, h16km±1km, MW4.9/84, Moment Tensor Solution. s20,c20; s84,c126; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.07±.09; Mθθ=0.27±.08; Mϕϕ=-0.20±.07; Mrθ=1.44±.26; Mϕθ=2.33±.08; Mϕr=0.44±.22; Best double couple: M=0.75200×10^16 NP1:ϕs=93.00000°, δ85.00000°, λ30.00000°. NP2: ϕs=0.00000°, δ60.00000°, λ174.00000°. Principal axes: T 2.9970, Plg24.0000°, Azm321.0000°; N -0.4910, Plg59.0000°, Azm101.0000°; P -2.5070, Plg17.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***13*** *18:28:12.8±0.1, 22.°90N×95.°94E, h10km, mb5.0/77 Error ellipse: s-maj=4.7km s-min=3.0km az=56.0*

BJI ***13*** *18:28:13.9, 23.°02N×95.°89E, h21km, mb4.7/51, mB4.9/31, ML4.9/6, Ms4.9/64, Ms7 4.6/52*

MOS ***13*** *18:28:13.5±1.1, 22.°86N×95.°91E, h30km, mb4.9/40, MS4.2/5, Error ellipse: s-maj=8.7km s-min=4.5km az=116.1*

NDI ***13*** *18:28:14.2±2.7, 22.°89N×95.°87E, h10km, mb5.0, ML5.0, mb5.0(NEIC)*

ISC 13 18:28:14.4±0.6, 22.°92N±0.°03×95.°85E±0.°03, h18km±3km, h18km:pP-P,n300,σ1s70/338, mb4.8/125, MS4.1/41, 7C-5D, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SAIH	**SAIHA**	**2.68**	**261**	*e*P		**Pn**	**18 28 59.0**	**+2.2**
SAIH				*e*S		**Sn**	**18 29 30.7**	**+1.9**
KOHI	**KOHIMA**	**3.21**	**331**	*e*P		**Pn**	**18 29 05.1**	**+1.0**
KOHI				*e*S		**Sn**	**18 29 40.4**	**-1.5**
KOHI				AMP			18 29 55.6	
	comp=N,38μm,1.0s							
KOHI				AMP			18 29 57.6	
	comp=E,60μm,0.9s							
MOKO	**MOKOCHONG**	**3.59**	**341**	*e*P		**Pn**	**18 29 11.9**	**+2.5**
MOKO				*e*S		**Sn**	**18 29 53.3**	**+1.7**
BRDH	**Bariadhala**	**3.89**	**267**	Pn		**Pn**	**18 29 15.7**	**+2.4**
	comp=E,93nm,0.3s,baz=72,slow=15,SNR=4.1							
BRDH				Sn		**Sn**	**18 29 59.7**	**+1.1**
	baz=88,slow=19,SNR=5.9							
BELO	**BELONIA**	**4.07**	**275**	*e*P		**Pn**	**18 29 15.0**	**-0.8**
BELO				*e*S		**Sn**	**18 30 02.6**	**-0.3**
JORH	**JORHAT**	**4.07**	**339**	*e*P		**Pn**	**18 29 17.6**	**+1.7**
JORH				*e*S		**Sn**	**18 30 02.1**	**-0.9**
LKP	**Lekhapani**	**4.39**	**360**	*e*P		**Pn**	**18 29 22.1**	**+1.9**
LKP				*e*S		**Sn**	**18 30 10.3**	**-0.7**
LKP				AMP			18 30 43.5	
	comp=N,40μm,0.7s							
LKP				AMP			18 30 43.5	
	comp=E,30μm,1.2s							
SHL	**Shillong**	**4.48**	**307**	*e*Pn		**Pn**	**18 29 22.4**	**+0.8**
SHL				*e*Sn		**Sn**	**18 30 13.2**	**-0.1**
SHL	**Shillong**	**4.48**	**307**	*e*P		**Pn**	**18 29 22.4**	**+0.8**
SHL				*e*			18 30 13.2	
SHL	**Shillong**	**4.48**	**307**	*e*P		**Pn**	**18 29 22.6**	**+1.1**
SHL				*e*S		**Sn**	**18 30 14.1**	**+0.8**
TEZP	**TEZPUR**	**4.61**	**324**	*e*P		**Pn**	**18 29 22.9**	**-0.2**
TEZP				*e*S		**Sn**	**18 30 15.4**	**-0.9**
ITAN	**ITANAGAR**	**4.63**	**336**	*e*P		**Pn**	**18 29 24.1**	**+0.6**
ITAN				*e*S		**Sn**	**18 30 14.5**	**-2.3**
ITAN				IAML			18 31 03.1	
	comp=N,628nm,0.6s							
ZIRO	**ZIRO**	**4.93**	**339**	*e*P		**Pn**	**18 29 28.1**	**+0.3**
ZIRO				IAML			18 30 47.5	
	comp=E,2μm,0.7s							
ZIRO				IAML			18 30 54.7	
	comp=N,3μm,0.5s							
CHTO	**Chiang Mai**	**5.01**	**144**	*e*Pn		**Pn**	**18 29 26.3**	**-2.5**
CHTO				eLg		Lg	18 30 47.4	
CHTO	**Chiang Mai**	**5.01**	**144**	*e*P		**Pn**	**18 29 26.3**	**-2.5**
CHTO	**Chiang Mai**	**5.01**	**144**	P		**Pn**	**18 29 26.2**	**-2.5**
CMMT	**Chiang Mai**	**5.01**	**144**	P		**Pn**	**18 29 26.1**	**-2.7**
PAYA	**Payao**	**5.16**	**133**	P		**Pn**	**18 29 28.3**	**-2.6**
CM31	**Chiang Mai Arr**	**5.30**	**146**	*e*Pn		**Pn**	**18 29 30.6**	**-2.2**
CM31				*e*Lg		Lg	18 30 57.5	
CMAR	**Chiang Mai Arr**	**5.30**	**146**	Pn		**Pn**	**18 29 30.7**	**-2.1**
	comp=N,6.7nm,0.3s,baz=322,slow=13,SNR=263							
CMAR				Pg		**Pb**	**18 29 49.0**	**+2.3**
	comp=N,21nm,0.3s,baz=323,slow=17,SNR=54							
CMAR				Lg		Lg	18 30 58.1	
	comp=N,24nm,0.3s,baz=72,slow=14,SNR=7.0							
CM01	**Chiang Mai Arr**	**5.34**	**146**	*e*Pn		**Pn**	**18 29 30.6**	**-2.8**
CM01				*e*Lg		Lg	18 30 58.3	
LAMP	**Lampang**	**5.63**	**140**	P		**Pn**	**18 29 35.8**	**-1.5**
	comp=N,56nm,0.6s,comp=N,635nmcomp=N,0.7nm							
DHUB	**DHUBRI**	**6.16**	**301**	*e*P		**Pn**	**18 29 44.3**	**-0.3**
DHUB				*e*S		**Sn**	**18 30 52.4**	**-2.1**
DHUB				IAML			18 31 00.8	
	comp=E,256nm,0.8s							
DHUB				IAML			18 31 01.4	
	comp=N,352nm,0.6s							
SUKH	**Sukhothai**	**6.47**	**146**	P		**Pn**	**18 29 47.8**	**-1.1**
	comp=N,56nm,1.0s,comp=N,441nmcomp=N,0.6nm							
KMI	**Kunming**	**6.67**	**69**	⇓Pn		**Pn**	**18 29 55.4**	**+3.6**
KMI				Sg		**Sg**	**18 31 46.5**	**-2.1**
KMI				smax		smax		
	comp=N,1μm,1.2s							
KMI				smax		smax		
	comp=N,1μm,1.3s							
KMI				LR		LR		
	comp=N,19μm,10.4s							
KMI				LR		LR		
	comp=N,7μm,8.3s							
KMI				LR		LR		
	comp=N,7μm,8.7s							
UTTA	**Uttaradit**	**6.78**	**139**	P		**Pn**	**18 29 51.4**	**-1.7**
	comp=N,28nm,0.6s,comp=N,320nmcomp=N,0.4nm							
UMPA	**Umpang Tak**	**7.26**	**156**	P		**Pn**	**18 30 03.1**	**+3.4**
	comp=N,31nm,0.7s,comp=N,247nmcomp=N,0.6nm							
PBKT	**Sadao Pong**	**7.95**	**142**	*e*Pn		**Pn**	**18 30 07.0**	**-2.1**
PBKT	**Sadao Pong**	**7.95**	**142**	P		**Pn**	**18 30 08.1**	**-1.0**
	comp=N,35nm,0.5s,comp=N,1μmcomp=N,0.9nm							
LSA	**Lhasa**	**7.96**	**329**	P		**Pn**	**18 30 11.5**	**+1.8**
LSA				LR		LR		
	comp=N,3μm,13.3s							
LSA	**Lhasa**	**7.96**	**329**	*e*Pn		**Pn**	**18 30 11.3**	**+1.6**
LSA	**Lhasa**	**7.96**	**329**	*e*P		**Pn**	**18 30 11.3**	**+1.6**
UTHA	**Uthaitani**	**8.07**	**154**	P		**Pn**	**18 30 11.0**	**+0.1**
NONG	**Nongkai**	**8.37**	**124**	P		**Pn**	**18 30 18.3**	**+3.3**
CHAI	**Chaiyaphum**	**9.07**	**139**	P		**Pn**	**18 30 27.5**	**+3.0**
	comp=N,9.7nm,1.4s,comp=N,172nmcomp=N,0.1nm							
RAMN	**Ramite**	**9.30**	**297**	*e*Pn		**Pn**	**18 30 28.8**	**+0.9**
RAMN				*e*Sn		**Sn**	**18 32 10.8**	**-1.5**
	comp=N,439nm,0.9s							
SKNT	**Sakolnakorn**	**9.67**	**126**	P		**Pn**	**18 30 35.0**	**+2.3**
	comp=N,19nm,2.0s,comp=N,552nm							
BWNR	**Bhubaneshwar**	**9.70**	**256**	*e*P		**Pn**	**18 30 32.8**	**-0.4**
BWNR				*ex*		x	18 32 14.6	
JIRN	**Jiri**	**9.93**	**300**	*e*Pn		**Pn**	**18 30 37.8**	**+1.2**
JIRN				*e*Sn		**Sn**	**18 32 25.6**	**-2.3**
	comp=N,507nm,0.9s							
GUN	**Gumba**	**10.29**	**301**	*e*Pn		**Pn**	**18 30 41.7**	**+0.2**
GUN				*e*Sn		**Sn**	**18 32 34.8**	**-1.8**
	comp=N,490nm,0.8s							
GYA	**Guiyang**	**10.44**	**68**	P		**Pn**	**18 30 46.3**	**+2.8**
GYA				PP		**PnPn**	**18 30 54.3**	**+3.1**
GYA				S		**Sn**	**18 32 43.8**	**+3.6**
GYA				SS		**SnSn**	**18 32 56.5**	**+4.5**
GYA				pmax		pmax		
	comp=N,10.0nm,1.0s							
GYA				pmax		pmax		
	comp=N,110nm,4.2s							
GYA				LR		LR		
	comp=N,2μm,10.8s							
GYA				LR		LR		
	comp=N,1μm,10.6s							
GYA				LR		LR		
	comp=N,2μm,10.6s							
PKI	**Pulchoki**	**10.52**	**298**	*e*Pn		**Pn**	**18 30 45.0**	**+0.3**
PKIN	**Phulchoki**	**10.53**	**298**	*e*Pn		**Pn**	**18 30 45.1**	**+0.3**
PKIN				*e*Sn		**Sn**	**18 32 40.1**	**-2.4**
	comp=N,158nm,0.8s							
SRAK	**Srakaew**	**10.63**	**145**	P		Pn	18 30 52.4	+6.5
CD2	**Chengdu**	**10.63**	**40**	P		**Pn**	**18 30 48.0**	**+2.1**
CD2				S		**Sn**	**18 32 47.4**	**+2.8**
CD2				pmax		pmax		
	comp=N,60nm,0.9s							
CD2				pmax		pmax		
	comp=N,300nm,4.0s							
CD2				LR		LR		
	comp=N,7μm,10.9s							
CD2				LR		LR		
	comp=N,8μm,9.5s							
CD2				LR		LR		
	comp=N,8μm,10.7s							
KKN	**Kakani**	**10.71**	**299**	*e*Pn		**Pn**	**18 30 47.6**	**+0.3**
DMN	**Daman**	**10.78**	**298**	*e*Pn		**Pn**	**18 30 48.7**	**+0.5**
PATY	**Pattaya**	**11.03**	**154**	P		Pn	18 31 00.5	+9.1
GKN	**Gorkha**	**11.32**	**299**	*e*Pn		**Pn**	**18 30 56.2**	**+0.7**
PBA	**Port Blair**	**11.59**	**195**	*e*Pn		Pn	18 30 58.9	-0.1
KOLN	**Koldanda**	**12.08**	**296**	*e*Pn		**Pn**	**18 31 03.6**	**-2.3**
KOLN				*e*Sn		**Sn**	**18 33 15.1**	**-5.3**
	comp=N,70nm,0.6s							
DANN	**Dangsing**	**12.17**	**299**	*e*Pn		**Pn**	**18 31 06.3**	**-0.9**
DANN				*e*Sn		**Sn**	**18 33 19.1**	**-3.5**
	comp=N,224nm,1.1s							
PYUN	**Piuthan**	**12.70**	**297**	*e*Pn		**Pn**	**18 31 12.4**	**-2.0**
PYUN				*e*Sn		**Sn**	**18 33 29.7**	**-5.9**
	comp=N,137nm,0.8s							
QIZ	**Qiongzhong**	**13.63**	**104**	P		**Pn**	**18 31 25.4**	**-1.6**
QIZ				S		**Sn**	**18 33 57.0**	**-1.1**
QIZ				LR		LR		
	comp=N,6μm,11.2s							
QIZ				LR		LR		
	comp=N,2μm,11.2s							
QIZ				LR		LR		
	comp=N,2μm,12.4s							
ENH	**Enshi**	**14.22**	**56**	*e*Pn		**Pn**	**18 31 33.6**	**-1.4**
LZH	**Lanzhou**	**14.84**	**26**	⇓P		**Pn**	**18 31 44.3**	**+0.7**
LZH				pP		P	18 31 50.4	+1.1
LZH				sP			18 31 53.1	
LZH				PP		**PnPn**	**18 31 56.0**	**+4.3**
LZH				*e*S		**Sn**	**18 34 30.6**	**+2.9**
LZH				sS		S	18 34 38.1	-7.7
LZH				SS		**SnSn**	**18 34 48.3**	**+7.7**
LZH				LR		LR		
	comp=N,4μm,12.0s							
LZH				LR		LR		
	comp=N,6μm,11.4s							
LZH				LR		LR		
	comp=N,7μm,13.5s							
NGP	**Nagpur**	**15.68**	**267**	*e*P		**Pn**	**18 31 56.0**	**+1.5**
NGP				*ex*		x	18 34 40.5	
XAN	**Xi'an**	**15.95**	**43**	P		**Pn**	**18 31 55.8**	**-2.2**
XAN				pP		P	18 32 01.3	-0.2
XAN				S		**Sn**	**18 34 55.1**	**+0.7**
XAN				pmax		pmax		
	comp=N,72nm,1.4s							
XAN				LR		LR		
	comp=N,4μm,13.0s							
XAN				LR		LR		
	comp=N,2μm,11.8s							
XAN				LR		LR		
	comp=N,3μm,15.2s							
SKLT	**Songkhla**	**16.32**	**163**	P		**P**	**18 32 08.6**	**+2.9**
	comp=N,38nm,1.4s,comp=N,1μm							
GTA	**Gaotai**	**16.78**	**11**	⇓P		**Pn**	**18 32 07.1**	**-1.6**
GTA				pP		P	18 32 11.6	+0.8
GTA				sP		pP	18 32 15.8	0.0
GTA				S		**Sn**	**18 35 13.6**	**-1.1**
GTA				sS		S	18 35 23.3	-2.1
GTA				pmax		pmax		
	comp=N,77nm,5.7s							
GTA				LR		LR		
	comp=N,520nm,15.2s							
GTA				LR		LR		
	comp=N,4μm,15.2s							
GTA				LR		LR		
	comp=N,950nm,15.2s							
HYB	**Hyderabad**	**17.13**	**254**	*i* P		**P**	**18 32 17.0**	**+2.3**
LHMI	**Lhok Sumawe**	**17.62**	**176**	*e*Pn		**Pn**	**18 32 16.8**	**-2.3**
	comp=N,93nm,1.3s							
LHMI	**Lhok Sumawe**	**17.62**	**176**	P		**P**	**18 32 23.4**	**+3.3**
KULM	**Kulim**	**18.13**	**164**	*e*Pn		**Pn**	**18 32 24.9**	**-0.6**
	comp=N,31nm,1.2s							
WHN	**Wuhan**	**18.17**	**61**	⇑P		**P**	**18 32 26.5**	**+0.4**
WHN				LR		LR		
	comp=N,7μm,9.1s							
WHN				LR		LR		
	comp=N,4μm,9.7s							
WHN				LR		LR		
	comp=N,3μm,10.5s							
MLSI	**Meulaboh, Aceh**	**18.55**	**178**	P		**Pn**	**18 32 32.0**	**+1.4**
	comp=N,73nm,1.5s							
IPM	**Ipoh**	**19.00**	**164**	*e*P		**P**	**18 32 34.9**	**-0.5**
	comp=N,21nm,1.1s							
KCSI	**Kotacane, Aceh**	**19.38**	**174**	P		**Pn**	**18 32 41.1**	**+0.5**
	comp=N,48nm,1.3s,comp=N,1μm							
PSI	**Prapat**	**20.22**	**171**	P		**P**	**18 32 49.4**	**+0.6**
	comp=N,13nm,1.0s,baz=360,slow=5.5,SNR=11							
PSI	**Prapat**	**20.22**	**171**	*e*P		**P**	**18 32 48.8**	**+0.1**
	comp=N,64nm,1.4s							
PSI	**Prapat**	**20.22**	**171**	*e*P		**P**	**18 32 48.8**	**+0.1**
PSI				pmax		pmax		
	comp=Z,64nm,1.4s							
TIY	**Taiyuan**	**20.50**	**40**	*e*P		Pn	18 32 57.6	+3.8
TIY				S		**S**	**18 36 40.3**	**-0.1**
TIY				pmax		pmax		
	comp=Z,27nm,0.8s							
TIY				pmax		pmax		
	comp=Z,220nm,4.1s							
TIY				LR		LR		
	comp=Z,1μm,10.5s							
TIY				LR		LR		
	comp=Z,1μm,9.0s							
TIY				LR		LR		
	comp=Z,1μm,12.3s							
POO	**Poona**	**21.03**	**262**	⇓*i*P		**P**	**18 32 58.0**	**+0.6**
	comp=Z,139nm,2.0s							
PALK	**Pallekele**	**21.32**	**225**	P		**P**	**18 33 00.6**	**0.0**
	comp=Z,16nm,1.1s,baz=117,slow=8.8,SNR=2.6							
PALK	**Pallekele**	**21.32**	**225**	*e*P		**P**	**18 33 00.8**	**+0.3**
	comp=Z,39nm,1.3s							
WMQ	**Urumqi**	**21.91**	**344**	P		**P**	**18 33 07.3**	**+0.6**
WMQ				pP		sP	18 33 14.4	+0.3
WMQ				sP		pP	18 33 23.1	+11
WMQ				S		**S**	**18 37 05.6**	**-2.4**
WMQ				PcS		**PcS**	**18 40 44.0**	**0.0**
WMQ				pmax		pmax		
	comp=Z,82nm,1.3s							
WMQ				pmax		pmax		
	comp=Z,200nm,3.8s							
WMQ				LR		LR		
	comp=Z,2μm,21.1s							
WMQ				LR		LR		
	comp=Z,2μm,24.1s							
HHC	**Hu-ho-hao-te**	**22.24**	**33**	*e*P		**P**	**18 33 11.0**	**+0.6**
HHC				S		**S**	**18 37 11.5**	**-3.1**
HHC				pmax		pmax		
	comp=Z,23nm,0.9s							
HHC				pmax		pmax		
	comp=Z,410nm,4.0s							
HHC				LR		LR		
	comp=Z,1μm,9.2s							
HHC				LR		LR		
	comp=Z,1μm,10.1s							
HHC				LR		LR		
	comp=Z,1μm,10.0s							
NJ2	**Nanjing**	**22.31**	**61**	*e*P		**P**	**18 33 11.1**	**+0.1**
NJ2				pP		**sP**	**18 33 16.9**	**-1.6**
NJ2				S		**S**	**18 37 16.8**	**+1.1**
NJ2				sS		**sS**	**18 37 23.0**	**-1.1**
NJ2				pmax		pmax		
	comp=Z,320nm,3.5s							
NJ2				LR		LR		
	comp=Z,3μm,16.3s							
NJ2				LR		LR		
	comp=Z,2μm,10.8s							
NJ2				LR		LR		
	comp=Z,830nm,10.8s							
MYKOM	**Kota Tinggi**	**22.40**	**159**	*e*P		**P**	**18 33 11.4**	**-0.7**
	comp=Z,20nm,1.1s							
TIA	**Tai'an**	**22.69**	**50**	P		**P**	**18 33 15.8**	**+0.7**
TIA				pP		**pP**	**18 33 20.3**	**+0.1**
TIA				sP		**sP**	**18 33 23.4**	**+0.8**
TIA				S		**S**	**18 37 23.8**	**+1.1**
TIA				pmax		pmax		
	comp=Z,66nm,1.3s							
TIA				pmax		pmax		
	comp=Z,200nm,3.6s							
TIA				LR		LR		
	comp=Z,1μm,11.8s							
TIA				LR		LR		
	comp=Z,910nm,9.6s							
TIA				LR		LR		
	comp=Z,310nm,8.0s							
BKNI	**Bangkinang**	**23.02**	**167**	*e*P		**P**	**18 33 18.4**	**-0.2**
	comp=Z,82nm,1.3s							
TWG	**Pinlang**	**23.23**	**85**	*e*P		**P**	**18 33 17.8**	**-3.1**
	comp=Z,101nm,1.2s							
NACB	**Ninganchiao**	**23.63**	**82**	*e*P		**P**	**18 33 24.7**	**0.0**
KSH	**Kashi**	**23.64**	**319**	P		**P**	**18 33 25.1**	**+0.3**
KSH				pP		sP	18 33 31.1	-1.3
KSH				PP		**PnPn

KKM	**Kota Kinabalu**	**25.83**	**127**	*e*P		**P**	**18 33 45.6**	**+0.5**
	comp=Z,85nm,1.5s								
TKM2	**Tokmak 2**	**26.08**	**325**	P		**P**	**18 33 48.3**	**+1.0**
	SNR=11								
TKM2	**Tokmak 2**	**26.08**	**325**	P		**P**	**18 33 47.5**	**+0.2**
TKM2				pmax	pmax				
	comp=Z,82nm,1.2s								
KBL	**Kabul**	**26.12**	**302**	*e*P		**P**	**18 33 48.3**	**+0.6**
	comp=Z,18nm,0.8s								
MK01	**Makanchi Array**	**26.19**	**339**	*e*P		**P**	**18 33 47.8**	**-0.1**
MK31	**Makanchi Array**	**26.21**	**339**	*e*P		**P**	**18 33 48.6**	**+0.4**
MK31	**Makanchi Array**	**26.21**	**339**	*i* P		**P**	**18 33 46.1**	**-2.1**
MK31				pmax	pmax				
	comp=Z,10.0nm,0.7s								
MK32	**Makanchi Array**	**26.21**	**339**	*e*P		**P**	**18 33 48.4**	**+0.2**
MKAR	**Makanchi Array**	**26.21**	**339**	P		**P**	**18 33 48.3**	**+0.2**
	comp=Z,9.5nm,0.7s,baz=150,slow=8.0,SNR=34								
MKAR				LR	LR		18 45 34.4		
	comp=Z,355nm,19.0s,baz=151,slow=40								
MKAR	**Makanchi Array**	**26.21**	**339**	*e*P		**P**	**18 33 47.7**	**-0.5**
	comp=Z,75nm,0.8s								
MKAR	**Makanchi Array**	**26.21**	**339**	*e*P		**P**	**18 33 47.7**	**-0.5**
MKAR				pmax	pmax				
	comp=Z,75nm,0.8s								
SONA0	**Songino Array**	**26.25**	**16**	*e*P		**P**	**18 33 49.0**	**+0.3**
SONM	**Songino Array**	**26.25**	**16**	P		**P**	**18 33 49.0**	**+0.3**
	comp=Z,7.2nm,1.1s,baz=208,slow=7.3,SNR=29								
SONM				LR	LR		18 46 02.4		
	comp=Z,596nm,21.1s,baz=198,slow=41								
KBK	**Karagaybulak**	**26.26**	**323**	P		**P**	**18 33 50.6**	**+1.8**
	SNR=8.6								
SONA1	**Songino Array**	**26.27**	**16**	*e*P		**P**	**18 33 49.2**	**+0.4**
MNCI	**Minicoy**	**26.28**	**240**	*e*P		**P**	**18 33 50.2**	**+1.2**
	comp=Z,18nm,0.7s								
ULN	**Ulaanbaatar**	**26.45**	**17**	*e*P		**P**	**18 33 50.7**	**+0.2**
	comp=Z,28nm,1.5s								
ULN	**Ulaanbaatar**	**26.45**	**17**	*e*P		**P**	**18 33 50.7**	**+0.2**
ULN				pmax	pmax				
	comp=Z,28nm,1.5s								
AAK	**Ala-Archa**	**26.49**	**323**	P		**P**	**18 33 51.8**	**+0.9**
	comp=Z,25nm,1.0s,baz=139,slow=5.6,SNR=28								
AAK				LR	LR		18 46 03.7		
	comp=Z,290nm,20.4s,baz=78,slow=40								
AAK	**Ala-Archa**	**26.49**	**323**	P		**P**	**18 33 51.9**	**+0.9**
	SNR=16								
AAK	**Ala-Archa**	**26.49**	**323**	*e*P		**P**	**18 33 51.5**	**+0.5**
	comp=Z,37nm,1.1s								
AAK	**Ala-Archa**	**26.49**	**323**	*ce*P		**P**	**18 33 51.4**	**+0.5**
AAK				pmax	pmax				
	comp=Z,78nm,1.0s								
FRU1	**Bishkek**	**26.53**	**323**	*e*P		**P**	**18 33 52.2**	**+1.0**
	comp=Z,36nm,1.0s								
FRU1	**Bishkek**	**26.53**	**323**	*e*P		**P**	**18 33 52.2**	**+1.0**
FRU1				pmax	pmax				
	comp=Z,36nm,1.0s								
CHMS	**Chumysh**	**26.59**	**324**	P		**P**	**18 33 52.6**	**+0.9**
	SNR=7.5								
PPBI	**Pangkal Pinang**	**26.87**	**157**	P		**P**	**18 33 52.7**	**-1.7**
USP	**Ospenovka**	**26.91**	**324**	P		**P**	**18 33 55.5**	**+1.0**
	SNR=6.0								
EKS2	**Erkin-Say**	**26.91**	**322**	P		**P**	**18 33 56.3**	**+1.6**
	SNR=6.6								
PMBI	**Palembang**	**27.13**	**160**	P		**P**	**18 33 56.1**	**-0.5**
	comp=Z,158nm,0.8s,comp=Z,8µm								
MNAS	**Manas**	**27.53**	**321**	P		**P**	**18 33 59.9**	**-0.4**
MNAS				pmax	pmax				
	comp=Z,10.0nm,1.2s								
DGZ	**Jazzator, Alta**	**27.54**	**348**	*i* P		**P**	**18 33 58.5**	**-1.7**
DGZ				pmax	pmax				
	comp=Z,1.0nm,0.8s								
ZAK	**Zakamensk**	**28.02**	**10**	*e*P		P	18 33 57.8	-6.7
ZAK				pmax	pmax				
	comp=Z,10.0nm,1.4s								
MYLDM	**Lahad Datu**	**28.10**	**125**	*e*P		**P**	**18 34 05.2**	**-0.2**
	comp=Z,49nm,1.4s								
HVS	**Khovu-Aksy**	**28.21**	**357**	*i* P		**P**	**18 34 05.3**	**-0.9**
HVS				pmax	pmax				
	comp=Z,24nm,1.1s								
KK31	**Karatay Array**	**29.08**	**320**	*e*P		**P**	**18 34 13.3**	**-0.6**
KK31	**Karatay Array**	**29.08**	**320**	*e*P		**P**	**18 34 13.3**	**-0.6**
KKAR	**Karatay Array**	**29.08**	**320**	*e*P		**P**	**18 34 13.7**	**-0.2**
KKAR	**Karatay Array**	**29.08**	**320**	*e*P		**P**	**18 34 13.7**	**-0.2**
JOW	**Kunigami**	**29.63**	**76**	P		**P**	**18 34 17.8**	**-1.2**
	comp=Z,24nm,0.9s,baz=315,slow=5.7,SNR=2.2								
JOW				LR	LR		18 48 39.2		
	comp=Z,200nm,20.1s,baz=80,slow=42								
JOW	**Kunigami**	**29.63**	**76**	*e*P		**P**	**18 34 17.9**	**-1.1**
	comp=Z,44nm,1.2s								
KURBB	**Kurchatov Arra**	**30.78**	**338**	P		**P**	**18 34 28.5**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=149,slow=8.7,SNR=13								
KURBB				PcP		**PcP**	**18 37 24.1**	**-1.8**
	comp=Z,0.8nm,0.8s,baz=154,slow=2.6,SNR=2.8								
KURBB				ScP		**ScP**	**18 41 09.6**	**+1.8**
	comp=Z,0.9nm,0.9s,baz=164,slow=2.6,SNR=4.5								
KURK	**Kurchatov**	**30.82**	**338**	*e*P		**P**	**18 34 28.1**	**-1.1**
	comp=Z,3.4nm,0.6s								
KURK				*e*PcP		**PcP**	**18 37 24.1**	**-1.9**
KURK				*e*ScP		**ScP**	**18 41 09.6**	**+1.6**
KURK	**Kurchatov**	**30.82**	**338**	*e*P		**P**	**18 34 28.1**	**-1.1**
KURK				*e*			18 37 24.1		
KURK				*e*			18 41 09.6		
KURK				pmax	pmax				
	comp=Z,3.0nm,0.6s								
KS01	**Wonju Array Si**	**31.09**	**55**	*e*P		**P**	**18 34 30.1**	**-1.7**
KSRS	**Korea Array**	**31.11**	**55**	LR	LR	LR	18 46 44.9		
	comp=Z,229nm,18.8s,baz=250,slow=36								
OTUK	**Ortayu**	**31.44**	**329**	P		**P**	**18 34 33.9**	**-0.9**
OTUK				pmax	pmax				
	comp=Z,15nm,0.8s								
ZAA0	**Zalesovo Array**	**32.08**	**348**	*e*P		**P**	**18 34 38.8**	**-1.5**
	comp=Z,8.0nm,1.2s								
ZALV	**Zalesovo Beam**	**32.08**	**348**	P		**P**	**18 34 39.7**	**-0.5**
	comp=Z,5.3nm,1.0s,baz=172,slow=7.8,SNR=8.6								
ZALV				LR	LR		18 49 04.5		
	comp=Z,197nm,19.0s,baz=246,slow=39								
ZALV	**Zalesovo Beam**	**32.08**	**348**	*e*P		**P**	**18 34 39.0**	**-1.2**
ZALV	**Zalesovo Beam**	**32.08**	**348**	*e*P		**P**	**18 34 39.0**	**-1.2**
ZAA1	**Zalesovo Array**	**32.09**	**348**	*e*P		**P**	**18 34 39.7**	**-0.6**
HIA	**Hailar**	**32.35**	**30**	*e*P		**P**	**18 34 42.6**	**-0.1**
	comp=Z,11nm,1.1s								
HIA	**Hailar**	**32.35**	**30**	*e*P		**P**	**18 34 42.6**	**-0.1**
HIA				pmax	pmax				
	comp=Z,11nm,1.1s								
JNU	**Nakatsue**	**32.42**	**64**	LR		LR	18 49 17.2		
	comp=Z,457nm,18.9s,baz=290,slow=39								
CISI	**Cisompet, Garu**	**32.48**	**157**	*e*P		**P**	**18 34 42.7**	**-1.5**
	comp=Z,87nm,1.3s								
KPJI	**Karang Pucung**	**32.68**	**155**	P		**P**	**18 34 50.1**	**+4.3**
SMRI	**Semarang**	**33.03**	**153**	*e*P		**P**	**18 34 49.6**	**+0.7**
	comp=Z,33nm,0.7s								
NVS	**Novosibirsk**	**33.25**	**347**	*i* P		**P**	**18 34 50.7**	**+0.3**
APSI	**Ampana**	**34.53**	**130**	P		P	18 35 09.2	+7.2
COCO	**West Island**	**34.91**	**178**	*i* P		**P**	**18 35 09.6**	**+4.4**
MDJ	**Mudanjiang**	**35.06**	**44**	P		P	18 34 56.5	-10
MDJ				pmax	pmax				
	comp=Z,19nm,1.7s								
MDJ				pmax	pmax				
	comp=Z,310nm,3.7s								
LUWI	**Luwuk**	**35.42**	**129**	*e*P		**P**	**18 35 06.6**	**-3.1**
	comp=Z,65nm,1.1s								
LUWI	**Luwuk**	**35.42**	**129**	P		**P**	**18 35 12.0**	**+2.3**
SPSI	**Sidrap Palu**	**35.49**	**136**	P		**P**	**18 35 12.6**	**+2.3**
GEYT	**Alibeck**	**35.55**	**304**	P		**P**	**18 35 11.4**	**+0.8**
	comp=Z,3.0nm,0.9s,baz=106,slow=16,SNR=10								
GEYT				LR	LR		18 53 23.9		
	comp=Z,281nm,18.5s,baz=15,slow=42								
GYA0B	**ALIBECK ARRAY**	**35.55**	**304**	*e*P		**P**	**18 35 11.2**	**+0.6**
	comp=Z,19nm,1.4s								
BRVK	**Borovoye**	**35.83**	**334**	*e*P		**P**	**18 35 11.8**	**-1.0**
	comp=Z,15nm,1.4s								
BRVK	**Borovoye**	**35.83**	**334**	*ce*P		**P**	**18 35 12.0**	**-0.8**
BRVK				pmax	pmax				
	comp=Z,15nm,1.0s								
JAGI	**Jajag, Banyuwa**	**35.98**	**148**	*e*P		**P**	**18 35 11.4**	**-3.1**
	comp=Z,48nm,1.3s								
BNSI	**Bone**	**36.04**	**136**	P		P	18 35 20.2	+5.2
UOSS	**Minazif**	**36.21**	**281**	*e*P		**P**	**18 35 15.8**	**-0.7**
	comp=Z,15nm,1.3s								
USRK	**Ussuriysk Ar.**	**36.43**	**46**	P		**P**	**18 35 18.1**	**+0.1**
	comp=Z,4.5nm,0.8s,baz=241,slow=9.8,SNR=7.6								
USRK				LR	LR		18 52 06.0		
	comp=Z,522nm,18.5s,baz=226,slow=39								
BOD	**Bodaibo**	**37.25**	**16**	*e*P		**P**	**18 35 23.9**	**-1.0**
BOD				pmax	pmax				
	comp=Z,20nm,1.7s								
TNTI	**Ternate**	**37.71**	**121**	*e*P		**P**	**18 35 28.2**	**-1.1**
	comp=Z,12nm,0.8s								
INU	**Inuyama**	**37.78**	**61**	*e*P		**P**	**18 35 28.4**	**-1.2**
	comp=Z,82nm,1.2s								
KLR	**Kul'dur**	**38.55**	**38**	*i* P		**P**	**18 35 35.4**	**-0.6**
AB31	**Akbulak array**	**38.57**	**322**	*i* P		**P**	**18 35 35.6**	**-0.5**
AB31				pmax	pmax				
	comp=Z,10.0nm,0.9s								
ABKAR	**Akbulak array**	**38.57**	**322**	*e*P		**P**	**18 35 35.5**	**-0.7**
MJB9	**Matsu-Tunnel**	**38.90**	**60**	*e*P		**P**	**18 35 38.7**	**-0.4**
	comp=Z,46nm,1.2s								
MAJO	**Matsushiro**	**38.90**	**60**	*e*P		**P**	**18 35 38.1**	**-1.1**
	comp=Z,45nm,1.2s								
MAJO	**Matsushiro**	**38.90**	**60**	*ce*P		**P**	**18 35 39.5**	**+0.4**
MAJO				pmax	pmax				
	comp=Z,60nm,2.5s								
MAT	**Matsushiro**	**38.90**	**60**	P		**P**	**18 35 39.1**	**0.0**
MAT				*e*S		**S**	**18 41 37.4**	**+0.7**
MJAR	**Matsushiro Arr**	**38.90**	**60**	P		**P**	**18 35 37.9**	**-1.3**
	comp=Z,24nm,1.1s,baz=266,slow=11,SNR=22								
MJAR				LR		LR	18 53 18.7		
	comp=Z,622nm,18.5s,baz=270,slow=39								
WBSI	**Waikabubak, Su**	**39.73**	**142**	P		**P**	**18 35 46.5**	**+0.3**
	comp=Z,65nm,1.4s								
AKTO	**Aktyubinsk**	**40.24**	**323**	P		**P**	**18 35 49.1**	**-0.9**
AKTO				pmax	pmax				
	comp=Z,7.0nm,1.2s								
CBIJ	**Chichi jima**	**42.02**	**74**	*e*P		**P**	**18 36 02.8**	**-2.2**
	comp=Z,231nm,1.3s								
SVE	**Sverdlovsk**	**42.47**	**332**	*e*P		**P**	**18 36 08.3**	**0.0**
SVE				pmax	pmax				
	comp=Z,24nm,0.9s								
BATI	**Baumata**	**42.73**	**137**	P		**P**	**18 36 08.7**	**-2.2**
	comp=Z,36nm,1.0s,baz=39,slow=3.7,SNR=5.1								
BATI				LR		LR	18 56 06.2		
	comp=Z,284nm,21.5s,baz=308,slow=39								
BATI	**Baumata**	**42.73**	**137**	P		**P**	**18 36 11.1**	**+0.2**
	comp=Z,19nm,1.4s								
SOEI	**Soe**	**42.77**	**136**	*e*P		**P**	**18 36 08.4**	**-2.9**
	comp=Z,78nm,1.0s								
ARU	**Arti**	**43.16**	**331**	*e*P		**P**	**18 36 13.1**	**-0.7**
	comp=Z,15nm,1.2s								
ARU	**Arti**	**43.16**	**331**	*c i*P		**P**	**18 36 13.3**	**-0.5**
ARU							18 37 54.7		
ARU				S		**S**	**18 42 41.6**	**+2.3**
ARU				pmax	pmax				
	comp=Z,8.0nm,1.0s								
YAK	**Yakutsk**	**45.37**	**22**	*i* P		**P**	**18 36 30.9**	**-0.5**
YAK				pmax	pmax				
	comp=Z,13nm,1.3s								
RAYN	**Ar Rayn**	**46.07**	**281**	*e*P		**P**	**18 36 38.1**	**+0.5**
	comp=Z,6.9nm,0.8s								
RAYN	**Ar Rayn**	**46.07**	**281**	*e*P		**P**	**18 36 38.2**	**+0.5**
RAYN				pmax	pmax				
	comp=Z,7.0nm,0.8s								
GNI	**Garni**	**46.18**	**304**	*e*P		**P**	**18 36 38.4**	**0.0**
	comp=Z,26nm,1.3s								
GNI	**Garni**	**46.18**	**304**	*e*P		**P**	**18 36 38.4**	**0.0**
GNI				pmax	pmax				
	comp=Z,26nm,1.3s								
TBLG	**Delisi**	**46.37**	**306**	*e*P		**P**	**18 36 39.6**	**-0.1**
	comp=Z,18nm,1.3s								
TBLG	**Delisi**	**46.37**	**306**	*e*P		**P**	**18 36 39.6**	**-0.1**
TBLG				pmax	pmax				
	comp=Z,18nm,1.3s								
NRIK	**Noril'sk**	**46.70**	**356**	LR		LR	18 56 06.3		
	comp=Z,147nm,19.1s,baz=184,slow=36								
ZEI	**Tsey**	**47.12**	**308**	*e*P		**P**	**18 36 45.6**	**-0.2**
ZEI				pmax	pmax				
	comp=Z,15nm,1.0s								
AKH	**Akhalkalaki**	**47.26**	**306**	*e*P		**P**	**18 36 47.4**	**+0.5**
	comp=Z,18nm,1.2s								
AKH	**Akhalkalaki**	**47.26**	**306**	*e*P		**P**	**18 36 47.4**	**+0.5**
AKH				pmax	pmax				
	comp=Z,18nm,1.2s								
NCK	**Nalchik**	**47.44**	**309**	*i* P		**P**	**18 36 48.9**	**+0.8**
NCK				pmax	pmax				
	comp=Z,5.0nm,0.9s								
KBZ	**Khabaz**	**47.98**	**309**	P		**P**	**18 36 50.5**	**-1.6**
	comp=Z,1.1nm,0.7s,baz=110,slow=15,SNR=2.1								
KBZ				LR		LR	18 59 50.4		
	comp=Z,177nm,20.7s,baz=88,slow=40								
NEY	**Neytrino**	**48.04**	**308**	*e*P		**P**	**18 36 54.7**	**+1.8**
NEY				pmax	pmax				
	comp=Z,3.0nm,0.8s								
GOF	**Gofitskoye**	**48.07**	**311**	*e*P		**P**	**18 36 55.4**	**+2.5**
KIV	**Kislovodsk**	**48.16**	**309**	*e*P		**P**	**18 36 53.1**	**-0.6**
	comp=Z,17nm,1.0s								
KIV	**Kislovodsk**	**48.16**	**309**	*e*P		**P**	**18 36 54.7**	**+1.0**
KIV				pmax	pmax				
	comp=Z,14nm,1.0s								
KIV				MLR	MLR				
	comp=Z,153nm,16.0s								
FITZ	**Fitzroy Crossi**	**50.10**	**142**	P		**P**	**18 37 07.9**	**-0.8**
	comp=Z,9.9nm,1.1s,baz=354,slow=7.3,SNR=6.0								
FITZ				LR		LR	19 01 10.5		
	comp=Z,177nm,18.4s,baz=307,slow=40								
FITZ	**Fitzroy Crossi**	**50.10**	**142**	*e*P		**P**	**18 37 08.2**	**-0.5**
	comp=Z,26nm,1.3s								
PRGR	**Permogore**	**51.54**	**332**	*e*P		**P**	**18 37 17.8**	**-1.2**
PRGR				pmax	pmax				
	comp=Z,13nm,0.7s								
TIXI	**Tiksi**	**52.25**	**13**	P		**P**	**18 37 23.4**	**-0.7**
	comp=Z,5.9nm,0.7s,baz=222,slow=4.2,SNR=20								
TIXI	**Tiksi**	**52.25**	**13**	*e*P		**P**	**18 37 23.2**	**-1.0**
	comp=Z,34nm,1.5s								
TIXI	**Tiksi**	**52.25**	**13**	*ce*P		**P**	**18 37 23.7**	**-0.5**
TIXI				pmax	pmax				
	comp=Z,21nm,1.4s								
MA2	**Magadan**	**52.91**	**31**	P		**P**	**18 37 29.3**	**+0.1**
	comp=Z,27nm,1.0s,baz=296,slow=5.6,SNR=5.6								
MA2				LR		LR	19 02 48.9		
	comp=Z,155nm,18.3s,baz=252,slow=39								
MA2	**Magadan**	**52.91**	**31**	*e*P		**P**	**18 37 28.7**	**-0.5**
	comp=Z,52nm,1.1s								
SKR	**Severo-Kuril's**	**53.87**	**43**	*e*P		**P**	**18 37 33.7**	**-2.7**
SKR				MLR	MLR				
	comp=Z,500nm,18.0s								
ILGA	**Ilgaz**	**54.60**	**305**	*e*P		**P**	**18 37 42.4**	**+0.2**
	comp=Z,14nm,1.1s								
BR101	**Keskin Array S**	**54.69**	**303**	*e*P		**P**	**18 37 44.8**	**+2.0**
BR101				*e*PP		PP	18 39 53.0	+7.8
BR131	**Keskin Array S**	**54.69**	**303**	*e*P		**P**	**18 37 42.5**	**-0.3**
BRTR	**Keskin Array B**	**54.69**	**303**	P		**P**	**18 37 44.8**	**+2.0**
	comp=Z,0.6nm,0.9s,baz=113,slow=8.5,SNR=5.2								
BRTR				PP		PP	18 39 53.0	+7.8
	comp=Z,0.9nm,0.9s,baz=65,slow=4.4,SNR=3.7								
BRTR				LR		LR	19 03 46.5		
	comp=Z,76nm,21.9s,baz=97,slow=39								
SEY	**Seymchan**	**54.76**	**28**	P		**P**	**18 37 43.0**	**+0.3**
	comp=Z,4.1nm,0.9s,baz=234,slow=6.1,SNR=4.0								
PETK	**Petropavlovsk-**	**55.17**	**40**	LR		LR	19 02 52.4		
	comp=Z,156nm,19.2s,baz=242,slow=38								
WR1	**Warramunga Arr**	**56.80**	**136**	*e*P		**P**	**18 37 57.4**	**-0.5**
	comp=Z,21nm,1.0s								
WRA	**Warramunga Arr**	**56.80**	**136**	P		**P**	**18 37 57.4**	**-0.5**
	comp=Z,11nm,1.0s,baz=326,slow=7.7,SNR=36								
WRA				LR		LR	19 06 41.7		
	comp=Z,100nm,18.5s,baz=320,slow=41								
WRAB	**Tennant Creek**	**56.80**	**136**	*e*P		**P**	**18 37 56.6**	**-1.2**
	comp=Z,24nm,1.1s								
WRAB	**Tennant Creek**	**56.80**	**136**	*e*P		**P**	**18 37 56.7**	**-1.2**
WRAB				pmax	pmax				
	comp=Z,24nm,1.1s								
WB2	**Warramunga Arr**	**56.81**	**136**	*e*P		**P**	**18 37 57.1**	**-0.8**
	comp=Z,22nm,1.1s								
AKASG	**Malin Array Be**	**57.89**	**316**	P		**P**	**18 38 05.3**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=82,slow=6.6,SNR=5.6								
AKASG				LR		LR	19 07 35.3		
	comp=Z,152nm,20.7s,baz=105,slow=41								
AKBB	**Malin Array Si**	**57.89**	**316**	*e*P		**P**	**18 38 04.6**	**-0.7**
	comp=Z,4.9nm,0.9s								
AKBB	**Malin Array Si**	**57.89**	**316**	*e*P		**P**	**18 38 04.6**	**-0.7**
AKBB				pmax	pmax				
	comp=Z,5.0nm,0.9s								
KIEV	**Kiev**	**57.90**	**316**	*i* P		**P**	**18 38 07.3**	**+2.0**
KIEV				pmax	pmax				
	comp=Z,3.0nm,0.9s								
NWAO	**Narrogin (SRO)**	**59.17**	**159**	*e*P		**P**	**18 38 12.9**	**-1.4**
	comp=Z,28nm,1.2s								
NWAO	**Narrogin (SRO)**	**59.17**	**159**	*e*P		**P**	**18 38 12.9**	**-1.4**
NWAO				pmax	pmax				
	comp=Z,28nm,1.2s								
AS31	**Alice Springs**	**59.27**	**139**	*e*P		**P**	**18 38 14.4**	**-0.8**
	comp=Z,1.4nm,1.0s								
ASAR	**Alice Springs**	**59.27**	**139**	P		**P**	**18 38 15.5**	**+0.3**
	comp=Z,3.4nm,0.9s,baz=316,slow=6.8,SNR=24								
ASAR				LR		LR	19 07 25.1		
	comp=Z,135nm,19.3s,baz=310,slow=40								
AS01	**Alice Springs**	**59.29**	**139**	*e*P		**P**	**18 38 14.8**	**-0.5**
MLR	**Muntele Rosu**	**60.13**	**310**	P		**P**	**18 38 21.0**	**0.0**
	comp=Z,2.6nm,0.7s,baz=118,slow=7.3,SNR=6.0								
MLR	**Muntele Rosu**	**60.13**	**310**	*e*P		**P**	**18 38 22.4**	**+1.4**
	comp=Z,12nm,0.9s								
FIA0	**FINESS Array S**	**60.48**	**329**	*e*P		**P**	**18 38 21.4**	**-1.5**
FIA0	**FINESS Array S**	**60.48**	**329**	*e*P		**P**	**18 38 21.4**	**-1.5**
FINES	**FINESS Array B**	**60.48**	**329**	P		**P**	**18 38 21.4**	**-1.5**
	comp=Z,1.1nm,0.8s,baz=120,slow=8.2,SNR=2.3								
FINES				LR		LR	19 06 40.5		
	comp=Z,311nm,18.3s,baz=96,slow=38								
BUR04	**Bucovina Ar. S**	**60.53**	**313**	*e*P		**P**	**18 38 21.6**	**-2.1**
BILL	**Bilibino**	**61.64**	**24**	*e*P		**P**	**18 38 30.8**	**+0.1**
	comp=Z,19nm,1.1s								
BILL	**Bilibino**	**61.64**	**24**	*ce*P		**P**	**18 38 31.1**	**+0.3**
BILL				*SP		**pP**	**18 38 37.0**	**+0.5**
BILL							18 39 12.0		
BILL							18 40 47.0		
BILL				pmax	pmax				
	comp=Z,25nm,1.3s								
BILL				MLR	MLR				
	comp=Z,648nm,18.0s								
FORT	**Forrest**	**61.69**	**149**	*e*P		**P**	**18 38 31.1**	**-0.5**
	comp=Z,25nm,1.0s								
KMBO	**Kilima Mbogo**	**61.79**	**256**	P		**P**	**18 38 32.0**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=48,slow=16,SNR=2.7								
KMBO				LR		LR	19 03 54.5		
	comp=Z,169nm,22.0s,baz=86,slow=35								
KMBO	**Kilima Mbogo**	**61.79**	**256**	*e*P		**P**	**18 38 31.6**	**-1.2**
	comp=Z,2.6nm,1.2s								
KMBO	**Kilima Mbogo**	**61.79**	**256**	*e*P		**P**	**18 38 31.7**	**-1.2**
KMBO				pmax	pmax				
	comp=Z,3.0nm,1.2s								
UZH	**Uzhgorod**	**62.42**	**314**	*e*P		**P**	**18 38 40.0**	**+3.6**
UZH				*e*			18 38 49.9		
VRAC	**Vranov**	**66.09**	**315**	P		**P**	**18 39 02.4**	**+2.0**
	comp=Z,2.8nm,0.5s,baz=153,slow=14,SNR=4.3								
HFS	**Hagfors**	**66.53**	**327**	P		**P**	**18 39 01.8**	**-1.3**
	comp=Z,1.2nm,0.7s,baz=98,slow=10,SNR=2.8								
NB200	**NORSAR Array S**	**67.65**	**328**	*e*P		**P**	**18 39 10.2**	**+0.1**
NOA	**NORSAR Array B**	**67.65**	**328**	P		**P**	**18 39 10.2**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=83,slow=6.4,SNR=2.9								
NOA				LR		LR	19 11 02.0		
	comp=Z,242nm,18.2s,baz=90,slow=38								
GERES	**GERESS Array B**	**68.04**	**315**	P		**P**	**18 39 12.7**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=90,slow=8.0,SNR=6.5								
GERES				LR		LR	19 13 17.1		
	comp=Z,95nm,21.3s,baz=91,slow=40								
GEA0	**GERESS Array S**	**68.04**	**315**	*e*P		**P**	**18 39 12.5**	**-0.4**
STKA	**Stephens Creek**	**69.89**	**140**	P		**P**	**18 39 22.7**	**-1.7**
	comp=Z,6.3nm,1.0s,baz=321,slow=6.5,SNR=7.0								
STKA				LR		LR	19 15 21.7		
	comp=Z,111nm,18.1s,baz=344,slow=40								
STKA	**Stephens Creek**	**69.89**	**140**	*e*P		**P**	**18 39 25.1**	**+0.7**
	comp=Z,3.8nm,1.3s								
FUORN	**Ofenpass-Fuorn**	**70.76**	**313**	*e*P		**P**	**18 39 32.2**	**+2.2**
	comp=Z,3.3nm,0.8s								
DAG	**Danmarks Havn**	**73.22**	**347**	*i* P		**P**	**18 39 42.0**	**-1.8**
	comp=Z,5.3nm,1.0s								
DAG				*i*			18 42 06.3		
DAG	**Danmarks Havn**	**73.22**	**347**	*i* P		**P**	**18 39 42.0**	**-1.8**
DAG				pmax	pmax				
	comp=Z,5.0nm,1.0s								
LSZ	**Lusaka**	**76.30**	**247**	*e*P		**P**	**18 40 00.9**	**-2.0**
	comp=Z,2.4nm,0.8s								
LSZ	**Lusaka**	**76.30**	**247**	*e*P		**P**	**18 40 00.9**	**-2.0**
LSZ				pmax	pmax				
	comp=Z,2.0nm,0.8s								
IM3	**Indian Mountai**	**77.19**	**23**	*e*P		**P**	**18 40 07.4**	**+0.5**
TOLK	**Toolik Lake Re**	**77.30**	**20**	*e*P		**P**	**18 40 07.9**	**+0.3**
	comp=Z,7.8nm,0.9s								
TOLK	**Toolik Lake Re**	**77.30**	**20**	P		**P**	**18 40 08.5**	**+1.0**
	baz=301								
SVW2	**Sparrevohn**	**78.71**	**28**	*e*P		**P**	**18 40 14.4**	**-1.0**
	comp=Z,12nm,1.1s					

GROC				*e*			18 31 35.5		
GROC				pmax	pmax				
	comp=Z,29nm,0.2s								
GROC				smax	smax				
	comp=N,112nm,0.8s								
GROC				smax	smax				
	comp=E,81nm,0.5s								
GROC				smax	smax				
	comp=E,120nm,0.7s								
GROC	**Groznyy**	**0.62**	**147**	*e*Pg		**Pn**	**18 31 29.0**	**+0.2**	
GROC				*e*Sg		**Sg**	**18 31 36.5**	**+1.3**	
PRTR	**Priterechnaya**	**0.76**	**272**	*ce*PG		**Pn**	**18 31 33.4**	**+2.7**	
PRTR				pmax	pmax				
	comp=Z,106nm,0.5s								
DVE	**Vedeno**	**0.96**	**143**	*e*Pg		**Pb**	**18 31 32.1**	**-0.9**	
DVE				*e*Sg		**Sn**	**18 31 47.7**	**+0.8**	
KORR	**Kora**	**1.12**	**236**	*e*PG		**Pn**	**18 31 34.8**	**-0.9**	
KORR				*e*S		**Sg**	**18 31 51.5**	**+0.4**	
KORR	**Kora**	**1.12**	**236**	*e*Pg		**Pn**	**18 31 34.8**	**-0.9**	
KORR				*e*Sg		**Sg**	**18 31 52.3**	**+1.2**	
DLMR	**Dylym**	**1.15**	**124**	PG		**Pg**	**18 31 37.0**	**+0.1**	
DLMR				*e*S		**Sg**	**18 31 54.5**	**+2.5**	
DLMR	**Dylym**	**1.15**	**124**	*e*Pg		**Pg**	**18 31 37.0**	**+0.1**	
DLMR				*e*Sg		**Sg**	**18 31 54.5**	**+2.5**	
LACR	**Lac**	**1.18**	**220**	*e*Pg		**Pn**	**18 31 34.8**	**-1.8**	
LACR				*e*Sg		**Sn**	**18 31 52.4**	**+0.1**	
LSNR	**Lesken**	**1.19**	**248**	*e*PG		**Pn**	**18 31 36.1**	**-0.5**	
LSNR				*e*S		**Sg**	**18 31 54.4**	**+1.3**	
LSNR	**Lesken**	**1.19**	**248**	*e*Pg		**Pn**	**18 31 36.1**	**-0.5**	
LSNR				*e*Sg		**Sg**	**18 31 54.4**	**+1.3**	
BTLR	**Botlikh**	**1.24**	**148**	⇓*e*PG		**Pb**	**18 31 37.7**	**-0.1**	
BTLR				*e*			18 31 56.4		
BTLR				pmax	pmax				
	comp=Z,33nm,0.7s								
BTLR				smax	smax				
	comp=N,97nm,22.9s								
BTLR	**Botlikh**	**1.24**	**148**	*e*Pg		**Pn**	**18 31 36.1**	**-1.3**	
BTLR				*e*Sg		**Sb**	**18 31 52.8**	**-0.8**	
NCK	**Nalchik**	**1.28**	**260**	*i* PG		**Pn**	**18 31 37.8**	**-0.1**	
NCK	**Nalchik**	**1.28**	**260**	*e*Pg		**Pn**	**18 31 37.8**	**-0.1**	
DBC	**Dubki**	**1.30**	**122**	⇑*i*PG		**Pn**	**18 31 37.5**	**-0.7**	
DBC				*i* S		**Sg**	**18 31 56.2**	**-0.5**	
DBC				pmax	pmax				
	comp=Z,37nm,0.2s								
DBC	**Dubki**	**1.30**	**122**	*i* Pg		**Pn**	**18 31 37.5**	**-0.7**	
DBC				*i* Sg		**Sg**	**18 31 56.2**	**-0.5**	
KBTC	**Kuba-Taba**	**1.40**	**274**	*e*Pg		**Pn**	**18 31 38.0**	**-1.5**	
KBTC				*e*Sg		**Sb**	**18 31 57.8**	**-0.2**	
ZEI	**Tsey**	**1.41**	**229**	*e*PG		**Pn**	**18 31 38.6**	**-1.2**	
ZEI				*e*S		**Sb**	**18 31 58.3**	**-0.1**	
ZEI	**Tsey**	**1.41**	**229**	*e*Pg		**Pn**	**18 31 38.5**	**-1.3**	
ZEI				*e*Sg		**Sn**	**18 31 57.8**	**-0.3**	
KRNR	**Karanay**	**1.46**	**127**	*e*PG		**Pn**	**18 31 40.0**	**-0.4**	
KRNR				*e*S		**Sg**	**18 32 01.0**	**-0.8**	
KRNR				pmax	pmax				
	comp=Z,24nm,0.3s								
KRNR	**Karanay**	**1.46**	**127**	*e*Pg		**Pn**	**18 31 40.0**	**-0.4**	
KRNR				*e*Sg		**Sg**	**18 32 01.0**	**-0.8**	
UNCR	**Uncukul**	**1.47**	**133**	*i* PG		**Pn**	**18 31 40.0**	**-0.5**	
UNCR				*e*S		**Sb**	**18 32 00.0**	**-0.1**	
UNCR				pmax	pmax				
	comp=Z,43nm,0.2s								
UNCR	**Uncukul**	**1.47**	**133**	*i* Pg		**Pn**	**18 31 40.0**	**-0.5**	
UNCR				*e*Sg		**Sb**	**18 32 00.0**	**-0.1**	
DIGR	**Digorskoe uzhe**	**1.52**	**238**	*e*PG		**Pn**	**18 31 40.6**	**-0.8**	
DIGR				*e*S		**Sn**	**18 32 00.8**	**-0.1**	
DIGR	**Digorskoe uzhe**	**1.52**	**238**	*e*Pg		**Pn**	**18 31 40.6**	**-0.8**	
DIGR				*e*Sg		**Sn**	**18 32 00.6**	**-0.4**	
XNZR	**Khunzakh**	**1.55**	**139**	⇑*e*PG		**Pn**	**18 31 42.2**	**+0.4**	
XNZR				*e*			18 32 03.8		
XNZR	**Khunzakh**	**1.55**	**139**	*e*Pg		**Pn**	**18 31 42.1**	**+0.4**	
XNZR				*e*Sg		**Sb**	**18 32 03.4**	**+0.8**	
MAK	**Makhachkala**	**1.76**	**115**	*e*PN		**Pn**	**18 31 42.5**	**-1.9**	
MAK				*e*			18 31 45.8		
MAK				*e*			18 32 10.3		
MAK				pmax	pmax				
	comp=Z,62nm,0.9s								
MAK	**Makhachkala**	**1.76**	**115**	*e*Pg		**Pn**	**18 31 42.6**	**-1.9**	
MAK				*e*Sg		**Sn**	**18 32 06.7**	**+0.3**	
ONI	**Oni**	**1.78**	**231**	P		**Pn**	**18 31 45.1**	**+0.2**	
ONI				S		**Sn**	**18 32 07.1**	**-0.1**	
ONI	**Oni**	**1.78**	**231**	*e*PN		**Pn**	**18 31 45.1**	**+0.2**	
ONI	**Oni**	**1.78**	**231**	*e*Pg		**Pn**	**18 31 45.1**	**+0.2**	
ONI				*e*Sg		**Sn**	**18 32 07.1**	**-0.1**	
GNBR	**Gunib**	**1.79**	**138**	⇑*e*PN		**Pb**	**18 31 47.6**	**+0.4**	
GNBR				*e*			18 32 11.2		
GNBR				pmax	pmax				
	comp=Z,19nm,0.4s								
GNBR				smax	smax				
	comp=N,80nm,1.0s								
GNBR	**Gunib**	**1.79**	**138**	*i* Pg		**Pb**	**18 31 46.1**	**-1.0**	
GNBR				*e*Sg		**Sb**	**18 32 10.5**	**+1.1**	
KIV0	**Kislovodsk Arr**	**1.92**	**278**	*e*Pg		**Pn**	**18 31 46.8**	**0.0**	
KIV0				*e*Sg		**Sn**	**18 32 09.6**	**-1.1**	
KIV	**Kislovodsk**	**1.93**	**278**	⇑*e*PN		**Pn**	**18 31 45.4**	**-1.5**	
KIV				pmax	pmax				
	comp=Z,65nm,1.3s								
KIV	**Kislovodsk**	**1.93**	**278**	*e*Pg		**Pn**	**18 31 45.3**	**-1.6**	
SHA1	**Shidzhatmaz**	**1.94**	**271**	*e*Pg		**Pn**	**18 31 45.8**	**-1.4**	
SHA1				*e*Sg		**Sn**	**18 32 09.8**	**-1.5**	
NEY	**Neytrino**	**1.96**	**257**	*e*PN		**Pn**	**18 31 47.6**	**+0.2**	
NEY	**Neytrino**	**1.96**	**257**	*e*Pg		**Pn**	**18 31 47.2**	**-0.2**	
NEY				*e*Sg		**Sn**	**18 32 12.5**	**+0.8**	
KMKR	**Kumukh**	**2.05**	**140**	*e*PN		**Pb**	**18 31 51.0**	**-0.7**	
KMKR				*i* S		**Sg**	**18 32 19.0**	**-1.8**	
KMKR	**Kumukh**	**2.05**	**140**	*e*Pg		**Pb**	**18 31 51.0**	**-0.7**	
KMKR				*i* Sg		**Sg**	**18 32 19.0**	**-1.8**	
GOF	**Gofitskoye**	**2.12**	**310**	*e*PN		**Pg**	**18 31 56.3**	**+1.0**	
GOF				*e*S		**Sg**	**18 32 21.5**	**-1.3**	
GOF				pmax	pmax				
	comp=Z,10.0nm,0.6s								
GOF				smax	smax				
	comp=N,30nm,0.7s								
GOF				smax	smax				
	comp=E,50nm,0.7s								
AKT	**Akhty**	**2.86**	**141**	⇓*e*PN		**Pb**	**18 32 07.3**	**+1.9**	
AKT				*e*			18 32 45.7		
AKT				pmax	pmax				
	comp=Z,6.0nm,0.6s								
AKT				smax	smax				
	comp=N,18nm,2.0s								
AKT	**Akhty**	**2.86**	**141**	*e*Pn		**Pn**	**18 32 01.7**	**+2.0**	
AKT				*e*Sn		**Sn**	**18 32 32.6**	**-1.1**	
GNI	**Garni**	**3.60**	**187**	*i* PN		**Pn**	**18 32 09.4**	**-0.5**	
GNI	**Garni**	**3.60**	**187**	*e*Pn		**Pn**	**18 32 09.4**	**-0.5**	
BRVK	**Borovoye**	**18.93**	**52**	*i* P		**Pn**	**18 35 36.3**	**+1.0**	
BRVK				pmax	pmax				
	comp=Z,3.0nm,0.7s								
KURK	**Kurchatov**	**23.52**	**61**	*i* P		**P**	**18 36 24.2**	**+0.5**	
KURK				pmax	pmax				
	comp=Z,5.0nm,1.1s								

*ISCJB **13** 18:34:30.5±0.2, 3°.89S×0°.03×127°.00E±0°.03, h40km, mb4.5/23, MS3.1/1, Error ellipse: s-maj=4.5km s-min=3.6km az=31.8*
*NEIC **13** 18:34:32.6±0.8, 3°.91S×127°.03E, h44km±8km, mb4.5/20, Error ellipse: s-maj=9.1km s-min=5.6km az=61.0*
*DJA **13** 18:34:33.4±0.4, 4°.5±3°×12°.7E±°, h16km±4km, M4.2/16, mb4.6/10, mB4.8/6, MLv4.0/16, Mw(mB)4.1/6*
*IDC **13** 18:34:34.3±4.1, 3°.83S×127°.06E, h56km±40km, mb3.8/12, mb1 3.9/14, mb1mx3.7/48, mbtmp4.1/14, ML3.7/2, MS3.2/3, Ms1 3.2/3, ms1mx2.8/37, Error ellipse: s-maj=29.3km s-min=17.6km az=92.0*

ISC 13 18:34:32.2±0.5, 3°.87S±0°.05×127°.03E±0°.04, h40km, n85, σ1§37/90, mb4.5/23, Seram

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.63**	**6**	P		**Pn**	**18 34 41.4**	**-3.3**
NLAI				S		**Sn**	**18 34 50.6**	**-3.0**
AAI	**Ambon**	**1.18**	**81**	P		**Pn**	**18 34 52.2**	**0.0**
AAI				S		**Sn**	**18 35 08.9**	**+1.8**
MSAI	**Masohi**	**1.96**	**75**	P		**Pn**	**18 35 03.1**	**0.0**
SANI	**Sanana**	**2.08**	**330**	P		**Pn**	**18 35 03.1**	**-1.6**
SANI				S		**Sn**	**18 35 29.2**	**-0.2**
TNTI	**Ternate**	**4.62**	**4**	*e*Pn		**Pn**	**18 35 41.0**	**+1.4**
TNTI	**Ternate**	**4.62**	**4**	P		**Pn**	**18 35 42.0**	**+2.4**
TNTI	**Ternate**	**4.62**	**4**	P		Pn	18 35 45.0	+5.4
BBSI	**Bau Bau**	**4.73**	**250**	P		**Pn**	**18 35 45.3**	**+4.2**
LUWI	**Luwuk**	**5.10**	**303**	*e*Pn		**Pn**	**18 35 44.8**	**-1.3**
LUWI				*e*Sn		**Sn**	**18 36 44.7**	**+1.0**
LUWI	**Luwuk**	**5.10**	**303**	P		**Pn**	**18 35 44.5**	**-1.6**
SWI	**Sorong**	**5.17**	**55**	P		**Pn**	**18 35 49.2**	**+2.0**
	49nm,0.5s							
SIJI	**Sorong**	**5.17**	**55**	P		**Pn**	**18 35 47.8**	**+0.5**
	6.7nm,0.3s,baz=236,slow=9.5,SNR=24							
SIJI				S		**Sn**	**18 36 47.5**	**+1.8**
	baz=29,slow=23,SNR=6.5							
FAKI	**Fak Fak**	**5.29**	**80**	*e*Pn		**Pn**	**18 35 50.2**	**+1.4**
FAKI				*e*Sn		**Sn**	**18 36 51.9**	**+3.2**
FAKI	**Fak Fak**	**5.29**	**80**	P		**Pn**	**18 35 49.6**	**+0.7**
	23nm,0.8s							
KMSI	**Cibinong**	**5.36**	**325**	P		**Pn**	**18 35 49.7**	**-0.1**
	149nm,1.0s,1μm							
APSI	**Ampana**	**6.13**	**299**	P		**Pn**	**18 36 02.8**	**+2.5**
	63nm,0.9s,701nm0.2nm							
SOEI	**Soe**	**6.46**	**205**	P		Pn	18 36 11.5	+6.5
	85nm,1.1s,0.3nm							
MRSI	**Marisa**	**6.67**	**310**	P		**Pn**	**18 36 08.8**	**+1.0**
	165nm,0.7s,1μm0.5nm							
MMRI	**Maumere**	**6.72**	**225**	*e*Pn		**Pn**	**18 36 10.0**	**+1.6**
BKSI	**Bulukumba**	**7.04**	**258**	P		**Pn**	**18 36 16.2**	**+3.4**
	14nm,0.5s,0.1nm							
BATI	**Baumata**	**7.13**	**208**	LR		LR	18 39 09.9	
	comp=Z,202nm,18.7s,baz=310,slow=38							
MPSI	**Mapaga**	**8.26**	**300**	P		**Pn**	**18 36 32.3**	**+2.7**
	7.9nm,1.0s,0.0nm							
MTN	**Manton Dam**	**9.80**	**156**	*e*Pn		**Pn**	**18 36 51.2**	**+0.5**
DAV	**Davao City (W)**	**10.96**	**352**	LR		LR	18 41 18.8	
	comp=Z,101nm,19.0s,baz=126,slow=37							
MYLDM	**Lahad Datu**	**12.38**	**316**	*e*Pn		**Pn**	**18 37 27.7**	**+1.6**
FITZ	**Fitzroy Crossi**	**14.21**	**185**	P		**Pn**	**18 37 49.0**	**-1.9**
	0.1nm,0.3s,baz=12,slow=9.3,SNR=2.8							
FITZ	**Fitzroy Crossi**	**14.21**	**185**	*e*Pn		**Pn**	**18 37 48.9**	**-2.1**
UGM	**Wanagama**	**16.90**	**255**	*e*Pn		**Pn**	**18 38 25.9**	**-0.1**
	367nm,1.5s							
WRAB	**Tennant Creek**	**17.49**	**156**	*e*Pn		**Pn**	**18 38 31.2**	**-2.1**
	10nm,1.2s							
WR1	**Warramunga Arr**	**17.50**	**157**	*e*Pn		**Pn**	**18 38 33.1**	**-0.3**
	8.3nm,0.9s							
WRA	**Warramunga Arr**	**17.50**	**157**	P		**Pn**	**18 38 33.1**	**-0.3**
	0.2nm,0.3s,baz=338,slow=11,SNR=10							
WB2	**Warramunga Arr**	**17.50**	**157**	*e*Pn		**Pn**	**18 38 31.7**	**-1.7**
	42nm,1.9s							
KSM	**Kuching**	**17.53**	**287**	*e*Pn		**P**	**18 38 34.9**	**+0.3**
	34nm,1.2s							
MBWA	**Marble Bar**	**18.60**	**202**	*e*P		**P**	**18 38 43.6**	**-2.6**
	28nm,1.4s							
COEN	**Coen**	**18.82**	**123**	*e*P		**P**	**18 38 46.8**	**-2.0**
	97nm,1.9s							
AS31	**Alice Springs**	**20.77**	**162**	*e*P		Pn	18 39 12.3	-0.3
	3.9nm,0.7s							
ASAR	**Alice Springs**	**20.77**	**162**	P		Pn	18 39 12.3	-0.3
	12nm,0.7s,baz=344,slow=11,SNR=63							
ASAR						PcP	**18 43 17.7**	**-0.7**
	0.2nm,0.5s,baz=339,slow=1.9,SNR=3.4							
ASAR						LR	LR	18 46 39.9	
	comp=Z,92nm,19.9s,baz=233,slow=35								
AS01	**Alice Springs**	**20.79**	**162**	*e*P		Pn	18 39 12.1	-0.7
RABL	**Rabaul**	**25.07**	**92**	*e*P		**P**	**18 39 51.1**	**-2.2**
	15nm,0.8s							
FORT	**Forrest**	**26.79**	**178**	*e*P		**P**	**18 40 08.7**	**+0.1**
	20nm,0.8s							
BBOO	**Buckleboo**	**30.01**	**165**	*e*P		**P**	**18 40 36.7**	**-0.6**
	34nm,1.5s							
CM01	**Chiang Mai Arr**	**35.43**	**310**	*e*P		**P**	**18 41 25.2**	**+0.3**
CM31	**Chiang Mai Arr**	**35.47**	**310**	*e*P		**P**	**18 41 26.0**	**+0.8**
CMAR	**Chiang Mai Arr**	**35.47**	**310**	P		**P**	**18 41 26.6**	**+1.4**
	0.8nm,0.5s,baz=143,slow=7.4,SNR=8.5							
CHTO	**Chiang Mai**	**35.67**	**310**	*e*P		**P**	**18 41 27.2**	**+0.3**
	4.1nm,1.0s							
KSAR	**Wonju Array Be**	**41.10**	**1**	P		**P**	**18 42 13.1**	**+0.8**
KSRS	**Korea Array**	**41.12**	**1**	P		**P**	**18 42 13.1**	**+0.7**
	1.1nm,0.7s,baz=181,slow=11,SNR=4.2							
SHL	**Shillong**	**44.92**	**313**	*e*P		**P**	**18 42 43.9**	**+0.2**
	12nm,0.4s							
LSA	**Lhasa**	**47.91**	**317**	*e*P		**P**	**18 43 08.6**	**+1.2**
	7.1nm,0.8s							
USRK	**Ussuriysk Ar.**	**48.06**	**5**	P		**P**	**18 43 05.7**	**-1.9**
	2.7nm,0.5s,baz=192,slow=6.0,SNR=7.0							
RAMN	**Ramite**	**49.63**	**311**	*e*P		**P**	**18 43 20.8**	**+0.4**
	57nm,0.7s							
JIRN	**Jiri**	**50.31**	**311**	*e*P		**P**	**18 43 25.8**	**+0.1**
	33nm,0.7s							
GUN	**Gumba**	**50.68**	**311**	*e*P		**P**	**18 43 28.6**	**+0.2**
	37nm,0.7s							
PKI	**Pulchoki**	**50.86**	**311**	*e*P		**P**	**18 43 29.5**	**-0.3**
	19nm,0.9s							
PKIN	**Phulchoki**	**50.87**	**311**	*e*P		**P**	**18 43 29.4**	**-0.4**
	12nm,0.8s							
KKN	**Kakani**	**51.07**	**311**	*e*P		**P**	**18 43 31.2**	**0.0**
	18nm,0.7s							
DMN	**Daman**	**51.10**	**310**	*e*P		**P**	**18 43 31.3**	**-0.3**
	24nm,0.9s							
GKN	**Gorkha**	**51.66**	**311**	*e*P		**P**	**18 43 36.0**	**+0.4**
	0.5nm,0.4s							
KOLN	**Kolanda**	**52.34**	**310**	*e*P		**P**	**18 43 40.8**	**+0.1**
	38nm,0.8s							
DANN	**Dangsing**	**52.51**	**310**	*e*P		**P**	**18 43 41.8**	**-0.2**
	49nm,0.7s							
PYUN	**Piuthan**	**52.97**	**310**	*e*P		**P**	**18 43 45.3**	**-0.1**
	32nm,0.8s							
ULN	**Ulaanbaatar**	**54.42**	**344**	*e*P		**P**	**18 43 56.0**	**+0.5**
	3.3nm,0.7s							
SONA0	**Songino Array**	**54.58**	**343**	*e*P		**P**	**18 43 57.3**	**+0.6**
SONM	**Songino Array**	**54.58**	**343**	P		**P**	**18 43 57.3**	**+0.6**
	2.3nm,1.0s,baz=154,slow=8.1,SNR=11							
SONA1	**Songino Array**	**54.59**	**343**	*e*P		**P**	**18 43 57.4**	**+0.6**
PETK	**Petropavlovsk-**	**62.36**	**20**	P		**P**	**18 44 51.6**	**+1.0**
	1.0nm,0.8s,baz=216,slow=7.0,SNR=3.1							
PEA1	**Petropavlovsk-**	**62.36**	**20**	*e*P		**P**	**18 44 51.6**	**+0.9**
MK01	**Makanchi Array**	**63.99**	**327**	*e*P		**P**	**18 45 01.6**	**0.0**
MK01					*e*PcP	**PcP**	**18 45 36.7**	**-0.1**
MK31	**Makanchi Array**	**64.01**	**327**	*e*P		**P**	**18 45 01.6**	**-0.2**
MK31					*e*PcP	**PcP**	**18 45 37.0**	**+0.1**
MK32	**Makanchi Array**	**64.01**	**327**	*e*P		**P**	**18 45 01.9**	**+0.1**
MK32					*e*PcP	**PcP**	**18 45 37.0**	**0.0**
MKAR	**Makanchi Array**	**64.01**	**327**	P		**P**	**18 45 01.9**	**+0.1**
	2.8nm,0.7s,baz=127,slow=8.3,SNR=22							
MKAR						PcP	**PcP**	**18 45 37.0**	**+0.1**
	0.8nm,0.6s,baz=136,slow=4.2,SNR=5.0							
MKAR	**Makanchi Array**	**64.01**	**327**	*e*P		**P**	**18 45 01.7**	**0.0**
	21nm,0.8s							
MKAR					*e*PcP	**PcP**	**18 45 37.0**	**+0.1**
AAK	**Ala-Archa**	**66.26**	**320**	P		**P**	**18 45 16.4**	**-0.3**
	0.5nm,0.4s,baz=102,slow=19,SNR=2.4							
ZAA0	**Zalesovo Array**	**67.49**	**335**	*e*P		**P**	**18 45 23.2**	**-0.9**
	2.9nm,0.9s							
ZALV	**Zalesovo Beam**	**67.49**	**335**	P		**P**	**18 45 23.7**	**-0.3**
	2.3nm,0.8s,baz=119,slow=5.6,SNR=7.2							
ZALV	**Zalesovo Beam**	**67.49**	**335**	*e*P		**P**	**18 45 22.9**	**-1.1**
ZAA1	**Zalesovo Array**	**67.50**	**335**	*e*P		**P**	**18 45 23.7**	**-0.3**
KURBB	**Kurchatov Arra**	**68.32**	**329**	P		**P**	**18 45 29.1**	**-0.2**
	1.7nm,0.7s,baz=133,slow=5.6,SNR=17							
KURK	**Kurchatov**	**68.33**	**329**	*e*P		**P**	**18 45 28.7**	**-0.7**
	3.8nm,0.8s							
BVAR	**Borovoye Array**	**73.86**	**328**	P		**P**	**18 46 02.6**	**-0.3**
	0.7nm,0.9s,baz=128,slow=2.4,SNR=3.6							
BRVK	**Borovoye**	**73.93**	**328**	*e*P		**P**	**18 46 04.8**	**+1.6**
	16nm,1.8s							
ATKA	**Atka Island**	**74.60**	**33**	*e*P		**P**	**18 46 08.8**	**+1.7**
	202nm,1.2s							
NIKH	**Nikolski High**	**77.87**	**34**	*e*P		**P**	**18 46 26.3**	**+0.6**
	591nm,0.8s							
KMBO	**Kilima Mbogo**	**89.70**	**269**	P		**P**	**18 47 27.6**	**+0.3**
	0.8nm,0.5s,baz=100,slow=9.9,SNR=3.5							
KMBO	**Kilima Mbogo**	**89.70**	**269**	*e*P		**P**	**18 47 26.6**	**-0.8**
	9.8nm,1.9s							

*NORS **13** 18:51:51.1±0.0, 43°.66N×45°.28E, h26km, MPVA3.6*

MOS 13 18:51:51.1±0.0, 43°.66N×45°.28E, h19km, MPVA3.5, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.59**	**141**	*e*Pg		Pg	18 52 03.0	+0.2
GROC				*e*Sg		Sn	18 52 13.1	-0.5
DVE	**Vedeno**	**0.93**	**139**	*e*Pg		Pg	18 52 10.3	+1.0
DVE				*e*Sg		Sn	18 52 24.8	+2.7
LACR	**Lac**	**1.10**	**221**	*e*Pg		Pn	18 52 11.9	+0.3
LACR				*e*Sg		Sg	18 52 29.5	+2.5
LSNR	**Lesken**	**1.13**	**251**	*e*Pg		Pg	18 52 13.5	+0.6
LSNR				*e*Sg		Sg	18 52 31.2	+3.5
BTLR	**Botlikh**	**1.21**	**145**	*e*Pg		Pg	18 52 15.1	+0.6
BTLR				*e*Sg		Sg	18 52 30.1	-0.3
NCK	**Nalchik**	**1.24**	**263**	*e*Pg		Pg	18 52 16.1	+1.1
ZEI	**Tsey**	**1.33**	**230**	*e*Pg		Pb	18 52 15.8	+0.2
ZEI				*e*Sg		Sg	18 52 35.3	+1.0
KBTC	**Kuba-Taba**	**1.37**	**277**	*e*Pg		Pb	18 52 16.2	+0.1
KBTC				*e*Sg		Sg	18 52 36.4	+1.0
DIGR	**Digorskoe uzhe**	**1.46**	**239**	*e*Pg		Pb	18 52 17.8	0.0
DIGR				*e*Sg		Sg	18 52 38.0	-0.3
XNZR	**Khunzakh**	**1.53**	**137**	*e*Pg		Pb	18 52 19.7	+0.8
XNZR				*e*Sg		Sg	18 52 40.4	-0.1
KIV0	**Kislovodsk Arr**	**1.90**	**280**	*e*Pg		Pb	18 52 24.1	-1.1
KIV0				*e*Sg		Sb	18 52 49.7	+1.2
KIV	**Kislovodsk**	**1.90**	**280**	*e*Pg		Pb	18 52 25.0	-0.3
SHA1	**Shidzhatmaz**	**1.91**	**273**	*e*Pg		Pn	18 52 23.5	+0.7
SHA1				*e*Sg		Sb	18 52 49.9	+1.0
NEY	**Neytrino**	**1.91**	**258**	*e*Pg		Pb	18 52 25.2	-0.3
NEY				*e*Sg		Sb	18 52 50.4	+1.5

*KLM **13** 18:51:57.0, 10°.35N×123°.59E, h20km, mb4.7*
*MAN **13** 18:52:17.2, 9°.51N×122°.57E, h60km, mb5.0, ML3.9, MS4.0*
*ISCJB **13** 18:52:18.1±0.2, 9°.49N±0°.02×122°.65E±0°.02, h86km±2km, mb4.5/60, Error ellipse: s-maj=4.0km s-min=2.9km az=169.9*
*NEIC **13** 18:52:20.9±0.5, 9°.44N×122°.69E, h101km±5km, mb4.7/41, Error ellipse: s-maj=5.5km s-min=3.5km az=80.0*
NEIC Felt [IV PIVS] at Jinoba-an and [III PIVS] at Bayawan and Sipalay. Also felt at Tanjay.
*IDC **13** 18:52:21.6±2.4, 9°.45N×122°.73E, h107km±22km, mb3.9/25, mb1 4.0/29, mb1mx3.9/46, mbtmp4.3/29, MS3.4/8, Ms1 3.4/8, ms1mx3.1/40, Error ellipse: s-maj=16.9km s-min=8.9km az=80.0*
*DJA **13** 18:52:21.5±0.8, 9°.N±5°×12°.3E±°, h59km±10km, M4.5/22, mB5.0/5, mb4.6/22, MLv4.6/1, Mw(mB)4.3/5*

ISC 13 18:52:18.6±0.7, 9°.49N±0°.03×122°.60E±0°.03, h74km±7km, n173, σ1§81/190, mb4.7/60, 2C-6D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.65**	**103**	⇓*i*P		**Pn**	**18 52 33.4**	**+0.1**
SNPH				*i* S		**Sn**	**18 52 44.0**	**-0.3**
GUIM	**Jordan**	**1.12**	**360**	*e*P		**Pn**	**18 52 37.1**	**-1.8**
GUIM				*e*S		**Sn**	**18 52 48.4**	**-5.7**
DCPH	**Dipolog City**	**1.17**	**140**	⇓*e*P		**Pn**	**18 52 40.3**	**+0.7**
DCPH				*i* S		**Sn**	**18 52 56.1**	**+0.9**
TBP	**Tagbilaran**	**1.27**	**81**	*e*P		**Pn**	**18 52 40.6**	**0.0**
TBP				*i* S		**Sn**	**18 52 57.6**	**+0.4**
JAP	**San Jose, Anti**	**1.40**	**333**	⇑*i*P		**Pn**	**18 52 42.1**	**-0.3**
LLP	**Lapu-Lapu**	**1.58**	**59**	⇓*i*P		**Pn**	**18 52 44.8**	**0.0**
LLP				*i* S		**Sn**	**18 53 04.3**	**-0.3**
IPIL	**Ipil**	**1.70**	**181**	*e*P		**Pn**	**18 52 46.2**	**-0.2**
IPIL				*e*S		Sn	18 52 58.3	-9.0
PAGZ	**Pagadian**	**1.81**	**155**	*e*P		**Pn**	**18 52 49.5**	**+1.7**
PAGZ				*e*S		**Sn**	**18 53 04.2**	**-5.8**
CUYO	**Cuyo Island**	**2.06**	**311**	*e*P		**Pn**	**18 52 50.2**	**-1.0**
CUYO				*e*S		Sn	18 53 08.0	-7.9
RCP	**Roxas**	**2.06**	**4**	⇓*e*P		**Pn**	**18 52 51.7**	**+0.5**
RCP				*e*S		**Sn**	**18 53 17.1**	**+1.1**
CGP	**Cagayan de Oro**	**2.32**	**116**	⇓*e*P		**Pn**	**18 52 56.4**	**+1.8**
CGP				*e*S		**Sn**	**18 53 22.9**	**+0.7**
MSLP	**Maasin**	**2.32**	**74**	*e*P		**Pn**	**18 52 55.

JAGI	Jajag, Banyuwa 56nm,1.1s	19.73	205	*e*P		Pn	18 56 45.0	+0.5	
PPBI	Pangkal Pinang 18nm,1.5s	20.07	236	P		Pn	18 56 49.2	+0.6	
NGJI	Ngawi 83nm,1.0s	20.09	214	P		Pn	18 56 50.0	+1.2	
MYKOM	Kota Tinggi	20.15	249	P		P	18 56 37.0	-10	
IPM	Ipoh 14nm,1.0s	21.98	258	*e*P		P	18 57 07.2	+0.6	
LEM	Lembang 5.1nm,0.4s,baz=342,slow=19,SNR=2.2	22.04	223	P		P	18 57 05.2	-2.2	
KULM	Kulim 21nm,1.1s	22.16	261	*e*P		P	18 57 08.8	+0.2	
PBKT	Sadao Pong 4.7nm,1.0s	22.20	291	*e*P		P	18 57 12.0	+3.1	
MDSI	Maura Dua 43nm,1.2s	23.02	234	P		P	18 57 18.6	+1.0	
CGJI	Cibinong 70nm,1.1s	23.23	227	P		P	18 57 20.0	+0.4	
MTN	Manton Dam 43nm,1.4s	23.76	159	*e*P		P	18 57 24.7	+0.3	
MNAI	Manna 836nm,1.7s	23.93	236	*e*P		P	18 57 28.5	+2.5	
ENH	Enshi 12nm,1.4s	24.02	331	*e*P		P	18 57 27.0	+0.3	
PSI	Prapat 13nm,0.8s,baz=1.7,slow=1.6,SNR=11	24.44	256	P		P	18 57 32.1	+1.3	
PSI	Prapat 15nm,0.8s	24.44	256	*e*P		P	18 57 32.3	+1.5	
MNSI	Mandailing Nat 24nm,1.1s	24.48	251	P		P	18 57 33.0	+2.1	
CM01	Chiang Mai Arr	24.57	294	*e*P		P	18 57 33.2	+1.4	
CMAR	Chiang Mai Arr 1.1nm,1.0s,baz=94,slow=6.6,SNR=3.1	24.59	294	P		P	18 57 33.2	+1.2	
JNU	Nakatsue	24.73	17	P		P	18 57 32.7	-0.3	
JNU	Nakatsue 14nm,1.1s,baz=203,slow=16,SNR=2.7	24.73	17	*e*P		P	18 57 33.6	+0.5	
KCSI	Kotacane, Aceh 106nm,1.6s	25.36	258	P		P	18 57 40.4	+1.4	
LHMI	Lhok Sumawe 32nm,0.8s	25.78	262	*e*P		P	18 57 44.2	+1.4	
GSI	Gunungsitoli 138nm,1.6s	26.18	253	*e*P		P	18 57 46.2	-0.2	
FITZ	Fitzroy Crossi 6.7nm,0.8s,baz=3.5,slow=8.9,SNR=14	27.58	174	P		P	18 57 58.5	-0.4	
FITZ	Fitzroy Crossi 11nm,1.0s	27.58	174	*e*P		P	18 57 58.3	-0.6	
KSAR	Wonju Array Be	28.23	9	P		P	18 58 04.3	-0.2	
KSRS	Korea Array 1.6nm,0.8s,baz=193,slow=9.2,SNR=2.8	28.25	9	P		P	18 58 04.3	-0.4	
KSRS	comp=Z,75nm,21.7s,baz=198,slow=35			LR		LR	19 08 41.1		
MJAR	Matsushiro Arr comp=Z,30nm,20.1s,baz=225,slow=35	30.43	25	LR		LR	19 09 57.3		
BJT	Baijiatuau 59nm,1.9s	30.93	350	*e*P		P	18 58 29.0	+0.6	
WRAB	Tennant Creek 28nm,1.8s	31.45	158	*e*P		P	18 58 31.6	-1.5	
WRA	Warramunga Arr 2.0nm,0.6s,baz=336,slow=10,SNR=28	31.45	158	P		P	18 58 31.6	-1.7	
WR1	Warramunga Arr 18nm,1.5s	31.45	158	*e*P		P	18 58 31.6	-1.7	
WB2	Warramunga Arr	31.46	158	*e*P		P	18 58 31.3	-2.0	
SHL	Shillong 12nm,1.0s	33.24	303	*e*P		P	18 58 48.9	-0.2	
AS31	Alice Springs 2.6nm,0.6s	34.76	162	*e*P		P	18 59 01.5	-0.6	
ASAR	Alice Springs 5.2nm,0.5s,baz=341,slow=7.0,SNR=169	34.76	162	P		P	18 59 01.3	-0.8	
AS01	Alice Springs	34.78	162	*e*P		P	18 59 00.9	-1.2	
MDJ	Mudanjiang 63nm,1.7s	35.51	9	*e*P		P	18 59 08.0	-0.2	
USA0B	Ussuriysk Arra 67nm,1.9s	35.52	12	*e*P		P	18 59 08.9	+0.6	
USRK	Ussuriysk Ar. 6.6nm,0.6s,baz=200,slow=7.8,SNR=12	35.52	12	P		P	18 59 08.6	+0.3	
USRK	comp=Z,42nm,18.4s,baz=178,slow=37			LR		LR	19 14 32.5		
LSA	Lhasa 5.5nm,1.5s	35.61	309	*e*P		P	18 59 10.1	+0.3	
GTA	Gaotai	36.08	329	*e*P		P	18 59 14.3	+1.0	
GTA				pP		pP	18 59 21.3	-10	
GTA				sP		sP	18 59 25.0	-15	
GTA	comp=Z,4.0nm,1.2s			pmax		pmax			
RAMN	Ramite comp=Z,7.8nm,0.7s	38.16	302	*e*P		P	18 59 33.0	+1.7	
ASAJ	Asahikawa comp=Z,5.8nm,0.9s,baz=226,slow=7.1,SNR=5.1	38.62	23	P		P	18 59 35.0	+0.4	
JIRN	Jiri comp=Z,17nm,0.5s	38.75	303	*e*P		P	18 59 37.4	+1.1	
GUN	Gumba comp=Z,7.1nm,0.4s	39.09	303	*e*P		P	18 59 40.6	+1.4	
PKI	Pulchoki comp=Z,4.6nm,0.5s	39.37	302	*e*P		P	18 59 42.1	+0.6	
PKIN	Phulchoki comp=Z,2.8nm,0.5s	39.38	302	*e*P		P	18 59 42.1	+0.6	
KKN	Kakani comp=Z,6.6nm,0.8s	39.55	302	*e*P		P	18 59 43.8	+0.9	
DMN	Daman	39.63	302	*e*P		P	18 59 44.6	+1.0	
KLR	Kul'dur comp=Z,55nm,19.0s,baz=223,slow=38	40.34	9	LR		LR	19 17 45.3		
FORT	Forrest comp=Z,15nm,0.7s	40.38	173	*e*P		P	18 59 49.0	-0.4	
ULN	Ulaanbaatar comp=Z,4.3nm,1.2s	40.44	344	*e*P		P	18 59 51.0	+1.2	
SONA0	Songino Array	40.59	343	*e*P		P	18 59 51.3	+0.2	
SONA0				*e*PcP		PcP	19 01 51.7	-0.3	
SONA0				*e*			19 17 46.2		
SONM	Songino Array comp=Z,0.9nm,0.7s,baz=162,slow=9.6,SNR=7.4	40.59	343	P		P	18 59 51.3	+0.2	
SONM	comp=Z,0.7nm,0.7s,baz=191,slow=1.5,SNR=3.8			PcP		PcP	19 01 51.7	-0.3	
SONM	comp=Z,84nm,18.9s,baz=184,slow=38			LR		LR	19 17 46.2		
SONA1	Songino Array	40.60	343	*e*P		P	18 59 51.7	+0.5	
KOLN	Koldanda comp=Z,7.3nm,0.7s	40.95	302	*e*P		P	18 59 55.2	+0.8	
DANN	Dangsing comp=Z,5.6nm,0.6s	41.00	303	*e*P		P	18 59 55.8	+0.8	
BBOO	Buckleboo comp=Z,65nm,1.9s	43.98	164	*e*P		P	19 00 18.2	-0.5	
STKA	Stephens Creek comp=Z,4.8nm,0.8s,baz=326,slow=8.7,SNR=8.3	44.98	157	P		P	19 00 25.4	-1.1	
STKA	Stephens Creek comp=Z,2.1nm,1.3s	44.98	157	*e*P		P	19 00 26.1	-0.4	
MK01	Makanchi Array	50.49	325	*e*P		P	19 01 09.4	+0.3	
MK31	Makanchi Array	50.51	325	*e*P		P	19 01 09.8	+0.6	
MK32	Makanchi Array	50.51	325	*e*P		P	19 01 09.9	+0.7	
MKAR	Makanchi Array comp=Z,2.5nm,0.7s,baz=123,slow=8.7,SNR=19	50.51	325	P		P	19 01 09.9	+0.7	
MKAR	Makanchi Array comp=Z,15nm,0.6s	50.51	325	*e*P		P	19 01 10.0	+0.7	
CAN	Canberra comp=Z,63nm,1.8s	51.08	152	*e*P		P	19 01 12.8	-0.9	
PETK	Petropavlovsk- comp=Z,1.3nm,0.5s,baz=214,slow=6.6	51.88	26	P		P	19 01 18.5	-0.9	
PEA1	Petropavlovsk-	51.88	26	*e*P		P	19 01 18.5	-0.9	
ZALV	Zalesovo Beam comp=Z,2.0nm,0.4s,baz=134,slow=7.2,SNR=7.2	53.62	333	P		P	19 01 31.7	-0.5	
ZALV	Zalesovo Beam	53.62	333	*e*P		P	19 01 31.5	-0.7	
ZAA1	Zalesovo Array	53.63	333	*e*P		P	19 01 31.7	-0.5	
KURK	Kurchatov comp=Z,9.8nm,1.0s	54.70	327	*e*P		P	19 01 40.6	+0.5	
KK31	Karatay Array	56.25	316	*e*P		P	19 01 52.5	+1.1	
KKAR	Karatay Array	56.25	316	*e*P		P	19 01 52.5	+1.1	
BVAR	Borovoye Array comp=Z,1.1nm,0.7s,baz=127,slow=11,SNR=2.6	60.28	327	P		P	19 02 19.7	+0.4	
BRVK	Borovoye comp=Z,5.7nm,1.0s	60.35	327	*e*P		P	19 02 19.8	+0.1	
TIXI	Tiksi comp=Z,7.0nm,0.8s,baz=197,slow=4.7,SNR=7.9	62.22	2	P		P	19 02 31.0	-1.1	
TIXI	Tiksi comp=Z,8.4nm,0.8s	62.22	2	*e*P		P	19 02 30.5	-1.5	
NRIK	Noril'sk comp=Z,8.6nm,0.5s,baz=112,slow=3.4,SNR=5.6	63.91	347	P		P	19 02 42.6	-0.6	
ABKAR	Akbulak array	65.12	320	*e*P		P	19 02 51.5	0.0	
ARU	Arti baz=162,slow=19	67.90	327	P		P	19 03 09.6	+0.5	
ARU	Arti	67.90	327	*e*P		P	19 03 09.2	+0.1	
IM3	Indian Mountai	78.81	24	*e*P		P	19 04 12.8	-0.3	
PPLA	Purkeypile comp=Z,74nm,1.9s	79.44	28	*e*P		P	19 04 15.5	-1.2	
MLY	Manley comp=Z,4.9nm,0.8s	80.05	25	*e*P		P	19 04 19.6	-0.4	
BRLK	Bradley Lake comp=Z,53nm,1.6s	80.12	31	*e*P		P	19 04 18.7	-1.7	
TRF	Thorofare Moun comp=Z,42nm,1.9s	80.29	27	*e*P		P	19 04 19.6	-1.8	
MCK	McKinley comp=Z,34nm,1.8s	80.88	27	*e*P		P	19 04 23.1	-1.2	
RND	Reindeer comp=Z,40nm,1.9s	80.94	27	*e*P		P	19 04 22.9	-1.9	
WRH	Wood River Hil comp=Z,25nm,1.9s	81.21	26	*e*P		P	19 04 24.9	-1.2	
DHY	Denali Highway comp=Z,19nm,1.7s	81.62	27	*e*P		P	19 04 27.8	-0.8	
IL1	Eielson Array	81.71	26	*e*P		P	19 04 27.0	-1.7	
ILAR	Eielson Array comp=Z,0.6nm,0.6s,baz=250,slow=4.4,SNR=9.4	81.71	26	P		P	19 04 27.5	-1.2	
ILB	Eielson Array	81.71	26	*e*P		P	19 04 27.4	-1.3	
BR101	Keskin Array S	83.21	309	*e*P		P	19 04 37.3	0.0	
BRTR	Keskin Array B comp=Z,0.5nm,0.8s,baz=99,slow=7.6,SNR=4.0	83.21	309	P		P	19 04 37.3	0.0	
ARA0	ARCESS Array S	83.65	339	*e*P		P	19 04 38.6	-0.1	
ARCES	ARCESS Array B comp=Z,1.8nm,0.4s,baz=85,slow=5.9,SNR=15	83.65	339	P		P	19 04 38.6	-0.1	
SPITS	Spitsbergen Ar comp=Z,9.0nm,0.7s,baz=90,slow=9.2,SNR=14	84.06	349	P		P	19 04 40.7	0.0	
FIA0	FINESS Array S	84.84	331	*e*P		P	19 04 44.4	-0.5	
FINES	FINESS Array B comp=Z,2.0nm,0.6s,baz=50,slow=5.5,SNR=10	84.84	331	P		P	19 04 44.4	-0.5	
AKASG	Malin Array Be comp=Z,0.8nm,0.6s,baz=78,slow=4.3,SNR=3.4	84.86	320	P		P	19 04 44.2	-1.0	
VNDA	Vanda comp=Z,0.4nm,0.8s,baz=323,slow=6.5,SNR=2.8	89.64	172	P		P	19 05 06.9	-0.8	
NB200	NORSAR Array S	91.83	333	*e*P		P	19 05 16.5	-1.8	
NB200				*e*			19 51 14.3		
NOA	NORSAR Array B comp=Z,0.8nm,0.8s,baz=66,slow=4.5,SNR=2.8	91.83	333	P		P	19 05 16.5	-1.8	
NOA	comp=Z,18nm,18.3s,baz=55,slow=38			LR		LR	19 51 14.3		
TORD	Torodi Ar. Bea comp=Z,0.4nm,0.8s,baz=129,slow=3.9	117.16	290	PKP		PKPdf	19 10 55.8	-0.4	
TOA1	Torodi Ar. Sit	117.16	290	*e*PKPdf		PKPdf	19 10 55.8	-0.4	

SFS ***13*** *19:18:24.0, 41.°11N×1.°06W, h11km, ML3.2, NOGUERAS (TERUEL)*
LDG ***13*** *19:18:25.2±0.1, 41.°15N×1.°07W, h11km, Md3.2/2, Ml3.6/24, Error ellipse: s-maj=2.0km s-min=1.3km az=139.0*
INMG ***13*** *19:18:25.2±1.7, 41.°12N×1.°11W, h16km±3km, MD3.6, ML3.2, Error ellipse: s-maj=2.0km s-min=1.7km az=134.0*
MDD ***13*** *19:18:25.0±0.2, 41.°15N×1.°08W, h11km, mbLg3.2/48, Error ellipse: s-maj=2.5km s-min=1.9km az=129.0, PRXIMO*
MDD EMS: III-IV INTENSIDAD MAXIMA.
STR ***13*** *19:18:28.4±0.9, 41°N×3°×±°, h8km±6km, M3.7/7, MLv3.7/7*
ISC 13 19:18:24.2±1.1, 41.16N±0.02×1.16W±0.02, h12km±9km, n167,σ2s12/258, 4C-3D, Spain

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ETOR	Torete 44nm,0.4s,SNR=18	0.76	244	⇑Pg		Pg		19 18 39.6	+0.7
ETOR				Lg		Lg		19 18 49.8	
ESAC	San Caprasio 312nm,0.2s,SNR=18	0.77	42	⇑Pg		Pg		19 18 37.8	-1.3
ESAC				Lg		Lg		19 18 48.8	
EMOS	Mosqueruela 197nm,0.3s,SNR=7.9	0.95	146	Pg		Pg		19 18 41.3	-1.2
EMOS				Lg		Lg		19 18 54.2	
ERTA	Horta de San J 332nm,0.3s,SNR=7.9	1.15	100	Pg		Pg		19 18 44.6	-1.7
ERTA				Lg		Lg		19 18 59.6	
EBR	Ebro Roquetas 1μm,0.2s,SNR=18	1.30	104	⇑Pg		Pg		19 18 47.7	-1.5
EBR				Lg		Lg		19 19 04.0	
YSOS	Sos del Rey Ca 96nm,0.1s,SNR=7.9	1.30	0	Pg		Pg		19 18 48.8	-0.4
YSOS				Lg		Lg		19 19 05.7	
YUND	Undues 2.9nm,0.2s,SNR=7.9	1.42	1	Pn		Pg		19 18 49.5	-2.0
YUND				Pg		Pg		19 18 51.2	-0.3
YARA	Arangoiti 0.5nm,0.1s,SNR=7.9	1.49	359	Pn		Pn		19 18 51.1	+0.2
YARA				Pg		Pg		19 18 53.2	+0.4
EARA	Aranguren 20nm,0.2s,SNR=16	1.64	349	Pn		Pn		19 18 54.0	+1.0
EARA				Sg		Sn		19 19 15.8	+1.8
EARA	Aranguren 159nm,0.2s,SNR=7.9	1.64	349	Pn		Pn		19 18 53.4	+0.4
EARA				Sn		Sn		19 19 14.3	+0.3
IPRE	Itoiz 2.1nm,0.2s,SNR=7.9	1.65	355	Pn		Pn		19 18 53.2	+0.1
IPRE				Pg		Pg		19 18 55.2	-0.7
IELO	Elcoad 7.8nm,0.3s,SNR=7.9	1.69	358	Pn		Pn		19 18 53.3	-0.2
IELO				Pg		Pg		19 18 55.9	-0.7
IELO				Sn		Sn		19 19 15.3	+0.2
EORO	Oroz-Betelu 0.9nm,0.3s,SNR=7.9	1.74	356	Pg		Pn		19 18 56.4	+2.2
EORO				Sn		Sn		19 19 16.3	-0.1
EORO				Lg		Lg		19 19 19.3	
UCM	Universidad Co	1.80	242	*e*P		Pb		19 18 59.6	+2.6
UCM				*i* S		Sb		19 19 22.6	+3.1
ETSF	Etsaut	1.80	14	*e*Pn		Pn		19 18 54.7	-0.4
ETSF	Etsaut	1.80	14	*e*Pg		Pn		19 18 57.7	+2.6
ETSF				*e*Sn		Sn		19 19 15.4	-2.5
ETSF				*e*Sg		Sg		19 19 19.1	-2.9
ETSF	Etsaut	1.80	14	Pn		Pn		19 18 54.7	-0.4
ETSF				Pg		Pg		19 18 57.7	-1.0
ETSF				Sn		Sn		19 19 15.4	-2.5
ETSF				Lg		Lg		19 19 19.1	
SJPF	Ste Jean	1.96	359	*e*Pn		Pn		19 18 57.1	-0.1
SJPF	Ste Jean	1.96	359	Pn		Pn		19 18 57.1	-0.1
SJPF				Pg		Pg		19 19 00.2	-1.5
SJPF				Sn		Sn		19 19 20.8	-0.9
ATE	Arette 2.7nm,0.1s,SNR=7.9	1.96	10	Pn		Pn		19 18 57.2	-0.1
ATE				Pg		Pg		19 19 00.3	-1.4
ATE				Sn		Sn		19 19 21.1	-0.6
REYF	Montagne du Re	2.00	16	Pn		Pn		19 18 57.9	+0.1
REYF				Sg		Sn		19 19 26.1	+3.3
EALK	Alkurruntz	2.08	353	Pn		Pn		19 19 00.1	+1.2
EALK				Sg		Sn		19 19 29.0	+4.2
EALK	Alkurruntz 7.1nm,0.2s,SNR=32	2.08	353	Pn		Pn		19 18 59.4	+0.4
EALK				Pg		Pg		19 19 05.1	+1.1
EALK				Sn		Sn		19 19 24.7	-0.1
OSSF	Osses	2.10	358	Pn		Pn		19 18 59.0	-0.2
OSSF				Sn		Sn		19 19 25.0	-0.2
LABF	Labassere	2.10	26	Pn		Pn		19 18 59.1	-0.1
LABF				Sg		Sn		19 19 27.9	+2.6
CSOR	Sort 3.2nm,0.3s,SNR=85	2.10	54	Pn		Pn		19 18 58.6	-0.7
CSOR				Pg		Pg		19 19 01.5	-3.1
CSOR				Sn		Sn		19 19 22.5	-3.0
CSOR				Lg		Lg		19 19 29.1	
PYLO	Lourdes	2.11	23	Pg		Pn		19 19 02.1	+2.8
PYLO				Sg		Sn		19 19 28.5	+3.0
EMIR	Miracle 24nm,0.3s,SNR=18	2.15	69	⇑Pn		Pn		19 18 59.4	-0.6
EMIR				Pg		Pg		19 19 03.0	-2.5
EMIR				Lg		Lg		19 19 28.5	
EPF	Esparros	2.18	30	*e*Pn		Pn		19 19 00.0	-0.3
EPF	Esparros	2.18	30	*e*Pg		Pn		19 19 03.4	+3.1
EPF				*e*Sg		Sn		19 19 30.2	+2.9
EPF	Esparros	2.18	30	Pn		Pn		19 19 00.0	-0.3
EPF				Pg		Pg		19 19 03.4	-2.6
EPF				Lg		Lg		19 19 30.2	
MELF	Melles	2.23	39	Pn		Pn		19 19 00.8	-0.3
MELF				Sg		Sn		19 19 31.7	+3.1
GUD	Guadarrama 0.0nm,0.2s,SNR=18	2.33	258	⇓Pn		Pn		19 19 03.4	+1.0
GUD				Pg		Pg		19 19 08.5	-0.3
GUD				Sn		Sn		19 19 30.7	-0.3
GUD				Lg		Lg		19 19 38.4	
SALF	Salau	2.37	47	Pn		Pn		19 19 02.7	-0.3
SALF				Sn		Sn		19 19 30.8	-1.3
SALF				Sg		Sg		19 19 36.0	-4.5
MLS	Moulis	2.46	42	Pg		Pb		19 19 08.5	+0.1
MLS				Sg		Sn		19 19 38.7	+4.5
ETOB	Tobarra 0.3nm,0.1s,SNR=7.9	2.53	187	Pn		Pn		19 19 07.4	+2.3
ETOB				Pg		Pg		19 19 10.5	-2.1
ETOB				Sn		Sn		19 19 33.0	-2.8
ETOB				Lg		Lg		19 19 43.6	
ESDC	Sonseca Array 12nm,0.3s,baz=59,slow=14,SNR=102	2.60	236	Pn		Pn		19 19 06.3	+0.2
ESDC				Sn		Sn		19 19 36.6	-1.1
ESDC				Lg		Lg		19 19 48.1	
ELAN	Lanestosa 12nm,0.3s,SNR=44	2.67	322	Pn		Pn		19 19 08.0	+0.9
ELAN				Pg		Pg		19 19 14.3	-1.2
ELAN				Sn		Sn		19 19 40.1	+0.6
ELAN				Lg		Lg		19 19 50.4	
CLLI	Llivia 5.9nm,0.4s,SNR=28	2.69	60	Pn		Pn		19 19 07.1	-0.4
CLLI				Pg		Pg		19 19 12.7	-3.1
CLLI				Sn		Sn		19 19 37.2	-2.8
CLLI				Lg		Lg		19 19 47.8	
CFON	Fontmartina 12nm,0.1s,SNR=45	2.77	76	Pn		Pn		19 19 07.9	-0.6
CFON				Pg		Pg		19 19 13.7	-3.6
CFON				Sn		Sn		19 19 38.8	-3.1
CFON				Lg		Lg		19 19 50.5	
CARF	Carcanieres	2.89	56	Pn		Pn		19 19 10.2	+0.1
PAB	San Pablo 7.5nm,0.3s,SNR=7.9	2.92	238	Pn		Pn		19 19 10.8	+0.3
PAB				Pg		Pg		19 19 17.8	-2.3
PAB				Sn		Sn		19 19 44.4	-1.2
PAB				Lg		Lg		19 19 58.3	
FNEB	N˜bias	3.00	53	Pn		Pn		19 19 12.0	+0.5
FNEB				Sg		Sb		19 19 55.6	+1.6
SESP	Santiago Espad 0.6nm,0.3s,SNR=7.9	3.22	200	Pn		Pn		19 19 16.5	+1.8
SESP				Pg		Pg		19 19 24.8	-1.0
SESP				Sn		Sn		19 19 51.1	-1.9
SESP				Lg		Lg		19 20 06.1	
EJON	La Jonquera 4.4nm,0.2s,SNR=7.9	3.29	66	Pn		Pn		19 19 14.7	-0.9
EJON				Pg		Pg		19 19 24.2	-3.0
EJON				Sn		Sn		19 19 51.7	-2.9
EJON				Lg		Lg		19 20 05.7	
EMUR	La Murta 1.1nm,0.4s,SNR=7.9	3.31	181	Pn		Pn		19 19 15.1	-0.8
EMUR				Pg		Pg		19 19 24.1	-3.5
EMUR				Sn		Sn		19 19 50.3	-4.8
EMUR				Lg		Lg		19 20 08.2	
MTLF	Montolieu	3.32	48	*e*Pn		Pn		19 19 15.9	-0.1
MTLF	Montolieu	3.32	48	*e*Pg		Pb		19 19 24.2	+1.1
MTLF				*e*Sg		Sb		19 20 06.5	+3.0
MTLF	Montolieu	3.32	48	Pn		Pn		19 19 15.9	-0.1
MTLF	Montolieu	3.32	48	Pn		Pn		19 19 15.9	-0.1
MTLF				Pg		Pg		19 19 24.2	-3.7
MTLF				Lg		Lg		19 20 06.5	
MONQ	Montcuq	3.65	28	Pn		Pn		19 19 20.2	-0.2
EQES	Quesada 1.0nm,0.3s,SNR=7.9	3.66	204	Pn		Pn		19 19 20.9	+0.1
EQES				Pg		Pg		19 19 32.8	-1.6
EQES				Sn		Sn		19 20 01.8	-2.1
EQES				Lg		Lg		19 20 19.9	
EARI	Arriondas 13nm,0.4s,SNR=38	3.69	307	Pn		Pn		19 19 23.5	+2.4
EARI				Pg		Pg		19 19 32.4	-2.5
EARI				Sn		Sn		19 20 03.1	-1.4
EARI				Lg		Lg		19 20 18.8	
EPLA	Plasencia 2.3nm,0.1s,SNR=18	3.90	255	⇓Pn		Pn		19 19 24.5	+0.5
EPLA				Pg		Pg		19 19 37.5	-1.4
EPLA				Sn		Sn		19 20 09.1	-0.6
EPLA				Lg		Lg		19 20 29.2	
EADA	Adamuz 0.4nm,0.2s,SNR=7.9	3.98	223	Pn		Pn		19 19 25.1	0.0
EADA				Pg		Pg		19 19 40.2	-0.3
EADA				Sn		Sn		19 20 09.7	-2.0
EADA				Lg		Lg		19 20 30.6	
LFF	La Frestale 37nm,0.2s	4.03	20	*e*Pn		Pn		19 19 24.9	-0.8
LFF				*e*Sn		Sn		19 20 09.6	-3.2
LFF	La Frestale 18nm,0.2s	4.03	20	Pn		Pn		19 19 24.9	-0.8
LFF				Sn		Sn		19 20 09.6	-3.2
PBRG	Braganca	4.24	281	*e*Pn		Pn		19 19 29.0	+0.3

PBRG				eSn	Sn	19 20 16.5	-1.6		
PBRG				A	A	19 20 46.0			
	35nm,0.6s								
PBRG	**Braganca**	**4.24**	**281**	Pn	**Pn**	**19 19 29.0**	**+0.3**		
PBRG				Sn	**Sn**	**19 20 16.5**	**-1.6**		
	18nm,0.6s								
ECAL	**Calabor**	**4.26**	**282**	Pn	**Pn**	**19 19 29.3**	**+0.4**		
	3.7nm,0.2s,SNR=32								
ECAL				Pg	Pg	19 19 43.4	-2.4		
	28nm,0.3s,SNR=9.9								
ECAL				Sn	**Sn**	**19 20 17.5**	**-1.1**		
	45nm,0.3s,SNR=7.9								
ECAL				Lg	Lg	19 20 40.0			
	48nm,0.3s,SNR=5.0								
EQUE	**Quentar**	**4.33**	**205**	Pn	**Pn**	**19 19 30.4**	**+0.5**		
	0.8nm,0.3s,SNR=7.9								
EQUE				Pg	Pg	19 19 44.6	-2.5		
	0.5nm,0.2s,SNR=5.9								
EQUE				Sn	**Sn**	**19 20 16.8**	**-3.5**		
	0.7nm,0.2s,SNR=7.9								
EQUE				Lg	Lg	19 20 41.0			
	7.2nm,0.4s,SNR=7.9								
MVO	**Moncorvo**	**4.43**	**272**	ePn	**Pn**	**19 19 31.8**	**+0.5**		
MVO				eSn	**Sn**	**19 20 21.0**	**-1.8**		
MVO				eSg	Sg	19 20 46.0	-0.4		
MVO				A	A	19 20 55.7			
	49nm,0.7s								
MVO	**Moncorvo**	**4.43**	**272**	⇓Pn	**Pn**	**19 19 31.7**	**+0.5**		
	5.9nm,0.1s,SNR=18								
MVO				Pg	Pg	19 19 47.4	-1.7		
	8.1nm,0.5s,SNR=9.6								
MVO				Sn	**Sn**	**19 20 21.3**	**-1.5**		
	11nm,0.2s,SNR=7.9								
MVO				Lg	Lg	19 20 45.6			
	30nm,0.3s,SNR=7.6								
CAF	**Calviac**	**4.45**	**31**	ePn	**Pn**	**19 19 30.5**	**-1.0**		
CAF				eSn	**Sn**	**19 20 20.7**	**-2.4**		
	24nm,0.2s								
CAF				eSg	Sg	19 20 41.2	-5.7		
	21nm,0.3s								
CAF	**Calviac**	**4.45**	**31**	Pn	**Pn**	**19 19 30.5**	**-1.0**		
CAF				Sn	**Sn**	**19 20 20.7**	**-2.4**		
	12nm,0.2s								
CAF				Lg	Lg	19 20 41.2			
	10nm,0.3s								
EBER	**Berja**	**4.46**	**198**	Pn	**Pn**	**19 19 32.9**	**+1.1**		
	0.6nm,0.3s,SNR=7.9								
EBER				Pg	Pg	19 19 44.1	-5.6		
	8.2nm,0.6s,SNR=7.9								
EBER				Lg	Lg	19 20 45.1			
	267nm,2.3s,SNR=7.9								
ECAB	**El Cabril**	**4.50**	**228**	Pn	**Pn**	**19 19 32.0**	**-0.2**		
	0.8nm,0.3s,SNR=7.9								
ECAB				Pg	Pg	19 19 48.3	-2.2		
	1.0nm,0.3s,SNR=7.9								
ECAB				Sn	**Sn**	**19 20 22.6**	**-2.0**		
	3.4nm,0.3s,SNR=7.9								
ECAB				Lg	Lg	19 20 47.4			
	9.9nm,0.4s,SNR=7.9								
RJF	**Les Rejaudoux**	**4.58**	**24**	ePn	**Pn**	**19 19 31.8**	**-1.5**		
RJF				eSn	**Sn**	**19 20 22.3**	**-4.2**		
	71nm,0.3s								
RJF	**Les Rejaudoux**	**4.58**	**24**	Pn	**Pn**	**19 19 31.8**	**-1.5**		
RJF				Sn	**Sn**	**19 20 22.3**	**-4.2**		
	36nm,0.3s								
LASF	**Ste Croix**	**4.71**	**50**	ePn	**Pn**	**19 19 34.0**	**-1.1**		
LASF	**Ste Croix**	**4.71**	**50**	ePg	**Pb**	**19 19 51.1**	**+4.3**		
LASF				eSg	**Sb**	**19 20 49.2**	**+5.8**		
	21nm,0.4s								
LASF	**Ste Croix**	**4.71**	**50**	Pn	**Pn**	**19 19 34.0**	**-1.1**		
LASF				Pg	Pg	19 19 51.1	-3.4		
LASF				Lg	Lg	19 20 49.2			
	10nm,0.4s								
TRBF	**Trabuc cave**	**4.79**	**50**	Pn	**Pn**	**19 19 35.2**	**-0.9**		
MTE	**Manteigas**	**4.91**	**263**	ePn	**Pn**	**19 19 37.8**	**0.0**		
MTE				eSn	**Sn**	**19 20 32.4**	**-2.1**		
MTE				eSg	Sg	19 21 01.1	-0.6		
MTE				A	A	19 21 19.1			
	40nm,0.6s								
MTE	**Manteigas**	**4.91**	**263**	Pn	**Pn**	**19 19 37.8**	**0.0**		
MTE				Sn	**Sn**	**19 20 32.4**	**-2.1**		
MTE				Lg	Lg	19 21 01.1			
	20nm,0.6s								
EPON	**Pontenova**	**4.95**	**298**	Pn	**Pn**	**19 19 38.9**	**+0.6**		
	1.1nm,0.2s,SNR=9.8								
EPON				Pg	Pg	19 19 56.3	-2.6		
	3.8nm,0.3s,SNR=7.7								
EPON				Sn	**Sn**	**19 20 32.4**	**-3.0**		
	9.7nm,0.3s,SNR=7.9								
EPON				Lg	Lg	19 20 59.4			
	21nm,0.3s								
PCBR	**Castelo Branco**	**4.99**	**257**	ePn	**Pn**	**19 19 39.0**	**+0.1**		
PCBR				eSn	**Sn**	**19 20 34.3**	**-2.2**		
PCBR				eSg	Sg	19 21 02.6	-1.8		
PCBR				A	A	19 21 14.9			
	19nm,0.5s								
PCBR	**Castelo Branco**	**4.99**	**257**	Pn	**Pn**	**19 19 39.0**	**+0.1**		
PCBR				Sn	**Sn**	**19 20 34.3**	**-2.2**		
PCBR				Lg	Lg	19 21 02.6			
	9.7nm,0.5s								
POLO	**Lamas de Olo**	**5.00**	**275**	ePn	**Pn**	**19 19 39.3**	**+0.1**		
POLO				eSn	**Sn**	**19 20 34.9**	**-2.1**		
POLO				eSg	Sg	19 21 03.4	-1.4		
POLO				A	A	19 21 09.9			
	13nm,0.5s								
PMRV	**Marv??o**	**5.07**	**252**	ePn	**Pn**	**19 19 40.5**	**+0.5**		
PMRV				eSn	**Sn**	**19 20 36.4**	**-2.0**		
PMRV				A	A	19 21 14.3			
	31nm,0.5s								
PMRV	**Marv??o**	**5.07**	**252**	Pn	**Pn**	**19 19 40.5**	**+0.5**		
PMRV				Sn	**Sn**	**19 20 36.4**	**-2.0**		
	31nm,0.5s								
EBAD	**Badajoz**	**5.10**	**244**	Pn	**Pn**	**19 19 40.6**	**+0.3**		
	0.4nm,0.1s,SNR=6.0								
EBAD				Sn	**Sn**	**19 20 35.6**	**-3.5**		
	4.0nm,0.2s,SNR=5.4								
EBAD				Lg	Lg	19 21 07.0			
	10.0nm,0.3s,SNR=5.0								
PVIS	**Viseu**	**5.12**	**267**	ePn	**Pn**	**19 19 41.0**	**+0.3**		
PVIS				eSn	**Sn**	**19 20 37.9**	**-1.9**		
PVIS				eSg	Sg	19 21 06.9	-1.6		
PVIS				A	A	19 21 12.9			
	23nm,0.7s								
PVIS	**Viseu**	**5.12**	**267**	Pn	**Pn**	**19 19 41.0**	**+0.3**		
PVIS				Sn	**Sn**	**19 20 37.9**	**-1.9**		
PVIS				Lg	Lg	19 21 06.9			
	12nm,0.7s								
PCAB	**Cabril**	**5.19**	**278**	ePn	**Pn**	**19 19 42.2**	**+0.5**		
PCAB				eSn	**Sn**	**19 20 39.0**	**-2.5**		
PCAB				eSg	Sg	19 21 08.2	-2.6		
PCAB				A	A	19 21 16.1			
	26nm,0.4s								
PCAB	**Cabril**	**5.19**	**278**	Pn	**Pn**	**19 19 42.2**	**+0.5**		
PCAB				Sn	**Sn**	**19 20 39.0**	**-2.5**		
PCAB				Lg	Lg	19 21 08.2			
	13nm,0.4s								
LBL	**Lubilhac**	**5.19**	**37**	Pn	**Pn**	**19 19 40.6**	**-1.1**		
ELOB	**Lobios**	**5.23**	**280**	Pn	**Pn**	**19 19 42.1**	**-0.1**		
	2.5nm,0.2s,SNR=7.9								
ELOB				Sn	**Sn**	**19 20 38.9**	**-3.6**		
	7.8nm,0.4s,SNR=7.9								
ELOB				Lg	Lg	19 21 09.4			
	11nm,0.4s,SNR=6.9								
PGAV	**Gavieira, Arco**	**5.39**	**281**	ePn	**Pn**	**19 19 44.4**	**-0.1**		
PGAV				eSn	**Sn**	**19 20 44.4**	**-2.2**		
PGAV				eSg	Sg	19 21 14.1	-3.2		
PGAV				A	A	19 21 22.9			
	21nm,0.5s								
EAGO	**Agolada(Pontev**	**5.42**	**290**	Pn	**Pn**	**19 19 44.8**	**-0.1**		
	1.8nm,0.1s,SNR=7.9								
EAGO				Pg	Pg	19 20 05.6	-2.4		
	1.6nm,0.3s,SNR=7.9								
EAGO				Sn	**Sn**	**19 20 44.8**	**-2.3**		
	5.5nm,0.2s,SNR=7.9								
EAGO				Lg	Lg	19 21 16.1			
	7.1nm,0.2s,SNR=7.9								
PESTR	**Estremoz**	**5.44**	**247**	ePn	**Pn**	**19 19 45.5**	**+0.4**		
PESTR				eSg	**Sg**	**19 21 16.9**	**-1.9**		
PESTR				A	A	19 21 28.7			
	18nm,0.6s								
EMIN	**Mina Concepcio**	**5.45**	**233**	Pn	**Pn**	**19 19 44.6**	**-0.5**		
	1.1nm,0.4s,SNR=7.9								
EMIN				Lg	Lg	19 21 16.4			
	48nm,1.1s,SNR=7.9								
MFF	**Saint Martin d**	**5.49**	**7**	ePn	**Pn**	**19 19 44.1**	**-1.7**		
MFF				eSn	**Sn**	**19 20 43.6**	**-5.2**		
	6.0nm,0.2s								
MFF	**Saint Martin d**	**5.49**	**7**	Pn	**Pn**	**19 19 44.1**	**-1.7**		
MFF				Sn	**Sn**	**19 20 43.6**	**-5.2**		
	3.0nm,0.2s								
VIVF	**Saint-Julien-l**	**5.65**	**47**	ePn	**Pn**	**19 19 46.7**	**-1.3**		
VIVF	**Saint-Julien-l**	**5.65**	**47**	ePg	**Pb**	**19 20 07.1**	**+4.3**		
VIVF				eSn	**Sn**	**19 20 48.2**	**-4.7**		
	5.3nm,0.4s,SNR=1.0								
VIVF				eSg	Sg	19 21 15.2	-10		
	14nm,0.5s								
VIVF	**Saint-Julien-l**	**5.65**	**47**	Pn	**Pn**	**19 19 46.7**	**-1.3**		
VIVF				Pg	Pg	19 20 07.1	-5.3		
VIVF				Sn	**Sn**	**19 20 48.2**	**-4.7**		
	2.7nm,0.4s								
VIVF				Lg	Lg	19 21 15.2			
	6.9nm,0.5s								
TCF	**Toulx Ste Croi**	**5.68**	**24**	ePn	**Pn**	**19 19 47.2**	**-1.2**		
TCF				eSn	Sn	19 20 46.8	-6.7		
	16nm,0.3s								
TCF	**Toulx Ste Croi**	**5.68**	**24**	Pn	**Pn**	**19 19 47.2**	**-1.2**		
TCF				Sn	Sn	19 20 46.8	-6.7		
	7.9nm,0.3s								
PCAS	**Casmilo, Conde**	**5.69**	**261**	ePn	**Pn**	**19 19 49.5**	**+0.9**		
PCAS				eSn	**Sn**	**19 20 50.6**	**-3.2**		
PCAS				A	A	19 21 36.9			
	42nm,0.6s								
SMRF	**Simiane la Rot**	**5.71**	**58**	ePn	**Pn**	**19 19 48.2**	**-0.7**		
SMRF	**Simiane la Rot**	**5.71**	**58**	Pn	**Pn**	**19 19 48.2**	**-0.7**		
SMRF				Pg	Pg	19 20 09.4	-4.2		
EZAM	**Zamans**	**5.73**	**282**	Lg	Lg	19 21 26.9			
	3.8nm,0.3s,SNR=7.9								
PTOM	**Tomar**	**5.75**	**257**	ePn	**Pn**	**19 19 49.5**	**+0.2**		
PTOM				eSn	**Sn**	**19 20 52.4**	**-2.7**		
PTOM				eSg	Sg	19 21 26.1	-2.5		
PTOM				A	A	19 21 30.7			
	31nm,0.5s								
PTOM	**Tomar**	**5.75**	**257**	Pn	**Pn**	**19 19 49.5**	**+0.2**		
PTOM				Sn	**Sn**	**19 20 52.4**	**-2.7**		
PTOM				Lg	Lg	19 21 26.1			
	16nm,0.5s								
EVO	**Evora**	**5.89**	**246**	ePn	**Pn**	**19 19 51.6**	**+0.4**		
EVO				eSn	**Sn**	**19 20 55.8**	**-2.8**		
EVO				A	A	19 21 37.7			
	12nm,0.7s								
EVO	**Evora**	**5.89**	**246**	Pn	**Pn**	**19 19 53.4**	**+2.1**		
EVO				Sn	**Sn**	**19 20 59.7**	**+1.1**		
EVO	**Evora**	**5.89**	**246**	eP	**Pn**	**19 19 53.4**	**+2.1**		
EVO				eS	**Sn**	**19 20 59.7**	**+1.1**		
PBEJ	**Beja**	**6.05**	**241**	eSn	**Sn**	**19 20 59.9**	**-2.7**		
PBEJ	**Beja**	**6.05**	**241**	Sn	**Sn**	**19 20 59.9**	**-2.7**		
EMAZ	**Mazaricos**	**6.09**	**290**	Pn	**Pn**	**19 19 53.4**	**-0.6**		
	1.0nm,0.2s,SNR=7.9								
EMAZ				Sn	**Sn**	**19 21 02.3**	**-1.2**		
	9.8nm,0.3s,SNR=7.9								
EMAZ				Lg	Lg	19 21 36.1			
	17nm,0.5s,SNR=7.9								
EGRO	**El Granado**	**6.09**	**236**	Pn	**Pn**	**19 19 53.3**	**-0.7**		
	0.7nm,0.2s,SNR=7.9								
EGRO				Sn	**Sn**	**19 21 00.3**	**-3.2**		
	1.0nm,0.2s,SNR=7.9								
EGRO				Lg	Lg	19 21 38.8			
	38nm,0.9s,SNR=7.9								
LMR	**La Mourre**	**6.09**	**67**	ePn	**Pn**	**19 19 53.3**	**-0.7**		
LMR				eSn	Sn	19 20 57.3	-6.3		
	5.4nm,0.2s								
LMR	**La Mourre**	**6.09**	**67**	Pn	**Pn**	**19 19 53.3**	**-0.7**		
LMR				Sn	Sn	19 20 57.3	-6.3		
	2.7nm,0.2s								
BGF	**Bois d'Agland**	**6.13**	**27**	ePn	**Pn**	**19 19 52.9**	**-1.6**		
BGF				eSn	**Sn**	**19 20 58.9**	**-5.6**		
	34nm,0.4s								
BGF	**Bois d'Agland**	**6.13**	**27**	Pn	**Pn**	**19 19 52.9**	**-1.6**		
BGF				Sn	**Sn**	**19 20 58.9**	**-5.6**		
	17nm,0.4s								
FRF	**La Foret Royal**	**6.26**	**65**	ePn	**Pn**	**19 19 55.4**	**-1.0**		
FRF				eSn	Sn	19 21 01.0	-6.8		
	2.9nm,0.2s								
FRF	**La Foret Royal**	**6.26**	**65**	Pn	**Pn**	**19 19 55.4**	**-1.0**		
FRF				Sn	Sn	19 21 01.0	-6.8		
	1.4nm,0.2s								
PVAQ	**Vaqueiros**	**6.32**	**236**	ePn	**Pn**	**19 19 57.8**	**+0.7**		
PVAQ				eSn	**Sn**	**19 21 07.3**	**-1.9**		
PVAQ				eSg	Sg	19 21 44.6	-2.3		
PVAQ				A	A	19 21 56.3			
	11nm,0.6s								
PVAQ	**Vaqueiros**	**6.32**	**236**	Pn	**Pn**	**19 19 57.8**	**+0.7**		
PVAQ				Sn	**Sn**	**19 21 07.3**	**-1.9**		
PVAQ				Lg	Lg	19 21 44.6			
	11nm,0.6s								
ORIF	**Oris-en-Rattie**	**6.38**	**52**	ePn	**Pn**	**19 19 57.6**	**-0.5**		
ORIF	**Oris-en-Rattie**	**6.38**	**52**	Pn	**Pn**	**19 19 57.6**	**-0.5**		
MESJ	**Messejana**	**6.38**	**241**	eSn	**Sn**	**19 21 06.8**	**-4.1**		
MESJ				eSg	Sg	19 21 46.5	-2.6		
MESJ				A	A	19 21 58.3			
	10nm,0.6s								
MESJ	**Messejana**	**6.38**	**241**	Sn	**Sn**	**19 21 06.8**	**-4.1**		
MESJ				Lg	Lg	19 21 46.5			
	10nm,0.6s								
PNCL	**Nicolau / Gran**	**6.45**	**244**	ePn	**Pn**	**19 19 59.0**	**+0.1**		
PNCL				eSn	**Sn**	**19 21 08.5**	**-3.9**		
PNCL				A	A	19 22 10.1			
	7.7nm,0.6s								
AVF	**Avril sur Loir**	**6.50**	**29**	ePn	**Pn**	**19 19 58.6**	**-1.1**		
AVF				eSn	**Sn**	**19 21 08.0**	**-5.7**		
	9.3nm,0.4s								
AVF				eSg	Sg	19 21 44.5	-8.4		
AVF	**Avril sur Loir**	**6.50**	**29**	Pn	**Pn**	**19 19 58.6**	**-1.1**		
AVF				Sn	**Sn**	**19 21 08.0**	**-5.7**		
	4.7nm,0.4s								
AVF				Lg	Lg	19 21 44.5			
PBDV	**Barranco-do-Ve**	**6.55**	**236**	ePn	**Pn**	**19 20 00.9**	**+0.5**		
PBDV				eSn	**Sn**	**19 21 12.3**	**-2.7**		
PBDV				eSg	Sg	19 21 52.0	-2.4		
PBDV				A	A	19 22 06.8			
	13nm,0.6s								
PBDV	**Barranco-do-Ve**	**6.55**	**236**	Pn	**Pn**	**19 20 00.9**	**+0.5**		
PBDV				Sn	**Sn**	**19 21 12.3**	**-2.7**		
PBDV				Lg	Lg	19 21 52.0			
	13nm,0.6s								
SMF	**Signal de Mont**	**6.57**	**32**	ePn	Pn	19 19 57.9	-2.7		
SMF				eSn	Sn	19 21 08.9	-6.5		
SMF	**Signal de Mont**	**6.57**	**32**	Pn	Pn	19 19 57.9	-2.7		
SMF				Sn	Sn	19 21 08.9	-6.5		
PMAFR	**Mafra**	**6.61**	**253**	eSn	**Sn**	**19 21 13.3**	**-3.1**		
HYF	**Humbligny**	**6.69**	**23**	ePn	**Pn**	**19 20 01.1**	**-1.2**		
HYF				eSn	**Sn**	**19 21 14.1**	**-4.3**		
HYF	**Humbligny**	**6.69**	**23**	Pn	**Pn**	**19 20 01.1**	**-1.2**		
HYF				Sn	**Sn**	**19 21 14.1**	**-4.3**		
SSF	**Saint Saulge**	**6.79**	**28**	ePn	**Pn**	**19 20 02.1**	**-1.5**		
SSF				eSn	**Sn**	**19 21 17.2**	**-3.6**		
	5.6nm,0.4s								
SSF	**Saint Saulge**	**6.79**	**28**	Pn	**Pn**	**19 20 02.1**	**-1.5**		
SSF				Sn	**Sn**	**19 21 17.2**	**-3.6**		
	2.8nm,0.4s								
PTEO	**Sao Teotonio**	**6.88**	**241**	eSn	**Sn**	**19 21 19.9**	**-3.2**		
PTEO				eSg	Sg	19 22 04.2	-0.8		
PTEO				A	A	19 22 11.8			
	9.2nm,0.8s								
PTEO	**Sao Teotonio**	**6.88**	**241**	Sn	**Sn**	**19 21 19.9**	**-3.2**		
PTEO				Lg	Lg	19 22 04.2			
	4.6nm,0.8s								
SBF	**Sospel**	**6.90**	**64**	eSn	**Sn**	**19 21 20.2**	**-3.5**		
SBF	**Sospel**	**6.90**	**64**	Sn	**Sn**	**19 21 20.2**	**-3.5**		
QUIF	**Quistinic**	**6.91**	**349**	ePn	**Pn**	**19 20 04.3**	**-0.9**		
QUIF				eSn	Sn	19 21 17.8	-5.9		
	5.3nm,0.2s								
QUIF	**Quistinic**	**6.91**	**349**	Pn	**Pn**	**19 20 04.3**	**-0.9**		
QUIF				Sn	Sn	19 21 17.8	-5.9		
	2.7nm,0.2s								
MORF	**Marmelete**	**6.97**	**239**	ePn	**Pn**	**19 20 06.9**	**+0.8**		
MORF				eSn	**Sn**	**19 21 22.4**	**-2.9**		
MORF				A	A	19 22 20.4			
	5.1nm,0.7s								
MORF	**Marmelete**	**6.97**	**239**	Pn	**Pn**	**19 20 06.9**	**+0.8**		
MORF				Sn	**Sn**	**19 21 22.4**	**-2.9**		
	5.1nm,0.7s								
LOR	**Lormes**	**7.09**	**29**	eSn	Sn	19 21 21.3	-7.0		
LOR	**Lormes**	**7.09**	**29**	Sn	Sn	19 21 21.3	-7.0		
SGMF	**Saint Gilles**	**7.17**	**352**	ePn	**Pn**	**19 20 07.9**	**-0.8**		
SGMF	**Saint Gilles**	**7.17**	**352**	Pn	**Pn**	**19 20 07.9**	**-0.8**		
PFVI	**Vila Bisbo**	**7.18**	**238**	ePn	**Pn**	**19 20 09.9**	**+0.9**		
PFVI				eSn	**Sn**	**19 21 29.7**	**-0.9**		
PFVI				A	A	19 22 23.9			
	8.4nm,0.8s								
PFVI	**Vila Bisbo**	**7.18**	**238**	Pn	**Pn**	**19 20 09.0**	**-0.1**		
	1.5nm,0.3s,SNR=5.7								
PFVI				Sn	**Sn**	**19 21 25.8**	**-4.7**		
	1.6nm,0.3s,SNR=7.9								
LPL	**La Plagne**	**7.22**	**50**	ePn	**Pn**	**19 20 10.0**	**+0.3**		
LPL	**La Plagne**	**7.22**	**50**	Pn	**Pn**	**19 20 10.0**	**+0.3**		
LPG	**La Plagne**	**7.22**	**50**	ePn	**Pn**	**19 20 10.1**	**+0.4**		
LPG	**La Plagne**	**7.22**	**50**	Pn	**Pn**	**19 20 10.1**	**+0.4**		
GRR	**Gorron**	**7.23**	**2**	eSn	Sn	19 21 24.7	-7.0		
	8.5nm,0.4s								
GRR	**Gorron**	**7.23**	**2**	Sn	Sn	19 21 24.7	-7.0		
	4.2nm,0.4s								
ROSF	**Rostrenen**	**7.33**	**349**	ePn	**Pn**	**19 20 09.9**	**-1.2**		
ROSF				eSn	Sn	19 21 28.0	-6.2		
	4.6nm,0.2s								
ROSF	**Rostrenen**	**7.33**	**349**	Pn	**Pn**	**19 20 09.9**	**-1.2**		
ROSF				Sn	Sn	19 21 28.0	-6.2		
	2.3nm,0.2s								
LDF	**La Druitiere**	**7.47**	**5**	ePn	**Pn**	**19 20 12.1**	**-0.9**		
LDF				eSn	Sn	19 21 30.5	-7.1		
FLN	**La Foliniere**	**7.62**	**3**	ePn	**Pn**	**19 20 13.7**	**-1.3**		
	baz=186								
FLN				eSn	Sn	19 21 34.2	-7.0		
	4.5nm,0.3s								
FLN	**La Foliniere**	**7.62**	**3**	Pn	**Pn**	**19 20 13.7**	**-1.3**		
FLN				Sn	Sn	19 21 34.2	-7.0		
	2.2nm,0.3s								
PGF	**Pioggiola**	**7.71**	**76**	ePn	**Pn**	**19 20 15.6**	**-0.8**		
	SNR=1.0								
PGF	**Pioggiola**	**7.71**	**76**	Pn	**Pn**	**19 20 15.6**	**-0.8**		
BAIF	**Baives**	**9.66**	**21**	ePn	Pn	19 20 39.5	-3.4		
BAIF	**Baives**	**9.66**	**21**	Pn	Pn	19 20 39.5	-3.4		

MEX 13 19:21:19.4±0.4, 14°.17N×92°.64W, h16km±80km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.82**	**26**	*i* P	Pb	19 21 33.1	-2.2
THIG				*i* S	Sb	19 21 42.2	-4.0
PCIG		**1.63**	**340**	eP	Pn	19 21 43.9	-3.6
PCIG				*i* S	Sn	19 22 02.8	-5.2
CCIG	**Comitan**	**2.16**	**13**	eP	Pn	19 21 51.7	-3.2
CCIG				*i* S	Sn	19 22 17.3	-4.2
TGIG		**2.64**	**350**	eP	Pn	19 21 58.6	-2.8
TGIG				eS	Sn	19 22 29.2	-3.9

MOS ***13*** *19:29:46.9±2.6, 50°.20N×157°.36E, h48km, mb4.2/1, Error ellipse: s-maj=33.5km s-min=5.5km az=81.4*

KRSC 13 19:29:46.9±2.6, 50°.20N×157°.36E, h48km±26km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.93**	**302**	eP	Pn	19 30 02.9	-0.7
SKR				eS	Sn	19 30 13.2	-2.6
SKR	**Severo-Kuril's**	**0.93**	**302**	ePN	Pn	19 30 03.0	-0.6
SKR				eS	Sn	19 30 13.2	-2.6
SKR	comp=Z,275nm,0.4s			pmax	pmax		
SKR	comp=N,277nm,0.2s			smax	smax		
SKR	comp=E,927nm,0.4s			smax	smax		
PAU	**Pauzhetka**	**1.32**	**345**	eP	Pn	19 30 10.3	+1.4
PAU				eS	Sn	19 30 25.9	+0.6
PAU	**Pauzhetka**	**1.32**	**345**	PN	Pn	19 30 10.3	+1.4
PAU				S	Sn	19 30 25.9	+0.6
KDTR	**Khodutka, Kamc**	**1.68**	**15**	eP	Pn	19 30 16.2	+2.5
KDTR				eS	Sn	19 30 36.7	+2.7
MTVR	**Mutnovka**	**2.35**	**12**	eP	Pn	19 30 26.1	+3.0
MTVR				eS	Sn	19 30 53.1	+2.4
MTVR	**Mutnovka**	**2.35**	**12**	PN	Pn	19 30 26.1	+3.0
MTVR				S	Sn	19 30 53.1	+2.4
RUS	**Russkaya**	**2.35**	**18**	eP	Pn	19 30 25.5	+2.5
RUS				eS	Sn	19 30 53.0	+2.3
RUS	**Russkaya**	**2.35**	**18**	PN	Pn	19 30 25.5	+2.5
RUS				S	Sn	19 30 53.0	+2.3
GRL	**Gorelyy**	**2.40**	**11**	eS	Sn	19 30 56.2	+4.2
KRMR	**Karymshinskiy**	**2.68**	**10**	eP	Pn	19 30 31.0	+3.5
KRMR				eS	Sn	19 31 02.7	+4.0
KRMR	**Karymshinskiy**	**2.68**	**10**	PN	Pn	19 30 31.0	+3.5
KRMR				S	Sn	19 31 02.7	+4.0
APC	**Apacha**	**2.73**	**357**	P	Pn	19 30 32.0	+3.8
APC	**Apacha**	**2.73**	**357**	PN	Pn	19 30 32.0	+3.8
PET	**Petropavlovsk**	**2.94**	**15**	ePN	Pn	19 30 35.6	+4.5
PET				eS	Sn	19 31 08.9	+3.7
PET	comp=E,82nm,0.5s			smax	smax		
PET	comp=N,122nm,0.5s			smax	smax		
DALK	**Dalny**	**2.97**	**17**	eP	Pn	19 30 34.8	+3.4
DALK				eS	Sn	19 31 08.8	+3.0
DALK	**Dalny**	**2.97**	**17**	PN	Pn	19 30 34.8	+3.4
DALK				S	Sn

JFT			S	Sn	19 35 11.3	-0.1	
JMM	**Marumori**	**1.05 335**	P	Pn	19 34 57.9	+0.4	
JMM			S	Sn	19 35 12.9	+0.6	
JSB	**Shiboa**	**1.15 273**	P	Pg	19 34 59.4	+0.8	
JSB			S	Sn	19 35 15.0	+0.1	
JYT	**Yasato**	**1.16 234**	P	Pb	19 34 57.3	-1.5	
JYT			S	Sb	19 35 11.2	-2.8	
MJAR	**Matsushiro Arr**	**2.56 262**	Pn	Pn	19 35 19.1	+0.9	
	10nm,0.3s,baz=87,slow=15,SNR=33						
MJAR			Sn	Sn	19 35 51.2	+1.7	
	9.3nm,0.3s,baz=70,slow=11,SNR=5.4						
MJAR			LR	LR	19 36 42.9		
	comp=Z,61nm,20.4s,baz=70,slow=48						
MAT	**Matsushiro**	**2.56 263**	P	Pn	19 35 19.4	+1.1	
MAT			*e*S	Sb	19 35 54.3	+0.1	
JHJ	**Hachijo jima 2**	**4.00 199**	Pn	Pn	19 35 39.3	+1.2	
	5.5nm,0.3s,baz=55,slow=19,SNR=2.5						
JHJ			Sn	Sn	19 36 25.6	+0.4	
	15nm,0.3s,baz=43,slow=16,SNR=4.1						
KSRS	**Korea Array**	**10.73 277**	LR	LR	19 40 34.0		
	comp=Z,26nm,21.1s,baz=145,slow=33						
SONM	**Songino Array**	**27.81 304**	P	**P**	**19 40 25.4**	**-0.8**	
	0.2nm,0.5s,baz=92,slow=7.5,SNR=2.5						
H11N2	**WAKE ISLAND Hy 28.13 121**		T	T	20 09 54.4		
	baz=313,slow=75,SNR=225						
H11N1	**WAKE ISLAND Hy 28.14 121**		T	T	20 09 55.0		
	baz=313,slow=75,SNR=239						
H11N3	**WAKE ISLAND Hy 28.15 121**		T	T	20 09 55.7		
	baz=313,slow=75,SNR=206						
H11S1	**WAKE ISLAND Hy 28.84 123**		T	T	20 10 46.2		
	baz=315,slow=76,SNR=124						
H11S3	**WAKE ISLAND Hy 28.84 123**		T	T	20 10 48.9		
	baz=315,slow=76,SNR=182						
H11S2	**WAKE ISLAND Hy 28.85 123**		T	T	20 10 49.7		
	baz=315,slow=76,SNR=130						
CMAR	**Chiang Mai Arr**	**41.42 255**	P	**P**	**19 42 24.5**	**+0.9**	
	0.3nm,0.3s,baz=64,slow=11,SNR=3.1						
ZALV	**Zalesovo Beam**	**41.96 312**	P	**P**	**19 42 27.7**	**+0.1**	
	0.4nm,0.3s,baz=81,slow=8.9,SNR=2.4						
MKAR	**Makanchi Array**	**44.14 302**	P	**P**	**19 42 47.0**	**+1.6**	
	0.7nm,0.6s,baz=85,slow=10,SNR=3.9						
KURBB	**Kurchatov Arra**	**46.04 308**	P	**P**	**19 43 01.1**	**+0.7**	
	0.4nm,0.5s,baz=86,slow=7.5,SNR=4.5						
ILAR	**Eielson Array**	**49.62 32**	P	**P**	**19 43 27.2**	**-0.7**	
	0.5nm,0.8s,baz=272,slow=5.3,SNR=5.1						
WRA	**Warramunga Arr**	**56.94 188**	P	**P**	**19 44 22.3**	**0.0**	
	0.7nm,1.0s,baz=6.1,slow=7.4,SNR=8.1						
ASAR	**Alice Springs**	**60.67 188**	P	**P**	**19 44 47.5**	**-0.6**	
	0.6nm,0.9s,baz=13,slow=5.8,SNR=4.1						

*IDC **13** 19:49:07.6±2.3, 16°.85S×178°.69W, h375km±26km, mb3.4/6, mb1 3.6/7, mb1mx3.2/45, mbtmp4.2/7, Error ellipse: s-maj=32.2km s-min=14.8km az=148.0*

ISC 13 19:49:14.6±1.1, 17°.0S±0°.3×178°.7W±0°.2, h453km, n9, σ1s07/10, mb3.6/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
AFI	**Afiamalu**	**7.39**	**66**	P	P		19 50 54.0	-10
	1.8nm,0.3s,baz=216,slow=13,SNR=3.6							
AFI				S	S		19 52 15.9	-17
	2.2nm,0.3s,baz=189,slow=19,SNR=2.3							
URZ	**Urewera**	**21.45**	**189**	P	**P**		**19 53 29.1**	**+0.2**
	3.3nm,0.3s,baz=348,slow=20,SNR=6.7							
STKA	**Stephens Creek**	**38.78**	**240**	P	**P**		**19 55 58.1**	**-0.9**
	1.2nm,0.4s,baz=83,slow=10,SNR=10							
WRA	**Warramunga Arr**	**44.49**	**259**	P	**P**		**19 56 42.9**	**-1.7**
	0.5nm,0.3s,baz=92,slow=8.2,SNR=43							
WRA				PcP	**PcP**		**19 58 19.4**	**+0.6**
	0.1nm,0.4s,baz=88,slow=3.9,SNR=3.2							
ASAR	**Alice Springs**	**44.73**	**253**	P	**P**		**19 56 46.9**	**+0.4**
	5.4nm,0.5s,baz=88,slow=8.2,SNR=87							
ASAR				PcP	**PcP**		**19 58 19.7**	**+0.1**
	0.4nm,0.5s,baz=109,slow=3.9,SNR=4.1							
FITZ	**Fitzroy Crossi**	**52.87**	**260**	P	**P**		**19 57 48.3**	**+1.0**
	1.5nm,0.5s,baz=82,slow=8.2,SNR=14							
NVAR	**Mina Array Bea**	**79.02**	**44**	P	**P**		**20 00 30.1**	**-0.9**
	0.1nm,0.3s,baz=221,slow=3.6,SNR=2.4							
BRTR	**Keskin Array B**	**143.95**	**315**	PKP	**PKPdf**		**20 07 58.9**	**+0.9**
	0.6nm,0.8s,baz=114,slow=3.1,SNR=4.0							
GERES	**GERESS Array B**	**146.69**	**345**	PKPbc	**PKPbc**		**20 08 05.8**	**+1.0**
	0.4nm,0.4s,baz=29,slow=3.0,SNR=6.4							

MEX 13 19:56:43.6±0.5, 16°.36N×98°.25W, h12km±2km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
PNIG	**Pinotepa**	**0.12**	**74**	*e*P	P	Pg	19 56 45.9	-0.9
PNIG				*i* S	S	Sg	19 56 48.6	-0.4
TLIG	**Tlapa**	**1.24**	**346**	*e*P	P	Pn	19 57 03.9	-2.9
TLIG				*i* S	S	Sb	19 57 18.3	-4.7

*JMA **13** 19:56:52.3±0.5, 44°.20N×148°.11E, h0km, M3.6*
*SKHL **13** 19:56:53.2±0.8, 44°.51N×148°.28E, h30km±4km, mb4.0/4*

ISC 13 19:56:52.2±3.2, 44°.5N±0°.1×148°.3E±0°.2, h20km±11km, n9, σ0s83/16, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
KUR	**Kuril'sk**	**0.80**	**338**	*i* P		**Pb**	**19 57 07.0**	**-0.4**
KUR					AMB	AMB	19 57 07.7	
	20nm,0.2s							
KUR					AMB	AMB	19 57 07.7	
	40nm,0.2s							
KUR				*i* S		**Sb**	**19 57 18.0**	**+0.3**
KUR					A	A	19 57 19.0	
	680nm,0.2s							
KUR					A	A	19 57 19.0	
	480nm,0.2s							
SHO	**Shikotan**	**1.22**	**240**	*e*P		**Pn**	**19 57 14.0**	**0.0**
SHO					AMB	AMB	19 57 15.0	
	10.0nm,0.2s							
SHO					AMB	AMB	19 57 15.0	
	20nm,0.2s							
SHO				*e*S		**Sb**	**19 57 30.0**	**+0.3**
SHO					A	A	19 57 31.0	
	140nm,0.2s							
SHO					A	A	19 57 31.0	
	98nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**1.80**	**256**	*e*P		**Pn**	**19 57 22.0**	**0.0**
YUK					AMB	AMB	19 57 24.0	
	20nm,0.4s							
YUK					AMB	AMB	19 57 24.0	
	30nm,0.4s							
YUK					AMB	AMB	19 57 24.0	
	70nm,0.4s							
YUK				*e*S		**Sn**	**19 57 43.0**	**-1.2**
YUK					A	A	19 57 47.0	
	170nm,0.5s							
YUK					A	A	19 57 47.0	
	258nm,0.5s							
GRPR	**Tuman**	**1.87**	**255**	*e*P		**Pn**	**19 57 23.0**	**0.0**
GRPR					AMB	AMB	19 57 24.0	
	50nm,0.1s							
GRPR					AMB	AMB	19 57 24.0	
	4µm,0.1s							
GRPR				*e*S		**Sn**	**19 57 45.0**	**-1.0**
GRPR					A	A	19 57 52.0	
	300nm,0.3s							
GRPR					A	A	19 57 52.0	
	229nm,0.3s							
GLVR	**Golovnino**	**2.13**	**250**	*e*P		**Pn**	**19 57 27.0**	**+0.5**
GLVR				*e*S		**Sn**	**19 57 53.0**	**+0.7**
GLVR					A	A	19 57 57.0	
	200nm,0.2s							
GLVR					A	A	19 57 57.0	
	9µm,0.2s							
NEM2	**Nemuro 2**	**2.15**	**239**	P		**Pn**	**19 57 26.7**	**-0.2**
NEM2				*e*S		**Sn**	**19 57 51.7**	**-1.2**
JNK	**Nakash**	**2.72**	**252**	P		**Pn**	**19 57 35.5**	**+0.7**
JNK				*e*S		**Sn**	**19 58 07.5**	**+0.4**
JAR	**Ashorobuto**	**3.47**	**251**	P		**Pn**	**19 57 46.5**	**+1.4**
JCH	**Churui**	**4.04**	**244**	P		**Pn**	**19 57 53.5**	**+0.7**

*DDA **13** 19:57:25.8, 35°.87N×27°.48E, h7km, Ml3.5*
*IDC **13** 19:57:25.9±0.9, 36°.00N×27°.50E, h0km, mb3.7/6, mb1 3.8/9, mb1mx3.5/42, mbtmp3.6/9, ML3.1/3, MS2.3/1, Ms1 2.3/1, ms1mx1.9/42, Error ellipse: s-maj=27.0km s-min=10.8km az=158.0*
*ISK **13** 19:57:27.2, 35°.99N×27°.48E, h12km, ML3.4/12*

*ATH **13** 19:57:27.8, 36°.03N×27°.48E, h30km±1km, ML3.1/15, Error ellipse: s-maj=2.0km s-min=1.1km az=130.0*
*ISCJB **13** 19:57:28.7±0.5, 35°.95N±0°.02×27°.50E±0°.02, h22km±4km, mb3.7/6, MS2.3/1, Error ellipse: s-maj=4.2km s-min=2.6km az=162.7*
*THE **13** 19:57:28.2, 35°.99N×27°.51E, h1km±2km, ML3.2/6, Error ellipse: s-maj=2.5km s-min=1.1km az=87.0*
*NIC **13** 19:57:30.2±0.4, 36°.67N×27°.93E, h12km, ML3.2*

ISC 13 19:57:28.1±0.9, 36°.00N±0°.02×27°.49E±0°.02, h16km±7km, n81, σ1s28/121, mb3.5/6, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
KARP	**Karpathos**	**0.53**	**211**	P	PG	**Pg**	**19 57 38.1**	**-0.6**
KARP					SG	**Sg**	**19 57 45.6**	**-0.2**
KARP	**Karpathos**	**0.53**	**211**	P	P	**Pg**	**19 57 38.4**	**-0.2**
KARP					S	**Sb**	**19 57 47.9**	**+1.5**
KARP					AML	AML	19 57 50.8	
	comp=E,5397µm,0.2s							
KARP					AML	AML	19 57 51.0	
	comp=N,3582µm,0.1s							
KARP	**Karpathos**	**0.53**	**211**	P	P	**Pg**	**19 57 38.4**	**-0.2**
KARP					S	**Sb**	**19 57 47.4**	**+1.0**
ARG	**Arkhangelos**	**0.56**	**67**	PG	PG	**Pg**	**19 57 37.8**	**-1.3**
ARG					SG	**Sb**	**19 57 47.2**	**0.0**
ARG	**Arkhangelos**	**0.56**	**67**	P	P	**Pg**	**19 57 38.6**	**-0.5**
ARG					S	**Sb**	**19 57 47.1**	**0.0**
ARG					AML	AML	19 57 48.2	
	comp=E,7163µm,0.5s							
ARG					AML	AML	19 57 49.2	
	comp=N,7186µm,0.3s							
ARG	**Arkhangelos**	**0.56**	**67**	P	P	**Pg**	**19 57 38.7**	**-0.5**
ARG					S	**Sb**	**19 57 47.1**	**0.0**
NIS1	**Nisyros Isl.**	**0.65**	**337**	PG	PG	**Pb**	**19 57 41.0**	**-0.1**
NIS1					SG	**Sb**	**19 57 50.7**	**+0.8**
NIS1	**Nisyros Isl.**	**0.65**	**337**	P	P	**Pb**	**19 57 41.2**	**+0.1**
NIS1					AML	AML	19 57 58.2	
	comp=E,4782µm,0.5s							
NIS1					AML	AML	19 58 00.8	
	comp=N,5119µm,0.4s							
NIS1	**Nisyros Isl.**	**0.65**	**337**	P	P	**Pg**	**19 57 40.7**	**-0.2**
NIS1					S	**Sn**	**19 57 53.2**	**+0.6**
NISR	**Nisiros**	**0.67**	**334**	P	P	**Pb**	**19 57 41.7**	**+0.2**
NISR					AML	AML	19 57 54.5	
	comp=E,3509µm,0.3s							
NISR					AML	AML	19 57 55.1	
	comp=N,1920µm,0.5s							
DAT	**Datca**	**0.73**	**5**	PG	PG	**Pg**	**19 57 41.9**	**-0.5**
DAT					SG	**Sb**	**19 57 53.7**	**+1.4**
DAT	**Datca**	**0.73**	**5**	*i* P	P	**Pg**	**19 57 42.2**	**-0.1**
DAT				*i* S	S	**Sn**	**19 57 54.9**	**+0.2**
DATC	**Datca-Mugla**	**0.77**	**10**	PG	PG	**Pg**	**19 57 42.7**	**-0.4**
MRSB	**Marmaris-Mugla**	**0.91**	**38**	PG	PG	**Pg**	**19 57 44.9**	**-0.9**
MRSB					SG	**Sb**	**19 57 58.0**	**+0.6**
BODT	**Bodrum**	**1.07**	**352**	PG	PG	**Pb**	**19 57 47.8**	**-0.4**
BODT	**Bodrum**	**1.07**	**352**	P	P	**Pb**	**19 57 48.0**	**-0.2**
DALY	**Dalyan (Mu¨la**	**1.24**	**49**	PN	PN	**Pn**	**19 57 51.0**	**+0.3**
DALY	**Dalyan (Mu¨la**	**1.24**	**49**	*i* P	P	**Pb**	**19 57 51.2**	**0.0**
DALY				*i* S	S	**Sg**	**19 58 10.4**	**+2.2**
TURN	**Turunc**	**1.25**	**46**	PG	PG	**Pn**	**19 57 46.4**	**-4.4**
TURN	**Turunc**	**1.25**	**46**	*i* P	P	**Pn**	**19 57 46.5**	**-4.3**
TURN				*i* S	S	**Sb**	**19 58 00.3**	**-6.8**
MLSB	**Milas**	**1.31**	**10**	PN	PN	**Pn**	**19 57 52.3**	**+0.5**
ZKR	**Zakros**	**1.37**	**230**	P	P	**Pg**	**19 57 53.7**	**-0.7**
ZKR					S	**Sn**	**19 58 11.1**	**+0.8**
ZKR					AML	AML	19 58 16.8	
	comp=N,568µm,0.3s							
ZKR					AML	AML	19 58 21.1	
	comp=E,1086µm,0.4s							
ZKR	**Zakros**	**1.37**	**230**	P	P	**Pb**	**19 57 53.5**	**+0.2**
ZKR					S	**Sg**	**19 58 12.0**	**-0.3**
STIA	**Sitia Lasithi**	**1.39**	**235**	P	P	**Pg**	**19 57 54.6**	**-0.4**
STIA					S	**Sg**	**19 58 12.2**	**-0.9**
FETY	**Fethiye**	**1.43**	**63**	PN	PN	**Pn**	**19 57 53.7**	**+0.3**
FETY	**Fethiye**	**1.43**	**63**	P	P	**Pn**	**19 57 54.1**	**+0.7**
ANAF	**Anafi Island**	**1.44**	**285**	P	P	**Pn**	**19 57 53.1**	**-0.4**
ANAF					S	**Sn**	**19 58 11.5**	**-0.5**
ANAF					AML	AML	19 58 16.6	
	comp=N,6394µm,0.4s							
ANAF					AML	AML	19 58 19.3	
	comp=E,5377µm,0.6s							
ANAF	**Anafi Island**	**1.44**	**285**	P	P	**Pn**	**19 57 53.9**	**+0.4**
ANAF					S	**Sg**	**19 58 14.8**	**+0.3**
AMGA	**Amorgos Island**	**1.53**	**303**	P	P	**Pn**	**19 57 54.9**	**+0.1**
AMGA					S	**Sn**	**19 58 15.0**	**+0.7**
AMGA					AML	AML	19 58 23.8	
	comp=N,707µm,0.3s							
AMGA					AML	AML	19 58 24.6	
	comp=E,764µm,0.2s							
THR8	**Santorini-Mono**	**1.68**	**284**	P	P	**Pn**	**19 57 56.9**	**+0.1**
AYDN	**Tasoluk**	**1.68**	**11**	*i* P	P	**Pn**	**19 57 57.1**	**+0.2**
AYDN				*i* S	S	**Sg**	**19 58 24.3**	**+1.9**
SANT	**Santorini**	**1.69**	**283**	PN	PN	**Pn**	**19 57 56.5**	**-0.4**
SANT	**Santorini**	**1.69**	**283**	P	P	**Pn**	**19 57 56.3**	**-0.7**
SANT					S	**Sn**	**19 58 19.4**	**+1.2**
SANT					AML	AML	19 58 24.2	
	comp=N,672µm,0.4s							
SANT					AML	AML	19 58 26.8	
	comp=E,1149µm,0.4s							
KSL	**Kastellorizon**	**1.70**	**84**	P	P	**Pb**	**19 57 58.5**	**-0.5**
KSL					S	**Sb**	**19 58 19.8**	**-0.3**
KSL					AML	AML	19 58 24.9	
	comp=E,575µm,0.5s							
KSL					AML	AML	19 58 24.9	
	comp=N,345µm,0.3s							
KSL	**Kastellorizon**	**1.70**	**84**	P	P	**Pb**	**19 57 59.3**	**+0.3**
NPS	**Neapolis**	**1.70**	**245**	P	P	**Pn**	**19 57 57.7**	**+0.6**
NPS					S	**Sn**	**19 58 18.8**	**+0.2**
NPS					AML	AML	19 58 24.8	
	comp=E,1692µm,0.4s							
NPS					AML	AML	19 58 26.2	
	comp=N,1796µm,0.3s							
NPS	**Neapolis**	**1.70**	**245**	P	P	**Pn**	**19 57 57.6**	**+0.5**
NPS					S	**Sn**	**19 58 19.1**	**+0.6**
AKAS	**Kas**	**1.73**	**82**	PN	PN	**Pb**	**19 57 58.8**	**-0.7**
AKAS	**Kas**	**1.73**	**82**	*i* P	P	**Pb**	**19 57 59.9**	**+0.4**
AKAS				*i* S	S	**Sg**	**19 58 24.5**	**+0.7**
THR6	**Thira Island,**	**1.73**	**282**	P	P	**Pn**	**19 57 58.2**	**+0.7**
THR3	**Thira Island,**	**1.74**	**284**	P	P	**Pn**	**19 57 58.0**	**+0.4**
SMG	**Samos**	**1.78**	**343**	P	P	**Pn**	**19 57 58.3**	**0.0**
SMG					AML	AML	19 58 32.4	
	comp=N,324µm,0.7s							
SMG					AML	AML	19 58 34.6	
	comp=E,373µm,0.4s							
THR5	**Thira Island,**	**1.78**	**284**	P	P	**Pn**	**19 57 58.7**	**+0.5**
LAST	**Lasithi**	**1.84**	**243**	P	P	**Pn**	**19 58 00.0**	**+0.9**
LAST					AML	AML	19 58 31.2	
	comp=N,335µm,0.5s							
LAST					AML	AML	19 58 32.7	
	comp=E,464µm,0.5s							
LAST	**Lasithi**	**1.84**	**243**	P	P	**Pn**	**19 57 59.8**	**+0.7**
TAVA	**DENIZLI_Tavas**	**1.85**	**38**	*i* P	P	**Pb**	**19 58 02.4**	**+0.7**
TAVA				*i* S	S	**Sg**	**19 58 27.3**	**-0.5**
APE	**Apeiranthos**	**1.90**	**305**	PN	PN	**Pn**	**19 57 59.9**	**-0.1**
APE	**Apeiranthos**	**1.90**	**305**	P	P	**Pn**	**19 58 00.1**	**+0.1**
IOSP	**Ios island**	**1.92**	**293**	P	P	**Pn**	**19 57 59.6**	**-0.5**
IOSP					S	**Sn**	**19 58 22.9**	**-0.9**
IOSP	**Ios island**	**1.92**	**293**	P	P	**Pn**	**19 58 00.3**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.97**	**9**	PN	PN	**Pn**	**19 58 01.8**	**+0.9**
GOLH	**Golhisar**	**2.07**	**53**	*i* P	P	**Pb**	**19 58 05.5**	**+0.1**
GOLH				*i* S	S	**Sg**	**19 58 35.8**	**+1.0**
ELL	**Elmali**	**2.09**	**68**	PN	PN	**Pn**	**19 58 03.7**	**+1.2**
DNZL	**Cakiroluk**	**2.09**	**36**	*i* P	P	**Pb**	**19 58 06.0**	**+0.2**
DNZL				*i* S	S	**Sg**	**19 58 35.5**	**0.0**
DENT	**Denizli**	**2.14**	**35**	PN	PN	**Pn**	**19 58 04.5**	**+1.3**
IDI	**Anoyia**	**2.24**	**252**	PN	PN	**Pn**	**19 58 04.3**	**-0.2**
IDI	**Anoyia**	**2.24**	**252**	Pn	Pn	**Pn**	**19 58 05.3**	**+0.7**
	comp=E,4.3nm,0.3s,baz=51,slow=17,SNR=46							
IDI					Pg	**Pb**	**19 58 08.2**	**0.0**
	comp=E,14nm,0.3s,baz=56,slow=16,SNR=36							
IDI					Sn	**Sn**	**19 58 32.1**	**+0.3**
	comp=E,14nm,0.3s,baz=72,slow=19,SNR=11							
IDI					Lg	Lg	19 58 36.9	
	comp=E,26nm,0.3s,baz=325,slow=16,SNR=11							
IDI	**Anoyia**	**2.24**	**252**	P	P	**Pn**	**19 58 04.8**	**+0.3**
IDI					S	**Sn**	**19 58 31.6**	**-0.2**
IDI					AML	AML	19 58 37.6	
	comp=N,299µm,0.3s							
IDI					AML	AML	19 58 41.8	
	comp=E,344µm,0.4s							
SIVA	**Sivas**	**2.40**	**247**	P	P	**Pn**	**19 58 08.2**	**+1.5**
SIVA					AML	AML	19 58 50.5	
	comp=N,522µm,0.5s							
SIVA					AML	AML	19 58 51.4	
	comp=E,690µm,0.7s							
URLA	**Izmir**	**2.46**	**343**	PN	PN	**Pn**	**19 58 08.4**	**+0.8**
KORT	**Korkueli**	**2.51**	**66**	PN	PN	**Pn**	**19 58 09.6**	**+1.3**
KORT	**Korkueli**	**2.51**	**66**	*i* P	P	**Pb**	**19 58 12.2**	**-0.7**
KORT				*i* S	S	**Sb**	**19 58 45.1**	**+1.6**
CHOS	**Chios island**	**2.64**	**335**	PN	PN	**Pn**	**19 58 10.5**	**+0.4**
BRDR	**BURDUR-Merkez**	**2.67**	**50**	*i* P	P	**Pb**	**19 58 15.8**	**+0.3**
BRDR				*i* S	S	**Sg**	**19 58 52.0**	**-1.2**
KULA	**Kula-Manisa**	**2.67**	**20**	PN	PN	**Pn**	**19 58 12.4**	**+1.8**
ANTB	**Antalya**	**2.70**	**70**	PN	PN	**Pn**	**19 58 12.3**	**+1.5**
KHAL	**Karahalli**	**2.85**	**33**	*i* P	P	**Pn**	**19 58 14.9**	**+1.9**
KHAL				*i* S	S	**Sb**	**19 58 50.9**	**-2.5**
IMMV	**Iera Moni Meta**	**2.91**	**260**	P	P	**Pn**	**19 58 15.3**	**+1.6**
IMMV					S	**Sn**	**19 58 48.4**	**+0.1**
IMMV					AML	AML	19 58 55.6	
	comp=N,279µm,0.5s							
IMMV					AML	AML	19 58 56.2	
	comp=E,313µm,1.1s							
VLI	**Velıai**	**3.75**	**282**	P	P	**Pn**	**19 58 27.1**	**+1.9**
PPCY	**Paphos**	**4.12**	**104**	P	P	**Pn**	**19 58 31.1**	**+0.8**
	baz=297							
ALFC	**Alefka**	**4.25**	**100**	P	P	**Pn**	**19 58 33.1**	**+0.9**
	baz=293							
ALFC					S	**Sn**	**19 59 20.7**	**-0.7**
SZAC	**Souni**	**4.58**	**104**	P	P	**Pn**	**19 58 38.0**	**+1.3**
	baz=296							
SZAC					S	**Sn**	**19 59 31.1**	**+1.6**
BRTR	**Keskin Array B**	**6.12**	**51**	Pn	Pn	**Pn**	**19 58 59.2**	**+1.2**
	comp=E,0.2nm,0.3s,baz=236,slow=14,SNR=4.1							
BRTR					Sn	**Sn**	**20 00 12.0**	**+4.3**
	comp=E,0.1nm,0.3s,baz=285,slow=12,SNR=3.1							
MMAI	**Mount Meron Ar**	**7.18**	**112**	Pn	Pn	**Pn**	**19 59 13.2**	**+0.7**
	comp=E,1.5nm,0.3s,baz=316,slow=12,SNR=6.9							
MMAI					Sn	**Sn**	**20 00 33.4**	**-0.3**
	comp=E,3.9nm,0.3s,baz=310,slow=25,SNR=6.7							
ASF	**Jabal al Asfar**	**8.69**	**113**	Sn	Sn	**Sn**	**20 01 07.8**	**-3.0**
	comp=E,0.1nm,0.3s,baz=245,slow=14,SNR=2.3							
TORD	**Torodi Ar. Bea**	**32.50**	**232**	P	**P**	**P**	**20 03 57.4**	**-0.7**
	comp=E,0.2nm,0.4s,baz=28,slow=10,SNR=12							
ARCES	**ARCESS Array B**	**33.61**	**359**	P	**P**	**P**	**20 04 06.9**	**-0.4**
	comp=E,5.5nm,1.0s,baz=178,slow=6.8,SNR=2.7							
ARCES				LR	LR	LR	20 17 38.3	
	comp=E,5.7nm,21.6s,baz=170,slow=36							
MKAR	**Makanchi Array**	**41.72**	**58**	P	**P**	**P**	**20 05 17.4**	**+1.2**
	comp=E,0.4nm,0.5s,baz=272,slow=6.7,SNR=7.5							
ZALV	**Zalesovo Beam**	**43.05**	**47**	P	**P**	**P**	**20 05 26.6**	**-0.2**
	comp=E,0.4nm,0.4s,baz=257,slow=12,SNR=2.8							
CMAR	**Chiang Mai Arr**	**64.59**	**85**	P	**P**	**P**	**20 08 05.1**	**+0.1**
	comp=E,0.2nm,0.5s,baz=304,slow=6.4,SNR=3.2							
YKA	**Yellowknife Ar**	**77.22**	**343**	P	**P**	**P**	**20 09 21.5**	**+0.6**
	comp=E,0.9nm,0.4s,baz=36,slow=9.5,SNR=7.3							

MEX 13 19:59:30.4±0.6, 14°.02N×92°.45W, h111km±15km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
THIG		**0.90**	**11**	*e*P	P	Pn	19 59 48.7	-2.0
THIG				*i* S	S	Sn	20 00 04.5	-1.4
PCIG		**1.83**	**336**	*e*P	P	Pn	20 00 00.7	-0.6
PCIG				*i* S	S	Sn	20 00 22.4	-2.6
CCIG	**Comitan**	**2.27**	**8**	*e*P	P	Pn	20 00 06.0	-1.1
CCIG				*e*S	S	Sn	20 00 32.9	-2.2
TGIG		**2.82**	**347**	*i* P	P	Pn	20 00 13.7	-0.4
TGIG				*i* S	S	Sn	20 00 45.9	-1.9

*ISCJB **13** 20:07:23.8±0.8, 32°.54S±0°.04×68°.90W±0°.05, h133km±6km, Error ellipse: s-maj=8.7km s-min=5.9km az=44.0*
*SJA **13** 20:07:23.9±0.5, 32°.56S×68°.92W, h126km±2km, ML3.2, MW3.5*
*GUC **13** 20:07:24.5±0.7, 32°.51S×69°.24W, h154km±15km, ML2.8*

ISC 13 20:07:24.2±1.7, 32°.55S±0°.05×68°.89W±0°.05, h131km±9km, n22, σ0s58/33, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
ASAL	**Salagasta**	**0.06**	**131**	*e*P		**Pn**	**20 07 42.0**	**0.0**
ASAL				*e*S		**Sn**	**20 07 55.3**	**-0.2**
ARCO	**CERRO ARCO**	**0.29**	**188**	*e*P		**Pn**	**20 07 42.2**	**-0.4**
ARCO					IAML		20 07 42.4	
	comp=Z,617nm,0.2s							
ARCO				*e*S		**Sn**	**20 07 56.1**	**-0.4**
AAGR	**Agrelo**	**0.53**	**175**	*e*P		**Pn**	**20 07 43.5**	**-0.1**
AAGR				*e*S		**Sn**	**20 07 58.0**	**-0.4**
AUSP	**Uspallata**	**0.54**	**308**	*e*P		**Pn**	**20 07 44.0**	**+0.2**
AUSP				*e*S		**Sn**	**20 07 58.6**	**-0.1**
RTCV	**Cerro Valdivia**	**0.75**	**23**	*e*P		**Pn**	**20 07 45.2**	**+0.2**
RTCV				*e*S		**Sn**	**20 08 00.2**	**-0.1**
RTLS	**Leoncito**	**0.83**	**335**	*e*P		**Pn**	**20 07 46.4**	**+0.4**
RTLS				*e*S		**Sn**	**20 08 02.8**	**+0.3**
RTLS					IAML		20

KOK	**Koryaka**	**1.19**	**287**	*i* P	Pn	20 43 05.0	+1.5
KRX	**Arik**	**1.21**	**290**	*e*P	Pn	20 43 05.0	+1.3
KRX				*e*S	Sn	20 43 19.3	+0.5
KII	**Karymskiy**	**1.26**	**329**	*e*P	Pn	20 43 05.9	+1.5
KII				*e*S	Sn	20 43 22.0	+1.9
RUS	**Russkaya**	**1.34**	**248**	*i* P	Pn	20 43 06.9	+1.5
RUS				*e*S	Sn	20 43 23.6	+1.7
KRMR	**Karymshinskiy**	**1.46**	**266**	*e*P	Pn	20 43 09.1	+2.0
KRMR				*e*S	Sn	20 43 26.4	+1.4
MTVR	**Mutnovka**	**1.51**	**253**	*e*P	Pn	20 43 09.9	+2.0
MTVR				*e*S	Sn	20 43 28.4	+2.1
GRL	**Gorelyy**	**1.55**	**256**	*e*S	Sn	20 43 29.7	+2.4
GNL	**Ganaly**	**1.72**	**296**	*e*P	Pn	20 43 13.2	+2.4
GNL				*e*S	Sn	20 43 35.1	+3.5
MKZ	**Mys Kozlova**	**1.75**	**23**	*e*P	Pn	20 43 12.3	+1.3
MKZ				*e*S	Sn	20 43 32.4	+0.3
KDTR	**Khodutka, Kamc**	**1.90**	**234**	*e*P	Pn	20 43 15.3	+2.3
KDTR				*e*S	Sn	20 43 37.7	+2.1
APC	**Apacha**	**2.04**	**270**	*e*P	Pn	20 43 18.5	+3.4
APC				*e*S	Sn	20 43 43.7	+4.4
KZV	**Kizimen**	**2.16**	**356**	*i* P	Pn	20 43 19.3	+2.4
KZV				*e*S	Sn	20 43 45.0	+2.5
TUMD	**Tumrok D**	**2.25**	**358**	*e*P	Pn	20 43 20.0	+2.0
TUMD				*e*S	Sn	20 43 46.1	+1.6
TUMR	**Tumrok**	**2.34**	**355**	*e*P	Pn	20 43 22.2	+2.9
TUMR				*e*S	Sn	20 43 50.4	+3.6
KMNR	**Kamenistaya**	**2.81**	**357**	*e*P	Pn	20 43 30.5	+4.8
ZLN	**Zelenaya**	**3.07**	**3**	P	Pn	20 43 33.1	+3.8
ZLN				*e*S	Sn	20 44 10.6	+5.8
KBTR	**Krutoberegovo**	**3.52**	**21**	*e*P	Pn	20 43 37.7	+2.4
SMKR	**Semkarok**	**3.67**	**8**	*e*P	Pn	20 43 43.6	+6.1
SRKR	**Sorokina**	**3.72**	**5**	*e*P	Pn	20 43 43.0	+4.8
SRKR				*e*S	Sn	20 44 27.9	+7.1

MEX 13 20:46:43.2±0.5, 13°.99N×92°.76W, h10km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.03**	**28**	*i* P	Pg	20 46 59.5	-3.6
THIG				*e*S	Sg	20 47 13.4	-3.2
PCIG		**1.77**	**346**	*e*P	Pn	20 47 10.7	-3.2
PCIG				*i* S	Sn	20 47 31.7	-4.7
CCIG	**Comitan**	**2.36**	**15**	*e*P	Pn	20 47 19.2	-3.0
CCIG				*i* S	Sn	20 47 47.7	-3.7
TGIG		**2.80**	**353**	*i* P	Pn	20 47 24.6	-3.6
TGIG				*i* S	Sn	20 47 58.2	-3.8

*IDC **13** 21:08:14.5±7.8, 23°.24S×179°.43W, h446km±79km, mb3.2/7, mb1 3.4/7, mb1mx3.2/22, mbtmp3.9/7, Error ellipse: s-maj=38.1km s-min=26.0km az=52.0*
*ISCJB **13** 21:08:21.2±0.9, 23°.2S±0°.2×179°.8W±0°.2, h532km, mb3.5/7, Error ellipse: s-maj=34.2km s-min=18.4km az=159.2*

ISC 13 21:08:22.6±0.8, 23°.3S±0°.2×179°.8W±0°.1, h532km, n11, σ1§85/15, mb3.6/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.10**	**247**	P	**P**	**21 14 31.7**	**+0.3**
	1.0nm,0.4s,baz=61,slow=11,SNR=4.4						
ASAR	**Alice Springs**	**42.30**	**260**	P	**P**	**21 15 30.4**	**+0.6**
	1.4nm,0.7s,baz=98,slow=6.9,SNR=17						
ASAR				PcP	**PcP**	**21 17 12.0**	**+0.7**
	0.2nm,0.5s,baz=91,slow=6.5,SNR=2.9						
ASAR				S	**S**	**21 21 10.9**	**-1.4**
	0.6nm,0.7s,baz=96,slow=14,SNR=7.1						
WRA	**Warramunga Arr**	**42.61**	**265**	P	**P**	**21 15 32.8**	**+0.5**
	1.0nm,0.5s,baz=94,slow=8.5,SNR=33						
WRA				PcP	**PcP**	**21 17 13.6**	**+1.2**
	1.0nm,1.1s,baz=98,slow=2.9,SNR=3.3						
WRA				S	**S**	**21 21 12.8**	**-4.1**
	0.7nm,0.8s,baz=101,slow=14,SNR=2.9						
QSPA	**South Pole Qui**	**66.77**	**180**	P	**P**	**21 18 21.5**	**+0.5**
	4.0nm,1.0s,baz=51,slow=2.7,SNR=7.4						
CMAR	**Chiang Mai Arr**	**89.48**	**290**	P	**P**	**21 20 26.1**	**+2.7**
	0.3nm,0.3s,baz=134,slow=3.2,SNR=5.5						
TXAR	**Lajitas Array**	**89.98**	**58**	P	**P**	**21 20 23.9**	**-1.8**
	0.1nm,0.3s,baz=249,slow=4.5,SNR=3.1						
ILAR	**Eielson Array**	**91.42**	**13**	P	**P**	**21 20 30.0**	**-1.4**
	0.2nm,0.7s,baz=211,slow=6.3,SNR=2.8						
ARCES	**ARCESS Array B**	**131.35**	**348**	PKP	**PKPdf**	**21 26 34.8**	**+1.1**
	3.9nm,1.0s,baz=35,slow=3.3,SNR=3.8						
AKASG	**Malin Array Be**	**144.56**	**328**	PKP	PKPbc	21 26 58.7	+0.3
	2.3nm,0.6s,baz=44,slow=4.2,SNR=7.5						
BRTR	**Keskin Array B**	**147.35**	**308**	PKPbc	**PKPbc**	**21 27 07.2**	**+0.4**
	0.5nm,0.6s,baz=153,slow=4.9,SNR=3.8						
BRTR				PKPab	**PKPab**	**21 27 11.7**	**+1.1**
	1.2nm,0.7s,baz=96,slow=2.8,SNR=7.0						
TORD	**Torodi Ar. Bea**	**169.79**	**188**	PKPab	**PKPab**	**21 28 45.8**	**-1.9**
	0.3nm,0.8s,baz=196,slow=4.2,SNR=2.7						

UCR 13 21:27:02.1±1.7, 10°.46N×86°.40W, h16km±9km, MD4.2, ML2.3, 1C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**0.82**	**114**	*e*P	Pb	21 27 17.9	-0.1
NY14	**Universidad de**	**0.87**	**77**	*i* P	Pg	21 27 19.0	-0.1
LAPC	**Finca la Perla**	**0.99**	**72**	*i* P	Pb	21 27 20.1	-0.9
BUEV	**Buena Vista**	**1.03**	**71**	*e*P	Pb	21 27 20.8	-0.8
BUEV				*e*S	Sn	21 27 36.3	+0.3
PLVR	**Palo Verde**	**1.03**	**96**	*e*P	Pb	21 27 20.7	-1.0
PLVR				*e*S	Sb	21 27 34.9	-0.2
GB1A	**Boringuen Arri**	**1.04**	**70**	*e*P	Pb	21 27 20.2	-1.7
GPS1	**Guardaparques**	**1.07**	**73**	*i* P	Pb	21 27 21.6	-0.8
LIM1	**Limonal**	**1.15**	**78**	*i* P	Pn	21 27 22.7	-0.9
MESS	**Mesas**	**1.21**	**77**	*i* P	Pn	21 27 23.3	-1.1
MESS				⇓*e*P	Pb	21 27 23.7	-1.0
MESS				*e*S	Sb	21 27 39.8	-0.4
HORNC	**Hornillas**	**1.22**	**78**	*i* P	Pn	21 27 23.6	-1.0
CUI	**Cuipilapa**	**1.23**	**81**	*i* P	Pn	21 27 24.0	-0.6
CUI				*i* S	Sb	21 27 39.7	-0.9
JTS	**JuntasAbangare**	**1.43**	**97**	*e*P	Pn	21 27 26.5	-0.9
ARE1	**Arenal 1**	**1.65**	**90**	*e*P	Pn	21 27 30.8	+0.3
COPN	**Copaltepe**	**1.72**	**354**	*e*P	Pn	21 27 30.6	-0.7
ACON	**Acoyapa**	**1.92**	**39**	*e*P	Pn	21 27 33.3	-0.8
ACON				*e*S	Sn	21 27 58.8	+0.8
ACON				IAML		21 28 02.3	
	comp=N,26nm,0.4s						
BOAB	**BOACO BROADBAN**	**2.10**	**20**	*e*P	Pn	21 27 35.7	-0.9
LCR2	**La Lucha 2**	**2.46**	**107**	*e*P	Pn	21 27 42.5	+0.7
URSC	**Urasca**	**2.65**	**103**	*e*P	Pn	21 27 45.4	+1.1

GUC 13 21:29:45.1±0.6, 21°.60S×67°.70W, h222km±9km, ML3.5, 2C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.45**	**262**	*e*P	Pn	21 30 21.8	+1.2
PB09				*e*S	S	21 30 49.7	+1.6
PB09				IAML		21 30 52.6	
	comp=N,87nm,0.3s						
PB01	**IPOC Station P**	**1.76**	**288**	*e*P	Pn	21 30 24.2	+1.0
PB01				*e*S	S	21 30 54.6	+2.0
PB01				IAML		21 30 56.0	
	comp=N,180nm,0.2s						
PB03	**IPOC Station P**	**1.96**	**256**	*e*P	Pn	21 30 26.5	+1.4
PB03				*e*S	S	21 30 57.6	+1.5
PB03				IAML		21 30 58.2	
	comp=N,338nm,0.2s						
PB08	**IPOC Station P**	**1.99**	**317**	⇑*i* P	Pn	21 30 27.0	+1.3
PB08				*i* S	S	21 30 59.0	+1.9
PB08				IAML		21 31 01.4	
	comp=E,45nm,0.2s						
PB07	**IPOC Station P**	**2.04**	**266**	*e*P	Pn	21 30 27.3	+1.4
PB07				*i* S	S	21 30 59.4	+1.9
PB07				IAML		21 31 00.2	
	comp=N,248nm,0.5s						
PB06	**IPOC Station P**	**2.06**	**237**	*e*P	Pn	21 30 27.8	+1.8
PB06				*e*S	S	21 30 59.5	+1.7
PB06				IAML		21 31 00.5	
	comp=E,104nm,0.1s						
PB02	**IPOC Station P**	**2.06**	**277**	*e*P	Pn	21 30 27.6	+1.6
PB02				*e*S	S	21 30 59.7	+1.8
PB02				IAML		21 31 00.5	
	comp=N,644nm,0.3s						
PB04	**IPOC Station P**	**2.39**	**252**	*e*P	Pn	21 30 31.3	+1.8
PB04				*i* S	S	21 31 05.7	+1.8
PB04				IAML		21 31 07.7	
	comp=N,100nm,0.3s						
PB11	**IPOC Station P**	**2.59**	**315**	⇑*i* P	Pn	21 30 32.5	+0.9
PB11				*i* S	S	21 31 09.3	+1.6
PB11				IAML		21 31 11.1	
	comp=N,187nm,0.2s						
PB05	**IPOC Station P**	**2.63**	**241**	*e*P	Pn	21 30 33.7	+1.7

*ISK **13** 21:59:06.1, 37°.33N×37°.14E, h8km, ML3.4/18*
*DDA **13** 21:59:06.4, 37°.31N×37°.11E, h26km, Ml3.6*
*ISCJB **13** 21:59:07.5±0.4, 37°.28N±0°.03×37°.15E±0°.03, h19km±4km, Error ellipse: s-maj=4.7km s-min=3.6km az=159.0*

ISC 13 21:59:07.6±1.1, 37°.31N±0°.03×37°.15E±0°.03, h18km±3km, n38, σ0§97/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.15**	**160**	PG	**Pb**	**21 59 10.5**	**-0.8**
GAZ				SG	**Sb**	**21 59 13.3**	**-0.4**
KUZU	**Kuzuini**	**0.54**	**186**	*i* P	**Pb**	**21 59 18.1**	**-0.4**
KUZU				*i* S	**Sb**	**21 59 25.9**	**0.0**
ANDN	**Andirin**	**0.69**	**293**	*i* P	**Pb**	**21 59 19.6**	**-1.5**
ANDN				*i* S	**Sb**	**21 59 29.5**	**-0.9**
ATAB	**Bozova**	**0.93**	**80**	*i* P	**Pg**	**21 59 24.9**	**-0.7**
ATAB				*i* S	**Sn**	**21 59 38.3**	**-0.3**
ELBS	**KAHRAMANMARAS**	**1.01**	**359**	*i* P	**Pn**	**21 59 26.0**	**-1.0**
ELBS				*i* S	**Sn**	**21 59 42.6**	**+1.8**
KOZT	**Kozan**	**1.06**	**280**	PG	**Pb**	**21 59 26.4**	**-1.1**
KOZT				SG	**Sb**	**21 59 41.5**	**+0.4**
AKCD	**Akcadag**	**1.16**	**32**	*i* P	**Pb**	**21 59 28.4**	**-0.7**
AKCD				*i* S	**Sg**	**21 59 45.6**	**+0.3**
TAHT	**Tahtakopru-Hat**	**1.21**	**220**	PN	**Pn**	**21 59 29.2**	**-0.4**
SURC	**SANLIURFA_SURC**	**1.25**	**110**	*i* P	**Pb**	**21 59 30.0**	**-0.6**
SURC				*i* S	**Sg**	**21 59 48.0**	**0.0**
DARE	**Darende-Malaty**	**1.29**	**12**	PN	**Pb**	**21 59 30.7**	**-0.6**
URFA	**Urfa**	**1.34**	**84**	PN	**Pn**	**21 59 30.9**	**-0.6**
CUGUR	**Gurin_S¨VAS**	**1.41**	**4**	*i* P	**Pb**	**21 59 32.2**	**-1.3**
CUGUR				*i* S	**Sg**	**21 59 54.3**	**+1.0**
KRTD	**Karatas-Adana**	**1.56**	**243**	PN	**Pn**	**21 59 34.9**	**+0.5**
KRTS	**Karatas**	**1.60**	**243**	PN	**Pn**	**21 59 35.7**	**+0.8**
HEKM	**Malatya_Hekimh**	**1.69**	**22**	*i* P	**Pb**	**21 59 37.8**	**-0.4**
BNN	**Bunyan**	**1.85**	**327**	PN	**Pn**	**21 59 38.8**	**+0.3**
ELZG	**Elazig**	**1.88**	**50**	*i* P	**Pn**	**21 59 39.2**	**+0.3**
ELZG				*i* S	**Pg**	**21 59 46.8**	**+3.2**
CUALT	**Altinyayla-SIV**	**1.98**	**351**	*i* P	**Pb**	**21 59 42.1**	**-1.1**
MERS	**Mersin**	**2.15**	**259**	PN	**Pn**	**21 59 43.2**	**+0.7**
NIG	**Nigde**	**2.17**	**292**	PN	**Pn**	**21 59 43.4**	**+0.4**
CUSAR	**Sarkisla-SIVAS**	**2.22**	**342**	*i* P	**Pn**	**21 59 44.3**	**+0.6**
CUSAR				*i* S	**Pg**	**21 59 48.5**	**-1.8**
KEMA	**Kemaliye**	**2.22**	**28**	*i* P	**Pn**	**21 59 44.3**	**+0.6**
PTK	**Pertek**	**2.37**	**48**	PN	**Pn**	**21 59 46.0**	**+0.2**
ILIC	**ilic-Erzincan**	**2.41**	**27**	PN	**Pn**	**21 59 46.9**	**+0.7**
DIYA	**Diyarbakir**	**2.44**	**75**	*i* P	**Pn**	**21 59 46.0**	**-0.6**
DIYA				*i* S	**Pg**	**21 59 53.7**	**-0.7**
KIZK	**Mersin**	**2.55**	**252**	PN	**Pn**	**21 59 48.7**	**+0.7**
SVSK	**Karacayir**	**2.60**	**357**	PN	**Pn**	**21 59 50.1**	**+1.4**
MAZI	**Mazidag**	**2.63**	**86**	PN	**Pn**	**21 59 48.9**	**-0.4**
YOZ	**Yozgat**	**2.73**	**329**	PN	**Pn**	**21 59 51.4**	**+0.7**
HANI	**Diyarbakir_Han**	**2.80**	**66**	*i* P	**Pn**	**21 59 51.5**	**-0.1**
KEBE	**Keben-Mersin**	**2.88**	**254**	PN	**Pn**	**21 59 53.7**	**+1.0**
MARD	**Mardin**	**2.90**	**89**	*i* P	**Pn**	**21 59 52.4**	**-0.5**
IKL	**Isikli**	**2.98**	**250**	PN	**Pn**	**21 59 54.9**	**+1.0**
EREN	**Erenkoy**	**2.99**	**234**	PN	**Pn**	**21 59 55.2**	**+1.2**
SUT	**Sultanhani-AKS**	**3.01**	**288**	PN	**Pn**	**21 59 55.5**	**+1.1**
ERZN	**Erzincan**	**3.04**	**41**	PN	**Pn**	**21 59 56.9**	**+1.0**
TEVE	**Tevekalli-Mers**	**3.10**	**255**	PN	**Pn**	**21 59 56.7**	**+1.1**
AKKU	**Akkuyu-Mersin**	**3.11**	**249**	PN	**Pn**	**21 59 56.3**	**+0.6**

*DDA **13** 22:08:49.6, 36°.58N×27°.78E, h5km, Ml3.6*
*IDC **13** 22:08:50.7±0.9, 36°.52N×27°.93E, h0km, mb3.6/7, mb1 3.6/12, mb1mx3.5/50, mbtmp3.5/12, ML3.3/5, Error ellipse: s-maj=21.2km s-min=14.2km az=156.0*
*ATH **13** 22:08:51.9, 36°.65N×27°.93E, h26km, ML3.3/17, Error ellipse: s-maj=1.0km s-min=0.6km az=202.0*
*ISK **13** 22:08:51.5, 36°.62N×27°.91E, h6km, ML3.6/14*
*THE **13** 22:08:52.3, 36°.65N×27°.95E, h2km±1km, ML3.4/8, Error ellipse: s-maj=1.8km s-min=0.7km az=41.0*
*ISCJB **13** 22:08:52.1±0.4, 36°.62N±0°.02×27°.89E±0°.02, h9km±2km, mb3.5/7, Error ellipse: s-maj=3.1km s-min=2.2km az=165.7*

ISC 13 22:08:52.7±1.0, 36°.60N±0°.02×27°.91E±0°.02, h10km±7km, n123, σ1§08/167, mb3.6/7, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DATC	**Datca-Mugla**	**0.25**	**309**	PG	**Pg**	**22 08 57.6**	**-0.3**
MRSB	**Marmaris-Mugla**	**0.26**	**64**	PG	**Pg**	**22 08 56.8**	**-1.2**
MRSB				SG	**Sg**	**22 09 00.1**	**-1.5**
DAT	**Datca**	**0.29**	**296**	PG	**Pg**	**22 08 57.7**	**-1.0**
DAT				SG	**Sg**	**22 09 02.3**	**-0.3**
DAT	**Datca**	**0.29**	**296**	*i* P	**Pg**	**22 08 58.7**	**0.0**
DAT				*i* S	**Sb**	**22 09 04.8**	**-0.4**
ARG	**Arkhangelos**	**0.42**	**155**	PG	**Pg**	**22 09 00.1**	**-0.9**
ARG				SG	**Sb**	**22 09 07.9**	**-0.8**
ARG	**Arkhangelos**	**0.42**	**155**	P	**Pg**	**22 09 01.0**	**-0.1**
ARG				S	**Sb**	**22 09 08.6**	**-0.2**
ARG				AML	AML	22 09 10.1	
	comp=N,14158μm,0.3s						
ARG				AML	AML	22 09 10.7	
	comp=E,21890μm,0.4s						
ARG	**Arkhangelos**	**0.42**	**155**	P	**Pg**	**22 09 00.9**	**-0.1**
ARG				S	**Sb**	**22 09 08.0**	**-0.8**
NIS1	**Nisyros Isl.**	**0.59**	**270**	PG	**Pg**	**22 09 03.3**	**-0.8**
NIS1	**Nisyros Isl.**	**0.59**	**270**	P	**Pb**	**22 09 04.6**	**-0.5**
NIS1				S	**Sb**	**22 09 13.3**	**-0.2**
NIS1				AML	AML	22 09 21.2	
	comp=N,28506μm,0.5s						
NIS1				AML	AML	22 09 22.2	
	comp=E,25403μm,0.4s						
NIS1	**Nisyros Isl.**	**0.59**	**270**	P	**Pb**	**22 09 04.6**	**-0.5**
NIS1				S	**Sb**	**22 09 14.5**	**+1.0**
TURN	**Turunc**	**0.62**	**64**	PG	Pg	22 08 58.0	-6.8
TURN				SG	Sg	22 09 02.4	-11
TURN	**Turunc**	**0.62**	**64**	*i* P	Pg	22 08 58.1	-6.6
TURN				*i* S	Sg	22 09 02.9	-10
NISR	**Nisiros**	**0.63**	**271**	P	**Pb**	**22 09 05.0**	**-0.7**
NISR				S	**Sb**	**22 09 15.0**	**+0.4**
NISR				AML	AML	22 09 19.1	
	comp=E,12691μm,0.4s						
NISR				AML	AML	22 09 23.4	
	comp=N,7648μm,0.7s						
NISR	**Nisiros**	**0.63**	**271**	P	**Pb**	**22 09 05.6**	**-0.2**
NISR				S	**Sb**	**22 09 15.8**	**+1.2**
DALY	**Dalyan (Mu¨la**	**0.64**	**70**	PG	**Pg**	**22 09 04.4**	**-0.7**
DALY	**Dalyan (Mu¨la**	**0.64**	**70**	*i* P	**Pg**	**22 09 04.4**	**-0.7**
DALY				*i* S	**Sb**	**22 09 16.6**	**+1.7**
BODT	**Bodrum**	**0.66**	**314**	PG	**Pg**	**22 09 04.5**	**-1.1**
BODT	**Bodrum**	**0.66**	**314**	P	**Pg**	**22 09 05.0**	**-0.6**
BODT				S	**Sb**	**22 09 15.3**	**-0.4**
MLSB	**Milas**	**0.70**	**352**	PG	**Pg**	**22 09 05.3**	**-1.0**
FETY	**Fethiye**	**0.95**	**88**	PG	**Pg**	**22 09 10.4**	**-0.6**
FETY	**Fethiye**	**0.95**	**88**	P	**Pg**	**22 09 09.5**	**-1.5**
AYDN	**Tasoluk**	**1.06**	**359**	*i* P	**Pg**	**22 09 12.1**	**-1.0**
AYDN				*i* S	**Sb**	**22 09 27.5**	**+0.3**
TAVA	**DENIZLI_Tavas**	**1.18**	**43**	*i* P	**Pg**	**22 09 13.8**	**-1.6**
TAVA				*i* S	**Sn**	**22 09 32.0**	**+0.4**
KARP	**Karpathos**	**1.21**	**210**	PN	**Pb**	**22 09 14.9**	**-0.9**
KARP	**Karpathos**	**1.21**	**210**	P	**Pb**	**22 09 15.6**	**-0.2**
KARP				S	**Sn**	**22 09 33.1**	**+0.8**
KARP				AML	AML	22 09 37.0	
	comp=N,4822μm,0.5s						
KARP				AML	AML	22 09 37.8	
	comp=E,5769μm,0.5s						
KARP	**Karpathos**	**1.21**	**210**	P	**Pb**	**22 09 15.6**	**-0.2**
KARP				S	**Sn**	**22 09 33.5**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**1.34**	**359**	PN	**Pn**	**22 09 16.9**	**-0.8**
SMG	**Samos**	**1.40**	**323**	P	**Pn**	**22 09 17.0**	**-1.3**
SMG				S	**Sb**	**22 09 35.9**	**-0.9**
SMG				AML	AML	22 09 44.4	
	comp=E,2927μm,0.4s						
SMG				AML	AML	22 09 45.1	
	comp=N,2522μm,0.4s						
SMG	**Samos**	**1.40**	**323**	P	**Pn**	**22 09 17.1**	**-1.3**
SMG				S	**Sb**	**22 09 36.1**	**-0.7**
DNZL	**Cakiroluk**	**1.42**	**40**	*i* P	**Pb**	**22 09 19.5**	**+0.1**
DNZL				*i* S	**Sg**	**22 09 42.1**	**+3.7**
AKAS	**Kas**	**1.42**	**105**	PN	**Pn**	**22 09 18.7**	**0.0**
AKAS	**Kas**	**1.42**	**105**	*i* P	**Pb**	**22 09 19.3**	**-0.1**
AKAS				*i* S	**Sg**	**22 09 41.5**	**+3.1**
KSL	**Kastellorizon**	**1.43**	**108**	P	**Pn**	**22 09 18.8**	**+0.1**
KSL				S	**Sn**	**22 09 37.1**	**-0.5**
KSL				AML	AML	22 09 47.1	
	comp=N,588μm,0.6s						
KSL				AML	AML	22 09 52.8	
	comp=E,660μm,0.9s						
KSL	**Kastellorizon**	**1.43**	**108**	P	**Pn**	**22 09 19.1**	**+0.4**
KSL				S	**Sn**	**22 09 37.0**	**-0.5**
DENT	**Denizli**	**1.46**	**38**	PN	**Pn**	**22 09 19.2**	**0.0**
GOLH	**Golhisar**	**1.47**	**64**	*i* P	**Pn**	**22 09 19.8**	**+0.4**
GOLH				*i* S	**Sg**	**22 09 42.7**	**+2.7**
ELL	**Elmali**	**1.62**	**84**	PN	**Pn**	**22 09 21.3**	**-0.1**
AMGA	**Amorgos Island**	**1.63**	**279**	P	**Pn**	**22 09 20.7**	**-0.8**
AMGA				S	**Sn**	**22 09 42.8**	**+0.1**
AMGA				AML	AML	22 09 52.9	
	comp=N,1030μm,0.7s						
AMGA				AML	AML	22 09 55.1	
	comp=E,1046μm,0.5s						
AMGA	**Amorgos Island**	**1.63**	**279**	P	**Pn**	**22 09 20.9**	**-0.7**
DGB	**¨zmir**	**1.66**	**331**	*i* P	**Pn**	**22 09 20.4**	**-1.5**
DGB				*i* S	**Sg**	**22 09 51.0**	**+4.8**
GMLD	**Gumuldur**	**1.67**	**332**	PN	**Pn**	**22 09 21.7**	**-0.3**
ANAF	**Anafi Island**	**1.74**	**263**	P	**Pn**	**22 09 22.9**	**-0.1**
ANAF				S	**Sn**	**22 09 45.4**	**+0.2**
ANAF				AML	AML	22 09 55.4	
	comp=N,3407μm,0.4s						
ANAF				AML	AML	22 10 00.8	
	comp=E,3618μm,0.5s						
MANT	**Manisa**	**1.96**	**15**	*i* P	**Pn**	**22 09 25.5**	**-0.7**
MANT				*i* S	**Sg**	**22 09 56.4**	**+0.8**
APE	**Apeiranthos**	**1.96**	**284**	PN	**Pn**	**22 09 25.7**	**-0.4**
APE	**Apeiranthos**	**1.96**	**284**	P	**Pn**	**22 09 25.3**	**-0.8**
APE				S	**Sn**	**22 09 50.6**	**-0.2**
APE				AML	AML	22 10 00.3	
	comp=N,389μm,0.7s						
APE				AML	AML	22 10 02.4	
	comp=E,336μm,0.5s						
SANT	**Santorini**	**1.98**	**264**	PN	**Pn**	**22 09 26.4**	**0.0**
SANT	**Santorini**	**1.98**	**264**	P	**Pn**	**22 09 26.4**	**0.0**
SANT				S	**Sn**	**22 09 51.7**	**+0.3**
SANT				AML	AML	22 10 05.0	
	comp=E,730μm,0.5s						
SANT				AML	AML	22 10 06.0	
	comp=N,363μm,0.4s						
SAP2K	**Karterados**	**1.99**	**265**	P	**Pn**	**22 09 26.3**	**-0.2**
THR2	**Thira island,**	**2.00**	**266**	P	**Pn**	**22 09 26.3**	**-0.3**
KORT	**Korkueli**	**2.00**	**78**	PN	**Pn**	**22 09 26.9**	**+0.2**
KORT	**Korkueli**	**2.00**	**78**	*i* P	**Pb**	**22 09 28.6**	**-0.7**
KORT				*i* S	**Sg**	**22 09 59.0**	**+1.9**
KULA	**Kula-Manisa**	**2.00**	**17**	PN	**Pn**	**22 09 26.7**	**0.0**
THR7	**Fira-Santorini**	**2.00**	**266**	P	**Pn**	**22 09 26.2**	**-0.5**
THT2	**Imeroviglı**	**2.01**	**266**	P	**Pn**	**22 09 26.5**	**-0.2**
ZKR	**Zakros**	**2.02**	**223**	P	**Pn**	**22 09 27.6**	**+0.7**
ZKR				S	**Sn**	**22 09 52.8**	**+0.6**
ZKR				AML	AML	22 10 04.5	
	comp=E,803μm,0.6s						
ZKR				AML	AML	22 10 09.3	
	comp=N,396μm,0.6s						
ZKR	**Zakros**	**2.02**	**223**	P	**Pn**	**22 09 27.4**	**+0.5**
ZKR				S	**Sb**	**22 09 53.5**	**-1.3**
THR3	**Thira Island,**	**2.03**	**265**	P	**Pn**	**22 09 26.8**	**-0.2**
THR6	**Thira Island,**	**2.04**	**264**	P	**Pn**	**22 09 27.1**	**+0.1**
THR6	**Thira Island,**	**2.04**	**264**	P	**Pn**	**22 09 27.0**	**-0.1**
SAP1	**Santorini-Akro**	**2.04**	**264**	P	**Pn**	**22 09 27.0**	**-0.1**
SAP1	**Santorini-Akro**	**2.04**	**264**	P	**Pn**	**22 09 26.4**	**-0.7**
BRDR	**BURDUR-Merkez**	**2.04**	**57**	*i* P	**Pn**	**22 09 28.7**	**+1.5**
BRDR				*i* S	**Sg**	**22 09 59.6**	**+1.3**
URLA	**Izmir**	**2.04**	**330**	PN	**Pn**	**22 09 27.1**	**-0.1**
THR5	**Thira Island,**	**2.07**	**266**	P	**Pn**	**22 09 27.7**	**+0.2**
IOSP	**Ios island**	**2.11**	**274**	P	**Pn**	**22 09 27.8**	**-0.2**
KHAL	**Karahalli**	**2.17**	**35**	*i* P	**Pn**	**22 09 29.4**	**+0.4**
KHAL				*i* S	**Sb**	**22 09 58.1**	**-1.1**
ANTB	**Antalya**	**2.23**	**81**	PN	**Pn**	**22 09 30.1**	**+0.4**
NPS	**Neapolis**	**2.29**	**235**	P	**Pn**	**22 09 30.7**	**+0.1**
NPS				S	**Sn**	**22 09 59.0**	**+0.1**
NPS				AML	AML	22 10 06.0	
	comp=E,529μm,0.4s						

comp=N,0.3nm,0.3s,baz=305,slow=20,SNR=3.9
MLR Muntele Rosu 9.00 351 Pn **Pn 22 11 04.6 +1.7**
comp=N,0.1nm,0.3s,baz=170,slow=18,SNR=1.9
FINES FINESS Array B 24.89 358 P **P 22 14 15.6 +0.2**
comp=N,0.9nm,0.7s,baz=168,slow=9.8,SNR=3.4
ESDC Sonseca Array 25.18 287 P **P 22 14 18.2 -0.2**
comp=N,0.1nm,0.4s,baz=81,slow=10,SNR=3.8
AKTO Aktyubinsk 25.63 48 P **P 22 14 21.8 -0.6**
comp=N,1.3nm,0.6s,baz=261,slow=11,SNR=4.8
TORD Torodi Ar. Bea 33.13 232 P **P 22 15 27.9 -1.3**
comp=N,0.3nm,0.5s,baz=28,slow=8.7,SNR=8.4
MKAR Makanchi Array 41.12 58 P **P 22 16 36.4 -0.4**
comp=N,0.5nm,0.7s,baz=280,slow=7.3,SNR=4.1
NRIK Noril'sk 45.63 25 P **P 22 17 12.9 0.0**
comp=N,1.2nm,0.4s,baz=211,slow=5.9,SNR=3.8
SONM Songino Array 56.85 52 P **P 22 18 37.4 -0.2**
comp=N,0.3nm,0.4s,baz=285,slow=6.9,SNR=5.2

ISCJB ***13*** *22:31:29.9±0.7, 37.°30N±0.°05×37.°08E±0.°04, h11km±7km, Error ellipse: s-maj=8.4km s-min=5.4km az=12.2*
DDA ***13*** *22:31:29.7, 37.°32N×37.°10E, h7km, Ml2.9*
ISK ***13*** *22:31:29.4, 37.°27N×37.°13E, h16km, ML2.2/4*
ISC 13 22:31:29.6±1.0, 37.°30N±0.°04×37.°12E±0.°03, h12km±8km, n10, σ0°31/16, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.15**	**149**	PG	**Pg**	**22 31 33.3**	**0.0**
GAZ				SG	**Sg**	**22 31 36.0**	**+0.1**
KUZU	**Kuzuini**	**0.53**	**184**	*i* P	**Pb**	**22 31 40.9**	**0.0**
KUZU				*i* S	**Sb**	**22 31 48.6**	**+0.1**
ANDN	**Andirin**	**0.67**	**295**	*i* P	**Pg**	**22 31 42.6**	**-0.2**
ANDN				*i* S	**Sg**	**22 31 51.7**	**0.0**
ATAB	**Bozova**	**0.95**	**80**	*i* P	**Pg**	**22 31 48.0**	**-0.1**
ATAB				*i* S	**Sb**	**22 32 00.8**	**+0.1**
KOZT	**Kozan**	**1.04**	**280**	PG	**Pg**	**22 31 49.8**	**+0.1**
AKCD	**Akcadag**	**1.18**	**33**	*i* P	**Pg**	**22 31 52.5**	**+0.2**
AKCD				*i* S	**Sn**	**22 32 08.9**	**+0.7**
TAHT	**Tahtakopru-Hat**	**1.19**	**219**	PN	**Pn**	**22 31 51.9**	**-0.2**
SURC	**SANLIURFA_SURC**	**1.27**	**109**	*i* P	**Pb**	**22 31 53.4**	**-0.1**
SURC				*i* S	**Sg**	**22 32 10.8**	**+0.2**
DARE	**Darende-Malaty**	**1.30**	**13**	PN	**Pg**	**22 31 54.6**	**-0.1**
URFA	**Urfa**	**1.37**	**84**	PN	**Pn**	**22 31 53.9**	**-0.7**

ISCJB ***13*** *22:35:41.9±1.1, 36.°32N±0.°05×71.°1E±0.°2, h100km, Error ellipse: s-maj=17.9km s-min=5.4km az=163.7*
NNC ***13*** *22:35:52.4±1.0, 36.°88N×71.°16E, h198km±14km, mb2.2, mpv3.2, Error ellipse: s-maj=12.8km s-min=8.5km az=61.0*
ISC 13 22:35:42.6±1.7, 36.°27N±0.°09×70.°9E±0.°1, h100km, n16, σ2°05/20, 8C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan** 3.4nm,0.5s	**4.25**	**28**	⇓P	**Pn**	**22 36 49.5**	**+4.1**
SFK				⇑S	**Sn**	**22 37 35.2**	**+1.2**
MNAS	**Manas** 2.3nm,0.6s	**6.33**	**11**	⇓P	**Pn**	**22 37 15.7**	**+2.3**
MNAS				⇑S	**Sn**	**22 38 21.9**	**-2.4**
KK31	**Karatay Array** 0.3nm,0.3s,baz=171,slow=12,SNR=11	**6.84**	**357**	⇑P	**Pn**	**22 37 22.9**	**+2.7**
KK31				⇑S	**Sn**	**22 38 34.3**	**-2.2**
AAK	**Ala-Archa** 1.7nm,0.5s	**6.93**	**22**	⇑P	**Pn**	**22 37 23.9**	**+2.3**
AAK				⇑S	**Sn**	**22 38 36.4**	**-2.6**
PYUN	**Piuthan** 2.4nm,0.3s	**13.04**	**125**	*e*P	**Pn**	**22 38 44.4**	**+0.2**
DANN	**Dangsing** 2.5nm,0.3s	**13.40**	**122**	*e*P	**Pn**	**22 38 49.0**	**+0.1**
MK31	**Makanchi Array** 0.4nm,0.3s,baz=216,slow=12,SNR=19	**13.51**	**35**	⇑P	**Pn**	**22 38 47.9**	**-2.1**
KOLN	**Koldanda** 2.6nm,0.3s	**13.66**	**125**	*e*P	**Pn**	**22 38 52.4**	**+0.1**
GKN	**Gorkha** 0.3nm,0.2s	**14.22**	**122**	*e*P	**Pn**	**22 38 59.0**	**-0.4**
DMN	**Daman** 5.2nm,0.6s	**14.79**	**122**	*e*P	**Pn**	**22 39 05.3**	**-1.5**
KKN	**Kakani** 6.2nm,0.5s	**14.79**	**121**	*e*P	**Pn**	**22 39 05.5**	**-1.4**
PKIN	**Phulchoki** 4.9nm,0.4s	**15.01**	**121**	*e*P	**Pn**	**22 39 08.3**	**-1.3**
PKI	**Pulchoki** 4.4nm,0.3s	**15.02**	**121**	*e*P	**Pn**	**22 39 08.1**	**-1.8**
GUN	**Gumba** 6.7nm,0.6s	**15.14**	**119**	*e*P	**Pn**	**22 39 10.2**	**-1.2**
AB31	**Akbulak array** 0.3nm,0.4s,baz=152,slow=14,SNR=13	**15.27**	**332**	⇑P	**Pn**	**22 39 12.1**	**-0.4**
JIRN	**Jiri** 12nm,0.6s	**15.51**	**119**	*e*P	**Pn**	**22 39 14.5**	**-1.6**

MAN 13 22:45:04.5, 7.°57N×125.°25E, h32km, mb4.6, ML3.5, MS3.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**0.36**	**329**	*e*P	Pn	22 45 14.2	+0.7
BUKP				*e*S	Sn	22 45 19.4	-0.2
CGP	**Cagayan de Oro**	**1.04**	**328**	⇑*e*P	Pn	22 45 22.8	0.0
CGP				*e*S	Sn	22 45 36.4	0.0
DDMP	**Don Marcelino,**	**1.52**	**163**	*e*P	Pb	22 45 32.6	+0.5
DDMP				*e*S	Sb	22 45 56.3	+5.2

IDC ***13*** *22:59:41.5±1.7, 13.°87N×92.°23W, h0km, mb3.7/4, mb1 4.0/8, mb1mx3.8/34, mbtmp3.7/8, ML3.5/4, MS3.2/3, Ms1 3.2/3, ms1mx2.6/44, Error ellipse: s-maj=31.2km s-min=16.2km az=175.0*
ISCJB ***13*** *22:59:45.9±0.9, 13.°99N±0.°07×92.°16W±0.°08, h46km, mb3.8/4, MS3.6/2, Error ellipse: s-maj=13.3km s-min=7.5km az=142.2*
MEX ***13*** *22:59:46.9±0.3, 13.°93N×92.°34W, h14km±70km, MD3.8*
ISC 13 22:59:48.2±1.2, 14.°1N±0.°1×92.°16W±0.°09, h46km, n15, σ1°47/18, mb3.7/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.86**	**353**	*e*P	**Pn**	**23 00 02.6**	**-1.3**
THIG				*e*S	**Sn**	**23 00 14.4**	**-1.0**
APG	**El Apazote** 27nm,0.3s,baz=233,slow=10,SNR=188	**1.89**	**60**	Pn	**Pn**	**23 00 18.1**	**-0.1**
APG				LR	LR	23 00 39.3	
	comp=Z,70nm,18.3s,baz=182,slow=28						
APG				Lg	Lg	23 00 46.8	
	54nm,0.3s,baz=291,slow=14,SNR=7.7						
PCIG		**1.94**	**328**	*i* P	**Pn**	**23 00 16.7**	**-2.0**
PCIG				*i* S	**Sn**	**23 00 39.4**	**-2.5**
CCIG	**Comitan**	**2.22**	**0**	*i* P	**Pn**	**23 00 22.9**	**+0.2**
CCIG				*i* S	**Sn**	**23 00 49.3**	**+0.3**
TGIG		**2.87**	**341**	*e*P	**Pn**	**23 00 30.5**	**-1.0**
TGIG				*i* S	**Sn**	**23 01 04.6**	**-0.2**
CMIG	**Matias Romero** 4.4nm,0.3s,baz=137,slow=13,SNR=15	**4.01**	**319**	Pn	**Pn**	**23 00 45.9**	**-1.1**
CMIG				Sn	**Sn**	**23 01 35.5**	**+2.7**
	8.1nm,0.3s,baz=95,slow=14,SNR=4.6						
JTS	**JuntasAbangare** 0.4nm,0.3s,baz=331,slow=15,SNR=2.4	**7.97**	**117**	Pn	**Pn**	**23 01 39.8**	**-1.8**
JTS				Lg	Lg	23 03 49.3	
	0.5nm,0.3s,baz=257,slow=22,SNR=5.1						
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=158,slow=11,SNR=8.2	**18.57**	**327**	P	**Pn**	**23 04 03.4**	**+1.3**
TKL	**Tuckaleechee C** comp=Z,94nm,18.2s,baz=214,slow=40	**22.80**	**18**	LR	LR	23 14 53.8	
ANMO	**Albuquerque** 1.1nm,0.5s,baz=145,slow=10,SNR=4.8	**24.48**	**331**	P	**P**	**23 05 04.0**	**+0.7**
NVAR	**Mina Array Bea** 0.8nm,0.7s,baz=138,slow=8.8,SNR=4.5	**33.54**	**321**	P	**P**	**23 06 25.8**	**+1.9**
YKA	**Yellowknife Ar** 1.5nm,0.7s,baz=155,slow=7.3,SNR=3.7	**50.94**	**347**	P	**P**	**23 08 43.8**	**-1.0**
ILAR	**Eielson Array** 0.3nm,0.6s,baz=106,slow=6.6,SNR=4.9	**62.73**	**337**	P	**P**	**23 10 08.4**	**+0.1**
MA2	**Magadan** comp=Z,52nm,19.3s,baz=69,slow=37	**90.98**	**333**	LR	LR	23 55 44.8	
CMAR	**Chiang Mai Arr** 2.7nm,0.6s,baz=337,slow=3.4,SNR=14	**145.90**	**341**	PKPbc	**PKPbc**	**23 19 23.2**	**-0.3**

IDC ***13*** *23:23:43.6±0.4, 21.°12S×175.°85W, h0km, mb4.7/21, mb1 4.9/23, mb1mx4.8/30, mbtmp4.7/23, ML3.8/2, MS4.9/35, Ms1 4.9/35, ms1mx4.9/39, Error ellipse: s-maj=16.4km s-min=13.8km az=159.0*
ISCJB ***13*** *23:23:44.8±2.0, 21.°08S±0.°03×175.°88W±0.°03, h13km±12km, mb5.3/223, MS5.1/151, Error ellipse: s-maj=6.2km s-min=4.0km az=149.2*
MOS ***13*** *23:23:48.3±1.3, 21.°06S×175.°88W, h33km, mb5.5/40, MS5.0/20, Error ellipse: s-maj=10.0km s-min=7.6km az=45.2*
NEIC ***13*** *23:23:48.0±0.1, 21.°04S×175.°93W, mb5.4/195, MS5.1/115, Error ellipse: s-maj=4.3km s-min=2.4km az=137.0*
NEIC Felt at Havelu, Nuku'alofa, Pangai and Vaini.
GCMT ***13*** *23:23:50.0±0.1, 21.°05S±0.°01×175.°79W±0.°01, h19km, MW5.6/136, Moment Tensor Solution. s95,c146; s136,c295; Duration: 1s5 Moment tensor: Scale 10^17 Nm; Mrr=0.23±.03; Mθθ=-2.37±.03; Mφφ=2.60±.03; Mrθ=-0.51±.08; Mθφ=-0.10±.03; Mφr=1.07±.08; Best double couple: M=2.73000×10^17 NP1:φs=314.00000°, δ=86.00000°, λ=157.00000°. NP2:φs=45.00000°, δ=67.00000°, λ=4.00000°. Principal axes: T 2.9720, Plg19.0000°, Azm267.0000°; N -0.4850, Plg67.0000°, Azm125.0000°; P -2.4880, Plg13.0000°, Azm2.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 13 23:23:48.1±0.4, 21.°12S±0.°06×175.°83W±0.°05, h24km±2km, h24km:pP-P, n780, σ1s25/737, mb5.4/223, MS5.1/151, 36C-9D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu** 9.2nm,0.3s,baz=139,slow=5.8,SNR=6.1	**8.14**	**29**	Pn	Pn	23 25 36.7	-8.1
AFI				LR	LR	23 28 24.9	
	comp=Z,3µm,18.1s,baz=202,slow=34						
AFI	**Afiamalu**	**8.14**	**29**	*e*Pn	**Pn**	**23 25 43.5**	**-1.4**
AFI	**Afiamalu**	**8.14**	**29**	*e*P	**Pn**	**23 25 43.5**	**-1.4**
RAO	**Raoul Island** comp=Z,10µm,19.9s,baz=11,slow=35	**8.32**	**193**	LR	LR	23 28 33.3	
RAR	**Rarotonga** 1.8nm,0.3s,baz=251,slow=6.4,SNR=6.1	**14.98**	**93**	Pn	**Pn**	**23 27 16.8**	**-1.5**
RAR				LR	LR	23 33 39.1	
	comp=Z,4µm,18.6s,baz=254,slow=40						
RAR	**Rarotonga**	**14.98**	**93**	*e*Pn	**Pn**	**23 27 19.2**	**+0.9**
RAR	**Rarotonga**	**14.98**	**93**	*e*P	**Pn**	**23 27 19.2**	**+0.9**
DZM	**Mont Dzumac** 0.8nm,0.3s,baz=83,slow=12,SNR=22	**16.52**	**263**	Pn	**P**	**23 27 42.0**	**+1.1**
DZM				LR	LR	23 33 12.0	
	comp=Z,16µm,18.4s,baz=78,slow=34						
DZM	**Mont Dzumac** 795nm,1.2s	**16.52**	**263**	*e*P	**Pn**	**23 27 37.3**	**-1.1**
DZM				*e*LR	LR	23 31 26.5	
	23µm,24.6s						
DZM	**Mont Dzumac** 369nm,1.1s	**16.52**	**263**	*e*Pn	**Pn**	**23 27 36.1**	**-2.3**
OUZ	**Omahuta** 151nm,1.3s	**16.85**	**211**	*e*Pn	**Pn**	**23 27 42.7**	**+0.4**
URZ	**Urewera** 0.8nm,0.3s,baz=48,slow=13,SNR=4.5	**18.14**	**198**	P	**Pn**	**23 27 55.8**	**-2.6**
URZ				LR	LR	23 34 06.0	
	comp=Z,15µm,19.7s,baz=11,slow=34						
URZ	**Urewera** 62nm,1.0s	**18.14**	**198**	*e*Pn	**P**	**23 27 58.6**	**+0.1**
HIZ	**Hauiti** 167nm,1.2s	**19.11**	**203**	*e*P	**Pn**	**23 28 10.4**	**+0.3**
BFZ	**Birch Farm** 122nm,1.3s	**20.64**	**197**	*e*P	**P**	**23 28 27.0**	**+1.2**
SNZO	**South Karori** 69nm,1.1s	**21.67**	**200**	*e*P	**P**	**23 28 36.5**	**-0.4**
SNZO				LR	LR		
	comp=Z,8µm,22.0s						
THZ	**Tophouse** comp=Z,28nm,0.9s	**22.68**	**202**	*e*P	**P**	**23 28 48.7**	**+0.9**
KHZ	**Kahutara** comp=Z,61nm,1.1s	**23.04**	**200**	*e*P	**P**	**23 28 52.4**	**+1.0**
LTZ	**Lake Taylor** comp=Z,35nm,0.9s	**23.80**	**202**	*e*P	**P**	**23 29 00.0**	**+1.0**
OXZ	**Oxford** comp=Z,134nm,1.1s	**24.36**	**202**	*e*P	**P**	**23 29 01.9**	**-2.2**
CRLZ	**Canterbury Las** comp=Z,100nm,1.4s	**24.38**	**201**	*e*P	**P**	**23 29 05.0**	**+0.7**
MQZ	**McQueen's Vall** comp=Z,29nm,1.0s	**24.49**	**200**	*e*P	**P**	**23 29 06.1**	**+0.8**
TBI	**Tubuai** comp=Z,490nm,1.3s	**24.50**	**100**	*e*P	**P**	**23 29 05.3**	**-0.3**
TBI				*e*LQ	LQ	23 33 57.7	
	comp=Z,12µm,27.0s						
TBI				*e*LR	LR	23 35 03.2	
	comp=Z,12µm,28.5s,baz=269						
TARA	**Tarawa** comp=Z,157nm,1.2s	**24.90**	**332**	*e*P	**P**	**23 29 09.6**	**+0.3**
TARA				LR	LR		
	comp=Z,280nm,20.0s						
PAE	**Paea** comp=Z,35nm,1.1s	**24.98**	**87**	*e*P	**P**	**23 29 09.7**	**-0.3**
PPT2	**Papeete2** comp=Z,318nm,1.2s	**25.00**	**86**	*e*P	**P**	**23 29 10.4**	**+0.1**
PPT2				*e*S	**S**	**23 33 30.7**	**-2.4**
	comp=Z,1µm,28.0s						
PPT2				*e*LQ	LQ	23 34 19.7	
	comp=Z,2µm,28.2s						
PPT2				*e*LR	LR	23 35 10.5	
	comp=Z,16µm,27.5s,baz=254						
PPT	**Papeete** comp=Z,227nm,1.0s,baz=295,slow=3.4,SNR=13	**25.01**	**86**	P	**P**	**23 29 09.6**	**-0.7**
PPT				LR	LR	23 36 18.5	
	comp=Z,2µm,21.6s,baz=272,slow=30						
PPT	**Papeete**	**25.01**	**86**	*e*P	**P**	**23 29 10.6**	**+0.3**
PPT	**Papeete**	**25.01**	**86**	*e*P	**P**	**23 29 10.6**	**+0.3**
PPTF	**Pamatai, Papee** comp=Z,509nm,1.3s	**25.01**	**86**	*e*P	**P**	**23 29 10.3**	**-0.1**
RPZ	**Rata Peaks** comp=Z,7.9nm,0.7s,baz=25,slow=12,SNR=3.1	**25.05**	**203**	P	**P**	**23 29 07.7**	**-2.7**
RPZ				LR	LR	23 39 22.1	
	comp=Z,8µm,18.8s,baz=28,slow=38						
RPZ	**Rata Peaks** comp=Z,199nm,1.8s	**25.05**	**203**	*e*P	**P**	**23 29 09.4**	**-1.0**
TIAR	**Tiarei** comp=Z,98nm,1.1s	**25.22**	**87**	*e*P	**P**	**23 29 12.2**	**-0.1**
TVO	**Taravao** comp=Z,58nm,1.1s	**25.26**	**87**	*e*P	**P**	**23 29 12.5**	**-0.2**
FOZ	**Fox Glacier** comp=Z,64nm,0.9s	**25.36**	**205**	*e*P	**P**	**23 29 13.2**	**0.0**
LBZ	**Lake Benmore** comp=Z,30nm,1.2s	**25.94**	**203**	*e*P	**P**	**23 29 19.1**	**+0.6**
HNR	**Honiara** comp=Z,2µm,18.8s,baz=148,slow=35	**26.05**	**293**	LR	LR	23 39 01.7	
HNR	**Honiara**	**26.05**	**293**	PFAKE		23 29 30.0	+10
HNR				LR	LR		
	comp=Z,2µm,20.0s						
ODZ	**Otahua Downs** comp=Z,48nm,1.2s	**26.34**	**202**	*e*P	**P**	**23 29 22.4**	**+0.3**
PMOR	**Pomariorio Ree** comp=Z,220nm,1.3s	**27.22**	**82**	*e*P	**P**	**23 29 30.4**	**+0.1**
MLZ	**Mavora Lakes** comp=Z,137nm,1.4s	**27.56**	**205**	*e*P	**P**	**23 29 32.7**	**-0.4**
WHZ	**Wether Hill Ro** comp=Z,39nm,0.9s	**28.06**	**205**	*e*P	**P**	**23 29 38.0**	**+0.4**
ARMA	**Armidale** baz=31	**30.65**	**246**	P	**P**	**23 30 02.0**	**+1.2**
EIDS	**Eidsvold** baz=31,SNR=7.6	**30.66**	**256**	P	**P**	**23 30 01.3**	**+0.5**
EIDS	**Eidsvold** comp=Z,47nm,1.1s	**30.66**	**256**	*e*P	**P**	**23 30 00.7**	**-0.1**
RMQ	**Roma** baz=33,SNR=12	**32.77**	**254**	P	**P**	**23 30 21.1**	**+1.6**
CTA	**Charters Tower** comp=Z,20nm,0.8s,baz=94,slow=9.9,SNR=12	**35.46**	**265**	P	**P**	**23 30 42.0**	**-0.8**
CTA	**Charters Tower** baz=36	**35.46**	**265**	P	**P**	**23 30 42.8**	**-0.1**
CTAO	**Charters Tower** comp=Z,55nm,1.0s	**35.46**	**265**	*e*P	**P**	**23 30 42.3**	**-0.5**
CTAO				LR	LR		
	comp=Z,7µm,20.0s						
CTAO	**Charters Tower**	**35.46**	**265**	*e*P	**P**	**23 30 42.3**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,55nm,1.0s						
CTAO				MLR	MLR		
	comp=Z,7µm,20.0s						
CMSA	**Cobar Meteorol** baz=36,SNR=16	**35.86**	**245**	P	**P**	**23 30 45.7**	**-0.4**
TAOE	**Nuku Hiva Isla** comp=Z,476nm,1.3s	**36.46**	**76**	*e*P	**P**	**23 30 50.9**	**-0.6**
TAOE				*e*S	**S**	**23 36 31.3**	**-1.0**
	comp=Z,521nm,27.3s						
TAOE				*e*LR	LR	23 40 23.2	
	comp=Z,11µm,28.2s,baz=251						
TAOE	**Nuku Hiva Isla** comp=Z,218nm,1.2s	**36.46**	**76**	*e*P	**P**	**23 30 51.9**	**+0.3**
QLP	**Quilpie** baz=37,SNR=5.1	**36.83**	**254**	P	**P**	**23 30 54.9**	**+0.5**
PMG	**Port Moresby** comp=Z,15nm,0.2s,baz=96,slow=10,SNR=5.1	**37.46**	**282**	P	**P**	**23 30 59.5**	**-0.4**
PMG	**Port Moresby**	**37.46**	**282**	*e*P	**P**	**23 30 59.5**	**-0.4**
PMG				LR	LR		
	comp=Z,3µm,20.0s						
PMG	**Port Moresby**	**37.46**	**282**	*e*P	**P**	**23 30 59.5**	**-0.4**
PMG				MLR	MLR		
	comp=Z,3µm,20.0s						
MTSU	**Mount Surprise** baz=38,SNR=12	**37.59**	**267**	P	**P**	**23 31 01.2**	**+0.1**
RKT	**Rikitea** comp=Z,519nm,29.2s	**37.81**	**101**	*e*S	**S**	**23 36 52.2**	**-0.4**
RKT				*e*LQ	LQ	23 39 42.6	
	comp=Z,2µm,26.5s						
RKT				*e*LR	LR	23 41 11.5	
	comp=Z,6µm,28.5s,baz=268						
JOHN	**Johnston Islan**	**38.12**	**10**	PFAKE		23 31 20.0	+15
JOHN				LR	LR		
	comp=Z,202nm,21.0s						
STKA	**Stephens Creek** comp=Z,4.7nm,0.8s,baz=96,slow=11,SNR=9.9	**39.37**	**245**	P	**P**	**23 31 14.9**	**-0.9**
STKA				LR	LR	23 46 27.4	
	comp=Z,3µm,18.9s,baz=71,slow=35						
STKA	**Stephens Creek** baz=39,SNR=6.9	**39.37**	**245**	P	**P**	**23 31 15.6**	**-0.2**
STKA	**Stephens Creek** comp=Z,26nm,2.0s	**39.37**	**245**	*e*P	**P**	**23 31 15.4**	**-0.3**
STKA	**Stephens Creek**	**39.37**	**245**	*e*P	**P**	**23 31 15.5**	**-0.3**
STKA				pmax	pmax		
	comp=Z,26nm,2.0s						
COEN	**Coen** baz=40,SNR=8.3	**39.65**	**273**	P	**P**	**23 31 18.6**	**+0.2**
COEN	**Coen** comp=Z,129nm,1.3s	**39.65**	**273**	*e*P	**P**	**23 31 18.3**	**-0.1**
ARPS	**Mount Arapiles** baz=40,SNR=7.2	**39.86**	**238**	P	**P**	**23 31 18.9**	**-0.9**
QIS	**Mount Isa** baz=42	**41.55**	**262**	P	**P**	**23 31 35.1**	**+1.0**
HTT	**Hallett** baz=42,SNR=8.6	**41.75**	**243**	P	**P**	**23 31 34.1**	**-1.5**
BBOO	**Buckleboo** comp=Z,34nm,1.1s	**44.10**	**244**	*e*P	**P**	**23 31 53.9**	**-0.7**
HMH	**Humu'ula Sheep** comp=Z,312nm,1.3s	**45.10**	**28**	*e*P	**P**	**23 32 03.2**	**+0.3**
POHA	**Pohakuloa**	**45.22**	**27**	PFAKE		23 32 20.0	+16
POHA				LR	LR		
	comp=Z,1µm,20.0s						
KIP	**Kipapa**	**45.72**	**23**	*i* P	**P**	**23 32 10.2**	**+2.8**
JAY	**Jayapura** comp=Z,22nm,0.9s,baz=165,slow=4.7,SNR=5.9	**46.17**	**288**	P	**P**	**23 32 10.6**	**-0.6**
AS01	**Alice Springs**	**46.32**	**257**	*e*P	**P**	**23 32 09.4**	**-2.9**
AS31	**Alice Springs** comp=Z,18nm,1.0s	**46.36**	**257**	*e*P	**P**	**23 32 12.4**	**-0.2**
AS31				*e*PcP	**PcP**	**23 33 47.0**	**-0.6**
ASAR	**Alice Springs** comp=Z,4.8nm,0.6s,baz=95,slow=8.0,SNR=31	**46.36**	**257**	P	**P**	**23 32 11.8**	**-0.9**
ASAR				PcP	**PcP**	**23 33 47.0**	**-0.6**
	comp=Z,3.1nm,0.9s,baz=94,slow=4.2,SNR=1.8						
ASAR				LR	LR	23 50 36.8	
	comp=Z,2µm,18.7s,baz=106,slow=35						
WB2	**Warramunga Arr**	**46.52**	**262**	*e*P	**P**	**23 32 11.9**	**-2.1**
WRAB	**Tennant Creek** comp=Z,47nm,1.0s	**46.52**	**262**	*e*P	**P**	**23 32 13.0**	**-0.9**
WRAB	**Tennant Creek**	**46.52**	**262**	*c*eP	**P**	**23 32 12.6**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,13nm,1.3s						
WR1	**Warramunga Arr** comp=Z,49nm,1.0s	**46.53**	**262**	*e*P	**P**	**23 32 12.4**	**-1.6**
WRA	**Warramunga Arr** comp=Z,7.9nm,1.1s,baz=96,slow=7.9,SNR=27	**46.53**	**262**	P	**P**	**23 32 12.4**	**-1.6**
WRA				LR	LR	23 51 16.0	
	comp=Z,3µm,18.6s,baz=110,slow=36						
FORT	**Forrest** comp=Z,57nm,0.8s	**50.92**	**247**	*e*P	**P**	**23 32 47.7**	**+0.1**
WRKA	**Warakurna** baz=51,SNR=12	**51.26**	**254**	P	**P**	**23 32 48.1**	**-2.2**
GUMO	**Guam**	**51.77**	**308**	PFAKE		23 33 10.0	+16
GUMO				LR	LR		
	comp=Z,913nm,19.0s						
KNRA	**Kununurra** baz=53,SNR=4.6	**52.65**	**266**	P	**P**	**23 33 00.7**	**0.0**
FAKI	**Fak Fak** comp=Z,49nm,1.2s	**53.62**	**282**	*e*P	**P**	**23 33 07.0**	**-0.9**
FITZ	**Fitzroy Crossi** comp=Z,40nm,1.3s	**54.96**	**262**	*e*P	**P**	**23 33 15.5**	**-2.1**
SBA	**Scott Base** comp=Z,48nm,1.3s	**57.40**	**184**	*e*P	**P**	**23 33 35.2**	**+1.2**
SBA				LR	LR		
	comp=Z,892nm,19.0s						
SBA	**Scott Base**	**57.40**	**184**	*e*P	**P**	**23 33 35.3**	**+1.2**
SBA				pmax	pmax		
	comp=Z,48nm,1.3s						
SBA				MLR	MLR		
	comp=Z,892nm,19.0s						
VNDA	**Vanda** comp=Z,3.2nm,1.0s,baz=9.4,slow=8.3,SNR=8.8	**57.49**	**186**	P	**P**	**23 33 36.3**	**+1.6**
VNDA				LR	LR	23 54 16.2	
	comp=Z,511nm,21.9s,baz=7.0,slow=32						
VNDA	**Vanda** comp=Z,20nm,1.3s	**57.49**	**186**	*e*P	**P**	**23 33 35.7**	**+1.0**
VNDA	**Vanda**	**57.49**	**186**	*e*P	**P**	**23 33 35.7**	**+1.0**
VNDA				pmax	pmax		
	comp=Z,20nm,1.3s						
SOEI	**Soe** comp=Z,267nm,1.0s	**58.55**	**271**	*e*P	**P**	**23 33 42.3**	**-1.0**
MBWA	**Marble Bar** comp=Z,5µm,19.0s	**59.70**	**257**	*e*P	**P**	**23 33 49.9**	**-1.2**
MBWA				LR	LR		
	comp=Z,5µm,19.0s						
NWAO	**Narrogin (SRO)** comp=Z,2µm,19.0s	**59.91**	**243**	*e*P	**P**	**23 33 51.6**	**-0.8**
NWAO				LR	LR		
	comp=Z,2µm,19.0s						
NWAO	**Narrogin (SRO)** comp=Z,2µm,19.0s	**59.91**	**243**	*e*P	**P**	**23 33 51.6**	**-0.8**
NWAO				MLR	MLR		
	comp=Z,2µm,19.0s						
LUWI	**Luwuk** comp=Z,136nm,1.2s	**63.05**	**280**	*e*P	**P**	**23 34 13.9**	**+0.2**
DAV	**Davao City (W)** comp=Z,436nm,20.0s	**63.96**	**289**	PFAKE		23 34 30.0	+10
DAV				LR	LR		
	comp=Z,115nm,1.6s						
CASY	**Casey**	**64.28**	**206**	*e*P	**P**	**23 34 22.3**	**+1.2**
CASY				LR	LR		
	comp=Z,341nm,22.0s						
KAPI	**Kappang**	**64.36**	**275**	PFAKE		23 34 30.0	+7.5
KAPI				LR	LR		
	comp=Z,728nm,21.0s						
QSPA	**South Pole Qui** comp=Z,26nm,1.1s,baz=38,slow=2.0,SNR=13	**68.96**	**180**	P	**P**	**23 34 50.7**	**-0.4**
QSPA	**South Pole Qui** comp=Z,64nm,1.1s	**68.96**	**180**	*e*P	**P**	**23 34 52.2**	**+1.1**
QSPA				LR	LR		
	comp=Z,1µm,20.0s						
MYLDM	**Lahad Datu**	**69.46**	**284**	*e*pP	pP	23 35 04.2	+1.6
KDM	**Kudat**	**71.69**	**285**	P	**P**	**23 35 08.0**	**-0.5**
KKM	**Kota Kinabalu**	**71.88**	**284**	P	**P**	**23 35 09.0**	**-0.8**
MJAR	**Matsushiro Arr** comp=Z

BSRM **Salinas Radio** 76.99 42 *e*P P 23 35 40.9 +1.9
BLG **Laguna Peak, P** 77.01 45 P P 23 35 38.9 -0.2
baz=233
CIS **Catalina Islan** 77.03 46 P P 23 35 39.2 0.0
baz=234
PET **Petropavlovsk** 77.08 345 PFAKE 23 35 50.0 +11
PET LR LR
comp=Z,1µm,22.0s
SAO **San Andreas Ge** 77.10 42 *e*P P 23 35 38.5 -1.0
comp=Z,38nm,1.1s
SAO **San Andreas Ge** 77.10 42 *e*P P 23 35 38.5 -1.0
SAO pmax pmax
comp=Z,38nm,1.1s
SMMC **Simmler** 77.13 44 P P 23 35 40.4 +0.6
baz=232
PMPB **Monarch Peak** 77.17 43 *e*P P 23 35 39.4 -0.6
comp=Z,115nm,1.6s
JLAB **Laurel Hill** 77.17 42 *e*P P 23 35 40.0 +0.1
PAGB **Antelope Grade** 77.22 43 *e*P P 23 35 39.9 -0.4
comp=Z,149nm,1.9s
FMP **Fort Macarthur** 77.30 46 P P 23 35 40.9 +0.2
baz=234
YSS **Yuzh-Sakhalins** 77.37 332 PFAKE 23 35 50.0 +9.3
YSS LR LR
comp=Z,1µm,20.0s
YSS **Yuzh-Sakhalins** 77.37 332 *e*P P 23 35 40.0 -0.7
PEA0B **Petropavlovsk-** 77.40 344 *e*P P 23 35 41.0 +0.2
comp=Z,171nm,1.4s
PETK **Petropavlovsk-** 77.40 344 P P 23 35 39.3 -1.5
comp=Z,12nm,1.1s,baz=123,slow=5.5,SNR=8.8
PETK LR LR 00 02 47.9
comp=Z,1µm,21.9s,baz=150,slow=30
PETK **Petropavlovsk-** 77.40 344 *e*P P 23 35 40.0 -0.8
PETK **Petropavlovsk-** 77.40 344 *e*P P 23 35 40.0 -0.8
PEA1 **Petropavlovsk-** 77.41 344 *e*P P 23 35 39.3 -1.6
HOPS **Hopland Field** 77.53 39 *e*P P 23 35 42.2 +0.4
comp=Z,36nm,1.1s
OSI **Osito Audit: C** 77.54 45 P P 23 35 42.1 0.0
baz=233
DECC **Green Verdugo** 77.59 46 P P 23 35 42.1 -0.2
baz=234
109C **Camp Elliot, M** 77.62 47 P P 23 35 42.4 -0.1
baz=235
KCPM **Cahto Peak** 77.68 39 *e*P P 23 35 42.6 -0.3
comp=Z,62nm,1.5s
MWC **Mount Wilson** 77.75 46 *e*P P 23 35 44.3 +0.9
comp=Z,30nm,1.1s
MWC **Mount Wilson** 77.75 46 *e*P P 23 35 44.3 +0.9
MWC pmax pmax
comp=Z,31nm,1.1s
ARVC **Arvin** 77.78 45 P P 23 35 43.2 -0.1
baz=233
KMRM **Mail Ridge** 77.96 38 *e*P P 23 35 45.1 +0.8
comp=Z,98nm,1.3s
MURC **Murrieta** 77.97 47 P P 23 35 44.2 -0.3
baz=235
LPIG **La Paz** 77.99 58 LR LR 00 01 30.7
comp=Z,993nm,21.3s,baz=294,slow=29
BFSC **Mount Baldy Ra** 78.03 46 P P 23 35 44.4 -0.6
baz=234
VES **Vestal, Richgr** 78.04 44 P P 23 35 44.4 -0.3
baz=233
MONP2 **Monument Peak** 78.10 48 P P 23 35 45.0 -0.4
baz=235
IKP **In-Ko-Pah, Jac** 78.18 48 P P 23 35 45.2 -0.5
baz=236
EDW2 **Edwards Air Fo** 78.18 45 P P 23 35 45.5 -0.1
baz=234,SNR=27
FRD **Ford Ranch, An** 78.32 47 P P 23 35 45.8 -0.7
baz=235
ISA **Isabella, Lake** 78.33 44 *e*P P 23 35 46.8 +0.3
comp=Z,66nm,1.3s
ISA **Isabella, Lake** 78.33 44 *e*P P 23 35 46.8 +0.3
ISA pmax pmax
comp=Z,66nm,1.3s
ISA **Isabella, Lake** 78.33 44 P P 23 35 46.3 -0.2
baz=233,SNR=39
KHMM **Horse Mountain** 78.38 38 *e*P P 23 35 47.5 +0.8
comp=Z,35nm,1.3s
O02D **Mt. Diablo Mer** 78.46 39 P P 23 35 46.8 -0.3
baz=230
PFO **Pinyon Flats O** 78.48 47 *e*P P 23 35 47.3 -0.2
comp=Z,32nm,1.1s
PFO LR LR
comp=Z,708nm,19.0s
PFO **Pinyon Flats O** 78.48 47 *e*P P 23 35 47.3 -0.2
PFO pmax pmax
comp=Z,32nm,1.1s
PFO MLR MLR
comp=Z,708nm,19.0s
PFO **Pinyon Flats O** 78.48 47 P P 23 35 47.0 -0.4
baz=235
XPFO **Pæon Flat** 78.48 47 *e*P P 23 35 47.0 -0.5
comp=Z,36nm,1.1s
BBRC **Big Bear Solar** 78.54 46 P P 23 35 47.5 -0.4
baz=235
CMB **Columbia Colle** 78.55 42 *e*P P 23 35 47.7 +0.1
comp=Z,24nm,1.2s
CMB **Columbia Colle** 78.55 42 *e*P P 23 35 47.7 +0.1
CMB pmax pmax
comp=Z,25nm,1.2s
SWSC **Sam W. Stewart** 78.56 48 P P 23 35 47.2 -0.5
baz=236
KRMB **Red Mountain** 78.70 37 *e*P P 23 35 49.0 +0.6
comp=Z,46nm,1.3s
KSRS **Korea Array** 78.70 318 P P 23 35 48.0 -0.4
comp=Z,0.6nm,0.3s,baz=125,slow=6.4,SNR=3.2
KSRS LR LR 00 04 25.9
comp=Z,395nm,22.0s,baz=115,slow=31
KS15 **Wonju Array Si** 78.72 318 *e*P P 23 35 48.0 -0.5
KSAR **Wonju Array Be** 78.72 318 P P 23 35 48.0 -0.5
KSAR **Wonju Array Be** 78.72 318 P P 23 35 48.0 -0.5
KS01 **Wonju Array Si** 78.73 318 *e*P P 23 35 48.6 +0.1
LRMC **Laurel Mtn Rad** 78.74 45 P P 23 35 48.8 0.0
baz=234,SNR=18
AFDM **Forest Hills D** 78.76 41 *e*P P 23 35 49.5 +0.8
comp=Z,29nm,1.4s
ORV **Oroville** 78.83 40 *e*P P 23 35 49.7 +0.6
comp=Z,34nm,1.4s
RRX **Edison Barstow** 78.84 46 P P 23 35 48.7 -0.5
baz=234
WDC **Whiskeytown Da** 78.87 38 *e*P P 23 35 49.5 +0.3
comp=Z,56nm,1.4s
WDC **Whiskeytown Da** 78.87 38 *e*P P 23 35 49.5 +0.3
WDC pmax pmax
comp=Z,56nm,1.4s
BELC **Belle Mtn. Jos** 79.02 47 P P 23 35 50.3 -0.1
baz=235,SNR=18
N02D **Trinity Center** 79.03 38 P P 23 35 49.8 -0.5
baz=230
CWC **Cottonwood Cre** 79.05 44 P P 23 35 50.2 -0.4
baz=234
O03E **Paynes Creek** 79.12 39 P P 23 35 49.9 -0.8
baz=230
MDPB **Devils Postpil** 79.12 43 *e*P P 23 35 51.5 +0.5
comp=Z,28nm,1.0s
OMMB **Old Mammoth Mi** 79.16 43 *e*P P 23 35 51.4 +0.1
comp=Z,39nm,1.3s
BC3 **Big Chuckawall** 79.20 48 P P 23 35 51.5 +0.2
baz=236
MPMC **Manual Prospec** 79.21 45 P P 23 35 51.2 -0.3
baz=234,SNR=40
M02C **Callahan** 79.22 38 P P 23 35 50.9 -0.3
baz=229
GSC **Goldstone, Bar** 79.22 46 *e*P P 23 35 51.8 +0.4
comp=Z,103nm,1.6s
GSC **Goldstone, Bar** 79.22 46 *e*P P 23 35 51.8 +0.4
GSC pmax pmax
comp=Z,103nm,1.6s
GSC **Goldstone, Bar** 79.22 46 P P 23 35 50.9 -0.5
baz=235
HEC **Hector,Ludlow** 79.26 46 P P 23 35 51.3 -0.4
baz=235,SNR=22
DAC **Darwin (Calif)** 79.27 44 *e*P P 23 35 51.9 +0.1
comp=Z,56nm,1.5s
DAC **Darwin (Calif)** 79.27 44 *e*P P 23 35 51.9 +0.1
DAC pmax pmax
comp=Z,56nm,1.5s
MLAC **Mammoth, Mammo** 79.28 43 P P 23 35 51.4 -0.4
baz=233
GLA **Glamis** 79.29 48 *e*P P 23 35 51.9 +0.1
comp=Z,47nm,1.1s
GLA **Glamis** 79.29 48 *e*P P 23 35 51.9 +0.1
GLA pmax pmax
comp=Z,47nm,1.1s
GLA **Glamis** 79.29 48 P P 23 35 51.9 +0.1
baz=236

L02E **Cave Junction** 79.29 37 P P 23 35 51.6 +0.1
baz=229
TIN **Tinemaha, Big** 79.32 43 P P 23 35 51.8 -0.1
baz=233
RUBR **Rubicon Trail** 79.32 41 *e*P P 23 35 51.8 -0.2
comp=Z,74nm,1.4s
WAKR **Walker** 79.43 42 *e*P P 23 35 52.8 +0.2
comp=Z,42nm,1.1s
YBH **Yreka Blue Hor** 79.52 38 LR LR 00 05 40.9
comp=Z,328nm,18.9s,baz=240,slow=32
YBH **Yreka Blue Hor** 79.52 38 *e*P P 23 35 52.9 0.0
comp=Z,31nm,1.2s
YBH **Yreka Blue Hor** 79.52 38 *e*P P 23 35 52.9 0.0
YBH pmax pmax
comp=Z,31nm,1.2s
K02D **Willamette Mer** 79.61 36 P P 23 35 53.2 -0.1
baz=229
PNTR **Pine Nut** 79.69 41 *e*P P 23 35 54.6 +0.6
comp=Z,142nm,1.6s
IRM **Iron Mountain** 79.69 47 P P 23 35 53.8 -0.2
baz=236,SNR=25
GMRC **Granite Mounta** 79.69 47 P P 23 35 53.8 -0.2
baz=235
BEKR **Beckworth** 79.71 40 *e*P P 23 35 54.0 -0.1
comp=Z,32nm,1.2s
J01E **Myrtle Point** 79.78 36 P P 23 35 54.1 0.0
baz=229
VCNR **Virginia City** 79.78 41 *e*P P 23 35 54.5 0.0
comp=Z,52nm,1.3s
GRAC **Grapevine Rang** 79.84 44 P P 23 35 54.6 -0.1
baz=234,SNR=22
YERR **Yerington** 79.84 41 *e*P P 23 35 54.8 -0.1
comp=Z,79nm,1.5s
FURC **Furnace Creek,** 79.86 45 P P 23 35 54.5 -0.1
baz=234
113A **Mohawk Valley,** 79.88 49 *e*P P 23 35 55.3 +0.3
comp=Z,30nm,1.0s
TUQ **Turquoise Moun** 79.89 46 P P 23 35 54.8 -0.3
baz=235,SNR=18
Y12C **Blythe** 79.89 48 *e*P P 23 35 55.6 +0.6
comp=Z,21nm,0.8s
Y12C **Blythe** 79.89 48 P P 23 35 54.9 -0.1
baz=236
SHOC **Shoshone, Teco** 79.92 45 P P 23 35 55.0 -0.1
baz=235
HUMO **Hull Mountain** 79.95 37 *e*P P 23 35 54.9 -0.3
comp=Z,37nm,1.4s
MSHR **Mys Shultsa** 80.02 323 *i* P P 23 35 57.0 +1.6
M04C **Macdoel** 80.05 38 P P 23 35 56.1 +0.3
baz=230
L04D **Klamath Falls** 80.06 37 P P 23 35 55.6 -0.2
baz=230
RYN **Ryan** 80.07 42 *e*P P 23 35 56.1 0.0
comp=Z,103nm,1.7s
NVAR **Mina Array Bea** 80.09 42 P P 23 35 55.9 -0.3
comp=Z,15nm,0.7s,baz=221,slow=11,SNR=9.5
NVAR LR LR 00 06 20.2
comp=Z,904nm,19.2s,baz=235,slow=32
214A **Organ Pipe Nat** 80.12 50 P P 23 35 56.1 -0.2
baz=238
NV11 **Mina Array Sit** 80.19 42 *e*P P 23 35 56.4 -0.3
comp=Z,4.3nm,1.4s
PAHR **Pah Rah Range** 80.20 41 *e*P P 23 35 56.4 -0.3
comp=Z,54nm,1.5s
LDFC **Landfair** 80.23 47 *e*P P 23 35 57.5 +0.6
comp=Z,127nm,1.0s
NEE2 **Needles Airpor** 80.39 47 P P 23 35 57.8 +0.1
baz=236
I03D **Drain, OR** 80.45 36 P P 23 35 58.2 +0.4
baz=229
I02D **Swisshome** 80.45 35 P P 23 35 58.8 +1.0
baz=228
PDMCI **Parker Dam,Lak** 80.46 48 P P 23 35 57.7 -0.4
baz=236
KVN **Kaiserville** 80.59 42 *e*P P 23 35 58.7 -0.2
comp=Z,28nm,1.2s
KVN **Kaiserville** 80.59 42 *e*P P 23 35 58.7 -0.2
KVN pmax pmax
comp=Z,29nm,1.2s
USRK **Ussuriysk Ar.** 80.63 325 P P 23 35 58.8 +0.1
comp=Z,2.7nm,0.9s,baz=134,slow=4.2
USRK LR LR 00 07 26.0
comp=Z,906nm,20.6s,baz=126,slow=32
K04D **Chiloquin, OR** 80.64 37 P P 23 35 58.6 -0.4
baz=230
J04D **Umpqua Nationa** 80.83 37 P P 23 35 59.9 -0.2
baz=230
KDAK **Kodiak Island** 80.96 12 LR LR 00 04 34.7
comp=Z,684nm,21.6s,baz=210,slow=30
KDAK **Kodiak Island** 80.96 12 PFAKE 23 36 10.0 +10
KDAK LR LR
comp=Z,598nm,22.0s
SHPR **Shop Range** 81.00 45 *e*P P 23 36 01.7 +0.6
comp=Z,34nm,1.2s
MOD **Modoc Plateau** 81.01 39 *e*P P 23 36 01.0 0.0
comp=Z,69nm,1.6s
I04A **Tendick Farm,** 81.03 36 P P 23 36 00.6 -0.3
baz=229
W13A **Hualapai Mount** 81.08 47 *e*P P 23 36 02.2 +0.6
comp=Z,22nm,1.0s
H04D **Lebanon** 81.33 35 P P 23 36 02.8 +0.4
baz=229
J05D **Fort Rock, OR** 81.35 37 P P 23 36 02.6 -0.1
baz=230
G03D **McMinnville, O** 81.50 35 P P 23 36 03.3 0.0
baz=229
MYKOM **Kota Tinggi** 81.62 275 P P 23 36 04.0 -0.7
MAW **Mawson** 81.67 199 P P 23 36 03.6 -0.3
comp=Z,6.1nm,0.7s,baz=150,slow=8.5,SNR=9.7
MAW LR LR 00 11 20.2
comp=Z,1µm,18.8s,baz=113,slow=35
MAW **Mawson** 81.67 199 P P 23 36 04.9 +1.0
baz=82,SNR=5.7
MAW **Mawson** 81.67 199 *e*P P 23 36 04.9 +1.0
comp=Z,7.6nm,1.1s
MAW **Mawson** 81.67 199 *e*P P 23 36 04.9 +1.0
MAW pmax pmax
comp=Z,8.0nm,1.1s
R11A **Troy Canyon, C** 81.77 44 *e*P P 23 36 05.5 +0.3
comp=Z,45nm,1.6s
R11A **Troy Canyon, C** 81.77 44 P P 23 36 05.1 -0.1
baz=235
TUC **Tucson** 81.77 51 *e*P P 23 36 05.2 0.0
comp=Z,41nm,1.5s
TUC LR LR
comp=Z,1µm,19.0s
TUC **Tucson** 81.77 51 *e*P P 23 36 05.2 0.0
TUC pmax pmax
comp=Z,41nm,1.5s
TUC MLR MLR
comp=Z,1µm,19.0s
TUC **Tucson** 81.77 51 P P 23 36 05.6 +0.5
baz=239
PINE **Pine Mountain** 81.84 37 *e*P P 23 36 05.6 +0.2
comp=Z,78nm,1.3s
NJ2 **Nanjing** 81.84 309 *e*P P 23 36 05.9 +0.5
NJ2 pmax pmax
comp=Z,20nm,0.5s
BMN **Battle Mountai** 81.96 41 *e*P P 23 36 06.8 +0.7
comp=Z,41nm,1.3s
BMN **Battle Mountai** 81.96 41 *e*P P 23 36 06.8 +0.7
BMN pmax pmax
comp=Z,41nm,1.3s
I05D **Terrebonne, OR** 81.97 36 P P 23 36 06.0 +0.1
baz=230
MDJ **Mudanjiang** 82.20 324 P P 23 36 08.6 +1.6
MDJ pmax pmax
comp=Z,23nm,1.5s
MDJ pmax pmax
comp=Z,150nm,4.9s
MDJ **Mudanjiang** 82.20 324 *e*P P 23 36 07.4 +0.4
comp=Z,53nm,1.4s
MDJ LR LR
comp=Z,678nm,19.0s
WVOR **Wild Horse Val** 82.31 39 *e*P P 23 36 07.6 -0.2
comp=Z,40nm,1.3s
WVOR LR LR
comp=Z,1µm,19.0s
WVOR **Wild Horse Val** 82.31 39 *e*P P 23 36 07.6 -0.2
WVOR pmax pmax
comp=Z,40nm,1.3s
WVOR MLR MLR
comp=Z,1µm,19.0s
X16A **Lo Mia Camp, P** 82.40 49 *e*P P 23 36 09.0 +0.4
comp=Z,47nm,1.3s
G05D **Wamic, OR** 82.56 35 P P 23 36 09.0 0.0
baz=230
LCMT **Little Creek M** 82.56 46 *e*P P 23 36 09.5 +0.2
comp=Z,23nm,1.0s
E04D **Cinebar** 82.75 34 P P 23 36 09.8 0.0
baz=229
CCUT **Cedar City** 82.78 45 *e*P P 23 36 11.3 +0.8
comp=Z,34nm,1.1s
I07A **Izee** 82.83 37 *e*P P 23 36 11.6 +1.1
comp=Z,45nm,1.5s
KNB **Kanab** 82.85 46 *e*P P 23 36 10.9 +0.1
comp=Z,97nm,1.4s
KNB **Kanab** 82.85 46 *e*P P 23 36 10.9 +0.1
KNB pmax pmax
comp=Z,97nm,1.4s
U15A **North Rim** 82.89 47 *e*P P 23 36 10.8 -0.3
comp=Z,85nm,1.2s
G06A **Carlson Farm,** 82.93 36 *e*P P 23 36 10.8 -0.1
comp=Z,93nm,1.5s
QIZ **Qiongzhong** 82.97 293 P P 23 36 12.0 +0.4
QIZ S S 23 46 29.3 -0.3
QIZ sS ScS 23 46 45.0 +1.0
QIZ LR LR
comp=Z,430nm,19.8s
QIZ LR LR
comp=Z,270nm,16.7s
QIZ LR LR
comp=Z,380nm,23.0s
QIZ **Qiongzhong** 82.97 293 PFAKE 23 36 20.0 +8.4
QIZ LR LR
comp=Z,364nm,21.0s
J08A **Circle Bar Ran** 82.97 38 *e*P P 23 36 11.0 -0.2
comp=Z,62nm,1.4s
SZCU **Shurtz Canyon** 82.98 45 *e*P P 23 36 12.3 +0.7
comp=Z,43nm,1.2s
GRNR **Gornyy** 83.00 332 *e*P P 23 36 11.8 +0.8
PSUT **Pine Spring** 83.00 44 *e*P P 23 36 12.5 +0.9
comp=Z,27nm,1.2s
HPIG 83.02 58 *e*pP pP 23 36 19.6 -0.2
WUAZ **Wupatki** 83.03 48 *e*P P 23 36 12.2 +0.5
WUAZ comp=Z,53nm,1.3s LR LR
comp=Z,435nm,20.0s
WUAZ **Wupatki** 83.03 48 P P 23 36 11.1 -0.7
baz=238,SNR=21
D04E **Lakebay** 83.05 33 P P 23 36 12.1 +0.7
baz=229
BRLK **Bradley Lake** 83.13 12 *e*P P 23 36 11.3 -0.3
comp=Z,99nm,1.4s
COCO **West Island** 83.25 260 PFAKE 23 36 20.0 +6.8
COCO LR LR
comp=Z,1µm,21.0s
LON **Longmire** 83.27 34 *e*P P 23 36 13.5 +0.9
comp=Z,31nm,1.4s
LON **Longmire** 83.27 34 *e*P P 23 36 13.5 +0.9
LON pmax pmax
comp=Z,31nm,1.4s
PKCU **Pink Cliffs** 83.42 46 *e*P P 23 36 14.6 +0.6
comp=Z,108nm,1.1s
X18A **Snowflake** 83.51 49 *e*P P 23 36 14.6 +0.2
comp=Z,21nm,1.0s
ZAIG **Zacatecas** 83.66 63 *e*pP pP 23 36 24.4 +1.0
PGC **Sidney** 83.69 32 *e*P P 23 36 15.5 +0.9
F07A **Phinny Hill Vi** 83.73 36 *e*P P 23 36 15.9 +1.0
comp=Z,56nm,1.4s
SEW **Seward** 83.74 13 *e*P P 23 36 15.3 +0.7
comp=Z,77nm,1.5s
MTPU **Mount Pierson** 83.83 45 *e*P P 23 36 16.3 +0.2
comp=Z,69nm,1.3s
G08A **Pilot Rock** 83.88 36 *e*P P 23 36 15.7 -0.2
comp=Z,79nm,1.3s
W18A **Petrified Fore** 83.97 49 P P 23 36 16.5 -0.2
baz=239
CN2 **Changchun** 84.04 322 *e*P P 23 36 17.8 +1.3
CN2 *e*S S 23 46 40.5 +1.1
CN2 pmax pmax
comp=Z,300nm,5.0s
CN2 LR LR
comp=Z,400nm,19.0s
CN2 LR LR
comp=Z,700nm,19.0s
CN2 LR LR
comp=Z,700nm,19.0s
121A **Cookes Peak, D** 84.07 52 P P 23 36 17.1 -0.2
baz=240
MSU **Marysvale** 84.09 45 *e*P P 23 36 17.8 +0.5
MSU **Marysvale** 84.09 45 *e*P P 23 36 17.8 +0.5
KLR **Kul'dur** 84.10 329 *i* P P 23 36 19.9 +3.2
B05A **Bryant** 84.11 33 P P 23 36 16.5 -0.3
baz=229
E07A **Sunnyside** 84.19 35 *e*P P 23 36 17.2 0.0
comp=Z,109nm,1.4s
LTY **Liberty** 84.19 34 *e*P P 23 36 17.7 +0.3
comp=Z,40nm,1.4s
HAWA **Hanford** 84.25 35 *e*P P 23 36 17.6 0.0
comp=Z,88nm,1.4s
HAWA LR LR
comp=Z,830nm,20.0s
C06D **Leavenworth** 84.50 34 P P 23 36 18.1 -0.7
baz=230
BMO **Blue Mountains** 84.55 38 *e*P P 23 36 18.7 -0.5
comp=Z,29nm,1.3s
BMO LR LR
comp=Z,674nm,20.0s
BMO **Blue Mountains** 84.55 38 *e*P P 23 36 18.7 -0.5
BMO pmax pmax
comp=Z,29nm,1.3s
BMO MLR MLR
comp=Z,674nm,20.0s
E08A **Dider Farm, El** 84.57 35 *e*P P 23 36 19.2 0.0
comp=Z,84nm,1.8s
DUG **Dugway, Tooele** 84.59 43 *e*P P 23 36 20.3 +0.7
comp=Z,19nm,1.3s
DUG LR LR
comp=Z,596nm,19.0s
DUG **Dugway, Tooele** 84.59 43 *e*P P 23 36 20.3 +0.7
DUG pmax pmax
comp=Z,19nm,1.3s
DUG MLR MLR
comp=Z,596nm,19.0s
DUG **Dugway, Tooele** 84.59 43 P P 23 36 19.0 -0.7
baz=237
EPT **El Paso** 84.65 53 *e*pP pP 23 36 29.2 +1.2
BGU **Big Grassy Mou** 84.85 43 *e*P P 23 36 20.2 -0.8
comp=Z,25nm,1.6s
BGU *e*PcP PcP 23 36 26.4 +2.1
MA2 **Magadan** 84.93 344 PFAKE 23 36 30.0 +9.3
MA2 LR LR
comp=Z,1µm,21.0s
NLU **North Lily Min** 84.93 44 *e*P P 23 36 21.4 0.0
comp=Z,24nm,1.5s
GLI **Glacier Island** 84.95 14 *e*P P 23 36 19.4 -1.4
comp=Z,126nm,1.4s
FID **Port Fidalgo** 84.97 14 *e*P P 23 36 20.0 -0.9
comp=Z,101nm,1.6s
Q16A **Castle Valley** 84.97 45 *e*P P 23 36 23.3 +1.6
D08A **Wollman Farm,** 85.00 35 *e*P P 23 36 21.1 -0.2
comp=Z,84nm,1.5s
RAGM **Ragged Mountai** 85.07 15 *e*P P 23 36 22.5 +1.1
comp=Z,45nm,1.2s
E09A **Wood Farm, Sta** 85.08 36 *e*P P 23 36 22.2 +0.5
comp=Z,41nm,1.4s
TMUT **Trail Mountain** 85.14 45 *e*P P 23 36 22.7 +0.1
comp=Z,62nm,1.1s
PMR **Palmer** 85.16 12 *e*P P 23 36 20.9 -0.8
PMR **Palmer** 85.16 12 *e*P P 23 36 20.9 -0.8
MPU **Maple Canyon** 85.25 44 *e*P P 23 36 23.2 +0.2
comp=Z,19nm,1.1s
F10A **Beach Ranch, E** 85.26 37 *e*P P 23 36 22.3 -0.5
comp=Z,70nm,1.4s
SPUT **South Promonto** 85.43 43 *e*P P 23 36 23.2 -0.7
comp=Z,35nm,1.3s
LAZ **Ladron** 85.46 51 *e*P P 23 36 24.4 +0.2
MNTX **Cornudas Mount** 85.46 54 *e*P P 23 36 24.4 +0.4
comp=Z,27nm,1.0s
MNTX LR LR
comp=Z,505nm,19.0s
MNTX **Cornudas Mount** 85.46 54 P P 23 36 23.8 -0.3
baz=242,SNR=13
LENM **Lemitar** 85.46 51 *e*P P 23 36 24.1 -0.2
DIV **Divide** 85.47 14 *e*P P 23 36 22.2 -1.2
comp=Z,69nm,1.3s
HLID **Hailey** 85.48 40 *e*P P 23 36 23.9 -0.2
comp=Z,22nm,1.0s
HLID LR LR
comp=Z,510nm,21.0s
HLID **Hailey** 85.48 40 P P 23 36 23.7 -0.3
baz=235
HVU **Hansel Valley** 85.48 42 *e*P P 23 36 24.4 +0.3
comp=Z,32nm,1.4s

HVU	**Hansel Valley**	85.48	42	*e*P		**P**		**23 36 24.4**	**+0.3**	
HVU				pmax		pmax				
	comp=Z,32nm,1.4s									
WRAK	**Wrangell Islan**	85.49	23	PFAKE				23 36 30.0	+6.5	
WRAK				LR		LR				
	comp=Z,620nm,19.0s									
SRU	**San Rafael Swe**	85.50	45	*e*P		**P**		**23 36 24.4**	**+0.2**	
	comp=Z,33nm,1.0s									
SML	**Sawmill**	85.52	13	*e*P		**P**		**23 36 24.7**	**+1.0**	
	comp=Z,49nm,1.4s									
CTU	**Camp Tracy**	85.54	43	*e*P		**P**		**23 36 24.2**	**-0.2**	
	comp=Z,29nm,1.2s									
P17A	**Butcher Ranch,**	85.55	45	*e*P		**P**		**23 36 24.7**	**+0.2**	
	comp=Z,45nm,1.2s									
B08A	**Colville Reser**	85.59	34	*e*P		**P**		**23 36 23.2**	**-1.1**	
	comp=Z,22nm,1.0s									
BMRM	**Bremner River**	85.59	15	*e*P		**P**		**23 36 22.8**	**-1.3**	
	comp=Z,62nm,1.2s									
PAYG	**Puerto Ayora**	85.59	89	PFAKE				23 36 40.0	+15	
PAYG				LR		LR				
	comp=Z,1µm,21.0s									
JLU	**Jordanelle**	85.68	44	*e*P		**P**		**23 36 26.0**	**+0.8**	
	comp=Z,26nm,1.3s									
LTX	**Lajitas**	85.69	56	*e*P		**P**		**23 36 25.3**	**0.0**	
LTX	**Lajitas**	85.69	56	*e*P		**P**		**23 36 25.3**	**0.0**	
TX31	**Lajitas Ar. Si**	85.69	56	*e*P		**P**		**23 36 25.3**	**0.0**	
TXAR	**Lajitas Array**	85.69	56	P		**P**		**23 36 25.3**	**0.0**	
	comp=Z,5.9nm,1.0s,baz=209,slow=7.0,SNR=30									
TXAR				LR		LR		00 08 41.7		
	comp=Z,524nm,18.3s,baz=0.0,slow=32									
BNM	**Barren Site**	85.71	51	*e*P		**P**		**23 36 25.3**	**-0.2**	
SCM	**Sheep Creek Mo**	85.75	13	*e*P		**P**		**23 36 24.4**	**-0.4**	
	comp=Z,43nm,1.0s									
SCM	**Sheep Creek Mo**	85.75	13	*e*P		**P**		**23 36 24.4**	**-0.4**	
SCM				pmax		pmax				
	comp=Z,43nm,1.0s									
KLU	**Klutina**	85.75	14	*e*P		**P**		**23 36 25.1**	**+0.2**	
	comp=Z,34nm,1.3s									
LPM	**Los Pinos Moun**	85.78	51	*e*P		**P**		**23 36 25.8**	**0.0**	
C09A	**Chrisman Ranch**	85.80	35	*e*P		**P**		**23 36 24.8**	**-0.5**	
	comp=Z,67nm,1.5s									
KULM	**Kulim**	85.87	277	P		**P**		**23 36 26.0**	**-0.5**	
MVCO	**Mesa Verde**	85.89	48	PFAKE				23 36 40.0	+14	
MVCO				LR		LR				
	comp=Z,632nm,20.0s									
MVCO	**Mesa Verde**	85.89	48	P		**P**		**23 36 25.5**	**-0.8**	
	baz=240									
P18A	**Preston Nutter**	85.95	45	*e*P		**P**		**23 36 25.6**	**-1.1**	
	comp=Z,44nm,1.5s									
TCUT	**Toone Canyon**	85.99	43	*e*P		**P**		**23 36 26.6**	**-0.2**	
	comp=Z,34nm,1.3s									
HWUT	**Hardware Ranch**	86.15	43	*e*P		**P**		**23 36 27.9**	**+0.4**	
	comp=Z,33nm,1.5s									
HWUT				LR		LR				
	comp=Z,819nm,19.0s									
BALM	**Baldy**	86.20	16	*e*P		**P**		**23 36 27.0**	**-0.2**	
	comp=Z,74nm,1.5s									
BALM	**Baldy**	86.20	16	*e*P		**P**		**23 36 27.0**	**-0.2**	
BALM				pmax		pmax				
	comp=Z,74nm,1.5s									
ANMO	**Albuquerque**	86.21	50	LR		LR		00 10 02.8		
	comp=Z,670nm,18.3s,baz=207,slow=32									
ANMO	**Albuquerque**	86.21	50	*e*P		**P**		**23 36 28.2**	**+0.3**	
	comp=Z,27nm,1.3s									
ANMO				LR		LR				
	comp=Z,683nm,20.0s									
ANMO	**Albuquerque**	86.21	50	*ce*P		**P**		**23 36 27.1**	**-0.8**	
ANMO				pmax		pmax				
	comp=Z,13nm,1.7s									
ANMO	**Albuquerque**	86.21	50	P		**P**		**23 36 27.8**	**-0.2**	
	baz=241									
CAST	**Castle Rocks**	86.30	10	*e*P		**P**		**23 36 27.5**	**+0.1**	
	comp=Z,116nm,1.8s									
GDL2	**Guadalupe Moun**	86.46	54	*e*P		**P**		**23 36 29.2**	**0.0**	
SYO	**Syowa Base**	86.56	192‖	*e*P		**P**		**23 36 27.2**	**-1.6**	
SYO	**Syowa Base**	86.56	192‖	*ep*P		pP		23 36 35.0	-1.7	
TRF	**Thorofare Moun**	86.64	11	*e*P		**P**		**23 36 27.2**	**-2.1**	
	comp=Z,56nm,1.0s									
NEW	**Newport**	86.70	35	LR		LR		00 09 26.3		
	comp=Z,366nm,20.1s,baz=223,slow=32									
NEW	**Newport**	86.70	35	*e*P		**P**		**23 36 30.7**	**+0.9**	
	comp=Z,11nm,1.1s									
NEW				LR		LR				
	comp=Z,567nm,19.0s									
NEW	**Newport**	86.70	35	P		**P**		**23 36 29.5**	**-0.3**	
	baz=233									
HARP	**HAARP**	86.73	14	*e*P		**P**		**23 36 29.6**	**0.0**	
	comp=Z,100nm,1.5s									
DHY	**Denali Highway**	86.86	13	*e*P		**P**		**23 36 30.5**	**+0.1**	
	comp=Z,60nm,1.3s									
RND	**Reindeer**	86.87	12	*e*P		**P**		**23 36 29.2**	**-1.1**	
	comp=Z,116nm,1.2s									
RND	**Reindeer**	86.87	12	*e*P		**P**		**23 36 29.2**	**-1.1**	
RND				pmax		pmax				
	comp=Z,116nm,1.2s									
SKAG	**Skagway**	86.87	19	*e*P		P		23 36 35.4	+5.1	
	comp=Z,40nm,1.2s									
MCMT	**McKenzie Canyo**	87.12	39	*e*P		**P**		**23 36 32.3**	**+0.1**	
LNIG	**Linares**	87.13	62	*e*P		**P**		**23 36 32.8**	**+0.3**	
	comp=Z,186nm,1.9s									
MCK	**McKinley**	87.15	12	*e*P		**P**		**23 36 30.9**	**-0.6**	
	comp=Z,58nm,1.0s									
PAX	**Paxson**	87.16	13	*e*P		**P**		**23 36 30.9**	**-0.9**	
	comp=Z,48nm,1.5s									
PAX	**Paxson**	87.16	13	*e*P		**P**		**23 36 30.9**	**-0.9**	
PAX				pmax		pmax				
	comp=Z,48nm,1.5s									
GO06	**Curarrehue**	87.22	131	*e*P		**P**		**23 36 33.3**	**+0.4**	
	comp=Z,22nm,1.0s									
S22A	**4UR Ranch, Cre**	87.31	48	*e*P		**P**		**23 36 32.9**	**-0.4**	
	comp=Z,26nm,1.4s									
S22A	**4UR Ranch, Cre**	87.31	48	P		**P**		**23 36 32.7**	**-0.6**	
	baz=241									
HYT	**Haines Junctio**	87.32	18	*e*P		**P**		**23 36 32.4**	**-0.3**	
	comp=Z,28nm,1.3s									
SNAA	**Sanae**	87.33	178	P		**P**		**23 36 34.0**	**+1.4**	
SNAA	**Sanae**	87.33	178	*i* P		**P**		**23 36 30.5**	**-2.2**	
PLCA	**Paso Flores**	87.37	133	P		**P**		**23 36 33.5**	**+0.1**	
	comp=Z,4.2nm,1.1s,baz=326,slow=3.6,SNR=3.5									
PLCA				LR		LR		00 07 58.9		
	comp=Z,278nm,21.3s,baz=281,slow=30									
PLCA	**Paso Flores**	87.37	133	*e*P		**P**		**23 36 34.8**	**+1.3**	
	comp=Z,39nm,1.3s									
PLCA	**Paso Flores**	87.37	133	*e*P		**P**		**23 36 34.8**	**+1.3**	
PLCA				pmax		pmax				
	comp=Z,39nm,1.3s									
VNA3	**Neumayer Olymp**	87.38	176	P		**P**		**23 36 34.5**	**+1.6**	
O20A	**White River Ci**	87.53	45	*e*P		**P**		**23 36 34.0**	**-0.2**	
	comp=Z,12nm,0.9s									
O20A	**White River Ci**	87.53	45	P		**P**		**23 36 33.4**	**-0.9**	
	baz=240									
TPAW	**Teton Pass**	87.54	41	*e*P		**P**		**23 36 34.2**	**-0.1**	
	comp=Z,9.5nm,1.0s									
FXWY	**Fox Creek**	87.57	41	*e*P		**P**		**23 36 34.9**	**+0.5**	
	comp=Z,12nm,1.4s									
MSO	**Missoula**	87.61	37	*e*P		**P**		**23 36 34.7**	**+0.3**	
	comp=Z,10nm,1.1s									
MSO	**Missoula**	87.61	37	P		**P**		**23 36 33.5**	**-0.8**	
	baz=236									
BJT	**Baijiatuau**	87.76	315	PFAKE				23 36 50.0	+15	
BJT				LR		LR				
	comp=Z,492nm,20.0s									
IMW	**Indian Meadow**	87.77	41	*e*P		**P**		**23 36 35.8**	**+0.4**	
	comp=Z,8.9nm,1.1s									
MOOW	**Moose Ponds**	87.81	41	*e*P		**P**		**23 36 34.9**	**-0.6**	
	comp=Z,16nm,1.8s									
MOOW				*ep*P		**pP**		**23 36 40.9**	**-2.5**	
LOHW	**Long Hollow**	87.82	41	*e*P		**P**		**23 36 36.0**	**+0.4**	
	comp=Z,23nm,1.7s									
DLBC	**Dease Lake**	87.83	22	*e*P		**P**		**23 36 35.6**	**+0.6**	
	comp=Z,28nm,1.5s									
VNA2	**Neumayer--Watz**	87.85	176	P		**P**		**23 36 36.9**	**+1.8**	
	baz=187,slow=3.5									
SMCO	**Snowmass**	87.91	47	*e*P		**P**		**23 36 36.8**	**+0.5**	
	comp=Z,25nm,1.3s									
WHY	**Whitehorse**	87.96	19	*e*P		**P**		**23 36 35.7**	**+0.1**	
	comp=Z,33nm,1.4s									
QLMT	**Earthquake Lak**	87.97	40	*e*P		**P**		**23 36 36.7**	**+0.5**	
RIDG	**Independ'e Rid**	87.98	13	*e*P		**P**		**23 36 35.0**	**-0.6**	
	comp=Z,87nm,1.6s									
FLWY	**Flagg Ranch**	88.01	41	*e*P		**P**		**23 36 36.4**	**0.0**	
	comp=Z,18nm,1.3s									
MLY	**Manley**	88.02	10	*e*P		**P**		**23 36 35.1**	**-0.7**	
	comp=Z,22nm,1.1s									
BW06	**Boulder Array**	88.03	42	P		**P**		**23 36 35.7**	**-0.9**	
	baz=239									
PDAR	**Pinedale Array**	88.03	42	LR		LR		00 11 51.2		
	comp=Z,523nm,18.7s,baz=248,slow=33									
VNA1	**Neumayer--Stat**	88.06	176	P		**P**		**23 36 37.0**	**+0.9**	
ENH	**Enshi**	88.07	303	*e*P		**P**		**23 36 37.3**	**+0.4**	
	comp=Z,73nm,1.6s									
ENH				LR		LR				
	comp=Z,272nm,20.0s									
HDA	**Harding Lake**	88.14	12	*e*P		**P**		**23 36 36.3**	**0.0**	
	comp=Z,43nm,1.3s									
HDA	**Harding Lake**	88.14	12	P		**P**		**23 36 37.3**	**+1.0**	
	baz=207									
CCB	**Clear Creek Bu**	88.19	12	*e*P		**P**		**23 36 34.9**	**-1.6**	
	comp=Z,97nm,1.6s									
SDCO	**Great Sand Dun**	88.23	48	*e*P		**P**		**23 36 37.7**	**-0.1**	
	comp=Z,7.9nm,1.1s									
SDCO				LR		LR				
	comp=Z,486nm,20.0s									
SDCO	**Great Sand Dun**	88.23	48	P		**P**		**23 36 36.9**	**-0.8**	
	baz=242									
H17A	**Grant Village**	88.25	41	P		**P**		**23 36 37.8**	**+0.1**	
	baz=238									
BOZ	**Bozeman (W)**	88.26	39	*e*P		**P**		**23 36 38.1**	**+0.6**	
	comp=Z,20nm,1.3s									
BOZ				LR		LR				
	comp=Z,668nm,20.0s									
BOZ	**Bozeman (W)**	88.26	39	P		**P**		**23 36 37.2**	**-0.3**	
	baz=237									
YHH	**Holmes Hill**	88.29	40	*e*P		**P**		**23 36 37.0**	**-0.9**	
	comp=Z,37nm,1.7s									
SCRK	**Sand Creek**	88.37	13	*e*P		**P**		**23 36 37.4**	**-0.2**	
	comp=Z,53nm,1.5s									
TCOL	**CIGO, UAF Yank**	88.38	12	P		**P**		**23 36 38.1**	**+0.7**	
	baz=206									
COLA	**College**	88.39	12	*e*P		**P**		**23 36 37.2**	**-0.2**	
	comp=Z,78nm,1.3s									
COLA				LR		LR				
	comp=Z,1µm,22.0s									
MDM	**Murphy Dome**	88.39	11	*e*P		**P**		**23 36 35.4**	**-2.1**	
	comp=Z,114nm,1.6s									
IM3	**Indian Mountai**	88.43	9	*e*P		**P**		**23 36 35.3**	**-2.4**	
LKWY	**Lake**	88.45	41	PFAKE				23 36 50.0	+11	
LKWY				LR		LR				
	comp=Z,595nm,19.0s									
MSTX	**Muleshoe**	88.45	53	*e*P		**P**		**23 36 38.8**	**+0.1**	
	comp=Z,56nm,1.4s									
IL1	**Eielson Array**	88.48	12	*e*P		**P**		**23 36 35.2**	**-2.6**	
ILAR	**Eielson Array**	88.48	12	P		**P**		**23 36 36.6**	**-1.2**	
	comp=Z,11nm,1.2s,baz=223,slow=5.4,SNR=23									
ILAR				PP		PP		23 39 50.1	-16	
	comp=Z,0.8nm,0.9s,baz=219,slow=8.3,SNR=3.1									
ILAR				LR		LR		00 08 53.3		
	comp=Z,651nm,21.9s,baz=220,slow=31									
ILB	**Eielson Array**	88.48	12	*e*P		**P**		**23 36 36.8**	**-1.2**	
833A	**Chaparral WMA,**	88.62	59	*e*P		**P**		**23 36 39.9**	**+0.5**	
	comp=Z,64nm,1.5s									
833A	**Chaparral WMA,**	88.62	59	P		**P**		**23 36 39.3**	**-0.1**	
	baz=245									
POKR	**Poker Flat Res**	88.68	12	P		**P**		**23 36 39.7**	**+0.8**	
	baz=206									
GYA	**Guiyang**	88.72	299	P		**P**		**23 36 41.8**	**+1.7**	
GYA				pP		sP		23 36 50.0	-0.8	
GYA				PP		**PP**		**23 40 12.6**	**+3.2**	
GYA				SKS		**SKSac**		**23 47 05.8**	**-2.6**	
GYA				S		**S**		**23 47 24.4**	**-1.7**	
GYA				pmax		pmax				
	comp=Z,20nm,1.0s									
GYA				pmax		pmax				
	comp=Z,140nm,6.2s									
HRY	**Holter Researc**	88.75	38	*e*P		**P**		**23 36 39.6**	**-0.2**	
WALA	**Waterton Lakes**	88.89	35	*e*P		**P**		**23 36 40.4**	**0.0**	
	comp=Z,40nm,1.3s									
Q24A	**Divide**	89.05	47	P		**P**		**23 36 41.0**	**-0.6**	
	baz=242									
ISCO	**Idaho Springs**	89.13	46	PFAKE				23 36 50.0	+8.0	
ISCO				LR		LR				
	comp=Z,546nm,20.0s									
ZEA	**Zeya**	89.17	330	*e*P		**P**		**23 36 46.0**	**+4.7**	
ZEA				pmax		pmax				
	comp=N,96nm,1.8s									
ZEA				pmax		pmax				
	comp=Z,96nm,1.8s									
JCT	**Junction City**	89.20	57	*e*P		**P**		**23 36 43.3**	**+1.1**	
JCT				LR		LR				
	comp=Z,757nm,22.0s									
JCT	**Junction City**	89.20	57	*e*P		**P**		**23 36 43.3**	**+1.1**	
JCT				MLR		MLR				
	comp=Z,757nm,22.0s									
RLMT	**Red Lodge**	89.43	41	*ep*P		**pP**		**23 36 49.4**	**-1.6**	
RLMT				LR		LR				
	comp=Z,643nm,22.0s									
RLMT	**Red Lodge**	89.43	41	P		**P**		**23 36 43.0**	**-0.1**	
	baz=239									
N23A	**Red Feather La**	89.43	45	P		**P**		**23 36 42.3**	**-1.0**	
	baz=241									
DAWY	**Dawson**	89.51	15	*e*P		**P**		**23 36 43.0**	**+0.2**	
	comp=Z,44nm,1.4s									
KVTX	**Kingsville**	89.51	60	PFAKE				23 37 00.0	+16	
KVTX				LR		LR				
	comp=Z,793nm,19.0s									
GCMT	**Greycliff**	89.53	40	*e*P		**P**		**23 36 43.3**	**-0.2**	
AMTX	**Amarillo**	89.67	52	P		**P**		**23 36 43.4**	**-0.9**	
	baz=244									
EGAK	**Eagle**	89.69	14	*e*P		**P**		**23 36 43.6**	**0.0**	
	comp=Z,59nm,1.4s									
EGAK				LR		LR				
	comp=Z,1µm,21.0s									
BILL	**Bilibino**	89.87	353	*e*P		**P**		**23 36 44.1**	**-0.2**	
BILL				LR		LR				
	comp=Z,1µm,21.0s									
BILL	**Bilibino**	89.87	353‖	*e*P		**P**		**23 36 46.0**	**+1.7**	
BILL				*PP		**sP**		**23 36 57.0**	**+1.9**	
BILL				SSS		SSS		23 57 09.0		
BILL				pmax		pmax				
	comp=Z,10.0nm,1.4s									
BILL				MLR		MLR				
	comp=Z,299nm,17.0s									
K22A	**Casper**	89.90	44	P		**P**		**23 36 44.7**	**-0.6**	
	baz=241									
COLD	**Coldfoot**	90.12	10	*e*P		**P**		**23 36 45.8**	**+0.2**	
	comp=Z,23nm,1.4s									
XAN	**Xi'an**	90.13	307	P		**P**		**23 36 48.4**	**+2.0**	
XAN				pP		pP		23 36 54.5	+0.2	
XAN				S		**S**		**23 47 43.8**	**+5.1**	
XAN				SS		**SS**		**23 53 42.4**	**+4.0**	
XAN				pmax		pmax				
	comp=Z,14nm,1.4s									
XAN				pmax		pmax				
	comp=Z,130nm,4.7s									
XAN				LR		LR				
	comp=Z,230nm,19.5s									
XAN				LR		LR				
	comp=Z,250nm,17.6s									
XAN				LR		LR				
	comp=Z,410nm,25.5s									
ABTX	**Abilene, Hawle**	90.23	55	*e*P		**P**		**23 36 46.6**	**-0.3**	
	comp=Z,73nm,1.4s									
ABTX	**Abilene, Hawle**	90.23	55	P		**P**		**23 36 46.4**	**-0.5**	
	baz=245									
HIA	**Hailar**	90.38	324	PFAKE				23 37 00.0	+13	
HIA				LR		LR				
	comp=Z,999nm,21.0s									
HIA	**Hailar**	90.38	324	*i* P		**P**		**23 36 50.3**	**+3.1**	
HIA				pmax		pmax				
	comp=Z,6.0nm,0.9s									
EGMT	**Eagleton**	90.64	38	PFAKE				23 37 00.0	+11	
EGMT				LR		LR				
	comp=Z,708nm,20.0s									
APG	**El Apazote**	91.10	74	LR		LR		00 08 14.0		
	comp=Z,799nm,21.3s,baz=304,slow=29									
HHC	**Hu-ho-hao-te**	91.24	314	*e*P		**P**		**23 36 53.8**	**+2.3**	
HHC				SKS		**SKSac**		**23 47 15.8**	**-6.6**	
HHC				S		**S**		**23 47 49.8**	**+1.0**	
HHC				SS		**SS**		**23 53 52.8**	**-1.6**	
HHC				pmax		pmax				
	comp=Z,11nm,1.6s									
HHC				pmax		pmax				
	comp=Z,300nm,7.1s									
HHC				LR		LR				
	comp=Z,320nm,15.0s									
HHC				LR		LR				
	comp=Z,520nm,14.7s									
HHC				LR		LR				
	comp=Z,940nm,14.5s									
KMI	**Kunming**	91.44	296	P		**P**		**23 36 53.9**	**+0.9**	
KMI				pP		sP		23 37 05.5	+1.8	
KMI				sP		pP		23 37 09.8	+8.9	
KMI				PP		**PP**		**23 40 33.0**	**+1.8**	
KMI				S		**S**		**23 47 46.3**	**-5.2**	
KMI				sS		sS		23 48 04.4	-0.3	
KMI				pmax		pmax				
	comp=Z,11nm,0.6s									
KMI				pmax		pmax				
	comp=Z,160nm,4.7s									
KMI				LR		LR				
	comp=Z,280nm,19.0s									
KMI				LR		LR				
	comp=Z,550nm,19.9s									
KMI				LR		LR				
	comp=Z,690nm,20.2s									
TOLK	**Toolik Lake Re**	91.52	9	*e*P		**P**		**23 36 52.9**	**+0.8**	
	comp=Z,51nm,1.5s									
TOLK	**Toolik Lake Re**	91.52	9	P		**P**		**23 36 52.8**	**+0.7**	
	baz=204									
WHTX	**Lake Whitney,**	91.66	56	*e*P		**P**		**23 36 53.4**	**-0.1**	
	comp=Z,35nm,1.4s									
WHTX	**Lake Whitney,**	91.66	56	P		**P**		**23 36 53.0**	**-0.5**	
	baz=246									
WMOK	**Wichita Mounta**	91.76	53	PFAKE				23 37 10.0	+16	
WMOK				LR		LR				
	comp=Z,529nm,19.0s									
WMOK	**Wichita Mounta**	91.76	53	P		**P**		**23 36 53.9**	**-0.1**	
	baz=246									
EPYK	**Eagle Plains**	92.05	15	P		**P**		**23 36 54.8**	**+0.2**	
	baz=216									
LAO	**LASA Array**	92.05	40	*e*P		**P**		**23 36 55.1**	**+0.1**	
	comp=Z,45nm,1.1s									
LAO				LR		LR				
	comp=Z,690nm,21.0s									
LAO	**LASA Array**	92.05	40	P		**P**		**23 36 55.0**	**-0.1**	
	baz=241									
OGNE	**Ogallala**	92.09	47	PFAKE				23 37 10.0	+15	
OGNE				LR		LR				
	comp=Z,658nm,19.0s									
HKT	**Hockley**	92.12	59	*e*P		**P**		**23 36 55.7**	**+0.1**	
	comp=Z,28nm,1.4s									
HKT	**Hockley**	92.12	59	*e*P		**P**		**23 36 55.7**	**+0.1**	
HKT				pmax		pmax				
	comp=Z,28nm,1.4s									
RSSD	**Black Hills**	92.20	43	*e*P		**P**		**23 36 56.2**	**+0.2**	
	comp=Z,33nm,1.1s									
RSSD	**Black Hills**	92.20	43	P		**P**		**23 36 55.2**	**-0.8**	
	baz=243									
CM01	**Chiang Mai Arr**	92.21	289	*e*P		**P**		**23 36 56.0**	**-0.4**	
CMAR	**Chiang Mai Arr**	92.24	289	P		**P**		**23 36 56.0**	**-0.5**	
	comp=Z,0.6nm,0.4s,baz=125,slow=3.3,SNR=3.9									
CMAR				PP		**PP**		**23 40 37.2**	**-0.1**	
	comp=Z,0.5nm,0.4s,baz=113,slow=6.0,SNR=3.5									
CMAR				LR		LR		00 15 08.8		
	comp=Z,190nm,21.8s,baz=120,slow=34									
U32A	**Winter Ranch,**	92.28	52	*e*P		**P**		**23 36 56.2**	**-0.1**	
	comp=Z,29nm,0.6s									
U32A				*ep*P		**sP**		**23 37 06.0**	**-1.1**	
LCO	**Las Campanas**	92.33	122	PFAKE				23 37 10.0	+13	
LCO				LR		LR				
	comp=Z,389nm,19.0s									
CHTO	**Chiang Mai**	92.37	289	*e*P		**P**		**23 36 56.2**	**-0.9**	
	comp=Z,5.2nm,0.9s									
CHTO				LR		LR				
	comp=Z,314nm,21.0s									
CHTO	**Chiang Mai**	92.37	289	*e*P		**P**		**23 36 56.2**	**-0.9**	
CHTO				pmax		pmax				
	comp=Z,5.0nm,0.9s									
CHTO				MLR		MLR				
	comp=Z,314nm,21.0s									
CBKS	**Cedar Bluff**	92.76	49	PFAKE				23 37 10.0	+11	
CBKS				LR		LR				
	comp=Z,616nm,19.0s									
CD2	**Chengdu**	92.84	302	*e*P		**P**		**23 36 59.0**	**-0.1**	
CD2				S		**S**		**23 48 02.8**	**-0.6**	
CD2				pmax		pmax				
	comp=Z,10.0nm,0.5s									
CD2				pmax		pmax				
	comp=Z,120nm,4.8s									
CD2				LR		LR				
	comp=Z,430nm,18.4s									
CD2				LR		LR				
	comp=Z,400nm,17.9s									
CD2				LR		LR				
	comp=Z,520nm,14.7s									
YAK	**Yakutsk**	93.45	337	PFAKE				23 37 10.0	+9.0	
YAK				LR		LR				
	comp=Z,590nm,22.0s									
NATX	**Nacogdoches**	93.75	58	PFAKE				23 37 10.0	+6.8	
NATX				LR		LR				
	comp=Z,818nm,19.0s									
NNA	**Nana**	93.94	104	LR		LR		00 08 54.3		
	comp=Z,876nm,21.5s,baz=266,slow=29									
NNA	**Nana**	93.94	104	PFAKE				23 37 20.0	+15	
NNA				LR		LR				
	comp=Z,634nm,22.0s									
DGMT	**Dagmar**	94.10	39	*e*P		**P**		**23 37 04.9**	**+0.5**	
	comp=Z,43nm,1.1s									
DGMT				LR		LR				
	comp=Z,663nm,19.0s									
INK	**Inuvik**	94.35	15	*e*P		**P**		**23 37 04.5**	**-0.5**	
	comp=Z,37nm,1.4s									
INK	**Inuvik**	94.35	15	*e*P		**P**		**23 37 04.5**	**-0.5**	
INK				pmax		pmax				
	comp=Z,37nm,1.4s									
JTS	**JuntasAbangare**	94.45	81	PFAKE				23 37 20.0	+13	
JTS				LR		LR				
	comp=Z,940nm,22.0s									

U42A	**Revenden**	**98.06**	**54**	P	**P**		**23 37 22.6**	**-0.1**	
	baz=250								
FFC	**Flin Flon**	**98.11**	**34**	PFAKE			23 37 30.0	+7.5	
FFC				LR	LR				
	comp=Z,571nm,19.0s								
SCIA	**State Center**	**98.55**	**48**	PFAKE			23 37 40.0	+15	
SCIA				LR	LR				
	comp=Z,524nm,19.0s								
BCIP	**Isla Barro Col**	**98.79**	**84**	PFAKE			23 37 40.0	+13	
BCIP				LR	LR				
	comp=Z,479nm,22.0s								
GTA	**Gaotai**	**98.94**	**309**	*e*P	Pdif		23 37 27.0	+0.2	
GTA				pP	pP		23 37 35.4	+0.7	
GTA				sP	sP		23 37 39.3	+1.8	
GTA				pmax	pmax				
	comp=Z,3.0nm,1.5s								
GTA				pmax	pmax				
	comp=Z,110nm,6.0s								
GTA				LR	LR				
	comp=Z,320nm,18.7s								
GTA				LR	LR				
	comp=Z,340nm,19.4s								
GTA				LR	LR				
	comp=Z,590nm,21.6s								
AGMN	**Agassiz Nation**	**99.09**	**42**	PFAKE			23 37 40.0	+13	
AGMN				LR	LR				
	comp=Z,668nm,19.0s								
449A	**Pace**	**99.37**	**61**	P	**Pdif**		**23 37 28.3**	**-0.4**	
	baz=251								
Z47A	**Carrollton**	**99.47**	**58**	P	**Pdif**		**23 37 29.2**	**+0.1**	
	baz=251								
BRAL	**Brewton**	**99.63**	**60**	PFAKE			23 37 40.0	+10	
BRAL				LR	LR				
	comp=Z,785nm,22.0s								
K39A	**Oelwein**	**99.75**	**48**	P	**Pdif**		**23 37 30.5**	**+0.4**	
	baz=250								
ULM	**Lac du Bonnet**	**99.79**	**40**	LR	LR		00 18 28.3		
	comp=Z,613nm,18.6s,baz=253,slow=33								
TIXI	**Tiksi**	**99.87**	**345**	PFAKE			23 37 40.0	+10	
TIXI				LR	LR				
	comp=Z,2µm,21.0s								
TIXI	**Tiksi**	**99.87**	**345**	*ce*P	**Pdif**		**23 37 29.8**	**-0.1**	
TIXI				pmax	pmax				
	comp=Z,7.0nm,1.3s								
LPAZ	**La Paz**	**99.94**	**112**	P	**Pdif**		**23 37 32.1**	**-0.3**	
	comp=Z,0.6nm,0.6s,baz=279,slow=3.6,SNR=2.9								
LPAZ				LR	LR		00 12 46.8		
	comp=Z,684nm,21.9s,baz=258,slow=29								
O43A	**Sugar Creek Fa**	**100.79**	**51**	P	**Pdif**		**23 37 35.4**	**+0.6**	
	baz=252								
HDIL	**Hopedale**	**100.89**	**51**	PFAKE			23 37 50.0	+15	
HDIL				LR	LR				
	comp=Z,815nm,20.0s								
JFWS	**Jewell Farm**	**100.96**	**48**	PFAKE			23 37 50.0	+15	
JFWS				LR	LR				
	comp=Z,637nm,20.0s								
EYMN	**Ely**	**101.72**	**43**	PFAKE			23 37 50.0	+11	
EYMN				LR	LR				
	comp=Z,716nm,19.0s								
LSA	**Lhasa**	**102.67**	**297**	PFAKE			23 37 50.0	+6.0	
LSA				LR	LR				
	comp=Z,353nm,21.0s								
COWI	**Conover**	**102.69**	**45**	PFAKE			23 37 50.0	+6.9	
COWI				LR	LR				
	comp=Z,735nm,22.0s								
GOGA	**Godfrey**	**103.20**	**59**	PFAKE			23 38 00.0	+14	
GOGA				LR	LR				
	comp=Z,691nm,21.0s								
D41A	**Chassel**	**103.35**	**45**	P	**Pdif**		**23 37 46.2**	**+0.2**	
	baz=254								
DWPF	**Disney Wildern**	**103.36**	**65**	P	**Pdif**		**23 37 45.8**	**-0.7**	
	baz=253								
MTDJ	**Mount Denham**	**103.84**	**76**	PFAKE			23 38 00.0	+11	
MTDJ				LR	LR				
	comp=Z,636nm,22.0s								
GLMI	**Grayling**	**105.40**	**48**	PFAKE			23 42 20.0		
GLMI				LR	LR				
	comp=Z,881nm,19.0s								
ACSO	**Alum Creek Sta**	**105.42**	**52**	PFAKE			23 42 20.0		
ACSO				LR	LR				
	comp=Z,562nm,20.0s								
AAM	**Ann Arbor**	**105.45**	**50**	PFAKE			23 42 20.0		
AAM				LR	LR				
	comp=Z,855nm,19.0s								
NHSC	**New Hope**	**105.77**	**60**	PFAKE			23 42 20.0		
NHSC				LR	LR				
	comp=Z,726nm,19.0s								
GTBY	**Guantanamo Bay**	**106.54**	**75**	PFAKE			23 42 20.0		
GTBY				LR	LR				
	comp=Z,448nm,19.0s								
BLA	**Blacksburg**	**106.61**	**56**	PFAKE			23 42 20.0		
BLA				LR	LR				
	comp=Z,740nm,19.0s								
BLA	**Blacksburg**	**106.61**	**56**	P	**PKiKP**		**23 42 10.6**	**-0.9**	
	baz=256								
SDV	**Santo Domingo**	**107.26**	**87**	PFAKE			23 42 30.0		
SDV				LR	LR				
	comp=Z,531nm,22.0s								
DGAR	**Diego Garcia**	**107.27**	**255**	PFAKE			23 42 20.0		
DGAR				LR	LR				
	comp=Z,614nm,21.0s								
SAML	**Samuel**	**107.44**	**107**	PFAKE			23 42 30.0		
SAML				LR	LR				
	comp=Z,439nm,19.0s								
CNNC	**Cliffs of the**	**108.13**	**59**	PFAKE			23 42 30.0		
CNNC				LR	LR				
	comp=Z,976nm,19.0s								
CBN	**Corbin Frederi**	**109.19**	**56**	PFAKE			23 42 30.0		
CBN				LR	LR				
	comp=Z,789nm,19.0s								
SDDR	**Presa de Saban**	**109.73**	**77**	PFAKE			23 42 30.0		
SDDR				LR	LR				
	comp=Z,1µm,22.0s								
BINY	**Binghamton**	**110.99**	**52**	PFAKE			23 42 30.0		
BINY				LR	LR				
	comp=Z,1µm,20.0s								
ZAA1	**Zalesovo Array**	**112.25**	**321**	*e*PKiKP	**PKiKP**		**23 42 20.2**	**-1.2**	
ZALV	**Zalesovo Beam**	**112.25**	**321**	PKiKP	**PKiKP**		**23 42 20.2**	**-1.2**	
	comp=Z,0.7nm,0.4s,baz=180,slow=0.4,SNR=3.4								
LONY	**Lake Ozonia**	**112.38**	**49**	PFAKE			23 42 30.0		
LONY				LR	LR				
	comp=Z,625nm,19.0s								
MK32	**Makanchi Array**	**113.10**	**313**	*e*PKiKP	**PKiKP**		**23 42 21.8**	**-1.6**	
MKAR	**Makanchi Array**	**113.10**	**313**	PKiKP	**PKiKP**		**23 42 21.8**	**-1.6**	
	comp=Z,0.5nm,0.6s,baz=194,slow=1.4,SNR=5.2								
SJG	**San Juan**	**114.18**	**79**	PFAKE			23 42 40.0	+14	
SJG				LR	LR				
	comp=Z,436nm,21.0s								
KURK	**Kurchatov**	**115.83**	**317**	*e*PKPdf	**PKPdf**		**23 42 29.2**	**+0.9**	
KURK				LR	LR				
	comp=Z,875nm,21.0s								
KURK	**Kurchatov**	**115.83**	**317**	*i* PKIKP	**PKPdf**		**23 42 27.5**	**-0.9**	
PKME	**Peaks-Kenny Pk**	**116.18**	**49**	PFAKE			23 42 40.0	+11	
PKME				LR	LR				
	comp=Z,807nm,22.0s								
AAK	**Ala-Archa**	**118.28**	**308**	*e*PKPdf	**PKPdf**		**23 42 34.1**	**+0.5**	
AAK				LR	LR				
	comp=Z,315nm,21.0s								
AAK	**Ala-Archa**	**118.28**	**308**	*e*PKIKP	**PKPdf**		**23 42 34.1**	**+0.5**	
AAK				MLR	MLR				
	comp=Z,315nm,21.0s								
BRVK	**Borovoye**	**120.92**	**320**	*e*PKPdf	**PKPdf**		**23 42 38.4**	**+0.3**	
BRVK				LR	LR				
	comp=Z,301nm,22.0s								
BRVK	**Borovoye**	**120.92**	**320**	*e*PKIKP	**PKPdf**		**23 42 38.4**	**+0.3**	
BRVK				MLR	MLR				
	comp=Z,301nm,22.0s								
KK31	**Karatay Array**	**121.22**	**308**	*e*PKPdf	**PKPdf**		**23 42 39.6**	**+0.5**	
KK31	**Karatay Array**	**121.22**	**308**	*e*PKIKP	**PKPdf**		**23 42 39.6**	**+0.5**	
KKAR	**Karatay Array**	**121.22**	**308**	*e*PKPdf	**PKPdf**		**23 42 40.1**	**+1.0**	
KKAR	**Karatay Array**	**121.22**	**308**	*e*PKIKP	**PKPdf**		**23 42 40.1**	**+1.0**	
ABPO	**Ambohimpanom**	**121.97**	**230**	PFAKE			23 42 50.0	+8.5	
ABPO				LR	LR				
	comp=Z,270nm,20.0s								
KBL	**Kabul**	**121.97**	**298**	*e*PKPdf	**PKPdf**		**23 42 40.9**	**-0.1**	
KBL	**Kabul**	**121.97**	**298**	*e*PKIKP	**PKPdf**		**23 42 40.9**	**-0.1**	
KBS	**Kingsbay**	**122.02**	**358**	PFAKE			23 42 50.0	+10	
KBS				LR	LR				
	comp=Z,650nm,22.0s								
SUR	**Sutherland**	**124.47**	**197**	PFAKE			23 43 00.0	+14	
SUR				LR	LR				
	comp=Z,1µm,22.0s								
SVE	**Sverdlovsk**	**125.64**	**326**	*e*PKIKP	**PKPdf**		**23 42 51.6**	**+4.5**	
SVE				pmax	pmax				
	comp=Z,27nm,1.4s								

BOSA	**Boshof**	**126.53**	**203**	PKP	**PKPdf**		**23 42 49.2**	**-0.7**	
	comp=Z,4.3nm,1.2s,baz=191,slow=5.5,SNR=1.8								
ARU	**Arti**	**126.86**	**326**	PKP	**PKPdf**		**23 42 48.8**	**-0.6**	
ARU	**Arti**	**126.86**	**326**	*e*PKPdf	**PKPdf**		**23 42 49.8**	**+0.4**	
ARU				LR	LR				
	comp=Z,267nm,21.0s								
ARU	**Arti**	**126.86**	**326**	*i* PKIKP	**PKPdf**		**23 42 49.6**	**+0.2**	
ARU							23 44 46.6		
ARU							23 49 57.8		
ARU				SS	SS		00 01 49.1	-3.3	
ABKAR	**Akbulak array**	**127.93**	**317**	*e*PKPdf	**PKPdf**		**23 42 50.9**	**-0.8**	
AKTO	**Aktyubinsk**	**128.88**	**318**	PKP	**PKPdf**		**23 42 53.0**	**-0.5**	
	comp=Z,0.6nm,0.4s,baz=331,slow=1.3,SNR=3.4								
AKTO	**Aktyubinsk**	**128.88**	**318**	PKIKP	**PKPdf**		**23 42 53.0**	**-0.5**	
KEV	**Kevo**	**129.44**	**350**	PFAKE			23 43 10.0	+16	
KEV				LR	LR				
	comp=Z,2µm,20.0s								
ARA0	**ARCESS Array S**	**129.88**	**350**	*e*PKPdf	**PKPdf**		**23 42 54.6**	**-0.2**	
ARCES	**ARCESS Array B**	**129.88**	**350**	PKP	**PKPdf**		**23 42 54.6**	**-0.2**	
	comp=Z,5.7nm,1.1s,baz=62,slow=2.9,SNR=5.0								
GEYT	**Alibeck**	**130.83**	**302**	PKP	**PKPdf**		**23 42 56.3**	**-1.3**	
	comp=Z,1.0nm,0.7s,baz=48,slow=2.1,SNR=3.0								
LSZ	**Lusaka**	**136.83**	**215**	PFAKE			23 43 20.0	+10	
LSZ				LR	LR				
	comp=Z,591nm,19.0s								
FIA0	**FINESS Array S**	**136.92**	**345**	*e*PKPpre	PKPpre		23 43 03.2		
FIA0	**FINESS Array S**	**136.92**	**345**	*e*PKIKP	PKPpre		23 43 03.2		
FINES	**FINESS Array B**	**136.92**	**345**	PKhKP	PKPpre		23 43 03.2		
	comp=Z,5.3nm,1.1s,baz=45,slow=4.1,SNR=2.5								
MOS	**Moscow**	**137.39**	**333**	*e*PKIKP	**PKPdf**		**23 43 10.2**	**+0.9**	
TSUM	**Tsumeb**	**137.83**	**199**	*e*PKPdf	**PKPdf**		**23 43 10.5**	**-1.0**	
TSUM				LR	LR				
	comp=Z,1µm,19.0s								
OBN	**Obninsk**	**138.25**	**332**	PFAKE			23 43 20.0	+9.1	
OBN				LR	LR				
	comp=Z,438nm,20.0s								
OBN	**Obninsk**	**138.25**	**332**	⇑*i*PKIKP	**PKPdf**		**23 43 14.9**	**+4.0**	
OBN				*e*			23 43 23.5		
OBN							23 43 31.0		
OBN							23 46 05.0		
OBN				pmax	pmax				
	comp=Z,41nm,1.4s								
OBN				MLR	MLR				
	comp=Z,530nm,20.0s								
VSR	**Storozhevoye**	**139.42**	**326**	*i* PKIKP	**PKPdf**		**23 43 14.2**	**+1.0**	
VORD	**Divnogorie**	**139.50**	**326**	*e*PKIKP	**PKPdf**		**23 43 13.2**	**-0.1**	
VORD				pmax	pmax				
	comp=Z,10.0nm,0.7s								
NB200	**NORSAR Array S**	**139.81**	**355**	*e*PKPdf	**PKPdf**		**23 43 12.8**	**-0.9**	
NOA	**NORSAR Array B**	**139.81**	**355**	PKP	**PKPdf**		**23 43 12.8**	**-0.9**	
	comp=Z,0.7nm,0.8s,baz=15,slow=5.0,SNR=3.8								
NCK	**Nalchik**	**140.40**	**314**	*i* PKIKP	**PKPdf**		**23 43 18.6**	**+3.4**	
ZEI	**Tsey**	**140.45**	**312**	*i* PKIKP	**PKPdf**		**23 43 21.1**	**+5.5**	
ZEI				pmax	pmax				
	comp=Z,6.0nm,1.1s								
GNI	**Garni**	**140.69**	**308**	*e*PKPdf	**PKPdf**		**23 43 16.9**	**+0.9**	
GNI				LR	LR				
	comp=Z,562nm,20.0s								
GNI	**Garni**	**140.69**	**308**	*i* PKIKP	**PKPdf**		**23 43 16.4**	**+0.3**	
KBZ	**Khabaz**	**140.78**	**314**	PKP	**PKPdf**		**23 43 15.8**	**0.0**	
	comp=Z,2.0nm,0.9s,baz=225,slow=4.3,SNR=2.8								
KMBO	**Kilima Mbogo**	**140.82**	**240**	PKP	**PKPdf**		**23 43 16.6**	**-0.6**	
	comp=Z,3.9nm,1.0s,baz=337,slow=1.6,SNR=8.3								
KMBO	**Kilima Mbogo**	**140.82**	**240**	*e*PKPdf	**PKPdf**		**23 43 17.9**	**+0.7**	
KMBO				LR	LR				
	comp=Z,521nm,20.0s								
KIV	**Kislovodsk**	**140.84**	**315**	*e*PKPdf	**PKPdf**		**23 43 16.4**	**+0.3**	
KIV				LR	LR				
	comp=Z,734nm,22.0s								
KIV	**Kislovodsk**	**140.84**	**315**	*e*PKIKP	**PKPdf**		**23 43 19.2**	**+3.1**	
KIV				pmax	pmax				
	comp=Z,11nm,1.0s								
RAYN	**Ar Rayn**	**141.78**	**282**	*e*PKPdf	**PKPdf**		**23 43 17.9**	**-0.5**	
RAYN				LR	LR				
	comp=Z,491nm,20.0s								
RAYN	**Ar Rayn**	**141.78**	**282**	*e*PKIKP	**PKPdf**		**23 43 17.9**	**-0.5**	
RAYN				MLR	MLR				
	comp=Z,491nm,20.0s								
ANN	**Anapa**	**143.84**	**319**	*i* PKIKP	**PKPdf**		**23 43 27.3**	**+6.0**	
ANN				pmax	pmax				
	comp=Z,71nm,1.5s								
SUW	**Suwalki**	**144.11**	**341**	*e*PKPdf	**PKPab**		**23 43 18.5**	**-0.5**	
SUW	**Suwalki**	**144.11**	**341**	*e*PKPdf	**PKPdf**		**23 43 20.6**	**-0.9**	
SUW	**Suwalki**	**144.11**	**341**	*e*PKIKP	**PKPab**		**23 43 18.5**	**-0.5**	
AKASG	**Malin Array Be**	**144.52**	**332**	PKP	**PKPab**		**23 43 19.1**	**-1.5**	
	comp=Z,4.0nm,0.9s,baz=41,slow=4.4,SNR=22								
AKBB	**Malin Array Si**	**144.52**	**332**	*e*PKPdf	**PKPab**		**23 43 20.7**	**0.0**	
KIEV	**Kiev**	**144.53**	**332**	*e*PKPpre	PKPpre		23 43 18.3		
KIEV				*e*PKPdf	**PKPdf**		**23 43 24.0**	**+1.7**	
KIEV				LR	LR				
	comp=Z,698nm,21.0s								
KIEV	**Kiev**	**144.53**	**332**	*e*PKHKP	PKPpre		23 43 18.3		
KIEV				*e*			23 43 24.0		
KIEV				MLR	MLR				
	comp=Z,698nm,21.0s								
AK11	**Malin Array Si**	**144.56**	**332**	*e*PKPdf	PKPbc		23 43 21.4	+0.4	
ESK	**Eskdalemuir**	**145.40**	**7**	*e*PKPbc	**PKPab**		**23 43 23.8**	**0.0**	
ESK	**Eskdalemuir**	**145.40**	**7**	*e*PKIKP	**PKPab**		**23 43 23.8**	**0.0**	
SIM	**Simferopol'**	**145.76**	**321**	*e*PKP2	**PKPab**		**23 43 27.3**	**+1.8**	
SIM				pmax	pmax				
	comp=Z,48nm,1.1s								
MBAR	**Mbarara**	**146.24**	**234**	PFAKE			23 43 40.0	+12	
MBAR				LR	LR				
	comp=Z,853nm,19.0s								
GKP	**Gorka Klasztor**	**146.37**	**346**	*e*PKPab	**PKPab**		**23 43 27.4**	**0.0**	
GKP	**Gorka Klasztor**	**146.37**	**346**	*e*PKP2	**PKPab**		**23 43 27.4**	**0.0**	
BEL	**Belsk**	**146.72**	**341**	*e*PKPdf	**PKPab**		**23 43 28.9**	**+0.1**	
BEL	**Belsk**	**146.72**	**341**	*e*PKP2	**PKPab**		**23 43 28.9**	**+0.1**	
LVV	**L'vov**	**147.32**	**336**	*e*PKP2	**PKPab**		**23 43 31.7**	**+0.4**	
LVV				MLR	MLR				
	comp=N,400nm,21.0s								
LVV				MLR	MLR				
	comp=Z,300nm,21.0s								
LVV				MLR	MLR				
	comp=E,200nm,22.0s								
KIS	**Kishinev**	**147.35**	**328**	*e*PKP	**PKPdf**		**23 43 28.0**	**+0.8**	
KIS				LRM	MLR		00 45 10.0		
	comp=E,600nm,22.0s								
KIS	**Kishinev**	**147.35**	**328**	*e*PKP2	**PKPdf**		**23 43 28.0**	**+0.8**	
KIS				*e*			23 50 28.0		
KWP	**Kalwaria Pacla**	**147.96**	**337**	*e*PKPdf	**PKPbc**		**23 43 31.1**	**-0.2**	
KWP	**Kalwaria Pacla**	**147.96**	**337**	*e*PKP2	**PKPbc**		**23 43 31.1**	**-0.2**	
ILGA	**Ilgaz**	**148.06**	**315**	*e*PKPbc	**PKPbc**		**23 43 31.3**	**-0.8**	
OJC	**Ojcow**	**148.44**	**341**	*e*PKPdf	**PKPbc**		**23 43 31.4**	**-1.1**	
OJC				*e*PKPab	**pPKPdf**		**23 43 36.9**	**-0.2**	
OJC	**Ojcow**	**148.44**	**341**	*e*PKPbc	**PKPbc**		**23 43 32.6**	**+0.1**	
OJC	**Ojcow**	**148.44**	**341**	*e*PKP2	**PKPbc**		**23 43 31.4**	**-1.1**	
BUR08	**Bucovina Ar. S**	**148.56**	**332**	*e*PKPbc	**PKPbc**		**23 43 33.0**	**0.0**	
BUR04	**Bucovina Ar. S**	**148.57**	**332**	*e*PKPdf	**PKPdf**		**23 43 28.9**	**-0.5**	
BUR04				*e*PKPbc	**PKiKP**		**23 43 34.0**	**-0.6**	
BUR04				*e*PKPab	**pPKPdf**		**23 43 37.7**	**+0.2**	
BURAR	**Bucovina Array**	**148.57**	**332**	⇑PKP2	**PKPbc**		**23 43 33.6**	**+0.6**	
BR101	**Keskin Array S**	**148.75**	**313**	*e*PKPdf	**PKPbc**		**23 43 32.4**	**-1.4**	
BR101				*e*PKPbc	**PKPab**		**23 43 37.4**	**-0.1**	
BR131	**Keskin Array S**	**148.75**	**313**	*e*PKPdf	**PKPdf**		**23 43 31.2**	**+1.2**	
BRTR	**Keskin Array B**	**148.75**	**313**	PKPbc	**PKPbc**		**23 43 32.4**	**-1.4**	
	comp=E,16nm,1.0s,baz=134,slow=4.0,SNR=25								
BRTR				PKPab	**PKPab**		**23 43 37.4**	**-0.1**	
	comp=E,14nm,0.9s,baz=140,slow=2.8,SNR=45								
KSP	**Ksiaz**	**148.84**	**345**	*e*PKPdf	**PKPbc**		**23 43 33.4**	**-0.1**	
KSP				*e*PKPab	**pPKPdf**		**23 43 38.5**	**+0.8**	
KSP	**Ksiaz**	**148.84**	**345**	*e*PKP2	**PKPbc**		**23 43 33.4**	**-0.1**	
CFR	**Carcaliu**	**148.94**	**326**	⇑PKP2	**PKPbc**		**23 43 33.3**	**-0.6**	
UZH	**Uzhgorod**	**148.95**	**336**	*e*PKP2	**PKPbc**		**23 43 35.2**	**+1.4**	
NIE	**Niedzica**	**148.98**	**339**	*e*PKPdf	**PKPbc**		**23 43 33.5**	**-0.4**	
NIE	**Niedzica**	**148.98**	**339**	*e*PKP2	**PKPbc**		**23 43 33.5**	**-0.4**	
CLL	**Collm**	**149.08**	**349**	*e*PKPdf	**PKPdf**		**23 43 30.9**	**+1.0**	
CLL				*e*PKPbc	**PKPbc**		**23 43 34.6**	**+0.6**	
CLL				*e*PKPab	**PKPab**		**23 43 38.9**	**+0.6**	
CLL	**Collm**	**149.08**	**349**	*e*PKPdf	**PKPbc**		**23 43 33.0**	**-1.1**	
CLL				⇑*i*PKPbc	**PKiKP**		**23 43 34.8**	**-0.5**	
	comp=Z,35nm,1.3s								
CLL				⇓*i*PKPab	**PKPab**		**23 43 38.5**	**+0.2**	
	comp=Z,198nm,1.7s								
CLL				*i* (pPKPbc)			23 43 42.3		
CLL				LmV			00 47 00.0		
	comp=Z,500nm,21.9s								
CLL	**Collm**	**149.08**	**349**	⇑*e*PKP2	**PKPbc**		**23 43 33.0**	**-1.1**	
CLL				pmax	pmax				
	comp=Z,5.0nm,1.3s								
CLL				pmax	pmax				
	comp=Z,35nm,1.7s								
CLL				MLR	MLR				
	comp=Z,500nm,21.9s								

WTSB	**Winterswijk**	**149.14**	**357**	*e*PKP	**PKPbc**		**23 43 34.5**	**+0.4**	
	comp=Z,173nm,1.9s								
VRI	**Vrincioaia**	**149.17**	**328**	⇑PKP2	**PKPbc**		**23 43 36.1**	**+1.6**	
ANTO	**Ankara**	**149.26**	**314**	*e*PKPbc	**PKPbc**		**23 43 34.4**	**-0.6**	
ANTO				*e*PKPab	**pPKPdf**		**23 43 38.9**	**+0.1**	
ANTO				LR	LR				
	comp=Z,428nm,21.0s								
TRPA	**Tarpa**	**149.26**	**336**	⇑*i* P	**PKPbc**		**23 43 33.8**	**-0.8**	
TRPA	**Tarpa**	**149.26**	**336**	*e*PKPdf	**PKPbc**		**23 43 33.9**	**-0.7**	
OKC	**Ostrava-Krasne**	**149.27**	**342**	*e*PKP	**PKPab**		**23 43 40.0**	**+0.9**	
OKC	**Ostrava-Krasne**	**149.27**	**342**	*e*PKP2	**PKPab**		**23 43 40.0**	**+0.9**	
DPC	**Dobruska-Polom**	**149.29**	**345**	*e*PKP	**PKPbc**		**23 43 34.9**	**+0.2**	
DPC				*ep*PKP	**PKPab**		**23 43 39.1**	**-0.1**	
DPC	**Dobruska-Polom**	**149.29**	**345**	*e*PKP2	**PKPbc**		**23 43 34.9**	**+0.2**	
ARCR	**ARCALIA**	**149.36**	**332**	⇑*i* P	**PKPbc**		**23 43 35.0**	**+0.1**	
KRLC	**Kraliky**	**149.43**	**344**	*e*PKP	**PKPbc**		**23 43 35.9**	**+0.9**	
KRLC	**Kraliky**	**149.43**	**344**	*e*PKP2	**PKPbc**		**23 43 35.9**	**+0.9**	
LANS	**Liptovska Anna**	**149.48**	**340**	*e*PKP2	**PKPbc**		**23 43 35.6**	**+0.4**	
LANS	**Liptovska Anna**	**149.48**	**340**	*e*PKP	**PKPbc**		**23 43 35.6**	**+0.4**	
LANS				*e*			23 43 41.0		
MORC	**Moravsky Berou**	**149.50**	**343**	*e*PKPbc	**PKPbc**		**23 43 34.9**	**-0.3**	
MORC	**Moravsky Berou**	**149.50**	**343**	*e*PKP	**PKPbc**		**23 43 34.7**	**-0.5**	
PVCC	**Panska Ves**	**149.53**	**347**	*e*PKP	**PKPbc**		**23 43 36.3**	**+1.1**	
PVCC				*ep*PKP	**PKPab**		**23 43 40.1**	**0.0**	
PVCC	**Panska Ves**	**149.53**	**347**	*e*PKP2	**PKPbc**		**23 43 36.3**	**+1.1**	
DOPR	**Dopca**	**149.74**	**330**	⇑*i* P	**PKPbc**		**23 43 35.4**	**-0.5**	
MLR	**Muntele Rosu**	**149.82**	**329**	*e*PKPdf	**PKPdf**		**23 43 30.7**	**-0.8**	
MLR				*e*PKPbc	**PKPbc**		**23 43 35.8**	**-0.4**	
MLR	**Muntele Rosu**	**149.82**	**329**	⇑*i* P	**PKPbc**		**23 43 35.4**	**-0.9**	
MLR	**Muntele Rosu**	**149.82**	**329**	⇑PKP2	**PKPbc**		**23 43 35.4**	**-0.9**	
CJR	**Cluj-Napoca**	**149.97**	**333**	⇑*i* P	**PKPbc**		**23 43 34.2**	**-2.3**	
PRA	**Prague**	**149.99**	**347**	*e*PKP	**PKPab**		**23 43 41.4**	**-0.6**	
PRA	**Prague**	**149.99**	**347**	*e*PKP2	**PKPab**		**23 43 41.4**	**-0.6**	
SECR		**150.09**	**328**	⇑*i* P	**PKPbc**		**23 43 38.9**	**+2.1**	
LTVH	**L˜tav˜rtes,**	**150.12**	**335**	*e*PKPdf	**PKPbc**		**23 43 36.6**	**-0.1**	
VRAC	**Vranov**	**150.18**	**344**	*e*PKP	**PKPbc**		**23 43 37.5**	**+0.7**	
NKC	**Novy Kostel**	**150.22**	**349**	*e*PKP	**PKPab**		**23 43 41.8**	**-1.2**	
NKC	**Novy Kostel**	**150.22**	**349**	*e*PKIKP	**PKPab**		**23 43 41.8**	**-1.2**	
VYHS	**Vyhne**	**150.26**	**340**	*e*PKIKP	**PKPbc**		**23 43 36.0**	**-1.1**	
VYHS				*e*			23 43 42.2		
VYHS	**Vyhne**	**150.26**	**340**	*e*PKP	**PKPbc**		**23 43 36.0**	**-1.1**	
VYHS				*e*			23 43 42.2		
DRGR		**150.28**	**334**	⇓*i* P	**PKPbc**		**23 43 36.1**	**-1.2**	
DRGR		**150.28**	**334**	⇓PKIKP	**PKPbc**		**23 43 36.1**	**-1.2**	
JAVC	**Velka Javorina**	**150.29**	**342**	*e*PKP	**PKPbc**		**23 43 38.1**	**+0.9**	
VOIR		**150.29**	**330**	⇑*i* P	**PKPbc**		**23 43 36.9**	**-0.4**	
VOIR		**150.29**	**330**	⇑PKIKP	**PKPbc**		**23 43 36.9**	**-0.4**	
KOLL	**Kolacno**	**150.32**	**341**	*e*PKIKP	**PKPbc**		**23 43 37.3**	**+0.1**	
KOLL				*e*			23 43 42.3		
KOLL				*e*			23 43 48.9		
KOLL	**Kolacno**	**150.32**	**341**	*e*PKP	**PKPbc**		**23 43 37.2**	**+0.1**	
K

BIA	**Bitola**	**155.40**	**328**	*i* P	**PKPdf**	**23 43 45.5**	**+5.7**
FNA	**Florina**	**155.55**	**327**	*e*PKPbc	**PKPdf**	**23 43 46.0**	**+6.0**
FNA	**Florina**	**155.55**	**327**	*e*PKIKP	**PKPdf**	**23 43 46.0**	**+6.0**
ES19	**SONSECA Array**	**160.23**	**19**	*e*PKPab	**PKPab**	**23 44 26.2**	**+0.2**
PAB	**San Pablo**	**160.23**	**20**	PFAKE		23 44 00.0	+14
PAB				LR	LR		
	comp=Z,672nm,20.0s						
ESDC	**Sonseca Array**	**160.23**	**19**	PKP	**PKPdf**	**23 43 45.4**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=352,slow=2.6,SNR=3.1						
ESDC				PKPab	**PKPab**	**23 44 25.0**	**-1.0**
	comp=Z,3.8nm,0.9s,baz=327,slow=3.2,SNR=6.9						
DBIC	**Dimbokro**	**163.19**	**147**	PKP	**PKPdf**	**23 43 49.9**	**+0.4**
	comp=Z,5.3nm,1.2s,baz=153,slow=2.3,SNR=1.9						
KEST	**Kesra**	**164.75**	**344**	PKPab	**PKPab**	**23 44 45.2**	**-0.7**
	comp=Z,9.3nm,1.1s,baz=326,slow=7.3,SNR=2.2						
TOA0	**Torodi Ar. Sit**	**171.73**	**163**	*e*PKPdf	**PKPdf**	**23 43 56.0**	**+0.5**
TOA0				*e*PKPab	**PKPab**	**23 45 18.1**	**+1.1**
TORD	**Torodi Ar. Bea**	**171.73**	**163**	PKP	**PKPdf**	**23 43 55.1**	**-0.4**
	comp=Z,2.2nm,1.1s,baz=256,slow=0.3,SNR=7.5						
TORD				PKPab	**PKPab**	**23 45 17.0**	**0.0**
	baz=182,slow=2.6						
TORD				PP	**PP**	**23 49 07.1**	**+0.5**
	baz=182,slow=6.0						
TOA1	**Torodi Ar. Sit**	**171.73**	**163**	*e*PKPdf	**PKPdf**	**23 43 55.1**	**-0.4**
TOA1				*e*PKPab	**PKPab**	**23 45 17.0**	**-0.1**
TOA1				*e*PP	**PP**	**23 49 07.1**	**+0.4**
TAM	**Tamanrasset**	**177.91**	**323**	*e*PKPdf	**PKPdf**	**23 43 56.7**	**-0.7**
TAM				*e*PKPab	PKPab	23 45 45.1	+0.4
TAM	**Tamanrasset**	**177.91**	**323**	*e*PKIKP	**PKPdf**	**23 43 56.7**	**-0.7**
TAM				*e*		23 45 45.2	

TIR **13** *23:24:07.8, 42°.67N × 18°.96E, h25km, Md4.5/6*
THE **13** *23:24:08.9, 42°.71N × 18°.70E, h26km ± 11km, ML4.1/7, Error ellipse: s-maj=13.6km s-min=1.5km az=314.0*
ISCJB **13** *23:24:08.6 ± 0.1, 42°.575N ± 0°.008 × 18°.96E ± 0°.01, h13km, mb4.4/55, MS3.9/11, Error ellipse: s-maj=1.2km s-min=1.0km az=138.1*
MOS **13** *23:24:09.7 ± 1.2, 42°.53N × 18°.93E, h31km, mb4.3/10, Error ellipse: s-maj=5.2km s-min=3.2km az=106.0*
ROM **13** *23:24:09.7 ± 0.1, 42°.52N ± 0°.01 × 18°.961E ± 0°.010, h10km, ML4.5/88*
SAR **13** *23:24:10.8 ± 0.2, 42°.56N × 19°.07E, h9km ± 1km, ML4.7/1*
LDG **13** *23:24:10.2 ± 0.1, 42°.54N × 19°.16E, h10km, Ml4.5/25, Error ellipse: s-maj=4.2km s-min=2.9km az=16.0*
NEIC **13** *23:24:10.0 ± 0.0, 42°.55N × 19°.02E, h17km, mb4.4/23, ML4.5(TIR), ML4.5(PDG), After PDG.*
NEIC Felt [II] at Podgorica. Also felt at Bar, Budva and Niksic.
PDG **13** *23:24:10.4 ± 0.2, 42°.55N × 19°.02E, h17km, MD4.5/9, ML4.5/10, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*
PRU **13** *23:24:11.7 ± 0.0, 42°.63N × 19°.21E, h0km, M4.6*
BEO **13** *23:24:11.3 ± 0.5, 42°.57N × 19°.08E, h14km ± 2km, ML4.1/14*
IDC **13** *23:24:13.8 ± 1.2, 42°.60N × 18°.99E, h52km ± 12km, mb3.9/20, mb1 4.0/39, mb1mx4.0/51, mbtmp4.1/39, MS3.6/21, Ms1 3.6/21, ms1mx3.5/59, Error ellipse: s-maj=9.2km s-min=8.3km az=136.0*
ISC **13 23:24:09.0 ± 0.3, 42°.58N ± 0°.01 × 18°.99E ± 0°.02, h13km, n672, σ2s 16/790, mb4.4/56, MS3.9/11, 46C-35D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEME	**Cevo**	**0.06**	**241**	↑*i* Pg	**Pg**	**23 24 13.9**	**+2.2**
CEME				*e*Sg	**Sg**	**23 24 16.7**	**+3.1**
NKME	**Niksic**	**0.19**	**352**	↓*i* Pg	**Pb**	**23 24 15.6**	**+1.1**
NKME				*e*Sg	**Sb**	**23 24 19.6**	**+1.4**
NKY	**Niksic**	**0.24**	**1**	↓*i* Pg	**Pb**	**23 24 16.2**	**+1.0**
NKY				*e*Sg	**Sb**	**23 24 21.1**	**+1.6**
NKY	**Niksic**	**0.24**	**1**	P	**Pb**	**23 24 16.3**	**+1.0**
NKY	**Niksic**	**0.24**	**1**	P	**Pb**	**23 24 16.3**	**+1.0**
PDG	**Podgorica**	**0.24**	**126**	*e*Pg	**Pg**	**23 24 15.1**	**+0.9**
PDG				*e*Sg	**Sg**	**23 24 19.2**	**+1.5**
PDG	**Podgorica**	**0.24**	**126**	↓*i*P	**Pg**	**23 24 15.2**	**+0.9**
PDG				S	**Sg**	**23 24 19.4**	**+1.7**
PDG	**Podgorica**	**0.24**	**126**	P	**Pg**	**23 24 15.2**	**+0.9**
PDG				S	**Sg**	**23 24 19.1**	**+1.3**
PDG				AML	AML		
PDG				AML	AML		
PDG				AML	AML		
PDG				AML	AML		
PDG				AML	AML		
PDG				AML	AML		
PDG				AML	AML		
PDG				AML	AML		
PDG	**Podgorica**	**0.24**	**126**	↑*i* Pg	**Pg**	**23 24 15.1**	**+0.9**
PDG				*e*Sg	**Sg**	**23 24 19.0**	**+1.3**
TTG	**Podgorica**	**0.24**	**126**	↑*i* Pg	**Pg**	**23 24 15.2**	**+0.9**
TTG				*e*Sg	**Sg**	**23 24 19.2**	**+1.5**
TTG	**Podgorica**	**0.24**	**126**	*e*Pg	**Pg**	**23 24 14.6**	**+0.4**
TTG				*e*Sg	**Sg**	**23 24 18.4**	**+0.7**
TTG	**Podgorica**	**0.24**	**126**	*e*P	**Pg**	**23 24 14.6**	**+0.4**
BUM	**Brajici-Budva**	**0.28**	**194**	↓*i* Pg	**Pb**	**23 24 16.2**	**+0.2**
BUM				*e*Sg	**Sb**	**23 24 21.3**	**+0.6**
BUM	**Brajici-Budva**	**0.28**	**194**	P	**Pb**	**23 24 16.2**	**+0.2**
HCY	**Herceg Novi**	**0.39**	**251**	↓*i* Pg	**Pb**	**23 24 18.2**	**+0.5**
HCY				*e*Sg	**Sb**	**23 24 25.5**	**+1.9**
HCY	**Herceg Novi**	**0.39**	**251**	P	**Pb**	**23 24 18.3**	**+0.5**
HCY	**Herceg Novi**	**0.39**	**251**	P	**Pb**	**23 24 18.3**	**+0.5**
HCY	**Herceg Novi**	**0.39**	**251**	↓*i* Pg	**Pb**	**23 24 18.2**	**+0.5**
HCY				*e*Sg	**Sb**	**23 24 25.6**	**+1.9**
DRME	**Dracevica, Mon**	**0.41**	**159**	↑*i* Pg	**Pg**	**23 24 18.1**	**+0.8**
DRME				*e*Sg	**Sb**	**23 24 24.9**	**+0.5**
DRME	**Dracevica, Mon**	**0.41**	**159**	↓*i* Pg	**Pg**	**23 24 18.2**	**+0.9**
DRME				*e*Sg	**Sb**	**23 24 24.8**	**+0.4**
BRY	**Bratogost**	**0.47**	**315**	↓*i* Pg	**Pb**	**23 24 20.0**	**+0.8**
BRY				*e*Sg	**Sn**	**23 24 28.4**	**-1.4**
BRY	**Bratogost**	**0.47**	**315**	P	**Pb**	**23 24 20.1**	**+0.8**
BRY	**Bratogost**	**0.47**	**315**	P	**Pb**	**23 24 20.1**	**+0.8**
BRY	**Bratogost**	**0.47**	**315**	↓*i* Pg	**Pb**	**23 24 19.9**	**+0.8**
BRY				*e*Sg	**Sn**	**23 24 28.7**	**-1.1**
KOME	**Kolasin**	**0.48**	**54**	↓*i* Pg	**Pg**	**23 24 19.4**	**+0.9**
KOME				*e*Sg	**Sb**	**23 24 26.9**	**+0.6**
UPM	**Unac-Piva**	**0.63**	**354**	↓*i* Pg	**Pb**	**23 24 22.6**	**+0.5**
UPM				*e*Sg	**Sn**	**23 24 33.3**	**-0.6**
UPM	**Unac-Piva**	**0.63**	**354**	P	**Pb**	**23 24 22.6**	**+0.5**
UPM	**Unac-Piva**	**0.63**	**354**	↓*i* Pg	**Pb**	**23 24 22.5**	**+0.5**
UPM				*e*Sg	**Sb**	**23 24 32.8**	**+1.9**
ULC	**Ulcinj**	**0.64**	**163**	↑*i* Pg	**Pg**	**23 24 21.8**	**+0.3**
ULC				*e*Sg	**Sb**	**23 24 31.9**	**+1.0**
ULC	**Ulcinj**	**0.64**	**163**	P	**Pg**	**23 24 21.6**	**+0.1**
ULC	**Ulcinj**	**0.64**	**163**	P	**Pg**	**23 24 21.6**	**+0.1**
PVY	**Plav**	**0.72**	**88**	↓*i* Pg	**Pg**	**23 24 23.5**	**+0.6**
PVY				*e*Sg	**Sb**	**23 24 34.4**	**+1.1**
PVY	**Plav**	**0.72**	**88**	P	**Pg**	**23 24 23.6**	**+0.6**
IVA	**Berane**	**0.73**	**66**	↓*i* Pg	**Pg**	**23 24 24.0**	**+0.8**
IVA				*e*Sg	**Sb**	**23 24 35.4**	**+1.8**
PLE	**Pljevlja**	**0.81**	**21**	↓*i* Pg	**Pb**	**23 24 25.7**	**+0.6**
PLE				*e*Sg	**Sn**	**23 24 38.7**	**+0.5**
PLE	**Pljevlja**	**0.81**	**21**	P	**Pb**	**23 24 25.9**	**+0.8**
PLE	**Pljevlja**	**0.81**	**21**	P	**Pb**	**23 24 25.9**	**+0.8**
BCI	**Bajram Curri**	**0.82**	**104**	*i* PG	**Pg**	**23 24 25.2**	**+0.2**
BCI				*i* SG	**Sg**	**23 24 36.8**	**+1.0**
PUK	**Puka**	**0.86**	**128**	*i* PG	**Pg**	**23 24 25.8**	**+0.2**
PUK				*i* SG	**Sn**	**23 24 39.1**	**-0.2**
PUK	**Puka**	**0.86**	**128**	P	**Pg**	**23 24 25.5**	**-0.1**
PUK				S	**Sb**	**23 24 38.7**	**+1.5**
PUK				AML	AML		
	comp=E,17000μm,0.4s						
PUK				AML	AML		
	comp=N,26800μm,0.7s						
PUK				AML	AML		
	comp=E,17000μm,0.4s						
PUK				AML	AML		
	comp=N,26800μm,0.7s						
STON	**Ston**	**0.99**	**288**	*i* Pg	**Pn**	**23 24 29.2**	**+0.6**
STON				Sg	**Sn**	**23 24 44.5**	**+2.0**
SJES	**Sjenica**	**1.00**	**46**	↑*i* Pg	**Pn**	**23 24 29.4**	**+0.6**
SJES				*e*Sg	**Sg**	**23 24 42.6**	**+1.3**
IVAS	**Ivanjica**	**1.31**	**40**	↑*i* Pg	**Pb**	**23 24 34.6**	**+1.0**
IVAS				*e*Sg	**Sg**	**23 24 52.6**	**+1.2**
BBLS	**Lazići**	**1.32**	**13**	*e*Pg	**Pg**	**23 24 35.4**	**+0.9**
BBLS				*e*Sg	**Sg**	**23 24 53.9**	**+2.1**
BBLS	**Lazići**	**1.32**	**13**	↓*i* Pg	**Pg**	**23 24 35.0**	**+0.5**
BBLS				*e*Sg	**Sg**	**23 24 53.5**	**+1.7**
TIR	**Tirane**	**1.39**	**152**	*e*Pg	**Pg**	**23 24 36.3**	**+0.6**
TIR				*e*Sg	**Sg**	**23 24 55.2**	**+1.4**
TIR	**Tirane**	**1.39**	**152**	*e*Pn	**Pb**	**23 24 35.8**	**+0.9**
TIR				*e*Sn	**Sg**	**23 24 54.2**	**+0.4**
TIR	**Tirane**	**1.39**	**152**	↑*i*P	**Pg**	**23 24 36.3**	**+0.6**
TIR	**Tirane**	**1.39**	**152**	S	**Sg**	**23 24 55.2**	**+1.4**
TIR	**Tirane**	**1.39**	**152**	P	**Pn**	**23 24 35.0**	**+0.9**
TIR				S	**Sg**	**23 24 56.0**	**+2.2**
TIR	**Tirane**	**1.39**	**152**	*e*P	**Pb**	**23 24 35.8**	**+0.9**
TIR				*e*		23 24 54.2	
TIR	**Tirane**	**1.39**	**152**	*i* PN	**Pg**	**23 24 40.0**	**+4.2**
TIR				*i* SN	**Sg**	**23 24 59.7**	**+5.9**
TIR	**Tirane**	**1.39**	**152**	P	**Pb**	**23 24 35.5**	**+0.6**
TIR				AML	AML		
	comp=E,12800μm,0.5s						
TIR				AML	AML		
	comp=N,16700μm,0.6s						
TIR				AML	AML		
	comp=E,12800μm,0.5s						
TIR				AML	AML		
	comp=N,16700μm,0.6s						
PHP	**Peshkopia**	**1.40**	**129**	P	**Pn**	**23 24 34.5**	**+0.2**
PHP				S	**Sg**	**23 24 57.2**	**+3.0**
PHP	**Peshkopia**	**1.40**	**129**	*i* PN	**Pb**	**23 24 35.7**	**+0.6**
PHP				*i* SN	**Sg**	**23 24 57.1**	**+3.0**
HAPS	**Han Pijesak,BI**	**1.51**	**359**	↑*i* Pn	**Pb**	**23 24 37.4**	**+0.4**
HAPS				*e*Sg	**Sg**	**23 24 58.8**	**+1.1**
DIVS	**Divibare**	**1.69**	**25**	*e*Pg	**Pb**	**23 24 41.1**	**+1.1**
DIVS	**Divibare**	**1.69**	**25**	*e*Pn	**Pn**	**23 24 39.7**	**+1.4**
DIVS				*e*Sn	**Sg**	**23 25 04.1**	**+0.7**
DIVS	**Divibare**	**1.69**	**25**	P	**Pb**	**23 24 39.8**	**-0.2**
DIVS				S	**Sg**	**23 25 03.2**	**-0.2**
DIVS				AML	AML		
	comp=E,4135μm,1.2s						
DIVS				AML	AML		
	comp=N,4200μm,1.1s						
DIVS				AML	AML		
	comp=E,4135μm,1.2s						
DIVS				AML	AML		
	comp=N,4200μm,1.1s						
DIVS	**Divibare**	**1.69**	**25**	↓*i* Pn	**Pn**	**23 24 39.7**	**+1.4**
DIVS				*e*Sn	**Sb**	**23 25 02.1**	**+0.9**
SELS	**Selova**	**1.69**	**67**	↑*i* Pg	**Pb**	**23 24 40.3**	**+0.3**
SELS				*e*Sg	**Sb**	**23 25 02.8**	**+1.5**
GRUS	**Gruza**	**1.82**	**43**	*e*Pn	**Pb**	**23 24 41.9**	**-0.3**
SKO	**Skopje**	**1.92**	**108**	P	**Pb**	**23 24 43.9**	**+0.1**
SKO				S	**Sg**	**23 25 10.2**	**-0.4**
SKO	**Skopje**	**1.92**	**108**	*i* Pn	**Pb**	**23 24 44.2**	**+0.4**
SKO				*i* Sn	**Sb**	**23 25 09.9**	**+2.3**
TRUS	**Trudelj**	**1.94**	**32**	*e*Pn	**Pn**	**23 24 43.4**	**+1.6**
OHR	**Ohrid**	**1.99**	**137**	*i* Pn	**Pb**	**23 24 45.5**	**+0.3**
OHR				*i* Sn	**Sg**	**23 25 13.6**	**+0.6**
TEKS	**Tekeris**	**2.01**	**11**	*e*Pn	**Pb**	**23 24 45.2**	**-0.3**
TEKS	**Tekeris**	**2.01**	**11**	*e*Pn	**Pn**	**23 24 44.5**	**+1.8**
TEKS				*e*Sn	**Sb**	**23 25 10.1**	**-0.3**
KRUS	**Krusevo**	**2.07**	**125**	*i* Pn	**Pn**	**23 24 45.6**	**+2.1**
KRUS				*i* Sn	**Sb**	**23 25 14.7**	**+2.4**
BARS	**Barje**	**2.10**	**82**	*e*Pn	**Pn**	**23 24 45.8**	**+1.9**
BARS	**Barje**	**2.10**	**82**	*e*Pn	**Pg**	**23 24 52.7**	**+3.4**
VLO	**Vlora**	**2.14**	**170**	P	**Pn**	**23 24 45.2**	**+0.8**
FASA	**Fasano**	**2.14**	**215**	↑*i* Pn	**Pn**	**23 24 44.7**	**+0.2**
BAI	**Bari**	**2.15**	**228**	↓*i* Pn	**Pn**	**23 24 44.7**	**+0.1**
BLJ	**Bijeljina**	**2.22**	**5**	*e*Pn	**Pn**	**23 24 47.7**	**+2.2**
BLJ				*e*Sn	**Sn**	**23 25 14.4**	**+1.7**
DOB	**Doboj**	**2.25**	**344**	*e*Pn	**Pn**	**23 24 47.9**	**+1.9**
DOB				*e*Sn	**Sb**	**23 25 16.7**	**-0.6**
BOVS	**Bovan**	**2.25**	**61**	↑*e*Pn	**Pn**	**23 24 47.5**	**+1.5**
NOCI	**Noci**	**2.29**	**220**	P	**Pn**	**23 24 46.7**	**+0.1**
NOCI				AML	AML		
	comp=E,7325μm,0.4s						
NOCI				AML	AML		
	comp=N,9665μm,0.4s						
NOCI				AML	AML		
	comp=N,9665μm,0.4s						
NOCI				AML	AML		
	comp=E,7325μm,0.4s						
BIA	**Bitola**	**2.34**	**131**	P	**Pb**	**23 24 50.0**	**-1.1**
BIA	**Bitola**	**2.34**	**131**	*i* Pn	**Pb**	**23 24 50.1**	**-0.9**
BIA				*i* Sn	**Sb**	**23 25 20.6**	**+0.7**
KBN	**Korca**	**2.37**	**145**	P	**Pn**	**23 24 50.2**	**+2.5**
KBN				S	**Sb**	**23 25 21.3**	**+0.5**
MASS	**Massafra**	**2.38**	**216**	↓*i* Pn	**Pn**	**23 24 47.6**	**-0.2**
TPE	**Tepelena**	**2.40**	**161**	*i* PN	**Pn**	**23 24 50.2**	**+2.1**
TPE				*i* SN	**Sb**	**23 25 22.1**	**+0.4**
AMUR	**Altamura**	**2.44**	**228**	P	**Pn**	**23 24 48.9**	**+0.3**
AMUR				AML	AML		
	comp=E,3695μm,0.3s						
AMUR				AML	AML		
	comp=N,3445μm,1.1s						
AMUR				AML	AML		
	comp=E,3695μm,0.3s						
AMUR				AML	AML		
	comp=N,3445μm,1.1s						
MSAG	**Monte S. Angel**	**2.45**	**250**	P	**Pn**	**23 24 50.0**	**+1.3**
MSAG				AML	AML		
	comp=E,7735μm,1.0s						
MSAG				AML	AML		
	comp=N,15500μm,1.5s						
MSAG				AML	AML		
	comp=E,7825μm,1.0s						
MSAG				AML	AML		
	comp=N,15650μm,1.5s						
MSAG				AML	AML		
	comp=N,15500μm,1.5s						
MSAG				AML	AML		
	comp=N,15650μm,1.5s						
MSAG				AML	AML		
	comp=E,7735μm,1.0s						
MSAG				AML	AML		
	comp=E,7825μm,1.0s						
SG1	**Sgolgore (BA)**	**2.45**	**226**	↓*i* Pn	**Pn**	**23 24 48.9**	**+0.2**
FNA	**Florina**	**2.53**	**134**	*e*Pn	**Pn**	**23 24 52.4**	**+2.5**
FNA	**Florina**	**2.53**	**134**	P	**Pn**	**23 24 52.5**	**+2.6**
FNA				S	**Sn**	**23 25 23.7**	**+3.1**
FNA	**Florina**	**2.53**	**134**	*e*P	**Pn**	**23 24 52.4**	**+2.5**
SCTE	**Santa Cesarea**	**2.53**	**189**	P	**Pn**	**23 24 49.2**	**-0.6**
SCTE				AML	AML		
	comp=E,1195μm,1.6s						
SCTE				AML	AML		
	comp=N,1094μm,1.4s						
SCTE				AML	AML		
	comp=N,1094μm,1.4s						
SCTE				AML	AML		
	comp=E,1195μm,1.6s						
STIP	**Stip**	**2.54**	**109**	*i* Pn	**Pb**	**23 24 53.6**	**-0.8**
BLY	**Banja Luka**	**2.54**	**330**	*e*Pn	**Pn**	**23 24 52.4**	**+2.5**
BLY	**Banja Luka**	**2.54**	**330**	↑*i*P	**Pb**	**23 24 53.2**	**-1.2**
BLY	**Banja Luka**	**2.54**	**330**	S	**Sn**	**23 25 22.7**	**+2.0**
BLY	**Banja Luka**	**2.54**	**330**	P	**Pb**	**23 24 53.3**	**-1.2**
BLY				AML	AML		
	comp=E,7275μm,0.6s						
BLY				AML	AML		
	comp=N,8095μm,0.9s						
BLY				AML	AML		
	comp=E,7190μm,0.6s						
BLY				AML	AML		
	comp=N,7820μm,0.9s						
BLY				AML	AML		
	comp=E,7275μm,0.6s						
BLY				AML	AML		
	comp=E,7190μm,0.6s						
BLY				AML	AML		
	comp=N,8095μm,0.9s						
BLY				AML	AML		
	comp=N,7820μm,0.9s						
BLY	**Banja Luka**	**2.54**	**330**	↑*i* Pn	**Pb**	**23 24 53.4**	**-1.0**
BLY				*e*Sn	**Sb**	**23 25 24.9**	**-0.6**
SGRT	**San Giovanni R**	**2.55**	**252**	P	**Pn**	**23 24 51.3**	**+1.2**
SGRT				AML	AML		
	comp=E,6010μm,0.7s						
SGRT				AML	AML		
	comp=N,7265μm,0.7s						
SGRT				AML	AML		
	comp=E,6010μm,0.7s						
SGRT				AML	AML		
	comp=N,7265μm,0.7s						
LTRZ	**Laterza**	**2.56**	**220**	P	**Pn**	**23 24 50.0**	**-0.2**
LTRZ				AML	AML		
	comp=E,4125μm,0.7s						
LTRZ				AML	AML		
	comp=N,4375μm,0.6s						
LTRZ				AML	AML		
	comp=N,4375μm,0.6s						
LTRZ				AML	AML		
	comp=E,4125μm,0.7s						
MATE	**Matera**	**2.58**	**222**	↑*i*P	**Pn**	**23 24 51.3**	**+0.9**
MRVN	**Minervino Murg**	**2.58**	**235**	P	**Pn**	**23 24 51.0**	**+0.5**
MRVN				AML	AML		
	comp=E,2770μm,1.3s						
MRVN				AML	AML		
	comp=N,3055μm,1.0s						
MRVN				AML	AML		
	comp=E,2770μm,1.3s						
MRVN				AML	AML		
	comp=N,3055μm,1.0s						
FRGS	**Fruska Gora**	**2.65**	**13**	*e*Pn	**Pn**	**23 24 53.0**	**+1.5**
FRGS				*e*Sn	**Sn**	**23 25 25.0**	**+1.5**
FRGS	**Fruska Gora**	**2.65**	**13**	*e*Sn	**Sn**	**23 25 26.2**	**+2.7**
NEST	**Nestorio**	**2.66**	**144**	P	**Pn**	**23 24 53.8**	**+2.2**
NEST				S	**Sb**	**23 25 29.1**	**+0.1**
ZAGS	**Zajecar**	**2.67**	**61**	*e*Pn	**Pn**	**23 24 53.5**	**+1.7**
KUBS	**Kucevo**	**2.68**	**46**	*e*Pn	**Pn**	**23 24 52.8**	**+0.9**
MIGL	**Miglionico**	**2.74**	**225**	P	**Pn**	**23 24 53.5**	**+0.7**
MIGL				AML	AML		
	comp=E,14150μm,0.8s						
MIGL				AML	AML		
	comp=N,15450μm,0.9s						
MIGL				AML	AML		
	comp=E,14150μm,0.8s						
MIGL				AML	AML		
	comp=N,15450μm,0.9s						
ZAPS	**Zavoj**	**2.77**	**74**	*e*Pn	**Pn**	**23 24 54.7**	**+1.6**
ZAPS				*e*Sn	**Sn**	**23 25 27.2**	**+0.8**
PALZ	**Palazzo San Ge**	**2.79**	**235**	P	**Pn**	**23 24 53.9**	**+0.5**
PALZ				AML	AML		
	comp=E,8505μm,0.6s						
PALZ				AML	AML		
	comp=N,8905μm,0.8s						
PALZ				AML	AML		
	comp=E,8505μm,0.6s						
PALZ				AML	AML		
	comp=N,8905μm,0.8s						
SRN	**Sarande**	**2.80**	**164**	P	**Pn**	**23 24 53.6**	**+0.1**
SRN	**Sarande**	**2.80**	**164**	*i* PN	**Pn**	**23 24 54.8**	**+1.3**
SRN				*i* SN	**Sn**	**23 25 27.2**	**+0.1**
SRN	**Sarande**	**2.80**	**164**	P	**Pn**	**23 24 54.4**	**+0.9**
SRN				AML	AML		
	comp=E,2715μm,1.5s						
SRN				AML	AML		
	comp=N,2275μm,1.4s						
SRN				AML	AML		
	comp=N,2275μm,1.4s						
SRN				AML	AML		
	comp=E,2715μm,1.5s						
MRAK	**Mrakovica**	**2.87**	**329**	*e*Pn	**Pb**	**23 24 57.8**	**-2.3**
MRAK				*e*Sn	**Sb**	**23 25 32.6**	**-2.5**
PENT	**Pentalofos**	**2.88**	**145**	P	**Pn**	**23 24 57.0**	**+2.3**
PENT				S	**Sn**	**23 25 32.6**	**+3.4**
ACER	**Acerenza**	**2.90**	**233**	P	**Pn**	**23 24 55.6**	**+0.7**
ACER				AML	AML		
	comp=E,8655μm,0.9s						
ACER				AML	AML		
	comp=N,7715μm,0.6s						
ACER				AML	AML		
	comp=E,8930μm,0.9s						
ACER				AML	AML		
	comp=N,7960μm,0.6s						
ACER				AML	AML		
	comp=E,8655μm,0.9s						
ACER				AML	AML		
	comp=E,8930μm,0.9s						
ACER				AML	AML		
	comp=N,7715μm,0.6s						
ACER				AML	AML		
	comp=N,7960μm,0.6s						
KEK	**Kerkira**	**2.92**	**168**	P	**Pn**	**23 24 55.7**	**+0.5**
VAY	**Valandovo**	**2.95**	**114**	P	**Pn**	**23 24 57.5**	**+2.0**
VAY	**Valandovo**	**2.95**	**114**	*i* Pn	**Pn**	**23 24 57.6**	**+2.0**
MDVR	**Moldovita**	**2.96**	**41**	↑*i*P	**Pn**	**23 24 57.3**	**+1.5**
MDVR	**Moldovita**	**2.96**	**41**	S	**Sn**	**23 25 33.6**	**+2.4**
MELA	**Melanico ??? S**	**3.00**	**254**	P	**Pn**	**23 24 57.2**	**+1.0**
MELA				AML	AML		
	comp=E,10270μm,0.8s						
MELA				AML	AML		
	comp=N,7205μm,1.3s						
MELA				AML	AML		
	comp=E,10600μm,0.8s						
MELA				AML	AML		
	comp=N,7340μm,1.3s						
MELA				AML	AML		
	comp=N,7205μm,1.3s						
MELA				AML	AML		
	comp=N,7340μm,1.3s						
MELA				AML	AML		
	comp=E,10270μm,0.8s						
MELA				AML	AML		
	comp=E,10600μm,0.8s						
PTRP	**Pietrapertosa**	**3.01**	**228**	P	**Pn**	**23 24 57.2**	**+0.7**
GRG	**Griva**	**3.02**	**121**	P	**Pn**	**23 24 58.9**	**+2.3**
GRG				S	**Sb**	**23 25 37.2**	**-2.3**
UDBI	**Udbina**	**3.05**	**311**	*i* Pn	**Pb**	**23 25 01.2**	**-2.0**
UDBI				Sn	**Sb**	**23 25 38.9**	**-1.4**
SGTA	**Sant Agata di**	**3.07**	**243**	P	**Pn**	**23 24 58.8**	**+1.5**
SGTA				AML	AML		
	comp=E,5090μm,1.1s						
SGTA				AML	AML		
	comp=N,3290μm,1.1s						
SGTA				AML	AML		
	comp=E,5110μm,0.9s						
SGTA				AML	AML		
	comp=N,3415μm,1.1s						
SGTA				AML	AML		
	comp=E,5090μm,1.1s						
SGTA				AML	AML		
	comp=N,3415μm,1.1s						
SGTA				AML	AML		
	comp=N,3290μm,1.1s						
SGTA				AML	AML		
	comp=E,5110μm,0.9s						
KZN	**Kozani**	**3.08**	**136**	P	**Pn**	**23 24 59.2**	**+1.7**
KZN				S	**Sn**	**23 25 37.7**	**+3.4**
MOCO	**Biccari - m.te**	**3.10**	**248**	P	**Pn**	**23 24 59.6**	**+1.9**
MOCO				AML	AML		
	comp=E,4605μm,0.7s						
MOCO				AML	AML		
	comp=N,2595μm,1.0s						
MOCO				AML	AML		
	comp=E,4655μm,0.7s						
MOCO				AML	AML		
	comp=N,2605μm,1.3s						
MOCO				AML	AML		
	comp=N,2595μm,1.0s				

CAFE				AML	AML		
	comp=N,2955µm,1.4s						
CAFE				AML	AML		
	comp=E,3720µm,0.7s						
CAFE				AML	AML		
	comp=N,2925µm,1.4s						
CAFE				AML	AML		
	comp=N,2925µm,1.4s						
CAFE				AML	AML		
	comp=N,2955µm,1.4s						
CAFE				AML	AML		
	comp=E,3650µm,0.7s						
CAFE				AML	AML		
	comp=E,3720µm,0.7s						
IGT	**Igoumenitsa**	**3.21**	**161**	P	**Pn**	**23 24 59.4**	**+0.3**
BANR	**Banloc**	**3.21**	**28**	⇑*i*P	**Pn**	**23 25 00.8**	**+1.7**
BANR	**Banloc**	**3.21**	**28**	S	**Sn**	**23 25 39.0**	**+1.9**
GATE	**Gambatesa**	**3.22**	**252**	AML	AML		
	comp=E,3625µm,0.6s						
GATE				AML	AML		
	comp=N,4765µm,0.6s						
GATE				AML	AML		
	comp=E,2290µm,1.4s						
GATE				AML	AML		
	comp=N,4905µm,0.6s						
GATE				AML	AML		
	comp=E,2290µm,1.4s						
GATE				AML	AML		
	comp=N,4765µm,0.6s						
GATE				AML	AML		
	comp=E,3625µm,0.6s						
GATE				AML	AML		
	comp=N,4905µm,0.6s						
SCHR	**S. Chirico Rap**	**3.23**	**224**	P	**Pn**	**23 24 59.5**	**0.0**
SCHR				AML	AML		
	comp=E,1855µm,0.6s						
SCHR				AML	AML		
	comp=N,1635µm,0.9s						
SCHR				AML	AML		
	comp=E,1855µm,0.6s						
SCHR				AML	AML		
	comp=N,1635µm,0.9s						
JAN	**Janina**	**3.24**	**154**	P	**Pn**	**23 25 01.5**	**+1.9**
KNT	**Kendrikon**	**3.24**	**115**	P	**Pn**	**23 25 01.6**	**+2.0**
SNAL	**S. Angelo Dei**	**3.27**	**241**	P	**Pn**	**23 25 00.7**	**+0.6**
SNAL				AML	AML		
	comp=E,3370µm,0.9s						
SNAL				AML	AML		
	comp=N,4450µm,1.5s						
SNAL				AML	AML		
	comp=N,4450µm,1.5s						
SNAL				AML	AML		
	comp=E,3370µm,0.9s						
MCEL	**Monticello**	**3.29**	**228**	P	**Pn**	**23 25 00.1**	**-0.2**
MCEL				AML	AML		
	comp=E,2020µm,1.0s						
MCEL				AML	AML		
	comp=N,2170µm,0.7s						
MCEL				AML	AML		
	comp=E,2050µm,1.0s						
MCEL				AML	AML		
	comp=N,2230µm,0.7s						
MCEL				AML	AML		
	comp=N,2230µm,0.7s						
MCEL				AML	AML		
	comp=N,2170µm,0.7s						
MCEL				AML	AML		
	comp=E,2050µm,1.0s						
MCEL				AML	AML		
	comp=E,2020µm,1.0s						
DJES	**Djerdap**	**3.31**	**50**	*e*Pn	**Pn**	**23 25 02.0**	**+1.5**
MRB1	**Monte Rocchett**	**3.33**	**246**	AML	AML		
	comp=E,4575µm,0.8s						
MRB1				AML	AML		
	comp=E,4485µm,0.8s						
MRB1				AML	AML		
	comp=N,4735µm,0.6s						
MRB1				AML	AML		
	comp=E,4575µm,0.8s						
MRB1				AML	AML		
	comp=N,4885µm,0.6s						
MRB1				AML	AML		
	comp=E,4485µm,0.8s						
MRB1				AML	AML		
	comp=N,4735µm,0.6s						
MRB1				AML	AML		
	comp=N,4885µm,0.6s						
SLCN	**Sala Consilina**	**3.33**	**230**	P	**Pn**	**23 25 01.9**	**+0.9**
SLCN				AML	AML		
	comp=E,3065µm,0.5s						
SLCN				AML	AML		
	comp=N,2845µm,0.4s						
SLCN				AML	AML		
	comp=E,3210µm,0.5s						
SLCN				AML	AML		
	comp=N,2890µm,0.4s						
SLCN				AML	AML		
	comp=N,2890µm,0.4s						
SLCN				AML	AML		
	comp=N,2845µm,0.4s						
SLCN				AML	AML		
	comp=E,3065µm,0.5s						
SLCN				AML	AML		
	comp=E,3210µm,0.5s						
SIRI	**Monte Sirino -**	**3.35**	**226**	P	**Pn**	**23 25 01.5**	**+0.3**
SIRI				AML	AML		
	comp=E,1865µm,1.0s						
SIRI				AML	AML		
	comp=N,1390µm,0.6s						
SIRI				AML	AML		
	comp=E,1885µm,1.0s						
SIRI				AML	AML		
	comp=N,1420µm,0.6s						
SIRI				AML	AML		
	comp=N,1420µm,0.6s						
SIRI				AML	AML		
	comp=N,1390µm,0.6s						
SIRI				AML	AML		
	comp=E,1865µm,1.0s						
SIRI				AML	AML		
	comp=E,1885µm,1.0s						
SALB	**San Lorenzo Be**	**3.35**	**217**	P	**Pn**	**23 25 00.7**	**-0.5**
SALB				AML	AML		
	comp=E,1755µm,1.1s						
SALB				AML	AML		
	comp=N,1315µm,1.1s						
SALB				AML	AML		
	comp=E,1780µm,1.1s						
SALB				AML	AML		
	comp=N,1320µm,1.1s						
SALB				AML	AML		
	comp=N,1320µm,1.1s						
SALB				AML	AML		
	comp=N,1315µm,1.1s						
SALB				AML	AML		
	comp=E,1780µm,1.1s						
SALB				AML	AML		
	comp=E,1755µm,1.1s						
MTSN	**Montesano sull**	**3.35**	**228**	P	**Pn**	**23 25 00.5**	**-0.8**
MTSN				AML	AML		
	comp=E,1590µm,0.9s						
MTSN				AML	AML		
	comp=N,1500µm,0.7s						
MTSN				AML	AML		
	comp=N,1500µm,0.7s						
MTSN				AML	AML		
	comp=E,1590µm,0.9s						
MCRV	**Calabrutti - M**	**3.38**	**239**	P	**Pn**	**23 25 01.8**	**+0.2**
MCRV				AML	AML		
	comp=E,2135µm,0.5s						
MCRV				AML	AML		
	comp=N,2230µm,1.2s						
MCRV				AML	AML		
	comp=N,2230µm,1.2s						
MCRV				AML	AML		
	comp=E,2135µm,0.5s						
HERR	**Herculane**	**3.39**	**46**	⇑*i*P	**Pn**	**23 25 03.0**	**+1.4**
HERR	**Herculane**	**3.39**	**46**	S	**Sn**	**23 25 42.9**	**+1.3**
TRIV	**Trivento**	**3.40**	**258**	AML	AML		
	comp=N,3440µm,1.5s						
TRIV				AML	AML		
	comp=E,3515µm,0.8s						
TRIV				AML	AML		
	comp=N,3440µm,1.5s						
TRIV				AML	AML		
	comp=E,3515µm,0.8s						
PSB1	**Pescosannita**	**3.40**	**248**	AML	AML		
	comp=N,1950µm,1.3s						
PSB1				AML	AML		
	comp=E,2375µm,0.9s						
PSB1				AML	AML		
	comp=N,1820µm,1.3s						
PSB1				AML	AML		
	comp=E,2330µm,0.9s						
PSB1				AML	AML		
	comp=N,1950µm,1.3s						
PSB1				AML	AML		
	comp=N,1820µm,1.3s						
PSB1				AML	AML		
	comp=E,2330µm,0.9s						
PSB1				AML	AML		
	comp=E,2375µm,0.9s						
SACR	**S. Croce Del S**	**3.40**	**251**	AML	AML		
	comp=E,1855µm,1.6s						
SACR				AML	AML		
	comp=E,1855µm,1.6s						
SACR				AML	AML		
	comp=N,1990µm,0.8s						
SACR				AML	AML		
	comp=E,1830µm,1.1s						
SACR				AML	AML		
	comp=N,2060µm,0.8s						
SACR				AML	AML		
	comp=E,1830µm,1.1s						
SACR				AML	AML		
	comp=N,2060µm,0.8s						
SACR				AML	AML		
	comp=N,1990µm,0.8s						
BSSO	**Busso**	**3.43**	**254**	AML	AML		
	comp=N,2885µm,1.0s						
BSSO				AML	AML		
	comp=E,2295µm,0.8s						
BSSO				AML	AML		
	comp=E,2290µm,1.4s						
BSSO				AML	AML		
	comp=N,2960µm,1.0s						
BSSO				AML	AML		
	comp=N,2960µm,1.0s						
BSSO				AML	AML		
	comp=E,2295µm,0.8s						
BSSO				AML	AML		
	comp=N,2885µm,1.0s						
BSSO				AML	AML		
	comp=E,2290µm,1.4s						
CAFR	**Castel Frentan**	**3.46**	**266**	AML	AML		
	comp=N,12100µm,1.0s						
CAFR				AML	AML		
	comp=E,12200µm,1.5s						
CAFR				AML	AML		
	comp=N,12100µm,1.0s						
CAFR				AML	AML		
	comp=E,12200µm,1.5s						
CDRU	**Civita di Ruta**	**3.46**	**234**	P	**Pn**	**23 25 02.6**	**-0.1**
CDRU				AML	AML		
	comp=E,1370µm,0.3s						
CDRU				AML	AML		
	comp=N,786µm,0.5s						
CDRU				AML	AML		
	comp=N,786µm,0.5s						
CDRU				AML	AML		
	comp=E,1370µm,0.3s						
MMN	**Mormanno**	**3.51**	**221**	P	**Pn**	**23 25 03.5**	**+0.3**
MMN				AML	AML		
	comp=E,788µm,1.0s						
MMN				AML	AML		
	comp=N,1155µm,0.6s						
MMN				AML	AML		
	comp=E,788µm,1.0s						
MMN				AML	AML		
	comp=N,1155µm,0.6s						
CUC	**Castrocucco**	**3.52**	**224**	*e*Pn	**Pn**	**23 25 04.0**	**+0.6**
CUC				*e*Sn	**Sn**	**23 25 43.1**	**-1.8**
CUC	**Castrocucco**	**3.52**	**224**	P	**Pn**	**23 25 04.6**	**+1.2**
CUC				AML	AML		
	comp=E,2190µm,0.9s						
CUC				AML	AML		
	comp=N,1160µm,1.1s						
CUC				AML	AML		
	comp=E,2565µm,1.0s						
CUC				AML	AML		
	comp=N,1360µm,1.1s						
CUC				AML	AML		
	comp=E,2565µm,1.0s						
CUC				AML	AML		
	comp=E,2190µm,0.9s						
CUC				AML	AML		
	comp=N,1360µm,1.1s						
CUC				AML	AML		
	comp=N,1160µm,1.1s						
PTRJ	**Pietraroja**	**3.54**	**251**	AML	AML		
	comp=N,6070µm,0.6s						
PTRJ				AML	AML		
	comp=E,5130µm,0.9s						
PTRJ				AML	AML		
	comp=N,6070µm,0.6s						
PTRJ				AML	AML		
	comp=E,5130µm,0.9s						
TIM	**Timisoara**	**3.54**	**26**	⇓*i*P	**Pn**	**23 25 05.6**	**+1.9**
TIM	**Timisoara**	**3.54**	**26**	S	**Sn**	**23 25 48.1**	**+2.6**
MGR	**Morigerati**	**3.55**	**228**	P	**Pn**	**23 25 04.5**	**+0.6**
MGR				AML	AML		
	comp=E,1140µm,1.1s						
MGR				AML	AML		
	comp=N,1085µm,0.6s						
MGR				AML	AML		
	comp=E,1170µm,1.2s						
MGR				AML	AML		
	comp=N,1200µm,0.5s						
MGR				AML	AML		
	comp=E,1140µm,1.1s						
MGR				AML	AML		
	comp=E,1170µm,1.2s						
MGR				AML	AML		
	comp=N,1085µm,0.6s						
MGR				AML	AML		
	comp=N,1200µm,0.5s						
THE	**Thessaloniki**	**3.56**	**122**	P	**Pn**	**23 25 05.9**	**+2.0**
CMPR	**Campora**	**3.57**	**232**	P	**Pn**	**23 25 04.4**	**+0.2**
CMPR				AML	AML		
	comp=E,1295µm,0.7s						
CMPR				AML	AML		
	comp=N,1240µm,0.5s						
CMPR				AML	AML		
	comp=E,1295µm,0.7s						
CMPR				AML	AML		
	comp=N,1240µm,0.5s						
BZS	**Buzias**	**3.58**	**31**	*e*Pn	**Pn**	**23 25 05.7**	**+1.4**
BZS				*e*Sn	**Sn**	**23 25 46.3**	**-0.1**
BZS	**Buzias**	**3.58**	**31**	⇑*i*P	**Pn**	**23 25 05.5**	**+1.2**
BZS	**Buzias**	**3.58**	**31**	P	**Pn**	**23 25 05.2**	**+1.0**
BZS				AML	AML		
	comp=E,1000µm,1.4s						
BZS				AML	AML		
	comp=N,1085µm,0.4s						
BZS				AML	AML		
	comp=E,1007µm,1.4s						
BZS				AML	AML		
	comp=N,1085µm,0.4s						
BZS				AML	AML		
	comp=E,1007µm,1.4s						
BZS				AML	AML		
	comp=N,1085µm,0.4s						
BZS				AML	AML		
	comp=N,1085µm,0.4s						
BZS				AML	AML		
	comp=E,1000µm,1.4s						
NVLJ	**Novalja**	**3.59**	**305**	*i* Pn	**Pn**	**23 25 07.0**	**+2.6**
NVLJ				Sn	**Sn**	**23 25 49.6**	**+2.9**
T0702	**Acquaformosa (**	**3.60**	**219**	P	**Pn**	**23 25 05.9**	**+1.3**
T0702				AML	AML		
	comp=E,2726µm,0.7s						
T0702				AML	AML		
	comp=N,1503µm,0.6s						
T0702				AML	AML		
	comp=N,1503µm,0.6s						
T0702				AML	AML		
	comp=E,2726µm,0.7s						
LPEL	**Lama dei Pelig**	**3.60**	**263**	P	**Pn**	**23 25 07.1**	**+2.4**
LPEL				AML	AML		
	comp=E,2330µm,0.4s						
LPEL				AML	AML		
	comp=N,2605µm,1.2s						
LPEL				AML	AML		
	comp=N,2605µm,1.2s						
LPEL				AML	AML		
	comp=E,2330µm,0.4s						
LIT	**Litokhoron**	**3.61**	**132**	*e*Pn	**Pn**	**23 25 05.8**	**+1.1**
LIT	**Litokhoron**	**3.61**	**132**	P	**Pn**	**23 25 06.4**	**+1.7**
LIT	**Litokhoron**	**3.61**	**132**	*e*P	**Pn**	**23 25 05.8**	**+1.1**
SGG	**Gregorio Mates**	**3.64**	**252**	AML	AML		
	comp=E,1985µm,0.5s						
SGG				AML	AML		
	comp=N,1815µm,0.5s						
SGG				AML	AML		
	comp=N,1815µm,0.5s						
SGG				AML	AML		
	comp=E,1985µm,0.5s						
MIDA	**Miranda**	**3.64**	**257**	P	**Pn**	**23 25 07.0**	**+1.8**
MIDA				AML	AML		
	comp=E,2150µm,1.5s						
MIDA				AML	AML		
	comp=N,1785µm,0.8s						
MIDA				AML	AML		
	comp=E,2200µm,1.5s						
MIDA				AML	AML		
	comp=N,1680µm,0.7s						
MIDA				AML	AML		
	comp=N,1785µm,0.8s						
MIDA				AML	AML		
	comp=E,2150µm,1.5s						
MIDA				AML	AML		
	comp=E,2200µm,1.5s						
MIDA				AML	AML		
	comp=N,1680µm,0.7s						
MORH	**M¯‡r¯igy, Hung**	**3.65**	**356**	⇓*e*Pn	**Pn**	**23 25 06.7**	**+1.6**
MORH				*e*Sn	**Sn**	**23 25 49.0**	**+1.0**
MORH	**M¯‡r¯igy, Hung**	**3.65**	**356**	⇓*i*Pn	**Pn**	**23 25 06.7**	**+1.6**
MORH				*e*Sn	**Sn**	**23 25 50.5**	**+2.5**
PAOL	**Paolisi**	**3.65**	**246**	AML	AML		
	comp=E,2315µm,1.1s						
PAOL				AML	AML		
	comp=E,2315µm,1.1s						
PAOL				AML	AML		
	comp=N,1480µm,0.7s						
PAOL				AML	AML		
	comp=E,2365µm,1.1s						
PAOL				AML	AML		
	comp=N,1555µm,1.0s						
PAOL				AML	AML		
	comp=E,2365µm,1.1s						
PAOL				AML	AML		
	comp=N,1480µm,0.7s						
PAOL				AML	AML		
	comp=N,1555µm,1.0s						
HORT	**Hortiatis**	**3.66**	**121**	*e*P	**Pn**	**23 25 06.2**	**+0.8**
HORT	**Hortiatis**	**3.66**	**121**	P	**Pn**	**23 25 07.4**	**+2.0**
CELI	**Celico**	**3.68**	**211**	AML	AML		
	comp=E,926µm,1.5s						
CELI				AML	AML		
	comp=N,692µm,1.4s						
CELI				AML	AML		
	comp=E,2205µm,1.5s						
CELI				AML	AML		
	comp=N,1800µm,1.4s						
CELI				AML	AML		
	comp=N,692µm,1.4s						
CELI				AML	AML		
	comp=N,1800µm,1.4s						
CELI				AML	AML		
	comp=E,2205µm,1.5s						
CELI				AML	AML		
	comp=E,926µm,1.5s						
BULG	**Bulgheria - Ca**	**3.69**	**229**	P	**Pn**	**23 25 06.8**	**+1.0**
BULG				AML	AML		
	comp=E,1325µm,1.4s						
BULG				AML	AML		
	comp=N,2135µm,0.4s						
BULG				AML	AML		
	comp=E,1375µm,1.5s						
BULG				AML	AML		
	comp=N,2230µm,0.4s						
BULG				AML	AML		
	comp=N,2230µm,0.4s						
BULG				AML	AML		
	comp=N,2135µm,0.4s						
BULG				AML	AML		
	comp=E,1325µm,1.4s						
BULG				AML	AML		
	comp=E,1375µm,1.5s						
RNI2	**Rionero Sannit**	**3.70**	**258**	AML	AML		
	comp=E,2260µm,0.6s						
RNI2				AML	AML		
	comp=E,2260µm,0.6s						
RNI2				AML	AML		
	comp=N,1760µm,1.3s						
RNI2				AML	AML		
	comp=E,2345µm,0.6s						
RNI2				AML	AML		
	comp=N,1800µm,1.4s						
RNI2				AML	AML		
	comp=N,1760µm,1.3s						
RNI2				AML	AML		
	comp=E,2345µm,0.6s						
RNI2				AML	AML		
	comp=N,1800µm,1.4s						
SRE	**Strehaia**	**3.70**	**54**	⇑*i*P	**Pn**	**23 25 08.4**	**+2.4**
SOH	**Sokhos**	**3.71**	**117**	P	**Pn**	**23 25 08.1**	**+2.0**
VAGA	**Valle Agricola**	**3.73**	**253**	AML	AML		
	comp=E,2615µm,0.6s						
VAGA				AML	AML		
	comp=E,2535µm,0.7s						
VAGA				AML	AML		
	comp=N,2980µm,0.5s						
VAGA				AML	AML		
	comp=N,3085µm,0.5s						
VAGA				AML	AML		
	comp=E,2615µm,0.6s						
VAGA				AML	AML		
	comp=N,2980µm,0.5s						
VAGA				AML	AML		
	comp=E,2535µm,0.7s						
VAGA				AML	AML		
	comp=N,3085µm,0.5s						
SRS	**Serrai**	**3.73**	**111**	P	**Pn**	**23 25 08.7**	**+2.3**
THL	**Klokotos Trika**	**3.78**	**142**	P	**Pn**	**23 25 08.4**	**+1.4**
TIP	**Timpagrande**	**3.79**	**207**	*e*Pn	**Pn**	**23 25 06.9**	**-0.3**
TIP	**Timpagrande**	**3.79**	**207**	⇑*i*P	**Pn**	**23 25 07.7**	**+0.5**
TIP	**Timpagrande**	**3.79**	**207**	P	**Pn**	**23 25 07.2**	**0.0**
TIP	**Timpagrande**	**3.79**	**207**	AML	AML		
	comp=N,674µm,1.4s						
TIP				AML	AML		
	comp=E,613µm,1.0s						
TIP				AML	AML		
	comp=N,674µm,1.4s						
TIP				AML	AML		
	comp=E,613µm,1.0s						
CET2	**Cetraro**	**3.81**	**218**	AML	AML		
	comp=N,6690µm,0.8s						
CET2				AML	AML		
	comp=E,2310µm,0.7s						
CET2				AML	AML		
	comp=N,6690µm,0.8s						
CET2				AML	AML		
	comp=E,2310µm,0.7s						
VCEL	**Villa Celiera**	**3.81**	**269**	AML	AML		
	comp=N,2600µm,1.3s						
VCEL				AML	AML		
	comp=E,3170µm,0.9s						
VCEL				AML	AML		
	comp=N,2600µm,1.3s						
VCEL				AML	AML		
	comp=E,3170µm,0.9s						
NVR	**Nevrokopi**	**3.83**	**107**	P	**Pn**	**23 25 10.4**	**+2.6**
GZR	**Gura Zlata**	**3.92**	**43**	⇑*i*P	**Pn**	**23 25 10.5**	**+1.5**
GZR	**Gura Zlata**	**3.92**	**43**	S	**Sn**	**23 25 56.6**	**+1.6**
SERS	**Sersale**	**3.94**	**207**	AML	AML		
	comp=E,820µm,0.4s						
SERS				AML	AML		
	comp=E,708µm,1.5s						
SERS				AML	AML		
	comp=N,730µm,0.4s						
SERS				AML	AML		
	comp=N,711µm,1.6s						
SERS				AML	AML		
	comp=E,820µm,0.4s						
SERS				AML	AML		
	comp=E,708µm,1.5s						
SERS				AML	AML		
	comp=N,711µm,1.6s						
SERS				AML	AML		
	comp=N,730µm,0.4s						
OZLJ	**Ozalj**	**3.96**	**321**	*e*Pn	**Pn**	**23 25 13.5**	**+4.1**

TERO	**Teramo**	**3.98 272**	P	**Pn**	**23 25 11.5 +1.8**	
TERO			AML	AML		
	comp=E,2195µm,1.2s					
TERO			AML	AML		
	comp=N,1555µm,0.6s					
TERO			AML	AML		
	comp=E,470µm,1.1s					
TERO			AML	AML		
	comp=N,632µm,0.6s					
TERO			AML	AML		
	comp=N,632µm,0.6s					
TERO			AML	AML		
	comp=N,1555µm,0.6s					
TERO			AML	AML		
	comp=E,470µm,1.1s					
TERO			AML	AML		
	comp=E,2195µm,1.2s					
BOJS	**Bojanci**	**3.98 319**	P	**Pn**	**23 25 13.2 +3.5**	
BOJS			AML	AML		
	comp=E,1630µm,0.7s					
BOJS			AML	AML		
	comp=N,1895µm,0.8s					
BOJS			AML	AML		
	comp=E,1630µm,0.7s					
BOJS			AML	AML		
	comp=N,1895µm,0.8s					
LKD2	**Lefkada island**	**3.99 161**	P	**Pn**	**23 25 09.9 0.0**	
PLG	**Polygyros**	**4.01 122**	P	**Pn**	**23 25 12.4 +2.3**	
FAGN	**Fagnano**	**4.01 267**	AML	AML		
	comp=E,5365µm,0.6s					
FAGN			AML	AML		
	comp=E,5365µm,0.6s					
FAGN			AML	AML		
	comp=N,4085µm,1.0s					
FAGN			AML	AML		
	comp=N,4085µm,1.0s					
POFI	**Posta Fibreno**	**4.02 259**	P	**Pn**	**23 25 12.3 +2.0**	
POFI			AML	AML		
	comp=E,1010µm,0.8s					
POFI			AML	AML		
	comp=N,932µm,1.6s					
POFI			AML	AML		
	comp=N,932µm,1.6s					
POFI			AML	AML		
	comp=E,1010µm,0.8s					
VVLD	**Villa Vallelon**	**4.05 262**	P	**Pn**	**23 25 12.6 +1.8**	
VVLD			AML	AML		
	comp=E,1360µm,1.0s					
VVLD			AML	AML		
	comp=N,1390µm,0.8s					
VVLD			AML	AML		
	comp=E,1360µm,1.0s					
VVLD			AML	AML		
	comp=N,1390µm,0.8s					
AOI	**Ancona**	**4.07 286**	P	**Pn**	**23 25 13.2 +2.2**	
AOI			AML	AML		
	comp=E,1175µm,1.0s					
AOI			AML	AML		
	comp=N,1325µm,0.8s					
AOI			AML	AML		
	comp=E,1175µm,1.0s					
AOI			AML	AML		
	comp=N,1325µm,0.8s					
MODR	**Mondragone**	**4.08 251**	AML	AML		
	comp=E,1560µm,0.6s					
MODR			AML	AML		
	comp=E,1560µm,0.6s					
MODR			AML	AML		
	comp=N,1460µm,1.1s					
MODR			AML	AML		
	comp=N,1460µm,1.1s					
CAMP	**Campotosto**	**4.12 271**	P	**Pn**	**23 25 13.7 +1.9**	
CAMP			AML	AML		
	comp=E,1120µm,1.0s					
CAMP			AML	AML		
	comp=N,1280µm,0.8s					
CAMP			AML	AML		
	comp=E,1120µm,1.0s					
CAMP			AML	AML		
	comp=N,1280µm,0.8s					
CRES	**Cresnjev**	**4.12 323**	*e*Pn	**Pn**	**23 25 14.8 +3.1**	
CRES			*e*Sn	**Sn**	**23 26 01.8 +2.0**	
AQU	**L'Aquila**	**4.14 269**	*e*Pn	**Pn**	**23 25 13.5 +1.5**	
AQU	**L'Aquila**	**4.14 269**	*e*P	**Pn**	**23 25 13.5 +1.5**	
AQU	**L'Aquila**	**4.14 269**	AML	AML		
	comp=E,1700µm,0.8s					
AQU			AML	AML		
	comp=E,1710µm,0.8s					
AQU			AML	AML		
	comp=N,2190µm,1.0s					
AQU			AML	AML		
	comp=N,2135µm,1.0s					
AQU			AML	AML		
	comp=N,2190µm,1.0s					
AQU			AML	AML		
	comp=N,2135µm,1.0s					
AQU			AML	AML		
	comp=E,1700µm,0.8s					
AQU			AML	AML		
	comp=E,1710µm,0.8s					
AQU	**L'Aquila**	**4.14 269**	*e*Pn	**Pn**	**23 25 14.4 +2.4**	
AQU			*e*Sn	**Sn**	**23 26 02.8 +2.5**	
EVGI	**Lefkada island**	**4.15 162**	P	**Pn**	**23 25 11.9 -0.2**	
SIRR	**Siria**	**4.16 26**⇑	*i*P	**Pn**	**23 25 13.5 +1.3**	
SMA1	**SAN MARTINO**	**4.17 273**	P	**Pn**	**23 25 14.6 +2.1**	
SMA1			AML	AML		
	comp=E,2290µm,0.4s					
SMA1			AML	AML		
	comp=N,2200µm,1.4s					
SMA1			AML	AML		
	comp=N,2200µm,1.4s					
SMA1			AML	AML		
	comp=E,2290µm,0.4s					
PTQR	**Pietraquaria**	**4.18 264**	AML	AML		
	comp=N,760µm,0.9s					
PTQR			AML	AML		
	comp=E,762µm,1.6s					
PTQR			AML	AML		
	comp=N,760µm,0.9s					
PTQR			AML	AML		
	comp=E,762µm,1.6s					
BEHE	**Becsehely**	**4.20 339**‖	*e*Pn	**Pn**	**23 25 16.0 +3.2**	
BEHE			*e*Sn	**Sn**	**23 26 06.0 +4.3**	
BEHE	**Becsehely**	**4.20 339**⇑	*i*Pn	**Pn**	**23 25 15.6 +2.8**	
BEHE			*e*Sn	**Sn**	**23 26 03.8 +2.1**	
GBRS	**Gornja Briga**	**4.22 316**	*i* Pn	**Pn**	**23 25 16.7 +3.6**	
GBRS			*i* Sn	**Sn**	**23 26 06.6 +4.4**	
	comp=Z,854nm,2.7s					
GBRS	**Gornja Briga**	**4.22 316**	*i* Pn	**Pn**	**23 25 16.7 +3.6**	
GBRS			*i* Sn	**Sn**	**23 26 06.6 +4.4**	
	comp=Z,854nm,2.7s					
GRI	**Girifalco**	**4.23 208**	AML	AML		
	comp=E,904µm,1.1s					
GRI			AML	AML		
	comp=E,904µm,1.1s					
GRI			AML	AML		
	comp=N,996µm,0.5s					
GRI			AML	AML		
	comp=N,996µm,0.5s					
EVR	**Evrytania**	**4.24 149**	P	**Pn**	**23 25 15.2 +1.8**	
PLD	**Plovdiv**	**4.26 94**	*e*P	**Pn**	**23 25 14.7 +1.1**	
FSK	**Fiskardo**	**4.28 163**	P	**Pn**	**23 25 13.2 -0.7**	
MAKR	**Makrakomi, Fth**	**4.28 145**	P	**Pn**	**23 25 15.8 +1.8**	
CING	**Cingoli**	**4.33 283**	AML	AML		
	comp=E,915µm,0.5s					
CING			AML	AML		
	comp=E,915µm,0.5s					
CING			AML	AML		
	comp=N,722µm,0.9s					
CING			AML	AML		
	comp=N,722µm,0.9s					
NRCA	**Norcia**	**4.34 275**	AML	AML		
	comp=E,1099µm,1.0s					
NRCA			AML	AML		
	comp=N,1125µm,0.8s					
NRCA			AML	AML		
	comp=E,1062µm,1.0s					
NRCA			AML	AML		
	comp=N,1335µm,0.8s					
NRCA			AML	AML		
	comp=E,1062µm,1.0s					
NRCA			AML	AML		
	comp=N,1335µm,0.8s					
NRCA			AML	AML		
	comp=N,1125µm,0.8s					
NRCA			AML	AML		
	comp=E,1099µm,1.0s					
FIAM	**Fiamignano**	**4.36 268**	AML	AML		
	comp=E,1425µm,0.9s					
FIAM			AML	AML		
	comp=N,962µm,0.7s					
FIAM			AML	AML		
	comp=E,1425µm,0.9s					
FIAM			AML	AML		
	comp=N,962µm,0.7s					
AGG	**Agios Georgios**	**4.36 143**	*e*P	**Pn**	**23 25 16.2 +1.2**	
AGG	**Agios Georgios**	**4.36 143**	*e*Pn	**Pn**	**23 25 16.7 +1.7**	
AGG			*e*Sn	**Sn**	**23 26 06.4 +0.6**	
AGG	**Agios Georgios**	**4.36 143**	P	**Pn**	**23 25 16.7 +1.7**	
AGG	**Agios Georgios**	**4.36 143**	*e*P	**Pn**	**23 25 16.7 +1.7**	
AGG			*e*		23 26 06.4	
FDMO	**Fiordimonte**	**4.37 278**	P	**Pn**	**23 25 17.2 +2.2**	
OUR	**Ouranopolis**	**4.37 119**	*e*P	**Pn**	**23 25 17.8 +2.7**	
OUR	**Ouranopolis**	**4.37 119**	P	**Pn**	**23 25 17.2 +2.1**	
GIUL	**Giuliano Di Ro**	**4.39 259**	AML	AML		
	comp=N,908µm,0.7s					
GIUL			AML	AML		
	comp=E,612µm,0.9s					
GIUL			AML	AML		
	comp=N,908µm,0.7s					
GIUL			AML	AML		
	comp=E,612µm,0.9s					
LNSS	**Leonessa**	**4.39 272**	AML	AML		
	comp=E,2180µm,1.1s					
LNSS			AML	AML		
	comp=N,1825µm,0.5s					
LNSS			AML	AML		
	comp=N,1825µm,0.5s					
LNSS			AML	AML		
	comp=E,2180µm,1.1s					
TIH	**Tihany**	**4.39 350**‖	*e*Pn	**Pn**	**23 25 17.9 +2.5**	
TIH			*e*Sn	**Sn**	**23 26 06.2 -0.2**	
PVO	**Paravola**	**4.40 153**	P	**Pn**	**23 25 17.1 +1.6**	
LOT	**Lotru**	**4.49 49**⇑	*i*P	**Pn**	**23 25 18.9 +2.1**	
SNTG	**Esanatoglia**	**4.49 281**	AML	AML		
	comp=N,1020µm,1.4s					
SNTG			AML	AML		
	comp=E,678µm,0.9s					
SNTG			AML	AML		
	comp=E,678µm,0.9s					
SNTG			AML	AML		
	comp=N,1020µm,1.4s					
XOR	**Xorichti**	**4.52 134**	P	**Pn**	**23 25 18.1 +1.0**	
ARVD	**Arcevia**	**4.53 284**	P	**Pn**	**23 25 19.4 +2.1**	
ARVD			AML	AML		
	comp=E,518µm,1.0s					
ARVD			AML	AML		
	comp=N,556µm,1.0s					
ARVD			AML	AML		
	comp=N,556µm,1.0s					
ARVD			AML	AML		
	comp=E,518µm,1.0s					
PLAC	**Placanica**	**4.56 206**	AML	AML		
	comp=E,786µm,1.6s					
PLAC			AML	AML		
	comp=N,1270µm,0.6s					
PLAC			AML	AML		
	comp=N,1270µm,0.6s					
PLAC			AML	AML		
	comp=E,786µm,1.6s					
CEY	**Cerknica**	**4.56 315**⇑	*i*Pn	**Pn**	**23 25 20.7 +3.0**	
CEY			*e*Sn	**Sn**	**23 26 12.8 +2.3**	
VLS	**Valsamata**	**4.56 164**	P	**Pn**	**23 25 17.7 0.0**	
ANX	**Ano Chora**	**4.56 150**	P	**Pn**	**23 25 19.9 +2.1**	
JOPP	**Joppolo**	**4.61 212**	AML	AML		
	comp=N,910µm,0.5s					
JOPP			AML	AML		
	comp=E,823µm,0.4s					
JOPP			AML	AML		
	comp=N,910µm,0.5s					
JOPP			AML	AML		
	comp=E,823µm,0.4s					
MTCE	**Montecelio**	**4.67 265**	AML	AML		
	comp=N,650µm,1.0s					
MTCE			AML	AML		
	comp=E,669µm,0.9s					
MTCE			AML	AML		
	comp=N,650µm,1.0s					
MTCE			AML	AML		
	comp=E,669µm,0.9s					
FSSB	**Fossombrone**	**4.68 286**	AML	AML		
	comp=N,1835µm,0.4s					
FSSB			AML	AML		
	comp=E,1415µm,0.5s					
FSSB			AML	AML		
	comp=N,1835µm,0.4s					
FSSB			AML	AML		
	comp=E,1415µm,0.5s					
FRON	**Frontone**	**4.69 284**	AML	AML		
	comp=N,998µm,0.7s					
FRON			AML	AML		
	comp=E,724µm,0.8s					
FRON			AML	AML		
	comp=N,998µm,0.7s					
FRON			AML	AML		
	comp=E,724µm,0.8s					
EFP	**Efpalio**	**4.70 151**	P	**Pn**	**23 25 22.1 +2.4**	
LJU	**Ljubljana**	**4.72 319**	AML	AML		
	comp=E,3395µm,1.1s					
LJU			AML	AML		
	comp=N,3685µm,1.3s					
LJU			AML	AML		
	comp=N,3685µm,1.3s					
LJU			AML	AML		
	comp=E,3395µm,1.1s					
LJU	**Ljubljana**	**4.72 319**	*e*Pn	**Pn**	**23 25 23.0 +3.1**	
LJU			*e*Sn	**Sn**	**23 26 16.2 +1.7**	
THAS	**Thassos island**	**4.73 113**	P	**Pn**	**23 25 22.1 +2.1**	
MOMA	**Monte Martano**	**4.74 275**	AML	AML		
	comp=N,1148µm,0.4s					
MOMA			AML	AML		
	comp=E,847µm,0.4s					
MOMA			AML	AML		
	comp=N,2174µm,1.6s					
MOMA			AML	AML		
	comp=E,878µm,0.3s					
MOMA			AML	AML		
	comp=N,1148µm,0.4s					
MOMA			AML	AML		
	comp=E,847µm,0.4s					
MOMA			AML	AML		
	comp=N,2174µm,1.6s					
MOMA			AML	AML		
	comp=E,878µm,0.3s					
SERG	**Sergoula**	**4.77 150**	P	**Pn**	**23 25 22.4 +1.8**	
HUMR	**Humele**	**4.77 64**‖	*i*P	**Pn**	**23 25 22.6 +2.0**	
NARO	**Abbazia di Nar**	**4.81 285**	AML	AML		
	comp=N,570µm,1.0s					
NARO			AML	AML		
	comp=E,816µm,1.3s					
NARO			AML	AML		
	comp=N,570µm,1.0s					
NARO			AML	AML		
	comp=E,816µm,1.3s					
ATBU	**Serra di Buran**	**4.81 283**	AML	AML		
	comp=N,2560µm,0.9s					
ATBU			AML	AML		
	comp=E,2555µm,0.9s					
ATBU			AML	AML		
	comp=N,2560µm,0.9s					
ATBU			AML	AML		
	comp=E,2555µm,0.9s					
TRI	**Trieste**	**4.89 312**	*e*Pn	**Pn**	**23 25 24.3 +2.0**	
TRI			*e*Sn	**Sn**	**23 26 17.9 -0.8**	
TRI			*e*Lg	Lg	23 26 52.5	
TRI	**Trieste**	**4.89 312**	*e*P	**Pn**	**23 25 24.3 +2.0**	
TRI			*e*		23 26 17.9	
TRI	**Trieste**	**4.89 312**	P	**Pn**	**23 25 24.1 +1.8**	
RLS	**Riolos of Patr**	**4.89 156**	P	**Pn**	**23 25 22.8 +0.5**	
BUD	**Budapest**	**4.91 0**⇑	*e*Pn	**Pn**	**23 25 24.3 +1.8**	
BUD			*e*Sn	**Sn**	**23 26 17.8 -1.3**	
CEL	**Celeste**	**4.92 210**	*e*Pn	**Pn**	**23 25 22.3 -0.3**	
CEL			*e*Sn	**Sn**	**23 26 16.7 -2.7**	
ARR	**Arges**	**4.94 54**‖	*i*P	**Pn**	**23 25 25.4 +2.4**	
VTN	**Vitineika**	**4.95 159**	P	**Pn**	**23 25 23.5 +0.5**	
LKR	**Lokris**	**4.97 141**	P	**Pn**	**23 25 24.3 +1.0**	
MSCL	**Scilla**	**4.98 210**	AML	AML		
	comp=E,1640µm,1.2s					
MSCL			AML	AML		
	comp=E,1640µm,1.2s					
MSCL			AML	AML		
	comp=N,1925µm,0.5s					
MSCL			AML	AML		
	comp=N,1925µm,0.5s					
SOKA	**Soboth**	**4.98 327**	*i* Pn	**Pn**	**23 25 26.5 +3.0**	
	comp=N,30nm,0.3s,SNR=40					
DRGR		**4.98 31**⇑	*i*P	**Pn**	**23 25 24.8 +1.2**	
AOS	**Alonnisos**	**5.03 131**	*e*P	**Pn**	**23 25 22.6 -1.6**	
OBKA	**Obir**	**5.05 323**	*e*Pn	**Pn**	**23 25 28.6 +4.0**	
	comp=N,15nm,0.2s,SNR=15					
OBKA			*e*Sn	**Sn**	**23 26 28.1 +5.3**	
	comp=N,307nm,1.0s					
DRO	**Drossia**	**5.07 155**	P	**Pn**	**23 25 25.4 +0.7**	
MGAB	**Montegabbione**	**5.08 276**	AML	AML		
	comp=N,863µm,1.1s					
MGAB			AML	AML		
	comp=E,772µm,0.4s					
MGAB			AML	AML		
	comp=N,863µm,1.1s					
MGAB			AML	AML		
	comp=E,858µm,0.5s					
MGAB			AML	AML		
	comp=N,804µm,1.1s					
MGAB			AML	AML		
	comp=E,772µm,0.4s					
MGAB			AML	AML		
	comp=E,858µm,0.5s					
MGAB			AML	AML		
	comp=N,804µm,1.1s					
RDO	**Rodhopi**	**5.09 104**	*e*P	**Pn**	**23 25 27.6 +2.6**	
RDO	**Rodhopi**	**5.09 104**	P	**Pn**	**23 25 27.6 +2.6**	
KLV	**Kalavryta, Ach**	**5.13 151**	P	**Pn**	**23 25 27.1 +1.5**	
VOIR		**5.22 55**‖	*i*P	**Pn**	**23 25 29.5 +2.6**	
LTVH	**L˜tav˜rtes,**	**5.23 22**‖	*e*Pn	**Pn**	**23 25 29.5 +2.6**	
ARSA	**Arzberg**	**5.28 333**	*e*Pn	**Pn**	**23 25 30.5 +2.9**	
	comp=N,27nm,0.3s,SNR=32					
PSZ	**Piszkesteto**	**5.38 7**	*e*Pn	**Pn**	**23 25 30.3 +1.2**	
PSZ			*e*Sn	**Sn**	**23 26 28.8 -2.0**	
PSZ			*e*Sg	**Sg**	**23 27 03.1 +1.4**	
PSZ	**Piszkesteto**	**5.38 7**⇑	*i*P	**Pn**	**23 25 30.6 +1.5**	
PSZ	**Piszkesteto**	**5.38 7**‖	*e*Pn	**Pn**	**23 25 30.5 +1.5**	
PSZ			*e*Sn	**Sn**	**23 26 30.4 -0.5**	
PSZ	**Piszkesteto**	**5.38 7**	*e*P	**Pn**	**23 25 30.3 +1.2**	
PSZ			*e*		23 26 28.8	
SOP	**Sopron**	**5.39 342**‖	*e*Pn	**Pn**	**23 25 31.8 +2.7**	
AMT	**Artemida-Makis**	**5.45 157**	P	**Pn**	**23 25 30.4 +0.4**	
ALN	**Alexandroupoli**	**5.54 105**	*e*P	**Pn**	**23 25 32.4 +1.3**	
ALN	**Alexandroupoli**	**5.54 105**	*e*Pn	**Pn**	**23 25 33.3 +2.2**	
ALN			*e*Sg	**Sg**	**23 27 04.0 -2.8**	
ALN	**Alexandroupoli**	**5.54 105**	P	**Pn**	**23 25 33.8 +2.7**	
ALN	**Alexandroupoli**	**5.54 105**	*e*P	**Pn**	**23 25 33.3 +2.2**	
MYKA	**Terra Mystica**	**5.57 319**	*e*Pn	**Pn**	**23 25 34.6 +3.0**	
	comp=N,14nm,0.3s,SNR=10					
MYKA			Sn	**Sn**	**23 26 39.5 +4.0**	
	comp=N,26nm,0.2s					
ENEZ	**Enez**	**5.67 106**	*e*P	**Pn**	**23 25 35.9 +2.9**	
DOPR	**Dopca**	**5.71 51**⇑	*i*P	**Pn**	**23 25 36.2 +2.7**	
ZST	**Bratislava**	**5.78 347**	*e*P	**Pn**	**23 25 36.1 +1.7**	
ZST			*e*		23 26 39.1	
ZST	**Bratislava**	**5.78 347**	*e*PN	**Pn**	**23 25 36.1 +1.7**	
ZST			*e*SN	**Sn**	**23 26 39.1 -1.4**	
CONA	**Conrad Observa**	**5.79 339**	*e*Pn	**Pn**	**23 25 37.2 +2.6**	
	comp=N,26nm,0.4s,SNR=32					
CONA			*e*Sn	**Sn**	**23 26 44.6 +3.6**	
	comp=N,93nm,0.5s					
MLR	**Muntele Rosu**	**5.80 57**	P	**Pn**	**23 25 37.7 +2.9**	
	comp=N,3.0nm,0.3s,baz=159,slow=15,SNR=36					
MLR			S	**Sn**	**23 26 43.4 +2.1**	
	comp=N,7.0nm,0.3s,baz=227,slow=18,SNR=2.8					
MLR	**Muntele Rosu**	**5.80 57**⇑	*i*P	**Pn**	**23 25 37.7 +2.9**	
EDRB	**Edirne**	**5.80 95**	*e*P	**Pn**	**23 25 36.8 +2.0**	
VLX	**Vlachokerasia**	**5.81 152**	P	**Pn**	**23 25 37.3 +2.3**	
ITM	**Ithomi**	**5.84 156**	*e*P	**Pn**	**23 25 34.4 -1.0**	
ITM	**Ithomi**	**5.84 156**	*e*Pn	**Pn**	**23 25 36.1 +0.8**	
ITM			*e*Sn	**Sn**	**23 26 40.5 -1.7**	
ITM	**Ithomi**	**5.84 156**	P	**Pn**	**23 25 35.8 +0.4**	
PTL	**Penteli**	**5.86 139**	P	**Pn**	**23 25 37.0 +1.4**	
VYHS	**Vyhne**	**5.92 359**	*e*P	**Pn**	**23 25 38.2 +1.8**	
VYHS			*e*		23 26 44.5	
VYHS	**Vyhne**	**5.92 359**	*e*PN	**Pn**	**23 25 38.2 +1.8**	
VYHS			*e*SN	**Sn**	**23 26 44.5 +0.4**	
MODS	**Modra-Piesok**	**5.92 349**	*e*P	**Pn**	**23 25 38.3 +1.9**	
MODS			*e*		23 26 43.6	
MODS	**Modra-Piesok**	**5.92 349**	*e*PN	**Pn**	**23 25 38.3 +1.9**	
MODS			*e*SN	**Sn**	**23 26 43.6 -0.5**	
ERIK	**Erikli-Kesan**	**5.95 106**	*e*P	**Pn**	**23 25 39.3 +2.5**	
VLY	**Voula,Athens**	**5.98 140**	P	**Pn**	**23 25 38.0 +0.8**	
KECS	**Kecovo**	**6.00 10**	*e*P	**Pn**	**23 25 38.7 +1.0**	
KECS			*e*		23 26 44.7	
KECS	**Kecovo**	**6.00 10**	*e*PN	**Pn**	**23 25 38.5 +1.0**	
KECS			*e*SN	**Sn**	**23 26 44.7 -1.3**	
KOLL	**Kolacno**	**6.02 356**	*e*P	**Pn**	**23 25 39.7 +2.0**	
KOLL			*e*		23 26 46.2	
KOLL	**Kolacno**	**6.02 356**	*e*PN	**Pn**	**23 25 39.7 +2.0**	
KOLL			*e*SN	**Sn**	**23 26 46.2 -0.2**	
DID	**Didima**	**6.02 146**	P	**Pn**	**23 25 38.0 +0.2**	
KBA	**Koelnbreinsper**	**6.03 320**	*e*Pn	**Pn**	**23 25 41.3 +3.3**	
	comp=N,13nm,0.3s,SNR=20					
KBA			Sn	**Sn**	**23 26 50.4 +3.4**	
	comp=N,77nm,0.7s					
TRPA	**Tarpa**	**6.09 23**⇑	*i*P	**Pn**	**23 25 40.4 +1.7**	
TRPA	**Tarpa**	**6.09 23**‖	*e*Pn	**Pn**	**23 25 40.5 +1.7**	
TRPA			*e*Sn	**Sn**	**23 26 46.2 -2.0**	
EZN	**Ezine**	**6.18 114**	*e*P	**Pn**	**23 25 41.7 +1.8**	
VAE	**Valguarnera**	**6.18 216**	P	**Pn**	**23 25 43.2 +3.2**	
	comp=N,2.0nm,0.3s,baz=356,slow=22,SNR=10					
VAE			S	**Sn**	**23 26 53.6 +3.0**	
	comp=N,7.0nm,0.3s,baz=198,slow=3.2,SNR=3.4					
SIGR	**SIGRI**	**6.19 121**	*e*P	**Pn**	**23 25 42.1 +2.0**	
ABTA	**Abfaltersbach**	**6.22 314**	*i* Pn	**Pn**	**23 25 42.7 +2.1**	
	comp=N,7.9nm,0.2s,SNR=9.5					
ABTA			*e*Sn	**Sn**	**23 26 53.8 +2.1**	
	comp=N,85nm,0.5s					
ABTA			Sg	**Sg**	**23 27 36.4 +7.8**	
	comp=N,368nm,0.8s					
MOA	**Molln**	**6.24 329**	*i* Pn	**Pn**	**23 25 44.8 +4.0**	
	SNR=17					
MOA			Sn	**Sn**	**23 26 55.3 +3.4**	
	comp=N,81nm,0.4s					
JAVC	**Velka Javorina**	**6.35 352**	*e*PN	**Pn**	**23 25 45.6 +3.2**	
PLOR	**Plostina**	**6.41 57**‖	*i*P	**Pn**	**23 25 45.5 +2.4**	
RKY	**Sarkoy-Tekirda**	**6.42 104**	*e*P	**Pn**	**23 25 45.8 +2.5**	
VRI	**Vrincioaia**	**6.46 57**⇑	*i*P	**Pn**	**23 25 45.8 +2.0**	
VLC	**Villacollemand**	**6.47 287**	*e*Pn	**Pn**	**23 25 45.7 +1.8**	
VLC			*e*Sn	**Sn**	**23 26 56.3 -1.2**	
UZH	**Uzhgorod**	**6.48 20**	*e*P	Pn	23 25 49.3 +5.2	
UZH			*e*S	**Sn**	**23 27 05.3 +7.4**	
UZH			MLR	MLR		
	comp=Z,100nm,12.0s					
LANS	**Liptovska Anna**	**6.58 3**	*e*P	**Pn**	**23 25 48.5 +3.0**	
LANS			*e*		23 27 00.2	
LANS	**Liptovska Anna**	**6.58 3**	*e*PN	**Pn**	**23 25 48.5 +3.0**	
LANS			*e*SN	**Sn**	**23 27 00.2 -0.3**	
SBT4	**Kumbag-Tekirda**	**6.63 102**	*e*P	**Pn**	**23 25 48.6 +2.6**	
BUR04	**Bucovina Ar. S**	**6.69 39**	*e*Pn	**Pn**	**23 25 49.9 +2.8**	
BURAR	**Bucovina Array**	**6.69 39**⇑	*i*P	**Pn**	**23 25 50.3 +3.2**	
BUR08	**Bucovina Ar. S**	**6.71 39**	*e*Pn	**Pn**	**23 25 49.9 +2.6**	
KRUC	**Moravsky**	**6.74 345**	*e*PN	**Pn**	**23 25 49.5 +1.9**	
MRMT	**Marmara Adasi**	**6.75 104**	*e*P	**Pn**	**23 25 49.6 +1.8**	
PSN	**Preselentsi**	**6.82 78**	*e*P	**Pn**	**23 25 52.2 +3.5**	
CHOS	**Chios island**	**6.82 125**	*e*P	**Pn**	**23 25 50.2 +1.4**	
TLB	**Topalu**	**6.88 70**⇑	*i*P	**Pn**	**23 25 51.4 +1.9**	
NIE	**Niedzica**	**6.91 7**	*e*P	**Pn**	**23 25 53.1 +3.2**	
NIE			*e*S	**Sn**	**23 27 09.4 +1.1**	
NIE	**Niedzica**	**6.91 7**	*e*P	**Pn**	**23 25 53.1 +3.2**	
NIE			*e*S	**Sn**	**23 27 09.4 +1.1**	
VRAC	**Vranov**	**6.94 347**	P	**Pn**	**23 25 52.3 +1.9**	
	comp=Z,1.5nm,0.3s,baz=189,slow=20,SNR=15					
VRAC			S	**Sn**	**23 27 09.4 +0.3**	
	comp=Z,1.1nm,0.3s,baz=101,slow=19,SNR=2.8					
VRAC			LR	LR	23 29 11.5	
	comp=Z,701nm,18.1s,baz=170,slow=43					
VRAC	**Vranov**	**6.94 347**‖	*i*P	**Pn**	**23 25 53.3 +2.9**	
VRAC	**Vranov**	**6.94 347**	*e*PN	**Pn**	**23 25 53.6 +3.2**	
DKL	**Dikili**	**6.95 118**	*e*P	**Pn**	**23 25 52.7 +2.2**	
CTYL	**Yalikoy Yolu**	**7.01 96**	*e*P	**Pn**	**23 25 53.9 +2.5**	
WTTA	**Wattenberg**	**7.01 314**	*e*Pn	**Pn**	**23 25 54.6 +3.1**	
	comp=Z,7.0nm,0.2s					
WTTA			*i* Sn	**Sn**	**23 27 14.7 +3.5**	
WATA	**Walderalm**	**7.09 315**	*e*Pn	**Pn**	**23 25 55.8 +3.3**	
	comp=Z,12nm,0.2s,SNR=19					
WATA			*e*Sn	**Sn**	**23 27 17.9 +4.8**	
	comp=Z,84nm,0.6s					
TIRR	**Tirgusor**	**7.11 71**	*e*Pn	**Pn**	**23 25 54.8 +2.2**	
TIRR	**Tirgusor**	**7.11 71**⇑	*i*P	**Pn**	**23 25 55.0 +2.4**	
TIRR	**Tirgusor**	**7.11 71**	*e*P	**Pn**	**23 25 54.8 +2.2**	

TREC	**Trest**	7.15	341	*e*PN		**Pn**	**23 25 57.0 +3.7**
TREC	**Trest**	7.15	341	*e*P		**Pn**	**23 25 57.0 +3.7**
URLA	**Izmir**	7.17	123	*e*P		**Pn**	**23 25 57.9 +4.4**
SQTA	**Sankt Quirin**	7.21	313	*i* Pn		**Pn**	**23 25 57.5 +3.3**
	comp=Z,17nm,0.2s,SNR=20						
SQTA				*e*Sn		**Sn**	**23 27 18.1 +2.0**
	comp=Z,235nm,0.7s						
CTKS	**Kestanelik-??a**	7.22	97	*e*P		**Pn**	**23 25 56.5 +2.2**
GEA0	**GERESS Array S**	7.27	331	*e*Pn		**Pn**	**23 25 57.6 +2.6**
MORC	**Moravsky Berou**	7.27	353	*e*Pn		**Pn**	**23 25 56.9 +1.9**
MORC	**Moravsky Berou**	7.27	353	⇑*i*P		**Pn**	**23 25 57.4 +2.4**
MORC	**Moravsky Berou**	7.27	353	*e*P		**Pn**	**23 25 56.9 +1.9**
MORC	**Moravsky Berou**	7.27	353	*e*PN		**Pn**	**23 25 57.4 +2.4**
GEC2	**GERESS Array S**	7.28	331	*e*Pn		**Pn**	**23 25 57.7 +2.6**
GEC2	**GERESS Array S**	7.28	331	*e*P		**Pn**	**23 25 57.7 +2.6**
GERES	**GERESS Array B**	7.28	331	P		**Pn**	**23 25 58.0 +2.9**
	comp=Z,3.0nm,0.3s,baz=157,slow=13,SNR=62						
GERES				S		**Sn**	**23 27 19.1 +1.5**
	comp=Z,4.4nm,0.3s,baz=143,slow=24,SNR=5.1						
GERES				LR	LR		23 29 22.4
	comp=Z,629nm,18.6s,baz=141,slow=42						
OKC	**Ostrava-Krasne**	7.29	356	*e*SN		**Sn**	**23 27 17.0 -0.7**
OKC				AMS	AMS		23 29 10.0
	comp=Z,1μm,11.9s						
BALB	**Balikesir**	7.33	111	*e*P		**Pn**	**23 25 58.7 +3.0**
MOTA	**Moosalm**	7.35	313	*e*Pn		**Pn**	**23 25 59.2 +3.0**
	comp=Z,16nm,0.4s,SNR=32						
MOTA				*e*Sn		**Sn**	**23 27 21.4 +1.9**
	comp=Z,35nm,0.5s						
FETA	**Feichten**	7.37	310	*e*Pn		**Pn**	**23 25 58.3 +2.0**
	comp=Z,11nm,0.4s,SNR=10						
FETA				Sn		**Sn**	**23 27 19.9 0.0**
	comp=Z,68nm,0.7s						
PGF	**Pioggiola**	7.38	273	*e*Pn		**Pn**	**23 25 58.3 +1.8**
	SNR=1.0						
PGF	**Pioggiola**	7.38	273	*e*Pn		**Pn**	**23 25 58.3 +1.8**
PGF	**Pioggiola**	7.38	273	*e*P		**Pn**	**23 25 58.3 +1.8**
FUORN	**Ofenpass-Fuorn**	7.42	306	*e*Pn		**Pn**	**23 25 58.9 +1.6**
BGKT	**Bogazkoy**	7.43	98	*e*P		**Pn**	**23 25 59.2 +2.0**
APE	**Apeiranthos**	7.45	135	*e*P		**Pn**	**23 25 57.3 -0.2**
APE	**Apeiranthos**	7.45	135	⇑*i*P		**Pn**	**23 25 58.5 +1.0**
APE	**Apeiranthos**	7.45	135	*i* P		**Pn**	**23 25 55.7 -1.8**
KWP	**Kalwaria Pacla**	7.51	19	*e*P		**Pn**	**23 26 02.1 +3.8**
KWP				*e*S		Sg	23 28 26.2 +16
KWP	**Kalwaria Pacla**	7.51	19	*e*P		**Pn**	**23 26 02.1 +3.8**
TLCR		7.56	66	⇓*i*P		**Pn**	**23 26 01.4 +2.5**
KHC	**Kasperske Hory**	7.56	332	*e*Pn		**Pn**	**23 26 02.3 +3.3**
KHC				*e*Sn		**Sn**	**23 27 25.2 +0.6**
KHC	**Kasperske Hory**	7.56	332	*e*PN		**Pn**	**23 26 02.6 +3.6**
KHC				*e*SN		**Sn**	**23 27 26.0 +1.4**
KHC				AMS	AMS		23 29 10.0
	comp=Z,800nm,12.0s						
KHC	**Kasperske Hory**	7.56	332	*e*P		**Pn**	**23 26 02.6 +3.6**
KHC				*e*			23 27 26.0
KHC				MLR	MLR		
	comp=Z,800nm,12.0s						
KLYT	**Kilyos**	7.61	97	*e*P		**Pn**	**23 26 01.4 +1.8**
RETA	**Reutte**	7.62	313	*e*Pn		**Pn**	**23 26 02.2 +2.4**
	comp=Z,3.9nm,0.2s						
RETA				*e*Sn		**Sn**	**23 27 27.8 +1.9**
	comp=Z,50nm,0.3s						
KRLC	**Kraliky**	7.66	349	*e*PN		**Pn**	**23 26 04.0 +3.8**
KRLC	**Kraliky**	7.66	349	*e*P		**Pn**	**23 26 04.0 +3.8**
SBT5	**Esenkoy-Cinarc**	7.66	101	*e*P		**Pn**	**23 26 03.6 +3.4**
OJC	**Ojcow**	7.67	4	*e*P		**Pn**	**23 26 03.3 +3.0**
OJC				*e*S		**Sn**	**23 27 25.8 -1.2**
OJC	**Ojcow**	7.67	4	*e*Pn		**Pn**	**23 26 03.4 +3.0**
OJC				*e*Sn		**Sn**	**23 27 25.8 -1.2**
OJC	**Ojcow**	7.67	4	*e*P		**Pn**	**23 26 03.4 +3.0**
OJC				*e*			23 27 25.8
ISK	**Istanbul-Kandi**	7.67	98	*e*P		**Pn**	**23 26 02.2 +1.8**
KAVV	**Kandilli-Istan**	7.67	98	*e*P		**Pn**	**23 26 02.2 +1.8**
DAVOX	**Davos/Dischmat**	7.73	306	P		**Pn**	**23 26 03.5 +2.0**
	comp=Z,7.5nm,0.3s,baz=120,slow=10,SNR=62						
DAVOX				S		**Sn**	**23 27 29.0 0.0**
	comp=Z,15nm,0.3s,baz=84,slow=11,SNR=9.6						
DAVOX				LR	LR		23 29 29.0
	comp=Z,317nm,19.9s,baz=125,slow=41						
BUY	**Buyukada**	7.77	99	*e*P		**Pn**	**23 26 04.8 +3.0**
TUE	**Stuetta**	7.91	303	*e*Pn		**Pn**	**23 26 05.6 +1.7**
TUE				*e*Sn		**Sn**	**23 27 30.1 -3.3**
DPC	**Dobruska-Polom**	7.99	348	*e*PN		**Pn**	**23 26 07.0 +2.2**
DPC				AMS	AMS		23 29 40.0
	comp=Z,1μm,8.4s						
DPC	**Dobruska-Polom**	7.99	348	*e*P		**Pn**	**23 26 07.0 +2.2**
DPC				MLR	MLR		
	comp=Z,1μm,8.4s						
DAVA	**Damuels**	8.00	309	*e*Pn		**Pn**	**23 26 07.7 +2.7**
	comp=Z,5.2nm,0.3s,SNR=8.4						
DAVA				Sn		**Sn**	**23 27 36.7 +1.4**
	comp=Z,1.9nm,0.1s						
YLV	**Yalova**	8.04	101	*e*P		**Pn**	**23 26 08.1 +2.5**
LVV	**L'vov**	8.04	24	*e*P		Pn	23 26 11.1 +5.6
LVV				*e*S		**Sn**	**23 27 40.8 +4.5**
LVV				MLR	MLR		
	comp=N,200nm,9.0s						
LVV				MLR	MLR		
	comp=E,100nm,9.0s						
LVV				MLR	MLR		
	comp=Z,300nm,9.0s						
SILT	**Sile**	8.08	97	*e*P		**Pn**	**23 26 07.7 +1.7**
HRT	**Hereke**	8.18	99	*e*P		**Pn**	**23 26 10.5 +3.0**
SIMA	**Simav-Kutahya**	8.34	111	*e*P		Pn	23 26 15.8 +6.1
MANT	**Manisa**	8.35	116	*e*Pn		**Pn**	**23 26 10.9 +1.0**
KULA	**Kula-Manisa**	8.41	116	*e*P		**Pn**	**23 26 13.0 +2.4**
TVSB	**Tavsanli**	8.51	108	*e*P		**Pn**	**23 26 15.8 +3.8**
SBF	**Sospel**	8.54	283	*e*Pn		**Pn**	**23 26 13.9 +1.5**
	SNR=1.0						
SBF				*e*Sn		**Sn**	**23 27 45.7 -2.8**
	comp=Z,58nm,0.5s						
IDI	**Anoyia**	8.61	146	*e*P		**Pn**	**23 26 09.7 -3.6**
IDI	**Anoyia**	8.61	146	P		**Pn**	**23 26 11.0 -2.3**
	comp=Z,1.0nm,0.3s,baz=302,slow=7.8,SNR=23						
IDI				S		**Sn**	**23 27 42.5 -7.7**
	comp=Z,4.2nm,0.3s,baz=315,slow=20,SNR=5.1						
IDI	**Anoyia**	8.61	146	*e*Pn		**Pn**	**23 26 12.2 -1.1**
IDI				*e*Sn		**Sn**	**23 27 44.1 -6.2**
NKC	**Novy Kostel**	8.89	332	*e*PN		**Pn**	**23 26 21.1 +4.0**
NKC	**Novy Kostel**	8.89	332	*e*P		**Pn**	**23 26 21.1 +4.0**
GULT	**Gulveren**	8.91	100	*e*P		**Pn**	**23 26 20.5 +3.0**
GRFO	**Grafenberg**	8.93	326	*e*Pn		**Pn**	**23 26 19.2 +1.6**
GRFO	**Grafenberg**	8.93	326	*e*P		**Pn**	**23 26 19.2 +1.6**
BRG	**Berggiesshubel**	8.99	339	*e*P		**Pn**	**23 26 22.0 +3.5**
	comp=Z,18nm,1.5s						
	comp=N,792nm,19.7s						
	comp=E,961nm,11.6s						
	comp=Z,734nm,12.5s						
BRG	**Berggiesshubel**	8.99	339	*e*P		**Pn**	**23 26 22.0 +3.5**
BRG				pmax	pmax		
	comp=Z,18nm,1.5s						
BRG				MLR	MLR		
	comp=N,792nm,19.7s						
BRG				MLR	MLR		
	comp=E,961nm,11.6s						
BRG				MLR	MLR		
	comp=Z,734nm,12.5s						
FRF	**La Foret Royal**	9.09	280	*e*Pn		**Pn**	**23 26 22.4 +2.5**
	SNR=1.0						
FRF				*e*Sn		**Sn**	**23 27 59.2 -2.8**
	comp=Z,14nm,0.5s,SNR=1.0						
MBDF	**Montbardon**	9.12	288	*e*Pn		**Pn**	**23 26 20.9 +0.5**
	SNR=1.0						
MBDF				*e*Sn		**Sn**	**23 27 59.9 -3.0**
	comp=Z,83nm,0.8s,SNR=1.0						
SENIN	**Lac Senin/Sane**	9.18	298	*e*Pn		**Pn**	**23 26 22.8 +1.5**
LMR	**La Mourre**	9.19	279	*e*Pn		**Pn**	**23 26 24.4 +3.2**
	SNR=1.0						
LMR				*e*Sn		**Sn**	**23 28 01.3 -3.0**
	comp=Z,5.9nm,0.3s						
BNI	**Bardonecchia**	9.24	290	*e*Pn		**Pn**	**23 26 22.1 +0.1**
BNI	**Bardonecchia**	9.24	290	*e*P		**Pn**	**23 26 22.1 +0.1**
LPG	**La Plagne**	9.29	292	*e*Pn		**Pn**	**23 26 22.9 +0.1**
	SNR=1.0						
LPG				*e*Sn		**Sn**	**23 28 03.4 -3.8**
	comp=Z,102nm,0.7s						
LPL	**La Plagne**	9.30	293	*e*Pn		**Pn**	**23 26 23.9 +0.9**
	SNR=1.0						
LPL				*e*Sn		**Sn**	**23 28 03.5 -4.1**
	comp=Z,43nm,0.4s						
BFO	**Black Forest**	9.44	311	*e*Pn		**Pn**	**23 26 25.8 +1.1**
BFO				*e*Sn		**Sn**	**23 28 07.9 -2.8**
BFO	**Black Forest**	9.44	311	*e*P		**Pn**	**23 26 25.8 +1.1**
BFO				*e*			23 28 07.9
CLL	**Collm**	9.64	337	*e*Pn		**Pn**	**23 26 29.2 +1.8**
CLL	**Collm**	9.64	337	*e*Pn		**Pn**	**23 26 31.0 +3.6**
CLL				*e*Sn		Sn	23 28 00.0 -16
CLL				*e*Sb			23 28 45.0
CLL				*e*Sglp			23 29 12.0
	comp=N,300nm,20.7s						
CLL				*e*Sglp			23 29 12.0
	comp=E,500nm,25.5s						
CLL				*e*Sg			23 29 16.0
CLL				*e*Lmax			23 29 39.0
CLL	**Collm**	9.64	337	*e*P		**Pn**	**23 26 31.0 +3.6**
ORIF	**Oris-en-Rattie**	9.77	288	*e*Pn		**Pn**	**23 26 31.4 +2.1**
	SNR=1.0						
ORIF				*e*Sn		**Sn**	**23 28 15.3 -3.6**
	comp=E,81nm,0.8s,SNR=1.0						
HINF	**Hinteralfeld**	10.04	306	*e*Pn		**Pn**	**23 26 34.5 +1.6**
	SNR=1.0						
HINF				*e*Sn		**Sn**	**23 28 21.8 -3.5**
	comp=E,28nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	10.04	306	*e*Pn		**Pn**	**23 26 34.5 +1.6**
HINF				*e*Sn		**Sn**	**23 28 21.8 -3.5**
CABF	**La Chapelle**	10.05	298	*e*Pn		**Pn**	**23 26 34.5 +1.4**
	SNR=1.0						
CABF				*e*Sn		**Sn**	**23 28 23.5 -2.1**
	comp=E,117nm,1.1s,SNR=1.0						
CABF	**La Chapelle**	10.05	298	*e*Pn		**Pn**	**23 26 34.5 +1.4**
CABF				*e*Sn		**Sn**	**23 28 23.5 -2.1**
CABF	**La Chapelle**	10.05	298	*e*P		**Pn**	**23 26 34.5 +1.4**
CABF				*e*			23 28 23.5
ECH	**Echery**	10.05	308	*e*Pn		**Pn**	**23 26 32.8 -0.2**
ECH	**Echery**	10.05	308	*e*P		**Pn**	**23 26 32.8 -0.2**
CDF	**Champ du Feu**	10.08	309	*e*Pn		**Pn**	**23 26 34.5 +1.0**
	SNR=1.0						
CDF				*e*Sn		**Sn**	**23 28 22.3 -4.1**
	comp=E,83nm,0.9s,SNR=1.0						
CDF	**Champ du Feu**	10.08	309	*e*Pn		**Pn**	**23 26 34.5 +1.0**
CDF				*e*Sn		**Sn**	**23 28 22.3 -4.1**
CDF	**Champ du Feu**	10.08	309	*e*P		**Pn**	**23 26 34.5 +1.0**
CDF				*e*			23 28 22.3
KEST	**Kesra**	10.13	231	P		**Pn**	**23 26 37.5 +3.2**
	comp=E,1.7nm,0.3s,baz=298,slow=3.2,SNR=20						
KEST				LR	LR		23 31 05.7
	comp=E,357nm,19.3s,baz=16,slow=41						
KIZT	**Kizilcal**	10.46	106	*e*P		**Pn**	**23 26 42.4 +3.7**
VIVF	**Saint-Julien-l**	10.61	287	*e*Pn		**Pn**	**23 26 41.5 +0.7**
	SNR=1.0						
VIVF				*e*Sn		**Sn**	**23 28 35.3 -4.1**
	comp=E,4.3nm,0.4s,SNR=1.0						
VIVF	**Saint-Julien-l**	10.61	287	*e*Pn		**Pn**	**23 26 41.5 +0.7**
VIVF				*e*Sn		**Sn**	**23 28 35.3 -4.1**
VIVF	**Saint-Julien-l**	10.61	287	*e*P		**Pn**	**23 26 41.5 +0.7**
VIVF				*e*			23 28 35.3
KIEV	**Kiev**	10.73	37	*e*Pn		**Pn**	**23 26 42.2 -0.1**
	comp=E,6.4nm,1.0s						
KIEV	**Kiev**	10.73	37	*e*P		**Pn**	**23 26 42.2 -0.1**
KIEV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
AKASG	**Malin Array Be**	10.74	37	P		**Pn**	**23 26 44.3 +1.8**
	comp=Z,0.8nm,0.3s,baz=225,slow=12,SNR=12						
AKASG				LR	LR		23 31 27.1
	comp=Z,593nm,19.0s,baz=225,slow=40						
AKBB	**Malin Array Si**	10.74	37	*e*Pn		**Pn**	**23 26 46.7 +4.3**
SSB	**Saint Sauveur**	10.77	289	*e*Pn		**Pn**	**23 26 42.3 -0.6**
SSB	**Saint Sauveur**	10.77	289	*e*P		**Pn**	**23 26 42.3 -0.6**
PAGF	**Fort de Pagny**	11.05	307	*e*Pn		**Pn**	**23 26 49.0 +2.3**
	baz=125						
PAGF				*e*Sn		**Sn**	**23 28 45.6 -4.4**
	comp=Z,100nm,1.2s						
PAGF	**Fort de Pagny**	11.05	307	*e*Pn		**Pn**	**23 26 49.0 +2.3**
PAGF				*e*Sn		**Sn**	**23 28 45.6 -4.4**
LASF	**Ste Croix**	11.13	283	*e*Pn		**Pn**	**23 26 49.0 +1.2**
	SNR=1.0						
LASF	**Ste Croix**	11.13	283	*e*Pn		**Pn**	**23 26 49.0 +1.2**
SFTF	**Sexfontaines**	11.30	305	*e*Pn		**Pn**	**23 26 53.1 +2.9**
	baz=128						
SFTF				*e*Sn		**Sn**	**23 28 51.6 -4.7**
	comp=Z,15nm,0.5s						
SFTF	**Sexfontaines**	11.30	305	*e*Pn		**Pn**	**23 26 53.1 +2.9**
SFTF				*e*Sn		**Sn**	**23 28 51.6 -4.7**
WLF	**Walferdange**	11.38	313	⇑x		Pn	23 26 59.3 +8.1
BR101	**Keskin Array S**	11.41	100	*e*Pn		**Pn**	**23 26 54.3 +2.5**
BR101				*e*Sn		**Sn**	**23 28 58.8 -0.3**
BR131	**Keskin Array S**	11.41	100	*e*Pn		**Pn**	**23 26 53.6 +1.8**
BRTR	**Keskin Array B**	11.41	100	P		**Pn**	**23 26 54.3 +2.5**
	comp=Z,0.4nm,0.3s,baz=281,slow=15,SNR=15						
BRTR				S		**Sn**	**23 28 58.8 -0.3**
	comp=Z,0.1nm,0.3s,baz=272,slow=30,SNR=3.1						
BRTR				LR	LR		23 32 05.9
	comp=Z,244nm,19.8s,baz=284,slow=41						
MEZF	**Maizieres J'vi**	11.42	306	*e*Pn		**Pn**	**23 26 55.4 +3.6**
MEZF				*e*Sn		**Sn**	**23 28 54.9 -4.3**
	comp=Z,30nm,0.7s						
MEZF	**Maizieres J'vi**	11.42	306	*e*Pn		**Pn**	**23 26 55.4 +3.6**
MEZF				*e*Sn		**Sn**	**23 28 54.9 -4.3**
SMF	**Signal de Mont**	11.54	296	*e*Pn		**Pn**	**23 26 53.1 -0.3**
	SNR=1.0						
SMF				*e*Sn		**Sn**	**23 28 56.8 -5.2**
	comp=Z,41nm,0.6s						
SMF	**Signal de Mont**	11.54	296	*e*Pn		**Pn**	**23 26 53.1 -0.3**
SMF				*e*Sn		**Sn**	**23 28 56.8 -5.2**
SMF	**Signal de Mont**	11.54	296	*e*P		**Pn**	**23 26 53.1 -0.3**
SMF				*e*			23 28 56.8
LOR	**Lormes**	11.70	299	*e*Pn		**Pn**	**23 26 56.5 +0.8**
	baz=119,SNR=1.0						
LOR				*e*Sn		**Sn**	**23 29 00.1 -6.0**
	comp=Z,26nm,0.4s						
LOR	**Lormes**	11.70	299	*e*Pn		**Pn**	**23 26 56.5 +0.8**
LOR				*e*Sn		**Sn**	**23 29 00.1 -6.0**
LOR	**Lormes**	11.70	299	*e*P		**Pn**	**23 26 56.5 +0.8**
LOR				*e*			23 29 00.1
SSF	**Saint Saulge**	11.87	297	*e*Pn		**Pn**	**23 26 58.0 +0.1**
	SNR=1.0						
SSF				*e*Sn		**Sn**	**23 29 04.6 -5.6**
	comp=Z,27nm,0.7s						
SSF	**Saint Saulge**	11.87	297	*e*Pn		**Pn**	**23 26 58.0 +0.1**
AVF	**Avril sur Loir**	11.90	296	*e*Pn		**Pn**	**23 26 58.0 -0.3**
	SNR=1.0						
AVF				*e*Sn		**Sn**	**23 29 04.0 -6.8**
	comp=Z,40nm,1.0s						
AVF	**Avril sur Loir**	11.90	296	*e*Pn		**Pn**	**23 26 58.0 -0.3**
AVF	**Avril sur Loir**	11.90	296	*e*P		**Pn**	**23 26 58.0 -0.3**
MEM	**Membach**	12.00	316	⇑P		**Pn**	**23 27 03.3 +3.6**
BGF	**Bois d'Agland**	12.18	295	*e*Pn		**Pn**	**23 27 02.2 0.0**
	SNR=1.0						
BGF				*e*Sn		**Sn**	**23 29 12.2 -5.5**
	comp=Z,36nm,0.6s						
BGF	**Bois d'Agland**	12.18	295	*e*Pn		**Pn**	**23 27 02.2 0.0**
BGF	**Bois d'Agland**	12.18	295	*e*P		**Pn**	**23 27 02.2 0.0**
BCLA	**Clavier**	12.25	315	⇓P		Pn	23 27 08.3 +5.2
GIVF	**Givet**	12.34	312	*e*Sn		**Sn**	**23 29 17.1 -4.4**
	comp=Z,2.6nm,0.2s						
GIVF	**Givet**	12.34	312	*e*Sn		**Sn**	**23 29 17.1 -4.4**
DOU	**Dourbes**	12.46	312	⇑P		**Pn**	**23 27 09.4 +3.5**
CAF	**Calviac**	12.46	287	*e*Pn		**Pn**	**23 27 06.3 +0.2**
	SNR=1.0						
CAF	**Calviac**	12.46	287	*e*Pn		**Pn**	**23 27 06.3 +0.2**
CAF	**Calviac**	12.46	287	*e*P		**Pn**	**23 27 06.3 +0.2**
HYF	**Humbligny**	12.50	298	*e*Pn		**Pn**	**23 27 07.4 +0.9**
HYF				*e*Sn		**Sn**	**23 29 19.7 -5.8**
HYF	**Humbligny**	12.50	298	*e*Pn		**Pn**	**23 27 07.4 +0.9**
TCF	**Toulx Ste Croi**	12.55	293	*e*Pn		**Pn**	**23 27 07.1 -0.2**
	SNR=1.0						
TCF				*e*Sn		**Sn**	**23 29 20.9 -6.0**
	comp=Z,31nm,0.9s						
TCF	**Toulx Ste Croi**	12.55	293	*e*Pn		**Pn**	**23 27 07.1 -0.2**
TCF	**Toulx Ste Croi**	12.55	293	*e*P		**Pn**	**23 27 07.1 -0.2**
RJF	**Les Rejaudoux**	12.89	288	*e*Pn		**Pn**	**23 27 12.4 +0.6**
	SNR=1.0						
RJF	**Les Rejaudoux**	12.89	288	*e*Pn		**Pn**	**23 27 12.4 +0.6**
RJF	**Les Rejaudoux**	12.89	288	*e*P		**Pn**	**23 27 12.4 +0.6**
NACGM	**Naroch**	13.35	20	*e*		**Pn**	**23 27 20.0 +1.9**
MFF	**Saint Martin d**	14.21	293	*e*Pn		**Pn**	**23 27 29.6 -0.3**
	SNR=1.0						
MFF	**Saint Martin d**	14.21	293	*e*Pn		**Pn**	**23 27 29.6 -0.3**
MFF	**Saint Martin d**	14.21	293	*e*P		**Pn**	**23 27 29.6 -0.3**
FLN	**La Foliniere**	14.93	301	*e*Pn		**Pn**	**23 27 40.7 +1.0**
	baz=118,SNR=1.0						
FLN				*e*Sn		**Sn**	**23 30 17.1 -7.8**
FLN	**La Foliniere**	14.93	301	*e*Pn		**Pn**	**23 27 40.7 +1.0**
FLN				*e*Sn		**Sn**	**23 30 17.1 -7.8**
FLN	**La Foliniere**	14.93	301	*e*P		**Pn**	**23 27 40.7 +1.0**
FLN				*e*			23 30 17.1
GRR	**Gorron**	15.07	299	*e*Pn		**Pn**	**23 27 43.2 +1.7**
	SNR=1.0						
GRR	**Gorron**	15.07	299	*e*Pn		**Pn**	**23 27 43.2 +1.7**
GRR	**Gorron**	15.07	299	*e*P		**Pn**	**23 27 43.2 +1.7**
MMAI	**Mount Meron Ar**	16.08	121	P		**Pn**	**23 27 55.3 +0.4**
	comp=Z,1.0nm,0.3s,baz=333,slow=10,SNR=12						
MMAI				LR	LR		23 35 17.4
	comp=Z,74nm,20.8s,baz=290,slow=41						
VSR	**Storozhevoye**	16.23	51	*e*P		**Pn**	**23 27 55.0 -1.6**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.4s						
QUIF	**Quistinic**	16.47	297	*e*Pn		**Pn**	**23 28 00.2 +0.6**
	SNR=1.0						
QUIF	**Quistinic**	16.47	297	*e*Pn		**Pn**	**23 28 00.2 +0.6**
QUIF	**Quistinic**	16.47	297	*e*P		**Pn**	**23 28 00.2 +0.6**
VSU	**Vasula**	16.63	14	*i* P		**Pn**	**23 27 59.1 -2.5**
LPSR	**Galich'ya Gora**	16.72	46	*e*P		**Pn**	**23 28 02.4 -0.4**
LPSR				pmax	pmax		
	comp=Z,10.0nm,1.7s						
OBN	**Obninsk**	17.00	36	P		**Pn**	**23 28 05.9 -0.5**
	comp=Z,0.3nm,0.3s,baz=241,slow=9.8,SNR=5.4						
OBN				LR	LR		23 35 05.5
	comp=Z,102nm,20.2s,baz=230,slow=38						
OBN	**Obninsk**	17.00	36	*e*Pn		**Pn**	**23 28 06.1 -0.3**
	comp=Z,26nm,1.0s						
OBN	**Obninsk**	17.00	36	⇑*e*P		**Pn**	**23 28 03.4 -2.9**
OBN				pmax	pmax		
	comp=Z,25nm,1.2s						
OBN				MLR	MLR		
	comp=Z,362nm,16.0s						
KIV	**Kislovodsk**	17.31	77	*e*Pn		**P**	**23 28 12.5 +0.7**
	comp=Z,6.6nm,0.9s						
KIV	**Kislovodsk**	17.31	77	*e*P		**Pn**	**23 28 07.5 -2.8**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,75nm,14.0s						
KVAR	**Kislovodsk Arr**	17.31	77	P		**P**	**23 28 12.5 +0.6**
	baz=204,slow=17,SNR=3.0						
KBZ	**Khabaz**	17.48	78	P		**P**	**23 28 14.4 +0.9**
	comp=Z,0.1nm,0.3s,baz=266,slow=15,SNR=4.4						
KBZ				LR	LR		23 36 28.7
	comp=Z,94nm,20.4s,baz=256,slow=42						
ESDC	**Sonseca Array**	17.52	268	P		**P**	**23 28 14.7 +0.5**
	comp=Z,0.1nm,0.3s,baz=66,slow=13,SNR=2.6						
ESDC				LR	LR		23 35 18.4
	comp=Z,149nm,19.4s,baz=45,slow=38						
ASF	**Jabal al Asfar**	17.59	120	P		**P**	**23 28 16.5 +1.6**
	comp=Z,0.0nm,0.3s,baz=264,slow=9.2,SNR=1.7						
VRH	**Novokhopyorsk**	17.72	53	*e*P		**Pn**	**23 28 13.6 -1.6**
VRH				pmax	pmax		
	comp=Z,8.0nm,0.4s						
MOS	**Moscow**	17.87	36	*e*P		**Pn**	**23 28 13.8 -3.3**
MOS				pmax	pmax		
	comp=Z,37nm,0.8s						
MOS				MLR	MLR		
	comp=Z,600nm,18.0s						
HFS	**Hagfors**	17.88	351	P		**P**	**23 28 18.4 +0.5**
	comp=Z,1.5nm,0.3s,baz=172,slow=12,SNR=24						
HFS				LR	LR		23 35 17.3
	comp=Z,168nm,21.7s,baz=170,slow=37						
ZEI	**Tsey**	18.30	81	*e*P		P	23 28 32.6 +10
ZEI				pmax	pmax		
	comp=Z,10.0nm,1.5s						
NC602	**NORSAR Array S**	18.74	349	*e*P		**P**	**23 28 27.7 +0.4**
NAO01	**NORSAR Array S**	18.94	348	*e*P		**P**	**23 28 29.2 -0.3**
NC405	**NORSAR Array S**	19.08	349	*e*P		**P**	**23 28 31.6 +0.6**
NB2	**NORSAR Subarra**	19.08	348	P		**P**	**23 28 31.5 +0.4**
	comp=Z,3.5nm,0.6s,baz=162,slow=11						
NB200	**NORSAR Array S**	19.08	348	*e*P		**P**	**23 28 31.3 +0.2**
NOA	**NORSAR Array B**	19.08	348	P		**P**	**23 28 31.3 +0.2**
	comp=Z,0.1nm,0.3s,baz=153,slow=10,SNR=12						
NOA				LR	LR		23 37 04.8
	comp=Z,210nm,19.1s

WSAR Wadi Sarin 38.03 108 P **P** 23 31 26.2 -0.9
comp=Z,1.8nm,0.5s,baz=315,slow=10.0,SNR=3.8
AAK Ala-Archa 40.22 70 *e*P **P** 23 31 46.1 +0.8
comp=Z,2.2nm,0.6s
AAK Ala-Archa 40.22 70 *i* P **P** 23 31 41.5 -3.9
AAK pmax pmax
comp=Z,3.0nm,1.1s
KURK Kurchatov 40.73 57 *e*P **P** 23 31 49.4 +0.1
KURK Kurchatov 40.73 57 *i* P **P** 23 31 46.1 -3.2
KURK pmax pmax
comp=Z,2.0nm,1.3s
DBIC Dimbokro 41.51 217 P **P** 23 31 56.2 +0.2
comp=Z,3.4nm,0.5s,baz=8.0,slow=10,SNR=16
DBIC LR LR 23 50 25.4
comp=Z,96nm,18.6s,baz=5.0,slow=38
DBIC Dimbokro 41.51 217 *e*P **P** 23 31 56.2 +0.2
comp=Z,4.3nm,0.8s
DBIC Dimbokro 41.51 217 *e*P **P** 23 31 56.2 +0.2
DBIC pmax pmax
comp=Z,4.0nm,0.8s
TIC Toumodi 41.60 217 *e*P **P** 23 31 56.3 -0.5
KIC Kosan Boka 41.73 217 *e*P **P** 23 31 58.3 +0.4
comp=Z,45nm,1.4s
LIC Lamto 41.98 217 *e*P **P** 23 31 59.6 -0.3
comp=Z,63nm,1.5s
NRIK Noril'sk 43.45 29 P **P** 23 32 11.3 +0.1
comp=Z,1.0nm,0.4s,baz=353,slow=2.2,SNR=4.3
NRIK LR LR 23 52 45.6
comp=Z,262nm,18.6s,baz=258,slow=39
ZAA0 Zalesovo Array 43.74 51 *e*P **P** 23 32 13.6 -0.1
comp=Z,2.3nm,0.8s
ZAA1 Zalesovo Array 43.74 51 *e*P **P** 23 32 13.3 -0.5
ZALV Zalesovo Beam 43.74 51 P **P** 23 32 13.3 -0.5
comp=Z,2.2nm,0.5s,baz=285,slow=9.5,SNR=7.0
MK31 Makanchi Array 44.13 62 *e*P **P** 23 32 17.4 +0.4
MK31 Makanchi Array 44.13 62 *e*P **P** 23 32 17.4 +0.4
MK32 Makanchi Array 44.13 62 *e*P **P** 23 32 17.0 0.0
MK32 *e*PP **PP** 23 34 01.1 +1.4
MKAR Makanchi Array 44.13 62 P **P** 23 32 17.0 0.0
comp=Z,3.2nm,0.6s,baz=279,slow=8.0,SNR=42
MKAR PcP **PP** 23 34 01.1 +1.4
comp=Z,0.6nm,0.7s,baz=291,slow=1.6,SNR=4.0
MKAR LR LR 23 52 33.3
comp=Z,149nm,21.1s,baz=287,slow=38
MK01 Makanchi Array 44.14 62 *e*P **P** 23 32 17.2 0.0
DGZ Jazzator, Alta 46.46 56 *i* P **P** 23 32 33.8 -1.8
DGZ pmax pmax
comp=Z,1.0nm,0.9s
KMBO Kilima Mbogo 46.52 154 P **P** 23 32 37.8 +1.3
comp=Z,0.4nm,0.3s,baz=36,slow=14,SNR=2.2
KMBO Kilima Mbogo 46.52 154 *e*P **P** 23 32 37.8 +1.3
comp=Z,0.8nm,1.1s
KMBO Kilima Mbogo 46.52 154 *e*P **P** 23 32 37.8 +1.3
KMBO pmax pmax
comp=Z,1.0nm,1.1s
WMQ Urumqi 48.76 64 *e*P **P** 23 32 56.3 +2.8
WMQ LR LR
comp=E,180nm,21.5s
WMQ LR LR
comp=Z,170nm,26.3s
PYUN Piuthan 52.99 84 *e*P **P** 23 33 25.2 -0.6
comp=Z,23nm,0.6s
DANN Dangsing 53.42 83 *e*P **P** 23 33 28.6 -0.4
comp=Z,25nm,0.7s
KOLN Koldanda 53.63 84 *e*P **P** 23 33 29.5 -0.9
comp=Z,8.5nm,0.5s
DMN Daman 54.82 83 *e*P **P** 23 33 38.5 -0.7
comp=Z,12nm,0.7s
KKN Kakani 54.85 83 *e*P **P** 23 33 38.1 -1.2
comp=Z,13nm,0.6s
PKIN Phulchoki 55.05 83 *e*P **P** 23 33 39.8 -1.1
comp=Z,12nm,0.6s
PKI Pulchoki 55.06 83 *e*P **P** 23 33 39.8 -1.2
comp=Z,11nm,0.6s
GUN Gumba 55.22 82 *e*P **P** 23 33 41.2 -1.0
comp=Z,17nm,0.8s
JIRN Jiri 55.59 82 *e*P **P** 23 33 44.2 -0.6
comp=Z,10.0nm,0.4s
TIXI Tiksi 55.96 21 LR LR 00 01 19.7
comp=Z,152nm,18.3s,baz=278,slow=40
RAMN Ramite 56.29 83 *e*P **P** 23 33 48.7 -1.0
comp=Z,19nm,0.5s
LSZ Lusaka 58.18 170 *e*P **P** 23 34 03.5 +0.6
comp=Z,2.2nm,0.6s
LSZ Lusaka 58.18 170 *e*P **P** 23 34 03.5 +0.6
LSZ pmax pmax
comp=Z,2.0nm,0.6s
SONA1 Songino Array 58.62 52 *e*P **P** 23 34 05.6 -0.1
SONA0 Songino Array 58.62 52 *e*P **P** 23 34 05.6 -0.2
SONM Songino Array 58.62 52 P **P** 23 34 05.6 -0.2
comp=Z,1.8nm,0.6s,baz=289,slow=8.0,SNR=17
GTA Gaotai 58.84 63 ⇑P **P** 23 34 07.8 +0.4
GTA pP sP 23 34 15.3 +2.2
GTA sP pP 23 34 18.1 +6.6
GTA pmax pmax
comp=Z,4.0nm,0.8s
GTA pmax pmax
comp=Z,48nm,7.1s
GTA LR LR
comp=N,180nm,19.0s
GTA LR LR
comp=E,160nm,19.4s
GTA LR LR
comp=Z,130nm,18.1s
GTA Gaotai 58.84 63 *e*P P 23 34 18.0 +11
GTA pP sP 23 34 23.0 +10
GTA sP pP 23 34 25.0 +13
GTA pmax pmax
comp=Z,3.0nm,1.4s
ULN Ulaanbaatar 58.99 52 *e*P **P** 23 34 08.4 0.0
comp=Z,0.9nm,0.4s
ULN Ulaanbaatar 58.99 52 *e*P **P** 23 34 08.4 0.0
ULN pmax pmax
comp=Z,1.0nm,0.4s
LZH Lanzhou 63.32 65 *e*P **P** 23 34 38.1 +0.2
LZH pP pP 23 34 41.3 -0.8
LZH sP sP 23 34 42.8 -0.9
LZH *e*PP **PP** 23 36 58.0 +1.1
LZH pmax pmax
comp=Z,21nm,1.3s
LZH pmax pmax
comp=Z,78nm,7.8s
HHC Hu-ho-hao-te 65.54 56 *e*P **P** 23 34 53.0 +0.7
HHC S **S** 23 43 35.3 -1.8
HHC pmax pmax
comp=Z,14nm,1.1s
HHC pmax pmax
comp=Z,280nm,6.7s
HHC LR LR
comp=N,390nm,18.1s
HHC LR LR
comp=E,290nm,14.7s
HHC LR LR
comp=Z,730nm,15.3s
CD2 Chengdu 66.27 69 *e*P **P** 23 34 56.5 -0.5
XAN Xi'an 67.89 64 P **P** 23 35 07.4 +0.1
XAN pP pP 23 35 12.0 +0.4
XAN pmax pmax
comp=Z,10.0nm,0.6s
YKA Yellowknife Ar 68.87 339 P **P** 23 35 12.8 0.0
comp=Z,3.5nm,1.0s,baz=40,slow=5.7,SNR=3.6
YKB5 Yellowknife Ar 68.87 339 *e*P **P** 23 35 12.8 0.0
CHTO Chiang Mai 70.24 82 *e*P **P** 23 35 21.2 -0.8
CHTO Chiang Mai 70.24 82 *e*P **P** 23 35 21.2 -0.8
CHTO Chiang Mai 70.24 82 P **P** 23 35 22.1 +0.1
comp=Z,29nm,1.2s,comp=Z,0.1nm
CMMT Chiang Mai 70.24 82 P **P** 23 35 22.0 -0.1
comp=Z,6.5nm,1.2s,comp=Z,0.0nm
CM31 Chiang Mai Arr 70.46 83 *e*P **P** 23 35 22.7 -0.7
CMAR Chiang Mai Arr 70.46 83 P **P** 23 35 22.7 -0.7
comp=Z,3.1nm,0.5s,baz=304,slow=7.2,SNR=21
CM01 Chiang Mai Arr 70.50 83 *e*P **P** 23 35 22.7 -0.9
LAMP Lampang 70.92 82 P **P** 23 35 27.3 +1.1
BOSA Boshof 71.07 174 P **P** 23 35 26.4 -0.5
comp=Z,2.2nm,0.5s,baz=354,slow=6.3,SNR=16
SUKH Sukhothai 71.58 83 P **P** 23 35 32.6 +2.4
comp=Z,2.5nm,0.6s,comp=Z,0.0nm
CN2 Changchun 71.73 47 *e*P **P** 23 35 30.8 +0.1
CN2 pmax pmax
comp=Z,10.0nm,0.6s
DAWY Dawson 72.33 350 *e*P **P** 23 35 34.8 +0.8
comp=Z,6.5nm,1.0s
MDM Murphy Dome 72.34 354 *e*P **P** 23 35 34.7 +0.6
comp=Z,5.2nm,1.0s
IL1 Eielson Array 72.42 354 *e*P **P** 23 35 34.6 +0.1
ILAR Eielson Array 72.42 354 P **P** 23 35 34.4 -0.1
comp=Z,0.6nm,0.6s,baz=5.4,slow=4.1,SNR=12
ILB Eielson Array 72.42 354 *e*P **P** 23 35 34.4 -0.1
DHY Denali Highway 74.13 354 *e*P **P** 23 35 45.3 +0.5
comp=Z,7.8nm,1.0s
USRK Ussuriysk Ar. 74.89 43 P **P** 23 35 48.8 -0.5
comp=Z,1.6nm,0.5s,baz=307,slow=4.7,SNR=7.7
NJ2 Nanjing 75.61 60 *e*P **P** 23 35 56.6 +2.9
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
KS15 Wonju Array Si 77.43 50 *e*P **P** 23 36 03.0 -0.8
KSAR Wonju Array Be 77.43 50 P **P** 23 36 03.0 -0.9
KSAR Wonju Array Be 77.43 50 P **P** 23 36 03.0 -0.9
KSRS Korea Array 77.44 50 P **P** 23 36 03.0 -0.9
comp=Z,1.7nm,0.8s,baz=306,slow=5.2,SNR=4.3
LAO LASA Array 78.71 325 *e*P **P** 23 36 12.5 +1.5
EGMT Eagleton 79.09 328 *e*P **P** 23 36 14.2 +1.1
comp=Z,7.8nm,0.8s
DLMT Dillon 82.39 328 *e*P **P** 23 36 31.9 +1.1
comp=Z,3.2nm,0.9s
PHWY Pilot Hill 82.62 321 *e*P **P** 23 36 33.8 +1.5
comp=Z,4.4nm,0.9s
BW06 Boulder Array 83.28 325 *e*P **P** 23 36 34.8 -0.8
comp=Z,9.4nm,1.3s
PD31 Pinedale Array 83.28 325 *e*P **P** 23 36 35.7 +0.1
PDAR Pinedale Array 83.28 325 P **P** 23 36 35.2 -0.4
comp=Z,1.6nm,0.9s,baz=56,slow=3.3,SNR=9.1
PDAR Pinedale Array 83.28 325 *e*P **P** 23 36 35.0 -0.6
AHID Auburn Hatcher 83.93 325 *e*P **P** 23 36 37.1 -1.8
comp=Z,28nm,1.5s
WMOK Wichita Mounta 84.32 313 *e*P **P** 23 36 41.8 +1.0
comp=Z,4.7nm,1.1s
WMOK Wichita Mounta 84.32 313 *e*P **P** 23 36 41.8 +1.0
WMOK pmax pmax
comp=Z,5.0nm,1.1s
AMTX Amarillo 85.75 315 *e*P **P** 23 36 44.4 -3.7
ABTX Abilene, Hawle 86.39 312 *e*P **P** 23 36 49.8 -1.4
comp=Z,73nm,1.4s
WR1 Warramunga Arr 121.74 89 *e*PKPdf **PKPdf** 23 43 00.9 -2.0
WRA Warramunga Arr 121.74 89 PKP **PKPdf** 23 43 00.9 -2.0
comp=Z,0.2nm,0.5s,baz=315,slow=1.9,SNR=5.0
AS31 Alice Springs 123.67 92 *e*PKPdf **PKPdf** 23 43 04.4 -2.2
ASAR Alice Springs 123.67 92 PKP **PKPdf** 23 43 04.4 -2.2
comp=Z,0.4nm,0.5s,baz=320,slow=1.4,SNR=6.6

ROM 13 23:41:37.4±0.1, 39°.914N±0°.005×16°.020E±0°.007, h9km, ML1.3/3, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
MMN	**Mormanno**	**0.03**	**223**	P		Pg	23	41	39.4	+0.4
MMN				S		Sg	23	41	40.4	+0.1
CUC	**Castrocucco**	**0.18**	**297**	P		Pg	23	41	41.9	+0.7
CUC				S		Sg	23	41	44.7	+1.0
CUC				AML		AML				
	comp=E,125μm,1.3s									
CUC				AML		AML				
	comp=N,174μm,1.2s									
CUC				AML		AML				
	comp=E,159μm,0.4s									
CUC				AML		AML				
	comp=N,180μm,1.2s									
CUC				AML		AML				
	comp=E,159μm,0.4s									
CUC				AML		AML				
	comp=N,180μm,1.2s									
CUC				AML		AML				
	comp=N,174μm,1.2s									
CUC				AML		AML				
	comp=E,125μm,1.3s									
T0702	**Acquaformosa (**	**0.20**	**166**	P		Pg	23	41	42.6	+1.0
T0702				S		Sg	23	41	46.1	+1.7
SALB	**San Lorenzo Be**	**0.25**	**98**	P		Pg	23	41	43.1	+0.6
SALB				S		Sb	23	41	47.5	-1.3
SALB				AML		AML				
	comp=E,77μm,0.4s									
SALB				AML		AML				
	comp=N,48μm,0.8s									
SALB				AML		AML				
	comp=N,48μm,0.8s									
SALB				AML		AML				
	comp=E,77μm,0.4s									
SIRI	**Monte Sirino -**	**0.29**	**336**	P		Pg	23	41	44.1	+0.8
SIRI				S		Sb	23	41	49.1	-0.8
SIRI				AML		AML				
	comp=E,98μm,0.3s									
SIRI				AML		AML				
	comp=N,84μm,0.2s									
SIRI				AML		AML				
	comp=N,84μm,0.2s									
SIRI				AML		AML				
	comp=E,98μm,0.3s									
CET2	**Cetraro**	**0.39**	**187**	P		Pb	23	41	45.9	-0.6
CET2				S		Sb	23	41	51.5	-1.1

*IDC **13** 23:43:28.4±0.6, 51°.77N×177°.04E, h0km, mb4.1/23, mb1 4.3/25, mb1mx4.1/57, mbtmp4.1/25, ML4.7/1, Error ellipse: s-maj=20.0km s-min=12.7km az=157.0*
*MOS **13** 23:43:32.1±1.0, 51°.87N×176°.85E, h33km, mb4.6/21, Error ellipse: s-maj=11.4km s-min=9.4km az=112.8*
*ISCJB **13** 23:43:35.2±0.5, 51°.80N±0°.05×176°.94E±0°.04, h62km±4km, mb4.3/59, Error ellipse: s-maj=9.1km s-min=4.3km az=178.2*
*NEIC **13** 23:43:35.0±0.0, 51°.61N×176°.92E, h35km, mb4.4/24, ML4.1(AEIC), After AEIC.*
ISC 13 23:43:35.1±0.7, 51.77N±0°.08×176°.90E±0°.03, h46km±6km, n158, σ1°28/169, mb4.4/59, 1C-2D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
LSSA	**Little Sitkin**	**1.01**	**79**	P		**Pn**	23	43	53.7	+0.7
LSNW	**Little Sitkin**	**1.02**	**78**	P		**Pn**	23	43	53.6	+0.6
LSSE	**Little Sitkin**	**1.05**	**80**	P		**Pn**	23	43	54.1	+0.7
LSSE				S		**Sn**	23	44	08.3	+1.5
LSPA	**Little Sitkin**	**1.05**	**79**	*e*Pn		**Pn**	23	43	54.2	+0.7
AMKA	**Amchitka**	**1.55**	**104**	*e*Pn		**Pn**	23	44	00.1	0.0
AMKA				*e*Sn		**Sn**	23	44	19.3	+0.3
CEAP	**Semis' Anvil P**	**1.67**	**81**	P		**Pn**	23	44	03.5	+1.6
CERB	**Semis' Cerberu**	**1.70**	**83**	P		**Pn**	23	44	03.3	+1.0
CERB				S		**Sn**	23	44	25.4	+2.6
CERAA	**Semis' Rag'd T**	**1.73**	**84**	P		**Pn**	23	44	03.5	+0.7
SMY	**Shemya**	**1.98**	**300**	*e*Pn		**Pn**	23	44	08.1	+2.0
SMY				*e*Sn		**Sn**	23	44	30.7	+1.1
SMY	**Shemya**	**1.98**	**300**	*e*P		**Pn**	23	44	08.1	+2.0
SMY				*e*			23	44	30.7	
GAEA	**Gareloi East**	**2.70**	**88**	*e*Pn		**Pn**	23	44	17.3	+1.2
KIMD	**Kanaga Island**	**3.64**	**88**	P		**Pn**	23	44	30.0	+1.1
KIWB	**Kanaga Island**	**3.69**	**86**	*e*Pn		**Pn**	23	44	30.6	+1.0
ADK	**Adak**	**3.98**	**86**	*e*Pn		**Pn**	23	44	34.2	+0.7
ADK				*e*Sn		**Sn**	23	45	19.9	+1.0
ADK	**Adak**	**3.98**	**86**	*e*P		**Pn**	23	44	34.2	+0.7
ADK				*e*			23	45	19.9	
ATKA	**Atka Island**	**5.52**	**82**	*e*Pn		**Pn**	23	44	55.3	+0.7
ATKA				*e*Sn		**Sn**	23	45	58.7	+2.0
PEA1	**Petropavlovsk-**	**11.80**	**284**	*e*Pn		**Pn**	23	46	20.7	+0.1
PEA1				*e*Sn		**Sn**	23	48	24.6	-6.1
PETK	**Petropavlovsk-** baz=88,slow=14	**11.80**	**284**	Pn		**Pn**	23	46	20.7	+0.1
PETK				Sn		**Sn**	23	48	24.6	-6.1
	baz=79,slow=26									
BILL	**Bilibino**	**17.13**	**346**	*e*Pn		**P**	23	47	32.3	+0.3
BILL	**Bilibino**	**17.13**	**346**	*i* P		**P**	23	47	32.4	+0.4
BILL				pmax		pmax				
	comp=Z,7.0nm,1.0s									
KDAK	**Kodiak Island**	**18.49**	**59**	P		**P**	23	47	44.9	-2.1
	comp=Z,2.6nm,0.3s,baz=263,slow=5.7,SNR=26									
RDOG	**Red Dog Mine**	**19.05**	**23**	*e*P		**Pn**	23	47	54.2	0.0
	comp=Z,18nm,0.8s									
BRLK	**Bradley Lake**	**19.64**	**53**	*e*P		**P**	23	47	59.5	-0.1
	comp=Z,19nm,0.8s									
SUA	**Susitna One**	**20.06**	**49**	*e*P		**P**	23	48	03.1	-1.2
	comp=Z,28nm,1.2s									
SEW	**Seward**	**20.41**	**53**	*e*P		**P**	23	48	06.2	-1.8
	comp=Z,24nm,1.0s									
IM3	**Indian Mountai**	**20.52**	**35**	*e*P		**P**	23	48	10.4	+1.2
GHO	**Glory Hole Cre**	**20.98**	**48**	*e*P		**P**	23	48	15.3	+1.1
	comp=Z,8.8nm,0.8s									
TYV	**Tymovskoe**	**21.32**	**281**	*e*P		**P**	23	48	18.5	+0.7
TYV				pmax		pmax				
	comp=Z,600nm,3.7s									
TYV				pmax		pmax				
	comp=Z,23nm,1.6s									
GLI	**Glacier Island**	**21.68**	**51**	*e*P		**P**	23	48	19.9	-1.8
	comp=Z,15nm,0.8s									
FID	**Port Fidalgo**	**21.96**	**52**	*e*P		**P**	23	48	23.8	-0.9
	comp=Z,20nm,1.0s									
DHY	**Denali Highway**	**21.99**	**45**	*e*P		**P**	23	48	25.7	+0.5
	comp=Z,8.8nm,1.0s									
MDM	**Murphy Dome**	**22.18**	**40**	*e*P		**P**	23	48	28.4	+1.4
	comp=Z,25nm,1.6s									
COLA	**College**	**22.31**	**40**	*e*P		**P**	23	48	28.5	+0.2
	comp=Z,3.3nm,0.7s									
COLA	**College**	**22.31**	**40**	*e*P		**P**	23	48	28.5	+0.2
COLA				pmax		pmax				
	comp=Z,3.0nm,0.7s									
KLU	**Klutina**	**22.34**	**50**	*e*P		**P**	23	48	27.1	-1.7
	comp=Z,8.2nm,0.9s									
YSS	**Yuzh-Sakhalins**	**22.62**	**271**	*i* P		**P**	23	48	31.8	0.0
YSS				pmax		pmax				
	comp=Z,41nm,1.3s									
ILAR	**Eielson Array**	**22.67**	**41**	P		**P**	23	48	30.4	-1.8
	comp=Z,0.7nm,0.6s,baz=251,slow=6.9,SNR=8.7									
ILB	**Eielson Array**	**22.67**	**41**	*e*P		**P**	23	48	30.4	-1.8
PAX	**Paxson**	**22.81**	**46**	*e*P		**P**	23	48	34.3	+0.5
	comp=Z,7.4nm,0.8s									
PAX	**Paxson**	**22.81**	**46**	*e*P		**P**	23	48	34.3	+0.5
PAX				pmax		pmax				
	comp=Z,7.0nm,0.8s									
TOLK	**Toolik Lake Re**	**23.25**	**31**	*e*P		**P**	23	48	38.5	+0.3
	comp=Z,7.8nm,0.6s									
EGAK	**Eagle**	**25.05**	**43**	*e*P		**P**	23	48	54.8	+0.2
	comp=Z,45nm,1.9s									
DAWY	**Dawson**	**25.68**	**45**	*e*P		**P**	23	49	01.1	+0.6
	comp=Z,9.5nm,0.8s									
HYT	**Haines Junctio**	**26.36**	**52**	*e*P		**P**	23	49	08.6	+1.9
	comp=Z,7.4nm,0.8s									
YAK	**Yakutsk**	**27.14**	**311**	*i* P		**P**	23	49	12.2	-1.3
YAK				pmax		pmax				
	comp=Z,12nm,0.9s									
KLR	**Kul'dur**	**28.49**	**283**	P		**P**	23	49	25.9	+0.2
	comp=Z,1.9nm,0.4s,baz=77,slow=7.5,SNR=10									
KLR	**Kul'dur**	**28.49**	**283**	*i* P		**P**	23	49	25.5	-0.2
INK	**Inuvik**	**28.70**	**36**	P		**P**	23	49	26.7	-0.7
	comp=Z,1.0nm,0.8s,baz=272,slow=12,SNR=2.7									
INK	**Inuvik**	**28.70**	**36**	*e*P		**P**	23	49	26.7	-0.7
	comp=Z,7.3nm,1.3s									
INK	**Inuvik**	**28.70**	**36**	*e*P		**P**	23	49	26.7	-0.7
INK				pmax		pmax				
	comp=Z,7.0nm,1.3s									
USRK	**Ussuriysk Ar.**	**30.59**	**274**	P		**P**	23	49	44.6	+0.2
	comp=Z,2.2nm,0.7s,baz=79,slow=7.5									
MAJO	**Matsushiro**	**31.23**	**256**	*i* P		**P**	23	49	48.5	-1.7
MAJO				pmax		pmax				
	comp=Z,13nm,1.5s									
H11N2	**WAKE ISLAND Hy**	**32.92**	**198**	T		T	00	25	22.8	
	baz=11,slow=76,SNR=310									
H11N3	**WAKE ISLAND Hy**	**32.93**	**198**	T		T	00	25	19.8	
	baz=11,slow=76,SNR=260									
H11N1	**WAKE ISLAND Hy**	**32.94**	**198**	T		T	00	25	14.5	
	baz=11,slow=76,SNR=251									
H11S1	**WAKE ISLAND Hy**	**34.15**	**197**	T		T	00	26	42.7	
	baz=11,slow=76,SNR=68									
H11S3	**WAKE ISLAND Hy**	**34.16**	**197**	T		T	00	26	58.4	
	baz=11,slow=76,SNR=47									
H11S2	**WAKE ISLAND Hy**	**34.17**	**197**	T		T	00	26	57.2	
	baz=11,slow=76,SNR=32									
BOD	**Bodaibo**	**35.58**	**305**	*e*P		**P**	23	50	26.5	-1.2
BOD				pmax		pmax				
	comp=Z,11nm,0.9s									
HIA	**Hailar**	**35.64**	**289**	*e*P		**P**	23	50	28.1	-0.3
	comp=Z,4.4nm,0.5s									
HIA	**Hailar**	**35.64**	**289**	*i* P		**P**	23	50	26.7	-1.7
HIA				pmax		pmax				
	comp=Z,3.0nm,0.9s									
YKA	**Yellowknife Ar**	**36.90**	**46**	P		**P**	23	50	39.2	+0.3
	comp=Z,1.2nm,0.7s,baz=285,slow=7.5,SNR=3.5									
YKB5	**Yellowknife Ar**	**36.90**	**46**	*e*P		**P**	23	50	39.2	+0.3
KSRS	**Korea Array**	**36.97**	**267**	P		**P**	23	50	41.2	+1.5
	comp=Z,0.9nm,0.5s,baz=60,slow=7.7,SNR=3.4									
KS15	**Wonju Array Si**	**37.00**	**267**	*e*P		**P**	23	50	41.2	+1.2
KS15				*e*pP		**pP**	23	50	54.2	+2.0
KSAR	**Wonju Array Be**	**37.00**	**267**	P		**P**	23	50	41.2	+1.2
NRIK	**Noril'sk**	**42.70**	**328**	PcP		**PcP**	23	53	18.6	+0.8
	comp=Z,0.8nm,0.5s,baz=1.2,slow=1.7,SNR=3.7									
ULN	**Ulaanbaatar**	**43.67**	**294**	*e*P		**P**	23	51	36.2	+0.9
	comp=Z,4.2nm,0.9s									
ULN	**Ulaanbaatar**	**43.67**	**294**	*i* P		**P**	23	51	34.3	-1.0
ULN				pmax		pmax				
	comp=Z,4.0nm,0.9s									
SONA1	**Songino Array**	**44.05**	**294**	*e*P		**P**	23	51	38.9	+0.6
SONA0	**Songino Array**	**44.06**	**294**	*e*P		**P**	23	51	39.2	+0.9
SONA0				*e*PP		**PcP**	23	53	22.9	-0.1
SONM	**Songino Array**	**44.06**	**294**	P		**P**	23	51	39.2	+0.9
	comp=Z,4.2nm,0.6s,baz=61,slow=8.1,SNR=19									
SONM				PcP		**PcP**	23	53	22.9	-0.1
	comp=Z,0.6nm,0.5s,baz=24,slow=3.7,SNR=4.3									
HHC	**Hu-ho-hao-te**	**44.99**	**283**	*e*P		**P**	23	51	46.4	+0.5
HHC				pmax		pmax				
	comp=Z,23nm,1.2s									
HHC				pmax		pmax				
	comp=Z,170nm,5.8s									
NJ2	**Nanjing**	**46.13**	**268**	*e*P		**P**	23	51	55.5	+0.7
NJ2				pmax		pmax				
	comp=Z,13nm,0.5s									
PD31	**Pinedale Array**	**48.72**	**70**	*e*P		**P**	23	52	13.5	-1.6
PDAR	**Pinedale Array**	**48.72**	**70**	P		**P**	23	52	13.5	-1.6
	comp=Z,0.3nm,0.4s,baz=282,slow=2.9,SNR=5.3									
HVS	**Khovu-Aksy**	**49.10**	**304**	*i* P		**P**	23	52	16.7	-1.0
HVS				pmax		pmax				
	comp=Z,7.0nm,1.0s									
XAN	**Xi'an**	**50.95**	**278**	P		**P**	23	52	31.8	-0.1
XAN				pP		sP	23	52	48.3	-1.6
XAN				pmax		pmax				
	comp=Z,4.0nm,0.9s									
ZAA1	**Zalesovo Array**	**51.78**	**311**	*e*P		**P**	23	52	37.2	-0.6
ZAA1				*e*PcP		**PcP**	23	53	50.5	+0.1
ZALV	**Zalesovo Beam**	**51.79**	**311**	P		**P**	23	52	37.2	-0.6
	comp=Z,0.5nm,0.3s,baz=26,slow=6.9,SNR=3.4									
ZALV				PcP		**PcP**	23	53	50.5	+0.1
	comp=Z,1.7nm,0.6s,baz=24,slow=4.9,SNR=6.7									
ZALV	**Zalesovo Beam**	**51.79**	**311**	*e*P		**P**	23	52	36.6	-1.2
ZALV				*e*PcP		**PcP**	23	53	50.6	+0.3
ZALV	**Zalesovo Beam**	**51.79**	**311**	*e*P		**P**	23	52	36.6	-1.2
ZALV				*e*			23	53	50.7	
LZH	**Lanzhou**	**52.69**	**283**	*e*P		**P**	23	52	48.3	+3.3
LZH				pP		sP	23	53	04.0	+1.0
LZH				sP		pP	23	53	11.3	+14
LZH				*e*PP		**PP**	23	54	49.5	+5.3
LZH				pmax		pmax				
	comp=Z,19nm,1.3s									
LZH				pmax		pmax				
	comp=Z,67nm,7.5s									
LZH				LR		LR				
	comp=N,170nm,14.3s									
LZH				LR		LR				
	comp=E,170nm,14.5s									
LZH				LR		LR				
	comp=Z,210nm,18.2s									
GTA	**Gaotai**	**52.92**	**289**	P		**P**	23	52	47.1	+0.5
GTA				pP		sP	23	53	02.9	-1.7
GTA				sP		pP	23	53	09.4	+10
GTA				pmax		pmax				
	comp=Z,7.0nm,1.1s									
GTA				pmax		pmax				

	comp=Z,930nm,19.5s								
ARA0	**ARCESS Array S**	**57.21**	**348**	*e*P		**P**		**23 53 15.7**	**-1.3**
ARCES	**ARCESS Array B**	**57.21**	**348**	P		**P**		**23 53 15.7**	**-1.3**
	comp=Z,4.1nm,1.0s,baz=15,slow=8.4,SNR=3.8								
MK31	**Makanchi Array**	**57.66**	**306**	*e*P		**P**		**23 53 20.0**	**-0.5**
MK31	**Makanchi Array**	**57.66**	**306**	*e*P		**P**		**23 53 20.0**	**-0.5**
MK32	**Makanchi Array**	**57.66**	**306**	*e*P		**P**		**23 53 20.1**	**-0.4**
MK32				*e*PcP		**PcP**		**23 54 13.2**	**0.0**
MKAR	**Makanchi Array**	**57.66**	**306**	P		**P**		**23 53 20.1**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=50,slow=5.5,SNR=40								
MKAR				PcP		**PcP**		**23 54 13.2**	**0.0**
	comp=Z,0.9nm,0.7s,baz=48,slow=4.3,SNR=2.9								
MK01	**Makanchi Array**	**57.67**	**306**	*e*P		**P**		**23 53 19.6**	**-1.0**
BRVK	**Borovoye**	**58.84**	**317**	*e*P		**P**		**23 53 29.0**	**+0.4**
BRVK	**Borovoye**	**58.84**	**317**	*d i*P		**P**		**23 53 28.3**	**-0.3**
BRVK				pmax		pmax			
	comp=Z,6.0nm,0.9s								
ARU	**Arti**	**60.82**	**326**	*e*P		**P**		**23 53 42.1**	**0.0**
	comp=Z,10nm,1.2s								
ARU	**Arti**	**60.82**	**326**	*c i*P		**P**		**23 53 41.9**	**-0.2**
ARU				*PP		**pP**		**23 53 53.4**	**-1.7**
ARU								23 55 54.8	
ARU				S		**S**		**00 01 57.7**	**+1.9**
ARU				pmax		pmax			
	comp=Z,20nm,2.5s								
TX31	**Lajitas Ar. Si**	**61.22**	**78**	*e*P		**P**		**23 53 42.6**	**-2.8**
LTX	**Lajitas**	**61.22**	**78**	*e*P		**P**		**23 53 45.0**	**-0.4**
LTX	**Lajitas**	**61.22**	**78**	*e*P		**P**		**23 53 45.0**	**-0.4**
TXAR	**Lajitas Array**	**61.22**	**78**	P		**P**		**23 53 45.0**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=303,slow=5.9,SNR=6.7								
TXAR	**Lajitas Array**	**61.22**	**78**	P		**P**		**23 53 45.0**	**-0.4**
AAK	**Ala-Archa**	**64.52**	**307**	*e*P		**P**		**23 54 07.3**	**+0.1**
AAK	**Ala-Archa**	**64.52**	**307**	*i*P		**P**		**23 54 06.8**	**-0.4**
AAK				pmax		pmax			
	comp=Z,4.0nm,0.8s								
FIA0	**FINESS Array S**	**64.76**	**345**	*e*P		**P**		**23 54 07.4**	**-0.8**
FIA0	**FINESS Array S**	**64.76**	**345**	*e*P		**P**		**23 54 07.4**	**-0.8**
FINES	**FINESS Array B**	**64.76**	**345**	P		**P**		**23 54 07.4**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=23,slow=10,SNR=6.9								
LSA	**Lhasa**	**64.77**	**286**	*e*P		**P**		**23 54 10.0**	**+0.6**
	comp=Z,3.9nm,0.5s								
ABKAR	**Akbulak array**	**65.97**	**320**	*e*P		**P**		**23 54 16.9**	**+0.6**
KSH	**Kashi**	**66.08**	**304**	P		**P**		**23 54 21.1**	**+3.8**
KSH	**Kashi**	**66.08**	**304**	pP		pP		23 54 37.1	+6.7
KSH	**Kashi**	**66.08**	**304**	PP		PP		23 56 50.1	+7.4
KSH				pmax		pmax			
	comp=Z,29nm,1.0s								
KSH				pmax		pmax			
	comp=Z,220nm,6.7s								
KSH				LR		LR			
	comp=N,460nm,6.5s								
KSH				LR		LR			
	comp=E,360nm,8.1s								
KSH				LR		LR			
	comp=Z,720nm,16.8s								
KK31	**Karatay Array**	**66.11**	**310**	*e*P		**P**		**23 54 17.7**	**+0.4**
KK31	**Karatay Array**	**66.11**	**310**	*e*P		**P**		**23 54 17.7**	**+0.4**
KKAR	**Karatay Array**	**66.11**	**310**	*e*P		**P**		**23 54 17.7**	**+0.4**
KKAR	**Karatay Array**	**66.11**	**310**	*e*P		**P**		**23 54 17.7**	**+0.4**
NB200	**NORSAR Array S**	**66.96**	**352**	*e*P		**P**		**23 54 21.9**	**-0.6**
NOA	**NORSAR Array B**	**66.96**	**352**	P		**P**		**23 54 21.9**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=2.8,slow=5.4,SNR=5.9								
CHTO	**Chiang Mai**	**68.04**	**273**	*e*P		**P**		**23 54 30.8**	**+0.9**
	comp=Z,3.7nm,0.8s								
CHTO	**Chiang Mai**	**68.04**	**273**	*e*P		**P**		**23 54 30.8**	**+0.9**
CHTO				pmax		pmax			
	comp=Z,4.0nm,0.8s								
CM31	**Chiang Mai Arr**	**68.31**	**272**	*e*P		**P**		**23 54 31.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**68.31**	**272**	P		**P**		**23 54 31.9**	**+0.3**
	comp=Z,1.9nm,0.4s,baz=15,slow=7.4,SNR=13								
GUN	**Gumba**	**69.21**	**289**	*e*P		**P**		**23 54 38.2**	**+0.8**
	comp=Z,38nm,0.6s								
JIRN	**Jiri**	**69.21**	**288**	*e*P		**P**		**23 54 38.4**	**+0.9**
	comp=Z,38nm,0.6s								
RAMN	**Ramite**	**69.50**	**288**	*e*P		**P**		**23 54 39.7**	**+0.6**
	comp=Z,31nm,0.5s								
KKN	**Kakani**	**69.65**	**289**	*e*P		**P**		**23 54 40.7**	**+0.7**
	comp=Z,14nm,0.6s								
PKI	**Pulchoki**	**69.74**	**289**	*e*P		**P**		**23 54 41.1**	**+0.4**
	comp=Z,18nm,0.5s								
PKIN	**Phulchoki**	**69.74**	**289**	*e*P		**P**		**23 54 41.1**	**+0.5**
	comp=Z,15nm,0.5s								
DMN	**Daman**	**69.89**	**289**	*e*P		**P**		**23 54 42.2**	**+0.7**
	comp=Z,8.6nm,0.5s								
DANN	**Dangsing**	**70.12**	**291**	*e*P		**P**		**23 54 43.5**	**+0.5**
	comp=Z,22nm,0.7s								
KOLN	**Koldanda**	**70.65**	**290**	*e*P		**P**		**23 54 46.5**	**+0.4**
	comp=Z,10nm,0.7s								
PYUN	**Piuthan**	**70.75**	**291**	*e*P		**P**		**23 54 47.2**	**+0.4**
	comp=Z,30nm,0.9s								
KBL	**Kabul**	**73.45**	**305**	*e*P		**P**		**23 55 02.4**	**-0.4**
	comp=Z,8.6nm,0.8s								
KBL	**Kabul**	**73.45**	**305**	*e*P		**P**		**23 55 02.4**	**-0.4**
KBL				pmax		pmax			
	comp=Z,9.0nm,0.8s								
AKASG	**Malin Array Be**	**74.30**	**339**	P		**P**		**23 55 06.8**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=28,slow=6.3,SNR=4.2								
GEYT	**Alibeck**	**75.94**	**314**	P		**P**		**23 55 17.2**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=298,slow=4.7,SNR=3.6								
CLL	**Collm**	**76.40**	**350**	*e*P		**P**		**23 55 18.0**	**-1.3**
BUR08	**Bucovina Ar. S**	**78.04**	**341**	*e*P		**P**		**23 55 29.2**	**+0.5**
BUR04	**Bucovina Ar. S**	**78.06**	**341**	*e*P		**P**		**23 55 28.8**	**0.0**
MLR	**Muntele Rosu**	**79.94**	**340**	P		**P**		**23 55 40.5**	**+1.4**
	comp=Z,2.3nm,0.9s,baz=259,slow=3.7,SNR=4.6								
WRAB	**Tennant Creek**	**80.49**	**220**	*e*P		**P**		**23 55 41.5**	**-0.6**
	comp=Z,1.7nm,0.4s								
WRAB	**Tennant Creek**	**80.49**	**220**	*e*P		**P**		**23 55 41.5**	**-0.6**
WRAB				pmax		pmax			
	comp=Z,2.0nm,0.4s								
WB2	**Warramunga Arr**	**80.50**	**220**	*e*P		**P**		**23 55 41.4**	**-0.7**
WRA	**Warramunga Arr**	**80.51**	**220**	P		**P**		**23 55 41.8**	**-0.4**
	comp=Z,2.2nm,0.5s,baz=30,slow=5.9,SNR=50								
BR101	**Keskin Array S**	**83.42**	**332**	*e*P		**P**		**23 55 57.6**	**+0.1**
BRTR	**Keskin Array B**	**83.42**	**332**	P		**P**		**23 55 57.6**	**+0.1**
	comp=Z,1.4nm,0.9s,baz=29,slow=2.8,SNR=7.2								
AS31	**Alice Springs**	**84.03**	**219**	*e*P		**P**		**23 56 00.8**	**+0.2**
	comp=Z,0.8nm,0.6s								
ASAR	**Alice Springs**	**84.03**	**219**	P		**P**		**23 56 00.8**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=25,slow=5.4,SNR=16								
STKA	**Stephens Creek**	**88.87**	**209**	P		**P**		**23 56 24.6**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=330,slow=9.0,SNR=3.5								
STKA	**Stephens Creek**	**88.87**	**209**	*e*P		**P**		**23 56 24.6**	**+0.6**
	comp=Z,6.0nm,2.0s								
STKA	**Stephens Creek**	**88.87**	**209**	*e*P		**P**		**23 56 24.6**	**+0.6**
STKA				pmax		pmax			
	comp=Z,6.0nm,2.0s								
MMAI	**Mount Meron Ar**	**89.07**	**328**	P		**P**		**23 56 25.5**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=29,slow=3.3,SNR=3.6								
TOA1	**Torodi Ar. Sit**	**115.22**	**355**	*e*PKPdf		**PKPdf**		**00 02 10.4**	**-1.2**
TORD	**Torodi Ar. Bea**	**115.22**	**355**	PKP		**PKPdf**		**00 02 10.4**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=10,slow=2.2,SNR=4.8								
MAW	**Mawson**	**145.15**	**218**	PKPbc		**PKPbc**		**00 03 04.8**	**-0.8**
	comp=Z,1.7nm,0.4s,baz=90,slow=5.1,SNR=4.1								
BOSA	**Boshof**	**148.66**	**307**	PKPbc		**PKPbc**		**00 03 16.9**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=44,slow=4.4,SNR=6.3								

NCEDC ***13*** *23:50:03.2, 40˚.45N×125˚.97W, h23km*
NEIC ***13*** *23:50:03.2±0.0, 40˚.45N×125˚.97W, h23km, ML3.5(NCEDC), After NCEDC.*
ANF ***13*** *23:50:06.0±1.2, 40˚.56N×125˚.63W, h20km, ML3.6/15, Error ellipse: s-maj=12.8km s-min=6.0km az=67.0*

ISC 13 23:50:02.1±2.3, 40˚49N±0˚.05×125˚9W±0˚.1, h13km, n73, σ1§28/90, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCC	**Jacoby Creek,**	**1.45**	**76**		*e*Pn		**Pn**	**23 50 26.8**	**-1.2**
KHMM	**Horse Mountain**	**1.68**	**76**		*e*Pn		**Pn**	**23 50 30.5**	**-0.8**
KMRM	**Mail Ridge**	**1.68**	**98**		*e*Pn		**Pn**	**23 50 31.2**	**-0.1**
KRMB	**Red Mountain**	**1.82**	**55**		*e*Pn		**Pn**	**23 50 33.1**	**-0.1**
KCPM	**Cahto Peak**	**1.94**	**114**		*e*Pn		**Pn**	**23 50 34.1**	**-0.8**
KBO	**Bosley Butte**	**2.13**	**35**		*e*Pn		**Pn**	**23 50 37.0**	**-0.4**
KRKM	**Rackout Spring**	**2.27**	**113**		*e*Pn		**Pn**	**23 50 38.8**	**-0.6**
O02D	**Mt. Diablo Mer**	**2.38**	**97**	P			**Pn**	**23 50 40.9**	**-0.1**
	baz=277								
O02D				S			**Sn**	**23 51 09.8**	**-0.3**
	baz=277								
L02E	**Cave Junction**	**2.39**	**45**	P			**Pn**	**23 50 40.9**	**-0.1**
	baz=227								
L02E				S			**Sn**	**23 51 08.7**	**-1.6**
	baz=227								
N02D	**Trinity Center**	**2.46**	**78**	P			**Pn**	**23 50 41.3**	**-0.8**
	baz=259,SNR=292								
N02D				S			**Sn**	**23 51 11.2**	**-0.8**
	baz=259								
M02C	**Callahan**	**2.46**	**68**	P			**Pn**	**23 50 41.6**	**-0.5**
	baz=249,SNR=26								
M02C				S			**Sn**	**23 51 10.6**	**-1.5**
	baz=249								
WDC	**Whiskeytown Da**	**2.55**	**87**		*e*Pn		**Pn**	**23 50 42.7**	**-0.4**
GASB	**Alder Springs**	**2.57**	**108**		*e*Pn		**Pn**	**23 50 43.2**	**-0.4**
HOPS	**Hopland Field**	**2.63**	**124**		*e*Pn		**Pn**	**23 50 44.0**	**-0.3**
HOPS					*e*Sn		**Sn**	**23 51 15.5**	**-0.6**
GHLM	**Highland Sprin**	**2.64**	**122**		*e*Pn		**Pn**	**23 50 44.9**	**+0.5**
KEBM	**Edson Butte**	**2.65**	**25**		*e*Pn		**Pn**	**23 50 44.7**	**+0.1**
YBH	**Yreka Blue Hor**	**2.70**	**62**		*e*Pn		**Pn**	**23 50 45.3**	**-0.1**
GHGM	**Hogback Ridge**	**2.72**	**119**		*e*Pn		**Pn**	**23 50 45.7**	**+0.1**
K02D	**Willamette Mer**	**2.76**	**36**	P			**Pn**	**23 50 46.2**	**+0.1**
	baz=218,SNR=1000								
K02D				S			**Sn**	**23 51 17.4**	**-2.0**
	baz=218								
GMKM	**Mount Konoctai**	**2.83**	**121**		*e*Pn		**Pn**	**23 50 48.1**	**+1.0**
NMCNC	**Mill Creek, So**	**2.98**	**129**		*e*Pn		**Pn**	**23 50 48.9**	**-0.2**
J01E	**Myrtle Point**	**3.04**	**28**	P			**Pn**	**23 50 50.0**	**+0.1**
	baz=210,SNR=33								
J01E				S			**Sn**	**23 51 23.6**	**-2.6**
	baz=210								
HUMO	**Hull Mountain**	**3.05**	**45**		*e*Pn		**Pn**	**23 50 50.3**	**+0.2**
HUMO					*e*Sn		**Sn**	**23 51 26.2**	**-0.3**
O03E	**Paynes Creek**	**3.12**	**92**	P			**Pn**	**23 50 50.6**	**-0.5**
	baz=274								
O03E				S			**Sn**	**23 51 27.5**	**-0.8**
	baz=274								
L04D	**Klamath Falls**	**3.20**	**56**	P			**Pn**	**23 50 54.3**	**+2.1**
	baz=238,SNR=172								
DBO	**Dodson Butte**	**3.29**	**36**		*e*Pn		**Pn**	**23 50 54.4**	**+1.0**
M04C	**Macdoel**	**3.31**	**66**	P			**Pn**	**23 50 55.3**	**+1.5**
	baz=248,SNR=26								
LBCM	**Butte Creek Ri**	**3.46**	**83**		*e*Pn		**Pn**	**23 50 57.0**	**+1.1**
ORV	**Oroville**	**3.49**	**104**		*e*Pn		**Pn**	**23 50 55.9**	**-0.3**
I03D	**Drain, OR**	**3.72**	**30**	P			**Pn**	**23 50 59.6**	**+0.4**
	baz=212,SNR=100								
I03D				S			**Sn**	**23 51 41.6**	**-1.3**
	baz=212								
K04D	**Chiloquin, OR**	**3.76**	**54**	P			**Pn**	**23 51 01.5**	**+1.5**
	baz=237,SNR=8.8								
J04D	**Umpqua Nationa**	**3.94**	**44**	P			**Pn**	**23 51 04.4**	**+2.0**
	baz=227,SNR=75								
AFDM	**Forest Hills D**	**4.09**	**111**		*e*Pn		**Pn**	**23 51 05.0**	**+0.7**
AFDM					*e*Sn		**Sn**	**23 51 50.0**	**-2.0**
I04A	**Tendick Farm,**	**4.19**	**37**	P			**Pn**	**23 51 07.4**	**+1.6**
	baz=220								
I04A				S			**Sn**	**23 51 53.9**	**-0.8**
	baz=220								
BEKR	**Beckworth**	**4.28**	**97**		*e*Pn		**Pn**	**23 51 08.0**	**+0.9**
BEKR					*e*Sn		**Sn**	**23 51 57.3**	**+0.4**
MOD	**Modoc Plateau**	**4.44**	**70**		*e*Pn		**Pn**	**23 51 10.4**	**+1.1**
J05D	**Fort Rock, OR**	**4.45**	**50**	P			**Pn**	**23 51 11.2**	**+1.8**
	baz=233,SNR=27								
RUBR	**Rubicon Trail**	**4.64**	**106**		*e*Pn		**Pn**	**23 51 11.8**	**-0.3**
RUBR					*e*Sn		**Sn**	**23 52 08.4**	**+2.5**
H04D	**Lebanon**	**4.65**	**29**	P			**Pn**	**23 51 13.4**	**+1.3**
	baz=211,SNR=11								
H04D				S			**Sn**	**23 52 05.1**	**-0.8**
	baz=211								
CMB	**Columbia Colle**	**4.92**	**118**		*e*Pn		**Pn**	**23 51 17.5**	**+1.7**
CMB					*e*Sn		**Sn**	**23 52 12.1**	**-0.5**
PINE	**Pine Mountain**	**4.94**	**46**		*e*Pn		**Pn**	**23 51 18.3**	**+2.1**
H04A	**Detroit Lake**	**5.00**	**32**		*e*Pn		**Pn**	**23 51 18.2**	**+1.3**
H04A					*e*Sn		**Sn**	**23 52 13.5**	**-1.1**
PNPR	**Pine Nut**	**5.04**	**104**		*e*Pn		**Pn**	**23 51 19.1**	**+1.5**
PAHR	**Pah Rah Range**	**5.04**	**97**		*e*Pn		**Pn**	**23 51 17.2**	**-0.4**
SAO	**San Andreas Ge**	**5.09**	**136**		*e*Pn		**Pn**	**23 51 15.6**	**-2.5**
I05D	**Terrebonne, OR**	**5.11**	**40**	P			**Pn**	**23 51 19.9**	**+1.5**
	baz=223								
BSRM	**Salinas Radio**	**5.12**	**137**		*e*Pn		**Pn**	**23 51 16.9**	**-1.7**
BPCNC	**Pine Canyon**	**5.14**	**138**		*e*Pn		**Pn**	**23 51 16.4**	**-2.4**
JHC	**Johnson Canyon**	**5.28**	**137**		*e*Pn		**Pn**	**23 51 18.3**	**-2.4**
YERR	**Yerington**	**5.33**	**104**		*e*Pn		**Pn**	**23 51 21.9**	**+0.2**
BPOM	**Post Ranch**	**5.34**	**141**		*e*Pn		**Pn**	**23 51 19.9**	**-1.6**
WAKR	**Walker**	**5.36**	**110**		*e*Pn		**Pn**	**23 51 24.0**	**+2.0**
G05D	**Wamic, OR**	**5.81**	**34**	P			**Pn**	**23 51 29.7**	**+1.6**
	baz=217,SNR=5.7								
PMPB	**Monarch Peak**	**5.84**	**135**		*e*Pn		**Pn**	**23 51 27.1**	**-1.4**
I07A	**Izee**	**5.94**	**51**		*e*Pn		**Pn**	**23 51 31.4**	**+1.6**
RYN	**Ryan**	**5.98**	**106**		*e*Pn		**Pn**	**23 51 31.4**	**+0.9**
MDPB	**Devils Postpil**	**6.01**	**116**		*e*Pn		**Pn**	**23 51 32.5**	**+1.4**
OMMB	**Old Mammoth Mi**	**6.08**	**116**		*e*Pn		**Pn**	**23 51 33.5**	**+1.5**
G06A	**Carlson Farm,**	**6.11**	**37**		*e*Pn		**Pn**	**23 51 34.0**	**+1.9**
KVN	**Kaiserville**	**6.17**	**101**		*e*Pn		**Pn**	**23 51 33.4**	**+0.4**
J08A	**Circle Bar Ran**	**6.22**	**60**		*e*Pn		**Pn**	**23 51 35.0**	**+1.2**
G08A	**Pilot Rock**	**6.99**	**44**		*e*Pn		**Pn**	**23 51 46.0**	**+1.7**
HAWA	**Hanford**	**7.49**	**36**		*e*Pn		**Pn**	**23 51 52.2**	**+1.2**
ISA	**Isabella, Lake**	**7.57**	**127**		*e*Pn		**Pn**	**23 51 52.6**	**+0.3**
BMO	**Blue Mountains**	**7.68**	**53**		*e*Pn		**Pn**	**23 51 55.1**	**+1.4**
E08A	**Dider Farm, El**	**7.78**	**37**		*e*Pn		**Pn**	**23 51 56.3**	**+1.3**
D08A	**Wollman Farm,**	**8.27**	**35**		*e*Pn		**Pn**	**23 52 03.5**	**+1.7**
F10A	**Beach Ranch, E**	**8.36**	**46**		*e*Pn		**Pn**	**23 52 04.9**	**+1.8**
GSC	**Goldstone, Bar**	**8.85**	**123**		*e*Pn		**Pn**	**23 52 10.9**	**+1.1**
HLID	**Hailey**	**9.07**	**66**		*e*Pn		**Pn**	**23 52 14.8**	**+1.9**
MCMT	**McKenzie Canyo**	**10.53**	**61**		*e*Pn		**Pn**	**23 52 33.1**	**+0.1**
NLU	**North Lily Min**	**10.57**	**88**		*e*Pn		**Pn**	**23 52 34.0**	**+0.5**
MSO	**Missoula**	**10.72**	**50**		*e*Pn		**Pn**	**23 52 36.7**	**+1.3**

HLW ***13*** *23:54:45.3, 42˚.48N×34˚.23E, h10km±31km, Ml5.2*
NIC ***13*** *23:55:47.8±0.3, 37˚.21N×37˚.60E, h17km, mb4.9, ML4.6*
ISK ***13*** *23:55:48.9, 37˚.27N×37˚.10E, h15km, ML4.9/10*
NEIC ***13*** *23:55:48.9±0.0, 37˚.27N×37˚.11E, h13km, mb4.5/18, ML4.7(ISK), After ISK.*
NEIC Felt [III] at Gaziantep. Also felt at Pazarcik. Felt at Aleppo, Syria.
MOS ***13*** *23:55:48.9±1.1, 37˚.34N×37˚.12E, h11km, mb4.4/25, Error ellipse: s-maj=7.1km s-min=3.8km az=99.3*
DDA ***13*** *23:55:48.7, 37˚.31N×37˚.12E, h23km, Ml4.7*
IDC ***13*** *23:55:48.7±0.5, 37˚.30N×37˚.08E, h0km, mb4.1/24, mb1 4.2/35, mb1mx4.1/48, mbtmp4.1/35, ML3.8/9, MS3.9/16, Ms1 3.9/16, ms1mx3.6/54, Error ellipse: s-maj=9.3km s-min=8.9km az=53.0*
GII ***13*** *23:55:50.0±0.0, 37˚.32N×37˚.12E, h11km, mb4.6/3, MD4.6/3*
DSN ***13*** *23:55:50.4±0.5, 37˚.33N×37˚.57E, h15km, mb4.5/7, Error ellipse: s-maj=8.1km s-min=6.6km az=54.0*

ISC 13 23:55:50.3±0.6, 37˚31N±0˚02×37˚15E±0˚01, h10km±3km, n355, σ1§69/417, mb4.4/53, MS4.0/11, 49C-18D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.15**	**159**			PG	**Pg**	**23 55 52.9**	**-0.7**
GAZ						SG	**Sg**	**23 55 55.9**	**-0.1**
GAZ	**Gaziantep**	**0.15**	**159**			Pg	**Pg**	**23 55 53.0**	**-0.7**
GAZ						Sg	**Sg**	**23 55 55.2**	**-0.8**
KUZU	**Kuzuini**	**0.54**	**186**		*i*P		**Pg**	**23 56 00.4**	**-0.4**
KUZU					*i* S		**Sg**	**23 56 08.3**	**+0.4**
ANDN	**Andirin**	**0.69**	**293**		⇑*i*P		**Pg**	**23 56 02.0**	**-1.6**
ANDN					*i* S		**Sg**	**23 56 11.9**	**-0.8**
ATAB	**Bozova**	**0.93**	**80**		⇑*i*P		**Pg**	**23 56 07.2**	**-1.0**
ATAB					*i* S		**Sg**	**23 56 19.6**	**-0.7**
ELBS	**KAHRAMANMARAS**	**1.01**	**359**		*i*P		**Pg**	**23 56 08.1**	**-1.6**
ELBS					*i* S		**Sg**	**23 56 22.4**	**-0.5**
KOZT	**Kozan**	**1.06**	**279**		PG		**Pg**	**23 56 08.9**	**-1.8**
KOZT					SG		**Sg**	**23 56 24.2**	**-0.3**
AKCD	**Akcadag**	**1.16**	**32**		⇑*i*P		**Pg**	**23 56 10.7**	**-1.8**
AKCD					*i* S		**Sb**	**23 56 28.2**	**+0.5**
TAHT	**Tahtakopru-Hat**	**1.21**	**220**		PN		**Pb**	**23 56 11.0**	**-2.3**
SURC	**SANLIURFA_SURC**	**1.25**	**110**		⇑*i*P		**Pg**	**23 56 12.2**	**-1.7**
SURC					*i* S		**Sg**	**23 56 30.5**	**0.0**
DARE	**Darende-Malaty**	**1.28**	**12**		PN		**Pn**	**23 56 14.0**	**-0.4**
DARE	**Darende-Malaty**	**1.28**	**12**		Pn		**Pn**	**23 56 14.0**	**-0.4**
URFA	**Urfa**	**1.34**	**84**		PN		**Pn**	**23 56 13.7**	**-1.5**
URFA					SN		**Sb**	**23 56 32.8**	**-0.1**
URFA	**Urfa**	**1.34**	**84**		Pn		**Pn**	**23 56 14.3**	**-0.9**
URFA					Sn		**Sb**	**23 56 32.8**	**-0.1**
CUGUR	**Gurin_S˘VAS**	**1.41**	**4**		*i*P		**Pn**	**23 56 15.2**	**-1.0**
CUGUR					*i* S		**Sg**	**23 56 36.0**	**+0.2**
KRTD	**Karatas-Adana**	**1.56**	**243**		PN		**Pn**	**23 56 16.4**	**-1.7**
HEKM	**Malatya_Hekimh**	**1.69**	**22**		⇑*i*P		**Pn**	**23 56 19.2**	**-0.9**
HEKM					*i* S		**Sg**	**23 56 44.3**	**-0.3**
BNN	**Bunyan**	**1.85**	**327**		PN		**Pn**	**23 56 21.7**	**-0.5**
BNN	**Bunyan**	**1.85**	**327**		Pn		**Pn**	**23 56 21.7**	**-0.5**
ELZG	**Elazig**	**1.88**	**50**		⇑*i*P		**Pn**	**23 56 21.6**	**-1.0**
ELZG					*i* S		**Sg**	**23 56 49.8**	**-0.8**
GULE	**Gulek**	**1.89**	**270**		⇑*i*P		**Pn**	**23 56 21.3**	**-1.5**
GULE					*i* S		**Sn**	**23 56 46.1**	**-0.7**

CUALT	**Altinyayla-SIV**	**1.98**	**351**		⇓*i*P		**Pn**	**23 56 24.2**	**+0.1**
CUALT					*i* S		**Sg**	**23 56 53.9**	**-0.1**
MERS	**Mersin**	**2.14**	**259**		PN		**Pn**	**23 56 24.2**	**-2.0**
NIG	**Nigde**	**2.16**	**292**		PN		**Pn**	**23 56 25.4**	**-1.2**
NIG	**Nigde**	**2.16**	**292**		Pn		**Pn**	**23 56 25.7**	**-1.0**
CUSAR	**Sarkisla-SIVAS**	**2.22**	**342**		⇓*i*P		**Pn**	**23 56 26.6**	**-0.7**
CUSAR					*i* S		**Sg**	**23 57 01.1**	**-0.5**
KEMA	**Kemaliye**	**2.22**	**28**		⇑*i*P		**Pn**	**23 56 26.3**	**-1.1**
KEMA					*i* S		**Sb**	**23 56 59.8**	**+1.6**
AVNS	**Nevsehir-Avano**	**2.35**	**310**		*i* P		**Pn**	**23 56 28.4**	**-0.7**
AVNS					*i* S		**Sb**	**23 57 02.0**	**+0.1**
PTK	**Pertek**	**2.37**	**48**		PN		**Pn**	**23 56 29.0**	**-0.5**
PTK	**Pertek**	**2.37**	**48**		Pn		**Pn**	**23 56 29.2**	**-0.3**
KERG	**Konya-Eregli**	**2.41**	**273**		⇑*i*P		**Pn**	**23 56 28.8**	**-1.2**
KERG					*i* S		**Sn**	**23 56 59.5**	**0.0**
ILIC	**ilic-Erzincan**	**2.41**	**27**		PN		**Pn**	**23 56 30.2**	**+0.2**
ILIC	**ilic-Erzincan**	**2.41**	**27**		Pn		**Pn**	**23 56 30.2**	**+0.2**
REFA	**Refahiye_ERZ˘**	**2.44**	**31**		⇑*i*P		**Pg**	**23 56 35.8**	**-1.3**
REFA					*i* S		Sg	23 57 18.4	+10
DIYA	**Diyarbakir**	**2.44**	**75**		⇑*i*P		**Pn**	**23 56 28.6**	**-1.7**
DIYA					*i* S		**Sg**	**23 57 08.6**	**-0.1**
SCER	**sogukcermik**	**2.54**	**360**		*i* P		**Pn**	**23 56 32.2**	**+0.4**
SCER					*i* S		**Sg**	**23 57 14.2**	**+2.1**
KIZK	**Mersin**	**2.54**	**252**		PN		**Pn**	**23 56 30.2**	**-1.5**
KIZK	**Mersin**	**2.54**	**252**		⇑*i*P		**Pn**	**23 56 30.3**	**-1.3**
KIZK					*i* S		**Sn**	**23 57 01.5**	**-1.2**
SVSK	**Karacayir**	**2.60**	**358**		PN		**Pn**	**23 56 32.5**	**+0

35nm,0.3s,baz=300,slow=20,SNR=3.9
HMDT Nahal Hemdat 5.22 195 Pn **Pn 23 57 08.3 -0.2**
ISP Isparta 5.29 278⇑*i*P Pn 23 57 14.5 +5.1
ISP Isparta 5.29 278⇑P Pn 23 57 14.5 +5.1
SLTI Sal'it 5.35 200 Pn **Pn 23 57 10.1 -0.1**
BATM Batumi 5.54 38 P **Pb 23 57 29.7 +2.5**
DSI Dead Sea 5.91 195 Pn **Pn 23 57 17.9 -0.1**
AMAZ Amatzia 6.05 198 Pn **Pn 23 57 20.6 +0.7**
GHAJ Ghor Haditha 6.14 193 Pn **Pn 23 57 21.3 +0.3**
YTIR Yattir 6.17 196 Pn **Pn 23 57 22.4 +0.8**
BGD Bogdanovka 6.37 50 P **Pb 23 57 45.8 +4.3**
AKH Akhalkalaki 6.40 48 P **Pg 23 57 51.5 -1.3**
AKH Akhalkalaki 6.40 48 *e*Pn **Pn 23 57 26.6 +1.9**
AKH *e*Pg **Pg 23 57 52.2 -0.6**
AKH Akhalkalaki 6.40 48⇑*i*P **Pn 23 57 25.5 +0.7**
AKH Akhalkalaki 6.40 48 *e*P **Pn 23 57 26.7 +1.9**
GNI Garni 6.58 62 Pn **Pn 23 57 27.6 +0.3**
1.3nm,0.3s,baz=281,slow=5.7,SNR=7.5
GNI Garni 6.58 62 *e*Pn **Pn 23 57 27.9 +0.7**
GNI *e*Pg Pg 23 57 50.6 -5.6
GNI Garni 6.58 62 P **Pn 23 57 26.4 -0.8**
GNI Garni 6.58 62*ce*P **Pn 23 57 26.4 -0.8**
GNI pmax pmax
comp=Z,35nm,0.8s
ZFRI Zfri 6.94 194 Pn **Pn 23 57 32.5 +0.5**
ONI Oni 7.16 41 P **Pg 23 58 03.6 -3.6**
ONI S **Sg 23 59 31.8 -8.2**
PRNI Paran 7.17 195 Pn **Pn 23 57 35.4 +0.2**
NEY Neytrino 7.30 34 *i* P **Pn 23 57 38.4 +1.2**
TBLG Delisi 7.34 51 P **Pg 23 58 07.8 -3.0**
TBLG S **Pg 23 58 08.2 -2.6**
TBLG Delisi 7.34 51 *e*Pg Pg 23 58 05.7 -5.1
HRFI Mount Harif 7.47 194 Pn **Pn 23 57 39.6 +0.2**
ANN Anapa 7.48 2 *e*P **Pn 23 57 40.8 +1.3**
ANN *e*S **Sn 23 59 10.7 +6.3**
ANN pmax pmax
comp=Z,38nm,1.4s
ANN MLR MLR
comp=Z,740nm,15.0s
YAL Yalta 7.51 343 *e*P **Pn 23 57 39.9 0.0**
YAL pmax pmax
comp=Z,30nm,0.3s
ZEI Tsey 7.53 41 *e*P **Pn 23 57 44.1 +3.7**
ZEI pmax pmax
comp=Z,6.0nm,0.7s
ALU Alushta 7.65 345 *e*P **Pn 23 57 40.3 -1.4**
ALU pmax pmax
comp=Z,35nm,0.6s
SEV Sevastopol' 7.69 341 *e*P **Pn 23 57 40.7 -1.6**
SEV *e*S **Sn 23 59 09.7 +0.3**
SEV pmax pmax
comp=Z,41nm,1.0s
SEV smax smax
comp=N,44nm,0.8s
MBRI Mt Berech 7.73 195 Pn **Pn 23 57 41.8 -1.2**
SUDU Sudak 7.74 349⇑*e*P **Pn 23 57 43.0 0.0**
SUDU pmax pmax
comp=Z,27nm,0.5s
KBZ Khabaz 7.76 33 Pn **Pn 23 57 45.8 +2.5**
comp=Z,0.1nm,0.3s,baz=212,slow=16,SNR=3.3
KBZ LR LR 00 00 46.7
comp=Z,1µm,19.6s,baz=219,slow=38
FEO Feodosiya 7.81 351 *e*P **Pn 23 57 44.0 0.0**
FEO pmax pmax
comp=Z,37nm,0.8s
HNKL Nakhl 7.82 201 P **Pn 23 57 44.5 +0.3**
baz=181
HNKL AMP 23 59 27.7
baz=181
HNKL S 23 59 27.7
baz=181
EIL Elat 7.84 194 Pn **Pn 23 57 43.5 -0.9**
KIV Kislovodsk 7.86 31 *e*Pn **Pn 23 57 42.4 -2.4**
KIV Kislovodsk 7.86 31 *e*P **Pn 23 57 46.9 +2.2**
KIV *e*S **Sn 23 59 16.6 +2.8**
KIV pmax pmax
comp=Z,16nm,1.1s
KIV MLR MLR
comp=Z,399nm,9.0s
KVAR Kislovodsk Arr 7.86 31 LR LR 00 01 13.1
comp=Z,888nm,20.3s,baz=52,slow=41
NCK Nalchik 7.89 37 *i* P **Pn 23 57 45.5 +0.3**
SIM Simferopol' 7.96 344 *e*P **Pn 23 57 47.3 +1.2**
SIM pmax pmax
comp=Z,40nm,0.5s
KARP Karpathos 8.24 261 *e*Pn **Pn 23 57 48.3 -1.6**
SUZ Suez 8.28 207 P **Pn 23 57 51.3 +0.8**
baz=186
HBST Basata 8.32 195 P Pn 23 58 00.1 +9.1
baz=178
GROC Groznyy 8.85 46 *e*P **Pn 23 57 56.1 -2.1**
GROC *e*S **Sn 23 59 35.8 -2.2**
GROC pmax pmax
comp=Z,23nm,1.0s
GROC smax smax
comp=E,67nm,2.1s
GROC smax smax
comp=E,30nm,2.1s
HKAT Jabal Katrina 9.16 198 P Pn 23 58 15.9 +13
baz=181
HKAT AMP 23 59 27.7
baz=181
HKAT S 23 59 27.7
baz=181
MAK Makhachkala 9.73 51 *e*P **Pn 23 58 07.4 -2.9**
MAK *e*S **Sn 23 59 57.2 -2.4**
MAK pmax pmax
comp=Z,246nm,1.2s
GRB Gharib 9.73 203 P **Pn 23 58 09.9 -0.6**
baz=186
TLCR 10.05 324⇓*i*P **Pn 23 58 15.5 +0.8**
TLCR 10.05 324⇓P **Pn 23 58 15.5 +0.8**
IDI Anoyia 10.10 262 Pn **Pn 23 58 13.3 -2.1**
comp=Z,3.1nm,0.3s,baz=94,slow=15,SNR=23
IDI LR LR 00 03 07.4
comp=Z,323nm,20.3s,baz=81,slow=44
IDI Anoyia 10.10 262 *e*Pn **Pn 23 58 14.0 -1.5**
IDI Anoyia 10.10 262⇑*i*P **Pn 23 58 15.1 -0.3**
CFR Carcaliu 10.37 322⇓*i*P **Pn 23 58 19.7 +0.6**
CFR Carcaliu 10.37 322⇓P **Pn 23 58 19.7 +0.6**
TAMRE El Minia 10.94 210 P Pn 23 58 37.2 +10
baz=192
LEOM Leova 11.29 327⇑*i*P **Pn 23 58 31.8 +0.1**
LEOM Leova 11.29 327⇑P **Pn 23 58 31.8 +0.1**
KIS Kishinev 11.47 330 *e*P **Pn 23 58 32.0 -2.1**
KIS *e*LQ LQ 00 02 04.0
KIS LRM MLR 00 04 12.0
comp=Z,500nm,16.0s
KIS Kishinev 11.47 330 *e*P **Pn 23 58 32.0 -2.1**
KIS *e* 00 00 44.0
KIS MLR MLR
comp=Z,500nm,12.0s
KIS MLR MLR
comp=Z,500nm,16.0s
VRI Vrincioaia 11.56 321⇑*i*P Pn 23 58 41.4 +6.0
VRI Vrincioaia 11.56 321⇑P Pn 23 58 41.4 +6.0
PLOR Plostina 11.59 321⇑*i*P Pn 23 58 47.4 +12
PLOR Plostina 11.59 321⇑P Pn 23 58 47.4 +12
MLR Muntele Rosu 11.71 318 Pn **Pn 23 58 39.9 +2.3**
comp=Z,0.1nm,0.3s,baz=296,slow=18,SNR=5.3
MLR Muntele Rosu 11.71 318 *e*Pn **Pn 23 58 38.0 +0.4**
MLR Muntele Rosu 11.71 318⇑*i*P **Pn 23 58 40.9 +3.3**
MLR Muntele Rosu 11.71 318⇑P **Pn 23 58 40.9 +3.3**
VTS Vitosha 11.92 301 *e*Pn **Pn 23 58 40.4 0.0**
VTS Vitosha 11.92 301 *e*P **Pn 23 58 40.4 0.0**
VOIR 12.17 316⇑*i*P **Pn 23 58 48.2 +4.4**
VOIR 12.17 316⇑P **Pn 23 58 48.2 +4.4**
BIZ Bicaz 12.62 323⇓*i*P **Pn 23 58 52.8 +2.9**
LOT Lotru 12.91 313⇑*i*P **Pn 23 58 57.1 +3.2**
BURAR Bucovina Array 13.53 323⇑*i*P **Pn 23 59 04.5 +2.2**
BUR04 Bucovina Ar. S 13.53 323 *e*Pn **Pn 23 59 02.6 +0.2**
BUR08 Bucovina Ar. S 13.56 323 *e*Pn **Pn 23 59 04.2 +1.4**
ARCR ARCALIA 13.59 320⇑*i*P **P 23 59 13.7 +1.5**
CJR Cluj-Napoca 13.75 317⇓*i*P **P 23 59 17.2 +3.2**
VSR Storozhevoye 13.97 5 *e*P **Pn 23 59 08.4 +0.1**
VSR pmax pmax
comp=Z,30nm,1.7s
VRH Novokhopyorsk 14.26 12 *e*P **Pn 23 59 12.0 -0.2**
VRH pmax pmax
comp=Z,30nm,1.4s
DRGR 14.29 316⇑*i*P **P 23 59 21.1 +1.1**
AK11 Malin Array Si 14.53 339 *e*Pn **Pn 23 59 17.9 +2.0**
KIEV Kiev 14.53 340 *e*Pn **Pn 23 59 17.3 +1.4**
KIEV Kiev 14.53 340 *i* P **P 23 59 21.5 -1.0**
SNR=7.9
KIEV Kiev 14.53 340 *e*P **Pn 23 59 17.3 +1.4**
AKASG Malin Array Be 14.53 340 Pn **Pn 23 59 16.4 +0.5**
comp=Z,0.7nm,0.3s,baz=161,slow=9.8,SNR=4.6
AKBB Malin Array Si 14.53 340 *e*Pn **Pn 23 59 16.4 +0.5**
AKBB Malin Array Si 14.53 340 *e*P **Pn 23 59 16.4 +0.5**
TRPA Tarpa 15.21 320⇑*i*P **P 23 59 30.9 +0.9**
TRPA Tarpa 15.21 320⇑*i*Pn **P 23 59 31.0 +0.9**
RAYN Ar Rayn 15.51 150 *i* P **Pn 23 59 30.7 +1.5**
SNR=7.9
KWP Kalwaria Pacla 16.13 324 *e*P **P 23 59 41.1 +0.8**
KWP Kalwaria Pacla 16.13 324 *e*Pn **Pn 23 59 35.4 -1.7**
comp=Z,388nm,0.9s
KWP Kalwaria Pacla 16.13 324 *e*P **Pn 23 59 35.4 -1.7**
KWP pmax pmax
comp=Z,388nm,0.9s
MORH M¯ŧr¡gy, Hung 16.39 309⇓*e*SKKPdf **P 23 59 45.7 +2.5**
PSZ Piszkesteto 16.50 315 *e*Pn **Pn 23 59 42.8 +0.9**
comp=Z,21nm,1.3s
PSZ Piszkesteto 16.50 315⇓*e*SKKPdf **P 23 59 45.6 +1.1**
PSZ Piszkesteto 16.50 315 *e*P **Pn 23 59 42.8 +0.9**
PSZ pmax pmax
comp=Z,21nm,1.3s
GEYT Alibeck 16.63 81 Pn **Pn 23 59 44.1 +0.6**
comp=Z,0.2nm,0.3s,baz=277,slow=16,SNR=7.0
GEYT LR LR 00 07 53.6
comp=Z,144nm,20.0s,baz=335,slow=43
GYA0B ALIBECK ARRAY 16.63 81 *e*Pn **Pn 23 59 42.6 -0.9**
comp=Z,10nm,1.0s
LANS Liptovska Anna 17.44 318 *e*P **Pn 23 59 52.2 -1.4**
OBN Obninsk 17.81 359 P **P 23 59 59.3 +0.5**
comp=Z,0.3nm,0.3s,baz=180,slow=20,SNR=3.0
OBN Obninsk 17.81 359⇓*e*P **P 00 00 01.0 +2.2**
OBN *e*S **S 00 03 20.1 -3.3**
OBN pmax pmax
comp=Z,48nm,2.5s
OBN MLR MLR
comp=Z,241nm,19.0s
MOS Moscow 18.43 1 *e*P **P 00 00 03.9 -1.8**
BEL Belsk 18.55 327 *e*P **Pn 00 00 07.6 +0.4**
ARSA Arzberg 18.77 309 *e*P **Pn 00 00 13.7 +3.7**
comp=Z,8.8nm,0.8s
CONA Conrad Observa 18.86 311 *e*P **Pn 00 00 12.7 +1.7**
comp=Z,9.9nm,1.5s
SOKA Soboth 18.86 307 *es*P **Pn 00 00 13.9 +2.8**
comp=Z,9.9nm,1.0s
VRAC Vranov 19.10 315 P **P 00 00 13.0 -0.1**
comp=Z,1.4nm,0.3s,baz=359,slow=12,SNR=4.5
VRAC LR LR 00 08 38.5
comp=Z,245nm,20.4s,baz=129,slow=40
VRAC Vranov 19.10 315 P **P 00 00 13.0 -0.1**
VRAC pmax pmax
comp=Z,1.0nm,0.3s
VRAC MLR MLR
comp=Z,245nm,20.4s
OBKA Obir 19.11 306 *e*P **Pn 00 00 17.9 +3.7**
comp=Z,16nm,1.3s
SUW Suwalki 19.28 334 *e*P **P 00 00 14.7 -0.3**
comp=Z,53nm,1.1s
SUW Suwalki 19.28 334 *e*P **P 00 00 15.4 +0.4**
SHME Shamm 19.65 119 P **P 00 00 18.8 -0.5**
MYKA Terra Mystica 19.74 306 *e*P **Pn 00 00 24.0 +2.4**
comp=Z,24nm,0.8s,SNR=6.2
MOA Molln 19.80 309 *es*P **Pn 00 00 24.1 +1.9**
comp=Z,21nm,1.2s,SNR=7.6
AKTO Aktyubinsk 19.87 42 P **P 00 00 20.6 -0.9**
comp=Z,0.2nm,0.3s,baz=252,slow=12,SNR=13
AKTO LR LR 00 09 39.5
comp=Z,320nm,19.3s,baz=236,slow=42
ASUD Al Ashush, Dub 20.03 124 P **P 00 00 23.7 +0.3**
KBA Koelnbreinsper 20.08 307 *e*P Pn 00 00 28.9 +3.1
comp=Z,27nm,0.9s
KSP Ksiaz 20.09 319 *e*P Pn 00 00 24.9 -0.8
MSFE Esma-Masafi 20.10 121 P **P 00 00 22.6 -1.7**
ABKAR Akbulak array 20.35 47 *e*P **P 00 00 26.2 -0.6**
UOSS Minazif 20.40 122 P **P 00 00 27.7 +0.2**
UOSS Minazif 20.40 122 P **P 00 00 27.6 +0.1**
HATD Hatta, Dubai 20.43 122 P **P 00 00 28.4 +0.6**
HATD Hatta, Dubai 20.43 122 P **P 00 00 28.5 +0.6**
ASHO Ashiyiah 20.48 123 P **P 00 00 28.5 +0.1**
SNR=5.5
ASHO Ashiyiah 20.48 123 *i* P **P 00 00 28.2 -0.2**
SNR=5.5
ABTA Abfaltersbach 20.51 305 *e*P **P 00 00 27.3 -1.3**
comp=Z,7.9nm,0.7s
GEA0 GERESS Array S 20.55 312 *e*P **P 00 00 29.3 +0.3**
GEC2 GERESS Array S 20.55 312 *e*P **P 00 00 29.9 +0.9**
comp=Z,24nm,1.0s
GERES GERESS Array B 20.55 312 P **P 00 00 29.3 +0.3**
comp=Z,7.8nm,0.7s,baz=113,slow=10,SNR=56
GERES LR LR 00 08 45.4
comp=Z,165nm,19.1s,baz=122,slow=38
PRA Prague 20.69 315 *e*P Pn 00 00 31.9 -0.9
PRA Prague 20.69 315 *e*P Pn 00 00 31.9 -0.9
ALNE Al Ain 20.70 124 P **P 00 00 30.7 -0.1**
KHC Kasperske Hory 20.75 312 *e*P **P 00 00 31.4 +0.2**
comp=Z,7.4nm,0.8s
KHC Kasperske Hory 20.75 312 *e*P **P 00 00 31.3 +0.2**
KHC Kasperske Hory 20.75 312 *e*P **P 00 00 31.3 +0.2**
PVCC Panska Ves 20.85 316 *e*P **P 00 00 32.9 +0.8**
PVCC Panska Ves 20.85 316 *e*P **P 00 00 32.9 +0.8**
GKP Gorka Klasztor 21.12 325 *e*P **P 00 00 35.3 +0.3**
WTTA Wattenberg 21.24 306 *ep*P **P 00 00 41.5 +4.9**
comp=Z,19nm,1.0s
WATA Walderalm 21.31 306 *e*P **P 00 00 41.2 +3.9**
comp=Z,15nm,0.9s
SQTA Sankt Quirin 21.51 306 *es*P **P 00 00 41.6 +2.2**
comp=Z,16nm,0.8s
MOTA Moosalm 21.61 306 *ep*P **P 00 00 42.2 +1.6**
comp=Z,16nm,0.7s,SNR=13
FETA Feichten 21.76 305 *ep*P **P 00 00 47.0 +4.9**
comp=Z,34nm,0.9s,SNR=10
RETA Reutte 21.88 306 *ep*P **P 00 00 45.5 +2.1**
comp=Z,4.9nm,0.5s
FUORN Ofenpass-Fuorn 21.95 304 *e*P **P 00 00 45.3 +1.0**
comp=Z,12nm,0.8s
HOQ Hoqain 22.06 123 P **P 00 00 46.7 +1.3**
CLL Collm 22.10 317 *e*P **P 00 00 46.2 +0.7**
comp=Z,13nm,0.9s
CLL Collm 22.10 317 *e*P **P 00 00 47.0 +1.5**
comp=Z,7.0nm,0.9s
CLL *i* Pmax 00 00 48.5
comp=Z,15nm,0.9s
CLL *es*P **sP 00 00 51.0 +1.5**
CLL *e*PPP PPP 00 01 14.0
CLL *e*S S **00 04 54.0 +5.0**
CLL *e*SSS SSS 00 05 36.0
CLL LmV 00 11 00.0
comp=N,100nm,22.0s
CLL LmV 00 11 00.0
comp=E,300nm,19.8s
CLL Lmax 00 11 00.0
CLL Collm 22.10 317 *e*P **P 00 00 47.0 +1.5**
CLL *i* 00 00 48.5
CLL pmax pmax
comp=Z,198nm,0.9s
VSU Vasula 22.23 345*ce*P **P 00 00 50.2 +3.3**
VSU pmax pmax
comp=Z,63nm,1.0s
DAVOX Davos/Dischmat 22.25 304 P **P 00 00 48.4 +0.9**
comp=Z,11nm,0.6s,baz=121,slow=11,SNR=20
DAVOX LR LR 00 10 18.8
comp=Z,322nm,18.3s,baz=97,slow=39
KEST Kesra 22.37 274 P **P 00 00 48.5 -0.2**
comp=Z,15nm,1.0s,baz=145,slow=7.9,SNR=4.9
KEST Kesra 22.37 274 *e*P **P 00 00 47.4 -1.3**
comp=Z,43nm,1.2s
GRFO Grafenberg 22.38 312 *e*P **P 00 00 48.9 +0.3**
comp=Z,14nm,1.0s
DAVA Damuels 22.39 305 *ep*P **P 00 00 49.4 +0.5**
comp=Z,26nm,0.7s,SNR=9.4
TUE Stuetta 22.53 303 *e*P **P 00 00 51.9 +1.4**
comp=Z,9.3nm,0.8s
BSY Bisya 22.57 124 P **P 00 00 51.5 +0.7**
SMDO Samad 22.92 122 P **P 00 00 56.2 +1.6**
SNR=6.3
WSAR Wadi Sarin 23.19 121 P **P 00 00 58.0 +0.6**
comp=Z,3.9nm,0.9s,baz=317,slow=12,SNR=3.3
SENIN Lac Senin/Sane 23.89 302 *e*P **P 00 01 04.3 0.0**
comp=Z,10.0nm,0.8s
ARU Arti 23.90 30 P **P 00 01 04.2 +0.2**
BNI Bardonecchia 24.09 298 *e*P **P 00 01 06.2 +0.1**
comp=Z,27nm,0.9s
ECH Echery 24.41 306 *e*P **P 00 01 08.9 0.0**
comp=Z,26nm,0.9s
PRGR Permogore 24.92 10 *e*P **P 00 01 12.7 -0.6**
PRGR pmax pmax
comp=Z,17nm,0.7s
SVE Sverdlovsk 25.02 31 *e*P **P 00 01 15.3 +1.1**
SVE pmax pmax
comp=Z,28nm,1.9s
FIA0 FINESS Array S 25.13 347 *e*P **P 00 01 14.7 -0.5**
FINES FINESS Array B 25.13 347 P **P 00 01 14.7 -0.5**
comp=Z,3.9nm,0.6s,baz=151,slow=11,SNR=14
WLF Walferdange 25.46 309⇑P **P 00 01 20.1 +1.8**
comp=Z,12nm,1.4s
SSB Saint Sauveur 25.62 298 *e*P **P 00 01 19.6 -0.3**
comp=Z,50nm,1.9s
KK31 Karatay Array 26.02 67 *e*P **P 00 01 24.1 +0.6**
KKAR Karatay Array 26.02 67 *e*P **P 00 01 24.1 +0.6**
ATD Arta Tunnel 26.18 167 LR LR 00 11 23.9
comp=Z,165nm,21.2s,baz=348,slow=36
DOU Dourbes 26.55 309⇓P **P 00 01 29.0 +0.8**
HFS Hagfors 27.30 334 P **P 00 01 34.7 -0.1**
comp=Z,5.0nm,0.6s,baz=146,slow=11,SNR=9.2
HFS LR LR 00 14 21.5
comp=Z,396nm,18.2s,baz=124,slow=41
BRVK Borovoye 27.85 45*ce*P **P 00 01 39.7 -0.1**
BRVK pmax pmax
comp=Z,6.0nm,2.5s
BVAR Borovoye Array 27.89 45 P **P 00 01 40.2 -0.1**
comp=Z,0.4nm,0.5s,baz=255,slow=5.7,SNR=4.8
BVAR LR LR 00 14 22.8
comp=Z,338nm,21.7s,baz=264,slow=40
NB201 NORSAR Array S 28.79 334 *e*P **P 00 01 48.1 0.0**
NAO01 NORSAR Array S 28.79 333 *e*P **P 00 01 48.6 +0.5**
NB2 NORSAR Subarra 28.81 334 P **P 00 01 47.3 -1.0**
comp=Z,2.7nm,0.7s,baz=134,slow=9.3
NB200 NORSAR Array S 28.81 334 *e*P **P 00 01 47.3 -1.0**
NOA NORSAR Array B 28.81 334 P **P 00 01 47.3 -1.0**
comp=Z,2.1nm,0.6s,baz=128,slow=9.4,SNR=7.7
NOA LR LR 00 15 33.6
comp=Z,169nm,18.2s,baz=140,slow=41
AAK Ala-Archa 28.95 68 P **P 00 01 50.3 +0.3**
comp=Z,1.2nm,0.7s,baz=246,slow=10.0,SNR=2.0
ESDC Sonseca Array 32.06 287 P **P 00 02 16.8 -0.6**
comp=Z,1.1nm,0.8s,baz=68,slow=8.5,SNR=7.0
KURK Kurchatov 32.26 52*ce*P **P 00 02 17.4 -1.4**
KURK pmax pmax
comp=Z,3.0nm,0.8s
ARA0 ARCESS Array S 32.89 352 *e*P **P 00 02 24.3 +0.1**
ARCES ARCESS Array B 32.89 352 P **P 00 02 24.3 +0.1**
comp=Z,4.1nm,1.0s,baz=165,slow=10.0,SNR=6.3
MK31 Makanchi Array 34.42 60 *e*P **P 00 02 38.3 +0.5**
MK32 Makanchi Array 34.42 60 *e*P **P 00 02 38.2 +0.4**
MKAR Makanchi Array 34.42 60 P **P 00 02 38.2 +0.4**
comp=Z,3.4nm,0.6s,baz=271,slow=7.5,SNR=16
MKAR Makanchi Array 34.42 60 *e*P **P 00 02 38.3 +0.5**
comp=Z,27nm,0.6s
MK01 Makanchi Array 34.42 60 *e*P **P 00 02 37.8 -0.1**
ZALV Zalesovo Beam 36.47 47 P **P 00 02 54.8 -0.5**
comp=Z,1.6nm,0.5s,baz=270,slow=9.1,SNR=6.0
ZAA1 Zalesovo Array 36.47 47 *e*P **P 00 02 54.8 -0.5**
DGZ Jazzator, Alta 37.83 55 *i* P **P 00 03 07.6 +0.5**
DGZ pmax pmax
comp=Z,1.0nm,0.7s
WMQ Urumqi 38.45 64 P **P 00 03 09.0 -3.3**
WMQ pP pP 00 03 12.4 -2.9
WMQ pmax pmax
comp=Z,41nm,1.1s
WMQ pmax pmax
comp=Z,110nm,3.6s
WMQ LR LR
comp=E,240nm,21.9s
WMQ LR LR
comp=Z,220nm,21.9s
PYUN Piuthan 39.33 90 *e*P **P 00 03 19.9 -0.2**
comp=Z,3.3nm,0.6s
TOA1 Torodi Ar. Sit 39.73 242 *e*P **P 00 03 21.6 -1.5**
TOA0 Torodi Ar. Sit 39.73 242 *e*P **P 00 03 21.4 -1.7**
comp=Z,4.9nm,1.0s
TORD Torodi Ar. Bea 39.73 242 P **P 00 03 21.6 -1.5**
comp=Z,2.6nm,0.9s,baz=27,slow=10,SNR=11
DANN Dangsing 39.84 89 *e*P **P 00 03 24.2 -0.2**
comp=Z,40nm,0.8s
KOLN Koldanda 39.96 90 *e*P **P 00 03 25.4 +0.1**
comp=Z,8.5nm,0.7s
DMN Daman 41.23 89 *e*P **P 00 03 35.0 -0.9**
comp=Z,19nm,0.8s
KKN Kakani 41.29 89 *e*P **P 00 03 36.2 -0.1**
comp=Z,22nm,1.0s
PKIN Phulchoki 41.48 89 *e*P **P 00 03 37.5 -0.4**
comp=Z,7.7nm,0.6s
PKI Pulchoki 41.49 89 *e*P **P 00 03 38.3 +0.2**
comp=Z,13nm,0.7s
GUN Gumba 41.72 88 *e*P **P 00 03 40.8 +0.9**
comp=Z,34nm,1.0s
NRIK Noril'sk 41.87 24 P **P 00 03 40.6 +0.4**
comp=Z,1.5nm,0.7s,baz=225,slow=10.0,SNR=4.5
NRIK LR LR 00 23 51.3
comp=Z,362nm,20.4s,baz=89,slow=40
JIRN Jiri 42.08 89 *e*P **P 00 03 43.2 +0.3**
comp=Z,19nm,0.8s
RAMN Ramite 42.72 89 *e*P **P 00 03 47.8 -0.2**
comp=Z,25nm,0.7s
DBIC Dimbokro 48.84 242 P **P 00 04 35.0 -1.2**
comp=Z,4.5nm,1.1s,baz=38,slow=6.7,SNR=5.1
DBIC Dimbokro 48.84 242 *e*P **P 00 04 35.0 -1.2**
comp=Z,30nm,1.8s
DBIC Dimbokro 48.84 242 P **P 00 04 35.0 -1.2**
DBIC pmax pmax
comp=Z,5.0nm,1.1s
SONA0 Songino Array 50.48 55 *e*P **P 00 04 49.4 +0.9**
SONM Songino Array 50.48 55 P **P 00 04 49.4 +0.9**
comp=Z,1.1nm,0.6s,baz=280,slow=7.7,SNR=10
ULN Ulaanbaatar 50.90 55 *e*P **P 00 04 51.0 -0.7**
ULN *ep*P **pP 00 04 54.6 -0.1**
ULN Ulaanbaatar 50.90 55 *i* P **P 00 04 52.4 +0.7**
ULN pmax pmax
comp=Z,3.0nm,0.8s
LZH Lanzhou 52.45 70 *e*P **P 00 05 03.8 +0.3**
LZH pP pP 00 05 06.5 0.0
LZH sP sP 00 05 08.8 +1.1
LZH *e*PP **PP 00 07 06.0 +3.9**
LZH pmax pmax
comp=Z,18nm,1.3s
LZH pmax pmax
comp=Z,65nm,7.6s
LZH LR LR
comp=N,150nm,14.6s
LZH LR LR
comp=E,150nm,14.7s
LZH LR LR
comp=Z,200nm,18.1s
CD2 Chengdu 54.51 76 *e*P **P 00 05 15.0 -3.5**
HHC Hu-ho-hao-te 56.24 62 *e*P **P 00 05 30.3 -0.6**
HHC pmax pmax
comp=Z,27nm,1.2s
HHC pmax pmax
comp=Z,130nm,5.4s
KMI Kunming 56.39 82 P **P 00 05 33.5 +1.2**
KMI pmax pmax
comp=Z,14nm,0.9s
CM31 Chiang Mai Arr 56.80 91 *e*P **P 00 05 35.6 +0.6**
CMAR Chiang Mai Arr 56.80 91 P **P 00 05 35.6 +0.6**
comp=Z,0.7nm,0.4s,baz=296,slow=8.3,SNR=6.5
XAN Xi'an 57.09 70 P **P 00 05 35.8 -1.1**
XAN pP pP 00 05 39.8 -0.2
XAN pmax pmax
comp=Z,3.0nm,1.6s
NJ2 Nanjing 65.39 68 *e*P **P 00 06 33.3 +0.1**
NJ2 pmax pmax
comp=Z,20nm,0.5s
BOSA Boshof 66.52 191 P **P 00 06 40.0 -0.4**
comp=Z,1.9nm,0.8s,baz=56,slow=3.6,SNR=3.0
BOSA Boshof 66.52 191 P **P 00 06 40.0 -0.4**
BOSA pmax pmax
comp=Z,2.0nm,0.8s
KS15 Wonju Array Si 69.07 58 *e*P **P 00 06 57.0 +0.6**
KSAR Wonju Array Be 69.07 58 P **P 00 06 57.0 +0.6**
KSRS Korea Array 69.09 58 P **P 00 06 57.0 +0.5**
comp=Z,1.9nm,0.8s,baz=282,slow=6.8,SNR=3.3
KSRS LR LR 00 40 14.0
comp=Z,179nm,18.1s,baz=327,slow=39
KSRS Korea Array 69.09 58 P **P 00 06 57.0 +0.5**
KSRS pmax pmax
comp=Z,2.0nm,0.8s
KSRS MLR MLR
comp=Z,179nm,18.1s
MJAR Matsushiro Arr 76.43 54 LR LR 00 44 41.1
comp=Z,143nm,19.2s,baz=275,slow=38
YKA Yellowknife Ar 77.97 347 P **P 00 07 48.7 +0.4**

comp=Z,1.8nm,0.8s,baz=23,slow=4.9,SNR=3.4
YKB5 Yellowknife Ar 77.97 347 *e*P **P 00 07 48.7 +0.4**
ILAR Eielson Array 78.20 2 P **P 00 07 49.7 +0.1**
comp=Z,0.4nm,0.8s,baz=335,slow=4.6,SNR=3.9
ILB Eielson Array 78.20 2 *e*P **P 00 07 49.7 +0.1**
ULM Lac du Bonnet 83.48 332 P **P 00 08 18.2 +0.2**
comp=Z,3.0nm,0.9s,baz=34,slow=7.3,SNR=2.7
NEW Newport 91.77 343 P **P 00 08 58.3 0.0**
comp=Z,2.7nm,0.8s,baz=31,slow=5.9,SNR=4.5
NV11 Mina Array Sit 101.26 340 *e*Pdif **Pdif 00 09 42.8 +1.2**
VNDA Vanda 133.46 166 PKP **PKPdf 00 15 06.6 +1.1**
comp=Z,0.6nm,0.6s,baz=180,slow=2.0,SNR=4.4

*THE **13** 23:56:00.2, 36°.64N×25°.58E, h6km±15km, ML1.5/4, Error ellipse: s-maj=15.9km s-min=0.7km az=230.0*
ATH 13 23:56:00.1, 36°.64N×25°.59E, h15km±6km, ML1.8/3, Error ellipse: s-maj=6.0km s-min=0.9km az=225.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THT2	**Imerovigli**	**0.24**	**213**	P	Pg	23 56 05.6	+0.1
THT2				S	Sg	23 56 09.1	0.0
THR8	**Santorini-Mono**	**0.25**	**201**	P	Pg	23 56 04.8	-0.7
IOSP	**Ios island**	**0.26**	**289**	P	Pg	23 56 05.6	-0.1
IOSP				S	Sg	23 56 08.7	-0.7
IOSP				AML	AML	23 56 09.0	
	comp=N,360μm,0.2s						
IOSP				AML	AML	23 56 09.5	
	comp=E,720μm,0.2s						
IOSP	**Ios island**	**0.26**	**289**	P	Pg	23 56 05.6	-0.1
IOSP				S	Sg	23 56 08.6	-0.8
SAP2K	**Karterados**	**0.26**	**207**	P	Pg	23 56 05.7	0.0
THR3	**Thira Island,**	**0.27**	**213**	P	Pg	23 56 05.8	-0.1
THR3	**Thira Island,**	**0.27**	**213**	P	Pg	23 56 05.7	-0.3
SAP3	**Santorini-Thir**	**0.28**	**224**	P	Pg	23 56 06.1	0.0
THT1	**Athinios (Pele**	**0.28**	**207**	P	Pg	23 56 05.9	-0.2
THT1				S	Sg	23 56 09.6	-0.5
THT1	**Athinios (Pele**	**0.28**	**207**	P	Pg	23 56 05.8	-0.3
THT1				S	Sg	23 56 09.5	-0.7
SANT	**Santorini**	**0.29**	**201**	P	Pg	23 56 06.2	0.0
THR5	**Thira Island,**	**0.29**	**221**	P	Pg	23 56 06.7	+0.4
THR5	**Thira Island,**	**0.29**	**221**	P	Pg	23 56 06.7	+0.4
AMGA	**Amorgos Island**	**0.31**	**52**	P	Pg	23 56 06.6	-0.1
AMGA				S	Sg	23 56 11.2	+0.1
AMGA				AML	AML	23 56 12.1	
	comp=E,174μm,0.1s						
AMGA				AML	AML	23 56 12.3	
	comp=N,181μm,0.1s						
AMGA	**Amorgos Island**	**0.31**	**52**	P	Pg	23 56 06.5	-0.2
AMGA				S	Sg	23 56 11.2	+0.1
ANAF	**Anafi Island**	**0.32**	**152**	P	Pg	23 56 06.4	-0.3
ANAF				S	Sg	23 56 11.1	-0.1
ANAF				AML	AML	23 56 11.5	
	comp=E,1559μm,0.2s						
ANAF				AML	AML	23 56 11.5	
	comp=N,1814μm,0.1s						
ANAF	**Anafi Island**	**0.32**	**152**	P	Pg	23 56 06.5	-0.3
ANAF				S	Sg	23 56 10.8	-0.5
SAP1	**Santorini-Akro**	**0.32**	**209**	P	Pg	23 56 06.8	0.0
SAP1				S	Sg	23 56 11.5	+0.2
THR6	**Thira Island,**	**0.32**	**209**	P	Pg	23 56 06.7	-0.1
THR6	**Thira Island,**	**0.32**	**209**	P	Pg	23 56 06.7	-0.1
APE	**Apeiranthos**	**0.43**	**354**	P	Pg	23 56 08.5	-0.3
APE				S	Sg	23 56 15.1	+0.4
APE	**Apeiranthos**	**0.43**	**354**	P	Pg	23 56 08.7	-0.1
APE				S	Sg	23 56 15.1	+0.4

*ISCJB **13** 23:57:20.3±0.3, 42°.54N±0°.02×18°.99E±0°.03, h20km±2km, Error ellipse: s-maj=3.4km s-min=2.8km az=3.8*
*SAR **13** 23:57:20.1±0.3, 42°.55N×19°.03E, h10km±2km, ML2.6/9*
*BEO **13** 23:57:20.1±0.8, 42°.56N×18°.96E, h8km±3km, ML2.5/8*
*PDG **13** 23:57:20.0±0.1, 42°.55N×19°.02E, h17km, MD2.7/5, ML2.7/10, Error ellipse: s-maj=0.1km s-min=0.3km az=0.0*
ISC 13 23:57:20.3±0.8, 42°.56N±0°.02×19°.01E±0°.02, h16km±5km, n59, σ0s78/89, 20C-12D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEME	**Cevo**	**0.07**	**262**	↓*i*Pg	**Pg**	**23 57 23.4**	**0.0**
CEME				*e*Sg	**Sg**	**23 57 26.1**	**+0.6**
NKME	**Niksic**	**0.21**	**350**	↑*i*Pg	**Pg**	**23 57 25.0**	**-0.3**
NKME				*e*Sg	**Sg**	**23 57 29.2**	**+0.5**
PDG	**Podgorica**	**0.22**	**124**	*e*Pg	**Pg**	**23 57 24.7**	**-0.7**
PDG				*e*Sg	**Sg**	**23 57 28.8**	**0.0**
PDG	**Podgorica**	**0.22**	**124**	↑*i*P	**Pg**	**23 57 24.9**	**-0.5**
PDG	**Podgorica**	**0.22**	**124**	S	**Sg**	**23 57 28.9**	**+0.1**
PDG	**Podgorica**	**0.22**	**124**	↑*i*Pg	**Pg**	**23 57 24.7**	**-0.7**
PDG				*e*Sg	**Sg**	**23 57 28.8**	**0.0**
TTG	**Podgorica**	**0.22**	**124**	↑*i*Pg	**Pg**	**23 57 24.7**	**-0.7**
TTG				*e*Sg	**Sg**	**23 57 28.9**	**+0.1**
NKY	**Niksic**	**0.26**	**358**	↑*i*Pg	**Pg**	**23 57 25.6**	**-0.4**
NKY				*e*Sg	**Sg**	**23 57 30.2**	**+0.3**
BUM	**Brajici-Budva**	**0.27**	**198**	↑*i*Pg	**Pg**	**23 57 25.6**	**-0.6**
BUM				*e*Sg	**Sb**	**23 57 30.8**	**-0.4**
DRME	**Dracevica, Mon**	**0.39**	**160**	↓*i*Pg	**Pg**	**23 57 27.6**	**-0.7**
DRME				*e*Sg	**Sb**	**23 57 34.4**	**-0.3**
DRME	**Dracevica, Mon**	**0.39**	**160**	↓*i*Pg	**Pg**	**23 57 27.5**	**-0.7**
DRME				*e*Sg	**Sb**	**23 57 34.1**	**-0.6**
HCY	**Herceg Novi**	**0.39**	**254**	↓*i*Pg	**Pg**	**23 57 27.8**	**-0.6**
HCY				*e*Sg	**Sb**	**23 57 34.8**	**0.0**
HCY	**Herceg Novi**	**0.39**	**254**	↓*i*Pg	**Pg**	**23 57 27.7**	**-0.6**
HCY				*e*Sg	**Sg**	**23 57 34.4**	**+0.6**
KOME	**Kolasin**	**0.48**	**52**	↑*i*Pg	**Pg**	**23 57 28.9**	**-1.0**
KOME				*e*Sg	**Sb**	**23 57 37.1**	**-0.2**
BRY	**Bratogost**	**0.49**	**315**	↓*i*Pg	**Pg**	**23 57 29.6**	**-0.5**
BRY				*e*Sg	**Sb**	**23 57 37.9**	**+0.3**
BRY	**Bratogost**	**0.49**	**315**	*e*Pg	**Pg**	**23 57 29.3**	**-0.8**
BRY				*e*Sg	**Sb**	**23 57 37.7**	**+0.1**
ULC	**Ulcinj**	**0.62**	**163**	↑*i*Pg	**Pg**	**23 57 31.6**	**-0.9**
ULC				*e*Sg	**Sb**	**23 57 41.4**	**+0.2**
UPM	**Unac-Piva**	**0.65**	**353**	↓*i*Pg	**Pg**	**23 57 32.4**	**-0.8**
UPM				*e*Sg	**Sb**	**23 57 42.8**	**+0.4**
UPM	**Unac-Piva**	**0.65**	**353**	↓*i*Pg	**Pg**	**23 57 32.0**	**-1.2**
UPM				*e*Sg	**Sg**	**23 57 41.8**	**0.0**
PVY	**Plav**	**0.70**	**87**	↑*i*Pg	**Pg**	**23 57 33.3**	**-0.8**
PVY				*e*Sg	**Sb**	**23 57 44.1**	**+0.2**
IVA	**Berane**	**0.73**	**64**	↓*i*Pg	**Pg**	**23 57 33.8**	**-0.7**
IVA				*e*Sg	**Sb**	**23 57 44.9**	**+0.5**
PLE	**Pljevlja**	**0.82**	**20**	↓*i*Pg	**Pg**	**23 57 35.6**	**-0.8**
PLE				*e*Sg	**Sb**	**23 57 48.5**	**+1.2**
SJES	**Sjenica**	**1.00**	**45**	*e*Pg	**Pg**	**23 57 39.1**	**-0.6**
SJES				*e*Sg	**Sb**	**23 57 53.1**	**+0.7**
STON	**Ston**	**1.01**	**289**	*i*Pg	**Pg**	**23 57 38.5**	**-1.5**
STON				Sg	**Sn**	**23 57 54.4**	**+0.6**
IVAS	**Ivanjica**	**1.32**	**39**	*e*Pg	**Pn**	**23 57 44.1**	**-0.1**
IVAS				*e*Sg	**Sg**	**23 58 03.2**	**+0.2**
BBLS	**Lazići**	**1.34**	**12**	*e*Pg	**Pn**	**23 57 45.0**	**+0.4**
BBLS	**Lazići**	**1.34**	**12**	↓*i*Pg	**Pn**	**23 57 44.9**	**+0.4**
BBLS				*e*Sg	**Sg**	**23 58 03.1**	**-0.6**
TIR	**Tirane**	**1.37**	**152**	*e*Pg	**Pb**	**23 57 45.8**	**+0.2**
TIR				*e*Sg	**Sg**	**23 58 05.0**	**+0.6**
TIR	**Tirane**	**1.37**	**152**	↑*i*P	**Pb**	**23 57 45.7**	**+0.2**
TIR	**Tirane**	**1.37**	**152**	S	**Sg**	**23 58 05.2**	**+0.8**
HAPS	**Han Pijesak,Bl**	**1.53**	**359**	↑*i*Pn	**Pn**	**23 57 47.4**	**+0.3**
HAPS				*e*Sg	**Sb**	**23 58 08.5**	**+0.9**
SELS	**Selova**	**1.69**	**66**	*e*Pn	**Pn**	**23 57 49.3**	**+0.1**
DIVS	**Divibare**	**1.70**	**25**	*e*Pg	**Pn**	**23 57 50.0**	**+0.5**
DIVS	**Divibare**	**1.70**	**25**	↑*i*Pn	**Pn**	**23 57 49.6**	**+0.1**
DIVS				*e*Sn	**Sn**	**23 58 12.1**	**+1.1**
GRUS	**Gruza**	**1.83**	**43**	*e*Pn	**Pn**	**23 57 51.2**	**+0.1**
TRUS	**Trudelj**	**1.96**	**31**	*e*Pn	**Pn**	**23 57 53.2**	**+0.3**
OHR	**Ohrid**	**1.97**	**137**	*i*Pn	**Pg**	**23 57 59.4**	**+1.3**
TEKS	**Tekeris**	**2.03**	**11**	*e*Sn	**Sn**	**23 58 19.6**	**+0.7**
KRUS	**Krusevo**	**2.05**	**125**	*i*Pn	**Pb**	**23 57 55.9**	**-1.3**
BOVS	**Bovan**	**2.25**	**60**	*e*Pn	**Pn**	**23 57 57.4**	**+0.5**
STIP	**Stip**	**2.52**	**109**	*i*Pn	**Pb**	**23 58 04.1**	**-1.0**
BLY	**Banja Luka**	**2.56**	**330**	↓*i*P	**Pn**	**23 57 58.9**	**-2.3**
BLY	**Banja Luka**	**2.56**	**330**	*e*Pn	**Pn**	**23 58 01.6**	**+0.4**
BLY				*e*Sn	**Sn**	**23 58 33.8**	**+1.8**
MATE	**Matera**	**2.57**	**223**	↑*i*P	**Pn**	**23 58 00.9**	**-0.4**
FRGS	**Fruska Gora**	**2.67**	**12**	↑*i*Pn	**Pn**	**23 58 02.5**	**-0.1**
FRGS				*e*Sn	**Sn**	**23 58 35.4**	**+0.8**
ZAPS	**Zavoj**	**2.76**	**74**	*e*Pn	**Pn**	**23 58 05.8**	**+1.8**
MDVR	**Moldovita**	**2.97**	**41**	↑*i*P	**Pn**	**23 58 06.4**	**-0.4**
MDVR	**Moldovita**	**2.97**	**41**	S	**Sn**	**23 58 42.2**	**+0.1**
UDBI	**Udbina**	**3.07**	**311**	*e*Pn	**Pn**	**23 58 10.4**	**+2.1**
VTS	**Vitosha**	**3.10**	**88**	↑*i*P	**Pn**	**23 58 08.6**	**-0.2**
VTS	**Vitosha**	**3.10**	**88**	S	**Sn**	**23 58 47.4**	**+1.8**
HERR	**Herculane**	**3.39**	**46**	↑*i*P	**Pn**	**23 58 12.1**	**-0.5**
BZS	**Buzias**	**3.59**	**31**	*e*Pn	**Pn**	**23 58 15.2**	**-0.1**
BZS	**Buzias**	**3.59**	**31**	↑*i*P	**Pn**	**23 58 14.3**	**-1.0**
BZS	**Buzias**	**3.59**	**31**	S	**Sn**	**23 58 56.2**	**-1.2**
NVLJ	**Novalja**	**3.61**	**305**	*e*Pn	**Pn**	**23 58 16.5**	**+0.9**
MORH	**M¯‡r¡gy, Hung**	**3.67**	**356**	↑*i*Pn	**Pn**	**23 58 16.3**	**-0.1**
MORH				*e*Sn	**Sn**	**23 58 59.0**	**-0.3**
TIP	**Timpagrande**	**3.78**	**208**	↑*i*P	**Pn**	**23 58 17.4**	**-0.6**
TIP	**Timpagrande**	**3.78**	**208**	S	**Sn**	**23 59 02.3**	**+0.1**

*PRU **13** 23:59:33.3±0.0, 50°.20N×19°.28E, h0km*
WAR 13 23:59:33.6, 50°.18N×19°.34E, h1km, Mw2.3, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.25**	**297**	*e*Pg	Pg	23 59 39.0	+0.6
CHZP				*e*Sg	Sg	23 59 42.7	+1.0
CHZP	**Chorzow**	**0.25**	**297**	*e*Pg	Pg	23 59 39.0	+0.6
CHZP				*e*Sg	Sg	23 59 42.7	+1.0
OJC	**Ojcow**	**0.30**	**81**	*e*Pg	Pg	23 59 39.2	0.0
OJC				*e*Sg	Sg	23 59 43.8	+0.7
OJC	**Ojcow**	**0.30**	**81**	*e*Pg	Pg	23 59 39.2	0.0
OJC				*e*Sg	Sg	23 59 43.8	+0.7
OKC	**Ostrava-Krasne**	**0.84**	**247**	*e*PG	Pg	23 59 49.4	-0.3
OKC				*e*SG	Sg	00 00 00.2	-0.4
NIE	**Niedzica**	**0.98**	**140**	*e*P	Pg	23 59 52.1	-0.2
MORC	**Moravsky Berou**	**1.23**	**252**	*e*PG	Pg	23 59 56.1	-1.0
MORC				*e*SG	Sg	00 00 11.4	-1.6
DPC	**Dobruska-Polom**	**1.95**	**276**	*e*PG	Pn	00 00 07.9	+0.1
DPC				*e*SG	Sb	00 00 34.2	-0.5
	comp=Z,7.0nm,0.3s						
VRAC	**Vranov**	**1.98**	**245**	*e*PN	Pn	00 00 07.4	-0.9
VRAC				*e*SG	Sn	00 00 34.4	+0.6
KRUC	**Moravsky**	**2.22**	**241**	*e*PN	Pn	00 00 10.9	-0.6
KRUC				*e*SG	Sb	00 00 42.1	-0.3
BRG	**Berggiesshubel**	**3.52**	**284**	*e*P	Pg	00 00 39.7	-1.2
	17nm,1.1s						
KHC	**Kasperske Hory**	**3.89**	**257**	*e*SG	Sg	00 01 35.0	-3.5

*ISCJB **14** 00:00:44.2±0.1, 27°.13S±0°.02×69°.08W±0°.04, h99km, mb4.7/185, Error ellipse: s-maj=5.5km s-min=2.8km az=170.1*
*NEIC **14** 00:00:44.5±0.3, 27°.33S×69°.04W, h91km±3km, mb4.8/169, ML5.0(GUC), Error ellipse: s-maj=5.1km s-min=3.0km az=76.0*
NEIC Felt [IV] at Copiapo and Tierra Amarilla and [III] at Caldera.
*GUC **14** 00:00:45.8±0.6, 27°.24S×69°.73W, h141km±22km, ML5.0*
*SJA **14** 00:00:45.6±0.8, 27°.29S×69°.36W, h142km±8km, ML4.7, MW4.7*
*IDC **14** 00:00:45.7±2.5, 27°.30S×69°.12W, h101km±19km, mb4.2/16, mb1 4.3/20, mb1mx4.3/30, mbtmp4.6/20, MS3.4/1, Ms1 3.4/1, ms1mx2.9/30, Error ellipse: s-maj=19.2km s-min=12.4km az=52.0*
ISC 14 00:00:45.3±0.3, 27°.31S±0°.04×69°.33W±0°.05, h99km, n695, σ1s21/714, mb4.8/185, 2C-7D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VCA	**Vinchina**	**1.74**	**145**	*i*P	**Pn**	**00 01 19.0**	**+4.4**
VCA				*i*S	**Sn**	**00 01 42.8**	**+5.8**
VCA				IAML		00 01 48.3	
	comp=Z,4μm,0.4s						
VCA	**Vinchina**	**1.74**	**145**	IAML		00 01 44.9	
	comp=E,12μm,0.4s						
LCO	**Las Campanas**	**2.09**	**215**	*e*Pn	**Pn**	**00 01 20.7**	**+1.5**
LCO				*e*Sn	**Sn**	**00 01 47.5**	**+2.4**
LCO				*e*Sn	Sn	00 01 47.6	+2.5
LCO	**Las Campanas**	**2.09**	**215**	*i*P	**Pn**	**00 01 21.8**	**+2.6**
LCO	**Las Campanas**	**2.09**	**215**	↓*i*P	**Pn**	**00 01 21.5**	**+2.3**
LCO				*i*S	**Sn**	**00 01 47.6**	**+2.5**
LCO				IAML		00 01 50.2	
	comp=N,19μm,0.3s						
AGUA	**GUANDACOL**	**2.30**	**161**	*i*P	**Pn**	**00 01 24.9**	**+3.1**
PB14	**IPOC Station P**	**2.84**	**340**	*i*P	**Pn**	**00 01 31.7**	**+2.5**
PB14	**IPOC Station P**	**2.84**	**340**	*e*P	**Pn**	**00 01 31.5**	**+2.3**
PB14				*i*S	**Sn**	**00 01 59.4**	**-3.4**
PB14				IAML		00 02 13.7	
	comp=E,3μm,0.2s						
ACDV	**Cuesta del Vie**	**2.86**	**176**	*i*P	**Pn**	**00 01 32.6**	**+3.3**
GO04	**Tololo Observa**	**3.13**	**204**	*e*Pn	**Pn**	**00 01 34.3**	**+1.3**
GO04	**Tololo Observa**	**3.13**	**204**	↓*i*P	**Pn**	**00 01 34.5**	**+1.5**
FSA	**Cafayete**	**3.22**	**69**	↓*i*P	**Pn**	**00 01 37.5**	**+3.3**
ACCO	**Cerro Coronel**	**3.28**	**176**	*i*P	**Pn**	**00 01 38.3**	**+3.3**
CYA	**Choya**	**3.32**	**111**	*i*P	**Pn**	**00 01 37.6**	**+2.3**
CYA				IAML		00 02 14.3	
	comp=Z,2μm,0.6s						
CYA				*i*S	**Sn**	**00 02 16.7**	**+2.7**
AHML	**Horco Molle**	**3.60**	**83**	*i*P	**Pn**	**00 01 41.8**	**+2.7**
AMOG	**MOGNA**	**3.69**	**169**	*i*P	**Pn**	**00 01 43.1**	**+2.7**
PB10	**IPOC Station P**	**3.93**	**343**	*e*Pn	**Pn**	**00 01 44.6**	**+1.0**
APLL	**PUNTA DE LOS L**	**3.94**	**142**	*i*P	**Pn**	**00 01 45.7**	**+2.0**
APLL				*i*S	**Sn**	**00 02 31.0**	**+2.1**
RTLL	**Cerro Villicun**	**4.08**	**170**	↓*i*P	**Pn**	**00 01 48.2**	**+2.7**
PB15	**IPOC Station P**	**4.08**	**358**	↓*i*P	**Pn**	**00 01 47.6**	**+1.9**
PB15				*i*S	**Sn**	**00 02 33.8**	**+1.2**
RTLS	**Leoncito**	**4.48**	**180**	*i*P	**Pn**	**00 01 53.9**	**+2.7**
PB05	**IPOC Station P**	**4.50**	**350**	*e*P	**Pn**	**00 01 51.5**	**+0.1**
PB05				*i*S	**Sn**	**00 02 41.5**	**-1.2**
PB06	**IPOC Station P**	**4.58**	**357**	*e*P	**Pn**	**00 01 53.3**	**+0.7**
PB06				*i*S	**Sn**	**00 02 44.4**	**-0.3**
RTCV	**Cerro Valdivia**	**4.59**	**172**	*i*P	**Pn**	**00 01 55.0**	**+2.5**
LVC	**Limon Verde**	**4.69**	**5**	P	**Pn**	**00 01 55.6**	**+1.5**
	comp=Z,49nm,0.3s,baz=183,slow=8.5,SNR=343						
LVC				S	**Sn**	**00 02 46.6**	**-1.0**
	comp=Z,39nm,0.3s,baz=170,slow=12,SNR=5.2						
LVC	**Limon Verde**	**4.69**	**5**	*e*P	**Pn**	**00 01 55.4**	**+1.3**
AZAP	**Zapla**	**4.92**	**52**	*i*P	**Pn**	**00 01 59.5**	**+2.4**
PB04	**IPOC Station P**	**5.00**	**351**	*e*Pn	**Pn**	**00 01 58.2**	**0.0**
PB04	**IPOC Station P**	**5.00**	**351**	*e*P	**Pn**	**00 01 58.1**	**-0.1**
PB04				IAML		00 03 18.4	
ACAN	**Cantantal**	**5.29**	**160**	*i*P	**Pn**	**00 02 04.1**	**+2.2**
ROC1	**El Roble**	**5.84**	**194**	*e*Pn	**Pn**	**00 02 07.9**	**-1.7**
PEL	**Peldehue**	**5.94**	**191**	*e*Pn	**Pn**	**00 02 10.0**	**-0.7**
YJA	**Yavi**	**6.17**	**35**	*i*P	**Pn**	**00 02 16.6**	**+2.2**
PB01	**IPOC Station P**	**6.24**	**359**	*e*Pn	**Pn**	**00 02 13.6**	**-1.3**
PB11	**IPOC Station P**	**7.51**	**358**	*e*Pn	**Pn**	**00 02 30.1**	**-2.2**
GO05	**HualaæØ**	**8.00**	**196**	*e*Pn	**Pn**	**00 02 34.9**	**-3.8**
MNMC	**Minye Minye**	**8.14**	**358**	*e*Pn	**Pn**	**00 02 38.3**	**-2.7**
CPUP	**Villa Florida**	**10.76**	**88**	P	**Pn**	**00 03 14.4**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=271,slow=12,SNR=16						
CPUP				LR	LR	00 07 27.1	
	comp=Z,183nm,19.0s,baz=246,slow=38						
CPUP	**Villa Florida**	**10.76**	**88**	*e*Pn	**Pn**	**00 03 13.6**	**-2.8**
LPAZ	**La Paz**	**11.02**	**6**	P	**Pn**	**00 03 20.2**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=190,slow=8.3,SNR=19						
LPAZ				S	**Sn**	**00 05 21.1**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=241,slow=10,SNR=3.7						
LPAZ	**La Paz**	**11.02**	**6**	*e*Pn	**Pn**	**00 03 19.6**	**-0.8**
LPAZ				*e*Sn	**Sn**	**00 05 21.1**	**-1.0**
TRQA	**Tornquist**	**12.37**	**152**	*e*Pn	**Pn**	**00 03 36.2**	**-1.6**
SIV	**San Ignacio**	**13.62**	**36**	P	**Pn**	**00 03 50.9**	**-3.5**
	comp=Z,2.3nm,0.3s,baz=239,slow=6.7,SNR=40						
SIV				S	**Sn**	**00 06 18.7**	**-5.7**
	comp=Z,0.4nm,0.3s,baz=322,slow=19,SNR=3.6						
NNA	**Nana**	**16.79**	**334**	P	**P**	**00 04 36.6**	**+1.5**
	comp=Z,1.1nm,0.3s,baz=181,slow=12,SNR=8.9						
NNA	**Nana**	**16.79**	**334**	*e*Pn	**P**	**00 04 37.3**	**+2.2**
	comp=Z,28nm,0.9s						
SAML	**Samuel**	**19.16**	**19**	*e*P	**Pn**	**00 05 02.3**	**-0.6**
	comp=Z,25nm,0.9s						
CHRN	**Cochrane**	**20.07**	**186**	*e*P	**P**	**00 05 06.7**	**-3.9**
	comp=Z,12nm,0.8s						
ATAH	**Atahualpa**	**21.83**	**335**	P	**P**	**00 05 32.4**	**+2.3**
	comp=Z,7.6nm,0.8s,baz=162,slow=8.2,SNR=6.1						
BDFB	**Brasilia**	**22.94**	**64**	P	**P**	**00 05 40.2**	**-1.1**
	comp=Z,13nm,0.8s,baz=230,slow=7.3,SNR=13						
BDFB	**Brasilia**	**22.94**	**64**	*e*P	**P**	**00 05 39.5**	**-1.8**
	comp=Z,42nm,1.0s						
PTGA	**Pitinga**	**27.91**	**20**	P	**P**	**00 06 26.1**	**-0.1**
	comp=Z,3.1nm,0.3s,baz=200,slow=9.6,SNR=16						
PTGA	**Pitinga**	**27.91**	**20**	*e*P	**P**	**00 06 25.4**	**-0.7**
	comp=Z,7.9nm,0.8s						
OTAV	**Otavalo**	**28.75**	**341**	*e*P	**P**	**00 06 35.5**	**+1.3**
	comp=Z,11nm,1.3s						
OTAV	**Otavalo**	**28.75**	**341**	*e*P	**P**	**00 06 37.0**	**+2.8**
FLOC	**Florencia**	**29.36**	**347**	*e*P	**P**	**00 06 41.3**	**+2.2**
SOTA	**Rioblanco**	**30.10**	**345**	*e*P	**P**	**00 06 49.3**	**+3.2**
POPC	**Popayan, Colom**	**30.50**	**345**	*e*P	**P**	**00 06 52.0**	**+2.6**
PRAC	**Prado**	**31.30**	**349**	*e*P	**P**	**00 06 57.5**	**+1.3**
YOTC	**Yotoco, Valle**	**31.84**	**347**	*e*P	**P**	**00 07 02.0**	**+1.1**
CHIC	**Chingaza**	**32.03**	**352**	*e*P	**P**	**00 07 03.4**	**+0.4**
ROSC	**El Rosal**	**32.32**	**351**	P	**P**	**00 07 07.3**	**+1.8**
	comp=Z,7.9nm,0.6s,baz=189,slow=17,SNR=4.0						
ROSC	**El Rosal**	**32.32**	**351**	*e*P	**P**	**00 07 07.3**	**+1.8**
	comp=Z,6.0nm,0.6s						
RREF	**El Recreo**	**32.54**	**349**	*e*P	**P**	**00 07 09.4**	**+1.6**
GUYC	**Guyana, Colomb**	**32.86**	**349**	*e*P	**P**	**00 07 12.3**	**+2.0**
RUSC	**La Rusia**	**33.20**	**353**	*e*P	**P**	**00 07 14.2**	**+0.8**
HELC	**Santa Helena**	**33.83**	**349**	*e*P	**P**	**00 07 19.4**	**-0.7**
PTBC	**PUERTO BERRIO,**	**34.01**	**351**	*e*P	**P**	**00 07 18.5**	**-1.3**
ZARC	**Zaragoza, Cauc**	**35.00**	**350**	*e*P	**P**	**00 07 27.8**	**-0.6**
SDV	**Santo Domingo**	**36.00**	**358**	*e*P	**P**	**00 07 36.9**	**-0.2**
	comp=Z,11nm,0.8s						
MOTC	**Monteria, Cord**	**36.39**	**349**	*e*P	**P**	**00 07 40.3**	**+0.1**
JTS	**JuntasAbangare**	**40.33**	**336**	*e*P	**P**	**00 08 14.4**	**+1.1**
	comp=Z,6.3nm,0.6s						
OBIP	**Obispado Ponce**	**45.16**	**4**	*e*P	**P**	**00 08 52.2**	**+0.1**
	comp=Z,16nm,0.6s						
VNA3	**Neumayer Olymp**	**54.75**	**160**	P	**P**	**00 10 05.0**	**+0.8**
VNA2	**Neumayer--Watz**	**55.35**	**159**	P	**P**	**00 10 09.0**	**+0.6**
	baz=285,slow=9.4						
SNAA	**Sanae**	**56.97**	**160**	P	**P**	**00 10 20.2**	**+0.1**
SNAA	**Sanae**	**56.97**	**160**	*e*P	**P**	**00 10 20.1**	**+0.1**
	comp=Z,21nm,1.3s						
555A	**McAlpin**	**58.57**	**346**	P	**P**	**00 10 31.4**	**-0.2**
	baz=166						
ZAIG	**Zacatecas**	**59.25**	**324**	*e*P	**P**	**00 10 39.9**	**+3.1**
	comp=Z,11nm,1.0s						
453A	**Whigham**	**59.58**	**345**	P	**P**	**00 10 39.3**	**+0.8**
	baz=164						
451A	**Vernon**	**59.69**	**344**	P	**P**	**00 10 38.9**	**-0.5**
	baz=163						
256A	**Glennville**	**60.16**	**348**	P	**P**	**00 10 42.8**	**+0.3**
	baz=167						
351A	**Pinckard**	**60.29**	**344**	P	**P**	**00 10 43.9**	**+0.6**
	baz=163						
352A	**Blakely**	**60.32**	**345**	*e*P	**P**	**00 10 44.0**	**+0.4**
	comp=Z,46nm,1.0s						
352A	**Blakely**	**60.32**	**345**	P	**P**	**00 10 41.8**	**-1.8**
	baz=164						
254A	**Abbeville**	**60.41**	**346**	P	**P**	**00 10 43.4**	**-0.7**
	baz=166						
447A	**Lucedale**	**60.65**	**341**	P	**P**	**00 10 45.7**	**-0.2**
	baz=160						
253A	**Americus**	**60.70**	**346**	P	**P**	**00 10 45.7**	**-0.5**
	baz=165						
349A	**Repton**	**60.77**	**342**	P	**P**	**00 10 46.4**	**-0.2**
	baz=162						
252A	**Lumpkin**	**60.77**	**345**	P	**P**	**00 10 46.2**	**-0.5**
	baz=164						
155A	**Kite**	**60.89**	**347**	P	**P**	**00 10 46.5**	**-1.0**
	baz=166						
NHSC	**New Hope**

		baz=163							
W52A	Murphy	63.58	347	P		P	00 11 05.2	-0.3	
		baz=165							
Y46A	Houston	63.61	342	P		P	00 11 04.9	-0.7	
		baz=160,SNR=5.5							
X48A	Hartselle	63.67	344	eP		P	00 11 05.8	-0.2	
		comp=Z,22nm,0.8s							
X48A	Hartselle	63.67	344	P		P	00 11 05.8	-0.2	
		baz=162,SNR=11							
Y45A	Yeager Farm, C	63.79	341	P		P	00 11 06.9	+0.2	
		baz=160,SNR=5.2							
W51A	Cleveland	63.82	346	P		P	00 11 06.5	-0.5	
		baz=164,SNR=5.8							
V53A	Saluda	63.92	348	eP		P	00 11 07.8	+0.1	
		comp=Z,15nm,1.0s							
V53A	Saluda	63.92	348	P		P	00 11 06.6	-1.1	
		baz=166							
X47A	Russelville	63.94	343	P		P	00 11 07.0	-0.7	
		baz=162,SNR=11							
Z42A	Norrel Spur, H	63.96	339	P		P	00 11 07.5	-0.5	
		baz=157							
W50A	Signal Mountai	63.98	345	eP		P	00 11 08.2	+0.2	
		comp=Z,21nm,0.8s							
W50A	Signal Mountai	63.98	345	P		P	00 11 07.5	-0.5	
		baz=164,SNR=7.7							
CPCT	Cooper Cave	64.05	346	eP		P	00 11 08.8	+0.4	
TKL	Tuckaleechee C	64.09	347	P		P	00 11 07.8	-0.9	
		comp=Z,9.6nm,0.8s,baz=168,slow=10,SNR=10							
TKL	Tuckaleechee C	64.09	347	eP		P	00 11 08.6	-0.2	
		comp=Z,9.6nm,0.8s							
W49A	Belvidere	64.12	345	P		P	00 11 08.2	-0.7	
		baz=163							
SWET	Sewanee	64.13	345	eP		P	00 11 09.1	0.0	
X46A	Booneville	64.17	342	P		P	00 11 08.5	-0.7	
		baz=161							
Z41A	Richland Creek	64.23	338	P		P	00 11 10.2	+0.6	
		baz=157							
V52A	Sevierville	64.23	347	eP		P	00 11 09.4	-0.3	
		comp=Z,16nm,0.9s							
V52A	Sevierville	64.23	347	P		P	00 11 08.9	-0.7	
		baz=166,SNR=6.2							
Y43A	Makayla and Ka	64.24	340	P		P	00 11 10.0	+0.3	
		baz=158							
HPIG		64.26	324	eP		P	00 11 12.2	+2.0	
		comp=Z,11nm,1.0s							
X45A	UM Field Stati	64.27	342	P		P	00 11 09.5	-0.3	
		baz=160							
W48A	Pulaski	64.30	344	P		P	00 11 10.0	-0.1	
		baz=162,SNR=5.3							
V51A	Loudon	64.35	346	eP		P	00 11 10.6	+0.2	
		comp=Z,16nm,1.1s							
V51A	Loudon	64.35	346	P		P	00 11 10.2	-0.2	
		baz=165							
OXF	Oxford	64.36	342	eP		P	00 11 10.3	-0.1	
		comp=Z,29nm,0.8s							
OXF	Oxford	64.36	342	P		P	00 11 10.0	-0.4	
		baz=160,SNR=5.2							
V50A	Pikevile	64.38	346	P		P	00 11 10.7	0.0	
		baz=164,SNR=6.3							
JCT	Junction City	64.42	331	eP		P	00 11 12.3	+1.3	
		comp=Z,22nm,0.7s							
JCT	Junction City	64.42	331	P		P	00 11 12.2	+1.2	
		baz=150,SNR=11							
Y42A	Garnett, Star	64.43	339	P		P	00 11 11.0	+0.1	
		baz=158							
PLAL	Pickwick Lake	64.44	343	eP		P	00 11 10.6	-0.4	
		comp=Z,19nm,1.2s							
CCAR	Cane Creek	64.50	339	eP		P	00 11 11.7	+0.2	
U53A	Fall Branch	64.55	348	P		P	00 11 11.2	-0.5	
		baz=167							
X44A	Crenshaw	64.55	341	P		P	00 11 11.6	-0.2	
		baz=159							
W47A	Westpoint	64.57	343	P		P	00 11 11.4	-0.5	
		baz=162,SNR=5.4							
V49A	McMinnville	64.65	345	P		P	00 11 12.1	-0.3	
		baz=164,SNR=8.3							
W46A	Michie	64.66	343	P		P	00 11 12.2	-0.2	
		baz=161							
Y41A	Eaglette Beard	64.73	339	P		P	00 11 13.8	+0.9	
		baz=157,SNR=5.5							
WHTX	Lake Whitney,	64.77	334	eP		P	00 11 13.7	+0.5	
		comp=Z,15nm,0.7s							
WHTX	Lake Whitney,	64.77	334	P		P	00 11 14.1	+0.8	
		baz=152,SNR=5.2							
X43A	Marvell	64.79	340	eP		P	00 11 14.6	+1.4	
		comp=Z,162nm,0.3s							
X43A	Marvell	64.79	340	P		P	00 11 14.1	+0.8	
		baz=159							
U51A	La Follette	64.84	347	P		P	00 11 13.6	0.0	
		baz=165							
V48A	Smith Brothers	64.84	344	eP		P	00 11 13.8	+0.1	
		comp=Z,45nm,1.4s							
V48A	Smith Brothers	64.84	344	P		P	00 11 13.3	-0.3	
		baz=163,SNR=9.5							
U50A	Jamestown	65.04	346	P		P	00 11 14.7	-0.3	
		baz=165,SNR=5.4							
V47A	Nunnelly	65.10	344	P		P	00 11 15.0	-0.3	
		baz=162							
LTX	Lajitas	65.22	327	eP		P	00 11 17.1	+0.8	
TXAR	Lajitas Array	65.22	327	P		P	00 11 17.1	+0.8	
		comp=Z,3.8nm,0.8s,baz=149,slow=8.5,SNR=31							
TX31	Lajitas Ar. Si	65.22	327	eP		P	00 11 17.1	+0.8	
V46A	Holladay	65.22	343	P		P	00 11 15.3	-0.7	
		baz=161							
U49A	Red Boiling Sp	65.34	345	P		P	00 11 16.2	-0.6	
		baz=164							
V45A	Humboldt	65.39	343	P		P	00 11 16.6	-0.5	
		baz=161							
T51A	Gray	65.39	347	P		P	00 11 16.8	-0.4	
		baz=166							
R58B	Mineral	65.42	353	P		P	00 11 18.0	+0.7	
		baz=171,SNR=5.1							
WVT	Waverly	65.46	344	eP		P	00 11 17.2	-0.4	
		comp=Z,17nm,0.8s							
WVT	Waverly	65.46	344	P		P	00 11 17.0	-0.6	
		baz=162							
UALR	University of	65.47	339	eP		P	00 11 18.4	+0.7	
		comp=Z,20nm,1.0s							
U48A	Cassie Pea, Po	65.51	345	P		P	00 11 17.8	-0.2	
		baz=163,SNR=5.4							
U47A	Clarksville	65.62	344	P		P	00 11 18.4	-0.2	
		baz=162,SNR=11							
T50A	Nancy	65.63	346	P		P	00 11 18.3	-0.4	
		baz=165							
MIAR	Mount Ida	65.66	338	eP		P	00 11 19.6	+0.7	
		comp=Z,8.8nm,0.7s							
MIAR	Mount Ida	65.66	338	P		P	00 11 19.4	+0.5	
		baz=156,SNR=6.6							
U46A	Springville	65.77	343	P		P	00 11 19.5	-0.1	
		baz=161,SNR=5.3							
W41B	Gary Mavity, V	65.81	340	eP		P	00 11 19.9	+0.1	
		comp=Z,15nm,0.9s							
W41B	Gary Mavity, V	65.81	340	P		P	00 11 20.3	+0.4	
		baz=158,SNR=6.4							
T49A	Edmonton	65.86	346	eP		P	00 11 20.0	-0.1	
		comp=Z,16nm,0.8s							
T49A	Edmonton	65.86	346	P		P	00 11 19.8	-0.3	
		baz=164,SNR=6.9							
WHAR	Wooly Hollow	65.93	340	eP		P	00 11 21.5	+0.8	
S51A	Beattyville	65.97	348	P		P	00 11 20.5	-0.4	
		baz=166							
T48A	Bowling Green	66.05	345	P		P	00 11 20.8	-0.5	
		baz=163							
T47A	Sharon Grove	66.10	344	eP		P	00 11 21.6	-0.1	
		comp=Z,28nm,1.1s							
T47A	Sharon Grove	66.10	344	P		P	00 11 21.5	-0.2	
		baz=162,SNR=7.3							
V42A	Cord	66.14	340	P		P	00 11 21.7	-0.2	
		baz=158							
S50A	Richmond	66.17	347	P		P	00 11 22.0	-0.2	
		baz=165							
ABTX	Abilene, Hawle	66.21	332	eP		P	00 11 23.6	+1.1	
		comp=Z,22nm,0.8s							
ABTX	Abilene, Hawle	66.21	332	P		P	00 11 23.3	+0.8	
		baz=150,SNR=11							
U44A	Portageville	66.30	342	P		P	00 11 23.3	+0.3	
		baz=160							
X37A	Clayton	66.31	337	eP		P	00 11 23.9	+0.8	
		comp=Z,13nm,0.8s							
W39A	Magazine	66.32	338	eP		P	00 11 24.3	+1.1	
		comp=Z,14nm,0.8s							
W39A	Magazine	66.32	338	P		P	00 11 24.2	+1.0	
		baz=156,SNR=6.3							
T46A	Princeton	66.34	344	P		P	00 11 23.1	-0.1	
		baz=162,SNR=6.7							
V41A	Mountainview	66.35	340	P		P	00 11 23.4	+0.1	
		baz=158,SNR=13							
U43A	Rector	66.38	342	P		P	00 11 23.3	-0.1	
		baz=159							
S49A	Springfield	66.46	346	P		P	00 11 23.3	-0.6	
		baz=164							
S48A	Wiedeman Farm,	66.50	346	P		P	00 11 23.1	-1.1	
		baz=164							
T45A	Paducah	66.51	343	P		P	00 11 24.3	0.0	
		baz=161							
U42A	Revenden	66.60	341	P		P	00 11 25.0	+0.2	
		baz=159,SNR=16							
R51A	Hillsboro	66.61	348	P		P	00 11 24.8	-0.2	
		baz=166							
S47A	Hartford	66.63	345	P		P	00 11 23.9	-1.1	
		baz=163							
R50A	Paris	66.74	347	P		P	00 11 25.0	-0.7	
		baz=165							
PBMO	Poplar Bluff	66.77	342	eP		P	00 11 26.0	0.0	
		comp=Z,23nm,0.8s							
U41A	Viola	66.79	340	P		P	00 11 26.3	+0.2	
		baz=158,SNR=9.2							
T44A	Benton	66.82	342	P		P	00 11 26.3	0.0	
		baz=160,SNR=5.6							
S46A	Don Dixon Farm	66.91	344	P		P	00 11 26.1	-0.7	
		baz=162							
R49A	Shelbyville	66.92	346	P		P	00 11 26.2	-0.6	
		baz=164							
T43A	Greenville	67.01	342	P		P	00 11 27.6	+0.1	
		baz=160,SNR=17							
Q52A	Bidwell	67.02	349	P		P	00 11 27.4	-0.2	
		baz=167							
U40A	Yellville	67.09	340	P		P	00 11 28.4	+0.4	
		baz=157,SNR=12							
WCI	Wyandotte Cave	67.10	346	eP		P	00 11 27.8	-0.2	
		comp=Z,11nm,0.8s							
WCI	Wyandotte Cave	67.10	346	P		P	00 11 27.4	-0.6	
		baz=163							
S45A	Carrier Mills	67.12	344	P		P	00 11 27.9	-0.2	
		baz=161							
R48A	Northridge Ran	67.17	346	P		P	00 11 27.9	-0.5	
		baz=164							
T42A	Van Buren	67.19	341	eP		P	00 11 29.3	+0.7	
		comp=Z,6.9nm,0.8s							
T42A	Van Buren	67.19	341	P		P	00 11 28.6	0.0	
		baz=159,SNR=5.3							
Q50A	Georgetown	67.22	348	P		P	00 11 28.4	-0.4	
		baz=166							
R47A	Wooly Knot Far	67.22	345	P		P	00 11 27.8	-0.9	
		baz=163							
Q51A	Peebles	67.27	348	eP		P	00 11 29.3	+0.2	
		comp=Z,13nm,0.9s							
Q51A	Peebles	67.27	348	P		P	00 11 29.0	-0.2	
		baz=166							
S44A	Carbondale	67.31	343	P		P	00 11 29.2	-0.1	
		baz=161,SNR=5.1							
SIUC	Southern Illin	67.32	343	eP		P	00 11 29.4	0.0	
		comp=Z,26nm,1.3s							
MCWV	Mont Chateau	67.34	351	P		P	00 11 30.3	+0.8	
		baz=170							
P53A	Whipple	67.39	350	P		P	00 11 30.2	+0.3	
		baz=168							
T41A	Mountain View	67.39	341	P		P	00 11 30.2	+0.2	
		baz=158,SNR=13							
S43A	Fulton Ridge,	67.41	342	P		P	00 11 29.8	-0.2	
		baz=160,SNR=13							
Q49A	Aurora	67.55	347	P		P	00 11 30.2	-0.6	
		baz=165							
R45A	Skylar, Fairfi	67.63	344	P		P	00 11 31.1	-0.2	
		baz=162							
Q48A	North Vernon	67.65	346	P		P	00 11 31.0	-0.4	
		baz=164							
TUL1	Leonard	67.65	337	eP		P	00 11 32.1	+0.5	
		comp=Z,26nm,0.9s							
TUL1	Leonard	67.65	337	P		P	00 11 31.9	+0.3	
		baz=154,SNR=6.6							
P52A	Corning	67.66	349	P		P	00 11 31.4	-0.1	
		baz=168							
P51A	Williamsport	67.67	349	eP		P	00 11 31.7	+0.1	
		comp=Z,26nm,1.1s							
P51A	Williamsport	67.67	349	P		P	00 11 31.2	-0.4	
		baz=167							
WMOK	Wichita Mounta	67.71	334	eP		P	00 11 32.1	+0.1	
		comp=Z,5.3nm,1.0s							
WMOK	Wichita Mounta	67.71	334	P		P	00 11 32.1	+0.1	
		baz=152							
O56A	Blue Knob Stat	67.77	352	P		P	00 11 33.0	+0.7	
		baz=171							
S42A	Caledonia	67.79	342	P		P	00 11 32.2	-0.2	
		baz=159,SNR=12							
Q47A	Bedord North L	67.81	346	P		P	00 11 31.6	-0.8	
		baz=163							
FVM	French Village	67.89	342	eP		P	00 11 33.4	+0.4	
		comp=Z,42nm,1.0s							
S41A	Jillco Farms,	67.89	341	P		P	00 11 33.4	+0.3	
		baz=158,SNR=20							
P50A	Jamestown	67.92	348	P		P	00 11 33.0	-0.2	
		baz=166							
MNTX	Cornudas Mount	68.00	327	eP		P	00 11 34.2	+0.3	
		comp=Z,9.6nm,0.9s							
MNTX	Cornudas Mount	68.00	327	P		P	00 11 34.2	+0.3	
		baz=146,SNR=16							
P49A	Miami Univ. Ec	68.03	347	P		P	00 11 33.1	-0.7	
		baz=165							
R43A	Red Bud	68.03	343	P		P	00 11 34.7	+0.8	
		baz=160							
SSPA	Standing Stone	68.06	353	P		P	00 11 35.0	+1.0	
		baz=172							
O52A	Adamsville	68.08	350	P		P	00 11 34.3	+0.1	
		baz=168							
P48A	Milroy	68.10	347	P		P	00 11 33.3	-0.9	
		baz=164							
N59A	State Game Lan	68.14	355	P		P	00 11 35.5	+1.0	
		baz=174							
Q45A	Warren Harvey,	68.17	344	P		P	00 11 34.4	-0.3	
		baz=162							
CCM	Cathedral Cave	68.19	341	eP		P	00 11 34.9	0.0	
		comp=Z,26nm,0.8s							
CCM	Cathedral Cave	68.19	341	P		P	00 11 35.2	+0.3	
		baz=159							
O51A	Paskala	68.23	349	P		P	00 11 35.0	-0.2	
		baz=167							
R42A	Luebbering	68.27	342	P		P	00 11 35.7	+0.3	
		baz=159,SNR=12							
ACSO	Alum Creek Sta	68.38	349	eP		P	00 11 36.2	+0.2	
		comp=Z,19nm,0.8s							
ACSO	Alum Creek Sta	68.38	349	P		P	00 11 35.8	-0.2	
		baz=167,SNR=5.1							
Q44A	Meyer Farm, Va	68.39	344	P		P	00 11 35.3	-0.8	
		baz=161							
O50A	Cable	68.41	348	P		P	00 11 36.0	-0.3	
		baz=166							
R41A	Rosebud	68.45	341	P		P	00 11 36.8	+0.3	
		baz=159,SNR=15							
O49A	Covington	68.58	348	eP		P	00 11 36.9	-0.4	
		comp=Z,13nm,0.8s							
O49A	Covington	68.58	348	P		P	00 11 37.0	-0.3	
		baz=166							
Q43A	New Douglas	68.60	343	P		P	00 11 37.2	-0.2	
		baz=160							
P46A	Rosedale	68.63	345	P		P	00 11 36.9	-0.7	
		baz=163							
N54A	Moraine State	68.64	351	P		P	00 11 38.1	+0.5	
		baz=170							
P45A	Graceland, Par	68.67	345	eP		P	00 11 37.0	-0.8	
		comp=Z,18nm,0.9s							
P45A	Graceland, Par	68.67	345	P		P	00 11 37.0	-0.8	
		baz=162,SNR=5.2							
MSTX	Muleshoe	68.70	331	eP		P	00 11 38.8	+0.5	
		comp=Z,31nm,0.8s							
MSTX	Muleshoe	68.70	331	P		P	00 11 39.1	+0.7	
		baz=148,SNR=10.0							
Q42A	Golden Eagle	68.79	342	P		P	00 11 38.6	0.0	
		baz=160,SNR=11							
O48A	Farmland	68.81	347	P		P	00 11 38.2	-0.6	
		baz=165							
P44A	Sand Creek, Wi	68.82	344	P		P	00 11 38.3	-0.5	
		baz=161							
N50A	Nevada	68.94	349	P		P	00 11 39.3	-0.2	
		baz=167							
N51A	Ashland	68.95	349	P		P	00 11 39.1	-0.5	
		baz=167							
O47A	Sheridan	69.00	346	P		P	00 11 39.2	-0.6	
		baz=164,SNR=5.6							
AMTX	Amarillo	69.01	332	eP		P	00 11 40.8	+0.5	
		comp=Z,5.7nm,0.8s							
AMTX	Amarillo	69.01	332	P		P	00 11 40.7	+0.5	
		baz=149							
Q41A	Truxton	69.02	342	P		P	00 11 40.2	+0.2	
		baz=159,SNR=12							
M54A	Oil Creek Stat	69.13	352	P		P	00 11 40.9	+0.2	
		baz=170							
P43A	Skaggs, Pawnee	69.21	343	P		P	00 11 40.8	-0.4	
		baz=161,SNR=6.0							
N49A	Columbus Grove	69.27	348	eP		P	00 11 41.4	-0.1	
		comp=Z,39nm,1.1s							
N49A	Columbus Grove	69.27	348	P		P	00 11 41.4	-0.1	
		baz=166,SNR=7.0							
SFIN	Lafayette	69.34	346	eP		P	00 11 40.8	-1.1	
		comp=Z,21nm,1.2s							
SFIN	Lafayette	69.34	346	P		P	00 11 40.2	-1.7	
		baz=163							
O45A	Potomac	69.35	345	P		P	00 11 41.3	-0.7	
		baz=162,SNR=5.4							
N48A	Decatur	69.37	347	P		P	00 11 41.9	-0.3	
		baz=165							
P42A	Winchester	69.37	343	eP		P	00 11 41.7	-0.4	
		comp=Z,18nm,0.8s							
P42A	Winchester	69.37	343	P		P	00 11 41.9	-0.3	
		baz=160,SNR=6.6							
O44A	Mansfield	69.44	344	P		P	00 11 42.3	-0.2	
		baz=162							
N47A	Urbana	69.52	347	P		P	00 11 42.4	-0.6	
		baz=164							
M50A	Fremont	69.53	349	P		P	00 11 42.8	-0.4	
		baz=167							
P41A	Barry, Barry	69.65	342	P		P	00 11 43.9	0.0	
		baz=159,SNR=5.9							
319A	Douglas	69.69	324	eP		P	00 11 46.2	+1.7	
		comp=Z,11nm,0.8s							
N46A	Monticello	69.75	346	P		P	00 11 43.8	-0.7	
		baz=163,SNR=7.9							
M49A	Liberty Center	69.76	348	P		P	00 11 43.1	-1.4	
		baz=166							
O43A	Sugar Creek Fa	69.77	344	P		P	00 11 43.9	-0.7	
		baz=161							
ERPA	Erie	69.77	352	P		P	00 11 43.9	-0.7	
		baz=170							
121A	Cookes Peak, D	69.86	326	P		P	00 11 47.6	+2.0	
		baz=144							
N45A	Kentland	69.88	345	P		P	00 11 44.3	-0.9	
		baz=163							
M48A	Edgerton	69.91	348	eP		P	00 11 45.1	-0.4	
		comp=Z,15nm,0.9s							
M48A	Edgerton	69.91	348	P		P	00 11 44.9	-0.6	
		baz=165							
M47A	Cromwell	69.97	347	P		P	00 11 45.2	-0.7	
		baz=164							
N44A	Piper City	69.97	345	P		P	00 11 45.1	-0.7	
		baz=162,SNR=5.5							
O41A	Passleys Farm,	70.01	343	P		P	00 11 45.8	-0.3	
		baz=160,SNR=6.3							
HDIL	Hopedale	70.02	344	eP		P	00 11 46.1	0.0	
		comp=Z,23nm,0.8s							
HDIL	Hopedale	70.02	344	P		P	00 11 45.9	-0.3	
		baz=161							
MMNY	Mt. Morris Dam	70.14	353	eP		P	00 11 47.1	+0.3	
		comp=Z,88nm,1.8s							
M46A	Old House Fiel	70.16	346	P		P	00 11 46.6	-0.4	
		baz=164							
L48A	N Adams	70.30	348	P		P	00 11 47.5	-0.4	
		baz=166							
L49A	Milan	70.34	349	P		P	00 11 47.7	-0.4	
		baz=166							
N43A	Stutzman Famil	70.35	344	P		P	00 11 48.1	-0.1	
		baz=161,SNR=8.1							
LIC	Lamto	70.46	72	eP		P	00 11 45.2	-4.3	
		comp=Z,28nm,0.9s							
N42A	Yates City	70.46	343	P		P	00 11 48.6	-0.3	
		baz=160							
L47A	Sherwood	70.48	348	P		P	00 11 48.4	-0.6	
		baz=165							
M44A	Midewin, Midew	70.51	345	P		P	00 11 48.4	-0.7	
		baz=162							
N41A	Harden Midland	70.56	343	eP		P	00 11 49.0	-0.4	
		comp=Z,27nm,0.9s							
N41A	Harden Midland	70.56	343	P		P	00 11 49.2	-0.2	
		baz=160,SNR=6.1							
TIC	Toumodi	70.69	72	eP		P	00 11 46.4	-4.5	
L46A	Eue Claire	70.73	347	P		P	00 11 49.5	-0.9	
		baz=164							
LPM	Los Pinos Moun	70.74	328	eP		P	00 11 52.2	+1.2	
M43A	Waltham Townsh	70.77	344	P		P	00 11 50.3	-0.3	
		baz=161							
KIC	Kosan Boka	70.77	72	eP		P	00 11 47.0	-4.4	
		comp=Z,50nm,1.2s							
LENM	Lemitar	70.78	328	eP		P	00 11 52.1	+0.9	
K50A	Casco	70.80	350	P		P	00 11 50.6	-0.3	
		baz=167							
KSU1	Kansas State U	70.81	338	P		P	00 11 51.0	0.0	
		baz=154							
DBIC	Dimbokro	70.84	72	P		P	00 11 52.0	+0.3	
		comp=Z,12nm,0.8s,baz=209,slow=6.7,SNR=18							
DBIC	Dimbokro	70.84	72	eP		P	00 11 50.7	-1.1	
		comp=Z,11nm,0.8s							
N40A	Mertquake, Sal	70.92	342	P		P	00 11 51.5	-0.2	
		baz=159,SNR=5.4							
LAZ	Ladron	71.06	328	eP		P	00 11 53.9	+1.0	
K48A	Perry	71.08	349	P		P	00 11 52.1	-0.5	
		baz=166							
VNDA	Vanda	71.09	190	P		P	00 11 53.0	+0.7	
		comp=Z,1.2nm,0.8s,baz=124,slow=5.6,SNR=6.2							
VNDA	Vanda	71.09	190	eP		P	00 11 52.4	+0.1	
		comp=Z,2.3nm,1.1s							
M41A	Milan	71.10	343	P		P	00 11 52.3	-0.5	
		baz=160							
K47A	Vermontville	71.11	348	P		P	00 11 52.1	-0.7	
		baz=165							
N39A	Derby Farms, D	71.17	342	eP		P	00 11 53.2	+0.1	
		comp=Z,13nm,0.6s							
N39A	Derby Farms, D	71.17	342	P		P	00 11 53.2	+0.1	
		baz=158							
ANMO	Albuquerque	71.18	328	P		P	00 11 54.7	+1.0	
		comp=Z,4.8nm,0.8s,baz=161,slow=8.4,SNR=16							
ANMO	Albuquerque	71.18	328	eP		P	00 11 54.6	+1.0	
		comp=Z,5.8nm,0.8s							
ANMO	Albuquerque	71.18	328	P		P	00 11 55.3	+1.7	
		baz=145							
TUC	Tucson	71.22	324	eP		P	00 11 55.1	+1.4	
		comp=Z,9.3nm,1.3s							
L44A	Lake County Fo	71.23	346	P		P	00 11 52.6	-0.8	
		baz=162							
SYO	Syowa Base	71.24	159	eP		P	00 11 53.0	-0.2	
SYO	Syowa Base	71.24	159	ePcP		PcP	00 12 10.0	-2.6	
SYO	Syowa Base	71.24	159	epP		pP	00 12 15.1	-3.3	
SYO	Syowa Base	71.24	159	esP		sP	00 12 25.0	-4.2	
K46A	Dorr	71.28	347	P		P	00 11 52.9	-0.8	
		baz=164							
M40A	Post Highland	71.39	343	P		P	00 11 54.3	-0.2	
		baz=159							
L43A	Garden Prairie	71.43	345	P		P	00 11 54.4	-0.3	
		baz=162							
J48A	Bridge Port	71.50	349	P		P	00 11 54.6	-0.5	
		baz=166							
J47A	Sunmer	71.63	348	P		P	00 11 54.

J43A **Natural Harves** 72.49 346 P P 00 12 01.0 0.0
baz=162,SNR=5.5
K40A **Colesburg** 72.50 343 P P 00 12 01.1 0.0
baz=160
X18A **Snowflake** 72.53 326 eP P 00 12 03.4 +1.7
comp=Z,9.0nm,1.1s
J42A **Columbus** 72.59 345 P P 00 12 01.4 -0.2
baz=161
K39A **Oelwein** 72.70 343 P P 00 12 02.1 -0.2
baz=159,SNR=10
H48A **Harrisville** 72.79 350 P P 00 12 01.4 -1.4
baz=167
H47A **Mio** 72.84 349 P P 00 12 02.4 -0.6
baz=166
J41A **Loganville** 72.85 344 P P 00 12 03.0 -0.1
baz=161
W18A **Petrified Fore** 72.89 326 eP P 00 12 05.2 +1.3
comp=Z,17nm,1.0s
W18A **Petrified Fore** 72.89 326 P P 00 12 05.5 +1.7
baz=143,SNR=8.2
I43A **Langenfeld Bro** 72.91 346 P P 00 12 03.0 -0.5
baz=162
H46A **Fife Lake** 72.96 348 P P 00 12 03.1 -0.6
baz=165
J40A **Soldiers Grove** 73.05 344 P P 00 12 04.2 -0.1
baz=160,SNR=9.9
SDCO **Great Sand Dun** 73.07 331 eP P 00 12 06.0 +1.0
comp=Z,5.0nm,0.8s
SDCO **Great Sand Dun** 73.07 331 P P 00 12 06.5 +1.6
baz=147,SNR=10
I42A **Draeger Farm,** 73.09 345 P P 00 12 04.5 0.0
baz=162
H45A **Beulah** 73.19 348 P P 00 12 04.6 -0.5
baz=164
X16A **Lo Mia Camp, P** 73.20 325 eP P 00 12 07.3 +1.7
comp=Z,12nm,1.1s
J39A **Decorah** 73.24 343 P P 00 12 05.4 0.0
baz=159,SNR=12
F52A **Sundridge** 73.32 353 P P 00 12 06.3 +0.4
baz=170
G47A **Hillman** 73.34 349 P P 00 12 05.4 -0.5
baz=166
H43A **Windswept, Lux** 73.39 346 P P 00 12 06.3 0.0
baz=163
BGNE **Belgrade** 73.39 338 eP P 00 12 07.8 +1.4
comp=Z,61nm,0.8s
BGNE **Belgrade** 73.39 338 P P 00 12 07.4 +1.0
baz=153
I41A **Arkdale** 73.47 345 P P 00 12 06.7 0.0
baz=161
I40A **Norwalk** 73.49 344 P P 00 12 06.9 0.0
baz=160
F51A **Arnstein** 73.52 352 P P 00 12 07.0 +0.1
baz=170
G45A **Suttons Bay** 73.52 348 P P 00 12 08.8 +1.8
baz=165
H42A **Shiocton** 73.59 346 P P 00 12 07.4 -0.1
baz=162
F49A **Sandfield** 73.63 351 P P 00 12 07.6 0.0
baz=168
S22A **4UR Ranch, Cre** 73.65 330 eP P 00 12 09.4 +1.0
comp=Z,21nm,2.0s
S22A **4UR Ranch, Cre** 73.65 330 P P 00 12 09.7 +1.3
baz=146
I39A **Houston** 73.68 343 eP P 00 12 08.2 +0.2
comp=Z,20nm,0.8s
I39A **Houston** 73.68 343 P P 00 12 08.1 +0.1
baz=159,SNR=5.9
E53A **Dumoine, Ponti** 73.72 354 P P 00 12 08.1 -0.1
baz=172
E54A **Lac Daplat, Po** 73.73 354 P P 00 12 08.3 0.0
baz=172
Q24A **Divide** 73.94 332 eP P 00 12 11.8 +1.8
comp=Z,20nm,0.8s
Q24A **Divide** 73.94 332 P P 00 12 11.7 +1.7
baz=147,SNR=11
H41A **Junction City** 73.95 345 P P 00 12 09.4 -0.1
baz=161
MVCO **Mesa Verde** 73.98 328 eP P 00 12 11.8 +1.6
comp=Z,12nm,0.9s
MVCO **Mesa Verde** 73.98 328 P P 00 12 12.0 +1.8
baz=144,SNR=9.0
WUAZ **Wupatki** 74.03 325 eP P 00 12 11.8 +1.4
comp=Z,18nm,1.0s
WUAZ **Wupatki** 74.03 325 P P 00 12 12.8 +2.4
baz=142,SNR=13
E50A **Wahnapitae** 74.11 352 P P 00 12 10.5 +0.1
baz=169
H40A **Chili** 74.12 345 P P 00 12 10.4 -0.1
baz=160
G42A **Mountain** 74.27 346 P P 00 12 11.3 -0.1
baz=162
Y12C **Blythe** 74.33 322 eP P 00 12 13.6 +1.6
comp=Z,8.2nm,0.8s
Y12C **Blythe** 74.33 322 P P 00 12 14.0 +2.0
baz=139
H39A **Augusta** 74.39 344 P P 00 12 12.1 0.0
baz=160
G41A **Antigo** 74.40 346 P P 00 12 12.2 0.0
baz=162
D53A **Lac Vacive, Po** 74.42 354 P P 00 12 12.4 +0.2
baz=172
E47A **Iron Bridge** 74.49 350 P P 00 12 12.6 0.0
baz=167
F44A **Big Bay de Noc** 74.57 348 P P 00 12 12.6 -0.5
baz=164
E46A **Sault Ste Mari** 74.57 349 P P 00 12 13.0 -0.1
baz=166
F43A **Flat Rock, Esc** 74.57 347 P P 00 12 12.9 -0.2
baz=163
D51A **Lot 18 Range I** 74.60 353 P P 00 12 13.3 +0.1
baz=170
D50A **G1974 Best Tow** 74.73 353 P P 00 12 14.5 +0.5
baz=170
BC3 **Big Chuckawall** 74.77 321 P P 00 12 16.6 +1.9
baz=138
ISCO **Idaho Springs** 74.83 332 eP P 00 12 15.8 +0.7
comp=Z,7.1nm,0.8s
ISCO **Idaho Springs** 74.83 332 P P 00 12 16.8 +1.6
baz=147,SNR=8.8
F41A **Three Lakes** 74.89 346 eP P 00 12 15.7 +0.7
comp=Z,10nm,0.8s
F41A **Three Lakes** 74.89 346 P P 00 12 15.1 +0.2
baz=162
SMCO **Snowmass** 74.90 331 eP P 00 12 16.8 +1.1
comp=Z,15nm,1.1s
G39A **Holcombe** 74.94 344 P P 00 12 14.9 -0.3
baz=160
IRM **Iron Mountain** 74.97 322 P P 00 12 16.6 +0.8
baz=139
ECSD **EROS Data Cent** 74.99 340 eP P 00 12 16.2 +0.5
comp=Z,13nm,0.8s
ECSD **EROS Data Cent** 74.99 340 P P 00 12 16.1 +0.5
baz=155,SNR=13
W13A **Hualapai Mount** 75.01 323 eP P 00 12 17.3 +1.1
comp=Z,5.6nm,0.8s
U15A **North Rim** 75.20 325 eP P 00 12 18.7 +1.4
comp=Z,14nm,1.0s
COWI **Conover** 75.24 346 eP P 00 12 17.2 +0.2
comp=Z,5.4nm,0.6s
F40A **Park Falls** 75.28 345 P P 00 12 17.6 +0.3
baz=161
SPMN **Marine on St.** 75.29 343 eP P 00 12 17.6 +0.3
comp=Z,12nm,0.8s
SPMN **Marine on St.** 75.29 343 P P 00 12 17.2 0.0
baz=158
FRD **Ford Ranch, An** 75.29 321 P P 00 12 19.9 +2.2
baz=137
E42A **Champion** 75.30 347 P P 00 12 17.5 +0.2
baz=163
PFO **Pinyon Flats O** 75.30 321 P P 00 12 19.9 +2.2
baz=138
BELC **Belle Mtn. Jos** 75.33 321 P P 00 12 19.5 +1.6
baz=138
F39A **Loretta** 75.47 345 P P 00 12 18.5 +0.3
baz=160
MURC **Murrieta** 75.71 320 P P 00 12 21.5 +1.5
baz=137
F37A **Hinrichs Farm,** 75.71 343 P P 00 12 20.3 +0.7
baz=158
GMRC **Granite Mounta** 75.72 322 P P 00 12 22.2 +2.0
baz=138,SNR=9.6
E40A **Wakefield** 75.73 345 P P 00 12 20.2 +0.4
baz=161
F38A **Pierce - Schro** 75.74 344 P P 00 12 20.1 +0.3
baz=159
E39A **Mellen** 75.82 345 P P 00 12 20.7 +0.4
baz=160,SNR=5.2

N23A **Red Feather La** 75.89 332 eP P 00 12 22.5 +1.4
comp=Z,7.3nm,1.0s
N23A **Red Feather La** 75.89 332 P P 00 12 22.5 +1.4
baz=147
KNB **Kanab** 75.93 325 eP P 00 12 22.9 +1.5
comp=Z,30nm,1.1s
PKCU **Pink Cliffs** 76.00 326 eP P 00 12 23.1 +1.2
comp=Z,9.4nm,1.0s
D41A **Chassel** 76.03 347 P P 00 12 22.5 +1.1
baz=162
SUR **Sutherland** 76.03 119 eP P 00 12 21.2 -1.1
comp=Z,11nm,0.8s
HEC **Hector,Ludlow** 76.13 322 P P 00 12 24.5 +2.1
baz=138
LCMT **Little Creek M** 76.14 325 eP P 00 12 24.1 +1.6
comp=Z,7.7nm,1.0s
O20A **White River Ci** 76.24 330 eP P 00 12 25.0 +1.9
comp=Z,17nm,0.8s
O20A **White River Ci** 76.24 330 P P 00 12 24.9 +1.8
baz=145,SNR=9.0
TUQ **Turquoise Moun** 76.35 322 P P 00 12 25.7 +1.9
baz=138,SNR=6.0
SUSD **Miller** 76.37 339 P P 00 12 23.9 +0.4
baz=153
MTPU **Mount Pierson** 76.41 326 eP P 00 12 25.9 +1.6
comp=Z,7.5nm,0.9s
BFSC **Mont Baldy Ra** 76.43 320 P P 00 12 25.9 +1.6
baz=137
SRU **San Rafael Swe** 76.45 328 eP P 00 12 25.3 +1.0
comp=Z,12nm,0.9s
SZCU **Shurtz Canyon** 76.51 326 eP P 00 12 26.3 +1.6
comp=Z,14nm,1.2s
CCUT **Cedar City** 76.61 325 eP P 00 12 27.4 +2.1
comp=Z,20nm,0.9s
GSC **Goldstone, Bar** 76.74 322 eP P 00 12 27.8 +1.9
comp=Z,6.1nm,1.0s
GSC **Goldstone, Bar** 76.74 322 P P 00 12 27.7 +1.8
baz=138
P18A **Preston Nutter** 76.74 329 eP P 00 12 27.5 +1.5
comp=Z,14nm,0.9s
SHPR **Sheep Range** 76.75 324 eP P 00 12 27.5 +1.5
comp=Z,6.6nm,0.9s
MSU **Marysvale** 76.77 327 eP P 00 12 27.6 +1.4
P17A **Butcher Ranch,** 76.84 328 eP P 00 12 27.9 +1.4
comp=Z,17nm,1.0s
TMUT **Trail Mountain** 76.92 328 eP P 00 12 28.3 +1.2
comp=Z,8.3nm,1.2s
RWWY **Rawlins** 77.07 332 eP P 00 12 29.1 +1.3
comp=Z,22nm,0.9s
EDW2 **Edwards Air Fo** 77.09 321 P P 00 12 29.4 +1.6
baz=137
LRMC **Laurel Mtn Rad** 77.35 321 P P 00 12 31.2 +1.8
baz=137
K22A **Casper** 77.59 333 eP P 00 12 31.9 +1.4
comp=Z,12nm,0.8s
K22A **Casper** 77.59 333 P P 00 12 32.2 +1.7
baz=146
PSUT **Pine Spring** 77.62 326 eP P 00 12 32.3 +1.5
comp=Z,13nm,1.0s
FURC **Furnace Creek,** 77.63 322 P P 00 12 32.5 +1.9
baz=138
MPMC **Manual Prospec** 77.67 322 P P 00 12 32.6 +1.4
baz=137
MPU **Mae Canyon** 77.69 328 eP P 00 12 32.2 +1.0
comp=Z,11nm,1.0s
NLU **North Lily Min** 77.85 328 eP P 00 12 33.1 +1.0
comp=Z,5.9nm,0.9s
RSSD **Black Hills** 77.86 335 eP P 00 12 32.8 +0.7
comp=Z,8.3nm,0.8s
RSSD **Black Hills** 77.86 335 P P 00 12 33.2 +1.1
baz=149
DAC **Darwin (Calif)** 77.89 322 eP P 00 12 33.5 +1.1
comp=Z,9.2nm,1.0s
ISA **Isabella, Lake** 77.93 321 eP P 00 12 34.9 +2.4
comp=Z,5.5nm,0.9s
ISA **Isabella, Lake** 77.93 321 P P 00 12 34.4 +2.0
baz=136,SNR=7.5
JLU **Jordanelle** 78.07 329 eP P 00 12 34.5 +1.1
comp=Z,9.9nm,0.8s
PKM **Mcpherson Peak** 78.13 320 P P 00 12 35.8 +2.0
baz=135,SNR=5.2
CWC **Cottonwood Cre** 78.27 322 P P 00 12 36.1 +1.6
baz=137
GRAC **Grapevine Rang** 78.29 323 P P 00 12 36.6 +2.2
baz=137
R11A **Troy Canyon, C** 78.36 325 eP P 00 12 36.4 +1.5
comp=Z,15nm,1.4s
R11A **Troy Canyon, C** 78.36 325 P P 00 12 37.1 +2.2
baz=139,SNR=14
DUG **Dugway, Tooele** 78.39 327 eP P 00 12 36.1 +1.1
comp=Z,8.1nm,1.0s
DUG **Dugway, Tooele** 78.39 327 P P 00 12 36.9 +1.9
baz=141,SNR=6.1
TCUT **Toone Canyon** 78.46 329 eP P 00 12 36.5 +0.9
comp=Z,48nm,1.8s
TSUM **Tsumeb** 78.79 106 eP P 00 12 37.3 -0.5
comp=Z,8.0nm,0.8s
MAW **Mawson** 78.91 163 P P 00 12 36.9 -0.4
comp=Z,5.3nm,0.6s,baz=216,slow=6.9,SNR=17
MAW **Mawson** 78.91 163 eP P 00 12 36.9 -0.4
comp=Z,1.2nm,0.6s
HWUT **Hardware Ranch** 78.92 329 eP P 00 12 39.2 +1.2
comp=Z,16nm,0.8s
BW06 **Boulder Array** 78.96 331 eP P 00 12 39.4 +1.3
comp=Z,6.8nm,0.9s
BW06 **Boulder Array** 78.96 331 P P 00 12 40.3 +2.1
baz=144,SNR=7.3
PD31 **Pinedale Array** 78.96 331 eP P 00 12 39.4 +1.2
PDAR **Pinedale Array** 78.96 331 P P 00 12 39.0 +0.9
comp=Z,4.4nm,0.8s,baz=119,slow=5.4,SNR=25
PDAR **Pinedale Array** 78.96 331 eP P 00 12 38.0 -0.1
BGU **Big Grassy Mou** 79.06 328 eP P 00 12 39.9 +1.2
comp=Z,8.3nm,1.2s
SPUT **South Promonto** 79.09 328 eP P 00 12 40.4 +1.5
comp=Z,12nm,0.9s
MDND **Maddock** 79.61 340 eP P 00 12 42.5 +1.1
comp=Z,49nm,0.6s
MDND **Maddock** 79.61 340 P P 00 12 42.4 +1.1
baz=153
HVU **Hansel Valley** 79.61 328 eP P 00 12 42.8 +1.2
comp=Z,8.6nm,0.9s
AHID **Auburn Hatcher** 79.63 330 eP P 00 12 43.5 +1.7
comp=Z,18nm,1.0s
OMMB **Old Mammoth Mi** 79.63 322 eP P 00 12 43.4 +1.3
comp=Z,8.2nm,1.0s
TOA0 **Torodi Ar. Sit** 79.70 69 eP P 00 12 41.0 -1.6
TORD **Torodi Ar. Bea** 79.70 69 P P 00 12 40.7 -1.9
comp=Z,4.8nm,0.6s,baz=266,slow=3.8,SNR=58
TOA1 **Torodi Ar. Sit** 79.70 69 eP P 00 12 40.7 -1.9
NVAR **Mina Airway Bea** 79.85 323 P P 00 12 44.2 +1.1
comp=Z,2.8nm,0.8s,baz=157,slow=7.1,SNR=8.3
REDW **Red Top Meadow** 80.00 331 eP P 00 12 45.1 +1.3
comp=Z,12nm,1.0s
SNOW **Snow King Moun** 80.03 331 eP P 00 12 45.0 +1.0
comp=Z,11nm,1.0s
LOHW **Long Hollow** 80.09 331 eP P 00 12 45.0 +0.7
comp=Z,9.1nm,1.1s
RYN **Ryan** 80.11 323 eP P 00 12 45.8 +1.4
comp=Z,6.6nm,1.2s
TPAW **Teton Pass** 80.14 331 eP P 00 12 45.6 +0.9
comp=Z,14nm,1.1s
KVN **Kaiserville** 80.19 324 eP P 00 12 45.7 +0.8
comp=Z,7.6nm,1.0s
MOOW **Moose Ponds** 80.26 331 eP P 00 12 45.9 +0.7
comp=Z,23nm,2.0s
FXWY **Fox Creek** 80.29 331 eP P 00 12 46.6 +1.2
comp=Z,6.0nm,1.0s
IMW **Indian Meadow** 80.46 331 eP P 00 12 46.8 +0.4
comp=Z,14nm,1.0s
FLWY **Flagg Ranch** 80.51 331 eP P 00 12 47.2 +0.7
comp=Z,10.0nm,0.8s
WAKR **Walker** 80.51 322 eP P 00 12 47.6 +1.0
comp=Z,8.4nm,1.1s
ULM **Lac du Bonnet** 80.72 343 P P 00 12 47.4 +0.2
comp=Z,9.3nm,0.6s,baz=149,slow=5.4,SNR=16
ULM **Lac du Bonnet** 80.72 343 eP P 00 12 47.4 +0.2
comp=Z,36nm,1.3s
RLMT **Red Lodge** 80.75 333 eP P 00 12 48.8 +1.0
comp=Z,9.6nm,0.8s
RLMT **Red Lodge** 80.75 333 P P 00 12 49.1 +1.4
baz=144,SNR=6.5
YERR **Yerington** 80.75 323 eP P 00 12 49.2 +1.3
comp=Z,13nm,1.2s
LAO **LASA Array** 80.86 335 eP P 00 12 49.3 +1.2
comp=Z,11nm,0.8s
LAO **LASA Array** 80.86 335 P P 00 12 49.1 +1.0
baz=147
YFT **Old Faithful** 80.86 331 eP P 00 12 49.5 +1.1
comp=Z,6.3nm,0.8s
PNTR **Pine Nut** 81.02 323 eP P 00 12 50.1 +0.8
comp=Z,13nm,0.9s
BOSA **Boshof** 81.09 117 P P 00 12 49.9 -0.2
comp=Z,6.1nm,0.8s,baz=253,slow=4.0,SNR=11
YMR **Madison River** 81.09 331 eP P 00 12 51.2 +1.6
comp=Z,24nm,0.9s
YHH **Holmes Hill** 81.14 331 eP P 00 12 51.3 +1.4
comp=Z,17nm,0.9s
YHB **Horse Butte** 81.26 331 eP P 00 12 52.0 +1.5
comp=Z,9.9nm,0.8s
PAHR **Pah Rah Range** 81.35 323 eP P 00 12 52.1 +1.1
comp=Z,17nm,1.2s
QLMT **Earthquake Lak** 81.42 331 eP P 00 12 53.0 +1.6
GCMT **Greycliff** 81.46 333 eP P 00 12 52.7 +1.3
DGMT **Dagmar** 81.64 337 eP P 00 12 53.0 +0.8
comp=Z,31nm,0.8s
DGMT **Dagmar** 81.64 337 P P 00 12 53.6 +1.4
baz=149,SNR=8.4
AFDM **Forest Hills D** 81.67 322 eP P 00 12 54.1 +1.6
comp=Z,15nm,1.7s
HLID **Hailey** 81.76 329 eP P 00 12 54.0 +0.9
comp=Z,9.8nm,1.0s
HLID **Hailey** 81.76 329 P P 00 12 54.9 +1.8
baz=140,SNR=13
SCHQ **Schefferville** 81.83 1 P P 00 12 54.2 +1.2
comp=Z,6.5nm,1.0s,baz=180,slow=1.0,SNR=3.2
SCHQ **Schefferville** 81.83 1 eP P 00 12 54.2 +1.2
comp=Z,23nm,1.2s
BEKR **Beckworth** 81.99 323 eP P 00 12 55.5 +1.2
comp=Z,7.7nm,1.1s
MCMT **McKenzie Canyo** 82.03 330 eP P 00 12 56.0 +1.4
DLMT **Dillon** 82.35 331 eP P 00 12 57.0 +0.9
comp=Z,11nm,1.0s
ORV **Oroville** 82.39 322 eP P 00 12 57.9 +1.6
comp=Z,12nm,1.1s
O03E **Paynes Creek** 83.07 322 P P 00 13 00.5 +0.6
baz=135
HRY **Holter Researc** 83.09 332 eP P 00 13 00.8 +1.0
EGMT **Eagleton** 83.31 334 eP P 00 13 01.8 +0.9
comp=Z,8.3nm,0.9s
EGMT **Eagleton** 83.31 334 P P 00 13 01.7 +0.7
baz=144
MOD **Modoc Plateau** 83.42 324 eP P 00 13 02.9 +1.2
comp=Z,5.7nm,1.0s
J08A **Circle Bar Ran** 83.55 326 eP P 00 13 03.9 +1.6
comp=Z,14nm,1.1s
N02D **Trinity Center** 84.04 322 P P 00 13 04.8 0.0
baz=134
MSO **Missoula** 84.08 331 P P 00 13 06.2 +1.3
baz=141
M04C **Macdoel** 84.14 323 P P 00 13 06.6 +1.2
baz=135
M02C **Callahan** 84.41 323 P P 00 13 08.0 +1.3
baz=134
L04D **Klamath Falls** 84.69 323 P P 00 13 08.8 +0.6
baz=134
J05D **Fort Rock, OR** 84.88 325 P P 00 13 10.1 +1.0
baz=135
F10A **Beach Ranch, E** 84.89 329 eP P 00 13 10.0 +1.0
comp=Z,7.1nm,1.1s
JTMT **Jette** 84.94 331 eP P 00 13 10.8 +1.6
comp=Z,7.3nm,0.8s
PINE **Pine Mountain** 85.10 325 eP P 00 13 11.2 +1.0
comp=Z,9.9nm,0.8s
J04D **Umpqua Nationa** 85.31 324 P P 00 13 12.4 +1.1
baz=135
L02E **Cave Junction** 85.34 323 P P 00 13 12.6 +1.3
baz=134
I05D **Terrebonne, OR** 85.69 325 P P 00 13 14.5 +1.5
baz=135
K02D **Willamette Mer** 85.75 323 P P 00 13 14.7 +1.4
baz=133
WALA **Waterton Lakes** 85.80 332 eP P 00 13 14.8 +1.3
comp=Z,9.4nm,0.8s
I04A **Tendick Farm,** 85.85 325 P P 00 13 14.2 +0.4
baz=134
MORF **Marmelete** 85.87 44 eP P 00 13 15.8 +1.8
comp=Z,27nm,1.6s
PTEO **Sao Teotonio** 85.97 44 eP P 00 13 16.4 +2.0
comp=Z,38nm,1.0s
J01E **Myrtle Point** 86.21 323 P P 00 13 17.4 +1.9
baz=133
PBDV **Barranco-do-Ve** 86.28 45 eP P 00 13 17.6 +1.6
comp=Z,21nm,0.9s
HAWA **Hanford** 86.28 428 eP P 00 13 16.5 +0.8
comp=Z,8.6nm,1.0s
G05D **Wamic, OR** 86.32 326 P P 00 13 17.6 +1.6
baz=135
FFC **Flin Flon** 86.39 342 eP P 00 13 16.2 +0.1
comp=Z,2.4nm,0.4s
PNCL **Nicolau / Gran** 86.45 44 eP P 00 13 18.6 +1.8
comp=Z,14nm,1.7s
MESJ **Messejana** 86.47 44 eP P 00 13 17.6 +0.7
MESJ AMb AMB 00 13 20.4
comp=Z,16nm,1.1s
MESJ **Messejana** 86.47 44 eP P 00 13 18.2 +1.3
comp=Z,16nm,1.3s
PVAQ **Vaqueiros** 86.51 45 eP P 00 13 18.4 +1.3
comp=Z,8.3nm,2.0s
PMAFR **Mafra** 86.52 43 eP P 00 13 20.2 +3.1
comp=Z,77nm,1.6s
H04D **Lebanon** 86.53 325 P P 00 13 17.6 +0.6
baz=134
NEW **Newport** 86.56 330 P P 00 13 17.9 +0.7
baz=139
C09A **Chrisman Ranch** 86.73 329 eP P 00 13 17.7 -0.2
comp=Z,14nm,0.8s
PBEJ **Beja** 86.80 44 eP P 00 13 20.2 +1.7
comp=Z,14nm,1.9s
I02D **Swisshome** 86.81 324 P P 00 13 19.5 +1.1
baz=133
PCAS **Casmilo, Conde** 87.68 42 eP P 00 13 23.4 +0.7
comp=Z,24nm,1.5s
D03D **Eldon** 88.80 327 P P 00 13 29.0 +1.2
baz=134
LSZ **Lusaka** 89.59 107 eP P 00 13 33.5 +1.0
comp=Z,11nm,1.3s
ESDC **Sonseca Array** 90.22 45 P P 00 13 33.6 -1.1
comp=Z,0.2nm,0.5s,baz=235,slow=5.2,SNR=2.9
TRF **Thorofare Moun** 110.17 332 ePdif Pdif 00 15 05.0 +0.9
KIEV **Kiev** 115.86 44 ePKPdf PKPdf 00 19 15.6 -0.3
AKASG **Malin Array Be** 115.87 44 PKP PKPdf 00 19 15.2 -0.8
comp=Z,0.4nm,0.3s,baz=263,slow=2.9,SNR=6.9
AKBB **Malin Array Si** 115.87 44 ePKPdf PKPdf 00 19 15.2 -0.8
MMAI **Mount Meron Ar** 115.95 65 PKP PKPdf 00 19 16.6 -0.2
comp=Z,1.1nm,0.5s,baz=32,slow=5.8,SNR=2.0
BR101 **Keskin Array S** 116.39 57 ePKPdf PKPdf 00 19 16.4 -1.1
BRTR **Keskin Array B** 116.39 57 PKP PKPdf 00 19 16.4 -1.1
comp=Z,1.3nm,0.7s,baz=132,slow=1.8,SNR=4.3
ARA0 **ARCESS Array S** 116.97 23 ePKPdf PKPdf 00 19 17.2 -0.4
ARCES **ARCESS Array B** 116.97 23 PKP PKPdf 00 19 17.2 -0.4
comp=Z,2.7nm,0.8s,baz=45,slow=12,SNR=2.6
KIV **Kislovodsk** 123.81 54 ePKPdf PKPdf 00 19 31.9 +0.2
KBZ **Khabaz** 123.94 54 PKP PKPdf 00 19 32.4 +0.7
comp=Z,4.2nm,0.9s,baz=186,slow=19,SNR=5.3
AS01 **Alice Springs** 124.56 206 ePKPdf PKPdf 00 19 32.9 -0.8
ASAR **Alice Springs** 124.58 206 PKP PKPdf 00 19 33.0 -0.7
comp=Z,1.9nm,0.7s,baz=163,slow=2.3,SNR=18
AS31 **Alice Springs** 124.58 206 ePKPdf PKPdf 00 19 33.0 -0.7
GNI **Garni** 124.84 59 ePKPdf PKPdf 00 19 34.4 +0.6
WB2 **Warramunga Arr** 127.73 209 ePKPdf PKPdf 00 19 39.5 -0.3
WR1 **Warramunga Arr** 127.73 209 ePKPdf PKPdf 00 19 39.5 -0.4
WRA **Warramunga Arr** 127.73 209 PKP PKPdf 00 19 39.5 -0.4
comp=Z,3.1nm,0.6s,baz=161,slow=1.6,SNR=49
WRAB **Tennant Creek** 127.74 209 ePKPdf PKPdf 00 19 39.7 -0.1
ARU **Arti** 133.08 37 PKP PKPdf 00 19 48.7 0.0
AKTO **Aktyubinsk** 134.11 45 PKP PKPdf 00 19 51.5 +0.6
comp=Z,2.0nm,0.7s,baz=221,slow=1.2,SNR=5.9
ABKAR **Akbulak array** 135.54 46 ePKPdf PKPdf 00 19 54.5 +0.9
BRVK **Borovoye** 140.61 38 ePKPdf PKPdf 00 20 00.6 -2.2
BVAR **Borovoye Array** 140.69 38 PKP PKPdf 00 20 00.7 -2.2
comp=Z,1.6nm,0.8s,baz=270,slow=1.5,SNR=6.7
KK31 **Karatay Array** 143.97 53 ePKPdf PKPbc 00 20 07.2 0.0
KKAR **Karatay Array** 143.97 53 ePKPdf PKPbc 00 20 07.2 0.0
KURK **Kurchatov** 146.27 37 ePKPdf PKPbc 00 20 13.8 -0.2
EKS2 **Erkin-Say** 146.41 53 P PKPbc 00 20 15.4 +0.5
SNR=11
AML **Almayashu** 146.49 54 P PKPbc 00 20 15.8 +0.2
SNR=8.8
AAK **Ala-Archa** 146.93 53 PKPbc PKPbc 00 20 15.7 -0.7
comp=Z,30nm,0.8s,baz=260,slow=1.2,SNR=28
AAK **Ala-Archa** 146.93 53 P PKPbc 00 20 16.3 -0.1
SNR=18
AAK **Ala-Archa** 146.93 53 ePKPdf PKPbc 00 20 15.7 -0.7
AAK ePKPbc PKPdf 00 20 16.1 +1.8
CHMS **Chumysh** 147.01 52 P PKPab 00 20 17.6 -0.6

	SNR=6.5								
UCH	**Uchtor**	**147.05**	**54**		P	**PKPbc**	**00 20 16.4**	**-0.8**
	SNR=15								
KBK	**Karagaybulak**	**147.24**	**53**		P	**PKPab**	**00 20 18.9**	**-0.4**
	SNR=9.9								
ZAA1	**Zalesovo Array**	**147.28**	**28**	*e*	PKPdf	**PKPdf**	**00 20 15.3**	**+0.9**
ZAA0	**Zalesovo Array**	**147.29**	**28**	*e*	PKPdf	**PKPdf**	**00 20 14.3**	**0.0**
ZAA0				*e*	PKPbc	**PKPbc**	**00 20 17.2**	**+0.4**
ZALV	**Zalesovo Beam**	**147.29**	**28**	*e*	PKPbc	**PKPdf**	**00 20 15.3**	**+0.9**
	comp=Z,39nm,0.7s,baz=285,slow=2.5,SNR=64								
ZALV	**Zalesovo Beam**	**147.29**	**28**	*e*	PKPdf	**PKPdf**	**00 20 14.3**	**0.0**
ZALV				*e*	PKPbc	**PKPbc**	**00 20 17.4**	**+0.5**
TKM2	**Tokmak 2**	**147.62**	**52**		P	**PKPdf**	**00 20 16.8**	**+1.2**
	SNR=11								
ULHL	**Ulahol**	**148.28**	**53**		P	**PKPbc**	**00 20 21.6**	**+1.4**
	SNR=7.2								
KSH	**Kashi**	**148.77**	**58**		PKPbc	**PKPdf**	**00 20 18.8**	**+1.3**
KSH					PP	**PP**	**00 23 55.6**	**+2.9**
KSH					SKS	**SKSdf**	**00 27 15.9**	**-1.0**
KSH					AMB	AMB		
	comp=Z,160nm,5.2s								
HYB	**Hyderabad**	**148.79**	**102**	*i*	PKP	**PKPbc**	**00 20 22.0**	**+0.1**
HYB				*es*	PKP		00 20 55.0		
MK31	**Makanchi Array**	**150.39**	**41**	*e*	PKPdf	**PKPdf**	**00 20 21.4**	**+1.7**
MK31				*e*	PKPbc	**PKPbc**	**00 20 25.2**	**+0.2**
MK32	**Makanchi Array**	**150.39**	**41**	*e*	PKPbc	**PKPbc**	**00 20 24.8**	**-0.2**
MKAR	**Makanchi Array**	**150.39**	**41**		PKPbc	**PKPbc**	**00 20 24.8**	**-0.2**
	comp=Z,32nm,0.7s,baz=332,slow=1.9,SNR=46								
MKAR	**Makanchi Array**	**150.39**	**41**	*e*	PKPbc	**PKPbc**	**00 20 24.1**	**-0.9**
MK01	**Makanchi Array**	**150.41**	**41**	*e*	PKPdf	**PKPdf**	**00 20 20.0**	**+0.3**
MK01				*e*	PKPbc	**PKPbc**	**00 20 24.1**	**-0.9**
WMQ	**Urumqi**	**155.21**	**42**	*e*	P	**PKPdf**	**00 20 26.8**	**-0.1**
SONA1	**Songino Array**	**159.22**	**8**	*e*	PKPdf	**PKPdf**	**00 20 32.6**	**+0.7**
SONA1				*e*	PKPab	**PKPab**	**00 21 08.5**	**-0.9**
SONA0	**Songino Array**	**159.23**	**8**	*e*	PKPdf	**PKPdf**	**00 20 33.0**	**+1.1**
SONA0				*e*	PKPab	**PKPab**	**00 21 09.1**	**-0.3**
SONM	**Songino Array**	**159.23**	**8**		PKP	**PKPdf**	**00 20 33.0**	**+1.1**
	comp=Z,1.9nm,0.9s,baz=167,slow=0.6,SNR=9.4								
SONM					PKPab	**PKPab**	**00 21 09.1**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=334,slow=2.0,SNR=3.8								
ULN	**Ulaanbaatar**	**159.28**	**7**	*e*	PKPdf	**PKPdf**	**00 20 32.9**	**+0.9**
ULN				*e*	PKPab	**PKPab**	**00 21 10.9**	**+1.2**
GTA	**Gaotai**	**164.91**	**34**	*e*	P	**PKPdf**	**00 20 39.3**	**+1.4**
GTA					pP	pPKPdf	00 20 44.5	-21
GTA					sP	sPKPdf	00 20 47.5	-28
HHC	**Hu-ho-hao-te**	**166.47**	**357**	*e*	P	**PKPdf**	**00 20 37.6**	**-1.5**
LZH	**Lanzhou**	**169.49**	**32**	*e*	PKP	**PKPdf**	**00 20 40.8**	**-0.6**
LZH					pPKP	pPKPdf	00 21 07.5	-1.3
LZH					sPKP		00 21 16.0	
LZH					LR	LR		
	comp=N,120nm,18.1s								
LZH					LR	LR		
	comp=E,130nm,18.2s								
LZH					LR	LR		
	comp=Z,170nm,20.1s								
NJ2	**Nanjing**	**171.46**	**306**	*e*	P	**PKPdf**	**00 20 42.0**	**-0.3**

ISK 14 00:01:48.9, 36.62N×27.96E, h8km, ML2.3/5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSB	**Marmaris-Mugla**	**0.21**	**64**	PG	Pg	00 01 53.8	+0.5
DATC	**Datca-Mugla**	**0.28**	**300**	PG	Pg	00 01 54.8	+0.4
DAT	**Datca**	**0.32**	**290**	PG	Pg	00 01 55.7	+0.4
DAT				SG	Sb	00 02 01.3	-1.1
ARG	**Arkhangelos**	**0.43**	**161**	PG	Pg	00 01 56.9	-0.3
ARG				SG	Sb	00 02 04.8	-0.5
TURN	**Turunc**	**0.58**	**64**	PG	Pg	00 01 54.9	-5.1
TURN				SG	Sg	00 01 59.8	-7.8
DALY	**Dalyan (Mu¨la**	**0.59**	**71**	PG	Pg	00 02 00.7	+0.3
NIS1	**Nisyros Isl.**	**0.63**	**269**	PG	Pb	00 02 01.9	-0.2
BODT	**Bodrum**	**0.68**	**311**	PG	Pg	00 02 02.5	+0.5
AYDB	**Zeytinkoy-Aydi**	**1.32**	**358**	PN	Pg	00 02 14.3	0.0

*IDC **14** 00:01:58.7±0.8, 37.32N×37.18E, h0km, mb3.8/10, mb1 3.8/19, mb1mx3.7/44, mbtmp3.7/19, ML3.5/6, MS3.0/1, Ms1 3.0/1, ms1mx2.5/49, Error ellipse: s-maj=12.8km s-min=11.0km az=119.0*

*ISK **14** 00:01:59.3, 37.32N×37.13E, h12km, ML4.4/15*

*DDA **14** 00:01:59.5, 37.31N×37.12E, h28km, Ml4.4*

*ISCJB **14** 00:01:59.8±0.5, 37.30N±0.02×37.14E±0.02, h13km±3km, mb4.0/21, Error ellipse: s-maj=3.4km s-min=2.5km az=157.1*

*MOS **14** 00:01:59.2±1.0, 37.39N×37.20E, h11km, mb4.1/10, Error ellipse: s-maj=9.5km s-min=5.2km az=97.4*

*NEIC **14** 00:01:59.4±0.0, 37.31N×37.12E, h12km, mb4.3/7, ML4.4(ISK), After ISK.*

*NIC **14** 00:02:01.4±0.3, 37.93N×36.38E, h15km, mb4.6, ML4.3*

ISC 14 00:02:00.6±0.7, 37.33N±0.02×37.16E±0.02, h11km±4km, n182, σ1§41/208, mb3.9/25, 19C-6D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.16**	**164**	PG	**Pg**	**00 02 03.5**	**-0.7**
GAZ				SG	**Sg**	**00 02 06.8**	**0.0**
GAZ	**Gaziantep**		**164**	Pg	**Pg**	**00 02 03.5**	**-0.7**
GAZ				Sg	**Sg**	**00 02 06.5**	**-0.3**
KUZU	**Kuzuini**	**0.56**	**187**	⇓*i* P	**Pg**	**00 02 11.2**	**-0.2**
KUZU				*i* S	**Sg**	**00 02 19.0**	**+0.2**
ANDN	**Andirin**	**0.69**	**292**	⇑*i* P	**Pg**	**00 02 12.7**	**-1.3**
ANDN				*i* S	**Sg**	**00 02 22.9**	**-0.3**
ATAB	**Bozova**	**0.92**	**81**	⇑*i* P	**Pg**	**00 02 17.8**	**-0.5**
ATAB				*i* S	**Sb**	**00 02 30.8**	**+0.1**
ELBS	**KAHRAMANMARAS**	**1.00**	**359**	⇓*i* P	**Pg**	**00 02 18.8**	**-1.0**
ELBS				*i* S	**Sn**	**00 02 36.1**	**+1.3**
KOZT	**Kozan**	**1.07**	**279**	PG	**Pb**	**00 02 19.6**	**-1.5**
KOZT				SG	**Sb**	**00 02 35.1**	**0.0**
AKCD	**Akcadag**	**1.14**	**32**	⇓*i* P	**Pb**	**00 02 21.9**	**-0.6**
AKCD				*i* S	**Sn**	**00 02 38.6**	**+0.2**
TAHT	**Tahtakopru-Hat**	**1.23**	**220**	PN	**Pn**	**00 02 22.4**	**-1.3**
TAHT				SN	**Sg**	**00 02 39.8**	**-0.3**
SURC	**SANLIURFA_SURC**	**1.25**	**111**	⇑*i* P	**Pn**	**00 02 23.2**	**-0.7**
SURC				*i* S	**Sn**	**00 02 41.0**	**+0.2**
DARE	**Darende-Malaty**	**1.27**	**12**	PN	**Pn**	**00 02 23.9**	**-0.5**
DARE	**Darende-Malaty**	**1.27**	**12**	Pn	**Pn**	**00 02 23.9**	**-0.5**
URFA	**Urfa**	**1.33**	**85**	PN	**Pn**	**00 02 24.3**	**-0.9**
URFA	**Urfa**	**1.33**	**85**	Pn	**Pn**	**00 02 24.8**	**-0.4**
CUGUR	**Gurin_S¨VAS**	**1.40**	**4**	⇓*i* P	**Pn**	**00 02 26.8**	**+0.1**
CUGUR				*i* S	**Sg**	**00 02 48.3**	**+2.7**
KRTD	**Karatas-Adana**	**1.58**	**243**	PN	**Pn**	**00 02 27.3**	**-1.1**
HEKM	**Malatya_Hekimh**	**1.67**	**22**	*i* P	**Pn**	**00 02 30.8**	**+0.8**
HEKM				*i* S	**Sg**	**00 02 56.0**	**+1.6**
BNN	**Bunyan**	**1.84**	**326**	PN	**Pn**	**00 02 31.0**	**-1.3**
BNN	**Bunyan**	**1.84**	**326**	Pn	**Pn**	**00 02 31.7**	**-0.6**
ELZG	**Elazig**	**1.86**	**50**	⇓*i* P	**Pn**	**00 02 32.2**	**-0.3**
ELZG				*i* S	**Sn**	**00 02 56.7**	**+0.6**
GULE	**Gulek**	**1.90**	**269**	⇑*i* P	**Pn**	**00 02 31.9**	**-1.2**
GULE				*i* S	**Sn**	**00 02 57.5**	**+0.4**
CUALT	**Altinyayla-SIV**	**1.97**	**351**	⇓*i* P	**Pn**	**00 02 34.7**	**+0.7**
CUALT				*i* S	**Sg**	**00 03 04.6**	**+0.7**
MERS	**Mersin**	**2.16**	**259**	PN	**Pn**	**00 02 35.7**	**-0.8**
NIG	**Nigde**	**2.17**	**292**	PN	**Pn**	**00 02 36.2**	**-0.6**
NIG	**Nigde**	**2.17**	**292**	Pn	**Pn**	**00 02 36.2**	**-0.6**
KEMA	**Kemaliye**	**2.21**	**28**	*i* P	**Pn**	**00 02 36.8**	**-0.4**
KEMA				*i* S	**Sg**	**00 03 10.7**	**-0.8**
CUSAR	**Sarkisla-SIVAS**	**2.21**	**341**	*i* P	**Pn**	**00 02 37.6**	**+0.3**
CUSAR				*i* S	**Sg**	**00 03 12.0**	**+0.4**
AVNS	**Nevsehir-Avano**	**2.35**	**310**	*i* P	**Pn**	**00 02 39.3**	**+0.1**
AVNS				*i* S	**Sb**	**00 03 13.7**	**+1.7**
PTK	**Pertek**	**2.35**	**48**	PN	**Pn**	**00 02 39.3**	**-0.1**
PTK	**Pertek**	**2.35**	**48**	Pn	**Pn**	**00 02 39.3**	**-0.1**
ILIC	**ilic-Erzincan**	**2.39**	**27**	PN	**Pn**	**00 02 40.1**	**+0.2**
ILIC	**ilic-Erzincan**	**2.39**	**27**	Pn	**Pn**	**00 02 40.0**	**+0.2**
KERG	**Konya-Eregli**	**2.42**	**273**	*i* P	**Pn**	**00 02 40.5**	**+0.4**
KERG				*i* S	**Sn**	**00 03 10.1**	**+0.3**
REFA	**Refahiye_ERZ¨**	**2.42**	**31**	*i* P	**Pg**	**00 02 46.6**	**-0.4**
REFA				*i* S	Sg	00 03 30.5	+12
DIYA	**Diyarbakir**	**2.43**	**75**	*i* P	**Pn**	**00 02 39.9**	**-0.4**
DIYA				*i* S	**Sg**	**00 03 19.1**	**+0.5**
SCER	**sogukcermik**	**2.53**	**359**	*i* P	**Pn**	**00 02 43.7**	**+1.9**
SCER				*i* S	**Sg**	**00 03 22.0**	**+0.1**
KIZK	**Mersin**	**2.56**	**252**	PN	**Pn**	**00 02 41.2**	**-0.8**
KIZK	**Mersin**	**2.56**	**252**	*i* P	**Pn**	**00 02 41.4**	**-0.5**
KIZK				*i* S	**Sn**	**00 03 13.1**	**0.0**
SVSK	**Karacayir**	**2.59**	**357**	PN	**Pn**	**00 02 42.5**	**+0.1**
SVSK	**Karacayir**	**2.59**	**357**	Pn	**Pn**	**00 02 42.5**	**+0.1**
TNCL	**Tunceli-Merkez**	**2.59**	**46**	*i* P	**Pb**	**00 02 48.7**	**+1.6**
TNCL				*i* S	**Sg**	**00 03 23.9**	**0.0**
CUZAR	**Zara_SIVAS**	**2.60**	**10**	*i* P	**Pb**	**00 02 45.9**	**-1.4**
CUZAR				*i* S	**Sg**	**00 03 24.8**	**+0.6**
MAZI	**Mazidag**	**2.62**	**86**	PN	**Pn**	**00 02 42.6**	**-0.4**
MAZI	**Mazidag**	**2.62**	**86**	Pn	**Pn**	**00 02 43.0**	**0.0**
YOZ	**Yozgat**	**2.72**	**329**	PN	**Pn**	**00 02 44.1**	**-0.3**
YOZ	**Yozgat**	**2.72**	**329**	Pn	**Pn**	**00 02 44.4**	**0.0**
HANI	**Diyarbakir_Han**	**2.79**	**66**	*i* P	**Pn**	**00 02 44.7**	**-0.5**
HANI				*i* S	**Sg**	**00 03 28.5**	**-1.6**
KEBE	**Keben-Mersin**	**2.90**	**253**	PN	**Pn**	**00 02 46.4**	**-0.3**
AKSY	**AKSARAY - Alti**	**2.99**	**297**	*i* P	**Pn**	**00 02 48.5**	**+0.4**
AKSY				*i* S	**Sg**	**00 03 34.2**	**-2.5**
SUSE	**Susehri**	**2.99**	**16**	*i* P	**Pn**	**00 02 48.5**	**+0.4**
SUSE				*i* S	**Sg**	**00 03 34.5**	**-2.1**
IKL	**Isikli**	**2.99**	**250**	PN	**Pn**	**00 02 47.2**	**-0.7**
IKL	**Isikli**	**2.99**	**250**	Pn	**Pn**	**00 02 47.5**	**-0.4**
EREN	**Erenkoy**	**3.00**	**234**	PN	**Pn**	**00 02 47.6**	**-0.5**
SULT	**Sultanhani-AKS**	**3.02**	**288**	PN	**Pn**	**00 02 47.9**	**-0.4**
SULT	**Sultanhani-AKS**	**3.02**	**288**	Pn	**Pn**	**00 02 48.0**	**-0.4**
ERZN	**Erzincan**	**3.02**	**41**	PN	**Pn**	**00 02 49.3**	**+0.8**
ERZN	**Erzincan**	**3.02**	**41**	Pn	**Pn**	**00 02 49.2**	**+0.8**
TOKA	**Tokat**	**3.04**	**350**	*i* P	**Pn**	**00 02 48.3**	**-0.3**
TOKA				*i* S	**Sb**	**00 03 31.9**	**+0.1**
YESI	**Yesilovacik-Me**	**3.04**	**249**	PN	**Pn**	**00 02 48.1**	**-0.5**
TEVE	**Tevekalti-Mers**	**3.11**	**254**	PN	**Pn**	**00 02 49.3**	**-0.3**
GULN	**MERSIN_Gulnar**	**3.12**	**250**	*i* P	**Pn**	**00 02 49.0**	**-0.6**
GULN				*i* S	**Sn**	**00 03 27.1**	**+0.2**
AKKU	**Akkuyu-Mersin**	**3.12**	**249**	PN	**Pn**	**00 02 49.4**	**-0.3**
SVAN	**Silvan-Diyarba**	**3.31**	**74**	*i* P	**Pb**	**00 02 57.6**	**-1.6**
SVAN				*i* S	**Sb**	**00 03 41.4**	**+1.9**
BTMN	**Batman**	**3.31**	**79**	*i* P	**Pb**	**00 02 59.7**	**+0.3**
BTMN				*i* S	**Sg**	**00 03 47.3**	**+0.3**
PHNC	**Paralimni**	**3.43**	**228**	P	**Pn**	**00 02 54.9**	**+0.9**
	baz=32						
PHNC				S	**Sn**	**00 03 36.3**	**+1.7**
BR101	**Keskin Array S**	**3.65**	**312**	*e* Pn	**Pn**	**00 02 58.0**	**+0.8**
BR101				*e* Lg	Lg	00 03 56.1	
BR131	**Keskin Array S**	**3.65**	**312**	*e* Pn	**Pn**	**00 02 58.2**	**+1.0**
BRTR	**Keskin Array B**	**3.65**	**312**	Pn	**Pn**	**00 02 58.0**	**+0.8**
	2.0nm,0.3s,baz=152,slow=16,SNR=36						
BRTR				Lg	Lg	00 03 56.1	
	3.0nm,0.3s,baz=134,slow=32,SNR=3.5						
CSS	**Mathiatis**	**3.89**	**234**	*e* Pn	**Pn**	**00 02 57.6**	**-2.8**
BR231	**Keskin MP Arra**	**4.25**	**308**	*e* Pn	**Pn**	**00 03 06.4**	**+1.0**
ANTO	**Ankara**	**4.26**	**308**	*e* Pn	**Pn**	**00 03 07.5**	**+2.1**
ANTO	**Ankara**	**4.26**	**308**	*e* P	**Pn**	**00 03 07.5**	**+2.1**
SZAC	**Souni**	**4.31**	**235**	P	**Pn**	**00 03 05.0**	**-1.1**
	baz=40						
SZAC				S	**Sn**	**00 03 55.4**	**-1.0**
MMAI	**Mount Meron Ar**	**4.54**	**199**	Pn	**Pn**	**00 03 08.4**	**-0.8**
	3.0nm,0.3s,baz=22,slow=14,SNR=35						
MMAI				Pg	**Pb**	**00 03 22.3**	**+2.1**
	21nm,0.3s,baz=23,slow=15,SNR=23						
MMAI				Lg	Lg	00 04 21.4	
	34nm,0.3s,baz=32,slow=31,SNR=6.1						
ILGA	**Ilgaz**	**4.58**	**325**	*e* Pn	**Pn**	**00 03 13.0**	**+3.0**
PPCY	**Paphos**	**4.60**	**239**	P	**Pn**	**00 03 08.7**	**-1.3**
	baz=45						
ASF	**Jabal al Asfar**	**5.15**	**182**	Pn	**Pn**	**00 03 17.8**	**+0.2**
	0.8nm,0.3s,baz=299,slow=5.0,SNR=15						
ASF				Lg	Lg	00 04 41.6	
	13nm,0.3s,baz=316,slow=22,SNR=5.9						
AKH	**Akhalkalaki**	**6.38**	**48**	⇑*i* P	**Pg**	**00 04 01.6**	**-1.1**
GNI	**Garni**	**6.56**	**62**	Pn	**Pn**	**00 03 38.0**	**+0.8**
	0.3nm,0.3s,baz=47,slow=19,SNR=1.9						
GNI				LR	LR	00 05 47.4	
	comp=Z,119nm,18.4s,baz=246,slow=35						
GNI	**Garni**	**6.56**	**62**	*e* Pn	**Pn**	**00 03 38.0**	**+0.8**
GNI				*e* Pg	**Pg**	**00 04 02.8**	**-3.4**
GNI	**Garni**	**6.56**	**62**	*i* P	**Pn**	**00 03 36.0**	**-1.2**
NEY	**Neytrino**	**7.28**	**34**	*i* P	**Pn**	**00 03 48.5**	**+1.4**
YAL	**Yalta**	**7.51**	**343**	*e* P	**Pn**	**00 03 50.0**	**+0.1**
YAL				pmax	pmax		
	comp=Z,11nm,0.2s						
ALU	**Alushta**	**7.64**	**345**	*e* P	**Pn**	**00 03 51.4**	**-0.3**
ALU				pmax	pmax		
	comp=Z,5.0nm,0.2s						
SUDU	**Sudak**	**7.73**	**349**	*e* P	**Pn**	**00 03 53.6**	**+0.6**
SUDU				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KBZ	**Khabaz**	**7.74**	**33**	Pn	**Pn**	**00 03 56.3**	**+3.1**
	comp=Z,0.0nm,0.3s,baz=45,slow=19,SNR=1.7						
KIV	**Kislovodsk**	**7.84**	**31**	*e* P	**Pn**	**00 03 52.2**	**-2.4**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,109nm,10.0s						
KARP	**Karpathos**	**8.25**	**261**	*e* Pn	**Pn**	**00 03 57.3**	**-2.9**
IDI	**Anoyia**	**10.11**	**262**	Pn	**Pn**	**00 04 23.8**	**-2.0**
	comp=Z,1.9nm,0.3s,baz=80,slow=15,SNR=15						
CFR	**Carcaliu**	**10.37**	**322**	⇑*i* P	Pn	00 04 34.4	+5.2
CFR	**Carcaliu**	**10.37**	**322**	⇑P	Pn	00 04 34.4	+5.2
VTS	**Vitosha**	**11.92**	**300**	⇑*i* P	Pn	00 04 59.6	+9.0
VTS	**Vitosha**	**11.92**	**300**	⇑P	Pn	00 04 59.6	+9.0
ARR	**Arges**	**12.36**	**314**	⇑*i* P	**P**	**00 05 06.3**	**-2.4**
LOT	**Lotru**	**12.91**	**313**	⇑*i* P	**Pn**	**00 05 08.3**	**+4.3**
BURAR	**Bucovina Array**	**13.52**	**323**	⇑*i* P	**P**	**00 05 17.0**	**-4.6**
BURAR	**Bucovina Array**	**13.52**	**323**	⇑P	**P**	**00 05 17.0**	**-4.6**
BUR04	**Bucovina Ar. S**	**13.53**	**323**	*e* Pn	**Pn**	**00 05 15.3**	**+2.9**
CJR	**Cluj-Napoca**	**13.75**	**317**	⇑*i* P	**P**	**00 05 24.3**	**+0.2**
CJR	**Cluj-Napoca**	**13.75**	**317**	⇑P	**P**	**00 05 24.3**	**+0.2**
VSR	**Storozhevoye**	**13.96**	**5**	*i* P	**Pn**	**00 05 17.3**	**-0.3**
DRGR		**14.28**	**316**	⇑*i* P	**P**	**00 05 30.3**	**+0.3**
DRGR		**14.28**	**316**	⇑P	**P**	**00 05 30.3**	**+0.3**
KIEV	**Kiev**	**14.52**	**339**	*e* Pn	**Pn**	**00 05 24.8**	**-1.1**
	comp=Z,14nm,1.3s						
KIEV	**Kiev**	**14.52**	**339**	*i* P	**Pn**	**00 05 27.2**	**+1.3**
AKASG	**Malin Array Be**	**14.53**	**340**	Pn	**Pn**	**00 05 24.7**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=156,slow=10,SNR=2.7						
AKBB	**Malin Array Si**	**14.53**	**340**	*e* Pn	**Pn**	**00 05 24.7**	**-1.2**
AKBB	**Malin Array Si**	**14.53**	**340**	*e* P	**Pn**	**00 05 24.7**	**-1.2**
TRPA	**Tarpa**	**15.20**	**320**	⇑*i* P	**P**	**00 05 43.6**	**+3.5**
KECS	**Kecovo**	**16.50**	**318**	*e* P	**P**	**00 05 58.3**	**+3.8**
KECS	**Kecovo**	**16.50**	**318**	*e* P	**P**	**00 05 58.3**	**+3.8**
GEYT	**Alibeck**	**16.62**	**82**	Pn	**Pn**	**00 05 51.6**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=291,slow=15,SNR=4.4						
CUC	**Castrocucco**	**16.88**	**286**	*e* Pn	**Pn**	**00 05 57.0**	**+0.2**
	comp=Z,18nm,1.2s						
OBN	**Obninsk**	**17.80**	**359**	⇑*e* P	**P**	**00 06 08.7**	**-0.1**
OBN				*e* S	**Sn**	**00 09 21.8**	**-4.4**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
OBN				MLR	MLR		
	comp=Z,124nm,17.0s						
MODS	**Modra-Piesok**	**18.23**	**314**	*e* P	**P**	**00 06 17.8**	**+4.1**
MODS	**Modra-Piesok**	**18.23**	**314**	*e* P	**P**	**00 06 17.8**	**+4.1**
MOS	**Moscow**	**18.42**	**1**	*e* P	**P**	**00 06 14.9**	**-0.7**
MOA	**Molln**	**19.79**	**309**	*e* P	**Pn**	**00 06 36.2**	**+3.8**
	comp=Z,1.9nm,0.6s						
DPC	**Dobruska-Polom**	**19.80**	**318**	*e* P	**Pn**	**00 06 32.3**	**-0.1**
DPC	**Dobruska-Polom**	**19.80**	**318**	*e* P	**Pn**	**00 06 32.3**	**-0.1**
AKTO	**Aktyubinsk**	**19.86**	**42**	P	**P**	**00 06 31.1**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=254,slow=8.7,SNR=5.4						
ABTA	**Abfaltersbach**	**20.51**	**305**	P	Pn	00 06 43.2	+2.3
	comp=Z,3.4nm,0.8s						
GEA0	**GERESS Array S**	**20.55**	**311**	*e* P	**P**	**00 06 39.8**	**+0.7**
GEC2	**GERESS Array S**	**20.55**	**311**	*e* P	Pn	00 06 40.8	-0.5
	comp=Z,6.0nm,0.8s						
GEC2	**GERESS Array S**	**20.55**	**311**	*e* P	Pn	00 06 40.8	-0.5
GEC2				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GERES	**GERESS Array B**	**20.55**	**311**	P	**P**	**00 06 39.3**	**+0.1**
	comp=Z,3.6nm,0.6s,baz=113,slow=10,SNR=14						
PRA	**Prague**	**20.69**	**315**	*e* P	**P**	**00 06 40.4**	**-0.1**
PRA	**Prague**	**20.69**	**315**	*e* P	**P**	**00 06 40.4**	**-0.1**
KHC	**Kasperske Hory**	**20.75**	**312**	*e* P	**P**	**00 06 42.2**	**+1.0**
	comp=Z,3.0nm,0.7s						
KHC	**Kasperske Hory**	**20.75**	**312**	*e* P	**P**	**00 06 42.0**	**+0.8**
KHC	**Kasperske Hory**	**20.75**	**312**	*e* P	**P**	**00 06 42.2**	**+1.0**
KHC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WATA	**Walderalm**	**21.31**	**306**	*e* pP	pP	00 06 52.5	+2.0
	comp=Z,1.3nm,0.5s						
SQTA	**Sankt Quirin**	**21.51**	**306**	*e* P	**P**	**00 06 53.8**	**+4.3**
	comp=Z,3.7nm,0.9s						
MOTA	**Moosalm**	**21.61**	**306**	*es* P	sP	00 06 53.4	-1.8
	comp=Z,4.2nm,0.6s						
FETA	**Feichten**	**21.76**	**305**	*es* P	sP	00 06 55.6	-1.2
	comp=Z,10nm,1.3s						
RETA	**Reutte**	**21.88**	**306**	P	**P**	**00 06 53.8**	**+0.4**
	comp=Z,4.4nm,0.6s						
CLL	**Collm**	**22.09**	**317**	*es* P	**sP**	**00 07 01.0**	**+0.9**
CLL				*e* PP	**PnPn**	**00 07 16.0**	**-1.5**
CLL				*e* PPP	PPP	00 07 25.0	
CLL	**Collm**	**22.09**	**317**	*e* P	sP	00 07 01.0	+0.9
DAVOX	**Davos/Dischmat**	**22.25**	**304**	P	**P**	**00 06 57.0**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=151,slow=9.0,SNR=2.8						
DAVOX	**Davos/Dischmat**	**22.25**	**304**	P	**P**	**00 06 57.0**	**-0.6**
DAVOX				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KEST	**Kesra**	**22.38**	**274**	P	**P**	**00 06 59.0**	**+0.1**
	comp=Z,6.3nm,0.9s,baz=293,slow=15,SNR=2.7						
KEST	**Kesra**	**22.38**	**274**	*e* P	**P**	**00 06 59.0**	**+0.1**
	comp=Z,70nm,1.8s						
DAVA	**Damuels**	**22.39**	**305**	*e* pP	pP	00 07 01.0	-1.2
	comp=Z,4.8nm,0.5s						
BFO	**Black Forest**	**23.69**	**307**	*e* P	**P**	**00 07 13.1**	**+0.8**
	comp=Z,12nm,0.8s						
BFO	**Black Forest**	**23.69**	**307**	*e* P	**P**	**00 07 13.1**	**+0.8**
BFO				pmax	pmax		
	comp=Z,12nm,0.8s						
BNI	**Bardonecchia**	**24.10**	**298**	*e* P	**P**	**00 07 16.2**	**0.0**
	comp=Z,8.9nm,0.8s						
BNI	**Bardonecchia**	**24.10**	**298**	*e* P	**P**	**00 07 16.2**	**0.0**
BNI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ECH	**Echery**	**24.41**	**306**	*e* P	**P**	**00 07 19.2**	**+0.2**
	comp=Z,15nm,1.3s						
ECH	**Echery**	**24.41**	**306**	*e* P	**P**	**00 07 19.2**	**+0.2**
ECH				pmax	pmax		
	comp=Z,15nm,1.3s						
FIA0	**FINESS Array S**	**25.12**	**347**	*e* P	**P**	**00 07 24.3**	**-0.9**
FIA0	**FINESS Array S**	**25.12**	**347**	*e* P	**P**	**00 07 24.3**	**-0.9**
FINES	**FINESS Array B**	**25.12**	**347**	P	**P**	**00 07 24.3**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=171,slow=4.8,SNR=5.7						
HFS	**Hagfors**	**27.29**	**334**	P	**P**	**00 07 43.8**	**-1.0**
	comp=Z,2.3nm,0.8s,baz=121,slow=17,SNR=2.6						
BRVK	**Borovoye**	**27.83**	**45**	*e* P	**P**	**00 07 48.6**	**-1.2**
BRVK	**Borovoye**	**27.83**	**45**	P	**P**	**00 07 51.0**	**+1.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
BVAR	**Borovoye Array**	**27.88**	**45**	P	**P**	**00 07 50.1**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=248,slow=7.0,SNR=2.6						
NB200	**NORSAR Array S**	**

DRO	**Drossia**	**0.82**	**345**	P	Pg	00 03 58.2	+0.3
DRO	**Drossia**	**0.82**	**345**	P	Pb	00 03 58.4	-0.4
DRO				S	Sb	00 04 10.6	+0.5
VLI	**Veliai**	**0.88**	**120**	P	Pg	00 03 59.0	+0.1
KLV	**Kalavryta, Ach**	**0.89**	**8**	P	Pg	00 03 58.2	-1.0
KLV				S	Sb	00 04 12.0	-0.2
DID	**Didima**	**1.05**	**70**	P	Pg	00 04 01.9	-0.4
EFP	**Efpalio**	**1.27**	**357**	P	Pn	00 04 05.7	-0.5

ISK ***14*** *00:07:35.8, 37°.27N×37°.09E, h12km, ML2.4/4*
ISCJB ***14*** *00:07:36.3±0.6, 37°.26N±0°.04×37°.08E±0°.04, h11km±5km, Error ellipse: s-maj=6.3km s-min=5.8km az=5.2*
DDA ***14*** *00:07:36.6, 37°.29N×37°.04E, h7km, Ml3.0*
ISC 14 00:07:36.1±1.0,**37°.29N**±0°.03×**37°.11E**±0°.04,**h10**km±8km,
n11,σ**1§00/18,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.15**	**145**	PG	**Pg**	**00 07 39.5**	**0.0**
GAZ				SG	**Sg**	**00 07 42.2**	**+0.3**
KUZU	**Kuzuini**	**0.52**	**183**	*i* P	**Pb**	**00 07 47.0**	**-0.4**
KUZU				*i* S	**Sb**	**00 07 58.0**	**+3.2**
ANDN	**Andirin**	**0.67**	**296**	*i* P	**Pg**	**00 07 48.9**	**-0.3**
ANDN				*i* S	**Sg**	**00 07 57.9**	**-0.1**
ELBS	**KAHRAMANMARAS**	**1.03**	**1**	*i* P	**Pn**	**00 07 56.6**	**-0.2**
ELBS				*i* S	**Sn**	**00 08 11.3**	**0.0**
KOZT	**Kozan**	**1.04**	**281**	PG	**Pn**	**00 07 56.0**	**-0.7**
TAHT	**Tahtakopru-Hat**	**1.18**	**219**	PN	**Pg**	**00 07 58.2**	**-0.5**
TAHT				SN	**Sn**	**00 08 14.6**	**0.0**
AKCD	**Akcadag**	**1.19**	**33**	*i* P	**Pg**	**00 07 59.7**	**+0.6**
AKCD				*i* S	**Sb**	**00 08 14.8**	**+0.3**
SURC	**SANLIURFA_SURC**	**1.27**	**108**	*i* P	**Pb**	**00 07 59.7**	**-0.5**
SURC				*i* S	**Sb**	**00 08 15.4**	**-1.3**
DARE	**Darende-Malaty**	**1.31**	**13**	PN	**Pb**	**00 08 00.9**	**0.0**
URFA	**Urfa**	**1.38**	**83**	PN	**Pb**	**00 08 01.5**	**-0.5**
BNN	**Bunyan**	**1.85**	**328**	PN	**Pn**	**00 08 08.5**	**+0.5**

SOME ***14*** *00:08:20.4, 44°.07N×81°.68E, h5km*
NNC ***14*** *00:08:25.9±2.8, 44°.39N×81°.26E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=30.9km s-min=17.1km az=134.0*
ISC 14 00:08:20.3±1.8,**44°.06N**±0°.07×**81°.70E**±0°.06,**h5**km±13km,
n16,σ**2§11/22,3C-2D,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.15**	**238**	*e*P	**Pg**	**00 08 43.4**	**+0.9**
	10.0nm,0.1s						
KTMS				*e*S	**Sb**	**00 09 00.0**	**+1.8**
	129nm,0.3s						
DJR	**Jarkent**	**1.40**	**282**	*e*P	**Pn**	**00 08 47.2**	**+0.5**
	1.8nm,0.2s						
DJR				*e*S	**Sn**	**00 09 06.8**	**+1.2**
	13nm,0.4s						
PDGK	**Podgornoye**	**1.76**	**246**	⇑Pn	**Pg**	**00 08 56.5**	**+2.4**
	3.7nm,0.6s						
PDGK				Lg	Lg	00 09 17.7	
	5.9nm,0.4s						
SHLS	**Shalkode**	**1.86**	**242**	*e*P	**Pn**	**00 08 50.8**	**-2.2**
	4.0nm,0.2s						
SHLS				*e*S	**Sn**	**00 09 12.8**	**-4.2**
	65nm,0.3s						
KAPS	**Kapalarasan**	**2.07**	**307**	*e*P	**Pb**	**00 08 57.8**	**-0.7**
	2.5nm,0.2s						
KAPS				*e*S	**Sg**	**00 09 24.8**	**-2.1**
	17nm,0.3s						
UZB	**Uzynbulak**	**2.15**	**246**	*e*P	**Pn**	**00 08 59.2**	**+2.2**
	3.6nm,0.6s						
UZB				*e*S	**Sb**	**00 09 27.8**	**+1.0**
	8.3nm,0.2s						
MNBS	**Baschi**	**2.38**	**272**	*e*P	**Pb**	**00 09 03.8**	**+0.1**
	5.7nm,0.2s						
MNBS				*e*S	**Sg**	**00 09 35.9**	**-0.8**
	19nm,0.3s						
SATY	**Saty**	**2.59**	**248**	*e*P	**Pb**	**00 09 07.3**	**-0.1**
	5.1nm,0.4s						
SATY				*e*S	**Sb**	**00 09 41.1**	**+1.4**
	18nm,0.3s						
MK31	**Makanchi Array**	**2.77**	**8**	Pg	**Pb**	**00 09 11.5**	**+1.2**
	0.8nm,0.2s,baz=191,slow=16,SNR=14						
MK31				⇑Lg	Lg	00 09 44.8	
	1.5nm,0.2s,baz=200,slow=31,SNR=8.3						
KOTS	**Kotyrbulak**	**3.43**	**258**	*e*P	**Pb**	**00 09 22.9**	**+1.3**
	2.7nm,0.7s						
KOTS				*e*S	**Sg**	**00 10 07.7**	**-2.8**
	17nm,0.5s						
MDOK	**Medeo**	**3.50**	**257**	⇓Lg	Lg	00 10 15.3	
	2.3nm,0.4s						
KTBS	**Karatobe**	**3.64**	**266**	*e*P	**Pb**	**00 09 25.9**	**+0.6**
	0.8nm,0.4s						
KTBS				*e*S	**Sg**	**00 10 13.1**	**-4.3**
	4.9nm,0.5s						
ZSN	**Zaisan**	**4.05**	**32**	*e*P	**Pb**	**00 09 30.7**	**-1.5**
	0.9nm,0.6s						
ZSN				*e*S	**Sb**	**00 10 22.5**	**+1.0**
	1.5nm,0.8s						
WMQ	**Urumqi**	**4.34**	**91**	*e*P	Pn	00 09 25.1	-1.9
TKM2	**Tokmak 2**	**4.58**	**258**	⇑Lg	Lg	00 10 42.9	
	0.7nm,0.3s						
KURBB	**Kurchatov Array**	**6.91**	**343**	⇓Lg	Lg	00 11 55.7	
	3.2nm,0.8s						

DDA ***14*** *00:09:06.2, 37°.24N×37°.13E, h7km, Ml2.9*
ISCJB ***14*** *00:09:07.3±0.8, 37°.28N±0°.04×37°.13E±0°.05, h2km±8km, Error ellipse: s-maj=6.5km s-min=5.7km az=150.8*
ISK ***14*** *00:09:07.5, 37°.30N×37°.13E, h8km, ML2.1/6*
ISC 14 00:09:07.3±1.1,**37°.29N**±0°.03×**37°.16E**±0°.04,**h11**km±9km,
n11,σ**0§69/16,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.13**	**162**	PG	**Pg**	**00 09 10.9**	**+0.4**
KUZU	**Kuzuini**	**0.52**	**188**	*i* P	**Pb**	**00 09 18.3**	**-0.3**
ANDN	**Andirin**	**0.71**	**294**	*i* P	**Pg**	**00 09 20.2**	**-0.9**
ANDN				*i* S	**Sg**	**00 09 30.2**	**-0.2**
ELBS	**KAHRAMANMARAS**	**1.03**	**359**	*i* P	**Pn**	**00 09 27.7**	**-0.2**
ELBS				*i* S	**Sn**	**00 09 42.6**	**+0.2**
KOZT	**Kozan**	**1.08**	**280**	PG	**Pb**	**00 09 28.0**	**-0.1**
AKCD	**Akcadag**	**1.17**	**31**	*i* P	**Pb**	**00 09 29.5**	**-0.1**
AKCD				*i* S	**Sn**	**00 09 46.5**	**+0.6**
TAHT	**Tahtakopru-Hat**	**1.21**	**221**	PN	**Pg**	**00 09 30.8**	**+0.3**
TAHT				SN	**Sn**	**00 09 47.6**	**+1.1**
SURC	**SANLIURFA_SURC**	**1.23**	**109**	*i* P	**Pn**	**00 09 29.2**	**-1.4**
SURC				*i* S	**Sn**	**00 09 47.8**	**+0.5**
DARE	**Darende-Malaty**	**1.30**	**11**	PN	**Pg**	**00 09 32.5**	**+0.2**
URFA	**Urfa**	**1.33**	**83**	PN	**Pg**	**00 09 33.3**	**+0.4**
BNN	**Bunyan**	**1.87**	**327**	PN	**Pn**	**00 09 40.2**	**+0.7**

IDC ***14*** *00:09:32.2±1.6, 14°.08N×92°.16W, h0km, mb3.8/6, mb1 4.1/9, mb1mx3.9/43, mbtmp3.8/9, ML3.7/3, Error ellipse: s-maj=27.5km s-min=14.2km az=4.0*
ISCJB ***14*** *00:09:34.1±1.0, 13°.93N±0°.07×92°.11W±0°.05, h33km±8km, mb4.0/23, Error ellipse: s-maj=13.4km s-min=4.0km az=36.1*
MEX ***14*** *00:09:35.1±0.5, 13°.83N×92°.22W, h17km±144km, MD3.9*
NEIC ***14*** *00:09:35.7±1.0, 14°.00N×92°.14W, h26km±6km, mb4.2/19, MD3.9(MEX), Error ellipse: s-maj=12.3km s-min=7.5km az=207.0*
UCR ***14*** *00:09:36.6±1.1, 14°.13N×91°.82W, h124km±35km, ML3.6, mb4.2(NEIC)*
ISC 14 00:09:34.9±2.1,**14°.00N**±0°.09×**92°.07W**±0°.07,**h25**km±13km,
n61,σ**1§07/69,mb4.1/23,Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.92**	**348**	*i* P	**Pb**	**00 09 52.2**	**0.0**
THIG				*i* S	**Sb**	**00 10 04.4**	**+0.3**
THIG		**0.92**	**348**	*i* P	**Pb**	**00 09 52.2**	**0.0**
THIG				*i* S	**Sb**	**00 10 04.4**	**+0.3**
APG	**El Apazote**	**1.85**	**57**	Pn	**Pb**	**00 10 07.6**	**-0.6**
	40nm,0.3s,baz=214,slow=8.7,SNR=162						
APG				Lg	Lg	00 10 31.6	
	66nm,0.3s,baz=5.9,slow=18,SNR=4.6						
PCIG		**2.02**	**327**	*e*P	**Pn**	**00 10 05.8**	**-1.7**
PCIG				*e*S	**Sn**	**00 10 31.8**	**-0.2**
CCIG	**Comitan**	**2.27**	**358**	*e*Pn	**Pb**	**00 10 14.2**	**-1.1**
CCIG	**Comitan**	**2.27**	**358**	*i* P	**Pn**	**00 10 12.2**	**+1.2**
CCIG				*i* S	**Sn**	**00 10 39.8**	**+1.6**
RTR	**El Retiro**	**2.36**	**92**	*e*P	**Pn**	**00 10 12.8**	**+0.7**
RTR				*e*S	**Sn**	**00 10 40.0**	**-0.5**
SBLS	**San Blas**	**2.38**	**94**	*e*P	**Pn**	**00 10 13.4**	**+0.8**
SBLS				*e*S	**Sn**	**00 10 41.8**	**+0.6**
SNJE	**San Jose**	**2.40**	**93**	*e*P	**Pn**	**00 10 13.3**	**+0.5**
SNJE				*e*S	**Sn**	**00 10 41.4**	**0.0**
MTO3	**Montecristo**	**2.66**	**81**	*e*P	**Pn**	**00 10 16.4**	**0.0**
UEES	**San Salvador**	**2.76**	**95**	IAML		00 11 06.5	
	comp=Z,329nm,0.5s						
TGIG		**2.94**	**340**	*e*P	**Pn**	**00 10 20.6**	**+0.5**
TGIG		**2.94**	**340**	*e*P	**Pn**	**00 10 20.6**	**+0.5**
TGIG				*i* S	**Sn**	**00 10 55.3**	**+0.6**
LFRS	**El Faro**	**2.95**	**97**	*e*P	**Pn**	**00 10 19.2**	**-1.0**
LFRS				*e*S	**Sn**	**00 10 53.8**	**-1.2**
TECA	**Tecapa**	**3.51**	**98**	*e*P	**Pn**	**00 10 28.1**	**+0.1**
PACA	**Pacayal**	**3.68**	**98**	*e*S	**Sn**	**00 11 12.2**	**-0.8**
CMIG	**Matias Romero**	**4.10**	**319**	Pn	**Pn**	**00 10 35.1**	**-0.9**
	comp=Z,2.4nm,0.3s,baz=150,slow=12,SNR=27						
CMIG				Sn	**Sn**	**00 11 23.2**	**0.0**
	comp=Z,13nm,0.3s,baz=116,slow=12,SNR=5.4						
CMIG				Lg	Lg	00 11 38.3	
	comp=Z,25nm,0.3s,baz=325,slow=21,SNR=7.8						
LCND	**La Ca¨ada**	**4.12**	**99**	*e*P	**Pn**	**00 10 35.4**	**-0.9**
CSGN	**Cosiguina Volc**	**4.51**	**103**	*e*Pn	**Pn**	**00 10 41.8**	**+0.2**
JTS	**JuntasAbangare**	**7.88**	**117**	Pn	**Pn**	**00 11 29.1**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=34,slow=3.6,SNR=3.9						
JTS				Lg	Lg	00 13 35.3	
	comp=Z,0.3nm,0.3s,baz=205,slow=10,SNR=7.2						
LTX	**Lajitas**	**18.66**	**327**	*e*P	**Pn**	**00 13 52.1**	**+0.5**
TXAR	**Lajitas Array**	**18.66**	**327**	*e*P	**Pn**	**00 13 52.1**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=155,slow=10,SNR=13						
TX31	**Lajitas Ar. Si**	**18.66**	**327**	*e*P	**Pn**	**00 13 53.1**	**+1.5**
GDL2	**Guadalupe Moun**	**21.32**	**330**	*e*P	**P**	**00 14 21.5**	**+1.3**
MNTX	**Cornudas Mount**	**21.43**	**328**	*e*P	**P**	**00 14 21.7**	**+0.5**
	comp=Z,5.1nm,0.8s						
WMOK	**Wichita Mounta**	**21.52**	**345**	*e*P	**P**	**00 14 21.8**	**-0.3**
	comp=Z,1.4nm,0.5s						
MSTX	**Muleshoe**	**22.12**	**336**	*e*P	**P**	**00 14 28.3**	**-0.4**
	comp=Z,6.0nm,0.5s						
AMTX	**Amarillo**	**22.53**	**339**	*e*P	**P**	**00 14 32.8**	**-0.3**
	comp=Z,14nm,0.6s						
TKL	**Tuckaleechee C**	**22.82**	**18**	P	**P**	**00 14 36.1**	**0.0**
	comp=Z,2.5nm,0.7s,baz=190,slow=10,SNR=4.6						
TKL	**Tuckaleechee C**	**22.82**	**18**	*e*P	**P**	**00 14 36.1**	**0.0**
	comp=Z,37nm,1.8s						
BNM	**Barren Site**	**24.01**	**329**	*e*P	**P**	**00 14 50.2**	**+2.2**
LENM	**Lemitar**	**24.19**	**329**	*e*P	**P**	**00 14 51.9**	**+2.3**
LAZ	**Ladron**	**24.46**	**329**	*e*P	**P**	**00 14 53.0**	**+0.8**
ANMO	**Albuquerque**	**24.57**	**331**	P	**P**	**00 14 53.4**	**+0.4**
	comp=Z,3.1nm,0.7s,baz=133,slow=13,SNR=11						
ANMO	**Albuquerque**	**24.57**	**331**	*e*P	**P**	**00 14 54.5**	**+1.4**
	comp=Z,2.9nm,0.6s						
TUC	**Tucson**	**24.99**	**320**	*e*P	**P**	**00 14 59.0**	**+2.2**
	comp=Z,1.6nm,0.6s						
SDCO	**Great Sand Dun**	**26.50**	**336**	*e*P	**P**	**00 15 11.3**	**+0.7**
	comp=Z,0.8nm,0.8s						
MVCO	**Mesa Verde**	**27.37**	**331**	*e*P	**P**	**00 15 19.3**	**+0.8**
	comp=Z,6.1nm,1.1s						
RSSD	**Black Hills**	**31.71**	**344**	*e*P	**P**	**00 15 54.7**	**-2.2**
	comp=Z,1.6nm,0.6s						
DUG	**Dugway, Tooele**	**31.80**	**329**	*e*P	**P**	**00 15 58.8**	**+1.1**
	comp=Z,0.7nm,0.6s						
HWUT	**Hardware Ranch**	**32.30**	**332**	*e*P	**P**	**00 16 02.7**	**+0.6**
	comp=Z,2.9nm,0.9s						
PD31	**Pinedale Array**	**32.39**	**336**	*e*P	**P**	**00 16 02.2**	**-0.7**
PDAR	**Pinedale Array**	**32.39**	**336**	P	**P**	**00 16 02.2**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=136,slow=11,SNR=2.8						
REDW	**Red Top Meadow**	**33.41**	**335**	*e*P	**P**	**00 16 11.8**	**0.0**
	comp=Z,21nm,1.6s						
LOHW	**Long Hollow**	**33.52**	**335**	*e*P	**P**	**00 16 12.6**	**-0.2**
	comp=Z,6.9nm,1.4s						
NVAR	**Mina Array Bea**	**33.63**	**321**	P	**P**	**00 16 14.7**	**+1.0**
	comp=Z,1.6nm,0.7s,baz=138,slow=8.1,SNR=14						
HLID	**Hailey**	**35.14**	**331**	*e*P	**P**	**00 16 27.4**	**+0.7**
	comp=Z,1.2nm,0.5s						
MCMT	**McKenzie Canyo**	**35.44**	**334**	*e*P	**P**	**00 16 30.2**	**+0.9**
J08A	**Circle Bar Ran**	**37.00**	**327**	*e*P	**P**	**00 16 43.2**	**+0.6**
	comp=Z,9.7nm,0.8s						
F10A	**Beach Ranch, E**	**38.28**	**331**	*e*P	**P**	**00 16 53.8**	**+0.5**
	comp=Z,4.1nm,0.8s						
NEW	**Newport**	**39.97**	**334**	*e*P	**P**	**00 17 06.3**	**-1.0**
	comp=Z,1.6nm,0.7s						
YKA	**Yellowknife Ar**	**51.01**	**347**	P	**P**	**00 18 33.2**	**-1.2**
	comp=Z,1.7nm,0.7s,baz=147,slow=7.3,SNR=4.7						
YKB5	**Yellowknife Ar**	**51.01**	**347**	*e*P	**P**	**00 18 33.2**	**-1.2**
TRQA	**Tornquist**	**58.98**	**152**	*e*P	**P**	**00 19 35.6**	**+3.2**
	comp=Z,2.6nm,0.9s						
ILAR	**Eielson Array**	**62.81**	**337**	P	**P**	**00 19 58.2**	**+0.1**
	comp=Z,1.1nm,1.1s,baz=153,slow=3.5,SNR=4.2						
ILB	**Eielson Array**	**62.81**	**337**	*e*P	**P**	**00 19 58.2**	**+0.1**
CAST	**Castle Rocks**	**64.34**	**334**	*e*pP	pP	00 20 17.2	+0.9
KSH	**Kashi**	**125.61**	**11**	*e*PKP	**PKPdf**	**00 28 32.3**	**-2.4**
LZH	**Lanzhou**	**127.96**	**344**	*e*PKP	**PKPdf**	**00 28 37.8**	**-1.5**
LZH				pPKP	sPKPdf	00 29 05.8	+15
LZH				sPKP		00 29 10.4	
CM31	**Chiang Mai Arr**	**145.97**	**341**	*e*PKPdf	**PKPab**	**00 29 13.8**	**0.0**
CMAR	**Chiang Mai Arr**	**145.97**	**341**	PKPbc	**PKPab**	**00 29 13.8**	**0.0**
	comp=Z,3.9nm,0.7s,baz=337,slow=3.1,SNR=18						

ISK ***14*** *00:16:02.8, 37°.32N×37°.12E, h4km, ML3.2/8*
DDA ***14*** *00:16:03.3, 37°.32N×37°.16E, h7km, Ml3.2*
ISC 14 00:16:03.5±0.9,**37°.31N**±0°.03×**37°.14E**±0°.02,**h10**km±8km,
n19,σ**0§63/31,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.15**	**158**	PG	**Pg**	**00 16 06.8**	**-0.1**
GAZ				SG	**Sg**	**00 16 09.6**	**+0.3**
KUZU	**Kuzuini**	**0.54**	**185**	*i* P	**Pb**	**00 16 14.8**	**-0.3**
KUZU				*i* S	**Sb**	**00 16 22.7**	**-0.2**
ANDN	**Andirin**	**0.69**	**293**	*i* P	**Pg**	**00 16 16.2**	**-0.6**
ANDN				*i* S	**Sg**	**00 16 25.5**	**-0.3**
ATAB	**Bozova**	**0.93**	**80**	*i* P	**Pg**	**00 16 21.3**	**-0.2**
ATAB				*i* S	**Sb**	**00 16 33.8**	**-0.4**
ELBS	**KAHRAMANMARAS**	**1.01**	**360**	*i* P	**Pg**	**00 16 22.4**	**-0.5**
ELBS				*i* S	**Sn**	**00 16 38.4**	**+0.2**
KOZT	**Kozan**	**1.06**	**279**	PG	**Pg**	**00 16 23.2**	**-0.6**
KOZT				SG	**Sb**	**00 16 38.2**	**+0.4**
AKCD	**Akcadag**	**1.16**	**32**	*i* P	**Pg**	**00 16 25.5**	**-0.3**
AKCD				*i* S	**Sn**	**00 16 41.6**	**-0.3**
TAHT	**Tahtakopru-Hat**	**1.21**	**220**	PN	**Pb**	**00 16 26.2**	**-0.2**
SURC	**SANLIURFA_SURC**	**1.25**	**110**	*i* P	**Pn**	**00 16 26.8**	**-0.3**
SURC				*i* S	**Sn**	**00 16 44.1**	**0.0**
DARE	**Darende-Malaty**	**1.28**	**12**	PN	**Pn**	**00 16 27.3**	**0.0**
URFA	**Urfa**	**1.35**	**84**	PN	**Pb**	**00 16 28.9**	**+0.1**
CUGUR	**Gurin_S¨VAS**	**1.41**	**4**	*i* P	**Pn**	**00 16 29.4**	**0.0**
CUGUR				*i* S	**Sg**	**00 16 50.1**	**+1.2**
HEKM	**Malatya_Hekimh**	**1.69**	**22**	*i* P	**Pb**	**00 16 34.8**	**0.0**
HEKM				*i* S	**Sg**	**00 16 58.6**	**+0.7**
BNN	**Bunyan**	**1.84**	**327**	PN	**Pb**	**00 16 36.5**	**-0.9**
ELZG	**Elazig**	**1.88**	**50**	*i* P	**Pn**	**00 16 35.7**	**-0.1**
ELZG				*i* S	**Sg**	**00 17 04.4**	**+0.5**
MERS	**Mersin**	**2.14**	**259**	PN	**Pn**	**00 16 40.5**	**+1.2**
ILIC	**ilic-Erzincan**	**2.41**	**27**	PN	**Pn**	**00 16 44.4**	**+1.3**
DIYA	**Diyarbakir**	**2.44**	**75**	*i* P	**Pg**	**00 16 49.0**	**-1.3**
DIYA				*i* S	**Sg**	**00 17 22.0**	**0.0**
MAZI	**Mazidag**	**2.64**	**86**	PN	**Pn**	**00 16 47.3**	**+1.1**

HEL ***14*** *00:24:01.6, 67°.95N×20°.74E, h0km, ML1.9, Explosion*
UPP 14 00:24:00.7±0.1,**67°.83N**×**20°.19E,h0**km,**ML2.3,Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**24**	P	Pg	00 24 00.1	-3.3
KUA				S	Sg	00 24 01.9	-3.2
KUA	**Kurravaara**	**0.14**	**24**	P	Pg	00 24 03.6	+0.3
KUA				S	Sg	00 24 05.6	+0.5
KUA	**Kurravaara**	**0.14**	**24**	*i* P	Pg	00 24 03.6	+0.3
KUA				*i* S	Sg	00 24 05.6	+0.5
RATU	**Laukkuluspa**	**0.23**	**269**	P	Pg	00 24 01.9	-3.1
RATU				S	Sg	00 24 05.2	-2.8
RATU	**Laukkuluspa**	**0.23**	**269**	P	Pg	00 24 05.2	+0.2
RATU	**Laukkuluspa**	**0.23**	**269**	*i* P	Pg	00 24 05.2	+0.2
NIKU	**Nikkaluokta**	**0.44**	**276**	P	Pg	00 24 05.8	-3.3
NIKU	**Nikkaluokta**	**0.44**	**276**	P	Pg	00 24 09.2	+0.1
NIKU	**Nikkaluokta**	**0.44**	**276**	*i* P	Pg	00 24 09.2	+0.1
MASU	**Masugnsbyn**	**0.79**	**117**	P	Pg	00 24 15.5	-0.2
MASU	**Masugnsbyn**	**0.79**	**117**	*i* P	Pg	00 24 15.5	-0.2
KIF	**Kilpisjarvi**	**1.20**	**11**	MSG		00 24 35.0	
	comp=Z,22nm,0.2s						
PAJU	**Pajala**	**1.39**	**124**	P	Pg	00 24 26.0	-1.3
PAJU	**Pajala**	**1.39**	**124**	*e*P	Pg	00 24 26.0	-1.3
HEF	**Hetta**	**1.43**	**64**	MSG		00 24 37.6	
	comp=Z,6.0nm,0.2s						
TOF	**Tornio**	**2.39**	**135**	*e*S	Sn	00 25 10.7	-0.3
TOF				MSG		00 25 11.3	
	comp=Z,9.4nm,0.2s						
SGF	**Sodankyl**	**2.46**	**96**	*e*S	Sn	00 25 13.4	+0.9
RNF	**Rovaniemi**	**2.58**	**116**	*e*S	Sn	00 25 15.5	-0.1
KEV	**Kevo**	**3.15**	**49**	MSG		00 25 27.1	
	comp=Z,3.5nm,0.2s						

DDA ***14*** *00:24:32.6, 37°.32N×37°.11E, h7km, Ml2.7*
ISK ***14*** *00:24:32.6, 37°.31N×37°.14E, h8km, ML2.4/6*
ISCJB ***14*** *00:24:33.2±0.7, 37°.28N±0°.05×37°.09E±0°.06, h4km±9km, Error ellipse: s-maj=9.5km s-min=4.8km az=43.9*
ISC 14 00:24:32.9±1.0,**37°.30N**±0°.03×**37°.13E**±0°.04,**h10**km±8km,
n11,σ**0§50/17,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.14**	**154**	PG	**Pg**	**00 24 36.2**	**+0.1**
GAZ				SG	**Sg**	**00 24 38.6**	**+0.2**
KUZU	**Kuzuini**	**0.52**	**185**	*i* P	**Pb**	**00 24 43.9**	**-0.3**
KUZU				*i* S	**Sb**	**00 24 51.4**	**-0.5**
ANDN	**Andirin**	**0.69**	**294**	*i* P	**Pg**	**00 24 45.6**	**-0.6**
ANDN				*i* S	**Sg**	**00 24 55.1**	**-0.2**
ELBS	**KAHRAMANMARAS**	**1.03**	**360**	*i* P	**Pn**	**00 24 53.6**	**+0.1**
ELBS				*i* S	**Sn**	**00 25 08.7**	**+0.7**
KOZT	**Kozan**	**1.06**	**280**	PG	**Pb**	**00 24 53.3**	**0.0**
TAHT	**Tahtakopru-Hat**	**1.19**	**220**	PN	**Pn**	**00 24 56.1**	**+0.5**
SURC	**SANLIURFA_SURC**	**1.25**	**109**	*i* P	**Pn**	**00 24 56.6**	**0.0**
SURC				*i* S	**Sg**	**00 25 13.3**	**0.0**
DARE	**Darende-Malaty**	**1.30**	**12**	PN	**Pg**	**00 24 57.5**	**-0.4**
URFA	**Urfa**	**1.35**	**83**	PN	**Pb**	**00 24 58.2**	**-0.2**
HEKM	**Malatya_Hekimh**	**1.71**	**22**	*i* P	**Pg**	**00 25 04.9**	**-0.8**
HEKM				*i* S	**Sg**	**00 25 28.5**	**+0.7**
BNN	**Bunyan**	**1.86**	**327**	PN	**Pn**	**00 25 05.6**	**+0.7**

ISCJB ***14*** *00:25:15.7±0.6, 37°.26N±0°.04×37°.06E±0°.04, h11km±6km, Error ellipse: s-maj=7.8km s-min=4.9km az=23.6*
DDA ***14*** *00:25:15.3, 37°.30N×37°.15E, h7km, Ml2.7*
ISK ***14*** *00:25:15.1, 37°.23N×37°.08E, h14km, ML2.4/5*
ISC 14 00:25:15.3±1.0,**37°.27N**±0°.03×**37°.10E**±0°.03,**h10**km±8km,
n11,σ**0§56/18,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.14**	**138**	PG	**Pg**	**00 25 18.6**	**+0.1**
GAZ				SG	**Sg**	**00 25 21.3**	**+0.5**
KUZU	**Kuzuini**	**0.50**	**182**	*i* P	**Pb**	**00 25 25.9**	**-0.3**
KUZU				*i* S	**Sb**	**00 25 34.1**	**+0.6**
ANDN	**Andirin**	**0.67**	**297**	*i* P	**Pg**	**00 25 28.0**	**-0.3**
ANDN				*i* S	**Sg**	**00 25 36.3**	**-0.8**
KOZT	**Kozan**	**1.03**	**282**	PG	**Pg**	**00 25 35.3**	**+0.2**
KOZT				SG	**Sn**	**00 25 50.1**	**-0.2**
ELBS	**KAHRAMANMARAS**	**1.05**	**2**	*i* P	**Pg**	**00 25 35.5**	**0.0**
ELBS				*i* S	**Sb**	**00 25 50.2**	**+0.8**
TAHT	**Tahtakopru-Hat**	**1.16**	**219**	PN	**Pb**	**00 25 36.8**	**-0.5**
SURC	**SANLIURFA_SURC**	**1.28**	**108**	*e*P	**Pg**	**00 25 39.6**	**-0.2**
SURC				*i* S	**Sg**	**00 25 55.6**	**-0.7**
DARE	**Darende-Malaty**	**1.33**	**13**	PN	**Pb**	**00 25 40.6**	**+0.2**
URFA	**Urfa**	**1.39**	**83**	PN	**Pb**	**00 25 40.8**	**-0.5**
HEKM	**Malatya_Hekimh**	**1.74**	**23**	*i* P	**Pb**	**00 25 46.9**	**-0.5**
HEKM				*i* S	**Sg**	**00 26 10.6**	**-0.7**
BNN	**Bunyan**	**1.86**	**328**	PN	**Pn**	**00 25 47.9**	**+0.6**

IDC ***14*** *00:42:57.5±0.6, 17°.37N×93°.46W, h0km, mb4.1/19, mb1 4.

JCT	Junction City	14.24	337	P		Pn	00 46 20.1	-0.8
	baz=155,SNR=31							
JCT				S		Sn	00 48 43.2	-16
	baz=155							
NATX	Nacogdoches	14.34	356	S		Sn	00 48 44.6	-17
	baz=175							
346A	Big Creek Wild	14.39	14	ePn		Pn	00 46 24.0	+1.0
346A	Big Creek Wild	14.39	14	P		Pn	00 46 23.0	+0.1
	baz=195							
346A				S		Sn	00 48 46.9	-16
	baz=195							
448A	Bay Minette	14.41	20	S		Sn	00 48 47.6	-16
	baz=202							
449A	Pace	14.47	22	S		Sn	00 48 49.3	-16
	baz=204							
347A	Saraland	14.64	17	S		Sn	00 48 52.8	-16
	baz=199							
HPIG		14.74	312	ePn		Pn	00 46 30.0	+2.2
450A	Crestview	14.74	24	S		Sn	00 48 56.7	-15
	baz=206							
244A	Avery, Jackson	14.79	9	S		Sn	00 48 54.4	-18
	baz=190							
BRAL	Brewton	14.90	22	S		Sn	00 49 00.3	-15
	baz=204							
451A	Vernon	14.92	27	S		Sn	00 49 00.1	-16
	baz=210							
WHTX	Lake Whitney,	14.97	347	ePn		Pn	00 46 31.5	+0.7
	67nm,0.6s							
WHTX	Lake Whitney,	14.97	347	P		Pn	00 46 29.6	-1.2
	baz=165,SNR=20							
WHTX				S		Sn	00 48 60.0	-17
	baz=165							
VBMS	Vicksburg	14.99	10	S		Sn	00 48 59.1	-18
	baz=191							
349A	Repton	15.02	21	S		Sn	00 49 02.2	-16
	baz=203							
LTX	Lajitas	15.11	324	ePn		Pn	00 46 35.2	+2.4
TXAR	Lajitas Array	15.11	324	Pn		Pn	00 46 35.2	+2.4
	0.5nm,0.3s,baz=141,slow=15,SNR=26							
TX31	Lajitas Ar. Si	15.11	324	ePn		P	00 46 36.4	-1.8
553A	Crawfordville	15.17	31	S		Sn	00 49 07.0	-15
	baz=214							
247A	Quitman	15.24	16	S		Sn	00 49 05.7	-18
	baz=198							
143A	Socs Landing,	15.35	7	ePn		Pn	00 46 35.9	0.0
	33nm,0.9s							
143A	Socs Landing,	15.35	7	S		Sn	00 49 06.7	-20
	baz=187							
452A	Marianna	15.37	28	P		Pn	00 46 35.4	-0.7
	baz=211							
452A				S		Sn	00 49 13.8	-13
	baz=211							
DWPF	Disney Wildern	15.38	44	P		Pn	00 46 36.5	+0.2
	baz=228							
959A	Okeechobee	15.38	47	P		P	00 46 40.8	-0.2
	baz=231							
350A	Dozier	15.39	24	S		Sn	00 49 13.0	-14
	baz=206							
144A	Alexander Plac	15.41	10	S		Sn	00 49 10.7	-17
	baz=191							
858A	St. Cloud	15.50	44	P		Pn	00 46 39.6	+1.8
	baz=228							
757A	Oxford	15.54	40	P		Pn	00 46 41.0	+2.6
	baz=224							
351A	Pinckard	15.55	26	P		Pn	00 46 38.8	+0.2
	baz=209							
656A	Willston	15.57	38	P		Pn	00 46 41.2	+2.5
	baz=222							
859A	Kempfer Cattle	15.71	45	P		Pn	00 46 41.3	+0.8
	baz=230							
Z41A	Richland Creek	15.80	2	ePn		Pn	00 46 42.7	+1.0
	52nm,0.7s							
Z41A	Richland Creek	15.80	2	P		Pn	00 46 40.0	-1.8
	baz=182							
Z42A	Norrel Spur, H	15.87	5	P		Pn	00 46 41.6	-1.0
	baz=185							
555A	McAlpin	15.89	35	P		Pn	00 46 44.4	+1.5
	baz=219							
250A	Grady	15.91	23	ePn		Pn	00 46 43.7	+0.5
	26nm,0.8s							
250A	Grady	15.91	23	P		Pn	00 46 43.8	+0.6
	baz=206							
147A	Livingston	15.92	16	P		Pn	00 46 44.3	+1.1
	baz=198							
352A	Blakely	16.02	27	P		Pn	00 46 44.6	0.0
	baz=210							
Z44A	Pea Ridge, Bel	16.05	9	P		Pn	00 46 42.3	-2.6
	baz=190							
148A	Greensboro	16.09	18	P		Pn	00 46 46.1	+0.7
	baz=200							
556A	Lake Butler	16.11	37	P		Pn	00 46 44.9	-0.8
	baz=221							
657A	Interlachen	16.12	39	P		P	00 46 48.5	-0.8
	baz=223							
ABTX	Abilene, Hawle	16.15	341	ePn		Pn	00 46 46.6	+0.3
	290nm,1.8s							
ABTX	Abilene, Hawle	16.15	341	P		Pn	00 46 45.4	-0.8
	baz=158,SNR=35							
353A	Camilla	16.23	30	P		Pn	00 46 46.7	-0.6
	baz=213							
Z46A	Louisville	16.25	14	P		Pn	00 46 46.3	-1.2
	baz=195							
149A	Jones	16.29	21	P		Pn	00 46 49.0	+0.9
	baz=203							
455A	Stateville	16.34	34	P		Pn	00 46 48.1	-0.5
	baz=218							
251A	Midway	16.35	25	P		Pn	00 46 48.7	-0.1
	baz=208							
Y41A	Eaglette Beard	16.43	3	P		Pn	00 46 48.3	-1.4
	baz=183							
Z47A	Carrollton	16.47	16	P		Pn	00 46 49.3	-0.9
	baz=198							
557A	Orange Park	16.52	38	P		Pn	00 46 52.0	+1.0
	baz=223							
252A	Lumpkin	16.55	27	P		Pn	00 46 51.8	+0.5
	baz=210							
150A	Eclectic	16.57	23	P		Pn	00 46 52.4	+0.8
	baz=205							
TIGA	Tifton	16.61	31	P		Pn	00 46 49.0	-3.1
	baz=215							
LRAL	Lakeview Retre	16.63	19	ePn		Pn	00 46 53.8	+1.4
	23nm,1.3s							
LRAL	Lakeview Retre	16.63	19	P		Pn	00 46 51.1	-1.2
	baz=202							
Y44A	Strider, Charl	16.75	9	P		Pn	00 46 53.9	0.0
	baz=191							
151A	Opelika	16.76	25	P		Pn	00 46 54.5	+0.4
	baz=208							
Y45A	Yeager Farm, C	16.77	11	P		Pn	00 46 52.3	-1.8
	baz=193							
Z48A	Northport	16.78	17	P		Pn	00 46 50.8	-3.5
	baz=200							
253A	Americus	16.87	28	P		Pn	00 46 55.8	+0.4
	baz=212							
Z49A	Columbiana	16.92	20	P		Pn	00 46 56.6	+0.5
	baz=203							
Y46A	Houston	16.93	13	P		Pn	00 46 53.8	-2.3
	baz=195							
MIAR	Mount Ida	17.07	360	ePn		P	00 47 00.8	+1.0
	34nm,1.0s							
MIAR	Mount Ida	17.07	360	P		Pn	00 46 56.8	-1.2
	baz=179,SNR=16							
LPIG	La Paz	17.09	296	P		Pn	00 46 58.9	+0.8
	8.7nm,0.3s,baz=55,slow=10,SNR=3.6							
152A	Waverly Hall	17.13	26	ePn		P	00 47 00.2	-0.2
	19nm,1.0s							
152A	Waverly Hall	17.13	26	P		Pn	00 46 59.0	+0.3
	baz=209							
254A	Abbeville	17.17	31	P		Pn	00 46 58.0	-1.2
	baz=214							
Z50A	Ashland	17.19	22	ePn		P	00 47 01.4	+0.4
	70nm,1.4s							
Z50A	Ashland	17.19	22	P		Pn	00 46 59.8	+0.4
	baz=205,SNR=6.5							
Y47A	UCPARC, Winfie	17.19	16	P		Pn	00 46 58.7	-0.7
	baz=198							
X37A	Clayton	17.20	355	ePn		P	00 47 02.2	+1.0
	82nm,1.4s							
X43A	Marvell	17.20	7	ePn		P	00 47 02.2	+1.0
	47nm,0.8s							
X43A	Marvell	17.20	7	P		Pn	00 46 58.1	-1.5
	baz=188							
X44A	Crenshaw	17.29	9	P		Pn	00 47 01.2	+0.6
	baz=190							
UALR	University of	17.33	3	ePn		P	00 47 03.5	+0.8
	72nm,1.1s							
X45A	UM Field Stati	17.34	11	P		Pn	00 46 58.8	-2.5
	baz=193							
Y48A	Jasper	17.39	18	P		Pn	00 47 03.1	+1.1
	baz=200							
OXF	Oxford	17.43	11	P		Pn	00 46 59.2	-3.1
	baz=193							
255A	Hazlehurst	17.56	33	P		Pn	00 47 04.1	+0.1
	baz=217							
Y49A	Blount Mountai	17.57	20	P		Pn	00 47 04.6	+0.4
	baz=202							
Z52A	Williamson	17.71	26	P		Pn	00 47 06.8	+0.9
	baz=209							
GDL2	Guadalupe Moun	17.72	328	ePn		P	00 47 09.2	+2.0
W39A	Magazine	17.73	359	ePn		Pn	00 47 07.1	+1.1
	22nm,0.8s							
W39A	Magazine	17.73	359	P		Pn	00 47 06.4	+0.4
	baz=179							
W41B	Gary Mavity, V	17.73	3	ePn		P	00 47 08.1	+1.0
	9.2nm,0.8s							
W41B	Gary Mavity, V	17.73	3	P		Pn	00 47 07.4	+1.2
	baz=184							
X47A	Russelville	17.77	15	P		Pn	00 47 06.9	+0.2
	baz=198							
154A	Montrose	17.81	30	P		P	00 47 09.0	+1.1
	baz=214							
Y50A	Piedmont	17.83	21	P		P	00 47 08.7	+0.5
	baz=204							
WHAR	Wooly Hollow	17.85	3	ePn		P	00 47 08.8	+0.4
	18nm,1.0s							
MNTX	Cornudas Mount	17.86	325	ePn		P	00 47 11.3	+2.7
	34nm,1.8s							
MNTX	Cornudas Mount	17.86	325	P		Pn	00 47 08.5	+0.6
	baz=140							
WMOK	Wichita Mounta	17.91	346	ePn		P	00 47 10.7	+1.7
	13nm,0.6s							
WMOK	Wichita Mounta	17.91	346	P		Pn	00 47 08.9	+0.6
	baz=163							
X48A	Hartselle	17.93	17	ePn		P	00 47 10.1	+0.9
	9.3nm,0.8s							
X48A	Hartselle	17.93	17	P		Pn	00 47 08.4	-0.2
	baz=200							
Y51A	Rockmart	18.08	23	P		Pn	00 47 09.3	-1.2
	baz=206							
W45A	Hickory Valley	18.09	11	P		P	00 47 11.7	+0.7
	baz=193							
155A	Kite	18.12	31	P		Pn	00 47 11.5	+0.5
	baz=216							
Z53A	Monticello	18.15	28	P		Pn	00 47 11.2	-0.1
	baz=211							
PLAL	Pickwick Lake	18.16	14	ePn		Pn	00 47 09.4	-2.0
	6.8nm,0.8s							
X49A	Woodville	18.20	19	P		Pn	00 47 10.6	-1.3
	baz=202							
GOGA	Godfrey	18.31	28	ePn		P	00 47 14.2	+0.8
	40nm,1.4s							
GOGA	Godfrey	18.31	28	P		Pn	00 47 13.8	+0.5
	baz=202							
V41A	Mountainview	18.35	3	P		Pn	00 47 13.3	-0.5
	baz=184							
X50B	Fort Payne	18.38	21	P		P	00 47 14.3	+0.1
	baz=204							
V42A	Cord	18.43	5	P		P	00 47 14.0	-0.6
	baz=186							
Y52A	Lilburn	18.44	25	eP		P	00 47 14.1	-0.8
	24nm,0.7s							
Y52A				eSn		Sn	00 50 27.6	-14
Y52A	Lilburn	18.44	25	P		P	00 47 14.7	-0.2
	baz=209,SNR=5.2							
Z54A	Sparta	18.45	29	P		Pn	00 47 16.3	+1.4
	baz=213							
MSTX	Muleshoe	18.49	335	eP		Pn	00 47 17.1	+1.5
	28nm,0.6s							
MSTX	Muleshoe	18.49	335	P		P	00 47 16.0	+0.5
	baz=151,SNR=11							
W47A	Westpoint	18.54	15	P		P	00 47 15.6	-0.3
	baz=198							
TUL1	Leonard	18.55	354	eP		Pn	00 47 18.1	+1.9
	45nm,1.1s							
TUL1	Leonard	18.55	354	P		P	00 47 16.5	+0.4
	baz=173							
W48A	Pulaski	18.60	17	P		P	00 47 15.6	-1.1
	baz=200							
Y53A	Monroe	18.64	27	P		Pn	00 47 19.0	+1.8
	baz=210							
X51A	Calhoun	18.75	23	eP		P	00 47 18.9	+0.7
	100nm,1.6s							
X51A	Calhoun	18.75	23	P		Pn	00 47 20.4	+1.8
	baz=206							
Z55A	Blythe	18.77	31	P		Pn	00 47 22.1	+3.2
	baz=215							
W49A	Belvidere	18.78	19	P		P	00 47 19.0	+0.4
	baz=202							
HHAR	Hobbs	18.81	359	eP		P	00 47 19.7	+0.8
	54nm,1.8s							
U40A	Yellville	18.89	2	P		P	00 47 19.6	-0.2
	baz=182,SNR=10							
AMTX	Amarillo	18.89	339	eP		Pn	00 47 21.6	+1.1
	37nm,0.8s							
AMTX	Amarillo	18.89	339	P		P	00 47 20.4	+0.5
	baz=155							
U41A	Viola	18.92	4	P		P	00 47 20.6	+0.5
	baz=184							
V46A	Holladay	18.93	14	P		P	00 47 19.5	-0.7
	baz=196							
SWET	Sewanee	18.98	19	eP		P	00 47 20.9	+0.2
	80nm,1.9s							
U42A	Revenden	18.98	6	P		P	00 47 20.1	-0.7
	baz=186							
Y54A	Tignall	19.04	29	P		Pn	00 47 22.4	+0.3
	baz=213							
V47A	Nunnelly	19.10	15	P		P	00 47 21.8	-0.3
	baz=197							
X52A	Dahlonega	19.15	25	P		Pn	00 47 25.1	+1.6
	baz=209							
W50A	Signal Mountai	19.16	21	eP		P	00 47 23.5	+0.6
	118nm,1.9s							
W50A	Signal Mountai	19.16	21	P		Pn	00 47 24.1	+0.4
	baz=204							
V48A	Smith Brothers	19.20	17	eP		P	00 47 24.1	+0.9
	11nm,0.9s							
V48A	Smith Brothers	19.20	17	P		Pn	00 47 24.7	+0.6
	baz=199							
X53A	Estanollee	19.31	26	P		Pn	00 47 26.1	+0.6
	baz=210							
WVT	Waverly	19.32	14	eP		P	00 47 24.4	0.0
	11nm,0.8s							
WVT	Waverly	19.32	14	P		P	00 47 24.1	-0.4
	baz=196							
W51A	Cleveland	19.32	22	P		P	00 47 25.3	+0.8
	baz=206							
MOTC	Monteria, Cord	19.34	114	eP		Pn	00 47 26.0	+0.1
U46A	Springville	19.46	13	P		P	00 47 25.6	-0.4
	baz=195							
PBMO	Poplar Bluff	19.49	7	eP		P	00 47 27.7	+1.3
	15nm,0.8s							
V49A	McMinnville	19.49	19	P		P	00 47 27.5	+1.1
	baz=202							
U32A	Winter Ranch,	19.53	347	eP		P	00 47 27.9	+1.1
	43nm,0.8s							
W52A	Murphy	19.57	24	P		P	00 47 27.6	+0.3
	baz=208							
T41A	Mountain View	19.63	4	P		P	00 47 27.4	-0.4
	baz=185							
V50A	Pikevile	19.66	21	P		Pn	00 47 30.5	+0.9
	baz=204							
CPCT	Cooper Cave	19.66	22	eP		P	00 47 27.4	-0.8
	8.8nm,0.8s							
T42A	Van Buren	19.67	6	eP		P	00 47 28.4	+0.2
	21nm,0.8s							
T42A	Van Buren	19.67	6	P		P	00 47 28.2	-0.1
	baz=186,SNR=16							
U47A	Clarksville	19.74	15	P		P	00 47 26.9	-2.2
	baz=197							
T43A	Greenville	19.81	8	P		P	00 47 30.0	+0.1
	baz=189,SNR=17							
121A	Cookes Peak, D	19.85	322	P		Pn	00 47 32.7	+0.7
	baz=136							
BG3	Lake Jocassee	19.89	26	eP		P	00 47 29.3	-1.4
	26nm,1.1s							
T44A	Benton	19.91	9	P		P	00 47 32.2	+1.2
	baz=191							
W53A	Cullowhee	19.94	25	P		P	00 47 31.9	+0.4
	baz=210							
U48A	Cassie Pea, Po	20.00	17	P		P	00 47 30.5	-1.4
	baz=199							
V51A	Loudon	20.04	22	P		P	00 47 33.9	+1.5
	baz=206							
TKL	Tuckaleechee C	20.13	24	P		P	00 47 34.8	+1.4
	4.6nm,0.5s,baz=182,slow=13,SNR=6.3							
TKL				S		S	00 51 08.7	-11
	8.2nm,0.7s,baz=18,slow=21,SNR=4.0							
TKL	Tuckaleechee C	20.13	24	eP		P	00 47 33.8	+0.5
	98nm,2.0s							
TKL				eS		S	00 51 08.2	-12
S41A	Jillco Farms,	20.17	4	P		P	00 47 33.7	-0.1
	baz=185,SNR=20							
T46A	Princeton	20.18	13	P		P	00 47 33.8	-0.1
	baz=195							
U49A	Red Boiling Sp	20.22	18	P		P	00 47 34.4	+0.1
	baz=201							
PAULI	Pauline	20.23	29	eP		P	00 47 34.1	-0.4
	12nm,0.7s							
T47A	Sharon Grove	20.31	15	eP		P	00 47 36.6	+1.4
	22nm,0.8s							
T47A	Sharon Grove	20.31	15	P		P	00 47 35.3	+0.1
	baz=198							
S43A	Fulton Ridge,	20.32	8	P		P	00 47 34.9	-0.5
	baz=189,SNR=15							
V52A	Sevierville	20.36	24	eP		P	00 47 36.9	+1.1
	70nm,1.9s							
V52A	Sevierville	20.36	24	P		Pn	00 47 38.5	+0.6
	baz=208							
BNM	Barren Site	20.42	327	eP		Pn	00 47 40.8	+1.9
U50A	Jamestown	20.43	20	P		P	00 47 37.2	+0.6
	baz=204							
S42A	Caledonia	20.43	6	P		P	00 47 35.0	-1.6
	baz=187							
V53A	Saluda	20.52	25	eP		Pn	00 47 39.8	0.0
	18nm,0.9s							
V53A	Saluda	20.52	25	P		P	00 47 39.2	+1.5
	baz=210							
LPM	Los Pinos Moun	20.55	328	eP		Pn	00 47 40.4	0.0
S44A	Carbondale	20.55	10	P		P	00 47 38.6	+0.7
	baz=191							
SIUC	Southern Illin	20.58	10	eP		P	00 47 39.8	+1.5
	38nm,1.0s							
T48A	Bowling Green	20.60	16	P		P	00 47 37.7	-0.8
	baz=199							
LENM	Lemitar	20.61	327	eP		Pn	00 47 41.7	+0.7
S45A	Carrier Mills	20.65	11	P		P	00 47 38.8	-0.2
	baz=193							
ZARC	Zaragoza, Cauc	20.66	116	eP		P	00 47 39.3	0.0
CCM	Cathedral Cave	20.67	5	eP		P	00 47 39.9	+0.7
	104nm,1.9s							
CCM	Cathedral Cave	20.67	5	P		P	00 47 38.6	-0.6
	baz=186							
U51A	La Follette	20.68	22	P		P	00 47 40.5	+1.1
	baz=206							
FVM	French Village	20.68	7	eP		P	00 47 41.0	+1.6
	52nm,1.8s							
KMSC	Kings Mountain	20.72	29	P		Pn	00 47 42.2	+0.1
	baz=214							
SMLC	San Martˆn de	20.73	112	eP		Pn	00 47 41.5	-0.9
CODC	Agustˆn Codaz	20.82	108	eP		Pn	00 47 42.0	-1.4
T49A	Edmonton	20.84	18	eP		P	00 47 41.6	+0.5
	17nm,1.0s							
T49A	Edmonton	20.84	18	P		Pn	00 47 43.8	+0.3
	baz=201							
LAZ	Ladron	20.88	327	eP		P	00 47 41.3	-0.5
R41A	Rosebud	20.90	5	P		P	00 47 40.7	-1.0
	baz=185							
U52A	Thorn Hill	20.93	23	P		P	00 47 45.3	+3.3
	baz=208							
R42A	Luebbering	20.93	6	P		P	00 47 42.8	+0.8
	baz=187							
S47A	Hartford	20.94	15	P		P	00 47 41.6	-0.5
	baz=198							
ANMO	Albuquerque	20.96	329	P		P	00 47 43.7	+1.0
	1.7nm,0.8s,baz=156,slow=12,SNR=7.1							
ANMO	Albuquerque	20.96	329	eP		P	00 47 45.9	+3.3
ANMO	Albuquerque	20.96	329	P		P	00 47 43.8	+1.2
	baz=143							
T50A	Nancy	20.98	20	P		P	00 47 47.4	+4.8
	baz=203							
TZTN	Tazewell	20.99	23	eP		P	00 47 40.6	-2.2
	24nm,1.0s							
TZTN	Tazewell	20.99	23	P		P	00 47 46.6	+3.9
	baz=207							
R43A	Red Bud	21.03	8	P		P	00 47 44.0	+0.9
	baz=189							
USIN	University of	21.11	13	eP		P	00 47 40.1	-3.9
	71nm,0.7s							
R44A	Waltonville	21.12	10	P		P	00 47 45.4	+1.3
	baz=191							
SDDR	Presa de Saban	21.14	82	eP		P	00 47 46.0	+1.5
	24nm,1.0s							
S48A	Wiedeman Farm,	21.21	16	P		P	00 47 45.6	+0.6
	baz=200							
U53A	Fall Branch	21.21	25	P		P	00 47 47.0	+1.8
	baz=210							
T51A	Gray	21.23	21	P		P	00 47 47.0	+1.8
	baz=206							
R45A	Skylar, Fairfi	21.31	11	P		P	00 47 48.9	+2.8
	baz=194							
R46A	Gibson Southern	21.38	13	P		P	00 47 48.5	+1.6
	baz=196							
GUYC	Guyana, Colomb	21.44	122	eP		P	00 47 49.8	+1.5
YOTC	Yotoco, Valle	21.44	127	eP		P	00 47 48.3	+0.4
PTBC	PUERTO BERRIO,	21.49	118	eP		P	00 47 48.1	-0.2
URIC	Uribia, Colomb	21.54	102	eP		P	00 47 49.8	+0.9
S49A	Springfield	21.55	18	P		P	00 47 49.1	+0.4
	baz=201							
TUC	Tucson	21.56	317	eP		P	00 47 51.8	+2.8
	17nm,1.1s							
TUC	Tucson	21.56	317	P		P	00 47 50.4	+1.4
	baz=129							
Q41A	Truxton	21.56	5	P		P	00 47 49.6	+0.8
	baz=186							
Q42A	Golden Eagle	21.59	6	P		P	00 47 51.2	+2.1
	baz=187							
RREF	El Recreo	21.66	123	eP		P	00 47 52.5	+1.7
WCI	Wyandotte Cave	21.68	15	eP		P	00 47 51.8	+1.7
	27nm,0.8s							
WCI				eS		S	00 51 46.1	-4.5
WCI	Wyandotte Cave	21.68	15	P		P	00 47 51.0	+0.9
	baz=199							
R47A	Wooly Knot Far	21.69	15	P		P	00 47 50.4	+0.2
	baz=198							
T52A	Hallie	21.70	23	P		P	00 47 53.3	+3.0
	baz=208							
Q43A	New Douglas	21.71	8	P		P	00 47 51.1	+0.6
	baz=190							
S50A	Richmond	21.72	20	P		P	00 47 52.2	+1.6
	baz=204							
OLIL	Olney	21.77	11	eP		P	00 47 51.4	+0.4
	42nm,0.7s							
Q44A	Meyer Farm, Va	21.77	9	P		P	00 47 50.2	-0.9
	baz=191							
KSU1	Kansas State U	21.79	353	eP		P	00 47 53.0	+1.7
	56nm,1.3s							
KSU1	Kansas State U	21.79	353	P		P	00 47 50.7	-0.6
	baz=172							
T25A	Trinidad	21.90	336	eP		P	00 47 55.0	+2.3
	203nm,2.0s							
T25A	Trinidad	21.90	336	P		P	00 47 53.7	+1.0
	baz=151							
Q45A	Warren Harvey,	21.91	11	P		P	00 47 53.1	+0.5
	baz=193							
S51A	Beattyville	21.95	21	eP		P	00 47 54.4	+1.4
	27nm,1.1s							
S51A	Beattyville	21.95	21	P		P	00 47 57.1	+4.1
	baz=206							
R48A	Northridge Ran	21.96	16	P		P	00 47 55.3	+2.2
	baz=200							
CBKS	Cedar Bluff	22.02	347	eP		P	00 47 56.5	+2.7
	76nm,1.3s							
CBKS	Cedar Bluff	22.02	347	P		P	00 47 54.3	+0.4
	baz=164							
R49A	Shelbyville	22.05	18	P		P	00 47 57.4	+3.4
	baz=201							
POPC	Popayan, Colom	22.14	130	eP		P	00 47 57.7	+2.2
P42A	Winchester	22.27	6	eP		P	00 47 57.4	+0.9
	24nm,0.7s							
P42A	Winchester	22.27	6	P		P	00 47 56.3	-0.1
	baz=188							
P41A	Barry, Barry	22.29	5	P		P	00 47 56.1	-0.5
	baz=186							
R50A	Paris	22.29	19	P		P	00 47 57.6	+0.9
	baz=203							
Q47A	Bedord North L	22.32	15	P		P	00 47 57.8	+0.8
	baz=198							
P44A	Sand Creek, Wi	22.39	10	P		P	00 47

BLO	Bloomington	22.52	14	eP	P	00 47 60.0	+0.8
	23nm,0.8s							
ROSC	El Rosal	22.53	121	P	P	00 48 00.0	+0.2
	4.4nm,0.5s,baz=332,slow=12,SNR=4.5							
ROSC				LR	LR	00 57 33.8		
	comp=Z,275nm,18.5s,baz=358,slow=39							
ROSC	El Rosal	22.53	121	eP	P	00 48 00.0	+0.2
	6.1nm,0.8s							
X18A	Snowflake	22.54	322	eP	P	00 48 02.0	+2.5
	13nm,1.3s							
BARC	Barichara	22.54	116	eP	P	00 48 01.9	+2.0
R51A	Hillsboro	22.55	21	P	P	00 47 59.9	+0.4
	baz=205							
OTAV	Otavalo	22.57	138	eP	P	00 48 01.4	+1.1
	14nm,1.3s							
OTAV	Otavalo	22.57	138	eP	P	00 48 03.7	+3.4
PAMC	Pamplona, Colo	22.60	114	eP	P	00 48 01.9	+1.3
P45A	Graceland, Par	22.60	12	eP	P	00 48 00.9	+0.9
	22nm,0.9s							
P45A	Graceland, Par	22.60	12	P	P	00 48 02.2	+2.2
	baz=194							
214A	Organ Pipe Nat	22.72	313	P	P	00 48 01.7	+0.4
	baz=125,SNR=5.4							
PRAC	Prado	22.75	125	eP	P	00 48 02.4	+0.7
O41A	Passleys Farm,	22.75	5	P	P	00 48 01.6	+0.2
	baz=186							
Q49A	Aurora	22.79	17	P	P	00 48 03.7	+1.7
	baz=201							
P46A	Rosedale	22.80	13	P	P	00 48 04.0	+2.0
	baz=195							
BLA	Blacksburg	22.84	28	eP	P	00 48 03.2	+0.6
	30nm,1.0s							
BLA	Blacksburg	22.84	28	P	P	00 48 04.8	+2.2
	baz=213							
SDCO	Great Sand Dun	22.86	335	eP	P	00 48 04.3	+1.3
	12nm,1.3s							
SDCO	Great Sand Dun	22.86	335	P	P	00 48 04.0	+1.0
	baz=149							
P47A	Martinsville	22.88	14	P	P	00 48 04.7	+1.8
	baz=198							
Q50A	Georgetown	22.92	19	P	P	00 48 02.3	-1.0
	baz=204							
RUSC	La Rusia	22.98	117	eP	P	00 48 05.7	+1.0
P48A	Milroy	23.07	16	P	P	00 48 04.2	-0.6
	baz=200							
O44A	Mansfield	23.08	10	P	P	00 48 05.2	+0.2
	baz=192							
O43A	Sugar Creek Fa	23.09	8	P	P	00 48 05.8	+0.7
	baz=190							
CHIC	Chingaza	23.13	121	eP	P	00 48 06.8	+0.6
Q51A	Peebles	23.29	20	eP	P	00 48 07.4	+0.3
	17nm,0.9s							
Q51A	Peebles	23.29	20	P	P	00 48 08.9	+1.8
	baz=205							
P49A	Miami Univ. Ec	23.33	17	P	P	00 48 08.1	+0.6
	baz=201							
X16A	Lo Mia Camp, P	23.35	320	eP	P	00 48 10.6	+2.5
	21nm,1.3s							
HDIL	Hopedale	23.36	8	eP	P	00 48 08.4	+0.6
	20nm,0.7s							
HDIL	Hopedale	23.36	8	P	P	00 48 06.0	-1.8
	baz=190							
N39A	Derby Farms, D	23.41	2	P	P	00 48 07.9	-0.4
	baz=182							
S22A	4UR Ranch, Cre	23.42	333	eP	P	00 48 11.9	+3.1
	9.5nm,1.2s							
S22A	4UR Ranch, Cre	23.42	333	P	P	00 48 10.8	+2.0
	baz=146							
N40A	Mertquake, Sal	23.46	4	P	P	00 48 10.4	+1.6
	baz=184							
N42A	Yates City	23.54	7	P	P	00 48 11.7	+2.2
	baz=188							
SFIN	Lafayette	23.55	12	eP	P	00 48 10.9	+1.2
	117nm,2.0s							
SFIN	Lafayette	23.55	12	P	P	00 48 10.3	+0.6
	baz=195							
Q52A	Bidwell	23.61	22	P	P	00 48 11.5	+1.2
	baz=207							
O47A	Sheridan	23.62	14	P	P	00 48 10.8	+0.4
	baz=197							
P50A	Jamestown	23.67	19	P	P	00 48 10.9	-0.1
	baz=203							
N43A	Stutzman Famil	23.75	8	P	P	00 48 11.1	-0.5
	baz=190							
MVCO	Mesa Verde	23.76	329	eP	P	00 48 13.9	+1.8
	18nm,0.8s							
MVCO	Mesa Verde	23.76	329	P	P	00 48 13.2	+1.0
	baz=142,SNR=12							
N44A	Piper City	23.77	10	P	P	00 48 12.7	+0.9
	baz=192							
Q24A	Divide	23.78	337	eP	P	00 48 13.0	+0.6
	12nm,0.9s							
Q24A	Divide	23.78	337	P	P	00 48 13.3	+1.0
	baz=151							
SDV	Santo Domingo	23.78	108	P	P	00 48 12.9	+0.5
	28nm,0.6s,baz=306,slow=8.3,SNR=23							
SDV	Santo Domingo	23.78	108	eP	P	00 48 12.9	+0.5
	48nm,0.9s							
SDV	Santo Domingo	23.78	108	eP	P	00 48 13.8	+1.3
P51A	Williamsport	23.80	20	eP	P	00 48 12.5	+0.4
	13nm,0.7s							
P51A	Williamsport	23.80	20	P	P	00 48 13.0	+0.9
	baz=205							
113A	Mohawk Valley,	23.85	314	eP	P	00 48 15.3	+2.6
	52nm,1.9s							
O48A	Farmland	23.89	16	P	P	00 48 13.9	+0.8
	baz=200							
N45A	Kentland	23.93	11	P	P	00 48 14.2	+0.8
	baz=194							
M40A	Post Highland	23.98	4	P	P	00 48 14.7	+0.8
	baz=184							
M39A	Webster	24.02	2	P	P	00 48 16.7	+2.4
	baz=183							
O49A	Covington	24.05	17	eP	P	00 48 13.6	-1.0
	124nm,1.8s							
O49A	Covington	24.05	17	P	P	00 48 16.0	+1.4
	baz=202							
WUAZ	Wupatki	24.06	322	eP	P	00 48 16.9	+2.0
	20nm,1.0s							
WUAZ	Wupatki	24.06	322	P	P	00 48 15.3	+0.4
	baz=134,SNR=19							
N46A	Monticello	24.12	13	P	P	00 48 16.6	+1.4
	baz=196							
O50A	Cable	24.22	19	P	P	00 48 15.4	-0.8
	baz=203							
P52A	Corning	24.25	22	P	P	00 48 16.9	+0.5
	baz=207							
M43A	Waltham Townsh	24.27	8	P	P	00 48 15.1	-1.5
	baz=190							
N47A	Urbana	24.34	14	P	P	00 48 17.1	-0.1
	baz=198							
M44A	Midewin, Midew	24.36	10	eP	P	00 48 18.6	+1.2
	71nm,1.5s							
P53A	Whipple	24.39	23	eP	P	00 48 18.2	+0.5
	21nm,1.0s							
P53A	Whipple	24.39	23	P	P	00 48 18.3	+0.6
	baz=209							
N48A	Decatur	24.49	16	P	P	00 48 17.6	-1.0
	baz=200							
ACSO	Alum Creek Sta	24.50	20	P	P	00 48 20.6	+1.9
	baz=204							
O51A	Pataskala	24.55	20	P	P	00 48 22.7	+3.6
	baz=205							
OGNE	Ogallala	24.60	344	eP	P	00 48 22.2	+2.6
	76nm,1.4s							
OGNE	Ogallala	24.60	344	P	P	00 48 20.6	+0.9
	baz=160,SNR=7.0							
R58B	Mineral	24.64	31	P	P	00 48 21.7	+1.8
	baz=218							
L40A	Anamosa	24.66	4	eP	P	00 48 20.9	+0.8
	16nm,0.8s							
L40A	Anamosa	24.66	4	P	P	00 48 20.7	+0.6
	baz=185							
SMCO	Snowmass	24.68	334	eP	P	00 48 23.5	+2.7
	20nm,1.4s							
ISCO	Idaho Springs	24.68	337	eP	P	00 48 23.1	+2.4
	9.3nm,1.0s							
ISCO	Idaho Springs	24.68	337	P	P	00 48 22.2	+1.5
	baz=151,SNR=9.0							
L41A	Preston	24.72	5	P	P	00 48 21.7	+1.0
	baz=187							
L42A	Oliver, Polo	24.74	7	eP	P	00 48 20.7	-0.1
	68nm,1.8s							
GLA	Glamis	24.74	313	P	P	00 48 22.1	+1.1
	baz=124							
N49A	Columbus Grove	24.77	17	eP	P	00 48 22.9	+1.8
	32nm,1.2s							
N49A	Columbus Grove	24.77	17	P	P	00 48 21.6	+0.4
	baz=201							
O52A	Adamsville	24.78	22	eP	P	00 48 22.4	+1.2
	96nm,1.4s							
O52A	Adamsville	24.78	22	P	P	00 48 21.1	-0.1
	baz=207							
M47A	Cromwell	24.81	14	P	P	00 48 21.4	-0.1
	baz=198							
Y12C	Blythe	24.93	315	P	P	00 48 27.2	+4.6
	baz=126							
N50A	Nevada	24.94	19	P	P	00 48 24.6	+1.9
	baz=204							
PDMCI	Parker Dam,Lak	25.00	316	P	P	00 48 25.1	+1.8
	baz=127							
L43A	Garden Prairie	25.03	8	P	P	00 48 24.7	+1.2
	baz=190							
L44A	Lake County Fo	25.15	10	P	P	00 48 26.8	+2.3
	baz=192							
M48A	Edgerton	25.16	16	eP	P	00 48 25.4	+0.8
	36nm,0.9s							
M48A	Edgerton	25.16	16	P	P	00 48 25.9	+1.4
	baz=200							
U15A	North Rim	25.23	322	eP	P	00 48 28.1	+2.4
	6.1nm,0.9s							
K41A	Shullsburg	25.27	5	P	P	00 48 24.4	-1.2
	baz=187							
L46A	Eue Claire	25.29	13	P	P	00 48 24.7	-1.1
	baz=196							
K40A	Colesburg	25.30	4	P	P	00 48 25.2	-0.6
	baz=185							
W13A	Hualapai Mount	25.32	318	eP	P	00 48 30.1	+3.6
	10nm,1.0s							
M49A	Liberty Center	25.34	17	P	P	00 48 24.5	-1.8
	baz=201							
L47A	Sherwood	25.50	14	P	P	00 48 26.7	-1.0
	baz=198							
BC3	Big Chuckawall	25.51	314	P	P	00 48 28.9	+0.8
	baz=124,SNR=5.6							
K42A	Prairie Point,	25.54	7	P	P	00 48 28.2	+0.2
	baz=189							
JFWS	Jewell Farm	25.58	5	eP	P	00 48 27.9	-0.6
	23nm,0.7s							
JFWS	Jewell Farm	25.58	5	P	P	00 48 27.6	-0.9
	baz=187							
IRM	Iron Mountain	25.59	315	P	P	00 48 29.6	+1.0
	baz=125,SNR=5.5							
K43A	Burlington	25.60	9	eP	P	00 48 28.7	+0.1
	37nm,1.2s							
K43A	Burlington	25.60	9	P	P	00 48 28.2	-0.4
	baz=191							
L48A	N Adams	25.66	16	P	P	00 48 30.5	+1.4
	baz=200							
MONP2	Monument Peak	25.79	311	P	P	00 48 32.9	+2.2
	baz=121							
J39A	Decorah	25.89	3	P	P	00 48 32.6	+1.3
	baz=184							
KNB	Kanab	25.94	323	eP	P	00 48 33.0	+1.0
	14nm,1.4s							
L49A	Milan	25.99	17	P	P	00 48 32.6	+0.5
	baz=201							
O20A	White River Ci	26.02	334	P	P	00 48 36.3	+3.7
	baz=146							
J40A	Soldiers Grove	26.02	5	P	P	00 48 33.8	+1.4
	baz=186							
K46A	Dorr	26.04	13	P	P	00 48 32.5	-0.1
	baz=197							
J41A	Loganville	26.05	6	P	P	00 48 31.5	-1.2
	baz=187							
BELC	Belle Mtn. Jos	26.08	314	P	P	00 48 34.9	+1.6
	baz=124							
J42A	Columbus	26.10	7	P	P	00 48 33.0	-0.1
	baz=189							
LDFC	Landfair	26.10	317	eP	P	00 48 36.0	+2.6
	12nm,1.1s							
LCMT	Little Creek M	26.18	322	eP	P	00 48 36.0	+1.8
	6.3nm,1.2s							
O56A	Blue Knob Stat	26.19	26	P	P	00 48 30.8	-3.3
	baz=214							
N54A	Moraine State	26.20	24	P	P	00 48 33.5	-0.6
	baz=210							
K47A	Vermontville	26.20	14	P	P	00 48 33.7	-0.3
	baz=198							
FRD	Ford Ranch, An	26.23	312	P	P	00 48 36.1	+1.5
	baz=122							
SRU	San Rafael Swe	26.24	329	eP	P	00 48 36.0	+1.3
	12nm,1.2s							
J43A	Natural Harves	26.25	8	P	P	00 48 34.5	-0.1
	baz=191							
GMRC	Granite Mounta	26.30	315	P	P	00 48 36.9	+1.7
	baz=126							
MTPU	Mount Pierson	26.30	325	eP	P	00 48 37.2	+1.7
	14nm,1.3s							
ECSD	EROS Data Cent	26.38	355	eP	P	00 48 35.6	-0.2
	43nm,1.8s							
ECSD	EROS Data Cent	26.38	355	P	P	00 48 32.9	-2.8
	baz=173							
I39A	Houston	26.42	3	eP	P	00 48 36.5	+0.4
	16nm,0.6s							
I39A	Houston	26.42	3	P	P	00 48 35.1	-1.0
	baz=184							
P18A	Preston Nutter	26.51	330	eP	P	00 48 38.6	+1.3
	16nm,1.6s							
I40A	Norwalk	26.52	5	P	P	00 48 37.0	+0.1
	baz=186							
K48A	Perry	26.55	16	P	P	00 48 38.9	+1.7
	baz=200							
P17A	Butcher Ranch,	26.63	329	eP	P	00 48 40.2	+2.1
	6.7nm,1.0s							
MSU	Marysvale	26.64	326	eP	P	00 48 39.3	+0.9
I42A	Draeger Farm,	26.69	7	P	P	00 48 38.4	-0.1
	baz=190							
I41A	Arkdale	26.75	6	P	P	00 48 37.9	-1.1
	baz=188							
I43A	Langenfeld Bro	26.78	9	P	P	00 48 41.2	+1.9
	baz=191							
TUQ	Turquoise Moun	26.85	316	P	P	00 48 42.2	+1.9
	baz=126							
H38A	Maiden Rock	27.21	2	P	P	00 48 43.2	0.0
	baz=182							
H39A	Augusta	27.26	3	P	P	00 48 42.0	-1.6
	baz=184							
H40A	Chili	27.26	5	P	P	00 48 42.1	-1.5
	baz=186							
PSUT	Pine Spring	27.58	324	eP	P	00 48 47.9	+1.1
	2.4nm,0.8s							
SPMN	Marine on St.	27.75	1	eP	P	00 48 49.7	+1.8
	18nm,1.0s							
SPMN	Marine on St.	27.75	1	P	P	00 48 46.7	-1.3
	baz=181							
G39A	Holcombe	27.87	3	P	P	00 48 48.2	-0.9
	baz=184							
DUG	Dugway, Tooele	28.21	328	P	P	00 48 52.7	+0.3
	baz=138							
TCUT	Toone Canyon	28.23	331	eP	P	00 48 54.0	+1.4
	14nm,1.0s							
MPMC	Manual Prospec	28.25	316	P	P	00 48 52.8	0.0
	baz=125							
R11A	Troy Canyon, C	28.46	322	eP	P	00 48 56.7	+2.1
	7.9nm,1.6s							
F38A	Pierce - Schro	28.51	2	P	P	00 48 53.2	-1.5
	baz=183							
PD31	Pinedale Array	28.75	335	eP	P	00 48 56.3	-1.0
PDAR	Pinedale Array	28.75	335	P	P	00 48 56.3	-1.0
	0.4nm,0.8s,baz=116,slow=6.1,SNR=2.8							
PDAR				LR	LR	01 03 20.1		
	comp=Z,131nm,18.1s,baz=159,slow=42							
F43A	Flat Rock, Esc	28.83	9	P	P	00 48 58.7	+1.1
	baz=192							
CWC	Cottonwood Cre	28.86	316	P	P	00 49 00.2	+2.0
	baz=125							
BGU	Big Grassy Mou	28.87	328	eP	P	00 48 59.0	+0.8
	2.6nm,0.8s							
PCRV	Puerto La Cruz	28.89	101	P	P	00 48 59.3	+0.8
	9.6nm,0.8s,baz=45,slow=1.4,SNR=2.8							
E40A	Wakefield	29.11	5	P	P	00 48 58.1	-2.1
	baz=187							
HVU	Hansel Valley	29.39	330	eP	P	00 49 04.9	+2.0
	4.8nm,0.8s							
REDW	Red Top Meadow	29.78	334	eP	P	00 49 07.7	+1.4
	23nm,1.4s							
SNOW	Snow King Moun	29.82	334	eP	P	00 49 08.2	+1.4
	15nm,0.6s							
LOHW	Long Hollow	29.88	335	eP	P	00 49 08.8	+1.5
	24nm,1.8s							
TPAW	Teton Pass	29.93	334	eP	P	00 49 09.0	+1.3
	7.8nm,0.9s							
MOOW	Moose Ponds	30.05	335	eP	P	00 49 10.2	+1.4
	4.2nm,0.8s							
NV11	Mina Array Sit	30.07	319	eP	P	00 49 10.9	+2.0
	0.6nm,1.1s							
FXWY	Fox Creek	30.08	334	eP	P	00 49 10.1	+1.1
	3.3nm,0.7s							
NV01	Mina Array Sit	30.16	319	eP	P	00 49 11.8	+2.0
NVAR	Mina Array Bea	30.16	319	P	P	00 49 11.8	+2.0
	5.8nm,0.3s,baz=103,slow=7.8,SNR=23							
NVAR				LR	LR	01 02 27.7		
	comp=Z,122nm,18.0s,baz=112,slow=39							
IMW	Indian Meadow	30.25	334	eP	P	00 49 11.2	+0.5
	3.6nm,0.6s							
KVN	Kaiserville	30.42	320	eP	P	00 49 14.1	+2.0
	4.1nm,0.9s							
AGMN	Agassiz Nation	30.88	357	P	P	00 49 16.4	+0.7
	baz=175							
YMR	Madison River	30.90	335	eP	P	00 49 19.1	+2.8
	23nm,1.6s							
WAKR	Walker	30.93	318	eP	P	00 49 21.9	+5.4
	19nm,1.8s							
HLID	Hailey	31.53	330	eP	P	00 49 23.6	+1.8
	6.1nm,1.1s							
HLID	Hailey	31.53	330	P	P	00 49 21.9	+0.1
	baz=139							
MCMT	McKenzie Canyo	31.81	333	eP	P	00 49 26.6	+2.3
DLMT	Dillon	32.13	334	eP	P	00 49 28.2	+1.2
	12nm,1.3s							
BEKR	Beckworth	32.30	319	eP	P	00 49 29.9	+1.3
	9.3nm,1.5s							
ULM	Lac du Bonnet	32.83	357	P	P	00 49 31.8	-1.1
	1.1nm,0.4s,baz=157,slow=15,SNR=4.1							
ULM				LR	LR	01 05 04.6		
	comp=Z,201nm,18.5s,baz=170,slow=40							
EGMT	Eagleton	33.33	340	P	P	00 49 40.4	+3.0
	baz=151							
J08A	Circle Bar Ran	33.44	326	eP	P	00 49 40.1	+1.7
	17nm,0.6s							
MSO	Missoula	33.87	334	P	P	00 49 41.4	-0.7
	baz=143							
BMO	Blue Mountains	33.88	329	eP	P	00 49 42.6	+0.3
	24nm,1.9s							
M04C	Macdoel	34.34	321	P	P	00 49 47.5	+1.2
	baz=126							
F10A	Beach Ranch, E	34.66	330	eP	P	00 49 49.6	+0.6
	11nm,0.6s							
G08A	Pilot Rock	35.02	328	eP	P	00 49 52.0	-0.1
	9.9nm,0.7s							
D08A	Wollman Farm,	36.26	330	eP	P	00 50 04.7	+2.1
	5.5nm,0.8s							
NEW	Newport	36.34	333	P	P	00 50 04.5	+1.2
	1.0nm,0.6s,baz=270,slow=20,SNR=2.8							
NEW	Newport	36.34	333	eP	P	00 50 04.1	+0.8
	24nm,1.8s							
NEW	Newport	36.34	333	P	P	00 50 03.8	+0.5
	baz=140							
C09A	Chrisman Ranch	36.50	332	eP	P	00 50 05.9	+1.2
	11nm,0.8s							
LTY	Liberty	37.24	329	eP	P	00 50 12.0	+1.0
	9.5nm,0.7s							
PTGA	Pitinga	37.60	115	eP	P	00 50 14.3	-0.1
	32nm,2.0s							
SAML	Samuel	39.77	129	eP	P	00 50 29.7	-2.9
	6.0nm,0.7s							
FCC	Fort Churchill	41.30	360	eP	P	00 50 45.9	+1.2
	82nm,1.3s							
LPAZ	La Paz	41.77	142	P	P	00 50 49.5	-0.3
	4.5nm,0.7s,baz=308,slow=18,SNR=19							
LPAZ				LR	LR	01 07 57.7		
	comp=Z,173nm,19.7s,baz=347,slow=36							
LPAZ	La Paz	41.77	142	eP	P	00 50 48.8	-0.9
LPAZ				epP	P	00 50 49.4	-0.3
SCHQ	Schefferville	42.59	23	LR	LR	01 11 31.4		
	comp=Z,408nm,18.2s,baz=322,slow=40							
MNMC	Minye Minye	43.23	146	eP	P	00 51 02.3	+1.1
	36nm,1.2s							
PB11	IPOC Station P	43.72	147	eP	P	00 51 05.5	+0.5
	19nm,1.1s							
SIV	San Ignacio	46.06	134	P	P	00 51 22.0	-1.6
	5.8nm,0.5s,baz=331,slow=5.9,SNR=51							
YKA	Yellowknife Ar	47.41	347	P	P	00 51 33.3	-0.2
	1.2nm,0.7s,baz=152,slow=7.5,SNR=3.8							
YKB5	Yellowknife Ar	47.41	347	eP	P	00 51 33.3	-0.2
BDFB	Brasilia	55.56	124	LR	LR	01 17 43.5		
	comp=Z,225nm,18.3s,baz=30,slow=38							
CPUP	Villa Florida	55.89	140	LR	LR	01 18 31.4		
	comp=Z,103nm,18.4s,baz=354,slow=38							
INK	Inuvik	56.79	343	eP	P	00 52 44.9	+1.6
	3.4nm,0.6s							
ILAR	Eielson Array	59.17	336	P	P	00 53 00.1	+0.1
	0.8nm,1.1s,baz=123,slow=6.0,SNR=7.1							
ILB	Eielson Array	59.17	336	eP	P	00 53 00.1	+0.1
RND	Reindeer	59.36	335	eP	P	00 53 02.9	+1.4
	18nm,1.1s							
TRF	Thorofare Moun	59.97	334	eP	P	00 53 06.8	+1.0
	16nm,0.9s							
MLY	Manley	60.77	336	eP	P	00 53 11.8	+0.7
	8.3nm,1.0s							
PLCA	Paso Flores	61.64	160	P	P	00 53 17.1	-0.1
	3.9nm,0.7s,baz=13,slow=7.7,SNR=9.7							
PLCA	Paso Flores	61.64	160	eP	P	00 53 17.1	-0.1
	7.0nm,0.8s							
BORG	Borgarnes	66.79	26	LR	LR	01 24 25.9		
	comp=Z,148nm,18.5s,baz=134,slow=37							
ESDC	Sonseca Array	78.74	52	P	P	00 55 01.3	-1.1
	0.4nm,0.8s,baz=277,slow=4.6,SNR=3.5							
NB200	NORSAR Array S	81.85	28	eP	P	00 55 18.1	-0.5
NOA	NORSAR Array B	81.85	28	P	P	00 55 18.1	-0.5
	1.5nm,0.8s,baz=298,slow=5.7,SNR=3.3							
NOA				LR	LR	01 31 40.1		
	comp=Z,35nm,18.5s,baz=200,slow=36							
ARA0	ARCESS Array S	83.37	18	eP	P	00 55 26.2	-0.1
ARCES	ARCESS Array B	83.37	18	P	P	00 55 26.2	-0.1
	3.6nm,0.8s,baz=301,slow=5.0,SNR=12							
CLL	Collm	86.48	37	eP	P	00 55 43.0	+0.7
	comp=Z,18nm,1.7s							
FUORN	Ofenpass-Fuorn	86.61	42	eP	P	00 55 45.0	+1.5
	comp=Z,7.4nm,0.7s							
GERES	GERESS Array B	87.89	39	P	P	00 55 49.3	-0.1
	comp=Z,0.3nm,0.5s,baz=298,slow=5.6,SNR=4.2							
FIA0	FINESS Array S	88.03	25	eP	P	00 55 50.3	+0.7
FINES	FINESS Array B	88.03	25	P	P	00 55 50.3	+0.7
	comp=Z,2.4nm,0.8s,baz=302,slow=2.2,SNR=3.4							
TOA1	Torodi Ar. Sit	90.95	76	eP	P	00 56 02.1	-2.2
TORD	Torodi Ar. Bea	90.95	76	P	P	00 56 02.1	-2.2
	comp=Z,0.5nm,0.9s,baz=289,slow=4.4,SNR=3.3							
KSH	Kashi	122.53	10	ePKP	PKPdf	01 01 56.0	+0.4
BOSA	Boshof	123.04	113	PKP	PKPdf	01 01 56.1	-0.6
	comp=Z,4.1nm,0.8s,baz=288,slow=3.1,SNR=7.3							
LZH	Lanzhou	124.33	343	ePKP	PKPdf	01 01 58.3	-0.9
LZH				pPKP	sPKPdf	01 02 09.0	+7.3
LZH				sPKP		01 02 14.9		
WB2	Warramunga Arr	134.74	259	ePKPdf	PKPdf	01 02 18.5	-0.7
WR1	Warramunga Arr	134.75	259	ePKPdf	PKPdf	01 02 18.0	-1.1
WRA	Warramunga Arr	134.75	259	PKP	PKPdf	01 02 18.0	-1.2
	comp=Z,0.6nm,0.7s,baz=90,slow=2.1,SNR=8.6							
ASAR	Alice Springs	135.35	254	PKHKP	PKPpre	01 02 11.0		
	comp=Z,0.1nm,0.4s,baz=104,slow=3.7,SNR=4.0							
ASAR				PKP	PKPdf	01 02 18.4	-1.8	
	comp=Z,0.3nm,0.5s,baz=90,slow=2.8,SNR=3.8							

ISCJB **14** *00:43:59.4±0.8,37°.31N±0°.03×37°.10E±0°.04,h1km±8km,*
Error ellipse: s-maj=6.4km s-min=4.9km az=141.6
DDA **14** *00:43:59.1,37°.29N×37°.10E,h7km,Ml2.5*
ISK **14** *00:43:59.2,37°.32N×37°.15E,h8km,ML1.9/6*

ISC 14 00:43:59.5±1.0,37°.31N±0°.03×37°.12E±0°.04,h9km±8km,
n11,o0°73/18,Turkey

| Code | Station Name |

*ISCJB **14** 00:46:13.6±0.6, 30.43N±0.05×57.46E±0.07, h15km, Error ellipse: s-maj=9.3km s-min=5.6km az=31.0*
*THR **14** 00:46:13.4±0.4, 30.51N×57.42E, h16km±4km, ML3.6*
*TEH **14** 00:46:14.1, 30.57N×57.42E, h10km, ML3.8*
ISC 14 00:46:13.9±1.2, 30.33N±0.05×57.48E±0.05, h15km, n25, σ1§24/23, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHMN	**Cheshme madani**	**0.47**	**173**	*e*Pg	**Pn**	**00 46 24.9**	**-1.4**
CHMN				IAMB	IAmb	00 46 36.3	
	comp=Z,0.0nm,0.2s						
CHMN				IAMB	IAmb	00 46 36.3	
	comp=N,0.0nm,0.2s						
CHMN				IAMB	IAmb	00 46 37.2	
	comp=E,0.0nm,0.2s						
TVBK	**TV Kerman**	**0.70**	**241**	*e*Pg	**Pn**	**00 46 29.6**	**0.0**
TVBK				IAMB	IAmb	00 46 45.6	
	comp=E,0.0nm,0.2s						
TVBK				IAMB	IAmb	00 46 46.2	
	comp=N,0.0nm,0.3s						
TVBK				IAMB	IAmb	00 46 48.5	
	comp=Z,0.0nm,0.2s						
KRBR	**Kerman**	**0.71**	**241**	*e*Pg	**Pn**	**00 46 28.3**	**-1.3**
KRBR	**Kerman**	**0.71**	**241**	*e*Pg	**Pn**	**00 46 28.3**	**-1.3**
KHGB	**Koh Gabri**	**0.86**	**274**	*e*Pg	**Pb**	**00 46 30.1**	**-0.6**
KHGB				IAMB	IAmb	00 46 42.7	
	comp=N,0.0nm,0.3s						
KHGB				IAMB	IAmb	00 46 43.3	
	comp=Z,0.0nm,0.2s						
KHGB				IAMB	IAmb	00 46 45.5	
	comp=E,0.0nm,0.2s						
NGRK	**Negar Kerman**	**0.94**	**224**	*e*Pg	**Pn**	**00 46 34.1**	**+1.3**
NGRK				IAMB	IAmb	00 46 53.4	
	comp=N,0.0nm,0.2s						
NGRK				IAMB	IAmb	00 46 53.4	
	comp=Z,0.0nm,0.2s						
NGRK				IAMB	IAmb	00 46 53.7	
	comp=E,0.0nm,0.2s						
IMEH	**Mehriz**	**2.68**	**294**	IAMB	IAmb	00 47 39.5	
	comp=N,6μm,0.5s						
IMEH				IAMB	IAmb	00 47 45.0	
	comp=Z,4μm,0.5s						
TPRV	**Parvadeh(Tabas**	**2.78**	**346**	*e*Pn	**Pn**	**00 46 56.5**	**-1.4**
TPRV				IAMB	IAmb	00 47 40.6	
	comp=Z,0.0nm,0.6s						
ITEG	**Tejag**	**2.79**	**23**	*e*Pn	**Pn**	**00 46 55.5**	**-2.6**
ITEG				IAMB	IAmb	00 47 40.8	
	comp=Z,4μm,0.4s						
ITEG				IAMB	IAmb	00 47 41.8	
	comp=E,8μm,0.4s						
ITEG				IAMB	IAmb	00 47 42.7	
	comp=N,8μm,0.4s						
NIAN	**Nian**	**2.81**	**192**	IAMB	IAmb	00 47 52.9	
	comp=N,0.0nm,0.3s						
NIAN				IAMB	IAmb	00 47 55.6	
	comp=E,0.0nm,0.4s						
NIAN				IAMB	IAmb	00 48 01.8	
	comp=Z,0.0nm,0.7s						
GENO	**Geno**	**3.13**	**202**	IAMB	IAmb	00 47 10.6	
	comp=Z,0.0nm,0.3s						
GENO				*e*Pn	**Pb**	**00 47 09.2**	**-0.1**
GENO				IAMB	IAmb	00 48 00.8	
	comp=E,0.0nm,0.4s						
GENO				IAMB	IAmb	00 48 06.2	
	comp=N,0.0nm,0.8s						
IDAH	**Dahanechah**	**3.16**	**40**	*e*Pn	**Pn**	**00 47 04.2**	**+0.9**
IDAH				IAMB	IAmb	00 47 55.3	
	comp=N,6μm,1.0s						
IDAH				IAMB	IAmb	00 47 58.3	
	comp=Z,2μm,0.7s						
IDAH				IAMB	IAmb	00 47 58.9	
	comp=E,6μm,0.7s						
YZKH	**Yazd**	**3.21**	**311**	*e*Pn	**Pn**	**00 47 03.6**	**-0.3**
YZKH	**Yazd**	**3.21**	**311**	*e*Pn	**Pn**	**00 47 03.6**	**-0.3**
ICHK	**Chekchek**	**3.25**	**307**	*e*Pn	**Pn**	**00 47 05.6**	**+1.1**
ICHK				IAMB	IAmb	00 48 01.5	
	comp=Z,3μm,0.6s						
ICHK				IAMB	IAmb	00 48 05.2	
	comp=E,3μm,0.8s						
ICHK				IAMB	IAmb	00 48 06.1	
	comp=N,3μm,0.7s						
TKDS	**Koohdasht(Taba**	**3.29**	**355**	*e*Pn	**Pn**	**00 47 03.5**	**-1.5**
TKDS				IAMB	IAmb	00 48 01.5	
	comp=Z,0.0nm,0.9s						
TABS	**Tabas**	**3.33**	**355**	*e*Pn	**Pn**	**00 47 04.3**	**-1.2**
TABS				IAML		00 47 56.9	
	comp=N,143nm,0.5s						
TABS	**Tabas**	**3.33**	**355**	*e*Pn	**Pn**	**00 47 04.3**	**-1.2**
IMON	**Monand**	**3.41**	**33**	*e*Pn	**Pn**	**00 47 07.6**	**+0.8**
IMON				IAMB	IAmb	00 48 02.6	
	comp=Z,1μm,0.5s						
IMON				IAMB	IAmb	00 48 08.1	
	comp=E,9μm,0.5s						
ISAD	**Sadrabad**	**3.62**	**297**	IAMB	IAmb	00 48 13.9	
	comp=E,2μm,0.7s						
ISAD				IAMB	IAmb	00 48 18.2	
	comp=N,2μm,0.5s						
ISAD				IAMB	IAmb	00 48 19.1	
	comp=Z,2μm,0.5s						
TNSJ	**Nastanj**	**3.70**	**349**	*e*Pn	**Pn**	**00 47 09.1**	**-1.5**
TNSJ				IAMB	IAmb	00 48 19.6	
	comp=Z,0.0nm,1.1s						
SHRT	**Shahrakht**	**4.08**	**35**	*e*Pn	**Pn**	**00 47 15.9**	**0.0**
SHRT				*e*Sg	**Sb**	**00 48 16.6**	**+1.9**
SHRT	**Shahrakht**	**4.08**	**35**	*e*Pn	**Pn**	**00 47 15.9**	**0.0**
ANAR	**Anarak**	**4.28**	**313**	*e*Pn	**Pn**	**00 47 19.2**	**+0.6**
ANAR				IAMB	IAmb	00 48 38.8	
	comp=N,0.0nm,0.6s						
ANAR				IAMB	IAmb	00 48 38.8	
	comp=Z,0.0nm,0.6s						
ANAR				IAMB	IAmb	00 48 42.7	
	comp=E,0.0nm,0.5s						
KRSH	**Karshahi**	**5.80**	**310**	*e*Pn	**Pn**	**00 47 40.4**	**+0.8**
KRSH				IAMB	IAmb	00 49 25.1	
	comp=N,0.0nm,0.7s						
KRSH				IAMB	IAmb	00 49 30.8	
	comp=Z,0.0nm,0.7s						
KRSH				IAMB	IAmb	00 49 41.8	
	comp=E,0.0nm,0.8s						

IDC 14 01:03:07.6±2.0, 6.65S×129.37E, h0km, mb3.6/2, mb1 3.8/5, mb1mx3.5/44, mbtmp3.6/5, ML3.6/3, Error ellipse: s-maj=105.2km s-min=25.8km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.95**	**197**	Pn	Pn	01 05 59.9	+0.6
	0.2nm,0.3s,baz=23,slow=8.3,SNR=14						
FITZ				Sn	Sn	01 08 01.5	-12
	0.8nm,0.3s,baz=177,slow=23,SNR=8.3						
WRA	**Warramunga Arr**	**14.07**	**160**	Pn	Pn	01 06 27.8	-0.6
	0.3nm,0.3s,baz=334,slow=13,SNR=15						
WRA				Sn	Sn	01 08 52.8	-13
	0.9nm,0.3s,baz=330,slow=22,SNR=16						
ASAR	**Alice Springs**	**17.47**	**166**	P	Pn	01 07 12.9	-0.1
	0.3nm,0.3s,baz=342,slow=9.7,SNR=11						
ASAR				S	Sn	01 10 16.7	-11
	0.2nm,0.3s,baz=342,slow=23,SNR=5.3						
MKAR	**Makanchi Array**	**67.59**	**327**	P	P	01 14 06.0	-0.1
	0.2nm,0.3s,baz=117,slow=7.9,SNR=6.3						
KURBB	**Kurchatov Arra**	**71.89**	**329**	P	P	01 14 32.7	+0.2
	0.3nm,0.5s,baz=120,slow=5.1,SNR=3.3						

IDC 14 01:12:12.9±1.9, 19.37S×92.00E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.7/58, mbtmp3.9/9, Error ellipse: s-maj=62.4km s-min=22.2km az=37.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**22.23**	**299**	T	T	01 40 06.8	
	baz=124,slow=75,SNR=3.0						
H08S1	**Diego Garcia H**	**22.24**	**299**	T	T	01 40 10.9	
	baz=124,slow=75,SNR=2.4						
H08S3	**Diego Garcia H**	**22.24**	**299**	T	T	01 40 07.3	
	baz=124,slow=75,SNR=2.3						
CMAR	**Chiang Mai Arr**	**38.20**	**11**	P	P	01 19 35.0	+0.4
	1.2nm,0.5s,baz=205,slow=9.2,SNR=6.8						
ASAR	**Alice Springs**	**39.12**	**104**	P	P	01 19 42.1	-0.3
	0.7nm,0.7s,baz=270,slow=8.2,SNR=7.3						
WRA	**Warramunga Arr**	**39.80**	**98**	P	P	01 19 48.3	+0.2
	1.2nm,0.8s,baz=270,slow=8.9,SNR=12						
MKAR	**Makanchi Array**	**66.43**	**353**	P	P	01 23 03.7	-0.2
	0.2nm,0.6s,baz=193,slow=9.3,SNR=3.6						
SONM	**Songino Array**	**68.13**	**10**	P	P	01 23 14.3	-0.5
	0.8nm,0.7s,baz=205,slow=5.7,SNR=5.2						
KURBB	**Kurchatov Arra**	**70.69**	**351**	P	P	01 23 29.9	-0.4
	0.3nm,0.5s,baz=178,slow=5.1,SNR=5.0						
ZALV	**Zalesovo Beam**	**73.27**	**356**	P	P	01 23 45.8	0.0
	1.9nm,0.6s,baz=181,slow=3.9,SNR=9.1						
KBZ	**Khabaz**	**77.23**	**326**	P	P	01 24 09.9	+1.1
	3.2nm,0.8s,baz=129,slow=10,SNR=6.2						
BRTR	**Keskin Array B**	**80.09**	**318**	P	P	01 24 24.3	-0.6
	0.4nm,0.7s,baz=148,slow=7.8,SNR=3.2						

*IDC **14** 01:13:46.9±0.8, 36.08N×27.44E, h0km, mb3.8/13, mb1 3.8/19, mb1mx3.7/64, mbtmp3.8/19, ML3.2/6, MS3.3/2, Ms1 3.3/2, ms1mx2.7/54, Error ellipse: s-maj=19.9km s-min=13.3km az=158.0*
*ISK **14** 01:13:47.9, 36.02N×27.47E, h8km, ML3.7/13*
*ATH **14** 01:13:48.2, 36.03N×27.46E, h19km±1km, ML3.5/9, Error ellipse: s-maj=1.7km s-min=0.9km az=160.0*
*ISCJB **14** 01:13:48.5±0.5, 36.01N±0.02×27.49E±0.02, h9km±3km, mb3.7/12, MS3.6/1, Error ellipse: s-maj=4.0km s-min=2.5km az=150.1*
*THE **14** 01:13:49.1, 36.01N×27.54E, h3km±1km, ML3.4/9, Error ellipse: s-maj=1.4km s-min=0.4km az=91.0*
*DDA **14** 01:13:49.6, 36.05N×27.58E, h6km, Ml3.4*
ISC 14 01:13:48.1±1.0, 36.01N±0.02×27.51E±0.02, h10km±7km, n112, σ1§31/149, mb3.8/12, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.54**	**68**	PG	**Pg**	**01 13 57.2**	**-1.5**
ARG	**Arkhangelos**	**0.54**	**68**	P	**Pb**	**01 13 59.5**	**-0.3**
ARG				S	**Sb**	**01 14 07.1**	**-0.4**
ARG				AML	AML	01 14 08.8	
	comp=E,13113μm,0.5s						
ARG				AML	AML	01 14 09.9	
	comp=N,12715μm,0.7s						
ARG	**Arkhangelos**	**0.54**	**68**	P	**Pb**	**01 13 59.4**	**-0.3**
ARG				S	**Sb**	**01 14 07.1**	**-0.4**
KARP	**Karpathos**	**0.54**	**211**	PG	**Pg**	**01 13 58.8**	**+0.1**
KARP				SG	**Sg**	**01 14 06.6**	**+0.7**
KARP	**Karpathos**	**0.54**	**211**	P	**Pg**	**01 13 58.4**	**-0.3**
KARP				S	**Sg**	**01 14 05.9**	**+0.1**
KARP				AML	AML	01 14 11.6	
	comp=N,5494μm,0.2s						
KARP				AML	AML	01 14 12.9	
	comp=E,5866μm,0.4s						
KARP	**Karpathos**	**0.54**	**211**	P	**Pb**	**01 13 59.8**	**+0.1**
KARP				S	**Sb**	**01 14 09.0**	**+1.4**
NIS1	**Nisyros Isl.**	**0.65**	**336**	PG	**Pg**	**01 14 00.6**	**-0.1**
NIS1				SG	**Sb**	**01 14 09.9**	**-0.7**
NIS1	**Nisyros Isl.**	**0.65**	**336**	P	**Pn**	**01 14 02.3**	**-1.1**
NIS1				S	**Sn**	**01 14 12.9**	**-0.7**
NISR	**Nisiros**	**0.67**	**333**	P	**Pg**	**01 14 01.1**	**0.0**
NISR				S	**Sb**	**01 14 10.3**	**-1.0**
NISR				AML	AML	01 14 16.7	
	comp=E,8322μm,0.5s						
NISR				AML	AML	01 14 17.2	
	comp=N,5972μm,0.7s						
NISR	**Nisiros**	**0.67**	**333**	P	**Pn**	**01 14 03.0**	**-0.7**
NISR				S	**Sn**	**01 14 12.9**	**-1.3**
DAT	**Datca**	**0.72**	**5**	PG	**Pg**	**01 14 02.2**	**+0.1**
DAT				SG	**Sb**	**01 14 13.1**	**+0.4**
DAT	**Datca**	**0.72**	**5**	*i* P	**Pb**	**01 14 02.5**	**-0.2**
DAT				*i* S	**Sn**	**01 14 15.4**	**-0.1**
MRSB	**Marmaris-Mugla**	**0.90**	**38**	PG	**Pb**	**01 14 05.9**	**+0.1**
BODT	**Bodrum**	**1.06**	**351**	PG	**Pb**	**01 14 08.5**	**-0.1**
BODT	**Bodrum**	**1.06**	**351**	P	**Pn**	**01 14 08.8**	**-0.2**
BODT				S	**Sn**	**01 14 25.1**	**+1.2**
DALY	**Dalyan (Mu¨la**	**1.23**	**49**	PN	**Pg**	**01 14 12.4**	**+0.7**
DALY	**Dalyan (Mu¨la**	**1.23**	**49**	*i* P	**Pg**	**01 14 11.9**	**+0.2**
DALY				*i* S	**Sn**	**01 14 29.0**	**+1.2**
TURN	**Turunc**	**1.23**	**45**	PG	**Pn**	**01 14 07.0**	**-4.4**
TURN	**Turunc**	**1.23**	**45**	*i* P	**Pn**	**01 14 07.5**	**-3.9**
TURN				*i* S	**Sb**	**01 14 20.0**	**-7.4**
MLSB	**Milas**	**1.30**	**10**	PN	**Pb**	**01 14 12.8**	**+0.1**
ZKR	**Zakros**	**1.38**	**230**	P	**Pg**	**01 14 14.5**	**-0.1**
ZKR				S	**Sg**	**01 14 32.7**	**+0.1**
ZKR				AML	AML	01 14 40.1	
	comp=E,3008μm,0.4s						
ZKR				AML	AML	01 14 40.4	
	comp=N,1738μm,0.6s						
ZKR	**Zakros**	**1.38**	**230**	P	**Pg**	**01 14 14.4**	**-0.3**
ZKR				S	**Sg**	**01 14 33.4**	**+0.8**
STIA	**Sitia Lasithi**	**1.41**	**235**	P	**Pn**	**01 14 13.9**	**+0.1**
STIA				S	**Sg**	**01 14 34.2**	**+0.7**
FETY	**Fethiye**	**1.42**	**63**	PN	**Pg**	**01 14 15.3**	**0.0**
FETY	**Fethiye**	**1.42**	**63**	P	**Pb**	**01 14 14.6**	**-0.1**
ANAF	**Anafi Island**	**1.45**	**284**	P	**Pb**	**01 14 14.6**	**-0.5**
ANAF				S	**Sb**	**01 14 33.5**	**-0.1**
ANAF				AML	AML	01 14 39.9	
	comp=E,9003μm,0.5s						
ANAF				AML	AML	01 14 40.1	
	comp=N,7946μm,0.7s						
ANAF	**Anafi Island**	**1.45**	**284**	P	**Pb**	**01 14 14.7**	**-0.4**
ANAF				S	**Sg**	**01 14 35.1**	**+0.5**
AYDN	**Tasoluk**	**1.67**	**10**	*i* P	**Pb**	**01 14 18.3**	**-0.8**
KSL	**Kastellorizon**	**1.69**	**85**	P	**Pb**	**01 14 20.1**	**+0.9**
KSL				S	**Sb**	**01 14 41.9**	**+1.4**
KSL				AML	AML	01 14 51.0	
	comp=E,1468μm,0.6s						
KSL				AML	AML	01 14 54.0	
	comp=N,1269μm,0.9s						
KSL	**Kastellorizon**	**1.69**	**85**	P	**Pb**	**01 14 20.1**	**+0.9**
THR8	**Santorini-Mono**	**1.69**	**284**	P	**Pn**	**01 14 18.0**	**+0.3**
THR8	**Santorini-Mono**	**1.69**	**284**	P	**Pn**	**01 14 18.1**	**+0.5**
SANT	**Santorini**	**1.69**	**283**	PN	**Pn**	**01 14 18.3**	**+0.5**
SANT	**Santorini**	**1.69**	**283**	P	**Pn**	**01 14 18.2**	**+0.4**
AKAS	**Kas**	**1.71**	**82**	PN	**Pb**	**01 14 19.6**	**-0.2**
AKAS	**Kas**	**1.71**	**82**	*i* P	**Pb**	**01 14 20.7**	**+0.9**
AKAS				*i* S	**Sg**	**01 14 44.0**	**+0.8**
SAP2K	**Karterados**	**1.71**	**284**	P	**Pb**	**01 14 18.9**	**-0.8**
NPS	**Neapolis**	**1.71**	**245**	P	**Pn**	**01 14 18.7**	**+0.7**
NPS				S	**Sn**	**01 14 40.3**	**+0.3**
NPS				AML	AML	01 14 46.5	
	comp=N,2240μm,0.6s						
NPS				AML	AML	01 14 48.5	
	comp=E,3323μm,0.5s						
NPS	**Neapolis**	**1.71**	**245**	P	**Pb**	**01 14 19.0**	**-0.7**
NPS				S	**Sb**	**01 14 40.9**	**-0.4**
THT1	**Athinios (Pele**	**1.72**	**283**	P	**Pn**	**01 14 18.0**	**0.0**
THR7	**Fira-Santorini**	**1.73**	**284**	P	**Pn**	**01 14 18.8**	**+0.6**
THR7	**Fira-Santorini**	**1.73**	**284**	P	**Pn**	**01 14 18.8**	**+0.6**
THR2	**Thira island,**	**1.73**	**285**	P	**Pn**	**01 14 18.7**	**+0.5**
THR2	**Thira island,**	**1.73**	**285**	P	**Pb**	**01 14 19.0**	**-1.0**
THT2	**Imerovigli**	**1.74**	**285**	P	**Pn**	**01 14 18.6**	**+0.3**
THT2	**Imerovigli**	**1.74**	**285**	P	**Pn**	**01 14 18.8**	**+0.4**
THR6	**Thira Island,**	**1.74**	**282**	P	**Pn**	**01 14 19.0**	**+0.7**
THR6	**Thira Island,**	**1.74**	**282**	P	**Pn**	**01 14 19.1**	**+0.7**
SAP1	**Santorini-Akro**	**1.74**	**282**	P	**Pb**	**01 14 19.2**	**-1.0**
SAP1	**Santorini-Akro**	**1.74**	**282**	P	**Pn**	**01 14 19.0**	**+0.6**
THR3	**Thira Island,**	**1.75**	**284**	P	**Pn**	**01 14 18.9**	**+0.5**
THR3	**Thira Island,**	**1.75**	**284**	P	**Pn**	**01 14 18.8**	**+0.3**
CMBO	**Columbo, Santo**	**1.76**	**286**	P	**Pn**	**01 14 19.2**	**+0.6**
CMBO				S	**Sb**	**01 14 42.7**	**+0.1**
CMBO				AML	AML	01 14 48.1	
	comp=N,4509μm,0.6s						
CMBO				AML	AML	01 14 49.5	
	comp=E,5222μm,0.9s						
SMG	**Samos**	**1.78**	**343**	P	**Pn**	**01 14 19.0**	**+0.2**
SMG	**Samos**	**1.78**	**343**	P	**Pn**	**01 14 19.1**	**+0.2**
SMG				S	**Sb**	**01 14 42.7**	**-0.4**
THR5	**Thira Island,**	**1.79**	**284**	P	**Pn**	**01 14 19.7**	**+0.6**
THR5	**Thira Island,**	**1.79**	**284**	P	**Pn**	**01 14 19.4**	**+0.3**
TAVA	**DENIZLI_Tavas**	**1.84**	**37**	*i* P	**Pg**	**01 14 23.1**	**-0.3**
TAVA				*i* S	**Sg**	**01 14 48.0**	**+0.7**
LAST	**Lasithi**	**1.86**	**243**	P	**Pn**	**01 14 20.8**	**+0.8**
LAST				S	**Sb**	**01 14 45.2**	**-0.3**
LAST				AML	AML	01 14 55.9	
	comp=E,1118μm,1.3s						
LAST				AML	AML	01 14 56.5	
	comp=N,913μm,0.7s						
LAST	**Lasithi**	**1.86**	**243**	P	**Pn**	**01 14 21.1**	**+1.0**
LAST				S	**Sb**	**01 14 44.9**	**-0.6**
APE	**Apeiranthos**	**1.91**	**304**	PN	**Pn**	**01 14 21.4**	**+0.7**
APE	**Apeiranthos**	**1.91**	**304**	P	**Pn**	**01 14 21.1**	**+0.3**
IOSP	**Ios island**	**1.93**	**292**	P	**Pn**	**01 14 21.3**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.96**	**9**	PN	**Pn**	**01 14 21.8**	**+0.3**
GOLH	**Golhisar**	**2.06**	**53**	*i* P	**Pg**	**01 14 27.0**	**-0.5**
GOLH				*i* S	**Sg**	**01 14 54.1**	**-0.1**
ELL	**Elmali**	**2.07**	**69**	PN	**Pn**	**01 14 24.3**	**+1.2**
DNZL	**Cakiroluk**	**2.08**	**36**	*i* P	**Pb**	**01 14 27.0**	**+0.9**
DNZL				*i* S	**Sg**	**01 14 55.1**	**0.0**
DENT	**Denizli**	**2.13**	**35**	PN	**Pn**	**01 14 24.7**	**+1.0**
IDI	**Anoyia**	**2.25**	**252**	PN	**Pn**	**01 14 25.9**	**+0.5**
IDI	**Anoyia**	**2.25**	**252**	Pn	**Pn**	**01 14 26.5**	**+1.0**
	comp=N,9.5nm,0.3s,baz=11,slow=10,SNR=40						
IDI				Sn	**Sn**	**01 14 52.9**	**-0.4**
	comp=N,16nm,0.3s,baz=155,slow=13,SNR=17						
IDI				LR	LR	01 15 33.6	
	comp=N,394nm,20.1s,baz=160,slow=48						
SIVA	**Sivas**	**2.41**	**247**	P	**Pb**	**01 14 29.7**	**-1.9**
SIVA	**Sivas**	**2.41**	**247**	P	**Pn**	**01 14 28.8**	**+1.2**
URLA	**Izmir**	**2.46**	**343**	PN	**Pn**	**01 14 29.2**	**+1.0**
KORT	**Korkueli**	**2.49**	**66**	PN	**Pn**	**01 14 30.3**	**+1.4**
KORT	**Korkueli**	**2.49**	**66**	*i* P	**Pb**	**01 14 32.9**	**-0.2**
CHOS	**Chios island**	**2.64**	**334**	PN	**Pn**	**01 14 31.8**	**+1.0**
BRDR	**BURDUR-Merkez**	**2.65**	**50**	*i* P	**Pn**	**01 14 32.5**	**+1.5**
KULA	**Kula-Manisa**	**2.66**	**20**	PN	**Pn**	**01 14 32.2**	**+1.1**
ANTB	**Antalya**	**2.69**	**70**	PN	**Pn**	**01 14 33.1**	**+1.7**
VAM	**Vamos**	**2.76**	**258**	P	**Pn**	**01 14 34.1**	**+1.7**
VAM	**Vamos**	**2.76**	**258**	P	**Pn**	**01 14 33.6**	**+1.2**
KHAL	**Karahalli**	**2.84**	**33**	*i* P	**Pn**	**01 14 36.0**	**+2.4**
IMMV	**Iera Moni Meta**	**2.92**	**260**	P	**Pn**	**01 14 36.0**	**+1.4**
IMMV	**Iera Moni Meta**	**2.92**	**260**	P	**Pn**	**01 14 35.9**	**+1.3**
GVD	**Gavdhos**	**3.03**	**248**	P	**Pn**	**01 14 38.7**	**+2.7**
KZIL	**AFYON_Kizioren**	**3.08**	**42**	*i* P	**Pn**	**01 14 40.0**	**+3.2**
DKL	**Dikili**	**3.09**	**351**	PN	**Pn**	**01 14 37.9**	**+1.0**
SUTC	**Sutluce-Ispart**	**3.16**	**61**	PN	**Pn**	**01 14 40.2**	**+2.1**
SIMA	**Simav-Kutahya**	**3.28**	**20**	PN	**Pn**	**01 14 41.3**	**+1.6**
KEPZ	**Antalya-Kepez**	**3.42**	**74**	*i* P	**Pb**	**01 14 45.9**	**-2.9**
BALB	**Balikesir**	**3.63**	**5**	PN	**Pn**	**01 14 46.1**	**+1.7**
VLI	**Veliai**	**3.75**	**282**	P	**Pn**	**01 14 47.6**	**+1.5**
VLI	**Veliai**	**3.75**	**282**	P	**Pn**	**01 14 47.4**	**+1.3**
TVSB	**Tavsanli**	**3.77**	**24**	PN	**Pn**	**01 14 48.0**	**+1.7**
BRTR	**Keskin Array B**	**6.10**	**51**	Pn	**Pn**	**01 15 21.1**	**+2.6**
	comp=N,0.4nm,0.3s,baz=235,slow=14,SNR=34						
BRTR				Sn	**Sn**	**01 16 29.8**	**+1.4**
	comp=N,0.2nm,0.3s,baz=239,slow=22,SNR=3.5						
MMAI	**Mount Meron Ar**	**7.17**	**112**	Pn	**Pn**	**01 15 32.9**	**-0.2**
	comp=N,3.3nm,0.3s,baz=315,slow=12,SNR=17						
MMAI				Sn	**Sn**	**01 16 49.1**	**-5.5**
	comp=N,1.5nm,0.3s,baz=306,slow=12,SNR=3.6						
ASF	**Jabal al Asfar**	**8.68**	**113**	Pn	**Pn**	**01 15 53.4**	**-0.4**
	comp=N,0.1nm,0.3s,baz=18,slow=19,SNR=3.4						
ASF				Sn	**Sn**	**01 17 31.7**	**0.0**
	comp=N,0.2nm,0.3s,baz=295,slow=19,SNR=3.6						
MLR	**Muntele Rosu**	**9.54**	**353**	Pn	**Pn**	**01 16 05.4**	**-0.3**
	comp=N,0.0nm,0.3s,baz=148,slow=19,SNR=2.4						
GERES	**GERESS Array B**	**16.35**	**326**	Pn	**Pn**	**01 17 37.4**	**-0.3**
	comp=N,0.1nm,0.3s,baz=128,slow=10,SNR=7.1						
OBN	**Obninsk**	**20.10**	**15**	P	**P**	**01 18 20.8**	**-0.8**
	comp=N,2.0nm,0.5s,baz=179,slow=22,SNR=5.4						
ESDC	**Sonseca Array**	**25.05**	**288**	P	**P**	**01 19 12.6**	**0.0**
	comp=N,0.3nm,0.6s,baz=90,slow=9.0,SNR=3.9						
FINES	**FINESS Array B**	**25.47**	**358**	P	**P**	**01 19 15.2**	**-0.8**
	comp=N,3.8nm,0.9s,baz=173,slow=13,SNR=2.5						
HFS	**Hagfors**	**25.73**	**344**	P	**P**	**01 19 17.9**	**-0.6**
	comp=N,2.2nm,0.7s,baz=174,slow=14,SNR=2.8						
AKTO	**Aktyubinsk**	**26.27**	**47**	P	**P**	**01 19 23.3**	**-0.1**
	comp=N,1.0nm,0.6s,baz=234,slow=12,SNR=4.6						
TORD	**Torodi Ar. Bea**	**32.51**	**232**	P	**P**	**01 20 19.0**	**-0.2**
	comp=N,0.7nm,0.6s,baz=30,slow=9.2,SNR=12						
ARCES	**ARCESS Array B**	**33.60**	**359**	P	**P**	**01 20 27.5**	**-0.6**
	comp=N,4.1nm,1.0s,baz=174,slow=8.2,SNR=3.0						
BVAR	**Borovoye Array**	**34.37**	**47**	P	**P**	**01 20 36.1**	**+1.0**
	comp=N,0.2nm,0.4s,baz=276,slow=4.2,SNR=2.9						
KURBB	**Kurchatov Arra**	**39.10**	**52**	P	**P**	**01 21 15.7**	**+0.5**
	comp=N,2.2nm,0.6s,baz=277,slow=8.8,SNR=20						
KURBB				PcP	**PcP**	**01 23 25.2**	**+0.3**
	comp=N,0.6nm,0.6s,baz=278,slow=4.0,SNR=5.3						
MKAR	**Makanchi Array**	**41.71**	**58**	P	**P**	**01 21 37.7**	**+0.7**
	comp=N,0.9nm,0.6s,baz=270,slow=8.2,SNR=11						
MKAR				PcP	**PcP**	**01 23 34.6**	**+1.2**
	comp=N,1.0nm,0.8s,baz=258,slow=4.8,SNR=4.1						
ZALV	**Zalesovo Beam**	**43.03**	**47**	P	**P**	**01 21 47.5**	**-0.1**
	comp=N,1.3nm,0.6s,baz=280,slow=9.7,SNR=5.6						
ZALV				LR	LR	01 43 20.8	
	comp=N,72nm,19.3s,baz=215,slow=41						
SONM	**Songino Array**	**57.

comp=E,1146μm,0.1s
KARP AML AML 01 33 33.3
comp=N,1098μm,0.2s
ARG Arkhangelos 0.53 61 PG **Pg 01 33 18.6 -0.1**
ARG SG **Sg 01 33 26.3 +0.7**
ARG Arkhangelos 0.53 61 P **Pg 01 33 19.2 +0.5**
ARG S **Sb 01 33 27.5 -0.7**
NIS1 Nisyros Isl. 0.71 335 P **Pg 01 33 22.2 +0.1**
NIS1 S **Sg 01 33 31.4 +0.2**
DAT Datca 0.76 1 PG **Pg 01 33 23.2 0.0**
DAT SG **Sb 01 33 34.5 -0.6**
DAT Datca 0.76 1 *i* P **Pn 01 33 24.9 -1.2**
DAT *i* S **Sb 01 33 35.3 +0.1**
MRSB Marmaris-Mugla 0.91 35 PG **Pg 01 33 26.1 0.0**
BODT Bodrum 1.11 350 PN **Pb 01 33 29.8 -0.5**
DALY Dalyan (Mu¨la 1.23 46 PN **Pb 01 33 31.7 -0.5**
DALY Dalyan (Mu¨la 1.23 46 *i* P **Pb 01 33 31.7 -0.5**
DALY *i* S **Sn 01 33 50.9 +1.6**
TURN Turunc 1.24 43 PG Pb 01 33 27.2 -5.2
TURN Turunc 1.24 43 *i* P Pb 01 33 26.2 -6.2
TURN *i* S Sg 01 33 39.2 -9.3
MLSB Milas 1.34 8 PN **Pb 01 33 33.7 -0.5**
ZKR Zakros 1.38 233 P **Pb 01 33 34.5 -0.3**
ZKR S **Sg 01 33 53.6 +0.7**
ZKR AML AML 01 33 57.3
comp=E,328μm,0.3s
ZKR AML AML 01 33 58.7
comp=N,168μm,0.3s
FETY Fethiye 1.41 61 PN **Pb 01 33 34.9 -0.4**
KSL Kastellorizon 1.66 83 P **Pg 01 33 39.8 -0.5**
KSL S **Sg 01 34 01.9 +0.1**
AKAS Kas 1.68 80 PN **Pn 01 33 38.8 +0.1**
AKAS Kas 1.68 80 *i* P **Pg 01 33 40.6 -0.2**
AKAS *i* S **Sg 01 34 05.6 +3.0**
NPS Neapolis 1.73 247 P **Pn 01 33 38.7 -0.6**
TAVA DENIZLI_Tavas 1.85 36 *i* P **Pg 01 33 43.8 -0.4**
TAVA *i* S **Sg 01 34 08.0 -0.1**
LAST Lasithi 1.87 245 P **Pn 01 33 41.0 -0.3**
APE Apeiranthos 1.97 305 PN **Pn 01 33 43.0 +0.4**
AYDB Zeytinkoy-Aydi 2.00 8 PN **Pn 01 33 43.5 +0.4**
ELL Elmali 2.06 67 PN **Pb 01 33 44.9 -1.5**
GOLH Golhisar 2.06 51 *i* P **Pb 01 33 46.6 +0.2**
GOLH *i* S **Sg 01 34 15.4 +0.8**
KORT Korkueli 2.48 65 *i* P **Pb 01 33 53.0 -0.7**
KORT *i* S **Sg 01 34 26.3 -2.0**
KULA Kula-Manisa 2.69 19 PN **Pn 01 33 53.6 +1.0**

NIED ***14*** *01:33:00.35˝.50N×141˚.10E.h32km.Mw4.2 Best double couple: M₀2.63000×10¹⁵ NP1:φ₁=288.00000°,δ12.00000°, λ-119.00000°. NP2:φ₂=138.00000°,δ80.00000°, λ-84.00000°.*
IDC ***14*** *01:33:32.7±0.8,35˚38N×141˚.14E,h0km,mb3.8/9, mb1 4.1/12,mb1mx3.9/43,mbtmp3.9/12,ML2.9/3,MS3.4/7, Ms1 3.4/7,ms1mx3.0/47,Error ellipse: s-maj=20.1km s-min=16.1km az=84.0*
ISCJB ***14*** *01:33:34.9±0.8,35˚41N±0˚.04×141˚.24E±0˚.05,h30km±5km, mb3.9/12,Error ellipse: s-maj=7.4km s-min=6.1km az=155.9*
NEIC ***14*** *01:33:37.7±0.5,35˚42N×141˚.14E,h35km,mb4.7/3,Error ellipse: s-maj=12.4km s-min=8.9km az=205.0*
JMA ***14*** *01:33:37.8±0.2,35˚52N×140˚.97E,h41km±2km,M3.4*
JMA Felt I J1.

ISC 14 01:33:34.5±3.5,35˚41N±0˚.04×141˚13E±0˚.06,h14km±22km, n52,σ1¶65/52,mb3.8/12,1C,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.37**	**323**	⇑P	**Pn**	**01 33 45.2**	**-0.2**
CHOJ				S	**Sb**	**01 33 50.8**	**+2.3**
JSMT	**Sammumatsuo**	**0.61**	**293**	P	**Pn**	**01 33 47.9**	**-0.8**
KTR	**Katsuura**	**0.72**	**249**	P	**Pn**	**01 33 50.9**	**+0.7**
JIHU	**Itakohorinouch**	**0.74**	**319**	P	**Pn**	**01 33 50.1**	**-0.5**
JIHU				*e*S	**Sb**	**01 33 59.4**	**+0.1**
JCN	**Nagara**	**0.76**	**271**	P	**Pn**	**01 33 51.3**	**+0.5**
BSO1	**Boso 1**	**0.76**	**190**	P	**Pn**	**01 33 53.3**	**+2.9**
BSO4	**Boso 4**	**0.77**	**238**	P	**Pn**	**01 33 51.9**	**+1.0**
BSO3	**Boso 3**	**0.79**	**220**	P	**Pn**	**01 33 52.5**	**+1.5**
JYT	**Yasato**	**1.12**	**317**	P	**Pn**	**01 33 54.6**	**-1.0**
JIM2	**Oshima 3**	**1.56**	**244**	P	**Pn**	**01 34 01.8**	**0.0**
JIM2				*e*S	**Sn**	**01 34 20.9**	**-0.9**
JOD2	**Odawara 2**	**1.68**	**266**	P	**Pn**	**01 34 03.3**	**-0.2**
JAG	**Ashikaga**	**1.70**	**307**	P	**Pn**	**01 34 02.8**	**-0.9**
JHJ	**Hachijo jima 2**	**2.54**	**206**	Pn	**Pn**	**01 34 14.8**	**-0.5**
	18nm,0.3s,baz=72,slow=20,SNR=2.0						
JHJ				Sn	**Sn**	**01 34 46.8**	**+0.8**
	88nm,0.3s,baz=78,slow=23,SNR=8.3						
JHJ				LR	LR	01 35 26.9	
	comp=Z,528nm,19.7s,baz=92,slow=46						
MJAR	**Matsushiro Ar**	**2.63**	**296**	Pn	**Pn**	**01 34 15.9**	**-0.6**
	5.0nm,0.3s,baz=129,slow=9.3,SNR=22						
MJAR				Sn	**Sb**	**01 34 51.1**	**-2.5**
	4.2nm,0.3s,baz=245,slow=2.6,SNR=6.0						
MJAR				LR	LR	01 35 37.1	
	comp=Z,480nm,21.1s,baz=105,slow=48						
MAJO	**Matsushiro**	**2.63**	**296**	*e*Pn	**Pn**	**01 34 18.1**	**+1.6**
MAJO				*e*Sn	**Sb**	**01 34 51.1**	**-2.5**
MAJO				*e*Sg	**Sn**	**01 34 51.7**	**+3.4**
MAT	**Matsushiro**	**2.63**	**296**	P	**Pn**	**01 34 17.5**	**+0.9**
MAT				*e*S	**Sn**	**01 34 47.3**	**-1.0**
MJB9	**Matsu-Tunnel**	**2.63**	**296**	*e*Pn	**Pn**	**01 34 18.4**	**+1.8**
MJB9				*e*Sn	**Sb**	**01 34 52.6**	**-1.0**
INU	**Inuyama**	**3.36**	**270**	*e*Pn	**Pn**	**01 34 28.4**	**+1.8**
CBIJ	**Chichi jima**	**8.34**	**174**	*e*Pn	**Pn**	**01 35 32.6**	**-2.4**
CBIJ				*e*Sn	**Sn**	**01 37 04.8**	**-4.0**
JCJ	**Chichijima**	**8.34**	**174**	Pn	**Pn**	**01 35 32.6**	**-2.4**
	5.5nm,0.3s,baz=277,slow=18,SNR=2.8						
JCJ				Sn	**Sn**	**01 37 04.8**	**-4.0**
	8.9nm,0.3s,baz=287,slow=19,SNR=4.3						
KSRS	**Korea Array**	**10.84**	**285**	LR	LR	01 40 21.9	
	comp=Z,224nm,21.0s,baz=85,slow=38						
USRK	**Ussuriysk Ar.**	**11.24**	**324**	Pn	**Pn**	**01 36 16.1**	**+1.4**
	0.1nm,0.3s,baz=150,slow=12,SNR=2.6						
JOW	**Kunigami**	**13.93**	**236**	LR	LR	01 41 49.4	
	comp=Z,120nm,19.8s,baz=266,slow=36						
PETK	**Petropavlovsk-**	**21.21**	**28**	LR	LR	01 46 31.9	
	comp=Z,67nm,21.1s,baz=273,slow=37						
H11N2	**WAKE ISLAND Hy**	**27.55**	**118**	T	T	02 08 35.6	
	baz=310,slow=75,SNR=36						
H11N1	**WAKE ISLAND Hy**	**27.56**	**118**	T	T	02 08 27.6	
	baz=310,slow=75,SNR=39						
H11N3	**WAKE ISLAND Hy**	**27.57**	**118**	T	T	02 08 25.1	
	baz=310,slow=75,SNR=26						
WAKE	**Wake Island**	**27.66**	**119**	*e*P	**P**	**01 39 19.8**	**-2.2**
	114nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**28.21**	**120**	T	T	02 09 16.1	
	baz=312,slow=76,SNR=80						
H11S1	**WAKE ISLAND Hy**	**28.21**	**120**	T	T	02 09 13.7	
	baz=312,slow=76,SNR=93						
H11S2	**WAKE ISLAND Hy**	**28.22**	**120**	T	T	02 09 15.1	
	baz=312,slow=76,SNR=64						
SONA0	**Songino Array**	**28.54**	**307**	*e*P	**P**	**01 39 31.2**	**+1.5**
SONM	**Songino Array**	**28.54**	**307**	P	**P**	**01 39 31.2**	**+1.5**
	0.4nm,0.7s,baz=102,slow=6.9,SNR=2.9						
CM31	**Chiang Mai Arr**	**40.89**	**257**	*e*P	**P**	**01 41 16.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**40.89**	**257**	P	**P**	**01 41 16.5**	**+0.2**
	1.3nm,0.3s,baz=101,slow=1.5,SNR=6.2						
ZAA1	**Zalesovo Array**	**42.86**	**314**	*e*P	**P**	**01 41 31.9**	**-0.1**
ZALV	**Zalesovo Beam**	**42.86**	**314**	P	**P**	**01 41 32.0**	**0.0**
	0.5nm,0.5s,baz=84,slow=5.9,SNR=3.3						
BRDH	**Bariadhala**	**44.67**	**267**	LR	LR	02 02 16.3	
	comp=Z,66nm,18.1s,baz=84,slow=39						
MK32	**Makanchi Array**	**44.81**	**303**	*e*P	**P**	**01 41 46.4**	**-1.5**
MKAR	**Makanchi Array**	**44.81**	**303**	P	**P**	**01 41 46.4**	**-1.5**
	0.6nm,0.7s,baz=74,slow=7.9,SNR=3.6						
ILAR	**Eielson Array**	**50.99**	**32**	P	**P**	**01 42 36.9**	**+1.4**
	1.4nm,0.8s,baz=266,slow=6.3,SNR=13						
ILB	**Eielson Array**	**50.99**	**32**	*e*P	**P**	**01 42 36.9**	**+1.4**
WB2	**Warramunga Arr**	**55.42**	**188**	*e*P	**P**	**01 43 09.4**	**+0.9**
WR1	**Warramunga Arr**	**55.42**	**188**	*e*P	**P**	**01 43 08.9**	**+0.4**
	8.2nm,1.1s						
WRA	**Warramunga Arr**	**55.42**	**188**	P	**P**	**01 43 08.9**	**+0.4**
	1.6nm,0.6s,baz=9.6,slow=8.1,SNR=21						
AS31	**Alice Springs**	**59.15**	**188**	*e*P	**P**	**01 43 35.8**	**+1.0**
	0.6nm,0.7s						
ASAR	**Alice Springs**	**59.15**	**188**	P	**P**	**01 43 35.8**	**+1.0**
	0.5nm,0.6s,baz=18,slow=9.3,SNR=5.7						
NV01	**Mina Array Sit**	**76.15**	**53**	*e*P	**P**	**01 45 21.2**	**-1.2**
NVAR	**Mina Array Bea**	**76.15**	**53**	P	**P**	**01 45 21.2**	**-1.2**
	0.5nm,0.7s,baz=310,slow=3.2,SNR=2.7						
GERES	**GERESS Array B**	**83.97**	**328**	LR	LR	02 26 55.3	
	comp=Z,73nm,19.0s,baz=300,slow=38						
LTX	**Lajitas**	**91.29**	**52**	*e*P	**P**	**01 46 41.2**	**+1.2**
TXAR	**Lajitas Array**	**91.29**	**52**	P	**P**	**01 46 41.2**	**+1.2**
	0.4nm,0.8s,baz=298,slow=2.7,SNR=3.7						

MEX 14 01:44:46.2±0.3,14˚18N×92˚73W,h20km±24km,MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.85**	**32**	*e*P	Pb	01 44 59.6	-2.7
THIG				*i* S	Sb	01 45 09.9	-3.3
PCIG		**1.58**	**343**	*e*P	Pn	01 45 10.4	-2.7
PCIG				*i* S	Sn	01 45 28.4	-4.5
CCIG	**Comitan**	**2.16**	**15**	*e*P	Pn	01 45 18.6	-2.6
CCIG				*i* S	Sn	01 45 44.6	-3.0
TGIG		**2.61**	**352**	*i* P	Pn	01 45 25.1	-2.2
TGIG				*i* S	Sn	01 45 54.8	-3.6

ISCJB ***14*** *01:55:28.8±0.4,0˚12S±0˚.04×125˚.32E±0˚.03,h70km±5km, mb4.0/15,Error ellipse: s-maj=6.5km s-min=4.5km az=15.7*
NEIC ***14*** *01:55:28.9±0.8,0˚.11S×125˚.31E,h53km±8km,mb4.1/7, Error ellipse: s-maj=9.0km s-min=5.8km az=61.0*
IDC ***14*** *01:55:29.3±2.9,0˚.14S×125˚.22E,h57km±27km,mb3.8/9, mb1 4.0/11,mb1mx3.7/40,mbtmp4.1/11,ML3.5/2,MS3.3/7, Ms1 3.3/7,ms1mx3.0/42,Error ellipse: s-maj=26.9km s-min=11.6km az=61.0*
DJA ***14*** *01:55:29.5±1.2,0˚S±3˚×12˚5E±˚,h29km±15km,M4.3/17, mb4.2/7,MLv4.4/17*

ISC 14 01:55:29.9±1.0,0˚12S±0˚.05×125˚34E±0˚.04,h59km±10km, n53,σ1¶34/58,mb4.2/15,MS3.1/5,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.52**	**297**	P	**Pn**	**01 55 53.3**	**-1.5**
KMSI				S	**Sn**	**01 56 14.6**	**+0.9**
SANI	**Sanana**	**2.02**	**161**	P	**Pn**	**01 55 59.3**	**-2.3**
SANI				S	**Sn**	**01 56 25.6**	**-0.2**
TNTI	**Ternate**	**2.22**	**66**	*e*Pn	**Pn**	**01 56 05.3**	**+1.0**
TNTI				*e*Sn	**Sn**	**01 56 29.9**	**-0.7**
TNTI	**Ternate**	**2.22**	**66**	P	**Pn**	**01 56 04.8**	**+0.5**
LBMI	**Labuha**	**2.22**	**103**	P	**Pn**	**01 56 05.3**	**+0.9**
LBMI				S	**Sn**	**01 56 32.7**	**+1.9**
LUWI	**Luwuk**	**2.72**	**250**	*e*Pn	**Pn**	**01 56 10.1**	**-1.1**
LUWI				*e*Sn	**Sn**	**01 56 44.9**	**+2.0**
LUWI	**Luwuk**	**2.72**	**250**	P	**Pn**	**01 56 12.9**	**+1.7**
LUWI				S	**Sn**	**01 56 45.5**	**+2.6**
MRSI	**Marisa**	**3.45**	**280**	P	**Pn**	**01 56 20.4**	**-0.7**
NLAI	**Namlea**	**3.56**	**150**	P	**Pn**	**01 56 21.6**	**-1.1**
APSI	**Ampana**	**3.77**	**258**	P	**Pn**	**01 56 26.2**	**+0.7**
AAI	**Ambon**	**4.55**	**141**	P	**Pn**	**01 56 36.3**	**+0.1**
MPSI	**Mapaga**	**5.46**	**275**	P	**Pn**	**01 56 49.6**	**+0.9**
SIJI	**Sorong**	**5.98**	**97**	P	**Pn**	**01 56 56.1**	**+0.3**
	3.0nm,0.3s,baz=269,slow=13,SNR=5.0						
SIJI				S	**Sn**	**01 58 06.2**	**+3.3**
	0.6nm,0.3s,baz=270,slow=20,SNR=2.2						
BNDI	**Bandanaira**	**6.32**	**134**	P	**Pn**	**01 57 00.5**	**0.0**
BNSI	**Bone**	**6.73**	**231**	P	**Pn**	**01 57 06.1**	**-0.1**
SPSI	**Sidrap Palu**	**6.75**	**235**	P	**Pn**	**01 57 07.6**	**+1.3**
	28nm,0.6s,0.1nm						
DAV	**Davao City (W)**	**7.15**	**2**	LR	LR	02 00 14.0	
	comp=Z,458nm,21.0s,baz=190,slow=40						
BKSI	**Bulukumba**	**7.33**	**225**	P	**Pn**	**01 57 15.3**	**+0.9**
FAKI	**Fak Fak**	**7.45**	**112**	*e*Pn	**Pn**	**01 57 13.3**	**-2.7**
FAKI				*e*Sn	**Sn**	**01 58 35.2**	**-3.9**
FAKI	**Fak Fak**	**7.45**	**112**	P	**Pn**	**01 57 16.0**	**0.0**
EDFI	**Ende, Flores**	**9.31**	**203**	P	**Pn**	**01 57 43.1**	**+1.6**
FITZ	**Fitzroy Crossi**	**17.86**	**179**	P	**P**	**01 59 33.8**	**-0.6**
	0.1nm,0.3s,baz=47,slow=18,SNR=3.9						
FITZ	**Fitzroy Crossi**	**17.86**	**179**	*e*Pn	**P**	**01 59 33.8**	**-0.6**
	16nm,1.4s						
LEM	**Lembang**	**18.89**	**249**	LR	LR	02 07 51.8	
	comp=Z,169nm,18.9s,baz=52,slow=40						
WRAB	**Tennant Creek**	**21.58**	**156**	*e*P	**P**	**02 00 14.6**	**-0.2**
	6.4nm,0.8s						
WR1	**Warramunga Arr**	**21.58**	**156**	*e*P	**P**	**02 00 14.1**	**-0.8**
	7.2nm,0.6s						
WRA	**Warramunga Arr**	**21.58**	**156**	P	**P**	**02 00 14.1**	**-0.8**
	4.4nm,0.8s,baz=339,slow=12,SNR=33						
WRA				LR	LR	02 10 51.4	
	comp=Z,75nm,19.1s,baz=280,slow=43						
WB2	**Warramunga Arr**	**21.59**	**156**	*e*P	**P**	**02 00 13.8**	**-1.0**
COEN	**Coen**	**22.38**	**129**	*e*P	**P**	**02 00 22.7**	**-0.8**
	19nm,0.8s						
AS31	**Alice Springs**	**24.84**	**161**	*e*P	**P**	**02 00 47.9**	**+1.0**
	3.3nm,1.1s						
ASAR	**Alice Springs**	**24.84**	**161**	P	**P**	**02 00 47.3**	**+0.4**
	9.1nm,1.1s,baz=339,slow=9.6,SNR=23						
ASAR				S	**S**	**02 05 06.7**	**+0.9**
	0.7nm,0.8s,baz=350,slow=22,SNR=4.1						
AS01	**Alice Springs**	**24.85**	**161**	*e*P	**P**	**02 00 47.7**	**+0.7**
PSI	**Prapat**	**26.56**	**276**	LR	LR	02 14 10.0	
	comp=Z,42nm,19.2s,baz=89,slow=42						
CM31	**Chiang Mai Arr**	**31.83**	**307**	*e*P	**P**	**02 01 48.5**	**-0.8**
CMAR	**Chiang Mai Arr**	**31.83**	**307**	P	**P**	**02 01 48.5**	**-0.8**
	0.4nm,0.3s,baz=138,slow=7.4,SNR=5.5						
CMAR				LR	LR	02 17 07.4	
	comp=Z,41nm,18.3s,baz=140,slow=41						
STKA	**Stephens Creek**	**35.13**	**156**	P	**P**	**02 02 17.4**	**-0.5**
	4.7nm,0.8s,baz=320,slow=8.5,SNR=9.4						
STKA	**Stephens Creek**	**35.13**	**156**	*e*P	**P**	**02 02 19.1**	**+1.3**
	1.8nm,1.0s						
KSRS	**Korea Array**	**37.47**	**3**	LR	LR	02 17 34.0	
	comp=Z,42nm,20.8s,baz=294,slow=35						
GTA	**Gaotai**	**45.75**	**332**	*e*P	**P**	**02 03 48.8**	**+3.2**
GTA				pP	pP	02 03 54.0	-7.0
GTA				sP	sP	02 03 57.4	-10
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONA0	**Songino Array**	**50.53**	**344**	*e*P	**P**	**02 04 22.2**	**-0.1**
SONM	**Songino Array**	**50.53**	**344**	P	**P**	**02 04 22.2**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=165,slow=7.9,SNR=5.9						
SONM				LR	LR	02 27 52.9	
	comp=Z,20nm,19.8s,baz=159,slow=38						
MK01	**Makanchi Array**	**59.94**	**327**	*e*P	**P**	**02 05 29.9**	**-0.1**
MK32	**Makanchi Array**	**59.96**	**327**	*e*P	**P**	**02 05 29.4**	**-0.7**
MKAR	**Makanchi Array**	**59.96**	**327**	P	**P**	**02 05 29.4**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=124,slow=7.4,SNR=12						
ZALV	**Zalesovo Beam**	**63.41**	**335**	P	**P**	**02 05 51.9**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=147,slow=8.9,SNR=3.6						
ZAA1	**Zalesovo Array**	**63.41**	**335**	*e*P	**P**	**02 05 51.9**	**-1.3**
KURK	**Kurchatov**	**64.27**	**329**	*e*P	**P**	**02 05 58.3**	**-0.5**
	comp=Z,4.3nm,0.9s						
ILAR	**Eielson Array**	**89.16**	**25**	P	**P**	**02 08 18.5**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=290,slow=2.6,SNR=3.3						
ILB	**Eielson Array**	**89.16**	**25**	*e*P	**P**	**02 08 18.5**	**-0.2**
ARA0	**ARCESS Array S**	**93.56**	**340**	*e*P	**P**	**02 08 38.7**	**-0.4**
ARCES	**ARCESS Array B**	**93.56**	**340**	P	**P**	**02 08 38.7**	**-0.4**
	comp=Z,2.7nm,0.9s,baz=84,slow=11,SNR=2.3						
TORD	**Torodi Ar. Bea**	**122.69**	**285**	PKP	**PKPdf**	**02 14 19.4**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=81,slow=1.9,SNR=5.1						
TOA1	**Torodi Ar. Sit**	**122.69**	**286**	*e*PKPdf	**PKPdf**	**02 14 19.4**	**-0.7**

MEX 14 02:07:21.8±0.5,14˚54N×92˚64W,h65km±10km,MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.52**	**44**	*e*P	Pn	02 07 33.2	-1.2
THIG				*i* S	Sn	02 07 42.0	-1.6
PCIG		**1.29**	**334**	*e*P	Pn	02 07 42.6	-1.2
PCIG				*i* S	Sn	02 07 58.3	-2.0
CCIG	**Comitan**	**1.80**	**16**	*i* P	Pn	02 07 49.2	-1.7
CCIG				*i* S	Sn	02 08 11.7	-1.2
TGIG		**2.28**	**348**	*i* P	Pn	02 07 56.4	-0.9
TGIG				*e*S	Sn	02 08 22.4	-1.8

ISCJB ***14*** *02:22:54.9±0.9,37˚34N±0˚.06×37˚.12E±0˚.05,h8km±9km, Error ellipse: s-maj=10.3km s-min=6.0km az=22.2*
ISK ***14*** *02:22:54.1,37˚36N×37˚.18E,h7km,ML2.0/7*
DDA ***14*** *02:22:56.0,37˚.28N×37˚.21E,h7km,Ml2.9*

ISC 14 02:22:54.8±1.3,37˚37N±0˚.04×37˚17E±0˚.04,h5km±14km, n12,σ0¶46/15,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.20**	**170**	PG	**Pg**	**02 22 58.7**	**0.0**
GAZ				SG	**Sg**	**02 23 01.5**	**+0.3**
KUZU	**Kuzuini**	**0.60**	**187**	*i* P	**Pg**	**02 23 06.4**	**+0.1**
ANDN	**Andirin**	**0.69**	**288**	*i* P	**Pg**	**02 23 08.0**	**0.0**
ATAB	**Bozova**	**0.90**	**83**	*i* P	**Pb**	**02 23 13.2**	**+0.3**
ATAB				*i* S	**Sb**	**02 23 26.1**	**+0.7**
ELBS	**KAHRAMANMARAS**	**0.96**	**358**	*i* P	**Pn**	**02 23 15.8**	**+0.7**
KOZT	**Kozan**	**1.07**	**277**	PN	**Pg**	**02 23 15.1**	**-0.3**
DARE	**Darende-Malaty**	**1.23**	**12**	PN	**Pg**	**02 23 17.9**	**-0.5**
SURC	**SANLIURFA_SURC**	**1.25**	**112**	*i* P	**Pb**	**02 23 18.5**	**-0.5**
SURC				*i* S	**Sb**	**02 23 35.6**	**+0.2**
TAHT	**Tahtakopru-Hat**	**1.26**	**219**	PN	**Pn**	**02 23 18.7**	**-0.4**
URFA	**Urfa**	**1.32**	**86**	PN	**Pn**	**02 23 19.4**	**-0.6**
BNN	**Bunyan**	**1.81**	**325**	PN	**Pn**	**02 23 26.6**	**-0.3**
MERS	**Mersin**	**2.17**	**258**	PN	**Pn**	**02 23 31.9**	**+0.2**

IDC 14 02:47:56.4±3.2,4˚91S×133˚67E,h0km,mb3.6/1, mb1 4.0/4,mb1mx3.6/36,mbtmp3.8/4,ML3.7/3,MS2.8/2, Ms1 2.8/2,ms1mx2.4/35,Error ellipse: s-maj=129.8km s-min=30.1km az=82.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.68**	**329**	LR	LR	02 50 55.8	
	comp=Z,123nm,18.7s,baz=52,slow=38						
PMG	**Port Moresby**	**14.11**	**109**	LR	LR	02 56 48.0	
	comp=Z,32nm,19.1s,baz=170,slow=38						
WRA	**Warramunga Arr**	**14.95**	**178**	Pn	Pn	02 51 27.6	-1.6
	0.2nm,0.3s,baz=359,slow=13,SNR=11						
WRA				Sn	Sn	02 54 10.7	-5.1
	0.1nm,0.3s,baz=0.0,slow=22,SNR=4.4						
FITZ	**Fitzroy Crossi**	**15.28**	**210**	Pn	Pn	02 51 33.0	-0.5
	0.5nm,0.3s,baz=31,slow=8.7,SNR=16						
FITZ				Sn	Sn	02 54 18.6	-5.0
	0.9nm,0.3s,baz=197,slow=18,SNR=8.2						
ASAR	**Alice Springs**	**18.65**	**179**	P	Pn	02 52 16.7	+0.5
	0.4nm,0.3s,baz=3.9,slow=10,SNR=32						
MKAR	**Makanchi Array**	**68.56**	**325**	P	P	02 59 01.1	0.0
	0.4nm,0.6s,baz=122,slow=7.7,SNR=4.6						

SAR ***14*** *02:48:33.4±0.2,44˚47N×17˚.78E,h4km±1km,ML2.5/1*
BEO ***14*** *02:48:33.7±0.4,44˚44N×17˚.67E,h9km±3km,ML2.4/6*
ISCJB ***14*** *02:48:34.1±0.6,44˚51N±0˚.02×17˚.79E±0˚.03,h16km±5km, Error ellipse: s-maj=4.1km s-min=2.5km az=41.8*
PRU ***14*** *02:48:35.6±0.0,44˚54N×17˚.81E,h10km*
VIE ***14*** *02:48:38.0±0.9,44˚.78N×17˚.70E,h8km,mb2.2/3,ml2.2/6, Error ellipse: s-maj=9.0km s-min=7.7km az=50.0 49 km SSW of Slavonski Brod*

ISC 14 02:48:33.7±1.0,44˚49N±0˚.02×17˚79E±0˚.02,h9km±8km, n57,σ1¶03/87,7C-3D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DOB	**Doboj**	**0.33**	**42**	⇑*i* Pg	**Pg**	**02 48 39.5**	**-0.7**
DOB				*e*Sg	**Sg**	**02 48 44.8**	**+0.2**
BLY	**Banja Luka**	**0.50**	**301**	*e*Pg	**Pg**	**02 48 43.2**	**-0.2**
BLY				*e*Sg	**Sg**	**02 48 50.2**	**+0.1**
BLY	**Banja Luka**	**0.50**	**301**	⇑*i* P	**Pg**	**02 48 43.2**	**-0.2**
BLY				S	**Sg**	**02 48 49.9**	**-0.2**
BLY	**Banja Luka**	**0.50**	**301**	⇑*i* Pg	**Pg**	**02 48 42.9**	**-0.5**
BLY				*e*Sg	**Sg**	**02 48 49.8**	**-0.3**
MRAK	**Mrakovica**	**0.82**	**310**	*e*Sg	**Sg**	**02 49 00.3**	**+0.1**
HAPS	**Han Pijesak,BI**	**0.93**	**115**	*e*Pg	**Pg**	**02 48 51.4**	**-0.1**
HAPS				*e*Sg	**Sg**	**02 49 04.2**	**+0.6**
HAPS	**Han Pijesak,BI**	**0.93**	**115**	*e*Pg	**Pg**	**02 48 49.9**	**-1.6**
HAPS				*e*Sg	**Sg**	**02 49 02.9**	**-0.7**
TEKS	**Tekeris**	**1.25**	**87**	*e*Pg	**Pg**	**02 48 58.3**	**+0.7**
TEKS				*e*Sg	**Sg**	**02 49 15.6**	**+1.8**
TEKS	**Tekeris**	**1.25**	**87**	*e*Pg	**Pn**	**02 48 55.8**	**-1.5**
TEKS				*e*Sg	**Sg**	**02 49 13.6**	**-0.2**
BBLS	**Lazići**	**1.32**	**118**	*e*Pg	**Pn**	**02 48 58.4**	**+0.1**
BBLS				*e*Sg	**Sg**	**02 49 17.9**	**+1.8**
BBLS	**Lazići**	**1.32**	**118**	⇑*i* Pg	**Pn**	**02 48 57.5**	**-0.8**
BBLS				*e*Sg	**Sb**	**02 49 15.3**	**-0.4**
UDBI	**Udbina**	**1.45**	**272**	*i* Pg	**Pn**	**02 48 58.6**	**-1.4**
UPM	**Unac-Piva**	**1.52**	**147**	*e*Pg	**Pn**	**02 49 00.8**	**-0.4**
UPM				*e*Sg	**Sn**	**02 49 20.8**	**-0.3**
FRGS	**Fruska Gora**	**1.59**	**64**	*e*Pn

BESP	**Borongan**	**0.87**	**69**	*eP*	Pg	02 56 59.7	-0.3
BESP				*eS*	Sb	02 57 12.3	-0.8
MSLP	**Maasin**	**1.17**	**168**	*eP*	Pb	02 57 06.0	-0.1
MSLP				*eS*	Sn	02 57 23.8	+0.7
CNP	**Catarman**	**1.22**	**2**	*eP*	Pg	02 57 06.3	-0.4
CNP				*eS*	Sn	02 57 24.3	+0.1

JMA ***14*** *02:58:42.6±0.2,24°.59N×122°.44E,h96km±2km,M2.0*
ISCJB ***14*** *02:58:43.2±0.6,24°.63N±0°.04×122°.47E±0°.02,h89km±5km, Error ellipse: s-maj=6.9km s-min=3.1km az=178.2*
TAP ***14*** *02:58:43.3,24°.62N×122°.45E,h88km,ML3.1,C*
ISC 14 02:58:43.6±1.5**,24°.63N**±0°.05×**122°.46E**±0°.03**, h89**km±9km**, n40,**σ0**$41/69,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.31**	**256**	*eP*			**Pn**	**02 58 57.0**	**+0.2**
	baz=255								
EOS1				*eS*			**Sn**	**02 59 08.0**	**+1.2**
	baz=255								
JYNG	**Yonagunijimaku**	**0.47**	**111**	P			**Pn**	**02 58 58.0**	**+0.1**
JYNG				S			**Sn**	**02 59 09.1**	**+0.5**
YOJ	**Yonaguni jima**	**0.53**	**108**	*eP*			**Pn**	**02 58 58.3**	**-0.1**
	baz=107								
YOJ				*eS*			**Sn**	**02 59 09.5**	**+0.2**
	baz=107								
YOJ	**Yonaguni jima**	**0.53**	**108**	P			**Pn**	**02 58 58.3**	**-0.1**
YOJ				*eS*			**Sn**	**02 59 09.6**	**+0.2**
TWC	**Suao**	**0.56**	**268**	P			**Pn**	**02 58 58.2**	**-0.5**
	baz=268								
TWC				*eS*			**Sn**	**02 59 09.4**	**-0.5**
	baz=268								
TWB1	**Santiao Chiao**	**0.58**	**312**	*eP*			**Pn**	**02 58 58.6**	**-0.2**
	baz=312								
NTC	**Toucheng**	**0.62**	**292**	*eP*			**Pn**	**02 58 59.0**	**-0.2**
	baz=292								
NTC				*eS*			**Sn**	**02 59 10.8**	**-0.1**
	baz=292								
NANB	**Nanao**	**0.68**	**253**	*eP*			**Pn**	**02 58 59.7**	**-0.1**
	baz=253								
NANB				*eS*			**Sn**	**02 59 11.8**	**0.0**
	baz=253								
ENA	**Nanau**	**0.69**	**253**	P			**Pn**	**02 58 59.9**	**0.0**
	baz=252								
ENA				*eS*			**Sn**	**02 59 12.3**	**+0.3**
	baz=252								
TWE	**Neicheng**	**0.73**	**278**	*eP*			**Pn**	**02 59 00.1**	**-0.1**
	baz=277								
SLBB	**Yuanshan**	**0.76**	**280**	P			**Pn**	**02 59 00.6**	**0.0**
	baz=279								
SLBB				*eS*			**Sn**	**02 59 13.4**	**0.0**
	baz=279								
ENTT	**Nioudou**	**0.82**	**271**	*eP*			**Pn**	**02 59 01.3**	**+0.2**
	baz=270								
TWA	**Mucha**	**0.87**	**294**	*eP*			**Pn**	**02 59 01.6**	**-0.2**
	baz=294								
NWLT	**Wulai**	**0.89**	**280**	*eP*			**Pn**	**02 59 01.7**	**-0.3**
	baz=280								
NACB	**Ninganchiao**	**0.91**	**241**	*eP*			**Pn**	**02 59 01.4**	**-0.8**
	baz=240								
NACB				S			**Sn**	**02 59 15.4**	**-0.7**
	baz=240								
YM07	**YM07**	**0.94**	**306**	*eP*			**Pn**	**02 59 02.1**	**-0.4**
	baz=306								
YM07				*eS*			**Sn**	**02 59 16.6**	**-0.1**
	baz=306								
TWD	**Chiawan**	**0.96**	**236**	*eS*			**Sn**	**02 59 16.8**	**-0.3**
	baz=235								
YM01	**YM01**	**0.96**	**303**	*eP*			**Pn**	**02 59 03.4**	**+0.6**
	baz=302								
YM01				*eS*			**Sn**	**02 59 17.4**	**+0.2**
	baz=302								
YM10	**YM10**	**0.97**	**303**	*eP*			**Pn**	**02 59 02.7**	**-0.2**
	baz=303								
YHNB	**Yeheng**	**0.99**	**273**	*eP*			**Pn**	**02 59 03.2**	**0.0**
	baz=272								
YHNB				*eS*			**Sn**	**02 59 17.7**	**-0.1**
	baz=272								
NNSB	**Datong**	**1.00**	**259**	*eP*			**Pn**	**02 59 03.3**	**-0.1**
	baz=258								
NNSB				*eS*			**Sn**	**02 59 17.9**	**-0.2**
	baz=258								
NSK	**Sanguang**	**1.01**	**273**	P			**Pn**	**02 59 03.3**	**-0.1**
	baz=272								
NSK				S			**Sn**	**02 59 18.0**	**-0.2**
	baz=272								
NNS	**Nan Shan**	**1.01**	**260**	*eP*			**Pn**	**02 59 03.2**	**-0.2**
	baz=259								
NNS				*eS*			**Sn**	**02 59 18.1**	**-0.2**
	baz=259								
IRIF	**Iriomote-Funau**	**1.19**	**104**	P			**Pn**	**02 59 05.2**	**-0.2**
IRIF				S			**Sn**	**02 59 21.9**	**+0.1**
TDCB	**Techi**	**1.25**	**253**	*eP*			**Pn**	**02 59 06.5**	**+0.3**
	baz=252								
TDCB				*eS*			**Sn**	**02 59 23.1**	**-0.2**
	baz=252								
CHGB	**Renai**	**1.30**	**245**	*eP*			**Pn**	**02 59 07.1**	**+0.1**
	baz=244								
CHGB				*eS*			**Sn**	**02 59 24.4**	**-0.3**
	baz=244								
LIOB	**Emei**	**1.32**	**271**	*eP*			**Pn**	**02 59 07.1**	**+0.1**
	baz=271								
LIOB				*eS*			**Sn**	**02 59 24.7**	**+0.1**
	baz=271								
NSTT	**Nanjuang**	**1.33**	**271**	*eP*			**Pn**	**02 59 07.1**	**0.0**
	baz=270								
NSTT				*eS*			**Sn**	**02 59 24.9**	**-0.1**
	baz=270								
JKRS	**Kuro-shima**	**1.46**	**105**	P			**Pn**	**02 59 08.9**	**+0.2**
JKRS				S			**Sn**	**02 59 27.9**	**+0.1**
HGSD	**Ruisui**	**1.48**	**220**	*eP*			**Pn**	**02 59 09.3**	**+0.3**
	baz=219								
HGSD				*eS*			**Sn**	**02 59 28.0**	**-0.1**
	baz=219								
JIJ	**Ishigaki jima**	**1.55**	**99**	P			**Pn**	**02 59 09.6**	**-0.3**
JIJ				*eS*			**Sn**	**02 59 29.1**	**-0.8**
SSLB	**Suanglung**	**1.61**	**239**	P			**Pn**	**02 59 11.6**	**+0.9**
	baz=238								
SSLB				*eS*			**Sn**	**02 59 31.6**	**+0.3**
	baz=238								
YULB	**Yu-li**	**1.63**	**221**	*eP*			**Pn**	**02 59 09.7**	**-1.2**
	baz=220								
TYC	**Yuchr**	**1.63**	**244**	*eP*			**Pn**	**02 59 11.7**	**+0.8**
	baz=243								
JISG	**Ishigakijimahi**	**1.68**	**91**	P			**Pn**	**02 59 11.3**	**-0.3**
JISG				*eS*			**Sn**	**02 59 32.8**	**0.0**
FULB	**Fuli**	**1.78**	**217**	*eP*			**Pn**	**02 59 13.2**	**+0.3**
	baz=216								
FULB				*eS*			**Sn**	**02 59 34.9**	**-0.2**
	baz=216								
YUS	**Yu-Shan**	**1.79**	**231**	P			**Pn**	**02 59 13.3**	**-0.1**
	baz=230								
YUS				S			**Sn**	**02 59 35.2**	**-0.8**
	baz=230								
ALS	**Alishan**	**1.88**	**234**	*eP*			**Pn**	**02 59 15.1**	**+0.6**
	baz=233								
JTJ	**Tarama**	**2.04**	**89**	P			**Pn**	**02 59 16.4**	**+0.2**
JTJ				S			**Sn**	**02 59 41.3**	**+0.2**
CHN4	**Tsaushan**	**2.13**	**234**	*eP*			**Pn**	**02 59 18.3**	**+0.8**
	baz=233								

MOS ***14*** *03:03:51.8±0.9,52°.51N×161°.23E,h10km,mb4.2/5,Error ellipse: s-maj=10.0km s-min=4.9km az=111.8*
IDC ***14*** *03:03:51.1±4.5,52°.56N×161°.13E,h0km,mb3.9/6, mb1 4.0/7,mb1mx3.6/45,mbtmp4.0/7,ML3.2/1,MS2.9/2, Ms1 2.9/2,ms1mx2.4/48,Error ellipse: s-maj=95.9km s-min=33.1km az=169.0*
KRSC ***14*** *03:03:53.5±2.3,52°.68N×161°.17E,h16km±34km,ML4.1*
ISCJB ***14*** *03:03:54.8±1.1,52°.65N±0°.04×161°.10E±0°.06,h18km±7km, mb3.9/6,Error ellipse: s-maj=8.5km s-min=4.5km az=142.3*
ISC 14 03:03:51.4±1.7**,52°.64N**±0°.05×**161°.19E**±0°.05**, h3**km±10km**, n78,**σ1**$64/98,mb4.1/6,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.84**	**304**	*eP*			**Pb**	**03 04 09.0**	**+0.3**
SPN				*eS*			**Sg**	**03 04 19.0**	**+0.5**
SPN	**Mys Shipunski**	**0.84**	**304**	PN			**Pb**	**03 04 09.0**	**+0.3**
SPN				S			**Sg**	**03 04 19.0**	**+0.5**
NLC	**Nalytchevo**	**1.24**	**296**	*eP*			**Pn**	**03 04 15.1**	**-0.5**
NLC				*eS*			**Sb**	**03 04 29.2**	**-2.6**
NLC	**Nalytchevo**	**1.24**	**296**	PN			**Pn**	**03 04 15.1**	**-0.5**
NLC				S			**Sb**	**03 04 29.2**	**-2.6**
DALK	**Dalny**	**1.53**	**286**	*eP*			**Pb**	**03 04 20.5**	**+0.2**
DALK				*eS*			**Sb**	**03 04 39.9**	**-0.2**
DALK	**Dalny**	**1.53**	**286**	PN			**Pb**	**03 04 20.5**	**+0.2**
DALK				S			**Sb**	**03 04 39.9**	**-0.2**
SDLR	**Sedlovina**	**1.54**	**296**	*i* P			**Pn**	**03 04 20.1**	**+0.3**
SDLR				*eS*			**Sn**	**03 04 40.1**	**-0.2**
SDLR	**Sedlovina**	**1.54**	**296**	PN			**Pn**	**03 04 20.1**	**+0.3**
SDLR				S			**Sn**	**03 04 40.1**	**-0.2**
UGLR	**Uglovaya**	**1.54**	**293**	*i* P			**Pb**	**03 04 20.5**	**-0.1**
UGLR	**Uglovaya**	**1.54**	**293**	PN			**Pb**	**03 04 20.5**	**-0.1**
SMAR	**Somma**	**1.58**	**294**	*eP*			**Pn**	**03 04 20.6**	**+0.2**
SMAR	**Somma**	**1.58**	**294**	PN			**Pn**	**03 04 20.6**	**+0.2**
PET	**Petropavlovsk**	**1.59**	**285**	*eP*			**Pb**	**03 04 21.3**	**0.0**
PET				*eS*			**Sn**	**03 04 40.2**	**-1.2**
PET	**Petropavlovsk**	**1.59**	**285**	*e*PN			**Pb**	**03 04 21.1**	**-0.2**
PET				*eS*			**Sn**	**03 04 40.0**	**-1.4**
PET	comp=Z,300nm,0.3s			pmax		pmax			
PET	comp=Z,357nm,0.4s			pmax		pmax			
PET	comp=E,500nm,0.8s			smax		smax			
PET	comp=N,744nm,0.5s			smax		smax			
PET	comp=E,778nm,0.8s			smax		smax			
AVH	**Avacha**	**1.61**	**294**	*eP*			**Pb**	**03 04 21.5**	**-0.3**
AVH	**Avacha**	**1.61**	**294**	PN			**Pb**	**03 04 21.5**	**-0.3**
RUS	**Russkaya**	**1.65**	**264**	*i* P			**Pg**	**03 04 22.7**	**-0.2**
RUS				*eS*			**Sb**	**03 04 42.8**	**-0.7**
RUS	**Russkaya**	**1.65**	**264**	PN			**Pg**	**03 04 22.7**	**-0.2**
RUS				S			**Sb**	**03 04 42.8**	**-0.7**
KOK	**Koryaka**	**1.68**	**294**	*i* P			**Pb**	**03 04 22.5**	**-0.4**
KOK	**Koryaka**	**1.68**	**294**	PN			**Pb**	**03 04 22.5**	**-0.4**
KRX	**Arik**	**1.70**	**296**	*i* P			**Pb**	**03 04 23.2**	**-0.1**
KRX				*eS*			**Sn**	**03 04 43.7**	**-0.7**
KRX	**Arik**	**1.70**	**296**	PN			**Pb**	**03 04 23.2**	**-0.1**
KRX				S			**Sn**	**03 04 43.7**	**-0.7**
KII	**Karymskiy**	**1.75**	**324**	*eP*			**Pb**	**03 04 24.7**	**+0.6**
KII	**Karymskiy**	**1.75**	**324**	PN			**Pb**	**03 04 24.7**	**+0.6**
MTVR	**Mutnovka**	**1.84**	**266**	*eP*			**Pb**	**03 04 25.9**	**+0.1**
MTVR				*eS*			**Sb**	**03 04 48.6**	**-0.7**
MTVR	**Mutnovka**	**1.84**	**266**	PN			**Pb**	**03 04 25.9**	**+0.1**
MTVR				S			**Sb**	**03 04 48.6**	**-0.7**
KRMR	**Karymshinskiy**	**1.87**	**277**	*eP*			**Pb**	**03 04 25.7**	**-0.4**
KRMR	**Karymshinskiy**	**1.87**	**277**	PN			**Pb**	**03 04 25.7**	**-0.4**
GRL	**Gorelyy**	**1.90**	**269**	P			**Pg**	**03 04 27.8**	**0.0**
GRL	**Gorelyy**	**1.90**	**269**	PN			**Pg**	**03 04 27.8**	**0.0**
MKZ	**Mys Kozlova**	**1.95**	**9**	*eS*			**Sn**	**03 04 48.8**	**-1.5**
KDTR	**Khodutka, Kamc**	**2.09**	**248**	*eP*			**Pb**	**03 04 29.6**	**-0.2**
KDTR				*eS*			**Sb**	**03 04 53.8**	**-2.3**
PETK	**Petropavlovsk-**	**2.17**	**284**	Pn			**Pb**	**03 04 29.8**	**-1.4**
	comp=E,39nm,0.3s,baz=100,slow=20,SNR=132								
PETK				Sn			**Sn**	**03 04 56.5**	**+0.8**
	comp=E,26nm,0.3s,baz=54,slow=26,SNR=10								
GNL	**Ganaly**	**2.22**	**300**	*eP*			**Pb**	**03 04 31.3**	**-1.0**
GNL	**Ganaly**	**2.22**	**300**	PN			**Pb**	**03 04 31.3**	**-1.0**
APC	**Apacha**	**2.47**	**278**	*eP*			**Pb**	**03 04 35.7**	**-0.6**
APC				*eS*			**Sb**	**03 05 06.6**	**-0.4**
APC	**Apacha**	**2.47**	**278**	PN			**Pb**	**03 04 35.7**	**-0.6**
APC				S			**Sb**	**03 05 06.6**	**-0.4**
KZV	**Kizimen**	**2.54**	**348**	*i* P			**Pn**	**03 04 35.6**	**+2.0**
KZV				*eS*			**Sn**	**03 05 05.6**	**+0.5**
KZV	**Kizimen**	**2.54**	**348**	PN			**Pn**	**03 04 35.6**	**+2.0**
TUMD	**Tumrok D**	**2.61**	**350**	*eP*			**Pn**	**03 04 36.5**	**+2.0**
TUMD				*eS*			**Sn**	**03 05 07.8**	**+1.0**
TUMR	**Tumrok**	**2.72**	**347**	*i* P			**Pn**	**03 04 38.7**	**+2.6**
TUMR				*eS*			**Sn**	**03 05 12.5**	**+2.9**
TUMR	**Tumrok**	**2.72**	**347**	PN			**Pn**	**03 04 36.5**	**+0.4**
PAU	**Pauzhetka**	**2.95**	**248**	P			**Pb**	**03 04 44.6**	**+0.1**
PAU	**Pauzhetka**	**2.95**	**248**	PN			**Pb**	**03 04 44.6**	**+0.1**
KMNR	**Kamenistaya**	**3.18**	**350**	*i* P			**Pn**	**03 04 46.0**	**+3.7**
KMNR				*eS*			**Sb**	**03 05 25.7**	**-1.9**
KMNR	**Kamenistaya**	**3.18**	**350**	PN			**Pn**	**03 04 46.0**	**+3.7**
KMNR				S			**Sb**	**03 05 25.7**	**-1.9**
BZGR	**Bezymyannyi-Gr**	**3.32**	**355**	*eP*			**Pb**	**03 04 48.7**	**-2.3**
BZGR	**Bezymyannyi-Gr**	**3.32**	**355**	PN			**Pb**	**03 04 48.7**	**-2.3**
BZMR	**Bezymyannaya**	**3.33**	**353**	*eP*			**Pb**	**03 04 49.0**	**-2.1**
BZMR	**Bezymyannaya**	**3.33**	**353**	PN			**Pb**	**03 04 49.0**	**-2.1**
BZWR	**Bezymyannyi-We**	**3.36**	**353**	*eP*			**Pb**	**03 04 49.8**	**-1.8**
BZWR	**Bezymyannyi-We**	**3.36**	**353**	PN			**Pb**	**03 04 49.8**	**-1.8**
KPT	**Kopyto**	**3.38**	**351**	*eP*			**Pb**	**03 04 51.1**	**-0.9**
KPT	**Kopyto**	**3.38**	**351**	PN			**Pb**	**03 04 51.1**	**-0.9**
ZLN	**Zelenaya**	**3.40**	**356**	*eP*			**Pn**	**03 04 48.3**	**+3.0**
ZLN	**Zelenaya**	**3.40**	**356**	PN			**Pn**	**03 04 48.3**	**+3.0**
CIRR	**Tsirk**	**3.50**	**356**	*eP*			**Pn**	**03 04 51.1**	**+4.4**
CIRR	**Tsirk**	**3.50**	**356**	PN			**Pn**	**03 04 51.1**	**+4.4**
KRSR	**Krestovskiy**	**3.61**	**354**	*eP*			**Pb**	**03 04 52.9**	**-2.9**
KRSR	**Krestovskiy**	**3.61**	**354**	PN			**Pb**	**03 04 52.9**	**-2.9**
KBTR	**Krutoberegovo**	**3.70**	**14**	*eP*			**Pn**	**03 04 51.6**	**+2.2**
KBTR	**Krutoberegovo**	**3.70**	**14**	PN			**Pn**	**03 04 51.6**	**+2.2**
BKI	**Bering**	**3.82**	**46**	*eS*			**Sn**	**03 05 33.5**	**-3.0**
SMKR	**Semkarok**	**3.96**	**2**	P			**Pn**	**03 04 55.8**	**+2.8**
SMKR	**Semkarok**	**3.96**	**2**	PN			**Pn**	**03 04 55.8**	**+2.8**
SRKR	**Sorokina**	**4.03**	**360**	P			**Pn**	**03 04 56.7**	**+2.7**
SRKR	**Sorokina**	**4.03**	**360**	PN			**Pn**	**03 04 56.7**	**+2.7**
ASAJ	**Asahikawa**	**14.97**	**243**	LR			LR	03 12 35.5	
	comp=E,38nm,21.4s,baz=166,slow=35								
KLR	**Kul'dur**	**18.80**	**271**	LR			LR	03 17 03.3	
	comp=E,42nm,18.2s,baz=58,slow=42								
TIXI	**Tiksi**	**29.77**	**335**	P			**P**	**03 09 03.9**	**-0.8**
	comp=E,2.3nm,0.7s,baz=124,slow=9.7,SNR=4.0								
H11N2	**WAKE ISLAND Hy**	**33.14**	**170**	T			T	03 46 02.4	
	baz=354,slow=74								
H11N3	**WAKE ISLAND Hy**	**33.16**	**170**	T			T	03 45 58.1	
	baz=354,slow=74,SNR=8.9								
H11N1	**WAKE ISLAND Hy**	**33.16**	**170**	T			T	03 45 52.4	
	baz=354,SNR=11								
MKAR	**Makanchi Array**	**48.95**	**297**	P			**P**	**03 12 37.4**	**-1.3**
	comp=E,0.5nm,0.5s,baz=57,slow=6.9,SNR=9.7								
ARCES	**ARCESS Array B**	**53.93**	**342**	P			**P**	**03 13 16.3**	**+0.7**
	comp=E,3.4nm,0.8s,baz=53,slow=9.2,SNR=3.9								
FINES	**FINESS Array B**	**60.80**	**337**	P			**P**	**03 14 05.2**	**+1.1**
	comp=E,1.3nm,0.5s,baz=28,slow=8.1,SNR=13								
NOA	**NORSAR Array B**	**64.17**	**344**	P			**P**	**03 14 27.5**	**+0.8**
	comp=E,0.2nm,0.6s,baz=23,slow=6.8,SNR=3.0								
AKASG	**Malin Array Be**	**69.35**	**330**	P			**P**	**03 15 00.6**	**+0.7**
	comp=E,0.8nm,0.4s,baz=28,slow=7.3,SNR=2.9								

IDC ***14*** *03:04:40.7±0.8,51°.63N×131°.13W,h0km,mb4.1/12, mb1 4.4/17,mb1mx4.1/50,mbtmp4.2/17,ML3.9/5,MS4.0/25, Ms1 4.0/25,ms1mx3.8/42,Error ellipse: s-maj=20.9km s-min=10.5km az=48.0*
BJI ***14*** *03:04:41.0,51°.80N×130°.60W,h10km,mb4.9/16,mB5.0/6, Ms4.8/6,Ms7 4.5/5*
ISCJB ***14*** *03:04:42.4±0.2,51°.84N±0°.02×130°.64W±0°.04,h10km, mb4.7/102,MS4.0/18,Error ellipse: s-maj=3.8km s-min=2.1km az=152.0*
PGC ***14*** *03:04:42.7±1.4,51°.77N×131°.36W,h28km±3km, 167km Sse of Sandspit, Bc Haida Gwaii Region*
GCMT ***14*** *03:04:43.0±0.3,51°.52N±0°.02×131°.28W±0°.03,h17km±1km, MW4.8/78,Moment Tensor Solution. s20,c21; s78,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.70±.14; $M_{\theta\theta}$-1.30±.09; $M_{\phi\phi}$2.00±.10; $M_{r\theta}$0.21±.25; $M_{\theta\phi}$1.26±.07; $M_{\phi r}$-0.67±.23; Best double couple: M_o2.20500×10^{16} NP1:ϕ_s243.00000°,δ68.00000°,λ-8.00000°. Principal axes: T 2.5270, Plg10.0000°, Azm108.0000°; N -0.6470, Plg67.0000°, Azm353.0000°; P -1.8820, Plg21.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***14*** *03:04:45.0±0.2,51°.83N×130°.65W,h10km,mb4.7/172 Error ellipse: s-maj=5.0km s-min=2.3km az=54.0*
ISC 14 03:04:44.0±0.4**,51°.84N**±0°.06×**130°.60W**±0°.06**, h10**km**, n647,**σ1**$25/614,mb4.8/102,MS4.0/19,Queen Charlotte Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BBB	**Bella Bella**	**1.57**	**76**	Pn			**Pn**	**03 05 11.9**	**0.0**
	89nm,0.3s,baz=257,slow=7.2,SNR=233								
BBB				Lg			Lg	03 05 40.0	
	619nm,0.3s,baz=149,slow=23,SNR=25								
BBB				LR			LR	03 05 56.3	
	comp=Z,1μm,19.4s,baz=252,slow=39								

BBB	**Bella Bella**	**1.57**	**76**	Pn			**Pn**	**03 05 11.9**	**0.0**
BBB				*eSn*			**Sn**	**03 05 31.0**	**-1.3**
BBB				Lg			Lg	03 05 40.0	
H02S1	**DAWSON INLET T**	**1.78**	**321**	Pn			Pn	03 05 08.8	-6.1
H02S1				Lg			Lg	03 05 35.6	
H02N1	**VAN INLET T-PH**	**1.85**	**321**	Pn			Pn	03 05 09.8	-6.0
H02N1				Lg			Lg	03 05 38.8	
PHC	**Port Hardy**	**2.29**	**118**	*e*Pn			**Pn**	**03 05 18.4**	**-3.3**
CRAG	**Craig**	**3.93**	**339**	*e*Pn			**Pn**	**03 05 41.6**	**-2.7**
CRAG				*eSn*			**Sn**	**03 06 27.1**	**-3.4**
WRAK	**Wrangell Islan**	**4.70**	**348**	*e*Pn			**Pn**	**03 05 53.9**	**-1.0**
WRAK				*eSn*			**Sn**	**03 06 45.8**	**-3.7**
PGC	**Sidney**	**5.59**	**122**	*e*Pn			**Pn**	**03 06 07.5**	**+0.5**
PGC				*eSn*			**Sn**	**03 07 10.0**	**-1.3**
A04D	**Lummi Island**	**5.94**	**119**	P			**Pn**	**03 06 13.0**	**+1.0**
	baz=304,SNR=9.8								
D03D	**Eldon**	**6.50**	**129**	P			**Pn**	**03 06 20.1**	**+0.4**
	baz=314								
B05A	**Bryant**	**6.54**	**120**	P			**Pn**	**03 06 20.4**	**+0.2**
	baz=306,SNR=22								
DLBC	**Dease Lake**	**6.62**	**3**	Pn			**Pn**	**03 06 23.3**	**+2.0**
	6.4nm,0.3s,baz=193,slow=8.8,SNR=43								
DLBC				Lg			Lg	03 08 12.7	
	2.2nm,0.3s,baz=317,slow=5.3,SNR=4.0								
DLBC				LR			LR	03 08 59.3	
	comp=Z,2μm,19.4s,baz=190,slow=38								
DLBC	**Dease Lake**	**6.62**	**3**	*e*Pn			**Pn**	**03 06 23.4**	**+2.0**
DLBC				*eSn*			**Sn**	**03 07 34.0**	**-2.8**
DLBC				Lg			Lg	03 08 12.7	
B06A	**Marblemount**	**6.73**	**116**	*e*Pn			**Pn**	**03 06 24.3**	**+1.5**
D04E	**Lakebay**	**6.91**	**129**	P			**Pn**	**03 06 25.9**	**+0.7**
	baz=315								
BESE	**Bessie Mountai**	**7.18**	**342**	*e*Pn			Pn	03 06 36.9	+7.9
D05A	**Enumclaw**	**7.28**	**126**	*e*Pn			**Pn**	**03 06 32.0**	**+1.6**
C06D	**Leavenworth**	**7.39**	**118**	P			**Pn**	**03 06 33.1**	**+1.2**
	baz=306								
E04D	**Cinebar**	**7.46**	**132**	P			**Pn**	**03 06 33.5**	**+0.7**
	baz=318								
F04D	**Rainier, OR**	**7.62**	**136**	P			**Pn**	**03 06 35.9**	**+0.9**
	baz=322								
LON	**Longmire**	**7.68**	**128**	*e*Pn			**Pn**	**03 06 36.1**	**+0.3**
LTY	**Liberty**	**7.92**	**122**	*e*Pn			**Pn**	**03 06 40.0**	**+0.8**
B08A	**Colville Reser**	**8.04**	**111**	*e*Pn			**Pn**	**03 06 41.9**	**+1.1**
G03D	**McMinnville, O**	**8.22**	**141**	P			**Pn**	**03 06 43.4**	**+0.1**
	baz=326,SNR=16								
COR	**Corvallis**	**8.74**	**143**	*e*Pn			**Pn**	**03 06 51.5**	**+1.2**
E07A	**Sunnyside**	**8.79**	**123**	*e*Pn			**Pn**	**03 06 54.3**	**+3.2**
C09A	**Chrisman Ranch**	**8.93**	**112**	*e*Pn			**Pn**	**03 06 53.5**	**+0.5**
C09A				*eSn*			Sn	03 08 48.5	+15
D08A	**Wollman Farm,**	**8.98**	**118**	*e*Pn			**Pn**	**03 06 53.6**	**-0.1**
H04D	**Lebanon**	**9.01**	**141**	P			**Pn**	**03 06 54.6**	**+0.6**
	baz=327,SNR=11								
G05D	**Wamic, OR**	**9.02**	**133**	P			**Pn**	**03 06 55.2**	**+1.0**
	baz=320								
HAWA	**Hanford**	**9.07**	**123**	*e*Pn			**Pn**	**03 06 54.8**	**-0.1**
H04A	**Detroit Lake**	**9.09**	**139**	*e*Pn			**Pn**	**03 06 57.7**	**+2.4**
WHY	**Whitehorse**	**9.15**	**347**	*e*Pn			**Pn**	**03 06 56.2**	**+0.1**
F07A	**Phinny Hill Vi**	**9.21**	**126**	*e*Pn			**Pn**	**03 07 00.2**	**+3.4**
E08A	**Dider Farm, El**	**9.26**	**121**	*e*Pn			**Pn**	**03 06 57.8**	**+0.3**
G06A	**Carlson Farm,**	**9.34**	**131**	*e*Pn			**Pn**	**03 06 59.7**	**+1.1**
NEW	**Newport**	**9.38**	**107**	Pn			**Pn**	**03 07 01.0**	**+1.9**
	0.7nm,0.3s,baz=291,slow=12,SNR=15								
NEW				Lg			Lg	03 09 41.8	
	0.3nm,0.3s,baz=54,slow=20,SNR=4.3								
NEW				LR			LR	03 11 00.7	
	comp=Z,958nm,18.3s,baz=262,slow=39								
NEW	**Newport**	**9.38**	**107**	P			**Pn**	**03 07 00.3**	**+1.2**
	baz=297,SNR=13								
I03D	**Drain, OR**	**9.49**	**146**	P			**Pn**	**03 07 00.9**	**+0.2**
	baz=332,SNR=14								
I05D	**Terrebonne, OR**	**9.72**	**137**	P			**Pn**	**03 07 04.7**	**+0.8**
	baz=324								
E09A	**Wood Farm, Sta**	**9.74**	**118**

BMN Battle Mountai 14.67 136 ePn Pn 03 08 12.5 +0.8
VCNR Virginia City 14.68 144 ePn Pn 03 08 14.2 +2.3
YHB Horse Butte 14.71 111 ePn Pn 03 08 14.2 +2.0
RUBR Rubicon Trail 14.72 146 ePn P 03 08 17.6 -1.0
PNTR Pine Nut 14.88 145 ePn Pn 03 08 16.7 +2.2
YHH Holmes Hill 14.88 111 ePn Pn 03 08 16.4 +1.8
YMR Madison River 14.89 111 ePn Pn 03 08 16.9 +2.3
EPYK Eagle Plains 14.90 350 P Pn 03 08 15.8 +1.4
baz=165,SNR=7.0
YNR Norris Junctio 15.03 110 ePn P 03 08 19.9 -2.1
36nm,0.9s
GCMT Greycliff 15.03 105 ePn P 03 08 19.8 -2.1
RND Reindeer 15.09 327 ePn Pn 03 08 17.6 +0.6
32nm,0.8s
YFT Old Faithful 15.09 112 ePn P 03 08 23.0 +0.3
36nm,0.9s
YERR Yerington 15.10 144 ePn Pn 03 08 18.9 +1.5
72nm,1.0s
HDA Harding Lake 15.20 332 ePn P 03 08 28.4 +4.8
20nm,0.9s
YPP Pitchstone Pla 15.22 112 ePn P 03 08 21.9 -2.2
23nm,0.8s
H17A Grant Village 15.27 111 ePn P 03 08 23.7 -1.0
49nm,1.0s
H17A Grant Village 15.27 111 P Pn 03 08 21.4 +1.6
baz=306,SNR=31
LKWY Lake 15.28 110 ePn P 03 08 24.4 -0.4
80nm,0.8s
MCK McKinley 15.34 328 ePn P 03 08 25.6 +0.5
58nm,1.0s
IMW Indian Meadow 15.37 113 ePn Pn 03 08 23.1 +2.1
63nm,0.9s
FLWY Flagg Ranch 15.39 112 ePn Pn 03 08 23.7 +2.4
41nm,1.0s
WAKR Walker 15.46 145 ePn Pn 03 08 23.6 +1.4
57nm,1.1s
IL1 Eielson Array 15.46 333 ePn P 03 08 26.1 -0.3
ILAR Eielson Array 15.46 333 Pn Pn 03 08 21.4 -0.5
0.1nm,0.3s,baz=151,slow=11,SNR=9.5
ILAR Lg Lg 03 12 53.9
0.0nm,0.3s,baz=116,slow=27,SNR=3.1
ILAR LR LR 03 14 00.1
comp=Z,782nm,18.7s,baz=150,slow=36
ILB Eielson Array 15.46 333 ePn P 03 08 26.0 -0.4
KVN Kaiserville 15.48 141 ePn Pn 03 08 22.5 +0.1
90nm,1.1s
FXWY Fox Creek 15.48 114 ePn P 03 08 25.0 -2.0
80nm,0.7s
CMB Columbia Colle 15.56 149 ePn Pn 03 08 23.6 +0.2
39nm,1.0s
MOOW Moose Ponds 15.57 114 ePn Pn 03 08 25.9 +2.2
67nm,0.9s
WRH Wood River Hil 15.59 331 ePn P 03 08 28.4 +0.6
69nm,1.2s
TRF Thorofare Moun 15.61 326 ePn P 03 08 26.9 -1.3
70nm,1.1s
TPAW Teton Pass 15.61 115 ePn P 03 08 27.0 -1.5
124nm,0.8s
RLMT Red Lodge 15.63 107 ePn P 03 08 26.7 -1.9
25nm,0.7s
RLMT Red Lodge 15.63 107 P Pn 03 08 25.3 +0.9
baz=303,SNR=25
CCB Clear Creek Bu 15.63 332 ePn P 03 08 29.0 +0.7
34nm,1.1s
RYN Ryan 15.68 143 ePn Pn 03 08 26.0 +1.0
51nm,1.1s
LOHW Long Hollow 15.73 114 ePn P 03 08 28.0 -1.8
97nm,1.4s
SNOW Snow King Moun 15.74 114 ePn P 03 08 29.1 -0.8
63nm,0.8s
REDW Red Top Meadow 15.75 115 ePn P 03 08 28.8 -1.2
181nm,1.3s
HVU Hansel Valley 15.77 123 ePn Pn 03 08 27.9 +1.6
37nm,1.3s
COLA College 15.81 332 ePn P 03 08 36.8 +6.5
40nm,1.3s
POKR Poker Plat Res 15.88 333 P Pn 03 08 28.4 +1.1
baz=139
NV01 Mina Array Sit 15.94 142 ePn Pn 03 08 28.7 +0.2
NVAR Mina Array Bea 15.94 142 Pn Pn 03 08 28.9 +0.5
0.2nm,0.3s,baz=312,slow=11,SNR=62
NVAR LR LR 03 14 19.7
comp=Z,368nm,18.7s,baz=332,slow=36
PPLA Purkeypile 15.97 322 ePn P 03 08 32.3 +0.1
71nm,1.2s
MDM Murphy Dome 15.98 332 ePn P 03 08 32.6 +0.4
21nm,1.1s
NV11 Mina Array Sit 15.99 142 ePn Pn 03 08 29.8 +0.7
4.7nm,1.2s
AHID Auburn Hatcher 16.00 117 ePn P 03 08 32.4 -0.3
54nm,1.0s
CAST Castle Rocks 16.23 324 ePn P 03 08 33.6 -1.4
61nm,1.1s
BGU Big Grassy Mou 16.27 125 ePn Pn 03 08 33.3 +0.7
20nm,1.2s
SPUT South Promonto 16.28 123 ePn P 03 08 34.5 -1.3
14nm,1.0s
MDPB Devils Postpil 16.36 146 ePn Pn 03 08 34.8 +0.8
39nm,1.0s
OMMB Old Mammoth Mi 16.41 146 ePn Pn 03 08 35.5 +1.0
36nm,1.1s
SAO San Andreas Ge 16.41 153 ePn P 03 08 37.6 +0.5
40nm,1.3s
MLAC Mammoth, Mammo 16.45 145 P Pn 03 08 35.3 +0.3
baz=333
FYU Fort Yukon 16.48 339 ePn P 03 08 44.5 +6.8
48nm,1.1s
SVW2 Sparrevohn 16.52 314 ePn Pn 03 08 36.2 +0.6
62nm,1.2s
HWUT Hardware Ranch 16.54 121 ePn P 03 08 37.6 -1.1
24nm,1.0s
INK Inuvik 16.58 356 Pn P 03 08 40.1 +1.3
0.1nm,0.3s,baz=176,slow=14,SNR=5.9
INK Lg Lg 03 13 30.3
0.0nm,0.3s,baz=104,slow=30,SNR=4.9
INK LR LR 03 15 40.3
comp=Z,775nm,19.2s,baz=171,slow=39
INK Inuvik 16.58 356 ePn P 03 08 40.0 +1.3
27nm,1.5s
INK Lg Lg 03 13 30.3
LAO LASA Array 16.69 98 ePn P 03 08 40.0 -0.2
30nm,0.8s
LAO LASA Array 16.69 98 P P 03 08 39.4 -0.8
baz=297,SNR=13
MLY Manley 16.79 330 ePn P 03 08 41.6 +0.4
60nm,1.2s
BW06 Boulder Array 16.86 114 ePn P 03 08 42.6 +0.3
BW06 Boulder Array 16.86 114 P P 03 08 42.5 +0.2
baz=310,SNR=57
PD31 Pinedale Array 16.86 114 ePn P 03 08 42.6 +0.3
PDAR Pinedale Array 16.86 114 Pn P 03 08 42.6 +0.3
1.9nm,0.3s,baz=313,slow=9.6,SNR=67
PDAR LR LR 03 15 13.1
comp=Z,515nm,19.3s,baz=322,slow=37
PDAR Pinedale Array 16.86 114 ePn P 03 08 42.5 +0.2
DUG Dugway, Tooele 16.92 127 ePn Pn 03 08 41.5 +0.6
20nm,0.9s
DUG Dugway, Tooele 16.92 127 P Pn 03 08 40.9 -0.1
baz=319,SNR=27
TCUT Toone Canyon 16.96 122 ePn P 03 08 43.5 0.0
42nm,0.8s
CTU Camp Tracy 17.09 123 ePn P 03 08 44.2 -0.7
9.5nm,1.0s
R11A Troy Canyon, C 17.11 136 ePn Pn 03 08 43.1 -0.2
18nm,1.3s
R11A Troy Canyon, C 17.11 136 P Pn 03 08 43.1 -0.2
baz=327,SNR=18
PMPB Monarch Peak 17.11 152 ePn Pn 03 08 44.0 +0.8
130nm,1.4s
TIN Tinemaha, Big 17.18 145 P P 03 08 45.3 -0.5
baz=333
DGMT Dagmar 17.21 91 ePn P 03 08 46.2 +0.3
35nm,0.8s
DGMT Dagmar 17.21 91 P Pn 03 08 45.2 +0.7
baz=291,SNR=8.5
FFC Flin Flon 17.30 69 ePn P 03 08 46.3 -0.5
34nm,1.0s
JLU Jordanelle 17.32 123 ePn P 03 08 47.0 -0.4
13nm,1.1s
NLU North Lily Min 17.48 126 ePn P 03 08 48.6 -0.5
21nm,1.1s
GRAC Grapevine Rang 17.55 143 P P 03 08 49.6 -0.2
baz=332,SNR=8.1
MPU Maple Canyon 17.65 125 ePn P 03 08 50.8 -0.3
10nm,1.2s
PAGB Antelope Grade 17.72 151 ePn P 03 08 53.1 +1.5
39nm,1.0s
PSUT Pine Spring 17.73 132 ePn P 03 08 51.5 -0.4
10nm,0.8s
CWC Cottonwood Cre 17.78 145 P P 03 08 52.9 +0.4
baz=334
VES Vestal, Richgr 17.98 148 P Pn 03 08 53.8 -0.1
baz=336
TPNV Topopah Spring 18.02 140 ePn P 03 08 55.4 +0.2
43nm,1.1s
TPNV Topopah Spring 18.02 140 P P 03 08 55.4 +0.2
baz=330,SNR=38
DAC Darwin (Calif) 18.10 144 ePn P 03 08 57.5 +1.4
50nm,1.1s
SMMC Simmler 18.18 151 P P 03 08 56.8 0.0
baz=338,SNR=6.9
FURC Furnace Creek, 18.21 142 P P 03 08 57.7 +0.8
baz=332,SNR=24
COLD Coldfoot 18.21 335 eP P 03 09 04.9 +8.1
12nm,1.2s
MPMC Manual Prospec 18.34 144 P P 03 08 59.7 +1.1
baz=333,SNR=28
ISA Isabella, Lake 18.35 147 eP P 03 08 59.4 +0.7
50nm,1.2s
ISA Isabella, Lake 18.35 147 P P 03 08 59.3 +0.7
baz=336,SNR=46
IM3 Indian Mountai 18.37 329 eP Pn 03 08 57.2 -1.2
TMUT Trail Mountain 18.41 125 eP Pn 03 09 00.7 +1.2
21nm,1.1s
P17A Butcher Ranch, 18.52 124 eP Pn 03 09 02.7 +2.1
12nm,1.0s
MSU Marysvale 18.54 129 eP Pn 03 09 01.8 +0.9
PKM Mcpherson Peak 18.64 151 P Pn 03 09 02.4 +0.3
baz=339,SNR=15
P18A Preston Nutter 18.66 123 eP Pn 03 09 04.1 +1.6
46nm,1.4s
K22A Casper 18.68 110 eP Pn 03 09 03.5 +1.0
46nm,0.9s
K22A Casper 18.68 110 P Pn 03 09 02.6 0.0
baz=308,SNR=13
ARVC Arvin 18.72 149 P P 03 09 02.5 -0.1
baz=337
CCUT Cedar City 18.75 133 eP Pn 03 09 04.2 +0.6
17nm,1.1s
LRMC Laurel Mtn Rad 18.79 145 P Pn 03 09 04.2 +0.3
baz=334,SNR=34
SZCU Shurtz Canyon 18.84 132 eP Pn 03 09 05.1 +0.5
29nm,1.2s
SHPR Shep Range 18.85 138 eP Pn 03 09 04.7 0.0
20nm,1.1s
RWWY Rawlins 18.89 113 eP Pn 03 09 05.1 -0.1
30nm,0.9s
SRU San Rafael Swe 18.90 124 eP Pn 03 09 06.7 +1.4
19nm,0.9s
MTPU Mount Pierson 18.90 130 eP Pn 03 09 06.9 +1.3
15nm,1.0s
SHOC Shoshone, Teco 18.93 142 P P 03 09 05.1 +0.2
baz=332,SNR=6.7
TOLK Toolik Lake Re 19.15 339 P P 03 09 06.6 -0.5
baz=142
EDW2 Edwards Air Fo 19.22 147 P P 03 09 08.6 +0.4
baz=336,SNR=20
OSI Osito Audit: C 19.23 149 P P 03 09 08.5 +0.3
baz=337
LCMT Little Creek M 19.25 134 eP Pn 03 09 09.8 +0.3
48nm,1.3s
GSC Goldstone, Bar 19.26 144 eP Pn 03 09 09.5 -0.2
118nm,1.4s
GSC Goldstone, Bar 19.26 144 P Pn 03 09 09.4 -0.2
baz=333,SNR=46
RSSD Black Hills 19.31 103 eP Pn 03 09 10.8 +0.6
24nm,0.8s
RSSD Black Hills 19.31 103 P Pn 03 09 09.9 -0.3
baz=303
PKCU Pink Cliffs 19.32 131 eP Pn 03 09 11.2 +0.6
41nm,0.9s
O20A White River Ci 19.36 118 eP Pn 03 09 11.4 +0.5
38nm,0.8s
O20A White River Ci 19.36 118 P Pn 03 09 10.4 -0.5
baz=315,SNR=22
KNB Kanab 19.43 133 eP Pn 03 09 12.3 +0.5
23nm,1.0s
TUQ Turquoise Moun 19.47 142 P Pn 03 09 11.7 -0.5
baz=332,SNR=41
SCZ2 Santa Cruz Isl 19.52 152 P P 03 09 12.0 +0.6
baz=339
RRX Edison Barstow 19.57 145 P Pn 03 09 12.8 -0.5
baz=334
BLG Laguna Peak, P 19.59 150 P P 03 09 12.1 0.0
baz=338
DECC Green Verdugo 19.68 149 P P 03 09 13.2 0.0
baz=337
MWC Mount Wilson 19.80 148 eP Pn 03 09 15.4 -0.8
44nm,1.1s
PASC Pasadena Art C 19.81 148 eP Pn 03 09 15.2 -0.8
83nm,1.4s
HEC Hector,Ludlow 19.86 143 P P 03 09 15.8 +0.7
baz=333,SNR=41
BFSC Mount Baldy Ra 19.92 147 P P 03 09 16.4 +0.5
baz=336,SNR=25
LDFC Landfair 20.11 140 eP P 03 09 18.5 +0.6
85nm,1.1s
N23A Red Feather La 20.13 113 eP Pn 03 09 19.4 -0.7
24nm,0.8s
N23A Red Feather La 20.13 113 P P 03 09 18.6 +0.4
baz=311,SNR=15
PHWY Pilot Hill 20.14 112 eP P 03 09 19.4 +0.9
30nm,0.9s
GMRC Granite Mounta 20.15 142 P P 03 09 18.3 -0.1
baz=332,SNR=28
BBRC Big Bear Solar 20.15 145 P P 03 09 18.9 +0.4
baz=335,SNR=6.3
U15A North Rim 20.16 133 eP P 03 09 19.3 +0.7
39nm,0.9s
FMP Fort Macarthur 20.19 149 P P 03 09 18.3 -0.3
baz=338
SNCC San Nicolas Is 20.25 152 P P 03 09 20.2 +0.9
baz=340
MDND Maddock 20.30 89 eP Pn 03 09 22.4 +0.6
142nm,1.0s
MDND Maddock 20.30 89 P Pn 03 09 21.6 -0.1
baz=293,SNR=13
CIS Catalina Islan 20.44 150 P P 03 09 21.1 -0.3
baz=338,SNR=5.7
NEE2 Needles Airpor 20.57 140 P P 03 09 23.6 +0.8
baz=331,SNR=12
W13A Hualapai Mount 20.58 138 eP P 03 09 24.1 +0.9
29nm,1.1s
MURC Murrieta 20.66 147 P P 03 09 23.7 -0.1
baz=336
BELC Belle Mtn. Jos 20.72 144 P P 03 09 24.7 +0.1
baz=334,SNR=67
SMCO Snowmass 20.73 118 eP P 03 09 26.1 +1.1
39nm,1.4s
SCI2 San Clemente I 20.79 150 P P 03 09 24.8 -0.3
baz=339,SNR=7.9
IRM Iron Mountain 20.90 142 P P 03 09 27.1 +0.6
baz=332,SNR=40
PFO Pinyon Flats O 20.90 145 eP P 03 09 26.3 -0.2
22nm,0.8s
PFO Pinyon Flats O 20.90 145 P P 03 09 26.5 -0.1
baz=335,SNR=13
FRD Ford Ranch, An 20.96 146 P P 03 09 27.0 -0.1
baz=335,SNR=18
ISCO Idaho Springs 21.05 115 eP P 03 09 29.6 +1.3
29nm,0.9s
ISCO Idaho Springs 21.05 115 P P 03 09 28.1 -0.2
baz=313,SNR=25
PDMCI Parker Dam,Lak 21.17 140 P P 03 09 29.4 +0.2
baz=331,SNR=20
BC3 Big Chuckawall 21.23 143 P P 03 09 30.1 0.0
baz=333,SNR=18
WUAZ Wupatki 21.33 132 eP P 03 09 32.0 +0.8
109nm,1.1s
WUAZ Wupatki 21.33 132 P P 03 09 31.5 +0.3
baz=326,SNR=72
109C Camp Elliot, M 21.34 147 P P 03 09 31.7 +0.7
baz=337,SNR=5.2
CPE Camp Elliot 21.34 147 eP P 03 09 32.1 +1.1
37nm,0.9s
MVCO Mesa Verde 21.38 125 eP P 03 09 32.4 +0.6
56nm,1.1s
MVCO Mesa Verde 21.38 125 P P 03 09 31.6 -0.1
baz=320,SNR=38
Y12C Blythe 21.50 141 eP P 03 09 33.4 +0.6
41nm,1.0s
Y12C Blythe 21.50 141 P P 03 09 33.2 +0.4
baz=332,SNR=20
MONP2 Monument Peak 21.57 146 P P 03 09 33.9 +0.1
baz=336,SNR=35
BAR Barrett 21.68 147 eP P 03 09 35.4 +0.6
31nm,0.9s
SWSC Sam W. Stewart 21.74 145 P P 03 09 35.3 -0.1
baz=335,SNR=9.7
ULM Lac du Bonnet 21.77 80 P P 03 09 36.6 +1.0
14nm,0.8s,baz=287,slow=9.4,SNR=15
ULM LR LR 03 18 28.8
comp=Z,778nm,20.0s,baz=286,slow=37
ULM Lac du Bonnet 21.77 80 eP P 03 09 36.7 +1.0
26nm,1.0s
S22A 4UR Ranch, Cre 21.85 121 eP P 03 09 37.8 +0.9
38nm,1.3s
S22A 4UR Ranch, Cre 21.85 121 P P 03 09 37.8 +0.9
baz=318,SNR=27
Q24A Divide 21.89 116 eP P 03 09 41.2 +3.9
23nm,1.3s
Q24A Divide 21.89 116 P P 03 09 37.4 +0.1
baz=314
IKP In-Ko-Pah, Jac 21.90 146 P P 03 09 37.2 0.0
baz=335,SNR=28
GLA Glamis 22.00 142 eP P 03 09 38.7 +0.4
43nm,0.9s
GLA Glamis 22.00 142 P P 03 09 38.2 -0.1
baz=333,SNR=10
X16A Lo Mia Camp, P 22.22 134 eP P 03 09 41.6 +0.9
26nm,1.3s
SUSD Miller 22.24 97 P P 03 09 40.4 -0.4
baz=301
OGNE Ogallala 22.37 108 eP P 03 09 43.9 +1.7
66nm,1.3s
OGNE Ogallala 22.37 108 P P 03 09 42.7 +0.5
baz=309
W18A Petrified Fore 22.42 130 eP P 03 09 43.6 +0.7
50nm,1.0s
W18A Petrified Fore 22.42 130 P P 03 09 43.0 0.0
baz=325,SNR=25
AGMN Agassiz Nation 22.44 85 eP P 03 09 43.4 +0.5
19nm,0.8s
AGMN Agassiz Nation 22.44 85 P P 03 09 43.1 +0.3
baz=292,SNR=12
RDOG Red Dog Mine 22.50 328 eP P 03 09 47.7 +4.4
20nm,0.8s
SDCO Great Sand Dun 22.56 119 eP P 03 09 45.4 +0.8
9.3nm,0.8s
SDCO Great Sand Dun 22.56 119 P P 03 09 44.6 +0.1
baz=317,SNR=13
113A Mohawk Valley, 22.66 141 eP P 03 09 46.3 +1.0
13nm,1.1s
X18A Snowflake 22.80 131 eP P 03 09 47.7 +0.7
69nm,0.9s
KSCO Kaye Shedlock' 23.28 112 eP P 03 09 53.2 +1.4
40nm,0.9s
KSCO Kaye Shedlock' 23.28 112 P P 03 09 52.2 +0.4
baz=313,SNR=8.3
T25A Trinidad 23.60 118 eP P 03 09 55.6 +0.5
15nm,0.9s
T25A Trinidad 23.60 118 P P 03 09 55.5 +0.5
baz=317,SNR=7.9
214A Organ Pipe Nat 23.76 140 P P 03 09 56.3 -0.2
baz=332,SNR=7.4
ECSD EROS Data Cent 24.05 96 eP P 03 10 00.4 +1.2
23nm,0.8s
ECSD EROS Data Cent 24.05 96 P P 03 09 60.0 +0.8
baz=302,SNR=14
ANMO Albuquerque 24.18 125 P P 03 10 00.5 0.0
9.1nm,0.9s,baz=319,slow=9.0,SNR=34
ANMO LR LR 03 20 01.0
comp=Z,213nm,20.0s,baz=318,slow=38
ANMO Albuquerque 24.18 125 eP P 03 10 00.5 0.0
15nm,1.0s
ANMO Albuquerque 24.18 125 P P 03 10 00.5 0.0
baz=322
LAZ Ladron 24.26 127 eP P 03 10 02.0 +0.6
TUC Tucson 24.30 136 eP P 03 10 02.1 +0.5
16nm,0.8s
TUC Tucson 24.30 136 P P 03 10 01.7 +0.1
baz=329
BGNE Belgrade 24.41 102 P P 03 10 02.5 0.0
baz=306
LENM Lemitar 24.53 127 eP P 03 10 04.2 +0.3
LPM Los Pinos Moun 24.59 126 eP P 03 10 04.8 +0.5
Y22D IRIS PASSCAL I 24.63 127 P P 03 10 05.4 +0.7
baz=323
BNM Barren Site 24.72 126 eP P 03 10 05.9 +0.3
CBKS Cedar Bluff 25.09 109 eP P 03 10 11.5 +2.9
CBKS Cedar Bluff 25.09 109 P P 03 10 09.3 +0.6
baz=311
EYMN Ely 25.28 83 eP P 03 10 12.1 +1.9
74nm,0.9s
EYMN Ely 25.28 83 P P 03 10 11.5 +1.2
baz=294,SNR=19
121A Cookes Peak, D 25.47 130 P P 03 10 12.6 +0.3
baz=326,SNR=9.9
F37A Hinrichs Farm, 25.54 89 P P 03 10 13.1 +0.5
baz=298,SNR=13
SPMN Marine on St. 25.66 90 eP P 03 10 15.8 +2.0
24nm,0.9s
SPMN Marine on St. 25.66 90 P P 03 10 14.6 +0.9
baz=299,SNR=6.4
319A Douglas 25.75 134 eP P 03 10 17.9 +3.2
50nm,1.3s
E38A The Farm, Brul 25.80 86 eP P 03 10 17.8 +2.7
41nm,1.1s
E38A The Farm, Brul 25.80 86 P P 03 10 16.5 +1.5
baz=296
F38A Pierce - Schro 25.89 88 P P 03 10 16.9 +1.0
baz=297,SNR=21
H38A Maiden Rock 26.25 91 P P 03 10 19.2 +0.1
baz=300
F39A Loretta 26.51 87 P P 03 10 21.2 -0.2
baz=298
E39A Mellen 26.52 86 P P 03 10 22.1 +0.6
baz=297
G39A Holcombe 26.65 88 P P 03 10 23.1 +0.4
baz=299,SNR=10
EPT El Paso 26.70 129 eP P 03 10 24.1 +0.7
27nm,1.1s
C40A Isle Royale Na 26.73 82 P P 03 10 23.8 +0.4
baz=294
AMTX Amarillo 26.75 118 eP P 03 10 24.6 +0.8
41nm,0.8s
AMTX Amarillo 26.75 118 P P 03 10 24.4 +0.7
baz=318
KSU1 Kansas State U 26.76 105 eP P 03 10 25.2 +1.5
20nm,0.8s
KSU1 Kansas State U 26.76 105 P P 03 10 24.3 +0.5
baz=310
MSTX Muleshoe 26.85 121 eP P 03 10 25.3 +0.6
24nm,1.1s
MSTX Muleshoe 26.85 121 P P 03 10 24.9 +0.2
baz=320,SNR=7.5
H39A Augusta 26.87 90 P P 03 10 26.0 +1.3
baz=300,SNR=8.8
RES Resolute Bay 27.13 20 LR LR 03 21 43.6
comp=Z,402nm,18.8s,baz=254,slow=37
I39A Houston 27.14 92 eP P 03 10 28.9 +1.8
35nm,0.9s
I39A Houston 27.14 92 P P 03 10 27.9 +0.7
baz=301,SNR=9.0
SCIA State Center 27.14 97 P P 03 10 28.3 +1.2
baz=304
U32A Winter Ranch, 27.18 112 eP P 03 10 28.9 +1.4
40nm,1.3s
J39A Decorah 27.30 93 P P 03 10 29.1 +0.6
baz=302,SNR=23
MNTX Cornudas Mount 27.31 128 eP P 03 10 28.8 0.0
18nm,1.1s
MNTX Cornudas Mount 27.31 128 P P 03 10 28.9 +0.2
baz=325,SNR=26
H40A Chili 27.45 89 P P 03 10 31.1 +1.1
baz=300
K39A Oelwein 27.52 94 P P 03 10 31.3 +0.8
baz=303
COWI Conover 27.53 85 eP P 03 10 35.8 +5.2
18nm,0.9s
I40A Norwalk 27.68 91 P P 03 10 33.2 +1.2
baz=301
L39A Vinton 27.77 95 P P 03 10 33.4 +0.6
baz=304
J40A Soldiers Grove 27.86 92 P P 03 10 34.4 +0.8
baz=302
K40A Colesburg 27.99 93 P P 03 10 35.3 +0.6
baz=303
M39A Webster 28.03 96 P P 03 10 35.7 +0.6
baz=305
I41A Arkdale 28.06 90 eP P 03 10 37.0 +1.7
I41A Arkdale 28.06 90 P P 03 10 36.2 +0.8
baz=301
E42A Champion 28.13 84 P P 03 10 36.7 +0.7

	baz=297								
N39A	Derby Farms, D	28.17	98	P	P	03 10 37.1	+0.7		
	baz=306								
L40A	Anamosa	28.29	95	eP	P	03 10 38.3	+0.9		
	21nm,0.9s								
L40A	Anamosa	28.29	95	P	P	03 10 37.7	+0.4		
	baz=304								
J41A	Loganville	28.33	91	P	P	03 10 38.4	+0.7		
	baz=302								
G42A	Mountain	28.37	87	P	P	03 10 38.9	+0.9		
	baz=299								
JFWS	Jewell Farm	28.42	92	eP	P	03 10 45.3	+6.7		
	16nm,1.1s								
WMOK	Wichita Mounta	28.47	114	eP	P	03 10 40.0	+0.8		
	26nm,0.9s								
WMOK	Wichita Mounta	28.47	114	P	P	03 10 39.5	+0.3		
	baz=317,SNR=22								
M40A	Post Highland	28.48	96	P	P	03 10 38.8	-0.3		
	baz=305								
K41A	Shullsburg	28.55	93	P	P	03 10 40.4	+0.6		
	baz=303								
H42A	Shiocton	28.66	88	P	P	03 10 41.1	+0.4		
	baz=300								
N40A	Mertquake, Sal	28.73	97	P	P	03 10 42.0	+0.7		
	baz=306								
I42A	Draeger Farm,	28.74	89	eP	P	03 10 42.8	+1.4		
	27nm,1.0s								
I42A	Draeger Farm,	28.74	89	P	P	03 10 41.6	+0.2		
	baz=301								
J42A	Columbus	28.91	91	P	P	03 10 43.1	+0.2		
	baz=302								
I43A	Langenfeld Bro	29.22	89	P	P	03 10 46.1	+0.5		
	baz=301								
F44A	Big Bay de Noc	29.26	84	P	P	03 10 46.5	+0.5		
	baz=296								
L42A	Oliver, Polo	29.28	93	eP	P	03 10 47.2	+1.0		
	34nm,1.1s								
L42A	Oliver, Polo	29.28	93	P	P	03 10 46.9	+0.6		
	baz=304								
N41A	Harden Midland	29.29	96	eP	P	03 10 47.6	+1.3		
	28nm,0.9s								
J43A	Natural Harves	29.31	90	P	P	03 10 46.9	+0.4		
	baz=302								
TUL1	Leonard	29.36	109	P	P	03 10 47.5	+0.5		
	baz=314								
M42A	Sheffield	29.53	94	P	P	03 10 48.9	+0.4		
	baz=305								
ABTX	Abilene, Hawle	29.57	118	eP	P	03 10 48.8	0.0		
	21nm,1.3s								
ABTX	Abilene, Hawle	29.57	118	P	P	03 10 48.6	-0.2		
	baz=320,SNR=6.2								
O41A	Passleys Farm,	29.62	97	P	P	03 10 49.5	+0.3		
	baz=307								
K43A	Burlington	29.73	91	P	P	03 10 50.6	+0.5		
	baz=303								
M43A	Waltham Townsh	30.04	94	P	P	03 10 53.3	+0.4		
	baz=305								
TX31	Lajitas Ar. Si	30.09	128	eP	P	03 10 54.0	+0.4		
LTX	Lajitas	30.09	128	eP	P	03 10 54.0	+0.4		
TXAR	Lajitas Array	30.09	128	P	P	03 10 54.0	+0.4		
	9.4nm,0.9s,baz=326,slow=7.0,SNR=50								
TXAR				LR	LR	03 23 31.4			
	comp=Z,312nm,19.1s,baz=0.0,slow=37								
Q41A	Truxton	30.11	100	P	P	03 10 53.6	0.0		
	baz=308,SNR=13								
N43A	Stutzman Famil	30.19	95	P	P	03 10 54.7	+0.5		
	baz=305								
P42A	Winchester	30.27	98	P	P	03 10 55.1	+0.2		
	baz=307								
I45A	Fountain	30.33	87	P	P	03 10 56.0	+0.6		
	baz=301								
HDIL	Hopedale	30.34	95	eP	P	03 10 56.4	+0.8		
	16nm,0.8s								
HDIL	Hopedale	30.34	95	P	P	03 10 56.3	+0.8		
	baz=306								
R41A	Rosebud	30.43	101	P	P	03 10 56.4	0.0		
	baz=309,SNR=8.8								
O43A	Sugar Creek Fa	30.48	96	P	P	03 10 57.3	+0.5		
	baz=306								
G46A	Petoskey	30.54	84	P	P	03 10 57.7	+0.4		
	baz=299								
Q42A	Golden Eagle	30.57	99	P	P	03 10 58.2	+0.6		
	baz=308								
M44A	Midewin, Midew	30.63	93	P	P	03 10 58.0	-0.1		
	baz=305								
S41A	Jillco Farms,	30.66	102	P	P	03 10 58.3	-0.2		
	baz=310								
CCM	Cathedral Cave	30.67	101	eP	P	03 10 58.7	+0.2		
	17nm,0.9s								
CCM	Cathedral Cave	30.67	101	P	P	03 10 58.2	-0.3		
	baz=310								
P43A	Skaggs, Pawnee	30.74	97	P	P	03 10 59.6	+0.4		
	baz=307								
R42A	Luebbering	30.80	100	P	P	03 11 00.4	+0.7		
	baz=309,SNR=6.0								
U40A	Yellville	30.80	105	P	P	03 11 00.1	+0.4		
	baz=312,SNR=19								
N44A	Piper City	30.92	94	P	P	03 11 00.7	0.0		
	baz=306								
T41A	Mountain View	31.00	103	P	P	03 11 01.0	-0.5		
	baz=311								
W39A	Magazine	31.04	108	P	P	03 11 02.4	+0.6		
	baz=314								
Q43A	New Douglas	31.06	98	P	P	03 11 02.1	+0.2		
	baz=308,SNR=6.6								
S42A	Caledonia	31.12	101	P	P	03 11 01.8	-0.7		
	baz=310,SNR=8.1								
JCT	Junction City	31.14	121	eP	P	03 11 02.3	-0.5		
	19nm,0.8s								
JCT	Junction City	31.14	121	P	P	03 11 02.2	-0.6		
	baz=322,SNR=8.0								
FVM	French Village	31.21	100	eP	P	03 11 03.6	+0.3		
	8.4nm,0.8s								
WHTX	Lake Whitney,	31.25	116	P	P	03 11 03.5	-0.2		
	baz=319								
N45A	Kentland	31.27	93	P	P	03 11 04.7	+0.9		
	baz=305								
U41A	Viola	31.37	104	P	P	03 11 04.4	-0.4		
	baz=312								
T42A	Van Buren	31.42	102	P	P	03 11 04.8	-0.3		
	baz=311								
V41A	Mountainview	31.61	105	P	P	03 11 06.6	-0.2		
	baz=313,SNR=27								
MIAR	Mount Ida	31.61	109	eP	P	03 11 08.2	+1.3		
	15nm,1.0s								
MIAR	Mount Ida	31.61	109	P	P	03 11 07.5	+0.6		
	baz=315,SNR=8.3								
S43A	Fulton Ridge,	31.69	101	P	P	03 11 07.3	-0.2		
	baz=310,SNR=12								
U42A	Revenden	31.78	104	P	P	03 11 07.5	-0.8		
	baz=312								
SFIN	Lafayette	31.80	94	eP	P	03 11 10.2	+1.7		
	28nm,0.8s								
SFIN	Lafayette	31.80	94	P	P	03 11 09.6	+1.2		
	baz=306								
R44A	Waltonville	31.87	99	P	P	03 11 08.7	-0.4		
	baz=309								
T43A	Greenville	31.87	102	P	P	03 11 08.4	-0.7		
	baz=311,SNR=7.2								
P45A	Graceland, Par	31.91	96	eP	P	03 11 10.7	+1.3		
	37nm,1.0s								
P45A	Graceland, Par	31.91	96	P	P	03 11 09.8	+0.4		
	baz=307,SNR=6.8								
W41B	Gary Mavity, V	31.97	106	eP	P	03 11 11.3	+1.3		
	8.1nm,1.0s								
W41B	Gary Mavity, V	31.97	106	P	P	03 11 10.1	+0.2		
	baz=313								
PBMO	Poplar Bluff	31.99	102	eP	P	03 11 09.7	-0.4		
	7.6nm,0.8s								
Q45A	Warren Harvey,	32.04	97	P	P	03 11 10.4	-0.2		
	baz=308								
V42A	Cord	32.05	104	P	P	03 11 09.8	-0.9		
	baz=312								
435B	Jarrell	32.10	118	eP	P	03 11 11.9	+0.7		
	15nm,0.8s								
435B	Jarrell	32.10	118	P	P	03 11 11.3	+0.1		
	baz=321								
S44A	Carbondale	32.11	100	P	P	03 11 11.1	-0.1		
	baz=310								
SIUC	Southern Illin	32.12	100	eP	P	03 11 11.7	+0.4		
	12nm,0.9s								
OLIL	Olney	32.17	97	eP	P	03 11 12.7	+1.0		
	44nm,1.1s								
P46A	Rosedale	32.18	95	P	P	03 11 11.8	0.0		
	baz=307								
UALR	University of	32.18	107	eP	P	03 11 12.8	+0.9		
	14nm,0.9s								
J48A	Bridge Port	32.23	87	P	P	03 11 18.5	+6.4		
	baz=302								
R45A	Skylar, Fairfi	32.33	98	P	P	03 11 13.3	+0.2		
	baz=309								
N47A	Urbana	32.38	92	P	P	03 11 13.5	-0.1		
	baz=305								
O47A	Sheridan	32.46	93	P	P	03 11 14.6	+0.4		
	baz=306								
L48A	N Adams	32.56	89	P	P	03 11 15.0	-0.1		
	baz=304								
J49A	Marlette	32.59	86	P	P	03 11 16.0	+0.6		
	baz=302								
Y41A	Eaglette Beard	32.65	108	P	P	03 11 16.9	+0.9		
	baz=315								
P47A	Martinsville	32.84	94	P	P	03 11 18.5	+0.9		
	baz=307,SNR=16								
BLO	Bloomington	32.88	95	eP	P	03 11 19.3	+1.4		
	18nm,0.9s								
833A	Chaparral WMA,	33.07	123	eP	P	03 11 20.8	+1.1		
	39nm,1.1s								
833A	Chaparral WMA,	33.07	123	P	P	03 11 20.9	+1.1		
	baz=324,SNR=7.1								
O48A	Farmland	33.08	92	P	P	03 11 19.7	+0.1		
	baz=306,SNR=5.5								
Q47A	Bedord North L	33.08	95	P	P	03 11 20.3	+0.6		
	baz=308								
CCAR	Cane Creek	33.12	107	eP	P	03 11 21.9	+1.9		
	27nm,0.9s								
U45A	Rockin P Farm,	33.28	101	P	P	03 11 21.2	-0.2		
	baz=311								
N49A	Columbus Grove	33.29	91	eP	P	03 11 22.4	+0.9		
	14nm,0.9s								
N49A	Columbus Grove	33.29	91	P	P	03 11 21.5	0.0		
	baz=305								
T46A	Princeton	33.36	99	P	P	03 11 22.2	0.0		
	baz=310								
P48A	Milroy	33.38	94	P	P	03 11 22.5	+0.2		
	baz=307,SNR=8.1								
R47A	Wooly Knot Far	33.41	96	P	P	03 11 22.8	+0.3		
	baz=308								
Q48A	North Vernon	33.51	95	P	P	03 11 24.1	+0.7		
	baz=308,SNR=11								
U46A	Springville	33.63	101	P	P	03 11 24.2	-0.3		
	baz=311								
S47A	Hartford	33.63	98	P	P	03 11 25.0	+0.5		
	baz=309								
X44A	Crenshaw	33.69	105	P	P	03 11 25.0	0.0		
	baz=314								
R48A	Northridge Ran	33.75	96	P	P	03 11 26.0	+0.4		
	baz=308								
T47A	Sharon Grove	33.88	99	eP	P	03 11 26.9	+0.3		
	12nm,1.0s								
T47A	Sharon Grove	33.88	99	P	P	03 11 26.5	-0.2		
	baz=310								
Q49A	Aurora	33.98	94	P	P	03 11 27.7	+0.2		
	baz=308								
WVT	Waverly	33.99	101	eP	P	03 11 27.6	-0.1		
	7.1nm,0.9s								
WVT	Waverly	33.99	101	P	P	03 11 27.5	-0.1		
	baz=311								
N50A	Nevada	34.02	90	P	P	03 11 27.7	-0.1		
	baz=305								
V46A	Holladay	34.03	101	P	P	03 11 27.7	-0.3		
	baz=312								
O50A	Cable	34.09	91	P	P	03 11 28.3	-0.2		
	baz=306,SNR=5.9								
S48A	Wiedeman Farm,	34.10	97	P	P	03 11 28.8	+0.2		
	baz=309								
OXF	Oxford	34.12	104	eP	P	03 11 28.9	+0.2		
	49nm,0.8s								
OXF	Oxford	34.12	104	P	P	03 11 28.8	0.0		
	baz=313,SNR=7.4								
U47A	Clarksville	34.12	100	P	P	03 11 28.6	-0.2		
	baz=311								
341A	Kurthwood	34.16	112	P	P	03 11 29.9	+0.7		
	baz=318								
X45A	UM Field Stati	34.19	104	P	P	03 11 29.4	+0.1		
	baz=313								
143A	Socs Landing,	34.20	109	P	P	03 11 29.9	+0.5		
	baz=316								
T48A	Bowling Green	34.24	98	P	P	03 11 30.1	+0.3		
	baz=310								
R49A	Shelbyville	34.25	95	P	P	03 11 30.2	+0.3		
	baz=308								
P50A	Jamestown	34.30	92	P	P	03 11 29.9	-0.4		
	baz=307,SNR=5.9								
V47A	Nunnelly	34.38	101	P	P	03 11 30.9	-0.1		
	baz=312,SNR=5.1								
Y45A	Yeager Farm, C	34.48	105	P	P	03 11 32.1	+0.1		
	baz=314								
S49A	Springfield	34.49	96	P	P	03 11 32.2	+0.2		
	baz=309								
PLAL	Pickwick Lake	34.60	102	eP	P	03 11 32.2	-0.7		
	15nm,0.8s								
342A	Flagon Creek P	34.62	111	P	P	03 11 34.0	+0.9		
	baz=318								
W47A	Westpoint	34.72	101	P	P	03 11 33.6	-0.4		
	baz=312								
R50A	Paris	34.78	94	P	P	03 11 34.6	+0.2		
	baz=308,SNR=12								
P51A	Williamsport	34.83	92	eP	P	03 11 41.0	+6.1		
	22nm,0.8s								
V48A	Smith Brothers	34.86	100	P	P	03 11 35.1	-0.1		
	baz=311								
Y46A	Houston	34.88	104	P	P	03 11 35.3	-0.1		
	baz=314,SNR=7.3								
U49A	Red Boiling Sp	35.00	98	P	P	03 11 36.4	+0.1		
	baz=310								
X47A	Russellville	35.05	103	P	P	03 11 36.0	-0.8		
	baz=313								
244A	Avery, Jackson	35.09	109	P	P	03 11 38.3	+1.1		
	baz=316,SNR=5.7								
S50A	Richmond	35.11	95	P	P	03 11 37.9	+0.6		
	baz=309								
R51A	Hillsboro	35.23	94	P	P	03 11 38.4	+0.1		
	baz=308,SNR=10								
V49A	McMinnville	35.41	99	P	P	03 11 40.2	+0.3		
	baz=311								
Y47A	UCARC, Winfie	35.48	103	P	P	03 11 40.6	+0.1		
	baz=314								
344A	Westbrook Farm	35.49	109	P	P	03 11 41.4	+0.8		
	baz=317								
245A	Little AP, Sta	35.56	108	P	P	03 11 41.9	+0.6		
	baz=316								
X48A	Hartselle	35.59	102	eP	P	03 11 41.4	-0.1		
	8.6nm,0.7s								
X48A	Hartselle	35.59	102	P	P	03 11 40.9	-0.6		
	baz=313								
W49A	Belvidere	35.62	100	P	P	03 11 41.6	-0.1		
	baz=312								
S51A	Beattyville	35.63	95	eP	P	03 11 42.5	+0.7		
	18nm,0.9s								
S51A	Beattyville	35.63	95	P	P	03 11 42.0	+0.2		
	baz=309								
Q52A	Bidwell	35.64	92	P	P	03 11 41.9	0.0		
	baz=307								
U50A	Jamestown	35.64	97	P	P	03 11 41.9	0.0		
	baz=310								
M54A	Oil Creek Stat	35.76	86	eP	P	03 11 44.2	+1.3		
	13nm,0.8s								
M54A	Oil Creek Stat	35.76	86	P	P	03 11 43.2	+0.2		
	baz=305								
T51A	Gray	35.84	96	P	P	03 11 43.8	+0.2		
	baz=310,SNR=7.2								
LNIG	Linares	35.84	127	eP	P	03 11 43.4	-0.4		
	21nm,1.1s								
N54A	Moraine State	35.87	87	eP	P	03 11 45.1	+1.2		
	17nm,0.8s								
N54A	Moraine State	35.87	87	P	P	03 11 44.2	+0.4		
	baz=305								
Y48A	Jasper	35.88	103	P	P	03 11 43.5	-0.4		
	baz=313								
Z48A	Northport	36.02	104	P	P	03 11 45.0	-0.1		
	baz=314								
W50A	Signal Mountai	36.14	99	P	P	03 11 45.9	-0.4		
	baz=312								
ZAIG	Zacatecas	36.17	133	eP	P	03 11 47.4	+0.6		
	19nm,1.2s								
V51A	Loudon	36.34	98	P	P	03 11 47.7	-0.1		
	baz=311								
T52A	Hallie	36.34	95	P	P	03 11 48.0	+0.1		
	baz=309								
TZTN	Tazewell	36.35	96	eP	P	03 11 49.0	+1.0		
	31nm,1.4s								
TZTN	Tazewell	36.35	96	P	P	03 11 48.3	+0.2		
	baz=310								
Y49A	Blount Mountai	36.38	102	P	P	03 11 47.8	-0.5		
	baz=313								
X50B	Fort Payne	36.43	101	P	P	03 11 48.5	-0.2		
	baz=312								
W51A	Cleveland	36.51	99	P	P	03 11 49.1	-0.3		
	baz=312								
U52A	Thorn Hill	36.56	96	P	P	03 11 50.0	+0.2		
	baz=310								
LRAL	Lakeview Retre	36.59	104	eP	P	03 11 50.0	0.0		
	9.6nm,1.0s								
LRAL	Lakeview Retre	36.59	104	P	P	03 11 50.2	+0.2		
	baz=314								
Y50A	Piedmont	36.77	101	P	P	03 11 51.3	-0.2		
	baz=313,SNR=6.7								
V52A	Sevierville	36.78	97	eP	P	03 11 52.4	+0.8		
	22nm,0.9s								
V52A	Sevierville	36.78	97	P	P	03 11 51.8	+0.2		
	baz=311,SNR=7.4								
347A	Saraland	36.82	107	P	P	03 11 52.4	+0.4		
	baz=316								
X51A	Calhoun	36.84	100	eP	P	03 11 52.9	+0.7		
	20nm,0.8s								
X51A	Calhoun	36.84	100	P	P	03 11 52.3	+0.1		
	baz=312								
149A	Jones	37.02	104	P	P	03 11 53.7	0.0		
	baz=315,SNR=7.0								
SCHQ	Schefferville	37.03	60	LR	LR	03 26 10.6			
	comp=Z,177nm,19.8s,baz=52,slow=34								
W52A	Murphy	37.06	98	eP	P	03 11 54.6	+0.5		
	23nm,1.1s								
W52A	Murphy	37.06	98	P	P	03 11 54.2	+0.1		
	baz=312								
U53A	Fall Branch	37.07	95	P	P	03 11 54.1	0.0		
	baz=310								
Z50A	Ashland	37.09	102	eP	P	03 11 54.1	-0.2		
	12nm,0.8s								
Z50A	Ashland	37.09	102	P	P	03 11 54.1	-0.2		
	baz=314,SNR=5.1								
Y51A	Rockmart	37.17	101	P	P	03 11 54.8	-0.2		
	baz=313								
348A	Jackson	37.19	106	P	P	03 11 55.7	+0.5		
	baz=316								
249A	Camden	37.26	105	P	P	03 11 55.8	+0.1		
	baz=315								
V53A	Saluda	37.37	97	eP	P	03 11 57.5	+0.8		
	56nm,1.4s								
V53A	Saluda	37.37	97	P	P	03 11 57.4	+0.7		
	baz=311,SNR=8.2								
150A	Eclectic	37.48	103	P	P	03 11 57.4	-0.2		
	baz=314,SNR=6.2								
W53A	Cullowhee	37.48	97	P	P	03 11 57.7	-0.1		
	baz=311,SNR=9.2								
BINY	Binghamton	37.64	83	P	P	03 11 59.1	+0.2		
	baz=304								
349A	Repton	37.66	106	P	P	03 11 59.7	+0.6		
	baz=316								
BG3	Lake Jocassee	37.74	97	eP	P	03 12 01.3	+1.5		
	16nm,0.9s								
250A	Grady	37.77	104	eP	P	03 12 00.7	+0.7		
	29nm,0.8s								
250A	Grady	37.77	104	P	P	03 12 00.2	+0.2		
	baz=315								
Y52A	Lilburn	37.80	100	P	P	03 12 00.6	+0.2		
	baz=313								
BLA	Blacksburg	37.86	93	eP	P	03 12 02.1	+1.2		
	36nm,0.9s								
151A	Opelika	37.95	103	P	P	03 12 01.4	-0.2		
	baz=314								
Z52A	Williamson	38.05	101	P	P	03 12 02.2	-0.2		
	baz=314								
Y53A	Monroe	38.10	99	P	P	03 12 03.1	+0.2		
	baz=313								
251A	Midway	38.20	103	P	P	03 12 03.2	-0.5		
	baz=315								
152A	Waverly Hall	38.22	102	P	P	03 12 03.4	-0.5		
	baz=314								
GOGA	Godfrey	38.48	100	eP	P	03 12 06.4	+0.4		
	15nm,1.1s								
GOGA	Godfrey	38.48	100	P	P	03 12 05.9	-0.1		
	baz=313								
Z53A	Monticello	38.50	100	P	P	03 12 06.0	-0.2		
	baz=313								
KMSC	Kings Mountain	38.63	96	eP	P	03 12 08.2	+1.0		
	28nm,1.4s								
KMSC	Kings Mountain	38.63	96	P	P	03 12 07.3	0.0		
	baz=311								
Y54A	Tignall	38.65	99	P	P	03 12 07.6	+0.2		
	baz=313								
351A	Pinckard	38.66	104	P	P	03 12 07.5	-0.1		
	baz=316								
252A	Lumpkin	38.68	103	P	P	03 12 07.9	+0.2		
	baz=315								
352A	Blakely	38.93	103	P	P	03 12 10.1	+0.3		
	baz=315								
Z54A	Sparta	38.98	99	P	P	03 12 09.8	-0.4		
	baz=313								
253A	Americus	39.00	102	P	P	03 12 09.9	-0.5		
	baz=314								
JSC	Jenkinsville	39.24	97	eP	P	03 12 13.1	+0.6		
	16nm,1.0s								
155A	Kite	39.63	100	P	P	03 12 14.9	-0.7		
	baz=314								
SEY	Seymchan	40.44	317	P	P	03 12 20.9	-1.1		
	1.1nm,0.3s,baz=180,slow=4.0,SNR=3.7								
PEA1	Petropavlovsk-	42.00	301	eP	P	03 12 32.4	-2.6		
PETK	Petropavlovsk-	42.00	301	P	P	03 12 32.4	-2.6		
	2.7nm,0.8s,baz=98,slow=8.9								
PETK				LR	LR	03 28 07.2			
	comp=Z,208nm,21.1s,baz=57,slow=34								
PETK	Petropavlovsk-	42.00	301	eP	P	03 12 37.8	+2.8		
BORG	Borgarnes	51.64	31	LR	LR	03 38 10.6			
	comp=Z,148nm,20.0s,baz=309,slow=39								
H11N2	WAKE ISLAND Hy	57.79	261	T	T	04 17 09.3			
	baz=40,slow=76,SNR=524								
H11N3	WAKE ISLAND Hy	57.79	261	T	T	04 17 11.3			
	baz=40,slow=76,SNR=816								
H11N1	WAKE ISLAND Hy	57.81	261	T	T	04 17 12.3			
	baz=40,slow=76,SNR=453								
H11S1	WAKE ISLAND Hy	58.84	260	T	T	04 18 27.9			
	baz=40,slow=75,SNR=65								
H11S2	WAKE ISLAND Hy	58.85	260	T	T	04 18 21.4			
	baz=40,slow=75,SNR=48								
H11S3	WAKE ISLAND Hy	58.86	260	T	T	04 18 24.0			
	baz=40,slow=75,SNR=49								
USRK	Ussuriysk Ar.	60.84	305	LR	LR	03 42 03.7			
	comp=Z,119nm,18.1s,baz=31,slow=37								
TAOE	Nuku Hiva Isla	61.01	191	eLR	LR	03 32 47.3			
	170nm,28.4s								
TAOE	Nuku Hiva Isla	61.01	191	eT	T	04 20 55.7			
	54nm,0.2s								
MJAR	Matsushiro Arr	62.97	295	LR	LR	03 38 13.4			
	comp=Z,59nm,21.7s,baz=55,slow=32								
PTBC	PUERTO BERRIO,	64.39	114	eP	P	03 15 18.4	-1.9		
NORC	Norcasia	64.96	115	eP	P	03 15 23.0	-1.0		
BARC	Barichara	65.08	113	eP	P	03 15 24.3	-0.7		
YOTC	Yotoco, Valle	65.44	117	eP	P	03 15 27.2	0.0		
RUSC	La Rusia	65.70	113	eP	P	03 15 27.6	-1.7		
ROSC	El Rosal	65.86	115	LR	LR	03 48 03.3			
	comp=Z,27nm,20.8s,baz=0.5,slow=39								
CHIC	Chingaza	66.36	114	eP	P	03 15 32.5	-1.1		
POPC	Popayan, Colom	66.45	118	eP	P	03 15 32.4	-1.5		
PRAC	Prado	66.47	116	eP	P	03 15 32.0	-1.7		
SOTA	Rioblanco	66.83	118	eP	P	03 15 36.5	0.0		
OTAV	Otavalo	67.42	121	eP	P	03 15 41.1	+0.8		
	9.9nm,1.3s								
FLOC	Florencia	67.81	118	eP	P	03 15 41.5	-0.7		
KSRS	Korea Array	67.87	303	LR	LR	03 46 41.3			
	comp=Z,45nm,18.2s,baz=22,slow=37				

ARU	**Arti**	**71.83**	**355**	*e*P		**P**	**03 16 05.8**	**-0.5**
	9.1nm,1.0s							
HHC	**Hu-ho-hao-te**	**73.07**	**315**	*e*P		**P**	**03 16 15.8**	**+1.6**
HHC				S		**S**	**03 25 41.8**	**+0.4**
HHC				sS		sS	03 25 47.3	+0.5
HHC				pmax	pmax			
	comp=Z,27nm,1.2s							
HHC				pmax	pmax			
	comp=Z,88nm,5.1s							
HHC				LR	LR			
	comp=N,210nm,15.9s							
HHC				LR	LR			
	comp=E,180nm,15.5s							
HHC				LR	LR			
	comp=Z,190nm,15.6s							
BRVK	**Borovoye**	**74.01**	**347**	*e*P		**P**	**03 16 18.5**	**-0.8**
	7.4nm,1.0s							
GERES	**GERESS Array B**	**75.17**	**24**	P		**P**	**03 16 25.3**	**-1.0**
	0.5nm,0.9s,baz=54,slow=10.0,SNR=2.6							
GUMO	**Guam**	**76.08**	**274**	LR		LR	03 43 00.7	
	comp=Z,129nm,20.4s,baz=81,slow=30							
AKASG	**Malin Array Be**	**76.41**	**13**	P		**P**	**03 16 33.0**	**-0.2**
	0.2nm,0.3s,baz=339,slow=5.0,SNR=3.7							
AKASG				LR		LR	03 49 51.6	
	comp=Z,85nm,20.7s,baz=305,slow=35							
AKBB	**Malin Array Si**	**76.41**	**13**	*e*P		**P**	**03 16 33.0**	**-0.2**
	11nm,1.4s							
TBI	**Tubuai**	**76.67**	**198**	*e*T		T	04 40 29.4	
	8.9nm,0.3s							
NJ2	**Nanjing**	**76.75**	**305**	*e*P		**P**	**03 16 38.6**	**+3.2**
NJ2				pmax	pmax			
	comp=Z,12nm,0.5s							
ESDC	**Sonseca Array**	**77.70**	**39**	P		**P**	**03 16 41.1**	**+0.4**
	0.2nm,0.4s,baz=120,slow=29,SNR=4.7							
MK32	**Makanchi Array**	**77.77**	**338**	*e*P		**P**	**03 16 39.2**	**-1.8**
MKAR	**Makanchi Array**	**77.77**	**338**	P		**P**	**03 16 39.2**	**-1.8**
	1.2nm,0.8s,baz=18,slow=5.1,SNR=6.4							
MKAR				LR		LR	03 56 05.2	
	comp=Z,160nm,18.3s,baz=9.5,slow=40							
MK01	**Makanchi Array**	**77.79**	**338**	*e*P		**P**	**03 16 39.2**	**-1.9**
ABKAR	**Akbulak array**	**78.88**	**353**	*e*P		**P**	**03 16 46.1**	**-0.9**
GTA	**Gaotai**	**79.07**	**323**	*e*P		**P**	**03 16 47.8**	**-0.6**
GTA				pP		sP	03 16 52.4	-0.5
GTA				sP		PcP	03 16 55.0	-1.9
GTA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
WMQ	**Urumqi**	**79.12**	**333**	*e*P		**P**	**03 16 52.8**	**+4.2**
WMQ				LR	LR			
	comp=E,210nm,27.7s							
WMQ				LR	LR			
	comp=Z,210nm,18.5s							
KBZ	**Khabaz**	**84.64**	**5**	P		**P**	**03 17 17.9**	**+0.4**
	1.2nm,0.9s,baz=41,slow=9.6,SNR=3.5							
KSH	**Kashi**	**86.11**	**340**	*e*P		**P**	**03 17 27.0**	**+1.9**
LPAZ	**La Paz**	**86.74**	**121**	P		**P**	**03 17 26.7**	**-2.2**
	0.8nm,0.6s,baz=339,slow=5.3,SNR=5.3							
GYA	**Guiyang**	**87.32**	**311**	*e*P		**P**	**03 17 32.8**	**+1.6**
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
BRTR	**Keskin Array B**	**87.78**	**12**	LR		LR	03 59 04.6	
	comp=Z,26nm,21.6s,baz=292,slow=37							
VNA3	**Neumayer Olymp**	**147.70**	**149**	PKP		**PKPdf**	**03 24 20.9**	**-3.6**
VNA3	**Neumayer Olymp**	**147.70**	**149**	PKiKP		**PKPab**	**03 24 31.8**	**+2.2**
VNA2	**Neumayer--Watz**	**148.47**	**148**	PKP		**PKPdf**	**03 24 24.2**	**-1.5**
VNA2	**Neumayer--Watz**	**148.47**	**148**	PKiKP		**PKPab**	**03 24 33.7**	**+1.0**
SNAA	**Sanae**	**149.79**	**150**	PKP		**PKPbc**	**03 24 30.3**	**-2.4**
SNAA	**Sanae**	**149.79**	**150**	PKiKP		**PKPab**	**03 24 36.2**	**-2.0**
BOSA	**Boshof**	**150.62**	**47**	PKPbc		**PKPbc**	**03 24 34.9**	**-1.1**
	3.5nm,0.8s,baz=225,slow=2.1,SNR=5.5							

MAN 14 03:16:18.3, 11.06N×124.67E, h34km, mb4.4, ML3.2, MS3.0, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.06**	**257**	*e*P	Pb	03 16 24.4	+0.4
OCLP				*e*S	Sb	03 16 28.7	+0.8
PLP	**Palo**	**0.32**	**72**	*i*P	Pn	03 16 27.8	+1.3
PLP				*i*S	Sb	03 16 34.2	+2.2
BESP	**Borongan**	**0.93**	**55**	*e*P	Pb	03 16 35.9	-0.1
BESP				*e*S	Sb	03 16 49.3	+1.3
CNP	**Catarman**	**1.44**	**360**	*e*P	Pn	03 16 40.4	+0.4
CNP				*e*S	Sn	03 16 59.9	+0.2

IDC 14 03:19:21.6±15.0, 22.41S×176.90W, h122km±143km, mb3.7/6, mb1 4.0/6, mb1mx3.7/26, mbtmp4.1/6, Error ellipse: s-maj=114.3km s-min=33.0km az=160.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.93**	**247**	P	P	03 26 27.3	0.0
	0.9nm,0.4s,baz=84,slow=8.9,SNR=5.8						
ASAR	**Alice Springs**	**45.11**	**258**	P	P	03 27 25.8	-0.2
	5.4nm,0.9s,baz=93,slow=8.2,SNR=43						
WRA	**Warramunga Arr**	**45.38**	**264**	P	P	03 27 28.0	-0.2
	3.5nm,0.7s,baz=96,slow=8.5,SNR=44						
NVAR	**Mina Array Bea**	**81.71**	**43**	P	P	03 31 26.9	+0.1
	0.4nm,0.7s,baz=231,slow=10,SNR=5.2						
TXAR	**Lajitas Array**	**87.23**	**57**	P	P	03 31 54.5	-0.1
	0.7nm,0.8s,baz=224,slow=7.0,SNR=6.7						
ILAR	**Eielson Array**	**89.94**	**12**	P	P	03 32 06.3	-0.1
	0.8nm,0.9s,baz=224,slow=6.4,SNR=5.5						
AKASG	**Malin Array Be**	**145.17**	**331**	PKPbc	PKPbc	03 38 43.8	-0.5
	0.6nm,0.4s,baz=45,slow=4.7,SNR=4.1						
BRTR	**Keskin Array B**	**148.86**	**311**	PKPbc	PKPbc	03 38 54.8	-0.5
	0.8nm,0.8s,baz=117,slow=4.4,SNR=5.2						
GERES	**GERESS Array B**	**152.30**	**345**	PKPbc	PKPbc	03 39 02.7	-0.4
	0.5nm,0.7s,baz=58,slow=3.3,SNR=4.9						

*ISK **14** 03:39:15.8, 38.57N×43.68E, h10km, ML2.2/7*
*DDA **14** 03:39:16.4, 38.54N×43.68E, h7km, Ml2.7*
ISC 14 03:39:16.5±1.0, 38.55N±0.02×43.70E±0.03, h11km±8km, n32, σ0⁹99/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.23**	**265**	*i*P	**Pg**	**03 39 20.8**	**-0.7**
TVAN				*i*S	**Sg**	**03 39 24.5**	**-0.4**
TVAN	**Van**	**0.23**	**265**	*i*P	**Pg**	**03 39 20.9**	**-0.6**
TVAN				*i*S	**Sg**	**03 39 26.9**	**+2.1**
VANB	**Van**	**0.25**	**281**	PG	**Pg**	**03 39 20.9**	**-0.8**
VMUR	**Van-Muradiye**	**0.45**	**347**	*i*P	**Pg**	**03 39 25.0**	**-0.5**
VMUR				*i*S	**Sb**	**03 39 33.7**	**+0.1**
VMUR	**Van-Muradiye**	**0.45**	**347**	*i*P	**Pg**	**03 39 25.1**	**-0.4**
VMUR				*i*S	**Sb**	**03 39 33.8**	**+0.3**
ERCV	**ERCIS-VAN**	**0.55**	**329**	PG	**Pg**	**03 39 26.4**	**-0.9**
GEVA	**Gevas**	**0.56**	**245**	*i*P	**Pg**	**03 39 26.4**	**-1.1**
GEVA				*i*S	**Sb**	**03 39 36.5**	**-0.1**
GEVA	**Gevas**	**0.56**	**245**	*i*P	**Pg**	**03 39 26.3**	**-1.1**
GEVA				*i*S	**Sb**	**03 39 37.7**	**+1.1**
CLDR	**Caldiran**	**0.62**	**16**	PG	**Pg**	**03 39 27.7**	**-0.9**
CLDR				SG	**Sg**	**03 39 36.8**	**+0.1**
CLDR	**Caldiran**	**0.62**	**16**	*i*P	**Pg**	**03 39 28.0**	**-0.5**
CLDR				*i*S	**Sb**	**03 39 38.2**	**-0.1**
CLDR	**Caldiran**	**0.62**	**16**	*i*P	**Pg**	**03 39 28.1**	**-0.5**
CLDR				*i*S	**Sb**	**03 39 38.3**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.81**	**289**	*i*P	**Pg**	**03 39 31.0**	**-1.2**
ADCV	**BITLIS_Adilcev**	**0.81**	**289**	*i*P	**Pg**	**03 39 31.3**	**-0.9**
ADCV				*i*S	**Sb**	**03 39 44.3**	**+0.5**
HAKT	**HAKKARI**	**0.99**	**180**	*i*P	**Pg**	**03 39 34.6**	**-1.0**
HAKT				*i*S	**Sn**	**03 39 50.9**	**+0.2**
DYDN	**Diyadin**	**0.99**	**359**	*i*P	**Pg**	**03 39 35.1**	**-0.6**
DYDN				*i*S	**Sn**	**03 39 50.7**	**-0.2**
YOVA	**Hakkari_Y`…kse**	**1.06**	**154**	*i*P	**Pg**	**03 39 36.5**	**-0.6**
YOVA				*i*S	**Sn**	**03 39 53.1**	**+0.6**
TUTA	**Tutak**	**1.10**	**321**	*i*P	**Pg**	**03 39 36.6**	**-1.1**
TUTA				*i*S	**Sn**	**03 39 53.2**	**-0.2**
TUTA	**Tutak**	**1.10**	**321**	*i*P	**Pg**	**03 39 36.7**	**-1.0**
TUTA				*i*S	**Sn**	**03 39 52.3**	**-1.2**
AGRB	**Hanur-Agry**	**1.17**	**332**	PN	**Pg**	**03 39 38.1**	**-0.9**
CUKT	**Cukurca**	**1.30**	**183**	PN	**Pb**	**03 39 40.9**	**-0.2**
CUKT	**Cukurca**	**1.30**	**183**	*i*P	**Pn**	**03 39 40.0**	**-0.8**
CUKT				*i*S	**Sn**	**03 40 00.1**	**+1.9**
GURO	**Guroymak-BITLI**	**1.31**	**271**	PN	**Pn**	**03 39 39.9**	**-1.1**
IGDI	**IGDIR**	**1.35**	**12**	*i*P	**Pn**	**03 39 40.6**	**-0.9**
IGDI	**IGDIR**	**1.35**	**12**	*i*P	**Pb**	**03 39 41.7**	**-0.2**
IGDI				*i*S	**Sg**	**03 40 02.5**	**+2.5**
SIRT	**Sirnak**	**1.45**	**224**	PN	**Pb**	**03 39 43.0**	**-0.5**
EKAR	**Karacoban**	**1.46**	**299**	*i*P	**Pg**	**03 39 43.7**	**-0.9**
EKAR				*i*S	**Sg**	**03 40 06.6**	**+3.0**
EKAR	**Karacoban**	**1.46**	**299**	*i*P	**Pg**	**03 39 44.9**	**+0.3**
EKAR				*i*S	Sg	03 40 13.3	+10
TASB	**TASBURUN-IGDIR**	**1.49**	**16**	PN	**Pn**	**03 39 43.2**	**-0.2**
EATA	**Eleskirt**	**1.61**	**325**	*i*P	**Pb**	**03 39 46.3**	**-0.2**
EATA				*i*S	**Sg**	**03 40 09.2**	**+0.7**
EATA	**Eleskirt**	**1.61**	**325**	*i*P	**Pb**	**03 39 46.3**	**-0.2**
EATA				*i*S	**Sg**	**03 40 10.1**	**+1.5**
GNI	**Garni**	**1.79**	**26**	PN	**Pn**	**03 39 47.5**	**-0.1**
SVAN	**Silvan-Diyarba**	**2.01**	**259**	PN	**Pn**	**03 39 51.0**	**+0.5**

*IDC **14** 03:45:13.2±1.8, 20.46S×173.68W, h0km, mb4.1/9, mb1 4.4/9, mb1mx4.1/28, mbtmp4.1/9, MS3.6/6, Ms1 3.6/6, ms1mx3.2/37, Error ellipse: s-maj=110.2km s-min=19.1km az=153.0*
*ISCJB **14** 03:45:16.8±0.6, 20.2S±0.1×174.0W±0.1, h31km, mb4.5/22, MS3.5/4, Error ellipse: s-maj=20.2km s-min=7.6km az=137.6*
*NEIC **14** 03:45:19.8±0.9, 19.87S×174.11W, h35km, mb4.7/14, Error ellipse: s-maj=26.7km s-min=7.3km az=150.0*
ISC 14 03:45:18.6±0.9, 20.1S±0.2×174.0W±0.2, h31km, n49, σ1⁹54/38, mb4.6/22, MS3.6/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.49**	**19**	Pn	**Pn**	**03 46 48.1**	**-4.0**
	10nm,0.3s,baz=126,slow=2.7,SNR=7.3						
AFI				T	T	03 53 35.5	
	2.2nm,0.3s,baz=147,slow=14,SNR=4.7						
AFI	**Afiamalu**	**6.49**	**19**	*e*Pn	**Pn**	**03 46 49.0**	**-3.1**
AFI				*e*Sn	**Sn**	**03 48 08.6**	**+3.5**
AFI				TT		03 53 35.5	
RAR	**Rarotonga**	**13.36**	**97**	Pn	Pn	03 48 11.4	-15
	4.2nm,0.3s,baz=237,slow=12,SNR=9.8						
RAR				LR	LR	03 52 45.8	
	comp=Z,207nm,18.3s,baz=299,slow=35						
RAR	**Rarotonga**	**13.36**	**97**	*e*Pn	Pn	03 48 12.3	-14
RAR				*e*Sn	Sn	03 50 28.4	-25
DZM	**Mont Dzumac**	**18.37**	**260**	LR	LR	03 56 05.5	
	comp=Z,241nm,18.4s,baz=289,slow=35						
DZM	**Mont Dzumac**	**18.37**	**260**	*e*LR	LR	03 53 44.3	
	290nm,23.4s						
DZM	**Mont Dzumac**	**18.37**	**260**	*e*P	**P**	**03 49 30.5**	**-0.6**
	21nm,1.0s						
TBI	**Tubuai**	**23.01**	**103**	*e*LR	LR	03 55 23.5	
	238nm,26.5s						
PPT2	**Papeete2**	**23.23**	**88**	*e*LR	LR	03 55 32.8	
	239nm,27.5s						
PPT	**Papeete**	**23.23**	**88**	LR	LR	03 57 20.3	
	comp=Z,145nm,19.0s,baz=300,slow=32						
HNR	**Honiara**	**27.30**	**289**	LR	LR	04 01 23.6	
	comp=Z,51nm,20.0s,baz=129,slow=35						
EIDS	**Eidsvold**	**32.59**	**254**	*e*P	**P**	**03 51 46.3**	**-1.2**
	8.2nm,1.4s						
TAOE	**Nuku Hiva Isla**	**34.54**	**76**	*e*LR	LR	04 00 45.4	
	140nm,27.0s						
CTA	**Charters Tower**	**37.28**	**263**	P	**P**	**03 52 29.5**	**+1.4**
	3.3nm,0.5s,baz=98,slow=9.1,SNR=5.2						
CTAO	**Charters Tower**	**37.28**	**263**	*e*P	**P**	**03 52 28.1**	**0.0**
	19nm,1.3s						
COEN	**Coen**	**41.33**	**272**	*e*P	**P**	**03 53 02.4**	**+0.5**
	20nm,1.4s						
STKA	**Stephens Creek**	**41.37**	**244**	P	**P**	**03 53 02.4**	**+0.4**
	2.1nm,0.8s,baz=102,slow=10.0,SNR=5.2						
STKA	**Stephens Creek**	**41.37**	**244**	*e*P	**P**	**03 53 02.4**	**+0.4**
	1.2nm,1.3s						
BBOO	**Buckleboo**	**46.11**	**243**	*e*P	**P**	**03 53 38.9**	**-1.3**
	9.6nm,1.3s						
JAY	**Jayapura**	**47.52**	**286**	LR	LR	04 12 42.2	
	comp=Z,78nm,19.6s,baz=216,slow=34						
AS31	**Alice Springs**	**48.28**	**256**	*e*P	**P**	**03 53 57.1**	**-0.1**
	1.0nm,0.4s						
ASAR	**Alice Springs**	**48.28**	**256**	P	**P**	**03 53 57.1**	**-0.1**
	1.9nm,0.7s,baz=92,slow=8.1,SNR=18						
WB2	**Warramunga Arr**	**48.38**	**261**	*e*P	**P**	**03 53 58.1**	**0.0**
WRAB	**Tennant Creek**	**48.38**	**261**	*e*P	**P**	**03 53 58.0**	**0.0**
	8.1nm,0.8s						
WR1	**Warramunga Arr**	**48.39**	**261**	*e*P	**P**	**03 53 58.2**	**+0.1**
	6.9nm,1.0s						
WRA	**Warramunga Arr**	**48.39**	**261**	P	**P**	**03 53 58.2**	**+0.1**
	1.9nm,0.8s,baz=94,slow=7.9,SNR=22						
FITZ	**Fitzroy Crossi**	**56.82**	**261**	*e*P	**P**	**03 54 59.8**	**-0.7**
	6.9nm,1.4s						
TNTI	**Ternate**	**61.02**	**283**	*e*P	**P**	**03 55 29.8**	**0.0**
	16nm,0.6s						
MBWA	**Marble Bar**	**61.62**	**256**	*e*P	**P**	**03 55 33.3**	**-0.4**
	22nm,1.4s						
TATO	**Taipei**	**77.08**	**303**	*e*P	**P**	**03 57 08.8**	**-0.4**
	82nm,1.4s						
NV01	**Mina Array Sit**	**78.17**	**42**	*e*P	**P**	**03 57 15.0**	**-0.3**
NVAR	**Mina Array Bea**	**78.17**	**42**	P	**P**	**03 57 15.3**	**0.0**
	0.9nm,0.7s,baz=225,slow=9.6,SNR=8.7						
TMUT	**Trail Mountain**	**83.20**	**44**	*e*P	**P**	**03 57 44.7**	**+2.3**
	5.8nm,1.0s						
LTX	**Lajitas**	**83.68**	**56**	*e*P	**P**	**03 57 44.2**	**-0.5**
TXAR	**Lajitas Array**	**83.68**	**56**	P	**P**	**03 57 44.3**	**-0.5**
	0.3nm,0.6s,baz=214,slow=6.3,SNR=3.6						
PD31	**Pinedale Array**	**86.11**	**42**	*e*P	**P**	**03 57 56.9**	**+0.1**
PDAR	**Pinedale Array**	**86.11**	**42**	P	**P**	**03 57 56.9**	**+0.1**
	0.7nm,0.9s,baz=132,slow=2.2,SNR=4.1						
BOZ	**Bozeman (W)**	**86.38**	**39**	*e*P	**P**	**03 57 54.3**	**-3.7**
	5.2nm,0.6s						
ILAR	**Eielson Array**	**87.12**	**11**	P	**P**	**03 58 01.1**	**+0.1**
	0.4nm,0.8s,baz=230,slow=5.3,SNR=4.5						
ILB	**Eielson Array**	**87.12**	**11**	*e*P	**P**	**03 58 01.1**	**+0.1**
U32A	**Winter Ranch,**	**90.29**	**51**	*e*P	**P**	**03 58 19.0**	**+2.3**
	86nm,0.5s						
CMAR	**Chiang Mai Arr**	**93.54**	**288**	P	**P**	**03 58 35.3**	**+3.2**
	1.4nm,0.3s,baz=86,slow=2.8,SNR=4.9						
SONM	**Songino Array**	**97.94**	**318**	LR	LR	04 37 28.0	
	comp=Z,28nm,20.2s,baz=25,slow=32						
AKASG	**Malin Array Be**	**144.36**	**335**	PKP	**PKPdf**	**04 04 50.9**	**-0.6**
	0.6nm,0.5s,baz=42,slow=4.5,SNR=6.0						
AKBB	**Malin Array Si**	**144.36**	**335**	*e*PKPdf	PKPbc	04 04 50.0	+0.1
CLL	**Collm**	**148.35**	**352**	*e*PKPbc	**PKPbc**	**04 05 02.0**	**+0.3**
BR101	**Keskin Array S**	**149.26**	**316**	*e*PKPbc	**PKPbc**	**04 05 05.5**	**+0.9**
BRTR	**Keskin Array B**	**149.26**	**316**	PKPbc	**PKPbc**	**04 05 05.5**	**+0.9**
	0.9nm,0.9s,baz=120,slow=4.6,SNR=4.7						
GERES	**GERESS Array B**	**150.64**	**350**	PKPbc	**PKPbc**	**04 05 08.5**	**+0.9**
	0.3nm,0.7s,baz=347,slow=3.0,SNR=3.4						

*ISK **14** 03:46:56.1, 37.34N×37.16E, h8km, ML2.2/6*
*ISCJB **14** 03:46:57.3±0.6, 37.30N±0.04×37.11E±0.05, h4km±9km, Error ellipse: s-maj=8.1km s-min=4.1km az=40.1*
*DDA **14** 03:46:57.1, 37.32N×37.14E, h7km, Ml3.1*
ISC 14 03:46:56.9±1.0, 37.32N±0.03×37.14E±0.03, h10km±8km, n15, σ0⁹68/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.16**	**159**	PG	**Pg**	**03 47 00.5**	**0.0**
GAZ				SG	**Sg**	**03 47 02.9**	**0.0**
KUZU	**Kuzuini**	**0.55**	**186**	*i*P	**Pb**	**03 47 08.5**	**-0.2**
KUZU				*i*S	**Sb**	**03 47 16.5**	**-0.1**
ANDN	**Andirin**	**0.68**	**292**	*i*P	**Pg**	**03 47 09.7**	**-0.4**
ANDN				*i*S	**Sg**	**03 47 19.6**	**+0.5**
ATAB	**Bozova**	**0.93**	**81**	*i*P	**Pb**	**03 47 14.8**	**-0.3**
ATAB				*i*S	**Sb**	**03 47 27.9**	**+0.3**
ELBS	**KAHRAMANMARAS**	**1.00**	**360**	*i*P	**Pn**	**03 47 17.4**	**+0.2**
ELBS				*i*S	**Sn**	**03 47 31.9**	**+0.5**
KOZT	**Kozan**	**1.06**	**279**	PG	**Pg**	**03 47 16.9**	**-0.4**
KOZT				SG	**Sn**	**03 47 32.4**	**-0.3**
AKCD	**Akcadag**	**1.15**	**32**	*i*P	**Pn**	**03 47 20.2**	**+0.9**
AKCD				*i*S	**Sn**	**03 47 35.4**	**+0.2**
TAHT	**Tahtakopru-Hat**	**1.22**	**219**	PN	**Pg**	**03 47 20.3**	**0.0**
SURC	**SANLIURFA_SURC**	**1.26**	**110**	*i*P	**Pg**	**03 47 20.8**	**-0.3**
SURC				*i*S	**Sn**	**03 47 38.1**	**+0.5**
DARE	**Darende-Malaty**	**1.28**	**12**	PN	**Pn**	**03 47 20.1**	**-0.8**
URFA	**Urfa**	**1.34**	**84**	PN	**Pn**	**03 47 21.5**	**-0.3**
CUGUR	**Gurin_S`VAS**	**1.40**	**4**	*i*P	**Pb**	**03 47 22.8**	**-0.5**
CUGUR				*i*S	**Sg**	**03 47 43.8**	**+1.7**
HEKM	**Malatya_Hekimh**	**1.68**	**22**	*i*P	**Pg**	**03 47 28.7**	**-0.5**
HEKM				*i*S	**Sg**	**03 47 52.7**	**+1.6**
BNN	**Bunyan**	**1.84**	**327**	PN	**Pn**	**03 47 28.9**	**+0.2**
KEMA	**Kemaliye**	**2.22**	**28**	*i*P	**Pg**	**03 47 38.5**	**-0.9**
KEMA				*i*S	**Sg**	**03 48 07.6**	**-0.6**

*ISCJB **14** 03:54:59.9±0.3, 17.89S±0.07×175.21W±0.06, h228km, mb4.3/43, Error ellipse: s-maj=11.6km s-min=6.2km az=146.4*
*NEIC **14** 03:55:02.0±1.0, 17.97S×175.13W, h240km±9km, mb4.4/33, Error ellipse: s-maj=10.5km s-min=5.6km az=147.0*
*IDC **14** 03:55:02.8±1.7, 17.90S×175.15W, h242km±15km, mb3.9/14, mb1 4.2/16, mb1mx4.0/30, mbtmp4.6/16, Error ellipse: s-maj=17.4km s-min=11.1km az=127.0*
ISC 14 03:55:00.9±0.4, 17.85S±0.09×175.21W±0.08, h228km, n127, σ1⁹31/133, mb4.4/43, 24C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.12**	**41**	P	**Pn**	**03 56 20.1**	**+2.4**
	24nm,0.3s,baz=215,slow=1.9,SNR=15						
AFI				S	**S**	**03 57 16.6**	**-2.0**
	131nm,0.3s,baz=60,slow=20,SNR=26						
AFI	**Afiamalu**	**5.12**	**41**	*e*Pn	**Pn**	**03 56 19.5**	**+1.8**
AFI				*e*S	**S**	**03 57 13.2**	**-5.3**
RAR	**Rarotonga**	**14.93**	**105**	P	**Pn**	**03 58 21.1**	**-0.2**
	2.4nm,0.3s,baz=280,slow=9.4,SNR=6.7						
RAR	**Rarotonga**	**14.93**	**105**	*e*Pn	**Pn**	**03 58 19.8**	**-1.5**
DZM	**Mont Dzumac**	**17.75**	**253**	P	**Pn**	**03 58 56.7**	**+1.9**
	0.4nm,0.3s,baz=80,slow=18,SNR=7.1						
DZM	**Mont Dzumac**	**17.75**	**253**	*e*P	**P**	**03 58 53.3**	**+0.9**
	9.3nm,0.7s						
URZ	**Urewera**	**21.42**	**197**	P	**P**	**03 59 32.2**	**+1.1**
	12nm,0.3s,baz=258,slow=1.8,SNR=20						
URZ	**Urewera**	**21.42**	**197**	*e*P	**P**	**03 59 30.7**	**-0.4**
	27nm,0.9s						
STKA	**Stephens Creek**	**41.34**	**242**	P	**P**	**04 02 25.4**	**+0.6**
	11nm,0.9s,baz=94,slow=9.3,SNR=28						
STKA	**Stephens Creek**	**41.34**	**242**	*e*P	**P**	**04 02 25.8**	**+1.0**
	3.9nm,1.0s						
BBOO	**Buckleboo**	**46.10**	**241**	*e*P	**P**	**04 03 02.7**	**0.0**
	16nm,0.8s						
WB2	**Warramunga Arr**	**47.62**	**259**	*e*P	**P**	**04 03 14.6**	**+0.1**
	31nm,1.0s						
WRAB	**Tennant Creek**	**47.63**	**259**	*e*P	**P**	**04 03 14.7**	**+0.2**
	24nm,1.0s						
WR1	**Warramunga Arr**	**47.63**	**259**	*e*P	**P**	**04 03 14.2**	**-0.4**
	34nm,1.0s						
WRA	**Warramunga Arr**	**47.63**	**259**	P	**P**	**04 03 14.3**	**-0.4**
	12nm,0.7s,baz=97,slow=6.8,SNR=157						
WRA				S	**S**	**04 09 46.2**	**-6.7**
	1.3nm,1.0s,baz=94,slow=14,SNR=3.3						
AS01	**Alice Springs**	**47.69**	**254**	*e*P	**P**	**04 03 14.9**	**-0.2**
AS31	**Alice Springs**	**47.74**	**254**	*e*P	**P**	**04 03 15.8**	**+0.4**
	19nm,0.9s						
ASAR	**Alice Springs**	**47.74**	**254**	P	**P**	**04 03 15.7**	**+0.3**
	55nm,0.8s,baz=85,slow=8.7,SNR=309						
ASAR				S	**S**	**04 09 48.9**	**-5.3**
	1.6nm,0.7s,baz=87,slow=16,SNR=12						
MTN	**Manton Dam**	**51.84**	**267**	*e*P	**P**	**04 03 45.5**	**-0.8**
	20nm,1.0s						
SOEI	**Soe**	**59.12**	**269**	*e*P	**P**	**04 04 36.4**	**-1.9**
	37nm,0.9s						
VNDA	**Vanda**	**60.78**	**186**	P	**P**	**04 04 49.2**	**+0.8**
	2.0nm,0.9s,baz=7.0,slow=7.1,SNR=6.6						
VNDA	**Vanda**	**60.78**	**186**	*e*P	**P**	**04 04 49.5**	**+1.1**
	4.4nm,1.1s						
MJAR	**Matsushiro Arr**	**69.72**	**321**	P	**P**	**04 05 47.0**	**+0.7**
	2.6nm,0.4s,baz=163,slow=5.4,SNR=9.2						
MAJO	**Matsushiro**	**69.72**	**321**	*e*P	**P**	**04 05 47.0**	**+0.7**
MAT	**Matsushiro**	**69.72**	**321**	P	**P**	**04 05 47.1**	**+0.8**
QSPA	**South Pole Qui**	**72.21**	**180**	*e*P	**P**	**04 06 01.1**	**+0.1**
	4.7nm,1.0s						
PETK	**Petropavlovsk-**	**74.44**	**343**	P	**P**	**04 06 14.7**	**+0.9**
	3.9nm,0.4s,baz=116,slow=8.7,SNR=21						
PETK	**Petropavlovsk-**	**74.44**	**343**	*e*P	**P**	**04 06 14.6**	**+0.7**
PEA1	**Petropavlovsk-**	**74.44**	**343**	*e*P	**P**	**04 06 14.7**	**+0.8**
KSM	**Kuching**	**75.70**	**276**	*e*P	**P**	**04 06 23.4**	**+1.4**
	42nm,0.9s						
KSRS	**Korea Array**	**76.71**	**317**	P	**P**	**04 06 29.2**	**+2.1**
	7.8nm,1.0s,baz=139,slow=6.2,SNR=12						
KS15	**Wonju Array Si**	**76.73**	**317**	*e*P	**P**	**04 06 29.2**	**+2.0**
KSAR	**Wonju Array Be**	**76.73**

	comp=Z,4.1nm,0.9s,baz=0.0,slow=1.7,SNR=19						
BRTR			PKPbc	**PKPbc**	**04 14 16.5**	**-0.3**	
	comp=Z,5.7nm,0.9s,baz=127,slow=3.5,SNR=20						
KECS	**Kecovo**	**146.87**	**341**	*e*PKP	**PKPbc**	**04 14 15.4**	**-0.9**
TLB	**Topalu**	**146.97**	**329**	⇑*i*P	**PKPbc**	**04 14 17.0**	**+0.3**
DOPR	**Dopca**	**147.15**	**333**	⇑*i*P	**PKPbc**	**04 14 18.0**	**+0.8**
VRAC	**Vranov**	**147.19**	**346**	⇑*i*P	**PKPbc**	**04 14 18.3**	**+1.1**
VRAC	**Vranov**	**147.19**	**346**	*e*PKP	**PKPbc**	**04 14 18.2**	**+1.0**
MLR	**Muntele Rosu**	**147.28**	**332**	⇑*i*P	**PKPbc**	**04 14 18.3**	**+0.6**
CJR	**Cluj-Napoca**	**147.29**	**336**	⇑*i*P	**PKPbc**	**04 14 18.6**	**+1.0**
JAVC	**Velka Javorina**	**147.34**	**344**	*e*PKP	**PKPbc**	**04 14 18.4**	**+0.7**
VYHS	**Vyhne**	**147.36**	**343**	*e*PKP	**PKPbc**	**04 14 17.3**	**-0.4**
KRUC	**Moravsky**	**147.47**	**346**	*e*PKP	**PKPbc**	**04 14 18.2**	**+0.3**
DRGR		**147.56**	**337**	⇑*i*P	**PKPbc**	**04 14 18.3**	**-0.1**
VOIR		**147.72**	**333**	⇑*i*P	**PKPbc**	**04 14 19.5**	**+0.7**
ARR	**Arges**	**147.95**	**333**	⇑*i*P	**PKPbc**	**04 14 20.5**	**+1.1**
KHC	**Kasperske Hory**	**147.99**	**349**	*e*PKP	**PKPbc**	**04 14 18.7**	**-0.7**
GERES	**GERESS Array B**	**148.24**	**349**	PKPbc	**PKPbc**	**04 14 20.1**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=48,slow=2.0,SNR=15						
SIRR	**Siria**	**148.40**	**337**	⇑*i*P	**PKPbc**	**04 14 20.9**	**+0.4**
CONA	**Conrad Observa**	**148.66**	**346**	*e*PKiKP	**PKiKP**	**04 14 21.9**	**-0.6**
	comp=Z,17nm,1.2s,SNR=6.2						
ZIMR		**148.95**	**330**	⇑*i*P	**PKPbc**	**04 14 20.2**	**-1.7**
BZS	**Buzias**	**148.96**	**337**	⇑*i*P	**PKPbc**	**04 14 21.1**	**-0.8**
MOA	**Molln**	**149.08**	**348**	*e*PKiKP	**PKPbc**	**04 14 22.4**	**+0.2**
	comp=Z,6.8nm,1.2s						
HERR	**Herculane**	**149.27**	**335**	⇓*i*P	**PKPbc**	**04 14 22.5**	**-0.2**
MDVR	**Moldovita**	**149.63**	**336**	⇑*i*P	**PKPbc**	**04 14 23.0**	**-0.6**
KBA	**Koelnbreinsper**	**150.00**	**348**	*e*PKPbc	**PKPbc**	**04 14 23.8**	**-0.8**
	comp=Z,4.6nm,0.5s						
WATA	**Walderalm**	**150.06**	**351**	*e*PKiKP	**PKPbc**	**04 14 24.5**	**-0.2**
	comp=Z,5.8nm,0.4s,SNR=5.5						
MOTA	**Moosalm**	**150.12**	**351**	*i* PKiKP	**PKPbc**	**04 14 25.1**	**+0.2**
	comp=Z,3.7nm,0.6s						
WTTA	**Wattenberg**	**150.12**	**351**	*e*PKiKP	**PKPbc**	**04 14 24.8**	**-0.1**
	comp=Z,7.2nm,0.4s,SNR=5.3						
SQTA	**Sankt Quirin**	**150.23**	**351**	*e*PKiKP	**PKPbc**	**04 14 25.0**	**-0.1**
	comp=Z,12nm,1.2s						
DAVA	**Damuels**	**150.34**	**353**	*e*PKiKP	**PKPbc**	**04 14 25.7**	**+0.3**
	comp=Z,5.4nm,0.5s						
MYKA	**Terra Mystica**	**150.38**	**348**	*i* PKPbc	**PKPbc**	**04 14 24.8**	**-0.6**
	comp=Z,2.8nm,0.4s						
ABTA	**Abfaltersbach**	**150.48**	**349**	*e*PKPbc	**PKPbc**	**04 14 25.1**	**-0.6**
	comp=Z,7.3nm,0.5s,SNR=11						
FETA	**Feichten**	**150.49**	**352**	*e*PKiKP	**PKPbc**	**04 14 25.8**	**0.0**
	comp=Z,9.2nm,1.1s						
VTS	**Vitosha**	**150.78**	**331**	⇑*i*P	**PKPbc**	**04 14 26.4**	**-0.2**
BLY	**Banja Luka**	**151.23**	**341**	⇑*i*P	**PKPdf**	**04 14 24.2**	**+3.0**
ESDC	**Sonseca Array**	**156.96**	**17**	PKPab	**PKPab**	**04 15 00.9**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=327,slow=7.1,SNR=5.3						
TORD	**Torodi Ar. Bea**	**174.46**	**147**	PKP	**PKPdf**	**04 14 41.6**	**-2.5**
	comp=Z,0.7nm,0.9s,baz=10,slow=2.5,SNR=4.2						
TOA1	**Torodi Ar. Sit**	**174.46**	**147**	*e*PKPdf	**PKPdf**	**04 14 41.6**	**-2.5**

IDC ***14*** *03:59:23.6±4.5, 13.°99N×92.°34W, h0km, mb3.7/3, mb1 4.1/5, mb1mx3.7/33, mbtmp3.7/5, ML3.7/2, MS2.6/2, Ms1 2.6/2, ms1mx2.3/35, Error ellipse: s-maj=80.9km s-min=16.0km az=170.0*

MEX ***14*** *03:59:27.2±0.4, 13.°93N×92.°39W, h36km±22km, MD3.7*

ISC 14 03:59:31.4±1.6, **14.°2N**±0.°1×**92.°39W**±0.°08, **h46**km**,n12,** σ1§**61**/15**, mb3.7/3, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.69**	**10**	*i* P	**Pn**	**03 59 42.9**	**-1.9**
THIG				*e*S	**Sn**	**03 59 54.9**	**+0.3**
PCIG		**1.67**	**331**	*e*P	**Pn**	**03 59 55.9**	**-2.4**
PCIG				*e*S	**Sn**	**04 00 19.0**	**+0.4**
APG	**El Apazote**	**2.02**	**67**	Pg	**Pn**	**04 00 01.9**	**-1.3**
	12nm,0.3s,baz=246,slow=9.1,SNR=126						
APG				LR	LR	04 00 27.6	
	comp=Z,36nm,21.6s,baz=281,slow=31						
APG				Lg	Lg	04 00 30.2	
	45nm,0.3s,baz=207,slow=14,SNR=9.3						
CCIG	**Comitan**	**2.06**	**7**	*e*P	**Pn**	**04 00 01.8**	**-1.9**
CCIG				*i* S	**Sn**	**04 00 29.6**	**+1.4**
TGIG		**2.63**	**344**	*e*P	**Pn**	**04 00 09.9**	**-1.6**
TGIG				*i* S	**Sn**	**04 00 43.1**	**+0.8**
CMIG	**Matias Romero**	**3.73**	**320**	Pn	**Pn**	**04 00 24.8**	**-1.6**
	2.4nm,0.3s,baz=154,slow=17,SNR=15						
CMIG				Sn	**Sn**	**04 01 09.5**	**+0.4**
	13nm,0.3s,baz=92,slow=14,SNR=6.7						
JTS	**JuntasAbangare**	**8.25**	**117**	Lg	Lg	04 03 33.3	
	0.4nm,0.3s,baz=201,slow=9.8,SNR=7.5						
TXAR	**Lajitas Array**	**18.30**	**327**	Pn	**Pn**	**04 03 44.4**	**+2.3**
	0.1nm,0.3s,baz=147,slow=12,SNR=7.6						
ANMO	**Albuquerque**	**24.22**	**331**	LR	LR	04 16 24.0	
	comp=Z,51nm,18.1s,baz=100,slow=42						
NVAR	**Mina Array Bea**	**33.26**	**321**	P	**P**	**04 06 06.3**	**+1.6**
	0.4nm,0.6s,baz=144,slow=6.7,SNR=4.4						
YKA	**Yellowknife Ar**	**50.72**	**347**	P	**P**	**04 08 25.6**	**-0.7**
	0.7nm,0.5s,baz=136,slow=8.9,SNR=5.8						
ILAR	**Eielson Array**	**62.48**	**337**	P	**P**	**04 09 49.5**	**-0.4**
	0.6nm,0.9s,baz=127,slow=4.3,SNR=6.3						

MEX 14 04:02:13.3±0.3**, 16.°48N×98.°58W, h22**km±17km**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.44**	**101**	*i* P	Pb	04 02 20.8	-1.6
PNIG				*i* S	Sb	04 02 27.0	-1.6
TLIG	**Tlapa**	**1.08**	**0**	*e*P	Pn	04 02 30.2	-3.0
TLIG				*i* S	Sb	04 02 43.0	-4.0

IDC ***14*** *04:26:10.7±7.5, 11.°16N×123.°81E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/41, mbtmp3.7/3, MS3.1/2, Ms1 3.2/2, ms1mx2.6/49, Error ellipse: s-maj=268.4km s-min=28.0km az=45.0*

ISCJB ***14*** *04:26:20.2±1.0, 9.°97N±0.°04×122.°19E±0.°03, h18km±10km, mb3.6/3, MS2.8/1, Error ellipse: s-maj=6.7km s-min=5.0km az=31.5*

MAN ***14*** *04:26:21.7, 9.°95N×122.°16E, h54km, mb4.8, ML3.7, MS3.6*

ISC 14 04:26:18.7±1.8**, 9.°96N**±0.°04×**122.°20E**±0.°04**, h6**km±13km**, n17,** σ1§**36**/25**, mb3.8**/3**, 2C-1D, Negros**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.77**	**30**	*e*P	**Pg**	**04 26 32.9**	**-0.6**
GUIM				*e*S	**Sg**	**04 26 42.9**	**-0.7**
JAP	**San Jose, Anti**	**0.82**	**343**	⇑*e*P	**Pn**	**04 26 38.0**	**+1.1**
CUYO	**Cuyo Island**	**1.46**	**308**	*e*P	**Pn**	**04 26 46.5**	**+0.9**
CUYO				*e*S	**Sn**	**04 27 04.8**	**-0.3**
TBP	**Tagbilaran**	**1.66**	**99**	*e*P	**Pn**	**04 26 49.4**	**+1.0**
RCP	**Roxas**	**1.68**	**19**	⇓*e*P	**Pb**	**04 26 51.3**	**+1.2**
RCP				*e*S	**Sb**	**04 27 11.6**	**0.0**
LLP	**Lapu-Lapu**	**1.78**	**78**	⇑*e*P	**Pn**	**04 26 50.9**	**+0.8**
LLP				*i* S	**Sn**	**04 27 11.6**	**-1.3**
IPIL	**Ipil**	**2.19**	**170**	*e*P	**Pn**	**04 26 57.2**	**+1.6**
IPIL				*e*S	**Sn**	**04 27 22.6**	**-0.3**
OTRP	**Odiongan**	**2.40**	**356**	*e*P	**Pn**	**04 26 59.5**	**+1.0**
PAGZ	**Pagadian**	**2.40**	**151**	*e*P	**Pn**	**04 27 00.4**	**+1.9**
PAGZ				*e*S	**Sb**	**04 27 31.7**	**-0.5**
MSLP	**Maasin**	**2.63**	**86**	*e*P	**Pn**	**04 27 02.7**	**+1.0**
MSLP				*e*S	**Sn**	**04 27 35.2**	**+1.2**
BUSP	**Coron**	**2.83**	**316**	*e*P	**Pn**	**04 27 05.3**	**+0.9**
BUSP				*e*S	**Sn**	**04 27 37.5**	**-1.3**
CGP	**Cagayan de Oro**	**2.88**	**121**	*e*P	**Pn**	**04 27 04.3**	**-0.8**
ENPP	**El Nido**	**2.99**	**295**	*e*P	**Pn**	**04 27 07.6**	**+0.9**
ENPP				*e*S	**Sn**	**04 27 40.7**	**-2.2**
DAV	**Davao City (W)**	**4.41**	**130**	LR	LR	04 29 23.2	
	comp=Z,206nm,18.1s,baz=311,slow=44						
CMAR	**Chiang Mai Arr**	**24.05**	**293**	P	**P**	**04 31 37.2**	**+2.3**
	0.9nm,0.4s,baz=111,slow=8.8,SNR=6.7						
CMAR				LR	LR	04 40 28.2	
	comp=Z,33nm,19.4s,baz=150,slow=34						
WRA	**Warramunga Arr**	**32.03**	**158**	P	**P**	**04 32 43.9**	**-2.3**
	0.2nm,0.4s,baz=341,slow=9.4,SNR=5.6						
ASAR	**Alice Springs**	**35.32**	**161**	P	**P**	**04 33 13.8**	**-1.1**
	0.9nm,0.5s,baz=346,slow=7.4,SNR=11						

IDC 14 04:31:52.6±400.0**, 49.°47N×118.°01E, h0**km**, Error ellipse: s-maj=163.9km s-min=132.0km az=108.0, Priamurye-Northeastern China border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I34MN	**SONGINO INFRAS**	**7.86**	**262**	*i*		05 20 30.0	
	baz=75,slow=370,SNR=0.3						
I45RU	**USSURIYSK INFR**	**10.92**	**114**	*i*		05 42 00.0	
	baz=306,slow=318,SNR=1.3						
I44RU	**PETROPAVLOVSK**	**24.87**	**66**	*i*		07 03 50.0	
	baz=277,slow=323,SNR=0.8						

JMA 14 04:50:27.2±0.1**, 37.°74N×141.°90E, h22**km±2km**, M3.6, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakibobo**	**0.67**	**329**	P	Pb	04 50 39.9	-0.3
JIKH				S	Sb	04 50 48.5	-0.5
JIO	**Ouri**	**0.83**	**329**	P	Pb	04 50 42.7	-0.3
JIO				S	Sb	04 50 53.1	-0.7
JMM	**Marumori**	**0.89**	**279**	P	Pb	04 50 43.3	-0.6
JFK	**Kawauchi**	**0.90**	**246**	P	Pb	04 50 43.7	-0.4
ONAJ	**Iwakimizuishiy**	**1.08**	**234**	P	Pn	04 50 46.6	-0.5
ONAJ				S	Sb	04 51 01.0	0.0
JKMT	**Kesennumamotoy**	**1.12**	**343**	P	Pn	04 50 47.2	-0.4
JKMT				S	Sb	04 51 01.1	-0.9
JOU	**Okura**	**1.16**	**303**	P	Pb	04 50 48.4	-0.1
JOU				S	Sn	04 51 03.3	0.0
JFT	**Otama**	**1.26**	**260**	P	Pb	04 50 50.3	0.0
JFT				S	Sb	04 51 07.4	+1.3
JMK	**Ichinoseki**	**1.32**	**336**	P	Pn	04 50 50.6	+0.3
JMK				S	Sn	04 51 07.3	0.0
OFUJ	**Ofunato**	**1.35**	**352**	P	Pn	04 50 50.2	-0.5
JYS	**Shirataka**	**1.53**	**289**	P	Pb	04 50 54.4	-0.4
JYS				S	Sb	04 51 14.4	+0.7
JYK	**Kaneyama**	**1.69**	**315**	P	Pn	04 50 56.3	+0.9
JFY	**Yanaizu**	**1.78**	**260**	P	Pb	04 50 58.0	-1.1
JFY				S	Sb	04 51 21.1	+0.2
JOM	**Ohasama**	**1.79**	**345**	P	Pn	04 50 57.5	+0.7

IDC 14 04:54:02.1±1.4**, 1.°68N×84.°80W, h0**km**, mb3.6/5, mb1 4.0/6, mb1mx3.7/34, mbtmp3.7/6, ML3.4/1, MS3.4/10, Ms1 3.4/10, ms1mx3.2/35, Error ellipse: s-maj=91.4km s-min=19.8km az=53.0, Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**8.56**	**359**	Pn	Pn	04 56 08.2	+0.7
	0.5nm,0.3s,baz=180,slow=20,SNR=4.3						
JTS				LR	LR	04 58 46.8	
	comp=Z,556nm,21.3s,baz=218,slow=33						
ATAH	**Atahualpa**	**10.84**	**144**	LR	LR	05 00 27.7	
	comp=Z,214nm,21.1s,baz=327,slow=36						
ROSC	**El Rosal**	**10.93**	**73**	LR	LR	05 00 02.8	
	comp=Z,44nm,21.1s,baz=229,slow=33						
APG	**El Apazote**	**14.37**	**337**	LR	LR	05 01 54.1	
	comp=Z,316nm,21.8s,baz=85,slow=33						
NNA	**Nana**	**15.71**	**150**	LR	LR	05 02 57.9	
	comp=Z,110nm,21.2s,baz=314,slow=34						
SDV	**Santo Domingo**	**15.81**	**63**	LR	LR	05 03 24.4	
	comp=Z,62nm,19.2s,baz=243,slow=36						
CMIG	**Matias Romero**	**18.25**	**328**	LR	LR	05 03 54.7	
	comp=Z,88nm,21.5s,baz=139,slow=32						
LPAZ	**La Paz**	**24.29**	**138**	P	P	04 59 22.8	+0.7
	1.2nm,0.9s,baz=315,slow=11,SNR=4.2						
LPAZ				LR	LR	05 09 28.7	
	comp=Z,136nm,19.3s,baz=280,slow=38						
SIV	**San Ignacio**	**29.29**	**128**	P	P	05 00 06.4	-0.2
	0.8nm,0.9s,baz=316,slow=9.2,SNR=3.4						
TXAR	**Lajitas Array**	**32.85**	**329**	P	P	05 00 38.5	+0.6
	0.3nm,0.7s,baz=164,slow=10.0,SNR=2.8						
SADO	**Sadowa**	**43.20**	**6**	LR	LR	05 20 35.9	
	comp=Z,142nm,18.6s,baz=186,slow=37						
NVAR	**Mina Array Bea**	**47.73**	**324**	P	P	05 02 41.6	+0.4
	0.7nm,0.8s,baz=143,slow=7.6,SNR=6.0						
YBH	**Yreka Blue Hor**	**52.44**	**325**	LR	LR	05 23 34.3	
	comp=Z,55nm,20.0s,baz=144,slow=34						
ILAR	**Eielson Array**	**76.89**	**337**	P	P	05 05 55.0	-0.9
	1.3nm,0.9s,baz=144,slow=3.2,SNR=12						

MEX 14 05:03:33.0±0.5**, 16.°31N×98.°22W, h12**km±2km**, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.13**	**46**	*i* P	Pg	05 03 35.4	-0.8
PNIG				*i* S	Sg	05 03 38.2	-0.3
TLIG	**Tlapa**	**1.29**	**345**	*e*P	Pn	05 03 53.2	-3.8
TLIG				*i* S	Sb	05 04 08.8	-5.3

GUC 14 05:03:33.4±0.7**, 21.°91S×70.°00W, h72**km±3km**, ML3.7, 4C-4D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB07	**IPOC Station P**	**0.21**	**30**	⇓*i*P	Pn	05 03 45.0	+0.5
PB07				*e*S	Sn	05 03 53.1	+0.5
PB03	**IPOC Station P**	**0.27**	**122**	*e*P	Pn	05 03 45.3	+0.5
PB03				*i* S	Sn	05 03 54.1	+1.0
PB03				IAML		05 03 55.0	
	comp=E,4μm,0.2s						
PB04	**IPOC Station P**	**0.45**	**198**	⇓*i*P	Pn	05 03 46.4	+0.3
PB04				*e*S	Sn	05 03 56.1	+0.7
PB04				IAML		05 03 56.9	
	comp=N,9μm,0.1s						
PB02	**IPOC Station P**	**0.59**	**9**	*i* P	Pn	05 03 47.7	+0.3
PB02				*i* S	Sn	05 03 57.9	+0.2
PB02				IAML		05 03 58.5	
	comp=N,11μm,0.3s						
PB09	**IPOC Station P**	**0.71**	**81**	⇓*i*P	Pn	05 03 50.5	+1.8
PB09				*i* S	Sn	05 04 02.1	+2.1
PB09				IAML		05 04 03.5	
	comp=N,3μm,0.5s						
PB06	**IPOC Station P**	**0.89**	**154**	⇓*i*P	Pn	05 03 51.4	+0.6
PB06				*e*S	Sn	05 04 04.7	+1.0
PB06				IAML		05 04 05.2	
	comp=E,1μm,0.2s						
PB05	**IPOC Station P**	**0.96**	**191**	⇑*i*P	Pn	05 03 51.8	+0.1
PB05				*e*S	Sn	05 04 05.1	-0.1
PB05				IAML		05 04 06.4	
	comp=E,2μm,0.2s						
PB01	**IPOC Station P**	**0.98**	**29**	⇑*i*P	Pn	05 03 52.5	+0.6
PB01				*i* S	Sn	05 04 06.3	+0.7
PB01				IAML		05 04 07.2	
	comp=E,7μm,0.2s						
PB15	**IPOC Station P**	**1.39**	**159**	*e*P	Pn	05 03 57.6	+0.5
PB15				*i* S	Sn	05 04 16.0	+1.1
PB15				IAML		05 04 18.6	
	comp=E,3μm,0.3s						
PB10	**IPOC Station P**	**1.68**	**198**	⇑*i*P	Pn	05 03 59.8	-1.1
PB10				*e*S	Sn	05 04 19.8	-1.8
PB11	**IPOC Station P**	**2.16**	**9**	⇑*i*P	Pn	05 04 06.5	-0.9
PB11				*i* S	Sn	05 04 31.6	-1.7
PB11				IAML		05 04 34.9	
	comp=N,851nm,0.4s						

IDC 14 05:04:10.9±1.4**, 1.°78N×84.°75W, h0**km**, mb3.8**/5, mb1 4.0/6, mb1mx3.6/46, mbtmp3.8/6, ML3.6/1, Error ellipse: s-maj=49.9km s-min=21.7km az=55.0, Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**8.46**	**359**	Pn	Pn	05 06 14.6	-0.3
	0.7nm,0.3s,baz=355,slow=22,SNR=4.1						
LPAZ	**La Paz**	**24.33**	**138**	P	P	05 09 31.5	+0.2
	1.3nm,1.0s,baz=324,slow=12,SNR=4.0						
SJG	**San Juan**	**24.43**	**47**	P	P	05 09 31.9	+0.5
	10nm,0.8s,baz=257,slow=7.4,SNR=4.1						
SIV	**San Ignacio**	**29.31**	**128**	P	P	05 10 15.3	-0.2
	0.7nm,0.8s,baz=303,slow=13,SNR=3.6						
NVAR	**Mina Array Bea**	**47.68**	**324**	P	P	05 12 50.7	+1.2
	0.5nm,0.9s,baz=142,slow=9.1,SNR=3.8						
ILAR	**Eielson Array**	**76.82**	**337**	P	P	05 16 03.1	-1.2
	1.0nm,1.0s,baz=140,slow=4.0,SNR=7.4						

IDC ***14*** *05:05:55.8±1.6, 1.°65N×84.°83W, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.7/46, mbtmp3.9/5, ML3.8/1, Error ellipse: s-maj=92.9km s-min=22.2km az=55.0*

ISCJB ***14*** *05:05:59.2±1.1, 1.°8N±0.°1×84.°67W±0.°10, h33km, mb3.7/4, Error ellipse: s-maj=17.9km s-min=11.6km az=32.1*

ISC 14 05:06:00.4±1.3**, 1.°6N**±0.°1×**84.°8W**±0.°1**, h35**km**, n12,** σ1§**51**/12**, mb3.8**/4**, Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTAV	**Otavalo**	**6.45**	**102**	*e*P	**Pn**	**05 07 31.9**	**-1.4**
POPC	**Popayan, Colom**	**8.14**	**83**	*e*P	**Pn**	**05 07 53.8**	**-2.5**
SOTA	**Rioblanco**	**8.17**	**86**	*e*P	**Pn**	**05 07 55.7**	**-1.2**
JTS	**JuntasAbangare**	**8.65**	**359**	Pn	**Pn**	**05 08 01.7**	**-1.5**
	1.0nm,0.3s,baz=239,slow=5.9,SNR=6.6						
PRAC	**Prado**	**10.09**	**78**	*e*P	**Pn**	**05 08 24.5**	**+1.6**
NORC	**Norcasia**	**10.63**	**68**	*e*P	**Pn**	**05 08 30.7**	**+0.3**
PTBC	**PUERTO BERRIO,**	**11.39**	**64**	*e*P	**Pn**	**05 08 41.8**	**+1.0**
RUSC	**La Rusia**	**12.41**	**70**	*e*P	**Pn**	**05 08 56.1**	**+1.0**
LPAZ	**La Paz**	**24.19**	**138**	P	**P**	**05 11 16.1**	**+1.6**
	1.8nm,1.0s,baz=334,slow=11,SNR=4.0						
SIV	**San Ignacio**	**29.20**	**128**	P	**P**	**05 12 00.1**	**+1.1**
	1.4nm,0.8s,baz=321,slow=8.5,SNR=5.6						
NVAR	**Mina Array Bea**	**47.83**	**324**	P	**P**	**05 14 35.1**	**+0.1**
	1.1nm,1.0s,baz=144,slow=8.5,SNR=4.4						
ILAR	**Eielson Array**	**76.99**	**337**	P	**P**	**05 17 49.5**	**+0.2**
	1.5nm,1.0s,baz=144,slow=4.7,SNR=8.6						

GCMT ***14*** *05:06:11.0±0.5, 1.°70N±0.°03×84.°93W±0.°05, h18km±1km, MW4.8/62, Moment Tensor Solution. s19,c19; s62,c91; Duration: 0 Moment tensor: Scale 10*^{16}*Nm; Mrr~1.89±.19; Mθθ2.04±.14; Mϕϕ~0.14±.12; Mrθ0.35±.27; Mϕθ~0.09±.07; Mϕr1.10±.31; Best double couple: M*$_0$*2.26100×10*^{16} *NP1:*ϕ*248.00000°, δ55.00000°, λ~122.00000°. NP2:* ϕ*115.00000°, δ46.00000°, λ~53.00000°. Principal axes: T 2.0720, Plg5.0000°, Azm360.0000°; N 0.3850, Plg25.0000°, Azm267.0000°; P -2.4500, Plg64.0000°, Azm100.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC ***14*** *05:06:12.7±1.3, 1.°74N×84.°64W, h0km, mb3.9/9, mb1 4.2/10, mb1mx4.0/46, mbtmp3.9/10, ML3.7/1 Error ellipse: s-maj=61.4km s-min=17.9km az=50.0*

ISCJB ***14*** *05:06:16.8±0.9, 1.°9N±0.°1×84.°4W±0.°1, h33km, mb3.9/9, Error ellipse: s-maj=25.5km s-min=12.3km az=136.3*

ISC 14 05:06:18.2±1.2**, 1.°8N**±0.°2×**84.°5W**±0.°2**, h35**km**, n11,** σ0§**97**/11**, mb3.9**/9**, Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**8.45**	**357**	Pn	**Pn**	**05 08 19.1**	**+0.8**
	1.0nm,0.3s,baz=162,slow=19,SNR=5.2						
VILC	**Villavicencio,**	**11.03**	**78**	*e*P	**Pn**	**05 08 53.0**	**-0.9**
LPAZ	**La Paz**	**24.17**	**139**	P	**P**	**05 11 32.4**	**+0.3**
	3.1nm,1.0s,baz=293,slow=7.5,SNR=6.1						
SIV	**San Ignacio**	**29.13**	**128**	P	**P**	**05 12 17.2**	**+1.1**
	2.1nm,0.8s,baz=302,slow=11,SNR=8.6						
TXAR	**Lajitas Array**	**32.91**	**328**	P	**P**	**05 12 48.9**	**-0.5**
	0.5nm,0.7s,baz=133,slow=12,SNR=5.3						
PDAR	**Pinedale Array**	**46.54**	**335**	P	**P**	**05 14 43.1**	**+0.4**
	0.2nm,0.3s,baz=140,slow=9.4,SNR=4.0						
NVAR	**Mina Array Bea**	**47.81**	**324**	P	**P**	**05 14 52.4**	**-0.4**
	2.4nm,1.1s,baz=138,slow=7.4,SNR=7.7						
INK	**Inuvik**	**74.18**	**343**	P	**P**	**05 17 50.7**	**-0.3**
	3.9nm,1.0s,baz=104,slow=3.2,SNR=3.4						
ILAR	**Eielson Array**	**76.90**	**337**	P	**P**	**05 18 05.9**	**-0.8**
	1.8nm,1.0s,baz=120,slow=4.5,SNR=8.1						
ESDC	**Sonseca Array**	**81.57**	**50**	P	**P**	**05 18 34.3**	**+1.5**
	0.8nm,0.9s,baz=271,slow=7.3,SNR=5.2						
TORD	**Torodi Ar. Bea**	**85.89**	**77**	P	**P**	**05 18 54.1**	**-1.2**
	1.7nm,1.1s,baz=270,slow=5.4,SNR=5.4						

IDC ***14*** *05:12:38.1±1.0, 1.°66N×84.°80W, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.8/45, mbtmp3.8/9, ML3.8/1, MS4.0/15, Ms1 4.0/15, ms1mx3.8/34, Error ellipse: s-maj=53.4km s-min=17.5km az=58.0*

ISCJB ***14*** *05:12:41.3±0.7, 1.°74N±0.°09×84.°59W±0.°06, h33km, mb3.6/8, MS3.9/9, Error ellipse: s-maj=12.8km s-min=8.3km az=19.6*

GCMT ***14*** *05:12:43.0±0.4, 1.°70N±0.°02×84.°83W±0.°04, h13km±1km, MW4.8/68, Moment Tensor Solution. s13,c16; s68,c96; Duration: 0 Moment tensor: Scale 10*^{16}*Nm; Mrr~1.97±.17; Mθθ1.95±.12; Mϕϕ0.02±.10; Mrθ0.96±.27; Mϕθ~0.06±.07; Mϕr0.94±.35; Best double couple: M*$_0$*2.35800×10*^{16} *NP1:*ϕ*250.00000°, δ61.00000°, λ~111.00000°. NP2:* ϕ*109.00000°, δ35.00000°, λ~57.00000°. Principal axes: T 2.1850, Plg14.0000°, Azm355.0000°; N 0.3530, Plg18.0000°, Azm261.0000°; P -2.5320

BOAC				*e*S	Sb	05 15 28.2	+1.0	
SJMP	**San Jose**	**0.62**	**222**	*e*P	Pb	05 15 19.4	0.0	
SJMP				*e*S	Sn	05 15 31.1	+1.4	
OTRP	**Odiongan**	**0.72**	**140**	*e*P	Pn	05 15 21.7	-0.3	
OTRP				*e*S	Sn	05 15 33.0	+0.7	
GQP	**Guinayangan**	**1.31**	**42**⇑	*e*P	Pb	05 15 32.3	+1.3	
GQP				*e*S	Sb	05 15 50.0	+2.6	
LUBP	**Lubang**	**1.50**	**303**	*e*P	Pn	05 15 29.7	-2.9	
LUBP				*e*S	Sn	05 15 51.1	-0.4	
BUSP	**Coron**	**1.60**	**235**	*e*P	Pn	05 15 33.9	-0.2	
BUSP				*e*S	Sb	05 15 55.0	-0.9	
RCP	**Roxas**	**1.79**	**139**⇑	*e*P	Pb	05 15 38.1	-1.2	
RCP				*e*S	Sb	05 16 01.0	-0.3	
POLP	**Polilio Island**	**1.83**	**12**	*e*P	Pn	05 15 38.4	+1.2	
CUYO	**Cuyo Island**	**2.13**	**194**	*e*P	Pn	05 15 41.6	+0.3	
GUIM	**Jordan**	**2.50**	**156**	*e*P	Pn	05 15 46.9	+0.5	
SMPP	**San Manuel, Pa**	**3.32**	**345**	*e*P	Pn	05 15 58.0	+0.4	

IDC ***14*** *05:16:57.6±1.4, 8.°89S×125.°54E, h0km, mb3.7/1, mb1 4.0/5, mb1mx3.6/45, mbtmp3.8/5, ML3.7/4, Error ellipse: s-maj=39.3km s-min=27.5km az=72.0*

ISCJB ***14*** *05:17:01.5±1.3, 9.°2S±0.°1×125.°58E±0.°06, h33km, mb3.8/1, Error ellipse: s-maj=15.8km s-min=7.7km az=20.7*

DJA ***14*** *05:17:03.3±1.7, 9.°5S±8.°×12.°5E±1.°6, h10km, M3.6/4, MLv3.6/4*

ISC 14 05:17:02.2±1.2, 9.°1S±0.°1×125.°49E±0.°09, h35km, n9, σ2.°98/13, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.37**	**242**	P		**Pn**		**05 17 25.9**	**+1.0**
SOEI				S		**Sn**		**05 17 42.1**	**+0.2**
BATI	**Baumata**	**2.11**	**239**	Pn		**Pn**		**05 17 36.2**	**+1.2**
	19nm,0.3s,baz=164,slow=1.5,SNR=10								
BATI	**Baumata**	**2.11**	**239**	P		**Pn**		**05 17 36.2**	**+1.2**
EDFI	**Ende, Flores**	**3.77**	**275**	P		**Pn**		**05 17 55.6**	**-2.4**
FITZ	**Fitzroy Crossi**	**8.94**	**179**	Pn		**Pn**		**05 19 11.2**	**+2.3**
	2.4nm,0.3s,baz=5.7,slow=9.8,SNR=71								
FITZ				S		**Sn**		**05 20 47.4**	**-0.9**
	1.7nm,0.3s,baz=112,slow=4.2,SNR=12								
WRA	**Warramunga Arr**	**13.75**	**143**	Pn		**Pn**		**05 20 16.3**	**+1.5**
	0.2nm,0.3s,baz=319,slow=13,SNR=13								
WRA				S		**Sn**		**05 22 46.4**	**0.0**
	0.3nm,0.3s,baz=320,slow=26,SNR=6.8								
ASAR	**Alice Springs**	**16.56**	**152**	Pn		**P**		**05 20 54.1**	**0.0**
	0.2nm,0.3s,baz=319,slow=12,SNR=11								
ASAR				S		**Sn**		**05 23 49.9**	**-4.9**
	0.1nm,0.3s,baz=314,slow=19,SNR=4.6								
MKAR	**Makanchi Array**	**67.65**	**329**	P		**P**		**05 27 55.7**	**+0.1**
	0.5nm,0.5s,baz=142,slow=6.1,SNR=5.0								
LPAZ	**La Paz**	**151.39**	**152**	PKPbc		**PKPbc**		**05 36 55.0**	**+0.9**
	1.0nm,0.4s,baz=234,slow=2.6,SNR=11								

MAN 14 05:17:36.1, 18.°64N×121.°05E, h20km, mb4.8, ML3.8, MS3.7, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.80**	**167**	*e*P		Pb		05 17 50.7	-0.5
APYP				*e*S		Sn		05 18 04.1	+0.6
SGCP	**Mt. Cagua**	**1.02**	**113**	*e*P		Pb		05 17 54.8	-0.3
SGCP				*e*S		Sn		05 18 09.4	+0.4
ABRA	**Dolores**	**1.04**	**198**	*e*P		Pb		05 17 49.8	-5.6
ABRA				*e*S		Sn		05 18 10.3	+0.9
CVP	**Callao Caves**	**1.19**	**142**	⇓*i*P		Pb		05 17 58.1	+0.2
CVP				*i* S		Sn		05 18 16.9	+3.8
CAUP	**Cauayan**	**1.84**	**156**	*e*P		Pb		05 18 08.5	-0.6
PALP	**Palanan**	**2.04**	**140**	*e*P		Pn		05 18 09.5	+0.2
PALP				*e*S		Sb		05 18 42.2	+4.7
SMPP	**San Manuel, Pa**	**2.50**	**188**	*e*P		Pn		05 18 15.4	-0.3
SMPP				*e*S		Sn		05 18 47.1	+1.4
BALP	**Baler**	**2.93**	**170**	*e*P		Pn		05 18 23.2	+1.6

IDC ***14*** *05:18:15.1±4.8, 15.°12N×96.°55W, h0km, mb3.8/4, mb1 4.1/6, mb1mx3.7/44, mbtmp3.7/6, ML3.7/2, Error ellipse: s-maj=88.5km s-min=21.3km az=147.0*

MEX ***14*** *05:18:25.7±0.6, 15.°89N×96.°81W, h25km±8km, MD3.8*

NEIC ***14*** *05:18:25.3±0.0, 15.°86N×96.°79W, h20km, mb4.1/4, MD4.0(MEX), After MEX.*

ISC 14 05:18:20.7±2.7, 15.°9N±0.°1×96.°81W±0.°05, h1km±13km, n26, σ1.°83/33, mb4.0/7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OXBJ	**Oaxaca**	**1.19**	**4**	*e*P		**Pg**		**05 18 44.0**	**+0.5**
OXBJ				*e*S		**Sg**		**05 18 58.0**	**-0.8**
VHO	**Vista Hermosa**	**1.19**	**3**	*e*P		**Pg**		**05 18 44.2**	**+0.6**
VHO				*e*S		**Sg**		**05 18 57.9**	**-1.1**
VHO	**Vista Hermosa**	**1.19**	**3**	*e*P		**Pg**		**05 18 44.2**	**+0.6**
VHO				*e*S		**Sg**		**05 18 57.9**	**-1.1**
PNIG	**Pinotepa**	**1.37**	**292**	*e*P		**Pn**		**05 18 46.0**	**-1.0**
PNIG	**Pinotepa**	**1.37**	**292**	*e*P		**Pn**		**05 18 46.0**	**-1.0**
PNIG				*i* S		**Sg**		**05 19 02.6**	**-2.1**
CMIG	**Matias Romero**	**2.21**	**57**	Pn		**Pn**		**05 18 58.1**	**-0.4**
	5.9nm,0.3s,baz=251,slow=13,SNR=110								
CMIG				Lg		Lg		05 19 35.5	
	169nm,0.3s,baz=45,slow=6.6,SNR=17								
CMIG	**Matias Romero**	**2.21**	**57**	*e*P		**Pn**		**05 18 58.0**	**-0.4**
CMIG				*i* S		**Sn**		**05 19 23.9**	**-2.6**
TLIG	**Tlapa**	**2.38**	**315**	*e*P		**Pn**		**05 19 01.6**	**+0.6**
TLIG	**Tlapa**	**2.38**	**315**	*e*P		**Pn**		**05 19 01.6**	**+0.6**
TLIG				*e*S		**Sn**		**05 19 27.9**	**-3.0**
LVIG	**Laguna Verde**	**3.84**	**6**	*e*Pn		**Pn**		**05 19 23.7**	**+2.6**
CCIG	**Comitan**	**4.51**	**84**	*e*Pn		**Pn**		**05 19 32.4**	**+2.1**
MOIG	**Morelia**	**5.63**	**313**	*e*Pn		**Pn**		**05 19 46.9**	**+1.1**
TEIG	**Tepich**	**9.19**	**61**	*e*Pn		**Pn**		**05 20 35.0**	**+0.5**
LTX	**Lajitas**	**14.81**	**336**	*e*Pn		**P**		**05 21 59.5**	**+1.9**
TXAR	**Lajitas Array**	**14.81**	**336**	Pn		**P**		**05 21 59.5**	**+1.9**
	0.1nm,0.3s,baz=159,slow=13,SNR=9.2								
MSTX	**Muleshoe**	**18.80**	**344**	*e*P		**P**		**05 22 43.0**	**+1.2**
	10.0nm,1.1s								
MIAR	**Mount Ida**	**18.81**	**8**	*e*P		**P**		**05 22 36.7**	**-5.2**
MIAR				*e*Pn		**Pn**		**05 22 42.7**	**+0.5**
LAZ	**Ladron**	**20.65**	**335**	*e*P		**P**		**05 23 00.4**	**-1.8**
X18A	**Snowflake**	**22.01**	**330**	*e*P		**P**		**05 23 18.9**	**+2.1**
	2.9nm,0.8s								
MTPU	**Mount Pierson**	**25.91**	**331**	*e*P		**P**		**05 23 57.5**	**+2.6**
	4.8nm,0.8s								
O49A	**Covington**	**26.55**	**22**	*e*P		**P**		**05 24 01.1**	**+0.9**
	14nm,0.6s								
PDAR	**Pinedale Array**	**28.94**	**340**	P		**P**		**05 24 22.2**	**+0.4**
	0.2nm,0.7s,baz=148,slow=7.4,SNR=2.3								
NV01	**Mina Array Sit**	**29.36**	**324**	*e*P		**P**		**05 24 27.0**	**+1.4**
NVAR	**Mina Array Bea**	**29.36**	**324**	P		**P**		**05 24 27.7**	**+2.1**
	1.4nm,0.9s,baz=146,slow=9.9,SNR=5.3								
INK	**Inuvik**	**57.37**	**345**	P		**P**		**05 28 10.1**	**-0.2**
	1.7nm,0.7s,baz=115,slow=13,SNR=5.0								
ILAR	**Eielson Array**	**59.31**	**338**	P		**P**		**05 28 24.2**	**+0.2**
	1.2nm,0.9s,baz=130,slow=4.6,SNR=9.3								

MAN ***14*** *05:21:40.0, 10.°03N×122.°20E, h21km, mb6.2, ML5.2, MS5.8*

BJI ***14*** *05:21:40.7, 9.°88N×122.°46E, h50km, mb5.2/81, mB5.3/60, Ms5.4/92, Ms7 5.3/84*

MOS ***14*** *05:21:40.5±1.0, 10.°06N×122.°43E, h33km, mb5.7/77, MS5.2/53, Error ellipse: s-maj=7.4km s-min=4.3km az=114.3*

IDC ***14*** *05:21:41.1±1.7, 10.°00N×122.°48E, h28km±11km, mb4.9/42, mb1 5.0/43, mb1mx4.9/52, mbtmp5.1/43, ML4.5/1, MS5.2/37, Ms1 5.2/37, ms1mx5.0/47, Error ellipse: s-maj=12.0km s-min=7.7km az=70.0*

ISCJB ***14*** *05:21:42.2±0.2, 10.°03N±0.°01×122.°38E±0.°02, h49km±2km, mb5.4/235, MS5.3/496, Error ellipse: s-maj=2.7km s-min=2.0km az=171.4*

NEIC ***14*** *05:21:42.5±0.3, 9.°98N×122.°47E, h41km±3km, mb5.6/125, MS5.3/300, MW5.6, MW5.7, Error ellipse: s-maj=2.7km s-min=2.0km az=82.0, Moment Tensor Solution. s56 Moment tensor: Scale 10¹⁷Nm; Mrr 1.78; Mθθ 0.71; Mφφ -2.49; Mrθ -0.52; Mθφ -0.18; Mφr -1.90; Best double couple: M₀3.00000×10¹⁷ NP1:ϕs194.00000°, δ67.00000°, λ101.00000°. NP2:ϕs347.00000°, δ26.00000°, λ66.00000°. Principal axes: T 2.6000, Plg66.0000°, Azm124.0000°; N 0.6400, Plg10.0000°, Azm9.0000°; P -3.2400, Plg21.0000°, Azm275.0000°;*

NEIC Felt [V PIVS] at Binalbagan, Cawayan, Hinigaran, Ilog, Jinoba-an and Kabankalan; [IV PIVS] at Bacolod, Bago, Bayawan, Dumaguete, Pamplona, Pontevedra, Santa Catalina and Tayasan; [II PIVS] at Canlaon and Murcia. Also felt [V PIVS] at Iloilo; [IV PIVS] at Anini-y, Alimodian and Sigma; [III PIVS] at Barbaza, Bugasong, Culasi, Dao, Kalibo, Leso, Pandan, Patnongon, Roxas City, San Jose, San Remigio, Sebaste, Sibalom, Tibiao and Valderrama, Panay. Felt [IV PIVS] at Nueva Valencia, Guimaras Island; [III PIVS] at Masbate, Masbate; [II PIVS] at Dipolog, Mindanao.

GCMT ***14*** *05:21:43.5±0.1, 10.°11N±0.°01×122.°23E±0.°01, h37km, MW5.7/123, Moment Tensor Solution. s123,c222; s122,c288; Duration: 1s7 Moment tensor: Scale 10¹⁷ Nm; Mrr 2.42±.04; Mθθ 0.31±.03; Mφφ -2.72±.03; Mrθ -0.48±.04; Mθφ -0.18±.02; Mφr -3.39±.07; Best double couple: M₀4.28500×10¹⁷ NP1:ϕs187.00000°, δ72.00000°, λ93.00000°. NP2:ϕs359.00000°, δ19.00000°, λ82.00000°. Principal axes: T 4.1360, Plg63.0000°, Azm102.0000°; N 0.3060, Plg3.0000°, Azm6.0000°; P -4.4340, Plg27.0000°, Azm275.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***14*** *05:21:43.0±0.0, 9.°99N×122.°43E, h30km, Moment Tensor Solution. s20 Moment tensor: Scale 10¹⁷Nm; Mrr 2.48; Mθθ -0.10; Mφφ -2.38; Mrθ -1.42; Mθφ 0.10; Mφr -4.29; Best double couple: M₀5.10000×10¹⁷ NP1:ϕs195.00000°, δ76.00000°, λ98.00000°. NP2:ϕs345.00000°, δ16.00000°, λ60.00000°. Principal axes: T 5.2900, Plg57.0000°, Azm115.0000°; N -0.3200, Plg7.0000°, Azm13.0000°; P -4.9700, Plg30.0000°, Azm278.0000°;*

KLM ***14*** *05:21:44.0, 10.°16N×122.°45E, h52km, mb5.7*

DJA ***14*** *05:21:46.1±0.3, 10.°N±2.°×12.°2E±.°, h48km±4km, M5.5/83, mB5.9/75, mb5.4/83, MLv6.0/4, Mw(mB)5.5/75, Mwp5.6/7*

ISC 14 05:21:43.1±0.4, 9.°99N±0.°02×122.°32E±0.°02, h45km±3km, h45km:pP-P, n1199, σ1.°67/1065, mb5.5/254, MS5.3/498, 56C-45D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.68**	**23**	*e*P		**Pn**		**05 21 52.2**	**-4.3**
JAP	**San Jose, Anti**	**0.83**	**334**	⇓*i*P		**Pn**		**05 21 57.6**	**-0.9**
SNPH	**Sibulan**	**1.11**	**125**	⇓*i*P		**Pn**		**05 22 01.7**	**-0.6**
SNPH				*i* S		**Sn**		**05 22 17.9**	**+1.3**
CUYO	**Cuyo Island**	**1.53**	**304**	*e*P		**Pn**		**05 22 05.0**	**-3.0**
CUYO				*e*S		**Sn**		**05 22 24.2**	**-2.6**
TBP	**Tagbilaran**	**1.55**	**101**	*e*P		**Pn**		**05 22 08.8**	**+0.5**
TBP				*i* S		**Sn**		**05 22 28.7**	**+1.4**
RCP	**Roxas**	**1.61**	**15**	⇓*e*P		**Pn**		**05 22 09.5**	**+0.3**
RCP				*e*S		**Sn**		**05 22 30.8**	**+2.0**
LLP	**Lapu-Lapu**	**1.66**	**79**	⇓*e*P		**Pn**		**05 22 09.6**	**-0.1**
LLP				*i* S		**Sn**		**05 22 31.1**	**+1.3**
KALP	**Kalibo**	**1.67**	**1**	*e*P		**Pn**		**05 22 11.2**	**+1.2**
DCPH	**Dipolog City**	**1.73**	**144**	⇑*e*P		**Pn**		**05 22 12.3**	**+1.5**
DCPH				*e*S		**Sn**		**05 22 34.8**	**+3.0**
IPIL	**Ipil**	**2.21**	**173**	*e*P		**Pn**		**05 22 16.3**	**-1.0**
IPIL				*e*S		**Sn**		**05 22 42.1**	**-1.2**
OTRP	**Odiongan**	**2.37**	**353**	*e*P		**Pn**		**05 22 17.6**	**-2.0**
OTRP				*e*S		**Sn**		**05 22 45.7**	**-1.8**
PAGZ	**Pagadian**	**2.38**	**154**	*e*P		**Pn**		**05 22 19.7**	**0.0**
PAGZ				*e*S		**Sn**		**05 22 52.2**	**+4.6**
OCLP	**Ormoc**	**2.49**	**65**	*e*P		**Pn**		**05 22 21.2**	**+0.1**
MSLP	**Maasin**	**2.51**	**87**	*e*P		**Pn**		**05 22 21.9**	**+0.4**
MSLP				*e*S		**Sn**		**05 22 55.3**	**+4.5**
MMPH	**Masbate**	**2.68**	**29**	*e*P		**Pn**		**05 22 28.2**	**+4.4**
MMPH				*e*S		**Sn**		**05 23 00.5**	**+5.5**
SJMP	**San Jose**	**2.72**	**335**	*e*P		**Pn**		**05 22 22.5**	**-1.9**
SJMP				*e*S		**Sn**		**05 22 53.4**	**-2.6**
PLP	**Palo**	**2.87**	**66**	⇑*i*P		**Pn**		**05 22 26.5**	**+0.2**
BUSP	**Coron**	**2.88**	**314**	*e*P		**Pn**		**05 22 24.1**	**-2.4**
BUSP				*e*S		**Sn**		**05 22 57.0**	**-3.0**
ZCP	**Zamboanga City**	**3.05**	**185**	⇓*i*P		**Pn**		**05 22 28.6**	**-0.3**
ZCP				*i* S		**Sn**		**05 23 03.8**	**-0.4**
ENPP	**El Nido**	**3.09**	**293**	*e*P		**Pn**		**05 22 26.7**	**-2.7**
CTBH	**Cotabato--PC H**	**3.35**	**145**	⇑*e*P		**Pn**		**05 22 34.8**	**+1.7**
CTBH				*i* S		**Sn**		**05 23 15.9**	**+4.3**
CNP	**Catarman**	**3.40**	**42**	*e*P		**Pn**		**05 22 34.1**	**+0.4**
CNP				*e*S		**Sn**		**05 23 15.4**	**+2.7**
BUTP	**Butuan**	**3.42**	**107**	*e*P		**Pn**		**05 22 35.5**	**+1.5**
BUKP	**Musuan**	**3.43**	**128**	*e*P		**Pn**		**05 22 35.1**	**+1.0**
BUKP				*e*S		**Sn**		**05 23 19.3**	**+5.7**
BOAC	**Boac**	**3.48**	**352**	*e*P		**Pn**		**05 22 34.1**	**-0.6**
BOAC				*e*S		**Sn**		**05 23 14.0**	**+0.6**
PPR	**Puerto Princes**	**3.54**	**267**	⇑*e*P		**Pn**		**05 22 35.7**	**+0.1**
PPR				*e*S		**Sn**		**05 23 14.6**	**-1.7**
GQP	**Guinayangan**	**3.89**	**2**	⇑*e*P		**Pn**		**05 22 40.9**	**+0.5**
GQP				*e*S		**Sn**		**05 23 24.3**	**-0.6**
PVCP	**Virac**	**4.01**	**27**	*e*P		**Pn**		**05 22 41.9**	**-0.1**
SKMP	**Bagumbayan, Su**	**4.10**	**147**	*e*P		**Pn**		**05 22 43.5**	**+0.2**
LUBP	**Lubang**	**4.23**	**332**	*e*P		**Pn**		**05 22 43.3**	**-1.8**
LUBP				*e*S		**Sn**		**05 23 30.2**	**-3.1**
TGY	**Tagaytay City**	**4.30**	**342**	⇓*e*P		**Pn**		**05 22 47.6**	**+1.5**
TGY				*i* S		**Sn**		**05 23 35.0**	**-0.1**
DAV	**Davao City (W)**	**4.34**	**132**	Pn		**Pn**		**05 22 49.7**	**+3.0**
	83nm,0.3s,baz=326,slow=5.8,SNR=13								
DAV				LR		LR		05 24 43.1	
	comp=Z,68μm,18.0s,baz=272,slow=43								
DAV	**Davao City (W)**	**4.34**	**132**	P		**Pn**		**05 22 47.6**	**+1.0**
DAV	**Davao City (W)**	**4.34**	**132**	*e*Pn		**Pn**		**05 22 43.0**	**-3.7**
DAV				*e*Pb		**Pn**		**05 22 44.5**	**-2.2**
DAV				Pn		Pn		05 22 49.6	+3.0
DAV	**Davao City (W)**	**4.34**	**132**	P		**Pn**		**05 22 50.1**	**+3.4**
	SNR=36								
BIPH	**Bislig**	**4.38**	**114**	⇑*e*P		Pn		05 22 51.8	+4.6
BATP	**Bataraza**	**4.61**	**255**	*e*P		**Pn**		**05 22 47.5**	**-2.8**
DDMP	**Don Marcelino,**	**5.12**	**139**	*e*P		**Pn**		**05 22 59.1**	**+1.8**
BALP	**Baler**	**5.76**	**353**	*e*P		**Pn**		**05 23 07.7**	**+1.6**
MYLDM	**Lahad Datu**	**6.10**	**219**	*e*Pn		**Pn**		**05 23 12.6**	**+1.9**
KDM	**Kudat**	**6.23**	**241**	P		**Pn**		**05 23 14.0**	**+1.5**
SMPP	**San Manuel, Pa**	**6.32**	**346**	*e*P		**Pn**		**05 23 13.2**	**-0.7**
CAUP	**Cauayan**	**6.92**	**356**	*e*P		**Pn**		**05 23 24.5**	**+2.4**
SGSI	**Sangihe**	**7.03**	**153**	P		Pn		05 23 28.6	+5.0
KKM	**Kota Kinabalu**	**7.20**	**237**	*e*Pn		**Pn**		**05 23 26.6**	**+0.6**
CVP	**Callao Caves**	**7.68**	**356**	⇑*e*P		**Pn**		**05 23 34.1**	**+1.7**
ABRA	**Dolores**	**7.77**	**349**	*e*P		**Pn**		**05 23 37.4**	**+3.7**
APYP	**Conner**	**7.89**	**353**	*e*P		**Pn**		**05 23 37.7**	**+2.4**
MRSI	**Marisa**	**9.46**	**182**	P		**Pn**		**05 23 57.8**	**+0.9**
KMSI	**Cibinong**	**9.50**	**170**	P		Pn		05 24 03.9	+6.4
	413nm,1.6s,12μm								
MPSI	**Mapaga**	**9.89**	**194**	P		**Pn**		**05 24 02.1**	**-0.7**
TNTI	**Ternate**	**10.45**	**151**	*e*Pn		**Pn**		**05 24 07.9**	**-2.5**
TNTI	**Ternate**	**10.45**	**151**	P		**Pn**		**05 24 11.4**	**+1.0**
APSI	**Ampana**	**10.85**	**184**	P		**Pn**		**05 24 19.8**	**+3.8**
LUWI	**Luwuk**	**10.97**	**178**	*e*Pn		**Pn**		**05 24 18.0**	**+0.4**
LUWI	**Luwuk**	**10.97**	**178**	P		**Pn**		**05 24 21.4**	**+3.8**
SMKI	**Samarinda**	**11.55**	**206**	P		**Pn**		**05 24 27.7**	**+2.2**
LBMI	**Labuha**	**11.76**	**154**	P		**Pn**		**05 24 28.8**	**+0.5**
BKB	**Balikpapan**	**12.41**	**206**	P		**Pn**		**05 24 41.0**	**+3.7**
SANI	**Sanana**	**12.51**	**163**	P		**Pn**		**05 24 39.1**	**+0.5**
SBUM	**Sibu**	**12.52**	**234**	*e*Pn		**Pn**		**05 24 38.6**	**-0.2**
TWG	**Pinlang**	**12.81**	**355**	*e*Pn		**Pn**		**05 24 39.6**	**-3.1**
TPUB	**Ta-pu**	**13.33**	**353**	*e*Pn		**Pn**		**05 24 50.1**	**+0.3**
YULB	**Yu-li**	**13.36**	**356**	*e*Pn		**Pn**		**05 24 51.0**	**+0.7**
SSLB	**Suanglung**	**13.78**	**355**	*e*Pn		**Pn**		**05 24 56.3**	**+0.4**
NLAI	**Namlea**	**13.98**	**160**	P		**Pn**		**05 25 00.4**	**+1.7**
SIJI	**Sorong**	**13.99**	**140**	Pn		**Pn**		**05 24 56.1**	**-2.8**
	2.2nm,0.3s,baz=235,slow=22,SNR=8.2								
SIJI				LR		LR		05 30 43.8	
	comp=Z,16μm,21.9s,baz=328,slow=39								
SPSI	**Sidrap Palu**	**14.10**	**190**	P		**P**		**05 25 03.7**	**-3.2**
	52nm,0.9s,1μm								
NACB	**Ninganchiao**	**14.12**	**357**	*e*Pn		**Pn**		**05 25 01.1**	**+0.5**
BNSI	**Bone**	**14.47**	**189**	P		**P**		**05 25 10.0**	**-1.1**
KBKI	**Kotabaru**	**14.56**	**205**	P		**P**		**05 25 10.2**	**-1.9**
STKI	**Sintang**	**14.61**	**228**	P		**Pn**		**05 25 09.7**	**+2.5**
YHNB	**Yeheng**	**14.62**	**357**	*e*Pn		**Pn**		**05 25 08.3**	**+0.9**
KSM	**Kuching**	**14.63**	**235**	*e*Pn		**Pn**		**05 25 07.8**	**+0.3**
MCO	**Taipa Grande**	**14.70**	**326**	P		**Pn**		**05 25 08.0**	**-0.3**
AAI	**Ambon**	**14.80**	**156**	P		**P**		**05 25 12.7**	**-2.0**
MSAI	**Masohi**	**14.80**	**153**	P		**Pn**		**05 25 10.2**	**+0.5**
QIZ	**Qiongzhong**	**15.04**	**308**	P		**Pn**		**05 25 13.3**	**+0.5**
QIZ				S		**Sn**		**05 28 02.4**	**+4.0**
QIZ				pmax		pmax			
	comp=Z,120nm,2.0s								
QIZ				pmax		pmax			
	comp=Z,2μm,6.5s								
QIZ				LR		LR			
	comp=N,10μm,17.9s								
QIZ				LR		LR			
	comp=E,14μm,19.1s								
QIZ				LR		LR			
	comp=Z,22μm,20.2s								
QIZ	**Qiongzhong**	**15.04**	**308**	*e*Pn		**Pn**		**05 25 12.4**	**-0.4**
	298nm,1.4s								
QZH	**Quanzhou**	**15.28**	**347**	⇓*i*P		**Pn**		**05 25 16.4**	**+0.5**
QZH				S		**Sn**		**05 28 04.3**	**+0.1**
QZH				pmax		pmax			
	comp=Z,200nm,1.1s								
QZH				pmax		pmax			
	comp=Z,1μm,3.4s								
QZH				LR		LR			
	comp=N,11μm,16.6s								
QZH				LR		LR			
	comp=E,5μm,16.6s								
QZH				LR		LR			
	comp=Z,12μm,18.9s								
BKSI	**Bulukumba**	**15.37**	**188**	P		**P**		**05 25 21.5**	**+0.4**
GZH	**Guangzhou**	**15.59**	**328**	P		**P**		**05 25 24.0**	**+0.5**
GZH				S		**S**		**05 28 19.9**	**-5.5**
GZH				SS		**SnSn**		**05 28 34.9**	**+10**
GZH				LR		LR			
	comp=N,13μm,15.2s								
GZH				LR		LR			
	comp=E,7μm,15.8s								
FAKI	**Fak Fak**	**16.20**	**142**	*e*Pn		**Pn**		**05 25 26.6**	**-1.2**
	206nm,1.3s								
FAKI	**Fak Fak**	**16.20**	**142**	P		**Pn**		**05 25 28.8**	**+1.0**
BNDI	**Bandanaira**	**16.28**	**152**	P		**P**		**05 25 33.6**	**+2.4**
RKPI	**Ransiki, Papua**	**16.43**	**133**	P		**P**		**05 25 33.3**	**+0.4**
PBKI	**Pangkalan Bun**	**16.48**	**221**	P		**P**		**05 25 33.4**	**0.0**
JOW	**Kunigami**	**17.67**	**18**	P		**P**		**05 25 47.6**	**+1.1**
	3.1nm,0.3s,baz=196,slow=7.1,SNR=12								
JOW				LR		LR		05 32 45.7	
	comp=Z,7μm,19.0s,baz=192,slow=38								
JOW	**Kunigami**	**17.67**	**18**	*e*Pn		**Pn**		**05 25 45.9**	**-0.2**
	295nm,1.0s								
SRPI	**Serui, Papua**	**18.20**	**130**	P		**Pn**		**05 25 53.4**	**+0.8**
MMRI	**Maumere**	**18.51**	**180**	*e*P		**Pn**		**05 25 56.1**	**-0.3**
	1μm,1.5s								
MMRI	**Maumere**	**18.51**	**180**	P		**Pn**		**05 25 59.0**	**+2.7**
EDFI	**Ende, Flores**	**18.63**	**182**	P		**Pn**		**05 26 00.2**	**+2.3**
KMMI	**Kalianget**	**18.86**	**206**	P		**Pn**		**05 26 04.7**	**+4.1**
SKNT	**Sakolnakorn**	**19.12**	**293**	P		**Pn**		**05 26 04.4**	**+0.6**
	254nm,2.0s,7μm								
PLAI	**Plampang**	**19.24**	**194**	P		**Pn**		**05 26 06.7**	**+1.6**
SRBI	**Singaraja**	**19.30**	**202**	P		**Pn**		**05 26 07.8**	**+1.9**
TWSI	**Taliwang, Sumb**	**19.38**	**196**	P		**Pn**		**05 26 07.8**	**+1.0**
GRJI	**Gresik**	**19.45**	**211**	P		**Pn**		**05 26 09.3**	**+1.7**
BLJI	**Banyuglugur**	**19.65**	**207**	P		**Pn**		**05 26 11.1**	**+1.1**
TBJI	**Tambak Boyo**	**19.69**	**212**	P		**P**		**05 26 06.7**	**-2.0**
SOEI	**Soe**	**19.71**	**174**	*e*P		**Pn**		**05 26 11.3**	**+0.4**
	477nm,0.9s								
SOEI	**Soe**	**19.71**	**174**	P		**Pn**		**05 26 10.7**	**-0.2**
WBSI	**Waikabubak, Su**	**19.72**	**189**	P		**P**		**05 26 09.6**	**+0.4**
TPRI	**Tanjung Pinang**	**19.86**	**244**	P		**Pn**		**05 26 12.8**	**+0.3**
IGBI	**Denpasar**	**20.00**	**201**	P		Pn		05 26 14.3	+0.1
JAGI	**Jajag, Banyuwa**	**20.06**	**204**	*e*P		Pn	

GUMO Guam 22.36 79 P **P** **05 26 36.2 -1.4**
comp=Z,238nm,1.1s,baz=130,slow=4.8,SNR=4.6
GUMO LR LR 05 33 43.1
comp=Z,8µm,22.0s,baz=248,slow=32
GUMO Guam 22.36 79 *eP* **P** **05 26 36.2 -1.4**
GUMO *eP* **P** **05 26 36.3 -1.3**
PHET Kaeng Krachan 22.42 280 P **P** **05 26 38.9 +0.6**
comp=Z,46nm,1.3s,comp=Z,508nm
CBJI Citeko 22.43 224 P **P** **05 26 42.8 +4.4**
TRTT Trang 22.45 266 P **P** **05 26 39.7 +1.1**
comp=Z,88nm,1.4s,comp=Z,2µm
CISI Cisompet, Garu 22.64 220 *eP* **P** **05 26 42.5 +1.9**
comp=Z,411nm,1.2s
CISI LR LR
comp=Z,7µm,21.0s
CISI Cisompet, Garu 22.64 220 P **P** **05 26 42.8 +2.2**
NANT Nan 22.67 295 P **P** **05 26 40.9 0.0**
comp=Z,32nm,1.1s,comp=Z,290nm
SBJI Serang 22.72 226 P **P** **05 26 45.0 +3.6**
KLI Kotabumi 22.81 230 P **P** **05 26 43.8 +1.4**
KRAB Krabi 22.89 267 P **P** **05 26 44.8 +1.5**
comp=Z,133nm,1.1s,comp=Z,2µm
UTHA Uthaitani 22.97 286 P **P** **05 26 44.1 +0.1**
comp=Z,50nm,1.0s,comp=Z,662nm
SKJI Sukabumi 23.06 224 P **P** **05 26 48.3 +3.4**
SRDT SRDT 23.08 283 P **P** **05 26 45.4 +0.3**
comp=Z,102nm,1.8s,comp=Z,3µm
MDSI Maura Dua 23.09 232 P **P** **05 26 45.8 +0.5**
BKNI Bangkinang 23.24 247 *eP* **P** **05 26 48.0 +1.2**
comp=Z,2µm,1.8s
BKNI Bangkinang 23.24 247 P **P** **05 26 48.0 +1.2**
SUKH Sukhothai 23.24 291 P **P** **05 26 47.1 +0.4**
comp=Z,43nm,1.4s,comp=Z,522nm
CGJI Cibinong 23.37 226 P **P** **05 26 49.3 +1.3**
SDSI Sungai Dareh 23.45 244 P **P** **05 26 49.8 +1.0**
ENH Enshi 23.46 331 *eP* **P** **05 26 48.6 -0.1**
comp=Z,176nm,1.2s
ENH LR LR
comp=Z,5µm,20.0s
KASI Kota Agung 23.51 230 P **P** **05 26 50.4 +1.1**
LWLI Liwa 23.52 231 P **P** **05 26 50.8 +1.3**
LAMP Lampang 23.54 294 P **P** **05 26 50.0 +0.4**
comp=Z,40nm,1.4s,comp=Z,549nm
PAYA Payao 23.60 296 P **P** **05 26 50.9 +0.7**
comp=Z,84nm,1.2s,comp=Z,792nm
ANA2 Anatahan 23.62 72 *eP* **P** **05 26 49.1 -1.4**
comp=Z,287nm,0.9s
UMPA Umpang Tak 23.65 288 P **P** **05 26 51.3 +0.6**
comp=Z,43nm,1.1s,comp=Z,1µm
SARN Sarigan 23.77 71 *eP* **P** **05 26 53.7 +1.9**
comp=Z,169nm,1.1s
PKDT Phuket 23.78 267 P **P** **05 26 52.5 +0.6**
comp=Z,134nm,1.5s,comp=Z,2µm
MASI Maura Aman, Be 23.88 238 P **P** **05 26 55.5 +2.7**
KMI Kunming 23.92 311 P **P** **05 26 54.8 +1.4**
KMI pP pP 05 27 01.9 -3.2
KMI PP **PnPn** **05 27 27.8 +4.5**
KMI S **S** **05 31 05.3 -1.8**
KMI SS **SnSn** **05 31 58.0 +8.2**
KMI pmax pmax
comp=Z,110nm,2.0s
KMI pmax pmax
comp=Z,1µm,3.7s
KMI LR LR
comp=Z,4µm,21.1s
KMI LR LR
comp=Z,11µm,18.6s
KMI LR LR
comp=Z,14µm,19.4s
KRJI Kerinci 23.99 241 P **P** **05 26 56.0 +2.1**
CM01 Chiang Mai Arr 24.12 293 *eP* **P** **05 26 55.5 +0.5**
CM31 Chiang Mai Arr 24.14 293 *eP* **P** **05 26 55.9 +0.7**
CM31 Chiang Mai Arr 24.14 293 P **P** **05 26 56.1 +0.9**
SNR=85
CMAR Chiang Mai Arr 24.14 293 P **P** **05 26 55.9 +0.7**
comp=Z,107nm,1.0s,baz=112,slow=7.8,SNR=352
CMAR LR LR 05 36 36.0
comp=Z,11µm,18.1s,baz=126,slow=37
CMMT Chiang Mai 24.25 294 P **P** **05 26 56.1 -0.1**
comp=Z,189nm,1.7s,comp=Z,3µm
CHTO Chiang Mai 24.25 294 *eP* **P** **05 26 56.3 +0.1**
comp=Z,252nm,1.3s
CHTO LR LR
comp=Z,9µm,18.0s
CHTO Chiang Mai 24.25 294 P **P** **05 26 56.5 +0.3**
SNR=62
CHTO Chiang Mai 24.25 294 *eP* **P** **05 26 56.3 +0.1**
CHTO pmax pmax
comp=Z,252nm,1.3s
CHTO MLR MLR
comp=Z,9µm,18.0s
CHTO Chiang Mai 24.25 294 P **P** **05 26 56.1 -0.1**
comp=Z,844nm,1.7s,comp=Z,15µm
PDSI Padang 24.30 245 P **P** **05 26 58.3 +1.6**
PSI Prapat 24.30 254 P **P** **05 26 57.9 +1.0**
comp=Z,95nm,1.1s,baz=0.9,slow=2.6,SNR=81
PSI LR LR 05 37 12.1
comp=Z,7µm,20.4s,baz=89,slow=38
PSI Prapat 24.30 254 *eP* **P** **05 26 57.9 +1.0**
comp=Z,854nm,1.7s
PSI Prapat 24.30 254 *eP* **P** **05 26 57.9 +1.0**
PSI pmax pmax
comp=Z,854nm,1.7s
MTN Manton Dam 24.32 159 P **P** **05 26 55.8 -1.0**
baz=24,SNR=29
JNU Nakatsue 24.33 18 P **P** **05 26 56.0 -0.7**
comp=Z,49nm,1.1s,baz=160,slow=8.5,SNR=6.7
JNU LR LR 05 36 09.3
comp=Z,3µm,21.1s,baz=197,slow=36
JNU Nakatsue 24.33 18 *eP* **P** **05 26 56.1 -0.7**
comp=Z,445nm,1.8s
MNSI Mandailing Nat 24.39 249 P **P** **05 26 58.6 +1.1**
TSI Tuntungan 24.44 256 P **P** **05 26 59.9 +2.0**
KDU Kakadu 24.69 156 P **P** **05 26 57.9 -2.2**
baz=25,SNR=73
KCSI Kotacane, Aceh 25.20 257 P **P** **05 27 04.7 -0.1**
JCJ Chichijima 25.31 45 LR LR 05 35 39.7
comp=Z,5µm,20.9s,baz=222,slow=33
PPSI Pulau Pagai 25.58 241 P **P** **05 27 10.8 +2.6**
LHMI Lhok Sumawe 25.58 261 *eP* **P** **05 27 09.9 +1.6**
comp=Z,664nm,1.3s
LHMI Lhok Sumawe 25.58 261 P **P** **05 27 09.9 +1.6**
TPTI 25.83 257 P **P** **05 27 09.8 -0.8**
GSI Gunungsitoli 26.07 252 *eP* **P** **05 27 12.5 -0.2**
comp=Z,326nm,1.4s
GSI LR LR
comp=Z,7µm,18.0s
GSI Gunungsitoli 26.07 252 P **P** **05 27 12.4 -0.3**
KNRA Kunungurra 26.29 166 P **P** **05 27 14.4 -0.2**
baz=26,SNR=16
MLSI Meulaboh, Aceh 26.32 259 P **P** **05 27 14.6 -0.4**
TIA Tai'an 26.52 351 P **P** **05 27 17.5 +0.9**
TIA S **S** **05 31 46.4 -1.4**
TIA pmax pmax
comp=Z,48nm,1.4s
TIA pmax pmax
comp=Z,390nm,10.8s
TIA LR LR
comp=Z,4µm,20.1s
TIA LR LR
comp=Z,3µm,18.1s
TIA LR LR
comp=Z,5µm,20.6s
SNSI Sinabang, Aceh 26.89 255 P **P** **05 27 20.0 -0.2**
XAN Xi'an 26.90 335 P **P** **05 27 19.1 -1.0**
XAN pP sP 05 27 34.4 -2.9
XAN S **S** **05 31 53.1 -0.9**
XAN pmax pmax
comp=Z,35nm,1.3s
XAN pmax pmax
comp=Z,320nm,10.8s
XAN LR LR
comp=Z,3µm,18.1s
XAN LR LR
comp=Z,4µm,17.7s
XAN LR LR
comp=Z,4µm,26.0s
CD2 Chengdu 27.04 323 P **P** **05 27 22.0 +0.7**
CD2 pP pP 05 27 34.3 +1.1
CD2 sP sP 05 27 40.0 +1.4
CD2 S **S** **05 31 56.3 +0.1**
CD2 sS sS 05 32 19.4 +3.3
CD2 pmax pmax
comp=Z,150nm,0.9s
CD2 pmax pmax
comp=Z,270nm,4.0s
CD2 LR LR
comp=Z,9µm,18.4s
CD2 LR LR
comp=Z,10µm,17.4s
CD2 LR LR
comp=Z,11µm,16.4s
MANU Manus Island 27.66 114 *eP* **P** **05 27 25.6 -1.5**
comp=Z,58nm,1.1s
MANU LR LR
comp=Z,3µm,20.0s
KS15 Wonju Array Si 27.79 10 *eP* **P** **05 27 26.6 -1.3**
KS15 *ePcP* **PcP** **05 30 44.0 +0.4**
KSAR Wonju Array Be 27.79 10 P **P** **05 27 28.2 +0.3**
KSAR PcP **PcP** **05 30 44.0 +0.4**
KSAR Wonju Array Be 27.79 10 P **P** **05 27 28.2 +0.3**
KSAR 05 30 44.0
KSRS Korea Array 27.80 10 P **P** **05 27 28.2 +0.1**
comp=Z,5.5nm,0.8s,baz=179,slow=9.3,SNR=14
KSRS PcP **PcP** **05 30 43.9 +0.4**
comp=Z,5.0nm,0.9s,baz=171,slow=2.3,SNR=6.3
KS01 Wonju Array Si 27.82 10 *eP* **P** **05 27 28.0 -0.2**
KS01 *ePcP* **PcP** **05 30 43.9 +0.2**
JHJ Hachijo jima 2 28.08 32 LR LR 05 36 54.1
comp=Z,4µm,21.0s,baz=265,slow=33
FITZ Fitzroy Crossi 28.11 173 P **P** **05 27 30.1 -0.8**
comp=Z,14nm,0.8s,baz=4.9,slow=6.0,SNR=24
FITZ PcP **PcP** **05 30 44.5 -0.1**
comp=Z,16nm,0.9s,baz=59,slow=2.2,SNR=3.5
FITZ Fitzroy Crossi 28.11 173 P **P** **05 27 30.3 -0.7**
baz=28,SNR=23
FITZ Fitzroy Crossi 28.11 173 *eP* **P** **05 27 30.2 -0.7**
comp=Z,50nm,1.3s
FITZ *ePcP* **PcP** **05 30 44.5 -0.1**
INU Inuyama 28.58 26 *eP* **P** **05 27 33.8 -1.2**
comp=Z,117nm,1.0s
INU LR LR
comp=Z,7µm,20.0s
DL2 Dalian 28.80 359 P **P** **05 27 36.5 -0.4**
DL2 sP **sP** **05 27 51.4 -2.7**
DL2 S **S** **05 32 22.9 -0.6**
DL2 pmax pmax
comp=Z,69nm,1.2s
DL2 pmax pmax
comp=Z,440nm,5.3s
DL2 LR LR
comp=Z,3µm,19.4s
DL2 LR LR
comp=Z,3µm,16.3s
DL2 LR LR
comp=Z,5µm,18.0s
TIY Taiyuan 29.00 344 *eP* P 05 27 47.4 +8.6
TIY pP sP 05 28 07.9 +12
TIY sP pP 05 28 15.1 +24
TIY PP **PP** **05 28 39.6 -5.3**
TIY S **S** **05 32 27.4 +0.4**
TIY sS sS 05 33 00.1 +13
TIY SS **SnSn** **05 34 01.3 +8.0**
TIY Taiyuan 29.00 344 ScS ScS 05 38 21.3 +2.6
TIY pmax pmax
comp=Z,22nm,0.5s
TIY LR LR
comp=N,4µm,15.1s
TIY LR LR
comp=E,350nm,7.6s
TIY LR LR
comp=Z,4µm,17.1s
PBA Port Blair 29.09 276 PFAKE 05 27 50.0 +10
PBA LR LR
comp=Z,13µm,18.0s
MAJO Matsushiro 30.10 26 *eP* **P** **05 27 47.2 -1.3**
comp=Z,147nm,1.9s
MAJO *ePcP* **PcP** **05 30 49.1 -0.3**
MAJO Matsushiro 30.10 26 *eP* **P** **05 27 47.2 -1.3**
MAJO *e* 05 30 49.1
MAJO pmax pmax
comp=Z,147nm,1.9s
MAT Matsushiro 30.10 26 P **P** **05 27 45.6 -2.9**
MAT S **S** **05 32 41.4 -2.8**
MJAR Matsushiro Arr 30.10 26 P **P** **05 27 45.8 -2.7**
comp=Z,5.3nm,0.7s,baz=205,slow=9.5,SNR=13
MJAR PcP **PcP** **05 30 49.1 -0.3**
comp=Z,6.3nm,1.0s,baz=222,slow=5.4,SNR=4.6
MJAR ScP **ScP** **05 34 30.2 +2.0**
comp=Z,3.7nm,0.7s,baz=218,slow=3.8,SNR=7.9
MJAR LR LR 05 38 21.4
comp=Z,4µm,21.3s,baz=205,slow=33
MJB9 Matsu-Tunnel 30.10 26 *eP* **P** **05 27 47.0 -1.6**
comp=Z,163nm,1.9s
MJB9 LR LR
comp=Z,4µm,21.0s
LKP Lekhapani 30.33 308 *eP* **P** **05 27 49.8 -0.8**
LKP lAmb lAmb 05 27 51.6
comp=Z,32nm,0.5s
BJT Baijiatuau 30.40 351 *eP* **P** **05 27 51.1 +0.1**
comp=Z,298nm,2.0s
BJT LR LR
comp=Z,4µm,19.0s
BJT Baijiatuau 30.40 351 *eP* **P** **05 27 51.1 +0.1**
BJT pmax pmax
comp=Z,298nm,2.0s
BJT MLR MLR
comp=Z,4µm,19.0s
BJI Beijing 30.42 351 P **P** **05 27 53.4 +2.2**
BJI S **S** **05 32 47.3 -1.7**
BJI pmax pmax
comp=Z,24nm,1.7s
BJI LR LR
comp=Z,2µm,28.2s
BJI LR LR
comp=Z,3µm,21.4s
BJI LR LR
comp=Z,3µm,26.0s
SAIH SAIHA 30.70 297 *eP* **P** **05 27 54.1 -0.1**
SAIH lAmb lAmb 05 27 57.1
comp=Z,78nm,1.0s
IMP Imphal 30.74 302 *eP* **P** **05 27 52.6 -1.7**
IMP lAmb lAmb 05 27 56.1
comp=Z,9.3nm,0.5s
MOKO MOKOCHONG 30.90 305 *eP* **P** **05 27 55.0 -0.8**
MOKO lAmb lAmb 05 27 56.8
comp=Z,20nm,0.6s
LZH Lanzhou 30.92 330 ⇑P **P** **05 27 57.3 +1.3**
LZH pP sP 05 28 11.1 -2.2
LZH sP pP 05 28 17.0 +9.1
LZH PP **PP** **05 29 04.5 -1.9**
LZH S **S** **05 32 55.6 -1.8**
LZH sS sS 05 33 19.6 +2.2
LZH SS **SnSn** **05 34 48.1 +7.9**
LZH pmax pmax
comp=Z,59nm,1.0s
LZH pmax pmax
comp=Z,260nm,4.8s
LZH LR LR
comp=Z,9µm,15.0s
LZH LR LR
comp=Z,12µm,14.4s
LZH LR LR
comp=Z,16µm,15.0s
KOHI KOHIMA 30.97 304 *eP* **P** **05 27 51.9 -4.6**
MBWA Marble Bar 31.06 185 *eP* **P** **05 27 56.5 -0.6**
comp=Z,35nm,1.0s
MBWA *ePcP* **PcP** **05 30 52.4 +0.3**
MBWA *eS* **S** **05 33 01.4 +2.0**
MBWA LR LR
comp=Z,1µm,20.0s
COEN Coen 31.54 139 P **P** **05 27 58.7 -2.7**
baz=32,SNR=8.8
COEN Coen 31.54 139 *eP* **P** **05 27 58.6 -2.8**
comp=Z,33nm,1.1s
SNY Shenyang 31.73 2 ⇑P **P** **05 28 02.6 -0.1**
SNY S **S** **05 33 09.6 +0.2**
SNY pmax pmax
comp=Z,44nm,1.5s
SNY pmax pmax
comp=Z,680nm,4.2s
SNY LR LR
comp=Z,3µm,23.9s
SNY LR LR
comp=Z,5µm,18.4s
SNY LR LR
comp=Z,6µm,18.2s
ITAN ITANAGAR 31.90 306 *eP* **P** **05 28 03.6 -0.9**
BRDH Bariadhala 31.94 297 P **P** **05 28 06.5 +1.6**
comp=Z,62nm,0.3s,baz=88,slow=8.1,SNR=9.0
ZIRO ZIRO 31.98 307 *eP* **P** **05 28 03.7 -1.7**
ZIRO lAmb lAmb 05 28 06.8
comp=Z,114nm,1.4s
WRAB Tennant Creek 32.01 158 *eP* **P** **05 28 03.2 -2.3**
comp=Z,25nm,1.0s
WRAB Tennant Creek 32.01 158 *c iP* **P** **05 28 03.0 -2.5**
WRAB pmax pmax
comp=Z,48nm,1.7s
WR1 Warramunga Arr 32.02 158 *eP* **P** **05 28 03.1 -2.5**
comp=Z,24nm,0.8s
WR1 *ePcP* **PcP** **05 30 53.8 -1.0**
WRA Warramunga Arr 32.02 158 P **P** **05 28 03.1 -2.5**
comp=Z,8.5nm,0.4s,baz=342,slow=9.1,SNR=127
WRA PcP **PcP** **05 30 53.8 -1.0**
comp=Z,18nm,0.9s,baz=339,slow=3.2,SNR=13
WRA ScP **ScP** **05 34 35.3 +0.5**
comp=Z,13nm,1.1s,baz=340,slow=4.1,SNR=21
WB2 Warramunga Arr 32.02 158 *eP* **P** **05 28 01.9 -3.6**
WB2 *eP* **P** **05 28 03.2 -2.3**
HHC Hu-ho-hao-te 32.17 345 *eP* **P** **05 28 08.0 +1.2**
HHC S **S** **05 33 18.1 +1.4**
HHC sS sS 05 33 37.3 +0.6
HHC pmax pmax
comp=Z,28nm,1.0s
HHC pmax pmax
comp=Z,300nm,5.1s
HHC LR LR
comp=Z,4µm,19.2s
HHC LR LR
comp=Z,2µm,20.4s
HHC LR LR
comp=Z,5µm,20.7s
BELO BELONIA 32.29 298 *eP* **P** **05 28 08.6 +0.6**
BTO Baotou 32.38 342 *eP* **P** **05 28 09.3 +0.7**
TEZP TEZPUR 32.41 305 *eP* **P** **05 28 08.1 -0.9**
TEZP lAmb lAmb 05 28 10.1
comp=Z,163nm,2.0s
SHL Shillong 32.74 302 *eP* **P** **05 28 12.5 +0.4**
comp=Z,49nm,0.9s
SHL LR LR
comp=Z,7µm,20.0s
SHL Shillong 32.74 302 *eP* **P** **05 28 12.5 +0.4**
SHL pmax pmax
comp=Z,49nm,0.9s
SHL MLR MLR
comp=Z,7µm,20.0s
SHL Shillong 32.74 302 *eP* **P** **05 28 11.0 -1.2**
SHL *eP* **P** **05 28 13.0 +0.9**
SHL lAmb lAmb 05 28 13.6
comp=Z,1µm,3.9s
SHL *eS* **S** **05 33 29.0 +2.9**
RABL Rabaul 32.90 114 PFAKE 05 28 20.0 +6.6
RABL LR LR
comp=Z,2µm,18.0s
GUWA GUWAHATI 33.15 303 *eP* **P** **05 28 14.0 -1.4**
GIRL Giralia 33.39 194 P **P** **05 28 18.5 +1.0**
baz=34,SNR=4.1
COCO West Island 33.57 230 PFAKE 05 28 30.0 +11
COCO LR LR
comp=Z,2µm,20.0s
TAWA Tawang 33.58 306 *eP* **P** **05 28 20.4 +0.7**
TAWA lAmb lAmb 05 28 21.9
comp=Z,97nm,1.0s
CN2 Changchun 33.79 4 *eP* **P** **05 28 19.0 -1.8**
CN2 *eS* **S** **05 33 39.1 -2.4**
CN2 ScP **ScP** **05 34 42.6 +2.1**
CN2 *eSS* **SnSn** **05 35 46.4 -3.1**
CN2 pmax pmax
comp=Z,30nm,1.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,3µm,16.0s
CN2 LR LR
comp=Z,4µm,16.0s
CN2 LR LR
comp=Z,3µm,17.0s
TURI Tura 34.03 301 *eP* **P** **05 28 24.1 +0.9**
TURI lAmb lAmb 05 28 27.0
comp=Z,66nm,0.6s
QIS Mount Isa 34.80 151 P **P** **05 28 28.0 -1.8**
baz=35,SNR=10
MDJ Mudanjiang 35.06 9 P **P** **05 28 32.0 +0.2**
MDJ pP pP 05 28 44.1 +0.3
MDJ sP sP 05 28 50.8 +1.6
MDJ PP **PnPn** **05 29 50.8 +0.7**
MDJ PcP **PcP** **05 31 02.4 -0.5**
MDJ S **S** **05 34 04.3 +3.2**
MDJ ScP **ScP** **05 34 44.4 -0.7**
MDJ pmax pmax
comp=Z,130nm,1.4s
MDJ pmax pmax
comp=Z,760nm,7.1s
MDJ LR LR
comp=Z,3µm,22.3s
MDJ LR LR
comp=Z,2µm,20.7s
MDJ LR LR
comp=Z,4µm,20.7s
MDJ Mudanjiang 35.06 9 *eP* **P** **05 28 32.8 +1.0**
comp=Z,119nm,1.0s
MDJ LR LR
comp=Z,4µm,20.0s
LSA Lhasa 35.08 308 P **P** **05 28 33.8 +1.1**
LSA S **S** **05 34 07.4 +4.7**
LSA pmax pmax
comp=Z,38nm,1.1s
LSA LR LR
comp=Z,780nm,18.0s
LSA LR LR
comp=Z,2µm,20.6s
LSA LR LR
comp=Z,5µm,20.6s
LSA Lhasa 35.08 308 *eP* **P** **05 28 34.0 +1.3**
comp=Z,53nm,1.2s
LSA LR LR
comp=Z,6µm,20.0s
USA0B Ussuriysk Arra 35.10 12 *eP* **P** **05 28 32.7 +0.6**
comp=Z,410nm,1.7s
USA0B LR LR
comp=Z,2µm,21.0s
USRK Ussuriysk Ar. 35.10 12 P **P** **05 28 32.6 +0.5**
comp=Z,61nm,1.0s,baz=193,slow=7.8,SNR=50
USRK ScP **ScP** **05 34 47.3 +2.1**
comp=Z,6.2nm,1.0s,baz=219,slow=2.4,SNR=8.6
WRKA Warakurna 35.30 171 P **P** **05 28 33.3 -0.8**
baz=36,SNR=47
AS31 Alice Springs 35.32 161 *eP* **P** **05 28 32.8 -1.4**
comp=Z,13nm,0.5s
AS31 *ePcP* **PcP** **05 31 03.0 -1.0**
ASAR Alice Springs 35.32 161 P **P** **05 28 32.9 -1.4**
comp=Z,27nm,0.5s,baz=343,slow=7.1,SNR=221
ASAR PcP **PcP** **05 31 03.0 -1.0**
comp=Z,13nm,0.9s,baz=346,slow=2.4,SNR=8.3
ASAR ScP **ScP** **05 34 46.8 +0.4**
comp=Z,7.0nm,1.0s,baz=341,slow=2.8,SNR=14
ASAR PKPPKP **P'P'df** **06 01 34.9 -5.2**
comp=Z,2.0nm,1.2s,baz=159,slow=3.8,SNR=4.1
AS01 Alice Springs 35.33 161 *eP* **P** **05 28 32.4 -2.0**
MTSU Mount Surprise 35.40 142 P **P** **05 28 32.9 -2.1**
baz=35,SNR=9.4
GTA Gaotai 35.51 329 ⇓P **P** **05 28 36.1 +0.2**
GTA PcP **PcP** **05 31 05.6 +1.1**
GTA S **S** **05 34 08.8 +0.4**
GTA ScS **ScS** **05 38 51.0 -0.7**
GTA pmax pmax
comp=Z,12nm,1.1s
GTA pmax pmax
comp=Z,120nm,5.7s
GTA LR LR
comp=Z,6µm,16.8s
GTA LR LR
comp=Z,6µm,16.8s
GTA LR LR
comp=Z,10µm,16.2s
PATS Pohnpei 35.73 92 PFAKE 05 28 50.0 +12
PATS LR LR
comp=Z,7µm,21.0s
GTK Tadong 36.13 303 *eP* **P** **05 28 41.3 -0.1**
GTK lAmb lAmb 05 28 45.4
comp=Z,143nm,1.2s
MEEK Meekatharra 36.59 186 P **P** **05 28 44.9 -0.2**
baz=37,SNR=33
BWNR Bhubaneshwar 36.62 291 *eP* **P** **05 28 44.3 -1.1**
BWNR lAmb lAmb 05 28 45.8
comp=Z,47nm,0.6s
ERM Erimo 36.78 26 PFAKE 05 29 00.0 +14
ERM LR LR

comp=Z,4μm,21.0s
TAPN Taplejung 36.88 303 ⇓ iP P 05 28 48.5 +0.6
comp=Z,252nm,1.1s
ODAN Odare 36.97 302 ⇓ iP P 05 28 49.2 +0.5
comp=Z,223nm,1.1s
TEY Ternei 37.02 17 ⇓ eP P 05 28 49.0 +0.5
TEY eS S 05 34 31.2 +0.2
TEY pmax pmax
comp=N,50nm,1.4s
TEY pmax pmax
comp=Z,100nm,1.5s
TEY smax smax
comp=E,50nm,2.3s
TEY MLR MLR
comp=N,4μm,14.0s
TEY MLR MLR
comp=Z,3μm,16.0s
BOK Bokaro 37.33 296 eP P 05 28 50.8 -0.7
BOK IAmb IAmb 05 28 53.3
comp=Z,51nm,0.6s
RAMN Ramite 37.66 301 ⇓ iP P 05 28 55.3 +0.8
comp=Z,896nm,1.9s
CTA Charters Tower 38.06 142 P P 05 28 55.9 -1.8
comp=Z,7.4nm,0.4s,baz=311,slow=8.7,SNR=18
CTA PcP PcP 05 31 13.8 +1.5
comp=Z,20nm,1.2s,baz=5.3,slow=3.9,SNR=3.7
CTAO Charters Tower 38.06 142 eP P 05 28 56.0 -1.7
comp=Z,37nm,1.3s
CTAO ePcP PcP 05 31 14.3 +1.9
CTAO LR LR
comp=Z,2μm,20.0s
CTAO Charters Tower 38.06 142 eP P 05 28 56.0 -1.7
CTAO e 05 31 14.3
CTAO pmax pmax
comp=Z,37nm,1.3s
CTAO MLR MLR
comp=Z,2μm,20.0s
JIRN Jiri 38.25 302 ⇓ iP P 05 29 00.2 +0.6
comp=Z,509nm,1.0s
ASAJ Asahikawa 38.27 24 eP P 05 28 59.3 +0.2
comp=Z,461nm,1.5s
VIS Vishakhapatnam 38.56 286 i P P 05 29 03.4 +1.5
GUN Gumba 38.59 303 ⇓ iP P 05 29 03.1 +0.6
comp=Z,358nm,0.7s
PKI Pulchoki 38.87 302 ⇓ iP P 05 29 04.9 +0.1
comp=Z,152nm,1.0s
PKIN Phulchoki 38.88 302 ⇓ iP P 05 29 05.0 +0.2
comp=Z,132nm,1.0s
KKN Kakani 39.05 302 ⇓ iP P 05 29 06.6 +0.4
comp=Z,241nm,1.1s
DMN Daman 39.14 302 ⇓ iP P 05 29 07.2 +0.3
comp=Z,390nm,1.4s
HIA Hailar 39.21 357 eP P 05 29 06.9 0.0
comp=Z,84nm,0.9s
HIA ePcP PcP 05 31 16.9 +1.5
HIA eS S 05 35 03.3 -0.8
HIA LR LR
comp=Z,3μm,20.0s
HIA Hailar 39.21 357 eP P 05 29 06.9 0.0
HIA e 05 31 16.9
HIA eS S 05 35 03.3 -0.8
HIA pmax pmax
comp=Z,84nm,0.9s
HIA MLR MLR
comp=Z,3μm,20.0s
MORW Morawa 39.30 189 P P 05 29 08.1 +0.2
baz=40,SNR=9.6
YUK Yuzh-Kuril'sk 39.58 27 eP P 05 29 01.6 -8.4
YUK e 05 30 40.7
YUK ePPP PPP 05 31 04.5
YUK e 05 31 15.7
YUK eS S 05 35 01.0 -8.7
YUK pmax pmax
comp=Z,787nm,1.3s
YUK pmax pmax
comp=N,401nm,1.4s
YUK pmax pmax
comp=E,123nm,0.9s
ULN Ulaanbaatar 39.88 344 eP P 05 29 13.6 +0.8
comp=E,145nm,1.7s
ULN LR LR
comp=Z,4μm,21.0s
ULN Ulaanbaatar 39.88 344 P P 05 29 13.7 +1.0
SNR=25
ULN Ulaanbaatar 39.88 344 ⇑ iP P 05 29 13.8 +1.0
ULN pmax pmax
comp=Z,87nm,1.7s
KLR Kul'dur 39.90 10 ⇑ iP P 05 29 12.8 +0.1
comp=Z,86nm,1.2s,baz=209,slow=7.1,SNR=41
KLR Kul'dur 39.90 10 ⇑ iP P 05 29 12.1 -0.5
SONA0 Songino Array 40.04 343 eP P 05 29 14.1 +0.1
SONM Songino Array 40.04 343 P P 05 29 14.1 +0.1
comp=Z,41nm,1.2s,baz=164,slow=9.1,SNR=66
SONM ScP ScP 05 35 05.5 +1.6
comp=Z,2.0nm,0.9s,baz=167,slow=5.3,SNR=4.2
SONM LR LR 05 46 44.6
comp=Z,3μm,22.0s,baz=156,slow=38
SONA1 Songino Array 40.05 343 eP P 05 29 14.2 +0.1
KOLN Koldanda 40.45 301 ⇓ iP P 05 29 18.2 +0.4
comp=Z,122nm,0.8s
DANN Dangsing 40.50 302 ⇓ iP P 05 29 18.7 +0.4
comp=Z,696nm,1.6s
YSS Yuzh-Sakhalins 40.72 22 eP P 05 29 19.7 +0.3
comp=Z,229nm,1.3s
YSS LR LR
comp=Z,1μm,19.0s
YSS Yuzh-Sakhalins 40.72 22 ⇑ eP P 05 29 19.4 0.0
YSS e 05 29 25.0
YSS eS S 05 35 23.9 -2.8
YSS pmax pmax
comp=N,50nm,1.3s
YSS pmax pmax
comp=E,40nm,1.3s
YSS pmax pmax
comp=Z,120nm,1.3s
YSS MLR MLR
comp=Z,2μm,17.0s
YSS MLR MLR
comp=N,900nm,19.0s
YSS MLR MLR
comp=E,1μm,18.0s
FORT Forrest 40.91 172 P P 05 29 21.6 +0.4
baz=41,SNR=8.5
FORT Forrest 40.91 172 eP P 05 29 20.6 -0.6
comp=E,82nm,0.9s
PYUN Piuthan 41.07 302 ⇓ iP P 05 29 23.6 +0.7
comp=E,395nm,1.0s
PALK Pallekele 41.21 270 P P 05 29 25.6 +1.5
comp=E,14nm,0.9s,baz=116,slow=7.6,SNR=5.2
PALK Pallekele 41.21 270 eP P 05 29 25.9 +1.9
comp=E,54nm,1.3s
PALK Pallekele 41.21 270 P P 05 29 25.8 +1.7
PALK Pallekele 41.21 270 eP P 05 29 25.9 +1.9
PALK pmax pmax
comp=Z,54nm,1.3s
KUR Kuril'sk 41.41 27 P P 05 29 25.6 +0.4
KUR MLR MLR
comp=Z,2μm,13.0s
KUR MLR MLR
comp=N,1μm,19.0s
KLBR Kellerberrin 41.58 186 P P 05 29 26.7 +0.1
baz=42,SNR=15
HNR Honiara 42.13 116 PFAKE 05 29 40.0 +8.5
HNR LR LR
comp=Z,2μm,21.0s
QLP Quilpie 42.13 150 P P 05 29 29.4 -1.9
baz=42,SNR=16
GRNR Gornyy 42.28 13 eP P 05 29 33.2 +1.0
GRNR e 05 31 26.0
GRNR pmax pmax
comp=Z,46nm,1.0s
CIT Chita 42.51 352 eP P 05 29 35.5 +1.4
CIT e 05 29 51.8
CIT e 05 31 14.6
CIT pmax pmax
comp=Z,99nm,1.5s
NWAO Narrogin (SRO) 42.95 186 P P 05 29 37.6 -0.2
comp=Z,14nm,0.4s,baz=234,slow=6.6,SNR=16
NWAO Narrogin (SRO) 42.95 186 P P 05 29 38.2 +0.4
baz=43,SNR=10
NWAO Narrogin (SRO) 42.95 186 P P 05 29 38.0 +0.2
SNR=5.4
NGP Nagpur 43.00 290 eP P 05 29 39.4 +0.9
NGP IAmb IAmb 05 29 40.8
comp=Z,162nm,1.0s
HYB Hyderabad 43.07 285 ⇓ iP P 05 29 39.0 -0.2
HYB eS S 05 36 08.0 +5.6
ZAK Zakamensk 43.23 342 eP P 05 29 39.8 -0.3
ZAK e 05 31 29.7
ZAK pmax pmax
comp=Z,22nm,1.3s
ZAK pmax pmax
comp=Z,13nm,1.5s
ZEA Zeya 43.81 4 eP P 05 29 44.1 -0.4
ZEA eS S 05 36 08.0 -4.0
ZEA e 05 39 36.0
ZEA pmax pmax
comp=N,110nm,1.2s
ZEA pmax pmax
comp=Z,140nm,1.2s
ZEA smax smax
comp=E,700nm,12.0s
ZEA smax smax
comp=N,1μm,13.0s
ZEA MLR MLR
comp=Z,4μm,18.0s
ZEA MLR MLR
comp=E,2μm,16.0s
ZEA MLR MLR
comp=N,3μm,19.0s
TYV Tymovskoe 44.05 18 eP P 05 29 47.4 +0.9
TYV eS S 05 36 22.7 +7.0
TYV pmax pmax
comp=Z,900nm,5.2s
TYV pmax pmax
comp=Z,72nm,1.4s
TYV smax smax
comp=N,2μm,4.5s
TYV MLR MLR
comp=Z,2μm,14.0s
RMQ Roma 44.44 145 P P 05 29 48.6 -1.4
baz=44,SNR=5.7
BBOO Buckleboo 44.54 163 P P 05 29 49.4 -1.2
baz=45,SNR=7.3
BBOO Buckleboo 44.54 163 eP P 05 29 49.2 -1.4
comp=Z,50nm,0.9s
IRK Irkutsk 44.61 344 eP P 05 29 51.2 +0.2
IRK pmax pmax
comp=Z,92nm,3.2s
RKGY Rocky Gully 44.65 186 P P 05 29 52.5 +1.1
baz=45,SNR=6.1
BHPL Bhopal 44.80 293 eP P 05 29 53.9 +0.9
BHPL IAmb IAmb 05 29 54.8
comp=Z,212nm,1.1s
EIDS Eidsvold 44.95 142 P P 05 29 51.6 -2.4
baz=45,SNR=9.9
EIDS Eidsvold 44.95 142 eP P 05 29 51.7 -2.4
comp=Z,19nm,0.6s
EIDS LR LR
comp=Z,3μm,20.0s
MOY Mondy 45.06 341 eP P 05 29 55.7 +1.0
MOY pmax pmax
comp=Z,64nm,1.7s
WMQ Urumqi 45.11 325 P P 05 29 56.8 +1.6
WMQ sP sP 05 30 13.9 +1.1
WMQ PcP PcP 05 31 33.4 -1.8
WMQ PcS PcS 05 35 29.8 +0.8
WMQ S S 05 36 31.3 -0.2
WMQ ScS ScS 05 39 46.3 -2.3
WMQ pmax pmax
comp=Z,39nm,1.3s
WMQ pmax pmax
comp=Z,800nm,3.9s
WMQ LR LR
comp=Z,13μm,15.9s
WMQ LR LR
comp=Z,7μm,16.7s
WMQ LR LR
comp=Z,7μm,23.3s
NKL Nikolayevsk 45.52 15 eP P 05 29 57.0 -1.1
NKL eS S 05 36 36.0 -0.8
NKL e 05 39 54.0
NKL pmax pmax
comp=N,70nm,1.2s
NKL pmax pmax
comp=Z,140nm,1.2s
NKL pmax pmax
comp=Z,800nm,7.0s
NKL smax smax
comp=N,700nm,8.0s
NKL smax smax
comp=E,1μm,8.0s
NKL MLR MLR
comp=N,3μm,18.0s
NKL MLR MLR
comp=E,1μm,18.0s
NKL MLR MLR
comp=Z,2μm,18.0s
STKA Stephens Creek 45.54 157 P P 05 29 57.2 -1.4
comp=Z,15nm,0.7s,baz=332,slow=7.9,SNR=30
STKA LR LR 05 50 47.7
comp=Z,2μm,21.9s,baz=333,slow=38
STKA Stephens Creek 45.54 157 P P 05 29 57.3 -1.4
baz=46,SNR=33
STKA Stephens Creek 45.54 157 eP P 05 29 57.2 -1.4
comp=Z,6.5nm,1.0s
STKA Stephens Creek 45.54 157 eP P 05 29 57.2 -1.4
STKA pmax pmax
comp=Z,7.0nm,1.0s
DDI Dehra Dun 45.85 303 eP P 05 30 00.9 -0.2
DDI IAmb IAmb 05 30 02.7
comp=Z,137nm,1.0s
HTT Hallett 45.99 161 P P 05 30 00.9 -1.2
baz=46,SNR=42
NDI New Delhi 46.11 300 eP P 05 30 03.0 -0.2
SMLA Simla 46.81 304 eP P 05 30 09.0 +0.4
CMSA Cobar Meteorol 46.98 152 P P 05 30 09.1 -0.8
baz=47,SNR=18
HVS Khovu-Aksy 47.26 336 ⇓ iP P 05 30 12.9 +0.9
HVS pmax pmax
comp=Z,69nm,1.3s
POO Poona 47.61 286 eP P 05 30 14.0 -1.2
POO IAmb IAmb 05 30 15.4
comp=Z,6μm,4.8s
DHRM DHARAMSHALA 47.84 305 eP P 05 30 16.7 -0.3
BOD Bodaibo 48.14 354 eP P 05 30 11.5 -7.1
BOD pmax pmax
comp=Z,68nm,1.1s
BOM Bombay 48.61 286 ex P 05 30 18.7 -4.1
BOM IAmb IAmb 05 30 20.3
comp=Z,78nm,0.8s
MNCI Minicoy 48.63 272 eP P 05 30 24.1 +1.1
comp=Z,135nm,1.2s
MNCI LR LR
comp=Z,3μm,18.0s
HMDM Hanimaadhoo 48.68 270 eP P 05 30 25.0 +1.6
comp=Z,173nm,1.3s
HMDM LR LR
comp=Z,3μm,20.0s
ZSN Zaisan 48.90 327 ⇓ eP P 05 30 25.0 +0.4
comp=Z,6.6nm,1.4s
ZSN eS S 05 37 28.3 +3.0
ZSN LR LR 05 52 00.5
comp=Z,458nm,17.1s
DGZ Jazzator, Alta 49.02 331 *d* **iP P 05 30 26.5 +0.8**
DGZ pmax pmax
comp=Z,12nm,1.3s
ARMA Armidale 49.07 146 P P 05 30 25.5 -0.7
baz=49,SNR=4.2
ARMA Armidale 49.07 146 eP P 05 30 26.0 -0.3
comp=Z,74nm,1.4s
ARMA LR LR
comp=Z,2μm,18.0s
SKR Severo-Kuril's 49.18 28 eP P 05 30 26.2 -0.4
SKR eS S 05 37 29.5 +0.6
SKR pmax pmax
comp=Z,170nm,1.3s
SKR pmax pmax
comp=Z,2μm,4.8s
SKR MLR MLR
comp=Z,2μm,15.0s
SKR MLR MLR
comp=Z,1μm,16.0s
SHLS Shalkode 49.77 319 eP P 05 30 30.6 -0.9
comp=Z,72nm,0.9s
SHLS eS S 05 37 37.7 -0.1
SHLS LR LR 05 52 21.4
comp=Z,294nm,13.4s
PDGK Podgornoye 49.83 320 P P 05 30 32.2 +0.3
PDGK pmax pmax
comp=Z,69nm,0.9s
MK01 Makanchi Array 49.93 325 eP P 05 30 33.0 +0.5
MK31 Makanchi Array 49.95 325 eP P 05 30 33.5 +1.0
MK31 Makanchi Array 49.95 325 eP P 05 30 33.6 +1.0
MK32 Makanchi Array 49.95 325 eP P 05 30 33.2 +0.6
MK32 ePcP PcP 05 31 52.2 -0.1
MKAR Makanchi Array 49.95 325 P P 05 30 33.2 +0.6
comp=Z,20nm,0.9s,baz=127,slow=8.1,SNR=73
MKAR PcP PcP 05 31 52.2 -0.1
comp=Z,16nm,1.0s,baz=104,slow=3.1,SNR=4.8
MKAR LR LR 05 53 00.0
comp=Z,3μm,18.7s,baz=122,slow=38
MKAR Makanchi Array 49.95 325 eP P 05 30 33.5 +1.0
comp=Z,157nm,1.0s
MKAR PcP PcP 05 31 52.2 -0.1
MKAR Makanchi Array 49.95 325 eP P 05 30 33.6 +1.0
MKAR 05 31 52.2
MKAR pmax pmax
comp=Z,157nm,1.0s
ARPS Mount Arapiles 50.01 159 P P 05 30 31.8 -1.3
baz=50,SNR=9.5
UZB Uzynbulak 50.04 319 ⇓ iP P 05 30 34.7 +1.1
comp=Z,64nm,1.4s
UZB eS S 05 37 45.4 +3.7
PRZ Przheval'sk 50.14 318 eP P 05 30 35.1 +0.7
comp=Z,71nm,0.8s
PRZ LR LR
comp=Z,2μm,19.0s
PRZ Przheval'sk 50.14 318 eP P 05 30 35.1 +0.7
PRZ pmax pmax
comp=Z,71nm,0.8s
PRZ MLR MLR
comp=Z,2μm,19.0s
SATY Saty 50.40 319 ⇓ iP P 05 30 37.5 +1.3
comp=Z,124nm,1.5s
SATY eS S 05 37 50.5 +3.8
SATY LR LR 05 52 36.5
comp=Z,306nm,14.5s
KPKS Kokpek 50.41 319 ⇓ iP P 05 30 37.2 +0.9
comp=Z,76nm,1.2s
KPKS eS S 05 37 50.2 +3.5
KPKS LR LR 05 52 59.6
comp=Z,523nm,15.5s
ZHN Zhinishke 50.43 319 eP P 05 30 37.1 +0.6
comp=Z,51nm,1.5s
YNG Young 50.53 152 P P 05 30 36.3 -0.8
baz=51,SNR=5.3
KSH Kashi 50.56 314 P P 05 30 40.0 +2.5
KSH sP sP 05 30 58.1 +2.8
KSH PP PP 05 32 37.3 +3.6
KSH S S 05 37 49.6 +0.7
KSH sS sS 05 38 15.5 +5.7
KSH SS SS 05 41 26.8 +3.3
KSH pmax pmax
comp=Z,210nm,1.2s
KSH pmax pmax
comp=Z,1μm,4.0s
KSH LR LR
comp=Z,7μm,19.5s
KSH LR LR
comp=Z,8μm,19.7s
KSH LR LR
comp=Z,13μm,19.3s
KDJ Kajisay 50.79 317 eP P 05 30 41.6 +2.3
comp=Z,240nm,1.6s
KDJ LR LR
comp=Z,4μm,20.0s
KDJ Kajisay 50.79 317 eP P 05 30 41.6 +2.3
KDJ pmax pmax
comp=Z,240nm,1.6s
KDJ MLR MLR
comp=Z,4μm,20.0s
TARA Tarawa 51.02 96 eP P 05 30 39.7 -1.5
comp=Z,408nm,1.5s
TARA LR LR
comp=Z,7μm,20.0s
NRN Naryn 51.30 316 eP P 05 30 44.5 +1.2
comp=Z,104nm,1.4s
NRN LR LR
comp=Z,3μm,20.0s
MDOK Medeo 51.33 318 i P P 05 30 44.8 +1.5
comp=Z,771nm,1.6s
MDOK i S S 05 38 03.7 +4.1
MDOK LR LR 05 53 13.3
comp=Z,830nm,18.3s
AAA Alma-Ata 51.44 318 eP P 05 30 45.4 +1.3
comp=Z,98nm,2.4s
AAA LR LR 05 53 25.1
comp=Z,847nm,16.9s
ULHL Ulahol 51.47 317 P P 05 30 46.5 +2.1
SNR=12
PEA0B Petropavlovsk- 51.56 26 eP P 05 30 44.7 +0.1
comp=Z,289nm,1.5s
PEA0B LR LR
comp=Z,2μm,18.0s
PETK Petropavlovsk- 51.56 26 P P 05 30 44.5 -0.1
comp=Z,20nm,0.7s,baz=204,slow=3.3,SNR=24
PETK LR LR 05 54 07.4
comp=Z,1μm,19.2s,baz=223,slow=38
PEA1 Petropavlovsk- 51.56 26 eP P 05 30 44.5 -0.1
CAN Canberra 51.65 152 eP P 05 30 45.2 -0.4
comp=Z,167nm,1.9s
CAN Canberra 51.65 152 eP P 05 30 45.2 -0.4
CAN pmax pmax
comp=Z,167nm,1.9s
CNB Canberra Magne 51.81 152 P P 05 30 46.1 -0.7
baz=52,SNR=13
BHJ Bhuj 51.89 292 eP P 05 30 48.8 +1.2
PET Petropavlovsk 51.92 27 eP P 05 30 47.3 0.0
comp=Z,313nm,1.5s
PET LR LR
comp=Z,2μm,22.0s
PET Petropavlovsk 51.92 27 ⇑ iP P 05 30 47.0 -0.3
PET eS S 05 38 03.2 -3.8
PET 05 43 24.2
PET pmax pmax
comp=Z,144nm,1.6s
PET pmax pmax
comp=Z,500nm,18.0s
PET MLR MLR
comp=Z,2μm,21.0s
PET MLR MLR
comp=Z,1μm,19.0s
TOO Toolangi 52.06 157 P P 05 30 47.9 -0.7
baz=52,SNR=7.8
KZA Kyzart 52.08 316 P P 05 30 51.0 +1.8
SNR=17
KUU Kurty 52.12 319 ⇓ iP P 05 30 50.1 +1.1
comp=Z,305nm,1.4s
KUU eS S 05 38 13.9 +3.8
KUU LR LR 05 54 25.2
comp=Z,687nm,15.5s
TKM2 Tokmak 2 52.19 317 P P 05 30 51.0 +1.2
SNR=19
YAK Yakutsk 52.22 4 LR LR 05 55 34.4
comp=Z,2μm,18.7s,baz=118,slow=39
YAK Yakutsk 52.22 4 *c* **iP P 05 30 49.2 -0.1**
YAK e*PP pP 05 31 03.5 +1.6
YAK e 05 31 59.4
YAK eS S 05 38 09.8 -1.0
YAK e*SS pS 05 38 24.9 -0.5
YAK pmax pmax
comp=Z,181nm,1.0s
YAK pmax pmax
comp=N,92nm,1.1s
YAK pmax pmax
comp=E,26nm,1.1s
YAK pmax pmax
comp=Z,106nm,2.7s
YAK pmax pmax
comp=N,88nm,2.4s
YAK pmax pmax
comp=E,92nm,2.0s
YAK smax smax
comp=N,201nm,2.4s
YAK smax smax
comp=E,75nm,2.0s
YAK MLR MLR
comp=Z,2μm,18.0s
YAK MLR MLR
comp=N,5μm,18.0s
YAK MLR MLR
comp=E,696nm,18.0s
SFK Sufi-Kurgan 52.51 313 P P 05 30 53.3 +1.1
SFK pmax pmax
comp=Z,63nm,1.3s
KBK Karagaybulak 52.52 317 P P 05 30 53.9 +1.7
SNR=18
DGAR Diego Garcia 52.58 253 PFAKE 05 31 10.0 +17

DGAR LR LR
comp=Z,2µm,20.0s
UCH Uchtor 52.64 316 P **P** **05 30 55.3 +1.9**
SNR=38
CHMS Chumysh 52.79 317 P **P** **05 30 55.5 +1.5**
SNR=9.5
FRU1 Bishkek 52.79 317 PFAKE 05 31 10.0 +16
FRU1 LR LR
comp=Z,5µm,21.0s
FRU Bishkek 52.81 317 *i* P **P** **05 30 55.0 +0.8**
FRU *e*S **S** **05 38 24.0 +4.4**
FRU *e* 05 40 40.0
FRU pmax pmax
comp=Z,135nm,2.0s
AAK Ala-Archa 52.81 317 P **P** **05 30 55.7 +1.4**
comp=Z,5.8nm,0.7s,baz=108,slow=9.1,SNR=21
AAK LR LR 05 54 27.4
comp=Z,2µm,20.7s,baz=96,slow=37
AAK Ala-Archa 52.81 317 P **P** **05 30 53.0 -1.3**
SNR=13
AAK Ala-Archa 52.81 317 *e*P **P** **05 30 55.6 +1.4**
comp=Z,82nm,1.4s
AAK Ala-Archa 52.81 317 P **P** **05 30 55.8 +1.4**
SNR=25
AAK S **S** **05 38 25.5 +5.6**
AAK Ala-Archa 52.81 317 *i* P **P** **05 30 55.8 +1.4**
SNR=14
AAK Ala-Archa 52.81 317 *d i*P **P** **05 30 55.6 +1.3**
AAK pmax pmax
comp=Z,66nm,2.0s
ZAA0 Zalesovo Array 53.06 333 *e*P **P** **05 30 55.9 +0.2**
comp=Z,41nm,1.2s
ZAA0 LR LR
comp=Z,2µm,20.0s
ZALV Zalesovo Beam 53.06 333 P **P** **05 30 55.4 -0.3**
comp=Z,16nm,0.8s,baz=116,slow=6.8,SNR=44
ZALV LR LR 05 54 30.6
comp=Z,2µm,18.5s,baz=94,slow=37
ZALV PKP2bc 06 01 31.2
comp=Z,0.6nm,0.4s,baz=186,slow=2.9,SNR=3.5
ZAA1 Zalesovo Array 53.06 333 *e*P **P** **05 30 55.4 -0.3**
USP Ospenovka 53.06 317 P **P** **05 30 57.4 +1.3**
SNR=23
AML Almayashu 53.16 316 P **P** **05 30 58.5 +1.3**
SNR=19
EKS2 Erkin-Say 53.31 316 P **P** **05 30 59.6 +1.7**
SNR=16
DZM Mont Dzumac 53.74 127 *e*P **P** **05 30 59.9 -1.4**
comp=Z,99nm,1.6s
DZM Mont Dzumac 53.74 127 *e*PP PP 05 32 57.6 -5.2
comp=Z,523nm,24.4s
DZM *e*S **S** **05 38 32.7 -0.1**
comp=Z,4µm,31.4s
DZM *e*LR LR 05 46 36.1
comp=Z,3µm,22.4s
DZM Mont Dzumac 53.74 127 *e*P **P** **05 30 59.9 -1.4**
comp=Z,46nm,1.3s
MA2 Magadan 53.90 17 *e*P **P** **05 31 02.2 +0.4**
comp=Z,234nm,1.4s
MA2 LR LR
comp=Z,2µm,19.0s
MA2 Magadan 53.90 17 *ce*P **P** **05 31 01.2 -0.6**
MA2 pmax pmax
comp=Z,240nm,1.7s
BTLS Baital 54.10 319⇓ *i*P **P** **05 31 04.1 +0.6**
comp=Z,27nm,1.3s
BTLS LR LR 05 55 04.4
comp=Z,642nm,19.2s
MNAS Manas 54.11 316 P **P** **05 31 05.0 +1.1**
MNAS pmax pmax
comp=Z,94nm,1.4s
KURBB Kurchatov Arra 54.13 327 P **P** **05 31 04.1 +0.4**
comp=Z,44nm,1.0s,baz=134,slow=6.5,SNR=135
KURBB S **S** **05 38 38.5 +1.3**
comp=Z,0.2nm,0.4s,baz=59,slow=7.9,SNR=6.4
KURK Kurchatov 54.14 327 *e*P **P** **05 31 04.1 +0.4**
KURK *e*S **S** **05 38 38.5 +1.2**
KURK LR LR
comp=Z,2µm,18.0s
KURK Kurchatov 54.14 327 P **P** **05 31 04.1 +0.4**
SNR=54
KURK Kurchatov 54.14 327 *d i*P **P** **05 31 04.0 +0.4**
KURK pmax pmax
comp=Z,170nm,1.3s
KBL Kabul 54.30 305 *e*P **P** **05 31 06.0 +0.6**
comp=Z,83nm,1.0s
KBL LR LR
comp=Z,2µm,21.0s
KBL Kabul 54.30 305 *e*P **P** **05 31 06.0 +0.6**
KBL pmax pmax
comp=Z,83nm,1.0s
KBL MLR MLR
comp=Z,2µm,21.0s
NVS Novosibirsk 54.34 333⇑ *i*P **P** **05 31 05.3 +0.2**
NVS pmax pmax
comp=Z,51nm,1.1s
NVS pmax pmax
comp=N,30nm,1.3s
NVS pmax pmax
comp=E,30nm,1.0s
KK31 Karatay Array 55.70 316 *e*P **P** **05 31 15.9 +0.7**
KK31 Karatay Array 55.70 316 *e*P **P** **05 31 15.9 +0.7**
KKAR Karatay Array 55.70 316 *e*P **P** **05 31 15.9 +0.7**
KKAR Karatay Array 55.70 316 *e*P **P** **05 31 15.9 +0.7**
IUG Iuzhnay 55.71 315⇓ *i*P **P** **05 31 16.7 +1.3**
comp=E,47nm,1.2s
BRLS Borolday 56.14 316 *e*S **S** **05 39 09.0 +4.6**
OTUK Ortayu 56.52 322 P **P** **05 31 21.3 +0.4**
OTUK pmax pmax
comp=Z,94nm,1.4s
BRZS Berezniki 57.08 324⇓ *e*P **P** **05 31 25.7 +0.8**
comp=Z,41nm,1.0s
BRZS *e*S **S** **05 39 20.0 +3.4**
BRZS LR LR 05 55 37.2
comp=Z,880nm,16.5s
BVAR Borovoye Array 59.71 327 P **P** **05 31 43.4 +0.2**
comp=Z,45nm,1.0s,baz=120,slow=8.8,SNR=74
BVAR LR LR 05 59 30.2
comp=Z,2µm,19.6s,baz=117,slow=38
BRVK Borovoye 59.79 327 *e*P **P** **05 31 44.0 +0.4**
comp=Z,78nm,0.9s
BRVK LR LR
comp=Z,2µm,19.0s
BRVK Borovoye 59.79 327 P **P** **05 31 44.0 +0.4**
SNR=30
BRVK Borovoye 59.79 327 *d i*P **P** **05 31 43.9 +0.3**
BRVK pmax pmax
comp=Z,89nm,1.0s
TIXI Tiksi 61.74 2 LR LR 06 00 22.4
comp=Z,2µm,20.0s,baz=193,slow=38
TIXI Tiksi 61.74 2 *e*P **P** **05 31 55.5 -1.0**
comp=Z,54nm,0.9s
TIXI Tiksi 61.74 2 *c i*P **P** **05 31 55.6 -1.0**
TIXI pmax pmax
comp=Z,71nm,1.0s
WSAR Wadi Sarin 62.01 291 P **P** **05 31 59.2 -0.1**
comp=Z,22nm,0.9s,baz=108,slow=7.3,SNR=17
WSAR LR LR 05 58 57.0
comp=Z,590nm,21.8s,baz=114,slow=36
WSAR Wadi Sarin 62.01 291 P **P** **05 31 59.1 -0.2**
SNR=5.1
WSAR S **S** **05 40 16.3 -4.8**
BIDO Bidbid 62.48 291 P **P** **05 32 02.6 +0.2**
SNR=5.5
NRIK Noril'sk 63.36 347 P **P** **05 32 07.5 +0.1**
comp=Z,67nm,1.1s,baz=121,slow=5.7,SNR=38
NRIK LR LR 06 01 34.2
comp=Z,4µm,20.6s,baz=150,slow=38
GEYT Alibeck 63.60 307 LR LR 06 04 13.8
comp=Z,2µm,18.7s,baz=225,slow=40
GYA0B ALIBECK ARRAY 63.60 307 *e*P **P** **05 32 10.8 +1.0**
comp=Z,142nm,1.6s
GYA0B LR LR
comp=Z,3µm,20.0s
MDH Madha 64.17 293 P **P** **05 32 13.6 0.0**
UOSS Minazif 64.25 293 PFAKE 05 32 30.0 +16
UOSS LR LR
comp=Z,900nm,22.0s
UOSS Minazif 64.25 293 P **P** **05 32 14.4 +0.3**
MSFE Esma-Masafi 64.30 293 P **P** **05 32 16.0 +1.5**
HATD Hatta, Dubai 64.32 293 P **P** **05 32 15.3 +0.8**
SHME Shamm 64.33 294 P **P** **05 32 15.4 +0.7**
ASHO Ashiyiah 64.38 293 *i* P **P** **05 32 15.4 +0.3**
SNR=6.6
AB31 Akbulak array 64.56 320 *i* P **P** **05 32 15.5 -0.2**
AB31 pmax pmax
comp=Z,47nm,1.1s
ABKAR Akbulak array 64.56 320 *e*P **P** **05 32 15.9 +0.2**
ALNE Al Ain 64.66 292 *i* P **P** **05 32 17.4 +0.5**
SNR=6.2
BILL Bilibino 64.76 17 *e*P **P** **05 32 16.1 -0.5**
comp=Z,303nm,1.5s
BILL LR LR
comp=Z,2µm,20.0s
BILL Bilibino 64.76 17⇑ *i*P **P** **05 32 16.2 -0.4**
BILL *e* 05 32 54.5
BILL *e* 05 34 35.8
BILL *e*PPP PPP 05 36 11.2
BILL *e*S **S** **05 40 56.8 +3.1**
BILL pmax pmax
comp=Z,248nm,1.6s
FAQ Al Faqa, Dubai 64.81 293 P **P** **05 32 17.8 +0.1**
ASUD Al Ashush, Dub 65.04 292 P **P** **05 32 19.8 +0.5**
AKTO Aktyubinsk 66.06 321 P **P** **05 32 25.6 +0.1**
comp=Z,24nm,0.9s,baz=98,slow=7.5,SNR=54
AKTO LR LR 06 03 04.1
comp=Z,2µm,18.4s,baz=110,slow=38
OUZ Omahuta 66.08 136 PFAKE 05 32 40.0 +14
OUZ LR LR
comp=Z,2µm,22.0s
RBK Rabkut 66.30 285 P **P** **05 32 28.2 +0.6**
SNR=5.2
SVE Sverdlovsk 66.36 328 *d i*P **P** **05 32 28.0 +0.8**
SVE *e*S **S** **05 41 13.6 -0.1**
SVE pmax pmax
comp=Z,88nm,1.0s
SVE MLR MLR
comp=Z,1µm,17.0s
ABTO Aybut 67.17 285 P **P** **05 32 34.0 +0.9**
SNR=9.6
ARU Arti 67.33 327 *e*P **P** **05 32 33.5 +0.1**
comp=Z,48nm,1.0s
ARU LR LR
comp=Z,2µm,19.0s
ARU Arti 67.33 327 *c i*P **P** **05 32 33.8 +0.4**
ARU 05 35 03.1
ARU pmax pmax
comp=Z,52nm,1.0s
ARU MLR MLR
comp=Z,2µm,20.0s
HIZ Hauiti 68.71 138 PFAKE 05 32 50.0 +7.7
HIZ LR LR
comp=Z,900nm,18.0s
LBZ Lake Benmore 69.29 145 *e*P **P** **05 32 44.9 -1.0**
comp=Z,157nm,1.9s
THZ Tophouse 69.30 142 PFAKE 05 33 00.0 +14
THZ LR LR
comp=Z,2µm,19.0s
RPZ Rata Peaks 69.37 144 *e*P **P** **05 32 46.0 -0.3**
comp=Z,27nm,1.0s
RPZ LR LR
comp=Z,2µm,22.0s
LTZ Lake Taylor 69.52 143 PFAKE 05 33 00.0 +13
LTZ LR LR
comp=Z,2µm,20.0s
AFI Afiamalu 69.56 109 PFAKE 05 33 00.0 +12
AFI LR LR
comp=Z,4µm,22.0s
KHZ Kahutara 70.06 142 PFAKE 05 33 00.0 +9.5
KHZ LR LR
comp=Z,3µm,21.0s
URZ Urewera 70.08 137 PFAKE 05 33 00.0 +9.3
URZ LR LR
comp=Z,2µm,22.0s
BKZ Black Stump Fm 70.14 138 *e*P **P** **05 32 49.6 -1.6**
comp=Z,34nm,0.5s
BKZ LR LR
comp=Z,2µm,22.0s
SNZO South Karori 70.15 141 PFAKE 05 33 00.0 +8.9
SNZO LR LR
comp=Z,2µm,22.0s
MQZ McQueen's Vall 70.29 144 PFAKE 05 33 00.0 +8.1
MQZ LR LR
comp=Z,1µm,21.0s
MXZ Matakaoa Point 70.54 136 PFAKE 05 33 00.0 +6.4
MXZ LR LR
comp=Z,2µm,21.0s
AKT Akhty 71.91 310 *e*P **P** **05 33 03.3 +1.2**
AKT *e* 05 33 22.0
AKT pmax pmax
comp=Z,32nm,1.0s
MAK Makhachkala 72.15 312 *e*P **P** **05 33 02.9 -0.4**
MAK *e* 05 35 51.1
MAK *e*PPP PPP 05 37 26.6
MAK *e*S **S** **05 42 23.2 +0.7**
MAK *e*SS **SS** **05 47 07.7 +7.3**
MAK pmax pmax
comp=Z,607nm,1.5s
GROC Groznyy 73.41 312 *e*P **P** **05 33 08.8 -2.0**
GROC *e* 05 33 24.2
GROC *e* 05 35 53.7
GROC *e*S **S** **05 42 37.3 +0.4**
GROC pmax pmax
comp=Z,91nm,1.2s
RAYN Ar Rayn 74.06 292 *e*P **P** **05 33 15.6 +0.6**
comp=Z,52nm,1.1s
RAYN LR LR
comp=Z,1µm,20.0s
RAYN Ar Rayn 74.06 292 *i* P **P** **05 33 15.7 +0.7**
SNR=16
RAYN Ar Rayn 74.06 292 *e*P **P** **05 33 15.6 +0.6**
RAYN pmax pmax
comp=Z,52nm,1.1s
RAYN MLR MLR
comp=Z,1µm,20.0s
GNI Garni 74.15 309 P **P** **05 33 16.8 +1.4**
comp=Z,8.5nm,0.6s,baz=243,slow=2.8,SNR=6.1
GNI Garni 74.15 309 *e*P **P** **05 33 15.7 +0.3**
comp=Z,161nm,1.5s
GNI *e*P **P** **05 33 16.8 +1.4**
GNI LR LR
comp=Z,900nm,22.0s
GNI Garni 74.15 309 *e*P **P** **05 33 15.7 +0.3**
GNI pmax pmax
comp=Z,161nm,1.5s
GNI MLR MLR
comp=Z,900nm,22.0s
TBLG Delisi 74.16 311 *e*P **P** **05 33 15.9 +0.7**
comp=Z,35nm,0.9s
TBLG Delisi 74.16 311 *e*P **P** **05 33 15.9 +0.7**
TBLG pmax pmax
comp=Z,35nm,0.9s
ZEI Tsey 74.79 312 *e*P **P** **05 33 18.3 -0.8**
ZEI pmax pmax
comp=Z,33nm,1.0s
PRGR Permogore 74.94 331 *e*P **P** **05 33 18.4 -0.9**
PRGR pmax pmax
comp=Z,31nm,0.9s
NCK Nalchik 75.02 312 *i* P **P** **05 33 19.7 -0.5**
NCK pmax pmax
comp=Z,22nm,1.0s
AKH Akhalkalaki 75.09 310 *e*P **P** **05 33 23.1 +2.2**
comp=Z,40nm,1.0s
AKH LR LR
comp=Z,1µm,22.0s
AKH Akhalkalaki 75.09 310⇑ *i*P **P** **05 33 22.6 +1.7**
AKH Akhalkalaki 75.09 310 *e*P **P** **05 33 23.1 +2.2**
AKH pmax pmax
comp=Z,40nm,1.0s
AKH MLR MLR
comp=Z,1µm,22.0s
RDOG Red Dog Mine 75.11 22 *e*P **P** **05 33 20.6 +0.4**
comp=Z,141nm,1.3s
GOF Gofitskoye 75.43 314 *e*P **P** **05 33 21.7 -0.8**
GOF pmax pmax
comp=Z,20nm,0.6s
KBZ Khabaz 75.53 313 P **P** **05 33 24.1 +1.0**
comp=Z,21nm,1.0s,baz=105,slow=3.4,SNR=20
KBZ LR LR 06 11 05.4
comp=Z,1µm,18.3s,baz=79,slow=39
NEY Neytrino 75.66 312⇓ *i*P **P** **05 33 26.1 +2.0**
NEY pmax pmax
comp=Z,5.0nm,1.0s
KVAR Kislovodsk Arr 75.67 313 P **P** **05 33 24.2 +0.1**
comp=Z,3.2nm,0.3s,baz=257,slow=23,SNR=9.0
KIV Kislovodsk 75.68 313 *e*P **P** **05 33 24.5 +0.4**
comp=Z,60nm,1.0s
KIV LR LR
comp=Z,900nm,18.0s
KIV Kislovodsk 75.68 313 P **P** **05 33 25.2 +1.2**
SNR=8.3
KIV Kislovodsk 75.68 313 *i* P **P** **05 33 25.3 +1.2**
SNR=6.2
KIV Kislovodsk 75.68 313 *e*P **P** **05 33 24.9 +0.8**
KIV *e*S **S** **05 43 05.4 +2.9**
KIV pmax pmax
comp=Z,71nm,1.1s
KIV pmax pmax
comp=Z,21nm,4.9s
DAMY Dhamar 75.96 283 PFAKE 05 33 40.0 +14
DAMY LR LR
comp=Z,1µm,20.0s
VRH Novokhopyorsk 76.39 320 *e*P **P** **05 33 27.6 -0.2**
VRH pmax pmax
comp=Z,70nm,1.3s
CASY Casey 76.56 185 *e*P **P** **05 33 28.0 -0.3**
comp=Z,180nm,2.0s
ATD Arta Tunnel 77.84 280 *e*P **P** **05 33 37.2 +0.5**
comp=Z,20nm,1.0s
ATD LR LR
comp=Z,900nm,20.0s
VORD Divnogorie 77.92 320 *e*P **P** **05 33 35.6 -0.8**
VORD pmax pmax
comp=Z,20nm,1.2s
VSR Storozhevoye 78.00 320⇑ *i*P **P** **05 33 35.5 -1.3**
VSR pmax pmax
comp=Z,47nm,1.2s
LPSR Galich'ya Gora 78.12 322 *e*P **P** **05 33 37.4 -0.1**
LPSR pmax pmax
comp=Z,70nm,1.4s
IM3 Indian Mountai 78.47 25 *e*P **P** **05 33 38.8 -0.4**
MOS Moscow 78.83 325 *e*P **P** **05 33 41.4 +0.1**
MOS *e* 05 33 52.7
MOS MLR MLR
comp=E,2µm,19.0s
MOS MLR MLR
comp=Z,2µm,19.0s
PPLA Purkeypile 79.12 28 *e*P **P** **05 33 42.6 -0.4**
comp=Z,150nm,1.7s
OPO Ambohidratompo 79.33 249 LR LR 06 05 34.5
comp=Z,358nm,21.1s,baz=76,slow=33
ABPO Ambohimpanom 79.40 248 *e*P **P** **05 33 46.2 +0.9**
comp=Z,20nm,1.2s
ABPO LR LR
comp=Z,1µm,19.0s
ABPO Ambohimpanom 79.40 248 *e*P **P** **05 33 46.2 +0.9**
ABPO pmax pmax
comp=Z,20nm,1.2s
ABPO MLR MLR
comp=Z,1µm,19.0s
ANN Anapa 79.42 314 *e*P **P** **05 33 43.4 -1.4**
ANN *e* 05 33 50.4
ANN *e**PP **PcP** **05 33 54.5 +1.8**
ANN *e*S **S** **05 43 42.8 +0.2**
ANN *e*SS **SS** **05 48 54.0 +3.6**
ANN pmax pmax
comp=Z,74nm,1.1s
ANN MLR MLR
comp=Z,2µm,22.0s
OBN Obninsk 79.45 324 PFAKE 05 34 00.0 +15
OBN LR LR
comp=Z,3µm,19.0s
OBN Obninsk 79.45 324⇓ *e*P **P** **05 33 44.8 +0.1**
OBN *e* 05 33 53.1
OBN *e* 05 36 46.7
OBN *e*S **S** **05 43 38.9 -3.6**
OBN pmax pmax
comp=Z,54nm,1.2s
OBN MLR MLR
comp=Z,2µm,18.0s
UWB Uwekahuna B 79.64 72 PFAKE 05 34 00.0 +13
UWB LR LR
comp=Z,2µm,19.0s
SBLHI Steaming Bluff 79.65 72 PFAKE 05 34 00.0 +13
SBLHI LR LR
comp=Z,3µm,21.0s
MLY Manley 79.72 26 *e*P **P** **05 33 46.0 -0.1**
comp=Z,202nm,1.7s
BRLK Bradley Lake 79.83 31 *e*P **P** **05 33 45.5 -1.3**
comp=Z,114nm,1.4s
SUA Susitna One 79.83 29 *e*P **P** **05 33 45.9 -1.0**
comp=Z,92nm,1.2s
COLD Coldfoot 79.88 23 *e*P **P** **05 33 47.4 +0.5**
comp=Z,62nm,1.4s
COLD *e*S **S** **05 43 48.6 +1.8**
TRF Thorofare Moun 79.97 27 *e*P **P** **05 33 47.0 -0.6**
comp=Z,183nm,1.6s
TOLK Toolik Lake Re 80.08 22 P **P** **05 33 48.5 +0.5**
baz=272
APA Apatity 80.42 337⇑ *i*P **P** **05 33 48.7 -1.0**
APA pmax pmax
comp=Z,13nm,0.9s
APA MLR MLR
comp=Z,4µm,16.0s
SEW Seward 80.54 31 *e*P **P** **05 33 49.8 -0.7**
comp=Z,68nm,1.2s
MCK McKinley 80.56 27 *e*P **P** **05 33 49.5 -1.1**
comp=Z,240nm,1.5s
PMR Palmer 80.60 29 *e*P **P** **05 33 49.4 -1.4**
PMR Palmer 80.60 29 *e*P **P** **05 33 49.4 -1.4**
RND Reindeer 80.62 27 *e*P **P** **05 33 49.6 -1.4**
comp=Z,212nm,1.6s
RND Reindeer 80.62 27 *e*P **P** **05 33 49.6 -1.4**
RND pmax pmax
comp=Z,212nm,1.6s
MDM Murphy Dome 80.79 26 *e*P **P** **05 33 51.3 -0.5**
comp=Z,70nm,1.5s
WRH Wood River Hil 80.89 26 *e*P **P** **05 33 51.7 -0.6**
comp=Z,114nm,1.6s
WRH LR LR
comp=Z,900nm,20.0s
TCOL CIGO, UAF Yank 80.95 26 P **P** **05 33 52.7 +0.1**
baz=274
COLA College 80.96 26 PFAKE 05 34 00.0 +7.4
COLA LR LR
comp=Z,800nm,21.0s
SML Sawmill 80.97 29 *e*P **P** **05 33 52.4 -0.4**
comp=Z,202nm,1.4s
SML Sawmill 80.97 29 *e*P **P** **05 33 52.4 -0.4**
SML pmax pmax
comp=Z,202nm,1.4s
CCB Clear Creek Bu 81.00 26 *e*P **P** **05 33 51.8 -1.0**
comp=Z,62nm,1.4s
POKR Poker Plat Res 81.12 25 P **P** **05 33 53.4 -0.2**
baz=274
DHY Denali Highway 81.31 27 *e*P **P** **05 33 54.0 -0.8**
comp=Z,107nm,1.9s
IL1 Eielson Array 81.38 26 *e*P **P** **05 33 52.3 -2.6**
ILAR Eielson Array 81.38 26 P **P** **05 33 52.7 -2.2**
comp=Z,4.9nm,0.9s,baz=250,slow=4.9,SNR=36
ILAR PKKPbc **PKKPbc** **05 52 28.8 -2.9**
comp=Z,0.5nm,0.7s,baz=166,slow=0.6,SNR=5.9
ILAR LR LR 06 08 59.1
comp=Z,680nm,21.6s,baz=281,slow=35
ILB Eielson Array 81.38 26 *e*P **P** **05 33 53.1 -1.8**
HDA Harding Lake 81.38 26 *e*P **P** **05 33 53.2 -1.8**
comp=Z,180nm,2.0s
HDA Harding Lake 81.38 26 P **P** **05 33 53.2 -1.8**
baz=275
SCM Sheep Creek Mo 81.44 29 *e*P **P** **05 33 55.2 -0.2**
comp=Z,167nm,1.3s
SCM Sheep Creek Mo 81.44 29 *e*P **P** **05 33 55.2 -0.2**
SCM pmax pmax
comp=Z,167nm,1.3s
GLI Glacier Island 81.64 30 *e*P **P** **05 33 55.8 -0.6**
comp=Z,196nm,1.6s
SIM Simferopol' 81.76 314 *e*P **P** **05 33 58.4 +1.1**
SIM *e*S **S** **05 44 10.7 +3.6**
SIM pmax pmax
comp=Z,22nm,0.8s
FYU Fort Yukon 81.88 24 *e*P **P** **05 33 58.3 +0.7**
comp=Z,221nm,1.6s
FID Port Fidalgo 81.95 30 *e*P **P** **05 33 57.7 -0.3**
comp=Z,88nm,1.4s
KLU Klutina 82.14 29 *e*P **P** **05 33 59.0 -0.1**
comp=Z,40nm,1.2s
PAX Paxson 82.19 27 *e*P **P** **05 33 58.8 -0.5**
comp=Z,124nm,1.8s
PAX Paxson 82.19 27 *e*P **P** **05 33 58.8 -0.5**
PAX pmax pmax
comp=Z,124nm,1.8s
DIV Divide 82.25 29 *e*P **P** **05 33 59.5 -0.2**
comp=Z,126nm,1.4s
FURI Furi 82.28 278 PFAKE 05 34 10.0 +8.9
FURI LR LR
comp=Z,3µm,21.0s
EYAK Cordova Ski Ar 82.33 30 *e*P **P** **05 34 00.2 +0.2**
comp=Z,77nm,1.4s
EYAK LR LR

comp=Z,1µm,21.0s
RIDG Independ'e Rid 82.38 27 *e*P **P 05 33 59.8 -0.4**
comp=Z,111nm,1.3s
HARP HAARP 82.39 28 *e*P **P 05 34 00.6 +0.3**
comp=Z,104nm,1.4s
BR101 Keskin Array S 82.69 309 *e*P **P 05 34 02.5 -0.1**
BR101 *e*PP **PP 05 37 11.1 -1.5**
BR131 Keskin Array S 82.69 309 *e*P **P 05 34 02.5 0.0**
BR131 Keskin Array S 82.69 309 P **P 05 34 02.9 +0.3**
SNR=8.7
BRTR Keskin Array B 82.69 309 P **P 05 34 02.4 0.0**
comp=Z,7.5nm,0.8s,baz=112,slow=5.2,SNR=34
BRTR PP **PP 05 37 11.1 -1.5**
comp=Z,6.3nm,1.1s,baz=84,slow=5.9,SNR=6.5
BRTR LR LR 06 16 18.0
comp=Z,505nm,20.0s,baz=90,slow=40
SCRK Sand Creek 82.72 26 *e*P **P 05 34 01.2 -0.9**
comp=Z,55nm,1.4s
SCRK LR LR
comp=Z,900nm,19.0s
BMRM Bremner River 82.84 29 *e*P **P 05 34 02.3 -0.4**
comp=Z,39nm,1.1s
BMRM LR LR
comp=Z,2µm,22.0s
RAGM Ragged Mountai 82.88 30 *e*P **P 05 34 03.1 +0.2**
comp=Z,53nm,1.2s
ARA0 ARCESS Array S 83.09 339 *e*P **P 05 34 03.5 -0.3**
ARCES ARCESS Array B 83.09 339 P **P 05 34 03.5 -0.3**
comp=Z,23nm,0.9s,baz=82,slow=5.8,SNR=27
ARCES PKKPbc **PKKPbc 05 52 24.5 -3.3**
comp=Z,5.7nm,1.1s,baz=349,slow=2.5,SNR=4.3
ARCES LR LR 06 16 10.1
comp=Z,75nm,18.3s,baz=85,slow=39
ARCES ARCESS Array B 83.09 339 *e*P **P 05 34 03.6 -0.2**
ARE0 ARCESS Array S 83.09 339 *e*P **P 05 34 03.8 0.0**
SPA0 Spitsbergen Ar 83.52 348 *e*P **P 05 34 05.8 0.0**
SPA0 Spitsbergen Ar 83.52 348 *e*P **P 05 34 06.4 +0.5**
CSS Mathiatis 83.53 304 *e*P **P 05 34 07.4 +0.6**
comp=Z,44nm,1.0s
CSS LR LR
comp=Z,700nm,20.0s
CSS Mathiatis 83.53 304 P **P 05 34 07.7 +0.9**
EGAK Eagle 83.81 25 *e*P **P 05 34 07.3 -0.3**
comp=Z,60nm,1.3s
BALM Baldy 83.92 29 PFAKE 05 34 20.0 +12
BALM LR LR
comp=Z,900nm,22.0s
KTK1 Kautokeino 83.98 339 *e*P **P 05 34 08.9 +0.5**
HSPB Hornsund (broa 84.06 347 *e*P **P 05 34 08.9 +0.3**
HSPB *e*S **S 05 44 30.6 +1.2**
KBS Kingsbay 84.10 350 PFAKE 05 34 20.0 +11
KBS LR LR
comp=Z,3µm,21.0s
KBS Kingsbay 84.10 350 *ce*P **P 05 34 10.0 +1.2**
KBS pmax pmax
comp=Z,118nm,1.3s
KBS Kingsbay 84.10 350 *e*P **P 05 34 09.7 +0.9**
KBS *e*S **S 05 44 31.3 +1.6**
ALFC Alefka 84.10 305 P **P 05 34 10.4 +0.7**
FIA1 FINESS Array S 84.27 331 *e*P **P 05 34 10.0 0.0**
FIA0 FINESS Array S 84.27 331 *e*P **P 05 34 09.9 -0.1**
FINES FINESS Array B 84.27 331 P **P 05 34 09.9 -0.1**
comp=Z,13nm,0.8s,baz=63,slow=4.7,SNR=18
FINES LR LR 06 14 39.8
comp=Z,2µm,19.9s,baz=77,slow=38
FINES FINESS Array B 84.27 331 P **P 05 34 09.9 -0.1**
FINES pmax pmax
comp=Z,13nm,0.9s
FINES MLR MLR
comp=Z,2µm,19.9s
AKASG Malin Array Be 84.30 320 P **P 05 34 09.5 -0.8**
comp=Z,11nm,1.0s,baz=70,slow=4.4,SNR=17
AKASG LR LR 06 15 51.8
comp=Z,1µm,19.7s,baz=105,slow=38
AKBB Malin Array Si 84.30 320 *e*P **P 05 34 10.1 -0.3**
comp=Z,73nm,1.8s
KIEV Kiev 84.31 320 *e*P **P 05 34 09.8 -0.6**
comp=Z,72nm,1.8s
KIEV LR LR
comp=Z,2µm,20.0s
KIEV Kiev 84.31 320 *i* P **P 05 34 10.0 -0.4**
SNR=6.3
KIEV Kiev 84.31 320 ⇑*i*P **P 05 34 09.3 -1.1**
KIEV pmax pmax
comp=Z,27nm,1.6s
AK11 Malin Array Si 84.34 320 *e*P **P 05 34 10.2 -0.4**
PPCY Paphos 84.34 304 P **P 05 34 11.6 +0.7**
VSU Vasula 84.47 328 *e*P **P 05 34 10.7 -0.3**
VSU IAmb IAmb 05 34 12.5
comp=Z,179nm,1.1s
VSU Vasula 84.47 328 *ce*P **P 05 34 10.9 -0.1**
VSU pmax pmax
comp=Z,187nm,1.0s
DAWY Dawson 84.70 26 *e*P **P 05 34 12.2 0.0**
comp=Z,190nm,1.5s
DAWY LR LR
comp=Z,1µm,21.0s
KIF Kilpisjarvi 84.84 339 *e*P **P 05 34 12.8 +0.1**
IDID Didziasalis 85.02 325 *e*P **P 05 34 14.3 +0.4**
IDID IAmb IAmb 05 34 15.8
comp=Z,20nm,0.9s
NACGM Naroch 85.07 325 *e* **P 05 34 14.0 -0.1**
NACGM *e*LQ LQ 06 09 10.0
NACGM *e*LR LR 06 11 41.0
PCA Pinnacle 85.10 30 *e*P **P 05 34 14.7 +0.4**
comp=Z,110nm,1.2s
KIS Kishinev 85.15 317 *e*P **P 05 34 17.0 +2.3**
KIS *e*SKS **S 05 44 36.0 -5.3**
KIS *e*S **ScS 05 44 50.0 -1.6**
KIS *e*LR LR 06 08 25.0
comp=Z,2µm,20.0s
KIS Kishinev 85.15 317 *e*P **P 05 34 17.0 +2.3**
KIS *e* 05 37 32.0
KIS *e* 05 39 36.0
KIS *e* 05 44 36.0
KIS *e*S **ScS 05 44 50.0 -1.6**
KIS MLR MLR
comp=Z,2µm,20.0s
KIS MLR MLR
comp=Z,2µm,20.0s
IZAR Zarasai 85.22 326 *e*P **P 05 34 14.5 -0.4**
IZAR IAmb IAmb 05 34 16.6
comp=Z,23nm,1.0s
EPYK Eagle Plains 85.28 23 P **P 05 34 14.8 -0.2**
baz=284
IIGN Ignalina 85.31 325 *e*P **P 05 34 15.3 0.0**
IIGN IAmb IAmb 05 34 18.2
comp=Z,26nm,1.2s
ISAL Salakas 85.32 325 *e*P **P 05 34 14.8 -0.6**
ISAL IAmb IAmb 05 34 18.1
comp=Z,15nm,0.9s
KMBO Kilima Mbogo 85.33 268 P **P 05 34 18.2 +1.6**
comp=Z,7.6nm,1.0s,baz=42,slow=6.4,SNR=19
KMBO LR LR 06 13 11.8
comp=Z,2µm,18.1s,baz=73,slow=36
KMBO Kilima Mbogo 85.33 268 *e*P **P 05 34 16.9 +0.3**
KMBO *e*PcP **PcP 05 34 17.5 -2.1**
KMBO Kilima Mbogo 85.33 268 P **P 05 34 18.6 +2.1**
SNR=9.8
KMBO Kilima Mbogo 85.33 268 P **P 05 34 18.4 +1.9**
KMBO *i* P **P 05 34 18.7 +2.1**
SNR=11
KMBO Kilima Mbogo 85.33 268 *e*P **P 05 34 16.9 +0.3**
ISP Isparta 85.36 307 *e*P **P 05 34 15.6 -0.5**
comp=Z,35nm,0.8s
ISP Isparta 85.36 307 *e*P **P 05 34 15.6 -0.5**
ISP pmax pmax
comp=Z,35nm,0.8s
TLCR 85.45 315 ⇑*i*P **P 05 34 17.1 +0.9**
TLCR 85.45 315 ⇑P **P 05 34 17.1 +0.9**
NAI Nairobi 85.80 268 PFAKE 05 34 30.0 +11
NAI LR LR
comp=Z,2µm,19.0s
TIRR Tirgusor 85.85 314 PFAKE 05 34 30.0 +12
TIRR LR LR
comp=Z,2µm,21.0s
CFR Carcaliu 85.92 315 ⇑*i*P **P 05 34 19.0 +0.4**
CFR Carcaliu 85.92 315 ⇑P **P 05 34 19.0 +0.4**
INK Inuvik 85.96 21 *e*P **P 05 34 18.0 -0.2**
comp=Z,289nm,1.4s
INK LR LR
comp=Z,700nm,21.0s
INK Inuvik 85.96 21 *e*P **P 05 34 18.0 -0.2**
INK pmax pmax
comp=Z,289nm,1.4s
INK MLR MLR
comp=Z,700nm,21.0s
TLB Topalu 86.09 314 ⇑*i*P **P 05 34 20.4 +1.0**
TLB Topalu 86.09 314 ⇑P **P 05 34 20.4 +1.0**
VRI Vrincioaia 86.77 316 ⇑*i*P **P 05 34 23.7 +0.9**
VRI Vrincioaia 86.77 316 ⇑P **P 05 34 23.7 +0.9**
MANT Manisa 86.78 308 PFAKE 05 34 30.0 +6.7
MANT LR LR
comp=Z,2µm,20.0s
PRAR RASCA 86.82 317 ⇑*i*P **P 05 34 23.7 +0.7**
PLOR Plostina 86.83 316 ⇑*i*P **P 05 34 23.7 +0.6**
PLOR Plostina 86.83 316 ⇑P **P 05 34 23.7 +0.6**
BIZ Bicaz 86.99 317 ⇑*i*P **P 05 34 25.2 +1.4**
SUW Suwalki 87.31 324 *e*P **P 05 34 25.5 +0.3**
SUW Suwalki 87.31 324 *e*P **P 05 34 24.6 -0.5**
comp=Z,92nm,1.3s
SUW LR LR
comp=Z,2µm,18.0s
SUW Suwalki 87.31 324 *e*P **P 05 34 25.5 +0.3**
MLR Muntele Rosu 87.38 316 *e*P **P 05 34 25.9 +0.1**
comp=Z,88nm,1.4s
MLR LR LR
comp=Z,2µm,21.0s
MLR Muntele Rosu 87.38 316 ⇑*i*P **P 05 34 26.0 +0.1**
MLR Muntele Rosu 87.38 316 ⇑P **P 05 34 26.0 +0.1**
BURAR Bucovina Array 87.44 318 ⇑*i*P **P 05 34 27.4 +1.3**
BURAR Bucovina Array 87.44 318 ⇑P **P 05 34 27.4 +1.3**
BUR04 Bucovina Ar. S 87.45 318 *e*P **P 05 34 26.5 +0.4**
BUR08 Bucovina Ar. S 87.45 318 *e*P **P 05 34 27.0 +0.9**
WHY Whitehorse 87.56 29 *e*P **P 05 34 26.4 -0.1**
comp=Z,99nm,1.6s
WHY LR LR
comp=Z,800nm,22.0s
SKAG Skagway 87.67 30 PFAKE 05 34 40.0 +13
SKAG LR LR
comp=Z,900nm,20.0s
LVV L'vov 87.74 320 *e*P P 05 34 41.4 +14
LVV *e* 05 37 54.0
LVV *e* 05 44 52.5
LVV *e*S **S 05 45 06.5 +0.1**
LVV *e*SS **SS 05 50 55.6 +2.4**
LVV *e*SSS SSS 05 54 27.1
VOIR 88.01 316 ⇑*i*P **P 05 34 30.8 +1.9**
VOIR 88.01 316 ⇑P **P 05 34 30.8 +1.9**
ALN Alexandroupoli 88.23 311 PFAKE 05 34 40.0 +10
ALN LR LR
comp=Z,300nm,21.0s
HUMR Humele 88.25 315 ⇑*i*P **P 05 34 29.8 -0.1**
ARR Arges 88.31 316 ⇑*i*P **P 05 34 30.7 +0.4**
JIS Juneau Island 88.47 31 PFAKE 05 34 40.0 +9.4
JIS LR LR
comp=Z,600nm,21.0s
KWP Kalwaria Pacla 88.62 320 *e*P **P 05 34 32.4 +0.9**
KWP Kalwaria Pacla 88.62 320 *e*P **P 05 34 32.4 +0.9**
TRPA Tarpa 89.09 319 ⇑*i*P **P 05 34 34.4 +0.7**
UZH Uzhgorod 89.12 319 ⇓*i*P **P 05 34 34.9 +1.0**
UZH *i* S **S 05 45 16.4 -3.1**
UZH *i* 05 46 19.7
BEL Belsk 89.25 323 *e*P **P 05 34 35.7 +1.3**
BEL Belsk 89.25 323 *e*P **P 05 34 35.7 +1.3**
DRGR 89.29 317 ⇑*i*P **P 05 34 35.3 +0.4**
DRGR 89.29 317 ⇑P **P 05 34 35.3 +0.4**
GZR Gura Zlata 89.58 316 ⇑*i*P **P 05 34 36.1 -0.1**
GZR Gura Zlata 89.58 316 ⇑P **P 05 34 36.1 -0.1**
VTS Vitosha 89.94 313 PFAKE 05 34 50.0 +12
VTS LR LR
comp=Z,1µm,21.0s
VTS Vitosha 89.94 313 ⇓*i*P **P 05 34 37.6 -0.5**
VTS Vitosha 89.94 313 ⇓P **P 05 34 37.6 -0.5**
SIRR Siria 90.12 317 ⇓*i*P **P 05 34 39.2 +0.5**
VNDA Vanda 90.17 172 P **P 05 34 37.4 -0.7**
comp=Z,10nm,1.0s,baz=322,slow=5.7,SNR=26
VNDA PKKPbc **PKKPbc 05 52 10.4 -1.1**
comp=Z,2.4nm,0.9s,baz=358,slow=2.8,SNR=6.3
VNDA LR LR 06 14 46.8
comp=Z,421nm,21.1s,baz=338,slow=35
VNDA Vanda 90.17 172 *e*P **P 05 34 37.4 -0.7**
VNDA *e*PcP **PcP 05 34 37.6 -1.7**
VNDA PKKPbc **PKKPbc 05 52 10.4 -1.1**
NIE Niedzica 90.19 320 *e*P **P 05 34 40.1 +1.2**
NIE Niedzica 90.19 320 *e*P **P 05 34 40.1 +1.2**
IDI Anoyia 90.29 306 PFAKE 05 34 50.0 +10
IDI LR LR
comp=Z,500nm,19.0s
OJC Ojcow 90.29 321 *e*P **P 05 34 39.7 +0.4**
OJC Ojcow 90.29 321 *e*P **P 05 34 39.2 -0.2**
comp=Z,25nm,1.4s
OJC Ojcow 90.29 321 *e*P **P 05 34 39.7 +0.4**
BZS Buzias 90.32 316 ⇑*i*P **P 05 34 40.0 +0.4**
BZS Buzias 90.32 316 ⇑P **P 05 34 40.0 +0.4**
KECS Kecovo 90.32 319 *e*P **P 05 34 39.7 +0.2**
KECS pmax pmax
comp=Z,11nm,0.9s
KECS Kecovo 90.32 319 *e*P **P 05 34 39.7 +0.2**
MDVR Moldovita 90.46 316 ⇑*i*P **P 05 34 41.1 +0.8**
PSZ Piszkesteto 90.86 319 PFAKE 05 34 50.0 +7.9
PSZ LR LR
comp=Z,1µm,22.0s
LIT Litokhoron 91.05 311 *e*P **P 05 34 42.5 -0.7**
comp=Z,25nm,1.2s
LIT LR LR
comp=Z,700nm,22.0s
SBA Scott Base 91.12 171 *e*P **P 05 34 43.2 +0.7**
comp=Z,87nm,1.7s
PPT Papeete 91.19 108 LR LR 06 08 09.8
comp=Z,941nm,21.4s,baz=266,slow=31
PPT2 Papeete2 91.19 108 *e*S **S 05 45 36.2 -3.6**
comp=Z,390nm,25.0s
PPT2 *e*SS **SS 05 51 43.6 -1.7**
comp=Z,432nm,27.0s
PPT2 Papeete2 91.19 108 *e*LR LR 06 03 49.8
comp=Z,2µm,22.5s,baz=287
NB2 NORSAR Subarra 91.26 333 P **P 05 34 43.6 -0.1**
comp=Z,12nm,1.4s,baz=61,slow=5.3
NB2 NORSAR Subarra 91.26 333 P **P 05 34 43.6 -0.1**
baz=61,slow=5.3
NB200 NORSAR Array S 91.26 333 *e*P **P 05 34 42.3 -1.4**
NOA NORSAR Array B 91.26 333 P **P 05 34 42.3 -1.4**
comp=Z,1.2nm,0.8s,baz=68,slow=4.4,SNR=4.8
NOA PKKPbc **PKKPbc 05 52 06.9 -1.0**
comp=Z,1.7nm,0.9s,baz=71,slow=2.8,SNR=3.4
NOA LR LR 06 20 55.6
comp=Z,2µm,18.2s,baz=65,slow=39
VYHS Vyhne 91.38 320 *e*P **P 05 34 43.6 -0.8**
VYHS Vyhne 91.38 320 *e*P **P 05 34 43.6 -0.8**
OKC Ostrava-Krasne 91.42 321 AMS AMS 06 18 40.0
comp=Z,1µm,20.3s
MBAR Mbarara 91.66 270 PFAKE 05 35 00.0 +13
MBAR LR LR
comp=Z,2µm,19.0s
FNA Florina 91.70 312 PFAKE 05 35 00.0 +14
FNA LR LR
comp=Z,1µm,20.0s
MORC Moravsky Berou 91.81 321 *e*P **P 05 34 47.5 +1.0**
DIVS Divibare 91.83 315 PFAKE 05 35 00.0 +13
DIVS LR LR
comp=Z,800nm,19.0s
JAVC Velka Javorina 92.01 320 *e*P **P 05 34 48.6 +1.2**
KSP Ksiaz 92.24 322 *e*P **P 05 34 48.3 -0.1**
KSP Ksiaz 92.24 322 *e*P **P 05 34 48.3 -0.1**
TBI Tubuai 92.28 113 *e*S **S 05 45 42.4 -6.9**
comp=Z,308nm,25.8s
TBI *e*SS **SS 05 51 58.3 -2.5**
comp=Z,722nm,31.0s
TBI Tubuai 92.28 113 *e*LR LR 06 04 25.5
comp=Z,4µm,23.2s,baz=293
DPC Dobruska-Polom 92.38 322 *e*P **P 05 34 50.9 +1.8**
DPC AMS AMS 06 21 30.0
comp=Z,2µm,21.2s
DPC Dobruska-Polom 92.38 322 *e*P **P 05 34 50.9 +1.8**
DPC MLR MLR
comp=Z,2µm,21.2s
RES Resolute Bay 92.42 9 *e*P **P 05 34 48.9 +0.2**
comp=Z,53nm,1.3s
RES LR LR
comp=Z,900nm,20.0s
RES Resolute Bay 92.42 9 *e*P **P 05 34 48.9 +0.2**
RES pmax pmax
comp=Z,53nm,1.3s
RES MLR MLR
comp=Z,900nm,20.0s
VRAC Vranov 92.54 321 *e*P **P 05 34 50.2 +0.4**
KONO Kongsberg 92.56 332 PFAKE 05 35 00.0 +10
KONO LR LR
comp=Z,2µm,20.0s
TIR Tirane 92.66 313 PFAKE 05 35 00.0 +9.5
TIR LR LR
comp=Z,1µm,22.0s
KRUC Moravsky 92.74 321 *e*P **P 05 34 51.4 +0.7**
PDG Podgorica 92.80 314 ⇑*i*P **P 05 34 50.7 -0.4**
TTG Podgorica 92.80 314 PFAKE 05 35 00.0 +8.9
TTG LR LR
comp=Z,1µm,20.0s
TREC Trest 93.23 321 AMS AMS 06 20 00.0
comp=Z,1µm,21.5s
PVCC Panska Ves 93.38 322 AMS AMS 06 19 30.0
comp=Z,2µm,21.5s
BLY Banja Luka 93.57 316 PFAKE 05 35 10.0 +15
BLY LR LR
comp=Z,1µm,21.0s
PRA Prague 93.62 322 AMS AMS 06 19 50.0
comp=Z,2µm,18.6s
BRG Berggiesshubel 93.63 323 *e*P **P 05 34 55.2 +0.4**
comp=Z,18nm,1.1s
BRG PP **PKiKP 05 39 39.0 -1.2**
comp=Z,13nm,1.4s
BRG S **S 05 46 01.0 +0.7**
BRG SS **SS 05 52 16.0 -2.0**
comp=N,931nm,15.4s
comp=E,1µm,19.2s
comp=Z,2µm,18.5s
BRG Berggiesshubel 93.63 323 *e*P **P 05 34 55.2 +0.4**
BRG S **S 05 46 01.0 +0.7**
BRG SS **SS 05 52 16.0 -2.0**
BRG pmax pmax
comp=Z,18nm,1.2s
BRG pmax pmax
comp=Z,13nm,1.4s
BRG MLR MLR
comp=N,931nm,15.4s
BRG MLR MLR
comp=E,1µm,19.2s
BRG MLR MLR
comp=Z,2µm,18.5s
CLL Collm 94.03 324 *e*P **P 05 34 56.5 -0.1**
comp=Z,9.5nm,1.1s
CLL LR LR
comp=Z,2µm,20.0s
CLL Collm 94.03 324 ⇓*i*P **P 05 34 57.0 +0.4**
comp=Z,11nm,1.2s
CLL *e*(pP) **pP 05 35 07.0 -3.0**
CLL *e*PP **PP 05 38 42.0 -0.8**
CLL *e*sPPP 05 41 06.0
CLL *e*SKSac **SKSac 05 45 34.0 +6.1**
CLL *e*S **ScS 05 46 09.0 +3.9**
CLL *e*PS **PS 05 47 18.0 -5.6**
CLL *e*(SS) 05 52 06.0
CLL *e*SSS SSS 05 56 06.0
CLL *e* 05 57 00.0
CLL *e*SSSS 05 59 12.0
CLL Lm MLR 06 22 00.0
comp=N,900nm,21.2s
CLL Lm MLR 06 22 00.0
comp=E,2µm,20.7s
CLL Lm MLR 06 22 00.0
comp=Z,1µm,21.9s
CLL Collm 94.03 324 ⇓*i*P **P 05 34 57.0 +0.4**
CLL *e* 05 35 07.0
CLL *e* 05 45 34.0
CLL *e*S **ScS 05 46 09.0 +3.9**
CLL pmax pmax
comp=Z,18nm,1.2s
CLL MLR MLR
comp=Z,1µm,21.9s
KHC Kasperske Hory 94.46 321 PFAKE 05 35 10.0 +11
KHC LR LR
comp=Z,500nm,19.0s
KHC Kasperske Hory 94.46 321 *e*P **P 05 34 58.8 +0.1**
KHC *e*SKS **SKSac 05 45 28.2 -2.3**
KHC AMS AMS 06 20 40.0
comp=Z,1µm,16.6s
KHC Kasperske Hory 94.46 321 *e*P **P 05 34 58.8 +0.1**
KHC *e* 05 45 28.2
KHC MLR MLR
comp=Z,1µm,16.6s
GEC2 GERESS Array S 94.49 321 *e*P **P 05 34 58.8 -0.1**
comp=Z,7.4nm,1.0s
GEC2 LR LR
comp=Z,1µm,18.0s
GEC2 GERESS Array S 94.49 321 *e*P **P 05 34 58.8 -0.1**
GEC2 pmax pmax
comp=Z,7.0nm,1.0s
GEC2 MLR MLR
comp=Z,1µm,18.0s
GERES GERESS Array B 94.49 321 P **P 05 34 58.9 -0.1**
comp=Z,4.5nm,1.0s,baz=58,slow=5.2,SNR=20
GERES PP **PP 05 38 45.9 -0.6**
comp=Z,0.6nm,0.7s,baz=48,slow=9.4,SNR=2.3
GERES LR LR 06 21 33.9
comp=Z,916nm,18.2s,baz=74,slow=38
GEA0 GERESS Array S 94.49 321 *e*P **P 05 34 58.9 0.0**
NKC Novy Kostel 94.75 323 AMS AMS 06 20 20.0
comp=Z,2µm,20.0s
YKW3 Yellowknife Ar 95.52 23 *e*P **P 05 35 03.1 -0.1**
comp=Z,63nm,1.5s
TRI Trieste 95.54 318 PFAKE 05 35 20.0 +16
TRI LR LR
comp=Z,900nm,18.0s
YKA Yellowknife Ar 95.56 23 P **P 05 35 02.5 -0.8**
comp=Z,9.5nm,0.9s,baz=302,slow=4.3,SNR=12
YKA LR LR 06 19 08.7
comp=Z,40nm,20.1s,baz=300,slow=36
YKB5 Yellowknife Ar 95.56 23 *e*P **P 05 35 02.4 -1.0**
GRFO Grafenberg 95.69 322 PFAKE 05 35 20.0 +16
GRFO LR LR
comp=Z,2µm,19.0s
CUC Castrocucco 96.00 312 PFAKE 05 35 20.0 +14
CUC LR LR
comp=Z,1µm,21.0s
CEL Celeste 96.48 311 PFAKE 05 35 20.0 +12
CEL LR LR
comp=Z,700nm,21.0s
LSZ Lusaka 96.52 256 PFAKE 05 35 20.0 +11
LSZ LR LR
comp=Z,2µm,21.0s
AQU L'Aquila 96.95 315 PFAKE 05 35 20.0 +10
AQU LR LR
comp=Z,900nm,21.0s
FUORN Ofenpass-Fuorn 97.47 320 PFAKE 05 35 20.0 +7.2
FUORN LR LR
comp=Z,2µm,20.0s
TUE Stuetta 98.11 320 PFAKE 05 35 30.0 +14
TUE LR LR
comp=Z,2µm,19.0s
VLC Villacollemand 98.34 318 PFAKE 05 35 30.0 +14
VLC LR LR
comp=Z,1µm,20.0s
D03D Eldon 98.69 39 P **P 05 35 17.5 -0.3**
baz=295
E03A Lebam 98.81 40 PFAKE 05 35 30.0 +12
E03A LR LR
comp=Z,900nm,19.0s
TAOE Nuku Hiva Isla 98.86 97 *e*PP PP 05 39 14.2 -7.4
comp=Z,326nm,24.9s
TAOE *e*SKSac **SKSac 05 45 49.8 -4.9**
comp=Z,385nm,27.2s
TAOE *e*SP **SP 05 48 09.3 -3.1**
comp=Z,612nm,27.9s
TAOE Nuku Hiva Isla 98.86 97 *e*LQ LQ 06 03 14.2
comp=Z,876nm,28.5s
TAOE *e*LR LR 06 07 20.2
comp=Z,3µm,25.2s,baz=283
B05A Bryant 98.97 38 P Pdif 05 35 19.5 +0.4
baz=296
UCC Uccle 99.19 325 PFAKE 05 35 30.0 +10
UCC LR LR
comp=Z,2µm,21.0s
B06A Marblemount 99.23 37 PFAKE 05 35 30.0 +10
B06A LR LR
comp=Z,1µm,21.0s
SENIN Lac Senin/Sane 99.44 320 PFAKE 05 35 30.0 +8.5
SENIN LR LR
comp=Z,2µm,19.0s
COR Corvallis 99.78 41 PFAKE 05 35 30.0 +7.2
COR LR LR
comp=Z,2µm,21.0s
LON Longmire 99.81 39 PFAKE 05 35 30.0 +7.0
LON LR LR
comp=Z,700nm,20.0s
QSPA South Pole Qui 99.86 180 *e*Pdif **Pdif 05 35 22.8 +0.1**

comp=Z,18nm,1.8s
QSPA LR LR

comp=Z,700nm,19.0s
H04A Detroit Lake 100.47 41 PFAKE 05 35 40.0 +14
H04A LR LR

comp=Z,2µm,22.0s
B08A Colville Reser 100.57 37 *e*Pdif **Pdif 05 35 26.1 -0.2**
B08A LR LR

comp=Z,900nm,20.0s
I04A Tendick Farm, 100.70 42 P **Pdif 05 35 25.9 -1.0**
baz=295

JCC Jacoby Creek, 100.82 45 PFAKE 05 35 40.0 +13
JCC LR LR

comp=Z,2µm,21.0s
HUMO Hull Mountain 100.83 43 PFAKE 05 35 40.0 +12
HUMO LR LR

comp=Z,1µm,20.0s
KHMM Horse Mountain 101.00 45 PFAKE 05 35 40.0 +11
KHMM LR LR

comp=Z,2µm,20.0s
G06A Carlson Farm, 101.22 40 PFAKE 05 35 40.0 +11
G06A LR LR

comp=Z,800nm,20.0s
KMRM Mail Ridge 101.28 46 PFAKE 05 35 40.0 +10
KMRM LR LR

comp=Z,2µm,20.0s
YBH Yreka Blue Hor 101.36 44 *e*Pdif **Pdif 05 35 30.2 +0.2**
YBH LR LR

comp=Z,1µm,22.0s
YBH Yreka Blue Hor 101.36 44 *e*P **Pdif 05 35 30.2 +0.2**
YBH MLR MLR

comp=Z,1µm,22.0s
F07A Phinny Hill Vi 101.36 39 PFAKE 05 35 40.0 +10
F07A LR LR

comp=Z,1µm,20.0s
M02C Callahan 101.40 44 P **Pdif 05 35 28.7 -1.5**
baz=294

L04D Klamath Falls 101.43 43 P **Pdif 05 35 29.7 -0.7**
baz=295

D08A Wollman Farm, 101.44 38 *e*Pdif **Pdif 05 35 29.0 -1.0**
C09A Chrisman Ranch 101.47 37 PFAKE 05 35 40.0 +10
C09A LR LR

comp=Z,800nm,21.0s
PINE Pine Mountain 101.66 41 *e*Pdif **Pdif 05 35 31.4 0.0**
PINE LR LR

comp=Z,1µm,20.0s
N02D Trinity Center 101.67 44 P **Pdif 05 35 31.1 -0.3**
baz=294

J05D Fort Rock, OR 101.69 42 P **Pdif 05 35 30.7 -0.8**
baz=296

NEW Newport 101.91 36 PFAKE 05 35 40.0 +7.8
NEW LR LR

comp=Z,1µm,21.0s
NEW Newport 101.91 36 P **Pdif 05 35 31.9 -0.3**
baz=300

M04C Macdoel 101.93 43 P **Pdif 05 35 32.0 -0.6**
baz=295

O02D Mt. Diablo Mer 101.94 45 P **Pdif 05 35 32.4 -0.3**
baz=294

WDC Whiskeytown Da 101.95 45 *e*Pdif **Pdif 05 35 31.9 -0.6**
WDC LR LR

comp=Z,2µm,21.0s
WDC Whiskeytown Da 101.95 45 *e*P **Pdif 05 35 31.9 -0.6**
WDC MLR MLR

comp=Z,2µm,21.0s
HOPS Hopland Field 102.22 46 PFAKE 05 35 40.0 +6.2
HOPS LR LR

comp=Z,1µm,21.0s
G08A Pilot Rock 102.24 39 PFAKE 05 35 40.0 +6.1
G08A LR LR

comp=Z,900nm,22.0s
I07A Izee 102.46 41 PFAKE 05 35 50.0 +15
I07A LR LR

comp=Z,1µm,21.0s
GDXM Geysers 102.49 47 PFAKE 05 35 50.0 +15
GDXM LR LR

comp=Z,1µm,20.0s
O03E Paynes Creek 102.58 45 P **Pdif 05 35 35.1 -0.4**
baz=295

MCCM Marconi Confer 102.69 47 PFAKE 05 35 50.0 +14
MCCM LR LR

comp=Z,1µm,20.0s
MOD Modoc Plateau 102.91 43 *e*Pdif **Pdif 05 35 36.6 -0.4**
MOD LR LR

comp=Z,1µm,21.0s
F10A Beach Ranch, E 102.98 38 PFAKE 05 35 50.0 +13
F10A LR LR

comp=Z,700nm,20.0s
ORV Oroville 103.10 45 PFAKE 05 35 50.0 +12
ORV LR LR

comp=Z,1µm,22.0s
WALA Waterton Lakes 103.32 34 PFAKE 05 35 50.0 +11
WALA LR LR

comp=Z,900nm,22.0s
J08A Circle Bar Ran 103.45 41 PFAKE 05 35 50.0 +11
J08A LR LR

comp=Z,1µm,22.0s
BMO Blue Mountains 103.48 39 *e*Pdif **Pdif 05 35 38.6 -0.8**
BMO LR LR

comp=Z,900nm,21.0s
BMO Blue Mountains 103.48 39 *e*P **Pdif 05 35 38.6 -0.8**
BMO MLR MLR

comp=Z,900nm,21.0s
AFDM Forest Hills D 103.73 46 *e*Pdif **Pdif 05 35 39.7 -0.8**
AFDM LR LR

comp=Z,1µm,22.0s
BEKR Beckworth 103.76 45 *e*Pdif **Pdif 05 35 40.0 -0.9**
BEKR LR LR

comp=Z,1µm,21.0s
WVOR Wild Horse Val 103.78 42 PFAKE 05 35 50.0 +9.2
WVOR LR LR

comp=Z,1µm,21.0s
JTMT Jette 103.81 35 PFAKE 05 35 50.0 +9.2
JTMT LR LR

comp=Z,900nm,21.0s
RUBR Rubicon Trail 104.26 45 PFAKE 05 35 50.0 +6.9
RUBR LR LR

comp=Z,1µm,22.0s
SAO San Andreas Ge 104.30 48 PFAKE 05 35 50.0 +6.9
SAO LR LR

comp=Z,2µm,21.0s
VCNR Virginia City 104.51 45 PFAKE 05 35 50.0 +5.8
VCNR LR LR

comp=Z,1µm,22.0s
PAHR Pah Rah Range 104.51 45 PFAKE 05 35 50.0 +5.9
PAHR LR LR

comp=Z,1µm,22.0s
CMB Columbia Colle 104.53 46 PFAKE 05 35 50.0 +5.9
CMB LR LR

comp=Z,1µm,21.0s
PNTR Pine Nut 104.63 45 PFAKE 05 36 00.0 +15
PNTR LR LR

comp=Z,1µm,22.0s
YERR Yerington 104.93 45 PFAKE 05 36 00.0 +14
YERR LR LR

comp=Z,1µm,22.0s
PMPB Monarch Peak 105.00 48 PFAKE 05 36 00.0 +14
PMPB LR LR

comp=Z,2µm,22.0s
WAKR Walker 105.00 46 PFAKE 05 36 00.0 +14
WAKR LR LR

comp=Z,1µm,21.0s
MFID Camas Ranch 105.11 40 PFAKE 05 40 10.0
MFID LR LR

comp=Z,900nm,20.0s
FCC Fort Churchill 105.43 19 PFAKE 05 40 10.0
FCC LR LR

comp=Z,1µm,21.0s
RKT Rikitea 105.48 111 *e*SKSac **SKSac 05 46 21.0 -4.5**
comp=Z,470nm,28.2s
RKT Rikitea 105.48 111 *e*PS PS 05 49 25.2 -2.6
comp=Z,676nm,28.2s
RKT Rikitea 105.48 111 *e*LR LR 06 10 27.0
comp=Z,2µm,25.0s
RYN Ryan 105.59 45 PFAKE 05 40 10.0
RYN LR LR

comp=Z,1µm,22.0s
PAGB Antelope Grade 105.61 49 PFAKE 05 40 10.0
PAGB LR LR

comp=Z,2µm,22.0s
MDPB Devils Postpil 105.64 46 PFAKE 05 40 10.0
MDPB LR LR

comp=Z,900nm,20.0s
BMN Battle Mountai 105.65 43 PFAKE 05 40 10.0
BMN LR LR

comp=Z,1µm,22.0s
KVN Kaiserville 105.69 45 PFAKE 05 40 10.0
KVN LR LR

comp=Z,900nm,22.0s
OMMB Old Mammoth Mi 105.70 46 PFAKE 05 40 10.0
OMMB LR LR

comp=Z,1µm,19.0s
NV01 Mina Array Sit 105.83 45 *e*Pdif **Pdif 05 35 49.6 -0.6**
NVAR Mina Array Bea 105.83 45 Pdiff **Pdif 05 35 49.6 -0.6**
comp=Z,0.7nm,0.8s,baz=266,slow=4.5,SNR=4.6

HLID Hailey 105.93 39 PFAKE 05 40 10.0
HLID LR LR

comp=Z,900nm,21.0s
NV11 Mina Array Sit 105.94 45 PFAKE 05 40 10.0
NV11 LR LR

comp=Z,100nm,21.0s
DLMT Dillon 106.08 37 PFAKE 05 40 10.0
DLMT LR LR

comp=Z,600nm,20.0s
EGMT Eagleton 106.18 33 PFAKE 05 40 10.0
EGMT LR LR

comp=Z,800nm,22.0s
BOZ Bozeman (W) 106.51 36 PFAKE 05 40 10.0
BOZ LR LR

comp=Z,600nm,21.0s
ELK Elko 106.82 42 PFAKE 05 40 20.0
ELK LR LR

comp=Z,900nm,20.0s
ISA Isabella, Lake 106.94 48 PFAKE 05 40 20.0
ISA LR LR

comp=Z,2µm,21.0s
TSUM Tsumeb 107.04 253 PFAKE 05 40 20.0
TSUM LR LR

comp=Z,900nm,19.0s
OSI Osito Audit: C 107.21 49 PFAKE 05 40 20.0
OSI LR LR

comp=Z,2µm,20.0s
YHB Horse Butte 107.24 37 PFAKE 05 40 20.0
YHB LR LR

comp=Z,600nm,22.0s
DAC Darwin (Calif) 107.31 47 PFAKE 05 40 20.0
DAC LR LR

comp=Z,2µm,22.0s
YHH Holmes Hill 107.42 37 PFAKE 05 40 20.0
YHH LR LR

comp=Z,500nm,21.0s
YMR Madison River 107.42 37 PFAKE 05 40 20.0
YMR LR LR

comp=Z,500nm,20.0s
R11A Troy Canyon, C 107.76 44 PFAKE 05 40 20.0
R11A LR LR

comp=Z,1µm,22.0s
PASC Pasadena Art C 107.80 49 PFAKE 05 40 20.0
PASC LR LR

comp=Z,1µm,20.0s
H17A Grant Village 107.81 37 PFAKE 05 40 20.0
H17A LR LR

comp=Z,800nm,22.0s
IMW Indian Meadow 107.87 37 PFAKE 05 40 20.0
IMW LR LR

comp=Z,600nm,22.0s
MWC Mount Wilson 107.88 49 PFAKE 05 40 20.0
MWC LR LR

comp=Z,1µm,20.0s
HVU Hansel Valley 107.89 40 PFAKE 05 40 20.0
HVU LR LR

comp=Z,1µm,22.0s
FLWY Flagg Ranch 107.91 37 PFAKE 05 40 20.0
FLWY LR LR

comp=Z,500nm,20.0s
TPNV Topopah Spring 107.96 46 PFAKE 05 40 20.0
TPNV LR LR

comp=Z,900nm,21.0s
MOOW Moose Ponds 108.07 38 PFAKE 05 40 20.0
MOOW LR LR

comp=Z,800nm,22.0s
TPAW Teton Pass 108.09 38 PFAKE 05 40 20.0
TPAW LR LR

comp=Z,800nm,20.0s
BGU Big Grassy Mou 108.17 41 PFAKE 05 40 20.0
BGU LR LR

comp=Z,1µm,20.0s
REDW Red Top Meadow 108.22 38 PFAKE 05 40 20.0
REDW LR LR

comp=Z,900nm,20.0s
SNOW Snow King Moun 108.22 38 PFAKE 05 40 20.0
SNOW LR LR

comp=Z,800nm,20.0s
LOHW Long Hollow 108.23 38 PFAKE 05 40 20.0
LOHW LR LR

comp=Z,800nm,22.0s
GSC Goldstone, Bar 108.32 48 PFAKE 05 40 20.0
GSC LR LR

comp=Z,2µm,21.0s
SPUT South Promonto 108.34 40 PFAKE 05 40 20.0
SPUT LR LR

comp=Z,1µm,21.0s
AHID Auburn Hatcher 108.40 39 PFAKE 05 40 20.0
AHID LR LR

comp=Z,900nm,21.0s
DUG Dugway, Tooele 108.69 42 PFAKE 05 40 20.0
DUG LR LR

comp=Z,600nm,20.0s
HWUT Hardware Ranch 108.75 40 PFAKE 05 40 20.0
HWUT LR LR

comp=Z,900nm,21.0s
PSUT Pine Spring 108.85 44 PFAKE 05 40 20.0
PSUT LR LR

comp=Z,1µm,22.0s
LAO LASA Array 108.90 33 PFAKE 05 40 20.0
LAO LR LR

comp=Z,900nm,22.0s
SHPR Sheep Range 108.94 46 PFAKE 05 40 20.0
SHPR LR LR

comp=Z,1µm,20.0s
TCUT Toone Canyon 109.11 40 PFAKE 05 40 20.0
TCUT LR LR

comp=Z,2µm,22.0s
CTU Camp Tracy 109.12 41 PFAKE 05 40 20.0
CTU LR LR

comp=Z,1µm,21.0s
CPE Camp Elliot 109.17 50 PFAKE 05 40 20.0
CPE LR LR

comp=Z,700nm,21.0s
NLU North Lily Min 109.30 41 PFAKE 05 40 20.0
NLU LR LR

comp=Z,800nm,21.0s
PFO Pinyon Flats O 109.34 49 PFAKE 05 40 20.0
PFO LR LR

comp=Z,1µm,20.0s
BW06 Boulder Array 109.34 38 PFAKE 05 40 20.0
BW06 LR LR

comp=Z,1µm,22.0s
PD31 Pinedale Array 109.34 38 *e*PKiKP **PKiKP 05 40 08.2 -0.9**
PDAR Pinedale Array 109.34 38 PKiKP **PKiKP 05 40 08.2 -0.9**
comp=Z,0.9nm,1.0s,baz=343,slow=1.5,SNR=3.7
PDAR PKKP **PKKPdf 05 51 30.9 -0.2**
comp=Z,0.6nm,0.9s,baz=98,slow=3.0,SNR=4.3

XPFO Piæon Flat 109.34 49 PFAKE 05 40 20.0
XPFO LR LR

comp=Z,1µm,21.0s
JLU Jordanelle 109.36 41 PFAKE 05 40 20.0
JLU LR LR

comp=Z,1µm,20.0s
MPU Maple Canyon 109.56 41 PFAKE 05 40 20.0
MPU LR LR

comp=Z,800nm,21.0s
BAR Barrett 109.59 50 PFAKE 05 40 20.0
BAR LR LR

comp=Z,800nm,21.0s
LDFC Landfair 109.65 47 PFAKE 05 40 20.0
LDFC LR LR

comp=Z,2µm,22.0s
CCUT Cedar City 109.68 44 PFAKE 05 40 20.0
CCUT LR LR

comp=Z,2µm,22.0s
TCRU Three Creeks R 109.76 43 PFAKE 05 40 20.0
TCRU LR LR

comp=Z,1µm,19.0s
SZCU Shurtz Canyon 109.85 44 PFAKE 05 40 20.0
SZCU LR LR

comp=Z,1µm,21.0s
ESDC Sonseca Array 109.89 319 PP PP 05 40 42.5 +0.2
comp=Z,0.5nm,0.7s,baz=60,slow=7.7,SNR=5.9

LCMT Little Creek M 110.03 45 PFAKE 05 40 20.0
LCMT LR LR

comp=Z,1µm,21.0s
TAM Tamanrasset 110.08 299 PFAKE 05 40 20.0
TAM LR LR

comp=Z,1µm,20.0s
TMUT Trail Mountain 110.22 42 PFAKE 05 40 20.0
TMUT LR LR

comp=Z,900nm,21.0s
MTPU Mount Pierson 110.23 43 PFAKE 05 40 20.0
MTPU LR LR

comp=Z,900nm,20.0s
KNB Kanab 110.32 44 PFAKE 05 40 20.0
KNB LR LR

comp=Z,1µm,22.0s
P17A Butcher Ranch, 110.43 41 PFAKE 05 40 20.0
P17A LR LR

comp=Z,700nm,20.0s
PKCU Pink Cliffs 110.45 44 PFAKE 05 40 20.0
PKCU LR LR

comp=Z,2µm,22.0s
W13A Hualapai Mount 110.52 47 PFAKE 05 40 20.0
W13A LR LR

comp=Z,2µm,22.0s
P18A Preston Nutter 110.67 41 PFAKE 05 40 20.0
P18A LR LR

comp=Z,600nm,20.0s
Y12C Blythe 110.71 48 PFAKE 05 40 20.0
Y12C LR LR

comp=Z,1µm,20.0s
SRU San Rafael Swe 110.77 42 PFAKE 05 40 20.0
SRU LR LR

comp=Z,900nm,21.0s
GLA Glamis 110.81 49 PFAKE 05 40 20.0
GLA LR LR

comp=Z,900nm,20.0s
U15A North Rim 110.99 45 PFAKE 05 40 20.0
U15A LR LR

comp=Z,1µm,21.0s
RWWY Rawlins 111.39 38 PFAKE 05 40 20.0
RWWY LR LR

comp=Z,1µm,22.0s
ULM Lac du Bonnet 111.40 25 PFAKE 05 40 20.0
ULM LR LR

comp=Z,900nm,20.0s
MDND Maddock 111.48 29 PFAKE 05 40 20.0
MDND LR LR

comp=Z,1µm,21.0s
O20A White River Ci 111.66 40 PFAKE 05 40 20.0
O20A LR LR

comp=Z,1µm,21.0s
VNA2 Neumayer--Watz 111.70 196 PKiKP **PKiKP 05 40 13.3 +1.0**
slow=1.2

RSSD Black Hills 111.72 34 PFAKE 05 40 20.0
RSSD LR LR

comp=Z,800nm,22.0s
113A Mohawk Valley, 111.73 49 PFAKE 05 40 20.0
113A LR LR

comp=Z,1µm,19.0s
WUAZ Wupatki 112.09 45 PFAKE 05 40 30.0
WUAZ LR LR

comp=Z,1µm,22.0s
VNA3 Neumayer Olymp 112.11 195 PKiKP **PKiKP 05 40 13.5 +0.3**
X16A Lo Mia Camp, P 112.61 46 PFAKE 05 40 30.0
X16A LR LR

comp=Z,1µm,22.0s
N23A Red Feather La 112.62 38 PFAKE 05 40 30.0
N23A LR LR

comp=Z,900nm,21.0s
AGMN Agassiz Nation 112.87 27 PFAKE 05 40 30.0
AGMN LR LR

comp=Z,800nm,20.0s
SFS San Fernando 113.11 317 PFAKE 05 40 30.0
SFS LR LR

comp=Z,600nm,20.0s
MVCO Mesa Verde 113.14 42 PFAKE 05 40 30.0
MVCO LR LR

comp=Z,1µm,21.0s
W18A Petrified Fore 113.44 45 PFAKE 05 40 30.0
W18A LR LR

comp=Z,1µm,21.0s
ISCO Idaho Springs 113.49 39 PFAKE 05 40 30.0
ISCO LR LR

comp=Z,1µm,22.0s
X18A Snowflake 113.60 45 PFAKE 05 40 30.0
X18A LR LR

comp=Z,1µm,22.0s
S22A 4UR Ranch, Cre 113.93 41 PFAKE 05 40 30.0
S22A LR LR

comp=Z,800nm,21.0s
TUC Tucson 114.15 48 PFAKE 05 40 30.0 +12
TUC LR LR

comp=Z,1µm,20.0s
Q24A Divide 114.28 39 PFAKE 05 40 30.0 +11
Q24A LR LR

comp=Z,1µm,22.0s
SDCO Great Sand Dun 114.79 40 PFAKE 05 40 30.0 +10
SDCO LR LR

comp=Z,900nm,22.0s
OGNE Ogallala 114.90 36 PFAKE 05 40 30.0 +10
OGNE LR LR

comp=Z,500nm,20.0s
SCHQ Schefferville 114.96 6 PFAKE 05 40 30.0 +11
SCHQ LR LR

comp=Z,700nm,20.0s
EYMN Ely 115.00 24 PFAKE 05 40 30.0 +11
EYMN LR LR

comp=Z,1µm,22.0s
SRIG Santa Rosalia 115.44 53 PFAKE 05 40 30.0 +9.2
SRIG LR LR

comp=Z,1µm,21.0s
HSIG 115.64 51 PFAKE 05 40 30.0 +8.8
HSIG LR LR

comp=Z,700nm,22.0s
319A Douglas 115.72 48 PFAKE 05 40 30.0 +8.5
319A LR LR

comp=Z,1µm,21.0s
ANMO Albuquerque 115.78 43 *e*PKPdf **PKPdf 05 40 21.4 -0.2**
ANMO LR LR

comp=Z,900nm,22.0s
ANMO Albuquerque 115.78 43 *e*PKiKP **PKPdf 05 40 21.4 -0.2**
ANMO MLR MLR

comp=Z,900nm,22.0s
KSCO Kaye Shedlock' 115.79 38 PFAKE 05 40 30.0 +8.6
KSCO LR LR

comp=Z,900nm,22.0s
T25A Trinidad 115.84 40 *e*PKPdf **PKPdf 05 40 21.9 +0.2**
T25A LR LR

comp=Z,900nm,22.0s
LENM Lemitar 115.87 44 *e*PKPdf **PKPdf 05 40 21.5 -0.2**
ECSD EROS Data Cent 115.89 30 *e*PKPdf **PKPdf 05 40 20.9 -0.4**
ECSD LR LR

comp=Z,600nm,21.0s
C40A Isle Royale Na 115.95 23 PFAKE 05 40 30.0 +8.8
C40A LR LR

comp=Z,900nm,22.0s
Y22D IRIS PASSCAL I 115.96 44 PFAKE 05 40 30.0 +8.1
Y22D LR LR

comp=Z,1µm,21.0s
LPM Los Pinos Moun 116.02 44 *e*PKPdf **PKPdf 05 40 21.7 -0.3**
E38A The Farm, Brul 116.04 25 PFAKE 05 40 30.0 +8.5
E38A LR LR

comp=Z,800nm,20.0s
SPMN Marine on St. 116.58 27 PFAKE 05 40 30.0 +7.5
SPMN LR LR

comp=Z,500nm,20.0s
TOC2 Torodi Ar. Sit 116.70 290 PFAKE 05 40 40.0 +16
TOC2 LR LR

comp=Z,700nm,18.0s
TOC3 Torodi Ar. Sit 116.71 290 PFAKE 05 40 40.0 +16
TOC3 LR LR

comp=Z,600nm,18.0s
TOC1 Torodi Ar. Sit 116.72 290 PFAKE 05 40 40.0 +16
TOC1 LR LR

comp=Z,800nm,19.0s
TOB2 Torodi Ar. Sit 116.72 290 PFAKE 05 40 40.0 +16
TOB2 LR LR

comp=Z,600nm,19.0s
TOA2 Torodi Ar. Sit 116.72 290 PFAKE 05 40 40.0 +16
TOA2 LR LR

comp=Z,700nm,18.0s
TOB3 Torodi Ar. Sit 116.72 290 PFAKE 05 40 40.0 +16
TOB3 LR LR

comp=Z,600nm,19.0s
TOA0 Torodi Ar. Sit 116.73 290 *e*PKPdf **PKPdf 05 40 22.8 -0.8**
TOA0 LR LR

comp=Z,600nm,18.0s

TORD Torodi Ar. Bea 116.73 290 PKP **PKPdf** 05 40 23.7 +0.1
comp=Z,1.4nm,0.8s,baz=112,slow=1.7,SNR=9.5
TOA1 Torodi Ar. Sit 116.73 290 *e*PKPdf **PKPdf** 05 40 23.8 +0.1
TOA1 LR LR
comp=Z,600nm,18.0s
TOC4 Torodi Ar. Sit 116.73 290 PFAKE 05 40 40.0 +16
TOC4 LR LR
comp=Z,500nm,19.0s
TOC7 Torodi Ar. Sit 116.74 290 PFAKE 05 40 40.0 +16
TOC7 LR LR
comp=Z,700nm,18.0s
TOB5 Torodi Ar. Sit 116.74 290 PFAKE 05 40 40.0 +16
TOB5 LR LR
comp=Z,600nm,19.0s
TOB4 Torodi Ar. Sit 116.74 290 PFAKE 05 40 40.0 +16
TOB4 LR LR
comp=Z,600nm,18.0s
BGNE Belgrade 116.75 33 PFAKE 05 40 30.0 +7.0
BGNE LR LR
comp=Z,600nm,21.0s
TOC5 Torodi Ar. Sit 116.75 290 PFAKE 05 40 40.0 +16
TOC5 LR LR
comp=Z,700nm,18.0s
D41A Chassel 116.88 23 PFAKE 05 40 30.0 +6.9
D41A LR LR
comp=Z,1μm,21.0s
COWI Conover 117.44 24 PFAKE 05 40 40.0 +16
COWI LR LR
comp=Z,1μm,21.0s
EPT El Paso 117.52 46 PFAKE 05 40 40.0 +15
EPT LR LR
comp=Z,900nm,22.0s
CBKS Cedar Bluff 117.63 36 PFAKE 05 40 40.0 +15
CBKS LR LR
comp=Z,500nm,20.0s
G40A Rib Lake 117.68 25 PFAKE 05 40 40.0 +15
G40A LR LR
comp=Z,900nm,19.0s
F41A Three Lakes 117.75 24 PFAKE 05 40 40.0 +15
F41A LR LR
comp=Z,800nm,20.0s
E43A Lone Tree Farm 118.05 23 PFAKE 05 40 40.0 +15
E43A LR LR
comp=Z,700nm,21.0s
I39A Houston 118.22 27 *e*PKPdf **PKPdf** 05 40 24.8 -1.0
I39A LR LR
comp=Z,1μm,21.0s
MNTX Cornudas Mount 118.36 46 *e*PKPdf **PKPdf** 05 40 26.1 -0.2
MNTX LR LR
comp=Z,800nm,22.0s
G42A Mountain 118.43 24 PFAKE 05 40 40.0 +14
G42A LR LR
comp=Z,900nm,22.0s
H41A Junction City 118.43 25 PFAKE 05 40 40.0 +14
H41A LR LR
comp=Z,800nm,20.0s
I41A Arkdale 118.79 26 PFAKE 05 40 40.0 +13
I41A LR LR
comp=Z,900nm,21.0s
MSTX Muleshoe 118.82 42 *e*PKPdf **PKPdf** 05 40 26.7 -0.6
MSTX LR LR
comp=Z,1μm,21.0s
SCIA State Center 118.92 30 PFAKE 05 40 40.0 +13
SCIA LR LR
comp=Z,800nm,21.0s
AMTX Amarillo 118.97 41 PFAKE 05 40 40.0 +12
AMTX LR LR
comp=Z,2μm,22.0s
H42A Shiocton 118.99 25 PFAKE 05 40 40.0 +13
H42A LR LR
comp=Z,800nm,20.0s
KSU1 Kansas State U 119.21 34 *e*PKPdf **PKPdf** 05 40 26.3 -1.4
KSU1 LR LR
comp=Z,1μm,22.0s
H43A Windswept, Lux 119.33 24 PFAKE 05 40 40.0 +12
H43A LR LR
comp=Z,800nm,20.0s
I42A Draeger Farm, 119.33 25 PFAKE 05 40 40.0 +12
I42A LR LR
comp=Z,900nm,19.0s
JFWS Jewell Farm 119.53 27 *e*PKPdf **PKPdf** 05 40 27.1 -1.2
JFWS LR LR
comp=Z,900nm,21.0s
JFWS Jewell Farm 119.53 27 *e*PKIKP **PKPdf** 05 40 27.1 -1.2
JFWS MLR MLR
comp=Z,900nm,21.0s
VLDQ Val d'Or 119.55 15 PFAKE 05 40 40.0 +12
VLDQ LR LR
comp=Z,900nm,20.0s
U32A Winter Ranch, 119.68 38 PFAKE 05 40 40.0 +11
U32A LR LR
comp=Z,1μm,22.0s
L40A Anamosa 119.76 28 *e*PKPdf **PKPdf** 05 40 27.3 -1.4
L40A LR LR
comp=Z,900nm,21.0s
N39A Derby Farms, D 120.05 30 PFAKE 05 40 40.0 +11
N39A LR LR
comp=Z,700nm,21.0s
L42A Oliver, Polo 120.52 27 PFAKE 05 40 40.0 +10
L42A LR LR
comp=Z,700nm,19.0s
K43A Burlington 120.54 26 PFAKE 05 40 40.0 +10
K43A LR LR
comp=Z,1μm,22.0s
HPIG 120.73 50 *e*PKPdf **PKPdf** 05 40 31.4 +0.1
HPIG LR LR
comp=Z,600nm,21.0s
WMOK Wichita Mounta 120.90 39 *e*PKPdf **PKPdf** 05 40 30.9 -0.3
WMOK LR LR
comp=Z,900nm,21.0s
WMOK Wichita Mounta 120.90 39 *e*PKIKP **PKPdf** 05 40 30.9 -0.3
WMOK MLR MLR
comp=Z,900nm,21.0s
TX31 Lajitas Ar. Si 120.91 47 *e*PKPdf **PKPdf** 05 40 31.1 -0.4
LTX Lajitas 120.91 47 *e*PKPdf **PKPdf** 05 40 31.1 -0.3
TXAR Lajitas Array 120.91 47 PKP **PKPdf** 05 40 31.1 -0.3
comp=Z,2.4nm,0.8s,baz=241,slow=0.4,SNR=20
N41A Harden Midland 120.98 29 PFAKE 05 40 40.0 +8.9
N41A LR LR
comp=Z,800nm,22.0s
ABTX Abilene, Hawle 121.71 42 *e*PKPdf **PKPdf** 05 40 32.3 -0.6
ABTX LR LR
comp=Z,1μm,21.0s
M44A Midewin, Midew 121.73 27 *e*PKPdf **PKPdf** 05 40 31.7 -0.8
M44A LR LR
comp=Z,800nm,20.0s
HDIL Hopedale 121.84 28 PFAKE 05 40 40.0 +7.2
HDIL LR LR
comp=Z,800nm,20.0s
TUL1 Leonard 121.91 36 PFAKE 05 40 40.0 +6.9
TUL1 LR LR
comp=Z,1μm,21.0s
P42A Winchester 122.10 29 PFAKE 05 40 40.0 +6.7
P42A LR LR
comp=Z,700nm,21.0s
SADO Sadowa 122.14 18 PFAKE 05 40 40.0 +6.8
SADO LR LR
comp=Z,600nm,20.0s
M46A Old House Fiel 122.45 25 PFAKE 05 40 50.0 +16
M46A LR LR
comp=Z,900nm,21.0s
PLVO Plevna 122.49 16 PFAKE 05 40 50.0 +16
PLVO LR LR
comp=Z,800nm,20.0s
BATG Bathurst New B 122.50 7 PFAKE 05 40 50.0 +16
BATG LR LR
comp=Z,1μm,19.0s
HHAR Hobbs 122.70 35 *e*PKPdf **PKPdf** 05 40 33.5 -1.1
AAM Ann Arbor 122.78 23 PFAKE 05 40 50.0 +15
AAM LR LR
comp=Z,800nm,22.0s
CCM Cathedral Cave 122.83 31 *e*PKPdf **PKPdf** 05 40 34.3 -0.5
CCM LR LR
comp=Z,700nm,20.0s
CCM Cathedral Cave 122.83 31 *e*PKIKP **PKPdf** 05 40 34.3 -0.5
CCM MLR MLR
comp=Z,700nm,20.0s
PQI Presque Isle 122.84 8 *e*PKPdf **PKPdf** 05 40 34.8 +0.3
JCT Junction City 122.94 44 *e*PKPdf **PKPdf** 05 40 35.0 -0.3
JCT LR LR
comp=Z,500nm,20.0s
JCT Junction City 122.94 44 *e*PKIKP **PKPdf** 05 40 35.0 -0.3
JCT MLR MLR
comp=Z,500nm,20.0s
SFIN Lafayette 122.97 27 PFAKE 05 40 50.0 +15
SFIN LR LR
comp=Z,600nm,19.0s
M48A Edgerton 123.06 24 PFAKE 05 40 50.0 +15
M48A LR LR
comp=Z,1μm,22.0s
X37A Clayton 123.07 37 *e*PKPdf **PKPdf** 05 40 35.3 -0.1
X37A LR LR
comp=Z,1μm,21.0s
FVM French Village 123.30 31 *e*PKPdf **PKPdf** 05 40 35.2 -0.5
FVM LR LR
comp=Z,500nm,19.0s
FVM French Village 123.30 31 *e*PKIKP **PKPdf** 05 40 35.2 -0.5
FVM MLR MLR
comp=Z,500nm,19.0s
P45A Graceland, Par 123.37 28 PFAKE 05 40 50.0 +14
P45A LR LR
comp=Z,700nm,20.0s
WHTX Lake Whitney, 123.53 41 *e*PKPdf **PKPdf** 05 40 36.5 +0.2
WHTX LR LR
comp=Z,900nm,20.0s
W39A Magazine 123.57 35 *e*PKPdf **PKPdf** 05 40 35.8 -0.4
W39A LR LR
comp=Z,1μm,21.0s
T42A Van Buren 123.69 32 *e*PKPdf **PKPdf** 05 40 36.0 -0.4
T42A LR LR
comp=Z,700nm,18.0s
N49A Columbus Grove 123.75 24 *e*PKPdf **PKPdf** 05 40 36.1 -0.3
N49A LR LR
comp=Z,1μm,22.0s
M50A Fremont 123.78 23 PFAKE 05 40 50.0 +14
M50A LR LR
comp=Z,800nm,20.0s
OLIL Olney 123.84 28 *e*PKPdf **PKPdf** 05 40 36.7 +0.1
OLIL LR LR
comp=Z,600nm,20.0s
SIUC Southern Illin 124.11 30 *e*PKPdf **PKPdf** 05 40 36.8 -0.4
SIUC LR LR
comp=Z,600nm,21.0s
MIAR Mount Ida 124.15 36 *e*PKPdf **PKPdf** 05 40 37.5 +0.1
MIAR LR LR
comp=Z,700nm,20.0s
BLO Bloomington 124.21 27 *e*PKPdf **PKPdf** 05 40 37.3 -0.1
BLO LR LR
comp=Z,800nm,19.0s
BLO Bloomington 124.21 27 *e*PKIKP **PKPdf** 05 40 37.3 -0.1
BLO MLR MLR
comp=Z,800nm,19.0s
PBMO Poplar Bluff 124.22 32 *e*PKPdf **PKPdf** 05 40 36.8 -0.7
NCB Newcomb 124.23 14 *e*PKPdf **PKPdf** 05 40 38.0 +0.7
435B Jarrell 124.23 42 PFAKE 05 40 50.0 +12
435B LR LR
comp=Z,700nm,21.0s
ERPA Erie 124.25 20 PFAKE 05 40 50.0 +13
ERPA LR LR
comp=Z,900nm,22.0s
O49A Covington 124.31 25 PFAKE 05 40 50.0 +12
O49A LR LR
comp=Z,1μm,22.0s
WHAR Wooly Hollow 124.34 34 PFAKE 05 40 50.0 +12
WHAR LR LR
comp=Z,700nm,22.0s
MMNY Mt. Morris Dam 124.36 18 PFAKE 05 40 50.0 +12
MMNY LR LR
comp=Z,800nm,20.0s
W41B Gary Mavity, V 124.45 34 PFAKE 05 40 50.0 +12
W41B LR LR
comp=Z,800nm,22.0s
N51A Ashland 124.45 23 PFAKE 05 40 50.0 +12
N51A LR LR
comp=Z,900nm,21.0s
833A Chaparral WMA, 124.53 45 *e*PKPdf **PKPdf** 05 40 38.4 +0.1
833A LR LR
comp=Z,800nm,20.0s
PARMO Parma 124.66 31 PFAKE 05 40 50.0 +12
PARMO LR LR
comp=Z,600nm,21.0s
USIN University of 124.66 29 *e*PKPdf **PKPdf** 05 40 38.2 -0.1
USIN LR LR
comp=Z,900nm,22.0s
UALR University of 124.69 35 PFAKE 05 40 50.0 +12
UALR LR LR
comp=Z,900nm,20.0s
ACSO Alum Creek Sta 124.81 23 *e*PKPdf **PKPdf** 05 40 38.2 -0.3
ACSO LR LR
comp=Z,900nm,22.0s
M54A Oil Creek Stat 124.91 20 *e*PKPdf **PKPdf** 05 40 38.5 -0.2
M54A LR LR
comp=Z,900nm,20.0s
ACCN Adirondack Com 124.92 14 PFAKE 05 40 50.0 +11
ACCN LR LR
comp=Z,700nm,19.0s
T45A Paducah 124.94 30 PFAKE 05 40 50.0 +11
T45A LR LR
comp=Z,900nm,22.0s
WLAR White Oak Lake 125.03 36 *e*PKPdf **PKPdf** 05 40 39.1 0.0
WCI Wyandotte Cave 125.08 27 *e*PKPdf **PKPdf** 05 40 38.9 -0.2
WCI LR LR
comp=Z,700nm,22.0s
WCI Wyandotte Cave 125.08 27 *e*PKIKP **PKPdf** 05 40 38.9 -0.2
WCI MLR MLR
comp=Z,700nm,22.0s
N54A Moraine State 125.28 21 *e*PKPdf **PKPdf** 05 40 39.2 -0.2
N54A LR LR
comp=Z,1μm,20.0s
ZAIG Zacatecas 125.30 53 PFAKE 05 40 50.0 +10
ZAIG LR LR
comp=Z,1μm,22.0s
O52A Adamsville 125.35 23 *e*PKPdf **PKPdf** 05 40 39.0 -0.6
BINY Binghamton 125.42 17 *e*PKPdf **PKPdf** 05 40 39.8 +0.1
P51A Williamsport 125.42 24 *e*PKPdf **PKPdf** 05 40 39.0 -0.6
P51A LR LR
comp=Z,1μm,22.0s
HALT Halls 125.45 32 PFAKE 05 40 50.0 +10
HALT LR LR
comp=Z,800nm,22.0s
NATX Nacogdoches 125.45 39 PFAKE 05 40 50.0 +10
NATX LR LR
comp=Z,2μm,22.0s
Z41A Richland Creek 125.52 36 PFAKE 05 40 50.0 +10
Z41A LR LR
comp=Z,1μm,22.0s
Q51A Peebles 125.69 25 PFAKE 05 40 50.0 +10
Q51A LR LR
comp=Z,1μm,20.0s
T47A Sharon Grove 125.71 29 *e*PKPdf **PKPdf** 05 40 40.5 +0.2
T47A LR LR
comp=Z,800nm,22.0s
MET Memphis--Engin 125.74 33 PFAKE 05 40 50.0 +10
MET LR LR
comp=Z,800nm,22.0s
240A Hunter Patters 125.81 38 PFAKE 05 40 50.0 +9.4
240A LR LR
comp=Z,2μm,21.0s
HKT Hockley 125.92 41 PFAKE 05 40 50.0 +9.2
HKT LR LR
comp=Z,900nm,20.0s
WVT Waverly 126.04 30 *e*PKPdf **PKPdf** 05 40 40.4 -0.6
WVT LR LR
comp=Z,600nm,20.0s
WVT Waverly 126.04 30 *e*PKIKP **PKPdf** 05 40 40.4 -0.6
WVT MLR MLR
comp=Z,600nm,20.0s
P53A Whipple 126.07 23 *e*PKPdf **PKPdf** 05 40 41.0 +0.1
P53A LR LR
comp=Z,800nm,19.0s
SSPA Standing Stone 126.27 19 *e*PKPdf **PKPdf** 05 40 40.9 -0.4
SSPA LR LR
comp=Z,600nm,20.0s
241A Mo Tay, Goldon 126.33 37 PFAKE 05 40 50.0 +8.4
241A LR LR
comp=Z,2μm,21.0s
T49A Edmonton 126.35 28 *e*PKPdf **PKPdf** 05 40 41.4 -0.2
T49A LR LR
comp=Z,600nm,19.0s
O56A Blue Knob Stat 126.38 20 *e*PKPdf **PKPdf** 05 40 41.7 +0.1
OXF Oxford 126.49 33 *e*PKPdf **PKPdf** 05 40 41.5 -0.3
OXF LR LR
comp=Z,700nm,21.0s
OXF Oxford 126.49 33 *e*PKIKP **PKPdf** 05 40 41.5 -0.3
OXF MLR MLR
comp=Z,700nm,21.0s
LNIG Linares 126.50 49 PFAKE 05 40 50.0 +7.8
LNIG LR LR
comp=Z,400nm,20.0s
N59A State Game Lan 126.66 17 PFAKE 05 40 50.0 +7.9
N59A LR LR
comp=Z,1μm,21.0s
341A Kurthwood 126.66 38 PFAKE 05 40 50.0 +7.7
341A LR LR
comp=Z,2μm,20.0s
143A Socs Landing, 126.73 36 PFAKE 05 40 50.0 +7.6
143A LR LR
comp=Z,1μm,21.0s
S51A Beattyville 126.76 26 *e*PKPdf **PKPdf** 05 40 42.1 -0.2
S51A LR LR
comp=Z,1μm,22.0s
PLAL Pickwick Lake 126.82 31 *e*PKPdf **PKPdf** 05 40 41.6 -0.9
ODNJ Ogdensburg 126.83 16 *e*PKPdf **PKPdf** 05 40 42.6 +0.2
V48A Smith Brothers 126.85 30 PFAKE 05 40 50.0 +7.5
V48A LR LR
comp=Z,600nm,20.0s
PAGS Pennsylvania G 127.01 18 PFAKE 05 40 50.0 +7.3
PAGS LR LR
comp=Z,900nm,20.0s
YLE Yale 127.05 14 PFAKE 05 40 50.0 +7.3
YLE LR LR
comp=Z,1μm,22.0s
342A Flagon Creek P 127.15 38 PFAKE 05 40 50.0 +6.8
342A LR LR
comp=Z,2μm,20.0s
Z45A Winona 127.20 34 *e*PKPdf **PKPdf** 05 40 43.0 -0.3
MVL Millersville 127.33 18 *e*PKPdf **PKPdf** 05 40 43.5 +0.2
MVL LR LR
comp=Z,900nm,19.0s
VBMS Vicksburg 127.59 35 PFAKE 05 41 00.0 +16
VBMS LR LR
comp=Z,1μm,21.0s
SWET Sewanee 127.70 29 *e*PKPdf **PKPdf** 05 40 43.6 -0.7
SWET LR LR
comp=Z,600nm,20.0s
TZTN Tazewell 127.70 26 PFAKE 05 41 00.0 +16
TZTN LR LR
comp=Z,600nm,20.0s
X48A Hartselle 127.76 31 *e*PKPdf **PKPdf** 05 40 43.0 -1.3
X48A LR LR
comp=Z,700nm,20.0s
V51A Loudon 127.96 28 PFAKE 05 41 00.0 +15
V51A LR LR
comp=Z,900nm,22.0s
MOIG Morelia 127.99 55 PFAKE 05 41 00.0 +15
MOIG LR LR
comp=Z,2μm,22.0s
W50A Signal Mountai 128.01 29 *e*PKPdf **PKPdf** 05 40 44.4 -0.4
W50A LR LR
comp=Z,900nm,19.0s
344A Westbrook Farm 128.03 36 PFAKE 05 41 00.0 +15
344A LR LR
comp=Z,1μm,21.0s
JRQG Juriquilla Cam 128.06 54 PFAKE 05 41 00.0 +14
JRQG LR LR
comp=Z,1μm,21.0s
146A Union 128.10 34 PFAKE 05 41 00.0 +15
146A LR LR
comp=Z,600nm,20.0s
CPCT Cooper Cave 128.17 28 *e*PKPdf **PKPdf** 05 40 45.4 +0.3
CPCT LR LR
comp=Z,900nm,21.0s
V52A Sevierville 128.27 27 *e*PKPdf **PKPdf** 05 40 45.2 -0.1
V52A LR LR
comp=Z,800nm,22.0s
TKL Tuckaleechee C 128.34 27 *e*PKPdf **PKPdf** 05 40 45.6 +0.2
TKL LR LR
comp=Z,800nm,22.0s
TKL Tuckaleechee C 128.34 27 *e*PKIKP **PKPdf** 05 40 45.6 +0.2
TKL MLR MLR
comp=Z,800nm,22.0s
BLA Blacksburg 128.42 23 PFAKE 05 41 00.0 +14
BLA LR LR
comp=Z,900nm,21.0s
147A Livingston 128.50 33 PFAKE 05 41 00.0 +14
147A LR LR
comp=Z,600nm,20.0s
Y49A Blount Mountai 128.55 31 PFAKE 05 41 00.0 +14
Y49A LR LR
comp=Z,1μm,20.0s
CBN Corbin Frederi 128.64 20 *e*PKPdf **PKPdf** 05 40 45.8 -0.1
CBN LR LR
comp=Z,900nm,20.0s
W52A Murphy 128.74 28 *e*PKPdf **PKPdf** 05 40 45.7 -0.5
W52A LR LR
comp=Z,600nm,19.0s
V53A Saluda 128.76 26 *e*PKPdf **PKPdf** 05 40 45.8 -0.4
V53A LR LR
comp=Z,1μm,21.0s
LRAL Lakeview Retre 128.90 32 *e*PKPdf **PKPdf** 05 40 45.8 -0.8
LRAL LR LR
comp=Z,1μm,22.0s
BG3 Lake Jocassee 129.28 27 *e*PKPdf **PKPdf** 05 40 48.3 +1.1
BG3 LR LR
comp=Z,800nm,20.0s
Z50A Ashland 129.28 31 *e*PKPdf **PKPdf** 05 40 47.0 -0.3
Z50A LR LR
comp=Z,1μm,22.0s
348A Jackson 129.67 34 PFAKE 05 41 00.0 +12
348A LR LR
comp=Z,1μm,21.0s
Y52A Lilburn 129.69 29 *e*PKPdf **PKPdf** 05 40 48.1 +0.1
Y52A LR LR
comp=Z,700nm,20.0s
447A Lucedale 129.71 35 PFAKE 05 41 00.0 +12
447A LR LR
comp=Z,1μm,21.0s
UNM Universidad Na 129.79 55 PFAKE 05 41 00.0 +11
UNM LR LR
comp=Z,2μm,22.0s
KMSC Kings Mountain 129.84 25 *e*PKPdf **PKPdf** 05 40 48.3 0.0
KMSC LR LR
comp=Z,1μm,21.0s
PAULI Pauline 129.91 26 PFAKE 05 41 00.0 +12
PAULI LR LR
comp=Z,900nm,21.0s
250A Grady 130.11 32 *e*PKPdf **PKPdf** 05 40 48.8 -0.1
250A LR LR
comp=Z,800nm,22.0s
GOGA Godfrey 130.34 29 *e*PKPdf **PKPdf** 05 40 49.5 +0.2
GOGA LR LR
comp=Z,800nm,21.0s
GOGA Godfrey 130.34 29 *e*PKIKP **PKPdf** 05 40 49.5 +0.2
GOGA MLR MLR
comp=Z,800nm,21.0s
152A Waverly Hall 130.35 30 *e*PKPdf **PKPdf** 05 40 49.2 -0.1
152A LR LR
comp=Z,800nm,20.0s
JSC Jenkinsville 130.61 26 *e*PKPdf **PKPdf** 05 40 49.8 +0.1
JSC LR LR
comp=Z,900nm,20.0s
JSC Jenkinsville 130.61 26 *e*PKIKP **PKPdf** 05 40 49.8 +0.1
JSC MLR MLR
comp=Z,900nm,20.0s
154A Montrose 131.17 29 PFAKE 05 41 00.0 +9.2
154A LR LR
comp=Z,700nm,21.0s
TLIG Tlapa 131.20 56 *e*PKPdf **PKPdf** 05 40 52.2 +0.8
LVIG Laguna Verde 131.76 52 PFAKE 05 41 00.0 +7.8
LVIG LR LR
comp=Z,900nm,22.0s
957A Wimauma 135.64 32 PFAKE 05 41 10.0 +11
957A LR LR
comp=Z,1μm,21.0s
DWPF Disney Wildern 135.69 31 PFAKE 05 41 10.0 +11
DWPF LR LR
comp=Z,1μm,21.0s
061Z Ochoppi 137.80 32 PFAKE 05 41 10.0 +6.6
061Z LR LR
comp=Z,900nm,18.0s
SNET Serv Nac Est T 140.84 54 PFAKE 05 41 20.0 +11
SNET LR LR
comp=Z,600nm,22.0s
TGUH Tegucigalpa,Un 142.15 51 PFAKE 05 41 20.0 +8.5
TGUH LR LR
comp=Z,600nm,21.0s
CSGN Cosiguina Volc 142.57 53 PFAKE 05 41 20.0 +7.6
CSGN LR LR
comp=Z,300nm,21.0s
ESTN Estel 143.43 52 PFAKE 05 41 30.0 +16
ESTN LR LR
comp=Z,500nm,22.0s
ESPN Las Esperanzas 145.57 51 PFAKE 05 41 30.0 +12
ESPN LR LR
comp=Z,200nm,18.0s

ESPN	**Las Esperanzas**	**145.57**	**51**	*e*P	**PKPdf**	**05 41 16.7**	**-0.8**
GTBY	**Guantanamo Bay**	**145.67**	**30**	*e*PKPdf	**PKPdf**	**05 41 17.6**	**0.0**
GTBY				LR	LR		
	comp=Z,600nm,19.0s						
MTDJ	**Mount Denham**	**145.79**	**35**	*e*PKPdf	**PKPbc**	**05 41 18.3**	**-0.2**
MTDJ				LR	LR		
	comp=Z,600nm,20.0s						
PLVR	**Palo Verde**	**145.85**	**54**	*e*P	**PKPdf**	**05 41 17.2**	**-1.1**
GRTK	**Grand Turk**	**146.02**	**23**	*e*PKPdf	**PKPdf**	**05 41 17.9**	**-0.3**
JTS	**JuntasAbangare**	**146.21**	**54**	PFAKE		05 41 30.0	+10
JTS				LR	LR		
	comp=Z,400nm,20.0s						
ARE1	**Arenal 1**	**146.29**	**54**	*e*P	**PKPdf**	**05 41 18.8**	**0.0**
HDC	**Heredia**	**147.04**	**54**	PFAKE		05 41 30.0	+6.1
HDC				LR	LR		
	comp=Z,500nm,20.0s						
HDC	**Heredia**	**147.04**	**54**	*e*P	**PKPdf**	**05 41 20.4**	**+0.1**
CVTR	**Volcan Turrial**	**147.31**	**53**	*e*P	**PKPdf**	**05 41 20.4**	**-0.7**
PLCA	**Paso Flores**	**147.33**	**162**	PKP	**PKPdf**	**05 41 20.3**	**+0.4**
	comp=Z,50nm,0.9s,baz=242,slow=3.2,SNR=47						
PLCA				PKPbc	**PKPbc**	**05 41 22.6**	**+0.3**
	comp=Z,50nm,0.9s,baz=252,slow=2.7,SNR=59						
EDLM	**Las Mercedes**	**147.88**	**54**	*e*P	**PKPdf**	**05 41 22.1**	**+0.6**
GO06	**Curarrehue**	**148.07**	**160**	*e*PKPdf	**PKPdf**	**05 41 21.8**	**+0.6**
SDDR	**Presa de Saban**	**148.24**	**25**	*e*PKPdf	**PKPdf**	**05 41 22.3**	**+0.3**
SDDR				LR	LR		
	comp=Z,800nm,21.0s						
AGP	**Aguadilla**	**150.28**	**18**	*e*PKPbc	**PKPbc**	**05 41 29.5**	**-0.9**
MPR	**Mayaguez**	**150.46**	**18**	*e*PKPbc	**PKPbc**	**05 41 30.0**	**-0.8**
CRPR	**Cabo Rojo, PR**	**150.66**	**19**	*e*PKPbc	**PKPbc**	**05 41 30.9**	**-0.4**
CBYP	**Canovanas**	**150.78**	**16**	*e*PKPdf	**PKPdf**	**05 41 24.7**	**-1.4**
CBYP				*e*PKPbc	**PKPbc**	**05 41 30.6**	**-1.0**
OBIP	**Obispado Ponce**	**150.78**	**18**	*e*PKPdf	**PKPdf**	**05 41 26.1**	**+0.1**
SJG	**San Juan**	**150.85**	**17**	*e*PKPdf	**PKPdf**	**05 41 27.1**	**+1.0**
SJG				*e*PKPbc	**PKPbc**	**05 41 31.5**	**-0.2**
BCIP	**Isla Barro Col**	**150.87**	**50**	*e*PKPdf	**PKPdf**	**05 41 26.3**	**0.0**
BCIP				LR	LR		
	comp=Z,500nm,22.0s						
HUMP	**Col San Antoni**	**150.90**	**16**	*e*PKPdf	**PKPdf**	**05 41 25.6**	**-0.6**
STVI	**Saint Thomas**	**150.94**	**14**	*e*PKPdf	**PKPdf**	**05 41 26.8**	**+0.6**
ICMP	**Isla Caja de M**	**150.95**	**18**	*e*PKPdf	**PKPdf**	**05 41 24.6**	**-1.6**
MTP	**Monte Pirata**	**151.03**	**16**	*e*PKPdf	**PKPdf**	**05 41 26.4**	**0.0**
MTP				*e*PKPbc	**PKPbc**	**05 41 32.0**	**-0.1**
MTP				LR	LR		
	comp=Z,800nm,20.0s						
CDVI	**St. Croix**	**151.56**	**14**	*e*PKPdf	**PKPdf**	**05 41 26.2**	**-1.0**
CDVI				*e*PKPbc	**PKPbc**	**05 41 32.9**	**-0.4**
SMRT	**St. Maarten**	**151.63**	**11**	*e*PKPdf	**PKPdf**	**05 41 27.7**	**+0.4**
SMRT				*e*PKPbc	**PKPbc**	**05 41 33.5**	**-0.1**
SMRT				LR	LR		
	comp=Z,1µm,21.0s						
TRQA	**Tornquist**	**151.79**	**173**	*e*PKPdf	**PKPdf**	**05 41 26.9**	**-0.2**
TRQA				*e*PKPbc	**PKPbc**	**05 41 33.3**	**-0.1**
TRQA	**Tornquist**	**151.79**	**173**	*e*PKIKP	**PKPdf**	**05 41 26.9**	**-0.2**
TRQA				*e*		05 41 33.3	
GO05	**HualaæØ**	**151.91**	**155**	*e*PKPdf	**PKPdf**	**05 41 27.1**	**-0.2**
GO05				*e*PKPbc	**PKPbc**	**05 41 33.7**	**-0.1**
PEL	**Peldehue**	**154.03**	**154**	*e*PKPdf	**PKPdf**	**05 41 30.5**	**0.0**
PEL				*e*PKPbc	**PKPbc**	**05 41 38.3**	**-0.2**
PEL	**Peldehue**	**154.03**	**154**	*e*PKIKP	**PKPdf**	**05 41 30.5**	**0.0**
PEL				*e*		05 41 38.3	
ROC1	**El Roble**	**154.03**	**154**	*e*PKPdf	**PKPdf**	**05 41 29.7**	**-1.1**
ROC1				*e*PKPbc	**PKPbc**	**05 41 38.7**	**-0.1**
MOTC	**Monteria, Cord**	**154.15**	**44**	*e*P	**PKPdf**	**05 41 30.5**	**-0.6**
URIC	**Uribia, Colomb**	**154.18**	**34**	*e*P	**PKPdf**	**05 41 28.7**	**-2.4**
CODC	**Agust^n Codaz**	**154.74**	**39**	*e*P	**PKPdf**	**05 41 31.9**	**0.0**
FDF	**Fort de France**	**155.19**	**8**	*e*PKPdf	**PKPdf**	**05 41 33.1**	**+0.5**
FDF	**Fort de France**	**155.19**	**8**	*e*PKIKP	**PKPdf**	**05 41 33.1**	**+0.5**
ZARC	**Zaragoza, Cauc**	**155.62**	**45**	*e*P	**PKPdf**	**05 41 32.9**	**-0.2**
HELC	**Santa Helena**	**156.03**	**49**	*e*P	**PKPdf**	**05 41 33.2**	**-1.0**
OCAC	**Ocana**	**156.12**	**41**	*e*P	**PKPdf**	**05 41 33.7**	**-0.3**
PLMC	**San Jos^ del**	**156.29**	**52**	*e*P	**PKPdf**	**05 41 33.0**	**-1.1**
GO04	**Tololo Observa**	**156.49**	**150**	*e*PKPdf	**PKPdf**	**05 41 34.0**	**-0.2**
GO04				LR	LR		
	comp=Z,700nm,18.0s						
PTBC	**PUERTO BERRIO**	**156.57**	**46**	*e*P	**PKPdf**	**05 41 32.6**	**-1.8**
SVB	**Belmont**	**156.62**	**9**	PFAKE		05 41 50.0	-13
SVB				LR	LR		
	comp=Z,600nm,19.0s						
BRRC	**Barranca, Sant**	**156.69**	**44**	*e*P	**PKPdf**	**05 41 34.4**	**-0.1**
NORC	**Norcasia**	**156.94**	**49**	*e*P	**PKPdf**	**05 41 32.5**	**-2.4**
OTAV	**Otavalo**	**156.97**	**65**	*e*PKPdf	**PKPdf**	**05 41 35.9**	**+0.4**
OTAV				LR	LR		
	comp=Z,700nm,21.0s						
RREF	**El Recreo**	**157.01**	**51**	*e*P	**PKPdf**	**05 41 34.9**	**-0.9**
GIRC	**Giron, Santand**	**157.06**	**43**	*e*P	**PKPdf**	**05 41 35.3**	**+0.1**
PAMC	**Pamplona, Colo**	**157.19**	**42**	*e*P	**PKPdf**	**05 41 35.6**	**-0.2**
ANIL	**Santa Ana**	**157.23**	**52**	*e*P	**PKPdf**	**05 41 34.5**	**-1.1**
SDV	**Santo Domingo**	**157.24**	**35**	*e*PKPdf	**PKPdf**	**05 41 35.4**	**-0.1**
SDV				LR	LR		
	comp=Z,500nm,20.0s						
POPC	**Popayan, Colom**	**157.35**	**58**	*e*P	**PKPdf**	**05 41 34.2**	**-1.5**
GCUF	**Volcan Galeras**	**157.48**	**61**	*e*P	**PKPdf**	**05 41 36.3**	**+0.1**
LCO	**Las Campanas**	**157.49**	**149**	*e*PKPdf	**PKPdf**	**05 41 35.8**	**+0.3**
LCO	**Las Campanas**	**157.49**	**149**	*e*PKIKP	**PKPdf**	**05 41 35.8**	**+0.3**
SOTA	**Rioblanco**	**157.63**	**58**	*e*P	**PKPdf**	**05 41 36.4**	**0.0**
CRUC	**La Cruz**	**157.64**	**60**	*e*P	**PKPdf**	**05 41 36.5**	**+0.3**
ROSC	**El Rosal**	**157.82**	**49**	PKP	**PKPdf**	**05 41 36.5**	**0.0**
	comp=Z,3.4nm,0.7s,baz=24,slow=1.9,SNR=12						
ROSC	**El Rosal**	**157.82**	**49**	*e*P	**PKPdf**	**05 41 34.4**	**-2.1**
RUSC	**La Rusia**	**157.99**	**45**	*e*P	**PKPdf**	**05 41 33.5**	**-3.4**
PRAC	**Prado**	**158.11**	**52**	*e*P	**PKPdf**	**05 41 35.0**	**-1.4**
CHIC	**Chingaza**	**158.40**	**48**	*e*P	**PKPdf**	**05 41 36.4**	**-0.8**
TAMC	**Tame, Arauca**	**158.46**	**41**	*e*P	**PKPdf**	**05 41 35.5**	**-1.3**
FLOC	**Florencia**	**158.73**	**58**	*e*P	**PKPdf**	**05 41 37.0**	**-0.2**
VILC	**Villavicencio,**	**158.77**	**49**	*e*P	**PKPdf**	**05 41 37.1**	**-0.2**
SJAC	**San Juan de Ar**	**159.11**	**52**	*e*P	**PKPdf**	**05 41 38.6**	**+0.9**
NNA	**Nana**	**161.09**	**98**	PKP	**PKPdf**	**05 41 39.9**	**+0.2**
	comp=Z,8.4nm,0.5s,baz=277,slow=5.2,SNR=6.9						
PB10	**IPOC Station P**	**161.78**	**139**	*e*PKPdf	**PKPdf**	**05 41 40.5**	**+0.3**
LVC	**Limon Verde**	**163.48**	**141**	PKP	**PKPdf**	**05 41 43.1**	**+0.7**
	comp=Z,7.7nm,0.9s,baz=182,slow=2.8,SNR=8.9						
LVC				PKPab	**PKPab**	**05 42 34.1**	**+0.6**
	comp=Z,3.0nm,0.8s,baz=236,slow=5.0,SNR=3.4						
LVC	**Limon Verde**	**163.48**	**141**	*e*PKPdf	**PKPdf**	**05 41 43.0**	**+0.6**
LVC				*e*PKPdf	**PKPdf**	**05 41 43.1**	**+0.7**
LVC				*e*PKPab	**PKPab**	**05 42 34.1**	**+0.6**
CPUP	**Villa Florida**	**163.75**	**181**	PKP	**PKPdf**	**05 41 42.2**	**+0.2**
	comp=Z,12nm,1.1s,baz=88,slow=0.6,SNR=10						
CPUP				PKPab	**PKPab**	**05 42 34.1**	**+0.1**
	comp=Z,8.4nm,1.0s,baz=202,slow=5.5,SNR=8.0						
CPUP	**Villa Florida**	**163.75**	**181**	*e*PKPdf	**PKPdf**	**05 41 42.6**	**+0.6**
CPUP				*e*PKPab	**PKPab**	**05 42 34.1**	**+0.1**
PB01	**IPOC Station P**	**164.20**	**135**	*e*PKPdf	**PKPdf**	**05 41 43.4**	**+0.7**
PB11	**IPOC Station P**	**164.91**	**131**	*e*PKPdf	**PKPdf**	**05 41 43.6**	**+0.2**
MNMC	**Minye Minye**	**165.33**	**130**	*e*PKPdf	**PKPdf**	**05 41 44.4**	**+0.4**
LPAZ	**La Paz**	**168.06**	**123**	PKP	**PKPdf**	**05 41 47.0**	**+0.5**
	comp=Z,53nm,1.2s,baz=23,slow=1.8,SNR=70						
LPAZ	**La Paz**	**168.06**	**123**	PKIKP	**PKPdf**	**05 41 47.0**	**+0.5**
LPAZ				pmax	pmax		
	comp=Z,53nm,1.2s						
BDFB	**Brasilia**	**169.03**	**238**	PKP	**PKPdf**	**05 41 46.9**	**+0.4**
	comp=Z,6.6nm,1.1s,baz=199,slow=5.2,SNR=6.0						
BDFB	**Brasilia**	**169.03**	**238**	*e*PKPdf	**PKPdf**	**05 41 46.7**	**+0.1**
BDFB				*e*PKPdf	**PKPdf**	**05 41 46.9**	**+0.4**
BDFB	**Brasilia**	**169.03**	**238**	*e*PKIKP	**PKPdf**	**05 41 46.7**	**+0.1**
PTGA	**Pitinga**	**170.52**	**14**	*e*PKPdf	**PKPdf**	**05 41 46.9**	**-0.5**
SIV	**San Ignacio**	**173.19**	**151**	PKP	**PKPdf**	**05 41 48.4**	**-0.2**
	comp=Z,40nm,1.3s,baz=278,slow=0.8,SNR=47						

*ATH **14** 05:27:32.8, 36˚.15N×27˚.40E, h20km±1km, ML2.3/4, Error ellipse: s-maj=4.9km s-min=1.0km az=152.0*
*DDA **14** 05:27:33.9, 36˚.01N×27˚.58E, h6km, Ml2.5*
*ISK **14** 05:27:33.5, 35˚.98N×27˚.57E, h3km, ML2.6/9*

ISC 14 05:27:33.5±1.1, 36˚.01N±0˚.03×27˚.57E±0˚.03, h9km±11km, n25, σ1°81/39, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.49**	**65**	PG	**Pg**	**05 27 43.7**	**+0.7**
ARG				SG	**Sg**	**05 27 51.8**	**+0.1**
ARG	**Arkhangelos**	**0.49**	**65**	P	**Pb**	**05 27 44.4**	**+0.1**
ARG				S	**Sb**	**05 27 52.7**	**+1.0**
ARG				AML	AML	05 27 54.0	
	comp=N,979µm,0.2s						
ARG				AML	AML	05 27 56.3	
	comp=E,1039µm,0.3s						
KARP	**Karpathos**	**0.57**	**216**	PG	**Pg**	**05 27 44.8**	**+0.2**
KARP				SG	**Sb**	**05 27 53.1**	**-0.9**
KARP	**Karpathos**	**0.57**	**216**	P	**Pg**	**05 27 44.7**	**+0.2**
KARP				S	**Sb**	**05 27 54.5**	**+0.6**
KARP				AML	AML	05 27 58.0	
	comp=E,651µm,0.4s						
KARP				AML	AML	05 27 58.3	
	comp=N,539µm,0.2s						
NIS1	**Nisyros Isl.**	**0.67**	**332**	PG	**Pb**	**05 27 47.6**	**+0.2**
DAT	**Datca**	**0.71**	**0**	PG	**Pb**	**05 27 48.5**	**+0.3**
DAT				SG	**Sb**	**05 27 59.8**	**+1.6**
DAT	**Datca**	**0.71**	**0**	*i* P	**Pb**	**05 27 48.0**	**-0.2**
DAT				*i* S	**Sb**	**05 27 59.3**	**+1.1**
MRSB	**Marmaris-Mugla**	**0.86**	**36**	PG	**Pn**	**05 27 51.8**	**-0.1**
BODT	**Bodrum**	**1.07**	**349**	PN	**Pn**	**05 27 55.4**	**+0.7**
DALY	**Dalyan (Mu˘la**	**1.19**	**47**	PN	**Pn**	**05 27 57.9**	**+1.6**
TURN	**Turunc**	**1.20**	**44**	PG	**Pg**	**05 27 52.7**	**-3.7**
TURN	**Turunc**	**1.20**	**44**	*i* P	**Pg**	**05 27 52.0**	**-4.4**
TURN				*i* S	**Sg**	**05 28 05.0**	**-7.0**
MLSB	**Milas**	**1.29**	**7**	PN	**Pg**	**05 27 59.6**	**+1.3**
FETY	**Fethiye**	**1.37**	**63**	PN	**Pg**	**05 28 00.0**	**+0.2**
ZKR	**Zakros**	**1.42**	**231**	P	**Pn**	**05 27 59.6**	**0.0**
ZKR				S	**Sg**	**05 28 19.1**	**-0.1**
ZKR				AML	AML	05 28 23.8	
	comp=N,126µm,0.5s						
ZKR				AML	AML	05 28 24.7	
	comp=E,267µm,0.4s						
KSL	**Kastellorizon**	**1.64**	**85**	P	**Pg**	**05 28 04.9**	**+0.1**
KSL				S	**Sg**	**05 28 27.8**	**+1.8**
KSL				AML	AML	05 28 28.8	
	comp=N,80µm,0.4s						
KSL				AML	AML	05 28 29.1	
	comp=E,90µm,0.5s						
AKAS	**Kas**	**1.66**	**82**	PN	**Pg**	**05 28 05.2**	**-0.1**
AKAS	**Kas**	**1.66**	**82**	*i* P	**Pg**	**05 28 05.2**	**-0.1**
AKAS				*i* S	**Sg**	**05 28 29.1**	**+2.2**
AYDN	**Tasoluk**	**1.66**	**8**	*i* P	**Pn**	**05 28 03.8**	**+0.9**
AYDN				*i* S	**Sg**	**05 28 28.6**	**+1.6**
NPS	**Neapolis**	**1.76**	**245**	P	**Pn**	**05 28 03.7**	**-0.6**
NPS				S	**Sn**	**05 28 25.4**	**-1.5**
TAVA	**DENIZLI_Tavas**	**1.81**	**36**	*i* P	**Pb**	**05 28 06.6**	**-0.2**
TAVA				*i* S	**Sg**	**05 28 32.2**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.95**	**7**	PN	**Pb**	**05 28 09.3**	**+0.1**
GOLH	**Golhisar**	**2.01**	**52**	*i* P	**Pg**	**05 28 11.7**	**-0.4**
GOLH				*i* S	**Sg**	**05 28 40.5**	**+2.3**
ELL	**Elmali**	**2.02**	**68**	PN	**Pb**	**05 28 10.3**	**-0.2**
KORT	**Korkueli**	**2.45**	**65**	PN	**Pb**	**05 28 16.4**	**-1.3**

*IDC **14** 05:51:45.6±5.6, 0˚.48N×98˚.59E, h58km±40km, mb3.7/7, mb1 3.8/9, mb1mx3.5/47, mbtmp4.0/9, ML4.0/2, Error ellipse: s-maj=75.4km s-min=18.7km az=58.0*
*ISCJB **14** 05:51:47.4±0.5, 0˚.80N±0˚.05×98˚.71E±0˚.06, h35km, mb4.0/7, Error ellipse: s-maj=8.5km s-min=6.0km az=155.5*
*DJA **14** 05:51:48.9±0.3, 1˚.N±2˚.×9˚9E±˚, h52km±6km, M4.2/15, mb4.4/5, mB4.9/2, MLv4.1/15, Mw(mB)4.2/2*

ISC 14 05:51:45.8±0.7, 0.76N±0˚.05×98˚.63E±0˚.05, h35km, n24, σ3°00/24, mb4.2/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBSI	**Pulau Batu**	**0.88**	**204**	P	**Pn**	**05 52 04.5**	**+2.8**
PBSI				S	**Sn**	**05 52 17.2**	**+3.9**
MNSI	**Mandailing Nat**	**0.95**	**88**	P	**Pn**	**05 52 06.3**	**+3.7**
MNSI				S	**Sn**	**05 52 19.9**	**+4.9**
GSI	**Gunungsitoli**	**1.19**	**297**	P	**Pn**	**05 52 09.7**	**+3.8**
PSI	**Prapat**	**2.05**	**8**	P	**Pn**	**05 52 20.7**	**+2.7**
	5.3nm,0.3s,baz=0.0,slow=19,SNR=22						
PPI	**Padang Panjang**	**2.14**	**124**	P	**Pn**	**05 52 22.3**	**+3.3**
BKNI	**Bangkinang**	**2.44**	**100**	P	**Pn**	**05 52 26.1**	**+2.9**
PDSI	**Padang**	**2.47**	**132**	P	**Pn**	**05 52 26.2**	**+2.6**
SNSI	**Sinabang, Aceh**	**2.83**	**305**	P	**Pn**	**05 52 31.9**	**+3.4**
KCSI	**Kotacane, Aceh**	**2.88**	**343**	P	**Pn**	**05 52 32.3**	**+3.1**
TPTI		**2.88**	**330**	P	**Pn**	**05 52 32.1**	**+2.9**
MLSI	**Meulaboh, Aceh**	**4.14**	**327**	P	**Pn**	**05 52 49.8**	**+3.3**
MNAI	**Manna**	**6.67**	**140**	P	**Pn**	**05 53 23.1**	**+1.7**
MDSI	**Maura Dua**	**7.61**	**133**	P	**Pn**	**05 53 35.8**	**+1.6**
CMAR	**Chiang Mai Arr**	**17.59**	**1**	P	**Pn**	**05 55 49.2**	**+0.9**
	0.9nm,0.3s,baz=189,slow=11,SNR=6.6						
H08S2	**Diego Garcia H**	**27.37**	**252**	T	T	06 25 02.3	
	baz=73,slow=76,SNR=24						
H08S3	**Diego Garcia H**	**27.38**	**252**	T	T	06 25 13.9	
	baz=73,slow=76,SNR=65						
H08S1	**Diego Garcia H**	**27.39**	**252**	T	T	06 25 11.6	
	baz=73,slow=76,SNR=20						
WRA	**Warramunga Arr**	**40.59**	**122**	P	**P**	**05 59 18.7**	**-3.7**
	0.5nm,0.8s,baz=300,slow=10,SNR=3.2						
ASAR	**Alice Springs**	**41.99**	**128**	P	**P**	**05 59 30.4**	**-3.5**
	0.5nm,0.7s,baz=297,slow=5.5,SNR=4.7						
SONM	**Songino Array**	**47.37**	**7**	P	**P**	**06 00 16.4**	**-0.2**
	0.6nm,0.4s,baz=186,slow=9.6,SNR=4.9						
SONM				PcP	**PcP**	**06 01 45.4**	**-1.5**
	0.5nm,0.5s,baz=174,slow=4.3,SNR=3.3						
MKAR	**Makanchi Array**	**48.03**	**345**	P	**P**	**06 00 21.0**	**-0.6**
	3.1nm,0.5s,baz=156,slow=8.2,SNR=23						
ZALV	**Zalesovo Beam**	**54.23**	**350**	P	**P**	**06 01 06.8**	**-1.2**
	1.5nm,0.3s,baz=170,slow=7.3,SNR=9.1						
KLR	**Kul'dur**	**56.02**	**26**	P	**P**	**06 01 20.1**	**-0.9**
	1.0nm,0.4s,baz=219,slow=6.5,SNR=5.3						
FINES	**FINESS Array B**	**81.05**	**332**	P	**P**	**06 03 55.1**	**-1.9**
	3.1nm,1.1s,baz=132,slow=5.4,SNR=3.6						

*ISCJB **14** 06:15:18.8±0.6, 37˚.32N±0˚.04×37˚.13E±0˚.06, h5km±9km, Error ellipse: s-maj=8.7km s-min=4.3km az=145.4*
*ISK **14** 06:15:18.1, 37˚.32N×37˚.10E, h6km, ML2.1/6*
*DDA **14** 06:15:19.3, 37˚.30N×37˚.21E, h7km, Ml3.0*

ISC 14 06:15:18.7±1.0, 37˚.30N±0˚.03×37˚.13E±0˚.03, h9km±9km, n12, σ0°64/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.15**	**153**	PG	**Pg**	**06 15 22.1**	**+0.2**
GAZ				SG	**Sg**	**06 15 24.8**	**+0.6**
KMRS	**Kahramanmaras**	**0.27**	**318**	PG	**Pg**	**06 15 23.6**	**-0.6**
KMRS				SG	**Sg**	**06 15 27.3**	**-0.5**
KUZU	**Kuzuini**	**0.53**	**185**	*i* P	**Pb**	**06 15 29.8**	**-0.4**
KUZU				*i* S	**Sb**	**06 15 38.0**	**+0.1**
ANDN	**Andirin**	**0.68**	**294**	*i* P	**Pg**	**06 15 31.2**	**-0.7**
ANDN				*i* S	**Sb**	**06 15 44.3**	**+1.9**
ATAB	**Bozova**	**0.94**	**80**	*i* P	**Pg**	**06 15 36.5**	**-0.4**
ATAB				*i* S	**Sg**	**06 15 49.0**	**-0.2**
ELBS	**KAHRAMANMARAS**	**1.02**	**0**	*i* P	**Pb**	**06 15 38.8**	**+0.2**
ELBS				*i* S	**Sn**	**06 15 54.0**	**+0.2**
KOZT	**Kozan**	**1.05**	**280**	PG	**Pg**	**06 15 38.2**	**-0.7**
AKCD	**Akcadag**	**1.17**	**32**	*i* P	**Pg**	**06 15 41.1**	**-0.2**
AKCD				*i* S	**Sb**	**06 15 56.6**	**0.0**
TAHT	**Tahtakopru-Hat**	**1.20**	**220**	PN	**Pg**	**06 15 41.5**	**-0.1**
SURC	**SANLIURFA_SURC**	**1.26**	**109**	*i* P	**Pg**	**06 15 42.1**	**-0.8**
SURC				*i* S	**Sb**	**06 15 59.1**	**+0.1**
DARE	**Darende-Malaty**	**1.30**	**12**	PN	**Pb**	**06 15 43.4**	**+0.1**
URFA	**Urfa**	**1.35**	**84**	PN	**Pg**	**06 15 44.6**	**-0.1**

DJA 14 06:26:35.6±0.8, 8˚S±6˚×10˚7E±˚, h23km±7km, M3.6/8, MLv3.6/8, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.82**	**65**	P	Pb	06 26 51.0	-0.3
CISI				S	Sb	06 27 01.5	-0.5
SKJI	**Sukabumi**	**1.02**	**331**	P	Pn	06 26 53.6	-0.9
SKJI				S	Sb	06 27 06.0	-1.6
LEM	**Lembang**	**1.20**	**27**	P	Pb	06 26 57.7	-0.1
CMJI	**Cimerak**	**1.38**	**85**	P	Pn	06 26 59.1	-0.4
CMJI				S	Sn	06 27 15.3	-1.7
CGJI	**Cibinong**	**1.86**	**313**	P	Pn	06 27 05.8	-0.3
KPJI	**Karang Pucung**	**1.94**	**73**	P	Pn	06 27 08.0	+0.9
SBJI	**Serang**	**2.00**	**332**	P	Pn	06 27 07.7	-0.2
UGM	**Wanagama**	**3.43**	**90**	P	Pn	06 27 27.8	+0.1
PCJI	**Pacitan**	**4.09**	**94**	P	Pn	06 27 36.7	0.0

ATH 14 06:51:57.3, 39˚.20N×22˚.06E, h37km±3km, ML2.6/2, Error ellipse: s-maj=5.4km s-min=2.1km az=266.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGG	**Agios Georgios**	**0.28**	**130**	P	Pn	06 52 04.9	-0.7
AGG				AML	AML	06 52 07.7	
	comp=N,11181µm,0.5s						
AGG				AML	AML	06 52 07.7	
	comp=E,7313µm,0.3s						
EVR	**Evrytania**	**0.34**	**215**	P	Pn	06 52 05.8	-0.1
THL	**Klokotos Trika**	**0.36**	**355**	P	Pn	06 52 07.0	+1.2
THL				S	Sn	06 52 13.9	+1.3
DLFA	**Delphi**	**0.80**	**155**	P	Pn	06 52 13.5	+1.4
XOR	**Xorichti**	**0.89**	**79**	P	Pn	06 52 14.8	+1.4
NEO	**Neokhori**	**0.91**	**83**	P	Pn	06 52 15.0	+1.4
LIT	**Litokhoron**	**0.96**	**20**	P	Pn	06 52 15.2	+0.9
LIT				AML	AML	06 52 23.1	
	comp=E,172µm,0.2s						
LIT				AML	AML	06 52 24.1	
	comp=N,218µm,0.3s						
AOS	**Alonnisos**	**1.42**	**91**	P	Pn	06 52 22.3	+1.9

*ISK **14** 07:03:58.6, 35˚.99N×27˚.52E, h5km, ML3.3/8*
*THE **14** 07:03:59.9, 36˚.03N×27˚.52E, h3km±2km, ML3.1/4, Error ellipse: s-maj=2.0km s-min=0.6km az=88.0*
*ATH **14** 07:03:59.4, 36˚.02N×27˚.49E, h26km±2km, ML3.2/6, Error ellipse: s-maj=2.6km s-min=1.2km az=88.0*
*ISCJB **14** 07:04:00.7±0.5, 36˚.02N±0˚.03×27˚.46E±0˚.03, h19km±5km, mb3.6/5, Error ellipse: s-maj=5.3km s-min=2.8km az=143.1*
*DDA **14** 07:04:00.4, 36˚.13N×27˚.47E, h26km, Ml3.2*
*IDC **14** 07:04:02.8±4.8, 36˚.14N×27˚.36E, h33km±42km, mb3.6/5, mb1 3.5/8, mb1mx3.3/52, mbtmp3.6/8, ML3.3/3, Error ellipse: s-maj=50.0km s-min=14.1km az=149.0*

ISC 14 07:03:59.6±1.0, 36˚.03N±0˚.02×27˚.48E±0˚.02, h11km±8km, n57, σ1°29/82, mb3.6/5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.55**	**209**	PG	**Pg**	**07 04 09.1**	**-1.2**
KARP				SG	**Sg**	**07 04 17.2**	**-0.3**
KARP	**Karpathos**	**0.55**	**209**	P	**Pg**	**07 04 10.4**	**+0.1**
KARP				S	**Sg**	**07 04 18.4**	**+0.9**
KARP				AML	AML	07 04 20.6	
	comp=N,4379µm,0.4s						
KARP				AML	AML	07 04 23.6	
	comp=E,3173µm,0.3s						
KARP	**Karpathos**	**0.55**	**209**	P	**Pg**	**07 04 10.6**	**+0.3**
KARP				S	**Sb**	**07 04 19.7**	**+0.6**
ARG	**Arkhangelos**	**0.55**	**70**	P	**Pg**	**07 04 10.2**	**-0.2**
ARG				S	**Sg**	**07 04 18.1**	**+0.3**
ARG				AML	AML	07 04 19.6	
	comp=N,4569µm,0.6s						
ARG				AML	AML	07 04 20.4	
	comp=E,5437µm,0.2s						
ARG	**Arkhangelos**	**0.55**	**70**	P	**Pg**	**07 04 10.1**	**-0.3**
ARG				S	**Sg**	**07 04 18.1**	**+0.3**
NIS1	**Nisyros Isl.**	**0.62**	**337**	PG	**Pg**	**07 04 11.8**	**+0.1**
NIS1	**Nisyros Isl.**	**0.62**	**337**	P	**Pb**	**07 04 12.9**	**+0.3**
NIS1				AML	AML	07 04 32.7	
	comp=E,6082µm,0.5s						
NIS1				AML	AML	07 04 34.8	
	comp=N,5326µm,0.7s						
NIS1	**Nisyros Isl.**	**0.62**	**337**	P	**Pb**	**07 04 12.8**	**+0.3**
NIS1				S	**Sb**	**07 04 21.7**	**+0.4**
DAT	**Datca**	**0.70**	**6**	PG	**Pb**	**07 04 13.7**	**-0.3**

WRA Sn Sn 07 19 39.4 -7.6
0.2nm,0.3s,baz=1.1,slow=23,SNR=4.6
ASAR Alice Springs 18.67 181 P Pn 07 17 47.8 +0.4
0.4nm,0.3s,baz=5.4,slow=11,SNR=19
MKAR Makanchi Array 68.79 325 P P 07 24 33.5 +0.1
1.2nm,0.5s,baz=127,slow=7.3,SNR=4.5

ISC 14 07:19:35.4±1.1, 48°37N±0°07×17°28E±0°06, h9km±6km, n6, σ0s80/11, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MODS	**Modra-Piesok**	**0.00**	**352**	*e*PG	**Pg**	**07 19 36.5**	**-0.5**
MODS				*e*SG	**Sg**	**07 19 39.0**	**+0.9**
MODS				eLg	Lg	07 19 39.3	
ZST	**Bratislava**	**0.21**	**214**	*e*PG	**Pg**	**07 19 39.7**	**0.0**
JAVC	**Velka Javorina**	**0.55**	**28**	*e*PG	**Pb**	**07 19 46.7**	**-0.7**
JAVC				*e*SG	**Sb**	**07 19 57.0**	**+1.5**
KRUC	**Moravsky**	**0.91**	**320**	*e*PG	**Pb**	**07 19 53.1**	**-0.2**
KRUC				*e*SG	**Sb**	**07 20 05.9**	**+0.4**
VRAC	**Vranov**	**1.04**	**335**	*e*PG	**Pb**	**07 19 55.5**	**-0.2**
VRAC				*e*SG	**Sb**	**07 20 09.3**	**-0.1**
VYHS	**Vyhne**	**1.04**	**83**	*e*PG	**Pn**	**07 19 55.9**	**-0.4**
VYHS				*e*SN	**Sn**	**07 20 11.4**	**+0.4**

IDC 14 07:20:37.6±2.2, 14°63S×166°36E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/46, mbtmp3.9/4, ML3.7/1, MS2.6/1, Ms1 2.6/1, ms1mx2.4/37, Error ellipse: s-maj=46.7km s-min=34.7km az=89.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.40**	**179**	Pn	Pn	07 22 26.7	-0.3
	1.1nm,0.3s,baz=319,slow=19,SNR=13						
DZM				Sn	Sn	07 23 51.2	-0.6
	0.3nm,0.3s,baz=278,slow=20,SNR=1.1						
DZM				LR	LR	07 24 27.4	
	comp=Z,46nm,19.6s,baz=223,slow=31						
STKA	**Stephens Creek**	**28.39**	**229**	P	P	07 26 34.6	+0.7
	1.2nm,0.5s,baz=73,slow=9.5,SNR=4.7						
WRA	**Warramunga Arr**	**31.00**	**256**	P	P	07 26 56.9	-0.2
	0.5nm,0.6s,baz=86,slow=9.4,SNR=4.6						
ASAR	**Alice Springs**	**31.89**	**249**	P	P	07 27 04.8	-0.2
	0.9nm,0.6s,baz=73,slow=9.6,SNR=18						
ARCES	**ARCESS Array B**	**119.94**	**345**	PKP	PKPdf	07 39 29.4	-0.2
	3.6nm,0.9s,baz=58,slow=3.4,SNR=9.2						

*BJI **14** 07:24:22.6, 35°.78N×29°.37E, h10km, mb4.7/21, mB5.0/8, Ms4.5/3, Ms7 4.2/1*
*DDA **14** 07:24:28.6, 35°.85N×29°.69E, h29km, MI4.4*
*ISK **14** 07:24:28.1, 35°.85N×29°.74E, h10km, ML4.5/24*
*NEIC **14** 07:24:28.4±0.0, 35°.87N×29°.74E, h10km, mb4.6/9, ML4.4(ISK), ML4.4(THE), After ISK.*
NEIC Felt at Kas, Turkey.
*MOS **14** 07:24:29.3±1.3, 35°.76N×29°.85E, h33km, mb4.8/18, Error ellipse: s-maj=6.3km s-min=3.9km az=83.9*
*HLW **14** 07:24:30.2, 35°.86N×29°.89E, h11km±18km, Md4.1, Ml4.5*
*ISCJB **14** 07:24:30.5±0.1, 35°.81N±0°.01×29°.78E±0°.01, h48km±2km, mb4.5/48, MS3.7/8, Error ellipse: s-maj=2.0km s-min=1.6km az=21.2*
*NIC **14** 07:24:31.2±0.2, 35°.91N×29°.92E, h12km, mb4.5, ML4.3*
*ATH **14** 07:24:31.7, 36°.03N×29°.61E, h35km±2km, ML4.4/9, Error ellipse: s-maj=4.5km s-min=0.8km az=100.0*
*IDC **14** 07:24:31.2±1.3, 35°.83N×29°.82E, h40km±13km, mb4.2/18, mb1 4.2/24, mb1mx4.1/44, mbtmp4.4/24, ML4.4/6, MS3.4/10, Ms1 3.4/10, ms1mx3.1/46, Error ellipse: s-maj=12.8km s-min=8.1km az=166.0*
*GII **14** 07:24:33.7±0.0, 35°.65N×29°.96E, h20km, mb4.3/3, MD4.2/3*
*THE **14** 07:24:33.1, 36°.04N×29°.63E, h12km±1km, ML4.4/9, Error ellipse: s-maj=1.5km s-min=0.5km az=69.0*

ISC 14 07:24:30.9±0.8, 35°.89N±0°.03×29°.78E±0°.02, h31km±6km, n366, σ1s54/429, mB4.5/48, MS3.6/10, 48C-12D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**0.31**	**329**	P	**Pb**	**07 24 37.6**	**-1.0**
KSL				S	**Sb**	**07 24 42.9**	**-0.9**
KSL				AML	AML	07 24 43.6	
KSL				AML	AML	07 24 44.2	
AKAS	**Kas**	**0.37**	**338**	⇓*i*P	**Pb**	**07 24 38.3**	**-1.4**
AKAS				*i* S	**Sb**	**07 24 44.1**	**-1.5**
ELL	**Elmali**	**0.87**	**7**	PG	**Pb**	**07 24 46.0**	**-1.6**
ELL				SG	**Sn**	**07 24 59.0**	**+0.2**
FETY	**Fethiye**	**0.94**	**323**	PG	**Pn**	**07 24 47.2**	**-0.7**
FETY				SG	**Sb**	**07 24 59.3**	**-1.4**
FETY	**Fethiye**	**0.94**	**323**	*e*Pg	**Pn**	**07 24 47.4**	**-0.5**
FETY				*e*Sg	**Sb**	**07 24 58.5**	**-2.2**
FETY	**Fethiye**	**0.94**	**323**	P	**Pn**	**07 24 47.4**	**-0.5**
FETY				S	**Sb**	**07 24 58.5**	**-2.2**
KEMT	**Kemer-ANTALYA**	**0.95**	**41**	PG	**Pn**	**07 24 47.7**	**-0.4**
KORT	**Korkueli**	**1.21**	**22**	PN	**Pn**	**07 24 52.1**	**+0.3**
KORT	**Korkueli**	**1.21**	**22**	⇑*i*P	**Pn**	**07 24 51.9**	**+0.1**
KORT				*i* S	**Sb**	**07 25 10.1**	**+1.6**
ANTB	**Antalya**	**1.23**	**35**	PN	**Pb**	**07 24 52.8**	**-0.8**
DALY	**Dalyan (Mu˘la**	**1.30**	**316**	PN	**Pn**	**07 24 52.9**	**0.0**
DALY	**Dalyan (Mu˘la**	**1.30**	**316**	⇑*i*P	**Pn**	**07 24 52.7**	**-0.2**
DALY				*i* S	**Sn**	**07 25 09.7**	**+0.5**
GOLH	**Golhisar**	**1.36**	**353**	⇑*i*P	**Pn**	**07 24 54.8**	**+0.9**
GOLH				*i* S	**Sb**	**07 25 13.4**	**+0.5**
TURN	**Turunc**	**1.37**	**316**	PN	**Pb**	**07 24 55.9**	**0.0**
TURN	**Turunc**	**1.37**	**316**	⇑P	**Pb**	**07 24 55.7**	**-0.1**
TURN				*i* S	**Sb**	**07 25 16.6**	**+3.6**
ARG	**Arkhangelos**	**1.38**	**284**	*e*Pn	**Pn**	**07 24 54.3**	**+0.3**
ARG				*e*Sn	**Sn**	**07 25 11.1**	**-0.1**
ARG	**Arkhangelos**	**1.38**	**284**	P	**Pn**	**07 24 54.0**	**0.0**
ARG				AML	AML	07 25 20.2	
	comp=E,18500μm,0.6s						
ARG				AML	AML	07 25 20.8	
	comp=N,10023μm,0.5s						
ARG	**Arkhangelos**	**1.38**	**284**	P	**Pn**	**07 24 54.3**	**+0.3**
ARG				S	**Sn**	**07 25 11.1**	**-0.1**
ARG	**Arkhangelos**	**1.38**	**284**	*e*P	**Pn**	**07 24 54.3**	**+0.3**
ARG				*e*		07 25 11.1	
MRSB	**Marmaris-Mugla**	**1.52**	**303**	PN	**Pn**	**07 24 56.2**	**+0.2**
TAVA	**DENIZLI_Tavas**	**1.72**	**336**	*i* P	**Pn**	**07 24 59.1**	**+0.2**
TAVA				*i* S	**Sb**	**07 25 22.1**	**-1.2**
KEPZ	**Antalya-Kepez**	**1.79**	**55**	⇑*i*P	**Pn**	**07 25 00.9**	**+1.2**
KEPZ				*i* S	**Sn**	**07 25 23.2**	**+1.8**
BRDR	**BURDUR-Merkez**	**1.82**	**7**	⇑*i*P	**Pn**	**07 25 01.1**	**+0.9**
BRDR				*i* S	**Sb**	**07 25 27.0**	**+0.9**
SUTC	**Sutluce-Ispart**	**1.87**	**31**	PN	**Pn**	**07 25 02.2**	**+1.3**
DNZL	**Cakiroluk**	**1.89**	**342**	⇓*i*P	**Pb**	**07 25 04.1**	**-0.9**
DNZL				*i* S	**Sb**	**07 25 28.5**	**+0.2**
DENT	**Denizli**	**1.96**	**342**	PN	**Pn**	**07 25 03.4**	**+1.4**
DAT	**Datca**	**1.97**	**296**	PN	**Pn**	**07 25 02.3**	**+0.1**
DAT	**Datca**	**1.97**	**296**	*i* P	**Pn**	**07 25 02.2**	**+0.1**
DAT				*i* S	**Sn**	**07 25 25.7**	**-0.1**
ISP	**Isparta**	**2.02**	**17**	PN	**Pn**	**07 25 03.7**	**+0.7**
ISP	**Isparta**	**2.02**	**17**	*e*Pn	**Pn**	**07 25 04.1**	**+1.1**
ISP				*e*Pn	**Pb**	**07 25 04.5**	**-2.6**
ISP				*e*Sn	**Sn**	**07 25 29.6**	**+2.3**
ISP	**Isparta**	**2.02**	**17**	P	**Pn**	**07 25 04.1**	**+1.1**
ISP	**Isparta**	**2.02**	**17**	Pn	**Pn**	**07 25 03.7**	**+0.7**
ISP	**Isparta**	**2.02**	**17**	*e*P	**Pn**	**07 25 04.1**	**+1.1**
ISP				*e*		07 25 29.6	
GAZI	**Gazipasa**	**2.09**	**80**	⇑*i*P	**Pb**	**07 25 07.2**	**-0.9**
GAZI				*i* S	**Sn**	**07 25 30.4**	**+1.7**
MLSB	**Milas**	**2.14**	**312**	PN	**Pn**	**07 25 05.2**	**+0.7**
KARP	**Karpathos**	**2.15**	**262**	PN	**Pn**	**07 25 04.8**	**+0.1**
KARP	**Karpathos**	**2.15**	**262**	*e*Pn	**Pn**	**07 25 06.0**	**+1.3**
KARP				*e*Sn	**Sn**	**07 25 30.9**	**+0.5**
KARP	**Karpathos**	**2.15**	**262**	P	**Pn**	**07 25 06.1**	**+1.3**
KARP				S	**Sn**	**07 25 30.3**	**-0.1**
KARP				AML	AML	07 25 33.8	
	comp=N,7392μm,0.4s						
KARP				AML	AML	07 25 34.0	
	comp=E,11085μm,0.4s						
KARP	**Karpathos**	**2.15**	**262**	P	**Pn**	**07 25 05.9**	**+1.2**
KARP				S	**Sn**	**07 25 30.9**	**+0.5**
NIS1	**Nisyros Isl.**	**2.22**	**290**	PN	**Pn**	**07 25 05.8**	**+0.2**
NIS1	**Nisyros Isl.**	**2.22**	**290**	*e*Pn	**Pn**	**07 25 06.0**	**+0.4**
NIS1				*e*Sn	**Sn**	**07 25 31.8**	**-0.2**
NIS1	**Nisyros Isl.**	**2.22**	**290**	P	**Pn**	**07 25 06.0**	**+0.4**
NIS1				AML	AML	07 25 53.2	
	comp=N,23303μm,0.6s						
NIS1				AML	AML	07 25 54.8	
	comp=E,22194μm,0.6s						
NIS1	**Nisyros Isl.**	**2.22**	**290**	P	**Pn**	**07 25 06.0**	**+0.4**
NIS1				S	**Sn**	**07 25 31.8**	**-0.2**
BAGO	**Egridir - ISPA**	**2.25**	**21**	*i* P	**Pn**	**07 25 07.7**	**+1.5**
BAGO				*i* S	**Sn**	**07 25 35.5**	**+2.6**
AKMC	**Akamas**	**2.25**	**112**	P	**Pn**	**07 25 06.3**	**+0.2**
	baz=294						
BODT	**Bodrum**	**2.31**	**301**	PN	**Pn**	**07 25 06.7**	**-0.1**
BODT	**Bodrum**	**2.31**	**301**	*e*Pn	**Pn**	**07 25 06.7**	**-0.1**
BODT				*e*Sn	**Sn**	**07 25 32.5**	**-1.7**
BODT	**Bodrum**	**2.31**	**301**	P	**Pn**	**07 25 06.7**	**-0.1**
BODT				S	**Sn**	**07 25 32.5**	**-1.7**
PPCY	**Paphos**	**2.32**	**115**	P	**Pn**	**07 25 07.7**	**+0.7**
	baz=297						
AYDN	**Tasoluk**	**2.34**	**320**	*i* P	**Pn**	**07 25 08.3**	**+1.0**
AYDN				*i* S	**Sb**	**07 25 39.3**	**-1.6**
KZIL	**AFYON_Kizioren**	**2.39**	**7**	*i* P	**Pn**	**07 25 07.6**	**-0.3**
KZIL				*i* S	**Sb**	**07 25 41.3**	**-1.0**
ALFC	**Alefka**	**2.41**	**107**	P	**Pn**	**07 25 08.8**	**+0.5**
	baz=289						
ALFC				S	**Sn**	**07 25 38.1**	**+1.3**
KHAL	**Karahalli**	**2.49**	**355**	*i* P	**Pn**	**07 25 09.0**	**-0.4**
KHAL				*i* S	**Sn**	**07 25 41.5**	**+2.7**
AYDB	**Zeytinkoy-Aydi**	**2.55**	**324**	PN	**Pn**	**07 25 10.6**	**+0.3**
LEF	**Lefka**	**2.65**	**106**	PN	**Pn**	**07 25 11.8**	**+0.3**
AKDN	**Akdeniz- K˘–br**	**2.67**	**102**	PN	**Pn**	**07 25 12.8**	**+1.1**
DOGA	**KONYA_Doganhis**	**2.68**	**34**	⇑*i*P	**Pn**	**07 25 14.3**	**+2.2**
DOGA				*i* S	**Sn**	**07 25 46.8**	**+3.2**
TEKE	**Tekeli-Mersin**	**2.72**	**84**	PN	**Pn**	**07 25 13.2**	**+0.8**
MANT	**Manisa**	**2.78**	**340**	*i* P	**Pb**	**07 25 17.1**	**-2.9**
MANT				*i* S	**Sb**	**07 25 50.2**	**-3.5**
MANT	**Manisa**	**2.78**	**340**	*e*Pn	**Pn**	**07 25 15.3**	**+1.9**
MANT				*e*Sn	**Sn**	**07 25 48.3**	**+2.2**
SZAC	**Souni**	**2.78**	**113**	P	**Pn**	**07 25 14.5**	**+1.2**
	baz=296						
SZAC				S	**Sn**	**07 25 47.0**	**+1.2**
KMER	**Konya-Meram**	**2.80**	**47**	⇑*i*P	**Pn**	**07 25 15.7**	**+2.0**
KMER				*i* S	**Sb**	**07 25 51.2**	**-3.1**
BERE	**Bereket-Mersin**	**2.83**	**80**	PN	**Pn**	**07 25 15.3**	**+1.2**
MAMC	**Mammari**	**2.90**	**103**	P	**Pn**	**07 25 15.5**	**+0.6**
	baz=286						
KONT	**Konya--Tatoy**	**2.92**	**44**	PN	**Pn**	**07 25 16.9**	**+1.7**
KONT	**Konya--Tatoy**	**2.92**	**44**	⇑*i*P	**Pn**	**07 25 17.3**	**+2.1**
KONT				*i* S	**Sn**	**07 25 52.6**	**+3.3**
BOLV	**Bolvadin**	**2.98**	**18**	*i* P	**Pn**	**07 25 17.5**	**+1.3**
BOLV				*i* S	**Sn**	**07 25 53.4**	**+2.5**
SMG	**Samos**	**2.98**	**309**	P	**Pn**	**07 25 15.7**	**-0.3**
SMG				S	**Sn**	**07 25 49.3**	**-1.4**
SMG	**Samos**	**2.98**	**309**	P	**Pn**	**07 25 15.7**	**-0.3**
SMG				S	**Sn**	**07 25 48.6**	**-2.1**
SMG				AML	AML	07 25 59.0	
	comp=N,4631μm,0.3s						
SMG				AML	AML	07 26 00.5	
	comp=E,4003μm,0.5s						
SMG	**Samos**	**2.98**	**309**	P	**Pn**	**07 25 15.7**	**-0.3**
SMG				S	**Sn**	**07 25 49.3**	**-1.4**
ZKR	**Zakros**	**3.00**	**256**	*e*Pn	**Pn**	**07 25 18.0**	**+1.6**
ZKR				*e*Sn	**Sn**	**07 25 52.4**	**+1.1**
ZKR	**Zakros**	**3.00**	**256**	P	**Pn**	**07 25 18.0**	**+1.6**
ZKR				S	**Sn**	**07 25 52.1**	**+0.8**
ZKR				AML	AML	07 25 53.5	
	comp=E,4901μm,0.5s						
ZKR				AML	AML	07 25 54.1	
	comp=N,1807μm,0.6s						
ZKR	**Zakros**	**3.00**	**256**	P	**Pn**	**07 25 18.0**	**+1.6**
ZKR				S	**Sn**	**07 25 52.4**	**+1.1**
TEVE	**Tevekalti-Mers**	**3.02**	**78**	PN	**Pn**	**07 25 18.3**	**+1.7**
CSS	**Mathiatis**	**3.04**	**107**	*e*Pn	**Pn**	**07 25 17.4**	**+0.5**
CSS	**Mathiatis**	**3.04**	**107**	P	**Pn**	**07 25 17.7**	**+0.8**
	baz=289						
CSS	**Mathiatis**	**3.04**	**107**	P	**Pn**	**07 25 17.4**	**+0.5**
CSS	**Mathiatis**	**3.04**	**107**	Pn	**Pn**	**07 25 17.1**	**+0.2**
GULN	**MERSIN_Gulnar**	**3.07**	**83**	⇑*i*P	**Pn**	**07 25 17.9**	**+0.7**
GULN				*i* S	**Sn**	**07 25 53.2**	**+0.4**
AKKU	**Akkuyu-Mersin**	**3.07**	**84**	PN	**Pn**	**07 25 18.4**	**+1.1**
STIA	**Sitia Lasithi**	**3.08**	**258**	P	**Pn**	**07 25 19.4**	**+2.0**
STIA				S	**Sn**	**07 25 53.7**	**+0.5**
LADK	**Ladik-KONYA**	**3.10**	**41**	PN	**Pn**	**07 25 19.5**	**+1.7**
YESI	**Yesilovacik-Me**	**3.15**	**83**	PN	**Pn**	**07 25 19.6**	**+1.3**
DGB	**˘zmir**	**3.17**	**314**	*i* P	**Pn**	**07 25 18.6**	**0.0**
DGB				*i* S	**Sn**	**07 25 53.3**	**-2.1**
IKL	**Isikli**	**3.19**	**83**	PN	**Pn**	**07 25 20.0**	**+1.2**
GDZ	**Gediz**	**3.21**	**356**	*i* P	**Pn**	**07 25 18.3**	**-1.0**
GDZ				*i* S	**Sn**	**07 25 59.6**	**+3.1**
KDHN	**Kadinhani**	**3.23**	**35**	⇑*i*P	**Pn**	**07 25 20.9**	**+1.4**
KDHN				*i* S	**Sn**	**07 25 58.7**	**+1.7**
KEBE	**Keben-Mersin**	**3.23**	**79**	PN	**Pn**	**07 25 21.3**	**+1.7**
DEMI	**Demirci**	**3.26**	**345**	*i* P	**Pn**	**07 25 20.0**	**0.0**
DEMI				*i* S	**Sn**	**07 26 00.4**	**+2.6**
ANAF	**Anafi Island**	**3.28**	**279**	P	**Pn**	**07 25 21.2**	**+1.1**
KIZT	**Kizilcal**	**3.43**	**29**	PN	**Pn**	**07 25 23.5**	**+1.2**
NPS	**Neapolis**	**3.45**	**261**	P	**Pn**	**07 25 23.6**	**+1.1**
NPS	**Neapolis**	**3.45**	**261**	P	**Pn**	**07 25 23.8**	**+1.3**
NPS				S	**Sn**	**07 26 01.3**	**-1.1**
NPS				AML	AML	07 26 04.1	
	comp=N,3924μm,0.6s						
NPS				AML	AML	07 26 05.8	
	comp=E,4880μm,0.3s						
NPS	**Neapolis**	**3.45**	**261**	P	**Pn**	**07 25 23.6**	**+1.1**
NPS	**Neapolis**	**3.45**	**261**	P	**Pn**	**07 25 23.6**	**+1.1**
SANT	**Santorini**	**3.53**	**279**	*e*Pn	**Pn**	**07 25 24.7**	**+1.1**
URLA	**Izmir**	**3.54**	**315**	PN	**Pn**	**07 25 25.9**	**+2.1**
THR6	**Thira Island,**	**3.58**	**279**	*e*Pn	**Pn**	**07 25 24.8**	**+0.6**
THR6	**Thira Island,**	**3.58**	**279**	P	**Pn**	**07 25 25.4**	**+1.2**
THR6	**Thira Island,**	**3.58**	**279**	P	**Pn**	**07 25 24.8**	**+0.6**
LAST	**Lasithi**	**3.58**	**260**	*e*Pn	**Pn**	**07 25 26.0**	**+1.6**
LAST	**Lasithi**	**3.58**	**260**	P	**Pn**	**07 25 25.9**	**+1.6**
LAST				S	**Sn**	**07 26 04.9**	**-0.8**
LAST				AML	AML	07 26 08.4	
	comp=N,1731μm,0.5s						
LAST				AML	AML	07 26 10.9	
	comp=E,1914μm,0.7s						
LAST	**Lasithi**	**3.58**	**260**	P	**Pn**	**07 25 26.0**	**+1.6**
LAST				S	**Sn**	**07 26 05.7**	**+0.1**
THR3	**Thira Island,**	**3.58**	**280**	*e*Pn	**Pn**	**07 25 25.1**	**+0.8**
THR3	**Thira Island,**	**3.58**	**280**	P	**Pn**	**07 25 25.7**	**+1.5**
THR3	**Thira Island,**	**3.58**	**280**	P	**Pn**	**07 25 25.1**	**+0.8**
KIZK	**Mersin**	**3.58**	**79**	*i* P	**Pn**	**07 25 25.4**	**+1.1**
KIZK				*i* S	**Sn**	**07 26 07.4**	**+1.9**
THR9	**Santorini-Faro**	**3.61**	**279**	P	**Pn**	**07 25 25.9**	**+1.3**
APE	**Apeiranthos**	**3.62**	**290**	⇑*e*P	**Pn**	**07 25 26.7**	**+1.8**
THR5	**Thira Island,**	**3.62**	**280**	P	**Pn**	**07 25 26.0**	**+1.2**
THR5	**Thira Island,**	**3.62**	**280**	P	**Pn**	**07 25 25.8**	**+0.9**
CHBY	**Cihanbeyli**	**3.66**	**42**	PN	**Pn**	**07 25 27.3**	**+1.8**
IOSP	**Ios island**	**3.72**	**284**	P	**Pn**	**07 25 26.4**	**+0.2**
ESKT	**Eskisehir**	**3.73**	**13**	PN	**Pn**	**07 25 28.0**	**+1.6**
KERG	**Konya-Eregli**	**3.81**	**65**	*i* P	**Pn**	**07 25 28.8**	**+1.2**
KERG				*i* S	**Sn**	**07 26 13.6**	**+2.1**
SVRH	**Sivrihisar-ESK**	**3.82**	**21**	PN	**Pn**	**07 25 28.9**	**+1.3**
DST	**Dursunbey**	**3.82**	**346**	PN	**Pn**	**07 25 29.6**	**+1.9**
DURS	**Dursunbey**	**3.85**	**345**	*i* P	**Pn**	**07 25 28.0**	**-0.1**
DURS				*i* S	**Sn**	**07 26 09.0**	**-3.3**
BORA	**Eskisehir**	**4.02**	**7**	*i* P	**Pn**	**07 25 29.9**	**-0.5**
BORA				*i* S	**Sn**	**07 26 13.6**	**-3.0**
IDI	**Anoyia**	**4.03**	**263**	P	**Pn**	**07 25 31.5**	**+1.0**
	comp=E,15nm,0.3s,baz=86,slow=15,SNR=60						
IDI				S	**Sn**	**07 26 16.1**	**-0.5**
	comp=E,68nm,0.3s,baz=314,slow=22,SNR=9.5						
SIVA	**Sivas**	**4.15**	**259**	P	**Pn**	**07 25 34.0**	**+2.0**
SIVA	**Sivas**	**4.15**	**259**	P	**Pn**	**07 25 34.1**	**+2.0**
SIVA				S	**Sn**	**07 26 19.3**	**-0.2**
SIVA				AML	AML	07 26 22.8	
	comp=N,2219μm,0.6s						
SIVA				AML	AML	07 26 23.0	
	comp=E,3416μm,1.1s						
SIVA	**Sivas**	**4.15**	**259**	P	**Pn**	**07 25 34.0**	**+2.0**
VAM	**Vamos**	**4.57**	**266**	P	**Pn**	**07 25 39.9**	**+2.0**
BR231	**Keskin MP Arra**	**4.61**	**30**	*e*Pn	**Pn**	**07 25 38.4**	**-0.1**
ANTO	**Ankara**	**4.64**	**30**	*e*Pn	**Pn**	**07 25 40.0**	**+1.1**
ANTO	**Ankara**	**4.64**	**30**	*e*P	**Pn**	**07 25 40.0**	**+1.1**
IMMV	**Iera Moni Meta**	**4.74**	**267**	P	**Pn**	**07 25 41.3**	**+1.2**
IMMV	**Iera Moni Meta**	**4.74**	**267**	P	**Pn**	**07 25 41.8**	**+1.6**
GVDS	**Gavdos**	**4.76**	**259**	P	**Pn**	**07 25 42.1**	**+1.6**
GVD	**Gavdhos**	**4.76**	**259**	*e*Pn	**Pn**	**07 25 41.8**	**+1.2**
GVD				*e*Sn	**Sn**	**07 26 35.4**	**+0.7**
GVD	**Gavdhos**	**4.76**	**259**	P	**Pn**	**07 25 41.8**	**+1.2**
GVD	**Gavdhos**	**4.76**	**259**	P	**Pn**	**07 25 41.8**	**+1.2**
GVD				S	**Sn**	**07 26 35.4**	**+0.7**
BR101	**Keskin Array S**	**4.90**	**37**	*e*Pn	**Pn**	**07 25 43.5**	**+1.0**
BR101				*e*Sn	**Sn**	**07 26 40.0**	**+1.7**
BR131	**Keskin Array S**	**4.90**	**37**	*e*Pn	**Pn**	**07 25 43.6**	**+1.0**
BRTR	**Keskin Array B**	**4.90**	**37**	P	**Pn**	**07 25 43.5**	**+1.0**
	comp=E,20nm,0.3s,baz=214,slow=16,SNR=375						
BRTR				S	**Sn**	**07 26 40.0**	**+1.7**
	comp=E,22nm,0.3s,baz=213,slow=25,SNR=20						
BRTR				LR	LR	07 28 17.3	
	comp=E,650nm,19.9s,baz=212,slow=46						
VLY	**Voula,Athens**	**5.18**	**294**	P	**Pn**	**07 25 48.3**	**+2.0**
ANKY	**Antikythira Is**	**5.26**	**272**	*e*Pn	**Pn**	**07 25 48.2**	**+0.9**
ANKY	**Antikythira Is**	**5.26**	**272**	P	**Pn**	**07 25 48.7**	**+1.3**
ANKY	**Antikythira Is**	**5.26**	**272**	P	**Pn**	**07 25 48.2**	**+0.9**
HNTI	**Hanita**	**5.26**	**121**	Pn	**Pn**	**07 25 48.3**	**+0.9**
HNTI				Sn	**Sn**	**07 26 45.6**	**-1.4**
HBRG	**Burj al 'Arab**	**5.30**	**179**	P	**Pn**	**07 25 49.8**	**+1.9**
	baz=181						
HBRG				AMP		07 26 00.0	
	baz=181						
HBRG				S	**Sn**	**07 26 48.2**	**+0.4**
	baz=181						
OFRI	**'Ofer**	**5.40**	**126**	Pn	**Pn**	**07 25 50.1**	**+0.7**
OFRI				Sn	**Sn**	**07 26 49.8**	**-0.7**
MMA0B	**Mount Meron ar**	**5.46**	**120**	Pn	**Pn**	**07 25 51.3**	**+1.1**
MMA0B				Sn	**Sn**	**07 26 49.8**	**-2.1**
MMAI	**Mount Meron Ar**	**5.46**	**120**	P	**Pn**	**07 25 50.9**	**+0.7**
	comp=E,51nm,0.3s,baz=311,slow=12,SNR=74						
MMAI				S	**Sn**	**07 26 50.1**	**-1.8**
	comp=E,45nm,0.3s,baz=307,slow=27,SNR=11						
BLGI	**Bet Lehem HaGe**	**5.47**	**124**	Pn	**Pn**	**07 25 50.9**	**+0.6**
BLGI				Sn	**Sn**	**07 26 50.8**	**-1.4**
DID	**Didima**	**5.50**	**289**	P	**Pn**	**07 25 53.1**	**+2.4**
KSDI	**Kefar Szold**	**5.55**	**117**	Pn	**Pn**	**07 25 52.5**	**+1.2**
KSDI				Sn	**Sn**	**07 26 52.9**	**-1.1**
NATI	**Neve Ativ**	**5.57**	**116**	Pn	**Pn**	**07 25 52.8**	**+1.2**
NATI				Sn	**Sn**	**07 26 53.9**	**-0.6**
VLI	**Veliai**	**5.59**	**281**	P	**Pn**	**07 25 53.6**	**+1.8**
SLTI	**Sal'it**	**5.68**	**128**	Pn	**Pn**	**07 25 55.5**	**+2.3**
ALN	**Alexandroupoli**	**5.80**	**331**	*e*Pn	**Pn**	**07 25 57.3**	**+2.6**
ALN	**Alexandroupoli**	**5.80**	**331**	*e*P	**Pn**	**07 25 57.3**	**+2.6**
MMLI	**Mount Malkishu**	**5.81**	**125**	Pn	**Pn**	**07 25 55.8**	**+0.9**
MMLI				Sn	**Sn**	**07 26 58.8**	**-1.7**
RSH		**5.92**	**145**	P	**Pn**	**07 25 57.6**	**+1.2**
	baz=145						
HMDT	**Nahal Hemdat**	**5.99**	**126**	Pn	**Pn**	**07 25 57.1**	**-0.3**
HMDT				Sn	**Sn**	**07 27 03.6**	**-1.3**
ILGA	**Ilgaz**	**6.01**	**30**	*e*Pn	**Pn**	**07 25 59.0**	**+1.1**
DYR	**Agios Nikonas**	**6.07**	**280**	P	**Pn**	**07 26 01.6**	**+3.0**
SQR	**Saqqara**	**6.11**	**168**	P	**Pn**	**07 26 00.9**	**+1.9**
	baz=169						
HMYD	**Mayadein**	**6.13**	**172**	P	**Pn**	**07 26 01.4**	**+2.0**
	baz=172						
KOT	**Kottamia**	**6.19**	**163**	P	**Pn**	**07 26 01.8**	**+1.6**
	baz=164						
KOT				AMP		07 27 00.0	
	baz=164						
HHAG	**Hagoal**	**6.23**	**161**	P	**Pn**	**07 26 02.1**	**+1.3**
	baz=161						
HHAG				AMP		07 27 00.0	
	baz=161						
HHAG				S	**Sn**	**07 27 07.7**	**-3.2**
	baz=161						
HNAT	**Natroun**	**6.28**	**173**	P	**Pn**	**07 26 02.1**	**+0.7**
	baz=174						

BUR04	Bucovina Ar. S	12.21	345	ePn		Pn	07 27 24.1	+1.4
BUR08	Bucovina Ar. S	12.23	345	ePn		Pn	07 27 22.8	-0.2
NEY	Neytrino	12.39	50	eP		Pn	07 27 27.1	+1.8
NEY	comp=Z,3.0nm,1.2s			pmax	pmax			
KBZ	Khabaz	12.76	48	P		Pn	07 27 34.3	+4.2
KBZ	comp=Z,0.1nm,0.3s,baz=64,slow=15,SNR=4.2			LR	LR		07 33 38.7	
KIV	comp=Z,91nm,19.0s,baz=275,slow=43 Kislovodsk	12.76	47	eP		Pn	07 27 32.5	+2.3
KIV	comp=Z,12nm,1.0s			pmax	pmax			
KVAR	comp=Z,14nm,1.0s Kislovodsk Arr	12.77	47	P		P	07 27 41.8	+0.7
ZEI	baz=96,slow=20,SNR=5.6 Tsey	12.92	53	eP		Pn	07 27 35.4	+3.0
ZEI	comp=Z,7.0nm,0.6s			pmax	pmax			
NCK	Nalchik	13.07	50	eP		Pn	07 27 38.1	+3.8
NCK	comp=Z,36nm,0.6s			pmax	pmax			
PSZ	Piszkesteto	14.08	332	ePn		Pn	07 27 49.1	+0.9
PSZ	Piszkesteto	14.08	332	eP		Pn	07 27 49.1	+0.9
AK11	Malin Array Si	14.79	358	ePn		Pn	07 27 58.8	+1.1
KIEV	Kiev	14.81	359	ePn		Pn	07 27 59.6	+1.7
KIEV	Kiev	14.81	359	eP		P	07 28 01.5	-2.0
KIEV	comp=Z,2.0nm,0.4s			pmax	pmax			
AKASG	Malin Array Be	14.81	359	P		Pn	07 27 59.1	+1.1
AKBB	comp=Z,1.2nm,0.3s,baz=164,slow=10,SNR=5.3 Malin Array Si	14.81	359	ePn		Pn	07 27 59.6	+1.6
AKBB	Malin Array Si	14.81	359	eP		Pn	07 27 59.6	+1.6
KRUC	Moravsky	16.42	327	ePN		P	07 28 31.1	+10
VRAC	Vranov	16.52	328	P		P	07 28 23.6	+1.0
VORD	comp=Z,0.5nm,0.3s,baz=259,slow=18,SNR=1.9 Divnogorie	16.56	22	eP		P	07 28 22.5	-0.4
VORD	comp=Z,10.0nm,0.7s			pmax	pmax			
KEST	Kesra	16.58	275	P		P	07 28 22.6	-0.7
VSR	comp=Z,0.8nm,0.3s,baz=54,slow=2.6,SNR=6.4 Storozhevoye	16.75	21	eP		Pn	07 28 22.7	-0.3
VSR	comp=Z,12nm,0.6s			pmax	pmax			
GEA0	GERESS Array S	17.52	323	ePn		Pn	07 28 33.2	+0.5
GERES	GERESS Array B	17.53	323	P		P	07 28 34.3	+0.5
VRH	comp=Z,0.3nm,0.3s,baz=150,slow=14,SNR=4.8 Novokhopyorsk	17.55	26	eP		Pn	07 28 33.4	+0.4
VRH	comp=Z,20nm,1.0s			pmax	pmax			
LPSR	Galich'ya Gora	17.93	18	eP		Pn	07 28 38.0	+0.4
LPSR	comp=Z,30nm,1.1s			pmax	pmax			
DAVOX	Davos/Dischmat	18.43	312	P		Pn	07 28 46.5	+2.4
CLL	comp=Z,0.2nm,0.3s,baz=50,slow=15,SNR=1.9 Collm	19.55	327	eP		P	07 28 56.0	+0.1
CLL	comp=Z,200nm,19.0s			LmV			07 37 00.0	
CLL	Collm	19.55	327	eP		P	07 28 56.0	+0.1
OBN	Obninsk	19.79	12	LR		LR	07 37 26.7	
OBN	comp=Z,23nm,18.2s,baz=214,slow=39 Obninsk	19.79	12	eP		P	07 28 56.8	-1.6
OBN				eS		Sn	07 32 42.9	+1.5
OBN	comp=Z,12nm,0.4s			pmax	pmax			
OBN	comp=Z,105nm,17.0s			MLR	MLR			
SENIN	Lac Senin/Sane	19.84	309	eP		Pn	07 29 00.7	-0.3
VSU	comp=Z,16nm,1.1s Vasula	22.68	356	eP		P	07 29 29.6	+0.1
VSU	comp=Z,77nm,0.9s			pmax	pmax			
GEYT	Alibeck	22.72	76	P		P	07 29 29.4	-0.8
GYA0B	comp=Z,11nm,0.6s,baz=288,slow=7.2,SNR=23 ALIBECK ARRAY	22.72	76	eP		P	07 29 29.2	-1.0
TAM	comp=Z,21nm,0.8s Tamanrasset	24.77	245	eP		P	07 29 51.2	+1.1
AKTO	comp=Z,7.2nm,0.7s Aktyubinsk	25.02	46	P		P	07 29 50.5	-1.5
FIA0	comp=Z,13nm,0.4s,baz=248,slow=10.0,SNR=47 FINESS Array S	25.69	356	eP		P	07 29 56.5	-1.3
FIA0	FINESS Array S	25.69	356	eP		P	07 29 56.5	-1.3
FINES	FINESS Array B	25.69	356	P		P	07 29 56.5	-1.3
FIA1	comp=Z,4.9nm,0.6s,baz=163,slow=12,SNR=22 FINESS Array S	25.69	356	eP		P	07 29 56.6	-1.3
AB31	Akbulak array	25.73	49	P		P	07 29 56.9	-1.5
AB31	comp=Z,4.0nm,0.4s			pmax	pmax			
ABKAR	Akbulak array	25.73	49	eP		P	07 29 57.4	-1.0
HFS	Hagfors	26.39	342	P		P	07 30 05.4	+1.1
HFS	comp=Z,7.0nm,0.8s,baz=147,slow=8.8,SNR=10			LR	LR		07 41 36.9	
ES19	comp=Z,102nm,18.3s,baz=264,slow=39 SONSECA Array	26.79	288	eP		P	07 30 09.6	+1.4
ESDC	Sonseca Array	26.84	288	P		P	07 30 07.9	-0.7
ATD	comp=Z,0.6nm,0.4s,baz=82,slow=9.3,SNR=5.1 Arta Tunnel	26.98	151	LR		LR	07 41 46.4	
NB2	comp=Z,58nm,21.4s,baz=55,slow=38 NORSAR Subarra	27.82	341	P		P	07 30 19.1	+2.0
NB200	comp=Z,2.6nm,0.8s,baz=156,slow=9.3 NORSAR Array S	27.82	341	eP		P	07 30 18.4	+1.3
NOA	NORSAR Array B	27.82	341	P		P	07 30 18.4	+1.3
NOA	comp=Z,1.2nm,0.8s,baz=146,slow=9.7,SNR=4.8			LR	LR		07 43 00.8	
ARU	comp=Z,76nm,19.2s,baz=170,slow=40 Arti	28.28	34	P		P	07 30 21.0	-0.2
ARU	Arti	28.28	34	eP		P	07 30 22.3	+1.1
ARU	comp=Z,17nm,0.9s Arti	28.28	34	dP		P	07 30 24.2	+3.0
ARU							07 31 15.1	
ARU	comp=Z,16nm,0.8s			pmax	pmax			
MDT	Midelt	28.47	274	P		P	07 30 25.7	+2.3
APA	comp=Z,0.6nm,0.5s,baz=68,slow=5.4,SNR=2.5 Apatity	31.80	3	iP		P	07 31 03.8	+12
APA	comp=Z,3.0nm,0.8s			pmax	pmax			
APA	comp=Z,1μm,14.0s			MLR	MLR			
KK31	Karatay Array	32.00	64	eP		P	07 30 54.1	-0.3
KK31	Karatay Array	32.00	64	eP		P	07 30 54.1	-0.3
KKAR	Karatay Array	32.00	64	eP		P	07 30 54.1	-0.3
KKAR	Karatay Array	32.00	64	eP		P	07 30 54.1	-0.3
BRVK	Borovoye	33.07	46	eP		P	07 31 05.1	+1.5
BRVK	comp=Z,4.0nm,0.8s			pmax	pmax			
OTUK	Ortayu	33.50	55	P		P	07 31 06.8	-0.6
OTUK	comp=Z,12nm,0.8s			pmax	pmax			
ARA0	ARCESS Array S	33.79	357	eP		P	07 31 08.4	-1.2
ARCES	ARCESS Array B	33.79	357	P		P	07 31 08.4	-1.2
TOA1	comp=Z,6.5nm,0.8s,baz=159,slow=7.5,SNR=12 Torodi Ar. Sit	33.92	235	eP		P	07 31 10.7	-0.6
TOA0	Torodi Ar. Sit	33.92	235	eP		P	07 31 10.6	-0.7
TOA0				eP		P	07 31 11.4	+0.1
TORD	Torodi Ar. Bea	33.92	235	P		P	07 31 10.7	-0.6
SFK	comp=Z,2.8nm,0.7s,baz=37,slow=9.1,SNR=62 Sufi-Kurgan	34.47	70	P		P	07 31 16.4	+0.3
SFK	comp=Z,12nm,0.6s			pmax	pmax			
AAK	Ala-Archa	34.95	65	eP		P	07 31 20.1	-0.1
AAK	comp=Z,4.7nm,0.7s Ala-Archa	34.95	65	eP		P	07 31 20.0	-0.1
AAK	comp=Z,9.0nm,0.6s			pmax	pmax			
TKM2	Tokmak 2	35.74	64	P		P	07 31 26.0	-1.0
TKM2	comp=Z,3.0nm,0.7s			pmax	pmax			
NRN	Naryn	36.18	67	eP		P	07 31 31.4	+0.5
NRN	comp=Z,11nm,0.7s Naryn	36.18	67	eP		P	07 31 31.5	+0.5
NRN	comp=Z,11nm,0.7s			pmax	pmax			
KSH	Kashi	36.42	70	P		P	07 31 30.6	-2.2
KSH				pP		pP	07 31 35.8	-6.1
KSH				PP		PnPn	07 32 53.3	-2.2
KSH				S		S	07 37 08.3	-4.2
KSH	comp=Z,29nm,1.2s			pmax	pmax			
KSH	comp=Z,140nm,5.9s			pmax	pmax			
KSH	comp=Z,360nm,6.3s			LR	LR			
KSH	comp=Z,380nm,10.8s			LR	LR			
KURK	Kurchatov	37.79	51	eP		P	07 31 43.1	-1.0
KURK	comp=Z,18nm,0.8s Kurchatov	37.79	51	dP		P	07 31 43.6	-0.5
KURK	comp=Z,13nm,0.6s			pmax	pmax			
PDGK	Podgornoye	38.54	63	P		P	07 31 49.5	-1.2
PDGK	comp=Z,5.0nm,0.6s			pmax	pmax			
MK31	Makanchi Array	40.22	58	eP		P	07 32 03.8	-0.8
MK31	Makanchi Array	40.22	58	eP		P	07 32 03.8	-0.8
MK32	Makanchi Array	40.22	58	eP		P	07 32 03.5	-1.0
MKAR	Makanchi Array	40.22	58	P		P	07 32 03.5	-1.0
MKAR	comp=Z,8.5nm,0.6s,baz=269,slow=8.8,SNR=91			ScP		ScP	07 37 53.1	-1.8
MKAR	comp=Z,0.7nm,0.7s,baz=262,slow=4.2,SNR=5.3			LR	LR		07 50 27.7	
MKAR	comp=Z,67nm,20.6s,baz=286,slow=39 Makanchi Array	40.22	58	eP		P	07 32 03.8	-0.8
MKAR	comp=Z,78nm,0.5s Makanchi Array	40.22	58	eP		P	07 32 03.8	-0.8
MKAR	comp=Z,78nm,0.5s			pmax	pmax			
MK01	Makanchi Array	40.23	58	eP		P	07 32 03.6	-1.0
NVS	Novosibirsk	40.91	45	eP		P	07 32 09.5	-0.6
ZAA0	Zalesovo Array	41.78	47	eP		P	07 32 15.5	-1.7
ZAA1	comp=Z,5.8nm,0.6s Zalesovo Array	41.78	47	eP		P	07 32 15.4	-1.8
ZALV	Zalesovo Beam	41.78	47	P		P	07 32 15.4	-1.8
ZALV	comp=Z,6.2nm,0.4s,baz=263,slow=9.1,SNR=25			LR	LR		07 52 24.6	
ZALV	comp=Z,55nm,19.3s,baz=228,slow=40 Zalesovo Beam	41.78	47	eP		P	07 32 15.2	-2.0
DBIC	Dimbokro	43.03	236	P		P	07 32 28.1	+0.3
DBIC	comp=Z,2.9nm,0.4s,baz=20,slow=8.7,SNR=9.2 Dimbokro	43.03	236	eP		P	07 32 28.1	+0.3
DBIC	comp=Z,4.5nm,0.6s Dimbokro	43.03	236	eP		P	07 32 28.1	+0.3
DBIC	comp=Z,5.0nm,0.6s			pmax	pmax			
TIC	Toumodi	43.16	236	ePKP2		P	07 32 30.4	+1.6
KIC	Kosan Boka	43.18	235	ePKP2		P	07 32 29.5	+0.5
DGZ	comp=Z,12nm,0.6s Jazzator, Alta	43.45	53	dP		P	07 32 30.7	-0.4
DGZ	comp=Z,2.0nm,0.6s			pmax	pmax			
LIC	Lamto	43.47	236	ePKP2		P	07 32 30.8	-0.6
WMQ	comp=Z,49nm,1.5s Urumqi	44.37	61	eP		P	07 32 37.9	-0.5
WMQ	comp=Z,22nm,0.6s			pmax	pmax			
WMQ	comp=Z,110nm,21.5s			LR	LR			
PYUN	Piuthan	45.33	84	eP		P	07 32 46.4	0.0
NRIK	comp=Z,14nm,0.6s Noril'sk	45.63	25	P		P	07 32 47.1	-0.9
DANN	comp=Z,1.2nm,0.4s,baz=220,slow=8.6,SNR=3.3 Dangsing	45.85	84	eP		P	07 32 50.9	+0.3
KOLN	comp=Z,46nm,0.3s Koldanda	45.95	84	eP		P	07 32 51.2	-0.2
GKN	comp=Z,12nm,0.6s Gorkha	46.70	84	eP		P	07 32 56.7	-0.4
DMN	comp=Z,0.5nm,0.2s Daman	47.24	84	eP		P	07 33 01.5	0.0
KKN	comp=Z,28nm,0.6s Kakani	47.30	83	eP		P	07 33 01.8	-0.1
HVS	comp=Z,17nm,0.6s Khovu-Aksy	47.31	50	eP		P	07 33 02.6	+1.1
HVS	comp=Z,6.0nm,0.6s			pmax	pmax			
PKIN	Phulchoki	47.48	84	eP		P	07 33 03.2	-0.2
PKI	comp=Z,10.0nm,0.6s Pulchoki	47.50	84	eP		P	07 33 03.0	-0.6
GUN	comp=Z,11nm,0.5s Gumba	47.74	83	eP		P	07 33 05.3	-0.2
JIRN	comp=Z,24nm,0.7s Jiri	48.09	83	eP		P	07 33 07.9	-0.3
RAMN	comp=Z,17nm,0.4s Ramite	48.72	84	eP		P	07 33 12.0	-0.9
ODAN	comp=Z,22nm,0.9s Odare	49.40	84	eP		P	07 33 17.8	-0.3
GTA	Gaotai	54.28	64	eP		P	07 33 57.9	+3.6
GTA				pP		pP	07 34 02.6	-1.1
GTA				sP		sP	07 34 04.9	-2.5
GTA	comp=Z,3.0nm,1.0s			pmax	pmax			
SONA0	Songino Array	56.09	52	eP		P	07 34 06.3	-0.9
SONM	Songino Array	56.09	52	P		P	07 34 06.3	-0.9
ULN	comp=Z,1.1nm,0.4s,baz=287,slow=7.3,SNR=14 Ulaanbaatar	56.50	52	eP		P	07 34 11.4	+1.2
ULN	comp=Z,3.0nm,1.4s			pmax	pmax			
LZH	Lanzhou	58.48	66	eP		P	07 34 24.8	+0.5
LZH				pP		pP	07 34 28.4	-5.4
LZH				sP		sP	07 34 32.4	-5.1
LZH				ePP		PP	07 36 33.4	-0.2
LZH	comp=Z,19nm,0.9s			pmax	pmax			
LZH	comp=Z,190nm,4.8s			pmax	pmax			
TIXI	Tiksi	59.14	21	LR		LR	08 03 15.5	
CD2	comp=Z,73nm,19.0s,baz=343,slow=39 Chengdu	60.60	71	eP		P	07 34 38.0	-0.8
HHC	Hu-ho-hao-te	62.08	58	eP		P	07 34 49.6	+0.8
HHC	comp=Z,18nm,1.1s			pmax	pmax			
HHC	comp=Z,94nm,4.2s			pmax	pmax			
CMAR	Chiang Mai Arr	62.76	86	P		P	07 34 52.8	-0.6
BOSA	comp=Z,1.3nm,0.4s,baz=294,slow=8.7,SNR=7.9 Boshof	64.30	184	P		P	07 35 05.3	+1.9
GYA	comp=Z,1.3nm,0.6s,baz=342,slow=6.4,SNR=3.3 Guiyang	64.93	75	eP		P	07 35 08.5	+0.7
GYA	comp=Z,10.0nm,1.0s			pmax	pmax			
KLR	Kul'dur	70.72	43	eP		P	07 35 42.9	-0.8
NJ2	Nanjing	71.38	64	eP		P	07 35 48.3	+0.3
NJ2	comp=Z,12nm,0.5s			pmax	pmax			
USRK	Ussuriysk Ar.	73.63	47	P		P	07 35 59.9	-1.3
KSAR	comp=Z,3.1nm,0.5s,baz=298,slow=5.6,SNR=13 Wonju Array Be	74.80	55	P		P	07 36 07.5	-0.7
KSAR	Wonju Array Be	74.80	55	P		P	07 36 07.5	-0.7
KSRS	Korea Array	74.82	55	P		P	07 36 07.5	-0.7
ASAJ	comp=Z,1.1nm,0.5s,baz=128,slow=26,SNR=3.0 Asahikawa	79.75	42	P		P	07 36 35.2	-0.6
MAJO	comp=Z,11nm,0.8s,baz=178,slow=18,SNR=3.5 Matsushiro	82.00	50	eP		P	07 36 49.0	+1.0
MAJO	comp=Z,16nm,1.0s			pmax	pmax			
NEW	Newport	91.17	339	P		P	07 37 32.5	-0.2
SIJI	comp=Z,1.7nm,0.7s,baz=2.5,slow=3.4,SNR=4.0 Sorong	99.82	84	LR		LR	08 29 55.2	
	comp=Z,51nm,18.3s,slow=39							

ATH 14 07:24:37.6,38.78N×20.53E,h10km±31km,ML1.3/2,Error ellipse: s-maj=31.6km s-min=1.6km az=0.0,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKD2	Lefkada island	0.10	86	P	Pg	07 24 39.9	-0.3
LKD2				S	Sg	07 24 41.3	-0.7
LKD2				AML	AML	07 24 41.4	
LKD2	comp=E,916μm,0.2s			AML	AML	07 24 41.6	
TSLK	comp=N,312μm,0.1s Tsoukalades, L	0.10	66	P	Pg	07 24 40.5	+0.2
TSLK				S	Sg	07 24 42.5	+0.3
TSLK				AML	AML	07 24 43.4	
TSLK	comp=E,372μm,0.1s			AML	AML	07 24 43.6	
EVGI	comp=N,576μm,0.2s Lefkada island	0.19	149	P	Pg	07 24 41.4	-0.2
EVGI				S	Sg	07 24 44.1	-0.1
MGNA	Meganis„	0.24	122	P	Pg	07 24 42.9	+0.5
MGNA				S	Sg	07 24 46.5	+0.8
FSK	Fiskardo	0.32	176	P	Pg	07 24 43.9	-0.1
FSK				S	Sg	07 24 48.9	+0.6

IDC 14 07:41:51.9±0.4,20.74S×173.99W,h0km,mb4.7/24, mb1 4.8/26,mb1mx4.7/43,mbtmp4.7/26,ML5.1/2,MS4.2/20, Ms1 4.2/20,ms1mx4.1/32,Error ellipse: s-maj=18.1km s-min=12.3km az=132.0
NEIC 14 07:41:53.2±0.1,20.74S×174.08W,h10km,mb5.2/136, Error ellipse: s-maj=5.6km s-min=2.7km az=137.0
ISCJB 14 07:41:54.0±0.1,20.85S±0.04×173.98W±0.03,h26km, mb5.0/176,MS4.3/22,Error ellipse: s-maj=6.7km s-min=3.3km az=144.6
MOS 14 07:41:55.8±1.1,20.79S×173.98W,h33km,mb5.3/38, Error ellipse: s-maj=11.6km s-min=8.4km az=48.6
GCMT 14 07:41:56.2±0.3,20.89S±0.04×173.37W±0.02,h19km, MW5.0/62,Moment Tensor Solution. s36,c37; s62,c83; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.80±.23; Mθθ-1.07±.16; Mφφ-2.73±.14; Mrθ-0.28±.42; Mrφ-0.94±.10; Mθφ0.10±.26; Best double couple: Mo3.48600×10^16 NP1:φs208.00000°,δ45.00000°,λ95.00000°. NP2: φs20.00000°,δ45.00000°,λ85.00000°. Principal axes: T 3.8200, Plg86.0000°, Azm202.0000°; N -0.6680, Plg4.0000°, Azm24.0000°; P -3.1520, Plg0.0000°, Azm294.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
BJI 14 07:41:57.1,20.42S×173.65W,h41km,mb5.1/24, mB5.6/14,Ms5.2/7,Ms7 4.9/9

ISC 14 07:41:55.6±0.3,20.93S±0.06×173.89W±0.06,h26km, h26km:pP-P,n540,σ1907/563,mb5.1/176,MS4.4/22, 43C-21D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	Niue	4.16	64	P	Pn	07 42 47.5	-10
AFI	baz=3.8,SNR=49 Afiamalu	7.27	16	Pn	Pn	07 43 33.2	-7.0
AFI	11nm,0.3s,baz=234,slow=6.0,SNR=16			Sn	Sn	07 44 48.8	-13
AFI	15nm,0.3s,baz=100,slow=22,SNR=3.2 Afiamalu	7.27	16	ePn	Pn	07 43 33.7	-6.6
AFI				e		07 43 34.0	
AFI				eSn	Sn	07 44 48.8	-13
AFI	Afiamalu	7.27	16	eP	Pn	07 43 33.7	-6.6
RAO	Raoul Island	9.05	203	Pn	Pn	07 44 04.6	0.0
RAO	40nm,0.3s,baz=138,slow=21,SNR=4.4			Sn	Sn	07 45 41.9	-3.8
RAO	40nm,0.3s,baz=285,slow=23,SNR=4.6			LR	LR	07 47 36.7	
RAO	comp=Z,450nm,18.7s,baz=88,slow=38 Raoul Island	9.05	203	ePn	Pn	07 44 02.9	-1.8
RAO				ePn	Pn	07 44 04.6	0.0
RAO				eSn	Sn	07 45 41.9	-3.8
RAR	Rarotonga	13.19	94	Pn	Pn	07 44 50.5	-11
RAR	7.8nm,0.3s,baz=248,slow=7.4,SNR=21			Sn	Sn	07 47 05.5	-22
RAR	2.3nm,0.3s,baz=289,slow=22,SNR=4.9			LR	LR	07 49 38.1	
DZM	comp=Z,1μm,18.9s,baz=274,slow=35 Mont Dzumac	18.34	263	P	Pn	07 46 10.5	+2.2
DZM	0.9nm,0.3s,baz=66,slow=21,SNR=10			LR	LR	07 52 23.6	
DZM	comp=Z,1μm,18.6s,baz=108,slow=35 Mont Dzumac	18.34	263	eP	P	07 46 05.0	-3.2
DZM	103nm,1.4s			eLR	LR	07 50 17.6	
URZ	1μm,23.0s Urewera	18.94	202	P	Pn	07 46 15.9	+0.5
URZ	2.3nm,0.3s,baz=6.2,slow=5.3,SNR=20 Urewera	18.94	202	eP	Pn	07 46 15.9	+0.5
URZ				eP	P	07 46 16.5	+1.9
HIZ	Hauiti	20.03	207	eP	Pn	07 46 29.3	+0.8
BFZ	174nm,1.2s Birch Farm	21.40	201	eP	P	07 46 43.8	+2.4
TBI	81nm,1.1s Tubuai	22.75	101	eP	P	07 46 54.6	-1.4
TBI	266nm,1.4s			eLQ	LQ	07 51 16.3	
TBI	232nm,26.5s			eLR	LR	07 51 52.2	
PAE	1μm,31.2s,baz=269 Paea	23.17	86	eP	P	07 46 57.6	-2.7
PPT2	12nm,1.3s Papeete2	23.19	86	eP	P	07 46 58.3	-2.3
PPT2	93nm,1.5s			eS	S	07 51 06.3	-4.7
PPT	657nm,26.0s Papeete	23.19	86	P	P	07 46 58.9	-1.7
PPT	22nm,0.8s,baz=47,slow=8.0,SNR=4.7			LR	LR	07 54 13.6	
TIAR	comp=Z,716nm,18.8s,baz=255,slow=32 Tiarei	23.41	86	eP	P	07 47 00.3	-2.5
THZ	15nm,1.2s Tophouse	23.58	205	eP	P	07 47 05.1	+0.9
KHZ	47nm,1.4s Kahutara	23.89	203	eP	P	07 47 08.2	+1.1
LTZ	26nm,0.9s Lake Taylor	24.69	205	eP	P	07 47 15.2	+0.7
OXZ	31nm,0.9s Oxford	25.24	205	eP	P	07 47 20.0	+0.5
PMOR	31nm,0.8s Pomariorio Ree	25.41	81	eP	P	07 47 19.3	-1.9
RPZ	159nm,1.4s Rata Peaks	25.95	205	P	P	07 47 26.6	+0.7
RPZ	16nm,0.7s,baz=338,slow=4.3,SNR=8.6 Rata Peaks	25.95	205	eP	P	07 47 26.6	+0.7
RPZ				eP	P	07 47 27.1	+1.1
FOZ	Fox Glacier	26.32	207	eP	P	07 47 32.5	+3.3
HNR	53nm,0.9s Honiara	27.67	290	LR	LR	07 58 07.7	
EIDS	comp=Z,482nm,18.4s,baz=130,slow=36 Eidsvold	32.45	255	P	P	07 48 23.1	-0.8
EIDS	baz=33 Eidsvold	32.45	255	eP	P	07 48 22.8	-1.2
RMQ	39nm,1.8s Roma	34.56	253	P	P	07 48 42.7	+0.4
CNB	baz=35,SNR=11 Canberra Magne	35.22	238	P	P	07 48 48.4	+0.5
CAN	baz=36 Canberra	35.51	238	eP	P	07 48 50.2	-0.3
CAN	34nm,1.4s Canberra	35.51	238	eP	P	07 48 50.2	-0.3
CAN	comp=Z,34nm,1.4s			pmax	pmax		
RKT	Rikitea	36.07	101	eLR	LR	07 58 10.4	
CTA	comp=Z,1μm,28.5s Charters Tower	37.27	264	P	P	07 49 04.7	-1.0
CMSA	comp=Z,5.0nm,0.6s,baz=98,slow=11,SNR=5.3 Cobar Meteorol	37.57	245	P	P	07 49 07.4	-0.6
QLP	baz=38,SNR=12 Quilpie	38.61	253	P	P	07 49 15.9	-0.9
TOO	baz=39,SNR=4.6 Toolangi	38.79	236	P	P	07 49 19.7	+1.4
PMG	baz=39,SNR=3.9 Port Moresby	39.19	281	P	P	07 49 19.9	-1.9
STKA	comp=Z,23nm,1.0s,baz=83,slow=16,SNR=3.3 Stephens Creek	41.08	245	P	P	07 49 36.9	-0.5
STKA	comp=Z,5.6nm,0.8s,baz=88,slow=11,SNR=3.8			LR	LR	08 05 25.7	
STKA	comp=Z,414nm,18.9s,baz=76,slow=34 Stephens Creek	41.08	245	P	P	07 49 36.7	-0.7
STKA	baz=41,SNR=10 Stephens Creek	41.08	245	eP	P	07 49 36.7	-0.7
STKA	comp=Z,3.7nm,1.1s Stephens Creek	41.08	245	eP	P	07 49 36.7	-0.7
STKA	comp=Z,4.0nm,1.1s			pmax	pmax		
COEN	Coen	41.45	272	P	P	07 49 40.6	+0.1
COEN	baz=42,SNR=4.3 Coen	41.45	272	eP	P	07 49 39.6	-0.9
ARPS	comp=Z,24nm,1.0s Mount Arapiles	41.48	238	P	P	07 49 40.6	0.0
HTT	baz=42,SNR=5.2 Hallett	43.45	243	P	P	07 49 55.8	-0.9
BBOO	baz=44,SNR=7.9 Buckleboo	45.81	244	eP	P	07 50 14.3	-1.2
JAY	comp=Z,12nm,1.0s Jayapura	47.84	286	P	P	07 50 30.5	-1.1
AS01	comp=Z,16nm,0.6s,baz=143,slow=5.6,SNR=7.1 Alice Springs	48.12	257	eP	P	07 50 31.5	-2.2
AS31	Alice Springs	48.16	257	eP	P	07 50 32.5	-1.5
ASAR	comp=Z,17nm,1.8s Alice Springs	48.16	257	P	P	07 50 32.5	-1.5
ASAR	comp=Z,7.2nm,0.8s,baz=93,slow=8.0,SNR=66			PcP	PcP	07 52 03.0	+1.7
ASAR	comp=Z,3.4nm,0.9s,baz=102,slow=4.9,SNR=4.7			LR	LR	08 10 19.8	
WB2	comp=Z,417nm,18.5s,baz=110,slow=36 Warramunga Arr	48.33	262	eP	P	07 50 33.0	-2.4
WB2				eP	P	07 50 33.3	-2.0

WRAB **Tennant Creek** 48.34 262 *e*P P 07 50 33.3 -2.1
comp=Z,37nm,1.4s
WRAB **Tennant Creek** 48.34 262 *ce*P P 07 50 32.7 -2.7
WRAB pmax pmax
comp=Z,36nm,1.7s
WR1 **Warramunga Arr** 48.34 262 *e*P P 07 50 33.4 -2.1
comp=Z,20nm,1.1s
WR1 *e*PcP PcP 07 52 03.6 +1.6
WRA **Warramunga Arr** 48.34 262 P P 07 50 33.4 -2.1
comp=Z,5.8nm,0.9s,baz=95,slow=7.8,SNR=40
WRA PcP PcP 07 52 03.6 +1.6
comp=Z,4.2nm,1.0s,baz=97,slow=3.5,SNR=5.5
KDU **Kakadu** 51.80 270 P P 07 51 00.5 -1.2
baz=52,SNR=3.2
FORT **Forrest** 52.66 247 *e*P P 07 51 07.2 -0.7
comp=Z,26nm,0.8s
MTN **Manton Dam** 53.01 269 P P 07 51 08.7 -1.9
baz=53
WRKA **Warakurna** 53.05 254 P P 07 51 09.4 -1.5
baz=53,SNR=20
FAKI **Fak Fak** 55.35 281 *e*P P 07 51 26.2 -1.5
comp=Z,38nm,1.3s
FITZ **Fitzroy Crossi** 56.78 262 P P 07 51 37.0 -0.8
baz=57,SNR=5.2
FITZ **Fitzroy Crossi** 56.78 262 *e*P P 07 51 37.1 -0.8
comp=Z,79nm,1.8s
SBA **Scott Base** 57.73 185 *e*P P 07 51 46.3 +2.6
comp=Z,32nm,1.1s
SBA **Scott Base** 57.73 185 *e*P P 07 51 46.3 +2.6
SBA pmax pmax
comp=Z,32nm,1.1s
VNDA **Vanda** 57.86 186 P P 07 51 47.9 +3.2
comp=Z,5.5nm,0.9s,baz=9.5,slow=6.6,SNR=30
VNDA LR LR 08 12 01.8
comp=Z,133nm,21.1s,baz=23,slow=31
VNDA **Vanda** 57.86 186 *e*P P 07 51 47.4 +2.8
VNDA *e*pP P 07 51 47.9 +3.2
VNDA **Vanda** 57.86 186 *e*P P 07 51 47.4 +2.8
SOEI **Soe** 60.35 271 *e*P P 07 52 01.9 -1.1
comp=Z,150nm,1.2s
KLBR **Kellerberrin** 61.35 245 P P 07 52 09.8 +0.3
baz=62,SNR=11
MBWA **Marble Bar** 61.51 257 *e*P P 07 52 09.7 -1.0
comp=Z,15nm,0.7s
NWAO **Narrogin (SRO)** 61.61 243 *e*P P 07 52 11.0 -0.2
comp=Z,87nm,1.6s
NWAO **Narrogin (SRO)** 61.61 243 *e*P P 07 52 11.0 -0.2
NWAO pmax pmax
comp=Z,87nm,1.6s
BLDU **Ballidu** 62.38 246 P P 07 52 16.5 0.0
baz=63,SNR=4.6
CASY **Casey** 65.23 206 *e*P P 07 52 36.9 +2.4
comp=Z,29nm,1.0s
QSPA **South Pole Qui** 69.14 180 LR LR 08 18 53.2
comp=Z,188nm,19.6s,baz=50,slow=32
QSPA **South Pole Qui** 69.14 180 *e*P P 07 53 01.8 +2.2
comp=Z,37nm,1.1s
MJAR **Matsushiro Arr** 72.89 321 P P 07 53 21.6 -0.9
comp=Z,5.7nm,0.8s,baz=161,slow=6.4,SNR=8.1
MJAR LR LR 08 20 32.8
comp=Z,50nm,21.8s,baz=210,slow=32
MAJO **Matsushiro** 72.89 321 *e*P P 07 53 21.6 -0.9
MAJO **Matsushiro** 72.89 321 *e*P P 07 53 21.6 -0.9
SNCC **San Nicolas Is** 74.78 45 P P 07 53 34.2 +0.6
baz=232
SCZ2 **Santa Cruz Isl** 75.17 44 P P 07 53 35.9 +0.1
baz=232,SNR=8.2
SCI2 **San Clemente I** 75.26 46 P P 07 53 36.0 -0.4
baz=233
SBC **Santa Barbara** 75.39 44 P P 07 53 37.2 +0.2
baz=232
PKM **Mcpherson Peak** 75.60 43 P P 07 53 38.8 +0.3
baz=232,SNR=5.7
BLG **Laguna Peak, P** 75.61 44 P P 07 53 37.4 -1.0
baz=232
CIS **Catalina Islan** 75.61 45 P P 07 53 37.7 -0.7
baz=233
SMMC **Simmler** 75.75 43 P P 07 53 39.4 +0.1
baz=231,SNR=7.1
SAO **San Andreas Ge** 75.76 41 *e*P P 07 53 39.8 +0.6
comp=Z,25nm,1.1s
SAO **San Andreas Ge** 75.76 41 *e*P P 07 53 39.8 +0.6
SAO pmax pmax
comp=Z,25nm,1.1s
PMPB **Monarch Peak** 75.81 42 *e*P P 07 53 39.8 +0.2
comp=Z,52nm,1.4s
PAGB **Antelope Grade** 75.85 43 *e*P P 07 53 39.9 +0.1
comp=Z,20nm,1.1s
FMP **Fort Macarthur** 75.87 45 P P 07 53 39.2 -0.7
baz=233
OSI **Osito Audit: C** 76.14 44 P P 07 53 41.0 -0.5
baz=232
DECC **Green Verdugo** 76.17 45 P P 07 53 40.6 -1.0
baz=233
109C **Camp Elliot, M** 76.18 46 P P 07 53 40.7 -0.9
baz=234
HOPS **Hopland Field** 76.25 38 *e*P P 07 53 42.2 +0.3
comp=Z,49nm,1.4s
MWC **Mount Wilson** 76.34 45 *e*P P 07 53 42.6 -0.1
comp=Z,18nm,1.1s
MWC **Mount Wilson** 76.34 45 *e*P P 07 53 42.7 -0.1
MWC pmax pmax
comp=Z,18nm,1.1s
BAR **Barrett** 76.35 47 *e*P P 07 53 42.6 -0.1
comp=Z,29nm,1.5s
ARVC **Arvin** 76.39 44 P P 07 53 42.3 -0.4
baz=232
KCPM **Cahto Peak** 76.42 38 *e*P P 07 53 43.5 +0.5
comp=Z,55nm,1.6s
MURC **Murrieta** 76.54 46 P P 07 53 43.4 -0.4
baz=234,SNR=7.1
BFSC **Mount Baldy Ra** 76.61 45 P P 07 53 43.6 -0.6
baz=233
MONP2 **Monument Peak** 76.64 47 P P 07 53 44.3 -0.2
baz=234,SNR=13
VES **Vestal, Richgr** 76.66 43 P P 07 53 43.8 -0.6
baz=232,SNR=12
KMRM **Mail Ridge** 76.71 37 *e*P P 07 53 45.2 +0.6
comp=Z,54nm,1.4s
IKP **In-Ko-Pah, Jac** 76.72 47 P P 07 53 44.7 -0.2
baz=234,SNR=6.6
EDW2 **Edwards Air Fo** 76.78 44 P P 07 53 44.8 -0.3
baz=233,SNR=20
FRD **Ford Ranch, An** 76.88 46 P P 07 53 45.1 -0.6
baz=234,SNR=18
ISA **Isabella, Lake** 76.94 43 *e*P P 07 53 46.3 +0.3
comp=Z,41nm,1.4s
ISA **Isabella, Lake** 76.94 43 *e*P P 07 53 46.3 +0.3
ISA pmax pmax
comp=Z,41nm,1.4s
ISA **Isabella, Lake** 76.94 43 P P 07 53 46.0 0.0
baz=232,SNR=23
PFO **Pinyon Flats O** 77.04 46 *e*P P 07 53 46.8 +0.1
comp=Z,25nm,1.3s
PFO **Pinyon Flats O** 77.04 46 *e*P P 07 53 46.8 +0.1
PFO pmax pmax
comp=Z,25nm,1.3s
PFO **Pinyon Flats O** 77.04 46 P P 07 53 46.5 -0.2
baz=234,SNR=11
SWSC **Sam W. Stewart** 77.10 47 P P 07 53 46.6 -0.3
baz=235,SNR=6.0
BBRC **Big Bear Solar** 77.12 45 P P 07 53 47.0 -0.2
baz=234
O02D **Mt. Diablo Mer** 77.20 38 P P 07 53 47.7 +0.3
baz=228
CMB **Columbia Colle** 77.22 41 *e*P P 07 53 47.7 +0.2
comp=Z,16nm,1.0s
CMB **Columbia Colle** 77.22 41 *e*P P 07 53 47.7 +0.2
CMB pmax pmax
comp=Z,16nm,1.0s
KSM **Kuching** 77.28 277 *e*P P 07 53 46.9 -1.4
comp=Z,64nm,1.3s
LRMC **Laurel Mtn Rad** 77.34 44 P P 07 53 48.2 -0.2
baz=233,SNR=14
PET **Petropavlovsk** 77.41 343 *e*P P 07 53 48.6 +0.5
PET pmax pmax
comp=Z,40nm,2.0s
RRX **Edison Barstow** 77.43 45 P P 07 53 48.4 -0.4
baz=234
AFDM **Forest Hills D** 77.46 40 *e*P P 07 53 48.7 0.0
comp=Z,15nm,1.1s
ORV **Oroville** 77.54 39 *e*P P 07 53 49.2 0.0
comp=Z,14nm,1.3s
ORV **Oroville** 77.54 39 *e*P P 07 53 49.2 0.0
ORV pmax pmax
comp=Z,14nm,1.3s
BELC **Belle Mtn. Jos** 77.58 46 P P 07 53 49.3 -0.4
baz=234,SNR=18

WDC **Whiskeytown Da** 77.61 38 *e*P P 07 53 49.8 +0.2
comp=Z,23nm,1.4s
WDC **Whiskeytown Da** 77.61 38 *e*P P 07 53 49.8 +0.2
WDC pmax pmax
comp=Z,23nm,1.4s
CWC **Cottonwood Cre** 77.67 43 P P 07 53 49.5 -0.7
baz=232
PETK **Petropavlovsk-** 77.74 343 P P 07 53 49.3 -0.6
comp=Z,8.8nm,0.8s,baz=139,slow=9.2,SNR=9.3
PEA1 **Petropavlovsk-** 77.74 343 *e*P P 07 53 49.3 -0.7
BC3 **Big Chuckawall** 77.75 47 P P 07 53 50.6 -0.1
baz=235,SNR=10
MDPB **Devils Postpil** 77.78 42 *e*P P 07 53 51.0 +0.1
comp=Z,22nm,1.1s
N02D **Trinity Center** 77.78 37 P P 07 53 50.7 +0.1
baz=228,SNR=6.6
GSC **Goldstone, Bar** 77.81 45 *e*P P 07 53 51.0 +0.1
comp=Z,23nm,1.3s
GSC **Goldstone, Bar** 77.81 45 *e*P P 07 53 51.0 +0.1
GSC pmax pmax
comp=Z,23nm,1.3s
GSC **Goldstone, Bar** 77.81 45 P P 07 53 50.5 -0.4
baz=234,SNR=11
OMMB **Old Mammoth Mi** 77.81 42 *e*P P 07 53 51.2 +0.1
comp=Z,21nm,1.2s
MPMC **Manual Prospec** 77.82 44 P P 07 53 51.0 0.0
baz=233,SNR=30
GLA **Glamis** 77.83 47 *e*P P 07 53 51.1 +0.1
comp=Z,35nm,1.4s
GLA **Glamis** 77.83 47 *e*P P 07 53 51.1 +0.1
GLA pmax pmax
comp=Z,35nm,1.4s
GLA **Glamis** 77.83 47 P P 07 53 51.2 +0.1
baz=235
HEC **Hector,Ludlow** 77.84 45 P P 07 53 50.5 -0.6
baz=234,SNR=5.9
O03E **Paynes Creek** 77.85 38 P P 07 53 50.3 -0.7
baz=229,SNR=12
DAC **Darwin (Calif)** 77.88 43 *e*P P 07 53 51.7 +0.3
comp=Z,24nm,1.4s
DAC **Darwin (Calif)** 77.88 43 *e*P P 07 53 51.7 +0.3
DAC pmax pmax
comp=Z,24nm,1.4s
MLAC **Mammoth, Mammo** 77.92 42 P P 07 53 51.8 +0.1
baz=232
TIN **Tinemaha, Big** 77.95 42 P P 07 53 52.3 +0.6
baz=232
M02C **Calahan** 77.97 37 P P 07 53 52.0 +0.3
baz=228,SNR=7.3
YSS **Yuzh-Sakhalins** 78.06 331 *e*P P 07 53 52.0 +0.1
YSS pmax pmax
comp=Z,51nm,1.1s
L02E **Cave Junction** 78.08 36 P P 07 53 52.6 +0.5
baz=228
WAKR **Walker** 78.10 41 *e*P P 07 53 53.0 +0.4
comp=Z,37nm,1.2s
IRM **Iron Mountain** 78.25 46 P P 07 53 53.2 -0.1
baz=235,SNR=23
GMRC **Granite Mounta** 78.26 46 P P 07 53 53.3 -0.2
baz=234,SNR=11
YBH **Yreka Blue Hor** 78.28 37 P P 07 53 53.6 +0.2
comp=Z,4.4nm,1.0s,baz=359,slow=4.2,SNR=6.0
YBH **Yreka Blue Hor** 78.28 37 *e*P P 07 53 53.8 +0.4
comp=Z,21nm,1.4s
YBH **Yreka Blue Hor** 78.28 37 *e*P P 07 53 53.8 +0.4
YBH pmax pmax
comp=Z,21nm,1.4s
PNTR **Pine Nut** 78.37 40 *e*P P 07 53 54.4 +0.3
comp=Z,48nm,1.2s
113A **Mohawk Valley,** 78.41 48 *e*P P 07 53 53.9 -0.2
comp=Z,20nm,1.3s
K02D **Willamette Mer** 78.41 35 P P 07 53 53.9 -0.1
baz=227
BEKR **Beckworth** 78.41 39 *e*P P 07 53 54.4 +0.1
comp=Z,25nm,1.3s
Y12C **Blythe** 78.44 47 *e*P P 07 53 54.6 +0.3
comp=Z,25nm,1.3s
Y12C **Blythe** 78.44 47 P P 07 53 54.2 -0.1
baz=235,SNR=6.9
GRAC **Grapevine Rang** 78.46 43 P P 07 53 54.7 +0.2
baz=233,SNR=26
FURC **Furnace Creek,** 78.47 44 P P 07 53 54.2 -0.2
baz=233,SNR=9.1
TUQ **Turquoise Moun** 78.47 45 P P 07 53 54.3 -0.4
baz=234,SNR=8.7
VCNR **Virginia City** 78.47 40 *e*P P 07 53 54.9 +0.3
comp=Z,39nm,1.3s
SHOC **Shoshone, Teco** 78.51 44 P P 07 53 54.4 -0.3
baz=234,SNR=8.7
YERR **Yerington** 78.52 40 *e*P P 07 53 54.9 -0.1
comp=Z,37nm,1.2s
J01E **Myrtle Point** 78.58 35 P P 07 53 55.3 +0.5
baz=227
214A **Organ Pipe Nat** 78.63 49 P P 07 53 55.4 -0.1
baz=237
HUMO **Hull Mountain** 78.73 36 *e*P P 07 53 56.3 +0.5
comp=Z,16nm,1.4s
RYN **Ryan** 78.74 41 *e*P P 07 53 55.8 -0.3
comp=Z,35nm,1.3s
NV01 **Mina Array Sit** 78.75 41 *e*P P 07 53 55.4 -0.8
NVAR **Mina Array Bea** 78.75 41 P P 07 53 55.8 -0.5
comp=Z,20nm,1.0s,baz=224,slow=9.7,SNR=77
NVAR LR LR 08 23 07.1
comp=Z,183nm,18.8s,baz=256,slow=31
LDFC **Landfair** 78.80 46 *e*P P 07 53 56.6 +0.1
comp=Z,52nm,1.3s
M04C **Macdoel** 78.80 37 P P 07 53 56.1 -0.2
baz=229,SNR=6.0
L04D **Klamath Falls** 78.83 36 P P 07 53 56.3 -0.2
baz=228
NV11 **Mina Array Sit** 78.84 41 *e*P P 07 53 56.6 0.0
comp=Z,3.2nm,1.1s
PAHR **Pah Range** 78.89 40 *e*P P 07 53 57.1 +0.2
comp=Z,31nm,1.3s
NEE2 **Needles Airpor** 78.95 46 P P 07 53 57.0 -0.1
baz=235
PDMCI **Parker Dam,Lak** 79.01 47 P P 07 53 57.5 +0.1
baz=236,SNR=7.2
TPNV **Topopah Spring** 79.15 44 *e*P P 07 53 58.7 +0.3
comp=Z,22nm,1.1s
TPNV **Topopah Spring** 79.15 44 *e*P P 07 53 58.7 +0.3
TPNV pmax pmax
comp=Z,22nm,1.1s
TPNV **Topopah Spring** 79.15 44 P P 07 53 58.3 -0.1
baz=234,SNR=20
I03D **Drain, OR** 79.26 35 P P 07 53 58.9 +0.3
baz=227
KVN **Kaiserville** 79.26 41 *e*P P 07 53 58.9 0.0
comp=Z,27nm,1.2s
KVN **Kaiserville** 79.26 41 *e*P P 07 53 58.9 0.0
KVN pmax pmax
comp=Z,27nm,1.2s
I02D **Swisshome** 79.27 34 P P 07 53 58.4 -0.2
baz=227
K04D **Chiloquin, OR** 79.41 36 P P 07 53 59.2 -0.4
baz=229
SHPR **Sheep Range** 79.60 44 *e*P P 07 54 01.5 +0.7
comp=Z,20nm,1.2s
J04D **Umpqua Nationa** 79.62 36 P P 07 54 00.9 +0.1
baz=228
MOD **Modoc Plateau** 79.75 38 *e*P P 07 54 01.6 +0.1
comp=Z,22nm,1.4s
KSRS **Korea Array** 79.80 317 LR LR 08 25 13.8
comp=Z,70nm,19.3s,baz=104,slow=33
KS01 **Wonju Array Si** 79.83 317 *e*P P 07 54 01.4 -0.4
J05D **Fort Rock, OR** 80.13 36 P P 07 54 03.7 +0.2
baz=229,SNR=8.8
H04D **Lebanon** 80.14 34 P P 07 54 03.5 +0.2
baz=228
TUC **Tucson** 80.26 50 *e*P P 07 54 05.1 +0.7
comp=Z,26nm,1.4s
TUC **Tucson** 80.26 50 *e*P P 07 54 05.1 +0.7
TUC pmax pmax
comp=Z,26nm,1.4s
TUC **Tucson** 80.26 50 P P 07 54 04.4 0.0
baz=238
G03D **McMinnville, O** 80.33 34 P P 07 54 04.1 -0.2
baz=227
R11A **Troy Canyon, C** 80.40 43 *e*P P 07 54 05.2 0.0
comp=Z,17nm,1.4s
R11A **Troy Canyon, C** 80.40 43 P P 07 54 05.0 -0.2
baz=234,SNR=9.6
PINE **Pine Mountain** 80.62 36 *e*P P 07 54 06.7 +0.4
comp=Z,32nm,1.4s
BMN **Battle Mountai** 80.64 40 *e*P P 07 54 06.4 0.0
BMN **Battle Mountai** 80.64 40 *e*P P 07 54 06.4 0.0
I05D **Terrebonne, OR** 80.76 35 P P 07 54 06.8 0.0
baz=229

319A **Douglas** 80.86 52 *e*P P 07 54 07.3 -0.4
comp=Z,22nm,1.3s
X16A **Lo Mia Camp, P** 80.93 48 *e*P P 07 54 08.9 +0.8
comp=Z,18nm,1.3s
WVOR **Wild Horse Val** 81.04 38 *e*P P 07 54 07.7 -0.7
comp=Z,20nm,1.3s
WVOR **Wild Horse Val** 81.04 38 *e*P P 07 54 07.7 -0.7
WVOR pmax pmax
comp=Z,20nm,1.3s
F04D **Rainier, OR** 81.05 33 P P 07 54 08.7 +0.5
baz=227
LCMT **Little Creek M** 81.15 45 *e*P P 07 54 09.0 -0.1
comp=Z,29nm,1.6s
G05D **Wamic, OR** 81.37 35 P P 07 54 09.4 -0.6
baz=229
CCUT **Cedar City** 81.37 44 *e*P P 07 54 11.3 +0.9
comp=Z,21nm,1.3s
HPIG 81.40 57 *e*P P 07 54 10.0 -0.7
comp=Z,20nm,1.5s
KNB **Kanab** 81.43 45 *e*P P 07 54 10.8 +0.1
comp=Z,31nm,1.4s
KNB **Kanab** 81.43 45 *e*P P 07 54 10.8 +0.1
KNB pmax pmax
comp=Z,31nm,1.4s
U15A **North Rim** 81.45 46 *e*P P 07 54 11.8 +0.8
comp=Z,33nm,1.4s
USRK **Ussuriysk Ar.** 81.53 324 P P 07 54 11.8 +1.0
comp=Z,6.6nm,1.1s,baz=101,slow=4.1,SNR=5.9
WUAZ **Wupatki** 81.58 47 *e*P P 07 54 12.3 +0.9
comp=Z,14nm,1.2s
WUAZ **Wupatki** 81.58 47 P P 07 54 11.4 0.0
baz=237
SZCU **Shurtz Canyon** 81.58 45 *e*P P 07 54 12.4 +0.9
comp=Z,23nm,1.3s
PSUT **Pine Spring** 81.61 43 *e*P P 07 54 11.9 +0.2
comp=Z,14nm,1.3s
J08A **Circle Ranch** 81.72 37 *e*P P 07 54 11.8 -0.2
comp=Z,20nm,1.4s
F05D **White Salmon** 81.72 34 P P 07 54 11.6 -0.2
baz=229
G06A **Carlson Farm,** 81.73 35 *e*P P 07 54 11.7 -0.2
comp=Z,34nm,1.6s
D04E **Lakebay** 81.92 32 P P 07 54 12.8 +0.1
baz=228
D03D **Eldon** 82.00 32 P P 07 54 13.0 -0.1
baz=227
PKCU **Pink Cliffs** 82.00 45 *e*P P 07 54 14.6 +0.7
comp=Z,57nm,1.4s
D05A **Enumclaw** 82.32 33 *e*P P 07 54 14.4 -0.5
comp=Z,58nm,1.4s
MTPU **Mount Pierson** 82.42 45 *e*P P 07 54 17.0 +0.9
comp=Z,56nm,1.5s
MAW **Mawson** 82.43 199 P P 07 54 17.5 +2.3
comp=Z,10nm,0.9s,baz=119,slow=6.9,SNR=11
MAW LR LR 08 30 29.9
comp=Z,191nm,18.6s,baz=69,slow=35
MAW **Mawson** 82.43 199 P P 07 54 16.0 +0.7
baz=83,SNR=7.5
W18A **Petrified Fore** 82.49 48 P P 07 54 16.7 +0.4
baz=238
121A **Cookes Peak, D** 82.54 51 P P 07 54 16.9 +0.3
baz=240
G08A **Pilot Rock** 82.67 36 *e*P P 07 54 16.3 -0.6
comp=Z,31nm,1.4s
MSU **Marysvale** 82.69 44 *e*P P 07 54 17.9 +0.6
MSU **Marysvale** 82.69 44 *e*P P 07 54 17.9 +0.6
B05A **Bryant** 82.99 32 P P 07 54 18.5 +0.2
baz=228
A04D **Lummi Island** 83.00 31 P P 07 54 18.1 -0.2
baz=227
LTY **Liberty** 83.04 33 *e*P P 07 54 17.9 -0.8
comp=Z,11nm,1.2s
HAWA **Hanford** 83.07 35 *e*P P 07 54 18.5 -0.2
comp=Z,39nm,1.5s
MDJ **Mudanjiang** 83.12 323 P P 07 54 20.8 +1.7
MDJ pP sP 07 54 33.3 +2.8
MDJ sP pP 07 54 40.5 +13
MDJ PP PP 07 57 31.8 +1.1
MDJ S S 08 04 38.4 +1.1
MDJ pmax pmax
comp=Z,24nm,1.4s
MDJ pmax pmax
comp=Z,190nm,5.8s
MDJ LR LR
comp=Z,610nm,5.2s
MDJ LR LR
comp=Z,900nm,4.8s
MDJ LR LR
comp=Z,550nm,14.7s
NJ2 **Nanjing** 83.14 308 *e*P P 07 54 20.1 +0.6
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
DUG **Dugway, Tooele** 83.22 42 *e*P P 07 54 19.9 0.0
comp=Z,15nm,1.5s
DUG **Dugway, Tooele** 83.22 42 P P 07 54 20.5 +0.6
baz=236
BMO **Blue Mountains** 83.31 37 *e*P P 07 54 19.1 -1.1
comp=Z,21nm,1.4s
BMO **Blue Mountains** 83.31 37 *e*P P 07 54 19.1 -1.1
BMO pmax pmax
comp=Z,21nm,1.4s
C06D **Leavenworth** 83.36 33 P P 07 54 19.4 -0.9
baz=229
MYKOM **Kota Tinggi** 83.41 274 *e*P P 07 54 20.9 -0.4
comp=Z,26nm,0.9s
BGU **Big Grassy Mou** 83.50 42 *e*P P 07 54 22.1 +0.7
comp=Z,31nm,2.0s
NLU **North Lily Min** 83.56 43 *e*P P 07 54 21.6 -0.1
comp=Z,20nm,1.6s
TMUT **Trail Mountain** 83.75 44 *e*P P 07 54 23.4 +0.5
comp=Z,52nm,1.5s
D08A **Wollman Farm,** 83.82 34 *e*P P 07 54 22.8 +0.2
comp=Z,26nm,1.3s
MPU **Maple Canyon** 83.87 43 *e*P P 07 54 23.4 0.0
comp=Z,19nm,1.5s
E09A **Wood Farm, Sta** 83.89 35 *e*P P 07 54 22.7 -0.3
comp=Z,14nm,1.2s
MNTX **Cornudas Mount** 83.90 53 *e*P P 07 54 23.5 0.0
comp=Z,30nm,1.8s
MNTX **Cornudas Mount** 83.90 53 P P 07 54 23.3 -0.1
baz=241
Y22D **IRIS PASSCAL I** 83.94 50 P P 07 54 23.8 0.0
baz=240
LENM **Lemitar** 83.95 50 *e*P P 07 54 24.1 +0.2
LAZ **Ladron** 83.95 50 *e*P P 07 54 24.7 +0.8
F10A **Beach Ranch, E** 84.05 36 *e*P P 07 54 23.4 -0.5
comp=Z,21nm,1.1s
SPUT **South Promonto** 84.08 42 *e*P P 07 54 24.4 +0.1
comp=Z,18nm,1.4s
LTX **Lajitas** 84.08 56 *e*P P 07 54 24.6 +0.1
LTX **Lajitas** 84.08 56 *e*P P 07 54 24.7 +0.1
TX31 **Lajitas Ar. Si** 84.08 56 *e*P P 07 54 23.9 -0.6
TX31 *e*P P 07 54 24.6 0.0
TXAR **Lajitas Array** 84.08 56 P P 07 54 24.6 +0.1
comp=Z,5.5nm,1.2s,baz=224,slow=4.9,SNR=21
TXAR LR LR 08 25 21.7
comp=Z,182nm,20.0s,baz=0.0,slow=31
SRU **San Rafael Swe** 84.09 44 *e*P P 07 54 24.9 +0.4
comp=Z,42nm,1.3s
HVU **Hansel Valley** 84.15 41 *e*P P 07 54 24.4 -0.3
comp=Z,32nm,1.6s
HVU **Hansel Valley** 84.15 41 *e*P P 07 54 24.4 -0.3
HVU pmax pmax
comp=Z,32nm,1.6s
P17A **Butcher Ranch,** 84.15 44 *e*P P 07 54 25.6 +0.8
comp=Z,35nm,1.3s
CTU **Camp Tracy** 84.17 43 *e*P P 07 54 24.4 -0.4
comp=Z,16nm,1.4s
HLID **Hailey** 84.19 39 *e*P P 07 54 24.1 -0.8
comp=Z,25nm,1.3s
HLID **Hailey** 84.19 39 P P 07 54 24.8 0.0
baz=234
BNM **Barren Site** 84.19 50 *e*P P 07 54 25.7 +0.6
LPM **Los Pinos Moun** 84.27 50 *e*P P 07 54 25.6 +0.1
JLU **Jordanelle** 84.31 43 *e*P P 07 54 25.9 +0.2
comp=Z,26nm,1.6s
B08A **Colville Reser** 84.44 33 *e*P P 07 54 25.4 -0.4
comp=Z,7.8nm,1.0s
MVCO **Mesa Verde** 84.44 47 P P 07 54 25.5 -0.8
baz=239
P18A **Preston Nutter** 84.56 44 *e*P P 07 54 26.6 -0.4
comp=Z,30nm,1.6s
TCUT **Toone Canyon** 84.63 42 *e*P P 07 54 27.6 +0.4
comp=Z,105nm,1.5s
C09A **Chrisman Ranch** 84.63 34 *e*P P 07 54 26.6 -0.2
comp=Z,26nm,1.4s
ANMO **Albuquerque** 84.71 50 P P 07 54 28.2 +0.4

comp=Z,6.0nm,1.0s,baz=208,slow=6.2,SNR=21
ANMO Albuquerque 84.71 50 *e*P **P 07 54 28.1 +0.4**
comp=Z,29nm,1.4s
ANMO Albuquerque 84.71 50*d i*P **P 07 54 27.5 -0.2**
ANMO pmax pmax
comp=Z,29nm,1.7s
ANMO Albuquerque 84.71 50 P **P 07 54 27.3 -0.4**
baz=240
HWUT Hardware Ranch 84.80 42 *e*P **P 07 54 27.8 -0.2**
comp=Z,33nm,1.8s
KLR Kul'dur 84.90 328⇑*e*P **P 07 54 29.1 +1.1**
CN2 Changchun 85.03 321 *e*P **P 07 54 27.4 -1.4**
CN2 *e*pP sP 07 54 40.6 +0.3
CN2 pmax pmax
comp=Z,20nm,1.6s
NEW Newport 85.52 34 P **P 07 54 29.5 -1.8**
comp=Z,1.5nm,0.8s,baz=192,slow=11,SNR=2.6
NEW Newport 85.52 34 P **P 07 54 30.4 -0.9**
baz=232
AHID Auburn Hatcher 85.73 41 *e*P **P 07 54 32.3 -0.3**
comp=Z,23nm,1.5s
S22A 4UR Ranch, Cre 85.85 47 *e*P **P 07 54 34.5 +1.1**
comp=Z,48nm,1.9s
S22A 4UR Ranch, Cre 85.85 47 P **P 07 54 33.4 -0.1**
baz=240
SKAG Skagway 86.11 19 *e*P **P 07 54 34.5 +0.7**
comp=Z,39nm,1.4s
TRF Thorofare Moun 86.12 10 *e*P **P 07 54 33.6 -0.4**
comp=Z,16nm,1.0s
O20A White River Ci 86.13 44 P **P 07 54 34.2 -0.5**
baz=239
PLCA Paso Flores 86.16 132 P **P 07 54 34.7 -0.2**
comp=Z,2.9nm,1.1s,baz=7.7,slow=1.2,SNR=3.3
PLCA LR LR 08 25 22.3
comp=Z,144nm,19.6s,baz=268,slow=30
REDW Red Top Meadow 86.21 41 *e*P **P 07 54 34.9 -0.2**
comp=Z,23nm,1.6s
TPAW Teton Pass 86.22 41 *e*P **P 07 54 35.2 0.0**
comp=Z,10nm,1.5s
FXWY Fox Creek 86.25 40 *e*P **P 07 54 35.0 -0.2**
comp=Z,16nm,1.7s
RND Reindeer 86.33 11 *e*P **P 07 54 34.7 -0.2**
comp=Z,25nm,1.0s
RND Reindeer 86.33 11 *e*P **P 07 54 34.7 -0.2**
RND pmax pmax
comp=Z,25nm,1.0s
IMW Indian Meadow 86.45 40 *e*P **P 07 54 35.8 -0.5**
comp=Z,8.2nm,1.4s
LOHW Long Hollow 86.50 41 *e*P **P 07 54 36.3 -0.1**
comp=Z,14nm,1.7s
PAX Paxson 86.58 13 *e*P **P 07 54 35.8 -0.4**
comp=Z,24nm,1.8s
PAX Paxson 86.58 13 *e*P **P 07 54 35.8 -0.4**
PAX pmax pmax
comp=Z,24nm,1.8s
HYT Haines Junctio 86.61 17 *e*P **P 07 54 36.2 -0.3**
comp=Z,26nm,1.5s
MCK McKinley 86.61 11 *e*P **P 07 54 36.5 +0.3**
comp=Z,30nm,1.1s
MCK McKinley 86.61 11 *e*P **P 07 54 36.5 +0.3**
MCK pmax pmax
comp=Z,31nm,1.1s
BW06 Boulder Array 86.68 42 P **P 07 54 36.9 -0.5**
baz=238
PD31 Pinedale Array 86.68 42 *e*P **P 07 54 36.4 -1.0**
PDAR Pinedale Array 86.68 42 P **P 07 54 36.5 -0.8**
comp=Z,2.0nm,1.0s,baz=226,slow=5.3,SNR=8.6
PDAR LR LR 08 28 28.7
comp=Z,97nm,19.2s,baz=288,slow=32
PDAR Pinedale Array 86.68 42 *e*P **P 07 54 35.7 -1.6**
SDCO Great Sand Dun 86.77 48 P **P 07 54 37.3 -0.7**
baz=241
MSTX Muleshoe 86.91 52 *e*P **P 07 54 38.4 -0.2**
comp=Z,62nm,1.8s
MSTX Muleshoe 86.91 52 P **P 07 54 37.7 -0.9**
baz=242
833A Chaparral WMA, 86.98 58 P **P 07 54 37.6 -1.3**
baz=245
BOZ Bozeman (W) 86.99 38 *e*P **P 07 54 37.6 -1.1**
comp=Z,31nm,2.0s
BOZ Bozeman (W) 86.99 38 *e*P **P 07 54 37.6 -1.1**
BOZ pmax pmax
comp=Z,31nm,2.0s
DLBC Dease Lake 86.99 21 P **P 07 54 38.5 +0.2**
comp=Z,1.1nm,0.6s,baz=188,slow=7.1,SNR=4.4
DLBC Dease Lake 86.99 21 *e*P **P 07 54 36.8 -1.5**
comp=Z,27nm,1.8s
IPM Ipoh 87.00 276 *e*P **P 07 54 37.8 -1.5**
comp=Z,28nm,1.0s
SYO Syowa Base 87.11 191⇓*i*P **P 07 54 39.3 +0.5**
SYO Syowa Base 87.11 191⇑*i*PcP **PcP 07 54 42.4 +1.5**
VNA3 Neumayer Olymp 87.42 175 P **P 07 54 41.2 +0.9**
SNAA Sanae 87.44 177 P **P 07 54 41.4 +0.9**
SNAA Sanae 87.44 177 *e*P **P 07 54 41.1 +0.7**
comp=Z,12nm,1.1s
SNAA Sanae 87.44 177 *e*P **P 07 54 41.1 +0.7**
SNAA pmax pmax
comp=Z,12nm,1.1s
WRH Wood River Hil 87.44 11 *e*P **P 07 54 39.2 -1.0**
comp=Z,31nm,1.1s
HDA Harding Lake 87.59 11 *e*P **P 07 54 40.2 -0.7**
comp=Z,9.7nm,1.0s
HDA Harding Lake 87.59 11 P **P 07 54 40.3 -0.6**
baz=205
JCT Junction City 87.59 56 P **P 07 54 40.4 -1.4**
baz=244
Q24A Divide 87.60 47 P **P 07 54 40.8 -1.2**
baz=241
CCB Clear Creek Bu 87.65 11 *e*P **P 07 54 40.8 -0.4**
comp=Z,33nm,1.3s
SEY Seymchan 87.72 345 P **P 07 54 41.6 +0.1**
comp=Z,13nm,1.1s,baz=158,slow=5.1,SNR=7.4
SCRK Sand Creek 87.78 13 *e*P **P 07 54 41.6 -0.4**
comp=Z,8.1nm,1.2s
TCOL CIGO, UAF Yank 87.85 11 P **P 07 54 41.4 -0.8**
baz=204
COLA College 87.85 11 *e*P **P 07 54 41.9 -0.2**
comp=Z,22nm,0.9s
MDM Murphy Dome 87.86 11 *e*P **P 07 54 41.1 -1.2**
comp=Z,35nm,1.3s
VNA2 Neumayer--Watz 87.91 176 P **P 07 54 44.2 +1.6**
baz=194,slow=2.4
IL1 Eielson Array 87.93 11 *e*P **P 07 54 41.0 -1.6**
ILAR Eielson Array 87.93 11 P **P 07 54 41.2 -1.4**
comp=Z,7.2nm,1.2s,baz=210,slow=5.2,SNR=22
ILB Eielson Array 87.93 11 *e*P **P 07 54 41.6 -1.0**
IM3 Indian Mountai 87.98 8 *e*P **P 07 54 42.2 -0.6**
N23A Red Feather La 88.03 45 P **P 07 54 42.7 -1.3**
baz=240
POKR Poker Plat Res 88.15 11 P **P 07 54 42.8 -0.9**
baz=205
K22A Casper 88.53 43 P **P 07 54 44.8 -1.4**
baz=240
ABTX Abilene, Hawle 88.65 54 *e*P **P 07 54 46.4 -0.3**
comp=Z,22nm,1.5s
ABTX Abilene, Hawle 88.65 54 P **P 07 54 45.7 -1.1**
baz=244
DAWY Dawson 88.87 14 *e*P **P 07 54 47.3 +0.3**
comp=Z,24nm,1.3s
SKNT Sakolnakorn 88.88 289 P **P 07 54 50.8 +2.6**
BJI Beijing 88.93 314 P **P 07 54 48.3 +0.5**
BJI pmax pmax
comp=Z,9.0nm,1.7s
EGAK Eagle 89.08 13 *e*P **P 07 54 47.9 -0.1**
comp=Z,10nm,1.0s
BILL Bilibino 89.90 353⇓*e*P **P 07 54 54.4 +2.6**
BILL *e* 07 58 26.2
BILL *e*S **SKSac 08 05 21.5 +1.2**
BILL pmax pmax
comp=Z,3.0nm,0.4s
BILL MLR MLR
comp=Z,231nm,19.0s
ZEA Zeya 89.91 329 *e*P **P 07 54 52.1 0.0**
ZEA pmax pmax
comp=Z,51nm,1.4s
GYA Guiyang 90.22 298 *e*P **P 07 54 55.3 +0.9**
GYA pP sP 07 55 05.9 0.0
GYA PP **PP 07 58 30.3 +1.7**
GYA SKS **SKSac 08 05 20.5 -3.8**
GYA S **S 08 05 43.0 -4.2**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,6.4s
LAO LASA Array 90.75 40 P **P 07 54 56.4 +0.1**
baz=240
RSSD Black Hills 90.83 43 P **P 07 54 56.0 -1.0**
baz=242
TOLK Toolik Lake Re 91.05 9 P **P 07 54 56.9 -0.3**
baz=203
CBKS Cedar Bluff 91.28 49 P **P 07 54 57.9 -1.0**
baz=244
HIA Hailar 91.31 323⇑*e*P **P 07 55 00.1 +1.3**
HIA pmax pmax
comp=Z,6.0nm,0.8s
PBKT Sadao Pong 91.41 287 P **P 07 55 02.9 +2.9**
EPYK Eagle Plains 91.42 14 P **P 07 54 58.2 -0.7**
baz=215
XAN Xi'an 91.47 306 P **P 07 55 01.4 +1.4**
XAN pP sP 07 55 10.1 -1.4
XAN pmax pmax
comp=Z,10.0nm,1.1s
HHC Hu-ho-hao-te 92.43 313 *e*P **P 07 55 06.1 +1.8**
HHC sP sP 07 55 19.3 +3.5
HHC S **S 08 06 05.6 -1.0**
HHC pmax pmax
comp=Z,22nm,1.1s
HHC pmax pmax
comp=Z,170nm,6.4s
JTS JuntasAbangare 92.64 80*ce*P **P 07 55 06.5 +0.7**
DGMT Dagmar 92.82 39 *e*P **P 07 55 05.6 -0.2**
comp=Z,22nm,1.0s
DGMT Dagmar 92.82 39 P **P 07 55 05.4 -0.4**
baz=242
KMI Kunming 92.99 296 P **P 07 55 09.6 +2.2**
KMI pmax pmax
comp=Z,16nm,1.2s
KMI LR LR
comp=Z,150nm,31.5s
INK Inuvik 93.72 14 P **P 07 55 09.3 -0.1**
comp=Z,3.4nm,0.9s,baz=212,slow=3.9,SNR=6.9
INK Inuvik 93.72 14 *e*P **P 07 55 09.3 -0.1**
comp=Z,18nm,1.6s
INK Inuvik 93.72 14 *e*P **P 07 55 09.3 -0.1**
INK pmax pmax
comp=Z,18nm,1.6s
CM01 Chiang Mai Arr 93.86 288 *e*P **P 07 55 09.4 -1.9**
CMAR Chiang Mai Arr 93.89 288 P **P 07 55 13.1 +1.6**
comp=Z,1.4nm,0.7s,baz=114,slow=2.6,SNR=8.7
CMAR LR LR 08 33 49.8
comp=Z,30nm,20.9s,baz=160,slow=33
CD2 Chengdu 94.28 301 *e*P **P 07 55 13.0 0.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.0s
MDND Madelock 95.28 41 P **P 07 55 16.3 -0.8**
baz=245
ECSD EROS Data Cent 95.48 45 *e*P **P 07 55 17.4 -0.8**
comp=Z,16nm,1.4s
ECSD EROS Data Cent 95.48 45 P **P 07 55 17.1 -1.1**
baz=246
LZH Lanzhou 96.10 306 *e*P **P 07 55 23.6 +2.2**
LZH pP sP 07 55 33.8 +0.9
LZH sP pP 07 55 39.3 +9.4
LZH pmax pmax
comp=Z,26nm,0.9s
LZH LR LR
comp=Z,240nm,14.7s
LZH LR LR
comp=Z,250nm,15.2s
LZH LR LR
comp=Z,370nm,18.4s
ULN Ulaanbaatar 98.22 318⇑*i*P Pdif 07 55 30.9 +0.2
ULN pmax pmax
comp=Z,8.0nm,1.8s
LPAZ La Paz 98.33 111 LR LR 08 31 12.6
comp=Z,159nm,20.1s,baz=260,slow=30
ULM Lac du Bonnet 98.49 39 LR LR 08 35 00.6
comp=Z,136nm,18.7s,baz=252,slow=32
SONA1 Songino Array 98.62 318 *e*P Pdif 07 55 32.3 -0.1
SONM Songino Array 98.62 318 LR LR 08 37 39.0
comp=Z,58nm,18.5s,baz=56,slow=34
TIXI Tiksi 100.17 344⇑*e*P **Pdif 07 55 37.9 -0.7**
TIXI pmax pmax
comp=Z,1.0nm,0.8s
GTA Gaotai 100.24 308 *e*P **Pdif 07 55 39.0 -0.8**
GTA pP pP 07 55 48.3 -0.1
GTA sP sP 07 55 53.1 +1.7
GTA pmax pmax
comp=Z,2.0nm,1.0s
GTA pmax pmax
comp=Z,26nm,6.7s
GTA LR LR
comp=Z,170nm,19.4s
GTA LR LR
comp=Z,200nm,19.7s
GTA LR LR
comp=Z,120nm,17.5s
DGZ Jazzator, Alta 111.20 316⇓*i*PKIKP **PKiKP 08 00 27.6 +0.5**
ZAA1 Zalesovo Array 113.24 321 *e*PKiKP **PKiKP 08 00 30.5 -0.1**
ZALV Zalesovo Beam 113.24 321 PKiKP **PKiKP 08 00 30.5 -0.1**
comp=Z,0.7nm,0.3s,baz=224,slow=4.1,SNR=4.4
MK32 Makanchi Array 114.30 313 *e*PKiKP PKPdf 08 00 32.2 -0.7
MKAR Makanchi Array 114.30 313 PKP PKPdf 08 00 32.2 -0.7
comp=Z,1.8nm,0.8s,baz=66,slow=4.1,SNR=10
KURK Kurchatov 116.92 317⇓*i*PKIKP **PKPdf 08 00 37.9 +0.1**
KSH Kashi 118.29 304 *e*PKP **PKPdf 08 00 41.9 +0.9**
KSH PP **PP 08 02 03.8 +6.5**
KSH SKS **SKSdf 08 07 49.6 -1.9**
KSH AMB AMB
comp=Z,260nm,5.6s
KSH LR LR
comp=Z,550nm,8.2s
KSH LR LR
comp=Z,370nm,9.6s
KSH LR LR
comp=Z,220nm,9.6s
NRN Naryn 118.41 307 *e*PKPdf **PKPdf 08 00 40.4 -1.0**
NRN Naryn 118.41 307 *e*PKiKP **PKPdf 08 00 40.4 -1.0**
FRU Bishkek 119.50 308 *e*PKiKP **PKPdf 08 00 39.0 -4.1**
AAK Ala-Archa 119.59 308⇑*i*PKIKP **PKPdf 08 00 43.1 -0.3**
BRVK Borovoye 121.94 320 *e*PKPdf **PKPdf 08 00 46.7 -0.6**
BRVK Borovoye 121.94 320*c i*PKIKP **PKPdf 08 00 47.8 +0.4**
ARU Arti 127.72 326 *i* PKIKP **PKPdf 08 00 57.9 -0.4**
ARU 08 02 57.5
ARU 08 08 06.2
ARU SS SS 08 20 01.6 -8.6
ABKAR Akbulak array 129.03 317 *e*PKPdf **PKPdf 08 01 01.2 +0.1**
ARA0 ARCESS Array S 129.98 351 *e*PKPdf **PKPdf 08 01 02.7 +0.4**
ARCES ARCESS Array B 129.98 351 PKP **PKPdf 08 01 02.7 +0.4**
comp=Z,2.8nm,0.8s,baz=56,slow=2.2,SNR=4.2
GEYT Alibeck 132.25 303 PKP **PKPdf 08 01 09.0 +1.4**
comp=Z,1.0nm,0.4s,baz=225,slow=4.0,SNR=4.4
OBN Obninsk 138.91 334⇑*e*PKIKP **PKPdf 08 01 19.6 +0.3**
OBN *e* 08 04 08.3
OBN pmax pmax
comp=Z,12nm,0.5s
VSU Vasula 139.64 343⇑*e*PKIKP **PKPdf 08 01 21.2 +0.6**
VSR Storozhevoye 140.25 328 *i* PKIKP **PKPdf 08 01 24.0 +2.1**
NCK Nalchik 141.57 315⇓*e*PKIKP **PKPdf 08 01 25.9 +1.3**
KIV Kislovodsk 141.98 316 *i* PKIKP **PKPdf 08 01 24.6 -0.8**
KIV pmax pmax
comp=Z,11nm,1.1s
KMBO Kilima Mbogo 142.47 238 PKP **PKPdf 08 01 26.9 -0.5**
comp=Z,0.8nm,0.3s,baz=155,slow=11,SNR=3.0
KMBO Kilima Mbogo 142.47 238 *e*PKPdf **PKPdf 08 01 26.0 -1.4**
KMBO Kilima Mbogo 142.47 238 *e*PKiKP **PKPdf 08 01 26.0 -1.4**
SUW Suwalki 144.50 343 *e*PKP PKPbc 08 01 27.9 -0.1
SUW Suwalki 144.50 343 *e*PKPdf **PKPdf 08 01 28.7 -0.7**
SUW Suwalki 144.50 343 *e*PKiKP PKPbc 08 01 27.9 -0.1
KLNR Kaliningrad 144.72 346*de*PKiKP **PKPdf 08 01 29.2 -0.5**
ANN Anapa 144.88 320 *i* PKiKP PKPbc 08 01 29.3 -0.2
ANN *e* 08 01 42.4
ANN pmax pmax
comp=Z,80nm,1.3s
AKASG Malin Array Be 145.17 334 PKP **PKPbc 08 01 29.1 -1.1**
comp=Z,16nm,0.9s,baz=39,slow=3.7,SNR=46
AKBB Malin Array Si 145.17 334 *e*PKPdf **PKPbc 08 01 29.4 -0.8**
AKBB Malin Array Si 145.17 334 *e*PKiKP **PKPbc 08 01 29.4 -0.8**
KIEV Kiev 145.18 334 *e*PKPdf **PKPbc 08 01 29.4 -0.8**
KIEV Kiev 145.18 334*de*PKiKP **PKPbc 08 01 29.5 -0.8**
AK11 Malin Array Si 145.21 334 *e*PKPbc **PKPbc 08 01 29.5 -0.9**
SIM Simferopol' 146.73 323 *e*PKP2 **PKPab 08 01 36.9 +0.5**
SIM pmax pmax
comp=Z,17nm,1.0s
MBAR Mbarara 147.78 231⇓*i*PKP2 **PKPab 08 01 41.6 -0.1**
LVV L'vov 147.85 338 *e*PKP2 **PKPbc 08 01 38.4 +0.2**
KWP Kalwaria Pacla 148.47 339 *e*PKP **PKPbc 08 01 40.9 +1.1**
KWP Kalwaria Pacla 148.47 339 *e*PKP2 **PKPbc 08 01 40.9 +1.1**
OJC Ojcow 148.83 343 *e*PKP **PKPbc 08 01 41.3 +0.5**
OJC Ojcow 148.83 343 *e*PKPdf **PKPdf 08 01 36.8 -0.1**
OJC *e*PKPbc **PKiKP 08 01 41.6 -0.5**
OJC Ojcow 148.83 343 *e*PKiKP **PKPdf 08 01 36.8 -0.1**
OJC *e* 08 01 41.6
KSP Ksiaz 149.09 347 *e*PKP **PKPbc 08 01 42.0 +0.6**
KSP Ksiaz 149.09 347 *e*PKP2 **PKPbc 08 01 42.0 +0.6**
BUR08 Bucovina Ar. S 149.20 334 *e*PKPdf **PKPdf 08 01 37.1 -0.5**
BUR08 *e*PKPbc **PKiKP 08 01 43.9 +0.8**
CLL Collm 149.20 352 *e*PKPdf **PKPdf 08 01 37.9 +0.5**
CLL Collm 149.20 352 *i* PKPbc **PKPbc 08 01 41.5 -0.1**
comp=Z,44nm,1.3s
CLL *e*PKPab **pPKPdf 08 01 46.0 -0.1**
comp=Z,12nm,1.0s
CLL *i* 08 01 52.8
CLL Collm 149.20 352 *e*PKIKP **PKPdf 08 01 37.9 +0.5**
BUR04 Bucovina Ar. S 149.22 334 *e*PKPbc **PKPbc 08 01 42.5 +0.6**
BURAR Bucovina Array 149.22 334⇑*i*P **PKPbc 08 01 43.8 +1.9**
BURAR Bucovina Array 149.22 334⇑PKP2 **PKPbc 08 01 43.8 +1.9**
BIZ Bicaz 149.38 333⇑*i*P **PKPbc 08 01 44.0 +1.7**
NIE Niedzica 149.41 342 *e*PKP **PKPbc 08 01 43.2 +0.9**
NIE Niedzica 149.41 342 *e*PKP2 **PKPbc 08 01 43.2 +0.9**
UZH Uzhgorod 149.47 339⇓*i*PKP2 **PKPbc 08 01 42.5 +0.1**
BRG Berggiesshubel 149.49 350 *e*PKP **PKPdf 08 01 38.2 +0.3**
comp=Z,11nm,1.4s
BRG *i* 08 01 42.6
comp=Z,32nm,1.3s
DPC Dobruska-Polom 149.55 347⇑*e*PKP **PKPbc 08 01 44.1 +1.5**
DPC *ex* x 08 01 54.5
DPC Dobruska-Polom 149.55 347 *e*PKP2 **PKPbc 08 01 44.1 +1.5**
KRLC Kraliky 149.71 346⇑*e*PKP **PKPbc 08 01 44.1 +1.1**
KRLC *ex* x 08 01 55.0
KRLC Kraliky 149.71 346 *e*PKP2 **PKPbc 08 01 44.1 +1.1**
CFR Carcaliu 149.77 328⇓*i*P **PKPbc 08 01 44.2 +1.0**
CFR Carcaliu 149.77 328⇓PKP2 **PKPbc 08 01 44.2 +1.0**
TRPA Tarpa 149.81 338⇑*i*P **PKPbc 08 01 43.8 +0.6**
TRPA Tarpa 149.81 338⇑*e*PKPdf **PKPbc 08 01 44.2 +1.0**
MORC Moravsky Berou 149.81 345 *e*PKPdf **PKPdf 08 01 38.3 -0.2**
MORC Moravsky Berou 149.81 345⇑*i*P **PKPbc 08 01 44.0 +0.7**
MORC Moravsky Berou 149.81 345⇑PKP2 **PKPbc 08 01 44.0 +0.7**
MORC Moravsky Berou 149.81 345 *e*PKP **PKPbc 08 01 44.2 +0.9**
LANS Liptovska Anna 149.89 342 *e*PKP2 **PKPbc 08 01 45.2 +1.7**
LANS Liptovska Anna 149.89 342 *e*PKP **PKPbc 08 01 45.1 +1.6**
BR101 Keskin Array S 149.93 315 *e*PKPdf **PKPdf 08 01 39.2 +0.1**
BR101 *e*PKPbc **PKPbc 08 01 44.0 -0.1**
BR131 Keskin Array S 149.93 315 *e*PKPdf **PKPdf 08 01 38.4 -0.8**
BR131 *e*PKPbc **PKPbc 08 01 44.0 0.0**
BRTR Keskin Array B 149.93 315 PKP **PKPdf 08 01 39.2 +0.1**
comp=Z,0.9nm,0.8s,baz=358,slow=6.2,SNR=5.9
BRTR PKPbc **PKPbc 08 01 44.0 0.0**
comp=Z,8.0nm,0.8s,baz=116,slow=2.9,SNR=29
VRI Vrincioaia 149.93 331⇓*i*P **PKPbc 08 01 44.3 +0.7**
VRI Vrincioaia 149.93 331⇓PKP2 **PKPbc 08 01 44.3 +0.7**
PLOR Plostina 149.98 331⇑*i*P **PKPbc 08 01 44.0 +0.2**
PLOR Plostina 149.98 331⇑PKP2 **PKPbc 08 01 44.1 +0.3**
KECS Kecovo 150.18 341 *e*PKIKP **PKPbc 08 01 44.1 0.0**
KECS *e* 08 01 54.6
KECS Kecovo 150.18 341 *e*PKP **PKPbc 08 01 44.1 0.0**
KECS *e* 08 01 54.6
MEM Membach 150.38 0⇑PKP **PKPbc 08 01 45.0 +0.5**
ANTO Ankara 150.41 316 *e*PKPdf **PKPdf 08 01 39.6 -0.2**
ANTO *e*PKPbc **PKiKP 08 01 46.2 +0.3**
ANTO Ankara 150.41 316⇑*i*P **PKPbc 08 01 46.2 +1.1**
ANTO Ankara 150.41 316 *e*PKIKP **PKPdf 08 01 39.6 -0.2**
ANTO *e* 08 01 46.2
DOPR Dopca 150.45 332⇓*i*P **PKPbc 08 01 46.4 +1.5**
VRAC Vranov 150.47 346⇑*i*P **PKPbc 08 01 46.0 +1.2**
VRAC Vranov 150.47 346 *e*PKP **PKPbc 08 01 45.5 +0.7**
BCLA Clavier 150.56 1⇓PKP **PKPbc 08 01 44.1 -0.9**
MLR Muntele Rosu 150.57 331 *e*PKPdf **PKPdf 08 01 40.0 +0.1**
MLR *e*PKPbc **PKPbc 08 01 45.0 -0.3**
MLR Muntele Rosu 150.57 331⇑*i*P **PKPbc 08 01 45.6 +0.3**
MLR Muntele Rosu 150.57 331 *e*PKIKP **PKPdf 08 01 40.0 +0.1**
MLR *e* 08 01 45.0
CJR Cluj-Napoca 150.60 335⇓*i*P **PKPbc 08 01 46.4 +1.1**
CJR Cluj-Napoca 150.60 335⇓PKIKP **PKPbc 08 01 46.4 +1.1**
JAVC Velka Javorina 150.63 344 *e*PKP **PKPbc 08 01 47.2 +1.9**
VYHS Vyhne 150.66 343 *e*PKIKP **PKPbc 08 01 45.8 +0.5**
VYHS *e* 08 01 56.7
VYHS Vyhne 150.66 343 *e*PKP **PKPbc 08 01 45.8 +0.5**
VYHS *e* 08 01 56.7
KOLL Kolacno 150.70 343 *e*PKIKP **PKPbc 08 01 46.9 +1.5**
KOLL Kolacno 150.70 343 *e*PKP **PKPbc 08 01 46.9 +1.5**
KRUC Moravsky 150.75 346 *e*PKP **PKPbc 08 01 46.0 +0.5**
PSZ Piszkesteto 150.87 341 *e*PKPdf **PKPdf 08 01 40.0 -0.2**
PSZ *e*PKPbc **PKiKP 08 01 46.5 0.0**
PSZ Piszkesteto 150.87 341⇑*e*PKPdf **PKPbc 08 01 46.7 +0.8**
PSZ Piszkesteto 150.87 341 *e*PKPdf **PKPdf 08 01 40.1 -0.2**
PSZ *e* 08 01 46.5
DOU Dourbes 150.87 2⇑PKP **PKPbc 08 01 46.1 +0.4**
DOU ⇑pPKP **sPKPbc 08 01 57.2 -0.2**
DRGR 150.88 336⇑*i*P **PKPbc 08 01 46.6 +0.7**
DRGR 150.88 336⇑PKIKP **PKPbc 08 01 46.6 +0.7**
VOIR 151.01 332⇑*i*P **PKPbc 08 01 46.8 +0.5**
VOIR 151.01 332⇑PKIKP **PKPbc 08 01 46.8 +0.5**
MODS Modra-Piesok 151.18 344 *e*PKIKP **PKPbc 08 01 46.5 0.0**
MODS *e* 08 01 57.4
MODS Modra-Piesok 151.18 344 *e*PKP **PKPbc 08 01 46.5 0.0**
MODS *e* 08 01 57.4
KHC Kasperske Hory 151.24 350 *e*PKPdf **PKPdf 08 01 41.0 +0.3**
KHC *e*PKPbc **PKiKP 08 01 46.6 -0.6**
KHC Kasperske Hory 151.24 350⇑*e*PKP **PKPbc 08 01 46.4 -0.3**
KHC *ex* x 08 01 58.3
KHC Kasperske Hory 151.24 350 *e*PKIKP **PKPdf 08 01 41.0 +0.3**
KHC *e* 08 01 46.6
ARR Arges 151.25 332⇑*i*P **PKPbc 08 01 48.5 +1.6**
WLF Walferdange 151.33 360⇑PKP **PKPbc 08 01 48.2 +1.4**
GEC2 GERESS Array S 151.49 349 *e*PKPbc **PKPbc 08 01 46.8 -0.6**
GERES GERESS Array B 151.49 349 PKPbc **PKPbc 08 01 47.8 +0.4**
comp=Z,6.1nm,1.0s,baz=22,slow=1.4,SNR=29
GEA0 GERESS Array S 151.50 349 *e*PKPdf **PKPdf 08 01 41.3 +0.1**
GEA0 *e*PKPbc **PKPbc 08 01 46.8 -0.5**
SIRR Siria 151.71 337⇓*i*P **PKPbc 08 01 48.2 +0.4**
CONA Conrad Observa 151.94 346 *e*PKIKP **PKiKP 08 01 49.5 +0.7**
comp=Z,18nm,1.2s
GZR Gura Zlata 152.01 334⇑*i*P **PKPbc 08 01 49.0 +0.4**
GZR Gura Zlata 152.01 334⇑PKIKP **PKPbc 08 01 49.0 +0.4**
BZS Buzias 152.28 336⇑*i*P **PKPbc 08 01 49.8 +0.7**
BZS Buzias 152.28 336⇑PKIKP **PKPbc 08 01 49.8 +0.7**
CSS Mathiatis 152.29 306 *e*PKPdf **PKPdf 08 01 42.0 -0.8**
CSS *e*PKPbc **PKiKP 08 01 49.6 -0.2**
CSS *e*PKPab **sPKPbc 08 02 00.5 -0.7**
MOA Molln 152.35 348 *e*PKiKP **PKiKP 08 01 49.7 +0.2**
comp=Z,7.5nm,1.4s
BFO Black Forest 152.60 357 *e*PKPdf **PKPdf 08 01 42.3 -0.5**
BFO *e*PKPbc **PKPbc 08 01 50.8 +1.0**
BFO *e*PKPab **PKPab 08 01 59.8 -0.4**
BFO Black Forest 152.60 357 *e*PKIKP **PKPdf 08 01 42.3 -0.5**
BFO *e* 08 01 50.8
BFO *e* 08 01 59.8
MORH M¯‡r¯igy, Hung 152.77 341⇑*e*PKPdf **PKPbc 08 01 50.6 +0.4**
MORH M¯‡r¯igy, Hung 152.77 341⇑*e*PKPdf **PKPbc 08 01 53.0 +2.8**
MORH *e*PKPdf **sPKPdf 08 01 54.7 0.0**
MDVR Moldovita 152.94 335⇓*i*P **PKPbc 08 01 51.0 +0.3**
RETA Reutte 153.24 353 *e*PKIKP **PKiKP 08 01 51.7 +0.3**
comp=Z,10nm,1.2s
KBA Koelnbreinsper 153.26 349 *e*PKPdf **PKPdf 08 01 43.7 -0.2**
comp=Z,8.0nm,1.3s
SOKA Soboth 153.31 346 *e*PKPbc **PKPbc 08 01 50.8 -0.7**
comp=Z,12nm,1.1s
MOTA Moosalm 153.34 352 *e*PKiKP **PKiKP 08 01 52.2 +0.5**
comp=Z,9.8nm,1.1s
SQTA Sankt Quirin 153.45 352 *e*PKiKP **PKiKP 08 01 51.7 -0.2**
comp=Z,5.8nm,0.7s
DAVA Damuels 153.53 354 *e*PKiKP **PKiKP 08 01 52.2 +0.1**
comp=Z,13nm,1.1s
MYKA Terra Mystica 153.64 348 *e*PKPdf **PKPdf 08 01 44.1 -0.3**
comp=Z,8.2nm,1.1s
FETA Feichten 153.70 353 *e*PKiKP **PKiKP 08 01 53.0 +0.5**
comp=Z,17nm,1.8s
ABTA Abfaltersbach 153.72 350 *e*PKiKP **PKiKP 08 01 52.6 +0.1**
comp=Z,9.2nm,0.9s
FUORN Ofenpass-Fuorn 154.15 353 *e*PKPdf **PKPdf 08 01 45.7 +0.3**
FUORN *e*PKPbc **PKPbc 08 01 54.8 +1.3**
FUORN *e*PKPab **PKPab 08 02 04.5 -2.6**
TUE Stuetta 154.38 355 *e*PKPdf **PKPdf 08 01 45.6 0.0**
TUE *e*PKPbc **pPKPdf 08 01 55.0 +0.6**
ES19 SONSECA Array 159.42 22 *e*PKPdf **PKPdf 08 01 51.8 -0.3**
ESDC Sonseca Array 159.42 23 PKP **PKPdf 08 01 52.9 +0.8**
comp=Z,0.2nm,0.3s,baz=350,slow=1.8,SNR=5.4
ESDC PKPab **PKPab 08 02 30.6 +0.8**
comp=Z,0.8nm,0.7s,baz=338,slow=4.2,SNR=6.1
TOA0 Torodi Ar. Sit 171.19 151 *e*PKPdf **PKPdf 08 02 01.3 -1.2**

TORD	**Torodi Ar. Bea**	**171.19**	**151**	PKP		**PKPdf**	**08 02 01.1**	**-1.4**
	comp=Z,1.7nm,1.0s,baz=318,slow=4.0,SNR=7.9							
TORD				PKPab		**PKPab**	**08 03 21.8**	**-0.2**
	comp=Z,1.0nm,1.1s,baz=298,slow=3.2,SNR=3.7							
TOA1	**Torodi Ar. Sit**	**171.19**	**151**	*e*PKPdf		**PKPdf**	**08 02 01.1**	**-1.4**
TOA1				*e*PKPab		**PKPab**	**08 03 21.8**	**-0.2**

DDA ***14*** *07:44:05.2, 40.99N×39.73E, h13km, MI2.8, Suspected Mining explosion.*

ISK 14 07:43:29.6, 40.93N×39.65E, h15km±3km, ML2.3/4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACK	**Trabzon**	**0.09**	**81**	*i* P	Pg	07 43 34.0	+1.2
MACK				*i* S	Sg	07 43 36.4	+1.4
KTUT	**Trabzon**	**0.11**	**57**	PG	Pb	07 43 33.9	+0.5
KTUT				SG	Sb	07 43 35.8	-0.1
BAYT	**Ayd¯–ntepe-Bay**	**0.65**	**145**	PG	Pb	07 43 42.8	0.0
BAYT				SG	Sb	07 43 52.3	+0.5
ESPY	**Espiye-Giresun**	**0.70**	**269**	PG	Pb	07 43 43.7	+0.2
ESPY				SG	Sb	07 43 53.6	+0.7
BAYB	**BAYBURT**	**0.81**	**145**	*i* P	Pn	07 43 46.3	-0.5
BAYB				*i* S	Sb	07 43 57.3	+0.8
KELT	**Kelkit**	**0.83**	**201**	*i* P	Pn	07 43 47.0	0.0
KELT				*i* S	Sb	07 43 58.0	+1.0
CHOM	**Cayeli-Rize**	**0.86**	**78**	PG	Pg	07 43 46.5	+0.2
SUSE	**Susehri**	**1.31**	**237**	*i* P	Pg	07 43 55.6	+0.6
SUSE				*i* S	Sg	07 44 13.2	+1.1
DBAD	**Bademkaya**	**1.55**	**86**	*i* P	Pn	07 43 57.4	+0.6
DBAD				*i* S	Sn	07 44 17.0	+0.2
DAGI	**Agillar**	**1.72**	**84**	*i* P	Pn	07 43 59.4	+0.3
DAGI				*i* S	Sb	07 44 21.9	-0.6

ISCJB ***14*** *08:00:52.9±0.3, 11.47N±0.02×61.47W±0.05, h96km±5km, mb3.7/5, Error ellipse: s-maj=7.6km s-min=3.1km az=10.0*
TRN ***14*** *08:00:54.6, 11.46N×61.41W, h83km, MD3.9*
IDC ***14*** *08:00:59.4±4.7, 11.84N×61.56W, h124km±35km, mb3.3/5, mb1 3.6/5, mb1mx3.3/26, mbtmp3.7/5, Error ellipse: s-maj=44.3km s-min=26.7km az=24.0*

ISC 14 08:00:53.7±0.7, 11.47N±0.03×61.45W±0.06, h87km±8km, n76, σ1§34/91, mb3.7/5, 2C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPR	**Prospect**	**0.71**	**113**	*e*P	**Pn**	**08 01 10.1**	**0.0**
TPR				*e*S	**Sn**	**08 01 22.0**	**-0.4**
BOT	**Bacolet**	**0.78**	**113**	⇑*i*P	**Pn**	**08 01 11.1**	**+0.3**
BOT				*e*S	**Sn**	**08 01 23.4**	**0.0**
TRN	**Trinidad (W)**	**0.82**	**177**	*e*P	**Pn**	**08 01 12.1**	**+0.9**
TRN				*e*S	**Sn**	**08 01 23.9**	**-0.3**
TOSP	**Speyside**	**0.91**	**101**	*i* P	**Pn**	**08 01 12.2**	**0.0**
TOSP	**Speyside**	**0.91**	**101**	⇑*i*P	**Pn**	**08 01 12.2**	**0.0**
TOSP				*e*S	**Sn**	**08 01 25.3**	**-0.7**
TPP	**Pointe-a-Pierr**	**1.15**	**180**	*e*P	**Pn**	**08 01 16.5**	**+1.5**
TPP				*e*S	**Sn**	**08 01 31.4**	**+0.5**
FCV	**Fort Charlotte**	**1.69**	**7**	*e*P	**Pn**	**08 01 22.9**	**+1.1**
FCV				*e*S	**Sn**	**08 01 43.7**	**+0.6**
SVB	**Belmont**	**1.80**	**6**	*e*P	**Pn**	**08 01 23.4**	**+0.1**
SVB				*e*S	**Sn**	**08 01 46.5**	**+0.7**
SVCV	**St. Vincent, C**	**1.81**	**9**	*e*P	**Pn**	**08 01 23.7**	**+0.2**
SVCV				*e*S	**Sn**	**08 01 46.4**	**+0.4**
SVV	**Soufriere Volc**	**1.85**	**7**	*e*P	**Pn**	**08 01 25.2**	**+1.3**
SVV				*e*S	**Sn**	**08 01 47.7**	**+0.9**
SSV	**Crater Summit**	**1.86**	**8**	*e*P	**Pn**	**08 01 25.4**	**+1.3**
SSV				*e*S	**Sn**	**08 01 47.9**	**+0.6**
SFAN	**Fancy Village**	**1.92**	**8**	*e*P	**Pn**	**08 01 26.3**	**+1.4**
SFAN				*e*S	**Sn**	**08 01 47.9**	**-0.6**
MCLT	**Moule a Chique**	**2.28**	**12**	*e*P	**Pn**	**08 01 30.2**	**+0.6**
MCLT				*e*S	**Sn**	**08 01 56.9**	**-0.1**
SLB	**Belfond**	**2.38**	**10**	*e*P	**Pn**	**08 01 32.2**	**+1.2**
SLB				*e*S	**Sn**	**08 02 00.2**	**+0.8**
BBGH	**Gun Hill**	**2.48**	**48**	*e*P	**Pn**	**08 01 32.8**	**+0.5**
BBGH				*e*S	**Sn**	**08 02 02.2**	**+0.4**
BBSP	**Saint Philip**	**2.53**	**50**	*e*P	**Pn**	**08 01 34.8**	**+1.9**
BBSP				*e*S	**Sn**	**08 02 02.2**	**-0.8**
H05S1	**Guadeloupe/Mar**	**3.00**	**11**	P	**Pn**	**08 01 40.5**	**+1.4**
	SNR=128						
H05S1				S	**Sn**	**08 02 15.2**	**+1.1**
BIM	**Bigot**	**3.05**	**7**	*e*P	**Pn**	**08 01 40.7**	**+0.7**
BIM				*e*S	**Sn**	**08 02 15.4**	**-0.2**
TRMF	**Trois Ilets**	**3.07**	**7**	*e*P	**Pn**	**08 01 41.1**	**+1.0**
ZAM	**Aeronautique**	**3.11**	**7**	*e*P	**Pn**	**08 01 41.5**	**+0.8**
MVM	**Montagne Vaucl**	**3.11**	**10**	*e*P	**Pn**	**08 01 41.8**	**+1.0**
LPMF	**Morne Lapointe**	**3.12**	**9**	*e*P	**Pn**	**08 01 41.8**	**+0.9**
FDF	**Fort de France**	**3.26**	**5**	⇓*i*P	**Pn**	**08 01 43.3**	**+0.6**
FDF				*e*S	**Sn**	**08 02 20.0**	**-0.6**
PML	**Morne Lenard**	**3.30**	**4**	*e*P	**Pn**	**08 01 44.3**	**+1.0**
GBMF	**Grand Be**	**3.32**	**5**	*e*P	**Pn**	**08 01 44.5**	**+0.9**
CXM	**Morne La Croix**	**3.33**	**5**	*e*P	**Pn**	**08 01 44.8**	**+0.9**
CXM				*e*S	**Sn**	**08 02 22.4**	**-0.1**
PCM	**Pelee Case Pet**	**3.33**	**4**	*e*P	**Pn**	**08 01 44.6**	**+0.8**
BAMF	**Morne Balai**	**3.34**	**5**	*e*P	**Pn**	**08 01 44.8**	**+0.9**
MDN	**Morne-Daniel**	**3.83**	**1**	*e*P	**Pn**	**08 01 52.7**	**+2.3**
MDN				*e*S	**Sn**	**08 02 33.2**	**-1.1**
DLPL	**La Plaine**	**3.84**	**3**	*e*P	**Pn**	**08 01 51.9**	**+1.2**
DLPL				*e*S	**Sn**	**08 02 34.2**	**-0.6**
BBL	**Barber's Block**	**4.03**	**360**	*e*P	**Pn**	**08 01 54.1**	**+0.9**
BBL				*e*S	**Sn**	**08 02 38.5**	**-0.9**
MDPO	**Dominica; Chan**	**4.08**	**360**	*e*P	**Pn**	**08 01 54.5**	**+0.7**
MDPO	**Dominica; Chan**	**4.08**	**360**	*e*S	**Sn**	**08 02 39.8**	**-0.7**
TDBA	**Terre de Bas,**	**4.36**	**358**	*e*P	**Pn**	**08 01 59.4**	**+1.8**
TBG	**Guadaloupe-3**	**4.36**	**357**	*e*P	**Pn**	**08 01 59.1**	**+1.4**
TBG	**Guadaloupe-3**	**4.36**	**357**	*e*S	**Sn**	**08 02 47.0**	**-0.3**
MGG	**Marie-Galante**	**4.42**	**2**	*e*P	**Pn**	**08 02 00.2**	**+1.6**
MGG	**Marie-Galante**	**4.42**	**2**	*e*S	**Sn**	**08 02 47.6**	**-1.2**
MAGL	**Barre de l'ile**	**4.46**	**2**	*e*P	**Pn**	**08 02 01.3**	**+2.3**
FNG	**Fond-Bernard**	**4.57**	**357**	*e*P	**Pn**	**08 02 02.0**	**+1.5**
CBE	**F¯'F', Capest**	**4.58**	**358**	*e*P	**Pn**	**08 02 01.9**	**+1.3**
H05N1	**Guadeloupe/Mar**	**4.83**	**4**	P	**Pn**	**08 02 03.7**	**-0.4**
H05N1				S	**Sn**	**08 02 56.4**	**-2.4**
MLYT	**Lee's Yard**	**5.27**	**352**	*e*P	**Pn**	**08 02 11.7**	**+1.6**
MLYT	**Lee's Yard**	**5.27**	**352**	*e*S	**Sn**	**08 03 08.8**	**-0.7**
BPA	**Boggy Peak**	**5.56**	**356**	*e*P	**Pn**	**08 02 15.3**	**+1.3**
BPA	**Boggy Peak**	**5.56**	**356**	*e*S	**Sn**	**08 03 14.9**	**-1.6**
NEV	**Hard Times**	**5.74**	**349**	*e*P	**Pn**	**08 02 18.7**	**+2.2**
NEV	**Hard Times**	**5.74**	**349**	*e*S	**Sn**	**08 03 19.3**	**-1.6**
ANWB	**Willy Bob**	**6.17**	**357**	*e*P	**Pn**	**08 02 24.3**	**+2.0**
ANWB	**Willy Bob**	**6.17**	**357**	*e*S	**Sn**	**08 03 28.7**	**-2.8**
PAMC	**Pamplona, Colo**	**11.84**	**251**	*e*P	**Pn**	**08 03 37.2**	**-2.7**
OCAC	**Ocana**	**12.13**	**256**	*e*P	**Pn**	**08 03 47.4**	**+3.7**
BARC	**Barichara**	**12.56**	**248**	*e*P	**Pn**	**08 03 46.7**	**-2.8**
SMLC	**San Mart`›n de**	**12.71**	**259**	*e*P	**Pn**	**08 03 48.6**	**-2.7**
RUSC	**La Rusia**	**12.77**	**245**	*e*P	Pn	08 03 49.0	-3.5
PTBC	**PUERTO BERRIO,**	**13.75**	**250**	*e*P	Pn	08 04 01.7	-3.4
ZARC	**Zaragoza, Cauc**	**13.81**	**255**	*e*P	**Pn**	**08 04 06.7**	**+0.9**
CHIC	**Chinigaza**	**13.93**	**242**	*e*P	**Pn**	**08 04 05.9**	**-1.8**
VILC	**Villavicencio,**	**14.16**	**240**	*e*P	**Pn**	**08 04 12.8**	**+2.3**
MOTC	**Monteria, Cord**	**14.25**	**260**	*e*P	**Pn**	**08 04 12.1**	**+0.6**
SJAC	**San Juan de Ar**	**14.83**	**238**	*e*P	**Pn**	**08 04 18.9**	**-0.2**
GUYC	**Guyana, Colomb**	**15.12**	**247**	*e*P	**Pn**	**08 04 22.8**	**-0.4**
RREF	**El Recreo**	**15.22**	**246**	*e*P	**Pn**	**08 04 23.6**	**-1.0**
PRAC	**Prado**	**15.38**	**241**	*e*P	**Pn**	**08 04 24.7**	**-1.4**
TXAR	**Lajitas Array**	**43.10**	**301**	P	**P**	**08 08 46.8**	**+1.1**
	0.1nm,0.3s,baz=111,slow=9.9,SNR=3.4						
ULM	**Lac du Bonnet**	**47.89**	**331**	P	**P**	**08 09 21.4**	**-1.6**
	1.5nm,0.6s,baz=103,slow=14,SNR=3.3						
H10N3	**ASCENSION HYDR**	**50.48**	**110**	T	T	09 04 53.9	
	baz=293,slow=75,SNR=7.8						
H10N2	**ASCENSION HYDR**	**50.49**	**110**	T	T	09 04 54.8	
	baz=293,slow=75,SNR=5.5						
H10N1	**ASCENSION HYDR**	**50.51**	**110**	T	T	09 04 55.8	
	baz=293,slow=75,SNR=5.8						
H10S3	**ASCENSION HYDR**	**50.75**	**112**	T	T	09 05 14.6	
	baz=293,slow=75,SNR=8.5						
H10S1	**ASCENSION HYDR**	**50.76**	**112**	T	T	09 05 15.3	
	baz=293,slow=75,SNR=7.6						
H10S2	**ASCENSION HYDR**	**50.77**	**112**	T	T	09 05 16.0	
	baz=293,slow=75,SNR=6.5						
PDAR	**Pinedale Array**	**52.00**	**316**	P	**P**	**08 09 53.2**	**-1.4**
	0.4nm,0.6s,baz=115,slow=10.0,SNR=4.3						
TORD	**Torodi Ar. Bea**	**61.57**	**81**	P	**P**	**08 11 04.4**	**+1.9**
	0.3nm,0.4s,baz=278,slow=6.2,SNR=3.8						
YKA	**Yellowknife Ar**	**63.39**	**335**	P	**P**	**08 11 12.4**	**-1.4**
	2.3nm,1.0s,baz=103,slow=7.3,SNR=4.3						
CMAR	**Chiang Mai Arr**	**144.52**	**33**	PKP	**PKPdf**	**08 20 22.2**	**+1.2**
	1.4nm,0.4s,baz=318,slow=5.6,SNR=6.5						

MEX 14 08:08:17.1±0.5, 15.00N×92.22W, h89km±5km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.10**	**208**	*e*P	Pn	08 08 28.3	-1.4
THIG				*i* S	Sn	08 08 36.9	-2.0
PCIG		**1.20**	**306**	*e*P	Pn	08 08 38.0	-1.0
PCIG				*i* S	Sn	08 08 53.9	-1.5
CCIG	**Comitan**	**1.28**	**3**	*e*P	Pn	08 08 39.8	-0.5
CCIG				*i* S	Sn	08 08 56.0	-1.6
TGIG		**1.97**	**334**	*e*P	Pn	08 08 47.3	-1.7
TGIG				*i* S	Sn	08 09 11.6	-1.7

IDC 14 08:15:13.6±4.3, 27.64S×140.88E, h0km, mb1 3.0/3, mb1mx3.0/29, mbtmp2.8/3, ML2.6/3, Error ellipse: s-maj=85.2km s-min=19.7km az=65.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**4.27**	**172**	Pn	Pn	08 16 20.4	+0.5
	0.1nm,0.3s,baz=3.2,slow=18,SNR=1.8						
STKA				Sn	Sn	08 17 05.5	-4.9
	0.4nm,0.3s,baz=300,slow=7.6,SNR=5.3						
STKA				Lg	Lg	08 17 28.0	
	0.5nm,0.3s,baz=8.1,slow=19,SNR=3.3						
ASAR	**Alice Springs**	**7.44**	**301**	Pn	Pn	08 17 04.3	+0.9
	0.1nm,0.3s,baz=120,slow=13,SNR=12						
ASAR				Sn	Sn	08 18 26.9	-1.7
	0.1nm,0.3s,baz=123,slow=23,SNR=4.1						
WRA	**Warramunga Arr**	**9.72**	**321**	Pn	Pn	08 17 34.6	-0.2
	0.1nm,0.3s,baz=140,slow=13,SNR=9.0						
WRA				Sn	Sn	08 19 22.4	-2.5
	0.1nm,0.3s,baz=158,slow=22,SNR=3.9						

KRNET ***14*** *08:16:09.1±0.1, 41.69N×71.66E, h17km, mb2.8*
SOME ***14*** *08:16:09.1, 41.70N×71.65E, h5km*
ISCJB ***14*** *08:16:10.4±0.5, 41.70N±0.03×71.66E±0.03, h10km, Error ellipse: s-maj=4.5km s-min=3.4km az=172.2*
NNC ***14*** *08:16:10.3±1.5, 41.72N×71.74E, h0km, mb3.4, mpv2.9, Error ellipse: s-maj=11.2km s-min=9.6km az=92.0*

ISC 14 08:16:09.1±0.8, 41.72N±0.03×71.67E±0.03, h10km, n34, σ1§49/57, 19C-17D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.23**	**70**	⇑*i*P	**Pg**	**08 16 14.6**	**+0.6**
	baz=70						
ARK				⇑*i*S	**Sg**	**08 16 18.0**	**+0.7**
	baz=70						
MNAS	**Manas**	**0.99**	**39**	⇑P	**Pn**	**08 16 28.9**	**-0.3**
	1.5nm,0.2s						
MNAS				⇓S	**Sb**	**08 16 42.2**	**+0.6**
	4.8nm,0.3s						
MNAS	**Manas**	**0.99**	**39**	⇑*i*P	**Pg**	**08 16 28.2**	**+0.1**
	baz=38						
MNAS				⇑*i*S	**Sb**	**08 16 41.7**	**+0.1**
	baz=38						
ARSB	**Arslanbob**	**1.06**	**111**	⇑*i*P	**Pg**	**08 16 28.7**	**-0.8**
	baz=10.0						
ARSB				⇑*i*S	**Sg**	**08 16 43.1**	**-0.2**
	baz=10.0						
IUG	**Iuzhnay**	**1.29**	**290**	*e*P	**Pb**	**08 16 33.3**	**-0.3**
	28nm,0.6s						
IUG				*e*S	**Sg**	**08 16 50.5**	**-0.2**
	96nm,0.2s						
MRKS	**Merke**	**1.55**	**48**	*e*P	**Pg**	**08 16 38.4**	**-0.3**
	2.2nm,0.2s						
MRKS				*e*S	**Sg**	**08 16 59.5**	**+0.6**
	19nm,0.2s						
AML	**Almayashu**	**1.57**	**74**	P	**Pb**	**08 16 38.4**	**0.0**
	SNR=50						
AML	**Almayashu**	**1.57**	**74**	⇓*i*P	**Pb**	**08 16 38.2**	**-0.2**
	baz=73						
AML				⇓*i*S	**Sg**	**08 16 59.3**	**-0.2**
	baz=73						
KK31	**Karatay Array**	**1.63**	**329**	Pg	**Pb**	**08 16 39.1**	**-0.1**
	5.4nm,0.3s,baz=143,slow=16,SNR=142						
KK31				⇓Lg	Lg	08 17 04.3	
	19nm,0.2s,baz=141,slow=22,SNR=4.8						
BTK	**Batken**	**1.78**	**201**	⇑*i*P	**Pb**	**08 16 41.3**	**-0.5**
	baz=2.0						
BTK				⇑*i*S	**Sb**	**08 17 04.1**	**-0.1**
	baz=2.0						
EKS2	**Erkin-Say**	**1.83**	**58**	P	**Pg**	**08 16 43.6**	**-0.5**
	SNR=13						
EKS2	**Erkin-Say**	**1.83**	**58**	⇑*i*P	**Pb**	**08 16 42.8**	**+0.1**
	baz=58						
EKS2				⇑*i*S	**Sg**	**08 17 07.3**	**-0.6**
	baz=58						
BRLS	**Boroldaу**	**1.89**	**315**	*e*P	**Pb**	**08 16 43.4**	**-0.3**
	33nm,0.2s						
BRLS				*e*S	**Sb**	**08 17 08.1**	**+0.8**
	15nm,0.6s						
ARLS	**Aral**	**1.99**	**85**	⇓*i*P	**Pb**	**08 16 45.2**	**-0.3**
	baz=84						
ARLS				⇓*i*S	**Sb**	**08 17 10.8**	**+0.4**
	baz=84						
UCH	**Uchtor**	**2.18**	**76**	P	**Pb**	**08 16 49.8**	**+0.9**
	SNR=12						
UCH	**Uchtor**	**2.18**	**76**	⇓*i*P	**Pb**	**08 16 48.0**	**-0.9**
	baz=75						
UCH				⇓*i*S	**Sb**	**08 17 16.2**	**0.0**
	baz=75						
SFK	**Sufi-Kurgan**	**2.20**	**140**	⇓Pg	**Pb**	**08 16 49.4**	**+0.3**
	9.4nm,0.4s						
SFK				⇑Lg	Lg	08 17 18.0	
	15nm,0.3s						
SFK	**Sufi-Kurgan**	**2.20**	**140**	⇓*i*P	**Pb**	**08 16 47.6**	**-1.5**
	baz=40						
SFK				⇓*i*S	**Sb**	**08 17 15.6**	**-0.9**
	baz=40						
AAK	**Ala-Archa**	**2.29**	**65**	Pg	**Pg**	**08 16 52.4**	**-0.6**
	8.0nm,0.6s						
AAK				⇓Lg	Lg	08 17 23.3	
	7.2nm,0.5s						
AAK	**Ala-Archa**	**2.29**	**65**	P	**Pg**	**08 16 52.0**	**-1.0**
	SNR=9.9						
USP	**Ospenovka**	**2.60**	**53**	P	**Pg**	**08 16 57.4**	**-1.6**
	SNR=6.7						
USP	**Ospenovka**	**2.60**	**53**	⇓*i*P	**Pn**	**08 16 53.3**	**+2.0**
	baz=52						
USP				⇓*i*S	**Sb**	**08 17 25.7**	**-2.2**
	baz=52						
CHMS	**Chumysh**	**2.62**	**60**	⇑*e*P	**Pb**	**08 16 53.8**	**-2.3**
	baz=59						
CHMS				⇑*i*S	**Sb**	**08 17 26.3**	**-2.1**
	baz=59						
KZA	**Kyzart**	**2.70**	**81**	P	**Pg**	**08 16 59.3**	**-1.5**
	SNR=7.5						
KZA	**Kyzart**	**2.70**	**81**	⇑*i*P	**Pn**	**08 16 54.8**	**+1.9**
	baz=81						
KZA				⇑*i*S	**Sn**	**08 17 28.0**	**+2.2**
	baz=81						
TKM2	**Tokmak 2**	**3.15**	**66**	⇑Pg	**Pb**	**08 17 06.7**	**+1.4**
	1.0nm,0.3s						
TKM2				⇓Lg	Lg	08 17 49.1	
	11nm,0.5s						
TKM2	**Tokmak 2**	**3.15**	**66**	P	**Pb**	**08 17 06.5**	**+1.2**
	SNR=6.7						
NRN	**Naryn**	**3.26**	**94**	⇓*e*P	**Pn**	**08 17 02.2**	**+1.6**
	baz=93						
NRN				⇓*i*S	**Sn**	**08 17 40.8**	**+1.2**
	baz=93						
BOOM	**Boomskoye usch**	**3.27**	**75**	⇑*i*P	**Pn**	**08 17 02.5**	**+1.9**
	baz=75						
BOOM				⇑*i*S	**Sn**	**08 17 41.4**	**+1.8**
	baz=75						
DGS	**Degeres**	**3.40**	**62**	*e*P	**Pb**	**08 17 11.7**	**+2.3**
	2.6nm,0.5s						
DGS				*e*S	**Sg**	**08 17 56.2**	**-1.9**
	18nm,0.4s						
BTLS	**Baital**	**3.75**	**27**	*e*P	**Pg**	**08 17 18.7**	**-2.1**
	2.3nm,0.4s						
BTLS				*e*S	**Sg**	**08 18 08.7**	**-0.7**
	6.2nm,0.5s						
KTBS	**Karatobe**	**4.20**	**60**	*e*P	**Pb**	**08 17 25.6**	**+2.6**
	2.2nm,0.5s						
KTBS				*e*S	**Sg**	**08 18 20.1**	**-3.7**
	11nm,0.4s						
KOTS	**Kotyrbulak**	**4.30**	**68**	*e*P	**Pg**	**08 17 29.5**	**-2.0**
	2.7nm,0.7s						
KOTS				*e*S	**Sg**	**08 18 26.1**	**-1.1**
	6.0nm,0.5s						
ARXS	**Arharly**	**5.16**	**59**	*e*P	**Pg**	**08 17 44.0**	**-3.9**
	3.1nm,0.9s						
ARXS				*e*S	**Sg**	**08 18 52.0**	**-2.8**
	7.3nm,0.4s						

ISCJB ***14*** *08:21:00.8±0.6, 28.06N±0.05×53.26E±0.07, h14km, mb3.7/8, MS3.7/1, Error ellipse: s-maj=10.2km s-min=5.3km az=146.9*
TEH ***14*** *08:21:01.2, 28.11N×53.31E, h13km, ML3.3*
IDC ***14*** *08:21:07.2±11.0, 28.15N×53.19E, h58km±106km, mb3.4/8, mb1 3.5/8, mb1mx3.3/47, mbtmp3.7/8, MS3.8/1, Ms1 3.8/1, ms1mx2.5/30, Error ellipse: s-maj=53.3km s-min=24.7km az=162.0*

ISC 14 08:21:01.3±0.8, 28.04N±0.06×53.25E±0.06, h14km, n32, σ1§25/30, mb3.6/8, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.34**	**316**	*e*Pg	**Pg**	**08 21 07.9**	**-0.4**
JHRM	**Jahrom**	**0.54**	**32**	*e*Pg	**Pg**	**08 21 10.5**	**-1.5**
JHRM				IAMB	IAmb	08 21 19.1	
	comp=N,0.0nm,0.4s						
JHRM				IAMB	IAmb	08 21 19.6	
	comp=E,0.0nm,0.3s						
JHRM				IAMB	IAmb	08 21 20.3	
	comp=Z,0.0nm,0.3s						
ISRV	**Sarvestan**	**1.34**	**355**	*e*Pn	**Pn**	**08 21 25.9**	**0.0**
ISRV				IAMB	IAmb	08 21 28.2	
	comp=Z,8μm,0.4s						
ISRV				IAMB	IAmb	08 21 49.6	
	comp=N,14μm,0.5s						
SHI	**Shiraz**	**1.72**	**338**	*e*Pn	**Pb**	**08 21 32.2**	**-0.6**
SHI				IAMB	IAmb	08 22 02.8	
	comp=Z,2μm,0.5s						
SHI				IAMB	IAmb	08 22 05.5	
	comp=N,3μm,0.3s						
IPAR	**Pars**	**1.80**	**354**	*e*Pn	**Pb**	**08 21 34.1**	**-0.2**
IPAR				IAMB	IAmb	08 22 01.0	
	comp=E,5μm,0.5s						
IPAR				IAMB	IAmb	08 22 05.2	
	comp=N,4μm,0.5s						
IKAZ	**Kazeroun**	**2.13**	**325**	*e*Pn	**Pn**	**08 21 38.0**	**+1.2**
IKAZ				IAMB	IAmb	08 22 23.2	
	comp=Z,3μm,0.5s						
GENO	**Geno**	**2.67**	**103**	IAMB	IAmb	08 22 41.7	
	comp=Z,0.0nm,0.4s						
GENO				IAMB	IAmb	08 22 43.4	
	comp=N,0.0nm,0.3s						
GENO				IAMB	IAmb	08 22 45.0	
	comp=E,0.0nm,0.6s						
NIAN	**Nian**	**3.21**	**98**	*e*Pn	**Pn**	**08 21 53.0**	**+1.7**
NIAN				IAMB	IAmb	08 23 03.5	
	comp=N,0.0nm,0.4s						
SHME	**Shamm**	**3.25**	**127**	*e*Pn	**Pn**	**08 21 49.4**	**-2.5**
KLNJ	**Kolanjah**	**3.29**	**334**	*e*Pn	**Pn**	**08 21 52.8**	**0.0**
KLNJ				IAMB	IAmb	08 22 52.1	
	comp=Z,0.0nm,0.4s						
KLNJ				IAMB	IAmb	08 22 57.3	
	comp=N,0.0nm,0.7s						
KLNJ				IAMB	IAmb	08 23 00.8	
	comp=E,0.0nm,0.5s						
KRBR	**Kerman**	**3.63**	**57**	*e*Pn	**Pn**	**08 21 58.2**	**+0.8**
MSFE	**Esma-Masafi**	**3.73**	**135**	*e*Pn	**Pn**	**08 21 59.1**	**+0.6**
IRAM	**Ramesheh**	**3.83**	**349**	*e*Pn	**Pn**	**08 22 00.8**	**+0.7**
IRAM				IAMB	IAmb	08 23 18.4	
	comp=Z,263nm,0.6s						
IRAM				IAMB	IAmb	08 23 26.6	
	comp=E,242nm,0.6s						
MDH	**Madha**	**3.86**	**134**	*e*Pn	**Pn**	**08 22 01.3**	**+1.1**
ISAD	**Sadrabad**	**3.88**	**5**	IAMB	IAmb	08 22 03.1	
	comp=Z,388nm,0.3s						
ISAD				*e*Pn	**Pn**	**08 22 02.3**	**+1.5**
ISAD				IAMB	IAmb	08 22 51.6	
	comp=N,398nm,0.4s						
UOSS	**Minazif**	**4.06**	**139**	*e*Pn	**Pn**	**08 22 05.9**	**+2.8**
ASHO	**Ashiyiah**	**4.18**	**142**	*e*Pn	**Pn**	**08 22 07.2**	**+2.4**
ICHK	**Chekchek**	**4.30**	**13**	IAMB	IAmb	08 22 08.7	
	comp=Z,376nm,0.2s						
ICHK				*e*Pn	**Pn**	**08 22 08.5**	**+1.9**
ICHK				IAMB	IAmb	08 22 12.9	
	comp=N,327nm,0.2s						
ICHK				IAMB	IAmb	08 22 33.5	
	comp=E,222nm,0.3s						
YZKH	**Yazd**	**4.49**	**15**	*e*Pn	**Pn**	**08 22 10.1**	**+1.2**
IZEF	**Zefreh**	**4.90**	**351**	*e*Pn	**Pn**	**08 22 14.9**	**+0.1**
IZEF				IAMB	IAmb	08 22 16.7	
	comp=N,107nm,0.2s						
IZEF				IAMB	IAmb	08 23 11.6	
	comp=E,105nm,0.4s						
IZEF				IAMB	IAmb	08 23 12.2	
	comp=Z,122nm,0.5s						
IPIR	**Pirpir**	**5.06**	**337**	*e*Pn	**Pn**	**08 22 17.8**	**+0.8**
IPIR				IAMB	IAmb	08 22 21.1	
	comp=Z,197nm,0.2

ARCO eS Sb 08 45 57.5 +0.3
ARCO IAML 08 46 00.7
comp=Z,339nm,0.3s
AVIZ Vizcacheras 1.24 91 *i* P Pg 08 45 45.0 +0.2
AVIZ eP Pb 08 45 45.4 +0.3
AVIZ eS Sg 08 46 01.5 +0.6
ASAL Salagasta 1.31 49 *eP* Pn 08 45 46.1 -0.1
ASAL *i* P Pb 08 45 46.2 0.0
ASAL eS Sn 08 46 05.2 +1.0
AUSP Uspallata 1.34 23 *eP* Pn 08 45 46.4 -0.4
AUSP eS Sn 08 46 04.5 -0.7
RTLS Leoncito 1.76 20 *i* P Pb 08 45 54.2 +0.2
RTLS eS Sg 08 46 18.3 +0.8
RTLS IAML 08 46 21.7
comp=Z,292nm,0.5s
RTCV Cerro Valdivia 2.01 38 *i* P Pg 08 45 59.3 -0.3
RTCV eS Sg 08 46 27.5 +1.8
GO05 HualaæØ 2.22 225 *i* P Pn 08 45 59.3 +0.5
GO05 eS Sn 08 46 28.5 +1.8
GO05 HualaæØ 2.22 225 ⇑*i* P Pn 08 45 58.0 -0.7
GO05 *i* S Sn 08 46 26.6 -0.1
GO05 IAML 08 46 31.2
comp=N,1μm,0.4s
RTLL Cerro Villicun 2.49 32 *eP* Pb 08 46 06.5 +0.2
RTLL eS Sg 08 46 41.0 +0.1
ACAN Cantantal 2.65 64 *i* P Pb 08 46 07.9 -1.1
ACAN eS Sg 08 46 45.4 -0.7
AMOG MOGNA 2.82 27 *i* P Pb 08 46 12.4 +0.4
AMOG eS Sg 08 46 51.8 +0.1
ACCO Cerro Coronel 2.97 16 *i* P Pb 08 46 14.8 +0.1
ACCO eS Sg 08 46 56.2 -0.3
ACDV Cuesta del Vie 3.36 13 *i* P Pb 08 46 20.5 -0.9
ACDV eS Sg 08 47 07.9 -1.2
CCHI Chillan 3.57 208 *eP* Pn 08 46 17.6 +0.4
CCHI *i* S Sn 08 47 00.1 +0.3

MEX 14 08:50:07.2±0.3, 14°18N×92°38W, h79km±8km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.73**	**8**	*eP*	Pn	08 50 21.9	-1.3
THIG				*i* S	Sn	08 50 33.3	-1.7
PCIG		**1.72**	**332**	*eP*	Pn	08 50 34.0	-1.4
PCIG				*i* S	Sn	08 50 55.0	-1.8
CCIG	**Comitan**	**2.11**	**6**	*eP*	Pn	08 50 39.2	-1.5
CCIG				*i* S	Sn	08 51 04.5	-1.6
TGIG		**2.68**	**345**	*eP*	Pn	08 50 48.0	-0.3
TGIG				*i* S	Sn	08 51 18.6	-1.3

MEX 14 08:52:26.8±0.3, 14°13N×93°08W, h34km±15km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.11**	**46**	*eP*	Pn	08 52 44.1	-1.8
THIG				*i* S	Sn	08 52 57.5	-2.5
PCIG		**1.57**	**355**	*eP*	Pn	08 52 50.3	-2.0
PCIG				*i* S	Sn	08 53 09.3	-1.7
CCIG	**Comitan**	**2.33**	**23**	*eP*	Pn	08 53 01.0	-1.9
CCIG				*i* S	Sn	08 53 28.3	-2.1
TGIG		**2.63**	**359**	*eP*	Pn	08 53 05.5	-1.5
TGIG				eS	Sn	08 53 35.7	-2.1

WEL ***14*** *09:15:59.7±1.3,30°S×4°×17°6W×°, h0km, ML5.5/2*
IDC ***14*** *09:15:59.4±0.5,29°.71S×176°.23W, h0km, mb4.6/18, mb1 4.7/20, mb1mx4.6/39, mbtmp4.6/20, ML3.9/2, MS3.7/22, Ms1 3.7/22, ms1mx3.6/29, Error ellipse: s-maj=16.1km s-min=15.1km az=4.0*
ISCJB ***14*** *09:16:00.4±0.4,30°.19S±0°.02×176°.26W±0°.05, h24km, mb4.8/29, MS3.7/19, Error ellipse: s-maj=6.4km s-min=3.4km az=5.7*
NEIC ***14*** *09:16:03.7±0.4,30°.10S×176°.27W, h35km, mb4.8/11, Error ellipse: s-maj=10.6km s-min=6.1km az=121.0*

ISC 14 09:16:03.0±0.5, 30°.06S±0°.04×176°.43W±0°.06, h24km, n103, σ2°.77/118, mb4.8/29, MS3.7/19, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.52**	**301**	P	**Pn**	**09 16 30.2**	**+1.5**
GLKZ				S	**Sn**	**09 16 49.1**	**+1.4**
RAO	**Raoul Island**	**1.52**	**301**	Pn	**Pn**	**09 16 29.8**	**+1.1**
	394nm,0.3s,baz=213,slow=22,SNR=19						
RAO				Sn	**Sb**	**09 16 50.4**	**+1.0**
	1μm,0.3s,baz=271,slow=23,SNR=24						
RAO				LR	LR	09 16 57.7	
	comp=Z,1μm,19.0s,baz=189,slow=38						
RIZ	**Raoul Island**	**1.54**	**301**	P	**Pn**	**09 16 30.3**	**+1.5**
RIZ				S	**Sb**	**09 16 50.5**	**+0.7**
MXZ	**Matakaoa Point**	**8.67**	**209**	P	**Pn**	**09 18 06.1**	**-0.7**
MXZ				S	**Sn**	**09 19 47.4**	**+3.5**
WMGZ	**Waiomatatini S**	**8.84**	**208**	P	**Pn**	**09 18 09.9**	**+0.6**
WMGZ				S	**Sn**	**09 19 53.3**	**+5.2**
PKGZ	**Pakihiroa**	**9.04**	**209**	P	**Pn**	**09 18 12.4**	**+0.4**
PKGZ				S	**Sn**	**09 19 56.9**	**+3.8**
HAZ	**Te Kaha**	**9.06**	**211**	P	**Pn**	**09 18 12.9**	**+0.8**
HAZ				S	**Sn**	**09 19 59.1**	**+5.8**
PUZ	**Puketiti**	**9.12**	**207**	P	**Pn**	**09 18 13.4**	**+0.3**
PUZ				S	**Sn**	**09 19 59.3**	**+4.2**
RUGZ	**Raukumara Rang**	**9.28**	**210**	P	**Pn**	**09 18 15.8**	**+0.5**
RUGZ				S	**Sn**	**09 20 02.7**	**+3.8**
TWGZ	**Tauwhareparae**	**9.33**	**208**	P	**Pn**	**09 18 15.3**	**-0.6**
TWGZ				S	**Sn**	**09 20 04.1**	**+4.0**
WCZ	**Waipu Caves**	**9.71**	**230**	P	Pn	09 18 26.6	+5.4
URZ	**Urewera**	**9.77**	**211**	Pn	**Pn**	**09 18 21.2**	**-0.7**
	0.8nm,0.3s,baz=277,slow=5.1,SNR=18						
URZ				Sn	**Sn**	**09 20 14.3**	**+3.4**
	11nm,0.3s,baz=252,slow=5.7,SNR=12						
URZ				LR	LR	09 22 37.2	
	comp=Z,166nm,20.2s,baz=26,slow=39						
URZ	**Urewera**	**9.77**	**211**	*e*Pn	**Pn**	**09 18 21.0**	**-1.0**
URZ				*e*Sn	**Sn**	**09 20 15.1**	**+4.2**
URZ	**Urewera**	**9.77**	**211**	P	**Pn**	**09 18 20.9**	**-1.0**
URZ				S	**Sn**	**09 20 14.1**	**+3.2**
BKZ	**Black Stump Fm**	**10.79**	**211**	*e*Pn	**Pn**	**09 18 39.7**	**+3.7**
BKZ				*e*Sn	**Sn**	**09 20 41.3**	**+5.3**
BKZ	**Black Stump Fm**	**10.79**	**211**	P	**Pn**	**09 18 33.8**	**-2.1**
BKZ				S	**Sn**	**09 20 37.0**	**+1.0**
PXZ	**Pawanui**	**11.36**	**207**	P	**Pn**	**09 18 42.9**	**-0.8**
PXZ				S	**Sn**	**09 20 49.8**	**0.0**
PNHZ	**Pukenui**	**11.54**	**210**	P	**Pn**	**09 18 43.0**	**-3.1**
PNHZ				S	**Sn**	**09 20 53.5**	**-0.7**
TSZ	**Takapari Road**	**11.76**	**210**	P	**Pn**	**09 18 52.5**	**+3.3**
TSZ				S	**Sn**	**09 20 58.3**	**-1.4**
DVHZ	**Dannevirke**	**11.87**	**209**	P	**Pn**	**09 18 49.4**	**-1.3**
DVHZ				S	**Sn**	**09 21 00.6**	**-1.8**
ANWZ	**Angora Road**	**11.88**	**207**	P	**Pn**	**09 18 52.9**	**+2.1**
ANWZ				S	**Sn**	**09 21 02.3**	**-0.3**
BFZ	**Birch Farm**	**12.16**	**207**	*e*Pn	**Pn**	**09 18 55.0**	**+0.3**
BFZ				*e*Sn	**Sn**	**09 21 10.9**	**+1.4**
BHW	**Baring Head**	**13.34**	**210**	P	Pn	09 19 06.4	-4.3
BHW				S	**Sn**	**09 21 33.9**	**-4.3**
TCW	**Tory Channel**	**13.44**	**212**	P	**Pn**	**09 19 08.4**	**-3.7**
TCW				S	**Sn**	**09 21 36.9**	**-3.8**
TUWZ	**Tuamarina**	**13.77**	**212**	P	**Pn**	**09 19 13.5**	**-3.0**
TUWZ				S	**Sn**	**09 21 42.7**	**-6.0**
NNZ	**Nelson**	**13.87**	**214**	P	**Pn**	**09 19 19.6**	**+1.7**
NNZ				S	**Sn**	**09 21 46.1**	**-5.0**
CMWZ	**Cape Campbell**	**13.90**	**210**	S	**Sn**	**09 21 49.1**	**-2.8**
BSWZ	**Blackbirch Sta**	**14.02**	**211**	P	**Pn**	**09 19 23.3**	**+3.3**
BSWZ				S	**Sn**	**09 21 50.1**	**-4.8**
THZ	**Tophouse**	**14.51**	**214**	*e*Pn	**Pn**	**09 19 27.1**	**+0.3**
	42nm,0.6s						
THZ				*e*Sn	**Sn**	**09 22 04.8**	**-2.1**
THZ	**Tophouse**	**14.51**	**214**	P	**Pn**	**09 19 25.4**	**-1.5**
THZ				S	**Sn**	**09 22 01.7**	**-5.3**
KHZ	**Kahutara**	**14.73**	**210**	*e*Pn	**Pn**	**09 19 29.1**	**-0.7**
KHZ				*es*P	P	09 19 31.3	-4.3
KHZ				*e*Sn	**Sn**	**09 22 07.3**	**-4.9**
KHZ	**Kahutara**	**14.73**	**210**	P	**Pn**	**09 19 26.4**	**-3.4**
KHZ				S	**Sn**	**09 22 05.4**	**-6.8**
LTZ	**Lake Taylor**	**15.60**	**212**	*e*Pn	**Pn**	**09 19 41.3**	**+0.1**
	12nm,0.8s						
OXZ	**Oxford**	**16.13**	**212**	*e*Pn	**Pn**	**09 19 47.1**	**-0.9**
	31nm,0.5s						
OXZ				*e*Sn	**Sn**	**09 22 38.5**	**-7.7**
MQZ	**McQueen's Vall**	**16.16**	**210**	*e*Pn	**Pn**	**09 19 46.8**	**-1.6**
	8.8nm,0.7s						
MQZ				*e*Sn	**Sn**	**09 22 38.8**	**-8.1**
RPZ	**Rata Peaks**	**16.88**	**213**	P	**P**	**09 20 01.8**	**+2.3**
	2.2nm,0.3s,baz=26,slow=2.4,SNR=12						
RPZ	**Rata Peaks**	**16.88**	**213**	*e*Pn	**Pn**	**09 19 58.6**	**+1.0**
	20nm,0.6s						
DZM	**Mont Dzumac**	**17.31**	**293**	P	**P**	**09 20 06.8**	**+2.4**
	0.4nm,0.3s,baz=341,slow=22,SNR=5.8						
DZM				LR	LR	09 25 51.9	
	comp=Z,465nm,18.4s,baz=70,slow=34						
DZM	**Mont Dzumac**	**17.31**	**293**	*eP*	**P**	**09 20 07.2**	**+2.8**
	79nm,1.1s						
DZM				*e*LR	LR	09 24 16.8	
	775nm,23.9s						
RAR	**Rarotonga**	**17.40**	**63**	P	**Pn**	**09 20 01.0**	**-3.1**
	1.0nm,0.3s,baz=273,slow=5.7,SNR=4.8						
RAR				LR	LR	09 25 32.3	
	comp=Z,197nm,20.6s,baz=260,slow=34						
RAR	**Rarotonga**	**17.40**	**63**	P	**Pn**	**09 20 01.0**	**-3.1**
ODZ	**Otahua Downs**	**18.10**	**211**	*eP*	**P**	**09 20 14.1**	**+1.3**
	28nm,0.8s						
TBI	**Tubuai**	**24.97**	**81**	*e*LQ	LQ	09 26 00.4	
	338nm,31.2s						
TBI				*e*LR	LR	09 27 13.5	
	436nm,24.2s,baz=249						
TBI	**Tubuai**	**24.97**	**81**	*eT*	T	09 46 15.9	
	3.8nm,0.3s						
PAE	**Paea**	**27.41**	**69**	*eT*	T	09 49 23.8	
	1.1nm,0.2s						
PPT2	**Papeete2**	**27.45**	**69**	*e*LR	LR	09 28 23.6	
	297nm,24.0s,baz=230						
PPT	**Papeete**	**27.46**	**69**	LR	LR	09 31 32.8	
	comp=Z,134nm,19.2s,baz=225,slow=34						
EIDS	**Eidsvold**	**29.08**	**271**	*eP*	**P**	**09 22 04.2**	**+2.5**
	18nm,1.0s						
HNR	**Honiara**	**30.13**	**308**	LR	LR	09 33 28.5	
	comp=Z,76nm,19.2s,baz=211,slow=35						
VAH	**Vaihoa**	**30.29**	**67**	*eT*	T	09 52 58.0	
	6.6nm,0.2s						
STKA	**Stephens Creek**	**35.88**	**256**	P	**P**	**09 23 03.3**	**+2.1**
	16nm,0.9s,baz=98,slow=10,SNR=38						
STKA				LR	LR	09 37 59.8	
	comp=Z,156nm,18.2s,baz=124,slow=36						
STKA	**Stephens Creek**	**35.88**	**256**	*eP*	**P**	**09 23 03.3**	**+2.1**
	4.1nm,1.0s						
RKT	**Rikitea**	**37.56**	**89**	*e*LR	LR	09 33 03.6	
	225nm,26.0s						
TAOE	**Nuku Hiva Isla**	**39.93**	**66**	*e*LR	LR	09 34 13.0	
	216nm,23.7s						
BBOO	**Buckleboo**	**40.37**	**253**	*eP*	**P**	**09 23 39.5**	**+0.6**
	9.9nm,0.8s						
AS01	**Alice Springs**	**44.45**	**266**	*eP*	**P**	**09 24 11.8**	**-0.5**
ASAR	**Alice Springs**	**44.49**	**266**	P	**P**	**09 24 12.8**	**+0.2**
	3.7nm,0.8s,baz=101,slow=7.6,SNR=41						
ASAR				PcP	**PP**	**09 25 57.2**	**+0.7**
	1.1nm,0.6s,baz=112,slow=3.2,SNR=5.0						
ASAR				LR	LR	09 42 46.7	
	comp=Z,175nm,18.4s,baz=128,slow=36						
WC3	**Warramunga Arr**	**45.41**	**271**	*eP*	**P**	**09 24 19.9**	**-0.1**
	16nm,0.6s						
WB2	**Warramunga Arr**	**45.44**	**271**	*eP*	**P**	**09 24 19.8**	**-0.4**
	18nm,0.9s						
WRAB	**Tennant Creek**	**45.44**	**271**	*eP*	**P**	**09 24 19.8**	**-0.4**
	15nm,0.8s						
WRA	**Warramunga Arr**	**45.45**	**271**	P	**P**	**09 24 19.9**	**-0.4**
	10nm,0.6s,baz=110,slow=7.7,SNR=133						
WRA				LR	LR	09 43 27.8	
	comp=Z,148nm,18.0s,baz=110,slow=36						
FORT	**Forrest**	**47.45**	**254**	*eP*	**P**	**09 24 36.6**	**+0.8**
	22nm,0.6s						
VNDA	**Vanda**	**48.57**	**186**	P	**P**	**09 24 48.4**	**+4.5**
	2.5nm,1.0s,baz=11,slow=5.7,SNR=11						
VNDA				LR	LR	09 42 07.7	
	comp=Z,63nm,19.7s,baz=3.0,slow=32						
JAY	**Jayapura**	**48.96**	**296**	LR	LR	09 43 25.7	
	comp=Z,70nm,18.6s,baz=15,slow=34						
FITZ	**Fitzroy Crossi**	**53.72**	**269**	P	**P**	**09 25 23.9**	**+0.5**
	10nm,0.8s,baz=162,slow=6.2,SNR=15						
FITZ				LR	LR	09 46 32.1	
	comp=Z,66nm,20.8s,baz=118,slow=34						
FITZ	**Fitzroy Crossi**	**53.72**	**269**	*eP*	**P**	**09 25 24.0**	**+0.6**
	9.1nm,0.8s						
GUMO	**Guam**	**57.21**	**314**	LR	LR	09 45 35.2	
	comp=Z,40nm,21.5s,baz=110,slow=31						
SIJI	**Sorong**	**57.48**	**290**	P	**P**	**09 25 50.1**	**-0.3**
	17nm,0.8s,baz=234,slow=4.8,SNR=4.5						
QSPA	**South Pole Qui**	**60.05**	**180**	P	**P**	**09 26 11.8**	**+4.1**
	9.7nm,0.9s,baz=42,slow=3.4,SNR=19						
MAW	**Mawson**	**73.10**	**200**	P	**P**	**09 27 33.5**	**+2.7**
	6.6nm,0.8s,baz=290,slow=3.1,SNR=9.5						
JOW	**Kunigami**	**77.45**	**311**	LR	LR	09 58 36.0	
	comp=Z,23nm,18.5s,baz=171,slow=33						
SNAA	**Sanae**	**78.45**	**178**	P	**P**	**09 28 03.9**	**+2.4**
	7.0nm,1.1s,baz=178,slow=4.0,SNR=4.6						
MJAR	**Matsushiro Arr**	**78.75**	**324**	P	**P**	**09 28 02.2**	**-1.2**
	3.3nm,0.8s,baz=173,slow=6.0,SNR=5.7						
MJAR				LR	LR	09 58 46.7	
	comp=Z,17nm,20.2s,baz=0.0,slow=33						
PLCA	**Paso Flores**	**81.74**	**132**	LR	LR	09 59 30.9	
	comp=Z,48nm,18.5s,baz=259,slow=32						
KSRS	**Korea Array**	**84.98**	**319**	P	**P**	**09 28 37.2**	**+1.1**
	2.7nm,1.0s,baz=137,slow=5.4,SNR=5.2						
KSRS				LR	LR	10 05 32.9	
	comp=Z,17nm,19.1s,baz=90,slow=35						
KSAR	**Wonju Array Be**	**84.99**	**319**	P	**P**	**09 28 37.2**	**+1.0**
PETK	**Petropavlovsk-**	**85.83**	**345**	P	**P**	**09 28 38.3**	**-1.8**
	3.8nm,1.0s,baz=188,slow=7.0,SNR=3.3						
PETK				LR	LR	10 00 24.2	
	comp=Z,46nm,20.4s,baz=59,slow=31						
NJ2	**Nanjing**	**87.06**	**310**	*eP*	P	09 28 41.3	-5.3
NJ2				pmax	pmax		
	comp=Z,13nm,0.8s						
NVAR	**Mina Array Bea**	**87.07**	**42**	P	**P**	**09 28 45.8**	**-1.0**
	comp=Z,2.7nm,0.8s,baz=223,slow=8.7,SNR=17						
USRK	**Ussuriysk Ar.**	**87.64**	**326**	P	**P**	**09 28 49.3**	**+0.3**
	comp=Z,3.2nm,0.8s,baz=172,slow=2.1,SNR=5.7						
CN2	**Changchun**	**90.70**	**322**	*eP*	**P**	**09 29 03.5**	**0.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TXAR	**Lajitas Array**	**91.06**	**57**	P	**P**	**09 29 05.1**	**-0.6**
	comp=Z,1.0nm,1.1s,baz=217,slow=7.9,SNR=5.9						
KLR	**Kul'dur**	**91.44**	**329**	LR	LR	10 09 17.3	
	comp=Z,37nm,18.4s,baz=88,slow=35						
CMAR	**Chiang Mai Arr**	**94.58**	**289**	P	**P**	**09 29 24.1**	**+2.1**
	comp=Z,1.3nm,0.4s,baz=116,slow=4.1,SNR=6.1						
CMAR				LR	LR	10 10 30.2	
	comp=Z,18nm,21.2s,baz=166,slow=35						
KMI	**Kunming**	**94.89**	**296**	P	**P**	**09 29 20.3**	**-3.3**
KMI				pmax	pmax		
	comp=Z,17nm,0.8s						
PDAR	**Pinedale Array**	**94.96**	**43**	P	**P**	**09 29 22.4**	**-1.1**
	comp=Z,1.2nm,1.1s,baz=240,slow=1.8,SNR=3.5						
PDAR				LR	LR	10 05 50.0	
	comp=Z,74nm,18.9s,baz=264,slow=32						
HHC	**Hu-ho-hao-te**	**96.98**	**313**	*eP*	P	09 29 26.8	-5.8
HHC				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC				pmax	pmax		
	comp=Z,150nm,6.1s						
LPAZ	**La Paz**	**97.04**	**113**	LR	LR	10 07 36.5	
	comp=Z,34nm,18.1s,baz=258,slow=32						
CD2	**Chengdu**	**97.06**	**302**	*eP*	P	09 29 27.0	-6.1
ILAR	**Eielson Array**	**97.30**	**12**	P	**P**	**09 29 31.4**	**-1.8**
	comp=Z,0.4nm,0.8s,baz=230,slow=5.2,SNR=4.7						
CPUP	**Villa Florida**	**99.12**	**127**	LR	LR	10 09 55.1	
	comp=Z,38nm,19.2s,baz=211,slow=33						
LZH	**Lanzhou**	**99.61**	**306**	*eP*	**Pdif**	**09 29 39.0**	**-5.6**
LZH				pP	**pP**	**09 29 49.3**	**-3.2**
LZH				sP	**sP**	**09 29 52.3**	**-3.0**
LZH				*e*PP	**PP**	**09 33 46.1**	**-3.0**
LZH				pmax	pmax		
	comp=Z,35nm,1.1s						
LZH				pmax	pmax		
	comp=Z,99nm,4.8s						
MKAR	**Makanchi Array**	**118.60**	**310**	PKP	**PKPdf**	**09 34 48.0**	**-0.6**
	comp=Z,1.5nm,0.9s,baz=66,slow=4.1,SNR=8.8						
ZALV	**Zalesovo Beam**	**118.68**	**318**	PKP	**PKPdf**	**09 34 48.0**	**-0.5**
	comp=Z,0.4nm,0.2s,baz=207,slow=1.7,SNR=3.3						
MATP	**Matopo**	**124.36**	**209**	PKP	**PKPdf**	**09 35 01.5**	**+0.8**
	comp=Z,3.3nm,0.9s,baz=145,slow=5.9,SNR=4.7						
FINES	**FINESS Array B**	**145.28**	**341**	PKPbc	**PKPbc**	**09 35 36.4**	**-1.3**
	comp=Z,5.8nm,0.8s,baz=57,slow=2.9,SNR=11						
KBZ	**Khabaz**	**146.04**	**305**	PKPbc	**PKPab**	**09 35 40.9**	**-0.3**
	comp=Z,2.7nm,0.8s,baz=168,slow=5.2,SNR=5.3						
NB2	**NORSAR Subarra1**	**148.60**	**353**	PKP	**PKPbc**	**09 35 46.0**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.60**	**353**	PKPbc	**PKPbc**	**09 35 46.4**	**-0.9**
	comp=Z,2.4nm,0.8s,baz=13,slow=4.3,SNR=4.0						
AKASG	**Malin Array Be**	**151.84**	**324**	PKPbc	**PKPbc**	**09 35 54.8**	**-0.5**
	comp=Z,4.1nm,0.7s,baz=46,slow=2.5,SNR=18						
BRTR	**Keskin Array B**	**153.62**	**300**	PKPbc	**PKPbc**	**09 36 00.0**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=107,slow=4.3,SNR=4.7						
CLL	**Collm**	**157.64**	**344**	*e*PKPab	**PKPab**	**09 36 28.0**	**-1.0**
TORD	**Torodi Ar. Bea**	**163.08**	**174**	PKPab	**PKPab**	**09 36 54.2**	**+0.7**
	comp=Z,7.4nm,1.0s,baz=184,slow=3.2,SNR=24						

IDC 14 09:22:07.2±5.5, 2°.55S×102°.88E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/48, mbtmp3.7/3, MS3.4/1, Ms1 3.4/1, ms1mx2.5/52, Error ellipse: s-maj=248.8km s-min=87.7km az=48.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**24.59**	**67**	LR	LR	09 37 28.3	
	comp=Z,74nm,18.1s,baz=322,slow=38						
WRA	**Warramunga Arr**	**35.25**	**122**	P	P	09 29 04.1	+0.1
	0.3nm,0.3s,baz=310,slow=8.8,SNR=15						
ASAR	**Alice Springs**	**36.63**	**128**	P	P	09 29 15.9	+0.2
	1.1nm,0.5s,baz=300,slow=7.9,SNR=16						
STKA	**Stephens Creek**	**46.66**	**133**	P	P	09 30 36.9	-0.9
	0.3nm,0.4s,baz=316,slow=20,SNR=3.6						
TXAR	**Lajitas Array**	**143.31**	**41**	PKP	PKPdf	09 41 44.2	-0.3
	0.3nm,0.9s,baz=246,slow=2.3,SNR=4.2						

ISCJB ***14*** *09:22:33.5±0.5,56°.15S±0°.08×27°.1W±0°.1, h63km, mb4.4/13, Error ellipse: s-maj=13.8km s-min=7.1km az=38.8*
IDC ***14*** *09:22:36.1±7.5,56°.21S×27°.21W, h74km±69km, mb4.0/8, mb1 4.2/9, mb1mx3.8/29, mbtmp4.3/9, ML4.7/1, Error ellipse: s-maj=33.3km s-min=15.4km az=61.0*
NEIC ***14*** *09:22:40.1±1.3,56°.26S×27°.23W, h111km±11km, mb4.5/9, Error ellipse: s-maj=11.7km s-min=6.5km az=52.0*

ISC 14 09:22:34.9±0.7, 56°.25S±0°.1×27°.1W±0°.1, h63km, n36, σ0°.64/33, mb4.4/13, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.73**	**285**	*e*Pn	Pn	09 24 02.0	+4.8
HOPE				*e*Sn	**Sn**	**09 25 01.6**	**+0.2**
VNA3	**Neumayer Olymp**	**16.84**	**161**	P	**P**	**09 26 27.9**	**+0.6**
VNA2	**Neumayer--Watz**	**17.04**	**158**	P	**P**	**09 26 30.4**	**+0.9**
	baz=314,slow=14						
SNAA	**Sanae**	**18.59**	**156**	P	**Pn**	**09 26 47.0**	**-0.5**
SNAA	**Sanae**	**18.59**	**156**	P	**Pn**	**09 26 46.9**	**-0.6**
	2.1nm,0.3s,baz=301,slow=11,SNR=51						
SNAA	**Sanae**	**18.59**	**156**	*eP*	**Pn**	**09 26 47.2**	**-0.2**
	13nm,0.6s						
EFI	**East Falkland**	**18.72**	**271**	*eP*	**Pn**	**09 26 48.6**	**-0.4**
	164nm,1.8s						
CHRN	**Cochrane**	**29.11**	**268**	*eP*	**P**	**09 28 30.3**	**+1.0**
	7.1nm,1.3s						
TRQA	**Tornquist**	**29.45**	**293**	*eP*	**P**	**09 28 32.1**	**-0.3**
	21nm,1.8s						
PLCA	**Paso Flores**	**32.10**	**280**	*eP*	**P**	**09 28 55.3**	**-0.6**
	28nm,2.0s						
QSPA	**South Pole Qui**	**34.07**	**180**	P	**P**	**09 29 12.7**	**-0.2**
	2.0nm,0.4s,baz=299,slow=3.1,SNR=20						
QSPA	**South Pole Qui**	**34.07**	**180**	*eP*	**P**	**09 29 12.8**	**-0.1**
CPUP	**Villa Florida**	**36.96**	**311**	P	**P**	**09 29 37.2**	**-0.6**
	3.1nm,0.7s,baz=154,slow=6.4,SNR=6.9						
CPUP	**Villa Florida**	**36.96**	**311**	*eP*	**P**	**09 29 38.2**	**+0.5**
	18nm,1.8s						
MAW	**Mawson**	**40.00**	**143**	P	**P**	**09 30 03.1**	**+0.4**
	1.3nm,0.3s,baz=244,slow=7.1,SNR=4.3						
MAW	**Mawson**	**40.00**	**143**	*eP*	**P**	**09 30 03.3**	**+0.5**
	10nm,2.0s						
VNDA	**Vanda**	**46.45**	**183**	P	**P**	**09 30 54.5**	**-0.1**
	1.6nm,0.6s,baz=192,slow=7.7,SNR=14						
VNDA	**Vanda**	**46.45**	**183**	*eP*	**P**	**09 30 54.9**	**+0.2**
	3.3nm,1.2s						
SIV	**San Ignacio**	**47.72**	**313**	P	**P**	**09 31 04.3**	**-1.0**
	0.8nm,0.5s,baz=180,slow=8.3,SNR=7.8						
H10S2	**ASCENSION HYDR**	**48.10**	**17**	T	T	10 23 57.8	
	baz=190						
H10S3	**ASCENSION HYDR**	**48.10**	**17**	T	T	10 24 04.7	
	baz=190						
H10S1	**ASCENSION HYDR**	**48.12**	**17**	T	T	10 24 03.9	
	baz=190						
MNMC	**Minye Minye**	**48.73**	**302**	*eP*	**P**	**09 31 13.8**	**+0.4**
	6.8nm,0.7s						
LPAZ	**La Paz**	**50.52**	**305**	P	**P**	**09 31 27.6**	**+0.3**
	9.6nm,0.4s,baz=121,slow=5.0,SNR=82						
LPAZ	**La Paz**	**50.52**	**305**	*eP*	**P**	**09 31 28.1**	**+0.8**
	12nm,0.4s						
TOA0	**Torodi Ar. Sit**	**73.13**	**29**	*eP*	**P**	**09 33 59.1**	**+0.7**
TORD	**Torodi Ar. Bea**	**73.13**	**29**	P	**P**	**09 33 59.0**	**+0.6**
	1.1nm,0.4s,baz=204,slow=6.3,SNR=16						
TOA1	**Torodi Ar. Sit**	**73.13**	**29**	*eP*	**P**	**09 33 59.0**	**+0.6**
ASAR	**Alice Springs**	**98.84**	**162**	P	**P**	**09 36 07.4**	**-0.5**
	0.4nm,0.8s,baz=184,slow=3.9,SNR=4.1

PLIG	**Platanillo**	**1.84**	**53**	*e*P		Pn	09 44 02.8	-3.8
PLIG				*i* S		Sn	09 44 24.9	-5.0
MAVM	**Malinalco, Edo**	**2.23**	**41**	*e*P		Pn	09 44 09.6	-2.5
MAVM				*i* S		Sn	09 44 35.8	-3.9
TLIG	**Tlapa**	**2.38**	**83**	*e*P		Pn	09 44 11.0	-3.1
TLIG				*i* S		Sn	09 44 39.7	-3.6

ISK ***14*** *09:59:20.4, 38°.91N × 43°.58E, h5km, ML3.7/15*
DDA ***14*** *09:59:20.6, 38°.91N × 43°.56E, h16km, Ml3.6*
ISCJB ***14*** *09:59:21.6 ± 0.4, 38°.92N ± 0°.02 × 43°.57E ± 0°.02, h6km ± 3km, Error ellipse: s-maj=3.7km s-min=3.1km az=159.1*
TEH ***14*** *09:59:21.1, 38°.91N × 43°.57E, h12km, ML3.4*
AZER ***14*** *09:59:24.4 ± 19.0, 39°.03N × 43°.78E, h19km, ml3.5/12, Error ellipse: s-maj=9.9km s-min=5.2km az=235.0*

ISC 14 09:59:21.2 ± 0.9, **38°.90N** ± 0°.02 × **43°.53E** ± 0°.02, **h11** km ± 6km, **n71,** σ **1**§**46**/91, **11C-7D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.10**	**20**	*i* P	**Pg**	**09 59 23.5**	**-0.6**
VMUR				*i* S	**Sg**	**09 59 26.1**	**-0.1**
ERCV	**ERCIS-VAN**	**0.19**	**309**	PG	**Pg**	**09 59 26.0**	**+0.5**
ERCV				SG	**Sg**	**09 59 29.7**	**+1.2**
ERCV	**ERCIS-VAN**	**0.19**	**309**	*e*Pg	**Pg**	**09 59 26.0**	**+0.5**
VANB	**Van**	**0.32**	**200**	PG	**Pb**	**09 59 29.1**	**0.0**
VANB	**Van**	**0.32**	**200**	*e*Pg	**Pb**	**09 59 29.0**	**0.0**
TVAN	**Van**	**0.38**	**195**	*i* P	**Pg**	**09 59 29.0**	**+0.2**
TVAN				*i* S	**Sb**	**09 59 36.2**	**+0.1**
CLDR	**Caldiran**	**0.39**	**51**	PG	**Pg**	**09 59 28.2**	**-0.8**
CLDR	**Caldiran**	**0.39**	**51**	*i* P	**Pg**	**09 59 28.1**	**-1.0**
CLDR				*i* S	**Sg**	**09 59 34.4**	**+0.1**
CLDR	**Caldiran**	**0.39**	**51**	*e*Pg	**Pg**	**09 59 28.2**	**-0.8**
ADCV	**BITLIS_Adilcev**	**0.63**	**262**	*i* P	**Pg**	**09 59 33.5**	**0.0**
ADCV				*i* S	**Sb**	**09 59 43.3**	**0.0**
TUTA	**Tutak**	**0.75**	**312**	*i* P	**Pg**	**09 59 34.2**	**-1.6**
TUTA				*i* S	**Sb**	**09 59 46.9**	**+0.2**
AGRB	**Hanur-Agry**	**0.79**	**329**	PG	**Pg**	**09 59 36.4**	**-0.2**
AGRB				SG	**Sb**	**09 59 48.0**	**0.0**
AGRB	**Hanur-Agry**	**0.79**	**329**	*e*Pg	**Pg**	**09 59 36.3**	**-0.3**
IGDI	**IGDIR**	**1.06**	**24**	*i* P	**Pb**	**09 59 40.1**	**-1.5**
IGDI				*i* S	**Sn**	**09 59 56.0**	**-0.9**
EKAR	**Karacoban**	**1.19**	**288**	*i* P	**Pb**	**09 59 43.7**	**-0.2**
EKAR				*i* S	**Sb**	**09 59 52.5**	**-7.0**
TASB	**TASBURUN-IGDIR**	**1.22**	**27**	PN	**Pb**	**09 59 44.2**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.22**	**27**	*e*Pn	**Pb**	**09 59 44.2**	**-0.1**
EATA	**Eleskirt**	**1.25**	**320**	*i* P	**Pn**	**09 59 43.8**	**-1.2**
EATA				*i* S	Sb	09 59 51.8	-10
HYR	**Heyderabad**	**1.31**	**51**	⇓P	**Pn**	**09 59 44.9**	**-0.6**
HYR				⇓S	**Sb**	**09 59 59.3**	**-3.5**
YOVA	**Hakkari_Y¨…kse**	**1.44**	**155**	*i* P	**Pn**	**09 59 47.5**	**+0.1**
NAX	**Nakhchivan** SNR=46	**1.56**	**79**	P	**Pb**	**09 59 50.4**	**+0.3**
NAX				⇑S	**Sg**	**10 00 11.0**	**-0.3**
GNI	**Garni**	**1.56**	**37**	PN	**Pb**	**09 59 49.9**	**-0.3**
GNI	**Garni**	**1.56**	**37**	*e*Pn	**Pb**	**09 59 49.9**	**-0.3**
VRTB	**Varto-Mus**	**1.64**	**280**	PN	**Pg**	**09 59 52.1**	**-0.5**
VRTB	**Varto-Mus**	**1.64**	**280**	*e*Pn	**Pg**	**09 59 52.0**	**-0.5**
SIRT	**Sirnak**	**1.64**	**212**	PN	**Pb**	**09 59 51.5**	**0.0**
SIRT	**Sirnak**	**1.64**	**212**	*e*Pn	**Pb**	**09 59 51.4**	**0.0**
CUKT	**Cukurca**	**1.65**	**178**	PN	**Pb**	**09 59 51.2**	**-0.5**
CUKT	**Cukurca**	**1.65**	**178**	*i* P	**Pb**	**09 59 51.0**	**-0.7**
CUKT	**Cukurca**	**1.65**	**178**	*e*Pn	**Pb**	**09 59 51.2**	**-0.5**
SBZ	**Shahbuz**	**1.65**	**72**	⇓P	**Pb**	**09 59 51.5**	**-0.3**
SBZ				⇑S	**Sg**	**10 00 13.3**	**-1.0**
IMRD	**Marand**	**1.71**	**96**	*e*Pn	**Pn**	**09 59 51.2**	**+0.1**
IMRD	comp=E,22μm,0.5s			IAMB	IAmb	10 00 23.3	
IMRD	comp=Z,11μm,0.7s			IAMB	IAmb	10 00 24.5	
ISHB	**Shabestar**	**1.75**	**110**	*e*Pn	**Pn**	**09 59 52.2**	**+0.5**
ISHB	comp=N,11μm,0.6s			IAMB	IAmb	10 00 19.9	
ISHB	comp=Z,5μm,0.5s			IAMB	IAmb	10 00 23.3	
ISHB	comp=E,9μm,0.6s			IAMB	IAmb	10 00 24.1	
KARS	**Kars**	**1.76**	**349**	PN	**Pb**	**09 59 52.8**	**-0.8**
KARS	**Kars**	**1.76**	**349**	*e*Pn	**Pb**	**09 59 52.8**	**-0.8**
SENK	**Senkaya-Erzuru**	**1.89**	**332**	PN	**Pb**	**09 59 55.3**	**-0.6**
SENK	**Senkaya-Erzuru**	**1.89**	**332**	*e*Pn	**Pb**	**09 59 55.3**	**-0.6**
ORD	**Ordubad**	**1.92**	**88**	⇑P	**Pn**	**09 59 54.9**	**+1.0**
ORD				⇑S	**Sb**	**10 00 19.4**	**-1.0**
SVAN	**Silvan-Diyarba**	**1.97**	**249**	PN	**Pb**	**09 59 56.9**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.97**	**249**	*e*Pn	**Pb**	**09 59 56.8**	**-0.3**
ITBZ	**Tabriz**	**2.16**	**107**	*e*Pn	**Pn**	**09 59 58.3**	**+1.1**
ITBZ	comp=E,2μm,0.7s			IAMB	IAmb	10 00 32.9	
ITBZ	comp=Z,907nm,0.6s			IAMB	IAmb	10 00 36.9	
ITBZ	comp=N,2μm,0.6s			IAMB	IAmb	10 00 37.3	
BNGB	**Bing¨ll**	**2.22**	**273**	PN	**Pb**	**10 00 00.9**	**-0.6**
IAZR	**Azarshahr**	**2.28**	**121**	*e*Pn	**Pb**	**10 00 00.9**	**-1.6**
IAZR	comp=Z,4μm,0.4s			IAMB	IAmb	10 00 13.0	
IAZR	comp=E,12μm,0.7s			IAMB	IAmb	10 00 44.7	
IAZR	comp=N,9μm,0.7s			IAMB	IAmb	10 00 51.2	
BGD	**Bogdanovka**	**2.36**	**1**	P	**Pg**	**10 00 06.3**	**-0.2**
BGD				S	**Sg**	**10 00 40.2**	**+2.9**
BINT	**Bingol**	**2.37**	**270**	*e*Pn	**Pn**	**10 00 00.8**	**+0.7**
YEDI	**Yedisu-Bingol**	**2.38**	**284**	PN	**Pb**	**10 00 02.9**	**-1.3**
GDB	**GEDABAY** SNR=8.1	**2.50**	**43**	⇓P	**Pn**	**10 00 02.5**	**+0.6**
GDB				⇓S	**Sn**	**10 00 33.4**	**+0.9**
AKH	**Akhalkalaki**	**2.51**	**359**	PN	**Pn**	**10 00 03.6**	**+1.5**
AKH	**Akhalkalaki**	**2.51**	**359**	P	**Pg**	**10 00 07.9**	**-1.4**
AKH				S	**Sg**	**10 00 45.5**	**+3.6**
KZRT	**Kazreti**	**2.57**	**15**	P	**Pb**	**10 00 07.7**	**+0.3**
KZRT				S	**Sg**	**10 00 44.6**	**+0.7**
QZX	**Qazax, Azerbai** SNR=12	**2.58**	**33**	⇑P	**Pn**	**10 00 03.2**	**+0.2**
QZX				⇑S	**Sn**	**10 00 35.6**	**+1.3**
GANJ	**Ganja** SNR=17	**2.77**	**50**	⇑P	**Pn**	**10 00 06.2**	**+0.7**
IHRS	**Heris** comp=Z,1μm,0.4s	**2.81**	**101**	IAMB	IAmb	10 00 15.5	
IHRS				*e*Pn	**Pn**	**10 00 07.4**	**+1.1**
IHRS	comp=E,2μm,0.8s			IAMB	IAmb	10 01 01.9	
MAZI	**Mazidag**	**2.82**	**240**	PN	**Pb**	**10 00 09.5**	**-2.2**
MAZI	**Mazidag**	**2.82**	**240**	*e*Pn	**Pb**	**10 00 09.4**	**-2.2**
IBST	**Bostanabad** comp=Z,675nm,0.6s	**2.90**	**113**	IAMB	IAmb	10 00 54.1	
IBST				*e*Pn	**Pn**	**10 00 08.6**	**+1.0**
IBST	comp=N,460nm,0.8s			IAMB	IAmb	10 00 58.1	
IBST	comp=E,492nm,0.6s			IAMB	IAmb	10 00 58.5	
BCA	**Borcka**	**2.93**	**331**	PN	**Pn**	**10 00 10.2**	**+2.4**
TBLG	**Delisi**	**2.98**	**18**	P	**Pg**	**10 00 19.9**	**+1.6**
TBLG				S	**Sg**	**10 00 57.3**	**+0.4**
BAYT	**Ayd¨–ntepe-Bay**	**3.01**	**301**	PN	**Pn**	**10 00 11.6**	**+2.6**
ERZN	**Erzincan**	**3.03**	**284**	PN	**Pb**	**10 00 12.6**	**-2.7**
CHOM	**Cayeli-Rize**	**3.06**	**317**	PN	**Pb**	**10 00 12.4**	**-3.2**
PTK	**Pertek**	**3.23**	**271**	PN	**Pn**	**10 00 14.9**	**+2.9**
DUS	**Dusheti**	**3.31**	**15**	P	**Pg**	**10 00 25.7**	**+1.0**
DUS				S	**Sg**	**10 01 07.4**	**-0.1**
ISRB	**Sarab** comp=Z,1μm,0.2s	**3.42**	**107**	IAMB	IAmb	10 00 49.3	
LGD	**Lagodekhi**	**3.59**	**34**	P	**Pb**	**10 00 26.5**	**+1.8**
LGD				S	**Sg**	**10 01 18.2**	**+1.7**
LRK	**Lerik** SNR=5.4	**3.77**	**92**	⇓P	**Pn**	**10 00 20.5**	**+1.1**
GLBA	**Clilabad** SNR=10.0	**3.80**	**83**	⇓P	**Pn**	**10 00 20.4**	**+0.7**
LKRN	**Lenkeran, Azer**	**4.11**	**91**	⇑P	**Pn**	**10 00 25.6**	**+1.8**
ASTR	**Astara**	**4.13**	**93**	⇑P	**Pn**	**10 00 25.5**	**+1.3**
XNQ	**Khinaliq**	**4.21**	**56**	⇑P	**Pn**	**10 00 26.3**	**+0.9**
PQL	**Pirkuli**	**4.33**	**63**	⇑P	**Pn**	**10 00 28.3**	**+1.2**

ISK ***14*** *10:01:46.6, 37°.34N × 37°.14E, h4km, ML2.2/6*
ISCJB ***14*** *10:01:47.1 ± 0.8, 37°.31N ± 0°.04 × 37°.15E ± 0°.04, h2km ± 7km, Error ellipse: s-maj=6.5km s-min=5.7km az=33.9*
DDA ***14*** *10:01:47.3, 37°.30N × 37°.15E, h7km, Ml2.7*

ISC 14 10:01:47.1 ± 1.2, **37°.34N** ± 0°.04 × **37°.15E** ± 0°.03, **h9** km ± 9km, **n10,** σ **0**§**54**/17, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.17**	**164**	PG	**Pg**	**10 01 50.9**	**+0.1**
KMRS	**Kahramanmaras**	**0.26**	**310**	PG	**Pg**	**10 01 52.1**	**-0.4**
KMRS				SG	**Sg**	**10 01 56.2**	**+0.1**
KUZU	**Kuzuini**	**0.56**	**186**	*i* P	**Pg**	**10 01 58.3**	**+0.2**
KUZU				*i* S	**Sn**	**10 02 10.0**	**-0.8**
ANDN	**Andirin**	**0.69**	**291**	*i* P	**Pg**	**10 02 00.4**	**0.0**
ANDN				*i* S	**Sb**	**10 02 11.3**	**+0.3**
ATAB	**Bozova**	**0.92**	**81**	*i* P	**Pg**	**10 02 04.7**	**-0.1**
ATAB				*i* S	**Sn**	**10 02 18.6**	**-1.0**
ELBS	**KAHRAMANMARAS**	**0.99**	**359**	*i* P	**Pb**	**10 02 06.4**	**-0.1**
ELBS				*i* S	**Sn**	**10 02 22.5**	**+1.0**
KOZT	**Kozan**	**1.07**	**278**	PG	**Pg**	**10 02 07.3**	**-0.3**
KOZT				SG	**Sn**	**10 02 23.1**	**-0.1**
TAHT	**Tahtakopru-Hat**	**1.23**	**219**	PN	**Pg**	**10 02 10.6**	**-0.2**
TAHT				SN	**Sn**	**10 02 28.0**	**+0.7**
DARE	**Darende-Malaty**	**1.26**	**12**	PN	**Pb**	**10 02 11.1**	**-0.1**
URFA	**Urfa**	**1.33**	**85**	PN	**Pg**	**10 02 13.0**	**+0.3**

ISCJB ***14*** *10:10:03.9 ± 2.0, 31°.31S ± 0°.07 × 177°.8W ± 0°.3, h35km, mb4.3/6, MS3.3/1, Error ellipse: s-maj=40.9km s-min=6.5km az=10.6*
IDC ***14*** *10:10:03.4 ± 2.1, 31°.24S × 178°.08W, h0km, mb4.4/4, mb1 4.4/6, mb1mx4.0/31, mbtmp4.3/6, ML3.4/2, MS3.1/3, Ms1 3.1/3, ms1mx2.8/25, Error ellipse: s-maj=50.6km s-min=22.5km az=117.0*
NEIC ***14*** *10:10:06.8 ± 1.1, 31°.28S × 177°.92W, h35km, mb4.1/3, Error ellipse: s-maj=24.5km s-min=9.0km az=102.0*

ISC 14 10:10:07.6 ± 1.7, **31°.2S** ± 0°.1 × **178°.0W** ± 0°.3, **h35** km, **n22,** σ **1**§**63**/22, **mb4.4/6, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island** 87nm,0.3s,baz=122,slow=15,SNR=14	**1.97**	**1**	Pn	**Pn**	**10 10 38.4**	**-0.1**
RAO	comp=Z,137nm,20.2s,baz=114,slow=25			LR	LR	10 10 52.9	
RAO	210nm,0.3s,baz=184,slow=22,SNR=6.4			Sn	**Sn**	**10 10 60.0**	**-2.0**
URZ	**Urewera** 0.3nm,0.3s,baz=49,slow=18,SNR=14	**8.10**	**209**	Pn	**Pn**	**10 12 01.2**	**-1.5**
URZ	1.8nm,0.3s,baz=181,slow=22,SNR=2.1			Sn	**Sn**	**10 13 32.6**	**-0.3**
URZ	**Urewera**	**8.10**	**209**	*e*Pn	**Pn**	**10 12 01.8**	**-0.8**
URZ				*e*Sn	**Sn**	**10 13 32.6**	**-0.3**
URZ				*e*Sn	Sn	10 13 33.8	+0.9
OUZ	**Omahuta**	**8.11**	**238**	*e*Pn	Pn	10 12 08.9	+6.1
BKZ	**Black Stump Fm**	**9.12**	**208**	*e*Pn	**Pn**	**10 12 15.0**	**-1.7**
KHZ	**Kahutara**	**13.06**	**209**	*e*Pn	**Pn**	**10 13 09.4**	**-1.2**
RPZ	**Rata Peaks** 0.2nm,0.3s,baz=76,slow=12,SNR=2.3	**15.19**	**212**	Pn	**Pn**	**10 13 38.6**	**-0.8**
RPZ	comp=Z,52nm,19.7s,baz=212,slow=36			LR	LR	10 19 01.8	
DZM	**Mont Dzumac** comp=Z,78nm,18.6s,baz=28,slow=32	**16.64**	**299**	LR	LR	10 18 55.4	
CTA	**Charters Tower** 2.7nm,0.6s,baz=108,slow=9.6,SNR=4.3	**33.96**	**280**	P	**P**	**10 16 48.9**	**+1.0**
STKA	**Stephens Creek** 1.3nm,0.3s,baz=97,slow=10,SNR=11	**34.32**	**258**	P	**P**	**10 16 52.1**	**+1.2**
STKA	**Stephens Creek** 5.3nm,1.9s	**34.32**	**258**	*e*P	**P**	**10 16 52.3**	**+1.4**
AS01	**Alice Springs**	**43.05**	**268**	*e*P	**P**	**10 18 03.7**	**-0.6**
AS31	**Alice Springs** 1.6nm,0.8s	**43.09**	**268**	*e*P	**P**	**10 18 04.1**	**-0.5**
ASAR	**Alice Springs** 3.7nm,0.4s,baz=106,slow=7.3,SNR=80	**43.09**	**268**	P	**P**	**10 18 03.8**	**-0.8**
WB2	**Warramunga Arr**	**44.15**	**273**	*e*P	**P**	**10 18 10.8**	**-2.3**
WR1	**Warramunga Arr** 6.9nm,0.8s	**44.16**	**273**	*e*P	**P**	**10 18 12.3**	**-0.9**
WRA	**Warramunga Arr** 2.6nm,0.4s,baz=111,slow=8.0,SNR=78	**44.16**	**273**	P	**P**	**10 18 12.3**	**-0.9**
ASAJ	**Asahikawa** comp=Z,15nm,21.4s,baz=262,slow=30	**83.18**	**333**	LR	LR	10 51 01.2	
FIA0	**FINESS Array S**	**145.93**	**340**	*e*PKPdf	**PKPbc**	**10 29 41.8**	**-0.9**
FINES	**FINESS Array B** 2.0nm,0.4s,baz=52,slow=5.4,SNR=12	**145.93**	**340**	PKPbc	**PKPbc**	**10 29 41.8**	**-0.9**
BR101	**Keskin Array S**	**153.00**	**297**	*e*PKPbc	**PKPbc**	**10 30 04.9**	**+3.5**
BRTR	**Keskin Array B** 0.3nm,0.4s,baz=101,slow=3.1,SNR=2.4	**153.00**	**297**	PKPbc	**PKPbc**	**10 30 04.9**	**+3.5**

MAN 14 10:11:16.4, 10°.08N × 122°.23E, h8km, mb4.6, ML3.5, MS3.4, 1C-1D, Panay

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.65**	**33**	*e*P	Pg	10 11 29.2	+0.1
GUIM				*e*S	Sb	10 11 38.7	-0.6
JAP	**San Jose, Anti**	**0.72**	**337**	⇓*e*P	Pn	10 11 33.7	+0.7
CUYO	**Cuyo Island**	**1.42**	**303**	*e*P	Pn	10 11 42.8	+0.2
CUYO				*e*S	Sb	10 12 01.0	-0.4
RCP	**Roxas**	**1.56**	**19**	⇑*e*P	Pg	10 11 47.5	+1.1
RCP				*e*S	Sg	10 12 09.0	+2.4
IPIL	**Ipil**	**2.30**	**172**	*e*P	Pn	10 11 54.4	-0.3
IPIL				*e*S	Sn	10 12 19.8	-3.4
PAGZ	**Pagadian**	**2.49**	**153**	*e*P	Pn	10 11 58.3	+1.0
PAGZ				*e*S	Sb	10 12 33.9	+1.6
MSLP	**Maasin**	**2.59**	**89**	*e*P	Pn	10 11 59.0	+0.3
BUSP	**Coron**	**2.76**	**314**	*e*P	Pn	10 12 01.7	+0.7

ISCJB ***14*** *10:11:45.0 ± 0.6, 36°.01N ± 0°.04 × 27°.53E ± 0°.05, h10km ± 6km, Error ellipse: s-maj=8.9km s-min=4.3km az=135.1*
ISK ***14*** *10:11:44.3, 35°.96N × 27°.59E, h5km, ML2.5/5*
ATH ***14*** *10:11:45.0, 36°.03N × 27°.51E, h28km ± 1km, ML2.4/5, Error ellipse: s-maj=3.6km s-min=1.1km az=129.0*

ISC 14 10:11:44.3 ± 1.1, **35°.99N** ± 0°.04 × **27°.62E** ± 0°.04, **h16** km ± 10km, **n16,** σ **1**§**04**/23, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.47**	**61**	PG	**Pg**	**10 11 54.3**	**+0.6**
ARG				SG	**Sb**	**10 12 02.2**	**+1.4**
ARG	**Arkhangelos**	**0.47**	**61**	P	**Pb**	**10 11 55.6**	**+1.4**
ARG				S	**Sn**	**10 12 04.4**	**+0.1**
ARG	comp=E,602μm,0.4s			AML	AML	10 12 05.0	
ARG	comp=N,460μm,0.3s			AML	AML	10 12 06.0	
KARP	**Karpathos**	**0.58**	**220**	PG	**Pg**	**10 11 55.6**	**-0.1**
KARP				SG	**Sg**	**10 12 03.3**	**-0.1**
KARP	**Karpathos**	**0.58**	**220**	P	**Pb**	**10 11 56.6**	**+0.5**
KARP				S	**Sb**	**10 12 04.7**	**+0.7**
KARP	comp=E,734μm,0.3s			AML	AML	10 12 09.7	
KARP	comp=N,1294μm,0.2s			AML	AML	10 12 10.3	
NIS1	**Nisyros Isl.**	**0.71**	**330**	PG	**Pb**	**10 11 58.7**	**+0.4**
NIS1	**Nisyros Isl.**	**0.71**	**330**	P	**Pb**	**10 11 58.1**	**-0.2**
DAT	**Datca**	**0.74**	**357**	PG	**Pn**	**10 11 59.8**	**-0.4**
BODT	**Bodrum**	**1.10**	**347**	PN	**Pg**	**10 12 06.1**	**+0.5**
DALY	**Dalyan (Mu¨la**	**1.17**	**45**	PN	**Pg**	**10 12 07.5**	**+0.6**
TURN	**Turunc**	**1.19**	**42**	PG	**Pn**	**10 12 03.2**	**-3.0**
FETY	**Fethiye**	**1.35**	**61**	PN	**Pg**	**10 12 11.1**	**+0.9**
ZKR	**Zakros**	**1.44**	**233**	P	**Pb**	**10 12 10.9**	**+0.1**
ZKR				S	**Sg**	**10 12 29.4**	**-1.3**
ZKR	comp=N,161μm,0.6s			AML	AML	10 12 37.5	
ZKR	comp=E,334μm,0.5s			AML	AML	10 12 38.7	
ANAF	**Anafi Island**	**1.54**	**284**	P	**Pn**	**10 12 11.1**	**0.0**
NPS	**Neapolis**	**1.79**	**247**	P	**Pb**	**10 12 15.8**	**-0.9**
NPS				S	**Sn**	**10 12 36.8**	**-0.1**
NPS	comp=N,257μm,0.4s			AML	AML	10 12 42.7	
NPS	comp=E,304μm,0.3s			AML	AML	10 12 43.1	
LAST	**Lasithi**	**1.93**	**245**	P	**Pn**	**10 12 17.5**	**+1.0**
LAST				S	**Sn**	**10 12 40.7**	**+0.1**
LAST	comp=N,176μm,0.5s			AML	AML	10 12 47.9	
LAST	comp=E,139μm,1.2s			AML	AML	10 12 48.3	
KORT	**Korkueli**	**2.42**	**65**	PN	**Pb**	**10 12 26.4**	**-1.1**

IDC 14 10:13:31.7 ± 7.8, **15°.07S × 176°.93W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/37, mbtmp3.7/3, Error ellipse: s-maj=351.1km s-min=37.3km az=140.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.3nm,0.9s,baz=91,slow=7.4,SNR=4.0	**46.60**	**257**	P	P	10 22 02.0	0.0
ASAR	**Alice Springs** 2.1nm,0.5s,baz=84,slow=8.4,SNR=52	**46.97**	**252**	P	P	10 22 04.7	-0.2
ILAR	**Eielson Array** 0.5nm,0.8s,baz=216,slow=5.6,SNR=4.7	**82.83**	**12**	P	P	10 25 57.5	0.0

NSSP ***14*** *10:17:29.9, 39°.10N × 44°.28E, h10km, Ms3.4*
AZER ***14*** *10:17:30.0 ± 2.4, 39°.01N × 44°.39E, h5km, ml3.5/15, Error ellipse: s-maj=3.5km s-min=2.0km az=39.0*
ISK ***14*** *10:17:30.8, 39°.14N × 44°.27E, h5km, ML3.5/6*
TEH ***14*** *10:17:31.5, 39°.12N × 44°.30E, h6km, ML3.4*
DDA ***14*** *10:17:31.8, 39°.07N × 44°.21E, h5km, Ml3.7*

ISC 14 10:17:31.9 ± 1.1, **39°.07N** ± 0°.02 × **44°.31E** ± 0°.02, **h8** km ± 10km, **n68,** σ **1**§**64**/89, **12C-13D, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CLDR	**Caldiran**	**0.32**	**283**	*i* P	**Pg**	**10 17 35.8**	**-2.3**
CLDR				*i* S	**Sg**	**10 17 40.9**	**-1.5**
VMUR	**Van-Muradiye**	**0.58**	**262**	*i* P	**Pg**	**10 17 41.6**	**-1.5**
VMUR				*i* S	**Sg**	**10 17 50.0**	**-0.8**
DYDN	**Diyadin**	**0.68**	**314**	*i* P	**Pg**	**10 17 44.2**	**-0.7**
DYDN				*i* S	**Sb**	**10 17 55.0**	**-0.7**
HYR	**Heyderabad**	**0.77**	**33**	⇑P	**Pg**	**10 17 46.9**	**+0.2**
HYR				⇑S	**Sb**	**10 17 58.6**	**+0.3**
IGDI	**IGDIR**	**0.81**	**347**	*i* P	**Pg**	**10 17 47.0**	**-0.6**
IGDI				*i* S	**Sn**	**10 18 01.3**	**-0.8**
VANB	**Van**	**0.86**	**237**	PG	**Pb**	**10 17 48.9**	**-0.3**
VANB	**Van**	**0.86**	**237**	*e*Pg	**Pb**	**10 17 48.7**	**-0.5**
TVAN	**Van**	**0.89**	**233**	*i* P	**Pg**	**10 17 48.8**	**-0.2**
TASB	**TASBURUN-IGDIR**	**0.91**	**356**	PG	**Pg**	**10 17 48.4**	**-1.0**
TASB	**TASBURUN-IGDIR**	**0.91**	**356**	*e*Pg	**Pg**	**10 17 49.0**	**-0.4**
NAX	**Nakhchivan** SNR=40	**0.93**	**83**	⇑P	**Pg**	**10 17 49.7**	**+0.1**
NAX				⇓S	**Sn**	**10 18 04.0**	**-0.8**
SBZ	**Shahbuz**	**1.02**	**71**	⇑P	**Pg**	**10 17 51.6**	**+0.2**
SBZ				⇓S	**Sn**	**10 18 06.6**	**-0.6**
GNI	**Garni**	**1.13**	**17**	PG	**Pg**	**10 17 51.8**	**-1.7**
GNI				SG	**Sg**	**10 18 08.4**	**+0.3**
GNI	**Garni**	**1.13**	**17**	⇓*i*P	**Pg**	**10 17 53.1**	**-0.4**
GNI				⇑S	**Sb**	**10 18 08.7**	**0.0**
GNI	**Garni**	**1.13**	**17**	*e*Pg	**Pg**	**10 17 51.7**	**-1.7**
AGRB	**Hanur-Agry**	**1.14**	**297**	PN	**Pg**	**10 17 52.3**	**-1.5**
AGRB	**Hanur-Agry**	**1.14**	**297**	*e*Pn	**Pg**	**10 17 53.1**	**-0.7**
IMRD	**Marand**	**1.14**	**108**	*e*Pg	**Pg**	**10 17 53.0**	**-0.8**
IMRD	comp=Z,22μm,0.7s			IAMB	IAmb	10 18 18.0	
TUTA	**Tutak**	**1.21**	**286**	*i* P	**Pg**	**10 17 53.8**	**-1.3**
GEVA	**Gevas**	**1.24**	**233**	*i* P	**Pb**	**10 17 54.6**	**-1.1**
ADCV	**BITLIS_Adilcev**	**1.27**	**258**	*i* P	**Pn**	**10 17 54.6**	**-1.5**
ISHB	**Shabestar**	**1.29**	**127**	*e*Pg	**Pn**	**10 17 55.9**	**-0.6**
ISHB	comp=Z,7μm,0.4s			IAMB	IAmb	10 18 18.0	
ORD	**Ordubad**	**1.32**	**96**	⇑P	**Pn**	**10 17 56.5**	**-0.2**
ORD				⇓S	**Sn**	**10 18 14.6**	**0.0**
YOVA	**Hakkari_Y¨…kse**	**1.48**	**181**	*i* P	**Pb**	**10 17 59.8**	**0.0**
YOVA				*i* S	**Sg**	**10 18 22.5**	**+2.9**
DIGO	**Kars**	**1.52**	**332**	*i* P	**Pg**	**10 18 01.5**	**+0.4**
DIGO				*i* S	**Sg**	**10 18 25.7**	**+4.8**
EATA	**Eleskirt**	**1.61**	**300**	*i* P	**Pn**	**10 18 01.0**	**0.0**
EATA				*i* S	**Sb**	**10 18 22.9**	**+0.1**
GRS	**Goris**	**1.63**	**74**	⇓*i*P	**Pn**	**10 17 58.0**	**-3.0**
GRS				⇓*i*S	**Sn**	**10 18 19.0**	**-3.2**
ITBZ	**Tabriz** comp=Z,2μm,0.2s	**1.66**	**120**	IAMB	IAmb	10 18 10.3	
ITBZ				*e*Pn	**Pb**	**10 18 02.6**	**-0.3**
ITBZ	comp=N,4μm,0.5s			IAMB	IAmb	10 18 32.7	
ITBZ	comp=E,4μm,0.5s			IAMB	IAmb	10 18 33.1	
EAK	**Akyaka**	**1.70**	**342**	*i* P	**Pg**	**10 18 04.2**	**-0.2**
EAK				*i* S	**Sg**	**10 18 32.2**	**+5.6**
EKAR	**Karacoban**	**1.76**	**277**	*i* P	**Pg**	**10 18 05.3**	**-0.2**
KARS	**Kars**	**1.82**	**329**	PN	**Pn**	**10 18 03.2**	**-0.5**
KARS	**Kars**	**1.82**	**329**	*e*Pn	**Pn**	**10 18 03.6**	**-0.1**
GURO	**Guroymak-BITLI**	**1.86**	**254**	PN	**Pn**	**10 18 04.9**	**+0.8**
GURO	**Guroymak-BITL

VMUR				*i* S		**Sn**	**10 19 40.2**	**+1.3**
GEVA	**Gevas**	**1.38**	**265**	*i* P		**Pn**	**10 19 26.7**	**-0.4**
GEVA				*i* S		**Sg**	**10 19 47.0**	**+1.0**
IGDI	**IGDIR**	**1.54**	**339**	*i* P		**Pg**	**10 19 30.5**	**-0.8**
IGDI				*i* S		**Sg**	**10 19 54.8**	**+3.6**
GRS	**Goris**	**1.60**	**48**	⇓*i* P		**Pb**	**10 19 30.0**	**-1.4**
GRS				⇓*i* S		**Sb**	**10 19 50.0**	**-1.7**
GNI	**Garni**	**1.71**	**358**	⇑*i* P		**Pg**	**10 19 35.4**	**+0.7**
GNI				⇑*i* S		**Sg**	**10 20 00.0**	**+3.2**

*ISCJB **14** 10:21:09.0±0.3,23°.93N±0°.01×121°.88E±0°.02, h45km±5km, Error ellipse: s-maj=3.0km s-min=1.9km az=41.7*
*JMA **14** 10:21:08.3,23°.90N×121°.83E, h48km±1km, M2.6*
*TAP **14** 10:21:08.4,23°.96N×121°.85E, h53km, ML3.1, C*
ISC 14 10:21:09.6±1.5,**23°.94N**±0°.02×**121°.86E**±0°.02,**h36**km±1km, **n80**,σ0**°.94**/139,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HWA	**Hwalien**	**0.24**	**280**	P		**Pn**	**10 21 17.6**	**-0.1**
	baz=268							
HWA				S		**Sn**	**10 21 24.3**	**-0.6**
	baz=268							
TWD	**Chiawan**	**0.28**	**301**	P		**Pn**	**10 21 17.3**	**-0.3**
	baz=301							
TWD				S		**Sn**	**10 21 23.7**	**-0.6**
	baz=301							
NACB	**Ninganchiao**	**0.34**	**314**	P		**Pn**	**10 21 17.6**	**-0.4**
	baz=313							
NACB				*e*S		**Sn**	**10 21 24.6**	**+0.1**
	baz=313							
ESL	**Shilin**	**0.41**	**253**	P		**Pn**	**10 21 18.6**	**-0.3**
	baz=259							
ESL				*e*S		**Sn**	**10 21 26.2**	**+0.7**
	baz=259							
EGFH	**Guangfu**	**0.48**	**236**	P		**Pn**	**10 21 19.5**	**-0.4**
	baz=242							
EGFH				S		**Sn**	**10 21 27.9**	**+0.8**
	baz=242							
NANB	**Nanao**	**0.50**	**348**	P		**Pn**	**10 21 19.6**	**-0.6**
	baz=343							
NANB				*e*S		**Sn**	**10 21 27.9**	**+0.3**
	baz=343							
ENA	**Nanau**	**0.50**	**347**	*i* P		**Pn**	**10 21 19.6**	**-0.7**
	baz=343							
ENA				*e*S		**Sn**	**10 21 27.8**	**0.0**
	baz=343							
WHF	**Hehuan Shan**	**0.58**	**291**	*e*P		**Pn**	**10 21 20.9**	**-1.1**
	baz=285							
WHF				*e*S		**Sn**	**10 21 29.7**	**-0.7**
	baz=285							
HGSD	**Ruisui**	**0.60**	**222**	P		**Pn**	**10 21 21.2**	**-0.5**
	baz=220							
HGSD				*e*S		**Sn**	**10 21 31.8**	**+1.7**
	baz=220							
CHGB	**Renai**	**0.64**	**281**	P		**Pn**	**10 21 21.7**	**-0.8**
	baz=275							
CHGB				S		**Sn**	**10 21 31.0**	**-0.5**
	baz=275							
EHY	**Hungye**	**0.66**	**229**	P		**Pn**	**10 21 21.2**	**-1.3**
	baz=226							
EHY				*e*S		**Sn**	**10 21 30.4**	**-1.1**
	baz=226							
EOS1	**EOS1**	**0.66**	**22**	*e*P		**Pn**	**10 21 22.3**	**-0.2**
	baz=33							
EOS1				*e*S		**Sn**	**10 21 32.9**	**+1.3**
	baz=33							
NNSB	**Datong**	**0.66**	**318**	P		**Pn**	**10 21 21.7**	**-1.0**
	baz=318							
NNSB				S		**Sn**	**10 21 31.0**	**-0.7**
	baz=318							
TWC	**Suao**	**0.67**	**359**	P		**Pn**	**10 21 22.3**	**-0.4**
	baz=8.0							
TWC				S		**Sn**	**10 21 32.1**	**+0.2**
	baz=8.0							
NNS	**Nan Shan**	**0.67**	**318**	*e*P		**Pn**	**10 21 21.9**	**-0.9**
	baz=318							
NNS				S		**Sn**	**10 21 31.4**	**-0.8**
	baz=318							
VWDT	**VWDT**	**0.69**	**255**	*e*P		**Pn**	**10 21 22.3**	**-0.6**
	baz=246							
VWDT				S		**Sn**	**10 21 31.5**	**-0.8**
	baz=246							
TWT	**Tachien**	**0.70**	**297**	P		**Pn**	**10 21 22.9**	**-0.4**
	baz=293							
TWT				*e*S		**Sn**	**10 21 32.6**	**-0.3**
	baz=293							
TDCB	**Techi**	**0.72**	**296**	*e*P		**Pn**	**10 21 22.8**	**-0.6**
	baz=293							
TDCB				S		**Sn**	**10 21 32.5**	**-0.7**
	baz=293							
YULB	**Yu-li**	**0.75**	**224**	P		**Pn**	**10 21 22.3**	**-1.4**
	baz=230							
YULB				*e*S		**Sn**	**10 21 32.5**	**-1.2**
	baz=230							
ENTT	**Nioudou**	**0.75**	**339**	P		**Pn**	**10 21 23.1**	**-0.6**
	baz=333							
ENTT				S		**Sn**	**10 21 33.8**	**-0.1**
	baz=333							
TWF1	**Yuli**	**0.78**	**222**	P		**Pn**	**10 21 22.9**	**-1.1**
	baz=227							
TWF1				S		**Sn**	**10 21 34.0**	**-0.6**
	baz=227							
TWE	**Neicheng**	**0.80**	**347**	P		**Pn**	**10 21 24.0**	**-0.4**
	baz=349							
TWE				S		**Sn**	**10 21 35.4**	**+0.2**
	baz=349							
SSLB	**Suanglung**	**0.84**	**260**	P		**Pn**	**10 21 24.2**	**-0.8**
	baz=261							
SSLB				*e*S		**Sn**	**10 21 35.6**	**-0.6**
	baz=261							
YHNB	**Yeheng**	**0.86**	**329**	P		**Pn**	**10 21 24.5**	**-0.7**
	baz=329							
YHNB				*e*S		**Sn**	**10 21 35.3**	**-1.3**
	baz=329							
NSK	**Sanguang**	**0.87**	**328**	P		**Pn**	**10 21 24.6**	**-0.8**
	baz=329							
NSK				S		**Sn**	**10 21 35.7**	**-1.2**
	baz=329							
SMLT	**Sun Moon Lake**	**0.88**	**267**	P		**Pn**	**10 21 25.1**	**-0.5**
	baz=260							
FULB	**Fuli**	**0.90**	**216**	P		**Pn**	**10 21 25.5**	**-0.3**
	baz=224							
FULB				S		**Sn**	**10 21 39.0**	**+1.5**
	baz=224							
NWLT	**Wulai**	**0.90**	**339**	P		**Pn**	**10 21 25.1**	**-0.7**
	baz=333							
EGS		**0.91**	**4**	*e*S		**Sn**	**10 21 38.2**	**+0.4**
	baz=6.0							
NTC	**Toucheng**	**0.92**	**358**	*e*P		**Pn**	**10 21 26.1**	**+0.2**
	baz=7.0							
YUS	**Yu-Shan**	**0.95**	**242**	P		**Pn**	**10 21 26.2**	**-0.6**
	baz=234							
YUS				S		**Sn**	**10 21 38.8**	**-0.6**
	baz=234							
CHKT	**Chengkung**	**0.95**	**209**	*e*S		**Sn**	**10 21 37.3**	**-1.5**
	baz=198							
WJS	**Zhushan**	**1.04**	**264**	P		**Pn**	**10 21 27.8**	**0.0**
	baz=262							
WJS				S		**Sn**	**10 21 43.1**	**+2.0**
	baz=262							
LIOB	**Emei**	**1.05**	**313**	P		**Pn**	**10 21 28.1**	**+0.4**
	baz=316							
LIOB				*e*S		**Sn**	**10 21 41.4**	**+0.2**
	baz=316							
NSTT	**Nanjuang**	**1.05**	**312**	P		**Pn**	**10 21 28.1**	**+0.3**
	baz=315							
NSTT				*e*S		**Sn**	**10 21 41.4**	**+0.2**
	baz=315							
ALS	**Alishan**	**1.06**	**247**	P		**Pn**	**10 21 28.2**	**0.0**
	baz=239							
ALS				*e*S		**Sn**	**10 21 42.0**	**+0.2**
	baz=239							
WLTB	**Daxi**	**1.07**	**329**	*e*S		**Sn**	**10 21 41.8**	**+0.2**
	baz=334							
TWA	**Mucha**	**1.07**	**346**	*e*S		**Sn**	**10 21 41.6**	**-0.1**
	baz=338							
ELDTW	**Lidau**	**1.07**	**226**	P		**Pn**	**10 21 27.1**	**-1.1**
	baz=221							
ELDTW				S		**Sn**	**10 21 40.9**	**-1.0**
	baz=221							
TWQ1	**Liyutan**	**1.08**	**293**	P		**Pn**	**10 21 28.0**	**-0.2**
	baz=292							
TWQ1				*e*S		**Sn**	**10 21 42.2**	**+0.3**
	baz=292							
WNT	**Mingjian**	**1.08**	**267**	P		**Pn**	**10 21 28.8**	**+0.6**
	baz=265							
WNT				S		**Sn**	**10 21 43.3**	**+1.4**
	baz=265							
TATO	**Taipei**	**1.09**	**342**	*e*S		**Sn**	**10 21 41.6**	**-0.5**
	baz=343							
TCU	**Taichung**	**1.11**	**281**	P		**Pn**	**10 21 28.7**	**+0.2**
	baz=280							
TCU				*e*S		**Sn**	**10 21 43.3**	**+0.7**
	baz=280							
JYNG	**Yonagunijimaku**	**1.11**	**62**	P		**Pn**	**10 21 28.5**	**-0.2**
JYNG				*e*S		**Sn**	**10 21 42.7**	**0.0**
NSY	**Sanyi**	**1.11**	**296**	*e*S		**Sn**	**10 21 44.0**	**+1.2**
	baz=295							
NWF	**Wu-fen Shan**	**1.13**	**356**	*e*P		**Pn**	**10 21 29.4**	**+0.4**
	baz=358							
NWF				*e*S		**Sn**	**10 21 43.7**	**+0.3**
	baz=358							
WFSB	**Wu-fen Shan**	**1.13**	**356**	*e*P		**Pn**	**10 21 28.9**	**-0.1**
	baz=358							
WFSB				*e*S		**Sn**	**10 21 44.4**	**+1.1**
	baz=358							
CHN5	**Tsauling**	**1.14**	**253**	P		**Pn**	**10 21 29.2**	**+0.1**
	baz=251							
CHN5				S		**Sn**	**10 21 44.2**	**+0.7**
	baz=251							
YOJ	**Yonaguni jima**	**1.17**	**63**	P		**Pn**	**10 21 29.6**	**+0.1**
YOJ				*e*S		**Sn**	**10 21 44.2**	**0.0**
WCHH	**Zhanghua**	**1.20**	**277**	*e*S		**Sn**	**10 21 45.9**	**+0.9**
	baz=275							
YM01	**YM01**	**1.23**	**348**	*e*P		**Pn**	**10 21 32.0**	**+1.6**
	baz=337							
YM01				*e*S		**Sn**	**10 21 45.7**	**-0.2**
	baz=337							
WDLH	**Douliu**	**1.24**	**259**	*e*P		**Pn**	**10 21 30.9**	**+0.5**
	baz=257							
WDLH				*e*S		**Sn**	**10 21 47.3**	**+1.5**
	baz=257							
YM05	**YM05**	**1.25**	**348**	*e*P		**Pn**	**10 21 30.5**	**-0.2**
	baz=337							
YM07	**YM07**	**1.25**	**350**	*e*P		**Pn**	**10 21 30.1**	**-0.5**
	baz=339							
STYT	**Tauyuan**	**1.27**	**233**	P		**Pn**	**10 21 30.9**	**0.0**
	baz=225							
STYT				S		**Sn**	**10 21 47.6**	**+0.8**
	baz=225							
TPUB	**Ta-pu**	**1.30**	**241**	*e*P		**Pn**	**10 21 31.1**	**-0.1**
	baz=239							
TPUB				*e*S		**Sn**	**10 21 48.8**	**+1.5**
	baz=239							
CHN4	**Tsaushan**	**1.30**	**244**	P		**Pn**	**10 21 32.0**	**+0.8**
	baz=234							
CHN4				*e*S		**Sn**	**10 21 49.0**	**+1.6**
	baz=234							
TWGBT	**Beinan**	**1.32**	**213**	*e*P		**Pn**	**10 21 29.9**	**-1.6**
	baz=212							
TWGBT				*e*S		**Sn**	**10 21 46.1**	**-1.9**
	baz=212							
TWG	**Pinlang**	**1.33**	**213**	*e*P		**Pn**	**10 21 30.9**	**-0.7**
	baz=212							
TWG				*e*S		**Sn**	**10 21 46.3**	**-1.7**
	baz=212							
WTP	**Ta-pu**	**1.34**	**239**	*e*S		**Sn**	**10 21 50.6**	**+2.3**
	baz=237							
RLNB	**Erlin**	**1.38**	**268**	*e*S		**Sn**	**10 21 50.2**	**+1.0**
	baz=280							
CHY	**Chiayi**	**1.39**	**252**	*e*S		**Sn**	**10 21 51.3**	**+1.8**
	baz=250							
TWK	**Hsinying**	**1.43**	**242**	*e*P		**Pn**	**10 21 33.1**	**0.0**
	baz=240							
TWK				*e*S		**Sn**	**10 21 52.2**	**+1.7**
	baz=240							
CHN1	**Nanshi**	**1.44**	**239**	P		**Pn**	**10 21 33.8**	**+0.7**
	baz=237							
CHN1				*e*S		**Sn**	**10 21 51.9**	**+1.2**
	baz=237							
SLGT	**Liugui**	**1.46**	**230**	*e*S		**Sn**	**10 21 53.2**	**+1.9**
	baz=236							
WSF	**Szhu**	**1.53**	**259**	*e*S		**Sn**	**10 21 54.3**	**+1.2**
	baz=247							
ECL	**Taimali**	**1.57**	**212**	*e*P		**Pn**	**10 21 33.2**	**-1.7**
	baz=211							
ECL				*e*S		**Sn**	**10 21 51.9**	**-2.2**
	baz=211							
CHN8	**Yiju**	**1.62**	**249**	*e*S		**Sn**	**10 21 56.6**	**+1.3**
	baz=247							
SSD	**Sandimen**	**1.64**	**224**	P		**Pn**	**10 21 36.9**	**+1.0**
	baz=223							
MASBT	**Mashibuluo**	**1.74**	**221**	*e*P		**Pn**	**10 21 38.2**	**+0.9**
	baz=211							
MASBT				*e*S		**Sn**	**10 22 00.3**	**+2.1**
	baz=211							
IRIF	**Iriomote-Funau**	**1.75**	**76**	P		**Pn**	**10 21 37.4**	**0.0**
IRIF				S		**Sn**	**10 21 58.8**	**+0.3**
HATJ	**Hateruma jima**	**1.78**	**86**	P		**Pn**	**10 21 38.1**	**+0.3**
HATJ				*e*S		**Sn**	**10 21 59.6**	**+0.4**
EAST	**Anshuo**	**1.81**	**211**	*e*P		**Pn**	**10 21 39.1**	**+0.9**
	baz=211							
SCZT	**Fangliau**	**1.93**	**217**	*e*P		**Pn**	**10 21 41.1**	**+1.2**
	baz=215							
SCZT				*e*S		**Sn**	**10 22 04.5**	**+1.6**
	baz=215							
JKRS	**Kuro-shima**	**1.98**	**81**	P		**Pn**	**10 21 41.0**	**+0.4**
JKRS				*e*S		**Sn**	**10 22 05.0**	**+0.8**
JIJ	**Ishigaki jima**	**2.13**	**78**	P		**Pn**	**10 21 42.2**	**-0.4**
JIJ				S		**Sn**	**10 22 07.0**	**-0.7**
WDGT	**Dungji**	**2.13**	**252**	*e*P		**Pn**	**10 21 41.6**	**-1.0**
	baz=250							
PHUB	**P'eng-hu**	**2.14**	**259**	*e*P		**Pn**	**10 21 41.5**	**-1.3**
	baz=270							
PHUB				*e*S		**Sn**	**10 22 07.1**	**-1.1**
	baz=270							
PNG	**Penghu**	**2.15**	**261**	*e*P		**Pn**	**10 21 41.8**	**-1.0**
	baz=258							
PNG				*e*S		**Sn**	**10 22 07.2**	**-1.0**
	baz=258							
JISG	**Ishigakijimahi**	**2.33**	**73**	P		**Pn**	**10 21 44.9**	**-0.4**
JISG				S		**Sn**	**10 22 12.3**	**-0.4**

*DDA **14** 10:22:01.3,38°.54N×44°.87E, h7km, Ml2.8*
*ISK **14** 10:22:02.5,38°.50N×44°.65E, h6km, ML2.6/3*
ISC 14 10:22:00.6±1.8,**38°.46N**±0°.04×**44°.83E**±0°.07,**h7**km±12km, **n11**,σ1**°50**/18,**Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YOVA	**Hakkari_Y…kse**	**0.97**	**206**	*i* P		**Pg**	**10 22 18.8**	**-0.5**
YOVA				*i* S		**Sn**	**10 22 36.5**	**+1.5**
CLDR	**Caldiran**	**0.99**	**314**	PG		**Pg**	**10 22 19.3**	**-0.3**
CLDR				SG		**Sg**	**10 22 31.6**	**-0.9**
CLDR	**Caldiran**	**0.99**	**314**	*i* P		**Pg**	**10 22 18.3**	**-1.3**
CLDR				*i* S		**Sb**	**10 22 33.0**	**-0.6**
VMUR	**Van-Muradiye**	**1.12**	**299**	*i* P		**Pn**	**10 22 23.0**	**+0.1**
VMUR				*i* S		**Sn**	**10 22 38.8**	**+0.1**
VANB	**Van**	**1.14**	**277**	PG		**Pb**	**10 22 21.4**	**-1.3**
VANB				SG		**Sg**	**10 22 35.5**	**-1.8**
GEVA	**Gevas**	**1.40**	**265**	*i* P		**Pn**	**10 22 25.4**	**-1.3**
GEVA				*i* S		**Sg**	**10 22 48.8**	**+3.1**
DYDN	**Diyadin**	**1.40**	**321**	*i* P		**Pg**	**10 22 28.5**	**+1.0**
TASB	**TASBURUN-IGDIR**	**1.59**	**343**	PN		**Pb**	**10 22 30.7**	**+0.3**
ADCV	**BITLIS_Adilcev**	**1.69**	**283**	*i* P		**Pg**	**10 22 33.2**	**+0.2**
ADCV				*i* S		**Sg**	**10 22 57.7**	**+2.9**
GNI	**Garni**	**1.69**	**358**	PN		**Pg**	**10 22 32.9**	**-0.1**
AGRB	**Hanur-Agry**	**1.82**	**308**	PN		**Pn**	**10 22 32.8**	**+0.3**

*ISK **14** 11:08:47.8,37°.32N×37°.12E, h5km, ML2.3/6*
*ISCJB **14** 11:08:48.7±0.6,37°.30N±0°.04×37°.09E±0°.06, h6km±7km, Error ellipse: s-maj=9.2km s-min=5.1km az=141.2*
*DDA **14** 11:08:49.8,37°.32N×37°.20E, h7km, Ml2.8*
ISC 14 11:08:48.6±1.0,**37°.32N**±0°.03×**37°.13E**±0°.04,**h7**km±10km, **n12**,σ0**°34**/17,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GAZ	**Gaziantep**	**0.16**	**156**	PG		**Pg**	**11 08 51.6**	**-0.3**
GAZ				SG		**Sg**	**11 08 54.8**	**+0.6**
KMRS	**Kahramanmaras**	**0.26**	**316**	PG		**Pg**	**11 08 53.4**	**-0.3**
KMRS				SG		**Sg**	**11 08 57.4**	**+0.2**
KUZU	**Kuzuini**	**0.55**	**184**	*i* P		**Pb**	**11 09 00.9**	**+0.4**
ATAB	**Bozova**	**0.94**	**81**	*i* P		**Pg**	**11 09 06.3**	**-0.4**
ATAB				*i* S		**Sb**	**11 09 19.9**	**0.0**
ELBS	**KAHRAMANMARAS**	**1.00**	**0**	*i* P		**Pn**	**11 09 09.2**	**+0.1**
KOZT	**Kozan**	**1.05**	**279**	PG		**Pg**	**11 09 08.2**	**-0.5**
AKCD	**Akcadag**	**1.16**	**33**	*i* P		**Pn**	**11 09 11.3**	**0.0**
AKCD				*i* S		**Sn**	**11 09 27.6**	**+0.1**
TAHT	**Tahtakopru-Hat**	**1.21**	**219**	PN		**Pg**	**11 09 11.3**	**-0.4**
SURC	**SANLIURFA_SURC**	**1.27**	**110**	*i* P		**Pg**	**11 09 12.4**	**-0.4**
SURC				*i* S		**Sn**	**11 09 30.0**	**+0.1**
DARE	**Darende-Malaty**	**1.28**	**13**	PN		**Pg**	**11 09 13.0**	**-0.1**
URFA	**Urfa**	**1.35**	**84**	PN		**Pb**	**11 09 14.1**	**-0.2**
HEKM	**Malatya_Hekimh**	**1.69**	**23**	*i* P		**Pg**	**11 09 20.9**	**0.0**

*ISK **14** 11:29:58.2,37°.35N×37°.14E, h8km, ML2.1/5*
*ISCJB **14** 11:29:59.0±0.6,37°.32N±0°.04×37°.10E±0°.06, h6km±8km, Error ellipse: s-maj=9.4km s-min=5.2km az=141.7*
*DDA **14** 11:29:59.7,37°.31N×37°.19E, h7km, Ml3.0*
ISC 14 11:29:58.8±1.3,**37°.35N**±0°.04×**37°.17E**±0°.04,**h3**km±13km, **n12**,σ0**°80**/16,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GAZ	**Gaziantep**	**0.18**	**170**	PG		**Pg**	**11 30 02.5**	**+0.3**
GAZ				SG		**Sg**	**11 30 05.4**	**+0.8**
KMRS	**Kahramanmaras**	**0.27**	**306**	PG		**Pg**	**11 30 03.8**	**-0.2**
KMRS				SG		**Sg**	**11 30 07.5**	**0.0**
KUZU	**Kuzuini**	**0.58**	**188**	*i* P		**Pb**	**11 30 10.4**	**-1.1**
ATAB	**Bozova**	**0.90**	**82**	*i* P		**Pb**	**11 30 17.0**	**-0.1**
ATAB				*i* S		**Sb**	**11 30 30.1**	**+0.7**
ELBS	**KAHRAMANMARAS**	**0.98**	**358**	*i* P		**Pn**	**11 30 19.4**	**-0.1**
SAIM	**ADANA**	**1.07**	**306**	*i* P		**Pn**	**11 30 22.7**	**+1.9**
KOZT	**Kozan**	**1.08**	**277**	PG		**Pg**	**11 30 18.9**	**-0.6**
AKCD	**Akcadag**	**1.12**	**32**	*i* P		**Pn**	**11 30 21.4**	**0.0**
AKCD				*i* S		**Sn**	**11 30 37.8**	**+0.4**
SURC	**SANLIURFA_SURC**	**1.24**	**112**	*i* P		**Pg**	**11 30 28.6**	**+6.1**
SURC				*i* S		**Sn**	**11 30 40.0**	**-0.3**
DARE	**Darende-Malaty**	**1.25**	**11**	PN		**Pn**	**11 30 22.7**	**-0.5**
TAHT	**Tahtakopru-Hat**	**1.25**	**220**	PN		**Pb**	**11 30 22.3**	**-0.7**
URFA	**Urfa**	**1.32**	**85**	PN		**Pn**	**11 30 23.8**	**-0.3**

*IDC **14** 11:36:31.9±3.2, 13°.91N×92°.38W, h0km, mb3.6/4, mb1 4.0/7, mb1mx3.7/50, mbtmp3.6/7, ML3.3/3, MS2.1/1, Ms1 2.1/1, ms1mx2.0/33, Error ellipse: s-maj=64.2km s-min=25.8km az=0.0*
*MEX **14** 11:36:35.0±0.5, 13°.91N×92°.44W, h16km±178km, MD3.8*
ISC 14 11:36:35.1±2.5,**14°.09N**±0°.10×**92°.45W**±0°.07,**h13**km±13km, **n12**,σ1**°18**/18,**mb3.7**/4,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
THIG		**0.83**	**12**	*i* P		**Pg**	**11 36 51.1**	**-0.1**
THIG				*e*S		**Sb**	**11 37 03.0**	**+0.4**
PCIG		**1.77**	**335**	*e*P		**Pn**	**11 37 04.0**	**-1.5**
PCIG				*e*S		**Sn**	**11 37 26.6**	**-1.3**
APG	**El Apazote**	**2.12**	**64**	Pn		**Pn**	**11 37 10.0**	**-0.6**
	5.6nm,0.3s,baz=241,slow=7.7,SNR=30							
APG				Sn		**Sn**	**11 37 38.1**	**+1.1**
	17nm,0.3s,baz=341,slow=20,SNR=6.3							
APG				LR		LR	11 37 54.7	
	comp=Z,46nm,19.6s,baz=299,slow=39							
CCIG	**Comitan**	**2.20**	**8**	*e*P		**Pn**	**11 37 11.3**	**-0.3**
CCIG				*i* S		**Sn**	**11 37 38.8**	**0.0**
TGIG		**2.75**	**346**	*e*P		**Pn**	**11 37 18.6**	**-0.5**
TGIG				*e*S		**Sn**	**11 37 52.3**	**+0.1**
CMIG	**Matias Romero**	**3.79**	**322**	Pn		**Pn**	**11 37 33.5**	**+0.1**
	2.2nm,0.3s,baz=134,slow=9.7,SNR=15							
CMIG				Sn		**Sn**	**11 38 19.2**	**+1.2**
	7.9nm,0.3s,baz=88,slow=13,SNR=6.1							
CMIG				Lg		Lg	11 38 35.8	
	12nm,0.3s,baz=36,slow=14,SNR=6.2							
TXAR	**Lajitas Array**	**18.38**	**327**	P		**Pn**	**11 40 52.1**	**+2.1**
	0.0nm,0.3s,baz=148,slow=10,SNR=9.2							
PDAR	**Pinedale Array**	**32.16**	**336**	P		**P**	**11 43 03.4**	**+0.5**
	0.4nm,0.9s,baz=150,slow=7.3,SNR=2.7							
NVAR	**Mina Array Bea**	**33.33**	**321**	P		**P**	**11 43 15.0**	**+1.8**
	0.7nm,0.7s,baz=149,slow=9.2,SNR=4.5							
YKA	**Yellowknife Ar**	**50.84**	**347**	P		**P**	**11 45 33.5**	**-1.8**
	0.6nm,0.5s,baz=151,slow=7.3,SNR=4.0							
ILAR	**Eielson Array**	**62.59**	**337**	P		**P**	**11 46 58.6**	**-0.1**
	0.6nm,0.9s,baz=121,slow=3.9,SNR=4.6							
CMAR	**Chiang Mai Arr**	**145.76**	**341**	PKPbc		**PKPdf**	**11 56 13.6**	**-1.0**
	0.6nm,0.5s,baz=347,slow=3.7,SNR=4.4							

*IDC **14** 11:40:52.8±0.5,20°.70S×173°.94W, h0km, mb4.5/16, mb1 4.7/17, mb1mx4.4/55, mbtmp4.5/17, ML4.6/1, MS4.2/20, Ms1 4.2/20, ms1mx4.0/31, Error ellipse: s-maj=20.9km s-min=14.7km az=135.0*
*NEIC **14** 11:40:56.9±3.2,20°.79S×173°.95W, h22km±22km, mb4.6/81, Error ellipse: s-maj=9.4km s-min=5.4km az=147.0*
*ISCJB **14** 11:40:57.2±0.2,20°.81S±0°.06×173°.91W±0°.06, h37km, mb4.6/104, MS4.3/17, Error ellipse: s-maj=10.6km s-min=4.9km az=140.9*
*GCMT **14** 11:40:57.8±0.3,21°.07S±0°.04×173°.25W±0°.02, h18km±1km, MW4.9/74, Moment Tensor Solution. s19,c19; s74,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.61±.21; $M_{\theta\theta}$-0.46±.12; $M_{\phi\phi}$-2.15±.14; $M_{r\theta}$0.79±.32; $M_{r\phi}$-0.52±.07; $M_{\theta\phi}$1.61±.27; Best double couple: $M_0$3.03600×10^{16} NP1:ϕ_s21.00000°,δ63.00000°,λ95.00000°. NP2: ϕ_s192.00000°,δ27.00000°,λ81.00000°. Principal axes: T 3.2040, Plg72.0000°, Azm302.0000°; N -0.3320, Plg4.0000°, Azm199.0000°; P -2.8680, Plg18.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 14 11:40:57.5±0.6,**20°.90S**±0°.08×**173°.71W**±0°.08,**h29**km±4km, **h30**km:**pP-P**,**n239**,σ1**°27**/230,**mb4.6**/104,**MS4.4**/17,**2C-1D**, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**7.19**	**15**	Sn		Sn	11 43 48.9	-13
	11nm,0.3s,baz=71,slow=23,SNR=7.4							
AFI				T		T	11 49 57.6	
	4.2nm,0.3s,baz=30,slow=18,SNR=6.0							
RAO	**Raoul Island**	**9.15**	**204**	*e*Pn		**Pn**	**11 43 05.5**	**-1.9**
RAR	**Rarotonga**	**13.02**	**94**	Pn		Pn	11 43 51.9	-8.5
	6.4nm,0.3s,baz=339,slow=9.3,SNR=17							
RAR				LR		LR	11 48 39.9	
	comp=Z,909nm,18.7s,baz=278,slow=35							
DZM	**Mont Dzumac**	**18.51**	**263**	LR		LR

ASAR	**Alice Springs**	48.33	256	P		**P**	11 49 33.9	-2.8	
	6.3nm,0.9s,baz=97,slow=7.4,SNR=46								
ASAR				LR		LR	12 09 31.1		
	comp=Z,442nm,18.1s,baz=108,slow=36								
WB2	**Warramunga Arr**	48.51	261	*e*P		**P**	11 49 36.4	-1.7	
WRAB	**Tennant Creek**	48.51	261	*e*P		**P**	11 49 35.9	-2.2	
	8.2nm,1.1s								
WRA	**Warramunga Arr**	48.52	261	P		**P**	11 49 35.4	-2.8	
	2.3nm,0.6s,baz=100,slow=8.3,SNR=37								
FORT	**Forrest**	52.82	247	*e*P		**P**	11 50 09.4	-1.1	
	28nm,0.9s								
GUMO	**Guam**	53.20	307	LR		LR	12 09 21.8		
	comp=Z,86nm,20.4s,baz=110,slow=32								
FITZ	**Fitzroy Crossi**	56.95	262	*e*P		**P**	11 50 39.9	-0.6	
	1.4nm,0.7s								
SIJI	**Sorong**	57.23	283	P		**P**	11 50 41.0	-1.5	
	10nm,0.9s,baz=57,slow=4.3,SNR=7.8								
SBA	**Scott Base**	57.77	185	*e*P		**P**	11 50 48.3	+2.9	
	7.3nm,1.0s								
VNDA	**Vanda**	57.91	186	P		**P**	11 50 49.0	+2.8	
	4.4nm,1.1s,baz=12,slow=7.9,SNR=7.9								
VNDA				LR		LR	12 11 13.7		
	comp=Z,127nm,20.3s,baz=32,slow=31								
VNDA	**Vanda**	57.91	186	*e*P		**P**	11 50 49.1	+2.8	
	3.4nm,1.0s								
SOEI	**Soe**	60.52	270	*e*P		**P**	11 51 05.3	-0.3	
	49nm,0.9s								
MBWA	**Marble Bar**	61.68	257	*e*P		**P**	11 51 12.5	-0.7	
	10nm,0.8s								
QSPA	**South Pole Qui**	69.17	180	P		**P**	11 52 01.4	+0.3	
	10nm,1.1s,baz=38,slow=3.5,SNR=12								
SCZ2	**Santa Cruz Isl**	75.02	44	P		**P**	11 52 35.4	-1.0	
	baz=232								
SCI2	**San Clemente I**	75.12	46	P		**P**	11 52 35.8	-1.2	
	baz=233								
CIS	**Catalina Islan**	75.46	45	P		**P**	11 52 38.4	-0.6	
	baz=233								
PKM	**Mcpherson Peak**	75.46	43	P		**P**	11 52 39.2	+0.1	
	baz=231								
BLG	**Laguna Peak, P**	75.47	44	P		**P**	11 52 38.9	0.0	
	baz=232								
PAGB	**Antelope Grade**	75.72	42	*e*P		**P**	11 52 41.4	+1.1	
	13nm,1.1s								
BAR	**Barrett**	76.20	47	*e*P		**P**	11 52 41.4	-1.8	
ARVC	**Arvin**	76.25	44	P		**P**	11 52 42.8	-0.6	
	baz=232								
MURC	**Murrieta**	76.40	46	P		**P**	11 52 43.9	-0.4	
	baz=234								
BFSC	**Mount Baldy Ra**	76.47	45	P		**P**	11 52 43.9	-0.9	
	baz=233								
MONP2	**Monument Peak**	76.50	47	P		**P**	11 52 44.7	-0.4	
	baz=234,SNR=8.4								
VES	**Vestal, Richgr**	76.52	43	P		**P**	11 52 44.6	-0.2	
	baz=232,SNR=12								
IKP	**In-Ko-Pah, Jac**	76.57	47	P		**P**	11 52 44.9	-0.4	
	baz=234,SNR=5.8								
EDW2	**Edwards Air Fo**	76.64	44	P		**P**	11 52 45.6	0.0	
	baz=233,SNR=12								
FRD	**Ford Ranch, An**	76.73	46	P		**P**	11 52 46.5	+0.2	
	baz=234,SNR=11								
ISA	**Isabella, Lake**	76.80	43	*e*P		**P**	11 52 47.3	+0.7	
	9.2nm,1.0s								
ISA	**Isabella, Lake**	76.80	43	P		**P**	11 52 46.0	-0.6	
	baz=232,SNR=15								
PFO	**Pinyon Flats O**	76.90	46	*e*P		**P**	11 52 48.3	+1.1	
	5.7nm,1.0s								
PFO	**Pinyon Flats O**	76.90	46	P		**P**	11 52 46.4	-0.8	
	baz=234,SNR=8.4								
XPFO	**Piæon Flat**	76.90	46	*e*P		**P**	11 52 48.3	+1.1	
	8.2nm,1.1s								
SWSC	**Sam W. Stewart**	76.95	47	P		**P**	11 52 47.4	0.0	
	baz=234								
BBRC	**Big Bear Solar**	76.97	45	P		**P**	11 52 47.6	-0.1	
	baz=234								
CMB	**Columbia Colle**	77.09	41	*e*P		**P**	11 52 48.3	+0.1	
	7.0nm,1.0s								
LRMC	**Laurel Mtn Rad**	77.20	44	P		**P**	11 52 48.6	-0.3	
	baz=233,SNR=7.7								
RRX	**Edison Barstow**	77.29	45	P		**P**	11 52 49.0	-0.3	
	baz=233								
AFDM	**Forest Hills D**	77.33	40	*e*P		**P**	11 52 50.3	+0.9	
	6.5nm,1.2s								
ORV	**Oroville**	77.41	39	*e*P		**P**	11 52 50.5	+0.8	
	4.4nm,1.1s								
BELC	**Belle Mtn. Jos**	77.44	46	P		**P**	11 52 49.6	-0.7	
	baz=234,SNR=9.9								
WDC	**Whiskeytown Da**	77.48	37	*e*P		**P**	11 52 50.8	+0.7	
	2.1nm,1.1s								
CWC	**Cottonwood Cre**	77.53	43	P		**P**	11 52 50.3	-0.4	
	baz=232								
BC3	**Big Chuckawall**	77.60	47	P		**P**	11 52 51.6	+0.5	
	baz=235,SNR=7.6								
MDPB	**Devils Postpil**	77.64	42	*e*P		**P**	11 52 52.5	+1.1	
	9.7nm,1.0s								
N02D	**Trinity Center**	77.65	37	P		**P**	11 52 51.4	+0.1	
	baz=228								
GSC	**Goldstone, Bar**	77.67	45	*e*P		**P**	11 52 52.0	+0.6	
	6.1nm,1.1s								
GSC	**Goldstone, Bar**	77.67	45	P		**P**	11 52 51.1	-0.3	
	baz=233,SNR=7.6								
OMMB	**Old Mammoth Mi**	77.68	42	*e*P		**P**	11 52 52.5	+0.7	
	9.3nm,1.2s								
MPMC	**Manual Prospec**	77.68	44	P		**P**	11 52 51.2	-0.4	
	baz=233,SNR=14								
GLA	**Glamis**	77.68	47	P		**P**	11 52 51.5	0.0	
	baz=235								
HEC	**Hector,Ludlow**	77.70	45	P		**P**	11 52 51.7	+0.1	
	baz=234								
O03E	**Paynes Creek**	77.72	38	P		**P**	11 52 51.6	0.0	
	baz=229								
DAC	**Darwin (Calif)**	77.74	43	*e*P		**P**	11 52 53.7	+1.7	
	1.2nm,0.7s								
PETK	**Petropavlovsk-**	77.76	343	P		**P**	11 52 50.5	-0.9	
	7.4nm,1.0s,baz=110,slow=13,SNR=5.5								
PETK	**Petropavlovsk-**	77.76	343	*e*P		**P**	11 52 51.8	+0.4	
MLAC	**Mammoth, Mammo**	77.79	42	P		**P**	11 52 52.3	0.0	
	baz=232								
M02C	**Callahan**	77.85	37	P		**P**	11 52 52.5	+0.1	
	baz=228								
L02E	**Cave Junction**	77.95	36	P		**P**	11 52 53.2	+0.4	
	baz=227								
WAKR	**Walker**	77.97	41	*e*P		**P**	11 52 53.8	+0.6	
	19nm,1.2s								
IRM	**Iron Mountain**	78.10	46	P		**P**	11 52 54.2	+0.3	
	baz=235,SNR=14								
GMRC	**Granite Mounta**	78.12	46	P		**P**	11 52 54.0	0.0	
	baz=234,SNR=7.0								
YBH	**Yreka Blue Hor**	78.16	36	*e*P		**P**	11 52 54.1	+0.1	
	1.8nm,0.9s								
PNTR	**Pine Nut**	78.24	40	*e*P		**P**	11 52 55.9	+1.2	
	12nm,1.0s								
113A	**Mohawk Valley,**	78.26	48	*e*P		**P**	11 52 55.4	+0.7	
	7.7nm,1.1s								
BEKR	**Beckworth**	78.28	39	*e*P		**P**	11 52 55.7	+0.8	
	1.4nm,0.8s								
K02D	**Willamette Mer**	78.28	35	P		**P**	11 52 54.7	0.0	
	baz=227								
Y12C	**Blythe**	78.29	47	*e*P		**P**	11 52 56.3	+1.5	
	7.2nm,0.9s								
Y12C	**Blythe**	78.29	47	P		**P**	11 52 55.2	+0.4	
	baz=235								
GRAC	**Grapevine Rang**	78.32	43	P		**P**	11 52 55.5	+0.5	
	baz=233								
FURC	**Furnace Creek,**	78.33	44	P		**P**	11 52 55.4	+0.4	
	baz=233								
TUQ	**Turquoise Moun**	78.33	45	P		**P**	11 52 55.2	0.0	
	baz=234								
VCNR	**Virginia City**	78.34	40	*e*P		**P**	11 52 56.1	+0.9	
	7.8nm,1.1s								
YERR	**Yerington**	78.39	40	*e*P		**P**	11 52 56.2	+0.7	
	16nm,1.2s								
214A	**Organ Pipe Nat**	78.48	49	P		**P**	11 52 55.7	-0.3	
	baz=237								
RYN	**Ryan**	78.60	41	*e*P		**P**	11 52 57.0	+0.4	
	6.8nm,1.1s								
HUMO	**Hull Mountain**	78.61	36	*e*P		**P**	11 52 58.0	+1.6	
	2.6nm,1.1s								
NV01	**Mina Array Sit**	78.61	41	*e*P		**P**	11 52 56.7	-0.1	
NVAR	**Mina Array Bea**	78.61	41	P		**P**	11 52 56.8	-0.1	
	12nm,1.0s,baz=224,slow=8.8,SNR=52								
NVAR				LR		LR	12 22 08.6		
	comp=Z,188nm,19.2s,baz=242,slow=32								
M04C	**Macdoel**	78.68	37	P		**P**	11 52 56.9	0.0	
	baz=229								
L04D	**Klamath Falls**	78.71	36	P		**P**	11 52 57.0	-0.1	
	baz=228								
NV11	**Mina Array Sit**	78.71	41	*e*P		**P**	11 52 57.2	0.0	
	1.0nm,1.0s								

PAHR	**Pah Rah Range**	78.76	40	*e*P		**P**	11 52 58.2	+0.8	
	11nm,1.2s								
PAHR				*e*pP		**sP**	11 53 08.7	-1.6	
PDMCI	**Parker Dam,Lak**	78.87	47	P		**P**	11 52 57.9	-0.1	
	baz=235								
TPNV	**Topopah Spring**	79.01	43	P		**P**	11 52 58.8	-0.1	
	baz=234,SNR=8.4								
KVN	**Kaiserville**	79.12	41	*e*P		**P**	11 53 00.1	+0.5	
	8.3nm,1.1s								
SHPR	**Sheep Range**	79.45	44	*e*P		**P**	11 53 02.3	+0.9	
	7.7nm,1.1s								
W13A	**Hualapai Mount**	79.49	46	*e*P		**P**	11 53 02.6	+0.9	
	3.8nm,1.0s								
MOD	**Modoc Plateau**	79.62	38	*e*P		**P**	11 53 02.3	+0.2	
	2.2nm,0.8s								
KSRS	**Korea Array**	79.89	317	LR		LR	12 23 44.8		
	comp=Z,81nm,19.1s,baz=123,slow=32								
J05D	**Fort Rock, OR**	80.00	36	P		**P**	11 53 04.7	+0.5	
	baz=229								
TUC	**Tucson**	80.11	50	*e*P		**P**	11 53 06.3	+1.4	
	9.4nm,1.1s								
TUC	**Tucson**	80.11	50	P		**P**	11 53 05.5	+0.5	
	baz=238								
G03D	**McMinnville, O**	80.21	34	P		**P**	11 53 06.4	+1.4	
	baz=227								
R11A	**Troy Canyon, C**	80.27	43	*e*P		**P**	11 53 06.5	+0.8	
	2.6nm,1.0s								
R11A	**Troy Canyon, C**	80.27	43	P		**P**	11 53 05.8	0.0	
	baz=234								
KDAK	**Kodiak Island**	80.34	11	LR		LR	12 23 12.5		
	comp=Z,196nm,19.2s,baz=226,slow=32								
PINE	**Pine Mountain**	80.50	36	*e*P		**P**	11 53 07.7	+0.8	
	2.3nm,1.0s								
319A	**Douglas**	80.71	51	*e*P		**P**	11 53 09.9	+1.7	
	11nm,1.1s								
X16A	**La Mia Camp, P**	80.78	48	*e*P		**P**	11 53 09.8	+1.1	
	6.8nm,1.1s								
WVOR	**Wild Horse Val**	80.92	38	*e*P		**P**	11 53 10.2	+1.1	
	4.2nm,1.1s								
LCMT	**Little Creek M**	81.00	45	*e*P		**P**	11 53 10.6	+0.9	
	5.7nm,1.2s								
CCUT	**Cedar City**	81.23	44	*e*P		**P**	11 53 12.5	+1.5	
	6.0nm,1.1s								
HPIG		81.24	57	*e*P		**P**	11 53 11.6	+0.4	
	7.7nm,1.1s								
G05D	**Wamic, OR**	81.25	34	P		**P**	11 53 11.6	+0.9	
	baz=229								
KNB	**Kanab**	81.29	45	*e*P		**P**	11 53 12.4	+1.1	
	4.6nm,1.1s								
U15A	**North Rim**	81.31	46	*e*P		**P**	11 53 13.4	+1.9	
	6.3nm,1.1s								
WUAZ	**Wupatki**	81.43	47	*e*P		**P**	11 53 13.1	+1.1	
	4.4nm,1.0s								
WUAZ	**Wupatki**	81.43	47	P		**P**	11 53 12.6	+0.5	
	baz=237								
SZCU	**Shurtz Canyon**	81.44	44	*e*P		**P**	11 53 13.3	+1.2	
	8.0nm,1.2s								
PSUT	**Pine Spring**	81.48	43	*e*P		**P**	11 53 13.1	+0.8	
	4.6nm,1.0s								
J08A	**Circle Bar Ran**	81.59	37	*e*P		**P**	11 53 13.0	+0.4	
	4.4nm,1.1s								
F05D	**White Salmon**	81.60	34	P		**P**	11 53 13.6	+1.1	
	baz=228								
PKCU	**Pink Cliffs**	81.86	45	*e*P		**P**	11 53 17.0	+2.6	
	7.4nm,1.2s								
D03D	**Eldon**	81.89	32	P		**P**	11 53 15.2	+1.3	
	baz=227								
D05A	**Enumclaw**	82.20	33	*e*P		**P**	11 53 18.8	+3.2	
	14nm,1.0s								
MTPU	**Mount Pierson**	82.28	44	*e*P		**P**	11 53 19.1	+2.5	
	4.9nm,1.0s								
121A	**Cookes Peak, D**	82.39	51	P		**P**	11 53 17.6	+0.4	
	baz=240								
MAW	**Mawson**	82.52	199	P		**P**	11 53 18.8	+1.8	
	15nm,1.2s,baz=147,slow=3.2,SNR=7.6								
MAW				LR		LR	12 28 45.7		
	comp=Z,173nm,18.8s,baz=66,slow=35								
G08A	**Pilot Rock**	82.55	36	*e*P		**P**	11 53 18.2	+0.6	
	3.6nm,1.0s								
G08A				*e*pP		**sP**	11 53 31.4	+0.9	
MSU	**Marysvale**	82.55	44	*e*P		**P**	11 53 18.2	+0.3	
B05A	**Bryant**	82.87	32	P		**P**	11 53 20.0	+1.0	
	baz=228								
A04D	**Lummi Island**	82.88	31	P		**P**	11 53 20.3	+1.3	
	baz=227								
HAWA	**Hanford**	82.95	34	*e*P		**P**	11 53 21.2	+1.7	
	3.0nm,0.9s								
DUG	**Dugway, Tooele**	83.09	42	P		**P**	11 53 21.4	+0.8	
	baz=236								
BMO	**Blue Mountains**	83.18	37	*e*P		**P**	11 53 21.6	+0.7	
	1.9nm,1.1s								
NJ2	**Nanjing**	83.26	308	*e*P		**P**	11 53 21.0	-0.4	
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
BGU	**Big Grassy Mou**	83.37	42	*e*P		**P**	11 53 25.8	+3.8	
NLU	**North Lily Min**	83.42	43	*e*P		**P**	11 53 25.8	+3.5	
	comp=Z,2.0nm,0.9s								
TMUT	**Trail Mountain**	83.61	44	*e*P		**P**	11 53 25.1	+1.6	
	comp=Z,8.5nm,1.2s								
D08A	**Wollman Farm,**	83.70	34	*e*P		**P**	11 53 23.5	+0.2	
MPU	**Maple Canyon**	83.73	43	*e*P		**P**	11 53 25.5	+1.6	
	comp=Z,4.7nm,1.2s								
MNTX	**Cornudas Mount**	83.75	53	*e*P		**P**	11 53 24.7	+0.7	
	comp=Z,2.4nm,1.0s								
MNTX	**Cornudas Mount**	83.75	53	P		**P**	11 53 24.0	0.0	
	baz=241								
E09A	**Wood Farm, Sta**	83.76	35	*e*P		**P**	11 53 24.3	+0.6	
	comp=Z,2.2nm,1.0s								
LENM	**Lemitar**	83.80	50	*e*P		**P**	11 53 25.6	+1.2	
LAZ	**Ladron**	83.80	50	*e*P		**P**	11 53 26.0	+1.6	
LAZ				*e*pP		**sP**	11 53 37.3	0.0	
F10A	**Beach Ranch, E**	83.92	36	*e*P		**P**	11 53 24.8	+0.1	
	comp=Z,7.6nm,0.9s								
TX31	**Lajitas Ar. Si**	83.93	56	*e*P		**P**	11 53 26.2	+1.1	
TXAR	**Lajitas Array**	83.93	56	P		**P**	11 53 25.8	+0.7	
	comp=Z,3.0nm,1.1s,baz=224,slow=5.2,SNR=13								
TXAR				LR		LR	12 24 13.4		
	comp=Z,191nm,20.0s,baz=0.0,slow=31								
SPUT	**South Promonto**	83.95	42	*e*P		**P**	11 53 26.1	+1.1	
SRU	**San Rafael Swe**	83.95	44	*e*P		**P**	11 53 26.5	+1.4	
	comp=Z,7.3nm,1.0s								
P17A	**Butcher Ranch,**	84.01	44	*e*P		**P**	11 53 27.1	+1.7	
	comp=Z,8.2nm,1.2s								
P17A				*e*pP		**sP**	11 53 39.5	+1.3	
HVU	**Hansel Valley**	84.01	41	*e*P		**P**	11 53 25.4	+0.1	
	comp=Z,3.7nm,1.2s								
BNM	**Barren Site**	84.04	50	*e*P		**P**	11 53 27.1	+1.3	
HLID	**Hailey**	84.06	39	*e*P		**P**	11 53 25.9	+0.4	
	comp=Z,4.8nm,1.0s								
HLID	**Hailey**	84.06	39	P		**P**	11 53 25.9	+0.4	
	baz=234								
LPM	**Los Pinos Moun**	84.12	50	*e*P		**P**	11 53 27.9	+1.8	
JLU	**Jordanelle**	84.18	43	*e*P		**P**	11 53 30.1	+3.9	
	comp=Z,5.5nm,1.1s								
TCUT	**Tonue Canyon**	84.49	42	*e*P		**P**	11 53 29.2	+1.4	
	comp=Z,15nm,1.0s								
ANMO	**Albuquerque**	84.56	50	P		**P**	11 53 29.0	+0.7	
	comp=Z,4.8nm,1.1s,baz=214,slow=5.0,SNR=8.9								
ANMO	**Albuquerque**	84.56	50	*e*P		**P**	11 53 29.8	+1.5	
	comp=Z,3.9nm,1.0s								
ANMO	**Albuquerque**	84.56	50	P		**P**	11 53 28.4	+0.1	
	baz=240								
S22A	**4UR Ranch, Cre**	85.71	47	*e*P		**P**	11 53 36.6	+2.5	
	comp=Z,1.7nm,0.9s								
S22A	**4UR Ranch, Cre**	85.71	47	P		**P**	11 53 34.2	+0.1	
	baz=240								
SKAG	**Skagway**	86.02	19	*e*P		P	11 53 39.2	+4.5	
	comp=Z,9.1nm,1.2s								
PLCA	**Paso Flores**	86.06	132	P		**P**	11 53 36.9	+1.2	
	comp=Z,3.9nm,1.2s,baz=233,slow=10,SNR=2.9								
PLCA				LR		LR	12 24 44.5		
	comp=Z,137nm,18.7s,baz=283,slow=30								
RND	**Reindeer**	86.27	11	*e*P		**P**	11 53 37.0	+1.0	
	comp=Z,17nm,1.1s								
BW06	**Boulder Array**	86.55	42	P		**P**	11 53 38.0	-0.1	
	baz=238								
PDAR	**Pinedale Array**	86.55	42	P		**P**	11 53 37.1	-0.9	
	comp=Z,1.2nm,0.9s,baz=211,slow=4.3,SNR=7.1								
PDAR				LR		LR	12 27 28.9		
	comp=Z,99nm,18.4s,baz=286,slow=32								
PDAR	**Pinedale Array**	86.55	42	*e*P		**P**	11 53 37.4	-0.6	
MCK	**McKinley**	86.55	11	*e*P		**P**	11 53 37.0	-0.3	
	comp=Z,11nm,1.0s								
MSTX	**Muleshoe**	86.76	52	*e*P		**P**	11 53 39.6	+0.4	
	comp=Z,5.8nm,0.9s								
MSTX	**Muleshoe**	86.76	52	P		**P**	11 53 39.1	-0.1	
	baz=242								
SYO	**Syowa Base**	87.18	191⇑	*e*P		**P**	11 53 41.0	+0.6	

WRH	**Wood River Hil**	87.38	11	*e*P		**P**	11 53 41.8	+0.5	
	comp=Z,19nm,1.1s								
SNAA	**Sanae**	87.46	177	*e*P		**P**	11 53 42.2	+0.3	
	comp=Z,6.3nm,1.1s								
CCB	**Clear Creek Bu**	87.59	11	*e*P		**P**	11 53 42.3	0.0	
	comp=Z,5.2nm,1.0s								
COLA	**College**	87.79	11	*e*P		**P**	11 53 43.2	0.0	
	comp=Z,11nm,1.4s								
MDM	**Murphy Dome**	87.80	11	*e*P		**P**	11 53 43.4	+0.1	
	comp=Z,7.9nm,1.2s								
IL1	**Eielson Array**	87.87	11	*e*P		**P**	11 53 42.7	-0.9	
ILAR	**Eielson Array**	87.87	11	P		**P**	11 53 42.3	-1.3	
	comp=Z,2.5nm,1.1s,baz=210,slow=5.0,SNR=10								
IM3	**Indian Mountai**	87.93	8	*e*P		**P**	11 53 44.2	+0.4	
K22A	**Casper**	88.39	43	P		**P**	11 53 46.4	-0.4	
	baz=240								
DAWY	**Dawson**	88.79	14	*e*P		**P**	11 53 49.3	+1.2	
	comp=Z,7.9nm,1.1s								
TOLK	**Toolik Lake Re**	91.00	9	P		**P**	11 53 58.6	+0.3	
	baz=203								
HHC	**Hu-ho-hao-te**	92.53	313	*e*P		**P**	11 54 07.6	+1.5	
HHC				pmax		pmax			
	comp=Z,25nm,1.1s								
HHC				pmax		pmax			
	comp=Z,180nm,7.3s								
DGMT	**Dagmar**	92.69	39	*e*P		**P**	11 54 08.3	+1.8	
	comp=Z,16nm,1.0s								
INK	**Inuvik**	93.65	14	P		**P**	11 54 10.6	+0.2	
	comp=Z,2.7nm,1.0s,baz=208,slow=3.7,SNR=3.3								
CM01	**Chiang Mai Arr**	94.02	288	*e*P		**P**	11 54 15.2	+1.9	
CMAR	**Chiang Mai Arr**	94.04	288	P		**P**	11 54 15.8	+2.4	
	comp=Z,0.3nm,0.4s,baz=100,slow=2.8,SNR=6.4								
CMAR				LR		LR	12 31 34.9		
	comp=Z,32nm,20.3s,baz=148,slow=32								
CD2	**Chengdu**	94.41	301	*e*P		**P**	11 54 14.0	-0.9	
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
LZH	**Lanzhou**	96.22	306	*e*P		**P**	11 54 24.8	+1.6	
LZH				pP		sP	11 54 35.0	-1.2	
LZH				sP		pP	11 54 41.9	+9.1	
LZH				*e*PP		**PP**	11 58 18.9	+1.9	
LZH				pmax		pmax			
	comp=Z,24nm,1.0s								
LZH				pmax		pmax			
	comp=Z,100nm,4.3s								
LPAZ	**La Paz**	98.18	111	LR		LR	12 30 25.0		
	comp=Z,141nm,19.9s,baz=266,slow=30								
ULM	**Lac du Bonnet**	98.36	39	LR		LR	12 33 23.1		
	comp=Z,152nm,19.9s,baz=238,slow=32								
SONM	**Songino Array**	98.72	318	LR		LR	12 36 51.5		
	comp=Z,58nm,18.1s,baz=36,slow=34								
MKAR	**Makanchi Array**	114.40	313	PKP		PKPdf	11 59 33.4	-1.1	
	comp=Z,1.3nm,1.0s,baz=58,slow=5.0,SNR=5.2								
KURK	**Kurchatov**	117.01	317	PKP		**PKPdf**	11 59 38.2	-1.0	
KURBB	**Kurchatov Arra**	117.07	317	PKP		**PKPdf**	11 59 38.3	-1.1	
	comp=Z,0.8nm,0.7s,baz=113,slow=1.8,SNR=5.1								
AKASG	**Malin Array Be**	145.21	334	PKP		**PKPbc**	12 00 30.5	-1.2	
	comp=Z,5.4nm,0.8s,baz=40,slow=4.2,SNR=14								
KIEV	**Kiev**	145.22	334	*e*PKPbc		**PKPbc**	12 00 30.5	-1.3	
AK11	**Malin Array Si**	145.25	334	*e*PKPbc		**PKPdf**	12 00 31.9	-0.2	
CLL	**Collm**	149.20	352	*e*PKPbc		**PKPbc**	12 00 44.4	+1.4	
CLL	**Collm**	149.20	352	*i*PKPbc		**PKPbc**	12 00 43.8	+0.9	
	comp=Z,12nm,1.1s								
CLL				*e*PKPab		**pPKPdf**	12 00 48.0	-0.5	
	comp=Z,13nm,1.2s								
BUR08	**Bucovina Ar. S**	149.25	335	*e*PKPbc		**PKPab**	12 00 45.3	-2.5	
BUR04	**Bucovina Ar. S**	149.26	335	*e*PKPbc		**PKPbc**	12 00 44.6	+1.2	
BRG	**Berggiesshubel**	149.49	350	*e*PKP		**PKPbc**	12 00 45.0	+1.3	
	comp=Z,8.7nm,1.1s								
MORC	**Moravsky Berou**	149.83	345	*e*PKPbc		**PKPbc**	12 00 44.9	+0.3	
MORC	**Moravsky Berou**	149.83	345	*e*PKP		**PKPbc**	12 00 44.6	0.0	
BR131	**Keskin Array S

XAN smax smax
comp=N,130nm,1.0s
XAN smax smax
comp=E,140nm,1.4s
XAN LR LR
comp=N,2μm,9.8s
XAN LR LR
comp=E,1μm,7.9s
XAN LR LR
comp=Z,540nm,7.5s
LZH Lanzhou 9.63 6 *e*P Pn 11 45 19.4 +5.0
LZH S **Sn** **11 47 05.0 +2.2**
LZH smax smax
comp=N,81nm,1.1s
LZH smax smax
comp=E,86nm,1.2s
LZH LR LR
comp=N,2μm,9.1s
LZH LR LR
comp=Z,990nm,9.6s
SHL Shillong 9.65 267 *e*P Pn 11 45 21.0 +6.3
QIZ Qiongzhong 10.01 136 P Pn 11 45 25.8 +6.3
QIZ S **Sn** **11 47 20.0 +8.0**
QIZ LR LR
comp=N,510nm,11.0s
QIZ LR LR
comp=E,370nm,6.1s
QIZ LR LR
comp=Z,550nm,7.8s
BRDH Bariadhala 10.63 251 LR LR 11 49 52.2
comp=Z,113nm,18.6s,baz=149,slow=39
WHN Wuhan 11.13 66 ⇓P **Pn** **11 45 35.6 +0.8**
WHN S **Sn** **11 47 46.6 +7.4**
WHN LR LR
comp=N,1μm,10.0s
WHN LR LR
comp=Z,840nm,17.7s
GTA Gaotai 13.09 351 *e*P **P** **11 46 09.6 -2.5**
GTA pP Pn 11 46 15.3 +14
GTA S **Sn** **11 48 34.6 +7.2**
GTA pmax pmax
comp=Z,3.0nm,1.4s
GTA pmax pmax
comp=Z,85nm,4.9s
GTA LR LR
comp=N,250nm,19.4s
GTA LR LR
comp=E,400nm,14.0s
ODAN Odare 13.57 275 *e*P **Pn** **11 46 10.9 +2.5**
22nm,0.8s
RAMN Ramite 14.27 275 *e*P **Pn** **11 46 19.2 +1.2**
16nm,0.5s
JIRN Jiri 14.63 278 *e*P **Pn** **11 46 21.3 -1.8**
30nm,0.6s
GUN Gumba 14.91 279 *e*P **Pn** **11 46 24.7 -2.1**
43nm,0.8s
NJ2 Nanjing 15.26 65 *e*P **P** **11 46 36.6 +0.6**
NJ2 pmax pmax
comp=Z,31nm,0.6s
PKI Pulchoki 15.32 278 *e*P **Pn** **11 46 30.3 -2.0**
23nm,0.6s
PKIN Phulchoki 15.34 278 *e*P **Pn** **11 46 31.0 -1.4**
15nm,0.5s
KKN Kakani 15.44 279 *e*P **Pn** **11 46 31.3 -2.4**
55nm,1.0s
DMN Daman 15.59 278 *e*P **Pn** **11 46 34.2 -1.6**
46nm,1.1s
TIA Tai'an 15.75 49 P **Pn** **11 46 38.4 +0.8**
TIA pmax pmax
comp=Z,10.0nm,1.2s
HHC Hu-ho-hao-te 16.15 25 *e*P **Pn** **11 46 44.3 +1.6**
HHC S **Sn** **11 49 39.8 -2.2**
HHC sS S 11 49 54.8 -0.5
HHC pmax pmax
comp=Z,14nm,0.8s
HHC pmax pmax
comp=Z,120nm,5.2s
HHC LR LR
comp=E,440nm,8.2s
HHC LR LR
comp=Z,690nm,10.3s
DANN Dangsing 16.80 281 *e*P **Pn** **11 46 48.0 -3.3**
98nm,0.7s
KOLN Koldanda 16.93 279 *e*P **Pn** **11 46 51.2 -1.6**
24nm,0.7s
PYUN Piuthan 17.47 280 *e*P **Pn** **11 46 58.4 -1.2**
56nm,0.8s
BJI Beijing 17.64 37 P **P** **11 47 04.9 +2.5**
BJI S **Sn** **11 50 20.0 +2.1**
BJI pmax pmax
comp=Z,12nm,1.2s
BJI LR LR
comp=N,450nm,13.2s
BJI LR LR
comp=E,430nm,15.2s
WMQ Urumqi 21.08 329 *e*P **P** **11 47 40.9 +0.8**
WMQ pmax pmax
comp=Z,26nm,0.7s
SONM Songino Array 21.52 7 P **P** **11 47 44.5 -0.3**
3.3nm,0.6s,baz=190,slow=11,SNR=17
SONM LR LR 11 57 23.4
comp=Z,81nm,19.8s,baz=186,slow=41
SONA1 Songino Array 21.53 7 *e*P **P** **11 47 44.9 0.0**
ULN Ulaanbaatar 21.63 8 *e*P **P** **11 47 46.5 +0.5**
13nm,1.0s
ULN Ulaanbaatar 21.63 8⇓*e*P **P** **11 47 46.3 +0.3**
ULN pmax pmax
comp=Z,7.0nm,0.7s
JOW Kunigami 22.98 83 LR LR 11 56 29.8
comp=Z,150nm,18.7s,baz=261,slow=36
PSI Prapat 23.81 189 LR LR 11 57 23.6
comp=Z,47nm,19.5s,baz=269,slow=36
ZAK Zakamensk 23.86 1 *e*P **P** **11 48 09.4 +0.2**
ZAK pmax pmax
comp=Z,4.0nm,1.0s
KSAR Wonju Array Be 24.03 57 P **P** **11 48 10.6 -0.1**
KSAR Wonju Array Be 24.03 57 P **P** **11 48 10.6 -0.1**
KSRS Korea Array 24.06 57 P **P** **11 48 10.6 -0.5**
comp=Z,1.7nm,0.6s,baz=248,slow=11,SNR=6.0
KSRS LR LR 11 58 47.9
comp=Z,121nm,18.3s,baz=236,slow=40
KNGR Kungurtug, Tuv 24.39 352⇓*e*P **P** **11 48 13.6 -0.5**
TLY Talaya 25.17 2⇓*e*P **P** **11 48 21.9 +0.9**
TLY pmax pmax
comp=Z,4.0nm,0.7s
CN2 Changchun 25.34 41 *e*P **P** **11 48 22.8 +0.2**
CN2 *e*PP **PnPn** **11 49 02.1 +4.9**
CN2 *e*S **S** **11 52 39.9 -8.8**
CN2 pmax pmax
comp=Z,20nm,0.9s
HVS Khovu-Aksy 25.52 347⇑*e*P **P** **11 48 27.0 +2.7**
HVS pmax pmax
comp=Z,10.0nm,0.7s
KSH Kashi 25.70 307 *e*P **P** **11 48 28.8 +2.7**
KSH S **S** **11 52 50.3 -4.5**
KSH LR LR
comp=Z,1μm,11.9s
KSH LR LR
comp=Z,960nm,12.4s
KSH LR LR
comp=Z,390nm,12.5s
MK01 Makanchi Array 25.82 327 *e*P **P** **11 48 27.4 +0.4**
MK31 Makanchi Array 25.85 327 *e*P **P** **11 48 28.4 +1.2**
MK31 Makanchi Array 25.85 327 *e*P **P** **11 48 28.4 +1.2**
MKAR Makanchi Array 25.85 327 P **P** **11 48 27.6 +0.4**
comp=Z,5.1nm,0.8s,baz=136,slow=12,SNR=17
MKAR Makanchi Array 25.85 327 *e*P **P** **11 48 28.3 +1.1**
comp=Z,28nm,0.6s
MKAR Makanchi Array 25.85 327 P **P** **11 48 27.6 +0.4**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
DGZ Jazzator, Alta 25.95 337*de*P **P** **11 48 31.4 +3.1**
DGZ pmax pmax
comp=Z,1.0nm,0.6s
AAK Ala-Archa 28.00 312⇑*e*P **P** **11 48 48.1 +1.3**
AAK pmax pmax
comp=Z,4.0nm,1.6s
USRK Ussuriysk Ar. 29.58 46 P **P** **11 48 59.9 -0.8**
comp=Z,3.1nm,0.7s,baz=258,slow=7.2,SNR=6.2
KURBB Kurchatov Arra 30.30 329 P **P** **11 49 07.2 +0.2**
comp=Z,3.0nm,0.7s,baz=142,slow=8.8,SNR=13
KURK Kurchatov 30.32 329 *e*P **P** **11 49 07.3 +0.2**
comp=Z,8.6nm,1.0s
KURK Kurchatov 30.32 329⇑*e*P **P** **11 49 07.3 +0.2**
KURK pmax pmax
comp=Z,3.0nm,0.7s
ZAA0 Zalesovo Array 30.41 339 *e*P **P** **11 49 08.0 +0.1**
comp=Z,4.4nm,0.7s
ZALV Zalesovo Beam 30.41 339 P **P** **11 49 07.9 0.0**
comp=Z,4.2nm,0.8s,baz=143,slow=10,SNR=12
ZALV LR LR 12 02 09.7
comp=Z,81nm,19.7s,baz=77,slow=38
ZALV Zalesovo Beam 30.41 339 *e*P **P** **11 49 07.3 -0.6**
ZALV Zalesovo Beam 30.41 339 *e*P **P** **11 49 07.3 -0.6**
KLR Kul'dur 32.02 37 LR LR 12 03 54.9
comp=Z,112nm,18.4s,baz=230,slow=40
KLR Kul'dur 32.02 37⇑*e*P **P** **11 49 20.6 -1.5**
BRVK Borovoye 35.80 327⇑*e*P **P** **11 49 56.4 +1.5**
BRVK pmax pmax
comp=Z,1.0nm,0.5s
YSS Yuzh-Sakhalins 37.61 46⇑*e*P **P** **11 50 09.5 -0.9**
YSS pmax pmax
comp=Z,201nm,2.4s
GEYT Alibeck 38.97 298 P **P** **11 50 23.4 +1.3**
comp=Z,1.3nm,0.2s,baz=107,slow=9.9,SNR=4.8
YAK Yakutsk 39.89 20⇑*e*P **P** **11 50 28.9 -0.4**
YAK pmax pmax
comp=Z,11nm,0.7s
AKTO Aktyubinsk 41.45 317 LR LR 12 09 01.4
comp=Z,61nm,19.0s,baz=144,slow=38
ARU Arti 43.36 326 LR LR 12 10 25.1
comp=Z,67nm,18.2s,baz=77,slow=38
ARU Arti 43.36 326*d i*P **P** **11 50 58.7 +0.9**
ARU 11 52 35.9
ARU S **S** **11 57 26.1 +0.6**
ARU SS **SS** **12 00 37.8 -1.2**
ARU pmax pmax
comp=Z,11nm,1.7s
TIXI Tiksi 47.52 11 P **P** **11 51 29.3 -1.4**
comp=Z,1.6nm,0.3s,baz=260,slow=2.4,SNR=4.1
TIXI Tiksi 47.52 11⇑*i*P **P** **11 51 29.2 -1.4**
TIXI pmax pmax
comp=Z,5.0nm,1.5s
GNI Garni 49.40 301⇑*e*P **P** **11 51 47.2 +1.4**
GNI pmax pmax
comp=Z,21nm,0.7s
NEY Neytrino 50.81 305⇓*e*P **P** **11 51 57.7 +1.3**
NEY pmax pmax
comp=Z,1.0nm,0.7s
ANN Anapa 54.55 308 *e*P **P** **11 52 23.7 -0.2**
ANN *e**PP **sP** **11 52 32.6 +4.3**
ANN *e*S **S** **12 00 01.7 -1.5**
ANN pmax pmax
comp=Z,44nm,1.1s
ANN MLR MLR
comp=N,1μm,18.0s
ANN MLR MLR
comp=E,180nm,18.0s
ANN MLR MLR
comp=Z,514nm,18.0s
OBN Obninsk 55.07 320⇑*e*P **P** **11 52 28.8 +1.4**
OBN *e* 11 54 28.5
OBN pmax pmax
comp=Z,7.0nm,0.5s
OBN MLR MLR
comp=Z,74nm,13.0s
WRAB Tennant Creek 55.51 143 *e*P **P** **11 52 31.3 +0.3**
comp=Z,9.9nm,1.1s
WRAB Tennant Creek 55.51 143⇑*e*P **P** **11 52 30.9 -0.1**
WRA Warramunga Arr 55.51 143 P **P** **11 52 31.0 0.0**
comp=Z,2.5nm,0.8s,baz=333,slow=8.2,SNR=14
WB2 Warramunga Arr 55.52 143 *e*P **P** **11 52 30.6 -0.5**
comp=Z,10.0nm,1.1s
BILL Bilibino 55.92 24⇑*e*P **P** **11 52 30.1 -3.3**
BILL *e* 11 53 31.9
BILL *e* 11 54 32.7
BILL pmax pmax
comp=Z,17nm,1.7s
BILL MLR MLR
comp=Z,85nm,18.0s
MMAI Mount Meron Ar 57.80 294 LR LR 12 19 28.6
comp=Z,37nm,18.8s,baz=140,slow=38
ASAR Alice Springs 58.35 146 P **P** **11 52 51.0 -0.1**
comp=Z,1.3nm,0.7s,baz=328,slow=6.8,SNR=9.6
KIEV Kiev 59.62 315⇓*e*P **P** **11 53 02.6 +2.9**
FINES FINESS Array B 60.68 328 P **P** **11 53 06.0 -0.7**
comp=Z,2.1nm,0.7s,baz=101,slow=9.9,SNR=4.2
FINES LR LR 12 20 43.7
comp=Z,83nm,19.8s,baz=128,slow=37
FINES FINESS Array B 60.68 328 P **P** **11 53 06.0 -0.7**
ARCES ARCESS Array B 60.93 337 P **P** **11 53 07.7 -0.6**
comp=Z,1.8nm,0.5s,baz=91,slow=8.1,SNR=14
SPITS Spitsbergen Ar 63.49 347 LR LR 12 23 20.9
comp=Z,56nm,21.1s,baz=15,slow=38
HFS Hagfors 66.86 327 LR LR 12 23 37.5
comp=Z,109nm,18.4s,baz=306,slow=37
NB2 NORSAR Subarra 67.83 328 P **P** **11 53 52.2 -1.6**
comp=Z,1.2nm,0.6s,baz=76,slow=6.5
NOA NORSAR Array B 67.83 328 P **P** **11 53 52.1 -1.6**
comp=Z,1.8nm,0.6s,baz=75,slow=6.5,SNR=8.6
NOA LR LR 12 25 24.3
comp=Z,32nm,19.2s,baz=290,slow=38
VRAC Vranov 67.87 315 LR LR 12 27 22.0
comp=Z,75nm,21.0s,baz=60,slow=39
GERES GERESS Array B 69.83 315 P **P** **11 54 06.5 +0.1**
comp=Z,0.9nm,0.7s,baz=64,slow=6.1,SNR=5.4
GERES LR LR 12 29 18.8
comp=Z,96nm,19.9s,baz=15,slow=40
GEA0 GERESS Array S 69.83 315 *e*P **P** **11 54 05.8 -0.7**
GRFO Grafenberg 71.11 317 *e*P **P** **11 54 11.1 -3.1**
comp=Z,20nm,0.7s
GRFO Grafenberg 71.11 317 *e*P **P** **11 54 11.1 -3.1**
GRFO pmax pmax
comp=Z,20nm,0.7s
MDM Murphy Dome 73.98 25 *e*P **P** **11 54 30.9 -0.1**
comp=Z,8.0nm,0.8s
ILAR Eielson Array 74.57 25 P **P** **11 54 32.8 -1.6**
comp=Z,0.8nm,0.8s,baz=312,slow=2.2,SNR=4.9
ILAR LR LR 12 31 42.8
comp=Z,163nm,19.6s,baz=196,slow=39
INK Inuvik 76.94 18 P **P** **11 54 46.3 -1.6**
comp=Z,2.9nm,0.9s,baz=254,slow=5.0,SNR=4.7
TXAR Lajitas Array 119.06 26 PKP **PKPdf** **12 01 44.7 -0.6**
comp=Z,0.3nm,0.9s,baz=58,slow=2.2,SNR=3.3
SDV Santo Domingo 144.22 348 *e*PKPdf **PKPab** **12 02 29.8 -0.8**

IDC 14 11:58:45.3±568.0, 61.73N×48.61E, h0km, Error ellipse: s-maj=248.2km s-min=211.4km az=102.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**12.49**	**151**	*i*		13 10 40.0	
	baz=342,slow=333,SNR=0.5						
I34MN	**SONGINO INFRAS**	**34.86**	**86**	*i*		15 36 50.0	
	baz=314,slow=329,SNR=0.9						
I53US	**FAIRBANKS INFR**	**53.11**	**9**	*i*		17 20 50.0	
	baz=349,slow=333,SNR=1.0						

*ISCJB **14** 12:15:01.7±1.0, 37.32N±0.06×72.0E±0.2, h113km, Error ellipse: s-maj=19.0km s-min=6.1km az=159.9*
*NNC **14** 12:15:10.9±2.8, 38.05N×72.09E, h171km±34km, mb2.4, mpv3.4, Error ellipse: s-maj=33.4km s-min=21.9km az=65.0*

ISC 14 12:15:01.5±1.3, 37.42N±0.09×71.9E±0.1, h113km, n15, σ2s16/19, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.88**	**25**	⇑P	**Pn**	**12 15 49.6**	**+3.4**
	6.7nm,0.3s						
SFK				⇓S	**Sn**	**12 16 22.2**	**+1.6**
	29nm,0.2s						
MNAS	**Manas**	**5.09**	**5**	⇑P	**Pn**	**12 16 18.1**	**+2.5**
	2.9nm,0.4s						
MNAS				⇑S	**Sn**	**12 17 08.6**	**-4.6**
	5.0nm,0.3s						
AAK	**Ala-Archa**	**5.58**	**20**	⇑P	**Pn**	**12 16 23.8**	**+1.5**
	2.9nm,0.5s						
AAK				⇑S	**Sn**	**12 17 22.1**	**-3.1**
	3.5nm,0.5s						
KK31	**Karatay Array**	**5.78**	**350**	P	**Pn**	**12 16 27.9**	**+3.2**
	1.4nm,0.2s,baz=168,slow=13,SNR=61						
KK31				⇓S	**Sn**	**12 17 28.0**	**-1.8**
	3.5nm,0.2s,baz=179,slow=24						
PYUN	**Piuthan**	**13.16**	**132**	*e*P	**Pn**	**12 18 03.3**	**-0.9**
	7.6nm,0.3s						
DANN	**Dangsing**	**13.45**	**129**	*e*P	**Pn**	**12 18 06.9**	**-1.1**
	12nm,0.4s						
KOLN	**Koldanda**	**13.77**	**131**	*e*P	**Pn**	**12 18 11.7**	**-0.4**
	3.7nm,0.3s						
AB31	**Akbulak array**	**14.66**	**328**	P	**P**	**12 18 25.7**	**-0.6**
	0.5nm,0.4s,baz=136,slow=12,SNR=20						
KKN	**Kakani**	**14.79**	**127**	*e*P	**Pn**	**12 18 24.2**	**-1.0**
PKIN	**Phulchoki**	**15.02**	**127**	*e*P	**Pn**	**12 18 26.6**	**-1.5**
	3.8nm,0.3s						
PKI	**Pulchoki**	**15.03**	**127**	*e*P	**Pn**	**12 18 27.2**	**-1.1**
	3.1nm,0.3s						
GUN	**Gumba**	**15.10**	**125**	*e*P	**Pn**	**12 18 28.8**	**-0.4**
	6.0nm,0.4s						
JIRN	**Jiri**	**15.47**	**125**	*e*P	**Pn**	**12 18 33.0**	**-0.9**
	23nm,0.4s						
RAMN	**Ramite**	**16.22**	**126**	*e*P	**Pn**	**12 18 42.7**	**-0.3**
	5.2nm,0.4s						
ODAN	**Odare**	**16.80**	**124**	*e*P	**P**	**12 18 50.4**	**0.0**
	8.7nm,0.5s						

MEX 14 12:19:38.6±0.6, 16.22N×98.05W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.19**	**337**	*i* P	Pg	12 19 41.7	-0.7
PNIG				*i* S	Sg	12 19 44.6	-0.2
TLIG	**Tlapa**	**1.42**	**340**	*i* P	Pn	12 20 02.2	-3.1
TLIG				*e*S	Sb	12 20 19.3	-5.0

MEX 14 12:24:06.3±0.8, 16.25N×98.01W, h3km±7km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.18**	**323**	*i* P	Pg	12 24 09.3	-0.6
PNIG				*i* S	Sg	12 24 12.3	0.0
TLIG	**Tlapa**	**1.42**	**338**	*e*P	Pn	12 24 29.8	-3.3
TLIG				*e*S	Sg	12 24 47.1	-4.7

MEX 14 12:29:42.8±0.4, 16.37N×98.41W, h4km±4km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.27**	**86**	*e*P	Pg	12 29 47.8	-0.3
PNIG				*e*S	Sg	12 29 51.6	-0.1
TLIG	**Tlapa**	**1.19**	**353**	*e*P	Pg	12 30 02.3	-3.4
TLIG				*i* S	Sg	12 30 18.0	-3.2

MEX 14 12:31:13.5±0.4, 13.87N×92.38W, h10km±122km, MD3.7, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.04**	**6**	*e*P	Pg	12 31 30.7	-2.9
THIG				*e*S	Sg	12 31 43.5	-3.7
PCIG		**2.00**	**336**	*e*P	Pn	12 31 43.8	-3.5
PCIG				*e*S	Sn	12 32 08.0	-4.4
CCIG	**Comitan**	**2.41**	**6**	*i* P	Pn	12 31 50.0	-3.2
CCIG				*i* S	Sn	12 32 18.4	-4.5
TGIG		**2.98**	**346**	*i* P	Pn	12 31 59.0	-2.0
TGIG				*e*S	Sn	12 32 33.0	-3.8

*IDC **14** 12:52:34.6±2.8, 13.62N×92.24W, h0km, mb3.5/2, mb1 3.8/5, mb1mx3.6/32, mbtmp3.5/5, ML3.3/3, MS3.0/2, Ms1 3.0/2, ms1mx2.6/24, Error ellipse: s-maj=48.9km s-min=26.5km az=0.0*
*MEX **14** 12:52:41.1±0.6, 14.00N×92.37W, h10km, MD3.8*
ISC 14 12:52:40.1±4.0, 14.1N±0.1×92.31W±0.06, h16km±26km, n11, σ1s31/16, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.81**	**3**	*e*P	**Pb**	**12 52 55.4**	**-0.5**
THIG				*i* S	**Sb**	**12 53 07.2**	**+0.6**
PCIG		**1.83**	**331**	*e*P	**Pn**	**12 53 10.3**	**-0.6**
PCIG				*i* S	**Sn**	**12 53 32.6**	**-1.1**
APG	**El Apazote**	**2.00**	**63**	Pn	**Pn**	**12 53 12.8**	**-0.9**
	7.0nm,0.3s,baz=238,slow=9.4,SNR=45						
APG				LR	LR	12 53 34.4	
	comp=Z,69nm,19.1s,baz=259,slow=27						
APG				Sn	**Sb**	**12 53 41.5**	**+0.2**
	12nm,0.3s,baz=90,slow=14,SNR=6.3						
CCIG	**Comitan**	**2.18**	**4**	*e*P	**Pn**	**12 53 16.0**	**0.0**
CCIG				*i* S	**Sn**	**12 53 43.2**	**+0.3**
TGIG		**2.78**	**344**	*i* P	**Pn**	**12 53 23.8**	**-0.4**
TGIG				*i* S	**Sn**	**12 53 57.5**	**0.0**
CMIG	**Matias Romero**	**3.88**	**321**	Pn	**Pn**	**12 53 40.2**	**+1.1**
	0.8nm,0.3s,baz=151,slow=11,SNR=6.1						
CMIG				Sn	**Sb**	**12 54 32.6**	**-2.4**
	3.9nm,0.3s,baz=106,slow=22,SNR=7.3						
TXAR	**Lajitas Array**	**18.45**	**327**	P	**Pn**	**12 56 57.0**	**+1.5**
	0.0nm,0.3s,baz=156,slow=7.9,SNR=6.9						
ANMO	**Albuquerque**	**24.37**	**331**	P	**P**	**12 57 58.8**	**+0.9**
	0.4nm,0.4s,baz=151,slow=18,SNR=3.5						
NVAR	**Mina Array Bea**	**33.41**	**321**	P	**P**	**12 59 19.8**	**+1.4**
	0.4nm,0.6s,baz=150,slow=10,SNR=4.1						
DLBC	**Dease Lake**	**52.45**	**336**	LR	LR	13 27 25.3	
	comp=Z,53nm,18.1s,baz=146,slow=40						
CMAR	**Chiang Mai Arr**	**145.81**	**341**	PKPbc	**PKPdf**	**13 12 16.7**	**-2.4**
	1.1nm,0.7s,baz=346,slow=3.7,SNR=9.6						

*KRSC **14** 13:03:06.8±1.7, 55.52N×165.02E, h72km±20km, ML4.5*
*IDC **14** 13:03:06.4±0.9, 55.76N×164.97E, h0km, mb4.0/14, mb1 4.2/16, mb1mx4.0/41, mbtmp4.0/16, ML3.5/2, MS3.2/3, Ms1 3.2/3, ms1mx2.7/56, Error ellipse: s-maj=30.0km s-min=13.5km az=167.0*
*MOS **14** 13:03:08.8±0.6, 55.57N×165.00E, h36km, mb4.7/5, Error ellipse: s-maj=6.4km s-min=5.4km az=47.5*
*ISCJB **14** 13:03:09.1±0.4, 55.49N±0.03×164.95E±0.04, h41km±4km, mb4.2/28, MS3.6/1, Error ellipse: s-maj=4.4km s-min=3.3km az=167.5*
*NEIC **14** 13:03:10.1±1.7, 55.67N×164.96E, h28km±13km, mb4.5/15, Error ellipse: s-maj=7.2km s-min=3.9km az=168.0*
ISC 14 13:03:10.0±1.2, 55.54N±0.04×165.01E±0.04, h32km±10km, n156, σ1s27/207, mb4.3/28, 4C-2D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.65**	**121**	*e*P	**Pb**	**13 03 22.4**	**-0.4**
BKI				*e*S	**Sb**	**13 03 32.2**	**+0.6**
BKI	**Bering**	**0.65**	**121**	PN	**Pb**	**13 03 22.4**	**-0.4**
BKI				S	**Sb**	**13 03 32.2**	**+0.6**
KBTR	**Krutoberegovo**	**1.40**	**299**	*i* P	**Pn**	**13 03 30.5**	**-2.8**
KBTR				*e*S	**Sn**	**13 03 46.9**	**-3.8**
KBTR	**Krutoberegovo**	**1.40**	**299**	PN	**Pn**	**13 03 30.5**	**-2.8**
KBTR				S	**Sn**	**13 03 46.9**	**-3.8**
KBG	**Krutoberegovo**	**1.48**	**300**	*e*P	**Pn**	**13 03 31.7**	**-2.6**
KBG	**Krutoberegovo**	**1.48**	**300**	PN	**Pn**	**13 03 31.7**	**-2.6**
MKZ	**Mys Kozlova**	**2.13**	**244**	*e*P	**Pn**	**13 03 42.1**	**-1.1**
MKZ				*e*S	**Sn**	**13 04 05.9**	**-2.5**
MKZ	**Mys Kozlova**	**2.13**	**244**	PN	**Pn**	**13 03 42.1**	**-1.1**
MKZ				S	**Sn**	**13 04 05.9**	**-2.5**
SMKR	**Semkarok**	**2.24**	**299**	*e*P	**Pn**	**13 03 44.2**	**-0.7**
SMKR				*e*S	**Sn**	**13 04 11.9**	**+0.4**
SMKR	**Semkarok**	**2.24**	**299**	PN	**Pn**	**13 03 44.2**	**-0.7**
SMKR				S	**Sn**	**13 04 11.9**	**+0.4**
BDR	**Baidarnaya**	**2.37**	**297**	*e*P	**Pn**	**13 03 46.0**	**-0.6**
BDR	**Baidarnaya**	**2.37**	**297**	PN	**Pn**	**13 03 46.0**	**-0.6**
ZLN	**Zelenaya**	**2.42**	**283**	*e*P	**Pn**	**13 03 47.3**	**-0.1**
ZLN				*e*S	**Sn**	**13 04 17.9**	**+2.0**
ZLN	**Zelenaya**	**2.42**	**283**	PN	**Pn**	**13 03 47.3**	**-0.1**
ZLN				S	**Sn**	**13 04 17.9**	**+2.0**
SRKR	**Sorokina**	**2.42**	**299**	*e*P	**Pn**	**13 03 47.1**	**-0.3**
SRKR	**Sorokina**	**2.42**	**299**	PN	**Pn**	**13 03 47.1**	**-0.3**
BZGR	**Bezymyannyi-Gr**	**2.47**	**281**	*e*P	**Pn**	**13 03 47.7**	**-0.3**
BZGR				*e*S	**Sn**	**13 04 17.7**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**2.47**	**281**	PN	**Pn**	**13 03 47.7**	**-0.3**
BZGR				S	**Sn**	**13 04 17.7**	**+0.6**
CIRR	**Tsirk**	**2.47**	**285**	*e*P	**Pn**	**13 03 47.9**	**-0.2**
CIRR				*e*S	**Sn**	**13 04 18.0**	**+0.8**
CIRR	**Tsirk**	**2.47**	**285**	PN	**Pn**	**13 03 47.9**	**-0.2**
CIRR				S	**Sn**	**13 04 18.0**	**+0.8**
LGNR	**Loginova**	**2.50**	**284**	*e*P	**Pn**	**13 03 48.9**	**+0.3**
LGNR				*e*S	**Sn**	**13 04 19.0**	**+1.0**
LGNR	**Loginova**	**2.50**	**284**	PN	**Pn**	**13 03 48.9**	**+0.3**
LGNR				S	**Sn**	**13 04 19.0**	**+1.0**

KLY	**Klyuchi**	**2.57**	**289**	*e*P		**Pn**	**13 03 47.7**	**-1.6**
KLY				*e*S		**Sn**	**13 04 16.2**	**-3.2**
KLY	**Klyuchi**	**2.57**	**289**	PN		**Pn**	**13 03 47.7**	**-1.6**
KLY				S		**Sn**	**13 04 16.2**	**-3.2**
BZMR	**Bezymyannaya**	**2.58**	**281**	*e*P		**Pn**	**13 03 49.4**	**-0.2**
BZMR				*e*S		**Sn**	**13 04 21.0**	**+1.0**
BZMR	**Bezymyannaya**	**2.58**	**281**	PN		**Pn**	**13 03 49.4**	**-0.2**
BZMR				S		**Sn**	**13 04 21.0**	**+1.0**
BZWR	**Bezymyannyi-We**	**2.58**	**281**	*e*P		**Pn**	**13 03 49.6**	**-0.1**
BZWR				*e*S		**Sn**	**13 04 20.3**	**+0.3**
BZWR	**Bezymyannyi-We**	**2.58**	**281**	PN		**Pn**	**13 03 49.6**	**-0.1**
BZWR				S		**Sn**	**13 04 20.3**	**+0.3**
KRSR	**Krestovskiy**	**2.59**	**287**	*e*P		**Pn**	**13 03 49.0**	**-0.7**
KRSR				*e*S		**Sn**	**13 04 18.7**	**-1.4**
KRSR	**Krestovskiy**	**2.59**	**287**	PN		**Pn**	**13 03 49.0**	**-0.7**
KRSR				S		**Sn**	**13 04 18.7**	**-1.4**
TUMD	**Tumrok D**	**2.65**	**265**	*e*P		**Pn**	**13 03 50.4**	**0.0**
TUMD				*e*S		**Sn**	**13 04 21.1**	**-0.3**
KIRR	**Kirishev**	**2.67**	**281**	*e*P		**Pn**	**13 03 50.8**	**0.0**
KIRR				*e*S		**Sn**	**13 04 22.5**	**+0.4**
KIRR	**Kirishev**	**2.67**	**281**	PN		**Pn**	**13 03 50.8**	**0.0**
KIRR				S		**Sn**	**13 04 22.5**	**+0.4**
KMNR	**Kamenistaya**	**2.71**	**277**	*i* P		**Pn**	**13 03 51.5**	**+0.1**
KMNR				*e*S		**Sn**	**13 04 23.9**	**+0.8**
KMNR	**Kamenistaya**	**2.71**	**277**	PN		**Pn**	**13 03 51.5**	**+0.1**
KMNR				S		**Sn**	**13 04 23.9**	**+0.8**
KZV	**Kizimen**	**2.73**	**263**	*e*P		**Pn**	**13 03 51.5**	**-0.1**
KZV				*e*S		**Sn**	**13 04 21.8**	**-1.7**
KZV	**Kizimen**	**2.73**	**263**	PN		**Pn**	**13 03 51.5**	**-0.1**
KZV				S		**Sn**	**13 04 21.8**	**-1.7**
KPT	**Kopyto**	**2.74**	**281**	*e*P		**Pn**	**13 03 51.9**	**+0.2**
KPT				*e*S		**Sn**	**13 04 24.8**	**+1.1**
KPT	**Kopyto**	**2.74**	**281**	PN		**Pn**	**13 03 51.9**	**+0.2**
KPT				S		**Sn**	**13 04 24.8**	**+1.1**
TUMR	**Tumrok**	**2.78**	**267**	*i* P		**Pn**	**13 03 52.9**	**+0.6**
TUMR				*e*S		**Sn**	**13 04 24.6**	**-0.2**
TUMR	**Tumrok**	**2.78**	**267**	PN		**Pn**	**13 03 50.4**	**-1.9**
KOZ	**Kozyrevsk**	**2.94**	**282**	*e*P		**Pn**	**13 03 55.2**	**+0.7**
KOZ				*e*S		**Sn**	**13 04 31.7**	**+3.0**
KOZ	**Kozyrevsk**	**2.94**	**282**	PN		**Pn**	**13 03 55.2**	**+0.7**
KOZ				S		**Sn**	**13 04 31.7**	**+3.0**
KII	**Karymskiy**	**3.55**	**247**	*e*P		**Pn**	**13 04 03.4**	**+0.5**
KII				*e*S		**Sn**	**13 04 43.4**	**-0.3**
KII	**Karymskiy**	**3.55**	**247**	PN		**Pn**	**13 04 03.4**	**+0.5**
KII				S		**Sn**	**13 04 43.4**	**-0.3**
ESO	**Esso**	**3.59**	**279**	*e*P		**Pn**	**13 04 03.0**	**-0.3**
ESO				*e*S		**Sn**	**13 04 44.3**	**-0.2**
ESO	**Esso**	**3.59**	**279**	PN		**Pn**	**13 04 03.0**	**-0.3**
ESO				S		**Sn**	**13 04 44.3**	**-0.2**
SPN	**Mys Shipunski**	**3.81**	**232**	*e*P		**Pn**	**13 04 05.2**	**-1.1**
SPN				*e*S		**Sn**	**13 04 45.8**	**-4.1**
SPN	**Mys Shipunski**	**3.81**	**232**	PN		**Pn**	**13 04 05.2**	**-1.1**
OSSR	**Ossora**	**3.87**	**345**	*e*P		**Pn**	**13 04 06.3**	**-0.8**
OSSR				*e*S		**Sn**	**13 04 47.6**	**-3.8**
OSSR	**Ossora**	**3.87**	**345**	PN		**Pn**	**13 04 06.3**	**-0.8**
NLC	**Nalytchevo**	**4.07**	**237**	*e*P		**Pn**	**13 04 09.8**	**-0.1**
NLC				*e*S		**Sn**	**13 04 54.5**	**-1.9**
NLC	**Nalytchevo**	**4.07**	**237**	PN		**Pn**	**13 04 09.8**	**-0.1**
SDLR	**Sedlovina**	**4.23**	**240**	*i* P		**Pn**	**13 04 12.7**	**+0.4**
SDLR				*e*S		**Sn**	**13 04 58.7**	**-1.9**
SDLR	**Sedlovina**	**4.23**	**240**	PN		**Pn**	**13 04 12.7**	**+0.4**
SMAR	**Somma**	**4.28**	**240**	*i* P		**Pn**	**13 04 13.3**	**+0.3**
SMAR				*e*S		**Sn**	**13 05 00.2**	**-1.7**
SMAR	**Somma**	**4.28**	**240**	PN		**Pn**	**13 04 13.3**	**+0.3**
UGLR	**Uglovaya**	**4.30**	**240**	*i* P		**Pn**	**13 04 13.9**	**+0.7**
UGLR				*e*S		**Sn**	**13 05 00.4**	**-1.9**
UGLR	**Uglovaya**	**4.30**	**240**	PN		**Pn**	**13 04 13.9**	**+0.7**
KRX	**Arik**	**4.30**	**242**	*e*P		**Pn**	**13 04 14.5**	**+1.2**
KRX				*e*S		**Sn**	**13 05 01.5**	**-0.9**
KRX	**Arik**	**4.30**	**242**	PN		**Pn**	**13 04 14.5**	**+1.2**
AVH	**Avacha**	**4.31**	**241**	*i* P		**Pn**	**13 04 14.4**	**+1.1**
AVH				*e*S		**Sn**	**13 05 02.0**	**-0.5**
AVH	**Avacha**	**4.31**	**241**	PN		**Pn**	**13 04 14.4**	**+1.1**
KOK	**Koryaka**	**4.35**	**241**	*i* P		**Pn**	**13 04 14.6**	**+0.8**
KOK	**Koryaka**	**4.35**	**241**	PN		**Pn**	**13 04 14.6**	**+0.8**
DALK	**Dalny**	**4.44**	**238**	*e*P		**Pn**	**13 04 15.2**	**+0.2**
DALK				*e*S		**Sn**	**13 05 03.1**	**-2.4**
DALK	**Dalny**	**4.44**	**238**	PN		**Pn**	**13 04 15.2**	**+0.2**
PALN	**Palana**	**4.49**	**325**	P		**Pn**	**13 04 16.3**	**+0.7**
PALN	**Palana**	**4.49**	**325**	PN		**Pn**	**13 04 16.3**	**+0.7**
PET	**Petropavlovsk**	**4.49**	**239**	*e*Pn		**Pn**	**13 04 16.0**	**+0.3**
PET	**Petropavlovsk**	**4.49**	**239**	*e*P		**Pn**	**13 04 16.2**	**+0.5**
PET				*e*S		**Sn**	**13 05 04.1**	**-2.7**
PET	**Petropavlovsk**	**4.49**	**239**	*e*PN		**Pn**	**13 04 16.1**	**+0.3**
PET				pmax	pmax			
	comp=Z,61nm,0.5s							
GNL	**Ganaly**	**4.50**	**249**	*e*P		**Pn**	**13 04 16.9**	**+0.9**
GNL	**Ganaly**	**4.50**	**249**	PN		**Pn**	**13 04 16.9**	**+0.9**
KRMR	**Karymshinskiy**	**4.86**	**239**	*e*P		**Pn**	**13 04 21.4**	**+0.6**
KRMR				*e*S		**Sn**	**13 05 15.3**	**-0.6**
KRMR	**Karymshinskiy**	**4.86**	**239**	PN		**Pn**	**13 04 21.4**	**+0.6**
PEA1	**Petropavlovsk-**	**4.92**	**243**	*e*Pn		**Pn**	**13 04 22.1**	**+0.5**
PEA1				*e*Sn		**Sn**	**13 05 19.8**	**+2.4**
PEA0B	**Petropavlovsk-**	**4.92**	**243**	*e*Pn		**Pn**	**13 04 22.1**	**+0.5**
PETK	**Petropavlovsk-**	**4.92**	**243**	Pn		**Pn**	**13 04 22.1**	**+0.5**
	comp=Z,4.3nm,0.3s,baz=68,slow=18,SNR=111							
PETK				Sn		**Sn**	**13 05 19.8**	**+2.4**
PETK				LR		LR	13 06 21.7	
	comp=Z,116nm,20.8s,baz=65,slow=39							
RUS	**Russkaya**	**4.93**	**234**	*i* P		**Pn**	**13 04 21.7**	**-0.1**
RUS				*e*S		**Sn**	**13 05 15.1**	**-2.6**
RUS	**Russkaya**	**4.93**	**234**	PN		**Pn**	**13 04 21.7**	**-0.1**
TILK	**Tilichiki**	**4.96**	**7**	*e*P		**Pn**	**13 04 22.5**	**+0.4**
TILK				*e*S		**Sn**	**13 05 16.9**	**-1.3**
TILK	**Tilichiki**	**4.96**	**7**	PN		**Pn**	**13 04 22.5**	**+0.4**
MTVR	**Mutnovka**	**5.05**	**236**	*e*P		**Pn**	**13 04 24.1**	**+0.5**
MTVR				*e*S		**Sn**	**13 05 18.7**	**-2.2**
MTVR	**Mutnovka**	**5.05**	**236**	PN		**Pn**	**13 04 24.1**	**+0.5**
APC	**Apacha**	**5.29**	**244**	*e*P		**Pn**	**13 04 27.8**	**+1.1**
APC				*e*S		**Sn**	**13 05 26.8**	**+0.3**
APC	**Apacha**	**5.29**	**244**	PN		**Pn**	**13 04 27.8**	**+1.1**
KDTR	**Khodutka, Kamc**	**5.56**	**231**	*e*P		**Pn**	**13 04 29.9**	**-0.4**
KDTR				*e*S		**Sn**	**13 05 28.6**	**-4.4**
PAU	**Pauzhetka**	**6.37**	**234**	*e*P		**Pn**	**13 04 42.7**	**+1.3**
PAU	**Pauzhetka**	**6.37**	**234**	PN		**Pn**	**13 04 42.7**	**+1.3**
SKR	**Severo-Kuril's**	**7.23**	**231**⇑	*e*PN		**Pn**	**13 04 53.8**	**+0.6**
SEY	**Seymchan**	**9.82**	**324**	Pn		**Pn**	**13 05 29.2**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=116,slow=21,SNR=5.1							
ATKA	**Atka Island**	**12.71**	**97**	*e*Pn		**Pn**	**13 06 09.3**	**+1.1**
KUR	**Kuril'sk**	**14.98**	**234**⇓	*e*P		**P**	**13 06 42.3**	**-2.0**
ASAJ	**Asahikawa**	**18.33**	**241**	P		**Pn**	**13 07 22.5**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=57,slow=15,SNR=4.6							
ASAJ				LR		LR	13 13 40.7	
	comp=Z,67nm,21.2s,baz=346,slow=34							
ASAJ	**Asahikawa**	**18.33**	**241**	*e*P		**Pn**	**13 07 22.6**	**+1.0**
	comp=Z,264nm,2.0s							
YAK	**Yakutsk**	**19.23**	**304**⇑	*e*P		**P**	**13 07 29.1**	**-2.0**
YAK				pmax	pmax			
	comp=Z,7.0nm,0.6s							
ERM	**Erimo**	**19.64**	**236**	*e*P		**Pn**	**13 07 38.2**	**+0.9**
	comp=Z,266nm,1.9s							
ERM	**Erimo**	**19.64**	**236**	*e*P		**Pn**	**13 07 38.2**	**+0.9**
ERM				pmax	pmax			
	comp=Z,267nm,1.9s							
TIXI	**Tiksi**	**22.21**	**330**	P		**P**	**13 08 03.7**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=122,slow=8.5,SNR=5.2							
IM3	**Indian Mountai**	**22.24**	**45**	*e*P		**P**	**13 08 04.1**	**+0.5**
KDAK	**Kodiak Island**	**23.14**	**67**	P		**P**	**13 08 13.2**	**+0.2**
	comp=Z,5.5nm,0.6s,baz=304,slow=13,SNR=9.2							
TOLK	**Toolik Lake Re**	**24.26**	**39**	*e*P		**P**	**13 08 23.1**	**-0.6**
	comp=Z,11nm,0.8s							
CCB	**Clear Creek Bu**	**24.65**	**49**	*e*P		**P**	**13 08 27.0**	**-0.2**
	comp=Z,8.8nm,0.9s							
IL1	**Eielson Array**	**25.04**	**49**	*e*P		**P**	**13 08 30.0**	**-0.8**
ILAR	**Eielson Array**	**25.04**	**49**	P		**P**	**13 08 30.2**	**-0.5**
	comp=Z,2.5nm,0.8s,baz=266,slow=9.2,SNR=33							
ILB	**Eielson Array**	**25.04**	**49**	*e*P		**P**	**13 08 30.4**	**-0.4**
INK	**Inuvik**	**30.16**	**41**	P		**P**	**13 09 16.4**	**0.0**
	comp=Z,2.2nm,0.5s,baz=288,slow=8.2,SNR=18							
INK	**Inuvik**	**30.16**	**41**	*e*P		**P**	**13 09 16.2**	**-0.2**
	comp=Z,16nm,1.7s							
INK	**Inuvik**	**30.16**	**41**	*e*P		**P**	**13 09 16.2**	**-0.2**
INK				pmax	pmax			
	comp=Z,16nm,1.7s							
H11N2	**WAKE ISLAND Hy**	**35.78**	**177**	T		T	13 47 59.0	
	baz=358,slow=76,SNR=1298							
H11N3	**WAKE ISLAND Hy**	**35.79**	**177**	T		T	13 48 02.2	
	baz=358,slow=76,SNR=724							
H11N1	**WAKE ISLAND Hy**	**35.80**	**177**	T		T	13 48 02.6	
	baz=358,slow=76,SNR=1054							
SONA0	**Songino Array**	**36.15**	**283**	*e*P		**P**	**13 10 09.3**	**+0.2**
SONM	**Songino Array**	**36.15**	**283**	P		**P**	**13 10 09.3**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=52,slow=9.2,SNR=3.9							
H11S1	**WAKE ISLAND Hy**	**36.99**	**177**	T		T	13 49 23.9	
	baz=359,slow=76,SNR=24							
H11S3	**WAKE ISLAND Hy**	**37.00**	**177**	T		T	13 49 34.8	
	baz=359,slow=76,SNR=18							
H11S2	**WAKE ISLAND Hy**	**37.01**	**177**	T		T	13 49 32.2	
	baz=359,slow=76,SNR=24							
KNGR	**Kungurtug, Tuv**	**39.40**	**292**⇑	*e*P		**P**	**13 10 36.1**	**-0.4**
YKA	**Yellowknife Ar**	**39.40**	**46**	P		**P**	**13 10 35.9**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=298,slow=8.1,SNR=7.7							
YKB5	**Yellowknife Ar**	**39.40**	**46**	*e*P		**P**	**13 10 35.9**	**-0.3**
B08A	**Colville Reser**	**45.02**	**66**	*e*P		**P**	**13 11 22.4**	**+0.3**
	comp=Z,3.4nm,0.8s							
E09A	**Wood Farm, Sta**	**46.82**	**67**	*e*P		**P**	**13 11 36.5**	**+0.2**
	comp=Z,4.1nm,0.7s							
MOD	**Modoc Plateau**	**48.74**	**73**	*e*P		**P**	**13 11 52.4**	**+1.0**
	comp=Z,2.3nm,0.6s							
KURK	**Kurchatov**	**48.86**	**303**⇓	*e*P		**P**	**13 11 52.1**	**+0.1**
KURK				pmax	pmax			
	comp=Z,3.0nm,1.5s							
MK32	**Makanchi Array**	**49.66**	**297**	*e*P		**P**	**13 11 57.6**	**-0.6**
MKAR	**Makanchi Array**	**49.66**	**297**	P		**P**	**13 11 57.6**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=56,slow=6.5,SNR=4.2							
PNTR	**Pine Nut**	**51.08**	**75**	*e*P		**P**	**13 12 10.4**	**+1.0**
	comp=Z,3.4nm,0.8s							
ARA0	**ARCESS Array S**	**51.82**	**343**	*e*P		**P**	**13 12 13.1**	**-1.1**
ARCES	**ARCESS Array B**	**51.82**	**343**	P		**P**	**13 12 13.1**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=11,slow=10,SNR=3.6							
NV01	**Mina Array Sit**	**52.26**	**75**	*e*P		**P**	**13 12 19.2**	**+1.0**
NVAR	**Mina Array Bea**	**52.26**	**75**	P		**P**	**13 12 19.6**	**+1.4**
	comp=Z,1.5nm,0.7s,baz=297,slow=8.0,SNR=13							
IMW	**Indian Meadow**	**52.34**	**65**	*e*P		**P**	**13 12 18.9**	**+0.1**
	comp=Z,2.2nm,0.8s							
PD31	**Pinedale Array**	**53.85**	**65**	*e*P		**P**	**13 12 29.6**	**-0.2**
PDAR	**Pinedale Array**	**53.85**	**65**	P		**P**	**13 12 30.5**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=330,slow=3.7,SNR=14							
PDAR	**Pinedale Array**	**53.85**	**65**	*e*P		**P**	**13 12 30.1**	**+0.3**
TPNV	**Topopah Spring**	**54.46**	**75**	*e*P		**P**	**13 12 35.2**	**+1.0**
	comp=Z,6.1nm,1.3s							
TPNV	**Topopah Spring**	**54.46**	**75**	*e*P		**P**	**13 12 35.3**	**+1.0**
TPNV				pmax	pmax			
	comp=Z,6.0nm,1.3s							
ULM	**Lac du Bonnet**	**55.04**	**51**	P		**P**	**13 12 38.3**	**+0.3**
	comp=Z,2.1nm,0.5s,baz=316,slow=4.6,SNR=5.0							
GSC	**Goldstone, Bar**	**55.36**	**77**	*e*P		**P**	**13 12 41.5**	**+0.8**
	comp=Z,11nm,1.7s							
GSC	**Goldstone, Bar**	**55.36**	**77**	*e*P		**P**	**13 12 41.5**	**+0.8**
GSC				pmax	pmax			
	comp=Z,11nm,1.7s							
TMUT	**Trail Mountain**	**55.48**	**69**	*e*P		**P**	**13 12 42.7**	**+0.9**
	comp=Z,3.3nm,0.9s							
SRU	**San Rafael Swe**	**55.98**	**69**	*e*P		**P**	**13 12 46.4**	**+1.2**
	comp=Z,5.5nm,0.7s							
SRU	**San Rafael Swe**	**55.98**	**69**	*e*P		**P**	**13 12 46.4**	**+1.2**
SRU				pmax	pmax			
	comp=Z,6.0nm,0.7s							
O20A	**White River Ci**	**56.43**	**67**	*e*P		**P**	**13 12 49.3**	**+0.9**
	comp=Z,5.4nm,0.8s							
AAK	**Ala-Archa**	**56.53**	**298**⇑	*e*P		**P**	**13 12 49.4**	**+0.4**
AAK				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ABKAR	**Akbulak array**	**58.35**	**312**	*e*P		**P**	**13 13 01.1**	**-0.4**
FIA0	**FINESS Array S**	**58.96**	**338**	*e*P		**P**	**13 13 04.8**	**-0.8**
FIA0	**FINESS Array S**	**58.96**	**338**	*e*P		**P**	**13 13 04.8**	**-0.8**
FINES	**FINESS Array B**	**58.96**	**338**	P		**P**	**13 13 04.8**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=12,slow=12,SNR=4.1							
CMAR	**Chiang Mai Arr**	**61.46**	**261**	P		**P**	**13 13 25.7**	**+2.5**
	comp=Z,0.4nm,0.3s,baz=23,slow=4.9,SNR=3.6							
HNR	**Honiara**	**64.87**	**186**	LR		LR	13 39 44.5	
	comp=Z,40nm,18.8s,baz=64,slow=34							
TX31	**Lajitas Ar. Si**	**67.08**	**71**	*e*P		**P**	**13 14 00.6**	**+0.5**
LTX	**Lajitas**	**67.08**	**71**	*e*P		**P**	**13 14 00.9**	**+0.8**
LTX	**Lajitas**	**67.08**	**71**	*e*P		**P**	**13 14 00.9**	**+0.8**
TXAR	**Lajitas Array**	**67.08**	**71**	P		**P**	**13 14 00.9**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=301,slow=4.6,SNR=22							

MEX 14 13:06:00.5±0.6, 16°.23N×98°.03W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.18**	**330**	*i* P		Pg	13 06 03.5	-0.6
PNIG				*i* S		Sg	13 06 06.4	-0.1
TLIG	**Tlapa**	**1.42**	**339**	*i* P		Pn	13 06 24.0	-3.0
TLIG				*e*S		Sb	13 06 41.2	-4.7

*ISCJB **14** 13:03:10.0±0.2, 19°.02S±0°.07×169°.49E±0°.05, h246km, mb4.6/79, Error ellipse: s-maj=10.0km s-min=5.3km az=155.7*

*IDC **14** 13:03:13.1±1.7, 19°.01S×169°.58E, h265km±15km, mb4.1/14, mb1 4.3/16, mb1mx4.0/39, mbtmp4.8/16, Error ellipse: s-maj=15.9km s-min=13.3km az=178.0*

*NEIC **14** 13:03:14.2±0.6, 19°.04S×169°.50E, h277km±6km, mb4.7/72, Error ellipse: s-maj=6.5km s-min=3.9km az=169.0*

ISC 14 13:03:10.9±0.5, 18°.98S±0°.08×169°.55E±0°.08, h246km, n175, σ0.94/179, mb4.7/79, 2C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.24**	**223**	P		**Pn**	**13 34 20.8**	**+3.3**
	20nm,0.3s,baz=58,slow=15,SNR=187							
DZM	**Mont Dzumac**	**4.24**	**223**	*e*Pn		**Pn**	**13 34 20.2**	**+2.8**
HNR	**Honiara**	**13.29**	**314**	P		**P**	**13 36 13.5**	**+1.3**
	22nm,0.3s,baz=184,slow=2.6,SNR=53							
HNR	**Honiara**	**13.29**	**314**	*e*P		**P**	**13 36 14.0**	**+1.8**
OUZ	**Omahuta**	**16.57**	**168**	*e*P		**Pn**	**13 36 50.1**	**+0.3**
	44nm,0.9s							
EIDS	**Eidsvold**	**18.24**	**246**	*e*P		**Pn**	**13 37 08.5**	**-1.2**
	11nm,0.6s							
URZ	**Urewera**	**20.31**	**163**	P		**P**	**13 37 29.2**	**+0.7**
	12nm,0.5s,baz=4.3,slow=1.2,SNR=19							
URZ	**Urewera**	**20.31**	**163**	*e*P		**P**	**13 37 29.5**	**+1.0**
	29nm,1.0s							
BKZ	**Black Stump Fm**	**21.00**	**165**	*e*P		**P**	**13 37 35.9**	**+0.1**
	16nm,0.7s							
CTA	**Charters Tower**	**21.98**	**263**	P		**P**	**13 37 46.3**	**+1.0**
	18nm,0.6s,baz=95,slow=11,SNR=24							
CTAO	**Charters Tower**	**21.98**	**263**	*e*P		**P**	**13 37 46.3**	**+1.0**
	21nm,0.7s							
PMG	**Port Moresby**	**23.68**	**291**	P		**P**	**13 38 01.8**	**+1.1**
	42nm,0.8s,baz=97,slow=3.2,SNR=11							
PMG	**Port Moresby**	**23.68**	**291**	*e*P		**P**	**13 38 02.1**	**+1.4**
	46nm,0.8s							
STKA	**Stephens Creek**	**28.23**	**237**	P		**P**	**13 38 42.5**	**+1.1**
	10.0nm,0.7s,baz=66,slow=8.9,SNR=27							
STKA				PcP		**PcP**	**13 41 47.8**	**-0.4**
	1.7nm,0.8s,baz=303,slow=5.1,SNR=2.9							
STKA	**Stephens Creek**	**28.23**	**237**	*e*P		**P**	**13 38 42.1**	**+0.7**
	2.1nm,0.6s							
STKA				PcP		**PcP**	**13 41 47.8**	**-0.4**
WB2	**Warramunga Arr**	**33.17**	**262**	*e*P		**P**	**13 39 23.7**	**-1.1**
WRAB	**Tennant Creek**	**33.17**	**262**	*e*P		**P**	**13 39 23.7**	**-1.0**
	8.8nm,0.8s							
WRA	**Warramunga Arr**	**33.18**	**262**	P		**P**	**13 39 24.3**	**-0.6**
	8.1nm,0.6s,baz=82,slow=6.0,SNR=173							
WRA				S		**S**	**13 44 21.5**	**-4.7**
	1.3nm,0.9s,baz=92,slow=14,SNR=6.7							
WRA				ScP		**ScP**	**13 45 21.2**	**-1.2**
	1.1nm,0.9s,baz=92,slow=3.7,SNR=5.5							
AS01	**Alice Springs**	**33.44**	**256**	*e*P		**P**	**13 39 26.4**	**-0.7**
AS31	**Alice Springs**	**33.48**	**256**	*e*P		**P**	**13 39 27.3**	**-0.1**
	28nm,0.4s							
ASAR	**Alice Springs**	**33.48**	**256**	P		**P**	**13 39 27.4**	**0.0**
	54nm,0.6s,baz=83,slow=9.1,SNR=936							
ASAR				pP		**pP**	**13 40 16.8**	**0.0**
	4.8nm,0.9s,baz=81,slow=9.4,SNR=2.0							
ASAR				S		**S**	**13 44 27.2**	**-3.5**
	0.8nm,0.7s,baz=82,slow=17,SNR=4.4							
ASAR				ScP		**ScP**	**13 45 21.7**	**-1.7**
	0.7nm,0.8s,baz=105,slow=3.3,SNR=4.8							
MTN	**Manton Dam**	**37.39**	**274**	*e*P		**P**	**13 40 00.6**	**-0.1**
	28nm,0.6s							
FAKI	**Fak Fak**	**39.81**	**289**	*e*P		**P**	**13 40 20.4**	**-0.4**
	17nm,1.0s							
FITZ	**Fitzroy Crossi**	**41.56**	**264**	P		**P**	**13 40 35.8**	**+0.8**
	17nm,0.6s,baz=108,slow=8.0							
FITZ	**Fitzroy Crossi**	**41.56**	**264**	*e*P		**P**	**13 40 35.5**	**+0.4**
	19nm,0.7s							
MBWA	**Marble Bar**	**46.70**	**259**	*e*P		**P**	**13 41 15.5**	**-0.2**
	27nm,1.2s							
KSM	**Kuching**	**61.61**	**282**	*e*P		**P**	**13 43 03.0**	**-0.1**
	13nm,0.8s							
PETK	**Petropavlovsk-**	**72.52**	**353**	P		**P**	**13 44 11.8**	**+1.1**
	8.4nm,0.8s,baz=155,slow=11,SNR=8.1							
CM01	**Chiang Mai Arr**	**78.64**	**294**	*e*P		**P**	**13 44 46.8**	**+0.7**
CMAR	**Chiang Mai Arr**	**78.67**	**294**	P		**P**	**13 44 47.6**	**+1.3**
	1.8nm,0.8s,baz=138,slow=4.4,SNR=12							
SNCC	**San Nicolas Is**	**85.25**	**53**	P		**P**	**13 45 20.8**	**+0.6**
	baz=244							
KCPM	**Cahto Peak**	**85.34**	**45**	*e*P		**P**	**13 45 21.3**	**+0.6**
	23nm,0.8s							
KMRM	**Mail Ridge**	**85.51**	**45**	*e*P		**P**	**13 45 22.3**	**+0.9**
	18nm,0.8s							
PKM	**Mcpherson Peak**	**85.76**	**51**	P		**P**	**13 45 23.4**	**+0.5**
	baz=243							
KHMM	**Horse Mountain**	**85.82**	**44**	*e*P		**P**	**13 45 24.0**	**+1.0**
	21nm,0.8s							
PAGB	**Antelope Grade**	**85.82**	**50**	*e*P		**P**	**13 45 23.8**	**+0.8**
	8.8nm,0.5s							
SCI2	**San Clemente I**	**85.87**	**53**	P		**P**	**13 45 24.0**	**+0.7**
	baz=244							
O02D	**Mt. Diablo Mer**	**86.11**	**45**	P		**P**	**13 45 25.6**	**+1.2**
	baz=241,SNR=17							
WDC	**Whiskeytown Da**	**86.47**	**45**	*e*P		**P**	**13 45 26.1**	**+0.2**
	8.7nm,1.0s							
L02E	**Cave Junction**	**86.53**	**43**	P		**P**	**13 45 27.1**	**+0.8**
	baz=241							
N02D	**Trinity Center**	**86.55**	**45**	P		**P**	**13 45 27.4**	**+0.9**
	baz=241,SNR=10							
ARVC	**Arvin**	**86.59**	**51**	P		**P**	**13 45 27.1**	**+0.4**
	baz=244							
M02C	**Callahan**	**86.65**	**44**	P		**P**	**13 45 28.0**	**+1.1**
	baz=241,SNR=14							
ORV	**Oroville**	**86.69**	**46**	*e*P		**P**	**13 45 27.3**	**+0.2**
	8.6nm,0.9s							
VES	**Vestal, Richgr**	**86.72**	**50**	P		**P**	**13 45 27.7**	**+0.4**
	baz=244							
K02D	**Willamette Mer**	**86.75**	**43**	P		**P**	**13 45 28.1**	**+0.7**
	baz=240							
CMB	**Columbia Colle**	**86.76**	**48**	*e*P		**P**	**13 45 27.7**	**+0.2**
	12nm,0.9s							
AFDM	**Forest Hills D**	**86.77**	**47**	*e*P		**P**	**13 45 27.8**	**+0.3**
	14nm,1.0s							
MWC	**Mount Wilson**	**86.77**	**52**	*e*P		**P**	**13 45 27.9**	**0.0**
	10nm,0.8s							
J01E	**Myrtle Point**	**86.81**	**42**	P		**P**	**13 45 28.3**	**+0.7**
	baz=240							
O03E	**Paynes

	25nm,1.0s								
SNAA	**Sanae**		89.44	182	P		P	13 45 38.1	-1.5
G05D	**Wamic, OR**		89.46	41	P		P	13 45 40.4	+0.3
	baz=242								
D03D	**Eldon**		89.48	39	P		P	13 45 40.7	+0.7
	baz=241								
F05D	**White Salmon**		89.67	41	P		P	13 45 41.4	+0.4
	baz=242								
PDMCI	**Parker Dam,Lak**		89.76	54	P		P	13 45 42.1	+0.4
	baz=247								
PGC	**Sidney**		89.81	38	*e*P		P	13 45 41.9	+0.4
	10nm,0.9s								
LON	**Longmire**		89.87	40	*e*P		P	13 45 41.7	-0.2
	25nm,1.8s								
SHPR	**Sheep Range**		89.88	51	*e*P		P	13 45 42.4	0.0
	6.8nm,1.0s								
214A	**Organ Pipe Nat**		89.89	56	P		P	13 45 42.9	+0.6
	baz=247								
IL1	**Eielson Array**		89.89	17	*e*P		P	13 45 39.5	-2.1
ILAR	**Eielson Array**		89.89	17	P		P	13 45 39.8	-1.8
	1.8nm,0.8s,baz=235,slow=5.6,SNR=15								
WVOR	**Wild Horse Val**		89.92	45	*e*P		P	13 45 42.4	0.0
	12nm,1.1s								
D05A	**Enumclaw**		89.97	39	*e*P		P	13 45 43.3	+1.0
	50nm,1.4s								
POKR	**Poker Plat Res**		90.01	17	P		P	13 45 45.2	+3.1
	baz=220								
VNA3	**Neumayer Olymp**		90.01	180	P		P	13 45 40.5	-1.8
I07A	**Izee**		90.08	43	*e*P		P	13 45 43.4	+0.3
	8.0nm,0.9s								
W13A	**Hualapai Mount**		90.27	53	*e*P		P	13 45 44.5	+0.2
	7.2nm,0.9s								
A04D	**Lummi Island**		90.28	38	P		P	13 45 44.5	+0.8
	baz=241								
R11A	**Troy Canyon, C**		90.31	49	*e*P		P	13 45 44.1	-0.2
	2.2nm,0.8s								
R11A	**Troy Canyon, C**		90.31	49	P		P	13 45 44.5	+0.1
	baz=246,SNR=5.4								
VNA2	**Neumayer--Watz**		90.31	181	P		P	13 45 41.8	-1.8
	baz=189,slow=4.2								
B05A	**Bryant**		90.41	38	P		P	13 45 44.9	+0.6
	baz=242								
J08A	**Circle Bar Ran**		90.43	44	*e*P		P	13 45 45.0	+0.3
	8.5nm,0.9s								
VNA1	**Neumayer--Stat**		90.60	181	P		P	13 45 38.3	-6.6
LTY	**Liberty**		90.79	40	*e*P		P	13 45 46.4	+0.1
	7.3nm,0.9s								
G08A	**Pilot Rock**		90.97	42	*e*P		P	13 45 47.2	+0.1
	8.0nm,1.0s								
HAWA	**Hanford**		91.10	41	*e*P		P	13 45 47.6	+0.1
	10.0nm,1.0s								
E08A	**Dider Farm, El**		91.43	41	*e*P		P	13 45 49.8	+0.7
	17nm,1.4s								
LCMT	**Little Creek M**		91.49	51	*e*P		P	13 45 50.0	+0.2
	7.6nm,0.9s								
CCUT	**Cedar City**		91.61	51	*e*P		P	13 45 50.7	+0.2
	8.0nm,1.1s								
TUC	**Tucson**		91.61	56	P		P	13 45 51.3	+0.8
	baz=248								
PSUT	**Pine Spring**		91.63	50	*e*P		P	13 45 50.7	+0.1
	3.0nm,1.0s								
KNB	**Kanab**		91.80	51	*e*P		P	13 45 50.9	-0.4
	6.6nm,1.0s								
SZCU	**Shurtz Canyon**		91.83	51	*e*P		P	13 45 51.8	+0.3
	5.4nm,1.1s								
X16A	**Lo Mia Camp, P**		91.87	54	*e*P		P	13 45 52.3	+0.5
	7.9nm,0.9s								
U15A	**North Rim**		91.97	52	*e*P		P	13 45 52.8	+0.6
	6.9nm,0.8s								
WUAZ	**Wupatki**		92.33	53	*e*P		P	13 45 53.9	+0.1
	7.1nm,1.0s								
WUAZ	**Wupatki**		92.33	53	P		P	13 45 54.4	+0.7
	baz=248								
PKCU	**Pink Cliffs**		92.34	51	*e*P		P	13 45 54.4	+0.4
	7.3nm,1.1s								
319A	**Douglas**		92.47	58	*e*P		P	13 45 55.0	+0.5
	10nm,0.9s								
MTPU	**Mount Pierson**		92.66	51	*e*P		P	13 45 56.1	+0.6
	3.0nm,0.8s								
HLID	**Hailey**		93.21	45	P		P	13 45 58.4	+0.8
	baz=247								
HVU	**Hansel Valley**		93.64	47	*e*P		P	13 45 59.7	+0.1
	16nm,2.0s								
TCUT	**Toone Canyon**		94.35	48	*e*P		P	13 46 02.9	-0.2
	4.7nm,0.8s								
MNTX	**Cornudas Mount**		95.72	59	P		P	13 46 09.8	+0.6
	baz=251								
BOZ	**Bozeman (W)**		95.81	44	*e*P		P	13 46 09.5	0.0
	10nm,0.6s								
PDAR	**Pinedale Array**		96.22	47	P		P	13 46 12.8	+1.2
	0.5nm,0.7s,baz=213,slow=5.1,SNR=4.1								
PDAR					PP		PP	13 50 06.5	-2.0
	0.1nm,0.3s,baz=219,slow=3.8,SNR=3.5								
TXAR	**Lajitas Array**		96.38	61	P		P	13 46 12.1	-0.3
	0.3nm,0.7s,baz=214,slow=6.7,SNR=3.6								
ARCES	**ARCESS Array B**		124.89	345	PKP		PKPdf	13 51 39.8	-1.1
	1.6nm,0.6s,baz=48,slow=1.8,SNR=8.7								
FINES	**FINESS Array B**		130.46	338	SKPbc		SKPbc	13 54 48.6	-3.2
	1.9nm,0.8s,baz=53,slow=5.4,SNR=6.5								
EKA	**Eskdalemuir Ar**		143.28	353	PKhKP		PKPpre	13 52 12.3	
	0.5nm,0.5s,baz=356,slow=2.7,SNR=4.1								
CONA	**Conrad Observa**		144.07	329	*e*PKPdf		PKPbc	13 52 16.3	+0.3
	7.7nm,0.9s								
GERES	**GERESS Array B**		144.40	332	PKP		PKPab	13 52 16.2	-0.5
	2.7nm,0.7s,baz=35,slow=4.9,SNR=12								
MOA	**Molln**		144.88	331	*e*PKPdf		PKPbc	13 52 18.0	-0.3
	7.6nm,0.8s								
MYKA	**Terra Mystica**		146.06	330	*e*PKPbc		PKPdf	13 52 20.1	-0.6
	6.4nm,1.0s								
WLF	**Walferdange**		146.61	340	⇑PKP		PKPbc	13 52 23.7	+0.3
MOTA	**Moosalm**		146.67	333	*e*PKPbc		PKPbc	13 52 23.2	-0.7
	6.2nm,1.0s								
DOU	**Dourbes**		146.71	342	⇑PKP		PKPbc	13 52 23.1	-0.6
SQTA	**Sankt Quirin**		146.72	333	*e*PKPbc		PKPbc	13 52 23.4	-0.6
	7.4nm,0.6s								
FETA	**Feichten**		147.08	333	*e*PKPbc		PKPbc	13 52 24.4	-0.7
	7.5nm,1.0s								
DAVOX	**Davos/Dischmat**		147.63	334	PKPbc		PKPbc	13 52 26.3	-0.3
	7.8nm,0.6s,baz=236,slow=6.0,SNR=9.6								
TORD	**Torodi Ar. Bea**		166.97	245	PKP		PKPdf	13 52 46.6	-1.5
	1.0nm,1.0s,baz=162,slow=5.8,SNR=4.6								

*ISCJB **14** 13:40:35.7±0.5, 15°.28N±0°.08×45°.44W±0°.08, h10km, mb4.1/13, MS3.5/6, Error ellipse: s-maj=13.3km s-min=9.1km az=138.1*

*IDC **14** 13:40:36.3±0.8, 15°.31N×45°.41W, h0km, mb4.1/11, mb1 4.3/12, mb1mx3.9/56, mbtmp4.2/12, ML5.0/1, MS3.5/7, Ms1 3.5/7, ms1mx3.1/34, Error ellipse: s-maj=29.3km s-min=15.5km az=125.0*

*NEIC **14** 13:40:37.5±0.3, 15°.26N×45°.44W, h10km, mb4.4/8, Error ellipse: s-maj=10.0km s-min=6.4km az=136.0*

ISC 14 13:40:37.5±0.7, **15°.3N**±0°.1×**45°.4W**±0°.1, **h10**km, **n35,** σ**0**°**69**/25, **mb4.2**/13, **MS3.5**/6, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MDP	**Montagnes des**	12.35	216	Pn		Pn	13 43 33.7	+0.1
	8.4nm,0.3s,baz=20,slow=15,SNR=47							
MDP				Sn		Sn	13 45 38.8	-13
	0.8nm,0.3s,baz=142,slow=19,SNR=5.3							
MDP				LR		LR	13 47 21.4	
	comp=Z,176nm,21.1s,baz=328,slow=33							
SVB	**Belmont**	15.45	265	*e*Pn		Pn	13 44 15.9	+0.1
	84nm,0.3s							
CUPR	**Culebra, Puert**	19.23	282	*e*P		Pn	13 45 03.0	0.0
	38nm,1.2s							
MTP	**Monte Pirata**	19.46	281	*e*P		P	13 45 04.5	-0.1
	21nm,1.1s							
PTGA	**Pitinga**	21.43	223	P		P	13 45 26.7	+0.6
	17nm,0.9s,baz=42,slow=14,SNR=23							
PTGA				LR		LR	13 53 02.9	
	comp=Z,59nm,19.1s,baz=70,slow=35							
PTGA	**Pitinga**	21.43	223	*e*P		P	13 45 25.8	-0.3
	18nm,0.9s							
SDV	**Santo Domingo**	25.42	258	P		P	13 46 06.9	+1.0
	3.8nm,0.6s,baz=60,slow=7.4,SNR=4.7							
SDV	**Santo Domingo**	25.42	258	*e*P		P	13 46 03.8	-2.1
	7.4nm,0.9s							
SAML	**Samuel**	29.81	217	*e*P		P	13 46 45.4	+0.5
	4.1nm,0.8s							
BDFB	**Brasilia**	30.83	185	LR		LR	13 58 23.5	
	comp=Z,101nm,18.8s,baz=108,slow=35							
SIV	**San Ignacio**	34.70	207	P		P	13 47 28.6	+0.8
	0.9nm,0.9s,baz=39,slow=8.7,SNR=6.5							
H10N3	**ASCENSION HYDR**	88.32	125	T		T	14 28 26.8	
	baz=306,slow=75,SNR=56							
H10N2	**ASCENSION HYDR**	88.32	125	T		T	14 28 27.1	
	baz=306,slow=75,SNR=54							
H10N1	**ASCENSION HYDR**	88.34	125	T		T	14 28 28.3	
	baz=306,slow=75,SNR=48							
LPAZ	**La Paz**	38.55	216	P		P	13 48 01.9	+0.6
	3.2nm,0.8s,baz=21,slow=8.0,SNR=11							
LPAZ				LR		LR	14 03 43.6	
	comp=Z,57nm,18.5s,baz=46,slow=36							
LPAZ	**La Paz**	38.55	216	*e*P		P	13 48 00.7	-0.7
	4.1nm,0.9s							
H10S3	**ASCENSION HYDR**	88.86	126	T		T	14 29 04.9	
	baz=308,slow=75,SNR=64							
H10S1	**ASCENSION HYDR**	88.87	126	T		T	14 29 05.2	
	baz=308,slow=75,SNR=57							
H10S2	**ASCENSION HYDR**	88.88	126	T		T	14 29 06.8	
	baz=308,slow=75,SNR=54							
CPUP	**Villa Florida**	42.95	196	LR		LR	14 06 50.1	
	comp=Z,22nm,18.1s,baz=20,slow=37							
CPUP	**Villa Florida**	42.95	196	*e*P		P	13 48 36.7	-0.1
	4.7nm,0.9s							
TOA1	**Torodi Ar. Sit**	45.67	86	*e*P		P	13 48 58.2	-0.7
TORD	**Torodi Ar. Bea**	45.68	86	P		P	13 48 58.2	-0.8
	0.5nm,0.6s,baz=270,slow=7.0,SNR=5.3							
ULM	**Lac du Bonnet**	53.45	322	P		P	13 49 57.4	-0.4
	1.6nm,0.5s,baz=121,slow=2.7,SNR=4.4							
PDAR	**Pinedale Array**	60.82	311	LR		LR	14 14 57.5	
	comp=Z,40nm,19.7s,baz=70,slow=34							
NB200	**NORSAR Array S**	60.86	28	*e*P		P	13 50 50.8	+0.7
NOA	**NORSAR Array B**	60.86	28	P		P	13 50 50.8	+0.7
	0.7nm,0.6s,baz=249,slow=6.4,SNR=2.3							
HFS	**Hagfors**	61.67	29	P		P	13 50 56.1	+0.6
	4.6nm,0.9s,baz=209,slow=8.5,SNR=3.8							
ARA0	**ARCESS Array S**	69.14	21	*e*P		P	13 51 44.0	+0.1
ARCES	**ARCESS Array B**	69.14	21	P		P	13 51 44.0	+0.1
	0.8nm,0.5s,baz=251,slow=5.4,SNR=11							
INK	**Inuvik**	75.21	337	P		P	13 52 20.2	+0.1
	2.4nm,0.9s,baz=72,slow=5.8,SNR=9.2							
INK	**Inuvik**	75.21	337	*e*P		P	13 52 19.9	-0.2
	33nm,1.9s							
IL1	**Eielson Array**	81.11	335	*e*P		P	13 52 53.0	+0.1
ILAR	**Eielson Array**	81.11	335	P		P	13 52 53.4	+0.5
	1.9nm,0.8s,baz=73,slow=4.6,SNR=11							
KDAK	**Kodiak Island**	86.05	329	LR		LR	14 32 40.9	
	comp=Z,144nm,19.3s,baz=233,slow=36							

*SJA **14** 13:56:10.7±0.6, 32°.57S×71°.74W, h11km, ML2.5, MW2.8*

*GUC **14** 13:56:13.5±0.7, 32°.59S×71°.36W, h35km±3km, ML2.8*

ISC 14 13:56:10.7±1.7, **32°.60S**±0°.03×**71°.72W**±0°.06, **h21**km±4km, **n20,** σ**2**°**02**/29, **2C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ROCH	**El Roble**	0.70	122	⇓*i*P		Pb	13 56 24.7	+0.3
ROCH				*i* S		Sn	13 56 33.4	-2.5
ROCH				IAML			13 56 34.7	
	comp=N,925nm,0.7s							
PEL	**Peldehue**	1.03	122	⇓*i*P		Pb	13 56 29.4	-0.4
PEL				*i* S		Sb	13 56 41.4	-1.5
CLCH	**Cerro Calan**	1.27	129	⇑*i*P		Pn	13 56 33.5	+0.2
CLCH				*i* S		Sn	13 56 48.3	-1.5
CLCH				IAML			13 56 51.3	
	comp=E,391nm,0.3s							
ANTU	**Antumapu**	1.33	137	*e*S		Sn	13 56 50.5	-0.6
ANTU				IAML			13 56 55.3	
	comp=E,386nm,0.3s							
FCH	**Farellones**	1.41	121	⇑*i*P		Pn	13 56 35.5	+0.1
FCH				*i* S		Sn	13 56 52.0	-1.4
FCH				IAML			13 56 54.1	
	comp=E,241nm,0.2s							
LMEL	**Las Melosas**	1.78	135	*e*P		Pn	13 56 41.3	+0.9
LMEL				*i* S		Sb	13 57 03.0	-1.6
LMEL				IAML			13 57 08.4	
	comp=N,294nm,0.3s							
AUSP	**Uspallata**	2.01	80	*e*P		Pb	13 56 47.0	+0.3
AUSP				*e*S		Sb	13 57 15.2	+3.8
RTLS	**Leoncito**	2.21	69	*e*P		Pb	13 56 50.1	0.0
RTLS				IAML			13 57 19.1	
	comp=Z,20nm,0.5s							
RTLS				*e*S		Sb	13 57 19.6	+2.5
ARCO	**CERRO ARCO**	2.37	97	*e*P		Pb	13 56 52.3	-0.3
ARCO				IAML			13 57 05.7	
	comp=Z,33nm,0.4s							
GO05	**HualaæØ**	2.41	184	*e*P		Pb	13 56 53.1	-0.3
GO05				*e*S		Sb	13 57 24.2	+1.7
ASAL	**Salagasta**	2.44	91	*e*P		Pb	13 56 53.0	-0.8
ASAL				*e*S		Sb	13 57 24.9	+1.4
AAGR	**Agrelo**	2.48	102	*e*P		Pb	13 56 53.8	-0.8
GO04	**Tololo Observa**	2.55	18	*e*P		Pb	13 56 54.4	-1.4
GO04				*e*S		Sb	13 57 26.7	-0.1
RTCV	**Cerro Valdivia**	2.80	76	*e*P		Pb	13 56 57.5	-2.4
ACCO	**Cerro Coronel**	3.03	49	*e*P		Pb	13 57 02.1	-2.0
AROD	**Rodeo**	3.10	39	*e*P		Pb	13 57 02.9	-2.4
AMOG	**MOGNA**	3.21	60	*e*P		Pb	13 57 03.8	-3.2
ACDV	**Cuesta del Vie**	3.29	43	*e*P		Pb	13 57 05.2	-3.3
AGUA	**GUANDACOL**	4.16	43	*e*P		Pn	13 57 17.3	+4.2
APLL	**PUNTA DE LOS L**	4.95	65	IAML			13 58 34.4	
	comp=Z,4.8nm,0.6s							

*BJI **14** 14:04:29.3, 22°.20N×95°.91E, h10km, mb4.2/18, mB4.5/11, ML4.5/2, Ms3.9/6, Ms7 3.7/5*

*ISCJB **14** 14:04:34.4±0.3, 22°.52N±0°.03×95°.67E±0°.03, h10km, mb4.1/9, MS3.4/4, Error ellipse: s-maj=5.6km s-min=2.8km az=139.4*

*NDI **14** 14:04:34.8±2.3, 22°.27N×95°.74E, h15km, ML3.5*

*IDC **14** 14:04:35.0±0.9, 22°.84N×96°.06E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.7/40, mbtmp4.0/8, ML4.3/1, MS3.3/6, Ms1 3.4/6, ms1mx2.9/51, Error ellipse: s-maj=34.5km s-min=13.1km az=63.0*

*NEIC **14** 14:04:36.1±0.3, 22°.82N×96°.06E, h10km, mb4.4/4, Error ellipse: s-maj=16.4km s-min=4.1km az=59.0*

ISC 14 14:04:37.2±0.5, **22°.64N**±0°.04×**95°.52E**±0°.04, **h10**km, **n78,** σ**2**°**68**/92, **mb4.2**/9, **MS3.4**/4, **Myanmar**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SAIH	**SAIHA**	2.34	267	*e*P		Pn	14 05 14.7	-1.2
SAIH				*e*S		Sn	14 05 46.4	+1.6
SAIH				IAML			14 06 10.0	
	comp=N,216nm,0.5s							
SAIH				IAML			14 06 10.0	
	comp=E,316nm,0.6s							
IMP	**Imphal**	2.62	327	*e*P		Pn	14 05 22.6	+3.0
IMP				*e*S		Sb	14 05 56.5	-0.1
KOHI	**KOHIMA**	3.33	338	*e*P		Pn	14 05 31.1	+1.6
KOHI				*e*S		Sn	14 06 10.6	+1.4
KOHI				AMP			14 06 19.0	
KOHI				AMP			14 06 19.1	
MOKO	**MOKOCHONG**	3.78	346	*e*P		Pn	14 05 38.0	+2.2
MOKO				*e*S		Sn	14 06 25.2	+4.9
MOKO				IAML			14 06 31.1	
	comp=N,182nm,0.4s							
MOKO				IAML			14 06 31.6	
	comp=E,223nm,0.5s							
JORH	**JORHAT**	4.25	345	*e*P		Pn	14 05 45.1	+3.1
JORH				*e*S		Sn	14 06 36.9	+5.2
SHL	**Shillong**	4.42	312	*e*Pn		Pn	14 05 47.0	+2.5
SHL	**Shillong**	4.42	312	*e*P		Pn	14 05 48.0	+3.5
SHL				*e*S		Sn	14 06 41.0	+4.8
TEZP	**TEZPUR**	4.67	329	*e*P		Pn	14 05 48.4	+0.6
LKP	**Lekhapani**	4.69	4	*e*P		Pn	14 05 49.7	+1.7
LKP				*e*S		Sn	14 06 45.4	+2.9
ITAN	**ITANAGAR**	4.78	340	*e*P		Pn	14 05 52.4	+3.1
ITAN				*e*S		Sn	14 06 47.2	+2.5
CHTO	**Chiang Mai**	4.97	139	*e*Pn		Pn	14 05 48.0	-4.0
CHTO	**Chiang Mai**	4.97	139	P		Pn	14 05 48.3	-3.7
CHTO	**Chiang Mai**	4.97	139	P		Pn	14 05 48.3	-3.7
CMMT	**Chiang Mai**	4.98	139	P		Pn	14 05 48.2	-3.8
CMMT	**Chiang Mai**	4.98	139	P		Pn	14 05 47.8	-4.2
CMMT				S		Sb	14 07 07.9	+3.5
ZIRO	**ZIRO**	5.10	343	*e*P		Pn	14 05 53.4	-0.5
ZIRO				*e*S		Sn	14 06 51.5	-1.5
PAYA	**Payao**	5.21	128	P		Pn	14 05 50.4	-4.9
CM31	**Chiang Mai Arr**	5.25	142	*e*Pn		Pn	14 05 52.4	-3.4
CMAR	**Chiang Mai Arr**	5.25	142	Pn		Pn	14 05 52.2	-3.6
	comp=E,2.5nm,0.3s,baz=321,slow=14,SNR=82							
CMAR				Pg		Pb	14 06 09.6	+0.5
	comp=E,22nm,0.3s,baz=326,slow=17,SNR=56							
CMAR				Lg		Lg	14 07 17.1	
	comp=E,12nm,0.3s,baz=317,slow=18,SNR=8.1							
CMAR				LR		LR	14 08 15.4	
	comp=E,167nm,19.5s,baz=342,slow=43							
CM01	**Chiang Mai Arr**	5.29	142	*e*Pn		Pn	14 05 53.1	-3.2
TURI	**Tura**	5.55	303	*e*P		Pn	14 06 03.4	+3.4
TURI				*e*S		Sn	14 07 08.4	+4.5
LAMP	**Lampang**	5.62	136	P		Pn	14 05 57.2	-3.7
LAMP	**Lampang**	5.62	136	P		Sb	14 07 28.0	+5.1
	comp=E,0.5nmcomp=E,1μmcomp=E,119nm,0.7s							
TAWA	**Tawang**	5.94	327	*e*P		Pn	14 06 06.9	+1.3
TAWA				*e*S		Sn	14 07 14.4	+0.4
NANT	**Nan**	6.17	127	P		Pn	14 06 01.8	-6.7
SUKH	**Sukhothai**	6.42	142	P		Pn	14 06 09.2	-2.7
UTTA	**Uttaradit**	6.79	135	P		Pn	14 06 13.0	-3.9
UTTA	**Uttaradit**	6.79	135	P		Sn	14 07 33.1	-1.1
	comp=E,0.1nmcomp=E,330nmcomp=E,11nm,0.8s							
KMI	**Kunming**	7.06	68	Pn		Pn	14 06 19.3	-1.5
KMI				Pg		Pb	14 06 42.8	+2.7
KMI				Sg		Sb	14 08 05.8	+1.3
KMI				smax		smax		
	comp=N,270nm,1.0s							
KMI				smax		smax		
	comp=E,110nm,1.1s							
KMI				LR		LR		
	comp=N,1μm,6.8s							
KMI				LR		LR		
	comp=E,430nm,4.8s							
KMI				LR		LR		
	comp=Z,560nm,9.3s							
UMPA	**Umpang Tak**	7.13	153	P		Pn	14 06 22.7	+1.0
PBKT	**Sadao Pong**	7.92	139	*e*Pn		Pn	14 06 29.1	-3.4
PBKT	**Sadao Pong**	7.92	139	P		Pn	14 06 29.7	-2.8
	comp=Z,14nm,0.4s,comp=Z,0.4nm							
PBKT	**Sadao Pong**	7.92	139	P		Pn	14 06 29.2	-3.3
UTHA	**Uthaitani**	7.96	152	P		Pn	14 06 32.3	-0.7
	comp=Z,9.9nm,0.5s,comp=Z,167nmcomp=Z,0.2nm							
UTHA	**Uthaitani**	7.96	152	P		Pg	14 07 02.3	-7.3
NONG	**Nongkai**	8.48	121	P		Pn	14 06 42.6	+2.5
	comp=Z,0.3nm,1.0s,comp=Z,0.0nm							
TAPN	**Taplejung**	8.50	305	*e*Pn		Pn	14 06 44.8	+4.2
ODAN	**Odare**	8.50	301	*e*Pn		Pn	14 06 43.9	+3.3
ODAN				*e*Sn		Sn	14 08 19.5	+2.7
	comp=Z,62nm,0.6s							
SRDT	**SRDT**	8.92	157	P		Pn	14 06 43.1	-3.1
SRDT				S		Pg	14 07 20.8	-7.3
CHAI	**Chaiyaphum**	9.06	137	P		Pn	14 06 54.6	+6.4
RAMN	**Ramite**	9.17	300	*e*Pn		Pn	14 06 53.1	+3.3
JIRN	**Jiri**	9.82	303	*e*Pn		Pn	14 07 02.1	+3.3
JIRN				*e*Sn		Sn	14 08 51.5	+2.1
	comp=Z,64nm,0.6s							
GUN	**Gumba**	10.18	303	*e*Pn		Pn	14 07 07.3	+3.5
GUN				*e*Sn		Sn	14 08 58.8	+0.6
	comp=Z,44nm,0.6s							
PKI	**Pulchoki**	10.39	300	*e*Pn		Pn	14 07 09.3	+2.6
PKIN	**Phulchoki**	10.41	300	*e*Pn		Pn	14 07 09.3	+2.5
KKN	**Kakani**	10.59	301	*e*Pn		Pn	14 07 12.6	+3.3
KKN				*e*Sn		Sn	14 09 08.0	-0.2
	comp=Z,32nm,0.8s							
DMN	**Daman**	10.65	300	*e*Pn		Pn	14 07 13.0	+2.8
GKN	**Gorkha**	11.20	301	*e*Pn		Pn	14 07 20.0	+2.5
KOLN	**Koldanda**	11.94	298	*e*Pn		Pn	14 07 28.3	+0.6
KOLN				*e*Sn		Sn	14 09 39.4	-1.7
	comp=Z,12nm,0.5s							
DANN	**Dangsing**	12.04	301	*e*Pn		Pn	14 07 30.2	+0.9
PYUN	**Piuthan**	12.56	298	*e*Pn		Pn	14 07 36.7	+0.4
PYUN				*e*Sn		Sn	14 09 53.0	-3.4
	comp=Z,21nm,0.9s							
LZH	**Lanzhou**	15.23	27	*e*P		P	14 08 16.8	-0.8
LZH				pP		sP	14 08 23.5	+1.8
LZH				sP		pP	14 08 27.4	+7.0
LZH				pmax		pmax		
	comp=Z,79nm,1.1s							
TRTT	**Trang**	15.25	164	P		P	14 08 22.6	+4.9
XAN	**Xi'an**	16.36	43	P		Pn	14 08 26.8	-0.3
XAN				pmax		pmax		
	comp=Z,9.0nm,0.9s							
GTA	**Gaotai**	17.12	11	*e*P		Pn	14 08 36.4	-0.3
GTA				pP		P	14 08 40.3	+1.9
GTA				sP		sP	14 08 43.0	+0.4
KCSI	**Kotacane, Aceh**	19.12	173	P		Pn	14 09 01.1	-0.3
PSI	**Prapat**	19.99	170	P		Pn	14 09 12.5	+0.7
	comp=Z,10nm,1.0s,baz=360,slow=5.8,SNR=6.1							
PSI				LR		LR	14 16 54.6	
	comp=Z,85nm,21.1s,baz=87,slow=37							
PSI	**Prapat**	19.99	170	*e*P		Pn	14 09 12.2	+0.4
	comp=Z,13nm,1.0s							

H11S1	**WAKE ISLAND Hy**	**24.21**	**104**	T	T	14 47 22.3	
	baz=294,slow=75,SNR=38						
H11S2	**WAKE ISLAND Hy**	**24.22**	**104**	T	T	14 47 21.3	
	baz=294,slow=75,SNR=37						
SEY	**Seymchan**	**36.95**	**8**	P	**P**	**14 24 23.4**	**+1.9**
	1.2nm,0.5s,baz=205,slow=11,SNR=4.9						
CMAR	**Chiang Mai Ar**	**40.40**	**268**	P	**P**	**14 24 52.0**	**+0.9**
	0.5nm,0.5s,baz=72,slow=6.2,SNR=5.2						
WRAB	**Tennant Creek**	**46.88**	**190**	*e*P	**P**	**14 25 42.0**	**-1.0**
	8.3nm,0.6s						
WB2	**Warramunga Arr**	**46.88**	**190**	*e*P	**P**	**14 25 41.9**	**-1.2**
WR1	**Warramunga Ar**	**46.89**	**190**	*e*P	**P**	**14 25 42.0**	**-1.1**
	9.0nm,0.6s						
WRA	**Warramunga Ar**	**46.89**	**190**	P	**P**	**14 25 42.0**	**-1.1**
	6.2nm,0.5s,baz=11,slow=8.7,SNR=108						
WRA				LR	LR	14 44 41.4	
	comp=Z,25nm,19.5s,baz=205,slow=35						
AS31	**Alice Springs**	**50.61**	**190**	*e*P	**P**	**14 26 10.4**	**-1.3**
	1.4nm,1.2s						
ASAR	**Alice Springs**	**50.61**	**190**	P	**P**	**14 26 10.1**	**-1.6**
	0.7nm,0.6s,baz=14,slow=14,SNR=20						
NRIK	**Noril'sk**	**53.00**	**339**	P	**P**	**14 26 30.3**	**+1.3**
	1.7nm,0.4s,baz=139,slow=11,SNR=5.7						
STKA	**Stephens Creek**	**58.19**	**180**	P	**P**	**14 27 06.2**	**-0.4**
	1.2nm,0.5s,baz=332,slow=7.2,SNR=5.8						
STKA	**Stephens Creek**	**58.19**	**180**	*e*P	**P**	**14 27 05.9**	**-0.7**
	2.2nm,1.4s						
BVAR	**Borovoye Array**	**58.24**	**318**	P	**P**	**14 27 06.0**	**-0.8**
	0.4nm,0.5s,baz=124,slow=7.9,SNR=3.8						
ARA0	**ARCESS Array S**	**73.91**	**341**	*e*P	**P**	**14 28 48.0**	**+0.8**
ARCES	**ARCESS Array B**	**73.91**	**341**	P	**P**	**14 28 48.0**	**+0.8**
	1.8nm,0.8s,baz=74,slow=8.9,SNR=4.7						
FIA0	**FINESS Array S**	**78.27**	**334**	*e*P	**P**	**14 29 12.0**	**0.0**
FINES	**FINESS Array B**	**78.27**	**334**	P	**P**	**14 29 12.0**	**0.0**
	2.1nm,0.5s,baz=72,slow=5.5,SNR=21						
NB200	**NORSAR Array S**	**83.96**	**338**	*e*P	**P**	**14 29 42.1**	**-0.3**
NOA	**NORSAR Array B**	**83.96**	**338**	P	**P**	**14 29 42.1**	**-0.3**
	0.4nm,0.7s,baz=55,slow=6.5,SNR=3.8						

NIED ***14*** *14:21:00.25˚.1*0*N×128˚.40E,h5*^{km}*,Mw4.0 Best double couple: M*$_0$*1.16000×10*^{15} *NP1:*ϕ_s*31.00000°,*δ*25.00000°,* λ*-101.00000°. NP2:*ϕ_s*223.00000°,*δ*65.00000°,* λ*-85.00000°.*

IDC ***14*** *14:21:47.4±0.7,24˚.87N×128˚.66E,h0*^{km}*,mb4.0/16, mb1 4.2/17,mb1mx4.0/53,mbtmp4.0/17,ML3.8/1,MS3.2/6, Ms1 3.2/6,ms1mx2.8/51,Error ellipse: s-maj=25.6km s-min=15.6km az=76.0*

NEIC ***14*** *14:21:48.7±0.4,24˚.78N×128˚.40E,h10*^{km}*,mb4.4/4,Error ellipse: s-maj=9.6km s-min=7.0km az=139.0*

ISCJB ***14*** *14:21:49.2±1.3,24˚.94N±0˚.03×128˚.39E±0˚.04,h21*^{km}*±9*^{km}*, mb4.1/21,MS3.2/5, Error ellipse: s-maj=6.6km s-min=4.2km az=135.5*

JMA ***14*** *14:21:52.0±0.3,25˚.08N×128˚.41E,h86*^{km}*,M3.9*

ISC 14 14:21:48.1±3.0, 24˚.93N±0˚.05×128˚.51E±0˚.05, h5^{km}**±17**^{km}**, n57,σ2s20/64, mb4.1/21, MS3.1/5, Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JJT3	**Tamagusuku3**	**1.38**	**332**	P	**Pn**	**14 22 14.3**	**+0.3**
JJT3				*e*S	**Sg**	**14 22 30.3**	**-2.1**
JNTH	**Nagotoyohara**	**1.65**	**344**	P	Pn	14 22 17.3	-0.3
JNTH				*e*S	**Sn**	**14 22 35.7**	**-3.4**
JOW	**Kunigami**	**1.91**	**354**	Pn	**Pn**	**14 22 21.1**	**-0.2**
	107nm,0.3s,baz=121,slow=26,SNR=392						
JOW				Sn	**Sn**	**14 22 42.1**	**-3.5**
	218nm,0.3s,baz=133,slow=25,SNR=22						
JOW	**Kunigami**	**1.91**	**354**	P	**Pn**	**14 22 21.1**	**-0.2**
JOW				S	**Sn**	**14 22 42.0**	**-3.7**
JAGN	**Aguni-jima**	**2.01**	**326**	P	**Pn**	**14 22 23.1**	**+0.4**
JAGN				*e*S	**Sn**	**14 22 45.8**	**-2.4**
JYRO	**Yoronjima**	**2.09**	**358**	P	Pn	14 22 23.3	-0.4
JYRO				S	**Sn**	**14 22 45.9**	**-4.2**
JKE	**Kume jima 2**	**2.09**	**312**	P	**Pn**	**14 22 23.7**	**0.0**
JKE				*e*S	**Sn**	**14 22 47.7**	**-2.4**
JIH	**Iheya**	**2.15**	**347**	P	**Pn**	**14 22 25.1**	**+0.5**
JIH				S	**Sn**	**14 22 49.1**	**-2.6**
JOKE	**Okinoerabujima**	**2.42**	**1**	P	**Pn**	**14 22 28.2**	**-0.1**
JOKE				S	**Sn**	**14 22 54.4**	**-4.0**
JMZ	**Minamidaito 2**	**2.60**	**70**	P	Pn	14 22 27.6	-3.2
JMZ				S	**Sn**	**14 22 56.3**	**-6.5**
JOGS	**Gusukube**	**2.83**	**267**	P	**Pn**	**14 22 33.9**	**0.0**
JOGS				S	**Sn**	**14 23 06.2**	**-2.2**
JTK	**Tokunoshima**	**2.87**	**8**	P	**Pn**	**14 22 34.3**	**-0.2**
JTK				S	**Sn**	**14 23 04.7**	**-4.8**
JMJ	**Miyako jima 2**	**2.93**	**268**	P	**Pn**	**14 22 35.1**	**-0.2**
JMJ				*e*S	**Sn**	**14 23 07.5**	**-3.3**
JIKM	**Ikemajima**	**2.97**	**271**	P	**Pn**	**14 22 35.6**	**-0.2**
JIKM				S	**Sn**	**14 23 09.4**	**-2.3**
JAMN	**Amaminishikomi**	**3.35**	**10**	P	**Pn**	**14 22 41.6**	**+0.5**
JAMN				S	**Sn**	**14 23 19.3**	**-2.0**
JTJ	**Tarama**	**3.48**	**266**	P	**Pn**	**14 22 42.3**	**-0.5**
JTJ				S	**Sn**	**14 23 20.2**	**-4.2**
JAM	**Amami Oshima**	**3.60**	**15**	P	**Pn**	**14 22 45.2**	**+0.6**
JAM				*e*S	**Sn**	**14 23 24.1**	**-3.4**
JISG	**Ishigakijimahi**	**3.84**	**266**	P	Pn	14 22 46.6	-1.2
JISG				*e*S	**Sn**	**14 23 28.1**	**-5.1**
JIJ	**Ishigaki jima**	**4.02**	**263**	P	**Pn**	**14 22 49.3**	**-0.9**
JIJ				*e*S	Sn	14 23 31.7	-6.0
JKRS	**Kuro-shima**	**4.16**	**261**	P	**Pn**	**14 22 51.4**	**-0.8**
JKRS				S	**Sn**	**14 23 36.8**	**-4.4**
NACB	**Ninganchiao**	**6.34**	**265**	*e*Pn	Pn	14 23 20.0	-2.2
YULB	**Yu-li**	**6.77**	**258**	*e*Pn	Pn	14 23 24.8	-3.3
SSLB	**Suanglung**	**6.99**	**262**	*e*Pn	Pn	14 23 28.7	-2.5
TWG	**Pinlang**	**7.13**	**254**	*e*Pn	Pn	14 23 29.8	-3.2
TPUB	**Ta-pu**	**7.38**	**259**	*e*Pn	Pn	14 23 35.2	-1.4
JNU	**Nakatsue**	**8.42**	**14**	Pn	**Pn**	**14 23 52.1**	**+1.3**
	1.1nm,0.3s,baz=182,slow=13,SNR=13						
KSRS	**Korea Array**	**12.50**	**358**	LR	LR	14 29 59.0	
	comp=Z,60nm,18.2s,baz=167,slow=39						
USRK	**Ussuriysk Ar.**	**19.43**	**8**	P	**Pn**	**14 26 18.2**	**+1.8**
	0.5nm,0.3s,baz=193,slow=9.7,SNR=14						
KLR	**Kul'dur**	**24.39**	**5**	P	**P**	**14 27 07.6**	**+0.5**
	1.5nm,0.5s,baz=210,slow=8.3,SNR=3.8						
SONM	**Songino Array**	**28.79**	**328**	P	**P**	**14 27 48.2**	**+1.3**
	0.3nm,0.4s,baz=134,slow=8.2,SNR=2.8						
SONM				PcP	**PcP**	**14 30 57.9**	**+1.1**
	0.4nm,0.8s,baz=164,slow=1.7,SNR=3.9						
SONM				LR	LR	14 41 01.3	
	comp=Z,32nm,19.2s,baz=16,slow=40						
JAY	**Jayapura**	**29.73**	**155**	LR	LR	14 38 48.8	
	comp=Z,32nm,20.7s,baz=278,slow=34						
BRDH	**Bariadhala**	**33.75**	**274**	LR	LR	14 43 29.3	
	comp=Z,36nm,19.1s,baz=148,slow=38						
MK01	**Makanchi Array**	**42.59**	**313**	*e*P	**P**	**14 29 45.9**	**+0.9**
MKAR	**Makanchi Array**	**42.60**	**313**	P	**P**	**14 29 46.6**	**+1.5**
	1.5nm,0.5s,baz=101,slow=9.9,SNR=9.5						
ZAA0	**Zalesovo Array**	**43.44**	**324**	*e*P	**P**	**14 29 52.6**	**+0.9**
	3.4nm,0.6s						
ZALV	**Zalesovo Beam**	**43.44**	**324**	P	**P**	**14 29 52.6**	**+0.8**
	3.0nm,0.5s,baz=110,slow=8.1,SNR=11						
ZALV				LR	LR	14 50 26.7	
	comp=Z,49nm,18.7s,baz=83,slow=40						
ZALV	**Zalesovo Beam**	**43.44**	**324**	*e*P	**P**	**14 29 52.4**	**+0.6**
WRA	**Warramunga Arr**	**44.96**	**172**	P	**P**	**14 30 03.3**	**-1.0**
	3.5nm,0.6s,baz=353,slow=8.6,SNR=31						
WB2	**Warramunga Arr**	**44.96**	**172**	*e*P	**P**	**14 30 03.1**	**-1.2**
KURK	**Kurchatov**	**45.94**	**317**	*e*P	**P**	**14 30 12.4**	**+0.6**
	3.9nm,1.1s						
KURBB	**Kurchatov Arra**	**45.97**	**317**	P	**P**	**14 30 13.0**	**+1.0**
	1.4nm,0.5s,baz=103,slow=8.1,SNR=12						
ASAR	**Alice Springs**	**48.59**	**173**	P	**P**	**14 30 32.2**	**-0.5**
	1.1nm,0.7s,baz=1.3,slow=14,SNR=20						
BVAR	**Borovoye Array**	**51.42**	**319**	P	**P**	**14 30 55.9**	**+2.0**
	1.6nm,0.8s,baz=79,slow=9.2,SNR=8.4						
BRVK	**Borovoye**	**51.48**	**319**	*e*P	**P**	**14 30 55.3**	**+0.9**
	6.3nm,0.9s						
ABKAR	**Akbulak array**	**57.73**	**314**	*e*P	**P**	**14 31 40.8**	**+1.0**
ILAR	**Eielson Array**	**65.46**	**28**	P	**P**	**14 32 31.3**	**-0.5**
	0.3nm,0.6s,baz=254,slow=4.8,SNR=7.9						
INK	**Inuvik**	**69.98**	**23**	P	**P**	**14 33 00.9**	**+0.8**
	1.8nm,0.7s,baz=295,slow=7.5,SNR=6.3						
RES	**Resolute Bay**	**76.77**	**11**	P	**P**	**14 33 40.9**	**+0.7**
	4.5nm,0.8s,baz=272,slow=6.4,SNR=4.7						
YKA	**Yellowknife Ar**	**79.59**	**25**	P	**P**	**14 33 56.4**	**+0.5**
	1.9nm,0.8s,baz=301,slow=5.7,SNR=2.8						
NB2	**NORSAR Subarra**	**80.59**	**334**	P	**P**	**14 34 00.8**	**-0.7**
	comp=Z,3.9nm,1.1s,baz=53,slow=5.3						
NOA	**NORSAR Array B**	**80.59**	**334**	P	**P**	**14 34 01.1**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=52,slow=5.4,SNR=4.6						
GERES	**GERESS Array B**	**86.39**	**323**	P	**P**	**14 34 32.0**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=43,slow=9.9,SNR=4.0						

PINE	**Pine Mountain**	**86.66**	**43**	*e*P	**P**	**14 34 34.1**	**+0.9**
	comp=Z,7.3nm,1.1s						
J08A	**Circle Bar Ran**	**88.40**	**42**	*e*P	**P**	**14 34 42.4**	**+1.0**
	comp=Z,2.2nm,0.8s						
PPT	**Papeete**	**90.22**	**109**	LR	LR	15 13 44.6	
	comp=Z,22nm,18.5s,baz=9.0,slow=35						
NVAR	**Mina Array Bea**	**91.22**	**46**	P	**P**	**14 34 55.6**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=256,slow=4.5,SNR=3.9						
PDAR	**Pinedale Array**	**94.01**	**39**	P	**P**	**14 35 07.0**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=158,slow=0.8,SNR=3.8						

KRSC ***14*** *14:29:06.7±0.6,55˚.52N×162˚.20E,h72*^{km}*±14*^{km}*,ML4.5*
MOS ***14*** *14:29:07.9±0.7,55˚.57N×162˚.09E,h72*^{km}*,mb4.2/12,Error ellipse: s-maj=8.5km s-min=4.6km az=77.5*
ISCJB ***14*** *14:29:08.2±0.3,55˚.54N±0˚.02×162˚.14E±0˚.05,h73*^{km}*±3*^{km}*, mb4.0/18,Error ellipse: s-maj=4.8km s-min=2.8km az=22.4*
IDC ***14*** *14:29:11.4±3.0,55˚.62N×161˚.77E,h82*^{km}*±28*^{km}*,mb3.7/15, mb1 3.9/16,mb1mx3.6/52,mbtmp4.0/16,MS3.0/4, Ms1 3.0/4,ms1mx2.6/57,Error ellipse: s-maj=17.6km s-min=13.4km az=140.0*

ISC 14 14:29:09.5±0.8, 55˚.54N±0˚.02×162˚.14E±0˚.05, h66^{km}**±6**^{km}**, n122,σ1s11/162, mb4.1/18, 8C-2D, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.78**	**29**	*i* P	**Pn**	**14 29 24.1**	**-0.8**
KBTR				*e*S	**Sn**	**14 29 36.7**	**+0.4**
KBTR	**Krutoberegovo**	**0.78**	**29**	PN	**Pn**	**14 29 24.1**	**-0.8**
KBTR				S	**Sn**	**14 29 36.7**	**+0.4**
KBG	**Krutoberegovo**	**0.79**	**24**	*e*P	**Pn**	**14 29 24.1**	**-1.0**
KBG				*e*S	**Sn**	**14 29 36.9**	**+0.3**
KBG	**Krutoberegovo**	**0.79**	**24**	PN	**Pn**	**14 29 24.1**	**-1.0**
KBG				S	**Sn**	**14 29 36.9**	**+0.3**
ZLN	**Zelenaya**	**0.90**	**303**	*e*P	**Pn**	**14 29 25.5**	**-1.0**
ZLN	**Zelenaya**	**0.90**	**303**	PN	**Pn**	**14 29 25.5**	**-1.0**
BZGR	**Bezymyannyi-Gr**	**0.91**	**297**	*e*P	**Pn**	**14 29 25.7**	**-1.0**
BZGR				*e*S	**Sn**	**14 29 39.4**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**0.91**	**297**	PN	**Pn**	**14 29 25.7**	**-1.0**
BZGR				S	**Sn**	**14 29 39.4**	**-0.1**
CIRR	**Tsirk**	**0.98**	**307**	*e*P	**Pn**	**14 29 26.5**	**-1.1**
CIRR	**Tsirk**	**0.98**	**307**	PN	**Pn**	**14 29 26.5**	**-1.1**
LGNR	**Loginova**	**0.98**	**304**	*e*P	**Pn**	**14 29 27.5**	**-0.3**
LGNR				*e*S	**Sn**	**14 29 41.7**	**+0.3**
LGNR	**Loginova**	**0.98**	**304**	PN	**Pn**	**14 29 27.5**	**-0.3**
LGNR				S	**Sn**	**14 29 41.7**	**+0.3**
MKZ	**Mys Kozlova**	**1.01**	**194**	*e*P	**Pn**	**14 29 26.2**	**-1.6**
MKZ				*e*S	**Sn**	**14 29 40.7**	**-0.7**
MKZ	**Mys Kozlova**	**1.01**	**194**	PN	**Pn**	**14 29 26.2**	**-1.6**
MKZ				S	**Sn**	**14 29 40.7**	**-0.7**
BZMR	**Bezymyannaya**	**1.01**	**294**	*e*P	**Pn**	**14 29 27.0**	**-1.1**
BZMR	**Bezymyannaya**	**1.01**	**294**	PN	**Pn**	**14 29 27.0**	**-1.1**
BZWR	**Bezymyannyi-We**	**1.02**	**296**	*e*P	**Pn**	**14 29 27.4**	**-0.8**
BZWR				*e*S	**Sn**	**14 29 42.6**	**+0.5**
BZWR	**Bezymyannyi-We**	**1.02**	**296**	PN	**Pn**	**14 29 27.4**	**-0.8**
BZWR				S	**Sn**	**14 29 42.6**	**+0.5**
TUMD	**Tumrok D**	**1.05**	**252**	*e*P	**Pn**	**14 29 26.8**	**-1.6**
TUMD				*e*S	**Sn**	**14 29 40.8**	**-1.6**
KIRR	**Kirishev**	**1.10**	**293**	*e*P	**Pn**	**14 29 28.4**	**-0.7**
KIRR	**Kirishev**	**1.10**	**293**	PN	**Pn**	**14 29 28.4**	**-0.7**
KMNR	**Kamenistaya**	**1.10**	**282**	*i* P	**Pn**	**14 29 28.1**	**-1.0**
KMNR				*e*S	**Sn**	**14 29 43.6**	**-0.1**
KMNR	**Kamenistaya**	**1.10**	**282**	PN	**Pn**	**14 29 28.1**	**-1.0**
KMNR				S	**Sn**	**14 29 43.6**	**-0.1**
SMKR	**Semkarok**	**1.11**	**341**	*e*P	**Pn**	**14 29 28.6**	**-0.7**
SMKR				*e*S	**Sn**	**14 29 45.4**	**+1.4**
SMKR	**Semkarok**	**1.11**	**341**	PN	**Pn**	**14 29 28.6**	**-0.7**
SMKR				S	**Sn**	**14 29 45.4**	**+1.4**
KRSR	**Krestovskiy**	**1.12**	**308**	*e*P	**Pn**	**14 29 28.1**	**-1.3**
KRSR				*e*S	**Sn**	**14 29 43.9**	**-0.3**
KRSR	**Krestovskiy**	**1.12**	**308**	PN	**Pn**	**14 29 28.1**	**-1.3**
KRSR				S	**Sn**	**14 29 43.9**	**-0.3**
KZV	**Kizimen**	**1.14**	**249**	*e*P	**Pn**	**14 29 28.2**	**-1.4**
KZV	**Kizimen**	**1.14**	**249**	PN	**Pn**	**14 29 28.2**	**-1.4**
KLY	**Klyuchi**	**1.14**	**314**	*e*P	**Pn**	**14 29 27.2**	**-2.3**
KLY				*e*S	**Sn**	**14 29 42.6**	**-1.9**
KLY	**Klyuchi**	**1.14**	**314**	PN	**Pn**	**14 29 27.2**	**-2.3**
KLY				S	**Sn**	**14 29 42.6**	**-1.9**
BDR	**Baidarnaya**	**1.16**	**334**	*e*P	**Pn**	**14 29 29.5**	**-0.4**
BDR	**Baidarnaya**	**1.16**	**334**	PN	**Pn**	**14 29 29.5**	**-0.4**
TUMR	**Tumrok**	**1.16**	**258**	*e*P	**Pn**	**14 29 29.2**	**-0.8**
TUMR				*e*S	**Sn**	**14 29 45.5**	**+0.3**
TUMR	**Tumrok**	**1.16**	**258**	PN	**Pn**	**14 29 29.2**	**-0.8**
TUMR				S	**Sn**	**14 29 45.5**	**+0.3**
KPT	**Kopyto**	**1.17**	**293**	*e*P	**Pn**	**14 29 29.1**	**-0.9**
KPT	**Kopyto**	**1.17**	**293**	PN	**Pn**	**14 29 29.1**	**-0.9**
SRKR	**Sorokina**	**1.25**	**335**	*e*P	**Pn**	**14 29 30.4**	**-0.6**
SRKR				*e*S	**Sn**	**14 29 48.9**	**+1.8**
SRKR	**Sorokina**	**1.25**	**335**	PN	**Pn**	**14 29 30.4**	**-0.6**
SRKR				S	**Sn**	**14 29 48.9**	**+1.8**
KOZ	**Kozyrevsk**	**1.38**	**293**	*e*P	**Pn**	**14 29 32.7**	**0.0**
KOZ	**Kozyrevsk**	**1.38**	**293**	PN	**Pn**	**14 29 32.7**	**0.0**
ESO	**Esso**	**1.98**	**283**	*e*P	**Pn**	**14 29 39.7**	**-1.1**
ESO	**Esso**	**1.98**	**283**	PN	**Pn**	**14 29 39.7**	**-1.1**
KII	**Karymskiy**	**2.16**	**227**	*e*P	**Pn**	**14 29 42.9**	**-0.4**
KII				*e*S	**Sn**	**14 30 10.2**	**+1.1**
KII	**Karymskiy**	**2.16**	**227**	PN	**Pn**	**14 29 42.9**	**-0.4**
KII				S	**Sn**	**14 30 10.2**	**+1.1**
BKI	**Bering**	**2.21**	**97**	*e*P	**Pn**	**14 29 43.2**	**-0.6**
BKI				*e*S	**Sn**	**14 30 08.4**	**-1.7**
BKI	**Bering**	**2.21**	**97**	PN	**Pn**	**14 29 43.2**	**-0.6**
BKI				S	**Sn**	**14 30 08.4**	**-1.7**
SPN	**Mys Shipunski**	**2.74**	**208**	*e*P	**Pn**	**14 29 49.5**	**-1.5**
SPN				*e*S	**Sn**	**14 30 21.4**	**-1.5**
SPN	**Mys Shipunski**	**2.74**	**208**	PN	**Pn**	**14 29 49.5**	**-1.5**
SPN				S	**Sn**	**14 30 21.4**	**-1.5**
NLC	**Nalytchevo**	**2.88**	**216**	*e*P	**Pn**	**14 29 52.3**	**-0.6**
NLC				*e*S	**Sn**	**14 30 25.8**	**-0.5**
NLC	**Nalytchevo**	**2.88**	**216**	PN	**Pn**	**14 29 52.3**	**-0.6**
NLC				S	**Sn**	**14 30 25.8**	**-0.5**
SDLR	**Sedlovina**	**2.96**	**221**	*i* P	**Pn**	**14 29 54.0**	**-0.1**
SDLR	**Sedlovina**	**2.96**	**221**	PN	**Pn**	**14 29 54.0**	**-0.1**
KRX	**Arik**	**2.98**	**224**	*e*P	**Pn**	**14 29 55.1**	**+0.6**
KRX	**Arik**	**2.98**	**224**	PN	**Pn**	**14 29 55.1**	**+0.6**
SMAR	**Somma**	**3.00**	**222**	*i* P	**Pn**	**14 29 54.8**	**0.0**
SMAR				*e*S	**Sn**	**14 30 29.6**	**0.0**
SMAR	**Somma**	**3.00**	**222**	PN	**Pn**	**14 29 54.8**	**0.0**
SMAR				S	**Sn**	**14 30 29.6**	**0.0**
AVH	**Avacha**	**3.02**	**223**	*e*P	**Pn**	**14 29 55.5**	**+0.6**
AVH	**Avacha**	**3.02**	**223**	PN	**Pn**	**14 29 55.5**	**+0.6**
UGLR	**Uglovaya**	**3.03**	**221**	*i* P	**Pn**	**14 29 55.3**	**+0.2**
UGLR	**Uglovaya**	**3.03**	**221**	PN	**Pn**	**14 29 55.3**	**+0.2**
KOK	**Koryaka**	**3.04**	**224**	*i* P	**Pn**	**14 29 55.6**	**+0.4**
KOK	**Koryaka**	**3.04**	**224**	PN	**Pn**	**14 29 55.6**	**+0.4**
GNL	**Ganaly**	**3.06**	**235**	*i* P	**Pn**	**14 29 55.8**	**+0.3**
GNL	**Ganaly**	**3.06**	**235**	PN	**Pn**	**14 29 55.8**	**+0.3**
DALK	**Dalny**	**3.20**	**220**	*e*P	**Pn**	**14 29 57.0**	**-0.3**
DALK				*e*S	**Sn**	**14 30 34.8**	**+0.7**
DALK	**Dalny**	**3.20**	**220**	PN	**Pn**	**14 29 57.0**	**-0.3**
DALK				S	**Sn**	**14 30 34.8**	**+0.7**
PET	**Petropavlovsk**	**3.24**	**220**	*i* P	**Pn**	**14 29 58.1**	**+0.3**
PET				*e*S	**Sn**	**14 30 36.1**	**+0.9**
PET	**Petropavlovsk**	**3.24**	**220**	*e*PN	**Pn**	**14 29 58.2**	**+0.4**
PET				*e*S	**Sn**	**14 30 34.5**	**-0.7**
PET				pmax	pmax		
	comp=Z,86nm,0.5s						
PET				smax	smax		
	comp=E,332nm,0.8s						
PET				smax	smax		
	comp=N,347nm,0.7s						
PETK	**Petropavlovsk-**	**3.56**	**229**	P	**Pn**	**14 30 02.7**	**+0.5**
	comp=N,4.0nm,0.3s,baz=71,slow=19,SNR=46						
PETK				LR	LR	14 31 20.1	
	comp=N,76nm,18.7s,baz=82,slow=37						
KRMR	**Karymshinskiy**	**3.59**	**223**	*e*P	**Pn**	**14 30 03.0**	**+0.4**
KRMR				*e*S	**Sn**	**14 30 46.6**	**+2.9**
KRMR	**Karymshinskiy**	**3.59**	**223**	PN	**Pn**	**14 30 03.0**	**+0.4**
KRMR				S	**Sn**	**14 30 46.6**	**+2.9**
OSSR	**Ossora**	**3.76**	**7**	*e*P	**Pn**	**14 30 04.5**	**-0.4**
OSSR				*e*S	**Sn**	**14 30 46.2**	**-1.6**
OSSR	**Ossora**	**3.76**	**7**	PN	**Pn**	**14 30 04.5**	**-0.4**
OSSR				S	**Sn**	**14 30 46.2**	**-1.6**
RUS	**Russkaya**	**3.77**	**216**	*i* P	**Pn**	**14 30 04.6**	**-0.5**
RUS				*e*S	**Sn**	**14 30 48.1**	**-0.1**
RUS	**Russkaya**	**3.77**	**216**	PN	**Pn**	**14 30 04.6**	**-0.5**
RUS				S	**Sn**	**14 30 48.1**	**-0.1**
MTVR	**Mutnovka**	**3.85**	**219**	*e*P	**Pn**	**14 30 06.9**	**+0.6**
MTVR	**Mutnovka**	**3.85**	**219**	PN	**Pn**	**14 30 06.9**	**+0.6**

APC	**Apacha**	**3.92**	**230**	*e*P	**Pn**	**14 30 08.4**	**+1.3**
APC	**Apacha**	**3.92**	**230**	PN	**Pn**	**14 30 08.4**	**+1.3**
KDTR	**Khodutka, Kamc**	**4.45**	**215**	*e*P	**Pn**	**14 30 14.5**	**+0.2**
PAU	**Pauzhetka**	**5.17**	**220**	*e*P	Pn	14 30 28.9	+4.7
PAU	**Pauzhetka**	**5.17**	**220**	PN	Pn	14 30 28.9	+4.7
TILK	**Tilichiki**	**5.37**	**22**	*e*P	**Pn**	**14 30 28.0**	**+1.2**
TILK	**Tilichiki**	**5.37**	**22**	PN	**Pn**	**14 30 28.0**	**+1.2**
SKR	**Severo-Kuril's**	**6.06**	**219**	*e*P	**Pn**	**14 30 38.6**	**+2.2**
SKR	**Severo-Kuril's**	**6.06**	**219**	*e*PN	**Pn**	**14 30 37.5**	**+1.1**
MA2	**Magadan**	**7.33**	**308**	LR	LR	14 34 17.0	
	comp=N,77nm,21.3s,baz=114,slow=43						
BILL	**Bilibino**	**12.70**	**7**	*e*PN	**Pn**	**14 32 09.9**	**+3.1**
BILL				*e*S	**Sn**	**14 34 26.6**	**+0.4**
BILL				pmax	pmax		
	comp=Z,20nm,1.7s						
YAK	**Yakutsk**	**17.89**	**305**	*e*P	**P**	**14 33 12.7**	**-0.5**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TIXI	**Tiksi**	**21.43**	**332**	P	**P**	**14 33 52.2**	**+0.7**
	comp=Z,5.4nm,0.6s,baz=119,slow=10,SNR=27						
TIXI	**Tiksi**	**21.43**	**332**	*e*P	**P**	**14 33 51.3**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,11nm,0.9s						
MJA0	**Matsu Arr-Jizo**	**25.00**	**231**	*e*P	**P**	**14 34 27.3**	**+0.3**
MJA0				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MAJO	**Matsushiro**	**25.02**	**231**	*e*P	**P**	**14 34 26.4**	**-0.7**
MJAR	**Matsushiro Arr**	**25.02**	**231**	P	**P**	**14 34 26.6**	**-0.5**
	comp=Z,2.4nm,0.7s,baz=28,slow=5.7,SNR=8.7						
ILAR	**Eielson Array**	**26.27**	**49**	P	**P**	**14 34 38.2**	**0.0**
	comp=Z,1.6nm,0.8s,baz=267,slow=9.4,SNR=16						
INK	**Inuvik**	**31.21**	**40**	P	**P**	**14 35 22.9**	**+0.9**
	comp=Z,1.5nm,0.5s,baz=252,slow=6.9,SNR=6.9						
JNU	**Nakatsue**	**31.22**	**237**	LR	LR	14 47 17.6	
	comp=Z,33nm,19.3s,baz=72,slow=35						
H11N2	**WAKE ISLAND Hy**	**35.93**	**172**	T	T	15 13 31.1	
	baz=355,slow=76,SNR=34						
H11N3	**WAKE ISLAND Hy**	**35.94**	**172**	T	T	15 13 32.8	
	baz=355,slow=76,SNR=30						
H11N1	**WAKE ISLAND Hy**	**35.94**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BELO	**BELONIA**	**2.75**	**49**	*e*S	Sn	14 42 03.5	-0.8
BWNR	**Bhubaneshwar**	**3.36**	**250**	*e*S	Sn	14 42 15.9	-3.4
SAIH	**SAIHA**	**3.68**	**73**	*e*P	Pn	14 41 45.8	+0.6
SAIH				*e*S	Sn	14 42 23.6	-3.8
SAIH				IAML		14 42 29.0	
	comp=N,67nm,0.2s						
SAIH				IAML		14 42 32.2	
	comp=E,75nm,0.3s						
BOK	**Bokaro**	**3.82**	**308**	*e*P	Pn	14 41 48.1	+1.1
TURI	**Tura**	**4.20**	**14**	*e*P	Pn	14 41 50.2	-2.0
SHL	**Shillong**	**4.78**	**31**	*e*P	Pn	14 41 58.3	-2.0
GUWA	**GUWAHATI**	**5.24**	**26**	*e*S	Sn	14 43 00.7	-4.9
GUWA				IAML		14 43 04.0	
	comp=E,103nm,0.2s						
GUWA				IAML		14 43 04.1	
	comp=N,112nm,0.3s						
TEZP	**TEZPUR**	**6.11**	**32**	*e*P	Pn	14 42 18.0	-0.3
TEZP				*e*S	Sn	14 43 20.4	-6.5
TEZP				*e*S		14 43 20.6	
TAWA	**Tawang**	**6.58**	**21**	*e*S	Sn	14 43 32.7	-6.3
TAWA				IAML		14 43 38.5	
	comp=N,61nm,0.2s						
ITAN	**ITANAGAR**	**7.01**	**35**	*e*S	Sn	14 43 42.4	-6.8
ITAN				IAML		14 43 48.3	
	comp=N,158nm,0.3s						
ITAN				IAML		14 43 48.4	
	comp=E,126nm,0.3s						
ZIRO	**ZIRO**	**7.38**	**34**	*e*P	Pn	14 42 36.7	+0.6
ZIRO				*e*S	Sn	14 43 51.1	-7.6
ZIRO				IAML		14 43 56.0	
	comp=E,123nm,0.6s						
ZIRO				IAML		14 43 56.2	
	comp=N,138nm,0.3s						

IDC ***14*** *14:43:29.1±1.7,26°.02N×129°.38E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.4/49,mbtmp3.5/3,Error ellipse: s-maj=49.2km s-min=20.3km az=61.0*
JMA ***14*** *14:43:32.9±0.3,25°.79N×128°.91E,h49km,M3.4*

ISC 14 14:43:30.5±1.6,25°.88N±0°.05×129°.04E±0°.04,h11km±11km, n16,σ1§20/27,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**1.11**	**305**	P	**Pb**	**14 43 51.6**	**-0.1**
JJT3	**Tamagusuku3**	**1.16**	**283**	P	**Pb**	**14 43 52.1**	**-0.4**
JJT3				*e*S	**Sb**	**14 44 05.7**	**-1.9**
JOW	**Kunigami**	**1.17**	**324**	LR	LR	14 43 53.5	
	comp=Z,26nm,21.9s,baz=152,slow=19						
JOW				Pn	**Pg**	**14 43 53.7**	**+0.7**
	156nm,0.3s,baz=128,slow=22,SNR=766						
JOW				Sn	**Sb**	**14 44 07.3**	**-0.5**
	88nm,0.3s,baz=82,slow=28,SNR=23						
JOW	**Kunigami**	**1.17**	**324**	P	**Pg**	**14 43 53.6**	**+0.7**
JOW				S	**Sb**	**14 44 07.3**	**-0.5**
JYRO	**Yoronjima**	**1.25**	**335**	P	**Pg**	**14 43 55.2**	**+0.6**
JYRO				S	**Sg**	**14 44 11.0**	**+0.1**
JIH	**Iheya**	**1.49**	**320**	P	**Pb**	**14 43 58.4**	**+0.1**
JIH				*e*S	**Sn**	**14 44 16.2**	**-0.6**
JOKE	**Okinoerabujima**	**1.53**	**344**	P	**Pg**	**14 43 59.7**	**-0.2**
JOKE				*e*S	**Sb**	**14 44 18.1**	**-0.2**
JAGN	**Aguni-jima**	**1.76**	**294**	P	**Pn**	**14 44 01.0**	**+0.1**
JAGN				*e*S	**Sn**	**14 44 19.9**	**-3.4**
JTK	**Tokunoshima**	**1.90**	**358**	P	**Pb**	**14 44 04.9**	**-0.2**
JTK				*e*S	**Sn**	**14 44 26.7**	**0.0**
JMZ	**Minamidaito 2**	**1.97**	**91**	P	**Pb**	**14 44 05.1**	**-1.3**
JMZ				*e*S	**Sn**	**14 44 28.1**	**-0.4**
JKE	**Kume jima 2**	**2.07**	**283**	P	**Pn**	**14 44 04.1**	**-1.1**
JAMN	**Amaminishikomi**	**2.35**	**3**	P	**Pb**	**14 44 11.9**	**-1.0**
JAMN				*e*S	**Sb**	**14 44 40.8**	**-1.2**
JAM	**Amami Oshima**	**2.57**	**11**	P	**Pb**	**14 44 14.7**	**-1.9**
JAM				*e*S	**Sn**	**14 44 44.1**	**+0.8**
MKAR	**Makanchi Array**	**42.30**	**312**	P	**P**	**14 51 26.3**	**+2.1**
	0.1nm,0.4s,baz=98,slow=10,SNR=4.6						
WRA	**Warramunga Arr**	**45.84**	**173**	P	**P**	**14 51 53.4**	**+0.6**
	1.2nm,0.0s,baz=354,slow=8.5,SNR=8.0						
ASAR	**Alice Springs**	**49.48**	**174**	P	**P**	**14 52 22.1**	**+1.0**
	0.4nm,0.6s,baz=3.7,slow=14,SNR=7.7						

GUC 14 14:58:04.7±0.5,21°.37S×66°.75W,h334km±22km,ML3.6, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**2.57**	**277**	*e*P	Pn	14 59 01.0	+1.8
PB01				*i* S	S	14 59 44.4	+1.5
PB01				IAML		14 59 46.9	
	comp=N,50nm,0.2s						
PB03	**IPOC Station P**	**2.87**	**256**	*e*P	Pn	14 59 04.2	+2.4
PB03				*i* S	S	14 59 49.1	+1.4
PB03				IAML		14 59 50.1	
	comp=N,37nm,0.5s						
PB02	**IPOC Station P**	**2.93**	**270**	*e*P	Pn	14 59 04.4	+2.0
PB02				*i* S	S	14 59 50.0	+1.4
PB06	**IPOC Station P**	**2.93**	**243**	*e*P	Pn	14 59 04.7	+2.3
PB06				*i* S	S	14 59 50.0	+1.3
PB07	**IPOC Station P**	**2.94**	**263**	*e*P	Pn	14 59 04.9	+2.4
PB07				*i* S	S	14 59 50.6	+1.7
PB11	**IPOC Station P**	**3.16**	**300**	*e*P	Pn	14 59 05.8	+1.2
PB11				*i* S	S	14 59 54.0	+1.4

IDC ***14*** *15:11:01.6±1.1,13°.82N×92°.51W,h0km,mb3.7/4, mb1 4.0/7,mb1mx3.7/40,mbtmp3.7/7,ML3.6/3,MS2.5/2, Ms1 2.5/2,ms1mx2.3/32,Error ellipse: s-maj=31.4km s-min=17.7km az=49.0*
MEX ***14*** *15:11:04.4±0.7,13°.84N×92°.49W,h10km±214km,MD3.8*

ISC 14 15:11:03.7±2.3,13°.95N±0°.09×92°.36W±0°.08,h13km±13km, n13,σ1§21/18,mb3.7/4,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.95**	**6**	*i* P	**Pg**	**15 11 22.3**	**+0.1**
THIG				*i* S	**Sn**	**15 11 35.5**	**-0.7**
PCIG		**1.93**	**335**	*e*P	**Pn**	**15 11 34.2**	**-2.0**
PCIG				*i* S	**Sn**	**15 11 58.3**	**-2.0**
APG	**El Apazote**	**2.11**	**60**	Pn	**Pb**	**15 11 41.7**	**-0.3**
	23nm,0.3s,baz=230,slow=7.7,SNR=62						
APG				Sn	**Sg**	**15 12 11.6**	**-0.1**
	78nm,0.3s,baz=328,slow=15,SNR=4.9						
CCIG	**Comitan**	**2.32**	**5**	*e*P	**Pn**	**15 11 41.5**	**-0.3**
CCIG				*e*S	**Sn**	**15 12 10.7**	**+0.4**
TGIG		**2.90**	**345**	*e*P	**Pn**	**15 11 50.0**	**+0.3**
TGIG				*i* S	**Sn**	**15 12 24.3**	**-0.2**
CMIG	**Matias Romero**	**3.96**	**322**	Pn	**Pn**	**15 12 02.7**	**-1.4**
	3.0nm,0.3s,baz=160,slow=12,SNR=13						
CMIG				Sn	**Sn**	**15 12 50.9**	**+0.5**
	9.1nm,0.3s,baz=55,slow=13,SNR=6.4						
CMIG				Lg	Lg	15 13 04.7	
	14nm,0.3s,baz=89,slow=22,SNR=6.6						
CMIG				LR	LR	15 13 30.7	
	comp=Z,30nm,20.4s,baz=161,slow=38						
TXAR	**Lajitas Array**	**18.54**	**327**	Pn	**Pn**	**15 15 23.1**	**+2.6**
	0.1nm,0.3s,baz=153,slow=11,SNR=9.6						
SJG	**San Juan**	**25.52**	**77**	LR	LR	15 27 15.5	
	comp=Z,22nm,19.5s,baz=186,slow=38						
NVAR	**Mina Array Bea**	**33.49**	**321**	P	**P**	**15 17 44.1**	**+1.1**
	0.4nm,0.6s,baz=150,slow=10.0,SNR=4.1						
LPAZ	**La Paz**	**38.42**	**141**	P	**P**	**15 18 26.1**	**+0.2**
	0.6nm,0.3s,baz=320,slow=3.8,SNR=3.5						
SIV	**San Ignacio**	**42.92**	**133**	P	**P**	**15 19 01.5**	**-1.0**
	0.3nm,0.4s,baz=291,slow=14,SNR=3.1						
YKA	**Yellowknife Ar**	**50.99**	**347**	P	**P**	**15 20 04.3**	**-0.6**
	1.0nm,0.5s,baz=152,slow=7.2,SNR=6.2						
CMAR	**Chiang Mai Arr**	**145.92**	**341**	PKPbc	**PKPbc**	**15 30 44.4**	**+0.6**
	0.6nm,0.5s,baz=337,slow=3.6,SNR=6.4						

ISCJB ***14*** *15:17:52.7±0.4,50°.29N±0°.03×18°.73E±0°.02,h0km,Error ellipse: s-maj=3.9km s-min=2.1km az=11.8*
IPEC ***14*** *15:17:54.4±0.2,50°.26N×18°.83E,h1km±1km,ML2.7/3, Error ellipse: s-maj=2.3km s-min=1.1km az=169.0*
BGR ***14*** *15:17:55.0±0.3,50°.26N×18°.82E,h1km,ML3.0/8,Error ellipse: s-maj=7.8km s-min=3.3km az=6.0*
PRU ***14*** *15:17:54.7±0.0,50°.27N×18°.76E,h0km*
WAR ***14*** *15:17:54.8,50°.25N×18°.84E,h1km,Mw2.9*

ISC 14 15:17:54.1±0.7,50°.24N±0°.03×18°.77E±0°.02,h0km,n60, σ1§69/98,6C-3D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.15**	**72**	*i* Pg	**Pg**	**15 17 57.2**	**+0.2**
CHZP				*e*Sg	**Sg**	**15 17 59.2**	**+0.3**
CHZP	**Chorzow**	**0.15**	**72**	*i* Pg	**Pg**	**15 17 57.2**	**+0.2**
CHZP				*e*Sg	**Sg**	**15 17 59.2**	**+0.3**
OKC	**Ostrava-Krasne**	**0.57**	**225**	*e*PG	**Pb**	**15 18 06.4**	**-0.6**
OKC				*e*SG	**Sb**	**15 18 14.4**	**-1.3**
	comp=Z,62nm,0.5s						
OKC	**Ostrava-Krasne**	**0.57**	**225**	*e*Pg	**Pb**	**15 18 06.7**	**-0.3**
OJC	**Ojcow**	**0.66**	**92**	*i* Pg	**Pg**	**15 18 06.5**	**-0.3**
OJC				*e*Sg	**Sg**	**15 18 15.1**	**-0.2**
OJC	**Ojcow**	**0.66**	**92**	*i* Pg	**Pg**	**15 18 06.5**	**-0.3**
OJC				*e*Sg	**Sg**	**15 18 15.1**	**-0.2**
OJC	**Ojcow**	**0.66**	**92**	*e*Pg	**Pg**	**15 18 06.5**	**-0.3**
OJC				*e*Sg	**Sg**	**15 18 14.9**	**-0.5**
MORC	**Moravsky Berou**	**0.92**	**240**	⇑ *i*P	**Pb**	**15 18 13.1**	**+0.1**
MORC	**Moravsky Berou**	**0.92**	**240**	S	**Sb**	**15 18 25.8**	**0.0**
MORC	**Moravsky Berou**	**0.92**	**240**	*e*Pg	**Pb**	**15 18 12.8**	**-0.3**
MORC				*e*Sg	**Sb**	**15 18 25.5**	**-0.3**
MORC	**Moravsky Berou**	**0.92**	**240**	*e*PG	**Pb**	**15 18 12.7**	**-0.3**
MORC				*e*SG	**Sg**	**15 18 24.3**	**+0.6**
MORC	**Moravsky Berou**	**0.92**	**240**	*e*Pg	**Pb**	**15 18 12.6**	**-0.4**
	baz=59						
MORC				*e*Sg	**Sg**	**15 18 24.2**	**+0.6**
	97nm,0.3s,baz=59						
LANS	**Liptovska Anna**	**1.18**	**157**	*e*PG	**Pb**	**15 18 17.3**	**-0.2**
LANS				*e*SG	**Sb**	**15 18 33.9**	**+0.5**
NIE	**Niedzica**	**1.29**	**129**	*i* Pg	**Pg**	**15 18 18.8**	**0.0**
NIE				*e*Sg	**Sn**	**15 18 37.6**	**+0.2**
NIE	**Niedzica**	**1.29**	**129**	*i* Pg	**Pg**	**15 18 18.8**	**0.0**
NIE				*e*Sg	**Sn**	**15 18 37.6**	**+0.2**
KRLC	**Kraliky**	**1.29**	**263**	*e*PG	**Pg**	**15 18 18.8**	**-0.1**
KRLC				*e*SG	**Sg**	**15 18 35.6**	**0.0**
JAVC	**Velka Javorina**	**1.56**	**208**	*e*PN	**Pb**	**15 18 23.8**	**-0.2**
JAVC	**Velka Javorina**	**1.56**	**208**	*e*Pn	**Pb**	**15 18 23.7**	**-0.2**
	baz=28						
DPC	**Dobruska-Polom**	**1.57**	**275**	*e*PG	**Pb**	**15 18 23.6**	**-0.6**
DPC				*e*SG	**Sg**	**15 18 45.1**	**+0.4**
	comp=Z,80nm,0.4s						
DPC	**Dobruska-Polom**	**1.57**	**275**	*e*Pg	**Pg**	**15 18 24.8**	**+0.5**
DPC				*e*Sg	**Sg**	**15 18 45.5**	**+0.8**
KOLL	**Kolacno**	**1.68**	**188**	*e*SN	**Sg**	**15 18 48.7**	**+0.5**
KSP	**Ksiaz**	**1.69**	**292**	*e*Pb	**Pn**	**15 18 24.7**	**-0.3**
KSP				*i* Pg	**Pg**	**15 18 26.8**	**+0.2**
KSP				*e*Sg	**Sg**	**15 18 49.7**	**+1.3**
KSP	**Ksiaz**	**1.69**	**292**	*e*Pb	**Pn**	**15 18 24.7**	**-0.3**
KSP				*i* Pg	**Pg**	**15 18 26.8**	**+0.2**
KSP				*e*Sg	**Sg**	**15 18 49.7**	**+1.3**
KSP	**Ksiaz**	**1.69**	**292**	*e*Pn	**Pb**	**15 18 25.8**	**-0.3**
KSP				*e*Pg	**Pg**	**15 18 26.9**	**+0.4**
KSP				*e*Sg	**Sg**	**15 18 49.0**	**+0.5**
VRAC	**Vranov**	**1.69**	**237**	⇓ *i*P	**Pn**	**15 18 25.0**	**0.0**
VRAC	**Vranov**	**1.69**	**237**	S	**Sb**	**15 18 48.1**	**+0.1**
VRAC	**Vranov**	**1.69**	**237**	*e*PN	**Pb**	**15 18 25.6**	**-0.6**
VRAC				*e*SG	**Sg**	**15 18 48.7**	**+0.2**
VRAC	**Vranov**	**1.69**	**237**	*e*Pn	**Pb**	**15 18 25.5**	**-0.6**
	baz=56						
VRAC				*e*Sg	**Sg**	**15 18 48.7**	**+0.2**
	53nm,0.3s,baz=56						
VYHS	**Vyhne**	**1.75**	**179**	*e*PN	**Pn**	**15 18 25.2**	**-0.6**
VYHS				*e*SN	**Sn**	**15 18 48.7**	**-0.1**
VYHS				*e*LG	Lg	15 19 01.0	
KRUC	**Moravsky**	**1.94**	**233**	*e*PN	**Pn**	**15 18 29.2**	**+0.8**
KRUC				*e*SG	**Sg**	**15 18 56.2**	**-0.4**
KRUC	**Moravsky**	**1.94**	**233**	*e*Pn	**Pn**	**15 18 29.2**	**+0.8**
	baz=52						
KRUC				*e*Sg	**Sg**	**15 18 56.2**	**-0.4**
	46nm,0.5s,baz=52						
TREC	**Trest**	**2.33**	**247**	*e*SG	**Sg**	**15 19 07.8**	**-1.2**
PSZ	**Piszkesteto**	**2.44**	**162**	⇑ *i*P	**Pn**	**15 18 35.1**	**-0.2**
PSZ	**Piszkesteto**	**2.44**	**162**	S	**Sn**	**15 19 07.2**	**+1.3**
CONA	**Conrad Observa**	**3.00**	**221**	*i* Pn	**Pn**	**15 18 44.0**	**+1.0**
	0.8nm,0.3s						
CONA				Sg	**Sg**	**15 19 29.2**	**-1.5**
	11nm,0.4s						
BRG	**Berggiesshubel**	**3.14**	**283**	PG	**Pg**	**15 18 53.0**	**-1.4**
BRG				SG	**Sg**	**15 19 34.0**	**-1.0**
	32nm,0.5s						
BRG	**Berggiesshubel**	**3.14**	**283**	*e*Pg	**Pg**	**15 18 54.0**	**-0.3**
BRG				*e*Sg	**Sg**	**15 19 34.4**	**-0.6**
TRPA	**Tarpa**	**3.25**	**129**	⇑ *i*P	**Pn**	**15 18 46.8**	**+0.4**
FBE	**Freiberg**	**3.52**	**283**	*e*Pg	**Pg**	**15 19 03.9**	**+2.3**
FBE				*e*Sg	**Sg**	**15 19 46.6**	**-0.5**
KHC	**Kasperske Hory**	**3.55**	**254**	*e*PN	**Pn**	**15 18 51.1**	**+0.6**
KHC				*e*PG	**Pb**	**15 18 58.3**	**+0.5**
KHC				*e*SG	**Sg**	**15 19 47.9**	**-0.3**
	comp=Z,31nm,0.6s						
GEC2	**GERESS Array S**	**3.59**	**249**	*e*Pg	**Pg**	**15 19 01.9**	**-1.0**
ARSA	**Arzberg**	**3.69**	**217**	*e*Pn	**Pb**	**15 19 00.1**	**0.0**
	1.8nm,0.5s						
ARSA				Sg	**Sg**	**15 19 50.7**	**-1.8**
	3.5nm,0.6s						
MOA	**Molln**	**3.81**	**233**	*e*Pn	**Pn**	**15 18 56.1**	**+2.0**
	0.9nm,0.4s						
MOA				Sg	**Sg**	**15 19 53.4**	**-3.1**
	14nm,0.5s						
CLL	**Collm**	**3.81**	**288**	*e*Pg	**Pg**	**15 19 07.0**	**-0.1**
CLL				*e*Sg	**Sg**	**15 19 55.0**	**-1.6**
	comp=Z,16nm,0.8s						
CLL	**Collm**	**3.81**	**288**	*e*Pg	**Pg**	**15 19 07.1**	**-0.1**
NKC	**Novy Kostel**	**4.06**	**272**	*e*SG	**Sg**	**15 20 02.1**	**-2.4**
	comp=Z,18nm,0.4s						
DRGR		**4.33**	**141**	⇓ *i*P	**Pn**	**15 19 01.3**	**0.0**
DRGR		**4.33**	**141**	S	**Sn**	**15 19 52.8**	**+0.2**
SOKA	**Soboth**	**4.35**	**216**	Sg	**Sb**	**15 20 07.9**	**+3.4**
	comp=Z,1.3nm,0.5s						
KBA	**Koelnbreinsper**	**4.79**	**231**	Pn	**Pn**	**15 19 06.0**	**-1.7**
	comp=Z,0.3nm,0.2s						
KBA				Sg	**Sg**	**15 20 23.9**	**-4.2**
	comp=Z,2.3nm,0.4s						
BURAR	**Bucovina Array**	**5.00**	**119**	⇑ *i*P	**Pn**	**15 19 10.4**	**-0.1**
BZS	**Buzias**	**5.01**	**156**	⇑ *i*P	**Pn**	**15 19 10.7**	**+0.2**
BSD	**Bornholm Skovb**	**5.41**	**336**	*i* P	**Pn**	**15 19 14.4**	**-1.6**
BSD				*i*		15 19 15.5	
BSD				*i* S	**Sn**	**15 20 13.5**	**-5.4**
ABTA	**Abfaltersbach**	**5.43**	**232**	Sg	**Sg**	**15 20 42.2**	**-6.5**
	comp=Z,6.5nm,0.7s						
GZR	**Gura Zlata**	**5.55**	**149**	⇓ *i*P	**Pn**	**15 19 18.2**	**+0.2**
WTTA	**Wattenberg**	**5.58**	**240**	*e*Pn	**Pn**	**15 19 18.2**	**-0.3**
	comp=Z,2.1nm,0.4s						
WTTA				*e*Sg	**Sb**	**15 20 43.6**	**+3.6**
	comp=Z,1.6nm,0.2s						
MOTA	**Moosalm**	**5.84**	**243**	Sg	**Sb**	**15 20 53.4**	**+6.1**
	comp=Z,10.0nm,0.4s						
DOPR	**Dopca**	**6.16**	**131**	⇑ *i*P	**Pn**	**15 19 26.1**	**-0.2**
FETA	**Feichten**	**6.23**	**242**	Sg	**Sb**	**15 21 04.6**	**+5.9**
	comp=Z,2.3nm,0.4s						
DAVA	**Damuels**	**6.58**	**247**	Sg	**Sb**	**15 21 13.8**	**+5.1**
	comp=Z,3.5nm,0.4s						

IDC ***14*** *15:21:31.3±0.9,12°.62N×143°.77E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.6/37,mbtmp3.7/5,Error ellipse: s-maj=29.5km s-min=17.9km az=127.0*
ISCJB ***14*** *15:21:33.5±0.8,12°.6N±0°.1×143°.7E±0°.1,h27km,mb3.6/5, Error ellipse: s-maj=24.3km s-min=9.7km az=135.8*

ISC 14 15:21:35.2±0.9,12°.7N±0°.2×143°.8E±0°.1,h27km,n10, σ0§98/8,mb3.8/5,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.40**	**48**	Pn	**Pn**	**15 21 58.4**	**-0.6**
	5.9nm,0.3s,baz=146,slow=23,SNR=6.6						
GUMO				Sn	**Sb**	**15 22 17.9**	**-0.2**
	10.0nm,0.3s,baz=188,slow=21,SNR=4.9						
H11N1	**WAKE ISLAND Hy**	**23.25**	**69**	T	T	15 51 05.8	
	baz=255,slow=74,SNR=7.7						
H11N2	**WAKE ISLAND Hy**	**23.25**	**69**	T	T	15 51 18.6	
	baz=255,slow=74,SNR=5.2						
H11N3	**WAKE ISLAND Hy**	**23.26**	**69**	T	T	15 51 21.3	
	baz=255,slow=74,SNR=5.4						
WRA	**Warramunga Arr**	**33.70**	**196**	P	**P**	**15 28 13.6**	**-0.8**
	1.3nm,0.7s,baz=19,slow=9.7,SNR=19						
ASAR	**Alice Springs**	**37.37**	**195**	P	**P**	**15 28 45.2**	**-0.6**
	0.4nm,0.8s,baz=18,slow=12,SNR=7.6						
CMAR	**Chiang Mai Arr**	**43.51**	**283**	P	**P**	**15 29 37.1**	**+0.3**
	0.9nm,1.0s,baz=91,slow=7.3,SNR=4.1						
SONM	**Songino Array**	**46.91**	**326**	P	**P**	**15 30 02.9**	**-0.6**
	0.7nm,0.6s,baz=142,slow=7.5,SNR=4.1						
NVAR	**Mina Array Bea**	**88.32**	**51**	P	**P**	**15 34 26.1**	**+1.0**
	0.4nm,0.7s,baz=255,slow=5.8,SNR=3.5						
LPAZ	**La Paz**	**148.89**	**101**	PKPbc	**PKPbc**	**15 41 23.7**	**+1.4**
	0.8nm,0.6s,baz=279,slow=4.3,SNR=4.4						

WEL 14 15:40:36.0,38°S±2°×17°9E±°,h22km±6km,ML3.9/12,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.44**	**265**	P	Pb	15 40 45.7	+0.8
PUZ	**Puketiti**	**0.55**	**313**	P	Pb	15 40 46.5	-0.5
PUZ				S	Sb	15 40 54.4	0.0
TWGZ	**Tauwhareparae**	**0.67**	**294**	P	Pb	15 40 49.0	-0.1
TWGZ				S	Sn	15 40 59.1	-1.1
WMGZ	**Waiomatatini S**	**0.69**	**336**	P	Pb	15 40 49.6	+0.4
TKGZ	**Te Karaka**	**0.72**	**270**	P	Pb	15 40 49.9	+0.1
TKGZ				S	Sn	15 41 00.3	-0.9
PKGZ	**Pakihiroa**	**0.78**	**316**	P	Pb	15 40 50.6	-0.3
PKGZ				S	Sb	15 41 01.5	+0.5
RIGZ	**Rimuhau**	**0.83**	**252**	P	Pb	15 40 51.7	+0.1
RIGZ				S	Sn	15 41 04.1	+0.2
PRWZ	**Paritu Road**	**0.84**	**235**	P	Pn	15 40 52.2	-0.3
MXZ	**Matakaoa Point**	**0.96**	**338**	P	Pb	15 40 53.9	+0.1
MXZ				S	Sb	15 41 06.3	+0.3
MHGZ	**Mahia Peninsul**	**0.97**	**223**	P	Pn	15 40 54.3	0.0
MWZ	**Matawai**	**0.98**	**276**	P	Pb	15 40 53.5	-0.7
MWZ				S	Sb	15 41 06.2	-0.5
RUGZ	**Raukumara Rang**	**0.98**	**299**	P	Pb	15 40 53.4	-0.9
RUGZ				P	Pn	15 40 53.4	-1.1
RUGZ				S	Sb	15 41 06.4	-0.5
KNZ	**Kokohu**	**1.03**	**236**	P	Pb	15 40 54.5	-0.6
HAZ	**Te Kaha**	**1.04**	**311**	P	Pn	15 40 54.3	-0.9
HAZ				S	Sb	15 41 07.9	-0.4
RAGZ	**Rawiri**	**1.06**	**267**	P	Pn	15 40 55.3	-0.3
RAGZ				S	Sb	15 41 09.2	+0.1
SNGZ	**Shannon Statio**	**1.16**	**253**	P	Pn	15 40 56.3	-0.7
URZ	**Urewera**	**1.31**	**278**	P	Pn	15 40 58.3	-0.7
WHHZ	**Waihua**	**1.35**	**242**	P	Pn	15 40 59.3	-0.2
RAHZ	**Arahi**	**1.39**	**250**	P	Pn	15 41 00.4	+0.2
RTZ	**Ruatahuna**	**1.41**	**263**	P	Pn	15 40 59.7	-0.7
WHRZ	**Whale Island**	**1.53**	**292**	P	Pb	15 41 03.2	-0.5
MTHZ	**Maungataniwha**	**1.56**	**254**	P	Pn	15 41 02.6	+0.1
MUGZ	**Murupara**	**1.56**	**268**	P	Pn	15 41 02.5	+0.1
ARHZ	**Aropaoanui**	**1.60**	**239**	P	Pn	15 41 03.6	+0.6
NMHZ	**Naumai**	**1.66**	**246**	P	Pn	15 41 04.8	+0.9
MARZ	**Manawahe**	**1.71**	**285**	P	Pn	15 41 04.8	+0.3
CKHZ	**Cape Kidnapper**	**1.78**	**227**	P	Pn	15 41 05.1	-0.4
TARZ	**Mount Tarawera**	**1.79**	**276**	P	Pn	15 41 05.5	-0.1
OPRZ	**Ohinepanea**	**1.84**	**288**	P	Pn	15 41 05.3	-1.0
MCHZ	**McNeill Hill**	**1.89**	**238**	P	Pn	15 41 07.5	+0.4
ALRZ	**Allen Road**	**1.90**	**266**	P	Pn	15 41 07.8	+0.6
BKZ	**Black Stump Fm**	**1.91**	**247**	P	Pn	15 41 07.5	+0.1
KAHZ	**Kahuranaki**	**1.99**	**227**	P	Pn	15 41 08.1	-0.3
TGRZ	**Tauranga**	**2.10**	**289**	P	Pn	15 41 10.2	+0.4
PXZ	**Pawanui**	**2.16**	**222**	P	Pn	15 41 09.7	-1.0
KRHZ	**Kereru**	**2.21**	**237**	P	Pn	15 41 10.9	-0.5
BHHZ	**Black Hill Sta**	**2.35**	**243**	P	Pn	15 41 12.7	-0.6
WPHZ	**Waipukurau**	**2.42**	**227**	P	Pn	15 41 13.8	-0.5
PRHZ	**Porangahau**	**2.45**	**222**	P	Pn	15 41 13.2	-1.5
PNHZ	**Pukenui**	**2.47**	**233**	P	Pn	15 41 14.0	-1.0
KRVZ	**Karewarewa**	**2.52**	**254**	P	Pn	15 41 16.4	+0.6
MOVZ	**Moawhango**	**2.54**	**247**	P	Pn	15 41 16.2	+0.3
TLZ	**Tolley Road**	**2.54**	**272**	P	Pn	15 41 17.6	+1.7
TUVZ	**Tukino**	**2.56**	**250**	P	Pn	15 41 17.2	+0.8
NGZ	**Ngauruhoe**	**2.58**	**253**	P	Pn	15 41 17.4	+0.9
COVZ	**Chateau Observ**	**2.62**	**252**	P	Pn	15 41 18.5	+1.4
FWVZ	**Far West T-bar**	**2.63**	**251**	P	Pn	15 41 18.6	+1.2
TWVZ	**Taurewa**	**2.67**	**256**	P	Pn	15 41 18.6	+0.8
ANWZ	**Angora Road**	**2.68**	**221**	P	Pn	15 41 17.0	-0.8
TSZ	**Takapari Road**	**2.71**	**233**	P	Pn	15 41 16.7	-1.5
DVHZ	**Dannevirke**	**2.73**	**227**	P	Pn	15 41 17.2	-1.4
PKVZ	**Pokaka**	**2.80**	**251**	P	Pn

PB05	**IPOC Station P**	**0.35**	**145**	⇓*i*	P	**Pb**	**16 07 23.6**	**0.0**
PB05				*i*	S	**Sb**	**16 07 29.4**	**+0.1**
PB05					IAML		16 07 30.0	
	comp=E,22μm,0.4s							
PB06	**IPOC Station P**	**0.80**	**100**	⇓*i*	P	**Pn**	**16 07 30.1**	**-0.4**
PB06				*i*	S	**Sb**	**16 07 40.5**	**-0.8**
PB06					IAML		16 07 42.5	
	comp=N,8μm,0.3s							
PB03	**IPOC Station P**	**0.80**	**50**	⇓*i*	P	**Pn**	**16 07 30.0**	**-0.6**
PB03				*i*	S	**Sb**	**16 07 40.3**	**-1.1**
PB03					IAML		16 07 43.8	
	comp=E,6μm,0.3s							
PB10	**IPOC Station P**	**0.95**	**187**	⇑*i*	P	**Pn**	**16 07 32.2**	**-0.3**
PB10				*i*	S	**Sb**	**16 07 45.8**	**+0.3**
PB07	**IPOC Station P**	**0.97**	**31**	⇓*i*	P	**Pn**	**16 07 32.5**	**-0.4**
PB07				*i*	S	**Sn**	**16 07 44.8**	**-0.9**
PB07					IAML		16 07 48.4	
	comp=E,6μm,0.5s							
PB15	**IPOC Station P**	**1.08**	**126**	⇓*i*	P	**Pn**	**16 07 34.5**	**0.0**
PB15				*i*	S	**Sn**	**16 07 48.8**	**+0.2**
PB02	**IPOC Station P**	**1.33**	**22**	⇓*i*	P	**Pn**	**16 07 37.9**	**+0.1**
PB02				*i*	S	**Sn**	**16 07 55.2**	**+0.6**
PB02					IAML		16 08 00.8	
	comp=E,4μm,0.3s							
PB09	**IPOC Station P**	**1.33**	**55**	⇓*i*	P	**Pn**	**16 07 38.6**	**+0.7**
PB09				*i*	S	**Sn**	**16 07 55.5**	**+0.8**
PB09					IAML		16 07 59.3	
	comp=E,3μm,0.4s							
LVC	**Limon Verde**	**1.40**	**92**	P		**Pn**	**16 07 39.9**	**+1.0**
	comp=E,250nm,0.3s,baz=266,slow=12,SNR=1264							
LVC					S	**Sb**	**16 07 57.8**	**-0.8**
	comp=E,225nm,0.3s,baz=66,slow=16,SNR=10							
LVC					LR	LR	16 08 25.3	
	comp=E,352nm,20.3s,baz=262,slow=50							
LVC	**Limon Verde**	**1.40**	**92**	*eP*		**Pn**	**16 07 39.9**	**+1.0**
LVC				*i*	S	**Sn**	**16 07 57.6**	**+1.1**
PB01	**IPOC Station P**	**1.75**	**30**	⇓*i*	P	**Pn**	**16 07 44.1**	**+0.6**
PB01				*i*	S	**Sb**	**16 08 07.0**	**-1.2**
PB01					IAML		16 08 11.6	
	comp=E,3μm,0.4s							
PB08	**IPOC Station P**	**2.69**	**26**	⇑*i*	P	**Pn**	**16 07 57.9**	**+1.2**
PB08				*i*	S	**Sn**	**16 08 31.0**	**+2.6**
PB08					IAML		16 08 40.8	
	comp=N,747nm,0.2s							
LPAZ	**La Paz**	**6.61**	**19**	P		**Pn**	**16 08 54.0**	**+3.1**
	comp=N,0.9nm,0.3s,baz=201,slow=6.0,SNR=16							
LPAZ					LR	LR	16 11 44.4	
	comp=N,92nm,19.1s,baz=193,slow=40							
SIV	**San Ignacio**	**10.98**	**55**	P		**Pn**	**16 09 50.3**	**0.0**
	comp=N,1.0nm,0.3s,baz=252,slow=12,SNR=12							
SIV					LR	LR	16 14 54.9	
	comp=N,85nm,19.0s,baz=186,slow=42							
PTGA	**Pitinga**	**23.97**	**27**	P		**P**	**16 12 26.8**	**-0.3**
	comp=N,1.5nm,0.3s,baz=176,slow=9.8,SNR=6.1							
MDP	**Montagnes des**	**32.53**	**34**		LR	LR	16 27 30.8	
	comp=N,74nm,19.1s,baz=211,slow=37							
TXAR	**Lajitas Array**	**60.72**	**327**	P		**P**	**16 17 23.6**	**-0.4**
	comp=N,0.2nm,0.7s,baz=147,slow=15,SNR=2.4							
PDAR	**Pinedale Array**	**74.35**	**331**	P		**P**	**16 18 49.8**	**-0.3**
	comp=N,0.1nm,0.4s,baz=132,slow=6.2,SNR=2.3							
TORD	**Torodi Ar. Bea**	**79.03**	**71**	P		**P**	**16 19 15.9**	**-0.9**
	comp=N,0.8nm,0.5s,baz=233,slow=5.3,SNR=9.6							
MKAR	**Makanchi Array**	**147.31**	**36**	PKPbc		**PKPbc**	**16 26 55.9**	**+0.2**
	comp=N,0.7nm,0.7s,baz=320,slow=3.2,SNR=6.9							

*ISCJB **14** 16:21:04.4±0.8, 38˚50S±0˙02×178˚88E±0˙06, h30km±5km, mb4.2/6, MS3.9/8, Error ellipse: s-maj=7.6km s-min=4.1km az=176.2*
*WEL **14** 16:21:05.7±0.8, 38˚S±3˚×17˚9E±˚, h33km, ML5.0/15*
*IDC **14** 16:21:08.9±4.5, 38˚64S×178˚36E, h30km±24km, mb4.1/6, mb1 4.2/7, mb1mx3.9/27, mbtmp4.2/7, ML3.8/1, MS3.9/8, Ms1 3.9/8, ms1mx3.4/34, Error ellipse: s-maj=39.9km s-min=33.9km az=39.0*

ISC 14 16:21:05.1±1.2, 38˚47S±0˙03×178˚82E±0˙06, h19km±3km, n122, σ0§90/136, mb4.3/6, MS4.0/8, 1D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGZ	**Carnagh Statio**	**0.48**	**269**	P	**Pb**	**16 21 15.7**	**+0.8**
PUZ	**Puketiti**	**0.60**	**312**	P	**Pg**	**16 21 16.5**	**-0.5**
TWGZ	**Tauwhareparae**	**0.72**	**294**	P	**Pg**	**16 21 18.9**	**-0.4**
TWGZ				S	**Sg**	**16 21 29.1**	**+0.2**
WMGZ	**Waiomatatini S**	**0.73**	**334**	P	**Pn**	**16 21 19.7**	**-0.6**
WMGZ				P	**Pn**	**16 21 19.6**	**-0.6**
WMGZ				S	**Sn**	**16 21 30.1**	**-0.7**
TKGZ	**Te Karaka**	**0.76**	**272**	P	**Pg**	**16 21 19.8**	**-0.2**
TKGZ				S	**Sn**	**16 21 30.9**	**-0.8**
PKGZ	**Pakihiroa**	**0.83**	**315**	P	**Pb**	**16 21 20.6**	**-0.3**
PKGZ				S	**Sg**	**16 21 31.8**	**-0.5**
PRGZ	**Paritu Road**	**0.86**	**238**	P	**Pg**	**16 21 22.1**	**+0.2**
RIGZ	**Rimuhau**	**0.86**	**254**	P	**Pb**	**16 21 21.6**	**+0.3**
MHGZ	**Mahia Peninsul**	**0.98**	**226**	P	**Pn**	**16 21 24.1**	**+0.3**
MHGZ				S	**Sb**	**16 21 36.6**	**+0.5**
MXZ	**Matakaoa Point**	**0.99**	**336**	P	**Pn**	**16 21 23.7**	**-0.3**
MXZ				S	**Sn**	**16 21 37.4**	**0.0**
MWZ	**Matawai**	**1.02**	**277**	P	**Pb**	**16 21 23.4**	**-0.8**
MWZ				P	**Pn**	**16 21 23.5**	**-0.9**
MWZ				S	**Sb**	**16 21 36.4**	**-0.9**
RUGZ	**Raukumara Rang**	**1.03**	**299**	P	**Pb**	**16 21 23.4**	**-1.0**
RUGZ				S	**Sb**	**16 21 37.0**	**-0.5**
KNZ	**Kokohu**	**1.05**	**238**	P	**Pb**	**16 21 24.3**	**-0.2**
KNZ				S	**Sb**	**16 21 38.5**	**+0.6**
HAZ	**Te Kaha**	**1.09**	**311**	P	**Pb**	**16 21 24.3**	**-1.0**
HAZ				S	**Sb**	**16 21 38.4**	**-0.6**
RAGZ	**Rawiri**	**1.10**	**268**	P	**Pb**	**16 21 24.8**	**-0.8**
RAGZ				P	**Pb**	**16 21 24.7**	**-0.8**
RAGZ				S	**Sn**	**16 21 40.3**	**+0.1**
SNGZ	**Shannon Statio**	**1.20**	**255**	P	**Pn**	**16 21 26.2**	**-0.7**
SNGZ				S	**Sb**	**16 21 41.6**	**-0.7**
URZ	**Urewera**	**1.36**	**279**	Pg	**Pn**	**16 21 28.2**	**-0.7**
URZ				Lg	Lg	16 21 43.9	
	379nm,0.3s,baz=95,slow=14,SNR=19						
URZ	**Urewera**	**1.36**	**279**	P	**Pn**	**16 21 28.3**	**-0.7**
WHHZ	**Waihua**	**1.38**	**244**	P	**Pn**	**16 21 28.9**	**-0.3**
RAHZ	**Arahi**	**1.43**	**251**	P	**Pn**	**16 21 29.4**	**-0.6**
RTZ	**Ruatahuna**	**1.45**	**264**	P	**Pn**	**16 21 29.6**	**-0.7**
WHRZ	**Whale Island**	**1.58**	**292**	P	**Pn**	**16 21 32.0**	**0.0**
MTHZ	**Maungataniwha**	**1.59**	**256**	P	**Pn**	**16 21 31.7**	**-0.6**
MUGZ	**Murupara**	**1.61**	**269**	P	**Pn**	**16 21 32.1**	**-0.3**
ARHZ	**Aropaoanui**	**1.63**	**240**	P	**Pn**	**16 21 32.6**	**-0.1**
EDRZ	**Edgecumbe**	**1.68**	**282**	P	**Pn**	**16 21 34.1**	**+0.6**
NMHZ	**Naumai**	**1.69**	**248**	P	**Pn**	**16 21 34.1**	**+0.5**
MARZ	**Manawahe**	**1.76**	**285**	P	**Pn**	**16 21 34.0**	**-0.5**
CKHZ	**Cape Kidnapper**	**1.80**	**228**	P	**Pn**	**16 21 34.7**	**-0.4**
RRRZ	**Republican Roa**	**1.81**	**274**	P	**Pn**	**16 21 35.6**	**+0.3**
TARZ	**Mount Tarawera**	**1.83**	**277**	P	**Pn**	**16 21 35.5**	**-0.1**
MKRZ	**Makatiti**	**1.88**	**280**	P	**Pn**	**16 21 36.9**	**+0.6**
OPRZ	**Ohinepanea**	**1.89**	**289**	P	**Pn**	**16 21 35.2**	**-1.1**
PRRZ	**Plateau Road**	**1.90**	**268**	P	**Pn**	**16 21 36.4**	**-0.1**
MCHZ	**McNeill Hill**	**1.92**	**239**	P	**Pn**	**16 21 36.6**	**-0.1**
ALRZ	**Allen Road**	**1.94**	**267**	P	**Pn**	**16 21 37.0**	**0.0**
BKZ	**Black Stump Fm**	**1.94**	**248**	P	**Pn**	**16 21 37.2**	**+0.1**
HLRZ	**Highlands Stat**	**1.95**	**276**	P	**Pn**	**16 21 37.4**	**+0.3**
OMRZ	**Omania**	**1.96**	**280**	P	**Pn**	**16 21 36.9**	**-0.3**
OMRZ				P	**Pn**	**16 21 37.0**	**-0.3**
HRRZ	**Handcock Road**	**1.99**	**272**	P	**Pn**	**16 21 38.5**	**+0.7**
KAHZ	**Kahuranaki**	**2.00**	**228**	P	**Pn**	**16 21 37.6**	**-0.3**
HSRZ	**Hossack Road**	**2.03**	**274**	P	**Pn**	**16 21 38.4**	**+0.2**
KARZ	**Kaharoa**	**2.08**	**282**	P	**Pn**	**16 21 38.2**	**-0.7**
UTU	**Utuhina**	**2.08**	**277**	P	**Pn**	**16 21 39.4**	**+0.4**
KWHZ	**Kaweka Forest**	**2.10**	**242**	P	**Pn**	**16 21 39.1**	**-0.1**
GRRZ	**Galatos Road**	**2.13**	**272**	P	**Pn**	**16 21 40.0**	**+0.4**
GRRZ				P	**Pn**	**16 21 40.0**	**+0.4**
TGRZ	**Tauranga**	**2.15**	**289**	P	**Pn**	**16 21 38.9**	**-0.9**
PXZ	**Pawanui**	**2.17**	**224**	P	**Pn**	**16 21 39.1**	**-1.1**
KRHZ	**Kereru**	**2.23**	**238**	P	**Pn**	**16 21 40.1**	**-0.9**
KUTZ	**Kaahu Road**	**2.35**	**269**	P	**Pn**	**16 21 42.5**	**-0.1**
KMRZ	**Kaimai**	**2.35**	**285**	P	**Pn**	**16 21 41.8**	**-0.9**
MYRZ	**Mayor Island**	**2.36**	**300**	P	**Pn**	**16 21 43.6**	**+0.8**
BHHZ	**Black Hill Sta**	**2.37**	**244**	P	**Pn**	**16 21 42.4**	**-0.6**
RATZ	**Rangitukua**	**2.42**	**260**	P	**Pn**	**16 21 44.4**	**+0.8**
WPHZ	**Waipukurau**	**2.44**	**229**	P	**Pn**	**16 21 42.9**	**-0.9**
PRHZ	**Porangahau**	**2.46**	**223**	P	**Pn**	**16 21 42.9**	**-1.3**
PNHZ	**Pukenui**	**2.49**	**234**	P	**Pn**	**16 21 43.4**	**-1.2**
KRVZ	**Karewarewa**	**2.56**	**255**	P	**Pn**	**16 21 45.6**	**0.0**
MOVZ	**Moawhango**	**2.56**	**248**	P	**Pn**	**16 21 45.3**	**-0.4**
TLZ	**Tolley Road**	**2.58**	**272**	P	**Pn**	**16 21 45.3**	**-0.5**
TUVZ	**Tukino**	**2.59**	**251**	P	**Pn**	**16 21 46.0**	**-0.1**
WTVZ	**West Tongariro**	**2.60**	**255**	P	**Pn**	**16 21 46.4**	**+0.2**
NGZ	**Ngauruhoe**	**2.61**	**253**	P	**Pn**	**16 21 46.4**	**0.0**
WHVZ	**Whangaehu Hut**	**2.65**	**251**	P	**Pn**	**16 21 46.8**	**-0.1**
COVZ	**Chateau Observ**	**2.66**	**253**	P	**Pn**	**16 21 46.9**	**-0.1**
FWVZ	**Far West T-bar**	**2.67**	**252**	P	**Pn**	**16 21 47.4**	**+0.2**
TRVZ	**Turoa**	**2.68**	**251**	P	**Pn**	**16 21 47.5**	**+0.1**
ANWZ	**Angora Road**	**2.69**	**222**	P	**Pn**	**16 21 46.3**	**-1.0**
TWVZ	**Taurewa**	**2.71**	**256**	P	**Pn**	**16 21 48.1**	**+0.4**
TSZ	**Takapari Road**	**2.72**	**234**	P	**Pn**	**16 21 46.4**	**-1.4**
DVHZ	**Dannevirke**	**2.75**	**228**	P	**Pn**	**16 21 46.6**	**-1.5**
MTVZ	**Mangateitei**	**2.76**	**250**	P	**Pn**	**16 21 48.5**	**+0.1**
PKVZ	**Pokaka**	**2.83**	**252**	P	**Pn**	**16 21 49.2**	**-0.1**
BFZ	**Birch Farm**	**2.97**	**221**	P	**Pn**	**16 21 49.0**	**-2.1**
KUZ	**Kuaotunu**	**3.00**	**304**	P	**Pn**	**16 21 50.3**	**-1.3**
PRWZ	**Pori Road**	**3.03**	**226**	P	**Pn**	**16 21 50.8**	**-1.2**
POWZ	**Post Office Ro**	**3.04**	**230**	P	**Pn**	**16 21 51.1**	**-1.1**
HIZ	**Hauiti**	**3.11**	**268**	P	**Pn**	**16 21 53.8**	**+0.8**
HIZ				P	**Pn**	**16 21 53.8**	**+0.8**
OHWZ	**Ohakea**	**3.22**	**236**	P	**Pn**	**16 21 54.4**	**-0.1**
TIWZ	**Tintock**	**3.23**	**224**	P	**Pn**	**16 21 53.2**	**-1.5**
VRZ	**Vera Road**	**3.24**	**257**	P	**Pn**	**16 21 55.1**	**+0.3**
WAZ	**Wanganui**	**3.24**	**246**	P	**Pn**	**16 21 55.3**	**+0.4**
MRZ	**Mangatainoka R**	**3.32**	**228**	P	**Pn**	**16 21 54.0**	**-1.9**
WIAZ	**Waiheke Island**	**3.37**	**299**	P	**Pn**	**16 21 57.0**	**+0.4**
KBAZ	**Karaka Road Bo**	**3.40**	**293**	P	**Pn**	**16 21 58.0**	**+0.9**
ETAZ	**East Tamaki Re**	**3.44**	**295**	P	**Pn**	**16 21 57.8**	**+0.2**
GRZ	**Great Barrier**	**3.48**	**309**	P	**Pn**	**16 21 57.4**	**-0.7**
HOWZ	**Holdsworth Sta**	**3.51**	**225**	P	**Pn**	**16 21 56.5**	**-2.1**
MBAZ	**Motutapu North**	**3.55**	**297**	P	**Pn**	**16 21 59.0**	**-0.1**
LREZ	**Lake Rotokare**	**3.58**	**253**	P	**Pn**	**16 21 59.8**	**+0.2**
AWAZ	**Awhitu Peninsu**	**3.59**	**292**	P	**Pn**	**16 22 00.2**	**+0.5**
EPAZ	**Eden Park BICE**	**3.60**	**295**	P	**Pn**	**16 22 00.8**	**+0.9**
OGWZ	**Otaki Gorge**	**3.60**	**229**	P	**Pn**	**16 21 58.5**	**-2.2**
DREZ	**Dunham Road**	**3.67**	**257**	P	**Pn**	**16 22 02.1**	**+1.2**
ABAZ	**Army Bay**	**3.68**	**299**	P	**Pn**	**16 22 01.3**	**+0.4**
WTAZ	**Waiatarua**	**3.70**	**293**	P	**Pn**	**16 22 01.9**	**+0.7**
PREZ	**Palmer Road**	**3.74**	**255**	P	**Pn**	**16 22 02.6**	**+0.9**
RVAZ	**Riverhead Bore**	**3.77**	**296**	P	**Pn**	**16 22 02.6**	**+0.4**
KHEZ	**Kahui Hut**	**3.84**	**256**	P	**Pn**	**16 22 04.1**	**+1.0**
KHEZ				P	**Pn**	**16 22 04.1**	**+1.0**
PKE	**Pukeiti**	**3.84**	**258**	P	**Pn**	**16 22 03.8**	**+0.7**
NBEZ	**Newall Road No**	**3.94**	**257**	P	**Pn**	**16 22 05.9**	**+1.4**
NMEZ	**Namu Road**	**3.96**	**255**	P	**Pn**	**16 22 06.0**	**+1.2**
WCZ	**Waipu Caves**	**4.38**	**304**	P	**Pn**	**16 22 10.6**	**+0.1**
NNZ	**Nelson**	**5.00**	**235**	P	**Pn**	**16 22 16.8**	**-2.2**
CTZ	**Chatham Island**	**6.29**	**148**	P	**Pn**	**16 22 39.2**	**+2.5**
RPZ	**Rata Peaks**	**7.86**	**226**	Pn	**Pn**	**16 22 55.1**	**-3.2**
	1.5nm,0.3s,baz=287,slow=2.7,SNR=7.5						
RPZ					Sn	Sn	16 24 16.1	-11
	10nm,0.3s,baz=334,slow=19,SNR=20							
WKZ	**Wanaka**	**9.70**	**226**	P	**Pn**	**16 23 21.7**	**-1.8**
STKA	**Stephens Creek**	**30.98**	**271**	P	**P**	**16 27 20.7**	**-0.4**
	3.6nm,0.8s,baz=101,slow=9.2,SNR=7.3							
STKA					LR	LR	16 39 04.1	
	comp=Z,214nm,21.3s,baz=99,slow=35							
CTA	**Charters Tower**	**33.56**	**294**	P		**P**	**16 27 44.6**	**+0.7**
	4.5nm,0.6s,baz=122,slow=8.9,SNR=8.9							
ASAR	**Alice Springs**	**40.80**	**278**	P		**P**	**16 28 44.5**	**-0.9**
	4.0nm,0.7s,baz=130,slow=8.1,SNR=62							
ASAR					LR	LR	16 44 58.3	
	comp=Z,185nm,21.7s,baz=140,slow=35							
WRA	**Warramunga Arr**	**42.53**	**283**	P		**P**	**16 28 58.5**	**-1.0**
	2.3nm,0.6s,baz=122,slow=7.4,SNR=29							
WRA					LR	LR	16 48 16.9	
	comp=Z,212nm,18.1s,baz=220,slow=39							
FITZ	**Fitzroy Crossi**	**50.30**	**278**	P		**P**	**16 29 59.9**	**-0.7**
	2.2nm,0.6s,baz=167,slow=11,SNR=8.9							
BATI	**Baunnata**	**56.59**	**285**	LR		LR	16 57 22.0	
	comp=Z,169nm,18.4s,baz=176,slow=39							
SIJI	**Sorong**	**57.38**	**299**	LR		LR	16 56 05.8	
	comp=Z,56nm,18.3s,baz=282,slow=37							
SYO	**Syowa Base**	**68.67**	**195**	⇓*e*	P	P	16 32 17.0	+10
LEM	**Lembang**	**71.07**	**276**	LR		LR	17 05 18.1	
	comp=Z,81nm,18.5s,baz=178,slow=38							
PSI	**Prapat**	**83.83**	**278**	LR		LR	17 11 21.6	
	comp=Z,85nm,22.0s,baz=94,slow=36							
CMAR	**Chiang Mai Arr**	**93.67**	**291**	P		**P**	**16 34 21.5**	**+1.0**
	0.2nm,0.4s,baz=141,slow=3.6,SNR=3.0							
CMAR					LR	LR	17 19 56.5	
	comp=Z,25nm,19.6s,baz=164,slow=38							
ARCES	**ARCESS Array B**	**145.76**	**344**	PKPbc		**PKPab**	**16 40 43.5**	**+1.5**
	5.6nm,0.8s,baz=29,slow=2.8,SNR=10.0							
FINES	**FINESS Array B**	**151.48**	**333**	PKPbc		**PKPbc**	**16 40 57.8**	**+1.1**
	7.0nm,1.0s,baz=48,slow=2.8,SNR=7.7							
BRTR	**Keskin Array B**	**153.04**	**284**	PKPbc		**PKPbc**	**16 41 02.3**	**+1.1**
	0.4nm,0.7s,baz=87,slow=9.2,SNR=2.9							
TORD	**Torodi Ar. Bea**	**154.65**	**187**	PKPab		**PKPab**	**16 41 21.5**	**+1.8**
	1.0nm,0.8s,baz=335,slow=2.1,SNR=5.4							

*DDA **14** 16:47:29.2, 39˚49N×31˚97E, h7km, Ml2.6*
*ISK **14** 16:47:35.9, 40˚17N×32˚51E, h9km, ML2.0/2*
*ISCJB **14** 16:47:38.5±0.7, 39˚99N±0˙05×32˚43E±0˙06, h8km, Error ellipse: s-maj=8.1km s-min=6.0km az=32.2*

ISC 14 16:47:39.3±1.3, 40˚00N±0˙04×32˚49E±0˙05, h8km, n10, σ0§98/12, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOD	**Lodumlu**	**0.24**	**117**	PG	**Pg**	**16 47 43.2**	**-0.9**
LOD				SG	**Sg**	**16 47 48.5**	**+1.1**
ANTO	**Ankara**	**0.27**	**119**	PG	**Pg**	**16 47 43.4**	**-1.3**
ANTO				SG	**Sg**	**16 47 49.5**	**+1.2**
CMDR	**Camlidere-ANKA**	**0.50**	**359**	*i* P	**Pg**	**16 47 48.8**	**-0.2**
AFSR	**Af˙ar-Bala (A**	**0.71**	**141**	PG	**Pg**	**16 47 52.6**	**-0.4**
ELDT	**Eldivan**	**0.87**	**55**	*i* P	**Pb**	**16 47 57.0**	**+0.2**
BCAM	**Yenicaga**	**0.88**	**339**	*i* P	**Pg**	**16 47 55.3**	**-0.9**
KKUL	**Konya-Kulu**	**0.89**	**158**	*i* P	**Pg**	**16 47 56.4**	**0.0**
SVRH	**Sivrihisar-ESK**	**0.93**	**234**	PG	**Pg**	**16 47 56.5**	**-0.6**
KAMT	**Kaman**	**1.14**	**123**	PN	**Pg**	**16 47 59.9**	**-1.2**
KIZT	**Kizilcal**	**1.21**	**203**	PN	**Pg**	**16 48 01.8**	**-0.8**

*IDC **14** 16:48:03.7±1.4, 23˚74N×123˚71E, h0km, mb3.9/3, mb1 4.0/5, mb1mx3.5/54, mbtmp3.9/5, ML3.5/2, Error ellipse: s-maj=39.8km s-min=21.7km az=93.0*
*ISCJB **14** 16:48:04.3±0.2, 24˚40N±0˙02×122˚84E±0˙01, h63km±3km, Error ellipse: s-maj=2.9km s-min=1.9km az=173.0*
*JMA **14** 16:48:04.5±0.1, 24˚37N×122˚81E, h62km±1km, MS3.2*
*TAP **14** 16:48:04.6, 24˚40N×122˚83E, h61km, ML3.8, C*
*NEIC **14** 16:48:04.7±0.4, 24˚33N×122˚87E, h55km±7km, mb4.6/2, Error ellipse: s-maj=12.5km s-min=6.3km az=152.0*

ISC 14 16:48:04.9±0.8, 24˚39N±0˙03×122˚84E±0˙02, h57km±6km, n131, σ1§08/225, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.12**	**58**	P	**Pn**	**16 48 13.9**	**+0.2**
JYNG				S	**Sn**	**16 48 20.5**	**+0.5**
YOJ	**Yonaguni jima**	**0.17**	**65**	P	**Pn**	**16 48 14.2**	**+0.3**
	baz=59						
YOJ				S	**Sn**	**16 48 21.1**	**+0.7**
	baz=59						
YOJ	**Yonaguni jima**	**0.17**	**65**	*e*Pn	**Pn**	**16 48 14.0**	**+0.1**
YOJ	**Yonaguni jima**	**0.17**	**65**	P	**Pn**	**16 48 14.2**	**+0.3**
YOJ				S	**Sn**	**16 48 20.9**	**+0.5**
EOS1	**EOS1**	**0.67**	**284**	*e*P	**Pn**	**16 48 18.6**	**0.0**
	baz=291						
EOS1				*e*S	**Sn**	**16 48 28.9**	**+0.4**
	baz=291						
IRIF	**Iriomote-Funau**	**0.81**	**94**	P	**Pn**	**16 48 20.5**	**+0.1**
IRIF				S	**Sn**	**16 48 32.3**	**+0.4**
TWC	**Suao**	**0.93**	**284**	*i* P	**Pn**	**16 48 21.5**	**-0.4**
	baz=283						
TWC				*i* S	**Sn**	**16 48 33.3**	**-1.2**
	baz=283						
HATJ	**Hateruma jima**	**0.94**	**110**	P	**Pn**	**16 48 22.6**	**+0.5**
HATJ				S	**Sn**	**16 48 36.1**	**+1.3**
TWB1	**Santiao Chiao**	**0.99**	**309**	P	**Pn**	**16 48 22.4**	**-0.3**
	baz=314						
TWB1				*e*S	**Sn**	**16 48 34.9**	**-0.9**
	baz=314						
NANB	**Nanao**	**0.99**	**272**	*e*P	**Pn**	**16 48 22.6**	**-0.1**
	baz=279						
NANB				*e*S	**Sn**	**16 48 36.1**	**+0.2**
	baz=279						
ENA	**Nanau**	**1.00**	**272**	P	**Pn**	**16 48 22.7**	**-0.2**
	baz=279						
ENA				S	**Sn**	**16 48 36.1**	**0.0**
	baz=279						
NTC	**Toucheng**	**1.03**	**297**	P	**Pn**	**16 48 23.3**	**+0.1**
	baz=297						
NTC				S	**Sn**	**16 48 36.4**	**-0.4**
	baz=297						
ILA	**Ilan**	**1.06**	**291**	P	**Pn**	**16 48 23.1**	**-0.6**
	baz=297						
ILA				S	**Sn**	**16 48 37.7**	**+0.2**
	baz=297						
JKRS	**Kuro-shima**	**1.08**	**98**	P	**Pn**	**16 48 24.6**	**+0.7**
JKRS				S	**Sn**	**16 48 39.2**	**+1.2**
TWE	**Neicheng**	**1.12**	**287**	P	**Pn**	**16 48 24.3**	**-0.1**
	baz=292						
TWE				S	**Sn**	**16 48 38.5**	**-0.4**
	baz=292						
NACB	**Ninganchiao**	**1.16**	**260**	P	**Pn**	**16 48 24.4**	**-0.5**
	baz=259						
NACB				S	**Sn**	**16 48 39.3**	**-0.5**
	baz=259						
NACB	**Ninganchiao**	**1.16**	**260**	*e*Pn	**Pn**	**16 48 24.3**	**-0.6**
TWD	**Chiawan**	**1.18**	**255**	P	**Pn**	**16 48 24.6**	**-0.6**
	baz=244						
TWD				S	**Sn**	**16 48 39.6**	**-0.6**
	baz=244						
NWF	**Wu-fen Shan**	**1.18**	**305**	P	**Pn**	**16 48 25.3**	**0.0**
	baz=305						
NWF				S	**Sn**	**16 48 40.4**	**-0.1**
	baz=305						
WFSB	**Wu-fen Shan**	**1.18**	**305**	*e*P	**Pn**	**16 48 25.3**	**+0.1**
	baz=305						
WFSB				*e*S	**Sn**	**16 48 40.5**	**+0.2**
	baz=305						
ENTT	**Nioudou**	**1.19**	**282**	P	**Pn**	**16 48 25.5**	**+0.1**
	baz=290						
ENTT				S	**Sn**	**16 48 41.6**	**+1.0**
	baz=290						
JIJ	**Ishigaki jima**	**1.19**	**91**	P	**Pn**	**16 48 25.3**	**-0.1**
JIJ				S	**Sn**	**16 48 40.3**	**-0.3**
HWA	**Hwalien**	**1.20**	**250**	*e*P	**Pn**	**16 48 25.0**	**-0.5**
	baz=249						
NWLT	**Wulai**	**1.28**	**288**	*e*P	**Pn**	**16 48 26.7**	**+0.1**
	baz=287						
TWA	**Mucha**	**1.28**	**298**	P	**Pn**	**16 48 27.0**	**+0.3**
	baz=297						
TWA				S	**Sn**	**16 48 42.6**	**-0.4**
	baz=297						
NNSB	**Datong**	**1.33**	**272**	*e*P	**Pn**	**16 48 27.4**	**0.0**
	baz=272						
NNSB				*e*S	**Sn**	**16 48 44.2**	**0.0**
	baz=272						
NNS	**Nan Shan**	**1.34**	**272**	P	**Pn**	**16 48 27.6**	**+0.1**
	baz=272						
NNS				*e*S	**Sn**	**16 48 44.3**	**0.0**
	baz=272						
JISG	**Ishigakijimahi**	**1.36**	**81**	P	**Pn**	**16 48 27.5**	**-0.1**
JISG				S	**Sn**	**16 48 44.1**	**-0.5**
YM07	**YM07**	**1.36**	**306**	*e*P	**Pn**	**16 48 27.4**	**-0.2**
	baz=305						
YM07				*e*S	**Sn**	**16 48 44.5**	**-0.2**
	baz=305						
TATO	**Taipei**	**1.36**	**296**	P	**Pn**	**16 48 27.7**	**+0.1**
	baz=295						
TATO				*e*S	**Sn**	**16 48 44.5**	**-0.2**
	baz=295						
TATO	**Taipei**	**1.36**	**296**	*e*P

	baz=247							
YULB	**Yu-li**	**1.73**	**235**	*e*Pn	**Pn**	**16 48 31.8**	**-0.8**
SBCB	**Hsinchu**	**1.73**	**284**	*e*P	**Pn**	**16 48 34.0**	**+1.2**
SBCB	baz=283			*e*S	**Sn**	**16 48 55.2**	**+1.4**
TWF1	**Yuli**	**1.75**	**234**	P	**Pn**	**16 48 32.5**	**-0.4**
TWF1	baz=246			S	**Sn**	**16 48 53.4**	**-0.8**
SSLB	**Suanglung**	**1.82**	**251**	*e*P	**Pn**	**16 48 33.9**	**-0.1**
SSLB	baz=251 **Suanglung**	**1.82**	**251**	*e*Pn	**Pn**	**16 48 33.9**	**-0.1**
SMLT	**Sun Moon Lake**	**1.84**	**255**	*i* P	**Pn**	**16 48 34.7**	**+0.4**
SMLT	baz=254			S	**Sn**	**16 48 56.5**	**-0.1**
FULB	baz=254 **Fuli**	**1.85**	**230**	*e*P	**Pn**	**16 48 33.3**	**-1.0**
FULB	baz=230			*e*S	**Sn**	**16 48 56.5**	**-0.1**
CHKT	baz=230 **Chengkung**	**1.86**	**227**	*i* P	**Pn**	**16 48 33.2**	**-1.3**
CHKT	baz=226			*e*S	**Sn**	**16 48 55.8**	**-1.1**
NMLH	baz=226 **Miaoli**	**1.87**	**275**	*e*P	**Pn**	**16 48 35.2**	**+0.6**
TWQ1	baz=274 **Liyutan**	**1.88**	**269**	P	**Pn**	**16 48 35.9**	**+1.1**
TWQ1	baz=269			*e*S	**Sn**	**16 48 58.3**	**+0.8**
NSY	baz=269 **Sanyi**	**1.89**	**271**	*e*P	**Pn**	**16 48 36.2**	**+1.3**
NSY	baz=271			S	**Sn**	**16 48 59.3**	**+1.6**
PTSB	baz=271 **Yuanli**	**1.95**	**272**	*e*P	**Pn**	**16 48 36.6**	**+1.0**
TCU	baz=272 **Taichung**	**1.99**	**263**	*e*P	**Pn**	**16 48 37.3**	**+1.1**
TCU	baz=276			*e*S	**Sn**	**16 49 01.4**	**+1.4**
WJS	**Zhushan**	**2.01**	**254**	P	**Pn**	**16 48 38.4**	**+1.9**
WJS	baz=249			S	**Sn**	**16 49 03.0**	**+2.5**
WNT	baz=249 **Mingjian**	**2.03**	**256**	*i* P	**Pn**	**16 48 38.4**	**+1.6**
WNT	baz=256			S	**Sn**	**16 49 02.6**	**+1.5**
ELDTW	baz=256 **Lidau**	**2.05**	**235**	P	**Pn**	**16 48 36.6**	**-0.6**
ELDTW	baz=235			S	**Sn**	**16 48 59.7**	**-2.0**
WCHH	baz=235 **Zhanghua**	**2.10**	**262**	*e*P	**Pn**	**16 48 38.4**	**+0.7**
WCHH	baz=272			*e*S	**Sn**	**16 49 04.6**	**+1.8**
CHN5	baz=272 **Tsauling**	**2.13**	**249**	P	**Pn**	**16 48 39.5**	**+1.4**
CHN5	baz=249			*e*S	**Sn**	**16 49 04.6**	**+1.1**
WGK	baz=249 **Gukeng**	**2.20**	**252**	P	**Pn**	**16 48 40.5**	**+1.5**
WGK	baz=242			*e*S	**Sn**	**16 49 07.1**	**+2.0**
WDLH	baz=242 **Douliu**	**2.22**	**252**	*e*P	**Pn**	**16 48 40.7**	**+1.4**
WDLH	baz=243			*e*S	**Sn**	**16 49 08.3**	**+2.8**
TWGBT	baz=243 **Beinan**	**2.25**	**226**	P	**Pn**	**16 48 39.0**	**-0.8**
TWGBT	baz=236			*e*S	**Sn**	**16 49 04.9**	**-1.5**
TTN	baz=236 **Taitung**	**2.25**	**224**	*e*P	**Pn**	**16 48 40.1**	**+0.4**
TTN	baz=217			*e*S	**Sn**	**16 49 05.7**	**-0.7**
TWG	baz=217 **Pinlang**	**2.25**	**226**	*i* P	**Pn**	**16 48 38.8**	**-0.9**
TWG	baz=236			S	**Sn**	**16 49 04.6**	**-1.8**
TWG	**Pinlang**	**2.25**	**226**	*e*Pn	**Pn**	**16 48 38.5**	**-1.3**
JIKM	**Ikemajima**	**2.26**	**76**	P	**Pn**	**16 48 40.6**	**+0.8**
JIKM				S	**Sn**	**16 49 07.9**	**+1.4**
JMJ	**Miyako jima 2**	**2.27**	**79**	P	**Pn**	**16 48 40.9**	**+0.8**
JMJ				S	**Sn**	**16 49 07.3**	**+0.3**
TPUB	**Ta-pu**	**2.29**	**242**	P	**Pn**	**16 48 41.5**	**+1.1**
TPUB	baz=242			*e*S	**Sn**	**16 49 08.2**	**+0.7**
TPUB	baz=242 **Ta-pu**	**2.29**	**242**	*e*Pn	**Pn**	**16 48 41.5**	**+1.1**
CHN4	**Tsaushan**	**2.30**	**244**	P	**Pn**	**16 48 42.1**	**+1.6**
CHN4	baz=238			*e*S	**Sn**	**16 49 09.1**	**+1.4**
RLNB	baz=238 **Erlin**	**2.32**	**258**	*e*P	**Pn**	**16 48 41.7**	**+1.1**
RLNB	baz=258			*e*S	**Sn**	**16 49 09.6**	**+1.6**
CHN2	baz=258 **Minshiung**	**2.32**	**249**	P	**Pn**	**16 48 42.5**	**+1.7**
CHN2	baz=249			*e*S	**Sn**	**16 49 10.0**	**+1.8**
WTP	baz=249 **Ta-pu**	**2.33**	**241**	*i* P	**Pn**	**16 48 42.4**	**+1.4**
WTP	baz=241			S	**Sn**	**16 49 10.3**	**+1.8**
JOGS	**Gusukube**	**2.37**	**81**	P	**Pn**	**16 48 42.4**	**+1.1**
CHY	**Chiayi**	**2.38**	**249**	*e*P	**Pn**	**16 48 43.0**	**+1.5**
TWK	baz=248 **Hsinying**	**2.42**	**243**	*i* P	**Pn**	**16 48 43.9**	**+1.6**
TWK	baz=243			*e*S	**Sn**	**16 49 12.3**	**+1.5**
CHN1	baz=243 **Nanshi**	**2.43**	**241**	*i* P	**Pn**	**16 48 44.7**	**+2.4**
CHN1	baz=241			S	**Sn**	**16 49 12.7**	**+1.8**
SGST	baz=241 **Jiashian**	**2.44**	**238**	*i* P	**Pn**	**16 48 44.2**	**+1.8**
SGST	baz=246			*e*S	**Sn**	**16 49 13.0**	**+1.8**
SLGT	baz=246 **Liugui**	**2.44**	**236**	*e*S	**Sn**	**16 49 13.2**	**+2.1**
ECL	baz=231 **Taimali**	**2.48**	**224**	P	**Pn**	**16 48 41.8**	**-1.2**
ECL	baz=233			*e*S	**Sn**	**16 49 09.8**	**-2.4**
WLGB	**Puzi**	**2.49**	**249**	*e*S	**Sn**	**16 49 15.5**	**+3.1**
WSF	baz=238 **Szhu**	**2.51**	**253**	P	**Pn**	**16 48 44.3**	**+1.1**
WSF	baz=265			*e*S	**Sn**	**16 49 15.0**	**+2.4**
SSD	baz=265 **Sandimen**	**2.60**	**232**	P	**Pn**	**16 48 46.3**	**+1.7**
SSD	baz=229			*e*S	**Sn**	**16 49 16.9**	**+1.8**
CHN8	baz=229 **Yiju**	**2.62**	**247**	*e*P	**Pn**	**16 48 45.4**	**+0.6**
CHN8	baz=248			S	**Sn**	**16 49 17.0**	**+1.6**
MASBT	baz=248 **Mashibuluo**	**2.69**	**229**	P	**Pn**	**16 48 46.8**	**+1.1**
MASBT	baz=228			*e*S	**Sn**	**16 49 18.0**	**+0.9**
TAW	baz=228 **Tawu**	**2.70**	**222**	*e*S	**Sn**	**16 49 15.1**	**-2.3**
EAST	baz=229 **Anshuo**	**2.71**	**223**	*e*P	**Pn**	**16 48 45.3**	**-0.8**
EAST	baz=230			*e*S	**Sn**	**16 49 15.8**	**-1.9**
TWM1	baz=230 **Shoushan**	**2.71**	**235**	*e*P	**Pn**	**16 48 48.8**	**+2.7**
TWM1	baz=247			*e*S	**Sn**	**16 49 21.4**	**+3.7**
SGLT	baz=247 **Jiouru**	**2.72**	**233**	*e*P	**Pn**	**16 48 48.9**	**+2.8**
SGLT	baz=234			*e*S	**Sn**	**16 49 21.4**	**+3.5**
SCZT	baz=234 **Fangliau**	**2.86**	**226**	*e*P	**Pn**	**16 48 50.5**	**+2.3**
SCZT	baz=222			*e*S	**Sn**	**16 49 22.6**	**+1.2**
PTTC	baz=222 **Pingtan**	**3.00**	**292**	*e*P	**Pn**	**16 48 50.3**	**+0.4**
TWKBT	baz=282 **Hengchun**	**3.07**	**218**	*e*P	**Pn**	**16 48 51.4**	**+0.5**
TWKBT	baz=223			*e*S	**Sn**	**16 49 27.2**	**+0.8**
PHUB	**P'eng-hu**	**3.11**	**254**	*e*P	**Pn**	**16 48 51.0**	**-0.5**
PHUB	baz=255			*e*S	**Sn**	**16 49 26.5**	**-1.0**
PNG	baz=255 **Penghu**	**3.11**	**255**	*e*P	**Pn**	**16 48 51.2**	**-0.4**
PNG	baz=256			*e*S	**Sn**	**16 49 26.2**	**-1.3**
WDGT	baz=256 **Dungji**	**3.12**	**250**	*e*P	**Pn**	**16 48 51.6**	**-0.1**
WDGT	baz=250			*e*S	**Sn**	**16 49 27.1**	**-0.6**
VWUC	baz=250 **VWUC**	**3.14**	**282**	*e*P	**Pn**	**16 48 52.3**	**+0.4**
MATB	baz=281 **Ma-tsu**	**3.15**	**304**	*e*P	**Pn**	**16 48 51.7**	**-0.4**
PTMZ	baz=303 **Houxiangcun**	**3.44**	**282**	*e*P	**Pn**	**16 48 56.0**	**0.0**
XPSS	baz=280 **Dashiqiu**	**3.48**	**317**	*e*P	**Pn**	**16 48 58.0**	**+1.4**
LYJJ	baz=316 **Jianjiangzhen**	**3.52**	**308**	*e*P	**Pn**	**16 48 57.2**	**+0.1**
AXDP	baz=298 **Jialang**	**4.46**	**278**	*e*P	**Pn**	**16 49 09.5**	**-0.5**
JOW	baz=276 **Kunigami**	**5.48**	**62**	Pn	**Pn**	**16 49 22.3**	**-1.6**
JOW	4.3nm,0.3s,baz=147,slow=13,SNR=15			Sn	**Sn**	**16 50 24.6**	**-1.1**
JOW	0.8nm,0.3s,baz=118,slow=11,SNR=2.1 **Kunigami**	**5.48**	**62**	*e*Pn	**Pn**	**16 49 22.9**	**-1.1**
JOW				Sn	**Sn**	**16 50 24.6**	**-1.1**
KSAR	**Wonju Array Be**	**13.71**	**17**	Pn	**P**	**16 51 22.8**	**-0.6**
KSRS	**Korea Array**	**13.73**	**17**	Pn	**P**	**16 51 22.8**	**-0.8**
MAJO	0.2nm,0.3s,baz=197,slow=11,SNR=6.1 **Matsushiro**	**17.92**	**44**	*e*P	**Pn**	**16 52 10.9**	**+0.7**
SONA0	75nm,1.7s **Songino Array**	**26.79**	**335**	*e*pP	pP	16 53 54.1	+0.2
SONM	**Songino Array**	**26.79**	**335**	P	pP	16 53 54.1	+0.2
WR1	1.2nm,1.1s,baz=156,slow=12,SNR=4.6 **Warramunga Arr**	**45.47**	**165**	*e*P	**P**	**16 56 18.0**	**-0.5**
WRA	16nm,1.5s **Warramunga Arr**	**45.47**	**165**	P	**P**	**16 56 18.0**	**-0.5**
AS31	2.8nm,0.7s,baz=347,slow=8.9,SNR=36 **Alice Springs**	**48.96**	**167**	*e*P	**P**	**16 56 45.1**	**-0.6**
ASAR	**Alice Springs**	**48.96**	**167**	P	**P**	**16 56 45.7**	**0.0**
	0.6nm,0.6s,baz=350,slow=8.0,SNR=14						

ISCJB ***14*** *16:52:11.8±0.3,52°.03N±0°.06×173°.48W±0°.04, h35km, mb4.3/32, MS3.4/12, Error ellipse: s-maj=8.3km s-min=3.4km az=168.8*

IDC ***14*** *16:52:11.2±4.6,52°.04N×173°.52W, h19km±28km, mb4.2/14, mb1 4.4/15, mb1mx4.0/55, mbtmp4.3/15, ML4.0/1, MS3.4/14, Ms1 3.4/14, ms1mx3.2/45, Error ellipse: s-maj=21.9km s-min=13.7km az=156.0*

NEIC ***14*** *16:52:12.2±1.2,51°.97N×173°.49W, h27km±9km, mb4.3/32, ML4.0(AEIC), Error ellipse: s-maj=9.4km s-min=3.7km az=160.0*

AEIC ***14*** *16:52:12.2±0.0,52°.02N×173°.55W, h23km*

ISC 14 16:52:13.5±0.5, 52°.03N±0°.10×173°.53W±0°.04, h35km, n88, σ1§08/82, mb4.3/32, MS3.2/12, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.45**	**294**	P		**Pn**	**16 52 21.5**	**-1.8**
ATKA				S		**Sn**	**16 52 29.2**	**-1.0**
GSMY	**Great Sitkin M**	**1.56**	**272**	P		**Pn**	**16 52 38.6**	**-0.1**
GSTD	**Great Sitkin T**	**1.61**	**272**	P		**Pn**	**16 52 39.5**	**0.0**
GSTD				S		**Sn**	**16 52 59.7**	**+0.6**
ETKA	**Kagalaska Isla**	**1.79**	**266**	P		**Pn**	**16 52 40.6**	**-1.2**
ADK	**Adak**	**1.96**	**267**	P		**Pn**	**16 52 43.4**	**-0.7**
ADK				S		**Sn**	**16 53 05.9**	**-1.5**
KIMD	**Kanaga Island**	**2.31**	**265**	P		**Pn**	**16 52 48.8**	**-0.2**
KIMD				S		**Sn**	**16 53 20.4**	**+4.3**
TAPA	**Tanaga Point A**	**2.66**	**267**	P		**Pn**	**16 52 54.0**	**+0.1**
TASE	**Tanaga Southea**	**2.80**	**268**	P		**Pn**	**16 52 57.3**	**+1.6**
NIKH	**Nikolski High**	**3.01**	**70**	*e*Pn		**Pn**	**16 52 56.2**	**-2.4**
UNV	**Unalaska Valle**	**4.63**	**64**	P		**Pn**	**16 53 20.5**	**-0.3**
AKMO	**Akutan Morgan**	**4.99**	**63**	P		**Pn**	**16 53 29.0**	**+3.3**
AKUT	**Akutan**	**5.13**	**63**	*e*Pn		**Pn**	**16 53 29.5**	**+1.8**
KDAK	**Kodiak Island**	**13.33**	**56**	LR		LR	17 01 20.9	
CAST	comp=Z,720nm,19.0s,baz=237,slow=41 **Castle Rocks**	**16.07**	**36**	*e*Pn		**Pn**	**16 55 58.3**	**+1.9**
TRF	27nm,1.1s **Thorofare Moun**	**16.76**	**38**	*e*Pn		**Pn**	**16 56 07.0**	**+1.7**
RND	104nm,1.9s **Reindeer**	**17.29**	**39**	*e*Pn		**Pn**	**16 56 12.0**	**+0.2**
MCK	12nm,1.0s **McKinley**	**17.42**	**38**	*e*Pn		**Pn**	**16 56 13.7**	**+0.3**
MLY	69nm,1.6s **Manley**	**17.50**	**33**	*e*Pn		**P**	**16 56 16.6**	**+1.3**
WRH	23nm,1.3s **Wood River Hil**	**18.12**	**37**	*e*Pn		**Pn**	**16 56 21.6**	**-0.4**
CCB	13nm,0.9s **Clear Creek Bu**	**18.32**	**36**	*e*P		**P**	**16 56 22.6**	**-1.7**
MDM	7.8nm,0.8s **Murphy Dome**	**18.33**	**35**	*e*P		**P**	**16 56 25.8**	**+1.4**
HDA	28nm,1.1s **Harding Lake**	**18.52**	**38**	*e*P		**P**	**16 56 25.9**	**-0.6**
ILAR	18nm,1.2s **Eielson Array**	**18.72**	**37**	P		**P**	**16 56 27.2**	**-1.5**
ILAR	0.5nm,0.3s,baz=231,slow=8.9,SNR=35			PcP		**PcP**	**17 00 55.7**	**+0.6**
ILAR	0.1nm,0.3s,baz=242,slow=3.8,SNR=4.4			LR		LR	17 03 07.2	
ILB	comp=Z,110nm,19.4s,baz=254,slow=35 **Eielson Array**	**18.72**	**37**	*e*P		**P**	**16 56 28.2**	**-0.5**
IL1	**Eielson Array**	**18.72**	**37**	*e*P		**P**	**16 56 27.6**	**-1.1**
BILL	**Bilibino**	**18.80**	**336**	P		**Pn**	**16 56 31.4**	**+1.2**
SCRK	14nm,1.2s **Sand Creek**	**19.48**	**41**	*e*P		**P**	**16 56 35.5**	**-1.6**
TOLK	9.9nm,0.9s **Toolik Lake Re**	**20.20**	**26**	*e*P		**P**	**16 56 43.6**	**-1.3**
FYU	31nm,1.1s **Fort Yukon**	**20.24**	**33**	*e*P		**P**	**16 56 46.2**	**+0.9**
EGAK	57nm,1.2s **Eagle**	**20.93**	**40**	*e*P		**P**	**16 56 52.5**	**-0.2**
DAWY	36nm,0.8s **Dawson**	**21.40**	**43**	*e*P		**P**	**16 56 58.6**	**+0.8**
WHY	16nm,1.3s **Whitehorse**	**22.79**	**53**	*e*P		**P**	**16 57 13.0**	**+0.3**
INK	23nm,1.7s **Inuvik**	**25.06**	**34**	P		**P**	**16 57 33.4**	**-0.6**
INK	8.5nm,1.0s,baz=230,slow=12,SNR=9.1			PcP		**PcP**	**17 01 07.6**	**0.0**
INK	1.4nm,0.7s,baz=217,slow=5.1,SNR=4.2			LR		LR	17 08 08.4	
INK	comp=Z,199nm,18.1s,baz=208,slow=38 **Inuvik**	**25.06**	**34**	*e*P		**P**	**16 57 32.3**	**-1.7**
INK	10.0nm,1.1s			PcP		**PcP**	**17 01 07.6**	**0.0**
DLBC	**Dease Lake**	**25.25**	**58**	LR		LR	17 05 53.8	
BBB	comp=Z,88nm,21.6s,baz=266,slow=33 **Bella Bella**	**27.55**	**71**	LR			17 08 37.5	
ASAJ	comp=Z,66nm,18.0s,baz=167,slow=36 **Asahikawa**	**29.97**	**272**	LR		LR	17 12 02.1	
YKA	comp=Z,51nm,19.6s,baz=134,slow=40 **Yellowknife Ar**	**32.39**	**48**	P		**P**	**16 58 38.5**	**-0.8**
YKA	0.8nm,0.6s,baz=275,slow=8.1,SNR=3.1			LR		LR	17 13 24.8	
KLR	comp=Z,38nm,18.3s,baz=280,slow=39 **Kul'dur**	**34.13**	**288**	LR		LR	17 12 47.6	
NEW	comp=Z,33nm,18.1s,baz=286,slow=36 **Newport**	**35.57**	**73**	LR		LR	17 11 28.1	
NEW	comp=Z,44nm,20.5s,baz=249,slow=32 **Newport**	**35.57**	**73**	*e*P		**P**	**16 59 06.8**	**-0.4**
H11N2	5.3nm,0.8s **WAKE ISLAND Hy**	**35.68**	**213**	T		T	17 36 56.6	
H11N3	baz=21,slow=76,SNR=5143 **WAKE ISLAND Hy**	**35.69**	**213**	T		T	17 36 57.2	
H11N1	baz=21,slow=76,SNR=4064 **WAKE ISLAND Hy**	**35.70**	**213**	T		T	17 36 58.1	
USRK	baz=21,slow=76,SNR=4277 **Ussuriysk Ar.**	**36.44**	**280**	PcP		**PcP**	**17 01 38.8**	**+0.8**
H11S1	3.2nm,0.8s,baz=64,slow=4.9,SNR=5.2 **WAKE ISLAND Hy**	**36.88**	**212**	T		T	17 38 26.8	
H11S2	baz=20,slow=76,SNR=731 **WAKE ISLAND Hy**	**36.90**	**212**	T		T	17 38 30.5	
H11S3	baz=20,slow=76,SNR=540 **WAKE ISLAND Hy**	**36.90**	**212**	T		T	17 38 31.3	
PNTR	baz=20,slow=76,SNR=374 **Pine Nut**	**39.03**	**87**	*e*P		**P**	**16 59 36.6**	**-0.2**
YERR	5.1nm,0.7s **Yerington**	**39.31**	**87**	*e*P		**P**	**16 59 39.3**	**+0.2**
MCMT	3.9nm,0.9s **McKenzie Canyo**	**39.85**	**76**	*e*P		**P**	**16 59 43.2**	**-0.4**
NV01	**Mina Array Sit**	**40.23**	**87**	*e*P		**P**	**16 59 46.7**	**-0.1**
NVAR	**Mina Array Bea**	**40.23**	**87**	P		**P**	**16 59 47.1**	**+0.3**
NVAR	1.4nm,0.7s,baz=293,slow=8.4,SNR=9.7			PcP		**PcP**	**17 01 50.8**	**+0.6**
YHH	0.7nm,0.6s,baz=285,slow=3.3,SNR=4.6 **Holmes Hill**	**41.06**	**74**	*e*P		**P**	**16 59 53.3**	**-0.4**
RLMT	5.7nm,0.9s **Red Lodge**	**41.82**	**73**	*e*P		**P**	**16 59 59.6**	**-0.2**
TPNV	10nm,1.1s **Topopah Spring**	**42.43**	**88**	*e*P		**P**	**17 00 04.2**	**-0.5**
DUG	3.5nm,0.8s **Dugway, Tooele**	**42.53**	**81**	*e*P		**P**	**17 00 06.1**	**+0.6**
KSRS	5.8nm,1.1s **Korea Array**	**42.89**	**274**	PcP		**PcP**	**17 01 59.6**	**+1.0**
KSAR	2.7nm,0.8s,baz=49,slow=3.8,SNR=5.0 **Wonju Array Be**	**42.92**	**274**	PcP		**PcP**	**17 01 59.6**	**+0.9**
BW06	**Boulder Array**	**42.98**	**76**	*e*P		**P**	**17 00 08.4**	**-0.9**
PD31	4.8nm,0.9s **Pinedale Array**	**42.98**	**76**	*e*P		**P**	**17 00 08.2**	**-1.1**
PDAR	**Pinedale Array**	**42.98**	**76**	P		**P**	**17 00 08.9**	**-0.4**
PDAR	2.2nm,0.5s,baz=297,slow=3.4,SNR=28 **Pinedale Array**	**42.98**	**76**	*e*P		**P**	**17 00 08.2**	**-1.1**
GSC	**Goldstone, Bar**	**43.15**	**90**	*e*P		**P**	**17 00 09.8**	**-0.7**
W13A	8.1nm,1.3s **Hualapai Mount**	**45.08**	**88**	*e*P		**P**	**17 00 25.7**	**-0.4**
U15A	1.9nm,0.7s **North Rim**	**45.20**	**85**	*e*P		**P**	**17 00 26.8**	**-0.4**
SONM	4.6nm,0.8s **Songino Array**	**49.25**	**299**	P		**P**	**17 00 59.1**	**+0.8**
SONM	0.4nm,0.8s,baz=69,slow=7.9,SNR=2.6			PcP		**PcP**	**17 02 21.0**	**+0.1**
SONM	0.6nm,0.8s,baz=141,slow=2.8,SNR=4.1			ScP		**ScP**	**17 06 14.1**	**+0.9**
T25A	1.2nm,0.8s,baz=53,slow=3.2,SNR=8.0 **Trinidad**	**49.56**	**79**	*e*P		**P**	**17 01 01.4**	**+0.4**
GUMO	12nm,1.2s **Guam**	**50.74**	**236**	LR		LR	17 17 35.3	
N39A	comp=Z,26nm,20.3s,baz=116,slow=30 **Derby Farms, D**	**54.15**	**68**	*e*P		**P**	**17 01 35.3**	**+0.4**
TX31	8.7nm,0.9s **Lajitas Ar. Si**	**55.32**	**85**	*e*P		**P**	**17 01 42.7**	**-0.9**
TXAR	**Lajitas Array**	**55.32**	**85**	P		**P**	**17 01 43.1**	**-0.6**
ZALV	2.2nm,0.7s,baz=300,slow=6.0,SNR=14 **Zalesovo Beam**	**55.91**	**316**	LR		LR	17 27 33.0	
MIAR	comp=Z,44nm,18.0s,baz=76,slow=38 **Mount Ida**	**57.81**	**74**	*e*P		**P**	**17 02 00.9**	**-0.2**
ARCES	13nm,1.3s **ARCESS Array B**	**57.95**	**352**	P		**P**	**17 02 01.8**	**+0.1**
MKAR	2.9nm,0.9s,baz=7.8,slow=7.3,SNR=3.0 **Makanchi Array**	**62.14**	**311**	P		**P**	**17 02 29.6**	**-1.1**
HNR	0.2nm,0.3s,baz=49,slow=5.2,SNR=6.3 **Honiara**	**65.33**	**209**	LR		LR	17 27 08.6	
SIJI	comp=Z,36nm,19.1s,baz=19,slow=32 **Sorong**	**70.08**	**241**	P		**P**	**17 03 21.8**	**-0.2**
CMAR	7.8nm,0.6s,baz=22,slow=9.6,SNR=11 **Chiang Mai Arr**	**74.17**	**280**	P		**P**	**17 03 47.2**	**+0.7**
CM01	2.4nm,0.9s,baz=26,slow=7.0,SNR=18 **Chiang Mai Arr**	**74.19**	**280**	*e*P		**P**	**17 03 46.1**	**-0.5**
AKASG	**Malin Array Be**	**75.85**	**345**	LR		LR	17 41 58.2	
CTA	comp=Z,18nm,19.3s,baz=350,slow=39 **Charters Tower**	**79.92**	**218**	P		**P**	**17 04 18.9**	**+0.3**
WRA	3.3nm,0.7s,baz=46,slow=6.4,SNR=4.3 **Warramunga Arr**	**84.82**	**228**	P		**P**	**17 04 43.2**	**-1.0**
PSI	1.9nm,0.6s,baz=33,slow=5.9,SNR=20 **Prapat**	**86.30**	**270**	*e*P		**P**	**17 04 51.5**	**-0.3**
FITZ	19nm,1.3s **Fitzroy Crossi**	**87.50**	**236**	P		**P**	**17 04 57.3**	**0.0**
ASAR	1.9nm,0.5s,baz=2.6,slow=7.4,SNR=9.6 **Alice Springs**	**88.25**	**227**	P		**P**	**17 05 00.8**	**-0.1**
ASAR	5.1nm,0.8s,baz=30,slow=4.7,SNR=29			LR		LR	17 39 08.0	
STKA	comp=Z,34nm,21.9s,baz=110,slow=32 **Stephens Creek**	**92.33**	**217**	P		**P**	**17 05 20.0**	**+0.3**
MAW	3.0nm,0.8s,baz=4.7,slow=2.3,SNR=3.8 **Mawson**	**149.01**	**218**	PKPbc		**PKPbc**	**17 11 56.6**	**+0.4**
	3.5nm,0.9s,baz=252,slow=3.2,SNR=6.0							

MAN ***14*** *16:56:25.6, 18°.26N×119°.65E, h15km, mb5.2, ML4.1, MS4.3*

IDC ***14*** *16:56:25.2±1.5, 17°.96N×119°.99E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.4/48, mbtmp3.6/4, Error ellipse: s-maj=41.2km s-min=28.0km az=69.0*

ISCJB ***14*** *16:56:26.9±0.9, 18°.19N±0°.05×119°.63E±0°.07, h32km, mb3.5/2, Error ellipse: s-maj=10.1km s-min=7.5km az=9.8*

ISC 14 16:56:28.5±1.1, 18°.05N±0°.06×119°.81E±0°.07, h32km, n14, σ1§77/18, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.95**	**115**	*e*P		**Pn**	**16 56 46.2**	**-0.2**
APYP	**Conner**	**1.38**	**98**	*e*P		**Pn**	**16 56 51.9**	**+0.3**
CVP	**Callao Caves**	**1.95**	**100**	*e*P		**Pn**	**16 57 00.4**	**+1.1**
SMPP	**San Manuel, Pa**	**2.07**	**156**	*e*P		**Pn**	**16 57 02.1**	**+1.0**
SMPP				*e*S		**Sb**	**16 57 29.2**	**-1.5**
SGCP	**Mt. Cagua**	**2.13**	**85**	*e*P		**Pn**	**16 57 03.6**	**+1.6**
SGCP				*e*S		**Sb**	**16 57 31.9**	**-0.8**
CAUP	**Cauayan**	**2.21**	**120**	*e*P		**Pb**	**16 57 06.5**	**-1.4**
CAUP				*e*S		**Sb**	**16 57 36.8**	**+1.9**
SCZP	**Santa Cruz**	**2.27**	**178**	*e*P		**Sn**	**16 57 32.8**	**+2.3**
SCZP				*e*S		**Sb**	**16 57 34.8**	**-1.6**
PALP	**Palanan**	**2.68**	**111**	*e*P		**Pb**	**16 57 12.9**	**-3.0**
BALP	**Baler**	**2.85**	**143**	*e*P		**Pb**	**16 57 15.3**	**-3.5**
BBP	**Basco**	**3.13**	**40**	*e*P		**Pn**	**16 57 14.4**	**-1.3**
CMAR	**Chiang Mai Arr**	**19.82**	**274**	P		**Pn**	**17 00 59.6**	**+1.1**
KSRS	0.3nm,0.8s,baz=102,slow=7.5,SNR=3.6 **Korea Array**	**20.60**	**19**	P		**P**	**17 01 06.0**	**+1.1**
WRA	2.9nm,1.0s,baz=201,slow=11,SNR=4.6 **Warramunga Arr**	**40.36**	**159**	P		**P**	**17 04 03.1**	**-0.4**
ASAR	0.4nm,0.5s,baz=341,slow=9.0,SNR=20 **Alice Springs**	**43.69**	**161**	P		**P**	**17 04 31.4**	**+0.7**
	0.7nm,0.4s,baz=326,slow=6.4,SNR=8.1							

MAN 14 16:59:09.3, 5°.29N×125°.84E, h10km, mb4.7, ML3.6, MS3.5, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.82**	**351**	*e*P		Pn	16 59 34.3	+7.4
DDMP				*e*S		Sn	16 59 43.6	+4.6
SKMP	**Bagumbayan, Su**	**1.77**	**313**	*e*P		Pn	16 59 39.4	-0.6
SKMP				*e*S		Sn	16 59 52.7	-10
BUKP	**Musuan**	**2.68**	**343**	*e*P		Pn	16 59 53.1	+0.5
BUKP				*e*S		Sn	17 00 26.2	+1.1
PAGZ	**Pagadian**	**3.52**	**316**	*e*P		Pn	17 00 06.2	+2.1
PAGZ				*e*S		Sn	17 00 47.6	+1.8

NIED ***14*** *17:19:00, 36°.40N×141°.10E, h5km, Mw4.3 Best double couple: M0 2.73000×10^15 NP1:φs345.00000°, δ25.00000°, λ-74.00000°. NP2:φs148.00000°, δ66.00000°, λ-97.00000°.*

IDC ***14*** *17:19:23.6±0.6, 36°.37N×140°.84E, h0km, mb4.3/19, mb1 4.4/20, mb1mx4.3/40, mbtmp4.2/20, MS3.4/10, Ms1 3.5/10, ms1mx3.1/43, Error ellipse: s-maj=16.5km s-min=15.7km az=99.0*

JMA ***14*** *17:19:25.3±0.1, 36°.42N×141°.00E, h17km±1km, M4.5 Broadband fault plane solution: P waves. NP1: φs152.00000°, δ67.00000°, λ-139.00000°. NP2: φs43.00000°, δ52.00000°, λ-29.00000°. Principal axes: T Plg9.0000°, Azm274.0000°; N Plg44.0000°, Azm175.0000°; P Plg45.0000°, Azm13.0000°;*

JMA Felt II J1.

ISCJB ***14*** *17:19:27.1±0.2, 36°.41N±0°.04×140°.86E±0°.04, h32km, mb4.4/51, MS3.5/7 Error ellipse: s-maj=5.2km s-min=4.1km az=159.0*

NEIC ***14*** *17:19:31.0±0.9, 36°.35N×140°.79E, h54km±8km, mb4.5/31, Error ellipse: s-maj=6.2km s-min=5.4km az=185.0*

NEIC Recorded [2 JMA] in Ibaraki and Tochigi.

**ISC 14

JIHU	**Itakohorinouch**	**0.58**	**211**	P	**Pb**	**17 19 37.5**	**-2.8**
JYT	**Yasato**	**0.61**	**248**	⇑P	**Pb**	**17 19 38.2**	**-2.7**
JYT				S	**Sb**	**17 19 48.0**	**-1.3**
ONAJ	**Iwakimizuishiy**	**0.64**	**353**	⇓P	**Pn**	**17 19 38.6**	**-2.9**
ONAJ				S	**Sb**	**17 19 48.6**	**-1.6**
JSMT	**Sammumatsuo**	**0.90**	**204**	P	**Pn**	**17 19 42.9**	**-1.9**
JFK	**Kawauchi**	**0.90**	**359**	⇓P	**Pn**	**17 19 42.1**	**-2.9**
JSB	**Shiboa**	**0.93**	**303**	⇑P	**Pn**	**17 19 44.8**	**-0.6**
JSB				S	**Sb**	**17 19 58.7**	**+0.4**
MAJO	**Matsushiro**	**2.17**	**273**	*e*Pn	**Pn**	**17 20 03.5**	**+1.1**
MAT	**Matsushiro**	**2.17**	**273**	P	**Pn**	**17 20 03.0**	**+0.6**
MAT				S	**Sb**	**17 20 32.9**	**-0.7**
INU	**Inuyama**	**3.34**	**252**	*e*Pn	**Pn**	**17 20 19.7**	**+1.2**
JNU	**Nakatsue** comp=Z,132nm,19.7s,baz=44,slow=37	**8.89**	**251**	LR	LR	17 24 47.3	
USRK	**Ussuriysk Ar.** baz=108,slow=18	**10.29**	**321**	Pn	**Pn**	**17 21 52.9**	**-0.9**
KSRS	**Korea Array** 0.1nm,0.3s,baz=90,slow=14,SNR=2.7	**10.43**	**279**	Pn	**Pn**	**17 21 58.2**	**+2.4**
KSRS				LR	LR	17 25 52.9	
	comp=Z,141nm,18.6s,baz=78,slow=37						
KSAR	**Wonju Array Be**	**10.46**	**279**	Pn	**Pn**	**17 21 58.2**	**+2.0**
JOW	**Kunigami** comp=Z,118nm,22.0s,baz=9.5,slow=36	**14.40**	**232**	LR	LR	17 28 03.1	
PETK	**Petropavlovsk-** comp=Z,87nm,19.8s,baz=219,slow=36	**20.39**	**30**	LR	LR	17 31 47.9	
YAK	**Yakutsk** comp=Z,72nm,21.3s,baz=254,slow=36	**26.54**	**348**	LR	LR	17 35 22.8	
ENH	**Enshi** 9.7nm,0.8s	**26.87**	**266**	*e*P	**P**	**17 25 05.3**	**-1.1**
SONA0	**Songino Array**	**27.77**	**305**	*e*P	**P**	**17 25 13.6**	**-0.8**
SONM	**Songino Array** 1.3nm,0.6s,baz=114,slow=7.7,SNR=4.2	**27.77**	**305**	P	**P**	**17 25 13.6**	**-0.8**
SONM				LR	LR	17 35 56.6	
	comp=Z,66nm,18.7s,baz=187,slow=36						
H11N2	**WAKE ISLAND Hy** baz=312,slow=75,SNR=344	**28.22**	**119**	T	T	17 54 39.5	
H11N1	**WAKE ISLAND Hy** baz=312,slow=75,SNR=367	**28.23**	**119**	T	T	17 54 40.0	
H11N3	**WAKE ISLAND Hy** baz=312,slow=75,SNR=381	**28.24**	**119**	T	T	17 54 40.8	
H11S1	**WAKE ISLAND Hy** baz=314,slow=76,SNR=4327	**28.91**	**121**	T	T	17 55 28.5	
H11S3	**WAKE ISLAND Hy** baz=314,slow=76,SNR=2045	**28.91**	**121**	T	T	17 55 27.8	
H11S2	**WAKE ISLAND Hy** baz=314,slow=76,SNR=1985	**28.92**	**121**	T	T	17 55 29.3	
GTA	**Gaotai**	**32.34**	**288**	*e*P	**P**	**17 25 58.6**	**+3.7**
GTA				pP	pP	17 26 03.3	-0.9
GTA				sP	sP	17 26 05.8	-2.3
GTA	comp=Z,3.0nm,0.8s			pmax	pmax		
TIXI	**Tiksi** comp=Z,6.0nm,1.0s	**35.81**	**354**	*e*P	**P**	**17 26 24.0**	**-0.4**
CMAR	**Chiang Mai Arr** comp=Z,0.4nm,0.3s,baz=57,slow=8.7,SNR=4.4	**40.95**	**256**	P	**P**	**17 27 08.1**	**-0.2**
CMAR				LR	LR	17 46 12.8	
	comp=Z,56nm,18.8s,baz=141,slow=39						
ZAA0	**Zalesovo Array** comp=Z,11nm,0.6s	**41.99**	**313**	*e*P	**P**	**17 27 16.9**	**+0.5**
ZAA1	**Zalesovo Array**	**41.99**	**313**	*e*P	**P**	**17 27 16.5**	**0.0**
ZALV	**Zalesovo Beam** comp=Z,11nm,0.6s,baz=90,slow=2,SNR=30	**41.99**	**313**	P	**P**	**17 27 16.5**	**0.0**
NRIK	**Noril'sk** comp=Z,69nm,19.2s,baz=3.0,slow=38	**43.61**	**336**	LR	LR	17 47 04.1	
MK01	**Makanchi Array**	**44.07**	**302**	*e*P	**P**	**17 27 33.5**	**+0.1**
MK31	**Makanchi Array**	**44.07**	**303**	*e*P	**P**	**17 27 33.3**	**-0.1**
MK32	**Makanchi Array**	**44.07**	**303**	*e*P	**P**	**17 27 33.4**	**0.0**
MKAR	**Makanchi Array** comp=Z,3.6nm,0.8s,baz=84,slow=10,SNR=11	**44.07**	**303**	P	**P**	**17 27 33.4**	**0.0**
MKAR	**Makanchi Array** comp=Z,18nm,0.8s	**44.07**	**303**	*e*P	**P**	**17 27 33.0**	**-0.4**
KURK	**Kurchatov** comp=Z,13nm,0.7s	**45.96**	**308**	*e*P	**P**	**17 27 48.3**	**0.0**
RAMN	**Ramite** comp=Z,30nm,0.7s	**46.63**	**274**	*e*P	**P**	**17 27 54.3**	**+0.1**
JIRN	**Jiri** comp=Z,38nm,0.8s	**46.66**	**275**	*e*P	**P**	**17 27 55.2**	**+0.7**
GUN	**Gumba** comp=Z,31nm,1.0s	**46.80**	**276**	*e*P	**P**	**17 27 56.4**	**+0.8**
PKI	**Pulchoki** comp=Z,11nm,0.7s	**47.32**	**276**	*e*P	**P**	**17 27 59.6**	**-0.1**
PKIN	**Phulchoki** comp=Z,6.8nm,0.7s	**47.33**	**276**	*e*P	**P**	**17 27 59.5**	**-0.2**
KKN	**Kakani** comp=Z,15nm,0.9s	**47.33**	**276**	*e*P	**P**	**17 28 00.1**	**+0.5**
KDAK	**Kodiak Island** comp=Z,8.8nm,0.8s,baz=248,slow=8.3,SNR=4.1	**47.80**	**42**	P	**P**	**17 28 03.1**	**+0.6**
DANN	**Dangsing** comp=Z,58nm,0.7s	**48.31**	**278**	*e*P	**P**	**17 28 08.0**	**+0.7**
KOLN	**Koldanda** comp=Z,9.3nm,0.8s	**48.69**	**277**	*e*P	**P**	**17 28 10.8**	**+0.7**
PYUN	**Piuthan** comp=Z,58nm,1.1s	**49.03**	**278**	*e*P	**P**	**17 28 13.2**	**+0.4**
ILAR	**Eielson Array** comp=Z,2.8nm,0.7s,baz=267,slow=6.6,SNR=17	**50.20**	**32**	P	**P**	**17 28 21.2**	**+0.3**
KK31	**Karatay Array**	**53.05**	**300**	*e*P	**P**	**17 28 42.9**	**+0.4**
KKAR	**Karatay Array**	**53.05**	**300**	*e*P	**P**	**17 28 42.9**	**+0.4**
INK	**Inuvik** comp=Z,2.7nm,0.6s,baz=307,slow=9.8,SNR=3.6	**55.08**	**27**	P	**P**	**17 28 58.4**	**+1.5**
INK	**Inuvik** comp=Z,8.2nm,1.2s	**55.08**	**27**	*e*P	**P**	**17 28 58.4**	**+1.5**
WB2	**Warramunga Arr**	**56.44**	**187**	*e*P	**P**	**17 29 06.0**	**-1.1**
WR1	**Warramunga Arr**	**56.44**	**187**	*e*P	**P**	**17 29 06.0**	**-1.1**
WRA	**Warramunga Arr** comp=Z,3.1nm,0.8s,baz=5.2,slow=7.5,SNR=52	**56.44**	**187**	P	**P**	**17 29 06.0**	**-1.2**
ARU	**Arti** comp=Z,8.0nm,0.7s	**56.51**	**319**	*e*P	**P**	**17 29 06.5**	**-0.8**
ABKAR	**Akbulak array**	**57.99**	**310**	*e*P	**P**	**17 29 17.9**	**0.0**
AS01	**Alice Springs**	**60.16**	**187**	*e*P	**P**	**17 29 31.8**	**-1.3**
AS31	**Alice Springs** comp=Z,1.2nm,0.9s	**60.17**	**187**	*e*P	**P**	**17 29 32.2**	**-1.0**
ASAR	**Alice Springs** comp=Z,1.6nm,0.7s,baz=13,slow=7.1,SNR=21	**60.17**	**187**	P	**P**	**17 29 32.2**	**-1.0**
STKA	**Stephens Creek** comp=Z,2.3nm,1.0s,baz=1.2,slow=10.0,SNR=3.9	**67.99**	**179**	P	**P**	**17 30 24.3**	**0.0**
FIA0	**FINESS Array S**	**69.12**	**332**	*e*P	**P**	**17 30 31.6**	**+0.4**
FINES	**FINESS Array B** comp=Z,3.6nm,0.8s,baz=60,slow=5.5,SNR=4.4	**69.12**	**332**	P	**P**	**17 30 31.6**	**+0.4**
KBZ	**Khabaz** comp=Z,2.7nm,0.8s,baz=74,slow=2.5,SNR=5.2	**70.96**	**311**	P	**P**	**17 30 43.2**	**+0.5**
KIV	**Kislovodsk** comp=Z,14nm,0.7s	**70.97**	**311**	*e*P	**P**	**17 30 44.2**	**+1.3**
PINE	**Pine Mountain** comp=Z,7.8nm,1.0s	**71.02**	**49**	*e*P	**P**	**17 30 44.9**	**+1.5**
BEKR	**Beckworth** comp=Z,4.8nm,1.0s	**73.53**	**52**	*e*P	**P**	**17 30 58.9**	**+0.5**
AKASG	**Malin Array Be** comp=Z,3.6nm,0.7s,baz=46,slow=5.9,SNR=3.9	**74.49**	**322**	P	**P**	**17 31 03.5**	**-0.1**
KIEV	**Kiev** comp=Z,7.9nm,0.9s	**74.51**	**322**	*e*P	**P**	**17 31 03.1**	**-0.5**
NB2	**NORSAR Subarra** comp=Z,2.5nm,0.7s,baz=41,slow=5.9	**74.55**	**337**	P	**P**	**17 31 04.3**	**+0.5**
NB200	**NORSAR Array S**	**74.55**	**337**	*e*P	**P**	**17 31 04.4**	**+0.5**
NOA	**NORSAR Array B** comp=Z,1.3nm,0.6s,baz=40,slow=6.0,SNR=4.9	**74.55**	**337**	P	**P**	**17 31 04.4**	**+0.5**
HRY	**Holter Researc**	**74.65**	**43**	*e*P	**P**	**17 31 06.0**	**+1.3**
YERR	**Yerington** comp=Z,4.9nm,0.9s	**74.74**	**53**	*e*P	**P**	**17 31 06.1**	**+0.5**
LRM	**Limekiln Ridge**	**74.84**	**44**	*e*P	**P**	**17 31 07.7**	**+1.6**
DLMT	**Dillon** comp=Z,17nm,1.4s	**75.04**	**44**	*e*P	**P**	**17 31 08.5**	**+1.5**
BMN	**Battle Mountai** comp=Z,3.2nm,0.8s	**75.19**	**51**	*e*P	**P**	**17 31 07.8**	**-0.3**
KVN	**Kaiserville** comp=Z,3.6nm,0.8s	**75.44**	**52**	*e*P	**P**	**17 31 11.0**	**+1.4**
NVAR	**Mina Array Bea** comp=Z,2.5nm,0.7s,baz=283,slow=5.6,SNR=15	**75.66**	**53**	P	**P**	**17 31 11.8**	**+1.0**
NV11	**Mina Array Sit** comp=Z,1.0nm,1.7s	**75.76**	**53**	*e*P	**P**	**17 31 10.3**	**-1.0**
YHB	**Horse Butte** comp=Z,19nm,1.5s	**76.20**	**44**	*e*P	**P**	**17 31 14.8**	**+1.0**
YHH	**Holmes Hill** comp=Z,10nm,1.6s	**76.37**	**44**	*e*P	**P**	**17 31 15.3**	**+0.4**
H17A	**Grant Village** comp=Z,6.3nm,0.9s	**76.77**	**44**	*e*P	**P**	**17 31 16.5**	**-0.6**
HVU	**Hansel Valley** comp=Z,3.4nm,0.9s	**77.10**	**47**	*e*P	**P**	**17 31 20.9**	**+2.0**
R11A	**Troy Canyon, C** comp=Z,4.4nm,1.2s	**77.44**	**52**	*e*P	**P**	**17 31 22.2**	**+1.3**
TPNV	**Topopah Spring** comp=Z,4.7nm,1.1s	**77.85**	**53**	*e*P	**P**	**17 31 24.3**	**+1.1**
HWUT	**Hardware Ranch** comp=Z,7.6nm,1.4s	**77.92**	**47**	*e*P	**P**	**17 31 25.5**	**+2.0**
DUG	**Dugway, Tooele** comp=Z,4.9nm,0.8s	**78.04**	**49**	*e*P	**P**	**17 31 24.5**	**+0.4**
PD31	**Pinedale Array**	**78.36**	**45**	*e*P	**P**	**17 31 26.4**	**+0.4**
PDAR	**Pinedale Array** comp=Z,1.3nm,0.6s,baz=278,slow=2.4,SNR=10	**78.36**	**45**	P	**P**	**17 31 26.4**	**+0.4**
PDAR	**Pinedale Array**	**78.36**	**45**	*e*P	**P**	**17 31 26.2**	**+0.2**
PSUT	**Pine Spring** comp=Z,12nm,1.7s	**78.42**	**51**	*e*P	**P**	**17 31 27.7**	**+1.4**
BUR08	**Bucovina Ar. S**	**78.49**	**322**	*e*P	**P**	**17 31 27.3**	**+0.8**
BUR04	**Bucovina Ar. S**	**78.50**	**322**	*e*P	**P**	**17 31 27.1**	**+0.6**
BR101	**Keskin Array S**	**78.92**	**311**	*e*P	**P**	**17 31 29.9**	**+0.8**
BRTR	**Keskin Array B** comp=Z,2.7nm,0.9s,baz=33,slow=5.5,SNR=3.5	**78.92**	**311**	P	**P**	**17 31 29.9**	**+0.8**
MLR	**Mumtele Rosu** comp=Z,51nm,19.8s,baz=250,slow=38	**79.55**	**320**	LR	LR	18 10 25.9	
P17A	**Butcher Ranch,** comp=Z,5.2nm,0.7s	**79.74**	**48**	*e*P	**P**	**17 31 35.5**	**+1.9**
KNB	**Kanab** comp=Z,21nm,1.9s	**79.99**	**51**	*e*P	**P**	**17 31 34.9**	**0.0**
SRU	**San Rafael Swe** comp=Z,4.7nm,0.6s	**80.10**	**48**	*e*P	**P**	**17 31 36.5**	**+0.9**
RAYN	**Ar Rayn** comp=Z,3.2nm,0.8s	**80.49**	**292**	*e*P	**P**	**17 31 36.6**	**-1.1**
U15A	**North Rim** comp=Z,3.0nm,1.0s	**80.69**	**51**	*e*P	**P**	**17 31 39.4**	**+0.6**
VRAC	**Vranov** comp=Z,57nm,18.1s,baz=224,slow=37	**81.37**	**327**	LR	LR	18 09 11.2	
CLL	**Collm** comp=Z,4.9nm,0.9s	**81.38**	**330**	*e*P	**P**	**17 31 42.9**	**+1.0**
CLL	**Collm**	**81.38**	**330**	*e*P	**P**	**17 31 42.0**	**+0.1**
CLL				*i* Pmax		17 31 46.7	
	comp=Z,7.0nm,1.1s						
GERES	**GERESS Array B** comp=Z,1.4nm,0.8s,baz=359,slow=6.9,SNR=2.5	**82.98**	**328**	P	**P**	**17 31 50.8**	**+0.3**
GEA0	**GERESS Array S**	**82.98**	**328**	*e*P	**P**	**17 31 53.0**	**+2.5**
ANMO	**Albuquerque** comp=Z,0.7nm,0.3s,baz=315,slow=7.1,SNR=3.0	**85.27**	**50**	P	**P**	**17 32 02.9**	**+0.4**
LTX	**Lajitas**	**90.80**	**52**	*e*P	**P**	**17 32 29.5**	**+0.6**
TX31	**Lajitas Ar. Si**	**90.80**	**52**	*e*P	**P**	**17 32 29.7**	**+0.8**
TXAR	**Lajitas Array** comp=Z,1.4nm,0.7s,baz=289,slow=3.8,SNR=7.5	**90.80**	**52**	P	**P**	**17 32 29.5**	**+0.6**
LPAZ	**La Paz** comp=Z,2.5nm,0.6s,baz=18,slow=7.3,SNR=9.3	**147.34**	**60**	PKPbc	**PKPbc**	**17 39 10.3**	**+0.2**
LPAZ	**La Paz**	**147.34**	**60**	*e*PKPbc	**PKPbc**	**17 39 10.6**	**+0.5**

*PGC **14** 17:24:03.6,51.°64N×131.°18W,h19km, 184km Sse of Sandspit, Bc Haida Gwaii Region*

IDC 14 17:24:00.1±3.0, 51.°00N×130.°48W, h0km, mb1 4.0/4, mb1mx3.5/39, mbtmp3.7/4, ML3.5/5, Error ellipse: s-maj=56.1km s-min=18.4km az=63.0, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBB	**Bella Bella** 14nm,0.3s,baz=247,slow=14,SNR=50	**1.89**	**50**	Pn	Pn	17 24 27.2	-6.3
BBB				Sn	Sn	17 24 51.3	-6.8
	194nm,0.3s,baz=130,slow=20,SNR=10						
DLBC	**Dease Lake** 1.2nm,0.3s,baz=204,slow=11,SNR=8.6	**7.46**	**2**	Pn	Pn	17 25 51.2	+1.1
DLBC				Lg	Lg	17 27 42.7	
	0.7nm,0.3s,baz=295,slow=24,SNR=4.5						
YKA	**Yellowknife Ar** 0.2nm,0.3s,baz=220,slow=12,SNR=4.7	**14.38**	**31**	Pn	Pn	17 27 21.1	-3.6
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=315,slow=11,SNR=3.6	**15.23**	**141**	Pn	P	17 27 39.9	-1.8
ILAR	**Eielson Array** 0.0nm,0.3s,baz=145,slow=10,SNR=4.7	**16.25**	**334**	Pn	Pn	17 27 49.1	-0.3
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=302,slow=8.5,SNR=7.3	**16.46**	**112**	Pn	Pn	17 27 53.8	+1.3
H11N2	**WAKE ISLAND Hy** baz=41,slow=76,SNR=70	**57.74**	**262**	T	T	18 36 32.4	
H11N3	**WAKE ISLAND Hy** baz=41,slow=76,SNR=62	**57.74**	**262**	T	T	18 36 36.1	
H11N1	**WAKE ISLAND Hy** baz=41,slow=76,SNR=50	**57.75**	**262**	T	T	18 36 36.3	

GUC 14 17:39:20.2±0.5, 36.°51S×72.°09W, h109km±3km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCHI	**Chillan**	**0.09**	**175**	*e*P	Pn	17 39 34.8	-0.5
CCHI				*i* S	Sn	17 39 46.2	-0.4
CCHI				IAML		17 39 47.9	
	comp=E,2μm,0.9s						
GO05	**HualaæØ**	**1.50**	**5**	*e*P	Pn	17 39 46.6	-0.5
GO05				*i* S	Sn	17 40 06.9	-0.5
GO05				IAML		17 40 10.5	
	comp=E,2μm,0.3s						
LMEL	**Las Melosas**	**3.07**	**31**	*e*P	Pn	17 40 07.5	+0.2
LMEL				*i* S	Sn	17 40 42.9	-0.7
CLCH	**Cerro Calan**	**3.36**	**23**	*e*P	Pn	17 40 11.1	0.0
CLCH				*i* S	Sn	17 40 49.8	-0.5
FCH	**Farellones**	**3.50**	**25**	*e*P	Pn	17 40 13.2	0.0
FCH				*i* S	Sn	17 40 53.6	-0.5
PEL	**Peldehue**	**3.55**	**19**	*e*P	Pn	17 40 13.7	+0.1
PEL				*i* S	Sn	17 40 54.5	-0.3
ROCH	**El Roble**	**3.64**	**14**	*e*P	Pn	17 40 15.1	+0.2
ROCH				*i* S	Sn	17 40 58.5	+1.3

MEX 14 17:50:57.1±0.4, 13.°83N×92.°80W, h34km±112km, MD3.7, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.90**	**348**	*e*P	Pn	17 51 25.3	-1.9
PCIG				*i* S	Sn	17 51 47.9	-2.1
CCIG	**Comitan**	**2.52**	**15**	*e*P	Pn	17 51 33.5	-2.3
CCIG				*e*S	Sn	17 52 03.8	-1.6
TGIG		**2.94**	**354**	*e*P	Pn	17 51 40.4	-1.2
TGIG				*e*S	Sn	17 52 13.1	-2.7

IDC 14 17:58:04.7±3.8, 29.°21N×80.°39E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.2/44, mbtmp3.3/4, ML3.7/1, Error ellipse: s-maj=124.7km s-min=39.6km az=71.0, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=184,slow=11,SNR=10	**17.62**	**4**	P	Pn	18 02 12.1	+0.5
CMAR	**Chiang Mai Arr** 0.4nm,0.6s,baz=320,slow=11,SNR=5.5	**20.03**	**118**	P	P	18 02 40.1	+0.8
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=323,slow=6.2,SNR=4.5	**71.37**	**127**	P	P	18 09 26.3	-0.5
ASAR	**Alice Springs** 0.3nm,0.8s,baz=319,slow=6.3,SNR=3.3	**73.57**	**130**	P	P	18 09 40.1	+0.2

*IDC **14** 18:11:54.4±1.3, 10.°53N×126.°58E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/39, mbtmp3.8/8, MS3.6/1, Ms1 3.6/1, ms1mx2.6/39, Error ellipse: s-maj=145.3km s-min=17.1km az=68.0*

*MAN **14** 18:11:55.2, 10.°79N×126.°97E, h27km, mb5.1, ML4.1, MS4.2*

*ISCJB **14** 18:11:58.4±0.5, 10.°70N±0.°04×126.°82E±0.°06, h44km, mb4.0/12, MS3.6/1, Error ellipse: s-maj=8.2km s-min=5.6km az=168.0*

*NEIC **14** 18:11:59.2±0.6, 10.°43N×126.°60E, h35km, mb4.5/4, Error ellipse: s-maj=45.2km s-min=8.5km az=71.0*

ISC 14 18:12:00.4±0.7, 10.°73N±0.°05×126.°81E±0.°10, h44km, n31, σ1$49/37, mb4.2/12, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**1.60**	**303**	*e*P	**Pn**	**18 12 23.5**	**-2.8**
BESP				*e*S	**Sn**	**18 12 44.8**	**-1.0**
PLP	**Palo**	**1.85**	**284**	⇑*e*P	**Pn**	**18 12 27.6**	**-2.1**
MSLP	**Maasin**	**2.01**	**253**	*e*P	**Pn**	**18 12 29.9**	**-2.0**
BUTP	**Butuan**	**2.10**	**214**	*e*P	**Pn**	**18 12 30.3**	**-2.9**
BUTP				*e*S	**Sn**	**18 12 57.3**	**-0.8**
OCLP	**Ormoc**	**2.19**	**279**	*e*P	**Pn**	**18 12 34.8**	**+0.5**
CNP	**Catarman**	**2.75**	**310**	*e*P	**Pn**	**18 12 39.8**	**-2.3**
CNP				*e*S	**Sn**	**18 13 13.4**	**-0.7**
BUKP	**Musuan**	**3.32**	**212**	*e*P	**Pn**	**18 12 49.4**	**-0.5**
BUKP				*e*S	**Sn**	**18 13 29.9**	**+1.8**
PVCP	**Virac**	**3.86**	**318**	*e*P	**Pn**	**18 12 54.7**	**-2.5**
RCP	**Roxas**	**4.08**	**282**	⇑*e*P	**Pn**	**18 13 01.4**	**+1.2**
GUIM	**Jordan**	**4.15**	**269**	*e*P	**Pn**	**18 12 58.8**	**-2.5**
TNTI	**Ternate**	**9.90**	**177**	*e*Pn	Pn	18 14 12.4	-7.9
WR1	**Warramunga Arr** 16nm,1.6s	**31.36**	**166**	*e*P	**P**	**18 18 15.2**	**-1.9**
WR1				*e*PcP	**PcP**	**18 21 10.8**	**+0.5**
WRA	**Warramunga Arr** 0.3nm,0.6s,baz=347,slow=9.2,SNR=5.0	**31.36**	**166**	P	**P**	**18 18 15.2**	**-1.9**
WRA				PcP	**PcP**	**18 21 10.8**	**+0.5**
	0.3nm,0.5s,baz=343,slow=3.1,SNR=7.2						
ASAR	**Alice Springs** 0.4nm,0.5s,baz=353,slow=7.1,SNR=12	**34.88**	**169**	P	**P**	**18 18 46.4**	**-1.4**
ASAR				PcP	**PcP**	**18 21 20.6**	**+0.4**
	0.3nm,0.5s,baz=336,slow=2.2,SNR=7.7						
SONA0	**Songino Array**	**40.78**	**339**	*e*P	**P**	**18 19 38.9**	**+1.4**
SONM	**Songino Array** 0.5nm,0.7s,baz=138,slow=9.0,SNR=4.2	**40.78**	**339**	P	**P**	**18 19 38.9**	**+1.4**
STKA	**Stephens Creek** 0.5nm,0.4s,baz=341,slow=12,SNR=2.9	**44.66**	**162**	P	**P**	**18 20 08.5**	**-0.5**
STKA				LR	LR	18 44 27.8	
	comp=Z,72nm,18.5s,baz=217,slow=44						
MK01	**Makanchi Array**	**51.97**	**322**	*e*P	**P**	**18 21 06.7**	**+1.4**
MK32	**Makanchi Array**	**51.99**	**322**	*e*P	**P**	**18 21 06.6**	**+1.3**
MKAR	**Makanchi Array** 2.2nm,0.8s,baz=120,slow=7.5,SNR=14	**51.99**	**322**	P	**P**	**18 21 06.6**	**+1.3**
ZALV	**Zalesovo Beam** 0.9nm,0.6s,baz=123,slow=5.5,SNR=4.6	**54.49**	**331**	P	**P**	**18 21 22.7**	**-0.8**
ZAA1	**Zalesovo Array**	**54.49**	**331**	*e*P	**P**	**18 21 22.7**	**-0.8**
KURK	**Kurchatov** 4.5nm,0.7s	**56.00**	**325**	*e*P	**P**	**18 21 35.8**	**+1.4**
KK31	**Karatay Array**	**58.31**	**314**	*e*P	**P**	**18 21 51.8**	**+0.8**
KKAR	**Karatay Array**	**58.31**	**314**	*e*P	**P**	**18 21 51.8**	**+0.8**
TIXI	**Tiksi** 2.8nm,1.0s	**60.89**	**1**	*e*P	**P**	**18 22 09.0**	**+0.9**
BRVK	**Borovoye** 3.0nm,0.7s	**61.67**	**325**	*e*P	**P**	**18 22 14.5**	**+0.7**
BR101	**Keskin Array S**	**85.66**	**309**	*e*P	**P**	**18 24 35.0**	**0.0**
BRTR	**Keskin Array B** 0.9nm,0.7s,baz=64,slow=5.6,SNR=5.7	**85.66**	**309**	P	**P**	**18 24 35.0**	**0.0**
FIA0	**FINESS Array S**	**85.74**	**332**	*e*P	**P**	**18 24 35.2**	**+0.5**
FINES	**FINESS Array B** 3.3nm,0.9s,baz=94,slow=4.8,SNR=11	**85.74**	**332**	P	**P**	**18 24 35.2**	**+0.5**

MAN 14 18:21:00.3, 10.°13N×122.°26E, h24km, mb4.7, ML3.6, MS3.5, 2C, Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.59**	**33**	*e*P	Pb	18 21 12.0	+0.1
GUIM				*e*S	Sn	18 21 22.6	+0.6
JAP	**San Jose, Anti**	**0.68**	**333**	⇑*e*P	Pn	18 21 16.7	+2.2
CUYO	**Cuyo Island**	**1.41**	**300**	*e*P	Pn	18 21 25.3	+0.7
CUYO				*e*S	Sb	18 21 43.1	-0.5
RCP	**Roxas**	**1.50**	**19**	⇑*e*P	Pb	18 21 30.1	+2.7
RCP				*e*S	Sb	18 21 50.8	+4.8
LLP	**Lapu-Lapu**	**1.69**	**84**	*e*P	Pn	18 21 29.4	+1.1
LLP				*e*S	Sn	18 21 50.1	+0.9
OCLP	**Ormoc**	**2.48**	**68**	*e*P	Pn	18 21 40.9	+1.6
PAGZ	**Pagadian**	**2.53**	**154**	*e*P	Pn	18 21 40.2	+0.4
PAGZ				*e*S	Sn	18 22 10.9	+1.0
BUSP	**Coron**	**2.75**	**313**	*e*P	Pn	18 21 44.5	+1.7
BUSP				*e*S	Sn	18 22 15.5	+0.2
ENPP	**El Nido**	**2.98**	**291**	*e*P	Pn	18 21 46.2	+0.1
ENPP				*e*S	Sn	18 22 19.3	-1.9

*BJI **14** 18:22:30.2, 14.°50S×173.°70E, h604km, mb4.6/23, mb4.7/20*

*IDC **14** 18:22:30.4±1.1, 14.°52S×173.°88E, h588km±12km, mb4.3/25, mb1 4.5/27, mb1mx4.4/34, mbtmp5.3/27, Error ellipse: s-maj=10.9km s-min=9.2km az=103.0*

*ISCJB **14** 18:22:30.7±0.1, 14.°48S±0.°03×173.°73E±0.°02, h600km, mb4.9/128, Error ellipse: s-maj=4.3km s-min=2.5km az=155.2*

*MOS **14** 18:22:31.3±0.8, 14.°40S×173.°69E, h611km, mb5.0/16, Error ellipse: s-maj=9.0km s-min=8.4km az=59.5*

*NEIC **14** 18:22:32.1±0.1, 14.°48S×173.°74E, mb5.2/50, Error ellipse: s-maj=4.6km s-min=3.0km az=142.0*

*GCMT **14** 18:22:35.1±0.8, 14.°61S±0.°06×173.°70E±0.°06, h611km±5km, MW5.3/51, Moment Tensor Solution. s51,c71; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.02±.05; $M_{\theta\theta}$0.95±.07; $M_{\phi\phi}$-0.93±.07; $M_{r\theta}$0.02±.08; $M_{\theta\phi}$0.45±.08; $M_{\phi r}$-0.46±.07; Best double couple: $M_0$1.13600×10^{17} NP1:ϕ_s34.00000°,δ79.00000°,λ-161.00000°. NP2: ϕ_s300.00000°,δ72.00000°,λ-12.00000°. Principal axes: T 1.0610, Plg5.0000°, Azm166.0000°; N 0.1500, Plg69.0000°, Azm64.0000°; P -1.2110, Plg21.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 14 18:22:31.5±0.3, 14.°49S±0.°05×173.°78E±0.°05, h600km, n573, σ1$05/573, mb5.0/128, 33C-11D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUNA	**Funafuti**	**7.95**	**42**	*e*P	**P**	**18 24 30.3**	**-0.1**
DZM	**Mont Dzumac** 11nm,0.3s,baz=52,slow=21,SNR=82	**10.27**	**222**	P	**P**	**18 24 55.0**	**+2.1**
DZM				S	**S**	**18 26 50.8**	**+1.7**
	baz=327,slow=22,SNR=11						
DZM	**Mont Dzumac** 117nm,0.8s	**

OXZ Oxford 28.78 183 eP P 18 27 41.3 -1.2
comp=Z,56nm,0.7s
MANU Manus Island 28.87 293 eP P 18 27 44.6 +0.9
comp=Z,66nm,1.0s
FOZ Fox Glacier 29.14 186 eP P 18 27 45.6 0.0
comp=Z,70nm,0.8s
RPZ Rata Peaks 29.22 184 P P 18 27 44.6 -1.7
comp=Z,11nm,0.7s,baz=290,slow=1.6,SNR=7.5
RPZ S S 18 31 52.6 -5.4
comp=Z,15nm,1.1s,baz=146,slow=13,SNR=3.1
RPZ Rata Peaks 29.22 184 eP P 18 27 46.7 +0.4
comp=Z,100nm,1.9s
RPZ S S 18 31 52.6 -5.4
COEN Coen 29.66 267 P P 18 27 51.4 +0.9
baz=30,SNR=50
COEN Coen 29.66 267 eP P 18 27 51.4 +0.9
comp=Z,81nm,0.9s
LBZ Lake Benmore 29.96 185 eP P 18 27 51.7 -0.9
comp=Z,77nm,1.1s
LBZ eS S 18 32 04.5 -4.8
QLP Quilpie 30.09 242 P P 18 27 54.7 +0.6
baz=30,SNR=282
CNB Canberra Magne 30.19 222 P P 18 27 56.2 +1.4
baz=30,SNR=120
YNG Young 30.24 225 P P 18 27 56.7 +1.4
baz=30,SNR=40
CAN Canberra 30.43 223 eP P 18 27 56.9 0.0
comp=Z,72nm,1.0s
CAN Canberra 30.43 223 eP P 18 27 56.9 0.0
CAN pmax pmax
comp=Z,72nm,1.0s
ODZ Otahua Downs 30.57 184 eP P 18 27 56.7 -1.2
comp=Z,63nm,1.7s
CMSA Cobar Meteorol 30.79 232 P P 18 28 00.6 +0.6
baz=31,SNR=580
MLZ Mavora Lakes 31.15 188 eP P 18 28 03.0 +0.1
comp=Z,27nm,0.8s
DCZ Deep Cove 31.38 189 eP P 18 28 04.7 0.0
comp=Z,59nm,1.1s
MILA Mila 31.40 220 P P 18 28 06.5 +1.4
baz=32,SNR=51
QIS Mount Isa 33.10 255 P P 18 28 19.9 +0.2
baz=33,SNR=60
MMPI Merauke 33.25 277 P P 18 28 22.1 +1.1
comp=Z,473nm,0.7s
TOO Toolangi 34.04 222 P P 18 28 28.8 +1.4
baz=34,SNR=226
STKA Stephens Creek 34.10 234 P P 18 28 28.9 +1.1
comp=Z,126nm,0.5s,baz=59,slow=8.1,SNR=439
STKA ScP ScP 18 33 36.9 +0.6
comp=Z,11nm,0.8s,baz=36,slow=2.7,SNR=5.2
STKA Stephens Creek 34.10 234 P P 18 28 29.0 +1.1
baz=34,SNR=314
STKA Stephens Creek 34.10 234 eP P 18 28 29.0 +1.1
comp=Z,30nm,0.6s
STKA ScP ScP 18 33 36.9 +0.6
STKA Stephens Creek 34.10 234 eP P 18 28 29.0 +1.1
STKA pmax pmax
comp=Z,30nm,0.6s
JAY Jayapura 34.75 287 P P 18 28 33.6 0.0
comp=Z,44nm,0.5s,baz=113,slow=6.6,SNR=54
JAY Jayapura 34.75 287 P P 18 28 33.8 +0.3
comp=Z,572nm,1.1s,comp=Z,5µm
GENI Genyem 35.22 286 P P 18 28 38.0 +0.6
comp=Z,70nm,0.7s,comp=Z,1µm
PAE Paea 35.31 100 eP P 18 28 38.5 +0.4
comp=Z,2.0nm,0.3s
PPT2 Papeete2 35.31 100 eP P 18 28 38.9 +0.7
comp=Z,16nm,0.7s
TVO Taravao 35.62 100 eP P 18 28 41.2 +0.4
comp=Z,8.4nm,0.6s
TBI Tubuai 35.79 110 eP P 18 28 42.6 +0.7
comp=Z,23nm,0.6s
MOO Moorlands 36.07 214 P P 18 28 45.3 +1.3
baz=36,SNR=24
HTT Hallett 36.78 233 P P 18 28 50.8 +0.8
baz=37,SNR=109
SMPI Sarmi 36.79 286 P P 18 28 51.3 +1.0
comp=Z,170nm,1.3s,comp=Z,2µm
PMOR Pomariorio Ree 37.03 96 eP P 18 28 52.6 +0.3
comp=Z,39nm,0.7s
VAH Vaihoa 37.27 96 eP P 18 28 54.7 +0.5
comp=Z,26nm,0.7s
WR5 Warramunga Arr 37.92 256 P P 18 28 59.1 -0.4
baz=38
WB2 Warramunga Arr 37.99 256 eP P 18 28 57.5 -2.5
WRAB Tennant Creek 37.99 256 eP P 18 28 59.6 -0.5
comp=Z,159nm,0.8s
WRAB Tennant Creek 37.99 256 d iP P 18 28 59.5 -0.5
WRAB pmax pmax
comp=Z,176nm,0.8s
WRA Warramunga Arr 38.00 256 P P 18 28 59.7 -0.4
comp=Z,150nm,0.7s,baz=89,slow=8.5,SNR=762
WRA PP PP 18 30 44.4 -2.8
comp=Z,6.2nm,1.0s,baz=83,slow=10,SNR=5.5
WRA ScP ScP 18 33 51.2 +0.2
comp=Z,3.3nm,0.7s,baz=81,slow=4.6,SNR=7.1
WRA S S 18 34 07.6 -3.3
comp=Z,7.3nm,1.1s,baz=89,slow=14,SNR=5.2
AS01 Alice Springs 38.63 250 eP P 18 29 04.5 -0.6
AS31 Alice Springs 38.67 250 eP P 18 29 05.4 -0.1
comp=Z,59nm,0.7s
ASAR Alice Springs 38.67 250 P P 18 29 05.4 -0.1
comp=Z,190nm,0.7s,baz=77,slow=9.5,SNR=2806
ASAR PP PP 18 30 53.2 -0.1
comp=Z,9.9nm,0.9s,baz=80,slow=10,SNR=3.9
ASAR PcP PcP 18 31 01.5 -0.2
comp=Z,6.0nm,0.6s,baz=77,slow=4.9,SNR=4.2
ASAR ScP ScP 18 33 53.6 0.0
comp=Z,4.1nm,0.7s,baz=90,slow=3.8,SNR=5.4
BBOO Buckleboo 38.81 235 P P 18 29 06.8 +0.3
baz=39,SNR=101
BBOO Buckleboo 38.81 235 eP P 18 29 06.8 +0.3
comp=Z,171nm,0.4s
SRPI Serui, Papua 39.13 285 P P 18 29 10.3 +1.0
KDU Kakadu 40.16 267 P P 18 29 17.7 +0.3
baz=40,SNR=87
KMPI Kaimana, Papua 40.94 281 P P 18 29 24.9 +1.3
comp=Z,464nm,0.8s,comp=Z,11µm
RKPI Ransiki, Papua 41.19 285 P P 18 29 26.7 +1.0
comp=Z,141nm,0.9s,comp=Z,1µm
MTN Manton Dam 41.43 267 P P 18 29 27.7 +0.2
baz=42,SNR=166
MTN Manton Dam 41.43 267 eP P 18 29 27.5 0.0
comp=Z,328nm,0.5s
FAKI Fak Fak 42.55 282 eP P 18 29 36.2 0.0
comp=Z,86nm,0.6s
FAKI Fak Fak 42.55 282 P P 18 29 36.3 0.0
comp=Z,141nm,0.9s,comp=Z,1µm
KNRA Kununurra 43.42 262 P P 18 29 43.0 0.0
baz=44,SNR=103
WRKA Warakurna 43.89 249 P P 18 29 47.1 +0.5
baz=44,SNR=799
SWI Sorong 44.15 284 P P 18 29 48.9 +0.2
comp=Z,103nm,0.8s,comp=Z,1µm
PALU Palau 44.62 297 P P 18 29 53.0 +0.7
baz=45,SNR=3.2
FORT Forrest 44.88 241 eP P 18 29 53.8 -0.3
comp=Z,148nm,0.8s
HMH Humu'ula Sheep 45.41 43 eP P 18 29 58.2 -0.4
comp=Z,149nm,0.9s
AAI Ambon 46.19 279 P P 18 30 04.4 +0.2
comp=Z,202nm,0.6s,comp=Z,7µm
FITZ Fitzroy Crossi 46.25 259 P P 18 30 05.3 +0.7
comp=Z,131nm,0.6s,baz=82,slow=7.6,SNR=575
FITZ Fitzroy Crossi 46.25 259 eP P 18 30 05.5 +0.9
comp=Z,127nm,0.8s
NLAI Namlea 47.36 279 P P 18 30 13.7 +0.7
comp=Z,136nm,1.1s,comp=Z,3µm
TNTI Ternate 48.36 284 eP P 18 30 20.9 +0.4
comp=Z,99nm,1.8s
TNTI Ternate 48.36 284 P P 18 30 20.8 +0.3
comp=Z,14nm,0.8s
SOEI Soe 48.57 270 eP P 18 30 23.3 +1.2
comp=Z,207nm,0.9s
SOEI Soe 48.57 270 P P 18 30 23.5 +1.4
comp=Z,256nm,0.8s,comp=Z,3µm
SANI Sanana 48.77 280 P P 18 30 23.2 -0.2
comp=Z,76nm,0.7s,comp=Z,1µm
BATI Baumata 49.07 269 P P 18 30 27.9 +2.2
comp=Z,317nm,1.1s,comp=Z,3µm
MMRI Maumere 50.75 271 eP P 18 30 37.9 0.0
comp=Z,155nm,1.0s
MMRI Maumere 50.75 271 P P 18 30 38.1 +0.2
comp=Z,222nm,1.0s,comp=Z,2µm
EDFI Ende, Flores 51.26 270 P P 18 30 41.6 -0.1
comp=Z,189nm,0.9s,comp=Z,1µm
KMSI Cibinong 51.49 283 P P 18 30 43.4 +0.1
comp=Z,135nm,1.1s,comp=Z,1µm
MBWA Marble Bar 51.69 254 eP P 18 30 44.8 +0.2
comp=Z,83nm,0.8s
LUWI Luwuk 52.13 280 eP P 18 30 48.3 +0.5
comp=Z,155nm,1.1s
LUWI Luwuk 52.13 280 P P 18 30 48.4 +0.5
comp=Z,127nm,1.0s,comp=Z,1µm
APSI Ampana 53.24 280 P P 18 30 56.6 +0.8
comp=Z,95nm,1.1s,comp=Z,964nm
WBSI Waikabubak, Su 53.31 269 P P 18 30 56.2 -0.1
comp=Z,180nm,0.8s,comp=Z,2µm
MRSI Marisa 53.39 282 P P 18 30 56.9 +0.1
BNSI Bone 53.77 275 P P 18 31 00.0 +0.5
comp=Z,112nm,0.7s,comp=Z,1µm
SPSI Sidrap Palu 54.21 276 P P 18 31 02.0 -0.5
NWAO Narrogin (SRO) 54.30 240 P P 18 31 02.4 -0.5
comp=Z,136nm,0.7s,baz=321,slow=5.4,SNR=110
NWAO Narrogin (SRO) 54.30 240 eP P 18 31 02.4 -0.5
comp=Z,142nm,0.8s
NWAO Narrogin (SRO) 54.30 240 eP P 18 31 02.4 -0.5
NWAO pmax pmax
comp=Z,141nm,0.8s
PLAI Plampang 55.03 269 P P 18 31 08.0 -0.3
comp=Z,205nm,0.8s,comp=Z,2µm
MPSI Mapaga 55.29 281 P P 18 31 09.8 -0.3
comp=Z,13nm,0.8s
TWSI Taliwang, Sumb 55.92 269 P P 18 31 14.2 -0.2
comp=Z,372nm,0.9s,comp=Z,4µm
DNP Denpasar 57.55 269 P P 18 31 24.7 -0.8
comp=Z,427nm,0.6s,comp=Z,9µm
IGBI Denpasar 57.58 269 P P 18 31 25.7 -0.1
MYLDM Lahad Datu 58.19 286 eP P 18 31 32.5 +2.6
comp=Z,39nm,1.1s
MJAR Matsushiro Arr 60.85 328 P P 18 31 46.7 -0.4
comp=Z,38nm,0.9s,baz=164,slow=6.8,SNR=57
MAJO Matsushiro 60.85 328 eP P 18 31 47.1 0.0
comp=Z,59nm,0.9s
MAJO Matsushiro 60.85 328 c iP P 18 31 47.0 -0.1
MAJO pmax pmax
comp=Z,74nm,1.0s
MJB9 Matsu-Tunnel 60.86 328 eP P 18 31 47.2 0.0
UGM Wanagama 62.24 269 eP P 18 31 55.8 -0.8
comp=Z,107nm,0.6s
SMRI Semarang 62.51 270 eP P 18 31 59.2 +0.8
comp=Z,89nm,1.0s
JNU Nakatsue 62.60 320 eP P 18 31 56.9 -1.6
comp=Z,44nm,1.1s
SBUM Sibu 63.24 280 eP P 18 32 03.8 +0.8
comp=Z,21nm,1.2s
VNDA Vanda 63.33 183 P P 18 32 03.0 +0.5
comp=Z,4.1nm,0.5s,baz=358,slow=7.1,SNR=86
VNDA Vanda 63.33 183 eP P 18 32 02.9 +0.5
comp=Z,5.8nm,0.6s
VNDA Vanda 63.33 183 eP P 18 32 02.9 +0.5
VNDA pmax pmax
comp=Z,6.0nm,0.6s
SBA Scott Base 63.48 182 eP P 18 32 05.0 +1.7
comp=Z,26nm,0.8s
SBA epP pP 18 34 03.5 +2.4
SBA Scott Base 63.48 182 eP P 18 32 05.0 +1.7
SBA e*PP pP 18 34 03.5 +2.4
SBA pmax pmax
comp=Z,26nm,0.8s
KUR Kuril'sk 63.92 340 eP P 18 32 06.7 +0.1
KSM Kuching 64.78 279 eP P 18 32 12.8 0.0
comp=Z,82nm,1.5s
CISI Cisompet, Garu 64.94 268 eP P 18 32 12.9 -1.0
comp=Z,78nm,0.7s
SKR Severo-Kuril's 66.71 348 eP P 18 32 24.3 +0.4
TJN Taejon 66.92 321 eP P 18 32 25.6 +0.1
YSS Yuzh-Sakhalins 67.20 337 eP P 18 32 28.0 +1.0
YSS pmax pmax
comp=Z,30nm,1.1s
KSRS Korea Array 67.28 322 P P 18 32 28.3 +0.6
comp=Z,5.2nm,0.7s,baz=129,slow=6.2,SNR=19
KSAR Wonju Array Be 67.29 322 P P 18 32 28.3 +0.5
KSAR Wonju Array Be 67.29 322 P P 18 32 28.3 +0.5
KS01 Wonju Array Si 67.31 322 eP P 18 32 27.6 -0.2
PET Petropavlovsk 68.49 350 eP P 18 32 34.2 -0.4
PET pmax pmax
comp=Z,57nm,0.4s
PEA0B Petropavlovsk- 68.73 350 eP P 18 32 36.9 +0.7
comp=Z,152nm,1.1s
PETK Petropavlovsk- 68.73 350 P P 18 32 36.4 +0.2
comp=Z,55nm,0.8s,baz=120,slow=6.4,SNR=50
USRK Ussuriysk Ar. 69.72 329 P P 18 32 42.8 +0.6
comp=Z,4.9nm,0.6s,baz=178,slow=3.5,SNR=13
NJ2 Nanjing 70.04 312 eP P 18 32 45.1 +0.7
NJ2 pmax pmax
comp=Z,11nm,0.5s
MYKOM Kota Tinggi 71.07 277 eP P 18 32 51.3 +0.4
MDJ Mudanjiang 71.22 328 P P 18 32 51.9 +0.9
MDJ pmax pmax
comp=Z,13nm,1.1s
MDJ pmax pmax
comp=Z,520nm,4.9s
CN2 Changchun 72.86 326 eP P 18 33 00.0 -0.5
CN2 ePP PP 18 35 56.1 +1.9
CN2 SKS SKSac 18 42 05.3 -3.7
CN2 esS sS 18 45 17.0 -1.2
CN2 pmax pmax
comp=Z,50nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
KLR Kul'dur 73.51 333 P P 18 33 05.1 +1.0
comp=Z,9.3nm,1.0s,baz=98,slow=2.6,SNR=16
KLR Kul'dur 73.51 333 eP P 18 33 04.9 +0.8
CHGN Chignik 74.27 16 eP P 18 33 07.4 -0.8
IPM Ipoh 74.52 279 eP P 18 33 10.8 +0.1
KULM Kulim 75.10 280 eP P 18 33 14.0 +0.1
QSPA South Pole Qui 75.54 180 P P 18 33 15.5 0.0
comp=Z,15nm,0.7s,baz=15,slow=2.7
SKNT Sakolnakorn 75.64 292 P P 18 33 17.1 +0.3
comp=Z,21nm,0.8s,comp=Z,730nm
PSI Prapat 76.08 277 eP P 18 33 18.5 -0.9
PSI Prapat 76.08 277 eP P 18 33 18.5 -0.9
MA2 Magadan 76.13 348 eP P 18 33 17.0 -1.5
MA2 pmax pmax
comp=Z,47nm,1.0s
BJI Beijing 76.17 318 P P 18 33 19.8 +0.7
OHAK Old Harbor 76.49 18 eP P 18 33 20.8 +0.4
TRTT Trang 76.74 282 P P 18 33 23.7 +0.9
comp=Z,24nm,0.8s
NONG Nongkai 76.77 293 P P 18 33 23.6 +0.7
comp=Z,0.8nm,1.1s
GYA Guiyang 76.85 302 P P 18 33 24.3 +0.9
GYA pP pP 18 35 30.8 +3.0
GYA sP sP 18 36 30.0 +1.0
GYA S S 18 42 24.8 +1.2
GYA SKS SKSac 18 42 36.0 -3.4
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,140nm,5.4s
GSI Gunungsitoli 76.98 275 eP P 18 33 23.8 -0.4
CHAI Chaiyaphum 77.09 290 P P 18 33 25.0 +0.3
comp=Z,8.9nm,0.7s,comp=Z,71nm
KRAB Krabi 77.32 282 P P 18 33 27.3 +1.3
comp=Z,25nm,0.8s
PBKT Sadao Pong 78.23 291 eP P 18 33 32.4 +1.6
PBKT Sadao Pong 78.23 291 P P 18 33 32.0 +1.2
comp=Z,23nm,1.0s,comp=Z,1µm
XAN Xi'an 78.28 310 P P 18 33 31.3 +0.5
SEY Seymchan 78.96 350 iP P 18 33 33.6 0.0
UTTA Uttaradit 78.98 292 P P 18 33 36.1 +1.3
comp=Z,5.9nm,0.9s,comp=Z,56nm
CNPM China Poot 79.01 17 eP P 18 33 34.5 +0.4
NANT Nan 79.20 293 P P 18 33 36.7 +0.8
comp=Z,4.7nm,0.6s
SRDT SRDT 79.22 288 P P 18 33 37.4 +1.4
comp=Z,42nm,1.2s,comp=Z,598nm
UTHA Uthaitani 79.29 289 P P 18 33 37.6 +1.2
comp=Z,11nm,0.8s,comp=Z,86nm
BRLK Bradley Lake 79.31 17 eP P 18 33 35.5 -0.2
SNCC San Nicolas Is 79.31 52 P P 18 33 36.8 +0.6
baz=245
KCPM Cahto Peak 79.31 44 eP P 18 33 35.0 -1.3
HOPS Hopland Field 79.33 45 eP P 18 33 36.6 +0.4
comp=Z,32nm,1.1s
SAO San Andreas Ge 79.43 48 eP P 18 33 37.6 +0.8
SAO San Andreas Ge 79.43 48 eP P 18 33 37.6 +0.8
KMRM Mail Ridge 79.49 44 eP P 18 33 38.2 +1.1
HHC Hu-ho-hao-te 79.60 317 eP P 18 33 38.0 +0.3
HHC pmax pmax
comp=Z,16nm,1.0s
HHC pmax pmax
comp=Z,90nm,5.2s
KMI Kunming 79.61 299 P P 18 33 39.5 +1.2
PMPB Monarch Peak 79.65 48 eP P 18 33 39.3 +1.3
SUKH Sukhothai 79.73 291 P P 18 33 40.5 +1.8
comp=Z,6.4nm,0.9s
KHMM Horse Mountain 79.79 43 eP P 18 33 40.1 +1.4
PKM Mcpherson Peak 79.79 50 P P 18 33 39.7 +0.7
baz=244
SMMC Simmler 79.84 49 P P 18 33 39.9 +0.9
baz=244
KRMB Red Mountain 79.99 42 eP P 18 33 41.0 +1.3
UMPA Umpang Tak 80.03 290 P P 18 33 41.5 +1.2
comp=Z,6.1nm,1.0s,comp=Z,101nm
LAMP Lampang 80.07 292 P P 18 33 42.4 +1.9
comp=Z,7.3nm,0.6s
O02D Mt. Diablo Mer 80.08 44 P P 18 33 41.2 +1.0
baz=242,SNR=21
PAYA Payao 80.13 293 P P 18 33 41.9 +1.1
comp=Z,6.5nm,0.7s,comp=Z,71nm
CIS Catalina Islan 80.22 52 P P 18 33 39.7 -1.3
baz=245
WDC Whiskeytown Da 80.44 44 eP P 18 33 42.6 +0.7
WDC Whiskeytown Da 80.44 44 eP P 18 33 42.6 +0.7
OSI Osito Audit: C 80.49 51 P P 18 33 42.8 +0.4
baz=245
L02E Cave Junction 80.50 42 P P 18 33 42.9 +0.7
baz=241
N02D Trinity Center 80.52 43 P P 18 33 43.3 +0.9
baz=242,SNR=14
M02C Callahan 80.62 43 P P 18 33 44.0 +1.0
baz=241,SNR=24
ARVC Arvin 80.63 50 P P 18 33 43.3 +0.3
baz=245
CM31 Chiang Mai Arr 80.67 292 eP P 18 33 45.1 +1.6
CMAR Chiang Mai Arr 80.67 292 P P 18 33 44.4 +0.9
comp=Z,7.1nm,0.9s,baz=111,slow=3.6,SNR=47
ORV Oroville 80.67 45 eP P 18 33 43.3 +0.2
ORV Oroville 80.67 45 eP P 18 33 43.3 +0.2
K02D Willamette Mer 80.72 42 P P 18 33 43.9 +0.5
baz=240,SNR=6.2
VES Vestal, Richgr 80.74 49 P P 18 33 43.6 0.0
baz=245
SUA Susitna One 80.75 16 eP P 18 33 43.0 -0.2
AFDM Forest Hills D 80.76 46 eP P 18 33 44.0 +0.3
CMB Columbia Colle 80.76 47 eP P 18 33 44.0 +0.3
CMB Columbia Colle 80.76 47 eP P 18 33 44.0 +0.3
CMMT Chiang Mai 80.77 292 P P 18 33 44.8 +0.7
comp=Z,9.9nm,0.6s
CHTO Chiang Mai 80.78 292 eP P 18 33 45.1 +0.9
CHTO Chiang Mai 80.78 292 P P 18 33 44.9 +0.8
comp=Z,42nm,0.7s
J01E Myrtle Point 80.78 41 P P 18 33 43.2 -0.4
baz=240
O03E Paynes Creek 80.81 44 P P 18 33 43.9 0.0
baz=242,SNR=7.8
MWC Mount Wilson 80.83 51 eP P 18 33 44.6 +0.3
MWC Mount Wilson 80.83 51 eP P 18 33 44.6 +0.3
YBH Yreka Blue Hor 80.88 43 eP P 18 33 45.1 +0.8
YBH Yreka Blue Hor 80.88 43 eP P 18 33 45.1 +0.8
CD2 Chengdu 80.95 305 eP P 18 33 45.5 +0.7
CD2 pmax pmax
comp=Z,10.0nm,0.5s
ISA Isabella, Lake 81.11 50 eP P 18 33 46.2 +0.5
ISA Isabella, Lake 81.11 50 P P 18 33 46.1 +0.5
baz=245,SNR=19
BFSC Mount Baldy Ra 81.14 51 P P 18 33 45.9 +0.1
baz=246,SNR=7.5
HUMO Hull Mountain 81.14 42 eP P 18 33 46.3 +0.8
EDW2 Edwards Air Fo 81.15 51 P P 18 33 46.3 +0.5
baz=246,SNR=14
MURC Murrieta 81.23 52 P P 18 33 46.4 +0.2
baz=246
PMR Palmer 81.31 17 eP P 18 33 45.7 -0.1
PMR Palmer 81.31 17 eP P 18 33 45.7 -0.1
GLI Glacier Island 81.33 18 eP P 18 33 45.8 -0.3
LBCM Butte Creek Ri 81.36 44 eP P 18 33 47.3 +0.5
L04D Klamath Falls 81.38 42 P P 18 33 47.3 +0.4
baz=242,SNR=16
I03D Drain, OR 81.42 41 P P 18 33 47.3 +0.4
baz=241,SNR=6.3
M04C Macdoel 81.47 43 P P 18 33 47.9 +0.5
baz=242,SNR=11
MDPB Devils Postpil 81.51 48 eP P 18 33 48.4 +0.6
MONP2 Monument Peak 81.54 53 P P 18 33 48.5 +0.5
baz=247,SNR=14
OMMB Old Mammoth Mi 81.56 48 eP P 18 33 49.0 +0.9
BEKR Beckworth 81.59 45 eP P 18 33 48.4 +0.3
DIB Dawson Inlet, 81.60 29 eP P 18 33 48.2 +0.7
LRMC Laurel Mtn Rad 81.63 50 P P 18 33 48.8 +0.5
baz=246,SNR=14
WAKR Walker 81.63 47 eP P 18 33 49.2 +0.8
FRD Ford Ranch, An 81.64 52 P P 18 33 48.8 +0.5
baz=246,SNR=9.1
MLAC Mammoth, Mammo 81.69 48 P P 18 33 49.3 +0.6
baz=245
IKP In-Ko-Pah, Jac 81.69 53 P P 18 33 49.3 +0.6
baz=247,SNR=7.0
BBRC Big Bear Solar 81.70 52 P P 18 33 49.2 +0.4
baz=246
SML Sawmill 81.70 17 eP P 18 33 48.0 0.0
SML Sawmill 81.70 17 eP P 18 33 48.0 0.0
CWC Cottonwood Cre 81.73 49 P P 18 33 49.5 +0.7
baz=245
PNTR Pine Nut 81.78 46 eP P 18 33 50.1 +1.0
PFO Pinyon Flats O 81.80 52 eP P 18 33 49.9 +0.7
PFO Pinyon Flats O 81.80 52 P P 18 33 49.5 +0.2
baz=247,SNR=5.3
XPFO Piæon Flat 81.80 52 eP P 18 33 49.9 +0.7
TIN Tinemaha, Big 81.88 49 P P 18 33 49.8 +0.3
baz=245
RRX Edison Barstow 81.89 51 P P 18 33 49.7 +0.1
baz=246
K04D Chiloquin, OR 81.93 42 P P 18 33 50.0 +0.4
baz=242
DIV Divide 81.93 19 eP P 18 33 49.0 -0.1
YERR Yerington 81.98 46 eP P 18 33 50.8 +0.7
J04D Umpqua Nationa 81.99 42 P P 18 33 50.5 +0.5
baz=242,SNR=22
MPMC Manual Prospec 82.01 50 P P 18 33 50.8 +0.5
baz=246,SNR=25
SCM Sheep Creek Mo 82.02 18 eP P 18 33 49.6 0.0
SCM Sheep Creek Mo 82.02 18 eP P 18 33 49.6 0.0
DAC Darwin (Calif) 82.02 49 eP P 18 33 53.1 +2.8
SWSC Sam W. Stewart 82.04 53 P P 18 33 50.8 +0.5
baz=247,SNR=5.1
I04A Tendick Farm, 82.06 41 P P 18 33 50.2 0.0
baz=241,SNR=16
KLU Klutina 82.17 18 eP P 18 33 50.3 -0.1
BMRM Bremner River 82.17 19 eP P 18 33 50.2 -0.1
PAHR Pah Rah Range 82.20 46 eP P 18 33 51.6 +0.4
H04D Lebanon 82.20 40 P P 18 33 51.3 +0.4
baz=241,SNR=7.2
GSC Goldstone, Bar 82.21 51 eP P 18 33 51.7 +0.5
GSC Goldstone, Bar 82.21 51 P P 18 33 51.3 +0.1
baz=246,SNR=5.8
G03D McMinnville, O 82.21 39 P P 18 33 51.5 +0.6
baz=240
BELC Belle Mtn. Jos 82.30 52 P P 18 33 52.4 +0.6
baz=247,SNR=20
RYN Ryan 82.33 47 eP P 18 33 52.7 +0.8
HEC Hector,Ludlow 82.37 51 P P 18 33 52.3 +0.2
baz=246,SNR=13
NV01 Mina Array Sit 82.41 47 eP P 18 33 52.4 +0.1
NVAR Mina Array Bea 82.41 47 P P 18 33 52.8 +0.5
comp=Z,16nm,0.8s,baz=228,slow=9.5,SNR=18
BILL Bilibino 82.48 357 eP P 18 33 51.0 -0.7
BILL Bilibino 82.48 357 ceP P 18 33 51.0 -0.7
BILL e*PP pP 18 35 58.2 -0.4
BILL e 18 37 07.0
BILL ePPP PPP 18 39 11.7
BILL pmax pmax
comp=Z,22nm,0.6s
GRAC Grapevine Rang 82.48 49 P P 18 33 53.3 +0.8
baz=246
TRF Thorofare Moun 82.51 15 eP P 18 33 51.2 -0.9
NV11 Mina Array Sit 82.51 47 eP P 18 33 53.3 +0.5
MOD Modoc Plateau 82.55 43 eP P 18 33 53.2 +0.3
J05D Fort Rock, OR 82.57 42 P P 18 33 53.6 +0.7
baz=242,SNR=52
BC3 Big Chuckawall 82.58 53 P P 18 33 53.8 +0.7
baz=247,SNR=12
H04A Detroit Lake 82.63 40 eP P 18 33 53.0 0.0
FURC Furnace Creek, 82.64 50 P P 18 33 53.7 +0.5
baz=246,SNR=6.7
E03A Lebam 82.69 38 eP P 18 33 53.7 +0.5

F04D	Rainier, OR	82.80	39	P		P	18 33 54.6	+0.8
	baz=241							
KVN	Kaiserville	82.81	47	*e*P		P	18 33 54.7	+0.5
GLA	Glamis	82.84	53	*e*P		P	18 33 55.8	+1.4
GLA	Glamis	82.84	53	P		P	18 33 55.4	+1.0
	baz=248,SNR=6.2							
SHOC	Shoshone, Teco	82.84	50	P		P	18 33 54.6	+0.4
	baz=246							
RND	Reindeer	82.85	16	*e*P		P	18 33 53.0	-0.7
RND	Reindeer	82.85	16	*e*P		P	18 33 53.0	-0.7
GMRC	Granite Mounta	82.87	51	P		P	18 33 54.9	+0.3
	baz=247,SNR=14							
BPAW	Bear Paw Mtn.	82.87	15	*e*P		P	18 33 56.3	+2.6
LZH	Lanzhou	82.92	310	*e*P		P	18 33 56.5	+1.7
LZH				pP		pP	18 36 04.4	+2.5
LZH				sP		sP	18 37 01.6	-0.8
LZH				pmax		pmax		
	comp=Z,25nm,0.9s							
LZH				pmax		pmax		
	comp=Z,170nm,4.8s							
TUQ	Turquoise Moun	82.92	51	P		P	18 33 55.1	+0.3
	baz=247,SNR=15							
DHY	Denali Highway	82.99	17	*e*P		P	18 33 53.8	-0.8
I05D	Terrebonne, OR	83.00	41	P		P	18 33 55.2	+0.3
	baz=242							
PINE	Pine Mountain	83.00	42	*e*P		P	18 33 55.8	+0.7
IRM	Iron Mountain	83.02	52	P		P	18 33 56.0	+0.8
	baz=247,SNR=25							
MCK	McKinley	83.09	16	*e*P		P	18 33 53.8	-1.1
MCK	McKinley	83.09	16	*e*P		P	18 33 53.8	-1.1
HARP	HAARP	83.11	18	*e*P		P	18 33 54.9	-0.1
TPNV	Topopah Spring	83.28	49	*e*P		P	18 33 57.1	+0.5
TPNV	Topopah Spring	83.28	49	P		P	18 33 57.1	+0.5
	baz=246,SNR=24							
E04D	Cinebar	83.30	39	P		P	18 33 56.7	+0.5
	baz=241							
Y12C	Blythe	83.34	53	*e*P		P	18 33 57.5	+0.7
Y12C	Blythe	83.34	53	P		P	18 33 57.5	+0.7
	baz=248,SNR=6.4							
LDFC	Landfair	83.40	51	*e*P		P	18 33 58.0	+0.8
G05D	Wamic, OR	83.43	40	P		P	18 33 57.1	+0.1
	baz=242							
PAX	Paxson	83.45	17	*e*P		P	18 33 56.3	-0.4
PAX	Paxson	83.45	17	*e*P		P	18 33 56.3	-0.4
D03D	Eldon	83.46	37	P		P	18 33 57.5	+0.4
	baz=240							
D04E	Lakebay	83.48	38	P		P	18 33 57.6	+0.6
	baz=241							
F05D	White Salmon	83.65	39	P		P	18 33 58.4	+0.3
	baz=242							
MLY	Manley	83.70	14	*e*P		P	18 33 56.5	-1.4
YAK	Yakutsk	83.76	341	*e*P		P	18 33 57.9	-0.3
YAK	Yakutsk	83.76	341	*e*P		P	18 33 57.8	-0.3
YAK				pmax		pmax		
	comp=Z,18nm,0.6s							
YAK				pmax		pmax		
	comp=N,4.0nm,0.8s							
YAK				pmax		pmax		
	comp=E,2.0nm,0.8s							
PGC	Sidney	83.81	36	*e*P		P	18 33 59.0	+0.3
IM3	Indian Mountai	83.82	13	*e*P		P	18 33 56.8	-1.6
PDMCI	Parker Dam,Lak	83.84	52	P		P	18 33 59.6	+0.4
	baz=248,SNR=5.4							
LON	Longmire	83.85	39	*e*P		P	18 33 57.9	-1.1
LON	Longmire	83.85	39	*e*P		P	18 33 57.9	-1.1
WVOR	Wild Horse Val	83.89	43	*e*P		P	18 33 59.9	+0.4
	comp=E,16nm,1.1s							
WRH	Wood River Hil	83.91	16	*e*P		P	18 33 57.3	-1.5
SHPR	Sheep Range	83.91	50	*e*P		P	18 34 00.6	+0.8
D05A	Enumclaw	83.95	38	*e*P		P	18 34 00.5	+1.0
214A	Organ Pipe Nat	84.02	55	P		P	18 34 00.9	+0.7
	baz=249,SNR=5.7							
I07A	Izee	84.05	42	*e*P		P	18 34 00.6	+0.4
CCB	Clear Creek Bu	84.12	16	*e*P		P	18 33 58.1	-1.8
HDA	Harding Lake	84.16	16	*e*P		P	18 33 58.7	-1.4
RIDG	Independ'e Rid	84.22	17	*e*P		P	18 34 00.6	+0.1
MDM	Murphy Dome	84.26	15	*e*P		P	18 33 58.7	-1.9
A04D	Lummi Island	84.27	37	P		P	18 34 01.7	+0.7
	baz=241							
COLA	College	84.29	15	*e*P		P	18 33 58.9	-1.8
	comp=E,28nm,0.9s							
COLA	College	84.29	15	*e*P		P	18 33 58.9	-1.8
COLA				pmax		pmax		
	comp=Z,29nm,0.9s							
R11A	Troy Canyon, C	84.32	48	*e*P		P	18 34 01.9	+0.2
R11A	Troy Canyon, C	84.32	48	P		P	18 34 01.9	+0.2
	baz=247,SNR=11							
B05A	Bryant	84.40	37	P		P	18 34 01.9	+0.3
	baz=241							
J08A	Circle Bar Ran	84.40	43	*e*P		P	18 34 02.3	+0.4
MAW	Mawson	84.43	201	P		P	18 34 02.0	+0.6
	comp=Z,17nm,0.6s,baz=125,slow=5.3,SNR=52							
MAW	Mawson	84.43	201	P		P	18 34 02.1	+0.6
	baz=84,SNR=25							
IL1	Eielson Array	84.46	16	*e*P		P	18 33 59.6	-1.9
ILAR	Eielson Array	84.46	16	P		P	18 33 59.8	-1.8
	comp=Z,17nm,0.5s,baz=233,slow=5.3,SNR=364							
ILB	Eielson Array	84.46	16	*e*P		P	18 33 59.9	-1.8
SCRK	Sand Creek	84.65	17	*e*P		P	18 34 01.8	-0.9
LTY	Liberty	84.77	39	*e*P		P	18 34 03.3	-0.3
G08A	Pilot Rock	84.94	41	*e*P		P	18 34 04.9	-0.4
HAWA	Hanford	85.07	40	*e*P		P	18 34 05.6	+0.7
WHY	Whitehorse	85.31	23	*e*P		P	18 34 05.2	-0.7
E08A	Dider Farm, El	85.41	40	*e*P		P	18 34 06.9	+0.4
LCMT	Little Creek M	85.53	50	*e*P		P	18 34 08.5	+1.0
CCUT	Cedar City	85.64	50	*e*P		P	18 34 09.2	+1.1
COLD	Coldfoot	85.64	13	*e*P		P	18 34 07.2	0.0
PSUT	Pine Spring	85.64	49	*e*P		P	18 34 09.0	+0.8
D08A	Wollman Farm,	85.75	39	*e*P		P	18 34 08.4	+0.2
TUC	Tucson	85.75	55	*e*P		P	18 34 09.4	+0.8
	comp=Z,3.3nm,0.8s							
TUC	Tucson	85.75	55	P		P	18 34 08.7	0.0
	baz=250							
ULN	Ulaanbaatar	85.76	322	*e*P		P	18 34 08.2	-0.3
ULN	Ulaanbaatar	85.76	322	*c i*P		P	18 34 08.4	0.0
ULN				pmax		pmax		
	comp=Z,9.0nm,1.0s							
BMO	Blue Mountains	85.81	42	*e*P		P	18 34 08.6	-0.1
BMO	Blue Mountains	85.81	42	*e*P		P	18 34 08.6	-0.1
KNB	Kanab	85.84	50	*e*P		P	18 34 10.0	+0.9
SZCU	Shurtz Canyon	85.86	50	*e*P		P	18 34 10.4	+1.2
DLBC	Dease Lake	85.87	26	*e*P		P	18 34 08.9	+0.4
E09A	Wood Farm, Sta	85.98	40	*e*P		P	18 34 09.7	+0.4
EGAK	Eagle	86.07	18	*e*P		P	18 34 08.4	-0.9
B08A	Colville Reser	86.08	38	*e*P		P	18 34 09.4	-0.3
DAWY	Dawson	86.09	19	*e*P		P	18 34 08.5	-1.0
SONA1	Songino Array	86.15	321	*e*P		P	18 34 09.9	-0.3
SONM	Songino Array	86.15	321	P		P	18 34 09.9	-0.3
	comp=Z,3.6nm,0.9s,baz=129,slow=3.4,SNR=20							
PKCU	Pink Cliffs	86.38	50	*e*P		P	18 34 13.3	+1.5
WUAZ	Wupatki	86.40	52	*e*P		P	18 34 12.9	+1.1
WUAZ	Wupatki	86.40	52	P		P	18 34 12.6	+0.9
	baz=250							
C09A	Chrisman Ranch	86.47	39	*e*P		P	18 34 11.8	+0.2
MTPU	Mount Pierson	86.69	49	*e*P		P	18 34 14.7	+1.4
MSU	Marysvale	86.86	49	*e*P		P	18 34 15.1	+1.2
TOLK	Toolik Lake Re	86.94	13	*e*P		P	18 34 12.7	-0.7
DUG	Dugway, Tooele	87.01	47	*e*P		P	18 34 14.9	+0.5
DUG	Dugway, Tooele	87.01	47	*e*P		P	18 34 15.0	+0.5
DUG	Dugway, Tooele	87.01	47	P		P	18 34 14.8	+0.3
	baz=248							
BGU	Big Grassy Mou	87.13	47	*e*P		P	18 34 15.8	+0.7
GTA	Gaotai	87.13	312	||P	P	18 34 16.3	+1.2
GTA				pP		pP	18 36 26.3	+2.4
GTA				sP		sP	18 37 25.3	+1.4
GTA				pmax		pmax		
	comp=Z,40nm,5.9s							
HLID	Hailey	87.18	44	*e*P		P	18 34 15.8	+0.5
HLID	Hailey	87.18	44	P		P	18 34 16.0	+0.8
	baz=247							
NEW	Newport	87.36	39	*e*P		P	18 34 15.5	-0.3
NEW	Newport	87.36	39	*e*P		P	18 34 15.5	-0.3
NEW	Newport	87.36	39	P		P	18 34 15.5	-0.3
	baz=245							
NLU	North Lily Min	87.45	48	*e*P		P	18 34 17.5	+0.9
W18A	Petrified Fore	87.52	53	P		P	18 34 17.8	+0.8
	baz=250							
HVU	Hansel Valley	87.62	46	*e*P		P	18 34 18.3	+0.9
HVU	Hansel Valley	87.62	46	*e*P		P	18 34 18.3	+0.9
SPUT	South Promonto	87.68	46	*e*P		P	18 34 18.1	+0.5
MPU	Maple Canyon	87.79	48	*e*P		P	18 34 19.2	+1.0
TMUT	Trail Mountain	87.84	49	*e*P		P	18 34 19.8	+1.2
CTU	Camp Tracy	87.95	47	*e*P		P	18 34 19.8	+0.9
JLU	Jordanelle	88.13	47	*e*P		P	18 34 20.7	+0.9
121A	Cookes Peak, D	88.22	56	P		P	18 34 20.9	+0.5
	baz=252							
P17A	Butcher Ranch,	88.25	49	*e*P		P	18 34 21.7	+1.4
SRU	San Rafael Swe	88.28	49	*e*P		P	18 34 21.2	+0.7
SRU	San Rafael Swe	88.28	49	*e*P		P	18 34 21.2	+0.7
TCUT	Toone Canyon	88.34	47	*e*P		P	18 34 21.7	+0.9
HWUT	Hardware Ranch	88.41	46	*e*P		P	18 34 21.0	-0.1
P18A	Preston Nutter	88.66	49	*e*P		P	18 34 23.1	+0.7
MCMT	McKenzie Canyo	88.70	43	*e*P		P	18 34 22.8	+0.4
MSO	Missoula	88.75	41	*e*P		P	18 34 22.2	-0.2
MSO	Missoula	88.75	41	P		P	18 34 23.1	+0.7
	baz=247							
DLMT	Dillon	89.07	43	*e*P		P	18 34 24.3	+0.4
ZAK	Zakamensk	89.08	323	*e*P		P	18 34 20.4	-3.4
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.1s							
LENM	Lemitar	89.37	55	*e*P		P	18 34 26.1	+0.5
TLY	Talaya	89.41	324	||*e*P	P	18 34 24.6	-0.6
TLY				pmax		pmax		
	comp=Z,5.0nm,0.9s							
FXWY	Fox Creek	89.50	45	*e*P		P	18 34 26.4	+0.3
TPAW	Teton Pass	89.50	45	*e*P		P	18 34 26.8	+0.7
REDW	Red Top Meadow	89.52	45	*e*P		P	18 34 26.9	+0.7
BNM	Barren Site	89.64	55	*e*P		P	18 34 27.4	+0.4
IMW	Indian Meadow	89.65	44	*e*P		P	18 34 27.1	+0.2
LPM	Los Pinos Moun	89.69	54	*e*P		P	18 34 27.4	+0.3
MOOW	Moose Ponds	89.73	45	*e*P		P	18 34 27.3	+0.1
YHB	Horse Butte	89.77	43	*e*P		P	18 34 28.6	+1.2
LOHW	Long Hollow	89.78	45	*e*P		P	18 34 27.6	+0.2
BOZ	Bozeman (W)	89.79	43	*e*P		P	18 34 27.9	+0.6
BOZ	Bozeman (W)	89.79	43	*e*P		P	18 34 27.9	+0.6
BOZ	Bozeman (W)	89.79	43	P		P	18 34 27.5	+0.3
	baz=249							
FLWY	Flagg Ranch	89.87	44	*e*P		P	18 34 28.4	+0.6
YMR	Madison River	89.90	44	*e*P		P	18 34 29.2	+1.3
MNTX	Cornudas Mount	89.91	57	*e*P		P	18 34 28.2	+0.2
MNTX	Cornudas Mount	89.91	57	P		P	18 34 28.3	+0.3
	baz=253							
ANMO	Albuquerque	90.02	54	*e*P		P	18 34 29.2	+0.6
ANMO	Albuquerque	90.02	54	*c i*P		P	18 34 28.5	-0.2
ANMO				pmax		pmax		
	comp=Z,11nm,1.0s							
ANMO	Albuquerque	90.02	54	P		P	18 34 28.8	+0.1
	baz=252							
YHH	Holmes Hill	90.02	44	*e*P		P	18 34 29.5	+0.9
HRY	Holter Researc	90.06	42	*e*P		P	18 34 28.6	+0.2
H17A	Grant Village	90.06	44	*e*P		P	18 34 30.6	+1.8
H17A	Grant Village	90.06	44	P		P	18 34 29.9	+1.1
	baz=250							
BW06	Boulder Array	90.21	46	*e*P		P	18 34 28.9	-0.6
PD31	Pinedale Array	90.21	46	*e*P		P	18 34 28.9	-0.5
PDAR	Pinedale Array	90.21	46	P		P	18 34 28.6	-0.8
	comp=Z,1.8nm,0.5s,baz=201,slow=2.6,SNR=24							
PDAR				pP		pP	18 36 40.1	+1.0
	comp=Z,0.5nm,0.7s,baz=232,slow=4.9,SNR=3.7							
PDAR	Pinedale Array	90.21	46	*e*P		P	18 34 27.6	-1.8
PDAR				pP		pP	18 36 40.1	+1.0
O20A	White River Ci	90.28	49	*e*P		P	18 34 30.3	+0.5
O20A	White River Ci	90.28	49	P		P	18 34 29.6	-0.1
	baz=251							
S22A	4UR Ranch, Cre	90.58	51	*e*P		P	18 34 32.0	+0.6
S22A	4UR Ranch, Cre	90.58	51	P		P	18 34 31.6	+0.2
	baz=252							
SYO	Syowa Base	90.65	195	||*i*P	P	18 34 30.0	-0.6
SYO	Syowa Base	90.65	195	||*i*PcP	P	18 34 30.6	0.0
TX31	Lajitas Ar. Si	90.66	60	*e*P		P	18 34 32.2	+0.6
TXAR	Lajitas Array	90.66	60	P		P	18 34 32.3	+0.6
	comp=Z,6.6nm,0.7s,baz=223,slow=5.4,SNR=59							
INK	Inuvik	90.72	17	*e*P		P	18 34 30.6	-0.2
INK	Inuvik	90.72	17	*e*P		P	18 34 30.6	-0.2
SMCO	Snowmass	90.91	50	*e*P		P	18 34 33.5	+0.5
TIXI	Tiksi	91.06	347	*e*P		P	18 34 30.8	-1.6
TIXI	Tiksi	91.06	347	*c i*P		P	18 34 31.2	-1.1
TIXI				pmax		pmax		
	comp=Z,13nm,1.1s							
RLMT	Red Lodge	91.19	44	*e*P		P	18 34 33.8	-0.1
	comp=Z,28nm,1.9s							
RLMT	Red Lodge	91.19	44	P		P	18 34 34.2	+0.3
	baz=251							
SDCO	Great Sand Dun	91.59	52	P		P	18 34 36.0	0.0
	baz=253							
EGMT	Eagleton	91.84	41	P		P	18 34 37.1	+0.5
	baz=250							
N23A	Red Feather La	92.18	48	*e*P		P	18 34 39.2	+0.6
N23A	Red Feather La	92.18	48	P		P	18 34 38.8	+0.2
	baz=253							
Q24A	Divide	92.20	50	P		P	18 34 38.8	0.0
	baz=253							
T25A	Trinidad	92.24	52	P		P	18 34 38.5	-0.4
	baz=254							
K22A	Casper	92.29	47	P		P	18 34 39.2	+0.3
	baz=252							
MSTX	Muleshoe	92.66	56	P		P	18 34 40.2	-0.6
	baz=254							
LAO	LASA Array	93.70	43	P		P	18 34 45.3	+0.2
	baz=253							
AMTX	Amarillo	93.77	55	*e*P		P	18 34 45.5	-0.3
AMTX	Amarillo	93.77	55	P		P	18 34 45.5	-0.3
	baz=255							
SNAA	Sanae	94.02	181	*e*P		P	18 34 45.8	-0.4
SNAA	Sanae	94.02	181	*ce*P		P	18 34 46.2	0.0
YKA	Yellowknife Ar	94.49	26	P		P	18 34 47.3	-0.9
	comp=Z,8.8nm,0.6s,baz=252,slow=4.7,SNR=28							
ABTX	Abilene, Hawle	94.85	58	P		P	18 34 50.1	-0.5
	baz=256							
HVS	Khovu-Aksy	95.04	321	||*e*P	P	18 34 52.0	+0.9
HVS				pmax		pmax		
	comp=Z,8.0nm,1.3s							
WMQ	Urumqi	97.11	313	*e*P		P	18 35 01.3	+0.7
DGZ	Jazzator, Alta	98.57	319	*ce*P		Pdif	18 35 06.6	-0.4
DGZ				pmax		pmax		
	comp=Z,1.0nm,1.2s							
ZALV	Zalesovo Beam	100.96	323	PP		PP	18 39 32.4	-3.2
	comp=Z,0.5nm,0.5s,baz=106,slow=5.4,SNR=3.0							
MKAR	Makanchi Array	101.42	316	P		Pdif	18 35 19.6	0.0
	comp=Z,0.6nm,0.5s,baz=82,slow=8.4,SNR=8.8							
MKAR				PKiKP		PP	18 39 38.8	-0.4
	comp=Z,0.4nm,0.7s,baz=137,slow=0.5,SNR=5.8							
ARU	Arti	115.85	326	*i* PKIKP		PKPdf	18 40 05.5	-1.1
ARU							18 46 21.0	
ARCES	ARCESS Array B	121.50	347	PKP		PKPdf	18 40 16.5	-0.6
	comp=Z,4.6nm,0.4s,baz=76,slow=3.1,SNR=96							
ARCES				PKKPbc		PKKPab	18 50 19.1	-2.7
	comp=Z,3.1nm,0.9s,baz=280,slow=2.1,SNR=6.4							
BOSA	Boshof	127.44	215	PKP		PKPdf	18 40 30.1	+0.1
	comp=Z,1.6nm,0.4s,baz=147,slow=1.3,SNR=11							
FINES	FINESS Array B	127.69	341	PKP		PKPdf	18 40 28.8	-0.3
	comp=Z,1.4nm,0.3s,baz=52,slow=1.8,SNR=22							
FINES				SKPbc		SKiKP	18 42 53.9	-16
	comp=Z,5.4nm,0.7s,baz=66,slow=2.3,SNR=11							
OBN	Obninsk	127.73	330	||*i*PKIKP	PKPdf	18 40 26.4	-3.0
OBN				*e*			18 42 46.6	
OBN				*e*SS		SS	18 59 00.4	-6.2
OBN				pmax		pmax		
	comp=Z,20nm,1.6s							
NCK	Nalchik	128.71	315	||*e*PKIKP	PKPdf	18 40 28.7	-3.0
NEY	Neytrino	129.39	315	||*i*PKIKP	PKPdf	18 40 35.3	+2.1
NB2	NORSAR Subarra	131.83	349	PKP		PKPdf	18 40 37.4	+0.3
	comp=Z,1.4nm,0.6s,baz=17,slow=2.6							
NB2	NORSAR Subarra	131.83	349	PKP		SKPab	18 43 08.5	-0.8
	comp=Z,2.7nm,0.7s,baz=22,slow=3.1							
NOA	NORSAR Array B	131.83	349	PKP		PKPdf	18 40 37.3	+0.2
	comp=Z,0.9nm,0.6s,baz=13,slow=3.7,SNR=3.4							
NOA				SKPbc		SKPab	18 43 08.6	-0.7
	comp=Z,6.7nm,0.9s,baz=17,slow=4.9,SNR=15							
AKASG	Malin Array Be	133.92	329	SKPbc		SKPbc	18 43 15.2	+0.2
	comp=Z,3.9nm,0.8s,baz=44,slow=4.2,SNR=8.4							
KIEV	Kiev	133.93	329	||*e*PKIKP	PKPdf	18 40 40.8	-0.5
KMBO	Kilima Mbogo	134.26	254	SKPbc		SKPbc	18 43 18.1	+0.5
	comp=Z,0.7nm,0.5s,baz=35,slow=3.5,SNR=7.9							
BRTR	Keskin Array B	137.03	314	PKP		PKPdf	18 40 47.8	+0.1
	comp=Z,0.5nm,0.4s,baz=120,slow=4.4,SNR=4.5							
BRTR				SKPbc		SKPbc	18 43 25.6	+0.5
	comp=Z,1.0nm,0.8s,baz=90,slow=3.7,SNR=4.8							
VOIR		139.42	326	||*i*P	PKPdf	18 40 51.0	-0.7
DRGR		139.74	329	||*i*P	PKPdf	18 40 49.8	-2.4
CLL	Collm	140.14	341	*i* PKPdf		PKPdf	18 40 52.6	-0.1
	comp=Z,7.0nm,1.2s							
CLL				*i* SKPbc		SKPbc	18 43 33.7	+0.6
	comp=Z,7.0nm,0.8s							
BZS	Buzias	141.10	329	||*i*P	PKPdf	18 40 54.1	-0.5
KHC	Kasperske Hory	141.82	339	*e*PKP		PKPdf	18 40 53.1	-2.7
KHC				*e*SKP			18 43 38.8	
KHC	Kasperske Hory	141.82	339	*e*PKIKP		PKPdf	18 40 53.1	-2.7
CONA	Conrad Observa	141.97	336	*i* PKPdf		PKPdf	18 40 53.3	-3.0
	comp=Z,8.3nm,0.9s							
GERES	GERESS Array B	142.02	339	PKhKP		PKPpre	18 40 52.7	
	comp=Z,1.9nm,0.6s,baz=46,slow=3.9,SNR=14							
GERES				SKPbc		SKiKP	18 43 38.9	-0.5
	comp=Z,1.9nm,0.7s,baz=52,slow=2.2,SNR=10							
VTS	Vitosha	142.24	324	||*i*P	PKPdf	18 40 54.0	-2.9
ARSA	Arzberg	142.65	335	*i* PKPdf		PKPdf	18 40 55.0	-2.4
	comp=Z,9.7nm,1.4s							
MOA	Molln	142.65	337	*i* PKPdf		PKPdf	18 40 54.9	-2.4
	comp=Z,1.5nm,0.6s,SNR=9.2							
DIVS	Divibare	142.99	328	||*i*P	PKPdf	18 40 55.8	-2.3
SNF	Seneffe	143.07	349	||PKiKP	PKPbc	18 40 56.1	-0.1
PERS	Pernice	143.31	335	*i* PKPbc		PKPab	18 40 56.8	-0.2
PERS	Pernice	143.31	335	*i* PKPbc		PKPab	18 40 56.8	-0.2
SOKA	Soboth	143.31	335	*i* PKPdf		PKPab	18 40 56.8	-0.2
	comp=Z,4.6nm,0.4s							
STIP	Stip	143.40	323	*i* P		PKPab	18 40 56.8	-0.6
DOU	Dourbes	143.41	348	||PKP	PKPbc	18 40 57.2	-0.1
BBLS	Lazići	143.45	328	||*i*P	PKPbc	18 40 57.9	+0.2
WLF	Walferdange	143.49	346	||PKP	PKPbc	18 40 57.8	+0.3
HAPS	Han Pijesak,Bl	143.52	329	*e*P		PKPab	18 40 57.4	-0.5
KBA	Koelnbreinsper	143.63	337	*i* PKPdf		PKPab	18 40 57.7	-0.6
	comp=Z,18nm,0.7s,SNR=9.2							
OBKA	Obir	143.64	336	*i* PKPdf		PKPbc	18 40 57.9	-0.4
	comp=Z,14nm,0.8s							
SKO	Skopje	143.65	324	*i* P		PKPab	18 40 58.8	+0.4
CRES	Cresnjev	143.82	334	||*i*P	PKPbc	18 40 58.5	-0.2
BLY	Banja Luka	143.88	331	||*i*P	PKPdf	18 40 59.6	+0.1
BLY	Banja Luka	143.88	331	||*i*P	PKPab	18 40 59.1	0.0
MYKA	Terra Mystica	143.90	337	*i* PKPdf		PKPbc	18 40 58.5	-0.6
	comp=Z,34nm,0.7s,SNR=9.7							
LJU	Ljubljana	144.03	335	||*i*P	PKPbc	18 40 59.1	-0.3
WATA	Walderalm	144.05	339	*i* PKPdf		PKPbc	18 40 59.5	0.0
	comp=Z,15nm,0.5s,SNR=8.5							
WTTA	Wattenberg	144.09	339	*i* PKPdf		PKPbc	18 40 59.9	+0.1
	comp=Z,30nm,1.0s,SNR=7.3							
VISS	Visnje	144.09	335	*e*PKPbc		PKPbc	18 40 59.4	-0.2
VISS	Visnje	144.09	335	*e*PKPbc		PKPbc	18 40 59.4	-0.2
KRUS	Krusevo	144.15	324	*i* P		PKPbc	18 40 59.7	-0.3
BOJS	Bojanci	144.16	334	*e*PKPdf		PKPbc	18 40 51.5	-8.3
BOJS				*e*PKPbc		PKPab	18 41 00.2	0.0
BOJS				*ep*PKPbc		pPKPdf	18 43 03.2	-16
BOJS	Bojanci	144.16	334	*e*PKPdf		PKPbc	18 40 51.5	-8.3
BOJS				*e*PKPbc		PKPab	18 41 00.2	0.0
BOJS				*ep*PKPbc		pPKPdf	18 43 03.2	-16
RETA	Reutte	144.19	340	*i* PKPab		PKPbc	18 40 60.0	+0.1
	comp=Z,31nm,1.0s,SNR=7.3							
MOTA	Moosalm	144.20	340	*i* PKPab		PKPdf	18 41 00.2	-0.1
	comp=Z,19nm,0.7s,SNR=13							
ABTA	Abfaltersbach	144.22	338	*i* PKPab		PKPbc	18 40 59.4	-0.7
	comp=Z,39nm,0.7s,SNR=16							
SQTA	Sankt Quirin	144.28	340	*i* PKPab		PKPdf	18 41 00.4	0.0
	comp=Z,34nm,1.0s,SNR=11							
SANT	Santorini	144.30	313	||*i*P	PKPbc	18 40 59.2	-1.4
CEY	Cerknica	144.31	335	||*i*P	PKPbc	18 40 59.9	-0.4
JAVS	Javornik	144.34	335	*e*PKPbc		PKPdf	18 40 59.9	-0.5
JAVS	Javornik	144.34	335	*e*PKPbc		PKPdf	18 40 59.9	-0.5
PDG	Podgorica	144.54	327	||*i*P	PKPdf	18 41 00.7	0.0
PDG	Podgorica	144.54	327	*e*P		PKPdf	18 41 00.7	0.0
BRY	Bratog

0.3nm,0.3s,baz=340,slow=7.4,SNR=22
MKAR Makanchi Array 54.24 326 P P 19 10 13.3 +1.2
0.4nm,0.5s,baz=117,slow=8.0,SNR=6.8
KURBB Kurchatov Arra 58.50 328 P P 19 10 41.1 -1.4
0.3nm,0.5s,baz=124,slow=6.4,SNR=6.0

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*ISCJB **14** 19:02:02.7±0.4,28°.98S±0°.02×71°.24W±0°.03, h46km±4km, mb6.2/413,MS5.7/47, Error ellipse: s-maj=4.8km s-min=3.0km az=177.0*

*GUC **14** 19:02:03.8±0.8,29°.24S×71°.24W, h82km±4km, ML5.7, MW6.2*

*SJA **14** 19:02:03.9±1.2,29°.10S×71°.50W, h64km±9km, ML5.8, MW6.0*

*MOS **14** 19:02:04.1±1.2,29°.04S×71°.33W, h53km, mb6.4/45, MS5.6/12, Error ellipse: s-maj=9.6km s-min=5.7km az=98.2*

*BJI **14** 19:02:05.1,29°.18S×71°.21W, h50km, mB5.9/57, Ms6.0/71, Ms7 6.0/67*

*NEIC **14** 19:02:05.0±0.0,29°.06S×71°.04W, h60km, Moment Tensor Solution. s33 Moment tensor: Scale 10¹⁸Nm; Mrr=0.95; Mθθ=0.23; Mθφ=0.72; Mrθ=0.08; Mrφ=0.15; Mφφ=1.76; Best double couple: M₀2.00000×10¹⁸ NP1:φ₁360.00000°, δ77.00000°, λ-94.00000°. NP2:φ₂201.00000°, δ14.00000°, λ-69.00000°. Principal axes: T 1.8400, Plg32.0000°, Azm93.0000°; N 0.2300, Plg4.0000°, Azm0.0000°; P -2.0700, Plg57.0000°, Azm263.0000°;*

*IDC **14** 19:02:06.0±0.4,29°.12S×71°.33W, h64km±3km, mb5.4/38, mb1 5.5/40, mb1mx5.5/40, mbtmp5.7/40, MS5.5/26, Ms1 5.5/26, ms1mx5.4/30 Error ellipse: s-maj=10.8km s-min=8.3km az=74.0*

*NEIC **14** 19:02:06.1±0.1,29°.12S×71°.19W, h63km, mb6.2/298, ME6.1, MW6.2, MW6.1, MD6.0(SJA), MW6.2(GUC), Error ellipse: s-maj=3.8km s-min=2.5km az=77.0, Moment Tensor Solution. s71 Moment tensor: Scale 10¹⁸Nm; Mrr=0.30; Mθθ=0.48; Mφφ=-0.18; Mrθ=-0.43; Mrφ=0.59; Mθφ=-2.24; Best double couple: M₀2.40000×10¹⁸ NP1:φ₁14.00000°, δ87.00000°, λ-107.00000°. NP2:φ₂274.00000°, δ17.00000°, λ-10.00000°. Principal axes: T 2.2900, Plg40.0000°, Azm119.0000°; N 0.1900, Plg17.0000°, Azm15.0000°; P -2.4900, Plg45.0000°, Azm267.0000°; Broadband fault plane solution: P waves. NP1: φ₁190.00000°, δ10.00000°, λ-90.00000°. NP2:φ₂10.00000°, δ80.00000°, λ-90.00000°. Principal axes: T Plg35.0000°, Azm100.0000°; N Plg0.0000°, Azm0.0000°; P Plg55.0000°, Azm280.0000°; Depth from synthetics of broadband displacement seismograms. Apparent Stress 1.22 MPa. Energy computed from BB mechanism.*

NEIC Felt [VI] at La Higuera; [V] at Alto del Carmen, Copiapo, Coquimbo, Freirina, Huasco, La Serena, Ovalle, Paiguano, Tierra Amarilla, Vallenar and Vicuna; [IV] at Andacollo, Caldera, Illapel, Monte Patria, Punitaqui, Rio Hurtado and Salamanca; [III] at Chanaral, Combarbala, Diego de Almagro, La Ligua, Paine, Papudo, Rancagua, Santiago, Taltal, Valparaiso, Vina del Mar and Zapallar. Felt widely in central Chile. Felt [III] at Cordoba, Mendoza and San Juan, Argentina.

*GCMT **14** 19:02:07.1±0.1,29°.32S×71°.66W, h69km, MW6.2/141, Moment Tensor Solution. s141,c333; s138,c464; Duration: 3ʒ0 Moment tensor: Scale 10¹⁸Nm; Mrr=0.82±.01; Mθθ=0.19±.01; Mφφ=0.63±.02; Mrθ=0.06±.01; Mθφ=0.86±.01; Mφr=2.06±.01; Best double couple: M₀2.35200×10¹⁸ NP1:φ₁4.00000°, δ79.00000°, λ-111.00000°. NP2:φ₂248.00000°, δ23.00000°, λ-28.00000°. Principal axes: T 2.3060, Plg31.0000°, Azm111.0000°; N 0.0920, Plg21.0000°, Azm8.0000°; P -2.3980, Plg51.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 14 19:02:05.7±0.2,29°.18S±0°.03×71°.39W±0°.03, h62km±1km, h62km:pP-P,n1775,σ1946/1931,mb6.2/413,78C-44D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.62**	**75**	*e*Pn		**Pn**	**19 02 19.1**	**-0.3**
LCO	**Las Campanas**	**0.62**	**75**	*e*P		**Pn**	**19 02 20.0**	**+0.6**
LCO				*e*S		**Sn**	**19 02 30.9**	**+1.5**
LCO	**Las Campanas**	**0.62**	**75**	⇑*i*P		**Pn**	**19 02 19.8**	**+0.3**
LCO				*i* S		**Sn**	**19 02 31.0**	**+1.5**
LCO	**Las Campanas**	**0.62**	**75**	*e*P		**Pn**	**19 02 19.1**	**-0.3**
LSCH	**La Serena**	**0.74**	**170**	*e*P		**Pn**	**19 02 20.3**	**-0.2**
LSCH				*e*S		**Sn**	**19 02 31.8**	**+0.5**
LSCH				IAML			19 02 33.2	
	comp=N,401μm,0.3s							
VACH	**Vallenar**	**0.81**	**43**	⇓*i*P		**Pn**	**19 02 21.4**	**-0.1**
GO04	**Tololo Observa**	**1.11**	**153**	*e*Pn		**Pn**	**19 02 25.2**	**-0.4**
GO04	**Tololo Observa**	**1.11**	**153**	*e*P		**Pn**	**19 02 25.5**	**-0.1**
GO04				*e*S		**Sn**	**19 02 40.4**	**+0.1**
GO04	**Tololo Observa**	**1.11**	**153**	*e*P		**Pn**	**19 02 24.9**	**-0.6**
GO04				*i* S		**Sn**	**19 02 40.3**	**0.0**
GO03	**Copiap**	**1.88**	**33**	*e*Pn		**Pn**	**19 02 35.0**	**-0.6**
GO03	**Copiap**	**1.88**	**33**	*e*P		**Pn**	**19 02 35.6**	**0.0**
GO03	**Copiap**	**1.88**	**33**	⇓*i*P		**Pn**	**19 02 35.0**	**-0.6**
GO03				*i* S		**Sn**	**19 02 58.7**	**+0.4**
GO03				IAML			19 02 59.9	
	comp=N,104μm,0.4s							
AROD	**Rodeo**	**1.93**	**121**	*e*P		**Pn**	**19 02 38.7**	**+2.1**
ACDV	**Cuesta del Vie**	**2.21**	**117**	*e*P		**Pn**	**19 02 43.0**	**+2.9**
ACCO	**Cerro Coronel**	**2.46**	**125**	*e*P		**Pn**	**19 02 46.4**	**+2.7**
AGUA	**GUANDACOL**	**2.55**	**98**	*i* P		**Pn**	**19 02 48.4**	**+3.7**
VCA	**Vinchina**	**2.82**	**82**	*i* P		**Pn**	**19 02 52.9**	**+4.3**
VCA				IAML			19 03 05.5	
	comp=Z,52μm,0.5s							
VCA				*i* S		**Sn**	**19 03 27.3**	**+5.8**
AMOG	**MOGNA**	**3.06**	**126**	*e*P		**Pn**	**19 02 54.4**	**+2.7**
RTLL	**Cerro Villicun**	**3.31**	**131**	*e*P		**Pn**	**19 02 57.2**	**+2.1**
AUSP	**Uspallata**	**3.49**	**151**	*e*P		**Pn**	**19 03 00.4**	**+2.6**
RTCV	**Cerro Valdivia**	**3.63**	**138**	*e*P		**Pn**	**19 03 01.9**	**+2.4**
ROCH	**El Roble**	**3.79**	**175**	⇓*i*P		**Pn**	**19 03 01.1**	**-0.8**
ROCH				*i* S		**Sn**	**19 03 44.8**	**-0.6**
ROC1	**El Roble**	**3.80**	**175**	*e*Pn		**Pn**	**19 02 59.8**	**-2.2**
ACLC	**CERRO LA CRUZ**	**3.88**	**95**	*e*P		**Pn**	**19 03 04.8**	**+1.8**
PEL	**Peldehue**	**4.00**	**172**	*e*Pn		**Pn**	**19 03 04.1**	**-0.4**
PEL	**Peldehue**	**4.00**	**172**	*e*P		**Pn**	**19 03 03.6**	**-0.9**
PEL				*e*S		**Sn**	**19 03 48.4**	**-1.7**
PEL	**Peldehue**	**4.00**	**172**	*e*P		**Pn**	**19 03 04.1**	**-0.4**
ARCO	**CERRO ARCO**	**4.21**	**151**	*e*P		**Pn**	**19 03 10.4**	**+2.8**
ARCO				IAML			19 04 27.8	
	comp=Z,15μm,0.7s							
FCH	**Farellones**	**4.24**	**167**	⇑*i*P		**Pn**	**19 03 08.6**	**+0.5**
FCH				*i* S		**Sn**	**19 03 57.4**	**+0.9**
CLCH	**Cerro Calan**	**4.27**	**170**	⇑*i*P		**Pn**	**19 03 08.3**	**+0.1**
CLCH				*e*S		**Sn**	**19 03 55.9**	**-0.8**
APLL	**PUNTA DE LOS L**	**4.39**	**107**	*e*P		**Pn**	**19 03 11.7**	**+1.7**
APLL				IAML			19 03 44.2	
	comp=Z,7μm,0.4s							
ANTU	**Antumapu**	**4.42**	**172**	*i* S		**Sn**	**19 03 58.5**	**-2.0**
AAGR	**Agrelo**	**4.47**	**151**	*e*P		**Pn**	**19 03 13.3**	**+2.3**
ACAN	**Cantantal**	**4.75**	**132**	*e*P		**Pn**	**19 03 16.4**	**+1.6**
LMEL	**Las Melosas**	**4.76**	**168**	*i* P		**Pn**	**19 03 15.6**	**+0.5**
LMEL				*i* S		**Sn**	**19 04 09.1**	**0.0**
PB10	**IPOC Station P**	**5.69**	**8**	*e*Pn		**Pn**	**19 03 23.8**	**-3.9**
GO05	**HualaæØ**	**5.83**	**184**	*e*Pn		**Pn**	**19 03 26.6**	**-3.0**
AHML	**Horco Molle**	**5.86**	**67**	*e*P		**Pn**	**19 03 30.4**	**+0.4**
AHML				IAML			19 04 12.7	
	comp=Z,2μm,0.6s							
PB04	**IPOC Station P**	**6.91**	**10**	*e*Pn		Pn	19 03 39.3	-5.2
LVC	**Limon Verde**	**6.91**	**19**	P		**Pn**	**19 03 42.3**	**-2.4**
	comp=Z,109nm,0.3s,baz=152,slow=10.0,SNR=302							
LVC				S		**Sn**	**19 04 59.2**	**-2.9**
	comp=Z,165nm,0.3s,baz=160,slow=13,SNR=4.2							
LVC				Lg		Lg	19 05 33.6	
	comp=Z,471nm,0.3s,baz=108,slow=14,SNR=5.6							
LVC	**Limon Verde**	**6.91**	**19**	*e*Pn		**Pn**	**19 03 40.6**	**-4.1**
LVC				S		**Sn**	**19 04 59.2**	**-2.9**
LVC				Lg		Lg	19 05 33.6	
PB01	**IPOC Station P**	**8.28**	**12**	*e*Pn		**Pn**	**19 03 58.9**	**-4.4**
ALOL	**LOMAS DE OLMED**	**8.52**	**53**	*e*P		**Pn**	**19 04 04.7**	**-1.7**
PB11	**IPOC Station P**	**9.51**	**10**	*e*Pn		Pn	19 04 14.5	-5.5
MNMC	**Minye Minye**	**10.13**	**10**	*e*Pn		Pn	19 04 23.8	-5.0
GO06	**Curarrehue**	**10.38**	**180**	*e*Pn		**Pn**	**19 04 29.5**	**-2.4**
PLCA	**Paso Flores**	**11.55**	**177**	P		**Pn**	**19 04 46.2**	**-1.6**
	comp=Z,4.2nm,0.3s,baz=18,slow=12,SNR=62							
PLCA				LR		LR	19 09 12.3	
	comp=Z,18μm,19.4s,baz=14,slow=37							
PLCA				P3KP			19 41 51.1	
	comp=Z,0.1nm,0.3s,baz=126,slow=4.4,SNR=3.7							
PLCA	**Paso Flores**	**11.55**	**177**	*e*Pn		**Pn**	**19 04 45.5**	**-2.3**
PLCA				PKKKP			19 41 51.1	
TRQA	**Tornquist**	**11.82**	**141**	*e*Pn		**Pn**	**19 04 49.4**	**-2.1**
TRQA	**Tornquist**	**11.82**	**141**	*e*P		**Pn**	**19 04 49.4**	**-2.1**
LPA	**La Plata**	**12.76**	**120**	*c* *i*P		**Pn**	**19 05 03.0**	**-1.2**
LPA				*e*sP		P	19 05 21.0	+7.8
LPA				*e*S		**Sn**	**19 07 23.0**	**-1.5**
LPA				*e*SCS		**ScS**	**19 17 40.0**	**-0.4**
LPA				*e*PKIKP		**PKiKP**	**19 18 33.0**	**-0.5**
LPA				*e*SKIKP			19 21 59.0	
LPA				*e*PKIKS			19 22 06.0	
LPA				*e*SKIKS			19 25 31.0	
CPUP	**Villa Florida**	**12.77**	**81**	P		**Pn**	**19 05 01.4**	**-3.0**
	comp=Z,1.3nm,0.3s,baz=258,slow=12,SNR=75							
CPUP				LR		LR	19 10 53.8	
	comp=Z,24μm,19.8s,baz=252,slow=42							
CPUP	**Villa Florida**	**12.77**	**81**	*e*Pn		**Pn**	**19 05 00.8**	**-3.6**
LPAZ	**La Paz**	**13.18**	**14**	P		**Pn**	**19 05 07.2**	**-3.4**
	comp=Z,4.9nm,0.3s,baz=192,slow=5.7,SNR=77							
LPAZ				LR		LR	19 10 35.8	
	comp=Z,18μm,19.5s,baz=188,slow=39							
GO07	**Milladeo Hill,**	**14.03**	**187**	*e*Pn		**Pn**	**19 05 17.1**	**-4.2**
SIV	**San Ignacio**	**16.20**	**38**	P		**Pn**	**19 05 44.1**	**-5.5**
	comp=Z,8.3nm,0.3s,baz=253,slow=7.6,SNR=48							
SIV				LR		LR	19 13 13.6	
	comp=Z,39μm,21.2s,baz=222,slow=41							
NNA	**Nana**	**17.85**	**342**	P		**Pn**	**19 06 09.2**	**-0.6**
	comp=Z,4.7nm,0.3s,baz=170,slow=15,SNR=26							
NNA				LR		LR	19 11 47.5	
	comp=Z,12μm,18.8s,baz=172,slow=33							
NNA	**Nana**	**17.85**	**342**	*e*P		**Pn**	**19 06 11.2**	**+1.3**
	comp=Z,1μm,1.8s							
NNA	**Nana**	**17.85**	**342**	*i* P		**Pn**	**19 06 12.2**	**+2.3**
CHRN	**Cochrane**	**18.07**	**183**	*e*P		**P**	**19 06 11.7**	**-0.3**
	comp=Z,215nm,1.0s							
SAML	**Samuel**	**21.55**	**23**	*e*P		**P**	**19 06 48.9**	**-1.1**
	comp=Z,1.0nm,0.1s							
SAML	**Samuel**	**21.55**	**23**	*e*P		**P**	**19 06 48.9**	**-1.1**
SAML				pmax		pmax		
	comp=Z,1.0nm,0.1s							
GO09	**Cerro Castillo**	**22.08**	**182**	*e*P		**P**	**19 06 56.5**	**+1.0**
	comp=Z,2μm,1.8s							
SPB	**Sao Paulo**	**22.15**	**81**	*e*P		**P**	**19 06 55.6**	**-0.8**
	comp=Z,1μm,1.0s							
ATAH	**Atahualpa**	**22.90**	**342**	P		**P**	**19 07 03.6**	**-1.3**
	comp=Z,4.4nm,0.4s,baz=202,slow=9.9,SNR=5.7							
GO10	**Punta Arenas**	**23.96**	**180**	*e*P		**P**	**19 07 15.3**	**+1.2**
	comp=Z,439nm,0.9s							
EFI	**East Falkland**	**24.58**	**160**	*e*P		**P**	**19 07 19.7**	**+0.1**
	comp=Z,720nm,1.3s							
EFI	**East Falkland**	**24.58**	**160**	*c* *i*P		**P**	**19 07 18.9**	**-0.8**
EFI				pmax		pmax		
	comp=Z,693nm,1.3s							
BDFB	**Brasilia**	**25.40**	**63**	P		**P**	**19 07 26.8**	**-0.9**
	comp=Z,412nm,0.7s,baz=234,slow=9.3,SNR=338							
BDFB				LR		LR	19 19 12.1	
	comp=Z,13μm,19.4s,baz=238,slow=40							
BDFB	**Brasilia**	**25.40**	**63**	*e*P		**P**	**19 07 26.7**	**-0.9**
	comp=Z,7μm,1.6s							
BDFB	**Brasilia**	**25.40**	**63**	*e*P		**P**	**19 07 26.7**	**-0.9**
BDFB				pmax		pmax		
	comp=Z,7μm,1.6s							
BPAT	**Tungurahua Vol**	**28.33**	**345**	P		**P**	**19 07 56.4**	**+2.0**
PIS1	**Pisayambo**	**28.75**	**345**	P		**P**	**19 07 60.0**	**+1.8**
PISA	**Pisayambo**	**28.75**	**345**	P		**P**	**19 08 01.1**	**+2.9**
BMOR	**Cotopaxi Volca**	**29.08**	**345**	P		**P**	**19 08 03.5**	**+2.3**
BMOR				S		**pP**	**19 08 14.8**	**-1.4**
BTAM	**Cotopaxi Volca**	**29.12**	**345**	P		**P**	**19 08 03.2**	**+1.6**
BVC2	**Cotopaxi Volca**	**29.14**	**345**	P		**P**	**19 08 03.3**	**+1.6**
ILLI	**Illinizas Sur**	**29.16**	**345**	P		**P**	**19 08 03.3**	**+1.5**
ANTM	**Antisana-La Mi**	**29.22**	**346**	P		**P**	**19 08 04.4**	**+2.1**
ANTS	**Antisana-Sarah**	**29.25**	**346**	P		**P**	**19 08 04.7**	**+2.1**
ANTG	**Antisana-Guama**	**29.26**	**346**	P		**P**	**19 08 04.7**	**+2.0**
OTAV	**Otavalo**	**30.02**	**346**	*e*P		**P**	**19 08 10.9**	**+1.6**
	comp=Z,1μm,1.9s							
OTAV	**Otavalo**	**30.02**	**346**	*e*P		**P**	**19 08 10.6**	**+1.2**
OTAV	**Otavalo**	**30.02**	**346**	*ce*P		**P**	**19 08 10.8**	**+1.5**
OTAV				pmax		pmax		
	comp=Z,247nm,1.7s							
PTGA	**Pitinga**	**30.32**	**23**	P		**P**	**19 08 09.7**	**-1.7**
	comp=Z,58nm,0.9s,baz=203,slow=8.7,SNR=85							
PTGA				LR		LR	19 21 05.0	
	comp=Z,12μm,19.5s,baz=194,slow=38							
PTGA	**Pitinga**	**30.32**	**23**	*e*P		**P**	**19 08 09.8**	**-1.7**
	comp=Z,284nm,1.3s							
CMBC	**Cumbal**	**30.58**	**347**	*e*P		**P**	**19 08 15.7**	**+1.4**
FLOC	**Florencia**	**30.86**	**352**	*e*P		**P**	**19 08 16.4**	**+0.1**
CRUC	**La Cruz**	**31.03**	**349**	*e*P		**P**	**19 08 18.5**	**+0.3**
SOTA	**Rioblanco**	**31.54**	**350**	*e*P		**P**	**19 08 22.7**	**-0.1**
TUMC	**Tumaco**	**31.62**	**346**	*e*P		**P**	**19 08 23.4**	**+0.5**
BETC	**Betania**	**31.92**	**352**	*e*P		**P**	**19 08 27.3**	**+1.7**
POPC	**Popayan, Colom**	**31.94**	**350**	*e*P		**P**	**19 08 26.2**	**+0.1**
GRGC	**Isla de Gorgon**	**32.65**	**347**	*e*P		**P**	**19 08 31.8**	**-0.2**
PRAC	**Prado**	**32.88**	**354**	*e*P		**P**	**19 08 34.6**	**+0.6**
VILC	**Villavicencio,**	**33.17**	**356**	*e*P		**P**	**19 08 36.7**	**0.0**
YOTC	**Yotoco, Valle**	**33.31**	**351**	*e*P		**P**	**19 08 35.3**	**-2.6**
RPN	**Rapa Nui**	**33.43**	**264**	P		**P**	**19 08 38.9**	**+0.2**
	comp=Z,523nm,1.1s,baz=103,slow=5.2,SNR=12							
RPN	**Rapa Nui**	**33.43**	**264**	*e*P		**P**	**19 08 40.7**	**+2.0**
	comp=Z,1μm,1.3s							
RPN	**Rapa Nui**	**33.43**	**264**	*e*P		**P**	**19 08 40.7**	**+2.0**
RPN				pmax		pmax		
	comp=Z,1μm,1.3s							
PAYG	**Puerto Ayora**	**33.60**	**324**	*e*P		**P**	**19 08 42.6**	**+2.4**
	comp=Z,702nm,1.3s							
PAYG	**Puerto Ayora**	**33.60**	**324**	*e*P		**P**	**19 08 40.2**	**-0.1**
CHIC	**Chingaza**	**33.69**	**356**	*e*P		**P**	**19 08 40.2**	**-1.3**
ANIL	**Santa Ana**	**33.70**	**353**	*e*P		**P**	**19 08 43.0**	**+1.6**
ROSC	**El Rosal**	**33.94**	**355**	P		**P**	**19 08 43.5**	**-0.1**
	comp=Z,38nm,1.0s,baz=190,slow=4.1,SNR=19							
ROSC				LR		LR	19 23 30.7	
	comp=Z,3μm,20.2s,baz=214,slow=38							
ROSC	**El Rosal**	**33.94**	**355**	*e*P		**P**	**19 08 46.0**	**+2.4**
	comp=Z,151nm,1.1s							
ROSC	**El Rosal**	**33.94**	**355**	*e*P		**P**	**19 08 45.2**	**+1.6**
RREF	**El Recreo**	**34.10**	**353**	*e*P		**P**	**19 08 47.3**	**+2.0**
PLMC	**San Jos¨ del**	**34.21**	**351**	*e*P		**P**	**19 08 44.4**	**-1.3**
RUSC	**La Rusia**	**34.91**	**357**	*e*P		**P**	**19 08 52.8**	**+0.7**
HELC	**Santa Helena**	**35.39**	**353**	*e*P		**P**	**19 08 55.6**	**-0.5**
TAMC	**Tame, Arauca**	**35.41**	**359**	*e*P		**P**	**19 08 55.5**	**-0.3**
BARC	**Barichara**	**35.61**	**357**	*e*P		**P**	**19 08 55.6**	**-2.2**
PTBC	**PUERTO BERRIO,**	**35.63**	**355**	*e*P		**P**	**19 08 56.3**	**-1.5**
PMSA	**Palmer Station**	**35.91**	**175**	P		**P**	**19 08 59.7**	**+0.1**
	comp=Z,117nm,0.8s,baz=353,slow=7.2,SNR=13							
PMSA	**Palmer Station**	**35.91**	**175**	*e*P		**P**	**19 09 00.3**	**+0.7**
	comp=Z,2μm,1.3s							
BRRC	**Barranca, Sant**	**36.15**	**356**	*e*P		**P**	**19 08 59.1**	**-3.1**
PAMC	**Pamplona, Colo**	**36.33**	**358**	*e*P		**P**	**19 09 01.9**	**-2.4**
ZARC	**Zaragoza, Cauc**	**36.61**	**354**	*e*P		**P**	**19 09 04.7**	**-1.5**
AZU	**Azuero**	**37.74**	**346**	*e*P		**P**	**19 09 16.6**	**+0.9**
SMLC	**San Mart`n de**	**37.85**	**356**	*e*P		**P**	**19 09 13.8**	**-2.8**
SDV	**Santo Domingo**	**37.85**	**1**	P		**P**	**19 09 16.0**	**-0.8**
	comp=Z,30nm,0.9s,baz=189,slow=5.8,SNR=24							
SDV				LR		LR	19 25 54.5	
	comp=Z,5μm,21.4s,baz=191,slow=38							
SDV	**Santo Domingo**	**37.85**	**1**	*e*P		**P**	**19 09 16.1**	**-0.8**
	comp=Z,170nm,1.2s							
MOTC	**Monteria, Cord**	**37.96**	**353**	*e*P		**P**	**19 09 16.6**	**-1.0**
MDP	**Montagnes des**	**38.55**	**31**	P		**P**	**19 09 21.4**	**-1.2**
	comp=Z,237nm,1.0s,baz=202,slow=9.3,SNR=71							
MDP				LR		LR	19 27 21.9	
	comp=Z,9μm,18.2s,baz=202,slow=39							
CODC	**Agust`n Codaz**	**38.94**	**357**	*e*P		**P**	**19 09 22.9**	**-2.9**
BCIP	**Isla Barro Col**	**38.98**	**347**	*e*P		**P**	**19 09 27.3**	**+1.2**
	comp=Z,843nm,1.5s							
PCRV	**Puerto La Cruz**	**39.66**	**10**	P		**P**	**19 09 31.1**	**-0.7**
	comp=Z,30nm,0.9s,baz=188,slow=11,SNR=5.4							
PCRV				LR		LR	19 25 58.4	
	comp=Z,6μm,20.1s,baz=178,slow=36							
SMRC	**Santa Marta, M**	**40.20**	**356**	*e*P		**P**	**19 09 34.1**	**-2.2**
RCBR	**Riachuelo**	**40.77**	**62**	P		**P**	**19 09 40.2**	**-0.9**
	comp=Z,164nm,1.0s,baz=221,slow=10,SNR=24							
RCBR	**Riachuelo**	**40.77**	**62**	*e*P		**P**	**19 09 41.6**	**+0.5**
	comp=Z,1μm,1.4s							
RCBR	**Riachuelo**	**40.77**	**62**	*e*P		**P**	**19 09 41.6**	**+0.5**
RCBR				pmax		pmax		
	comp=Z,1μm,1.4s							
JTS	**JuntasAbangare**	**41.37**	**340**	P		**P**	**19 09 46.0**	**+0.1**
	comp=Z,62nm,0.9s,baz=233,slow=3.2,SNR=24							
JTS	**JuntasAbangare**	**41.37**	**340**	*e*P		**P**	**19 09 47.6**	**+1.7**
	comp=Z,520nm,1.5s							
JTS	**JuntasAbangare**	**41.37**	**340**	*d* *i*P		**P**	**19 09 47.3**	**+1.4**
ESPN	**Las Esperanzas**	**42.98**	**341**	*e*P		**P**	**19 09 59.3**	**+0.4**
	comp=Z,139nm,0.4s							
SVB	**Belmont**	**43.32**	**14**	*e*P		pP	19 10 15.7	-1.7
PRVC	**Isla de Provid**	**43.39**	**346**	*e*P		**P**	**19 10 00.7**	**-1.6**
BBGH	**Gun Hill**	**43.60**	**17**	*e*P		P	19 10 13.0	+9.0
MCLT	**Moule a Chique**	**43.81**	**15**	*e*P		pP	19 10 18.9	-2.5
ESTN	**Estel**	**44.45**	**339**	*e*P		**P**	**19 10 11.3**	**+0.4**
	comp=Z,144nm,1.0s							
FDF	**Fort de France**	**44.76**	**14**	*e*P		pP	19 10 28.9	-0.1
TGUH	**Tegucigalpa,Un**	**45.64**	**338**	*e*P		**P**	**19 10 20.9**	**+0.7**
	comp=Z,256nm,0.9s							
SNET	**Serv Nac Est T**	**45.97**	**336**	*e*P		**P**	**19 10 25.4**	**+2.5**
PCJ	**Portland Cotta**	**46.98**	**352**	*i* P		**P**	**19 10 30.8**	**+0.1**
ICMP	**Isla Caja de M**	**47.02**	**6**	*e*P		**P**	**19 10 31.3**	**+0.3**
	comp=Z,179nm,0.7s							
CRPR	**Cabo Rojo, PR**	**47.09**	**6**	*e*P		**P**	**19 10 31.1**	**-0.4**
	comp=Z,509nm,1.0s							
SEUS	**St. Eustatius**	**47.10**	**11**	*e*P		pP	19 10 50.6	+3.1
OBIP	**Obispado Ponce**	**47.17**	**6**	*e*P		**P**	**19 10 31.1**	**-1.0**
	comp=Z,259nm,1.1s							
SABA	**Saba**	**47.19**	**11**	*e*P		pP	19 10 51.7	+3.6
MCJ	**Malvern**	**47.22**	**352**	*i* P		**P**	**19 10 33.6**	**+0.9**
STH	**Stony Hill**	**47.27**	**353**	⇑*i*P		**P**	**19 10 33.8**	**+0.9**
SJG	**San Juan**	**47.28**	**7**	P		**P**	**19 10 32.2**	**-0.8**
	comp=Z,17nm,0.3s,baz=225,slow=3.0,SNR=9.5							
SJG	**San Juan**	**47.28**	**7**	*e*P		**P**	**19 10 32.9**	**-0.1**
	comp=Z,166nm,0.9s							
SJG	**San Juan**	**47.28**	**7**	*e*P		**P**	**19 10 32.9**	**-0.1**
SJG				pmax		pmax		
	comp=Z,166nm,0.9s							
MPR	**Mayaguez**	**47.29**	**5**	*e*P		**P**	**19 10 32.6**	**-0.5**
	comp=Z,292nm,1.3s							
MTP	**Monte Pirata**	**47.34**	**8**	*e*pP		pP	19 10 46.9	-2.4
HUMP	**Col San Antoni**	**47.35**	**7**	*e*P		**P**	**19 10 36.5**	**+3.0**
	comp=Z,373nm,1.6s							
SDD	**Santo Domingo**	**47.38**	**2**	*e*P		**P**	**19 10 33.9**	**+0.2**
	comp=Z,1μm,1.0s							
CBYP	**Canovanas**	**47.47**	**7**	*e*P		**P**	**19 10 34.4**	**-0.2**
	comp=Z,2μm,2.0s							
ANWB	**Willy Bob**	**47.49**	**12**	*e*P		P	19 10 40.9	+6.2
CVJ	**Coleyville**	**47.50**	**352**	*i* P		**P**	**19 10 35.6**	**+0.7**
MTDJ	**Mount Denham**	**47.50**	**352**	*e*P		**P**	**19 10 34.9**	**+0.1**
	comp=Z,790nm,1.4s							
MTDJ	**Mount Denham**	**47.50**	**352**	*e*P		**P**	**19 10 33.6**	**-1.3**
BBJ	**Bamboo Saint A**	**47.62**	**352**	*i* P		**P**	**19 10 35.9**	**+0.1**
SMRT	**St. Maarten**	**47.63**	**11**	*e*P		**P**	**19 10 39.4**	**+3.6**
APG	**El Apazote**	**47.63**	**335**	P		**P**	**19 10 36.0**	**-0.1**
	comp=Z,73nm,1.0s,baz=173,slow=6.9,SNR=32							
STVI	**Saint Thomas**	**47.66**	**8**	*e*pP		pP	19 10 50.4	-1.4
SDDR	**Presa de Saban**	**47.88**	**0**	*e*P		**P**	**19 10 37.8**	**0.0**
	comp=Z,199nm,1.1s							
GTBY	**Guantanamo Bay**	**48.95**	**355**	*e*P		**P**	**19 10 46.0**	**+0.1**
GTBY				*e*pP		**pP**	**19 11 02.3**	**+0.5**
CCIG	**Comitan**	**49.44**	**333**	*e*P		**P**	**19 10 49.8**	**-0.1**
	comp=Z,304nm,1.3s							
CMIG	**Matias Romero**	**51.29**	**331**	P		**P**	**19 11 03.9**	**+0.2**
	comp=Z,85nm,1.1s,baz=

baz=170
553A Crawfordville 60.33 347 P **P** 19 12 07.8 -0.4
baz=167,SNR=12
456A Hilliard 60.43 349 *e*pP pP 19 12 25.9 +0.7
456A Hilliard 60.43 349 P **P** 19 12 07.9 -0.9
baz=169
552A Lynn Haven 60.45 346 P **P** 19 12 08.7 -0.2
baz=166
NVL N'lazarevskaya 60.54 158 *i*P **P** 19 12 08.2 -0.9
NVL *e* 19 14 31.2
NVL *e*S **S** 19 20 12.5 -7.4
NVL pmax pmax
comp=Z,56nm,0.9s
NVL MLR MLR
comp=Z,3µm,18.0s
455A Stateville 60.61 348 P **P** 19 12 09.8 -0.2
baz=168,SNR=6.9
453A Whigham 60.96 347 *e*P **P** 19 12 12.4 0.0
comp=Z,1µm,1.5s
453A Whigham 60.96 347 P **P** 19 12 11.5 -0.9
baz=167,SNR=12
451A Vernon 61.02 346 *e*P **P** 19 12 13.2 +0.4
comp=Z,776nm,1.4s
451A Vernon 61.02 346 P **P** 19 12 11.2 -1.6
baz=166
357A Townsend 61.03 350 P **P** 19 12 10.6 -2.3
baz=170
356A Blackshear 61.03 349 P **P** 19 12 12.1 -0.8
baz=169
QSPA South Pole Qui 61.04 180 P **P** 19 12 12.5 -0.3
comp=Z,116nm,1.0s,baz=152,slow=1.9,SNR=100
QSPA South Pole Qui 61.04 180 *e*P **P** 19 12 12.3 -0.5
comp=Z,103nm,0.9s
H06S1 SOCORRO T 61.06 316 T T 20 18 43.2
SNR=9.1
452A Marianna 61.12 346 P **P** 19 12 12.7 -0.8
baz=166,SNR=6.6
645A Chauvin 61.13 341 P **P** 19 12 14.9 +1.4
baz=161
355A Pearson 61.17 349 P **P** 19 12 13.3 -0.5
baz=168,SNR=5.0
SHEL Horse Pasture 61.35 93 *e*P **P** 19 12 16.5 +1.0
comp=Z,319nm,0.9s
SHEL Horse Pasture 61.35 93 *e*P **P** 19 12 16.5 +1.0
SHEL pmax pmax
comp=Z,319nm,0.9s
450A Crestview 61.38 345 P **P** 19 12 14.3 -0.9
baz=165
TIGA Tifton 61.39 348 P **P** 19 12 14.4 -0.9
baz=168,SNR=6.5
353A Camilla 61.42 348 P **P** 19 12 14.9 -0.6
baz=167,SNR=14
449A Pace 61.48 345 P **P** 19 12 15.2 -0.8
baz=164
257A Skidaway Islan 61.50 351 P **P** 19 12 15.2 -0.9
baz=170
546A Slidell 61.61 342 P **P** 19 12 17.3 +0.4
baz=162
351A Pinckard 61.62 346 P **P** 19 12 16.2 -0.6
baz=166,SNR=14
256A Glennville 61.64 350 P **P** 19 12 16.2 -0.8
baz=169
545A Edgard 61.65 341 P **P** 19 12 17.5 +0.4
baz=161
255A Hazlehurst 61.68 349 *e*P **P** 19 12 17.3 +0.1
255A *ep*P **pP** 19 12 33.4 -0.3
255A Hazlehurst 61.68 349 P **P** 19 12 16.6 -0.6
baz=169,SNR=6.9
352A Blakely 61.68 347 *e*P **P** 19 12 17.4 +0.1
comp=Z,642nm,1.3s
352A Blakely 61.68 347 P **P** 19 12 16.8 -0.5
baz=166,SNR=9.0
448A Bay Minette 61.80 344 P **P** 19 12 17.2 -0.9
baz=164
254A Abbeville 61.83 349 P **P** 19 12 17.1 -1.2
baz=168,SNR=12
BRAL Brewton 61.84 345 *e*P **P** 19 12 18.9 +0.5
BRAL *ep*P **pP** 19 12 34.7 -0.1
BRAL Brewton 61.84 345 P **P** 19 12 17.8 -0.5
baz=164,SNR=5.5
KVTX Kingsville 61.85 333 *e*P **P** 19 12 20.8 +2.3
comp=Z,2µm,1.7s
447A Lucedale 61.87 343 *e*P **P** 19 12 19.4 +0.9
447A *ep*P **pP** 19 12 35.3 +0.3
447A Lucedale 61.87 343 P **P** 19 12 17.6 -0.9
baz=163
544A White Castle 61.90 341 P **P** 19 12 19.6 +0.8
baz=160
350A Dozier 61.92 346 P **P** 19 12 18.1 -0.8
baz=165
349A Repton 62.05 345 P **P** 19 12 18.7 -1.1
baz=164,SNR=9.9
446A Poplarville 62.05 343 P **P** 19 12 19.9 +0.2
baz=162
543A St. Martinvill 62.09 340 P **P** 19 12 21.2 +1.2
baz=160
253A Americus 62.10 348 *e*P **P** 19 12 19.2 -0.9
comp=Z,1µm,1.5s
253A Americus 62.10 348 P **P** 19 12 19.0 -1.0
baz=167,SNR=8.5
252A Lumpkin 62.15 347 P **P** 19 12 19.1 -1.3
baz=167
156A Sylvania 62.24 350 P **P** 19 12 20.8 -0.2
baz=170,SNR=6.7
445A Amite 62.25 342 P **P** 19 12 21.4 +0.3
baz=161,SNR=6.9
348A Jackson 62.27 344 *e*P **P** 19 12 21.9 +0.7
348A *ep*P **pP** 19 12 37.6 -0.1
348A Jackson 62.27 344 P **P** 19 12 20.7 -0.5
baz=164
RGRS Roger Stewart 62.31 352 *ep*P pP 19 12 39.0 +1.1
542A Morse 62.33 339 P **P** 19 12 22.3 +0.7
baz=159
444A Pine Grove 62.35 341 P **P** 19 12 22.1 +0.3
baz=161
155A Kite 62.36 349 P **P** 19 12 19.8 -2.0
baz=169,SNR=11
CSU Charleston Sou 62.37 352 *e*P **P** 19 12 22.7 +0.9
CSU *ep*P **pP** 19 12 39.1 +0.8
251A Midway 62.38 347 P **P** 19 12 20.3 -1.6
baz=166,SNR=32
347A Saraland 62.42 343 P **P** 19 12 22.0 -0.2
baz=163,SNR=13
250A Grady 62.44 346 *e*P **P** 19 12 22.4 0.0
250A *ep*P **pP** 19 12 38.0 -0.8
250A Grady 62.44 346 P **P** 19 12 20.6 -1.7
baz=165
154A Montrose 62.45 349 *e*P **P** 19 12 22.1 -0.3
comp=Z,658nm,1.3s
154A Montrose 62.45 349 P **P** 19 12 21.1 -1.3
baz=168,SNR=7.8
541A Lake Charles 62.47 339 P **P** 19 12 21.4 -1.2
baz=158
NHSC New Hope 62.51 352 *e*P **P** 19 12 23.2 +0.4
comp=Z,878nm,1.1s
NHSC New Hope 62.51 352 P **P** 19 12 21.9 -0.8
baz=171,SNR=11
153A Fort Valley 62.62 348 P **P** 19 12 22.5 -1.0
baz=168
249A Camden 62.63 345 P **P** 19 12 22.2 -1.4
baz=164,SNR=12
346A Big Creek Wild 62.64 343 *e*P **P** 19 12 24.2 +0.6
comp=Z,516nm,1.3s
346A Big Creek Wild 62.64 343 P **P** 19 12 23.3 -0.4
baz=162,SNR=6.6
443A Delano Plantat 62.70 340 P **P** 19 12 24.5 +0.4
baz=160
345A Thompson Farm, 62.72 342 P **P** 19 12 23.8 -0.4
baz=162,SNR=8.3
151A Opelika 62.78 347 P **P** 19 12 23.1 -1.5
baz=166,SNR=16
152A Waverly Hall 62.80 347 *e*P **P** 19 12 23.4 -1.3
comp=Z,295nm,1.4s
152A Waverly Hall 62.80 347 P **P** 19 12 23.4 -1.3
baz=167,SNR=19
442A Mamou 62.84 340 P **P** 19 12 25.2 +0.2
baz=159
248A Dixon Mills 62.89 344 P **P** 19 12 24.8 -0.5
baz=164,SNR=9.4
Z55A Blythe 62.89 350 P **P** 19 12 24.7 -0.6
baz=169
150A Eclectic 63.00 346 P **P** 19 12 24.7 -1.3
baz=166,SNR=28
Z54A Sparta 63.02 349 P **P** 19 12 24.2 -2.0
baz=169,SNR=11
344A Westbrook Farm 63.04 341 *e*P **P** 19 12 27.6 +1.2
comp=Z,610nm,1.2s
344A Westbrook Farm 63.04 341 P **P** 19 12 26.8 +0.4
baz=161,SNR=12
247A Quitman 63.06 344 P **P** 19 12 25.3 -1.2
baz=163
441A DeRidder 63.11 339 P **P** 19 12 27.7 +0.8
baz=158,SNR=6.8
343A Vidalia 63.14 341 P **P** 19 12 26.9 -0.1
baz=160
833A Chaparral WMA, 63.15 332 *e*P **P** 19 12 27.6 +0.5
comp=Z,1µm,1.4s
833A Chaparral WMA, 63.15 332 P **P** 19 12 27.7 +0.5
baz=152,SNR=65
246A Jackson Lee, B 63.15 343 P **P** 19 12 26.3 -0.8
baz=162
149A Jones 63.16 345 P **P** 19 12 25.9 -1.2
baz=165,SNR=10
Z53A Monticello 63.18 349 P **P** 19 12 25.6 -1.7
baz=168,SNR=12
Z52A Williamson 63.25 348 P **P** 19 12 26.3 -1.4
baz=167,SNR=19
HKT Hockley 63.26 336 *e*P **P** 19 12 28.5 +0.8
comp=Z,519nm,1.6s
HKT Hockley 63.26 336 *e*P **P** 19 12 28.5 +0.8
HKT pmax pmax
comp=Z,519nm,1.6s
GOGA Godfrey 63.29 349 *e*P **P** 19 12 27.0 -1.0
comp=Z,296nm,1.5s
GOGA Godfrey 63.29 349 *e*P **P** 19 12 27.0 -1.0
GOGA pmax pmax
comp=Z,296nm,1.5s
GOGA Godfrey 63.29 349 P **P** 19 12 26.6 -1.4
baz=168,SNR=11
245A Little AP, Sta 63.37 342 P **P** 19 12 28.3 -0.2
baz=162,SNR=15
148A Greensboro 63.38 345 P **P** 19 12 27.1 -1.4
baz=164,SNR=5.5
342A Flagon Creek P 63.43 340 *e*P **P** 19 12 30.4 +1.5
comp=Z,942nm,1.4s
342A *ep*P **pP** 19 12 43.1 -2.3
342A Flagon Creek P 63.43 340 P **P** 19 12 29.5 +0.6
baz=159,SNR=12
Z51A Franklin 63.52 347 P **P** 19 12 27.3 -2.1
baz=166
147A Livingston 63.57 344 *e*P **P** 19 12 29.7 -0.1
comp=Z,248nm,1.4s
147A Livingston 63.57 344 P **P** 19 12 28.9 -0.9
baz=163,SNR=7.2
244A Avery, Jackson 63.59 342 P **P** 19 12 29.9 -0.1
baz=161,SNR=16
Z50A Ashland 63.60 346 *e*P **P** 19 12 29.2 -0.9
comp=Z,232nm,1.1s
Z50A Ashland 63.60 346 P **P** 19 12 29.2 -0.9
baz=166,SNR=35
Y54A Tignall 63.61 350 P **P** 19 12 28.1 -2.0
baz=169,SNR=20
LRAL Lakeview Retre 63.62 345 *e*P **P** 19 12 29.3 -0.8
comp=Z,215nm,1.5s
LRAL Lakeview Retre 63.62 345 P **P** 19 12 29.0 -1.2
baz=165,SNR=19
341A Kurthwood 63.65 339 *e*P **P** 19 12 31.4 +1.1
comp=Z,714nm,1.4s
341A Kurthwood 63.65 339 P **P** 19 12 30.2 -0.1
baz=159,SNR=17
243A Waterproof 63.66 341 P **P** 19 12 30.6 +0.2
baz=160,SNR=14
Z49A Columbiana 63.67 346 P **P** 19 12 29.5 -1.0
baz=165,SNR=24
VBMS Vicksburg 63.71 342 *e*P **P** 19 12 30.9 +0.2
comp=Z,852nm,1.3s
VBMS Vicksburg 63.71 342 P **P** 19 12 30.9 +0.2
baz=161,SNR=15
146A Union 63.73 343 *e*P **P** 19 12 31.7 +0.8
comp=Z,441nm,1.4s
146A Union 63.73 343 P **P** 19 12 30.8 -0.1
baz=163,SNR=7.3
Y53A Monroe 63.75 349 P **P** 19 12 29.8 -1.2
baz=168,SNR=10
JSC Jenkinsville 63.80 351 *e*P **P** 19 12 31.2 -0.1
comp=Z,286nm,1.5s
JSC Jenkinsville 63.80 351 *e*P **P** 19 12 31.2 -0.1
JSC pmax pmax
comp=Z,286nm,1.5s
Y52A Lilburn 63.84 348 *e*P **P** 19 12 30.8 -0.8
comp=Z,466nm,1.5s
Y52A Lilburn 63.84 348 P **P** 19 12 30.6 -1.0
baz=168,SNR=20
HODGE Hodges 63.90 350 *e*P **P** 19 12 32.2 +0.2
HODGE *ep*P **pP** 19 12 48.2 -0.3
145A Houston Renfro 63.92 343 P **P** 19 12 32.3 +0.2
baz=162,SNR=13
Z47A Carrollton 64.02 344 P **P** 19 12 31.9 -0.9
baz=164,SNR=5.1
Y51A Rockmart 64.06 347 P **P** 19 12 31.9 -1.2
baz=167,SNR=32
144A Alexander Plac 64.07 342 P **P** 19 12 33.5 +0.3
baz=161,SNR=13
Z48A Northport 64.07 345 P **P** 19 12 32.0 -1.1
baz=164,SNR=27
Y50A Piedmont 64.18 347 P **P** 19 12 32.8 -1.0
baz=166,SNR=26
241A Mo Tay, Goldon 64.21 340 *e*P **P** 19 12 35.2 +1.1
comp=Z,696nm,1.3s
241A Mo Tay, Goldon 64.21 340 P **P** 19 12 35.2 +1.1
baz=159,SNR=17
Z46A Louisville 64.23 344 P **P** 19 12 34.3 +0.2
baz=163,SNR=10
Y49A Blount Mountai 64.29 346 *e*P **P** 19 12 33.6 -1.0
comp=Z,102nm,1.0s
Y49A Blount Mountai 64.29 346 P **P** 19 12 33.5 -1.0
baz=165,SNR=14
X53A Estanollee 64.33 349 P **P** 19 12 33.7 -1.1
baz=168,SNR=22
SLBS Sierra La Lagu 64.33 321 *e*P **P** 19 12 35.9 +0.8
comp=Z,533nm,1.6s
CNNC Cliffs of the 64.37 354 *e*P **P** 19 12 35.7 +0.7
comp=Z,714nm,1.5s
CNNC Cliffs of the 64.37 354 P **P** 19 12 34.4 -0.6
baz=174
143A Socs Landing, 64.41 341 *e*P **P** 19 12 36.5 +1.2
comp=Z,1µm,1.2s
143A Socs Landing, 64.41 341 P **P** 19 12 35.8 +0.5
baz=160,SNR=40
PAULI Pauline 64.41 350 *e*P **P** 19 12 34.9 -0.4
comp=Z,437nm,1.5s
240A Hunter Patters 64.49 339 *e*P **P** 19 12 37.1 +1.3
comp=Z,715nm,1.4s
240A Hunter Patters 64.49 339 P **P** 19 12 36.0 +0.2
baz=158,SNR=11
Y48A Jasper 64.50 345 P **P** 19 12 34.6 -1.3
baz=165,SNR=9.9
NATX Nacogdoches 64.52 338 *e*P **P** 19 12 36.8 +0.8
comp=Z,823nm,1.5s
NATX Nacogdoches 64.52 338 P **P** 19 12 36.1 0.0
baz=157,SNR=14
X52A Dahlonega 64.53 349 P **P** 19 12 35.6 -0.5
baz=168,SNR=34
Z45A Winona 64.58 343 *e*P **P** 19 12 37.1 +0.6
comp=Z,2µm,1.7s
Z45A *ep*P **pP** 19 12 53.5 +0.5
Z45A Winona 64.58 343 P **P** 19 12 36.7 +0.2
baz=162,SNR=12
435B Jarrell 64.64 335 *e*P **P** 19 12 37.8 +0.9
comp=Z,541nm,1.8s
435B Jarrell 64.64 335 P **P** 19 12 36.8 -0.1
baz=155,SNR=8.0
Y47A UCPARC, Winfie 64.65 345 P **P** 19 12 36.5 -0.3
baz=164,SNR=45
KMSC Kings Mountain 64.66 351 *e*P **P** 19 12 36.8 -0.1
comp=Z,211nm,1.2s
KMSC Kings Mountain 64.66 351 P **P** 19 12 36.6 -0.3
baz=170,SNR=18
X51A Calhoun 64.67 348 *e*P **P** 19 12 36.5 -0.5
comp=Z,368nm,1.0s
X51A Calhoun 64.67 348 P **P** 19 12 36.1 -0.9
baz=167,SNR=39
Z44A Pea Ridge, Bel 64.69 342 P **P** 19 12 37.2 +0.1
baz=162,SNR=36
X50B Fort Payne 64.72 347 P **P** 19 12 36.9 -0.5
baz=166,SNR=29
HPIG 64.75 326 *e*P **P** 19 12 38.4 +0.5
comp=Z,416nm,1.4s
BG3 Lake Jocassee 64.75 350 *e*P **P** 19 12 37.2 -0.3
comp=Z,218nm,1.3s
Z43A Armstrong Fami 64.84 342 P **P** 19 12 37.8 -0.3
baz=161,SNR=9.1
Y46A Houston 64.86 344 P **P** 19 12 37.4 -0.9
baz=163,SNR=19
X49A Woodville 64.90 346 P **P** 19 12 37.7 -0.9
baz=165,SNR=24
W53A Cullowhee 64.96 349 P **P** 19 12 38.2 -0.9
baz=168,SNR=29
X48A Hartselle 65.00 346 P **P** 19 12 38.1 -1.0
baz=165,SNR=51
W52A Murphy 65.01 349 *e*P **P** 19 12 39.0 -0.3
comp=Z,425nm,1.4s
W52A Murphy 65.01 349 P **P** 19 12 39.1 -0.2
baz=168,SNR=16
Y45A Yeager Farm, C 65.02 343 P **P** 19 12 39.2 -0.1
baz=162,SNR=18
Z42A Norrel Spur, H 65.10 341 P **P** 19 12 39.3 -0.5
baz=160
JCT Junction City 65.22 333 *e*P **P** 19 12 40.8 +0.1
comp=Z,1µm,1.5s
JCT Junction City 65.22 333 *e*P **P** 19 12 40.8 +0.1
JCT pmax pmax
comp=Z,1µm,1.5s
JCT Junction City 65.22 333 P **P** 19 12 40.7 0.0
baz=153,SNR=144
W51A Cleveland 65.23 348 P **P** 19 12 40.0 -0.6
baz=167,SNR=34
X47A Russelville 65.24 345 P **P** 19 12 39.7 -1.0
baz=164,SNR=12
Y44A Strider, Charl 65.28 343 P **P** 19 12 40.6 -0.3
baz=162
Z41A Richland Creek 65.33 340 *e*P **P** 19 12 41.7 +0.4
comp=Z,864nm,1.5s
Z41A Richland Creek 65.33 340 P **P** 19 12 41.6 +0.4
baz=159,SNR=15
W50A Signal Mountai 65.37 347 *e*P **P** 19 12 41.1 -0.5
comp=Z,594nm,1.5s
W50A Signal Mountai 65.37 347 P **P** 19 12 40.5 -1.1
baz=166,SNR=39
V53A Saluda 65.39 350 *e*P **P** 19 12 41.2 -0.6
comp=Z,283nm,1.4s
V53A Saluda 65.39 350 P **P** 19 12 40.3 -1.5
baz=169,SNR=29
Y43A Makayla and Ka 65.42 342 P **P** 19 12 41.9 +0.1
baz=161,SNR=30
X46A Booneville 65.44 344 P **P** 19 12 41.1 -0.9
baz=163,SNR=5.0
CPCT Cooper Cave 65.47 348 *e*P **P** 19 12 41.2 -1.0
comp=Z,389nm,1.3s
W49A Belvidere 65.48 347 P **P** 19 12 41.4 -0.9
baz=166,SNR=21
SWET Sewanee 65.50 347 *e*P **P** 19 12 41.5 -1.0
comp=Z,214nm,0.8s
X45A UM Field Stati 65.51 344 P **P** 19 12 41.6 -0.9
baz=163,SNR=22
TKL Tuckaleechee C 65.54 349 P **P** 19 12 41.7 -0.9
comp=Z,66nm,0.7s,baz=164,slow=7.3,SNR=48
TKL Tuckaleechee C 65.54 349 *e*P **P** 19 12 41.9 -0.8
comp=Z,502nm,1.4s
TKL Tuckaleechee C 65.54 349 *e*P **P** 19 12 41.9 -0.8
TKL pmax pmax
comp=Z,502nm,1.4s
Y42A Garnett, Star 65.58 341 P **P** 19 12 43.1 +0.2
baz=160,SNR=5.5
OXF Oxford 65.60 344 *e*P **P** 19 12 42.3 -0.7
comp=Z,589nm,1.2s
OXF Oxford 65.60 344 *e*P **P** 19 12 42.3 -0.7
OXF pmax pmax
comp=Z,589nm,1.2s
OXF Oxford 65.60 344 P **P** 19 12 41.9 -1.1
baz=163,SNR=36
W48A Pulaski 65.63 346 P **P** 19 12 42.1 -1.1
baz=165,SNR=40
CCAR Cane Creek 65.65 341 *e*P **P** 19 12 44.9 +1.5
comp=Z,307nm,1.1s
WHTX Lake Whitney, 65.69 336 *e*P **P** 19 12 43.5 -0.1
comp=Z,691nm,1.4s
WHTX Lake Whitney, 65.69 336 P **P** 19 12 43.5 -0.1
baz=155,SNR=58
V52A Sevierville 65.69 349 *e*P **P** 19 12 42.5 -1.1
comp=Z,786nm,1.5s
V52A Sevierville 65.69 349 P **P** 19 12 42.2 -1.4
baz=168,SNR=38
PLAL Pickwick Lake 65.73 345 *e*P **P** 19 12 42.7 -1.2
comp=Z,196nm,1.0s
X44A Crenshaw 65.77 343 P **P** 19 12 43.1 -1.0
baz=162,SNR=10
V51A Loudon 65.78 348 *e*P **P** 19 12 43.4 -0.8
comp=Z,509nm,1.7s
V51A Loudon 65.78 348 P **P** 19 12 42.8 -1.4
baz=167,SNR=19
V50A Pikevile 65.79 348 P **P** 19 12 43.1 -1.1
baz=167,SNR=54
TXAR Lajitas Array 65.85 329 P **P** 19 12 44.9 0.0
comp=Z,50nm,0.9s,baz=149,slow=7.2,SNR=248
TXAR LR LR 19 36 31.6
comp=Z,3µm,21.9s,baz=0.0,slow=31
TXAR PKPPKP **P'P'df** 19 41 25.4 +7.0
comp=Z,2.5nm,1.0s,baz=248,slow=1.3,SNR=12
TX31 Lajitas Ar. Si 65.85 329 *e*P **P** 19 12 44.4 -0.5
Y41A Eaglette Beard 65.86 341 P **P** 19 12 44.9 +0.2
baz=160,SNR=33
W47A Westpoint 65.88 346 P **P** 19 12 43.9 -1.0
baz=164,SNR=29
W46A Michie 65.95 345 P **P** 19 12 44.2 -1.0
baz=164,SNR=5.4
X43A Marvell 65.98 342 *e*P **P** 19 12 46.0 +0.6
comp=Z,1µm,1.3s
X43A Marvell 65.98 342 P **P** 19 12 45.5 +0.1
baz=161,SNR=23
V49A McMinnville 66.03 347 P **P** 19 12 44.5 -1.3
baz=166,SNR=41
U53A Fall Branch 66.04 350 P **P** 19 12 44.7 -1.2
baz=169,SNR=19
W45A Hickory Valley 66.16 344 P **P** 19 12 45.1 -1.6
baz=163
V48A Smith Brothers 66.19 346 *e*P **P** 19 12 46.0 -0.8
comp=Z,499nm,1.4s
V48A Smith Brothers 66.19 346 P **P** 19 12 45.8 -1.0
baz=165,SNR=63
U52A Thorn Hill 66.19 349 P **P** 19 12 45.5 -1.3
baz=168,SNR=12
X42A Stuttgart 66.21 342 P **P** 19 12 46.5 -0.5
baz=161,SNR=8.4
U51A La Follette 66.28 349 P **P** 19 12 45.9 -1.6
baz=168,SNR=25
W44A Shelby Farms P 66.30 344 P **P** 19 12 46.8 -0.7
baz=162
TZTN Tazewell 66.37 349 P **P** 19 12 46.8 -1.1
baz=168,SNR=11
X41A Kaden, Bauxite 66.40 341 P **P** 19 12 47.3 -0.9
baz=160
V47A Nunnelly 66.42 346 P **P** 19 12 47.2 -1.1
baz=164,SNR=26
U50A Jamestown 66.46 348 P **P** 19 12 47.4 -1.2
baz=167,SNR=40
W43A Forest City 66.47 343 P **P** 19 12 48.1 -0.4
baz=162,SNR=7.5
V46A Holladay 66.53 345 P **P** 19 12 47.1 -1.8
baz=164,SNR=25
BLA Blacksburg 66.58 352 *e*P **P** 19 12 49.9 +0.6
comp=Z,310nm,1.6s
BLA Blacksburg 66.58 352 P **P** 19 12 49.0 -0.3
baz=171,SNR=7.3
UALR University of 66.62 341 *e*P **P** 19 12 49.7 +0.2
comp=Z,260nm,1.4s
V45A Humboldt 66.66 344 P **P** 19 12 48.8 -1.0
baz=163,SNR=11
U49A Red Boiling Sp 66.73 347 P **P** 19 12 49.3 -1.0
baz=166,SNR=32
MIAR Mount Ida 66.76 340 *e*P **P** 19 12 50.0 -0.5
comp=Z,311nm,1.3s
MIAR Mount Ida 66.76 340 *e*P **P** 19 12 50.0 -0.5
MIAR pmax pmax
comp=Z,311nm,1.3s
MIAR Mount Ida 66.76 340 P **P** 19 12 49.7 -0.8
baz=159,SNR=69
WVT Waverly 66.78 346 *e*P **P** 19 12 49.4 -1.2
comp=Z,315nm,1.2s
WVT Waverly 66.78 346 *e*P **P** 19 12 49.4 -1.2
WVT pmax pmax
comp=Z,315nm,1.2s
WVT Waverly 66.78 346 P **P** 19 12 49.3 -1.2
baz=164
T52A Hallie 66.83 350 P **P** 19 12 49.1 -1.8
baz=169,SNR=8.4
T51A Gray 66.84 349 P **P** 19 12 50.4 -0.6
baz=168,SNR=30
W42A Bald Knob 66.86 342 P **P** 19 12 50.8 -0.3
baz=161
U48A Cassie Pea, Po 66.88 347 P **P** 19 12 50.3 -0.8
baz=166,SNR=43
U47A Clarksville 66.96 346 P **P** 19 12 50.6 -1.1

baz=165,SNR=56
W41B Gary Mavity, V 66.97 342 *e*P P 19 12 51.3 -0.4
comp=Z,558nm,1.8s
W41B Gary Mavity, V 66.97 342 P P 19 12 51.0 -0.7
baz=160,SNR=41
V44A Blytheville 66.97 344 P P 19 12 50.8 -1.0
baz=162
T50A Nancy 67.05 348 P P 19 12 51.2 -1.1
baz=167,SNR=26
ABTX Abilene, Hawle 67.06 334 *e*P P 19 12 52.4 -0.1
comp=Z,688nm,1.3s
ABTX Abilene, Hawle 67.06 334 P P 19 12 52.4 -0.1
baz=153,SNR=80
R58B Mineral 67.07 354 P P 19 12 52.9 +0.6
baz=174,SNR=46
U46A Springville 67.08 345 P P 19 12 51.9 -0.6
baz=164,SNR=8.0
WHAR Wooly Hollow 67.09 342 *e*P P 19 12 52.4 -0.1
comp=Z,462nm,1.5s
V43A Jonesboro 67.09 343 P P 19 12 52.2 -0.3
baz=162,SNR=9.1
GNAR Gosnell 67.13 344 *e*P P 19 12 53.5 +0.8
comp=Z,974nm,1.1s
U45A Rockin P Farm, 67.20 345 P P 19 12 52.6 -0.6
baz=163,SNR=12
UTMT University of 67.22 345 *e*P P 19 12 54.1 +0.8
comp=Z,840nm,1.1s
TAOE Nuku Hiva Isla 67.22 272 *e*P P 19 12 54.9 +0.9
comp=Z,761nm,1.4s
TAOE *e*S S 19 21 41.8 -2.7
comp=Z,3µm,29.7s
TAOE *e*LQ LQ 19 30 16.0
comp=Z,4µm,24.7s
TAOE *e*LR LR 19 33 02.0
comp=Z,19µm,28.8s,baz=121
GLAT Glass 67.24 344 *e*P P 19 12 54.2 +0.8
comp=Z,2µm,1.7s
T49A Edmonton 67.26 348 *e*P P 19 12 52.5 -1.1
comp=Z,565nm,1.5s
T49A Edmonton 67.26 348 P P 19 12 52.2 -1.4
baz=166,SNR=48
CBN Corbin Frederi 67.27 355 *e*P P 19 12 54.8 +1.2
comp=Z,764nm,1.8s
CBN Corbin Frederi 67.27 355 P P 19 12 52.6 -0.9
baz=174
U44B Burton Farm, H 67.33 344 P P 19 12 53.9 -0.2
baz=163,SNR=10
V42A Cord 67.33 342 P P 19 12 52.6 -1.4
baz=161,SNR=35
S52A Salyersville 67.41 350 P P 19 12 53.4 -1.1
baz=169
W39A Magazine 67.43 340 *e*P P 19 12 54.8 +0.1
comp=Z,436nm,1.1s
W39A Magazine 67.43 340 P P 19 12 54.7 +0.1
baz=159,SNR=106
T48A Bowling Green 67.43 347 P P 19 12 53.4 -1.2
baz=166,SNR=24
S51A Beattyville 67.45 350 *e*P P 19 12 53.6 -1.1
comp=Z,445nm,1.6s
S51A Beattyville 67.45 350 P P 19 12 54.1 -0.7
baz=168,SNR=18
T47A Sharon Grove 67.45 346 *e*P P 19 12 53.8 -1.0
comp=Z,507nm,1.2s
T47A Sharon Grove 67.45 346 P P 19 12 54.0 -0.8
baz=165,SNR=52
V41A Mountainview 67.52 342 P P 19 12 54.3 -0.9
baz=160,SNR=71
U44A Portageville 67.56 344 P P 19 12 55.3 -0.1
baz=163,SNR=16
U43A Rector 67.61 343 P P 19 12 55.4 -0.4
baz=162,SNR=11
S50A Richmond 67.62 349 P P 19 12 54.9 -1.0
baz=168,SNR=36
T46A Princeton 67.67 346 P P 19 12 55.6 -0.6
baz=164,SNR=98
PARMO Parma 67.73 344 *e*P P 19 12 57.2 +0.7
comp=Z,4µm,2.0s
U42A Revenden 67.81 343 P P 19 12 56.4 -0.6
baz=161,SNR=143
T45A Paducah 67.81 345 *e*P P 19 12 56.9 -0.2
comp=Z,1µm,1.3s
T45A Paducah 67.81 345 P P 19 12 56.4 -0.7
baz=164,SNR=10
S49A Springfield 67.88 348 P P 19 12 56.3 -1.1
baz=167,SNR=24
S48A Wiedeman Farm, 67.89 347 P P 19 12 56.1 -1.5
baz=166,SNR=32
SBA Scott Base 67.90 191 *e*P P 19 12 58.0 +0.8
comp=Z,177nm,1.4s
SBA Scott Base 67.90 191 *e*P P 19 12 58.0 +0.8
SBA pmax pmax
comp=Z,177nm,1.4s
U41A Viola 67.98 342 P P 19 12 57.8 -0.3
baz=161,SNR=60
R52A Catlettsburg 67.98 350 P P 19 12 56.8 -1.4
baz=169,SNR=7.2
S47A Hartford 67.99 347 P P 19 12 56.7 -1.5
baz=165,SNR=17
PBMO Poplar Bluff 68.00 344 *e*P P 19 12 57.6 -0.7
comp=Z,282nm,0.8s
R51A Hillsboro 68.09 350 P P 19 12 57.4 -1.4
baz=168,SNR=23
T44A Benton 68.09 344 P P 19 12 57.9 -1.0
baz=163,SNR=65
R50A Paris 68.19 349 P P 19 12 58.5 -1.0
baz=168,SNR=17
U40A Yellville 68.24 341 P P 19 12 59.0 -0.8
baz=160,SNR=93
S46A Don Dixon Farm 68.25 346 P P 19 12 58.6 -1.2
baz=164,SNR=33
T43A Greenville 68.26 344 P P 19 12 59.0 -0.8
baz=162,SNR=170
R49A Shelbyville 68.35 348 P P 19 12 59.0 -1.4
baz=167,SNR=20
T42A Van Buren 68.41 343 *e*P P 19 12 59.7 -1.1
comp=Z,199nm,1.2s
T42A Van Buren 68.41 343 P P 19 12 60.0 -0.8
baz=161,SNR=64
SDMD Soldier's Deli 68.43 355 *e*P P 19 13 01.5 +0.6
SDMD *e*pP pP 19 13 17.7 +0.2
S45A Carrier Mills 68.43 345 P P 19 13 00.1 -0.8
baz=164,SNR=23
SRIG Santa Rosalia 68.47 321 *e*P P 19 13 02.1 +0.7
comp=Z,466nm,1.6s
HHAR Hobbs 68.48 341 *e*P P 19 13 00.9 -0.4
comp=Z,623nm,1.5s
WCI Wyandotte Cave 68.49 347 *e*P P 19 13 00.7 -0.6
comp=Z,530nm,1.5s
WCI Wyandotte Cave 68.49 347 *e*P P 19 13 00.7 -0.6
WCI pmax pmax
comp=Z,530nm,1.5s
WCI Wyandotte Cave 68.49 347 P P 19 12 59.5 -1.8
baz=166
USIN University of 68.51 346 *e*P P 19 13 01.0 -0.4
comp=Z,596nm,1.3s
Q52A Bidwell 68.55 351 P P 19 13 00.5 -1.1
baz=170,SNR=16
R48A Northridge Ran 68.58 348 P P 19 13 01.2 -0.7
baz=166,SNR=16
T41A Mountain View 68.59 343 P P 19 13 01.1 -0.9
baz=161,SNR=130
S44A Carbondale 68.60 345 P P 19 13 01.1 -0.8
baz=163,SNR=58
R47A Wooly Knot Far 68.60 347 P P 19 13 00.3 -1.6
baz=166,SNR=18
SIUC Southern Illin 68.61 345 *e*P P 19 13 01.3 -0.8
comp=Z,785nm,1.4s
GDL2 Guadalupe Moun 68.61 330 *e*P P 19 13 02.6 +0.2
MNTX Cornudas Mount 68.63 329 *e*P P 19 13 01.4 -1.0
comp=Z,136nm,1.0s
MNTX Cornudas Mount 68.63 329 P P 19 13 00.9 -1.4
baz=148,SNR=152
WMOK Wichita Mounta 68.64 336 *e*P P 19 13 01.3 -1.0
comp=Z,175nm,1.3s
WMOK Wichita Mounta 68.64 336 *e*P P 19 13 01.3 -1.0
WMOK pmax pmax
comp=Z,175nm,1.3s
WMOK Wichita Mounta 68.64 336 P P 19 13 01.6 -0.7
baz=154,SNR=78
S43A Fulton Ridge, 68.67 344 P P 19 13 01.6 -0.9
baz=162,SNR=184
Q50A Georgetown 68.69 349 P P 19 13 01.1 -1.4
baz=168,SNR=11
TUL1 Leonard 68.70 339 *e*P P 19 13 02.1 -0.6
comp=Z,342nm,1.0s
TUL1 Leonard 68.70 339 P P 19 13 01.5 -1.2
baz=157,SNR=42
R46A Gibon Southern 68.72 346 P P 19 13 01.1 -1.6
baz=165,SNR=13
Q51A Peebles 68.77 350 *e*P P 19 13 02.3 -0.7
comp=Z,282nm,1.2s
Q51A Peebles 68.77 350 P P 19 13 02.0 -1.0
baz=169,SNR=25
PSUB Penn St. - Bra 68.86 357 *e*P P 19 13 04.7 +1.1
comp=Z,232nm,1.4s
VNDA Vanda 68.93 191 P P 19 13 04.1 +0.5
comp=Z,23nm,1.0s,baz=125,slow=5.8,SNR=62
VNDA LR LR 19 38 40.1
comp=Z,2µm,20.9s,baz=136,slow=32
VNDA PKPPKP P'P'df 19 41 10.1 -9.3
comp=Z,2.8nm,1.0s,baz=275,slow=2.7,SNR=6.6
VNDA Vanda 68.93 191 *e*P P 19 13 04.3 +0.8
comp=Z,73nm,1.3s
VNDA P'P' 19 41 10.1
VNDA Vanda 68.93 191 *e*P P 19 13 04.4 +0.8
VNDA pmax pmax
comp=Z,73nm,1.3s
MCWV Mont Chateau 68.94 353 P P 19 13 03.6 -0.4
baz=172,SNR=8.3
P53A Whipple 68.95 352 *e*P P 19 13 03.8 -0.4
comp=Z,448nm,1.5s
P53A Whipple 68.95 352 P P 19 13 03.0 -1.1
baz=170,SNR=23
R45A Skylar, Fairfi 68.96 346 P P 19 13 03.1 -1.1
baz=164,SNR=56
MVL Millersville 68.98 356 *e*P P 19 13 05.4 +1.1
comp=Z,260nm,1.2s
Q49A Aurora 68.99 349 P P 19 13 03.7 -0.7
baz=167,SNR=23
S42A Caledonia 69.04 344 P P 19 13 03.6 -1.1
baz=162,SNR=71
Q48A North Vernon 69.07 348 P P 19 13 03.5 -1.4
baz=166,SNR=25
TBI Tubuai 69.07 254 *e*P P 19 13 05.9 +0.5
comp=Z,986nm,1.2s
TBI *e*S S 19 22 03.7 -2.5
comp=Z,2µm,24.0s
TBI *e*LQ LQ 19 31 03.9
comp=Z,4µm,30.0s
TBI *e*LR LR 19 33 57.2
comp=Z,17µm,30.5s,baz=104
TBI Tubuai 69.07 254 *e*T T 20 28 20.9
comp=Z,55nm,0.2s
R44A Waltonville 69.09 345 P P 19 13 03.8 -1.2
baz=163,SNR=39
S41A Jillco Farms, 69.10 343 P P 19 13 04.1 -1.0
baz=161,SNR=133
HSIG 69.12 323 *e*P P 19 13 05.7 +0.2
comp=Z,739nm,1.7s
FVM French Village 69.15 344 *e*P P 19 13 04.9 -0.5
comp=Z,647nm,1.1s
FVM French Village 69.15 344 *e*P P 19 13 04.9 -0.5
FVM pmax pmax
comp=Z,647nm,1.1s
P51A Williamsport 69.17 350 *e*P P 19 13 05.1 -0.4
comp=Z,433nm,1.3s
P51A Williamsport 69.17 350 P P 19 13 04.3 -1.2
baz=169,SNR=5.7
P52A Corning 69.19 351 P P 19 13 04.8 -0.8
baz=170,SNR=22
EPT El Paso 69.20 328 *e*P P 19 13 06.6 +0.6
comp=Z,195nm,1.1s
EPT *e*pP pP 19 13 22.5 -0.2
Q47A Bedord North L 69.20 347 P P 19 13 04.6 -1.1
baz=166,SNR=9.2
PAGS Pennsylvania G 69.23 356 *e*P P 19 13 06.6 +0.8
comp=Z,332nm,1.5s
R43A Red Bud 69.31 344 P P 19 13 06.0 -0.4
baz=163,SNR=24
OLIL Olney 69.34 346 *e*P P 19 13 05.7 -0.9
comp=Z,587nm,1.4s
P50A Jamestown 69.41 350 P P 19 13 06.5 -0.4
baz=168,SNR=25
O56A Blue Knob Stat 69.42 354 *e*P P 19 13 07.5 +0.4
comp=Z,481nm,1.4s
O56A Blue Knob Stat 69.42 354 P P 19 13 07.6 +0.5
baz=173,SNR=20
CCM Cathedral Cave 69.42 343 P P 19 13 06.6 -0.4
baz=161
BLO Bloomington 69.45 347 *e*P P 19 13 06.3 -0.9
BLO *e*pP pP 19 13 23.2 -0.7
BLO Bloomington 69.45 347 *e*P P 19 13 06.3 -0.9
BLO *e**PP pP 19 13 23.2 -0.7
Q46A CEJHS Indians, 69.47 347 P P 19 13 05.6 -1.8
baz=165
MSTX Muleshoe 69.47 332 *e*P P 19 13 07.2 -0.4
comp=Z,488nm,1.1s
MSTX Muleshoe 69.47 332 P P 19 13 06.9 -0.8
baz=151,SNR=127
P49A Miami Univ. Ec 69.48 349 P P 19 13 06.0 -1.4
baz=167,SNR=19
Q45A Warren Harvey, 69.51 346 P P 19 13 06.4 -1.2
baz=164,SNR=73
R42A Luebbering 69.52 344 P P 19 13 07.0 -0.7
baz=162,SNR=64
LUPA Lehigh Univers 69.52 357 *e*P P 19 13 08.7 +1.1
comp=Z,26nm,1.4s
P48A Milroy 69.53 348 P P 19 13 06.5 -1.2
baz=167,SNR=24
O52A Adamsville 69.62 351 *e*P P 19 13 08.0 -0.3
comp=Z,345nm,1.4s
O52A Adamsville 69.62 351 P P 19 13 07.3 -1.0
baz=170,SNR=10
CPNY Central Park 69.66 358 *e*P P 19 13 09.5 +1.1
CPNY *e*pP pP 19 13 25.9 +0.8
R41A Rosebud 69.68 343 P P 19 13 08.0 -0.7
baz=161,SNR=116
Q44A Meyer Farm, Va 69.70 345 P P 19 13 07.1 -1.6
baz=164,SNR=32
P47A Martinsville 69.71 348 P P 19 13 07.6 -1.2
baz=168,SNR=11
SSPA Standing Stone 69.72 355 *e*P P 19 13 09.1 +0.3
comp=Z,578nm,1.4s
SSPA Standing Stone 69.72 355 P P 19 13 08.6 -0.3
baz=174
SLM Saint Louis 69.72 344 *e*P P 19 13 08.8 -0.1
comp=Z,378nm,0.9s
SLM Saint Louis 69.72 344 *e*P P 19 13 08.8 -0.1
SLM pmax pmax
comp=Z,378nm,0.9s
O51A Pataskala 69.76 351 P P 19 13 08.3 -0.8
baz=169,SNR=18
AMTX Amarillo 69.84 334 *e*P P 19 13 09.6 -0.3
comp=Z,398nm,1.2s
AMTX Amarillo 69.84 334 P P 19 13 09.3 -0.6
baz=152
N59A State Game Lan 69.86 356 *e*P P 19 13 10.7 +0.9
comp=Z,640nm,1.5s
N59A State Game Lan 69.86 356 P P 19 13 10.0 +0.2
baz=176,SNR=24
PAL Palisades 69.87 358 *e*pP pP 19 13 27.9 +1.4
PAL Palisades 69.87 358 P P 19 13 09.9 +0.2
baz=178
Q43A New Douglas 69.89 345 P P 19 13 09.0 -1.0
baz=163,SNR=66
ACSO Alum Creek Sta 69.89 351 *e*P P 19 13 09.0 -0.9
comp=Z,679nm,1.4s
ACSO Alum Creek Sta 69.89 351 P P 19 13 09.1 -0.8
baz=169,SNR=31
O50A Cable 69.90 350 P P 19 13 08.5 -1.5
baz=168,SNR=18
ODNJ Ogdensburg 69.97 357 *e*P P 19 13 11.4 +1.0
comp=Z,482nm,1.5s
P46A Rosedale 70.01 347 P P 19 13 09.4 -1.2
baz=165,SNR=36
P45A Graceland, Par 70.03 347 *e*P P 19 13 09.7 -1.1
comp=Z,386nm,1.1s
P45A Graceland, Par 70.03 347 P P 19 13 09.4 -1.4
baz=165,SNR=37
O49A Covington 70.06 349 *e*P P 19 13 09.8 -1.1
comp=Z,532nm,1.4s
O49A Covington 70.06 349 P P 19 13 09.6 -1.4
baz=168,SNR=30
Q42A Golden Eagle 70.06 344 P P 19 13 10.4 -0.6
baz=162,SNR=106
SYO Syowa Base 70.14 159 *e*P P 19 13 10.0 -1.2
SYO Syowa Base 70.14 159 *e*pP pP 19 13 25.2 -2.7
YLE Yale 70.15 359 *e*P P 19 13 12.9 +1.5
comp=Z,1µm,1.5s
P44A Sand Creek, Wi 70.16 346 P P 19 13 10.5 -1.1
baz=164,SNR=31
319A Douglas 70.19 326 *e*P P 19 13 12.8 +0.7
comp=Z,433nm,1.4s
U32A Winter Ranch, 70.19 337 *e*P P 19 13 12.1 +0.2
N54A Moraine State 70.24 353 *e*P P 19 13 12.0 -0.1
comp=Z,453nm,1.4s
N54A Moraine State 70.24 353 P P 19 13 11.2 -0.8
baz=172,SNR=17
O48A Farmland 70.26 349 P P 19 13 10.7 -1.5
baz=167,SNR=25
Q41A Truxton 70.27 344 P P 19 13 11.5 -0.7
baz=162,SNR=86
O47A Sheridan 70.42 348 P P 19 13 11.6 -1.5
baz=166,SNR=38
121A Cookes Peak, D 70.43 328 P P 19 13 14.2 +0.5
baz=146,SNR=93
N50A Nevada 70.45 351 P P 19 13 12.0 -1.4
baz=169,SNR=31
N51A Ashland 70.48 351 *e*P P 19 13 13.2 -0.4
comp=Z,342nm,1.4s
N51A Ashland 70.48 351 P P 19 13 12.6 -0.9
baz=170,SNR=13
KSPA Keystone Colle 70.50 357 *e*P P 19 13 14.0 +0.4
comp=Z,368nm,1.3s
P43A Skaggs, Pawnee 70.52 345 P P 19 13 12.7 -1.1
baz=163,SNR=51
P42A Winchester 70.65 345 *e*P P 19 13 13.7 -0.9
comp=Z,268nm,1.0s
P42A Winchester 70.65 345 P P 19 13 14.0 -0.5
baz=162,SNR=40
O45A Potomac 70.72 347 P P 19 13 13.1 -1.9
baz=165,SNR=46
SFIN Lafayette 70.73 347 *e*P P 19 13 13.7 -1.4
comp=Z,420nm,1.3s
SFIN Lafayette 70.73 347 P P 19 13 13.2 -1.8
baz=165,SNR=33
BRYW Bryant College 70.74 360 *e*P P 19 13 15.9 +0.8
comp=Z,940nm,1.5s
M54A Oil Creek Stat 70.75 353 *e*P P 19 13 14.5 -0.7
comp=Z,480nm,1.6s
M54A Oil Creek Stat 70.75 353 P P 19 13 15.0 -0.1
baz=172,SNR=18
N49A Columbus Grove 70.75 350 *e*P P 19 13 14.2 -0.9
comp=Z,971nm,1.3s
N49A Columbus Grove 70.75 350 P P 19 13 14.2 -0.9
baz=168,SNR=83
O44A Mansfield 70.78 346 P P 19 13 14.1 -1.2
baz=164,SNR=5.3
N48A Decatur 70.82 349 P P 19 13 14.4 -1.2
baz=167,SNR=34
M51A Elyria 70.86 351 P P 19 13 15.0 -0.8
baz=170,SNR=10.0
VAH Vaihoa 70.89 263 *e*P P 19 13 17.1 +0.5
comp=Z,737nm,1.3s
P41A Barry, Barry 70.91 344 P P 19 13 14.9 -1.2
baz=162,SNR=33
ALLY Alegheny Colle 70.94 353 *e*P P 19 13 16.4 +0.2
comp=Z,410nm,1.4s
N47A Urbana 70.96 349 P P 19 13 14.8 -1.6
baz=167,SNR=32
M50A Fremont 71.05 351 *e*P P 19 13 16.4 -0.6
comp=Z,733nm,1.5s
M50A Fremont 71.05 351 P P 19 13 16.3 -0.6
baz=169,SNR=16
O43A Sugar Creek Fa 71.09 346 P P 19 13 16.1 -1.1
baz=163,SNR=15
QUA2 Belchertown 71.11 359 *e*P P 19 13 18.6 +1.3
QUA2 *e*pP pP 19 13 34.6 +0.5
BINY Binghamton 71.15 356 *e*P P 19 13 17.9 +0.4
comp=Z,491nm,1.4s
BINY Binghamton 71.15 356 P P 19 13 17.7 +0.1
baz=176,SNR=12
N46A Monticello 71.16 348 P P 19 13 16.5 -1.1
baz=166,SNR=29
O42A Bath 71.17 345 P P 19 13 16.9 -0.8
baz=163,SNR=27
TVO Taravao 71.19 260 *e*P P 19 13 19.2 +0.7
comp=Z,214nm,1.3s
TVO Taravao 71.19 260 *e*T T 20 30 59.2
comp=Z,2.4nm,0.2s
WES Weston 71.21 0 *e*P P 19 13 19.2 +1.3
WES *e*pP pP 19 13 35.6 +1.0
WES Weston 71.21 0 *e*P P 19 13 19.2 +1.3
WES *e**PP pP 19 13 35.6 +1.0
PMOR Pomariorio Ree 71.22 263 *e*P P 19 13 19.2 +0.6
comp=Z,619nm,1.3s
M49A Liberty Center 71.26 350 P P 19 13 16.9 -1.3
baz=168,SNR=34
BNM Barren Site 71.26 330 *e*P P 19 13 19.2 +0.5
N45A Kentland 71.26 347 P P 19 13 16.7 -1.5
baz=165,SNR=15
O41A Passleys Farm, 71.28 344 P P 19 13 17.8 -0.5
baz=162,SNR=60
HRV Adam Dziewonsk 71.33 360 *e*P P 19 13 19.8 +1.2
HRV *e*pP pP 19 13 36.1 +0.7
HRV Adam Dziewonsk 71.33 360 *e*P P 19 13 19.8 +1.2
HRV *e**PP pP 19 13 36.1 +0.7
HRV Adam Dziewonsk 71.33 360 P P 19 13 18.6 0.0
baz=180
N44A Piper City 71.33 347 P P 19 13 17.7 -0.9
baz=164,SNR=31
HDIL Hopedale 71.34 346 *e*P P 19 13 18.2 -0.6
comp=Z,2µm,1.9s
HDIL Hopedale 71.34 346 P P 19 13 17.8 -1.0
baz=163,SNR=15
TIAR Tiarei 71.37 260 *e*P P 19 13 20.0 +0.4
comp=Z,54nm,1.2s
TIAR Tiarei 71.37 260 *e*T T 20 31 12.4
comp=Z,15nm,0.2s
M48A Edgerton 71.38 349 *e*P P 19 13 18.2 -0.8
comp=Z,737nm,1.4s
M48A Edgerton 71.38 349 P P 19 13 17.8 -1.2
baz=168,SNR=21
ERPA Erie 71.39 353 *e*P P 19 13 18.6 -0.4
comp=Z,738nm,1.5s
ERPA Erie 71.39 353 P P 19 13 18.0 -0.9
baz=172,SNR=15
LPM Los Pinos Moun 71.40 330 *e*P P 19 13 20.0 +0.5
M47A Cromwell 71.41 349 P P 19 13 18.3 -0.8
baz=167,SNR=9.6
LENM Lemitar 71.43 329 *e*P P 19 13 20.2 +0.6
PAE Paea 71.53 260 *e*P P 19 13 21.0 +0.5
comp=Z,83nm,1.1s
PPTF Pamatai, Papee 71.55 260 *e*P P 19 13 20.9 +0.2
comp=Z,775nm,1.1s
PPT2 Papeete2 71.56 260 *e*P P 19 13 21.4 +0.7
comp=Z,658nm,1.3s
PPT2 *e*S S 19 22 33.0 -2.5
comp=Z,4µm,29.5s
PPT2 *e*LQ LQ 19 32 04.7
comp=Z,5µm,29.0s
PPT2 *e*LR LR 19 35 06.2
comp=Z,23µm,23.5s,baz=115
PPT Papeete 71.56 260 P P 19 13 21.2 +0.5
comp=Z,400nm,1.0s,baz=92,slow=3.4,SNR=42
PPT LR LR 19 36 42.7
comp=Z,8µm,20.1s,baz=102,slow=29
M46A Old House Fiel 71.58 348 *e*P P 19 13 19.5 -0.7
comp=Z,413nm,1.1s
M46A Old House Fiel 71.58 348 P P 19 13 18.7 -1.5
baz=166,SNR=16
TRY Troy 71.58 358 *e*P P 19 13 21.2 +1.1
comp=Z,596nm,1.1s
N43A Stutzman Famil 71.69 346 P P 19 13 20.7 -0.1
baz=164,SNR=51
TUC Tucson 71.69 326 *e*P P 19 13 21.9 +0.8
comp=Z,239nm,1.4s
TUC Tucson 71.69 326 P P 19 13 21.3 +0.2
baz=144
LAZ Ladron 71.70 329 *e*P P 19 13 22.2 +0.9
M45A Boilermakers S 71.73 347 P P 19 13 19.6 -1.5
baz=165
N42A Yates City 71.77 345 P P 19 13 20.3 -1.0
baz=163,SNR=28
L48A N Adams 71.79 350 P P 19 13 20.0 -1.4
baz=168,SNR=32
MMNY Mt. Morris Dam 71.81 355 *e*P P 19 13 21.6 +0.1
comp=Z,501nm,1.1s
N41A Harden Midland 71.84 345 *e*P P 19 13 20.9 -0.9
comp=Z,549nm,1.2s
N41A Harden Midland 71.84 345 P P 19 13 20.5 -1.2
baz=162,SNR=32
L49A Milan 71.85 350 P P 19 13 20.4 -1.3
baz=168,SNR=17
ANMO Albuquerque 71.86 330 *e*P P 19 13 22.6 +0.4
comp=Z,282nm,1.5s
ANMO Albuquerque 71.86 330 *c*P P 19 13 21.8 -0.4
ANMO pmax pmax
comp=Z,244nm,1.7s
ANMO Albuquerque 71.86 330 P P 19 13 22.8 +0.6
baz=148
M44A Midewin, Midew 71.89 347 *e*P P 19 13 21.5 -0.5
M44A *e*pP pP 19 13 37.8 -1.0

M44A **Midewin, Midew** 71.89 347 P P 19 13 20.6 -1.4
baz=165,SNR=25
KSU1 **Kansas State U** 71.89 340 eP P 19 13 21.6 -0.5
comp=Z,345nm,1.5s
KSU1 epP pP 19 13 38.7 -0.2
KSU1 **Kansas State U** 71.89 340 P P 19 13 21.3 -0.8
baz=157,SNR=8.5
L47A **Sherwood** 71.94 349 P P 19 13 21.1 -1.2
baz=167,SNR=25
AAM **Ann Arbor** 72.02 350 eP P 19 13 22.7 -0.1
comp=Z,470nm,1.4s
AAM **Ann Arbor** 72.02 350 eP P 19 13 22.7 -0.1
AAM pmax pmax
comp=Z,470nm,1.4s
AAM **Ann Arbor** 72.02 350 P P 19 13 21.6 -1.2
baz=169
M43A **Waltham Townsh** 72.12 346 P P 19 13 22.2 -1.2
baz=164,SNR=17
L46A **Eue Claire** 72.16 348 P P 19 13 22.0 -1.6
baz=166,SNR=7.7
N40A **Mertquake, Sal** 72.18 344 P P 19 13 22.8 -1.0
baz=161,SNR=40
ACCN **Adirondack Com** 72.24 358 eP P 19 13 24.7 +0.7
comp=Z,434nm,1.4s
MEDO **Medina** 72.28 355 P P 19 13 24.2 -0.1
baz=173
M42A **Sheffield** 72.31 346 P P 19 13 23.3 -1.2
baz=163
TYNO **Tyneside** 72.34 353 P P 19 13 24.6 -0.1
baz=172
K50A **Casco** 72.34 351 P P 19 13 23.9 -0.8
baz=170,SNR=12
STCO **Saint Catharin** 72.39 354 P P 19 13 24.9 0.0
baz=173
N39A **Derby Farms, D** 72.40 343 eP P 19 13 24.4 -0.7
comp=Z,498nm,1.3s
N39A **Derby Farms, D** 72.40 343 P P 19 13 24.1 -1.0
baz=161,SNR=36
M41A **Milan** 72.40 345 P P 19 13 24.3 -0.8
baz=162,SNR=19
214A **Organ Pipe Nat** 72.43 324 P P 19 13 26.4 +0.9
baz=143,SNR=154
K49A **Clarkson** 72.46 351 P P 19 13 23.8 -1.6
baz=169
HNH **Hanover** 72.53 359 eP P 19 13 27.3 +1.5
comp=Z,470nm,1.3s
K48A **Perry** 72.58 350 P P 19 13 24.8 -1.3
baz=168,SNR=34
K47A **Vermontville** 72.58 350 P P 19 13 24.8 -1.3
baz=167,SNR=24
ELFO **Elginfield** 72.59 352 P P 19 13 25.5 -0.7
baz=171
L44A **Lake County Fo** 72.62 347 P P 19 13 25.3 -1.1
baz=165,SNR=6.8
CBKS **Cedar Bluff** 72.64 337 eP P 19 13 26.6 0.0
comp=Z,743nm,1.5s
CBKS **Cedar Bluff** 72.64 337 eP P 19 13 26.6 0.0
CBKS pmax pmax
comp=Z,743nm,1.5s
CBKS **Cedar Bluff** 72.64 337 P P 19 13 26.3 -0.3
baz=154,SNR=40
M40A **Post Highland** 72.66 344 P P 19 13 25.4 -1.2
baz=162,SNR=41
K46A **Dorr** 72.73 349 P P 19 13 25.2 -1.8
baz=167,SNR=10
LIC **Lamto** 72.76 72 eP P 19 13 27.1 -0.8
comp=Z,643nm,1.0s
L43A **Garden Prairie** 72.79 347 P P 19 13 26.8 -0.5
baz=164,SNR=18
TORO **Toronto--Lesli** 72.80 354 P P 19 13 27.8 +0.4
baz=173
L42A **Oliver, Polo** 72.81 346 eP P 19 13 27.2 -0.3
comp=Z,377nm,1.4s
L42A **Oliver, Polo** 72.81 346 P P 19 13 26.5 -1.0
baz=163,SNR=21
NCB **Newcomb** 72.84 358 eP P 19 13 27.8 +0.2
comp=Z,95nm,1.1s
ACTO **Acton** 72.87 353 P P 19 13 28.1 +0.3
baz=172
T25A **Trinidad** 72.88 333 eP P 19 13 29.0 +0.7
comp=Z,581nm,1.4s
T25A **Trinidad** 72.88 333 P P 19 13 29.2 +0.9
baz=150,SNR=149
M39A **Webster** 72.89 344 P P 19 13 27.4 -0.6
baz=161,SNR=14
J49A **Marlette** 72.99 351 P P 19 13 27.4 -1.1
baz=169,SNR=15
TIC **Toumodi** 72.99 72 eP P 19 13 28.6 -0.7
DRWO **Darlington Wes** 73.01 354 P P 19 13 29.2 +0.6
baz=173
DRCO **St. Marys Ceme** 73.01 354 P P 19 13 28.8 +0.2
baz=173
J48A **Bridge Port** 73.02 351 P P 19 13 27.8 -0.9
baz=168,SNR=26
WLVO **Wesleyville** 73.03 355 P P 19 13 28.9 +0.2
baz=173
L41A **Preston** 73.06 345 P P 19 13 28.1 -0.8
baz=162,SNR=39
LBNH **Lisbon** 73.06 360 eP P 19 13 30.2 +1.2
LBNH epP pP 19 13 47.1 +1.3
LBNH **Lisbon** 73.06 360 eP P 19 13 30.2 +1.2
LBNH e*PP pP 19 13 47.1 +1.3
LBNH **Lisbon** 73.06 360 P P 19 13 28.5 -0.5
baz=179,SNR=9.0
KIC **Kosan Boka** 73.07 73 eP P 19 13 29.2 -0.5
comp=Z,640nm,0.9s
X18A **Snowflake** 73.09 327 eP P 19 13 30.4 +0.9
comp=Z,253nm,1.4s
J47A **Sunmer** 73.11 350 P P 19 13 28.2 -1.1
baz=168,SNR=10.0
PKRO **Pickering** 73.13 354 P P 19 13 29.6 +0.3
baz=173
DBIC **Dimbokro** 73.14 72 P P 19 13 29.6 -0.5
comp=Z,237nm,0.7s,baz=212,slow=6.4,SNR=322
DBIC LR LR 19 43 10.1
comp=Z,6µm,21.1s,baz=218,slow=34
K43A **Burlington** 73.21 347 eP P 19 13 30.0 +0.2
comp=Z,497nm,1.4s
K43A **Burlington** 73.21 347 P P 19 13 29.4 -0.4
baz=164,SNR=8.9
L40A **Anamosa** 73.21 345 eP P 19 13 29.0 -0.8
comp=Z,571nm,1.1s
L40A **Anamosa** 73.21 345 P P 19 13 29.2 -0.7
baz=162,SNR=76
J46A **Howard City** 73.35 349 P P 19 13 29.0 -1.6
baz=167
WVL **Waterville** 73.41 1 eP P 19 13 32.2 +1.3
WVL epP pP 19 13 48.4 +0.6
BASO **Ashfield** 73.44 352 P P 19 13 30.8 -0.4
baz=170
L39A **Vinton** 73.45 344 P P 19 13 30.5 -0.8
baz=161,SNR=20
W18A **Petrified Fore** 73.47 328 eP P 19 13 32.5 +0.7
comp=Z,595nm,1.4s
W18A **Petrified Fore** 73.47 328 P P 19 13 32.6 +0.8
baz=146,SNR=91
BWLO **Walkerton** 73.48 353 P P 19 13 30.9 -0.5
baz=171
K42A **Prairie Point,** 73.49 346 P P 19 13 30.9 -0.5
baz=164,SNR=32
LONY **Lake Ozonia** 73.50 358 P P 19 13 31.6 +0.1
baz=177,SNR=19
I49A **Point Hope** 73.51 351 P P 19 13 30.4 -1.2
baz=169,SNR=9.1
K41A **Shullsburg** 73.53 346 P P 19 13 31.0 -0.7
baz=163,SNR=40
SCIA **State Center** 73.55 343 eP P 19 13 31.5 -0.3
comp=Z,494nm,1.4s
SCIA **State Center** 73.55 343 P P 19 13 31.0 -0.8
baz=160,SNR=12
J45A **Montague** 73.56 349 P P 19 13 30.1 -1.8
baz=168
DELO **Deloro Mine** 73.56 355 P P 19 13 31.7 -0.1
baz=174
113A **Mohawk Valley,** 73.56 324 eP P 19 13 32.6 +0.5
EMMW **East Machias** 73.62 3 eP P 19 13 33.6 +1.5
EMMW epP pP 19 13 49.9 +0.8
BRCO **Bruce Peninsul** 73.64 352 P P 19 13 32.3 -0.1
baz=171
FRNY **Flat Rock** 73.69 358 eP P 19 13 32.5 0.0
comp=Z,384nm,1.4s
CLWO **Collingwood** 73.72 353 P P 19 13 32.6 -0.2
baz=172
K40A **Colesburg** 73.80 345 P P 19 13 32.2 -1.1
baz=162,SNR=56
HAL **Halifax** 73.81 6 eP P 19 13 34.9 +1.7
HAL epP pP 19 13 51.0 +0.9
HAL **Halifax** 73.81 6 eP P 19 13 34.9 +1.7
HAL e*PP pP 19 13 51.0 +0.9
JFWS **Jewell Farm** 73.81 346 P P 19 13 33.2 -0.1
baz=163,SNR=36
I47A **Gladwin** 73.83 350 P P 19 13 32.8 -0.7
baz=168,SNR=11
KSCO **Kaye Shedlock'** 73.83 335 eP P 19 13 34.8 +1.0
comp=Z,873nm,1.4s
KSCO **Kaye Shedlock'** 73.83 335 P P 19 13 34.3 +0.5
baz=152,SNR=42
SDCO **Great Sand Dun** 73.84 332 eP P 19 13 34.5 +0.5
SDCO **Great Sand Dun** 73.84 332 P P 19 13 34.3 +0.2
baz=149,SNR=175
I48A **Sherman Twp** 73.88 351 P P 19 13 33.3 -0.4
baz=169,SNR=24
J43A **Natural Harves** 73.88 347 P P 19 13 32.9 -0.8
baz=164,SNR=20
I46A **Reed City** 73.90 349 P P 19 13 32.3 -1.5
baz=167,SNR=7.7
SADO **Sadowa** 73.93 354 eP P 19 13 33.7 -0.3
comp=Z,933nm,1.6s
J42A **Columbus** 73.96 347 P P 19 13 33.8 -0.4
baz=164,SNR=25
BMRO **Meriville Lake** 73.97 353 P P 19 13 33.7 -0.5
baz=171
K39A **Oelwein** 73.98 344 P P 19 13 33.9 -0.4
baz=161,SNR=32
PLVO **Plevna** 74.05 356 P P 19 13 34.5 -0.2
baz=175
GGN **Saint George** 74.06 3 eP P 19 13 36.3 +1.6
GGN epP pP 19 13 52.9 +1.3
BANO **Bancroft** 74.08 355 P P 19 13 34.7 -0.2
baz=174
PKME **Peaks-Kenny Pk** 74.11 2 eP P 19 13 36.0 +1.0
PKME epP pP 19 13 52.5 +0.6
PKME **Peaks-Kenny Pk** 74.11 2 P P 19 13 34.5 -0.5
baz=182,SNR=6.9
I45A **Fountain** 74.12 349 P P 19 13 33.6 -1.5
baz=166
MOQ **Mont Orford** 74.14 359 eP P 19 13 36.5 +1.2
MOQ epP pP 19 13 51.2 -1.0
J41A **Loganville** 74.19 346 P P 19 13 35.4 -0.1
baz=163,SNR=31
I43A **Langenfeld Bro** 74.31 347 P P 19 13 35.5 -0.8
baz=165,SNR=12
H48A **Harrisville** 74.33 351 P P 19 13 35.9 -0.4
baz=169
H47A **Mio** 74.35 351 P P 19 13 35.3 -1.2
baz=168
ORIO **Orleans, Innes** 74.37 357 P P 19 13 36.7 +0.2
baz=176
J40A **Soldiers Grove** 74.38 345 P P 19 13 35.7 -1.0
baz=162,SNR=33
S22A **4UR Ranch, Cre** 74.39 331 eP P 19 13 37.8 +0.5
comp=Z,395nm,1.8s
S22A **4UR Ranch, Cre** 74.39 331 P P 19 13 38.0 +0.8
baz=148,SNR=86
H46A **Fife Lake** 74.44 350 P P 19 13 36.2 -0.8
baz=167,SNR=14
I42A **Draeger Farm,** 74.47 347 eP P 19 13 36.9 -0.3
comp=Z,475nm,1.4s
I42A **Draeger Farm,** 74.47 347 P P 19 13 36.6 -0.5
baz=164,SNR=19
BGNE **Belgrade** 74.47 339 eP P 19 13 37.1 -0.2
comp=Z,758nm,1.2s
BGNE **Belgrade** 74.47 339 P P 19 13 37.0 -0.2
baz=156,SNR=32
ALFO **Alfred** 74.52 357 P P 19 13 37.5 +0.1
baz=177
J39A **Decorah** 74.53 345 P P 19 13 36.3 -1.3
baz=162,SNR=46
WUAZ **Wupatki** 74.57 327 eP P 19 13 39.0 +0.9
comp=Z,489nm,1.3s
WUAZ **Wupatki** 74.57 327 P P 19 13 38.9 +0.7
baz=144,SNR=129
KLBO **Killbear Provi** 74.61 354 P P 19 13 36.7 -1.2
baz=172
BUKO **Buck Lake** 74.62 354 P P 19 13 38.1 +0.1
baz=173
TOBO **Tobermory, Bru** 74.62 353 P P 19 13 37.7 -0.3
baz=171
GLMI **Grayling** 74.63 350 eP P 19 13 38.2 +0.1
comp=Z,144nm,1.2s
GLMI ePcP PcP 19 13 52.6 +0.5
GLMI **Grayling** 74.63 350 P P 19 13 37.6 -0.5
baz=168
MVCO **Mesa Verde** 74.65 330 eP P 19 13 39.2 +0.5
comp=Z,432nm,1.3s
MVCO **Mesa Verde** 74.65 330 P P 19 13 39.1 +0.4
baz=147,SNR=93
H45A **Beulah** 74.66 349 P P 19 13 36.2 -2.0
baz=167
PEMO **Pembroke** 74.69 356 P P 19 13 38.5 +0.1
baz=174
IKP **In-Ko-Pah, Jac** 74.71 322 P P 19 13 39.7 +0.8
baz=140,SNR=87
Y12C **Blythe** 74.72 324 eP P 19 13 39.9 +1.0
comp=Z,321nm,1.3s
Y12C **Blythe** 74.72 324 P P 19 13 39.8 +1.0
baz=142,SNR=28
Q24A **Divide** 74.75 333 eP P 19 13 40.0 +0.6
comp=Z,633nm,1.4s
Q24A **Divide** 74.75 333 P P 19 13 40.0 +0.6
baz=150,SNR=108
SWSC **Sam W. Stewart** 74.77 322 P P 19 13 39.8 +0.6
baz=141,SNR=35
H43A **Windswept, Lux** 74.81 348 epP pP 19 13 56.0 0.0
H43A **Windswept, Lux** 74.81 348 P P 19 13 38.5 -0.7
baz=165,SNR=8.0
I40A **Norwalk** 74.82 346 P P 19 13 38.2 -1.0
baz=162,SNR=12
I41A **Arkdale** 74.82 346 eP P 19 13 38.8 -0.5
comp=Z,267nm,1.3s
I41A **Arkdale** 74.82 346 P P 19 13 38.4 -0.8
baz=163,SNR=11
G47A **Hillman** 74.86 351 P P 19 13 39.0 -0.4
baz=169,SNR=19
LMN **Caledonia Moun** 74.91 5 eP P 19 13 40.6 +0.9
comp=Z,357nm,1.4s
PDMCI **Parker Dam,Lak** 74.96 324 P P 19 13 40.7 +0.4
baz=142,SNR=13
F52A **Sundridge** 74.97 354 P P 19 13 39.9 -0.1
baz=173,SNR=23
I39A **Houston** 74.98 345 eP P 19 13 39.4 -0.8
comp=Z,432nm,1.0s
I39A **Houston** 74.98 345 P P 19 13 39.6 -0.6
baz=162,SNR=56
H42A **Shiocton** 74.99 347 P P 19 13 39.3 -0.8
baz=164,SNR=10
G45A **Suttons Bay** 75.00 350 P P 19 13 38.6 -1.6
baz=167
ALGO **Algonquin Park** 75.02 355 P P 19 13 40.0 -0.3
baz=174
BAR **Barrett** 75.03 322 eP P 19 13 41.4 +0.7
comp=Z,297nm,1.3s
MONP2 **Monument Peak** 75.06 322 P P 19 13 41.8 +0.6
baz=140,SNR=74
BC3 **Big Chuckawall** 75.14 323 P P 19 13 41.9 +0.5
baz=141,SNR=117
G46A **Petoskey** 75.15 350 P P 19 13 40.4 -0.7
baz=168,SNR=6.2
F51A **Arnstein** 75.15 354 P P 19 13 40.5 -0.5
baz=172,SNR=17
F49A **Sandfield** 75.21 352 P P 19 13 40.6 -0.8
baz=170,SNR=13
H41A **Junction City** 75.31 347 eP P 19 13 41.5 -0.6
comp=Z,271nm,1.4s
H41A **Junction City** 75.31 347 P P 19 13 40.9 -1.1
baz=163,SNR=16
OGNE **Ogallala** 75.33 336 eP P 19 13 42.9 +0.6
comp=Z,500nm,1.6s
OGNE **Ogallala** 75.33 336 P P 19 13 42.8 +0.4
baz=152,SNR=17
IRM **Iron Mountain** 75.36 324 P P 19 13 43.4 +0.7
baz=141,SNR=120
E53A **Dumoine, Ponti** 75.42 356 P P 19 13 42.5 -0.1
baz=174,SNR=18
109C **Camp Elliot, M** 75.43 322 P P 19 13 43.7 +0.7
baz=140,SNR=6.2
CPE **Camp Elliot** 75.43 322 eP P 19 13 44.3 +1.4
comp=Z,330nm,1.6s
E54A **Lac Daplat, Po** 75.44 356 P P 19 13 42.3 -0.4
baz=175,SNR=25
W13A **Hualapai Mount** 75.46 325 eP P 19 13 44.2 +0.8
H40A **Chili** 75.47 346 P P 19 13 42.4 -0.6
baz=163,SNR=33
G43A **Wallace** 75.55 348 eP P 19 13 43.8 +0.4
G43A epP pP 19 13 59.7 -0.6
G43A **Wallace** 75.55 348 P P 19 13 42.7 -0.7
baz=165,SNR=6.6
PQI **Presque Isle** 75.56 2 eP P 19 13 43.8 +0.5
comp=Z,183nm,1.3s
NEE2 **Needles Airpor** 75.57 324 P P 19 13 44.3 +0.5
baz=142,SNR=6.6
F46A **Macinaw City C** 75.58 350 P P 19 13 42.9 -0.6
baz=168,SNR=14
F45A **CMU Biological** 75.61 350 P P 19 13 43.0 -0.6
baz=167
FRD **Ford Ranch, An** 75.62 322 P P 19 13 45.1 +0.9
baz=140,SNR=142
XPFO **Piæon Flat** 75.63 322 eP P 19 13 45.1 +0.8
comp=Z,313nm,1.3s
PFO **Pinyon Flats O** 75.63 322 eP P 19 13 45.1 +0.8
comp=Z,314nm,1.3s
PFO **Pinyon Flats O** 75.63 322 eP P 19 13 45.1 +0.8
PFO pmax pmax
comp=Z,313nm,1.3s
PFO **Pinyon Flats O** 75.63 322 P P 19 13 45.3 +1.0
baz=140,SNR=101
ISCO **Idaho Springs** 75.65 333 eP P 19 13 44.9 +0.4
comp=Z,272nm,1.4s
ISCO **Idaho Springs** 75.65 333 eP P 19 13 44.9 +0.4
ISCO pmax pmax
comp=Z,272nm,1.4s
ISCO **Idaho Springs** 75.65 333 P P 19 13 44.9 +0.4
baz=149,SNR=100
SMCO **Snowmass** 75.67 332 eP P 19 13 45.6 +0.9
comp=Z,582nm,1.3s
G42A **Mountain** 75.67 348 eP P 19 13 43.9 -0.2
comp=Z,393nm,1.1s
G42A **Mountain** 75.67 348 P P 19 13 44.0 -0.2
baz=164,SNR=24
BELC **Belle Mtn. Jos** 75.69 323 P P 19 13 45.1 +0.5
baz=141,SNR=66
E51A **G1948 Merrick** 75.71 354 P P 19 13 44.0 -0.3
baz=172,SNR=11
H39A **Augusta** 75.72 345 P P 19 13 43.8 -0.6
baz=162,SNR=18
E50A **Wahnapitae** 75.72 353 P P 19 13 44.2 -0.1
baz=171,SNR=21
G41A **Antigo** 75.79 347 P P 19 13 44.1 -0.7
baz=164,SNR=5.0
E48A **Lockeyer** 75.94 352 P P 19 13 44.9 -0.7
baz=176,SNR=35
H38A **Maiden Rock** 75.94 345 P P 19 13 44.8 -0.8
baz=161,SNR=18
F43A **Flat Rock, Esc** 76.02 349 P P 19 13 45.4 -0.7
baz=166,SNR=9.3
MURC **Murrieta** 76.02 322 P P 19 13 47.1 +0.7
baz=140,SNR=47
F44A **Big Bay de Noc** 76.03 349 P P 19 13 45.2 -0.9
baz=166,SNR=8.2
E47A **Iron Bridge** 76.05 352 P P 19 13 45.5 -0.7
baz=163,SNR=40
G40A **Rib Lake** 76.05 346 eP P 19 13 46.1 -0.1
comp=Z,233nm,1.3s
G40A **Rib Lake** 76.05 346 P P 19 13 45.8 -0.4
baz=163,SNR=24
LDFC **Landfair** 76.06 324 eP P 19 13 47.8 +1.1
comp=Z,501nm,1.4s
E46A **Sault Ste Mari** 76.10 351 P P 19 13 45.8 -0.7
baz=168,SNR=28
D53A **Lac Vaulve, Po** 76.12 356 P P 19 13 46.2 -0.4
baz=174,SNR=22
GMRC **Granite Mounta** 76.12 324 P P 19 13 47.7 +0.6
baz=141,SNR=182
F42A **Maple Grove Fa** 76.12 348 P P 19 13 45.9 -0.7
baz=165
D54A **Lac Fusel, La** 76.12 356 P P 19 13 45.5 -1.1
baz=175,SNR=16
ECSD **EROS Data Cent** 76.16 341 eP P 19 13 46.5 -0.4
comp=Z,394nm,1.2s
ECSD **EROS Data Cent** 76.16 341 P P 19 13 46.3 -0.6
baz=157,SNR=147
E45A **Wooded Hills,** 76.21 350 P P 19 13 46.7 -0.4
baz=168,SNR=9.2
LATQ **La Tuque** 76.22 359 P P 19 13 47.1 0.0
baz=179
BATG **Bathurst New B** 76.25 4 eP P 19 13 48.6 +1.3
comp=Z,220nm,1.3s
D51A **Lot 18 Range I** 76.26 354 P P 19 13 47.1 -0.2
baz=173,SNR=11
G39A **Holcombe** 76.27 346 P P 19 13 46.5 -1.0
baz=162,SNR=13
F41A **Three Lakes** 76.28 347 eP P 19 13 47.3 -0.3
comp=Z,279nm,1.4s
F41A **Three Lakes** 76.28 347 P P 19 13 47.0 -0.6
baz=164,SNR=20
SCI2 **San Clemente I** 76.29 321 P P 19 13 48.9 +1.0
baz=139,SNR=23
D50A **G1974 Best Tow** 76.37 354 P P 19 13 47.8 -0.3
baz=172,SNR=18
BBRC **Big Bear Solar** 76.38 323 P P 19 13 49.8 +1.1
baz=140,SNR=15
KNB **Kanab** 76.47 327 eP P 19 13 50.2 +1.2
comp=Z,691nm,1.3s
KNB **Kanab** 76.47 327 eP P 19 13 50.2 +1.2
KNB pmax pmax
comp=Z,691nm,1.3s
HEC **Hector,Ludlow** 76.50 323 P P 19 13 50.0 +0.8
baz=140,SNR=163
E43A **Lone Tree Farm** 76.52 349 eP P 19 13 48.6 -0.2
comp=Z,322nm,1.4s
E43A **Lone Tree Farm** 76.52 349 P P 19 13 48.3 -0.5
baz=166,SNR=16
CIS **Catalina Islan** 76.53 321 P P 19 13 50.0 +0.7
baz=139,SNR=23
PKCU **Pink Cliffs** 76.57 328 eP P 19 13 50.7 +0.9
comp=Z,221nm,1.1s
SPMN **Marine on St.** 76.58 345 eP P 19 13 48.4 -0.8
comp=Z,361nm,1.4s
SPMN **Marine on St.** 76.58 345 P P 19 13 48.0 -1.3
baz=161,SNR=17
D48A **Paudash Townsh** 76.58 353 P P 19 13 47.4 -1.8
baz=170,SNR=18
E44A **Grand Marais A** 76.58 350 epP pP 19 14 06.8 +0.6
E44A **Grand Marais A** 76.58 350 P P 19 13 48.3 -0.9
baz=167
D47A **Chapleau** 76.61 352 P P 19 13 48.6 -0.8
baz=169,SNR=13
COWI **Conover** 76.64 347 eP P 19 13 49.0 -0.6
comp=Z,218nm,1.2s
F40A **Park Falls** 76.66 347 P P 19 13 49.1 -0.6
baz=163,SNR=65
LCMT **Little Creek M** 76.67 327 eP P 19 13 51.2 +1.1
comp=Z,211nm,1.2s
SUR **Sutherland** 76.69 120 P P 19 13 51.3 +0.6
comp=Z,101nm,0.7s,baz=238,slow=5.6,SNR=120
SUR **Sutherland** 76.69 120 eP P 19 13 51.7 +0.9
comp=Z,160nm,0.8s
SUR **Sutherland** 76.69 120 P P 19 13 51.6 +0.9
SNR=9.2
SUR **Sutherland** 76.69 120 P P 19 13 51.6 +0.9
SNR=9.2
FMP **Fort Macarthur** 76.70 321 P P 19 13 51.1 +0.9
baz=139,SNR=5.6
N23A **Red Feather La** 76.72 334 P P 19 13 51.1 +0.6
baz=149,SNR=36
E42A **Champion** 76.73 348 P P 19 13 49.5 -0.6
baz=165,SNR=30
BFSC **Mount Baldy Ra** 76.75 322 P P 19 13 51.2 +0.6
baz=140,SNR=89
TUQ **Turquoise Moun** 76.76 324 P P 19 13 51.6 +0.9
baz=141,SNR=160
F39A **Loretta** 76.81 346 P P 19 13 50.5 0.0
baz=162,SNR=50
RRX **Edison Barstow** 76.89 323 P P 19 13 52.1 +0.9
baz=140
E41A **Kenton** 76.95 348 P P 19 13 50.8 -0.6
baz=164,SNR=17
MWC **Mount Wilson** 76.96 322 eP P 19 13 52.4 +0.5
comp=Z,472nm,1.4s
MWC **Mount Wilson** 76.96 322 eP P 19 13 52.4 +0.5
MWC pmax pmax
comp=Z,473nm,1.4s
PASC **Pasadena Art C** 76.99 322 eP P 19 13 53.5 +1.7
comp=Z,390nm,1.3s
MTPU **Mount Pierson** 77.00 328 eP P 19 13 52.8 +0.6
comp=Z,140nm,0.9s
O20A **White River Ci** 77.00 332 eP P 19 13 52.6 +0.6
comp=Z,644nm,1.2s
O20A **White River Ci** 77.00 332 P P 19 13 52.3 +0.3
baz=147,SNR=176
F37A **Hinrichs Farm,** 77.01 345 P P 19 13 50.9 -0.7
baz=161,SNR=21
SNCC **San Nicolas Is** 77.03 320 eP P 19 13 53.5 +1.4
comp=Z,383nm,1.2s

SNCC epP pP 19 14 08.6 -0.5
SNCC San Nicolas Is 77.03 320 P P 19 13 52.6 +0.5
baz=138,SNR=14
SZCU Shurtz Canyon 77.06 327 eP P 19 13 53.9 +1.5
comp=Z,417nm,1.4s
F38A Pierce - Schro 77.06 345 P P 19 13 51.4 -0.6
baz=162,SNR=68
GSC Goldstone, Bar 77.11 323 eP P 19 13 52.7 +0.1
comp=Z,278nm,1.3s
GSC Goldstone, Bar 77.11 323 eP P 19 13 52.7 +0.1
GSC pmax pmax
comp=Z,278nm,1.3s
GSC Goldstone, Bar 77.11 323 P P 19 13 53.4 +0.8
baz=140,SNR=94
E40A Wakefield 77.11 347 P P 19 13 52.2 0.0
baz=163,SNR=53
VLDQ Val d'Or 77.13 356 eP P 19 13 52.2 0.0
VLDQ epP pP 19 14 09.0 -0.2
DECC Green Verdugo 77.13 322 P P 19 13 53.6 +1.0
baz=139,SNR=15
CCUT Cedar City 77.15 327 eP P 19 13 54.3 +1.3
comp=Z,408nm,1.2s
CCUT epP pP 19 14 10.7 +0.8
E39A Mellen 77.18 347 P P 19 13 51.9 -0.7
baz=163,SNR=52
SHPR Sheep Range 77.20 325 eP P 19 13 54.0 +0.8
comp=Z,314nm,1.3s
SHPR epP pP 19 14 10.5 +0.3
SHOC Shoshone, Teco 77.30 324 P P 19 13 53.9 +0.4
baz=141,SNR=5.8
MSU Marysvale 77.37 328 eP P 19 13 54.9 +0.7
BLG Laguna Peak, P 77.42 321 P P 19 13 54.9 +0.7
baz=138,SNR=18
EDW2 Edwards Air Fo 77.42 322 P P 19 13 54.4 +0.1
baz=139,SNR=106
P18A Preston Nutter 77.42 330 eP P 19 13 55.2 +0.7
comp=Z,672nm,1.3s
P18A epP pP 19 14 11.6 +0.1
D41A Chassel 77.45 348 eP P 19 13 54.3 +0.2
D41A epP pP 19 14 10.7 -0.4
D41A Chassel 77.45 348 P P 19 13 53.8 -0.3
baz=164,SNR=27
SUSD Miller 77.48 340 P P 19 13 53.5 -0.8
baz=155,SNR=13
P17A Butcher Ranch, 77.51 330 eP P 19 13 55.6 +0.8
comp=Z,464nm,1.2s
P17A epP pP 19 14 11.5 -0.3
MACI Morro de la Ar 77.56 48 eP P 19 13 53.4 -2.0
MACI epP pP 19 14 12.1 -0.3
TMUT Trail Mountain 77.57 329 eP P 19 13 55.9 +0.6
comp=Z,296nm,1.4s
E38A The Farm, Brul 77.61 346 eP P 19 13 54.4 -0.6
E38A epP pP 19 14 10.8 -1.1
E38A The Farm, Brul 77.61 346 P P 19 13 54.4 -0.6
baz=162,SNR=24
OSI Osito Audit: C 77.61 322 eP P 19 13 56.8 +1.4
comp=Z,475nm,1.3s
OSI Osito Audit: C 77.61 322 P P 19 13 55.7 +0.4
baz=139,SNR=12
MAW Mawson 77.63 164 P P 19 13 54.4 -0.6
comp=Z,51nm,0.8s,baz=191,slow=6.7,SNR=76
MAW LR LR 19 47 28.1
comp=Z,5µm,22.0s,baz=232,slow=35
MAW Mawson 77.63 164 eP P 19 13 54.8 -0.2
MAW epP pP 19 14 11.6 -0.4
MAW Mawson 77.63 164 eP P 19 13 54.8 -0.2
MAW e*PP pP 19 14 11.6 -0.4
SCZ2 Santa Cruz Isl 77.65 321 P P 19 13 56.2 +0.7
baz=138,SNR=37
LRMC Laurel Mtn Rad 77.71 323 P P 19 13 56.7 +0.7
baz=140,SNR=93
RWWY Rawlins 77.90 333 eP P 19 13 57.6 +0.6
comp=Z,611nm,1.1s
RWWY epP pP 19 14 14.4 +0.4
SBC Santa Barbara 78.03 321 P P 19 13 58.2 +0.6
baz=138,SNR=7.3
FURC Furnace Creek, 78.04 324 P P 19 13 58.4 +0.8
baz=140,SNR=60
LSQQ Lebel-sur-Quev 78.04 356 P P 19 13 57.1 -0.2
baz=175
MPMC Manual Prospec 78.05 323 P P 19 13 58.3 +0.4
baz=140,SNR=106
ARVC Arvin 78.06 322 P P 19 13 58.7 +1.0
baz=139,SNR=7.6
TPNV Topopah Spring 78.10 325 eP P 19 13 58.9 +0.8
comp=Z,330nm,1.3s
TPNV Topopah Spring 78.10 325 P P 19 13 59.0 +0.8
baz=141,SNR=212
PSUT Pine Spring 78.17 327 eP P 19 13 59.7 +1.2
comp=Z,229nm,1.2s
ISA Isabella, Lake 78.27 322 eP P 19 13 59.8 +0.8
comp=Z,272nm,1.1s
ISA Isabella, Lake 78.27 322 P P 19 13 59.6 +0.6
baz=139,SNR=219
DAC Darwin (Calif) 78.27 323 eP P 19 14 01.6 +2.5
comp=Z,254nm,1.1s
MPU Maple Canyon 78.35 330 eP P 19 13 60.0 +0.5
comp=Z,345nm,1.1s
C40A Isle Royale Na 78.39 348 eP P 19 13 59.5 +0.2
C40A epP pP 19 14 15.0 -1.2
C40A Isle Royale Na 78.39 348 P P 19 13 58.3 -1.0
baz=164
PKM Mcpherson Peak 78.41 321 P P 19 14 00.8 +0.9
baz=138,SNR=216
K22A Casper 78.45 344 eP P 19 14 00.5 +0.5
comp=Z,374nm,1.0s
K22A Casper 78.45 344 P P 19 14 00.2 +0.3
baz=149,SNR=70
NLU North Lily Min 78.50 329 eP P 19 14 01.0 +0.6
comp=Z,416nm,1.4s
RAR Rarotonga 78.61 252 eP P 19 14 01.6 +0.3
comp=Z,381nm,1.5s
GRAC Grapevine Rang 78.70 324 P P 19 14 02.3 +1.0
baz=140,SNR=32
VES Vestal, Richgr 78.73 322 P P 19 14 02.2 +0.7
baz=139,SNR=58
JLU Jordanelle 78.75 330 eP P 19 14 02.2 +0.4
comp=Z,180nm,0.9s
JLU epP pP 19 14 18.5 -0.3
CHGQ Chibougamau 78.78 358 P P 19 14 01.2 -0.2
baz=177
MATQ Matagami 78.78 356 P P 19 14 00.9 -0.4
baz=174
RSSD Black Hills 78.83 337 eP P 19 13 56.9 -5.2
comp=Z,217nm,1.2s
RSSD Black Hills 78.83 337 eP P 19 13 56.9 -5.2
RSSD pmax pmax
comp=Z,217nm,1.2s
RSSD Black Hills 78.83 337 P P 19 14 02.4 +0.4
baz=151
SMMC Simmler 78.83 321 P P 19 14 03.0 +0.9
baz=138,SNR=50
R11A Troy Canyon, C 78.86 326 eP P 19 14 03.0 +0.7
comp=Z,288nm,1.4s
R11A Troy Canyon, C 78.86 326 P P 19 14 03.2 +0.9
baz=142,SNR=190
EYMN Ely 78.87 346 eP P 19 14 01.7 -0.2
comp=Z,277nm,1.4s
EYMN epP pP 19 14 18.2 -0.7
EYMN Ely 78.87 346 P P 19 14 01.2 -0.7
baz=162,SNR=30
CTU Camp Tracy 78.95 330 eP P 19 14 03.2 +0.5
comp=Z,94nm,0.9s
DUG Dugway, Tooele 79.02 329 eP P 19 14 03.6 +0.5
comp=Z,524nm,1.4s
DUG epP pP 19 14 20.1 -0.1
DUG Dugway, Tooele 79.02 329 eP P 19 14 03.6 +0.5
DUG e*PP pP 19 14 20.1 -0.1
DUG pmax pmax
comp=Z,524nm,1.4s
DUG Dugway, Tooele 79.02 329 P P 19 14 03.4 +0.3
baz=144,SNR=206
DRLN Deer Lake 79.06 9 eP P 19 14 03.7 +0.8
DRLN epP pP 19 14 20.2 +0.2
TCUT Toone Canyon 79.15 330 eP P 19 14 04.3 +0.3
comp=Z,2µm,1.8s
TIN Tinemaha, Big 79.19 324 P P 19 14 05.1 +1.0
baz=139,SNR=31
PAGB Antelope Grade 79.28 321 eP P 19 14 05.8 +1.3
comp=Z,467nm,1.2s
HWUT Hardware Ranch 79.62 331 eP P 19 14 06.3 -0.1
comp=Z,323nm,0.9s
BGU Big Grassy Mou 79.71 329 eP P 19 14 06.9 0.0
comp=Z,268nm,1.3s
BW06 Boulder Array 79.74 332 eP P 19 14 06.7 -0.4
comp=Z,155nm,1.0s
BW06 Boulder Array 79.74 332 P P 19 14 06.8 -0.3
baz=147,SNR=130
PD31 Pinedale Array 79.74 332 eP P 19 14 06.7 -0.4
PDAR Pinedale Array 79.74 332 P P 19 14 06.7 -0.4
comp=Z,35nm,0.6s,baz=131,slow=6.7,SNR=170
PDAR PKKPbc PKKPbc 19 32 52.9 -2.8
comp=Z,1.5nm,0.7s,baz=54,slow=1.3,SNR=8.9
PDAR PKPPKP P'P'df 19 41 03.4 +9.1
comp=Z,0.3nm,0.3s,baz=243,slow=1.7,SNR=3.9
PDAR LR LR 19 46 09.8
comp=Z,2µm,20.2s,baz=156,slow=33
PDAR Pinedale Array 79.74 332 eP P 19 14 06.1 -1.0
PDAR PKKPbc PKKPbc 19 32 52.9 -2.8
PDAR P'P' 19 41 03.4
SPUT South Promonto 79.76 330 eP P 19 14 07.3 +0.1
comp=Z,554nm,1.3s
PMPB Monarch Peak 79.94 321 eP P 19 14 09.2 +1.1
comp=Z,414nm,1.3s
MLAC Mammoth, Mammo 79.94 324 P P 19 14 09.0 +0.7
baz=139,SNR=17
TSUM Tsumeb 80.01 106 P P 19 14 09.9 +0.8
comp=Z,130nm,1.0s,baz=241,slow=5.0,SNR=124
TSUM Tsumeb 80.01 106 eP P 19 14 09.2 +0.1
comp=Z,984nm,1.8s
TSUM epP pP 19 14 26.0 -0.1
OMMB Old Mammoth Mi 80.02 323 eP P 19 14 09.2 +0.4
comp=Z,244nm,1.2s
OMMB epP pP 19 14 25.8 -0.1
MDPB Devils Postpil 80.07 323 eP P 19 14 09.8 +0.7
comp=Z,155nm,1.3s
MDPB epP pP 19 14 25.7 -0.4
AGMN Agassiz Nation 80.19 344 eP P 19 14 08.4 -0.6
AGMN epP pP 19 14 25.3 -0.9
AGMN Agassiz Nation 80.19 344 P P 19 14 08.4 -0.6
baz=158,SNR=56
PMOZ Porto Moniz, M 80.26 44 eS S 19 24 19.8 +9.1
PMOZ Porto Moniz, M 80.26 44 eLR LR 19 40 34.2
comp=Z,4µm,18.0s
NVAR Mina Arroy Bea 80.28 324 P P 19 14 10.4 +0.3
comp=Z,66nm,1.0s,baz=153,slow=5.8,SNR=186
NVAR PKKPbc PKKPbc 19 32 54.0 -0.1
comp=Z,3.5nm,0.7s,baz=299,slow=1.5,SNR=5.0
NVAR PKPPKP P'P'df 19 41 04.5 +11
comp=Z,1.1nm,0.8s,baz=270,slow=2.2,SNR=4.1
NVAR LR LR 19 43 09.0
comp=Z,3µm,21.3s,baz=146,slow=31
HVU Hansel Valley 80.28 330 eP P 19 14 09.8 -0.2
comp=Z,228nm,1.0s
HVU Hansel Valley 80.28 330 eP P 19 14 09.8 -0.2
HVU pmax pmax
comp=Z,228nm,1.0s
PMAR Madeira 80.36 44 epP pP 19 14 29.1 +1.4
PMAR A A 19 14 32.0
comp=Z,418nm,1.3s
AHID Auburn Hatcher 80.37 331 eP P 19 14 10.3 -0.2
comp=Z,540nm,1.4s
RYN Ryan 80.54 324 eP P 19 14 11.8 +0.4
comp=Z,196nm,1.2s
KVN Kaiserville 80.65 325 eP P 19 14 12.1 +0.1
comp=Z,204nm,1.2s
KVN Kaiserville 80.65 325 eP P 19 14 12.1 +0.1
KVN pmax pmax
comp=Z,204nm,1.2s
SAO San Andreas Ge 80.69 321 eP P 19 14 13.3 +1.3
comp=Z,90nm,1.0s
SAO San Andreas Ge 80.69 321 eP P 19 14 13.3 +1.3
SAO pmax pmax
comp=Z,90nm,1.0s
MDND Maddock 80.76 341 eP P 19 14 12.2 0.0
comp=Z,951nm,1.2s
MDND Maddock 80.76 341 P P 19 14 12.0 -0.1
baz=155,SNR=53
REDW Red Top Meadow 80.76 332 eP P 19 14 12.6 0.0
comp=Z,275nm,1.3s
SNOW Snow King Moun 80.81 332 eP P 19 14 13.8 +0.9
comp=Z,294nm,1.4s
LOHW Long Hollow 80.87 332 eP P 19 14 13.1 -0.1
comp=Z,244nm,1.4s
TPAW Teton Pass 80.91 332 eP P 19 14 13.5 +0.1
comp=Z,239nm,1.3s
WAKR Walker 80.91 324 eP P 19 14 14.3 +0.8
comp=Z,370nm,1.4s
MOOW Moose Ponds 81.04 332 eP P 19 14 13.7 -0.3
comp=Z,167nm,1.7s
CMB Columbia Colle 81.06 323 eP P 19 14 13.4 -0.6
comp=Z,137nm,1.3s
CMB Columbia Colle 81.06 323 eP P 19 14 13.4 -0.6
CMB pmax pmax
comp=Z,137nm,1.3s
FXWY Fox Creek 81.06 332 eP P 19 14 14.0 -0.2
comp=Z,266nm,1.8s
YERR Yerington 81.17 324 eP P 19 14 15.5 +0.6
comp=Z,334nm,1.2s
IMW Indian Meadow 81.24 332 eP P 19 14 15.2 0.0
comp=Z,244nm,1.3s
BMN Battle Mountai 81.27 326 eP P 19 14 14.4 -0.9
comp=Z,47nm,1.1s
BMN Battle Mountai 81.27 326 eP P 19 14 14.4 -0.9
BMN pmax pmax
comp=Z,47nm,1.1s
FLWY Flagg Ranch 81.30 332 eP P 19 14 15.8 +0.4
comp=Z,497nm,1.4s
PNTR Pine Nut 81.44 324 eP P 19 14 17.0 +0.8
comp=Z,337nm,1.0s
YPP Pitchstone Pla 81.50 333 eP P 19 14 17.8 +1.3
comp=Z,160nm,1.6s
H17A Grant Village 81.51 333 eP P 19 14 17.8 +1.2
comp=Z,58nm,1.2s
H17A Grant Village 81.51 333 P P 19 14 17.3 +0.8
baz=146,SNR=11
LKWY Lake 81.58 333 eP P 19 14 19.2 +2.3
comp=Z,74nm,1.1s
RLMT Red Lodge 81.60 334 eP P 19 14 17.0 +0.1
comp=Z,618nm,1.8s
RLMT Red Lodge 81.60 334 P P 19 14 17.1 +0.1
baz=147,SNR=91
VCNR Virginia City 81.62 324 eP P 19 14 18.7 +1.5
comp=Z,204nm,1.2s
YFT Old Faithful 81.66 333 eP P 19 14 19.1 +1.8
comp=Z,519nm,2.0s
RUBR Rubicon Trail 81.69 324 eP P 19 14 19.3 +1.7
comp=Z,369nm,1.3s
PAHR Pah Rah Range 81.79 325 eP P 19 14 18.7 +0.7
comp=Z,438nm,1.2s
YNR Norris Junctio 81.81 333 eP P 19 14 19.8 +1.6
comp=Z,58nm,1.1s
LAO LASA Array 81.82 337 eP P 19 14 17.8 -0.1
comp=Z,461nm,1.3s
LAO LASA Array 81.82 337 P P 19 14 17.6 -0.3
baz=150,SNR=70
BOSA Boshof 81.83 118 *i* P P 19 14 18.0 -0.6
BOSA Boshof 81.83 118 P P 19 14 18.0 -0.6
comp=Z,172nm,0.8s,baz=247,slow=3.8,SNR=232
BOSA PKKPbc PKKPbc 19 32 48.3 -0.1
comp=Z,2.9nm,0.9s,baz=158,slow=5.0,SNR=3.5
BOSA LR LR 19 45 39.7
comp=Z,8µm,21.7s,baz=242,slow=32
BOSA Boshof 81.83 118 eP P 19 14 17.9 -0.6
comp=Z,208nm,0.9s
BOSA PKKPbc PKKPbc 19 32 48.3 -0.1
BOSA Boshof 81.83 118 *i* P P 19 14 18.0 -0.6
BOSA Boshof 81.83 118 eP P 19 14 18.0 -0.6
BOSA pmax pmax
comp=Z,208nm,0.9s
YMR Madison River 81.89 333 eP P 19 14 19.3 +0.8
comp=Z,389nm,1.2s
YHH Hones Hill 81.94 333 eP P 19 14 19.3 +0.4
comp=Z,334nm,1.3s
ULM Lac du Bonnet 82.01 344 P P 19 14 18.2 -0.5
comp=Z,170nm,1.0s,baz=158,slow=5.0,SNR=104
ULM PKKPbc PKKPbc 19 32 49.9 -0.6
comp=Z,3.0nm,0.8s,baz=131,slow=6.6,SNR=3.6
ULM Lac du Bonnet 82.01 344 eP P 19 14 18.1 -0.6
comp=Z,329nm,1.1s
ULM PKKPbc PKKPbc 19 32 49.9 -0.6
PEAR Peavine Mounta 82.01 324 eP P 19 14 19.6 +0.3
AFDM Forest Hills D 82.04 323 eP P 19 14 19.3 +0.1
comp=Z,382nm,1.5s
YHB Horse Butte 82.05 333 eP P 19 14 20.3 +1.0
comp=Z,149nm,1.2s
TOA0 Torodi Ar. Sit 82.05 70 eP P 19 14 17.3 -2.4
TOA0 Torodi Ar. Sit 82.05 70 P P 19 14 19.2 -0.5
SNR=188
TOA0 S S 19 24 28.5 -1.2
TOA0 Torodi Ar. Sit 82.05 70 P P 19 14 19.2 -0.5
SNR=188
TOA0 S S 19 24 28.5 -1.2
TORD Torodi Ar. Bea 82.05 70 P P 19 14 17.9 -1.8
comp=Z,136nm,0.8s,baz=132,slow=2.2,SNR=403
TORD pP pP 19 14 36.7 -0.2
comp=Z,148nm,1.0s,baz=233,slow=5.1,SNR=17
TORD PKKPbc PKKPbc 19 32 48.1 -0.1
comp=Z,1.7nm,0.9s,baz=40,slow=2.7,SNR=5.5
TORD PKPPKP P'P'df 19 40 47.0 -6.6
comp=Z,0.5nm,0.8s,baz=70,slow=1.7,SNR=4.2
TORD LR LR 19 49 02.6
comp=Z,5µm,20.3s,baz=270,slow=34
QLMT Earthquake Lak 82.21 332 eP P 19 14 20.7 +0.5
BEKR Beckworth 82.41 324 eP P 19 14 21.6 +0.3
comp=Z,298nm,1.2s
HLID Hailey 82.44 330 eP P 19 14 21.7 +0.4
comp=Z,303nm,1.2s
HLID Hailey 82.44 330 P P 19 14 21.7 +0.4
baz=143,SNR=251
MCCM Marconi Confer 82.48 322 eP P 19 14 22.7 +1.3
comp=Z,287nm,1.0s
DGMT Dagmar 82.70 339 eP P 19 14 22.6 +0.2
comp=Z,902nm,1.2s
DGMT Dagmar 82.70 339 P P 19 14 22.6 +0.2
baz=151,SNR=82
ORV Oroville 82.77 323 eP P 19 14 23.4 +0.5
comp=Z,610nm,1.3s
MCMT McKenzie Canyo 82.79 332 eP P 19 14 23.6 +0.4
BOZ Bozeman (W) 82.92 333 eP P 19 14 23.4 -0.4
comp=Z,175nm,1.6s
BOZ Bozeman (W) 82.92 333 eP P 19 14 23.4 -0.4
BOZ pmax pmax
comp=Z,175nm,1.6s
BOZ Bozeman (W) 82.92 333 P P 19 14 23.5 -0.3
baz=145,SNR=47
DLMT Dillon 83.12 332 eP P 19 14 25.4 +0.6
comp=Z,346nm,1.6s
O03E Paynes Creek 83.47 324 P P 19 14 26.0 -0.7
baz=137,SNR=98
WVOR Wild Horse Val 83.49 327 eP P 19 14 26.6 -0.1
comp=Z,173nm,1.3s
WVOR Wild Horse Val 83.49 327 eP P 19 14 26.6 -0.1
WVOR pmax pmax
comp=Z,173nm,1.3s
LBCM Butte Creek Ri 83.64 324 eP P 19 14 27.4 -0.2
SCHQ Schefferville 83.76 3 P P 19 14 26.9 -0.8
comp=Z,81nm,1.2s,baz=171,slow=4.1,SNR=14
SCHQ LR LR 19 52 36.3
comp=Z,678nm,21.0s,baz=188,slow=36
SCHQ Schefferville 83.76 3 eP P 19 14 28.1 +0.4
comp=Z,176nm,1.4s
LBTB Lobatse 83.83 115 P P 19 14 28.4 -0.6
comp=Z,203nm,0.7s,baz=242,slow=5.8,SNR=266
LBTB Lobatse 83.83 115 eP P 19 14 28.4 -0.6
comp=Z,278nm,0.8s
LBTB Lobatse 83.83 115 eP P 19 14 28.4 -0.6
LBTB pmax pmax
comp=Z,278nm,0.8s
O02D Mt. Diablo Mer 83.90 323 P P 19 14 28.7 -0.1
baz=136,SNR=70
MOD Modoc Plateau 83.90 326 eP P 19 14 29.1 +0.2
comp=Z,345nm,1.4s
HRY Holter Researc 83.92 333 eP P 19 14 29.2 +0.4
KCPM Cahto Peak 83.97 322 eP P 19 14 30.7 +1.5
comp=Z,533nm,1.3s
WDC Whiskeytown Da 84.06 323 eP P 19 14 28.4 -1.1
comp=Z,252nm,1.4s
WDC Whiskeytown Da 84.06 323 eP P 19 14 28.4 -1.1
WDC pmax pmax
comp=Z,253nm,1.4s
J08A Circle Bar Ran 84.12 328 eP P 19 14 30.3 +0.4
comp=Z,608nm,1.4s
EGMT Eagleton 84.22 335 P P 19 14 29.6 -0.7
baz=147,SNR=32
KMRM Mail Ridge 84.42 322 eP P 19 14 32.8 +1.3
comp=Z,600nm,1.3s
N02D Trinity Center 84.43 324 P P 19 14 31.1 -0.4
baz=137,SNR=56
M04C Macdoel 84.58 325 P P 19 14 32.4 +0.1
baz=137,SNR=126
BMO Blue Mountains 84.73 329 eP P 19 14 31.8 -1.2
comp=Z,327nm,1.8s
BMO Blue Mountains 84.73 329 eP P 19 14 31.8 -1.2
BMO pmax pmax
comp=Z,327nm,1.8s
M02C Callahan 84.81 324 P P 19 14 33.2 -0.3
baz=137,SNR=77
CASY Casey 84.84 181 eP P 19 14 35.4 +2.2
CASY epP pP 19 14 50.8 +0.4
MSO Missoula 84.86 332 eP P 19 14 33.9 +0.3
comp=Z,173nm,1.5s
MSO Missoula 84.86 332 P P 19 14 33.4 -0.1
baz=144,SNR=36
KHMM Horse Mountain 84.90 323 eP P 19 14 34.8 +0.8
comp=Z,650nm,1.7s
YBH Yreka Blue Hor 84.99 324 P P 19 14 33.3 -0.9
comp=Z,46nm,0.9s,baz=95,slow=4.8,SNR=104
YBH LR LR 19 46 32.5
comp=Z,2µm,20.9s,baz=150,slow=31
YBH Yreka Blue Hor 84.99 324 eP P 19 14 33.4 -0.9
comp=Z,133nm,1.3s
YBH Yreka Blue Hor 84.99 324 eP P 19 14 33.4 -0.9
YBH pmax pmax
comp=Z,133nm,1.3s
JCC Jacoby Creek, 85.02 323 eP P 19 14 35.0 +0.7
comp=Z,616nm,1.5s
JCC epP pP 19 14 52.3 +0.8
L04D Klamath Falls 85.14 325 P P 19 14 34.8 -0.3
baz=137,SNR=46
I07A Izee 85.15 327 eP P 19 14 35.4 +0.3
comp=Z,251nm,1.4s
K04D Chiloquin, OR 85.16 325 P P 19 14 35.2 0.0
baz=137,SNR=8.5
J05D Fort Rock, OR 85.39 326 P P 19 14 36.4 +0.1
baz=138,SNR=137
KRMB Red Mountain 85.46 323 eP P 19 14 37.3 +0.6
comp=Z,384nm,1.4s
F10A Beach Ranch, E 85.57 330 eP P 19 14 37.1 0.0
comp=Z,104nm,1.0s
PINE Pine Mountain 85.62 326 eP P 19 14 38.0 +0.5
comp=Z,299nm,0.9s
JTMT Jette 85.73 333 eP P 19 14 38.2 +0.3
comp=Z,693nm,1.9s
HUMO Hull Mountain 85.75 325 eP P 19 14 37.7 -0.3
comp=Z,48nm,1.0s
L02E Cave Junction 85.75 324 P P 19 14 38.5 +0.5
baz=136,SNR=50
J04D Umpqua Nationa 85.79 325 P P 19 14 38.4 0.0
baz=137,SNR=103
G08A Pilot Rock 85.82 329 eP P 19 14 38.1 -0.3
comp=Z,347nm,1.9s
BSMT Bassoo Peak 86.02 332 eP P 19 14 39.3 -0.2
KBO Bosley Butte 86.12 324 eP P 19 14 41.4 +1.5
comp=Z,615nm,1.4s
K02D Willamette Mer 86.17 324 P P 19 14 40.6 +0.4
baz=136,SNR=124
I05D Terrebonne, OR 86.22 327 P P 19 14 40.8 +0.5
baz=138,SNR=79
DBO Dodson Butte 86.27 325 eP P 19 14 41.1 +0.5
I04A Tendick Farm, 86.34 326 P P 19 14 40.3 -0.6
baz=137,SNR=50
E09A Wood Farm, Sta 86.39 330 eP P 19 14 40.3 -0.8
comp=Z,43nm,1.0s
BFZ Birch Farm 86.45 225 eP P 19 14 44.2 +2.5
comp=Z,172nm,1.3s
WALA Waterton Lakes 86.64 334 eP P 19 14 42.0 -0.4
comp=Z,446nm,1.3s
KEBM Edson Butte 86.64 324 eP P 19 14 43.8 +1.3
comp=Z,486nm,1.2s
J01E Myrtle Point 86.64 324 P P 19 14 42.6 +0.3
baz=136,SNR=25
F07A Phinny Hill Vi 86.72 328 eP P 19 14 43.9 +1.2
comp=Z,96nm,1.1s
I03D Drain, OR 86.74 325 P P 19 14 42.6 -0.1
baz=138,SNR=35
MQZ McQueen's Vall 86.77 221 eP P 19 14 43.9 +0.7
comp=Z,93nm,1.3s
AVE Averroes 86.77 49 *i*P P 19 14 43.4 +0.1
AVE *i* S SKSac 19 25 06.0 +1.2
E08A Dider Farm, El 86.78 329 eP P 19 14 42.9 0.0
comp=Z,65nm,1.0s
CRLZ Canterbury Las 86.87 221 eP P 19 14 45.2 +1.5
comp=Z,454nm,2.0s
G05D Wamic, OR 86.88 327 P P 19 14 43.9 +0.4
baz=138,SNR=47
H04A Detroit Lake 86.88 326 eP P 19 14 43.3 -0.3
comp=Z,225nm,0.9s
HAWA Hanford 86.92 329 eP P 19 14 43.7 +0.1
comp=Z,152nm,0.9s
MXZ Matakaoa Point 86.95 228 eP P 19 14 47.1 +2.9
comp=Z,563nm,1.8s

H04D Lebanon 87.03 326 P **P** 19 14 44.1 -0.2
baz=137,SNR=20
KHZ Kahutara 87.05 222 *e*P **P** 19 14 45.5 +0.9
comp=Z,305nm,1.2s
ODZ Otahua Downs 87.06 219 *e*P **P** 19 14 45.7 +1.1
comp=Z,131nm,1.3s
D08A Wollman Farm, 87.15 330 *e*P **P** 19 14 44.4 -0.3
comp=Z,82nm,0.9s
BKZ Black Stump Fm 87.19 226 *e*P **P** 19 14 46.9 +1.5
comp=Z,218nm,1.4s
I02D Swisshome 87.28 325 P **P** 19 14 45.4 0.0
baz=136,SNR=20
NEW Newport 87.31 331 P **P** 19 14 44.5 -1.0
comp=Z,30nm,0.9s,baz=138,slow=3.9,SNR=34
NEW LR LR 19 50 09.0
comp=Z,3µm,21.5s,baz=130,slow=33
NEW Newport 87.31 331 *e*P **P** 19 14 44.6 -0.9
comp=Z,148nm,1.5s
NEW Newport 87.31 331 *e*P **P** 19 14 44.6 -0.9
NEW pmax pmax
comp=Z,148nm,1.5s
NEW Newport 87.31 331 P **P** 19 14 44.6 -0.9
baz=141,SNR=31
URZ Urewera 87.32 227 P **P** 19 14 45.9 -0.1
comp=Z,61nm,1.1s,baz=124,slow=7.7
URZ Urewera 87.32 227 *e*P **P** 19 14 47.3 +1.3
comp=Z,103nm,1.1s
OXZ Oxford 87.36 221 *e*P **P** 19 14 47.2 +1.1
comp=Z,178nm,1.1s
COR Corvallis 87.36 326 *e*P **P** 19 14 46.8 +1.0
comp=Z,697nm,1.3s
F05D White Salmon 87.42 328 P **P** 19 14 46.3 +0.2
baz=138,SNR=24
C09A Chrisman Ranch 87.44 330 *e*P **P** 19 14 45.9 -0.2
comp=Z,516nm,1.8s
XMAS Kiritimati 87.54 274 *e*P **P** 19 14 49.4 +1.9
comp=Z,341nm,1.2s
LTZ Lake Taylor 87.56 221 *e*P **P** 19 14 48.2 +1.1
comp=Z,442nm,1.2s
FFC Flin Flon 87.62 343 *e*P **P** 19 14 46.0 -0.7
comp=Z,97nm,1.3s
FFC Flin Flon 87.62 343 *i* P **P** 19 14 46.6 -0.2
RPZ Rata Peaks 87.67 220 P **P** 19 14 47.5 -0.1
comp=Z,287nm,1.0s,baz=64,slow=5.2,SNR=59
RPZ Rata Peaks 87.67 220 *e*P **P** 19 14 48.5 +0.8
comp=Z,446nm,1.2s
LBZ Lake Benmore 87.73 219 *e*P **P** 19 14 49.1 +1.3
comp=Z,134nm,1.2s
G03D McMinnville, O 87.79 326 P **P** 19 14 48.1 +0.2
baz=136,SNR=20
THZ Tophouse 87.82 222 *e*P **P** 19 14 49.7 +1.3
comp=Z,357nm,1.2s
WHZ Wether Hill Ro 87.96 217 *e*P **P** 19 14 50.1 +1.1
comp=Z,168nm,1.3s
WKZ Wanaka 88.08 218 *e*P **P** 19 14 51.6 +2.0
comp=Z,246nm,1.4s
LTY Liberty 88.08 329 *e*P **P** 19 14 48.6 -0.7
comp=Z,258nm,1.4s
MLZ Mavora Lakes 88.21 217 *e*P **P** 19 14 51.1 +0.9
comp=Z,184nm,1.6s
MLZ *e*pP **pP** 19 15 08.3 +0.8
LON Longmire 88.23 328 *e*P **P** 19 14 49.1 -0.9
comp=Z,103nm,1.0s
LON Longmire 88.23 328 *e*P **P** 19 14 49.1 -0.9
LON pmax pmax
comp=Z,103nm,1.0s
PFVI Vila Bisbo 88.25 45 *e*pP **pP** 19 15 07.6 +0.1
PFVI A A 19 15 10.1
comp=Z,198nm,1.8s
F04D Rainier, OR 88.30 327 P **P** 19 14 50.5 +0.2
baz=137,SNR=6.0
B08A Colville Reser 88.32 330 *e*P **P** 19 14 49.3 -1.1
comp=Z,135nm,1.4s
MDT Midelt 88.35 51 P **P** 19 14 50.8 -0.2
comp=Z,12nm,0.8s,baz=248,slow=3.6,SNR=22
IFR Ifrane 88.42 50 *e*P **P** 19 14 50.1 -1.2
IFR *e*SK **SKSac** 19 25 17.7 +2.5
MATP Matopo 88.43 112 *i* P **P** 19 14 51.8 +0.1
MATP Matopo 88.43 112 P **P** 19 14 51.1 -0.6
comp=Z,45nm,0.8s,baz=238,slow=4.6,SNR=49
MATP Matopo 88.43 112 *i* P **P** 19 14 51.8 +0.1
E04D Cinebar 88.44 327 P **P** 19 14 50.6 -0.3
baz=137,SNR=43
MORF Marmelete 88.47 45 *e*P **P** 19 14 51.0 -0.3
MORF *e*SKSac **SKSac** 19 25 13.9 -1.2
MORF AMS AMS 19 54 05.4
comp=Z,6µm,19.0s
MORF Marmelete 88.47 45 *e*P **P** 19 14 52.3 +1.0
comp=Z,106nm,2.1s
MORF *e*pP **pP** 19 15 08.6 -0.1
MORF Marmelete 88.47 45 *e*SKS **S** 19 25 32.2 -0.1
FOZ Fox Glacier 88.48 220 *e*P **P** 19 14 52.1 +0.7
comp=Z,128nm,1.2s
PTEO Sao Teotonio 88.58 45 *e*P **P** 19 14 53.2 +1.5
comp=Z,166nm,1.3s
PTEO *e*pP **pP** 19 15 10.2 +1.1
HIZ Hauiti 88.60 226 *e*P **P** 19 14 54.0 +1.9
comp=Z,501nm,1.3s
D05A Enumclaw 88.63 328 *e*P **P** 19 14 51.8 +0.1
comp=Z,386nm,1.3s
BLWY Bulawayo 88.66 112 *i* P **P** 19 14 53.0 +0.2
BLWY Bulawayo 88.66 112 *i* P **P** 19 14 53.0 +0.2
C06D Leavenworth 88.68 329 P **P** 19 14 51.4 -0.6
baz=138
PBDV Barranco-do-Ve 88.88 46 *e*P **P** 19 14 54.4 +1.2
comp=Z,135nm,1.6s
PBDV *e*pP **pP** 19 15 10.8 +0.3
PBDV Barranco-do-Ve 88.88 46 *e*SKS **SKSac** 19 25 19.2 +1.8
E03A Lebam 88.90 327 *e*P **P** 19 14 53.4 +0.4
comp=Z,303nm,1.0s
D04E Lakebay 88.99 328 P **P** 19 14 54.4 +1.0
baz=137,SNR=10.0
PNCL Nicolau / Gran 89.05 45 *e*P **P** 19 14 54.0 +0.1
comp=Z,92nm,2.0s
PNCL *e*pP **pP** 19 15 11.1 -0.2
PNCL Nicolau / Gran 89.05 45 *e*SKS **S** 19 25 40.8 +3.3
LIS Lisbon 89.05 44 *e*P **P** 19 14 53.8 -0.1
LIS *e*SKSac **SKSac** 19 25 17.1 -1.2
LIS AMS AMS 19 52 15.3
comp=Z,6µm,20.3s
MESJ Messejana 89.07 45 *e*P **P** 19 14 53.9 -0.1
MESJ *e*PP **PP** 19 18 23.9 -1.2
MESJ *e*SKSac **SKSac** 19 25 17.4 -1.0
MESJ AMS AMS 19 54 15.8
comp=Z,6µm,21.4s
MESJ Messejana 89.07 45 *e*P **P** 19 14 55.3 +1.3
comp=Z,104nm,1.6s
MESJ *e*pP **pP** 19 15 10.9 -0.5
PVAQ Vaqueiros 89.11 46 *e*P **P** 19 14 55.2 +0.9
comp=Z,128nm,1.6s
PVAQ *e*pP **pP** 19 15 11.0 -0.6
PVAQ Vaqueiros 89.11 46 *e*SKS **SKSac** 19 25 21.1 +2.4
PVAQ Vaqueiros 89.11 46 eLR LR 19 45 06.5
comp=Z,7µm,18.0s
B06A Marblemount 89.39 329 *e*P **P** 19 14 55.0 -0.3
comp=Z,125nm,0.8s
D03D Eldon 89.40 328 P **P** 19 14 55.0 -0.3
baz=137,SNR=54
PBEJ Beja 89.41 45 *e*P **P** 19 14 56.8 +1.2
comp=Z,81nm,1.8s
PBEJ *e*pP **pP** 19 15 14.5 +1.5
B05A Bryant 89.48 329 P **P** 19 14 54.7 -0.9
baz=137,SNR=31
SFS San Fernando 89.49 47⇑ *i*P **pP** 19 15 12.3 -1.0
SFS *i* S **SKSac** 19 25 24.0 +3.0
EVO Evora 89.63 45 *e*P **P** 19 14 59.2 +2.5
comp=Z,40nm,1.5s
EVO *e*pP **pP** 19 15 15.6 +1.6
EVO Evora 89.63 45⇑ *i*P **pP** 19 15 14.6 +0.6
EVO *i* S **SKSac** 19 25 23.1 +1.3
ALMR Almeirim 89.68 44 *e*P **P** 19 14 56.8 -0.1
ALMR *e*SKSac **SKSac** 19 25 21.1 -0.9
ALMR AMS AMS 19 53 16.4
comp=Z,7µm,24.6s
ALMR Almeirim 89.68 44 *e*pP **pP** 19 15 14.7 +0.5
ALMR A A 19 15 25.2
comp=Z,159nm,1.9s
CEU Ceuta 89.69 48⇑ *i*P **pP** 19 15 14.1 -0.2
CEU *i* S **SKSac** 19 25 25.9 +3.8
PVLZ Peæn de 89.95 49⇑ *e*P **P** 19 14 59.6 +1.4
PVLZ *i* S **SKSac** 19 25 16.8 -6.9
PTOM Tomar 90.07 43 *e*P **P** 19 15 01.2 +2.5
comp=Z,129nm,1.3s
PTOM *e*pP **pP** 19 15 16.0 0.0
A04D Lummi Island 90.09 329 P **P** 19 14 58.5 0.0
baz=137,SNR=19

PESTR Estremoz 90.10 44 *e*P **P** 19 14 59.7 +0.8
comp=Z,80nm,1.3s
PESTR *e*pP **pP** 19 15 15.8 -0.4
PESTR Estremoz 90.10 44 *e*P **P** 19 14 59.6 +0.8
PESTR *e*pP **pP** 19 15 15.9 -0.3
TAM Tamanrasset 90.23 64 *e*P **P** 19 14 59.8 -0.3
TAM Tamanrasset 90.23 64 *e*P **P** 19 14 59.8 -0.3
PCAS Casmilo, Conde 90.29 43 *e*pP **pP** 19 15 17.6 +0.5
PCAS A A 19 15 19.1
comp=Z,61nm,1.3s
PCAS Casmilo, Conde 90.29 43 *e*SKS **SKSac** 19 25 34.2 +8.7
PGC Sidney 90.37 328 *e*P **P** 19 15 00.2 +0.3
PMRV Marv??o 90.56 44 *e*P **P** 19 15 01.0 0.0
comp=Z,85nm,1.5s
PMRV *e*pP **pP** 19 15 19.4 +1.0
PMRV Marv??o 90.56 44 *e*SKS **SKSac** 19 25 37.4 +10
PMRV Marv??o 90.56 44 *e*LR LR 19 45 39.4
comp=Z,6µm,20.0s
LSZ Lusaka 90.77 108 P **P** 19 15 02.9 +0.1
comp=Z,86nm,1.2s,baz=224,slow=3.9,SNR=74
LSZ PP **PP** 19 18 37.6 -1.2
comp=Z,16nm,1.1s,baz=240,slow=11,SNR=3.5
LSZ Lusaka 90.77 108 *e*P **P** 19 15 04.0 +1.3
comp=Z,334nm,1.6s
LSZ PP **PP** 19 18 37.6 -1.2
LSZ Lusaka 90.77 108 PcP **P** 19 15 04.1 +1.3
SNR=57
LSZ Lusaka 90.77 108 P **P** 19 15 04.1 +1.3
SNR=57
LSZ Lusaka 90.77 108 *e*P **P** 19 15 04.0 +1.3
LSZ 19 18 37.6
LSZ pmax pmax
comp=Z,334nm,1.6s
PCBR Castelo Branco 90.77 44 *e*P **P** 19 15 04.3 +2.4
comp=Z,40nm,1.2s
PCBR *e*pP **pP** 19 15 19.8 +0.5
EMAL Malaga-Limoner 90.81 48⇑ *i*P **pP** 19 15 15.7 -3.9
EMAL *e*S **SKSac** 19 25 36.4 +7.8
PVIS Viseu 91.06 43 *e*pP **pP** 19 15 20.1 -0.6
PVIS A A 19 15 22.1
comp=Z,65nm,1.6s
MTE Manteigas 91.07 43 *e*pP **pP** 19 15 20.8 0.0
MTE A A 19 15 22.5
comp=Z,79nm,1.3s
MTE Manteigas 91.07 43 *e*SKS **SKSac** 19 25 37.5 +7.4
MTE Manteigas 91.07 43 *e*LR LR 19 45 51.5
comp=Z,7µm,20.0s
MTE Manteigas 91.07 43 *e*pP pP 19 15 20.4 -0.4
OUZ Omahuta 91.39 228 *e*P **P** 19 15 06.6 +1.4
comp=Z,135nm,1.3s
POLO Lamas de Olo 91.53 42 *e*P **P** 19 15 08.0 +2.4
POLO *e*pP **pP** 19 15 25.4 +2.5
POLO Lamas de Olo 91.53 42 *e*SKS **SKSac** 19 25 37.3 +4.6
PGAV Gavieira, Arco 91.62 42 *e*SKS **S** 19 26 00.6 -0.6
PGAV Gavieira, Arco 91.62 42 *e*LR LR 19 45 31.2
comp=Z,6µm,20.0s
MVO Moncorvo 91.85 43 *e*P **P** 19 15 05.1 -1.9
comp=Z,82nm,1.6s
MVO *e*pP **pP** 19 15 24.2 -0.2
MVO Moncorvo 91.85 43 *e*SKS **SKSac** 19 25 42.7 +8.2
MVO Moncorvo 91.85 43 *e*LR LR 19 46 54.0
comp=Z,4µm,22.0s
AFI Afiamalu 92.14 253 *e*P **P** 19 15 11.7 +2.6
comp=Z,518nm,2.0s
PBRG Braganca 92.42 43 *e*pP **pP** 19 15 27.3 +0.3
PBRG A A 19 15 29.6
comp=Z,55nm,1.6s
PBRG Braganca 92.42 43 *e*SKS **S** 19 26 13.6 +5.3
PAB San Pablo 92.51 45 *e*P **P** 19 15 10.7 +0.5
PAB *e*pP **pP** 19 15 27.6 +0.1
PAB San Pablo 92.51 45 *e*P **P** 19 15 10.7 +0.5
PAB *e**PP **pP** 19 15 27.6 +0.1
ESDC Sonseca Array 92.83 46 P **P** 19 15 11.3 -0.2
comp=Z,2.6nm,0.9s,baz=250,slow=3.6,SNR=14
ESDC pP **pP** 19 15 28.9 0.0
comp=Z,12nm,1.0s,baz=220,slow=3.5,SNR=13
ESDC LR LR 19 57 00.6
comp=Z,4µm,18.6s,baz=235,slow=36
ESLA Sonseca Array 92.83 46 *e*pP pP 19 15 29.2 +0.3
ES19 SONSECA Array 92.88 46 *e*P **P** 19 15 11.5 -0.3
CART Cartagena 93.52 49 *e*pP pP 19 15 31.7 -0.4
CART Cartagena 93.52 49⇑ *e*P pP 19 15 30.1 -1.9
STCH Steam Cracks 94.01 290 *e*P **P** 19 15 19.4 +1.9
comp=Z,487nm,1.0s
PUH Pauahi 94.08 290 *e*P **P** 19 15 19.7 +1.8
comp=Z,517nm,1.1s
HLP Hilina Pali 94.12 290 *e*P **P** 19 15 20.6 +2.6
comp=Z,569nm,1.1s
HMH Humu'ula Sheep 94.41 290 *e*P **P** 19 15 21.9 +2.2
comp=Z,300nm,1.1s
MLOA Mauna Loa Obse 94.46 290 *e*P **P** 19 15 22.5 +2.5
comp=Z,425nm,1.2s
POHA Pohakuloa 94.53 290 *e*P **P** 19 15 21.5 +1.4
comp=Z,283nm,0.9s
HUH Hualalai 94.74 290 *e*P **P** 19 15 23.2 +2.1
comp=Z,532nm,1.1s
KHLU Kahalu'u 94.75 290 *e*P **P** 19 15 23.5 +2.6
comp=Z,426nm,1.1s
HPAH Hawaii Prepara 94.80 290 *e*P **P** 19 15 22.8 +1.7
comp=Z,411nm,1.0s
BBB Bella Bella 94.98 329 LR LR 19 53 34.7
comp=Z,660nm,19.3s,baz=142,slow=32
BBB Bella Bella 94.98 329 *e*P **P** 19 15 21.6 +0.5
MHA Mahukona 95.04 290 *e*P **P** 19 15 23.9 +1.8
MHA Mahukona 95.04 290 *e*P **P** 19 15 23.9 +1.8
KHLH Kahului Airpor 95.81 291 *e*P **P** 19 15 28.4 +2.8
comp=Z,227nm,1.1s
DIB Dawson Inlet, 97.65 328 *e*P Pdif 19 15 34.0 +0.8
YKA Yellowknife Ar 97.68 341 P **P** 19 15 32.5 -0.6
comp=Z,14nm,0.8s,baz=143,slow=4.5,SNR=27
YKA pP **pP** 19 15 50.3 -0.2
comp=Z,6.9nm,0.7s,baz=142,slow=4.2,SNR=5.0
YKA LR LR 19 57 53.8
comp=Z,140nm,21.7s,baz=140,slow=34
MAHO Mahon 98.23 49⇑ *i*P **pP** 19 15 55.1 +1.6
MAHO *i* S **SKSac** 19 26 11.4 +3.0
KEST Kesra 99.64 55 pP **pP** 19 16 00.6 +0.5
comp=Z,6.3nm,0.8s,baz=162,slow=3.1,SNR=2.9
KEST LR LR 20 03 20.3
comp=Z,9µm,19.4s,baz=191,slow=37
DLBC Dease Lake 99.97 333 *e*P **Pdif** 19 15 43.2 -0.3
comp=Z,81nm,1.3s
MBAR Mbarara 100.29 96⇓ *e*P **Pdif** 19 15 46.2 0.0
EKA Eskdalemuir Ar 102.28 33 pP **pPdif** 19 16 10.1 -1.1
comp=Z,4.1nm,1.0s,baz=215,slow=4.1,SNR=4.8
EKA PP **PKiKP** 19 20 15.9 +0.6
comp=Z,4.2nm,1.0s,baz=239,slow=5.5,SNR=2.7
WHY Whitehorse 103.29 333 *e*Pdif **Pdif** 19 15 58.5 +0.2
DOU Dourbes 103.57 40 ⇓x **pPdif** 19 16 16.9 -0.1
DOU ⇓PP **PP** 19 20 14.3 -2.6
SUMG Summit 103.97 10 *i* P **Pdif** 19 16 02.0 +0.6
SUMG Summit 103.97 10 *e*P **Pdif** 19 16 02.0 +0.6
BCLA Clavier 104.12 40 ⇓x pPdif 19 16 19.4 -0.1
WLF Walferdange 104.25 41 ⇑x pPdif 19 16 20.7 +0.6
HYT Haines Junctio 104.44 332 *e*Pdif **Pdif** 19 16 04.4 +1.0
DZM Mont Dzumac 104.52 234 *e*Pdif **Pdif** 19 16 05.8 +1.0
comp=Z,364nm,33.4s
DZM Mont Dzumac 104.52 234 *e*PP PP 19 20 22.5 -1.3
comp=Z,694nm,30.2s
DZM *e*SP SP 19 29 28.9 -1.5
comp=Z,2µm,26.7s
DZM *e*SS **SS** 19 35 09.5 -1.0
comp=Z,4µm,29.9s
DZM Mont Dzumac 104.52 234 eLR LR 19 50 21.2
comp=Z,12µm,28.9s
MEM Membach 104.61 40 ⇑x **pPdif** 19 16 22.4 +0.7
MEM ⇑PP **PKiKP** 19 20 21.1 +1.4
DAVOX Davos/Dischmat 105.14 45 pPdiff pPdif 19 16 23.4 -0.9
comp=Z,9.7nm,1.0s,baz=234,slow=7.8,SNR=6.6
DAVA Damuels 105.36 44 *i* P pPdif 19 16 25.4 +0.1
comp=Z,28nm,1.2s
KMBO Kilima Mbogo 105.66 100 PKKPbc PKKPbc 19 31 46.0 +0.1
comp=Z,1.3nm,0.6s,baz=32,slow=5.8,SNR=5.5
FETA Feichten 105.76 45 *i* P pPdif 19 16 27.6 +0.5
comp=Z,26nm,1.3s
RETA Reutte 105.99 44 *i* P pPdif 19 16 28.7 +0.7
comp=Z,22nm,1.2s
MOTA Moosalm 106.14 45 *i* P pPdif 19 16 29.5 +0.8
comp=Z,25nm,1.2s
SQTA Sankt Quirin 106.15 45 *i* P pPdif 19 16 29.4 +0.7
comp=Z,42nm,1.3s
LODK Lodwar 106.28 95 *e*Pg **Pdif** 19 16 16.5 +3.8
LODK *e* 19 16 59.6
baz=221,slow=18
WATA Walderalm 106.42 45 *i* P pPdif 19 16 30.6 +0.6
comp=Z,26nm,1.4s
WTTA Wattenberg 106.43 45 *i* P pPdif 19 16 30.9 +0.8
comp=Z,13nm,1.5s
ABTA Abfaltersbach 106.75 46 *i* P pPdif 19 16 31.9 +0.5
comp=Z,17nm,1.2s
DAWY Dawson 106.95 335 *e*Pdif **Pdif** 19 16 14.5 +0.1
INK Inuvik 107.36 340 *e*Pdif **Pdif** 19 16 16.4 +0.5
INK Inuvik 107.36 340 *e*P **Pdif** 19 16 16.5 +0.5
KBA Koelnbreinsper 107.41 45 *i* P pPdif 19 16 34.0 -0.4
comp=Z,9.0nm,1.1s
MYKA Terra Mystica 107.41 46 *i* P pPdif 19 16 35.0 +0.7
comp=Z,20nm,1.5s
BOJS Bojanci 107.98 48 *e*PP PP 19 20 45.9 -3.7
BOJS Bojanci 107.98 48 *e*PP PP 19 20 45.9 -3.7
NKC Novy Kostel 108.15 42 *e*SKS **SKSac** 19 26 58.3 +4.0
NKC *e*SDIF **Sdif** 19 28 25.1 +3.9
NKC *e*SP **SP** 19 30 06.1 -1.1
NKC AMS AMS 20 02 20.0
comp=Z,4µm,23.2s
MOA Molln 108.29 45 *i* P pPdif 19 16 38.5 +0.4
comp=Z,15nm,1.4s
SOKA Soboth 108.31 46 *i* P pPdif 19 16 37.9 -0.4
comp=Z,14nm,1.9s
GERES GERESS Array B 108.34 44 pPdiff **pPdif** 19 16 38.0 -0.4
comp=Z,0.6nm,0.8s,baz=212,slow=4.7,SNR=6.6
GERES PKiKP **PKiKP** 19 20 27.4 +0.6
comp=Z,2.3nm,1.0s,baz=224,slow=3.7,SNR=4.7
GERES PP **PP** 19 20 48.3 -4.0
comp=Z,3.6nm,0.8s,baz=246,slow=1.3,SNR=8.0
GERES PKKPbc **PKKPbc** 19 31 39.0 +0.3
comp=Z,4.5nm,1.1s,baz=45,slow=2.1,SNR=8.9
GERES PKPPKP **P'P'df** 19 40 02.4 +0.3
comp=Z,1.3nm,1.0s,baz=84,slow=5.5,SNR=6.1
PERS Pernice 108.35 46 *e*PP PP 19 20 47.1 -5.2
PERS Pernice 108.35 46 *e*PP PP 19 20 47.1 -5.2
KHC Kasperske Hory 108.38 44 *ex* **PP** 19 20 47.1 -5.4
KHC *e*SKS **SKSac** 19 26 55.5 +0.1
KHC *e*SDIF **Sdif** 19 28 25.6 +2.4
KHC *e*SP **SP** 19 30 06.3 -3.3
KHC *ex* x 19 35 43.8
KHC AMS AMS 20 01 30.0
comp=Z,4µm,25.3s
SCRK Sand Creek 108.66 334 *e*Pdif **Pdif** 19 16 21.8 -0.3
ARSA Arzberg 108.84 46 *i* P pPdif 19 16 41.5 +0.9
comp=Z,8.0nm,1.4s
CLL Collm 108.90 41 *e*(Pdif) **Pdif** 19 16 21.0 -2.3
CLL *e*PKiKP **PKiKP** 19 20 29.0 +1.3
CLL *i* PP **PP** 19 20 52.3 -3.8
CLL *e* 19 21 03.0
CLL *e*sPP 19 21 15.0
CLL *e*PPP PPP 19 23 18.0
CLL *e*SKSac **SKSac** 19 27 01.0 +3.6
CLL *e*Sdif **Sdif** 19 28 29.0 +1.7
CLL *e*(sSdiff) 19 29 08.0
CLL *e*SP **SP** 19 30 17.0 +2.3
CLL *e* 19 30 50.0
CLL *e*PPS PPS 19 31 23.0
CLL *e*PKKPbc **PKKPbc** 19 31 35.0 -1.9
CLL *i* PKKPab **PKKPab** 19 31 49.3 +3.0
comp=Z,17nm,1.3s
CLL *e*pPKKPab 19 32 07.0
CLL *e*SS **SS** 19 36 06.0 -4.1
CLL *e*sSS 19 36 34.0
CLL *e*SSS SSS 19 40 24.0
CLL *e*SSSS 19 43 24.0
CLL LmV 20 05 00.0
comp=Z,4µm,20.1s
CLL LmH 20 06 00.0
comp=N,2µm,21.9s
CLL LmH 20 06 00.0
comp=E,3µm,20.3s
CLL Collm 108.90 41 *e*P **Pdif** 19 16 21.0 -2.3
CLL *i* 19 20 52.3
CLL *e* 19 27 01.0
CLL pmax pmax
comp=Z,7.0nm,1.3s
CLL MLR MLR
comp=Z,4µm,20.1s
BLY Banja Luka 108.95 49⇓ *i*P **PP** 19 20 54.9 -1.8
PRA Prague 109.26 43 *e*SKS **SKSac** 19 27 03.4 +4.4
PRA *ex* x 19 28 41.7
PRA *e*SP **SP** 19 30 11.4 -7.0
PRA AMS AMS 20 05 40.0
comp=Z,3µm,21.7s
CONA Conrad Observa 109.31 45 *i* P pPdif 19 16 42.8 0.0
comp=Z,6.2nm,1.2s
BEHE Becsehely 109.34 47⇓ *e*pPKiKP PP 19 21 11.0 +12
PDG Podgorica 109.47 52⇓ *i*P PP 19 20 46.3 -14
TIR Tirane 109.49 53⇑ *i*P **PP** 19 21 00.2 -0.4
PVCC Panska Ves 109.51 42 *e*SP SP 19 30 20.2 -0.8
PVCC AMS AMS 20 07 30.0
comp=Z,3µm,19.2s
TREC Trest 109.60 44 *e*SP SP 19 30 20.1 -1.8
TREC AMS AMS 20 01 30.0
comp=Z,5µm,24.9s
DHY Denali Highway 109.60 332 *e*Pdif **Pdif** 19 16 28.5 +2.2
SOP Sopron 109.66 46⇓ *e*PKiKP **PP** 19 20 56.7 -5.0
OHR Ohrid 110.05 53 *i* P **PP** 19 21 03.7 -1.2
KRUC Moravsky 110.06 44 *e*PP PP 19 21 00.0 -4.6
ILAR Eielson Array 110.14 334 Pdiff **Pdif** 19 16 27.4 -1.1
comp=Z,2.0nm,0.8s,baz=157,slow=3.9,SNR=18
ILAR PKiKP **PKiKP** 19 20 29.4 -0.2
comp=Z,3.3nm,1.0s,baz=210,slow=0.9,SNR=9.9
ILAR PP **PP** 19 21 04.7 -0.1
comp=Z,3.5nm,0.9s,baz=258,slow=1.6,SNR=5.2
ILAR PKKP **PKKPdf** 19 31 49.5 -0.8
comp=Z,0.6nm,0.7s,baz=299,slow=3.4,SNR=4.1
ILB Eielson Array 110.14 334 *e*Pdif **Pdif** 19 16 28.4 -0.2
VRAC Vranov 110.28 44 PP PP 19 21 01.1 -5.0
comp=Z,4.0nm,0.7s,baz=228,slow=7.7,SNR=8.4
VRAC PKKP **PKKPab** 19 31 42.8 +2.4
comp=Z,3.4nm,0.6s,baz=44,slow=3.5,SNR=4.6
VRAC Vranov 110.28 44 *e*PP PP 19 21 00.9 -5.3
RND Reindeer 110.35 332 *e*Pdif **Pdif** 19 16 30.1 +0.5
RND Reindeer 110.35 332 *e*P **Pdif** 19 16 30.1 +0.5
BIA Bitola 110.39 54 *i* P **PP** 19 21 04.7 -3.1
MORH M˙ŧr˙igy, Hung 110.45 48⇓ *e*PKiKP **PP** 19 21 02.8 -4.6
DPC Dobruska-Polom 110.49 43 *e*pPKP **pPKiKP** 19 20 49.3 +0.5
DPC *e*SKS **SKSac** 19 27 08.0 +3.8
DPC *e*SDIF **Sdif** 19 28 43.2 +2.4
DPC *e*SP **SP** 19 30 25.8 -4.6
DPC *e*SS **SS** 19 36 25.3 -6.4
DPC AMS AMS 20 01 10.0
comp=Z,3µm,23.0s
MDM Murphy Dome 110.75 334 *e*Pdif **Pdif** 19 16 31.1 -0.1
JAVC Velka Javorina 110.78 45 *e*PP PP 19 21 05.1 -4.7
SKO Skopje 110.81 53 *i* P **PP** 19 21 06.7 -3.5
MORC Moravsky Berou 111.02 44⇑ *i*P **PKiKP** 19 20 28.3 -3.5
MORC Moravsky Berou 111.02 44 ⇑PKiKP **PKiKP** 19 20 28.3 -3.5
STIP Stip 111.24 53 *i* P **PP** 19 21 12.5 -0.8
VAY Valandovo 111.38 54 *i* P **PP** 19 21 13.1 -1.2
OKC Ostrava-Krasne 111.41 44 *e*pPKP **pPKiKP** 19 20 50.4 0.0
OKC *e*SKS **SKSac** 19 27 06.1 -1.8
OKC *e*SDIF **Sdif** 19 28 56.3 +8.0
OKC *ex* x 19 36 31.1
OKC AMS AMS 20 03 10.0
comp=Z,3µm,22.9s
NOA NORSAR Array B 111.65 31 PP PP 19 21 19.6 +3.9
comp=Z,2.6nm,0.9s,baz=239,slow=1.8,SNR=3.7
STKA Stephens Creek 111.67 210 PP PP 19 21 10.6 -4.6
comp=Z,1.9nm,0.7s,baz=162,slow=5.7,SNR=3.2
STKA PKKP **PKKPdf** 19 31 44.2 -0.7
comp=Z,3.1nm,0.9s,baz=325,slow=5.0,SNR=4.2
SANT Santorini 111.75 60⇑ *i*P **PKKPbc** 19 31 31.4 +4.3
PSZ Piszkesteto 111.84 46⇑ *i*P pPKiKP 19 20 55.3 +3.9
KKB Krupnik 111.93 53 *e*P **PP** 19 21 17.1 -1.1
MDVR Moldovita 111.97 50⇓ *i*P pPKiKP 19 20 55.8 +4.0
BZS Buzias 112.19 49⇑ *i*P **PKiKP** 19 20 33.4 -0.7
BZS Buzias 112.19 49 ⇑PKiKP **PKiKP** 19 20 33.4 -0.7
VTS Vitosha 112.26 53⇑ *i*P **PKiKP** 19 20 29.4 -5.1
VTS Vitosha 112.26 53⇓ *i*P **PKKPbc** 19 31 26.3 +0.5
VTS Vitosha 112.26 53 *e*P **PP** 19 21 18.1 -2.7
VTS Vitosha 112.26 53 ⇑PKiKP **PKiKP** 19 20 29.4 -5.1
MMB Musomiste 112.29 54 *e*P **PP** 19 21 19.4 -1.4
SIRR Siria 112.43 49⇑ *i*P **PKiKP** 19 20 36.9 +2.3
SIRR Siria 112.43 49⇑ *i*P **PKKPab** 19 31 33.0 +1.9
HERR Herculane 112.48 50⇑ *i*P PKiKP 19 20 25.4 -9.2
GZR Gura Zlata 112.89 50⇑ *i*P PKiKP 19 20 44.2 +8.7
GZR Gura Zlata 112.89 50⇓ *i*P **PKKPab** 19 31 32.1 +2.9
GZR Gura Zlata 112.89 50 ⇑PKiKP PKiKP 19 20 44.2 +8.7
IM3 Indian Mountai 113.27 334 *e*Pdif **Pdif** 19 16 41.8 -0.5
DRGR 113.29 48⇓ *i*P **PKiKP** 19 20 33.5 -2.7
DRGR 113.29 48⇑ *i*P **PKKPab** 19 31 29.8 +2.4

DRGR		113.29	48	⇓PKIKP	PKiKP	19 20 33.5	-2.7		
LOT	Lotru	113.57	50	⇑P	PKKPab	19 31 28.7	+2.4		
UZH	Uzhgorod	113.59	46	*e*PKIKP	PKiKP	19 20 36.0	-0.6		
UZH				*i*		19 20 45.8			
UZH				*i*		19 21 27.8			
TRPA	Tarpa	113.59	47	⇑P	PKiKP	19 20 37.2	+0.6		
TRPA	Tarpa	113.59	47	⇑P	PKKPab	19 31 27.4	+1.6		
TRPA	Tarpa	113.59	47	⇓*e*PKiKP	pPKiKP	19 20 54.7	+0.1		
HUMR	Humele	114.10	51	⇑P	pPKiKP	19 20 55.8	0.0		
HUMR	Humele	114.10	51	⇑P	PKKPab	19 31 26.6	+2.8		
ARR	Arges	114.12	50	⇑P	PKKPab	19 31 27.6	+3.8		
VOIR		114.42	50	⇑P	PKPpre	19 20 34.0			
VOIR		114.42	50	⇑PKIKP	PKPpre	19 20 34.0			
DOPR	Dopca	114.81	50	⇑P	PKKPdf	19 20 40.6	+1.5		
MLR	Muntele Rosu	115.04	50	⇑P	pPKiKP	19 20 57.9	+0.2		
MLR	Muntele Rosu	115.04	50	⇓P	PKKPab	19 31 21.9	+2.1		
MLR	Muntele Rosu	115.04	50	⇑PKIKP	pPKiKP	19 20 57.9	+0.2		
BURAR	Bucovina Array	115.16	48	⇑P	PKPdf	19 20 40.7	+0.8		
BURAR	Bucovina Array	115.16	48	⇓P	PKKPab	19 31 22.1	+3.0		
BURAR	Bucovina Array	115.16	48	⇑PKIKP	PKPdf	19 20 40.7	+0.8		
BIZ	Bicaz	115.56	49	⇓P	PKKPab	19 31 18.9	+1.6		
PLOR	Plostina	115.62	50	⇑P	PKPdf	19 20 47.4	+6.7		
PLOR	Plostina	115.62	50	⇑P	PKKPab	19 31 20.8	+3.6		
PLOR	Plostina	115.62	50	⇑PKIKP	PKPdf	19 20 47.4	+6.7		
VRI	Vrincioaia	115.67	50	⇑P	PKPdf	19 20 44.0	+3.2		
VRI	Vrincioaia	115.67	50	⇑P	PKKPab	19 31 20.7	+3.8		
VRI	Vrincioaia	115.67	50	⇑PKIKP	PKPdf	19 20 44.0	+3.2		
PRAR	RASCA	115.75	48	⇑P	PKKPab	19 31 19.8	+3.3		
HARR	Harsova	116.16	52	⇑P	PKKPab	19 31 16.5	+1.7		
TIRR	Tirgusor	116.43	52	⇑P	PKPpre	19 20 32.2			
TIRR	Tirgusor	116.43	52	⇑PKIKP	PKPpre	19 20 32.2			
CFR	Carcaliu	116.44	51	⇑P	PKPdf	19 20 42.0	-0.2		
CFR	Carcaliu	116.44	51	⇑P	PKKPab	19 31 16.2	+2.7		
CFR	Carcaliu	116.44	51	⇑PKIKP	PKPdf	19 20 42.0	-0.2		
ATD	Arta Tunnel	116.62	91	PP	PP	19 21 51.2	-0.7		
	comp=Z,12nm,0.9s,baz=292,slow=1.5,SNR=4.1								
KIS	Kishinev	117.36	49	*e*PKP	PKPdf	19 20 56.0	+12		
KIS	Kishinev	117.36	49	*e*PP	PP	19 21 54.0	-2.4		
KIS				*e*SKS	SKSac	19 27 28.0	-3.0		
KIS				*e*SKKS	SKKSac	19 28 45.0	-6.0		
KIS	Kishinev	117.36	49	*e*PS	PS	19 31 50.0	+8.9		
KIS				LRM	MLR	20 06 15.0			
	comp=Z,2μm,26.0s								
KIS	Kishinev	117.36	49	*e*PKIKP	PKPdf	19 20 56.0	+12		
KIS				*e*		19 21 54.0			
KIS				*e*		19 24 32.0			
KIS				*e*		19 27 28.0			
KIS				MLR	MLR				
	comp=Z,5μm,27.0s								
KIS				MLR	MLR				
	comp=E,2μm,26.0s								
KIS				MLR	MLR				
	comp=Z,4μm,28.0s								
SPITS	Spitsbergen Ar	117.88	13	PKKPbc	PKKPbc	19 31 07.4	+0.4		
	comp=Z,6.4nm,0.8s,baz=97,slow=6.8,SNR=7.6								
ANTO	Ankara	118.33	59	⇑P	pPKiKP	19 21 04.3	+0.1		
ANTO	Ankara	118.33	59	⇑P	PKKPab	19 31 06.7	+1.0		
MICGM	Minsk	118.43	41	*e*PKP	PKPdf	19 20 48.0	+2.2		
MICGM				*ep*PKP	sPKPdf	19 21 18.0	+7.7		
MICGM				*e*PP	PP	19 22 07.0	+3.4		
MICGM				*e*PPP	PPP	19 24 54.0			
MICGM				*e*SKS	SKSac	19 27 32.0	-2.5		
MICGM				*e*SP	SP	19 31 58.0	+15		
MICGM				*e*SS	SS	19 37 50.0	-26		
MICGM				*e*SSS	SSS	19 43 00.0			
MICGM				*e*LR	LR	20 26 46.0			
MICGM				LRM	MLR	20 35 04.0			
	comp=Z,2.8nm,20.0s								
KIEV	Kiev	118.46	45	*e*PKPdf	PKPdf	19 20 44.7	-1.2		
KIEV	Kiev	118.46	45	P	PKPdf	19 20 45.6	-0.3		
KIEV	Kiev	118.46	45	⇑*i*PKIKP	PKPdf	19 20 44.9	-1.0		
AKASG	Malin Array Be	118.47	45	PKP	PKPdf	19 20 44.8	-1.2		
	comp=Z,2.7nm,0.6s,baz=267,slow=2.5,SNR=10								
AKASG				pPKP	pPKPdf	19 21 02.6	-1.3		
	comp=Z,11nm,0.8s,baz=264,slow=2.4,SNR=9.2								
AKASG				PP	PP	19 22 01.7	-2.3		
	comp=Z,0.7nm,0.5s,baz=267,slow=5.2,SNR=7.6								
AKASG				PKKPbc	PKKPbc	19 31 04.2	0.0		
	comp=Z,1.7nm,0.6s,baz=63,slow=4.3,SNR=9.0								
VSU	Vasula	118.53	36	⇑*i*PKIKP	PKPdf	19 20 45.8	0.0		
FINES	FINESS Array B	118.68	33	PKP	PKPdf	19 20 45.2	-0.8		
	comp=Z,4.3nm,0.9s,baz=59,slow=1.5,SNR=8.8								
FINES				pPKP	pPKPdf	19 21 04.0	0.0		
	comp=Z,2.0nm,0.6s,baz=147,slow=3.9,SNR=2.2								
FINES				PKKPbc	PKKPab	19 31 02.6	-0.3		
	comp=Z,6.2nm,1.0s,baz=86,slow=5.9,SNR=6.9								
BRTR	Keskin Array B	118.92	58	PKP	PKPdf	19 20 47.4	-0.1		
	comp=Z,2.7nm,0.8s,baz=194,slow=3.6,SNR=10.0								
BRTR				pPKP	pPKPdf	19 21 05.2	-0.2		
	comp=Z,5.3nm,0.7s,baz=191,slow=3.0,SNR=8.7								
BRTR				PKPbc	PKKPab	19 31 03.1	-0.1		
	comp=Z,3.3nm,1.1s,baz=49,slow=5.7,SNR=5.9								
ASF	Jabal al Asfar	119.32	67	PKP	PKPdf	19 20 48.8	+0.4		
	comp=Z,1.0nm,0.5s,baz=114,slow=2.2,SNR=3.0								
ASF				pPKP	pPKPdf	19 21 06.5	+0.2		
	comp=Z,16nm,1.1s,baz=214,slow=2.4,SNR=11								
ASF				PP	PP	19 22 08.7	-1.8		
	comp=Z,14nm,1.1s,baz=223,slow=2.4,SNR=9.7								
ASF				PKKPbc	PKKPab	19 31 01.8	-0.2		
	comp=Z,7.3nm,1.1s,baz=275,slow=7.1,SNR=6.3								
ARCES	ARCESS Array B	119.40	24	PKP	PKPdf	19 20 47.0	-0.2		
	comp=Z,1.2nm,0.6s,baz=248,slow=3.3,SNR=18								
ARCES				PKKPbc	PKKPab	19 30 60.0	+0.5		
	comp=Z,6.7nm,1.1s,baz=83,slow=4.2,SNR=15								
SIM	Simferopol'	120.50	53	*i* PKIKP	pPKiKP	19 21 08.8	+0.7		
SIM				*i*		19 22 16.1			
SIM				*i*		19 27 42.0			
SIM				*i* PS	PS	19 32 10.0	+0.6		
SIM				pmax	pmax				
	comp=Z,18nm,1.1s								
SIM				pmax	pmax				
	comp=Z,440nm,12.6s								
ASAR	Alice Springs	122.10	208	PKhKP	PKPpre	19 20 44.0			
	comp=Z,0.3nm,0.7s,baz=114,slow=0.4,SNR=4.8								
ASAR				PKP	PKPdf	19 20 52.5	-1.5		
	comp=Z,25nm,1.0s,baz=126,slow=1.5,SNR=83								
ASAR				PKKPbc	PKKPbc	19 30 50.4	-0.1		
	comp=Z,1.9nm,0.8s,baz=335,slow=3.8,SNR=12								
ASAR				SKKPbc	SKKPbc	19 34 36.9	+5.3		
	comp=Z,4.0nm,1.1s,baz=344,slow=4.8,SNR=4.2								
APA	Apatity	122.25	26	⇓*i* PKIKP	pPKiKP	19 21 09.7	-1.2		
APA				pmax	pmax				
	comp=Z,11nm,0.9s								
APA				MLR	MLR				
	comp=Z,3μm,16.0s								
ANN	Anapa	122.78	53	*i* P	Pdif	19 17 23.7	-1.5		
ANN				*i*		19 20 53.3			
ANN				*e*		19 21 08.2			
ANN				*e*		19 22 30.1			
ANN				*e*		19 27 49.0			
ANN				*e*SS	SS	19 39 03.2	-8.9		
ANN				pmax	pmax				
	comp=Z,75nm,2.0s								
ANN				pmax	pmax				
	comp=Z,61nm,1.4s								
OBN	Obninsk	123.50	41	*e*PKPdf	PKPdf	19 20 54.8	-0.6		
OBN				*ep*PKPdf	pPKPdf	19 21 13.3	-0.2		
OBN	Obninsk	123.50	41	⇑*i*PKIKP	PKPdf	19 20 55.8	+0.4		
OBN				*e*		19 22 36.9			
OBN				*e*PPP	PPP	19 25 20.5			
OBN				pmax	pmax				
	comp=Z,34nm,1.3s								
RAYN	Ar Rayn	123.75	80	*e*PKPdf	PKPdf	19 20 56.7	-0.3		
RAYN	Ar Rayn	123.75	80	*i* P	PKPdf	19 20 56.4	-0.6		
	SNR=7.2								
MOS	Moscow	124.13	40	*i* PKIKP	PKPdf	19 20 56.4	-0.3		
MOS				*e*		19 21 15.9			
MOS				*e*		19 22 46.6			
MOS				*e*		19 27 49.5			
MOS				*e*PS	PS	19 32 42.9	+1.6		
MOS				MLR	MLR				
	comp=E,2μm,22.0s								
MOS				MLR	MLR				
	comp=Z,3μm,22.0s								
LPSR	Galich'ya Gora	124.72	44	*e*PKIKP	PKPdf	19 20 58.7	+0.8		
LPSR				pmax	pmax				
	comp=Z,40nm,1.1s								
VSR	Storozhevoye	124.76	46	*e*PKIKP	PKPdf	19 20 56.8	-1.2		
VSR				*e*		19 22 44.1			
VSR				*e*PS	PS	19 32 45.7	-1.3		
VSR				pmax	pmax				
	comp=Z,20nm,1.3s								
VORD	Divnogorie	124.82	46	*e*PKIKP	PKPdf	19 20 57.8	-0.3		
VORD				pmax	pmax				
	comp=Z,10.0nm,1.0s								
VORR	Voronezh	124.83	45	PKIKP	PKPdf	19 20 59.0	+0.9		
VORR				pmax	pmax				
	comp=Z,250nm,1.4s								
WRA	Warramunga Arr	125.22	210	PKhKP	PKPpre	19 20 46.6			
	comp=Z,0.7nm,0.8s,baz=232,slow=1.1,SNR=4.9								
WRA				PKP	PKPdf	19 20 58.0	-2.0		
	comp=Z,34nm,0.7s,baz=155,slow=1.7,SNR=132								
WRA				PKKPbc	PKKPbc	19 30 38.1	-0.1		
	comp=Z,1.2nm,0.8s,baz=346,slow=3.6,SNR=5.0								
WRA				SKKPbc	SKKPbc	19 34 24.9	+3.7		
	comp=Z,3.9nm,0.9s,baz=326,slow=5.0,SNR=4.7								
WRAB	Tennant Creek	125.22	210	*e*PKPdf	PKPdf	19 20 58.8	-1.2		
WRAB	Tennant Creek	125.22	210	*e*PKIKP	PKPdf	19 20 58.8	-1.2		
H11S2	WAKE ISLAND Hyd	126.27	272	T	T	21 40 01.7			
	baz=115,slow=75,SNR=492								
H11S1	WAKE ISLAND Hyd	126.28	272	T	T	21 40 06.9			
	baz=115,slow=75,SNR=534								
H11S3	WAKE ISLAND Hyd	126.28	272	T	T	21 40 04.1			
	baz=115,slow=75,SNR=560								
NEY	Neytrino	126.31	56	⇓*i*PKIKP	PKPdf	19 21 02.9	+1.4		
VRH	Novokhopyorsk	126.37	46	*e*PKIKP	PKPdf	19 21 00.2	-0.9		
VRH				*e*PS	PS	19 33 00.0	-1.1		
VRH				pmax	pmax				
	comp=Z,40nm,1.7s								
KIV	Kislovodsk	126.38	55	*e*PKPdf	PKPdf	19 21 01.6	0.0		
KIV	Kislovodsk	126.38	55	PKiKP	PKiKP	19 21 02.1	+0.2		
	SNR=5.2								
KIV	Kislovodsk	126.38	55	P	PKiKP	19 21 02.1	+0.2		
	SNR=5.2								
KIV	Kislovodsk	126.38	55	*i* PKIKP	PKPdf	19 21 01.5	0.0		
KIV				*e*		19 22 56.6			
KIV				*e*PPP	PPP	19 25 39.4			
KIV				*e*		19 28 00.9			
KIV				*e*PS	PS	19 33 00.6	-1.1		
KIV				*e*SS	SS	19 39 58.6	+0.9		
KIV				pmax	pmax				
	comp=Z,21nm,1.1s								
KIV				MLR	MLR				
	comp=Z,1μm,23.0s								
KBZ	Khabaz	126.50	55	PKP	PKPdf	19 21 01.5	0.0		
	comp=Z,9.1nm,1.0s,baz=176,slow=2.1,SNR=8.2								
H11N3	WAKE ISLAND Hyd	126.56	274	T	T	21 40 20.1			
	baz=113,slow=75,SNR=153								
H11N1	WAKE ISLAND Hyd	126.57	274	T	T	21 40 21.3			
	baz=113,slow=75,SNR=116								
H11N2	WAKE ISLAND Hyd	126.57	274	T	T	21 40 21.4			
	baz=113,slow=75,SNR=163								
PMG	Port Moresby	126.59	230	*e*PKPdf	PKPdf	19 21 02.7	0.0		
PMG	Port Moresby	126.59	230	*e*PKIKP	PKPdf	19 21 02.7	0.0		
AKH	Akhalkalaki	126.61	58	⇑P	PKPdf	19 21 04.4	+2.2		
GOF	Gofitskoye	126.76	54	⇓*i*PKIKP	pPKiKP	19 21 20.5	0.0		
GOF				pmax	pmax				
	comp=Z,80nm,1.2s								
NCK	Nalchik	126.97	56	⇑*i*PKIKP	PKPdf	19 21 03.8	+1.2		
ZEI	Tsey	127.11	57	*i* PKIKP	PKPdf	19 21 02.3	-0.8		
ZEI				pmax	pmax				
	comp=Z,28nm,1.4s								
GNI	Garni	127.35	60	PKP	PKPdf	19 21 03.9	+0.3		
	comp=Z,9.8nm,1.1s,baz=270,slow=20,SNR=2.9								
GNI	Garni	127.35	60	P	PKPdf	19 21 04.6	+1.0		
PRGR	Permogore	128.01	33	*e*PKIKP	PKPdf	19 21 04.2	+0.3		
PRGR				pmax	pmax				
	comp=Z,42nm,1.0s								
GROC	Groznyy	128.53	56	*i* PKIKP	PKPdf	19 21 06.3	+0.8		
GROC				*e*		19 23 16.1			
GROC				pmax	pmax				
	comp=Z,42nm,1.4s								
BILL	Bilibino	128.71	336	*e*PKPdf	PKPdf	19 21 05.3	+0.2		
BILL	Bilibino	128.71	336	*de*PKIKP	PKPdf	19 21 05.6	+0.5		
BILL				*e*		19 23 13.7			
BILL				*e*SS	SS	19 40 19.8	-5.0		
BILL				pmax	pmax				
	comp=Z,71nm,1.2s								
MBWA	Marble Bar	128.82	193	*e*PKPdf	PKPdf	19 21 05.4	-1.4		
MAK	Makhachkala	129.76	57	*i* P	Pdif	19 17 54.8	-1.4		
MAK				*e*		19 23 19.7			
MAK				*e*PS	PS	19 33 28.8	-2.1		
MAK				pmax	pmax				
	comp=Z,101nm,0.6s								
AKT	Akhty	129.78	59	*i* PKIKP	PKPdf	19 21 15.2	+7.1		
AKT				*e*		19 23 24.7			
AKT				pmax	pmax				
	comp=Z,73nm,1.3s								
MZR	Muzera	130.47	84	*i* P	PKPdf	19 21 10.0	+0.2		
	SNR=8.1								
ASUD	Al Ashush, Dub	132.59	82	PKiKP	PKiKP	19 21 19.2	+4.3		
	SNR=5.6								
ASUD	Al Ashush, Dub	132.59	82	P	PKiKP	19 21 19.2	+4.3		
	SNR=7.6								
ASUD	Al Ashush, Dub	132.59	82	*i* P	PKPdf	19 21 12.5	-1.3		
	SNR=6.5								
ALNE	Al Ain	132.78	83	*i* P	PKPdf	19 21 16.0	+1.8		
	SNR=6.2								
FAQ	Al Faqa, Dubai	132.86	82	PKiKP	PKiKP	19 21 15.3	-0.1		
	SNR=7.3								
FAQ	Al Faqa, Dubai	132.86	82	P	PKiKP	19 21 15.3	-0.1		
	SNR=7.3								
ASHO	Ashiyiah	133.24	83	PKiKP	PKPdf	19 21 15.1	0.0		
	SNR=5.2								
ASHO	Ashiyiah	133.24	83	P	PKPdf	19 21 15.1	0.0		
	SNR=5.2								
ASHO	Ashiyiah	133.24	83	*i* P	PKPdf	19 21 14.6	-0.5		
	SNR=5.1								
HATD	Hatta, Dubai	133.35	82	pPKPdf	pPKPdf	19 21 32.9	-0.4		
	SNR=7.7								
HATD	Hatta, Dubai	133.35	82	P	pPKPdf	19 21 32.9	-0.4		
	SNR=7.7								
HATD	Hatta, Dubai	133.35	82	*i* P	PKPdf	19 21 16.2	+0.9		
	SNR=8.5								
UOSS	Minazif	133.45	82	*i* P	PKPdf	19 21 15.6	+0.2		
	SNR=7.0								
MSFE	Esma-Masafi	133.53	82	*i* P	PKPdf	19 21 15.7	+0.1		
	SNR=5.6								
MDH	Madha	133.63	82	P	PKPdf	19 21 15.7	-0.1		
SHME	Shamm	133.71	81	*i* P	PKPdf	19 21 15.2	-0.7		
	SNR=7.6								
WSAR	Wadi Sarin	135.03	85	PKP	PKPdf	19 21 18.3	-0.1		
	comp=Z,8.5nm,0.9s,baz=242,slow=3.7,SNR=6.6								
WSAR				PP	PP	19 23 52.2	-2.1		
	comp=Z,16nm,1.2s,baz=282,slow=5.8,SNR=8.9								
WSAR	Wadi Sarin	135.03	85	PKiKP	PKPdf	19 21 19.0	+0.6		
	SNR=7.9								
WSAR	Wadi Sarin	135.03	85	P	PKPdf	19 21 19.0	+0.6		
	SNR=7.9								
ARU	Arti	135.66	38	PKP	PKPdf	19 21 18.2	-0.4		
ARU	Arti	135.66	38	*i* PKIKP	PKPdf	19 21 19.2	+0.7		
ARU						19 23 54.5			
ARU				PPP	PPP	19 26 52.1			
ARU				SS	SS	19 41 44.2	-5.7		
ARU				MLR	MLR				
	comp=Z,3μm,23.0s								
TIXI	Tiksi	136.05	351	PKhKP	PKPpre	19 21 04.8			
	comp=Z,3.7nm,0.9s,baz=29,slow=2.1,SNR=10								
TIXI				PKP	PKPdf	19 21 18.5	-0.3		
	comp=Z,13nm,0.8s,baz=34,slow=3.1,SNR=17								
TIXI	Tiksi	136.05	351	*e*PKPpre	PKPpre	19 21 06.1			
TIXI				PKP	PKPdf	19 21 18.6	-0.3		
TIXI	Tiksi	136.05	351	*d*PKIKP	PKPdf	19 21 18.0	-0.8		
SEY	Seymchan	136.07	333	PKhKP	PKPpre	19 21 09.8			
	comp=Z,8.2nm,0.9s,baz=144,slow=3.3,SNR=11								
SEY				PKP	PKPdf	19 21 19.9	+0.8		
	comp=Z,52nm,0.8s,baz=124,slow=3.5,SNR=49								
SEY	Seymchan	136.07	333	*d*PKIKP	PKPdf	19 21 20.3	+1.2		
GENI	Genyem	136.27	229	PKP	PKPpre	19 21 11.9			
GENI				PKP	PKPdf	19 21 20.5	-0.5		
SVE	Sverdlovsk	136.63	36	*i* PKIKP	PKPdf	19 21 21.1	+0.8		
SVE				*e*		19 41 54.5			
SVE				pmax	pmax				
	comp=Z,64nm,1.7s								
SVE				MLR	MLR				
	comp=Z,4μm,24.0s								
AKTO	Aktyubinsk	136.71	46	PKhKP	PKPpre	19 21 13.3			
	comp=Z,3.4nm,1.1s,baz=174,slow=1.9,SNR=4.4								
AKTO				PKP	PKiKP	19 21 21.7	-0.7		
	comp=Z,4.8nm,0.8s,baz=105,slow=4.7,SNR=9.0								
AKTO				PP	PP	19 24 08.8	+4.8		
	comp=Z,12nm,1.2s,baz=265,slow=6.9,SNR=3.6								
PETK	Petropavlovsk-	137.08	318	PKhKP	PKPpre	19 21 15.3			
	comp=Z,37nm,0.9s,baz=157,slow=8.0,SNR=4.8								
PETK				PKP	PKiKP	19 21 22.2	-0.9		
	comp=Z,52nm,1.0s,baz=109,slow=5.2,SNR=15								
PETK				pPKP	pPKPdf	19 21 40.2	+0.9		
	comp=Z,37nm,0.9s,baz=100,slow=8.0,SNR=7.3								
GEYT	Alibeck	137.46	64	PKP	PKPdf	19 21 22.4	-0.2		
	comp=Z,4.4nm,1.0s,baz=280,slow=8.7,SNR=9.2								
NRIK	Noril'sk	138.00	11	PKP	PKPdf	19 21 23.0	+0.5		
	comp=Z,11nm,1.1s,baz=268,slow=1.9,SNR=9.6								
MA2	Magadan	138.37	329	PKhKP	PKPpre	19 21 15.8			
	comp=Z,5.4nm,0.3s,baz=18,slow=20,SNR=4.4								
MA2	Magadan	138.37	329	*de*PKIKP	PKPdf	19 21 23.9	+0.4		
SKR	Severo-Kuril's	138.59	315	*i* PKHKP	PKPpre	19 21 15.9			
SKR				pmax	pmax				
	comp=Z,2μm,5.6s								
SKR				MLR	MLR				
	comp=Z,900nm,21.0s								
PLAI	Plampang	141.20	195	PKP	PKPdf	19 21 27.4	-2.6		
PLAI				PKP	PKiKP	19 21 31.4	-1.4		
MSAI	Masohi	142.24	214	PKP	PKPdf	19 21 44.0	+12		
SRBI	Singaraja	142.41	191	PKP	PKPpre	19 21 26.2			
SRBI				PKP	PKPdf	19 21 30.3	-1.9		
BLJI	Banyuglugur	142.98	188	PKP	PKPdf	19 21 32.6	-0.6		
BBSI	Bau Bau	143.01	204	PKP	PKPdf	19 21 43.3	+10		
GUMO	Guam	143.03	253	PKhKP	PKPpre	19 21 28.0			
	comp=Z,213nm,1.0s,baz=151,slow=13,SNR=3.5								
GUMO	Guam	143.03	253	*e*PKPpre	PKPpre	19 21 29.2			
GUMO	Guam	143.03	253	*e*PKHKP	PKPpre	19 21 29.2			
SWI	Sorong	143.10	220	PKP	PKPdf	19 21 34.6	+1.2		
BRVK	Borovoye	143.20	39	*e*PKPdf	PKPdf	19 21 31.4	-1.0		
BRVK	Borovoye	143.20	39	PKPdf	PKPdf	19 21 31.1	-1.3		
	SNR=14								
BRVK	Borovoye	143.20	39	P	PKPdf	19 21 31.1	-1.3		
	SNR=14								
BRVK	Borovoye	143.20	39	⇓*e*PKIKP	PKPdf	19 21 31.2	-1.2		
CMJI	Cimerak	143.25	180	PKP	PKPdf	19 21 37.4	+3.7		
BVAR	Borovoye Array	143.28	39	PKP	PKPbc	19 21 29.5	-0.2		
	comp=Z,2.1nm,0.3s,baz=321,slow=1.2,SNR=20								
BVAR				PP	PP	19 24 57.1	+13		
	comp=Z,5.8nm,1.1s,baz=253,slow=4.4,SNR=2.1								
NGJI	Ngawi	143.56	185	PKP	PKPdf	19 21 36.0	+1.8		
KMMI	Kalianget	143.61	189	PKP	PKPdf	19 21 36.4	+2.1		
BKSI	Bulukumba	143.96	200	PKP	PKPbc	19 21 32.7	-0.1		
BKSI				PKP	PKPdf	19 21 34.0	-0.9		
SKJI	Sukabumi	143.97	177	PKP	PKPdf	19 21 35.1	+0.1		
YAK	Yakutsk	144.34	343	PKP	PKPab	19 21 32.2	0.0		
	comp=Z,355nm,0.8s,baz=137,slow=0.5,SNR=156								
YAK				pPKP	pPKPdf	19 21 51.6	-0.4		
	comp=Z,480nm,0.9s,baz=210,slow=0.9,SNR=9.5								
YAK	Yakutsk	144.34	343	*e*PKPdf	PKPab	19 21 31.3	-0.9		
YAK				pPKP	pPKPdf	19 21 51.6	-0.4		
YAK	Yakutsk	144.34	343	*d*PKIKP	PKPbc	19 21 32.5	-0.1		
YAK				*i*		19 21 49.6			
YAK				*e*		19 24 47.6			
YAK				pmax	pmax				
	comp=Z,683nm,1.0s								
YAK				pmax	pmax				
	comp=N,100nm,1.2s								
YAK				pmax	pmax				
	comp=E,74nm,1.1s								
YAK				pmax	pmax				
	comp=Z,237nm,1.8s								
YAK				pmax	pmax				
	comp=N,131nm,1.5s								
YAK				pmax	pmax				
	comp=E,37nm,1.4s								
BHJ	Bhuj	144.67	90	*e*P	PKPab	19 21 34.5	-0.2		
SBJI	Serang	144.82	176	PKP	PKPdf	19 21 37.0	+0.5		
BNSI	Bone	144.84	200	PKP	PKPab	19 21 35.3	-0.2		
BNSI				PKP	PKPbc	19 21 35.7	+0.1		
KUR	Kuril'sk	145.26	308	*de*PKIKP	PKPbc	19 21 35.6	-0.4		
KUR				*e*		19 21 36.0			
KUR				*e*		19 24 53.0

NVS *e* 19 22 03.0
NVS pmax pmax
comp=N,14nm,1.2s
NVS pmax pmax
comp=Z,110nm,1.2s
NVS pmax pmax
comp=E,70nm,2.4s
BKB Balikpapan 148.71 196 PKP **PKPbc 19 21 48.6 +1.8**
PPBI Pangkal Pinang 148.75 175 PKP **PKPdf 19 21 43.5 +0.4**
PPBI PKP **PKPbc 19 21 45.4 -1.5**
MRSI Marisa 148.75 206 PKP **PKPdf 19 21 43.8 +0.8**
MRSI PKP **PKPbc 19 21 44.1 -2.8**
KURK Kurchatov 148.86 38 *e*PKPdf **PKPdf 19 21 42.8 +0.8**
KURK pPKPbc **pPKPbc 19 22 05.2 +1.3**
KURK PP PP 19 25 27.8 +11
KURK Kurchatov 148.86 38 PKPbc **PKPdf 19 21 43.8 +1.7**
SNR=30
KURK Kurchatov 148.86 38 P **PKPdf 19 21 43.8 +1.7**
SNR=30
KURK Kurchatov 148.86 38 PKP2 **PKPbc 19 21 45.8 -0.2**
KURK pmax pmax
comp=Z,15nm,0.4s
KURK pmax pmax
comp=Z,148nm,1.0s
KURK pmax pmax
comp=Z,11nm,1.0s
KURBB Kurchatov Arra 148.86 38 PKPbc **PKPbc 19 21 45.8 -0.2**
comp=Z,15nm,0.4s,baz=306,slow=3.0,SNR=83
KURBB pPKPbc **pPKPbc 19 22 05.2 +1.2**
comp=Z,148nm,1.0s,baz=302,slow=3.9,SNR=12
KURBB PP PP 19 25 27.8 +11
comp=Z,11nm,1.0s,baz=283,slow=5.6,SNR=4.5
EKS2 Erkin-Say 148.98 55 P **PKPdf 19 21 44.0 +1.3**
SNR=24
AML Almayashu 149.04 56 P **PKPdf 19 21 45.0 +1.8**
SNR=16
PDSI Padang 149.08 164 PKP **PKPdf 19 21 44.6 +1.0**
PDSI PKP **PKPbc 19 21 47.1 -0.7**
SGKI Sangatta, Kali 149.23 198 PKP **PKPab 19 21 53.2 +0.6**
SDSI Sungai Dareh 149.28 166 PKP **PKPbc 19 21 46.9 -1.3**
SDSI PKP **PKiKP 19 21 48.1 -1.3**
PBSI Pulau Batu 149.30 159 PKP **PKPab 19 21 50.8 -2.0**
USP Ospenovka 149.33 53 P **PKPdf 19 21 44.9 +1.7**
SNR=11
ERM Erimo 149.34 304 *e*PKPbc **PKPbc 19 21 47.9 +0.3**
MPSI Mapaga 149.36 203 PKP **PKPdf 19 21 44.1 +0.1**
MPSI PKP **PKPbc 19 21 48.0 -0.4**
SGDS Sogindy 149.37 53 *i* PKP **PKPdf 19 21 44.4 +1.1**
comp=Z,33nm,1.7s
SMKI Samarinda 149.42 197 PKP **PKPab 19 21 51.0 -2.3**
MTKI Muara Teweh, K 149.45 192 PKP **PKPbc 19 21 49.0 +0.3**
AAK Ala-Archa 149.49 55 PKP **PKPdf 19 21 44.1 +0.5**
comp=Z,16nm,0.5s,baz=206,slow=2.8,SNR=18
AAK PKPbc **PKiKP 19 21 49.3 +0.1**
comp=Z,49nm,0.8s,baz=230,slow=2.5,SNR=66
AAK Ala-Archa 149.49 55 P **PKPdf 19 21 45.5 +1.9**
SNR=14
AAK Ala-Archa 149.49 55 *e*PKPdf **PKPdf 19 21 44.6 +1.0**
AAK Ala-Archa 149.49 55 PKPbc **PKPdf 19 21 45.7 +2.1**
SNR=66
AAK Ala-Archa 149.49 55 P **PKPdf 19 21 45.7 +2.1**
SNR=66
AAK Ala-Archa 149.49 55 *i* P **PKPdf 19 21 44.9 +1.3**
SNR=75
AAK Ala-Archa 149.49 55*d* *i*PKHKP PKPpre 19 21 44.6
FRU Bishkek 149.53 54 *i* PKHKP PKPpre 19 21 44.0
FRU *i* 19 25 20.0
FRU *e* 19 45 20.0
FRU pmax pmax
comp=Z,280nm,2.0s
CHMS Chumysh 149.58 54 P **PKPdf 19 21 45.0 +1.5**
SNR=16
UCH Uchtor 149.61 55 P **PKPdf 19 21 45.9 +1.8**
SNR=20
ZALV Zalesovo Beam 149.79 28 PKP **PKPdf 19 21 43.6 +0.2**
comp=Z,24nm,0.9s,baz=284,slow=2.9,SNR=51
ZALV PKPbc **PKPbc 19 21 48.4 +0.2**
comp=Z,92nm,0.6s,baz=298,slow=3.1,SNR=96
ZALV pPKPbc **pPKPbc 19 22 06.4 +0.2**
comp=Z,98nm,0.5s,baz=292,slow=3.0,SNR=8.7
KBK Karagaybulak 149.81 54 P **PKPbc 19 21 50.9 +2.0**
SNR=15
GRNR Gornyy 149.98 324 *e*PKHKP PKPpre 19 21 44.8
GRNR *e* 19 25 24.3
GRNR pmax pmax
comp=N,38nm,1.0s
GRNR pmax pmax
comp=E,42nm,1.0s
GRNR pmax pmax
comp=Z,26nm,1.0s
RGRI Rengat 150.03 167 PKP **PKPbc 19 21 47.9 -2.2**
HYB Hyderabad 150.10 106 *i* PKP **PKPdf 19 21 45.5 +0.4**
HYB *e* 19 21 51.5
HYB *e*pPKP **pPKPbc 19 22 08.0 -0.1**
HYB *e*PP **PP 19 25 24.0 -1.3**
HYB *e*SKKS 19 32 06.0
HYB *e* 19 35 42.0
KZA Kyzart 150.18 55 P **PKPbc 19 21 50.6 +0.5**
SNR=8.6
TKM2 Tokmak 2 150.20 54 P **PKPdf 19 21 45.8 +1.0**
SNR=10
GSI Gunungsitoli 150.35 157 PKP **PKPdf 19 21 48.2 +2.6**
GSI PKP **PKPbc 19 21 51.2 +0.3**
BKNI Bangkinang 150.41 165 PKP **PKPbc 19 21 50.1 -0.9**
KUU Kurty 150.42 51 *e*PKP **PKPdf 19 21 45.9 +1.1**
KUU *i* PP **PP 19 25 27.8 +1.3**
KUU LR LR 20 31 22.1
comp=Z,3µm,24.6s
MNSI Mandailing Nat 150.49 161 PKP **PKPdf 19 21 46.3 +0.5**
ULHL Ulahol 150.84 55 P **PKPbc 19 21 52.5 +1.0**
SNR=7.9
STKI Sintang 150.92 186 PKP **PKPdf 19 21 47.8 +1.3**
SNSI Sinabang, Aceh 150.92 154 PKP **PKPbc 19 21 51.9 -0.3**
SNSI PKP **PKiKP 19 21 54.3 +1.5**
SBSI Sibolga 151.00 160 PKP **PKPbc 19 21 52.7 +0.3**
BOD Bodaibo 151.12 354 *e*PKIKP **PKPdf 19 21 44.9 -0.5**
BOD pmax pmax
comp=Z,205nm,1.5s
MDOK Medeo 151.14 53 *i* PKP **PKPdf 19 21 47.5 +1.4**
comp=Z,141nm,2.0s
KSH Kashi 151.28 60 PKPbc **PKPdf 19 21 47.5 +1.1**
KSH PP **PP 19 25 35.5 +3.6**
KSH SKS **SKSdf 19 28 50.5 +1.7**
KSH SS **SS 19 44 50.5 -0.8**
KSH LR LR
comp=Z,3µm,22.5s
KSH LR LR
comp=Z,3µm,18.5s
KSH LR LR
comp=Z,6µm,21.6s
TDK Taldygorghan 151.40 48 *e*PKP **PKPdf 19 21 46.6 +0.3**
comp=Z,31nm,2.2s
BHPL Bhopal 151.45 95 *e*P **PKPdf 19 21 47.8 +0.7**
TPRI Tanjung Pinang 151.63 171 PKP **PKPbc 19 21 53.8 0.0**
DDMP Don Marcelino, 151.93 218 *e*P **PKPbc 19 21 52.0 -2.5**
TPTI 152.03 155 PKP **PKPbc 19 21 55.1 +0.4**
DHRM DHARAMSHALA 152.11 76 *e*P **PKPdf 19 21 48.1 +0.1**
SATY Saty 152.11 52⇑ *e*PKP **PKPdf 19 21 48.5 +1.0**
comp=Z,25nm,2.6s
SATY LR LR 20 33 17.2
comp=Z,630nm,20.5s
NGP Nagpur 152.13 100 *e*P **PKPdf 19 21 48.3 +0.2**
NGP IAMs_20 IAMs_20 20 18 45.0
comp=Z,6µm,23.3s
KPKS Kokpek 152.16 51 *e*PKP **PKPdf 19 21 48.7 +1.1**
comp=Z,20nm,2.8s
KPKS *i* PP **PP 19 25 38.0 +1.4**
KPKS LR LR 20 31 49.3
comp=Z,1µm,21.6s
PSI Prapat 152.19 159 PKP **PKPdf 19 21 48.5 -0.1**
comp=Z,18nm,1.1s,baz=180,slow=6.9,SNR=14
PSI PKPbc **PKPbc 19 21 53.9 -1.4**
comp=Z,67nm,0.9s,baz=180,slow=8.6,SNR=27
MYKOM Kota Tinggi 152.39 170 P **PKPdf 19 21 48.0 -0.7**
KSM Kuching 152.40 184 P **PKPdf 19 21 48.0 -0.7**
KCSI Kotacane, Aceh 152.48 156 PKP **PKPdf 19 21 50.9 +2.0**
UZB Uzynbulak 152.51 52 *e*PKP **PKPdf 19 21 49.3 +1.1**
comp=Z,17nm,2.9s
NDI New Delhi 152.56 83 *e*P **PKPdf 19 21 48.0 -0.5**
TSI Tuntungan 152.74 158 PKP **PKPbc 19 21 56.8 +0.5**
SMLA Simla 152.78 78 *e*P **PKPdf 19 21 49.1 +0.4**
SHLS Shalkode 152.80 51 *e*PKP **PKPdf 19 21 50.3 +1.7**
comp=Z,22nm,2.0s
SHLS LR LR 20 32 19.7
comp=Z,697nm,21.5s

TEY Ternei 152.82 313⇑ *e*PKIKP **PKPdf 19 21 46.6 -1.7**
TEY pmax pmax
comp=Z,20nm,2.0s
SKMP Bagumbayan, Su 152.91 217 *e*P **PKPbc 19 21 54.4 -2.3**
MKAR Makanchi Array 152.99 42 PKP **PKPdf 19 21 48.2 -0.4**
comp=Z,4.6nm,0.9s,baz=297,slow=1.1,SNR=20
MKAR PKPbc **PKPbc 19 21 55.4 -0.6**
comp=Z,20nm,0.8s,baz=320,slow=1.5,SNR=69
MKAR pPKPbc **pPKPbc 19 22 14.0 +0.1**
comp=Z,43nm,0.6s,baz=321,slow=2.0,SNR=13
SBUM Sibu 153.20 188 P **PKPdf 19 21 50.0 +0.1**
KLR Kul'dur 153.31 325 *i* PKIKP **PKPdf 19 21 49.6 +0.7**
comp=Z,36nm,1.1s,baz=12,slow=2.6,SNR=37
KLR PKPbc **PKiKP 19 21 56.6 0.0**
comp=Z,48nm,0.9s,baz=16,slow=2.7,SNR=33
KLR Kul'dur 153.31 325 *i* PKIKP **PKPdf 19 21 48.3 -0.6**
DDI Dehra Dun 153.48 80 *e*P **PKPdf 19 21 47.5 -2.4**
DDI IAMs_20 IAMs_20 19 48 39.7
comp=Z,789nm,6.7s
BUKP Musuan 153.76 219 *e*P **PKPdf 19 21 50.2 -0.5**
DGZ Jazzator, Alta 153.94 32*de*PKIKP **PKPdf 19 21 49.8 -0.2**
ZSN Zaisan 154.09 39 *e*PKP **PKPdf 19 21 51.1 +1.0**
comp=Z,13nm,3.9s
MAJO Matsushiro 154.15 294 *e*PKPdf **PKPdf 19 21 50.4 -0.1**
MAJO Matsushiro 154.15 294*d* *i*PKIKP **PKPdf 19 21 50.0 -0.6**
MAT Matsushiro 154.15 294 PKP **PKPdf 19 21 49.5 -1.1**
BUTP Butuan 154.33 222 *e*P PKPpre 19 21 40.5
HVS Khovu-Aksy 155.38 23⇓ *e*PKIKP **PKPdf 19 21 53.1 +1.2**
MSLP Maasin 155.71 222 *e*P **PKPdf 19 21 52.8 -0.5**
USRK Ussuriysk Ar. 156.11 315 PKP **PKPdf 19 21 52.4 -0.5**
comp=Z,7.2nm,0.9s,baz=225,slow=0.3,SNR=10.0
USRK PKPbc PKPbc 19 22 03.1
comp=Z,39nm,1.1s,baz=94,slow=1.1,SNR=13
USRK PKPab **PKPab 19 22 21.3 +0.6**
comp=Z,54nm,0.9s,baz=65,slow=4.1,SNR=16
PKDT Phuket 156.72 153 PKP **PKPdf 19 21 55.8 +1.1**
IRK Irkutsk 156.73 7 *e*PKIKP **PKPdf 19 21 53.2 -0.3**
IRK pmax pmax
comp=Z,176nm,1.9s
MOY Mondy 156.82 12 *e*PKIKP **PKPdf 19 21 55.1 +1.3**
MOY pmax pmax
comp=Z,159nm,2.0s
CIT Chita 156.89 352 *e*PKIKP **PKPdf 19 21 54.9 +1.1**
CIT *e* 19 22 12.5
CIT *e* 19 22 21.1
TRTT Trang 157.17 157 PKP **PKPdf 19 21 56.1 +0.9**
TLY Talaya 157.22 8 *e*PKPdf **PKPdf 19 21 54.8 +0.6**
TLY Talaya 157.22 8*d* *i*PKIKP **PKPdf 19 21 54.3 +0.1**
TLY *e* 19 22 12.9
TLY *e* 19 26 05.9
TLY *e*SS SS 19 45 50.2 -2.7
TLY pmax pmax
comp=Z,73nm,1.4s
MDJ Mudanjiang 157.32 318 PKP **PKPdf 19 21 54.8 +0.3**
MDJ pPKP pPKPdf 19 22 12.5 -0.1
MDJ sPKP 19 22 19.0
MDJ PP **PP 19 26 05.5 +0.5**
MDJ SS SS 19 45 59.0 +3.5
MDJ AMB AMB
comp=Z,1µm,8.7s
MDJ LR LR
comp=Z,1µm,19.9s
MDJ LR LR
comp=Z,2µm,22.3s
MDJ LR LR
comp=Z,1µm,31.0s
MDJ Mudanjiang 157.32 318 *e*PKPdf **PKPdf 19 21 54.5 0.0**
KRAB Krabi 157.35 155 PKP **PKPdf 19 21 56.7 +1.2**
PYUN Piuthan 157.50 86 *e*P **PKPdf 19 21 54.2 -1.3**
comp=Z,64nm,1.2s
BWNR Bhubaneshwar 157.51 108 *e*P **PKPdf 19 21 51.8 -3.6**
BWNR IAMs_20 IAMs_20 20 20 08.7
comp=Z,6µm,26.2s
WMQ Urumqi 157.81 43 PKP **PKPdf 19 21 56.0 +0.8**
WMQ pPKP pPKPdf 19 22 13.8 +0.5
WMQ PKPab **PKPab 19 22 30.0 +1.8**
WMQ PKS **PKSdf 19 25 28.5 -0.4**
WMQ PP **PP 19 26 15.4 +7.6**
WMQ SKKS 19 32 48.9
WMQ SS **SS 19 46 00.9 -0.1**
WMQ AMB AMB
comp=Z,2µm,11.5s
WMQ LR LR
comp=Z,4µm,19.1s
WMQ LR LR
comp=Z,4µm,19.1s
WMQ LR LR
comp=Z,5µm,36.3s
BATP Bataraza 157.96 205 *e*P **PKPdf 19 21 55.5 -0.7**
BATP *e*S **PKPab 19 22 26.1 -3.3**
KOLN Koldanda 157.97 88 *e*P **PKPdf 19 21 55.7 -0.4**
comp=Z,88nm,1.5s
DANN Dangsing 158.20 86 *e*P **PKPdf 19 21 56.3 -0.2**
comp=Z,128nm,1.2s
HIA Hailar 158.21 340 *e*PKPdf **PKPdf 19 21 55.1 -0.4**
HIA Hailar 158.21 340 *e*PKIKP **PKPdf 19 21 55.1 -0.4**
ZAK Zakamensk 158.44 9 *e*PKIKP **PKPdf 19 21 56.9 +1.1**
ZAK pmax pmax
comp=Z,28nm,1.4s
BOK Bokaro 158.97 99 *e*P **PKPdf 19 21 57.3 +0.1**
DMN Daman 159.26 89 *e*P **PKPdf 19 21 57.9 +0.2**
comp=Z,84nm,1.5s
KKN Kakani 159.45 88 *e*P **PKPdf 19 21 58.1 +0.2**
comp=Z,66nm,1.3s
ENPP El Nido 159.47 212 *e*P **PKPdf 19 21 57.8 -0.2**
PKIN Phulchoki 159.51 89 *e*P **PKPdf 19 21 57.8 -0.2**
comp=Z,68nm,1.4s
PKI Pulchoki 159.52 89 *e*P **PKPdf 19 21 58.1 0.0**
comp=Z,78nm,1.5s
GUN Gumba 159.99 88 *e*P **PKPdf 19 21 59.1 +0.4**
comp=Z,150nm,1.6s
CN2 Changchun 160.15 322 PKP PKPdf 19 21 46.3 -12
CN2 *e*pPKP pPKPdf 19 21 57.1 -19
CN2 *e*PP PP 19 26 11.8 -8.5
JIRN Jiri 160.22 89 *e*P **PKPdf 19 21 58.9 -0.1**
comp=Z,107nm,1.4s
RAMN Ramite 160.45 91 *e*P **PKPdf 19 21 59.0 -0.1**
comp=Z,249nm,1.7s
JNU Nakatsue 160.55 287 PKPab **PKPab 19 22 40.0 -0.5**
comp=Z,83nm,0.9s,baz=48,slow=5.6,SNR=19
SONM Songino Array 161.29 5 PKP **PKPdf 19 21 59.1 -0.1**
comp=Z,14nm,1.0s,baz=356,slow=0.9,SNR=61
SONM pPKP **pPKPdf 19 22 17.9 +0.6**
comp=Z,15nm,1.0s,baz=38,slow=0.3,SNR=8.8
SONM PKPab **PKPab 19 22 41.8 -1.4**
comp=Z,10nm,1.1s,baz=250,slow=0.7,SNR=4.4
SONM PP **PP 19 26 27.4 +1.5**
comp=Z,13nm,1.3s,baz=326,slow=2.0,SNR=5.0
ULN Ulaanbaatar 161.30 3 *e*PKPdf **PKPdf 19 21 59.6 +0.3**
ULN Ulaanbaatar 161.30 3 PKPdf **PKPdf 19 21 59.9 +0.7**
SNR=8.3
ULN Ulaanbaatar 161.30 3 P **PKPdf 19 21 59.9 +0.7**
SNR=8.3
ULN Ulaanbaatar 161.30 3*d* *i*PKIKP **PKPdf 19 21 59.0 -0.2**
KSRS Korea Array 161.90 302 PKP **PKPdf 19 21 59.9 0.0**
comp=Z,20nm,1.0s,baz=124,slow=0.5,SNR=31
KSRS PKPab **PKPab 19 22 47.4 +1.3**
comp=Z,38nm,1.1s,baz=76,slow=4.3,SNR=15
KSAR Wonju Array Be 161.93 302 PKP **PKPdf 19 21 59.9 -0.1**
KSAR PKPab **PKPab 19 22 47.4 +1.1**
KSAR Wonju Array Be 161.93 302 PKIKP **PKPdf 19 21 59.9 -0.1**
KSAR 19 22 47.4
GTK Tadong 162.27 91 *e*P **PKPdf 19 22 00.7 -0.1**
PATY Pattaya 162.29 154 PKP **PKPdf 19 22 02.3 +1.3**
SNY Shenyang 162.49 320⇑ PKP **PKPdf 19 21 53.3 -7.1**
SNY PP PP 19 25 26.5 -66
TJN Taejon 162.69 299*de*PKIKP **PKPdf 19 22 00.0 -0.8**
SRDT SRDT 162.82 147 PKP **PKPdf 19 22 02.2 +0.7**
TMDB BangkokBB_BH_I 162.87 153 PKP pPKPdf 19 22 22.3 +2.7
SMPP San Manuel, Pa 162.93 223 *e*P **PKPdf 19 21 60.0 -1.6**
BRDH Bariadhala 163.43 109 PKPab **PKPab 19 22 54.7 +1.5**
comp=Z,73nm,0.3s,baz=83,slow=9.4,SNR=3.8
SRAK Srakaew 163.72 157 PKP **PKPdf 19 22 04.0 +1.6**
UTHA Uthaitani 164.02 146 PKP **PKPdf 19 22 03.5 +0.9**
UMPA Umpang Tak 164.27 143 PKP **PKPdf 19 22 04.3 +1.4**
SAIH SAIHA 164.44 112 *e*P **PKPdf 19 22 01.8 -1.2**
SHL Shillong 164.71 100 *e*P **PKPdf 19 22 01.1 -2.2**
SHL *e*P **PKPdf 19 22 02.5 -0.7**
SHL *ex* x 19 33 27.0
LSA Lhasa 164.77 84 PKP **PKPdf 19 22 04.8 +1.3**
LSA LR LR
comp=Z,6µm,32.3s
LSA Lhasa 164.77 84 *e*PKPdf **PKPdf 19 22 04.0 +0.4**
LSA Lhasa 164.77 84 *e*PKIKP **PKPdf 19 22 04.0 +0.4**

TAWA Tawang 165.17 92 *e*P **PKPdf 19 22 02.0 -1.8**
CHAI Chaiyaphum 165.44 154 PKP **PKPdf 19 22 04.5 +0.7**
DL2 Dalian 165.50 315⇓ *i*PKP **PKPdf 19 22 03.0 -0.2**
DL2 pPKP **pPKPdf 19 22 20.8 -0.5**
DL2 PKPab **PKPab 19 23 01.5 -0.4**
DL2 PP **PP 19 26 48.3 -0.5**
DL2 SS SS 19 47 25.3 +4.2
DL2 AMB AMB
comp=Z,1µm,5.3s
DL2 LR LR
comp=Z,810nm,20.4s
DL2 LR LR
comp=Z,2µm,20.1s
DL2 LR LR
comp=Z,3µm,26.0s
PBKT Sadao Pong 165.62 149 PKP **PKPdf 19 22 04.5 +0.6**
SUKH Sukhothai 165.74 143 PKP **PKPdf 19 22 06.3 +2.3**
TEZP TEZPUR 165.78 97 *e*P **PKPdf 19 22 01.1 -2.8**
CM31 Chiang Mai Arr 166.15 138 PKPdf **PKPdf 19 22 05.7 +1.3**
SNR=11
CM31 Chiang Mai Arr 166.15 138 P **PKPdf 19 22 05.7 +1.3**
SNR=11
CMAR Chiang Mai Arr 166.15 138 PKP **PKPdf 19 22 04.3 0.0**
comp=Z,10.0nm,1.0s,baz=259,slow=2.3,SNR=61
CMAR PKPab **PKPab 19 23 05.8 +0.6**
comp=Z,3.9nm,0.9s,baz=213,slow=2.7,SNR=5.4
CMAR SKKPbc 19 31 42.0
comp=Z,8.4nm,1.1s,baz=335,slow=3.1,SNR=6.6
CHTO Chiang Mai 166.42 137 *e*PKPdf **PKPdf 19 22 04.5 -0.1**
CHTO Chiang Mai 166.42 137 PKPdf **PKPdf 19 22 05.0 +0.4**
SNR=9.7
CHTO Chiang Mai 166.42 137 P **PKPdf 19 22 05.0 +0.4**
SNR=9.7
CHTO Chiang Mai 166.42 137 *e*PKIKP **PKPdf 19 22 04.5 -0.1**
CHTO Chiang Mai 166.42 137 PKP **PKPdf 19 22 05.0 +0.4**
CMMT Chiang Mai 166.43 137 PKP **PKPdf 19 22 04.9 +0.3**
UTTA Uttaradit 166.43 145 PKP **PKPdf 19 22 05.2 +0.6**
LAMP Lampang 166.59 140 PKP **PKPdf 19 22 06.1 +1.4**
KOHI KOHIMA 166.67 102 *e*P **PKPdf 19 22 04.1 -0.7**
ZIRO ZIRO 166.89 94 *e*P **PKPdf 19 22 03.3 -1.6**
SKNT Sakolnakorn 167.13 160 PKP **PKPdf 19 22 06.2 +1.0**
MOKO MOKOCHONG 167.19 99 *e*P **PKPdf 19 22 04.4 -0.7**
PAYA Payao 167.39 139 PKP **PKPdf 19 22 06.2 +0.9**
GTA Gaotai 167.47 33⇓ *i*PKP **PKPdf 19 22 05.3 +0.3**
GTA pPKP pPKPdf 19 22 24.6 +1.5
GTA sPKP 19 22 31.6
GTA PKPab **PKPab 19 23 15.8 +5.1**
GTA PKS **PKSdf 19 25 36.0 -1.7**
GTA PP **PP 19 26 57.9 -0.9**
GTA SKS **SKSdf 19 28 59.6 -4.1**
GTA SKKS **SKKSac 19 33 40.4 -0.8**
GTA AMB AMB
comp=Z,740nm,10.5s
GTA LR LR
comp=Z,1µm,21.9s
GTA LR LR
comp=Z,3µm,21.9s
GTA LR LR
comp=Z,3µm,23.8s
BJI Beijing 167.51 332 PKP **PKPdf 19 22 05.4 +0.7**
BJI LR LR
comp=Z,2µm,24.0s
BJT Baijiatuau 167.53 332 *e*PKPdf **PKPdf 19 22 05.3 +0.5**
BJT Baijiatuau 167.53 332 *e*PKIKP **PKPdf 19 22 05.3 +0.5**
HHC Hu-ho-hao-te 168.11 349 *e*PKP **PKPdf 19 22 04.6 -0.7**
HHC PP **PP 19 27 01.4 -0.1**
HHC SS SS 19 47 44.0 -2.0
HHC AMB AMB
comp=Z,540nm,9.3s
HHC LR LR
comp=Z,3µm,22.6s
HHC LR LR
comp=Z,2µm,22.8s
HHC LR LR
comp=Z,5µm,22.1s
BTO Baotou 168.54 355 *e*PKP **PKPdf 19 22 00.3 -5.3**
LKP Lekhapani 168.59 96 *e*P **PKPdf 19 22 05.5 -0.4**
SSE Sheshan 168.95 283 PKP **PKPdf 19 22 06.8 +0.8**
SSE pPKP **pPKPdf 19 22 24.6 +0.5**
QIZ Qiongzhong 169.83 187 PKP **PKPdf 19 22 07.5 +0.6**
QIZ sPKP 19 22 29.3
QIZ PP **PP 19 27 10.6 +0.6**
QIZ SS SS 19 48 05.9 +3.1
QIZ AMB AMB
comp=Z,760nm,11.0s
QIZ LR LR
comp=Z,790nm,23.5s
QIZ LR LR
comp=Z,1µm,26.0s
QIZ LR LR
comp=Z,2µm,27.5s
QIZ Qiongzhong 169.83 187 *e*PKPdf **PKPdf 19 22 08.0 +1.1**
TIA Tai'an 169.97 317 PKP **PKPdf 19 22 06.3 -0.2**
TIA AMB AMB
comp=Z,2µm,14.7s
TIA LR LR
comp=Z,1µm,25.5s
TIA LR LR
comp=Z,2µm,22.1s
TIA LR LR
comp=Z,3µm,33.3s
QZH Quanzhou 170.16 247 *i* PKP **PKPdf 19 22 07.8 +0.9**
QZH pPKP **pPKPdf 19 22 26.1 +1.1**
QZH PKPab **PKPab 19 23 24.6 +1.7**
QZH PP **PP 19 27 12.6 -0.7**
QZH SKKS 19 33 52.8
QZH SS **SS 19 48 12.8 +3.7**
QZH AMB AMB
comp=Z,1µm,7.6s
QZH LR LR
comp=Z,1µm,23.2s
QZH LR LR
comp=Z,880nm,21.3s
QZH LR LR
comp=Z,2µm,21.3s
NJ2 Nanjing 170.72 291 *e*PKP **PKPdf 19 22 07.8 +0.8**
NJ2 pPKP **pPKPdf 19 22 25.3 +0.2**
NJ2 PKPab **PKPab 19 23 25.8 +0.5**
NJ2 PP **PP 19 27 13.6 -2.6**
NJ2 SKKS 19 33 57.3
NJ2 SS **SS 19 48 16.9 +2.0**
NJ2 AMB AMB
comp=Z,900nm,4.6s
NJ2 LR LR
comp=Z,1µm,20.6s
NJ2 LR LR
comp=Z,2µm,21.7s
NJ2 LR LR
comp=Z,3µm,19.5s
TIY Taiyuan 170.91 340 *e*PKP **PKPdf 19 22 04.9 -2.2**
TIY PP **PP 19 27 21.1 +5.4**
TIY SKS **SKSdf 19 29 03.5 -1.8**
TIY SS **SS 19 48 14.4 +0.4**
TIY LR LR
comp=Z,2µm,17.4s
TIY LR LR
comp=Z,720nm,15.2s
TIY LR LR
comp=Z,750nm,23.7s
LZH Lanzhou 172.03 29⇑ PKP **PKPdf 19 22 09.5 +1.7**
LZH pPKP pPKPdf 19 22 22.3 -3.6
LZH sPKP 19 22 26.3
LZH PP **PP 19 27 23.6 +2.0**
LZH SKKS 19 34 04.8
LZH AMB AMB
comp=Z,1µm,4.3s
LZH LR LR
comp=Z,3µm,18.5s
LZH LR LR
comp=Z,4µm,18.4s
LZH LR LR
comp=Z,9µm,20.2s
GZH Guangzhou 172.59 216 PKP **PKPdf 19 22 09.5 +1.4**
GZH PKPab **PKPab 19 23 35.9 +2.4**
GZH PP **PP 19 27 26.3 +2.0**
GZH LR LR
comp=Z,1µm,21.3s
GZH LR LR
comp=Z,1µm,21.5s
KMI Kunming 173.39 126 PKP **PKPdf 19 22 08.5 -0.2**
KMI pPKP pPKPdf 19 22 27.3 +0.4
WHN Wuhan 174.84 287⇑ PKP **PKPdf 19 22 09.8 +1.0**
XAN Xi'an 175.15 357 PKP **PKPdf 19 22 08.8 0.0**
XAN pPKP pPKPdf 19 22 27.8 +0.8

XAN			PKPab	**PKPab**	**19 23 44.6**	**0.0**
XAN			SKS	**SKSdf**	**19 29 06.1**	**-0.6**
XAN			AMB	AMB		
	comp=Z,2μm,6.1s					
XAN			LR	LR		
	comp=Z,1μm,23.5s					
XAN			LR	LR		
	comp=Z,2μm,23.5s					
XAN			LR	LR		
	comp=Z,3μm,28.4s					
CD2	**Chengdu**	**175.45 67**	PKP	**PKPdf**	**19 22 09.3**	**+0.3**
CD2			pPKP	pPKPdf	19 22 26.8	-0.3
CD2			sPKP		19 22 33.4	
CD2			PP	**PP**	**19 27 38.8**	**-0.6**
CD2			SKS	**SKSdf**	**19 29 07.1**	**+0.2**
CD2			SKKS	**SKKSac**	**19 34 18.4**	**-1.9**
CD2			SS	**SS**	**19 48 59.5**	**-1.3**
CD2			AMB	AMB		
	comp=Z,3μm,7.0s					
CD2			LR	LR		
	comp=Z,3μm,23.4s					
CD2			LR	LR		
	comp=Z,3μm,29.3s					
CD2			LR	LR		
	comp=Z,3μm,26.3s					
GYA	**Guiyang**	**176.79 147**	PKP	**PKPdf**	**19 22 08.6**	**-0.9**
GYA			pPKP	pPKPdf	19 22 27.8	+0.1
GYA			PKPab	**PKPab**	**19 23 53.0**	**+0.7**
GYA			PKS	**PKSdf**	**19 25 39.3**	**-2.6**
GYA			PP	**PP**	**19 27 47.4**	**+2.8**
GYA			SKKS		19 34 25.3	
GYA			SS	**SS**	**19 49 08.9**	**-2.7**
GYA			AMB	AMB		
	comp=Z,420nm,8.4s					
GYA			LR	LR		
	comp=Z,820nm,21.8s					
GYA			LR	LR		
	comp=Z,760nm,22.0s					
GYA			LR	LR		
	comp=Z,690nm,22.5s					
ENH	**Enshi**	**178.67 325**	*e*PKPdf	**PKPdf**	**19 22 09.5**	**-0.1**

NIED ***14*** *19:05:00,25.20N×124.90E,h5km,Mw3.8 Best double couple: M0≈5.55000×10^14 NP1:φs≈291.00000°, δ≈44.00000°, λ≈-97.00000°. NP2:φs≈120.00000°, δ≈46.00000°, λ≈-83.00000°.*

JMA 14 19:05:38.4±0.2,25.20N×124.92E,h8km±4km,M3.9, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.41**	**133**	P	Pg	19 05 46.3	0.0
JIKM				S	Sg	19 05 51.6	0.0
JMJ	**Miyako jima 2**	**0.51**	**138**	P	Pg	19 05 48.4	+0.1
JMJ				S	Sg	19 05 55.3	+0.3
JTJ	**Tarama**	**0.59**	**200**	P	Pg	19 05 50.0	+0.2
JTJ				*e*S	Sg	19 05 57.7	+0.2
JOGS	**Gusukube**	**0.62**	**135**	P	Pg	19 05 50.6	+0.2
JOGS				S	Sg	19 05 59.0	+0.5
JISG	**Ishigakijimahi**	**0.82**	**222**	P	Pg	19 05 54.0	-0.3
JISG				S	Sg	19 06 05.3	+0.3
JIJ	**Ishigaki jima**	**1.09**	**220**	P	Pg	19 05 58.5	-0.9
JIJ				S	Sg	19 06 13.0	-0.6
JKRS	**Kuro-shima**	**1.27**	**221**	P	Pn	19 06 01.7	-0.7
JKRS				S	Sg	19 06 19.1	-0.1
IRIF	**Iriomote-Funau**	**1.38**	**232**	P	Pn	19 06 02.9	-1.1
IRIF				S	Sb	19 06 21.9	-0.4

NNC 14 19:06:52.8±4.3,38.29N×72.01E,h0km,mb3.5,mpv3.1, 3C-4D,Error ellipse: s-maj=34.5km s-min=25.4km az=160.0,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.08**	**33**	⇓P	Pn	19 07 29.1	0.0
SFK	1.6nm,0.2s			⇓S	Sb	19 07 58.3	+0.3
MNAS	5.8nm,0.3s **Manas**	**4.21**	**5**	⇑P	Pn	19 07 58.6	+0.3
MNAS	1.4nm,0.4s			⇓S	Sn	19 08 49.2	+0.9
AAK	1.8nm,0.5s **Ala-Archa**	**4.74**	**23**	⇓P	Pn	19 08 04.0	-1.6
AAK	1.2nm,0.5s			⇑S	Sn	19 09 01.1	-0.3
KK31	2.3nm,0.8s **Karatay Array**	**4.94**	**347**	P	Pn	19 08 09.1	+0.8
KK31	2.7nm,0.3s,baz=166,slow=14,SNR=129			⇑S	Sn	19 09 06.9	+0.7
	0.8nm,0.3s,baz=161,slow=22,SNR=11						

MAN 14 19:14:41.4,12.70N×125.38E,h16km,mb4.7,ML3.6, MS3.5,1D,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.72**	**255**	*e*P	Pg	19 14 55.4	-0.1
CNP				*e*S	Sg	19 15 04.4	-0.7
BESP	**Borongan**	**1.10**	**177**	*e*P	Pb	19 15 00.7	-1.2
BESP				*e*S	Sb	19 15 15.4	-0.6
PVCP	**Virac**	**1.48**	**307**	*e*P	Pn	19 15 06.5	-0.9
PVCP				*e*S	Sb	19 15 27.2	0.0
PLP	**Palo**	**1.58**	**194**	⇓*e*P	Pn	19 15 08.1	-0.6
PLP				*e*S	Sn	19 15 29.4	+0.5
MSLP	**Maasin**	**2.60**	**191**	*e*P	Pb	19 15 25.4	-2.3
MSLP				*e*S	Sb	19 15 57.6	-1.8
GUIM	**Jordan**	**3.42**	**233**	*e*P	Pn	19 15 33.0	-1.1

ISCJB ***14*** *19:15:22.9±0.9, 16.69N±0.04×97.99W±0.03,h3km±7km, mb4.7/76,Error ellipse: s-maj=6.7km s-min=5.0km az=20.4*
NEIC ***14*** *19:15:24.3±1.3, 16.70N×98.05W,h2km±10km,mb4.7/86, Error ellipse: s-maj=5.7km s-min=4.3km az=199.0*
MEX ***14*** *19:15:24.0±0.5, 16.37N×98.41W,h8km±2km,MD4.0*
IDC ***14*** *19:15:32.4±4.4, 16.67N×97.66W,h33km±33km,mb4.3/12, mb1 4.5/17,mb1mx4.1/58,mbtmp4.4/17,ML3.7/5,MS5.0/4, Ms1 5.0/4,ms1mx4.1/39,Error ellipse: s-maj=35.5km s-min=14.8km az=44.0*

ISC 14 19:15:24.6±1.0, 16.64N±0.03×98.18W±0.04,h11km±7km, n144,σ1s72/139,mb4.8/76,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.25**	**169**	*e*Sg	**Sg**	**19 15 33.1**	**-0.1**
PNIG	**Pinotepa**	**0.25**	**169**	*e*P	**Pg**	**19 15 28.9**	**-0.8**
PNIG				*e*S	**Sg**	**19 15 33.1**	**-0.1**
TLIG	**Tlapa**	**0.99**	**338**	*e*Pn	**Pg**	**19 15 43.1**	**-0.6**
TLIG	**Tlapa**	**0.99**	**338**	*i* P	**Pg**	**19 15 43.3**	**-0.4**
TLIG				*e*S	**Sb**	**19 15 58.0**	**+1.0**
VHO	**Vista Hermosa**	**1.45**	**73**	*e*Pn	**Pg**	**19 15 52.0**	**-0.5**
VHO	**Vista Hermosa**	**1.45**	**73**	*e*P	**Pg**	**19 15 52.0**	**-0.5**
VHO				*i* S	**Sg**	**19 16 13.1**	**+1.8**
TPIG	**Tehuac#an**	**1.94**	**24**	*e*Pn	**Pb**	**19 15 59.6**	**-0.4**
TPIG				*e*Sn	**Sb**	**19 16 23.5**	**-0.8**
TPIG	**Tehuac#an**	**1.94**	**24**	*e*P	**Pb**	**19 15 59.6**	**-0.4**
TPIG				*i* S	**Sg**	**19 16 25.7**	**-1.1**
CAIG	**El Cayaco**	**2.04**	**282**	*e*Pn	Pn	19 15 52.8	-6.1
CAIG	**El Cayaco**	**2.04**	**282**	*e*P	Pn	19 15 52.8	-6.1
CAIG				*i* S	**Sn**	**19 16 16.8**	**-7.6**
UNM	**Universidad Na**	**2.84**	**341**	*e*Pn	**Pn**	**19 16 12.3**	**+2.2**
CMIG	**Matias Romero**	**3.19**	**81**	Pn	**Pn**	**19 16 14.6**	**-0.1**
CMIG	8.6nm,0.3s,baz=259,slow=14,SNR=46			Pg	**Pg**	**19 16 23.1**	**-2.6**
	64nm,0.3s,baz=265,slow=15,SNR=86						
LVIG	**Laguna Verde**	**3.50**	**28**	*e*Pn	**Pn**	**19 16 18.4**	**-0.5**
MOIG	**Morelia**	**4.16**	**317**	*e*Pn	**Pn**	**19 16 30.7**	**+2.4**
JRQG	**Juriquilla Cam**	**4.58**	**332**	*e*Pn	**Pn**	**19 16 35.5**	**+1.4**
CCIG	**Comitan**	**5.81**	**93**	*e*Pn	**Pn**	**19 16 50.1**	**-0.9**
ZAIG	**Zacatecas**	**7.37**	**327**	*e*Pn	**Pn**	**19 17 14.9**	**+2.5**
APG	**El Apazote**	**7.60**	**101**	Pn	**Pn**	**19 17 15.6**	**0.0**
	0.7nm,0.3s,baz=317,slow=16,SNR=6.4						
LNIG	**Linares**	**8.30**	**352**	*e*Pn	**Pn**	**19 17 29.6**	**+4.6**
TEIG	**Tepich**	**10.05**	**68**	*e*Pn	**Pn**	**19 17 47.2**	**-1.8**
833A	**Chaparral WMA,**	**11.68**	**355**	*e*Pn	**Pn**	**19 18 11.3**	**0.0**
LTX	**Lajitas**	**13.60**	**339**	*e*Pn	**P**	**19 18 46.0**	**-0.7**
TXAR	**Lajitas Array**	**13.60**	**339**	Pn	**P**	**19 18 46.0**	**-0.7**
	0.1nm,0.3s,baz=166,slow=16,SNR=5.1						
JCT	**Junction City**	**13.86**	**354**	*e*P	**P**	**19 18 48.8**	**-0.7**
435B	**Jarrell**	**14.09**	**2**	*e*Pn	**Pn**	**19 18 44.7**	**+0.4**
JTS	**JuntasAbangare**	**14.32**	**114**	Pn	**Pn**	**19 18 48.3**	**+0.8**
	0.6nm,0.3s,baz=338,slow=19,SNR=3.1						
JTS				LR	LR	19 23 41.0	
	comp=Z,2μm,21.4s,baz=238,slow=35						
JTS	**JuntasAbangare**	**14.32**	**114**	*e*Pn	**Pn**	**19 18 48.1**	**+0.6**
WHTX	**Lake Whitney,**	**15.30**	**2**	*e*Pn	**Pn**	**19 18 59.6**	**-1.0**
	62nm,1.0s						
NATX	**Nacogdoches**	**15.39**	**11**	*e*Pn	**Pn**	**19 19 01.4**	**-0.4**
	56nm,0.9s						
ABTX	**Abilene, Hawle**	**15.97**	**356**	*e*Pn	**Pn**	**19 19 10.7**	**+1.3**
	64nm,0.9s						
MNTX	**Cornudas Mount**	**16.36**	**338**	*e*Pn	**Pn**	**19 19 15.2**	**+0.8**
	19nm,1.2s						
GDL2	**Guadalupe Moun**	**16.48**	**341**	*e*Pn	**P**	**19 19 20.0**	**+1.4**
Z41A	**Richland Creek**	**17.24**	**15**	*e*Pn	**Pn**	**19 19 26.0**	**+0.5**
	125nm,1.3s						
MSTX	**Muleshoe**	**17.75**	**347**	*e*Pn	**Pn**	**19 19 31.7**	**-0.1**
	32nm,1.0s						
319A	**Douglas**	**17.82**	**327**	*e*Pn	**P**	**19 19 33.5**	**0.0**
	28nm,0.9s						
X37A	**Clayton**	**18.05**	**7**	*e*Pn	**P**	**19 19 36.2**	**+0.3**
	58nm,1.1s						
MIAR	**Mount Ida**	**18.30**	**12**	*e*P	**Pn**	**19 19 34.5**	**-4.0**
	33nm,0.9s						
AMTX	**Amarillo**	**18.44**	**351**	*e*P	**P**	**19 19 39.8**	**-0.5**
	58nm,1.0s						
UALR	**University of**	**18.80**	**15**	*e*P	**Pn**	**19 19 44.8**	**+0.1**
	58nm,1.5s						
W39A	**Magazine**	**18.89**	**11**	*e*P	**P**	**19 19 43.5**	**-1.7**
	30nm,0.9s						
BNM	**Barren Site**	**19.02**	**338**	*e*P	**P**	**19 19 44.7**	**-2.1**
LENM	**Lemitar**	**19.16**	**337**	*e*P	**Pn**	**19 19 52.0**	**+2.8**
LPM	**Los Pinos Moun**	**19.16**	**338**	*e*P	**Pn**	**19 19 50.3**	**+1.1**
LRAL	**Lakeview Retre**	**19.20**	**30**	*e*P	**P**	**19 19 48.2**	**-0.3**
	13nm,0.8s						
W41B	**Gary Mavity, V**	**19.20**	**15**	*e*P	**P**	**19 19 46.6**	**-2.0**
	18nm,0.9s						
TUL1	**Leonard**	**19.31**	**6**	*e*P	**P**	**19 19 49.2**	**-0.6**
	45nm,0.9s						
TUC	**Tucson**	**19.34**	**326**	*e*P	**Pn**	**19 19 54.0**	**+2.8**
U32A	**Winter Ranch,**	**19.68**	**358**	*e*P	**P**	**19 19 54.1**	**+0.3**
	68nm,0.9s						
ANMO	**Albuquerque**	**19.68**	**339**	P	**Pn**	**19 19 59.3**	**+3.9**
	0.5nm,0.3s,baz=147,slow=10,SNR=11						
ANMO	**Albuquerque**	**19.68**	**339**	*e*P	**P**	**19 19 52.6**	**-1.4**
	34nm,1.5s						
Z50A	**Ashland**	**19.90**	**32**	*e*P	**P**	**19 19 56.5**	**+0.3**
	21nm,0.8s						
Y49A	**Blount Mountai**	**20.15**	**30**	*e*P	**P**	**19 19 58.8**	**-0.2**
	23nm,0.8s						
X48A	**Hartselle**	**20.36**	**27**	*e*P	**P**	**19 20 00.1**	**-1.0**
	22nm,0.8s						
PLAL	**Pickwick Lake**	**20.38**	**24**	*e*P	**P**	**19 20 00.4**	**-1.0**
	27nm,0.9s						
X18A	**Snowflake**	**20.71**	**332**	*e*P	Pn	19 20 07.7	+0.2
	24nm,1.0s						
W18A	**Petrified Fore**	**21.10**	**333**	*e*P	**P**	**19 20 11.3**	**+1.9**
	21nm,1.0s						
T25A	**Trinidad**	**21.15**	**346**	*e*P	**P**	**19 20 14.1**	**+4.1**
	35nm,0.9s						
PBMO	**Poplar Bluff**	**21.20**	**17**	*e*P	**P**	**19 20 10.1**	**-0.2**
	21nm,0.8s						
T42A	**Van Buren**	**21.26**	**16**	*e*P	**P**	**19 20 09.7**	**-1.1**
	27nm,1.0s						
GOGA	**Godfrey**	**21.33**	**36**	*e*P	**P**	**19 20 11.2**	**-0.4**
	16nm,0.8s						
X16A	**Lo Mia Camp, P**	**21.33**	**329**	*e*P	**P**	**19 20 12.8**	**+0.9**
	35nm,0.9s						
Y52A	**Lilburn**	**21.34**	**34**	*e*P	**P**	**19 20 11.0**	**-0.8**
	40nm,0.8s						
113A	**Mohawk Valley,**	**21.37**	**322**	*e*P	**P**	**19 20 13.5**	**+1.4**
	14nm,0.8s						
WVT	**Waverly**	**21.48**	**23**	*e*P	**P**	**19 20 13.9**	**+0.6**
	29nm,0.8s						
SWET	**Sewanee**	**21.50**	**28**	*e*P	**P**	**19 20 12.9**	**-0.6**
	35nm,1.0s						
V48A	**Smith Brothers**	**21.55**	**26**	*e*P	**P**	**19 20 12.8**	**-1.2**
	35nm,1.2s						
W50A	**Signal Mountai**	**21.77**	**29**	*e*P	**P**	**19 20 15.8**	**-0.6**
	50nm,0.9s						
SDCO	**Great Sand Dun**	**21.99**	**344**	*e*P	**P**	**19 20 19.7**	**+0.6**
CBKS	**Cedar Bluff**	**22.13**	**357**	*e*P	**P**	**19 20 21.2**	**+0.9**
	26nm,0.8s						
WUAZ	**Wupatki**	**22.18**	**330**	*e*P	**P**	**19 20 22.4**	**+1.4**
	40nm,1.1s						
CCM	**Cathedral Cave**	**22.19**	**15**	*e*P	**P**	**19 20 22.1**	**+1.2**
	38nm,1.0s						
CPCT	**Cooper Cave**	**22.35**	**30**	*e*P	**P**	**19 20 22.1**	**-0.5**
	38nm,1.0s						
W52A	**Murphy**	**22.36**	**32**	*e*P	**P**	**19 20 22.9**	**+0.1**
	63nm,1.0s						
MVCO	**Mesa Verde**	**22.43**	**338**	*e*P	**P**	**19 20 22.3**	**-1.5**
T47A	**Sharon Grove**	**22.52**	**24**	*e*P	**P**	**19 20 25.1**	**+0.8**
	30nm,0.9s						
V51A	**Loudon**	**22.71**	**30**	*e*P	**P**	**19 20 27.4**	**+0.9**
	36nm,1.2s						
TKL	**Tuckaleechee C**	**22.88**	**31**	P	**P**	**19 20 29.2**	**+0.9**
	5.8nm,0.7s,baz=191,slow=9.1,SNR=3.6						
W13A	**Hualapai Mount**	**23.13**	**326**	*e*P	**P**	**19 20 32.5**	**+1.4**
	18nm,1.2s						
JSC	**Jenkinsville**	**23.22**	**38**	*e*P	**P**	**19 20 31.7**	**-0.1**
	39nm,1.3s						
V53A	**Salda**	**23.38**	**33**	*e*P	**P**	**19 20 32.2**	**-1.3**
	37nm,1.4s						
SMCO	**Snowmass**	**23.73**	**343**	*e*P	**P**	**19 20 39.2**	**+1.9**
	71nm,1.7s						
LDFC	**Landfair**	**23.79**	**324**	*e*P	**P**	**19 20 38.3**	**+0.7**
	15nm,0.8s						
WCI	**Wyandotte Cave**	**23.91**	**24**	*e*P	**P**	**19 20 38.4**	**-0.2**
	38nm,0.8s						
ISCO	**Idaho Springs**	**23.97**	**346**	*e*P	**P**	**19 20 40.1**	**+0.6**
	27nm,0.9s						
PKCU	**Pink Cliffs**	**24.19**	**332**	*e*P	**P**	**19 20 41.4**	**-0.2**
	27nm,0.9s						
LCMT	**Little Creek M**	**24.28**	**330**	*e*P	**P**	**19 20 42.1**	**-0.1**
	29nm,1.8s						
S51A	**Beattyville**	**24.56**	**29**	*e*P	**P**	**19 20 43.5**	**-1.0**
	36nm,0.9s						
MTPU	**Mount Pierson**	**24.62**	**333**	*e*P	**P**	**19 20 47.1**	**+1.5**
	48nm,0.8s						
SRU	**San Rafael Swe**	**24.86**	**337**	*e*P	**P**	**19 20 50.3**	**+2.9**
	33nm,1.4s						
SHPR	**Sheep Range**	**24.87**	**326**	*e*P	**P**	**19 20 48.7**	**+1.2**
	16nm,1.2s						
GSC	**Goldstone, Bar**	**24.94**	**322**	*e*P	**P**	**19 20 49.1**	**+1.0**
	21nm,1.4s						
P18A	**Preston Nutter**	**25.20**	**338**	*e*P	**P**	**19 20 51.8**	**+1.1**
	20nm,0.9s						
TMUT	**Trail Mountain**	**25.28**	**336**	*e*P	**P**	**19 20 53.7**	**+2.3**
	13nm,0.6s						
SCIA	**State Center**	**25.54**	**9**	*e*P	**P**	**19 20 53.4**	**+0.1**
	60nm,0.8s						
SDDR	**Presa de Saban**	**25.70**	**81**	*e*P	**P**	**19 20 55.9**	**+0.8**
	27nm,1.0s						
TPNV	**Topopah Spring**	**25.79**	**325**	*e*P	**P**	**19 20 57.5**	**+1.7**
Q51A	**Peebles**	**25.80**	**27**	*e*P	**P**	**19 20 55.6**	**-0.2**
	78nm,1.0s						
MPU	**Maple Canyon**	**26.07**	**336**	*e*P	**P**	**19 20 59.5**	**+1.1**
	7.7nm,0.8s						
DAC	**Darwin (Calif)**	**26.07**	**322**	*e*P	**P**	**19 20 59.9**	**+1.4**
	7.4nm,1.0s						
ISA	**Isabella, Lake**	**26.19**	**320**	*e*P	**P**	**19 21 03.8**	**+4.3**
	9.8nm,1.0s						
NLU	**North Lily Min**	**26.19**	**335**	*e*P	**P**	**19 20 60.0**	**+0.5**
	16nm,1.0s						
P51A	**Williamsport**	**26.30**	**27**	*e*P	**P**	**19 20 59.7**	**-0.6**
	67nm,1.0s						
L42A	**Oliver, Polo**	**26.32**	**14**	*e*P	**P**	**19 20 59.6**	**-0.7**
	51nm,0.9s						
O49A	**Congton**	**26.37**	**24**	*e*P	**P**	**19 21 00.4**	**-0.5**
	41nm,0.8s						
DUG	**Dugway, Tooele**	**26.69**	**334**	*e*P	**P**	**19 21 09.5**	**+5.5**
TCUT	**Toone Canyon**	**26.94**	**338**	*e*P	**P**	**19 21 07.9**	**+1.6**
	18nm,0.6s						
ACSO	**Alum Creek Sta**	**26.96**	**26**	*e*P	**P**	**19 21 05.2**	**-1.0**
	41nm,0.9s						
ECSD	**EROS Data Cent**	**27.04**	**2**	*e*P	**P**	**19 21 07.7**	**+0.8**
JFWS	**Jewell Farm**	**27.05**	**13**	*e*P	**P**	**19 21 07.0**	**-0.1**
	49nm,1.4s						
O52A	**Adamsville**	**27.36**	**28**	*e*P	**P**	**19 21 10.2**	**+0.3**
	26nm,0.9s						
SPUT	**South Promonto**	**27.49**	**336**	*e*P	**P**	**19 21 11.7**	**+0.5**
	10nm,1.1s						
I39A	**Houston**	**27.71**	**10**	*e*P	**P**	**19 21 13.9**	**+1.0**
	41nm,1.3s						
PDAR	**Pinedale Array**	**27.80**	**342**	P	**P**	**19 21 19.4**	**+5.4**
	4.8nm,0.8s,baz=133,slow=8.3,SNR=8.0						
MDPB	**Devils Postpil**	**27.86**	**323**	*e*P	**P**	**19 21 17.1**	**+2.4**
	6.9nm,1.0s						
NV11	**Mina Array Sit**	**27.90**	**325**	*e*P	**P**	**19 21 15.4**	**+0.5**
	1.5nm,1.4s						
SDV	**Santo Domingo**	**27.92**	**103**	P	**P**	**19 21 15.2**	**-0.1**
	14nm,0.9s,baz=306,slow=4.0,SNR=9.7						
NV01	**Mina Array Sit**	**27.98**	**325**	*e*P	**P**	**19 21 17.4**	**+1.7**
NVAR	**Mina Array Bea**	**27.98**	**325**	P	P	19 21 22.9	+7.3
	5.8nm,0.8s,baz=149,slow=10,SNR=14						
HVU	**Hansel Valley**	**28.02**	**336**	*e*P	**P**	**19 21 16.2**	**+0.2**
	11nm,1.0s						
SPMN	**Marine on St.**	**28.85**	**8**	*e*P	**P**	**19 21 25.4**	**+2.3**
	25nm,0.8s						
RLMT	**Red Lodge**	**29.89**	**344**	*e*P	**P**	**19 21 34.0**	**+1.4**
	25nm,1.1s						
SJG	**San Juan**	**30.58**	**82**	P	**P**	**19 21 37.5**	**-1.2**
	7.6nm,0.3s,baz=246,slow=5.6,SNR=3.5						
WVOR	**Wild Horse Val**	**31.10**	**330**	P	**P**	**19 21 43.8**	**+0.6**
D41A	**Chassel**	**31.36**	**13**	*e*P	**P**	**19 21 44.7**	**-0.6**
	44nm,1.0s						
AGMN	**Agassiz Nation**	**31.63**	**3**	*e*P	**P**	**19 21 47.2**	**-0.4**
	14nm,0.8s						
J08A	**Circle Bar Ran**	**31.73**	**331**	*e*P	**P**	**19 21 48.8**	**0.0**
	18nm,0.8s						
HRY	**Holter Researc**	**32.06**	**342**	*e*P	**P**	**19 21 53.1**	**+1.5**
SADO	**Sadowa**	**32.30**	**26**	P	**P**	**19 21 54.6**	**+1.0**
	6.4nm,1.0s,baz=269,slow=10,SNR=1.9						
YBH	**Yreka Blue Mor**	**32.70**	**325**	P	P	19 22 02.5	+5.2
	2.1nm,0.8s,baz=86,slow=12,SNR=5.0						
F10A	**Beach Ranch, E**	**33.29**	**336**	*e*P	**P**	**19 22 04.7**	**+2.4**
	19nm,1.4s						
KEBM	**Edson Butte**	**34.36**	**325**	*e*P	**P**	**19 22 12.9**	**+1.3**
	45nm,1.1s						
H04A	**Detroit Lake**	**34.50**	**329**	*e*P	**P**	**19 22 14.2**	**+1.4**
	24nm,1.0s						
LON	**Longmire**	**35.85**	**332**	*e*P	**P**	**19 22 25.4**	**+1.0**
	8.8nm,0.8s						
FFC	**Flin Flon**	**38.12**	**356**	*e*P	**P**	**19 22 42.8**	**-0.8**
	16nm,0.8s						
YKA	**Yellowknife Ar**	**47.24**	**350**	P	P	19 24 02.8	+5.4
	7.2nm,0.8s,baz=157,slow=7.4,SNR=9.3						
DLBC	**Dease Lake**	**47.91**	**338**	P	P	19 24 09.7	+6.8
	6.8nm,0.9s,baz=187,slow=1.2,SNR=7.1						
DLBC	**Dease Lake**	**47.91**	**338**	P	**P**	**19 24 03.0**	**+0.2**
	25nm,1.5s						
FRB	**Frobisher Bay**	**51.28**	**16**	LR	LR	19 48 57.1	
	comp=Z,793nm,18.2s,baz=190,slow=39						
INK	**Inuvik**	**56.30**	**345**	P	P	19 25 11.9	+7.0
	5.4nm,0.8s,baz=109,slow=9.6,SNR=5.9						
ILAR	**Eielson Array**	**58.11**	**338**	P	P	19 25 23.6	+5.7
	2.9nm,0.9s,baz=135,slow=4.7,SNR=6.3						
ILB	**Eielson Array**	**58.11**	**338**	*e*P	**P**	**19 25 14.3**	**-3.6**
PLCA	**Paso Flores**	**62.58**	**157**	P	**P**	**19 25 51.7**	**+2.9**
	2.6nm,0.8s,baz=324,slow=8.9,SNR=3.0						
NOA	**NORSAR Array B**	**84.62**	**27**	LR	LR	20 04 43.9	
	comp=Z,789nm,21.9s,baz=240,slow=35						
FINES	**FINESS Array B**	**90.56**	**23**	LR	LR	20 12 13.1	
	comp=Z,3μm,20.4s,baz=242,slow=38						

MAN 14 19:17:30.4,12.63N×125.37E,h21km,mb4.6,ML3.5, MS3.3,1D,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.70**	**260**	*e*P	Pb	19 17 43.8	-0.1
CNP				*e*S	Sb	19 17 53.0	-0.2
BESP	**Borongan**	**1.02**	**176**	*e*P	Pb	19 17 48.5	-0.9
BESP				*e*S	Sn	19 18 03.3	+0.1
PLP	**Palo**	**1.51**	**195**	⇓*e*P	Pn	19 17 56.6	+0.5
PLP				*e*S	Sb	19 18 17.4	+1.1
PVCP	**Virac**	**1.53**	**309**	*e*P	Pn	19 17 55.0	-1.4
PVCP				*e*S	Sb	19 18 16.4	-0.5
MSLP	**Maasin**	**2.53**	**191**	*e*P	Pb	19 18 13.8	-1.3
MSLP				*e*S	Sb	19 18 47.7	+1.9

ISCJB ***14*** *19:26:12.9±0.6, 37.32N±0.04×37.08E±0.06,h8km±7km, Error ellipse: s-maj=8.9km s-min=5.1km az=138.0*
DDA ***14*** *19:26:12.7, 37.32N×37.14E,h7km,Ml3.0*
ISK ***14*** *19:26:12.3, 37.35N×37.11E,h6km,ML2.4/3*

ISC 14 19:26:12.9±1.0, 37.34N±0.04×37.12E±0.03,h9km±10km, n13,σ0s35/17,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.18**	**157**	PG	**Pg**	**19 26 16.6**	**-0.2**
GAZ				SG	**Sg**	**19 26 20.0**	**+0.6**
KMRS	**Kahramanmaras**	**0.24**	**313**	PG	**Pg**	**19 26 17.5**	**-0.2**
KMRS				SG	**Sg**	**19 26 20.9**	**-0.1**
KUZU	**Kuzuini**	**0.57**	**184**	*i* P	**Pg**	**19 26 24.2**	**+0.3**
ANDN	**Andirin**	**0.66**	**291**	*i* P	**Pg**	**19 26 25.8**	**+0.1**
ATAB	**Bozova**	**0.94**	**82**	*i* P	**Pg**	**19 26 30.7**	**-0.4**
KOZT	**Kozan**	**1.04**	**278**	PG	**Pb**	**19 26 32.9**	**-0.1**
SAIM	**ADANA**	**1.04**	**308**	*i* P	**Pg**	**19 26 32.5**	**-0.3**
AKCD	**Akcadag**	**1.14**	**34**	*i* P	**Pn**	**19 26 35.4**	**+0.1**
AKCD				*i* S	**Sn**	**19 26 51.2**	**0.0**
TAHT	**Tahtakopru-Hat**	**1.22**	**218**	PN	**Pg**	**19 26 36.1**	**-0.2**
DARE	**Darende-Malaty**	**1.26**	**13**	PN	**Pg**	**19 26 37.3**	**+0.2**
SURC	**SANLIURFA_SURC**	**1.28**	**111**	*i* P	**Pn**	**19 26 36.6**	**-0.4**
SURC				*i* S

11nm,1.3s
KURBB **Kurchatov Arra** 49.64 351 P **P** 19 47 12.4 +0.7
0.5nm,0.7s,baz=177,slow=6.9,SNR=5.9
ASAR **Alice Springs** 50.10 123 P **P** 19 47 15.3 -0.5
0.4nm,0.6s,baz=294,slow=7.5,SNR=4.3
ZALV **Zalesovo Beam** 52.25 357 P **P** 19 47 31.8 +0.4
0.5nm,0.4s,baz=185,slow=6.8,SNR=3.8
ZAA1 **Zalesovo Array** 52.25 357 *e*P **P** 19 47 31.8 +0.4
BR101 **Keskin Array S** 63.08 314 *e*P **P** 19 48 49.5 +1.5
BRTR **Keskin Array B** 63.08 314 *e*P **P** 19 48 49.5 +1.5
0.2nm,0.4s,baz=77,slow=16,SNR=3.0
TIXI **Tiksi** 74.24 12 P **P** 19 49 55.6 -1.4
1.0nm,0.6s,baz=247,slow=4.9,SNR=6.5
GERES **GERESS Array B** 79.31 319 P **P** 19 50 26.5 +0.3
0.2nm,0.5s,baz=140,slow=13,SNR=2.1
LTX **Lajitas** 146.76 21 *e*PKPdf **PKPbc** 19 58 03.9 +0.6
TXAR **Lajitas Array** 146.76 21 PKPbc **PKPbc** 19 58 03.9 +0.6
0.3nm,0.7s,baz=349,slow=1.8,SNR=3.5

MAN 14 19:40:56.8,10°.13N×122°.24E,h57km, mb4.6,ML3.4, MS3.3,2C, Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.60**	**35**	*e*P		Pn 19 41 07.8	-1.9
GUIM				*e*S		Sn 19 41 18.3	-0.7
JAP	**San Jose, Anti**	**0.68**	**335**↑	*e*P		Pn 19 41 12.4	+1.8
CUYO	**Cuyo Island**	**1.40**	**301**	*e*P		Pn 19 41 20.9	+0.9
CUYO				*e*S		Sn 19 41 39.2	+1.6
RCP	**Roxas**	**1.50**	**19**↑	*e*P		Pn 19 41 26.3	+4.8
RCP				*e*S		Sn 19 41 46.6	+6.5
LLP	**Lapu-Lapu**	**1.71**	**84**	*e*P		Pn 19 41 25.8	+1.6
LLP				*e*S		Sn 19 41 45.6	+0.6
PAGZ	**Pagadian**	**2.53**	**154**	*e*P		Pn 19 41 35.9	+0.4
PAGZ				*e*S		Sn 19 42 07.6	+2.4
SJMP	**San Jose**	**2.57**	**335**	*e*P		Pn 19 41 38.3	+2.3
MSLP	**Maasin**	**2.58**	**90**	*e*P		Pn 19 41 37.7	+1.6
MSLP				*e*S		Sn 19 42 08.3	+2.1
BUSP	**Coron**	**2.74**	**313**	*e*P		Pn 19 41 39.7	+1.4
BUSP				*e*S		Sn 19 42 11.6	+1.4
ENPP	**El Nido**	**2.97**	**291**	*e*P		Pn 19 41 41.9	+0.5
ENPP				*e*S		Sn 19 42 15.1	-0.8

*ISCJB **14** 19:51:24.4±0.5,24°.41N±0°.03×122°.46E±0°.02,h76km±6km, Error ellipse: s-maj=5.6km s-min=3.0km az=173.3*
*JMA **14** 19:51:24.9±0.1,24°.31N×122°.46E,h71km±2km*
*TAP **14** 19:51:24.4,24°.44N×122°.41E,h87km, ML2.5, C*
ISC 14 19:51:24.6±1.4,24°.42N±0°.05×122°.46E±0°.03,h78km±10km, n41,σ0°60/71, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.33**	**294**	*e*P	**Pn**	**19 51 37.1**	**+0.4**
	baz=299						
EOS1				*e*S	**Sn**	**19 51 46.9**	**+1.2**
	baz=299						
JYNG	**Yonagunijimaku**	**0.44**	**85**	P	**Pn**	**19 51 37.5**	**-0.1**
JYNG				S	**Sn**	**19 51 46.8**	**-0.4**
YOJ	**Yonaguni jima**	**0.50**	**85**	P	**Pn**	**19 51 38.2**	**+0.1**
YOJ				S	**Sn**	**19 51 47.5**	**-0.6**
TWC	**Suao**	**0.59**	**289**	*e*P	**Pn**	**19 51 38.6**	**-0.3**
	baz=292						
TWC				*e*S	**Sn**	**19 51 49.0**	**-0.6**
	baz=292						
NANB	**Nanao**	**0.65**	**271**	*e*P	**Pn**	**19 51 39.8**	**+0.3**
	baz=269						
NANB				*e*S	**Sn**	**19 51 50.9**	**+0.3**
	baz=269						
ENA	**Nanau**	**0.66**	**271**	*e*P	**Pn**	**19 51 39.9**	**+0.3**
	baz=269						
ENA				S	**Sn**	**19 51 51.1**	**+0.4**
	baz=269						
TWE	**Neicheng**	**0.79**	**293**	*e*P	**Pn**	**19 51 41.2**	**+0.2**
	baz=296						
TWE				*e*S	**Sn**	**19 51 53.3**	**+0.2**
	baz=296						
NACB	**Ninganchiao**	**0.83**	**253**	*e*P	**Pn**	**19 51 41.2**	**-0.2**
	baz=246						
NACB				*e*S	**Sn**	**19 51 53.1**	**-0.9**
	baz=246						
ENTT	**Nioudou**	**0.85**	**285**	P	**Pn**	**19 51 42.2**	**+0.5**
	baz=289						
ENTT				*e*S	**Sn**	**19 51 55.0**	**+0.6**
	baz=289						
TWD	**Chiawan**	**0.86**	**247**	*e*S	**Sn**	**19 51 54.2**	**-0.4**
	baz=240						
NNSB	**Datong**	**0.98**	**271**	*e*P	**Pn**	**19 51 43.5**	**+0.1**
	baz=270						
NNS	**Nan Shan**	**0.99**	**272**	*e*P	**Pn**	**19 51 43.7**	**+0.2**
	baz=267						
NNS				S	**Sn**	**19 51 57.4**	**-0.3**
	baz=267						
YHNB	**Yeheng**	**1.02**	**284**	*e*P	**Pn**	**19 51 44.6**	**+0.7**
	baz=285						
YHNB				*e*S	**Sn**	**19 51 58.0**	**-0.2**
	baz=285						
NSK	**Sanguang**	**1.04**	**285**	P	**Pn**	**19 51 44.7**	**+0.7**
	baz=278						
NSK				S	**Sn**	**19 51 58.8**	**+0.3**
	baz=278						
YM07	**YM07**	**1.07**	**315**	*e*P	**Pn**	**19 51 44.2**	**-0.2**
	baz=309						
YM07				S	**Sn**	**19 51 58.4**	**-0.9**
	baz=309						
YM01	**YM01**	**1.09**	**312**	*e*P	**Pn**	**19 51 44.4**	**-0.3**
	baz=306						
YM01				*e*S	**Sn**	**19 51 58.6**	**-1.0**
	baz=306						
YM05	**YM05**	**1.10**	**313**	*e*S	**Sn**	**19 51 59.0**	**-1.0**
	baz=306						
ESL	**Shilin**	**1.12**	**238**	*e*S	**Sn**	**19 51 59.5**	**-0.7**
	baz=236						
YM04	**YM04**	**1.12**	**311**	*e*S	**Sn**	**19 51 59.4**	**-0.8**
	baz=306						
WHF	**Hehuan Shan**	**1.13**	**256**	*e*P	**Pn**	**19 51 44.8**	**-0.7**
	baz=256						
WHF				S	**Sn**	**19 52 00.7**	**-0.3**
	baz=256						
IRIF	**Iriomote-Funau**	**1.16**	**94**	P	**Pn**	**19 51 45.6**	**+0.2**
IRIF				S	**Sn**	**19 52 00.8**	**-0.2**
TWT	**Tachien**	**1.19**	**262**	S	**Sn**	**19 52 02.4**	**+0.5**
	baz=261						
TDCB	**Techi**	**1.20**	**262**	*e*P	**Pn**	**19 51 47.0**	**+0.9**
	baz=262						
TDCB				*e*S	**Sn**	**19 52 02.3**	**+0.1**
	baz=262						
EGFH	**Guangfu**	**1.20**	**232**	*e*S	**Sn**	**19 52 01.8**	**-0.3**
	baz=231						
CHGB	**Renai**	**1.23**	**253**	*e*P	**Pn**	**19 51 46.7**	**+0.1**
	baz=247						
CHGB				S	**Sn**	**19 52 02.9**	**-0.1**
	baz=247						
HGSD	**Ruisui**	**1.32**	**226**	*e*P	**Pn**	**19 51 47.8**	**+0.3**
	baz=225						
HGSD				*e*S	**Sn**	**19 52 05.3**	**+0.6**
	baz=225						
LIOB	**Emei**	**1.34**	**280**	*e*S	**Sn**	**19 52 05.2**	**0.0**
	baz=281						
NSTT	**Nanjuang**	**1.35**	**279**	*e*S	**Sn**	**19 52 05.1**	**-0.3**
	baz=280						
VWDT	**VWDT**	**1.38**	**242**	*e*P	**Pn**	**19 51 48.2**	**0.0**
	baz=234						
EHY	**Hungye**	**1.38**	**229**	*e*P	**Pn**	**19 51 47.8**	**-0.5**
	baz=234						
JKRS	**Kuro-shima**	**1.42**	**97**	P	**Pn**	**19 51 49.6**	**+0.8**
JKRS				S	**Sn**	**19 52 07.5**	**+0.5**
YULB	**Yu-li**	**1.48**	**227**	*e*P	**Pn**	**19 51 49.1**	**-0.4**
	baz=233						
YULB				*e*S	**Sn**	**19 52 07.2**	**-1.2**
	baz=233						
TWF1	**Yuli**	**1.50**	**225**	*e*P	**Pn**	**19 51 49.6**	**-0.3**
	baz=232						
TWF1				*e*S	**Sn**	**19 52 07.7**	**-1.2**
	baz=232						
SSLB	**Suanglung**	**1.51**	**246**	*e*P	**Pn**	**19 51 49.9**	**-0.1**
	baz=243						
SSLB				*e*S	**Sn**	**19 52 08.6**	**-0.6**
	baz=243						
SMLT	**Sun Moon Lake**	**1.52**	**250**	*e*P	**Pn**	**19 51 50.6**	**+0.4**
	baz=245						
SMLT				*e*S	**Sn**	**19 52 09.9**	**+0.3**
	baz=245						
JIJ	**Ishigaki jima**	**1.53**	**92**	P	**Pn**	**19 51 50.5**	**+0.3**
JIJ				S	**Sn**	**19 52 09.0**	**-0.6**
TYC	**Yuchr**	**1.55**	**251**	*e*P	**Pn**	**19 51 51.1**	**+0.7**
	baz=246						
TYC				*e*S	**Sn**	**19 52 10.2**	**+0.1**
	baz=246						
FULB	**Fuli**	**1.62**	**222**	*e*P	**Pn**	**19 51 51.9**	**+0.6**
	baz=215						
FULB				*e*S	**Sn**	**19 52 11.9**	**+0.2**
	baz=215						
JISG	**Ishigakijimahi**	**1.69**	**84**	P	**Pn**	**19 51 52.5**	**+0.2**
JISG				S	**Sn**	**19 52 13.2**	**-0.1**
ELDTW	**Lidau**	**1.80**	**228**	*e*P	**Pn**	**19 51 54.0**	**+0.1**
	baz=225						
ELDTW				*e*S	**Sn**	**19 52 14.4**	**-1.7**
	baz=225						
CHN5	**Tsauling**	**1.82**	**244**	*e*P	**Pn**	**19 51 55.2**	**+1.1**
	baz=244						
CHN5				*e*S	**Sn**	**19 52 17.8**	**+1.2**
	baz=244						

*SJA **14** 19:55:00.3±0.6,29°.44S×72°.44W,h10km, ML3.9, MW3.7*
*GUC **14** 19:55:03.4±0.7,29°.67S×72°.01W,h43km±5km, ML4.1*
ISC 14 19:55:02.7±1.7,29°.64S±0°.04×72°.07W±0°.08,h10km, n25, σ2§67/42, 2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSCH	**La Serena**	**0.77**	**110**	*e*P	**Pb**	**19 55 18.0**	**-0.2**
LSCH				*i* S	**Sb**	**19 55 28.3**	**-0.3**
GO04	**Tololo Observa**	**1.23**	**116**	*e*P	**Pn**	**19 55 26.0**	**-0.1**
GO04				*e*S	**Sn**	**19 55 49.2**	**+6.3**
GO04	**Tololo Observa**	**1.23**	**116**	*e*P	**Pb**	**19 55 25.5**	**-0.7**
GO04				*i* S	**Sn**	**19 55 42.3**	**-0.6**
GO04				IAML		19 55 44.0	
	comp=E,13μm,0.3s						
LCO	**Las Campanas**	**1.35**	**63**	*e*P	**Pn**	**19 55 28.0**	**+0.1**
LCO				*e*S	**Sg**	**19 55 48.8**	**+2.4**
LCO	**Las Campanas**	**1.35**	**63**	*e*P	**Pn**	**19 55 28.0**	**+0.1**
LCO				*i* S	**Sg**	**19 55 46.2**	**-0.1**
LCO				IAML		19 55 52.9	
	comp=E,4μm,0.4s						
AROD	**Rodeo**	**2.32**	**104**	*e*P	**Pb**	**19 55 44.0**	**-0.8**
AROD				*e*S	**Sg**	**19 56 17.3**	**0.0**
GO03	**Copiap**	**2.60**	**39**	*e*P	**Pn**	**19 55 45.0**	**0.0**
GO03				*i* S	**Sn**	**19 56 17.5**	**+0.8**
GO03				IAML		19 56 34.8	
	comp=E,603nm,0.5s						
ACDV	**Cuesta del Vie**	**2.62**	**102**	*e*P	**Pb**	**19 55 48.3**	**-1.6**
ACDV				*e*S	**Sg**	**19 56 23.9**	**-3.0**
ACCO	**Cerro Coronel**	**2.77**	**111**	*e*P	**Pb**	**19 55 51.0**	**-1.6**
ACCO				*e*S	**Sg**	**19 56 28.8**	**-3.0**
AGUA	**GUANDACOL**	**3.12**	**88**	*e*P	**Pn**	**19 55 54.7**	**+2.5**
AGUA				*e*S	**Sb**	**19 56 34.6**	**-2.0**
RTLS	**Leoncito**	**3.21**	**133**	*e*P	**Pb**	**19 55 57.3**	**-2.8**
RTLS				*e*S	**Sb**	**19 56 39.2**	**-0.2**
RTLS				IAML		19 56 48.2	
	comp=Z,260nm,0.5s						
AMOG	**MOGNA**	**3.35**	**114**	*e*P	**Pb**	**19 55 58.8**	**-3.6**
AMOG				*e*S	**Sb**	**19 56 41.7**	**-1.6**
ROC1	**El Roble**	**3.44**	**165**	*e*P	**Pn**	**19 55 59.2**	**+2.6**
ROC1				*e*S	**Sb**	**19 56 42.3**	**-3.7**
AUSP	**Uspallata**	**3.46**	**139**	*e*P	**Pn**	**19 56 00.3**	**+3.4**
AUSP				*e*S	**Sb**	**19 56 45.2**	**-1.1**
VCA	**Vinchina**	**3.50**	**76**	*e*P	**Pn**	**19 56 00.1**	**+2.8**
RTLL	**Cerro Villicun**	**3.53**	**119**↓	*e*P	**Pn**	**19 56 00.8**	**+3.1**
RTLL				*e*S	**Sb**	**19 56 46.0**	**-2.3**
RTLL				IAML		19 57 01.2	
	comp=E,171nm,0.4s						
RTCV	**Cerro Valdivia**	**3.76**	**127**	*e*P	**Pn**	**19 56 04.1**	**+3.2**
RTCV				*e*S	**Sb**	**19 56 52.3**	**-2.6**
ASAL	**Salagasta**	**4.04**	**137**	*e*P	**Pn**	**19 56 08.5**	**+3.7**
ASAL				*e*S	**Sb**	**19 56 59.3**	**-3.7**
ARCO	**CERRO ARCO**	**4.17**	**141**↓	*e*P	**Pn**	**19 56 09.9**	**+3.3**
ARCO				IAML		19 57 28.3	
	comp=Z,93nm,0.6s						
AAGR	**Agrelo**	**4.41**	**142**	*e*P	**Pn**	**19 56 13.5**	**+3.6**
ACLC	**CERRO LA CRUZ**	**4.47**	**88**	*e*P	**Pn**	**19 56 14.0**	**+3.3**
APLL	**PUNTA DE LOS L**	**4.87**	**100**	*e*P	**Pn**	**19 56 19.6**	**+3.6**
APLL				IAML		19 57 38.0	
	comp=Z,47nm,0.5s						
ACAN	**Cantantal**	**4.95**	**123**	*e*P	**Pn**	**19 56 20.9**	**+3.7**
GO05	**HualaæØ**	**5.35**	**179**	*e*P	**Pn**	**19 56 24.5**	**+1.8**
CYA	**Choya**	**5.62**	**79**	*e*P	**Pn**	**19 56 29.3**	**+2.9**
CYA				IAML		19 56 36.1	
	comp=Z,42nm,0.4s						

*IDC **14** 20:03:04.6±2.4, 14°.43N×94°.29W,h0km, mb3.5/1, mb1 3.6/4, mb1mx3.4/42, mbtmp3.3/4, ML3.1/3, MS4.3/1, Ms1 4.3/1, ms1mx3.1/40, Error ellipse: s-maj=57.9km s-min=24.6km az=41.0*
*NEIC **14** 20:03:09.1±1.6, 14°.81N×93°.97W,h10km, MD4.1(MEX), Error ellipse: s-maj=23.8km s-min=13.4km az=24.0*
*ISCJB **14** 20:03:13.7±1.4, 14°.92N±0°.08×93°.66W±0°.08, h33km, mb4.3/2, MS4.2/1, Error ellipse: s-maj=12.4km s-min=9.3km az=40.8*
*MEX **14** 20:03:15.2±0.5, 14°.78N×93°.45W, h16km±999km, MD4.1*
ISC 14 20:03:12.9±1.3, 15°.04N±0°.09×93°.77W±0°.06, h33km, n13, σ1§26/17, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.85**	**38**	*i* P	**Pb**	**20 03 29.8**	**+0.5**
PCIG				*i* S	**Sb**	**20 03 41.4**	**+1.0**
PCIG		**0.85**	**38**	*i* P	**Pb**	**20 03 29.8**	**+0.5**
PCIG				*i* S	**Sb**	**20 03 41.4**	**+1.0**
TGIG		**1.84**	**20**	*e*P	**Pb**	**20 03 45.8**	**-0.2**
TGIG		**1.84**	**20**	*e*P	**Pb**	**20 03 45.8**	**-0.2**
TGIG				*i* S	**Sb**	**20 04 08.3**	**-0.4**
CCIG	**Comitan**	**2.00**	**51**	*e*P	**Pb**	**20 03 47.4**	**-1.4**
CCIG	**Comitan**	**2.00**	**51**	*e*P	**Pn**	**20 03 44.5**	**0.0**
CCIG				*e*S	**Sn**	**20 04 07.8**	**-0.8**
CMIG	**Matias Romero**	**2.31**	**332**	Pn	**Pn**	**20 03 50.4**	**+1.8**
	7.8nm,0.3s,baz=148,slow=12,SNR=37						
CMIG				Sn	**Sb**	**20 04 22.2**	**+0.1**
	17nm,0.3s,baz=182,slow=4.5,SNR=9.4						
APG	**El Apazote**	**3.19**	**90**	Pn	**Pn**	**20 04 01.8**	**+0.8**
	6.9nm,0.2s,baz=333,slow=18,SNR=3.7						
TXAR	**Lajitas Array**	**16.91**	**329**	P	**Pn**	**20 07 06.2**	**-1.0**
	0.0nm,0.3s,baz=149,slow=13,SNR=2.8						
PCRV	**Puerto La Cruz**	**28.82**	**96**	P	**P**	**20 09 10.4**	**+2.0**
	21nm,1.0s,baz=292,slow=5.4,SNR=3.6						
NEW	**Newport**	**38.33**	**335**	LR	LR	20 27 34.6	
	comp=Z,388nm,20.1s,baz=20,slow=38						
ILAR	**Eielson Array**	**61.22**	**337**	P	**P**	**20 13 23.6**	**-0.7**
	0.5nm,0.8s,baz=146,slow=5.1,SNR=5.4						
CMAR	**Chiang Mai Arr**	**144.44**	**339**	PKP	**PKPab**	**20 22 42.2**	**-2.7**
	0.5nm,0.8s,baz=350,slow=2.5,SNR=5.0						

JMA 14 20:22:22.6±0.2,25°.23N×124°.91E,h10km±4km, M3.7, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKM	**Ikemajima**	**0.43**	**135**	P	Pg	20 22 31.0	-0.1
JIKM				S	Sg	20 22 36.7	-0.1
JMJ	**Miyako jima 2**	**0.54**	**140**	P	Pg	20 22 33.1	0.0
JMJ				S	Sg	20 22 40.2	0.0
JTJ	**Tarama**	**0.62**	**198**	P	Pg	20 22 34.5	-0.1
JTJ				S	Sg	20 22 43.3	+0.7
JOGS	**Gusukube**	**0.65**	**136**	P	Pg	20 22 35.2	0.0
JOGS				S	Sg	20 22 43.6	-0.1
JISG	**Ishigakijimahi**	**0.84**	**220**	P	Pg	20 22 38.5	-0.3
JISG				S	Sg	20 22 49.9	+0.1
JIJ	**Ishigaki jima**	**1.11**	**219**	P	Pb	20 22 42.8	-1.1
JIJ				S	Sg	20 22 57.5	-0.9
JKRS	**Kuro-shima**	**1.28**	**220**	P	Pn	20 22 46.0	-0.6
JKRS				S	Sb	20 23 03.4	0.0
IRIF	**Iriomote-Funau**	**1.40**	**231**	P	Pn	20 22 47.4	-0.7
IRIF				*e*S	Sn	20 23 06.1	-0.5

*IDC **14** 20:24:09.7±1.3,52°.91N×175°.57W,h0km, mb3.7/3, mb1 3.9/5, mb1mx3.4/60, mbtmp3.7/5, ML3.3/2, Error ellipse: s-maj=65.7km s-min=25.4km az=139.0*
*ISCJB **14** 20:24:12.7±1.0,52°.1N±0°.1×173°.5W±0°.1, h35km, mb3.8/3, Error ellipse: s-maj=20.7km s-min=8.9km az=174.9*
*NEIC **14** 20:24:14.7±0.0,52°.52N×174°.17W,h1km, ML2.9(AEIC), After AEIC.*
ISC 14 20:24:13.3±1.3,52°.2N±0°.3×173°.5W±0°.1,h35km, n16, σ1§62/13, mb4.0/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.42**	**270**	P	**Pn**	**20 24 22.5**	**-0.3**
ATKA				S	**Sn**	**20 24 30.2**	**+0.9**
GSTD	**Great Sitkin T**	**1.63**	**266**	P	**Pn**	**20 24 41.0**	**+1.5**
GSTD				S	**Sn**	**20 24 59.2**	**0.0**
ETKA	**Kagalaska Isla**	**1.82**	**260**	P	**Pn**	**20 24 42.0**	**0.0**
ADK	**Adak**	**1.98**	**262**	P	**Pn**	**20 24 45.7**	**+1.4**
ADK				S	**Sn**	**20 25 07.5**	**-0.3**
KIMD	**Kanaga Island**	**2.34**	**261**	P	**Pn**	**20 24 51.1**	**+1.9**
KDAK	**Kodiak Island**	**13.22**	**57**	Pn	**P**	**20 27 28.2**	**+0.5**
	0.2nm,0.3s,baz=252,slow=6.4,SNR=4.7						
ILAR	**Eielson Array**	**18.57**	**37**	P	**Pn**	**20 28 29.6**	**+2.2**
	0.1nm,0.3s,baz=239,slow=8.8,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**35.83**	**213**	T	T	21 08 57.1	
	baz=21,slow=76,SNR=214						
H11N3	**WAKE ISLAND Hy**	**35.84**	**213**	T	T	21 08 56.8	
	baz=21,slow=76,SNR=184						
H11N1	**WAKE ISLAND Hy**	**35.85**	**213**	T	T	21 08 57.5	
	baz=21,slow=76,SNR=202						
H11S1	**WAKE ISLAND Hy**	**37.04**	**212**	T	T	21 10 26.6	
	baz=20,slow=76,SNR=133						
H11S2	**WAKE ISLAND Hy**	**37.05**	**212**	T	T	21 10 27.9	
	baz=20,slow=76,SNR=117						
H11S3	**WAKE ISLAND Hy**	**37.06**	**212**	T	T	21 10 27.9	
	baz=20,slow=76,SNR=54						
WRA	**Warramunga Arr**	**84.95**	**228**	P	**P**	**20 36 43.9**	**-0.7**
	0.3nm,0.6s,baz=31,slow=5.6,SNR=5.0						
BRTR	**Keskin Array B**	**85.44**	**339**	P	**P**	**20 36 43.9**	**-3.3**
	0.7nm,0.7s,baz=22,slow=8.6,SNR=3.1						
ASAR	**Alice Springs**	**88.38**	**227**	P	**P**	**20 37 01.6**	**+0.3**
	0.4nm,0.5s,baz=23,slow=4.3,SNR=6.0						

*IDC **14** 20:31:10.6±5.1, 1°.15S×102°.46E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/44, mbtmp3.4/4, Error ellipse: s-maj=276.0km s-min=22.9km az=54.0*
*ISCJB **14** 20:31:15.4±0.7, 2°.18S±0°.06×100°.91E±0°.06, h62km, mb3.4/4, Error ellipse: s-maj=9.3km s-min=7.4km az=137.0*
*DJA **14** 20:31:15.5±0.4, 2°S±4°×10°1E±°, h34km±5km, M3.6/11, MLv3.6/11*
ISC 14 20:31:16.1±1.2, 2°.17S±0°.05×100°.92E±0°.05, h62km, n14, σ1§44/14, mb3.6/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRJI	**Kerinci**	**0.55**	**82**	P	**Pn**	**20 31 27.7**	**-1.2**
KRJI				S	**Sn**	**20 31 38.8**	**+0.6**
PPSI	**Pulau Pagai**	**1.08**	**237**	P	**Pn**	**20 31 33.9**	**-1.4**
PPSI				S	**Sn**	**20 31 52.0**	**+2.4**
PDSI	**Padang**	**1.33**	**340**	P	**Pn**	**20 31 38.9**	**+0.2**
PDSI				S	**Sn**	**20 31 55.7**	**+0.2**
SDSI	**Sungai Dareh**	**1.33**	**23**	P	**Pn**	**20 31 39.0**	**+0.4**
MASI	**Maura Aman, Be**	**1.63**	**126**	P	**Pn**	**20 31 41.9**	**-0.8**
PPI	**Padang Panjang**	**1.78**	**343**	P	**Pn**	**20 31 43.7**	**-1.0**
RGRI	**Rengat**	**2.30**	**38**	P	**Pn**	**20 31 52.4**	**+0.7**
MNAI	**Manna**	**2.98**	**137**	P	**Pn**	**20 32 03.0**	**+2.0**
MNSI	**Mandailing Nat**	**3.24**	**336**	P	**Pn**	**20 32 06.6**	**+2.1**
TPRI	**Tanjung Pinang**	**4.74**	**50**	P	**Pn**	**20 32 25.3**	**+0.2**
WRA	**Warramunga Arr**	**37.12**	**121**	P	P	20 38 16.8	-4.3
	0.3nm,1.0s,baz=303,slow=9.6,SNR=6.2						
ASAR	**Alice Springs**	**38.41**	**127**	P	P	20 38 28.9	-3.1
	0.7nm,0.6s,baz=295,slow=7.6,SNR=7.5						
MKAR	**Makanchi Array**	**51.45**	**344**	P	P	20 40 12.8	-2.3
	0.2nm,0.5s,baz=150,slow=9.3,SNR=5.3						
ZALV	**Zalesovo Beam**	**57.51**	**349**	P	**P**	**20 40 57.3**	**-1.5**
	0.3nm,0.3s,baz=166,slow=7.1,SNR=2.2						

IDC 14 20:33:21.7±1.7, 2°.83N×128°.09E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/38, mbtmp3.6/5, Error ellipse: s-maj=93.8km s-min=22.7km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.94**	**187**	P	P	20 38 07.0	+0.8
	0.7nm,0.4s,baz=13,slow=12,SNR=3.6						
WRA	**Warramunga Arr**	**23.45**	**165**	P	P	20 38 32.5	-0.5
	1.6nm,0.5s,baz=344,slow=11,SNR=31						
ASAR	**Alice Springs**	**26.94**	**168**	P	P	20 39 05.1	+0.1
	0.4nm,0.7s,baz=352,slow=8.3,SNR=5.4						
STKA	**Stephens Creek**	**36.83**	**161**	P	P	20 40 31.1	-0.5
	0.9nm,0.4s,baz=329,slow=5.9,SNR=3.7						
MKAR	**Makanchi Array**	**59.06**	**325**	P	P	20 43 23.9	+0.1
	0.1nm,0.4s,baz=118,slow=7.3,SNR=3.1						

IDC 14 20:35:13.8±2.2, 2°.29N×127°.23E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.3/36, mbtmp3.3/3, MS4.0/1, Ms1 4.0/1, ms1mx3.4/18, Error ellipse: s-maj=185.1km s-min=24.8km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**13.29**	**332**	LR	LR	20 42 56.6	
	comp=Z,739nm,21.0s,baz=274,slow=35						
WRA	**Warramunga Arr**	**23.16**	**163**	P	P	20 40 20.6	-1.5
	0.2nm,0.4s,baz=341,slow=10,SNR=7.3						
ASAR	**Alice Springs**	**26.60**	**166**	P	P	20 40 55.3	+1.2
	0.1nm,0.3s,baz=350,slow=12,SNR=3.8						
MKAR	**Makanchi Array**	**59.02**	**326**	P	P	20 45 15.5	-0.1
	0.4nm,0.5s,baz=115,slow=7.7,SNR=8.2						

*ISCJB **14** 20:43:16.9±0.3, 51°.48N±0°.01×6°.55E±0°.03, h0km, Error ellipse: s-maj=2.4km s-min=1.9km az=29.9*
*GDNRW **14** 20:43:17.1±0.3, 51°.51N×6°.62E, h1km, ML2.1*
*BUG **14** 20:43:17.4±0.0, 51°.54N×6°.60E, h1km, ML2.2*
*BNS **14** 20:43:18.6±0.9, 51°.47N×6°.60E, h1km, ML2.2*
*BGR **14** 20:43:18.8±0.3, 51°.49N×6°.59E, h1km, ML2.3/7, Error ellipse: s-maj=4.4km s-min=3.3km az=113.0*
*LDG **14** 20:43:18.5±0.1, 51°.49N×6°.59E, h1km, Md2.7/1, Ml2.7/16, Error ellipse: s-maj=1.9km s-min=1.5km az=137.0*
ISC 14 20:43:16.7±0.7, 51°.45N±0°.02×6°.55E±0°.02, h0km, n68, σ1§11/126, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRHE	**Rheinberg**	**0.06**	**13**	Pg	**Pg**	**20 43 18.2**	**+0.3**
BRHE				Sg	**Sg**	**20 43 19.0**	**+0.3**
LAUG	**Laupendahl**	**0.27**	**112**	*e*Pg	**Pg**	**20 43 23.3**	**+1.5**
LAUG				*e*Sg	**Sg**	**20 43 27.1**	**+1.9**
H

MEM				S		Sn	20 43 50.2	-0.4
	comp=N,59nm,0.0s							
TDN	**Todenfeld**	**0.92**	**164**	*e*Sg		**Sb**	**20 43 48.7**	**+0.6**
	comp=N,66nm,0.3s							
BMOL	**Mol**	**0.95**	**256**	P		**Pn**	**20 43 37.5**	**+0.3**
BMOL				S		**Sn**	**20 43 51.6**	**+0.2**
OLFT	**Oleftalsperre**	**0.96**	**185**	*e*Pg		**Pb**	**20 43 36.8**	**+0.5**
OLFT				*e*Sg		**Sn**	**20 43 50.9**	**-1.0**
AHRW	**Bad Neuenahr-A**	**0.97**	**160**	*e*Pg		**Pn**	**20 43 38.1**	**+0.5**
AHRW				*e*Sg		**Sn**	**20 43 51.4**	**-0.7**
BLCH	**La Chartreuse**	**1.01**	**217**	P		**Pn**	**20 43 38.6**	**+0.5**
BLCH				S		**Sn**	**20 43 52.8**	**-0.2**
BSTI	**Sart Tilman**	**1.07**	**216**	P		**Pn**	**20 43 39.2**	**+0.3**
BSTI				S		**Sn**	**20 43 55.4**	**+1.0**
	comp=Z,11nm,0.0s							
VBG4	**Venebrugge (Br**	**1.09**	**4**	*e*Pg		**Pb**	**20 43 38.4**	**-0.1**
	baz=186							
VBG4				*e*Sg		**Sb**	**20 43 53.2**	**-0.1**
IBBN	**Ibbenburen**	**1.14**	**41**	*e*Pg		**Pb**	**20 43 39.2**	**0.0**
BHOU	**Houvegnez**	**1.15**	**198**	P		**Pn**	**20 43 40.7**	**+0.7**
BHOU				S		**Sn**	**20 43 56.4**	**-0.1**
BHE	**Schloss Buerre**	**1.17**	**160**	*e*Pg		**Pn**	**20 43 40.4**	**+0.1**
BHE				*e*Sg		**Sn**	**20 43 56.6**	**-0.4**
	comp=Z,38nm,0.3s							
KOE	**Koeppel**	**1.27**	**144**	*e*Pg		**Pn**	**20 43 42.2**	**+0.5**
BCLA	**Clavier**	**1.30**	**218**	P		**Pn**	**20 43 43.4**	**+1.3**
BCLA				S		**Sn**	**20 44 01.0**	**+0.8**
LKLB	**Kalborn**	**1.38**	**192**	P		**Pb**	**20 43 44.4**	**+1.0**
LKLB				S		**Sn**	**20 44 03.0**	**+0.8**
	comp=N,52nm,0.0s							
BGES	**Gesves**	**1.42**	**221**	P		**Pb**	**20 43 44.8**	**+0.9**
BGES				S		**Sn**	**20 44 04.5**	**+1.5**
	comp=E,19nm,0.0s							
ENV4	**Elp / Enerveen**	**1.44**	**2**	*e*Pg		**Pb**	**20 43 44.8**	**+0.4**
	baz=183							
ENV4				*e*Sg		**Sn**	**20 44 04.2**	**+0.5**
RCHB	**Rochefort**	**1.55**	**213**	P		**Pg**	**20 43 47.4**	**+1.1**
RCHB				S		**Sg**	**20 44 08.2**	**+1.9**
BMRD	**Maredsous**	**1.61**	**225**	P		**Pb**	**20 43 47.0**	**-0.3**
BMRD				S		**Sg**	**20 44 08.7**	**+0.3**
SNF	**Seneffe**	**1.72**	**237**	P		**Pg**	**20 43 50.1**	**+0.6**
TNS	**Taunus Mts**	**1.72**	**135**	*e*Pn		**Pb**	**20 43 49.4**	**+0.2**
TNS				*e*Pg		**Pg**	**20 43 50.7**	**+1.0**
TNS				*e*Sn		**Sb**	**20 44 11.3**	**-0.1**
GIVF	**Givet**	**1.74**	**220**	*e*Pn		**Pn**	**20 43 48.7**	**+0.6**
GIVF	**Givet**	**1.74**	**220**	*e*Pg		**Pg**	**20 43 51.1**	**+1.1**
GIVF				*e*Sg		**Sg**	**20 44 14.5**	**+1.9**
	comp=E,25nm,0.3s							
BSKQ	**Steenkerk**	**1.75**	**244**	P		**Sg**	**20 44 14.3**	**+1.4**
WLF	**Walferdange**	**1.81**	**188**	*e*Pg		**Pg**	**20 43 52.9**	**+1.5**
WLF				*e*Sg		**Sg**	**20 44 15.7**	**+1.0**
WLF	**Walferdange**	**1.81**	**188**	P		**Pg**	**20 43 52.8**	**+1.5**
WLF				S		**Sg**	**20 44 14.5**	**-0.2**
	comp=E,27nm,0.0s							
DOU	**Dourbes**	**1.84**	**223**	P		**Pb**	**20 43 50.4**	**-0.7**
DOU				S		**Sb**	**20 44 15.0**	**+0.3**
	comp=N,15nm,0.0s							
BAIF	**Baives**	**2.04**	**228**	*e*Pn		**Pn**	**20 43 52.8**	**+0.6**
BAIF	**Baives**	**2.04**	**228**	*e*Pg		**Pg**	**20 43 57.1**	**+1.4**
BAIF				*e*Sn		**Sn**	**20 44 17.8**	**-0.6**
BAIF				*e*Sg		**Sg**	**20 44 23.5**	**+1.4**
	comp=N,15nm,0.4s							
PAGF	**Fort de Pagny**	**2.95**	**191**	*e*Pn		**Pn**	**20 44 05.0**	**+0.2**
PAGF	**Fort de Pagny**	**2.95**	**191**	*e*Pg		**Pg**	**20 44 13.7**	**+0.5**
PAGF				*e*Sg		**Sg**	**20 44 51.5**	**+0.1**
	comp=N,3.5nm,0.3s							
CDF	**Champ du Feu**	**3.08**	**171**	*e*Pn		**Pn**	**20 44 06.6**	**0.0**
CDF	**Champ du Feu**	**3.08**	**171**	*e*Pg		**Pg**	**20 44 16.8**	**+1.1**
CDF				*e*Sn		**Sn**	**20 44 42.1**	**-2.1**
CDF				*e*Sg		**Sg**	**20 44 54.5**	**-1.1**
	comp=N,7.9nm,0.6s							
MEZF	**Maizieres J'vi**	**3.11**	**199**	*e*Pn		**Pn**	**20 44 07.9**	**+1.0**
	baz=15							
MEZF	**Maizieres J'vi**	**3.11**	**199**	*e*Pg		**Pg**	**20 44 16.8**	**+0.6**
	baz=31							
MEZF				*e*Sn		**Sn**	**20 44 43.3**	**-1.5**
MEZF				*e*Sg		**Sg**	**20 44 56.9**	**+0.4**
	comp=N,5.0nm,0.3s							
SFTF	**Sexfontaines**	**3.40**	**197**	*e*Pn		**Pn**	**20 44 11.2**	**+0.3**
	baz=13							
SFTF	**Sexfontaines**	**3.40**	**197**	*e*Pg		**Pg**	**20 44 22.5**	**+0.8**
	baz=14							
SFTF				*e*Sn		**Sn**	**20 44 49.7**	**-2.2**
SFTF				*e*Sg		**Sg**	**20 45 05.7**	**0.0**
	comp=N,6.9nm,0.3s							
HAU	**Haudompre**	**3.45**	**182**	*e*Pn		**Pn**	**20 44 11.9**	**+0.2**
HAU	**Haudompre**	**3.45**	**182**	*e*Pg		**Pg**	**20 44 22.9**	**+0.1**
HAU				*e*Sg		**Sg**	**20 45 07.4**	**-0.2**
	comp=N,8.6nm,0.5s							
HINF	**Hinteralfeld**	**3.65**	**177**	*e*Pn		**Pn**	**20 44 14.2**	**-0.2**
HINF	**Hinteralfeld**	**3.65**	**177**	*e*Pg		**Pg**	**20 44 26.5**	**0.0**
HINF				*e*Sg		**Sg**	**20 45 13.4**	**-0.3**
	comp=N,2.4nm,0.3s							
LOR	**Lormes**	**4.54**	**204**	*e*Pn		**Pn**	**20 44 26.6**	**-0.1**
	baz=28							
LOR				*e*Sn		**Sn**	**20 45 17.2**	**-3.0**
LOR				*e*Sg		**Sg**	**20 45 42.0**	**-0.5**
	comp=N,3.2nm,0.4s							
SSF	**Saint Saulge**	**4.83**	**206**	*e*Pn		**Pn**	**20 44 30.7**	**+0.2**
SSF				*e*Sn		**Sn**	**20 45 24.3**	**-2.8**
SSF				*e*Sg		**Sg**	**20 45 50.6**	**-1.0**
	comp=N,3.8nm,0.4s							
AVF	**Avril sur Loir**	**5.12**	**205**	*e*Pn		**Pn**	**20 44 34.6**	**+0.1**
AVF				*e*Sg		**Sg**	**20 45 59.5**	**-1.4**
	comp=N,1.4nm,0.4s							
SMF	**Signal de Mont**	**5.13**	**201**	*e*Pn		**Pn**	**20 44 34.8**	**+0.1**
SMF				*e*Sg		**Sg**	**20 46 00.2**	**-1.2**
	comp=N,3.2nm,0.3s							
FLN	**La Foliniere**	**5.26**	**242**	*e*Pn		**Pn**	**20 44 37.1**	**+0.6**
	baz=62							
FLN				*e*Sn		**Sn**	**20 45 34.4**	**-3.5**
	comp=N,1.6nm,0.2s							
BGF	**Bois d'Agland**	**5.47**	**208**	*e*Sn		**Sn**	**20 45 39.6**	**-3.4**
GRR	**Gorron**	**5.68**	**240**	*e*Pn		**Pn**	**20 44 42.4**	**+0.1**
GRR				*e*Sn		**Sn**	**20 45 44.7**	**-3.5**
GRR				*e*Sg		**Sg**	**20 46 17.6**	**-1.5**
	comp=N,2.6nm,0.3s							
MFF	**Saint Martin d**	**6.55**	**225**	*e*Pn		**Pn**	**20 44 54.0**	**-0.2**
MFF				*e*Sn		**Sn**	**20 46 05.4**	**-4.2**
	comp=N,0.4nm,0.2s							

MAN 14 20:48:12.1, 10.61N×122.49E, h39km, mb4.0, ML2.8, MS2.4, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.10**	**83**	*e*P		Pn	20 48 19.3	-2.2
GUIM				*e*S		Sn	20 48 24.8	-4.9
JAP	**San Jose, Anti**	**0.55**	**284**	*e*P		Pn	20 48 25.7	+2.3
CUYO	**Cuyo Island**	**1.46**	**279**	*e*P		Pn	20 48 36.7	+0.7
CUYO				*e*S		Sn	20 48 53.6	-0.4

*IDC **14** 21:00:05.8±0.9, 34.73N×80.68E, h0km, mb3.5/7, mb1 3.6/10, mb1mx3.4/57, mbtmp3.5/10, ML3.2/3, Error ellipse: s-maj=26.1km s-min=18.4km az=52.0*
*ISCJB **14** 21:00:09.0±0.6, 34.88N±0.07×80.8E±0.2, h33km, mb3.4/7, Error ellipse: s-maj=21.1km s-min=6.8km az=158.2*

ISC 14 21:00:11.2±0.8, 34.84N±0.09×80.7E±0.1, h35km, n19, σ0.95/19, mb3.5/7, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYUN	**Piuthan**	**7.00**	**163**	*e*P		**Pn**	**21 01 51.9**	**+0.4**
	4.8nm,0.3s							
KOLN	**Koldanda**	**7.48**	**160**	*e*P		**Pn**	**21 01 58.2**	**+0.2**
	3.4nm,0.3s							
KKN	**Kakani**	**8.05**	**150**	*e*P		**Pn**	**21 02 07.1**	**+1.2**
	7.7nm,0.5s							
DMN	**Daman**	**8.14**	**151**	*e*P		**Pn**	**21 02 07.5**	**+0.3**
	8.9nm,0.9s							
GUN	**Gumba**	**8.21**	**146**	*e*P		**Pn**	**21 02 09.2**	**+1.0**
	6.0nm,0.4s							
PKIN	**Phulchoki**	**8.29**	**150**	*e*P		**Pn**	**21 02 10.3**	**+1.1**
	4.7nm,0.4s							
PKI	**Pulchoki**	**8.30**	**150**	*e*P		**Pn**	**21 02 09.6**	**+0.2**
	8.4nm,0.5s							
JIRN	**Jiri**	**8.57**	**145**	*e*P		**Pn**	**21 02 14.1**	**+1.0**
	15nm,0.4s							
RAMN	**Ramite**	**9.36**	**146**	*e*P		**Pn**	**21 02 22.4**	**-1.5**
	15nm,0.6s							
MKAR	**Makanchi Array**	**12.00**	**5**	Pn		**Pn**	**21 02 59.1**	**-0.6**
	0.1nm,0.3s,baz=191,slow=13,SNR=4.8							

ZALV	**Zalesovo Beam**	**19.32**	**7**	P		**P**	**21 04 33.4**	**+0.2**
	0.2nm,0.3s,baz=187,slow=10,SNR=3.8							
BVAR	**Borovoye Array**	**19.59**	**341**	P		**Pn**	**21 04 37.5**	**-0.2**
	0.1nm,0.3s,baz=107,slow=4.8,SNR=2.6							
CMAR	**Chiang Mai Arr**	**23.02**	**130**	P		**P**	**21 05 12.5**	**-0.7**
	1.4nm,0.8s,baz=314,slow=9.9,SNR=14							
SONM	**Songino Array**	**23.14**	**48**	P		**P**	**21 05 16.2**	**+1.8**
	0.4nm,0.8s,baz=251,slow=3.5,SNR=3.4							
BRTR	**Keskin Array B**	**37.41**	**292**	P		**P**	**21 07 22.2**	**+1.2**
	0.4nm,0.6s,baz=114,slow=5.7,SNR=3.3							
TORD	**Torodi Ar. Bea**	**73.64**	**275**	P		**P**	**21 11 40.8**	**-0.7**
	3.2nm,1.4s,baz=66,slow=5.5,SNR=4.1							
ILAR	**Eielson Array**	**73.98**	**19**	P		**P**	**21 11 42.1**	**-0.5**
	0.5nm,1.0s,baz=308,slow=4.4,SNR=3.4							
WRA	**Warramunga Arr**	**74.59**	**128**	P		**P**	**21 11 46.7**	**-0.2**
	0.4nm,0.7s,baz=327,slow=6.0,SNR=5.0							
ASAR	**Alice Springs**	**77.03**	**131**	P		**P**	**21 11 59.8**	**-0.9**
	0.2nm,0.5s,baz=319,slow=5.5,SNR=3.9							

*ISCJB **14** 21:02:17.5±0.9, 16.08S±0.06×31.33E±0.09, h10km, mb3.2/2, Error ellipse: s-maj=12.8km s-min=9.1km az=10.0*
*IDC **14** 21:02:17.5±2.8, 16.25S×31.14E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/45, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=83.4km s-min=29.7km az=106.0*
*NEIC **14** 21:02:18.8±1.2, 16.23S×31.35E, h10km, mb4.0/1, Error ellipse: s-maj=24.4km s-min=12.9km az=101.0*

ISC 14 21:02:18.7±1.3, 16.05S±0.06×31.4E±0.1, h10km, n16, σ2.58/22, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**3.16**	**284**	*e*Pn		**Pn**	**21 03 10.4**	**+1.9**
LSZ				*e*S		**Sn**	**21 03 45.4**	**-1.0**
BLWY	**Bulawayo**	**4.84**	**212**	*i* S		**Sn**	**21 04 29.9**	**+1.9**
BLWY	**Bulawayo**	**4.84**	**212**	*i* P		**Pn**	**21 03 32.7**	**+0.9**
BLWY				*i* S		**Sn**	**21 04 30.0**	**+1.9**
BLWY	**Bulawayo**	**4.84**	**212**	*i* P		**Sn**	**21 04 29.3**	**+1.2**
BLWY				*i* S		**Sg**	**21 04 59.3**	**+4.9**
MATP	**Matopo**	**5.14**	**212**	*i* S		**Sn**	**21 04 35.7**	**+0.3**
MATP				*i* S		**Sg**	**21 05 02.8**	**-1.0**
MATP	**Matopo**	**5.14**	**212**	*i* P		**Sn**	**21 04 37.3**	**+1.9**
LBTB	**Lobatse**	**10.43**	**210**	*e*Pn		**Pn**	**21 04 47.4**	**-1.1**
LBTB				*e*Sn		**Sn**	**21 06 42.6**	**-2.9**
TSUM	**Tsumeb**	**13.51**	**255**	*e*Pn		**Pn**	**21 05 29.2**	**-1.5**
	2.3nm,0.8s							
TSUM				*e*S		S	21 08 14.0	-11
BOSA	**Boshof**	**13.72**	**203**	*i* P		**Pn**	**21 05 28.8**	**-4.7**
BOSA				*i* P		**Pn**	**21 05 29.8**	**-3.8**
BOSA				*i* S		Sn	21 07 55.9	-10
BOSA	**Boshof**	**13.72**	**203**	Pn		**Pn**	**21 05 29.2**	**-4.3**
	0.3nm,0.3s,baz=24,slow=13,SNR=5.3							
BOSA				Sn		Sn	21 07 55.6	-11
	0.3nm,0.3s,baz=311,slow=19,SNR=2.6							
BOSA				Lg		Lg	21 09 26.2	
	0.7nm,0.3s,baz=299,slow=21,SNR=5.9							
BOSA	**Boshof**	**13.72**	**203**	*i* P		**Pn**	**21 05 30.5**	**-3.1**
SUR	**Sutherland**	**18.88**	**209**	*e*P		**P**	**21 06 39.2**	**-0.2**
	11nm,0.9s							
TORD	**Torodi Ar. Bea**	**41.26**	**313**	P		**P**	**21 10 04.4**	**0.0**
	0.2nm,0.6s,baz=125,slow=8.5,SNR=4.7							
TOA1	**Torodi Ar. Sit**	**41.26**	**313**	*e*P		**P**	**21 10 04.4**	**0.0**
BR101	**Keskin Array S**	**55.52**	**2**	*e*P		**P**	**21 11 56.0**	**+1.9**
BRTR	**Keskin Array B**	**55.52**	**2**	P		**P**	**21 11 56.0**	**+1.9**
	0.3nm,0.6s,baz=174,slow=11,SNR=2.9							

IDC 14 21:13:13.4±1.6, 2.37N×95.57W, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.9/30, mbtmp4.0/7, MS4.1/9, Ms1 4.1/9, ms1mx3.7/37, Error ellipse: s-maj=53.7km s-min=20.7km az=35.0, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**13.16**	**53**	LR	LR	21 19 49.4	
	comp=Z,522nm,19.0s,baz=239,slow=30						
APG	**El Apazote**	**13.53**	**22**	LR	LR	21 20 24.2	
	comp=Z,785nm,20.9s,baz=134,slow=32						
CMIG	**Matias Romero**	**14.64**	**3**	LR	LR	21 20 58.1	
	comp=Z,622nm,20.5s,baz=170,slow=32						
ATAH	**Atahualpa**	**19.57**	**119**	LR	LR	21 23 58.1	
	comp=Z,194nm,18.5s,baz=310,slow=33						
ROSC	**El Rosal**	**41.25**	**313**	P		21 18 03.0	+0.1
	5.9nm,0.4s,baz=230,slow=8.4,SNR=7.4						
NNA	**Nana**	**23.45**	**128**	LR	LR	21 25 27.2	
	comp=Z,223nm,21.6s,baz=303,slow=31						
SDV	**Santo Domingo**	**25.64**	**74**	P		21 18 45.3	+0.1
	5.3nm,0.9s,baz=224,slow=4.8,SNR=6.0						
LPAZ	**La Paz**	**32.84**	**125**	P		21 19 49.8	0.0
	1.4nm,0.7s,baz=325,slow=15,SNR=7.9						
NVAR	**Mina Array Bea**	**41.48**	**333**	P		21 21 03.1	+0.6
	0.9nm,0.7s,baz=149,slow=8.1,SNR=6.5						
PDAR	**Pinedale Array**	**42.12**	**345**	P		21 21 07.8	0.0
	0.7nm,0.8s,baz=156,slow=7.8,SNR=7.1						
DLBC	**Dease Lake**	**62.08**	**340**	LR	LR	21 50 44.2	
	comp=Z,275nm,18.2s,baz=287,slow=36						
FRB	**Frobisher Bay**	**64.37**	**13**	LR	LR	21 50 42.3	
	comp=Z,179nm,20.8s,baz=182,slow=35						
RAR	**Rarotonga**	**66.98**	**246**	LR	LR	21 44 11.4	
	comp=Z,212nm,18.5s,baz=316,slow=28						
INK	**Inuvik**	**70.67**	**346**	P		21 24 30.6	0.0
	3.7nm,1.1s,baz=116,slow=8.1,SNR=4.3						
INK				LR	LR	21 56 13.2	
	comp=Z,188nm,18.6s,baz=112,slow=36						
ILAR	**Eielson Array**	**72.26**	**339**	P		21 24 39.0	-1.3
	0.6nm,0.8s,baz=160,slow=4.7,SNR=5.2						
H11S2	**WAKE ISLAND Hy**	**96.57**	**289**	T	T	23 14 21.9	
	baz=86,slow=75,SNR=8.6						
H11S1	**WAKE ISLAND Hy**	**96.58**	**289**	T	T	23 14 22.2	
	baz=86,slow=75,SNR=5.6						
H11S3	**WAKE ISLAND Hy**	**96.59**	**289**	T	T	23 14 23.2	
	baz=86,slow=75,SNR=6.7						
CMAR	**Chiang Mai Arr**	**154.85**	**326**	PKP	PKPdf	21 33 08.4	-0.8
	0.2nm,0.4s,baz=222,slow=1.2,SNR=4.6						
CMAR				PKPab	PKPab	21 33 33.2	+0.4
	0.5nm,0.8s,baz=12,slow=4.1,SNR=4.6						

*IDC **14** 21:16:19.4±1.9, 18.74N×94.28E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.3/46, mbtmp3.5/4, ML3.2/1, Error ellipse: s-maj=64.1km s-min=26.5km az=57.0*

ISC 14 21:16:22.6±1.5, 19.0N±0.2×94.6E±0.1, h10km, n9, σ2.94/10, mb3.5/3, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHTO	**Chiang Mai**	**4.09**	**92**	P		**Pn**	**21 17 28.4**	**+3.2**
CMMT	**Chiang Mai**	**4.09**	**92**	P		**Pn**	**21 17 28.3**	**+3.0**
CMAR	**Chiang Mai Arr**	**4.12**	**97**	Pn		**Pn**	**21 17 27.7**	**+2.0**
	0.3nm,0.3s,baz=273,slow=14,SNR=27							
CMAR				Sn		**Sn**	**21 18 10.5**	**-3.5**
	1.3nm,0.3s,baz=279,slow=17,SNR=5.7							
CMAR				Lg		Lg	21 18 26.1	
	1.5nm,0.3s,baz=266,slow=32,SNR=9.4							
UMPA	**Umpang Tak**	**4.89**	**124**	P		**Pb**	**21 17 47.6**	**-0.8**
SUKH	**Sukhothai**	**4.98**	**107**	P		**Pn**	**21 17 40.7**	**+3.2**
PBKT	**Sadao Pong**	**6.50**	**111**	P		**Pn**	**21 18 01.7**	**+3.4**
MKAR	**Makanchi Array**	**29.53**	**343**	P		**P**	**21 22 26.7**	**-0.6**
	0.8nm,0.9s,baz=159,slow=12,SNR=3.3							
WRA	**Warramunga Arr**	**54.88**	**133**	P		**P**	**21 25 52.4**	**-1.3**
	0.5nm,0.7s,baz=319,slow=7.5,SNR=5.5							
ASAR	**Alice Springs**	**57.14**	**136**	P		**P**	**21 26 08.8**	**-0.9**
	0.3nm,0.5s,baz=319,slow=7.3,SNR=4.1							

*IDC **14** 21:19:38.7±2.1, 36.25N×142.11E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/42, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=53.9km s-min=27.0km az=55.0*
*ISCJB **14** 21:19:39.8±1.2, 36.28N±0.07×142.11E±0.08, h19km, mb3.5/4, Error ellipse: s-maj=10.3km s-min=9.6km az=157.8*
*JMA **14** 21:19:43.2±0.1, 36.27N×141.81E, h79km±3km, M3.1*

ISC 14 21:19:41.7±1.5, 36.28N±0.08×142.0E±0.1, h19km, n9, σ1.25/12, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.11**	**239**	P		**Pn**	**21 20 01.8**	**-0.4**
CHOJ				*e*S		**Sb**	**21 20 15.8**	**-0.6**
JHYU	**Hitachinakayam**	**1.17**	**273**	P		**Pn**	**21 20 02.0**	**-1.0**
JHYU				S		**Sb**	**21 20 16.6**	**-1.4**
ONAJ	**Iwakimizuishiy**	**1.29**	**310**	*e*S		**Sb**	**21 20 20.2**	**-1.3**
JFK	**Kawauchi**	**1.43**	**320**	P		**Pn**	**21 20 06.4**	**-0.3**
MJAR	**Matsushiro Arr**	**3.09**	**276**	Pn		**Pn**	**21 20 29.8**	**+0.3**
	4.6nm,0.3s,baz=122,slow=7.9,SNR=18							
MJAR				Sn		**Sn**	**21 21 08.7**	**+2.6**
	2.7nm,0.3s,baz=40,slow=17,SNR=3.5							
SONM	**Songino Array**	**28.62**	**305**	P		**P**	**21 25 36.5**	**-0.4**
	1.3nm,0.9s,baz=104,slow=8.1,SNR=7.2							
ZALV	**Zalesovo Beam**	**42.79**	**313**	P		**P**	**21 27 39.1**	**+1.2**
	0.3nm,0.3s,baz=90,slow=7.2,SNR=2.6							
MKAR	**Makanchi Array**	**44.94**	**303**	P		**P**	**21 27 55.5**	**+0.1**
	0.7nm,0.8s,baz=91,slow=11,SNR=4.3							
WRA	**Warramunga Arr**	**56.39**	**189**	P		**P**	**21 29 21.6**	**-0.2**
	0.2nm,0.5s,baz=6.1,slow=7.5,SNR=3.2							

MEX 14 21:41:17.5±0.4, 14.25N×92.48W, h77km±14km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.69**	**17**	*i* P		Pn	21 41 31.7	-1.1
THIG				*i* S		Sn	21 41 42.7	-1.5
PCIG		**1.62**	**334**	*e*P		Pn	21 41 43.0	-1.3
PCIG				*i* S		Sn	21 42 02.8	-1.7
CCIG	**Comitan**	**2.05**	**9**	*i* P		Pn	21 41 48.8	-1.4
CCIG				*i* S		Sn	21 42 13.4	-1.7
TGIG		**2.59**	**346**	*i* P		Pn	21 41 56.3	-1.1
TGIG				*i* S		Sn	21 42 26.4	-1.6

IDC 14 21:45:27.5±4.2, 27.54S×141.19E, h0km, mb1 3.2/3, mb1mx3.2/28, mbtmp3.0/3, ML2.8/3, Error ellipse: s-maj=68.1km s-min=19.2km az=64.0, Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**4.33**	**175**	Pn		Pn	21 46 35.9	+1.2
	0.1nm,0.3s,baz=3.5,slow=19,SNR=2.1							
STKA				Sn		Sn	21 47 20.2	-5.8
	1.0nm,0.3s,baz=292,slow=16,SNR=6.1							
STKA				Lg		Lg	21 47 43.2	
	0.7nm,0.3s,baz=259,slow=23,SNR=5.6							
ASAR	**Alice Springs**	**7.63**	**299**	Pn		Pn	21 47 19.9	-0.1
	0.3nm,0.3s,baz=122,slow=13,SNR=12							
ASAR				Sn		Sn	21 48 42.1	-5.2
	0.2nm,0.3s,baz=124,slow=23,SNR=3.3							
ASAR				Lg		Lg	21 49 29.2	
	baz=117,slow=26,SNR=2.7							
WRA	**Warramunga Arr**	**9.83**	**319**	Pn		Pn	21 47 50.3	0.0
	0.2nm,0.3s,baz=141,slow=13,SNR=13							
WRA				Sn		Sn	21 49 36.8	-4.6
	0.1nm,0.3s,baz=140,slow=25,SNR=4.9							

*ISK **14** 21:45:54.4, 37.33N×37.13E, h7km, ML2.7/6*
*ISCJB **14** 21:45:55.2±0.6, 37.29N±0.03×37.11E±0.04, h5km±5km, Error ellipse: s-maj=5.4km s-min=4.0km az=142.3*
*DDA **14** 21:45:55.7, 37.28N×37.19E, h7km, Ml3.2*

ISC 14 21:45:55.2±1.0, 37.32N±0.03×37.13E±0.03, h7km±9km, n18, σ0.52/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.16**	**157**	PG		**Pg**	**21 45 58.5**	**0.0**
GAZ				SG		**Sg**	**21 46 01.1**	**+0.4**
KMRS	**Kahramanmaras**	**0.26**	**315**	PG		**Pg**	**21 46 00.1**	**-0.4**
KMRS				SG		**Sg**	**21 46 04.1**	**+0.1**
KUZU	**Kuzuini**	**0.55**	**185**	*i* P		**Pg**	**21 46 05.9**	**+0.2**
KUZU				*i* S		**Sg**	**21 46 13.3**	**+0.4**
ANDN	**Andirin**	**0.68**	**293**	*i* P		**Pg**	**21 46 08.1**	**-0.2**
ATAB	**Bozova**	**0.94**	**80**	*i* P		**Pb**	**21 46 13.3**	**-0.5**
ELBS	**KAHRAMANMARAS**	**1.00**	**360**	*i* P		**Pn**	**21 46 15.7**	**-0.2**
ELBS				*i* S		**Sn**	**21 46 31.0**	**+0.6**
KOZT	**Kozan**	**1.05**	**279**	PG		**Pg**	**21 46 14.9**	**-0.6**
SAIM	**ADANA**	**1.06**	**309**	*i* P		Pg	21 46 11.0	-4.6
SAIM				*i* S		**Sg**	**21 46 30.3**	**+0.8**
AKCD	**Akcadag**	**1.16**	**32**	*i* P		**Pg**	**21 46 17.3**	**-0.1**
AKCD				*i* S		**Sn**	**21 46 34.5**	**+0.3**
TAHT	**Tahtakopru-Hat**	**1.21**	**219**

MRZ	Mangatainoka R	1.35 218	P	Pn	21 47 06.5	-0.9
CPWZ	Castlepoint	1.35 195	P	Pn	21 47 06.8	-0.6
HLRZ	Highlands Stat	1.38 349	P	Pb	21 47 08.9	0.0
TARZ	Mount Tarawera	1.38 354	P	Pn	21 47 08.1	+0.2
URZ	Urewera	1.39 14	P	Pn	21 47 07.3	-0.6
MWZ	Matawai	1.43 28	P	Pn	21 47 07.7	-0.9
MKRZ	Makatiti	1.47 354	P	Pb	21 47 10.3	-0.4
OMRZ	Omania	1.52 351	P	Pn	21 47 10.0	+0.2
TLZ	Tolley Road	1.55 325	P	Pn	21 47 10.2	-0.1
VRZ	Vera Road	1.56 287	P	Pn	21 47 11.2	+0.9
HOWZ	Holdsworth Sta	1.57 214	P	Pn	21 47 09.1	-1.4
TMWZ	Te Maipa	1.61 202	P	Pn	21 47 09.5	-1.6
KARZ	Kaharoa	1.62 348	P	Pn	21 47 11.4	+0.2
OGWZ	Otaki Gorge	1.67 223	P	Pn	21 47 10.8	-1.0
TWGZ	Tauwhareparae	1.75 36	P	Pn	21 47 13.2	+0.1
WHRZ	Whale Island	1.76 8	P	Pn	21 47 13.6	+0.4
LREZ	Lake Rotokare	1.76 274	P	Pb	21 47 14.9	-0.6
HIZ	Hauiti	1.79 307	P	Pn	21 47 13.9	+0.5
MTW	Mount Morrison	1.79 210	P	Pn	21 47 11.7	-1.8
RUGZ	Raukumara Rang	1.82 26	P	Pn	21 47 13.1	-0.8
KIW	Kapiti Island	1.84 227	P	Pn	21 47 13.3	-0.9
CAW	Cannon Point	1.94 219	P	Pn	21 47 14.3	-1.3
TRWZ	Traveller	1.94 202	P	Pn	21 47 13.5	-2.1
PREZ	Palmer Road	1.96 277	P	Pb	21 47 18.0	-1.0
PAWZ	Paruwai Farm	2.01 208	P	Pn	21 47 14.7	-1.9
HAZ	Te Kaha	2.04 25	P	Pn	21 47 16.2	-0.8
TOZ	Tahuroa Road	2.08 333	P	Pn	21 47 16.6	-1.0
MSWZ	Moikau Station	2.11 211	P	Pn	21 47 16.0	-1.9
PLWZ	Palliser	2.24 208	P	Pn	21 47 17.4	-2.3
WMGZ	Waiomatatini S	2.24 38	P	Pn	21 47 18.3	-1.5
DUWZ	D'Urville Isla	2.42 240	P	Pn	21 47 22.7	+0.5
TCW	Tory Channel	2.42 240	P	Pn	21 47 20.5	-1.9
QRZ	Quartz Range	3.40 248	P	Pn	21 47 34.0	-1.6
THZ	Tophouse	3.59 232	P	Pn	21 47 35.7	-2.6
OKCZ	Okains Bay	4.92 212	P	Pn	21 47 53.7	-2.9
AKCZ	Akaroa Harbour	5.11 212	P	Pn	21 47 56.0	-3.1
CTZ	Chatham Island	6.50 132	P	Pn	21 48 16.7	-1.5

*ISCJB **14** 21:59:14.5±0.7,24°.80N±0°.05×94°.72E±0°.09, h119km±11km, mb3.4/3, Error ellipse: s-maj=13.5km s-min=8.2km az=8.2*

*IDC **14** 21:59:17.6±4.2,24°.48N×94°.62E, h116km±38km, mb3.2/3, mb1 3.3/4, mb1mx2.9/34, mbtmp3.4/4, Error ellipse: s-maj=193.8km s-min=24.0km az=60.0*

*NDI **14** 21:59:18.1±2.6,24°.79N×94°.65E, h31km±26km, ML3.0*

ISC 14 21:59:15.5±1.1, 24.78N±0°.05×94.79E±0°.10, h91km±14km, n10, σ1s52/16, mb3.6/3, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KOHI	KOHIMA	1.12	327	eP	Pn	Pn	21 59 37.8	+1.0
KOHI				eS	Sn	Sn	21 59 49.5	-3.3
KOHI				IAML			22 00 01.4	
	comp=E,220nm,0.3s							
KOHI				IAML			22 00 03.0	
	comp=N,260nm,0.6s							
MOKO	MOKOCHONG	1.56	351	eP	Pn	Pn	21 59 43.5	+1.4
MOKO				eS	Sn	Sn	22 00 03.8	+1.5
MOKO				IAML			22 00 14.8	
	comp=E,282nm,0.2s							
MOKO				IAML			22 00 15.2	
	comp=N,175nm,0.4s							
TEZP	TEZPUR	2.56	316	eP	Pn	Pn	21 59 55.7	+0.6
TEZP				eS	Sn	Sn	22 00 24.8	-0.8
TEZP				IAML			22 00 26.6	
	comp=E,274nm,0.2s							
TEZP				IAML			22 00 27.1	
	comp=N,264nm,0.1s							
SHL	Shillong	2.75	287	eP	Pn	Pn	21 59 58.6	+0.8
SHL				eS	Sn	Sn	22 00 29.3	-1.0
SHL				IAML			22 00 31.8	
	comp=N,106nm,0.1s							
SHL				IAML			22 00 32.0	
	comp=E,100nm,0.2s							
SAIH	SAIHA	2.81	216	eP	Pn	Pn	21 59 59.8	+1.2
SAIH				eS	Sn	Sn	22 00 32.2	+0.3
SAIH				IAML			22 00 38.4	
	comp=E,90nm,0.4s							
SAIH				IAML			22 00 39.6	
	comp=N,42nm,0.3s							
ZIRO	ZIRO	2.86	343	eP	Pn	Pn	21 59 59.7	+0.3
ZIRO				eS	Sn	Sn	22 00 32.4	-0.7
CMAR	Chiang Mai Arr	7.38	148	P	Pn	Pn	22 01 00.6	-0.1
	comp=N,0.3nm,0.3s,baz=319,slow=12,SNR=6.5							
MKAR	Makanchi Array	24.13	339	P	P	P	22 04 24.7	+1.8
	comp=N,0.4nm,0.6s,baz=150,slow=9.9,SNR=4.4							
WRA	Warramunga Arr	58.80	136	P	P	P	22 09 03.2	-1.4
	comp=N,0.8nm,1.2s,baz=323,slow=7.4,SNR=7.0							
ASAR	Alice Springs	61.30	139	P	P	P	22 09 20.1	-1.5
	comp=N,0.5nm,0.9s,baz=335,slow=8.6,SNR=4.0							

*NORS **14** 22:07:24.4±0.0, 43°.76N×45°.34E, h18km*

*DRS **14** 22:07:28.7±0.0, 43°.60N×45°.36E, h18km*

MOS 14 22:07:24.7±0.0, 43°.75N×45°.34E, h18km, MPVA3.5, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TRKR	Terskaya	0.44	267	ePg	P	Pb	22 07 34.6	+0.7
TRKR				eSg	S	Sn	22 07 42.5	-1.0
GROC	Groznyy	0.64	148	i Pg	P	Pg	22 07 37.7	+0.3
GROC				eSg	S	Sn	22 07 48.5	-0.1
BTKR	Batakoyurt	0.69	237	ePg	P	Pb	22 07 37.3	-0.9
PRTR	Priterechnaya	0.76	270	ePg	P	Pn	22 07 40.6	+0.1
PRTR				eSg	S	Sn	22 07 52.8	+1.2
KMGR	Komgaron	0.77	206	ePg	P	Pn	22 07 40.8	0.0
KMGR				eSg	S	Sn	22 07 53.6	+1.7
ARNR	Ardon	0.95	234	ePg	P	Pg	22 07 43.9	+0.6
ARNR				eSg	S	Sn	22 07 59.1	+2.8
DVE	Vedeno	0.98	144	i Pg	P	Pg	22 07 44.1	+0.3
DVE				eSg	S	Sn	22 07 60.0	+2.9
STDR	Stavd-Durt	1.00	248	ePg	P	Pg	22 07 45.1	+1.0
STDR				eSg	S	Sn	22 08 01.4	+4.0
KORR	Kora	1.14	235	ePg	P	Pg	22 07 47.1	+0.4
KORR				eSg	S	Sg	22 08 03.8	+2.2
DLMR	Dylym	1.16	125	ePg	P	Pg	22 07 48.0	+0.8
DLMR				eSg	S	Sg	22 08 06.0	+3.6
LACR	Lac	1.19	220	ePg	P	Pn	22 07 46.7	+0.1
LACR				eSg	S	Sg	22 08 04.5	+1.1
LSNR	Lesken	1.20	247	i Pg	P	Pg	22 07 48.0	+0.1
LSNR				eSg	S	Sg	22 08 06.3	+2.9
BTLR	Botlikh	1.27	149	ePg	P	Pb	22 07 48.2	+0.2
BTLR				eSg	S	Sg	22 08 06.5	+0.8
NCK	Nalchik	1.29	259	ePg	P	Pg	22 07 49.7	+0.1
NCK				eSg	S	Sg	22 08 07.8	+1.4
DBC	Dubki	1.31	123	i Pg	P	Pg	22 07 50.0	0.0
DBC				i Sg	S	Sg	22 08 08.6	+1.4
KBTC	Kuba-Taba	1.40	273	ePg	P	Pg	22 07 51.4	-0.2
KBTC				eSg	S	Sg	22 08 11.1	+1.2
ZEI	Tsey	1.42	228	i Pg	P	Pb	22 07 50.5	-0.3
ZEI				eSg	S	Sg	22 08 09.8	-0.9
KRNR	Karanay	1.47	128	ePg	P	Pg	22 07 53.0	-0.1
KRNR				eSg	S	Sg	22 08 13.0	+0.7
UNCR	Uncukul	1.49	134	ePg	P	Pg	22 07 53.0	-0.3
UNCR				eSg	S	Sg	22 08 13.0	+0.3
DIGR	Digorskoe uzhe	1.54	237	ePg	P	Pb	22 07 52.1	-0.6
DIGR				eSg	S	Sb	22 08 12.7	+0.7
XNZR	Khunzakh	1.57	140	ePg	P	Pg	22 07 54.1	-0.8
XNZR				eSg	S	Sg	22 08 15.5	+0.1
PYA1	Pyatigorsk	1.65	282	ePg	P	Pb	22 07 54.4	-0.1
PYA1				eSg	S	Sg	22 08 16.6	-1.3
GNBR	Gunib	1.81	138	ePg	P	Pb	22 07 58.2	+0.9
GNBR				eSg	S	Sg	22 08 22.4	-0.6
KIV0	Kislovodsk Arr	1.92	277	ePg	P	Pg	22 07 57.5	+0.9
KIV0				eSg	S	Sb	22 08 24.3	+1.4
KIV	Kislovodsk	1.93	277	ePg	P	Pn	22 07 57.5	+0.8
KIV				eSg	S	Sb	22 08 24.6	+1.5
SHA1	Shidzhatmaz	1.94	271	ePg	P	Pn	22 07 57.6	+0.6
SHA1				eSg	S	Sb	22 08 25.4	+1.8
NEY	Neytrino	1.97	256	ePg	P	Pb	22 07 59.6	-0.4
NEY				eSg	S	Sb	22 08 25.4	+1.1

IDC 14 22:08:36.0±5.5, 4°.14S×133°.15E, h0km, mb3.5/1, mb1 3.4/3, mb1mx3.2/23, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=337.3km s-min=30.3km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.76	176	Pn	Pn	Pn	22 12 17.9	-1.5
	0.1nm,0.3s,baz=353,slow=14,SNR=6.3							
WRA				Sn	Sn	Sn	22 15 03.2	-12
	0.1nm,0.3s,baz=360,slow=24,SNR=4.7							
ASAR	Alice Springs	19.43	178	P	Pn	Pn	22 13 04.8	-0.4
	0.1nm,0.3s,baz=5.7,slow=12,SNR=3.7							
MKAR	Makanchi Array	67.63	325	P	P	P	22 19 34.8	0.0
	0.4nm,0.8s,baz=117,slow=7.4,SNR=3.6							

*IDC **14** 22:10:01.2±2.2,23°.33N×91°.57E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.3/34, mbtmp3.4/6, ML4.0/1, Error ellipse: s-maj=120.4km s-min=18.3km az=60.0*

*ISCJB **14** 22:10:03.8±0.6, 23°.31N±0°.05×91°.35E±0°.05, h33km±6km, mb3.5/5, Error ellipse: s-maj=7.9km s-min=7.3km az=159.8*

*NDI **14** 22:10:05.3±2.1, 23°.29N×91°.43E, h26km±5km, ML3.5*

ISC 14 22:10:04.7±0.9, 23°.26N±0°.06×91°.43E±0°.05, h30km±6km, n14, σ1s11/21, mb3.5/5, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BELO	BELONIA	0.02	120	eP	Pb	Pb	22 10 09.3	-0.4
BELO				eS	Sb	Sb	22 10 13.8	+0.7
BELO				AMP			22 10 14.5	
SAIH	SAIHA	1.63	118	eP	Pn	Pn	22 10 31.6	0.0
SAIH				eS	Sb	Sb	22 10 54.0	-0.5
SAIH				IAML			22 10 55.6	
	comp=N,2μm,0.3s							
SAIH				IAML			22 10 56.2	
	comp=E,1μm,0.3s							
SHL	Shillong	2.33	10	eP	Pn	Pn	22 10 41.2	-0.1
SHL				eS	Sn	Sn	22 11 09.0	-0.1
SHL				IAML			22 11 18.3	
	comp=N,197nm,0.7s							
SHL				IAML			22 11 20.6	
	comp=E,176nm,0.2s							
KOHI	KOHIMA	3.46	44	eP	Pn	Pn	22 10 57.2	+0.5
KOHI				eS	Sn	Sn	22 11 37.4	+0.6
TEZP	TEZPUR	3.57	20	eP	Pn	Pn	22 10 57.6	-0.4
MOKO	MOKOCHONG	4.14	42	eP	Pn	Pn	22 11 06.4	+0.3
MOKO				eS	Sn	Sn	22 11 53.0	-0.6
MOKO				AMP			22 11 57.6	
ZIRO	ZIRO	4.78	27	eP	Pn	Pn	22 11 15.2	+0.3
ZIRO				eS	Sn	Sn	22 12 06.7	-2.7
ZIRO				IAML			22 12 11.8	
	comp=N,240nm,0.6s							
ZIRO				IAML			22 12 13.6	
	comp=E,286nm,0.7s							
BOK	Bokaro	5.11	277	eP	Pn	Pn	22 11 19.7	+0.4
BOK				eS	Sn	Sn	22 12 15.5	-1.9
BOK				IAML			22 12 18.6	
	comp=E,18nm,0.1s							
BOK				IAML			22 12 18.7	
	comp=N,27nm,0.3s							
CMAR	Chiang Mai Arr	8.50	123	Pn	Pn	Pn	22 12 05.2	-0.6
	comp=N,0.4nm,0.3s,baz=301,slow=14,SNR=7.7							
MKAR	Makanchi Array	24.61	345	P	P	P	22 15 23.2	+0.9
	comp=N,1.0nm,0.5s,baz=171,slow=8.5,SNR=15							
KURBB	Kurchatov Arra	29.10	343	P	P	P	22 16 02.6	-0.1
	comp=N,0.3nm,0.5s,baz=176,slow=7.6,SNR=3.5							
ZALV	Zalesovo Beam	31.05	352	P	P	P	22 16 20.6	+0.8
	comp=N,0.3nm,0.4s,baz=167,slow=7.0,SNR=2.3							
WRA	Warramunga Arr	59.97	132	P	P	P	22 20 07.6	-1.0
	comp=N,0.3nm,0.9s,baz=326,slow=7.4,SNR=3.0							
ASAR	Alice Springs	62.28	136	P	P	P	22 20 26.5	+2.2
	comp=N,0.2nm,0.3s,baz=321,slow=7.2,SNR=3.2							

*IDC **14** 22:17:26.5±1.7,2°.72N×95°.09W, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.9/30, mbtmp3.9/8, MS4.1/28, Ms1 4.1/28, ms1mx4.0/40, Error ellipse: s-maj=61.5km s-min=18.9km az=40.0*

*ISCJB **14** 22:17:27.2±1.6,2°.8N±0°.3×95°.0W±0°.2, h10km, mb3.8/8, MS4.0/25, Error ellipse: s-maj=50.3km s-min=15.2km az=40.6*

*GCMT **14** 22:17:31.0±0.4,2°.94N±0°.03×94°.68W±0°.03, h19km±1km, MW5.1/77, Moment Tensor Solution. s16,c16; s77,c95; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=3.00±.33; Mθθ=3.40±.24; Mϕϕ-0.39±.22; Mrθ=3.11±.49; Mrϕ0.98±.16; Mθϕ-2.38±.64; Best double couple: Mw5.10500×10^16 NP1:ϕs=289.00000°, δ71.00000°, λ-64.00000°. NP2: ϕs=53.00000°, δ32.00000°, λ-142.00000°. Principal axes: T 4.6620, Plg22.0000°, Azm360.0000°; N 0.8910, Plg25.0000°, Azm100.0000°; P -5.5490, Plg56.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 14 22:17:28.3±1.7, 2°.8N±0°.3×95°.1W±0°.3, h10km, n35, σ1s54/9, mb3.9/8, MS3.9/25, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JTS	JuntasAbangare	12.50	53	LR	LR	LR	22 24 00.0	
	comp=Z,1μm,19.4s,baz=228,slow=31							
APG	El Apazote	12.86	20	LR	LR	LR	22 24 33.6	
	comp=Z,2μm,20.8s,baz=188,slow=33							
CMIG	Matias Romero	14.23	1	LR	LR	LR	22 25 07.7	
	comp=Z,1μm,20.6s,baz=161,slow=32							
ATAH	Atahualpa	19.32	121	LR	LR	LR	22 27 50.8	
	comp=Z,804nm,18.4s,baz=297,slow=32							
ROSC	El Rosal	20.78	84	LR	LR	LR	22 28 12.5	
	comp=Z,141nm,20.9s,baz=284,slow=31							
NNA	Nana	23.29	129	LR	LR	LR	22 29 35.6	
	comp=Z,273nm,20.4s,baz=289,slow=31							
SDV	Santo Domingo	25.02	75	P	P	P	22 22 54.1	+1.1
	4.6nm,1.0s,baz=236,slow=8.2,SNR=4.3							
SDV				LR	LR	LR	22 31 24.6	
	comp=Z,310nm,21.7s,baz=251,slow=33							
LPIG	La Paz	25.82	326	LR	LR	LR	22 30 16.7	
	comp=Z,197nm,20.6s,baz=191,slow=30							
TXAR	Lajitas Array	27.65	344	P	P	P	22 23 16.1	-0.4
	0.8nm,0.8s,baz=163,slow=11,SNR=4.9							
TXAR				LR	LR	LR	22 33 14.6	
	comp=Z,636nm,21.6s,baz=0.0,slow=34							
SJG	San Juan	32.16	60	LR	LR	LR	22 34 50.4	
	comp=Z,138nm,18.1s,baz=256,slow=32							
LPAZ	La Paz	32.66	126	P	P	P	22 24 02.8	+1.2
	2.2nm,0.9s,baz=322,slow=6.6,SNR=7.8							
LPAZ				LR	LR	LR	22 37 20.4	
	comp=Z,133nm,18.6s,baz=314,slow=37							
TKL	Tuckaleechee C	34.35	16	LR	LR	LR	22 37 30.3	
	comp=Z,659nm,21.8s,baz=182,slow=35							
PTGA	Pitinga	35.24	95	P	P	P	22 24 21.9	-1.5
	4.8nm,0.9s,baz=284,slow=8.0,SNR=10							
PTGA				LR	LR	LR	22 36 55.2	
	comp=Z,149nm,21.2s,baz=262,slow=33							
NVAR	Mina Array Bea	41.36	332	P	P	P	22 25 16.6	+1.6
	1.4nm,0.7s,baz=134,slow=8.5,SNR=6.2							
PDAR	Pinedale Array	41.87	344	P	P	P	22 25 19.2	+0.2
	0.6nm,0.7s,baz=142,slow=7.5,SNR=8.8							
PDAR				LR	LR	LR	22 42 29.1	
	comp=Z,954nm,18.1s,baz=176,slow=36							
CPUP	Villa Florida	46.54	131	LR	LR	LR	22 43 40.4	
	comp=Z,106nm,20.2s,baz=319,slow=34							
ULM	Lac du Bonnet	47.31	359	LR	LR	LR	22 48 16.0	
	comp=Z,114nm,18.6s,baz=148,slow=39							
PLCA	Paso Flores	48.74	155	LR	LR	LR	22 42 28.8	
	comp=Z,446nm,18.1s,baz=358,slow=31							
NEW	Newport	49.13	341	LR	LR	LR	22 46 55.8	
	comp=Z,296nm,18.1s,baz=158,slow=36							
BDFB	Brasilia	49.98	113	LR	LR	LR	22 47 07.9	
	comp=Z,217nm,18.1s,baz=224,slow=36							
SCHQ	Schefferville	56.74	19	LR	LR	LR	22 50 49.3	
	comp=Z,188nm,18.5s,baz=356,slow=35							
PPT	Papeete	57.42	247	LR	LR	LR	22 45 30.5	
	comp=Z,71nm,21.6s,baz=34,slow=29							
YKA	Yellowknife Ar	61.34	350	LR	LR	LR	22 56 18.5	
	comp=Z,13nm,18.9s,baz=153,slow=38							
DLBC	Dease Lake	61.87	340	LR	LR	LR	22 54 53.2	
	comp=Z,476nm,18.3s,baz=142,slow=36							
INK	Inuvik	70.40	346	P	P	P	22 28 43.3	+1.1
	2.4nm,1.1s,baz=76,slow=3.7,SNR=2.8							
ILAR	Eielson Array	72.06	339	P	P	P	22 28 51.1	-1.3
	0.3nm,0.7s,baz=136,slow=4.1,SNR=5.0							
ILAR				LR	LR	LR	23 01 37.0	
	comp=Z,166nm,18.6s,baz=134,slow=37							
ESDC	Sonseca Array	89.08	51	LR	LR	LR	23 03 39.4	
	comp=Z,52nm,21.7s,baz=230,slow=31							
RPZ	Rata Peaks	94.72	227	LR	LR	LR	23 03 50.5	
	comp=Z,198nm,19.2s,baz=16,slow=29							
NOA	NORSAR Array B	95.40	28	LR	LR		23 14 26.2	
	comp=Z,35nm,18.4s,baz=280,slow=36							
VNDA	Vanda	95.52	192	LR	LR		23 05 47.0	
	comp=Z,134nm,19.4s,baz=114,slow=30							
H11S2	WAKE ISLAND Hy	96.94	289	T	T		00 18 40.6	
	baz=86,slow=75,SNR=16							
H11S1	WAKE ISLAND Hy	96.94	289	T	T		00 18 42.3	
	baz=86,slow=75,SNR=13							
H11S3	WAKE ISLAND Hy	96.95	289	T	T		00 18 31.4	
	baz=86,slow=75,SNR=13							
PETK	Petropavlovsk-	98.06	324	LR	LR		23 11 03.0	
	comp=Z,15nm,19.2s,baz=75,slow=33							
CMAR	Chiang Mai Arr	154.80	327	PKPbc	PKPbc		22 37 29.1	-1.8
	0.2nm,0.4s,baz=2.8,slow=2.3,SNR=4.3							

IDC 14 23:01:47.6±6.5, 2°.08N×94°.61W, h0km, mb3.5/5, mb1 3.9/5, mb1mx3.6/34, mbtmp3.5/5, MS3.2/2, Ms1 3.2/2, ms1mx2.8/26, Error ellipse: s-maj=232.8km s-min=126.9km az=63.0, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LPIG	La Paz	26.64	327	LR	LR		23 15 26.0	
	comp=Z,40nm,18.6s,baz=325,slow=31							
TXAR	Lajitas Array	28.44	343	P	P		23 07 44.7	+0.3
	0.3nm,0.9s,baz=166,slow=11,SNR=4.4							
TXAR				LR	LR		23 17 53.0	
	comp=Z,51nm,19.2s,baz=0.0,slow=34							
NVAR	Mina Array Bea	42.18	332	P	P		23 09 43.0	+0.6
	0.3nm,0.4s,baz=144,slow=6.7,SNR=3.3							
PDAR	Pinedale Array	42.66	344	P	P		23 09 45.0	-1.4
	0.5nm,0.8s,baz=159,slow=7.7,SNR=4.0							
INK	Inuvik	71.18	346	P	P		23 13 09.3	+1.4
	2.2nm,1.0s,baz=150,slow=16,SNR=4.1							
ILAR	Eielson Array	72.87	339	P	P		23 13 17.2	-0.9
	0.4nm,0.9s,baz=162,slow=4.4,SNR=3.7							

JMA 14 23:02:24.4±0.1, 39°.82N×143°.47E, h29km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JTH	Tanohata	1.24	276	P	Pn		23 02 46.1	+0.3
JTH				eS	Sb		23 03 02.7	-0.1
MIYJ	Miyakonagasawa	1.30	260	P	Pn		23 02 47.0	+0.5
MIYJ				eS	Sn		23 03 02.8	-0.1
JKEN	Kujiedanarisaw	1.41	286	P	Pn		23 02 48.4	+0.4
JANG	Nango	1.60	291	P	Pn		23 02 51.5	+0.8
JANG				eS	Sn		23 03 10.8	+0.4
JOM	Ohasama	1.72	259	P	Pn		23 02 53.7	+1.4
JMK	Ichinoseki	1.95	244	P	Pn		23 02 56.4	+0.9
JTM	Tenmabayashi	2.08	299	P	Pn		23 02 59.1	+1.9
JTM				eS	Sn		23 03 23.9	+1.8
JIO	Ouri	2.14	231	P	Pn		23 02 58.4	+0.3
JOT	Ohata	2.42	311	P	Pn		23 03 04.0	+2.1
JNBK	Urakawa-nobuka	2.52	348	P	Pb		23 03 06.3	-2.6
JYK	Kaneyama	2.57	251	P	Pn		23 03 06.0	+1.9
JYK				eS	Sn		23 03 37.3	+2.9
JKB	Kayabe	2.77	319	P	Pb		23 03 10.6	-2.6
JCH	Churui	2.79	358	P	Pn		23 03 08.9	+1.8
JCH				eS	Sn		23 03 41.3	+1.5

IDC 14 23:04:09.0±1.9, 7°.19S×148°.46E, h0km, mb4.0/3, mb1 4.1/5, mb1mx3.7/38, mbtmp3.9/5, ML3.8/1, Error ellipse: s-maj=80.6km s-min=23.0km az=124.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.55	210	Pn	Pn	Pn	23 04 52.9	+1.2
	10nm,0.3s,baz=30,slow=6.6,SNR=13							
PMG				Sn	Sn	Sn	23 05 23.9	+0.4
	11nm,0.3s,baz=35,slow=18,SNR=9.1							
WRA	Warramunga Arr	18.67	226	P	P	P	23 08 28.6	-0.2
	0.4nm,0.3s,baz=52,slow=11,SNR=5.4							
ASAR	Alice Springs	21.54	219	P	P	P	23 08 59.3	-0.8
	1.0nm,0.4s,baz=54,slow=9.0,SNR=14							
FITZ	Fitzroy Crossi	24.73	242	P	P	P	23 09 31.9	-0.5
	6.2nm,0.3s,baz=58,slow=9.3,SNR=62							
ILAR	Eielson Array	86.00	23	P	P	P	23 16 51.6	+0.5
	0.6nm,0.6s,baz=255,slow=5.6,SNR=6.5							

*IDC **14** 23:24:23.0±2.0, 36°.70N×141°.42E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/51, mbtmp3.4/4, ML2.9/1, Error ellipse: s-maj=43.5km s-min=27.9km az=58.0*

*ISCJB **14** 23:24:24.8±1.3, 36°.72N±0°.04×141°.32E±0°.08, h20km±7km, mb3.3/3, Error ellipse: s-maj=11.8km s-min=5.9km az=18.9*

*JMA **14** 23:24:25.6±0.1, 36°.73N×141°.26E, h31km±1km, M3.4*

JMA Felt I J1.

ISC 14 23:24:24.9±2.0, 36°.74N±0°.04×141°.31E±0°.09, h13km±9km, n19, σ1s11/22, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.54	311	P	Pb	Pb	23 24 36.2	-0.1
ONAJ				S	Sg	Sg	23 24 43.5	+0.7
JHO	Hitachi	0.61	258	P	Pg	Pg	23 24 36.7	0.0
JHO				S	Sg	Sg	23 24 44.9	+0.1
JFFD	Fukushimafurud	0.69	300	P	Pg	Pg	23 24 38.4	+0.1
JFFD				eS	Sg	Sg	23 24 47.4	-0.1
JHYU	Hitachinakayam	0.70	236	P	Pg	Pg	23 24 38.3	-0.3
JHYU				S	Sg	Sg	23 24 47.5	-0.3
JFK	Kawauchi	0.71	331	P	Pb	Pb	23 24 38.9	-0.2
JFK				S	Sg	Sg	23 24 48.2	+0.1
JYT	Yasato	1.03	241	S	Sb	Sb	23 24 55.6	-2.4
JFT	Otama

Ms1 5.0/33,ms1mx4.9/45,Error ellipse: s-maj=13.1km s-min=9.1km az=116.0

BJI **14** *23:41:46.3,5.99S×152.24E,h6km,mb4.9/51,mB5.4/55, Ms5.2/66,Ms7 5.0/63*

ISCJB **14** *23:41:51.9±0.1,5.95S±0.03×151.48E±0.03,h11km, mb5.2/171,MS5.2/190,Error ellipse: s-maj=4.5km s-min=3.6km az=162.8*

NEIC **14** *23:41:53.0±0.0,5.94S×151.76E,h25km,Moment Tensor Solution. s29 Moment tensor: Scale 10¹⁷Nm; Mrr=2.46; Mθθ=-2.17; Mϕϕ=-0.29; Mrθ=2.02; Mrϕ=-0.76; Mθϕ=1.11; Best double couple: M₀3.40000×10¹⁷ NP1:ϕs=64.00000°, δ67.00000°,λ85.00000°. NP2:ϕs=256.00000°,δ24.00000°, λ101.00000°. Principal axes: T 3.3900, Plg67.0000°, Azm324.0000°; N -0.0500, Plg4.0000°, Azm66.0000°; P -3.3400, Plg21.0000°, Azm157.0000°;*

MOS **14** *23:41:55.1±1.6,5.90S×151.25E±6.8,h36km,mb5.5/28, MS5.2/18 Error ellipse: s-maj=10.2km s-min=7.6km az=78.9*

NEIC **14** *23:41:56.4±0.2,5.86S×151.34E,h35km,mb5.5/106, MS5.2/126,MW5.4,MW5.6,Error ellipse: s-maj=7.8km s-min=5.9km az=127.0,Moment Tensor Solution. s32 Moment tensor: Scale 10¹⁷Nm; Mrr=1.15; Mθθ=-1.48; Mϕϕ=0.32; Mrθ=0.77; Mrϕ=-0.36; Mθϕ=0.36; Best double couple: M₀1.60000×10¹⁷ NP1:ϕs=273.00000°,δ31.00000°, λ110.00000°. NP2:ϕs=69.00000°,δ62.00000°,λ78.00000°. Principal axes: T 1.4300, Plg71.0000°, Azm313.0000°; N 0.3500, Plg10.0000°, Azm75.0000°; P -1.7800, Plg16.0000°, Azm168.0000°;*

GCMT **14** *23:41:57.4±0.1,6.01S±0.01×151.85E±0.01,h22km, MW5.6/123,Moment Tensor Solution. s113,c200; s123,c285; Duration: 1s6 Moment tensor: Scale 10¹⁷ Nm; Mrr2.62±.04; Mθθ-2.19±.03; Mϕϕ-0.43±.03; Mrθ 1.98±.06; Mθϕ-0.98±.02; Mϕr 0.34±.06; Best double couple: M₀3.30300×10¹⁷ NP1:ϕs75.00000°,δ64.00000°, λ98.00000°. NP2:ϕs238.00000°,δ27.00000°,λ75.00000°. Principal axes: T 3.3300, Plg70.0000°, Azm1.0000°; N -0.0550, Plg7.0000°, Azm251.0000°; P -3.2760, Plg18.0000°, Azm159.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

DJA **14** *23:41:59.4±0.5,6°S±4°×15°E±°,h108km±4km,M5.3/36, mB5.8/29,mb5.3/36,Mw(mB)5.3/29*

ISC 14 23:41:55.3±0.6,**6.06S**±0.04×**151.73E**±0.04,**h31**km±3km, **h32**km:**pP-P,n579,**σ**2s54**/444,**mb5.3**/166,**MS5.2**/190, **21C-11D,New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.91**	**13**	*e*Pn		**Pn**	23 42 17.1	-8.6
PMG	**Port Moresby**	**5.62**	**233**	Pn		**Pn**	**23 43 15.4**	**-1.3**
	15nm,0.3s,baz=47,slow=11,SNR=25							
PMG				Sn		**Sn**	**23 44 22.7**	**+2.4**
	12nm,0.3s,baz=64,slow=18,SNR=2.8							
PMG	**Port Moresby**	**5.62**	**233**	*e*Pn		**Pn**	**23 43 16.6**	**-0.1**
PMG				*e*S		**Sn**	**23 44 22.7**	**+2.4**
PMG	**Port Moresby**	**5.62**	**233**	*e*P		**Pn**	**23 43 16.6**	**-0.1**
PMG				*e*S		**Sn**	**23 44 22.7**	**+2.4**
MANU	**Manus Island**	**5.91**	**312**	*e*Pn		Pn	23 43 13.2	-7.5
HNR	**Honiara**	**8.80**	**113**	Pn		**Pn**	**23 43 56.8**	**-3.7**
	11nm,0.3s,baz=291,slow=8.6,SNR=2.7							
HNR				LR		LR	23 47 09.5	
	comp=Z,10μm,21.1s,baz=282,slow=36							
HNR	**Honiara**	**8.80**	**113**	*e*P		Pn	23 44 06.0	+5.5
HNR				*e*S		Sn	23 45 28.0	-11
HNR	**Honiara**	**8.80**	**113**	*e*Pn		**Pn**	**23 43 57.5**	**-3.0**
HNR				*e*S		**Sn**	**23 45 43.7**	**+4.9**
HNR	**Honiara**	**8.80**	**113**	*e*P		**Pn**	**23 43 57.5**	**-3.0**
COEN	**Coen**	**11.51**	**226**	P		Pn	23 44 43.4	+5.8
	baz=12,SNR=5.9							
COEN	**Coen**	**11.51**	**226**	*e*Pn		**Pn**	**23 44 37.4**	**-0.2**
JAY	**Jayapura**	**11.54**	**287**	Pn		**Pn**	**23 44 34.4**	**-3.7**
	0.3nm,0.3s,baz=358,slow=17,SNR=2.5							
JAY				LR		LR	23 48 40.1	
	comp=Z,9μm,18.7s,slow=36							
JAY	**Jayapura**	**11.54**	**287**	P		Pn	23 44 45.0	+6.9
	966nm,2.3s,25μm							
GENI	**Genyem**	**12.03**	**286**	P		Pn	23 44 51.4	+6.6
	197nm,1.5s,5μm							
SMPI	**Sarmi**	**13.60**	**287**	P		**Pn**	**23 45 09.8**	**+3.6**
	188nm,1.4s,4μm							
MTSU	**Mount Surprise**	**14.01**	**210**	P		**P**	**23 45 17.2**	**-2.1**
	baz=14,SNR=5.1							
CTA	**Charters Tower**	**14.93**	**200**	Pn		**Pn**	**23 45 23.6**	**-0.6**
	baz=22,slow=5.0,SNR=2.0							
CTA				LR		LR	23 50 20.1	
	comp=Z,3μm,19.0s,baz=22,slow=34							
CTAO	**Charters Tower**	**14.93**	**200**	*e*Pn		**Pn**	**23 45 24.6**	**+0.4**
	191nm,2.0s							
CTAO	**Charters Tower**	**14.93**	**200**	*e*P		**Pn**	**23 45 24.6**	**+0.4**
CTAO				pmax		pmax		
	comp=Z,191nm,2.0s							
QIS	**Mount Isa**	**18.60**	**218**	P		**P**	**23 46 09.0**	**-1.3**
	baz=19,SNR=5.0							
EIDS	**Eidsvold**	**19.21**	**182**	P		**P**	**23 46 15.5**	**-1.3**
	baz=20,SNR=5.9							
EIDS	**Eidsvold**	**19.21**	**182**	*e*P		**P**	**23 46 15.6**	**-1.3**
	comp=Z,187nm,1.5s							
FAKI	**Fak Fak**	**19.67**	**278**	*e*P		**Pn**	**23 46 23.9**	**+0.3**
	comp=Z,125nm,1.5s							
FAKI	**Fak Fak**	**19.67**	**278**	P		**Pn**	**23 46 23.0**	**-0.5**
	comp=Z,51nm,1.4s,comp=Z,2μm							
KDU	**Kakadu**	**20.10**	**249**	P		**P**	**23 46 21.7**	**-4.9**
	baz=20,SNR=16							
SAUI	**Saumlaki**	**20.37**	**263**		PFAKE		23 46 40.0	+8.3
SAUI				LR		LR		
	comp=Z,5μm,19.0s							
RMQ	**Roma**	**20.51**	**188**	P		**P**	**23 46 30.7**	**-0.3**
	baz=21,SNR=8.2							
GUMO	**Guam**	**20.68**	**341**	P		**P**	**23 46 26.1**	**-6.7**
	comp=Z,342nm,1.3s,baz=253,slow=17,SNR=3.1							
GUMO				LR		LR	23 55 22.2	
	comp=Z,2μm,18.1s,baz=139,slow=40							
GUMO	**Guam**	**20.68**	**341**	*e*P		**P**	**23 46 27.1**	**-5.8**
	comp=Z,865nm,1.2s							
GUMO	**Guam**	**20.68**	**341**	*e*P		**P**	**23 46 27.1**	**-5.8**
GUMO				pmax		pmax		
	comp=Z,865nm,1.2s							
SIJI	**Sorong**	**21.06**	**283**	P		**P**	**23 46 31.9**	**-5.2**
	comp=Z,8.3nm,0.4s,baz=58,slow=8.8,SNR=7.4							
DZM	**Mont Dzumac**	**21.34**	**140**	P		**P**	**23 46 37.2**	**-2.9**
	comp=Z,22nm,1.0s,baz=11,slow=12,SNR=7.1							
DZM				LR		LR	23 52 43.1	
	comp=Z,3μm,21.0s,baz=298,slow=30							
DZM	**Mont Dzumac**	**21.34**	**140**	*e*LR		LR	23 52 00.0	
	comp=Z,13μm,25.9s							
MTN	**Manton Dam**	**21.39**	**250**	*e*P		**P**	**23 46 37.6**	**-3.1**
	comp=Z,243nm,1.1s							
MTN				*e*S		**S**	**23 50 40.5**	**+3.8**
MTN				LR		LR		
	comp=Z,5μm,20.0s							
QLP	**Quilpie**	**21.62**	**198**	P		**P**	**23 46 43.6**	**+0.6**
	baz=22,SNR=6.8							
KWAJ	**Kwajalein Atol**	**21.65**	**47**		PFAKE		23 47 00.0	+17
KWAJ				LR		LR		
	comp=Z,9μm,18.0s							
BNDI	**Bandanaira**	**21.79**	**273**	P		**P**	**23 46 46.6**	**+1.7**
WR3	**Warramunga Arr**	**21.79**	**229**		PFAKE		23 47 00.0	+15
WR3				LR		LR		
	comp=Z,6μm,18.0s							
WC3	**Warramunga Arr**	**21.80**	**229**		PFAKE		23 47 00.0	+15
WC3				LR		LR		
	comp=Z,6μm,18.0s							
WRAB	**Tennant Creek**	**21.80**	**229**	*e*P		**P**	**23 46 42.0**	**-3.0**
	comp=Z,120nm,0.9s							
WRAB				LR		LR		
	comp=Z,6μm,18.0s							
WRAB	**Tennant Creek**	**21.80**	**229**	⇑*e*P		**P**	**23 46 42.9**	**-2.1**
WRAB				pmax		pmax		
	comp=Z,33nm,1.0s							
WB2	**Warramunga Arr**	**21.81**	**229**	*e*P		**P**	**23 46 42.6**	**-2.5**
WB2				LR		LR		
	comp=Z,5μm,18.0s							
WR1	**Warramunga Arr**	**21.82**	**229**		PFAKE		23 47 00.0	+15
WR1				LR		LR		
	comp=Z,6μm,18.0s							
WRA	**Warramunga Arr**	**21.82**	**229**	P		**P**	**23 46 42.2**	**-2.9**
	comp=Z,10.0nm,0.6s,baz=54,slow=9.9,SNR=106							
WRA				S		**S**	**23 50 49.0**	**+4.0**
	comp=Z,44nm,1.3s,baz=56,slow=18,SNR=9.0							
WRA				ScP		**ScP**	**23 54 21.9**	**+2.0**
	comp=Z,3.9nm,1.1s,baz=50,slow=2.5,SNR=4.6							
WRA				LR		LR	23 56 41.8	
	comp=Z,4μm,19.0s,baz=65,slow=41							
WC4	**Warramunga Arr**	**21.83**	**229**		PFAKE		23 47 00.0	+15
WC4				LR		LR		
	comp=Z,4μm,19.0s							
TARA	**Tarawa**	**22.41**	**71**	*e*P		**P**	**23 46 52.5**	**+1.0**
	comp=Z,323nm,1.4s							
SARN	**Sarigan**	**23.37**	**345**	*e*P		**P**	**23 46 59.2**	**-2.2**
	comp=Z,682nm,2.0s							
AAI	**Ambon**	**23.57**	**275**	P		**P**	**23 47 02.7**	**-0.7**
	comp=Z,57nm,1.0s							
ARMA	**Armidale**	**24.23**	**180**	P		**P**	**23 47 09.1**	**-0.4**
	baz=25,SNR=9.4							
ARMA	**Armidale**	**24.23**	**180**	*e*P		**P**	**23 47 08.9**	**-0.7**
	comp=Z,111nm,1.1s							
ARMA				LR		LR		
	comp=Z,9μm,18.0s							
KNRA	**Kununurra**	**24.47**	**245**	P		**P**	**23 47 07.3**	**-4.5**
	baz=24,SNR=16							
AS31	**Alice Springs**	**24.50**	**223**	*e*P		**P**	**23 47 08.7**	**-3.4**
	comp=Z,31nm,0.8s							
ASAR	**Alice Springs**	**24.51**	**223**	P		**P**	**23 47 08.2**	**-3.9**
	comp=Z,7.3nm,0.6s,baz=57,slow=9.1,SNR=78							
ASAR				S		**S**	**23 51 33.9**	**+3.1**
	comp=Z,3.6nm,1.1s,baz=52,slow=17,SNR=2.8							
ASAR				ScP		**ScP**	**23 54 28.8**	**+1.8**
	comp=Z,2.0nm,1.0s,baz=40,slow=3.6,SNR=2.5							
TNTI	**Ternate**	**25.25**	**285**	P		**P**	**23 47 16.4**	**-2.5**
CMSA	**Cobar Meteorol**	**25.97**	**192**	P		**P**	**23 47 22.3**	**-3.0**
	baz=26,SNR=15							
SANI	**Sanana**	**25.98**	**278**	P		**P**	**23 47 26.0**	**+0.5**
	comp=Z,43nm,0.8s,comp=Z,1μm							
FUNA	**Funafuti**	**27.35**	**97**	*e*P		**P**	**23 47 40.4**	**+2.5**
	comp=Z,199nm,1.1s							
FUNA				LR		LR		
	comp=Z,4μm,19.0s							
STKA	**Stephens Creek**	**27.38**	**199**	P		**P**	**23 47 34.3**	**-3.6**
	comp=Z,1.7nm,0.6s,baz=18,slow=16,SNR=3.7							
STKA				LR		LR	23 58 55.1	
	comp=Z,2μm,18.2s,baz=13,slow=37							
STKA	**Stephens Creek**	**27.38**	**199**	P		**P**	**23 47 34.4**	**-3.6**
	baz=28,SNR=13							
STKA	**Stephens Creek**	**27.38**	**199**	*e*P		**P**	**23 47 36.9**	**-1.1**
	comp=Z,13nm,1.1s							
STKA	**Stephens Creek**	**27.38**	**199**	*e*P		**P**	**23 47 36.9**	**-1.1**
STKA				pmax		pmax		
	comp=Z,13nm,1.1s							
SOEI	**Soe**	**27.44**	**261**	*e*P		**P**	**23 47 41.5**	**+2.6**
	comp=Z,535nm,1.3s							
SOEI	**Soe**	**27.44**	**261**	P		**P**	**23 47 39.7**	**+0.8**
	comp=Z,215nm,1.0s,comp=Z,4μm							
SOEI				pP		**sP**		
	comp=Z,215nm,1.0s,comp=Z,4μm							
BATI	**Baumata**	**28.08**	**260**	P		**P**	**23 47 39.8**	**-4.7**
	comp=Z,17nm,0.4s,baz=219,slow=5.4,SNR=4.4							
BATI				LR		LR	00 01 40.9	
	comp=Z,6μm,18.5s,baz=106,slow=42							
BATI	**Baumata**	**28.08**	**260**	P		**P**	**23 47 41.5**	**-3.0**
	comp=Z,100nm,1.0s,comp=Z,1μm							
FITZ	**Fitzroy Crossi**	**28.13**	**243**	P		P	23 47 39.6	-5.2
	comp=Z,15nm,0.5s,baz=68,slow=7.4,SNR=79							
FITZ				LR		LR	00 00 43.2	
	comp=Z,2μm,18.2s,baz=64,slow=40							
FITZ	**Fitzroy Crossi**	**28.13**	**243**	P		P	23 47 39.8	-5.0
	baz=28,SNR=25							
WAKE	**Wake Island**	**29.16**	**30**		PFAKE		23 48 10.0	+16
WAKE				LR		LR		
	comp=Z,4μm,21.0s							
DAV	**Davao City (W)**	**29.17**	**296**	LR		LR	23 56 49.8	
	comp=Z,2μm,21.0s,baz=105,slow=31							
WRKA	**Warakurna**	**29.32**	**227**	P		**P**	**23 47 51.0**	**-4.5**
	baz=30,SNR=38							
MMRI	**Maumere**	**29.36**	**263**	*e*P		**P**	**23 47 52.7**	**-3.1**
	comp=Z,383nm,1.4s							
MMRI	**Maumere**	**29.36**	**263**	P		**P**	**23 47 54.6**	**-1.2**
EDFI	**Ende, Flores**	**29.90**	**263**	P		P	23 47 54.7	-6.1
BBOO	**Buckleboo**	**30.36**	**207**	P		**P**	**23 48 07.6**	**+3.2**
	baz=31,SNR=4.7							
BBOO	**Buckleboo**	**30.36**	**207**	*e*P		**P**	**23 48 07.6**	**+3.2**
	comp=Z,89nm,1.4s							
APSI	**Ampana**	**30.45**	**279**	P		**P**	**23 48 06.2**	**+0.7**
	comp=Z,38nm,1.2s,comp=Z,609nm							
KAPI	**Kappang**	**31.84**	**270**		PFAKE		23 48 30.0	+12
KAPI				LR		LR		
	comp=Z,1μm,19.0s							
ARPS	**Mount Arapiles**	**31.88**	**195**	P		**P**	**23 48 14.9**	**-2.8**
	baz=32,SNR=9.8							
WBSI	**Waikabubak, Su**	**32.22**	**262**	P		**P**	**23 48 16.5**	**-4.7**
	comp=Z,266nm,0.8s,comp=Z,4μm							
MPSI	**Mapaga**	**32.40**	**280**	P		**P**	**23 48 20.5**	**-2.2**
	comp=Z,13nm,1.2s,comp=Z,377nm							
FORT	**Forrest**	**33.14**	**219**	P		**P**	**23 48 24.8**	**-4.2**
	baz=33							
FORT	**Forrest**	**33.14**	**219**	*e*P		**P**	**23 48 32.4**	**+3.4**
	comp=Z,116nm,1.0s							
PLAI	**Plampang**	**33.77**	**263**	P		**P**	**23 48 35.2**	**+0.6**
	comp=Z,150nm,0.7s,comp=Z,1μm							
MBWA	**Marble Bar**	**34.43**	**241**	*e*P		**P**	**23 48 39.4**	**-0.8**
	comp=Z,86nm,0.8s							
MBWA				LR		LR		
	comp=Z,3μm,20.0s							
TWSI	**Taliwang, Sumb**	**34.65**	**263**	P		**P**	**23 48 42.1**	**-0.2**
	comp=Z,40nm,1.0s,comp=Z,771nm							
OUZ	**Omahuta**	**35.33**	**148**	*e*P		P	23 48 52.9	+5.1
	comp=Z,56nm,1.0s							
IGBI	**Denpasar**	**36.37**	**263**	P		**P**	**23 48 56.1**	**-0.9**
	comp=Z,247nm,0.8s							
AFI	**Afiamalu**	**36.74**	**105**		PFAKE		23 49 20.0	+20
AFI				LR		LR		
	comp=Z,2μm,19.0s							
RAO	**Raoul Island**	**36.78**	**132**		PFAKE		23 49 20.0	+20
RAO				LR		LR		
	comp=Z,4μm,20.0s							
TAU	**Tasmania Unive**	**36.91**	**185**		PFAKE		23 49 20.0	+19
TAU				LR		LR		
	comp=Z,3μm,19.0s							
JAGI	**Jajag, Banyuwa**	**37.34**	**264**	*e*P		**P**	**23 49 05.3**	**0.0**
	comp=Z,210nm,1.3s							
JAGI	**Jajag, Banyuwa**	**37.34**	**264**	P		**P**	**23 49 03.9**	**-1.5**
	comp=Z,100nm,0.8s,comp=Z,1μm							
MEEK	**Meekatharra**	**37.60**	**233**	P		**P**	**23 49 03.0**	**-4.4**
	baz=38,SNR=9.4							
URZ	**Urewera**	**39.47**	**148**	P		**P**	**23 49 19.7**	**-3.1**
	comp=Z,9.9nm,1.0s,baz=329,slow=12,SNR=3.0							
URZ				LR		LR	00 04 47.7	
	comp=Z,3μm,18.4s,baz=358,slow=35							
URZ	**Urewera**	**39.47**	**148**	*e*P		**P**	**23 49 26.0**	**+3.1**
PWJI	**Pagerwojo**	**39.66**	**265**	P		**P**	**23 49 24.2**	**-0.6**
BKZ	**Black Stump Fm**	**39.83**	**149**	*e*P		**P**	**23 49 29.4**	**+3.5**
	comp=Z,43nm,1.2s							
THZ	**Tophouse**	**40.24**	**155**	*e*P		**P**	**23 49 32.8**	**+3.5**
	comp=Z,70nm,1.5s							
PCJI	**Pacitan**	**40.28**	**265**	P		**P**	**23 49 31.5**	**+1.5**
WOJI	**Wonogiri, Jawa**	**40.53**	**265**	P		**P**	**23 49 35.1**	**+3.0**
SNZO	**South Karori**	**40.65**	**153**		PFAKE		23 49 50.0	+17
SNZO				LR		LR		
	comp=Z,4μm,20.0s							
KLBR	**Kellerberrin**	**40.67**	**227**	P		**P**	**23 49 31.8**	**-1.2**
	baz=41,SNR=4.8							
MORW	**Morawa**	**40.73**	**232**	P		**P**	**23 49 29.5**	**-4.0**
	baz=41,SNR=5.9							
LTZ	**Lake Taylor**	**40.84**	**157**	*e*P		**P**	**23 49 38.5**	**+4.2**
	comp=Z,73nm,1.4s							
BFZ	**Birch Farm**	**40.87**	**151**	*e*P		**P**	**23 49 37.6**	**+3.1**
	comp=Z,218nm,1.9s							
BLDU	**Ballidu**	**40.95**	**229**	P		P	23 49 30.3	-5.0
	baz=41,SNR=4.9							
SMRI	**Semarang**	**41.02**	**266**	P		P	23 49 41.3	+5.2
RPZ	**Rata Peaks**	**41.17**	**159**	P		**P**	**23 49 35.3**	**-1.7**
	comp=Z,7.8nm,0.9s,baz=344,slow=15,SNR=2.1							
RPZ				LR		LR	00 04 52.8	
	comp=Z,4μm,21.3s,baz=333,slow=34							
RPZ	**Rata Peaks**	**41.17**	**159**	*e*P		**P**	**23 49 41.3**	**+4.4**
OXZ	**Oxford**	**41.21**	**157**	*e*P		**P**	**23 49 40.7**	**+3.4**
	comp=Z,20nm,0.8s							
MLZ	**Mavora Lakes**	**41.67**	**163**	*e*P		**P**	**23 49 44.9**	**+3.9**
	comp=Z,184nm,1.9s							
NWAO	**Narrogin (SRO)**	**41.75**	**226**	LR		LR	00 08 15.9	
	comp=Z,3μm,18.0s,baz=292,slow=38							
MQZ	**McQueen's Vall**	**41.77**	**157**	*e*P		**P**	**23 49 45.8**	**+4.0**
	comp=Z,76nm,1.6s							
MUN	**Mundaring**	**42.00**	**228**	P		**P**	**23 49 45.2**	**+1.3**
	baz=42							
TPUB	**Ta-pu**	**42.13**	**315**	*e*P		**P**	**23 49 45.6**	**+0.6**
	comp=Z,81nm,1.4s							
YHNB	**Yeheng**	**42.51**	**317**	*e*P		**P**	**23 49 48.2**	**0.0**
	comp=Z,86nm,1.0s							
KPJI	**Karang Pucung**	**42.51**	**266**	P		**P**	**23 49 43.9**	**-4.4**
TATO	**Taipei**	**42.63**	**318**		PFAKE		23 50 00.0	+11
TATO				LR		LR		
	comp=Z,3μm,19.0s							
RKGY	**Rocky Gully**	**42.84**	**224**	P		**P**	**23 49 54.0**	**+3.3**
	baz=43,SNR=4.2							
CMJI	**Cimerak**	**42.99**	**265**	P		**P**	**23 49 49.0**	**-3.2**
CISI	**Cisompet, Garu**	**43.62**	**265**	P		P	23 49 51.2	-6.1
JNU	**Nakatsue**	**43.71**	**334**	LR		LR	00 08 12.0	
	comp=Z,806nm,18.2s,baz=164,slow=36							
LEM	**Lembang**	**43.83**	**266**	LR		LR	00 12 41.7	
	comp=Z,1μm,18.8s,baz=84,slow=42							
MJAR	**Matsushiro Arr**	**44.23**	**344**	P		P	23 49 55.7	-6.2
	comp=Z,0.6nm,0.3s,baz=104,slow=5.1,SNR=3.0							
MJAR				PcP		**PP**	**23 51 41.0**	**-4.5**
	comp=Z,1.0nm,0.5s,baz=176,slow=5.1,SNR=2.4							
MJAR				ScP		**ScP**	**23 55 35.4**	**-0.7**
	comp=Z,1.4nm,0.4s,baz=180,slow=4.7,SNR=4.6							
MJAR				LR		LR	00 07 06.0	
	comp=Z,1μm,20.1s,baz=170,slow=35							
MAJO	**Matsushiro**	**44.23**	**344**		PFAKE		23 50 10.0	+8.2
MAJO				LR		LR		
	comp=Z,2μm,19.0s							
MAJO	**Matsushiro**	**44.23**	**344**	⇓*e*P		**P**	**23 49 59.1**	**-2.7**
MAJO				pmax		pmax		
	comp=Z,43nm,3.3s							
JOHN	**Johnston Islan**	**44.50**	**59**		PFAKE		23 50 20.0	+16
JOHN				LR		LR		
	comp=Z,266nm,20.0s							
QZH	**Quanzhou**	**44.60**	**315**	⇑*i*P		**P**	**23 50 04.8**	**-0.2**
QZH				*e*S		**S**	**23 56 37.5**	**-1.7**
QZH				sS		**pS**	**23 56 52.3**	**+2.3**
QZH				LR		LR		
	comp=Z,1μm,20.4s							
QZH				LR		LR		
	comp=Z,1μm,17.5s							
QZH				LR		LR		
	comp=Z,1μm,16.1s							
CBJI	**Citeko**	**44.60**	**267**	P		P	23 50 11.3	+6.1
SKJI	**Sukabumi**	**44.88**	**266**	P		**P**	**23 50 08.8**	**+1.4**
CBJI	**Cibinong**	**45.75**	**267**	P		**P**	**23 50 14.9**	**+0.6**
KASI	**Kota Agung**	**46.98**	**268**	P		**P**	**23 50 26.5**	**+2.5**
SSE	**Sheshan**	**47.09**	**323**	P		**P**	**23 50 24.6**	**+0.1**
SSE				S		**S**	**23 57 12.8**	**-2.0**
SSE				sS		**sS**	**23 57 31.4**	**+1.3**
SSE				pmax		pmax		
	comp=Z,15nm,1.4s							
SSE				LR		LR		
	comp=Z,700nm,18.1s							
SSE				LR		LR		
	comp=Z,700nm,19.3s							
MDSI	**Maura Dua**	**47.37**	**269**	P		**P**	**23 50 27.7**	**+0.7**
DSRI	**Dabo**	**47.38**	**275**	P		P	23 50 34.1	+7.0
GZH	**Guangzhou**	**47.40**	**309**	*e*P		**P**	**23 50 27.5**	**+0.5**
GZH				S		**S**	**23 57 23.9**	**+4.5**
GZH				LR		LR		
	comp=Z,1μm,16.9s							
GZH				LR		LR		
	comp=Z,1μm,16.1s							
TJN	**Taejon**	**48.00**	**333**	⇓*e*P		**P**	**23 50 30.9**	**-0.5**
QIZ	**Qiongzhong**	**48.21**	**302**	P		**P**	**23 50 33.9**	**+0.5**
QIZ				S		**S**	**23 57 33.0**	**+1.9**
QIZ				pmax		pmax		
	comp=Z,280nm,6.1s							
QIZ				LR		LR		
	comp=Z,950nm,18.6s							
QIZ				LR		LR		
	comp=Z,760nm,21.6s							
QIZ				LR		LR		
	comp=Z,970nm,18.6s							
QIZ	**Qiongzhong**	**48.21**	**302**	PFAKE			23 50 40.0	+6.6
QIZ				LR		LR		
	comp=Z,1μm,22.0s							
MYKOM	**Kota Tinggi**	**48.44**	**278**	P		**P**	**23 50 33.0**	**-2.3**
ERM	**Erimo**	**48.48**	**351**	PFAKE			23 50 50.0	+15
ERM				LR		LR		
	comp=Z,1μm,19.0s							
KSRS	**Korea Array**	**48.66**	**335**	P		P	23 50 30.1	-6.4
	comp=Z,1.3nm,0.8s,baz=151,slow=7.8,SNR=3.4							
KSAR	**Wonju Array Be**	**48.66**	**335**	P		P	23 50 30.1	-6.5
KSAR	**Wonju Array Be**	**48.66**	**335**	P		P	23 50 30.1	-6.5
KS01	**Wonju Array Si**	**48.69**	**335**	*e*P		**P**	**23 50 35.4**	**-1.4**
NJ2	**Nanjing**	**49.17**	**322**	*e*P		**P**	**23 50 40.9**	**+0.4**
NJ2				S		**S**	**23 57 49.6**	**+5.4**
NJ2				pmax		pmax		
	comp=Z,24nm,0.5s							
NJ2				pmax		pmax		
	comp=Z,620nm,9.5s							
NJ2				LR		LR		
	comp=Z,2μm,17.3s							
NJ2				LR		LR		
	comp=Z,2μm,18.4s							
NJ2				LR		LR		
	comp=Z,2μm,19.5s							
YUK	**Yuzh-Kuril'sk**	**50.14**	**354**	*e*P		P	23 50 38.7	-9.0
YUK				*e*			23 52 42.2	
YUK				PPP		PPP	23 53 36.7	
YUK				*e*S		S	23 58 13.0	+16
YUK				*e*SS		**SS**	**00 01 26.8**	**-4.4**
YUK				MLR		MLR		
	comp=Z,1μm,16.0s							
ASAJ	**Asahikawa**	**50.62**	**351**	LR		LR	00 10 06.2	
	comp=Z,900nm,21.8s,baz=186,slow=34							
WHN	**Wuhan**	**51.04**	**318**	⇓P		**P**	**23 50 55.5**	**+0.7**

comp=Z,28nm,0.9s
MDJ pmax pmax
comp=Z,540nm,8.0s
MDJ LR LR
comp=Z,1μm,21.9s
MDJ LR LR
comp=Z,650nm,19.1s
MDJ LR LR
comp=Z,790nm,16.7s
MDJ Mudanjiang 54.23 341 PFAKE 23 51 30.0 +12
MDJ LR LR
comp=Z,712nm,21.0s
ENH Enshi 54.25 314 *e*P **P 23 51 17.8 -0.8**
comp=Z,87nm,1.5s
ENH LR LR
comp=Z,1μm,19.0s
GYA Guiyang 54.33 309 P **P 23 51 20.8 +1.5**
GYA PP **PP 23 53 23.3 +1.7**
GYA SS **SKiKP 00 02 37.8 +9.4**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,150nm,5.8s
GYA LR LR
comp=Z,620nm,17.8s
GYA LR LR
comp=Z,560nm,18.0s
GYA LR LR
comp=Z,590nm,18.5s
COCO West Island 54.47 259 PFAKE 23 51 30.0 +10
COCO LR LR
comp=Z,1μm,22.0s
PBKT Sadao Pong 55.00 295 *e*P **P 23 51 26.9 +2.7**
PBKT Sadao Pong 55.00 295 P P 23 51 31.7 +7.5
comp=Z,15nm,2.4s,comp=Z,1μm
CN2 Changchun 55.02 337 *e*P **P 23 51 20.8 -3.1**
CN2 *es*P pP 23 51 27.8 -5.5
UTTA Uttaradit 55.78 296 P **P 23 51 34.0 +4.2**
comp=Z,4.5nm,0.9s
SRDT SRDT 55.98 292 P P 23 51 37.8 +6.5
comp=Z,21nm,2.3s,comp=Z,763nm
NANT Nan 56.02 297 P **P 23 51 32.3 +0.7**
BJT Baijiatuau 56.35 328 PFAKE 23 51 40.0 +6.5
BJT LR LR
comp=Z,2μm,20.0s
BJI Beijing 56.36 328 P **P 23 51 33.1 -0.5**
BJI pmax pmax
comp=Z,9.0nm,1.0s
BJI LR LR
comp=Z,900nm,19.5s
BJI LR LR
comp=Z,610nm,22.9s
BJI LR LR
comp=Z,1μm,20.0s
SKR Severo-Kuril's 56.64 3 *e*P P 23 51 21.9 -13
SKR *eS* S 23 59 14.9 -11
SKR MLR MLR
comp=Z,3μm,15.0s
SKR MLR MLR
comp=Z,2μm,15.0s
KMI Kunming 56.82 305 P **P 23 51 37.8 +0.4**
KMI PP **PP 23 53 42.3 -1.8**
KMI S **S 23 59 22.3 -6.9**
KMI sS pS 23 59 40.9 +0.3
KMI pmax pmax
comp=Z,24nm,1.7s
KMI pmax pmax
comp=Z,350nm,7.0s
KMI LR LR
comp=Z,580nm,18.9s
KMI LR LR
comp=Z,850nm,19.8s
KMI LR LR
comp=Z,1μm,19.8s
LAMP Lampang 56.87 297 P P 23 51 44.1 +6.5
comp=Z,5.9nm,1.0s
TIY Taiyuan 56.88 323 *e*P **P 23 51 33.8 -3.6**
TIY SS **SS 00 03 15.3 -2.7**
TIY pmax pmax
comp=Z,250nm,5.5s
TIY LR LR
comp=Z,1μm,17.3s
TIY LR LR
comp=Z,390nm,10.2s
TIY LR LR
comp=Z,1μm,18.8s
CM01 Chiang Mai Arr 57.43 296 *e*P **P 23 51 38.8 -2.8**
CMAR Chiang Mai Arr 57.46 296 P P 23 51 37.0 -4.8
comp=Z,1.6nm,0.4s,baz=117,slow=5.5,SNR=7.1
CMAR LR LR 00 16 32.4
comp=Z,488nm,18.5s,baz=116,slow=36
CMMT Chiang Mai 57.58 297 P **P 23 51 43.2 +0.6**
CHTO Chiang Mai 57.58 297 *e*P **P 23 51 40.8 -1.8**
comp=Z,20nm,1.3s
CHTO LR LR
comp=Z,568nm,20.0s
CHTO Chiang Mai 57.58 297 *e*P **P 23 51 40.8 -1.8**
CHTO pmax pmax
comp=Z,20nm,1.3s
CHTO MLR MLR
comp=Z,568nm,20.0s
KLR Kul'dur 57.76 345 *ce*P **P 23 51 41.7 -1.6**
POHA Pohakuloa 57.87 62 PFAKE 23 52 00.0 +15
POHA LR LR
comp=Z,2μm,19.0s
PPT2 Papeete2 58.37 107 *e*P **P 23 51 51.6 +3.3**
comp=Z,60nm,1.4s
PPT2 *e*S **S 23 59 51.4 +1.8**
comp=Z,1μm,25.2s
PPT2 *e*LQ LQ 00 06 33.5
comp=Z,2μm,27.5s
PPT2 *e*LR LR 00 08 54.7
comp=Z,685nm,28.2s
TIAR Tiarei 58.59 107 *e*P **P 23 51 53.0 +3.2**
comp=Z,23nm,1.2s
TVO Taravao 58.69 107 *e*P **P 23 51 53.8 +3.3**
comp=Z,29nm,1.4s
CD2 Chengdu 58.76 312 P **P 23 51 51.3 +0.6**
CD2 pP pP 23 51 53.9 -6.4
CD2 sP sP 23 51 55.3 -8.6
CD2 PP **PP 23 54 00.8 -0.2**
CD2 S **S 23 59 56.3 +2.2**
CD2 sS pS 00 00 00.6 -5.0
CD2 SS **SS 00 03 50.1 +2.2**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 pmax pmax
comp=Z,520nm,4.6s
CD2 LR LR
comp=Z,1μm,19.9s
CD2 LR LR
comp=Z,2μm,18.3s
CD2 LR LR
comp=Z,2μm,15.9s
TBI Tubuai 59.02 114 *e*S **S 23 59 59.0 +1.3**
comp=Z,1μm,28.2s
TBI *e*LQ LQ 00 06 51.5
comp=Z,3μm,33.5s
TBI *e*LR LR 00 09 22.6
comp=Z,2μm,35.8s,baz=277
PET Petropavlovsk 59.15 5 PFAKE 23 52 00.0 +7.1
PET LR LR
comp=Z,815nm,20.0s
PET Petropavlovsk 59.15 5 *e*P **P 23 51 53.3 +0.4**
PET *e*S **S 23 59 56.3 -1.9**
PET *e*SS **SS 00 03 55.3 +2.2**
PET pmax pmax
comp=Z,600nm,15.2s
PET MLR MLR
comp=Z,1μm,14.0s
PET MLR MLR
comp=Z,2μm,15.0s
PETK Petropavlovsk- 59.16 4 P P 23 51 47.3 -5.7
comp=Z,2.9nm,0.7s,baz=160,slow=11,SNR=3.8
PETK LR LR 00 18 49.1
comp=Z,802nm,18.1s,baz=180,slow=38
HHC Hu-ho-hao-te 59.46 325 *e*P **P 23 51 55.3 -0.2**
HHC PP **PP 23 54 07.8 +0.7**
HHC S **S 00 00 02.6 -0.3**
HHC SS **SS 00 04 03.8 +5.2**
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,350nm,8.2s
HHC LR LR
comp=Z,2μm,17.1s
HHC LR LR
comp=Z,1μm,16.2s
HHC LR LR
comp=Z,3μm,18.3s
NKL Nikolayevsk 59.73 352 *e*P P 23 51 46.0 -11
NKL *e* 00 00 17.0
NKL MLR MLR
comp=N,700nm,16.0s
NKL MLR MLR
comp=Z,1μm,16.0s
PMOR Pomariorio Ree 59.87 104 *e*P **P 23 52 01.7 +3.1**
comp=Z,189nm,1.1s
VAH Vaihoa 60.13 104 *e*P **P 23 52 03.2 +2.8**
comp=Z,117nm,1.2s
BTO Baotou 60.18 324 *e*P P 23 51 55.8 -4.6
BTO S **S 00 00 16.6 +4.3**
LZH Lanzhou 61.40 317 ⇑P **P 23 52 09.9 +1.0**
LZH pP pP 23 52 14.5 -4.0
LZH sP sP 23 52 16.3 -5.8
LZH PP **PP 23 54 28.8 +4.4**
LZH S **S 00 00 30.3 +2.2**
LZH sS pS 00 00 35.3 -4.4
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,730nm,6.8s
LZH LR LR
comp=Z,1μm,15.5s
LZH LR LR
comp=Z,1μm,15.5s
LZH LR LR
comp=Z,2μm,15.5s
HIA Hailar 61.75 337 PFAKE 23 52 20.0 +9.2
HIA LR LR
comp=Z,796nm,20.0s
ZEA Zeya 63.04 344 *e*P **P 23 52 16.8 -2.5**
ZEA *e*S S 00 01 00.5 +13
ZEA pmax pmax
comp=Z,64nm,1.8s
ZEA pmax pmax
comp=Z,300nm,10.0s
ZEA smax smax
comp=N,600nm,15.0s
ZEA smax smax
comp=E,400nm,15.0s
ZEA MLR MLR
comp=Z,1μm,17.0s
ZEA MLR MLR
comp=N,900nm,16.0s
MA2 Magadan 65.43 359 PFAKE 23 52 50.0 +15
MA2 LR LR
comp=Z,1μm,20.0s
GTA Gaotai 65.86 318 ⇑P **P 23 52 36.8 -1.5**
GTA pP pP 23 52 40.9 -7.0
GTA sP sP 23 52 43.3 -8.2
GTA PcP **PcP 23 53 09.9 +0.8**
GTA ScP 23 57 13.6
GTA S **S 00 01 23.8 +0.3**
GTA sS pS 00 01 31.1 -4.2
GTA SS **SS 00 05 39.3 +0.4**
GTA pmax pmax
comp=Z,280nm,6.0s
GTA LR LR
comp=Z,470nm,18.7s
GTA LR LR
comp=Z,660nm,18.7s
GTA LR LR
comp=Z,950nm,19.0s
SHL Shillong 66.03 301 *e*P **P 23 52 39.7 0.0**
comp=Z,34nm,1.0s
CASY Casey 66.51 197 PFAKE 23 53 00.0 +18
CASY LR LR
comp=Z,378nm,19.0s
ULN Ulaanbaatar 66.51 329 *e*P P 23 52 36.4 -5.9
comp=Z,78nm,1.8s
ULN LR LR
comp=Z,1μm,19.0s
ULN Ulaanbaatar 66.51 329 *e*P P 23 52 36.4 -5.9
ULN pmax pmax
comp=Z,78nm,1.8s
ULN MLR MLR
comp=Z,1μm,19.0s
SONM Songino Array 66.83 329 P P 23 52 37.5 -6.7
comp=Z,4.0nm,1.2s,baz=147,slow=3.8,SNR=11
SONM LR LR 00 21 54.5
comp=Z,1μm,19.3s,baz=160,slow=36
TAOE Nuku Hiva Isla 67.53 97 *e*LR LR 00 13 18.2
comp=Z,513nm,20.6s
LSA Lhasa 68.08 305 *e*P **P 23 52 52.1 -0.9**
comp=Z,35nm,1.2s
LSA *e*PP **PP 23 55 18.6 -4.8**
LSA LR LR
comp=Z,429nm,20.0s
LSA Lhasa 68.08 305 *e*P **P 23 52 52.1 -0.9**
LSA *e* 23 55 18.7
LSA pmax pmax
comp=Z,35nm,1.2s
LSA MLR MLR
comp=Z,429nm,20.0s
YAK Yakutsk 70.00 349 PFAKE 23 53 10.0 +6.4
YAK LR LR
comp=Z,807nm,19.0s
YAK Yakutsk 70.00 349 *e*P **P 23 53 01.8 -1.8**
YAK *e**PP **pP 23 53 15.6 +2.3**
YAK *e* 23 53 23.2
YAK *e* 23 55 40.6
YAK *e*S **S 00 02 06.2 -5.5**
YAK *e* 00 02 59.3
YAK *e*SS **SS 00 06 43.2 +1.6**
YAK pmax pmax
comp=Z,22nm,1.1s
YAK pmax pmax
comp=N,7.0nm,1.3s
YAK pmax pmax
comp=Z,338nm,5.3s
YAK pmax pmax
comp=N,121nm,4.1s
YAK pmax pmax
comp=E,62nm,4.1s
YAK smax smax
comp=N,206nm,5.4s
YAK smax smax
comp=E,73nm,4.1s
YAK MLR MLR
comp=Z,813nm,17.0s
ZAK Zakamensk 70.02 329 *e*P P 23 52 56.6 -7.5
ZAK pmax pmax
comp=Z,25nm,1.6s
BOD Bodaibo 70.59 340 *e*P **P 23 53 04.4 -2.9**
BOD pmax pmax
comp=Z,22nm,1.8s
TLY Talaya 70.64 331 *e*P **P 23 53 07.4 -0.4**
TLY LR LR
comp=Z,942nm,20.0s
TLY Talaya 70.64 331 *e*P **P 23 53 07.5 -0.3**
TLY *e*PPP PPP 23 57 26.7
TLY *e*S **S 00 02 23.6 +3.9**
TLY pmax pmax
comp=Z,26nm,1.6s
TLY MLR MLR
comp=Z,851nm,19.0s
JIRN Jiri 71.53 302 *e*P P 23 53 07.7 -6.5
comp=Z,79nm,1.1s
VNDA Vanda 71.62 178 P **P 23 53 09.8 -3.5**
comp=Z,1.4nm,0.5s,baz=329,slow=9.3,SNR=6.2
VNDA LR LR 00 23 21.3
comp=Z,720nm,18.0s,baz=348,slow=35
GUN Gumba 71.87 302 *e*P P 23 53 10.0 -6.1
comp=Z,51nm,0.7s
MOY Mondy 71.94 330 *e*P **P 23 53 15.4 -0.4**
MOY pmax pmax
comp=Z,68nm,1.5s
PKI Pulchoki 72.17 301 *e*P P 23 53 11.0 -6.9
comp=Z,125nm,1.6s
PKIN Phulchoki 72.18 301 *e*P P 23 53 11.1 -6.8
comp=Z,130nm,1.7s
SBA Scott Base 72.19 177 *e*P **P 23 53 18.7 +2.0**
comp=Z,6.9nm,0.7s
SBA LR LR
comp=Z,830nm,19.0s
SBA Scott Base 72.19 177 *e*P **P 23 53 18.7 +2.0**
SBA pmax pmax
comp=Z,7.0nm,0.7s
SBA MLR MLR
comp=Z,830nm,19.0s
RKT Rikitea 72.30 112 *e*S **S 00 02 41.6 +1.7**
comp=Z,605nm,28.5s
RKT *e*LQ LQ 00 12 27.0
comp=Z,1μm,36.2s
RKT *e*LR LR 00 15 32.1
comp=Z,1μm,31.8s,baz=279
KKN Kakani 72.34 302 *e*P P 23 53 12.1 -6.7
comp=Z,98nm,1.4s
DMN Daman 72.43 301 *e*P P 23 53 13.1 -6.3
KNGR Kungurtug, Tuv 73.16 327 *ce*P **P 23 53 23.1 0.0**
KOLN Koldanda 73.76 301 *e*P P 23 53 20.1 -7.1
comp=Z,41nm,0.8s
DANN Dangsing 73.78 302 *e*P P 23 53 20.5 -7.0
comp=Z,126nm,1.4s
PYUN Piuthan 74.37 301 *e*P P 23 53 23.3 -7.5
comp=Z,76nm,1.0s
BILL Bilibino 74.64 6 PFAKE 23 53 40.0 +8.8
BILL LR LR
comp=Z,898nm,19.0s
BILL Bilibino 74.64 6 *ce*P **P 23 53 30.2 -1.0**
BILL *e* 23 56 21.0
BILL *i*S **SKSac 00 03 42.2 +5.2**
BILL pmax pmax
comp=Z,22nm,1.5s
BILL MLR MLR
comp=Z,734nm,18.0s
HVS Khovu-Aksy 75.50 326 ⇑*e*P **P 23 53 37.0 +0.3**
HVS pmax pmax
comp=Z,43nm,1.6s
HYB Hyderabad 75.90 290 *i*P **P 23 53 40.0 +0.4**
WMQ Urumqi 75.95 318 P **P 23 53 39.1 -0.3**
WMQ pP pP 23 53 43.8 -5.3
WMQ S **S 00 03 26.1 +5.8**
WMQ SS **SS 00 08 14.3 +0.8**
WMQ pmax pmax
comp=Z,34nm,1.3s
WMQ pmax pmax
comp=Z,620nm,6.5s
WMQ LR LR
comp=Z,1μm,23.5s
WMQ LR LR
comp=Z,880nm,20.1s
WMQ LR LR
comp=Z,870nm,24.3s
KDAK Kodiak Island 77.78 27 PFAKE 23 54 00.0 +11
KDAK LR LR
comp=Z,566nm,20.0s
SVW2 Sparrevohn 78.39 23 *e*P **P 23 53 54.3 +1.6**
comp=Z,175nm,1.9s
DGZ Jazzator, Alta 78.45 323 *d i*P **P 23 53 51.8 -1.6**
DGZ pmax pmax
comp=Z,11nm,1.8s
TIXI Tiksi 79.00 353 *e*P **P 23 53 59.2 +3.4**
comp=Z,6.7nm,1.0s
TIXI LR LR
comp=Z,839nm,19.0s
TIXI Tiksi 79.00 353 ⇑*i*P **P 23 53 53.1 -2.6**
TIXI pmax pmax
comp=Z,8.0nm,1.3s
RDOG Red Dog Mine 80.48 16 *e*P **P 23 54 05.6 +1.8**
comp=Z,164nm,2.0s
MKAR Makanchi Array 80.58 319 P P 23 53 58.1 -6.7
comp=Z,0.8nm,0.7s,baz=106,slow=6.7,SNR=7.2
MKAR LR LR 00 29 41.6
comp=Z,646nm,19.6s,baz=96,slow=36
PMR Palmer 81.27 25 *e*P **P 23 54 08.1 0.0**
PMR Palmer 81.27 25 *e*P **P 23 54 08.1 0.0**
ZAA0 Zalesovo Array 81.61 327 *e*P **P 23 54 07.3 -2.8**
ZALV Zalesovo Beam 81.61 327 P P 23 54 02.5 -7.6
comp=Z,1.5nm,0.5s,baz=98,slow=5.4,SNR=6.3
ZALV LR LR 00 29 30.9
comp=Z,850nm,20.4s,baz=74,slow=35
SML Sawmill 81.70 25 *e*P **P 23 54 11.7 +1.2**
comp=Z,66nm,1.0s
SML Sawmill 81.70 25 *e*P **P 23 54 11.7 +1.2**
SML pmax pmax
comp=Z,66nm,1.0s
TRF Thorofare Moun 81.77 23 *e*P **P 23 54 11.0 0.0**
comp=Z,33nm,1.2s
BPAW Bear Paw Mtn. 81.85 22 *e*P **P 23 54 11.7 +0.4**
comp=Z,145nm,2.0s
DIV Divide 82.46 26 *e*P **P 23 54 15.5 +0.9**
comp=Z,119nm,1.4s
KLU Klutina 82.57 25 *e*P **P 23 54 13.2 -1.9**
comp=Z,182nm,1.6s
RAGM Ragged Mountai 82.61 27 *e*P **P 23 54 17.1 +1.7**
comp=Z,259nm,1.4s
DHY Denali Highway 82.72 24 *e*P **P 23 54 15.9 -0.1**
comp=Z,126nm,1.6s
NVS Novosibirsk 82.80 327 *e*P **P 23 54 15.5 -0.8**
NVS pmax pmax
comp=N,10.0nm,1.5s
NVS pmax pmax
comp=Z,27nm,1.5s
NVS pmax pmax
comp=E,17nm,1.7s
BMRM Bremner River 82.90 26 *e*P **P 23 54 18.3 +1.4**
comp=E,175nm,1.4s
KSH Kashi 82.95 311 P **P 23 54 20.1 +2.4**
KSH S **S 00 04 37.6 +2.7**
KSH SS **SS 00 10 03.8 +5.0**
KSH pmax pmax
comp=E,39nm,1.4s
KSH pmax pmax
comp=E,770nm,6.0s
KSH LR LR
comp=E,680nm,15.7s
KSH LR LR
comp=E,1μm,14.9s
KSH LR LR
comp=E,1μm,22.0s
MDM Murphy Dome 83.31 22 *e*P **P 23 54 18.1 -0.8**
comp=E,79nm,1.7s
TCOL CIGO, UAF Yank 83.41 22 P **P 23 54 19.4 +0.1**
baz=241
COLA College 83.41 22 *e*P **P 23 54 18.2 -1.1**
comp=E,32nm,0.9s
COLA LR LR
comp=Z,822nm,21.0s
PAX Paxson 83.43 24 *e*P **P 23 54 19.9 +0.3**
comp=Z,107nm,2.0s
HDA Harding Lake 83.52 23 *e*P **P 23 54 19.7 -0.2**
HDA Harding Lake 83.52 23 P P 23 54 20.2 +0.3
baz=242
POKR Poker Plat Res 83.68 22 P **P 23 54 21.0 +0.2**
baz=241
ILAR Eielson Array 83.72 22 P P 23 54 13.2 -7.7
comp=Z,7.1nm,1.1s,baz=252,slow=4.8,SNR=22
ILAR LR LR 00 27 53.6
comp=Z,1μm,20.1s,baz=251,slow=33
COLD Coldfoot 83.79 19 *e*P **P 23 54 23.0 +1.8**
comp=Z,32nm,1.5s
QSPA South Pole Qui 83.91 180 *e*P **P 23 54 20.9 -1.2**
comp=Z,429nm,1.6s
QSPA LR LR
comp=Z,640nm,21.0s
BALM Baldy 83.92 27 *e*P **P 23 54 23.2 +1.0**
comp=Z,200nm,1.7s
BALM Baldy 83.92 27 *e*P **P 23 54 23.2 +1.0**
BALM pmax pmax
comp=Z,200nm,1.7s
MAW Mawson 84.00 203 P **P 23 54 18.9 -3.5**
comp=Z,1.1nm,0.5s,baz=180,slow=13,SNR=3.6
MAW LR LR 00 30 41.2
comp=Z,708nm,18.9s,baz=75,slow=35
MAW Mawson 84.00 203 *e*P **P 23 54 25.5 +3.1**
KZA Kyzart 84.08 313 P **P 23 54 28.2 +4.4**
SNR=6.0
KURK Kurchatov 84.10 322 *e*P **P 23 54 19.2 -4.0**
comp=Z,121nm,1.0s
KURK LR LR
comp=Z,2μm,19.0s
KURK Kurchatov 84.10 322 *ce*P **P 23 54 18.6 -4.5**
KURK pmax pmax
comp=Z,39nm,1.9s
KBK Karagaybulak 84.44 314 P **P 23 54 27.4 +2.0**
SNR=5.2
SCRK Sand Creek 84.48 24 *e*P **P 23 54 25.5 +0.6**
comp=Z,122nm,1.9s
UCH Uchtor 84.65 313 P **P 23 54 29.9 +3.1**
SNR=6.2
CHMS Chumysh 84.66 314 P **P 23 54 28.6 +2.4**
SNR=6.1
FRU Bishkek 84.72 314 *e*P **P 23 54 26.0 -0.5**
FRU *e* 23 54 36.0
FRU *e*S **S 00 04 54.0 +1.7**
FRU *e* 00 06 00.0
FRU pmax pmax

comp=Z,80nm,1.8s
TOLK Toolik Lake Re 84.74 18 P P 23 54 26.2 +0.1
baz=239
AAK Ala-Archa 84.76 314 LR LR 00 31 27.8
comp=Z,633nm,21.2s,baz=95,slow=35
AAK Ala-Archa 84.76 314 P P 23 54 29.3 +2.4
SNR=6.2
AAK Ala-Archa 84.76 314 eP P 23 54 23.3 -3.6
comp=Z,40nm,1.6s
AAK Ala-Archa 84.76 314⇓ eP P 23 54 23.2 -3.7
AAK pmax pmax
comp=Z,30nm,1.6s
USP Ospenovka 84.90 314 P P 23 54 27.2 -0.3
SNR=6.8
FYU Fort Yukon 85.17 21 eP P 23 54 29.8 +1.6
comp=Z,114nm,1.6s
AML Almayashu 85.22 313 P P 23 54 30.1 +0.5
SNR=7.5
EKS2 Erkin-Say 85.28 314 P P 23 54 29.7 +0.2
SNR=6.8
EGAK Eagle 85.93 23 eP P 23 54 27.2 -4.8
comp=Z,100nm,1.5s
EGAK LR LR
comp=Z,1μm,20.0s
DAWY Dawson 86.37 24 eP P 23 54 30.1 -4.2
comp=Z,128nm,1.5s
DIB Dawson Inlet, 86.39 36 eP P 23 54 36.0 +1.6
comp=Z,217nm,1.7s
SKAG Skagway 86.63 29 eP P 23 54 38.0 +2.5
comp=Z,172nm,1.7s
NRIK Noril'sk 86.81 341 P P 23 54 29.2 -7.0
comp=Z,1.5nm,0.5s,baz=53,slow=5.5,SNR=4.5
NRIK LR LR 00 35 11.9
comp=Z,590nm,18.2s,baz=118,slow=37
WHY Whitehorse 87.21 28 eP P 23 54 39.2 +0.7
comp=Z,211nm,1.8s
WRAK Wrangell Islan 87.29 33 eP P 23 54 39.5 +0.7
comp=Z,278nm,1.6s
WRAK LR LR
comp=Z,2μm,20.0s
KK31 Karatay Array 87.72 314 eP P 23 54 40.5 -0.8
KK31 Karatay Array 87.72 314 eP P 23 54 40.5 -0.8
KKAR Karatay Array 87.72 314 eP P 23 54 40.5 -0.8
KKAR Karatay Array 87.72 314 eP P 23 54 40.5 -0.8
EPYK Eagle Plains 88.23 22 P P 23 54 44.1 +0.9
baz=251
BVAR Borovoye Array 89.61 323 LR LR 00 37 19.6
comp=Z,453nm,18.4s,baz=91,slow=37
BRVK Borovoye 89.68 323 eP P 23 54 49.0 -1.2
comp=Z,7.9nm,1.0s
BRVK LR LR
comp=Z,431nm,19.0s
BRVK Borovoye 89.68 323⇑ eP P 23 54 48.3 -1.9
BRVK pmax pmax
comp=Z,10.0nm,1.3s
J01E Myrtle Point 89.98 47 P P 23 54 53.8 +1.9
baz=262
INK Inuvik 90.01 21 eP P 23 54 46.7 -4.7
comp=Z,96nm,1.5s
INK Inuvik 90.01 21 eP P 23 54 46.7 -4.7
INK pmax pmax
comp=Z,96nm,1.5s
L02E Cave Junction 90.08 48 P P 23 54 54.4 +2.0
baz=262
K02D Willamette Mer 90.11 47 P P 23 54 53.5 +0.9
baz=262
I02D Swisshome 90.18 46 P P 23 54 54.5 +1.7
baz=262
O02D Mt. Diablo Mer 90.42 50 P P 23 54 55.2 +1.0
baz=263
I03D Drain, OR 90.48 46 P P 23 54 55.9 +1.7
baz=262
M02C Callahan 90.53 49 P P 23 54 55.7 +1.0
baz=263
N02D Trinity Center 90.59 49 P P 23 54 56.8 +1.9
baz=263
HUMO Hull Mountain 90.62 47 eP P 23 54 55.7 +0.8
comp=Z,14nm,0.9s
WDC Whiskeytown Da 90.66 49 eP P 23 54 57.8 +2.7
comp=Z,16nm,1.4s
YBH Yreka Blue Hor 90.68 48 P P 23 54 49.9 -5.4
comp=Z,0.9nm,0.9s,baz=127,slow=8.9,SNR=2.5
YBH Yreka Blue Hor 90.68 48 eP P 23 54 57.2 +1.9
YBH Yreka Blue Hor 90.68 48 eP P 23 54 57.2 +1.9
E03A Lebam 90.72 43 eP P 23 54 57.5 +2.3
comp=Z,26nm,0.9s
H04D Lebanon 91.03 46 P P 23 54 57.3 +0.6
baz=263
L04D Klamath Falls 91.05 48 P P 23 54 58.2 +1.1
baz=263
I04A Tendick Farm, 91.17 46 P P 23 54 58.3 +0.9
baz=263
D03D Eldon 91.18 42 P P 23 54 59.2 +1.8
baz=263
O03E Paynes Creek 91.19 50 P P 23 54 59.2 +1.5
baz=264
J04D Umpqua Nationa 91.31 47 P P 23 55 00.1 +1.7
baz=263
M04C Macdoel 91.34 48 P P 23 54 58.7 +0.2
baz=264
E04D Cinebar 91.40 43 P P 23 54 59.7 +1.3
baz=263
H04A Detroit Lake 91.44 45 eP P 23 54 59.8 +1.1
comp=Z,35nm,1.6s
A04D Lummi Island 91.58 41 P P 23 55 00.3 +1.1
baz=263
AFDM Forest Hills D 91.67 51 eP P 23 55 01.6 +1.8
comp=Z,16nm,1.2s
J05D Fort Rock, OR 91.95 47 P P 23 55 01.5 +0.2
baz=264
I05D Terrebonne, OR 92.00 46 P P 23 55 02.5 +1.2
baz=264
CMB Columbia Colle 92.03 52 eP P 23 55 02.9 +1.3
comp=Z,26nm,1.8s
CMB Columbia Colle 92.03 52 eP P 23 55 02.9 +1.3
CMB pmax pmax
comp=Z,26nm,1.8s
SMMC Simmler 92.06 55 P P 23 55 03.7 +2.0
baz=264
SYO Syowa Base 92.13 200⇑ iP P 23 55 03.2 +1.9
SYO Syowa Base 92.13 200⇓ epP P 23 55 06.4 +5.1
PKM Mcpherson Peak 92.16 55 P P 23 55 04.1 +1.6
baz=264
PINE Pine Mountain 92.22 46 eP P 23 55 03.5 +0.9
comp=Z,29nm,1.2s
BEKR Beckworth 92.24 50 eP P 23 55 03.5 +0.7
comp=Z,14nm,1.3s
MOD Modoc Plateau 92.49 48 eP P 23 55 04.4 +0.6
comp=Z,23nm,1.1s
G06A Carlson Farm, 92.59 45 eP P 23 55 05.2 +1.1
comp=Z,36nm,1.8s
PNTR Pine Nut 92.75 51 eP P 23 55 07.2 +2.1
comp=Z,56nm,1.8s
LTY Liberty 92.78 43 eP P 23 55 06.0 +1.1
comp=Z,45nm,2.0s
WAKR Walker 92.82 52 eP P 23 55 07.6 +2.1
comp=Z,27nm,1.6s
PAHR Pah Rah Range 92.97 51 eP P 23 55 07.7 +1.6
comp=Z,9.9nm,1.0s
YERR Yerington 93.01 51 eP P 23 55 08.3 +1.9
comp=Z,12nm,1.2s
OMMB Old Mammoth Mi 93.08 53 eP P 23 55 08.2 +1.4
comp=Z,21nm,1.4s
CIS Catalina Islan 93.17 57 P P 23 55 07.7 +0.7
baz=265
ISA Isabella, Lake 93.33 55 eP P 23 55 09.5 +1.8
comp=Z,20nm,1.8s
ISA Isabella, Lake 93.33 55 eP P 23 55 09.5 +1.8
ISA pmax pmax
comp=Z,20nm,1.8s
ISA Isabella, Lake 93.33 55 P P 23 55 07.8 +0.1
baz=265
HAWA Hanford 93.47 44 eP P 23 55 09.6 +1.5
comp=Z,46nm,1.7s
HAWA LR LR
comp=Z,1μm,21.0s
MWC Mount Wilson 93.54 56 eP P 23 55 11.1 +2.3
comp=Z,48nm,1.5s
RYN Ryan 93.54 52 eP P 23 55 10.7 +2.0
comp=Z,11nm,1.2s
EDW2 Edwards Air Fo 93.65 55 P P 23 55 10.5 +1.3
baz=266
NVAR Mina Array Bea 93.70 52 P P 23 55 03.6 -5.9
comp=Z,1.7nm,0.9s,baz=259,slow=6.4,SNR=6.0
NVAR LR LR 00 31 35.1
comp=Z,2μm,19.8s,baz=270,slow=32
WVOR Wild Horse Val 93.77 48 eP P 23 55 10.5 +0.8
comp=Z,14nm,1.1s
WVOR LR LR
comp=Z,2μm,20.0s
WVOR Wild Horse Val 93.77 48 eP P 23 55 10.5 +0.8
WVOR pmax pmax
comp=Z,15nm,1.1s
WVOR MLR MLR
comp=Z,2μm,20.0s
B08A Colville Reser 93.78 42 eP P 23 55 09.6 +0.1
comp=Z,22nm,1.4s
G08A Pilot Rock 93.78 45 eP P 23 55 10.2 +0.6
comp=Z,36nm,1.7s
E08A Dider Farm, El 93.81 44 eP P 23 55 11.1 +1.5
BFSC Mount Baldy Ra 93.87 56 P P 23 55 11.7 +1.4
baz=266
KVN Kaiserville 93.91 51 eP P 23 55 12.2 +1.7
comp=Z,20nm,1.4s
KVN Kaiserville 93.91 51 eP P 23 55 12.2 +1.7
KVN pmax pmax
comp=Z,20nm,1.4s
D08A Wollman Farm, 93.95 43 eP P 23 55 11.6 +1.4
comp=Z,32nm,1.6s
LRMC Laurel Mtn Rad 93.95 55 P P 23 55 12.1 +1.4
baz=266
J08A Circle Bar Ran 93.97 47 eP P 23 55 11.9 +1.4
comp=Z,13nm,1.1s
DAC Darwin (Calif) 94.09 54 eP P 23 55 12.6 +1.2
comp=Z,25nm,1.3s
DAC Darwin (Calif) 94.09 54 eP P 23 55 12.6 +1.2
DAC pmax pmax
comp=Z,25nm,1.3s
MPMC Manual Prospec 94.16 54 P P 23 55 13.0 +1.3
baz=266
GRAC Grapevine Rang 94.32 53 P P 23 55 13.9 +1.7
baz=266
E09A Wood Farm, Sta 94.44 44 eP P 23 55 13.2 +0.8
comp=Z,61nm,1.7s
C09A Chrisman Ranch 94.44 43 eP P 23 55 13.5 +1.0
comp=Z,54nm,1.9s
GSC Goldstone, Bar 94.65 55 eP P 23 55 16.0 +2.2
comp=Z,12nm,1.3s
GSC Goldstone, Bar 94.65 55 P P 23 55 15.6 +1.8
baz=266
FRD Ford Ranch, An 94.69 57 P P 23 55 16.0 +2.0
baz=266
MONP2 Monument Peak 94.80 58 P P 23 55 17.1 +2.4
baz=266
PFO Pinyon Flats O 94.82 57 eP P 23 55 16.4 +1.8
comp=Z,10nm,0.3s
PFO LR LR
comp=Z,777nm,19.0s
PFO Pinyon Flats O 94.82 57 P P 23 55 17.3 +2.6
baz=266
XPFO Piæon Flat 94.82 57 eP P 23 55 16.9 +2.2
comp=Z,13nm,0.3s
TPFO Pinon Flats 94.82 57 P P 23 55 16.6 +1.9
baz=266
BMO Blue Mountains 94.91 46 eP P 23 55 14.2 -0.6
comp=Z,28nm,1.6s
BMO LR LR
comp=Z,2μm,20.0s
BMO Blue Mountains 94.91 46 eP P 23 55 14.2 -0.6
BMO pmax pmax
comp=Z,28nm,1.6s
BMO MLR MLR
comp=Z,2μm,20.0s
HEC Hector,Ludlow 95.01 56 P P 23 55 16.9 +1.4
baz=266
F10A Beach Ranch, E 95.04 44 eP P 23 55 16.1 +0.8
comp=Z,15nm,1.1s
IKP In-Ko-Pah, Jac 95.05 58 P P 23 55 16.9 +1.3
baz=266
WSAR Wadi Sarin 95.20 293 LR LR 00 43 05.8
comp=Z,202nm,18.1s,baz=108,slow=39
TPNV Topopah Spring 95.21 54 eP P 23 55 17.5 +1.0
comp=Z,24nm,1.3s
TPNV Topopah Spring 95.21 54 eP P 23 55 17.5 +1.0
TPNV pmax pmax
comp=Z,24nm,1.3s
TPNV Topopah Spring 95.21 54 P P 23 55 17.1 +0.6
baz=267
BELC Belle Mtn. Jos 95.23 56 P P 23 55 18.3 +1.7
baz=267
NEW Newport 95.24 42 eP P 23 55 17.3 +1.1
comp=Z,9.9nm,1.1s
NEW LR LR
comp=Z,2μm,19.0s
NEW Newport 95.24 42 eP P 23 55 17.3 +1.1
NEW pmax pmax
comp=Z,10.0nm,1.1s
NEW MLR MLR
comp=Z,2μm,19.0s
NEW Newport 95.24 42 P P 23 55 16.7 +0.5
baz=267
TUQ Turquoise Moun 95.38 55 P P 23 55 17.5 +0.3
baz=267
BC3 Big Chuckawall 95.66 57 P P 23 55 20.6 +2.1
baz=267
ABKAR Akbulak array 95.71 319 eP P 23 55 20.6 +2.5
R11A Troy Canyon, C 95.82 52 eP P 23 55 20.4 +1.1
R11A Troy Canyon, C 95.82 52 P P 23 55 19.9 +0.7
baz=267
IRM Iron Mountain 95.94 56 P P 23 55 21.0 +1.3
baz=267
SHPR Sheep Range 96.06 54 eP P 23 55 22.8 +2.4
comp=Z,35nm,1.7s
ARU Arti 96.76 326 LR LR 00 38 58.9
comp=Z,1μm,20.3s,baz=96,slow=36
HLID Hailey 96.93 47 eP P 23 55 25.5 +1.4
comp=Z,20nm,1.8s
HLID LR LR
comp=Z,956nm,21.0s
HLID Hailey 96.93 47 P P 23 55 25.5 +1.4
baz=269
AKTO Aktyubinsk 97.00 320 LR LR 00 38 47.1
comp=Z,517nm,20.4s,baz=79,slow=35
YKA Yellowknife Ar 97.03 28 P P 23 55 17.7 -6.2
comp=Z,0.6nm,0.8s,baz=272,slow=4.9,SNR=2.7
PSUT Pine Spring 97.19 52 eP Pdif 23 55 27.6 +2.1
comp=Z,10nm,1.2s
WALA Waterton Lakes 97.39 41 eP Pdif 23 55 27.6 +1.6
CCUT Cedar City 97.54 53 eP Pdif 23 55 29.0 +1.8
comp=Z,12nm,1.4s
SZCU Shurtz Canyon 97.76 53 eP Pdif 23 55 30.5 +2.3
comp=Z,16nm,1.5s
KNB Kanab 97.96 54 eP Pdif 23 55 32.2 +3.2
comp=Z,18nm,1.3s
DUG Dugway, Tooele 98.04 50 PFAKE 23 55 40.0 +11
DUG LR LR
comp=Z,1μm,20.0s
DUG Dugway, Tooele 98.04 50 P Pdif 23 55 30.2 +0.9
baz=269
HVU Hansel Valley 98.10 49 eP Pdif 23 55 30.8 +1.4
comp=Z,15nm,1.3s
HVU Hansel Valley 98.10 49 eP Pdif 23 55 30.8 +1.4
HVU pmax pmax
comp=Z,15nm,1.3s
MTPU Mount Pierson 98.49 53 eP Pdif 23 55 34.3 +2.7
comp=Z,23nm,1.7s
NVL N'lazarevskaya 98.81 192 eP Pdif 23 55 35.6 +3.8
NVL pmax pmax
comp=Z,12nm,0.9s
BOZ Bozeman (W) 98.94 45 PFAKE 23 55 50.0 +17
BOZ LR LR
comp=Z,1μm,21.0s
BOZ Bozeman (W) 98.94 45 P P 23 55 32.6 -0.5
baz=271
HWUT Hardware Ranch 99.00 49 PFAKE 23 55 50.0 +16
HWUT LR LR
comp=Z,906nm,19.0s
WUAZ Wupatki 99.09 55 PFAKE 23 55 50.0 +16
WUAZ LR LR
comp=Z,865nm,19.0s
WUAZ Wupatki 99.09 55 P Pdif 23 55 34.1 +0.1
baz=269
AHID Auburn Hatcher 99.34 48 PFAKE 23 55 50.0 +15
AHID LR LR
comp=Z,2μm,20.0s
TPAW Teton Pass 99.45 47 eP Pdif 23 55 39.0 +3.4
comp=Z,5.8nm,1.2s
REDW Red Top Meadow 99.52 47 eP Pdif 23 55 37.8 +2.0
TUC Tucson 99.53 58 PFAKE 23 55 50.0 +14
TUC LR LR
comp=Z,2μm,19.0s
LKWY Lake 99.83 46 PFAKE 23 55 50.0 +13
LKWY LR LR
comp=Z,3μm,19.0s
EGMT Eagleton 100.17 42 PFAKE 23 55 50.0 +12
EGMT LR LR
comp=Z,845nm,21.0s
BW06 Boulder Array 100.48 48 PFAKE 23 55 50.0 +10
BW06 LR LR
comp=Z,1μm,20.0s
BW06 Boulder Array 100.48 48 P Pdif 23 55 40.3 +0.2
baz=272
PDAR Pinedale Array 100.48 48 P Pdif 23 55 33.6 -6.5
comp=Z,0.3nm,0.8s,baz=254,slow=1.7,SNR=2.5
PDAR PP PP 23 59 45.5 -1.5
comp=Z,1.4nm,1.1s,baz=258,slow=4.1,SNR=4.9
RLMT Red Lodge 100.62 45 PFAKE 23 55 50.0 +9.4
RLMT LR LR
comp=Z,1μm,21.0s
MVCO Mesa Verde 101.42 53 PFAKE 23 56 00.0 +16
MVCO LR LR
comp=Z,735nm,19.0s
ABPO Ambohimpanom 101.63 249 PFAKE 23 56 00.0 +14
ABPO LR LR
comp=Z,256nm,20.0s
LAO LASA Array 102.65 44 PFAKE 23 56 00.0 +11
LAO LR LR
comp=Z,1μm,19.0s
ANMO Albuquerque 103.12 56 PFAKE 23 56 00.0 +8.0
ANMO LR LR
comp=Z,473nm,19.0s
ISCO Idaho Springs 103.58 51 PFAKE 23 56 10.0 +16
ISCO LR LR
comp=Z,1μm,20.0s
SDCO Great Sand Dun 103.78 53 PFAKE 23 56 10.0 +15
SDCO LR LR
comp=Z,1μm,20.0s
DGMT Dagmar 103.84 42 PFAKE 23 56 10.0 +15
DGMT LR LR
comp=Z,971nm,20.0s
MNTX Cornudas Mount 104.12 59 PFAKE 23 56 10.0 +14
MNTX LR LR
comp=Z,1μm,19.0s
FFC Flin Flon 104.32 35 PFAKE 23 56 10.0 +13
FFC LR LR
comp=Z,1μm,19.0s
KBS Kingsbay 104.46 353 PFAKE 23 56 10.0 +13
KBS LR LR
comp=Z,466nm,19.0s
TXAR Lajitas Array 105.67 61 PKKPbc PKKPbc 00 11 40.9 -0.1
comp=Z,0.3nm,0.7s,baz=132,slow=5.8,SNR=4.6
APA Apatity 106.14 339⇓ iP Pdif 23 55 56.8 -7.6
APA pmax pmax
comp=Z,4.0nm,1.1s
OGNE Ogallala 106.21 49 PFAKE 00 00 30.0
OGNE LR LR
comp=Z,794nm,20.0s
GNI Garni 106.86 310 PFAKE 00 00 30.0
GNI LR LR
comp=Z,399nm,20.0s
KEV Kevo 107.19 343 PFAKE 00 00 30.0
KEV LR LR
comp=Z,533nm,19.0s
RAYN Ar Rayn 107.26 293 PFAKE 00 00 30.0
RAYN LR LR
comp=Z,396nm,20.0s
ARCES ARCESS Array B 107.75 343 PKiKP PKiKP 00 00 14.8 -4.2
comp=Z,2.4nm,0.9s,baz=122,slow=3.3,SNR=3.4
KIV Kislovodsk 107.87 314 PFAKE 00 00 30.0
KIV LR LR
comp=Z,374nm,20.0s
CBKS Cedar Bluff 108.20 51 PFAKE 00 00 30.0
CBKS LR LR
comp=Z,2μm,20.0s
JCT Junction City 108.96 60 PFAKE 00 00 40.0
JCT LR LR
comp=Z,2μm,19.0s
OBN Obninsk 109.19 327 PFAKE 00 00 30.0
OBN LR LR
comp=Z,608nm,20.0s
AGMN Agassiz Nation 109.34 41 PFAKE 00 00 30.0
AGMN LR LR
comp=Z,1μm,22.0s
WMOK Wichita Mounta 109.44 55 PFAKE 00 00 40.0
WMOK LR LR
comp=Z,615nm,19.0s
ECSD EROS Data Cent 109.77 46 PFAKE 00 00 40.0
ECSD LR LR
comp=Z,1μm,21.0s
KSU1 Kansas State U 110.58 51 PFAKE 00 00 40.0
KSU1 LR LR
comp=Z,1μm,19.0s
KVTX Kingsville 110.84 63 PFAKE 00 00 40.0
KVTX LR LR
comp=Z,908nm,19.0s
FINES FINESS Array B 111.75 335 Pdiff Pdif 23 56 26.8 -2.6
comp=Z,1.8nm,0.8s,baz=64,slow=4.4,SNR=5.9
EYMN Ely 112.26 40 PFAKE 00 00 40.0
EYMN LR LR
comp=Z,956nm,21.0s
SCIA State Center 112.59 47 PFAKE 00 00 40.0
SCIA LR LR
comp=Z,1μm,20.0s
NATX Nacogdoches 113.22 58 PFAKE 00 00 40.0
NATX LR LR
comp=Z,611nm,19.0s
MIAR Mount Ida 113.71 55 PFAKE 00 00 40.0
MIAR LR LR
comp=Z,1μm,20.0s
KMBO Kilima Mbogo 114.20 266 PFAKE 00 00 40.0 +6.9
KMBO LR LR
comp=Z,296nm,19.0s
COWI Conover 114.34 42 PFAKE 00 00 40.0 +7.8
COWI LR LR
comp=Z,1μm,22.0s
JFWS Jewell Farm 114.48 45 PFAKE 00 00 50.0 +17
JFWS LR LR
comp=Z,1μm,20.0s
KIEV Kiev 114.90 324 PFAKE 00 00 40.0 +7.0
KIEV LR LR
comp=Z,715nm,21.0s
KIEV Kiev 114.90 324⇑ iPKIKP PKPdf 00 00 31.9 -1.1
BRTR Keskin Array B 115.33 311 PKP **PKPdf 00 00 30.4 -4.1**
comp=Z,1.1nm,0.9s,baz=54,slow=6.3,SNR=5.5
HDIL Hopedale 115.79 48 PFAKE 00 00 50.0 +15
HDIL LR LR
comp=Z,1μm,21.0s
ANTO Ankara 115.93 312 PFAKE 00 00 50.0 +14
ANTO LR LR
comp=Z,284nm,19.0s
TIRR Tirgusor 117.67 317 ⇓PKIKP **PKPdf 00 00 45.8 +7.2**
NOA NORSAR Array B 117.72 340 PKP **PKPdf 00 00 33.3 -4.9**
comp=Z,0.6nm,0.9s,baz=132,slow=6.9,SNR=3.3
PAYG Puerto Ayora 117.73 94 PFAKE 00 00 50.0 +10
PAYG LR LR
comp=Z,335nm,19.0s
GLMI Grayling 117.77 42 PFAKE 00 00 50.0 +11
GLMI LR LR
comp=Z,1μm,20.0s
PLOR Plostina 118.33 319 ⇑PKIKP **PKPdf 00 00 46.1 +6.2**
BURAR Bucovina Array 118.53 322 ⇑PKIKP **PKPdf 00 00 44.0 +3.7**
MLR Muntele Rosu 118.92 319 ⇑PKIKP **PKPdf 00 00 40.7 -0.5**
AAM Ann Arbor 119.30 44 PFAKE 00 00 50.0 +8.2
AAM LR LR
comp=Z,1μm,20.0s
HOPE Hope Point 119.48 174 PFAKE 00 00 50.0 +8.2
HOPE LR LR
comp=Z,585nm,19.0s
SUR Sutherland 119.69 227 PFAKE 00 01 00.0 +17
SUR LR LR
comp=Z,1μm,19.0s
BRAL Brewton 119.73 58 PFAKE 00 01 00.0 +17
BRAL LR LR
comp=Z,597nm,20.0s
LSZ Lusaka 120.19 249 PFAKE 00 01 00.0 +16
LSZ LR LR
comp=Z,444nm,20.0s
DRGR 120.42 322 ⇑PKIKP **PKPdf 00 00 44.9 +1.0**
OJC Ojcow 120.48 326 ePKP **PKPdf 00 00 44.7 +0.9**
OJC Ojcow 120.48 326 ePKIKP **PKPdf 00 00 44.7 +0.9**
ACSO Alum Creek Sta 120.48 46 PFAKE 00 01 00.0 +16
ACSO LR LR
comp=Z,813nm,21.0s
NIE Niedzica 120.61 325 ePKP **PKPdf 00 00 43.8 -0.4**
NIE Niedzica 120.61 325 ePKIKP **PKPdf 00 00 43.8 -0.4**
MBAR Mbarara 120.73 266 PFAKE 00 01 00.0 +14
MBAR LR LR
comp=Z,605nm,20.0s
GZR Gura Zlata 121.00 320 ⇓PKIKP **PKPdf 00 00 45.8 +0.7**
PSZ Piszkesteto 121.59 324 ⇑PKIKP **PKPdf 00 00 47.4 +1.3**

OKC	**Ostrava-Krasne**	**121.59**	**327**	AMS	AMS	00 55 30.0		
	comp=Z,600nm,19.9s							
BZS	**Buzias**	**121.63**	**321**	⇓PKIKP	**PKPdf**	**00 00 46.6**	**+0.4**	
VTS	**Vitosha**	**121.88**	**317**	⇓PKIKP	**PKPdf**	**00 00 46.2**	**-0.8**	
MORC	**Moravsky Berou**	**121.95**	**327**	⇑PKIKP	**PKPdf**	**00 00 46.7**	**-0.1**	
MORC	**Moravsky Berou**	**121.95**	**327**	*e*PKP	**PKPdf**	**00 00 47.1**	**+0.3**	
GOGA	**Godfrey**	**122.16**	**54**	PFAKE		00 01 00.0	+12	
GOGA				LR	LR			
	comp=Z,984nm,21.0s							
DPC	**Dobruska-Polom**	**122.29**	**328**	*e*PKP	**PKPdf**	**00 00 50.7**	**+3.3**	
DPC				*ex*	x	00 12 12.1		
DPC				AMS	AMS	00 54 30.0		
	comp=Z,700nm,18.6s							
DPC	**Dobruska-Polom**	**122.29**	**328**	*e*PKIKP	**PKPdf**	**00 00 50.7**	**+3.3**	
DPC				*e*		00 12 12.1		
DPC				MLR	MLR			
	comp=Z,700nm,18.6s							
JAVC	**Velka Javorina**	**122.38**	**326**	*e*PKP	**PKPdf**	**00 00 48.8**	**+1.2**	
VRAC	**Vranov**	**122.73**	**327**	*e*PKP	**PKPdf**	**00 00 48.6**	**+0.4**	
KRUC	**Moravsky**	**122.97**	**327**	*e*PKP	**PKPdf**	**00 00 49.1**	**+0.4**	
PVCC	**Panska Ves**	**123.10**	**329**	AMS	AMS	00 56 30.0		
	comp=Z,1µm,22.1s							
MORH	**M¨¦gy, Hung**	**123.17**	**323**	*e*PKPdf	**PKPdf**	**00 00 49.1**	**0.0**	
BRG	**Berggiesshubel**	**123.22**	**329**	*e*PKP	**PKPdf**	**00 00 49.3**	**+0.3**	
	comp=Z,34nm,1.9s							
BRG	**Berggiesshubel**	**123.22**	**329**	*e*PKIKP	**PKPdf**	**00 00 49.3**	**+0.3**	
BRG				pmax	pmax			
	comp=Z,34nm,1.9s							
TREC	**Trest**	**123.33**	**327**	AMS	AMS	00 55 10.0		
	comp=Z,1µm,21.5s							
BLA	**Blacksburg**	**123.39**	**49**	PFAKE		00 01 00.0	+10	
BLA				LR	LR			
	comp=Z,1µm,19.0s							
CLL	**Collm**	**123.42**	**330**	*e*PKPdf	**PKPdf**	**00 00 49.0**	**-0.4**	
	comp=Z,10.0nm,1.2s							
CLL				*i* pPKPdf	**pPKPdf**	**00 01 01.2**	**+1.5**	
CLL				*e*PP	**PP**	**00 02 30.0**	**-0.2**	
CLL				*e*		00 04 12.0		
CLL				*e*PPP	PPP	00 04 54.0		
CLL				*e*		00 12 06.0		
CLL				*e*PS	**PS**	**00 12 25.0**	**-2.8**	
CLL				*e*PPS	PPS	00 13 54.0		
CLL				*e*SS	SS	00 19 12.0	-2.4	
CLL				*e*SSS	SSS	00 23 42.0		
CLL				*e*SSSS		00 27 36.0		
CLL				Lm	MLR	00 56 00.0		
	comp=N,600nm,19.5s							
CLL				Lm	MLR	00 56 00.0		
	comp=E,400nm,21.8s							
CLL				Lm	MLR	00 56 00.0		
	comp=Z,700nm,20.6s							
CLL	**Collm**	**123.42**	**330**	*e*PKIKP	**PKPdf**	**00 00 49.0**	**-0.4**	
CLL				*i*		00 01 01.2		
CLL				pmax	pmax			
	comp=Z,17nm,1.2s							
CLL				MLR	MLR			
	comp=Z,700nm,20.6s							
JTS	**JuntasAbangare**	**123.79**	**82**	PFAKE		00 01 00.0	+8.8	
JTS				LR	LR			
	comp=Z,536nm,19.0s							
CONA	**Conrad Observa**	**123.89**	**326**	*e*PKiKP	**PKiKP**	**00 00 51.3**	**+0.4**	
	comp=Z,13nm,1.5s							
LONY	**Lake Ozonia**	**124.33**	**39**	PFAKE		00 01 00.0	+8.6	
LONY				LR	LR			
	comp=Z,1µm,20.0s							
NKC	**Novy Kostel**	**124.36**	**330**	*e*PKP	**PKPdf**	**00 00 52.3**	**+1.0**	
NKC				AMS	AMS	00 57 40.0		
	comp=Z,1µm,21.4s							
NKC	**Novy Kostel**	**124.36**	**330**	*e*PKIKP	**PKPdf**	**00 00 52.3**	**+1.0**	
NKC				MLR	MLR			
	comp=Z,1µm,21.4s							
KHC	**Kasperske Hory**	**124.45**	**328**	*e*PKP	**PKPdf**	**00 00 52.6**	**+1.0**	
KHC				*ex*	x	00 01 01.7		
KHC				AMS	AMS	00 56 00.0		
	comp=Z,800nm,20.4s							
KHC	**Kasperske Hory**	**124.45**	**328**	*e*PKIKP	**PKPdf**	**00 00 52.6**	**+1.0**	
KHC				*e*		00 01 01.7		
KHC				MLR	MLR			
	comp=Z,800nm,20.4s							
GERES	**GERESS Array B**	**124.55**	**328**	PKP	**PKPdf**	**00 00 46.2**	**-5.6**	
	comp=Z,0.6nm,0.6s,baz=191,slow=1.4,SNR=5.5							
BINY	**Binghamton**	**124.57**	**42**	PFAKE		00 01 00.0	+8.0	
BINY				LR	LR			
	comp=Z,1µm,21.0s							
MOA	**Molln**	**124.83**	**326**	PKiKP	**PKPdf**	**00 00 51.7**	**-0.6**	
	comp=Z,6.8nm,1.5s							
NHSC	**New Hope**	**124.89**	**54**	PFAKE		00 01 10.0	+17	
NHSC				LR	LR			
	comp=Z,923nm,19.0s							
SOKA	**Soboth**	**125.06**	**325**	PKiKP	**PKPdf**	**00 00 53.2**	**+0.4**	
	comp=Z,18nm,1.6s							
CBN	**Corbin Frederi**	**125.28**	**47**	PFAKE		00 01 10.0	+17	
CBN				LR	LR			
	comp=Z,907nm,20.0s							
OBKA	**Obir**	**125.43**	**325**	PKiKP	**PKiKP**	**00 00 57.2**	**+3.3**	
	comp=Z,5.3nm,0.8s							
CNNC	**Cliffs of the**	**125.99**	**50**	PFAKE		00 01 10.0	+15	
CNNC				LR	LR			
	comp=Z,803nm,19.0s							
TRQA	**Tornquist**	**126.06**	**147**	PFAKE		00 01 10.0	+15	
TRQA				LR	LR			
	comp=Z,525nm,19.0s							
LCO	**Las Campanas**	**126.32**	**133**	PFAKE		00 01 10.0	+14	
LCO				LR	LR			
	comp=Z,422nm,19.0s							
ABTA	**Abfaltersbach**	**126.44**	**326**	*e*PKiKP	**PKPdf**	**00 00 55.6**	**+0.1**	
	comp=Z,10nm,1.1s							
WTTA	**Wattenberg**	**126.61**	**327**	PKiKP	**PKiKP**	**00 00 56.9**	**+0.5**	
	comp=Z,25nm,1.4s							
SQTA	**Sankt Quirin**	**126.87**	**327**	*e*PKiKP	**PKiKP**	**00 00 56.9**	**0.0**	
	comp=Z,12nm,1.3s							
EKA	**Eskdalemuir Ar**	**126.91**	**342**	PKP	**PKPdf**	**00 00 50.2**	**-5.8**	
	comp=Z,0.4nm,0.6s,baz=17,slow=3.0,SNR=4.5							
PKME	**Peaks-Kenny Pk**	**127.17**	**36**	PFAKE		00 01 10.0	+13	
PKME				LR	LR			
	comp=Z,1µm,19.0s							
FETA	**Feichten**	**127.25**	**327**	*e*PKiKP	**PKiKP**	**00 00 58.2**	**+0.5**	
	comp=Z,10nm,1.3s							
DAVA	**Damuels**	**127.53**	**328**	*e*PKiKP	**PKPdf**	**00 00 57.6**	**0.0**	
	comp=Z,13nm,1.4s							
BFO	**Black Forest**	**127.66**	**330**	PFAKE		00 01 10.0	+12	
BFO				LR	LR			
	comp=Z,31nm,21.0s							
TSUM	**Tsumeb**	**128.34**	**240**	PFAKE		00 01 10.0	+10	
TSUM				LR	LR			
	comp=Z,502nm,20.0s							
NNA	**Nana**	**128.48**	**110**	PFAKE		00 01 10.0	+10	
NNA				LR	LR			
	comp=Z,168nm,19.0s							
BCIP	**Isla Barro Col**	**128.83**	**83**	PFAKE		00 01 10.0	+9.2	
BCIP				LR	LR			
	comp=Z,419nm,20.0s							
OTAV	**Otavalo**	**129.59**	**95**	PFAKE		00 01 20.0	+17	
OTAV				LR	LR			
	comp=Z,217nm,20.0s							
MTDJ	**Mount Denham**	**130.50**	**71**	PFAKE		00 01 20.0	+16	
MTDJ				LR	LR			
	comp=Z,291nm,19.0s							
GCUF	**Volcan Galeras**	**130.81**	**94**	*e*P	**PKPdf**	**00 01 07.8**	**+2.5**	
LVC	**Limon Verde**	**131.09**	**127**	PFAKE		00 01 20.0	+15	
LVC				LR	LR			
	comp=Z,1615µm,19.0s							
MALC	**Bahia Malaga**	**131.09**	**90**	*e*P	PKPpre	00 00 55.8		
POPC	**Popayan, Colom**	**131.62**	**92**	*e*P	**PKPdf**	**00 01 07.8**	**+1.3**	
SOTA	**Rioblanco**	**131.64**	**93**	*e*P	**PKPdf**	**00 01 01.8**	**-5.1**	
DBBC	**Dabeiba**	**132.38**	**86**	*e*P	**PKPdf**	**00 01 08.4**	**+0.7**	
GTBY	**Guantanamo Bay**	**132.50**	**69**	PFAKE		00 01 20.0	+12	
GTBY				LR	LR			
	comp=Z,392nm,21.0s							
FLOC	**Florencia**	**132.53**	**93**	*e*P	**PKPdf**	**00 01 08.4**	**+0.5**	
MOTC	**Monteria, Cord**	**132.95**	**84**	*e*P	PKPpre	00 01 03.1		
HELC	**Santa Helena**	**133.02**	**87**	*e*P	**PKPdf**	**00 01 06.5**	**-2.8**	
GUYC	**Guyana, Colomb**	**133.11**	**89**	*e*P	**PKPdf**	**00 01 10.4**	**+0.8**	
RREF	**El Recreo**	**133.13**	**89**	*e*P	**PKPdf**	**00 01 12.4**	**+2.6**	
ZARC	**Zaragoza, Cauc**	**133.73**	**85**	*e*P	**PKPdf**	**00 01 10.4**	**+0.3**	
PTBC	**PUERTO BERRIO**	**134.10**	**87**	*e*P	**PKPdf**	**00 01 09.1**	**-1.8**	
ROSC	**El Rosal**	**134.15**	**89**	*e*P	PKPpre	00 01 05.8		
CHIC	**Chingaza**	**134.72**	**89**	*e*P	**PKPdf**	**00 01 13.1**	**+0.6**	
LPAZ	**La Paz**	**134.74**	**120**	PKP	**PKPdf**	**00 01 09.7**	**-3.1**	
	comp=Z,3.2nm,0.7s,baz=317,slow=7.0,SNR=15							
CODC	**Agust¨›n Codaz**	**135.13**	**82**	*e*P	**PKPdf**	**00 01 13.1**	**+0.4**	
BARC	**Barichara**	**135.37**	**87**	*e*P	**PKPdf**	**00 01 15.1**	**+1.6**	
RUSC	**La Rusia**	**135.44**	**88**	*e*P	PKPpre	00 01 07.8		
PAMC	**Pamplona, Colo**	**135.87**	**86**	*e*P	**PKPdf**	**00 01 13.8**	**-1.0**	
SDDR	**Presa de Saban**	**136.22**	**69**	PFAKE		00 01 30.0	+15	
SDDR				LR	LR			
	comp=Z,667nm,20.0s							
SDV	**Santo Domingo**	**137.92**	**83**	PFAKE		00 01 30.0	+12	
SDV				LR	LR			
	comp=Z,262nm,19.0s							
SIV	**San Ignacio**	**140.83**	**124**	PKP	**PKPdf**	**00 01 16.8**	**-6.4**	
	comp=Z,1.1nm,0.6s,baz=281,slow=3.1,SNR=6.6							
SJG	**San Juan**	**141.16**	**69**	PFAKE		00 01 40.0	+16	
SJG				LR	LR			
	comp=Z,354nm,20.0s							
SAML	**Samuel**	**142.14**	**113**	PFAKE		00 01 40.0	+14	
SAML				LR	LR			
	comp=Z,375nm,22.0s							
ANWB	**Willy Bob**	**145.30**	**68**	PFAKE		00 01 40.0	+9.0	
ANWB				LR	LR			
	comp=Z,755nm,19.0s							
MDT	**Midelt**	**145.45**	**323**	PKPbc	**PKPbc**	**00 01 25.5**	**-5.5**	
	comp=Z,1.3nm,0.6s,baz=355,slow=1.7,SNR=4.4							
BDFB	**Brasilia**	**150.89**	**138**	PKPbc	**PKPdf**	**00 01 42.0**	**+1.7**	
	comp=Z,3.9nm,0.6s,baz=151,slow=3.3,SNR=3.9							
KIC	**Kosan Boka**	**156.61**	**272**	*e*P	**PKPdf**	**00 01 54.4**	**+5.9**	
	comp=Z,86nm,1.3s							
TIC	**Toumodi**	**156.88**	**273**	*e*P	**PKPdf**	**00 01 54.7**	**+5.9**	
LIC	**Lamto**	**156.89**	**272**	*e*P	PKPdf	00 01 56.6	+7.8	
	comp=Z,81nm,1.3s							
RCBR	**Riachuelo**	**165.95**	**147**	PFAKE		00 02 10.0	+12	
RCBR				LR	LR			
	comp=Z,56µm,19.0s							

IDC 14 23:51:23.7±2.0, 5°26S×151°35E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.6/34, mbtmp3.8/5, ML1.6/1, Error ellipse: s-maj=110.4km s-min=26.0km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s ISC
PMG	**Port Moresby**	**5.85**	**225**		Pn	Pn	23	52	53.8 +1.9
	1.1nm,0.3s,baz=36,slow=8.7,SNR=3.5								
WRA	**Warramunga Arr**	**22.07**	**227**		P	P	23	56	20.9 +0.3
	1.4nm,0.5s,baz=53,slow=10,SNR=7.7								
ASAR	**Alice Springs**	**24.85**	**221**		P	P	23	56	47.2 -1.0
	0.8nm,0.6s,baz=54,slow=8.9,SNR=5.3								
FITZ	**Fitzroy Crossi**	**28.18**	**241**		P	P	23	57	18.2 0.0
	1.6nm,0.6s,baz=60,slow=7.9,SNR=7.5								
ILAR	**Eielson Array**	**83.13**	**22**		P	P	00	03	51.8 +0.5
	0.3nm,0.6s,baz=241,slow=6.1,SNR=4.6								
TORD	**Torodi Ar. Bea**	**149.07**	**287**		PKPbc	PKPbc	00	11	14.0 -1.1
	0.3nm,0.6s,baz=68,slow=2.5,SNR=6.0								

*ISCJB **14** 23:59:59.6±0.4, 1°21S±0.06×26°78E±0.06, h10km, mb4.0/14, MS3.1/1, Error ellipse: s-maj=8.9km s-min=8.3km az=11.9*
*IDC **15** 00:00:00.3±0.7, 1°17S×26°73E, h0km, mb4.0/14, mb1 4.1/16, mb1mx3.8/62, mbtmp4.0/16, ML3.9/2, MS3.4/6, Ms1 3.4/6, ms1mx3.2/46, Error ellipse: s-maj=27.4km s-min=14.3km az=97.0*
*NEIC **15** 00:00:01.8±0.4, 1°18S×26°78E, h10km, mb4.1/3, Error ellipse: s-maj=8.9km s-min=7.9km az=100.0*
ISC 15 00:00:00.9±0.5, 1°37S±0°06×26°89E±0°07, h10km, n35, σ2§16/37, mb4.0/14, Zaire

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s ISC
MBAR	**Mbarara**	**3.92**	**79**	*e*Pn		**Pn**	**00**	**01**	**01.4 0.0**
MBAR				*e*Sn		**Sn**	**00**	**01**	**44.6 -3.0**
BBAT	**Babati**	**9.30**	**108**	*i* S		Sn	00	04	50.0 +50
NAI	**Nairobi**	**9.91**	**90**	*e*Pn		**Pn**	**00**	**02**	**26.8 +3.0**
KMBO	**Kilima Mbogo**	**10.36**	**89**	Pn		**Pn**	**00**	**02**	**31.4 +1.4**
	0.3nm,0.3s,baz=272,slow=18,SNR=6.6								
KMBO				Sn		**Sn**	**00**	**04**	**24.7 -1.7**
	0.3nm,0.3s,baz=258,slow=20,SNR=2.4								
KMBO				Lg		Lg	00	05	22.1
	0.8nm,0.3s,baz=311,slow=17,SNR=7.2								
KMBO				LR		LR	00	05	26.4
	comp=Z,53nm,20.1s,baz=284,slow=31								
KMBO	**Kilima Mbogo**	**10.36**	**89**	*e*Pn		**Pn**	**00**	**02**	**32.4 +2.4**
	0.8nm,0.6s								
KMBO				*e*S		Sn	00	04	44.4 +18
LSZ	**Lusaka**	**13.88**	**175**	Pn		**Pn**	**00**	**03**	**18.8 +0.9**
	1.0nm,0.3s,baz=358,slow=13,SNR=9.6								
LSZ				Sn		**Sn**	**00**	**05**	**48.9 -3.4**
	1.8nm,0.3s,baz=114,slow=15,SNR=7.7								
LSZ				Lg		Lg	00	07	26.2
	1.2nm,0.3s,baz=276,slow=19,SNR=5.7								
LSZ				LR		LR	00	08	43.8
	comp=Z,134nm,18.8s,baz=6.5,slow=37								
LSZ	**Lusaka**	**13.88**	**175**	*e*Pn		**Pn**	**00**	**03**	**19.2 +1.3**
LSZ				Sn		**Sn**	**00**	**05**	**48.9 -3.4**
FURI	**Furi**	**15.56**	**49**	*e*Pn		**Pn**	**00**	**03**	**41.6 +0.8**
	7.6nm,0.4s								
MATP	**Matopo**	**19.01**	**175**	P		**Pn**	**00**	**04**	**27.2 +3.4**
	1.0nm,0.3s,baz=357,slow=14,SNR=30								
MATP				S		**Sn**	**00**	**07**	**50.3 -6.5**
	0.4nm,0.3s,baz=66,slow=20,SNR=3.9								
MATP				Lg		Lg	00	10	04.4
	0.1nm,0.3s,baz=86,slow=22,SNR=3.6								
TSUM	**Tsumeb**	**19.93**	**207**	P		**Pn**	**00**	**04**	**35.5 +0.6**
	1.4nm,0.4s,baz=18,slow=9.6,SNR=2.7								
TSUM				S		S	00	08	06.5 -11
	4.2nm,0.7s,baz=105,slow=19,SNR=2.2								
TSUM				Lg		Lg	00	10	29.5
	8.2nm,0.9s,baz=273,slow=18,SNR=3.6								
TSUM				LR		LR	00	12	26.6
	comp=Z,79nm,19.1s,baz=336,slow=37								
TSUM	**Tsumeb**	**19.93**	**207**	*e*P		**Pn**	**00**	**04**	**38.1 +3.3**
	1.3nm,0.6s								
TSUM				S		S	00	08	06.5 -11
LBTB	**Lobatse**	**23.54**	**183**	P		**P**	**00**	**05**	**14.1 +2.4**
	3.0nm,0.7s,baz=17,slow=9.6,SNR=4.3								
LBTB				Lg		Lg	00	12	30.1
	4.0nm,1.0s,baz=98,slow=19,SNR=2.8								
LBTB				LR		LR	00	14	44.5
	comp=Z,107nm,21.6s,baz=80,slow=37								
BOSA	**Boshof**	**27.14**	**183**	P		**P**	**00**	**05**	**47.4 +2.8**
	3.9nm,1.0s,baz=340,slow=10,SNR=4.8								
BOSA				Lg		Lg	00	14	19.6
	2.0nm,0.7s,baz=216,slow=19,SNR=2.9								
TOA0	**Torodi Ar. Sit**	**28.85**	**301**	*e*P		**P**	**00**	**05**	**58.8 -1.1**
TORD	**Torodi Ar. Bea**	**28.85**	**301**	P		**P**	**00**	**05**	**58.2 -1.7**
	2.3nm,0.8s,baz=116,slow=9.8,SNR=10								
TORD				Lg		Lg	00	15	11.7
	1.7nm,1.0s,baz=132,slow=25,SNR=3.4								
TOA1	**Torodi Ar. Sit**	**28.86**	**301**	*e*P		**P**	**00**	**05**	**58.2 -1.7**
EIL	**Elat**	**31.81**	**13**	P		**P**	**00**	**06**	**26.9 +1.1**
	1.5nm,0.5s,baz=212,slow=9.4,SNR=3.6								
DBIC	**Dimbokro**	**32.67**	**285**	*e*P		**P**	**00**	**06**	**33.0 -0.7**
	2.9nm,1.0s								
BR101	**Keskin Array S**	**41.36**	**8**	*e*P		**P**	**00**	**07**	**46.7 -0.6**
BRTR	**Keskin Array B**	**41.36**	**8**	P		**P**	**00**	**07**	**46.7 -0.6**
	1.6nm,0.6s,baz=183,slow=10,SNR=15								
KBZ	**Khabaz**	**47.13**	**16**	P		**P**	**00**	**08**	**34.2 +1.0**
	2.9nm,0.9s,baz=126,slow=8.7,SNR=3.5								
GERES	**GERESS Array B**	**51.30**	**349**	P		**P**	**00**	**09**	**04.0 -1.3**
	0.3nm,0.5s,baz=167,slow=8.2,SNR=4.4								
PALK	**Pallekele**	**54.37**	**80**	LR		LR	00	28	23.9
	comp=Z,579nm,21.7s,baz=116,slow=31								
OBN	**Obninsk**	**56.85**	**7**	P		**P**	**00**	**09**	**44.6 -0.9**
	2.4nm,0.3s,baz=180,slow=20,SNR=3.5								
NB200	**NORSAR Array S**	**63.40**	**352**	*e*P		**P**	**00**	**10**	**29.7 -0.7**
NOA	**NORSAR Array B**	**63.40**	**352**	P		**P**	**00**	**10**	**29.7 -0.7**
	0.7nm,0.8s,baz=167,slow=6.5,SNR=3.8								
KURBB	**Kurchatov Arra**	**67.86**	**33**	P		**P**	**00**	**10**	**58.2 -1.1**
	0.3nm,0.3s,baz=252,slow=5.7,SNR=3.5								
KURK	**Kurchatov**	**67.96**	**33**	P		**P**	**00**	**10**	**58.2 -1.7**
MK32	**Makanchi Array**	**68.11**	**38**	*e*P		**P**	**00**	**11**	**01.8 +0.7**
MKAR	**Makanchi Array**	**68.11**	**38**	P		**P**	**00**	**11**	**01.8 +0.7**
	1.9nm,1.0s,baz=243,slow=6.5,SNR=4.7								
ARA0	**ARCESS Array S**	**70.77**	**359**	*e*P		**P**	**00**	**11**	**17.4 +0.3**
ARCES	**ARCESS Array B**	**70.77**	**359**	P		**P**	**00**	**11**	**17.4 +0.3**
	2.5nm,0.9s,baz=162,slow=3.8,SNR=3.5								
ARCES				LR		LR	00	44	24.2
	comp=Z,11nm,18.3s,baz=38,slow=38								
ZALV	**Zalesovo Beam**	**72.86**	**32**	P		**P**	**00**	**11**	**31.3 +1.4**
	0.5nm,0.4s,baz=260,slow=8.6,SNR=2.6								
ZAA1	**Zalesovo Array**	**72.87**	**32**	*e*P		**P**	**00**	**11**	**31.3 +1.4**
LPAZ	**La Paz**	**94.44**	**254**	LR		LR	00	52	01.2
	comp=Z,141nm,21.6s,baz=219,slow=33								

*IDC **15** 00:00:04.6±0.5, 5°76S×151°75E, h0km, mb4.6/20, mb1 4.7/20, mb1mx4.5/45, mbtmp4.6/20, MS4.3/2, Ms1 4.3/2, ms1mx3.6/43, Error ellipse: s-maj=21.1km s-min=14.0km az=105.0*
*BJI **15** 00:00:06.1, 5°80S×151°70E, h9km, mb4.7/24, mB5.2/13, Ms5.0/5, Ms7 4.8/5*
*ISCJB **15** 00:00:09.1±0.3, 5°85S±0°05×151°70E±0°06, h36km, mb4.7/46, Error ellipse: s-maj=9.4km s-min=5.4km az=37.8*
*NEIC **15** 00:00:10.6±0.3, 5°77S×151°66E, h35km, mb4.8/23, Error ellipse: s-maj=11.4km s-min=6.1km az=127.0*
*DJA **15** 00:00:12.5±1.0, 6°S±7°×15°2E±°, h55km±5km, M4.9/13, mb4.7/13, MLv5.0/1*
ISC 15 00:00:10.4±0.5, 5°87S±0°06×151°84E±0°08, h36km, n96, σ1§48/99, mb4.7/47, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s ISC
RABL	**Rabaul**	**1.70**	**11**	*e*Pn		**Pn**	**00**	**00**	**37.9 +0.3**
PMG	**Port Moresby**	**5.81**	**233**	Pn		**Pn**	**00**	**01**	**35.4 +1.2**
	14nm,0.3s,baz=40,slow=10,SNR=36								
PMG				Sn		**Sn**	**00**	**02**	**39.4 -0.2**
	9.0nm,0.3s,baz=108,slow=20,SNR=4.0								
PMG	**Port Moresby**	**5.81**	**233**	*e*Pn		**Pn**	**00**	**01**	**35.1 +0.9**
PMG				*e*S		**Sn**	**00**	**02**	**40.4 +0.7**
JAY	**Jayapura**	**11.59**	**286**	Pn		**Pn**	**00**	**02**	**55.3 +1.8**
	0.2nm,0.3s,baz=105,slow=20,SNR=2.9								
CTA	**Charters Tower**	**15.13**	**200**	Pn		**P**	**00**	**03**	**47.7 +1.3**
	0.2nm,0.3s,baz=20,slow=12,SNR=5.1								
EIDS	**Eidsvold**	**19.40**	**182**	*e*P		**Pn**	**00**	**04**	**35.0 +0.2**
	7.4nm,0.8s								
FAKI	**Fak Fak**	**19.75**	**278**	P		**P**	**00**	**04**	**36.4 -1.0**
SIJI	**Sorong**	**21.12**	**283**	P		**P**	**00**	**04**	**53.4 +1.1**
	13nm,0.7s,baz=80,slow=9.9,SNR=5.4								
DZM	**Mont Dzumac**	**21.42**	**140**	LR		LR	00	12	09.2
	comp=Z,741nm,18.2s,baz=267,slow=34								
MTN	**Manton Dam**	**21.56**	**250**	*e*P		**P**	**00**	**04**	**56.6 -0.3**
	28nm,0.8s								
WRAB	**Tennant Creek**	**22.00**	**229**	*e*P		**P**	**00**	**05**	**00.8 -0.9**
	30nm,0.8s								
WB2	**Warramunga Arr**	**22.01**	**229**	*e*P		**P**	**00**	**05**	**01.2 -0.6**
WRA	**Warramunga Arr**	**22.02**	**229**	P		**P**	**00**	**05**	**00.9 -1.0**
	117nm,1.3s,baz=53,slow=9.9,SNR=92								
WRA				S		**S**	**00**	**09**	**02.4 -0.6**
	1.0nm,0.9s,baz=56,slow=18,SNR=3.3								
WRA				ScP		**ScP**	**00**	**12**	**35.8 +1.5**
	0.6nm,0.7s,baz=50,slow=2.6,SNR=4.8								
AS01	**Alice Springs**	**24.68**	**222**	*e*P		**P**	**00**	**05**	**27.8 -0.4**
AS31	**Alice Springs**	**24.71**	**222**	*e*P		**P**	**00**	**05**	**28.5 0.0**
	8.5nm,0.8s								
ASAR	**Alice Springs**	**24.71**	**222**	P		**P**	**00**	**05**	**28.2 -0.3**
	20nm,0.7s,baz=56,slow=8.9,SNR=122								
ASAR				ScP		**ScP**	**00**	**12**	**46.0 +4.6**
	0.7nm,0.8s,baz=45,slow=4.1,SNR=3.6								
STKA	**Stephens Creek**	**27.59**	**199**	P		**P**	**00**	**05**	**53.5 -0.9**
	7.2nm,1.0s,baz=8.5,slow=11,SNR=8.7								
BATI	**Baumata**	**28.22**	**259**	P		**P**	**00**	**05**	**59.6 -0.5**
	20nm,0.4s,baz=44,slow=17,SNR=4.9								
BATI	**Baumata**	**28.22**	**259**	P		**P**	**00**	**06**	**00.7 +0.5**
	24nm,1.0s								
FITZ	**Fitzroy Crossi**	**28.31**	**242**	P		**P**	**00**	**06**	**00.1 -0.8**
	18nm,0.5s,baz=68,slow=7.4,SNR=121								
FITZ	**Fitzroy Crossi**	**28.31**	**242**	*e*P		**P**	**00**	**06**	**00.4 -0.5**
	21nm,0.6s								
MMRI	**Maumere**	**29.48**	**263**	P		P	00	06	21.1 +10
EDFI	**Ende, Flores**	**30.03**	**263**	P		**P**	**00**	**06**	**12.1 -4.3**
MBWA	**Marble Bar**	**34.61**	**241**	*e*P		**P**	**00**	**06**	**55.6 -0.7**
RPZ	**Rata Peaks**	**41.31**	**159**	LR		LR	00	21	58.9
	comp=Z,494nm,20.4s,baz=318,slow=32								
NJ2	**Nanjing**	**49.08**	**322**	*e*P		**P**	**00**	**08**	**55.3 +0.9**
NJ2				pmax	pmax				
	comp=Z,20nm,0.5s								
GYA	**

comp=Z,9.1nm,0.9s
CCB Clear Creek Bu 83.10 22 *e*P **P 00 12 31.9 -0.2**
comp=Z,11nm,0.9s
ILAR Eielson Array 83.51 22 P **P 00 12 33.3 -1.0**
comp=Z,6.2nm,0.7s,baz=247,slow=5.3,SNR=62
ILB Eielson Array 83.51 22 *e*P **P 00 12 33.3 -1.0**
IL1 Eielson Array 83.51 22 *e*P **P 00 12 33.0 -1.2**
KURK Kurchatov 84.02 322 *e*P **P 00 12 36.9 -0.2**
comp=Z,3.8nm,0.8s
KURBB Kurchatov Arra 84.05 322 P **P 00 12 36.6 -0.7**
comp=Z,1.9nm,0.7s,baz=112,slow=3.9,SNR=9.6
QSPA South Pole Qui 84.09 180 *e*P **P 00 12 37.7 +0.2**
comp=Z,8.6nm,0.8s,baz=338,slow=1.3,SNR=16
QSPA South Pole Qui 84.09 180 *e*P **P 00 12 37.8 +0.4**
comp=Z,15nm,1.1s
MAW Mawson 84.22 203 P **P 00 12 37.7 -0.1**
comp=Z,1.1nm,0.4s,baz=127,slow=5.1,SNR=4.2
TOLK Toolik Lake Re 84.53 18 *e*P **P 00 12 40.7 +1.3**
comp=Z,13nm,1.1s
AAK Ala-Archa 84.71 314 P **P 00 12 40.6 -0.4**
comp=Z,2.6nm,1.0s,baz=110,slow=5.6,SNR=4.5
AAK Ala-Archa 84.71 314 *e*P **P 00 12 40.2 -0.8**
comp=Z,9.1nm,1.4s
EGAK Eagle 85.72 23 *e*P **P 00 12 46.2 +0.8**
comp=Z,11nm,0.9s
DAWY Dawson 86.15 24 *e*P **P 00 12 48.9 +1.2**
comp=Z,9.5nm,1.0s
NRIK Noril'sk 86.66 341 P **P 00 12 47.4 -2.6**
comp=Z,1.9nm,0.5s,baz=109,slow=4.5,SNR=5.9
BVAR Borovoye Array 89.52 323 P **P 00 13 02.0 -2.0**
comp=Z,1.0nm,0.6s,baz=133,slow=6.3,SNR=5.8
INK Inuvik 89.80 21 P **P 00 13 04.3 -0.5**
comp=Z,6.5nm,1.1s,baz=240,slow=6.2,SNR=7.0
INK Inuvik 89.80 21 *e*P **P 00 13 05.2 +0.4**
comp=Z,8.6nm,1.0s
CPIM Pinole Ridge 90.39 52 *e*P **P 00 13 07.0 -1.4**
HUMO Hull Mountain 90.41 47 *e*P **P 00 13 07.7 -0.7**
comp=Z,2.6nm,0.8s
PINE Pine Mountain 92.02 46 *e*P **P 00 13 17.8 +1.8**
comp=Z,3.5nm,1.0s
SYO Syowa Base 92.34 199⍰ *e*P **P 00 13 15.4 -1.3**
NVAR Mina Array Bea 93.50 52 P **P 00 13 24.2 +1.2**
comp=Z,1.6nm,0.7s,baz=263,slow=6.6,SNR=9.7
NV11 Mina Array Sit 93.62 52 *e*P **P 00 13 25.4 +2.0**
comp=Z,0.3nm,1.0s
DAC Darwin (Calif) 93.89 54 *e*P **P 00 13 27.5 +2.6**
comp=Z,2.6nm,0.9s
TPNV Topopah Spring 95.02 53 *e*P **P 00 13 33.5 +3.5**
comp=Z,3.3nm,1.0s
YKA Yellowknife Ar 96.82 28 P **P 00 13 38.1 +0.7**
comp=Z,1.7nm,0.8s,baz=268,slow=4.8,SNR=5.2
PDAR Pinedale Array 100.28 48 P **Pdif 00 13 53.6 0.0**
comp=Z,0.6nm,0.8s,baz=343,slow=1.5,SNR=4.0
GERES GERESS Array B 124.45 328 PKP **PKPdf 00 19 05.0 -1.0**
comp=Z,0.8nm,0.8s,baz=41,slow=2.6,SNR=6.3
ROSC El Rosal 134.04 89 PKP **PKPdf 00 19 23.6 -2.1**
comp=Z,3.9nm,0.4s,baz=66,slow=19,SNR=3.3
LPAZ La Paz 134.74 120 PKP **PKPdf 00 19 27.6 +0.5**
comp=Z,1.2nm,0.8s,baz=236,slow=5.6,SNR=3.7
PTGA Pitinga 147.58 101 *e*PKPbc **PKPbc 00 19 53.0 +0.9**
TOA0 Torodi Ar. Sit 149.70 286 *e*PKPdf **PKPbc 00 19 55.4 -2.1**
TOA0 *e*PKPbc **PKiKP 00 19 57.1 -1.4**
TORD Torodi Ar. Bea 149.70 286 PKPbc **PKPbc 00 19 55.5 -1.9**
comp=Z,6.2nm,0.7s,baz=59,slow=1.9,SNR=50
BDFB Brasilia 150.96 138 PKPbc **PKPbc 00 20 01.6 +1.0**
comp=Z,3.9nm,0.9s,baz=159,slow=5.7,SNR=4.7
DBIC Dimbokro 156.82 273 PKPab **PKPab 00 20 31.8 -1.0**
comp=Z,4.0nm,0.9s,baz=109,slow=2.2,SNR=4.8

*IDC **15** 00:00:25.7±0.7,32.°76N×92.°26E,h0km,mb3.9/15, mb1 4.0/19,mb1mx3.9/69,mbtmp3.9/19,ML3.7/4,MS3.9/2, Ms1 3.9/2,ms1mx3.1/46,Error ellipse: s-maj=20.7km s-min=13.9km az=48.0*
*ISCJB **15** 00:00:26.2±0.3,32.°80N±0.°04×92.°26E±0.°04,h14km, mb3.9/17,MS4.4/2,Error ellipse: s-maj=5.3km s-min=5.2km az=15.9*
*BJI **15** 00:00:27.6,32.°78N×92.°24E,h5km,mb4.3/11,mB4.3/2, Ms4.0/7,Ms7 4.0/8*
*NEIC **15** 00:00:31.4±1.0,32.°82N×92.°27E,h40km±12km,mb4.1/5, Error ellipse: s-maj=11.2km s-min=6.8km az=53.0*
ISC 15 00:00:28.0±0.4,32.°80N±0.°04×92.°21E±0.°06,h14km,n49, σ1°35/52,mb4.0/17,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.22**	**197**	*e*Pn		**Pb**	**00 01 22.8**	**-2.5**
LSA				*e*Sn		**Sg**	**00 02 10.4**	**-1.1**
SHL	**Shillong**	**7.21**	**182**	*e*Pn		**Pn**	**00 02 15.4**	**+2.2**
GTA	**Gaotai**	**9.02**	**41**	P		**Pn**	**00 02 37.8**	**-0.1**
GTA				pP			00 02 42.8	
GTA				sP			00 02 46.0	
GTA				S		**Sn**	**00 04 21.4**	**+2.0**
GTA	comp=Z,5.0nm,1.7s			pmax	pmax			
GTA	comp=Z,44nm,4.9s			pmax	pmax			
GTA	comp=N,610nm,13.3s			LR	LR			
GTA	comp=E,680nm,11.4s			LR	LR			
GTA	comp=Z,720nm,10.2s			LR	LR			
BRDH	**Bariadhala**	**10.10**	**183**	Pn		**Pn**	**00 02 52.4**	**-0.2**
BRDH	32nm,0.3s,baz=60,slow=14,SNR=4.9			Sn		**Sn**	**00 04 45.8**	**+0.1**
LZH	**Lanzhou**	**10.15**	**68**	*e*P		**Pn**	**00 02 52.5**	**-1.0**
LZH	36nm,0.3s,baz=52,slow=19,SNR=3.0			pP			00 02 59.1	
LZH				sP			00 03 00.9	
LZH				*e*PP		**PnPn**	**00 03 03.3**	**+2.2**
LZH				S		**Sn**	**00 04 46.1**	**-1.2**
LZH	comp=Z,16nm,1.1s			pmax	pmax			
LZH	comp=Z,61nm,4.7s			pmax	pmax			
LZH	comp=E,920nm,12.8s			LR	LR			
LZH	comp=Z,2μm,12.8s			LR	LR			
WMQ	**Urumqi**	**11.56**	**343**	P		**Pn**	**00 03 09.9**	**-2.7**
WMQ				sP			00 03 17.3	
WMQ	comp=Z,21nm,0.9s			pmax	pmax			
WMQ	comp=Z,220nm,4.9s			pmax	pmax			
KMI	**Kunming**	**11.98**	**127**	P		Pn	00 03 24.8	+6.2
KMI	comp=Z,10.0nm,0.6s			pmax	pmax			
PRZ	**Przheval'sk**	**14.58**	**315**	*e*Pn		**Pn**	**00 03 50.6**	**-3.4**
ENH	**Enshi**	**14.95**	**95**	*e*Pn		**Pn**	**00 04 00.3**	**+1.3**
	comp=Z,14nm,0.8s							
KDJ	**Kajisay**	**15.12**	**312**	*e*Pn		**Pn**	**00 04 02.8**	**+1.5**
	comp=Z,8.2nm,0.8s							
CHTO	**Chiang Mai**	**15.18**	**155**	*e*Pn		**Pn**	**00 04 03.8**	**+1.7**
CMAR	**Chiang Mai Arr**	**15.51**	**155**	Pn		**Pn**	**00 04 05.3**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=329,slow=14,SNR=14							
NRN	**Naryn**	**15.52**	**308**	*e*Pn		**P**	**00 04 10.4**	**-0.7**
	comp=Z,8.5nm,1.0s							
CM01	**Chiang Mai Arr**	**15.55**	**155**	*e*Pn		**Pn**	**00 04 07.6**	**+0.7**
MKAR	**Makanchi Array**	**15.90**	**334**	Pn		**Pn**	**00 04 11.1**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=134,slow=14,SNR=4.0							
AAK	**Ala-Archa**	**17.08**	**310**	P		**P**	**00 04 28.7**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=104,slow=9.4,SNR=7.4							
AAK				LR		LR	00 12 33.4	
	comp=Z,197nm,21.0s,baz=252,slow=42							
AAK	**Ala-Archa**	**17.08**	**310**	*e*Pn		**P**	**00 04 29.6**	**+1.4**
HHC	**Hu-ho-hao-te**	**17.43**	**57**	*e*P		**Pn**	**00 04 30.8**	**-0.1**
HHC	comp=Z,12nm,0.7s			pmax	pmax			
SONM	**Songino Array**	**18.46**	**31**	P		**P**	**00 04 43.1**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=213,slow=13,SNR=15							
SONA1	**Songino Array**	**18.48**	**31**	*e*P		**P**	**00 04 42.6**	**-0.9**
KBL	**Kabul**	**19.35**	**282**	*e*P		**P**	**00 04 53.5**	**+0.2**
	comp=Z,32nm,1.8s							
HYB	**Hyderabad**	**19.65**	**222**	*i* P		**Pn**	**00 04 58.0**	**+0.1**
KK31	**Karatay Array**	**19.91**	**307**	*e*P		**Pn**	**00 05 00.8**	**-0.1**
KKAR	**Karatay Array**	**19.91**	**307**	*e*P		**Pn**	**00 05 00.8**	**-0.1**
KURBB	**Kurchatov Arra**	**20.47**	**334**	P		**P**	**00 05 05.7**	**+0.5**
	comp=Z,3.4nm,0.8s,baz=144,slow=10,SNR=27							
KURK	**Kurchatov**	**20.51**	**335**	*e*P		**P**	**00 05 06.1**	**+0.5**
TIA	**Tai'an**	**20.80**	**74**	P		**P**	**00 05 09.1**	**+0.2**
TIA	comp=Z,9.0nm,0.7s			pmax	pmax			
TIA	comp=Z,640nm,19.2s			LR	LR			
TIA	comp=Z,2μm,17.1s			LR	LR			
POO	**Poona**	**21.76**	**234**	*e*P		**P**	**00 05 24.0**	**+4.6**
ZAA0	**Zalesovo Array**	**21.79**	**348**	*e*P		**P**	**00 05 20.9**	**+1.6**
	comp=Z,27nm,1.9s							
ZALV	**Zalesovo Beam**	**21.79**	**348**	P		**P**	**00 05 19.3**	**0.0**
	comp=Z,3.1nm,0.8s,baz=161,slow=10,SNR=10.0							
BRVK	**Borovoye**	**25.65**	**329**	*e*P		**P**	**00 05 57.7**	**+0.6**
	comp=Z,5.9nm,1.2s							
CN2	**Changchun**	**28.13**	**57**	*e*P		**P**	**00 06 21.1**	**+1.6**
GEYT	**Alibeck**	**28.17**	**290**	P		**P**	**00 06 21.4**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=100,slow=16,SNR=4.2							
ABKAR	**Akbulak array**	**29.08**	**314**	*e*P		**P**	**00 06 28.3**	**+0.3**
KSAR	**Wonju Array Be**	**29.44**	**71**	P		**P**	**00 06 31.6**	**+0.4**
KSRS	**Korea Array**	**29.47**	**71**	P		**P**	**00 06 31.6**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=278,slow=9.7,SNR=2.7							
AKTO	**Aktyubinsk**	**30.68**	**315**	P		**P**	**00 06 42.3**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=105,slow=9.3,SNR=5.6							
GNI	**Garni**	**38.49**	**295**	LR		LR	00 25 07.7	
	comp=Z,457nm,21.7s,baz=99,slow=38							
BRTR	**Keskin Array B**	**47.01**	**296**	P		**P**	**00 08 58.9**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=89,slow=10,SNR=5.8							
EIL	**Elat**	**48.55**	**282**	P		**P**	**00 09 11.1**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=44,slow=18,SNR=2.4							
FINES	**FINESS Array B**	**50.46**	**325**	P		**P**	**00 09 24.6**	**-0.4**
	comp=Z,3.1nm,1.1s,baz=113,slow=6.8,SNR=3.6							
NOA	**NORSAR Array B**	**57.65**	**325**	P		**P**	**00 10 16.8**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=79,slow=6.6,SNR=3.3							
GERES	**GERESS Array B**	**58.96**	**311**	P		**P**	**00 10 27.3**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=108,slow=6.3,SNR=4.7							
WRA	**Warramunga Arr**	**66.12**	**136**	P		**P**	**00 11 14.0**	**-1.0**
	comp=Z,1.1nm,0.9s,baz=317,slow=8.5,SNR=4.8							
EKA	**Eskdalemuir Ar**	**66.58**	**322**	P		**P**	**00 11 17.2**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=70,slow=8.4,SNR=2.9							
ASAR	**Alice Springs**	**68.81**	**139**	P		**P**	**00 11 31.9**	**-0.1**
	comp=Z,1.6nm,0.9s,baz=321,slow=6.3,SNR=7.0							
ILAR	**Eielson Array**	**72.44**	**23**	P		**P**	**00 11 53.8**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=288,slow=5.1,SNR=8.2							
YKA	**Yellowknife Ar**	**82.62**	**12**	P		**P**	**00 12 50.4**	**-0.1**
	comp=Z,1.4nm,0.9s,baz=226,slow=46,SNR=2.5							
TORD	**Torodi Ar. Bea**	**83.42**	**281**	P		**P**	**00 12 53.6**	**-1.8**
	comp=Z,1.2nm,0.7s,baz=41,slow=4.2,SNR=7.4							

IDC 15 00:02:12.9±2.4,35.°00S×55.°41E,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.5/59,mbtmp3.9/3,Error ellipse: s-maj=91.9km s-min=48.7km az=38.0,South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**67.34**	**45**	P		P	00 13 10.5	+0.5
	0.7nm,0.4s,baz=238,slow=6.3,SNR=4.7							
ASAR	**Alice Springs**	**67.79**	**104**	P		P	00 13 13.2	+0.2
	0.5nm,0.7s,baz=242,slow=4.8,SNR=2.6							
WRA	**Warramunga Arr**	**70.01**	**101**	P		P	00 13 26.6	-0.3
	0.7nm,0.7s,baz=238,slow=5.2,SNR=4.1							
ILAR	**Eielson Array**	**147.29**	**18**	PKPbc		PKPdf	00 21 54.9	-0.3
	0.9nm,0.9s,baz=318,slow=4.0,SNR=7.9							
YKA	**Yellowknife Ar**	**151.78**	**350**	PKPbc		PKPbc	00 22 09.9	+1.2
	1.9nm,0.8s,baz=19,slow=2.6,SNR=5.2							

*IDC **15** 00:09:19.5±2.0,31.°73N×49.°54E,h0km,mb3.4/1, mb1 3.5/4,mb1mx3.2/52,mbtmp3.5/4,ML3.3/3,Error ellipse: s-maj=45.1km s-min=32.4km az=8.0*
*TEH **15** 00:09:19.5,32.°08N×49.°58E,h10km,ML3.1*
*ISCJB **15** 00:09:21.0±0.6,31.°97N±0.°06×49.°53E±0.°05,h20km, mb3.6/1,Error ellipse: s-maj=9.1km s-min=5.5km az=179.6*
ISC 15 00:09:21.4±0.9,31.°96N±0.°06×49.°58E±0.°04,h20km,n28, σ1°83/27,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.67**	**283**	*e*Pg		**Pb**	**00 09 31.8**	**-2.7**
AHWZ	**Ahwaz**	**1.01**	**232**	*e*Pg		**Pn**	**00 09 40.1**	**-0.3**
AHWZ				*e*Sg		**Sn**	**00 09 59.6**	**+5.5**
AHWZ	comp=N,0.0nm,0.2s			IAMB	IAmb		00 10 00.3	
AHWZ	comp=E,0.0nm,0.3s			IAMB	IAmb		00 10 00.8	
AHWZ	comp=Z,0.0nm,0.2s			IAMB	IAmb		00 10 01.1	
ZNGN	**Zangian**	**1.10**	**81**	*e*Pg		**Pn**	**00 09 39.8**	**-2.1**
ZNGN	comp=E,0.0nm,0.4s			IAMB	IAmb		00 10 00.8	
ZNGN	comp=Z,0.0nm,0.8s			IAMB	IAmb		00 10 01.8	
ZNGN	comp=N,0.0nm,0.4s			IAMB	IAmb		00 10 05.2	
ROKH	**ROKH**	**1.30**	**72**	*e*Pg		**Pn**	**00 09 43.7**	**-0.8**
ROKH	comp=N,0.0nm,0.2s			IAMB	IAmb		00 10 09.3	
ROKH	comp=Z,0.0nm,0.2s			IAMB	IAmb		00 10 09.6	
ROKH	comp=E,0.0nm,0.3s			IAMB	IAmb		00 10 10.5	
IPIR	**Pirpir**	**1.33**	**57**	*e*Pg		**Pn**	**00 09 43.6**	**-1.4**
IPIR	comp=Z,3μm,0.4s			IAMB	IAmb		00 10 09.3	
IPIR	comp=N,3μm,0.4s			IAMB	IAmb		00 10 10.1	
IPIR	comp=E,5μm,0.4s			IAMB	IAmb		00 10 12.2	
KHMZ	**Khomeyn**	**1.80**	**10**	*e*Pn		**Pn**	**00 09 52.0**	**+0.5**
IKMR	**Kamar-syah**	**1.85**	**327**	*e*Pn		**Pn**	**00 09 52.0**	**0.0**
IKMR	comp=Z,0.0nm,0.2s			IAMB	IAmb		00 09 57.0	
IKFM	**Kafar-mosalman**	**2.13**	**317**	*e*Pn		**Pn**	**00 09 56.6**	**+0.8**
IKFM	comp=E,0.0nm,0.4s			IAMB	IAmb		00 10 30.4	
IKFM	comp=Z,0.0nm,0.4s			IAMB	IAmb		00 10 31.3	
IKFM	comp=N,0.0nm,0.4s			IAMB	IAmb		00 10 36.3	
IGAR	**Gharneh**	**2.14**	**77**	*e*Pn		**Pb**	**00 09 58.1**	**-1.4**
IGAR	comp=N,2μm,0.3s			IAMB	IAmb		00 10 32.5	
IGAR	comp=Z,1μm,0.4s			IAMB	IAmb		00 10 33.4	
IKLH	**Kolahrood**	**2.17**	**51**	*e*Pn		**Pn**	**00 09 58.6**	**+2.1**
IKLH	comp=Z,2μm,0.4s			IAMB	IAmb		00 10 02.7	
IKLH	comp=E,4μm,0.3s			IAMB	IAmb		00 10 32.9	
IKLH	comp=N,3μm,0.2s			IAMB	IAmb		00 10 34.5	
HSAM	**Samen**	**2.39**	**340**	*e*Pn		**Pn**	**00 09 59.9**	**+0.3**
HSAM	comp=E,0.0nm,0.3s			IAMB	IAmb		00 10 39.2	
HSAM	comp=N,0.0nm,0.4s			IAMB	IAmb		00 10 42.1	
IRAM	**Ramesheh**	**2.39**	**93**	*e*Pn		**Pn**	**00 10 01.3**	**+1.7**
IRAM	comp=E,702nm,0.3s			IAMB	IAmb		00 10 41.2	
IRAM	comp=N,740nm,0.3s			IAMB	IAmb		00 10 42.0	
IRAM	comp=Z,412nm,0.4s			IAMB	IAmb		00 10 48.5	
IZEF	**Zefreh**	**2.51**	**67**	IAMB	IAmb		00 10 06.8	
IZEF	comp=Z,768nm,0.4s			*e*Pn		**Pn**	**00 10 03.0**	**+1.7**
IZEF	comp=N,904nm,0.5s			IAMB	IAmb		00 10 40.5	
IZEF	comp=E,890nm,0.4s			IAMB	IAmb		00 10 44.0	
ASAO	**Ashtian**	**2.61**	**8**	*e*Pn		**Pn**	**00 10 03.3**	**+0.7**
IKOM	**Komasi**	**2.81**	**322**	*e*Pn		**Pn**	**00 10 05.7**	**+0.4**
IKOM	comp=E,0.0nm,0.6s			IAMB	IAmb		00 11 03.3	
IKOM	comp=Z,0.0nm,0.7s			IAMB	IAmb		00 11 07.4	
HAGD	**Aghdareh**	**2.88**	**353**	IAMB	IAmb		00 10 55.0	
HAGD	comp=E,0.0nm,0.3s			*e*Pn		**Pn**	**00 10 07.1**	**+0.8**
HAGD				IAMB	IAmb		00 10 55.1	
HAGD	comp=N,0.0nm,0.4s			IAMB	IAmb		00 10 55.6	
HAGD	comp=Z,0.0nm,0.3s			IAMB	IAmb		00 10 55.6	
GHVR	**GHOM**	**2.90**	**29**	*e*Pn		**Pn**	**00 10 06.9**	**+0.5**
ILIN	**Lien**	**3.67**	**324**	*e*Pn		**Pn**	**00 10 16.7**	**-0.5**
ILIN	comp=Z,286nm,0.3s			IAMB	IAmb		00 11 04.4	
ANAR	**Anarak**	**3.71**	**70**	*e*Pn		**Pn**	**00 10 19.8**	**+2.1**
ANAR	comp=N,0.0nm,0.2s			IAMB	IAmb		00 10 21.4	
ANAR	comp=E,0.0nm,0.1s			IAMB	IAmb		00 10 21.5	
ANAR	comp=Z,0.0nm,0.2s			IAMB	IAmb		00 10 24.3	
IDMV	**Damavand**	**4.15**	**29**	IAMB	IAmb		00 11 07.9	
	comp=Z,191nm,0.5s							
IAFJ	**Afjeh**	**4.27**	**24**	*e*Pn		**Pn**	**00 10 26.3**	**+0.7**
IAFJ				IAMB	IAmb		00 10 26.8	
IAFJ	comp=Z,248nm,0.2s			IAMB	IAmb		00 11 44.4	
	comp=N,391nm,0.3s							
IFIR	**Firoozkooh**	**4.52**	**35**	*e*Pn		**Pn**	**00 10 30.3**	**+1.3**
IFIR	comp=Z,171nm,0.2s			IAMB	IAmb		00 10 31.6	
IFIR	comp=N,152nm,0.5s			IAMB	IAmb		00 11 48.5	
IFIR	comp=E,191nm,0.6s			IAMB	IAmb		00 11 48.9	
IPRN	**Peran**	**4.85**	**27**	IAMB	IAmb		00 10 39.2	
	comp=Z,176nm,0.3s							
IANJ	**Anjilo**	**5.03**	**45**	*e*Pn		**Pn**	**00 10 36.2**	**+0.3**
IANJ				IAMB	IAmb		00 10 37.3	
	comp=Z,76nm,0.2s							
GEYT	**Alibeck**	**9.20**	**47**	Pn		**Pn**	**00 11 36.1**	**+3.2**
	comp=Z,0.2nm,0.3s,baz=236,slow=10,SNR=1.9							
WSAR	**Wadi Sarin**	**11.82**	**135**	Pn		**Pn**	**00 12 07.1**	**-1.8**
	comp=Z,4.4nm,0.3s,baz=334,slow=14,SNR=7.0							
BRTR	**Keskin Array B**	**15.06**	**305**	Pn		**P**	**00 12 57.7**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=122,slow=13,SNR=3.7							
TORD	**Torodi Ar. Bea**	**47.59**	**258**	P		**P**	**00 17 56.8**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=57,slow=8.5,SNR=5.1							

*IDC **15** 00:12:16.8±0.8,6.°91S×148.°07E,h60km±5km,mb4.0/8, mb1 4.2/12,mb1mx3.9/44,mbtmp4.3/12,MS3.8/3, Ms1 3.8/3,ms1mx3.3/37,Error ellipse: s-maj=30.0km s-min=15.2km az=96.0*
*ISCJB **15** 00:12:17.3±1.2,6.°99S±0.°08×147.°9E±0.°1,h78km±13km, mb4.1/9,Error ellipse: s-maj=20.8km s-min=8.2km az=36.3*
*NEIC **15** 00:12:17.4±1.1,6.°85S×147.°81E,h60km±12km,mb4.1/4, Error ellipse: s-maj=20.8km s-min=7.8km az=126.0*
ISC 15 00:12:17.4±0.7,6.°86S±0.°07×147.°7E±0.°1,h61km±5km, h61km:pP-P,n26,σ2s40/37,mb4.2/9,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.59**	**192**	P		**Pn**	**00 12 58.3**	**+1.3**
	68nm,0.3s,baz=24,slow=5.6,SNR=70							
PMG	105nm,0.3s,baz=0.9,slow=22,SNR=8.8			S		**Sn**	**00 13 31.7**	**+4.4**
PMG	comp=Z,413nm,21.2s,baz=248,slow=45			LR	LR		00 14 14.4	
PMG	**Port Moresby**	**2.59**	**192**	*e*Pn		**Pn**	**00 12 56.9**	**-0.1**
RABL	**Rabaul**	**5.15**	**59**	*e*Pn		**Pn**	**00 13 31.4**	**-0.7**
JAY	**Jayapura**	**8.22**	**301**	LR		LR	00 17 21.0	
	comp=Z,341nm,19.5s,baz=152,slow=36							
COEN	**Coen**	**8.35**	**212**	*e*Pn		**Pn**	**00 14 15.8**	**-0.1**
COEN				*e*Sn		**Sn**	**00 15 49.0**	**+0.2**
CTA	**Charters Tower**	**13.22**	**186**	P		**Pn**	**00 15 23.4**	**+0.9**
	0.5nm,0.3s,baz=5.9,slow=13,SNR=9.9							
CTAO	**Charters Tower**	**13.22**	**186**	*e*Pn		**Pn**	**00 15 23.8**	**+1.3**
SIJI	**Sorong**	**17.46**	**289**	P		**P**	**00 16 21.2**	**+3.8**
	0.3nm,0.3s,baz=132,slow=18,SNR=3.3							
WRAB	**Tennant Creek**	**18.37**	**224**	*e*P		**P**	**00 16 28.4**	**+1.0**
	6.5nm,0.6s							
WB2	**Warramunga Arr**	**18.37**	**224**	*e*P		**P**	**00 16 28.7**	**+1.3**
	8.2nm,0.6s							
WR1	**Warramunga Arr**	**18.38**	**224**	*e*P		**P**	**00 16 27.8**	**+0.3**
	8.1nm,0.6s							
WR1				*e*Sn		**Sn**	**00 19 45.6**	**-7.4**
WRA	**Warramunga Arr**	**18.38**	**224**	P		**P**	**00 16 27.8**	**+0.3**
	1.2nm,0.3s,baz=52,slow=11,SNR=56							
WRA	0.1nm,0.3s,baz=54,slow=22,SNR=3.9			S		**Sn**	**00 19 45.6**	**-7.4**
AS01	**Alice Springs**	**21.31**	**217**	*e*P		**P**	**00 16 59.8**	**+0.4**
AS31	**Alice Springs**	**21.34**	**217**	*e*P		**P**	**00 17 00.5**	**+0.8**
	7.9nm,0.6s							
AS31				*e*S		**S**	**00 20 52.6**	**-1.0**
ASAR	**Alice Springs**	**21.34**	**217**	P		**P**	**00 17 00.7**	**+1.0**
	15nm,0.5s,baz=52,slow=9.5,SNR=208							
ASAR	1.7nm,0.8s,baz=33,slow=22,SNR=6.0			S		**S**	**00 20 52.6**	**-1.0**
FITZ	**Fitzroy Crossi**	**24.25**	**241**	P		**P**	**00 17 30.2**	**+1.3**
	19nm,0.4s,baz=56,slow=8.3,SNR=210							
STKA	**Stephens Creek**	**25.54**	**192**	P		**P**	**00 17 39.6**	**-0.9**
	5.1nm,0.7s,baz=15,slow=11,SNR=12							
NWAO	**Narrogin (SRO)**	**38.39**	**223**	P		**P**	**00 19 33.4**	**+0.4**
	4.3nm,0.5s,baz=295,slow=8.0,SNR=6.2							
VNDA	**Vanda**	**71.02**	**177**	P		**P**	**00 23 28.1**	**-0.2**
	1.0nm,0.5s,baz=318,slow=7.0,SNR=5.2							
VNDA	1.3nm,0.7s,baz=321,slow=5.8,SNR=4.5			pP		**pP**	**00 23 43.9**	**-1.1**
MKAR	**Makanchi Array**	**78.62**	**320**	P		**P**	**00 24 13.4**	**+0.6**
	0.7nm,0.6s,baz=100,slow=9.0,SNR=8.5							
MKAR	0.6nm,0.5s,baz=98,slow=7.2,SNR=2.9			pP		**pP**	**00 24 32.4**	**+2.7**
ZALV	**Zalesovo Beam**	**80.12**	**328**	P		**P**	**00 24 20.7**	**-0.1**
	0.5nm,0.5s,baz=111,slow=7.9,SNR=2.2							
ZALV	0.4nm,0.3s,baz=130,slow=11,SNR=2.4			pP		**pP**	**00 24 39.9**	**+2.2**
ZAA1	**Zalesovo Array**	**80.12**	**328**	*e*P		**P**	**00 24 20.7**	**-0.1**
ZAA1				*e*pP		**pP**	**00 24 39.9**	**+2.2**
ILAR	**Eielson Array**	**85.99**	**23**	P		**P**	**00 24 48.7**	**-2.1**
	0.2nm,0.6s,baz=247,slow=5.7,SNR=3.0							
ILAR	0.8nm,0.7s,baz=250,slow=4.8,SNR=5.0			sP		**sP**	**00 25 12.7**	**-2.0**
ARU	**Arti**	**95.20**	**326**	LR		LR	01 10 35.0	
	comp=Z,443nm,19.6s,baz=172,slow=37							
TORD	**Torodi Ar. Bea**	**145.99**	**283**	PKPbc		**PKPab**	**00 31 53.0**	**+0.9**
	0.3nm,0.4s,baz=62,slow=3.8,SNR=14							
TORD	1.8nm,0.9s,baz=78,slow=3.3,SNR=6.1			pPKPbc		**pPKPdf**	**00 32 07.0**	**-1.5**
TOA1	**Torodi Ar. Sit**	**146.00**	**283**	*e*PKPdf		**PKPab**	**00 31 53.0**	**+0.9**
TOA1				*ep*PKPdf		**

RNF	**Rovaniemi**	**2.57**	**116**	*e*PB	Pb	00 20 06.1	-2.0
	baz=303							
RNF				*e*SG	Sb	00 20 40.3	+0.1
ARE0	**ARCESS Array S**	**2.59**	**46**	*e*PB	Pn	00 20 06.2	+2.0
	baz=228							
ARE0				*e*S	Sn	00 20 35.8	-0.5

UPP 15 00:19:30.8±0.2, 67.83N×20.20E, h0km, ML2.0, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**21**	P	Pg	00 19 33.7	+0.3
KUA				S	Sg	00 19 35.5	+0.3
RATU	**Laukkuluspa**	**0.23**	**269**	P	Pg	00 19 35.5	+0.3
PAJU	**Pajala**	**1.38**	**124**	P	Pg	00 19 56.3	-0.9

IDC **15** *00:25:44.4±0.7, 39°.37N×73°.69E, h0km, mb4.0/19, mb1 4.2/26, mb1mx4.1/43, mbtmp4.0/26, ML3.5/7, Error ellipse: s-maj=13.2km s-min=11.4km az=147.0*

SOME **15** *00:25:44.7, 39°.45N×73°.78E, h10km*

BJI **15** *00:25:44.3, 39°.68N×73°.42E, h8km, mb4.0/1, ML3.8/3*

NNC **15** *00:25:46.8±1.1, 39°.56N×73°.58E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=12.7km s-min=5.9km az=73.0*

KRNET **15** *00:25:46.7±0.1, 39°.60N×73°.68E, mb4.4*

MOS **15** *00:25:48.4±1.3, 39°.45N×73°.62E, h33km, mb4.5/9, Error ellipse: s-maj=8.3km s-min=5.0km az=88.8*

NEIC **15** *00:25:50.5±1.1, 39°.47N×73°.59E, h38km±9km, mb4.2/3, Error ellipse: s-maj=12.8km s-min=7.1km az=160.0*

ISC 15 00:25:45.9±1.3, 39°.45N±0°.04×73°.62E±0°.03, h5km±8km, n152, σ2s18/198, mb4.2/28, 47C-28D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.57**	**351**	⇑P	**Pg**	**00 25 55.4**	**-1.5**
	313nm,0.3s						
SFK				⇓S	**Sg**	**00 26 02.7**	**-1.5**
	3μm,0.3s						
SFK	**Sufi-Kurgan**	**0.57**	**351**	⇑*i*P	**Pg**	**00 25 55.4**	**-1.5**
	baz=42						
SFK				⇑*i*S	**Sg**	**00 26 01.6**	**-2.6**
	baz=42						
SFK	**Sufi-Kurgan**	**0.57**	**351**	PG	**Pg**	**00 25 55.3**	**-1.5**
SFK				pmax	pmax		
	comp=Z,313nm,0.3s						
KSH	**Kashi**	**1.82**	**87**	Pg	Pn	00 26 12.9	-5.1
KSH				Sg	Sn	00 26 32.8	-8.7
KSH				smax	smax		
	comp=Z,3μm,0.8s						
KSH				smax	smax		
	comp=Z,1μm,0.6s						
ARSB	**Arslanbob**	**1.93**	**346**	⇑*i*P	**Pn**	**00 26 20.6**	**+1.1**
	baz=43						
ARSB				⇑*i*S	**Sn**	**00 26 45.1**	**+0.9**
	baz=43						
BTK	**Batken**	**2.24**	**287**	⇑*i*P	**Pn**	**00 26 27.0**	**+3.3**
	baz=83						
BTK				⇑*i*S	**Sb**	**00 26 57.1**	**+2.1**
	baz=83						
ARLS	**Aral**	**2.46**	**12**	⇑*i*P	**Pn**	**00 26 27.8**	**+0.9**
	baz=12						
ARLS				⇑*i*S	**Sn**	**00 26 58.2**	**+0.8**
	baz=12						
ARK	**Arkit**	**2.66**	**332**	⇓*i*P	**Pn**	**00 26 31.3**	**+1.8**
	baz=30						
ARK				⇓*i*S	**Sn**	**00 27 03.5**	**+1.3**
	baz=30						
AML	**Almayashu**	**2.67**	**1**	P	**Pn**	**00 26 31.5**	**+1.5**
	SNR=208						
AML	**Almayashu**	**2.67**	**1**	⇓*i*P	**Pn**	**00 26 31.4**	**+1.5**
	baz=0.0						
AML				⇓*i*S	**Sn**	**00 27 04.0**	**+1.0**
	baz=0.0						
NRN	**Naryn**	**2.69**	**42**	*e*Pn	**Pn**	**00 26 30.9**	**+0.9**
NRN	**Naryn**	**2.69**	**42**	⇑*i*P	**Pn**	**00 26 30.8**	**+0.7**
	baz=43						
NRN				⇑*i*S	**Sn**	**00 27 03.8**	**+0.7**
	baz=43						
NRN	**Naryn**	**2.69**	**42**	*e*PN	**Pn**	**00 26 30.9**	**+0.9**
UCH	**Uchtor**	**2.85**	**13**	P	**Pn**	**00 26 34.2**	**+1.7**
	SNR=167						
UCH	**Uchtor**	**2.85**	**13**	⇓*i*P	**Pn**	**00 26 34.0**	**+1.5**
	baz=13						
UCH				⇓*i*S	**Sn**	**00 27 07.7**	**+0.3**
	baz=13						
KZA	**Kyzart**	**2.90**	**25**	P	**Pn**	**00 26 34.5**	**+1.4**
	SNR=45						
KZA	**Kyzart**	**2.90**	**25**	⇑*i*P	**Pn**	**00 26 34.3**	**+1.2**
	baz=25						
KZA				⇑*i*S	**Sn**	**00 27 09.4**	**+0.9**
	baz=25						
MNAS	**Manas**	**3.15**	**345**	⇑Pn	**Pn**	**00 26 38.2**	**+1.9**
	comp=Z,36nm,0.4s						
MNAS				⇑Lg	Lg	00 27 22.7	
	comp=Z,359nm,0.6s						
MNAS	**Manas**	**3.15**	**345**	*i* PN	**Pn**	**00 26 38.1**	**+1.9**
MNAS				pmax	pmax		
	comp=Z,36nm,0.3s						
EKS2	**Erkin-Say**	**3.21**	**2**	P	**Pn**	**00 26 39.1**	**+2.1**
	SNR=64						
EKS2	**Erkin-Say**	**3.21**	**2**	⇓*i*P	**Pn**	**00 26 38.6**	**+1.6**
	baz=1.0						
EKS2				⇓*i*S	**Sn**	**00 27 16.2**	**+0.5**
	baz=1.0						
AAK	**Ala-Archa**	**3.25**	**11**	Pn	**Pn**	**00 26 39.9**	**+2.3**
	comp=Z,18nm,0.3s,baz=165,slow=10,SNR=163						
AAK				Sn	**Sb**	**00 27 22.4**	**-1.7**
	comp=Z,18nm,0.3s,baz=319,slow=10,SNR=6.4						
AAK	**Ala-Archa**	**3.25**	**11**	⇓Pn	**Pn**	**00 26 39.8**	**+2.3**
	comp=Z,82nm,0.5s						
AAK				⇓Lg	Lg	00 27 25.5	
	comp=Z,305nm,0.6s						
AAK	**Ala-Archa**	**3.25**	**11**	P	**Pn**	**00 26 40.0**	**+2.3**
	SNR=121						
AAK	**Ala-Archa**	**3.25**	**11**	*e*Pn	**Pn**	**00 26 39.9**	**+2.3**
AAK				*e*S	**Sb**	**00 27 22.7**	**-1.3**
AAK	**Ala-Archa**	**3.25**	**11**	⇑*e*P	**Pn**	**00 26 39.0**	**+1.4**
	baz=11						
AAK				⇑*i*S	**Sn**	**00 27 17.5**	**+0.7**
	baz=11						
AAK	**Ala-Archa**	**3.25**	**11**	*c i*PN	**Pn**	**00 26 39.8**	**+2.2**
MRKS	**Merke**	**3.30**	**355**	*e*P	**Pb**	**00 26 43.9**	**-1.1**
	comp=Z,105nm,0.4s						
MRKS				*e*S	**Sb**	**00 27 25.9**	**+0.4**
	comp=Z,323nm,0.4s						
KBK	**Karagaybulak**	**3.35**	**17**	P	**Pn**	**00 26 41.0**	**+1.9**
	SNR=69						
KBK	**Karagaybulak**	**3.35**	**17**	⇑*i*P	**Pn**	**00 26 40.7**	**+1.6**
	baz=17						
KBK				⇑*i*S	**Sn**	**00 27 20.0**	**+0.6**
	baz=17						
ULHL	**Ulahol**	**3.43**	**35**	P	**Pn**	**00 26 42.1**	**+2.0**
	SNR=37						
ULHL	**Ulahol**	**3.43**	**35**	⇑*i*P	**Pn**	**00 26 41.5**	**+1.4**
	baz=35						
ULHL				⇑*i*S	**Sn**	**00 27 21.8**	**+0.6**
	baz=35						
FRU1	**Bishkek**	**3.44**	**13**	*e*Pn	**Pn**	**00 26 42.7**	**+2.5**
FRU1	**Bishkek**	**3.44**	**13**	*e*PN	**Pn**	**00 26 42.7**	**+2.5**
FRU	**Bishkek**	**3.46**	**12**	*e*PN	**Pn**	**00 26 43.0**	**+2.6**
FRU				*i*		00 27 31.0	
FRU				pmax	pmax		
	comp=Z,60nm,1.9s						
FRU				smax	smax		
	comp=N,1μm,1.8s						
BOOM	**Boomskoye usch**	**3.51**	**29**	⇓*i*P	**Pn**	**00 26 42.3**	**+1.1**
	baz=30						
BOOM				⇓*i*S	**Sn**	**00 27 22.8**	**-0.3**
	baz=30						
CHMS	**Chumysh**	**3.64**	**13**	P	**Pn**	**00 26 45.0**	**+2.1**
	SNR=13						
CHMS	**Chumysh**	**3.64**	**13**	⇑*i*P	**Pn**	**00 26 44.4**	**+1.5**
	baz=13						
CHMS				⇑*i*S	**Sn**	**00 27 26.3**	**0.0**
	baz=13						
TKM2	**Tokmak 2**	**3.77**	**23**	⇓Pn	**Pn**	**00 26 46.2**	**+1.3**
	comp=N,22nm,0.4s						
TKM2				⇓Lg	Lg	00 27 40.4	
	comp=N,150nm,0.6s						
TKM2	**Tokmak 2**	**3.77**	**23**	P	**Pn**	**00 26 46.9**	**+2.0**
	SNR=9.2						
TKM2	**Tokmak 2**	**3.77**	**23**	*i* PN	**Pn**	**00 26 46.2**	**+1.3**
TKM2				pmax	pmax		
	comp=Z,22nm,0.4s						
KDJ	**Kajisay**	**3.80**	**44**	*e*Pn	**Pn**	**00 26 48.8**	**+3.5**
KDJ	**Kajisay**	**3.80**	**44**	⇑*i*P	**Pn**	**00 26 46.9**	**+1.6**
	baz=45						
KDJ				⇑*i*S	**Sn**	**00 27 31.2**	**+0.8**
	baz=45						
KDJ	**Kajisay**	**3.80**	**44**	*e*PN	**Pn**	**00 26 48.8**	**+3.5**
TAS	**Tashkent**	**3.80**	**301**	⇑*e*P	**Pn**	**00 26 48.3**	**+3.2**
	baz=99						
TAS				⇑*i*S	**Sn**	**00 27 32.7**	**+2.5**
	baz=99						
IUG	**Iuzhnay**	**3.83**	**316**	*e*P	**Pb**	**00 26 56.5**	**+2.5**
	comp=Z,331nm,0.5s						
IUG				*e*S	**Sg**	**00 27 47.5**	**-1.3**
	comp=Z,459nm,0.4s						
USP	**Ospenovka**	**3.87**	**10**	P	**Pn**	**00 26 48.0**	**+1.9**
	SNR=16						
USP	**Ospenovka**	**3.87**	**10**	⇑*e*P	**Pn**	**00 26 47.7**	**+1.7**
	baz=9.0						
USP				⇑*i*S	**Sn**	**00 27 31.9**	**+0.1**
	baz=9.0						
KST	**Kastek**	**4.00**	**25**	*e*P	**Pb**	**00 26 57.0**	**+0.2**
	comp=Z,64nm,0.5s						
KST				⇑*i*S	**Sb**	**00 27 48.8**	**+3.2**
	comp=Z,215nm,0.5s						
DGS	**Degeres**	**4.12**	**22**	*e*P	**Pb**	**00 26 59.1**	**+0.2**
	comp=Z,93nm,0.7s						
DGS				*e*S	**Sb**	**00 27 52.9**	**+3.9**
	comp=Z,200nm,0.8s						
CHM	**Chimkent**	**4.18**	**315**	*e*P	**Pb**	**00 27 01.3**	**+1.5**
	comp=Z,155nm,0.2s						
CHM				*e*S	**Sb**	**00 27 56.5**	**+5.9**
	comp=Z,618nm,0.5s						
IZV	**Izvestkoviy**	**4.23**	**31**	*e*P	**Pb**	**00 27 01.3**	**+0.5**
	comp=Z,46nm,0.7s						
IZV				*e*S	**Sb**	**00 27 56.4**	**+4.1**
	comp=Z,167nm,0.8s						
MTBS	**Maitube**	**4.24**	**29**	*e*P	**Pb**	**00 27 00.9**	**0.0**
	comp=Z,59nm,0.5s						
MTBS				*e*S	**Sb**	**00 27 55.6**	**+3.2**
	comp=Z,107nm,0.4s						
KK31	**Karatay Array**	**4.33**	**328**	⇑Pn	**Pn**	**00 26 54.4**	**+2.0**
	comp=Z,8.4nm,0.3s,baz=129,slow=12,SNR=509						
KK31				⇑Pg	**Pb**	**00 27 05.0**	**+2.5**
	comp=Z,56nm,0.8s,baz=162,slow=17,SNR=17						
KK31				⇑Lg	Lg	00 28 00.7	
	comp=Z,86nm,0.6s,baz=152,slow=34,SNR=6.2						
KK31	**Karatay Array**	**4.33**	**328**	*e*Pn	**Pn**	**00 26 54.5**	**+2.0**
KK31	**Karatay Array**	**4.33**	**328**	*e*PN	**Pn**	**00 26 54.5**	**+2.0**
KKAR	**Karatay Array**	**4.33**	**328**	*e*Pn	**Pn**	**00 26 54.5**	**+2.1**
KKAR	**Karatay Array**	**4.33**	**328**	*e*PN	**Pn**	**00 26 54.5**	**+2.1**
TNSS	**Tian-Shan**	**4.37**	**34**	*e*P	**Pb**	**00 27 03.3**	**-0.1**
	comp=Z,15nm,0.4s						
TNSS				*e*S	**Sb**	**00 28 00.2**	**+3.6**
	comp=Z,123nm,0.6s						
AAA	**Alma-Ata**	**4.50**	**32**	*e*PN	**Pg**	**00 27 10.4**	**-1.7**
AAA				*e*S	**Sb**	**00 28 04.3**	**+4.4**
AAA				pmax	pmax		
	comp=Z,34nm,0.2s						
AAA				smax	smax		
	comp=E,237nm,0.4s						
AAA	**Alma-Ata**	**4.50**	**32**	*e*P	**Pb**	**00 27 06.8**	**+1.4**
	comp=E,36nm,0.4s						
AAA				*e*S	**Sb**	**00 28 05.3**	**+5.4**
	comp=E,242nm,0.6s						
MDOK	**Medeo**	**4.52**	**34**	⇑Pn	**Pn**	**00 26 56.7**	**+1.7**
	comp=E,10nm,0.6s						
MDOK				⇓Pg	**Pb**	**00 27 09.1**	**+3.4**
	comp=E,34nm,0.7s						
MDOK				⇓Lg	Lg	00 28 06.6	
	comp=E,104nm,0.7s						
MDOK	**Medeo**	**4.52**	**34**	*e*P	**Pb**	**00 27 05.8**	**0.0**
	comp=E,37nm,0.4s						
MDOK				*e*S	**Sb**	**00 28 03.6**	**+3.1**
	comp=E,89nm,0.5s						
KNDC	**Almaty**	**4.53**	**33**	⇓Pn	**Pn**	**00 26 56.3**	**+1.2**
	comp=E,25nm,0.4s						
KNDC				⇓Pg	**Pb**	**00 27 08.2**	**+2.4**
	comp=E,50nm,0.5s						
KNDC				⇓Lg	Lg	00 28 05.5	
	comp=E,229nm,0.5s						
BRLS	**Borolday**	**4.57**	**323**	*e*P	**Pb**	**00 27 07.5**	**+1.0**
	comp=E,5.7nm,0.5s						
BRLS				*e*S	**Sb**	**00 28 06.6**	**+4.7**
	comp=E,107nm,0.5s						
KOTS	**Kotyrbulak**	**4.60**	**34**	*e*P	**Pb**	**00 27 07.9**	**+0.7**
	comp=E,35nm,0.4s						
KOTS				*e*S	**Sb**	**00 28 07.9**	**+4.9**
	comp=E,122nm,0.6s						
PRZ	**Przheval'sk**	**4.72**	**49**	*e*Pn	**Pn**	**00 27 00.3**	**+2.5**
PRZ	**Przheval'sk**	**4.72**	**49**	*e*PN	**Pn**	**00 27 00.4**	**+2.5**
KTBS	**Karatobe**	**4.83**	**27**	*e*P	**Pb**	**00 27 11.7**	**+0.6**
	comp=E,30nm,0.4s						
KTBS				*e*S	**Sb**	**00 28 14.0**	**+4.4**
	comp=E,161nm,0.6s						
KUU	**Kurty**	**4.88**	**24**	*e*P	**Pb**	**00 27 11.7**	**-0.2**
	comp=E,21nm,0.4s						
KUU				⇑*i*S	**Sb**	**00 28 13.7**	**+2.9**
	comp=E,128nm,0.7s						
PDGK	**Podgornoye**	**5.87**	**47**	⇓Pn	**Pn**	**00 27 14.1**	**+0.4**
	comp=E,10nm,0.7s						
PDGK				⇑Pg	**Pb**	**00 27 32.0**	**+3.2**
	comp=E,10nm,0.6s						
PDGK				⇑Lg	Lg	00 28 48.6	
	comp=E,88nm,0.9s						
PDGK	**Podgornoye**	**5.87**	**47**	PN	**Pn**	**00 27 14.0**	**+0.4**
PDGK						00 27 31.9	
PDGK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PDGK				pmax	pmax		
	comp=Z,11nm,0.6s						
OTUK	**Ortayu**	**8.84**	**354**	⇑Pn	**Pn**	**00 27 54.6**	**+0.3**
	comp=Z,3.4nm,0.5s						
OTUK				⇑Lg	Lg	00 30 20.7	
	comp=Z,31nm,0.7s						
OTUK	**Ortayu**	**8.84**	**354**	P	**Pn**	**00 27 54.5**	**+0.3**
OTUK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR	**Makanchi Array**	**9.69**	**38**	Pn	**Pn**	**00 28 08.2**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=221,slow=14,SNR=5.4						
MKAR				Lg	Lg	00 30 43.2	
	comp=Z,0.2nm,0.3s,baz=235,slow=26,SNR=2.9						
WMQ	**Urumqi**	**11.40**	**63**	*e*P	**Pn**	**00 28 28.6**	**-0.8**
KURBB	**Kurchatov Arra**	**11.69**	**16**	Pn	**Pn**	**00 28 31.6**	**-1.7**
	comp=Z,0.0nm,0.3s,baz=199,slow=12,SNR=6.8						
KURBB				Lg	Lg	00 31 49.2	
	comp=Z,0.1nm,0.3s,baz=198,slow=30,SNR=5.2						
KURK	**Kurchatov**	**11.80**	**16**	*e*Pn	**Pn**	**00 28 36.9**	**+2.2**
KURK				Lg	Lg	00 31 49.2	
KURK	**Kurchatov**	**11.80**	**16**	⇑*e*P	**Pn**	**00 28 36.6**	**+1.9**
GEYT	**Alibeck**	**12.21**	**268**	Pn	**Pn**	**00 28 41.0**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=92,slow=12,SNR=6.4						
GEYT				Sn	**Sn**	**00 30 51.8**	**-5.2**
	comp=Z,0.2nm,0.3s,baz=61,slow=10,SNR=2.3						
GYA0B	**ALIBECK ARRAY**	**12.21**	**268**	*e*Pn	**Pn**	**00 28 41.0**	**+0.5**
PYUN	**Piuthan**	**13.74**	**143**	*e*P	**Pn**	**00 28 58.6**	**-2.9**
	comp=Z,18nm,0.5s						
BVAR	**Borovoye Array**	**13.76**	**352**	Pn	**Pn**	**00 28 59.6**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=164,slow=13,SNR=28						
BVAR				Lg	Lg	00 32 59.0	
	comp=Z,0.3nm,0.3s,baz=142,slow=29,SNR=4.6						
BRVK	**Borovoye**	**13.80**	**352**	*e*Pn	**Pn**	**00 29 00.8**	**-1.2**
BRVK	**Borovoye**	**13.80**	**352**	*de*P	**Pn**	**00 29 00.2**	**-1.8**
BRVK				pmax	pmax		
	comp=Z,21nm,0.8s						
AB31	**Akbulak array**	**13.83**	**320**	⇑P	**Pn**	**00 29 01.6**	**-0.8**
	comp=Z,2.1nm,0.5s,baz=126,slow=13,SNR=83						
AB31				⇓S	**Sn**	**00 31 36.1**	**-0.1**
	comp=Z,1.5nm,0.5s						
AB31	**Akbulak array**	**13.83**	**320**	*e*P	**Pn**	**00 29 01.6**	**-0.8**
AB31				S	**Sn**	**00 31 31.8**	**-4.4**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AB31				smax	smax		
	comp=N,2.0nm,0.5s						
ABKAR	**Akbulak array**	**13.83**	**320**	*e*Pn	**Pn**	**00 29 01.2**	**-1.1**
DANN	**Dangsing**	**13.90**	**140**	*e*P	**Pn**	**00 29 00.9**	**-2.9**
	comp=N,16nm,0.4s						
DGZ	**Jazzator, Alta**	**14.18**	**39**	⇓*e*P	**Pn**	**00 29 07.8**	**+0.3**
KOLN	**Koldanda**	**14.30**	**142**	*e*P	**Pn**	**00 29 06.2**	**-3.0**
	comp=N,13nm,0.7s						
GKN	**Gorkha**	**14.63**	**138**	*e*P	**Pn**	**00 29 10.8**	**-2.9**
	comp=N,0.6nm,0.4s						
KKN	**Kakani**	**15.14**	**137**	*e*P	**Pn**	**00 29 16.8**	**-3.8**
	comp=N,11nm,0.5s						
DMN	**Daman**	**15.19**	**138**	*e*P	**Pn**	**00 29 18.1**	**-3.2**
	comp=N,11nm,0.6s						
GUN	**Gumba**	**15.37**	**135**	*e*P	**Pn**	**00 29 19.6**	**-4.1**
	comp=N,7.6nm,0.4s						
PKIN	**Phulchoki**	**15.37**	**137**	*e*P	**Pn**	**00 29 19.7**	**-4.0**
	comp=N,8.8nm,0.6s						
PKI	**Pulchoki**	**15.38**	**137**	*e*P	**Pn**	**00 29 20.3**	**-3.6**
	comp=N,9.1nm,0.5s						
AKTO	**Aktyubinsk**	**15.54**	**320**	Pn	**Pn**	**00 29 24.7**	**-0.8**
	comp=N,0.5nm,0.3s,baz=128,slow=13,SNR=23						
AKTO				Sn	**Sn**	**00 32 10.6**	**-7.4**
	comp=N,0.1nm,0.3s,baz=241,slow=19,SNR=2.0						
AKTO	**Aktyubinsk**	**15.54**	**320**	⇑P	**Pn**	**00 29 24.0**	**-1.6**
	comp=N,14nm,0.9s						
AKTO				⇓S	**Sn**	**00 32 16.4**	**-1.6**
	comp=N,1.6nm,0.6s						
JIRN	**Jiri**	**15.73**	**135**	*e*P	**Pn**	**00 29 24.8**	**-3.7**
	comp=N,20nm,0.4s						
ZAA0	**Zalesovo Array**	**16.38**	**24**	*e*Pn	**Pn**	**00 29 36.1**	**-0.2**
	comp=N,3.4nm,0.6s						
ZALV	**Zalesovo Beam**	**16.38**	**24**	Pn	**Pn**	**00 29 35.4**	**-0.9**
	comp=N,0.5nm,0.3s,baz=214,slow=10.0,SNR=15						
ZALV				Lg	Lg	00 34 24.1	
	comp=N,0.1nm,0.3s,baz=211,slow=22,SNR=2.3						
ZALV	**Zalesovo Beam**	**16.38**	**24**	*e*Pn	**Pn**	**00 29 36.3**	**0.0**
ZALV				Lg	Lg	00 34 24.1	
RAMN	**Ramite**	**16.52**	**135**	*e*P	**Pn**	**00 29 34.5**	**-4.0**
	comp=N,14nm,0.5s						
NVS	**Novosibirsk**	**16.70**	**20**	*e*P	**Pn**	**00 29 41.7**	**+1.3**
NVS				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SVE	**Sverdlovsk**	**19.36**	**338**	⇑*e*P	**P**	**00 30 12.9**	**+0.8**
SVE				pmax	pmax		
	comp=Z,12nm,0.9s						
ARU	**Arti**	**19.68**	**335**	P	**P**	**00 30 16.6**	**+1.1**
ARU	**Arti**	**19.68**	**335**	*d* iP	**P**	**00 30 16.3**	**+0.7**
ARU				S	**S**	**00 33 56.2**	**-1.5**
ARU				pmax	pmax		
	comp=Z,16nm,1.2s						
GTA	**Gaotai**	**20.22**	**82**	*e*P	**P**	**00 30 21.8**	**+0.1**
GTA				pP	pP	00 30 25.5	+2.3
GTA				sP	sP	00 30 28.8	+4.9
WSAR	**Wadi Sarin**	**20.57**	**223**	P	**P**	**00 30 24.4**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=49,slow=9.3,SNR=2.5						
GROC	**Groznyy**	**21.18**	**289**	*e*P	**P**	**00 30 33.2**	**+1.2**
GROC				*e*		00 30 54.2	
GROC				pmax	pmax		
	comp=Z,26nm,0.8s						
GNI	**Garni**	**22.16**	**281**	P	**P**	**00 30 46.2**	**+3.5**
	comp=Z,11nm,0.9s,baz=358,slow=9.2,SNR=7.8						
GNI	**Garni**	**22.16**	**281**	*e*P	**P**	**00 30 44.0**	**+1.2**
	comp=Z,17nm,1.0s						
GNI	**Garni**	**22.16**	**281**	*e*P	**P**	**00 30 44.0**	**+1.2**
GNI				pmax	pmax		
	comp=Z,17nm,1.0s						
NCK	**Nalchik**	**22.79**	**290**	⇑*e*P	**P**	**00 30 51.6**	**+2.3**
NCK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KBZ	**Khabaz**	**23.30**	**291**	P	**P**	**00 30 55.4**	**+1.0**
	comp=Z,2.0nm,0.9s,baz=106,slow=15,SNR=2.8						
KVAR	**Kislovodsk Arr**	**23.45**	**291**	P	**P**	**00 30 58.0**	**+1.9**
	comp=Z,1.6nm,0.6s,baz=270,slow=18,SNR=2.6						
KIV	**Kislovodsk**	**23.45**	**291**	*e*P	**P**	**00 30 58.0**	**+1.9**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
LZH	**Lanzhou**	**24.07**	**88**	*e*P	**P**	**00 31 04.4**	**+2.1**
LZH				*e*PP	**PnPn**	**00 31 37.8**	**+6.9**
SONM	**Songino Array**	**25.00**	**60**	P	**P**	**00 31 09.9**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=254,slow=10,SNR=6.7						
VRH	**Novokhopyorsk**	**25.11**	**308**	*e*P	**P**	**00 31 11.5**	**+0.1**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ULN	**Ulaanbaatar**	**25.45**	**60**	⇓*e*P	**P**	**00 31 14.1**	**-0.6**
ULN				pmax	pmax		
	comp=Z,5.0nm,2.5s						
VORD	**Divnogorie**	**26.54**	**307**	*e*P	**P**	**00 31 24.5**	**+0.2**
VORD				pmax	pmax		
	comp=Z,8.0nm,0.9s						
VSR	**Storozhevoye**	**26.67**	**308**	⇓*e*P	**P**	**00 31 24.6**	**-0.9**
VSR				pmax	pmax		
	comp=Z,13nm,1.1s						
RAYN	**Ar Rayn**	**28.60**	**245**	*e*P	**P**	**00 31 45.0**	**+1.9**
RAYN	**Ar Rayn**	**28.60**	**245**	*e*P	**P**	**00 31 45.0**	**+1.9**
HHC	**Hu-ho-hao-te**	**28.89**	**75**	*e*P	**P**	**00 31 46.4**	**+0.8**
OBN	**Obninsk**	**29.19**	**315**	⇑*e*P	**P**	**00 31 48.9**	**+1.0**
OBN				pmax	pmax		
	comp=Z,26nm,1.7s						
BRTR	**Keskin Array B**	**30.64**	**283**	P	**P**	**00 32 02.2**	**+1.1**
	comp=Z,1.7nm,0.9s,baz=79,slow=6.7,SNR=7.9						
BRTR	**Keskin Array B**	**30.64**	**283**	*e*P	**P**	**00 32 03.0**	**+1.9**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NRIK	**Noril'sk**	**30.86**	**10**	P	**P**	**00 32 03.3**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=323,slow=10,SNR=2.9						
AKASG	**Malin Array Be**	**32.83**	**305**	P	**P**	**00 32 20.4**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=80,slow=8.2,SNR=4.3						
AKASG	**Malin Array Be**	**32.83**	**305**	*e*P	**P**	**00 32 20.3**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**36.27**	**323**	P	**P**	**00 32 49.9**	**+0.1**
	comp=Z,2.9nm,0.6s,baz=110,slow=8.3,SNR=16						
CN2	**Changchun**	**38.47**	**66**	*e*P	**P**	**00 33 09.6**	**+1.0**
ARCES	**ARCESS Array B**	**39.26**	**336**	P	**P**	**00 33 15.2**	**+0.2**
	comp=Z,6.5nm,0.7s,baz=109,slow=8.6,SNR=46						
TIXI	**Tiksi**	**42.26**	**23**	*e*P	**P**	**00 33 38.4**	**-

60nm,0.6s,818nm0.2nm
TRTT Trang 6.18 58 P **Pn 00 37 38.6 +2.2**
13nm,0.7s,0.0nm
KULM Kulim 6.27 83 *e*Pn Pn 00 37 29.7 -8.0
MNSI Mandailing Nat 6.39 126 P **Pn 00 37 42.2 +2.9**
IPM Ipoh 6.61 91 *e*Pn Pn 00 37 36.3 -6.0
SKLT Songkhla 6.70 67 P Pn 00 37 53.3 +10
22nm,1.1s,0.1nm
SRAK Srakaew 12.03 38 P Pn 00 39 05.2 +8.5
29nm,0.4s
PALK Pallekele 13.88 282 S Sn 00 41 46.7 -8.5
0.7nm,0.3s,baz=300,slow=0.7,SNR=4.0
PALK LR LR 00 43 42.4
comp=Z,227nm,18.1s,baz=115,slow=32
KLI Kotabumi 14.04 132 P **Pn 00 39 23.1 -1.0**
CMAR Chiang Mai Arr 14.49 17 P **Pn 00 39 29.1 -1.3**
0.4nm,0.3s,baz=203,slow=11,SNR=3.3
CHTO Chiang Mai 14.83 17 P **P 00 39 39.9 -0.5**
21nm,1.0s
CMMT Chiang Mai 14.83 17 P **P 00 39 39.8 -0.6**
4.7nm,0.9s,483nm
JIRN Jiri 24.25 342 *e*P **P 00 41 22.0 0.0**
16nm,0.8s
PKI Pulchoki 24.42 340 *e*P **P 00 41 23.4 -0.1**
7.2nm,0.6s
PKIN Phulchoki 24.43 340 *e*P **P 00 41 23.4 -0.1**
4.9nm,0.7s
DMN Daman 24.56 340 *e*P **P 00 41 24.4 -0.3**
4.6nm,0.6s
GUN Gumba 24.59 342 *e*P **P 00 41 24.8 -0.2**
12nm,0.6s
KKN Kakani 24.67 340 *e*P **P 00 41 25.8 +0.2**
11nm,0.8s
H08S2 Diego Garcia H 25.00 241 T T 01 07 23.7
baz=61,slow=76,SNR=69
H08S3 Diego Garcia H 25.00 241 T T 01 07 30.5
baz=61,slow=76,SNR=70
H08S1 Diego Garcia H 25.02 241 T T 01 07 31.7
baz=61,slow=76,SNR=44
KOLN Koldanda 25.26 337 *e*P **P 00 41 30.9 0.0**
15nm,0.8s
DANN Dangsing 25.72 338 *e*P **P 00 41 35.0 -0.2**
28nm,0.6s
PYUN Piuthan 25.79 336 *e*P **P 00 41 35.5 -0.3**
33nm,0.9s
MK01 Makanchi Array 43.32 348 *e*P **P 00 44 06.3 0.0**
MK32 Makanchi Array 43.34 348 *e*P **P 00 44 06.3 -0.2**
MKAR Makanchi Array 43.34 348 P **P 00 44 06.3 -0.2**
3.9nm,0.7s,baz=167,slow=8.2,SNR=21
SONA0 Songino Array 44.31 12 *e*P **P 00 44 12.8 -1.6**
SONM Songino Array 44.31 12 P **P 00 44 12.8 -1.6**
0.3nm,0.3s,baz=184,slow=6.6,SNR=4.9
SONA1 Songino Array 44.33 12 *e*P **P 00 44 12.9 -1.6**
WR1 Warramunga Arr 46.20 123 *e*P **P 00 44 30.1 +0.6**
4.6nm,0.9s
WRA Warramunga Arr 46.20 123 P **P 00 44 30.1 +0.5**
3.0nm,0.9s,baz=301,slow=9.1,SNR=14
GEYT Alibeck 46.85 320 P **P 00 44 35.6 +1.1**
0.9nm,0.3s,baz=104,slow=17,SNR=4.7
ASAR Alice Springs 47.66 128 P **P 00 44 41.5 +0.5**
1.2nm,1.0s,baz=298,slow=7.8,SNR=6.4
KURBB Kurchatov Arra 47.79 346 P **P 00 44 41.3 -0.2**
2.1nm,0.6s,baz=169,slow=7.1,SNR=14
KURK Kurchatov 47.86 347 *e*P **P 00 44 42.0 0.0**
ZAA0 Zalesovo Array 49.84 353 *e*P **P 00 44 56.8 -0.4**
3.0nm,0.8s
ZALV Zalesovo Beam 49.84 353 P **P 00 44 56.9 -0.3**
2.8nm,0.5s,baz=186,slow=7.3,SNR=15
ZAA1 Zalesovo Array 49.84 353 *e*P **P 00 44 56.9 -0.4**
BVAR Borovoye Array 52.18 342 P **P 00 45 14.4 -0.5**
0.8nm,0.7s,baz=156,slow=11,SNR=4.2
ABKAR Akbulak array 53.24 332 *e*P **P 00 45 23.0 +0.3**
AKTO Aktyubinsk 54.96 332 P **P 00 45 34.2 -1.0**
1.1nm,0.7s,baz=100,slow=3.4,SNR=5.5
BR101 Keskin Array S 64.79 312 *e*P **P 00 46 43.2 0.0**
BRTR Keskin Array B 64.79 312 P **P 00 46 43.2 0.0**
0.8nm,0.6s,baz=128,slow=6.9,SNR=6.2
FIA0 FINESS Array S 75.73 333 *e*P **P 00 47 48.8 -0.8**
FINES FINESS Array B 75.73 333 P **P 00 47 48.8 -0.8**
3.4nm,0.9s,baz=145,slow=7.0,SNR=4.8
ARA0 ARCESS Array S 78.44 340 *e*P **P 00 48 06.0 +1.4**
ARCES ARCESS Array B 78.44 340 P **P 00 48 06.0 +1.4**
1.5nm,0.8s,baz=77,slow=1.9,SNR=4.0
GERES GERESS Array B 80.45 319 P **P 00 48 16.2 +0.1**
1.6nm,0.8s,baz=95,slow=4.6,SNR=12
NB200 NORSAR Array S 82.72 331 *e*P **P 00 48 27.1 -0.7**
NOA NORSAR Array B 82.72 331 P **P 00 48 27.1 -0.7**
1.5nm,1.0s,baz=99,slow=5.9,SNR=2.8

UCR 15 00:40:09.3±2.2, 12°27N×89°14W, h17km±11km, ML3.5,
Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**1.35**	**3**	*e*P	Pn	00 40 32.9	-0.6
LCY	**Lacayo**	**1.41**	**36**	*e*P	Pn	00 40 34.1	-0.3
VSM	**San Miguel**	**1.43**	**36**	*e*P	Pn	00 40 34.5	-0.2
PACA	**Pacayal**	**1.43**	**34**	*e*P	Pn	00 40 34.6	-0.1
PAVA	**Las Pavas**	**1.45**	**8**	*e*P	Pn	00 40 33.9	-1.0
PAVA				IAML		00 40 56.9	
	comp=Z,496nm,0.4s						
LBRS	**Las Brisas**	**1.46**	**4**	*e*P	Pn	00 40 34.6	-0.4
BOQS	**Boqueron**	**1.46**	**355**	*e*P	Pn	00 40 34.6	-0.6
BOQS				*e*P	Pb	00 40 34.7	-1.6
LFU	**La Fuente**	**1.47**	**1**	*e*P	Pn	00 40 34.7	-0.5
LCND	**La Ca¯–ada**	**1.59**	**50**	*e*P	Pn	00 40 36.4	-0.4
LCND				*e*S	Sb	00 40 59.0	+0.7
LCND				IAML		00 41 07.0	
	comp=Z,683nm,0.4s						
CEVE	**Cerro Verde**	**1.62**	**343**	IAML		00 41 07.6	
	comp=Z,1µm,0.6s						
SBLS	**San Blas**	**1.63**	**343**	*e*P	Pn	00 40 36.7	-0.8
SNJE	**San Jose**	**1.65**	**344**	*e*P	Pn	00 40 37.7	-0.1
RTR	**El Retiro**	**1.69**	**343**	*e*P	Pn	00 40 38.4	+0.1
CSGN	**Cosiguina Volc**	**1.69**	**65**	*e*P	Pn	00 40 36.4	-1.8
CRIN	**San Cristobal**	**2.08**	**78**	*e*P	Pb	00 40 45.5	-1.3
CRIN				*e*S	Sn	00 41 08.3	-0.9
CRIN				IAML		00 41 16.4	
	comp=N,386nm,0.2s						
MTO3	**Montecristo**	**2.13**	**354**	*e*P	Pn	00 40 45.0	+0.7
MTO3				*e*S	Sb	00 41 12.9	-0.9
CNGN	**Cerro Negro**	**2.39**	**84**	*e*S	Sn	00 41 16.8	-0.1
COPN	**Copaltepe**	**2.49**	**92**	*e*P	Pn	00 40 50.7	+1.6
MATN	**Matagalpa**	**3.20**	**78**	*e*P	Pn	00 40 59.1	+0.1

*IDC **15** 00:43:50.3±1.2, 38°.34N×70°.92E, h0km, mb3.6/6, mb1 3.9/11, mb1mx3.6/53, mbtmp3.7/11, ML3.4/5, MS3.8/1, Ms1 3.8/1, ms1mx2.8/67, Error ellipse: s-maj=24.2km s-min=13.5km az=139.0*
*ISCJB **15** 00:43:53.5±0.8, 38°.51N±0°.06×70°.36E±0°.05, h23km, mb3.6/6, Error ellipse: s-maj=9.6km s-min=5.5km az=159.1*
*NNC **15** 00:43:53.1±1.7, 38°.57N×70°.46E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=13.2km s-min=10.6km az=10.0*
ISC 15 00:43:55.2±1.0, 38°.48N±0°.09×70°.48E±0°.07, h23km, n30, σ1s78/36, mb3.6/6, 13C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.80**	**56**	⇑Pn	**Pn**	**00 44 39.3**	**+0.5**
SFK				⇑Lg	Lg	00 45 17.3	
	49nm,0.4s						
MNAS	**Manas**	**4.29**	**20**	⇑Pn	**Pn**	**00 44 59.0**	**-0.2**
MNAS	28nm,0.4s			⇓Sn	**Sn**	**00 45 49.7**	**+1.1**
MNAS				⇓Lg	Lg	00 46 11.4	
	38nm,0.7s						
AML	**Almayashu**	**4.40**	**33**	P	**Pn**	**00 44 60.0**	**-0.9**
	SNR=40						
KK31	**Karatay Array**	**4.62**	**0**	⇑Pn	**Pn**	**00 45 03.2**	**-0.4**
KK31	4.4nm,0.3s,baz=179,slow=12,SNR=214			⇑Sn	**Sn**	**00 45 58.1**	**+1.6**
KK31	13nm,0.6s,baz=182,slow=22,SNR=5.3			⇓Lg	Lg	00 46 13.7	
	9.9nm,0.5s						
UCH	**Uchtor**	**4.85**	**38**	P	**Pn**	**00 45 06.5**	**-0.7**
	SNR=11						
EKS2	**Erkin-Say**	**4.87**	**30**	P	**Pn**	**00 45 08.2**	**+1.1**
	SNR=34						
KZA	**Kyzart**	**5.12**	**44**	P	**Pn**	**00 45 12.5**	**+1.7**
	SNR=25						
AAK	**Ala-Archa**	**5.16**	**35**	Pn	**Pn**	**00 45 10.3**	**-0.8**
	7.2nm,0.3s,baz=198,slow=7.1,SNR=65						
AAK				Sn	**Sn**	**00 46 11.4**	**+1.5**
	0.9nm,0.3s,baz=261,slow=19,SNR=1.8						
AAK	**Ala-Archa**	**5.16**	**35**	⇑Pn	**Pn**	**00 45 10.2**	**-0.9**
	27nm,0.6s						
AAK				⇑Sn	**Sn**	**00 46 12.1**	**+2.2**
	8.1nm,0.6s						
AAK				⇑Lg	Lg	00 46 32.7	
	28nm,1.2s						
AAK	**Ala-Archa**	**5.16**	**35**	P	**Pn**	**00 45 12.2**	**+1.1**
	SNR=12						
KBK	**Karagaybulak**	**5.38**	**38**	P	**Pn**	**00 45 16.3**	**+2.1**
	SNR=105						
CHMS	**Chumysh**	**5.56**	**34**	P	**Pn**	**00 45 17.3**	**+0.8**
	SNR=31						
USP	**Ospenovka**	**5.67**	**31**	P	**Pn**	**00 45 18.4**	**+0.4**
	SNR=21						
TKM2	**Tokmak 2**	**5.90**	**40**	⇑Pn	**Pn**	**00 45 22.0**	**+0.7**
TKM2	18nm,0.6s			⇑Sn	**Sn**	**00 46 30.5**	**+2.2**
TKM2	4.5nm,0.4s			⇑Lg	Lg	00 46 58.7	
	6.7nm,0.8s						
TKM2	**Tokmak 2**	**5.90**	**40**	P	**Pn**	**00 45 22.5**	**+1.2**
	SNR=8.1						
GEYT	**Alibeck**	**9.75**	**271**	Sn	**Sn**	**00 48 02.7**	**-0.1**
	0.2nm,0.3s,baz=95,slow=23,SNR=2.1						
MKAR	**Makanchi Array**	**12.02**	**42**	Pn	**Pn**	**00 46 43.0**	**-2.0**
	0.1nm,0.3s,baz=241,slow=12,SNR=5.2						
AB31	**Akbulak array**	**13.17**	**328**	⇓P	**Pn**	**00 46 58.1**	**-2.6**
	1.2nm,0.5s,baz=145,slow=13,SNR=25						
AB31				⇓S	**Sn**	**00 49 24.6**	**-1.8**
	2.7nm,0.7s,baz=146,slow=23,SNR=7.0						
KURBB	**Kurchatov Arra**	**13.42**	**23**	Pn	**Pn**	**00 47 00.5**	**-3.5**
	0.1nm,0.3s,baz=216,slow=12,SNR=6.2						
BVAR	**Borovoye Array**	**14.55**	**360**	Pn	**Pn**	**00 47 16.7**	**-2.8**
	0.4nm,0.3s,baz=160,slow=12,SNR=6.8						
BVAR				LR	LR	00 53 50.9	
	comp=Z,369nm,19.7s,baz=142,slow=41						
AKTO	**Aktyubinsk**	**14.88**	**327**	Pn	**Pn**	**00 47 25.7**	**+1.7**
	0.3nm,0.3s,baz=127,slow=17,SNR=5.6						
AKTO				Sn	Sn	00 49 59.0	-8.9
	0.1nm,0.3s,baz=348,slow=20,SNR=2.4						
AKTO	**Aktyubinsk**	**14.88**	**327**	⇑P	**Pn**	**00 47 24.1**	**+0.1**
	2.3nm,0.7s						
AKTO				⇑S	**Sn**	**00 50 07.2**	**-0.8**
	6.0nm,1.1s						
ZALV	**Zalesovo Beam**	**18.32**	**28**	P	**Pn**	**00 48 03.9**	**-3.7**
	0.3nm,0.3s,baz=208,slow=12,SNR=3.9						
GNI	**Garni**	**19.97**	**283**	P	Pn	00 48 31.1	+3.4
	3.3nm,0.7s,baz=188,slow=7.1,SNR=2.5						
KBZ	**Khabaz**	**21.39**	**293**	P	**P**	**00 48 43.8**	**+2.8**
	1.1nm,0.6s,baz=261,slow=19,SNR=2.5						
FINES	**FINESS Array B**	**35.62**	**325**	P	**P**	**00 50 51.0**	**+0.2**
	2.5nm,0.9s,baz=110,slow=16,SNR=2.7						
ARCES	**ARCESS Array B**	**39.16**	**337**	P	**P**	**00 51 23.3**	**+2.5**
	1.4nm,0.8s,baz=106,slow=9.5,SNR=2.8						
NOA	**NORSAR Array B**	**42.56**	**322**	P	**P**	**00 51 48.8**	**-0.1**
	0.7nm,0.7s,baz=93,slow=7.8,SNR=3.1						
TORD	**Torodi Ar. Bea**	**65.38**	**267**	P	**P**	**00 54 36.9**	**+0.8**
	0.4nm,0.7s,baz=52,slow=5.8,SNR=5.6						
WRA	**Warramunga Arr**	**83.38**	**122**	P	**P**	**00 56 18.0**	**-2.7**
	0.4nm,1.0s,baz=324,slow=4.5,SNR=3.1						

*IDC **15** 00:45:44.5±3.9, 7°.09S×124°.04E, h169km±38km, mb3.1/1, mb1 3.3/4, mb1mx3.0/39, mbtmp3.7/4, Error ellipse: s-maj=105.7km s-min=16.6km az=60.0*
*ISCJB **15** 00:45:48.3±0.9, 7°.86S±0°.09×123°.0E±0°.1, h221km, mb3.1/1, Error ellipse: s-maj=17.8km s-min=7.9km az=143.7*
*DJA **15** 00:45:49.2±0.9, 8°S±10°×12°3E±°, h232km±9km, M3.4/6, MLv3.4/6*
ISC 15 00:45:49.3±1.1, 8°.0S±0°.1×123°.0E±0°.2, h221km, n10, σ2s32/15, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.99**	**227**	P	**Pn**	**00 46 20.2**	**-1.0**
MMRI				S	**S**	**00 46 47.7**	**+1.6**
EDFI	**Ende, Flores**	**1.49**	**238**	P	**Pn**	**00 46 23.8**	**-1.2**
SOEI	**Soe**	**2.20**	**144**	P	**Pn**	**00 46 32.8**	**+1.2**
BATI	**Baumata**	**2.34**	**163**	P	**Pn**	**00 46 33.7**	**+0.8**
	13nm,0.3s,baz=333,slow=4.1,SNR=5.1						
BATI				S	**S**	**00 47 08.6**	**+1.7**
	85nm,0.3s,baz=154,slow=21,SNR=15						
BATI	**Baumata**	**2.34**	**163**	P	**Pn**	**00 46 33.8**	**+0.8**
BNSI	**Bone**	**4.54**	**321**	P	**Pn**	**00 46 59.1**	**+0.5**
FITZ	**Fitzroy Crossi**	**10.41**	**166**	P	**Pn**	**00 48 13.0**	**-0.5**
	0.6nm,0.3s,baz=358,slow=9.9,SNR=32						
FITZ				S	**S**	**00 50 08.6**	**-1.7**
	0.7nm,0.3s,baz=265,slow=13,SNR=5.9						
WRA	**Warramunga Arr**	**16.22**	**138**	P	**Pn**	**00 49 24.8**	**-0.7**
	0.2nm,0.3s,baz=320,slow=12,SNR=12						
WRA				S	**S**	**00 52 21.1**	**-2.4**
	0.1nm,0.3s,baz=311,slow=22,SNR=4.3						
ASAR	**Alice Springs**	**18.81**	**147**	P	**Pn**	**00 49 53.4**	**-2.5**
	0.7nm,0.3s,baz=333,slow=16,SNR=30						
ASAR				S	**S**	**00 53 20.9**	**+6.1**
	0.0nm,0.3s,baz=329,slow=25,SNR=3.9						
MKAR	**Makanchi Array**	**65.41**	**330**	P	**P**	**00 56 07.5**	**-0.9**
	0.3nm,0.5s,baz=135,slow=8.2,SNR=4.4						

*AZER **15** 01:02:29.4±0.0, 38°.25N×46°.44E, h10km, ml4.0/28, Error ellipse: s-maj=1.7km s-min=0.5km az=44.0*
*TEH **15** 01:02:33.5, 38°.39N×46°.55E, h10km, ML3.7*
*NNC **15** 01:02:36.3±6.6, 38°.87N×46°.89E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=59.5km s-min=29.6km az=58.0*
*IDC **15** 01:02:38.0±2.1, 38°.85N×46°.47E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.4/52, mbtmp3.6/7, ML3.3/2, Error ellipse: s-maj=38.3km s-min=13.5km az=179.0*
ISC 15 01:02:33.4±1.2, 38°.43N±0°.02×46°.59E±0°.02, h0km±9km, n102, σ1s77/131, mb3.6/5, 24C-36D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITBZ	**Tabriz**	**0.40**	**241**	*e*Pg	**Pg**	**01 02 40.8**	**-0.2**
ITBZ				IAMB	IAmb	01 02 50.3	
	comp=N,89µm,0.3s						
ITBZ				IAMB	IAmb	01 02 55.1	
	comp=Z,71µm,0.4s						
ITBZ				IAMB	IAmb	01 02 55.9	
	comp=E,14µm,0.5s						
ORD	**Ordubad**	**0.69**	**317**	⇓P	**Pg**	**01 02 46.0**	**-0.6**
ORD				⇓S	**Sg**	**01 02 55.9**	**+0.5**
ORD	**Ordubad**	**0.69**	**317**	*e*Pg	**Pg**	**01 02 45.9**	**-0.6**
IBST	**Bostanabad**	**0.76**	**162**	*e*Pg	**Pg**	**01 02 47.0**	**-0.9**
IBST				IAMB	IAmb	01 02 47.4	
	comp=E,61µm,0.1s						
IBST				IAMB	IAmb	01 02 47.4	
	comp=N,42µm,0.1s						
IBST				IAMB	IAmb	01 03 00.4	
	comp=E,46µm,0.2s						
ISHB	**Shabestar**	**0.78**	**260**	*e*Pg	**Pg**	**01 02 48.1**	**-0.2**
ISHB				IAMB	IAmb	01 03 01.1	
	comp=Z,26µm,0.4s						
ISHB				IAMB	IAmb	01 03 08.6	
	comp=N,46µm,0.5s						
ISHB				IAMB	IAmb	01 03 11.4	
	comp=E,51µm,0.5s						
IAZR	**Azarshahr**	**0.89**	**213**	*e*Pg	**Pg**	**01 02 50.1**	**-0.3**
IAZR				IAMB	IAmb	01 03 04.6	
	comp=Z,41µm,0.3s						
IAZR				IAMB	IAmb	01 03 04.8	
	comp=E,97µm,0.4s						
IAZR				IAMB	IAmb	01 03 15.3	
	comp=N,27µm,0.3s						
ISRB	**Sarab**	**1.04**	**125**	*e*Pg	**Pg**	**01 02 52.5**	**-0.7**
ISRB				IAMB	IAmb	01 03 09.0	
	comp=Z,17µm,0.3s						
ISRB				IAMB	IAmb	01 03 12.2	
	comp=E,36µm,0.4s						
ISRB				IAMB	IAmb	01 03 14.9	
	comp=N,34µm,0.2s						
GRMI	**Germi**	**1.09**	**69**	*e*Pg	**Pg**	**01 02 53.6**	**-0.6**
NAX	**Nakhchivan**	**1.14**	**311**	⇑P	**Pg**	**01 02 54.4**	**-0.8**
NAX	SNR=117			⇑S	**Sb**	**01 03 10.6**	**-0.8**
NAX	**Nakhchivan**	**1.14**	**311**	*e*Pg	**Pg**	**01 02 54.4**	**-0.8**
SBZ	**Shahbuz**	**1.27**	**320**	⇑P	**Pg**	**01 02 56.8**	**-0.8**
SBZ				⇑S	**Sg**	**01 03 14.2**	**+0.1**
SBZ	**Shahbuz**	**1.27**	**320**	*e*Pg	**Pg**	**01 02 56.8**	**-0.8**
LRK	**Lerik**	**1.39**	**80**	⇓P	**Pg**	**01 02 58.9**	**-1.1**
	SNR=812						
LRK				⇑S	**Sn**	**01 03 19.2**	**0.0**
LRK	**Lerik**	**1.39**	**80**	*e*Pg	**Pg**	**01 02 58.8**	**-1.1**
GLBA	**Clilabad**	**1.62**	**59**	⇑P	**Pb**	**01 03 04.1**	**-0.1**
	SNR=29						
GLBA				⇓S	**Sg**	**01 03 28.8**	**+3.2**
GLBA	**Clilabad**	**1.62**	**59**	*e*Pn	**Pb**	**01 03 04.1**	**-0.1**
ASTR	**Astara**	**1.73**	**85**	⇓P	**Pb**	**01 03 05.2**	**-0.8**
	SNR=70						
ASTR				⇓S	**Sg**	**01 03 30.2**	**+1.3**
ASTR	**Astara**	**1.73**	**85**	*e*Pn	**Pb**	**01 03 05.2**	**-0.8**
LKRN	**Lenkeran, Azer**	**1.74**	**80**	⇓P	**Pb**	**01 03 05.5**	**-0.6**
	SNR=105						
LKRN				⇑S	**Sg**	**01 03 30.0**	**+0.9**
LKRN	**Lenkeran, Azer**	**1.74**	**80**	*e*Pn	**Pn**	**01 03 05.2**	**+0.4**
MAKU	**Maku**	**1.76**	**302**	*e*Pn	**Pn**	**01 03 04.9**	**-0.3**
HYR	**Heyderabad**	**1.87**	**314**	⇑P	**Pn**	**01 03 06.7**	**-0.1**
HYR				⇓S	**Sb**	**01 03 32.3**	**-0.2**
HYR	**Heyderabad**	**1.87**	**314**	*e*Pn	**Pn**	**01 03 06.6**	**-0.1**
BRDA	**Brd**	**1.89**	**14**	⇓P	**Pb**	**01 03 08.7**	**-0.1**
	SNR=72						
BRDA				⇓S	**Sg**	**01 03 36.5**	**+2.4**
BRDA	**Brd**	**1.89**	**14**	*e*Pn	**Pb**	**01 03 08.6**	**-0.1**
SAAT	**Saatly**	**2.02**	**44**	⇓P	**Pn**	**01 03 09.1**	**+0.4**
	SNR=9.4						
SAAT				⇑S	**Sb**	**01 03 37.4**	**+0.8**
SAAT	**Saatly**	**2.02**	**44**	*e*Pn	**Pn**	**01 03 09.0**	**+0.4**
ZRD	**Zardab**	**2.04**	**24**	⇓P	**Pb**	**01 03 10.8**	**-0.4**
	SNR=84						
ZRD				⇑S	**Sg**	**01 03 40.8**	**+2.1**
ZRD	**Zardab**	**2.04**	**24**	*e*Pn	**Pb**	**01 03 10.8**	**-0.4**
CLDR	**Caldiran**	**2.21**	**290**	*e*P	**Pb**	**01 03 13.5**	**-0.9**
GANJ	**Ganja**	**2.23**	**355**	⇑P	**Pn**	**01 03 12.6**	**+1.1**
	SNR=74						
GANJ				⇓S	**Sb**	**01 03 42.5**	**-0.1**
GANJ	**Ganja**	**2.23**	**355**	*e*Pn	**Pn**	**01 03 12.6**	**+1.1**
GNI	**Garni**	**2.24**	**321**	*e*P	**Pn**	**01 03 12.2**	**+0.3**
GNI	**Garni**	**2.24**	**321**	Pn	**Pb**	**01 03 14.3**	**-0.6**
	comp=N,28nm,0.3s,baz=132,slow=1.5,SNR=241						
GNI				Sn	**Sb**	**01 03 44.3**	**+1.0**
	comp=N,55nm,0.3s,baz=343,slow=21,SNR=4.4						
KDMR	**Kurdemir**	**2.30**	**32**	⇓P	**Pb**	**01 03 14.4**	**-1.4**
	SNR=5.1						
KDMR				⇓S	**Sg**	**01 03 47.3**	**-0.1**
KDMR	**Kurdemir**	**2.30**	**32**	*e*Pn	**Pb**	**01 03 14.4**	**-1.4**
MNGR	**Mingechevir, A**	**2.38**	**9**	⇑P	**Pb**	**01 03 15.7**	**-1.4**
	SNR=5.0						
MNGR				⇓S	**Sg**	**01 03 49.1**	**-0.5**
MNGR	**Mingechevir, A**	**2.38**	**9**	*e*Pn	**Pb**	**01 03 15.6**	**-1.4**
GDB	**GEDABAY**	**2.38**	**344**	⇑P	**Pn**	**01 03 15.4**	**+1.6**
	SNR=8.1						
GDB				⇓S	**Sb**	**01 03 48.1**	**+0.8**
GDB	**GEDABAY**	**2.38**	**344**	*e*Pn	**Pn**	**01 03 15.4**	**+1.6**
TASB	**TASBURUN-IGDIR**	**2.40**	**311**	*e*P	**Pn**	**01 03 15.3**	**+1.3**
ZNJK	**Zanjan**	**2.42**	**136**	*e*Pn	**Pn**	**01 03 15.4**	**+1.1**
ALIB	**Äli-Bayra**	**2.42**	**50**	⇓P	**Pb**	**01 03 16.8**	**-0.9**
	SNR=8.2						
ALIB	**Äli-Bayra**	**2.42**	**50**	*e*Pn	**Pb**	**01 03 16.8**	**-0.9**
VANB	**Van**	**2.52**	**275**	*e*P	**Pb**	**01 03 18.1**	**-1.4**
CUKT	**Cukurca**	**2.64**	**244**	*e*P	**Pb**	**01 03 20.3**	**-1.3**
IML	**Ismayili**	**2.66**	**27**	⇓P	**Pn**	**01 03 19.0**	**+1.4**
	SNR=12						
IML				⇓S	**Sb**	**01 03 54.1**	**-1.1**
IML	**Ismayili**	**2.66**	**27**	*e*Pn	**Pn**	**01 03 18.9**	**+1.4**
QBL	**Gabala**	**2.69**	**20**	⇑P	**Pn**	**01 03 19.1**	**+1.1**
	SNR=16						
QBL				⇑S	**Sb**	**01 03 56.6**	**+0.5**
QBL	**Gabala**	**2.69**	**20**	*e*Pn	**Pn**	**01 03 19.0**	**+1.1**
GBS	**Qobustan**	**2.78**	**40**	⇓P	**Pb**	**01 03 22.4**	**-1.6**
	SNR=49						
GBS				⇓S	**Sb**	**01 03 56.4**	**-2.2**
GBS	**Qobustan**	**2.78**	**40**	*e*Pn	**Pb**	**01 03 22.4**	**-1.6**
QZX	**Qazax, Azerbai**	**2.79**	**341**	⇓P	**Pb**	**01 03 23.0**	**-1.1**
	SNR=36						
QZX				⇓S	**Sb**	**01 03 59.0**	**+0.1**
QZX	**Qazax, Azerbai**	**2.79**	**341**	*e*Pn	**Pb**	**01 03 23.0**	**-1.1**
SEKA	**Sheki**	**2.82**	**9**	⇓P	**Pn**	**01 03 21.2**	**+1.4**
	SNR=92						
SEKA				⇓S	**Sb**	**01 03 58.5**	**-1.2**
SEKA	**Sheki**	**2.82**	**9**	*e*Pn	**Pn**	**01 03 21.1**	**+1.4**
PQL	**Pirkuli**	**2.82**	**33**	P	**Pn**	**01 03 21.5**	**+1.6**
	SNR=125						
PQL				⇑S	**Sb**	**01 04 01.1**	**+1.2**
PQL	**Pirkuli**	**2.82**	**33**	*e*Pn	**Pn**	**01 03 21.4**	**+1.6**
XNQ	**Khinaliq**	**2.99**	**23**	⇓P	**Pn**	**01 03 23.0**	**+0.8**
	SNR=7.7						
XNQ				⇓S	**Sn**	**01 04 01.4**	**+2.5**
XNQ	**Khinaliq**	**2.99**	**23**	*e*Pn	**Pn**	**01 03 23.0**	**+0.8**
ATGJ	**Altiaghaj**	**3.03**	**36**	⇓P	**Pn**	**01 03 25.4**	**+2.7**
	SNR=10						
ATGJ				⇓S	**Sb**	**01 04 04.5**	**-1.3**
ATGJ	**Altiaghaj**	**3.03**	**36**	*e*Pn	**Pn**	**01 03 25.4**	**+2.7**
AGRB	**Hanur-Agry**	**3.03**	**293**	*e*P	**Pn**	**01 03 25.1**	**+2.3**
SIZA	**Siyzn**	**3.19**	**33**	⇓P	**Pn**	**01 03 27.1**	**+2.3**
	SNR=16						
SIZA				⇑S	**Sb**	**01 04 08.6**	**-1.7**
SIZA	**Siyzn**	**3.19**	**33**	*e*Pn	**Pn**	**01 03 27.1**	**+2.3**
ZKTA	**Zakatala**	**3.21**	**0**	⇓P	**Pn**	**01 03 27.8**	**+2.7**
	SNR=13						
ZKTA				⇓S	**Sb**	**01 04 08.9**	**-1.9**
ZKTA	**Zakatala**	**3.21**	**0**	*e*Pn	**Pn**	**01 03 27.7**	**+2.7**
QUB	**Quba**	**3.25**	**24**	*e*Pn	**Pn**	**01 03 27.8**	**+2.1**
QUBA	**Quba, Azerbaij**	**3.27**	**26**	⇑P	**Pn**	**01 03 27.8**	**+1.9**
	SNR=35						
QUBA				⇑S	**Sb**	**01 04 10.9**	**-1.8**
**QSA

comp=E,1μm,0.3s
IDMV Damavand 5.20 121 IAMB IAmb 01 05 36.0
comp=Z,252nm,0.7s
IDMV IAMB IAmb 01 05 42.4
comp=E,353nm,0.6s
KBZ Khabaz 5.99 333 Pg **Pb 01 04 21.8 +3.3**
comp=E,0.2nm,0.3s,baz=148,slow=10,SNR=5.5
KBZ Lg Lg 01 05 39.2
comp=E,0.1nm,0.3s,baz=73,slow=17,SNR=2.9
GEYT Alibeck 9.09 90 Pn **Pn 01 04 45.5 -0.3**
comp=E,1.2nm,0.3s,baz=16,slow=5.9,SNR=6.1
GEYT Sn **Sn 01 06 29.4 +0.6**
baz=294,slow=25,SNR=2.1
GYA0B ALIBECK ARRAY 9.09 90 ⇑Pn **Pn 01 04 44.7 -1.1**
comp=E,2.8nm,0.6s
GYA0B ⇓Sn **Sn 01 06 28.6 -0.3**
comp=E,5.4nm,0.7s
BRTR Keskin Array B 10.16 281 Pn Pn 01 05 06.2 +5.6
comp=E,0.1nm,0.3s,baz=96,slow=13,SNR=2.9
AB31 Akbulak array 14.47 37 ⇑P **Pn 01 05 56.8 -2.5**
comp=E,0.6nm,0.3s,baz=223,slow=12,SNR=29
AB31 ⇓S **Sn 01 08 33.7 -6.6**
comp=E,1.4nm,0.8s,baz=226,slow=22,SNR=3.4
AKTO Aktyubinsk 14.49 30 Pn **Pn 01 05 57.6 -2.0**
comp=E,0.7nm,0.3s,baz=212,slow=9.2,SNR=10
AKTO Sn Sn 01 08 29.2 -12
comp=E,0.1nm,0.3s,baz=197,slow=19,SNR=4.1
AKTO Aktyubinsk 14.49 30 ⇑P **Pn 01 05 56.2 -3.5**
comp=E,2.8nm,0.6s
AKTO ⇑S Sn 01 08 30.3 -11
comp=E,7.0nm,1.2s
ARU Arti 19.70 20 P **P 01 07 03.0 -1.0**
AAK Ala-Archa 21.57 70 P **P 01 07 28.5 +3.8**
comp=E,1.0nm,0.6s,baz=223,slow=5.4,SNR=3.8
BVAR Borovoye Array 21.97 41 P **P 01 07 32.0 +3.4**
comp=E,1.1nm,0.4s,baz=239,slow=12,SNR=8.3
KURBB Kurchatov Arra 25.62 51 P **P 01 08 05.5 +1.3**
comp=E,0.3nm,0.3s,baz=264,slow=10,SNR=4.4
GERES GERESS Array B 25.80 304 P **P 01 08 06.7 +0.7**
comp=E,0.5nm,0.6s,baz=100,slow=8.9,SNR=6.1
MKAR Makanchi Array 27.38 61 P **P 01 08 25.4 +5.1**
comp=E,1.5nm,0.9s,baz=280,slow=10,SNR=3.5

*ISCJB **15** 01:03:45.0±0.9, 3.°92S±0.°08×141.°8E±0.°2, h10km, mb3.5/6, Error ellipse: s-maj=23.7km s-min=9.1km az=160.7*
*IDC **15** 01:03:44.8±1.4, 3.°91S×141.°93E, h0km, mb3.5/6, mb1 3.8/8, mb1mx3.6/41, mbtmp3.6/8, ML3.7/2, Error ellipse: s-maj=42.9km s-min=21.2km az=90.0*
ISC 15 01:03:46.4±1.2, 3.°9S±0.°1×141.°8E±0.°2, h10km, n9, σ1§12/10, mb3.8/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.74**	**322**	Pn		**Pb**		**01 04 18.4**	**0.0**
	14nm,0.3s,baz=165,slow=9.4,SNR=53								
JAY				Sn		**Sn**		**01 04 37.5**	**-1.5**
	47nm,0.3s,baz=243,slow=18,SNR=16								
CTA	**Charters Tower**	**16.68**	**165**	Pn		**Pn**		**01 07 38.7**	**-1.7**
	0.2nm,0.3s,baz=60,slow=20,SNR=2.1								
WRA	**Warramunga Arr**	**17.52**	**204**	P		**P**		**01 07 52.8**	**+0.6**
	0.2nm,0.3s,baz=23,slow=12,SNR=9.6								
ASAR	**Alice Springs**	**21.08**	**200**	P		**P**		**01 08 30.6**	**-0.5**
	0.4nm,0.6s,baz=28,slow=11,SNR=5.1								
FITZ	**Fitzroy Crossi**	**21.19**	**227**	P		**P**		**01 08 33.6**	**+1.4**
	1.2nm,0.8s,baz=51,slow=13,SNR=2.7								
MKAR	**Makanchi Array**	**72.60**	**322**	P		**P**		**01 15 15.0**	**+1.0**
	0.4nm,0.4s,baz=104,slow=8.8,SNR=3.7								
KURBB	**Kurchatov Arra**	**76.46**	**324**	P		**P**		**01 15 36.4**	**0.0**
	0.3nm,0.4s,baz=103,slow=6.7,SNR=6.3								
BVAR	**Borovoye Array**	**82.03**	**325**	P		**P**		**01 16 07.1**	**+0.3**
	0.5nm,0.5s,baz=111,slow=8.0,SNR=3.3								
ILAR	**Eielson Array**	**85.65**	**24**	P		**P**		**01 16 25.6**	**+0.6**
	0.5nm,0.7s,baz=250,slow=4.7,SNR=4.9								

*IDC **15** 01:06:33.8±1.9, 5.°20S×146.°44E, h0km, mb3.5/3, mb1 3.8/6, mb1mx3.6/45, mbtmp3.7/6, ML3.7/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/32, Error ellipse: s-maj=53.9km s-min=29.2km az=113.0*
ISC 15 01:06:38.8±1.5, 5.°5S±0.°1×146.°6E±0.°3, h35km, n7, σ1§66/7, mb3.4/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.97**	**172**	Pn		**Pn**		**01 07 39.6**	**+2.4**
	5.6nm,0.3s,baz=75,slow=5.8,SNR=6.4								
PMG				Sn		**Sn**		**01 08 21.7**	**-0.9**
	2.7nm,0.3s,baz=180,slow=19,SNR=1.5								
CTA	**Charters Tower**	**14.56**	**181**	Pn		**P**		**01 10 06.6**	**-1.9**
	0.3nm,0.3s,baz=350,slow=14,SNR=3.1								
WRA	**Warramunga Arr**	**18.72**	**219**	P		**P**		**01 10 54.4**	**-0.2**
	0.2nm,0.3s,baz=39,slow=11,SNR=6.5								
GUMO	**Guam**	**18.99**	**355**	LR		LR		01 17 12.8	
	comp=Z,86nm,20.1s,baz=108,slow=34								
ASAR	**Alice Springs**	**21.87**	**213**	P		**P**		**01 11 28.5**	**-0.2**
	0.7nm,0.5s,baz=46,slow=8.2,SNR=7.3								
FITZ	**Fitzroy Crossi**	**24.04**	**237**	P		**P**		**01 11 51.7**	**+0.9**
	3.0nm,1.0s,baz=58,slow=9.5,SNR=3.3								
ILAR	**Eielson Array**	**85.12**	**23**	P		**P**		**01 19 10.7**	**-0.3**
	0.2nm,0.7s,baz=264,slow=4.4,SNR=1.7								

MEX 15 01:17:10.7±0.5, 16.°28N×98.°04W, h8km±5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.14**	**324**	*i* P			Pg	01 17 13.3	-0.5
PNIG				*i* S			Sg	01 17 15.8	-0.2
TLIG	**Tlapa**	**1.37**	**339**	*i* P			Pn	01 17 32.5	-3.7
TLIG				*i* S			Sb	01 17 50.0	-4.5

*NIED **15** 01:30:00, 27.°80N×140.°70E, h460km, Mw4.5 Best double couple: M0 7.47000×10**15** NP1:φ=166.00000°, δ=36.00000°, λ=-77.00000°. NP2:φ=330.00000°, δ=55.00000°, λ=-99.00000°.*
*ISCJB **15** 01:30:38.5±0.2, 27.°51N±0.°02×140.°06E±0.°03, h489km±2km, mb4.4/163, Error ellipse: s-maj=3.8km s-min=3.1km az=29.0*
*NEIC **15** 01:30:39.6±0.3, 27.°49N×140.°05E, h493km±3km, mb4.4/95, Error ellipse: s-maj=3.8km s-min=3.1km az=119.0*
*JMA **15** 01:30:40.3±0.1, 27.°76N×140.°72E, h499km, M4.6*
*IDC **15** 01:30:40.0±0.5, 27.°50N×140.°06E, h500km±5km, mb3.9/44, mb1 4.0/52, mb1mx3.9/75, mbtmp4.8/52, Error ellipse: s-maj=8.0km s-min=6.0km az=83.0*
ISC 15 01:30:40.0±0.4, 27.°52N±0.°04×140.°21E±0.°05, h501km±4km, h501km: pP-P, n383, σ1§38/434, mb4.4/163, 6C-3D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.80**	**103**	*e*P			**P**	**01 31 43.4**	**-0.9**
CBIJ				*e*S			**S**	**01 32 33.7**	**-2.7**
CBIJ	**Chichi jima**	**1.80**	**103**	P			**P**	**01 31 43.4**	**-0.9**
CBIJ				S			**S**	**01 32 33.1**	**-3.4**
JCJ	**Chichijima**	**1.80**	**103**	P			**P**	**01 31 43.6**	**-0.7**
JHHJ	**Haha-jima-NKT**	**1.96**	**117**	P			**P**	**01 31 44.6**	**-0.5**
JHHJ				S			**S**	**01 32 35.9**	**-1.9**
JHJ2	**Mitsune**	**5.58**	**357**	*e*P			**P**	**01 32 08.7**	**-3.5**
JHJ2				*e*S			**S**	**01 33 24.2**	**-3.5**
JHJ	**Hachijo jima 2**	**5.59**	**356**	P			**P**	**01 32 11.3**	**-1.0**
	68nm,0.3s,baz=84,slow=6.4,SNR=4.8								
JHJ				S			**S**	**01 33 22.0**	**-5.9**
	61nm,0.3s,baz=270,slow=20,SNR=3.9								
BSO1	**Boso 1**	**7.14**	**5**	P			**P**	**01 32 27.3**	**+0.4**
BSO1				*e*S			**S**	**01 33 52.9**	**-1.7**
BSO3	**Boso 3**	**7.26**	**2**	P			**P**	**01 32 28.2**	**-0.2**
BSO3				*e*S			**S**	**01 33 53.8**	**-3.6**
BSO4	**Boso 4**	**7.44**	**1**	P			**P**	**01 32 29.9**	**-0.6**
BSO4				S			**S**	**01 33 57.3**	**-3.8**
JKN2	**Miekihoku**	**7.50**	**334**	P			**P**	**01 32 32.4**	**+1.2**
JKN2				*e*S			**S**	**01 34 04.2**	**+1.8**
JOD2	**Odawara 2**	**7.78**	**353**	P			**P**	**01 32 33.7**	**-0.3**
JOD2				S			**S**	**01 34 04.3**	**-3.3**
JNY	**Yasuok**	**8.06**	**346**	P			**P**	**01 32 37.8**	**+0.7**
JNY				S			**S**	**01 34 11.2**	**-1.9**
JAO	**Obara**	**8.12**	**343**	P			**P**	**01 32 38.9**	**+1.3**
INU	**Inuyama**	**8.26**	**342**	*e*P			**P**	**01 32 39.0**	**0.0**
JHU	**Hanno**	**8.34**	**355**	P			**P**	**01 32 38.4**	**-1.4**
JHU				S			**S**	**01 34 13.4**	**-4.8**
JRY	**Ryogami san**	**8.54**	**353**	P			**P**	**01 32 41.8**	**-0.1**
JRY				S			**S**	**01 34 19.1**	**-3.0**
JYT	**Yasato**	**8.68**	**360**	P			**P**	**01 32 42.9**	**-0.4**
JYT				S			**S**	**01 34 20.4**	**-4.2**
JAG	**Ashikaga**	**8.90**	**356**	P			**P**	**01 32 43.9**	**-1.7**
JAG				*e*S			**S**	**01 34 22.1**	**-6.8**
JHO	**Hitachi**	**9.06**	**2**	P			**P**	**01 32 47.0**	**-0.4**
JHO				*e*S			**S**	**01 34 28.3**	**-3.8**
MJAR	**Matsushiro Arr**	**9.15**	**350**	P			**P**	**01 32 46.4**	**-1.9**
	2.3nm,0.3s,baz=176,slow=11,SNR=7.4								
MJAR				S			**S**	**01 34 30.1**	**-3.7**
	1.6nm,0.3s,baz=135,slow=25,SNR=8.6								
MAJO	**Matsushiro**	**9.15**	**350**	*e*P			**P**	**01 32 47.5**	**-0.9**
MAJO				*e*S			**S**	**01 34 34.6**	**+0.8**
MAT	**Matsushiro**	**9.15**	**350**	P			**P**	**01 32 47.2**	**-1.1**
MAT				S			**S**	**01 34 32.0**	**-1.8**
MJB9	**Matsu-Tunnel**	**9.15**	**350**	*e*P			**P**	**01 32 47.4**	**-1.0**
MJB9				*e*S			**S**	**01 34 33.8**	**-0.1**
JAMN	**Amaminishikomi**	**9.79**	**277**	P			**P**	**01 32 55.9**	**+0.7**
JNU	**Nakatsue**	**9.81**	**307**	P			**P**	**01 32 56.0**	**+0.7**
	1.0nm,0.3s,baz=99,slow=3.4,SNR=11								
JNU	**Nakatsue**	**9.81**	**307**	*e*P			**P**	**01 32 56.1**	**+0.8**
JFK	**Kawauchi**	**9.83**	**3**	P			**P**	**01 32 56.5**	**+1.0**
JFK				*e*S			**S**	**01 34 43.8**	**-3.1**
JOW	**Kunigami**	**10.65**	**269**	P			**P**	01 33 04.5	+0.1
	20nm,0.3s,baz=117,slow=8.7,SNR=35								
JOW	**Kunigami**	**10.65**	**269**	P			P	01 33 04.4	0.0
KSRS	**Korea Array**	**14.33**	**317**	P			**P**	**01 33 42.0**	**-1.0**
	0.4nm,0.3s,baz=128,slow=11,SNR=3.6								
KSRS				S			**S**	**01 36 19.4**	**+5.6**
	0.0nm,0.3s,baz=152,slow=16,SNR=10.0								
KS15	**Wonju Array Si**	**14.34**	**317**	*e*P			**P**	**01 33 42.0**	**-1.2**
KS15				*e*S			**S**	**01 36 19.4**	**+5.2**
KSAR	**Wonju Array Be**	**14.34**	**317**	P			**P**	**01 33 42.0**	**-1.2**
KS01	**Wonju Array Si**	**14.36**	**317**	*e*P			**P**	**01 33 46.4**	**+3.0**
GUMO	**Guam**	**14.53**	**162**	P			**P**	**01 33 45.8**	**+0.3**
	9.2nm,0.3s,baz=10,slow=19,SNR=3.8								
ERM	**Erimo**	**14.66**	**9**	*e*P			**P**	**01 33 46.7**	**+0.4**
ASAJ	**Asahikawa**	**15.67**	**6**	P			**P**	**01 34 08.4**	**+1.0**
	2.2nm,0.3s,baz=222,slow=12,SNR=4.3								
ASAJ	**Asahikawa**	**16.67**	**6**	*e*P			**P**	**01 34 08.4**	**+1.0**
	37nm,1.0s								
YULB	**Yu-li**	**17.57**	**261**	*e*P			**P**	**01 34 14.5**	**-2.0**
	10.0nm,0.9s								
SSLB	**Suanglung**	**17.76**	**262**	*e*P			**P**	**01 34 17.7**	**-0.6**
	25nm,1.0s								
USRK	**Ussuriysk Ar.**	**17.91**	**340**	P			**P**	**01 34 19.6**	**+0.3**
	0.7nm,0.3s,baz=147,slow=10,SNR=9.5								
CN2	**Changchun**	**20.14**	**328**	*e*P			**P**	**01 34 39.0**	**-0.7**
CN2					pmax		pmax		
	comp=Z,10.0nm,0.5s								
KLR	**Kul'dur**	**22.64**	**345**	P			**P**	**01 35 02.6**	**+0.4**
	comp=Z,1.3nm,0.4s,baz=175,slow=10,SNR=7.4								
KLR					ScP		**ScP**	**01 41 26.6**	**+0.2**
	comp=Z,4.7nm,0.7s,baz=108,slow=3.2,SNR=13								
ENH	**Enshi**	**27.00**	**283**	*e*P			**P**	**01 35 40.1**	**-1.1**
	comp=Z,13nm,0.6s								
HHC	**Hu-ho-hao-te**	**27.04**	**307**	*e*P			**P**	**01 35 42.0**	**+0.5**
HHC					pmax		pmax		
	comp=Z,14nm,0.6s								
HHC					pmax		pmax		
	comp=Z,81nm,5.2s								
XAN	**Xi'an**	**27.59**	**291**	P			**P**	**01 35 45.4**	**-0.9**
XAN					pmax		pmax		
	comp=Z,16nm,0.5s								
PETK	**Petropavlovsk-**	**28.67**	**22**	P			**P**	**01 35 55.2**	**-0.2**
	comp=Z,2.8nm,0.7s,baz=197,slow=6.9,SNR=6.6								
PETK	**Petropavlovsk-**	**28.67**	**22**	*e*P			**P**	**01 35 56.0**	**+0.6**
PEA1	**Petropavlovsk-**	**28.67**	**22**	*e*P			**P**	**01 35 55.2**	**-0.3**
SIJI	**Sorong**	**29.51**	**198**	P			**P**	**01 36 03.2**	**-0.1**
	comp=Z,25nm,0.7s,baz=59,slow=5.4,SNR=5.3								
FAKI	**Fak Fak**	**31.23**	**195**	*e*P			**P**	**01 36 17.1**	**-1.0**
	comp=Z,16nm,0.7s								
FAKI	**Fak Fak**	**31.23**	**195**	P			**P**	**01 36 17.3**	**-0.8**
	comp=Z,24nm,1.0s								
LZH	**Lanzhou**	**31.92**	**295**	*e*P			**P**	**01 36 23.6**	**-0.4**
LZH					pP		pP	01 37 48.6	-1.5
LZH					*e*PP		PP	01 37 52.8	-11
LZH					sP		sP	01 38 44.3	-3.8
LZH					pmax		pmax		
	comp=Z,37nm,1.1s								
LZH					pmax		pmax		
	comp=Z,260nm,4.3s								
MRSI	**Marisa**	**32.10**	**216**	P			**P**	**01 36 25.7**	**+0.1**
	comp=Z,39nm,1.0s,comp=Z,927nm								
SANI	**Sanana**	**32.44**	**207**	P			P	01 36 26.9	-1.5
	comp=Z,81nm,0.7s,comp=Z,1μm								
MSAI	**Masohi**	**32.56**	**201**	P			**P**	**01 36 30.9**	**+1.4**
ULN	**Ulaanbaatar**	**32.81**	**317**	*e*P			**P**	**01 36 31.3**	**-0.1**
ULN				*e*PcP			**PcP**	**01 39 02.3**	**+0.5**
MA2	**Magadan**	**32.86**	**10**	P			**P**	**01 36 32.0**	**+0.6**
	comp=Z,12nm,0.7s,baz=165,slow=10,SNR=4.5								
MA2	**Magadan**	**32.86**	**10**	*e*P			**P**	**01 36 32.0**	**+0.6**
	comp=Z,73nm,1.5s								
SONA0	**Songino Array**	**33.20**	**317**	*e*P			**P**	**01 36 34.2**	**-0.4**
SONA0				*e*PcP			**PcP**	**01 39 03.1**	**+0.2**
SONA0				*e*ScP			**ScP**	**01 41 59.2**	**-0.2**
SONM	**Songino Array**	**33.20**	**317**	P			**P**	**01 36 34.2**	**-0.4**
	comp=Z,3.4nm,0.5s,baz=124,slow=7.9,SNR=37								
SONM					PcP		**PcP**	**01 39 03.1**	**+0.2**
	comp=Z,1.4nm,0.4s,baz=144,slow=3.6,SNR=8.9								
SONM					ScP		**ScP**	**01 41 59.2**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=134,slow=3.3,SNR=9.8								
SONA1	**Songino Array**	**33.20**	**317**	*e*P			**P**	**01 36 34.2**	**-0.5**
SONA1				*e*PcP			**sP**	**01 39 01.7**	**+2.5**
MPSI	**Mapaga**	**33.33**	**219**	P			P	01 36 35.0	-1.0
	comp=Z,5.6nm,0.6s								
APSI	**Ampana**	**33.44**	**215**	P			P	01 36 35.1	-1.8
	comp=Z,28nm,0.7s,comp=Z,520nm								
KMI	**Kunming**	**33.59**	**275**	P			**P**	**01 36 38.4**	**0.0**
KMI					pmax		pmax		
	comp=Z,17nm,1.1s								
SKNT	**Sakolnakorn**	**35.02**	**260**	P			**P**	**01 36 50.8**	**+0.5**
	comp=Z,6.5nm,0.8s								
NONG	**Nongkai**	**35.33**	**263**	P			**P**	**01 36 53.0**	**+0.1**
	comp=Z,1.2nm,0.8s,comp=Z,134nm								
GTA	**Gaotai**	**35.45**	**300**	P			**P**	**01 36 52.6**	**-1.1**
GTA					pP		pP	01 38 18.9	-2.6
GTA					PcP		**PcP**	**01 39 10.3**	**+0.6**
GTA					sP		sP	01 39 16.9	-2.2
GTA					ScP		**ScP**	**01 42 08.4**	**+0.6**
GTA					PcS		**PcS**	**01 42 57.0**	**-0.7**
GTA					ScS		**ScS**	**01 46 17.5**	**+3.4**
GTA					pmax		pmax		
	comp=Z,15nm,1.0s								
GTA					pmax		pmax		
	comp=Z,62nm,5.9s								
SEY	**Seymchan**	**36.30**	**9**	P			**P**	**01 37 01.2**	**+1.0**
	comp=Z,12nm,0.7s,baz=190,slow=7.5,SNR=32								
CHAI	**Chaiyaphum**	**37.21**	**260**	P			**P**	**01 37 08.0**	**-0.4**
	comp=Z,9.2nm,0.8s								
PMG	**Port Moresby**	**37.32**	**169**	P			**P**	**01 37 09.7**	**+0.5**
	comp=Z,11nm,0.4s,baz=346,slow=12,SNR=3.5								
PAYA	**Paya**	**37.76**	**266**	P			**P**	**01 37 14.3**	**+1.3**
	comp=Z,4.7nm,0.9s								
PBKT	**Sadao Pong**	**37.83**	**262**	P			**P**	**01 37 13.3**	**-0.1**
	comp=Z,30nm,0.9s								
SRAK	**Srakaew**	**37.98**	**257**	P			P	01 37 10.7	-4.0
	comp=Z,64nm,0.9s								
CMMT	**Chiang Mai**	**38.77**	**266**	P			P	01 37 20.5	-0.7
	comp=Z,18nm,0.8s								
CHTO	**Chiang Mai**	**38.77**	**266**	*e*P			P	01 37 20.5	-0.7
	comp=Z,12nm,0.8s								
CHTO	**Chiang Mai**	**38.77**	**266**	P			**P**	**01 37 20.6**	**-0.6**
	comp=Z,81nm,0.9s								
CM01	**Chiang Mai Arr**	**38.90**	**266**	*e*P			P	01 37 20.6	-1.6
CM01				*e*PcP			**PcP**	**01 39 21.3**	**+0.8**
CM31	**Chiang Mai Arr**	**38.90**	**266**	*e*P			P	01 37 21.5	-0.7
CM31				*e*PcP			**PcP**	**01 39 21.4**	**+0.9**
CM31				*e*ScP			**ScP**	**01 42 22.4**	**+1.4**
CMAR	**Chiang Mai Arr**	**38.90**	**266**	P			P	01 37 21.5	-0.7
	comp=Z,4.3nm,0.6s,baz=56,slow=8.2,SNR=28								
CMAR					PcP		**PcP**	**01 39 21.4**	**+0.9**
	comp=Z,3.0nm,0.7s,baz=59,slow=1.4,SNR=14								
CMAR					ScP		**ScP**	**01 42 22.4**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=74,slow=2.1,SNR=4.5								
UTHA	**Uthaitani**	**39.58**	**261**	P			**P**	**01 37 27.7**	**0.0**
	comp=Z,9.9nm,0.7s,comp=Z,101nm								
UMPA	**Umpang Tak**	**39.83**	**262**	P			**P**	**01 37 31.1**	**+1.4**
	comp=Z,7.7nm,1.0s								
EDFI	**Ende, Flores**	**40.28**	**209**	P			**P**	**01 37 32.4**	**-1.0**
	comp=Z,40nm,0.8s								
SRDT	**SRDT**	**40.37**	**260**	P			**P**	**01 37 34.1**	**0.0**
	comp=Z,14nm,1.1s								
PHET	**Kaeng Krachan**	**40.56**	**257**	P			**P**	**01 37 36.9**	**+1.3**
	comp=Z,5.4nm,0.8s,comp=Z,168nm								
BATI	**Baumata**	**40.79**	**205**	P			**P**	01 37 35.9	-1.6
	comp=Z,26nm,0.4s,baz=84,slow=23,SNR=4.8								
MTN	**Manton Dam**	**41.08**	**194**	*e*P			**P**	**01 37 38.7**	**-0.9**
	comp=Z,32nm,1.0s								
COEN	**Coen**	**41.33**	**176**	*e*P			**P**	**01 37 42.5**	**+0.9**
	comp=Z,25nm,0.6s								
ATKA	**Atka Island**	**41.86**	**41**	*e*P			**P**	**01 37 45.6**	**+0.3**
	comp=Z,239nm,1.5s								
PLAI	**Plampang**	**42.17**	**214**	P			P	01 37 46.7	-1.6
	comp=Z,44nm,1.0s								
PLAI					pP		pP	01 39 12.9	-7.0
	comp=Z,44nm,1.0s								
TWSI	**Taliwang, Sumb**	**42.55**	**215**	P			P	01 37 49.7	-1.6
	comp=Z,33nm,0.8s								
TRTT	**Trang**	**43.02**	**251**	P			**P**	**01 37 55.4**	**+0.3**
	comp=Z,9.1nm,1.0s								
SHL	**Shillong**	**43.07**	**279**	*e*P			**P**	**01 37 54.8**	**-0.7**
	comp=Z,32nm,0.9s								
KRAB	**Krabi**	**43.23**	**252**	P			**P**	**01 37 56.9**	**+0.2**
	comp=Z,50nm,0.7s,comp=Z,762nm								
BILL	**Bilibino**	**43.45**	**14**	*e*P			**P**	**01 37 58.6**	**+1.0**
	comp=Z,27nm,0.8s								
KULM	**Kulim**	**43.63**	**247**	*e*P			**P**	**01 37 59.8**	**-0.1**
	comp=Z,20nm,0.9s								
JAGI	**Jajag, Banyuwa**	**43.79**	**219**	*e*P			P	01 37 58.5	-2.5
	comp=Z,28nm,1.0s								
IPM	**Ipoh**	**43.79**	**246**	*e*P			P	01 38 00.5	-0.6
	comp=Z,22nm,1.0s								
PKDT	**Phuket**	**44.13**	**252**	P			**P**	**01 38 04.0**	**+0.3**
	comp=Z,16nm,0.8s,comp=Z,2μm								
WMQ	**Urumqi**	**44.90**	**306**	P			**P**	**01 38 09.8**	**+0.4**
WMQ					pP		PcP	01 39 40.8	+0.4
WMQ					pmax		pmax		
	comp=Z,94nm,0.9s								
WMQ					pmax		pmax		
	comp=Z,280nm,3.7s								
KPJI	**Karang Pucung**	**46.01**	**226**	P			P	01 38 17.3	-0.8
	comp=Z,60nm,0.9s								
PSI	**Prapat**	**46.46**	**245**	*e*P			**P**	**01 38 21.3**	**-0.5**
	comp=Z,36nm,0.8s								
PSI					*e*PcP		**PcP**	**01 39 45.1**	**-1.4**
UNV	**Unalaska Valle**	**46.77**	**41**	*e*P			**P**	**01 38 23.4**	**0.0**
	comp=Z,136nm,1.4s								
MDSI	**Maura Dua**	**47.14**	**233**	P			P	01 38 25.5	-1.2
	comp=Z,64nm,0.8s,comp=Z,656nm								
MNSI	**Mandailing Nat**	**47.14**	**243**	P			P	01 38 25.9	-0.9
	comp=Z,48nm,0.7s								
AKUT	**Akutan**	**47.26**	**40**	*e*P			**P**	**01 38 26.6**	**-0.4**
	comp=Z,164nm,1.4s								
RAMN	**Ramite**	**47.35**	**282**	*e*P			**P**	**01 38 28.4**	**-0.2**
	comp=Z,113nm,0.7s								
FITZ	**Fitzroy Crossi**	**47.50**	**199**	*e*P			**P**	**01 38 28.9**	**-0.4**
	comp=Z,14nm,0.6s								
WRAB	**Tennant Creek**	**47.52**	**187**	*e*P			**P**	**01 38 28.7**	**-0.7**
	comp=Z,93nm,1.3s								
WB2	**Warramunga Arr**	**47.53**	**187**	*e*P			**P**	**01 38 27.7**	**-1.9**
WR1	**Warramunga Arr**	**47.53**	**188**	*e*P			**P**	**01 38 29.1**	**-0.5**
	comp=Z,108nm,1.4s								
WR1					*e*PcP		**PcP**	**01 39 50.3**	**+0.4**
WR1					*e*ScP		**ScP**	**01 42 55.6**	**-0.3**
WRA	**Warramunga Arr**	**47.53**	**188**	P			**P**	**01 38 29.1**	**-0.5**
	comp=Z,43nm,0.3s,baz=6.6,slow=7.7,SNR=1097								
WRA					PcP		**PcP**	**01 39 50.3**	**+0.4**
	comp=Z,5.8nm,0.7s,baz=359,slow=3.6,SNR=8.1								
WRA					ScP		**ScP**	**01 42 55.6**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=1.7,slow=4.9,SNR=5.9								
WRA					S		**S**	**01 44 44.0**	**-3.3**
	comp=Z,3.3nm,0.8s,baz=6.9,slow=14,SNR=9.3								
JIRN	**Jiri**	**47.55**	**283**	*e*P			**P**	**01 38 30.6**	**+0.5**
	comp=Z,265nm,0.7s								
MASI	**Maura Aman, Be**	**47.62**	**236**	P			P	01 38 37.1	+6.7
CTAO	**Charters Tower**	**47.69**	**172**	*e*P			**P**	**01 38 30.9**	**+0.2**
	comp=Z,17nm,0.9s								
GUN	**Gumba**	**47.76**	**284**	*e*P			**P**	**01 38 32.0**	**+0.3**
	comp=Z,158nm,0.7s								
ZAA0	**Zalesovo Array**	**48.02**	**319**	*e*P			**P**	**01 38 32.0**	**-0.8

KSH					PP	PP		01 41 29.1	+5.5
KSH					S	S		01 46 15.3	+2.6
KSH	**Kashi**	**53.85**	**300**		SS	SS		01 50 06.1	+3.3
KSH	comp=Z,46nm,0.5s				pmax	pmax			
KSH	comp=Z,200nm,4.6s				pmax	pmax			
KSH	comp=N,220nm,7.2s				LR	LR			
KSH	comp=E,310nm,8.1s				LR	LR			
KSH	comp=Z,250nm,12.7s				LR	LR			
KZA	**Kyzart**	**54.08**	**304**		P	**P**		01 39 18.5	+0.9
KBK	**Karagaybulak**	**54.24**	**304**		P	**P**		01 39 18.8	+0.4
USP	**Ospenovka**	**54.50**	**305**		P	**P**		01 39 19.9	-0.2
AAK	**Ala-Archa**	**54.57**	**304**		P	**P**		01 39 20.8	0.0
AAK	comp=Z,7.1nm,0.4s,baz=109,slow=4.6,SNR=23				PcP	**PcP**		01 40 15.9	-0.5
AAK	**Ala-Archa**	**54.57**	**304**		P	**P**		01 39 20.9	0.0
AAK	**Ala-Archa**	**54.57**	**304**	*i*	P	**P**		01 39 20.7	0.0
UCH	**Uchtor**	**54.60**	**304**		P	**P**		01 39 22.2	+0.8
KDAK	**Kodiak Island**	**55.08**	**37**		P	**P**		01 39 24.5	+0.7
EKS2	**Erkin-Say**	**55.09**	**304**		P	**P**		01 39 24.4	0.0
AML	**Almayashu**	**55.22**	**304**		P	**P**		01 39 26.3	+0.7
IM3	**Indian Mountai**	**55.46**	**27**	*eP*		**P**		01 39 27.4	+1.0
BVAR	**Borovoye Array**	**56.54**	**317**		P	**P**		01 39 33.9	-0.2
BVAR	comp=Z,45nm,0.4s,baz=90,slow=6.8,SNR=344				PcP	**PcP**		01 40 23.2	-0.5
BVAR	comp=Z,3.8nm,0.6s,baz=106,slow=4.7,SNR=3.5				S	**S**		01 46 45.9	-1.1
BRVK	**Borovoye**	**56.60**	**317**	*eP*		**P**		01 39 34.5	-0.1
TRF	**Thorofare Moun**	**56.60**	**30**	*eP*		**P**		01 39 35.5	+0.9
COLD	**Coldfoot**	**57.04**	**26**	*eP*		**P**		01 39 39.2	+1.8
MCK	**McKinley**	**57.23**	**30**	*eP*		**P**		01 39 39.5	+0.8
RND	**Reindeer**	**57.24**	**30**	*eP*		**P**		01 39 39.4	+0.5
HYB	**Hyderabad**	**57.37**	**274**	*i*	P	**P**		01 39 40.0	-0.4
SML	**Sawmill**	**57.41**	**32**	*eP*		**P**		01 39 40.8	+0.8
KK31	**Karatay Array**	**57.41**	**305**	*eP*		**P**		01 39 40.3	0.0
KKAR	**Karatay Array**	**57.41**	**305**	*eP*		**P**		01 39 40.3	0.0
HDA	**Harding Lake**	**58.14**	**29**	*eP*		**P**		01 39 44.7	-0.1
IL1	**Eielson Array**	**58.18**	**29**	*eP*		**P**		01 39 44.6	-0.5
ILAR	**Eielson Array**	**58.18**	**29**		P	**P**		01 39 44.8	-0.4
ILAR	comp=Z,2.2nm,0.3s,baz=251,slow=5.6,SNR=45				pP	**pP**		01 41 24.6	-0.3
ILB	**Eielson Array**	**58.18**	**29**	*eP*		**P**		01 39 45.0	-0.2
KLU	**Klutina**	**58.55**	**33**	*eP*		**P**		01 39 49.0	+1.2
ARMA	**Armidale**	**58.64**	**168**	*eP*		**P**		01 39 49.7	+0.9
PAX	**Paxson**	**58.76**	**31**	*eP*		**P**		01 39 50.3	+1.0
HARP	**HAARP**	**58.91**	**32**	*eP*		**P**		01 39 51.6	+1.5
STKA	**Stephens Creek**	**59.09**	**179**		P	**P**		01 39 51.5	-0.1
STKA	**Stephens Creek**	**59.09**	**179**	*eP*		**P**		01 39 51.5	-0.1
FORT	**Forrest**	**59.13**	**192**	*eP*		**P**		01 39 51.7	-0.2
BMRM	**Bremner River**	**59.20**	**33**	*eP*		**P**		01 39 53.5	+1.4
SCRK	**Sand Creek**	**59.43**	**30**	*eP*		**P**		01 39 54.1	+0.4
BBOO	**Buckleboo**	**60.13**	**184**	*eP*		**P**		01 39 58.4	-0.2
KBL	**Kabul**	**60.26**	**296**	*eP*		**P**		01 39 59.6	-0.3
POO	**Poona**	**61.12**	**277**	*eP*		**P**		01 40 04.0	-1.6
DAWY	**Dawson**	**61.44**	**30**	*eP*		**P**		01 40 08.2	+1.2
EPYK	**Eagle Plains**	**62.36**	**27**		P	**P**		01 40 13.9	+1.0
ARU	**Arti**	**63.01**	**322**		P	**P**		01 40 17.6	+0.4
ARU	**Arti**	**63.01**	**322**	*eP*		**P**		01 40 17.4	+0.2
INK	**Inuvik**	**63.37**	**25**		P	**P**		01 40 19.5	+0.3
NWAO	**Narrogin (SRO)**	**63.96**	**201**	*eP*		**P**		01 40 23.4	-0.2
DLBC	**Dease Lake**	**66.86**	**35**		P	**P**		01 40 42.5	+0.9
DLBC	**Dease Lake**	**66.86**	**35**	*eP*		**P**		01 40 42.5	+0.9
GEYT	**Alibeck**	**67.79**	**302**		P	**P**		01 40 47.6	-0.1
SPITS	**Spitsbergen Ar**	**69.65**	**349**		P	**P**		01 40 58.4	+0.3
WSAR	**Wadi Sarin**	**72.55**	**287**		P	**P**		01 41 15.5	-0.6
ARA0	**ARCESS Array S**	**72.56**	**340**	*eP*		**P**		01 41 15.4	+0.1
ARCES	**ARCESS Array B**	**72.56**	**340**		P	**P**		01 41 15.4	+0.1
YKA	**Yellowknife Ar**	**72.59**	**28**		P	**P**		01 41 15.9	+0.2
YKB5	**Yellowknife Ar**	**72.59**	**28**	*eP*		**P**		01 41 15.9	+0.2
SHME	**Shamm**	**73.55**	**291**	*i*	P	**P**		01 41 22.2	+0.3
MDH	**Madha**	**73.71**	**290**		P	**P**		01 41 22.8	+0.1
MSFE	**Esma-Masafi**	**73.80**	**290**		P	**P**		01 41 23.6	+0.3
UOSS	**Minazif**	**73.92**	**290**	*eP*		**P**		01 41 23.8	-0.2
UOSS	**Minazif**	**73.92**	**290**		P	**P**		01 41 23.6	-0.4
HATD	**Hatta, Dubai**	**74.03**	**290**	*i*	P	**P**		01 41 24.6	-0.1
ASHO	**Ashiyiah**	**74.15**	**290**	*i*	P	**P**		01 41 25.0	-0.3
D03D	**Eldon**	**74.46**	**44**		P	**P**		01 41 28.7	+2.1
FAQ	**Al Faqa, Dubai**	**74.51**	**290**	*i*	P	**P**		01 41 26.6	-0.7
ALNE	**Al Ain**	**74.65**	**289**	*i*	P	**P**		01 41 28.1	-0.1
ASUD	**Al Ashush, Dub**	**74.78**	**290**	*i*	P	**P**		01 41 28.6	-0.2
E04D	**Cinebar**	**75.19**	**45**		P	**P**		01 41 32.5	+1.8
G03D	**McMinnville, O**	**75.30**	**47**		P	**P**		01 41 32.9	+1.5
LON	**Longmire**	**75.58**	**45**	*eP*		**P**		01 41 34.2	+1.2
J01E	**Myrtle Point**	**75.70**	**49**		P	**P**		01 41 35.1	+1.4
I03D	**Drain, OR**	**75.86**	**48**		P	**P**		01 41 36.2	+1.7
H04D	**Lebanon**	**75.92**	**47**		P	**P**		01 41 36.6	+1.7
K02D	**Willamette Mer**	**76.07**	**49**		P	**P**		01 41 37.3	+1.5
H04A	**Detroit Lake**	**76.21**	**47**	*eP*		**P**		01 41 38.1	+1.5
L02E	**Cave Junction**	**76.33**	**50**		P	**P**		01 41 38.8	+1.6
B08A	**Colville Reser**	**76.41**	**42**	*eP*		**P**		01 41 38.8	+1.2
KBZ	**Khabaz**	**76.43**	**312**		P	**P**		01 41 37.8	+0.1
I04A	**Tendick Farm,**	**76.44**	**48**		P	**P**		01 41 39.0	+1.1
G05D	**Wamic, OR**	**76.53**	**46**		P	**P**		01 41 39.1	+0.8
FIA1	**FINESS Array S**	**76.78**	**333**	*eP*		**P**		01 41 38.7	-0.6
FIA0	**FINESS Array S**	**76.78**	**333**	*eP*		**P**		01 41 38.7	-0.5
FINES	**FINESS Array B**	**76.78**	**333**		P	**P**		01 41 38.7	-0.5
J04D	**Umpqua Nationa**	**76.87**	**48**		P	**P**		01 41 41.9	+1.4
I05D	**Terrebonne, OR**	**76.91**	**47**		P	**P**		01 41 41.4	+1.0

	baz=296									
YBH	**Yreka Blue Hor**	**77.12**	**50**		P	**P**		01 41 43.1	+1.5
	comp=Z,3.7nm,0.7s,baz=345,slow=5.6,SNR=13									
M02C	**Callahan**	**77.17**	**50**		P	**P**		01 41 43.7	+1.8
	baz=295,SNR=5.6									
L04D	**Klamath Falls**	**77.18**	**49**		P	**P**		01 41 43.3	+1.3
	baz=296,SNR=6.9									
C09A	**Chrisman Ranch**	**77.29**	**43**	*eP*		**P**		01 41 43.6	+1.3
	comp=Z,6.3nm,0.6s									
PINE	**Pine Mountain**	**77.40**	**47**	*eP*		**P**		01 41 45.0	+1.7
	comp=Z,12nm,0.8s									
J05D	**Fort Rock, OR**	**77.43**	**48**		P	**P**		01 41 44.9	+1.5
	baz=296									
N02D	**Trinity Center**	**77.44**	**50**		P	**P**		01 41 45.0	+1.5
	baz=296,SNR=5.2									
M04C	**Macdoel**	**77.68**	**49**		P	**P**		01 41 46.1	+1.3
	baz=296,SNR=5.7									
O02D	**Mt. Diablo Mer**	**77.73**	**51**		P	**P**		01 41 46.7	+1.7
	baz=296									
NEW	**Newport**	**77.77**	**42**		P	**P**		01 41 45.4	+0.5
	comp=Z,4.1nm,0.7s,baz=287,slow=4.3,SNR=9.5									
NEW	**Newport**	**77.77**	**42**	*eP*		**P**		01 41 46.3	+1.4
	comp=Z,5.8nm,0.8s									
NEW	**Newport**	**77.77**	**42**		P	**P**		01 41 46.0	+1.1
	baz=298									
E09A	**Wood Farm, Sta**	**77.95**	**44**	*eP*		**P**		01 41 47.6	+1.6
	comp=Z,6.3nm,0.9s									
G08A	**Pilot Rock**	**78.00**	**45**	*eP*		**P**		01 41 48.0	+1.6
	comp=Z,3.3nm,0.9s									
O03E	**Paynes Creek**	**78.36**	**51**		P	**P**		01 41 49.0	+0.6
	baz=296									
MOD	**Modoc Plateau**	**78.66**	**49**	*eP*		**P**		01 41 48.9	-1.1
	comp=Z,3.4nm,0.8s									
ORV	**Oroville**	**78.89**	**51**	*eP*		**P**		01 41 51.9	+0.8
	comp=Z,3.3nm,0.8s									
J08A	**Circle Bar Ran**	**79.20**	**47**	*eP*		**P**		01 41 54.4	+1.5
	comp=Z,9.5nm,0.6s									
BMO	**Blue Mountains**	**79.25**	**45**	*eP*		**P**		01 41 54.2	+1.2
	comp=Z,4.6nm,0.6s									
BEKR	**Beckworth**	**79.54**	**51**	*eP*		**P**		01 41 56.1	+1.3
	comp=Z,9.9nm,0.7s									
PAHR	**Pah Rah Range**	**80.28**	**50**	*eP*		**P**		01 41 60.0	+1.3
	comp=Z,5.0nm,1.0s									
MSO	**Missoula**	**80.35**	**42**		P	**P**		01 41 59.3	+0.5
	baz=300									
CMB	**Columbia Colle**	**80.36**	**52**	*eP*		**P**		01 42 00.3	+1.3
	comp=Z,4.1nm,0.9s									
AKASG	**Malin Array Be**	**81.23**	**323**		P	**P**		01 42 02.2	-0.9
	comp=Z,1.8nm,0.3s,baz=45,slow=5.0,SNR=9.6									
AKBB	**Malin Array Si**	**81.23**	**323**	*eP*		**P**		01 42 02.2	-0.9
	comp=Z,20nm,1.2s									
KVN	**Kaiserville**	**81.47**	**50**	*eP*		**P**		01 42 06.3	+1.4
	comp=Z,3.6nm,0.6s									
NV01	**Mina Array Sit**	**81.62**	**51**	*eP*		**P**		01 42 06.8	+1.0
NVAR	**Mina Array Bea**	**81.62**	**51**		P	**P**		01 42 07.2	+1.5
	comp=Z,2.4nm,0.5s,baz=298,slow=6.1,SNR=9.5									
NVAR	comp=Z,1.0nm,0.8s,baz=291,slow=7.7,SNR=3.3				pP	**pP**		01 43 55.5	+0.8
HRY	**Holter Researc**	**81.65**	**41**	*eP*		**P**		01 42 06.9	+1.3
HLID	**Hailey**	**81.69**	**45**	*eP*		**P**		01 42 07.4	+1.5
	comp=Z,2.9nm,0.7s									
HLID	**Hailey**	**81.69**	**45**		P	**P**		01 42 07.3	+1.4
	baz=300									
LRM	**Limekiln Ridge**	**81.75**	**42**	*eP*		**P**		01 42 07.7	+1.5
EGMT	**Eagleton**	**82.16**	**40**		P	**P**		01 42 08.8	+0.8
	baz=303									
PKM	**Mcpherson Peak**	**82.22**	**55**		P	**P**		01 42 10.1	+1.3
	baz=298									
HFS	**Hagfors**	**82.33**	**336**		P	**P**		01 42 07.4	-1.2
	comp=Z,5.4nm,0.3s,baz=125,slow=2.9,SNR=40									
NC405	**NORSAR Array S**	**82.33**	**337**	*eP*		**P**		01 42 07.9	-0.7
BOZ	**Bozeman (W)**	**82.36**	**42**	*eP*		**P**		01 42 10.5	+1.3
	comp=Z,2.8nm,0.7s									
BOZ	**Bozeman (W)**	**82.36**	**42**		P	**P**		01 42 10.1	+0.9
	baz=302									
NC204	**NORSAR Array S**	**82.54**	**338**	*eP*		**P**		01 42 09.1	-0.6
NB2	**NORSAR Subarra**	**82.56**	**338**		P	**P**		01 42 08.3	-1.5
	comp=Z,6.3nm,0.5s,baz=46,slow=4.6									
NB2	**NORSAR Subarra**	**82.56**	**338**		P	**P**		01 42 08.3	-1.5
	baz=46,slow=4.6									
NB200	**NORSAR Array S**	**82.56**	**338**	*eP*		**P**		01 42 08.5	-1.3
NOA	**NORSAR Array B**	**82.56**	**338**		P	**P**		01 42 08.5	-1.3
	comp=Z,8.7nm,0.6s,baz=46,slow=4.9,SNR=23									
CWC	**Cedarwood Cre**	**82.73**	**53**		P	**P**		01 42 12.0	+0.7
	baz=299									
ISA	**Isabella, Lake**	**82.82**	**54**		P	**P**		01 42 12.3	+0.6
	baz=299									
GRAC	**Grapevine Rang**	**82.96**	**52**		P	**P**		01 42 13.4	+1.0
	baz=299									
YHB	**Horse Butte**	**83.06**	**43**	*eP*		**P**		01 42 15.0	+2.1
	comp=Z,5.0nm,0.8s									
YMR	**Madison River**	**83.25**	**43**	*eP*		**P**		01 42 15.2	+1.4
	comp=Z,7.8nm,0.8s									
YHH	**Holmes Hill**	**83.25**	**43**	*eP*		**P**		01 42 14.0	+0.1
	comp=Z,2.2nm,0.9s									
MPMC	**Manual Prospec**	**83.33**	**53**		P	**P**		01 42 15.2	+0.8
	baz=299									
RAYN	**Ar Rayn**	**83.37**	**293**	*eP*		**P**		01 42 14.6	0.0
	comp=Z,38nm,0.9s									
RAYN	**Ar Rayn**	**83.37**	**293**	*i*	P	**P**		01 42 14.6	0.0
	SNR=12									
LRMC	**Laurel Mtn Rad**	**83.47**	**53**		P	**P**		01 42 15.9	+0.8
	baz=299									
EDW2	**Edwards Air Fo**	**83.54**	**54**		P	**P**		01 42 16.5	+1.2
	baz=299									
FURC	**Furnace Creek,**	**83.57**	**52**		P	**P**		01 42 16.6	+1.3
	baz=300									
H17A	**Grant Village**	**83.63**	**43**	*eP*		P		01 42 19.3	+3.5
	comp=Z,3.5nm,0.8s									
HVU	**Hansel Valley**	**83.64**	**46**	*eP*		**P**		01 42 17.5	+1.8
	comp=Z,3.5nm,0.7s									
IMW	**Indian Meadow**	**83.67**	**43**	*eP*		**P**		01 42 17.9	+1.9
	comp=Z,4.0nm,0.8s									
FLWY	**Flagg Ranch**	**83.72**	**43**	*eP*		**P**		01 42 18.7	+2.5
	comp=Z,5.4nm,0.8s									
FXWY	**Fox Creek**	**83.76**	**44**	*eP*		**P**		01 42 16.1	-0.3
	comp=Z,1.2nm,0.8s									
TPNV	**Topopah Spring**	**83.77**	**52**	*eP*		**P**		01 42 17.8	+1.3
	comp=Z,4.3nm,0.8s									
TPNV	**Topopah Spring**	**83.77**	**52**		P	**P**		01 42 17.3	+0.8
	baz=300									
MOOW	**Moose Ponds**	**83.87**	**44**	*eP*		**P**		01 42 18.8	+1.9
	comp=Z,1.5nm,0.6s									
TPAW	**Teton Pass**	**83.88**	**44**	*eP*		**P**		01 42 19.0	+2.0
	comp=Z,3.3nm,0.7s									
CIS	**Catalina Islan**	**83.95**	**56**		P	**P**		01 42 18.0	+0.7
	baz=299									
RLMT	**Red Lodge**	**84.02**	**42**	*eP*		**P**		01 42 19.3	+1.7
	comp=Z,6.9nm,0.6s									
RLMT	**Red Lodge**	**84.02**	**42**		P	**P**		01 42 19.2	+1.6
	baz=303									
GSC	**Goldstone, Bar**	**84.19**	**53**	*eP*		**P**		01 42 19.8	+1.3
	comp=Z,4.3nm,0.7s									
GSC	**Goldstone, Bar**	**84.19**	**53**		P	**P**		01 42 19.5	+1.0
	baz=300									
BR101	**Keskin Array S**	**84.42**	**312**	*eP*		**P**		01 42 18.7	-0.9
BRTR	**Keskin Array B**	**84.42**	**312**		P	**P**		01 42 18.7	-0.9
	comp=Z,4.1nm,0.6s,baz=65,slow=3.2,SNR=10									
DUG	**Dugway, Tooele**	**84.44**	**47**	*eP*		**P**		01 42 21.2	+1.5
	comp=Z,2.1nm,0.6s									
DUG	**Dugway, Tooele**	**84.44**	**47**		P	**P**		01 42 20.9	+1.1
	baz=302									
HWUT	**Hardware Ranch**	**84.50**	**46**	*eP*		**P**		01 42 21.7	+1.6
	comp=Z,2.3nm,0.8s									
BBRC	**Big Bear Solar**	**84.62**	**54**		P	**P**		01 42 21.5	+0.6
	baz=300									
MURC	**Murrieta**	**84.74**	**55**		P	**P**		01 42 22.1	+0.9
	baz=300									
SHPR	**Sheep Range**	**84.74**	**52**	*eP*		**P**		01 42 23.0	+1.7
	comp=Z,2.9nm,0.9s									
TUQ	**Turquoise Moun**	**84.75**	**53**		P	**P**		01 42 22.5	+1.2
	baz=300									
LAO	**LASA Array**	**84.89**	**39**		P	**P**		01 42 23.2	+1.5
	baz=305									
PD31	**Pinedale Array**	**85.13**	**44**	*eP*		**P**		01 42 24.4	+1.2
PDAR	**Pinedale Array**	**85.13**	**44**		P	**P**		01 42 24.1	+0.9
	comp=Z,0.5nm,0.5s,baz=255,slow=3.1,SNR=8.1									
PDAR	comp=Z,0.4nm,0.6s,baz=328,slow=3.2,SNR=3.4				pP	**pP**		01 44 17.3	+4.0
PDAR	**Pinedale Array**	**85.13**	**44**	*eP*		**P**		01 42 23.7	+0.5
BUR04	**Bucovina Ar. S**	**85.15**	**322**	*eP*		**P**		01 42 22.5	-0.5
BURAR	**Bucovina Array**	**85.15**	**322**	*i*	P	**P**		01 42 22.6	-0.4
FRD	**Ford Ranch, An**	**85.22**	**55**		P	**P**		01 42 24.6	+0.9
	baz=300									
GMRC	**Granite Mounta**	**85.26**	**53**		P	**P**		01 42 24.8	+1.0
	baz=300									
PFO	**Pinyon Flats O**	**85.27**	**55**	*eP*		**P**		01 42 25.1	+1.2
	comp=Z,5.6nm,0.7s									

PFO	**Pinyon Flats O**	**85.27**	**55**		P	**P**		01 42 24.7	+0.8
	baz=300									
XPFO	**Piæon Flat**	**85.27**	**55**	*eP*		**P**		01 42 25.1	+1.2
	comp=Z,5.6nm,0.7s									
BELC	**Belle Mtn. Jos**	**85.41**	**54**		P	**P**		01 42 25.3	+0.7
	baz=300									
MONP2	**Monument Peak**	**85.66**	**55**		P	**P**		01 42 26.6	+0.7
	baz=300									
IRM	**Iron Mountain**	**85.94**	**54**		P	**P**		01 42 28.1	+1.1
	baz=301									
BC3	**Big Chuckawall**	**85.97**	**54**		P	**P**		01 42 28.3	+1.0
	baz=301									
ASF	**Jabal al Asfar**	**85.98**	**304**		P	**P**		01 42 26.2	-1.1
	comp=Z,2.5nm,0.8s,baz=12,slow=5.4,SNR=3.9									
IKP	**In-Ko-Pah, Jac**	**86.00**	**55**		P	**P**		01 42 28.3	+0.9
	baz=300									
TRPA	**Tarpa**	**86.28**	**324**	‖	*i*P	**P**		01 42 27.7	-0.5
VOIR		**86.53**	**320**	‖	*i*P	**P**		01 42 28.6	-1.0
MMAI	**Mount Meron Ar**	**86.64**	**306**		P	**P**		01 42 29.9	-0.5
	comp=Z,4.7nm,0.6s,baz=61,slow=6.8,SNR=21									
ARR	**Arges**	**86.81**	**320**	‖	*i*P	**P**		01 42 30.8	-0.1
LANS	**Liptovska Anna**	**87.21**	**326**	*eP*		**P**		01 42 33.3	+0.6
MORC	**Moravsky Berou**	**87.75**	**327**	‖	*i*P	**P**		01 42 34.5	-0.7
MORC	**Moravsky Berou**	**87.75**	**327**	*eP*		**P**		01 42 34.5	-0.7
GZR	**Gura Zlata**	**87.83**	**321**	‖	*i*P	P		01 42 27.8	-7.9
VYHS	**Vyhne**	**87.96**	**325**	*eP*		**P**		01 42 35.9	-0.3
JAVC	**Velka Javorina**	**88.30**	**326**	*eP*		**P**		01 42 38.3	+0.5
BZS	**Buzias**	**88.33**	**322**	‖	*i*P	**P**		01 42 35.5	-2.4
VRAC	**Vranov**	**88.53**	**327**		P	**P**		01 42 38.2	-0.6
	comp=Z,3.8nm,0.7s,baz=35,slow=5.5,SNR=8.3									
VRAC	**Vranov**	**88.53**	**327**	‖	*i*P	**P**		01 42 38.5	-0.4
VRAC	**Vranov**	**88.53**	**327**	*eP*		**P**		01 42 38.4	-0.4
SMOL	**Smolenice**	**88.65**	**326**	*eP*		**P**		01 42 39.0	-0.4
KRUC	**Moravsky**	**88.79**	**327**	*eP*		**P**		01 42 39.3	-0.7
CLL	**Collm**	**88.81**	**330**	*eP*		**P**		01 42 39.0	-1.1
MODS	**Modra-Piesok**	**88.82**	**326**	*eP*		**P**		01 42 39.3	-0.9
VTS	**Vitosha**	**89.30**	**319**	‖	*i*P	**P**		01 42 42.3	-0.4
KHC	**Kasperske Hory**	**90.08**	**328**	*eP*		**P**		01 42 45.1	-1.0
	comp=Z,2.1nm,1.0s									
GERES	**GERESS Array B**	**90.23**	**328**		P	**P**		01 42 45.8	-1.0
	comp=Z,1.4nm,0.5s,baz=42,slow=5.4,SNR=15									
GEA0	**GERESS Array S**	**90.23**	**328**	*eP*		**P**		01 42 45.3	-1.5
SDCO	**Great Sand Dun**	**90.53**	**46**		P	**P**		01 42 49.8	+1.1
	baz=306									
ANMO	**Albuquerque**	**91.53**	**49**		P	**P**		01 42 54.9	+1.6
	comp=Z,2.7nm,0.8s,baz=309,slow=3.1,SNR=8.4									
ANMO	**Albuquerque**	**91.53**	**49**	*eP*		**P**		01 42 55.3	+2.0
	comp=Z,2.1nm,0.8s									
ANMO	**Albuquerque**	**91.53**	**49**		P	**P**		01 42 54.6	+1.4
	baz=306									
EKA	**Eskdalemuir Ar**	**91.72**	**340**		P	**P**		01 42 52.7	-0.7
	comp=Z,0.4nm,0.5s,baz=54,slow=3.6,SNR=4.0									
DAVOX	**Davos/Dischmat**	**93.50**	**328**		P	**P**		01 43 01.0	-1.1
	comp=Z,3.5nm,0.8s,baz=36,slow=9.6,SNR=3.9									
LTX	**Lajitas**	**96.74**	**52**	*eP*		**P**		01 43 18.4	+1.4
TXAR	**Lajitas Array**	**96.74**	**52**		P	**P**		01 43 18.4	+1.4
	comp=Z,0.4nm,0.5s,baz=324,slow=2.2,SNR=7.1									
TXAR	comp=Z,0.5nm,0.8s,baz=284,slow=3.6,SNR=4.7				pP	**pP**		01 45 08.6	-0.4
LSZ	**Lusaka**	**116.22**	**266**	*e*	PKPdf	**PKPdf**		01 48 27.4	+0.5
LBTB	**Lobatse**	**121.93**	**256**	*e*	PKPdf	**PKPdf**		01 48 38.0	+0.3
TOA1	**Torodi Ar. Sit**	**122.97**	**310**	*e*	PKPdf	**PKPdf**		01 48 39.0	-0.9
TOA1				*e*	PP	**PP**		01 50 23.6	-2.6
TOA0	**Torodi Ar. Sit**	**122.97**	**310**	*e*	PKPdf	**PKPdf**		01 48 38.3	-1.6
TORD	**Torodi Ar. Bea**	**122.97**	**310**		PKP	**PKPdf**		01 48 39.0	-0.9
	comp=Z,2.7nm,0.9s,baz=30,slow=1.5,SNR=20									
TORD	comp=Z,0.9nm,1.0s,baz=20,slow=4.7,SNR=4.2				PP	**PP**		01 50 23.6	-2.6
BOSA	**Boshof**	**123.26**	**252**		PKP	**PKPdf**		01 48 39.5	-0.6
	comp=Z,2.2nm,0.4s,baz=62,slow=2.5,SNR=10									
MOTC	**Monteria, Cord**	**129.91**	**49**	*e*	P	SKPbc		01 51 27.6	-1.1
SNAA	**Sanae**	**131.35**	**195**		PKP	**PKPdf**		01 48 53.8	-0.4
SNAA	**Sanae**	**131.35**	**195**		PP	PP		01 51 31.3	+11
SNAA	**Sanae**	**131.35**	**195**	*e*	PKPdf	**PKPdf**		01 48 53.8	-0.4
DBIC	**Dimbokro**	**132.08**	**310**		PKP	**PKPdf**		01 48 57.2	0.0
	comp=Z,4.3nm,0.9s,baz=28,slow=3.9,SNR=5.0									
DBIC	comp=Z,5.1nm,0.7s,baz=4.1,slow=3.7,SNR=12				SKPbc	**SKPbc**		01 51 35.9	-0.6
DBIC	**Dimbokro**	**132.08**	**310**	*e*	PKPdf	**PKPdf**		01 48 57.2	0.0
DBIC				*e*	SKPbc	**SKPbc**		01 51 36.5	-0.1
VNA2	**Neumayer--Watz**	**132.90**	**194**		PKP	**PKPdf**		01 48 57.1	0.0
	baz=88,slow=0.9									
VNA2	**Neumayer--Watz**	**132.90**	**194**		PP	PP		01 51 37.0	+7.1
	baz=108,slow=1.9									
SDV	**Santo Domingo

KERU				*e*			01 37 41.1				
KERU	**Kerch**	**2.49**	**306**	*e*Pn		**Pn**	**01 37 20.2**	**+1.8**			
KERU				*e*Sn		**Sb**	**01 37 54.1**	**+0.9**			
NEY	**Neytrino**	**2.56**	**103**⇑	*e*PN		**Pn**	**01 37 22.4**	**+2.7**			
NEY	**Neytrino**	**2.56**	**103**	*e*Pn		**Pb**	**01 37 23.5**	**-1.1**			
NEY				*e*Sn		**Sb**	**01 37 56.6**	**+0.9**			
KBZ	**Khabaz**	**2.61**	**92**	Pn		**Pn**	**01 37 22.2**	**+2.1**			
	comp=N,3.6nm,0.3s,baz=276,slow=7.4,SNR=52										
KBZ				Sn		**Sb**	**01 38 00.6**	**+3.9**			
	comp=N,8.0nm,0.3s,baz=66,slow=14,SNR=3.6										
PYA1	**Pyatigorsk**	**2.75**	**85**	*e*PN		**Pn**	**01 37 19.2**	**-2.9**			
PYA1	**Pyatigorsk**	**2.75**	**85**	*e*Pn		**Pn**	**01 37 23.3**	**+1.3**			
PYA1				*e*Sn		**Sn**	**01 37 57.3**	**+2.6**			
GOF	**Gofitskoye**	**2.94**	**65**	*e*PN		**Pn**	**01 37 25.1**	**+0.5**			
GOF				*e*S		**Sb**	**01 38 04.1**	**-2.0**			
GOF				pmax	pmax						
	comp=Z,440nm,0.8s										
GOF				smax	smax						
	comp=N,390nm,0.6s										
GOF				smax	smax						
	comp=E,180nm,0.5s										
MACK	**Trabzon**	**2.94**	**173**	*i* P		**Pn**	**01 37 25.0**	**+0.2**			
KBTC	**Kuba-Taba**	**2.98**	**90**	*e*Pn		**Pn**	**01 37 26.9**	**+1.7**			
KBTC				*e*Sn		**Sn**	**01 38 02.8**	**+2.5**			
ESPY	**Espiye-Giresun**	**2.98**	**188**	*e*P		**Pn**	**01 37 24.8**	**-0.4**			
FEO	**Feodosiya**	**3.03**	**294**	*e*PN		**Pn**	**01 37 27.0**	**+1.2**			
FEO				*e*S		**Sn**	**01 38 02.7**	**+1.3**			
FEO				pmax	pmax						
	comp=Z,17nm,0.3s										
FEO				smax	smax						
	comp=N,66nm,0.3s										
FEO				smax	smax						
	comp=E,17nm,0.3s										
FEO	**Feodosiya**	**3.03**	**294**	*e*Pn		**Pn**	**01 37 27.0**	**+1.2**			
FEO				*e*Sn		**Sn**	**01 38 02.7**	**+1.3**			
DBOC	**Borcka**	**3.07**	**144**	*i* P		**Pn**	**01 37 26.2**	**-0.3**			
DBOC				*i* S		**Sn**	**01 38 01.0**	**-1.6**			
NCK	**Nalchik**	**3.14**	**95**⇑	*e*PN		**Pn**	**01 37 29.1**	**+1.7**			
NCK	**Nalchik**	**3.14**	**95**	*e*Pn		**Pn**	**01 37 28.4**	**+1.0**			
NCK				*e*Sn		**Sn**	**01 38 06.2**	**+1.8**			
SUDU	**Sudak**	**3.25**	**290**⇑	*e*PN		**Pn**	**01 37 28.8**	**0.0**			
SUDU				*e*S		**Sn**	**01 38 07.1**	**+0.3**			
SUDU				pmax	pmax						
	comp=Z,33nm,0.3s										
SUDU				smax	smax						
	comp=E,77nm,0.6s										
SUDU	**Sudak**	**3.25**	**290**	*e*Pn		**Pn**	**01 37 28.8**	**0.0**			
SUDU				*e*Sn		**Sn**	**01 38 07.1**	**+0.3**			
DIGR	**Digorskoe uzhe**	**3.27**	**106**⇓	*e*PN		**Pn**	**01 37 32.3**	**+2.9**			
DIGR	**Digorskoe uzhe**	**3.27**	**106**	*e*Pn		**Pn**	**01 37 32.8**	**+3.5**			
DIGR				*e*Sn		**Sb**	**01 38 12.6**	**-3.4**			
ONI	**Oni**	**3.29**	**111**	P		**Pn**	**01 37 32.2**	**+2.6**			
ONI				S		**Sb**	**01 38 20.6**	**+4.1**			
ONI	**Oni**	**3.29**	**111**	*e*PN		**Pn**	**01 37 32.2**	**+2.6**			
ONI				*e*S		**Sb**	**01 38 20.6**	**+4.1**			
ARTV	**Artvin**	**3.31**	**143**	*i* P		**Pn**	**01 37 29.8**	**-0.1**			
ARTV				*i* S		**Sn**	**01 38 08.4**	**-0.4**			
LSNR	**Lesken**	**3.34**	**99**	*de*PN		**Pn**	**01 37 33.2**	**+3.0**			
LSNR	**Lesken**	**3.34**	**99**	*e*Pn		**Pn**	**01 37 33.3**	**+3.0**			
LSNR				*e*Sn		**Sn**	**01 38 13.8**	**+4.4**			
DBAD	**Bademkaya**	**3.35**	**147**	*i* P		**Pn**	**01 37 30.8**	**+0.4**			
DBAD				*i* S		**Sn**	**01 38 07.2**	**-2.5**			
DAGI	**Agillar**	**3.39**	**144**	*i* P		**Pn**	**01 37 31.0**	**+0.1**			
EPOS	**Posof**	**3.46**	**132**	*i* P		**Pn**	**01 37 33.0**	**+1.1**			
DDEM	**Demirkent**	**3.48**	**148**	*i* P		**Pn**	**01 37 33.3**	**+1.1**			
DDEM				*i* S		**Sn**	**01 38 12.8**	**-0.1**			
STDR	**Stavd-Durt**	**3.50**	**97**⇓	*e*PN		**Pn**	**01 37 38.2**	**-2.1**			
ZEI	**Tsey**	**3.53**	**106**⇓	*e*P		**Pn**	**01 37 36.4**	**+3.5**			
ZEI	**Tsey**	**3.53**	**106**⇓	*e*PN		**Pn**	**01 37 36.4**	**+3.5**			
ZEI	**Tsey**	**3.53**	**106**	*e*Pn		**Pn**	**01 37 36.4**	**+3.5**			
ZEI				*e*Sn		**Sn**	**01 38 18.4**	**+4.3**			
KORR	**Kora**	**3.56**	**101**	*de*PN		**Pn**	**01 37 34.9**	**+1.7**			
KORR	**Kora**	**3.56**	**101**	*e*Pn		**Pn**	**01 37 34.9**	**+1.7**			
KORR				*e*Sn		**Sn**	**01 38 18.6**	**+3.9**			
ALU	**Alushta**	**3.61**	**285**	*e*PN		**Pn**	**01 37 33.7**	**-0.1**			
ALU				*e*S		**Sn**	**01 38 15.7**	**-0.1**			
ALU				smax	smax						
	comp=E,94nm,0.4s										
ALU				smax	smax						
	comp=N,36nm,0.3s										
ALU	**Alushta**	**3.61**	**285**	*e*Pn		**Pn**	**01 37 33.7**	**-0.1**			
ALU				*e*Sn		**Sn**	**01 38 15.7**	**-0.1**			
PRTR	**Priterechnaya**	**3.61**	**90**⇓	*e*PN		**Pn**	**01 37 37.6**	**+3.8**			
PRTR	**Priterechnaya**	**3.61**	**90**	*e*Pn		**Pn**	**01 37 36.0**	**+2.2**			
PRTR				*e*Sn		**Sn**	**01 38 19.6**	**+3.7**			
BAYB	**BAYBURT**	**3.67**	**168**	*i* P		**Pn**	**01 37 36.3**	**+1.3**			
ARNR	**Ardon**	**3.69**	**99**⇑	*e*PN		**Pn**	**01 37 38.8**	**+3.8**			
ARNR	**Ardon**	**3.69**	**99**	*e*Pn		**Pn**	**01 37 36.3**	**+1.3**			
ARNR				*e*Sn		**Sn**	**01 38 22.9**	**+5.0**			
KELT	**Kelkit**	**3.71**	**180**	*i* P		**Pn**	**01 37 36.0**	**+0.5**			
YAL	**Yalta**	**3.75**	**281**	*e*Pn		**Pn**	**01 37 37.1**	**+1.3**			
YAL				*e*Sn		**Sn**	**01 38 18.8**	**-0.5**			
LACR	**Lac**	**3.79**	**104**⇑	*e*PN		**Pn**	**01 37 38.9**	**+2.4**			
LACR	**Lac**	**3.79**	**104**	*e*Pn		**Pn**	**01 37 38.0**	**+1.5**			
LACR				*e*Sn		**Sn**	**01 38 21.1**	**+0.6**			
BTKR	**Batakoyurt**	**3.84**	**96**⇑	*e*PN		**Pn**	**01 37 39.2**	**+2.1**			
BTKR	**Batakoyurt**	**3.84**	**96**	*e*Pn		**Pn**	**01 37 39.1**	**+2.0**			
SIM	**Simferopol'**	**3.87**	**288**	*e*PN		**Pn**	**01 37 37.4**	**0.0**			
SIM				S		**Sn**	**01 38 23.3**	**+1.1**			
SIM				pmax	pmax						
	comp=Z,36nm,0.3s										
SIM	**Simferopol'**	**3.87**	**288**	*e*Pn		**Pn**	**01 37 37.4**	**0.0**			
SIM				*e*Sn		**Sn**	**01 38 23.3**	**+1.1**			
TRKR	**Terskaya**	**3.94**	**90**⇓	*e*PN		**Pn**	**01 37 41.7**	**+3.4**			
TRKR	**Terskaya**	**3.94**	**90**	*e*Pn		**Pn**	**01 37 41.7**	**+3.4**			
TRKR				*e*Sn		**Sn**	**01 38 26.3**	**+2.4**			
KOPT	**Kop Dagi**	**3.95**	**166**	*i* P		**Pn**	**01 37 41.5**	**+2.8**			
AKH	**Akhalkalaki**	**3.95**	**127**	*e*P		**Pn**	**01 37 40.4**	**+1.7**			
AKH	**Akhalkalaki**	**3.95**	**127**	P		**Pn**	**01 37 40.4**	**+1.7**			
AKH	**Akhalkalaki**	**3.95**	**127**	*e*Pn		**Pn**	**01 37 41.3**	**+2.6**			
AKH				*e*Sn		**Sn**	**01 38 26.5**	**+1.9**			
AKH	**Akhalkalaki**	**3.95**	**127**⇑	*i*P		**Pn**	**01 37 42.3**	**+3.6**			
AKH	**Akhalkalaki**	**3.95**	**127**	*e*Pn		**Pn**	**01 37 41.3**	**+2.6**			
AKH				*e*			01 38 26.5				
AKH	**Akhalkalaki**	**3.95**	**127**	*e*Pn		**Pn**	**01 37 41.3**	**+2.6**			
VLKR	**Vladikavkaz**	**4.00**	**100**⇑	*e*PN		**Pn**	**01 37 40.5**	**+1.2**			
VLKR	**Vladikavkaz**	**4.00**	**100**	*e*Pn		**Pn**	**01 37 40.5**	**+1.2**			
SENK	**Senkaya-Erzuru**	**4.01**	**144**	*e*P		**Pn**	**01 37 41.1**	**+1.6**			
GUDG	**Gudauri**	**4.04**	**109**	P		**Pb**	**01 37 48.3**	**-1.4**			
TOKT	**Tokat**	**4.09**	**211**	*e*P		**Pn**	**01 37 40.3**	**-0.2**			
SEV	**Sevastopol'**	**4.10**	**281**	*e*PN		**Pn**	**01 37 39.5**	**-1.1**			
SEV				*e*S		**Sn**	**01 38 26.7**	**-1.3**			
SEV				pmax	pmax						
	comp=Z,12nm,0.3s										
SEV				smax	smax						
	comp=N,33nm,0.3s										
SEV				smax	smax						
	comp=E,13nm,0.3s										
SEV	**Sevastopol'**	**4.10**	**281**	*e*Pn		**Pn**	**01 37 39.5**	**-1.1**			
SEV				*e*Sn		**Sn**	**01 38 26.7**	**-1.3**			
BGD	**Bogdanovka**	**4.11**	**128**	P		**Pn**	**01 37 43.1**	**+2.2**			
EUZM	**Uzumlu**	**4.17**	**176**	*i* P		**Pn**	**01 37 44.9**	**+3.2**			
KARS	**Kars**	**4.28**	**138**	*e*P		**Pn**	**01 37 45.6**	**+2.3**			
HOMI	**Horasan**	**4.29**	**152**	*i* P		**Pn**	**01 37 45.2**	**+1.9**			
SVSK	**Karacayir**	**4.30**	**204**	*e*P		**Pn**	**01 37 43.6**	**+0.2**			
BZK	**Bozkurt**	**4.33**	**246**	*e*P		**Pn**	**01 37 42.0**	**-1.7**			
EAK	**Akyaka**	**4.51**	**133**	*i* P		**Pn**	**01 37 48.4**	**+2.1**			
YEDI	**Yedisu-Bingol**	**4.52**	**168**	*e*P		**Pn**	**01 37 48.1**	**+1.5**			
TBLG	**Delisi**	**4.54**	**116**	*e*Pn		**Pn**	**01 37 48.8**	**+2.2**			
TBLG	**Delisi**	**4.54**	**116**	*e*PN		**Pn**	**01 37 48.8**	**+2.2**			
TBLG	**Delisi**	**4.54**	**116**	*e*Pn		**Pn**	**01 37 48.8**	**+2.2**			
GROC	**Groznyy**	**4.77**	**96**⇓	*e*PN		**Pn**	**01 37 47.9**	**-1.9**			
GROC	**Groznyy**	**4.77**	**96**	*e*Pn		**Pn**	**01 37 48.6**	**-1.2**			
GROC				*e*Sn		**Sn**	**01 38 41.5**	**-3.0**			
PTK	**Pertek**	**4.97**	**179**	*e*P		**Pn**	**01 37 54.1**	**+1.3**			
VRTB	**Varto-Mus**	**4.97**	**160**	*e*P		**Pn**	**01 37 54.7**	**+2.0**			
EKAR	**Karacoban**	**5.05**	**155**	*i* P		**Pn**	**01 37 58.1**	**+4.2**			
DVE	**Vedeno**	**5.06**	**98**	*e*Pn		Pn	01 37 59.7	+5.9			
DVE				*e*Sn		**Sn**	**01 38 57.2**	**+5.6**			
CORM	**Corum**	**5.07**	**225**	*e*P		**Pn**	**01 37 53.0**	**-1.0**			
AGRB	**Hanur-Agry**	**5.10**	**146**	*e*P		**Pn**	**01 37 56.9**	**+2.4**			
BTLR	**Botlikh**	**5.20**	**101**⇓	*e*PN		**Pn**	**01 37 58.4**	**+2.7**			
BTLR	**Botlikh**	**5.20**	**101**	*e*Pn		**Pn**	**01 37 58.5**	**+2.7**			
BTLR				*e*Sn		**Sn**	**01 38 52.9**	**-2.2**			
GNI	**Garni**	**5.50**	**131**	Pn		**Pn**	**01 38 03.6**	**+3.7**			
	comp=E,0.0nm,0.3s,baz=273,slow=19,SNR=1.9										
GNI				Pg		**Pb**	**01 38 14.1**	**-0.4**			
	comp=E,0.5nm,0.3s,baz=38,slow=19,SNR=3.9										
GNI				LR		LR	01 40 15.0				
	comp=E,109nm,20.4s,baz=291,slow=40										
GNI	**Garni**	**5.50**	**131**	*e*Pn		Pn	01 38 05.2	+5.2			
GNI				Pg		**Pb**	**01 38 14.2**	**-0.4**			
GNI	**Garni**	**5.50**	**131**⇓	*e*P		**Pn**	**01 38 03.2**	**+3.2**			
GNI	**Garni**	**5.50**	**131**	*e*Pn		**Pn**	**01 38 03.2**	**+3.2**			
BR101	**Keskin Array S**	**5.92**	**228**	*e*Pn		**Pn**	**01 38 06.0**	**+0.4**			
BR101				*e*Sn		**Sn**	**01 39 13.3**	**+0.4**			
BR131	**Keskin Array S**	**5.92**	**228**	*e*Pn		**Pn**	**01 38 06.1**	**+0.4**			
BR131				*e*Sn		**Sn**	**01 39 13.2**	**+0.3**			
BRTR	**Keskin Array B**	**5.92**	**228**	Pn		**Pn**	**01 38 06.0**	**+0.4**			
	comp=E,2.3nm,0.3s,baz=50,slow=11,SNR=64										
BRTR				Sn		**Sn**	**01 39 13.3**	**+0.4**			
	comp=E,0.1nm,0.3s,baz=72,slow=14,SNR=2.1										
KAMT	**Kaman**	**6.14**	**225**	*e*P		**Pn**	**01 38 08.6**	**-0.1**			
AFSR	**Af˙ar-Bala (A**	**6.42**	**229**	*e*P		**Pn**	**01 38 12.7**	**+0.1**			
YAYX	**Yaylak**	**6.42**	**222**	*e*P		**Pn**	**01 38 12.9**	**+0.3**			
VORD	**Divnogorie**	**7.10**	**360**	*e*P		**Pn**	**01 38 23.8**	**+2.0**			
VORD				*e*S		**Sn**	**01 39 42.2**	**+0.4**			
VORD				pmax	pmax						
	comp=Z,8.0nm,0.4s										
VORD				smax	smax						
	comp=N,90nm,0.8s										
VSR	**Storozhevoye**	**7.36**	**359**⇓	*i*P		**Pn**	**01 38 24.9**	**-0.3**			
VSR				pmax	pmax						
	comp=Z,16nm,0.8s										
KIZT	**Kizilcal**	**7.48**	**231**	*e*P		**Pn**	**01 38 26.7**	**-0.4**			
VRH	**Novokhopyorsk**	**7.52**	**12**	*e*P		**Pn**	**01 38 27.6**	**+0.1**			
VRH				*e*S		**Sn**	**01 39 52.2**	**+0.1**			
VRH				pmax	pmax						
	comp=Z,10.0nm,0.6s										
VRH				smax	smax						
	comp=E,120nm,1.0s										
TLCR		**7.61**	**284**⇑	*i*P		**Pn**	**01 38 33.1**	**+4.4**			
TLCR		**7.61**	**284**	⇑P		**Pn**	**01 38 33.1**	**+4.4**			
TIRR	**Tirgusor**	**7.85**	**278**	*e*Pn		**Pn**	**01 38 30.1**	**-1.9**			
TIRR				*e*Sn		**Sn**	**01 39 54.7**	**-5.5**			
TIRR	**Tirgusor**	**7.85**	**278**⇑	*i*P		**Pn**	**01 38 35.4**	**+3.4**			
TIRR	**Tirgusor**	**7.85**	**278**	*e*P		**Pn**	**01 38 30.1**	**-1.9**			
TIRR				*e*			01 39 54.7				
MILM	**Milestii Mici**	**7.99**	**296**	*i*P		**Pn**	**01 38 36.8**	**+2.9**			
CFR	**Carcaliu**	**8.08**	**283**⇑	*i*P		**Pn**	**01 38 37.2**	**+2.0**			
CFR	**Carcaliu**	**8.08**	**283**	⇑P		**Pn**	**01 38 37.2**	**+2.0**			
HARR	**Harsova**	**8.20**	**280**⇓	*i*P		**Pn**	**01 38 39.0**	**+2.2**			
HARR	**Harsova**	**8.20**	**280**	⇓P		**Pn**	**01 38 39.0**	**+2.2**			
LEOM	**Leova**	**8.23**	**292**⇑	*i*P		**Pn**	**01 38 39.1**	**+1.8**			
LEOM	**Leova**	**8.23**	**292**	⇑P		**Pn**	**01 38 39.1**	**+1.8**			
LPSR	**Galich'ya Gora**	**8.74**	**359**	*e*P		**Pn**	**01 38 44.6**	**+0.3**			
LPSR				*e*S		**Sn**	**01 40 15.8**	**-6.4**			
LPSR				pmax	pmax						
	comp=Z,10.0nm,1.0s										
LPSR				smax	smax						
	comp=E,50nm,0.9s										
VRI	**Vrincioaia**	**9.15**	**287**⇑	*i*P		**Pn**	**01 38 47.7**	**-2.2**			
VRI	**Vrincioaia**	**9.15**	**287**	⇑P		**Pn**	**01 38 47.7**	**-2.2**			
PLOR	**Plostina**	**9.20**	**287**⇑	*i*P		**Pn**	**01 38 48.1**	**-2.5**			
PLOR	**Plostina**	**9.20**	**287**	⇑P		**Pn**	**01 38 48.1**	**-2.5**			
ISR	**Istrita**	**9.20**	**282**⇑	*i*P		**Pn**	**01 38 48.3**	**-2.4**			
ISR	**Istrita**	**9.20**	**282**	⇑P		**Pn**	**01 38 48.3**	**-2.4**			
GIRR	**Girov**	**9.52**	**293**⇑	*i*P		**Pn**	**01 38 50.9**	**-4.0**			
SGRR	**Singureni**	**9.60**	**277**⇑	*i*P		**Pn**	**01 38 52.2**	**-3.9**			
MLR	**Muntele Rosu**	**9.65**	**284**	Pn		**Pn**	**01 38 55.7**	**-1.2**			
	comp=E,0.5nm,0.3s,baz=351,slow=7.4,SNR=11										
MLR	**Muntele Rosu**	**9.65**	**284**	*e*Pn		**Pn**	**01 38 56.5**	**-0.4**			
MLR				*e*Sn		**Sn**	**01 40 40.4**	**-4.3**			
MLR	**Muntele Rosu**	**9.65**	**284**⇑	*i*P		**Pn**	**01 38 52.9**	**-4.0**			
MLR	**Muntele Rosu**	**9.65**	**284**	*e*P		**Pn**	**01 38 56.5**	**-0.4**			
MLR				*e*			01 40 40.4				
AKASG	**Malin Array Be**	**9.67**	**319**	Pn		**Pn**	**01 38 55.6**	**-1.3**			
	comp=E,3.3nm,0.3s,baz=128,slow=11,SNR=5.4										
AKASG				Sn		**Sn**	**01 40 37.2**	**-7.6**			
	comp=E,2.3nm,0.3s,baz=129,slow=24,SNR=4.5										
AKBB	**Malin Array Si**	**9.67**	**319**	*e*Pn		**Pn**	**01 38 55.6**	**-1.3**			
AKBB				*e*Sn		**Sn**	**01 40 37.2**	**-7.6**			
AKBB	**Malin Array Si**	**9.67**	**319**	*e*P		**Pn**	**01 38 55.7**	**-1.3**			
AKBB				*e*			01 40 37.3				
KIEV	**Kiev**	**9.67**	**318**⇑	*e*P		**Pn**	**01 38 58.1**	**+1.1**			
KIEV				pmax	pmax						
	comp=E,3.0nm,0.6s										
BIZ	**Bicaz**	**9.78**	**293**⇑	*i*P		Pn	01 38 53.4	-5.1			
DOPR	**Dopca**	**10.09**	**287**⇑	*i*P		Pn	01 38 56.6	-6.2			
VOIR		**10.28**	**284**⇑	*i*P		Pn	01 38 58.7	-6.7			
VOIR		**10.28**	**284**	⇑P		Pn	01 38 58.7	-6.7			
BURAR	**Bucovina Array**	**10.53**	**296**⇓	*i*P		Pn	01 39 01.0	-7.9			
BURAR	**Bucovina Array**	**10.53**	**296**	⇓P		Pn	01 39 01.0	-7.9			
BUR04	**Bucovina Ar. S**	**10.53**	**296**	*e*Pn		**Pn**	**01 39 06.3**	**-2.6**			
BUR08	**Bucovina Ar. S**	**10.55**	**296**	*e*Pn		**Pn**	**01 39 06.6**	**-2.6**			
ARR	**Arges**	**10.56**	**283**⇓	*i*P		Pn	01 39 01.0	-8.3			
LOT	**Lotru**	**11.18**	**284**⇑	*i*P		Pn	01 39 07.1	-11			
OBN	**Obninsk**	**11.40**	**352**	Sn		**Sn**	**01 41 21.4**	**-5.7**			
	comp=Z,0.3nm,0.3s,baz=17,slow=20,SNR=1.8										
OBN	**Obninsk**	**11.40**	**352**	Sn		**Sn**	**01 41 21.4**	**-5.7**			
OBN	**Obninsk**	**11.40**	**352**⇓	*e*P		**Pn**	**01 39 21.8**	**+1.3**			
OBN				pmax	pmax						
	comp=Z,4.0nm,0.5s										
VTS	**Vitosha**	**11.81**	**269**	*e*Pn		Pn	01 39 18.1	-8.3			
VTS	**Vitosha**	**11.81**	**269**	*e*P		Pn	01 39 18.1	-8.3			
KWP	**Kalwaria Pacla**	**12.74**	**303**	*e*Pn		**Pn**	**01 39 36.7**	**-2.4**			
KWP	**Kalwaria Pacla**	**12.74**	**303**	*e*P		**Pn**	**01 39 36.7**	**-2.4**			
DIVS	**Divibare**	**13.91**	**278**	*e*Pn		**Pn**	**01 39 54.9**	**-0.1**			
AKTO	**Aktyubinsk**	**14.31**	**56**	Pn		**Pn**	**01 39 57.0**	**-3.5**			
	comp=Z,1.0nm,0.3s,baz=253,slow=11,SNR=18										
AKTO				Sn		Sn	01 42 26.9	-12			
	comp=Z,0.0nm,0.3s,baz=108,slow=16,SNR=2.2										
AKTO	**Aktyubinsk**	**14.31**	**56**	P		**Pn**	**01 39 57.0**	**-3.5**			
AKTO				pmax	pmax						
	comp=Z,1.0nm,0.3s										
AB31	**Akbulak array**	**15.17**	**62**	*i* P		**P**	**01 40 20.1**	**+3.1**			
AB31				pmax	pmax						
	comp=Z,9.0nm,0.5s										
ABKAR	**Akbulak array**	**15.17**	**62**	*e*Pn		**Pn**	**01 40 10.6**	**-1.4**			
ARU	**Arti**	**17.54**	**37**⇑	*e*P		**Pn**	**01 40 42.7**	**+0.5**			
ARU				pmax	pmax						
	comp=Z,9.0nm,1.3s										
PRGR	**Permogore**	**18.19**	**10**	*e*P		**Pn**	**01 40 49.1**	**-1.0**			
PRGR				pmax	pmax						
	comp=Z,20nm,0.8s										
GERES	**GERESS Array B**	**18.32**	**295**	P		**P**	**01 40 51.6**	**-0.3**			
	comp=Z,0.1nm,0.3s,baz=32,slow=7.3,SNR=3.6										
CLL	**Collm**	**19.16**	**302**	*e*(pP)		**Pn**	**01 41 04.0**	**+2.0**			
CLL	**Collm**	**19.16**	**302**	*e*P		**Pn**	**01 41 04.0**	**+2.0**			
FIA0	**FINESS Array S**	**19.28**	**341**	*e*P		**P**	**01 41 01.4**	**-0.8**			
FIA0	**FINESS Array S**	**19.28**	**341**	*e*P		**P**	**01 41 01.4**	**-0.8**			
FIA1	**FINESS Array S**	**19.28**	**341**	*e*P		**P**	**01 41 00.8**	**-1.4**			
	comp=Z,18nm,1.2s										
FINES	**FINESS Array B**	**19.28**	**341**	P		**P**	**01 41 01.4**	**-0.8**			
	comp=Z,0.4nm,0.3s,baz=146,slow=13,SNR=13										
SQTA	**Sankt Quirin**	**19.91**	**290**	*e*P		**Pn**	**01 41 13.1**	**+2.0**			
	comp=Z,2.6nm,0.5s										
MOTA	**Moosalm**	**19.98**	**290**	*e*Pn		**P**	**01 41 11.3**	**+1.1**			
	comp=Z,1.8nm,0.6s										
RETA	**Reutte**	**20.21**	**290**	*e*P		Pn	01 41 14.6	0.0			
	comp=Z,2.6nm,0.6s										
FETA	**Feichten**	**20.24**	**289**	*e*P		Pn	01 41 16.1	+1.0			
	comp=Z,4.0nm,0.8s										
FUORN	**Ofenpass-Fuorn**	**20.58**	**288**	*e*P		**P**	**01 41 17.9**	**+1.1**			
	comp=Z,4.9nm,0.8s										
DAVA	**Damuels**	**20.82**	**290**	*i* Pn		**P**	**01 41 20.3**	**+1.1**			
DAVOX	**Davos/Dischmat**	**20.83**	**288**	P		**P**	**01 41 19.2**	**-0.3**			
	comp=Z,2.6nm,0.5s,baz=72,slow=9.6,SNR=7.6										
BRVK	**Borovoye**	**22.36**	**55**	*e*P		**P**	**01 41 35.1**	**-0.5**			
	comp=Z,6.6nm,0.9s										
BRVK	**Borovoye**	**22.36**	**55**	*de*P		**P**	**01 41 36.4**	**+0.8**			
BRVK				pmax	pmax						
	comp=Z,10.0nm,1.6s										
BVAR	**Borovoye Array**	**22.41**	**55**	P		**P**	**01 41 37.7**	**+1.5**			
	comp=Z,4.8nm,0.9s,baz=251,slow=12,SNR=8.7										
HFS	**Hagfors**	**22.44**	**325**	P		**P**	**01 41 36.4**	**0.0**			
	comp=Z,1.4nm,0.3s,baz=125,slow=13,SNR=9.6										
KK31	**Karatay Array**	**22.60**	**81**	*e*P		**P**	**01 41 39.2**	**+0.9**			
KK31	**Karatay Array**	**22.60**	**81**	*e*P		**P**	**01 41 39.2**	**+0.9**			
KKAR	**Karatay Array**	**22.60**	**81**	*e*P		**P**	**01 41 39.2**	**+1.0**			
KKAR	**Karatay Array**	**22.60**	**81**	*e*P		**P**	**01 41 39.3**	**+1.0**			
SENIN	**Lac Senin/Sane**	**22.64**	**288**	*e*P		**P**	**01 41 36.8**	**-2.1**			
	comp=Z,3.7nm,0.8s										
NB201	**NORSAR Array S**	**23.93**	**326**	*e*P		**P**	**01 41 50.3**	**-1.2**			
NB200	**NORSAR Array S**	**23.96**	**326**	*e*P		**P**	**01 41 51.5**	**-0.3**			
NOA	**NORSAR Array B**	**23.96**	**326**	P		**P**	**01 41 51.5**	**-0.3**			
	comp=Z,0.7nm,0.5s,baz=125,slow=9.3,SNR=3.4										
NBO00	**NORSAR Array S**	**24.14**	**325**	*e*P		**P**	**01 41 52.3**	**-1.1**			
NC204	**NORSAR Array S**	**24.27**	**326**	*e*P		**P**	**01 41 53.7**	**-1.0**			
AAK	**Ala-Archa**	**25.55**	**80**	P		**P**	**01 42 08.5**	**+1.9**			
	comp=Z,2.5nm,0.8s,baz=1.1,slow=22,SNR=4.1										
AAK	**Ala-Archa**	**25.55**	**80**⇑	*e*P		**P**	**01 42 08.4**	**+1.8**			
AAK				pmax	pmax						
	comp=Z,4.0nm,1.0s										
ARA0	**ARCESS Array S

DDA 15 02:08:47.8, 37.°34N × 37.°13E, h7km, Ml3.0
ISK 15 02:08:47.0, 37.°35N × 37.°13E, h8km, ML2.4/8
ISC 15 02:08:47.5±0.9, 37.°33N±0.°03 × 37.°13E±0.°03, h11km±8km, n19, σ0s44/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.17**	**157**	PG	**Pg**	**02 08 51.1**	**-0.2**
GAZ				SG	**Sg**	**02 08 54.5**	**+0.5**
KMRS	**Kahramanmaras**	**0.25**	**314**	PG	**Pg**	**02 08 52.4**	**-0.3**
KMRS				SG	**Sg**	**02 08 56.4**	**+0.1**
KUZU	**Kuzuini**	**0.56**	**184**	*i* P	**Pb**	**02 08 59.0**	**-0.3**
KUZU				*i* S	**Sb**	**02 09 06.9**	**-0.4**
ANDN	**Andirin**	**0.67**	**292**	*i* P	**Pg**	**02 09 00.6**	**0.0**
ANDN				*i* S	**Sg**	**02 09 08.9**	**-0.6**
ATAB	**Bozova**	**0.94**	**81**	*i* P	**Pb**	**02 09 05.8**	**0.0**
ELBS	**KAHRAMANMARAS**	**0.99**	**0**	*i* P	**Pb**	**02 09 06.8**	**0.0**
KOZT	**Kozan**	**1.05**	**279**	PG	**Pg**	**02 09 07.6**	**-0.1**
SAIM	**ADANA**	**1.05**	**308**	*i* P	**Pb**	**02 09 08.0**	**+0.2**
SAIM				*i* S	**Sn**	**02 09 22.8**	**-0.3**
AKCD	**Akcadag**	**1.15**	**33**	*i* P	**Pb**	**02 09 09.5**	**0.0**
TAHT	**Tahtakopru-Hat**	**1.22**	**219**	PN	**Pg**	**02 09 11.0**	**+0.1**
SURC	**SANLIURFA_SURC**	**1.27**	**110**	*i* P	**Pg**	**02 09 11.8**	**-0.1**
DARE	**Darende-Malaty**	**1.27**	**13**	PN	**Pb**	**02 09 11.5**	**0.0**
URFA	**Urfa**	**1.35**	**85**	PN	**Pn**	**02 09 12.7**	**+0.3**
HEKM	**Malatya_Hekimh**	**1.68**	**23**	*i* P	**Pg**	**02 09 20.4**	**+0.6**
BNN	**Bunyan**	**1.83**	**327**	PN	**Pn**	**02 09 19.6**	**+0.6**
CUSAR	**Sarkisla-SIVAS**	**2.20**	**342**	*i* P	**Pg**	**02 09 29.3**	**-0.4**
KEMA	**Kemaliye**	**2.21**	**29**	*i* P	**Pg**	**02 09 28.8**	**-1.2**
PTK	**Pertek**	**2.37**	**48**	PN	**Pn**	**02 09 27.1**	**+0.6**
DIYA	**Diyarbakir**	**2.45**	**75**	*i* P	**Pg**	**02 09 34.3**	**-0.1**

ISCJB 15 02:14:30.9±0.3, 60.°34N±0.°02 × 16.°28E±0.°03, h0km, Error ellipse: s-maj=3.5km s-min=1.9km az=6.9
NAO 15 02:14:31.7±0.9, 60.°22N × 16.°26E, ML1.8
UPP 15 02:14:31.9±0.0, 60.°33N × 16.°25E, h0km, ML2.1
IDC 15 02:14:32.0±1.0, 60.°22N × 16.°29E, h0km, mb1 3.5/2, mb1mx3.0/39, mbtmp3.4/2, ML2.3/3, Error ellipse: s-maj=17.1km s-min=5.3km az=167.0
HEL 15 02:14:32.5±0.0, 60.°33N × 16.°24E, h0km, ML1.9, ML2.1(UPP)
BER 15 02:14:34.4±3.1, 60.°20N × 16.°29E, h0km±16km, ML2.0, ML1.8(NAO)
ISC 15 02:14:31.6±0.7, 60.°32N±0.°02 × 16.°24E±0.°02, h0km, n54, σ1s18/95, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FALU	**Falun**	**0.26**	**311**	P	**Pg**	**02 14 37.2**	**+0.5**
FALU				S	**Sg**	**02 14 40.5**	**+0.5**
FALU	**Falun**	**0.26**	**311**	*i* P	**Pg**	**02 14 37.2**	**+0.5**
FALU				*i* S	**Sg**	**02 14 40.5**	**+0.5**
OSTU	**Oestervaala**	**0.46**	**101**	P	**Pg**	**02 14 40.6**	**+0.3**
OSTU				S	**Sg**	**02 14 46.5**	**+0.3**
OSTU	**Oestervaala**	**0.46**	**101**	*i* P	**Pg**	**02 14 40.6**	**+0.3**
OSTU				*i* S	**Sg**	**02 14 46.5**	**+0.3**
BACU	**Backbrunna**	**0.64**	**137**	P	**Pg**	**02 14 44.0**	**+0.2**
BACU				S	**Sg**	**02 14 52.2**	**+0.1**
BACU	**Backbrunna**	**0.64**	**137**	*i* P	**Pg**	**02 14 44.0**	**+0.2**
BACU				*i* S	**Sg**	**02 14 52.2**	**+0.1**
FIBU	**Brunna**	**0.70**	**127**	P	**Pg**	**02 14 45.0**	**0.0**
FIBU				S	**Sg**	**02 14 54.3**	**+0.3**
IGGU	**Iggoen**	**0.77**	**44**	P	**Pg**	**02 14 46.2**	**-0.1**
IGGU				S	**Sg**	**02 14 56.0**	**-0.2**
IGGU	**Iggoen**	**0.77**	**44**	*i* P	**Pg**	**02 14 46.2**	**-0.1**
IGGU				*i* S	**Sg**	**02 14 56.0**	**-0.2**
UPP	**Uppsala**	**0.84**	**123**	P	**Pg**	**02 14 47.5**	**-0.2**
UPP				S	**Sg**	**02 14 58.5**	**0.0**
UPP	**Uppsala**	**0.84**	**123**	*i* P	**Pg**	**02 14 47.5**	**-0.2**
UPP				*i* S	**Sg**	**02 14 58.5**	**0.0**
NRAU	**Nora**	**0.97**	**219**	P	**Pg**	**02 14 50.0**	**0.0**
NRAU	**Nora**	**0.97**	**219**	*e*P	**Pg**	**02 14 50.0**	**0.0**
FORU	**Forsmark**	**0.97**	**85**	P	**Pg**	**02 14 49.8**	**-0.4**
FORU				S	**Sg**	**02 15 02.6**	**0.0**
FORU	**Forsmark**	**0.97**	**85**	*e*P	**Pg**	**02 14 49.8**	**-0.4**
FORU				*e*S	**Sg**	**02 15 02.6**	**0.0**
ESKU	**Eskilstuna**	**1.10**	**176**	P	**Pg**	**02 14 52.5**	**-0.1**
ESKU	**Eskilstuna**	**1.10**	**176**	*e*P	**Pg**	**02 14 52.5**	**-0.1**
ROTU	**Roteberg**	**1.12**	**350**	P	**Pg**	**02 14 52.5**	**-0.5**
ROTU	**Roteberg**	**1.12**	**350**	*e*P	**Pg**	**02 14 52.5**	**-0.5**
HFS	**Hagfors**	**1.28**	**263**	Pg	**Pg**	**02 14 55.4**	**-0.7**
	2.0nm,0.3s,baz=87,slow=18,SNR=48						
HFS				Lg	Lg	02 15 12.9	
	1.6nm,0.3s,baz=93,slow=14,SNR=12						
HFS	**Hagfors**	**1.28**	**263**	Pg	**Pg**	**02 14 55.6**	**-0.5**
	baz=77,slow=14						
HFS				Lg	Lg	02 15 12.3	
	baz=91,slow=37						
HFS	**Hagfors**	**1.28**	**263**	Pg	**Pg**	**02 14 55.6**	**-0.5**
	baz=77,slow=14						
HFS				Sg	**Sg**	**02 15 12.3**	**-0.4**
	baz=91,slow=37						
NRTU	**Norrtaelje**	**1.37**	**117**	P	**Pg**	**02 14 57.3**	**-0.5**
NRTU	**Norrtaelje**	**1.37**	**117**	*e*P	**Pg**	**02 14 57.3**	**-0.5**
NYNU	**Nynaeshamn**	**1.60**	**145**	P	**Pn**	**02 15 01.4**	**+0.4**
NYNU	**Nynaeshamn**	**1.60**	**145**	*e*P	**Pn**	**02 15 01.4**	**+0.4**
AAL	**Aland**	**1.88**	**93**	*e*P	**Pn**	**02 15 05.1**	**+0.2**
AAL				*e*S	**Sn**	**02 15 29.6**	**+0.3**
NC602	**NORSAR Array S**	**2.36**	**282**	*e*P	**Pn**	**02 15 12.6**	**+1.1**
NC602				*e*S	**Sb**	**02 15 43.3**	**-1.2**
NC602				IAML		02 15 47.1	
	comp=Z,120nm,0.3s						
NRA0	**NORESS Array S**	**2.36**	**282**	Pn	**Pn**	**02 15 12.6**	**+1.1**
	baz=93,slow=12						
NRA0				Lg	Lg	02 15 44.3	
	baz=102,slow=37						
NRA0	**NORESS Array S**	**2.36**	**282**	Pn	**Pn**	**02 15 12.6**	**+1.1**
	baz=93,slow=12						
NRA0				Sg	**Sb**	**02 15 44.3**	**-0.2**
	baz=102,slow=37						
NB201	**NORSAR Array S**	**2.54**	**289**	*e*P	**Pn**	**02 15 15.3**	**+1.3**
NC303	**NORSAR Array S**	**2.55**	**293**	*e*P	**Pn**	**02 15 15.5**	**+1.3**
NC303				*e*S	**Sb**	**02 15 48.8**	**-1.3**
NB2	**NORSAR Subarra**	**2.57**	**288**	Pn	**Pn**	**02 15 15.8**	**+1.2**
	baz=108,slow=14						
NB2				Pg	**Pb**	**02 15 19.1**	**+0.5**
NB2				Lg	Lg	02 15 50.2	
	baz=102,slow=37						
NB2	**NORSAR Subarra**	**2.57**	**288**	Pn	**Pn**	**02 15 15.8**	**+1.2**
	baz=108,slow=14						
NB2				Pg	**Pb**	**02 15 19.1**	**+0.5**
NB2				Sg	**Sb**	**02 15 50.2**	**-0.6**
	baz=102,slow=37						
NOA	**NORSAR Array B**	**2.57**	**288**	Pn	**Pn**	**02 15 15.7**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=137,slow=9.2,SNR=9.1						
NOA				Sn	**Sn**	**02 15 45.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=108,slow=8.0,SNR=8.6						
NAO01	**NORSAR Array S**	**2.69**	**284**	*e*P	**Pn**	**02 15 16.8**	**+0.7**
NAO01				*e*S	**Sn**	**02 15 51.7**	**+2.3**
NAO01				IAML		02 15 57.2	
	comp=Z,6.0nm,0.3s						
NBO00	**NORSAR Array S**	**2.78**	**287**	*e*P	**Pn**	**02 15 18.0**	**+0.7**
NBO00				*e*S	**Sn**	**02 15 51.7**	**+0.2**
NBO00				IAML		02 16 00.7	
	comp=Z,3.8nm,0.1s						
RAF	**Rauma**	**2.81**	**73**	*e*P	**Pn**	**02 15 18.7**	**+1.0**
RAF				*e*S	**Sn**	**02 15 53.8**	**+1.6**
RAF				MSG		02 15 59.0	
	comp=Z,4.4nm,0.1s						
NC204	**NORSAR Array S**	**2.85**	**292**	*e*P	**Pn**	**02 15 19.4**	**+1.0**
STRU	**Stroemstad**	**2.87**	**245**	*e*P	**Pn**	**02 15 19.2**	**+0.7**
STRU				*e*S	**Sn**	**02 15 53.4**	**-0.3**
KONO	**Kongsberg**	**3.40**	**261**	*e*P	**Pn**	**02 15 26.3**	**+0.4**
MEF	**Metsahovi**	**4.07**	**88**	*e*P	**Pn**	**02 15 36.1**	**+1.1**
MEF				*e*S	**Sn**	**02 16 22.3**	**-0.9**
MEF				MSG		02 16 41.4	
	comp=Z,2.0nm,0.1s						
VAF	**Ylistaro**	**4.10**	**46**	*e*P	**Pn**	**02 15 37.4**	**+2.0**
VAF				*e*S	**Sn**	**02 16 24.8**	**+0.7**
KEF	**Keuruu**	**4.56**	**62**	*e*P	**Pn**	**02 15 43.1**	**+1.3**
KEF				*e*S	**Sn**	**02 16 35.2**	**-0.2**
KEF				MSG		02 16 56.1	
	comp=Z,1.4nm,0.1s						
PVF	**Pernaja**	**4.77**	**83**	*e*P	**Pn**	**02 15 45.8**	**+1.1**
PVF				*e*S	**Sn**	**02 16 40.5**	**-0.1**
FIA0	**FINESS Array S**	**4.94**	**73**	Pn	**Pn**	**02 15 48.6**	**+1.7**
	baz=260,slow=12						
FIA0				Sn	**Sn**	**02 16 44.0**	**-0.7**
	baz=266,slow=22						
FIA0				Lg	Lg	02 17 02.0	
	baz=261,slow=28						
FIA0	**FINESS Array S**	**4.94**	**73**	*e*P	**Pn**	**02 15 48.1**	**+1.2**
FIA0				*e*S	**Sn**	**02 16 44.0**	**-0.7**
FIA0	**FINESS Array S**	**4.94**	**73**	Pn	**Pn**	**02 15 48.6**	**+1.7**
	baz=260,slow=12						
FIA0				Sn	**Sn**	**02 16 44.0**	**-0.7**
	baz=266,slow=22						
FIA0				Sg	**Sb**	**02 17 02.0**	**+3.4**
	baz=261,slow=28						
FINES	**FINESS Array B**	**4.94**	**73**	Pn	**Pn**	**02 15 48.3**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=261,slow=12,SNR=26						
FINES				Pg	**Pb**	**02 15 57.4**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=263,slow=13,SNR=5.8						
FINES				Sn	**Sn**	**02 16 43.6**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=258,slow=21,SNR=5.2						
FINES				Lg	Lg	02 17 03.8	
	comp=Z,0.8nm,0.3s,baz=259,slow=26,SNR=8.6						
FIA1	**FINESS Array S**	**4.94**	**73**	*e*P	**Pn**	**02 15 47.6**	**+0.7**
FIA1				*e*S	**Sn**	**02 16 44.0**	**-0.6**
BSD	**Bornholm Skovb**	**5.27**	**188**	*i* P	**Pn**	**02 15 51.1**	**-0.4**
BSD				*i* S	**Sn**	**02 16 50.9**	**-2.0**
SUF	**Sumiainen**	**5.32**	**59**	*e*P	**Pn**	**02 15 53.5**	**+1.3**
SUF				*e*S	**Sn**	**02 16 53.0**	**-1.0**
OUF	**Merijarvi**	**5.67**	**41**	*e*P	**Pn**	**02 15 57.8**	**+0.9**
OUF				*e*S	**Sn**	**02 17 01.1**	**-1.5**
ARCES	**ARCESS Array B**	**10.03**	**19**	Pn	**Pn**	**02 16 56.0**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=205,slow=13,SNR=3.8						
ARCES				Sn	**Sn**	**02 18 42.7**	**-7.1**
	comp=Z,0.1nm,0.3s,baz=206,slow=24,SNR=2.6						

HEL 15 02:15:24.6±0.2, 67.°82N × 20.°31E, h0km, ML1.2, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LANU	**Lannavaara**	**0.68**	**69**	PG	Pg	02 15 36.8	-0.7
LANU				SG	Sg	02 15 45.5	-0.8
KIF	**Kilpisjarvi**	**1.20**	**9**	MSG		02 16 02.2	
	comp=Z,2.0nm,0.2s						
KIF				SN	Sn	02 16 07.7	+2.0
HEF	**Hetta**	**1.39**	**63**	PG	Pg	02 15 49.5	-1.7
	baz=236						
HEF				MSG		02 16 06.3	
	comp=Z,1.4nm,0.2s						
HEF				SG	Sg	02 16 08.0	-1.1
ERTU	**Ertsjaerv**	**1.47**	**149**	PG	Pn	02 15 50.9	-1.3
	baz=323						
ERTU				SN	Sg	02 16 10.9	-0.7
KALU	**Kalix**	**2.31**	**147**	SG	Sb	02 16 35.7	-0.3
TOF	**Tornio**	**2.36**	**136**	PG	Pb	02 16 06.8	-1.0
	baz=318						
TOF				MSG		02 16 34.3	
	comp=Z,1.4nm,0.2s						
TOF				SG	Sb	02 16 37.6	+0.2
SGF	**Sodankyl**	**2.41**	**96**	SG	Sb	02 16 39.7	+0.7
RNF	**Rovaniemi**	**2.53**	**116**	PB	Pn	02 16 08.4	+1.5
RNF				SG	Sb	02 16 42.3	-0.2
ARE0	**ARCESS Array S**	**2.56**	**45**	PB	Pn	02 16 08.9	+1.5
ARE0				SB	Sb	02 16 41.6	-1.9
VRF	**Varrio**	**3.54**	**87**	PN	Pn	02 16 18.4	-2.3

IDC 15 02:32:45.3±0.8, 5.°69S × 151.°71E, h0km, mb4.2/12, mb1 4.5/13, mb1mx4.2/40, mbtmp4.3/13, ML2.5/1, MS3.5/13, Ms1 3.5/13, ms1mx3.3/29, Error ellipse: s-maj=23.6km s-min=16.8km az=115.0
NEIC 15 02:32:50.5±0.3, 5.°76S × 151.°72E, h35km, mb4.4/11, Error ellipse: s-maj=11.1km s-min=6.4km az=117.0
ISCJB 15 02:32:51.3±0.4, 5.°79S±0.°06 × 151.°66E±0.°07, h57km, mb4.3/18, MS3.5/12, Error ellipse: s-maj=11.6km s-min=6.6km az=33.4
ISC 15 02:32:52.9±0.6, 5.°70S±0.°07 × 151.°69E±0.°09, h57km, n46, σ2s32/47, mb4.2/18, MS3.5/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.58**	**18**	*e*Pn	**Pn**	**02 33 18.1**	**-0.5**
RABL				*e*Sn	**Sn**	**02 33 34.7**	**-3.3**
MANU	**Manus Island**	**5.64**	**310**	*e*Pn	Pn	02 34 20.0	+5.7
PMG	**Port Moresby**	**5.80**	**230**	Pn	**Pn**	**02 34 14.8**	**-1.7**
	9.2nm,0.3s,baz=48,slow=7.0,SNR=13						
PMG				Sn	**Sn**	**02 35 21.6**	**-0.2**
	16nm,0.3s,baz=283,slow=22,SNR=7.7						
PMG	**Port Moresby**	**5.80**	**230**	*e*Pn	**Pn**	**02 34 16.2**	**-0.3**
PMG				*e*Sn	**Sn**	**02 35 19.7**	**-2.1**
HNR	**Honiara**	**8.99**	**115**	LR	LR	02 38 02.6	
	comp=Z,245nm,21.5s,baz=284,slow=35						
EIDS	**Eidsvold**	**19.56**	**182**	*e*P	**P**	**02 37 15.2**	**-1.0**
	6.6nm,0.9s						
GUMO	**Guam**	**20.33**	**341**	LR	LR	02 43 25.0	
	comp=Z,125nm,21.8s,baz=112,slow=32						
SIJI	**Sorong**	**20.94**	**283**	P	**P**	**02 37 32.0**	**+0.8**
	3.3nm,0.4s,baz=98,slow=11,SNR=4.3						
SIJI				LR	LR	02 47 16.1	
	comp=Z,77nm,20.3s,baz=44,slow=42						
MTN	**Manton Dam**	**21.48**	**249**	*e*P	**P**	**02 37 36.1**	**-0.9**
	19nm,1.0s						
DZM	**Mont Dzumac**	**21.64**	**140**	P	**P**	**02 37 38.7**	**-0.1**
	5.7nm,0.7s,baz=299,slow=15,SNR=4.1						
DZM				LR	LR	02 44 17.7	
	comp=Z,232nm,20.5s,baz=124,slow=32						
DZM	**Mont Dzumac**	**21.64**	**140**	*e*P	**P**	**02 37 38.7**	**-0.1**
	9.8nm,0.9s						
WRAB	**Tennant Creek**	**22.00**	**228**	*e*P	**P**	**02 37 42.0**	**-0.6**
	14nm,0.8s						
WRAB				*e*S	**S**	**02 41 42.6**	**+0.2**
WB2	**Warramunga Arr**	**22.01**	**228**	*e*P	**P**	**02 37 42.2**	**-0.5**
WB2				*e*S	**S**	**02 41 41.6**	**-0.9**
WR1	**Warramunga Arr**	**22.02**	**228**	*e*P	**P**	**02 37 41.2**	**-1.6**
	8.9nm,0.8s						
WR1				*e*ScP	**ScP**	**02 45 18.1**	**+6.0**
WRA	**Warramunga Arr**	**22.02**	**228**	P	**P**	**02 37 41.2**	**-1.6**
	4.7nm,0.5s,baz=55,slow=10,SNR=43						
WRA				ScP	**ScP**	**02 45 18.1**	**+6.0**
	0.6nm,0.8s,baz=49,slow=2.5,SNR=4.9						
ARMA	**Armidale**	**24.59**	**180**	*e*P	**P**	**02 38 05.4**	**-2.5**
	12nm,1.3s						
AS01	**Alice Springs**	**24.71**	**222**	*e*P	**P**	**02 38 08.4**	**-0.6**
AS31	**Alice Springs**	**24.74**	**222**	*e*P	**P**	**02 38 09.1**	**-0.2**
	6.1nm,0.6s						
AS31				*e*ScP	**ScP**	**02 45 27.0**	**+7.6**
ASAR	**Alice Springs**	**24.74**	**222**	P	**P**	**02 38 09.0**	**-0.3**
	8.9nm,0.8s,baz=56,slow=9.1,SNR=55						
ASAR				ScP	**ScP**	**02 45 27.0**	**+7.6**
	0.3nm,0.7s,baz=48,slow=3.7,SNR=4.2						
STKA	**Stephens Creek**	**27.70**	**199**	P	**P**	**02 38 35.7**	**-0.2**
	2.5nm,0.8s,baz=2.9,slow=12,SNR=5.1						
STKA				LR	LR	02 50 02.7	
	comp=Z,77nm,18.5s,baz=182,slow=37						
STKA	**Stephens Creek**	**27.70**	**199**	*e*P	**P**	**02 38 35.7**	**-0.2**
	1.3nm,1.1s						
FITZ	**Fitzroy Crossi**	**28.25**	**242**	P	**P**	**02 38 40.4**	**-0.6**
	8.5nm,0.6s,baz=64,slow=7.5,SNR=43						
FITZ				LR	LR	02 51 43.8	
	comp=Z,121nm,20.0s,baz=43,slow=40						
FITZ	**Fitzroy Crossi**	**28.25**	**242**	*e*P	**P**	**02 38 40.5**	**-0.5**
	14nm,0.8s						
MMRI	**Maumere**	**29.36**	**263**	*e*P	**P**	**02 38 50.3**	**-0.6**
	31nm,0.6s						
MJAR	**Matsushiro Arr**	**43.88**	**344**	LR	LR	02 58 01.2	
	comp=Z,36nm,20.2s,baz=150,slow=35						
USRK	**Ussuriysk Ar.**	**52.75**	**342**	LR	LR	03 03 29.8	
	comp=Z,47nm,18.7s,baz=113,slow=35						
CMAR	**Chiang Mai Arr**	**57.27**	**296**	LR	LR	03 06 50.1	
	comp=Z,50nm,19.2s,baz=186,slow=36						
PETK	**Petropavlovsk-**	**58.81**	**4**	LR	LR	03 08 38.9	
	comp=Z,36nm,18.4s,baz=201,slow=37						
SONA0	**Songino Array**	**66.50**	**329**	*e*P	**P**	**02 43 37.3**	**+0.4**
SONM	**Songino Array**	**66.50**	**329**	P	**P**	**02 43 37.3**	**+0.4**
	1.3nm,1.0s,baz=139,slow=6.4,SNR=6.3						
VNDA	**Vanda**	**71.97**	**178**	P	**P**	**02 44 10.0**	**0.0**
	1.4nm,0.8s,baz=332,slow=5.1,SNR=5.1						
VNDA				LR	LR	03 14 16.5	
	comp=Z,38nm,18.1s,baz=346,slow=35						
MK32	**Makanchi Array**	**80.28**	**319**	*e*P	**P**	**02 44 58.6**	**+0.8**
MKAR	**Makanchi Array**	**80.28**	**319**	P	**P**	**02 44 58.6**	**+0.8**
	0.9nm,0.8s,baz=81,slow=7.5,SNR=3.6						
ZALV	**Zalesovo Beam**	**81.29**	**327**	P	**P**	**02 45 03.2**	**+0.3**
	0.8nm,0.4s,baz=113,slow=6.7,SNR=4.9						
ZALV				LR	LR	03 22 07.2	
	comp=Z,26nm,19.6s,baz=72,slow=36						
ZAA1	**Zalesovo Array**	**81.29**	**327**	*e*P	**P**	**02 45 03.2**	**+0.2**
WRH	**Wood River Hil**	**82.81**	**22**	*e*P	**P**	**02 45 11.5**	**+0.8**
IL1	**Eielson Array**	**83.41**	**22**	*e*P	**P**	**02 45 13.4**	**-0.4**
ILAR	**Eielson Array**	**83.41**	**22**	P	**P**	**02 45 13.8**	**0.0**
	3.6nm,0.8s,baz=252,slow=5.2,SNR=34						
ILB	**Eielson Array**	**83.41**	**22**	*e*P	**P**	**02 45 13.8**	**0.0**
QSPA	**South Pole Qui**	**84.26**	**180**	*e*P	**P**	**02 45 17.2**	**-1.2**
	34nm,1.3s						
MAW	**Mawson**	**84.31**	**203**	LR	LR	03 18 16.3	
	comp=Z,30nm,22.0s,baz=66,slow=32						
NV01	**Mina Array Sit**	**93.51**	**52**	*e*P	**P**	**02 46 01.3**	**-1.8**
NVAR	**Mina Array Bea**	**93.51**	**52**	P	**P**	**02 46 05.0**	**+1.9**
	0.8nm,0.8s,baz=268,slow=5.1,SNR=4.7						
GERES	**GERESS Array B**	**124.23**	**328**	PKP	**PKPdf**	**02 51 43.8**	**-1.7**
	0.3nm,0.5s,baz=67,slow=3.5,SNR=3.2						
TORD	**Torodi Ar. Bea**	**149.51**	**286**	PKPbc	**PKPbc**	**02 52 36.9**	**-0.1**
	4.4nm,0.9s,baz=103,slow=3.1,SNR=25						
TOA1	**Torodi Ar. Sit**	**149.51**	**286**	*e*PKPbc	**PKPbc**	**02 52 36.9**	**-0.1**

MEX 15 02:33:55.5±0.6, 14.°00N × 92.°44W, h16km±999km, MD4.0
IDC 15 02:34:00.9±1.9, 15.°75N × 91.°94W, h0km, mb3.7/3, mb1 3.9/6, mb1mx3.6/40, mbtmp3.6/6, ML3.5/3, Error ellipse: s-maj=79.0km s-min=16.5km az=36.0
ISC 15 02:33:53.5±1.6, 14.°09N±0.°10 × 92.°47W±0.°08, h10km, n11, σ1s44/14, mb3.8/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.84**	**14**	*i* P	**Pg**	**02 34 10.2**	**+0.6**
THIG				*e*S	**Sg**	**02 34 21.4**	**+0.8**
PCIG		**1.76**	**336**	*e*P	**Pn**	**02 34 22.8**	**-1.3**
PCIG				*i* S	**Sn**	**02 34 45.2**	**-1.3**
APG	**El Apazote**	**2.15**	**65**	Pg	**Pn**	**02 34 30.1**	**+0.6**
	16nm,0.3s,baz=242,slow=7.7,SNR=145						
APG				Lg	Lg	02 34 58.6	
	18nm,0.3s,baz=89,slow=21,SNR=5.7						
CCIG	**Comitan**	**2.20**	**8**	*e*P	**Pn**	**02 34 29.5**	**-0.8**
CCIG				*i* S	**Sn**	**02 34 56.8**	**-0.9**
TGIG		**2.75**	**347**	*e*P	**Pn**	**02 34 38.2**	**+0.5**
TGIG				*e*S	**Sn**	**02 35 10.8**	**-0.1**
CMIG	**Matias Romero**	**3.78**	**322**	Pn	**Pn**	**02 34 51.8**	**-0.1**
	2.8nm,0.3s,baz=113,slow=14,SNR=19						
CMIG				Sn	**Sn**	**02 35 39.8**	**+3.3**
	4.6nm,0.3s,baz=61,slow=19,SNR=7.0						
JTS	**JuntasAbangare**	**8.26**	**116**	Pn	Pb	02 36 07.9	-8.8
	0.7nm,0.3s,baz=228,slow=17,SNR=4.3						
JTS				Sn	Sb	02 37 58.0	+2.8
	0.2nm,0.3s,baz=231,slow=18,SNR=3.1						
TXAR	**Lajitas Array**	**18.37**	**327**	P	P	02 38 02.2	-6.4
	0.1nm,0.3s,baz=137,slow=11,SNR=2.7						
NVAR	**Mina Array Bea**	**33.32**	**321**	P	**P**	**02 40 33.3**	**+1.5**
	0.5nm,0.6s,baz=129,slow=9.3,SNR=5.0						
YKA	**Yellowknife Ar**	**50.84**	**347**	P	**P**	**02 42 52.5**	**-1.5**
	1.4nm,0.6s,baz=153,slow=7.4,SNR=6.3						
ILAR	**Eielson Array**	**62.58**	**337**	P	**P**	**02 44 16.5**	**-1.0**
	0.6nm,0.9s,baz=123,slow=4.4,SNR=4.9						

IDC 15 02:59:54.5±3.9, 13.°65N × 92.°45W, h0km, mb3.7/3, mb1 3.9/6, mb1mx3.6/44, mbtmp3.5/6, ML3.2/3, MS3.1/4, Ms1 3.1/4, ms1mx2.6/36, Error ellipse: s-maj=67.0km s-min=27.1km az=1.0
MEX 15 03:00:00.4±0.5, 13.°86N × 92.°42W, h23km±23km, MD3.9
ISC 15 02:59:59.2±2.5, 14.°0N±0.°1 × 92.°37W±0.°07, h14km±13km, n13, σ1s31/16, mb3.9/3, MS3.1/3, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.91**	**7**	*e*P	**Pg**	**03 00 17.0**	**+0.1**
THIG				*i* S	**Sb**	**03 00 29.4**	**+0.5**
PCIG		**1.89**	**334**	*e*P	**Pn**	**03 00 30.1**	**-0.9**
PCIG				*e*S	**Sn**	**03 00 53.4**	**-1.1**
APG	**El Apazote**	**2.10**	**61**	Pn	**Pn**	**03 00 34.8**	**+0.6**
	5.6nm,0.3s,baz=232,slow=7.5,SNR=36						
APG				Sn	**Sg**	**03 01 06.8**	**-0.2**
	9.4nm,0.3s,baz=73,slow=19,SNR=4.1						
APG				LR	LR	03 01 44.3	
	comp=Z,207nm,20.3s,baz=266,slow=47						
CCIG	**Comitan**	**2.29**	**6**	*e*P	**Pn**	**03 00 36.7**	**0.0**
CCIG				*i* S	**Sn**	**03 01 04.7**	**0.0**
TGIG		**2.86**	**345**	*i* P	**Pn**	**03

KYTH AML AML 03 08 17.6
comp=N,5089µm,0.5s
KYTH Kithira 1.30 349 P **Pb** **03 07 47.5 +0.2**
KYTH S **Sg** **03 08 04.7 -0.9**
KTHR Kythira 1.30 348 P **Pb** **03 07 47.1 -0.2**
IDI Anoyia 1.31 76 P **Pb** **03 07 47.7 +0.3**
comp=N,46nm,0.3s,baz=243,slow=14,SNR=90
IDI S **Sg** **03 08 11.1 +5.2**
comp=N,138nm,0.3s,baz=343,slow=19,SNR=13
IDI LR LR 03 08 36.6
comp=N,334nm,18.0s,baz=116,slow=54
IDI Anoyia 1.31 76 ⇓*iP* **Pg** **03 07 49.1 +0.4**
IDI Anoyia 1.31 76 S **Sg** **03 08 06.3 +0.5**
IACM Heraklion 1.45 77 P **Pg** **03 07 52.2 +0.7**
MNVA Monemvasia 1.71 352 P **Pb** **03 07 54.8 +0.5**
VLI Veliai 1.76 349 P **Pb** **03 07 55.1 0.0**
VLI AML AML 03 08 31.6
comp=N,3509µm,0.6s
VLI AML AML 03 08 38.0
comp=E,4332µm,0.8s
VLI Veliai 1.76 349 P **Pb** **03 07 55.2 +0.1**
LAST Lasithi 1.76 84 P **Pg** **03 07 56.3 -1.1**
LAST AML AML 03 08 46.8
comp=E,4808µm,1.0s
LAST AML AML 03 08 47.5
comp=N,3622µm,0.9s
LAST Lasithi 1.76 84 P **Pg** **03 07 56.3 -1.1**
LAST S **Sb** **03 08 17.9 +0.9**
NPS Neapolis 1.88 81 P **Pb** **03 07 58.0 +0.7**
NPS AML AML 03 08 46.8
comp=N,3863µm,0.9s
NPS AML AML 03 08 47.5
comp=E,4923µm,1.0s
NPS Neapolis 1.88 81 P **Pb** **03 07 58.3 +1.0**
NPS S **Sb** **03 08 21.1 +0.7**
MHLO Agia Marina, M 1.91 27 P **Pb** **03 07 56.9 -0.7**
MHLO AML AML 03 08 35.9
comp=E,13232µm,0.6s
MHLO AML AML 03 08 40.3
comp=N,13068µm,0.8s
MHLO Agia Marina, M 1.91 27 P **Pb** **03 07 56.6 -1.0**
DYR Agios Nikonas 1.95 336 P **Pb** **03 07 58.4 0.0**
DYR AML AML 03 08 38.2
comp=N,1736µm,0.8s
DYR AML AML 03 08 46.6
comp=E,3023µm,0.8s
DYR Agios Nikonas 1.95 336 P **Pb** **03 07 58.4 0.0**
MHLA Plaka, Milos I 1.96 26 P **Pb** **03 07 57.9 -0.7**
MHLA AML AML 03 08 37.5
comp=N,7961µm,0.8s
MHLA AML AML 03 08 39.7
comp=E,8178µm,1.5s
SAP1 Santorini-Akro 2.16 50 P **Pb** **03 08 00.3 -1.7**
SAP1 Santorini-Akro 2.16 50 P **Pb** **03 08 00.3 -1.7**
THR6 Thira Island, 2.16 50 P **Pb** **03 08 00.5 -1.5**
THR6 Thira Island, 2.16 50 P **Pb** **03 08 00.7 -1.3**
THR5 Thira Island, 2.17 48 P **Pb** **03 08 00.5 -1.7**
THR5 Thira Island, 2.17 48 P **Pb** **03 08 00.6 -1.5**
SAP3 Santorini-Thir 2.18 48 P **Pn** **03 08 00.4 +1.6**
SAP3 Santorini-Thir 2.18 48 P **Pb** **03 08 00.6 -1.7**
THR3 Thira Island, 2.20 49 P **Pb** **03 08 00.8 -1.8**
THR3 Thira Island, 2.20 49 P **Pb** **03 08 00.8 -1.8**
SANT Santorini 2.21 51 *eP* **Pn** **03 07 58.5 -0.7**
SANT Santorini 2.21 51 *eP* Pg 03 08 06.3 +0.4
SANT Santorini 2.21 51 ⇑*iP* **Pn** **03 08 00.6 +1.4**
SANT Santorini 2.21 51 S **Sn** **03 08 26.7 +0.7**
SANT Santorini 2.21 51 P **Pn** **03 08 00.9 +1.8**
SANT AML AML 03 08 39.3
comp=N,2567µm,0.9s
SANT AML AML 03 08 42.3
comp=E,2714µm,0.8s
SANT Santorini 2.21 51 P **Pn** **03 08 01.0 +1.8**
SAP2K Karterados 2.23 50 P **Pb** **03 08 01.3 -1.8**
THT2 Imerovigli 2.23 49 P **Pb** **03 08 01.7 -1.4**
THT2 Imerovigli 2.23 49 P **Pb** **03 08 01.9 -1.2**
CMBO Columbo, Santo 2.24 48 P **Pn** **03 08 01.0 +1.5**
CMBO AML AML 03 08 51.0
comp=N,5246µm,1.0s
CMBO AML AML 03 08 58.1
comp=E,4256µm,0.6s
THR2 Thira island, 2.24 49 P **Pn** **03 08 01.1 +1.5**
THR8 Santorini-Mono 2.25 50 P **Pn** **03 08 01.1 +1.5**
THR8 Santorini-Mono 2.25 50 P **Pn** **03 08 01.2 +1.6**
MES2 Methoni 2.26 325 P **Pn** **03 08 01.6 +1.7**
STIA Sitia Lasithi 2.27 84 P **Pb** **03 08 03.7 -0.1**
PYL PYLOS 2.30 326 P **Pn** **03 08 02.0 +1.6**
PYL AML AML 03 08 57.8
comp=N,1226µm,0.7s
PYL AML AML 03 09 03.2
comp=E,1307µm,1.0s
PYL PYLOS 2.30 326 P **Pn** **03 08 01.6 +1.2**
IOSP Ios island 2.35 42 P **Pn** **03 08 02.3 +1.3**
IOSP AML AML 03 08 44.2
comp=N,2995µm,0.7s
IOSP AML AML 03 08 47.2
comp=E,3445µm,0.6s
IOSP Ios island 2.35 42 P **Pn** **03 08 02.4 +1.3**
SERI Serifos 2.36 23 P **Pn** **03 08 02.8 +1.6**
YDRA Hydra 2.36 2 P **Pb** **03 08 04.6 -0.7**
ZKR Zakros 2.36 86 P **Pb** **03 08 04.7 -0.7**
ZKR AML AML 03 09 03.6
comp=N,1164µm,1.5s
ZKR AML AML 03 09 03.8
comp=E,2935µm,0.9s
ZKR Zakros 2.36 86 P **Pb** **03 08 04.7 -0.7**
ANAF Anafi Island 2.41 55 P **Pn** **03 08 03.4 +1.5**
ANAF AML AML 03 08 48.8
comp=N,5374µm,0.5s
ANAF AML AML 03 09 01.4
comp=E,3215µm,0.6s
ANAF Anafi Island 2.41 55 P **Pn** **03 08 03.6 +1.7**
ITM Ithomi 2.47 333 *eP* **Pb** **03 08 05.5 -1.8**
ITM Ithomi 2.47 333 *eP* Pg 03 08 09.4 -1.5
ITM Ithomi 2.47 333 P **Pn** **03 08 04.7 +2.0**
ITM AML AML 03 09 00.4
comp=N,1253µm,0.7s
ITM AML AML 03 09 00.8
comp=E,1229µm,1.2s
ITM Ithomi 2.47 333 P **Pn** **03 08 04.7 +2.0**
VLX Vlachokerasia 2.50 342 P **Pb** **03 08 07.5 -0.3**
VLX AML AML 03 09 01.4
comp=N,2872µm,1.4s
VLX AML AML 03 09 04.3
comp=E,2598µm,0.8s
VLX Vlachokerasia 2.50 342 P **Pb** **03 08 08.7 +0.8**
DID Didima 2.52 358 P **Pn** **03 08 05.6 +2.2**
DID AML AML 03 08 52.8
comp=E,1828µm,0.8s
DID AML AML 03 09 03.0
comp=N,1074µm,0.9s
DID Didima 2.52 358 P **Pn** **03 08 04.6 +1.2**
MES3 Kyparissia 2.63 330 P **Pb** **03 08 08.0 -2.0**
APE Apeiranthos 2.73 40 *eP* **Pn** **03 08 05.9 -0.5**
APE Apeiranthos 2.73 40 *eP* **Pn** **03 08 06.5 +0.1**
APE Apeiranthos 2.73 40 ⇑*iP* **Pn** **03 08 07.2 +0.9**
APE Apeiranthos 2.73 40 S **Sn** **03 08 39.0 +0.1**
APE Apeiranthos 2.73 40 P **Pn** **03 08 07.4 +1.0**
APE AML AML 03 08 59.1
comp=N,1189µm,0.9s
APE AML AML 03 08 59.7
comp=E,1141µm,0.9s
APE Apeiranthos 2.73 40 P **Pn** **03 08 07.3 +0.9**
APE Apeiranthos 2.73 40 *ceP* **Pn** **03 08 07.2 +0.9**
AMGA Amorgos Island 2.77 48 P **Pn** **03 08 08.3 +1.4**
AMGA AML AML 03 09 05.1
comp=E,852µm,0.6s
AMGA AML AML 03 09 08.0
comp=N,959µm,1.1s
AMT Artemida-Makis 2.86 333 P **Pn** **03 08 10.3 +2.1**
AMT AML AML 03 09 09.6
comp=N,1833µm,0.6s
AMT AML AML 03 09 12.7
comp=E,3091µm,0.9s
AMT Artemida-Makis 2.86 333 P **Pn** **03 08 11.0 +2.9**
VLY Voula,Athens 2.88 7 P **Pn** **03 08 10.2 +1.7**
VLY Voula,Athens 2.88 7 P **Pn** **03 08 10.1 +1.7**
ATH Athens Observa 2.99 6 P **Pn** **03 08 12.0 +2.1**
ATH AML AML 03 09 15.1
comp=N,1147µm,1.1s
ATH AML AML 03 09 20.0
comp=E,784µm,1.1s
ATHU Athens Univers 3.00 7 P **Pn** **03 08 11.7 +1.7**
ATHU AML AML 03 09 09.7
comp=E,203µm,0.9s
ATHU AML AML 03 09 17.9
comp=N,422µm,1.1s
ATHU Athens Univers 3.00 7 P **Pn** **03 08 11.9 +2.0**
LTK Loutraki 3.04 354 P **Pn** **03 08 13.6 +2.9**
LTK Loutraki 3.04 354 P **Pn** **03 08 13.4 +2.8**
PTL Penteli 3.08 8 P **Pn** **03 08 13.0 +1.8**
PTL Penteli 3.08 8 P **Pn** **03 08 13.3 +2.1**
KARP Karpathos 3.18 79 *eP* **Pn** **03 08 12.9 +0.4**
KARP Karpathos 3.18 79 *eP* **Pn** **03 08 14.9 +2.4**
KARP Karpathos 3.18 79 P **Pn** **03 08 14.3 +1.8**
KARP Karpathos 3.18 79 P **Pn** **03 08 14.4 +1.9**
KLV Kalavryta, Ach 3.20 343 P **Pn** **03 08 15.6 +2.8**
KLV AML AML 03 09 28.8
comp=N,597µm,0.8s
KLV AML AML 03 09 32.8
comp=E,616µm,1.5s
KLV Kalavryta, Ach 3.20 343 P **Pn** **03 08 15.6 +2.8**
VIL2 Platees 3.22 359 P **Pn** **03 08 13.9 +0.9**
VIL2 AML AML 03 09 11.1
comp=E,745µm,0.7s
VIL2 AML AML 03 09 17.8
comp=N,691µm,0.9s
DRO Drossia 3.24 337 P **Pn** **03 08 16.3 +3.0**
DRO Drossia 3.24 337 P **Pn** **03 08 16.3 +3.0**
RLS Riolos of Patr 3.42 334 P **Pn** **03 08 17.9 +2.2**
RLS Riolos of Patr 3.42 334 P **Pn** **03 08 17.9 +2.2**
LAKA Lakka 3.43 342 P **Pn** **03 08 17.9 +2.0**
LAKA Lakka 3.43 342 P **Pn** **03 08 18.1 +2.2**
EREA Eretria 3.46 8 P **Pn** **03 08 18.1 +1.7**
NIS1 Nisyros Isl. 3.51 62 *eP* **Pn** **03 08 16.9 -0.2**
NIS1 Nisyros Isl. 3.51 62 *eP* **Pn** **03 08 18.1 +1.0**
NIS1 Nisyros Isl. 3.51 62 P **Pn** **03 08 19.1 +2.0**
NIS1 Nisyros Isl. 3.51 62 P **Pn** **03 08 19.1 +2.0**
TRIZ Trizonia 3.52 344 P **Pn** **03 08 19.4 +2.2**
TRIZ Trizonia 3.52 344 P **Pn** **03 08 20.2 +3.0**
KALE Kalithea 3.53 345 P **Pn** **03 08 19.2 +1.8**
KALE Kalithea 3.53 345 P **Pn** **03 08 19.4 +2.0**
SERG Sergoula 3.57 344 P **Pn** **03 08 20.4 +2.5**
SERG Sergoula 3.57 344 P **Pn** **03 08 20.8 +2.9**
EFP Efpalio 3.62 342 P **Pn** **03 08 22.4 +3.9**
EFP Efpalio 3.62 342 P **Pn** **03 08 22.1 +3.6**
LKR Lokris 3.67 356 P **Pn** **03 08 21.2 +2.0**
LKR Lokris 3.67 356 P **Pn** **03 08 20.6 +1.4**
ANX Ano Chora 3.77 343 P **Pn** **03 08 23.5 +2.8**
ANX Ano Chora 3.77 343 P **Pn** **03 08 23.7 +3.0**
BODT Bodrum 3.83 56 *eP* **Pn** **03 08 21.7 +0.3**
BODT Bodrum 3.83 56 *eP* **Pn** **03 08 23.1 +1.7**
DAT Datca 3.86 62 *eP* **Pn** **03 08 22.2 +0.3**
DAT Datca 3.86 62 *eP* **Pn** **03 08 23.1 +1.2**
SMIA Simia 3.89 358 P **Pn** **03 08 24.4 +2.2**
SMIA Simia 3.89 358 P **Pn** **03 08 24.4 +2.2**
PVO Paravola 3.90 339 P **Pn** **03 08 25.1 +2.7**
PVO Paravola 3.90 339 P **Pn** **03 08 25.5 +3.1**
SMG Samos 3.92 45 P **Pn** **03 08 24.1 +1.5**
CHOS Chios island 4.03 32 *eP* **Pn** **03 08 24.4 +0.1**
CHOS Chios island 4.03 32 *eP* **Pn** **03 08 24.0 -0.3**
ARG Arkhangelos 4.09 71 *eP* **Pn** **03 08 25.9 +1.0**
ARG Arkhangelos 4.09 71 *eP* **Pn** **03 08 26.1 +1.0**
ARG Arkhangelos 4.09 71 P **Pn** **03 08 27.0 +2.0**
ARG AML AML 03 09 35.0
comp=E,455µm,1.1s
ARG AML AML 03 09 38.5
comp=N,489µm,1.2s
ARG Arkhangelos 4.09 71 P **Pn** **03 08 26.8 +1.8**
AGG Agios Georgios 4.11 349 *eP* **Pn** **03 08 26.0 +0.7**
AGG Agios Georgios 4.11 349 *eP* **Pn** **03 08 26.0 +0.7**
AGG Agios Georgios 4.11 349 P **Pn** **03 08 27.5 +2.2**
AGG Agios Georgios 4.11 349 P **Pn** **03 08 27.2 +1.9**
EVR Evrytania 4.11 343 P **Pn** **03 08 28.5 +3.2**
EVR Evrytania 4.11 343 P **Pn** **03 08 29.0 +3.7**
MAKR Makrakomi, Fth 4.13 347 P **Pn** **03 08 28.1 +2.5**
SKIA Skiathos 4.17 1 P **Pn** **03 08 27.8 +1.7**
AOS Alonnisos 4.20 6 *eP* **Pn** **03 08 26.3 -0.2**
AOS Alonnisos 4.20 6 *eP* **Pn** **03 08 26.3 -0.2**
AOS Alonnisos 4.20 6 P **Pn** **03 08 27.1 +0.7**
URLA Izmir 4.26 37 *eP* **Pn** **03 08 27.7 +0.3**
URLA Izmir 4.26 37 *eP* **Pn** **03 08 29.5 +2.1**
NEO Neokhori 4.31 359 P **Pn** **03 08 29.1 +1.0**
LKD2 Lefkada island 4.36 331 P **Pn** **03 08 30.2 +1.5**
TSLK Tsoukalades, L 4.39 331 P **Pn** **03 08 31.4 +2.2**
FYTO Fytoko, Volos 4.42 356 P **Pn** **03 08 31.2 +1.7**
TURN Turunc 4.67 65 *eP* **Pn** **03 08 29.5 -3.4**
TURN Turunc 4.67 65 *eP* **Pn** **03 08 31.0 -1.9**
SIGR SIGRI 4.67 25 *eP* **Pn** **03 08 33.7 +0.8**
SIGR SIGRI 4.67 25 *eP* **Pn** **03 08 28.2 -4.7**
SIGR SIGRI 4.67 25 P **Pn** **03 08 33.9 +0.9**
DALY Dalyan (Mu˘la 4.68 66 *eP* **Pn** **03 08 34.1 +1.0**
DALY Dalyan (Mu˘la 4.68 66 *eP* **Pn** **03 08 35.4 +2.3**
THL Klokotos Trika 4.69 347 P **Pn** **03 08 35.6 +2.4**
THL Klokotos Trika 4.69 347 P **Pn** **03 08 34.1 +0.9**
AYDB Zeytinkoy-Aydi 4.71 50 *eP* **Pn** **03 08 34.1 +0.5**
AYDB Zeytinkoy-Aydi 4.71 50 *eP* **Pn** **03 08 36.9 +3.3**
FETY Fethiye 4.95 69 *eP* **Pn** **03 08 38.0 +1.2**
FETY Fethiye 4.95 69 *eP* **Pn** **03 08 39.1 +2.3**
JAN Janina 5.07 338 P **Pn** **03 08 40.6 +2.2**
IGT Igoumenitsa 5.13 333 *ePn* **Pn** **03 08 38.3 -1.0**
IGT *eSn* **Sn** **03 09 36.9 -1.1**
LIT Litokhoron 5.15 353 P **Pn** **03 08 41.0 +1.4**
AKAS Kas 5.25 75 *eP* **Pn** **03 08 42.5 +1.4**
AKAS Kas 5.25 75 *eP* **Pn** **03 08 42.3 +1.2**
AKAS Kas 5.25 75 *eS* **Sn** **03 09 42.4 +1.2**
KZN Kozani 5.45 347 P **Pn** **03 08 46.0 +2.2**
ELL Elmali 5.62 70 *eP* **Pn** **03 08 47.5 +1.4**
ELL Elmali 5.62 70 *eP* **Pn** **03 08 48.0 +1.9**
NEST Nestorio 5.71 342 P **Pn** **03 08 49.2 +1.9**
FNA Florina 5.99 346 *ePn* **Pn** **03 08 51.0 -0.2**
FNA *eSn* **Sn** **03 09 56.3 -3.0**
SWA2 6.00 162 P **Pn** **03 08 52.5 +1.2**
baz=163
SWA2 S **Sn** **03 09 59.0 -0.4**
baz=163
KORT Korkueli 6.03 69 *eP* **Pn** **03 08 53.4 +1.7**
KORT Korkueli 6.03 69 *eP* **Pn** **03 08 55.3 +3.6**
SRS Serrai 6.12 2 *ePn* **Pn** **03 08 53.1 +0.2**
BIA Bitola 6.23 346 *i* Pn **Pn** **03 08 55.8 +1.4**
VAY Valandovo 6.35 355 *ePn* **Pn** **03 08 55.0 -1.0**
ISP Isparta 6.45 62 ⇓*eP* **Pn** **03 08 58.8 +1.3**
KRUS Krusevo 6.58 346 *i* Pn **Pn** **03 08 59.9 +0.6**
MMB Musomiste 6.60 3 *eP* **Pn** **03 09 00.3 +0.8**
TIP Timpagrande 6.72 310 ⇑*iP* **Pn** **03 09 01.5 +0.3**
STIP Stip 6.76 353 *i* Pn **Pn** **03 09 02.5 +0.9**
RZN Rozhen 6.78 9 *eP* **Pn** **03 09 03.7 +1.5**
KKB Krupnik 6.87 358 *eP* **Pn** **03 09 04.7 +1.5**
TIR Tirane 6.91 338 ⇑*iP* **Pn** **03 09 04.3 +0.5**
VTS Vitosha 7.59 359 ⇑*iP* **Pn** **03 09 13.5 +0.3**
DRME Dracevica, Mon 7.89 337 *ePn* **Pn** **03 09 16.4 -0.7**
BARS Barje 7.91 352 *ePn* **Pn** **03 09 16.8 -0.6**
PDG Podgorica 8.09 338 *ePn* **Pn** **03 09 19.1 -0.7**
PDG Podgorica 8.09 338 ⇑*iP* **Pn** **03 09 19.3 -0.5**
PDG Podgorica 8.09 338 *ePn* **Pn** **03 09 17.8 -2.0**
HNAT Natroun 8.15 129 P **Pn** **03 09 21.1 +0.4**
baz=130
CSS Mathiatis 8.20 87 Pn **Pn** **03 09 20.1 -1.4**
CSS Sn **Sn** **03 10 48.3 -5.3**
ZAPS Zavoj 8.29 356 *ePn* **Pn** **03 09 22.4 -0.3**
HCY Herceg Novi 8.35 335 *ePn* **Pn** **03 09 21.6 -1.9**
SELS Selova 8.40 349 *ePn* **Pn** **03 09 22.1 -2.1**
SJES Sjenica 8.66 343 *ePn* **Pn** **03 09 26.7 -1.2**
BOVS Bovan 8.73 352 *ePn* **Pn** **03 09 27.7 -0.9**
BRY Bratogost 8.74 336 *ePn* **Pn** **03 09 27.4 -1.6**
UPM Unac-Piva 8.90 339 *ePn* **Pn** **03 09 30.7 -0.4**
HFRF Wahat Farafira 8.90 150 P **Pn** **03 09 31.1 0.0**
baz=151
GLL Jalalah 8.90 125 P **Pn** **03 09 31.5 +0.4**
baz=126
IVAS Ivanjica 8.93 345 *ePn* **Pn** **03 09 29.1 -2.3**
ANTO Ankara 8.96 54 ⇓*iP* **Pn** **03 09 32.5 +0.6**
GRUS Gruza 9.12 348 *ePn* **Pn** **03 09 32.2 -1.8**
BBLS Lazići 9.37 342 *ePn* **Pn** **03 09 35.2 -2.4**
BBLS Lazići 9.37 342 *ePn* **Pn** **03 09 34.4 -3.2**
DIVS Divibare 9.46 345 *ePn* **Pn** **03 09 36.5 -2.2**
DIVS Divibare 9.46 345 *ePn* **Pn** **03 09 36.0 -2.7**
BRTR Keskin Array B 9.46 57 P **Pn** **03 09 41.0 +2.2**
comp=N,0.3nm,0.3s,baz=220,slow=15,SNR=15
TRUS Trudelj 9.50 347 *ePn* **Pn** **03 09 36.7 -2.5**
SUZ Suez 9.52 120 P **Pn** **03 09 39.0 -0.6**
baz=121
HAPS Han Pijesak,BI 9.70 341 *ePn* **Pn** **03 09 39.5 -2.5**
HAPS Han Pijesak,BI 9.70 341 *ePn* **Pn** **03 09 39.1 -2.9**
HNTI Hanita 10.00 98 Pn **Pn** **03 09 43.6 -2.6**
HNTI Sn **Sn** **03 11 32.1 -5.8**
SLTI Sal'it 10.13 102 Pn **Pn** **03 09 45.8 -2.2**
SLTI Sn **Sn** **03 11 34.6 -6.5**
KZIT Kziot 10.14 111 Pn **Pn** **03 09 46.3 -1.8**
KZIT Sn **Sn** **03 11 34.3 -7.0**
MMA0B Mount Meron ar 10.21 98 Pn **Pn** **03 09 47.6 -1.4**
MMA0B Sn **Sn** **03 11 35.9 -7.1**
MMAI Mount Meron Ar 10.21 98 P **Pn** **03 09 48.5 -0.5**
comp=N,2.4nm,0.3s,baz=310,slow=12,SNR=23
MMAI S **Sn** **03 11 38.2 -4.8**
comp=N,3.7nm,0.3s,baz=310,slow=22,SNR=9.3
AMAZ Amatzia 10.29 106 Pn **Pn** **03 09 47.8 -2.3**
AMAZ Sn **Sn** **03 11 38.3 -6.5**
KSDI Kefar Szold 10.37 96 Sn **Sn** **03 11 40.3 -6.6**
MMLI Mount Malkishu 10.38 101 Pn **Pn** **03 09 49.3 -2.1**
MMLI Sn **Sn** **03 11 40.5 -6.7**
GZR Gura Zlata 10.40 358 ⇑*iP* **Pn** **03 09 50.9 -0.8**
ARR Arges 10.41 5 ⇑*iP* **Pn** **03 09 51.2 -0.6**
NATI Neve Ativ 10.42 96 Pn **Pn** **03 09 50.1 -1.7**
NATI Sn **Sn** **03 11 42.4 -5.7**
LOT Lotru 10.45 2 ⇓*iP* **Pn** **03 09 52.0 -0.4**
YTIR Yattir 10.51 107 Pn **Pn** **03 09 50.3 -2.9**
FRGS Fruska Gora 10.51 346 *ePn* **Pn** **03 09 49.4 -3.7**
VOIR 10.52 7 ⇑*iP* **Pn** **03 09 52.6 -0.7**
HMDT Nahal Hemdat 10.52 102 Pn **Pn** **03 09 50.6 -2.6**
HMDT Sn **Sn** **03 11 44.6 -6.0**
DSI Dead Sea 10.64 105 Pn **Pn** **03 09 53.0 -1.9**
DSI Sn **Sn** **03 11 46.6 -6.9**
MLR Muntele Rosu 10.68 10 P **Pn** **03 09 55.6 +0.1**
comp=N,0.3nm,0.3s,baz=193,slow=14,SNR=6.2
MLR Muntele Rosu 10.68 10 ⇑*iP* **Pn** **03 09 55.1 -0.4**
BZS Buzias 10.70 353 ⇑*iP* **Pn** **03 09 54.3 -1.3**
MZDA Masada 10.72 107 Pn **Pn** **03 09 54.0 -2.0**
MZDA Sn **Sn** **03 11 48.4 -7.1**
BLY Banja Luka 10.83 336 *ePn* **Pn** **03 09 56.1 -1.4**
BLY Banja Luka 10.83 336 ⇑*iP* **Pn** **03 09 57.5 +0.1**
BLY Banja Luka 10.83 336 *ePn* **Pn** **03 09 56.2 -1.2**
PRNI Paran 10.86 112 Pn **Pn** **03 09 55.9 -2.0**
PRNI Sn **Sn** **03 11 52.1 -6.9**
GHAJ Ghor Haditha 10.89 106 Sn **Sn** **03 11 52.9 -6.6**
ZFRI Zfri 10.90 111 Pn **Pn** **03 09 56.2 -2.2**
ZFRI Sn **Sn** **03 11 53.3 -6.5**
HRFI Mount Harif 11.04 113 Pn **Pn** **03 09 58.7 -1.7**
HRFI Sn **Sn** **03 11 56.6 -6.7**
MBRI Mt Berech 11.07 115 Pn **Pn** **03 09 58.7 -2.1**
MBRI Sn **Sn** **03 11 57.3 -6.8**
DOPR Dopca 11.08 7 ⇑*iP* **Pn** **03 10 00.6 -0.2**
PLOR Plostina 11.14 12 ⇑*iP* **Pn** **03 10 02.2 +0.5**
EIL Elat 11.16 115 P **Pn** **03 10 01.2 -0.7**
comp=N,1.4nm,0.3s,baz=157,slow=5.7,SNR=10
EIL S **Sn** **03 12 02.1 -4.1**
comp=N,1.5nm,0.3s,baz=306,slow=19,SNR=5.3
EIL Elat 11.16 115 Pn **Pn** **03 10 00.8 -1.2**
VRI Vrincioaia 11.17 12 ⇓*iP* **Pn** **03 10 02.0 -0.1**
SIRR Siria 11.34 354 ⇓*iP* **Pn** **03 10 04.1 -0.3**
ASF Jabal al Asfar 11.65 100 P **Pn** **03 10 10.9 +2.1**
comp=N,0.4nm,0.3s,baz=248,slow=13,SNR=4.0
ASF S **Sn** **03 12 13.1 -5.4**
comp=N,0.2nm,0.3s,baz=148,slow=22,SNR=3.2
MORH M¯‡r¯igy, Hung 11.77 344 *ePn* **Pn** **03 10 05.5 -4.7**
DRGR 11.80 358 ⇑*iP* **Pn** **03 10 09.9 -0.9**
CRES Cresnjev 12.37 333 *ePn* **Pn** **03 10 15.7 -2.8**
BURAR Bucovina Array 12.69 6 ⇑*iP* **Pn** **03 10 23.5 +0.5**
CEY Cerknica 12.70 330 *ePn* **Pn** **03 10 20.4 -2.6**
KECS Kecovo 13.65 352 *eP* **Pn** **03 10 37.5 +1.5**
KECS Kecovo 13.65 352 *ePN* **Pn** **03 10 37.5 +1.5**
VYHS Vyhne 13.90 347 *eP* **P** **03 10 47.9 +0.4**
VYHS Vyhne 13.90 347 *ePN* **P** **03 10 47.9 +0.4**
MODS Modra-Piesok 14.11 343 *eP* **P** **03 10 49.3 -0.6**
MODS Modra-Piesok 14.11 343 *ePN* **P** **03 10 49.3 -0.6**
KRUC Moravsky 14.97 342 *eP* **P** **03 10 59.0 -0.3**
VRAC Vranov 15.15 343 P **P** **03 11 01.6 +0.2**
comp=N,1.1nm,0.3s,baz=151,slow=8.9,SNR=9.8
VRAC Vranov 15.15 343 ⇑*iP* **Pn** **03 10 56.6 +0.3**
VRAC Vranov 15.15 343 *eP* **P** **03 11 01.6 +0.2**
OKC Ostrava-Krasne 15.32 347 *eP* **P** **03 11 01.6 -1.6**
OKC Ostrava-Krasne 15.32 347 *eP* **P** **03 11 01.6 -1.6**
MORC Moravsky Berou 15.38 346 ⇑*iP* **Pn** **03 10 58.7 -0.7**
MORC Moravsky Berou 15.38 346 *eP* **P** **03 11 04.3 +0.4**
DAVOX Davos/Dischmat 15.54 323 P **P** **03 11 07.8 +1.9**
comp=N,0.3nm,0.3s,baz=46,slow=3.1,SNR=5.1
GERES GERESS Array B 15.57 336 P **Pn** **03 11 00.6 -1.4**
comp=N,0.1nm,0.3s,baz=157,slow=13,SNR=6.0
GERES LR LR 03 18 54.1
comp=N,148nm,19.7s,baz=144,slow=45
KRLC Kraliky 15.82 344 *eP* **P** **03 11 09.7 +0.8**
KRLC Kraliky 15.82 344 *eP* **P** **03 11 09.7 +0.8**
KHC Kasperske Hory 15.86 336 *eP* **P** **03 11 09.2 -0.1**
KHC Kasperske Hory 15.86 336 *eP* **P** **03 11 09.2 -0.1**
DPC Dobruska-Polom 16.18 344 *eP* **P** **03 11 13.1 +0.2**
DPC Dobruska-Polom 16.18 344 *eP* **P** **03 11 13.1 +0.2**
KIEV Kiev 16.27 13 ⇑*eP* **Pn** **03 11 11.5 +0.7**
KIEV pmax pmax
comp=Z,5.0nm,1.2s
AKASG Malin Array Be 16.28 13 P **Pn** **03 11 08.4 -2.5**
comp=Z,0.7nm,0.3s,baz=205,slow=12,SNR=4.2
PRA Prague 16.42 339 *eP* **P** **03 11 16.3 +0.9**
PRA Prague 16.42 339 *eP* **P** **03 11 16.3 +0.9**
NEY Neytrino 17.13 55 ⇑*eP* **P** **03 11 23.1 -0.4**
NEY pmax pmax
comp=Z,1.0nm,0.8s
BRG Berggiesshubel 17.28 340 *eP* **P** **03 11 26.1 +1.2**
comp=Z,11nm,1.5s
BRG Berggiesshubel 17.28 340 *eP* **P** **03 11 26.1 +1.2**
BRG pmax pmax
comp=Z,4.0nm,1.5s
KBZ Khabaz 17.43 54 P **P** **03 11 27.3 +0.7**
comp=Z,0.2nm,0.3s,baz=213,slow=4.8,SNR=7.6
NCK Nalchik 17.81 55 ⇑*eP* **P** **03 11 33.0 +2.1**
CLL Collm 17.94 339 *eP* **P** **03 11 33.0 +0.8**
CLL *e*(sP) **sP** **03 11 39.0 -1.0**
CLL *i* PP **PnPn** **03 11 43.2 +0.5**
comp=Z,13nm,1.1s
CLL Collm 17.94 339 *eP* **P** **03 11 33.0 +0.8**
VORD Divnogorie 19.71 31 *eP* **Pn** **03 11 53.7 +0.6**
VORD pmax pmax
comp=Z,6.0nm,0.7s
VSR Storozhevoye 19.84 30 *eP* **Pn** **03 11 54.5 -0.2**
VSR pmax pmax
comp=Z,8.0nm,0.9s
LPSR Galich'ya Gora 20.82 27 *eP* **P** **03 12 04.9 +1.3**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
VRH Novokhopyorsk 20.95 34 *eP* Pn 03 12 06.8 -0.9
VRH pmax pmax
comp=Z,9.0nm,0.6s
OBN Obninsk 22.12 20 ⇓*eP* **P** **03 12 18.3 +0.8**
OBN *e* 03 12 39.8
OBN pmax pmax
comp=Z,6.0nm,0.4s
OBN MLR MLR
comp=Z,66nm,13.0s
ESDC Sonseca Array 22.17 290 P **P** **03 12 19.6 +1.2**
comp=Z,0.2nm,0.4s,baz=95,slow=11,SNR=3.1
HFS Hagfors 25.93 349 P **P** **03 12 52.6 -1.6**
comp=Z,7.3nm,0.4s,baz=148,slow=9.9,SNR=5.4
FINES FINESS Array B 26.53 3 P **P** **03 12 57.6 -2.1**
comp=Z,1.7nm,0.5s,baz=160,slow=9.9,SNR=8.6
FINES LR LR 03 24 41.5
comp=Z,132nm,18.5s,baz=185,slow=39
NB2 NORSAR Subarra 27.21 347 P **P** **03 13 04.5 -1.3**
comp=Z,1.3nm,0.5s,baz=156,slow=9.3
NOA NORSAR Array B 27.21 347 P **P** **03 13 04.3 -1.5**
comp=Z,0.7nm,0.4s,baz=153,slow=9.5,SNR=11
NOA LR LR 03 25 51.5
comp=Z,102nm,18.4s,baz=175,slow=41
EKA Eskdalemuir Ar 27.34 326 P **P** **03 13 08.9 +2.0**
comp=Z,0.7nm,0.4s,baz=125,slow=9.5,SNR=7.8
EKA Eskdalemuir Ar 27.34 326 P **P** **03 13 09.0 +2.0**
EKA pmax pmax
comp=Z,1.0nm,0.4s
TORD Torodi Ar. Bea 29.25 227 P **P** **03 13 24.9 +0.5**
comp=Z,0.3nm,0.5s,baz=29,slow=9.2,SNR=8.4
TORD LR LR 03 26 47.4
comp=Z,66nm,18.4s,baz=340,slow=40
ARU Arti 32.09 37 P **P** **03 13 50.7 +1.7**
ARU 03 14 53.6
ARU S **S** **03 19 06.1 +6.0**
ARU SS **SnSn** **03 20 57.9 +7.6**
ARCES ARCESS Array B 34.62 1 P **P** **03 14 08.8 -2.3**
comp=Z,1.9nm,0.7s,baz=182,slow=8.1,SNR=11
ARCES LR LR 03 29 19.2
comp=Z,5.4nm,18.2s,baz=186,slow=38
AAK Ala-Archa 40.07 63 ⇑*eP* **P** **03 14 58.0 +0.3**

AAK pmax pmax
comp=Z,4.0nm,1.4s
KURK Kurchatov 42.45 51 *e*P P 03 15 19.1 +2.2
KURK pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 45.11 56 P **P 03 15 37.8 -0.7**
comp=Z,0.8nm,0.4s,baz=269,slow=8.3,SNR=13
NVS Novosibirsk 45.26 45 *e*P P 03 15 37.9 -1.6
ZALV Zalesovo Beam 46.20 46 P **P 03 15 45.2 -1.7**
comp=Z,1.8nm,0.3s,baz=270,slow=7.9,SNR=6.4
PYUN Piuthan 50.66 80 *e*P P 03 16 22.3 +0.4
DANN Dangsing 51.18 80 *e*P P 03 16 25.9 0.0
comp=Z,21nm,0.7s
DMN Daman 52.57 80 *e*P P 03 16 36.4 +0.1
comp=Z,5.4nm,0.4s
PKIN Phulchoki 52.81 80 *e*P P 03 16 37.5 -0.6
PKI Pulchoki 52.83 80 *e*P P 03 16 37.6 -0.7
comp=Z,9.9nm,0.9s
GUN Gumba 53.07 79 *e*P P 03 16 39.9 -0.2
comp=Z,6.0nm,0.4s
JIRN Jiri 53.42 79 *e*P P 03 16 42.3 -0.4
SONM Songino Array 60.74 50 P **P 03 17 33.6 -0.4**
comp=Z,0.6nm,0.5s,baz=278,slow=7.1,SNR=5.5
ULN Ulaanbaatar 61.15 50 *e*P P 03 17 36.5 -0.2
ULN pmax pmax
comp=Z,2.0nm,1.0s
YAK Yakutsk 66.77 29 LR LR 03 51 11.0
comp=Z,51nm,19.6s,baz=104,slow=39
YAK Yakutsk 66.77 29 *e*P P 03 18 15.8 +2.6
YAK pmax pmax
comp=Z,10.0nm,0.5s
CMAR Chiang Mai Arr 68.07 82 P **P 03 18 21.5 -0.7**
comp=Z,0.9nm,0.4s,baz=311,slow=6.8,SNR=3.8
HIA Hailar 68.20 45 *c*P P 03 18 25.2 +2.6
KLR Kul'dur 74.87 40 *e*P P 03 19 02.8 +0.1
WRA Warramunga Arr 118.06 96 PKP **PKPdf 03 26 08.8 -0.7**
comp=Z,0.1nm,0.4s,baz=311,slow=1.9,SNR=7.2

IDC 15 03:08:57.3±3.3, 20°92S×175°66W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.7/30, mbtmp4.0/2, Error ellipse: s-maj=201.7km s-min=41.5km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.55**	**257**	P	P	03 17 27.7	+0.6
	2.3nm,0.8s,baz=98,slow=7.5,SNR=21						
ASAR				PcP	PcP	03 18 59.8	-1.7
	0.4nm,0.6s,baz=119,slow=4.3,SNR=4.1						
WRA	**Warramunga Arr**	**46.71**	**262**	P	P	03 17 27.8	-0.5
	0.9nm,0.5s,baz=97,slow=7.6,SNR=28						
AKASG	**Malin Array Be**	**144.41**	**333**	PKP	PKPdf	03 28 34.8	-0.6
	0.2nm,0.3s,baz=42,slow=4.1,SNR=5.3						
BRTR	**Keskin Array B**	**148.73**	**313**	PKPbc	PKPbc	03 28 47.2	+0.1
	0.4nm,0.8s,baz=124,slow=3.3,SNR=3.2						
GERES	**GERESS Array B**	**151.14**	**347**	PKPbc	PKPbc	03 28 52.2	-0.3
	0.6nm,0.4s,baz=21,slow=4.2,SNR=6.0						

*PRU **15** 03:17:33.9±0.0, 47°.80N×16°.19E, h9km*
*IPEC **15** 03:17:33.2±0.1, 47°.75N×16°.24E, h18km±1km, ML2.1/3, Error ellipse: s-maj=1.0km s-min=0.7km az=123.0*
*VIE **15** 03:17:33.2±0.2, 47°.72N×16°.23E, h14km, mb1.9/6, ml2.5/11, Error ellipse: s-maj=2.1km s-min=1.3km az=130.0 11 km S of Wiener Neustadt felt 4 ems98 near Pitten / Lower Austria felt 4 ems98 near Pitten / Lower Austria*

ISC 15 03:17:33.3±0.9, 47°.76N±0°.02×16°.24E±0°.02, h15km±7km, n35, σ1§08/60, 1C-1D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOP	**Sopron**	**0.23**	**109**	*e*Pg	**Pg**	03 17 38.7	+0.3
SOP				*e*Sg	**Sg**	03 17 42.3	+0.5
CONA	**Conrad Observa**	**0.31**	**304**	*e*Pg	**Pg**	03 17 39.9	+0.1
	53nm,0.2s,SNR=233						
CONA				*e*Sg	**Sb**	03 17 44.9	-0.5
	77nm,0.2s						
ARSA	**Arzberg**	**0.70**	**224**	*e*Pg	**Pg**	03 17 46.5	-0.5
	3.6nm,0.1s,SNR=21						
ARSA				*e*Sg	**Sg**	03 17 55.5	-0.8
	62nm,0.2s						
ZST	**Bratislava**	**0.73**	**53**	*e*PG	**Pg**	03 17 46.6	-0.8
ZST				*e*SG	**Sg**	03 17 56.5	-0.5
MODS	**Modra-Piesok**	**0.93**	**48**	*e*PG	**Pb**	03 17 50.4	-0.7
MODS				*e*SG	**Sg**	03 18 03.8	+0.4
MODS				*e*LG	Lg	03 18 05.9	
SMOL	**Smolenice**	**1.10**	**46**	*e*PG	**Pg**	03 17 55.1	+0.6
SMOL				*e*SG	**Sn**	03 18 09.9	+0.9
KRUC	**Moravsky**	**1.31**	**4**	*e*PG	**Pn**	03 17 57.3	+0.3
KRUC				*e*SG	**Sn**	03 18 14.6	+0.4
KRUC	**Moravsky**	**1.31**	**4**	*e*Pg	**Pn**	03 17 57.3	+0.3
	baz=185						
KRUC				*e*Sg	**Sn**	03 18 14.5	+0.4
	28nm,0.2s,baz=185						
MOA	**Molln**	**1.33**	**275**	*e*Pg	**Pb**	03 17 58.0	0.0
	5.1nm,0.1s,SNR=46						
MOA				Sg	**Sg**	03 18 16.2	-0.1
	16nm,0.2s						
BEHE	**Becsehely**	**1.34**	**164**	*e*Pn	**Pb**	03 17 57.8	-0.3
BEHE				*e*Sn	**Sg**	03 18 16.2	-0.3
SOKA	**Soboth**	**1.36**	**218**	*e*Pg	**Pb**	03 17 58.4	0.0
SOKA				*e*Sn	**Sb**	03 18 14.7	-1.0
	SNR=5.1						
TIH	**Tihany**	**1.42**	**127**	*e*Pn	**Pn**	03 17 58.6	+0.2
JAVC	**Velka Javorina**	**1.46**	**40**	*e*PG	**Pn**	03 17 59.8	+0.7
JAVC				*e*SG	**Sb**	03 18 19.0	+0.5
JAVC	**Velka Javorina**	**1.46**	**40**	*e*Pg	**Pn**	03 17 59.7	+0.7
	baz=221						
JAVC				*e*Sg	**Sb**	03 18 19.0	+0.5
	25nm,0.8s,baz=221						
VRAC	**Vranov**	**1.57**	**8**	*e*PN	**Pn**	03 18 01.0	+0.4
VRAC				*e*SG	**Sb**	03 18 22.5	+0.9
VRAC	**Vranov**	**1.57**	**8**	*e*Pn	**Pn**	03 18 00.9	+0.4
	baz=189						
VRAC				*e*Sg	**Sb**	03 18 22.5	+0.9
	9.6nm,0.2s,baz=189						
TREC	**Trest**	**1.62**	**342**	*e*PG	**Pb**	03 18 02.7	-0.1
TREC				*e*SG	**Sb**	03 18 23.5	+0.5
	comp=Z,22nm,0.3s						
OBKA	**Obir**	**1.70**	**223**	Pg	**Pg**	03 18 05.0	-1.0
	1.6nm,0.3s						
OBKA				Sn	**Sb**	03 18 26.1	+0.6
	9.3nm,0.5s						
VYHS	**Vyhne**	**1.89**	**66**	*e*PG	**Pg**	03 18 09.5	0.0
VYHS				*e*LG	Lg	03 18 37.2	
KBA	**Koelnbreinsper**	**2.08**	**252**	Pg	**Pb**	03 18 11.8	+1.0
	2.5nm,0.2s						
KBA				Sg	**Sg**	03 18 40.4	+0.2
	7.6nm,0.4s						
MYKA	**Terra Mystica**	**2.10**	**238**	Pg	**Pg**	03 18 12.8	-0.8
	1.4nm,0.3s						
MORC	**Moravsky Berou**	**2.19**	**23**	*e*PN	**Pn**	03 18 10.1	+0.9
MORC				*e*SG	**Sb**	03 18 40.7	+1.0
KHC	**Kasperske Hory**	**2.24**	**309**	*e*PN	**Pn**	03 18 10.2	+0.3
KHC				*e*PG	**Pb**	03 18 12.8	-0.7
KHC				*e*SN	**Sn**	03 18 38.2	+0.9
KHC				*e*SG	**Sb**	03 18 42.4	+1.4
	comp=Z,19nm,0.3s						
MORH	**M¨‡r¨igy, Hung**	**2.26**	**132**	*e*PN	**Pn**	03 18 09.8	-0.2
MORH				*e*Sn	**Sn**	03 18 35.4	-2.1
KRLC	**Kraliky**	**2.35**	**9**	*e*PN	**Pn**	03 18 12.5	+1.2
DPC	**Dobruska-Polom**	**2.59**	**1**	*e*SG	**Sg**	03 18 54.9	-1.7
	comp=Z,7.4nm,0.3s						
PRA	**Prague**	**2.60**	**333**	*e*SG	**Sg**	03 18 55.8	-1.1
	comp=Z,11nm,0.4s						
ABTA	**Abfaltersbach**	**2.73**	**250**	Pg	**Pg**	03 18 24.8	-0.8
	2.0nm,0.5s						
ABTA				Sg	**Sg**	03 19 00.4	-0.6
	4.6nm,0.6s						
PVCC	**Panska Ves**	**2.98**	**339**	*e*SG	**Sg**	03 19 07.1	-1.9
	comp=Z,24nm,0.4s						
WATA	**Walderalm**	**3.19**	**264**	*e*Pn	**Pn**	03 18 23.6	+0.6
	0.3nm,0.2s						
SQTA	**Sankt Quirin**	**3.45**	**263**	*e*Pn	**Pn**	03 18 28.9	+2.3
	0.4nm,0.2s						
SQTA				Sg	**Sg**	03 19 26.1	+2.0
	2.5nm,0.3s						
BRG	**Berggiesshuebel**	**3.46**	**335**	SG	**Sg**	03 19 21.6	-2.7
	9.5nm,0.3s						
MOTA	**Moosalm**	**3.50**	**265**	*i* Pn	**Pn**	03 18 29.0	+1.7
	0.2nm,0.1s						
NKC	**Novy Kostel**	**3.52**	**316**	*e*SG	**Sg**	03 19 23.0	-3.1
	comp=Z,17nm,0.5s						
CLL	**Collm**	**4.13**	**331**	*e*Sg	**Sg**	03 19 44.0	-1.8
	comp=Z,13nm,0.6s						

*NIED **15** 03:33:00, 33°.50N×141°.10E, h38km, Mw4.3 Best double couple: M0 2.79000×10^15 NP1:φ=30.00000°, δ=39.00000°, λ=126.00000°. NP2:φ=167.00000°, δ=60.00000°, λ=65.00000°.*
*JMA **15** 03:33:26.7±0.1, 33°.46N×141°.07E, h53km, M4.3*
*ISCJB **15** 03:33:28.4±0.6, 33°.39N±0°.03×140°.87E±0°.05, h60km±4km, mb4.3/39, Error ellipse: s-maj=7.4km s-min=4.5km az=167.6*
*IDC **15** 03:33:29.5±1.4, 33°.37N×140°.92E, h60km±12km, mb3.9/17, mb1 4.1/22, mb1mx4.0/37, mbtmp4.2/22, MS3.3/13, Ms1 3.3/13, ms1mx3.1/47, Error ellipse: s-maj=17.0km s-min=10.1km az=81.0*
*NEIC **15** 03:33:30.1±0.6, 33°.35N×140°.85E, h63km±5km, mb4.5/22, Error ellipse: s-maj=6.4km s-min=5.1km az=68.0*

ISC 15 03:33:27.7±1.3, 33°40N±0°.04×141°03E±0°.07, h44km±11km, n110, σ1§33/114, mb4.3/39, MS3.4/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.06**	**255**	*e*Pn	**Pn**	03 33 46.4	+0.3
JHJ2				*e*Sn	**Sn**	03 33 57.0	-2.6
JHJ2	**Mitsune**	**1.06**	**255**	P	**Pn**	03 33 46.4	+0.3
JHJ2				S	**Sn**	03 34 00.6	+1.0
JHJ	**Hachijo jima 2**	**1.08**	**256**	P	**Pn**	03 33 46.5	0.0
	4µm,0.3s,baz=129,slow=4.1,SNR=822						
JHJ				S	**Sn**	03 34 00.5	+0.2
	2µm,0.3s,baz=53,slow=20,SNR=34						
JHJ				LR	LR	03 34 10.2	
	comp=Z,475nm,18.9s,baz=99,slow=42						
JHCJ	**Hachijojimakas**	**1.08**	**253**	P	**Pn**	03 33 46.5	0.0
BSO1	**Boso 1**	**1.26**	**358**	P	**Pn**	03 33 47.5	-0.8
JMKN	**Mikurajimanish**	**1.30**	**293**	P	**Pn**	03 33 49.2	-0.2
JAOM	**Aogashimamukai**	**1.41**	**229**	P	**Pn**	03 33 51.4	+0.4
JAOM				*e*S	**Sn**	03 34 09.2	+0.7
BSO3	**Boso 3**	**1.47**	**343**	P	**Pn**	03 33 50.9	-0.6
JIM2	**Oshima 3**	**1.87**	**315**	P	**Pn**	03 33 56.4	-0.9
JIM2				S	**Sn**	03 34 17.5	-2.3
JIZS	**Izushimoda**	**2.22**	**307**	P	**Pn**	03 34 02.2	+0.1
JIZS				S	**Sn**	03 34 27.2	-1.1
JOD2	**Odawara 2**	**2.46**	**320**	P	**Pn**	03 34 04.7	-0.7
JOD2				*e*S	**Sn**	03 34 33.3	-1.0
TK02	**Tokai 2**	**2.79**	**282**	P	**Pn**	03 34 10.6	+1.0
TK04	**Tokai 4**	**2.81**	**291**	P	**Pn**	03 34 11.2	+1.2
SHZ3	**Shizuoka 3**	**2.87**	**306**	P	**Pn**	03 34 12.1	+1.0
JYN	**Shimob**	**2.94**	**316**	P	**Pn**	03 34 12.5	+0.5
INU	**Inuyama**	**3.85**	**302**	*e*Pn	**Pn**	03 34 25.2	+0.8
INU				*e*Sn	**Sn**	03 35 07.5	-1.0
MJAR	**Matsushiro Arr**	**3.90**	**324**	P	**Pn**	03 34 26.1	+0.9
	20nm,0.3s,baz=158,slow=12,SNR=67						
MJAR				S	**Sn**	03 35 10.6	+0.9
	17nm,0.3s,baz=139,slow=13,SNR=6.1						
MJAR				LR	LR	03 35 59.0	
	comp=Z,157nm,21.8s,baz=160,slow=39						
MAJO	**Matsushiro**	**3.90**	**324**	*e*Pn	**Pn**	03 34 27.2	+2.0
MAJO				*e*Sn	**Sn**	03 35 10.7	+0.9
MAT	**Matsushiro**	**3.90**	**324**	P	**Pn**	03 34 26.8	+1.6
MAT				S	**Sn**	03 35 10.7	+0.9
MJB9	**Matsu-Tunnel**	**3.91**	**324**	*e*Pn	**Pn**	03 34 27.2	+2.0
MJB9				*e*Sn	**Sn**	03 35 08.7	-1.2
CBIJ	**Chichi jima**	**6.36**	**171**	*e*Pn	**Pn**	03 35 00.2	+1.3
CBIJ				*e*Sn	**Sn**	03 36 05.2	-5.0
JCJ	**Chichijima**	**6.36**	**171**	P	**Pn**	03 35 00.2	+1.3
	25nm,0.3s,baz=109,slow=22,SNR=4.0						
JCJ				S	**Sn**	03 36 05.2	-5.0
	6.7nm,0.3s,baz=79,slow=23,SNR=2.5						
JCJ				LR	LR	03 37 24.9	
	comp=Z,153nm,21.6s,baz=91,slow=37						
JNU	**Nakatsue**	**8.51**	**271**	P	**Pn**	03 35 30.0	+1.6
	1.2nm,0.3s,baz=59,slow=3.0,SNR=7.5						
JNU				LR	LR	03 38 46.1	
	comp=Z,191nm,21.0s,baz=75,slow=38						
KSRS	**Korea Array**	**11.43**	**294**	P	**Pn**	03 36 10.5	+2.1
	0.1nm,0.3s,baz=105,slow=14,SNR=3.4						
KSRS				LR	LR	03 40 25.9	
	comp=Z,143nm,20.4s,baz=96,slow=37						
KS15	**Wonju Array Si**	**11.46**	**294**	*e*Pn	**Pn**	03 36 10.5	+1.7
KSAR	**Wonju Array Be**	**11.46**	**294**	P	**Pn**	03 36 10.5	+1.7
JOW	**Kunigami**	**12.83**	**243**	LR	LR	03 41 09.7	
	comp=Z,107nm,18.6s,baz=78,slow=36						
KLR	**Kul'dur**	**17.27**	**339**	P	**Pn**	03 37 25.4	-0.1
	0.4nm,0.3s,baz=189,slow=5.6,SNR=5.2						
KLR				LR	LR	03 43 18.1	
	comp=Z,58nm,21.8s,baz=156,slow=34						
H11N2	**WAKE ISLAND Hy**	**26.75**	**114**	T	T	04 08 04.1	
	baz=306,slow=75,SNR=117						
H11N1	**WAKE ISLAND Hy**	**26.76**	**114**	T	T	04 08 06.0	
	baz=306,slow=75,SNR=100						
H11N3	**WAKE ISLAND Hy**	**26.77**	**114**	T	T	04 08 01.1	
	baz=306,slow=75,SNR=104						
MA2	**Magadan**	**26.97**	**11**	LR	LR	03 49 57.2	
	comp=Z,50nm,18.1s,baz=126,slow=37						
H11S3	**WAKE ISLAND Hy**	**27.33**	**116**	T	T	04 08 48.9	
	baz=306						
H11S1	**WAKE ISLAND Hy**	**27.33**	**116**	T	T	04 08 41.0	
	baz=306						
H11S2	**WAKE ISLAND Hy**	**27.34**	**116**	T	T	04 08 46.1	
	baz=306						
SONA1	**Songino Array**	**29.70**	**309**	*e*P	**P**	03 39 30.4	+0.7
SONA0	**Songino Array**	**29.71**	**309**	*e*P	**P**	03 39 30.4	+0.7
SONM	**Songino Array**	**29.71**	**309**	P	**P**	03 39 30.4	+0.7
	0.9nm,0.7s,baz=113,slow=8.4,SNR=6.3						
CMAR	**Chiang Mai Arr**	**40.39**	**259**	LR	LR	03 59 03.0	
	comp=Z,48nm,18.1s,baz=178,slow=38						
UNV	**Undaska Valle**	**41.99**	**45**	*e*P	**P**	03 41 14.0	-0.3
	84nm,1.3s						
ZAA1	**Zalesovo Array**	**44.20**	**315**	*e*P	**P**	03 41 32.0	-0.2
ZAA1				*e*PP	**PP**	03 43 15.5	-0.1
ZALV	**Zalesovo Beam**	**44.20**	**315**	P	**P**	03 41 32.0	-0.2
	0.8nm,0.4s,baz=99,slow=8.9,SNR=5.3						
ZALV				PcP	**PP**	03 43 15.5	-0.1
	1.6nm,0.4s,baz=117,slow=3.6,SNR=5.8						
MK01	**Makanchi Array**	**45.86**	**305**	*e*P	**P**	03 41 45.0	-0.6
MK32	**Makanchi Array**	**45.87**	**305**	*e*P	**P**	03 41 44.9	-0.7
MKAR	**Makanchi Array**	**45.87**	**305**	P	**P**	03 41 44.9	-0.7
	1.9nm,0.7s,baz=88,slow=8.9,SNR=8.3						
MKAR				LR	LR	04 01 10.0	
	comp=Z,44nm,19.5s,baz=32,slow=36						
JIRN	**Jiri**	**47.13**	**278**	*e*P	**P**	03 41 55.8	-0.4
	6.9nm,0.5s						
GUN	**Gumba**	**47.30**	**279**	*e*P	**P**	03 41 56.9	-0.6
KURK	**Kurchatov**	**48.00**	**311**	*e*P	**P**	03 42 02.0	-0.1
	4.6nm,0.7s						
DANN	**Dangsing**	**48.90**	**280**	*e*P	**P**	03 42 08.4	-1.3
	15nm,0.5s						
KOLN	**Koldanda**	**49.24**	**280**	*e*P	**P**	03 42 10.2	-2.1
PYUN	**Piuthan**	**49.62**	**280**	*e*P	**P**	03 42 13.1	-2.1
	9.3nm,0.4s						
KDAK	**Kodiak Island**	**50.05**	**40**	P	**P**	03 42 17.7	-0.1
	11nm,1.0s,baz=214,slow=7.3,SNR=3.2						
ILAR	**Eielson Array**	**52.75**	**31**	P	**P**	03 42 38.0	+0.1
	1.1nm,0.7s,baz=267,slow=6.5,SNR=12						
ILB	**Eielson Array**	**52.75**	**31**	*e*P	**P**	03 42 38.0	+0.1
WRAB	**Tennant Creek**	**53.41**	**188**	*e*P	**P**	03 42 42.9	-0.3
	20nm,1.0s						
WB2	**Warramunga Arr**	**53.42**	**188**	*e*P	**P**	03 42 42.8	-0.5
WR1	**Warramunga Arr**	**53.42**	**188**	*e*P	**P**	03 42 42.8	-0.5
	16nm,0.8s						
WRA	**Warramunga Arr**	**53.42**	**188**	P	**P**	03 42 42.8	-0.5
	12nm,0.5s,baz=5.7,slow=7.5,SNR=293						
KK31	**Karatay Array**	**54.74**	**302**	*e*P	**P**	03 42 52.4	-0.4
KKAR	**Karatay Array**	**54.74**	**302**	*e*P	**P**	03 42 52.4	-0.4
AS01	**Alice Springs**	**57.14**	**188**	*e*P	**P**	03 43 09.8	-0.3
AS31	**Alice Springs**	**57.15**	**188**	*e*P	**P**	03 43 10.1	+0.1
	5.5nm,0.6s						
ASAR	**Alice Springs**	**57.15**	**188**	P	**P**	03 43 09.9	-0.2
	5.3nm,0.4s,baz=359,slow=6.3,SNR=96						
ARU	**Arti**	**58.91**	**320**	*e*P	**P**	03 43 21.9	-0.1
	8.3nm,0.9s						
ABKAR	**Akbulak array**	**60.08**	**312**	*e*P	**P**	03 43 29.7	-0.5
STKA	**Stephens Creek**	**64.92**	**179**	P	**P**	03 44 02.4	-0.2
	1.5nm,0.5s,baz=330,slow=2.4,SNR=3.7						
YKA	**Yellowknife Ar**	**67.12**	**29**	LR	LR	04 20 42.0	
	comp=Z,5.1nm,18.0s,baz=238,slow=42						
ARA0	**ARCESS Array S**	**67.29**	**340**	*e*P	**P**	03 44 17.3	-0.2
ARCES	**ARCESS Array B**	**67.29**	**340**	P	**P**	03 44 17.3	-0.2
	0.9nm,0.6s,baz=52,slow=6.9,SNR=12						
FIA0	**FINESS Array S**	**71.89**	**333**	*e*P	**P**	03 44 45.5	-0.4
FINES	**FINESS Array B**	**71.89**	**333**	P	**P**	03 44 45.5	-0.4
	2.7nm,0.8s,baz=46,slow=5.5,SNR=8.2						
PINE	**Pine Mountain**	**72.95**	**49**	*e*P	**P**	03 44 55.9	+3.1
	4.9nm,0.8s						
KBZ	**Khabaz**	**73.05**	**311**	P	**P**	03 44 53.2	+0.1
	3.5nm,0.8s,baz=61,slow=4.5,SNR=4.8						
J08A	**Circle Bar Ran**	**74.71**	**48**	*e*P	**P**	03 45 05.2	+2.2
	2.9nm,0.8s						
AKASG	**Malin Array Be**	**76.99**	**323**	P	**P**	03 45 15.0	-0.7
	0.8nm,0.3s,baz=48,slow=6.2,SNR=8.7						
AKBB	**Malin Array Si**	**76.99**	**323**	*e*P	**P**	03 45 15.0	-0.7
	5.2nm,0.8s						
HLID	**Hailey**	**77.09**	**46**	*e*P	**P**	03 45 18.4	+1.7
	3.0nm,1.2s						
KVN	**Kaiserville**	**77.24**	**52**	*e*P	**P**	03 45 19.7	+2.1
	3.2nm,1.0s						
NB2	**NORSAR Subarra**	**77.42**	**337**	P	**P**	03 45 17.5	-0.5
	comp=Z,1.1nm,0.7s,baz=41,slow=5.9						
NB200	**NORSAR Array S**	**77.42**	**337**	*e*P	**P**	03 45 17.1	-0.9
NOA	**NORSAR Array B**	**77.42**	**337**	P	**P**	03 45 17.1	-0.9
	comp=Z,1.8nm,0.7s,baz=40,slow=5.6,SNR=6.8						
NOA				LR	LR	04 22 33.6	
	comp=Z,19nm,18.0s,baz=355,slow=38						
NV01	**Mina Array Sit**	**77.44**	**52**	*e*P	**P**	03 45 20.1	+1.3
NVAR	**Mina Array Bea**	**77.44**	**52**	P	**P**	03 45 20.5	+1.7
	comp=Z,1.2nm,0.7s,baz=299,slow=6.0,SNR=8.3						
RAR	**Rarotonga**	**78.31**	**125**	LR	LR	04 11 03.1	
	comp=Z,73nm,21.4s,baz=281,slow=29						
H17A	**Grant Village**	**78.89**	**44**	*e*P	**P**	03 45 30.2	+3.5
	comp=Z,5.2nm,0.9s						
TPNV	**Topopah Spring**	**79.61**	**53**	*e*P	**P**	03 45 32.0	+1.4
	comp=Z,3.4nm,0.9s						
PD31	**Pinedale Array**	**80.45**	**45**	*e*P	**P**	03 45 35.4	+0.1
PDAR	**Pinedale Array**	**80.45**	**45**	P	**P**	03 45 35.4	+0.1
	comp=Z,0.4nm,0.7s,baz=270,slow=1.5,SNR=4.2						
BUR04	**Bucovina Ar. S**	**80.97**	**322**	*e*P	**P**	03 45 37.9	+0.2
BR101	**Keskin Array S**	**81.03**	**312**	*e*P	**P**	03 45 38.5	+0.2
BRTR	**Keskin Array B**	**81.03**	**312**	P	**P**	03 45 38.5	+0.2
	comp=Z,1.5nm,0.9s,baz=129,slow=3.3,SNR=6.7						
CCUT	**Cedar City**	**81.16**	**51**	*e*P	**P**	03 45 40.9	+1.8
	comp=Z,2.3nm,0.9s						
PFO	**Pinyon Flats O**	**81.34**	**55**	*e*P	**P**	03 45 40.8	+0.8
	comp=Z,3.2nm,1.0s						
LCMT	**Little Creek M**	**81.55**	**51**	*e*P	**P**	03 45 42.9	+1.8
	comp=Z,3.2nm,0.8s						
MTPU	**Mount Pierson**	**81.64**	**50**	*e*P	**P**	03 45 44.2	+2.4
	comp=Z,2.6nm,0.8s						
P17A	**Butcher Ranch,**	**81.70**	**48**	*e*P	**P**	03 45 43.8	+1.9
	comp=Z,4.4nm,0.8s						
RAYN	**Ar Rayn**	**81.75**	**293**	*e*P	**P**	03 45 42.1	-0.1
	comp=Z,7.0nm,0.8s						
KNB	**Kanab**	**81.83**	**51**	*e*P	**P**	03 45 44.5	+2.0
	comp=Z,4.7nm,0.8s						
SRU	**San Rafael Swe**	**82.05**	**48**	*e*P	**P**	03 45 45.2	+1.5
	comp=Z,6.5nm,0.7s						
PPT	**Papeete**	**83.31**	**116**	LR	LR	04 14 40.0	
	comp=Z,101nm,21.2s,baz=260,slow=30						
CLL	**Collm**	**84.09**	**330**	*e*P	**P**	03 45 54.0	+0.3
GERES	**GERESS Array B**	**85.63**	**328**	P	**P**	03 46 01.1	-0.6
	comp=Z,0.6nm,0.5s,baz=36,slow=7.0,SNR=6.5						
TX31	**Lajitas Ar. Si**	**92.59**	**52**	*e*P	**P**	03 46 35.9	+0.8
LTX	**Lajitas**	**92.59**	**52**	*e*P	**P**	03 46 36.1	+1.1
TXAR	**Lajitas Array**	**92.59**	**52**	P	**P**	03 46 36.1	+1.1
	comp=Z,1.3nm,0.8s,baz=305,slow=3.4,SNR=10						
TOA1	**Torodi Ar. Sit**	**119.62**	**313**	*e*PKPdf	**PKPdf**	03 52 12.2	-1.3
TORD	**Torodi Ar. Bea**	**119.63**	**313**	PKP	**PKPdf**	03 52 12.2	-1.3
	comp=Z,0.1nm,0.3s,baz=58,slow=2.9,SNR=3.3						
SAML	**Samuel**	**146.98**	**48**	*e*PKPdf	**PKPdf**	03 53 04.7	+0.5
LPAZ	**La Paz**	**148.68**	**64**	PKPbc	**PKPbc**	03 53 12.2	+0.7
	comp=Z,4.3nm,0.7s,baz=350,slow=4.5,SNR=17						
LPAZ	**La Paz**	**148.68**	**64**	*e*PKPbc	**PKPbc**	03 53 12.5	+1.1

*IDC **15** 04:01:39.8±0.7, 24°.19S×175°.82W, h0km, mb4.5/14, mb1 4.7/14, mb1mx4.5/30, mbtmp4.5/14, MS3.9/16, Ms1 3.8/16, ms1mx3.7/29, Error ellipse: s-maj=24.9km s-min=18.8km az=158.0*
*ISCJB **15** 04:01:44.1±0.3, 24°.50S±0°.07×175°.97W±0°.06, h30km, mb4.6/61, MS3.9/14, Error ellipse: s-maj=10.9km s-min=6.1km az=144.2*
*NEIC **15** 04:01:46.3±0.3, 24°.48S×175°.88W, h35km, mb4.7/53, Error ellipse: s-maj=12.3km s-min=6.9km az=147.0*

ISC 15 04:01:45.1±0.5, 24°42S±0°.09×175°9W±0°.1, h30km, n114, σ1§64/100, mb4.7/61, MS4.0/14, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.14**

FITZ	**Fitzroy Crossi**	**54.56**	**265**	P		**P**	**04 11 09.7**	**-1.2**
	7.2nm,1.0s,baz=123,slow=6.5,SNR=8.9							
FITZ	**Fitzroy Crossi**	**54.56**	**265**	*eP*		**P**	**04 11 12.3**	**+1.4**
	9.3nm,1.0s							
QSPA	**South Pole Qui**	**65.67**	**180**	P		**P**	**04 12 27.2**	**+0.7**
	2.7nm,0.9s,baz=67,slow=2.6,SNR=5.7							
QSPA	**South Pole Qui**	**65.67**	**180**	*eP*		**P**	**04 12 27.9**	**+1.5**
MJAR	**Matsushiro Arr**	**74.53**	**323**	P		**P**	**04 13 19.9**	**-1.1**
	1.9nm,0.5s,baz=171,slow=6.0,SNR=4.1							
MAJO	**Matsushiro**	**74.53**	**323**	*eP*		**P**	**04 13 19.9**	**-1.1**
MAW	**Mawson**	**78.56**	**200**	P		**P**	**04 13 44.9**	**+1.6**
	1.3nm,0.3s,baz=90,slow=8.1,SNR=3.7							
MAW				LR		LR	04 47 13.1	
	comp=Z,116nm,18.5s,baz=60,slow=35							
MAW	**Mawson**	**78.56**	**200**	*eP*		**P**	**04 13 44.9**	**+1.6**
	3.3nm,1.4s							
KMRM	**Mail Ridge**	**80.56**	**38**	*eP*		**P**	**04 13 58.0**	**+3.3**
	20nm,1.2s							
ISA	**Isabella, Lake**	**80.70**	**44**	*eP*		**P**	**04 13 56.0**	**+0.4**
	6.4nm,1.2s							
CMB	**Columbia Colle**	**81.03**	**41**	*eP*		**P**	**04 13 59.9**	**+2.6**
	3.9nm,1.0s							
KSRS	**Korea Array**	**81.12**	**318**	P		**P**	**04 13 57.2**	**-0.4**
	4.6nm,1.0s,baz=146,slow=6.6,SNR=6.5							
KS15	**Wonju Array Si**	**81.14**	**318**	*eP*		**P**	**04 13 57.2**	**-0.5**
KSAR	**Wonju Array Be**	**81.14**	**318**	P		**P**	**04 13 57.2**	**-0.5**
KS01	**Wonju Array Si**	**81.16**	**318**	*eP*		**P**	**04 13 59.4**	**+1.6**
GSC	**Goldstone, Bar**	**81.55**	**45**	*eP*		**P**	**04 14 01.0**	**+0.9**
	5.7nm,1.3s							
MDPB	**Devils Postpil**	**81.57**	**42**	*eP*		**P**	**04 14 00.8**	**+0.5**
	6.1nm,1.1s							
OMMB	**Old Mammoth Mi**	**81.60**	**42**	*eP*		**P**	**04 14 01.7**	**+1.1**
	6.5nm,1.4s							
WAKR	**Walker**	**81.91**	**41**	*eP*		**P**	**04 14 02.8**	**+0.7**
	8.2nm,1.0s							
PNTR	**Pine Nut**	**82.19**	**41**	*eP*		**P**	**04 14 04.1**	**+0.6**
	7.0nm,0.9s							
VCNR	**Virginia City**	**82.29**	**41**	*eP*		**P**	**04 14 06.9**	**+2.8**
	5.9nm,1.2s							
YERR	**Yerington**	**82.33**	**41**	*eP*		**P**	**04 14 04.6**	**+0.3**
	6.0nm,1.0s							
LDFC	**Landfair**	**82.52**	**46**	*eP*		**P**	**04 14 08.3**	**+3.1**
	19nm,1.3s							
NVAR	**Mina Array Bea**	**82.55**	**42**	P		**P**	**04 14 04.1**	**-1.3**
	3.8nm,0.9s,baz=227,slow=8.9,SNR=14							
NVAR				LR		LR	04 44 05.2	
	comp=Z,70nm,20.1s,baz=242,slow=31							
NV01	**Mina Array Sit**	**82.55**	**42**	*eP*		**P**	**04 14 04.6**	**-0.8**
NV11	**Mina Array Sit**	**82.64**	**42**	*eP*		**P**	**04 14 05.8**	**-0.1**
	0.4nm,1.0s							
TPNV	**Topopah Spring**	**82.91**	**44**	*eP*		**P**	**04 14 06.1**	**-1.2**
	2.7nm,0.9s							
KVN	**Kaiserville**	**83.06**	**42**	*eP*		**P**	**04 14 08.2**	**+0.2**
	3.9nm,1.0s							
USA0B	**Ussuriysk Arra**	**83.31**	**325**	*eP*		**P**	**04 14 10.9**	**+2.0**
	25nm,1.0s							
USRK	**Ussuriysk Ar.**	**83.31**	**325**	P		**P**	**04 14 06.2**	**-2.7**
	17nm,0.9s,baz=113,slow=3.7,SNR=2.6							
SHPR	**Sheep Range**	**83.34**	**45**	*eP*		**P**	**04 14 11.1**	**+1.6**
	7.1nm,1.4s							
W13A	**Hualapai Mount**	**83.34**	**47**	*eP*		**P**	**04 14 12.1**	**+2.5**
	3.6nm,1.1s							
MOD	**Modoc Plateau**	**83.60**	**38**	*eP*		**P**	**04 14 10.1**	**-0.7**
	6.2nm,1.0s							
SNAA	**Sanae**	**84.05**	**178**	*eP*		**P**	**04 14 14.5**	**+2.0**
	9.6nm,1.4s							
PINE	**Pine Mountain**	**84.49**	**37**	*eP*		**P**	**04 14 15.3**	**0.0**
	11nm,1.0s							
X16A	**Lo Mia Camp, P**	**84.59**	**48**	*eP*		**P**	**04 14 18.8**	**+2.8**
	4.1nm,1.1s							
LCMT	**Little Creek M**	**84.88**	**46**	*eP*		**P**	**04 14 17.6**	**+0.3**
	6.3nm,1.1s							
WVOR	**Wild Horse Val**	**84.89**	**39**	*eP*		**P**	**04 14 17.1**	**-0.1**
	5.3nm,1.0s							
CCUT	**Cedar City**	**85.11**	**45**	*eP*		**P**	**04 14 19.2**	**+0.6**
	8.5nm,1.2s							
PLCA	**Paso Flores**	**85.15**	**133**	LR		LR	04 46 33.3	
	comp=Z,59nm,18.1s,baz=270,slow=32							
KNB	**Kanab**	**85.15**	**46**	*eP*		**P**	**04 14 19.7**	**+0.9**
	7.7nm,1.0s							
U15A	**North Rim**	**85.16**	**46**	*eP*		**P**	**04 14 19.6**	**+0.6**
	14nm,1.4s							
WUAZ	**Wupatki**	**85.26**	**48**	*eP*		**P**	**04 14 22.4**	**+3.1**
	9.0nm,1.4s							
SZCU	**Shurtz Canyon**	**85.32**	**45**	*eP*		**P**	**04 14 20.2**	**+0.7**
	6.0nm,1.0s							
J08A	**Circle Bar Ran**	**85.57**	**38**	*eP*		**P**	**04 14 20.2**	**-0.4**
	8.3nm,1.2s							
PKCU	**Pink Cliffs**	**85.73**	**46**	*eP*		**P**	**04 14 23.4**	**+1.6**
	14nm,1.1s							
MTPU	**Mount Pierson**	**86.16**	**45**	*eP*		**P**	**04 14 24.9**	**+1.0**
	5.8nm,1.0s							
MSU	**Marysvale**	**86.43**	**45**	*eP*		**P**	**04 14 27.9**	**+2.8**
G08A	**Pilot Rock**	**86.54**	**36**	*eP*		**P**	**04 14 25.5**	**+0.2**
PSI	**Prapat**	**86.80**	**275**	P		**P**	**04 14 26.5**	**-0.8**
	5.5nm,0.3s,baz=180,slow=4.3,SNR=6.0							
PSI	**Prapat**	**86.80**	**275**	*eP*		**P**	**04 14 27.8**	**+0.4**
	16nm,1.1s							
MNTX	**Cornudas Mount**	**87.43**	**54**	*eP*		**P**	**04 14 29.9**	**0.0**
	4.2nm,1.0s							
TMUT	**Trail Mountain**	**87.50**	**45**	*eP*		**P**	**04 14 33.2**	**+2.8**
	7.7nm,1.1s							
TX31	**Lajitas Ar. Si**	**87.52**	**56**	*eP*		**P**	**04 14 32.2**	**+1.8**
LTX	**Lajitas**	**87.53**	**56**	*eP*		**P**	**04 14 28.9**	**-1.6**
TXAR	**Lajitas Array**	**87.53**	**56**	P		**P**	**04 14 28.9**	**-1.6**
	1.2nm,1.0s,baz=214,slow=5.9,SNR=7.4							
TXAR				LR		LR	04 48 35.8	
	comp=Z,82nm,18.8s,baz=0.0,slow=32							
D08A	**Wollman Farm,**	**87.70**	**35**	*eP*		**P**	**04 14 33.0**	**+2.3**
	7.7nm,1.3s							
ANMO	**Albuquerque**	**88.33**	**50**	*eP*		**P**	**04 14 36.4**	**+2.1**
	3.6nm,1.1s							
ENH	**Enshi**	**89.87**	**303**	*eP*		**P**	**04 14 43.5**	**+2.1**
	33nm,1.3s							
DLMT	**Dillon**	**90.13**	**39**	*eP*		**P**	**04 14 43.5**	**+1.0**
	5.8nm,1.3s							
PD31	**Pinedale Array**	**90.47**	**42**	*eP*		**P**	**04 14 42.5**	**-1.8**
PDAR	**Pinedale Array**	**90.47**	**42**	P		**P**	**04 14 42.4**	**-1.8**
	0.7nm,0.8s,baz=250,slow=4.4,SNR=6.0							
PDAR				LR		LR	04 48 56.6	
	comp=Z,37nm,18.7s,baz=271,slow=31							
BOZ	**Bozeman (W)**	**90.83**	**39**	*eP*		**P**	**04 14 46.1**	**+0.4**
	4.9nm,1.0s							
ILAR	**Eielson Array**	**91.70**	**12**	P		**P**	**04 14 48.0**	**-1.1**
	1.1nm,1.1s,baz=224,slow=3.8,SNR=3.7							
ILB	**Eielson Array**	**91.70**	**12**	*eP*		**P**	**04 14 48.0**	**-1.1**
CM01	**Chiang Mai Arr**	**93.25**	**289**	*eP*		**P**	**04 14 59.6**	**+2.3**
CM31	**Chiang Mai Arr**	**93.27**	**289**	*eP*		**P**	**04 14 59.5**	**+2.0**
CMAR	**Chiang Mai Arr**	**93.27**	**289**	P		**P**	**04 14 59.5**	**+2.0**
	7.0nm,0.7s,baz=132,slow=3.5,SNR=34							
CHTO	**Chiang Mai**	**93.42**	**289**	*eP*		**P**	**04 15 01.5**	**+3.4**
	12nm,0.9s							
LPAZ	**La Paz**	**98.73**	**112**	LR		LR	04 52 17.6	
	comp=Z,43nm,18.3s,baz=248,slow=31							
YKA	**Yellowknife Ar**	**99.24**	**24**	LR		LR	04 53 16.8	
	comp=Z,9.6nm,21.2s,baz=228,slow=31							
AKASG	**Malin Array Be**	**147.39**	**330**	PKPbc		**PKPbc**	**04 21 24.6**	**-1.1**
	4.7nm,0.8s,baz=41,slow=4.1,SNR=12							
AKBB	**Malin Array Si**	**147.39**	**330**	*e*PKPdf		**PKPbc**	**04 21 25.6**	**-0.2**
KIEV	**Kiev**	**147.40**	**330**	*e*PKPdf		**PKPbc**	**04 21 25.5**	**-0.2**
AK11	**Malin Array Si**	**147.43**	**330**	*e*PKPdf		**PKPbc**	**04 21 25.2**	**-0.7**
BR101	**Keskin Array S**	**150.89**	**309**	*e*PKPbc		**PKPbc**	**04 21 33.8**	**-1.4**
BR131	**Keskin Array S**	**150.89**	**309**	*e*PKPbc		**PKPbc**	**04 21 35.2**	**+0.1**
BRTR	**Keskin Array B**	**150.89**	**309**	PKPbc		**PKPbc**	**04 21 33.8**	**-1.4**
	2.7nm,0.9s,baz=136,slow=2.9,SNR=13							
BUR04	**Bucovina Ar. S**	**151.44**	**329**	*e*PKPbc		**PKPbc**	**04 21 37.5**	**+1.4**
OJC	**Ojcow**	**151.52**	**339**	*e*PKPbc		**PKPbc**	**04 21 37.0**	**+0.9**
CLL	**Collm**	**152.31**	**348**	*e*PKPbc		**PKPbc**	**04 21 38.0**	**+0.2**
	comp=Z,9.0nm,1.2s							
CLL				*e*PKPab		**PKPab**	**04 21 47.0**	**-0.7**
GERES	**GERESS Array B**	**154.49**	**345**	PKPbc		**PKPbc**	**04 21 41.2**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=29,slow=2.2,SNR=3.9							

DDA ***15*** *04:07:55.5,37.°32N×37.°14E,h7km,Ml2.5*
ISK ***15*** *04:07:55.2,37.°32N×37.°10E,h9km,ML1.7/4*
ISCJB ***15*** *04:07:56.1±0.6,37.°30N±0.°04×37.°10E±0.°05,h7km±6km,*
Error ellipse: s-maj=8.9km s-min=4.4km az=40.7

ISC 15 04:07:55.8±1.0, 37.°32N±0.°04×37.°11E±0.°04, h10km±7km, n9, σ0°27/16, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GAZ	**Gaziantep**	**0.17**	**150**	PG		**Pg**	**04 07 59.4**	**-0.1**
GAZ				SG		**Sg**	**04 08 02.3**	**+0.2**
KMRS	**Kahramanmaras**	**0.25**	**319**	PG		**Pg**	**04 08 00.7**	**-0.2**
KMRS				SG		**Sg**	**04 08 04.6**	**+0.2**
KUZU	**Kuzuini**	**0.54**	**183**	*i* P		**Pg**	**04 08 06.6**	**+0.2**
KUZU				*i* S		**Sn**	**04 08 19.0**	**+0.2**
ANDN	**Andirin**	**0.66**	**294**	*i* P		**Pb**	**04 08 09.2**	**-0.2**
ANDN				*i* S		**Sb**	**04 08 18.8**	**+0.1**
SAIM	**ADANA**	**1.05**	**309**	*i* P		**Pb**	**04 08 16.0**	**0.0**
SAIM				*i* S		**Sn**	**04 08 30.9**	**-0.3**
AKCD	**Akcadag**	**1.17**	**33**	*i* P		**Pn**	**04 08 18.9**	**+0.6**
AKCD				*i* S		**Sn**	**04 08 34.4**	**0.0**
TAHT	**Tahtakopru-Hat**	**1.20**	**218**	PN		**Pn**	**04 08 18.5**	**0.0**
SURC	**SANLIURFA_SURC**	**1.28**	**110**	*i* P		**Pn**	**04 08 19.5**	**-0.2**
SURC				*i* S		**Sn**	**04 08 36.8**	**-0.2**
URFA	**Urfa**	**1.37**	**84**	PN		**Pb**	**04 08 21.3**	**-0.2**

DDA ***15*** *04:10:04.1,35.°41N×31.°35E,h9km,Ml3.3*
NIC ***15*** *04:10:05.5±0.2,35.°84N×31.°44E,h64km,ML3.1*
ISK ***15*** *04:10:08.8,35.°51N×31.°72E,h11km,ML2.9/13*

ISC 15 04:10:05.5±1.3, 35.°47N±0.°04×31.°43E±0.°04, h6km±12km, n34, σ1°9/48, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PPCY	**Paphos**	**0.95**	**127**	P		**Pn**	**04 10 26.8**	**+1.3**
	baz=322							
ALFC	**Alefka**	**1.01**	**108**	P		**Pn**	**04 10 26.3**	**0.0**
	baz=306							
ALFC				S		**Sn**	**04 10 42.0**	**+1.2**
GAZI	**Gazipasa**	**1.05**	**43**	*i* P		**Pn**	**04 10 28.6**	**+1.7**
GAZI				*i* S		**Sn**	**04 10 42.7**	**+0.8**
LEF	**Lefka**	**1.25**	**106**	PG		**Pb**	**04 10 28.5**	**-1.0**
LEF				SG		**Sb**	**04 10 42.9**	**-2.9**
SZAC	**Souni**	**1.39**	**120**	P		**Pg**	**04 10 31.8**	**-0.4**
	baz=312							
KEPZ	**Antalya-Kepez**	**1.44**	**6**	*i* P		**Pn**	**04 10 31.3**	**-1.0**
KEPZ				*i* S		**Sn**	**04 10 49.2**	**-2.3**
TEKE	**Tekeli-Mersin**	**1.53**	**63**	PN		**Pn**	**04 10 32.9**	**-0.5**
CSS	**Mathiatis**	**1.64**	**107**	PN		**Pb**	**04 10 35.3**	**-0.9**
AKAS	**Kas**	**1.67**	**298**	*i* P		**Pb**	**04 10 34.5**	**-2.2**
AKAS				*i* S		**Sg**	**04 10 58.3**	**-0.8**
BERE	**Bereket-Mersin**	**1.70**	**58**	PN		**Pb**	**04 10 36.1**	**+0.2**
LFK	**Lefkose**	**1.73**	**96**	PN		**Pb**	**04 10 36.4**	**-1.4**
KORT	**Korkueli**	**1.76**	**331**	PN		**Pg**	**04 10 41.3**	**+2.0**
KORT	**Korkueli**	**1.76**	**331**	*i* P		**Pg**	**04 10 38.3**	**-1.0**
KORT				*i* S		**Sg**	**04 11 06.0**	**+3.9**
ELL	**Elmali**	**1.77**	**317**	PN		**Pg**	**04 10 42.3**	**+2.8**
AKKU	**Akkuyu-Mersin**	**1.86**	**68**	PN		**Pn**	**04 10 38.2**	**+0.2**
GULN	**MERSIN_Gulnar**	**1.86**	**67**	*i* P		**Pb**	**04 10 38.5**	**-1.4**
GULN				*i* S		**Sn**	**04 11 02.9**	**+1.0**
TEVE	**Tevekalti-Mers**	**1.90**	**59**	PN		**Pn**	**04 10 38.9**	**+0.3**
IKL	**Isikli**	**1.99**	**67**	PN		**Pn**	**04 10 39.9**	**+0.1**
SUTC	**Sutluce-Ispart**	**2.03**	**350**	PN		**Pg**	**04 10 44.1**	**-0.4**
KEBE	**Keben-Mersin**	**2.10**	**62**	PN		**Pn**	**04 10 41.6**	**+0.3**
EREN	**Erenkoy**	**2.24**	**88**	PN		**Pn**	**04 10 43.5**	**+0.3**
GOLH	**Golhisar**	**2.32**	**320**	*i* P		**Pb**	**04 10 45.8**	**-2.1**
KMER	**Konya-Meram**	**2.42**	**18**	*i* P		**Pb**	**04 10 48.3**	**-1.2**
KMER				*i* S		**Sb**	**04 11 19.2**	**-0.5**
KIZK	**Mersin**	**2.42**	**65**	PN		**Pb**	**04 10 46.2**	**+0.5**
KIZK	**Mersin**	**2.42**	**65**	*i* P		**Pb**	**04 10 47.4**	**-2.2**
KIZK				*i* S		**Sn**	**04 11 16.8**	**+1.1**
BRDR	**BURDUR-Merkez**	**2.48**	**334**	*i* P		**Pg**	**04 10 53.0**	**-0.1**
BAGO	**Egridir - ISPA**	**2.57**	**349**	*i* P		**Pb**	**04 10 50.2**	**-1.9**
BAGO				*i* S		**Sb**	**04 11 24.6**	**+0.6**
KONT	**Konya--Tatoy**	**2.58**	**17**	PN		**Pb**	**04 10 50.6**	**-1.8**
KONT	**Konya--Tatoy**	**2.58**	**17**	*i* P		**Pb**	**04 10 50.5**	**-1.8**
KONT				*i* S		**Sb**	**04 11 23.5**	**-0.9**
DOGA	**KONYA_Doganhis**	**2.64**	**4**	*i* P		**Pb**	**04 10 51.2**	**-2.1**
DOGA				*i* S		**Sn**	**04 11 23.1**	**+1.8**
LADK	**Ladik-KONYA**	**2.83**	**15**	PN		**Pb**	**04 10 53.9**	**-2.7**
KERG	**Konya-Eregli**	**2.92**	**47**	*i* P		**Pn**	**04 10 53.8**	**+1.1**
KERG				*i* S		**Sn**	**04 11 31.3**	**+3.2**
GULE	**Gulek**	**3.25**	**55**	*i* P		**Pn**	**04 11 00.0**	**+2.7**
GULE				*i* S		**Sn**	**04 11 38.7**	**+2.2**
KIZT	**Kizilcal**	**3.42**	**6**	PN		**Pb**	**04 11 02.6**	**-4.1**

KRSC 15 04:15:21.7±0.8, 55.°28N×162.°38E, h40km±19km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.81**	**208**	*e*P		Pn	04 15 37.8	+1.2
MKZ				*e*S		Sn	04 15 49.6	+2.2
KBTR	**Krutoberegovo**	**0.97**	**15**	*e*P		Pn	04 15 39.3	+0.6
KBTR				*e*S		Sn	04 15 53.1	+1.9
KBG	**Krutoberegovo**	**1.00**	**11**	*e*P		Pn	04 15 40.9	+1.8
KBG				*e*S		Sn	04 15 55.6	+3.6
TUMD	**Tumrok D**	**1.14**	**267**	*e*P		Pn	04 15 41.9	+0.8
TUMD				*e*S		Sn	04 15 56.6	+1.2
ZLN	**Zelenaya**	**1.16**	**310**	*e*P		Pn	04 15 42.4	+0.9
ZLN				*e*S		Sn	04 15 58.8	+2.6
BZGR	**Bezymyannyi-Gr**	**1.16**	**306**	*e*P		Pn	04 15 42.7	+1.2
BZGR				*e*S		Sn	04 15 57.7	+1.5
KZV	**Kizimen**	**1.21**	**263**	*e*P		Pn	04 15 42.9	+0.7
LGNR	**Loginova**	**1.25**	**311**	*e*P		Pn	04 15 44.5	+1.6
BZMR	**Bezymyannaya**	**1.26**	**302**	*e*P		Pn	04 15 43.8	+0.9
BZMR				*e*S		Sn	04 15 59.3	+0.7
BZWR	**Bezymyannyi-We**	**1.27**	**304**	*e*P		Pn	04 15 44.2	+1.1
BZWR				*e*S		Sn	04 16 00.5	+1.5
TUMR	**Tumrok**	**1.28**	**271**	*i* P		Pn	04 15 44.4	+1.3
TUMR				*e*S		Sn	04 16 00.3	+1.2
KMNR	**Kamenistaya**	**1.31**	**292**	*i* P		Pn	04 15 44.9	+1.4
KMNR				*e*S		Sn	04 16 01.3	+1.5
KIRR	**Kirishev**	**1.34**	**301**	*e*P		Pn	04 15 45.4	+1.4
KRSR	**Krestovskiy**	**1.39**	**313**	*e*P		Pn	04 15 45.8	+1.1
KPT	**Kopyto**	**1.41**	**300**	*e*P		Pn	04 15 46.3	+1.5
KPT				*e*S		Sn	04 16 04.4	+2.2
SMKR	**Semkarok**	**1.41**	**339**	*e*P		Pn	04 15 45.9	+1.1
SMKR				*e*S		Sn	04 16 03.8	+1.6
KLY	**Klyuchi**	**1.43**	**318**	*e*P		Pn	04 15 45.1	+0.1
KLY				*e*S		Sn	04 16 02.2	-0.3
BDR	**Baidarnaya**	**1.45**	**334**	*e*P		Pn	04 15 46.9	+1.4
BDR				*e*S		Sn	04 16 06.7	+3.4
SRKR	**Sorokina**	**1.54**	**334**	*e*P		Pn	04 15 47.9	+1.2
KOZ	**Kozyrevsk**	**1.62**	**300**	*e*P		Pn	04 15 49.7	+2.0
KOZ				*e*S		Sn	04 16 10.1	+2.7
BKI	**Bering**	**2.06**	**91**	*e*P		Pn	04 15 55.7	+2.0
BKI				*e*S		Sn	04 16 19.9	+1.8
KII	**Karymskiy**	**2.11**	**235**	*e*P		Pn	04 15 56.5	+2.0
SPN	**Mys Shipunski**	**2.58**	**213**	*e*P		Pn	04 16 02.5	+1.6
SPN				*e*S		Sn	04 16 31.7	+0.6
SDLR	**Sedlovina**	**2.87**	**227**	*i* P		Pn	04 16 07.5	+2.6
SMAR	**Somma**	**2.91**	**228**	*i* P		Pn	04 16 08.1	+2.5
KOK	**Koryaka**	**2.96**	**229**	*i* P		Pn	04 16 11.2	+5.0
GNL	**Ganaly**	**3.03**	**240**	*e*P		Pn	04 16 09.7	+2.5
KRMR	**Karymshinskiy**	**3.50**	**227**	*e*P		Pn	04 16 17.6	+4.1
KRMR				*e*S		Sn	04 17 00.2	+6.5
MTVR	**Mutnovka**	**3.74**	**223**	*e*P		Pn	04 16 21.2	+4.2

ISCJB ***15*** *04:32:04.6±0.5, 18.°5S±0.°1×176.°9W±0.°1, h300km, mb3.7/8,*
Error ellipse: s-maj=19.9km s-min=8.1km az=135.9
IDC ***15*** *04:32:06.2±2.0, 18.°62S×176.°87W, h304km±20km, mb3.5/9,*
mb1 3.7/11,mb1mx3.5/24,mbtmp4.2/11, Error ellipse:
s-maj=20.6km s-min=10.8km az=127.0

ISC 15 04:32:05.5±0.7, 18.°6S±0.°1×176.°8W±0.°1, h300km, n14, σ1°24/16, mb3.7/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**6.69**	**47**	P		**Pn**	**04 33 43.9**	**+0.7**
	14nm,0.3s,baz=217,slow=10,SNR=13							
AFI				S		**S**	**04 34 59.2**	**-2.9**
	1.9nm,0.3s,baz=232,slow=19,SNR=2.2							
DZM	**Mont Dzumac**	**16.11**	**255**	P		**P**	**04 35 35.0**	**+0.1**
	0.4nm,0.3s,baz=53,slow=15,SNR=6.2							
URZ	**Urewera**	**20.32**	**194**	P		**P**	**04 36 19.3**	**-0.3**
	3.7nm,0.4s,baz=318,slow=2.4,SNR=8.2							
URZ				S		**S**	**04 39 48.1**	**-0.8**
	4.9nm,0.8s,baz=38,slow=17,SNR=4.7							
STKA	**Stephens Creek**	**39.67**	**242**	P		**P**	**04 39 09.4**	**+0.1**
	2.3nm,0.4s,baz=92,slow=9.8,SNR=8.6							
WRA	**Warramunga Arr**	**46.03**	**260**	P		**P**	**04 39 59.4**	**-0.8**
	1.2nm,0.4s,baz=97,slow=6.5,SNR=30							
ASAR	**Alice Springs**	**46.10**	**255**	P		**P**	**04 40 00.5**	**-0.1**
	4.6nm,0.4s,baz=91,slow=8.6,SNR=76							
PETK	**Petropavlovsk-**	**74.73**	**344**	P		**P**	**04 43 12.0**	**-0.5**
	4.6nm,0.8s,baz=142,slow=7.7,SNR=3.0							
NVAR	**Mina Array Bea**	**78.85**	**43**	P		**P**	**04 43 37.5**	**+1.5**
	1.0nm,0.7s,baz=224,slow=8.5,SNR=9.6							
TXAR	**Lajitas Array**	**85.06**	**57**	P		**P**	**04 44 10.5**	**+2.3**
	0.8nm,0.9s,baz=222,slow=6.7,SNR=6.3							
ILAR	**Eielson Array**	**86.20**	**12**	P		**P**	**04 44 13.2**	**+0.3**
	0.6nm,0.7s,baz=221,slow=5.8,SNR=12							
PDAR	**Pinedale Array**	**86.78**	**43**	P		**P**	**04 44 16.4**	**-0.1**
	0.2nm,0.6s,baz=242,slow=5.0,SNR=2.5							
VNA3	**Neumayer Olymp**	**89.97**	**176**	P		**P**	**04 44 30.0**	**-0.7**
VNA2	**Neumayer--Watz**	**90.43**	**177**	P		**P**	**04 44 32.5**	**-0.3**
	baz=226,slow=3.3							
GERES	**GERESS Array B**	**148.64**	**347**	PKPbc		**PKPbc**	**04 51 16.3**	**-1.0**
	0.6nm,0.7s,baz=23,slow=3.3,SNR=7.0							

IDC 15 04:33:03.0±4.7, 18.°82S×138.°48E, h0km, mb1 3.2/3, mb1mx3.1/20, mbtmp3.0/3, ML2.9/3, Error ellipse: s-maj=35.3km s-min=26.9km az=42.0, Queensland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**4.06**	**253**	Pn		Pn	04 34 05.4	-1.1
	0.3nm,0.3s,baz=72,slow=12,SNR=24							
WRA				Sn		Sn	04 34 53.7	-1.2
	0.5nm,0.3s,baz=68,slow=22,SNR=7.8							
WRA				Lg		Lg	04 35 13.8	
	0.8nm,0.3s,baz=80,slow=28,SNR=7.8							
ASAR	**Alice Springs**	**6.44**	**221**	Pn		Pn	04 34 39.2	0.0
	0.2nm,0.3s,baz=43,slow=15,SNR=3.9							
ASAR				Sn		Sn	04 35 53.1	-0.3
	0.3nm,0.3s,baz=46,slow=22,SNR=5.2							
ASAR				Lg		Lg	04 36 27.9	
	0.2nm,0.3s,baz=42,slow=32,SNR=5.5							
STKA	**Stephens Creek**	**13.30**	**168**	Pn		Pn	04 36 14.7	+1.5
	0.1nm,0.3s,baz=340,slow=15,SNR=2.5							

IDC 15 04:44:29.7±372.0, 51.°45N×117.°30E, h0km, Error ellipse: s-maj=150.3km s-min=137.4km az=104.0, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I34MN	**SONGINO INFRAS**	**7.96**	**247**	*i*			05 37 50.0	
	baz=57,slow=327,SNR=1.3							
I45RU	**USSURIYSK INFR**	**12.23**	**121**	*i*			05 58 20.0	
	baz=308,slow=322,SNR=2.3							
I30JP	**ISUMI INFRASON**	**23.09**	**125**	*i*			07 05 30.0	
	baz=318,slow=315,SNR=0.6							
I44RU	**PETROPAVLOVSK**	**24.56**	**70**	*i*			07 14 10.0	
	baz=288,slow=325,SNR=0.5							

BJI ***15*** *04:58:53.6,19.°02N×146.°25E,h118km,mb4.7/25,*
mB5.0/14
ISCJB ***15*** *04:58:57.0±0.7,19.°15N±0.°03×145.°69E±0.°04,*
h120km±6km,mb4.8/182,Error ellipse: s-maj=6.0km
s-min=5.1km az=162.2
MOS ***15

comp=Z,39nm,20.1s,baz=145,slow=36
KLR Kulʲdur 32.16 343 *c iP* **P**
SKR Severo-Kuril's 32.58 12 *eP* P 05 05 33.4 +16
SKR *e* 05 06 31.6
SKR *e*SS SS 05 12 31.1 -19
SKR MLR MLR
comp=Z,2µm,12.0s
COEN Coen 32.92 185 *eP* **P 05 05 23.0 +1.7**
comp=Z,9.2nm,0.8s
BJI Beijing 32.98 316 *eP* **P 05 05 21.3 -0.2**
BJI pmax pmax
comp=Z,7.0nm,0.7s
MTN Manton Dam 34.88 206 *eP* **P 05 05 38.5 +0.3**
comp=Z,25nm,0.8s
PEA0B Petropavlovsk- 35.20 12 *eP* **P 05 05 40.6 +0.1**
comp=Z,69nm,1.4s
PETK Petropavlovsk- 35.20 12 P **P 05 05 40.6 +0.1**
PETK LR LR 05 17 59.0
comp=Z,56nm,20.8s,baz=202,slow=32
PETK Petropavlovsk- 35.20 12 *eP* **P 05 05 40.1 -0.4**
PETK Petropavlovsk- 35.20 12 *eP* **P 05 05 40.1 -0.4**
PEA1 Petropavlovsk- 35.20 12 *eP* **P 05 05 40.6 0.0**
HHC Hu-ho-hao-te 36.45 314 *eP* **P 05 05 53.0 +1.4**
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,130nm,4.3s
CD2 Chengdu 39.72 296 *eP* **P 05 06 18.8 -0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
WRAB Tennant Creek 40.37 197 *eP* **P 05 06 25.2 +0.9**
comp=Z,33nm,1.0s
WRAB Tennant Creek 40.37 197 *d iP* **P 05 06 24.7 +0.4**
WRAB pmax pmax
comp=Z,47nm,1.3s
WB2 Warramunga Arr 40.38 197 *eP* **P 05 06 25.0 +0.6**
WR1 Warramunga Arr 40.38 197 *eP* **P 05 06 24.9 +0.5**
comp=Z,46nm,1.1s
WRA Warramunga Arr 40.38 197 P **P 05 06 24.9 +0.5**
comp=Z,26nm,1.0s,baz=18,slow=9.2,SNR=91
WRA S **S 05 12 21.9 -1.2**
comp=Z,2.8nm,1.2s,baz=19,slow=15,SNR=3.1
WRA LR LR 05 23 11.6
comp=Z,53nm,19.2s,baz=135,slow=36
LZH Lanzhou 40.57 304 *eP* **P 05 06 25.1 -1.0**
LZH pP pP 05 06 51.6 -3.5
LZH sP sP 05 07 08.4 -1.5
LZH *e*PP **PP 05 08 03.8 +1.7**
LZH pmax pmax
comp=Z,46nm,1.1s
LZH pmax pmax
comp=Z,230nm,4.3s
LZH LR LR
comp=Z,510nm,15.0s
LZH LR LR
comp=Z,690nm,15.6s
LZH LR LR
comp=Z,650nm,16.5s
MA2 Magadan 40.61 4⇓ *eP* **P 05 06 22.4 -3.5**
MA2 pmax pmax
comp=Z,45nm,1.5s
FITZ Fitzroy Crossi 41.94 209 P **P 05 06 37.9 +0.7**
comp=Z,12nm,0.8s,baz=29,slow=8.7,SNR=50
FITZ Fitzroy Crossi 41.94 209 *eP* **P 05 06 38.2 +1.1**
comp=Z,14nm,0.8s
ULN Ulaanbaatar 42.58 321 *ceP* **P 05 06 41.6 -0.7**
ULN pmax pmax
comp=Z,3.0nm,0.8s
SONA0 Songino Array 42.95 321 *eP* **P 05 06 45.1 -0.1**
SONA0 *e*pP **pP 05 07 13.9 -0.7**
SONA0 *e*PP **PcP 05 08 32.9 -0.6**
SONA0 *e*ScP **ScP 05 12 10.1 -2.5**
SONM Songino Array 42.95 321 P **P 05 06 45.1 -0.1**
comp=Z,1.5nm,0.6s,baz=133,slow=8.9,SNR=13
SONM pP **pP 05 07 13.9 -0.7**
comp=Z,1.6nm,0.8s,baz=146,slow=6.8,SNR=3.2
SONM PcP **PcP 05 08 32.9 -0.6**
comp=Z,0.9nm,0.7s,baz=103,slow=2.5,SNR=1.9
SONM ScP **ScP 05 12 10.1 -2.5**
comp=Z,0.4nm,0.7s,baz=35,slow=5.3,SNR=3.6
SONA1 Songino Array 42.95 321 *eP* **P 05 06 44.9 -0.4**
AS01 Alice Springs 44.03 196 *eP* **P 05 06 52.3 -1.7**
AS31 Alice Springs 44.05 196 *eP* **P 05 06 55.9 +1.8**
comp=Z,2.3nm,0.6s
AS31 *e*pP **pP 05 07 24.8 +1.3**
ASAR Alice Springs 44.05 196 P **P 05 06 54.9 +0.8**
comp=Z,2.4nm,0.6s,baz=14,slow=6.2,SNR=28
ASAR pP **pP 05 07 24.8 +1.2**
comp=Z,1.5nm,0.7s,baz=18,slow=9.1,SNR=3.1
ASAR S **S 05 13 16.0 -0.9**
comp=Z,1.9nm,1.0s,baz=20,slow=19,SNR=8.7
ASAR LR LR 05 26 13.9
comp=Z,58nm,18.1s,baz=16,slow=37
SEY Seymchan 44.06 4 P **P 05 06 54.0 +0.3**
comp=Z,1.2nm,0.3s,baz=353,slow=15,SNR=3.7
SEY Seymchan 44.06 4⇑ *eP* **P 05 06 52.1 -1.6**
CM31 Chiang Mai Arr 44.32 277 *eP* **P 05 06 56.7 +0.2**
CM31 *e*pP **pP 05 07 26.0 0.0**
CMAR Chiang Mai Arr 44.32 277 P **P 05 06 56.7 +0.2**
comp=Z,1.6nm,0.4s,baz=67,slow=7.9,SNR=4.4
CMAR pP **pP 05 07 26.0 0.0**
comp=Z,3.7nm,0.8s,baz=65,slow=7.0,SNR=2.5
YAK Yakutsk 44.39 349 P **P 05 06 55.5 -0.8**
comp=Z,12nm,0.4s,baz=158,slow=4.3,SNR=1.9
YAK Yakutsk 44.39 349 *eP* **P 05 06 55.5 -0.8**
comp=Z,30nm,0.9s
YAK Yakutsk 44.39 349 *eP* **P 05 06 58.6 +2.3**
YAK *e* 05 08 39.3
YAK *e*S **S 05 13 25.8 +5.0**
YAK *e* 05 16 43.0
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=Z,27nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK pmax pmax
comp=Z,183nm,4.1s
YAK pmax pmax
comp=N,105nm,4.2s
YAK pmax pmax
comp=E,119nm,3.9s
YAK smax smax
comp=N,89nm,3.2s
YAK smax smax
comp=E,72nm,3.4s
GTA Gaotai 44.45 307 *eP* **P 05 06 59.6 +2.3**
GTA pP pP 05 07 25.6 -1.2
GTA sP sP 05 07 41.8 +0.3
GTA pmax pmax
comp=E,3.0nm,1.2s
DZM Mont Dzumac 45.57 153 LR LR 05 23 36.7
comp=E,56nm,19.1s,baz=25,slow=32
DZM Mont Dzumac 45.57 153 *eP* **P 05 07 06.4 +0.1**
comp=E,20nm,1.0s
LEM Lembang 45.63 239 LR LR 05 26 01.1
comp=E,48nm,19.1s,baz=108,slow=36
BILL Bilibino 50.63 10⇑ *eP* **P 05 07 44.3 -0.2**
BILL *i* 05 08 18.2
BILL *i* 05 09 41.3
BILL pmax pmax
comp=Z,18nm,1.1s
STKA Stephens Creek 50.82 185 P **P 05 07 46.6 +0.3**
comp=Z,1.8nm,0.7s,baz=359,slow=8.9,SNR=3.6
STKA Stephens Creek 50.82 185 *eP* **P 05 07 46.6 +0.3**
comp=Z,1.4nm,1.3s
STKA Stephens Creek 50.82 185 *eP* **P 05 07 46.6 +0.3**
STKA pmax pmax
comp=Z,1.0nm,1.3s
HVS Khovu-Aksy 51.85 321 *eP* **P 05 07 51.8 -2.2**
HVS pmax pmax
comp=Z,2.0nm,0.3s
TIXI Tiksi 53.52 353⇑ *eP* **P 05 08 04.3 -1.5**
TIXI pmax pmax
comp=Z,3.0nm,0.5s
TAPN Taplejung 53.68 290 *eP* pP 05 08 36.9 -1.6
comp=Z,64nm,1.3s
ODAN Odare 54.00 290 *eP* pP 05 08 39.3 -1.5
comp=Z,77nm,1.3s
WMQ Urumqi 54.19 311 *eP* **P 05 08 13.0 +1.8**
WMQ LR LR
comp=Z,100nm,22.7s
WMQ LR LR
comp=Z,78nm,17.9s
RAMN Ramite 54.70 290 *eP* pP 05 08 44.4 -1.5
comp=Z,34nm,1.1s
JIRN Jiri 55.00 291 *eP* pP 05 08 46.9 -1.4
comp=Z,83nm,1.1s
GUN Gumba 55.25 291 *eP* pP 05 08 48.7 -1.4
comp=Z,59nm,1.2s
DGZ Jazzator, Alta 55.35 318⇓ *eP* **P 05 08 19.8 +0.2**
DGZ pmax pmax
comp=Z,1.0nm,0.5s
PKI Pulchoki 55.70 291 *eP* pP 05 08 51.1 -2.2
comp=Z,32nm,1.2s
PKIN Phulchoki 55.71 291 *eP* pP 05 08 51.1 -2.2
comp=Z,29nm,1.2s
KKN Kakani 55.79 291 *eP* pP 05 08 52.3 -1.6
comp=Z,30nm,1.1s
DMN Daman 55.96 291 *eP* pP 05 08 54.1 -1.0
comp=Z,46nm,1.2s
DANN Dangsing 57.08 292 *eP* pP 05 09 01.2 -2.0
comp=Z,64nm,0.8s
KOLN Koldanda 57.27 291 *eP* pP 05 09 02.7 -1.8
comp=Z,41nm,1.0s
PYUN Piuthan 57.78 292 *eP* pP 05 09 06.4 -1.7
comp=Z,57nm,1.0s
ZALV Zalesovo Beam 57.82 322 P **P 05 08 35.8 -1.0**
comp=Z,1.9nm,0.6s,baz=109,slow=8.1,SNR=6.5
ZALV Zalesovo Beam 57.82 322 *eP* **P 05 08 35.5 -1.3**
ZALV Zalesovo Beam 57.82 322 *eP* **P 05 08 35.5 -1.3**
ZAA1 Zalesovo Array 57.82 322 *eP* **P 05 08 35.8 -1.0**
MK32 Makanchi Array 58.32 314 *eP* **P 05 08 39.5 -0.9**
MK32 *e*pP **pP 05 09 10.4 -0.9**
MKAR Makanchi Array 58.32 314 P **P 05 08 39.5 -0.9**
comp=Z,1.0nm,0.6s,baz=88,slow=8.4,SNR=5.1
MKAR pP **pP 05 09 10.4 -0.9**
comp=Z,2.9nm,0.7s,baz=96,slow=8.7,SNR=3.6
MKAR LR LR 05 34 13.3
comp=Z,38nm,18.8s,baz=63,slow=36
NWAO Narrogin (SRO) 59.50 208 P **P 05 08 41.3 -0.4**
comp=Z,13nm,0.7s,baz=269,slow=8.8,SNR=11
KDAK Kodiak Island 58.97 33 P **P 05 08 44.0 -0.6**
comp=Z,10nm,0.8s,baz=198,slow=3.2,SNR=12
KDAK LR LR 05 33 01.7
comp=Z,65nm,19.4s,baz=254,slow=35
IM3 Indian Mountai 60.82 24 *eP* **P 05 08 57.3 +0.1**
KURK Kurchatov 61.10 318 *eP* **P 05 08 58.6 -0.8**
comp=Z,8.1nm,1.4s
KURK Kurchatov 61.10 318⇑ *eP* **P 05 08 58.2 -1.1**
KURK pmax pmax
comp=Z,2.0nm,0.6s
NRIK Noril'sk 61.32 340 LR LR 05 37 30.8
comp=Z,30nm,18.8s,baz=78,slow=38
BPAW Bear Paw Mtn. 61.36 27 *eP* **P 05 09 01.5 +0.6**
comp=Z,17nm,0.9s
TRF Thorofare Moun 61.48 27 *eP* **P 05 09 01.4 -0.5**
comp=Z,26nm,1.0s
MLY Manley 61.72 26 *eP* **P 05 09 04.0 +0.7**
comp=Z,9.9nm,1.0s
SML Sawmill 61.98 29 *eP* **P 05 09 05.2 +0.1**
comp=Z,42nm,1.0s
SML Sawmill 61.98 29 *eP* **P 05 09 05.2 +0.1**
SML pmax pmax
comp=Z,42nm,1.0s
BWN Browne 62.02 27 *eP* **P 05 09 06.5 +1.2**
comp=Z,88nm,0.9s
RND Reindeer 62.10 28 *eP* **P 05 09 06.0 +0.1**
comp=Z,14nm,1.1s
RND Reindeer 62.10 28 *eP* **P 05 09 06.0 +0.1**
RND pmax pmax
comp=Z,14nm,1.1s
SCM Sheep Creek Mo 62.45 29 *eP* **P 05 09 08.8 +0.5**
comp=Z,41nm,1.0s
SCM Sheep Creek Mo 62.45 29 *eP* **P 05 09 08.8 +0.5**
SCM pmax pmax
comp=Z,41nm,1.0s
KSH Kashi 62.78 305 *eP* **P 05 09 15.4 +4.4**
KSH S **S 05 17 32.3 +2.3**
KSH pmax pmax
comp=Z,270nm,4.5s
KSH LR LR
comp=Z,180nm,8.5s
KSH LR LR
comp=Z,280nm,9.3s
IL1 Eielson Array 63.25 26 *eP* **P 05 09 10.8 -2.6**
ILAR Eielson Array 63.25 26 P **P 05 09 11.9 -1.5**
comp=Z,3.6nm,0.7s,baz=253,slow=6.1,SNR=66
ILAR LR LR 05 35 18.1
comp=Z,28nm,20.2s,baz=302,slow=34
ILAR Eielson Array 63.25 26 P **P 05 09 12.0 -1.5**
ILB Eielson Array 63.25 26 *eP* **P 05 09 12.0 -1.5**
PAX Paxson 63.51 28 *eP* **P 05 09 15.6 +0.3**
comp=Z,13nm,1.1s
PAX Paxson 63.51 28 *eP* **P 05 09 15.6 +0.3**
PAX pmax pmax
comp=Z,13nm,1.1s
SCRK Sand Creek 64.34 27 *eP* **P 05 09 20.7 0.0**
comp=Z,16nm,1.1s
BKZ Black Stump Fm 64.64 154 *eP* **P 05 09 22.9 +0.1**
comp=Z,23nm,1.3s
BRVK Borovoye 66.35 320 *eP* **P 05 09 33.3 -0.4**
comp=Z,3.2nm,0.8s
BRVK Borovoye 66.35 320⇑ *eP* **P 05 09 32.9 -0.9**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
DAWY Dawson 66.36 28 *eP* **P 05 09 34.4 +0.7**
comp=Z,13nm,1.3s
KK31 Karatay Array 66.65 309 *eP* **P 05 09 36.7 +0.8**
KK31 Karatay Array 66.65 309 *eP* **P 05 09 36.7 +0.8**
KKAR Karatay Array 66.65 309 *eP* **P 05 09 36.7 +0.8**
KKAR Karatay Array 66.65 309 *eP* **P 05 09 36.7 +0.8**
HYT Haines Junctio 67.03 31 *eP* **P 05 09 39.2 +1.1**
comp=Z,15nm,0.9s
EPYK Eagle Plains 67.65 25 P **P 05 09 42.0 +0.2**
baz=267
INK Inuvik 68.97 23 *eP* **P 05 09 50.0 +0.1**
comp=Z,14nm,1.0s
INK Inuvik 68.97 23 *eP* **P 05 09 50.0 +0.1**
INK pmax pmax
comp=Z,13nm,1.0s
DLBC Dease Lake 70.90 34 *eP* **P 05 10 03.3 +1.3**
comp=Z,14nm,1.0s
ARU Arti 72.86 324 *c iP* **P 05 10 12.5 -1.1**
ARU S **S 05 19 30.9 +1.8**
ARU SS **SS 05 24 05.3 -6.1**
ARU pmax pmax
comp=Z,11nm,2.5s
PPT Papeete 73.14 116 LR LR 05 39 07.1
comp=Z,52nm,19.3s,baz=334,slow=33
ABKAR Akbulak array 73.17 317 *eP* **P 05 10 14.7 -1.0**
PGC Sidney 76.38 43 *eP* **P 05 10 35.2 +1.2**
comp=Z,12nm,1.0s
E03A Lebam 76.80 45 *eP* **P 05 10 37.8 +1.4**
comp=Z,26nm,0.9s
GEYT Alibeck 76.81 306 LR LR 05 45 52.2
comp=Z,23nm,21.9s,baz=355,slow=37
A04D Lummi Island 76.84 43 P **P 05 10 37.7 +1.1**
baz=284
D03D Eldon 76.88 44 P **P 05 10 38.0 +1.1**
baz=284
I02D Swisshome 77.19 48 P **P 05 10 39.9 +1.2**
baz=284
B05A Bryant 77.34 43 P **P 05 10 40.5 +1.0**
baz=285
J01E Myrtle Point 77.36 49 P **P 05 10 40.6 +0.9**
baz=284
E04D Cinebar 77.46 45 P **P 05 10 41.4 +1.2**
baz=285
YKA Yellowknife Ar 77.59 28 P **P 05 10 40.4 -0.2**
comp=Z,5.0nm,0.5s,baz=286,slow=5.7,SNR=30
YKB5 Yellowknife Ar 77.59 28 *eP* **P 05 10 40.8 +0.2**
I03D Irwin, OR 77.64 48 P **P 05 10 42.4 +1.2**
baz=285
K02D Willamette Mer 77.66 49 P **P 05 10 42.3 +0.8**
baz=285
D05A Enumclaw 77.69 44 *eP* **P 05 10 42.8 +1.4**
comp=Z,20nm,0.9s
L02E Cave Junction 77.84 50 P **P 05 10 43.6 +1.2**
baz=285
H04D Lebanon 77.86 47 P **P 05 10 43.2 +0.8**
baz=285
LON Longmire 77.92 45 *eP* **P 05 10 43.5 +0.7**
comp=Z,14nm,1.3s
LON Longmire 77.92 45 *eP* **P 05 10 43.5 +0.7**
LON pmax pmax
comp=Z,14nm,1.3s
KHMM Horse Mountain 78.08 51 *eP* **P 05 10 45.7 +1.8**
comp=Z,29nm,1.1s
HUMO Hull Mountain 78.19 49 *eP* **P 05 10 45.8 +1.4**
comp=Z,15nm,1.1s
H04A Detroit Lake 78.19 47 *eP* **P 05 10 44.9 +0.5**
comp=Z,31nm,1.1s
C06D Leavenworth 78.21 43 P **P 05 10 44.9 +0.5**
baz=286
KMRM Mail Ridge 78.26 51 *eP* **P 05 10 47.1 +2.2**
comp=Z,28nm,1.2s
I04A Tendick Farm, 78.27 48 P **P 05 10 45.3 +0.5**
baz=285,SNR=6.8
F05D White Salmon 78.38 45 P **P 05 10 46.0 +0.7**
baz=286
KCPM Cahto Peak 78.50 52 *eP* **P 05 10 47.8 +1.5**
comp=Z,30nm,0.9s
LTY Liberty 78.53 44 *eP* **P 05 10 46.6 +0.4**
comp=Z,22nm,1.2s
M02C Callahan 78.58 50 P **P 05 10 47.8 +1.2**
baz=286,SNR=5.8
YBH Yreka Blue Hor 78.60 50 P **P 05 10 46.8 +0.1**
comp=Z,10nm,1.0s,baz=264,slow=2.8,SNR=16
YBH Yreka Blue Hor 78.60 50 *eP* **P 05 10 47.7 +1.0**
comp=Z,19nm,1.1s
YBH Yreka Blue Hor 78.60 50 *eP* **P 05 10 47.7 +1.0**
YBH pmax pmax
comp=Z,19nm,1.1s
J04D Umpqua Nationa 78.63 48 P **P 05 10 47.8 +0.8**
baz=286,SNR=7.8
G05D Wamic, OR 78.64 46 P **P 05 10 47.6 +0.8**
baz=286
L04D Klamath Falls 78.76 49 P **P 05 10 48.3 +0.7**
baz=286,SNR=7.6
N02D Trinity Center 78.80 51 P **P 05 10 48.9 +1.1**
baz=286,SNR=6.4
I05D Terrebonne, OR 78.87 47 P **P 05 10 48.8 +0.7**
baz=286
O02D Mt. Diablo Mer 78.95 51 P **P 05 10 49.9 +1.2**
baz=286,SNR=11
K04D Chiloquin, OR 79.04 49 P **P 05 10 49.9 +0.7**
baz=286,SNR=5.9
B08A Colville Reser 79.10 43 *eP* **P 05 10 49.5 +0.3**
comp=Z,17nm,0.9s
G06A Carlson Farm, 79.11 46 *eP* **P 05 10 50.0 +0.6**
comp=Z,14nm,1.3s
M04C Macdoel 79.21 50 P **P 05 10 50.9 +0.8**
baz=286,SNR=13
J05D Fort Rock, OR 79.23 48 P **P 05 10 51.2 +1.0**
baz=286,SNR=22
PINE Pine Mountain 79.30 47 *eP* **P 05 10 51.8 +1.2**
comp=Z,46nm,0.9s
F07A Phinny Hill Vi 79.40 45 *eP* **P 05 10 51.8 +1.0**
comp=Z,19nm,1.1s
HAWA Hanford 79.53 45 *eP* **P 05 10 52.6 +1.1**
comp=Z,21nm,1.0s
O03E Paynes Creek 79.65 51 P **P 05 10 52.7 +0.3**
baz=286,SNR=13
E08A Dider Farm, El 79.81 44 *eP* **P 05 10 54.1 +1.1**
comp=Z,26nm,1.2s
C09A Chrisman Ranch 79.94 43 *eP* **P 05 10 54.2 +0.4**
comp=Z,20nm,1.0s
ORV Oroville 80.08 52 *eP* **P 05 10 54.8 +0.2**
comp=Z,21nm,1.1s
ORV Oroville 80.08 52 *eP* **P 05 10 54.8 +0.2**
ORV pmax pmax
comp=Z,21nm,1.1s
G08A Pilot Rock 80.23 46 *eP* **P 05 10 56.0 +0.5**
comp=Z,15nm,1.1s
MOD Modoc Plateau 80.28 49 *eP* **P 05 10 56.4 +0.5**
comp=Z,20nm,1.0s
E09A Wood Farm, Sta 80.41 44 *eP* **P 05 10 57.0 +0.7**
comp=Z,28nm,1.0s
NEW Newport 80.54 42 P **P 05 10 57.0 0.0**
comp=Z,14nm,0.9s,baz=285,slow=4.6,SNR=29
NEW LR LR 05 41 48.0
comp=Z,62nm,21.6s,baz=240,slow=32
NEW Newport 80.54 42 *eP* **P 05 10 57.5 +0.5**
NEW Newport 80.54 42 *eP* **P 05 10 57.5 +0.5**
NEW Newport 80.54 42 P **P 05 10 57.4 +0.4**
baz=288
AFDM Forest Hills D 80.64 52 *eP* **P 05 10 58.6 +0.8**
comp=Z,14nm,1.0s
BEKR Beckworth 80.83 51 *eP* **P 05 10 59.3 +0.4**
comp=Z,21nm,0.9s
SAO San Andreas Ge 80.92 54 *eP* **P 05 10 59.9 +0.7**
comp=Z,14nm,1.3s
SAO San Andreas Ge 80.92 54 *eP* **P 05 10 59.9 +0.7**
SAO pmax pmax
comp=Z,14nm,1.3s
J08A Circle Bar Ran 81.14 47 *eP* **P 05 11 00.5 +0.1**
comp=Z,29nm,1.1s
F10A Beach Ranch, E 81.18 44 *eP* **P 05 11 01.2 +0.7**
comp=Z,15nm,1.3s
WVOR Wild Horse Val 81.31 48 *eP* **P 05 11 01.8 +0.5**
comp=Z,22nm,1.0s
WVOR Wild Horse Val 81.31 48 *eP* **P 05 11 01.8 +0.5**
WVOR pmax pmax
comp=Z,22nm,1.0s
CMB Columbia Colle 81.35 53 *eP* **P 05 11 02.2 +0.7**
comp=Z,18nm,1.0s
CMB Columbia Colle 81.35 53 *eP* **P 05 11 02.2 +0.7**
CMB pmax pmax
comp=Z,18nm,1.0s
BMO Blue Mountains 81.48 46 *eP* **P 05 11 02.6 +0.5**
comp=Z,20nm,1.0s
BMO Blue Mountains 81.48 46 *eP* **P 05 11 02.6 +0.5**
BMO pmax pmax
comp=Z,20nm,1.0s
VCNR Virginia City 81.52 51 *eP* **P 05 11 03.7 +1.1**
comp=Z,14nm,1.0s
PMPB Monarch Peak 81.58 55 *eP* **P 05 11 04.5 +1.8**
comp=Z,26nm,1.3s
PAHR Pah Rah Range 81.60 51 *eP* **P 05 11 03.4 +0.5**
comp=Z,19nm,1.1s
PNTR Pine Nut 81.62 52 *eP* **P 05 11 04.1 +0.9**
comp=Z,20nm,0.8s
YERR Yerington 81.92 52 *eP* **P 05 11 05.4 +0.7**
comp=Z,30nm,1.1s
WAKR Walker 81.92 52 *eP* **P 05 11 05.7 +0.9**
comp=Z,13nm,1.0s
PAGB Antelope Grade 82.15 55 *eP* **P 05 11 07.1 +1.3**
comp=Z,27nm,1.1s
ARA0 ARCESS Array S 82.19 342 *eP* **P 05 11 05.0 -0.2**
ARA0 *e*pP **pP 05 11 38.6 +0.5**
ARCES ARCESS Array B 82.19 342 P **P 05 11 05.0 -0.2**
comp=Z,4.9nm,0.5s,baz=68,slow=7.4,SNR=52
ARCES pP **pP 05 11 38.6 +0.5**
comp=Z,3.0nm,0.7s,baz=69,slow=6.6,SNR=3.2
WALA Waterton Lakes 82.29 41 *eP* **P 05 11 07.6 +1.3**
comp=Z,19nm,1.0s
MDPB Devils Postpil 82.46 53 *eP* **P 05 11 08.5 +0.9**
comp=Z,11nm,1.1s
JTMT Jette 82.51 42 *eP* **P 05 11 08.2 +0.8**
comp=Z,22nm,1.1s
OMMB Old Mammoth Mi 82.53 53 *eP* **P 05 11 07.2 -0.9**
comp=Z,13nm,1.2s
RYN Ryan 82.56 52 *eP* **P 05 11 08.8 +0.8**
comp=Z,22nm,0.9s
MLAC Mammoth, Mammo 82.64 53 P **P 05 11 09.4 +0.9**
baz=288,SNR=6.9
KVN Kaiserville 82.75 51 *eP* **P 05 11 09.5 +0.5**
comp=Z,24nm,1.0s
KVN Kaiserville 82.75 51 *eP* **P 05 11 09.5 +0.5**
KVN pmax pmax
comp=Z,24nm,1.0s
PKM Mcpherson Peak 82.75 56 P **P 05 11 09.9 +0.8**
baz=288,SNR=18
NV01 Mina Array Sit 82.79 52 *eP* **P 05 11 09.4 +0.1**
NVAR Mina Array Bea 82.79 52 P **P 05 11 10.0 +0.7**
comp=Z,22nm,0.8s,baz=268,slow=6.7,SNR=122
NVAR LR LR 05 39 59.6
comp=Z,24nm,21.5s,baz=290,slow=30
NV11 Mina Array Sit 82.90 52 *eP* **P 05 11 09.7 0.0**
comp=Z,18nm,1.0s
SBC Santa Barbara 82.96 56 P **P 05 11 10.6 +0.6**
baz=288
VES Vestal, Richgr 83.02 55 P **P 05 11 09.8 -0.4**
baz=289,SNR=6.9
MSO Missoula 83.04 43 P **P 05 11 09.9 -0.4**
baz=290
SCZ2 Santa Cruz Isl 83.16 57 P **P 05 11 11.2 +0.2**
baz=288
TIN Tinemaha, Big 83.28 53 P **P 05 11 12.7 +1.0**
baz=289
ARVC Arvin 83.44 55 P **P 05 11 12.6 +0.2**
baz=289
SNCC San Nicolas Is 83.49 57 P **P 05 11 12.9 +0.2**
baz=289
ISA Isabella, Lake 83.54 55 *eP* **P 05 11 13.1 +0.1**
comp=Z,7.4nm,1.1s
ISA Isabella, Lake 83.54 55 *eP* **P 05 11 13.1 +0.1**

ISA				pmax		pmax		
	comp=Z,7.0nm,1.1s							
ISA	**Isabella, Lake**	**83.54**	**55**	P		**P**	**05 11 12.8**	**-0.1**
	baz=289,SNR=8.2							
BLG	**Laguna Peak, P**	**83.58**	**56**	P		**P**	**05 11 13.2**	**+0.1**
	baz=289							
CWC	**Cottonwood Cre**	**83.60**	**54**	P		**P**	**05 11 13.8**	**+0.4**
	baz=289							
HLID	**Hailey**	**83.87**	**46**	*e*P		**P**	**05 11 15.1**	**+0.5**
	comp=Z,10nm,1.0s							
HLID	**Hailey**	**83.87**	**46**	P		**P**	**05 11 15.2**	**+0.5**
	baz=291							
GRAC	**Grapevine Rang**	**83.96**	**53**	P		**P**	**05 11 15.7**	**+0.7**
	baz=289							
DAC	**Darwin (Calif)**	**84.02**	**54**	*e*P		**P**	**05 11 15.8**	**+0.3**
	comp=Z,10.0nm,1.0s							
DAC	**Darwin (Calif)**	**84.02**	**54**	*e*P		**P**	**05 11 15.8**	**+0.3**
DAC				pmax		pmax		
	comp=Z,10.0nm,1.0s							
EDW2	**Edwards Air Fo**	**84.17**	**55**	P		**P**	**05 11 16.6**	**+0.5**
	baz=289,SNR=12							
MPMC	**Manual Prospec**	**84.17**	**54**	P		**P**	**05 11 16.8**	**+0.4**
	baz=289,SNR=20							
LRMC	**Laurel Mtn Rad**	**84.21**	**55**	P		**P**	**05 11 16.8**	**+0.3**
	baz=289,SNR=13							
CIS	**Catalina Islan**	**84.32**	**57**	P		**P**	**05 11 16.9**	**0.0**
	baz=289,SNR=5.8							
MWC	**Mount Wilson**	**84.33**	**56**	*e*P		**P**	**05 11 17.2**	**0.0**
	comp=Z,18nm,1.2s							
MWC	**Mount Wilson**	**84.33**	**56**	*e*P		**P**	**05 11 17.2**	**0.0**
MWC				pmax		pmax		
	comp=Z,18nm,1.2s							
SCI2	**San Clemente I**	**84.35**	**57**	P		**P**	**05 11 16.8**	**-0.2**
	baz=289							
HRY	**Holter Researc**	**84.44**	**42**	*e*P		**P**	**05 11 17.9**	**+0.5**
DLMT	**Dillon**	**84.44**	**44**	*e*P		**P**	**05 11 18.1**	**+0.7**
	comp=Z,17nm,1.2s							
MCMT	**McKenzie Canyo**	**84.47**	**45**	*e*P		**P**	**05 11 18.4**	**+0.7**
FURC	**Furnace Creek,**	**84.51**	**53**	P		**P**	**05 11 18.3**	**+0.6**
	baz=290,SNR=9.5							
BFSC	**Mount Baldy Ra**	**84.64**	**56**	P		**P**	**05 11 18.3**	**-0.4**
	baz=290							
TPNV	**Topopah Spring**	**84.82**	**53**	*e*P		**P**	**05 11 19.9**	**+0.4**
	comp=Z,22nm,1.0s							
TPNV	**Topopah Spring**	**84.82**	**53**	*e*P		**P**	**05 11 19.9**	**+0.4**
TPNV				pmax		pmax		
	comp=Z,22nm,1.0s							
TPNV	**Topopah Spring**	**84.82**	**53**	P		**P**	**05 11 19.9**	**+0.4**
	baz=290,SNR=24							
RRX	**Edison Barstow**	**84.94**	**55**	P		**P**	**05 11 20.3**	**+0.3**
	baz=290							
GSC	**Goldstone, Bar**	**84.95**	**55**	*e*P		**P**	**05 11 20.6**	**+0.5**
	comp=Z,14nm,1.1s							
GSC	**Goldstone, Bar**	**84.95**	**55**	*e*P		**P**	**05 11 20.6**	**+0.5**
GSC				pmax		pmax		
	comp=Z,14nm,1.1s							
GSC	**Goldstone, Bar**	**84.95**	**55**	P		**P**	**05 11 20.4**	**+0.3**
	baz=290,SNR=13							
BOZ	**Bozeman (W)**	**84.98**	**43**	*e*P		**P**	**05 11 20.4**	**+0.2**
	comp=Z,18nm,1.1s							
BOZ	**Bozeman (W)**	**84.98**	**43**	*e*P		**P**	**05 11 20.4**	**+0.2**
BOZ				pmax		pmax		
	comp=Z,18nm,1.1s							
BOZ	**Bozeman (W)**	**84.98**	**43**	P		**P**	**05 11 20.6**	**+0.5**
	baz=292							
SHOC	**Shoshone, Teco**	**85.15**	**54**	P		**P**	**05 11 21.1**	**+0.1**
	baz=290							
BBRC	**Big Bear Solar**	**85.21**	**56**	P		**P**	**05 11 21.6**	**0.0**
	baz=290							
MURC	**Murrieta**	**85.21**	**56**	P		**P**	**05 11 21.3**	**-0.1**
	baz=290							
EGMT	**Eagleton**	**85.24**	**41**	*e*P		**P**	**05 11 21.4**	**+0.2**
	comp=Z,15nm,0.9s							
EGMT	**Eagleton**	**85.24**	**41**	P		**P**	**05 11 21.5**	**+0.2**
	baz=293							
QLMT	**Earthquake Lak**	**85.41**	**44**	*e*P		**P**	**05 11 23.5**	**+1.1**
HEC	**Hector,Ludlow**	**85.47**	**55**	P		**P**	**05 11 22.9**	**+0.2**
	baz=290							
TUQ	**Turquoise Moun**	**85.58**	**54**	P		**P**	**05 11 23.6**	**+0.3**
	baz=290,SNR=12							
YHB	**Horse Butte**	**85.59**	**44**	*e*P		**P**	**05 11 24.9**	**+1.6**
	comp=Z,42nm,1.0s							
NCK	**Nalchik**	**85.61**	**315↑**	*e*P		**P**	**05 11 20.9**	**-2.3**
NCK				pmax		pmax		
	comp=Z,14nm,0.6s							
HVU	**Hansel Valley**	**85.63**	**47**	*e*P		**P**	**05 11 24.3**	**+0.8**
	comp=Z,27nm,1.0s							
HVU	**Hansel Valley**	**85.63**	**47**	*e*P		**P**	**05 11 24.3**	**+0.8**
HVU				pmax		pmax		
	comp=Z,27nm,1.0s							
FRD	**Ford Ranch, An**	**85.72**	**56**	P		**P**	**05 11 24.1**	**+0.1**
	baz=290,SNR=7.9							
BGU	**Big Grassy Mou**	**85.77**	**48**	*e*P		**P**	**05 11 24.7**	**+0.5**
	comp=Z,8.1nm,1.0s							
YMR	**Madison River**	**85.77**	**44**	*e*P		**P**	**05 11 25.6**	**+1.4**
	comp=Z,53nm,1.0s							
PFO	**Pinyon Flats O**	**85.79**	**56**	*e*P		**P**	**05 11 24.8**	**+0.4**
	comp=Z,17nm,1.2s							
PFO	**Pinyon Flats O**	**85.79**	**56**	*e*P		**P**	**05 11 24.8**	**+0.4**
PFO				pmax		pmax		
	comp=Z,17nm,1.2s							
PFO	**Pinyon Flats O**	**85.79**	**56**	P		**P**	**05 11 24.4**	**0.0**
	baz=290,SNR=8.3							
SHPR	**Sheep Range**	**85.79**	**53**	*e*P		**P**	**05 11 25.3**	**+0.9**
	comp=Z,10nm,1.0s							
XPFO	**Piæon Flat**	**85.79**	**56**	*e*P		**P**	**05 11 24.8**	**+0.4**
	comp=Z,15nm,1.1s							
YHH	**Holmes Hill**	**85.80**	**44**	*e*P		**P**	**05 11 25.7**	**+1.2**
	comp=Z,31nm,1.2s							
BAR	**Barrett**	**85.94**	**57**	*e*P		**P**	**05 11 25.4**	**+0.4**
	comp=Z,11nm,1.1s							
YFT	**Old Faithful**	**85.94**	**44**	*e*P		**P**	**05 11 27.9**	**+2.9**
	comp=Z,30nm,1.0s							
YNR	**Norris Junctio**	**85.94**	**44**	*e*P		**P**	**05 11 27.4**	**+2.3**
	comp=Z,50nm,1.1s							
KBZ	**Khabaz**	**85.99**	**315**	LR		LR	05 53 27.2	
	comp=Z,25nm,20.4s,baz=245,slow=38							
GMRC	**Granite Mounta**	**86.01**	**55**	P		**P**	**05 11 25.8**	**+0.4**
	baz=290,SNR=8.7							
BELC	**Belle Mtn. Jos**	**86.02**	**56**	P		**P**	**05 11 25.4**	**-0.1**
	baz=290,SNR=8.3							
YPP	**Pitchstone Pla**	**86.03**	**44**	*e*P		**P**	**05 11 27.7**	**+2.1**
	comp=Z,9.9nm,0.9s							
SPUT	**South Promonto**	**86.03**	**48**	*e*P		**P**	**05 11 26.0**	**+0.5**
	comp=Z,18nm,0.9s							
PSUT	**Pine Spring**	**86.04**	**51**	*e*P		**P**	**05 11 26.5**	**+0.9**
	comp=Z,21nm,1.0s							
KIV	**Kislovodsk**	**86.05**	**315**	*e*P		**P**	**05 11 25.8**	**+0.4**
KIV				pmax		pmax		
	comp=Z,11nm,1.1s							
MONP2	**Monument Peak**	**86.06**	**57**	P		**P**	**05 11 25.9**	**+0.1**
	baz=290,SNR=17							
FXWY	**Fox Creek**	**86.13**	**45**	*e*P		**P**	**05 11 27.0**	**+1.0**
	comp=Z,14nm,0.9s							
H17A	**Grant Village**	**86.14**	**44**	*e*P		**P**	**05 11 28.8**	**+2.8**
	comp=Z,31nm,1.1s							
H17A	**Grant Village**	**86.14**	**44**	P		**P**	**05 11 28.4**	**+2.4**
	baz=293							
FLWY	**Flagg Ranch**	**86.17**	**45**	*e*P		**P**	**05 11 27.9**	**+1.7**
	comp=Z,28nm,0.8s							
GCMT	**Greycliff**	**86.18**	**43**	*e*P		**P**	**05 11 27.1**	**+1.1**
DUG	**Dugway, Tooele**	**86.19**	**49**	*e*P		**P**	**05 11 26.6**	**+0.4**
	comp=Z,30nm,1.1s							
DUG				*e*pP		**pP**	**05 12 00.4**	**+1.1**
DUG	**Dugway, Tooele**	**86.19**	**49**	P		**P**	**05 11 26.7**	**+0.4**
	baz=292							
TPAW	**Teton Pass**	**86.23**	**45**	*e*P		**P**	**05 11 27.4**	**+0.8**
	comp=Z,12nm,0.9s							
MOOW	**Moose Ponds**	**86.27**	**45**	*e*P		**P**	**05 11 27.4**	**+0.7**
	comp=Z,14nm,1.0s							
LDFC	**Landfair**	**86.33**	**54**	*e*P		**P**	**05 11 27.5**	**+0.6**
	comp=Z,28nm,1.0s							
REDW	**Red Top Meadow**	**86.35**	**45**	*e*P		**P**	**05 11 28.1**	**+1.0**
	comp=Z,16nm,1.2s							
SNOW	**Snow King Moun**	**86.38**	**45**	*e*P		**P**	**05 11 28.4**	**+1.2**
	comp=Z,10.0nm,1.1s							
IKP	**In-Ko-Pah, Jac**	**86.39**	**57**	P		**P**	**05 11 27.5**	**+0.2**
	baz=290,SNR=7.2							
AHID	**Auburn Hatcher**	**86.41**	**46**	*e*P		**P**	**05 11 28.0**	**+0.7**
	comp=Z,28nm,1.1s							
LOHW	**Long Hollow**	**86.42**	**45**	*e*P		**P**	**05 11 28.0**	**+0.6**
	comp=Z,16nm,1.2s							
HWUT	**Hardware Ranch**	**86.54**	**47**	*e*P		**P**	**05 11 28.4**	**+0.5**
	comp=Z,30nm,0.9s							
HWUT				*e*pP		**pP**	**05 12 01.8**	**+0.7**
BC3	**Big Chuckawall**	**86.56**	**56**	P		**P**	**05 11 28.4**	**+0.3**
	baz=291,SNR=11							
FIA0	**FINESS Array S**	**86.61**	**335**	*e*P		**P**	**05 11 25.8**	**-1.9**
FIA0				*e*pP		**pP**	**05 12 01.7**	**+1.0**
FIA0	**FINESS Array S**	**86.61**	**335**	*e*P		**P**	**05 11 25.8**	**-1.9**
FIA0				*e**PP		**pP**	**05 12 01.7**	**+1.0**
FINES	**FINESS Array B**	**86.61**	**335**	P		**P**	**05 11 25.8**	**-1.9**
	comp=Z,2.1nm,0.4s,baz=66,slow=4.5,SNR=21							
FINES				pP		**pP**	**05 12 01.7**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=76,slow=8.0,SNR=2.4							
IRM	**Iron Mountain**	**86.62**	**55**	P		**P**	**05 11 28.5**	**+0.1**
	baz=291,SNR=10.0							
FFC	**Flin Flon**	**86.70**	**33**	*e*P		**P**	**05 11 28.7**	**+0.5**
	comp=Z,22nm,0.9s							
FFC	**Flin Flon**	**86.70**	**33**	*ce*P		**P**	**05 11 28.8**	**+0.5**
FFC				pmax		pmax		
	comp=Z,75nm,1.3s							
RLMT	**Red Lodge**	**86.70**	**43**	*e*P		**P**	**05 11 30.2**	**+1.4**
	comp=Z,25nm,1.0s							
RLMT				*e*pP		**pP**	**05 12 00.2**	**-1.7**
RLMT	**Red Lodge**	**86.70**	**43**	P		**P**	**05 11 29.6**	**+0.9**
	baz=294							
CTU	**Camp Tracy**	**86.75**	**48**	*e*P		**P**	**05 11 29.7**	**+0.7**
	comp=Z,22nm,1.1s							
CCUT	**Cedar City**	**86.76**	**51**	*e*P		**P**	**05 11 30.1**	**+0.9**
	comp=Z,18nm,1.1s							
NLU	**North Lily Min**	**86.80**	**49**	*e*P		**P**	**05 11 30.2**	**+0.9**
	comp=Z,14nm,0.9s							
NEE2	**Needles Airpor**	**86.81**	**54**	P		**P**	**05 11 29.6**	**+0.4**
	baz=291							
TCUT	**Toone Canyon**	**86.83**	**48**	*e*P		**P**	**05 11 30.0**	**+0.5**
	comp=Z,34nm,1.1s							
SZCU	**Shutz Canyon**	**86.95**	**51**	*e*P		**P**	**05 11 30.8**	**+0.8**
	comp=Z,11nm,1.0s							
JLU	**Jordanelle**	**87.00**	**48**	*e*P		**P**	**05 11 30.8**	**+0.5**
	comp=Z,25nm,0.9s							
JLU				*e*pP		**pP**	**05 12 01.2**	**-2.2**
LCMT	**Little Creek M**	**87.05**	**52**	*e*P		**P**	**05 11 31.3**	**+0.8**
	comp=Z,15nm,1.1s							
MPU	**Maple Canyon**	**87.09**	**49**	*e*P		**P**	**05 11 31.5**	**+0.8**
	comp=Z,13nm,1.0s							
W13A	**Hualapai Mount**	**87.26**	**54**	*e*P		**P**	**05 11 32.1**	**+0.5**
	comp=Z,8.5nm,0.9s							
GLA	**Glamis**	**87.26**	**56**	P		**P**	**05 11 32.0**	**+0.6**
	baz=291							
MSU	**Marysvale**	**87.27**	**50**	*e*P		**P**	**05 11 32.6**	**+1.0**
MSU	**Marysvale**	**87.27**	**50**	*e*P		**P**	**05 11 32.6**	**+1.0**
PDMCI	**Parker Dam,Lak**	**87.35**	**55**	P		**P**	**05 11 32.1**	**+0.4**
	baz=291,SNR=5.8							
KNB	**Kanab**	**87.36**	**52**	*e*P		**P**	**05 11 33.1**	**+1.2**
	comp=Z,31nm,1.0s							
KNB	**Kanab**	**87.36**	**52**	*e*P		**P**	**05 11 33.2**	**+1.2**
KNB				pmax		pmax		
	comp=Z,31nm,1.0s							
MTPU	**Mount Pierson**	**87.44**	**51**	*e*P		**P**	**05 11 33.7**	**+1.0**
	comp=Z,9.1nm,1.1s							
BW06	**Boulder Array**	**87.46**	**46**	*e*P		**P**	**05 11 31.3**	**-1.1**
	comp=Z,6.6nm,1.3s							
BW06	**Boulder Array**	**87.46**	**46**	P		**P**	**05 11 32.3**	**-0.1**
	baz=294							
PD31	**Pinedale Array**	**87.46**	**46**	*e*P		**P**	**05 11 32.5**	**+0.1**
PDAR	**Pinedale Array**	**87.46**	**46**	P		**P**	**05 11 32.1**	**-0.3**
	comp=Z,1.5nm,0.4s,baz=194,slow=1.0,SNR=30							
PDAR	**Pinedale Array**	**87.46**	**46**	*e*P		**P**	**05 11 31.0**	**-1.4**
PKCU	**Pink Cliffs**	**87.58**	**51**	*e*P		**P**	**05 11 34.6**	**+1.4**
	comp=Z,8.2nm,0.9s							
TMUT	**Trail Mountain**	**87.67**	**49**	*e*P		**P**	**05 11 34.5**	**+0.9**
	comp=Z,13nm,1.0s							
P17A	**Butcher Ranch,**	**87.94**	**49**	*e*P		**P**	**05 11 35.7**	**+1.0**
	comp=Z,24nm,1.2s							
U15A	**North Rim**	**87.97**	**52**	*e*P		**P**	**05 11 36.0**	**+1.0**
	comp=Z,16nm,0.9s							
LAO	**LASA Array**	**87.98**	**41**	*e*P		**P**	**05 11 35.0**	**+0.4**
	comp=Z,21nm,1.1s							
LAO	**LASA Array**	**87.98**	**41**	P		**P**	**05 11 35.2**	**+0.6**
	baz=296							
113A	**Mohawk Valley,**	**88.20**	**56**	*e*P		**P**	**05 11 36.3**	**+0.4**
	comp=Z,6.1nm,1.1s							
P18A	**Preston Nutter**	**88.23**	**49**	*e*P		**P**	**05 11 37.0**	**+0.8**
	comp=Z,11nm,1.0s							
SRU	**San Rafael Swe**	**88.23**	**49**	*e*P		**P**	**05 11 36.5**	**+0.4**
	comp=Z,22nm,1.0s							
SRU	**San Rafael Swe**	**88.23**	**49**	*e*P		**P**	**05 11 36.5**	**+0.4**
SRU				pmax		pmax		
	comp=Z,23nm,1.0s							
DGMT	**Dagmar**	**88.41**	**39**	P		**P**	**05 11 36.1**	**-0.5**
	baz=297							
WUAZ	**Wupatki**	**89.01**	**53**	*e*P		**P**	**05 11 41.0**	**+1.2**
	comp=Z,30nm,1.0s							
WUAZ	**Wupatki**	**89.01**	**53**	P		**P**	**05 11 40.8**	**+1.0**
	baz=293							
X16A	**Lo Mia Camp, P**	**89.38**	**54**	*e*P		**P**	**05 11 42.8**	**+1.2**
	comp=Z,8.8nm,1.1s							
RWWY	**Rawlins**	**89.49**	**46**	*e*P		**P**	**05 11 43.1**	**+1.0**
	comp=Z,22nm,1.3s							
MVCO	**Mesa Verde**	**90.46**	**50**	*e*P		**P**	**05 11 47.5**	**+0.8**
	comp=Z,18nm,1.3s							
MVCO	**Mesa Verde**	**90.46**	**50**	P		**P**	**05 11 47.0**	**+0.3**
	baz=295							
X18A	**Snowflake**	**90.47**	**53**	*e*P		**P**	**05 11 48.0**	**+1.4**
	comp=Z,7.3nm,0.8s							
RSSD	**Black Hills**	**90.51**	**43**	*e*P		**P**	**05 11 46.4**	**-0.3**
	comp=Z,7.7nm,1.1s							
RSSD	**Black Hills**	**90.51**	**43**	*e*P		**P**	**05 11 46.4**	**-0.3**
RSSD				pmax		pmax		
	comp=Z,8.0nm,1.1s							
RSSD	**Black Hills**	**90.51**	**43**	P		**P**	**05 11 46.2**	**-0.5**
	baz=298							
TUC	**Tucson**	**90.70**	**55**	P		**P**	**05 11 48.6**	**+0.9**
	baz=293							
SMCO	**Snowmass**	**90.72**	**48**	*e*P		**P**	**05 11 49.0**	**+0.9**
	comp=Z,12nm,1.0s							
ISCO	**Idaho Springs**	**91.40**	**47**	*e*P		**P**	**05 11 52.2**	**+1.1**
	comp=Z,8.9nm,1.0s							
ISCO	**Idaho Springs**	**91.40**	**47**	*e*P		**P**	**05 11 52.2**	**+1.1**
ISCO				pmax		pmax		
	comp=Z,9.0nm,1.0s							
ISCO	**Idaho Springs**	**91.40**	**47**	P		**P**	**05 11 51.8**	**+0.8**
	baz=296							
ULM	**Lac du Bonnet**	**92.21**	**34**	P		**P**	**05 11 52.2**	**-1.9**
	comp=Z,5.0nm,0.9s,baz=352,slow=7.1,SNR=3.7							
NB200	**NORSAR Array S**	**92.28**	**340**	*e*P		**P**	**05 11 52.8**	**-1.5**
NOA	**NORSAR Array B**	**92.28**	**340**	P		**P**	**05 11 52.8**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=45,slow=4.4,SNR=3.0							
NOA				LR		LR	05 56 52.8	
	comp=Z,14nm,18.3s,baz=40,slow=38							
SDCO	**Great Sand Dun**	**92.39**	**49**	*e*P		**P**	**05 11 56.5**	**+0.8**
	comp=Z,6.0nm,1.0s							
SDCO	**Great Sand Dun**	**92.39**	**49**	P		**P**	**05 11 56.1**	**+0.4**
	baz=296							
LAZ	**Ladron**	**92.64**	**52**	*e*P		**P**	**05 11 58.0**	**+1.2**
ANMO	**Albuquerque**	**92.91**	**52**	P		**P**	**05 11 57.8**	**-0.2**
	comp=Z,7.5nm,1.0s,baz=264,slow=4.3,SNR=19							
ANMO	**Albuquerque**	**92.91**	**52**	*e*P		**P**	**05 11 58.7**	**+0.7**
	comp=Z,12nm,1.1s							
ANMO	**Albuquerque**	**92.91**	**52**	*ce*P		**P**	**05 11 59.1**	**+1.1**
ANMO				pmax		pmax		
	comp=Z,13nm,1.2s							
ANMO	**Albuquerque**	**92.91**	**52**	P		**P**	**05 11 58.7**	**+0.7**
	baz=296							
AGMN	**Agassiz Nation**	**93.29**	**36**	P		**P**	**05 11 58.9**	**-0.3**
	baz=304							
BR101	**Keskin Array S**	**93.96**	**314**	*e*P		**P**	**05 12 00.7**	**-2.0**
BRTR	**Keskin Array B**	**93.96**	**314**	P		**P**	**05 12 00.6**	**-2.0**
	comp=Z,0.6nm,0.7s,baz=78,slow=6.0,SNR=2.9							
MNTX	**Cornudas Mount**	**95.13**	**54**	*e*P		**P**	**05 12 08.6**	**+0.6**
	comp=Z,5.8nm,0.9s							
MNTX	**Cornudas Mount**	**95.13**	**54**	P		**P**	**05 12 08.2**	**+0.2**
	baz=296							
LTX	**Lajitas**	**97.50**	**56**	*e*P		**P**	**05 12 18.5**	**-0.4**
LTX	**Lajitas**	**97.50**	**56**	*e*P		**P**	**05 12 18.5**	**-0.4**
TXAR	**Lajitas Array**	**97.50**	**56**	P		**P**	**05 12 18.5**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=266,slow=3.0,SNR=7.2							
MODS	**Modra-Piesok**	**98.70**	**328**	*e*P		**P**	**05 12 21.9**	**-1.9**
MODS	**Modra-Piesok**	**98.70**	**328**	*e*PDIFF		**P**	**05 12 21.9**	**-1.9**
TOA1	**Torodi Ar. Sit**	**132.34**	**310**	*e*PKPdf		**PKPdf**	**05 17 56.6**	**-2.2**
TORD	**Torodi Ar. Bea**	**132.34**	**310**	PKP		**PKPdf**	**05 17 56.6**	**-2.2**
	comp=Z,0.1nm,0.5s,baz=335,slow=1.7,SNR=3.1							
LCO	**Las Campanas**	**145.29**	**114**	*e*PKPdf		**PKPab**	**05 18 23.1**	**+0.5**
LCO	**Las Campanas**	**145.29**	**114**	*e*PKP2		**PKPab**	**05 18 23.1**	**+0.5**
AUSP	**Uspallata**	**145.79**	**120**	*i* P		**PKPdf**	**05 18 24.5**	**+1.4**
AUSP				*e*S		**pPKPdf**	**05 18 58.0**	**0.0**
RTLS	**Leoncito**	**145.97**	**119**	*i* P		**PKPdf**	**05 18 24.7**	**+1.2**
RTLS				IAML			05 18 26.0	
	comp=Z,5.3nm,0.4s							
RTLS				*i* S		**pPKPdf**	**05 18 59.5**	**+1.1**
ARCO	**CERRO ARCO**	**146.01**	**121**	*i* P		**PKPdf**	**05 18 24.3**	**+0.9**
ARCO				*i* S		**pPKPdf**	**05 18 58.4**	**+0.2**
ARCO				IAML			05 19 00.3	
	comp=Z,5.3nm,0.6s							
AAGR	**Agrelo**	**146.03**	**121**	*i* P		**PKPdf**	**05 18 25.0**	**+1.8**
AAGR				*e*S		**pPKPdf**	**05 18 57.9**	**-0.3**
AAGR				*i* S			05 18 59.4	
ASAL	**Salagasta**	**146.15**	**120**	*i* P		**PKPdf**	**05 18 25.1**	**+1.7**
ASAL				*i* S		**pPKPdf**	**05 18 58.2**	**-0.2**
RTLL	**Cerro Villicun**	**146.76**	**118**	*i* P		**PKPdf**	**05 18 26.3**	**+1.8**
RTLL				*e*S		**pPKPdf**	**05 18 59.8**	**+0.4**
RTLL				*i* S			05 19 02.5	
LPAZ	**La Paz**	**147.53**	**91**	PKPbc		**PKPbc**	**05 18 28.4**	**-1.2**
	comp=Z,2.6nm,0.8s,baz=317,slow=2.5,SNR=9.6							
LPAZ				pPKPbc		**pPKPbc**	**05 19 03.2**	**-1.0**
	comp=Z,2.9nm,0.7s,baz=306,slow=3.1,SNR=4.0							
LPAZ	**La Paz**	**147.53**	**91**	*e*PKPdf		**PKPbc**	**05 18 29.0**	**-0.6**
LPAZ	**La Paz**	**147.53**	**91**	*e*PKP2		**PKPbc**	**05 18 29.0**	**-0.6**
PTGA	**Pitinga**	**148.80**	**57**	*e*PKPbc		**PKPbc**	**05 18 32.4**	**+0.1**
SAML	**Samuel**	**150.13**	**74**	*e*PKPbc		**PKPbc**	**05 18 34.8**	**-0.7**
SAML	**Samuel**	**150.13**	**74**	*e*PKIKP		**PKPbc**	**05 18 34.8**	**-0.7**
CPUP	**Villa Florida**	**157.44**	**113**	PKPab		**PKPab**	**05 19 12.0**	**-0.6**
	comp=Z,2.8nm,1.0s,baz=231,slow=6.5,SNR=3.6							

IDC 15 05:09:22.1±1.8, 4°.17S×145°.21E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.6/38, mbtmp3.7/4, ML3.8/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/32, Error ellipse: s-maj=83.6km s-min=26.9km az=123.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.93**	**213**	P	Pn	05 13 45.5	+0.2
	0.3nm,0.3s,baz=35,slow=12,SNR=27						
ASAR	**Alice Springs**	**22.25**	**208**	P	P	05 14 20.4	-0.4
	0.5nm,0.4s,baz=40,slow=7.1,SNR=8.0						
FITZ	**Fitzroy Crossi**	**23.63**	**233**	P	P	05 14 35.2	+0.1
	2.0nm,0.4s,baz=43,slow=10,SNR=16						
STKA	**Stephens Creek**	**27.77**	**187**	LR	LR	05 27 00.3	
	comp=Z,117nm,21.6s,baz=205,slow=38						
AFI	**Afiamalu**	**43.49**	**106**	LR	LR	05 32 49.2	
	comp=Z,27nm,21.8s,baz=16,slow=32						
ILAR	**Eielson Array**	**84.51**	**24**	P	P	05 21 56.5	-0.2
	0.6nm,0.7s,baz=256,slow=5.4,SNR=5.4						

IDC 15 05:14:59.7±3.4, 30°.29S×138°.45E, h0km, mb1 2.9/3, mb1mx2.9/26, mbtmp2.7/3, ML2.5/3, Error ellipse: s-maj=89.3km s-min=15.9km az=43.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.13**	**121**	Pn	Pn	05 15 49.9	-0.4
	0.2nm,0.3s,baz=300,slow=15,SNR=3.0						
STKA				Pg	Pg	05 15 58.2	-1.4
	1.1nm,0.3s,baz=303,slow=13,SNR=12						
STKA				Sn	Sn	05 16 29.4	+1.1
	1.7nm,0.3s,baz=271,slow=10,SNR=6.4						
STKA				Lg	Lg	05 16 37.6	
	1.9nm,0.3s,baz=205,slow=21,SNR=7.8						
ASAR	**Alice Springs**	**7.74**	**327**	Pn	Pn	05 16 53.0	-0.7
	0.1nm,0.3s,baz=151,slow=12,SNR=4.0						
ASAR				Sn	Sn	05 18 21.9	-0.4
	0.1nm,0.3s,baz=153,slow=22,SNR=3.5						
WRA	**Warramunga Arr**	**10.95**	**339**	Pn	Pn	05 17 38.9	+1.1
	0.1nm,0.3s,baz=154,slow=12,SNR=4.6						

JMA 15 05:23:08.0±0.8, 33°.91N×142°.39E, h27km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.39**	**303**	P	Pb	05 23 32.1	-0.8
BSO1				X		05 23 49.3	
BSO3	**Boso 3**	**1.79**	**300**	P	Pb	05 23 38.5	-1.

NNC 15 05:43:01.4±3.0, 38°40N×70°16E, h4km±12km, mb3.7, mpv3.3, 8C-2D, Error ellipse: s-maj=22.0km s-min=15.6km az=4.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.06**	**57**	⇑Pn	Pn	05 43 51.3	+0.6
	12nm,0.5s						
SFK				⇑Lg	Lg	05 44 36.9	
	20nm,0.7s						
MNAS	**Manas**	**4.45**	**23**	⇑Pn	Pn	05 44 09.6	-0.2
	2.2nm,0.5s						
MNAS				⇑Pg	Pb	05 44 22.5	+2.3
	3.5nm,0.5s						
MNAS				⇓Lg	Lg	05 45 23.0	
	20nm,0.9s						
KK31	**Karatay Array**	**4.70**	**3**	⇓Pn	Pn	05 44 14.6	+1.5
	0.5nm,0.3s,baz=178,slow=12,SNR=14						
KK31				⇑Pg	Pg	05 44 28.3	-3.1
	1.4nm,0.3s,baz=181,slow=14,SNR=10						
KK31				⇑Lg	Lg	05 45 33.6	
	5.7nm,0.6s,baz=186,slow=27,SNR=5.5						
AAK	**Ala-Archa**	**5.37**	**37**	Pn	Pn	05 44 21.6	-0.7
	2.4nm,0.5s						
AAK				Pg	Pb	05 44 37.9	+2.1
	3.9nm,0.5s						
AAK				Sn	Sn	05 45 25.8	+1.2
	5.2nm,0.6s						
AB31	**Akbulak array**	**13.10**	**329**	⇑Pn	Pn	05 46 05.5	-2.6
	0.5nm,0.5s,baz=170,slow=12,SNR=7.7						
AB31				⇑Sn	Sn	05 48 31.9	-2.3
	0.4nm,0.6s						

MEX 15 05:53:05.9±0.5, 14°87N×93°65W, h15km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.93**	**27**	*e*P	Pb	05 53 20.2	-3.5
PCIG				*i* S	Sb	05 53 32.1	-3.7
THIG		**1.34**	**88**	*i* P	Pn	05 53 26.8	-3.3
THIG				*i* S	Sn	05 53 48.2	-4.9
TGIG		**1.96**	**15**	*e*P	Pn	05 53 35.1	-3.6
TGIG				*i* S	Sn	05 53 59.0	-4.1
CCIG	**Comitan**	**2.02**	**46**	*i* P	Pn	05 53 36.4	-3.3
CCIG				*i* S	Sn	05 53 59.5	-5.3

MEX 15 05:56:28.9±0.5, 17°35N×93°64W, h15km, MD3.7, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGIG		**0.76**	**139**	*e*P	Pg	05 56 40.6	-3.1
TGIG				*i* S	Sg	05 56 50.6	-3.0
PCIG		**1.69**	**166**	*e*P	Pn	05 56 54.7	-3.1
PCIG				*i* S	Sn	05 57 14.6	-4.6
CCIG	**Comitan**	**1.79**	**126**	*e*P	Pn	05 56 56.6	-2.9
CCIG				*i* S	Sn	05 57 17.4	-4.6

WEL 15 06:02:05.9±1.2, 30°S±9°×17°9E±1°1, h33km, ML4.7/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.52**	**74**	P	Pn	06 02 43.4	-1.2
GLKZ				S	Sn	06 03 15.9	+1.6
MXZ	**Matakaoa Point**	**7.60**	**186**	P	Pn	06 03 55.4	+1.0
MXZ				S	Sn	06 05 18.3	-1.0
WMGZ	**Waiomatatini S**	**7.85**	**185**	P	Pn	06 03 58.4	+0.7
WMGZ				S	Sn	06 05 28.5	+3.1
HAZ	**Te Kaha**	**7.85**	**189**	P	Pn	06 03 58.9	+1.1
RUGZ	**Raukumara Rang**	**8.07**	**189**	P	Pn	06 03 59.1	-1.8
RUGZ				S	Sn	06 05 32.4	+1.4
PUZ	**Puketiti**	**8.11**	**186**	P	Pn	06 04 02.0	+0.7
PUZ				S	Sn	06 05 31.7	-0.2
URZ	**Urewera**	**8.45**	**192**	P	Pn	06 04 04.7	-1.3
URZ				S	Sn	06 05 44.0	+3.9
MWZ	**Matawai**	**8.45**	**190**	P	Pn	06 04 06.9	+0.8
MWZ				S	Sn	06 05 41.0	+0.6
CNGZ	**Carnagh Statio**	**8.52**	**186**	P	Pn	06 04 07.1	+0.1
MUGZ	**Murupara**	**8.72**	**193**	P	Pn	06 04 10.2	+0.4
RIGZ	**Rimuhau**	**8.79**	**188**	P	Pn	06 04 09.6	-1.1
RIGZ				S	Sn	06 05 46.7	-1.9
RTZ	**Ruatahuna**	**8.82**	**192**	P	Pn	06 04 11.6	+0.5

IDC 15 06:21:57.0±7.0, 50°77N×133°85E, h0km, mb1 2.0/1, mb1mx2.0/31, mbtmp2.0/1, ML1.9/1, Error ellipse: s-maj=124.4km s-min=42.9km az=134.0, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLR	**Kul'dur**	**2.05**	**222**	Pn	Pn	06 22 33.2	+0.5
	0.5nm,0.3s,baz=45,slow=17,SNR=4.9						
KLR				Lg	Lg	06 23 01.6	
	0.6nm,0.3s,baz=328,slow=23,SNR=4.7						
I45RU	**USSURIYSK INFR**	**6.69**	**192**	*i*		07 08 10.0	
	baz=13,slow=330,SNR=3.9						
I44RU	**PETROPAVLOVSK**	**4.89**	**72**	*i*		07 50 00.0	
	baz=277,slow=322,SNR=0.9						
I30JP	**ISUMI INFRASON**	**16.15**	**161**	*i*		08 04 30.0	
	baz=345,slow=315,SNR=0.6						

*ISK **15** 06:42:08.5, 36°69N×25°38E, h14km, ML2.8/2*
*ISCJB **15** 06:42:10.8±0.4, 36°67N±0°03×25°64E±0°04, h8km±5km, Error ellipse: s-maj=5.3km s-min=3.8km az=32.1*
*THE **15** 06:42:10.9, 36°66N×25°64E, h5km±5km, ML2.4/9, Error ellipse: s-maj=5.3km s-min=0.5km az=119.0*
*ATH **15** 06:42:10.7, 36°66N×25°64E, h14km±7km, ML2.5/4, Error ellipse: s-maj=7.2km s-min=1.0km az=202.0*

ISC 15 06:42:10.5±0.9, 36°68N±0°02×25°63E±0°03, h15km±7km, n25, σ0÷60/41, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMGA	**Amorgos Island**	**0.26**	**54**	P	**Pg**	**06 42 16.3**	**+0.1**
AMGA				S	**Sg**	**06 42 20.4**	**+0.3**
AMGA	**Amorgos Island**	**0.26**	**54**	P	**Pg**	**06 42 16.3**	**+0.1**
AMGA				S	**Sg**	**06 42 20.4**	**+0.3**
CMBO	**Columbo, Santo**	**0.27**	**222**	P	**Pg**	**06 42 16.7**	**+0.4**
CMBO				S	**Sg**	**06 42 20.8**	**+0.5**
CMBO	**Columbo, Santo**	**0.27**	**222**	P	**Pg**	**06 42 16.8**	**+0.4**
CMBO				S	**Sb**	**06 42 21.1**	**-0.5**
THR2	**Thira island,**	**0.28**	**215**	P	**Pg**	**06 42 16.7**	**+0.3**
IOSP	**Ios island**	**0.28**	**280**	P	**Pg**	**06 42 16.8**	**+0.4**
IOSP				S	**Sg**	**06 42 20.6**	**+0.1**
IOSP				AML	AML	06 42 21.3	
	comp=E,3851μm,0.2s						
IOSP				AML	AML	06 42 21.4	
	comp=N,4641μm,0.2s						
THR8	**Santorini-Mono**	**0.29**	**205**	P	**Pg**	**06 42 16.6**	**-0.1**
THR3	**Thira Island,**	**0.33**	**215**	P	**Pg**	**06 42 17.4**	**+0.2**
THT1	**Athinios (Pele**	**0.33**	**209**	P	**Pg**	**06 42 17.2**	**-0.2**
THT1				S	**Sg**	**06 42 21.7**	**-0.3**
SANT	**Santorini**	**0.33**	**205**	PG	**Pg**	**06 42 15.6**	**-1.9**
SANT				SG	**Sg**	**06 42 20.7**	**-1.5**
SANT	**Santorini**	**0.33**	**205**	P	**Pg**	**06 42 17.3**	**-0.2**
SANT				S	**Sg**	**06 42 21.9**	**-0.3**
SANT				AML	AML	06 42 24.0	
	comp=E,1444μm,0.1s						
SANT				AML	AML	06 42 25.7	
	comp=N,980μm,0.2s						
SANT	**Santorini**	**0.33**	**205**	P	**Pg**	**06 42 17.3**	**-0.2**
SANT				S	**Sg**	**06 42 21.9**	**-0.3**
ANAF	**Anafi Island**	**0.34**	**160**	P	**Pg**	**06 42 17.1**	**-0.4**
ANAF				S	**Sg**	**06 42 22.7**	**+0.4**
ANAF				AML	AML	06 42 23.2	
	comp=E,4692μm,0.2s						
ANAF				AML	AML	06 42 23.5	
	comp=N,5526μm,0.1s						
ANAF	**Anafi Island**	**0.34**	**160**	P	**Pg**	**06 42 17.1**	**-0.4**
ANAF				S	**Sg**	**06 42 22.4**	**+0.1**
THR5	**Thira Island,**	**0.34**	**222**	P	**Pg**	**06 42 17.8**	**+0.2**
SAP1	**Santorini-Akro**	**0.37**	**211**	P	**Pg**	**06 42 18.5**	**+0.4**
SAP1				S	**Sg**	**06 42 23.5**	**+0.3**
THR6	**Thira Island,**	**0.37**	**211**	P	**Pg**	**06 42 18.2**	**+0.1**
APE	**Apeiranthos**	**0.40**	**348**	PG	**Pg**	**06 42 16.9**	**-1.8**
APE				SG	**Sg**	**06 42 23.2**	**-1.0**
APE	**Apeiranthos**	**0.40**	**348**	P	**Pg**	**06 42 19.0**	**+0.3**
APE				S	**Sb**	**06 42 25.4**	**+0.1**
APE				AML	AML	06 42 25.6	
	comp=E,629μm,0.1s						
APE				AML	AML	06 42 29.0	
	comp=N,1342μm,0.2s						
APE	**Apeiranthos**	**0.40**	**348**	P	**Pg**	**06 42 19.0**	**+0.3**
APE				S	**Sb**	**06 42 25.4**	**+0.1**
MHLO	**Agia Marina, M**	**0.99**	**271**	P	**Pn**	**06 42 30.5**	**+0.7**
MHLO				S	**Sn**	**06 42 43.8**	**+0.3**
NIS1	**Nisyros Isl.**	**1.25**	**93**	PN	**Pg**	**06 42 34.9**	**+0.4**
BODT	**Bodrum**	**1.40**	**74**	PN	**Pg**	**06 42 37.7**	**+0.2**
CHOS	**Chios island**	**1.74**	**11**	PN	**Pn**	**06 42 39.7**	**-0.6**
URLA	**Izmir**	**1.85**	**24**	PN	**Pn**	**06 42 41.8**	**+0.1**

*NEIC **15** 06:42:34.8±0.0, 13°84N×92°73W, h12km, mb5.0/191, MD5.0(MEX), After MEX.*
NEIC Felt at Urbina.
*MEX **15** 06:42:34.7±0.7, 13°86N×92°71W, h9km±134km, MD5.0*
*GCMT **15** 06:42:36.8±0.3, 13°97N±0°02×92°96W±0°02, h20km±1km, MW5.1/80, Moment Tensor Solution. s52,c68; s80,c120; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.36±.19; $M_{\theta\theta}$-1.11±.12; $M_{\phi\phi}$-2.25±.12; $M_{r\theta}$1.61±.27; $M_{\theta\phi}$2.39±.09; $M_{\phi r}$-3.88±.33; Best double couple: M_o5.64900×10^{16} NP1:φs154.00000°,δ70.00000°,λ101.00000°. NP2: φs305.00000°,δ23.00000°,λ63.00000°. Principal axes: T 5.3640, Plg64.0000°, Azm82.0000°; N 0.5690, Plg10.0000°, Azm331.0000°; P -5.9330, Plg24.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **15** 06:42:37.1±2.7, 14°19N×92°19W, h33km±19km, mb4.5/22, mb1 4.6/26, mb1mx4.5/34, mbtmp4.6/26, ML4.4/4, MS4.5/22, Ms1 4.5/22, ms1mx4.3/40 Error ellipse: s-maj=19.9km s-min=9.5km az=52.0*
*BJI **15** 06:42:38.1, 14°10N×92°30W, h30km, mB5.5/4, Ms5.3/8, Ms7 4.9/6*
*UCR **15** 06:42:38.4±1.2, 14°06N×92°33W, h81km±97km, ML4.3, mb5.0(NEIC)*
*ISCJB **15** 06:42:39.3±0.4, 14°25N±0°03×92°21W±0°03, h63km±3km, mb4.9/198, Error ellipse: s-maj=5.5km s-min=2.4km az=41.8*

ISC 15 06:42:37.6±0.7, 14°10N±0°05×92°38W±0°05, h41km±6km, n545, σ1÷46/550, mb4.9/200, MS4.6/29, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.81**	**8**	*e*P	**Pn**	**06 42 53.1**	**+0.5**
THIG				*i* S	**Sn**	**06 43 07.4**	**+3.9**
THIG		**0.81**	**8**	*e*P	**Pn**	**06 42 53.1**	**+0.5**
THIG				*i* S	**Sn**	**06 43 07.4**	**+3.9**
PCIG		**1.79**	**333**	*e*P	**Pn**	**06 43 03.4**	**-2.7**
PCIG		**1.79**	**333**	*e*P	**Pn**	**06 43 03.4**	**-2.7**
PCIG				*e*S	**Sn**	**06 43 26.8**	**-0.8**
APG	**El Apazote**	**2.06**	**64**	Pg	**Pn**	**06 43 12.7**	**+2.8**
	86nm,0.3s,baz=244,slow=11,SNR=514						
APG				LR	LR	06 43 37.5	
	comp=Z,2μm,19.0s,baz=224,slow=33						
APG				Lg	Lg	06 43 42.3	
	491nm,0.3s,baz=128,slow=12,SNR=7.4						
CCIG	**Comitan**	**2.18**	**6**	*e*Pn	**Pn**	**06 43 15.1**	**+3.5**
CCIG	**Comitan**	**2.18**	**6**	*e*P	**Pn**	**06 43 12.0**	**+0.4**
CCIG				*i* S	**Sn**	**06 43 42.2**	**+4.7**
CEVE	**Cerro Verde**	**2.69**	**95**	*e*P	**Pn**	**06 43 20.4**	**+1.8**
CEVE				IAML		06 44 09.9	
	comp=Z,8μm,0.5s						
SBLS	**San Blas**	**2.69**	**95**	*e*P	**Pn**	**06 43 19.5**	**+0.9**
SNJE	**San Jose**	**2.70**	**95**	*e*P	**Pn**	**06 43 19.7**	**+0.9**
TGBT	**Tuxtla Gutierr**	**2.75**	**346**	*e*P	**Pn**	**06 43 19.2**	**-0.1**
TGBT				*i* S	**Sn**	**06 43 53.3**	**+2.1**
TGIG		**2.76**	**345**	*e*P	**Pn**	**06 43 19.6**	**+0.2**
TGIG		**2.76**	**345**	*e*P	**Pn**	**06 43 19.7**	**+0.3**
TGIG				*e*S	**Sn**	**06 43 53.7**	**+2.2**
MTO3	**Montecristo**	**2.94**	**84**	*e*P	**Pn**	**06 43 23.4**	**+1.3**
BOQS	**Boqueron**	**3.03**	**96**	*e*P	**Pn**	**06 43 24.9**	**+1.6**
UEES	**San Salvador**	**3.07**	**97**	*e*P	**Pn**	**06 43 24.5**	**+0.9**
UEES				IAML		06 44 15.3	
	comp=Z,1μm,0.4s						
SNET	**Serv Nac Est T**	**3.08**	**97**	*e*Pn	**Pn**	**06 43 25.1**	**+1.2**
SNET	**Serv Nac Est T**	**3.08**	**97**	*e*P	**Pn**	**06 43 24.1**	**+0.3**
SNET				*e*S	**Sn**	**06 44 00.9**	**+1.3**
SNET				IAML		06 44 14.8	
	comp=Z,1μm,0.3s						
OPAM	**San Salvador**	**3.11**	**97**	*e*P	**Pn**	**06 43 24.7**	**+0.5**
OPAM				IAML		06 44 29.8	
	comp=Z,1μm,0.5s						
LFU	**La Fuente**	**3.19**	**96**	*e*P	**Pn**	**06 43 26.6**	**+1.3**
LBRS	**Las Brisas**	**3.26**	**96**	*e*P	**Pn**	**06 43 27.5**	**+1.2**
PAVA	**Las Pavas**	**3.36**	**96**	*e*P	**Pn**	**06 43 28.8**	**+1.0**
PAVA				IAML		06 44 19.6	
	comp=Z,678nm,0.4s						
SNVI	**San Vicente**	**3.47**	**98**	*e*P	**Pn**	**06 43 30.4**	**+1.1**
CMIG	**Matias Romero**	**3.83**	**321**	Pn	**Pn**	**06 43 32.4**	**-1.7**
	comp=Z,21nm,0.3s,baz=137,slow=11,SNR=164						
CMIG				Sn	**Sn**	**06 44 18.2**	**+0.2**
	comp=Z,51nm,0.3s,baz=130,slow=18,SNR=4.2						
VSM	**San Miguel**	**4.04**	**99**	*e*P	**Pn**	**06 43 39.8**	**+2.6**
CSGN	**Cosiguina Volc**	**4.82**	**103**	*e*Pn	**Pn**	**06 43 50.2**	**+2.5**
CSGN	**Cosiguina Volc**	**4.82**	**103**	*e*P	**Pn**	**06 43 48.7**	**+1.0**
CRIN	**San Cristobal**	**5.37**	**104**	*e*P	**Pn**	**06 43 56.9**	**+1.6**
CRIN				IAML		06 45 17.1	
	comp=N,1μm,1.3s						
CNGN	**Cerro Negro**	**5.75**	**105**	*e*P	**Pn**	**06 44 01.1**	**+0.5**
CNGN				IAML		06 45 32.8	
	comp=N,412nm,0.9s						
ESTN	**Estel**	**5.92**	**99**	*e*Pn	**Pn**	**06 44 04.6**	**+1.6**
ESTN	**Estel**	**5.92**	**99**	*e*P	**Pn**	**06 44 04.0**	**+1.1**
MOMN	**Momotombo**	**5.93**	**106**	*e*P	**Pn**	**06 44 03.9**	**+1.0**
COPN	**Copaltepe**	**5.95**	**108**	*e*P	**Pn**	**06 44 03.3**	**+0.1**
MGAN	**Managua**	**6.28**	**107**	*e*P	**Pn**	**06 44 09.1**	**+1.4**
MATN	**Matagalpa**	**6.38**	**100**	*e*P	**Pn**	**06 44 09.8**	**+0.5**
BOAB	**BOACO BROADBAN**	**6.74**	**103**	*e*Pn	**Pn**	**06 44 15.1**	**+1.1**
BOAB	**BOACO BROADBAN**	**6.74**	**103**	*e*P	**Pn**	**06 44 14.7**	**+0.6**
LVIG	**Laguna Verde**	**6.80**	**326**	*e*Pn	**Pn**	**06 44 13.5**	**-1.4**
LVIG				*e*Sn	**Sn**	**06 45 30.8**	**-0.2**
TLIG	**Tlapa**	**6.88**	**301**	*e*Pn	**Pn**	**06 44 14.8**	**-1.3**
TEIG	**Tepich**	**7.25**	**32**	*e*Pn	**Pn**	**06 44 22.4**	**+1.4**
MYIG	**MÉrida**	**7.27**	**20**	*e*Pn	**Pn**	**06 44 22.8**	**+1.5**
ESPN	**Las Esperanzas**	**8.09**	**103**	*e*Pn	**Pn**	**06 44 34.0**	**+1.3**
JTS	**JuntasAbangare**	**8.19**	**117**	Pn	**Pn**	**06 44 33.9**	**0.0**
	comp=N,3.0nm,0.3s,baz=342,slow=2.0,SNR=23						
JTS				Sn	**Sn**	**06 46 03.4**	**-1.9**
	baz=0.0,slow=20,SNR=1.3						
JTS				Lg	Lg	06 46 41.7	
	comp=N,1.1nm,0.3s,baz=97,slow=18,SNR=5.1						
JTS	**JuntasAbangare**	**8.19**	**117**	*e*Pn	**Pn**	**06 44 34.9**	**+0.9**
JTS				Sn	**Sn**	**06 46 03.4**	**-1.9**
JTS				Lg	Lg	06 46 41.7	
UNM	**Universidad Na**	**8.34**	**310**	*e*Pn	**Pn**	**06 44 34.8**	**-1.4**
HDC	**Heredia**	**9.05**	**116**	*e*Pn	**Pn**	**06 44 46.5**	**+0.6**
MOIG	**Morelia**	**10.09**	**305**	*e*Pn	Pn	06 44 57.5	-2.8
JRQG	**Juriquilla Cam**	**10.12**	**312**	*e*Pn	**Pn**	**06 45 00.0**	**-0.6**
LNIG	**Linares**	**12.65**	**329**	*e*Pn	**Pn**	**06 45 38.3**	**+3.3**
ZAIG	**Zacatecas**	**12.95**	**313**	*e*Pn	**Pn**	**06 45 38.3**	**-1.1**
BCIP	**Isla Barro Col**	**13.22**	**110**	*e*Pn	**Pn**	**06 45 44.2**	**+1.3**
KVTX	**Kingsville**	**14.34**	**340**	*e*Pn	**Pn**	**06 46 00.5**	**+2.5**
PAYG	**Puerto Ayora**	**14.82**	**172**	*e*Pn	**Pn**	**06 46 04.9**	**+0.3**
MTDJ	**Mount Denham**	**14.84**	**72**	*e*Pn	**P**	**06 46 11.3**	**+1.3**
HKT	**Hockley**	**16.10**	**349**	*e*Pn	**Pn**	**06 46 21.4**	**+0.5**
	comp=N,166nm,1.8s						
SOLC	**Bahia Solano**	**16.67**	**116**	*e*P	P	06 46 39.8	+9.4
DWPF	**Disney Wildern**	**17.26**	**34**	*e*P	**P**	**06 46 36.7**	**-0.1**
DWPF	**Disney Wildern**	**17.26**	**34**	P	**P**	**06 46 36.6**	**-0.2**
	baz=219						
JCT	**Junction City**	**17.68**	**338**	*e*Pn	**P**	**06 46 42.2**	**+0.8**
	comp=N,94nm,1.4s						
JCT	**Junction City**	**17.68**	**338**	P	**Pn**	**06 46 40.2**	**-0.7**
	baz=157,SNR=21						
BRAL	**Brewton**	**17.68**	**15**	*e*Pn	**P**	**06 46 45.2**	**+3.9**
	comp=N,516nm,1.7s						
BRAL	**Brewton**	**17.68**	**15**	P	**Pn**	**06 46 39.5**	**-1.3**
	baz=198						
NATX	**Nacogdoches**	**17.70**	**354**	*e*Pn	**P**	**06 46 42.3**	**+0.7**
	comp=N,284nm,1.6s						
NATX	**Nacogdoches**	**17.70**	**354**	P	**Pn**	**06 46 40.4**	**-0.7**
	baz=174						
HPIG		**17.81**	**318**	*e*Pn	**Pn**	**06 46 43.6**	**+0.9**
	comp=N,201nm,1.9s						
VBMS	**Vicksburg**	**18.12**	**5**	*e*P	**Pn**	**06 46 46.7**	**+0.5**
	comp=N,159nm,1.2s						
VBMS	**Vicksburg**	**18.12**	**5**	P	**P**	**06 46 45.8**	**-0.3**
	baz=187						
PLMC	**San Jos^ del**	**18.30**	**118**	*e*P	**Pn**	**06 46 52.0**	**+3.4**
HELC	**Santa Helena**	**18.34**	**114**	*e*P	**Pn**	**06 46 51.2**	**+1.8**
H06S1	**SOCORRO T**	**18.41**	**287**	T	T	07 05 34.0	
	SNR=29						
ZARC	**Zaragoza, Cauc**	**18.41**	**109**	*e*P	**Pn**	**06 46 50.6**	**+0.7**
TXAR	**Lajitas Array**	**18.41**	**327**	P	**Pn**	**06 46 51.1**	**+1.2**
	comp=N,0.5nm,0.3s,baz=153,slow=11,SNR=62						
TXAR				LR	LR	06 54 52.5	
	comp=N,639nm,19.4s,baz=0.0,slow=40						
TX31	**Lajitas Ar. Si**	**18.41**	**327**	*e*P	**Pn**	**06 46 51.2**	**+1.3**
H06N1	**SOCORRO T-PHAS**	**18.46**	**287**	T	T	07 05 31.5	
	SNR=4.3						
YOTC	**Yotoco, Valle**	**18.74**	**121**	*e*P	**P**	**06 46 54.0**	**+0.7**
RREF	**El Recreo**	**19.11**	**117**	*e*P	**Pn**	**06 47 01.4**	**+2.5**
SLBS	**Sierra La Lagu**	**19.14**	**302**	*e*P	**Pn**	**06 47 01.4**	**+2.6**
	comp=N,119nm,1.9s						
PTBC	**PUERTO BERRIO,**	**19.15**	**111**	*e*P	**Pn**	**06 46 58.9**	**0.0**
TOLC	**Tolima**	**19.29**	**118**	*e*P	**Pn**	**06 47 03.2**	**+2.4**
POPC	**Popayan, Colom**	**19.30**	**125**	*e*P	**P**	**06 47 00.4**	**+0.9**
LRAL	**Lakeview Retre**	**19.48**	**14**	*e*P	**Pn**	**06 47 02.6**	**0.0**
	comp=N,74nm,1.1s						
LRAL	**Lakeview Retre**	**19.48**	**14**	P	**Pn**	**06 47 02.0**	**-0.5**
	baz=197,SNR=8.1						
OTAV	**Otavalo**	**19.48**	**134**	*e*P	**P**	**06 47 01.8**	**0.0**
	comp=N,40nm,1.4s						
OTAV				*e*pP	**pP**	**06 47 11.1**	**-0.8**
OTAV	**Otavalo**	**19.48**	**134**	*e*P	**Pn**	**06 47 03.4**	**+0.1**
OCAC	**Ocana**	**19.58**	**105**	*e*P	**Pn**	**06 47 03.8**	**-0.2**
ABTX	**Abilene, Hawle**	**19.60**	**341**	*e*P	**Pn**	**06 47 04.1**	**+0.1**
	comp=N,260nm,1.6s						
ABTX	**Abilene, Hawle**	**19.60**	**341**	P	**P**	**06 47 03.2**	**+0.8**
	baz=160,SNR=22						
GCUF	**Volcan Galeras**	**19.61**	**129**	*e*P	**Pn**	**06 47 09.3**	**+4.5**
LPIG	**La Paz**	**19.63**	**303**	P	**Pn**	**06 47 05.6**	**+1.2**
	comp=N,1.6nm,0.3s,baz=173,slow=9.2,SNR=3.2						
PCON	**Cinco Dias**	**19.65**	**125**	*e*P	**Pn**	**06 47 06.5**	**+1.2**
CRUC	**La Cruz**	**19.69**	**128**	*e*P	Pn	06 47 13.0	+7.4
MARP	**Paez Belalcaza**	**19.70**	**123**	*e*P	**Pn**	**06 47 07.2**	**+1.5**
CCAR	**Cane Creek**	**19.74**	**1**	*e*P	**Pn**	**06 47 07.5**	**+1.8**
ROSC	**El Rosal**	**20.03**	**116**	P	**P**	**06 47 08.3**	**+0.6**
	comp=N,0.8nm,0.3s,baz=27,slow=2.3,SNR=28						
ROSC	**El Rosal**	**20.03**	**116**	*e*P	**Pn**	**06 47 12.0**	**+2.3**
	comp=N,190nm,1.3s						
ROSC	**El Rosal**	**20.03**	**116**	*e*P	**Pn**	**06 47 11.6**	**+1.9**
GIRC	**Giron, Santand**	**20.10**	**108**	*e*P	**Pn**	**06 47 09.9**	**-0.3**
PRAC	**Prado**	**20.11**	**119**	*e*P	Pn	06 47 12.0	+1.8
BARC	**Barichara**	**20.29**	**110**	*e*P	Pn	06 47 13.3	+0.7
MIAR	**Mount Ida**	**20.39**	**357**	*e*P	**P**	**06 47 12.0**	**+1.0**
	comp=N,111nm,1.1s						
MIAR	**Mount Ida**	**20.39**	**357**	P	**P**	**06 47 11.6**	**+0.6**
	baz=178,SNR=40						
PAMC	**Pamplona, Colo**	**20.46**	**107**	*e*P	Pn	06 47 14.6	-0.2
OXF	**Oxford**	**20.50**	**7**	*e*P	**P**	**06 47 12.1**	**-0.1**
	comp=N,161nm,1.1s						
OXF				*e*pP	**pP**	**06 47 21.7**	**-0.6**
OXF	**Oxford**	**20.50**	**7**	P	**P**	**06 47 11.7**	**-0.5**
	baz=189						
X37A	**Clayton**	**20.58**	**353**	*e*P	**P**	**06 47 14.3**	**+1.2**
	comp=N,172nm,1.4s						
UALR	**University of**	**20.59**	**0**	*e*P	**P**	**06 47 14.3**	**+1.2**
	comp=N,95nm,0.9s						
CHIC	**Chingaza**	**20.64**	**115**	*e*P	Pn	06 47 16.9	0.0
CHIC				*e*P	**P**	**06 47 19.9**	**+5.5**
RUSC	**La Rusia**	**20.66**	**111**	*e*P	**P**	**06 47 15.6**	**+1.0**
FLOC	**Florencia**	**20.69**	**125**	*e*P	Pn	06 47 17.8	+0.7
SDDR	**Presa de Saban**	**20.79**	**74**	P	Pn	06 47 19.1	+1.0
	comp=N,30nm,0.9s						
GOGA	**Godfrey**	**20.86**	**21**	*e*P	Pn	06 47 17.4	-1.5
	comp=N,39nm,0.9s						
GOGA	**Godfrey**	**20.86**	**21**	P	**P**	**06 47 16.4**	**+0.2**
	baz=206						
VILC	**Villavicencio,**	**20.93**	**117**	*e*P	Pn	06 47 20.1	+0.2
GDL2	**Guadalupe Moun**	**21.09**	**331**	*e*P	**P**	**06 47 19.9**	**+1.2**
WHAR	**Wooly Hollow**	**21.10**	**0**	*e*P	**P**	**06 47 20.2**	**+1.6**
	comp=N,208nm,1.4s						
SJAC	**San Juan de Ar**	**21.13**	**119**	*e*P	**P**	**06 47 24.1**	**+4.8**
PLAL	**Pickwick Lake**	**21.15**	**10**	*e*P	**P**	**06 47 19.2**	**0.0**
	comp=N,50nm,1.1s						
MNTX	**Cornudas Mount**	**21.19**	**328**	*e*P	**P**	**06 47 20.0**	**+0.3**
	comp=N,60nm,1.2s						
MNTX	**Cornudas Mount**	**21.19**	**328**	P	**P**	**06 47 19.7**	**+0.1**
	baz=144,SNR=62						
WMOK	**Wichita Mounta**	**21.35**	**345**	*e*P	**P**	**06 47 21.3**	**-0.1**
	comp=N,26nm,0.9s						
WMOK	**Wichita

SLM **Saint Louis** 24.51 4 eP P 06 47 53.2 0.0
comp=N,48nm,0.6s
WCI **Wyandotte Cave** 24.63 12 eP P 06 47 53.2 -1.0
comp=N,66nm,0.8s
WCI **Wyandotte Cave** 24.63 12 P P 06 47 53.0 -1.3
baz=195
TUC **Tucson** 24.73 320 eP P 06 47 56.2 +0.8
comp=N,55nm,1.4s
TUC **Tucson** 24.73 320 P P 06 47 56.1 +0.8
baz=134
CNNC **Cliffs of the** 24.77 29 P P 06 47 54.3 -1.2
baz=216
OLIL **Olney** 24.83 8 eP P 06 47 55.7 -0.3
comp=N,68nm,0.8s
KSU1 **Kansas State U** 25.18 352 eP P 06 47 58.9 -0.4
comp=N,33nm,0.6s
KSU1 **Kansas State U** 25.18 352 P P 06 47 58.4 -0.9
baz=171,SNR=5.4
ATAH **Atahualpa** 25.25 146 P P 06 48 01.6 +1.0
comp=N,21nm,1.0s,baz=2.7,slow=6.9,SNR=4.5
BLA **Blacksburg** 25.37 23 P P 06 48 00.7 -0.3
baz=208
CBKS **Cedar Bluff** 25.46 347 eP P 06 48 01.9 0.0
comp=N,85nm,0.8s
CBKS **Cedar Bluff** 25.46 347 P P 06 48 01.4 -0.4
baz=164,SNR=25
SJG **San Juan** 25.50 77 LR LR 06 58 58.3
comp=N,2µm,19.6s,baz=268,slow=39
BLO **Bloomington** 25.50 11 eP P 06 48 01.4 -0.7
comp=N,30nm,0.9s
X18A **Snowflake** 25.81 325 eP P 06 48 07.0 +1.8
comp=N,24nm,1.1s
SDCO **Great Sand Dun** 26.28 336 eP P 06 48 11.0 +1.4
comp=N,51nm,1.2s
SDCO **Great Sand Dun** 26.28 336 P P 06 48 10.7 +1.1
baz=151,SNR=47
HDIL **Hopedale** 26.50 5 eP P 06 48 11.0 -0.1
comp=N,60nm,1.4s
HDIL **Hopedale** 26.50 5 P P 06 48 09.8 -1.4
baz=187
X16A **Lo Mia Camp, P** 26.58 323 eP P 06 48 13.5 +1.3
comp=N,8.2nm,0.8s
113A **Mohawk Valley,** 26.93 317 eP P 06 48 16.3 +1.1
comp=N,24nm,1.5s
MVCO **Mesa Verde** 27.14 331 eP P 06 48 18.6 +1.3
comp=N,47nm,0.9s
MVCO **Mesa Verde** 27.14 331 P P 06 48 18.3 +1.1
baz=145,SNR=44
ACSO **Alum Creek Sta** 27.31 16 eP P 06 48 18.4 0.0
comp=N,56nm,1.3s
ACSO **Alum Creek Sta** 27.31 16 P P 06 48 17.8 -0.7
baz=201
WUAZ **Wupatki** 27.33 325 eP P 06 48 20.6 +1.8
comp=N,17nm,1.0s
WUAZ **Wupatki** 27.33 325 P P 06 48 19.9 +1.0
baz=138,SNR=11
CBN **Corbin Frederi** 27.45 26 eP P 06 48 19.7 0.0
comp=N,78nm,1.4s
CBN **Corbin Frederi** 27.45 26 P P 06 48 19.5 -0.3
baz=213
BGNE **Belgrade** 27.67 351 P P 06 48 20.9 -0.8
baz=169
SCIA **State Center** 27.72 359 P P 06 48 22.1 0.0
baz=179
MCWV **Mont Chateau** 27.75 21 P P 06 48 22.6 +0.2
baz=207
GLA **Glamis** 27.81 317 eP P 06 48 24.9 +1.9
comp=N,19nm,1.1s
GLA **Glamis** 27.81 317 P P 06 48 23.7 +0.6
baz=128
BLYC **Blythe** 28.04 318 eP P 06 48 25.9 +0.8
OGNE **Ogallala** 28.04 344 P P 06 48 26.1 +1.0
baz=161
SMCO **Snowmass** 28.10 335 eP P 06 48 27.7 +1.6
comp=N,21nm,1.0s
ISCO **Idaho Springs** 28.12 338 eP P 06 48 27.5 +1.4
comp=N,14nm,1.1s
ISCO **Idaho Springs** 28.12 338 P P 06 48 26.5 +0.4
baz=153,SNR=9.4
PDMCI **Parker Dam,Lak** 28.15 319 P P 06 48 26.9 +0.8
baz=131,SNR=7.3
SWSC **Sam W. Stewart** 28.40 315 P P 06 48 29.0 +0.7
baz=127
IKP **In-Ko-Pah, Jac** 28.44 315 P P 06 48 29.3 +0.5
baz=126,SNR=7.7
U15A **North Rim** 28.50 325 eP P 06 48 31.1 +1.6
comp=N,8.1nm,0.9s
W13A **Hualapai Mount** 28.51 321 eP P 06 48 30.8 +1.3
comp=N,12nm,1.2s
BC3 **Big Chuckawall** 28.59 317 P P 06 48 30.3 +0.2
baz=128,SNR=17
IRM **Iron Mountain** 28.70 318 P P 06 48 31.4 +0.4
baz=130,SNR=9.5
JFWS **Jewell Farm** 28.77 3 P P 06 48 32.0 +0.5
baz=185
MONP2 **Monument Peak** 28.80 315 P P 06 48 32.4 +0.3
baz=126,SNR=6.3
AAM **Ann Arbor** 29.10 13 P P 06 48 33.0 -1.3
baz=198
BELC **Belle Mtn. Jos** 29.16 317 P P 06 48 36.2 +0.9
baz=128,SNR=6.3
KNB **Kanab** 29.22 325 eP P 06 48 37.8 +2.1
comp=N,16nm,1.1s
XPFO **Piæon Flat O** 29.23 316 eP P 06 48 37.3 +1.4
comp=N,14nm,1.4s
PFO **Pinyon Flats O** 29.24 316 eP P 06 48 37.3 +1.4
comp=N,13nm,1.4s
PFO **Pinyon Flats O** 29.24 316 P P 06 48 36.6 +0.7
baz=127,SNR=6.7
PKCU **Pink Cliffs** 29.25 326 eP P 06 48 38.5 +2.4
comp=N,36nm,1.4s
LDFC **Landfair** 29.25 320 eP P 06 48 38.4 +2.4
comp=N,17nm,0.9s
FRD **Ford Ranch, An** 29.27 315 P P 06 48 36.7 +0.6
baz=126
SSPA **Standing Stone** 29.32 23 eP P 06 48 36.0 -0.4
comp=N,24nm,0.9s
SSPA **Standing Stone** 29.32 23 P P 06 48 35.4 -0.9
baz=210
MVL **Millersville** 29.39 26 eP P 06 48 37.0 +0.1
comp=N,38nm,1.5s
GMRC **Granite Mounta** 29.42 319 P P 06 48 37.7 +0.2
baz=130,SNR=6.5
LCMT **Little Creek M** 29.45 325 eP P 06 48 39.5 +1.7
comp=N,6.8nm,1.1s
SRU **San Rafael Swe** 29.61 331 eP P 06 48 40.9 +1.6
comp=N,28nm,1.4s
MTPU **Mount Pierson** 29.62 327 eP P 06 48 41.6 +2.0
comp=N,27nm,1.4s
MURC **Murrieta** 29.73 315 P P 06 48 41.1 +0.9
baz=126
ECSD **EROS Data Cent** 29.76 354 eP P 06 48 39.7 -0.5
comp=N,51nm,1.8s
ECSD **EROS Data Cent** 29.76 354 P P 06 48 39.6 -0.6
baz=172,SNR=11
SZCU **Shurtz Canyon** 29.78 326 eP P 06 48 43.0 +2.2
comp=N,20nm,1.1s
HEC **Hector,Ludlow** 29.88 318 P P 06 48 42.5 +1.0
baz=129
P18A **Preston Nutter** 29.89 332 eP P 06 48 43.6 +1.8
comp=N,77nm,1.9s
CCUT **Cedar City** 29.90 325 eP P 06 48 43.9 +2.0
comp=N,14nm,1.0s
ERPA **Erie** 29.91 19 P P 06 48 40.4 -1.2
baz=205
BBRC **Big Bear Solar** 29.93 316 P P 06 48 43.1 +0.9
baz=127
MSU **Marysvale** 29.97 328 eP P 06 48 44.4 +1.9
TUQ **Turquoise Moun** 30.00 319 P P 06 48 43.2 +0.5
baz=130,SNR=5.6
P17A **Butcher Ranch,** 30.00 331 eP P 06 48 44.5 +1.8
comp=N,25nm,1.0s
TMUT **Trail Mountain** 30.09 330 eP P 06 48 45.5 +1.9
comp=N,11nm,1.0s
NNA **Nana** 30.15 149 LR LR 06 58 27.3
comp=N,387nm,20.6s,baz=326,slow=32
SHPR **Sheep Range** 30.22 322 eP P 06 48 46.1 +1.5
comp=N,7.1nm,1.0s
RWWY **Rawlins** 30.36 338 eP P 06 48 43.4 -2.5
comp=N,40nm,1.1s
BFSC **Mount Baldy Ra** 30.41 316 P P 06 48 46.8 +0.5
baz=126,SNR=5.4
CIS **Catalina Islan** 30.47 314 P P 06 48 47.2 +0.5
baz=124,SNR=6.2
GSC **Goldstone, Bar** 30.48 318 eP P 06 48 48.4 +1.6
comp=N,16nm,1.6s
GSC **Goldstone, Bar** 30.48 318 P P 06 48 47.8 +0.9
baz=129

ELFO **Elginfield** 30.52 16 P P 06 48 45.4 -1.6
baz=202
MWC **Mount Wilson** 30.68 315 eP P 06 48 50.1 +1.4
comp=N,12nm,1.1s
TYNO **Tyneside** 30.84 18 P P 06 48 48.5 -1.2
baz=205
MPU **Maple Canyon** 30.85 330 eP P 06 48 52.0 +1.8
comp=N,23nm,1.2s
PSUT **Pine Spring** 30.88 326 eP P 06 48 52.6 +2.2
comp=N,12nm,1.0s
EDW2 **Edwards Air Fo** 31.01 316 P P 06 48 52.0 +0.5
baz=126
NLU **North Lily Min** 31.02 330 eP P 06 48 53.7 +2.0
comp=N,18nm,1.3s
NLU ePcP PcP 06 51 48.5 +1.5
G39A **Holcombe** 31.10 2 P P 06 48 51.2 -0.9
baz=183
MMNY **Mt. Morris Dam** 31.14 21 eP P 06 48 51.8 -0.7
comp=N,69nm,1.3s
TPNV **Topopah Spring** 31.17 321 eP P 06 48 55.1 +2.1
comp=N,22nm,1.7s
TPNV **Topopah Spring** 31.17 321 P P 06 48 54.6 +1.6
baz=132,SNR=6.6
SNCC **San Nicolas Is** 31.18 312 P P 06 48 53.7 +0.8
baz=122
JLU **Jordanelle** 31.23 331 eP P 06 48 55.4 +1.8
comp=N,19nm,1.4s
FURC **Furnace Creek,** 31.24 320 P P 06 48 54.6 +1.3
baz=130,SNR=7.1
ACTO **Acton** 31.25 17 P P 06 48 52.0 -1.4
baz=204
PAL **Palisades** 31.27 28 P P 06 48 53.0 -0.6
baz=217
MEDO **Medina** 31.34 20 P P 06 48 53.0 -1.3
baz=207
MPMC **Manual Prospec** 31.38 319 P P 06 48 55.6 +0.7
baz=129,SNR=14
BINY **Binghamton** 31.39 24 eP P 06 48 54.3 -0.3
comp=N,62nm,1.1s
BINY **Binghamton** 31.39 24 P P 06 48 53.7 -1.0
baz=212,SNR=9.3
BWLO **Walkerton** 31.42 16 P P 06 48 53.6 -1.3
baz=202
CTU **Camp Tracy** 31.44 331 eP P 06 48 57.3 +2.0
comp=N,19nm,1.0s
F37A **Hinrichs Farm,** 31.52 360 P P 06 48 56.1 +0.3
baz=180
RSSD **Black Hills** 31.54 344 eP P 06 48 57.0 +0.8
comp=N,12nm,0.8s
RSSD **Black Hills** 31.54 344 P P 06 48 56.3 +0.1
baz=159
DUG **Dugway, Tooele** 31.57 329 eP P 06 48 58.1 +1.7
comp=N,32nm,1.7s
DUG **Dugway, Tooele** 31.57 329 P P 06 48 57.4 +1.0
baz=141,SNR=6.2
DAC **Darwin (Calif)** 31.58 319 eP P 06 48 57.9 +1.3
comp=N,8.1nm,1.0s
SCZ2 **Santa Cruz Isl** 31.64 314 P P 06 48 57.8 +0.8
baz=123
ARVC **Arvin** 31.71 316 P P 06 48 58.6 +1.0
baz=126
ISA **Isabella, Lake** 31.78 317 eP P 06 49 00.1 +1.8
comp=N,12nm,1.5s
ISA **Isabella, Lake** 31.78 317 P P 06 48 59.4 +1.1
baz=127
GRAC **Grapevine Rang** 31.88 320 P P 06 49 00.5 +1.4
baz=130,SNR=13
CLWO **Collingwood** 31.95 16 P P 06 48 58.6 -1.0
baz=203
CWC **Cottonwood Cre** 31.99 319 P P 06 49 01.2 +1.0
baz=128
HWUT **Hardware Ranch** 32.08 332 eP P 06 49 02.5 +1.6
comp=N,86nm,2.0s
HWUT ePcP PcP 06 51 50.3 +0.5
BW06 **Boulder Array** 32.18 336 eP P 06 49 02.3 +0.4
comp=N,16nm,1.1s
BW06 **Boulder Array** 32.18 336 P P 06 49 02.3 +0.4
baz=148,SNR=12
PD31 **Pinedale Array** 32.18 336 eP P 06 49 02.6 +0.7
PDAR **Pinedale Array** 32.18 336 P P 06 49 02.6 +0.7
comp=N,11nm,1.0s,baz=140,slow=7.7,SNR=34
PDAR PcP PcP 06 51 51.5 +1.5
comp=N,1.9nm,0.6s,baz=144,slow=5.1,SNR=8.9
PDAR **Pinedale Array** 32.18 336 eP P 06 49 01.7 -0.2
PDAR ePcP PcP 06 51 49.7 -0.4
BGU **Big Grassy Mou** 32.23 330 eP P 06 49 04.1 +1.8
comp=N,13nm,1.2s
SPUT **South Promonto** 32.25 331 eP P 06 49 04.0 +1.6
comp=N,37nm,1.4s
PKM **Mcpherson Peak** 32.25 315 P P 06 49 03.3 +0.8
baz=124,SNR=6.9
VES **Vestal, Richgr** 32.29 317 P P 06 49 03.5 +0.8
baz=126
E40A **Wakefield** 32.31 3 P P 06 49 03.4 +0.7
baz=185
E42A **Champion** 32.45 6 P P 06 49 03.8 -0.1
baz=189
SADO **Sadowa** 32.58 18 P P 06 49 03.1 -1.9
comp=N,16nm,0.9s,baz=217,slow=9.8,SNR=7.4
SADO **Sadowa** 32.58 18 eP P 06 49 03.8 -1.3
comp=N,41nm,1.4s
SMMC **Simmler** 32.61 315 P P 06 49 06.1 +0.6
baz=124
HVU **Hansel Valley** 32.77 331 eP P 06 49 08.4 +1.5
comp=N,101nm,1.8s
TRY **Troy** 32.78 26 eP P 06 49 07.0 +0.2
comp=N,137nm,1.8s
AHID **Auburn Hatcher** 32.81 334 eP P 06 49 08.3 +0.9
comp=N,43nm,1.1s
KLBO **Killbear Provi** 32.82 16 P P 06 49 04.5 -2.6
baz=203
DELO **Deloro Mine** 32.82 20 P P 06 49 05.4 -1.7
baz=208
PAGB **Antelope Grade** 33.01 316 eP P 06 49 11.4 +2.4
comp=N,33nm,1.6s
BUKO **Buck Lake** 33.12 17 P P 06 49 08.2 -1.6
baz=204
BANO **Bancroft** 33.17 19 P P 06 49 08.6 -1.6
baz=207
MLAC **Mammoth, Mammo** 33.20 320 P P 06 49 11.3 +0.5
baz=129
SNOW **Snow King Moun** 33.24 335 eP P 06 49 12.5 +1.3
comp=N,111nm,0.8s
NV11 **Mina Array Sit** 33.28 322 eP P 06 49 13.4 +2.0
comp=N,1.9nm,1.1s
OMMB **Old Mammoth Mi** 33.29 320 eP P 06 49 13.2 +1.4
comp=N,12nm,1.3s
LOHW **Long Hollow** 33.31 336 eP P 06 49 12.9 +1.1
comp=N,51nm,1.1s
TPAW **Teton Pass** 33.34 335 eP P 06 49 13.4 +1.2
comp=N,164nm,1.4s
MDPB **Devils Postpil** 33.35 320 eP P 06 49 14.1 +1.8
comp=N,10nm,1.0s
NV01 **Mina Array Sit** 33.37 321 eP P 06 49 13.7 +1.4
NVAR **Mina Array Bea** 33.37 321 P P 06 49 14.2 +1.9
comp=N,16nm,0.8s,baz=137,slow=8.3,SNR=99
NVAR PcP PcP 06 51 54.5 +1.1
comp=N,3.2nm,0.9s,baz=127,slow=3.0,SNR=3.8
NVAR LR LR 07 04 34.4
comp=N,2µm,18.1s,baz=134,slow=40
F51A **Arnstein** 33.43 16 P P 06 49 12.7 +0.3
baz=203
F52A **Sundridge** 33.47 17 P P 06 49 10.6 -2.1
baz=204
PLVO **Plevna** 33.47 20 eP P 06 49 11.7 -1.1
comp=N,22nm,1.0s
PLVO **Plevna** 33.47 20 P P 06 49 11.0 -1.8
baz=208
MOOW **Moose Ponds** 33.48 336 eP P 06 49 14.2 +1.0
comp=N,31nm,1.1s
MOOW ePcP PcP 06 51 57.7 +4.0
FXWY **Fox Creek** 33.50 335 eP P 06 49 14.4 +1.0
comp=N,22nm,1.0s
FXWY ePcP PcP 06 51 57.8 +4.1
NCB **Newcomb** 33.58 24 eP P 06 49 12.6 -1.2
comp=N,25nm,1.1s
RYN **Ryan** 33.62 321 eP P 06 49 16.5 +2.0
comp=N,7.2nm,1.0s
KVN **Kaiserville** 33.64 322 eP P 06 49 16.2 +1.5
comp=N,16nm,1.2s
PMPB **Monarch Peak** 33.65 316 eP P 06 49 16.2 +1.6
comp=N,30nm,1.3s
IMW **Indian Meadow** 33.68 335 eP P 06 49 16.1 +1.0
comp=N,31nm,1.2s
IMW ePcP PcP 06 51 55.4 +1.1
FLWY **Flagg Ranch** 33.74 336 eP P 06 49 16.8 +1.3
comp=N,31nm,1.0s
YPP **Pitchstone Pla** 33.94 336 eP P 06 49 19.1 +1.8
comp=N,30nm,1.3s
H17A **Grant Village** 33.95 336 eP P 06 49 19.2 +1.9
comp=N,28nm,1.2s
H17A **Grant Village** 33.95 336 P P 06 49 17.8 +0.4
baz=148,SNR=12
ALGO **Algonquin Park** 33.98 18 P P 06 49 15.5 -1.7
baz=206
PEMO **Pembroke** 33.98 19 P P 06 49 15.5 -1.7
baz=207
LONY **Lake Ozonia** 33.98 23 eP P 06 49 16.5 -0.8
comp=N,32nm,1.1s
LONY **Lake Ozonia** 33.98 23 P P 06 49 16.2 -1.1
baz=212,SNR=7.6
LKWY **Lake** 34.02 337 eP P 06 49 20.5 +2.5
comp=N,26nm,1.0s
RLMT **Red Lodge** 34.08 338 eP P 06 49 19.4 +1.0
comp=N,11nm,1.0s
RLMT **Red Lodge** 34.08 338 P P 06 49 18.8 +0.3
baz=151,SNR=5.3
E51A **G1948 Merrick** 34.10 16 P P 06 49 16.8 -1.5
baz=203
YFT **Old Faithful** 34.10 336 eP P 06 49 21.5 +2.9
comp=N,34nm,1.1s
YFT ePcP PcP 06 51 58.4 +3.0
WAKR **Walker** 34.11 320 eP P 06 49 20.6 +1.8
comp=N,13nm,1.4s
AGMN **Agassiz Nation** 34.22 356 eP P 06 49 19.0 -0.3
comp=N,11nm,0.9s
AGMN **Agassiz Nation** 34.22 356 P P 06 49 17.8 -1.5
baz=175
YNR **Norris Junctio** 34.26 337 eP P 06 49 22.1 +2.0
comp=N,30nm,1.2s
YERR **Yerington** 34.28 321 eP P 06 49 21.9 +1.6
comp=N,26nm,1.4s
YMR **Madison River** 34.33 336 eP P 06 49 22.5 +1.9
comp=N,22nm,1.0s
ORIO **Orleans, Innes** 34.36 21 P P 06 49 19.0 -1.5
baz=210
YHH **Holmes Hill** 34.39 336 eP P 06 49 23.0 +1.9
comp=N,25nm,1.2s
CMB **Columbia Colle** 34.42 319 eP P 06 49 22.0 +0.8
comp=N,6.0nm,1.1s
E53A **Dumoine, Ponti** 34.48 18 P P 06 49 20.0 -1.6
baz=206
YHB **Horse Butte** 34.49 336 eP P 06 49 23.5 +1.5
comp=N,19nm,1.1s
LAO **LASA Array** 34.50 343 eP P 06 49 22.8 +0.9
comp=N,16nm,1.1s
LAO **LASA Array** 34.50 343 P P 06 49 20.7 -1.2
baz=157
PNTR **Pine Nut** 34.57 321 eP P 06 49 24.9 +2.1
comp=N,12nm,0.9s
D50A **G1974 Best Tow** 34.59 15 P P 06 49 21.3 -1.3
baz=202
D51A **Lot 18 Range I** 34.64 16 P P 06 49 21.5 -1.5
baz=203
QLMT **Earthquake Lak** 34.65 336 eP P 06 49 25.4 +2.1
E54A **Lac Daplat, Po** 34.67 19 P P 06 49 21.8 -1.5
baz=207,SNR=6.3
VCNR **Virginia City** 34.73 321 eP P 06 49 26.1 +2.1
comp=N,8.2nm,1.1s
ALFO **Alfred** 34.73 22 P P 06 49 22.2 -1.5
baz=211
GCMT **Greycliff** 34.80 339 eP P 06 49 25.4 +0.8
PAHR **Pah Rah Range** 34.83 322 eP P 06 49 26.5 +1.6
comp=N,15nm,1.3s
HLID **Hailey** 34.91 332 eP P 06 49 26.9 +1.2
comp=N,26nm,1.1s
HLID **Hailey** 34.91 332 P P 06 49 26.8 +1.2
baz=141,SNR=36
MCMT **McKenzie Canyo** 35.23 334 eP P 06 49 30.5 +2.1
PTGA **Pitinga** 35.31 112 LR LR 07 05 54.8
comp=N,309nm,18.4s,baz=301,slow=40
PTGA **Pitinga** 35.31 112 eP P 06 49 29.9 +0.7
comp=N,153nm,1.4s
BOZ **Bozeman (W)** 35.37 336 eP P 06 49 30.6 +1.1
comp=N,22nm,1.4s
BOZ **Bozeman (W)** 35.37 336 P P 06 49 30.5 +1.1
baz=147,SNR=13
D54A **Lac Fusel, La** 35.48 19 P P 06 49 28.7 -1.5
baz=207,SNR=8.3
BEKR **Beckworth** 35.51 322 eP P 06 49 32.6 +1.9
comp=N,14nm,1.1s
DLMT **Dillon** 35.55 335 eP P 06 49 32.8 +1.7
comp=N,52nm,1.0s
DGMT **Dagmar** 35.64 346 eP P 06 49 32.1 +0.5
comp=N,36nm,0.8s
DGMT ePcP PcP 06 52 01.4 +1.9
DGMT **Dagmar** 35.64 346 P P 06 49 31.4 -0.2
baz=161,SNR=11
ORV **Oroville** 36.02 320 eP P 06 49 36.9 +2.0
comp=N,8.7nm,1.3s
VLDQ **Val d'Or** 36.10 17 eP P 06 49 35.0 -0.5
comp=N,28nm,1.4s
ULM **Lac du Bonnet** 36.16 356 P P 06 49 33.8 -2.3
comp=N,12nm,0.8s,baz=161,slow=11,SNR=9.3
ULM PcP PcP 06 52 01.0 0.0
comp=N,6.7nm,0.9s,baz=191,slow=3.5,SNR=4.6
ULM **Lac du Bonnet** 36.16 356 eP P 06 49 35.5 -0.5
comp=N,32nm,1.4s
ULM PcP PcP 06 52 01.0 0.0
WVOR **Wild Horse Val** 36.21 326 eP P 06 49 37.6 +0.9
comp=N,26nm,1.2s
HRY **Holter Researc** 36.37 337 eP P 06 49 38.9 +0.9
O03E **Paynes Creek** 36.65 321 P P 06 49 40.3 -0.1
baz=128,SNR=7.9
J08A **Circle Bar Ran** 36.76 328 eP P 06 49 42.5 +1.2
comp=N,45nm,1.1s
MOD **Modoc Plateau** 36.77 324 eP P 06 49 42.5 +0.9
comp=N,14nm,1.2s
EGMT **Eagleton** 36.77 340 eP P 06 49 42.0 +0.7
comp=N,45nm,1.3s
EGMT **Eagleton** 36.77 340 P P 06 49 41.6 +0.3
baz=152,SNR=9.5
SAML **Samuel** 36.92 127 eP P 06 49 41.5 -1.4
comp=N,20nm,1.3s
LATQ **La Tuque** 36.99 22 P P 06 49 41.7 -1.4
baz=213
LSQQ **Lebel-sur-Quev** 37.09 17 P P 06 49 42.6 -1.4
baz=206
O02D **Mt. Diablo Mer** 37.19 320 P P 06 49 45.1 +0.1
baz=126
BMO **Blue Mountains** 37.25 330 eP P 06 49 45.4 -0.1
WDC **Whiskeytown Da** 37.27 321 eP P 06 49 45.1 -0.5
comp=N,5.4nm,1.1s
MSO **Missoula** 37.29 335 eP P 06 49 46.5 +0.7
comp=N,34nm,1.1s
MSO **Missoula** 37.29 335 P P 06 49 46.4 +0.5
baz=145,SNR=19
MATQ **Matagami** 37.55 16 P P 06 49 46.1 -1.7
baz=204
KMRM **Mail Ridge** 37.79 319 eP P 06 49 51.9 +1.8
comp=N,21nm,1.1s
I07A **Izee** 37.80 328 eP P 06 49 51.0 +0.9
comp=N,12nm,1.1s
M02C **Callahan** 37.94 322 P P 06 49 52.0 +0.6
baz=128
F10A **Beach Ranch, E** 38.05 332 eP P 06 49 52.7 +0.5
comp=N,57nm,0.8s
K04D **Chiloquin, OR** 38.06 324 P P 06 49 52.5 +0.1
baz=130
YBH **Yreka Blue Hor** 38.06 322 LR LR 07 07 32.9
comp=N,1µm,18.4s,baz=148,slow=39
YBH **Yreka Blue Hor** 38.06 322 eP P 06 49 51.7 -0.7
comp=N,12nm,1.7s
L04D **Klamath Falls** 38.12 323 P P 06 49 53.2 +0.3
baz=129
JTMT **Jette** 38.17 336 eP P 06 49 54.3 +1.0
comp=N,31nm,1.0s
JTMT ePcP PcP 06 52 08.7 +1.3
KHMM **Horse Mountain** 38.18 320 eP P 06 49 54.9 +1.5
comp=N,17nm,1.0s
J05D **Fort Rock, OR** 38.19 325 P P 06 49 54.7 +1.2
baz=132,SNR=5.1
PINE **Pine Mountain** 38.37 326 eP P 06 49 55.8 +0.8
comp=N,8.3nm,0.9s
G08A **Pilot Rock** 38.38 329 eP P 06 49 55.4 +0.4
comp=N,26nm,1.8s
G08A ePcP PcP 06 52 09.3 +1.3
LPAZ **La Paz** 38.54 141 P P 06 49 56.5 -0.7
comp=N,1.9nm,0.8s,baz=348,slow=6.3,SNR=10
LPAZ **La Paz** 38.54 141 eP P 06 49 57.2 0.0
comp=N,11nm,1.1s
CHGQ **Chibougamau** 38.63 19 P P 06 49 54.9 -2.0
baz=209
J04D **Umpqua Nationa** 38.65 325 P P 06 49 58.0 +0.5
baz=130,SNR=7.9
E09A **Wood Farm, Sta** 38.88 331 eP P 06 49 59.4 +0.3

	comp=N,12nm,0.9s						
I05D	**Terrebonne, OR**	38.95	326	P	P	06 50 00.1	+0.4
	baz=132						
WALA	**Waterton Lakes**	39.10	337	*e*P	P	06 50 02.3	+1.3
	comp=N,40nm,1.5s						
I04A	**Tendick Farm,**	39.18	325	P	P	06 50 01.8	+0.1
	baz=130,SNR=7.2						
KBO	**Bosley Butte**	39.26	322	*e*P	P	06 50 05.0	+2.7
	comp=N,47nm,1.1s						
E08A	**Dider Farm, El**	39.29	331	*e*P	P	06 50 04.8	+2.3
	comp=N,10nm,1.3s						
G05D	**Wamic, OR**	39.54	328	P	P	06 50 05.0	+0.3
	baz=133						
H04A	**Detroit Lake**	39.63	326	*e*P	P	06 50 06.0	+0.6
	comp=N,30nm,1.0s						
I03D	**Drain, OR**	39.64	324	P	P	06 50 05.6	+0.2
	baz=129,SNR=8.7						
J01E	**Myrtle Point**	39.65	323	P	P	06 50 05.9	+0.4
	baz=128						
KEBM	**Edson Butte**	39.71	322	*e*P	P	06 50 08.7	+2.5
	comp=N,63nm,1.1s						
NEW	**Newport**	39.75	334	LR	LR	07 08 46.7	
	comp=N,680nm,19.7s,baz=146,slow=40						
NEW	**Newport**	39.75	334	*e*P	P	06 50 06.9	+0.6
	comp=N,20nm,1.4s						
NEW	**Newport**	39.75	334	P	P	06 50 06.2	-0.1
	baz=141,SNR=6.7						
H04D	**Lebanon**	39.82	326	P	P	06 50 06.9	0.0
	baz=131,SNR=5.4						
C09A	**Chrisman Ranch**	39.90	333	*e*P	P	06 50 08.3	+0.8
	comp=N,97nm,1.6s						
MNMC	**Minye Minye**	39.92	145	*e*P	P	06 50 08.7	+0.4
	comp=N,64nm,1.1s						
F05D	**White Salmon**	40.05	328	P	P	06 50 09.4	+0.6
	baz=134						
I02D	**Swisshome**	40.18	324	P	P	06 50 11.2	+1.3
	baz=129						
PB11	**IPOC Station P**	40.40	146	*e*P	P	06 50 12.2	0.0
	comp=N,78nm,1.4s						
G03D	**McMinnville, O**	40.55	326	P	P	06 50 13.8	+0.9
	baz=131						
LTY	**Liberty**	40.61	330	*e*P	P	06 50 14.6	+1.1
	comp=N,32nm,1.3s						
B08A	**Colville Reser**	40.78	332	*e*P	P	06 50 15.5	+0.6
	comp=N,6.8nm,0.9s						
LON	**Longmire**	40.82	329	*e*P	P	06 50 16.3	+1.1
	comp=N,10nm,0.9s						
C06D	**Leavenworth**	41.19	331	P	P	06 50 18.9	+0.7
	baz=136						
D05A	**Enumclaw**	41.20	329	*e*P	P	06 50 20.1	+1.8
	comp=N,18nm,1.0s						
FFC	**Flin Flon**	41.23	352	*e*P	P	06 50 17.8	-0.6
	comp=N,26nm,1.3s						
D04E	**Lakebay**	41.59	329	P	P	06 50 22.1	+0.7
	baz=133						
B06A	**Marblemount**	41.89	331	*e*P	P	06 50 24.6	+0.7
	comp=N,20nm,0.9s						
D03D	**Eldon**	41.99	329	P	P	06 50 24.8	0.0
	baz=133						
B05A	**Bryant**	42.00	330	P	P	06 50 24.5	-0.3
	baz=135,SNR=8.0						
A04D	**Lummi Island**	42.61	330	P	P	06 50 29.9	+0.2
	baz=134,SNR=24						
PGC	**Sidney**	42.92	330	*e*P	P	06 50 33.0	+0.7
	comp=N,20nm,0.9s						
LVC	**Limon Verde**	43.12	147	LR	LR	07 08 23.9	
	comp=N,206nm,18.6s,baz=317,slow=36						
LVC	**Limon Verde**	43.12	147	*e*P	P	06 50 39.0	+4.4
	comp=N,17nm,1.1s						
RPN	**Rapa Nui**	44.16	202	LR	LR	07 02 50.8	
	comp=N,37nm,20.2s,baz=44,slow=27						
SCHQ	**Schefferville**	45.26	21	*e*P	P	06 50 48.7	-2.3
	comp=N,30nm,0.9s,baz=214,slow=5.4,SNR=12						
SCHQ				PcP	PcP	06 52 29.7	-0.6
	comp=N,12nm,1.0s,baz=228,slow=1.4,SNR=3.9						
SCHQ				LR	LR	07 10 55.2	
	comp=N,2µm,19.2s,baz=194,slow=38						
SCHQ	**Schefferville**	45.26	21	*e*P	P	06 50 49.2	-1.8
	comp=N,41nm,1.0s						
SCHQ				PcP	PcP	06 52 29.7	-0.6
LCO	**Las Campanas**	47.70	154	*e*P	P	06 51 09.4	-1.4
	comp=N,22nm,1.0s						
YKA	**Yellowknife Ar**	50.85	347	P	P	06 51 34.4	+0.5
	comp=N,44nm,0.7s,baz=151,slow=7.2,SNR=152						
YKA				PcP	PcP	06 52 50.6	+0.5
	comp=N,5.3nm,0.8s,baz=146,slow=3.7,SNR=5.4						
ROC1	**El Roble**	51.07	157	*e*P	P	06 51 38.9	+2.5
	comp=N,14nm,0.9s						
DLBC	**Dease Lake**	52.41	336	*e*P	P	06 51 48.5	+2.6
	comp=N,47nm,0.9s						
TAOE	**Nuku Hiva Isla**	52.60	247	*e*S	S	06 59 13.8	+1.1
	comp=N,243nm,24.7s						
TAOE				*e*LR	LR	07 06 24.6	
	comp=N,444nm,29.2s						
CPUP	**Villa Florida**	52.70	140	P	P	06 51 47.8	-0.4
	comp=N,4.4nm,0.8s,baz=312,slow=7.7,SNR=8.9						
CPUP				LR	LR	07 13 42.1	
	comp=N,128nm,18.5s,baz=342,slow=35						
CPUP	**Villa Florida**	52.70	140	*e*P	P	06 51 48.8	+0.6
	comp=N,12nm,1.2s						
BDFB	**Brasilia**	52.88	122	P	P	06 51 49.2	-0.8
	comp=N,8.1nm,0.9s,baz=262,slow=4.5,SNR=10.0						
BDFB				LR	LR	07 16 29.2	
	comp=N,297nm,18.4s,baz=215,slow=38						
BDFB	**Brasilia**	52.88	122	*e*P	P	06 51 50.5	+0.5
	comp=N,31nm,1.1s						
RKT	**Rikitea**	55.73	229	*e*LR	LR	07 08 26.7	
	comp=N,461nm,30.2s,baz=50						
WHY	**Whitehorse**	55.74	336	*e*P	P	06 52 11.5	+1.3
GO06	**Curarrehue**	56.85	161	*e*P	P	06 52 20.6	+2.3
	comp=N,28nm,1.8s						
HYT	**Haines Junctio**	56.88	336	*e*P	P	06 52 20.5	+2.2
PLCA	**Paso Flores**	58.19	161	P	P	06 52 26.7	-0.9
	comp=N,9.7nm,1.1s,baz=297,slow=4.5,SNR=5.2						
PLCA				LR	LR	07 12 49.5	
	comp=N,420nm,18.1s,baz=16,slow=31						
PLCA	**Paso Flores**	58.19	161	*e*P	P	06 52 27.3	-0.3
BALM	**Baldy**	58.99	334	*e*P	P	06 52 35.4	+2.3
TRQA	**Tornquist**	59.20	152	*e*P	P	06 52 37.4	+2.7
	comp=N,20nm,1.3s						
RCBR	**Riachuelo**	59.42	106	*e*P	P	06 52 38.3	+1.6
DAWY	**Dawson**	59.45	338	*e*P	P	06 52 36.5	+0.4
EPYK	**Eagle Plains**	59.92	341	P	P	06 52 39.5	+0.2
	baz=129,SNR=6.5						
INK	**Inuvik**	60.24	344	*e*P	P	06 52 41.2	-0.1
EGAK	**Eagle**	60.48	338	*e*P	P	06 52 43.5	+0.4
DIV	**Divide**	60.50	333	*e*P	P	06 52 45.4	+2.0
DIV				*e*pP	pP	06 52 52.1	-3.2
RES	**Resolute Bay**	60.60	359	LR	LR	07 20 53.6	
	comp=N,335nm,21.9s,baz=182,slow=38						
KLU	**Klutina**	60.73	334	*e*P	P	06 52 46.5	+1.6
HARP	**HAARP**	60.82	335	*e*P	P	06 52 47.6	+2.1
SCRK	**Sand Creek**	61.12	337	*e*P	P	06 52 48.9	+1.3
PAX	**Paxson**	61.22	335	*e*P	P	06 52 49.3	+1.0
RIDG	**Independ'e Rid**	61.33	336	*e*P	P	06 52 50.5	+1.6
DHY	**Denali Highway**	62.04	335	*e*P	P	06 52 54.7	+0.9
PMR	**Palmer**	62.16	333	*e*P	P	06 52 55.4	+0.9
BRLK	**Bradley Lake**	62.27	331	*e*P	P	06 52 58.2	+2.9
HDA	**Harding Lake**	62.46	336	*e*P	P	06 52 57.0	+0.6
IL1	**Eielson Array**	62.60	337	*e*P	P	06 52 57.1	-0.3
ILAR	**Eielson Array**	62.60	337	P	P	06 52 57.6	+0.2
	comp=N,29nm,1.0s,baz=131,slow=4.5,SNR=85						
ILAR				LR	LR	07 22 01.7	
	comp=N,302nm,20.0s,baz=133,slow=38						
ILB	**Eielson Array**	62.60	337	*e*P	P	06 52 58.0	+0.5
RND	**Reindeer**	62.78	335	*e*P	P	06 52 59.6	+0.8
SUA	**Susitna One**	62.83	335	*e*P	P	06 53 01.5	+2.4
CCB	**Clear Creek Bu**	62.90	337	*e*P	P	06 52 59.4	+0.1
WRH	**Wood River Hil**	62.94	336	*e*P	P	06 52 59.9	+0.3
MCK	**McKinley**	62.95	335	*e*P	P	06 53 00.6	+0.8
COLA	**College**	63.02	337	*e*P	P	06 53 00.8	+0.7
MDM	**Murphy Dome**	63.20	337	*e*P	P	06 53 01.9	+0.5
BWN	**Browne**	63.35	336	*e*P	P	06 53 03.7	+1.3
TRF	**Thorofare Moun**	63.39	335	*e*P	P	06 53 03.7	+0.8
PPLA	**Purkeypile**	63.98	334	*e*P	P	06 53 07.3	+0.5
MLY	**Manley**	64.20	336	*e*P	P	06 53 08.3	+0.3
PPT	**Papeete**	64.61	243	LR	LR	07 14 52.1	
	comp=N,188nm,18.9s,baz=61,slow=30						
PPT2	**Papeete2**	64.62	243	*e*S	S	07 01 51.0	+2.1
	comp=N,110nm,24.2s						
PPT2	**Papeete2**	64.62	243	*e*LR	LR	07 12 19.5	
	comp=N,382nm,25.0s,baz=53						
COLD	**Coldfoot**	64.91	339	*e*P	P	06 53 14.4	+1.8
SVW2	**Sparrevohn**	64.91	331	*e*P	P	06 53 14.9	+2.3
IM3	**Indian Mountai**	65.72	337	*e*P	P	06 53 17.3	-0.5
SUMG	**Summit**	66.24	15	*i* P	P	06 53 20.8	-0.7
TBI	**Tubuai**	67.09	237	*e*S	S	07 02 22.9	+4.2
	comp=N,237nm,41.0s						
TBI	**Tubuai**	67.09	237	*e*LR	LR	07 13 10.7	
	comp=N,377nm,31.0s,baz=64						
DAG	**Danmarks Havn**	72.65	13	*i* P	P	06 53 58.8	-1.8
	comp=N,12nm,0.7s						
PCAS	**Casmilo, Conde**	76.44	52	*e*P	P	06 54 22.8	-0.4
	comp=N,40nm,1.7s						
MESJ	**Messejana**	76.94	54	*e*P	P	06 54 24.0	-2.1
	comp=N,43nm,1.7s						
MTE	**Manteigas**	77.11	51	*e*P	P	06 54 25.9	-1.3
	comp=N,32nm,1.2s						
PCBR	**Castelo Branco**	77.24	52	*e*P	P	06 54 27.4	-0.4
	comp=N,15nm,1.8s						
PBDV	**Barranco-do-Ve**	77.24	55	*e*P	P	06 54 25.3	-2.6
	comp=N,101nm,1.1s						
PMRV	**Marv??o**	77.36	52	*e*P	P	06 54 28.3	-0.2
	comp=N,24nm,1.9s						
MVO	**Moncorvo**	77.40	50	*e*P	P	06 54 27.3	-1.4
ESK	**Eskdalemuir**	78.08	36	*e*P	P	06 54 30.9	-1.2
	comp=N,21nm,0.8s						
ESDC	**Sonseca Array**	79.94	52	P	P	06 54 41.1	-1.6
	comp=N,3.3nm,0.7s,baz=287,slow=5.8,SNR=15						
BILL	**Bilibino**	81.23	338	*e*P	P	06 54 49.7	+0.7
	comp=N,26nm,0.9s						
NOA	**NORSAR Array B**	84.23	28	P	P	06 55 04.9	+0.1
	comp=N,1.6nm,0.8s,baz=290,slow=5.2,SNR=5.0						
NOA				LR	LR	07 31 36.3	
	comp=N,161nm,22.0s,baz=285,slow=35						
TIC	**Toumodi**	85.86	84	*e*P	P	06 55 13.8	0.0
LIC	**Lamto**	85.95	85	*e*P	P	06 55 13.0	-1.2
	comp=N,77nm,1.0s						
DBIC	**Dimbokro**	86.01	84	P	P	06 55 14.4	-0.1
	comp=N,11nm,0.8s,baz=270,slow=4.5,SNR=14						
ARCES	**ARCESS Array B**	86.16	18	P	P	06 55 13.7	-0.5
	comp=N,1.9nm,0.6s,baz=298,slow=3.9,SNR=8.9						
ARCES				LR	LR	07 34 12.0	
	comp=N,16nm,18.3s,baz=330,slow=36						
KIC	**Kosan Boka**	86.19	84	*e*P	P	06 55 15.3	-0.2
	comp=N,42nm,0.9s						
CLL	**Collm**	88.46	37	*e*PS	PS	07 07 18.0	+1.4
CLL				*e*PPS	PPS	07 07 48.0	
CLL				*e*SS	SS	07 12 18.0	+20
CLL				*e*SSS	SSS	07 15 30.0	
CLL				LmV		07 29 00.0	
	comp=Z,300nm,21.7s						
CLL				LmH		07 32 00.0	
	comp=Z,200nm,20.9s						
CLL				Lm	MLR	08 05 00.0	
	comp=N,100nm,20.3s						
CLL				Lm	MLR	08 05 00.0	
	comp=E,200nm,19.1s						
CLL				Lm	MLR	08 05 00.0	
	comp=Z,200nm,18.2s						
GERES	**GERESS Array B**	89.76	39	P	P	06 55 32.5	+0.5
	comp=Z,0.4nm,0.6s,baz=302,slow=3.0,SNR=3.7						
GERES				LR	LR	07 34 14.8	
	comp=Z,397nm,20.1s,baz=290,slow=35						
TIXI	**Tiksi**	90.08	348	*e*P	P	06 55 32.8	0.0
	comp=Z,14nm,0.8s						
FINES	**FINESS Array B**	90.56	25	P	P	06 55 34.3	-0.9
	comp=Z,3.2nm,0.8s,baz=241,slow=3.9,SNR=4.7						
FINES				LR	LR	07 37 34.3	
	comp=Z,303nm,18.3s,baz=315,slow=36						
TORD	**Torodi Ar. Bea**	90.71	76	P	P	06 55 36.0	-1.0
	comp=Z,1.3nm,0.9s,baz=266,slow=4.2,SNR=7.9						
TORD				LR	LR	07 35 43.7	
	comp=Z,124nm,18.5s,baz=305,slow=35						
NRIK	**Noril'sk**	96.78	0	P	P	06 56 02.4	-1.3
	comp=Z,4.3nm,0.9s,baz=149,slow=1.4,SNR=6.3						
NRIK				LR	LR	07 44 30.6	
	comp=Z,578nm,18.8s,baz=22,slow=38						
YAK	**Yakutsk**	97.25	341	LR	LR	07 45 23.7	
	comp=Z,224nm,21.1s,baz=82,slow=39						
AKASG	**Malin Array Be**	97.85	33	LR	LR	07 41 43.2	
	comp=Z,235nm,19.3s,baz=300,slow=36						
DZM	**Mont Dzumac**	105.36	251	*e*LR	LR	07 31 28.3	
	comp=Z,152nm,23.8s						
SONM	**Songino Array**	116.11	346	PKP	PKPdf	07 01 16.3	-0.4
	comp=Z,1.2nm,0.8s,baz=332,slow=2.7,SNR=5.6						
MKAR	**Makanchi Array**	119.20	4	PKP	PKPdf	07 01 21.7	-0.8
	comp=Z,1.8nm,0.9s,baz=336,slow=2.7,SNR=4.3						
HHC	**Hu-ho-hao-te**	121.00	339	*e*PKP	PKPdf	07 01 26.8	+0.6
AAK	**Ala-Archa**	122.27	11	*e*PKPdf	PKPdf	07 01 29.2	+0.5
WMQ	**Urumqi**	122.36	360	*e*PKP	PKPdf	07 01 29.4	+0.7
WMQ				LR	LR		
	comp=Z,300nm,33.1s						
NJ2	**Nanjing**	125.22	327	*e*PKP	PKPdf	07 01 36.0	+1.6
GTA	**Gaotai**	125.57	348	*e*PKP	PKPdf	07 01 35.9	+0.8
GTA				sPKP		07 01 50.5	
GTA				LR	LR		
	comp=Z,270nm,21.6s						
GTA				LR	LR		
	comp=Z,180nm,22.9s						
GTA				LR	LR		
	comp=Z,200nm,20.6s						
KSH	**Kashi**	125.57	11	PKP	PKPdf	07 01 36.8	+1.7
KSH				PP	PP	07 03 31.8	+6.6
KSH				SKS	SKSdf	07 08 43.8	-0.3
KSH				LR	LR		
	comp=Z,260nm,10.5s						
KSH				LR	LR		
	comp=Z,240nm,8.3s						
KSH				LR	LR		
	comp=Z,600nm,17.3s						
LZH	**Lanzhou**	127.78	343	*e*PKP	PKPdf	07 01 40.3	+0.8
LZH				sPKP		07 01 53.3	
LZH				LR	LR		
	comp=Z,120nm,18.1s						
LZH				LR	LR		
	comp=Z,130nm,18.2s						
LZH				LR	LR		
	comp=Z,170nm,20.1s						
STKA	**Stephens Creek**	127.79	241	PKP	PKPdf	07 01 39.5	+0.2
	comp=Z,2.0nm,0.8s,baz=333,slow=2.3,SNR=3.5						
XAN	**Xi'an**	128.01	337	PKP	PKPdf	07 01 43.3	+3.5
XAN				LR	LR		
	comp=Z,170nm,10.3s						
XAN				LR	LR		
	comp=Z,360nm,16.2s						
XAN				LR	LR		
	comp=Z,150nm,8.8s						
ENH	**Enshi**	131.12	335	PKPdf	PKPdf	07 01 46.0	+0.2
WRA	**Warramunga Arr**	135.06	256	PKP	PKPdf	07 01 52.7	-0.7
	comp=Z,1.4nm,0.8s,baz=86,slow=1.9,SNR=12						
ASAR	**Alice Springs**	135.35	251	PKP	PKPdf	07 01 53.5	-0.4
	comp=Z,0.4nm,0.7s,baz=126,slow=2.5,SNR=4.9						
CHTO	**Chiang Mai**	145.44	341	*e*PKPbc	PKPbc	07 02 11.6	-0.6
CMAR	**Chiang Mai Arr**	145.78	341	PKPbc	PKPab	07 02 13.8	+0.2
	comp=Z,46nm,1.0s,baz=343,slow=3.8,SNR=90						
HYB	**Hyderabad**	147.43	16	*i* PKP	PKPbc	07 02 18.0	-0.1

ISCJB ***15*** *06:43:07.2±0.3, 14°.05N±0°.03×120°.78E±0°.04, h145km±3km, mb4.4/37, Error ellipse: s-maj=7.1km s-min=4.7km az=164.0*

IDC ***15*** *06:43:07.2±0.4, 13°.98N×120°.78E, h135km±3km, mb4.0/16, mb1 4.2/16, mb1mx4.0/35, mbtmp4.4/16, Error ellipse: s-maj=18.2km s-min=8.2km az=71.0*

NEIC ***15*** *06:43:08.7±0.5, 14°.00N×120°.74E, h148km±4km, mb4.5/18, Error ellipse: s-maj=5.1km s-min=3.5km az=73.0*

MAN ***15*** *06:43:08.9, 14°.05N×120°.38E, h89km, mb5.1, ML4.0, MS4.1*

DJA ***15*** *06:43:18.2±1.6, 14°N±6°×12°1E±°, h244km±19km, M4.4/9, mb4.4/9, mB5.1/4, Mw(mB)4.4/4*

ISC 15 06:43:08.1±0.6, 13°.98N±0°.04×120°.61E±0°.05, h140km±5km, n108, σ1°70/120, mb4.5/37, 3C-4D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	0.34	70	P	Pn	06 43 28.2	+0.5
	809nm,0.3s,baz=228,slow=2.6,SNR=27						
TGY				S	Sn	06 43 40.9	-1.8
	4µm,0.3s,baz=234,slow=19,SNR=28						
TGY	**Tagaytay City**	0.34	70	*e*P	Pn	06 43 28.0	+0.3
TGY				*i* S	Sn	06 43 42.6	0.0
LUBP	**Lubang**	0.43	235	*e*P	Pn	06 43 23.6	-4.5
LUBP				*e*S	Sn	06 43 35.6	-7.5
BOAC	**Boac**	1.31	113	*e*P	Pn	06 43 36.6	+1.6
BOAC				*e*S	Sn	06 43 55.3	-0.1
SJMP	**San Jose**	1.59	162	*e*P	Pn	06 43 39.1	+1.1
SJMP				*e*S	Sn	06 43 53.7	-7.1
PCPH	**Palayan**	1.64	17	*e*P	Pn	06 43 37.2	-1.3
PCPH				*e*S	Sn	06 43 58.9	-2.9
GQP	**Guinayangan**	1.79	92	*i* P	Pn	06 43 42.3	+2.1
SCZP	**Santa Cruz**	1.91	339	*e*P	Pn	06 43 39.1	-2.4
SCZP				*e*S	Sn	06 43 53.2	-14
BUSP	**Coron**	2.01	191	*e*P	Pn	06 43 43.0	+0.2
BUSP				*e*S	Sn	06 44 03.5	-5.9
OTRP	**Odiongan**	2.12	139	*e*P	Pn	06 43 45.1	+0.9
OTRP				*e*S	Sn	06 44 05.4	-6.4
SMPP	**San Manuel, Pa**	2.16	2	*e*P	Pn	06 43 42.1	-2.5
SMPP				*e*S	Sn	06 43 59.4	-13
BOLP	**Bolinao**	2.48	344	*e*P	Pn	06 43 47.0	-1.5
BOLP				*e*S	Sn	06 44 10.4	-9.2
ENPP	**El Nido**	2.99	203	*e*P	Pn	06 43 54.9	-0.1
ENPP				*e*S	Sn	06 44 19.7	-12
PVCP	**Virac**	3.47	96	*e*P	Pn	06 44 02.8	+1.6
PVCP				*e*S	Sn	06 44 14.9	-27
MRSI	**Marisa**	13.48	174	P	P	06 46 19.1	+0.9
SBUM	**Sibu**	14.14	217	*e*Pn	Pn	06 46 25.4	+3.1
LUWI	**Luwuk**	15.08	172	*e*Pn	Pn	06 46 34.1	0.0
	40nm,0.3s						
KSM	**Kuching**	16.07	220	*e*Pn	Pn	06 46 47.6	+1.3
	33nm,1.6s						
SRAK	**Srakaew**	18.01	272	P	P	06 47 06.3	-2.0
	21nm,0.4s,622nm						
CHAI	**Chaiyaphum**	18.09	278	P	Pn	06 47 11.7	+1.0
	11nm,0.7s,761nm						
PBKT	**Sadao Pong**	19.12	280	*e*P	P	06 47 21.7	+1.4
	7.0nm,1.0s						
PBKT	**Sadao Pong**	19.12	280	P	Pn	06 47 25.3	+2.6
	9.0nm,0.7s						
PHET	**Kaeng Krachan**	20.43	269	P	Pn	06 47 38.6	+0.5
	5.0nm,0.9s,168nm						
SUKH	**Sukhothai**	20.48	283	P	P	06 47 37.5	+2.4
	8.6nm,0.8s						
UTHA	**Uthaitani**	20.52	277	P	Pn	06 47 39.2	0.0
	9.5nm,0.6s						
PAYA	**Payao**	20.56	288	P	P	06 47 38.5	+2.5
	6.5nm,0.9s,81nm						
LAMP	**Lampang**	20.63	285	P	P	06 47 39.5	+2.8
	6.3nm,0.6s						
UMPA	**Umpang Tak**	21.11	279	P	P	06 47 45.9	+4.0
	1.5nm,0.6s,1µm						
CM01	**Chiang Mai Arr**	21.25	285	*e*P	P	06 47 44.9	+1.6
CM31	**Chiang Mai Arr**	21.27	285	*e*P	P	06 47 45.3	+1.8
CMAR	**Chiang Mai Arr**	21.27	285	P	P	06 47 45.2	+1.7
	7.0nm,0.7s,baz=97,slow=7.3,SNR=26						
CMMT	**Chiang Mai**	21.32	286	P	P	06 47 46.0	+1.9
	10nm,0.8s						
CHTO	**Chiang Mai**	21.32	286	*e*P	P	06 47 45.2	+1.1
	8.0nm,0.9s						
CHTO	**Chiang Mai**	21.32	286	P	P	06 47 46.1	+2.0
	46nm,1.0s						
IPM	**Ipoh**	21.49	246	*e*P	P	06 47 46.6	+0.7
	6.8nm,0.7s						
KRAB	**Krabi**	21.77	257	P	P	06 47 50.4	+1.6
	26nm,0.5s						
EDFI	**Ende, Flores**	22.61	177	P	P	06 47 58.0	+0.7
	71nm,0.7s,806nm						
SOEI	**Soe**	23.86	171	P	P	06 48 06.1	-2.8
SMPI	**Sarmi**	23.96	130	P	P	06 48 10.3	+0.7
	44nm,1.1s,2µm						
PSI	**Prapat**	24.12	245	P	P	06 48 11.9	+0.6
	12nm,0.7s,baz=0.4,slow=3.4,SNR=11						
PSI	**Prapat**	24.12	245	*e*P	P	06 48 12.9	+1.6
	15nm,0.8s						
BATI	**Baumata**	24.22	173	P	P	06 48 11.5	-0.6
	58nm,0.5s,baz=349,slow=5.2,SNR=6.2						
KS15	**Wonju Array Si**	24.25	14	*e*P	P	06 48 12.1	+0.1
KSAR	**Wonju Array Be**	24.25	14	P	P	06 48 12.1	+0.1
KSRS	**Korea Array**	24.27	14	P	P	06 48 12.1	-0.1
	2.2nm,0.6s,baz=190,slow=8.1,SNR=5.4						
MDSI	**Maura Dua**	24.54	223	P	P	06 48 16.1	+1.2
	17nm,1.1s						
MNSI	**Mandailing Nat**	24.59	240	P	P	06 48 17.1	+1.7
	18nm,1.0s,2µm						
BJT	**Baijiatuan**	26.23	352	*e*P	P	06 48 30.6	+0.7
	9.5nm,0.7s						
SHL	**Shillong**	29.31	298	*e*P	P	06 48 58.2	+0.4
	20nm,0.9s						
USRK	**Ussuriysk Ar.**	31.65	16	P	P	06 49 17.7	-0.2
	2.9nm,0.6s,baz=212,slow=7.9,SNR=6.2						
JIRN	**Jiri**	34.79	299	*e*P	P	06 49 47.3	+1.4
	50nm,0.5s						
GUN	**Gumba**	35.13	299	*e*P	P	06 49 50.0	+1.2
	26nm,0.4s						
PKI	**Pulchoki**	35.44	298	*e*P	P	06 49 52.1	+0.7
	21nm,0.6s						
PKIN	**Phulchoki**	35.45	298	*e*P	P	06 49 52.0	+0.6
	14nm,0.5s						
KKN	**Kakani**	35.61	298	*e*P	P	06 49 53.7	+1.0
	14nm,0.6s						
ULN	**Ulaanbaatar**	35.61	344	*e*P	P	06 49 53.1	+0.7
	12nm,1.5s						
DMN	**Daman**	35.71	298	*e*P	P	06 49 54.3	+0.7
	9.5nm,0.5s						
SONA0	**Songino Array**	35.76	344	*e*P	P	06 49 53.7	+0.1
SONM	**Songino Array**	35.76	344	P	P	06 49 53.7	+0.1
	3.9nm,0.5s,baz=164,slow=10,SNR=19						
SONA1	**Songino Array**	35.77	344	*e*P	P	06 49 54.0	+0.2
WRAB	**Tennant Creek**	36.31	158	*e*P	P	06 49 57.5	-1.0
	8.8nm,1.0s						
WR1	**Warramunga Arr**	36.32	158

comp=Z,1.5nm,0.5s,baz=68,slow=4.8
NB200 NORSAR Array S 86.97 333 *e*P **P 06 55 36.4 -1.0**
NOA NORSAR Array B 86.97 333 P **P 06 55 36.4 -1.0**
comp=Z,2.1nm,0.7s,baz=68,slow=4.6,SNR=6.4
YKA Yellowknife Ar 92.55 22 P **P 06 56 03.3 -0.1**
comp=Z,2.5nm,0.6s,baz=307,slow=4.5,SNR=12
YKB5 Yellowknife Ar 92.55 22 *e*P **P 06 56 03.9 +0.5**
LTX Lajitas 119.33 44 *e*PKPdf **PKPdf 07 01 41.6 0.0**
TXAR Lajitas Array 119.33 44 PKP **PKPdf 07 01 41.6 0.0**
comp=Z,0.3nm,0.5s,baz=230,slow=2.4,SNR=4.6
JTS JuntasAbangare 145.01 48 PKP **PKPab 07 02 29.0 -0.4**
comp=Z,4.3nm,0.4s,baz=333,slow=6.8,SNR=4.9
JTS JuntasAbangare 145.01 48 *e*PKPbc PKPbc 07 02 28.6 -0.8
PLCA Paso Flores 151.62 162 PKPbc **PKPbc 07 02 46.1 -0.1**
comp=Z,1.7nm,0.7s,baz=112,slow=1.3,SNR=6.9
PLCA Paso Flores 151.62 162 *e*PKPbc **PKPbc 07 02 45.3 -0.9**
PLCA *e*PKPab **PKPab 07 02 55.4 +0.1**

UCR ***15*** *06:58:12.6±1.4, 12°.43N×88°.52W, h25km±6km, ML3.5*
ISCJB ***15*** *06:58:13.4±0.8, 12°.44N±0°.08×88°.49W±0°.06, h35km, mb3.8/6, Error ellipse: s-maj=13.2km s-min=3.8km az=36.2*
IDC ***15*** *06:58:18.7±1.7, 12°.70N×88°.13W, h72km±19km, mb3.4/6, mb1 3.7/9, mb1mx3.4/45, mbtmp3.6/9, Error ellipse: s-maj=64.7km s-min=12.7km az=40.0*
ISC 15 06:58:14.6±0.8, 12°.52N±0°.09×88°.47W±0°.07, h35km, n32, σ1§08/33, mb3.8/6, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LCY	**Lacayo**	**0.92**	**11**	*e*P		**Pn**	**06 58 31.6**	**+0.6**
VSM	**San Miguel**	**0.92**	**12**	*e*P		**Pn**	**06 58 31.7**	**+0.4**
LCND	**La Ceˊ–ada**	**0.97**	**36**	*e*P		**Pn**	**06 58 31.2**	**-0.4**
LCND				IAML			06 58 48.6	
	comp=Z,1μm,0.4s							
CSGN	**Cosiguina Volc**	**1.00**	**63**	*e*P		**Pn**	**06 58 31.1**	**-1.0**
SNVI	**San Vicente**	**1.15**	**342**	*e*P		**Pn**	**06 58 33.7**	**-0.6**
LFRS	**El Faro**	**1.24**	**332**	*e*P		**Pn**	**06 58 35.0**	**-0.6**
LBRS	**Las Brisas**	**1.34**	**335**	*e*P		**Pn**	**06 58 36.7**	**-0.1**
LFU	**La Fuente**	**1.38**	**333**	*e*P		**Pn**	**06 58 36.8**	**-0.6**
LFU				*e*S		**Sn**	**06 58 55.5**	**+1.1**
SNET	**Serv Nac Est T**	**1.38**	**327**	*e*P		**Pn**	**06 58 36.5**	**-0.9**
SNET				*e*S		**Sn**	**06 58 56.3**	**+1.8**
SNET				IAML			06 59 00.0	
	comp=Z,575nm,0.3s							
OPAM	**San Salvador**	**1.39**	**329**	*e*S		**Sn**	**06 58 56.5**	**+1.8**
OPAM				IAML			06 58 59.7	
	comp=Z,591nm,0.5s							
CRIN	**San Cristobal**	**1.40**	**82**	*e*P		**Pn**	**06 58 37.9**	**+0.3**
UEES	**San Salvador**	**1.42**	**328**	IAML			06 59 02.6	
	comp=Z,498nm,0.2s							
BOQS	**Boqueron**	**1.45**	**327**	*e*P		**Pn**	**06 58 38.1**	**-0.3**
BOQS				IAML			06 59 00.1	
	comp=Z,633nm,0.5s							
CEVE	**Cerro Verde**	**1.72**	**319**	IAML			06 59 11.9	
	comp=Z,2μm,0.4s							
CNGN	**Cerro Negro**	**1.73**	**90**	*e*P		**Pn**	**06 58 42.3**	**+0.1**
COPN	**Copaltepe**	**1.86**	**100**	*e*P		**Pn**	**06 58 42.3**	**-1.7**
COPN				IAML			06 59 16.6	
	comp=Z,276nm,0.4s							
MOMN	**Momotombo**	**1.89**	**93**	*e*P		**Pn**	**06 58 43.4**	**-1.0**
ESTN	**Estel**	**2.13**	**74**	*e*P		**Pn**	**06 58 47.4**	**-0.3**
MGAN	**Managua**	**2.20**	**99**	*e*P		**Pn**	**06 58 48.5**	**-0.1**
MGAN				*e*S		**Sn**	**06 59 15.8**	**+1.2**
MATN	**Matagalpa**	**2.51**	**80**	*e*P		**Pn**	**06 58 53.0**	**0.0**
APG	**El Apazote**	**3.14**	**322**	P		Pn	06 59 08.7	+6.9
	comp=Z,1.1nm,0.3s,baz=113,slow=13,SNR=2.6							
ACON	**Acoyapa**	**3.27**	**99**	*e*P		**Pn**	**06 59 03.8**	**+0.5**
JTS	**JuntasAbangare**	**4.10**	**122**	P		**Pn**	**06 59 16.7**	**+2.0**
JTS				S		**Sn**	**07 00 02.2**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=338,slow=19,SNR=1.9							
CMIG	**Matias Romero**	**7.69**	**307**	P		Pn	07 00 08.7	+4.5
	comp=Z,0.4nm,0.3s,baz=123,slow=9.3,SNR=5.4							
TXAR	**Lajitas Array**	**21.90**	**322**	P		**P**	**07 03 06.1**	**+1.3**
	comp=Z,1.5nm,0.7s,baz=140,slow=10,SNR=11							
PDAR	**Pinedale Array**	**35.25**	**333**	P		**P**	**07 05 07.9**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=141,slow=12,SNR=3.7							
NVAR	**Mina Array Bea**	**37.00**	**320**	P		**P**	**07 05 21.7**	**+0.5**
NVAR				PcP		**PcP**	**07 07 42.2**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=132,slow=6.4,SNR=2.1							
	comp=Z,0.1nm,0.5s,baz=141,slow=3.5,SNR=2.3							
YKA	**Yellowknife Ar**	**53.29**	**345**	P		**P**	**07 07 29.3**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=150,slow=6.6,SNR=7.9							
RES	**Resolute Bay**	**62.26**	**358**	P		**P**	**07 08 30.8**	**-1.7**
	comp=Z,1.5nm,0.8s,baz=170,slow=6.1,SNR=2.7							
ILAR	**Eielson Array**	**65.56**	**336**	P		**P**	**07 08 54.0**	**-0.4**
	comp=Z,1.6nm,1.0s,baz=156,slow=4.3,SNR=6.3							
WRA	**Warramunga Arr**	**138.33**	**254**	PKP		**PKPdf**	**07 17 35.0**	**-2.1**
	comp=Z,0.4nm,1.0s,baz=67,slow=1.1,SNR=3.0							
CMAR	**Chiang Mai Arr**	**148.36**	**347**	PKPbc		**PKPbc**	**07 17 57.5**	**-0.7**
	comp=Z,1.6nm,0.4s,baz=347,slow=2.8,SNR=4.7							

OTT ***15*** *07:05:05.2±0.5, 48°.84N×129°.08W, h10km, ML3.2/13, 208km southwest from Port Alice, Bc Juan De Fuca-Explorer Seismic Zone.*
IDC ***15*** *07:05:07.3±1.1, 49°.11N×128°.75W, h0km, mb3.9/4, mb1 3.8/12, mb1mx3.7/42, mbtmp3.7/12, ML3.4/7, Error ellipse: s-maj=22.6km s-min=10.3km az=62.0*
NEIC ***15*** *07:05:09.8±0.8, 49°.17N×128°.79W, h10km, mb4.3/4, Error ellipse: s-maj=17.0km s-min=7.8km az=59.0*
ISC 15 07:05:10.6±2.7, 49°.13N±0°.05×128°.61W±0°.06, h14km±16km, n45, σ1§46/53, mb4.0/7, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**1.22**	**52**	PN		**Pn**	**07 05 31.8**	**-1.5**
EDB				SN		**Sg**	**07 05 50.0**	**-0.1**
EDB				Trac			07 05 51.0	
	comp=Z,155nm,0.6s							
ETB	**Estevan Point**	**1.38**	**79**	PN		**Pn**	**07 05 33.6**	**-1.7**
ETB				Trac			07 05 54.4	
	comp=Z,28nm,0.3s							
PACB	**Port Alice, BC**	**1.49**	**28**	PN		**Pn**	**07 05 35.5**	**-1.5**
PACB				SN		**Sb**	**07 05 56.9**	**0.0**
PACB				SN		**Sb**	**07 05 56.9**	**0.0**
WOSB	**Woss**	**1.68**	**51**	PN		**Pn**	**07 05 38.8**	**-0.8**
WOSB				SN		**Sb**	**07 06 03.1**	**+0.7**
WOSB				Trac			07 06 04.5	
	comp=Z,72nm,0.2s							
PHC	**Port Hardy**	**1.75**	**25**	PN		**Pn**	**07 05 39.4**	**-1.2**
PHC				SN		**Sn**	**07 06 03.1**	**+0.5**
PHC				Trac			07 06 07.2	
	comp=Z,188nm,0.7s							
TOFB	**Tofino**	**1.77**	**88**	PN		**Pn**	**07 05 38.2**	**-2.6**
TOFB				SN		**Sn**	**07 06 01.7**	**-1.4**
TOFB				Trac			07 06 02.7	
	comp=Z,137nm,0.3s							
GDR	**Gold River**	**1.80**	**68**	PN		**Pn**	**07 05 39.7**	**-1.5**
GDR				Trac			07 06 10.2	
	comp=Z,95nm,0.6s							
TLCB	**Telegraph Cove**	**1.82**	**38**	PN		**Pn**	**07 05 41.0**	**-0.6**
TLCB				SN		**Sb**	**07 06 07.2**	**+0.8**
TLCB				Trac			07 06 10.2	
	comp=Z,174nm,0.8s							
BTB	**Buttle Lake**	**2.05**	**79**	PN		**Pn**	**07 05 43.2**	**-1.6**
BTB				Trac			07 06 10.8	
	comp=Z,146nm,0.3s							
BTB				SN		**Sn**	**07 06 11.0**	**+0.8**
OZB	**Mount Ozzard**	**2.06**	**94**	PN		**Pn**	**07 05 41.8**	**-3.0**
OZB				SN		**Sn**	**07 06 07.8**	**-2.4**
OZB				Trac			07 06 09.9	
	comp=Z,42nm,0.2s							
SPLB	**Strathcona Par**	**2.07**	**67**	PN		**Pn**	**07 05 44.3**	**-0.7**
SPLB				SN		**Sb**	**07 06 12.5**	**-1.0**
NCRB	**Newcastle Ridg**	**2.09**	**51**	PN		**Pn**	**07 05 45.2**	**-0.2**
NCRB				SN		**Sb**	**07 06 14.8**	**+0.6**
NCRB				Trac			07 06 24.4	
	comp=Z,106nm,0.5s							
MWAB	**Mount Washingt**	**2.24**	**73**	SN		**Sn**	**07 06 16.1**	**+1.2**
CBB	**Campbell River**	**2.29**	**66**	PN		**Pn**	**07 05 47.4**	**-0.6**
CBB				SN		**Sb**	**07 06 18.7**	**-1.3**
CBB				Trac			07 06 25.9	
	comp=Z,84nm,0.7s							
MGB	**Mount Grey**	**2.58**	**91**	PN		**Pn**	**07 05 49.2**	**-2.9**
MGB				SN		**Sn**	**07 06 22.6**	**-0.6**
MGB				Trac			07 06 24.2	
	comp=Z,38nm,0.3s							
TXB	**Texada**	**2.78**	**77**	PN		**Pn**	**07 05 53.9**	**-0.9**
TXB				Trac			07 06 31.5	
	comp=Z,35nm,0.4s							
PFB	**Port Renfrew**	**2.81**	**100**	PN		**Pn**	**07 05 51.9**	**-3.2**
GHNB	**Nanoose**	**2.87**	**85**	PN		**Pn**	**07 05 55.3**	**-0.6**
NLLB	**Nanaimo Lost L**	**3.03**	**86**	PN		**Pn**	**07 05 57.1**	**-1.1**
BBB	**Bella Bella**	**3.08**	**6**	Pn		**Pn**	**07 05 57.9**	**-0.9**
	85nm,0.3s,baz=205,slow=13,SNR=246							
BBB				Sn		**Sn**	**07 06 34.6**	**-0.7**
	20nm,0.3s,baz=280,slow=23,SNR=7.1							
BBB	**Bella Bella**	**3.08**	**6**	PN			**07 05 57.9**	**-0.9**
NEW	**Newport**	**7.65**	**92**	Pn		**Pn**	**07 07 00.9**	**-0.7**
	0.5nm,0.3s,baz=272,slow=12,SNR=7.9							
YBH	**Yreka Blue Hor**	**8.48**	**149**	Pn		**Pn**	**07 07 14.6**	**+1.6**
	0.1nm,0.3s,baz=191,slow=3.7,SNR=6.6							
DLBC	**Dease Lake**	**9.37**	**355**	Pn		**Pn**	**07 07 22.6**	**-2.5**
	0.2nm,0.3s,baz=180,slow=19,SNR=2.1							
NVAR	**Mina Array Bea**	**13.02**	**141**	Pn		**Pn**	**07 08 16.0**	**+0.7**
	0.1nm,0.3s,baz=288,slow=11,SNR=4.2							
PDAR	**Pinedale Array**	**14.68**	**109**	Pn		**Pn**	**07 08 39.0**	**+1.0**
	0.1nm,0.3s,baz=298,slow=10,SNR=3.8							
YKA	**Yellowknife Ar**	**15.48**	**25**	Pn		**Pn**	**07 08 48.3**	**0.0**
	0.1nm,0.3s,baz=214,slow=12,SNR=4.3							
FFC	**Flin Flon**	**17.29**	**61**	*e*P		**P**	**07 09 14.3**	**+1.4**
	21nm,0.8s							
ILAR	**Eielson Array**	**18.46**	**335**	P		**P**	**07 09 25.6**	**0.0**
	0.1nm,0.3s,baz=141,slow=8.4,SNR=7.1							
MVCO	**Mesa Verde**	**18.83**	**122**	*e*P		**P**	**07 09 30.2**	**+0.1**
	5.9nm,1.0s							
INK	**Inuvik**	**19.39**	**354**	P		**P**	**07 09 35.9**	**+0.2**
	0.1nm,0.3s,baz=142,slow=5.9,SNR=3.5							
ULM	**Lac du Bonnet**	**21.12**	**74**	P		**P**	**07 09 56.1**	**+1.4**
	10nm,0.9s,baz=284,slow=8.6,SNR=6.5							
AGMN	**Agassiz Nation**	**21.54**	**80**	*e*P		**P**	**07 09 59.7**	**+0.5**
	14nm,1.2s							
ANMO	**Albuquerque**	**21.61**	**123**	P		**P**	**07 10 03.2**	**+3.0**
	0.7nm,0.6s,baz=312,slow=10,SNR=5.1							
EYMN	**Ely**	**24.45**	**79**	*e*P		**P**	**07 10 29.6**	**+0.8**
	7.9nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**58.70**	**264**	T		T	08 18 24.1	
	baz=44,slow=76,SNR=40							
H11N3	**WAKE ISLAND Hy**	**58.70**	**264**	T		T	08 18 22.5	
	baz=44,slow=76,SNR=43							
H11N1	**WAKE ISLAND Hy**	**58.72**	**264**	T		T	08 18 24.7	
	baz=44,slow=76,SNR=38							
H11S1	**WAKE ISLAND Hy**	**59.71**	**263**	T		T	08 19 45.8	
	baz=44,slow=74,SNR=6.8							
H11S2	**WAKE ISLAND Hy**	**59.72**	**263**	T		T	08 19 45.2	
	baz=44,slow=74,SNR=8.8							
H11S3	**WAKE ISLAND Hy**	**59.73**	**263**	T		T	08 19 44.3	
	baz=44,slow=74,SNR=4.5							
KURK	**Kurchatov**	**77.84**	**343**	P		**P**	**07 17 05.9**	**-1.3**
KURBB	**Kurchatov Arra**	**77.94**	**343**	P		**P**	**07 17 05.9**	**-1.9**
	0.5nm,0.5s,baz=22,slow=4.9,SNR=2.9							
MKAR	**Makanchi Array**	**80.76**	**339**	P		**P**	**07 17 21.4**	**-1.9**
	0.6nm,0.6s,baz=20,slow=6.2,SNR=3.5							
LPAZ	**La Paz**	**84.22**	**123**	P		**P**	**07 17 43.6**	**+1.3**
	0.7nm,0.7s,baz=64,slow=2.8,SNR=5.1							

ISCJB ***15*** *07:24:03.2±0.3, 15°.43N±0°.04×108°.22E±0°.04, h10km, mb4.1/19, MS3.5/7, Error ellipse: s-maj=6.6km s-min=5.1km az=27.5*
IDC ***15*** *07:24:03.5±0.7, 15°.45N×108°.30E, h0km, mb4.1/11, mb1 4.2/13, mb1mx3.9/56, mbtmp4.1/13, ML4.2/2, MS3.4/9, Ms1 3.4/9, ms1mx3.2/43, Error ellipse: s-maj=27.5km s-min=13.9km az=52.0*
NEIC ***15*** *07:24:04.5±0.3, 15°.35N×108°.20E, h10km, mb4.2/9, Error ellipse: s-maj=7.6km s-min=4.5km az=51.0*
ISC 15 07:24:04.8±0.6, 15°.37N±0°.06×108°.19E±0°.06, h10km, n79, σ1§42/71, mb4.2/19, MS3.3/7, 1C, Vietnam

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
QIZ	**Qiongzhong**	**3.97**	**23**	*e*Pn		**Pn**	**07 25 04.4**	**-1.4**
QIZ				*e*Sn		**Sn**	**07 25 49.9**	**-2.5**
SKNT	**Sakolnakorn**	**4.35**	**292**	P		**Pn**	**07 25 10.9**	**-0.1**
NONG	**Nongkai**	**5.53**	**300**	P		**Pn**	**07 25 27.0**	**-0.2**
CHAI	**Chaiyaphum**	**6.00**	**276**	P		**Pn**	**07 25 34.1**	**+0.4**
	47nm,1.0s,482nm0.4nm							
SRAK	**Srakaew**	**6.10**	**258**	P		Pn	07 25 28.3	-6.8
	373nm,0.9s,3μm4.1nm							
PBKT	**Sadao Pong**	**7.05**	**281**	*e*Pn		**Pn**	**07 25 47.1**	**-0.9**
PBKT				*e*Sn		**Sn**	**07 27 05.8**	**-2.5**
PBKT	**Sadao Pong**	**7.05**	**281**	P		**Pn**	**07 25 47.6**	**-0.5**
	116nm,0.7s,0.6nm							
NANT	**Nan**	**7.93**	**297**	P		**Pn**	**07 26 01.1**	**+0.8**
	11nm,0.5s,245nm0.3nm							
UTHA	**Uthaitani**	**8.43**	**272**	P		Pn	07 26 14.1	+7.0
SUKH	**Sukhothai**	**8.48**	**286**	P		**Pn**	**07 26 07.1**	**-0.6**
	16nm,0.4s,279nm0.1nm							
PHET	**Kaeng Krachan**	**8.65**	**255**	P		Pn	07 26 19.1	+8.9
LAMP	**Lampang**	**8.77**	**292**	P		**Pn**	**07 26 12.9**	**+1.2**
	15nm,0.7s,0.1nm							
PAYA	**Payao**	**8.88**	**298**	P		**Sg**	**07 28 48.2**	**-1.7**
	325nm44nm,0.7s							
PAYA	**Payao**	**8.88**	**298**	P		**Pn**	**07 26 14.2**	**+0.9**
	15nm,0.9s,0.1nm							
UMPA	**Umpang Tak**	**9.02**	**277**	P		**Pn**	**07 26 17.5**	**+2.3**
	6.9nm,0.9s,0.1nm							
CM01	**Chiang Mai Arr**	**9.34**	**290**	*e*Pn		**Pn**	**07 26 19.4**	**-0.2**
CM31	**Chiang Mai Arr**	**9.37**	**290**	*e*Pn		**Pn**	**07 26 19.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**9.37**	**290**	Pn		**Pn**	**07 26 19.8**	**-0.2**
	1.2nm,0.3s,baz=112,slow=12,SNR=45							
CMAR						Sn		**Sn**	**07 27 59.4**	**-6.0**
	1.6nm,0.3s,baz=99,slow=16,SNR=4.1							
CMAR						Lg		Lg	07 29 04.6	
	1.9nm,0.3s,baz=115,slow=28,SNR=6.7							
CMMT	**Chiang Mai**	**9.48**	**292**	P		**Pn**	**07 26 22.7**	**+1.2**
	16nm,1.3s,0.1nm							
CHTO	**Chiang Mai**	**9.48**	**292**	*e*Pn		**Pn**	**07 26 21.1**	**-0.4**
CHTO				*e*Sn		**Sn**	**07 28 10.2**	**+2.0**
CHTO	**Chiang Mai**	**9.48**	**292**	P		Sg	07 28 52.4	
	5μm211nm,2.3s							
CHTO	**Chiang Mai**	**9.48**	**292**	P		**Pn**	**07 26 22.9**	**+1.4**
	72nm,1.3s,0.2nm							
SBUM	**Sibu**	**13.44**	**162**	*e*Pn		**Pn**	**07 27 12.8**	**-2.8**
PSI	**Prapat**	**15.47**	**217**	Pn		**P**	**07 27 47.1**	**-0.7**
	0.5nm,0.3s,baz=0.5,slow=10,SNR=4.4							
PSI						Lg		Lg	07 32 29.2	
	0.6nm,0.3s,baz=180,slow=20,SNR=5.0							
PSI						LR		LR	07 33 59.1	
	comp=Z,143nm,19.2s,baz=89,slow=38							
PSI	**Prapat**	**15.47**	**217**	*e*Pn		**Pn**	**07 27 43.9**	**+0.5**
	13nm,1.1s							
KCSI	**Kotacane, Aceh**	**15.61**	**222**	P		**P**	**07 27 50.9**	**+1.6**
MLSI	**Meulaboh, Aceh**	**16.00**	**228**	P		**P**	**07 27 55.2**	**+1.5**
TPTI		**16.20**	**223**	P		**P**	**07 27 57.8**	**+2.0**
MNSI	**Mandailing Nat**	**16.79**	**211**	P		**P**	**07 28 04.6**	**+2.2**
BRDH	**Bariadhala**	**17.24**	**297**	LR		LR	07 35 47.2	
	comp=Z,92nm,20.9s,baz=48,slow=41							
SHL	**Shillong**	**18.32**	**306**	*e*Pn		**P**	**07 28 20.4**	**+0.9**
	25nm,0.9s							
SHL	**Shillong**	**18.32**	**306**	*e*P		**P**	**07 28 20.0**	**+0.5**
XAN	**Xi'an**	**18.60**	**2**	P		**Pn**	**07 28 27.4**	**+4.8**
XAN				pP		sP	07 28 40.1	+14
XAN				pmax		pmax		
	comp=Z,7.0nm,1.1s							
DAV	**Davao City (W)**	**18.93**	**114**	LR		LR	07 35 34.4	
	comp=Z,82nm,18.9s,baz=324,slow=37							
MDSI	**Maura Dua**	**20.12**	**192**	P		Pn	07 28 44.0	+3.1
LSA	**Lhasa**	**21.20**	**315**	*e*P		**P**	**07 28 51.5**	**+0.3**
	comp=Z,14nm,1.1s							
JOW	**Kunigami**	**21.90**	**55**	LR		LR	07 36 58.9	
	comp=Z,144nm,21.9s,baz=284,slow=36							
LEM	**Lembang**	**22.06**	**182**	LR		LR	07 39 08.9	
	comp=Z,101nm,18.7s,baz=296,slow=41							
TAPN	**Taplejung**	**22.45**	**305**	*e*P		**P**	**07 29 05.8**	**+1.3**
	comp=Z,78nm,1.1s							
ODAN	**Odare**	**22.48**	**304**	*e*P		**P**	**07 29 06.6**	**+1.8**
	comp=Z,15nm,0.8s							
RAMN	**Ramite**	**23.16**	**303**	*e*P		**P**	**07 29 12.9**	**+1.1**
	comp=Z,126nm,1.6s							
JIRN	**Jiri**	**23.80**	**305**	*e*P		**P**	**07 29 18.0**	**-0.3**
	comp=Z,41nm,1.1s							
GUN	**Gumba**	**24.15**	**305**	*e*P		**P**	**07 29 20.6**	**-1.1**
	comp=Z,37nm,1.0s							
PKI	**Pulchoki**	**24.38**	**304**	*e*P		**P**	**07 29 23.1**	**-0.6**
	comp=Z,60nm,1.7s							
PKIN	**Phulchoki**	**24.39**	**304**	*e*P		**P**	**07 29 23.2**	**-0.6**
	comp=Z,20nm,1.3s							
DMN	**Daman**	**24.64**	**303**	*e*P		**P**	**07 29 26.7**	**+0.7**
	comp=Z,20nm,1.0s							
GTA	**Gaotai**	**25.05**	**345**	⇑P		**P**	**07 29 31.0**	**+1.5**
GTA				pP		sP	07 29 35.6	+1.8
GTA				sP		pP	07 29 38.1	+5.6
GTA				pmax		pmax		
	comp=Z,5.0nm,1.0s							
GTA				pmax		pmax		
	comp=Z,100nm,5.1s							
GTA				LR		LR		
	comp=N,540nm,20.3s							
GTA				LR		LR		
GTA				LR		LR		
	comp=Z,280nm,20.6s							
KOLN	**Koldanda**	**25.93**	**303**	*e*P		**P**	**07 29 37.5**	**-0.1**
	comp=Z,27nm,0.7s							
DANN	**Dangsing**	**26.03**	**304**	*e*P		**P**	**07 29 37.8**	**-0.9**
PYUN	**Piuthan**	**26.55**	**303**	*e*P		**P**	**07 29 43.6**	**+0.3**
	comp=Z,46nm,0.9s							
JNU	**Nakatsue**	**27.11**	**45**	LR		LR	07 41 55.3	
	comp=Z,72nm,19.4s,baz=257,slow=40							
KSAR	**Wonju Array Be**	**28.07**	**35**	P		**P**	**07 29 56.1**	**-0.4**
KSRS	**Korea Array**	**28.10**	**35**	P		**P**	**07 29 56.1**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=225,slow=12,SNR=2.7							
KSRS						LR		LR	07 42 15.0	
	comp=Z,74nm,18.5s,baz=38,slow=39							
USRK	**Ussuriysk Ar.**	**35.13**	**30**	LR		LR	07 46 57.0	
	comp=Z,79nm,20.3s,baz=13,slow=39							
MK01	**Makanchi Array**	**38.02**	**331**	*e*P		**P**	**07 31 23.5**	**+0.4**
MBWA	**Marble Bar**	**38.03**	**162**	*e*P		**P**	**07 31 23.1**	**-0.3**
	comp=Z,16nm,1.0s							
MK32	**Makanchi Array**	**38.04**	**331**	*e*P		**P**	**07 31 23.6**	**+0.3**
MKAR	**Makanchi Array**	**38.04**	**331**	P		**P**	**07 31 23.6**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=143,slow=6.7,SNR=4.4							
MKAR	**Makanchi Array**	**38.04**	**331**	*e*P		**P**	**07 31 23.4**	**+0.1**
	comp=Z,23nm,1.1s							
AAK	**Ala-Archa**	**39.65**	**320**	P		**P**	**07 31 37.2**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=128,slow=12,SNR=2.8							
KURBB	**Kurchatov Arra**	**42.52**	**332**	P		**P**	**07 32 00.9**	**+0.5**
	comp=Z,3.6nm,0.9s,baz=133,slow=8.6,SNR=17							
KURK	**Kurchatov**	**42.55**	**332**	*e*P		**P**	**07 32 00.2**	**-0.4**
	comp=Z,6.9nm,1.0s							
ZAA0	**Zalesovo Array**	**42.62**	**340**	*e*P		**P**	**07 32 01.1**	**0.0**
	comp=Z,4.6nm,0.8s							
ZALV	**Zalesovo Beam**	**42.62**	**340**	P		**P**	**07 32 01.4**	**+0.2**
	comp=Z,4.3nm,0.7s,baz=134,slow=8.5,SNR=9.1							
ZALV	**Zalesovo Beam**	**42.62**	**340**	*e*P		**P**	**07 32 00.6**	**-0.6**
ZAA1	**Zalesovo Array**	**42.62**	**340**	*e*P		**P**	**07 32 01.4**	**+0.2**
WR1	**Warramunga Arr**	**43.50**	**143**	*e*P		**P**	**07 32 08.6**	**-0.1**
	comp=Z,4.9nm,0.9s							
WRA	**Warramunga Arr**	**43.50**	**143**	P		**P**	**07 32 08.6**	**-0.1**
	comp=Z,4.4nm,1.0s,baz=327,slow=9.1,SNR=16							
WB2	**Warramunga Arr**	**43.51**	**143**	*e*P		**P**	**07 32 08.4**	**-0.3**
	comp=Z,4.6nm,0.9s							
AS31	**Alice Springs**	**46.23**	**147**	*e*P		**P**	**07 32 30.6**	**+0.2**
	comp=Z,0.8nm,0.6s							
ASAR	**Alice Springs**	**46.23**	**147**	P		**P**	**07 32 30.8**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=322,slow=7.3,SNR=20							
AS01	**Alice Springs**	**46.25**	**147**	*e*P		**P**	**07 32 30.8**	**+0.2**
WSAR	**Wadi Sarin**	**47.24**	**288**	P		**P**	**07 32 39.8**	**+1.4**
	comp=Z,5.7nm,0.9s,baz=106,slow=4.5,SNR=3.8							
BVAR	**Borovoye Array**	**47.91**	**330**	P		**P**	**07 32 42.9**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=125,slow=12,SNR=4.0							
ABKAR	**Akbulak array**	**51.69**	**321**	*e*P		**P**	**07 33 12.2**	**+0.1**
STKA	**Stephens Creek**	**56.86**	**146**	P		**P**	**07 33 50.5**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=330,slow=8.0,SNR=5.2							
STKA	**Stephens Creek**	**56.86**	**146**	*e*P		**P**	**07 33 50.2**	**+0.4**
	comp=Z,0.7nm,1.0s							
NOA	**NORSAR Array B**	**80.03**	**331**	P		**P**	**07 36 13.3**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=77,slow=5.5,SNR=2.9							
RAR	**Rarotonga**	**97.28**	**110**	LR		LR	08 13 43.8	
	comp=Z,20nm,21.

mb4.2/34,MS3.8/8,Error ellipse: s-maj=16.9km s-min=7.7km az=7.7

IDC ***15*** *07:41:39.1±0.7,30°.53N×41°.55W,h0km,mb3.9/15, mb1 4.1/15,mb1mx3.9/42,mbtmp3.9/15,MS3.8/8, Ms1 3.8/8,ms1mx3.6/36,Error ellipse: s-maj=22.4km s-min=15.2km az=2.0*

NEIC ***15*** *07:41:40.3±0.3,30°.44N×41°.63W,h10km,mb4.4/20,Error ellipse: s-maj=10.9km s-min=5.6km az=185.0*

GCMT ***15*** *07:41:45.3±0.4,30°.86N±0°.04×41°.83W±0°.02,h12km, MW4.8/61,Moment Tensor Solution. s20,c21; s61,c85; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr~1.87±.08; Mθθ0.15±.09; Mϕϕ1.73±.06; Mrθ0.34±.36; Mrϕ0.54±.06; Mθr~0.72±.24; Best double couple: M☉2.04300×10¹⁶ NP1:ϕs3.00000°, δ56.00000°,λ-107.00000°. NP2: ϕs211.00000°,δ38.00000°,λ-67.00000°. Principal axes: T 1.9900, Plg9.0000°, Azm105.0000°; N 0.1120, Plg14.0000°, Azm12.0000°; P -2.0970, Plg73.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 07:41:40.4±0.6,30°.5N±0°.1×41°.59W±0°.09,h10km,n59, σ0.86/50,mb4.3/34,MS3.7/8,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SJG	**San Juan**	**25.48**	**247**	P		**P**	**P**	**07 47 11.2**	**+2.4**
	5.4nm,0.2s,baz=41,slow=15,SNR=3.1								
SJG				LR		LR	LR	07 55 13.4	
	comp=Z,106nm,21.7s,baz=62,slow=32								
SCHQ	**Schefferville**	**30.30**	**331**	LR		LR	LR	07 58 58.3	
	comp=Z,402nm,19.8s,baz=138,slow=34								
LGNH	**LÖogne**	**30.53**	**254**	*e*P		**P**	**P**	**07 47 52.6**	**-1.5**
	26nm,1.0s								
ESDC	**Sonseca Array**	**31.94**	**63**	P		**P**	**P**	**07 48 04.8**	**-1.6**
	0.1nm,0.3s,baz=270,slow=8.7,SNR=2.3								
ESDC				LR		LR	LR	07 58 24.5	
	comp=Z,104nm,19.1s,baz=70,slow=32								
DBIC	**Dimbokro**	**41.80**	**117**	P		**P**	**P**	**07 49 28.9**	**-1.5**
	1.8nm,0.9s,baz=343,slow=2.1,SNR=2.3								
DBIC				LR		LR	LR	08 04 13.2	
	comp=Z,328nm,21.7s,baz=295,slow=32								
WHAR	**Wooly Hollow**	**42.47**	**290**	*e*P		**P**	**P**	**07 49 35.6**	**-0.2**
KEST	**Kesra**	**42.61**	**69**	LR		LR	LR	08 04 02.3	
	comp=Z,124nm,20.2s,baz=226,slow=32								
TOA1	**Torodi Ar. Sit**	**43.42**	**104**	*e*P		**P**	**P**	**07 49 43.0**	**-0.6**
TOA0	**Torodi Ar. Sit**	**43.43**	**104**	*e*P		**P**	**P**	**07 49 44.9**	**+1.2**
TORD	**Torodi Ar. Bea**	**43.43**	**104**	P		**P**	**P**	**07 49 43.1**	**-0.6**
	0.8nm,0.9s,baz=304,slow=9.5,SNR=4.4								
GEA0	**GERESS Array S**	**45.29**	**50**	*e*P		**P**	**P**	**07 49 58.3**	**0.0**
GERES	**GERESS Array B**	**45.29**	**50**	P		**P**	**P**	**07 49 59.1**	**+0.8**
	0.5nm,0.6s,baz=267,slow=9.1,SNR=5.5								
GERES				LR		LR	LR	08 05 21.0	
	comp=Z,61nm,20.1s,baz=290,slow=31								
KSU1	**Kansas State U**	**45.40**	**296**	*e*P		**P**	**P**	**07 49 58.4**	**-0.8**
	3.8nm,0.6s								
NOA	**NORSAR Array B**	**45.99**	**33**	LR		LR	LR	08 05 54.1	
	comp=Z,41nm,19.7s,baz=265,slow=32								
H10N2	**ASCENSION HYDR**	**46.12**	**141**	T		T	T	08 39 24.8	
	baz=327,slow=75,SNR=129								
H10N3	**ASCENSION HYDR**	**46.12**	**141**	T		T	T	08 39 25.7	
	baz=327,slow=75,SNR=154								
H10N1	**ASCENSION HYDR**	**46.13**	**141**	T		T	T	08 39 26.9	
	baz=327,slow=75,SNR=172								
H10S1	**ASCENSION HYDR**	**46.96**	**142**	T		T	T	08 40 32.8	
	baz=327,slow=75,SNR=198								
H10S3	**ASCENSION HYDR**	**46.96**	**142**	T		T	T	08 40 26.9	
	baz=327,slow=75,SNR=182								
H10S2	**ASCENSION HYDR**	**46.98**	**142**	T		T	T	08 40 35.2	
	baz=327,slow=75,SNR=191								
LPAZ	**La Paz**	**53.05**	**212**	P		**P**	**P**	**07 51 00.6**	**+2.0**
	0.7nm,0.8s,baz=15,slow=16,SNR=3.1								
LPAZ	**La Paz**	**53.05**	**212**	*e*P		**P**	**P**	**07 50 59.0**	**+0.4**
LTX	**Lajitas**	**53.20**	**286**	*e*P		**P**	**P**	**07 50 58.2**	**-0.9**
TXAR	**Lajitas Array**	**53.20**	**286**	P		**P**	**P**	**07 50 58.3**	**-0.9**
	0.7nm,1.0s,baz=112,slow=9.8,SNR=3.0								
BW06	**Boulder Array**	**54.56**	**303**	*e*P		**P**	**P**	**07 51 08.4**	**-0.6**
	4.7nm,1.0s								
PD31	**Pinedale Array**	**54.56**	**303**	*e*P		**P**	**P**	**07 51 08.4**	**-0.6**
PDAR	**Pinedale Array**	**54.56**	**303**	P		**P**	**P**	**07 51 08.8**	**-0.2**
	1.5nm,0.8s,baz=76,slow=6.7,SNR=9.6								
PDAR	**Pinedale Array**	**54.56**	**303**	*e*P		**P**	**P**	**07 51 09.3**	**+0.3**
AKASG	**Malin Array Be**	**55.26**	**47**	P		**P**	**P**	**07 51 13.8**	**+0.1**
	0.2nm,0.3s,baz=273,slow=6.5,SNR=4.3								
SNOW	**Snow King Moun**	**55.28**	**304**	*e*P		**P**	**P**	**07 51 14.0**	**-0.3**
	2.6nm,0.9s								
IMW	**Indian Meadow**	**55.33**	**305**	*e*P		**P**	**P**	**07 51 14.1**	**-0.6**
	4.3nm,1.1s								
YHB	**Horse Butte**	**55.36**	**306**	*e*P		**P**	**P**	**07 51 15.2**	**+0.4**
	5.8nm,1.1s								
TPAW	**Teton Pass**	**55.42**	**304**	*e*P		**P**	**P**	**07 51 15.4**	**+0.1**
	4.3nm,1.1s								
YKA	**Yellowknife Ar**	**55.67**	**327**	P		**P**	**P**	**07 51 16.8**	**+0.4**
	1.5nm,0.8s,baz=89,slow=7.8,SNR=5.7								
HWUT	**Hardware Ranch**	**56.25**	**302**	*e*P		**P**	**P**	**07 51 20.9**	**-0.3**
	2.3nm,0.9s								
JLU	**Jordanelle**	**56.39**	**301**	*e*P		**P**	**P**	**07 51 21.5**	**-0.8**
	6.0nm,1.1s								
MSU	**Marysvale**	**57.45**	**299**	*e*P		**P**	**P**	**07 51 29.4**	**-0.4**
DUG	**Dugway, Tooele**	**57.50**	**301**	*e*P		**P**	**P**	**07 51 29.6**	**-0.4**
	2.6nm,1.0s								
NEW	**Newport**	**58.70**	**311**	*e*P		**P**	**P**	**07 51 37.6**	**-0.6**
	3.2nm,1.1s								
BR101	**Keskin Array S**	**60.60**	**59**	*e*P		**P**	**P**	**07 51 52.7**	**+1.2**
BRTR	**Keskin Array B**	**60.60**	**59**	P		**P**	**P**	**07 51 52.7**	**+1.2**
	0.4nm,0.3s,baz=297,slow=6.3,SNR=3.7								
J08A	**Circle Bar Ran**	**60.78**	**306**	*e*P		**P**	**P**	**07 51 52.9**	**+0.2**
	3.8nm,1.0s								
KVN	**Kaiserville**	**61.74**	**301**	*e*P		**P**	**P**	**07 51 59.1**	**-0.2**
	3.7nm,1.2s								
NV01	**Mina Array Sit**	**62.08**	**300**	*e*P		**P**	**P**	**07 52 01.2**	**-0.5**
NVAR	**Mina Array Bea**	**62.08**	**300**	P		**P**	**P**	**07 52 00.8**	**-0.9**
	0.4nm,0.7s,baz=55,slow=4.3								
DAC	**Darwin (Calif)**	**62.22**	**298**	*e*P		**P**	**P**	**07 52 02.5**	**-0.2**
	2.6nm,1.0s								
MOD	**Modoc Plateau**	**62.49**	**304**	*e*P		**P**	**P**	**07 52 03.9**	**-0.4**
	2.2nm,1.1s								
PAHR	**Pah Rah Range**	**62.49**	**302**	*e*P		**P**	**P**	**07 52 04.0**	**-0.3**
	2.9nm,1.0s								
INK	**Inuvik**	**62.77**	**335**	P		**P**	**P**	**07 52 05.2**	**-0.2**
	4.7nm,1.0s,baz=50,slow=10,SNR=6.6								
INK				LR		LR	LR	08 17 40.8	
	comp=Z,181nm,20.1s,baz=52,slow=34								
INK	**Inuvik**	**62.77**	**335**	*e*P		**P**	**P**	**07 52 05.8**	**+0.4**
	5.8nm,1.0s								
IL1	**Eielson Array**	**69.00**	**334**	*e*P		**P**	**P**	**07 52 46.4**	**+0.7**
ILAR	**Eielson Array**	**69.00**	**334**	P		**P**	**P**	**07 52 46.2**	**+0.5**
	2.6nm,0.9s,baz=54,slow=4.9,SNR=14								
ILB	**Eielson Array**	**69.00**	**334**	*e*P		**P**	**P**	**07 52 46.4**	**+0.7**
CCB	**Clear Creek Bu**	**69.41**	**334**	*e*P		**P**	**P**	**07 52 48.6**	**+0.4**
	7.5nm,1.0s								
WRH	**Wood River Hil**	**69.60**	**334**	*e*P		**P**	**P**	**07 52 50.1**	**+0.7**
	9.7nm,1.0s								
KURK	**Kurchatov**	**83.49**	**34**	*e*P		**P**	**P**	**07 54 09.1**	**+0.8**
	5.2nm,1.0s								
ZAA1	**Zalesovo Array**	**84.02**	**29**	*e*P		**P**	**P**	**07 54 12.1**	**+1.1**
ZALV	**Zalesovo Beam**	**84.03**	**29**	P		**P**	**P**	**07 54 12.1**	**+1.1**
	1.7nm,0.9s,baz=344,slow=4.7,SNR=5.6								
ZALV	**Zalesovo Beam**	**84.03**	**29**	*e*P		**P**	**P**	**07 54 11.4**	**+0.4**

IDC ***15*** *08:01:00.3±2.7,14°.02N×91°.79W,h33km±19km,mb4.3/26, mb1 4.5/28,mb1mx4.4/40,mbtmp4.6/28,ML4.8/2,MS4.7/20, Ms1 4.7/20,ms1mx4.4/41,Error ellipse: s-maj=18.0km s-min=8.9km az=56.0*

MEX ***15*** *08:01:00.6±0.5, 13°.89N×92°.09W,h16km±116km,MD4.4*

UCR ***15*** *08:01:00.9±1.4,14°.21N×91°.97W,h35km±520km,ML4.6, mb4.9(NEIC)*

NEIC ***15*** *08:01:01.4±0.2,14°.00N×91°.87W,h35km,mb4.9/206, MD4.4(MEX),Error ellipse: s-maj=5.7km s-min=3.2km az=219.0*

NEIC Felt at Almolonga, Guatemala, Santa Clara La Laguna and Tahuexco.

GCMT ***15*** *08:01:02.4±0.2, 13°.97N±0°.01×92°.30W±0°.01,h32km, MW5.4/86,Moment Tensor Solution. s86,c149; s84,c144; Duration: 1ş2 Moment tensor: Scale 10¹⁷Nm; Mrr1.42±.03; Mθθ-1.02±.02; Mϕϕ-0.39±.02; Mrθ0.64±.03; Mθϕ0.60±.02; Mϕr-0.38±.03; Best double couple: M☉1.58700×10¹⁷ NP1:ϕs121.00000°,δ59.00000°, λ90.00000°. NP2:ϕs302.00000°,δ31.00000°,λ90.00000°. Principal axes: T 1.6030, Plg76.0000°, Azm30.0000°; N -0.0320, Plg0.0000°, Azm121.0000°; P -1.5700, Plg14.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISCJB ***15*** *08:01:03.8±0.4, 14°.15N±0°.03×91°.69W±0°.03,h75km±4km, mb4.8/216 Error ellipse: s-maj=5.9km s-min=2.6km az=42.9*

ISC 15 08:01:01.5±0.9,14°.10N±0°.05×91°.89W±0°.05,h41km±7km, n555,σ1ş51/559,mb4.8/218,MS4.7/18,1C,Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THIG		**0.88**	**336**	*e*Pg		**Pn**	**Pn**	**08 01 17.0**	**-0.5**
THIG				*e*Sn		**Sn**	**Sn**	**08 01 29.1**	**+0.1**
THIG		**0.88**	**336**	*e*P		**Pn**	**Pn**	**08 01 17.0**	**-0.5**
THIG				*e*S		**Sn**	**Sn**	**08 01 29.2**	**+0.1**
APG	**El Apazote**	**1.65**	**57**	Pg		**Pn**	**Pn**	**08 01 31.2**	**+2.9**
	337nm,0.3s,baz=222,slow=9.7,SNR=719								
APG				Lg		Lg	Lg	08 01 54.5	
	595nm,0.3s,baz=104,slow=13,SNR=9.1								
PCIG		**2.05**	**321**	*e*Pn		**Pn**	**Pn**	**08 01 32.0**	**-1.5**
PCIG		**2.05**	**321**	*e*P		**Pn**	**Pn**	**08 01 32.0**	**-1.5**
PCIG				*i* S		**Sn**	**Sn**	**08 01 56.2**	**-1.6**
CCIG	**Comitan**	**2.18**	**354**	*e*Pn		**Pn**	**Pn**	**08 01 38.5**	**+2.9**
CCIG	**Comitan**	**2.18**	**354**	*e*P		**Pn**	**Pn**	**08 01 35.8**	**+0.3**
CCIG				*i* S		**Sn**	**Sn**	**08 02 04.1**	**+2.6**
RTR	**El Retiro**	**2.19**	**95**	*e*P		**Pn**	**Pn**	**08 01 36.9**	**+1.3**
CEVE	**Cerro Verde**	**2.22**	**97**	*e*P		**Pn**	**Pn**	**08 01 36.4**	**+0.3**
CEVE				*e*S		**Sn**	**Sn**	**08 02 05.8**	**+3.3**
SBLS	**San Blas**	**2.22**	**96**	*e*P		**Pn**	**Pn**	**08 01 37.2**	**+1.1**
SNJE	**San Jose**	**2.23**	**96**	*e*P		**Pn**	**Pn**	**08 01 36.8**	**+0.6**
UNIC	**Santa Ana**	**2.27**	**92**	*e*P		**Pn**	**Pn**	**08 01 37.8**	**+1.2**
UNIC				*e*S		**Sn**	**Sn**	**08 02 06.9**	**+3.5**
UNIC				IAML				08 02 12.9	
	comp=Z,2μm,0.5s								
MTO3	**Montecristo**	**2.48**	**83**	*e*P		**Pn**	**Pn**	**08 01 39.8**	**+0.2**
BOQS	**Boqueron**	**2.56**	**98**	*e*P		**Pn**	**Pn**	**08 01 41.7**	**+0.9**
UEES	**San Salvador**	**2.60**	**98**	IAML				08 02 25.0	
	comp=Z,6μm,0.3s								
SNET	**Serv Nac Est T**	**2.62**	**99**	*e*Pn		**Pn**	**Pn**	**08 01 41.6**	**+0.2**
SNET	**Serv Nac Est T**	**2.62**	**99**	*e*P		**Pn**	**Pn**	**08 01 41.7**	**+0.2**
SNET				*e*S		**Sn**	**Sn**	**08 02 14.3**	**+2.2**
SNET				IAML				08 02 25.1	
	comp=Z,4μm,0.3s								
OPAM	**San Salvador**	**2.64**	**98**	*e*P		**Pn**	**Pn**	**08 01 42.1**	**+0.4**
OPAM				*e*S		**Sn**	**Sn**	**08 02 15.2**	**+2.6**
OPAM				IAML				08 02 27.3	
	comp=Z,4μm,0.5s								
UESS	**San Salvador**	**2.64**	**98**	*e*P		**Pn**	**Pn**	**08 01 42.6**	**+0.8**
UTEC	**San Salvador**	**2.64**	**98**	IAML				08 02 27.8	
	comp=Z,5μm,0.4s								
LFU	**La Fuente**	**2.72**	**97**	*e*P		**Pn**	**Pn**	**08 01 43.6**	**+0.8**
LFRS	**El Faro**	**2.79**	**99**	*e*P		**Pn**	**Pn**	**08 01 44.1**	**+0.2**
LLGN	**La Laguna**	**2.85**	**88**	*e*P		**Pn**	**Pn**	**08 01 45.1**	**+0.4**
LLGN				IAML				08 02 41.8	
	comp=Z,3μm,0.8s								
PAVA	**Las Pavas**	**2.90**	**97**	*e*P		**Pn**	**Pn**	**08 01 46.5**	**+1.2**
TGIG		**2.92**	**336**	*e*Pn		**Pn**	**Pn**	**08 01 45.9**	**+0.4**
TGIG		**2.92**	**336**	*e*P		**Pn**	**Pn**	**08 01 45.9**	**+0.4**
TGIG				*i* S		**Sn**	**Sn**	**08 02 21.0**	**+1.6**
SNVI	**San Vicente**	**3.01**	**99**	*e*P		**Pn**	**Pn**	**08 01 48.1**	**+1.3**
UESV	**Ojushtada**	**3.10**	**103**	IAML				08 02 40.0	
	comp=Z,3μm,0.5s								
TECA	**Tecapa**	**3.35**	**100**	*e*P		**Pn**	**Pn**	**08 01 53.2**	**+1.6**
VSM	**San Miguel**	**3.58**	**100**	*e*P		**Pn**	**Pn**	**08 01 55.8**	**+1.0**
LCND	**La Cañada**	**3.97**	**101**	*e*P		**Pn**	**Pn**	**08 02 00.3**	**+0.3**
CMIG	**Matias Romero**	**4.14**	**316**	Pn		**Pn**	**Pn**	**08 02 01.6**	**-0.7**
	comp=Z,18nm,0.3s,baz=151,slow=13,SNR=133								
CMIG				Sn		**Sn**	**Sn**	**08 02 51.0**	**+1.5**
	comp=Z,193nm,0.3s,baz=176,slow=15,SNR=7.4								
CMIG				LR		LR	LR	08 03 59.2	
	comp=Z,14μm,21.7s,baz=116,slow=42								
CSGN	**Cosiguina Volc**	**4.36**	**104**	*e*Pn		**Pn**	**Pn**	**08 02 07.2**	**+1.8**
CSGN	**Cosiguina Volc**	**4.36**	**104**	*e*P		**Pn**	**Pn**	**08 02 08.4**	**+3.0**
CSGN				*e*S		**Sn**	**Sn**	**08 02 57.5**	**+2.5**
TGUH	**Tegucigalpa,Un**	**4.48**	**90**	*e*Pn		**Pn**	**Pn**	**08 02 07.5**	**+0.5**
CRIN	**San Cristobal**	**4.92**	**106**	*e*P		**Pn**	**Pn**	**08 02 14.8**	**+1.8**
CRIN				*e*S		**Sn**	**Sn**	**08 03 10.8**	**+2.1**
CRIN				IAML				08 03 35.1	
	comp=N.5μm,0.7s								
CNGN	**Cerro Negro**	**5.30**	**107**	*e*P		**Pn**	**Pn**	**08 02 19.5**	**+1.2**
ESTN	**Estel**	**5.46**	**100**	*e*Pn		**Pn**	**Pn**	**08 02 20.6**	**+0.1**
ESTN	**Estel**	**5.46**	**100**	*e*P		**Pn**	**Pn**	**08 02 23.2**	**+2.6**
ESTN				*e*S		**Sn**	**Sn**	**08 03 25.8**	**+3.6**
MOMN	**Momotombo**	**5.48**	**107**	*e*P		**Pn**	**Pn**	**08 02 22.1**	**+1.4**
COPN	**Copaltepe**	**5.51**	**110**	*e*P		**Pn**	**Pn**	**08 02 22.7**	**+1.6**
COPN				IAML				08 03 45.0	
	comp=Z,930nm,0.8s								
MGAN	**Managua**	**5.83**	**109**	*e*P		**Pn**	**Pn**	**08 02 26.7**	**+1.1**
MGAN				*e*S		**Sn**	**Sn**	**08 03 30.6**	**-0.7**
MATN	**Matagalpa**	**5.92**	**101**	*e*P		**Pn**	**Pn**	**08 02 28.6**	**+1.8**
BOAB	**BOACO BROADBAN**	**6.28**	**104**	*e*Pn		**Pn**	**Pn**	**08 02 32.2**	**+0.5**
BOAB	**BOACO BROADBAN**	**6.28**	**104**	*e*P		**Pn**	**Pn**	**08 02 33.4**	**+1.6**
ACOY	**Acoyapa**	**6.88**	**107**	*e*P		**Pn**	**Pn**	**08 02 41.1**	**+1.1**
TEIG	**Tepich**	**7.01**	**29**	*e*Pn		**Pn**	**Pn**	**08 02 45.3**	**+3.7**
LVIG	**Laguna Verde**	**7.07**	**323**	*e*Pn		**Pn**	**Pn**	**08 02 40.2**	**-2.3**
MYIG	**MÖrida**	**7.12**	**16**	*e*Pn		**Pn**	**Pn**	**08 02 45.8**	**+2.5**
TLIG	**Tlapa**	**7.29**	**299**	*e*Pn		**Pn**	**Pn**	**08 02 47.4**	**+1.8**
ESPN	**Las Esperanzas**	**7.63**	**103**	*e*Pn		**Pn**	**Pn**	**08 02 51.7**	**+1.4**
ESPN	**Las Esperanzas**	**7.63**	**103**	*e*P		**Pn**	**Pn**	**08 02 51.9**	**+1.6**
JTS	**JuntasAbangare**	**7.77**	**118**	Pn		**Pn**	**Pn**	**08 02 54.7**	**+2.6**
	comp=Z,5.4nm,0.3s,baz=14,slow=10,SNR=18								
JTS				Lg		Lg	Lg	08 04 46.0	
	baz=103,slow=23,SNR=8.5								
JTS	**JuntasAbangare**	**7.77**	**118**	*e*Pn		**Pn**	**Pn**	**08 02 55.0**	**+2.8**
HDC	**Heredia**	**8.63**	**117**	*e*Pn		**Pn**	**Pn**	**08 03 05.2**	**+1.1**
UNM	**Universidad Na**	**8.70**	**308**	*e*Pn		**Pn**	**Pn**	**08 03 04.6**	**-0.6**
JROG	**Juriquilla Cam**	**10.47**	**310**	*e*Pn		**Pn**	**Pn**	**08 03 28.2**	**-1.3**
MOIG	**Moia**	**10.48**	**303**	*e*Pn		**Pn**	**Pn**	**08 03 28.9**	**-0.7**
LNIG	**Linares**	**12.89**	**328**	*e*Pn		**Pn**	**Pn**	**08 04 04.3**	**+2.0**
MTDJ	**Mount Denham**	**14.39**	**72**	*e*Pn		**P**	**P**	**08 04 29.0**	**0.0**
BBJ	**Bamboo Saint A**	**14.68**	**71**	*i* P		**P**	**P**	**08 04 31.1**	**-1.1**
STH	**Stony Hill**	**15.03**	**73**	*i* P		**P**	**P**	**08 04 35.7**	**-0.3**
HOJ	**Hope**	**15.06**	**73**	*i* P		P		08 04 46.6	+10
HKT	**Hockley**	**16.19**	**348**	*e*Pn		**P**	**P**	**08 04 49.2**	**+0.5**
	comp=Z,4.8nm,0.9s								
DWPF	**Disney Wildern**	**17.00**	**33**	*e*Pn		**P**	**P**	**08 05 01.1**	**+3.2**
	comp=Z,102nm,0.9s								
DWPF	**Disney Wildern**	**17.00**	**33**	P		**Pn**	**Pn**	**08 04 56.5**	**+0.1**
	baz=217								
BRAL	**Brewton**	**17.56**	**14**	*e*Pn		**P**	**P**	**08 05 07.6**	**+3.5**
	comp=Z,148nm,0.9s								
BRAL	**Brewton**	**17.56**	**14**	P		**Pn**	**Pn**	**08 05 03.1**	**-0.2**
	baz=196,SNR=8.6								
NATX	**Nacogdoches**	**17.76**	**352**	P		**P**	**P**	**08 05 07.7**	**+1.5**
	baz=171								
JCT	**Junction City**	**17.86**	**337**	*e*P		**P**	**P**	**08 05 10.8**	**+3.5**
	comp=Z,15nm,0.8s								
JCT	**Junction City**	**17.86**	**337**	P		**P**	**P**	**08 05 08.1**	**+0.7**
	baz=154								
HELC	**Santa Helena**	**17.91**	**114**	*e*P		**Pn**	**Pn**	**08 05 07.2**	**-0.9**
ZARC	**Zaragoza, Cauc**	**17.97**	**110**	*e*P		**Pn**	**Pn**	**08 05 06.5**	**-1.9**
VBMS	**Vicksburg**	**18.08**	**4**	P		**Pn**	**Pn**	**08 05 10.7**	**+1.1**
	baz=184								
SMLC	**San Mart`n de**	**18.24**	**105**	*e*P		**P**	**P**	**08 05 09.8**	**-1.8**
YOTC	**Yotoco, Valle**	**18.34**	**122**	*e*P		**P**	**P**	**08 05 11.2**	**-1.6**
LTX	**Lajitas**	**18.67**	**326**	*e*P		**Pn**	**Pn**	**08 05 18.1**	**+1.1**
TXAR	**Lajitas Array**	**18.67**	**326**	P		**Pn**	**Pn**	**08 05 18.1**	**+1.1**
	comp=Z,1.3nm,0.3s,baz=154,slow=11,SNR=212								
TXAR				PcP		**PcP**	**PcP**	**08 09 44.4**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=152,slow=4.1,SNR=3.7								
TXAR				LR		LR	LR	08 13 36.2	
	comp=Z,646nm,21.0s,baz=0.0,slow=40								
TX31	**Lajitas Ar. Si**	**18.67**	**326**	*e*P		**Pn**	**Pn**	**08 05 18.3**	**+1.3**
RREF	**El Recreo**	**18.69**	**118**	*e*P		**P**	**P**	**08 05 16.3**	**-0.9**
PTBC	**PUERTO BERRIO,**	**18.72**	**112**	*e*P		**P**	**P**	**08 05 13.5**	**-3.4**
ANIL	**Santa Ana**	**18.85**	**119**	*e*P		**Pn**	**Pn**	**08 05 20.5**	**+1.1**
POPC	**Popayan, Colom**	**18.92**	**126**	*e*P		**P**	**P**	**08 05 17.7**	**-1.6**
OTAV	**Otavalo**	**19.15**	**135**	*e*P		**P**	**P**	**08 05 21.1**	**-0.9**
	comp=Z,3.0nm,0.6s								
OTAV	**Otavalo**	**19.15**	**135**	*e*P		**P**	**P**	**08 05 21.3**	**-0.8**
SOTA	**Rioblanco**	**19.22**	**127**	*e*P		**P**	**P**	**08 05 23.5**	**+0.6**
GCUF	**Volcan Galeras**	**19.25**	**130**	*e*P		**P**	**P**	**08 05 19.1**	**-4.1**
PCON	**Cinco Dias**	**19.27**	**126**	*e*P		**P**	**P**	**08 05 23.4**	**-0.1**
MARP	**Paez Belalcaza**	**19.31**	**124**	*e*P		**P**	P	08 05 16.3	-7.3
CRUC	**La Cruz**	**19.32**	**129**	*e*P		**Pn**	**Pn**	**08 05 24.6**	**-0.5**
LRAL	**Lakeview Retre**	**19.37**	**12**	*e*P		**Pn**	**Pn**	**08 05 25.8**	**+0.5**
	comp=Z,31nm,0.9s								
LRAL	**Lakeview Retre**	**19.37**	**12**	P		**Pn**	**Pn**	**08 05 26.1**	**+0.8**
	baz=194,SNR=12								
URIC	**Uribia, Colomb**	**19.55**	**95**	*e*P		**Pn**	**Pn**	**08 05 26.9**	**-0.5**
ROSC	**El Rosal**	**19.61**	**116**	P		**Pn**	**Pn**	**08 05 30.7**	**+2.1**
	comp=Z,1.2nm,0.3s,baz=81,slow=2.0,SNR=40								
ROSC				LR		LR	LR	08 13 47.4	
	comp=Z,653nm,20.2s,baz=326,slow=39								
ROSC	**El Rosal**	**19.61**	**116**	*e*P		P	P	08 05 17.7	-9.3
PRAC	**Prado**	**19.70**	**120**	*e*P		**P**	**P**	**08 05 27.6**	**0.0**
CCAR	**Cane Creek**	**19.73**	**0**	*e*P		**Pn**	**Pn**	**08 05 30.0**	**+0.5**
	comp=Z,130nm,0.7s								
ABTX	**Abilene, Hawle**	**19.75**	**340**	*e*P		**Pn**	**Pn**	**08 05 29.4**	**-0.3**
	comp=Z,31nm,0.7s								
ABTX	**Abilene, Hawle**	**19.75**	**340**	P		**Pn**	**Pn**	**08 05 29.5**	**-0.3**
	baz=157,SNR=16								
PAMC	**Pamplona, Colo**	**20.01**	**108**	*e*P		**P**	**P**	**08 05 29.8**	**-1.8**
LPIG	**La Paz**	**20.02**	**303**	P		Pn	**Pn**	08 05 36.6	+3.5
	comp=Z,9.3nm,0.3s,baz=294,slow=13,SNR=3.8								
LPIG				LR		LR	LR	08 13 09.8	
	comp=Z,2μm,18.7s,baz=122,slow=36								
CHIC	**Chingaza**	**20.22**	**116**	*e*P		Pn	Pn	08 05 35.4	-0.5
RUSC	**La Rusia**	**20.23**	**112**	*e*P		**P**	**P**	**08 05 32.6**	**-1.3**
FLOC	**Florencia**	**20.31**	**126**	*e*P		Pn	**Pn**	08 05 36.0	-0.6
MIAR	**Mount Ida**	**20.41**	**356**	*e*P		**P**	**P**	**08 05 35.5**	**+0.3**
	comp=Z,40nm,0.8s								
MIAR	**Mount Ida**	**20.41**	**356**	P		**P**	**P**	**08 05 35.4**	**+0.2**
	baz=175,SNR=25								
OXF	**Oxford**	**20.45**	**6**	*e*P		**P**	**P**	**08 05 36.6**	**+1.0**
	comp=Z,63nm,1.0s								
OXF	**Oxford**	**20.45**	**6**	P		**P**	**P**	**08 05 35.4**	**-0.1**
	baz=187								
VILC	**Villavicencio,**	**20.51**	**117**	*e*P		Pn	Pn	08 05 38.2	-0.8
UALR	**University of**	**20.59**	**359**	*e*P		**P**	**P**	**08 05 38.3**	**+1.2**
	comp=Z,46nm,0.9s								
X37A	**Clayton**	**20.64**	**352**

X16A **Lo Mia Camp, P** 26.86 322 eP P 08 06 39.7 +1.0
comp=Z,15nm,0.8s
PCRV **Puerto La Cruz** 26.92 95 P P 08 06 41.4 +2.1
comp=Z,10nm,0.8s,baz=242,slow=5.3,SNR=3.9
ACSO **Alum Creek Sta** 27.18 15 eP P 08 06 40.3 -1.0
comp=Z,21nm,0.7s
ACSO **Alum Creek Sta** 27.18 15 P P 08 06 39.9 -1.4
baz=199,SNR=5.8
CBN **Corbin Frederi** 27.25 26 eP P 08 06 41.5 -0.4
comp=Z,23nm,0.9s
CBN **Corbin Frederi** 27.25 26 P P 08 06 40.9 -1.0
baz=212
113A **Mohawk Valley,** 27.25 317 eP P 08 06 43.9 +1.9
comp=Z,20nm,1.1s
MVCO **Mesa Verde** 27.37 330 eP P 08 06 45.1 +1.9
comp=Z,42nm,0.9s
MVCO **Mesa Verde** 27.37 330 P P 08 06 44.8 +1.5
baz=143,SNR=36
WUAZ **Wupatki** 27.60 324 eP P 08 06 47.3 +2.0
comp=Z,20nm,0.9s
WUAZ **Wupatki** 27.60 324 P P 08 06 47.0 +1.7
baz=136,SNR=15
GLA **Glamis** 28.13 316 P P 08 06 51.2 +1.2
baz=127
OGNE **Ogallala** 28.17 344 P P 08 06 51.2 +0.9
baz=159
ISCO **Idaho Springs** 28.30 337 eP P 08 06 52.7 +1.0
comp=Z,4.1nm,0.7s
ISCO **Idaho Springs** 28.30 337 P P 08 06 52.5 +0.8
baz=151
SMCO **Snowmass** 28.30 335 eP P 08 06 51.8 0.0
comp=Z,5.3nm,1.0s
PDMCI **Parker Dam,Lak** 28.45 319 P P 08 06 54.0 +1.3
baz=130,SNR=8.4
SWSC **Sam W. Stewart** 28.73 315 P P 08 06 56.6 +1.4
baz=125,SNR=6.6
JFWS **Jewell Farm** 28.75 3 eP P 08 06 55.7 +0.4
comp=Z,12nm,0.7s
JFWS **Jewell Farm** 28.75 3 P P 08 06 54.4 -0.9
baz=183
U15A **North Rim** 28.77 324 eP P 08 06 58.3 +2.4
comp=Z,21nm,1.0s
IKP **In-Ko-Pah, Jac** 28.78 314 P P 08 06 57.2 +1.4
baz=124,SNR=9.2
BC3 **Big Chuckawall** 28.91 316 P P 08 06 58.6 +1.6
baz=127,SNR=22
IRM **Iron Mountain** 29.01 318 P P 08 06 59.5 +1.7
baz=128,SNR=13
MONP2 **Monument Peak** 29.13 314 P P 08 07 00.6 +1.6
baz=124,SNR=8.5
SSPA **Standing Stone** 29.14 22 eP P 08 06 58.2 -0.5
comp=Z,13nm,0.7s
SSPA **Standing Stone** 29.14 22 P P 08 06 57.7 -1.0
baz=209
MVL **Millersville** 29.19 25 eP P 08 06 59.5 +0.4
comp=Z,11nm,0.7s
PAGS **Pennsylvania G** 29.23 24 eP P 08 07 00.5 +0.9
comp=Z,8.4nm,0.7s
BELC **Belle Mtn. Jos** 29.48 316 P P 08 07 03.0 +0.9
baz=127,SNR=12
KNB **Kanab** 29.49 324 eP P 08 07 04.8 +2.7
comp=Z,21nm,0.8s
PKCU **Pink Cliffs** 29.51 326 eP P 08 07 04.0 +1.5
comp=Z,13nm,0.9s
LDFC **Landfair** 29.56 319 eP P 08 07 05.8 +3.1
comp=Z,26nm,0.9s
XPFO **Piæon Flat** 29.56 315 eP P 08 07 04.7 +2.0
comp=Z,9.7nm,1.0s
PFO **Pinyon Flats O** 29.57 315 eP P 08 07 04.8 +2.0
comp=Z,9.7nm,1.0s
PFO **Pinyon Flats O** 29.57 315 P P 08 07 04.0 +1.2
baz=125,SNR=6.0
FRD **Ford Ranch, An** 29.60 315 P P 08 07 04.9 +1.9
baz=125,SNR=6.5
LCMT **Little Creek M** 29.72 324 eP P 08 07 06.2 +2.1
comp=Z,12nm,1.2s
GMRC **Granite Mounta** 29.73 318 P P 08 07 05.6 +1.4
baz=128,SNR=12
ECSD **EROS Data Cent** 29.81 353 eP P 08 07 04.8 +0.2
comp=Z,4.7nm,0.8s
ECSD **EROS Data Cent** 29.81 353 P P 08 07 04.8 +0.2
baz=171
SRU **San Rafael Swe** 29.84 330 eP P 08 07 06.7 +1.5
comp=Z,11nm,1.1s
MTPU **Mount Pierson** 29.88 327 eP P 08 07 07.9 +2.1
comp=Z,24nm,0.7s
NNA **Nana** 29.91 149 LR LR 08 17 02.4
comp=Z,1µm,20.8s,baz=302,slow=32
SZCU **Shurtz Canyon** 30.05 325 eP P 08 07 09.6 +2.5
comp=Z,19nm,0.9s
MURC **Murrieta** 30.07 315 P P 08 07 08.3 +1.2
baz=124
CCUT **Cedar City** 30.17 325 eP P 08 07 10.9 +2.7
comp=Z,24nm,0.9s
HEC **Hector,Ludlow** 30.20 317 P P 08 07 09.5 +1.1
baz=127
MSU **Marysvale** 30.22 327 eP P 08 07 10.8 +2.2
P17A **Butcher Ranch,** 30.23 330 eP P 08 07 10.4 +1.8
comp=Z,20nm,0.8s
BBRC **Big Bear Solar** 30.25 316 P P 08 07 11.0 +2.0
baz=126
TUQ **Turquoise Moun** 30.30 319 P P 08 07 10.8 +1.5
baz=129,SNR=7.9
TMUT **Trail Mountain** 30.32 329 eP P 08 07 11.9 +2.3
comp=Z,13nm,0.8s
TCRU **Three Creeks R** 30.44 327 eP P 08 07 12.6 +2.0
comp=Z,28nm,0.8s
SHPR **Sheep Range** 30.51 321 eP P 08 07 13.0 +1.9
comp=Z,12nm,1.0s
RWWY **Rawlins** 30.54 337 eP P 08 07 13.9 +2.5
comp=Z,15nm,0.9s
TYNO **Tyneside** 30.69 17 P P 08 07 11.5 -0.9
baz=203
BFSC **Mount Baldy Ra** 30.74 315 P P 08 07 14.7 +1.5
baz=125,SNR=5.8
GSC **Goldstone, Bar** 30.79 318 eP P 08 07 16.4 +2.9
comp=Z,2.5nm,0.8s
GSC **Goldstone, Bar** 30.79 318 P P 08 07 15.5 +1.9
baz=127
CIS **Catalina Islan** 30.81 313 P P 08 07 15.3 +1.7
baz=122
SHOC **Shoshone, Teco** 30.82 319 P P 08 07 15.3 +1.7
baz=129
MPU **Maple Canyon** 31.09 330 eP P 08 07 17.6 +1.4
comp=Z,17nm,0.9s
G39A **Holcombe** 31.09 1 P P 08 07 15.0 -0.9
baz=181
PSUT **Pine Spring** 31.14 325 eP P 08 07 18.9 +2.2
comp=Z,19nm,1.0s
MEDO **Medina** 31.19 19 P P 08 07 16.5 -0.3
baz=206
BINY **Binghamton** 31.20 23 P P 08 07 16.7 -0.3
baz=211,SNR=6.3
GLMI **Grayling** 31.24 10 P P 08 07 17.3 0.0
baz=194
NLU **North Lily Min** 31.26 329 eP P 08 07 19.5 +1.7
comp=Z,8.8nm,1.1s
G43A **Wallace** 31.26 6 P P 08 07 17.2 -0.3
baz=188
BWLO **Walkerton** 31.30 15 P P 08 07 16.8 -1.0
baz=200
EDW2 **Edwards Air Fo** 31.33 316 P P 08 07 19.5 +1.1
baz=125,SNR=6.6
BRCO **Bruce Peninsul** 31.34 15 P P 08 07 17.5 -0.7
baz=200
JLU **Jordanelle** 31.45 331 eP P 08 07 21.4 +1.9
comp=Z,6.1nm,0.9s
TPNV **Topopah Spring** 31.46 321 eP P 08 07 21.7 +2.1
comp=Z,12nm,1.1s
TPNV **Topopah Spring** 31.46 321 P P 08 07 21.1 +1.6
baz=130,SNR=13
LRMC **Laurel Mtn Rad** 31.47 317 P P 08 07 20.8 +1.2
baz=126,SNR=8.9
FURC **Furnace Creek,** 31.54 319 P P 08 07 21.5 +1.6
baz=129,SNR=14
CTU **Camp Tracy** 31.67 331 eP P 08 07 23.1 +1.8
comp=Z,16nm,0.9s
RSSD **Black Hills** 31.67 343 eP P 08 07 21.7 +0.4
comp=Z,9.7nm,0.6s
RSSD **Black Hills** 31.67 343 P P 08 07 21.9 +0.5
baz=157
MPMC **Manual Prospec** 31.69 318 P P 08 07 22.4 +0.8
baz=127,SNR=28
BMRO **Meriville Lake** 31.73 15 P P 08 07 20.4 -1.1
baz=200
DUG **Dugway, Tooele** 31.81 329 eP P 08 07 23.7 +1.2
comp=Z,9.3nm,1.0s
DUG **Dugway, Tooele** 31.81 329 P P 08 07 24.1 +1.6
baz=139,SNR=11
CLWO **Collingwood** 31.82 16 P P 08 07 21.2 -1.2
baz=202
TCUT **Toone Canyon** 31.84 331 eP P 08 07 24.7 +1.8
comp=Z,29nm,0.8s
DAC **Darwin (Calif)** 31.89 318 eP P 08 07 24.9 +1.6
comp=Z,13nm,1.0s
SCZ2 **Santa Cruz Isl** 31.99 313 P P 08 07 25.2 +1.2
baz=122
ARVC **Arvin** 32.04 316 P P 08 07 26.1 +1.7
baz=124
ISA **Isabella, Lake** 32.10 317 eP P 08 07 27.0 +1.9
comp=Z,4.2nm,1.0s
ISA **Isabella, Lake** 32.10 317 P P 08 07 26.8 +1.7
baz=125,SNR=5.9
F46A **Macinaw City C** 32.15 9 P P 08 07 25.1 -0.1
baz=193
GRAC **Grapevine Rang** 32.19 320 P P 08 07 27.5 +1.7
baz=129,SNR=7.9
E40A **Wakefield** 32.29 3 P P 08 07 25.8 -0.7
baz=184
HWUT **Hardware Ranch** 32.30 332 eP P 08 07 28.5 +1.7
comp=Z,12nm,0.8s
CWC **Cottonwood Cre** 32.30 318 P P 08 07 28.3 +1.3
baz=127
BW06 **Boulder Array** 32.37 335 eP P 08 07 28.2 +0.6
comp=Z,4.3nm,0.8s
BW06 **Boulder Array** 32.37 335 P P 08 07 28.3 +0.8
baz=147
PD31 **Pinedale Array** 32.37 335 eP P 08 07 28.8 +1.3
PDAR **Pinedale Array** 32.37 335 P P 08 07 28.6 +1.0
comp=Z,2.6nm,0.8s,baz=124,slow=10.0,SNR=16
PDAR PcP PcP 08 10 16.0 +1.4
comp=Z,1.9nm,0.6s,baz=140,slow=3.8,SNR=7.7
PDAR LR LR 08 23 02.5
comp=Z,1µm,20.8s,baz=152,slow=41
PDAR **Pinedale Array** 32.37 335 eP P 08 07 28.7 +1.1
SADO **Sadowa** 32.44 17 P P 08 07 27.2 -0.6
comp=Z,3.8nm,0.5s,baz=220,slow=9.9,SNR=5.2
BGU **Big Grassy Mou** 32.47 329 eP P 08 07 30.2 +1.9
comp=Z,15nm,0.8s
SPUT **South Promonto** 32.48 330 eP P 08 07 29.9 +1.5
comp=Z,18nm,1.1s
PKM **Mcpherson Peak** 32.58 314 P P 08 07 31.0 +1.5
baz=123,SNR=6.3
VES **Vestal, Richgr** 32.61 316 P P 08 07 31.4 +1.9
baz=125,SNR=9.3
DELO **Deloro Mine** 32.67 19 P P 08 07 28.2 -1.6
baz=206
KLBO **Killbear Provi** 32.69 15 P P 08 07 27.9 -2.1
baz=201
TIN **Tinemaha, Big** 32.77 319 P P 08 07 32.9 +2.0
baz=128
E46A **Sault Ste Mari** 32.79 10 P P 08 07 30.7 -0.1
baz=194
SMMC **Simmler** 32.94 315 P P 08 07 34.3 +1.9
baz=123
BUKO **Buck Lake** 32.99 16 P P 08 07 31.3 -1.3
baz=202
HVU **Hansel Valley** 33.00 331 eP P 08 07 35.0 +2.1
comp=Z,24nm,1.0s
BANO **Bancroft** 33.02 18 P P 08 07 31.4 -1.5
baz=205
PLVO **Plena** 33.31 19 P P 08 07 34.3 -1.1
baz=207
REDW **Red Top Meadow** 33.40 335 eP P 08 07 37.8 +1.3
comp=Z,26nm,0.8s
SNOW **Snow King Moun** 33.44 335 eP P 08 07 38.3 +1.4
comp=Z,41nm,0.8s
ELK **Elko** 33.47 327 eP P 08 07 38.9 +1.8
comp=Z,14nm,0.7s
LOHW **Long Hollow** 33.50 335 eP P 08 07 38.4 +1.1
comp=Z,8.7nm,0.8s
TPAW **Teton Pass** 33.55 335 eP P 08 07 39.4 +1.5
comp=Z,16nm,1.0s
NV11 **Mina Array Sit** 33.57 321 eP P 08 07 40.5 +2.5
comp=Z,3.1nm,1.0s
OMMB **Old Mammoth Mi** 33.59 319 eP P 08 07 40.6 +2.2
comp=Z,14nm,1.1s
MDPB **Devils Postpil** 33.66 319 eP P 08 07 40.7 +1.9
comp=Z,19nm,0.9s
NV01 **Mina Array Sit** 33.66 321 eP P 08 07 41.4 +2.6
NVAR **Mina Array Bea** 33.66 321 P P 08 07 41.1 +2.3
comp=Z,24nm,0.7s,baz=136,slow=8.2,SNR=195
NVAR PcP PcP 08 10 19.1 +0.9
comp=Z,6.8nm,0.8s,baz=141,slow=3.0,SNR=6.8
NVAR LR LR 08 23 04.6
comp=Z,3µm,19.5s,baz=136,slow=39
MOOW **Moose Ponds** 33.67 335 eP P 08 07 39.9 +1.0
comp=Z,5.5nm,0.9s
FXWY **Fox Creek** 33.70 335 eP P 08 07 40.5 +1.4
comp=Z,5.4nm,0.8s
LONY **Lake Ozonia** 33.80 22 P P 08 07 39.2 -0.5
baz=211
PEMO **Pembroke** 33.83 19 P P 08 07 38.9 -1.0
baz=206
ALGO **Algonquin Park** 33.84 17 P P 08 07 39.1 -0.9
baz=204
IMW **Indian Meadow** 33.87 335 eP P 08 07 42.1 +1.4
comp=Z,7.6nm,0.8s
RYN **Ryan** 33.92 321 eP P 08 07 42.3 +1.3
comp=Z,17nm,1.1s
FLWY **Flagg Ranch** 33.93 335 eP P 08 07 42.8 +1.7
comp=Z,9.5nm,0.8s
KVN **Kaiserville** 33.93 322 eP P 08 07 43.0 +1.9
comp=Z,29nm,1.1s
E51A **G1948 Merrick** 33.97 15 P P 08 07 40.3 -0.8
baz=202
YPP **Pitchstone Pla** 34.13 335 eP P 08 07 44.6 +1.7
comp=Z,4.0nm,0.8s
H17A **Grant Village** 34.14 336 eP P 08 07 45.4 +2.4
comp=Z,4.1nm,0.8s
H17A **Grant Village** 34.14 336 P P 08 07 45.0 +2.1
baz=146
ORIO **Orleans, Innes** 34.19 21 P P 08 07 41.8 -1.2
baz=209
RLMT **Red Lodge** 34.26 338 eP P 08 07 44.2 +0.3
comp=Z,5.7nm,0.9s
RLMT **Red Lodge** 34.26 338 P P 08 07 44.3 +0.4
baz=149,SNR=5.5
AGMN **Agassiz Nation** 34.26 355 P P 08 07 44.0 +0.4
baz=173
YFT **Old Faithful** 34.29 336 eP P 08 07 47.6 +3.3
comp=Z,8.3nm,0.9s
BMN **Battle Mountai** 34.33 325 eP P 08 07 46.4 +1.8
comp=Z,27nm,1.0s
E53A **Dumoine, Ponti** 34.33 18 P P 08 07 43.2 -1.0
baz=205
WAKR **Walker** 34.41 320 eP P 08 07 47.6 +2.4
comp=Z,13nm,1.2s
D51A **Lot 18 Range I** 34.52 15 P P 08 07 44.5 -1.4
baz=202
YMR **Madison River** 34.52 336 eP P 08 07 48.6 +2.4
comp=Z,13nm,0.7s
E54A **Lac Daplat, Po** 34.52 18 P P 08 07 45.1 -0.8
baz=206
ALFO **Alfred** 34.56 21 P P 08 07 45.4 -0.9
baz=210
YHH **Holmes Hill** 34.58 336 eP P 08 07 48.4 +1.6
comp=Z,4.4nm,0.9s
YERR **Yerington** 34.58 321 eP P 08 07 48.9 +2.1
comp=Z,23nm,1.1s
LAO **LASA Array** 34.64 343 eP P 08 07 47.9 +0.9
comp=Z,11nm,0.7s
LAO **LASA Array** 34.64 343 P P 08 07 47.4 +0.3
baz=155,SNR=6.8
YHB **Hone Butte** 34.68 336 eP P 08 07 49.8 +2.2
comp=Z,5.8nm,0.8s
SAO **San Andreas Ge** 34.71 316 eP P 08 07 49.1 +1.4
comp=Z,8.2nm,0.9s
CMB **Columbia Colle** 34.73 319 eP P 08 07 49.7 +1.8
comp=Z,8.9nm,1.0s
QLMT **Earthquake Lak** 34.84 335 eP P 08 07 51.9 +3.0
PNTR **Pine Nut** 34.86 321 eP P 08 07 51.6 +2.3
comp=Z,26nm,0.8s
PTGA **Pitinga** 34.88 112 eP P 08 07 49.6 +0.2
comp=Z,56nm,1.0s
D53A **Lac Vacive, Po** 34.96 17 P P 08 07 48.7 -1.0
baz=204
GCMT **Greycliff** 34.98 338 eP P 08 07 49.8 -0.2
VCNR **Virginia City** 35.02 321 eP P 08 07 52.8 +2.2
comp=Z,17nm,1.0s
PAHR **Pah Rah Range** 35.12 322 eP P 08 07 53.3 +1.9
comp=Z,14nm,1.0s
HLID **Hailey** 35.14 331 eP P 08 07 52.8 +1.3
comp=Z,19nm,1.0s
HLID **Hailey** 35.14 331 P P 08 07 52.2 +0.7
baz=140,SNR=34
RUBR **Rubicon Trail** 35.18 320 eP P 08 07 54.6 +2.6
comp=Z,30nm,0.8s
D54A **Lac Fusel, La** 35.33 18 P P 08 07 51.7 -1.2
baz=206
MCMT **McKenzie Canyo** 35.43 334 eP P 08 07 56.3 +2.3
BOZ **Bozeman (W)** 35.55 336 eP P 08 07 56.9 +1.8
comp=Z,7.3nm,0.8s
BOZ **Bozeman (W)** 35.55 336 P P 08 07 55.7 +0.7
baz=146,SNR=15
AFDM **Forest Hills D** 35.63 319 eP P 08 07 57.6 +2.0
comp=Z,4.6nm,1.1s
MFID **Camas Ranch** 35.71 330 eP P 08 07 57.9 +1.6
comp=Z,22nm,1.0s
DGMT **Dagmar** 35.75 346 eP P 08 07 57.0 +0.4
comp=Z,17nm,0.8s
DGMT **Dagmar** 35.75 346 P P 08 07 56.8 +0.3
baz=159
DLMT **Dillon** 35.75 335 eP P 08 07 58.5 +1.8
comp=Z,12nm,1.0s
BEKR **Beckworth** 35.80 321 eP P 08 07 59.3 +2.1
comp=Z,27nm,1.1s
ULM **Lac du Bonnet** 36.20 356 P P 08 07 58.8 -1.5
comp=Z,3.8nm,0.7s,baz=146,slow=16,SNR=4.5
ULM PcP PcP 08 10 24.8 -0.3
comp=Z,9.9nm,0.8s,baz=141,slow=1.6,SNR=6.7
ULM LR LR 08 26 26.7
comp=Z,931nm,19.3s,baz=172,slow=42
ORV **Oroville** 36.32 320 eP P 08 08 03.4 +1.9
comp=Z,7.6nm,1.0s
WVOR **Wild Horse Val** 36.47 326 eP P 08 08 04.3 +1.4
comp=Z,13nm,0.8s
PKME **Peaks-Kenny Pk** 36.49 27 P P 08 08 01.8 -1.0
baz=219
SAML **Samuel** 36.55 127 eP P 08 08 01.8 -1.9
comp=Z,11nm,1.0s
HRY **Holter Researc** 36.56 337 eP P 08 08 05.2 +1.7
EGMT **Eagleton** 36.93 340 eP P 08 08 06.7 0.0
comp=Z,11nm,0.7s
EGMT **Eagleton** 36.93 340 P P 08 08 06.8 +0.2
baz=150,SNR=6.7
O03E **Paynes Creek** 36.94 321 P P 08 08 07.7 +0.8
baz=127,SNR=7.6
LSQQ **Lebel-sur-Quev** 36.96 16 P P 08 08 05.5 -1.3
baz=204
J08A **Circle Bar Ran** 37.02 327 eP P 08 08 09.0 +1.5
comp=Z,19nm,0.8s
MOD **Modoc Plateau** 37.05 324 eP P 08 08 08.7 +0.9
comp=Z,20nm,1.0s
MATQ **Matagami** 37.43 15 P P 08 08 09.4 -1.3
baz=203
BMO **Blue Mountains** 37.49 330 eP P 08 08 11.7 +0.3
comp=Z,17nm,1.1s
O02D **Mt. Diablo Mer** 37.49 320 P P 08 08 11.6 +0.1
baz=125
MSO **Missoula** 37.49 335 eP P 08 08 12.6 +1.1
comp=Z,9.5nm,1.0s
MSO **Missoula** 37.49 335 P P 08 08 11.9 +0.5
baz=143,SNR=10
WDC **Whiskeytown Da** 37.57 320 eP P 08 08 11.6 -0.5
comp=Z,5.3nm,1.0s
KCPM **Cahto Peak** 37.72 319 eP P 08 08 15.8 +2.3
comp=Z,26nm,1.1s
M04C **Macdoel** 37.87 323 P P 08 08 15.7 +1.0
baz=128
N02D **Trinity Center** 37.90 321 P P 08 08 14.2 -0.7
baz=126
I07A **Izee** 38.05 327 eP P 08 08 17.8 +1.5
comp=Z,14nm,0.9s
KMRM **Mail Ridge** 38.09 319 eP P 08 08 19.1 +2.4
comp=Z,31nm,1.0s
M02C **Callahan** 38.24 321 P P 08 08 17.8 0.0
baz=126
LPAZ **La Paz** 38.25 141 P P 08 08 17.1 -1.6
comp=Z,4.7nm,0.7s,baz=327,slow=8.0,SNR=29
LPAZ LR LR 08 23 43.0
comp=Z,1µm,20.4s,baz=326,slow=36
LPAZ **La Paz** 38.25 141 eP P 08 08 17.5 -1.2
comp=Z,5.1nm,0.6s
F10A **Beach Ranch, E** 38.27 331 eP P 08 08 18.5 +0.4
comp=Z,48nm,0.8s
YBH **Yreka Blue Hor** 38.35 322 P P 08 08 19.0 +0.2
comp=Z,2.6nm,0.7s,baz=89,slow=5.5,SNR=10.0
YBH PcP PcP 08 10 32.3 +0.3
comp=Z,1.3nm,0.8s,baz=50,slow=4.4,SNR=3.8
YBH **Yreka Blue Hor** 38.35 322 eP P 08 08 18.8 0.0
comp=Z,3.9nm,0.9s
JTMT **Jette** 38.37 336 eP P 08 08 20.2 +1.3
comp=Z,9.1nm,0.9s
L04D **Klamath Falls** 38.41 323 P P 08 08 19.8 +0.5
baz=128,SNR=7.9
J05D **Fort Rock, OR** 38.46 325 P P 08 08 20.9 +1.1
baz=130
KHMM **Horse Mountain** 38.48 320 eP P 08 08 21.8 +1.9
comp=Z,25nm,0.9s
CHGQ **Chibougamau** 38.48 18 P P 08 08 17.9 -1.7
baz=208
G08A **Pilot Rock** 38.62 329 eP P 08 08 21.9 +0.9
comp=Z,6.9nm,0.8s
PINE **Pine Mountain** 38.63 326 eP P 08 08 21.9 +0.7
comp=Z,17nm,0.8s
J04D **Umpqua Nationa** 38.93 324 P P 08 08 24.4 +0.7
baz=129,SNR=12
HUMO **Hull Mountain** 39.02 323 eP P 08 08 26.1 +1.8
comp=Z,7.6nm,1.0s
I05D **Terrebonne, OR** 39.21 326 P P 08 08 27.1 +1.2
baz=131,SNR=10
G06A **Carlson Farm,** 39.43 328 eP P 08 08 29.5 +1.8
comp=Z,6.6nm,0.9s
I04A **Tendick Farm,** 39.45 325 P P 08 08 28.3 +0.5
baz=128,SNR=7.6
K02D **Willamette Mer** 39.50 322 P P 08 08 29.0 +0.6
baz=127
MNMC **Minye Minye** 39.66 146 eP P 08 08 29.7 -0.4
comp=Z,22nm,1.0s
MDP **Montagnes des** 39.67 99 PcP PcP 08 10 36.5 +0.1
comp=Z,7.2nm,0.8s,baz=275,slow=6.4,SNR=3.3
HAWA **Hanford** 39.68 330 eP P 08 08 29.9 +0.2
comp=Z,8.3nm,0.8s
G05D **Wamic, OR** 39.79 327 P P 08 08 31.7 +1.1
baz=132,SNR=16
H04A **Detroit Lake** 39.89 326 eP P 08 08 32.4 +0.9
comp=Z,42nm,0.8s
I03D **Drain, OR** 39.92 324 P P 08 08 32.2 +0.5
baz=128,SNR=8.8
J01E **Myrtle Point** 39.93 323 P P 08 08 32.9 +1.1
baz=127,SNR=9.9
E07A **Sunnyside** 39.95 330 eP P 08 08 33.0 +0.9
comp=Z,14nm,0.8s
NEW **Newport** 39.95 334 eP P 08 08 32.6 +0.6
comp=Z,10.0nm,1.1s
NEW **Newport** 39.95 334 P P 08 08 31.8 -0.2
baz=140,SNR=7.1
H04D **Lebanon** 40.09 325 P P 08 08 33.3 +0.2
baz=130,SNR=13
C09A **Chrisman Ranch** 40.11 332 eP P 08 08 34.3 +1.0
comp=Z,22nm,0.9s
PB11 **IPOC Station P** 40.14 146 eP P 08 08 33.4 -0.5
comp=Z,19nm,1.0s
F05D **White Salmon** 40.30 328 P P 08 08 36.2 +1.4
baz=132,SNR=15
I02D **Swisshome** 40.45 324 P P 08 08 36.3 +0.2
baz=128,SNR=5.8
G03D **McMinnville, O** 40.82 326 P P 08 08 40.3 +1.2
baz=130
LTY **Liberty** 40.84 330 eP P 08 08 40.0 +0.5
comp=Z,7.3nm,0.8s
B08A **Colville Reser** 41.00 332 eP P 08 08 41.5 +0.9
comp=Z,9.9nm,1.0s
LON **Longmire** 41.06 329 eP P 08 08 42.3 +1.1
comp=Z,20nm,0.8s
F04D **Rainier, OR** 41.24 327 P P 08 08 43.9 +1.3
baz=131
E04D **Cinebar** 41.32 328 P P 08 08 44.4 +1.2
baz=132
C06D **Leavenworth** 41.42 330 P P 08 08 45.2 +1.1
baz=135
D05A **Enumclaw** 41.45 329 eP P 08 08 45.6 +1.4
comp=Z,48nm,1.1s
E03A **Lebam** 41.83 327 eP P 08 08 49.3 +1.9
comp=Z,48nm,0.9s
D04E **Lakebay** 41.84 328 P P 08 08 48.0 +0.6
baz=132
B06A **Marblemount** 42.12 331 eP P 08 08 50.7 +1.0
comp=Z,37nm,0.9s
D03D **Eldon** 42.23 329 P P 08 08 51.1 +0.4
baz=132,SNR=11
B05A **Bryant** 42.23 330 P P 08 08 50.8 +0.2
baz=134,SNR=12

SIV	**San Ignacio**	**42.68**	**133**	P		**P**	**08 08 53.7**	**-1.1**
	comp=Z,11nm,0.9s,baz=314,slow=9.0,SNR=38							
SIV				PcP		PcP	08 10 46.2	0.0
	comp=Z,3.1nm,0.8s,baz=291,slow=8.5,SNR=3.1							
A04D	**Lummi Island**	**42.84**	**330**	P		**P**	**08 08 55.8**	**+0.2**
	baz=133,SNR=34							
LVC	**Limon Verde**	**42.87**	**148**	P		**P**	**08 08 56.6**	**0.0**
	comp=Z,7.6nm,1.0s,baz=329,slow=4.5,SNR=4.3							
PGC	**Sidney**	**43.16**	**330**	*e*P		**P**	**08 08 59.6**	**+1.5**
	comp=Z,42nm,1.1s							
SCHQ	**Schefferville**	**45.09**	**20**	P		**P**	**08 09 12.9**	**-0.7**
	comp=Z,12nm,0.8s,baz=251,slow=10.0,SNR=6.7							
SCHQ				LR		LR	08 29 06.6	
	comp=Z,2μm,19.9s,baz=217,slow=37							
ROC1	**El Roble**	**50.88**	**157**	*e*P		**P**	**08 09 58.7**	**-0.2**
	comp=Z,11nm,0.8s							
YKA	**Yellowknife Ar**	**50.95**	**347**	P		**P**	**08 09 58.4**	**-0.3**
	comp=Z,11nm,0.7s,baz=147,slow=7.4,SNR=43							
YKA				PcP		PcP	**08 11 14.7**	**+0.1**
	comp=Z,7.3nm,0.8s,baz=148,slow=4.4,SNR=7.8							
YKB5	**Yellowknife Ar**	**50.95**	**347**	*e*P		**P**	**08 09 59.0**	**+0.2**
YKW3	**Yellowknife Ar**	**51.02**	**347**	*e*P		**P**	**08 09 59.2**	**0.0**
	comp=Z,12nm,0.7s							
GO05	**HualaæØ**	**52.39**	**159**	*e*P		**P**	**08 10 09.1**	**-0.7**
	comp=Z,13nm,0.7s							
CPUP	**Villa Florida**	**52.39**	**140**	P		**P**	**08 10 08.2**	**-1.8**
	comp=Z,8.6nm,0.8s,baz=328,slow=8.8,SNR=19							
CPUP				LR		LR	08 34 04.9	
	comp=Z,927nm,18.1s,baz=323,slow=38							
CPUP	**Villa Florida**	**52.39**	**140**	*e*P		**P**	**08 10 08.3**	**-1.7**
	comp=Z,11nm,0.9s							
BDFB	**Brasilia**	**52.49**	**123**	P		**P**	**08 10 09.9**	**-1.1**
	comp=Z,8.7nm,0.9s,baz=279,slow=2.6,SNR=8.8							
BDFB				LR		LR	08 33 30.8	
	comp=Z,536nm,21.4s,baz=293,slow=37							
DLBC	**Dease Lake**	**52.61**	**336**	*e*P		**P**	**08 10 14.2**	**+2.9**
	comp=Z,37nm,1.0s							
TAOE	**Nuku Hiva Isla**	**53.03**	**247**	*e*S		**S**	**08 17 46.5**	**+4.0**
	comp=Z,700nm,25.4s							
TAOE				*e*LR		LR	08 25 30.5	
	comp=Z,1μm,25.1s,baz=62							
TAOE	**Nuku Hiva Isla**	**53.03**	**247**	*e*T		T	09 06 49.3	
	comp=Z,40nm,0.2s							
RKT	**Rikitea**	**56.09**	**229**	*e*S		**S**	**08 18 28.0**	**+4.8**
	comp=Z,842nm,27.2s							
RKT				*e*LR		LR	08 27 07.5	
	comp=Z,807nm,24.5s,baz=47							
HYT	**Haines Junctio**	**57.07**	**335**	*e*P		**P**	**08 10 45.8**	**+2.1**
	comp=Z,17nm,1.1s							
PLCA	**Paso Flores**	**58.03**	**161**	P		**P**	**08 10 49.4**	**-1.1**
	comp=Z,2.8nm,0.9s,baz=348,slow=8.0,SNR=7.2							
PLCA				LR		LR	08 31 08.2	
	comp=Z,1μm,18.3s,baz=18,slow=31							
PLCA	**Paso Flores**	**58.03**	**161**	*e*P		**P**	**08 10 49.5**	**-1.0**
	comp=Z,5.5nm,1.1s							
BALM	**Baldy**	**59.19**	**334**	*e*P		**P**	**08 10 60.0**	**+1.6**
	comp=Z,36nm,1.1s							
DAWY	**Dawson**	**59.63**	**338**	*e*P		**P**	**08 11 02.0**	**+0.7**
	comp=Z,12nm,0.9s							
EPYK	**Eagle Plains**	**60.07**	**341**	P		**P**	**08 11 04.5**	**+0.2**
	baz=128							
BMRM	**Bremner River**	**60.13**	**333**	*e*P		**P**	**08 11 06.0**	**+1.3**
	comp=Z,29nm,1.1s							
INK	**Inuvik**	**60.37**	**343**	P		**P**	**08 11 06.7**	**+0.5**
	comp=Z,12nm,0.7s,baz=114,slow=7.6,SNR=35							
INK	**Inuvik**	**60.37**	**343**	*e*P		**P**	**08 11 07.2**	**+1.0**
	comp=Z,24nm,0.9s							
EYAK	**Cordova Ski Ar**	**60.45**	**333**	*e*P		**P**	**08 11 08.9**	**+2.0**
	comp=Z,55nm,1.2s							
RES	**Resolute Bay**	**60.60**	**359**	P		**P**	**08 11 06.9**	**-0.8**
	comp=Z,4.9nm,0.7s,baz=189,slow=8.5,SNR=14							
RES				LR		LR	08 41 10.3	
	comp=Z,1μm,18.1s,baz=180,slow=40							
RES	**Resolute Bay**	**60.60**	**359**	*e*P		**P**	**08 11 07.2**	**-0.5**
	comp=Z,6.7nm,0.8s							
EGAK	**Eagle**	**60.66**	**338**	*e*P		**P**	**08 11 08.9**	**+0.6**
	comp=Z,20nm,0.9s							
KLU	**Klutina**	**60.93**	**334**	*e*P		**P**	**08 11 12.0**	**+1.7**
	comp=Z,28nm,1.1s							
HARP	**HAARP**	**61.02**	**335**	*e*P		**P**	**08 11 12.7**	**+1.9**
	comp=Z,47nm,1.0s							
SCRK	**Sand Creek**	**61.30**	**337**	*e*P		**P**	**08 11 16.1**	**+3.3**
	comp=Z,28nm,1.2s							
SCM	**Sheep Creek Mo**	**61.69**	**334**	*e*P		**P**	**08 11 17.1**	**+1.8**
	comp=Z,29nm,1.1s							
GHO	**Glory Hole Cre**	**62.35**	**333**	*e*P		**P**	**08 11 20.9**	**+1.0**
	comp=Z,60nm,1.0s							
PMR	**Palmer**	**62.38**	**333**	*e*P		**P**	**08 11 18.7**	**-1.1**
	comp=Z,24nm,1.1s							
PMOR	**Pomariorio Ree**	**62.48**	**245**	*e*T		T	09 18 38.0	
	comp=Z,3.1nm,0.2s							
BRLK	**Bradley Lake**	**62.50**	**331**	*e*P		**P**	**08 11 22.1**	**+1.3**
	comp=Z,44nm,1.0s							
CNPM	**China Poot**	**62.59**	**330**	*e*P		**P**	**08 11 22.2**	**+0.8**
	comp=Z,35nm,1.2s							
HDA	**Harding Lake**	**62.65**	**336**	*e*P		**P**	**08 11 22.4**	**+0.7**
	comp=Z,16nm,0.9s							
KDAK	**Kodiak Island**	**62.69**	**328**	LR		LR	08 38 19.3	
	comp=Z,449nm,19.4s,baz=120,slow=36							
IL1	**Eielson Array**	**62.79**	**337**	*e*P		**P**	**08 11 22.2**	**-0.4**
ILAR	**Eielson Array**	**62.79**	**337**	P		**P**	**08 11 23.3**	**+0.6**
	comp=Z,16nm,1.0s,baz=121,slow=4.8,SNR=98							
ILB	**Eielson Array**	**62.79**	**337**	*e*P		**P**	**08 11 22.4**	**-0.2**
OHAK	**Old Harbor**	**62.88**	**328**	*e*P		**P**	**08 11 24.8**	**+1.5**
	comp=Z,17nm,1.1s							
RND	**Reindeer**	**62.98**	**335**	*e*P		**P**	**08 11 25.3**	**+1.3**
	comp=Z,74nm,1.0s							
SUA	**Susitna One**	**63.04**	**333**	*e*P		**P**	**08 11 25.6**	**+1.1**
	comp=Z,35nm,1.2s							
CCB	**Clear Creek Bu**	**63.09**	**336**	*e*P		**P**	**08 11 24.7**	**+0.1**
	comp=Z,11nm,1.1s							
WRH	**Wood River Hil**	**63.12**	**336**	*e*P		**P**	**08 11 24.3**	**-0.5**
	comp=Z,10nm,1.0s							
SKT	**Skwentna**	**63.58**	**333**	*e*P		**P**	**08 11 29.3**	**+1.4**
	comp=Z,49nm,1.0s							
TRF	**Thorofare Moun**	**63.59**	**335**	*e*P		**P**	**08 11 28.7**	**+0.5**
	comp=Z,49nm,1.0s							
BPAW	**Bear Paw Mtn.**	**64.13**	**335**	*e*P		**P**	**08 11 32.1**	**+0.6**
	comp=Z,49nm,1.1s							
PPLA	**Purkeypile**	**64.19**	**334**	*e*P		**P**	**08 11 32.4**	**+0.3**
	comp=Z,29nm,1.2s							
MLY	**Manley**	**64.39**	**336**	*e*P		**P**	**08 11 34.1**	**+0.9**
	comp=Z,47nm,0.9s							
TVO	**Taravao**	**64.84**	**242**	*e*T		T	09 21 34.5	
	comp=Z,0.4nm,0.2s							
PPT2	**Papeete2**	**65.03**	**243**	*e*S		**S**	**08 20 20.7**	**+2.7**
	comp=Z,1μm,34.2s							
PPT2	**Papeete2**	**65.03**	**243**	*e*LR		LR	08 30 53.3	
	comp=Z,1μm,25.8s,baz=58							
COLD	**Coldfoot**	**65.08**	**339**	*e*P		**P**	**08 11 39.3**	**+1.7**
	comp=Z,20nm,1.0s							
SVW2	**Sparrevohn**	**65.13**	**331**	*e*P		**P**	**08 11 38.0**	**0.0**
	comp=Z,22nm,1.1s							
CHGN	**Chignik**	**65.39**	**326**	*e*P		**P**	**08 11 40.1**	**+0.3**
	comp=Z,59nm,0.8s							
IM3	**Indian Mountai**	**65.91**	**337**	*e*P		**P**	**08 11 42.4**	**-0.6**
TBI	**Tubuai**	**67.49**	**237**	*e*S		**S**	**08 20 50.9**	**+3.5**
	comp=Z,427nm,40.5s							
TBI	**Tubuai**	**67.49**	**237**	*e*LR		LR	08 32 15.8	
	comp=Z,1μm,26.5s,baz=62							
TBI	**Tubuai**	**67.49**	**237**	*e*T		T	09 24 53.6	
	comp=Z,3.4nm,0.3s							
ESDC	**Sonseca Array**	**79.58**	**52**	P		**P**	**08 13 02.7**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=281,slow=6.0,SNR=7.1							
BILL	**Bilibino**	**81.41**	**338**	*e*P		**P**	**08 13 14.8**	**+0.9**
	comp=Z,57nm,0.9s							
NB2	**NORSAR Subarra**	**84.01**	**28**	P		**P**	**08 13 26.6**	**-1.0**
	comp=Z,1.8nm,0.7s,baz=289,slow=5.3							
NB200	**NORSAR Array S**	**84.01**	**28**	*e*P		**P**	**08 13 26.8**	**-0.8**
NOA	**NORSAR Array B**	**84.01**	**28**	P		**P**	**08 13 26.8**	**-0.8**
	comp=Z,3.7nm,0.9s,baz=289,slow=5.2,SNR=9.3							
DBIC	**Dimbokro**	**85.54**	**84**	P		**P**	**08 13 34.8**	**-1.3**
	comp=Z,2.0nm,0.6s,baz=257,slow=14,SNR=2.6							
ARA0	**ARCESS Array S**	**86.01**	**18**	*e*P		**P**	**08 13 36.3**	**-1.2**
ARCES	**ARCESS Array B**	**86.01**	**18**	P		**P**	**08 13 36.3**	**-1.2**
	comp=Z,1.9nm,0.6s,baz=299,slow=5.4,SNR=10							
DAVA	**Damuels**	**87.56**	**42**	*e*P		**P**	**08 13 44.4**	**-1.3**
	comp=Z,8.0nm,0.8s							
RETA	**Reutte**	**88.07**	**41**	*e*P		**P**	**08 13 47.0**	**-1.0**
	comp=Z,7.5nm,0.9s							
CLL	**Collm**	**88.17**	**37**	*e*P		**P**	**08 13 49.0**	**+0.7**
CLL				*e*PS		**PnS**	**08 25 36.0**	**+0.1**
CLL				*e*SSS		SSS	08 34 06.0	
FETA	**Feichten**	**88.20**	**42**	*e*P		**P**	**08 13 47.8**	**-0.9**
	comp=Z,6.0nm,1.0s							
MOTA	**Moosalm**	**88.33**	**42**	*e*P		**P**	**08 13 48.2**	**-1.2**
	comp=Z,4.1nm,0.6s							
GERES	**GERESS Array B**	**89.46**	**40**	P		**P**	**08 13 53.3**	**-1.2**
	comp=Z,1.8nm,0.8s,baz=316,slow=3.7,SNR=9.9							
TOA1	**Torodi Ar. Sit**	**90.25**	**76**	*e*P		**P**	**08 13 56.6**	**-2.1**
TORD	**Torodi Ar. Bea**	**90.25**	**76**	P		**P**	**08 13 56.6**	**-2.2**
	comp=Z,0.5nm,0.6s,baz=240,slow=4.1,SNR=4.2							
TORD				LR		LR	08 51 36.8	
	comp=Z,305nm,21.5s,baz=310,slow=34							
FIA0	**FINESS Array S**	**90.37**	**25**	*e*P		**P**	**08 13 56.8**	**-1.5**
FINES	**FINESS Array B**	**90.37**	**25**	P		**P**	**08 13 56.8**	**-1.5**
	comp=Z,2.8nm,0.8s,baz=317,slow=11,SNR=4.2							
SONA0	**Songino Array**	**116.22**	**346**	*e*PKPdf		**PKPdf**	**08 19 40.7**	**-0.2**
SONM	**Songino Array**	**116.22**	**346**	PKP		**PKPdf**	**08 19 40.7**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=310,slow=1.4,SNR=7.8							
KSRS	**Korea Array**	**116.52**	**325**	PKP		**PKPdf**	**08 19 40.5**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=356,slow=1.5,SNR=5.0							
MK32	**Makanchi Array**	**119.17**	**5**	*e*P		**PKPdf**	**08 19 44.7**	**-1.7**
MKAR	**Makanchi Array**	**119.17**	**5**	PKP		**PKPdf**	**08 19 44.7**	**-1.7**
	comp=Z,0.6nm,0.6s,baz=323,slow=3.3,SNR=4.8							
BOSA	**Boshof**	**120.31**	**115**	PKP		**PKPdf**	**08 19 48.6**	**-0.5**
	comp=Z,3.9nm,0.8s,baz=320,slow=6.5,SNR=5.9							
GEYT	**Alibeck**	**121.09**	**27**	PKP		**PKPdf**	**08 19 49.0**	**-1.4**
	comp=Z,1.7nm,0.7s,baz=175,slow=7.4,SNR=4.4							
HHC	**Hu-ho-hao-te**	**121.17**	**339**	*e*P		**PKPdf**	**08 19 50.3**	**-0.2**
WMQ	**Urumqi**	**122.36**	**0**	*e*P		**PKPdf**	**08 19 52.8**	**+0.1**
MAW	**Mawson**	**124.05**	**169**	PKP		**PKPdf**	**08 19 52.9**	**-2.0**
	comp=Z,1.7nm,0.7s,baz=96,slow=7.3,SNR=3.6							
NJ2	**Nanjing**	**125.47**	**328**	*e*P		**PKPdf**	**08 19 59.1**	**+0.2**
KSH	**Kashi**	**125.48**	**12**	*e*P		**PKPdf**	**08 19 58.1**	**-0.8**
GTA	**Gaotai**	**125.66**	**349**	*e*PKP		**PKPdf**	**08 19 58.9**	**-0.3**
GTA				pPKP		pPKPdf	08 20 09.8	-2.3
GTA				sPKP			08 20 13.3	
GTA				LR		LR		
	comp=N,490nm,19.0s							
GTA				LR		LR		
	comp=E,650nm,18.4s							
GTA				LR		LR		
	comp=Z,1μm,20.0s							
LZH	**Lanzhou**	**127.92**	**344**	*e*PKP		**PKPdf**	**08 20 02.3**	**-1.4**
LZH				pPKP		pPKPdf	08 20 12.6	-3.9
LZH				sPKP			08 20 16.8	
XAN	**Xi'an**	**128.19**	**338**	P		**PKPdf**	**08 20 04.4**	**+0.3**
XAN				pP		**pPKPdf**	**08 20 15.1**	**-1.9**
STKA	**Stephens Creek**	**128.19**	**240**	PKP		**PKPdf**	**08 20 03.3**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=84,slow=3.5,SNR=6.5							
STKA	**Stephens Creek**	**128.19**	**240**	*e*PKPdf		**PKPdf**	**08 20 02.1**	**-1.9**
ENH	**Enshi**	**131.32**	**335**	*e*PKPdf		**PKPdf**	**08 20 13.0**	**+2.9**
WB2	**Warramunga Arr**	**135.51**	**256**	*e*PKPdf		**PKPdf**	**08 20 17.4**	**-0.8**
WB2				*e*PKPdf		**PKiKP**	**08 20 19.0**	**-0.7**
WR1	**Warramunga Arr**	**135.52**	**256**	*e*PKPpre		PKPpre	08 20 07.4	
WR1				*e*PKPdf		**PKPdf**	**08 20 17.7**	**-0.5**
WRA	**Warramunga Arr**	**135.52**	**256**	PKhKP		PKPpre	08 20 07.4	
	comp=Z,0.3nm,0.5s,baz=279,slow=31,SNR=4.8							
WRA				PKP		**PKPdf**	**08 20 17.7**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=86,slow=2.5,SNR=16							
ASAR	**Alice Springs**	**135.79**	**251**	PKP		**PKPdf**	**08 20 15.7**	**-3.0**
	comp=Z,1.6nm,0.8s,baz=56,slow=1.9,SNR=13							
DANN	**Dangsing**	**137.59**	**6**	*e*P		**PKPdf**	**08 20 20.9**	**-1.4**
	comp=Z,34nm,0.7s							
PYUN	**Piuthan**	**137.76**	**7**	*e*P		**PKPdf**	**08 20 21.0**	**-1.5**
KOLN	**Koldanda**	**138.15**	**6**	*e*P		**PKPdf**	**08 20 20.2**	**-3.0**
GUN	**Gumba**	**138.19**	**3**	*e*P		**PKPdf**	**08 20 22.7**	**-0.7**
KKN	**Kakani**	**138.27**	**4**	*e*P		**PKPdf**	**08 20 23.1**	**-0.3**
	comp=Z,24nm,0.9s							
DMN	**Daman**	**138.44**	**4**	*e*P		**PKPdf**	**08 20 23.3**	**-0.5**
	comp=Z,14nm,0.8s							
PKI	**Pulchoki**	**138.50**	**4**	*e*P		**PKPdf**	**08 20 22.4**	**-1.6**
RAMN	**Ramite**	**139.17**	**2**	*e*P		**PKPdf**	**08 20 23.3**	**-1.8**
CHTO	**Chiang Mai**	**145.60**	**342**	*e*PKPdf		**PKPdf**	**08 20 36.3**	**-0.1**
CHTO	**Chiang Mai**	**145.60**	**342**	P		**PKPdf**	**08 20 36.2**	**-0.2**
	comp=Z,226nm,1.1s,comp=Z,3μm							
CMMT	**Chiang Mai**	**145.60**	**342**	P		**PKPdf**	**08 20 36.1**	**-0.3**
	comp=Z,50nm,1.1s,comp=Z,787nm							
CM31	**Chiang Mai Arr**	**145.93**	**341**	*e*PKPdf		**PKPab**	**08 20 37.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**145.93**	**341**	PKPbc		**PKPab**	**08 20 38.1**	**0.0**
	comp=Z,28nm,0.7s,baz=333,slow=3.6,SNR=83							
CM01	**Chiang Mai Arr**	**145.96**	**341**	*e*PKPdf		**PKPbc**	**08 20 37.6**	**-0.1**
SUKH	**Sukhothai**	**146.62**	**340**	P		**PKPab**	**08 20 40.2**	**-0.5**
	comp=Z,25nm,1.0s,comp=Z,289nm							
PBKT	**Sapao Pong**	**146.98**	**337**	*e*PKPdf		**PKPbc**	**08 20 40.7**	**0.0**
HYB	**Hyderabad**	**147.30**	**17**	*i* PKP		**PKPbc**	**08 20 42.0**	**+0.3**
	comp=Z,57nm,0.8s							
UMPA	**Umpang Tak**	**148.07**	**340**	P		**PKPbc**	**08 20 45.0**	**+1.2**
UTHA	**Uthaitani**	**148.47**	**339**	P		**PKPbc**	**08 20 44.9**	**+0.1**
	comp=Z,28nm,0.8s,comp=Z,222nm							
PHET	**Kaeng Krachan**	**150.84**	**336**	P		**PKPbc**	**08 20 52.4**	**+1.7**
	comp=Z,7.9nm,1.0s							
KRAB	**Krabi**	**155.24**	**333**	P		**PKPdf**	**08 20 59.0**	**+7.5**
PSI	**Prapat**	**160.08**	**327**	*e*PKPab		**PKPab**	**08 21 37.4**	**0.0**

MEX 15 08:11:55.1±0.4, 14.18°N×92.05°W, h10km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		**0.75**	**344**	*e*P		Pg		08 12 08.3	-1.3
THIG				*e*S		Sg		08 12 17.1	-2.3
PCIG		**1.89**	**323**	*e*P		Pn		08 12 23.8	-3.7
PCIG				*e*S		Sn		08 12 47.3	-4.1
CCIG	**Comitan**	**2.09**	**358**	*i* P		Pn		08 12 27.4	-3.0
CCIG				*i* S		Sn		08 12 51.7	-4.8
TGIG		**2.78**	**338**	*i* P		Pn		08 12 37.4	-2.4
TGIG				*i* S		Sn		08 13 10.3	-3.2

IDC ***15*** *08:15:37.2±4.1, 13.98°N×92.62°W, h0km, mb3.5/4, mb1 3.8/7, mb1mx3.6/32, mbtmp3.4/7, ML3.2/3, Error ellipse: s-maj=75.6km s-min=24.8km az=7.0*

MEX ***15*** *08:15:39.0±0.5, 13.93°N×92.74°W, h16km±121km, MD4.0*

ISC 15 08:15:40.5±2.6, 14.2°N±0.1°×92.6°W±0.06°, h13km±13km, n11, σ1s60/17, mb3.5/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		**0.78**	**24**	*i* P		**Pg**		**08 15 56.2**	**+0.5**
THIG				*i* S		**Sn**		**08 16 09.1**	**+0.2**
PCIG		**1.62**	**338**	*e*P		**Pn**		**08 16 06.3**	**-2.4**
PCIG				*i* S		**Sn**		**08 16 27.9**	**-1.6**
CCIG	**Comitan**	**2.13**	**12**	*i* P		**Pn**		**08 16 15.2**	**-0.8**
CCIG				*i* S		**Sn**		**08 16 43.7**	**+1.4**
APG	**El Apazote**	**2.22**	**68**	Pn		**Pn**		**08 16 16.6**	**-0.6**
	3.9nm,0.3s,baz=232,slow=7.3,SNR=15								
APG				Sn		**Sb**		**08 16 47.5**	**-0.7**
	9.2nm,0.3s,baz=67,slow=20,SNR=4.2								
TGIG		**2.62**	**349**	*e*P		**Pn**		**08 16 22.0**	**-0.7**
TGIG				*i* S		**Sn**		**08 16 54.5**	**+0.1**
CMIG	**Matias Romero**	**3.63**	**323**	Pn		**Pn**		**08 16 35.1**	**-1.3**
	1.3nm,0.3s,baz=138,slow=11,SNR=8.6								
CMIG				Sn		**Sn**		**08 17 22.5**	**+3.4**
	3.4nm,0.3s,baz=169,slow=9.1,SNR=5.8								
TXAR	**Lajitas Array**	**18.22**	**328**	P		**P**		**08 19 55.3**	**+1.8**
	0.0nm,0.3s,baz=153,slow=14,SNR=3.3								
ANMO	**Albuquerque**	**24.15**	**331**	P		**P**		**08 20 57.9**	**+1.3**
	0.7nm,0.5s,baz=143,slow=10,SNR=5.2								
NVAR	**Mina Array Bea**	**33.16**	**321**	P		**P**		**08 22 17.2**	**+0.2**
	0.2nm,0.5s,baz=148,slow=8.6,SNR=3.1								
YKA	**Yellowknife Ar**	**50.71**	**347**	P		**P**		**08 24 38.0**	**-1.6**
	0.6nm,0.6s,baz=167,slow=6.1,SNR=4.0								
ILAR	**Eielson Array**	**62.44**	**337**	P		**P**		**08 26 03.7**	**+0.7**
	0.4nm,1.0s,baz=126,slow=4.7,SNR=3.3								

BJI ***15*** *08:21:45.1, 3.02°S×148.67°E, h6km, mb5.1/61, mB5.7/74, Ms5.8/85, Ms7 5.7/77*

IDC ***15*** *08:21:46.9±0.4, 3.14°S×148.37°E, h0km, mb5.0/26, mb1 5.1/31, mb1mx5.1/39, mbtmp5.0/31, ML4.0/4, MS5.6/34, Ms1 5.6/34, ms1mx5.4/44, Error ellipse: s-maj=14.0km s-min=9.1km az=105.0*

MOS ***15*** *08:21:47.5±0.9, 3.10°S×148.15E, h14km, mb5.5/53, MS5.6/40, Error ellipse: s-maj=9.4km s-min=5.7km az=99.2*

NEIC ***15*** *08:21:48.5±0.1, 3.11°S×148.27E, h10km, mb5.4/151, MS5.8/299, MW5.8, MW5.9, Error ellipse: s-maj=2.9km s-min=2.5km az=111.0, Moment Tensor Solution. s41 Moment tensor: Scale 10¹⁷Nm; Mrr0.99; Mθθ3.57; Mφφ-4.56; Mrθ1.96; Mrφ5.04; Mθφ2.12; Best double couple: M☐7.20000×10¹⁷ NP1:φs112.00000°, δ67.00000°, λ12.00000°. NP2:φs17.00000°, δ79.00000°, λ157.00000°. Principal axes: T 7.1700, Plg24.0000°, Azm333.0000°; N -0.0400, Plg65.0000°, Azm173.0000°; P -7.1200, Plg8.0000°, Azm66.0000°;*

ISCJB ***15*** *08:21:48.0±0.1, 3.15°S±0.02×148.32°E±0.02, h15km,*

mb5.3/246, MS6.0/638 Error ellipse: s-maj=3.0km s-min=2.8km az=166.8

NEIC ***15*** *08:21:49.0±0.0, 2.95°S×148.38E, h15km, Moment Tensor Solution. s19 Moment tensor: Scale 10¹⁷Nm; Mrr=1.47; Mθθ7.24; Mφφ-5.77; Mrθ1.43; Mrφ4.06; Mθφ4.01; Best double couple: M☐8.90000×10¹⁷ NP1:φs212.00000°, δ82.00000°, λ-150.00000°. NP2:φs117.00000°, δ60.00000°, λ-9.00000°. Principal axes: T 9.0400, Plg14.0000°, Azm340.0000°; N -0.3500, Plg59.0000°, Azm225.0000°; P -8.6800, Plg26.0000°, Azm78.0000°;*

GCMT ***15*** *08:21:52.5±0.1, 3.06°S×148.38E, h12km, MW5.9/136, Moment Tensor Solution. s133, c277; s136, c452; Duration: 2≤3 Moment tensor: Scale 10¹⁸Nm; Mrr-0.05±.01; Mθθ0.67±.01; Mφφ-0.62±.01; Mrθ0.17±.02; Mrφ0.70±.01; Mθφ0.18±.02; Best double couple: M☐0.98800×10¹⁸ NP1:φs21.00000°, δ86.00000°, λ167.00000°. NP2:φs112.00000°, δ77.00000°, λ4.00000°. Principal axes: T 1.0290, Plg12.0000°, Azm336.0000°; N -0.0830, Plg76.0000°, Azm185.0000°; P -0.9470, Plg6.0000°, Azm67.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

DJA ***15*** *08:21:57.8±0.5, 3.5°S×14.8E°, h48km±4km, M5.6/60, mb5.3/60, mB5.9/48, MLv6.1/3, Mw(mB)5.5/48, Mwp5.9/6*

ISC 15 08:21:49.9±0.5, 3.12°S±0.03°×148.49°E±0.04, h18km±2km, h18km:pP-P, n1023, σ1s88/615, mb5.3/242, MS5.9/639, 16C-11D, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.55**	**313**	*e*Pn		**Pn**		08 22 10.7	-5.8
RABL	**Rabaul**	**3.82**	**106**	*e*Pn		**Pn**		**08 22 47.0**	**-0.9**
PMG	**Port Moresby**	**6.39**	**192**	Pn		**Pn**		**08 23 23.4**	**+0.3**
	4.7nm,0.3s,baz=26,slow=11,SNR=15								
PMG				Sn		**Sn**		**08 24 42.9**	**+7.1**
	12nm,0.3s,baz=52,slow=15,SNR=7.1								
PMG				LR		LR		08 25 57.9	
	comp=Z,62μm,18.2s,baz=24,slow=40								
JAY	**Jayapura**	**7.80**	**274**	Pn		**Pn**		**08 23 41.6**	**-1.0**
	1.1nm,0.3s,baz=54,slow=18,SNR=52								
JAY				LR		LR		08 26 27.1	
	comp=Z,40μm,21.2s,baz=84,slow=36								
JAY	**Jayapura**	**7.80**	**274**	P		**Pn**		**08 23 43.2**	**+0.6**
	3μm,1.1s,42μm314μm10nm								
GENI	**Genyem**	**8.33**	**273**	P		**Pn**		**08 23 49.9**	**+0.1**
	937nm,1.8s,20μm37μm4.0nm								
SMPI	**Sarmi**	**9.84**	**276**	P		**Pn**		**08 24 11.6**	**+1.1**
	593nm,1.8s,16μm								
COEN	**Coen**	**11.98**	**206**	*e*Pn		**Pn**		**08 24 41.2**	**+1.2**
HNR	**Honiara**	**13.00**	**119**	Pn		**P**		**08 25 01.1**	**-3.1**
	26nm,0.3s,baz=163,slow=5.5,SNR=4.5								
HNR				LR		LR		08 29 56.3	
	comp=Z,30μm,18.3s,baz=289,slow=37								
RKPI	**Ransiki, Papua**	**14.39**	**276**	P		**Pn**		**08 25 10.9**	**-2.0**
	150nm,1.3s								
MTSU	**Mount Surprise**	**15.48**	**195**	P		**Pn**		**08 25 27.

WRAB pmax pmax
comp=Z,157nm,1.4s
WRAB MLR MLR
comp=Z,20µm,16.0s
WR2 Warramunga Arr 21.68 218 PFAKE 08 26 50.0 +10
WR2 LR LR
comp=Z,20µm,18.0s
WC3 Warramunga Arr 21.68 218 PFAKE 08 26 50.0 +10
WC3 LR LR
comp=Z,23µm,18.0s
WB2 Warramunga Arr 21.68 218 *e*P **P** **08 26 37.9 -2.0**
WB2 LR LR
comp=Z,22µm,18.0s
WR1 Warramunga Arr 21.69 218 *e*P **P** **08 26 37.5 -2.5**
comp=Z,731nm,1.6s
WR1 *e*S **S** **08 30 41.0 +1.4**
WRA Warramunga Arr 21.69 218 P **P** **08 26 37.5 -2.5**
comp=Z,64nm,0.9s,baz=44,slow=11,SNR=98
WRA S **S** **08 30 41.0 +1.4**
comp=Z,10nm,1.2s,baz=36,slow=18,SNR=7.1
WRA LR LR 08 36 19.3
comp=Z,18µm,19.2s,baz=35,slow=40
WC4 Warramunga Arr 21.71 218 PFAKE 08 26 50.0 +10
WC4 LR LR
comp=Z,20µm,18.0s
EIDS Eidsvold 22.27 174 P **P** **08 26 45.5 -0.6**
baz=22,SNR=22
EIDS Eidsvold 22.27 174 *e*P **P** **08 26 45.5 -0.6**
comp=Z,332nm,1.5s
EIDS LR LR
comp=Z,22µm,18.0s
KWAJ Kwajalein Atol 22.44 58 PFAKE 08 27 00.0 +12
KWAJ LR LR
comp=Z,27µm,21.0s
SANI Sanana 22.50 272 P **P** **08 26 47.0 -1.8**
comp=Z,141nm,2.0s,comp=Z,4µm
SANI pP **sP** **08 26 57.1 +0.9**
comp=Z,141nm,2.0s,comp=Z,4µm
KNRA Kununurra 23.09 236 P **P** **08 26 52.7 -2.1**
baz=23,SNR=4.8
RMQ Roma 23.24 179 P **P** **08 26 55.7 -0.6**
baz=23,SNR=50
QLP Quilpie 23.69 190 P **P** **08 26 59.7 -1.0**
baz=24,SNR=35
KMSI Cibinong 24.77 278 P **P** **08 27 13.6 +2.7**
comp=Z,631nm,1.1s,comp=Z,7µm
AS01 Alice Springs 24.80 213 *e*P **P** **08 27 09.8 -1.3**
TARA Tarawa 24.82 80 *e*P **P** **08 27 12.7 +1.3**
comp=Z,387nm,1.1s
TARA LR LR
comp=Z,53µm,20.0s
AS31 Alice Springs 24.82 213 *e*P **P** **08 27 10.0 -1.4**
comp=Z,53nm,1.1s
AS31 *e*S **S** **08 31 42.5 +9.1**
ASAR Alice Springs 24.83 213 P **P** **08 27 09.8 -1.5**
comp=Z,49nm,0.8s,baz=41,slow=6.7,SNR=135
ASAR S **S** **08 31 42.5 +9.1**
comp=Z,13nm,1.3s,baz=31,slow=18,SNR=4.8
ASAR LR LR 08 37 25.8
comp=Z,18µm,19.5s,baz=42,slow=38
SOEI Soe 24.95 254 *e*P **P** **08 27 10.8 -1.8**
comp=Z,546nm,1.1s
SOEI LR LR
comp=Z,18µm,20.0s
SOEI Soe 24.95 254 P **P** **08 27 12.9 +0.3**
comp=Z,327nm,1.2s,comp=Z,10µm
DAV Davao City (W) 25.01 294 LR LR 08 36 51.1
comp=Z,8µm,18.6s,baz=109,slow=36
DAV Davao City (W) 25.01 294‖ *e*P **P** **08 27 11.3 -1.8**
BATI Baumata 25.63 253 P **P** **08 27 18.1 -0.7**
comp=Z,201nm,1.0s,baz=106,slow=7.8,SNR=12
BATI LR LR 08 39 43.9
comp=Z,33µm,19.6s,baz=90,slow=42
BATI Baumata 25.63 253 P **P** **08 27 20.1 +1.4**
comp=Z,89nm,1.0s,comp=Z,3µmcomp=Z,5µm
DZM Mont Dzumac 25.67 139 P **P** **08 27 18.8 -0.2**
comp=Z,84nm,1.0s,baz=20,slow=9.4,SNR=14
DZM LR LR 08 35 58.5
comp=Z,40µm,20.7s,baz=312,slow=33
DZM Mont Dzumac 25.67 139 *e*P **P** **08 27 18.9 -0.2**
comp=Z,193nm,1.1s
DZM *e*S **S** **08 31 38.5 -8.5**
comp=Z,13µm,26.2s
DZM *e*LR LR 08 33 34.7
comp=Z,60µm,25.9s
LUWI Luwuk 25.78 274 *e*P **P** **08 27 18.6 -1.5**
comp=Z,732nm,1.4s
LUWI LR LR
comp=Z,8µm,22.0s
LUWI Luwuk 25.78 274 P **P** **08 27 21.6 +1.5**
comp=Z,388nm,1.2s,comp=Z,6µm
BBSI Bau Bau 25.95 264 P P 08 27 34.7 +13
MMRI Maumere 26.67 257 PFAKE 08 27 40.0 +12
MMRI LR LR
comp=Z,8µm,21.0s
MRSI Marisa 26.78 277 P **P** **08 27 27.4 -1.7**
comp=Z,42nm,1.5s,comp=Z,1µm
FITZ Fitzroy Crossi 26.89 235 P **P** **08 27 27.9 -2.1**
comp=Z,124nm,1.2s,baz=63,slow=8.4,SNR=29
FITZ LR LR 08 38 27.3
comp=Z,18µm,20.7s,baz=60,slow=37
FITZ Fitzroy Crossi 26.89 235 P **P** **08 27 28.3 -1.8**
baz=27,SNR=47
FITZ Fitzroy Crossi 26.89 235 *e*P **P** **08 27 28.5 -1.5**
comp=Z,340nm,1.1s
APSI Ampana 26.91 274 P **P** **08 27 31.7 +1.4**
comp=Z,114nm,1.3s,comp=Z,2µm
EDFI Ende, Flores 27.23 257 P **P** **08 27 30.9 -2.4**
comp=Z,65nm,1.4s,comp=Z,3µm
ARMA Armidale 27.32 174 P **P** **08 27 33.6 -0.3**
baz=27,SNR=7.4
ARMA Armidale 27.32 174 *e*P **P** **08 27 32.9 -1.0**
comp=Z,88nm,1.2s
ARMA LR LR
comp=Z,20µm,19.0s
H11S3 WAKE ISLAND Hy 27.97 39 T T 08 57 02.5
baz=222,slow=75
H11S2 WAKE ISLAND Hy 27.98 39 T T 08 57 03.0
baz=222,slow=75
H11S1 WAKE ISLAND Hy 27.99 39 T T 08 57 07.2
baz=222,slow=75
BNSI Bone 28.35 267 P **P** **08 27 45.3 +2.1**
comp=Z,111nm,1.3s,comp=Z,3µm
BKSI Bulukumba 28.37 265 P **P** **08 27 46.9 +3.5**
comp=Z,39nm,1.8s,comp=Z,1µm
CMSA Cobar Meteorol 28.39 185 P **P** **08 27 43.6 +0.2**
baz=28,SNR=10
WAKE Wake Island 28.54 38 PFAKE 08 28 00.0 +15
WAKE LR LR
comp=Z,6µm,19.0s
SPSI Sidrap Palu 28.68 267 P **P** **08 27 46.4 +0.3**
comp=Z,36nm,1.9s,comp=Z,974nm
KAPI Kappang 28.73 265 PFAKE 08 28 00.0 +13
KAPI LR LR
comp=Z,5µm,21.0s
MPSI Mapaga 28.79 276 P **P** **08 27 45.2 -1.9**
comp=Z,32nm,1.0s,comp=Z,577nm
WRKA Warakurna 29.21 220 P **P** **08 27 47.8 -3.0**
baz=29,SNR=12
STKA Stephens Creek 29.34 192 P **P** **08 27 49.5 -2.3**
comp=Z,10nm,0.7s,baz=0.9,slow=9.1,SNR=21
STKA LR LR 08 40 27.7
comp=Z,25µm,19.4s,baz=7.7,slow=38
STKA Stephens Creek 29.34 192 P **P** **08 27 50.0 -1.7**
baz=29,SNR=12
STKA Stephens Creek 29.34 192 *e*P **P** **08 27 50.0 -1.7**
comp=Z,7.3nm,1.0s
STKA Stephens Creek 29.34 192 *e*P **P** **08 27 50.0 -1.7**
STKA pmax pmax
comp=Z,7.0nm,1.0s
WBSI Waikabubak, Su 29.62 256 P **P** **08 27 57.8 +3.3**
comp=Z,76nm,1.7s,comp=Z,2µm
JCJ Chichijima 30.64 349 LR LR 08 38 44.7
comp=Z,7µm,19.9s,baz=160,slow=33
FUNA Funafuti 31.00 101 PFAKE 08 28 20.0 +13
FUNA LR LR
comp=Z,12µm,19.0s
YNG Young 31.02 180 P **P** **08 28 05.8 -0.8**
baz=31,SNR=14
HTT Hallett 31.46 195 P **P** **08 28 08.5 -2.1**
baz=32,SNR=8.5
BBOO Buckleboo 31.76 200 P **P** **08 28 13.0 -0.2**
baz=32,SNR=6.0
BBOO Buckleboo 31.76 200 *e*P **P** **08 28 12.6 -0.5**
comp=Z,34nm,0.9s
BBOO LR LR
comp=Z,15µm,18.0s
CAN Canberra 32.05 179 *e*P **P** **08 28 15.5 -0.2**
comp=Z,131nm,1.6s
CAN LR LR
comp=Z,22µm,19.0s
CAN Canberra 32.05 179 *e*P **P** **08 28 15.5 -0.2**
CAN pmax pmax
comp=Z,131nm,1.6s
CAN MLR MLR
comp=Z,22µm,19.0s
CNB Canberra Magne 32.05 179 P **P** **08 28 15.2 -0.5**
baz=32,SNR=5.5
TGY Tagaytay City 32.23 303 LR LR 08 40 47.4
comp=Z,4µm,21.4s,baz=128,slow=36
MBWA Marble Bar 33.23 235 PFAKE 08 28 40.0 +14
MBWA LR LR
comp=Z,21µm,20.0s
KKM Kota Kinabalu 33.49 286 PFAKE 08 28 40.0 +11
KKM LR LR
comp=Z,6µm,22.0s
KKM Kota Kinabalu 33.49 286 P **P** **08 28 30.0 +1.3**
FORT Forrest 33.61 213 *e*P **P** **08 28 28.2 -1.2**
comp=Z,89nm,0.8s
FORT LR LR
comp=Z,14µm,22.0s
ARPS Mount Arapiles 34.05 190 P **P** **08 28 32.0 -1.1**
baz=34,SNR=11
TOO Toolangi 34.40 184 P **P** **08 28 35.6 -0.6**
baz=34,SNR=13
JAGI Jajag, Banyuwa 34.56 260 PFAKE 08 28 50.0 +12
JAGI LR LR
comp=Z,6µm,22.0s
JOW Kunigami 35.61 328 LR LR 08 39 56.8
comp=Z,14µm,22.0s,baz=130,slow=31
SBUM Sibu 36.67 278 *e*P **P** **08 28 53.5 -2.6**
comp=Z,104nm,2.0s
SBUM Sibu 36.67 278 P **P** **08 28 56.0 0.0**
PWJI Pagerwojo 36.82 261 P **P** **08 28 57.5 +0.2**
comp=Z,48nm,1.0s
MEEK Meekatharra 36.96 228 P **P** **08 28 56.3 -2.0**
baz=37,SNR=13
JHJ Hachijo jima 2 36.97 348 LR LR 08 43 29.9
comp=Z,8µm,18.1s,baz=157,slow=35
STKI Sintang 37.13 274 P **P** **08 29 00.6 +0.7**
comp=Z,86nm,0.6s
TWG Pinlang 37.16 315 PFAKE 08 29 10.0 +10
TWG LR LR
comp=Z,40µm,20.0s
YULB Yu-li 37.37 316 *e*P **P** **08 29 00.9 -0.9**
comp=Z,98nm,1.1s
YULB LR LR
comp=Z,14µm,21.0s
PCJI Pacitan 37.46 261 P **P** **08 29 04.7 +2.0**
NACB Ninganchiao 37.69 317 *e*P **P** **08 29 03.3 -1.1**
comp=Z,72nm,0.8s
NACB LR LR
comp=Z,15µm,21.0s
TPUB Ta-pu 37.78 315 PFAKE 08 29 20.0 +15
TPUB LR LR
comp=Z,13µm,22.0s
SSLB Suanglung 37.87 316 *e*P **P** **08 29 05.7 -0.4**
comp=Z,89nm,1.4s
SSLB LR LR
comp=Z,17µm,20.0s
UGM Wanagama 38.08 261 PFAKE 08 29 20.0 +12
UGM LR LR
comp=Z,4µm,22.0s
SMRI Semarang 38.09 263 PFAKE 08 29 20.0 +12
SMRI LR LR
comp=Z,6µm,22.0s
YHNB Yeheng 38.17 318 *e*P **P** **08 29 07.5 -1.1**
comp=Z,280nm,1.3s
YHNB LR LR
comp=Z,17µm,22.0s
TATO Taipei 38.30 318 *e*P **P** **08 29 08.7 -0.9**
comp=Z,597nm,1.8s
TATO LR LR
comp=Z,21µm,20.0s
TATO Taipei 38.30 318 P **P** **08 29 09.4 -0.2**
KSM Kuching 38.44 276 *e*P **P** **08 29 08.7 -2.3**
comp=Z,121nm,1.4s
KSM Kuching 38.44 276 P **P** **08 29 10.0 -1.0**
MOO Moorlands 39.17 182 P **P** **08 29 16.1 -0.6**
baz=39,SNR=3.5
OUZ Omahuta 39.53 147 PFAKE 08 29 30.0 +10
OUZ LR LR
comp=Z,13µm,22.0s
KPJI Karang Pucung 39.60 262 P **P** **08 29 20.7 0.0**
comp=Z,39nm,1.0s,comp=Z,2µm
TAU Tasmania Unive 39.64 181 PFAKE 08 29 30.0 +9.4
TAU LR LR
comp=Z,23µm,18.0s
JNU Nakatsue 39.71 337 P **P** **08 29 19.8 -1.6**
comp=Z,57nm,0.7s,baz=169,slow=1.7,SNR=25
JNU LR LR 08 44 45.2
comp=Z,4µm,19.1s,baz=154,slow=35
KNTN Kanton 39.74 91 PFAKE 08 29 40.0 +18
KNTN LR LR
comp=Z,10µm,21.0s
INU Inuyama 39.75 345 *e*P **P** **08 29 20.2 -1.4**
comp=Z,171nm,1.5s
INU LR LR
comp=Z,16µm,20.0s
MORW Morawa 40.20 227 P **P** **08 29 25.1 -0.5**
baz=40,SNR=4.7
QZH Quanzhou 40.25 316⇑ *i*P **P** **08 29 24.9 -1.0**
QZH PcS **PcS** **08 35 16.8 -3.5**
QZH S **S** **08 35 28.8 -3.8**
QZH pmax pmax
comp=Z,1µm,8.0s
QZH LR LR
comp=Z,5µm,19.9s
QZH LR LR
comp=Z,6µm,17.1s
QZH LR LR
comp=Z,5µm,17.5s
KLBR Kellerberrin 40.49 222 P **P** **08 29 27.1 -0.8**
baz=40,SNR=4.6
MJAR Matsushiro Arr 40.60 347 P **P** **08 29 26.8 -1.9**
comp=Z,3.2nm,0.8s,baz=172,slow=9.3,SNR=5.9
MJAR LR LR 08 45 51.9
comp=Z,9µm,18.2s,baz=175,slow=36
MAJO Matsushiro 40.60 347 *e*P **P** **08 29 26.8 -1.9**
MAJO Matsushiro 40.60 347⇑ *e*P **P** **08 29 27.0 -1.7**
MAJO pmax pmax
comp=Z,62nm,2.5s
MJB9 Matsu-Tunnel 40.61 347 PFAKE 08 29 40.0 +11
MJB9 LR LR
comp=Z,10µm,18.0s
AFI Afiamalu 40.66 108 PFAKE 08 29 40.0 +10
AFI LR LR
comp=Z,7µm,19.0s
CISI Cisompet, Garu 40.72 262 *e*P **P** **08 29 27.1 -3.1**
comp=Z,270nm,1.2s
CISI LR LR
comp=Z,4µm,20.0s
CISI Cisompet, Garu 40.72 262 P **P** **08 29 30.8 +0.7**
comp=Z,204nm,1.0s,comp=Z,7µm
RAO Raoul Island 41.14 133 PFAKE 08 29 50.0 +17
RAO LR LR
comp=Z,7µm,20.0s
CBJI Citeko 41.62 264 P P 08 29 43.9 +6.5
NWAO Narrogin (SRO) 41.66 221 PFAKE 08 29 50.0 +13
NWAO LR LR
comp=Z,22µm,18.0s
PPBI Pangkal Pinang 42.32 270 P **P** **08 29 43.1 0.0**
HIZ Hauiti 42.66 149 PFAKE 08 30 00.0 +14
HIZ LR LR
comp=Z,10µm,19.0s
CGJI Cibinong 42.77 264 P P 08 30 00.4 +14
SSE Sheshan 42.83 325 P **P** **08 29 46.6 -0.4**
SSE S **S** **08 36 13.3 +2.7**
SSE pmax pmax
comp=Z,27nm,0.7s
SSE pmax pmax
comp=Z,460nm,4.8s
SSE LR LR
comp=Z,4µm,20.1s
SSE LR LR
comp=Z,5µm,19.4s
RKGY Rocky Gully 42.89 219 P **P** **08 29 47.2 -0.3**
baz=43,SNR=5.6
GZH Guangzhou 43.05 309 P **P** **08 29 50.4 +1.5**
GZH S **S** **08 36 20.5 +6.4**
GZH pmax pmax
comp=Z,1µm,6.2s
GZH LR LR
comp=Z,4µm,20.6s
GZH LR LR
comp=Z,9µm,20.6s
NIUE Niue 43.62 115 P **P** **08 29 52.1 -1.5**
baz=44,SNR=4.5
URZ Urewera 43.67 147 *e*P **P** **08 29 53.8 +0.1**
comp=Z,59nm,1.3s
URZ LR LR
comp=Z,18µm,21.0s
MXZ Matakaoa Point 43.84 145 PFAKE 08 30 10.0 +15
MXZ LR LR
comp=Z,15µm,22.0s
QIZ Qiongzhong 43.92 302 P **P** **08 29 55.1 -0.9**
QIZ S **S** **08 36 27.3 +0.2**
QIZ pmax pmax
comp=Z,530nm,6.6s
QIZ LR LR
comp=Z,4µm,24.3s
QIZ LR LR
comp=Z,5µm,22.4s
QIZ LR LR
comp=Z,10µm,22.9s
QIZ Qiongzhong 43.92 302 *e*P **P** **08 29 54.8 -1.2**
comp=Z,73nm,1.1s
QIZ LR LR
comp=Z,9µm,21.0s
KASI Kota Agung 43.93 265 P **P** **08 29 56.5 +0.3**
comp=Z,76nm,1.1s,comp=Z,1µm
TJN Taejon 43.96 335‖ *e*P **P** **08 29 54.7 -1.3**
BKZ Black Stump Fm 44.00 148 *e*P **P** **08 29 57.2 +0.7**
comp=Z,41nm,1.2s
BKZ LR LR
comp=Z,11µm,22.0s
MDSI Maura Dua 44.23 267 P **P** **08 29 56.9 -1.7**
comp=Z,35nm,1.1s,comp=Z,2µm
THZ Tophouse 44.27 154 PFAKE 08 30 10.0 +11
THZ LR LR
comp=Z,9µm,20.0s
LWLI Liwa 44.35 266 P **P** **08 30 01.4 +1.7**
comp=Z,30nm,0.6s
FOZ Fox Glacier 44.48 158 PFAKE 08 30 10.0 +10
FOZ LR LR
comp=Z,9µm,18.0s
KSRS Korea Array 44.66 337 P **P** **08 30 00.6 -1.0**
comp=Z,8.9nm,1.0s,baz=152,slow=9.3,SNR=11
KSRS LR LR 08 47 59.1
comp=Z,4µm,19.6s,baz=156,slow=35
KS15 Wonju Array Si 44.66 337 *e*P **P** **08 30 01.4 -0.3**
KS01 Wonju Array Si 44.69 337 *e*P **P** **08 30 00.2 -1.6**
SNZO South Karori 44.73 152 PFAKE 08 30 10.0 +7.8
SNZO LR LR
comp=Z,16µm,20.0s
LTZ Lake Taylor 44.83 155 *e*P **P** **08 30 02.8 -0.2**
comp=Z,112nm,1.6s
LTZ LR LR
comp=Z,19µm,19.0s
NJ2 Nanjing 44.89 323 *e*P **P** **08 30 03.1 -0.4**
NJ2 pP **pP** **08 30 08.0 -1.2**
NJ2 PP **PP** **08 31 51.6 +3.0**
NJ2 S **S** **08 36 40.3 -0.4**
NJ2 sS **pS** **08 36 45.8 -1.6**
NJ2 pmax pmax
comp=Z,25nm,0.8s
NJ2 pmax pmax
comp=Z,1µm,4.3s
NJ2 LR LR
comp=Z,10µm,16.8s
NJ2 LR LR
comp=Z,7µm,14.1s
NJ2 LR LR
comp=Z,12µm,16.3s
MYKOM Kota Tinggi 44.89 276 *e*P **P** **08 30 01.4 -2.5**
comp=Z,38nm,1.0s
MYKOM LR LR
comp=Z,2µm,20.0s
MYKOM Kota Tinggi 44.89 276 P **P** **08 30 04.0 +0.1**
BFZ Birch Farm 45.00 150 PFAKE 08 30 20.0 +16
BFZ LR LR
comp=Z,32µm,19.0s
KHZ Kahutara 45.08 154 PFAKE 08 30 20.0 +15
KHZ LR LR
comp=Z,17µm,19.0s
RPZ Rata Peaks 45.11 157 *e*P **P** **08 30 05.3 +0.1**
comp=Z,44nm,0.9s
RPZ LR LR
comp=Z,13µm,20.0s
OXZ Oxford 45.18 156 *e*P **P** **08 30 07.1 +1.4**
comp=Z,25nm,1.0s
OXZ LR LR
comp=Z,16µm,18.0s
ERM Erimo 45.18 354 PFAKE 08 30 20.0 +14
ERM LR LR
comp=Z,12µm,21.0s
DCZ Deep Cove 45.24 162 *e*P **P** **08 30 07.5 +1.4**
comp=Z,73nm,1.2s
DCZ LR LR
comp=Z,3µm,20.0s
WKZ Wanaka 45.30 159 PFAKE 08 30 20.0 +13
WKZ LR LR
comp=Z,7µm,18.0s
LBZ Lake Benmore 45.34 158 *e*P **P** **08 30 07.2 +0.2**
comp=Z,40nm,1.0s
LBZ LR LR
comp=Z,11µm,19.0s
MNAI Manna 45.45 267 PFAKE 08 30 20.0 +12
MNAI LR LR
comp=Z,3µm,21.0s
MLZ Mavora Lakes 45.47 161 *e*P **P** **08 30 07.9 -0.2**
comp=Z,113nm,1.3s
MLZ LR LR
comp=Z,8µm,18.0s
CRLZ Canterbury Las 45.62 155 *e*P **P** **08 30 09.7 +0.5**
comp=Z,200nm,1.8s
CRLZ LR LR
comp=Z,12µm,19.0s
PYZ Puysegur Point 45.73 162 PFAKE 08 30 20.0 +10
PYZ LR LR
comp=Z,5µm,18.0s
MQZ McQueen's Vall 45.74 156 *e*P **P** **08 30 10.6 +0.5**
comp=Z,146nm,1.7s
MQZ LR LR
comp=Z,10µm,18.0s
WHZ Wether Hill Ro 45.88 161 PFAKE 08 30 20.0 +8.8
WHZ LR LR
comp=Z,6µm,19.0s
JOHN Johnston Islan 45.91 63 PFAKE 08 30 20.0 +8.2
JOHN LR LR
comp=Z,9µm,20.0s
ODZ Otahua Downs 46.08 158 PFAKE 08 30 30.0 +17
ODZ LR LR
comp=Z,8µm,19.0s
WHN Wuhan 46.71 318‖ P **P** **08 30 18.1 +0.2**
WHN S **S** **08 37 11.4 +4.4**
WHN LR LR
comp=Z,8µm,13.7s
WHN LR LR
comp=Z,12µm,14.5s
WHN LR LR
comp=Z,30µm,20.5s
YUK Yuzh-Kuril'sk 47.00 357 P **P** **08 30 21.2 +1.3**
YUK *e* 08 32 14.9
YUK *e*PPP PPP 08 32 54.4
YUK *i*S **S** **08 37 03.4 -7.2**
YUK MLR MLR
comp=Z,4µm,17.0s
YUK MLR MLR
comp=N,5µm,21.0s
SDSI Sungai Dareh 47.08 272 P **P** **08 30 24.0 +2.8**
comp=N,70nm,0.9s,comp=N,3µm
BKNI Bangkinang 47.55 273 *e*P **P** **08 30 22.4 -2.5**
comp=N,367nm,1.4s
BKNI Bangkinang 47.55 273 P **P** **08 30 26.4 +1.5**
comp=N,179nm,1.2s,comp=N,4µm
IPM Ipoh 48.02 279 PFAKE 08 30 40.0 +11
IPM LR LR
comp=Z,4µm,20.0s
KUR Kuril'sk 48.14 359 *e*P **P** **08 30 30.6 +1.8**
KUR *e*S **S** **08 37 31.5 +4.7**
KUR *e*SS **SS** **08 40 54.9 -1.4**
SKNT Sakolnakorn 48.26 296 P **P** **08 30 31.1 +0.9**
comp=Z,33nm,0.9s,comp=Z,671nm
VLA Vladivostok 48.40 344‖ *e*P **P** **08 30 30.6 -0.3**
VLA pmax pmax
comp=Z,120nm,1.8s
KULM Kulim 48.51 280 *e*P **P** **08 30 30.4 -1.9**
comp=Z,41nm,1.5s
KULM LR LR
comp=Z,3µm,21.0s

KULM	Kulim	48.51 280	P	P	08 30 32.0	-0.3		
DL2	Dalian	48.60 332	⇑P	P	08 30 33.1	+0.6		
DL2			S	S	08 37 34.0	+0.3		
DL2			pmax	pmax				
	comp=Z,38nm,1.0s							
DL2			pmax	pmax				
	comp=Z,940nm,5.1s							
DL2			LR	LR				
	comp=Z,6μm,20.8s							
DL2			LR	LR				
	comp=Z,6μm,20.7s							
DL2			LR	LR				
	comp=Z,10μm,20.3s							
SKLT	Songkhla	48.85 282	P	P	08 30 36.6	+1.7		
	comp=Z,43nm,1.7s,comp=Z,1μm							
TIA	Tai'an	48.87 326	P	P	08 30 33.0	-1.7		
TIA			S	S	08 37 37.6	0.0		
TIA			LR	LR				
	comp=Z,7μm,17.8s							
TIA			LR	LR				
	comp=Z,5μm,20.6s							
TIA			LR	LR				
	comp=Z,11μm,19.2s							
MNSI	Mandailing Nat	49.05 274	P	P	08 30 35.7	-0.7		
	comp=Z,48nm,0.9s,comp=Z,4μm							
SRAK	Srakaew	49.09 291	P	P	08 30 35.4	-1.3		
	comp=Z,34nm,0.9s,comp=Z,1μm							
TEY	Ternei	49.10 349	eP	P	08 30 19.5	-17		
TEY			e		08 37 32.1			
USRK	Ussuriysk Ar.	49.37 344	P	P	08 30 38.1	-0.2		
	comp=Z,17nm,1.0s,baz=152,slow=5.6,SNR=10							
USRK			LR	LR	08 49 19.1			
	comp=Z,7μm,21.0s,baz=141,slow=34							
USA0B	Ussuriysk Arra	49.38 344	eP	P	08 30 38.3	-0.1		
	comp=Z,49nm,1.4s							
USA0B			LR	LR				
	comp=Z,7μm,22.0s							
NONG	Nongkai	49.38 297	P	P	08 30 39.6	+0.7		
	comp=Z,2.7nm,0.8s,comp=Z,123nm							
CHAI	Chaiyaphum	49.71 294	P	P	08 30 43.6	+2.2		
	comp=Z,8.0nm,1.2s							
TRTT	Trang	49.88 283	P	P	08 30 42.8	0.0		
	comp=Z,11nm,1.1s,comp=Z,481nm							
PSI	Prapat	49.89 276	LR	LR	08 53 25.0			
	comp=Z,3μm,20.1s,baz=91,slow=38							
PSI	Prapat	49.89 276	eP	P	08 30 40.7	-2.3		
	comp=Z,68nm,1.4s							
PSI	Prapat	49.89 276	eP	P	08 30 40.7	-2.3		
PSI			pmax	pmax				
	comp=Z,68nm,1.4s							
ENH	Enshi	49.89 315	eP	P	08 30 41.1	-1.5		
	comp=Z,84nm,1.4s							
ENH			LR	LR				
	comp=Z,5μm,21.0s							
YSS	Yuzh-Sakhalins	50.11 355	PFAKE		08 31 00.0	+16		
YSS			LR	LR				
	comp=Z,4μm,21.0s							
YSS	Yuzh-Sakhalins	50.11 355	eP	P	08 30 42.9	-1.0		
YSS			eS	S	08 37 53.0	-1.5		
YSS			ePS	pS	08 38 00.0	-1.3		
YSS			pmax	pmax				
	comp=Z,20nm,1.1s							
YSS			pmax	pmax				
	comp=Z,700nm,3.8s							
YSS			MLR	MLR				
	comp=Z,3μm,17.0s							
SNY	Shenyang	50.13 336	⇑P	P	08 30 43.3	-0.9		
SNY			PcP	PcP	08 32 00.8	-2.7		
SNY			PP	PP	08 32 39.5	0.0		
SNY			S	S	08 37 57.5	+2.5		
SNY			pmax	pmax				
	comp=Z,1μm,7.3s							
SNY			LR	LR				
	comp=Z,4μm,30.4s							
SNY			LR	LR				
	comp=Z,2μm,24.0s							
SNY			LR	LR				
	comp=Z,10μm,33.1s							
KRAB	Krabi	50.44 283	P	P	08 30 48.4	+1.4		
	comp=Z,18nm,0.9s,comp=Z,2μm							
MDJ	Mudanjiang	50.44 343	P	P	08 30 46.8	+0.4		
MDJ			pP	pP	08 30 49.8	-2.3		
MDJ			sP	sP	08 30 51.1	-3.2		
MDJ			PP	PP	08 32 43.3	+1.0		
MDJ			S	S	08 38 01.1	+1.9		
MDJ			sS	pS	08 38 07.4	+1.4		
MDJ			ScS	ScS	08 40 37.1	+0.3		
MDJ			pmax	pmax				
	comp=Z,21nm,1.1s							
MDJ			pmax	pmax				
	comp=Z,1μm,6.7s							
MDJ			LR	LR				
	comp=Z,4μm,22.3s							
MDJ			LR	LR				
	comp=Z,4μm,20.7s							
MDJ			LR	LR				
	comp=Z,13μm,29.5s							
MDJ	Mudanjiang	50.44 343	PFAKE		08 31 00.0	+14		
MDJ			LR	LR				
	comp=Z,6μm,20.0s							
PBKT	Sadao Pong	50.85 294	eP	P	08 30 49.6	-0.4		
	comp=Z,40nm,1.1s							
PBKT	Sadao Pong	50.85 294	P	P	08 30 51.6	+1.6		
	comp=Z,34nm,1.2s,comp=Z,1μm							
GSI	Gunungsitoli	51.09 274	eP	P	08 30 50.1	-1.8		
	comp=Z,252nm,1.6s							
GSI			LR	LR				
	comp=Z,3μm,22.0s							
GSI	Gunungsitoli	51.09 274	P	P	08 30 51.9	0.0		
	comp=Z,73nm,1.4s							
CN2	Changchun	51.09 339	eP	P	08 30 54.5	+3.1		
CN2			esP	sP	08 31 02.0	+2.7		
CN2			eS	S	08 38 11.6	+3.3		
CN2			pmax	pmax				
	comp=Z,10.0nm,0.6s							
CN2			pmax	pmax				
	comp=Z,800nm,6.0s							
CN2			LR	LR				
	comp=Z,4μm,20.0s							
CN2			LR	LR				
	comp=Z,5μm,20.0s							
CN2			LR	LR				
	comp=Z,4μm,22.0s							
KCSI	Kotacane, Aceh	51.12 277	P	P	08 30 51.3	-0.8		
	comp=Z,23nm,0.8s,comp=Z,766nm							
PKDT	Phuket	51.21 283	P	P	08 30 52.5	-0.3		
	comp=Z,30nm,0.9s							
TPTI		51.67 277	P	P	08 30 59.8	+3.5		
	comp=Z,21nm,1.0s,comp=Z,805nm							
SRDT	SRDT	51.91 291	P	P	08 31 01.6	+3.6		
	comp=Z,68nm,1.4s,comp=Z,3μm							
MCQ	Macquarie Isla	51.93 172	PFAKE		08 31 10.0	+13		
MCQ			LR	LR				
	comp=Z,6μm,18.0s							
UTHA	Uthaitani	51.94 292	P	P	08 30 59.1	+0.9		
	comp=Z,21nm,0.9s,comp=Z,182nm							
LHMI	Lhok Sumawe	52.15 279	eP	P	08 30 58.2	-1.6		
	comp=Z,63nm,0.8s							
BJT	Baijiatuan	52.16 329	PFAKE		08 31 10.0	+11		
BJT			LR	LR				
	comp=Z,8μm,19.0s							
BJI	Beijing	52.17 329	⇑iP	P	08 30 59.3	-0.2		
BJI			S	S	08 38 27.4	+4.1		
BJI			pmax	pmax				
	comp=Z,730nm,6.1s							
BJI			LR	LR				
	comp=Z,5μm,20.6s							
SUKH	Sukhothai	52.35 295	P	P	08 31 03.0	+1.8		
	comp=Z,16nm,0.9s							
XAN	Xi'an	52.48 318	P	P	08 31 00.3	-1.7		
XAN			pP	pP	08 31 05.0	-2.7		
XAN			PcP	PcP	08 32 08.8	-3.7		
XAN			S	S	08 38 27.1	-0.7		
XAN			ScS	ScS	08 40 53.8	+2.3		
XAN			SS	SS	08 42 03.3	-2.9		
XAN			pmax	pmax				
	comp=Z,32nm,1.2s							
XAN			pmax	pmax				
	comp=Z,850nm,6.5s							
XAN			LR	LR				
	comp=Z,5μm,18.6s							
XAN			LR	LR				
	comp=Z,3μm,19.6s							
XAN			LR	LR				
	comp=Z,8μm,19.6s							
KMI	Kunming	52.50 305	P	P	08 31 04.3	+1.8		
KMI			pP	pP	08 31 06.4	-1.8		
KMI			sP	sP	08 31 09.1	-1.3		
KMI			PP	PP	08 33 00.8	-0.8		
KMI			S	S	08 38 29.4	+0.7		
KMI			sS	pS	08 38 34.8	-0.8		
KMI			SS	SS	08 42 03.5	-3.6		
KMI			pmax	pmax				
	comp=Z,22nm,1.4s							
KMI			pmax	pmax				
	comp=Z,700nm,6.5s							
KMI			LR	LR				
	comp=Z,4μm,19.1s							
KMI			LR	LR				
	comp=Z,2μm,18.2s							
KMI			LR	LR				
	comp=Z,6μm,26.6s							
MLSI	Meulaboh, Aceh	52.56 278	P	P	08 31 02.8	-0.1		
	comp=Z,102nm,1.0s							
TIY	Taiyuan	52.60 324	eP	P	08 31 04.1	+1.2		
TIY			S	S	08 38 30.4	+0.9		
TIY			sS	sS	08 38 44.1	+5.2		
TIY			ScS	ScS	08 40 52.0	-0.3		
TIY			pmax	pmax				
	comp=Z,630nm,5.8s							
TIY			LR	LR				
	comp=Z,4μm,14.9s							
TIY			LR	LR				
	comp=Z,1μm,11.4s							
TIY			LR	LR				
	comp=Z,5μm,16.9s							
UMPA	Umpang Tak	52.67 293	P	P	08 31 04.6	+0.9		
	comp=Z,33nm,1.0s,comp=Z,3μm							
PAYA	Payao	52.74 297	P	P	08 31 05.6	+1.4		
	comp=Z,23nm,0.9s,comp=Z,208nm							
CM01	Chiang Mai Arr	53.25 296	eP	P	08 31 06.9	-1.0		
CM31	Chiang Mai Arr	53.28 296	eP	P	08 31 07.3	-0.8		
CM31	Chiang Mai Arr	53.28 296	P	P	08 31 08.9	+0.8		
	SNR=21							
CMAR	Chiang Mai Arr	53.28 296	P	P	08 31 08.1	-0.1		
	comp=Z,36nm,0.9s,baz=121,slow=5.9,SNR=39							
CMAR			LR	LR	08 54 16.4			
	comp=Z,2μm,18.5s,baz=114,slow=37							
CMMT	Chiang Mai	53.38 296	P	P	08 31 09.8	+0.9		
	comp=Z,30nm,1.1s,comp=Z,962nm							
CHTO	Chiang Mai	53.39 296	eP	P	08 31 08.4	-0.5		
	comp=Z,73nm,1.4s							
CHTO			LR	LR				
	comp=Z,3μm,18.0s							
CHTO	Chiang Mai	53.39 296	P	P	08 31 10.7	+1.7		
	SNR=13							
CHTO	Chiang Mai	53.39 296	eP	P	08 31 08.4	-0.5		
CHTO			pmax	pmax				
	comp=Z,73nm,1.4s							
CHTO			MLR	MLR				
	comp=Z,3μm,18.0s							
CHTO	Chiang Mai	53.39 296	P	P	08 31 09.9	+1.0		
	comp=Z,136nm,1.1s,comp=Z,4μm							
TYV	Tymovskoe	54.00 355	eP	P	08 31 13.1	+0.3		
TYV			eS	S	08 38 51.1	+3.3		
TYV			pmax	pmax				
	comp=Z,32nm,1.2s							
TYV			pmax	pmax				
	comp=Z,1μm,4.8s							
TYV			smax	smax				
	comp=E,2μm,7.2s							
KLR	Kul'dur	54.12 347	P	P	08 31 13.0	-0.8		
	comp=E,14nm,0.9s,baz=156,slow=6.1,SNR=13							
KLR	Kul'dur	54.12 347	⇑eP	P	08 31 12.6	-1.1		
XMAS	Kiritimati	54.28 85	PFAKE		08 31 30.0	+14		
XMAS			LR	LR				
	comp=Z,10μm,21.0s							
CD2	Chengdu	54.40 312	P	P	08 31 15.8	-0.4		
CD2			pP	pP	08 31 18.9	-3.0		
CD2			sP	sP	08 31 20.3	-3.8		
CD2			PP	PP	08 33 17.8	-0.7		
CD2			S	S	08 38 51.9	-2.2		
CD2			sS	pS	08 39 00.1	-0.9		
CD2			SS	SS	08 42 38.3	+1.6		
CD2			pmax	pmax				
	comp=Z,60nm,0.8s							
CD2			pmax	pmax				
	comp=Z,2μm,6.4s							
CD2			LR	LR				
	comp=Z,8μm,18.9s							
CD2			LR	LR				
	comp=Z,10μm,18.4s							
CD2			LR	LR				
	comp=Z,11μm,23.4s							
GRNR	Gornyy	54.66 351	eP	P	08 31 10.2	-7.5		
HHC	Hu-ho-hao-te	55.22 326	eP	P	08 31 20.0	-2.0		
HHC			PP	PP	08 33 23.0	-2.7		
HHC			S	S	08 39 01.5	-3.4		
HHC			pmax	pmax				
	comp=Z,15nm,0.7s							
HHC			pmax	pmax				
	comp=Z,240nm,6.9s							
HHC			LR	LR				
	comp=Z,8μm,18.2s							
HHC			LR	LR				
	comp=Z,4μm,18.5s							
HHC			LR	LR				
	comp=Z,11μm,19.0s							
BTO	Baotou	55.93 325	eP	P	08 31 26.8	-0.3		
NKL	Nikolayevsk	56.44 354	eP	P	08 31 29.0	-1.4		
NKL			eS	S	08 39 26.0	+5.6		
NKL			pmax	pmax				
	comp=Z,69nm,1.3s							
NKL			pmax	pmax				
	comp=N,500nm,11.0s							
NKL			pmax	pmax				
	comp=Z,1μm,11.0s							
NKL			smax	smax				
	comp=N,2μm,8.0s							
NKL			smax	smax				
	comp=E,2μm,8.0s							
NKL			MLR	MLR				
	comp=E,1μm,13.0s							
NKL			MLR	MLR				
	comp=Z,2μm,15.0s							
PEA0B	Petropavlovsk-	56.55 7	PFAKE		08 31 40.0	+8.8		
PEA0B			LR	LR				
	comp=Z,5μm,20.0s							
PETK	Petropavlovsk-	56.55 7	P	P	08 31 30.9	-0.3		
	comp=Z,18nm,0.7s,baz=172,slow=8.6,SNR=14							
PETK	Petropavlovsk-	56.55 7	eP	P	08 31 31.5	+0.3		
PETK	Petropavlovsk-	56.55 7	eP	P	08 31 31.5	+0.3		
PEA1	Petropavlovsk-	56.56 7	eP	P	08 31 30.9	-0.3		
PET	Petropavlovsk	56.59 7	eP	P	08 31 36.5	+5.1		
PET			eS	S	08 39 27.2	+4.9		
PET			MLR	MLR				
	comp=Z,4μm,17.0s							
PET			MLR	MLR				
	comp=Z,4μm,16.0s							
LZH	Lanzhou	57.06 317	⇑P	P	08 31 35.9	+0.6		
LZH			pP	sP	08 31 43.8	+0.5		
LZH			sP	pP	08 31 46.6	+5.5		
LZH			PP	PP	08 33 46.9	+4.6		
LZH			S	S	08 39 28.8	-0.8		
LZH			sS	pS	08 39 36.9	+0.3		
LZH			SS	SS	08 43 20.8	+2.2		
LZH			pmax	pmax				
	comp=Z,60nm,1.6s							
LZH			pmax	pmax				
	comp=Z,2μm,5.4s							
LZH			LR	LR				
	comp=Z,5μm,17.1s							
LZH			LR	LR				
	comp=Z,5μm,17.7s							
LZH			LR	LR				
	comp=Z,9μm,18.3s							
HON	Honolulu	57.71 62	eP	P	08 31 41.9	+1.9		
	comp=Z,234nm,1.1s							
HON	Honolulu	57.71 62	eP	P	08 31 41.9	+1.9		
HON			pmax	pmax				
	comp=Z,234nm,1.1s							
KIP	Kipapa	57.73 62	eP	P	08 31 42.7	+2.6		
	comp=Z,288nm,1.4s							
KIP	Kipapa	57.73 62	⇑eP	P	08 31 44.0	+3.9		
KIP			pmax	pmax				
	comp=Z,1μm,1.5s							
HIA	Hailar	57.81 338	eP	P	08 31 39.5	-0.7		
	comp=Z,52nm,1.2s							
HIA			LR	LR				
	comp=Z,3μm,21.0s							
HIA	Hailar	57.81 338	eP	P	08 31 39.5	-0.7		
HIA			pmax	pmax				
	comp=Z,52nm,1.2s							
HIA			MLR	MLR				
	comp=Z,3μm,21.0s							
OPA	Opana	57.82 62	eP	P	08 31 42.1	+1.4		
	comp=Z,178nm,1.1s							
OPA	Opana	57.82 62	eP	P	08 31 42.1	+1.4		
OPA			pmax	pmax				
	comp=Z,178nm,1.1s							
KHLH	Kahului Airpor	58.98 63	PFAKE		08 32 00.0	+11		
KHLH			LR	LR				
	comp=Z,7μm,20.0s							
KHLU	Kahalu'u	59.09 65	PFAKE		08 32 00.0	+10		
KHLU			LR	LR				
	comp=Z,9μm,19.0s							
HLK	Haleakala	59.10 64	PFAKE		08 32 00.0	+10		
HLK			LR	LR				
	comp=Z,8μm,20.0s							
HUH	Hualalai	59.17 65	PFAKE		08 32 00.0	+9.5		
HUH			LR	LR				
	comp=Z,10μm,22.0s							
MWH	Moku'aweowe	59.33 65	PFAKE		08 32 10.0	+18		
MWH			LR	LR				
	comp=Z,8μm,20.0s							
MLOA	Mauna Loa Obse	59.36 65	PFAKE		08 32 10.0	+18		
MLOA			LR	LR				
	comp=Z,9μm,21.0s							
ZEA	Zeya	59.37 346	eP	P	08 31 50.0	-0.9		
ZEA			eS	S	08 39 57.0	-1.8		
ZEA			pmax	pmax				
	comp=N,93nm,1.4s							
ZEA			pmax	pmax				
	comp=Z,96nm,1.4s							
ZEA			pmax	pmax				
	comp=Z,1μm,10.0s							
ZEA			smax	smax				
	comp=E,1μm,16.0s							
ZEA			smax	smax				
	comp=N,2μm,20.0s							
ZEA			MLR	MLR				
	comp=Z,4μm,19.0s							
ZEA			MLR	MLR				
	comp=E,1μm,16.0s							
ZEA			MLR	MLR				
	comp=N,3μm,18.0s							
HPAH	Hawaii Prepara	59.39 65	PFAKE		08 32 10.0	+18		
HPAH			LR	LR				
	comp=Z,9μm,21.0s							
AIN	Ainahou	59.43 65	PFAKE		08 32 10.0	+18		
AIN			LR	LR				
	comp=Z,9μm,19.0s							
POHA	Pohakuloa	59.46 65	PFAKE		08 32 10.0	+17		
POHA			LR	LR				
	comp=Z,9μm,20.0s							
HMH	Humu'ula Sheep	59.47 65	PFAKE		08 32 10.0	+17		
HMH			LR	LR				
	comp=Z,11μm,20.0s							
MLH	Mauna Loa	59.52 65	PFAKE		08 32 10.0	+17		
MLH			LR	LR				
	comp=Z,9μm,20.0s							
HLP	Hilina Pali	59.54 66	PFAKE		08 32 10.0	+17		
HLP			LR	LR				
	comp=Z,8μm,20.0s							
SDHHI	Sand Hill	59.58 65	PFAKE		08 32 10.0	+17		
SDHHI			LR	LR				
	comp=Z,9μm,19.0s							
UWE	Uwekahuna	59.59 65	PFAKE		08 32 10.0	+17		
UWE			LR	LR				
	comp=Z,9μm,20.0s							
OBL	Observatory Le	59.60 65	PFAKE		08 32 10.0	+17		
OBL			LR	LR				
	comp=Z,9μm,19.0s							
RIM	Rim	59.60 65	PFAKE		08 32 10.0	+17		
RIM			LR	LR				
	comp=Z,8μm,20.0s							
KKO	Keanakako'i	59.61 65	PFAKE		08 32 10.0	+17		
KKO			LR	LR				
	comp=Z,9μm,20.0s							
SBLHI	Steaming Bluff	59.61 65	PFAKE		08 32 10.0	+17		
SBLHI			LR	LR				
	comp=Z,8μm,20.0s							
BYL	Byron's Ledge	59.62 65	PFAKE		08 32 10.0	+17		
BYL			LR	LR				
	comp=Z,8μm,21.0s							
HATHI	Halema'uma'u T	59.62 65	PFAKE		08 32 10.0	+17		
HATHI			LR	LR				
	comp=Z,9μm,19.0s							
PUH	Pauahi	59.65 66	PFAKE		08 32 10.0	+16		
PUH			LR	LR				
	comp=Z,8μm,20.0s							
STCH	Steam Cracks	59.73 66	PFAKE		08 32 10.0	+16		
STCH			LR	LR				
	comp=Z,9μm,19.0s							
NPOC	North of Pu'u	59.75 66	PFAKE		08 32 10.0	+16		
NPOC			LR	LR				
	comp=Z,8μm,20.0s							
JCUZ	Jacuzzi	59.75 66	PFAKE		08 32 10.0	+16		
JCUZ			LR	LR				
	comp=Z,9μm,21.0s							
GTA	Gaotai	61.53 319	⇓P	P	08 32 06.0	-0.2		
GTA			pP	pP	08 32 10.3	-1.7		
GTA			sP	sP	08 32 12.3	-1.8		
GTA			S	S	08 40 26.8	-0.5		
GTA			sS	pS	08 40 34.1	-0.3		
GTA			SS	SS	08 44 26.6	-2.2		
GTA			pmax	pmax				
	comp=Z,16nm,1.5s							
GTA			pmax	pmax				
	comp=Z,760nm,5.9s							
GTA			LR	LR				
	comp=Z,2μm,21.6s							
GTA			LR	LR				
	comp=Z,4μm,21.9s							
GTA			LR	LR				
	comp=Z,6μm,20.6s							
SHL	Shillong	61.76 301	eP	P	08 32 07.1	-0.9		
	comp=Z,36nm,0.8s							
SHL			LR	LR				
	comp=Z,5μm,20.0s							
SHL	Shillong	61.76 301	eP	P	08 32 07.1	-0.9		
SHL			pmax	pmax				
	comp=Z,36nm,0.8s							
SHL			MLR	MLR				
	comp=Z,5μm,20.0s							
SHL	Shillong	61.76 301	eP	P	08 32 06.0	-2.0		
SHL			iS	S	08 40 28.0	-2.8		
PPT	Papeete	62.33 108	P	P	08 32 15.2	+3.4		
	comp=Z,45nm,0.9s,baz=4.5,slow=6.1,SNR=5.1							
PPT			LR	LR	08 54 59.9			
	comp=Z,1μm,19.5s,baz=273,slow=32							
PPT2	Papeete2	62.33 108	eP	P	08 32 16.3	+4.4		
	comp=Z,58nm,1.2s							
PPT2			eS	S	08 40 37.6	-0.4		
	comp=Z,5μm,26.5s							
PPT2			eLQ	LQ	08 47 59.6			
	comp=Z,18μm,31.8s							
PPT2			eLR	LR	08 50 44.9			
	comp=Z,8μm,27.8s							
PAE	Paea	62.34 108	eP	P	08 32 16.4	+4.6		
	comp=Z,5.1nm,0.9s							
ULN	Ulaanbaatar	62.34 330	eP	P	08 32 11.0	-0.5		
	comp=Z,18nm,0.8s							
ULN			LR	LR				
	comp=Z,6μm,19.0s							
ULN	Ulaanbaatar	62.34 330	P	P	08 32 11.5	0.0		
	SNR=16							
ULN	Ulaanbaatar	62.34 330	eP	P	08 32 11.0	-0.5		
ULN			pmax	pmax				
	comp=Z,18nm,0.8s							
ULN			MLR	MLR				
	comp=Z,6μm,19.0s							
MA2	Magadan	62.53 1	PFAKE		08 32 20.0	+7.7		
MA2			LR	LR				
	comp=Z,6μm,22.0s							
MA2	Magadan	62.53 1	⇑eP	P	08 32 12.5	+0.2		
MA2			pmax	pmax				
	comp=Z,27nm,1.2s							
TIAR	Tiarei	62.55 108	eP	P	08 32 17.7	+4.4		
	comp=Z,50nm,1.1s							
SONA0	Songino Array	62.66 329	eP	P	08 32 13.3	-0.3		
SONM	Songino Array	62.66 329	P	P	08 32 13.3	-0.3		
	comp=Z,12nm,0.7s,baz=152,slow=8.0,SNR=41							
SONM			LR	LR	08 59 36.2			
	comp=Z,7μm,19.7s,baz=126,slow=36							
TVO	Taravao	62.66 108	eP	P	08 32 18.3	+4.2		
	comp=Z,37nm,1.3s							
SONA1	Songino Array	62.66 329	eP	P	08 32 12.4	-1.2		

TBI Tubuai 63.16 115 *e*S **S 08 40 46.0 -2.2**
comp=Z,3μm,29.5s
TBI *e*LQ LQ 08 48 26.2
comp=Z,12μm,39.0s
TBI *e*LR LR 08 51 03.5
comp=Z,5μm,27.5s
PMOR Pomariorio Ree 63.72 105 *e*P **P 08 32 25.5 +4.4**
comp=Z,199nm,1.2s
LSA Lhasa 63.75 305 PFAKE 08 32 30.0 +8.4
LSA LR LR
comp=Z,3μm,22.0s
VAH Vaihoa 64.00 105 *e*P **P 08 32 27.2 +4.3**
comp=Z,101nm,1.2s
ZAK Zakamensk 65.86 330 *e*P **P 08 32 33.8 -0.7**
ZAK pmax pmax
comp=Z,29nm,1.4s
TAPN Taplejung 65.86 302 *e*P **P 08 32 34.0 -1.2**
comp=Z,107nm,1.0s
SEY Seymchan 65.94 2⇓*i*P **P 08 32 35.5 +0.9**
ODAN Odare 65.99 301 *e*P **P 08 32 37.0 +1.0**
comp=Z,91nm,0.9s
TLY Talaya 66.51 331 *e*P **P 08 32 37.7 -0.9**
comp=Z,48nm,1.5s
TLY LR LR
comp=Z,6μm,20.0s
TLY Talaya 66.51 331*c i*P **P 08 32 37.9 -0.7**
TLY *e* 08 33 08.3
TLY *e* 08 35 07.9
TLY *e*S **S 08 41 26.9 -1.6**
TLY *e*PS **PnS 08 41 50.3 +0.2**
TLY pmax pmax
comp=Z,29nm,1.2s
TLY MLR MLR
comp=Z,2μm,18.0s
YAK Yakutsk 66.55 350 P **P 08 32 38.5 0.0**
comp=Z,17nm,0.6s,baz=356,slow=2.4,SNR=7.1
YAK Yakutsk 66.55 350 *e*P **P 08 32 38.4 -0.1**
comp=Z,110nm,1.5s
YAK LR LR
comp=Z,5μm,20.0s
YAK Yakutsk 66.55 350 *e*P **P 08 32 37.9 -0.6**
YAK *e**PP **sP 08 32 45.7 -0.8**
YAK *e* 08 33 04.7
YAK *e* 08 35 00.0
YAK *e*S **S 08 41 26.2 -2.1**
YAK *e**SS sS 08 41 56.7 +19
YAK *e* 08 42 36.1
YAK pmax pmax
comp=Z,31nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=N,13nm,1.2s
YAK pmax pmax
comp=Z,456nm,5.3s
YAK pmax pmax
comp=N,154nm,4.6s
YAK pmax pmax
comp=E,82nm,2.3s
YAK smax smax
comp=N,593nm,8.4s
YAK smax smax
comp=E,575nm,6.8s
YAK MLR MLR
comp=Z,3μm,19.0s
YAK MLR MLR
comp=E,2μm,20.0s
YAK MLR MLR
comp=N,3μm,19.0s
RAMN Ramite 66.70 301 *e*P **P 08 32 41.8 +1.3**
comp=N,33nm,0.7s
BOD Bodaibo 66.74 341 *e*P **P 08 32 38.6 -1.2**
BOD pmax pmax
comp=Z,30nm,1.6s
JIRN Jiri 67.25 302 *e*P **P 08 32 42.3 -1.9**
comp=Z,196nm,1.2s
GUN Gumba 67.58 302 *e*P **P 08 32 45.0 -1.2**
comp=Z,196nm,1.0s
MOY Mondy 67.80 330 *e*P **P 08 32 46.6 -0.2**
MOY pmax pmax
comp=Z,121nm,1.8s
PKI Pulchoki 67.89 301 *e*P **P 08 32 47.0 -1.2**
comp=Z,100nm,1.1s
KKN Kakani 68.06 302 *e*P **P 08 32 47.7 -1.4**
comp=Z,92nm,0.9s
DMN Daman 68.16 301 *e*P **P 08 32 48.7 -1.1**
comp=Z,189nm,1.1s
CASY Casey 68.42 196 PFAKE 08 33 00.0 +10
CASY LR LR
comp=Z,7μm,20.0s
PALK Pallekele 68.43 279 *e*P **P 08 32 49.6 -1.8**
comp=Z,28nm,1.0s
PALK Pallekele 68.43 279 *e*P **P 08 32 49.6 -1.8**
PALK pmax pmax
comp=Z,28nm,1.0s
KOLN Koldanda 69.48 301 *e*P **P 08 32 56.9 -1.1**
comp=Z,129nm,0.9s
DANN Dangsing 69.50 302 *e*P **P 08 32 56.2 -2.0**
comp=Z,114nm,0.9s
PYUN Piuhan 70.09 301 *e*P **P 08 33 00.1 -1.6**
comp=Z,162nm,0.9s
TAOE Nuku Hiva Isla 71.12 98 *e*S **S 08 42 25.3 +0.7**
comp=Z,649nm,23.4s
TAOE Nuku Hiva Isla 71.12 98 *e*LR LR 08 54 52.7
comp=Z,6μm,32.4s
HVS Khovu-Aksy 71.29 327⇑*e*P **P 08 33 07.9 -0.5**
HVS pmax pmax
comp=Z,54nm,1.2s
WMQ Urumqi 71.61 318 P **P 08 33 10.1 -0.4**
WMQ pP pP 08 33 15.3 -1.1
WMQ S **S 08 42 29.5 +0.2**
WMQ SS **SS 08 47 08.8 +3.9**
WMQ pmax pmax
comp=Z,37nm,2.1s
WMQ pmax pmax
comp=Z,2μm,7.7s
WMQ LR LR
comp=Z,6μm,20.1s
WMQ LR LR
comp=Z,5μm,20.1s
WMQ LR LR
comp=Z,5μm,23.9s
HYB Hyderabad 71.88 289 *i* P **P 08 33 11.0 -1.6**
HYB *e*S **S 08 42 32.0 -1.2**
BILL Bilibino 72.08 7⇓*i*P **P 08 33 14.3 +1.6**
BILL *e* 08 35 52.7
BILL *i* S **S 08 42 33.1 -0.5**
BILL *e*SS **SS 08 47 05.4 -5.6**
BILL pmax pmax
comp=Z,13nm,1.0s
BILL MLR MLR
comp=Z,3μm,18.0s
CHGN Chignik 73.18 28 *e*P **P 08 33 21.1 +1.7**
comp=Z,206nm,1.8s
DGZ Jazzator, Alta 74.18 324*d i*P **P 08 33 24.8 -0.9**
DGZ pmax pmax
comp=Z,12nm,0.8s
VNDA Vanda 74.69 177 P **P 08 33 26.8 -1.1**
comp=Z,6.0nm,0.8s,baz=334,slow=6.6,SNR=20
VNDA LR LR 09 04 30.0
comp=Z,2μm,18.6s,baz=347,slow=34
VNDA Vanda 74.69 177 *e*P **P 08 33 27.1 -0.9**
comp=Z,15nm,1.1s
VNDA Vanda 74.69 177 *e*P **P 08 33 27.1 -0.9**
VNDA pmax pmax
comp=Z,15nm,1.1s
SBA Scott Base 75.31 176 *e*P **P 08 33 33.5 +2.0**
comp=Z,53nm,1.5s
SBA LR LR
comp=Z,3μm,20.0s
ANM Nome 75.52 19 PFAKE 08 33 40.0 +7.1
ANM LR LR
comp=Z,3μm,21.0s
TIXI Tiksi 75.72 354 *e*P **P 08 33 33.4 -0.5**
comp=Z,22nm,1.5s
TIXI LR LR
comp=Z,3μm,18.0s
TIXI Tiksi 75.72 354⇑*e*P **P 08 33 35.9 +2.0**
TIXI pmax pmax
comp=Z,7.0nm,1.0s
HMDM Hanimaadhoo 75.81 278 PFAKE 08 33 50.0 +14
HMDM LR LR
comp=Z,2μm,20.0s
MNCI Minicoy 76.06 279 *e*P **P 08 33 35.5 -1.6**
comp=Z,114nm,0.9s
MNCI LR LR
comp=Z,2μm,21.0s
MK01 Makanchi Array 76.24 320 *e*P **P 08 33 36.4 -1.0**
MK31 Makanchi Array 76.25 320 *e*P **P 08 33 36.3 -1.3**
MK31 Makanchi Array 76.25 320 *e*P **P 08 33 36.3 -1.3**
MK32 Makanchi Array 76.25 320 *e*P **P 08 33 36.8 -0.7**
MKAR Makanchi Array 76.25 320 P **P 08 33 36.8 -0.7**
comp=Z,11nm,0.9s,baz=98,slow=7.6,SNR=21
MKAR LR LR 09 07 49.9
comp=Z,4μm,18.6s,baz=102,slow=36
MKAR Makanchi Array 76.25 320 *e*P **P 08 33 36.4 -1.1**
comp=Z,107nm,1.0s
MKAR LR LR
comp=Z,1μm,20.0s
MKAR Makanchi Array 76.25 320 *e*P **P 08 33 36.4 -1.1**
MKAR pmax pmax
comp=Z,107nm,1.0s
MKAR MLR MLR
comp=Z,1μm,20.0s
RKT Rikitea 76.40 113 *e*S **S 08 43 22.7 -1.1**
comp=Z,2μm,27.8s
RKT Rikitea 76.40 113 *e*LQ LQ 08 54 03.6
RKT *e*LR LR 08 57 11.3
comp=Z,3μm,27.0s
KDAK Kodiak Island 76.67 28 P **P 08 33 41.2 +1.7**
comp=Z,32nm,1.2s,baz=297,slow=4.5,SNR=3.1
KDAK Kodiak Island 76.67 28 *e*P **P 08 33 41.2 +1.7**
KDAK LR LR
comp=Z,3μm,19.0s
KDAK Kodiak Island 76.67 28 *e*P **P 08 33 41.2 +1.7**
KDAK MLR MLR
comp=Z,3μm,19.0s
SVW2 Sparrevohn 77.02 24 *e*P **P 08 33 42.1 +0.6**
comp=Z,50nm,1.4s
SVW2 LR LR
comp=Z,4μm,20.0s
UZB Uzynbulak 77.32 315⇓*i*P **P 08 33 43.4 -0.4**
comp=Z,32nm,2.1s
UZB *e*S **S 08 43 33.0 -0.4**
ZAA0 Zalesovo Array 77.39 327 *e*P **P 08 33 41.8 -2.0**
comp=Z,20nm,1.1s
ZAA0 LR LR
comp=Z,5μm,20.0s
ZALV Zalesovo Beam 77.39 327 P **P 08 33 43.9 +0.2**
comp=Z,10nm,0.8s,baz=106,slow=5.8,SNR=18
ZALV LR LR 09 07 53.3
comp=Z,5μm,19.9s,baz=94,slow=36
ZALV Zalesovo Beam 77.39 327 *e*P **P 08 33 41.9 -1.8**
ZALV Zalesovo Beam 77.39 327 *e*P **P 08 33 41.9 -1.8**
ZAA1 Zalesovo Array 77.40 327 *e*P **P 08 33 44.0 +0.2**
BOM Bombay 77.50 290 *i* x P 08 33 55.4 +10
baz=246,slow=2.3
BOM *e*S **S 08 43 34.2 -1.6**
BOM AMS AMS 09 04 47.7
comp=Z,158nm,31.6s
PRZ Przheval'sk 77.57 315 *e*P **P 08 33 43.6 -1.7**
comp=Z,258nm,1.8s
PRZ LR LR
comp=Z,4μm,21.0s
PRZ Przheval'sk 77.57 315 *e*P **P 08 33 43.6 -1.7**
PRZ pmax pmax
comp=Z,258nm,1.8s
PRZ MLR MLR
comp=Z,4μm,21.0s
KPKS Kokpek 77.65 316 *e*P **P 08 33 45.0 -0.5**
comp=Z,48nm,2.5s
KPKS *e*S **S 08 43 36.5 -0.3**
SATY Saty 77.73 315 *e*P **P 08 33 45.8 -0.2**
comp=Z,14nm,2.1s
SATY *e*S **S 08 43 37.6 -0.2**
CNPM China Poot 78.12 27 *e*P **P 08 33 48.1 +0.4**
comp=Z,98nm,1.1s
CNPM LR LR
comp=Z,4μm,20.0s
TDK Taldyqorghan 78.27 317 *e*P **P 08 33 49.1 +0.2**
comp=Z,47nm,1.9s
TDK *e*S **S 08 43 43.8 +0.5**
TDK LR LR 09 05 47.3
comp=Z,2μm,21.8s
KDJ Kajisay 78.35 314 *e*P **P 08 33 48.1 -1.5**
comp=Z,29nm,0.8s
KDJ LR LR
comp=Z,2μm,20.0s
KDJ Kajisay 78.35 314 *e*P **P 08 33 48.1 -1.5**
KDJ pmax pmax
comp=Z,29nm,0.8s
KDJ MLR MLR
comp=Z,2μm,20.0s
BRLK Bradley Lake 78.38 27 PFAKE 08 34 00.0 +11
BRLK LR LR
comp=Z,4μm,19.0s
RDOG Red Dog Mine 78.57 17 *e*P **P 08 33 50.5 +0.5**
comp=Z,37nm,1.2s
RDOG LR LR
comp=Z,3μm,21.0s
KSH Kashi 78.59 311 P **P 08 33 54.0 +3.1**
KSH pP sP 08 33 59.1 +0.1
KSH PP **PP 08 36 54.0 +5.1**
KSH S **S 08 43 50.5 +3.3**
KSH SKS **SKSac 08 44 04.0 -1.5**
KSH SS **SS 08 48 56.9 +5.7**
KSH pmax pmax
comp=Z,23nm,0.8s
KSH pmax pmax
comp=Z,1μm,4.8s
KSH LR LR
comp=Z,3μm,16.4s
KSH LR LR
comp=Z,5μm,18.4s
KSH LR LR
comp=Z,8μm,22.1s
NVS Novosibirsk 78.60 328⇑*i*P **P 08 33 51.3 +0.9**
NVS pmax pmax
comp=Z,47nm,1.4s
NVS pmax pmax
comp=N,14nm,1.3s
NVS pmax pmax
comp=E,21nm,1.3s
MDOK Medeo 78.71 315 *e*P **P 08 33 51.5 -0.1**
comp=E,303nm,2.0s
MDOK *i* S **S 08 43 48.4 0.0**
MDOK LR LR 09 08 36.9
comp=E,902nm,17.5s
AAA Alma-Ata 78.82 315 *e*P **P 08 33 50.0 -2.0**
AAA *e*S **S 08 43 48.3 -1.1**
AAA pmax pmax
comp=Z,300nm,3.9s
AAA smax smax
comp=E,1μm,9.4s
AAA MLR MLR
comp=Z,1μm,16.0s
NRN Naryn 79.03 313 *e*P **P 08 33 51.8 -1.7**
comp=Z,10nm,0.8s
NRN LR LR
comp=Z,6μm,22.0s
NRN Naryn 79.03 313 *e*P **P 08 33 51.8 -1.7**
NRN pmax pmax
comp=Z,10.0nm,0.8s
NRN MLR MLR
comp=Z,6μm,22.0s
ULHL Ulahol 79.05 314 P **P 08 33 53.3 -0.2**
SNR=10
SEW Seward 79.18 27 *e*P **P 08 33 54.4 +0.9**
comp=Z,79nm,1.1s
SEW LR LR
comp=Z,5μm,20.0s
SUA Susitna One 79.23 25 *e*P **P 08 33 54.6 +0.7**
comp=Z,96nm,1.9s
PPLA Purkeypile 79.32 24 *e*P **P 08 33 55.1 +0.7**
comp=Z,148nm,1.8s
KUU Kurty 79.40 316 *e*P **P 08 33 54.5 -0.6**
comp=Z,85nm,2.5s
KUU *e*S **S 08 43 55.0 -0.4**
KUU LR LR 09 06 47.0
comp=Z,2μm,19.9s
TKM2 Tokmak 2 79.68 314 P **P 08 33 56.1 -0.8**
SNR=9.3
KZA Kyzart 79.73 314 P **P 08 33 58.0 +0.5**
SNR=43
KURK Kurchatov 79.82 323 *e*P **P 08 33 55.4 -1.8**
comp=Z,37nm,1.0s
KURK LR LR
comp=Z,5μm,20.0s
KURK Kurchatov 79.82 323 P **P 08 33 56.1 -1.0**
SNR=24
KURK Kurchatov 79.82 323*c i*P **P 08 33 55.6 -1.6**
KURK pmax pmax
comp=Z,367nm,1.7s
KURK MLR MLR
comp=Z,5μm,19.0s
PMR Palmer 79.98 25 *e*P **P 08 33 58.7 +0.9**
GHO Glory Hole Cre 80.15 25 PFAKE 08 34 10.0 +11
GHO LR LR
comp=Z,5μm,22.0s
IM3 Indian Mountai 80.28 21 *e*P **P 08 33 59.3 -0.1**
UCH Uchtor 80.30 314 P **P 08 34 00.8 +0.3**
SNR=19
CHMS Chumysh 80.30 314 P **P 08 33 59.5 -0.5**
SNR=8.8
TRF Thorofare Moun 80.34 24 *e*P **P 08 34 00.6 +0.6**
comp=Z,72nm,1.7s
FRU1 Bishkek 80.35 314 PFAKE 08 34 10.0 +10
FRU1 LR LR
comp=Z,3μm,22.0s
FRU Bishkek 80.36 314 *e*P **P 08 33 59.0 -1.4**
FRU *e*S **S 08 44 08.0 +2.3**
FRU pmax pmax
comp=Z,230nm,3.0s
FRU smax smax
comp=E,1μm,10.0s
BPAW Bear Paw Mtn. 80.37 23 *e*P **P 08 34 00.7 +0.7**
comp=E,49nm,1.4s
AAK Ala-Archa 80.40 314 LR LR 09 09 28.2
comp=E,4μm,19.9s,baz=83,slow=36
AAK Ala-Archa 80.40 314 P **P 08 34 00.3 -0.4**
SNR=12
AAK Ala-Archa 80.40 314 *e*P **P 08 33 58.6 -2.1**
comp=E,13nm,0.8s
AAK Ala-Archa 80.40 314 P **P 08 34 02.6 +1.9**
SNR=9.0
AAK Ala-Archa 80.40 314 *i* P **P 08 34 00.5 -0.3**
AAK pmax pmax
comp=Z,24nm,1.4s
AAK MLR MLR
comp=Z,4μm,20.0s
SML Sawmill 80.42 25 *e*P **P 08 34 01.2 +0.9**
comp=Z,177nm,1.6s
SML LR LR
comp=Z,4μm,22.0s
SML Sawmill 80.42 25 *e*P **P 08 34 01.2 +0.9**
SML pmax pmax
comp=Z,177nm,1.6s
SML MLR MLR
comp=Z,4μm,22.0s
USP Ospenovka 80.54 315 P **P 08 34 04.8 +3.5**
SNR=8.4
GLI Glacier Island 80.57 27 PFAKE 08 34 10.0 +9.0
GLI LR LR
comp=Z,4μm,21.0s
FID Port Fidalgo 80.79 27 PFAKE 08 34 10.0 +7.8
FID LR LR
comp=Z,4μm,21.0s
SCM Sheep Creek Mo 80.86 26 *e*P **P 08 34 03.5 +0.8**
comp=Z,108nm,1.3s
SCM LR LR
comp=Z,4μm,21.0s
SCM Sheep Creek Mo 80.86 26 *e*P **P 08 34 03.5 +0.8**
SCM pmax pmax
comp=Z,108nm,1.3s
SCM MLR MLR
comp=Z,4μm,21.0s
AML Almayashu 80.87 313 P **P 08 34 03.3 -0.3**
SNR=24
RND Reindeer 80.90 24 *e*P **P 08 34 03.6 +0.8**
comp=Z,28nm,1.0s
RND LR LR
comp=Z,5μm,20.0s
MLY Manley 80.90 22 *e*P **P 08 34 03.4 +0.6**
comp=Z,95nm,1.8s
MLY LR LR
comp=Z,2μm,21.0s
EKS2 Erkin-Say 80.92 314 P **P 08 34 07.0 +3.5**
SNR=17
MCK McKinley 81.01 24 *e*P **P 08 34 03.5 +0.2**
comp=Z,88nm,1.2s
MCK LR LR
comp=Z,4μm,20.0s
MCK McKinley 81.01 24 *e*P **P 08 34 03.5 +0.2**
MCK pmax pmax
comp=Z,88nm,1.2s
MCK MLR MLR
comp=Z,4μm,20.0s
EYAK Cordova Ski Ar 81.05 27 PFAKE 08 34 20.0 +16
EYAK LR LR
comp=Z,4μm,20.0s
DIV Divide 81.26 27 *e*P **P 08 34 05.8 +1.0**
comp=Z,83nm,1.6s
DIV LR LR
comp=Z,4μm,21.0s
BTLS Baital 81.27 316 *e*P **P 08 34 04.0 -1.1**
comp=Z,17nm,1.7s
BTLS *e*S **S 08 44 14.0 -1.0**
BTLS LR LR 09 08 58.9
comp=Z,544nm,20.0s
KLU Klutina 81.34 26 *e*P **P 08 34 05.1 -0.2**
comp=Z,47nm,1.1s
KLU LR LR
comp=Z,4μm,22.0s
DHY Denali Highway 81.36 24 *e*P **P 08 34 05.1 -0.3**
comp=Z,47nm,1.2s
DHY LR LR
comp=Z,4μm,20.0s
RAGM Ragged Mountai 81.47 27 PFAKE 08 34 20.0 +14
RAGM LR LR
comp=Z,3μm,18.0s
WRH Wood River Hil 81.67 23 *e*P **P 08 34 07.0 +0.2**
comp=Z,33nm,1.1s
BMRM Bremner River 81.72 27 *e*P **P 08 34 07.7 +0.4**
comp=Z,77nm,1.4s
BMRM LR LR
comp=Z,4μm,20.0s
MNAS Manas 81.81 314 *i* P **P 08 34 07.6 -0.6**
MNAS pmax pmax
comp=Z,36nm,1.3s
MDM Murphy Dome 81.82 23 *e*P **P 08 34 07.9 +0.2**
comp=Z,18nm,0.9s
MDM LR LR
comp=Z,4μm,21.0s
CCB Clear Creek Bu 81.85 23 *e*P **P 08 34 07.6 -0.1**
comp=Z,60nm,1.6s
COLA College 81.93 23 *e*P **P 08 34 08.2 +0.1**
comp=Z,90nm,1.8s
COLA College 81.93 23 *e*P **P 08 34 08.2 +0.1**
COLA pmax pmax
comp=Z,90nm,1.8s
HARP HAARP 82.03 26 PFAKE 08 34 20.0 +11
HARP LR LR
comp=Z,5μm,21.0s
HDA Harding Lake 82.09 23 PFAKE 08 34 20.0 +11
HDA LR LR
comp=Z,3μm,20.0s
PAX Paxson 82.11 25 PFAKE 08 34 20.0 +11
PAX LR LR
comp=Z,2μm,19.0s
IL1 Eielson Array 82.26 23 *e*P **P 08 34 08.6 -1.4**
ILAR Eielson Array 82.26 23 P **P 08 34 08.4 -1.5**
comp=Z,7.7nm,1.0s,baz=249,slow=5.5,SNR=27
ILB Eielson Array 82.26 23 *e*P **P 08 34 08.8 -1.1**
RIDG Independ'e Rid 82.67 24 *e*P **P 08 34 12.2 0.0**
comp=Z,26nm,1.1s
RIDG LR LR
comp=Z,4μm,20.0s
NRIK Noril'sk 83.01 342 P **P 08 34 13.2 -0.6**
comp=Z,22nm,0.8s,baz=135,slow=6.3,SNR=15
NRIK LR LR 09 12 29.9
comp=Z,2μm,18.1s,baz=118,slow=37
KBL Kabul 83.08 305 PFAKE 08 34 30.0 +15
KBL LR LR
comp=Z,2μm,22.0s
SCRK Sand Creek 83.11 24 *e*P **P 08 34 14.9 +0.4**
comp=Z,25nm,1.4s
BRZS Berezniki 83.30 321 *e*P **P 08 34 15.1 -0.6**
comp=Z,71nm,2.2s
BRZS LR LR 09 08 35.4
comp=Z,498nm,15.2s
KK31 Karatay Array 83.36 314 *e*P **P 08 34 14.8 -1.4**
KK31 Karatay Array 83.36 314 P **P 08 34 15.5 -0.7**
KK31 pmax pmax
comp=Z,30nm,1.5s
KKAR Karatay Array 83.36 314 *e*P **P 08 34 14.8 -1.4**
KKAR Karatay Array 83.36 314 *e*P **P 08 34 14.8 -1.4**
DHAK Deception Hill 84.15 30 PFAKE 08 34 30.0 +10
DHAK LR LR
comp=Z,2μm,20.0s

EGAK	**Eagle**	**84.54**	**24**	*e*P		**P**	**08 34 22.1**	**+0.4**		
	comp=Z,53nm,1.4s									
EGAK				LR		LR				
	comp=Z,3µm,21.0s									
HYT	**Haines Junctio**	**84.97**	**28**	*e*P		**P**	**08 34 24.2**	**+0.2**		
	comp=Z,38nm,1.4s									
HYT				LR		LR				
	comp=Z,3µm,19.0s									
DAWY	**Dawson**	**85.05**	**25**	*e*P		**P**	**08 34 24.8**	**+0.5**		
	comp=Z,50nm,1.3s									
BVA0	**Borovoye Array**	**85.33**	**324**	*i* P		**P**	**08 34 24.3**	**-1.6**		
BVA0				pmax		pmax				
	comp=Z,26nm,1.3s									
BVAR	**Borovoye Array**	**85.33**	**324**	LR		LR	09 13 44.8			
	comp=Z,3µm,19.6s,baz=89,slow=37									
BRVK	**Borovoye**	**85.40**	**324**	*e*P		**P**	**08 34 25.0**	**-1.3**		
	comp=Z,20nm,1.0s									
BRVK				LR		LR				
	comp=Z,4µm,20.0s									
BRVK	**Borovoye**	**85.40**	**324**	P		**P**	**08 34 26.0**	**-0.3**		
	SNR=13									
BRVK	**Borovoye**	**85.40**	**324**[1]	*e*P		**P**	**08 34 26.2**	**0.0**		
BRVK				pmax		pmax				
	comp=Z,63nm,1.7s									
BRVK				MLR		MLR				
	comp=Z,4µm,20.0s									
MAW	**Mawson**	**85.46**	**203**	P		**P**	**08 34 24.7**	**-1.5**		
	comp=Z,6.7nm,1.0s,baz=105,slow=2.6,SNR=7.3									
MAW				LR		LR	09 10 04.7			
	comp=Z,5µm,22.0s,baz=80,slow=34									
MAW	**Mawson**	**85.46**	**203**	*e*P		**P**	**08 34 25.6**	**-0.6**		
	comp=Z,15nm,1.8s									
MAW	**Mawson**	**85.46**	**203**	*e*P		**P**	**08 34 25.7**	**-0.6**		
MAW				pmax		pmax				
	comp=Z,15nm,1.8s									
SKAG	**Skagway**	**85.68**	**30**	PFAKE			08 34 40.0	+13		
SKAG				LR		LR				
	comp=Z,2µm,19.0s									
BESE	**Bessie Mountai**	**85.71**	**31**	PFAKE			08 34 40.0	+12		
BESE				LR		LR				
	comp=Z,2µm,20.0s									
DIB	**Dawson Inlet,**	**85.92**	**36**	PFAKE			08 34 40.0	+11		
DIB				LR		LR				
	comp=Z,4µm,20.0s									
WHY	**Whitehorse**	**86.17**	**29**	*e*P		**P**	**08 34 30.4**	**+0.4**		
	comp=Z,53nm,1.6s									
WHY				LR		LR				
	comp=Z,3µm,20.0s									
WRAK	**Wrangell Islan**	**86.59**	**33**	PFAKE			08 34 40.0	+8.0		
WRAK				LR		LR				
	comp=Z,4µm,19.0s									
EPYK	**Eagle Plains**	**86.78**	**23**	P		**P**	**08 34 33.9**	**+1.0**		
	baz=255									
QSPA	**South Pole Qui**	**86.83**	**180**	PFAKE			08 34 40.0	+6.8		
QSPA				LR		LR				
	comp=Z,5µm,19.0s									
DLBC	**Dease Lake**	**88.17**	**31**	*e*P		**P**	**08 34 40.5**	**+0.7**		
	comp=Z,52nm,1.4s									
DLBC				LR		LR				
	comp=Z,3µm,20.0s									
BBB	**Bella Bella**	**88.39**	**38**	PFAKE			08 34 50.0	+9.3		
BBB				LR		LR				
	comp=Z,4µm,21.0s									
INK	**Inuvik**	**88.44**	**21**	*e*P		**P**	**08 34 40.7**	**0.0**		
	comp=Z,28nm,1.1s									
INK				LR		LR				
	comp=Z,3µm,20.0s									
INK	**Inuvik**	**88.44**	**21**	*e*P		**P**	**08 34 40.7**	**0.0**		
INK				pmax		pmax				
	comp=Z,28nm,1.1s									
INK				MLR		MLR				
	comp=Z,3µm,20.0s									
KEBM	**Edson Butte**	**90.02**	**47**	PFAKE			08 35 00.0	+11		
KEBM				LR		LR				
	comp=Z,4µm,20.0s									
KBO	**Bosley Butte**	**90.06**	**48**	PFAKE			08 35 00.0	+11		
KBO				LR		LR				
	comp=Z,3µm,19.0s									
KMRM	**Mail Ridge**	**90.31**	**50**	*e*P		**P**	**08 34 51.0**	**+0.8**		
	comp=Z,27nm,1.3s									
KMRM				LR		LR				
	comp=Z,6µm,19.0s									
KHMM	**Horse Mountain**	**90.33**	**49**	PFAKE			08 35 00.0	+10		
KHMM				LR		LR				
	comp=Z,4µm,19.0s									
KCPM	**Cahto Peak**	**90.37**	**50**	PFAKE			08 35 00.0	+9.5		
KCPM				LR		LR				
	comp=Z,6µm,20.0s									
HOPS	**Hopland Field**	**90.72**	**51**	*e*P		**P**	**08 34 52.7**	**+0.7**		
	comp=Z,33nm,1.4s									
HOPS				LR		LR				
	comp=Z,5µm,20.0s									
E03A	**Lebam**	**90.82**	**44**	PFAKE			08 35 00.0	+7.7		
E03A				LR		LR				
	comp=Z,3µm,20.0s									
MCCM	**Marconi Confer**	**90.82**	**52**	PFAKE			08 35 00.0	+7.5		
MCCM				LR		LR				
	comp=Z,4µm,21.0s									
COR	**Corvallis**	**90.88**	**46**	PFAKE			08 35 00.0	+7.4		
COR				LR		LR				
	comp=Z,4µm,22.0s									
GDXM	**Geysers**	**90.93**	**51**	PFAKE			08 35 00.0	+6.9		
GDXM				LR		LR				
	comp=Z,6µm,20.0s									
O02D	**Mt. Diablo Mer**	**91.01**	**50**	P		**P**	**08 34 54.8**	**+1.4**		
	baz=267									
HUMO	**Hull Mountain**	**91.02**	**48**	*e*P		**P**	**08 34 52.4**	**-1.0**		
	comp=Z,9.9nm,1.1s									
HUMO				LR		LR				
	comp=Z,4µm,19.0s									
M02C	**Callahan**	**91.03**	**49**	P		**P**	**08 34 54.3**	**+0.7**		
	baz=267									
WSAR	**Wadi Sarin**	**91.08**	**293**	P		**P**	**08 34 56.1**	**+2.0**		
N02D	**Trinity Center**	**91.12**	**49**	P		**P**	**08 34 55.8**	**+1.9**		
	baz=267									
YBH	**Yreka Blue Hor**	**91.15**	**48**	P		**P**	**08 34 55.3**	**+1.2**		
	comp=Z,6.8nm,1.1s,baz=222,slow=4.3,SNR=8.8									
YBH	**Yreka Blue Hor**	**91.15**	**48**	*e*P		**P**	**08 34 53.1**	**-1.0**		
	comp=Z,28nm,1.6s									
YBH				LR		LR				
	comp=Z,6µm,21.0s									
YBH	**Yreka Blue Hor**	**91.15**	**48**	*e*P		**P**	**08 34 53.1**	**-1.0**		
YBH				pmax		pmax				
	comp=Z,28nm,1.6s									
YBH				MLR		MLR				
	comp=Z,6µm,21.0s									
D03D	**Eldon**	**91.20**	**43**	P		**P**	**08 34 57.3**	**+3.3**		
	baz=267									
WDC	**Whiskeytown Da**	**91.22**	**50**	*e*P		**P**	**08 34 54.9**	**+0.6**		
	comp=Z,26nm,1.4s									
WDC				LR		LR				
	comp=Z,5µm,20.0s									
WDC	**Whiskeytown Da**	**91.22**	**50**	*e*P		**P**	**08 34 54.9**	**+0.6**		
WDC				pmax		pmax				
	comp=Z,26nm,1.4s									
WDC				MLR		MLR				
	comp=Z,5µm,20.0s									
AB31	**Akbulak array**	**91.39**	**319**	*i* P		**P**	**08 34 52.4**	**-2.5**		
AB31				pmax		pmax				
	comp=Z,7.0nm,1.0s									
ABKAR	**Akbulak array**	**91.39**	**319**	*e*P		**P**	**08 34 53.9**	**-1.0**		
RER	**Riviere de l'E**	**91.45**	**249**	PFAKE			08 35 10.0	+14		
RER				LR		LR				
	comp=Z,3µm,22.0s									
I04A	**Tendick Farm,**	**91.48**	**46**	P		**P**	**08 34 56.8**	**+1.3**		
	baz=267									
L04D	**Klamath Falls**	**91.48**	**48**	P		**P**	**08 34 56.8**	**+1.2**		
	baz=267									
A04D	**Lummi Island**	**91.53**	**41**	P		**P**	**08 34 59.0**	**+3.5**		
	baz=267									
H04A	**Detroit Lake**	**91.69**	**46**	PFAKE			08 35 10.0	+14		
H04A				LR		LR				
	comp=Z,2µm,21.0s									
O03E	**Paynes Creek**	**91.77**	**50**	P		**P**	**08 34 58.7**	**+1.7**		
	baz=268									
M04C	**Macdoel**	**91.81**	**48**	P		**P**	**08 34 59.3**	**+2.1**		
	baz=268									
SAO	**San Andreas Ge**	**91.89**	**53**	PFAKE			08 35 10.0	+12		
SAO				LR		LR				
	comp=Z,3µm,18.0s									
B05A	**Bryant**	**91.91**	**42**	P		**P**	**08 35 00.2**	**+2.9**		
	baz=268									
D05A	**Enumclaw**	**91.94**	**43**	*e*P		**P**	**08 34 58.2**	**+0.8**		
	comp=Z,50nm,1.5s									
D05A				LR		LR				
	comp=Z,2µm,21.0s									
ORV	**Oroville**	**91.97**	**51**	*e*P		**P**	**08 34 58.0**	**+0.3**		
	comp=Z,21nm,1.4s									
ORV				LR		LR				
	comp=Z,4µm,22.0s									
ORV	**Oroville**	**91.97**	**51**	*e*P		**P**	**08 34 58.1**	**+0.3**		
ORV				pmax		pmax				
	comp=Z,21nm,1.4s									
ORV				MLR		MLR				
	comp=Z,4µm,22.0s									
LON	**Longmire**	**92.04**	**43**	PFAKE			08 35 10.0	+12		
LON				LR		LR				
	comp=Z,2µm,21.0s									
GEYT	**Alibeck**	**92.19**	**308**	P		**P**	**08 35 00.2**	**+1.2**		
	comp=Z,0.9nm,0.3s,baz=232,slow=7.1,SNR=3.4									
GEYT				PP		**PP**	**08 38 40.7**	**+1.5**		
	comp=Z,1.0nm,0.3s,baz=98,slow=38,SNR=2.3									
GEYT				LR		LR	09 19 04.5			
	comp=Z,2µm,19.5s,baz=280,slow=37									
GYA0B	**ALIBECK ARRAY**	**92.19**	**308**	PFAKE			08 35 10.0	+11		
GYA0B				LR		LR				
	comp=Z,2µm,21.0s									
I05D	**Terrebonne, OR**	**92.28**	**46**	P		**P**	**08 35 00.5**	**+1.3**		
	baz=268									
J05D	**Fort Rock, OR**	**92.31**	**47**	P		**P**	**08 35 00.2**	**+0.6**		
	baz=268									
CRZF	**Crozet Islands**	**92.34**	**223**	PFAKE			08 35 10.0	+11		
CRZF				LR		LR				
	comp=Z,4µm,19.0s									
AFDM	**Forest Hills D**	**92.36**	**51**	*e*P		**P**	**08 34 59.8**	**+0.2**		
	comp=Z,12nm,1.1s									
AFDM				LR		LR				
	comp=Z,4µm,20.0s									
PMPB	**Monarch Peak**	**92.39**	**54**	PFAKE			08 35 10.0	+10		
PMPB				LR		LR				
	comp=Z,3µm,20.0s									
ARU	**Arti**	**92.53**	**326**	LR		LR	09 16 13.4			
	comp=Z,10µm,21.6s,baz=88,slow=35									
ARU	**Arti**	**92.53**	**326**	*e*P		**P**	**08 34 59.1**	**-0.9**		
	comp=Z,48nm,1.7s									
ARU	**Arti**	**92.53**	**326**	*d* iP		**P**	**08 35 00.8**	**+0.8**		
ARU							08 38 42.9			
ARU				SS		SS	08 52 21.4	+6.4		
ARU				pmax		pmax				
	comp=Z,9.0nm,0.8s									
ARU				MLR		MLR				
	comp=Z,10µm,23.0s									
PINE	**Pine Mountain**	**92.55**	**46**	*e*P		**P**	**08 35 00.6**	**0.0**		
	comp=Z,10nm,1.1s									
PINE				LR		LR				
	comp=Z,4µm,20.0s									
AKTO	**Aktyubinsk**	**92.68**	**320**	LR		LR	09 16 00.5			
	comp=Z,4µm,20.8s,baz=83,slow=35									
AKTO	**Aktyubinsk**	**92.68**	**320**	P		**P**	**08 34 59.5**	**-1.4**		
AKTO				pmax		pmax				
	comp=Z,14nm,1.2s									
CMB	**Columbia Colle**	**92.78**	**52**	*e*P		**P**	**08 35 01.8**	**+0.1**		
	comp=Z,24nm,1.9s									
CMB				LR		LR				
	comp=Z,4µm,21.0s									
CMB	**Columbia Colle**	**92.78**	**52**	*e*P		**P**	**08 35 01.8**	**+0.1**		
CMB				pmax		pmax				
	comp=Z,24nm,1.9s									
CMB				MLR		MLR				
	comp=Z,4µm,21.0s									
G06A	**Carlson Farm,**	**92.81**	**45**	PFAKE			08 35 10.0	+8.4		
G06A				LR		LR				
	comp=Z,3µm,22.0s									
LTY	**Liberty**	**92.84**	**43**	*e*P		**P**	**08 35 02.6**	**+0.9**		
	comp=Z,30nm,1.9s									
LTY				LR		LR				
	comp=Z,3µm,19.0s									
BEKR	**Beckworth**	**92.86**	**50**	*e*P		**P**	**08 35 03.5**	**+1.3**		
	comp=Z,17nm,1.4s									
BEKR				LR		LR				
	comp=Z,5µm,20.0s									
MOD	**Modoc Plateau**	**92.96**	**48**	*e*P		**P**	**08 35 03.9**	**+1.4**		
	comp=Z,29nm,1.5s									
MOD				LR		LR				
	comp=Z,5µm,21.0s									
RUBR	**Rubicon Trail**	**93.00**	**51**	PFAKE			08 35 10.0	+7.1		
RUBR				LR		LR				
	comp=Z,4µm,20.0s									
SMMC	**Simmler**	**93.02**	**55**	P		**P**	**08 35 06.3**	**+3.5**		
	baz=268									
PKM	**Mcpherson Peak**	**93.15**	**55**	P		**P**	**08 35 05.8**	**+2.1**		
	baz=268									
F07A	**Phinny Hill Vi**	**93.32**	**44**	PFAKE			08 35 20.0	+16		
F07A				LR		LR				
	comp=Z,3µm,18.0s									
SNCC	**San Nicolas Is**	**93.35**	**57**	PFAKE			08 35 20.0	+16		
SNCC				LR		LR				
	comp=Z,4µm,20.0s									
UOSS	**Minazif**	**93.37**	**295**	PFAKE			08 35 10.0	+5.4		
UOSS				LR		LR				
	comp=Z,800nm,21.0s									
E07A	**Sunnyside**	**93.38**	**44**	PFAKE			08 35 20.0	+16		
E07A				LR		LR				
	comp=Z,3µm,20.0s									
VCNR	**Virginia City**	**93.39**	**51**	*e*P		**P**	**08 35 06.1**	**+1.4**		
	comp=Z,8.6nm,1.2s									
VCNR				LR		LR				
	comp=Z,4µm,21.0s									
PNTR	**Pine Nut**	**93.43**	**51**	*e*P		**P**	**08 35 06.3**	**+1.4**		
	comp=Z,17nm,1.2s									
PNTR				LR		LR				
	comp=Z,4µm,20.0s									
WAKR	**Walker**	**93.54**	**52**	*e*P		**P**	**08 35 06.5**	**+1.1**		
	comp=Z,16nm,1.6s									
WAKR				LR		LR				
	comp=Z,4µm,22.0s									
I07A	**Izee**	**93.59**	**46**	PFAKE			08 35 20.0	+15		
I07A				LR		LR				
	comp=Z,3µm,22.0s									
HAWA	**Hanford**	**93.60**	**44**	*e*P		**P**	**08 35 06.4**	**+1.2**		
	comp=Z,12nm,1.2s									
HAWA				LR		LR				
	comp=Z,2µm,19.0s									
PAHR	**Pah Rah Range**	**93.61**	**51**	*e*P		**P**	**08 35 06.3**	**+0.7**		
	comp=Z,27nm,1.8s									
PAHR				LR		LR				
	comp=Z,4µm,20.0s									
YERR	**Yerington**	**93.70**	**51**	*e*P		**P**	**08 35 07.1**	**+1.0**		
	comp=Z,22nm,1.6s									
YERR				LR		LR				
	comp=Z,4µm,21.0s									
B08A	**Colville Reser**	**93.76**	**42**	*e*P		**P**	**08 35 06.9**	**+1.0**		
	comp=Z,15nm,1.4s									
B08A				LR		LR				
	comp=Z,1µm,19.0s									
MDPB	**Devils Postpil**	**93.81**	**53**	*e*P		**P**	**08 35 07.4**	**+0.7**		
	comp=Z,20nm,1.6s									
MDPB				LR		LR				
	comp=Z,3µm,20.0s									
OMMB	**Old Mammoth Mi**	**93.87**	**53**	*e*P		**P**	**08 35 08.1**	**+1.0**		
	comp=Z,13nm,1.6s									
OMMB				LR		LR				
	comp=Z,2µm,19.0s									
E08A	**Dider Farm, El**	**93.93**	**44**	*e*P		**P**	**08 35 07.8**	**+1.1**		
	comp=Z,31nm,1.7s									
E08A				LR		LR				
	comp=Z,3µm,19.0s									
G08A	**Pilot Rock**	**93.99**	**45**	*e*P		**P**	**08 35 08.5**	**+1.4**		
	comp=Z,21nm,1.8s									
G08A				LR		LR				
	comp=Z,3µm,22.0s									
OSI	**Osito Audit: C**	**94.05**	**56**	PFAKE			08 35 20.0	+12		
OSI				LR		LR				
	comp=Z,5µm,18.0s									
WVOR	**Wild Horse Val**	**94.20**	**48**	*e*P		**P**	**08 35 09.5**	**+1.3**		
WVOR				LR		LR				
	comp=Z,5µm,22.0s									
RYN	**Ryan**	**94.26**	**52**	*e*P		**P**	**08 35 09.7**	**+1.1**		
	comp=Z,11nm,1.3s									
RYN				LR		LR				
	comp=Z,4µm,22.0s									
ISA	**Isabella, Lake**	**94.27**	**55**	*e*P		**P**	**08 35 09.1**	**+0.5**		
	comp=Z,5.2nm,1.3s									
ISA				LR		LR				
	comp=Z,2µm,20.0s									
ISA	**Isabella, Lake**	**94.27**	**55**	*e*P		**P**	**08 35 09.1**	**+0.5**		
ISA				pmax		pmax				
	comp=Z,5.0nm,1.3s									
ISA				MLR		MLR				
	comp=Z,2µm,20.0s									
ISA	**Isabella, Lake**	**94.27**	**55**	P		**P**	**08 35 09.2**	**+0.5**		
	baz=269									
CIS	**Catalina Islan**	**94.28**	**57**	P		**P**	**08 35 09.4**	**+0.8**		
	baz=269									
J08A	**Circle Bar Ran**	**94.33**	**47**	*e*P		**P**	**08 35 10.1**	**+1.4**		
	comp=Z,13nm,1.4s									
J08A				LR		LR				
	comp=Z,4µm,20.0s									
NV01	**Mina Array Sit**	**94.43**	**52**	*e*P		**P**	**08 35 10.5**	**+1.0**		
NVAR	**Mina Array Bea**	**94.43**	**52**	P		**P**	**08 35 10.8**	**+1.3**		
	comp=Z,7.9nm,1.1s,baz=268,slow=5.6,SNR=16									
C09A	**Chrisman Ranch**	**94.47**	**42**	PFAKE			08 35 20.0	+11		
C09A				LR		LR				
	comp=Z,3µm,22.0s									
PASC	**Pasadena Art C**	**94.48**	**56**	PFAKE			08 35 20.0	+10		
PASC				LR		LR				
	comp=Z,4µm,20.0s									
NV11	**Mina Array Sit**	**94.55**	**52**	*e*P		**P**	**08 35 10.5**	**+0.5**		
	comp=Z,2.5nm,1.8s									
NV11				LR		LR				
	comp=Z,300nm,21.0s									
E09A	**Wood Farm, Sta**	**94.56**	**44**	*e*P		**P**	**08 35 10.4**	**+0.8**		
	comp=Z,26nm,1.4s									
E09A				LR		LR				
	comp=Z,3µm,21.0s									
MWC	**Mount Wilson**	**94.59**	**56**	*e*P		**P**	**08 35 11.0**	**+0.7**		
	comp=Z,23nm,1.4s									
MWC				LR		LR				
	comp=Z,4µm,20.0s									
MWC	**Mount Wilson**	**94.59**	**56**	*e*P		**P**	**08 35 11.0**	**+0.7**		
MWC				pmax		pmax				
	comp=Z,23nm,1.4s									
MWC				MLR		MLR				
	comp=Z,4µm,20.0s									
CWC	**Cottonwood Cre**	**94.59**	**54**	P		**P**	**08 35 10.8**	**+0.6**		
	baz=270									
KVN	**Kaiserville**	**94.59**	**51**	*e*P		**P**	**08 35 10.9**	**+0.7**		
	comp=Z,12nm,1.2s									
KVN				LR		LR				
	comp=Z,4µm,22.0s									
KVN	**Kaiserville**	**94.59**	**51**	*e*P		**P**	**08 35 10.9**	**+0.7**		
KVN				pmax		pmax				
	comp=Z,12nm,1.2s									
KVN				MLR		MLR				
	comp=Z,4µm,22.0s									
EDW2	**Edwards Air Fo**	**94.65**	**55**	P		**P**	**08 35 10.4**	**+0.1**		
	baz=270									
LRMC	**Laurel Mtn Rad**	**94.91**	**55**	P		**P**	**08 35 11.9**	**+0.3**		
	baz=270									
BFSC	**Mount Baldy Ra**	**94.92**	**56**	P		**P**	**08 35 12.3**	**+0.6**		
	baz=270									
DAC	**Darwin (Calif)**	**94.98**	**54**	*e*P		**P**	**08 35 13.2**	**+1.2**		
	comp=Z,16nm,1.5s									
DAC				LR		LR				
	comp=Z,4µm,20.0s									
DAC	**Darwin (Calif)**	**94.98**	**54**	*e*P		**P**	**08 35 13.2**	**+1.2**		
DAC				pmax		pmax				
	comp=Z,16nm,1.5s									
DAC				MLR		MLR				
	comp=Z,4µm,20.0s									
MPMC	**Manual Prospec**	**95.07**	**54**	P		**P**	**08 35 12.6**	**+0.2**		
	baz=270									
BMO	**Blue Mountains**	**95.16**	**45**	*e*P		**P**	**08 35 13.7**	**+1.1**		
	comp=Z,23nm,1.9s									
BMO				LR		LR				
	comp=Z,2µm,22.0s									
F10A	**Beach Ranch, E**	**95.20**	**44**	*e*P		**P**	**08 35 13.4**	**+0.7**		
	comp=Z,23nm,1.6s									
F10A				LR		LR				
	comp=Z,2µm,20.0s									
NEW	**Newport**	**95.23**	**42**	*e*P		**P**	**08 35 13.3**	**+0.6**		
	comp=Z,19nm,1.5s									
NEW				LR		LR				
	comp=Z,2µm,22.0s									
NEW	**Newport**	**95.23**	**42**	*e*P		**P**	**08 35 13.3**	**+0.6**		
NEW				pmax		pmax				
	comp=Z,19nm,1.5s									
NEW				MLR		MLR				
	comp=Z,2µm,22.0s									
NEW	**Newport**	**95.23**	**42**	P		**P**	**08 35 12.9**	**+0.2**		
	baz=271									
BMN	**Battle Mountai**	**95.27**	**50**	PFAKE			08 35 20.0	+6.8		
BMN				LR		LR				
	comp=Z,4µm,20.0s									
FURC	**Furnace Creek,**	**95.57**	**54**	P		**P**	**08 35 14.4**	**0.0**		
	baz=270									
GSC	**Goldstone, Bar**	**95.62**	**55**	*e*P		**P**	**08 35 15.1**	**+0.2**		
	comp=Z,15nm,1.6s									
GSC				LR		LR				
	comp=Z,4µm,19.0s									
GSC	**Goldstone, Bar**	**95.62**	**55**	*e*P		**P**	**08 35 15.1**	**+0.2**		
GSC				pmax		pmax				
	comp=Z,15nm,1.6s									
GSC				MLR		MLR				
	comp=Z,4µm,19.0s									
GSC	**Goldstone, Bar**	**95.62**	**55**	P		**P**	**08 35 15.2**	**+0.3**		
	baz=270									
BAR	**Barrett**	**95.74**	**58**	*e*P		**P**	**08 35 16.0**	**+0.7**		
	comp=Z,11nm,1.4s									
BAR				LR		LR				
	comp=Z,4µm,20.0s									
FRD	**Ford Ranch, An**	**95.80**	**57**	P		**P**	**08 35 15.8**	**+0.1**		
	baz=270									
PFO	**Pinyon Flats O**	**95.92**	**57**	*e*P		**P**	**08 35 16.1**	**-0.1**		
	comp=Z,8.0nm,1.3s									
PFO				LR		LR				
	comp=Z,6µm,20.0s									
PFO	**Pinyon Flats O**	**95.92**	**57**	*e*P		**P**	**08 35 16.1**	**-0.1**		
PFO				pmax		pmax				
	comp=Z,8.0nm,1.3s									
PFO				MLR		MLR				
	comp=Z,6µm,20.0s									
PFO	**Pinyon Flats O**	**95.92**	**57**	P		**P**	**08 35 16.3**	**0.0**		
	baz=270									
XPFO	**Piæon Flat**	**95.92**	**57**	PFAKE			08 35 30.0	+14		
XPFO				LR		LR				
	comp=Z,6µm,20.0s									
TPFO	**Pinon Flats**	**95.92**	**57**	P		**P**	**08 35 16.3**	**0.0**		
	baz=270									
YKW3	**Yellowknife Ar**	**95.93**	**28**	*e*P		**P**	**08 35 16.1**	**+0.6**		
	comp=Z,32nm,1.4s									
YKW3				LR		LR				
	comp=Z,3µm,21.0s									
YKA	**Yellowknife Ar**	**95.94**	**28**	P		**P**	**08 35 15.9**	**+0.4**		
	comp=Z,6.8nm,0.8s,baz=271,slow=4.9,SNR=17									
YKB5	**Yellowknife Ar**	**95.94**	**28**	*e*P		**P**	**08 35 15.5**	**0.0**		
MONP2	**Monument Peak**	**95.95**	**57**	P		**P**	**08 35 16.7**	**+0.1**		
	baz=270									
SHOC	**Shoshone, Teco**	**96.05**	**54**	P		**P**	**08 35 16.6**	**-0.1**		
	baz=271									
TPNV	**Topopah Spring**	**96.06**	**53**	*e*P		**P**	**08 35 17.5**	**+0.6**		
	comp=Z,7.6nm,1.3s									
TPNV				LR		LR				
	comp=Z,3µm,20.0s									
TPNV	**Topopah Spring**	**96.06**	**53**	*e*P		**P**	**08 35 17.5**	**+0.6**		
T

HLID **Hailey** **97.28** **47** PFAKE 08 35 30.0 +7.6
HLID LR LR
comp=Z,5µm,20.0s
GLA **Glamis** **97.29** **57** PFAKE 08 35 30.0 +7.5
GLA LR LR
comp=Z,4µm,19.0s
WALA **Waterton Lakes** **97.33** **41** *e*P Pdif 08 35 23.0 +0.7
comp=Z,39nm,1.5s
MSO **Missoula** **97.44** **43** PFAKE 08 35 30.0 +7.1
MSO LR LR
comp=Z,3µm,21.0s
PSUT **Pine Spring** **97.92** **52** *e*P Pdif 08 35 26.1 +0.7
comp=Z,12nm,1.7s
PSUT LR LR
comp=Z,5µm,19.0s
W13A **Hualapai Mount** **98.02** **55** *e*P Pdif 08 35 26.0 +0.1
comp=Z,8.5nm,1.5s
W13A LR LR
comp=Z,10µm,21.0s
113A **Mohawk Valley,** **98.19** **58** PFAKE 08 35 40.0 +14
113A LR LR
comp=Z,18µm,22.0s
CCUT **Cedar City** **98.35** **53** PFAKE 08 35 40.0 +13
CCUT LR LR
comp=Z,4µm,20.0s
BGU **Big Grassy Mou** **98.44** **49** PFAKE 08 35 40.0 +12
BGU LR LR
comp=Z,4µm,21.0s
LCMT **Little Creek M** **98.47** **53** *e*P Pdif 08 35 28.0 +0.2
comp=Z,14nm,1.9s
LCMT LR LR
comp=Z,5µm,19.0s
DLMT **Dillon** **98.47** **45** PFAKE 08 35 40.0 +12
DLMT LR LR
comp=Z,2µm,20.0s
SZCU **Shurtz Canyon** **98.57** **53** PFAKE 08 35 40.0 +12
SZCU LR LR
comp=Z,2µm,19.0s
HVU **Hansel Valley** **98.58** **48** PFAKE 08 35 40.0 +12
HVU LR LR
comp=Z,5µm,19.0s
DUG **Dugway, Tooele** **98.65** **50** PFAKE 08 35 40.0 +12
DUG LR LR
comp=Z,4µm,18.0s
KNB **Kanab** **98.81** **53** *e*P **P** **08 35 29.1 -0.2**
comp=Z,11nm,1.4s
KNB LR LR
comp=Z,4µm,19.0s
KNB **Kanab** **98.81** **53** *e*P **P** **08 35 29.1 -0.2**
KNB pmax pmax
comp=Z,11nm,1.4s
KNB MLR MLR
comp=Z,4µm,19.0s
SPUT **South Promonto** **98.86** **49** PFAKE 08 35 40.0 +11
SPUT LR LR
comp=Z,3µm,19.0s
TCRU **Three Creeks R** **99.02** **52** PFAKE 08 35 40.0 +10
TCRU LR LR
comp=Z,7µm,21.0s
BOZ **Bozeman (W)** **99.13** **44** PFAKE 08 35 40.0 +9.5
BOZ LR LR
comp=Z,2µm,18.0s
PKCU **Pink Cliffs** **99.19** **53** PFAKE 08 35 40.0 +8.8
PKCU LR LR
comp=Z,2µm,21.0s
NLU **North Lily Min** **99.23** **50** PFAKE 08 35 40.0 +8.8
NLU LR LR
comp=Z,4µm,19.0s
MTPU **Mount Pierson** **99.26** **52** PFAKE 08 35 40.0 +8.5
MTPU LR LR
comp=Z,3µm,18.0s
U15A **North Rim** **99.26** **54** *e*P **Pdif** **08 35 32.4 +0.9**
comp=Z,12nm,1.8s
U15A LR LR
comp=Z,17µm,21.0s
CTU **Camp Tracy** **99.42** **49** PFAKE 08 35 40.0 +8.0
CTU LR LR
comp=Z,2µm,21.0s
HWUT **Hardware Ranch** **99.50** **48** PFAKE 08 35 40.0 +7.7
HWUT LR LR
comp=Z,4µm,19.0s
YHB **Horse Butte** **99.51** **45** PFAKE 08 35 40.0 +7.7
YHB LR LR
comp=Z,2µm,22.0s
MPU **Maple Canyon** **99.56** **50** PFAKE 08 35 40.0 +7.4
MPU LR LR
comp=Z,4µm,18.0s
ABPO **Ambohimpanom** **99.62** **250** PFAKE 08 35 40.0 +6.7
ABPO LR LR
comp=Z,3µm,20.0s
TCUT **Toone Canyon** **99.65** **49** PFAKE 08 35 40.0 +6.9
TCUT LR LR
comp=Z,5µm,20.0s
JLU **Jordanelle** **99.66** **50** PFAKE 08 35 50.0 +17
JLU LR LR
comp=Z,3µm,19.0s
YMR **Madison River** **99.68** **45** PFAKE 08 35 40.0 +6.9
YMR LR LR
comp=Z,2µm,20.0s
AHID **Auburn Hatcher** **99.75** **47** PFAKE 08 35 50.0 +17
AHID LR LR
comp=Z,4µm,21.0s
YHH **Holmes Hill** **99.75** **45** PFAKE 08 35 50.0 +16
YHH LR LR
comp=Z,2µm,18.0s
IMW **Indian Meadow** **99.77** **46** PFAKE 08 35 50.0 +16
IMW LR LR
comp=Z,4µm,20.0s
TPAW **Teton Pass** **99.80** **47** PFAKE 08 35 50.0 +16
TPAW LR LR
comp=Z,4µm,20.0s
YPP **Pitchstone Pla** **99.83** **46** PFAKE 08 35 50.0 +16
YPP LR LR
comp=Z,4µm,21.0s
RES **Resolute Bay** **99.84** **14** PFAKE 08 35 40.0 +7.2
RES LR LR
comp=Z,2µm,20.0s
REDW **Red Top Meadow** **99.88** **47** PFAKE 08 35 50.0 +16
REDW LR LR
comp=Z,4µm,20.0s
YNR **Norris Junctio** **99.88** **45** PFAKE 08 35 50.0 +16
YNR LR LR
comp=Z,2µm,18.0s
MOOW **Moose Ponds** **99.92** **46** PFAKE 08 35 50.0 +16
MOOW LR LR
comp=Z,4µm,19.0s
FLWY **Flagg Ranch** **99.93** **46** PFAKE 08 35 50.0 +16
FLWY LR LR
comp=Z,3µm,20.0s
TMUT **Trail Mountain** **99.94** **51** PFAKE 08 35 50.0 +16
TMUT LR LR
comp=Z,10µm,18.0s
SNOW **Snow King Moun** **99.94** **47** PFAKE 08 35 50.0 +16
SNOW LR LR
comp=Z,4µm,20.0s
H17A **Grant Village** **99.98** **46** PFAKE 08 35 50.0 +16
H17A LR LR
comp=Z,6µm,19.0s
LOHW **Long Hollow** **100.04** **46** PFAKE 08 35 50.0 +15
LOHW LR LR
comp=Z,4µm,20.0s
WUAZ **Wupatki** **100.05** **55** PFAKE 08 35 50.0 +15
WUAZ LR LR
comp=Z,12µm,22.0s
X16A **Lo Mia Camp, P** **100.06** **56** PFAKE 08 35 50.0 +15
X16A LR LR
comp=Z,4µm,20.0s
MAK **Makhachkala** **100.16** **313** *e*P **Pdif** **08 35 30.6 -4.3**
MAK *e* 08 39 36.4
MAK *e* 08 46 15.8
MAK *e*SS SS 08 54 05.0 +1.4
MAK pmax pmax
comp=Z,111nm,0.8s
EGMT **Eagleton** **100.17** **42** PFAKE 08 35 50.0 +15
EGMT LR LR
comp=Z,2µm,22.0s
P17A **Butcher Ranch,** **100.29** **51** PFAKE 08 35 50.0 +14
P17A LR LR
comp=Z,7µm,22.0s
SRU **San Rafael Swe** **100.48** **51** PFAKE 08 35 50.0 +13
SRU LR LR
comp=Z,11µm,18.0s
P18A **Preston Nutter** **100.66** **50** PFAKE 08 35 50.0 +12
P18A LR LR
comp=Z,8µm,22.0s
TUC **Tucson** **100.72** **58** PFAKE 08 35 50.0 +12
TUC LR LR
comp=Z,5µm,21.0s
RLMT **Red Lodge** **100.84** **45** PFAKE 08 35 50.0 +12
RLMT LR LR
comp=Z,2µm,18.0s
BW06 **Boulder Array** **100.88** **47** PFAKE 08 35 50.0 +12
BW06 LR LR
comp=Z,4µm,19.0s
PD31 **Pinedale Array** **100.88** **47** *e*Pdif **Pdif** **08 35 38.5 0.0**
PDAR **Pinedale Array** **100.88** **47** P **Pdif** **08 35 39.5 +1.0**
comp=Z,0.2nm,0.6s,baz=251,slow=2.8,SNR=2.9
KBS **Kingsbay** **101.13** **352** PFAKE 08 35 50.0 +11
KBS LR LR
comp=Z,2µm,21.0s
X18A **Snowflake** **101.28** **56** PFAKE 08 35 50.0 +10
X18A LR LR
comp=Z,21µm,18.0s
SLBS **Sierra La Lagu** **101.83** **67** PFAKE 08 36 00.0 +17
SLBS LR LR
comp=Z,28µm,19.0s
319A **Douglas** **102.06** **59** PFAKE 08 36 00.0 +16
319A LR LR
comp=Z,91µm,20.0s
MVCO **Mesa Verde** **102.24** **53** PFAKE 08 36 00.0 +15
MVCO LR LR
comp=Z,13µm,20.0s
APA **Apatity** **102.26** **339** ||*i*P **Pdif** **08 35 34.9 -8.8**
APA pmax pmax
comp=Z,4.0nm,1.1s
GNI **Garni** **102.51** **310** PFAKE 08 36 00.0 +14
GNI LR LR
comp=Z,22µm,22.0s
LAO **LASA Array** **102.73** **43** PFAKE 08 36 00.0 +14
LAO LR LR
comp=Z,7µm,20.0s
RWWY **Rawlins** **102.74** **48** PFAKE 08 36 00.0 +13
RWWY LR LR
comp=Z,6µm,18.0s
SNAA **Sanae** **103.06** **189** PFAKE 08 36 00.0 +13
SNAA LR LR
comp=Z,9µm,20.0s
RAYN **Ar Rayn** **103.14** **293** PFAKE 08 36 00.0 +11
RAYN LR LR
comp=Z,1µm,20.0s
SMCO **Snowmass** **103.22** **51** PFAKE 08 36 00.0 +11
SMCO LR LR
comp=Z,9µm,19.0s
AKH **Akhalkalaki** **103.29** **312** PFAKE 08 36 00.0 +11
AKH LR LR
comp=Z,2µm,19.0s
KEV **Kevo** **103.42** **342** PFAKE 08 36 00.0 +11
KEV LR LR
comp=Z,3µm,22.0s
KIV **Kislovodsk** **103.52** **314** PFAKE 08 36 00.0 +10
KIV LR LR
comp=Z,2µm,20.0s
FFC **Flin Flon** **103.75** **34** PFAKE 08 36 00.0 +9.4
FFC LR LR
comp=Z,4µm,18.0s
DGMT **Dagmar** **103.77** **41** PFAKE 08 36 00.0 +9.1
DGMT LR LR
comp=Z,3µm,19.0s
TULEG **Thule** **103.80** **8** PFAKE 08 36 00.0 +10
TULEG LR LR
comp=Z,2µm,20.0s
Y22D **IRIS PASSCAL I** **103.82** **56** PFAKE 08 36 00.0 +8.4
Y22D LR LR
comp=Z,53µm,19.0s
ARA0 **ARCESS Array S** **103.99** **342** *e*Pdif **Pdif** **08 35 53.0 +1.6**
ARCES **ARCESS Array B** **103.99** **342** Pdiff **Pdif** **08 35 53.0 +1.6**
comp=Z,3.2nm,0.9s,baz=57,slow=12,SNR=4.3
ARE0 **ARCESS Array S** **103.99** **342** PFAKE 08 36 00.0 +8.6
ARE0 LR LR
comp=Z,100nm,22.0s
PHWY **Pilot Hill** **104.09** **48** PFAKE 08 36 00.0 +7.1
PHWY LR LR
comp=Z,6µm,20.0s
ANMO **Albuquerque** **104.11** **55** PFAKE 08 36 10.0 +17
ANMO LR LR
comp=Z,41µm,19.0s
ISCO **Idaho Springs** **104.19** **50** PFAKE 08 36 10.0 +17
ISCO LR LR
comp=Z,19µm,22.0s
EPT **El Paso** **104.39** **58** PFAKE 08 36 10.0 +16
EPT LR LR
comp=Z,49µm,20.0s
DAMY **Dhamar** **104.42** **284** PFAKE 08 36 10.0 +15
DAMY LR LR
comp=Z,1µm,22.0s
SDCO **Great Sand Dun** **104.55** **52** PFAKE 08 36 10.0 +15
SDCO LR LR
comp=Z,33µm,19.0s
RSSD **Black Hills** **104.68** **45** PFAKE 08 36 10.0 +15
RSSD LR LR
comp=Z,4µm,20.0s
OBN **Obninsk** **104.97** **327** PFAKE 08 36 10.0 +14
OBN LR LR
comp=Z,7µm,21.0s
MNTX **Cornudas Mount** **105.35** **58** PFAKE 08 40 20.0
MNTX LR LR
comp=Z,48µm,22.0s
ATD **Arta Tunnel** **105.94** **281** PFAKE 08 40 20.0
ATD LR LR
comp=Z,800nm,21.0s
FCC **Fort Churchill** **106.60** **29** PFAKE 08 40 30.0
FCC LR LR
comp=Z,3µm,22.0s
OGNE **Ogallala** **106.70** **48** PFAKE 08 40 30.0
OGNE LR LR
comp=Z,42µm,18.0s
LTX **Lajitas** **107.06** **60** *e*PP PP 08 40 26.3 -6.5
TXAR **Lajitas Array** **107.06** **60** PP PP 08 40 26.3 -6.5
comp=Z,0.8nm,1.0s,baz=262,slow=6.2,SNR=5.6
AMTX **Amarillo** **108.01** **54** PFAKE 08 40 30.0
AMTX LR LR
comp=Z,61µm,21.0s
ULM **Lac du Bonnet** **108.58** **38** PFAKE 08 40 30.0
ULM LR LR
comp=Z,4µm,21.0s
CBKS **Cedar Bluff** **108.85** **50** PFAKE 08 40 30.0
CBKS LR LR
comp=Z,40µm,18.0s
AGMN **Agassiz Nation** **109.19** **40** PFAKE 08 40 30.0
AGMN LR LR
comp=Z,5µm,20.0s
BGNE **Belgrade** **109.47** **47** PFAKE 08 40 30.0
BGNE LR LR
comp=Z,18µm,22.0s
U32A **Winter Ranch,** **109.90** **52** PFAKE 08 40 30.0
U32A LR LR
comp=Z,27µm,19.0s
ECSD **EROS Data Cent** **109.99** **44** PFAKE 08 40 30.0
ECSD LR LR
comp=Z,14µm,18.0s
FURI **Furi** **110.04** **278** PFAKE 08 40 30.0
FURI LR LR
comp=Z,2µm,20.0s
ABTX **Abilene, Hawle** **110.05** **56** PFAKE 08 40 30.0
ABTX LR LR
comp=Z,40µm,21.0s
JCT **Junction City** **110.25** **59** PFAKE 08 40 30.0
JCT LR LR
comp=Z,54µm,19.0s
WMOK **Wichita Mounta** **110.39** **54** PFAKE 08 40 30.0
WMOK LR LR
comp=Z,25µm,18.0s
AKBB **Malin Array Si** **110.61** **324** PFAKE 08 40 30.0
AKBB LR LR
comp=Z,3µm,20.0s
KIEV **Kiev** **110.63** **324** PFAKE 08 40 30.0
KIEV LR LR
comp=Z,3µm,21.0s
JRQG **Juriquilla Cam** **110.79** **69** PFAKE 08 40 30.0
JRQG LR LR
comp=Z,369µm,18.0s
KMBO **Kilima Mbogo** **111.14** **268** PFAKE 08 40 40.0
KMBO LR LR
comp=Z,1µm,20.0s
KSU1 **Kansas State U** **111.16** **49** PFAKE 08 40 30.0
KSU1 LR LR
comp=Z,12µm,19.0s
LNIG **Linares** **111.28** **65** PFAKE 08 40 40.0
LNIG LR LR
comp=Z,121µm,19.0s
ANTO **Ankara** **111.57** **312** PFAKE 08 40 40.0
ANTO LR LR
comp=Z,1µm,22.0s
NAI **Nairobi** **111.58** **267** PFAKE 08 40 40.0
NAI LR LR
comp=Z,1µm,20.0s
EYMN **Ely** **112.07** **39** PFAKE 08 40 40.0
EYMN LR LR
comp=Z,7µm,19.0s
UNM **Universidad Na** **112.09** **71** PFAKE 08 40 40.0
UNM LR LR
comp=Z,436µm,19.0s
CSS **Mathiatis** **112.30** **307** PFAKE 08 40 40.0
CSS LR LR
comp=Z,1µm,22.0s
KVTX **Kingsville** **112.33** **62** PFAKE 08 40 40.0
KVTX LR LR
comp=Z,32µm,18.0s
SCO **Scoresbysund** **112.44** **357** PFAKE 08 40 40.0
SCO LR LR
comp=Z,2µm,21.0s
E38A **The Farm, Brul** **112.51** **40** PFAKE 08 40 40.0
E38A LR LR
comp=Z,14µm,20.0s
SUW **Suwalki** **112.59** **329** PFAKE 08 40 40.0
SUW LR LR
comp=Z,5µm,20.0s
SCIA **State Center** **112.91** **46** PFAKE 08 40 40.0
SCIA LR LR
comp=Z,14µm,20.0s
X37A **Clayton** **113.17** **54** PFAKE 08 40 40.0
X37A LR LR
comp=Z,25µm,22.0s
TIRR **Tirgusor** **113.33** **318** PFAKE 08 40 40.0
TIRR LR LR
comp=Z,3µm,20.0s
C40A **Isle Royale Na** **113.54** **38** PFAKE 08 40 40.0
C40A LR LR
comp=Z,4µm,18.0s
HKT **Hockley** **113.72** **59** PFAKE 08 40 40.0
HKT LR LR
comp=Z,45µm,19.0s
ISP **Isparta** **113.82** **310** PFAKE 08 40 40.0
ISP LR LR
comp=Z,2µm,21.0s
G40A **Rib Lake** **113.87** **41** PFAKE 08 40 40.0
G40A LR LR
comp=Z,10µm,21.0s
HHAR **Hobbs** **113.91** **52** PFAKE 08 40 40.0
HHAR LR LR
comp=Z,26µm,22.0s
D41A **Chassel** **114.25** **39** PFAKE 08 40 40.0 +11
D41A LR LR
comp=Z,11µm,19.0s
COWI **Conover** **114.25** **40** PFAKE 08 40 40.0 +11
COWI LR LR
comp=Z,9µm,21.0s
NATX **Nacogdoches** **114.36** **57** PFAKE 08 40 40.0 +11
NATX LR LR
comp=Z,21µm,20.0s
F41A **Three Lakes** **114.41** **40** PFAKE 08 40 40.0 +11
F41A LR LR
comp=Z,11µm,21.0s
MLR **Muntele Rosu** **114.60** **319** PFAKE 08 40 40.0 +11
MLR LR LR
comp=Z,3µm,21.0s
MIAR **Mount Ida** **114.62** **53** PFAKE 08 40 40.0 +10
MIAR LR LR
comp=Z,26µm,19.0s
LVIG **Laguna Verde** **114.65** **70** PFAKE 08 40 40.0 +10
LVIG LR LR
comp=Z,154µm,19.0s
JFWS **Jewell Farm** **114.66** **44** PFAKE 08 40 40.0 +10
JFWS LR LR
comp=Z,16µm,22.0s
KWP **Kalwaria Pacla** **114.88** **324** PFAKE 08 40 40.0 +10
KWP LR LR
comp=Z,34µm,21.0s
G42A **Mountain** **115.04** **41** PFAKE 08 40 40.0 +10
G42A LR LR
comp=Z,13µm,19.0s
MANT **Manisa** **115.12** **311** PFAKE 08 40 40.0 +9.2
MANT LR LR
comp=Z,4µm,22.0s
WLAR **White Oak Lake** **115.20** **54** PFAKE 08 40 40.0 +9.2
WLAR LR LR
comp=Z,18µm,20.0s
KONO **Kongsberg** **115.38** **338** PFAKE 08 40 40.0 +10
KONO LR LR
comp=Z,3µm,22.0s
WHAR **Wooly Hollow** **115.46** **52** PFAKE 08 40 40.0 +8.7
WHAR LR LR
comp=Z,29µm,20.0s
CCM **Cathedral Cave** **115.49** **49** PFAKE 08 40 40.0 +8.8
CCM LR LR
comp=Z,20µm,18.0s
E43A **Lone Tree Farm** **115.51** **39** PFAKE 08 40 40.0 +9.0
E43A LR LR
comp=Z,14µm,19.0s
G43A **Wallace** **115.52** **41** PFAKE 08 40 40.0 +8.9
G43A LR LR
comp=Z,16µm,20.0s
UALR **University of** **115.55** **53** PFAKE 08 40 40.0 +8.6
UALR LR LR
comp=Z,17µm,18.0s
GO09 **Cerro Castillo** **115.64** **153** PFAKE 08 40 40.0 +8.8
GO09 LR LR
comp=Z,3µm,21.0s
SLM **Saint Louis** **116.07** **48** PFAKE 08 40 40.0 +7.7
SLM LR LR
comp=Z,18µm,18.0s
E44A **Grand Marais A** **116.08** **39** PFAKE 08 40 40.0 +7.9
E44A LR LR
comp=Z,14µm,20.0s
FVM **French Village** **116.13** **49** PFAKE 08 40 40.0 +7.5
FVM LR LR
comp=Z,18µm,20.0s
HDIL **Hopedale** **116.14** **46** PFAKE 08 40 40.0 +7.6
HDIL LR LR
comp=Z,19µm,18.0s
ALN **Alexandroupoli** **116.19** **315** PFAKE 08 40 40.0 +7.5
ALN LR LR
comp=Z,900nm,19.0s
CCAR **Cane Creek** **116.22** **54** PFAKE 08 40 40.0 +7.2
CCAR LR LR
comp=Z,17µm,20.0s
PBMO **Poplar Bluff** **116.49** **50** PFAKE 08 40 50.0 +17
PBMO LR LR
comp=Z,16µm,18.0s
HBAR **Harrisburg** **116.67** **52** PFAKE 08 40 50.0 +16
HBAR LR LR
comp=Z,16µm,18.0s
KARP **Karpathos** **117.04** **309** PFAKE 08 40 50.0 +16
KARP LR LR
comp=Z,700nm,20.0s
PARMO **Parma** **117.04** **50** PFAKE 08 40 50.0 +16
PARMO LR LR
comp=Z,27µm,22.0s
GNAR **Gosnell** **117.05** **51** PFAKE 08 40 50.0 +16
GNAR LR LR
comp=Z,29µm,22.0s
SIUC **Southern Illin** **117.12** **49** PFAKE 08 40 50.0 +16
SIUC LR LR
comp=Z,14µm,21.0s
PVMO **Portageville** **117.16** **50** PFAKE 08 40 50.0 +16
PVMO LR LR
comp=Z,29µm,21.0s
RGN **Rugen** **117.16** **333** PFAKE 08 40 50.0 +16
RGN LR LR
comp=Z,5µm,22.0s
PSZ **Piszkesteto** **117.32** **324** PFAKE 08 40 50.0 +15
PSZ LR LR
comp=Z,4µm,19.0s
MET **Memphis--Engin** **117.36** **52** PFAKE 08 40 50.0 +15
MET LR LR
comp=Z,20µm,20.0s
OKC **Ostrava-Krasne** **117.37** **326** AMS AMS 09 30 10.0
comp=Z,4µm,22.1s
GLAT **Glass** **117.52** **50** PFAKE 08 40 50.0 +15
GLAT LR LR
comp=Z,33µm,20.0s
VTS **Vitosha** **117.54** **317** PFAKE 08 40 50.0 +15
VTS LR LR
comp=Z,2µm,21.0s
HALT **Halls** **117.59** **51** PFAKE 08 40 50.0 +15
HALT LR LR

comp=Z,30µm,21.0s
OLIL Olney 117.62 47 PFAKE 08 40 50.0 +15
OLIL LR LR
comp=Z,15µm,22.0s
MBAR Mbarara 117.67 268 PFAKE 08 40 50.0 +14
MBAR LR LR
comp=Z,2µm,20.0s
VBMS Vicksburg 117.67 55 PFAKE 08 40 50.0 +14
VBMS LR LR
comp=Z,14µm,20.0s
GLMI Grayling 117.68 40 PFAKE 08 40 50.0 +15
GLMI LR LR
comp=Z,17µm,19.0s
MORC Moravsky Berou 117.73 326 PFAKE 08 40 50.0 +15
MORC LR LR
comp=Z,4µm,21.0s
OXF Oxford 117.94 52 PFAKE 08 40 50.0 +14
OXF LR LR
comp=Z,14µm,20.0s
DPC Dobruska-Polom 118.09 327 *e*SS SS 08 57 44.1 -20
DPC AMS AMS 09 31 40.0
comp=Z,6µm,20.5s
SANT Santorini 118.11 310 PFAKE 08 40 50.0 +14
SANT LR LR
comp=Z,1µm,21.0s
LSZ Lusaka 118.17 251 PFAKE 08 40 50.0 +13
LSZ LR LR
comp=Z,2µm,20.0s
USIN University of 118.20 48 PFAKE 08 40 50.0 +14
USIN LR LR
comp=Z,18µm,21.0s
BLO Bloomington 118.62 47 PFAKE 08 40 50.0 +13
BLO LR LR
comp=Z,18µm,21.0s
WVT Waverly 118.68 50 PFAKE 08 40 50.0 +13
WVT LR LR
comp=Z,26µm,22.0s
PLAL Pickwick Lake 118.85 51 PFAKE 08 40 50.0 +12
PLAL LR LR
comp=Z,19µm,19.0s
IDI Anoyia 118.89 309 PFAKE 08 40 50.0 +12
IDI LR LR
comp=Z,700nm,20.0s
PVCC Panska Ves 118.92 328 AMS AMS 09 33 10.0
comp=Z,4µm,18.5s
LIT Litokhoron 119.00 315 PFAKE 08 40 50.0 +12
LIT LR LR
comp=Z,1µm,20.0s
DIVS Divibare 119.03 320 PFAKE 08 40 50.0 +12
DIVS LR LR
comp=Z,1µm,19.0s
BRG Berggiesshubel 119.05 329 PP PP 08 42 01.0 +4.1
BRG SKS **SKSac 08 47 33.0 +0.7**
BRG SDIFF **Sdif 08 49 54.0 +7.0**
BRG SS **SKKSdf 08 58 37.0 +1.3**
comp=N,3µm,23.1s
comp=E,3µm,21.8s
comp=Z,5µm,21.3s
TREC Trest 119.12 327 AMS AMS 09 31 30.0
comp=Z,6µm,22.3s
WCI Wyandotte Cave 119.13 47 PFAKE 08 40 50.0 +12
WCI LR LR
comp=Z,17µm,19.0s
SUR Sutherland 119.19 230 PFAKE 08 40 50.0 +11
SUR LR LR
comp=Z,4µm,20.0s
PRA Prague 119.26 328 AMS AMS 09 32 50.0
comp=Z,6µm,20.8s
CLL Collm 119.27 330 PFAKE 08 40 50.0 +12
CLL LR LR
comp=Z,6µm,22.0s
CLL Collm 119.27 330 *e*PP PP 08 42 02.0 +3.6
CLL *e*PPP PPP 08 44 30.0
CLL *e*Sdif Sdif 08 49 47.0 -1.8
CLL *e*PS **PS 08 51 44.0 -3.2**
CLL *e* 08 52 45.0
CLL *e* 08 53 33.0
CLL *e*SS **SKKSdf 08 58 30.0 -5.3**
CLL *e*SSS SSS 09 02 42.0
CLL *e*SSSS 09 06 42.0
CLL Lm MLR 09 32 00.0
comp=N,4µm,21.8s
CLL Lm MLR 09 32 00.0
comp=E,3µm,22.0s
AAM Ann Arbor 119.39 42 PFAKE 08 40 50.0 +11
AAM LR LR
comp=Z,11µm,20.0s
FNA Florina 119.52 316 PFAKE 08 40 50.0 +11
FNA LR LR
comp=Z,1µm,21.0s
AGG Agios Georgios 119.53 314 PFAKE 08 40 50.0 +11
AGG LR LR
comp=Z,1µm,21.0s
NKC Novy Kostel 120.20 329 AMS AMS 09 31 30.0
comp=Z,5µm,22.1s
KHC Kasperske Hory 120.25 327 PFAKE 08 40 50.0 +10
KHC LR LR
comp=Z,2µm,20.0s
KHC Kasperske Hory 120.25 327 *e*SP SP 08 51 54.1 +1.1
KHC *ex* x 08 58 53.8
TTG Podgorica 120.26 318 PFAKE 08 40 50.0 +10
TTG LR LR
comp=Z,3µm,22.0s
LRAL Lakeview Retre 120.30 53 PFAKE 08 40 50.0 +9.4
LRAL LR LR
comp=Z,18µm,22.0s
TIR Tirane 120.32 317 PFAKE 08 40 50.0 +10
TIR LR LR
comp=Z,3µm,20.0s
GEC2 GERESS Array S 120.35 327 PFAKE 08 40 50.0 +10
GEC2 LR LR
comp=Z,6µm,21.0s
GERES GERESS Array B 120.35 327 PKP **PKPdf 08 40 41.3 +0.9**
comp=Z,0.7nm,0.6s,baz=0.0,slow=2.7,SNR=5.9
SWET Sewanee 120.44 51 PFAKE 08 40 50.0 +9.1
SWET LR LR
comp=Z,15µm,18.0s
BLY Banja Luka 120.50 322 PFAKE 08 40 50.0 +9.3
BLY LR LR
comp=Z,2µm,20.0s
ITM Ithomi 120.50 312 PFAKE 08 40 50.0 +9.0
ITM LR LR
comp=Z,900nm,21.0s
MYIG MØrida 120.70 68 PFAKE 08 40 50.0 +8.3
MYIG LR LR
comp=Z,21µm,21.0s
ACSO Alum Creek Sta 120.72 44 PFAKE 08 40 50.0 +8.7
ACSO LR LR
comp=Z,11µm,18.0s
BRAL Brewton 120.80 55 PFAKE 08 40 50.0 +8.4
BRAL LR LR
comp=Z,11µm,20.0s
SCHQ Schefferville 121.02 23 PFAKE 08 40 50.0 +8.6
SCHQ LR LR
comp=Z,4µm,20.0s
PAYG Puerto Ayora 121.13 93 PFAKE 08 40 50.0 +7.2
PAYG LR LR
comp=Z,22µm,19.0s
SADO Sadowa 121.14 38 PFAKE 08 40 50.0 +8.1
SADO LR LR
comp=Z,12µm,21.0s
GRFO Grafenberg 121.16 329 PFAKE 08 40 50.0 +8.2
GRFO LR LR
comp=Z,4µm,21.0s
CPCT Cooper Cave 121.44 50 PFAKE 08 40 50.0 +7.2
CPCT LR LR
comp=Z,12µm,18.0s
TZTN Tazewell 121.78 48 PFAKE 08 41 00.0 +17
TZTN LR LR
comp=Z,8µm,22.0s
ERPA Erie 121.91 41 PFAKE 08 41 00.0 +17
ERPA LR LR
comp=Z,10µm,20.0s
TKL Tuckaleechee C 121.94 49 PFAKE 08 41 00.0 +16
TKL LR LR
comp=Z,9µm,21.0s
TRI Trieste 122.07 324 PFAKE 08 40 50.0 +6.4
TRI LR LR
comp=Z,4µm,21.0s
SNET Serv Nac Est T 122.07 76 PFAKE 08 41 00.0 +15
SNET LR LR
comp=Z,49µm,19.0s
TEIG Tepich 122.17 68 PFAKE 08 41 00.0 +15
TEIG LR LR
comp=Z,19µm,18.0s
PLVO Plevna 122.26 37 PFAKE 08 41 00.0 +16
PLVO LR LR
comp=Z,12µm,20.0s
HOPE Hope Point 122.65 177 PFAKE 08 41 00.0 +15
HOPE LR LR
comp=Z,3µm,19.0s
STU Stuttgart 122.77 329 PFAKE 08 41 00.0 +15
STU LR LR
comp=Z,5µm,21.0s
BG3 Lake Jocassee 122.82 50 PFAKE 08 41 00.0 +15
BG3 LR LR
comp=Z,9µm,19.0s
MMNY Mt. Morris Dam 122.95 39 PFAKE 08 41 00.0 +15
MMNY LR LR
comp=Z,16µm,20.0s
GOGA Godfrey 122.98 52 PFAKE 08 41 00.0 +14
GOGA LR LR
comp=Z,16µm,18.0s
MCWV Mont Chateau 123.14 44 PFAKE 08 41 00.0 +14
MCWV LR LR
comp=Z,6µm,20.0s
ESK Eskdalemuir 123.15 341 PFAKE 08 41 00.0 +15
ESK LR LR
comp=Z,2µm,22.0s
TIP Timpagrande 123.41 316 PFAKE 08 41 00.0 +13
TIP LR LR
comp=Z,2µm,22.0s
BFO Black Forest 123.50 329 PFAKE 08 41 00.0 +14
BFO LR LR
comp=Z,5µm,21.0s
FUORN Ofenpass-Fuorn 123.53 327 PFAKE 08 41 00.0 +13
FUORN LR LR
comp=Z,6µm,20.0s
HODGE Hodges 123.62 50 PFAKE 08 41 00.0 +13
HODGE LR LR
comp=Z,6µm,19.0s
PLCA Paso Flores 123.66 145 PKP **PKPdf 08 40 47.7 +0.7**
comp=Z,2.3nm,0.7s,baz=317,slow=3.3,SNR=12
PLCA Paso Flores 123.66 145 *e*PKPdf **PKPdf 08 40 47.4 +0.4**
PLCA Paso Flores 123.66 145 *e*PKIKP **PKPdf 08 40 47.4 +0.4**
CUC Castrocucco 123.68 317 PFAKE 08 41 00.0 +13
CUC LR LR
comp=Z,2µm,21.0s
WLF Walferdange 123.69 332 PFAKE 08 41 00.0 +13
WLF LR LR
comp=Z,4µm,18.0s
UCC Uccle 123.73 333 PFAKE 08 41 00.0 +13
UCC LR LR
comp=Z,5µm,20.0s
PAULI Pauline 123.74 50 PFAKE 08 41 00.0 +13
PAULI LR LR
comp=Z,13µm,19.0s
CSGN Cosiguina Volc 123.75 77 PFAKE 08 41 00.0 +12
CSGN LR LR
comp=Z,27µm,19.0s
BLA Blacksburg 123.81 46 PFAKE 08 41 00.0 +13
BLA LR LR
comp=Z,9µm,20.0s
GO06 Curarrehue 123.86 143 PFAKE 08 41 00.0 +13
GO06 LR LR
comp=Z,2µm,22.0s
TGUH Tegucigalpa,Un 123.93 75 PFAKE 08 41 00.0 +12
TGUH LR LR
comp=Z,55µm,22.0s
LONY Lake Ozonia 123.97 36 PFAKE 08 41 00.0 +13
LONY LR LR
comp=Z,10µm,19.0s
SSPA Standing Stone 124.01 42 PFAKE 08 41 00.0 +12
SSPA LR LR
comp=Z,8µm,19.0s
AQU L'Aquila 124.08 321 PFAKE 08 41 00.0 +12
AQU LR LR
comp=Z,2µm,20.0s
TUE Stuetta 124.12 327 PFAKE 08 41 00.0 +12
TUE LR LR
comp=Z,6µm,21.0s
ECH Echery 124.16 330 PFAKE 08 41 00.0 +12
ECH LR LR
comp=Z,4µm,20.0s
JSC Jenkinsville 124.37 50 PFAKE 08 41 00.0 +12
JSC LR LR
comp=Z,10µm,19.0s
FRNY Flat Rock 124.42 35 PFAKE 08 41 00.0 +12
FRNY LR LR
comp=Z,14µm,21.0s
CEL Celeste 124.43 315 PFAKE 08 41 00.0 +11
CEL LR LR
comp=Z,2µm,22.0s
BINY Binghamton 124.44 39 PFAKE 08 41 00.0 +12
BINY LR LR
comp=Z,13µm,19.0s
NCB Newcomb 124.55 36 PFAKE 08 41 00.0 +11
NCB LR LR
comp=Z,12µm,21.0s
ESTN Estel 124.90 76 PFAKE 08 41 00.0 +10
ESTN LR LR
comp=Z,32µm,19.0s
KSPA Keystone Colle 124.92 40 PFAKE 08 41 00.0 +11
KSPA LR LR
comp=Z,7µm,19.0s
VLC Villacollemand 124.92 324 PFAKE 08 41 00.0 +11
VLC LR LR
comp=Z,5µm,22.0s
PAGS Pennsylvania G 124.98 42 PFAKE 08 41 00.0 +11
PAGS LR LR
comp=Z,6µm,21.0s
ACCN Adirondack Com 125.21 37 PFAKE 08 41 00.0 +10
ACCN LR LR
comp=Z,10µm,20.0s
SENIN Lac Senin/Sane 125.30 328 PFAKE 08 41 00.0 +10
SENIN LR LR
comp=Z,4µm,22.0s
SDMD Soldier's Deli 125.31 42 PFAKE 08 41 00.0 +10
SDMD LR LR
comp=Z,3µm,18.0s
CBN Corbin Frederi 125.53 44 PFAKE 08 41 00.0 +9.5
CBN LR LR
comp=Z,7µm,21.0s
NHSC New Hope 125.65 51 PFAKE 08 41 00.0 +9.1
NHSC LR LR
comp=Z,11µm,19.0s
LUPA Lehigh Univers 125.67 41 PFAKE 08 41 00.0 +9.3
LUPA LR LR
comp=Z,500nm,19.0s
LBNH Lisbon 125.73 35 PFAKE 08 41 00.0 +9.2
LBNH LR LR
comp=Z,12µm,20.0s
ODNJ Ogdensburg 125.91 40 PFAKE 08 41 00.0 +8.8
ODNJ LR LR
comp=Z,6µm,21.0s
PSUB Penn St. - Bra 125.97 41 PFAKE 08 41 00.0 +8.7
PSUB LR LR
comp=Z,6µm,22.0s
BRNJ Basking Ridge 126.15 40 PFAKE 08 41 00.0 +8.4
BRNJ LR LR
comp=Z,6µm,19.0s
DWPF Disney Wildern 126.38 57 PFAKE 08 41 00.0 +7.6
DWPF LR LR
comp=Z,13µm,21.0s
GO05 HualaæØ 126.38 139 PFAKE 08 41 00.0 +7.7
GO05 LR LR
comp=Z,2µm,20.0s
PAL Palisades 126.40 39 PFAKE 08 41 00.0 +7.9
PAL LR LR
comp=Z,6µm,22.0s
BNI Bardonecchia 126.47 327 PFAKE 08 41 00.0 +7.7
BNI LR LR
comp=Z,4µm,20.0s
CPNY Central Park 126.48 40 PFAKE 08 41 00.0 +7.8
CPNY LR LR
comp=Z,4µm,20.0s
CNNC Cliffs of the 126.50 47 PFAKE 08 41 00.0 +7.5
CNNC LR LR
comp=Z,10µm,22.0s
JTS JuntasAbangare 126.50 80 PFAKE 08 41 10.0 +17
JTS LR LR
comp=Z,10µm,21.0s
PKME Peaks-Kenny Pk 126.55 33 PFAKE 08 41 00.0 +7.7
PKME LR LR
comp=Z,11µm,19.0s
YLE Yale 126.83 39 PFAKE 08 41 00.0 +7.1
YLE LR LR
comp=Z,8µm,21.0s
BATG Bathurst New B 126.84 29 PFAKE 08 41 00.0 +7.2
BATG LR LR
comp=Z,10µm,21.0s
TSUM Tsumeb 126.89 243 PFAKE 08 41 10.0 +16
TSUM LR LR
comp=Z,3µm,19.0s
HRV Adam Dziewonsk 126.98 37 PFAKE 08 41 00.0 +6.8
HRV LR LR
comp=Z,9µm,18.0s
ESPN Las Esperanzas 126.99 77 PFAKE 08 41 10.0 +16
ESPN LR LR
comp=Z,20µm,22.0s
HDC Heredia 127.35 80 PFAKE 08 41 10.0 +15
HDC LR LR
comp=Z,10µm,20.0s
SSB Saint Sauveur 127.46 328 PFAKE 08 41 10.0 +16
SSB LR LR
comp=Z,3µm,22.0s
ROC1 El Roble 128.20 137 PFAKE 08 41 10.0 +14
ROC1 LR LR
comp=Z,100nm,22.0s
PEL Peldehue 128.32 138 PFAKE 08 41 10.0 +14
PEL LR LR
comp=Z,8µm,21.0s
LMN Caledonia Moun 128.46 29 PFAKE 08 41 10.0 +14
LMN LR LR
comp=Z,6µm,19.0s
HAL Halifax 129.93 30 PFAKE 08 41 10.0 +11
HAL LR LR
comp=Z,5µm,21.0s
GO04 Tololo Observa 129.96 134 PFAKE 08 41 10.0 +10
GO04 LR LR
comp=Z,11µm,22.0s
KEST Kesra 130.23 316 PFAKE 08 41 10.0 +10
KEST LR LR
comp=Z,2µm,19.0s
TRQA Tornquist 130.26 148 PFAKE 08 41 10.0 +10
TRQA LR LR
comp=Z,2µm,19.0s
LCO Las Campanas 130.68 133 PFAKE 08 41 10.0 +9.0
LCO LR LR
comp=Z,10µm,22.0s
BCIP Isla Barro Col 131.61 81 PFAKE 08 41 10.0 +7.2
BCIP LR LR
comp=Z,6µm,19.0s
GO03 Copiap 131.80 132 PFAKE 08 41 10.0 +7.1
GO03 LR LR
comp=Z,7µm,22.0s
NNA Nana 132.51 109 PFAKE 08 41 20.0 +15
NNA LR LR
comp=Z,8µm,20.0s
MTDJ Mount Denham 132.51 68 PFAKE 08 41 20.0 +16
MTDJ LR LR
comp=Z,10µm,20.0s
OTAV Otavalo 133.00 93 PFAKE 08 41 20.0 +14
OTAV LR LR
comp=Z,10µm,21.0s
PB10 IPOC Station P 133.67 127 PFAKE 08 41 20.0 +14
PB10 LR LR
comp=Z,3µm,20.0s
MALC Bahia Malaga 134.26 87 *e*P **PKPdf 08 41 06.7 -1.1**
GTBY Guantanamo Bay 134.32 65 PFAKE 08 41 20.0 +12
GTBY LR LR
comp=Z,14µm,22.0s
PB04 IPOC Station P 134.57 126 PFAKE 08 41 20.0 +12
PB04 LR LR
comp=Z,3µm,21.0s
POPC Popayan, Colom 134.89 90 *e*P **PKPdf 08 41 07.9 -1.3**
PCON Cinco Dias 135.16 90 *e*P **PKPdf 08 41 13.9 +3.7**
LVC Limon Verde 135.43 127 PFAKE 08 41 20.0 +10
LVC LR LR
comp=Z,3µm,21.0s
PB01 IPOC Station P 135.72 125 PFAKE 08 41 20.0 +10
PB01 LR LR
comp=Z,3µm,22.0s
CART Cartagena 135.74 325 PFAKE 08 41 20.0 +10
CART LR LR
comp=Z,3µm,18.0s
MOTC Monteria, Cord 135.75 81 *e*P **PKPdf 08 41 10.4 -0.1**
ESLA Sonseca Array 135.86 329 PFAKE 08 41 20.0 +10
ESLA LR LR
comp=Z,3µm,22.0s
FLOC Florencia 135.87 91 *e*P **PKPdf 08 41 14.6 +3.8**
HELC Santa Helena 136.03 84 *e*P **PKPdf 08 41 15.9 +4.4**
PAB San Pablo 136.15 329 PFAKE 08 41 20.0 +9.3
PAB LR LR
comp=Z,4µm,22.0s
PB11 IPOC Station P 136.18 123 *e*PKPdf **PKPdf 08 41 11.6 +0.2**
PB11 LR LR
comp=Z,3µm,22.0s
GUYC Guyana, Colomb 136.19 86 *e*P **PKPdf 08 41 12.6 +0.6**
RREF El Recreo 136.24 86 *e*P **PKPdf 08 41 16.3 +4.0**
MNMC Minye Minye 136.51 122 PFAKE 08 41 20.0 +7.8
MNMC LR LR
comp=Z,3µm,19.0s
ZARC Zaragoza, Cauc 136.63 82 *e*P **PKPdf 08 41 12.9 +0.6**
PRAC Prado 136.70 88 *e*P PKPpre 08 41 08.4
MTE Manteigas 137.03 333 PFAKE 08 41 20.0 +7.7
MTE LR LR
comp=Z,4µm,21.0s
ROSC El Rosal 137.26 86 PKP **PKPdf 08 41 15.5 +1.6**
comp=Z,6.3nm,1.0s,baz=116,slow=22,SNR=4.2
ROSC El Rosal 137.26 86 *e*PKPdf **PKPdf 08 41 14.4 +0.5**
ROSC LR LR
comp=Z,4µm,18.0s
ROSC El Rosal 137.26 86 *e*P **PKPdf 08 41 17.3 +3.4**
SMLC San Mart`n de 137.32 80 *e*P **PKPdf 08 41 12.5 -1.0**
GRTK Grand Turk 137.38 61 PFAKE 08 41 30.0 +17
GRTK LR LR
comp=Z,11µm,20.0s
BBSR BB Station 137.38 43 PFAKE 08 41 30.0 +17
BBSR LR LR
comp=Z,4µm,20.0s
CHIC Chingaza 137.85 87 *e*P **PKPdf 08 41 17.4 +2.4**
SDDR Presa de Saban 138.04 65 PFAKE 08 41 30.0 +15
SDDR LR LR
comp=Z,10µm,20.0s
OCAC Ocana 138.10 81 *e*P **PKPdf 08 41 17.7 +2.6**
PESTR Estremoz 138.27 332 PFAKE 08 41 30.0 +15
PESTR LR LR
comp=Z,2µm,20.0s
BARC Barichara 138.34 84 *e*P **PKPdf 08 41 17.0 +1.4**
RUSC La Rusia 138.47 85 *e*P PKPpre 08 41 07.5
PAMC Pamplona, Colo 138.78 82 *e*P **PKPdf 08 41 18.2 +1.5**
LPAZ La Paz 138.99 119 PKhKP PKPpre 08 41 11.7
comp=Z,1.2nm,0.6s,baz=298,slow=1.7,SNR=7.9
LPAZ PKP **PKPdf 08 41 17.6 +0.4**
comp=Z,5.2nm,0.8s,baz=292,slow=2.5,SNR=11
LPAZ La Paz 138.99 119 *e*PKPdf **PKPdf 08 41 16.9 -0.3**
LPAZ *ep*PKPdf **PKiKP 08 41 17.9 -1.5**
LPAZ La Paz 138.99 119 *e*PKIKP **PKPdf 08 41 17.0 -0.3**
LPAZ *e* 08 41 18.0
TAM Tamanrasset 139.15 302 PFAKE 08 41 30.0 +13
TAM LR LR
comp=Z,2µm,20.0s
PFVI Vila Bisbo 140.24 331 PFAKE 08 41 30.0 +12
PFVI LR LR
comp=Z,3µm,20.0s
SDV Santo Domingo 140.69 80 PFAKE 08 41 30.0 +10
SDV LR LR
comp=Z,11µm,21.0s
CPUP Villa Florida 141.52 141 PKP **PKPdf 08 41 21.4 +0.6**
comp=Z,4.1nm,0.8s,baz=184,slow=2.5,SNR=5.9
CPUP Villa Florida 141.52 141 *e*PKPdf **PKPdf 08 41 22.7 +1.9**
CPUP Villa Florida 141.52 141 *e*PKIKP **PKPdf 08 41 22.7 +1.9**
RTC Rabat Centre 141.64 326 PFAKE 08 41 30.0 +9.2
RTC LR LR
comp=Z,7µm,22.0s
AGP Aguadilla 141.95 64 PFAKE 08 41 30.0 +8.2
AGP LR LR
comp=Z,6µm,22.0s
MPR Mayaguez 142.02 64 PFAKE 08 41 30.0 +8.1
MPR LR LR
comp=Z,7µm,20.0s
CRPR Cabo Rojo, PR 142.11 64 PFAKE 08 41 30.0 +8.0
CRPR LR LR
comp=Z,10µm,19.0s
EMPR Esperanza - Ma 142.48 63 PFAKE 08 41 30.0 +7.3
EMPR LR LR
comp=Z,8µm,22.0s
OBIP Obispado Ponce 142.55 64 PFAKE 08 41 30.0 +7.2
OBIP LR LR
comp=Z,8µm,21.0s
ICMP Isla Caja de M 142.68 64 PFAKE 08 41 30.0 +7.0
ICMP LR LR
comp=Z,9µm,22.0s
SJG San Juan 142.94 64 PFAKE 08 41 40.0 +16

SJG					LR	LR			
	comp=Z,5μm,20.0s								
CBYP	**Canovanas**	**143.15**	**63**		PFAKE			08 41 40.0	+16
CBYP					LR	LR			
	comp=Z,4μm,20.0s								
HUMP	**Col San Antoni**	**143.20**	**64**		PFAKE			08 41 40.0	+16
HUMP					LR	LR			
	comp=Z,5μm,21.0s								
MTP	**Monte Pirata**	**143.48**	**63**		PFAKE			08 41 40.0	+16
MTP					LR	LR			
	comp=Z,5μm,20.0s								
STVI	**Saint Thomas**	**143.93**	**63**		PFAKE			08 41 40.0	+15
STVI					LR	LR			
	comp=Z,6μm,22.0s								
CDVI	**St. Croix**	**144.30**	**64**	*e*	PKPdf	**PKPdf**		**08 41 26.9**	**+1.0**
ABVI	**Anegada Island**	**144.34**	**62**		PFAKE			08 41 40.0	+14
ABVI					LR	LR			
	comp=Z,8μm,22.0s								
SIV	**San Ignacio**	**145.14**	**124**		PKPbc	**PKPbc**		**08 41 26.6**	**-0.3**
	comp=Z,7.3nm,0.7s,baz=260,slow=3.9,SNR=26								
TOC2	**Torodi Ar. Sit**	**145.67**	**289**		PFAKE			08 41 40.0	+11
TOC2					LR	LR			
	comp=Z,2μm,20.0s								
TOC3	**Torodi Ar. Sit**	**145.68**	**289**		PFAKE			08 41 40.0	+11
TOC3					LR	LR			
	comp=Z,2μm,20.0s								
TOB2	**Torodi Ar. Sit**	**145.69**	**289**		PFAKE			08 41 40.0	+11
TOB2					LR	LR			
	comp=Z,2μm,20.0s								
TOC1	**Torodi Ar. Sit**	**145.69**	**289**		PFAKE			08 41 40.0	+11
TOC1					LR	LR			
	comp=Z,2μm,20.0s								
TOB3	**Torodi Ar. Sit**	**145.69**	**289**		PFAKE			08 41 40.0	+11
TOB3					LR	LR			
	comp=Z,2μm,20.0s								
TOA2	**Torodi Ar. Sit**	**145.69**	**289**		PFAKE			08 41 40.0	+11
TOA2					LR	LR			
	comp=Z,2μm,20.0s								
SMRT	**St. Maarten**	**145.70**	**62**	*e*	PKPdf	**PKPab**		**08 41 28.9**	**-0.1**
SMRT					LR	LR			
	comp=Z,3μm,20.0s								
TOA0	**Torodi Ar. Sit**	**145.70**	**289**	*e*	PKPdf	**PKPdf**		**08 41 26.0**	**-2.5**
TOA0				*e*	PKPdf	**PKPbc**		**08 41 27.6**	**-1.2**
TOA0					LR	LR			
	comp=Z,2μm,20.0s								
TORD	**Torodi Ar. Bea**	**145.70**	**289**		PKPbc	**PKPdf**		**08 41 27.0**	**-1.4**
	comp=Z,20nm,1.0s,baz=102,slow=5.8,SNR=26								
TORD					PP	**PP**		**08 44 49.8**	**+0.2**
	comp=Z,4.6nm,1.0s,baz=90,slow=5.9,SNR=4.2								
TOA1	**Torodi Ar. Sit**	**145.70**	**289**	*e*	PKPdf	**PKPdf**		**08 41 27.0**	**-1.4**
TOA1				*e*	PP	**PP**		**08 44 49.8**	**+0.2**
TOA1					LR	LR			
	comp=Z,2μm,20.0s								
TOC4	**Torodi Ar. Sit**	**145.70**	**289**		PFAKE			08 41 40.0	+11
TOC4					LR	LR			
	comp=Z,2μm,20.0s								
SABA	**Saba**	**145.71**	**63**		PFAKE			08 41 40.0	+11
SABA					LR	LR			
	comp=Z,9μm,22.0s								
TOC7	**Torodi Ar. Sit**	**145.71**	**289**		PFAKE			08 41 40.0	+11
TOC7					LR	LR			
	comp=Z,2μm,21.0s								
TOB5	**Torodi Ar. Sit**	**145.71**	**289**		PFAKE			08 41 40.0	+11
TOB5					LR	LR			
	comp=Z,2μm,20.0s								
TOB4	**Torodi Ar. Sit**	**145.71**	**289**		PFAKE			08 41 40.0	+11
TOB4					LR	LR			
	comp=Z,2μm,20.0s								
TOC5	**Torodi Ar. Sit**	**145.72**	**289**		PFAKE			08 41 40.0	+11
TOC5					LR	LR			
	comp=Z,2μm,20.0s								
SEUS	**St. Eustatius**	**145.98**	**63**		PFAKE			08 41 40.0	+10
SEUS					LR	LR			
	comp=Z,6μm,21.0s								
SAML	**Samuel**	**146.23**	**111**		PFAKE			08 41 40.0	+8.9
SAML					LR	LR			
	comp=Z,4μm,18.0s								
PCRV	**Puerto La Cruz**	**146.38**	**76**		PKPbc	**PKPbc**		**08 41 30.9**	**0.0**
	comp=Z,24nm,1.0s,baz=255,slow=1.5,SNR=5.1								
ANWB	**Willy Bob**	**146.98**	**62**		PFAKE			08 41 40.0	+6.1
ANWB					LR	LR			
	comp=Z,6μm,22.0s								
FDF	**Fort de France**	**148.58**	**67**		PFAKE			08 41 40.0	-0.4
FDF					LR	LR			
	comp=Z,5μm,20.0s								
GRGR	**Grenville**	**148.84**	**72**		PFAKE			08 41 50.0	+8.6
GRGR					LR	LR			
	comp=Z,4μm,21.0s								
SVB	**Belmont**	**148.92**	**69**		PFAKE			08 41 50.0	+8.2
SVB					LR	LR			
	comp=Z,5μm,22.0s								
SPB	**Sao Paulo**	**149.25**	**151**		PFAKE			08 41 50.0	+7.3
SPB					LR	LR			
	comp=Z,4μm,20.0s								
BBGH	**Gun Hill**	**150.53**	**69**		PFAKE			08 41 50.0	+1.6
BBGH					LR	LR			
	comp=Z,7μm,22.0s								
KOWA	**Kowa**	**150.62**	**294**		PFAKE			08 41 50.0	+1.3
KOWA					LR	LR			
	comp=Z,2μm,20.0s								
PTGA	**Pitinga**	**151.30**	**97**		PKPbc	**PKPbc**		**08 41 44.9**	**+1.3**
	comp=Z,48nm,1.1s,baz=241,slow=3.7,SNR=18								
PTGA	**Pitinga**	**151.30**	**97**		PFAKE			08 41 50.0	-1.6
PTGA					LR	LR			
	comp=Z,4μm,20.0s								
KIC	**Kosan Boka**	**153.13**	**278**	*e*	P	**PKPbc**		**08 41 48.3**	**+0.6**
	comp=Z,215nm,1.7s								
DBIC	**Dimbokro**	**153.22**	**279**		PKPbc	**PKPbc**		**08 41 48.5**	**+0.6**
	comp=Z,6.5nm,0.7s,baz=48,slow=2.6,SNR=7.0								
TIC	**Toumodi**	**153.38**	**279**	*e*	P	**PKPbc**		**08 41 45.6**	**-2.7**
LIC	**Lamto**	**153.43**	**278**	*e*	P	**PKPbc**		**08 41 46.6**	**-1.8**
	comp=Z,68nm,1.2s								
BDFB	**Brasilia**	**155.22**	**139**		PKPbc	PKPbc		08 41 51.6	
	comp=Z,3.9nm,0.8s,baz=222,slow=1.0,SNR=5.5								
BDFB	**Brasilia**	**155.22**	**139**	*e*	PKPbc	PKPbc		08 41 51.6	
BDFB					LR	LR			
	comp=Z,5μm,21.0s								
BDFB	**Brasilia**	**155.22**	**139**	*e*	PKIKP	PKPbc		08 41 51.6	
BDFB					MLR	MLR			
	comp=Z,5μm,21.0s								
MDP	**Montagnes des**	**158.83**	**84**		PKPab	**PKPab**		**08 42 24.4**	**+0.7**
	comp=Z,12nm,1.0s,baz=302,slow=7.9,SNR=3.6								

MEX 15 08:23:08.7±0.5, 13°.90N×92°.46W, h15km±112km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
THIG		**1.02**	**11**	*e*P	Pb		08 23 24.6	-3.5
THIG				*e*S	Sb		08 23 37.5	-3.9
PCIG		**1.94**	**338**	*i* P	Pn		08 23 37.3	-3.9
PCIG				*e*S	Sn		08 24 00.8	-4.5
CCIG	**Comitan**	**2.39**	**7**	*e*P	Pn		08 23 44.6	-3.0
CCIG				*i* S	Sn		08 24 12.4	-4.3
TGIG		**2.94**	**347**	*e*P	Pn		08 23 52.6	-2.3
TGIG				*i* S	Sn		08 24 25.9	-4.0

*ISK **15** 08:23:25.7, 37°.31N×37°.13E, h6km, ML2.4/8*
*ISCJB **15** 08:23:26.3±0.6, 37°.30N±0°.03×37°.12E±0°.04, h2km±7km, Error ellipse: s-maj=6.2km s-min=3.8km az=39.1*
*DDA **15** 08:23:26.5, 37°.30N×37°.12E, h7km, Ml2.9*
ISC 15 08:23:26.3±0.9, 37°.29N±0°.03×37°.13E±0°.03, h9km±8km, n15,σ0°.45/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GAZ	**Gaziantep**	**0.13**	**150**	PG	**Pg**		**08 23 29.4**	**0.0**
GAZ				SG	**Sg**		**08 23 31.9**	**+0.4**
KMRS	**Kahramanmaras**	**0.28**	**320**	PG	**Pg**		**08 23 31.7**	**-0.3**
KMRS				SG	**Sg**		**08 23 35.7**	**-0.2**
KUZU	**Kuzuini**	**0.52**	**185**	*i* P	**Pb**		**08 23 37.1**	**-0.4**
KUZU				*i* S	**Sb**		**08 23 45.0**	**-0.1**
ANDN	**Andirin**	**0.69**	**295**	*i* P	**Pg**		**08 23 39.6**	**-0.1**
ANDN				*i* S	**Sg**		**08 23 47.8**	**-0.8**
ATAB	**Bozova**	**0.95**	**79**	*i* P	**Pb**		**08 23 44.6**	**-0.2**
ATAB				*i* S	**Sn**		**08 23 58.8**	**-0.6**
KOZT	**Kozan**	**1.05**	**281**	PG	**Pg**		**08 23 46.5**	**-0.1**
SAIM	**ADANA**	**1.08**	**310**	*i* P	**Pb**		**08 23 47.4**	**+0.2**
SAIM				*i* S	**Sn**		**08 24 03.2**	**+0.5**
TAHT	**Tahtakopru-Hat**	**1.18**	**220**	PN	**Pg**		**08 23 49.1**	**+0.1**
AKCD	**Akcadag**	**1.19**	**32**	*i* P	**Pb**		**08 23 48.8**	**-0.3**
AKCD				*i* S	**Sb**		**08 24 04.7**	**+0.2**
SURC	**SANLIURFA_SURC**	**1.25**	**108**	*i* P	**Pn**		**08 23 50.0**	**0.0**
SURC				*i* S	**Sg**		**08 24 06.4**	**-0.3**
DARE	**Darende-Malaty**	**1.31**	**12**	PN	**Pn**		**08 23 50.8**	**-0.1**
URFA	**Urfa**	**1.36**	**83**	PN	**Pn**		**08 23 51.7**	**+0.2**
HEKM	**Malatya_Hekimh**	**1.72**	**22**	*i* P	**Pg**		**08 23 58.9**	**-0.4**
HEKM				*i* S	**Sg**		**08 24 22.6**	**+1.0**
BNN	**Bunyan**	**1.86**	**327**	PN	**Pn**		**08 23 58.8**	**+0.4**
MAZI	**Mazidag**	**2.65**	**85**	PN	**Pn**		**08 24 10.1**	**+0.9**

*GII **15** 08:32:41.4±0.2, 33°.17N×35°.49E, h11km, MD2.3/4*
*GRAL **15** 08:32:42.2±0.3, 33°.17N×35°.54E, h17km±5km, MD2.8*
ISC 15 08:32:41.5±0.9, 33°.20N±0°.03×35°.48E±0°.04, h18km±6km, n19,σ0°.55/31, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KSDI	**Kefar Szold**	**0.15**	**92**	Pg	**Pb**		**08 32 45.8**	**+0.1**
KSDI				Sg	**Sb**		**08 32 48.5**	**0.0**
MMA0B	**Mount Meron ar**	**0.20**	**201**	Pg	**Pg**		**08 32 46.3**	**-0.1**
MMA0B				Sg	**Sg**		**08 32 49.6**	**-0.1**
NATI	**Neve Ativ**	**0.22**	**73**	Pg	**Pg**		**08 32 46.8**	**+0.1**
NATI				Sg	**Sb**		**08 32 50.4**	**-0.3**
SHBL	**Chebaa**	**0.26**	**55**	*e*P	**Pg**		**08 32 47.3**	**-0.2**
SHBL				*e*S	**Sg**		**08 32 51.3**	**-0.3**
HNTI	**Hanita**	**0.28**	**246**	Pg	**Pg**		**08 32 48.0**	**+0.2**
HNTI				Sg	**Sg**		**08 32 52.5**	**+0.5**
KSHT	**Keshet**	**0.35**	**128**	Pg	**Pb**		**08 32 49.5**	**+0.2**
RCY	**Rachaya**	**0.42**	**45**	*e*P	**Pg**		**08 32 50.0**	**-0.2**
RCY				*e*S	**Sg**		**08 32 55.6**	**-0.5**
DQRL	**Deir Qamar**	**0.51**	**8**	*e*P	**Pg**		**08 32 51.8**	**0.0**
DQRL				*e*S	**Sg**		**08 32 59.2**	**+0.4**
BLGI	**Bet Lehem HaGe**	**0.53**	**208**	Pg	**Pg**		**08 32 51.9**	**-0.1**
BLGI				Sg	**Sb**		**08 32 59.5**	**0.0**
OFRI	**'Ofer**	**0.71**	**216**	Pg	**Pg**		**08 32 55.1**	**-0.4**
OFRI				Sg	**Sg**		**08 33 05.1**	**+0.1**
BHL	**Bhannes**	**0.72**	**11**	*e*P	**Pg**		**08 32 55.3**	**-0.4**
MMLI	**Mount Malkishu**	**0.76**	**184**	Pg	**Pg**		**08 32 55.7**	**-0.7**
MMLI				Sg	**Sb**		**08 33 06.2**	**-0.1**
HMDT	**Nahal Hemdat**	**0.94**	**178**	Pg	**Pb**		**08 32 58.8**	**-0.6**
HMDT				Sg	**Sn**		**08 33 12.4**	**-0.6**
SLTI	**Sal'it**	**1.03**	**202**	Pg	**Pb**		**08 33 00.3**	**-0.5**
SLTI				Sg	**Sg**		**08 33 14.6**	**-0.3**
HWQ	**Hawqa**	**1.14**	**20**	*e*P	**Pb**		**08 33 02.1**	**-0.8**
DSI	**Dead Sea**	**1.63**	**183**	Pn	**Pn**		**08 33 10.1**	**+0.8**
YTIR	**Yattir**	**1.86**	**190**	Pn	**Pb**		**08 33 14.2**	**-0.8**
GHAJ	**Ghor Haditha**	**1.89**	**178**	Pn	**Pn**		**08 33 14.4**	**+1.5**
PRNI	**Paran**	**2.87**	**188**	Pn	**Pn**		**08 33 27.5**	**+1.1**

IDC 15 08:50:59.7±7.0, 3°.29S×148°.17E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/40, mbtmp3.8/4, Error ellipse: s-maj=146.7km s-min=39.4km az=84.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**21.36**	**218**	P	P		08 55 48.2	-0.7
	1.6nm,0.8s,baz=42,slow=10,SNR=12							
ASAR	**Alice Springs**	**24.50**	**213**	P	P		08 56 20.7	-0.3
	0.9nm,0.6s,baz=43,slow=7.4,SNR=16							
FITZ	**Fitzroy Crossi**	**26.52**	**235**	P	P		08 56 40.3	+1.0
	2.6nm,0.9s,baz=60,slow=13,SNR=4.2							
CMAR	**Chiang Mai Arr**	**53.06**	**296**	P	P		09 00 18.9	-0.3
	0.5nm,0.3s,baz=113,slow=6.9,SNR=4.5							

MEX 15 09:12:10.3±0.4, 14°.29N×92°.77W, h17km±48km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
THIG		**0.78**	**38**	*i* P	Pb		09 12 23.0	-2.5
THIG				*e*S	Sb		09 12 32.3	-3.6
PCIG		**1.47**	**343**	*i* P	Pn		09 12 32.8	-3.3
PCIG				*i* S	Sn		09 12 50.1	-5.0
CCIG	**Comitan**	**2.07**	**17**	*i* P	Pn		09 12 41.5	-3.1
CCIG				*i* S	Sn		09 13 06.4	-3.7
TGIG		**2.50**	**352**	*e*P	Pn		09 12 47.4	-2.9
TGIG				*i* S	Sn		09 13 16.2	-4.2

ROM 15 09:18:15.8±0.1, 42°.707N±0°.004×13°.165E±0°.006, h17km, ML1.7/10, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
NRCA	**Norcia**	**0.13**	**344**	P	Pb		09 18 19.9	-0.1
NRCA				S	Sb		09 18 22.6	-0.1
NRCA				AML	AML			
	comp=E,4120μm,0.1s							
NRCA				AML	AML			
	comp=N,3405μm,0.1s							
NRCA				AML	AML			
	comp=E,3945μm,0.1s							
NRCA				AML	AML			
	comp=N,4270μm,0.1s							
NRCA				AML	AML			
	comp=E,3945μm,0.1s							
NRCA				AML	AML			
	comp=N,4270μm,0.1s							
NRCA				AML	AML			
	comp=N,4270μm,0.1s							
NRCA				AML	AML			
	comp=E,3945μm,0.1s							
LNSS	**Leonessa**	**0.14**	**222**	P	Pg		09 18 20.0	+0.1
LNSS				S	Sb		09 18 22.8	-0.1
LNSS				AML	AML			
	comp=E,2480μm,0.2s							
LNSS				AML	AML			
	comp=N,2820μm,0.1s							
LNSS				AML	AML			
	comp=E,2480μm,0.2s							
LNSS				AML	AML			
	comp=N,2820μm,0.1s							
LNSS				AML	AML			
	comp=N,2820μm,0.1s							
LNSS				AML	AML			
	comp=E,2480μm,0.2s							
SMA1	**SAN MARTINO**	**0.15**	**121**	P	Pb		09 18 20.2	0.0
SMA1				S	Sb		09 18 23.4	+0.3
SMA1				AML	AML			
	comp=E,2870μm,0.2s							
SMA1				AML	AML			
	comp=N,1985μm,0.2s							
SMA1				AML	AML			
	comp=E,2870μm,0.2s							
SMA1				AML	AML			
	comp=N,1985μm,0.2s							
SMA1				AML	AML			
	comp=N,1985μm,0.2s							
SMA1				AML	AML			
	comp=E,2870μm,0.2s							
CAMP	**Campotosto**	**0.25**	**133**	P	Pg		09 18 21.6	+0.1
CAMP				S	Sb		09 18 26.1	0.0
CAMP				AML	AML			
	comp=E,130μm,1.3s							
CAMP				AML	AML			
	comp=N,145μm,1.2s							
CAMP				AML	AML			
	comp=E,130μm,1.3s							
CAMP				AML	AML			
	comp=N,145μm,1.2s							
TERO	**Teramo**	**0.33**	**104**	P	Pg		09 18 22.9	0.0
TERO				S	Sb		09 18 28.2	-0.3
TERO				AML	AML			
	comp=E,112μm,1.3s							
TERO				AML	AML			
	comp=N,94μm,0.7s							
TERO				AML	AML			
	comp=E,112μm,1.3s							
TERO				AML	AML			
	comp=N,94μm,0.7s							
TERO				AML	AML			
	comp=E,112μm,1.3s							
TERO				AML	AML			
	comp=N,94μm,0.7s							
FDMO	**Fiordimonte**	**0.34**	**350**	P	Pg		09 18 23.1	+0.2
FDMO				S	Sb		09 18 28.5	-0.1
FDMO				AML	AML			
	comp=E,128μm,0.2s							
FDMO				AML	AML			
	comp=N,198μm,0.9s							
FDMO				AML	AML			
	comp=E,128μm,0.2s							
FDMO				AML	AML			
	comp=N,198μm,0.9s							
CESI	**CESI - Serrava**	**0.35**	**327**	P	Pg		09 18 23.4	+0.2
CESI				S	Sb		09 18 29.0	-0.1
CESI				AML	AML			
	comp=E,56μm,0.2s							
CESI				AML	AML			
	comp=N,77μm,1.6s							
CESI				AML	AML			
	comp=E,56μm,0.2s							
CESI				AML	AML			
	comp=N,77μm,1.6s							
CESI				AML	AML			
	comp=N,77μm,1.6s							
CESI				AML	AML			
	comp=E,56μm,0.2s							
MOMA	**Monte Martano**	**0.45**	**283**	P	Pg		09 18 24.9	0.0
MOMA				S	Sb		09 18 32.0	+0.2
MOMA				AML	AML			
	comp=E,152μm,0.3s							
MOMA				AML	AML			
	comp=N,162μm,0.2s							
MOMA				AML	AML			
	comp=E,152μm,0.3s							
MOMA				AML	AML			
	comp=N,162μm,0.2s							
MOMA				AML	AML			
	comp=E,152μm,0.3s							
MOMA				AML	AML			
	comp=N,162μm,0.2s							
SNTG	**Esanatoglia**	**0.57**	**343**	P	Pg		09 18 27.0	-0.2
SNTG				AML	AML			
	comp=E,42μm,1.2s							
SNTG				AML	AML			
	comp=N,50μm,1.6s							
SNTG				AML	AML			
	comp=N,50μm,1.6s							
SNTG				AML	AML			
	comp=E,42μm,1.2s							
CING	**Cingoli**	**0.67**	**2**	AML	AML			
	comp=E,67μm,1.3s							
CING				AML	AML			
	comp=N,53μm,1.6s							
CING				AML	AML			
	comp=E,67μm,1.3s							
CING				AML	AML			
	comp=N,53μm,1.6s							

ROM 15 09:18:36.5±0.1, 42°.704N±0°.004×13°.162E±0°.006, h16km, ML2.0/2, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
NRCA	**Norcia**	**0.13**	**345**	P	Pg		09 18 40.6	+0.1
NRCA				S	Sb		09 18 43.3	-0.2
LNSS	**Leonessa**	**0.14**	**222**	P	Pb		09 18 40.7	0.0
LNSS				S	Sb		09 18 43.5	0.0
LNSS				AML	AML			
	comp=E,2480μm,0.2s							
LNSS				AML	AML			
	comp=N,2820μm,0.1s							
LNSS				AML	AML			
	comp=E,2480μm,0.2s							
LNSS				AML	AML			
	comp=N,2820μm,0.1s							
LNSS				AML	AML			
	comp=N,2820μm,0.1s							
LNSS				AML	AML			
	comp=E,2480μm,0.2s							
SMA1	**SAN MARTINO**	**0.15**	**120**	P	Pb		09 18 41.0	0.0
SMA1				S	Sb		09 18 44.0	+0.1
CAMP	**Campotosto**	**0.25**	**133**	P	Pg		09 18 42.3	+0.2
CAMP				S	Sb		09 18 46.6	-0.2
CAMP				AML	AML			
	comp=E,131μm,1.3s							
CAMP				AML	AML			
	comp=N,144μm,1.2s							
CAMP				AML	AML			
	comp=E,130μm,1.3s							
CAMP				AML	AML			
	comp=N,145μm,1.2s							
CAMP				AML	AML			
	comp=E,130μm,1.3s							
CAMP				AML	AML			
	comp=N,145μm,1.2s							
FEMA	**Monte Fema**	**0.27**	**342**	P	Pg		09 18 42.6	+0.1
FEMA				S	Sb		09 18 47.2	-0.3
ARRO	**Arrone**	**0.32**	**247**	P	Pg		09 18 42.5	-0.7
ARRO				S	Sb		09 18 48.5	-0.2
TERO	**Teramo**	**0.34**	**104**	P	Pg		09 18 43.6	+0.1
TERO				S	Sb		09 18 48.9	-0.3
FDMO	**Fiordimonte**	**0.34**	**351**	P	Pg		09 18 43.7	+0.2
CESI	**CESI - Serrava**	**0.36**	**328**	P	Pg		09 18 44.1	+0.2
CESI				S	Sb		09 18 49.8	-0.1
MOMA	**Monte Martano**	**0.45**	**283**	P	Pg		09 18 45.6	+0.1
MOMA				S	Sb		09 18 53.0	+0.5

*MOS **15** 09:20:18.0±1.1, 18°.33N×100°.33W, h33km, mb6.0/88, MS5.6/23, Error ellipse: s-maj=6.4km s-min=3.6km az=93.0*
*NEIC **15** 09:20:21.9±0.1, 18°.35N×100°.38W, h53km, mb5.7/298, ME6.1, MW6.1, MW6.1, MD6.1(MEX), Error ellipse: s-maj=3.1km s-min=2.0km az=217.0, Moment Tensor Solution. s23 Moment tensor: Scale 10^{18}Nm; M_{rr}=1.73; $M_{\theta\theta}$=0.98; $M_{\phi\phi}$=0.75; $M_{r\theta}$=-0.28; $M_{\theta\phi}$=-0.79; $M_{r\phi}$=0.00; Best double couple: $M_0$1.70000×10^{18} NP1:ϕ_s125.00000°, δ49.00000°, λ-98.00000°. NP2:ϕ_s317.00000°, δ42.00000°, λ-81.00000°. Principal axes: T 1.6800, Plg4.0000°, Azm221.0000°; N 0.0900, Plg6.0000°, Azm130.0000°; P -1.7600, Plg83.0000°, Azm342.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s105.00000°, δ53.00000°, λ-106.00000°. NP2:ϕ_s310.00000°, δ40.00000°, λ-70.00000°. Principal axes: T Plg7.0000°, Azm206.0000°; N Plg0.0000°, Azm0.0000°; P Plg76.0000°, Azm323.0000°; Depth from synthetics of broadband displacement seismograms. Apparent Stress 1.29 MPa. Energy computed from BB mechanism.*
NEIC Felt [VI] at Acatzingo; [IV] at Cuernavaca, Granjas Mexico, Huixquilucan, Mexico, Nezahualcoyotl, Puebla, Tlalchapa, Toluca and Zihuatanejo. Widely felt in Distrito Federal, Estado de Mexico, Guerrero, Michoacan, Morelos and Puebla and in parts of Guanajuato, Hidalgo and Oaxaca.
*BJI **15** 09:20:21.0, 18°.55N×100°.30W, h50km, mb5.7/4, mB5.8/33, Ms6.0/45, Ms7 5.8/44*
*GCMT **15** 09:20:22.9±0.1, 18°.30N×100°.48W, h53km, MW6.1/128, Moment Tensor Solution. s128,c286; s124,c438; Duration: 236 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.52±.01; $M_{\theta\theta}$1.39±.01; $M_{\phi\phi}$0.12±.01; $M_{r\theta}$-0.40±.01; $M_{\theta\phi}$-0.54±.01; $M_{r\phi}$-0.04±.01; Best double couple: $M_0$1.60700×10^{18} NP1:ϕ_s104.00000°, δ52.00000°, λ-98.00000°. NP2:ϕ_s297.00000°, δ39.00000°, λ-80.00000°. Principal axes: T 1.6310, Plg7.0000°, Azm200.0000°; N -0.0580, Plg6.0000°, Azm109.0000°; P -1.5820, Plg81.0000°, Azm335.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*ISCJB **15** 09:20:22.2±0.3, 18°.36N±0°.02×100°.41W±0°.01, h71km±2km, mb5.7/436 Error ellipse: s-maj=3.0km s-min=1.6km az=34.3*
*IDC **15** 09:20:22.9±0.5, 18°.33N×100°.40W, h65km±4km, mb5.3/35, mb1 5.4/39, mb1mx5.3/41, mbtmp5.5/39, MS5.6/31, Ms1 5.6/31, ms1mx5.4/36, Error ellipse: s-maj=13.6km s-min=7.8km az=56.0*
*MEX **15** 09:20:22.6±0.5, 18°.18N×100°.53W, h45km±3km, MD6.1*
*NEIC **15** 09:20:23.0±0.0, 18°.41N×100°.27W, h60km, Moment Tensor Solution. s64 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.60; $M_{\theta\theta}$1.10; $M_{\phi\phi}$0.50; $M_{r\theta}$-0.39; $M_{\theta\phi}$-0.45; $M_{r\phi}$-0.16; Best double couple: $M_0$1.50000×10^{18} NP1:ϕ_s108.00000°, δ51.00000°, λ-101.00000°. NP2:ϕ_s307.00000°, δ40.00000°, λ-75.00000°. Principal axes: T 1.3600, Plg5.0000°, Azm206.0000°; N 0.3100, Plg9.0000°, Azm115.0000°; P -1.6800, Plg79.0000°, Azm326.0000°;*

NEIC **15** *09:20:40.5±0.0, 18.°55N×99.°86W, h53km, Moment Tensor Solution. s26 Moment tensor: Scale 10^{18}Nm; M_{rr}-2.08; $M_{\theta\theta}$1.59; $M_{\phi\phi}$0.49; $M_{r\theta}$-0.54; $M_{r\phi}$-0.59; $M_{\theta\phi}$-0.01; Best double couple: M_o2.00000×10^{18} NP1:ϕ_s299.00000°, δ38.00000°, λ-81.00000°. NP2:ϕ_s108.00000°, δ52.00000°, λ-97.00000°. Principal axes: T 1.9100, Plg7.0000°, Azm203.0000°; N 0.2500, Plg5.0000°, Azm112.0000°; P -2.1600, Plg81.0000°, Azm346.0000°;*

ISC 15 09:20:21.4±0.3, 18.20N±0.02×100.53W±0.03, h58km±2km, h58km:pP-P,n1509,σ1973/1710,mb5.8/472,MS5.7/92, 43C-41D,Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.19**	**64**	*i*	P		**Pn**	**09 20 28.9**	**-1.8**
ARIG					eS		**Sn**	**09 20 34.6**	**-2.7**
ARIG	**Puente Sto Nin**	**0.19**	**64**	*i*	P		**Pn**	**09 20 28.9**	**-1.8**
ARIG					eS		**Sn**	**09 20 34.6**	**-2.7**
MEIG	**Mezcala**	**0.90**	**107**		ePn		**Pn**	**09 20 37.4**	**-0.9**
MEIG					eSn		**Sn**	**09 20 48.5**	**-2.1**
MEIG	**Mezcala**	**0.90**	**107**		eP		**Pn**	**09 20 37.4**	**-0.9**
MEIG					eS		**Sn**	**09 20 48.5**	**-2.1**
PLIG	**Platanillo**	**0.99**	**79**		ePn		**Pn**	**09 20 38.4**	**-1.0**
PLIG					eSn		**Sn**	**09 20 50.5**	**-2.1**
PLIG	**Platanillo**	**0.99**	**79**	*i*	P		**Pn**	**09 20 38.4**	**-1.0**
PLIG				*i*	S		**Sn**	**09 20 50.5**	**-2.1**
ZIIG	**Zihuatanejo**	**1.07**	**237**		ePn		**Pn**	**09 20 39.3**	**-1.0**
ZIIG					eSn		**Sn**	**09 20 52.9**	**-1.5**
ZIIG	**Zihuatanejo**	**1.07**	**237**		eP		**Pn**	**09 20 39.3**	**-1.0**
ZIIG				*i*	S		**Sn**	**09 20 52.9**	**-1.5**
CAIG	**El Cayaco**	**1.17**	**168**		ePn		**Pn**	**09 20 40.6**	**-1.1**
CAIG					eSn		**Sn**	**09 20 54.3**	**-2.5**
CAIG	**El Cayaco**	**1.17**	**168**	*i*	P		**Pn**	**09 20 40.6**	**-1.1**
CAIG				*i*	S		**Sn**	**09 20 54.3**	**-2.5**
MAVM	**Malinalco, Edo**	**1.23**	**52**		eP		**Pn**	**09 20 41.7**	**-1.0**
MAVM					eS		**Sn**	**09 20 57.4**	**-1.2**
MAVM	**Malinalco, Edo**	**1.23**	**52**		eP		**Pn**	**09 20 41.7**	**-1.0**
MAVM					eS		**Sn**	**09 20 57.4**	**-1.2**
TOVM	**TOLUCA**	**1.34**	**37**		eP		**Pn**	**09 20 43.8**	**-0.6**
TOVM				*i*	S		**Sn**	**09 21 01.0**	**-0.4**
ACP2	**Acapulco**	**1.45**	**155**		eP		**Pn**	**09 20 44.5**	**-1.0**
ACP2				*i*	S		**Sn**	**09 21 02.2**	**-1.3**
SZVM	**Salazar**	**1.56**	**44**		ePn		**Pn**	**09 20 47.7**	**+0.5**
SZVM					eSn		**Sn**	**09 21 06.0**	**-0.7**
SZVM	**Salazar**	**1.56**	**44**		eP		**Pn**	**09 20 47.7**	**+0.5**
SZVM					eS		**Sn**	**09 21 06.0**	**-0.7**
MOIG	**Morelia**	**1.60**	**337**		ePn		**Pn**	**09 20 47.6**	**-0.1**
MOIG					eS		**Sn**	**09 21 06.3**	**-1.2**
MOIG	**Morelia**	**1.60**	**337**		eP		**Pn**	**09 20 47.4**	**-0.2**
MOIG					eS		**Sn**	**09 21 06.3**	**-1.2**
ATVM	**ATLACOMULCO**	**1.68**	**22**		eP		**Pn**	**09 20 48.2**	**-0.7**
ATVM				*i*	S		**Sn**	**09 21 08.6**	**-0.9**
UNM	**Universidad Na**	**1.70**	**48**		ePn		**Pn**	**09 20 48.7**	**-0.4**
UNM					eSn		**Sn**	**09 21 04.3**	**-5.6**
UNM					eSn		Sn	09 21 09.0	-0.9
UNM	**Universidad Na**	**1.70**	**48**		eP		**Pn**	**09 20 48.8**	**-0.4**
UNM				*i*	S		**Sn**	**09 21 09.0**	**-0.9**
UNM	**Universidad Na**	**1.70**	**48**		eP		**Pn**	**09 20 48.7**	**-0.4**
UNM				*e*				09 21 04.3	
AZVM	**Cuida Lopez Ma**	**1.81**	**40**		eP		**Pn**	**09 20 50.2**	**-0.4**
AZVM				*i*	S		**Sn**	**09 21 12.5**	**-0.1**
PBVM	**Pinon**	**1.84**	**48**		ePn		**Pn**	**09 20 50.5**	**-0.2**
PBVM					eSn		**Sn**	**09 21 12.2**	**-0.7**
PBVM	**Pinon**	**1.84**	**48**		eP		**Pn**	**09 20 50.5**	**-0.2**
PBVM				*i*	S		**Sn**	**09 21 12.2**	**-0.7**
AMVM	**AMECAMECA**	**1.89**	**60**		eP		**Pn**	**09 20 51.6**	**-0.1**
AMVM				*i*	S		**Sn**	**09 21 13.0**	**-1.6**
PTVM	**Pico Tres Padr**	**1.93**	**44**		ePn		**Pn**	**09 20 51.5**	**-0.6**
PTVM					eSn		**Sn**	**09 21 14.8**	**-0.6**
PTVM	**Pico Tres Padr**	**1.93**	**44**		eP		**Pn**	**09 20 51.5**	**-0.6**
PTVM				*i*	S		**Sn**	**09 21 14.8**	**-0.6**
TLIG	**Tlapa**	**1.97**	**108**		ePn		**Pn**	**09 20 53.0**	**+0.4**
TLIG					eSn		**Sn**	**09 21 16.0**	**-0.3**
TLIG	**Tlapa**	**1.97**	**108**		eP		**Pn**	**09 20 52.9**	**+0.3**
TLIG				*i*	S		**Sn**	**09 21 14.9**	**-1.4**
PPM	**Popocatepetl**	**2.00**	**64**		ePn		**Pn**	**09 20 53.1**	**-0.2**
PPM					eSn		**Sn**	**09 21 16.6**	**-0.9**
PPM	**Popocatepetl**	**2.00**	**64**		eP		**Pn**	**09 20 53.1**	**-0.2**
PPM				*i*	S		**Sn**	**09 21 16.6**	**-0.9**
PPM	**Popocatepetl**	**2.00**	**64**		eP		**Pn**	**09 20 53.1**	**-0.2**
PPM				*e*				09 21 16.6	
ZUVM	**ZUMPANGO**	**2.12**	**40**		eP		**Pn**	**09 20 54.1**	**-0.6**
ZUVM				*i*	S		**Sn**	**09 21 19.2**	**-1.0**
VTVM	**Tizayuca**	**2.28**	**46**		eP		**Pn**	**09 20 56.2**	**-0.8**
VTVM				*i*	S		**Sn**	**09 21 23.1**	**-0.9**
PHPU	**Puebla**	**2.39**	**69**		eP		**Pn**	**09 20 57.8**	**-0.6**
PHPU					eS		**Sn**	**09 21 24.7**	**-2.0**
JRQG	**Juriquilla Cam**	**2.49**	**2**		ePn		**Pn**	**09 20 58.8**	**-1.0**
DEIG	**Demacu**	**2.52**	**34**		ePn		**Pn**	**09 20 59.3**	**-0.9**
DEIG					eSn		**Sn**	**09 21 29.3**	**-0.6**
DEIG	**Demacu**	**2.52**	**34**		eP		**Pn**	**09 20 59.3**	**-0.9**
DEIG					eS		**Sn**	**09 21 29.3**	**-0.6**
IGIG	**Irapuato, Guan**	**2.65**	**344**		eP		**Pn**	**09 21 01.2**	**-0.8**
IGIG				*i*	S		**Sn**	**09 21 32.6**	**-0.4**
IGIG	**Irapuato, Guan**	**2.65**	**344**		eP		**Pn**	**09 21 01.2**	**-0.8**
IGIG				*i*	S		**Sn**	**09 21 32.6**	**-0.4**
MMIG	**Aquila**	**2.68**	**272**		ePn		**Pn**	**09 21 01.3**	**-0.9**
MMIG					eSn		**Sn**	**09 21 32.4**	**-1.1**
MMIG	**Aquila**	**2.68**	**272**		eP		**Pn**	**09 21 01.3**	**-0.9**
MMIG				*i*	S		**Sn**	**09 21 32.4**	**-1.1**
PNIG	**Pinotepa**	**2.91**	**128**		ePn		**Pn**	**09 21 05.0**	**-0.4**
PNIG					eSn		**Sn**	**09 21 38.0**	**-1.2**
PNIG	**Pinotepa**	**2.91**	**128**		eP		**Pn**	**09 21 05.0**	**-0.4**
PNIG					eS		**Sn**	**09 21 38.0**	**-1.2**
TPIG	**Tehuac#an**	**3.01**	**85**		ePn		**Pn**	**09 21 07.2**	**+0.3**
TPIG					eSn		**Sn**	**09 21 41.5**	**-0.4**
TPIG	**Tehuac#an**	**3.01**	**85**		eP		**Pn**	**09 21 07.2**	**+0.3**
TPIG				*i*	S		**Sn**	**09 21 41.5**	**-0.4**
VHO	**Vista Hermosa**	**3.79**	**107**		ePn		**Pn**	**09 21 17.9**	**+0.4**
VHO					eSn		**Sn**	**09 22 00.7**	**-0.2**
VHO	**Vista Hermosa**	**3.79**	**107**		eP		**Pn**	**09 21 17.9**	**+0.4**
VHO				*i*	S		**Sn**	**09 22 00.7**	**-0.2**
LVIG	**Laguna Verde**	**4.17**	**68**		ePn		**Pn**	**09 21 22.0**	**-0.6**
LVIG					eSn		Sn	09 21 49.1	-21
LVIG	**Laguna Verde**	**4.17**	**68**	*i*	P		**Pn**	**09 21 22.0**	**-0.6**
LVIG					eS		**Sn**	**09 22 09.6**	**-0.5**
CJM	**Chamela**	**4.47**	**288**		ePn		**Pn**	**09 21 27.9**	**+1.2**
CJM					eSn		**Sn**	**09 22 17.6**	**+0.1**
CJM	**Chamela**	**4.47**	**288**		eP		**Pn**	**09 21 27.9**	**+1.2**
CJM					eS		**Sn**	**09 22 17.6**	**+0.1**
ZAIG	**Zacatecas**	**4.93**	**338**		ePn		**Pn**	**09 21 34.3**	**+0.9**
ZAIG				*e*				09 22 02.8	
ZAIG	**Zacatecas**	**4.93**	**338**		eP		**Pn**	**09 21 33.2**	**-0.1**
CMIG	**Matias Romero**	**5.49**	**101**		P		**Pn**	**09 21 41.3**	**+0.6**
	106nm,0.3s,baz=260,slow=12,SNR=577								
CMIG					S		**Sn**	**09 22 38.7**	**-3.8**
	336nm,0.3s,baz=63,slow=7.8,SNR=6.2								
CMIG					Lg		Lg	09 23 05.1	
	318nm,0.3s,baz=294,slow=10,SNR=3.7								
CMIG					LR		LR	09 24 00.3	
	comp=Z,77μm,20.4s,baz=278,slow=40								
CMIG	**Matias Romero**	**5.49**	**101**		ePn		**Pn**	**09 21 41.1**	**+0.4**
CMIG					eSn		**Sn**	**09 22 42.1**	**-0.5**
CMIG					Lg		Lg	09 23 05.1	
CMIG	**Matias Romero**	**5.49**	**101**		eP		**Pn**	**09 21 41.1**	**+0.4**
CMIG					eS		**Sn**	**09 22 42.1**	**-0.5**
TUIG	**Tuzandepetl**	**5.81**	**91**		eSn		**Sn**	**09 22 50.8**	**+0.5**
TUIG	**Tuzandepetl**	**5.81**	**91**		eS		**Sn**	**09 22 50.8**	**+0.5**
LNIG	**Linares**	**6.74**	**8**		ePn		**Pn**	**09 21 57.0**	**-0.8**
LNIG					eSn		**Sn**	**09 23 15.0**	**+1.8**
LNIG	**Linares**	**6.74**	**8**		eP		**Pn**	**09 21 57.0**	**-0.8**
LNIG					eS		**Sn**	**09 23 15.0**	**+1.8**
TGIG		**7.20**	**100**		ePn		**Pn**	**09 22 05.0**	**+0.7**
TGIG					eSn		**Sn**	**09 23 25.8**	**+1.1**
TGIG		**7.20**	**100**		eP		**Pn**	**09 22 05.0**	**+0.7**
TGIG					eS		**Sn**	**09 23 25.8**	**+1.1**
PCIG		**7.42**	**108**		ePn		**Pn**	**09 22 08.9**	**+1.8**
PCIG					eSn		**Sn**	**09 23 30.2**	**+0.3**
PCIG		**7.42**	**108**		eP		**Pn**	**09 22 08.9**	**+1.8**
PCIG					eS		**Sn**	**09 23 30.2**	**+0.3**
MAIG	**Mazatlaan**	**7.42**	**313**		ePn		**Pn**	**09 22 09.3**	**+2.1**
MAIG					eSn		**Sn**	**09 23 30.9**	**+0.9**
MAIG	**Mazatlaan**	**7.42**	**313**		eP		**Pn**	**09 22 09.3**	**+2.1**
MAIG					eS		**Sn**	**09 23 30.9**	**+0.9**
CCIG	**Comitan**	**8.24**	**102**		ePn		**Pn**	**09 22 20.1**	**+1.6**
CCIG					eSn		**Sn**	**09 23 51.7**	**+1.4**
CCIG	**Comitan**	**8.24**	**102**		eP		**Pn**	**09 22 19.2**	**+0.7**
CCIG					eS		**Sn**	**09 23 51.7**	**+1.4**
THIG		**8.57**	**111**		ePn		**Pn**	**09 22 25.0**	**+2.1**
THIG					eSn		**Sn**	**09 23 59.1**	**+1.0**
THIG		**8.57**	**111**		eP		**Pn**	**09 22 25.0**	**+2.1**
THIG					eS		**Sn**	**09 23 59.1**	**+1.0**
KVTX	**Kingsville**	**9.61**	**14**		ePn		**Pn**	**09 22 40.0**	**+2.9**
HPIG		**9.90**	**332**		ePn		**Pn**	**09 22 43.3**	**+2.0**
H06S1	**SOCORRO T**	**9.91**	**275**		P		**Pn**	**09 22 44.1**	**+2.9**
H06S1					T		T	09 32 22.0	
	SNR=26								
H06N1	**SOCORRO T-PHAS**	**9.95**	**275**		P		**Pn**	**09 22 44.5**	**+2.8**
H06N1					T		T	09 32 35.7	
	SNR=4.7								
APG	**El Apazote**	**10.15**	**107**		P		**Pn**	**09 22 45.7**	**+0.9**
	22nm,0.3s,baz=174,slow=15,SNR=44								
APG					S		**Sn**	**09 24 32.9**	**-4.4**
	13nm,0.3s,baz=338,slow=17,SNR=5.6								
APG					Lg		Lg	09 25 22.1	
	15nm,0.3s,baz=23,slow=20,SNR=4.2								
SLBS	**Sierra La Lagu**	**10.35**	**303**		ePn		**Pn**	**09 22 51.1**	**+3.8**
MYIG	**MØrida**	**10.53**	**73**		ePn		**Pn**	**09 22 51.2**	**+1.5**
MYIG					eSn		**Sn**	**09 24 47.6**	**+1.5**
LPIG	**La Paz**	**10.85**	**304**		P		Pn	09 22 59.0	+4.9
	1.8nm,0.3s,baz=162,slow=3.9,SNR=8.5								
LPIG					LR		LR	09 26 53.2	
	comp=Z,35μm,20.5s,baz=120,slow=36								
LPIG	**La Paz**	**10.85**	**304**		ePn		**Pn**	**09 22 54.8**	**+0.8**
LPIG	**La Paz**	**10.85**	**304**		eP		**Pn**	**09 22 54.8**	**+0.8**
LTX	**Lajitas**	**11.45**	**346**		ePn		**Pn**	**09 23 04.3**	**+2.0**
LTX					*e*			09 36 49.6	
LTX	**Lajitas**	**11.45**	**346**		eP		**Pn**	**09 23 04.3**	**+2.0**
TXAR	**Lajitas Array**	**11.45**	**346**		P		**Pn**	**09 23 04.3**	**+1.9**
	4.9nm,0.3s,baz=162,slow=14,SNR=272								
TXAR					LR		LR	09 27 58.4	
	comp=Z,49μm,20.0s,baz=0.0,slow=40								
TXAR					PKiKP		**PKiKP**	**09 36 49.6**	**-0.3**
	0.1nm,0.3s,baz=53,slow=3.5,SNR=4.9								
TX31	**Lajitas Ar. Si**	**11.45**	**346**		ePn		**Pn**	**09 23 03.5**	**+1.2**
TX31					ePn		Pn	09 23 04.2	+1.8
BOQS	**Boqueron**	**11.69**	**111**		eP		**Pn**	**09 23 09.2**	**+3.4**
TEIG	**Tepich**	**11.75**	**78**		ePn		**Pn**	**09 23 05.0**	**-1.3**
SNET	**Serv Nac Est T**	**11.75**	**111**		ePn		**Pn**	**09 23 08.0**	**+1.5**
OPAM	**San Salvador**	**11.77**	**111**		eP		**Pn**	**09 23 08.0**	**+1.3**
JCT	**Junction City**	**12.24**	**3**		ePn		**Pn**	**09 23 13.5**	**+0.4**
JCT	**Junction City**	**12.24**	**3**		eP		**Pn**	**09 23 13.5**	**+0.4**
JCT	**Junction City**	**12.24**	**3**		P		**Pn**	**09 23 13.5**	**+0.4**
	baz=183,SNR=143								
HKT	**Hockley**	**12.46**	**19**	*i*	P		**Pn**	**09 23 14.8**	**-1.1**
TGUH	**Tegucigalpa,Un**	**13.38**	**106**		ePn		**Pn**	**09 23 30.7**	**+2.0**
CSGN	**Cosiguina Volc**	**13.53**	**111**		ePn		**Pn**	**09 23 32.5**	**+1.8**
CRIN	**San Cristobal**	**14.09**	**111**		eP		**P**	**09 23 41.4**	**-2.9**
SRIG	**Santa Rosalia**	**14.10**	**312**		ePn		**Pn**	**09 23 41.0**	**+2.7**
SRIG	**Santa Rosalia**	**14.10**	**312**		eP		**Pn**	**09 23 38.7**	**+0.4**
MNTX	**Cornudas Mount**	**14.14**	**343**		ePn		**Pn**	**09 23 39.4**	**+0.6**
MNTX	**Cornudas Mount**	**14.14**	**343**		P		**Pn**	**09 23 39.4**	**+0.6**
	baz=160,SNR=118								
CLNB	**Carlsbad**	**14.33**	**348**		ePn		**Pn**	**09 23 43.2**	**+1.9**
GDL2	**Guadalupe Moun**	**14.37**	**347**		ePn		**Pn**	**09 23 43.2**	**+1.3**
ABTX	**Abilene, Hawle**	**14.39**	**3**		ePn		**Pn**	**09 23 40.9**	**-1.1**
ABTX	**Abilene, Hawle**	**14.39**	**3**		P		**Pn**	**09 23 40.8**	**-1.3**
	baz=183,SNR=101								
HSIG		**14.39**	**320**		ePn		**Pn**	**09 23 44.6**	**+2.5**
HSIG		**14.39**	**320**		eP		**Pn**	**09 23 43.5**	**+1.5**
CNGN	**Cerro Negro**	**14.48**	**111**		eP		**Pn**	**09 23 45.9**	**+2.5**
NATX	**Nacogdoches**	**14.51**	**20**		ePn		**Pn**	**09 23 42.7**	**-0.9**
NATX	**Nacogdoches**	**14.51**	**20**		P		**Pn**	**09 23 41.4**	**-2.2**
	baz=202,SNR=130								
ESTN	**Estel**	**14.54**	**108**		ePn		**Pn**	**09 23 46.0**	**+1.7**
ESTN	**Estel**	**14.54**	**108**		eP		**Pn**	**09 23 45.2**	**+1.0**
ESTN						IAmb	IAmb	09 23 53.2	
	comp=Z,452nm,1.9s								
EPT	**El Paso**	**14.55**	**339**		ePn		**Pn**	**09 23 45.3**	**+0.9**
MOMN	**Momotombo**	**14.66**	**111**		eP		**Pn**	**09 23 47.8**	**+2.0**
COPN	**Copaltepe**	**14.71**	**112**		eP		**Pn**	**09 23 48.2**	**+1.8**
MATN	**Matagalpa**	**15.01**	**108**		eP		**Pn**	**09 23 50.8**	**+0.5**
MGAN	**Managua**	**15.03**	**112**		eP		**P**	**09 23 52.8**	**-1.9**
MGAN						IAmb	IAmb	09 24 19.8	
	comp=Z,160nm,1.2s								
CPRX	**Cap Rock**	**15.07**	**349**		ePn		**Pn**	**09 23 52.2**	**+1.1**
319A	**Douglas**	**15.33**	**330**		ePn		**Pn**	**09 23 56.2**	**+1.8**
	comp=Z,549nm,1.1s								
BOAB	**BOACO BROADBAN**	**15.43**	**110**		ePn		**P**	**09 23 58.1**	**-1.0**
	comp=Z,116nm,1.3s								
CONN	**Concepcion**	**15.83**	**113**		eP		**P**	**09 24 04.6**	**+0.9**
ACON	**Acoyapa**	**16.06**	**111**		eP		**P**	**09 24 05.4**	**-0.7**
WMOK	**Wichita Mounta**	**16.55**	**5**		ePn		**Pn**	**09 24 09.6**	**-0.1**
	comp=Z,310nm,0.8s								
WMOK	**Wichita Mounta**	**16.55**	**5**		eP		**Pn**	**09 24 09.6**	**-0.1**
WMOK						pmax	pmax		
	comp=Z,310nm,0.8s								
WMOK	**Wichita Mounta**	**16.55**	**5**		P		**Pn**	**09 24 06.7**	**-2.9**
	baz=185,SNR=331								
VBMS	**Vicksburg**	**16.62**	**31**		ePn		**Pn**	**09 24 08.7**	**-2.0**
	comp=Z,6μm,1.8s								
VBMS	**Vicksburg**	**16.62**	**31**		P		**Pn**	**09 24 08.5**	**-2.1**
	baz=215,SNR=82								
AMTX	**Amarillo**	**16.65**	**357**		ePn		**Pn**	**09 24 09.8**	**-1.2**
	comp=Z,332nm,0.8s								
AMTX	**Amarillo**	**16.65**	**357**		P		**Pn**	**09 24 09.8**	**-1.2**
	baz=176								
ESPN	**Las Esperanzas**	**16.75**	**109**		ePn		**P**	**09 24 14.7**	**+1.0**
	comp=Z,373nm,1.0s								
ESPN	**Las Esperanzas**	**16.75**	**109**		eP		**Pn**	**09 24 13.0**	**+0.7**
WLAR	**White Oak Lake**	**16.79**	**22**		ePn		**Pn**	**09 24 10.9**	**-1.8**
	comp=Z,4μm,1.6s								
BNM	**Barren Site**	**16.80**	**342**		ePn		**P**	**09 24 14.4**	**0.0**
Y22D	**IRIS PASSCAL I**	**16.81**	**341**		ePn		**P**	**09 24 15.2**	**+0.7**
	comp=Z,727nm,1.2s								
Y22D	**IRIS PASSCAL I**	**16.81**	**341**		P		**P**	**09 24 14.6**	**+0.2**
	baz=158								
TUC	**Tucson**	**16.82**	**329**		ePn		**P**	**09 24 14.7**	**+0.2**
	comp=Z,163nm,0.8s								
TUC	**Tucson**	**16.82**	**329**		eP		**P**	**09 24 14.7**	**+0.2**
TUC						pmax	pmax		
	comp=Z,163nm,0.8s								
TUC	**Tucson**	**16.82**	**329**		P		**P**	**09 24 14.2**	**-0.3**
	baz=144								
TUC					S		**S**	**09 27 28.2**	**+1.0**
	baz=144								
LENM	**Lemitar**	**16.91**	**341**		ePn		**P**	**09 24 15.6**	**0.0**
LPM	**Los Pinos Moun**	**16.95**	**342**		ePn		**P**	**09 24 16.5**	**+0.5**
X37A	**Clayton**	**16.96**	**15**		ePn		**Pn**	**09 24 14.8**	**0.0**
	comp=Z,7μm,2.0s								
JTS	**JuntasAbangare**	**17.01**	**115**		P		**P**	**09 24 20.2**	**+3.6**
	comp=Z,6.9nm,0.3s,baz=31,slow=20,SNR=21								
JTS	**JuntasAbangare**	**17.01**	**115**		eP		**P**	**09 24 19.5**	**+2.8**
	comp=Z,685nm,1.1s								
JTS	**JuntasAbangare**	**17.01**	**115**	*d*	iP		**P**	**09 24 19.8**	**+3.1**
JTS	**JuntasAbangare**	**17.01**	**115**		eP		**P**	**09 24 20.1**	**+3.4**
LAZ	**Ladron**	**17.18**	**341**		ePn		**P**	**09 24 19.6**	**+0.9**
MIAR	**Mount Ida**	**17.42**	**19**		ePn		**Pn**	**09 24 18.7**	**-1.8**
	comp=Z,837nm,1.3s								
MIAR	**Mount Ida**	**17.42**	**19**		eP		**Pn**	**09 24 18.7**	**-1.8**
MIAR						pmax	pmax		
	comp=Z,837nm,1.3s								
MIAR	**Mount Ida**	**17.42**	**19**		P		**Pn**	**09 24 17.8**	**-2.7**
	baz=202,SNR=156								
ANMO	**Albuquerque**	**17.50**	**344**		P		**P**	**09 24 22.8**	**+0.7**
	comp=Z,4.4nm,0.3s,baz=149,slow=14,SNR=192								
ANMO					LR		LR	09 31 36.0	
	comp=Z,33μm,18.6s,baz=164,slow=39								
ANMO	**Albuquerque**	**17.50**	**344**		ePn		**P**	**09 24 22.7**	**+0.6**
	comp=Z,246nm,0.9s								
ANMO	**Albuquerque**	**17.50**	**344**	⇑	*i*P		**P**	**09 24 22.5**	**+0.4**
ANMO						pmax	pmax		
	comp=Z,247nm,0.8s								
ANMO	**Albuquerque**	**17.50**	**344**		P		**Pn**	**09 24 21.8**	**+0.2**
	baz=160								
CCAR	**Cane Creek**	**17.50**	**25**		ePn		**Pn**	**09 24 20.7**	**-0.8**
	comp=Z,8μm,1.7s								
BRAL	**Brewton**	**17.77**	**41**		ePn		**Pn**	**09 24 24.0**	**-0.8**
	comp=Z,3μm,1.7s								
BRAL	**Brewton**	**17.77**	**41**		P		**Pn**	**09 24 22.5**	**-2.4**
	baz=226,SNR=24								
HDC	**Heredia**	**17.87**	**115**		ePn		**P**	**09 24 29.1**	**+2.8**
	comp=Z,4μm,2.0s								
UALR	**University of**	**18.05**	**22**		eP		**P**	**09 24 25.9**	**-2.0**
	comp=Z,2μm,1.8s								
U32A	**Winter Ranch,**	**18.16**	**4**		eP		**P**	**09 24 27.8**	**-1.5**
	comp=Z,753nm,1.0s								
X18A	**Snowflake**	**18.31**	**335**		eP		**Pn**	**09 24 32.8**	**+1.2**
	comp=Z,210nm,0.9s								
WHAR	**Wooly Hollow**	**18.53**	**22**		eP		**P**	**09 24 31.7**	**-1.5**
	comp=Z,2μm,1.7s								
SPIG	**San Pedro Mart**	**18.63**	**316**		eP		**Pn**	**09 24 36.2**	**+0.6**
SPIG	**San Pedro Mart**	**18.63**	**316**		eP		**Pn**	**09 24 36.2**	**+0.6**
113A	**Mohawk Valley,**	**18.77**	**323**		eP		**Pn**	**09 24 37.6**	**+0.7**
	comp=Z,1μm,1.9s								
X16A	**Lo Mia Camp, P**	**18.86**	**331**		eP		**Pn**	**09 24 38.8**	**+0.6**
	comp=Z,159nm,0.7s								
HHAR	**Hobbs**	**18.93**	**17**		eP		**P**	**09 24 35.8**	**-1.8**
	comp=Z,254nm,0.8s								
OXF	**Oxford**	**19.03**	**29**		eP		**P**	**09 24 37.2**	**-1.5**
	comp=Z,2μm,1.4s								
OXF	**Oxford**	**19.03**	**29**		eP		**P**	**09 24 37.2**	**-1.5**
OXF						pmax	pmax		
	comp=Z,2μm,1.4s								
OXF	**Oxford**	**19.03**	**29**		P		**P**	**09 24 35.9**	**-2.8**
	baz=214,SNR=87								
PRVC	**Isla de Provid**	**19.05**	**102**		eP		**Pn**	**09 24 40.1**	**-0.3**
LRAL	**Lakeview Retre**	**19.13**	**37**		eP		**P**	**09 24 37.9**	**-1.9**
	comp=Z,607nm,1.4s								
LRAL	**Lakeview Retre**	**19.13**	**37**		P		**P**	**09 24 37.5**	**-2.3**
	baz=222,SNR=47								
MET	**Memphis--Engin**	**19.31**	**27**		eP		**P**	**09 24 40.6**	**-1.1**
	comp=Z,1μm,1.3s								
HBAR	**Harrisburg**	**19.38**	**25**		eP		**P**	**09 24 41.6**	**-0.9**
	comp=Z,2μm,1.2s								
GLA	**Glamis**	**19.59**	**322**		eP		**Pn**	**09 24 46.6**	**-0.1**
	comp=Z,192nm,0.8s								
GLA	**Glamis**	**19.59**	**322**		eP		**Pn**	**09 24 46.6**	**-0.1**
GLA						pmax	pmax		
	comp=Z,192nm,0.8s								
GLA	**Glamis**	**19.59**	**322**		P		**Pn**	**09 24 46.6**	**-0.1**
	baz=135,SNR=50								
WUAZ	**Wupatki**	**19.75**	**333**		eP		**Pn**	**09 24 48.8**	**+0.1**
	comp=Z,828nm,0.9s								
WUAZ	**Wupatki**	**19.75**	**333**		P		**Pn**	**09 24 48.6**	**-0.1**
	baz=148,SNR=886								
SDCO	**Great Sand Dun**	**19.96**	**348**		eP		**P**	**09 24 48.8**	**-0.4**
	comp=Z,953nm,1.8s								
SDCO	**Great Sand Dun**	**19.96**	**348**		P		**P**	**09 24 48.7**	**-0.4**
	baz=166,SNR=201								
GNAR	**Gosnell**	**19.99**	**26**		eP		**P**	**09 24 48.4**	**-0.8**
	comp=Z,4μm,1.7

ISCO pmax pmax
comp=Z,232nm,0.8s
ISCO Idaho Springs 21.97 349 P **P** 09 25 09.7 -1.2
baz=167,SNR=384
BCIP Isla Barro Col 21.99 111 *eP* **P** 09 25 13.0 +2.1
comp=Z,517nm,1.4s
BCIP Isla Barro Col 21.99 111 *eP* **P** 09 25 10.5 -0.4
BCIP *eP* **P** 09 25 12.2 +1.2
CIS Catalina Islan 22.05 317 P **P** 09 25 12.1 +0.6
baz=128,SNR=67
FRIJ El Hiral 22.07 111 IAmb IAmb 09 25 17.3
comp=Z,140nm,1.1s
BBJ Bamboo Saint A 22.08 86 ⇓ *i*P **P** 09 25 14.0 +2.0
BFSC Mount Baldy Ra 22.11 320 P **P** 09 25 13.1 +0.9
baz=132,SNR=62
RRX Edison Barstow 22.15 322 P **P** 09 25 13.9 +1.4
baz=134,SNR=10
FMP Fort Macarthur 22.17 318 P **P** 09 25 13.3 +0.6
baz=129,SNR=7.7
PCJ Portland Cotta 22.23 88 *i*P **P** 09 25 14.7 +1.2
SZCU Shurtz Canyon 22.24 333 *eP* **P** 09 25 14.7 +1.0
comp=Z,299nm,1.7s
MTPU Mount Pierson 22.25 335 *eP* **P** 09 25 15.0 +1.1
comp=Z,210nm,0.8s
SLM Saint Louis 22.25 22 *eP* **P** 09 25 12.1 -1.4
comp=Z,835nm,1.1s
SLM Saint Louis 22.25 22 *eP* **P** 09 25 12.1 -1.4
SLM pmax pmax
comp=Z,835nm,1.1s
CPCT Cooper Cave 22.29 36 *eP* **P** 09 25 11.9 -2.0
comp=Z,288nm,1.1s
CCUT Cedar City 22.33 332 *eP* **P** 09 25 15.6 +1.0
comp=Z,492nm,2.0s
GSC Goldstone, Bar 22.34 323 *eP* **P** 09 25 15.6 +1.0
comp=Z,218nm,1.3s
GSC Goldstone, Bar 22.34 323 *eP* **P** 09 25 15.6 +1.0
GSC pmax pmax
comp=Z,218nm,1.3s
GSC Goldstone, Bar 22.34 323 P **P** 09 25 15.8 +1.2
baz=135,SNR=157
SHPR Sheep Range 22.34 328 *eP* **P** 09 25 15.4 +0.7
comp=Z,236nm,1.5s
MWC Mount Wilson 22.35 319 *eP* **P** 09 25 16.4 +1.5
comp=Z,368nm,1.4s
MWC Mount Wilson 22.35 319 *eP* **P** 09 25 16.4 +1.5
MWC pmax pmax
comp=Z,368nm,1.4s
PASC Pasadena Art C 22.40 319 *eP* **P** 09 25 15.2 0.0
comp=Z,260nm,1.5s
SHOC Shoshone, Teco 22.48 325 P **P** 09 25 16.7 +0.7
baz=137,SNR=102
STH Stony Hill 22.54 87 ⇓ *i*P **P** 09 25 18.6 +1.8
DECC Green Verdugo 22.54 319 P **P** 09 25 17.8 +1.1
baz=130,SNR=28
SRU San Rafael Swe 22.58 339 *eP* **P** 09 25 16.8 -0.4
comp=Z,188nm,0.9s
SRU San Rafael Swe 22.58 339 *eP* **P** 09 25 16.8 -0.4
SRU pmax pmax
comp=Z,188nm,0.9s
HOJ Hope 22.60 87 ⇑ *i*P **P** 09 25 19.7 +2.3
MSU Marysvale 22.65 336 *eP* **P** 09 25 18.6 +0.6
USIN University of 22.68 27 *eP* **P** 09 25 16.3 -1.8
comp=Z,1µm,1.3s
SNCC San Nicolas Is 22.69 315 *eP* **P** 09 25 20.0 +1.7
comp=Z,823nm,1.9s
SNCC San Nicolas Is 22.69 315 P **P** 09 25 19.3 +1.0
baz=126,SNR=15
OGNE Ogallala 22.71 357 *eP* **P** 09 25 17.6 -0.9
comp=Z,704nm,1.4s
OGNE Ogallala 22.71 357 P **P** 09 25 16.7 -1.8
baz=176,SNR=34
EDW2 Edwards Air Fo 22.75 320 P **P** 09 25 19.5 +0.6
baz=132,SNR=173
HODGE Hodges 22.82 42 *eP* **P** 09 25 17.1 -2.5
comp=Z,962nm,1.8s
TCRU Three Creeks R 22.84 335 *eP* **P** 09 25 20.1 0.0
comp=Z,234nm,1.3s
TKL Tuckaleechee C 22.86 37 P **P** 09 25 16.6 -3.5
comp=Z,108nm,0.9s,baz=192,slow=10,SNR=29
TKL Tuckaleechee C 22.86 37 *eP* **P** 09 25 18.0 -2.1
comp=Z,902nm,1.6s
TKL Tuckaleechee C 22.86 37 *eP* **P** 09 25 18.0 -2.1
TKL pmax pmax
comp=Z,902nm,1.6s
BG3 Lake Jocassee 22.90 40 *eP* **P** 09 25 18.6 -1.8
comp=Z,371nm,1.1s
BLG Laguna Peak, P 22.92 317 P **P** 09 25 21.6 +1.0
baz=129,SNR=35
P18A Preston Nutter 22.95 340 *eP* **P** 09 25 20.9 -0.4
comp=Z,216nm,1.0s
LRMC Laurel Mtn Rad 22.97 322 P **P** 09 25 22.1 +0.8
baz=134,SNR=234
P17A Butcher Ranch, 22.98 339 *eP* **P** 09 25 21.2 -0.1
comp=Z,299nm,1.4s
TMUT Trail Mountain 22.98 338 *eP* **P** 09 25 21.1 -0.4
comp=Z,189nm,0.9s
OSI Osito Audit: C 23.02 319 *eP* **P** 09 25 22.2 +0.4
comp=Z,576nm,1.6s
OSI Osito Audit: C 23.02 319 P **P** 09 25 20.4 -1.3
baz=130,SNR=8.1
OLIL Olney 23.15 25 *eP* **P** 09 25 20.6 -2.3
comp=Z,5µm,1.8s
FURC Furnace Creek, 23.21 325 P **P** 09 25 24.2 +0.8
baz=137,SNR=127
SCZ2 Santa Cruz Isl 23.22 316 P **P** 09 25 24.3 +0.7
baz=128,SNR=28
BGNE Belgrade 23.22 5 *eP* **P** 09 25 21.6 -1.9
comp=Z,799nm,0.9s
BGNE Belgrade 23.22 5 P **P** 09 25 21.8 -1.7
baz=185,SNR=93
TPNV Topopah Spring 23.24 327 *eP* **P** 09 25 25.0 +1.0
comp=Z,235nm,0.9s
TPNV Topopah Spring 23.24 327 P **P** 09 25 25.1 +1.1
baz=139,SNR=328
MPMC Manual Prospec 23.27 323 P **P** 09 25 24.8 +0.5
baz=135,SNR=333
PSUT Pine Spring 23.36 333 *eP* **P** 09 25 25.7 +0.5
comp=Z,417nm,1.9s
RGRS Roger Stewart 23.41 47 *eP* **P** 09 25 23.8 -1.6
comp=Z,2µm,0.9s
PHWY Pilot Hill 23.41 351 *eP* **P** 09 25 24.5 -1.1
comp=Z,333nm,1.0s
ARVC Arvin 23.43 320 P **P** 09 25 26.2 +0.7
baz=131,SNR=64
PAULI Pauline 23.48 41 *eP* **P** 09 25 23.3 -2.7
comp=Z,1µm,1.9s
DAC Darwin (Calif) 23.48 323 *eP* **P** 09 25 26.8 +0.5
comp=Z,114nm,0.8s
DAC Darwin (Calif) 23.48 323 *eP* **P** 09 25 26.8 +0.5
DAC pmax pmax
comp=Z,114nm,0.8s
JSC Jenkinsville 23.49 43 *eP* **P** 09 25 23.8 -2.4
comp=Z,442nm,1.2s
WCI Wyandotte Cave 23.51 29 *eP* **P** 09 25 23.6 -2.7
comp=Z,382nm,0.9s
WCI Wyandotte Cave 23.51 29 *eP* **P** 09 25 23.6 -2.7
WCI pmax pmax
comp=Z,382nm,0.9s
WCI Wyandotte Cave 23.51 29 P **P** 09 25 23.0 -3.3
baz=216
NHSC New Hope 23.53 47 *eP* **P** 09 25 25.0 -1.5
comp=Z,3µm,1.5s
NHSC New Hope 23.53 47 P **P** 09 25 24.1 -2.4
baz=236,SNR=41
CSU Charleston Sou 23.54 47 *eP* **P** 09 25 25.4 -1.2
SBC Santa Barbara 23.54 317 P **P** 09 25 27.3 +0.6
baz=128
ISA Isabella, Lake 23.57 321 *eP* **P** 09 25 27.8 +0.8
comp=Z,147nm,0.8s
ISA Isabella, Lake 23.57 321 *eP* **P** 09 25 27.8 +0.8
ISA pmax pmax
comp=Z,147nm,0.8s
ISA Isabella, Lake 23.57 321 P **P** 09 25 28.2 +1.2
baz=132,SNR=293
TZTN Tazewell 23.62 36 *eP* **P** 09 25 24.3 -3.0
comp=Z,1µm,1.8s
TZTN Tazewell 23.62 36 P **P** 09 25 24.0 -3.3
baz=224,SNR=25
MPU Maple Canyon 23.77 338 *eP* **P** 09 25 28.9 +0.1
comp=Z,180nm,1.2s
NLU North Lily Min 23.87 338 *eP* **P** 09 25 30.0 +0.2
comp=Z,512nm,1.6s
CWC Cottonwood Cre 23.88 323 P **P** 09 25 30.9 +1.1
baz=134
GRAC Grapevine Rang 23.88 325 P **P** 09 25 31.0 +1.3
baz=137,SNR=64
PKM Mcpherson Peak 23.89 318 P **P** 09 25 31.2 +1.2
baz=129,SNR=105

VES Vestal, Richgr 24.05 321 P **P** 09 25 32.5 +1.3
baz=132,SNR=66
GTBY Guantanamo Bay 24.08 82 *eP* **P** 09 25 32.2 +0.6
comp=Z,1µm,0.9s
GTBY Guantanamo Bay 24.08 82 *eP* **P** 09 25 31.2 -0.5
GTBY IAmb IAmb 09 25 35.6
comp=Z,7µm,1.1s
RWWY Rawlins 24.10 348 *eP* **P** 09 25 32.1 +0.2
comp=Z,573nm,1.1s
BLO Bloomington 24.18 27 *eP* **P** 09 25 30.3 -2.1
comp=Z,425nm,1.0s
BLO Bloomington 24.18 27 *eP* **P** 09 25 30.3 -2.1
BLO pmax pmax
comp=Z,425nm,1.0s
JLU Jordanelle 24.23 339 *eP* **P** 09 25 32.8 -0.3
comp=Z,116nm,1.3s
SMMC Simmler 24.27 318 P **P** 09 25 34.7 +1.3
baz=129,SNR=189
HDIL Hopedale 24.29 21 *eP* **P** 09 25 30.8 -2.5
comp=Z,1µm,1.1s
HDIL Hopedale 24.29 21 P **P** 09 25 30.7 -2.7
baz=206,SNR=175
DUG Dugway, Tooele 24.35 337 *eP* **P** 09 25 34.4 +0.3
comp=Z,550nm,1.8s
DUG Dugway, Tooele 24.35 337 *eP* **P** 09 25 34.4 +0.3
DUG pmax pmax
comp=Z,550nm,1.8s
DUG Dugway, Tooele 24.35 337 P **P** 09 25 34.5 +0.3
baz=150,SNR=135
TIN Tinemaha, Big 24.39 324 P **P** 09 25 35.7 +1.1
baz=135,SNR=5.1
CTU Camp Tracy 24.41 339 *eP* **P** 09 25 34.6 -0.1
comp=Z,135nm,1.1s
SCIA State Center 24.44 13 *eP* **P** 09 25 33.2 -1.5
comp=Z,957nm,0.8s
SCIA State Center 24.44 13 P **P** 09 25 32.9 -1.9
baz=197,SNR=88
TCUT Toone Canyon 24.68 340 *eP* **P** 09 25 37.3 +0.1
comp=Z,381nm,1.2s
PTAC Punta Ardita, 24.70 114 *eP* **P** 09 25 39.5 +2.1
BGU Big Grassy Mou 25.07 337 *eP* **P** 09 25 40.6 0.0
comp=Z,124nm,1.2s
MLAC Mammoth, Mammc 25.14 324 P **P** 09 25 41.3 -0.2
baz=135,SNR=10
HWUT Hardware Ranch 25.17 340 *eP* **P** 09 25 41.3 -0.3
SPUT South Promonto 25.20 339 *eP* **P** 09 25 41.9 +0.1
comp=Z,126nm,1.2s
OMMB Old Mammoth Mi 25.22 324 *eP* **P** 09 25 43.1 +0.8
comp=Z,210nm,1.4s
MDPB Devils Postpil 25.28 324 *eP* **P** 09 25 43.7 +0.9
comp=Z,146nm,0.8s
PMPB Monarch Peak 25.35 319 *eP* **P** 09 25 44.7 +1.5
comp=Z,2µm,2.0s
NV11 Mina Array Sit 25.36 326 *eP* **P** 09 25 44.3 +1.0
comp=Z,11nm,0.8s
NV01 Mina Array Sit 25.43 326 *eP* **P** 09 25 45.2 +1.2
NV01 *ePcP* **PcP** 09 29 16.2 +1.2
NVAR Mina Array Bea 25.43 326 P **P** 09 25 45.3 +1.2
comp=Z,168nm,0.7s,baz=153,slow=8.2,SNR=491
NVAR PcP **PcP** 09 29 16.2 +1.2
comp=Z,3.2nm,0.5s,baz=147,slow=2.5,SNR=5.8
NVAR PKiKP **PKiKP** 09 36 56.6 +1.1
comp=Z,1.1nm,0.6s,baz=164,slow=1.8,SNR=6.5
NVAR LR LR 09 36 59.9
comp=Z,15µm,18.5s,baz=141,slow=39
NVAR P3KPbc 09 58 43.6
comp=Z,1.0nm,0.8s,baz=290,slow=5.4,SNR=6.9
BW06 Boulder Array 25.66 345 *eP* **P** 09 25 45.3 -0.8
comp=Z,208nm,0.8s
BW06 Boulder Array 25.66 345 P **P** 09 25 45.0 -1.1
baz=160,SNR=273
PD31 Pinedale Array 25.66 345 *eP* **P** 09 25 45.2 -0.9
PD31 *ePcP* **PcP** 09 29 15.3 -0.1
PDAR Pinedale Array 25.66 345 P **P** 09 25 46.5 +0.4
comp=Z,198nm,0.8s,baz=142,slow=7.5,SNR=158
PDAR PcP **PcP** 09 29 15.3 -0.1
comp=Z,123nm,1.4s,baz=144,slow=5.0,SNR=4.9
PDAR PKiKP **PKiKP** 09 36 54.4 -1.2
comp=Z,1.5nm,0.7s,baz=112,slow=1.6,SNR=5.9
PDAR LR LR 09 37 01.1
comp=Z,25µm,21.0s,baz=176,slow=39
PDAR Pinedale Array 25.66 345 *eP* **P** 09 25 45.4 -0.7
PDAR PcP **PcP** 09 29 15.3 -0.1
PDAR PKiKP **PKiKP** 09 36 54.4 -1.2
ECSD EROS Data Cent 25.67 7 *eP* **P** 09 25 44.1 -1.8
comp=Z,302nm,0.9s
ECSD EROS Data Cent 25.67 7 P **P** 09 25 43.6 -2.3
baz=188,SNR=253
RYN Ryan 25.69 326 *eP* **P** 09 25 47.5 +1.1
comp=Z,164nm,0.9s
HVU Hansel Valley 25.73 339 *eP* **P** 09 25 46.6 0.0
comp=Z,91nm,0.9s
KVN Kaiserville 25.79 327 *eP* **P** 09 25 47.7 +0.5
comp=Z,105nm,0.7s
KVN Kaiserville 25.79 327 *eP* **P** 09 25 47.7 +0.5
KVN pmax pmax
comp=Z,105nm,0.7s
ELK Elko 25.79 334 *eP* **P** 09 25 48.2 +0.9
comp=Z,216nm,1.8s
BLA Blacksburg 25.89 39 *eP* **P** 09 25 45.4 -2.6
comp=Z,406nm,0.8s
BLA Blacksburg 25.89 39 *eP* **P** 09 25 45.4 -2.6
BLA pmax pmax
comp=Z,406nm,0.8s
BLA Blacksburg 25.89 39 P **P** 09 25 45.1 -3.0
baz=228,SNR=74
MOTC Monteria, Cord 25.89 108 *eP* **P** 09 25 48.5 +0.3
RSSD Black Hills 26.01 354 *eP* **P** 09 25 48.3 -0.9
comp=Z,103nm,0.9s
RSSD Black Hills 26.01 354 *eP* **P** 09 25 48.3 -0.9
RSSD pmax pmax
comp=Z,103nm,0.9s
RSSD Black Hills 26.01 354 P **P** 09 25 47.6 -1.7
baz=172
AHID Auburn Hatcher 26.08 342 *eP* **P** 09 25 49.1 -0.8
WAKR Walker 26.10 325 *eP* **P** 09 25 51.3 +1.2
comp=Z,72nm,0.8s
SAO San Andreas Ge 26.10 319 *eP* **P** 09 25 50.8 +0.9
comp=Z,70nm,1.0s
SAO San Andreas Ge 26.10 319 *eP* **P** 09 25 50.8 +0.9
SAO pmax pmax
comp=Z,70nm,1.0s
JFWS Jewell Farm 26.13 17 *eP* **P** 09 25 48.4 -1.7
comp=Z,989nm,1.7s
JFWS Jewell Farm 26.13 17 *eP* **P** 09 25 48.4 -1.7
JFWS pmax pmax
comp=Z,989nm,1.7s
JFWS Jewell Farm 26.13 17 P **P** 09 25 47.1 -3.0
baz=202,SNR=43
CNNC Cliffs of the 26.30 45 P **P** 09 25 48.9 -2.7
baz=236,SNR=12
CMB Columbia Colle 26.30 323 *eP* **P** 09 25 51.8 0.0
comp=Z,84nm,1.3s
CMB Columbia Colle 26.30 323 *eP* **P** 09 25 51.8 0.0
CMB pmax pmax
comp=Z,84nm,1.3s
YERR Yerington 26.34 326 *eP* **P** 09 25 53.1 +0.9
comp=Z,81nm,0.7s
SMRC Santa Marta, M 26.36 102 *eP* **P** 09 25 52.3 -0.2
BMN Battle Mountai 26.42 330 *eP* **P** 09 25 53.9 +1.0
BMN *ePcP* **PcP** 09 29 18.8 +1.6
BMN Battle Mountai 26.42 330 *eP* **P** 09 25 53.9 +1.0
BMN *e* 09 29 18.8
LGNH LØogne 26.49 85 *eP* **P** 09 25 54.9 +1.3
comp=Z,567nm,1.1s
REDW Red Top Meadow 26.56 343 *eP* **P** 09 25 53.7 -0.5
comp=Z,249nm,1.2s
PNTR Pine Nut 26.61 325 *eP* **P** 09 25 56.6 +1.9
comp=Z,101nm,0.8s
SNOW Snow King Moun 26.63 343 *eP* **P** 09 25 54.5 -0.4
comp=Z,251nm,1.1s
ACSO Alum Creek Sta 26.67 31 *eP* **P** 09 25 52.8 -2.2
comp=Z,2µm,2.0s
ACSO Alum Creek Sta 26.67 31 P **P** 09 25 51.8 -3.2
baz=220,SNR=29
TPAW Teton Pass 26.71 343 *eP* **P** 09 25 56.0 +0.4
comp=Z,432nm,0.9s
LOHW Long Hollow 26.73 344 *eP* **P** 09 25 55.2 -0.5
comp=Z,150nm,0.8s
VCNR Virginia City 26.78 326 *eP* **P** 09 25 57.2 +1.0
comp=Z,41nm,0.8s
FXWY Fox Creek 26.86 343 *eP* **P** 09 25 56.3 -0.6
comp=Z,238nm,0.9s
RUBR Rubicon Trail 26.88 325 *eP* **P** 09 25 59.2 +2.1
comp=Z,234nm,0.8s
MOOW Moose Ponds 26.89 343 *eP* **P** 09 25 56.8 -0.4
comp=Z,101nm,0.9s

PAHR Pah Rah Range 26.94 327 *eP* **P** 09 25 58.8 +1.2
comp=Z,61nm,1.2s
IMW Indian Meadow 27.08 343 *eP* **P** 09 25 58.3 -0.6
comp=Z,84nm,0.9s
PLMC San Jos¨ del 27.13 116 *eP* **P** 09 25 59.9 +0.5
HELC Santa Helena 27.14 113 *eP* **P** 09 26 01.1 +1.2
ZARC Zaragoza, Cauc 27.15 110 *eP* **P** 09 25 59.9 +0.3
FLWY Flagg Ranch 27.19 344 *eP* **P** 09 25 59.4 -0.5
comp=Z,659nm,1.9s
AFDM Forest Hills D 27.27 324 *eP* **P** 09 26 01.5 +1.2
comp=Z,42nm,0.7s
AFDM *ePcP* **PcP** 09 29 20.7 +1.7
SMLC San Mart¨n de 27.33 106 *eP* **P** 09 26 01.8 +0.7
YPP Pitchstone Pla 27.39 344 *eP* **P** 09 26 02.0 +0.3
comp=Z,39nm,0.9s
H17A Grant Village 27.45 344 *eP* **P** 09 26 03.9 +1.7
comp=Z,49nm,0.9s
H17A Grant Village 27.45 344 P **P** 09 26 00.8 -1.4
baz=159,SNR=17
CODC Agust¨n Codaz 27.49 104 *eP* **P** 09 26 03.2 +0.6
YOTC Yotoco, Valle 27.56 118 *eP* **P** 09 26 04.3 +0.9
LKWY Lake 27.56 345 *eP* **P** 09 26 03.8 +0.6
comp=Z,113nm,1.2s
LKWY Lake 27.56 345 *eP* **P** 09 26 03.8 +0.6
LKWY pmax pmax
comp=Z,113nm,1.2s
YFT Old Faithful 27.57 344 *eP* **P** 09 26 04.5 +1.3
comp=Z,58nm,0.9s
YFT *ePcP* **PcP** 09 29 23.3 +3.4
BEKR Beckworth 27.57 326 *eP* **P** 09 26 04.8 +1.5
comp=Z,72nm,0.7s
SDDR Presa de Saban 27.71 84 *eP* **P** 09 26 05.8 +1.2
comp=Z,537nm,1.1s
GUYC Guyana, Colomb 27.73 115 *eP* **P** 09 26 08.7 +3.5
YNR Norris Junctio 27.77 344 *eP* **P** 09 26 05.7 +0.6
comp=Z,139nm,1.5s
YMR Madison River 27.80 344 *eP* **P** 09 26 05.3 0.0
comp=Z,55nm,0.9s
RLMT Red Lodge 27.82 347 *eP* **P** 09 26 05.4 0.0
comp=Z,440nm,1.9s
RLMT Red Lodge 27.82 347 P **P** 09 26 04.7 -0.8
baz=162,SNR=37
GRTK Grand Turk 27.82 78 *eP* **P** 09 26 05.8 +0.3
comp=Z,372nm,1.1s
GRTK Grand Turk 27.82 78 *eP* **P** 09 26 04.4 -1.1
MCCM Marconi Confer 27.86 320 *eP* **P** 09 26 07.2 +1.6
comp=Z,91nm,0.8s
HLID Hailey 27.87 338 *eP* **P** 09 26 05.8 -0.2
comp=Z,27nm,0.7s
HLID Hailey 27.87 338 P **P** 09 26 04.8 -1.2
baz=150,SNR=68
YHH Holmes Hill 27.89 344 *eP* **P** 09 26 06.4 +0.2
comp=Z,83nm,1.4s
MCWV Mont Chateau 27.89 36 *eP* **P** 09 26 04.2 -1.7
comp=Z,135nm,1.1s
MCWV Mont Chateau 27.89 36 P **P** 09 26 02.8 -3.0
baz=226,SNR=12
PTBC PUERTO BERRIO, 27.93 111 *eP* **P** 09 26 07.5 +1.0
RREF El Recreo 27.93 115 *eP* **P** 09 26 09.4 +2.1
YHB Horse Butte 27.94 344 *eP* **P** 09 26 07.1 +0.5
comp=Z,68nm,1.2s
ORV Oroville 27.98 324 *eP* **P** 09 26 07.8 +1.1
comp=Z,88nm,1.3s
ORV Oroville 27.98 324 *eP* **P** 09 26 07.8 +1.1
ORV pmax pmax
comp=Z,88nm,1.3s
AAM Ann Arbor 27.99 27 *eP* **P** 09 26 04.2 -2.5
comp=Z,350nm,0.8s
AAM *eS* **S** 09 30 42.5 -4.4
AAM Ann Arbor 27.99 27 *eP* **P** 09 26 04.2 -2.5
AAM *eS* **S** 09 30 42.5 -4.4
AAM pmax pmax
comp=Z,350nm,0.8s
AAM Ann Arbor 27.99 27 P **P** 09 26 03.7 -3.0
baz=216,SNR=43
QLMT Earthquake Lak 28.08 343 *eP* **P** 09 26 08.8 +1.1
QLMT *ePcP* **PcP** 09 29 23.9 +2.8
POPC Popayan, Colom 28.09 121 *eP* **P** 09 26 08.1 -0.1
ANIL Santa Ana 28.09 116 *eP* **P** 09 26 10.6 +2.3
OTAV Otavalo 28.09 127 *eP* **P** 09 26 11.0 +2.5
comp=Z,119nm,1.1s
OTAV Otavalo 28.09 127 *eP* **P** 09 26 05.4 -3.1
OTAV Otavalo 28.09 127 *eP* **P** 09 26 11.0 +2.5
OTAV pmax pmax
comp=Z,119nm,1.1s
TOLC Tolima 28.11 116 *eP* **P** 09 26 11.7 +3.1
G39A Holcombe 28.11 14 P **P** 09 26 03.9 -3.9
baz=199,SNR=47
F37A Hinrichs Farm, 28.22 12 P **P** 09 26 05.4 -3.3
baz=196,SNR=39
GDXM Geysers 28.23 321 *eP* **P** 09 26 10.2 +1.2
comp=Z,45nm,1.2s
OCAC Ocana 28.23 107 *eP* **P** 09 26 10.0 +0.6
MFID Camas Ranch 28.27 336 *eP* **P** 09 26 09.4 0.0
comp=Z,47nm,0.9s
URIC Uribia, Colomb 28.29 99 *eP* **P** 09 26 09.6 -0.1
GCUF Volcan Galeras 28.33 124 *eP* **P** 09 26 13.6 +3.0
G40A Rib Lake 28.33 15 *eP* **P** 09 26 06.9 -2.8
comp=Z,146nm,1.1s
G40A Rib Lake 28.33 15 P **P** 09 26 07.0 -2.8
baz=201,SNR=11
BRRC Barranca, Sant 28.34 109 *eP* **P** 09 26 10.8 +0.6
SOTA Rioblanco 28.37 122 *eP* **P** 09 26 11.5 +0.5
CBN Corbin Frederi 28.38 41 *eP* **P** 09 26 08.0 -2.3
comp=Z,282nm,1.3s
CBN Corbin Frederi 28.38 41 P **P** 09 26 07.7 -2.6
baz=232,SNR=18
CRUC La Cruz 28.43 123 *eP* **P** 09 26 15.1 +3.7
PCON Cinco Dias 28.43 121 *eP* **P** 09 26 12.8 +1.2
MCMT McKenzie Canyo 28.48 341 *eP* **P** 09 26 11.9 +0.4
MARP Paez Belalcaza 28.51 120 *eP* **P** 09 26 15.2 +3.2
HOPS Hopland Field 28.51 321 *eP* **P** 09 26 13.7 +2.2
comp=Z,120nm,1.4s
GCMT Greycliff 28.54 347 *eP* **P** 09 26 11.2 -0.6
G41A Antigo 28.55 17 P **P** 09 26 08.5 -3.2
baz=203,SNR=21
F38A Pierce - Schro 28.60 13 P **P** 09 26 09.1 -3.0
baz=197,SNR=38
BANI BANI 28.63 85 *eP* **P** 09 26 14.5 +1.7
WVOR Wild Horse Val 28.65 331 *eP* **P** 09 26 13.0 +0.2
comp=Z,42nm,1.0s
WVOR Wild Horse Val 28.65 331 *eP* **P** 09 26 13.0 +0.2
WVOR pmax pmax
comp=Z,42nm,1.0s
O03E Paynes Creek 28.66 325 P **P** 09 26 13.2 +0.3
baz=134,SNR=33
F39A Loretta 28.77 14 P **P** 09 26 10.3 -3.3
baz=199,SNR=14
G42A Mountain 28.79 18 *eP* **P** 09 26 10.9 -3.0
comp=Z,130nm,0.8s
G42A Mountain 28.79 18 P **P** 09 26 10.8 -3.0
baz=204,SNR=17
LAO LASA Array 28.80 352 *eP* **P** 09 26 12.4 -1.5
comp=Z,72nm,0.8s
LAO LASA Array 28.80 352 P **P** 09 26 12.1 -1.9
baz=168,SNR=41
BOZ Bozeman (W) 28.84 344 *eP* **P** 09 26 14.2 -0.3
comp=Z,50nm,1.3s
BOZ Bozeman (W) 28.84 344 *eP* **P** 09 26 14.2 -0.3
BOZ pmax pmax
comp=Z,50nm,1.3s
BOZ Bozeman (W) 28.84 344 P **P** 09 26 14.2 -0.3
baz=157,SNR=45
ROSC El Rosal 28.85 114 P **P** 09 26 18.3 +3.2
comp=Z,38nm,1.0s,baz=337,slow=5.8,SNR=32
ROSC El Rosal 28.85 114 *eP* **P** 09 26 18.3 +3.2
comp=Z,106nm,1.2s
ROSC El Rosal 28.85 114 *eP* **P** 09 26 18.5 +3.4
DLMT Dillon 28.89 342 *eP* **P** 09 26 15.2 +0.3
comp=Z,147nm,1.4s
PRAC Prado 28.93 117 *eP* **P** 09 26 16.5 +1.1
F40A Park Falls 28.96 15 P **P** 09 26 12.5 -2.9
baz=200,SNR=22
G43A Wallace 29.03 19 *eP* **P** 09 26 13.1 -2.9
comp=Z,540nm,1.8s
G43A Wallace 29.03 19 P **P** 09 26 12.7 -3.2
baz=206,SNR=7.0
MOD Modoc Plateau 29.04 329 *eP* **P** 09 26 16.4 +0.2
comp=Z,176nm,1.7s
BARC Barichara 29.04 110 *eP* **P** 09 26 18.6 +1.9
SDD Santo Domingo 29.04 85 *eP* **P** 09 26 17.7 +1.3
comp=Z,254nm,1.0s
F41A Three Lakes 29.06 17 *eP* **P** 09 26 13.8 -2.4
comp=Z,298nm,1.4s
F41A Three Lakes 29.06 17 P **P** 09 26 13.4 -2.8
baz=203,SNR=8.0

O02D **Mt. Diablo Mer** 29.13 323 P P 09 26 14.8 -2.3
baz=132
ALLY **Alegheny Colle** 29.15 32 eP P 09 26 14.6 -2.5
comp=Z,172nm,1.0s
PAMC **Pamplona, Colo** 29.16 108 eP P 09 26 19.1 +1.1
KCPM **Cahto Peak** 29.26 322 eP P 09 26 20.6 +2.4
comp=Z,73nm,0.8s
WDC **Whiskeytown Da** 29.26 324 eP P 09 26 17.2 -0.9
comp=Z,15nm,0.6s
WDC **Whiskeytown Da** 29.26 324 eP P 09 26 17.2 -0.9
WDC pmax pmax
comp=Z,15nm,0.6s
E38A **The Farm, Brul** 29.28 13 eP P 09 26 15.6 -2.6
comp=Z,122nm,0.9s
E38A **The Farm, Brul** 29.28 13 P P 09 26 15.2 -3.0
baz=197,SNR=28
E39A **Mellen** 29.29 14 P P 09 26 15.3 -2.9
baz=199,SNR=29
J08A **Circle Bar Ran** 29.31 333 eP P 09 26 18.9 +0.2
comp=Z,151nm,1.2s
F42A **Maple Grove Fa** 29.35 18 P P 09 26 15.5 -3.3
baz=204,SNR=9.3
COWI **Conover** 29.38 16 eP P 09 26 16.1 -3.0
comp=Z,148nm,1.0s
COWI ePcP PcP 09 29 25.3 +1.2
RUSC **La Rusia** 29.44 111 eP P 09 26 21.1 +0.7
CHIC **Chingaza** 29.46 114 eP P 09 26 22.3 +1.7
SDMD **Soldier's Deli** 29.46 39 eP P 09 26 17.6 -2.3
comp=Z,54nm,0.8s
G45A **Suttons Bay** 29.50 22 P P 09 26 17.1 -3.1
baz=210,SNR=13
E40A **Wakefield** 29.51 15 P P 09 26 17.3 -2.9
baz=201
ERPA **Erie** 29.57 32 eP P 09 26 18.2 -2.7
comp=Z,206nm,1.2s
ERPA **Erie** 29.57 32 P P 09 26 17.6 -3.2
baz=222,SNR=6.8
N02D **Trinity Center** 29.62 325 P P 09 26 20.3 -1.1
baz=133,SNR=9.3
SSPA **Standing Stone** 29.65 36 eP P 09 26 19.4 -2.1
comp=Z,260nm,1.3s
SSPA **Standing Stone** 29.65 36 P P 09 26 18.4 -3.1
baz=228
KMRM **Mail Ridge** 29.69 323 eP P 09 26 23.8 +1.8
comp=Z,74nm,0.9s
GLMI **Grayling** 29.70 23 eP P 09 26 19.4 -2.5
comp=Z,464nm,0.9s
GLMI **Grayling** 29.70 23 P P 09 26 19.1 -2.8
baz=212,SNR=29
F43A **Flat Rock, Esc** 29.70 19 P P 09 26 18.7 -3.2
baz=206,SNR=14
M04C **Macdoel** 29.73 327 P P 09 26 22.7 +0.4
baz=136,SNR=53
ELFO **Elginfield** 29.75 29 P P 09 26 19.1 -3.3
baz=219
VILC **Villavicencio,** 29.75 115 eP P 09 26 25.9 +3.1
E41A **Kenton** 29.76 16 P P 09 26 19.4 -3.1
baz=202,SNR=14
HRY **Holter Researc** 29.93 344 eP P 09 26 23.6 -0.5
SJAC **San Juan de Ar** 29.96 117 eP P 09 26 28.9 +4.3
M02C **Callahan** 29.99 325 P P 09 26 22.3 -2.4
baz=134,SNR=25
E42A **Champion** 30.02 18 P P 09 26 20.7 -4.0
baz=204,SNR=5.8
G46A **Petoskey** 30.03 22 P P 09 26 21.5 -3.2
baz=211,SNR=14
PAGS **Pennsylvania G** 30.05 38 eP P 09 26 22.0 -3.0
comp=Z,90nm,0.9s
BMO **Blue Mountains** 30.05 336 eP P 09 26 23.8 -1.4
comp=Z,33nm,0.8s
BMO **Blue Mountains** 30.05 336 eP P 09 26 23.8 -1.4
BMO pmax pmax
comp=Z,33nm,0.8s
F44A **Big Bay de Noc** 30.07 20 P P 09 26 21.6 -3.5
baz=207,SNR=28
F45A **CMU Biological** 30.11 21 P P 09 26 22.3 -3.2
baz=209
MVL **Millersville** 30.12 39 eP P 09 26 24.2 -1.5
comp=Z,173nm,1.5s
KHMM **Horse Mountain** 30.13 323 eP P 09 26 26.9 +1.0
comp=Z,92nm,0.8s
YBH **Yreka Blue Hor** 30.15 326 LR LR 09 40 06.7
comp=Z,6µm,18.9s,baz=150,slow=39
YBH **Yreka Blue Hor** 30.15 326 eP P 09 26 24.9 -1.2
comp=Z,17nm,0.6s
YBH **Yreka Blue Hor** 30.15 326 eP P 09 26 24.9 -1.2
YBH pmax pmax
comp=Z,17nm,0.6s
BASO **Ashfield** 30.23 28 P P 09 26 23.3 -3.3
baz=217
E43A **Lone Tree Farm** 30.25 19 eP P 09 26 24.3 -2.4
comp=Z,97nm,0.8s
E43A **Lone Tree Farm** 30.25 19 P P 09 26 23.3 -3.4
baz=206,SNR=14
AGMN **Agassiz Nation** 30.26 6 eP P 09 26 24.5 -2.3
comp=Z,290nm,0.9s
AGMN **Agassiz Nation** 30.26 6 P P 09 26 24.3 -2.5
baz=189,SNR=122
JCC **Jacoby Creek,** 30.26 323 eP P 09 26 28.6 +1.7
comp=Z,167nm,1.4s
G47A **Hillman** 30.28 24 P P 09 26 23.6 -3.4
baz=212,SNR=7.0
L04D **Klamath Falls** 30.28 327 P P 09 26 26.3 -1.0
baz=135,SNR=17
K04D **Chiloquin, OR** 30.29 328 P P 09 26 26.8 -0.5
baz=137
I07A **Izee** 30.34 332 eP P 09 26 27.9 +0.2
comp=Z,32nm,0.8s
DGMT **Dagmar** 30.34 355 eP P 09 26 26.4 -1.2
comp=Z,131nm,0.9s
DGMT **Dagmar** 30.34 355 P P 09 26 26.4 -1.2
baz=173,SNR=40
TAMC **Tame, Arauca** 30.35 109 eP P 09 26 30.1 +2.0
TYNO **Tyneside** 30.36 31 P P 09 26 24.2 -3.5
baz=221
D41A **Chassel** 30.42 16 eP P 09 26 26.1 -2.2
comp=Z,179nm,0.6s
D41A **Chassel** 30.42 16 P P 09 26 25.5 -2.7
baz=203,SNR=20
F46A **Macinaw City C** 30.46 22 P P 09 26 25.3 -3.2
baz=210,SNR=26
SDV **Santo Domingo** 30.46 104 P P 09 26 29.7 +0.5
comp=Z,35nm,1.0s,baz=290,slow=3.9,SNR=29
SDV **Santo Domingo** 30.46 104 eP P 09 26 29.7 +0.5
comp=Z,120nm,0.8s
SDV **Santo Domingo** 30.46 104 eP P 09 26 29.4 +0.2
BRCO **Bruce Peninsul** 30.51 28 P P 09 26 26.3 -2.8
baz=218
J05D **Fort Rock, OR** 30.53 329 P P 09 26 28.6 -0.9
baz=138,SNR=16
BWLO **Walkerton** 30.55 28 P P 09 26 26.5 -2.9
baz=218
EYMN **Ely** 30.57 12 eP P 09 26 26.9 -2.8
comp=Z,581nm,1.9s
EYMN ePcP PcP 09 29 26.7 -0.4
EYMN **Ely** 30.57 12 P P 09 26 26.8 -2.8
baz=197,SNR=19
MSO **Missoula** 30.62 342 eP P 09 26 29.4 -0.7
comp=Z,33nm,0.9s
MSO **Missoula** 30.62 342 P P 09 26 29.5 -0.7
baz=154,SNR=30
PSUB **Penn St. - Bra** 30.62 40 eP P 09 26 27.4 -2.8
comp=Z,84nm,1.1s
ACTO **Acton** 30.65 30 P P 09 26 27.4 -2.9
baz=220
EGMT **Eagleton** 30.69 348 eP P 09 26 30.0 -0.7
comp=Z,316nm,1.8s
EGMT **Eagleton** 30.69 348 P P 09 26 29.8 -0.9
baz=162,SNR=22
PINE **Pine Mountain** 30.77 330 eP P 09 26 31.9 +0.2
comp=Z,18nm,0.8s
STCO **Saint Catharin** 30.79 31 P P 09 26 28.6 -2.9
baz=222
E44A **Grand Marais A** 30.80 20 eP P 09 26 30.8 -0.8
comp=Z,382nm,1.3s
E44A **Grand Marais A** 30.80 20 P P 09 26 29.7 -1.9
baz=208
E45A **Wooded Hills,** 30.82 21 P P 09 26 29.1 -2.6
baz=209,SNR=13
BMRO **Meriville Lake** 30.89 27 P P 09 26 29.1 -3.3
baz=218
HUMO **Hull Mountain** 30.90 327 eP P 09 26 33.5 +0.9
comp=Z,54nm,1.8s
J04D **Umpqua Nationa** 30.92 328 P P 09 26 32.8 -0.2
baz=137,SNR=18
L02E **Cave Junction** 30.93 325 P P 09 26 32.4 -0.4
baz=133,SNR=6.2
F10A **Beach Ranch, E** 30.97 337 eP P 09 26 32.7 -0.5
comp=Z,153nm,0.7s
C40A **Isle Royale Na** 31.06 15 eP P 09 26 32.6 -1.3
comp=Z,120nm,1.1s
G08A **Pilot Rock** 31.08 334 eP P 09 26 33.5 -0.7
comp=Z,69nm,0.6s
LUPA **Lehigh Univers** 31.08 39 eP P 09 26 32.2 -2.0
comp=Z,11nm,0.8s
MMNY **Mt. Morris Dam** 31.08 33 eP P 09 26 31.7 -2.4
comp=Z,387nm,1.5s
MEDO **Medina** 31.11 32 P P 09 26 31.0 -3.4
baz=224
E46A **Sault Ste Mari** 31.13 22 P P 09 26 31.5 -3.0
baz=211,SNR=5.9
CLWO **Collingwood** 31.18 29 P P 09 26 31.7 -3.3
baz=219
TOBO **Tobermory, Bru** 31.26 26 P P 09 26 32.6 -3.1
baz=216
KBO **Bosley Butte** 31.30 325 eP P 09 26 37.8 +1.6
comp=Z,162nm,1.1s
K02D **Willamette Mer** 31.33 326 P P 09 26 36.1 -0.4
baz=134,SNR=18
I05D **Terrebonne, OR** 31.37 331 P P 09 26 35.2 -1.6
baz=139,SNR=31
KSPA **Keystone Colle** 31.46 37 eP P 09 26 35.9 -1.6
comp=Z,67nm,1.2s
I04A **Tendick Farm,** 31.48 329 P P 09 26 37.0 -0.7
baz=137,SNR=18
F49A **Sandfield** 31.48 25 P P 09 26 34.4 -3.2
baz=215,SNR=33
JTMT **Jette** 31.55 342 eP P 09 26 37.5 -0.8
comp=Z,25nm,0.9s
E47A **Iron Bridge** 31.58 23 P P 09 26 35.6 -2.8
baz=212,SNR=16
BRNJ **Basking Ridge** 31.62 39 eP P 09 26 36.8 -2.0
comp=Z,130nm,0.8s
AGP **Aguadilla** 31.67 84 eP P 09 26 41.2 +1.6
comp=Z,526nm,1.1s
MPR **Mayaguez** 31.69 85 eP P 09 26 41.0 +1.3
comp=Z,85nm,1.0s
CRPR **Cabo Rojo, PR** 31.74 85 eP P 09 26 41.5 +1.3
comp=Z,83nm,0.9s
G06A **Carlson Farm,** 31.75 333 eP P 09 26 39.2 -0.9
comp=Z,65nm,1.4s
BINY **Binghamton** 31.76 36 eP P 09 26 37.9 -2.3
comp=Z,203nm,1.3s
BINY **Binghamton** 31.76 36 P P 09 26 37.8 -2.3
baz=228,SNR=22
E09A **Wood Farm, Sta** 31.77 337 eP P 09 26 39.0 -1.1
comp=Z,39nm,0.6s
J01E **Myrtle Point** 31.80 327 P P 09 26 40.9 +0.5
baz=134,SNR=17
KEBM **Edson Butte** 31.81 326 eP P 09 26 42.5 +1.8
comp=Z,130nm,0.8s
ODNJ **Ogdensburg** 31.84 39 eP P 09 26 38.7 -2.1
comp=Z,78nm,0.9s
I03D **Drain, OR** 31.88 328 P P 09 26 41.1 +0.1
baz=135,SNR=22
KLBO **Killbear Provi** 31.93 28 P P 09 26 37.3 -4.2
baz=218
F07A **Phinny Hill Vi** 31.97 334 eP P 09 26 42.3 +0.4
comp=Z,42nm,0.7s
E48A **Lockeyer** 32.02 24 P P 09 26 40.1 -2.3
baz=214,SNR=11
H04A **Detroit Lake** 32.03 330 eP P 09 26 42.0 -0.5
comp=Z,66nm,0.9s
CPNY **Central Park** 32.05 40 eP P 09 26 40.9 -1.7
comp=Z,122nm,1.1s
G05D **Wamic, OR** 32.05 332 P P 09 26 42.1 -0.6
baz=140,SNR=17
E08A **Dider Farm, El** 32.10 336 eP P 09 26 41.8 -1.2
comp=Z,24nm,1.0s
D47A **Chapleau** 32.15 23 P P 09 26 40.8 -2.7
baz=212,SNR=9.5
H04D **Lebanon** 32.17 329 P P 09 26 42.8 -0.9
baz=137,SNR=22
ULM **Lac du Bonnet** 32.19 6 P P 09 26 41.6 -2.2
comp=Z,239nm,0.7s,baz=188,slow=9.5,SNR=137
ULM PcP PcP 09 29 30.7 -0.7
comp=Z,45nm,1.0s,baz=169,slow=2.0,SNR=4.2
ULM LR LR 09 40 06.9
comp=Z,10µm,21.2s,baz=182,slow=37
ULM **Lac du Bonnet** 32.19 6 eP P 09 26 41.0 -2.8
comp=Z,319nm,0.8s
ULM PcP PcP 09 29 30.7 -0.7
HAWA **Hanford** 32.21 335 eP P 09 26 43.3 -0.7
comp=Z,20nm,0.6s
OBIP **Obispado Ponce** 32.21 85 eP P 09 26 44.4 +0.1
comp=Z,723nm,1.9s
PAL **Palisades** 32.21 40 eP P 09 26 41.8 -2.3
comp=Z,149nm,0.8s
PAL **Palisades** 32.21 40 P P 09 26 41.7 -2.3
baz=233,SNR=19
EMPR **Esperanza - Ma** 32.24 84 eP P 09 26 45.8 +1.2
comp=Z,314nm,1.2s
ICMP **Isla Caja de M** 32.30 85 eP P 09 26 45.7 +0.6
comp=Z,186nm,1.0s
BUKO **Buck Lake** 32.36 28 P P 09 26 41.8 -3.5
baz=220
I02D **Swisshome** 32.42 328 P P 09 26 45.5 -0.3
baz=135,SNR=12
E07A **Sunnyside** 32.47 335 eP P 09 26 46.9 +0.5
comp=Z,37nm,0.6s
COR **Corvallis** 32.49 329 eP P 09 26 47.6 +1.1
comp=Z,48nm,0.9s
F51A **Arnstein** 32.51 27 P P 09 26 43.0 -3.6
baz=218,SNR=30
DELO **Deloro Mine** 32.51 31 P P 09 26 43.2 -3.4
baz=223
E50A **Wahnapitae** 32.55 26 P P 09 26 43.4 -3.6
baz=216,SNR=41
F05D **White Salmon** 32.62 332 P P 09 26 48.1 +0.5
baz=141,SNR=30
WALA **Waterton Lakes** 32.63 344 eP P 09 26 47.5 -0.4
comp=Z,52nm,0.8s
SJG **San Juan** 32.64 85 P P 09 26 47.2 -0.8
comp=Z,291nm,0.9s,baz=268,slow=6.0,SNR=45
SJG **San Juan** 32.64 85 eP P 09 26 47.2 -0.8
SJG eP P 09 26 47.4 -0.7
SJG **San Juan** 32.64 85 eP P 09 26 47.0 -1.1
F52A **Sundridge** 32.66 28 P P 09 26 44.0 -4.0
baz=219,SNR=33
BANO **Bancroft** 32.72 30 P P 09 26 44.7 -3.8
baz=222
D48A **Paudash Townsh** 32.73 24 P P 09 26 45.3 -3.3
baz=214,SNR=12
NEW **Newport** 32.90 339 LR LR 09 41 06.2
comp=Z,8µm,19.6s,baz=150,slow=38
NEW **Newport** 32.90 339 eP P 09 26 48.8 -1.3
comp=Z,24nm,0.8s
NEW **Newport** 32.90 339 eP P 09 26 48.8 -1.3
NEW pmax pmax
comp=Z,24nm,0.8s
NEW **Newport** 32.90 339 P P 09 26 48.3 -1.7
baz=150,SNR=37
C09A **Chrisman Ranch** 32.90 338 eP P 09 26 49.5 -0.5
comp=Z,72nm,0.6s
CBYP **Canovanas** 32.90 84 eP P 09 26 49.8 -0.7
comp=Z,283nm,1.0s
HUMP **Col San Antoni** 32.92 85 eP P 09 26 49.6 -0.9
comp=Z,391nm,1.1s
HUMP ePcP PcP 09 29 34.7 +0.8
G03D **McMinnville, O** 32.93 330 P P 09 26 50.6 +0.3
baz=137,SNR=20
YLE **Yale** 32.98 40 eP P 09 26 48.6 -2.2
comp=Z,131nm,0.8s
PLVO **Plevna** 33.15 31 P P 09 26 48.2 -4.0
baz=224
E51A **G1948 Merrick** 33.16 27 P P 09 26 48.9 -3.4
baz=218,SNR=38
MTP **Monte Pirata** 33.20 85 eP P 09 26 53.0 -0.1
comp=Z,585nm,1.0s
ATAH **Atahualpa** 33.33 137 P P 09 26 55.9 +1.3
comp=Z,38nm,1.0s,baz=331,slow=7.3,SNR=20
ATAH pP sP 09 27 13.0 -2.9
comp=Z,34nm,0.7s,baz=329,slow=16,SNR=8.7
ALGO **Algonquin Park** 33.36 29 P P 09 26 50.2 -3.9
baz=221
LTY **Liberty** 33.37 335 eP P 09 26 54.1 -0.1
comp=Z,350nm,1.8s
TRY **Troy** 33.41 37 eP P 09 26 52.8 -1.7
comp=Z,62nm,1.1s
TRY epP sP 09 27 12.8 -3.1
CUPR **Culebra, Puert** 33.44 84 eP P 09 26 54.7 -0.4
comp=Z,91nm,0.8s
LON **Longmire** 33.44 333 eP P 09 26 54.9 0.0
comp=Z,67nm,0.9s
LON **Longmire** 33.44 333 eP P 09 26 54.9 0.0
LON pmax pmax
comp=Z,67nm,0.9s
F04D **Rainier, OR** 33.46 331 P P 09 26 55.0 +0.1
baz=138
D50A **G1974 Best Tow** 33.51 26 P P 09 26 52.1 -3.3
baz=217,SNR=31
PEMO **Pembroke** 33.53 30 P P 09 26 51.9 -3.6
baz=223
E04D **Cinebar** 33.62 332 P P 09 26 56.4 0.0
baz=140,SNR=14
D51A **Lot 18 Range I** 33.65 26 P P 09 26 53.4 -3.2
baz=218
STVI **Saint Thomas** 33.74 84 eP P 09 26 57.6 -0.1
comp=Z,468nm,1.2s
B08A **Colville Reser** 33.75 337 eP P 09 26 56.9 -0.6
comp=Z,133nm,1.4s
ACCN **Adirondack Com** 33.82 36 eP P 09 26 55.8 -2.4
comp=Z,96nm,0.9s
E53A **Dumoine, Ponti** 33.86 29 P P 09 26 55.6 -2.8
baz=221,SNR=46
D05A **Enumclaw** 33.86 333 eP P 09 26 59.1 +0.8
comp=Z,98nm,0.8s
NCB **Newcomb** 33.89 35 eP P 09 26 56.1 -2.7
comp=Z,51nm,1.0s
CDVI **St. Croix** 33.98 85 eP P 09 26 59.0 -0.8
comp=Z,282nm,0.9s
C06D **Leavenworth** 33.99 335 P P 09 26 59.7 +0.1
baz=144,SNR=13
E03A **Lebam** 34.06 331 eP P 09 27 01.1 +1.0
comp=Z,207nm,0.8s
E54A **Lac Daplat, Po** 34.12 29 P P 09 26 57.0 -3.6
baz=222,SNR=48
LONY **Lake Ozonia** 34.13 34 eP P 09 26 58.1 -2.8
comp=Z,363nm,2.0s
LONY **Lake Ozonia** 34.13 34 P P 09 26 58.0 -2.8
baz=228,SNR=16
D04E **Lakebay** 34.19 333 P P 09 27 01.5 +0.3
baz=140,SNR=9.7
ORIO **Orleans, Innes** 34.22 32 P P 09 26 58.2 -3.3
baz=226
D53A **Lac Vacive, Po** 34.37 28 P P 09 27 00.5 -2.3
baz=221
WES **Weston** 34.59 40 eP P 09 27 02.4 -2.3
comp=Z,94nm,1.0s
WES **Weston** 34.59 40 eP P 09 27 02.4 -2.3
WES pmax pmax
comp=Z,95nm,1.0s
D03D **Eldon** 34.60 333 P P 09 27 04.6 -0.2
baz=140,SNR=59
ALFO **Alfred** 34.66 32 P P 09 27 01.9 -3.4
baz=226
B06A **Marblemount** 34.70 335 eP P 09 27 05.5 -0.1
comp=Z,47nm,0.9s
B06A ePcP PcP 09 29 39.9 +1.4
B05A **Bryant** 34.75 334 P P 09 27 05.2 -0.9
baz=142,SNR=28
FRNY **Flat Rock** 34.80 34 eP P 09 27 04.1 -2.5
comp=Z,165nm,1.6s
HNH **Hanover** 34.81 37 eP P 09 27 04.5 -2.1
comp=Z,107nm,1.2s
D54A **Lac Fusel, La** 34.90 29 P P 09 27 04.2 -3.2
baz=222,SNR=28
VT1 **Waterbury** 34.94 36 eP P 09 27 05.6 -2.2
comp=Z,50nm,1.2s
LBNH **Lisbon** 35.34 36 eP P 09 27 10.1 -1.2
comp=Z,96nm,1.1s
LBNH **Lisbon** 35.34 36 eP P 09 27 10.1 -1.2
LBNH pmax pmax
comp=Z,96nm,1.1s
LBNH **Lisbon** 35.34 36 P P 09 27 09.5 -1.7
baz=232,SNR=9.0
A04D **Lummi Island** 35.36 334 P P 09 27 11.0 -0.2
baz=141,SNR=30
SABA **Saba** 35.44 85 eP P 09 27 12.3 -0.1
comp=Z,255nm,0.8s
SABA **Saba** 35.44 85 eP P 09 27 11.8 -0.6
SMRT **St. Maarten** 35.55 84 eP P 09 27 13.4 0.0
PGC **Sidney** 35.62 334 eP P 09 27 13.4 0.0
comp=Z,66nm,0.8s
PGC ePcP PcP 09 29 43.2 +2.1
PCRV **Puerto La Cruz** 35.64 98 P P 09 27 15.5 +1.2
comp=Z,39nm,0.9s,baz=309,slow=1.6,SNR=10
SEUS **St. Eustatius** 35.70 85 eP P 09 27 15.0 +0.3
comp=Z,1µm,1.3s
SEUS **St. Eustatius** 35.70 85 eP P 09 27 14.1 -0.6
MOQ **Mont Orford** 35.83 35 eP P 09 27 13.4 -2.1
NEV **Hard Times** 36.14 86 eP P 09 27 20.8 +2.4
LSQQ **Lebel-sur-Quev** 36.19 26 P P 09 27 14.9 -3.6
baz=220
MATQ **Matagami** 36.46 25 P P 09 27 17.7 -3.1
baz=218
FFC **Flin Flon** 36.48 359 eP P 09 27 18.4 -2.4
comp=Z,115nm,0.8s
FFC **Flin Flon** 36.48 359 *i* P P 09 27 18.8 -2.0
MLYT **Lee's Yard** 36.55 86 eP P 09 27 22.5 +0.6
ANWB **Willy Bob** 36.81 85 eP P 09 27 23.9 -0.3
comp=Z,764nm,1.6s
ANWB **Willy Bob** 36.81 85 eP P 09 27 22.2 -2.0
BPA **Boggy Peak** 36.83 86 eP P 09 27 24.9 +0.6
WVL **Waterville** 36.84 38 eP P 09 27 22.8 -1.2
comp=Z,90nm,0.9s
LATQ **La Tuque** 36.92 32 P P 09 27 21.3 -3.4
baz=227
TBG **Guadaloupe-3** 37.20 88 eP P 09 27 23.3 -4.1
BBL **Barber's Block** 37.42 88 eP P 09 27 28.9 -0.4
MDPO **Dominica; Chan** 37.43 88 eP P 09 27 31.7 +2.3
PKME **Peaks-Kenny Pk** 37.46 37 eP P 09 27 27.4 -1.8
comp=Z,94nm,1.0s
PKME **Peaks-Kenny Pk** 37.46 37 P P 09 27 27.3 -1.9
baz=234,SNR=10
MDVC **Dominica, Viel** 37.47 88 eP P 09 27 30.0 +0.3
MGG **Marie-Galante** 37.51 87 eP P 09 27 31.3 +1.3
MDN **Morne-Daniel** 37.53 88 eP P 09 27 31.8 +1.6
DLPL **La Plaine** 37.67 88 eP P 09 27 31.7 +0.2
DEG **La Desirade** 37.69 87 eP P 09 27 30.2 -1.5
FDF **Fort de France** 37.87 89 eP P 09 27 31.4 -1.8
comp=Z,169nm,0.9s
FDF **Fort de France** 37.87 89 eP P 09 27 33.9 +0.7
FDF **Fort de France** 37.87 89 eP P 09 27 31.4 -1.8
FDF pmax pmax
comp=Z,169nm,0.9s
GRHS **Sauteurs** 37.94 93 eP P 09 27 36.9 +3.2
GRSS **Sisters** 37.94 93 eP P 09 27 36.9 +3.2
CHGQ **Chibougamau** 37.95 28 P P 09 27 30.1 -3.3
baz=223
NNA **Nana** 38.02 140 P P 09 27 35.8 +1.4
comp=Z,3.5nm,0.3s,baz=286,slow=10,SNR=5.8
NNA **Nana** 38.02 140 eP P 09 27 34.9 +0.5
NNA eP P 09 27 35.8 +1.4
NNA epP pP 09 27 50.0 +0.9
NNA ePcP PcP 09 29 50.3 +1.2
NNA **Nana** 38.02 140 eP P 09 27 34.9 +0.5
NNA e*PP pP 09 27 50.0 +0.9
NNA e 09 29 50.3
SVB **Belmont** 38.07 92 eP P 09 27 33.4 -1.4
comp=Z,324nm,1.0s
SVB ePcP PcP 09 29 48.4 -0.8
SVB **Belmont** 38.07 92 eP P 09 27 34.2 -0.5
SVV **Soufriere Volc** 38.09 92 eP P 09 27 35.0 0.0
FCV **Fort Charlotte** 38.10 92 eP P 09 27 33.9 -1.1
SSV **Crater Summit** 38.11 91 eP P 09 27 34.9 -0.3
SLB **Belfond** 38.15 91 eP P 09 27 35.8 +0.2
SVCV **St. Vincent, C** 38.17 92 eP P 09 27 35.0 -0.6
EMMW **East Machias** 38.22 39 eP P 09 27 34.3 -1.4
comp=Z,167nm,1.1s
MCLT **Moule a Chique** 38.27 91 eP P 09 27 33.4 -3.1
GGN **Saint George** 38.80 39 eP P 09 27 38.4 -2.1
comp=Z,79nm,0.8s
PQI **Presque Isle** 39.00 36 eP P 09 27 40.2 -2.0
comp=Z,140nm,1.4s
BOT **Bacolet** 39.07 95 eP P 09 27 41.2 -2.0
TOSP **Speyside** 39.21 94 eP P 09 27 44.5 +0.1
BBGH **Gun Hill** 39.70 91 eP P 09 27 52.6 +4.1
LMN **Caledonia Moun** 40.41 39 eP P 09 27 52.0 -2.0
comp=Z,194nm,1.1s
BATG **Bathurst New B** 40.45 36 eP P 09 27 52.0 -2.2
comp=Z,158nm,1.1s
HAL **Halifax** 40.55 41 eP P 09 27 54.0 -1.1
comp=Z,82nm,0.9s
HAL **Halifax** 40.55 41 eP P 09 27 54.0 -1.1
HAL pmax pmax
comp=Z,83nm,0.9s
FCC **Fort Churchill** 40.78 5 eP P 09 27 56.2 -0.5
comp=Z,109nm,1.0s
FCC **Fort Churchill** 40.78 5 eP P 09 27 56.2 -0.5
FCC pmax pmax
comp=Z,109nm,1.0s

GBN	**Guysborough**	42.21	41	*e*P		P	09 28 07.3	-1.4	
	comp=Z,194nm,0.9s								
DIB	**Dawson Inlet,**	42.84	332	*e*P		P	09 28 14.8	+1.1	
	comp=Z,56nm,0.5s								
PTGA	**Pitinga**	44.09	111	*e*P		P	09 28 24.2	-0.1	
	comp=Z,212nm,1.2s								
CRAG	**Craig**	44.67	334	*e*P		P	09 28 29.6	+1.3	
	comp=Z,80nm,0.9s								
SCHQ	**Schefferville**	44.70	27	P		P	09 28 26.8	-1.8	
	comp=Z,133nm,0.9s,baz=230,slow=7.6,SNR=55								
SCHQ				PcP		PcP	09 30 10.3	+0.1	
	comp=Z,90nm,1.0s,baz=124,slow=1.8,SNR=6.2								
SCHQ				LR		LR	09 49 06.1		
	comp=Z,8µm,19.3s,baz=228,slow=39								
SCHQ	**Schefferville**	44.70	27	*e*P		P	09 28 26.8	-1.8	
	comp=Z,131nm,0.9s								
SCHQ				*e*PcP		PcP	09 30 10.3	+0.1	
WRAK	**Wrangell Islan**	45.01	336	*e*P		P	09 28 32.8	+1.8	
	comp=Z,39nm,1.0s								
YKA	**Yellowknife Ar**	45.33	351	P		P	09 28 32.2	-1.2	
	comp=Z,26nm,0.7s,baz=157,slow=7.5,SNR=65								
YKA				PcP		PcP	09 30 13.1	+1.0	
	comp=Z,24nm,0.7s,baz=154,slow=3.4,SNR=18								
YKA				LR		LR	09 48 56.5		
	comp=Z,3µm,18.1s,baz=160,slow=38								
YKB5	**Yellowknife Ar**	45.33	351	*e*P		P	09 28 31.9	-1.5	
YKB5				*e*PcP		PcP	09 30 13.2	+1.0	
DLBC	**Dease Lake**	45.64	339	*e*P		P	09 28 37.1	+1.0	
	comp=Z,71nm,0.9s								
RPN	**Rapa Nui**	45.86	191	P		P	09 28 40.1	+2.0	
	comp=Z,74nm,0.8s,baz=2.5,slow=5.2,SNR=6.9								
RPN	**Rapa Nui**	45.86	191	*e*P		P	09 28 41.3	+3.3	
	comp=Z,301nm,1.2s								
RPN	**Rapa Nui**	45.86	191	*e*P		P	09 28 41.3	+3.3	
RPN				pmax		pmax			
	comp=Z,301nm,1.2s								
DRLN	**Deer Lake**	46.38	38	*e*P		P	09 28 40.1	-1.9	
	comp=Z,96nm,1.1s								
LPAZ	**La Paz**	46.82	135	P		P	09 28 46.5	+0.1	
	comp=Z,32nm,1.2s,baz=335,slow=7.9,SNR=37								
LPAZ				pP		pP	09 29 03.0	+1.4	
	comp=Z,16nm,0.7s,baz=327,slow=4.2,SNR=10								
LPAZ				PcP		PcP	09 30 20.2	+1.3	
	comp=Z,22nm,0.9s,baz=3.5,slow=12,SNR=4.1								
LPAZ				LR		LR	09 47 03.9		
	comp=Z,8µm,19.7s,baz=310,slow=34								
TAOE	**Nuku Hiva Isla**	47.46	239	*e*LR		LR	09 42 16.8		
	comp=Z,18µm,26.2s								
TAOE	**Nuku Hiva Isla**	47.46	239	*e*T		T	10 18 31.9		
	comp=Z,146nm,0.2s								
MNMC	**Minye Minye**	47.95	139	*e*P		P	09 28 55.4	+0.6	
	comp=Z,213nm,1.4s								
PB11	**IPOC Station P**	48.38	140	*e*P		P	09 28 58.2	+0.2	
	comp=Z,266nm,1.1s								
WHY	**Whitehorse**	48.95	338	*e*P		P	09 29 03.2	+1.3	
	comp=Z,24nm,0.8s								
PB01	**IPOC Station P**	49.46	141	*e*P		P	09 29 06.1	-0.1	
	comp=Z,347nm,2.0s								
HYT	**Haines Junctio**	50.01	337	*e*P		P	09 29 10.9	+1.0	
	comp=Z,195nm,1.7s								
PB04	**IPOC Station P**	50.06	142	*e*P		P	09 29 12.9	+2.1	
PB04				*e*pP		pP	09 29 28.2	+2.1	
PCA	**Pinnacle**	50.58	336	*e*P		P	09 29 15.6	+1.4	
	comp=Z,55nm,1.0s								
PB10	**IPOC Station P**	50.75	144	*e*P		P	09 29 18.0	+2.2	
	comp=Z,223nm,1.7s								
PB10				*e*pP		pP	09 29 31.6	+0.5	
LVC	**Limon Verde**	51.00	141	P		P	09 29 19.3	+1.2	
	comp=Z,7.0nm,0.5s,baz=320,slow=6.6,SNR=24								
LVC				pP		pP	09 29 36.0	+2.6	
	comp=Z,17nm,0.7s,baz=276,slow=6.2,SNR=7.7								
LVC	**Limon Verde**	51.00	141	*e*P		P	09 29 19.3	+1.2	
LVC				*e*P		P	09 29 19.5	+1.4	
LVC				*e*pP		pP	09 29 36.0	+2.6	
HLP	**Hilina Pali**	51.70	281	*e*P		P	09 29 26.3	+3.1	
	comp=Z,442nm,0.9s								
MLH	**Mauna Loa**	51.75	281	*e*P		P	09 29 27.1	+3.3	
	comp=Z,329nm,0.9s								
MLH	**Mauna Loa**	51.75	281	*e*P		P	09 29 27.1	+3.3	
MLH				pmax		pmax			
	comp=Z,329nm,0.9s								
HMH	**Humu'ula Sheep**	51.82	281	*e*P		P	09 29 27.1	+2.7	
	comp=Z,405nm,0.9s								
AIN	**Ainahou**	51.83	281	*e*P		P	09 29 26.9	+2.6	
POHA	**Pohakuloa**	51.85	281	*e*P		P	09 29 27.3	+2.8	
	comp=Z,266nm,0.9s								
POHA				*e*pP		pP	09 29 41.9	+2.1	
MLOA	**Mauna Loa Obse**	51.92	281	*e*P		P	09 29 27.6	+2.3	
	comp=Z,384nm,0.9s								
MWH	**Moku'aweowe**	51.95	281	*e*P		P	09 29 28.6	+3.1	
	comp=Z,218nm,0.9s								
HPAH	**Hawaii Prepara**	51.96	281	*e*P		P	09 29 27.2	+2.0	
	comp=Z,430nm,1.4s								
KHLU	**Kahalu'u**	52.21	281	*e*P		P	09 29 29.0	+2.0	
	comp=Z,194nm,0.9s								
DAWY	**Dawson**	52.82	340	*e*P		P	09 29 31.0	+0.2	
	comp=Z,22nm,0.6s								
BMRM	**Bremner River**	52.84	335	*e*P		P	09 29 32.3	+1.4	
	comp=Z,67nm,0.8s								
EYAK	**Cordova Ski Ar**	53.08	334	*e*P		P	09 29 34.3	+1.7	
	comp=Z,72nm,0.7s								
RKT	**Rikitea**	53.10	221	*e*P		P	09 29 35.2	+1.9	
	comp=Z,72nm,1.3s								
RKT				*e*pP		pP	09 29 51.0	+2.4	
	comp=Z,124nm,1.1s								
RKT				*e*S		S	09 36 54.0	-5.5	
	comp=Z,5µm,30.0s								
RKT				*e*LR		LR	09 44 44.6		
	comp=Z,11µm,26.2s								
DIV	**Divide**	53.40	335	*e*P		P	09 29 36.2	+1.1	
	comp=Z,91nm,1.0s								
FID	**Port Fidalgo**	53.49	334	*e*P		P	09 29 37.1	+1.4	
	comp=Z,158nm,1.1s								
EPYK	**Eagle Plains**	53.61	343	P		P	09 29 36.3	-0.3	
	baz=136,SNR=24								
KLU	**Klutina**	53.66	335	*e*P		P	09 29 38.1	+1.1	
	comp=Z,110nm,1.2s								
GLI	**Glacier Island**	53.81	334	*e*P		P	09 29 39.1	+1.0	
	comp=Z,93nm,0.7s								
HARP	**HAARP**	53.86	336	*e*P		P	09 29 39.8	+1.3	
	comp=Z,422nm,1.9s								
EGAK	**Eagle**	53.87	340	*e*P		P	09 29 38.3	-0.1	
	comp=Z,109nm,1.1s								
KIP	**Kipapa**	53.93	284	*e*P		P	09 29 42.0	+2.4	
	comp=Z,131nm,0.8s								
KIP	**Kipapa**	53.93	284	*d*P		P	09 29 42.4	+2.8	
KIP				pmax		pmax			
	comp=Z,1µm,0.8s								
GO03	**Copiap**	54.16	146	*e*P		P	09 29 42.9	+1.7	
	comp=Z,142nm,1.8s								
INK	**Inuvik**	54.23	346	LR		LR	09 55 13.4		
	comp=Z,18µm,18.2s,baz=144,slow=39								
INK	**Inuvik**	54.23	346	*e*P		P	09 29 40.2	-0.7	
	comp=Z,94nm,0.6s								
INK	**Inuvik**	54.23	346	*e*P		P	09 29 40.2	-0.7	
INK				pmax		pmax			
	comp=Z,94nm,0.6s								
PAX	**Paxson**	54.30	337	*e*P		P	09 29 42.5	+0.8	
	comp=Z,68nm,0.8s								
PAX	**Paxson**	54.30	337	*e*P		P	09 29 42.5	+0.8	
PAX				pmax		pmax			
	comp=Z,68nm,0.8s								
SCRK	**Sand Creek**	54.34	338	*e*P		P	09 29 42.5	+0.5	
	comp=Z,322nm,1.9s								
SCM	**Sheep Creek Mo**	54.41	335	*e*P		P	09 29 43.4	+0.9	
	comp=Z,86nm,1.0s								
SCM	**Sheep Creek Mo**	54.41	335	*e*P		P	09 29 43.4	+0.9	
SCM				pmax		pmax			
	comp=Z,86nm,1.0s								
SEW	**Seward**	54.44	332	*e*P		P	09 29 43.3	+0.7	
	comp=Z,75nm,1.0s								
RIDG	**Independ'e Rid**	54.51	338	*e*P		P	09 29 43.6	+0.4	
	comp=Z,183nm,0.9s								
SML	**Sawmill**	54.80	334	*e*P		P	09 29 45.9	+0.6	
	comp=Z,94nm,1.0s								
SML	**Sawmill**	54.80	334	*e*P		P	09 29 45.9	+0.6	
SML				pmax		pmax			
	comp=Z,94nm,1.0s								
BRLK	**Bradley Lake**	54.92	332	*e*P		P	09 29 46.7	+0.5	
	comp=Z,132nm,0.7s								
CNPM	**China Poot**	54.98	331	*e*P		P	09 29 47.6	+1.0	
	comp=Z,108nm,0.9s								
OHAK	**Old Harbor**	55.01	328	*e*P		P	09 29 47.4	+0.6	
	comp=Z,137nm,0.8s								
PMR	**Palmer**	55.02	334	*e*P		P	09 29 47.3	+0.5	
PMR	**Palmer**	55.02	334	*e*P		P	09 29 47.3	+0.5	
LCO	**Las Campanas**	55.07	148	*e*P		P	09 29 48.2	+0.3	
	comp=Z,95nm,1.3s								
LCO	**Las Campanas**	55.07	148	*e*P		P	09 29 48.2	+0.3	
LCO				pmax		pmax			
	comp=Z,95nm,1.3s								
DHY	**Denali Highway**	55.08	336	*e*P		P	09 29 47.8	+0.3	
	comp=Z,64nm,1.1s								
SUA	**Susitna One**	55.64	333	*e*P		P	09 29 51.8	+0.4	
	comp=Z,304nm,0.6s								
HDA	**Harding Lake**	55.65	338	*e*P		P	09 29 51.3	-0.1	
	comp=Z,108nm,0.8s								
RND	**Reindeer**	55.83	336	*e*P		P	09 29 53.3	+0.6	
	comp=Z,148nm,1.0s								
RND	**Reindeer**	55.83	336	*e*P		P	09 29 53.3	+0.6	
RND				pmax		pmax			
	comp=Z,148nm,1.0s								
IL1	**Eielson Array**	55.83	338	*e*P		P	09 29 52.3	-0.3	
ILAR	**Eielson Array**	55.83	338	P		P	09 29 52.6	0.0	
	comp=Z,35nm,0.8s,baz=140,slow=5.6,SNR=215								
ILAR				LR		LR	09 55 47.6		
	comp=Z,10µm,19.5s,baz=136,slow=38								
ILAR				PKP2bc			09 59 57.2		
	comp=Z,2.0nm,1.0s,baz=314,slow=3.6,SNR=8.2								
ILB	**Eielson Array**	55.83	338	*e*P		P	09 29 52.3	-0.3	
GO04	**Tololo Observa**	55.97	149	*e*P		P	09 29 55.1	+0.8	
	comp=Z,151nm,1.4s								
MCK	**McKinley**	56.03	336	*e*P		P	09 29 54.5	+0.4	
	comp=Z,94nm,0.7s								
MCK	**McKinley**	56.03	336	*e*P		P	09 29 54.5	+0.4	
MCK				pmax		pmax			
	comp=Z,94nm,0.7s								
CCB	**Clear Creek Bu**	56.09	338	*e*P		P	09 29 53.9	-0.5	
WRH	**Wood River Hil**	56.10	337	*e*P		P	09 29 54.1	-0.5	
	comp=Z,74nm,0.8s								
COLA	**College**	56.23	338	*e*P		P	09 29 55.2	-0.2	
	comp=Z,113nm,0.8s								
COLA	**College**	56.23	338	*e*P		P	09 29 55.2	-0.2	
COLA				pmax		pmax			
	comp=Z,113nm,0.8s								
FYU	**Fort Yukon**	56.31	340	*e*P		P	09 29 56.4	+0.5	
	comp=Z,189nm,1.2s								
TRF	**Thorofare Moun**	56.41	336	*e*P		P	09 29 57.1	+0.1	
	comp=Z,271nm,0.7s								
MDM	**Murphy Dome**	56.41	338	*e*P		P	09 29 56.5	-0.3	
	comp=Z,276nm,1.8s								
RES	**Resolute Bay**	56.59	2	LR		LR	09 54 04.6		
	comp=Z,4µm,21.4s,baz=178,slow=36								
RES	**Resolute Bay**	56.59	2	*e*P		P	09 29 56.0	-1.8	
	comp=Z,54nm,0.9s								
RES	**Resolute Bay**	56.59	2	*e*P		P	09 29 56.0	-1.8	
RES				pmax		pmax			
	comp=Z,54nm,0.9s								
PPLA	**Purkeypile**	56.91	335	*e*P		P	09 30 00.6	+0.1	
	comp=Z,344nm,1.5s								
BPAW	**Bear Paw Mtn.**	57.00	336	*e*P		P	09 30 00.8	-0.1	
	comp=Z,99nm,1.2s								
VAH	**Vaihoa**	57.08	237	*e*P		P	09 30 03.9	+1.8	
	comp=Z,192nm,1.3s								
VAH				*e*pP		sP	09 30 21.2	-3.0	
	comp=Z,433nm,1.2s								
VAH	**Vaihoa**	57.08	237	*e*T		T	10 30 32.5		
	comp=Z,10.0nm,0.3s								
PMOR	**Pomariorio Ree**	57.16	238	*e*P		P	09 30 04.4	+1.7	
	comp=Z,248nm,1.5s								
PMOR				*e*pP		sP	09 30 21.8	-3.0	
	comp=Z,376nm,1.2s								
PMOR	**Pomariorio Ree**	57.16	238	*e*T		T	10 30 38.8		
	comp=Z,23nm,0.2s								
CHGN	**Chignik**	57.36	326	*e*P		P	09 30 04.1	+0.6	
	comp=Z,67nm,0.8s								
MLY	**Manley**	57.37	337	*e*P		P	09 30 03.7	+0.2	
	comp=Z,140nm,0.9s								
SVW2	**Sparrevohn**	57.60	332	*e*P		P	09 30 04.8	-0.4	
	comp=Z,93nm,0.8s								
NRS	**Narsarsuaq**	57.65	28	*i*P		P	09 30 03.7	-1.8	
	comp=Z,96nm,0.8s								
NRS	**Narsarsuaq**	57.65	28	*i*P		P	09 30 03.7	-1.8	
NRS				pmax		pmax			
	comp=Z,96nm,0.8s								
ROC1	**El Roble**	58.18	151	*e*P		P	09 30 10.5	+0.6	
	comp=Z,34nm,0.8s								
SFJD	**Kangerlussuaq**	58.26	21	LR		LR	09 56 35.2		
	comp=Z,4µm,19.8s,baz=232,slow=37								
SFJD	**Kangerlussuaq**	58.26	21	*e*P		P	09 30 09.0	-0.7	
	comp=Z,71nm,0.9s								
SFJD	**Kangerlussuaq**	58.26	21	*i*P		P	09 30 07.9	-1.8	
	comp=Z,68nm,0.9s								
SFJD	**Kangerlussuaq**	58.26	21	*e*P		P	09 30 09.0	-0.7	
SFJD				pmax		pmax			
	comp=Z,71nm,0.9s								
COLD	**Coldfoot**	58.30	340	*e*P		P	09 30 10.4	+0.3	
	comp=Z,94nm,1.3s								
PEL	**Peldehue**	58.48	151	*e*P		P	09 30 12.0	+0.3	
	comp=Z,397nm,2.0s								
PEL	**Peldehue**	58.48	151	*e*P		P	09 30 12.0	+0.3	
PEL				pmax		pmax			
	comp=Z,397nm,2.0s								
IM3	**Indian Mountai**	58.92	337	*e*P		P	09 30 13.4	-0.9	
ILULI	**Ilulissat**	59.29	18	*i*P		P	09 30 15.0	-1.8	
	comp=Z,64nm,0.9s								
ILULI	**Ilulissat**	59.29	18	*i*P		P	09 30 15.0	-1.8	
ILULI				pmax		pmax			
	comp=Z,64nm,0.9s								
GO05	**HualaæØ**	59.48	153	*e*P		P	09 30 19.0	+0.4	
	comp=Z,137nm,1.4s								
TIAR	**Tiarei**	59.73	236	*e*P		P	09 30 22.2	+1.5	
	comp=Z,18nm,0.9s								
TIAR				*e*pP		sP	09 30 39.5	-3.3	
	comp=Z,53nm,1.1s								
TIAR	**Tiarei**	59.73	236	*e*T		T	10 33 53.0		
	comp=Z,1.5nm,0.3s								
FALS	**False Pass**	59.75	323	*e*P		P	09 30 21.5	+1.3	
	comp=Z,277nm,0.8s								
TVO	**Taravao**	59.78	236	*e*P		P	09 30 22.6	+1.5	
	comp=Z,33nm,1.3s								
TVO				*e*pP		sP	09 30 39.9	-3.3	
	comp=Z,78nm,1.2s								
TVO	**Taravao**	59.78	236	*e*T		T	10 33 53.6		
	comp=Z,0.5nm,0.2s								
PPT	**Papeete**	59.92	236	P		P	09 30 24.3	+2.4	
	comp=Z,20nm,0.9s,baz=97,slow=6.3,SNR=5.0								
PPT				LR		LR	09 49 11.6		
	comp=Z,4µm,20.4s,baz=50,slow=29								
PPTF	**Pamatai, Papee**	59.92	236	*e*P		P	09 30 24.3	+2.2	
	comp=Z,331nm,1.7s								
PPT2	**Papeete2**	59.93	236	*e*P		P	09 30 23.7	+1.6	
	comp=Z,75nm,1.4s								
PPT2				*e*S		S	09 38 24.3	-6.1	
	comp=Z,5µm,28.5s								
PPT2				*e*SS		SS	09 42 20.7	-7.2	
	comp=Z,4µm,33.0s								
PPT2				*e*LQ		LQ	09 45 20.3		
	comp=Z,6µm,27.2s								
PPT2				*e*LR		LR	09 47 50.7		
	comp=Z,19µm,26.8s								
PAE	**Paea**	59.98	236	*e*P		P	09 30 23.9	+1.6	
	comp=Z,15nm,1.4s								
TULEG	**Thule**	60.58	8	*e*P		P	09 30 24.0	-1.5	
	comp=Z,36nm,0.6s								
CPUP	**Villa Florida**	60.99	135	P		P	09 30 28.2	-0.8	
	comp=Z,90nm,1.0s,baz=326,slow=7.6,SNR=84								
CPUP				LR		LR	09 57 03.4		
	comp=Z,4µm,19.4s,baz=328,slow=36								
CPUP				PKP2bc			09 59 55.1		
	comp=Z,2.1nm,1.0s,baz=163,slow=3.6,SNR=5.2								
CPUP	**Villa Florida**	60.99	135	*e*P		P	09 30 28.2	-0.8	
	comp=Z,166nm,1.2s								
CPUP				⇑*e*			09 59 55.1		
UNV	**Unalaska Valle**	61.35	322	*e*P		P	09 30 31.7	+0.6	
	comp=Z,429nm,1.5s								
BDFB	**Brasilia**	61.69	120	P		P	09 30 34.4	+0.2	
	comp=Z,97nm,0.9s,baz=290,slow=7.7,SNR=81								
BDFB				LR		LR	09 56 47.2		
	comp=Z,5µm,19.2s,baz=279,slow=35								
BDFB				PKP2bc			09 59 55.8		
	comp=Z,4.8nm,1.0s,baz=106,slow=5.9,SNR=5.2								
BDFB	**Brasilia**	61.69	120	*e*P		P	09 30 34.4	+0.2	
BDFB				*e*P		P	09 30 34.7	+0.6	
BDFB				⇑*e*			09 59 55.8		
RDOG	**Red Dog Mine**	63.04	338	*e*P		P	09 30 42.0	-0.2	
	comp=Z,52nm,1.0s								
TBI	**Tubuai**	63.16	231	*e*S		S	09 39 05.7	-5.1	
	comp=Z,3µm,26.5s								
TBI				*e*SS		SS	09 43 10.5	-7.6	
	comp=Z,3µm,35.5s								
TBI				*e*LQ		LQ	09 46 39.3		
	comp=Z,5µm,29.0s								
TBI				*e*LR		LR	09 49 20.8		
	comp=Z,16µm,27.0s								
TBI	**Tubuai**	63.16	231	*e*T		T	10 38 11.3		
	comp=Z,5.6nm,0.3s								
GO06	**Currarrehue**	63.57	155	*e*P		P	09 30 46.7	+0.5	
	comp=Z,82nm,1.3s								
SUMG	**Summit**	64.52	17	*e*P		P	09 30 51.3	-1.1	
	comp=Z,180nm,0.9s								
SUMG	**Summit**	64.52	17	*i*P		P	09 30 51.0	-1.4	
	comp=Z,455nm,0.9s								
SUMG	**Summit**	64.52	17	*e*P		P	09 30 51.3	-1.1	
SUMG				pmax		pmax			
	comp=Z,181nm,0.9s								
PLCA	**Paso Flores**	64.91	155	P		P	09 30 55.5	+0.5	
	comp=Z,57nm,1.0s,baz=352,slow=7.8,SNR=51								
PLCA				LR		LR	09 53 33.3		
	comp=Z,4µm,19.9s,baz=13,slow=31								
PLCA				PKPPKP		P'P'df	09 59 41.3	+4.7	
	comp=Z,2.7nm,1.1s,baz=131,slow=3.4,SNR=3.1								
PLCA	**Paso Flores**	64.91	155	*e*P		P	09 30 55.4	+0.4	
	comp=Z,157nm,1.3s								
PLCA				P'P'			09 59 41.3		
GO07	**Milladeo Hill,**	65.82	159	*e*P		P	09 31 02.5	+1.9	
	comp=Z,241nm,1.3s								
SPB	**Sao Paulo**	66.41	127	*e*P		P	09 31 05.0	+0.1	
	comp=Z,207nm,1.2s								
SPB				*e*PcP		PcP	09 31 31.3	-2.9	
LPA	**La Plata**	66.53	143	*de*P		P	09 31 07.0	+1.7	
LPA				*e*S		S	09 39 54.0	+2.1	
TRQA	**Tornquist**	66.65	148	*e*P		P	09 31 05.9	-0.2	
	comp=Z,354nm,1.8s								
TRQA	**Tornquist**	66.65	148	*e*P		P	09 31 05.9	-0.2	
TRQA				pmax		pmax			
	comp=Z,354nm,1.8s								
ADK	**Adak**	67.38	319	*e*P		P	09 31 10.8	+0.2	
	comp=Z,595nm,1.7s								
ADK	**Adak**	67.38	319	*e*P		P	09 31 10.8	+0.2	
ADK				pmax		pmax			
	comp=Z,595nm,1.7s								
RCBR	**Riachuelo**	68.04	104	*e*P		P	09 31 17.1	+1.7	
	comp=Z,234nm,1.1s								
RCBR	**Riachuelo**	68.04	104	*e*P		P	09 31 17.1	+1.7	
RCBR				pmax		pmax			
	comp=Z,234nm,1.1s								
BORG	**Borgarnes**	69.09	27	LR		LR	10 02 26.7		
	comp=Z,3µm,21.6s,baz=271,slow=37								
BORG	**Borgarnes**	69.09	27	*i*P		P	09 31 23.6	+2.5	
SCO	**Scoresbysund**	69.17	21	*e*P		P	09 31 20.1	-1.3	
	comp=Z,59nm,0.7s								
SCO	**Scoresbysund**	69.17	21	*i*P		P	09 31 21.3	-0.1	
	comp=Z,55nm,0.7s								
	comp=Z,4µm,23.0s								
SCO	**Scoresbysund**	69.17	21	*i*P		P	09 31 21.3	-0.1	
SCO				pmax		pmax			
	comp=Z,55nm,0.7s								
SCO				MLR		MLR			
	comp=Z,4µm,23.0s								
DAG	**Danmarks Havn**	70.55	14⇑	*i*P		P	09 31 27.9	-1.9	
	comp=Z,77nm,0.7s								
DAG	**Danmarks Havn**	70.55	14⇑	*i*P		P	09 31 27.9	-1.9	
DAG				pmax		pmax			
	comp=Z,52nm,0.7s								
GO09	**Cerro Castillo**	73.45	162	*e*P		P	09 31 50.2	+2.8	
	comp=Z,111nm,1.4s								
JMIC	**Jan Mayen**	73.60	20	LR		LR	10 06 35.8		
	comp=Z,2µm,20.8s,baz=268,slow=38								
BILL	**Bilibino**	74.47	337	*e*P		P	09 31 52.9	-0.5	
	comp=Z,142nm,1.4s								
BILL	**Bilibino**	74.47	337	*d*P		P	09 31 53.1	-0.2	
BILL				*i*			09 32 16.5		
BILL				*e*			09 34 38.4		
BILL				*e*S		S	09 41 31.0	+7.4	
BILL				pmax		pmax			
	comp=Z,140nm,2.5s								
BILL				MLR		MLR			
	comp=Z,8µm,22.0s								
PMAR	**Madeira**	75.16	60	*e*P		P	09 32 00.0	+1.8	
GO10	**Punta Arenas**	75.49	162	*e*P		P	09 32 03.3	+4.0	
	comp=Z,376nm,1.5s								
VAL	**Valentia**	76.06	40⇑	*i*S		S	09 41 41.7	0.0	
KBS	**Kingsbay**	76.45	11	*e*P		P	09 32 05.7	+1.2	
	comp=Z,89nm,0.8s								
KBS	**Kingsbay**	76.45	11	*d*P		P	09 32 05.1	+0.6	
KBS				pmax		pmax			
	comp=Z,366nm,0.8s								
KBS	**Kingsbay**	76.45	11	*e*P		P	09 32 05.6	+1.1	
KBS				*e*S		S	09 41 48.3	+3.2	
MACI	**Morro de la Ar**	76.49	64	*e*P		P	09 32 07.5	+1.6	
	comp=Z,323nm,1.3s								
RRR	**Rubha Reidh**	77.26	33	*e*P		P	09 32 08.2	-1.1	
KPL	**Plockton**	77.46	34	*e*P		P	09 32 10.3	-0.2	
KPL				IAmb		IAmb	09 32 13.0		
	comp=Z,262nm,1.4s								
KPL				IAMs_20		IAMs_20	10 01 09.3		
	comp=Z,9µm,30.4s

PGAV eSKS **S** **09 42 19.7 -1.8**
PMAFR Mafra **79.73 52** eP **P** **09 32 25.0 +1.6**
comp=Z,293nm,1.3s
LLW Llanuwchllyn **79.75 38** eP **P** **09 32 22.2 -1.0**
PMST Lisbon--Monsan **79.86 53** eP **P** **09 32 25.4 +1.3**
comp=Z,355nm,1.3s
LIS Lisbon **79.89 53** eP **P** **09 32 24.4 +0.2**
LIS AMb AMB 09 32 27.4
comp=Z,447nm,1.0s
PCAB Cabril **79.94 49** eP **P** **09 32 24.9 +0.4**
comp=Z,222nm,1.4s
FOEL Foel Wylfa **80.01 38** eP **P** **09 32 24.0 -0.7**
FOEL IAmb IAmb 09 32 26.6
comp=Z,74nm,1.0s
FOEL IAMs_20 IAMs_20 10 05 49.2
comp=Z,4µm,27.4s
PCAS Casmilo, Conde **80.03 51** eP **P** **09 32 25.3 +0.3**
comp=Z,579nm,1.3s
HOPEN Hopen **80.09 11** eP **P** **09 32 25.2 +0.5**
EDMD Edmundbyers **80.14 36** eP **P** **09 32 24.8 -0.4**
EDMD IAmb IAmb 09 32 28.6
comp=Z,434nm,1.4s
EDMD IAMs_20 IAMs_20 10 03 33.9
comp=Z,4µm,20.7s
POLO Lamas de Olo **80.19 50** eP **P** **09 32 25.8 -0.2**
comp=Z,121nm,1.4s
ALMR Almeirim **80.21 52** eP **P** **09 32 25.9 0.0**
ALMR AMb AMB 09 32 28.8
comp=Z,814nm,1.2s
ALMR Almeirim **80.21 52** eP **P** **09 32 26.3 +0.3**
comp=Z,814nm,0.9s
PTOM Tomar **80.21 52** eP **P** **09 32 26.3 +0.3**
comp=Z,367nm,1.0s
PVIS Viseu **80.30 50** eP **P** **09 32 26.5 0.0**
comp=Z,240nm,1.2s
HLM1 Long Mynd **80.30 38** eP **P** **09 32 26.3 +0.1**
HLM1 IAmb IAmb 09 32 28.5
comp=Z,47nm,0.8s
HLM1 IAMs_20 IAMs_20 10 06 01.7
comp=Z,2µm,21.8s
MCH1 Michaelchurch **80.39 38** eP **P** **09 32 26.5 -0.2**
MCH1 IAmb IAmb 09 32 29.0
comp=Z,51nm,0.7s
MCH1 IAMs_20 IAMs_20 10 06 02.8
comp=Z,4µm,20.9s
PNCL Nicolau / Gran **80.52 53** eP **P** **09 32 27.5 -0.2**
comp=Z,214nm,1.0s
PTEO Sao Teotonio **80.52 54** eP **P** **09 32 28.2 +0.5**
comp=Z,399nm,1.7s
PFVI Vila Bisbo **80.56 54** eP **P** **09 32 28.6 +0.7**
comp=Z,592nm,1.4s
PFVI Vila Bisbo **80.56 54** eP **P** **09 32 28.7 +0.8**
comp=Z,438nm,1.0s
HPK Haverah Park **80.59 36** eP **P** **09 32 28.1 +0.4**
HPK IAmb IAmb 09 32 33.1
comp=Z,123nm,0.9s
HPK IAMs_20 IAMs_20 10 08 21.4
comp=Z,4µm,22.1s
MTE Manteigas **80.64 51** eP **P** **09 32 27.7 -0.7**
comp=Z,311nm,1.3s
MTE Manteigas **80.64 51** eSKS **S** **09 42 30.2 -1.2**
MTE Manteigas **80.64 51** eP **P** **09 32 27.4 -1.0**
comp=Z,232nm,0.9s
MORF Marmelete **80.64 54** eP **P** **09 32 28.4 0.0**
MORF AMb AMB 09 32 32.6
comp=Z,179nm,1.6s
MORF Marmelete **80.64 54** eP **P** **09 32 28.5 +0.1**
comp=Z,183nm,1.7s
LBWR Ladybower, Pea **80.70 37** eP **P** **09 32 28.9 +0.6**
LBWR IAmb IAmb 09 32 31.2
comp=Z,163nm,0.9s
LBWR IAMs_20 IAMs_20 10 08 27.7
comp=Z,4µm,19.4s
EVO Evora **80.80 53** eP **P** **09 32 31.2 +2.0**
comp=Z,275nm,1.5s
EVO Evora **80.80 53**⇑ iP **P** **09 32 30.6 +1.4**
EVO i S **S** **09 42 33.2 +0.2**
MVO Moncorvo **80.81 50** eP **P** **09 32 29.3 +0.1**
comp=Z,280nm,1.4s
MVO Moncorvo **80.81 50** eSKS **S** **09 42 31.4 -1.7**
MESJ Messejana **80.83 53** eP **P** **09 32 29.4 +0.1**
MESJ AMb AMB 09 32 32.6
comp=Z,281nm,1.4s
MESJ Messejana **80.83 53** eP **P** **09 32 29.4 +0.1**
comp=Z,290nm,1.3s
PBRG Braganca **80.84 49** eP **P** **09 32 29.3 -0.1**
comp=Z,216nm,1.3s
PCBR Castelo Branco **80.84 51** eP **P** **09 32 28.9 -0.4**
comp=Z,271nm,1.2s
GDLE Glaisdale, N Y **80.90 36** eP **P** **09 32 29.7 +0.4**
GDLE IAmb IAmb 09 32 33.8
comp=Z,171nm,1.0s
GDLE IAMs_20 IAMs_20 10 04 22.0
comp=Z,4µm,27.9s
STRD Stroud **80.95 38** eP **P** **09 32 29.8 +0.1**
STRD IAmb IAmb 09 32 33.7
comp=Z,209nm,0.9s
STRD IAMs_20 IAMs_20 10 05 52.5
comp=Z,4µm,23.0s
PMRV Marv??o **81.02 52** eP **P** **09 32 31.3 +1.0**
comp=Z,341nm,1.3s
PMRV Marv??o **81.02 52** eSKS **S** **09 42 33.0 -2.3**
PESTR Estremoz **81.02 52** eP **P** **09 32 30.3 -0.1**
comp=Z,196nm,1.5s
PESTR Estremoz **81.02 52** eP **P** **09 32 29.8 -0.5**
comp=Z,91nm,1.0s
PBEJ Beja **81.05 53** eP **P** **09 32 31.6 +1.1**
comp=Z,212nm,1.6s
CWF Charnwood Fore **81.15 37** eP **P** **09 32 31.1 +0.4**
CWF IAmb IAmb 09 32 34.7
comp=Z,113nm,0.9s
CWF IAMs_20 IAMs_20 10 06 36.0
comp=Z,4µm,26.1s
PBDV Barranco-do-Ve **81.21 54** eP **P** **09 32 31.9 +0.5**
comp=Z,351nm,1.1s
PVAQ Vaqueiros **81.33 54** eP **P** **09 32 32.4 +0.4**
comp=Z,384nm,1.4s
PVAQ Vaqueiros **81.33 54** eSKS **S** **09 42 40.6 +2.0**
FOO Floro **81.33 28** eP **P** **09 32 31.8 +0.3**
SUE Sulen **81.41 28** eP **P** **09 32 32.9 +1.0**
SEY Seymchan **81.47 334** P **P** **09 32 33.1 +0.9**
comp=Z,14nm,0.5s,baz=88,slow=4.6,SNR=43
SEY PKKPbc **PKKPbc** **09 51 04.9 -2.4**
comp=Z,2.5nm,0.6s,baz=59,slow=19,SNR=5.2
WOL Wolverton **81.65 39** eP **P** **09 32 33.5 +0.2**
WOL IAmb IAmb 09 32 36.4
comp=Z,385nm,1.1s
LOF Lofoten **81.80 20** eP **P** **09 32 34.4 +0.6**
LOF eS **S** **09 42 46.0 +3.8**
AKN Aaknes **81.96 27** eP **P** **09 32 36.6 +1.8**
PET Petropavlovsk **81.98 323** eP **P** **09 32 37.3 +2.3**
PET eS **S** **09 42 45.0 +0.4**
PET pmax pmax
comp=Z,2µm,12.7s
PET pmax pmax
comp=Z,182nm,1.5s
PET pmax pmax
comp=Z,3µm,13.7s
PET MLR MLR
comp=Z,3µm,17.0s
PET MLR MLR
comp=Z,3µm,19.0s
HYA Hoyanger **82.01 28** eP **P** **09 32 36.4 +1.3**
WACR West Acre **82.27 37** eP **P** **09 32 37.2 +0.6**
WACR IAmb IAmb 09 32 40.5
comp=Z,600nm,0.9s
WACR IAMs_20 IAMs_20 10 07 08.0
comp=Z,4µm,27.5s
KONS Konsvik **82.44 22** eP **P** **09 32 38.5 +1.2**
STEI Steigen **82.46 20** eP **P** **09 32 37.7 +0.4**
PEA1 Petropavlovsk- **82.49 323** eP **P** **09 32 38.5 +0.8**
PEA1 epP **pP** **09 32 56.5 +2.5**
PEA0B Petropavlovsk- **82.49 323** eP **P** **09 32 39.4 +1.6**
comp=Z,623nm,1.5s
PETK Petropavlovsk- **82.49 323** P **P** **09 32 38.5 +0.7**
comp=Z,82nm,1.1s,baz=85,slow=7.2,SNR=26
PETK pP **pP** **09 32 56.5 +2.5**
comp=Z,19nm,0.7s,baz=92,slow=8.3,SNR=4.5
PETK LR LR 10 03 14.3
comp=Z,911nm,21.4s,baz=52,slow=31
TRO Tromso **82.69 18** eP **P** **09 32 38.1 -0.4**
TRO eS **S** **09 42 52.4 +1.0**
ODD1 Odda **82.71 29** eP **P** **09 32 40.3 +1.4**
AVE Averroes **82.74 57**⇑ iP **P** **09 32 37.9 -1.6**
AVE i S **S** **09 42 53.9 +0.7**
SFS San Fernando **82.76 54** i P **P** **09 32 37.8 -1.7**
SFS i S **S** **09 42 55.4 +2.2**
BLS5 Blasjo **82.83 30** eP **P** **09 32 40.7 +1.3**
GIBL Gibalbin **82.84 54** i P **P** **09 32 40.8 +0.8**
TBLU Trondheim **82.87 25** eP **P** **09 32 41.0 +1.5**
DOMB Dombas **82.90 27** e **P** **09 32 40.7 +0.9**
CNIL Conil **82.91 54** i P **P** **09 32 41.9 +1.6**
NSS Namsos **82.95 24** eP **P** **09 32 40.5 +0.6**
MOR8 Moi Rana **83.07 22** eP **P** **09 32 41.5 +1.0**
ALJ Aljibe **83.17 54** eP **P** **09 32 42.2 +0.6**
MOMI Momias **83.18 54** eP **P** **09 32 43.3 +1.6**
PAB San Pablo **83.24 51** eP **P** **09 32 42.5 +0.5**
comp=Z,444nm,1.4s
PAB San Pablo **83.24 51** eP **P** **09 32 42.5 +0.5**
PAB pmax pmax
comp=Z,444nm,1.4s
LIJA Lijar **83.25 54** i P **P** **09 32 43.0 +0.9**
HAMF Hammerfest **83.43 16** eP **P** **09 32 42.2 0.0**
ESDC Sonseca Array **83.48 51** P **P** **09 32 43.3 +0.1**
comp=Z,67nm,1.1s,baz=306,slow=4.5,SNR=61
ESLA Sonseca Array **83.48 51** eP **P** **09 32 43.8 +0.5**
comp=Z,201nm,1.5s
ES19 SONSECA Array **83.52 50** eP **P** **09 32 43.4 0.0**
MA2 Magadan **83.57 331** P **P** **09 32 44.4 +1.2**
comp=Z,23nm,0.9s,baz=92,slow=7.5,SNR=5.7
MA2 Magadan **83.57 331** deP **P** **09 32 43.6 +0.4**
MA2 pmax pmax
comp=Z,31nm,0.8s
CEU Ceuta **83.57 54** i P **P** **09 32 43.1 -0.6**
CEU i S **S** **09 43 03.4 +1.9**
SNART Snartemo **83.63 30** eP **P** **09 32 44.6 +1.1**
UCM Universidad Co **83.81 50** i P **P** **09 32 45.1 +0.2**
UCM i S **S** **09 43 05.7 +1.9**
NC204 NORSAR Array S **83.97 27** eP **P** **09 32 46.6 +1.3**
EMAL Malaga-Limoner **84.03 53**⇑ iP **P** **09 32 45.0 -1.0**
EMAL i S **S** **09 43 09.0 +2.9**
NBO00 NORSAR Array S **84.09 27** eP **P** **09 32 47.4 +1.6**
KONO Kongsberg **84.18 29** eP **P** **09 32 47.8 +1.5**
comp=Z,173nm,1.0s
KONO Kongsberg **84.18 29** d iP **P** **09 32 47.3 +1.0**
KONO pmax pmax
comp=Z,396nm,2.5s
KONO Kongsberg **84.18 29** eP **P** **09 32 47.6 +1.2**
KONO eS **S** **09 43 07.1 +0.3**
NAO01 NORSAR Array S **84.22 27** eP **P** **09 32 48.0 +1.5**
NAO01 NORSAR Array S **84.22 27** eP **P** **09 32 47.0 +0.5**
NC303 NORSAR Array S **84.25 27** eP **P** **09 32 48.0 +1.4**
NB2 NORSAR Subarra **84.27 27** P **P** **09 32 47.7 +0.9**
comp=Z,954nm,2.5s,baz=297,slow=5.1
NB2 NORSAR Subarra **84.27 27** P **P** **09 32 47.7 +0.9**
baz=297,slow=5.1
NB200 NORSAR Array S **84.27 27** eP **P** **09 32 47.4 +0.6**
NOA NORSAR Array B **84.27 27** P **P** **09 32 47.4 +0.6**
comp=Z,38nm,0.8s,baz=303,slow=4.9,SNR=90
NOA LR LR 10 11 25.1
comp=Z,2µm,21.9s,baz=305,slow=36
SKR Severo-Kuril's **84.27 322** eP **P** **09 32 45.7 -1.2**
SKR ePPP PPP 09 37 59.4
SKR MLR MLR
comp=Z,2µm,23.0s
SKR MLR MLR
comp=Z,3µm,17.0s
HOMB Homborsund **84.28 30** eP **P** **09 32 48.0 +1.2**
NB201 NORSAR Array S **84.30 27** eP **P** **09 32 48.1 +1.2**
KTK1 Kautokeino **84.30 18** eP **P** **09 32 47.4 +0.6**
TIXI Tiksi **84.35 346** P **P** **09 32 46.5 -0.4**
comp=Z,54nm,0.9s,baz=41,slow=6.7,SNR=78
TIXI PP **PP** **09 36 01.6 -0.2**
comp=Z,6.5nm,0.8s,baz=93,slow=9.8,SNR=4.5
TIXI Tiksi **84.35 346** eP **P** **09 32 45.6 -1.3**
comp=Z,138nm,1.1s
TIXI eP **P** **09 32 46.5 -0.4**
TIXI ePP **PP** **09 36 01.6 -0.2**
TIXI Tiksi **84.35 346** d iP **P** **09 32 46.1 -0.8**
TIXI pmax pmax
comp=Z,231nm,2.5s
TIXI MLR MLR
comp=Z,3µm,20.0s
NC405 NORSAR Array S **84.45 27** eP **P** **09 32 48.6 +0.9**
IFR Ifrane **84.50 57**⇑ eP **P** **09 32 44.5 -4.2**
IFR i S **S** **09 43 12.3 +1.0**
NC602 NORSAR Array S **84.55 27** eP **P** **09 32 49.6 +1.5**
NC602 NORSAR Array S **84.55 27** eP **P** **09 32 48.7 +0.5**
OSL Oslo **84.56 28** eP **P** **09 32 50.0 +1.8**
ARA0 ARCESS Array S **84.61 17** eP **P** **09 32 48.8 +0.4**
ARA0 ePKKPbc **PKKPbc** **09 50 57.9 -2.5**
ARCES ARCESS Array B **84.61 17** P **P** **09 32 48.8 +0.4**
comp=Z,74nm,0.6s,baz=307,slow=3.2,SNR=130
ARCES PKKPbc **PKKPbc** **09 50 57.9 -2.5**
comp=Z,1.4nm,0.6s,baz=145,slow=3.0,SNR=9.0
ARCES LR LR 10 11 57.9
comp=Z,63nm,21.7s,baz=309,slow=37
ARCES ARCESS Array B **84.61 17** eP **P** **09 32 48.2 -0.1**
ARCES PKKPbc **PKKPbc** **09 50 57.9 -2.5**
ARE0 ARCESS Array S **84.61 17** eP **P** **09 32 49.0 +0.7**
comp=Z,3.9nm,0.7s
ARE0 ARCESS Array S **84.61 17** eP **P** **09 32 49.0 +0.7**
PVLZ Peæn de **84.63 55** i P **P** **09 32 48.4 -0.7**
PVLZ i S **S** **09 43 09.0 -3.1**
KEV Kevo **84.87 16** eP **P** **09 32 50.1 +0.5**
comp=Z,67nm,0.6s
KEV Kevo **84.87 16** eP **P** **09 32 50.1 +0.5**
KEV pmax pmax
comp=Z,67nm,0.6s
UCC Uccle **85.13 38** eP **P** **09 32 51.9 +0.6**
comp=Z,214nm,0.9s
UCC Uccle **85.13 38** eP **P** **09 32 51.9 +0.6**
UCC pmax pmax
comp=Z,214nm,0.9s
UCC Uccle **85.13 38** ⇓P **P** **09 32 51.1 -0.2**
comp=Z,152nm,1.6s
SNF Seneffe **85.19 38** ⇓P **P** **09 32 51.8 +0.2**
comp=Z,65nm,1.0s
SNF ⇑pP **pP** **09 33 08.4 +0.4**
SNF ⇑sP **sP** **09 33 15.0 +0.7**
MUD Monsted U'grnd **85.39 32** i P **P** **09 32 52.8 +0.4**
comp=Z,4µm,23.0s
MUD Monsted U'grnd **85.39 32** i P **P** **09 32 52.8 +0.4**
MUD MLR MLR
comp=Z,4µm,23.0s
DOU Dourbes **85.54 39** ⇓P **P** **09 32 53.3 0.0**
comp=Z,43nm,1.0s
DOU ⇓pP **pP** **09 33 09.4 -0.4**
DOU ⇑sP **sP** **09 33 16.8 +0.7**
MELI Melilla **85.65 54**⇑ iP **P** **09 32 51.6 -2.5**
BCLA Clavier **85.83 38** ⇓P **P** **09 32 55.0 +0.3**
BCLA ⇓pP **pP** **09 33 11.1 -0.1**
BCLA ⇑sP **sP** **09 33 18.2 +0.7**
BEBN Eben Emael **85.89 38** ⇓P **P** **09 32 55.3 +0.2**
BEBN ⇓pP **pP** **09 33 11.0 -0.4**
BEBN ⇑sP **sP** **09 33 18.8 +1.0**
WTSB Winterswijk **86.06 36** eP **P** **09 32 56.2 +0.4**
comp=Z,656nm,1.8s
MEM Membach **86.16 38** ⇓P **P** **09 32 56.5 +0.1**
comp=Z,80nm,1.2s
TARA Tarawa **86.31 270** eP **P** **09 32 59.2 +1.4**
TARA epP **pP** **09 33 15.0 +0.8**
CART Cartagena **86.35 52** eP **P** **09 32 57.4 -0.3**
comp=Z,602nm,2.0s
CART Cartagena **86.35 52** i P **P** **09 32 54.1 -3.6**
WLF Walferdange **86.64 39** eP **P** **09 32 59.1 +0.4**
comp=Z,157nm,0.7s
WLF Walferdange **86.64 39** eP **P** **09 32 59.1 +0.4**
WLF pmax pmax
comp=Z,157nm,0.7s
WLF Walferdange **86.64 39** ⇑P **P** **09 32 59.2 +0.4**
comp=Z,162nm,1.2s
SSB Saint Sauveur **87.40 43** eP **P** **09 33 02.7 +0.1**
comp=Z,112nm,1.0s
SSB Saint Sauveur **87.40 43** eP **P** **09 33 02.7 +0.1**
SSB pmax pmax
comp=Z,112nm,1.0s
ECH Echery **87.84 40** eP **P** **09 33 04.3 -0.3**
comp=Z,93nm,1.2s
ECH Echery **87.84 40** eP **P** **09 33 04.3 -0.3**
ECH pmax pmax
comp=Z,93nm,1.2s
APA Apatity **88.08 16** ⇓iP P 09 33 15.1 +10
APA i 09 43 27.0
APA i 09 43 44.0
APA i PS **PS** **09 44 59.0 +4.8**
APA i SS SS 09 49 33.0 +0.5
APA pmax pmax
comp=Z,6.0nm,0.6s
BFO Black Forest **88.50 39** eP **P** **09 33 07.5 -0.3**
comp=Z,71nm,1.2s
BFO Black Forest **88.50 39** i P **P** **09 33 07.8 0.0**
EANR 'Ain N'Sour **88.51 53** P **P** **09 33 08.5 +0.4**
SENIN Lac Senin/Sane **88.71 41** eP **P** **09 33 09.2 +0.1**
comp=Z,186nm,1.8s
STU Stuttgart **88.82 39** eP **P** **09 33 08.6 -0.6**
comp=Z,87nm,1.0s
STU Stuttgart **88.82 39** eP **P** **09 33 08.6 -0.6**
STU pmax pmax
comp=Z,87nm,1.0s
BNI Bardonecchia **88.87 43** eP **P** **09 33 10.1 +0.3**
comp=Z,101nm,1.1s
BNI Bardonecchia **88.87 43** eP **P** **09 33 10.1 +0.3**
BNI pmax pmax
comp=Z,101nm,1.1s
GRFO Grafenberg **89.58 37** eP **P** **09 33 13.7 +0.9**
comp=Z,139nm,1.1s
GRFO Grafenberg **89.58 37** eP **P** **09 33 13.7 +0.9**
GRFO pmax pmax
comp=Z,139nm,1.1s
CLL Collm **89.80 35** eP **P** **09 33 13.9 +0.1**
comp=Z,51nm,1.0s
CLL Collm **89.80 35**⇓ iP **P** **09 33 13.4 -0.4**
comp=Z,74nm,1.1s
CLL epP **pP** **09 33 29.0 -1.3**
CLL eSP **sP** **09 33 37.0 +0.4**
CLL eS **S** **09 44 01.0 -0.2**
CLL ePS **PnS** **09 45 12.0 -1.8**
CLL eSS SS 09 50 18.0 +20
CLL eSSS SSS 09 53 48.0
CLL e 09 57 18.0
CLL LmV 10 15 00.0
comp=Z,2µm,20.5s
CLL Collm **89.80 35**⇓ iP **P** **09 33 13.4 -0.4**
CLL e*PP **pP** **09 33 29.0 -1.3**
CLL eS **S** **09 44 01.0 -0.2**
CLL pmax pmax
comp=Z,10.0nm,1.1s
CLL MLR MLR
comp=Z,2µm,20.5s
EMHD Djebel Mahouad **89.81 52** P **P** **09 33 14.0 -0.3**
DAVA Damuels **89.90 40** ePcP **P** **09 33 14.4 -0.2**
comp=Z,93nm,1.3s,SNR=19
TUE Stuetta **89.94 41** eP **P** **09 33 15.4 +0.6**
comp=Z,90nm,1.3s
FIA0 FINESS Array S **90.00 23** eP **P** **09 33 13.9 -0.6**
FIA0 FINESS Array S **90.00 23** eP **P** **09 33 13.9 -0.6**
FINES FINESS Array B **90.00 23** P **P** **09 33 13.9 -0.6**
comp=Z,20nm,1.0s,baz=250,slow=5.1,SNR=16
FINES PKKPbc **PKKPbc** **09 50 45.2 -1.9**
comp=Z,6.4nm,1.2s,baz=211,slow=2.2,SNR=3.3
FINES LR LR 10 14 56.8
comp=Z,4µm,20.7s,baz=305,slow=36
NKC Novy Kostel **90.02 36** eP **P** **09 33 15.5 +0.6**
NKC eS **S** **09 44 05.7 +2.3**
NKC AMS AMS 10 12 20.0
comp=Z,2µm,22.3s
NKC Novy Kostel **90.02 36** eP **P** **09 33 15.5 +0.6**
NKC e 09 44 05.7
NKC MLR MLR
comp=Z,2µm,22.3s
RETA Reutte **90.34 39** ePcP **P** **09 33 17.0 +0.6**
comp=Z,50nm,1.1s,SNR=19
FUORN Ofenpass-Fuorn **90.44 40** eP **P** **09 33 17.5 +0.3**
comp=Z,140nm,1.2s
BRG Berggiesshubel **90.53 35**⇑ iP **P** **09 33 16.9 -0.3**
comp=Z,95nm,1.2s
BRG i sP **sP** **09 33 40.3 +0.3**
comp=Z,29nm,1.2s
BRG Berggiesshubel **90.53 35** S **S** **09 44 14.0 +6.0**
BRG SS **SS** **09 50 00.0 -9.0**
BRG Berggiesshubel **90.53 35**⇑ iP **P** **09 33 16.9 -0.3**
BRG S **S** **09 44 14.0 +6.0**
BRG pmax pmax
comp=Z,5.0nm,1.2s
BRG pmax pmax
comp=N,95nm,1.2s
FETA Feichten **90.54 40** ePcP **P** **09 33 18.0 +0.5**
comp=N,57nm,1.0s,SNR=21
MOTA Moosalm **90.61 39** ePcP **P** **09 33 18.2 +0.4**
comp=N,52nm,0.9s,SNR=18
SQTA Sankt Quirin **90.73 39** ePcP **PcP** **09 33 19.0 -0.5**
comp=N,92nm,1.3s,SNR=21
YAK Yakutsk **90.75 339** P **P** **09 33 18.6 +0.7**
comp=N,178nm,0.8s,baz=120,slow=2.2,SNR=29
YAK Yakutsk **90.75 339** d iP **P** **09 33 17.8 -0.1**
YAK e 09 36 49.1
YAK ePPP PPP 09 38 59.7
YAK eS **SKSac** **09 43 41.3 -3.3**
YAK e 09 44 09.8
YAK eSP **SPn** **09 45 22.2 +5.8**
YAK eSS SS 09 50 28.8 +17
YAK pmax pmax
comp=Z,126nm,0.9s
YAK pmax pmax
comp=E,36nm,1.4s
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=Z,237nm,4.1s
YAK pmax pmax
comp=N,166nm,4.2s
YAK pmax pmax
comp=E,208nm,3.6s
YAK smax smax
comp=E,784nm,6.4s
YAK smax smax
comp=N,580nm,4.6s
WATA Walderalm **90.90 39** ePcP **PcP** **09 33 19.8 -0.4**
comp=N,77nm,1.3s,SNR=7.1
WTTA Wattenberg **90.97 39** ePcP **P** **09 33 19.6 0.0**
comp=N,34nm,1.1s,SNR=8.7
GKP Gorka Klasztor **91.02 32** eP **P** **09 33 20.2 +0.9**
GKP Gorka Klasztor **91.02 32** eP **P** **09 33 20.2 +0.9**
PVCC Panska Ves **91.05 35** eP **P** **09 33 20.6 +1.0**
PVCC AMS AMS 10 16 30.0
comp=N,2µm,19.5s
PVCC Panska Ves **91.05 35** eP **P** **09 33 20.6 +1.0**
PVCC MLR MLR
comp=Z,2µm,19.5s
KHC Kasperske Hory **91.20 37** eP **P** **09 33 20.5 +0.1**
comp=Z,40nm,1.4s
KHC Kasperske Hory **91.20 37** eP **P** **09 33 21.5 +1.1**
KHC eSP SP 09 45 20.3 -1.6
KHC AMS AMS 10 12 40.0
comp=Z,4µm,22.9s
KHC Kasperske Hory **91.20 37** eP **P** **09 33 21.5 +1.1**
KHC eSP SP 09 45 20.3 -1.6
KHC MLR MLR
comp=Z,4µm,22.9s
PRA Prague **91.21 36** AMS AMS 10 11 20.0
comp=Z,3µm,23.8s
GEC2 GERESS Array S **91.41 37** eP **P** **09 33 21.7 +0.2**
comp=Z,72nm,1.2s
GEC2 GERESS Array S **91.41 37** eP **P** **09 33 21.7 +0.2**
GEC2 pmax pmax
comp=Z,72nm,1.2s
GERES GERESS Array B **91.41 37** P **P** **09 33 20.9 -0.5**
comp=Z,34nm,1.1s,baz=321,slow=3.4,SNR=63
GERES PP **PP** **09 36 58.4 -0.7**
comp=Z,2.0nm,0.8s,baz=291,slow=8.4,SNR=4.0
GERES PKKPbc **PKKPbc** **09 50 42.7 -0.6**
comp=Z,0.9nm,0.5s,baz=130,slow=2.1,SNR=6.6
GERES LR LR 10 15 18.0
comp=Z,3µm,20.9s,baz=301,slow=36
GEA0 GERESS Array S **91.42 37** eP **P** **09 33 20.4 -1.1**
NKL Nikolayevsk **91.60 328** i P **P** **09 33 23.0 +0.9**
NKL e 09 33 38.0
NKL eS **S** **09 44 18.0 +0.4**
NKL pmax pmax
comp=Z,460nm,2.0s
NKL pmax pmax
comp=Z,2µm,8.0s
NKL smax smax
comp=N,4µm,8.0s
NKL smax smax
comp=E,4µm,8.0s
NKL MLR MLR
comp=N,1µm,17.0s
NKL MLR MLR
comp=E,500nm,17.0s
NKL MLR MLR
comp=Z,1µm,13.0s
ABTA Abfaltersbach **91.74 39** ePcP **P** **09 33 23.3 +0.3**
comp=Z,124nm,1.2s,SNR=30
TYV Tymovskoe **91.81 326** eP **P** **09 33 24.5 +1.4**

TYV eS S 09 44 20.6 +1.0
TYV pmax pmax
comp=Z,900nm,7.3s
TYV pmax pmax
comp=Z,65nm,1.4s
TYV smax smax
comp=E,2µm,9.6s
TYV MLR MLR
comp=N,2µm,23.0s
TYV MLR MLR
comp=Z,3µm,23.0s
KSP Ksiaz 91.82 34 eP P 09 33 23.0 -0.2
KSP Ksiaz 91.82 34 eP P 09 33 23.0 -0.2
KBA Koelnbreinsper 92.08 39 ePcP P 09 33 24.9 +0.2
comp=Z,74nm,1.1s,SNR=26
DPC Dobruska-Polom 92.10 35 eP P 09 33 25.0 +0.4
DPC eSP SP 09 45 30.2 -1.6
DPC AMS AMS 10 17 40.0
comp=Z,2µm,19.6s
DPC Dobruska-Polom 92.10 35 eP P 09 33 25.0 +0.4
DPC eSP SP 09 45 30.2 -1.6
DPC MLR MLR
comp=Z,2µm,19.6s
TREC Trest 92.19 36 AMS AMS 10 16 20.0
comp=Z,3µm,20.6s
VSU Vasula 92.20 25ceP P 09 33 24.7 0.0
VSU pmax pmax
comp=Z,243nm,2.5s
MOA Molln 92.24 38 ePcP P 09 33 25.4 +0.2
comp=Z,108nm,1.7s,SNR=28
MYKA Terra Mystica 92.48 39 ePcP P 09 33 26.3 -0.1
comp=Z,41nm,1.1s,SNR=14
KRLC Kraliky 92.50 35 eP P 09 33 26.8 +0.4
KRLC Kraliky 92.50 35 eP P 09 33 26.8 +0.4
NRIK Noril'sk 92.51 357 P P 09 33 25.9 0.0
comp=Z,22nm,0.9s,baz=359,slow=3.2,SNR=22
NRIK LR LR 10 17 59.3
comp=Z,3µm,20.1s,baz=27,slow=37
VRAC Vranov 92.80 36j iP P 09 33 27.7 -0.1
VRAC Vranov 92.80 36 eP P 09 33 27.7 -0.1
KRUC Moravsky 92.82 36 eP P 09 33 27.4 -0.4
TRI Trieste 93.01 40 eP P 09 33 29.2 +0.4
comp=Z,120nm,1.1s
MORC Moravsky Berou 93.07 35 eP P 09 33 28.8 -0.2
comp=Z,125nm,1.2s
MORC Moravsky Berou 93.07 35j iP P 09 33 28.9 -0.2
MORC Moravsky Berou 93.07 35 eP P 09 33 28.8 -0.2
MORC pmax pmax
comp=Z,125nm,1.2s
MORC Moravsky Berou 93.07 35 eP P 09 33 28.7 -0.3
OBKA Obir 93.08 39 ePcP P 09 33 29.2 0.0
comp=Z,111nm,1.6s,SNR=16
CONA Conrad Observa 93.12 37 ePcP PcP 09 33 29.8 -0.1
comp=Z,55nm,1.2s,SNR=29
MOZS Mozjanca 93.13 39 eP P 09 33 28.6 -0.7
MOZS Mozjanca 93.13 39 eP P 09 33 28.6 -0.7
TIC Toumodi 93.15 82 eP P 09 33 29.4 -0.6
LIC Lamto 93.27 82 eP P 09 33 29.9 -0.7
comp=Z,397nm,1.2s
ARSA Arzberg 93.27 38 ePcP P 09 33 29.8 -0.2
comp=Z,60nm,2.3s,SNR=12
SOKA Soboth 93.28 38 ePcP P 09 33 29.9 -0.3
comp=Z,112nm,1.1s,SNR=40
DBIC Dimbokro 93.29 82 P P 09 33 30.4 -0.3
comp=Z,56nm,1.0s,baz=267,slow=4.4,SNR=37
DBIC PP PP 09 37 14.6 -0.6
comp=Z,8.5nm,1.0s,baz=279,slow=11,SNR=4.1
DBIC PKKPbc PKKPbc 09 50 38.2 +0.8
comp=Z,1.7nm,0.6s,baz=111,slow=0.9,SNR=4.6
DBIC LR LR 10 09 47.1
comp=Z,2µm,21.8s,baz=283,slow=32
DBIC Dimbokro 93.29 82 eP P 09 33 30.1 -0.6
comp=Z,86nm,1.0s
DBIC ePP PP 09 37 14.6 -0.6
DBIC PKKPbc PKKPbc 09 50 38.2 +0.8
LJU Ljubljana 93.30 39 i P P 09 33 30.0 -0.2
LJU eSKSac SKSac 09 44 01.1 +1.5
LJU eS S 09 44 31.9 -1.2
LJU eSP SP 09 45 41.8 -3.4
LJU Ljubljana 93.30 39 i P P 09 33 30.0 -0.2
LJU eSKSac SKSac 09 44 01.1 +1.5
LJU eS S 09 44 31.9 -1.2
LJU eSP SP 09 45 41.8 -3.4
LJU Ljubljana 93.30 39 eP P 09 33 29.9 -0.2
PERS Pernice 93.35 38 eP P 09 33 29.4 -1.1
PERS eSKSac SKSac 09 43 59.2 -0.8
PERS e 09 47 53.1
PERS Pernice 93.35 38 eP P 09 33 29.4 -1.1
PERS eSKSac SKSac 09 43 59.2 -0.8
PERS e 09 47 53.1
OKC Ostrava-Krasne 93.37 35 eP P 09 33 31.1 +0.8
OKC eSP SP 09 45 45.1 -0.7
OKC AMS AMS 10 10 40.0
comp=Z,3µm,24.2s
OKC Ostrava-Krasne 93.37 35 eP P 09 33 31.1 +0.8
OKC eSP SP 09 45 45.1 -0.7
OKC MLR MLR
comp=Z,3µm,24.2s
CEY Cerknica 93.40 40 eP P 09 33 30.6 0.0
SUW Suwalki 93.48 29 eP P 09 33 30.6 -0.1
SUW Suwalki 93.48 29 eP P 09 33 29.9 -0.8
comp=Z,175nm,1.1s
SUW Suwalki 93.48 29 eP P 09 33 30.6 -0.1
KIC Kosan Boka 93.50 82 eP P 09 33 31.0 -0.6
comp=Z,325nm,1.2s
BEL Belsk 93.62 32 eP P 09 33 32.2 +0.8
BEL Belsk 93.62 32 eP P 09 33 32.2 +0.8
JAVC Velka Javorina 93.64 36 eP P 09 33 31.0 -0.7
SOP Sopron 93.65 37 eP P 09 33 31.6 -0.1
ZST Bratislava 93.68 36 eP P 09 33 32.3 +0.5
ZST Bratislava 93.68 36 eP P 09 33 32.3 +0.5
MODS Modra-Piesok 93.69 36 eP P 09 33 31.8 -0.1
MODS pmax pmax
comp=Z,177nm,1.4s
MODS Modra-Piesok 93.69 36 eP P 09 33 31.8 -0.1
MODS esP sP 09 33 54.7 0.0
YSS Yuzh-Sakhalins 93.82 322 eP P 09 33 33.3 +0.9
comp=Z,108nm,0.9s
YSS Yuzh-Sakhalins 93.82 322ceP P 09 33 32.2 -0.3
YSS ePPP PPP 09 39 21.0
YSS eS S 09 44 30.0 -7.6
YSS ePS PS 09 46 04.0 +5.5
YSS pmax pmax
comp=Z,50nm,0.9s
YSS pmax pmax
comp=Z,800nm,5.6s
YSS MLR MLR
comp=Z,2µm,18.0s
ISAL Salakas 93.83 27 eP P 09 33 32.1 -0.2
ISAL IAmb IAmb 09 33 33.6
comp=Z,30nm,1.2s
CRES Cresnjev 93.97 39 eP P 09 33 32.8 -0.4
IIGN Ignalina 94.01 27 eP P 09 33 32.9 -0.3
IIGN IAmb IAmb 09 33 34.5
comp=Z,14nm,0.7s
BOJS Bojanci 94.02 39 i P P 09 33 33.0 -0.4
BOJS Bojanci 94.02 39 i P P 09 33 33.0 -0.4
IDID Didziasalis 94.26 27 eP P 09 33 33.8 -0.5
IDID IAmb IAmb 09 33 36.6
comp=Z,8.4nm,0.5s
BEHE Becsehely 94.42 38 eP P 09 33 36.4 +1.2
BEHE Becsehely 94.42 38 eP P 09 33 34.9 -0.3
VYHS Vyhne 94.49 36 eP P 09 33 36.2 +0.7
VYHS pmax pmax
comp=Z,63nm,1.3s
VYHS Vyhne 94.49 36 eP P 09 33 36.1 +0.6
VYHS esP sP 09 33 58.3 -0.1
NACGM Naroch 94.55 27 eP P 09 33 34.0 -1.6
NACGM ePP PP 09 37 20.0 -3.3
NACGM ePPP PPP 09 39 20.0
NACGM eSKKS SKSac 09 44 08.0 +2.0
NACGM eS SKKSac 09 44 32.0 +4.3
NACGM ePS PS 09 45 34.0 -32
NACGM eSS SS 09 50 40.0 -26
NACGM eSSS SSS 09 54 42.0
NACGM eLQ LQ 10 05 34.0
NACGM eLR LR 10 08 48.0
NACGM LRM MLR 10 10 12.0
comp=Z,6.9nm,26.0s
KEST Kesra 94.73 50 P P 09 33 37.1 +0.1
comp=Z,30nm,0.9s,baz=264,slow=4.3,SNR=16
KEST Kesra 94.73 50 eP P 09 33 37.8 +0.8
comp=Z,73nm,1.1s
NIE Niedzica 94.76 34 eP P 09 33 37.5 +0.7
NIE Niedzica 94.76 34 eP P 09 33 37.5 +0.7
TIH Tihany 94.83 37j eP P 09 33 37.2 +0.1
BUD Budapest 95.16 36 eP P 09 33 40.3 +1.7
MICGM Minsk 95.30 27j eP P 09 33 36.0 -3.0
MICGM PM 09 33 39.0
comp=Z,0.3nm,1.0s
MICGM eLR LR 10 08 10.0
MICGM LRM MLR 10 12 28.0
comp=Z,4.6nm,24.0s
MICGM LRM MLR 10 18 32.0
comp=E,3.4nm,26.0s
PSZ Piszkesteto 95.40 36 eP P 09 33 40.1 +0.4
comp=E,203nm,1.5s
PSZ Piszkesteto 95.40 36ñ iP P 09 33 40.2 +0.4
PSZ Piszkesteto 95.40 36 eP P 09 33 41.1 +1.3
PSZ Piszkesteto 95.40 36 eP P 09 33 40.1 +0.4
PSZ pmax pmax
comp=Z,203nm,1.5s
KECS Kecovo 95.40 35 eP P 09 33 39.4 -0.3
KECS pmax pmax
comp=Z,148nm,1.0s
KECS Kecovo 95.40 35 eP P 09 33 39.4 -0.3
KECS esP sP 09 34 03.1 +0.5
ASAJ Asahikawa 95.40 320 P P 09 33 40.5 +0.7
comp=Z,9.1nm,0.9s,baz=56,slow=7.3,SNR=2.5
ASAJ Asahikawa 95.40 320 eP P 09 33 40.5 +0.7
comp=Z,145nm,1.6s
BLY Banja Luka 95.58 39 eP P 09 33 40.9 +0.3
comp=Z,92nm,1.1s
BLY Banja Luka 95.58 39ñ iP P 09 33 41.2 +0.6
BLY Banja Luka 95.58 39 eP P 09 33 40.6 0.0
MORH M˙ŧr¡gy, Hung 95.64 38 eP P 09 33 41.5 +0.7
MORH M˙ŧr¡gy, Hung 95.64 38 eP P 09 33 40.0 -0.8
KWP Kalwaria Pacla 95.91 33 eP P 09 33 41.6 -0.4
KWP Kalwaria Pacla 95.91 33 eP P 09 33 41.6 -0.4
PRGR Permogore 95.98 16 eP P 09 33 40.9 -1.1
PRGR pmax pmax
comp=Z,41nm,0.9s
UZH Uzhgorod 96.29 34ñ iP P 09 33 45.1 +1.4
UZH i 09 33 54.1
UZH e 09 33 58.7
LVV L'vov 96.47 32 eP P 09 33 45.7 +1.2
LVV ePPP PPP 09 39 39.8
LVV e 09 44 13.4
LVV eS S 09 44 51.3 -9.2
LVV ePS PS 09 46 15.6 -12
LVV eSSS SSS 09 55 18.9
TRPA Tarpa 96.72 34j iP P 09 33 45.5 -0.1
TRPA Tarpa 96.72 34 eP P 09 33 46.0 +0.4
LTVH L˙tav˙rtes, 96.81 35 eP P 09 33 47.2 +1.1
FRGS Fruska Gora 96.91 38 eP P 09 33 46.4 -0.3
HAPS Han Pijesak,Bl 97.00 39 eP P 09 33 46.3 -0.9
TAM Tamanrasset 97.06 63 eP Pdif 09 33 48.4 +0.4
comp=Z,73nm,1.4s
TAM Tamanrasset 97.06 63 eP Pdif 09 33 48.4 +0.3
TAM pmax pmax
comp=Z,73nm,1.4s
CUC Castrocucco 97.20 44 eP P 09 33 46.1 -2.0
comp=Z,86nm,1.2s
TOA1 Torodi Ar. Sit 97.22 74 eP P 09 33 47.1 -1.5
TOA1 ePP PP 09 37 44.8 -0.7
TOA0 Torodi Ar. Sit 97.23 74 eP P 09 33 46.2 -2.4
TOA0 eP P 09 33 47.7 -1.0
TORD Torodi Ar. Bea 97.23 74 P P 09 33 47.2 -1.5
comp=Z,17nm,1.1s,baz=278,slow=2.8,SNR=38
TORD PP PP 09 37 44.8 -0.8
comp=Z,8.3nm,1.1s,baz=288,slow=8.3,SNR=6.8
TORD PKKPbc PKKPbc 09 50 27.4 +0.4
comp=Z,1.5nm,0.6s,baz=106,slow=3.2,SNR=13
TORD LR LR 10 19 11.5
comp=Z,2µm,18.1s,baz=300,slow=36
SIRR Siria 97.33 36j iP P 09 33 48.4 -0.1
BRY Bratogost 97.40 40 eP P 09 33 49.0 -0.1
MATE Matera 97.44 43j iP P 09 33 48.5 -0.6
UPM Unac-Piva 97.46 40 eP P 09 33 49.1 -0.3
ZEA Zeya 97.46 334 eP Pdif 09 33 50.0 +1.1
ZEA e 09 44 21.0
ZEA pmax pmax
comp=Z,36nm,1.6s
DRGR 97.61 35ñ iP P 09 33 49.6 -0.2
DIVS Divibare 97.61 39 eP P 09 33 49.3 -0.6
comp=Z,60nm,1.3s
DIVS Divibare 97.61 39 eP P 09 33 49.7 -0.2
HCY Herceg Novi 97.62 41 eP P 09 33 49.8 -0.1
BZS Buzias 97.69 37j iP Pdif 09 33 50.3 +0.1
PDG Podgorica 98.10 40ñ iP Pdif 09 33 52.5 +0.5
TTG Podgorica 98.10 40 eP Pdif 09 33 52.8 +0.8
comp=Z,86nm,1.3s
TIP Timpagrande 98.24 44 eP P 09 33 51.9 -1.0
comp=Z,74nm,1.2s
TIP Timpagrande 98.24 44ñ iP P 09 33 52.0 -0.8
MOS Moscow 98.31 22 eP Pdif 09 33 52.7 +0.1
MOS e*PP pP 09 34 09.7 +0.5
MOS e 09 37 52.2
MOS eS SKSac 09 44 24.6 -0.9
MOS pmax pmax
comp=Z,43nm,1.2s
MOS MLR MLR
comp=Z,5µm,24.0s
OBN Obninsk 98.39 23j eP P 09 33 52.7 -0.3
OBN e 09 37 51.0
OBN ePS PS 09 46 38.0 -10
OBN eSS SS 09 52 03.6 +3.4
OBN pmax pmax
comp=Z,97nm,1.3s
OBN MLR MLR
comp=Z,3µm,20.0s
BUR08 Bucovina Ar. S 98.43 34 eP Pdif 09 33 54.6 +1.1
AK11 Malin Array Si 98.44 30 eP P 09 33 52.0 -1.3
KLR Kul'dur 98.44 328 P Pdif 09 33 54.4 +0.9
comp=Z,2.3nm,0.8s,baz=70,slow=7.3,SNR=5.7
KLR PKKPbc PKKPbc 09 50 22.1 -2.6
comp=Z,2.5nm,0.8s,baz=260,slow=4.9,SNR=5.7
KLR Kul'dur 98.44 328ñ iP Pdif 09 33 54.1 +0.7
KIEV Kiev 98.45 30 eP P 09 33 51.7 -1.7
KIEV Kiev 98.45 30 i P P 09 33 51.9 -1.5
SNR=8.9
KIEV Kiev 98.45 30ñ eP P 09 33 52.3 -1.1
KIEV pmax pmax
comp=Z,31nm,1.1s
AKASG Malin Array Be 98.45 30 P P 09 33 52.4 -1.0
comp=Z,12nm,0.9s,baz=305,slow=3.4,SNR=27
AKASG PP PP 09 37 50.6 -2.9
comp=Z,5.0nm,0.9s,baz=310,slow=6.6,SNR=5.5
AKASG LR LR 10 20 16.2
comp=Z,1µm,19.1s,baz=330,slow=37
AKBB Malin Array Si 98.45 30 eP P 09 33 51.8 -1.6
comp=Z,38nm,1.2s
AKBB ePP PP 09 37 50.6 -2.9
AKBB Malin Array Si 98.45 30 eP P 09 33 51.8 -1.6
AKBB e 09 37 50.6
AKBB pmax pmax
comp=Z,38nm,1.2s
BUR04 Bucovina Ar. S 98.45 34 eP P 09 33 53.4 -0.2
BURAR Bucovina Array 98.46 34ñ iP P 09 33 53.6 -0.1
GZR Gura Zlata 98.48 37ñ iP P 09 33 53.4 -0.4
HERR Herculane 98.58 37ñ iP Pdif 09 33 54.3 +0.2
LOT Lotru 99.01 36ñ iP Pdif 09 33 55.5 -0.7
BOD Bodaibo 99.03 342 eP Pdif 09 33 54.0 -1.8
BOD pmax pmax
comp=Z,23nm,2.0s
BIZ Bicaz 99.35 34ñ iP Pdif 09 33 57.2 -0.4
DZM Mont Dzumac 99.36 250 eSKSac SKSac 09 44 31.2 -0.9
comp=Z,2µm,32.2s
DZM Mont Dzumac 99.36 250 ePS PS 09 46 59.0 -1.4
comp=Z,3µm,29.0s
DZM Mont Dzumac 99.36 250 eLR LR 10 06 33.1
comp=Z,12µm,28.2s,baz=84
ARR Arges 99.54 36ñ iP Pdif 09 33 58.5 0.0
DOPR Dopca 99.58 35ñ iP Pdif 09 33 57.8 -0.8
VOIR 99.72 36j iP Pdif 09 33 59.7 +0.4
MLR Muntele Rosu 100.18 35 ePdif Pdif 09 34 01.6 +0.2
MLR Muntele Rosu 100.18 35ñ iP Pdif 09 34 01.4 0.0
MLR Muntele Rosu 100.18 35 eP Pdif 09 34 01.6 +0.2
FNA Florina 100.34 41 ePdif Pdif 09 34 02.3 +0.1
FNA Florina 100.34 41 eP Pdif 09 34 02.3 +0.1
KIS Kishinev 100.73 33 eP Pdif 09 34 01.0 -2.6
comp=Z,300nm,2.4s
KIS eL L 10 08 16.0
KIS LRM MLR 10 18 50.0
comp=Z,3µm,24.0s
LPSR Galich'ya Gora 101.22 24 eP Pdif 09 34 05.0 -0.7
LPSR pmax pmax
comp=Z,70nm,1.1s
USRK Ussuriysk Ar. 101.56 324 P Pdif 09 34 08.2 +0.8
comp=Z,3.0nm,1.0s,baz=90,slow=2.9,SNR=4.2
CFR Carcaliu 101.57 34ñ iP Pdif 09 34 06.8 -0.6
TIRR Tirgusor 102.19 35ñ iP Pdif 09 34 11.4 +1.2
MJAR Matsushiro Arr 102.31 315 P Pdif 09 34 11.7 +0.8
comp=Z,2.3nm,0.7s,baz=63,slow=3.2,SNR=6.1
MAJO Matsushiro 102.32 315 ePdif Pdif 09 34 11.7 +0.8
MAJO Matsushiro 102.32 315j eP Pdif 09 34 13.1 +2.1
VSR Storozhevoye 102.39 25j eP Pdif 09 34 10.7 -0.2
VSR pmax pmax
comp=Z,69nm,0.9s
VORD Divnogorie 102.64 25 eP Pdif 09 34 11.6 -0.4
VORD pmax pmax
comp=Z,10.0nm,0.7s
VRH Novokhopyorsk 103.39 23 eP Pdif 09 34 14.6 -0.8
VRH pmax pmax
comp=Z,50nm,0.9s
VRH pmax pmax
comp=Z,90nm,1.1s
VRH MLR MLR
comp=Z,7µm,27.0s
ARU Arti 103.60 12 Pdiff Pdif 09 34 15.9 -0.3
comp=Z,1.9nm,0.3s,baz=240,slow=20,SNR=4.4
TLY Talaya 107.28 345 eP Pdif 09 34 32.4 -0.3
TLY i 09 38 57.8
TLY e 09 45 12.7
TLY pmax pmax
comp=Z,8.0nm,1.7s
TLY MLR MLR
comp=Z,2µm,19.0s
VNA3 Neumayer Olymp 107.36 160 P PKKPbc 09 49 57.0 -2.3
ZAA1 Zalesovo Array 108.00 357 ePdif Pdif 09 34 38.9 +3.1
ZAA1 ePP PP 09 39 00.7 -3.6
ZALV Zalesovo Beam 108.00 357 Pdiff Pdif 09 34 38.9 +3.1
comp=Z,1.4nm,0.8s,baz=339,slow=7.9,SNR=5.2
ZALV PP PP 09 39 00.7 -3.6
comp=Z,3.3nm,0.6s,baz=350,slow=7.7,SNR=7.0
VNA2 Neumayer--Watz 108.08 160 P PKKPbc 09 49 55.2 -1.8
baz=83,slow=3.0
QSPA South Pole Qui 108.12 180 PKKPbc PKKPbc 09 49 53.1 -4.4
comp=Z,3.5nm,0.6s,baz=247,slow=0.6,SNR=10
QSPA PKKP PKKPdf 09 50 09.4 -2.1
comp=Z,2.6nm,0.7s,baz=291,slow=5.7,SNR=4.5
BR101 Keskin Array S 108.25 36 ePdif Pdif 09 34 41.6 +4.1
BR101 ePKiKP PKiKP 09 48 42.8 -0.9
BRTR Keskin Array B 108.25 36 Pdiff Pdif 09 34 41.6 +4.1
comp=Z,0.6nm,0.8s,baz=359,slow=7.5,SNR=2.8
BRTR PKiKP PKiKP 09 38 42.8 -0.9
comp=Z,1.0nm,0.4s,baz=279,slow=1.1,SNR=5.1
BRTR PKKPbc PKKPbc 09 49 55.9 +0.3
comp=Z,0.7nm,0.8s,baz=157,slow=7.8,SNR=4.1
KSRS Korea Array 108.29 321 PKiKP PKiKP 09 38 43.1 -0.4
comp=Z,2.6nm,0.7s,baz=9.8,slow=1.2,SNR=8.4
KSRS PKKP PKKPdf 09 50 06.6 -2.0
comp=Z,3.1nm,1.0s,baz=230,slow=5.9,SNR=6.7
KS15 Wonju Array Si 108.32 321 ePKiKP PKiKP 09 38 43.1 -0.5
KSAR Wonju Array Be 108.32 321 PKiKP PKiKP 09 38 43.1 -0.5
KSAR PKKP PKKPdf 09 50 06.6 -1.9
BVAR Borovoye Array 108.64 6 Pdiff Pdif 09 34 42.9 +4.2
comp=Z,0.7nm,0.5s,baz=35,slow=5.3,SNR=3.7
BVAR PP PKiKP 09 38 52.3 +8.5
comp=Z,1.3nm,0.8s,baz=344,slow=4.7,SNR=2.3
BVAR PKKPbc PKKPbc 09 49 53.0 -1.6
comp=Z,1.5nm,0.8s,baz=198,slow=4.1,SNR=6.3
AKTO Aktyubinsk 109.09 14 Pdiff Pdif 09 34 42.9 +2.1
comp=Z,0.5nm,0.3s,baz=344,slow=12,SNR=2.4
AKTO PKKP PKKPab 09 50 04.0 -2.9
comp=Z,3.4nm,0.9s,baz=174,slow=7.2,SNR=6.2
VNDA Vanda 109.30 193 PKKPbc PKKPbc 09 49 50.2 -3.0
comp=Z,1.1nm,0.8s,baz=269,slow=5.5,SNR=6.2
SNAA Sanae 109.56 161 P PKKPbc 09 49 49.8 -2.6
SNAA Sanae 109.56 161 PKKPbc PKKPbc 09 49 49.0 -3.4
comp=Z,2.0nm,0.7s,baz=139,slow=4.5,SNR=8.0
SNAA Sanae 109.56 161 i P Pdif 09 34 44.2 +1.9
ULN Ulaanbaatar 109.75 341 i P Pdif 09 34 43.7 -0.3
SONA0 Songino Array 109.98 341 ePdif Pdif 09 34 49.1 +4.1
SONA0 ePKiKP PKiKP 09 38 47.3 +0.7
SONM Songino Array 109.98 341 Pdiff Pdif 09 34 49.1 +4.1
comp=Z,0.3nm,0.5s,baz=214,slow=1.6,SNR=3.7
SONM PKiKP PKiKP 09 38 47.3 +0.7
comp=Z,1.3nm,0.8s,baz=38,slow=1.4,SNR=4.8
SONM PKKPbc PKKPbc 09 49 48.5 -1.9
comp=Z,2.8nm,1.1s,baz=198,slow=4.6,SNR=9.3
DL2 Dalian 110.83 326 ePKP PKiKP 09 38 44.0 -4.3
DL2 esPKP 09 39 05.6
DL2 PP PP 09 39 24.1 -1.4
DL2 SS SS 09 54 49.8 -1.5
DL2 AMB AMB
comp=Z,520nm,6.9s
DL2 LR LR
comp=Z,1µm,18.0s
DL2 LR LR
comp=Z,1µm,19.8s
DL2 LR LR
comp=Z,2µm,20.6s
KURK Kurchatov 111.38 1 ePdif Pdif 09 34 53.7 +2.7
KURK ePKiKP PKiKP 09 38 49.6 +0.6
KURK PKKPbc PKKPbc 09 49 43.5 -2.3
KURK Kurchatov 111.38 1 eP Pdif 09 34 53.7 +2.7
KURK i 09 38 49.6
KURBB Kurchatov Arra 111.48 1 Pdiff Pdif 09 34 53.7 +2.3
comp=Z,0.3nm,0.2s,baz=6.1,slow=4.7,SNR=3.9
KURBB PKiKP PKiKP 09 38 49.6 +0.4
comp=Z,0.8nm,0.7s,baz=341,slow=1.4,SNR=6.4
KURBB PKKPbc PKKPbc 09 49 43.5 -2.0
comp=Z,1.9nm,0.7s,baz=196,slow=3.0,SNR=12
DGZ Jazzator, Alta 112.04 354ñ iPKiKP PKiKP 09 38 50.4 -0.1
MAK Makhachkala 112.41 25 eP Pdif 09 34 54.0 -1.7
MAK i 09 38 49.2
MAK e 09 39 33.6
MAK ePPP PPP 09 41 58.6
MAK e 09 45 34.4
MAK ePS PS 09 49 11.5 +0.1
MAK eSS SS 09 55 20.2 +8.6
MAK pmax pmax
comp=Z,296nm,1.1s
MMAI Mount Meron Ar 113.92 40 PKKPbc PKKPbc 09 49 38.4 +1.6
comp=Z,3.9nm,0.8s,baz=145,slow=5.3,SNR=7.0
HHC Hu-ho-hao-te 114.12 334 ePKP PKPdf 09 38 49.9 -4.8
HHC AMB AMB
comp=Z,590nm,8.6s
HHC LR LR
comp=Z,2µm,20.6s
HHC LR LR
comp=Z,3µm,21.7s
HHC LR LR
comp=Z,2µm,24.2s
MK32 Makanchi Array 115.26 358 ePKPdf PKPdf 09 38 55.3 -1.3
MKAR Makanchi Array 115.26 358 PKP PKPdf 09 38 55.3 -1.3
comp=Z,1.0nm,0.7s,baz=263,slow=2.9,SNR=4.3
MKAR PKKPbc PKKPbc 09 49 30.4 -2.3
comp=Z,1.0nm,0.6s,baz=198,slow=2.9,SNR=6.3
MKAR PKKP PKKPdf 09 49 52.0 -3.6
comp=Z,4.3nm,1.0s,baz=149,slow=5.0,SNR=4.4
TIY Taiyuan 116.33 331 PKP PKPdf 09 39 00.8 +1.8
TIY PP PP 09 40 07.0 +2.6
TIY AMB AMB
comp=Z,470nm,4.7s
TIY LR LR
comp=Z,3µm,19.3s
TIY LR LR
comp=Z,610nm,15.4s
TIY LR LR
comp=Z,4µm,20.6s
SSE Sheshan 116.69 320 PKP PKPdf 09 38 54.5 -5.2
SSE LR LR
comp=Z,320nm,20.1s
SSE LR LR
comp=Z,750nm,20.8s
SSE LR LR
comp=Z,590nm,30.4s
CTA Charters Tower 117.28 256 PKP PKPdf 09 39 01.2 +0.1
comp=Z,2.6nm,0.5s,baz=185,slow=2.2,SNR=3.8
NJ2 Nanjing 117.39 323 ePKP PKPdf 09 39 01.3 +0.2
NJ2 SKKS 09 47 06.8
NJ2 SS SS 09 56 19.4 +1.5
NJ2 AMB AMB
comp=Z,330nm,7.1s
NJ2 LR LR
comp=Z,760nm,14.1s
NJ2 LR LR
comp=Z,1µm,19.0s
NJ2 LR LR
comp=Z,2µm,23.9s
WMQ Urumqi 117.83 353 ePKP PKPdf 09 39 02.8 +1.1
WMQ LR LR

comp=Z,8μm,25.7s
WMQ LR LR
comp=Z,4μm,21.7s
WMQ LR LR
comp=Z,11μm,28.7s
JAY Jayapura 118.07 277 PKP **PKPdf 09 39 02.6 -0.3**
comp=Z,7.6nm,0.8s,baz=343,slow=14,SNR=3.1
AAA Alma-Ata 118.85 2 *e*PKIKP PKPdf 09 39 21.4 +18
AAA pmax pmax
comp=Z,100nm,2.2s
AAA MLR MLR
comp=Z,700nm,25.0s
FRU Bishkek 119.11 4 *e*PKIKP **PKPdf 09 39 04.0 -0.2**
AAK Ala-Arcka 119.29 4 PKP **PKPdf 09 39 03.9 -0.8**
comp=Z,1.5nm,0.6s,baz=123,slow=1.8,SNR=9.2
AAK PKKPbc **PKKPbc 09 49 18.7 +0.2**
comp=Z,2.4nm,0.8s,baz=182,slow=3.5,SNR=5.4
AAK Ala-Arcka 119.29 4 *e*PKPdf **PKPdf 09 39 03.9 -0.8**
AAK *e*PKPdf **PKiKP 09 39 05.7 +0.9**
AAK PKKPbc **PKKPbc 09 49 18.7 +0.2**
AAK Ala-Arcka 119.29 4 P **PKPdf 09 39 05.2 +0.5**
AAK Ala-Arcka 119.29 4⇑ *i*PKIKP **PKPdf 09 39 05.1 +0.4**
GTA Gaotai 119.62 342 ⇑PKP **PKPdf 09 39 06.3 +0.9**
GTA PP **PP 09 40 34.0 +6.9**
GTA SKKS 09 47 22.8
GTA AMB AMB
comp=Z,290nm,8.1s
GTA LR LR
comp=Z,2μm,19.7s
GTA LR LR
comp=Z,2μm,18.4s
GTA LR LR
comp=Z,3μm,21.3s
KDJ Kajisay 119.94 2 *e*PKPdf **PKPdf 09 39 07.2 +1.2**
KDJ Kajisay 119.94 2 *e*PKIKP **PKPdf 09 39 07.2 +1.2**
NRN Naryn 120.58 3 *e*PKPdf **PKPdf 09 39 07.4 0.0**
NRN Naryn 120.58 3 *e*PKIKP **PKPdf 09 39 07.4 0.0**
GEYT Alibeck 120.67 20 PKP **PKPdf 09 39 07.0 -0.2**
comp=Z,5.9nm,0.7s,baz=298,slow=3.2,SNR=11
GEYT pPKP **pPKPdf 09 39 24.6 +0.2**
comp=Z,4.0nm,0.7s,baz=273,slow=9.6,SNR=3.4
GEYT PKKPbc **PKKPbc 09 49 14.0 +0.8**
comp=Z,0.5nm,0.3s,baz=340,slow=8.2,SNR=4.0
GYA0B ALIBECK ARRAY 120.67 20 *e*PKPdf **PKPdf 09 39 07.4 +0.1**
XAN Xi'an 120.96 332 PKP **PKPdf 09 39 07.5 -0.5**
XAN sPKP 09 39 24.8
XAN PP **PP 09 40 36.5 +0.1**
XAN SKS **SKSdf 09 46 09.9 -5.5**
XAN SKKS **SKKSac 09 47 27.9 -4.4**
XAN SS **SS 09 57 03.5 0.0**
XAN AMB AMB
comp=Z,640nm,7.3s
XAN LR LR
comp=Z,2μm,20.1s
XAN LR LR
comp=Z,1μm,21.6s
XAN LR LR
comp=Z,3μm,21.6s
WHN Wuhan 121.05 325 ⇓PKP **PKPdf 09 39 09.6 +1.5**
WHN PP **PP 09 40 40.4 +3.2**
WHN LR LR
comp=Z,7μm,22.6s
WHN LR LR
comp=Z,3μm,20.5s
WHN LR LR
comp=Z,5μm,21.5s
LZH Lanzhou 121.29 337 ⇑PKP **PKPdf 09 39 10.3 +1.6**
LZH sPKP 09 39 27.3
LZH PP **PP 09 40 42.6 +3.9**
LZH AMB AMB
comp=Z,890nm,9.1s
LZH LR LR
comp=Z,3μm,18.2s
LZH LR LR
comp=Z,3μm,17.1s
LZH LR LR
comp=Z,4μm,19.8s
TSUM Tsumeb 121.65 102 *e*PKPdf **PKPdf 09 39 10.2 +0.5**
KSH Kashi 122.49 3 PKP **PKPdf 09 39 13.1 +2.2**
KSH PP **PP 09 40 54.1 +7.6**
KSH PKS **PKSdf 09 42 48.3 +0.6**
KSH SS SS 09 57 29.0 +6.6
KSH AMB AMB
comp=Z,460nm,4.5s
KSH LR LR
comp=Z,2μm,19.2s
KSH LR LR
comp=Z,2μm,17.6s
KSH LR LR
comp=Z,5μm,20.4s
STKA Stephens Creek 122.77 243 PKP **PKPdf 09 39 11.0 -0.3**
comp=Z,22nm,0.8s,baz=36,slow=1.9,SNR=34
STKA PKKPbc **PKKPbc 09 49 04.7 +0.1**
comp=Z,2.5nm,0.6s,baz=283,slow=11,SNR=4.8
STKA Stephens Creek 122.77 243 *e*PKPdf **PKPdf 09 39 11.4 0.0**
STKA PKKPbc **PKKPbc 09 49 04.7 +0.1**
STKA Stephens Creek 122.77 243 *e*PKIKP **PKPdf 09 39 11.4 0.0**
ENH Enshi 123.81 329 *e*PKPdf **PKPdf 09 39 12.8 -0.7**
SUR Sutherland 125.72 117 PKP **PKPdf 09 39 17.5 +0.2**
comp=Z,36nm,1.1s,baz=274,slow=2.2,SNR=11
CD2 Chengdu 125.88 334 PKP **PKPdf 09 39 17.3 -0.2**
CD2 sPKP 09 39 41.8
CD2 PP **PP 09 41 09.0 -0.5**
CD2 SKS **SKSdf 09 46 23.5 -1.3**
CD2 SKKS **SKKSac 09 48 00.0 -4.0**
CD2 SS **SS 09 58 04.6 -1.1**
CD2 AMB AMB
comp=Z,990nm,7.6s
CD2 LR LR
comp=Z,2μm,18.9s
CD2 LR LR
comp=Z,2μm,18.9s
CD2 LR LR
comp=Z,2μm,20.9s
FAKI Fak Fak 126.16 280 *e*PKPdf **PKPdf 09 39 19.4 +1.0**
SIJI Sorong 126.34 283 PKP **PKPdf 09 39 18.1 -0.7**
comp=Z,25nm,0.9s,baz=42,slow=3.7,SNR=6.7
RAYN Ar Rayn 126.90 40 *e*PKPdf **PKPdf 09 39 20.1 +0.5**
RAYN Ar Rayn 126.90 40 *i* P **PKPdf 09 39 19.7 +0.1**
SNR=12
RAYN Ar Rayn 126.90 40 *e*PKIKP **PKPdf 09 39 20.1 +0.5**
BBOO Buckleboo 127.47 242 *e*PKPdf **PKPdf 09 39 21.1 +0.8**
WB2 Warramunga Arr 128.30 259 *e*PKPdf **PKPdf 09 39 22.2 0.0**
WB2 *e*PKPdf **PKiKP 09 39 22.4 -0.5**
WRAB Tennant Creek 128.30 259 *d i*PKIKP **PKPdf 09 39 22.9 +0.6**
WR1 Warramunga Arr 128.31 259 *e*PKPdf **PKPdf 09 39 22.1 -0.2**
WR1 *e*PP **PP 09 41 27.2 -0.2**
WRA Warramunga Arr 128.31 259 PKhKP PKPpre 09 39 05.6
comp=Z,1.0nm,0.8s,baz=78,slow=3.7,SNR=11
WRA PKP **PKPdf 09 39 22.1 -0.2**
comp=Z,22nm,0.8s,baz=79,slow=2.7,SNR=56
WRA pPKP pPKPdf 09 39 40.3 +0.9
comp=Z,11nm,0.8s,baz=79,slow=2.6,SNR=6.2
WRA PP **PP 09 41 27.2 -0.2**
comp=Z,1.5nm,1.1s,baz=80,slow=8.1,SNR=5.4
GYA Guiyang 128.35 329 Pdif **Pdif 09 36 06.0 -1.1**
GYA PKP **PKPdf 09 39 22.6 +0.2**
GYA sPKP 09 39 46.5
GYA PP **PP 09 41 30.8 +4.7**
GYA PKS **PKSdf 09 42 57.5 -1.8**
GYA SKKS 09 48 14.0
GYA SS **SS 09 58 35.3 -1.7**
GYA AMB AMB
comp=Z,490nm,8.2s
GYA LR LR
comp=Z,820nm,19.8s
GYA LR LR
comp=Z,760nm,20.0s
GYA LR LR
comp=Z,790nm,19.5s
AS01 Alice Springs 129.07 254 *e*PKPdf **PKPdf 09 39 23.4 -0.3**
AS31 Alice Springs 129.12 254 *e*PKPdf **PKPdf 09 39 23.9 +0.1**
ASAR Alice Springs 129.12 254 PKhKP PKPpre 09 39 00.9
comp=Z,0.4nm,0.9s,baz=185,slow=28,SNR=3.9
ASAR PKP **PKPdf 09 39 24.0 +0.2**
comp=Z,11nm,0.6s,baz=86,slow=2.2,SNR=45
ASAR pPKP pPKPdf 09 39 42.5 +1.7
comp=Z,10nm,0.9s,baz=88,slow=2.4,SNR=5.7
ASAR Alice Springs 129.12 254 PKIKP **PKPdf 09 39 24.0 +0.2**
MAW Mawson 129.48 172 PKhKP PKPpre 09 39 06.8
comp=Z,3.1nm,1.0s,baz=262,slow=21,SNR=3.6
MAW PKP **PKiKP 09 39 23.7 -0.1**
comp=Z,56nm,1.0s,baz=255,slow=3.2,SNR=53
MAW Mawson 129.48 172 *e*PKPdf **PKPdf 09 39 24.3 +1.3**
BOSA Boshof 129.54 112 PKP **PKPdf 09 39 24.8 +0.3**
comp=Z,32nm,0.9s,baz=258,slow=2.7,SNR=20
BOSA PP **PP 09 41 35.5 +0.1**
comp=Z,12nm,1.0s,baz=298,slow=5.0,SNR=4.2
BOSA Boshof 129.54 112 *e*PKPdf **PKPdf 09 39 24.9 +0.3**
BOSA *e*PKPdf **PKiKP 09 39 25.2 0.0**
BOSA *e*PP **PP 09 41 35.5 +0.1**
LBTB Lobatse 129.72 108 PKP **PKPdf 09 39 25.3 +0.4**
comp=Z,23nm,1.0s,baz=233,slow=2.9,SNR=11
LBTB Lobatse 129.72 108 *e*PKPdf **PKPdf 09 39 25.7 +0.8**
LBTB Lobatse 129.72 108 *e*PKIKP **PKPdf 09 39 25.7 +0.8**
DHRM DHARAMSHALA 129.75 3 *e*P **PKPdf 09 39 24.6 -0.4**
DHRM IAmb IAmb 09 39 27.1
comp=Z,56nm,1.2s
DHRM IAMs_20 IAMs_20 10 14 17.6
comp=Z,1μm,22.7s
SHME Shamm 130.51 28 *i* P **PKPdf 09 39 26.0 -0.5**
SNR=7.8
BANOM Banah 130.69 28 *i* P **PKPdf 09 39 27.3 +0.5**
SNR=8.2
SMLA Simla 130.91 3 *e*P **PKPdf 09 39 25.9 -1.0**
SMLA IAmb IAmb 09 39 30.5
comp=Z,202nm,1.8s
SMLA IAMs_20 IAMs_20 10 08 19.7
comp=Z,450nm,11.6s
LSZ Lusaka 130.93 95 PP PP 09 41 45.0 +0.4
comp=Z,1.8nm,0.3s,baz=294,slow=7.4,SNR=5.1
LSZ Lusaka 130.93 95 *e*PKPpre PKPpre 09 39 28.2
LSZ *e*PKPdf **PKiKP 09 39 28.4 0.0**
LSZ PP **PP 09 41 45.0 +0.4**
LSZ Lusaka 130.93 95 *e*PKIKP **PKPdf 09 39 28.2 +0.7**
LSZ 09 41 45.0
LSA Lhasa 131.07 346 *e*PKPdf **PKPdf 09 39 30.8 +2.8**
LSA Lhasa 131.07 346 P **PKPdf 09 39 29.3 +1.3**
LSA Lhasa 131.07 346 *e*PKIKP **PKPdf 09 39 30.8 +2.8**
MSFE Esma-Masafi 131.12 28 *i* P **PKPdf 09 39 27.6 0.0**
SNR=18
NAZ Nazwa, Dubai 131.21 29 PKiKP **PKPdf 09 39 27.4 -0.3**
SNR=6.3
NAZ Nazwa, Dubai 131.21 29 P **PKPdf 09 39 27.4 -0.3**
SNR=6.3
NAZ Nazwa, Dubai 131.21 29 *i* P **PKPdf 09 39 28.1 +0.4**
SNR=8.1
MDH Madha 131.23 28 *i* P **PKPdf 09 39 27.5 -0.2**
SNR=16
AJN Ajban 131.25 30 *i* P **PKPdf 09 39 28.5 +0.7**
SNR=6.9
KMI Kunming 131.34 332 PKP **PKPdf 09 39 28.5 +0.2**
KMI sPKP 09 39 47.3
KMI AMB AMB
comp=Z,880nm,8.0s
KMI LR LR
comp=Z,1μm,25.3s
KMI LR LR
comp=Z,2μm,24.2s
KMI LR LR
comp=Z,2μm,24.2s
ASUD Al Ashush, Dub 131.36 30 *i* P **PKPdf 09 39 28.7 +0.7**
SNR=5.1
FAQ Al Faqa, Dubai 131.38 29 PKPdf **PKPdf 09 39 27.1 -1.0**
SNR=6.8
FAQ Al Faqa, Dubai 131.38 29 P **PKPdf 09 39 27.1 -1.0**
SNR=6.8
FAQ Al Faqa, Dubai 131.38 29 *i* P **PKPdf 09 39 28.5 +0.5**
SNR=14
UOSS Minazif 131.49 29 *e*PKPdf **PKPdf 09 39 27.8 -0.5**
UOSS Minazif 131.49 29 PKPdf **PKPdf 09 39 27.2 -1.1**
SNR=9.0
UOSS Minazif 131.49 29 P **PKPdf 09 39 27.2 -1.1**
SNR=9.0
UOSS Minazif 131.49 29 *i* P **PKPdf 09 39 27.7 -0.6**
SNR=14
AAE Adis Abeba 131.56 59 *e*P **PKPdf 09 39 30.6 +1.6**
AAE *e*S **SKPab 09 42 55.7 +5.5**
AAE Adis Abeba 131.56 59 *e*P **PKPdf 09 39 30.6 +1.6**
AAE *e*S **SKPab 09 42 55.7 +5.5**
HATD Hatta, Dubai 131.56 29 PKPdf **PKPdf 09 39 27.6 -0.9**
SNR=16
HATD Hatta, Dubai 131.56 29 P **PKPdf 09 39 27.6 -0.9**
SNR=16
HATD Hatta, Dubai 131.56 29 *i* P **PKPdf 09 39 28.5 +0.1**
SNR=19
ASHO Ashiyiah 131.65 29 PKPdf **PKPdf 09 39 27.9 -0.7**
SNR=14
ASHO Ashiyiah 131.65 29 P **PKPdf 09 39 27.9 -0.7**
SNR=14
ASHO Ashiyiah 131.65 29 *i* P **PKPdf 09 39 28.6 0.0**
SNR=14
DDI Dehra Dun 131.74 2 *e*P **PKPdf 09 39 29.1 +0.5**
MATP Matopo 132.00 101 PKhKP PKPpre 09 39 13.3
baz=22,slow=11
MATP PKP **PKPdf 09 39 29.5 0.0**
comp=Z,13nm,1.0s,baz=204,slow=3.8,SNR=6.5
LKP Lekhapani 132.03 340 *e*P **PKPdf 09 39 28.0 -1.3**
LKP IAMs_20 IAMs_20 10 07 40.3
comp=Z,267nm,5.8s
ALNE Al Ain 132.05 30 *i* P **PKPdf 09 39 29.6 +0.3**
SNR=9.9
ZIRO ZIRO 132.46 343 *e*P **PKPdf 09 39 29.2 -1.1**
QIZ Qiongzhong 132.48 320 PKP **PKPdf 09 39 29.3 -1.0**
QIZ PP **PP 09 41 52.8 -0.3**
QIZ SS SS 09 59 28.3 +0.3
QIZ AMB AMB
comp=Z,600nm,17.7s
QIZ LR LR
comp=Z,930nm,22.1s
QIZ LR LR
comp=Z,990nm,23.0s
QIZ LR LR
comp=Z,1μm,20.1s
DAMY Dhamar 132.50 49 *e*PKPdf **PKPdf 09 39 33.4 +2.6**
ITAN ITANAGAR 132.85 343 *e*P **PKPdf 09 39 30.4 -0.4**
TAWA Tawang 132.92 345 *e*P **PKPdf 09 39 30.7 -0.7**
JORH JORHAT 133.08 342 *e*P **PKPdf 09 39 29.8 -1.4**
NDI New Delhi 133.34 3 *e*P **PKPdf 09 39 31.0 -0.7**
MOKO MOKOCHONG 133.40 341 *e*P **PKPdf 09 39 31.8 -0.2**
DANN Dangsing 133.54 355 *e*P PKPpre 09 39 22.3
BIDO Bidbid 133.59 27 PKPdf **PKPdf 09 39 32.0 -0.3**
SNR=17
BIDO Bidbid 133.59 27 P **PKPdf 09 39 32.0 -0.3**
SNR=17
TEZP TEZPUR 133.61 343 *e*P **PKPdf 09 39 29.2 -3.0**
GUN Gumba 133.75 352 *e*P PKPpre 09 39 20.8
PYUN Piuthan 133.85 356 *e*P PKPpre 09 39 22.9
comp=Z,383nm,1.9s
GTK Tadong 133.89 349 *e*P **PKPdf 09 39 31.9 -1.1**
KKN Kakani 133.94 353 *e*P PKPpre 09 39 22.1
JIRN Jiri 133.95 352 *e*P PKPpre 09 39 21.1
TAPN Taplejung 134.02 350 *e*P PKPpre 09 39 21.0
WSAR Wadi Sarin 134.06 27 PKiKP **PKPdf 09 39 33.0 -0.2**
SNR=16
WSAR Wadi Sarin 134.06 27 P **PKPdf 09 39 33.0 -0.2**
SNR=16
KOHI KOHIMA 134.08 342 *e*P **PKPdf 09 39 32.1 -1.2**
KOHI IAMs_20 IAMs_20 10 08 32.9
comp=Z,291nm,9.6s
KOLN Koldanda 134.13 355 *e*P PKPpre 09 39 22.5
PKIN Phulchoki 134.13 353 *e*P PKPpre 09 39 21.8
DMN Daman 134.14 353 *e*P PKPpre 09 39 21.9
PKI Pulchoki 134.14 353 *e*P PKPpre 09 39 22.3
GUWA GUWAHATI 134.30 345 *e*P **PKPdf 09 39 32.9 -0.6**
ODAN Odare 134.56 350 *e*P PKPpre 09 39 21.8
RAMN Ramite 134.59 351 *e*P PKPpre 09 39 21.1
SHL Shillong 134.85 344 *e*PKPdf **PKPdf 09 39 35.7 +0.8**
SHL Shillong 134.85 344 *e*P **PKPdf 09 39 33.4 -1.4**
SHL *i* x x 09 43 04.0
SHL IAMs_20 IAMs_20 10 09 31.8
comp=Z,326nm,8.9s
IMP Imphal 134.97 341 *e*P **PKPdf 09 39 33.9 -1.0**
KMBO Kilima Mbogo 135.22 73 PKhKP PKPpre 09 39 32.6
comp=Z,0.9nm,0.3s,baz=320,slow=3.2,SNR=5.6
KMBO Kilima Mbogo 135.22 73 PKPpre PKPpre 09 39 32.6
KMBO *e*PKPdf **PKPdf 09 39 38.8 +2.9**
KMBO Kilima Mbogo 135.22 73 PKiKP **PKPdf 09 39 38.8 +2.9**
SNR=24
KMBO Kilima Mbogo 135.22 73 P **PKPdf 09 39 38.8 +2.9**
SNR=24
KMBO Kilima Mbogo 135.22 73 *i* P **PKPdf 09 39 34.7 -1.2**
SNR=6.4
KMBO Kilima Mbogo 135.22 73 PKIKP **PKPdf 09 39 32.6 -3.3**
KMBO *e* 09 39 38.8
TURI Tura 135.25 346 *e*P **PKPdf 09 39 33.2 -2.1**
FITZ Fitzroy Crossi 136.22 263 *e*PKPdf **PKPdf 09 39 38.4 +1.2**
AGT Agartala 136.62 344 *e*P **PKPdf 09 39 37.1 -0.8**
BELO BELONIA 137.18 344 *e*P **PKPdf 09 39 37.5 -1.4**
SAIH SAIHA 137.46 341 *e*P **PKPdf 09 39 38.5 -1.1**
SKNT Sakolnakorn 137.53 324 PKP **PKPdf 09 39 40.8 +1.1**
BHJ Bhuj 137.70 13 *e*P **PKPdf 09 39 39.0 -0.9**
BOK Bokaro 137.79 351 *e*P **PKPdf 09 39 38.8 -1.3**
BOK IAMs_20 IAMs_20 10 08 43.0
comp=Z,408nm,16.1s
CHTO Chiang Mai 138.54 332 PKP **PKPdf 09 39 40.0 -1.6**
BHPL Bhopal 138.76 3 *e*P **PKPdf 09 39 41.1 -0.8**
CM31 Chiang Mai Arr 138.85 331 *e*PKPdf **PKPdf 09 39 42.9 +0.7**
CM31 Chiang Mai Arr 138.85 331 PKPdf **PKPdf 09 39 41.5 -0.6**
SNR=11
CM31 Chiang Mai Arr 138.85 331 P **PKPdf 09 39 41.5 -0.6**
SNR=11
CMAR Chiang Mai Arr 138.85 331 PKhKP PKPpre 09 39 33.1
comp=Z,2.5nm,0.4s,baz=13,slow=3.6,SNR=12
CMAR PKP **PKPdf 09 39 42.9 +0.7**
comp=Z,13nm,0.8s,baz=344,slow=2.7,SNR=22
CMAR pPKP pPKPdf 09 40 00.5 +1.2
comp=Z,24nm,0.9s,baz=332,slow=2.1,SNR=7.7
CM01 Chiang Mai Arr 138.88 331 *e*PKPdf **PKPdf 09 39 43.1 +0.9**
UMPA Umpang Tak 140.84 330 PKP **PKPdf 09 39 44.0 -1.8**
NGP Nagpur 140.89 1 *ex* PKPpre 09 39 38.5
NGP IAMs_20 IAMs_20 10 45 06.0
comp=Z,3μm,13.6s
SRAK Srakaew 141.02 324 PKP PKPpre 09 39 42.0
BWNR Bhubaneshwar 141.24 350 *ex* PKPpre 09 39 36.4
BWNR IAmb IAmb 09 39 48.6
comp=Z,118nm,1.8s
BWNR IAMs_20 IAMs_20 10 42 00.2
comp=Z,4μm,26.5s
TWSI Taliwang, Sumb 142.50 279 PKP **PKPdf 09 39 45.6 -3.2**
POO Poona 143.08 9 *e*P **PKPdf 09 39 49.0 -0.8**
POO IAMs_20 IAMs_20 10 09 43.2
comp=Z,551nm,21.1s
NWAO Narrogin (SRO) 143.13 239 PKhKP PKPpre 09 39 46.2
comp=Z,40nm,1.2s,baz=5.6,slow=3.4,SNR=10
NWAO Narrogin (SRO) 143.13 239 *e*PKPpre PKPpre 09 39 46.2
NWAO *e*PKPpre PKPpre 09 39 47.5
PHET Kaeng Krachan 143.25 326 PKP PKPbc 09 39 48.0 +0.8
STKI Sintang 143.69 297 PKP PKPbc 09 39 48.6 +0.1
HYB Hyderabad 144.59 2 *i* PKP **PKPab 09 39 50.0 -1.0**
comp=Z,480nm,1.0s
HYB *e*sPKP 09 40 14.5
HYB Hyderabad 144.59 2 *e*P **PKPab 09 39 49.8 -1.2**
H01W1 Cape Leeuwin H 145.02 235 PKPbc **PKPdf 09 39 53.0 +0.6**
baz=150,slow=5.9,SNR=12
H01W1 pPKPbc **pPKPdf 09 40 10.5 +1.0**
H01W2 Cape Leeuwin H 145.04 235 PKPbc **PKPdf 09 39 52.8 +0.4**
baz=150,slow=5.9,SNR=8.1
H01W2 pPKPbc **pPKPdf 09 40 10.5 +1.1**
H01W3 Cape Leeuwin H 145.04 235 PKPbc **PKPdf 09 39 53.4 +1.0**
baz=150,slow=5.9,SNR=5.8
H01W3 pPKPbc **pPKPdf 09 40 10.6 +1.1**
SKLT Songkhla 147.27 319 PKP **PKPbc 09 39 59.4 0.0**
KRAB Krabi 147.32 322 PKP **PKPbc 09 39 58.6 -0.9**
TRTT Trang 147.33 321 PKP **PKPbc 09 39 58.7 -0.9**
PBA Port Blair 147.57 335 *e*PKPdf PKPbc 09 39 59.4 -0.7
WOJI Wonogiri, Jawa 147.73 284 PKP **PKPbc 09 40 00.8 +0.1**
SMRI Semarang 147.87 286 *e*PKPdf **PKPbc 09 40 00.7 -0.4**
PKDT Phuket 148.08 323 PKP **PKPbc 09 40 01.4 -0.2**
UGM Wanagama 148.13 285 *e*PKPdf **PKPbc 09 40 00.2 -1.6**
KULM Kulim 148.68 316 *e*PKPdf **PKPdf 09 39 59.6 +0.2**
KULM Kulim 148.68 316 P **PKPdf 09 39 59.0 -0.4**
MYKOM Kota Tinggi 148.85 307 *e*PKPdf **PKPdf 09 40 00.9 +1.2**
MYKOM Kota Tinggi 148.85 307 P **PKPdf 09 40 00.0 +0.3**
IPM Ipoh 149.03 315 *e*PKPdf **PKPdf 09 40 00.7 +0.7**
OPO Ambohidratompo 149.38 96 PKPbc **PKPbc 09 40 05.3 +0.3**
comp=Z,109nm,1.1s,baz=255,slow=2.8,SNR=13
ABPO Ambohimpanom 149.45 97 *e*PKPdf **PKPbc 09 40 03.0 -2.2**
CMJI Cimerak 149.98 286 PKP **PKPbc 09 40 04.7 -1.7**
LEM Lembang 150.34 289 PKPbc **PKPbc 09 40 08.2 +0.7**
comp=Z,59nm,0.7s,baz=116,slow=4.2,SNR=12
CBJI Citeko 150.86 290 PKP **PKPbc 09 40 09.2 +0.7**
LHMI Lhok Sumawe 151.03 322 PKP **PKPbc 09 40 10.2 +1.3**
CMBY CAMPBELL BAY 151.17 329 *e*P **PKPdf 09 40 01.3 -2.0**
CMBY IAMs_20 IAMs_20 10 09 06.4
comp=Z,468nm,5.9s
TSI Tuntungan 151.38 317 PKP **PKPab 09 40 21.3 +3.4**
PSI Prapat 151.67 316 *e*PKPdf **PKPdf 09 40 04.6 +0.4**
PSI *e*PKPbc **PKiKP 09 40 10.9 -0.1**
PSI *e*PKPab **pPKPdf 09 40 21.0 -0.4**
PSI Prapat 151.67 316 *e*PKIKP **PKPdf 09 40 04.6 +0.4**
PSI *e* 09 40 10.9
PSI *e* 09 40 21.0
KCSI Kotacane, Aceh 151.87 318 PKP **PKPdf 09 40 03.9 -0.5**
MDSI Maura Dua 152.26 296 PKP **PKPdf 09 40 03.3 -1.7**
MDSI PKP **PKPdf 09 40 04.9 -0.1**
KASI Kota Agung 152.51 294 PKP **PKPbc 09 40 12.2 -0.1**
LWLI Liwa 152.64 296 PKP **PKPbc 09 40 11.3 -1.4**
MNSI Mandailing Nat 152.66 312 PKP **PKPdf 09 40 05.4 -0.2**
MNCI Minicoy 152.94 14 *e*PKPdf **PKPdf 09 40 07.5 +1.5**
MNCI *e*PKPbc **PKiKP 09 40 15.0 +1.6**
MASI Maura Aman, Be 153.14 301 PKP **PKPdf 09 40 06.1 -0.2**
MASI PKP **PKPdf 09 40 08.5 +2.2**
GSI Gunungsitoli 153.68 316 *e*PKPdf **PKPdf 09 40 08.6 +1.5**
GSI *e*PKPbc **PKiKP 09 40 15.9 +0.9**
GSI *e*PKPab **pPKPdf 09 40 25.9 +1.7**
GSI Gunungsitoli 153.68 316 PKP **PKPbc 09 40 16.2 +1.3**
PALK Pallekele 154.66 357 P **PKPdf 09 40 09.2 +0.7**

NEIC 15 09:37:15.0±0.0, 60.81N×148.95W, h46km, ML2.8(AEIC), After AEIC., Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTE	**Portage**	**0.07**	**324**	P	Pn	09 37 22.0	-0.2
PWL	**Port Wells**	**0.30**	**81**	P	Pn	09 37 23.5	-0.3
PWL				S	Sn	09 37 30.2	+0.2
KNK	**Knik Glacier**	**0.65**	**21**	P	Pn	09 37 27.0	-0.9
KNK				S	Sn	09 37 37.1	-0.2
FIB	**Fire Island**	**0.70**	**301**	P	Pn	09 37 28.4	-0.2
SEW	**Seward**	**0.75**	**200**	P	Pn	09 37 28.8	-0.5
SEW				S	Sn	09 37 39.4	-0.1
PMR	**Palmer**	**0.79**	**354**	P	Pn	09 37 28.9	-0.9
PMR				S	Sn	09 37 39.7	-0.7
PMR	**Palmer**	**0.79**	**354**	*e*S	Pn	09 37 28.9	-0.9
PMR	**Palmer**	**0.79**	**354**	*e*S	Pn	09 37 28.9	-0.9
GLI	**Glacier Island**	**0.91**	**85**	P	Pn	09 37 30.4	-1.0
GLI				S	Sn	09 37 42.7	-0.7
GHO	**Glory Hole Cre**	**0.96**	**1**	P	Pn	09 37 31.5	-0.7
GHO				S	Sn	09 37 44.7	-0.1
SML	**Sawmill**	**1.04**	**16**	P	Pn	09 37 32.5	-0.7
SUA	**Susitna One**	**1.09**	**308**	P	Pn	09 37 33.3	-0.7
SUA				S	Sn	09 37 47.9	0.0
NKA	**Nikishka**	**1.13**	**267**	P	Pn	09 37 35.5	+1.1
JPK	**Jack Peak**	**1.17**	**77**	P	Pn	09 37 34.3	-0.7
FID	**Port Fidalgo**	**1.21**	**92**	P	Pn	09 37 34.1	-1.4
FID				S	Sn	09 37 49.8	-1.0
HIN	**Hinchinbrook I**	**1.27**	**108**	P	Pn	09 37 35.8	-0.6
SCM	**Sheep Creek Mo**	**1.29**	**37**	P	Pn	09 37 36.2	-0.4
SCM				S	Sn	09 37 53.1	+0.3
BRLK	**Bradley Lake**	**1.43**	**223**	P	Pn	09 37 38.2	-0.3
SPU	**Mount Spurr**	**1.56**	**285**	P	Pn	09 37 39.8	-0.6
SPCG	**Spurr Capps Gl**	**1.57**	**289**	P	Pn	09 37 40.1	-0.5
DIV	**Divide**	**1.58**	**77**	P	Pn	09 37 40.0	-0.6
DIV				S	Sn	09 37 58.8	-1.1
EYAK	**Cordova Ski Ar**	**1.59**	**98**	P	Pn	09 37 40.0	-0.7
CKT	**Bend**	**1.64**	**285**	P	Pn	09 37 40.8	-0.6
SPCR	**Spurr Chakacha**	**1.64**	**285**	P	Pn	09 37 41.0	-0.4
SKT	**Skwentna**	**1.71**	**314**	P	Pn	09 37 41.5	-0.9
RDT	**Redoubt**	**1.72**	**264**	P	Pn	09 37 42.0	-0.5
CNPM	**China Poot**	**1.73**	**223**	P	Pn	09 37 42.1	-0.4
SGAM	**Sherman Glacie**	**1.87**	**98**	P	Pn	09 37 43.5	-1.0
SPNN	**North Nagishla**	**1.91**	**289**	P	Pn	09 37 44.5	-0.7
RDJH	**Redoubt Jeurge**	**1.91**	**265**	P	Pn	09 37 44.7	-0.5
RED	**Redoubt Volcan**	**1.93**	**260**	P	Pn	09 37 44.8	-0.6
RDWB	**Redoubt West**	**1.95**	**262**	P	Pn	09 37 45.2	-0.5
BMRM	**Bremner River**	**2.13**	**84**	P	Pn	09 37 47.1	-1.0
RAGM	**Ragged Mountai**	**2.15**	**100**	P	Pn	09 37 47.3	-1.1
IVE	**Iliamna Volcan**	**2.17**	**250**	P	Pn	09 37 48.1	-0.6
ILS	**Iliamna Low So**	**2.22**	**249**	P	Pn	09 37 49.0	-0.4
DHY	**Denali Highway**	**2.39**	**17**	P	Pn	09 37 51.9	+0.1
HARP	**HAARP**	**2.42**	**47**	P	Pn	09 37 52.2	+0.2
NICHA	**Nichawak Mount**	**2.53**	**101**	P	Pn	09 37 52.1	-1.5
PPLA	**Purkeypile**	**2.60**	**325**	P	Pn	09 37 53.6	-1.0
RND	**Reindeer**	**2.60**	**1**	P	Pn	09 37 54.9	+0.2
AUE	**Augustine Isla**	**2.65**	**239**	P	Pn	09 37 55.1	-0.1
AUL	**Augustine Lava**	**2.67**	**239**	P	Pn	09 37 55.4	0.0
AUW	**Augustine West**	**2.69**	**239**	P	Pn	09 37 55.8	0.0
PAX	**Paxson**	**2.72**	**36**	P	Pn	09 37 56.4	+0.1
TRF	**Thorofare Moun**	**2.72**	**347**	P	Pn	09 37 55.9	-0.4
GRIN	**Grindle Hills**	**2.83**	**98**	P	Pn	09 37 56.2	-1.5

MCK	**McKinley**	**2.93**	**0**	P	Pn	09 37 59.8	+0.7
MCARA	**McCarthy VSAT**	**2.93**	**76**	P	Pn	09 37 58.9	-0.2
WAX	**Waxell Ridge**	**3.02**	**94**	P	Pn	09 37 59.1	-1.3
BARK	**Barkley Ridge**	**3.21**	**95**	P	Pn	09 38 01.9	-1.0
SVW2	**Sparrevohn**	**3.25**	**278**	P	Pn	09 38 01.8	-1.7
WRH	**Wood River Hil**	**3.69**	**6**	P	Pn	09 38 09.4	-0.1
HDA	**Harding Lake**	**3.73**	**13**	P	Pn	09 38 10.8	+0.8
NEA	**Nenana**	**3.78**	**359**	P	Pn	09 38 10.8	+0.1
CCB	**Clear Creek Bu**	**3.88**	**7**	P	Pn	09 38 12.2	+0.1
TT01	**Tatalina**	**3.96**	**305**	P	Pn	09 38 11.7	-1.4
ILB	**Eielson Array**	**4.08**	**12**	P	Pn	09 38 14.9	+0.1
COLA	**College**	**4.11**	**7**	P	Pn	09 38 15.9	+0.8
OHAK	**Old Harbor**	**4.24**	**214**	P	Pn	09 38 15.5	-1.5
CAHL	**Cahill**	**4.26**	**232**	P	Pn	09 38 17.2	-0.2
BM3	**Burnt Mountain**	**6.90**	**14**	P	Pn	09 38 52.6	-0.8

MEX 15 09:39:11.9±0.5, 18°18'N×100°53'W, h47km±4km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.20**	**61**	*eP*	Pn	09 39 18.3	-1.7
ARIG				*eS*	Sn	09 39 24.3	-1.5
PLIG	**Platanillo**	**1.00**	**78**	*eP*	Pn	09 39 27.8	-1.9
PLIG				*i* S	Sn	09 39 40.6	-2.2
ZIIG	**Zihuatanejo**	**1.05**	**237**	*eP*	Pn	09 39 28.8	-1.5
ZIIG				*eS*	Sn	09 39 41.7	-2.1
CAIG	**El Cayaco**	**1.15**	**167**	*eP*	Pn	09 39 30.1	-1.6
CAIG				*i* S	Sn	09 39 43.9	-2.4
UNM	**Universidad Na**	**1.72**	**48**	*eP*	Pn	09 39 38.2	-1.4
UNM				*i* S	Sn	09 39 58.7	-1.9
TLIG	**Tlapa**	**1.97**	**108**	*eP*	Pn	09 39 42.1	-0.9
TLIG				*eS*	Sn	09 40 04.7	-1.9
PNIG	**Pinotepa**	**2.91**	**127**	*i* P	Pn	09 39 54.5	-1.2
PNIG				*i* S	Sn	09 40 28.0	-1.5

IDC 15 09:57:05.9±4.6, 30°83N×41°72W, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.5/60, mbtmp3.6/5, Error ellipse: s-maj=140.8km s-min=39.7km az=168.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**53.01**	**285**	P	P	10 06 24.8	0.0
	0.5nm,1.0s,baz=95,slow=4.5,SNR=3.5						
PDAR	**Pinedale Array**	**54.27**	**303**	P	P	10 06 34.0	-0.1
	0.7nm,0.7s,baz=70,slow=8.0,SNR=7.8						
NVAR	**Mina Array Bea**	**61.81**	**300**	P	P	10 07 26.8	-0.2
	0.4nm,0.6s,baz=62,slow=7.6,SNR=3.6						
ILAR	**Eielson Array**	**68.64**	**334**	P	P	10 08 10.6	+0.1
	0.4nm,0.7s,baz=67,slow=6.9,SNR=3.9						
KURBB	**Kurchatov Arra**	**83.27**	**34**	P	P	10 09 34.3	0.0
	0.6nm,0.8s,baz=310,slow=5.4,SNR=5.8						

IDC 15 10:01:05.9±1.5, 30°94N×41°84W, h0km, mb3.7/9, mb1 4.0/9, mb1mx3.7/50, mbtmp3.7/9, Error ellipse: s-maj=51.9km s-min=19.5km az=6.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**43.74**	**104**	P	P	10 09 13.4	+0.1
	0.6nm,1.1s,baz=294,slow=11,SNR=2.8						
GERES	**GERESS Array B**	**45.15**	**50**	P	P	10 09 24.1	-0.1
	0.6nm,0.7s,baz=270,slow=13,SNR=2.1						
H10N2	**ASCENSION HYDR**	**46.61**	**141**	T	T	10 58 45.4	
	baz=327,slow=75,SNR=14						
H10N3	**ASCENSION HYDR**	**46.61**	**141**	T	T	10 58 47.9	
	baz=327,slow=75,SNR=18						
H10N1	**ASCENSION HYDR**	**46.63**	**141**	T	T	10 58 45.3	
	baz=327,slow=75,SNR=12						
H10S1	**ASCENSION HYDR**	**47.46**	**142**	T	T	11 00 07.9	
	baz=329,slow=74,SNR=3.2						
H10S3	**ASCENSION HYDR**	**47.46**	**142**	T	T	11 00 08.1	
	baz=329						
H10S2	**ASCENSION HYDR**	**47.47**	**142**	T	T	11 00 08.5	
	baz=329,slow=74,SNR=3.4						
TXAR	**Lajitas Array**	**52.88**	**285**	P	P	10 10 23.8	-0.1
	0.4nm,1.0s,baz=81,slow=12,SNR=3.5						
PDAR	**Pinedale Array**	**54.13**	**303**	P	P	10 10 33.0	0.0
	0.7nm,0.7s,baz=74,slow=9.5,SNR=6.1						
AKASG	**Malin Array Be**	**55.10**	**47**	P	P	10 10 39.1	-0.5
	0.4nm,0.3s,baz=277,slow=7.2,SNR=2.6						
BRTR	**Keskin Array B**	**60.54**	**59**	P	P	10 11 18.1	-0.1
	1.4nm,0.9s,baz=311,slow=11,SNR=3.3						
NVAR	**Mina Array Bea**	**61.67**	**300**	P	P	10 11 25.2	-0.8
	0.7nm,0.8s,baz=55,slow=7.8,SNR=4.4						
ILAR	**Eielson Array**	**68.49**	**334**	P	P	10 12 10.2	+0.6
	1.8nm,0.9s,baz=58,slow=4.5,SNR=14						
ZALV	**Zalesovo Beam**	**83.72**	**28**	P	P	10 13 36.5	0.0
	0.4nm,0.3s,baz=308,slow=7.1,SNR=2.5						

*OTT **15** 10:03:39.7±0.5, 49°.05N×128°.98W, h18km, ML2.8/8, 185km southwest from Port Alice, Bc Juan De Fuca-Explorer Seismic Zone.*
*IDC **15** 10:03:44.5±1.3, 49°.41N×128°.25W, h0km, mb3.5/2, mb1 3.7/9, mb1mx3.6/53, mbtmp3.4/9, ML3.3/7, Error ellipse: s-maj=21.2km s-min=8.8km az=61.0*
ISC 15 10:03:42.5±3.7, 49°24'N±0°.06×128°43'W±0°.07, h5km±25km, n26, σ1°85/32, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**1.06**	**53**	PN	**Pb**	**10 04 02.8**	**-0.5**
EDB				SN	**Sn**	**10 04 19.1**	**+0.1**
EDB				Trac		10 04 21.2	
	comp=Z,39nm,0.1s						
ETB	**Estevan Point**	**1.24**	**83**	PN	**Pn**	**10 04 05.3**	**-1.1**
ETB				SN	Sb	10 04 11.0	-12
ETB				Trac		10 04 11.5	
	comp=Z,46nm,0.2s						
PACB	**Port Alice, BC**	**1.34**	**26**	PN	**Pn**	**10 04 06.5**	**-1.3**
PACB				SN	**Sn**	**10 04 25.0**	**-0.9**
WOSB	**Woss**	**1.52**	**52**	PN	**Pn**	**10 04 10.1**	**-0.3**
PHC	**Port Hardy**	**1.60**	**23**	PN	**Pn**	**10 04 10.4**	**-0.9**
PHC				SN	**Sn**	**10 04 32.0**	**-0.4**
PHC				Trac		10 04 34.7	
	comp=Z,33nm,0.2s						
GDR	**Gold River**	**1.65**	**70**	PN	**Pn**	**10 04 11.1**	**-1.0**
GDR				SN	**Sb**	**10 04 35.8**	**+1.4**
GDR				Trac		10 04 37.1	
	comp=Z,38nm,0.4s						
TLCB	**Telegraph Cove**	**1.66**	**38**	PN	**Pn**	**10 04 11.8**	**-0.5**
TLCB				SN	**Sb**	**10 04 34.9**	**+0.1**
TLCB				Trac		10 04 36.6	
	comp=Z,48nm,0.2s						
BTB	**Buttle Lake**	**1.91**	**82**	PN	**Pn**	**10 04 14.9**	**-1.0**
SPLB	**Strathcona Par**	**1.92**	**69**	PN	**Pn**	**10 04 15.6**	**-0.3**
SPLB				SN	**Sn**	**10 04 41.6**	**+1.3**
NCRB	**Newcastle Ridg**	**1.93**	**52**	PN	**Pn**	**10 04 16.3**	**+0.3**
OZB	**Mount Ozzard**	**1.95**	**97**	PN	**Pn**	**10 04 13.9**	**-2.3**
OZB				SN	**Sn**	**10 04 38.3**	**-2.8**
OZB				Trac		10 04 39.6	
	comp=Z,40nm,0.3s						
CBB	**Campbell River**	**2.14**	**67**	PN	**Pn**	**10 04 18.9**	**0.0**
CBB				SN	**Sb**	**10 04 48.3**	**-0.3**
CBB				Trac		10 04 50.0	
	comp=Z,124nm,1.2s						
TXB	**Texada**	**2.64**	**79**	PN	**Pn**	**10 04 25.4**	**-0.4**
TXB				Trac		10 05 06.2	
	comp=Z,27nm,0.6s						
BBB	**Bella Bella**	**2.95**	**4**	Pn	**Pn**	**10 04 29.3**	**-0.7**
	5.5nm,0.3s,baz=190,slow=15,SNR=24						
BBB				Sn	**Sn**	**10 05 03.9**	**-1.9**
	10.0nm,0.3s,baz=294,slow=23,SNR=14						
NEW	**Newport**	**7.54**	**93**	Pn	**Pn**	**10 05 33.9**	**+0.9**
	0.2nm,0.3s,baz=293,slow=17,SNR=2.6						
NEW				Sn	**Sn**	**10 06 58.4**	**-0.4**
	baz=94,slow=20,SNR=1.6						
YBH	**Yreka Blue Hor**	**8.51**	**150**	Pn	Pn	10 05 51.3	+4.8
	0.1nm,0.3s,baz=108,slow=7.6,SNR=2.6						
DLBC	**Dease Lake**	**9.26**	**355**	Pn	**Pn**	**10 05 57.8**	**+1.2**
	0.1nm,0.3s,baz=166,slow=12,SNR=2.1						
NVAR	**Mina Array Bea**	**13.03**	**142**	Pn	**P**	**10 06 55.6**	**-3.4**
	0.1nm,0.3s,baz=332,slow=11,SNR=6.2						
PDAR	**Pinedale Array**	**14.61**	**109**	Pn	**P**	**10 07 14.7**	**-1.8**
	0.1nm,0.3s,baz=304,slow=11,SNR=6.7						
ILAR	**Eielson Array**	**18.41**	**335**	P	**Pn**	**10 07 59.5**	**+1.3**
	0.0nm,0.3s,baz=150,slow=13,SNR=6.0						
ULM	**Lac du Bonnet**	**20.97**	**75**	P	**P**	**10 08 26.4**	**+0.2**
	2.8nm,0.7s,baz=289,slow=8.5,SNR=3.0						
ANMO	**Albuquerque**	**21.57**	**123**	P	**P**	**10 08 39.2**	**+6.2**
	0.7nm,0.8s,baz=298,slow=12,SNR=2.5						
TXAR	**Lajitas Array**	**27.40**	**127**	P	**P**	**10 09 32.1**	**+3.1**
	0.3nm,0.8s,baz=322,slow=12,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**58.83**	**264**	T	T	11 17 03.6	
	baz=44,slow=75,SNR=7.9						
H11N3	**WAKE ISLAND Hy**	**58.83**	**264**	T	T	11 17 02.5	
	baz=44,slow=75,SNR=6.7						
H11N1	**WAKE ISLAND Hy**	**58.85**	**264**	T	T	11 17 07.0	
	baz=44,slow=75,SNR=5.2						

*IDC **15** 10:12:14.3±3.0, 18°.55S×174°.48W, h73km±29km, mb3.6/9, mb1 3.9/11, mb1mx3.7/32, mbtmp4.0/11, Error ellipse: s-maj=34.3km s-min=15.3km az=147.0*
*ISCJB **15** 10:12:18.3±0.7, 18°.7S±0°.2×174°.4W±0°.1, h130km, mb3.5/8, Error ellipse: s-maj=23.8km s-min=13.5km az=165.6*
ISC 15 10:12:20.0±0.8, 18°.7S±0°.1×174°.4W±0°.1, h130km, n11, σ1°92/12, mb3.7/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.40**	**28**	P	Pn	10 13 30.9	-7.7
	5.3nm,0.3s,baz=189,slow=4.6,SNR=22						
AFI				S	Sn	10 14 22.2	-18
	34nm,0.3s,baz=38,slow=23,SNR=16						
RAR	**Rarotonga**	**13.94**	**103**	P	**Pn**	**10 15 31.0**	**-1.0**
	2.6nm,0.3s,baz=276,slow=9.9,SNR=9.1						
URZ	**Urewera**	**20.83**	**199**	P	**P**	**10 16 51.5**	**+0.2**
	3.3nm,0.5s,baz=27,slow=2.3,SNR=3.9						
URZ				S	**S**	**10 20 37.7**	**+1.3**
	7.5nm,1.0s,baz=68,slow=8.4,SNR=3.5						
CTA	**Charters Tower**	**37.11**	**261**	P	**P**	**10 19 16.8**	**-1.4**
	1.2nm,0.4s,baz=83,slow=16,SNR=2.6						
WRA	**Warramunga Arr**	**48.26**	**260**	P	**P**	**10 20 47.0**	**-1.3**
	0.8nm,0.4s,baz=98,slow=6.5,SNR=57						
ASAR	**Alice Springs**	**48.27**	**255**	P	**P**	**10 20 47.7**	**-0.6**
	1.3nm,0.5s,baz=89,slow=8.6,SNR=29						
ASAR				PcP	**PcP**	**10 22 14.0**	**+0.6**
	0.3nm,0.8s,baz=100,slow=4.1,SNR=2.3						
FITZ	**Fitzroy Crossi**	**56.68**	**260**	P	**P**	**10 21 50.8**	**+0.5**
	1.1nm,0.8s,baz=104,slow=8.3,SNR=3.1						
NVAR	**Mina Array Bea**	**77.41**	**42**	P	**P**	**10 24 00.6**	**-0.5**
	0.6nm,0.7s,baz=224,slow=6.2,SNR=4.9						
TXAR	**Lajitas Array**	**83.23**	**56**	P	**P**	**10 24 33.0**	**+0.6**
	0.7nm,1.0s,baz=201,slow=9.1,SNR=4.5						
PDAR	**Pinedale Array**	**85.35**	**42**	P	**P**	**10 24 43.3**	**+0.4**
	0.5nm,0.7s,baz=197,slow=4.5,SNR=4.8						
ILAR	**Eielson Array**	**85.88**	**11**	P	**P**	**10 24 45.9**	**+1.2**
	0.4nm,0.8s,baz=225,slow=6.1,SNR=2.1						

GUC 15 10:19:25.9±0.5, 23°73S×67°65W, h249km±9km, ML3.7, 7C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**1.75**	**287**	⇑*iP*	Pn	10 20 07.7	+1.3
PB15				*i* S	S	10 20 40.0	+1.7
PB15				IAML		10 20 42.2	
	comp=E,309nm,0.5s						
PB06	**IPOC Station P**	**2.04**	**300**	⇑*iP*	Pn	10 20 10.7	+1.8
PB06				*i* S	S	10 20 44.4	+1.6
PB06				IAML		10 20 46.3	
	comp=E,144nm,0.4s						
PB09	**IPOC Station P**	**2.42**	**322**	*eP*	Pn	10 20 14.3	+1.8
PB09				*i* S	S	10 20 51.7	+2.3
PB09				IAML		10 20 53.8	
	comp=N,82nm,0.2s						
PB05	**IPOC Station P**	**2.51**	**290**	⇑*iP*	Pn	10 20 15.6	+2.2
PB05				*i* S	S	10 20 52.5	+1.8
PB03	**IPOC Station P**	**2.56**	**310**	⇑*iP*	Pn	10 20 15.9	+1.9
PB03				*i* S	S	10 20 53.9	+2.0
PB03				IAML		10 20 54.9	
	comp=N,131nm,0.4s						
PB04	**IPOC Station P**	**2.69**	**301**	⇑*iP*	Pn	10 20 17.7	+2.4
PB04				*i* S	S	10 20 56.7	+2.5
PB07	**IPOC Station P**	**2.87**	**314**	⇑*iP*	Pn	10 20 19.3	+2.1
PB07				*i* S	S	10 20 59.7	+2.0
PB07				IAML		10 21 02.5	
	comp=E,151nm,0.2s						
PB02	**IPOC Station P**	**3.17**	**319**	⇑*iP*	Pn	10 20 22.2	+1.8
PB02				*i* S	S	10 21 04.9	+1.4

*ISCJB **15** 10:29:38.9±0.7, 37°.29N±0°.04×37°.10E±0°.05, h2km±8km, Error ellipse: s-maj=8.2km s-min=4.2km az=45.0*
*ISK **15** 10:29:38.3, 37°.33N×37°.11E, h6km, ML2.1/7*
*DDA **15** 10:29:39.0, 37°.31N×37°.14E, h6km, Ml3.0*
ISC 15 10:29:39.0±0.9, 37°30N±0°.03×37°11E±0°.03, h10km±8km, n15, σ0°40/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.15**	**148**	PG	**Pg**	**10 29 42.4**	**0.0**
GAZ				SG	**Sg**	**10 29 45.1**	**+0.4**
KMRS	**Kahramanmaras**	**0.26**	**321**	PG	**Pg**	**10 29 43.8**	**-0.5**
KMRS				SG	**Sg**	**10 29 47.7**	**+0.3**
KUZU	**Kuzuini**	**0.53**	**183**	*i* P	**Pb**	**10 29 50.3**	**0.0**
KUZU				*i* S	**Sn**	**10 30 01.0**	**-0.7**
ANDN	**Andirin**	**0.67**	**295**	*i* P	**Pg**	**10 29 51.9**	**0.0**
ATAB	**Bozova**	**0.96**	**79**	*i* P	**Pg**	**10 29 57.0**	**-0.4**
ATAB				*i* S	**Sb**	**10 30 10.2**	**-0.3**
ELBS	**KAHRAMANMARAS**	**1.02**	**1**	*i* P	**Pn**	**10 29 59.4**	**-0.1**
ELBS				*i* S	**Sn**	**10 30 14.6**	**+0.5**
KOZT	**Kozan**	**1.04**	**280**	PG	**Pg**	**10 29 58.6**	**-0.3**
SAIM	**ADANA**	**1.06**	**310**	*i* P	Pn	10 30 11.6	+12
SAIM				*i* S	**Sb**	**10 30 14.1**	**+0.6**
AKCD	**Akcadag**	**1.18**	**33**	*i* P	**Pb**	**10 30 01.5**	**-0.1**
AKCD				*i* S	**Sn**	**10 30 18.0**	**0.0**
TAHT	**Tahtakopru-Hat**	**1.18**	**219**	PN	**Pg**	**10 30 01.8**	**+0.1**
SURC	**SANLIURFA_SURC**	**1.27**	**109**	*i* P	**Pn**	**10 30 02.8**	**-0.1**
SURC				*i* S	**Sg**	**10 30 19.9**	**-0.1**
DARE	**Darende-Malaty**	**1.30**	**13**	PN	**Pn**	**10 30 03.1**	**-0.3**
URFA	**Urfa**	**1.37**	**84**	PN	**Pn**	**10 30 04.5**	**+0.2**
HEKM	**Malatya_Hekimh**	**1.71**	**23**	*i* P	**Pg**	**10 30 11.7**	**-0.2**
HEKM				*i* S	**Sg**	**10 30 34.9**	**+0.8**
PTK	**Pertek**	**2.40**	**48**	PN	**Pn**	**10 30 19.0**	**+0.4**

IDC 15 10:29:45.8±7.4, 23°60S×176°17W, h272km±87km, mb3.6/4, mb1 3.8/5, mb1mx3.3/36, mbtmp4.3/5, MS4.0/1, Ms1 3.9/1, ms1mx3.2/22, Error ellipse: s-maj=95.6km s-min=46.1km az=139.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.50**	**24**	P	Pn	10 32 10.8	+0.2
	5.2nm,0.3s,baz=171,slow=3.8,SNR=23						
AFI				S	S	10 34 08.6	0.0
	1.1nm,0.3s,baz=223,slow=22,SNR=4.2						
DZM	**Mont Dzumac**	**16.10**	**272**	P	P	10 33 16.3	-0.3
	0.3nm,0.3s,baz=108,slow=9.6,SNR=4.0						
CTA	**Charters Tower**	**34.99**	**268**	P	P	10 36 13.3	+0.4
	5.6nm,0.5s,baz=92,slow=11,SNR=9.4						
STKA	**Stephens Creek**	**38.09**	**248**	P	P	10 36 37.9	-1.0
	1.1nm,0.5s,baz=103,slow=14,SNR=6.2						
STKA				LR	LR	10 51 30.4	
	comp=Z,255nm,21.8s,baz=35,slow=34						
ASAR	**Alice Springs**	**45.54**	**259**	P	P	10 37 39.4	+0.4
	2.7nm,0.7s,baz=97,slow=8.3,SNR=32						
WRA	**Warramunga Arr**	**45.93**	**265**	P	P	10 37 41.7	-0.4
	1.5nm,0.5s,baz=100,slow=8.0,SNR=51						

*IDC **15** 10:30:47.0±1.9, 14°.10N×92°.56W, h0km, mb3.5/3, mb1 3.7/7, mb1mx3.5/43, mbtmp3.3/7, ML3.0/4, Error ellipse: s-maj=31.1km s-min=14.2km az=10.0*
*ISCJB **15** 10:30:49.3±1.7, 14°.13N±0°.07×92°.47W±0°.09, h32km±11km, mb3.6/3, Error ellipse: s-maj=15.9km s-min=9.1km az=146.3*
*MEX **15** 10:30:52.4±0.5, 14°.20N×92°.54W, h10km, MD3.9*
ISC 15 10:30:49.8±2.4, 14°18N±0°.09×92°50W±0°.07, h17km±12km, n11, σ1°95/17, mb3.6/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.76**	**17**	*eP*	**Pg**	**10 31 04.6**	**-0.1**
THIG				*eS*	**Sg**	**10 31 14.9**	**+0.1**
PCIG		**1.67**	**336**	*eP*	**Pn**	**10 31 17.3**	**-0.9**
PCIG				*i* S	**Sn**	**10 31 37.8**	**-1.5**
CCIG	**Comitan**	**2.12**	**9**	*i* P	**Pn**	**10 31 25.0**	**+0.3**
CCIG				*i* S	**Sn**	**10 31 49.7**	**-1.0**
APG	**El Apazote**	**2.13**	**67**	Pn	**Pn**	**10 31 24.7**	**-0.2**
	2.7nm,0.3s,baz=246,slow=10,SNR=18						
APG				Sn	**Sb**	**10 31 55.0**	**+0.5**
	5.3nm,0.3s,baz=319,slow=17,SNR=3.4						
APG				Lg	Lg	10 31 58.3	
	8.0nm,0.3s,baz=320,slow=19,SNR=6.6						
TGIG		**2.66**	**347**	*eP*	**Pn**	**10 31 32.3**	**+0.4**
TGIG				*i* S	**Sn**	**10 32 03.1**	**-0.6**
CMIG	**Matias Romero**	**3.70**	**322**	Pn	**Pn**	**10 31 45.0**	**-1.2**
	0.4nm,0.3s,baz=140,slow=16,SNR=7.8						
CMIG				Sn	**Sn**	**10 32 31.3**	**+1.9**
	2.4nm,0.3s,baz=74,slow=19,SNR=4.3						
CMIG				Lg	Lg	10 32 44.7	
	2.5nm,0.3s,baz=43,slow=14,SNR=4.5						
JTS	**JuntasAbangare**	**8.33**	**117**	Pn	**Pn**	**10 32 49.3**	**-0.5**
	0.4nm,0.3s,baz=267,slow=23,SNR=2.1						
TXAR	**Lajitas Array**	**18.28**	**327**	P	**P**	**10 35 04.5**	**+1.5**
	0.0nm,0.3s,baz=147,slow=12,SNR=3.1						
NVAR	**Mina Array Bea**	**33.23**	**321**	P	**P**	**10 37 27.0**	**+0.7**
	0.3nm,0.6s,baz=135,slow=9.0,SNR=3.1						
YKA	**Yellowknife Ar**	**50.74**	**347**	P	**P**	**10 39 47.4**	**-1.1**
	1.2nm,0.7s,baz=140,slow=8.2,SNR=3.7						
ILAR	**Eielson Array**	**62.49**	**337**	P	**P**	**10 41 12.4**	**+0.3**
	0.4nm,0.9s,baz=94,slow=7.3,SNR=3.1						

*ISCJB **15** 10:40:25.6±0.5, 15°.23N±0°.04×93°.25W±0°.04, h78km±4km, mb4.2/39, Error ellipse: s-maj=9.2km s-min=3.0km az=43.0*
*MEX **15** 10:40:26.3±0.4, 15°.15N×93°.27W, h74km±4km, MD3.9*
*UCR **15** 10:40:26.5±1.7, 15°.86N×92°.88W, h20km±999km, ML4.0, mb4.2(NEIC)*
*NEIC **15** 10:40:26.2±0.0, 15°.13N×93°.30W, h71km, mb4.2/45, MD3.9(MEX), After MEX.*
NEIC Felt at Mapastepec.
*IDC **15** 10:40:26.1±0.8, 15°.06N×93°.33W, h83km±6km, mb3.7/12, mb1 4.0/16, mb1mx3.8/40, mbtmp4.1/16, MS3.8/4, Ms1 3.8/4, ms1mx3.3/42, Error ellipse: s-maj=19.3km s-min=6.9km az=35.0*
ISC 15 10:40:25.9±0.6, 15°21N±0°.06×93°23W±0°.06, h79km±4km, h79km:pP-P, n126, σ1°80/157, mb4.2/40, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.49**	**2**	*e*Pn	**Pn**	**10 40 38.6**	**-0.9**
PCIG		**0.49**	**2**	*eP*	**Pn**	**10 40 38.7**	**-0.9**
PCIG				*eS*	**Sn**	**10 40 48.5**	**-1.1**
THIG		**0.98**	**108**	*e*Pn	**Pn**	**10 40 43.6**	**-1.1**
THIG				*e*Sn	**Sn**	**10 40 57.1**	**-1.6**
THIG		**0.98**	**108**	*eP*	**Pn**	**10 40 43.6**	**-1.1**
THIG				*i* S	**Sn**	**10 40 57.1**	**-1.6**
CCIG	**Comitan**	**1.50**	**44**	*e*Pn	**Pn**	**10 40 51.8**	**+0.4**
CCIG				*e*Sn	**Sn**	**10 41 10.5**	**-0.1**
CCIG	**Comitan**	**1.50**	**44**	*eP*	**Pn**	**10 40 51.7**	**+0.3**
CCIG				*i* S	**Sn**	**10 41 10.3**	**-0.3**
TGIG		**1.56**	**4**	*e*Pn	**Pn**	**10 40 51.6**	**-0.6**
TGIG		**1.56**	**4**	*eP*	**Pn**	**10 40 51.6**	**-0.6**
TGIG				*i* S	**Sn**	**10 41 11.5**	**-0.4**
CMIG	**Matias Romero**	**2.46**	**320**	P	**Pn**	**10 41 03.5**	**-0.4**
	27nm,0.3s,baz=147,slow=14,SNR=126						
CMIG				S	**Sn**	**10 41 35.4**	**+2.3**
	122nm,0.3s,baz=54,slow=9.8,SNR=12						
CMIG				LR	LR	10 42 15.8	
	comp=Z,570nm,18.5s,baz=78,slow=44						
APG	**El Apazote**	**2.68**	**94**	P	**Pn**	**10 41 07.6**	**+0.4**
	14nm,0.3s,baz=332,slow=13,SNR=88						
APG				S	**Sn**	**10 41 42.7**	**+3.8**
	41nm,0.3s,baz=334,slow=15,SNR=5.5						
APG				LR	LR	10 42 10.8	
	comp=Z,466nm,21.5s,baz=300,slow=38						
RTR	**El Retiro**	**3.71**	**110**	*eP*	**Pn**	**10 41 23.1**	**+2.0**
SBLS	**San Blas**	**3.75**	**111**	*eP*	**Pn**	**10 41 24.3**	**+2.5**
CEVE	**Cerro Verde**	**3.75**	**111**	*eP*	**Pn**	**10 41 23.9**	**+2.1**
CEVE				*e*S	**Sn**	**10 42 09.3**	**+4.3**
CEVE				IAML		10 42 21.9	
	comp=Z,2μm,0.4s						
MTO3	**Montecristo**	**3.83**	**102**	*eP*	**Pn**	**10 41 23.4**	**+0.6**
BOQS	**Boqueron**	**4.10**	**110**	*eP*	**Pn**	**10 41 29.3**	**+2.9**
BOQS				*e*S	**Sn**	**10 42 17.1**	**+3.7**
UEES	**San Salvador**	**4.13**	**110**	*eP*	**Pn**	**10 41 28.5**	**+1.7**
UEES				*e*S	**Sn**	**10 42 16.7**	**+2.7**
UEES				IAML		10 42 27.0	
	comp=Z,338nm,0.4s						
SNET	**Serv Nac Est T**	**4.16**	**111**	*e*Pn	**Pn**	**10 41 27.4**	**+0.3**
SNET	**Serv Nac Est T**	**4.16**	**111**	*e*S	**Sn**	**10 42 17.4**	**+2.8**
SNET				IAML		10 42 28.2	
	comp=Z,469nm,0.7s						
OPAM	**San Salvador**	**4.18**	**110**	*e*S	**Sn**	**10 42 18.7**	**+3.6**
OPAM				IAML		10 42 36.8	
	comp=Z,486nm,0.3s						
LFU	**La Fuente**	**4.25**	**109**	*eP*	**Pn**	**10 41 29.6**	**+1.2**
LVIG	**Laguna Verde**	**5.42**	**326**	*e*Pn	**Pn**	**10 41 43.5**	**-0.7**
LVIG				*e*Sn	**Sn**	**10 42 42.7**	**-2.7**
LCND	**La Ca˜ada**	**5.51**	**109**	*eP*	**Pn**	**10 41 48.8**	**+3.2**
TLIG	**Tlapa**

PBMO				*e*pP		**pP**	10 45 26.8	+1.1
CHIC	**Chingaza**	**21.87**	**117**	*e*P		**P**	10 45 13.0	+0.1
TKL	**Tuckaleechee C**	**22.06**	**21**	P		**P**	10 45 15.9	+1.6
	comp=Z,4.3nm,0.9s,baz=187,slow=13,SNR=4.2							
TKL	**Tuckaleechee C**	**22.06**	**21**	*e*P		**P**	10 45 15.9	+1.6
	comp=Z,6.1nm,1.0s							
BANI	**BANI**	**22.12**	**79**	*e*P		**P**	10 45 12.9	-2.4
SJAC	**San Juan de Ar**	**22.39**	**120**	*e*P		**P**	10 45 20.4	+2.2
BNM	**Barren Site**	**22.40**	**330**	*e*P		**P**	10 45 18.8	+0.5
LPM	**Los Pinos Moun**	**22.54**	**330**	*e*P		**P**	10 45 20.3	+0.6
LENM	**Lemitar**	**22.59**	**329**	*e*P		**P**	10 45 21.4	+1.2
LAZ	**Ladron**	**22.86**	**329**	*e*P		**P**	10 45 23.3	+0.3
SDV	**Santo Domingo**	**22.96**	**103**	P		**P**	10 45 24.8	+0.6
	comp=Z,2.9nm,0.4s,baz=294,slow=11,SNR=3.3							
ANMO	**Albuquerque**	**22.97**	**331**	P		**P**	10 45 25.0	+0.8
	comp=Z,3.3nm,0.8s,baz=141,slow=12,SNR=19							
ANMO				pP		**pP**	10 45 42.2	+1.8
	comp=Z,2.0nm,0.7s,baz=145,slow=12,SNR=3.8							
TUC	**Tucson**	**23.35**	**320**	*e*P		**P**	10 45 29.2	+1.6
	comp=Z,7.1nm,0.9s							
OLIL	**Olney**	**23.87**	**10**	*e*P		**P**	10 45 34.8	+2.7
	comp=Z,9.4nm,0.7s							
SDCO	**Great Sand Dun**	**24.94**	**336**	*e*P		**P**	10 45 43.7	+1.5
	comp=Z,3.4nm,1.0s							
X16A	**Lo Mia Camp, P**	**25.20**	**323**	*e*P		**P**	10 45 46.4	+1.8
	comp=Z,2.2nm,0.8s							
X16A				*e*pP		**pP**	10 46 05.0	+2.3
MVCO	**Mesa Verde**	**25.77**	**331**	*e*P		**P**	10 45 51.5	+1.8
TCUT	**Toone Canyon**	**30.25**	**332**	*e*P		**P**	10 46 30.9	+1.2
	comp=Z,14nm,1.1s							
HWUT	**Hardware Ranch**	**30.72**	**332**	*e*P		**P**	10 46 34.7	+1.1
	comp=Z,3.3nm,1.1s							
PDAR	**Pinedale Array**	**30.84**	**336**	P		**P**	10 46 34.7	-0.1
	comp=Z,0.6nm,0.7s,baz=117,slow=8.5,SNR=6.5							
PDAR				pP		**pP**	10 46 56.3	+3.1
	comp=Z,0.3nm,0.7s,baz=144,slow=9.4,SNR=2.4							
PDAR				PcP		**PcP**	10 49 29.7	-0.4
	comp=Z,0.4nm,0.5s,baz=139,slow=5.6,SNR=2.8							
HVU	**Hansel Valley**	**31.40**	**331**	*e*P		**P**	10 46 41.6	+1.9
	comp=Z,4.1nm,0.8s							
REDW	**Red Top Meadow**	**31.85**	**335**	*e*P		**P**	10 46 45.1	+1.4
	comp=Z,13nm,0.9s							
SNOW	**Snow King Moun**	**31.89**	**335**	*e*P		**P**	10 46 45.3	+1.2
	comp=Z,19nm,0.7s							
NV11	**Mina Array Sit**	**31.90**	**321**	*e*P		**P**	10 46 46.0	+1.9
	comp=Z,0.5nm,1.0s							
LOHW	**Long Hollow**	**31.96**	**336**	*e*P		**P**	10 46 45.5	+0.9
	comp=Z,4.8nm,0.7s							
MDPB	**Devils Postpil**	**31.97**	**319**	*e*P		**P**	10 46 47.0	+2.1
	comp=Z,2.9nm,0.9s							
NV01	**Mina Array Sit**	**31.99**	**321**	*e*P		**P**	10 46 46.7	+1.8
NV01				*e*pP		**pP**	10 47 06.2	+2.8
NV01				*e*PcP		**PcP**	10 49 34.3	+1.0
NVAR	**Mina Array Bea**	**31.99**	**321**	P		**P**	10 46 47.1	+2.2
	comp=Z,3.9nm,0.7s,baz=132,slow=7.7,SNR=34							
NVAR				pP		**pP**	10 47 06.2	+2.8
	comp=Z,1.8nm,0.7s,baz=136,slow=8.7,SNR=4.7							
NVAR				PcP		**PcP**	10 49 34.3	+1.0
	comp=Z,0.7nm,0.8s,baz=123,slow=5.3,SNR=3.7							
TPAW	**Teton Pass**	**32.00**	**335**	*e*P		**P**	10 46 46.4	+1.4
	comp=Z,7.6nm,0.9s							
MOOW	**Moose Ponds**	**32.13**	**336**	*e*P		**P**	10 46 47.2	+1.0
	comp=Z,3.6nm,0.8s							
FXWY	**Fox Creek**	**32.15**	**335**	*e*P		**P**	10 46 47.5	+1.2
	comp=Z,3.3nm,0.8s							
KVN	**Kaiserville**	**32.26**	**322**	*e*P		**P**	10 46 48.8	+1.5
	comp=Z,5.3nm,1.2s							
IMW	**Indian Meadow**	**32.33**	**336**	*e*P		**P**	10 46 49.0	+1.0
	comp=Z,2.9nm,0.7s							
FLWY	**Flagg Ranch**	**32.39**	**336**	*e*P		**P**	10 46 49.8	+1.3
	comp=Z,4.4nm,0.8s							
YMR	**Madison River**	**32.99**	**336**	*e*P		**P**	10 46 55.4	+1.8
	comp=Z,5.0nm,0.8s							
HLID	**Hailey**	**33.55**	**332**	*e*P		**P**	10 46 60.0	+1.5
	comp=Z,3.7nm,1.0s							
HLID				*e*pP		**pP**	10 47 18.6	+1.5
MCMT	**McKenzie Canyo**	**33.87**	**335**	*e*P		**P**	10 47 03.6	+2.3
BEKR	**Beckworth**	**34.13**	**321**	*e*P		**P**	10 47 05.8	+2.3
	comp=Z,3.3nm,1.0s							
DLMT	**Dillon**	**34.21**	**335**	*e*P		**P**	10 47 05.9	+1.8
	comp=Z,7.8nm,1.1s							
J08A	**Circle Bar Ran**	**35.39**	**328**	*e*P		**P**	10 47 15.6	+1.3
	comp=Z,8.3nm,0.7s							
F10A	**Beach Ranch, E**	**36.69**	**332**	*e*P		**P**	10 47 26.1	+0.8
	comp=Z,7.7nm,0.7s							
SAML	**Samuel**	**38.25**	**127**	*e*P		**P**	10 47 36.3	-2.4
	comp=Z,3.3nm,0.6s							
C09A	**Chrisman Ranch**	**38.53**	**333**	*e*P		**P**	10 47 41.7	+0.9
	comp=Z,4.1nm,0.7s							
LPAZ	**La Paz**	**39.92**	**141**	P		**P**	10 47 52.9	-0.5
	comp=Z,0.9nm,0.7s,baz=342,slow=4.1,SNR=4.1							
YKA	**Yellowknife Ar**	**49.59**	**347**	P		**P**	10 49 08.6	-0.3
	comp=Z,1.4nm,0.7s,baz=151,slow=7.3,SNR=4.9							
YKA				pP		**pP**	10 49 28.5	+0.1
	comp=Z,0.7nm,0.6s,baz=152,slow=7.5,SNR=2.7							
CPUP	**Villa Florida**	**54.07**	**139**	P		**P**	10 49 41.4	-1.3
	comp=Z,1.8nm,0.6s,baz=321,slow=7.3,SNR=4.3							
BDFB	**Brasilia**	**54.12**		P		**P**	10 49 42.9	-0.9
	comp=Z,3.1nm,0.7s,baz=332,slow=6.9,SNR=4.9							
INK	**Inuvik**	**58.95**	**344**	*e*P		**P**	10 50 16.9	+0.2
	comp=Z,6.5nm,0.8s							
PLCA	**Paso Flores**	**59.51**	**160**	P		**P**	10 50 18.8	-2.2
	comp=Z,1.9nm,0.8s,baz=339,slow=9.6,SNR=3.6							
PLCA	**Paso Flores**	**59.51**	**160**	*e*P		**P**	10 50 18.8	-2.2
	comp=Z,5.0nm,1.1s							
IL1	**Eielson Array**	**61.27**	**337**	*e*P		**P**	10 50 32.3	-0.3
IL1				*e*pP		**pP**	10 50 52.1	-0.7
ILAR	**Eielson Array**	**61.27**	**337**	P		**P**	10 50 32.5	-0.1
	comp=Z,1.1nm,0.6s,baz=130,slow=5.5,SNR=18							
ILAR				pP		**pP**	10 50 52.5	-0.4
	comp=Z,1.8nm,1.0s,baz=125,slow=4.2,SNR=8.2							
ILB	**Eielson Array**	**61.27**	**337**	*e*P		**P**	10 50 33.4	+0.7
ILB				*e*pP		**pP**	10 50 52.5	-0.4
RAR	**Rarotonga**	**74.64**	**243**	LR		LR	11 18 25.2	
	comp=Z,85nm,20.6s,baz=132,slow=31							
ARA0	**ARCESS Array S**	**85.37**	**18**	*e*P		**P**	10 52 53.9	-0.3
ARCES	**ARCESS Array B**	**85.37**	**18**	P		**P**	10 52 53.9	-0.3
	comp=Z,0.7nm,0.6s,baz=303,slow=5.0,SNR=4.3							
TORD	**Torodi Ar. Bea**	**91.25**	**76**	LR		LR	11 31 02.5	
	comp=Z,288nm,21.8s,baz=320,slow=33							
MK32	**Makanchi Array**	**118.16**	**3**	*e*PKPdf		**PKPdf**	10 59 03.4	-0.8
MKAR	**Makanchi Array**	**118.16**	**3**	PKP		**PKPdf**	10 59 03.4	-0.8
	comp=Z,1.3nm,1.1s,baz=343,slow=4.5,SNR=2.7							
KSH	**Kashi**	**124.64**	**10**	*e*PKP		**PKPdf**	10 59 13.1	-3.9
LZH	**Lanzhou**	**126.49**	**343**	*e*PKP		**PKPdf**	10 59 18.1	-2.5
LZH				pPKP		pPKPdf	10 59 43.0	+0.1
LZH				sPKP			10 59 54.9	
STKA	**Stephens Creek**	**127.60**	**241**	PKP		**PKPdf**	10 59 22.7	+0.2
	comp=Z,0.7nm,0.6s,baz=237,slow=18,SNR=2.6							
WR1	**Warramunga Arr**	**134.52**	**257**	*e*PKPdf		**PKPdf**	10 59 35.9	-0.1
WRA	**Warramunga Arr**	**134.52**	**257**	PKP		**PKPdf**	10 59 35.9	-0.1
	comp=Z,0.6nm,0.7s,baz=79,slow=1.7,SNR=12							
ASAR	**Alice Springs**	**134.93**	**252**	PKP		**PKPdf**	10 59 36.6	-0.1
	comp=Z,0.4nm,0.7s,baz=102,slow=3.9,SNR=3.6							
CMAR	**Chiang Mai Arr**	**144.46**	**340**	PKP		**PKPab**	10 59 52.4	-0.1
	comp=Z,2.8nm,0.9s,baz=336,slow=3.6,SNR=17							

Ms1 3.9/2, ms1mx3.1/39, Error ellipse: s-maj=31.5km s-min=16.0km az=175.0
*MEX **15** 10:50:11.5±0.7, 14.00N×92.58W, h19km±29km, MD3.9*
ISC 15 10:50:05.5±2.8, **14.02N**±0.09×**92.23W**±0.1, **h8**km±18km, **n16, σ1§40/21, mb3.6/6, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.88**	**2**	*i* P		**Pn**	**10 50 26.9**	**+2.7**
THIG				*i* S		**Sn**	**10 50 37.5**	**+0.2**
PCIG		**1.90**	**332**	*e*P		**Pn**	**10 50 37.9**	**-0.3**
PCIG				*i* S		**Sn**	**10 51 00.5**	**-1.8**
APG	**El Apazote**	**2.03**	**61**	Pn		**Pg**	**10 50 43.8**	**-0.7**
	6.3nm,0.3s,baz=211,slow=8.7,SNR=48							
APG				Sn		**Sg**	**10 51 12.1**	**+1.3**
	4.3nm,0.3s,baz=359,slow=9.8,SNR=3.0							
APG				Lg		Lg	10 51 17.3	
	8.6nm,0.3s,baz=355,slow=11,SNR=7.1							
CCIG	**Comitan**	**2.25**	**4**	*e*P		**Pb**	**10 50 45.7**	**-0.9**
CCIG				*i* S		**Sb**	**10 51 13.3**	**-1.5**
TGIG		**2.85**	**344**	*e*P		**Pn**	**10 50 53.5**	**+2.0**
TGIG				*i* S		**Sn**	**10 51 25.2**	**-0.9**
CMIG	**Matias Romero**	**3.94**	**321**	Pn		**Pn**	**10 51 05.7**	**-0.6**
	0.7nm,0.3s,baz=160,slow=14,SNR=12							
CMIG				Sn		**Sn**	**10 51 54.4**	**+1.6**
	3.6nm,0.3s,baz=140,slow=7.4,SNR=5.2							
JTS	**JuntasAbangare**	**8.08**	**116**	Pn		**Pn**	**10 52 02.0**	**-1.3**
	0.6nm,0.3s,baz=330,slow=13,SNR=3.1							
TXAR	**Lajitas Array**	**18.52**	**327**	P		**Pn**	**10 54 23.6**	**+0.9**
	0.0nm,0.3s,baz=144,slow=16,SNR=2.2							
TKL	**Tuckaleechee C**	**22.87**	**18**	P		**P**	**10 55 10.2**	**+0.6**
	5.7nm,0.9s,baz=193,slow=9.4,SNR=5.3							
TKL				LR		LR	11 04 44.8	
	comp=Z,266nm,21.1s,baz=50,slow=38							
ANMO	**Albuquerque**	**24.44**	**331**	P		**P**	**10 55 25.5**	**+0.4**
	0.8nm,0.7s,baz=155,slow=12,SNR=5.8							
PDAR	**Pinedale Array**	**32.28**	**336**	P		**P**	**10 56 35.3**	**+0.2**
	0.4nm,0.8s,baz=68,slow=32,SNR=3.5							
NVAR	**Mina Array Bea**	**33.47**	**321**	P		**P**	**10 56 46.5**	**+0.9**
	0.5nm,0.6s,baz=141,slow=9.6,SNR=4.2							
LPAZ	**La Paz**	**38.44**	**141**	LR		LR	11 13 22.5	
	comp=Z,133nm,21.7s,baz=40,slow=36							
YKA	**Yellowknife Ar**	**50.94**	**347**	P		**P**	**10 59 07.6**	**+0.4**
	1.3nm,0.7s,baz=136,slow=9.2,SNR=5.5							
ILAR	**Eielson Array**	**62.71**	**337**	P		**P**	**11 00 30.5**	**-0.3**
	0.4nm,0.9s,baz=98,slow=5.6,SNR=3.7							
CMAR	**Chiang Mai Arr**	**145.88**	**341**	PKPbc		**PKPdf**	**11 09 43.6**	**-2.4**
	0.8nm,0.5s,baz=349,slow=3.5,SNR=4.6							

*ISK **15** 11:04:06.7, 38.76N×26.67E, h6km, ML2.5/6*
*ISCJB **15** 11:04:07.4±0.5, 38.77N±0.03×26.64E±0.05, h6km±5km, Error ellipse: s-maj=6.7km s-min=4.3km az=3.7*
*DDA **15** 11:04:07.6, 38.73N×26.68E, h7km, Ml2.6*
ISC 15 11:04:07.2±1.0, **38.76N**±0.03×**26.66E**±0.04, **h9**km±6km, **n17, σ0§45/28, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FOCM	**Fo˜§a**	**0.07**	**127**	PG		**Pg**	**11 04 08.9**	**-0.4**
FOCM				SG		**Sg**	**11 04 10.7**	**-0.1**
KRBN	**Karaburun**	**0.18**	**207**	PG		**Pg**	**11 04 11.3**	**+0.3**
KRBN				SG		**Sg**	**11 04 14.7**	**+1.1**
DKL	**Dikili**	**0.37**	**32**	PG		**Pg**	**11 04 13.9**	**-0.6**
URLA	**Izmir**	**0.40**	**187**	PG		**Pg**	**11 04 15.4**	**+0.3**
URLA				SG		**Sb**	**11 04 21.8**	**-0.9**
URLA	**Izmir**	**0.40**	**187**	*i* P		**Pb**	**11 04 16.0**	**-0.5**
URLA				*i* S		**Sb**	**11 04 22.9**	**+0.2**
AYVA	**Ayvalik**	**0.55**	**3**	*i* P		**Pg**	**11 04 18.3**	**+0.4**
AYVA				*i* S		**Sb**	**11 04 27.8**	**+0.7**
CHOS	**Chios island**	**0.60**	**232**	PG		**Pg**	**11 04 18.9**	**+0.1**
GMLD	**Gumuldur**	**0.71**	**163**	PG		**Pg**	**11 04 21.1**	**+0.2**
DGB	**˜zmir**	**0.73**	**166**	*i* P		**Pb**	**11 04 22.1**	**0.0**
DGB				*i* S		**Sb**	**11 04 31.7**	**-0.4**
SIGR	**SIGRI**	**0.77**	**306**	PG		**Pg**	**11 04 21.9**	**-0.2**
AKHS	**Akhisar**	**0.91**	**82**	*i* P		**Pn**	**11 04 25.8**	**-0.4**
AKHS				*i* S		**Sb**	**11 04 37.7**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.03**	**53**	*i* P		**Pb**	**11 04 27.2**	**-0.1**
STEP				*i* S		**Sn**	**11 04 42.5**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.26**	**129**	PN		**Pb**	**11 04 31.3**	**0.0**
AYDN	**Tasoluk**	**1.46**	**138**	*i* P		**Pn**	**11 04 33.4**	**-0.4**
AYDN				*i* S		**Sg**	**11 04 54.3**	**+0.2**
MANT	**Manisa**	**1.51**	**100**	*i* P		**Pg**	**11 04 36.9**	**+0.6**
MANT				*i* S		**Sg**	**11 04 55.8**	**-0.1**
KULA	**Kula-Manisa**	**1.59**	**98**	PN		**Pn**	**11 04 35.9**	**+0.3**
DURS	**Dursunbey**	**1.64**	**59**	*i* P		**Pn**	**11 04 36.4**	**0.0**
DURS				*i* S		**Sn**	**11 04 57.6**	**-0.1**

MEX 15 11:10:52.4±0.5, **18.24N**×**100.57W, h55**km±5km, **MD3.5, Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.21**	**80**	*e*P		Pn	11 10 59.8	-1.6
ARIG				*e*S		Sn	11 11 06.1	-1.7
MEIG	**Mezcala**	**0.95**	**109**	*e*S		Sn	11 11 20.6	-1.9
PLIG	**Platanillo**	**1.02**	**81**	*e*P		Pn	11 11 09.4	-1.2
PLIG				*i* S		Sn	11 11 22.0	-2.1

*ISCJB **15** 11:16:57.9±0.8, 30.21N±0.09×138.8E±0.2, h450km, mb3.2/4, Error ellipse: s-maj=24.4km s-min=10.4km az=166.8*
*IDC **15** 11:16:58.6±1.0, 30.18N×138.70E, h432km±12km, mb2.9/4, mb1 3.1/7, mb1mx2.8/59, mbtmp3.8/7, Error ellipse: s-maj=36.2km s-min=12.2km az=85.0*
ISC 15 11:16:59.2±1.0, **30.2N**±0.1×**139.0E**±0.2, **h450**km, **n7, σ1§29/9, mb3.1/4, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**2.97**	**14**	P		**P**	**11 18 05.9**	**0.0**
	11nm,0.3s,baz=106,slow=21,SNR=5.4							
JHJ				S		**S**	**11 18 58.9**	**-1.4**
	8.7nm,0.3s,baz=86,slow=19,SNR=2.1							
JCJ	**Chichijima**	**4.22**	**137**	P		**P**	**11 18 16.2**	**-0.2**
	6.5nm,0.3s,baz=283,slow=22,SNR=1.7							
JCJ				S		**S**	**11 19 17.8**	**-1.2**
	16nm,0.3s,baz=285,slow=23,SNR=3.5							
MJAR	**Matsushiro Arr**	**6.33**	**355**	P		**P**	**11 18 35.8**	**-1.0**
	0.6nm,0.3s,baz=175,slow=10,SNR=6.2							
WRA	**Warramunga Arr**	**50.07**	**186**	P		**P**	**11 25 11.7**	**+0.3**
	0.6nm,0.4s,baz=1.8,slow=8.1,SNR=29							
ASAR	**Alice Springs**	**53.80**	**186**	P		**P**	**11 25 39.1**	**+0.7**
	0.4nm,0.5s,baz=16,slow=12,SNR=11							
ILAR	**Eielson Array**	**56.38**	**30**	P		**P**	**11 25 58.1**	**+2.2**
	0.3nm,0.7s,baz=271,slow=6.1,SNR=5.3							
FINES	**FINESS Array B**	**73.88**	**333**	P		**P**	**11 27 46.1**	**-0.6**
	1.9nm,0.8s,baz=46,slow=4.0,SNR=3.6							

*BJI **15** 11:20:29.1, 52.59N×160.85E, h15km, mb4.6/9, mB4.9/6*
*KRSC **15** 11:20:30.1±1.9, 52.63N×161.20E, h44km±23km, ML4.6*
*IDC **15** 11:20:30.3±0.6, 52.90N×160.71E, h0km, mb4.3/31, mb1 4.4/35, mb1mx4.3/65, mbtmp4.3/35, ML4.1/3, Error ellipse: s-maj=14.6km s-min=10.9km az=144.0*
*MOS **15** 11:20:34.4±1.1, 52.78N×160.78E, h50km, mb4.8/26, Error ellipse: s-maj=6.5km s-min=4.1km az=99.7*
*NEIC **15** 11:20:34.5±1.4, 52.92N×160.68E, h27km±10km, mb4.4/52, Error ellipse: s-maj=4.7km s-min=3.0km az=161.0*
ISC 15 11:20:32.7±0.6, **52.74N**±0.04×**160.99E**±0.04, **h22**km±4km, **n288, σ1§52/317, mb4.5**/92, **8C-6D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.68**	**302**	*e*P		**Pb**	**11 20 45.3**	**-0.6**
SPN				*e*S		**Sb**	**11 20 55.2**	**+0.3**
SPN	**Mys Shipunski**	**0.68**	**302**	PN		**Pb**	**11 20 45.3**	**-0.6**
SPN				S		**Sb**	**11 20 55.2**	**+0.3**
NLC	**Nalytchevo**	**1.08**	**294**	*e*P		**Pn**	**11 20 51.3**	**-1.2**
NLC	**Nalytchevo**	**1.08**	**294**	PN		**Pn**	**11 20 51.3**	**-1.2**
SDLR	**Sedlovina**	**1.38**	**294**	*e*P		**Pn**	**11 20 56.4**	**-0.3**
SDLR	**Sedlovina**	**1.38**	**294**	PN		**Pn**	**11 20 56.4**	**-0.3**
DALK	**Dalny**	**1.38**	**283**	*e*P		**Pn**	**11 20 56.5**	**-0.1**
DALK				*e*S		**Sn**	**11 21 15.1**	**+0.9**
DALK	**Dalny**	**1.38**	**283**	PN		**Pn**	**11 20 56.5**	**-0.1**
DALK				S		**Sn**	**11 21 15.1**	**+0.9**
UGLR	**Uglovaya**	**1.39**	**290**	*e*P		**Pb**	**11 20 58.3**	**+0.4**
UGLR	**Uglovaya**	**1.39**	**290**	PN		**Pb**	**11 20 58.3**	**+0.4**
SMAR	**Somma**	**1.42**	**292**	*e*P		**Pn**	**11 20 57.6**	**+0.2**
SMAR	**Somma**	**1.42**	**292**	PN		**Pn**	**11 20 57.6**	**+0.2**
PET	**Petropavlovsk**	**1.44**	**282**	*e*Pn		**Pn**	**11 20 56.2**	**-1.2**
PET	**Petropavlovsk**	**1.44**	**282**	*e*PN		**Pn**	**11 20 57.6**	**+0.2**
PET				*e*S		**Sn**	**11 21 16.8**	**+1.1**
PET				pmax	pmax			
	comp=Z,2μm,0.5s							
PET				smax	smax			
	comp=E,4μm,0.8s							
PET				smax	smax			
	comp=N,4μm,0.8s							
AVH	**Avacha**	**1.46**	**292**	*i* P		**Pn**	**11 20 58.0**	**+0.3**
AVH	**Avacha**	**1.46**	**292**	PN		**Pn**	**11 20 58.0**	**+0.3**
KOK	**Koryaka**	**1.52**	**292**	*i* P		**Pn**	**11 20 58.8**	**+0.1**
KOK	**Koryaka**	**1.52**	**292**	PN		**Pn**	**11 20 58.8**	**+0.1**
KRX	**Arik**	**1.54**	**295**	*i* P		**Pn**	**11 20 59.0**	**+0.1**
KRX	**Arik**	**1.54**	**295**	PN		**Pn**	**11 20 59.0**	**+0.1**
RUS	**Russkaya**	**1.54**	**259**	*e*P		**Pn**	**11 20 59.1**	**+0.3**
RUS				*e*S		**Sn**	**11 21 19.4**	**+1.3**
RUS	**Russkaya**	**1.54**	**259**	PN		**Pn**	**11 20 59.1**	**+0.3**
RUS				S		**Sn**	**11 21 19.4**	**+1.3**
KII	**Karymskiy**	**1.59**	**325**	*e*P		**Pn**	**11 21 00.1**	**+0.5**
KII	**Karymskiy**	**1.59**	**325**	PN		**Pn**	**11 21 00.1**	**+0.5**
MTVR	**Mutnovka**	**1.73**	**262**	*e*P		**Pn**	**11 21 02.2**	**+0.7**
MTVR				*e*S		**Sn**	**11 21 24.8**	**+1.8**
MTVR	**Mutnovka**	**1.73**	**262**	PN		**Pn**	**11 21 02.2**	**+0.7**
MTVR				S		**Sn**	**11 21 24.8**	**+1.8**
KRMR	**Karymshinskiy**	**1.74**	**274**	*e*P		**Pn**	**11 21 01.9**	**+0.4**
KRMR				*e*S		**Sn**	**11 21 23.9**	**+0.9**
KRMR	**Karymshinskiy**	**1.74**	**274**	PN		**Pn**	**11 21 01.9**	**+0.4**
KRMR				S		**Sn**	**11 21 23.9**	**+0.9**
GRL	**Gorelyy**	**1.78**	**265**	P		**Pn**	**11 21 03.4**	**+1.1**
GRL	**Gorelyy**	**1.78**	**265**	PN		**Pn**	**11 21 03.4**	**+1.1**
MKZ	**Mys Kozlova**	**1.87**	**13**	*e*P		**Pn**	**11 21 02.8**	**-0.5**
MKZ				*e*S		**Sn**	**11 21 25.2**	**-1.0**
MKZ	**Mys Kozlova**	**1.87**	**13**	PN		**Pn**	**11 21 02.8**	**-0.5**
MKZ				S		**Sn**	**11 21 25.2**	**-1.0**
KDTR	**Khodutka, Kamc**	**2.02**	**244**	*e*P		**Pn**	**11 21 05.9**	**+0.6**
KDTR				*e*S		**Sn**	**11 21 30.4**	**+0.5**
PEA0B	**Petropavlovsk-**	**2.02**	**282**	*e*Pn		**Pn**	**11 21 06.0**	**+0.5**
PETK	**Petropavlovsk-**	**2.02**	**282**	Pn		**Pn**	**11 21 06.1**	**+0.6**
	comp=N,131nm,0.3s,baz=95,slow=18,SNR=362							
PETK				Sn		**Sn**	**11 21 31.5**	**+1.4**
	comp=N,96nm,0.3s,baz=83,slow=38,SNR=8.2							
PETK	**Petropavlovsk-**	**2.02**	**282**	*e*Pn		**Pn**	**11 21 04.8**	**-0.7**
PETK				*e*Sn		**Sn**	**11 21 28.8**	**-1.2**
PEA1	**Petropavlovsk-**	**2.02**	**282**	*e*Pn		**Pn**	**11 21 06.1**	**+0.6**
PEA1				*e*Sn		**Sn**	**11 21 31.5**	**+1.4**
GNL	**Ganaly**	**2.06**	**299**	*i* P		**Pn**	**11 21 07.5**	**+1.4**
GNL	**Ganaly**	**2.06**	**299**	PN		**Pn**	**11 21 07.5**	**+1.4**
APC	**Apacha**	**2.33**	**276**	*e*P		**Pn**	**11 21 11.7**	**+2.1**
APC				*e*S		**Sn**	**11 21 41.3**	**+3.7**
APC	**Apacha**	**2.33**	**276**	PN		**Pn**	**11 21 11.7**	**+2.1**
APC				S		**Sn**	**11 21 41.3**	**+3.7**
KZV	**Kizimen**	**2.41**	**351**	P		**Pn**	**11 21 12.5**	**+1.6**
KZV				*e*S		**Sn**	**11 21 42.2**	**+2.4**
KZV	**Kizimen**	**2.41**	**351**	PN		**Pn**	**11 21 12.5**	**+1.6**
KZV				S		**Sn**	**11 21 42.2**	**+2.4**
TUMD	**Tumrok D**	**2.49**	**352**	*e*P		**Pn**	**11 21 14.8**	**+1.9**
TUMD				*e*S		**Sn**	**11 21 44.1**	**+2.5**
TUMR	**Tumrok**	**2.59**	**349**	*i* P		**Pn**	**11 21 15.0**	**+1.6**
TUMR	**Tumrok**	**2.59**	**349**	PN		**Pn**	**11 21 13.8**	**+0.4**
TUMR				S		**Sn**	**11 21 44.1**	**-0.2**
PAU	**Pauzhetka**	**2.87**	**245**	*e*P		**Pn**	**11 21 17.3**	**+0.2**
PAU	**Pauzhetka**	**2.87**	**245**	PN		**Pn**	**11 21 17.3**	**+0.2**
KMNR	**Kamenistaya**	**3.05**	**352**	*e*P		**Pn**	**11 21 18.2**	**+2.1**
KMNR	**Kamenistaya**	**3.05**	**352**	PN		**Pn**	**11 21 18.2**	**+2.1**
BZGR	**Bezymyannyi-Gr**	**3.21**	**357**	*e*P		**Pn**	**11 21 25.1**	**+3.3**
BZGR	**Bezymyannyi-Gr**	**3.21**	**357**	PN		**Pn**	**11 21 25.1**	**+3.3**
BZMR	**Bezymyannaya**	**3.21**	**355**	*e*P		**Pn**	**11 21 24.5**	**+2.6**
BZMR	**Bezymyannaya**	**3.21**	**355**	PN		**Pn**	**11 21 24.5**	**+2.6**
KIRR	**Kirishev**

HIA pmax pmax
comp=Z,13nm,0.7s
BOD Bodaibo 26.79 300 *eP* **P 11 26 08.8 -1.9**
BOD pmax pmax
comp=Z,18nm,1.0s
KS01 Wonju Array Si 27.59 250 *eP* **P 11 26 19.0 +0.8**
KSRS Korea Array 27.59 250 P **P 11 26 19.1 +1.0**
comp=Z,3.5nm,0.9s,baz=41,slow=8.6,SNR=8.8
KS15 Wonju Array Si 27.62 250 *eP* **P 11 26 18.7 +0.3**
KSAR Wonju Array Be 27.62 250 P **P 11 26 19.1 +0.7**
KSAR Wonju Array Be 27.62 250 P **P 11 26 19.1 +0.7**
SCM Sheep Creek Mo 28.63 51 *eP* **P 11 26 28.6 +1.3**
comp=Z,5.7nm,0.9s
HDA Harding Lake 28.66 46 *eP* **P 11 26 28.0 +0.6**
comp=Z,2.1nm,0.7s
TJN Taejon 28.67 249⇑ *eP* **P 11 26 24.8 -2.9**
ILAR Eielson Array 28.68 45 P **P 11 26 28.1 +0.5**
comp=Z,0.7nm,0.7s,baz=262,slow=7.4,SNR=7.5
ILB Eielson Array 28.68 45 *eP* **P 11 26 28.1 +0.5**
IL1 Eielson Array 28.68 45 *eP* **P 11 26 28.5 +0.9**
JNU Nakatsue 29.17 240 P **P 11 26 34.1 +1.8**
comp=Z,16nm,1.1s,baz=18,slow=6.4,SNR=2.2
JNU Nakatsue 29.17 240 *eP* **P 11 26 33.7 +1.4**
comp=Z,17nm,1.1s
FYU Fort Yukon 29.38 41 *eP* **P 11 26 36.5 +2.8**
comp=Z,9.8nm,1.1s
EGAK Eagle 31.13 45 *eP* **P 11 26 48.9 -0.4**
comp=Z,3.5nm,1.0s
DAWY Dawson 31.98 46 *eP* **P 11 26 56.5 -0.3**
WAKE Wake Island 33.69 170 *eP* **P 11 27 14.8 +2.9**
comp=Z,118nm,1.1s
INK Inuvik 33.82 37 P **P 11 27 13.3 +0.7**
comp=Z,1.0nm,0.6s,baz=317,slow=7.5,SNR=5.8
INK Inuvik 33.82 37 *eP* **P 11 27 13.3 +0.7**
comp=Z,3.3nm,1.1s
ULN Ulaanbaatar 34.10 284 *eP* **P 11 27 13.9 -1.7**
comp=Z,3.5nm,0.9s
ULN Ulaanbaatar 34.10 284⇑ *eP* **P 11 27 14.1 -1.5**
ULN pmax pmax
comp=Z,6.0nm,1.3s
TLY Talaya 34.35 292 *eP* **P 11 27 16.6 -1.0**
comp=Z,3.8nm,1.1s
TLY Talaya 34.35 292 *eP* **P 11 27 16.6 -1.0**
TLY pmax pmax
comp=Z,4.0nm,1.1s
SONA1 Songino Array 34.50 284 *eP* **P 11 27 16.8 -2.3**
SONA0 Songino Array 34.51 284 *eP* **P 11 27 17.9 -1.2**
SONM Songino Array 34.51 284 P **P 11 27 17.9 -1.2**
comp=Z,1.4nm,0.5s,baz=60,slow=7.0,SNR=13
DLBC Dease Lake 37.82 53 P **P 11 27 50.0 +2.8**
comp=Z,4.7nm,1.0s,baz=323,slow=12,SNR=3.4
DLBC Dease Lake 37.82 53 *eP* **P 11 27 49.4 +2.2**
comp=Z,3.5nm,1.0s
GTA Gaotai 43.18 277 *eP* **P 11 28 31.3 -0.5**
GTA pP pP 11 28 37.5 -1.0
GTA sP sP 11 28 40.8 -0.4
GTA pmax pmax
comp=Z,5.0nm,1.4s
ZAA1 Zalesovo Array 43.42 303 *eP* **P 11 28 31.4 -1.9**
ZAA0 Zalesovo Array 43.42 303 *eP* **P 11 28 31.1 -2.3**
comp=Z,2.5nm,0.8s
ZALV Zalesovo Beam 43.42 303 P **P 11 28 31.4 -1.9**
comp=Z,1.9nm,0.7s,baz=65,slow=7.0,SNR=7.8
ZALV Zalesovo Beam 43.42 303 *eP* **P 11 28 31.0 -2.4**
ZALV Zalesovo Beam 43.42 303 *eP* **P 11 28 31.0 -2.4**
RES Resolute Bay 43.45 22 P **P 11 28 34.3 +1.0**
comp=Z,3.0nm,0.8s,baz=298,slow=15,SNR=3.5
RES Resolute Bay 43.45 22 *eP* **P 11 28 34.0 +0.8**
comp=Z,7.1nm,1.1s
RES Resolute Bay 43.45 22 *eP* **P 11 28 34.1 +0.8**
RES pmax pmax
comp=Z,7.0nm,1.1s
ENH Enshi 43.48 260 *eP* **P 11 28 33.2 -0.9**
comp=Z,14nm,1.0s
NVS Novosibirsk 43.76 305 *eP* **P 11 28 33.9 -2.2**
NVS pmax pmax
comp=Z,21nm,1.1s
NVS pmax pmax
comp=N,7.0nm,1.3s
NVS pmax pmax
comp=E,16nm,1.2s
DGZ Jazzator, Alta 44.31 297 *d iP* **P 11 28 39.8 -1.0**
DGZ pmax pmax
comp=Z,7.0nm,1.0s
KURK Kurchatov 48.38 303 *iP* **P 11 29 10.7 -1.8**
comp=Z,70nm,0.7s
KURK Kurchatov 48.38 303 *c iP* **P 11 29 10.2 -2.3**
KURK pmax pmax
comp=Z,14nm,1.1s
MK31 Makanchi Array 48.79 296 *eP* **P 11 29 14.0 -1.8**
MK31 Makanchi Array 48.79 296 *eP* **P 11 29 14.0 -1.8**
MK32 Makanchi Array 48.79 296 *eP* **P 11 29 13.9 -1.9**
MKAR Makanchi Array 48.79 296 P **P 11 29 13.9 -1.9**
comp=Z,2.5nm,0.5s,baz=57,slow=6.7,SNR=36
MKAR Makanchi Array 48.79 296 *eP* **P 11 29 13.9 -1.9**
comp=Z,30nm,0.6s
MKAR Makanchi Array 48.79 296 *eP* **P 11 29 13.9 -1.9**
MKAR pmax pmax
comp=Z,30nm,0.6s
MK01 Makanchi Array 48.80 296 *eP* **P 11 29 14.0 -1.9**
E09A Wood Farm, Sta 50.15 63 *eP* **P 11 29 26.7 +0.6**
comp=Z,3.3nm,1.0s
BVAR Borovoye Array 51.03 309 P **P 11 29 31.0 -1.6**
comp=Z,1.9nm,0.4s,baz=57,slow=9.0,SNR=13
BRVK Borovoye 51.06 309 *eP* **P 11 29 32.3 -0.6**
comp=Z,4.4nm,0.8s
BRVK Borovoye 51.06 309⇑ *eP* **P 11 29 32.5 -0.4**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
ARA0 ARCESS Array S 53.79 342 *eP* **P 11 29 52.6 -0.3**
ARCES ARCESS Array B 53.79 342 P **P 11 29 52.6 -0.3**
comp=Z,6.7nm,0.9s,baz=42,slow=8.3,SNR=12
ARE0 ARCESS Array S 53.79 342 *eP* **P 11 29 52.8 -0.1**
comp=Z,0.7nm,1.0s
VCNR Virginia City 53.99 71 *eP* **P 11 29 57.5 +2.5**
comp=Z,2.1nm,0.9s
ARU Arti 54.02 318 P **P 11 29 54.0 -0.7**
comp=Z,7.1nm,0.5s,baz=44,slow=1.8,SNR=15
ARU Arti 54.02 318 *eP* **P 11 29 54.2 -0.6**
comp=Z,8.9nm,0.6s
ARU Arti 54.02 318 *c iP* **P 11 29 54.5 -0.2**
ARU 11 31 57.0
ARU pmax pmax
comp=Z,10.0nm,0.8s
PNTR Pine Nut 54.16 71 *eP* **P 11 29 58.9 +2.5**
comp=Z,3.4nm,0.7s
SUMG Summit 54.24 7 *eP* **P 11 29 57.4 +0.8**
comp=Z,32nm,1.1s
SUMG Summit 54.24 7 *eP* **P 11 29 57.4 +0.8**
SUMG pmax pmax
comp=Z,33nm,1.1s
YERR Yerington 54.44 71 *eP* **P 11 30 00.7 +2.4**
comp=Z,1.8nm,0.8s
WAKR Walker 54.65 71 *eP* **P 11 30 02.2 +2.3**
comp=Z,1.6nm,0.7s
LSA Lhasa 54.99 274 *eP* **P 11 30 02.8 +0.1**
comp=Z,6.4nm,1.0s
LSA Lhasa 54.99 274 *eP* **P 11 30 02.8 +0.1**
LSA pmax pmax
comp=Z,6.0nm,1.0s
PRGR Permogore 55.02 328 *eP* **P 11 30 01.3 -0.6**
PRGR pmax pmax
comp=Z,16nm,0.6s
KVN Kaiserville 55.05 70 *eP* **P 11 30 04.9 +2.2**
comp=Z,2.2nm,0.8s
KVN Kaiserville 55.05 70 *eP* **P 11 30 04.9 +2.2**
KVN pmax pmax
comp=Z,2.0nm,0.8s
NV01 Mina Array Sit 55.35 70 *eP* **P 11 30 06.8 +1.8**
NVAR Mina Array Bea 55.35 70 P **P 11 30 06.8 +1.8**
comp=Z,0.9nm,0.8s,baz=293,slow=8.1,SNR=6.9
NV11 Mina Array Sit 55.44 70 *eP* **P 11 30 07.8 +2.4**
comp=Z,0.2nm,1.0s
FLWY Flagg Ranch 55.71 61 *eP* **P 11 30 09.5 +2.0**
AAK Ala-Archa 55.72 297 P **P 11 30 06.9 -0.6**
comp=Z,2.8nm,0.6s,baz=118,slow=5.0,SNR=6.6
AAK Ala-Archa 55.72 297 *eP* **P 11 30 06.1 -1.4**
comp=Z,5.0nm,1.0s
AAK Ala-Archa 55.72 297⇑ *eP* **P 11 30 05.9 -1.5**
AAK pmax pmax
comp=Z,5.0nm,1.0s
RLMT Red Lodge 55.76 59 *eP* **P 11 30 10.2 +2.3**
comp=Z,3.4nm,0.8s
FXWY Fox Creek 55.84 61 *eP* **P 11 30 10.8 +2.4**
comp=Z,0.9nm,0.9s
MOOW Moose Ponds 55.92 61 *eP* **P 11 30 11.1 +2.1**
comp=Z,1.0nm,0.9s
SPUT South Promonto 56.66 64 *eP* **P 11 30 15.4 +1.2**
comp=Z,2.2nm,0.8s
SKNT Sakolnakorn 56.82 254 P **P 11 30 17.4 +2.0**
HWUT Hardware Ranch 56.94 63 *eP* **P 11 30 17.3 +1.1**
comp=Z,1.7nm,0.9s
BW06 Boulder Array 57.22 61 *eP* **P 11 30 19.6 +1.3**
comp=Z,2.9nm,1.1s
PD31 Pinedale Array 57.22 61 *eP* **P 11 30 19.8 +1.6**
PDAR Pinedale Array 57.22 61 P **P 11 30 19.4 +1.2**
comp=Z,0.7nm,0.8s,baz=338,slow=2.4,SNR=6.1
KK31 Karatay Array 57.53 300 *eP* **P 11 30 19.1 -1.0**
KK31 Karatay Array 57.53 300 *eP* **P 11 30 19.2 -1.0**
KKAR Karatay Array 57.53 300 *eP* **P 11 30 19.3 -0.8**
KKAR Karatay Array 57.53 300 *eP* **P 11 30 19.3 -0.8**
SHL Shillong 57.54 270 *eP* **P 11 30 20.1 -0.6**
SHL pmax pmax
comp=Z,5.0nm,0.6s
SHL Shillong 57.54 270 *eP* **P 11 30 20.1 -0.6**
SHL pmax pmax
comp=Z,5.0nm,0.6s
TPNV Topopah Spring 57.55 70 *eP* **P 11 30 22.9 +2.3**
comp=Z,1.5nm,0.8s
TPNV Topopah Spring 57.55 70 *eP* **P 11 30 22.9 +2.3**
TPNV pmax pmax
comp=Z,2.0nm,0.8s
KHON Khomkaen 58.00 254 P **P 11 30 26.5 +2.8**
UTTA Uttaradit 58.24 257 P **P 11 30 27.0 +1.7**
comp=Z,4.8nm,1.0s
CMMT Chiang Mai 58.36 259 P **P 11 30 27.3 +1.0**
comp=Z,12nm,1.0s
CHTO Chiang Mai 58.37 259 *eP* **P 11 30 27.0 +0.7**
comp=Z,8.2nm,0.9s
CHTO Chiang Mai 58.37 259 *eP* **P 11 30 27.0 +0.7**
CHTO pmax pmax
comp=Z,8.0nm,0.9s
CHTO Chiang Mai 58.37 259 P **P 11 30 27.4 +1.1**
comp=Z,51nm,1.7s
GSC Goldstone, Bar 58.39 72 *eP* **P 11 30 28.2 +1.8**
comp=Z,2.6nm,1.1s
GSC Goldstone, Bar 58.39 72 *eP* **P 11 30 28.2 +1.8**
GSC pmax pmax
comp=Z,3.0nm,1.1s
ABKAR Akbulak array 58.43 311 *eP* **P 11 30 25.9 -0.5**
CM31 Chiang Mai Arr 58.64 259 *eP* **P 11 30 29.1 +0.9**
CMAR Chiang Mai Arr 58.64 259 P **P 11 30 29.6 +1.4**
comp=Z,4.9nm,0.9s,baz=22,slow=7.2,SNR=31
CM01 Chiang Mai Arr 58.66 259 *eP* **P 11 30 28.5 +0.2**
TAPN Taplejung 58.77 275 *eP* **P 11 30 28.9 -0.5**
comp=Z,28nm,0.8s
CHAI Chaiyaphum 58.84 255 P **P 11 30 31.5 +2.0**
PBKT Sadao Pong 58.91 256 P **P 11 30 32.4 +2.4**
LCMT Little Creek M 59.22 68 *eP* **P 11 30 34.5 +2.3**
comp=Z,2.2nm,1.1s
ODAN Odare 59.32 275 *eP* **P 11 30 33.6 +0.5**
comp=Z,11nm,0.7s
JIRN Jiri 59.47 276 *eP* **P 11 30 33.8 -0.5**
comp=Z,26nm,1.1s
GUN Gumba 59.47 277 *eP* **P 11 30 33.0 -1.3**
comp=Z,4.7nm,0.4s
RAMN Ramite 59.74 276 *eP* **P 11 30 35.2 -0.8**
comp=Z,26nm,0.6s
KKN Kakani 59.92 277 *eP* **P 11 30 36.8 -0.4**
comp=Z,13nm,0.6s
PKI Pulchoki 60.00 277 *eP* **P 11 30 36.6 -1.3**
comp=Z,14nm,0.6s
PKIN Phulchoki 60.00 277 *eP* **P 11 30 37.2 -0.7**
comp=Z,9.5nm,0.6s
DMN Daman 60.16 277 *eP* **P 11 30 38.4 -0.5**
comp=Z,14nm,0.7s
DANN Dangsing 60.43 279 *eP* **P 11 30 40.1 -0.7**
comp=Z,14nm,0.7s
UMPA Umpang Tak 60.44 258 P **P 11 30 43.8 +3.2**
comp=Z,5.8nm,0.9s,comp=Z,1μm
UTHA Uthaitani 60.60 257 P **P 11 30 44.2 +2.5**
FIA1 FINESS Array S 60.65 337 *eP* **P 11 30 41.3 -0.1**
FIA0 FINESS Array S 60.66 337 *eP* **P 11 30 41.9 +0.5**
FIA0 FINESS Array S 60.66 337 *eP* **P 11 30 41.9 +0.5**
FINES FINESS Array B 60.66 337 P **P 11 30 41.9 +0.5**
comp=Z,13nm,0.7s,baz=32,slow=8.4,SNR=42
KOLN Koldanda 60.95 278 *eP* **P 11 30 43.6 -0.6**
comp=Z,8.6nm,0.7s
PYUN Piuhan 61.07 279 *eP* **P 11 30 44.1 -1.0**
comp=Z,20nm,0.9s
PHET Kaeng Krachan 62.59 255 P **P 11 30 57.9 +2.8**
OBN Obninsk 63.10 328 *de*P **P 11 30 57.6 -0.4**
OBN pmax pmax
comp=Z,14nm,0.9s
NC303 NORSAR Array S 63.83 344 *eP* **P 11 31 01.9 -0.8**
NC405 NORSAR Array S 63.88 344 *eP* **P 11 31 03.3 +0.3**
NC204 NORSAR Array S 63.88 345 *eP* **P 11 31 02.8 -0.3**
NB201 NORSAR Array S 64.00 344 *eP* **P 11 31 03.9 0.0**
NB2 NORSAR Subarra 64.03 344 P **P 11 31 03.6 -0.5**
comp=Z,1.6nm,0.6s,baz=21,slow=6.9
NB200 NORSAR Array S 64.03 344 *eP* **P 11 31 03.9 -0.2**
NOA NORSAR Array B 64.03 344 P **P 11 31 03.9 -0.2**
comp=Z,1.9nm,0.7s,baz=21,slow=6.7,SNR=11
NBO00 NORSAR Array S 64.11 344 *eP* **P 11 31 05.0 +0.4**
LPSR Galich'ya Gora 64.38 325 *eP* **P 11 31 02.9 -3.6**
LPSR pmax pmax
comp=Z,30nm,1.1s
VRH Novokhopyorsk 64.52 323 *eP* **P 11 31 05.7 -1.7**
VRH pmax pmax
comp=Z,20nm,0.6s
VSR Storozhevoye 65.44 324⇓ *iP* **P 11 31 12.7 -0.7**
VSR pmax pmax
comp=Z,27nm,1.2s
VORD Divnogorie 65.60 324 *eP* **P 11 31 13.1 -1.3**
VORD pmax pmax
comp=Z,10.0nm,0.4s
GEYT Alibeck 67.73 304 P **P 11 31 27.8 -0.5**
comp=Z,1.0nm,0.4s,baz=336,slow=3.3,SNR=4.7
GOF Gofitskoye 69.01 318 *eP* **P 11 31 35.2 -0.9**
AKASG Malin Array Be 69.19 330 P **P 11 31 36.6 -0.5**
comp=Z,6.8nm,0.6s,baz=30,slow=6.3,SNR=18
AKBB Malin Array Si 69.19 330 *eP* **P 11 31 36.5 -0.6**
comp=Z,10nm,0.8s
AKBB Malin Array Si 69.19 330 *eP* **P 11 31 36.6 -0.6**
AKBB pmax pmax
comp=Z,10.0nm,0.8s
KIEV Kiev 69.20 330 *eP* **P 11 31 36.5 -0.7**
comp=Z,9.8nm,0.8s
AK11 Malin Array Si 69.23 330 *eP* **P 11 31 36.6 -0.7**
KIV Kislovodsk 70.06 317 *eP* **P 11 31 50.1 +7.3**
KIV pmax pmax
comp=Z,14nm,1.0s
KBZ Khabaz 70.16 317 P **P 11 31 43.4 +0.2**
comp=Z,13nm,0.9s,baz=202,slow=3.6,SNR=17
TX31 Lajitas Ar. Si 70.27 67 *eP* **P 11 31 45.6 +1.3**
LTX Lajitas 70.28 67 *eP* **P 11 31 45.4 +1.1**
LTX Lajitas 70.28 67 *eP* **P 11 31 45.4 +1.1**
TXAR Lajitas Array 70.28 67 P **P 11 31 45.4 +1.1**
comp=Z,0.5nm,0.6s,baz=301,slow=5.2,SNR=12
ZEI Tsey 70.51 316 *eP* **P 11 31 44.3 -1.4**
ZEI pmax pmax
comp=Z,9.0nm,0.9s
TBLG Delisi 71.02 315 *eP* **P 11 31 48.9 +0.3**
comp=Z,19nm,1.0s
TBLG Delisi 71.02 315 *eP* **P 11 31 48.9 +0.3**
TBLG pmax pmax
comp=Z,19nm,1.0s
AKH Akhalkalaki 71.82 315 *eP* **P 11 31 53.9 +0.3**
comp=Z,21nm,1.2s
AKH Akhalkalaki 71.82 315 *eP* **P 11 31 53.9 +0.3**
AKH pmax pmax
comp=Z,21nm,1.2s
GNI Garni 72.31 314 *eP* **P 11 31 56.8 +0.3**
comp=Z,17nm,0.9s
GNI Garni 72.31 314 *eP* **P 11 31 56.8 +0.3**
GNI pmax pmax
comp=Z,17nm,0.9s
CLL Collm 72.87 340 *eP* **P 11 31 59.8 +0.3**
comp=Z,5.0nm,0.8s
CLL Collm 72.87 340 *eP* **P 11 31 59.0 -0.5**
CLL *e* 11 32 13.0
CLL pmax pmax
comp=Z,74nm,0.9s
BRG Berggiesshubel 73.08 339 *eP* **P 11 31 59.8 -0.9**
BRG pmax pmax
comp=Z,2.0nm,0.7s
BUR08 Bucovina Ar. S 73.12 330 *eP* **P 11 32 01.3 +0.1**
BUR04 Bucovina Ar. S 73.14 330 *eP* **P 11 32 01.1 -0.1**
GERES GERESS Array B 75.04 338 P **P 11 32 12.8 +0.5**
comp=Z,0.7nm,0.4s,baz=45,slow=4.5,SNR=9.5
GEA0 GERESS Array S 75.05 338 *eP* **P 11 32 12.6 +0.3**
WR1 Warramunga Arr 76.00 206 *eP* **P 11 32 18.4 +0.6**
comp=Z,3.9nm,1.1s
WRA Warramunga Arr 76.00 206 P **P 11 32 18.4 +0.6**
comp=Z,0.6nm,0.8s,baz=21,slow=6.0,SNR=5.9
FITZ Fitzroy Crossi 76.91 214 P **P 11 32 22.5 -0.6**
comp=Z,4.1nm,1.1s,baz=357,slow=5.1,SNR=4.1
FITZ Fitzroy Crossi 76.91 214 *eP* **P 11 32 24.0 +1.0**
comp=Z,6.1nm,1.1s
ECH Echery 76.98 342 *eP* **P 11 32 23.3 0.0**
comp=Z,5.2nm,1.1s
ECH Echery 76.98 342 *eP* **P 11 32 23.3 0.0**
ECH pmax pmax
comp=Z,5.0nm,1.1s
BR101 Keskin Array S 77.23 321 *eP* **P 11 32 25.3 +0.3**
BR131 Keskin Array S 77.23 321 *eP* **P 11 32 24.1 -0.9**
BRTR Keskin Array B 77.23 321 P **P 11 32 25.3 +0.2**
comp=Z,2.9nm,0.8s,baz=56,slow=2.7,SNR=8.9
DIVS Divibare 77.86 332 *eP* **P 11 32 28.5 +0.1**
comp=Z,5.3nm,0.7s
FUORN Ofenpass-Fuorn 77.89 340 *eP* **P 11 32 28.5 -0.2**
comp=Z,7.2nm,1.0s
TUE Stuetta 78.22 340 *eP* **P 11 32 31.0 +0.5**
comp=Z,6.0nm,1.0s
PALK Pallekele 78.37 267 *i* P **P 11 32 30.8 -0.7**
AS01 Alice Springs 79.65 205 *eP* **P 11 32 40.6 +2.5**
ASAR Alice Springs 79.67 205 P **P 11 32 39.5 +1.2**
comp=Z,0.6nm,0.6s,baz=16,slow=5.6,SNR=9.9
ESDC Sonseca Array 87.03 348 P **P 11 33 16.9 +0.7**
comp=Z,3.0nm,0.8s,baz=5.1,slow=4.6,SNR=8.6

IDC 15 11:21:54.0±9.3, 5.48S×151.00E, h84km±61km, mb3.5/4, mb1 3.6/4, mb1mx3.4/46, mbtmp3.8/4, Error ellipse: s-maj=67.9km s-min=61.6km az=17.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.46**	**224**	P		Pn	11 23 12.5	-0.3
	baz=41,slow=19							
PMG				S		Sn	11 24 15.1	+0.8
	1.1nm,0.3s,baz=280,slow=14,SNR=2.4							
WRA	**Warramunga Arr**	**21.67**	**227**	P		P	11 26 38.6	+0.7
	1.4nm,0.7s,baz=53,slow=10.0,SNR=16							
ASAR	**Alice Springs**	**24.46**	**221**	P		P	11 27 04.1	-1.2
	0.7nm,0.7s,baz=52,slow=9.3,SNR=7.0							
STKA	**Stephens Creek**	**27.70**	**197**	P		P	11 27 35.0	+0.6
	1.5nm,0.8s,baz=0.0,slow=13,SNR=2.5							
FITZ	**Fitzroy Crossi**	**27.76**	**241**	P		P	11 27 35.2	+0.1
	3.0nm,0.9s,baz=60,slow=6.3,SNR=6.5							

BJI ***15*** *11:22:20.6, 52.62N×173.33E, h31km, mb5.7/76, mB5.6/52, Ms5.2/78, Ms7 5.0/70*
ISCJB ***15*** *11:22:21.5±0.3, 52.43N±0.02×173.43E±0.01, h36km±2km, mb5.6/623, MS5.0/475, Error ellipse: s-maj=3.0km s-min=1.4km az=0.4*
KRSC ***15*** *11:22:21.1±3.4, 52.18N×173.22E, h60km±50km, ML5.7*
MOS ***15*** *11:22:22.0±0.9, 52.41N×173.38E, h43km, mb5.8/147, MS4.8/115, Error ellipse: s-maj=5.5km s-min=4.0km az=40.1*
NEIC ***15*** *11:22:22.3±0.1, 52.50N×173.35E, mb5.6/293, MS4.9/299, MW5.5, ML5.7(AEIC), Error ellipse: s-maj=2.2km s-min=1.2km az=174.0, Moment Tensor Solution. s47 Moment tensor: Scale 10^17 Nm; Mrr 1.73; Mθθ -1.96; Mφφ 0.23; Mrθ 0.98; Mrφ -0.31; Mθφ 1.05; Best double couple: Mo 2.40000×10^17 NP1:φ283.00000°, δ33.00000°, λ128.00000°. NP2:φ60.00000°, δ64.00000°, λ68.00000°. Principal axes: T 2.3900, Plg64.0000°, Azm293.0000°; N -0.0600, Plg20.0000°, Azm70.0000°; P -2.3400, Plg16.0000°, Azm166.0000°;*
NEIC Felt on Shemya.
AEIC ***15*** *11:22:23.3±0.0, 52.46N×173.36E, h25km*
IDC ***15*** *11:22:23.2±1.1, 52.48N×173.41E, h33km±7km, mb5.3/54, mb1 5.4/56, mb1mx5.3/64, mbtmp5.5/56, ML4.8/2, MS4.8/27, Ms1 4.8/27, ms1mx4.7/36, Error ellipse: s-maj=9.3km s-min=7.0km az=154.0*
GCMT ***15*** *11:22:25.3±0.2, 52.41N±0.01×173.40E±0.01, h38km, MW5.6/129, Moment Tensor Solution. s88,c128; s129,c273; Duration: 1s5 Moment tensor: Scale 10^17 Nm; Mrr 1.94±.07; Mθθ -2.46±.05; Mφφ 0.52±.04; Mrθ 1.69±.06; Mθφ -0.18±.03; Mφr 1.41±.05; Best double couple: Mo 3.15000×10^17 NP1:φ62.00000°, δ69.00000°, λ67.00000°. NP2:φ291.00000°, δ31.00000°, λ136.00000°. Principal axes: T 3.1510, Plg59.0000°, Azm299.0000°; N 0.0060, Plg21.0000°, Azm70.0000°; P -3.1500, Plg21.0000°, Azm169.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 15 11:22:22.7±0.3, 52.36N±0.03×173.39E±0.02, h33km±1km, h34km:pP-P, n1774, σ1935/1933, mb5.7/654, MS5.0/483, 160C-22D, Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SMY	**Shemya**	**0.57**	**49**	*e*Pn		**Pn**	**11 22 33.7**	**-0.7**
SMY				*e*Sn		**Sb**	**11 22 42.0**	**-0.5**
SMY	**Shemya**	**0.57**	**49**	*e*P		**Pn**	**11 22 33.7**	**-0.7**
SMY				*e*			11 22 42.0	
LSNW	**Little Sitkin**	**3.18**	**95**	P		**Pn**	**11 23 12.6**	**+2.2**
LSSA	**Little Sitkin**	**3.19**	**95**	P		**Pn**	**11 23 11.5**	**+1.1**
LSPA	**Little Sitkin**	**3.22**	**95**	*e*Pn		**Pn**	**11 23 12.6**	**+1.7**
AMKA	**Amchitka**	**3.80**	**103**	*e*Pn		**Pn**	**11 23 20.2**	**+1.5**
AMKA				*e*Sn		**Sn**	**11 24 06.4**	**+4.1**
CEAP	**Semis' Anvil P**	**3.83**	**93**	P		**Pn**	**11 23 20.8**	**+1.6**
CESW	**Semis' Southwe**	**3.83**	**94**	P		**Pn**	**11 23 20.3**	**+1.0**
CERAA	**Semis' Rag'd T**	**3.91**	**94**	P		**Pn**	**11 23 21.4**	**+1.0**
GALAA	**Gareloi Lava P**	**4.88**	**94**	*e*Pn		**Pn**	**11 23 35.7**	**+2.1**
GAEA	**Gareloi East**	**4.89**	**94**	*e*Pn		**Pn**	**11 23 35.5**	**+1.7**
BKI	**Bering**	**5.24**	**306**	*e*P		**Pn**	**11 23 41.0**	**+2.5**
BKI				*e*S		**Sn**	**11 24 38.9**	**+1.2**
BKI	**Bering**	**5.24**	**306**	P		**Pn**	**11 23 41.0**	**+2.5**
BKI				S		**Sn**	**11 24 38.9**	**+1.2**
TASE	**Tanaga Southea**	**5.31**	**92**	*e*Pn		**Pn**	**11 23 40.7**	**+1.0**
TAFP	**Tanaga Falls P**	**5.34**	**92**	*e*Pn		**Pn**	**11 23 41.7**	**+1.7**
TAFP				*e*Sn		**Sn**	**11 24 41.4**	**+1.2**
TAPA	**Tanaga Point A**	**5.46**	**92**	*e*Pn		**Pn**	**11 23 42.7**	**+1.1**
KICM	**Kanaga Island**	**5.82**	**91**	*e*Pn		**Pn**	**11 23 48.5**	**+1.9**
KIMD	**Kanaga Island**	**5.82**	**92**	P		**Pn**	**11 23 48.2**	**+1.7**
KIKV	**Kanaga Island**	**5.84**	**91**	*e*Pn		**Pn**	**11 23 48.7**	**+1.8**
ADK	**Adak**	**6.14**	**91**	*e*Pn		**Pn**	**11 23 51.3**	**+0.4**
ADK				*e*Sn		**Sn**	**11 24 60.0**	**+0.1**
ADK	**Adak**	**6.14**	**91**	*e*P		**Pn**	**11 23 51.3**	**+0.4**
ADK				*e*			11 25 00.0	
ADAG	**Mount Adagdak**	**6.17**	**90**	*e*Pn		**Pn**	**11 23 52.7**	**+1.3**
ETKA	**Kagalaska Isla**	**6.31**	**90**	*e*Pn		**Pn**	**11 23 54.5**	**+1.2**
GSTD	**Great Sitkin T**	**6.44**	**89**	*e*Pn		**Pn**	**11 23 55.8**	**+0.6**
GSTD				*e*Sn		**Sn**	**11 25 08.5**	**+0.9**
GSMY	**Great Sitkin M**	**6.50**	**89**	*e*Pn		**Pn**	**11 23 57.1**	**+1.2**
KBTR	**Krutoberegovo**	**7.29**	**306**	*e*P		Pn	11 24 12.9	+6.2
KBTR	**Krutoberegovo**	**7.29**	**306**	P		Pn	11 24 12.9	+6.2
MKZ	**Mys Kozlova**	**7.30**	**292**	*e*P		**Pn**	**11 24 07.8**	**+1.0**
MKZ	**Mys Kozlova**	**7.30**	**292**	P		**Pn**	**11 24 07.8**	**+1.0**
KBG	**Krutoberegovo**	**7.37**	**306**	*e*P		Pn	11 24 13.0	+5.3
KBG	**Krutoberegovo**	**7.37**	**306**	P		Pn	11 24 13.0	+5.3
ATKA	**Atka Island**	**7.62**	**86**	*e*Pn		**Pn**	**11 24 12.0**	**+0.8**
ATKA				*e*Sn		**Sn**	**11 25 32.0**	**-4.4**
SMKR	**Semkarok**	**8.13**	**306**	*e*P		Pn	11 24 24.4	+6.1
SMKR				*e*S		**Sn**	**11 25 55.1**	**+6.2**
SMKR	**Semkarok**	**8.13**	**306**	P		Pn	11 24 24.4	+6.1
SMKR				S		**Sn**	**11 25 55.1**	**+6.2**
SPN	**Mys Shipunski**	**8.15**	**280**	*e*P		**Pn**	**11 24 18.6**	**+0.1**
SPN				*e*S		**Sn**	**11 25 44.5**	**-4.8**
SPN	**Mys Shipunski**	**8.15**	**280**	P		**Pn**	**11 24 18.6**	**+0.1**
SPN				S		**Sn**	**11 25 44.5**	**-4.8**
TUMD	**Tumrok D**	**8.20**	**295**	*e*P		**Pn**	**11 24 20.9**	**+1.6**
TUMD				*e*S		**Sn**	**11 25 50.9**	**+0.2**
ZLN	**Zelenaya**	**8.24**	**301**	*e*P		**Pn**	**11 24 23.2**	**+3.4**
ZLN	**Zelenaya**	**8.24**	**301**	P		**Pn**	**11 24 23.2**	**+3.4**
KZV	**Kizimen**	**8.24**	**295**	*i* P		**Pn**	**11 24 21.6**	**+1.7**
KZV	**Kizimen**	**8.24**	**295**	P		**Pn**	**11 24 21.6**	**+1.7**
BDR	**Baidarnaya**	**8.25**	**306**	*e*P		Pn	11 24 26.5	+6.5
BDR	**Baidarnaya**	**8.25**	**306**	P		Pn	11 24 26.5	+6.5
BZGR	**Bezymyannyi-Gr**	**8.27**	**301**	*e*P		**Pn**	**11 24 22.8**	**+2.6**
BZGR	**Bezymyannyi-Gr**	**8.27**	**301**	P		**Pn**	**11 24 22.8**	**+2.6**
SRKR	**Sorokina**	**8.31**	**306**	*e*P		Pn	11 24 27.6	+6.9
SRKR	**Sorokina**	**8.31**	**306**	P		Pn	11 24 27.6	+6.9
TUMR	**Tumrok**	**8.36**	**296**	*i* P		**Pn**	**11 24 24.1**	**+2.6**
TUMR	**Tumrok**	**8.36**	**296**	P		**Pn**	**11 24 20.9**	**-0.6**
TUMR				S		**Sn**	**11 25 50.9**	**-3.9**

BZMR Bezymyannaya 8.37 300 eP Pn 11 24 23.9 +2.2
BZMR Bezymyannaya 8.37 300 P Pn 11 24 23.9 +2.2
BZWR Bezymyannyi-We 8.38 301 eP Pn 11 24 24.5 +2.7
BZWR Bezymyannyi-We 8.38 301 P Pn 11 24 24.5 +2.7
KLY Klyuchi 8.43 303 eP Pn 11 24 22.9 +0.6
KLY eS Sn 11 25 53.4 -2.7
KLY Klyuchi 8.43 303 P Pn 11 24 22.9 +0.6
KLY S Sn 11 25 53.4 -2.7
KRSR Krestovskiy 8.43 302 eP Pn 11 24 24.6 +2.1
KRSR Krestovskiy 8.43 302 P Pn 11 24 24.6 +2.1
KMNR Kamenistaya 8.45 299 i P Pn 11 24 25.5 +2.8
KMNR Kamenistaya 8.45 299 P Pn 11 24 25.5 +2.8
KIRR Kirishev 8.46 300 eP Pn 11 24 25.4 +2.5
KIRR eS Sn 11 25 59.3 +2.2
KIRR Kirishev 8.46 300 P Pn 11 24 25.4 +2.5
KIRR S Sn 11 25 59.3 +2.2
KPT Kopyto 8.53 300 eP Pn 11 24 26.1 +2.4
KPT Kopyto 8.53 300 P Pn 11 24 26.1 +2.4
KII Karymskiy 8.54 287 eP Pn 11 24 24.9 +1.0
KII Karymskiy 8.54 287 P Pn 11 24 24.9 +1.0
NLC Nalytchevo 8.56 281 eP Pn 11 24 24.2 +0.1
NLC eS Sn 11 25 53.6 -5.7
NLC Nalytchevo 8.56 281 P Pn 11 24 24.2 +0.1
NLC S Sn 11 25 53.6 -5.7
KOZ Kozyrevsk 8.74 300 eP Pn 11 24 29.3 +2.7
KOZ Kozyrevsk 8.74 300 P Pn 11 24 29.3 +2.7
SDLR Sedlovina 8.83 282 i P Pn 11 24 29.2 +1.2
SDLR Sedlovina 8.83 282 P Pn 11 24 29.2 +1.2
UGLR Uglovaya 8.87 281 eP Pn 11 24 29.8 +1.3
UGLR Uglovaya 8.87 281 P Pn 11 24 29.8 +1.3
SMAR Somma 8.88 282 i P Pn 11 24 29.7 +0.9
SMAR Somma 8.88 282 P Pn 11 24 29.7 +0.9
DALK Dalny 8.91 280 eP Pn 11 24 29.7 +0.7
DALK eS Sn 11 26 03.8 -4.3
DALK Dalny 8.91 280 P Pn 11 24 29.7 +0.7
DALK S Sn 11 26 03.8 -4.3
AVH Avacha 8.92 282 i P Pn 11 24 30.3 +1.1
AVH Avacha 8.92 282 P Pn 11 24 30.3 +1.1
KRX Arik 8.97 282 i P Pn 11 24 31.0 +1.0
KRX Arik 8.97 282 P Pn 11 24 31.0 +1.0
PET Petropavlovsk 8.98 280 ePn Pn 11 24 30.4 +0.5
PET eSn Sn 11 26 05.0 -4.7
PET Petropavlovsk 8.98 280 i P Pn 11 24 30.6 +0.8
PET eS Sn 11 26 04.4 -5.2
PET Petropavlovsk 8.98 280 eP Pn 11 24 29.8 0.0
PET eS Sn 11 26 04.4 -5.2
PET pmax pmax
comp=Z,194nm,1.1s
PET pmax pmax
comp=Z,2µm,6.4s
PET MLR MLR
comp=Z,4µm,15.0s
PET MLR MLR
comp=Z,5µm,13.0s
KOK Koryaka 8.98 282 i P Pn 11 24 31.1 +1.1
KOK Koryaka 8.98 282 P Pn 11 24 31.1 +1.1
OSSR Ossora 9.02 324 eP Pn 11 24 33.3 +2.9
OSSR Ossora 9.02 324 P Pn 11 24 33.3 +2.9
TILK Tilichiki 9.04 337 eP Pn 11 24 33.5 +2.9
TILK Tilichiki 9.04 337 P Pn 11 24 33.5 +2.9
RUS Russkaya 9.10 276 i P Pn 11 24 32.8 +1.3
RUS eS Sn 11 26 06.4 -6.2
RUS Russkaya 9.10 276 P Pn 11 24 32.8 +1.3
RUS S Sn 11 26 06.4 -6.2
MTVR Mutnovka 9.29 277 eP Pn 11 24 35.4 +1.1
MTVR eS Sn 11 26 11.6 -6.1
MTVR Mutnovka 9.29 277 P Pn 11 24 35.4 +1.1
MTVR S Sn 11 26 11.6 -6.1
KRMR Karymshinskiy 9.30 279 eP Pn 11 24 34.6 +0.3
KRMR eS Sn 11 26 12.8 -4.8
KRMR Karymshinskiy 9.30 279 P Pn 11 24 34.6 +0.3
KRMR S Sn 11 26 12.8 -4.8
ESO Esso 9.33 298 eP Pn 11 24 35.9 +1.2
ESO Esso 9.33 298 P Pn 11 24 35.9 +1.2
GRL Gorelyy 9.36 277 eP Pn 11 24 36.9 +1.7
GRL Gorelyy 9.36 277 P Pn 11 24 36.9 +1.7
GNL Ganaly 9.40 284 i P Pn 11 24 38.2 +2.4
GNL Ganaly 9.40 284 P Pn 11 24 38.2 +2.4
KDTR Khodutka, Kamc 9.45 273 eP Pn 11 24 36.3 +0.1
KDTR eS Sn 11 26 13.7 -7.4
PEA0B Petropavlovsk- 9.55 281 ePn Pn 11 24 38.7 +1.0
PEA0B eSn Sn 11 26 21.6 -2.1
PEA1 Petropavlovsk- 9.55 281 ePn Pn 11 24 39.2 +1.5
PEA1 eSn Sn 11 26 21.3 -2.4
PETK Petropavlovsk- 9.55 281 Pn Pn 11 24 39.2 +1.5
comp=Z,31nm,0.3s,baz=92,slow=18,SNR=15
PETK Sn Sn 11 26 21.3 -2.4
comp=Z,13nm,0.3s,baz=76,slow=27,SNR=5.6
PETK Petropavlovsk- 9.55 281 ePn Pn 11 24 38.1 +0.4
PETK eSn Sn 11 26 21.8 -2.0
PETK Petropavlovsk- 9.55 281 eP Pn 11 24 38.1 +0.4
PETK e 11 26 21.8
APC Apacha 9.88 280 eP Pn 11 24 44.5 +2.2
APC eS Sn 11 26 29.2 -2.7
APC Apacha 9.88 280 P Pn 11 24 44.5 +2.2
APC S Sn 11 26 29.2 -2.7
PALN Palana 10.12 317 eP Pn 11 24 52.4 +6.9
PALN Palana 10.12 317 P Pn 11 24 52.4 +6.9
PAU Pauzhetka 10.28 272 eP Pn 11 24 47.9 +0.2
PAU Pauzhetka 10.28 272 P Pn 11 24 47.9 +0.2
NIKH Nikolski High 10.81 80 ePn Pn 11 24 56.8 +1.9
KMSK Kamenskaya 10.84 342 eP Pn 11 24 56.7 +1.4
KMSK Kamenskaya 10.84 342 P Pn 11 24 56.7 +1.4
SKR Severo-Kuril's 10.89 268 eP Pn 11 24 56.1 0.0
SKR eS Sn 11 26 49.1 -7.5
SKR Severo-Kuril's 10.89 268 eP Pn 11 24 55.8 -0.3
SKR eS Sn 11 26 50.9 -5.7
SKR pmax pmax
comp=Z,4µm,4.9s
SKR MLR MLR
comp=Z,6µm,17.0s
UNV Unalaska Valle 12.18 75 ePn Pn 11 25 14.6 +1.0
AKUT Akutan 12.60 74 ePn Pn 11 25 20.8 +1.4
FALS False Pass 13.98 71 ePn Pn 11 25 39.8 +1.6
MA2 Magadan 14.53 309 Pn Pn 11 25 46.9 +1.2
comp=Z,0.5nm,0.3s,baz=102,slow=13,SNR=5.7
MA2 LR LR 11 31 07.1
comp=Z,7µm,21.5s,baz=108,slow=36
MA2 Magadan 14.53 309 ePn Pn 11 25 46.1 +0.5
MA2 Magadan 14.53 309 deP Pn 11 25 46.5 +0.9
MA2 pmax pmax
comp=Z,178nm,1.7s
SEY Seymchan 15.36 322 Pn Pn 11 25 56.8 +0.1
comp=Z,0.5nm,0.3s,baz=123,slow=12,SNR=9.0
SEY Sn Sn 11 28 33.9 -12
comp=Z,0.6nm,0.3s,baz=336,slow=23,SNR=2.0
SEY LR LR 11 31 25.2
comp=Z,9µm,19.4s,baz=135,slow=36
SEY ScP ScP 11 34 29.2 -1.3
comp=Z,0.0nm,0.3s,baz=135,slow=4.3,SNR=4.3
SEY Seymchan 15.36 322 ePn Pn 11 25 56.8 +0.1
SEY eSn Sn 11 28 33.9 -12
SEY Seymchan 15.36 322‖ eP Pn 11 25 57.1 +0.4
SDPT Sand Point 15.68 69 ePn Pn 11 26 02.4 +1.6
comp=Z,464nm,1.0s
BILL Bilibino 16.10 350c iP Pn 11 26 07.4 +1.2
BILL eS Sn 11 29 02.9 -0.6
BILL pmax pmax
comp=Z,260nm,1.3s
BILL MLR MLR
comp=Z,18µm,20.0s
ANM Nome 16.41 34 ePn Pn 11 26 11.3 +1.1
comp=Z,642nm,1.1s
ANM Nome 16.41 34 eP Pn 11 26 11.3 +1.1
ANM pmax pmax
comp=Z,642nm,1.1s
CHGN Chignik 16.85 65 ePn Pn 11 26 16.5 +0.8
comp=Z,218nm,0.8s
KUR Kuril'sk 18.20 257 eP Pn 11 26 30.9 -1.6
KUR eS Sn 11 29 50.6 -3.8
KUR pmax pmax
comp=Z,108nm,0.8s
KUR pmax pmax
comp=Z,3µm,4.5s
KUR MLR MLR
comp=Z,1µm,15.0s
SVW2 Sparrevohn 18.97 50 eP P 11 26 40.9 0.0
comp=Z,188nm,1.0s
TYV Tymovskoe 19.08 278 eP Pn 11 26 45.3 +2.2
TYV pmax pmax
comp=Z,3µm,5.4s
TYV pmax pmax
comp=Z,279nm,1.2s
TYV MLR MLR
comp=E,3µm,13.0s
TYV MLR MLR
comp=Z,3µm,13.0s
SII Sitkinak Islan 19.21 65 eP P 11 26 43.8 +0.2
comp=Z,364nm,0.7s
SII eSn Sn 11 30 17.3 -1.4
RDOG Red Dog Mine 19.44 27 eP P 11 26 46.6 +0.6
comp=Z,575nm,1.4s
OHAK Old Harbor 19.69 62 eP P 11 26 48.6 -0.1
comp=Z,289nm,1.0s
OHAK eS S 11 30 27.7 -1.0
NKL Nikolayevsk 19.72 285 i P Pn 11 26 51.0 +0.3
NKL eS Sn 11 30 34.0 +2.9
NKL pmax pmax
comp=E,2µm,8.0s
NKL pmax pmax
comp=Z,4µm,8.0s
NKL pmax pmax
comp=N,86nm,1.2s
NKL pmax pmax
comp=Z,1µm,1.2s
NKL smax smax
comp=E,2µm,8.0s
NKL MLR MLR
comp=E,2µm,15.0s
NKL MLR MLR
comp=Z,2µm,14.0s
YUK Yuzh-Kuril'sk 20.05 256 eP P 11 26 41.5 -11
YUK eS S 11 30 35.4 -0.8
YUK eSSS SSS 11 31 14.2
YUK pmax pmax
comp=Z,337nm,0.9s
YUK pmax pmax
comp=E,100nm,0.2s
YUK pmax pmax
comp=Z,293nm,2.0s
YUK pmax pmax
comp=N,842nm,1.8s
YUK pmax pmax
comp=E,405nm,3.1s
KDAK Kodiak Island 20.08 61 P P 11 26 51.9 -1.0
comp=E,51nm,0.4s,baz=269,slow=3.8,SNR=53
KDAK S S 11 30 30.5 -6.0
comp=E,32nm,1.0s,baz=148,slow=24,SNR=5.6
KDAK Kodiak Island 20.08 61 eP P 11 26 51.9 -1.0
KDAK eS S 11 30 30.5 -6.0
KDAK LR LR
comp=Z,4µm,21.0s
KDAK Kodiak Island 20.08 61 eP P 11 26 51.9 -1.0
KDAK eS S 11 30 30.5 -6.0
KDAK MLR MLR
comp=Z,4µm,21.0s
YSS Yuzh-Sakhalins 20.46 267 eP Pn 11 26 58.6 -0.8
comp=Z,244nm,1.1s
YSS LR LR
comp=Z,2µm,20.0s
YSS Yuzh-Sakhalins 20.46 267α iP Pn 11 26 59.8 +0.3
YSS e*SP sP 11 27 12.9 +2.6
YSS eS S 11 30 41.4 -2.8
YSS e 11 31 29.4
YSS pmax pmax
comp=Z,160nm,1.0s
YSS pmax pmax
comp=N,90nm,1.4s
YSS pmax pmax
comp=E,160nm,1.3s
YSS pmax pmax
comp=Z,2µm,3.4s
YSS pmax pmax
comp=N,700nm,2.2s
YSS pmax pmax
comp=E,2µm,2.1s
YSS MLR MLR
comp=Z,2µm,19.0s
YSS MLR MLR
comp=N,1µm,16.0s
YSS MLR MLR
comp=E,2µm,19.0s
HOM Homer 20.67 56 eP P 11 26 59.7 +0.4
comp=E,765nm,0.9s
CNPM China Poot 20.86 56 eP P 11 27 01.3 -0.2
comp=E,593nm,1.0s
CNPM LR LR
comp=Z,4µm,21.0s
PPLA Purkeypile 20.96 46 eP P 11 27 03.1 +0.5
comp=Z,457nm,1.1s
PPLA LR LR
comp=Z,3µm,19.0s
SKT Skwentna 21.05 49 eP P 11 27 03.7 +0.1
comp=Z,382nm,0.9s
BRLK Bradley Lake 21.06 55 eP P 11 27 03.1 -0.5
comp=Z,226nm,0.9s
BRLK LR LR
comp=Z,4µm,20.0s
CAST Castle Rocks 21.14 45 eP P 11 27 05.6 +1.1
comp=Z,225nm,0.8s
IM3 Indian Mountai 21.33 38 eP P 11 27 05.9 -0.5
SUA Susitna One 21.33 51 eP P 11 27 06.3 -0.4
comp=Z,750nm,1.5s
SUA LR LR
comp=Z,3µm,22.0s
BPAW Bear Paw Mtn. 21.79 44 eP P 11 27 11.0 -0.4
comp=Z,277nm,1.2s
SEW Seward 21.81 55 eP P 11 27 11.1 -0.4
comp=Z,149nm,0.9s
SEW eS S 11 31 09.9 -0.7
SEW LR LR
comp=Z,4µm,18.0s
TRF Thorofare Moun 21.93 45 eP P 11 27 12.6 -0.5
comp=Z,456nm,1.0s
TRF LR LR
comp=Z,2µm,20.0s
ASAJ Asahikawa 21.97 260 P P 11 27 14.4 +1.0
comp=Z,129nm,1.0s,baz=65,slow=8.5,SNR=19
ASAJ LR LR 11 35 08.5
comp=Z,3µm,21.5s,baz=72,slow=35
ASAJ Asahikawa 21.97 260 eP P 11 27 14.1 +0.6
comp=Z,294nm,1.2s
PMR Palmer 22.12 51 eP P 11 27 11.9 -3.0
PMR Palmer 22.12 51 eP P 11 27 11.9 -3.0
MLY Manley 22.16 41 eP P 11 27 14.8 -0.7
comp=Z,534nm,1.6s
MLY LR LR
comp=Z,2µm,21.0s
GHO Glory Hole Cre 22.24 50 eP P 11 27 16.8 +0.5
comp=Z,271nm,1.1s
GHO LR LR
comp=Z,2µm,19.0s
BWN Browne 22.45 44 eP P 11 27 19.5 +0.9
comp=Z,1µm,1.0s
BWN LR LR
comp=Z,2µm,20.0s
SML Sawmill 22.52 50 eP P 11 27 18.9 -0.4
comp=Z,992nm,1.1s
SML LR LR
comp=Z,3µm,19.0s
RND Reindeer 22.55 46 eP P 11 27 18.9 -0.7
comp=Z,160nm,0.9s
RND LR LR
comp=Z,3µm,19.0s
RND Reindeer 22.55 46 eP P 11 27 18.9 -0.7
RND pmax pmax
comp=Z,160nm,0.9s
RND MLR MLR
comp=Z,3µm,19.0s
MCK McKinley 22.58 45 eP P 11 27 19.0 -0.9
comp=Z,368nm,0.8s
MCK LR LR
comp=Z,2µm,20.0s
MCK McKinley 22.58 45 eP P 11 27 19.0 -0.9
MCK pmax pmax
comp=Z,369nm,0.8s
MCK MLR MLR
comp=Z,2µm,20.0s
ERM Erimo 22.84 255 eP P 11 27 24.1 +1.4
comp=Z,451nm,1.1s
ERM LR LR
comp=Z,3µm,20.0s
GRNR Gornyy 22.88 281 ⇑ iP P 11 27 23.4 +0.3
GRNR pmax pmax
comp=E,25nm,1.0s
GRNR pmax pmax
comp=Z,65nm,1.0s
SCM Sheep Creek Mo 23.00 50 eP P 11 27 23.8 -0.5
comp=Z,392nm,0.8s
SCM LR LR
comp=Z,2µm,21.0s
SCM Sheep Creek Mo 23.00 50 eP P 11 27 23.8 -0.5
SCM pmax pmax
comp=Z,392nm,0.8s
SCM MLR MLR
comp=Z,2µm,21.0s
GLI Glacier Island 23.03 53 eP P 11 27 23.4 -1.2
comp=Z,235nm,0.9s
GLI LR LR
comp=Z,3µm,19.0s
WRH Wood River Hil 23.11 43 eP P 11 27 24.8 -0.6
comp=Z,275nm,0.8s
WRH LR LR
comp=Z,3µm,18.0s
COLD Coldfoot 23.12 36 eP P 11 27 25.1 -0.3
comp=Z,70nm,1.0s
COLD LR LR
comp=Z,3µm,21.0s
DHY Denali Highway 23.15 47 eP P 11 27 25.1 -0.8
comp=Z,421nm,1.6s
DHY LR LR
comp=Z,2µm,19.0s
MDM Murphy Dome 23.17 42 eP P 11 27 25.4 -0.6
comp=Z,266nm,1.0s
MDM LR LR
comp=Z,4µm,18.0s
CCB Clear Creek Bu 23.27 43 eP P 11 27 26.4 -0.5
comp=Z,207nm,0.8s
CCB LR LR
comp=Z,3µm,19.0s
COLA College 23.30 43 eP P 11 27 27.1 -0.1
comp=Z,468nm,0.8s
COLA LR LR
comp=Z,3µm,19.0s
COLA College 23.30 43 eP P 11 27 27.1 -0.1
COLA pmax pmax
comp=Z,468nm,0.8s
COLA MLR MLR
comp=Z,3µm,19.0s
FID Port Fidalgo 23.32 53 eP P 11 27 26.8 -0.6
comp=Z,428nm,1.3s
FID LR LR
comp=Z,3µm,19.0s
HDA Harding Lake 23.58 44 eP P 11 27 28.9 -1.0
comp=Z,110nm,0.9s
HDA LR LR
comp=Z,2µm,19.0s
KLU Klutina 23.64 51 eP P 11 27 29.8 -0.8
comp=Z,150nm,0.9s
KLU LR LR
comp=Z,3µm,19.0s
EYAK Cordova Ski Ar 23.67 54 eP P 11 27 30.6 -0.2
comp=Z,152nm,1.2s
EYAK LR LR
comp=Z,4µm,19.0s
ILAR Eielson Array 23.68 43 P P 11 27 29.1 -1.8
comp=Z,63nm,0.8s,baz=249,slow=4.6,SNR=206
ILAR PcP PcP 11 31 13.3 -0.8
comp=Z,9.6nm,0.9s,baz=255,slow=2.9,SNR=7.5
ILAR ScP ScP 11 34 47.4 -2.2
comp=Z,3.4nm,1.0s,baz=277,slow=3.8,SNR=4.3
ILAR Eielson Array 23.68 43 P P 11 27 29.1 -1.8
ILAR PcP PcP 11 31 13.3 -0.8
ILAR ScP ScP 11 34 47.4 -2.2
ILB Eielson Array 23.68 43 eP P 11 27 29.6 -1.3
IL1 Eielson Array 23.68 43 eP P 11 27 29.6 -1.4
DIV Divide 23.68 52 eP P 11 27 29.6 -1.5
comp=Z,125nm,0.9s
PAX Paxson 23.99 48 eP P 11 27 32.8 -1.1
comp=Z,239nm,1.0s
PAX LR LR
comp=Z,3µm,19.0s
PAX Paxson 23.99 48 eP P 11 27 32.8 -1.1
PAX pmax pmax
comp=Z,239nm,1.0s
PAX MLR MLR
comp=Z,3µm,19.0s
HARP HAARP 24.07 49 eP P 11 27 34.2 -0.4
comp=Z,282nm,0.8s
RAGM Ragged Mountai 24.20 54 eP P 11 27 36.6 +0.7
comp=Z,772nm,1.4s
BMRM Bremner River 24.25 53 eP P 11 27 36.1 -0.2
comp=Z,135nm,0.9s
BMRM LR LR
comp=Z,3µm,20.0s
RIDG Independ'e Rid 24.37 46 eP P 11 27 36.3 -1.2
comp=Z,180nm,1.1s
RIDG LR LR
comp=Z,3µm,18.0s
DOT Dot Lake 24.71 46 eP P 11 27 39.9 -0.5
comp=Z,145nm,0.7s
DOT LR LR
comp=Z,3µm,19.0s
FYU Fort Yukon 24.77 39 eP P 11 27 40.8 -0.1
comp=Z,489nm,1.1s
FYU LR LR
comp=Z,3µm,19.0s
SCRK Sand Creek 24.78 45 eP P 11 27 40.2 -1.0
comp=Z,158nm,0.9s
SCRK LR LR
comp=Z,2µm,19.0s
MIDW Midway 25.09 160 eP P 11 27 45.0 +1.0
comp=Z,538nm,1.4s
YAK Yakutsk 25.10 310 P P 11 27 43.5 -0.3
comp=Z,666nm,0.8s,baz=86,slow=3.9,SNR=153
YAK S S 11 32 01.0 -4.9
comp=Z,5.3nm,0.3s,baz=308,slow=0.9,SNR=2.0
YAK LR LR 11 37 31.2
comp=Z,4µm,20.8s,baz=89,slow=36
YAK Yakutsk 25.10 310 eP P 11 27 43.1 -0.8
comp=Z,2µm,1.2s
YAK S S 11 32 01.0 -4.9
YAK LR LR
comp=Z,4µm,22.0s
YAK Yakutsk 25.10 310c iP P 11 27 42.9 -1.0
YAK e*PP pP 11 27 52.2 -1.2
YAK e 11 28 17.4
YAK e 11 31 15.9
YAK eS S 11 32 08.8 +2.9
YAK e*SS sS 11 32 25.5 +3.8
YAK eSS SnSn 11 33 22.3 +26
YAK e 11 38 39.1
YAK pmax pmax
comp=Z,2µm,1.1s
YAK pmax pmax
comp=E,1µm,1.1s
YAK pmax pmax
comp=N,255nm,1.0s
YAK pmax pmax
comp=Z,207nm,1.0s
YAK pmax pmax
comp=N,103nm,1.0s
YAK smax smax
comp=E,1µm,3.4s
YAK smax smax
comp=N,445nm,3.3s
YAK MLR MLR
comp=Z,3µm,19.0s
YAK MLR MLR
comp=E,2µm,17.0s
YAK MLR MLR
comp=N,2µm,19.0s
TEY Ternei 25.14 268 ⇑ iP P 11 27 44.5 +0.1
TEY pmax pmax
comp=Z,40nm,1.0s
TEY pmax pmax
comp=E,50nm,1.2s
TEY pmax pmax
comp=N,20nm,1.3s
EGAK Eagle 26.10 44 eP P 11 27 52.1 -0.9
comp=N,176nm,1.0s
EGAK LR LR
comp=Z,2µm,20.0s
KLR Kul'dur 26.24 280 P P 11 27 55.0 +0.6
comp=Z,56nm,0.9s,baz=65,slow=7.7,SNR=57
KLR PcP PcP 11 31 20.3 +0.2
comp=Z,8.6nm,0.8s,baz=67,slow=5.6,SNR=3.7
KLR Kul'dur 26.24 280 eP P 11 27 55.0 +0.6
KLR ePcP PcP 11 31 20.3 +0.2
KLR Kul'dur 26.24 280c iP P 11 27 54.7 +0.3
PCA Pinnacle 26.41 55 eP P 11 27 55.6 -0.3
comp=Z,180nm,0.8s
PCA LR LR
comp=Z,3µm,18.0s
DAWY Dawson 26.80 46 eP P 11 27 59.3 -0.1
comp=Z,106nm,0.8s

DAWY LR LR
comp=Z,3µm,18.0s
ZEA Zeya 27.40 291 *ce*P **P 11 28 04.1 -0.6**
ZEA *e* 11 28 55.0
ZEA *e*SS SS 11 34 14.0 -24
ZEA pmax pmax
comp=N,120nm,1.6s
ZEA pmax pmax
comp=E,160nm,1.6s
ZEA pmax pmax
comp=Z,230nm,1.4s
ZEA pmax pmax
comp=Z,1µm,9.0s
ZEA pmax pmax
comp=E,800nm,8.0s
ZEA pmax pmax
comp=E,600nm,9.0s
ZEA pmax pmax
comp=Z,600nm,9.0s
ZEA MLR MLR
comp=N,1µm,16.0s
ZEA MLR MLR
comp=E,1µm,16.0s
ZEA MLR MLR
comp=Z,3µm,16.0s
TIXI Tiksi 27.41 331 P **P 11 28 04.3 -0.4**
comp=Z,83nm,1.1s,baz=112,slow=10,SNR=57
TIXI PcP **PcP 11 31 22.3 -0.2**
comp=Z,26nm,0.5s,baz=136,slow=3.2,SNR=13
TIXI ScP **ScP 11 34 59.4 -0.8**
comp=Z,19nm,1.0s,baz=109,slow=3.2,SNR=9.2
TIXI ScS **ScS 11 38 50.2 -1.1**
comp=Z,0.8nm,0.3s,baz=84,slow=3.4,SNR=9.2
TIXI LR LR 11 39 03.7
comp=Z,3µm,19.4s,baz=101,slow=37
TIXI Tiksi 27.41 331 *e*P **P 11 28 04.3 -0.4**
comp=Z,9.4nm,1.4s
TIXI *e*PcP **PcP 11 31 22.3 -0.2**
TIXI *e*ScP **ScP 11 34 59.4 -0.8**
TIXI Tiksi 27.41 331 *ce*P **P 11 28 04.1 -0.6**
TIXI pmax pmax
comp=Z,141nm,1.3s
DHAK Deception Hill 27.54 57 PFAKE 11 28 20.0 +14
DHAK LR LR
comp=Z,3µm,20.0s
HYT Haines Junctio 27.72 53 *e*P **P 11 28 07.6 -0.1**
comp=Z,97nm,0.6s
HYT LR LR
comp=Z,3µm,18.0s
EPYK Eagle Plains 28.10 41 P **P 11 28 09.9 -1.0**
baz=265
USA0B Ussuriysk Arra 28.40 270 *e*P **P 11 28 14.0 +0.2**
comp=Z,60nm,1.4s
USRK Ussuriysk Ar. 28.40 270 P **P 11 28 13.9 +0.1**
comp=Z,37nm,1.1s,baz=55,slow=8.3,SNR=18
USRK PcP **PcP 11 31 25.9 +0.6**
comp=Z,23nm,1.0s,baz=47,slow=3.1,SNR=9.4
USRK ScP **ScP 11 35 03.9 +0.3**
comp=Z,1.5nm,0.8s,baz=98,slow=2.0,SNR=3.8
USRK Ussuriysk Ar. 28.40 270 P **P 11 28 13.9 +0.1**
USRK PcP **PcP 11 31 25.9 +0.6**
USRK ScP **ScP 11 35 04.0 +0.3**
SKAG Skagway 28.96 55 *e*P **P 11 28 19.2 +0.6**
comp=Z,46nm,0.9s
SKAG LR LR
comp=Z,3µm,18.0s
WHY Whitehorse 29.02 53 *e*P **P 11 28 19.9 +0.7**
comp=Z,30nm,1.1s
WHY LR LR
comp=Z,3µm,19.0s
VLA Vladivostok 29.04 268 *c i*P **P 11 28 20.4 +0.9**
VLA pmax pmax
comp=Z,90nm,1.1s
MAJO Matsushiro 29.31 251 *e*P **P 11 28 23.4 +1.4**
comp=Z,86nm,1.0s
MAJO *e*PcP **PcP 11 31 28.2 +0.4**
MAJO *e*ScP **ScP 11 35 06.8 0.0**
MAJO LR LR
comp=Z,2µm,21.0s
MAJO Matsushiro 29.31 251 *c i*P **P 11 28 23.2 +1.2**
MAJO pmax pmax
comp=Z,69nm,0.9s
MAT Matsushiro 29.31 251 P **P 11 28 23.6 +1.6**
MAT S **S 11 33 12.2 -0.7**
MJAR Matsushiro Arr 29.31 251 P **P 11 28 23.5 +1.5**
comp=Z,17nm,0.9s,baz=46,slow=6.6,SNR=22
MJAR PcP **PcP 11 31 28.2 +0.4**
comp=Z,4.4nm,0.7s,baz=288,slow=0.6,SNR=5.4
MJAR ScP **ScP 11 35 06.8 0.0**
comp=Z,4.6nm,1.1s,baz=271,slow=4.2,SNR=5.7
MJAR LR LR 11 43 11.1
comp=Z,416nm,19.2s,baz=60,slow=42
MJAR Matsushiro Arr 29.31 251 P **P 11 28 23.5 +1.5**
MJAR PcP **PcP 11 31 28.2 +0.4**
MJAR ScP **ScP 11 35 06.8 0.0**
MJB9 Matsu-Tunnel 29.31 251 *e*P **P 11 28 23.3 +1.3**
comp=Z,91nm,1.0s
MJB9 LR LR
comp=Z,2µm,21.0s
BESE Bessie Mountai 29.35 57 *e*P **P 11 28 21.6 -0.6**
comp=Z,42nm,0.8s
BESE LR LR
comp=Z,2µm,20.0s
INK Inuvik 29.52 37 P **P 11 28 22.9 -0.5**
comp=Z,32nm,0.7s,baz=264,slow=7.6,SNR=29
INK PcP **PcP 11 31 27.8 0.0**
comp=Z,16nm,0.5s,baz=266,slow=2.2,SNR=18
INK Inuvik 29.52 37 *e*P **P 11 28 22.8 -0.6**
comp=Z,82nm,1.1s
INK *e*PcP **PcP 11 31 28.1 +0.3**
INK LR LR
comp=Z,3µm,21.0s
JIS Juneau Island 29.65 58 *e*P **P 11 28 24.8 +0.1**
comp=Z,56nm,1.0s
JIS *e*PcP **PcP 11 31 29.2 +1.0**
JIS LR LR
comp=Z,2µm,19.0s
MDJ Mudanjiang 29.65 273 P **P 11 28 24.8 -0.1**
MDJ PP **PnPn 11 29 16.6 -3.9**
MDJ S **S 11 33 17.1 -1.0**
MDJ PcS **PcS 11 35 14.3 +2.7**
MDJ pmax pmax
comp=Z,36nm,1.0s
MDJ pmax pmax
comp=Z,290nm,6.8s
MDJ LR LR
comp=Z,2µm,15.1s
MDJ LR LR
comp=Z,2µm,20.7s
MDJ LR LR
comp=Z,3µm,22.3s
MDJ Mudanjiang 29.65 273 *e*P **P 11 28 24.6 -0.3**
comp=Z,25nm,0.8s
MDJ LR LR
comp=Z,3µm,20.0s
MSHR Mys Shultsa 29.79 268 *c i*P **P 11 28 27.3 +1.2**
INU Inuyama 30.84 251 *e*P **P 11 28 36.0 +0.6**
comp=Z,125nm,1.3s
CRAG Craig 31.01 63 *e*P **P 11 28 36.8 +0.1**
comp=Z,337nm,1.9s
WRAK Wrangell Islan 31.16 61 *e*P **P 11 28 39.1 +1.0**
comp=Z,238nm,1.8s
WRAK LR LR
comp=Z,2µm,21.0s
DLBC Dease Lake 31.85 56 P **P 11 28 45.5 +1.2**
comp=Z,42nm,0.9s,baz=256,slow=6.5,SNR=31
DLBC Dease Lake 31.85 56 *e*P **P 11 28 45.4 +1.1**
comp=Z,100nm,1.1s
DLBC LR LR
comp=Z,2µm,20.0s
DIB Dawson Inlet, 32.10 67 *e*P **P 11 28 47.8 +1.4**
comp=Z,66nm,0.9s
DIB LR LR
comp=Z,2µm,19.0s
H11N2 WAKE ISLAND Hy 32.96 191 T T 12 03 39.4
baz=7.4,slow=76,SNR=182
H11N3 WAKE ISLAND Hy 32.97 191 T T 12 03 51.7
baz=7.4,slow=76,SNR=372
H11N1 WAKE ISLAND Hy 32.97 191 T T 12 03 41.2
baz=7.4,slow=76,SNR=213
HIA Hailar 33.39 287 *e*P **P 11 28 57.0 -0.7**
comp=Z,117nm,1.3s
HIA LR LR
comp=Z,3µm,21.0s
HIA Hailar 33.39 287 *c i*P **P 11 28 56.9 -0.8**
HIA pmax pmax
comp=Z,64nm,1.2s

BOD Bodaibo 33.45 303 *e*P **P 11 28 57.3 -0.8**
BOD pmax pmax
comp=Z,306nm,1.5s
H11S1 WAKE ISLAND Hy 34.19 191 T T 12 05 17.7
baz=6.8,slow=76,SNR=620
H11S3 WAKE ISLAND Hy 34.20 191 T T 12 05 25.0
baz=6.8,slow=76,SNR=775
H11S2 WAKE ISLAND Hy 34.20 191 T T 12 05 17.4
baz=6.8,slow=76,SNR=377
CBIJ Chichi jima 34.36 235 *e*P **P 11 29 07.1 +0.8**
comp=Z,673nm,1.3s
KSRS Korea Array 34.85 263 P **P 11 29 11.9 +1.4**
comp=Z,75nm,1.1s,baz=58,slow=8.3,SNR=72
KSRS PcP **PcP 11 31 43.8 +0.9**
comp=Z,5.4nm,0.9s,baz=353,slow=1.8,SNR=6.3
KSRS LR LR 11 43 40.6
comp=Z,834nm,19.4s,baz=55,slow=37
SNY Shenyang 34.86 273 ⇑P **P 11 29 10.8 +0.3**
SNY S **S 11 34 47.0 +8.0**
SNY pmax pmax
comp=Z,45nm,1.1s
SNY pmax pmax
comp=Z,560nm,3.8s
SNY LR LR
comp=Z,3µm,16.9s
SNY LR LR
comp=Z,1µm,17.7s
SNY LR LR
comp=Z,2µm,17.5s
KS01 Wonju Array Si 34.86 263 *e*P **P 11 29 10.7 +0.2**
KS01 *e*PcP **PcP 11 31 43.8 +0.9**
KS15 Wonju Array Si 34.88 263 *e*P **P 11 29 11.4 +0.7**
KSAR Wonju Array Be 34.88 263 P **P 11 29 11.9 +1.1**
KSAR PcP **PcP 11 31 43.8 +0.8**
KSAR Wonju Array Be 34.88 263 P **P 11 29 11.9 +1.1**
KSAR 11 31 43.8
BBB Bella Bella 34.95 66 *e*P **P 11 29 11.6 +0.5**
comp=Z,126nm,0.8s
BBB LR LR
comp=Z,1µm,19.0s
CIT Chita 35.76 294 *e*P **P 11 29 18.7 +0.5**
CIT *e* 11 29 28.7
CIT pmax pmax
comp=Z,410nm,1.4s
TJN Taejon 35.89 262 *c i*P **P 11 29 21.0 +1.6**
JNU Nakatsue 36.01 255 P **P 11 29 21.7 +1.2**
comp=Z,52nm,1.0s,baz=61,slow=3.7,SNR=11
JNU PcP **PcP 11 31 46.1 -0.3**
comp=Z,15nm,0.9s,baz=164,slow=1.3,SNR=3.0
JNU LR LR 11 43 15.8
comp=Z,2µm,21.8s,baz=58,slow=35
JNU Nakatsue 36.01 255 *e*P **P 11 29 20.6 +0.2**
comp=Z,91nm,1.1s
JNU PcP **PcP 11 31 46.1 -0.3**
JNU LR LR
comp=Z,2µm,21.0s
OPA Opana 37.72 133 *e*P **P 11 29 37.4 +2.2**
comp=Z,269nm,1.0s
DL2 Dalian 37.79 270 ⇑*i*P **P 11 29 36.3 +0.8**
DL2 sP **sP 11 29 47.9 -1.4**
DL2 PP **PnPn 11 31 05.0 +1.7**
DL2 S **S 11 35 27.5 +3.6**
DL2 pmax pmax
comp=Z,270nm,0.9s
DL2 pmax pmax
comp=Z,670nm,3.9s
DL2 LR LR
comp=Z,1µm,15.2s
DL2 LR LR
comp=Z,1µm,16.1s
DL2 LR LR
comp=Z,2µm,16.3s
KIP Kipapa 37.95 134 *e*P **P 11 29 38.7 +1.7**
comp=Z,153nm,0.9s
KIP Kipapa 37.95 134 *ce*P **P 11 29 39.3 +2.3**
KIP *e**SP **pP 11 29 48.0 +1.2**
KIP pmax pmax
comp=Z,1µm,1.7s
YKW3 Yellowknife Ar 38.02 46 *e*P **P 11 29 37.2 0.0**
comp=Z,67nm,1.0s
YKW3 LR LR
comp=Z,2µm,19.0s
HON Honolulu 38.05 134 *e*P **P 11 29 39.3 +1.5**
comp=Z,316nm,1.0s
HON Honolulu 38.05 134 *e*P **P 11 29 39.3 +1.5**
HON pmax pmax
comp=Z,316nm,1.0s
YKA Yellowknife Ar 38.05 46 P **P 11 29 37.3 -0.1**
comp=Z,38nm,0.7s,baz=288,slow=7.9,SNR=69
YKA PcP **PcP 11 31 52.4 +0.4**
comp=Z,11nm,0.8s,baz=293,slow=3.2,SNR=6.4
YKA ScP **ScP 11 35 35.1 -1.8**
comp=Z,4.0nm,0.9s,baz=288,slow=3.8,SNR=5.8
YKA Yellowknife Ar 38.05 46 P **P 11 29 37.3 -0.1**
YKA PcP **PcP 11 31 52.4 +0.4**
YKA ScP **ScP 11 35 35.1 -1.8**
YKB5 Yellowknife Ar 38.05 46 *e*P **P 11 29 36.8 -0.7**
YKB5 *e*PcP **PcP 11 31 52.8 +0.7**
PGC Sidney 39.21 69 *e*P **P 11 29 47.9 +0.5**
comp=Z,88nm,0.8s
HLK Haleakala 39.33 132 PFAKE 11 30 00.0 +11
HLK LR LR
comp=Z,5µm,22.0s
A04D Lummi Island 39.60 69 P **P 11 29 50.0 -0.6**
baz=300,SNR=6.1
A05A Maple Falls 39.82 68 *e*P **P 11 29 52.7 +0.3**
comp=Z,29nm,0.4s
MHA Mahukona 39.98 132 *e*P **P 11 29 55.9 +1.9**
MHA Mahukona 39.98 132 *e*P **P 11 29 55.9 +1.9**
D03D Eldon 39.99 71 P **P 11 29 54.4 +0.5**
baz=302,SNR=50
B05A Bryant 40.19 69 P **P 11 29 55.4 0.0**
baz=301,SNR=29
HPAH Hawaii Prepara 40.21 132 *e*P **P 11 29 57.2 +1.1**
comp=Z,131nm,0.9s
HPAH LR LR
comp=Z,3µm,22.0s
E03A Lebam 40.24 72 *e*P **P 11 29 56.4 +0.5**
comp=Z,128nm,0.9s
E03A LR LR
comp=Z,1µm,19.0s
D04E Lakebay 40.36 71 P **P 11 29 56.3 -0.6**
baz=302
B06A Marblemount 40.41 69 *e*P **P 11 29 57.2 -0.1**
comp=Z,83nm,0.8s
B06A LR LR
comp=Z,1µm,19.0s
BJI Beijing 40.44 276 ⇑*i*P **P 11 29 58.6 +1.0**
BJI PP **PP 11 31 31.8 +0.9**
BJI S **S 11 36 08.8 +5.1**
BJI pmax pmax
comp=Z,50nm,2.0s
BJI pmax pmax
comp=Z,710nm,3.6s
BJI LR LR
comp=Z,1µm,16.6s
BJT Baijiatuau 40.45 276 *e*P **P 11 29 58.2 +0.4**
comp=Z,114nm,1.3s
BJT LR LR
comp=Z,2µm,20.0s
BJT Baijiatuau 40.45 276 *e*P **P 11 29 58.2 +0.4**
BJT pmax pmax
comp=Z,113nm,1.3s
BJT MLR MLR
comp=Z,2µm,20.0s
POHA Pohakuloa 40.53 132 *e*P **P 11 30 00.0 +1.2**
comp=Z,200nm,0.9s
MLOA Mauna Loa Obse 40.70 132 *e*P **P 11 30 01.4 +0.9**
comp=Z,228nm,1.2s
IRK Irkutsk 40.77 298 *e*P **P 11 29 59.8 -0.5**
IRK pmax pmax
comp=Z,152nm,3.0s
F04D Rainier, OR 40.81 73 P **P 11 30 00.2 -0.4**
baz=303
D05A Enumclaw 40.81 71 *e*P **P 11 30 00.8 +0.2**
comp=Z,174nm,0.8s
D05A LR LR
comp=Z,800nm,19.0s
E04D Cinebar 40.81 72 P **P 11 30 00.8 +0.1**
baz=303,SNR=30
RES Resolute Bay 40.84 24 P **P 11 29 60.0 -0.5**
comp=Z,28nm,0.9s,baz=324,slow=11,SNR=23
RES PcP **PcP 11 32 00.4 -0.3**
comp=Z,36nm,0.8s,baz=259,slow=3.5,SNR=6.9
RES Resolute Bay 40.84 24 *e*P **P 11 30 00.0 -0.5**
comp=Z,37nm,0.9s

RES *e*PcP **PcP 11 32 01.3 +0.6**
RES LR LR
comp=Z,2µm,21.0s
RES Resolute Bay 40.84 24 *e*P **P 11 30 00.0 -0.5**
RES *e* 11 32 01.3
RES pmax pmax
comp=Z,37nm,0.9s
RES MLR MLR
comp=Z,2µm,21.0s
SBLHI Steaming Bluff 40.94 131 PFAKE 11 30 10.0 +7.9
SBLHI LR LR
comp=Z,3µm,21.0s
HATHI Halema'uma'u T 40.94 131 PFAKE 11 30 10.0 +7.9
HATHI LR LR
comp=Z,3µm,20.0s
NPH North Pit 40.94 131 PFAKE 11 30 10.0 +7.9
NPH LR LR
comp=Z,3µm,19.0s
KKO Keanakako'i 40.96 131 PFAKE 11 30 20.0 +18
KKO LR LR
comp=Z,4µm,21.0s
PUH Pauahi 41.01 131 *e*P **P 11 30 03.8 +1.1**
comp=Z,329nm,1.3s
NPOC North of Pu'u 41.04 131 PFAKE 11 30 20.0 +17
NPOC LR LR
comp=Z,4µm,21.0s
STCH Steam Cracks 41.04 131 PFAKE 11 30 20.0 +17
STCH LR LR
comp=Z,4µm,21.0s
NRIK Noril'sk 41.04 327 P **P 11 30 02.0 -0.3**
comp=Z,62nm,0.9s,baz=79,slow=7.1,SNR=67
NRIK PcP **PcP 11 32 02.2 +0.7**
comp=Z,33nm,1.0s,baz=6.7,slow=6.1,SNR=3.4
NRIK ScP **ScP 11 35 48.6 +0.2**
comp=Z,6.6nm,0.8s,baz=70,slow=6.6,SNR=4.3
NRIK LR LR 11 47 35.1
comp=Z,3µm,19.2s,baz=69,slow=37
JCUZ Jacuzzi 41.05 131 PFAKE 11 30 20.0 +17
JCUZ LR LR
comp=Z,4µm,20.0s
C06D Leavenworth 41.05 69 P **P 11 30 02.3 -0.4**
baz=302
G03D McMinnville, O 41.14 74 P **P 11 30 03.4 0.0**
baz=304
LON Longmire 41.15 71 *e*P **P 11 30 03.5 0.0**
comp=Z,45nm,0.8s
LON LR LR
comp=Z,800nm,19.0s
LON Longmire 41.15 71 *e*P **P 11 30 03.5 0.0**
LON pmax pmax
comp=Z,45nm,0.8s
LON MLR MLR
comp=Z,800nm,19.0s
B202 Windy Ridge, M 41.23 72 *e*P **P 11 30 05.1 +0.9**
TLY Talaya 41.38 298 P **P 11 30 05.5 +0.2**
comp=Z,40nm,0.9s,baz=35,slow=6.9,SNR=25
TLY Talaya 41.38 298 *e*P **P 11 30 05.5 +0.2**
comp=Z,6.6nm,1.0s
TLY LR LR
comp=Z,10µm,22.0s
TLY Talaya 41.38 298 *c i*P **P 11 30 05.7 +0.4**
TLY *e* 11 31 42.1
TLY *e* 11 32 03.5
TLY *e*S **S 11 36 19.5 +1.9**
TLY pmax pmax
comp=Z,61nm,0.9s
TLY MLR MLR
comp=Z,8µm,19.0s
I02D Swisshome 41.41 76 P **P 11 30 06.3 +0.7**
baz=305
ULN Ulaanbaatar 41.43 291 *e*P **P 11 30 05.5 -0.5**
comp=Z,149nm,1.2s
ULN LR LR
comp=Z,2µm,19.0s
ULN Ulaanbaatar 41.43 291 P **P 11 30 06.6 +0.6**
SNR=55
ULN Ulaanbaatar 41.43 291 *ce*P **P 11 30 06.4 +0.4**
ULN pmax pmax
comp=Z,156nm,1.3s
COR Corvallis 41.46 75 *e*P **P 11 30 07.5 +1.5**
comp=Z,182nm,1.5s
COR LR LR
comp=Z,1µm,20.0s
COR Corvallis 41.46 75 *e*P **P 11 30 07.5 +1.5**
COR pmax pmax
comp=Z,182nm,1.5s
COR MLR MLR
comp=Z,1µm,20.0s
LTY Liberty 41.53 70 *e*P **P 11 30 06.5 -0.2**
comp=Z,61nm,0.8s
LTY *e*PcP **PcP 11 32 03.4 -0.2**
LTY LR LR
comp=Z,1µm,18.0s
B08A Colville Reser 41.71 68 *e*P **P 11 30 07.9 -0.2**
comp=Z,140nm,0.8s
B08A *e*PcP **PcP 11 32 04.8 +0.7**
B08A LR LR
comp=Z,1µm,18.0s
SONA1 Songino Array 41.81 292 *e*P **P 11 30 09.1 0.0**
SONA1 *e*PcP **PcP 11 32 04.8 +0.2**
F05D White Salmon 41.82 72 P **P 11 30 08.9 -0.1**
baz=304
SONA0 Songino Array 41.82 292 *e*P **P 11 30 09.8 +0.7**
SONA0 *e*PcP **PcP 11 32 04.6 +0.1**
SONA0 *e*ScP **ScP 11 35 52.3 +0.2**
SONM Songino Array 41.82 292 P **P 11 30 09.8 +0.7**
comp=Z,43nm,0.9s,baz=59,slow=9.6,SNR=116
SONM PcP **PcP 11 32 04.6 +0.1**
comp=Z,9.0nm,0.8s,baz=94,slow=2.7,SNR=4.8
SONM ScP **ScP 11 35 52.3 +0.2**
comp=Z,9.6nm,1.1s,baz=66,slow=1.7,SNR=9.7
SONM LR LR 11 49 07.4
comp=Z,2µm,18.2s,baz=60,slow=38
SONM Songino Array 41.82 292 P **P 11 30 09.8 +0.7**
SONM PcP **PcP 11 32 04.6 +0.1**
SONM ScP **ScP 11 35 52.3 +0.2**
KEBM Edson Butte 41.83 77 *e*P **P 11 30 10.9 +1.8**
comp=Z,75nm,1.3s
KEBM LR LR
comp=Z,2µm,18.0s
H04D Lebanon 41.83 74 P **P 11 30 08.5 -0.6**
baz=305
J01E Myrtle Point 41.90 77 P **P 11 30 09.9 +0.3**
baz=306
I03D Drain, OR 41.94 76 P **P 11 30 09.7 -0.3**
baz=305
H04A Detroit Lake 42.07 74 *e*P **P 11 30 12.0 +0.9**
comp=Z,67nm,0.9s
H04A LR LR
comp=Z,1µm,18.0s
JOW Kunigami 42.15 251 P **P 11 30 12.8 +1.0**
comp=Z,119nm,1.0s,baz=42,slow=7.4,SNR=11
JOW LR LR 11 44 42.9
comp=Z,424nm,21.9s,baz=94,slow=32
JOW Kunigami 42.15 251 *e*P **P 11 30 13.0 +1.1**
comp=Z,193nm,1.1s
ZAK Zakamensk 42.23 296 *e*P **P 11 30 12.2 -0.2**
ZAK pmax pmax
comp=Z,55nm,1.5s
ZAK pmax pmax
comp=Z,12nm,1.4s
G05D Wamic, OR 42.26 73 P **P 11 30 12.5 -0.2**
baz=304,SNR=12
KBO Bosley Butte 42.28 78 *e*P **P 11 30 14.3 +1.5**
comp=Z,112nm,1.5s
KBO LR LR
comp=Z,2µm,22.0s
K02D Willamette Mer 42.33 77 P **P 11 30 13.8 +0.5**
baz=306,SNR=5.7
E07A Sunnyside 42.38 70 *e*P **P 11 30 13.8 +0.2**
comp=Z,260nm,1.5s
E07A LR LR
comp=Z,1µm,18.0s
I04A Tendick Farm, 42.44 75 P **P 11 30 13.0 -1.1**
baz=305,SNR=8.6
C09A Chrisman Ranch 42.61 68 *e*P **P 11 30 15.2 -0.2**
comp=Z,140nm,0.9s
C09A LR LR
comp=Z,2µm,18.0s
HAWA Hanford 42.66 70 *e*P **P 11 30 15.5 -0.3**
comp=Z,186nm,0.8s
HAWA LR LR
comp=Z,1µm,18.0s
G06A Carlson Farm, 42.66 72 *e*P **P 11 30 16.0 0.0**
comp=Z,35nm,0.9s
G06A LR LR
comp=Z,1µm,19.0s

L02E	**Cave Junction**	**42.68**	**78**	P	**P**	11 30 16.5	+0.4
	baz=307						
F07A	**Phinny Hill Vi**	**42.71**	**71**	*e*P	**P**	11 30 16.5	+0.3
	comp=Z,142nm,0.8s						
F07A				LR	LR		
	comp=Z,1μm,18.0s						
HHC	**Hu-ho-hao-te**	**42.75**	**280**	*e*P	**P**	11 30 17.6	+0.9
HHC				PP	**PP**	11 31 59.0	+3.0
HHC				S	**S**	11 36 32.8	-5.4
HHC				sS	sS	11 36 53.9	-0.5
HHC				pmax	pmax		
	comp=Z,89nm,1.8s						
HHC				pmax	pmax		
	comp=Z,250nm,6.0s						
HHC				LR	LR		
	comp=Z,1μm,15.7s						
HHC				LR	LR		
	comp=Z,1μm,18.4s						
HHC				LR	LR		
	comp=Z,2μm,21.6s						
I05D	**Terrebonne, OR**	**42.76**	**74**	P	**P**	11 30 16.1	-0.7
	baz=305,SNR=8.8						
HUMO	**Hull Mountain**	**42.80**	**77**	*e*P	**P**	11 30 17.6	+0.5
	comp=Z,20nm,1.0s						
HUMO				LR	LR		
	comp=Z,1μm,18.0s						
MOY	**Mondy**	**42.82**	**299**	*e*P	**P**	11 30 17.6	+0.4
MOY				pmax	pmax		
	comp=Z,173nm,2.6s						
E08A	**Dider Farm, El**	**42.88**	**70**	*e*P	**P**	11 30 17.4	-0.1
	comp=Z,98nm,0.8s						
E08A				LR	LR		
	comp=Z,1μm,19.0s						
KRMB	**Red Mountain**	**42.88**	**79**	*e*P	**P**	11 30 18.3	+0.5
J04D	**Umpqua Nationa**	**42.94**	**76**	P	**P**	11 30 18.6	+0.3
	baz=306						
NEW	**Newport**	**43.01**	**67**	*e*P	**P**	11 30 18.4	-0.3
	comp=Z,132nm,1.1s						
NEW				LR	LR		
	comp=Z,1μm,19.0s						
NEW	**Newport**	**43.01**	**67**	*e*P	**P**	11 30 18.4	-0.3
NEW				pmax	pmax		
	comp=Z,132nm,1.1s						
NEW				MLR	MLR		
	comp=Z,1μm,19.0s						
NEW	**Newport**	**43.01**	**67**	P	**P**	11 30 18.0	-0.7
	baz=303,SNR=73						
JCC	**Jacoby Creek,**	**43.23**	**80**	*e*P	**P**	11 30 22.3	+1.9
	comp=Z,44nm,1.2s						
SSE	**Sheshan**	**43.25**	**262**	P	**P**	11 30 21.3	+0.6
SSE				S	**S**	11 36 47.4	+2.0
SSE				pmax	pmax		
	comp=Z,75nm,1.2s						
SSE				pmax	pmax		
	comp=Z,350nm,3.5s						
SSE				LR	LR		
	comp=Z,670nm,19.7s						
SSE				LR	LR		
	comp=Z,400nm,18.7s						
PINE	**Pine Mountain**	**43.31**	**74**	*e*P	**P**	11 30 22.2	+0.8
	comp=Z,39nm,1.0s						
PINE				LR	LR		
	comp=Z,1μm,20.0s						
KHMM	**Horse Mountain**	**43.38**	**79**	*e*P	**P**	11 30 22.8	+1.0
	comp=Z,34nm,0.9s						
KHMM				LR	LR		
	comp=Z,1μm,20.0s						
E09A	**Wood Farm, Sta**	**43.39**	**69**	*e*P	**P**	11 30 21.4	-0.3
	comp=Z,114nm,1.0s						
E09A				LR	LR		
	comp=Z,1μm,18.0s						
L04D	**Klamath Falls**	**43.42**	**77**	P	**P**	11 30 21.6	-0.6
	baz=307,SNR=17						
J05D	**Fort Rock, OR**	**43.43**	**75**	P	**P**	11 30 22.3	+0.1
	baz=306,SNR=16						
YBH	**Yreka Blue Hor**	**43.47**	**78**	P	**P**	11 30 22.8	+0.2
	comp=Z,8.6nm,1.1s,baz=342,slow=3.7,SNR=12						
YBH				PcP	**PcP**	11 32 10.6	+0.5
	comp=Z,6.4nm,0.8s,baz=305,slow=2.7,SNR=2.2						
YBH				ScP	**ScP**	11 35 58.8	0.0
	comp=Z,6.0nm,1.2s,baz=134,slow=4.5,SNR=4.3						
YBH	**Yreka Blue Hor**	**43.47**	**78**	*e*P	**P**	11 30 23.4	+0.9
	comp=Z,32nm,0.9s						
YBH				PcP	**PcP**	11 32 10.6	+0.5
YBH				ScP	**ScP**	11 35 58.8	0.0
YBH				LR	LR		
	comp=Z,1μm,18.0s						
K04D	**Chiloquin, OR**	**43.51**	**76**	P	**P**	11 30 21.8	-1.1
	baz=307,SNR=5.7						
M02C	**Callahan**	**43.59**	**78**	P	**P**	11 30 23.3	-0.2
	baz=307						
G08A	**Pilot Rock**	**43.61**	**71**	*e*P	**P**	11 30 23.7	+0.1
	comp=Z,36nm,0.9s						
G08A				LR	LR		
	comp=Z,700nm,22.0s						
KMRM	**Mail Ridge**	**43.79**	**80**	*e*P	**P**	11 30 26.6	+1.6
	comp=Z,36nm,1.0s						
KMRM				LR	LR		
	comp=Z,2μm,19.0s						
BTO	**Baotou**	**43.83**	**281**	*e*P	P	11 30 19.8	-5.6
BTO				*ep*P	**PP**	11 32 04.9	-2.7
BTO				S	**S**	11 36 48.8	-5.2
BTO				LR	LR		
	comp=N,1984μm,15.8s						
BTO				LR	LR		
	comp=E,2702μm,17.1s						
N02D	**Trinity Center**	**43.93**	**79**	P	**P**	11 30 25.8	-0.4
	baz=308						
M04C	**Macdoel**	**43.96**	**77**	P	**P**	11 30 26.4	-0.2
	baz=307						
I07A	**Izee**	**43.99**	**73**	*e*P	**P**	11 30 27.1	+0.4
	comp=E,44nm,0.9s						
NJ2	**Nanjing**	**44.00**	**265**	*e*P	**P**	11 30 27.4	+0.7
NJ2				pP	**pP**	11 30 36.8	+0.2
NJ2				sP	**sP**	11 30 40.3	-0.3
NJ2				PcP	**PcP**	11 32 13.6	+1.7
NJ2				S	**S**	11 36 58.0	+1.6
NJ2				sS	**sS**	11 37 12.1	-0.6
NJ2				pmax	pmax		
	comp=E,85nm,1.1s						
NJ2				pmax	pmax		
	comp=E,580nm,6.5s						
NJ2				LR	LR		
	comp=E,1μm,16.3s						
NJ2				LR	LR		
	comp=E,780nm,15.2s						
NJ2				LR	LR		
	comp=E,2μm,21.7s						
TIY	**Taiyuan**	**44.17**	**276**	*e*P	**P**	11 30 29.6	+1.5
TIY				pP	**sP**	11 30 42.6	+0.6
TIY				PP	**PcP**	11 32 14.6	+2.1
TIY				S	**S**	11 37 01.3	+2.4
TIY				pmax	pmax		
	comp=E,140nm,0.9s						
TIY				pmax	pmax		
	comp=E,810nm,3.6s						
TIY				LR	LR		
	comp=E,1μm,13.6s						
TIY				LR	LR		
	comp=E,170nm,6.0s						
TIY				LR	LR		
	comp=E,720nm,12.7s						
KCPM	**Cahto Peak**	**44.19**	**81**	*e*P	**P**	11 30 30.1	+1.7
	comp=E,37nm,0.9s						
KCPM				LR	LR		
	comp=Z,2μm,22.0s						
F10A	**Beach Ranch, E**	**44.22**	**69**	*e*P	**P**	11 30 28.2	-0.3
	comp=Z,51nm,1.0s						
F10A				LR	LR		
	comp=Z,900nm,20.0s						
WDC	**Whiskeytown Da**	**44.27**	**79**	*e*P	**P**	11 30 29.3	+0.5
	comp=Z,28nm,1.1s						
WDC				LR	LR		
	comp=Z,1μm,18.0s						
WDC	**Whiskeytown Da**	**44.27**	**79**	*e*P	**P**	11 30 29.3	+0.5
WDC				pmax	pmax		
	comp=Z,28nm,1.1s						
WDC				MLR	MLR		
	comp=Z,1μm,18.0s						
WALA	**Waterton Lakes**	**44.37**	**64**	*e*P	**P**	11 30 29.6	-0.1
	comp=Z,146nm,0.8s						
WALA				LR	LR		
	comp=Z,2μm,18.0s						
O02D	**Mt. Diablo Mer**	**44.37**	**80**	P	**P**	11 30 29.8	+0.1
	baz=308						
BSMT	**Bassoo Peak**	**44.55**	**66**	*e*P	**P**	11 30 31.1	-0.1
MOD	**Modoc Plateau**	**44.81**	**76**	*e*P	**P**	11 30 33.7	+0.4
	comp=Z,32nm,0.8s						
MOD				LR	LR		
	comp=Z,900nm,18.0s						
BMO	**Blue Mountains**	**44.82**	**71**	*e*P	**P**	11 30 33.1	-0.2
	comp=Z,47nm,0.9s						
BMO				LR	LR		
	comp=Z,1μm,19.0s						
BMO	**Blue Mountains**	**44.82**	**71**	*e*P	**P**	11 30 33.1	-0.2
BMO				pmax	pmax		
	comp=Z,47nm,0.9s						
BMO				MLR	MLR		
	comp=Z,1μm,19.0s						
JTMT	**Jette**	**44.89**	**66**	*e*P	**P**	11 30 33.8	-0.1
	comp=Z,45nm,0.9s						
JTMT				LR	LR		
	comp=Z,700nm,19.0s						
O03E	**Paynes Creek**	**44.89**	**79**	P	**P**	11 30 33.1	-0.8
	baz=308,SNR=10						
GUMO	**Guam**	**44.90**	**221**	LR	LR	11 45 54.6	
	comp=Z,583nm,21.9s,baz=54,slow=31						
HOPS	**Hopland Field**	**44.93**	**81**	*e*P	**P**	11 30 35.3	+1.1
	comp=Z,52nm,1.1s						
HOPS				LR	LR		
	comp=Z,3μm,22.0s						
J08A	**Circle Bar Ran**	**45.02**	**73**	*e*P	**P**	11 30 35.2	+0.3
	comp=Z,29nm,0.9s						
J08A				LR	LR		
	comp=Z,900nm,18.0s						
GDXM	**Geysers**	**45.22**	**81**	*e*P	**P**	11 30 37.5	+1.0
	comp=Z,46nm,1.2s						
GDXM				LR	LR		
	comp=Z,3μm,22.0s						
KNGR	**Kungurtug, Tuv**	**45.24**	**300**	*c* iP	**P**	11 30 36.9	+0.3
WVOR	**Wild Horse Val**	**45.47**	**74**	*e*P	**P**	11 30 38.8	+0.3
	comp=Z,42nm,1.0s						
WVOR				LR	LR		
	comp=Z,1μm,19.0s						
TULEG	**Thule**	**45.50**	**17**	*e*P	**P**	11 30 38.2	+0.1
	comp=Z,50nm,0.8s						
TULEG				LR	LR		
	comp=Z,2μm,20.0s						
ORV	**Oroville**	**45.53**	**79**	*e*P	**P**	11 30 38.8	-0.1
	comp=Z,16nm,0.9s						
ORV				LR	LR		
	comp=Z,1μm,22.0s						
ORV	**Oroville**	**45.53**	**79**	*e*P	**P**	11 30 38.8	-0.1
ORV				pmax	pmax		
	comp=Z,16nm,0.9s						
ORV				MLR	MLR		
	comp=Z,1μm,22.0s						
MCCM	**Marconi Confer**	**45.59**	**82**	PFAKE		11 30 50.0	+11
MCCM				LR	LR		
	comp=Z,2μm,22.0s						
MSO	**Missoula**	**45.60**	**67**	*e*P	**P**	11 30 39.1	-0.4
	comp=Z,64nm,0.9s						
MSO				LR	LR		
	comp=Z,800nm,20.0s						
MSO	**Missoula**	**45.60**	**67**	P	**P**	11 30 38.8	-0.7
	baz=305,SNR=24						
BEKR	**Beckworth**	**46.02**	**78**	*e*P	**P**	11 30 43.3	+0.3
	comp=Z,28nm,0.8s						
BEKR				LR	LR		
	comp=Z,600nm,20.0s						
AFDM	**Forest Hills D**	**46.23**	**80**	*e*P	**P**	11 30 45.2	+0.8
	comp=Z,21nm,0.9s						
AFDM				LR	LR		
	comp=Z,2μm,22.0s						
MFID	**Camas Ranch**	**46.53**	**71**	*e*P	**P**	11 30 46.9	+0.1
	comp=Z,47nm,0.9s						
MFID				LR	LR		
	comp=Z,800nm,22.0s						
RUBR	**Rubicon Trail**	**46.66**	**79**	*e*P	**P**	11 30 48.9	+0.8
	comp=Z,41nm,0.8s						
RUBR				LR	LR		
	comp=Z,2μm,22.0s						
PAHR	**Pah Rah Range**	**46.71**	**78**	*e*P	**P**	11 30 48.2	-0.2
	comp=Z,69nm,1.4s						
PAHR				LR	LR		
	comp=Z,1μm,19.0s						
VCNR	**Virginia City**	**46.81**	**78**	*e*P	**P**	11 30 49.5	+0.3
	comp=Z,36nm,1.1s						
VCNR				LR	LR		
	comp=Z,1μm,22.0s						
HRY	**Holter Researc**	**46.85**	**66**	*e*P	**P**	11 30 49.0	-0.3
HVS	**Khovu-Aksy**	**46.95**	**302**	*d* iP	**P**	11 30 50.5	+0.5
HVS				pmax	pmax		
	comp=Z,96nm,1.1s						
PNTR	**Pine Nut**	**46.97**	**79**	*e*P	**P**	11 30 51.0	+0.5
	comp=Z,50nm,0.8s						
PNTR				LR	LR		
	comp=Z,1μm,21.0s						
LRM	**Limekiln Ridge**	**47.03**	**67**	*e*P	**P**	11 30 47.2	-3.6
CMB	**Columbia Colle**	**47.17**	**80**	*e*P	**P**	11 30 52.0	+0.2
	comp=Z,25nm,0.8s						
CMB				LR	LR		
	comp=Z,2μm,21.0s						
CMB	**Columbia Colle**	**47.17**	**80**	*e*P	**P**	11 30 52.0	+0.2
CMB				pmax	pmax		
	comp=Z,25nm,0.8s						
CMB				MLR	MLR		
	comp=Z,2μm,21.0s						
DLMT	**Dillon**	**47.22**	**67**	*e*P	**P**	11 30 51.9	-0.3
	comp=Z,64nm,1.0s						
EGMT	**Eagleton**	**47.23**	**63**	*e*P	**P**	11 30 51.7	-0.5
	comp=Z,81nm,0.8s						
EGMT				LR	LR		
	comp=Z,1μm,20.0s						
EGMT	**Eagleton**	**47.23**	**63**	P	**P**	11 30 51.3	-0.9
	baz=306,SNR=29						
YERR	**Yerington**	**47.25**	**78**	*e*P	**P**	11 30 52.9	+0.2
	comp=Z,34nm,1.0s						
YERR				LR	LR		
	comp=Z,1μm,22.0s						
HLID	**Hailey**	**47.26**	**70**	*e*P	**P**	11 30 52.8	+0.1
	comp=Z,56nm,1.0s						
HLID				LR	LR		
	comp=Z,1μm,19.0s						
HLID	**Hailey**	**47.26**	**70**	P	**P**	11 30 52.2	-0.4
	baz=308,SNR=22						
SAO	**San Andreas Ge**	**47.35**	**82**	*e*P	**P**	11 30 54.1	+0.9
	comp=Z,19nm,0.9s						
SAO				LR	LR		
	comp=Z,1μm,21.0s						
SAO	**San Andreas Ge**	**47.35**	**82**	*e*P	**P**	11 30 54.1	+0.9
SAO				pmax	pmax		
	comp=Z,19nm,0.9s						
SAO				MLR	MLR		
	comp=Z,1μm,21.0s						
MCMT	**McKenzie Canyo**	**47.39**	**68**	*e*P	**P**	11 30 53.2	-0.5
FFC	**Flin Flon**	**47.42**	**52**	*e*P	**P**	11 30 53.5	0.0
	comp=Z,70nm,1.0s						
FFC				LR	LR		
	comp=Z,2μm,19.0s						
FFC	**Flin Flon**	**47.42**	**52**	*e*P	**P**	11 30 53.5	0.0
FFC				pmax	pmax		
	comp=Z,70nm,1.0s						
FFC				MLR	MLR		
	comp=Z,2μm,19.0s						
WAKR	**Walker**	**47.44**	**79**	*e*P	**P**	11 30 54.8	+0.6
	comp=Z,20nm,0.8s						
WAKR				LR	LR		
	comp=Z,2μm,22.0s						
BMN	**Battle Mountai**	**47.54**	**76**	*e*P	**P**	11 30 55.0	+0.2
	comp=Z,30nm,1.0s						
BMN				LR	LR		
	comp=Z,800nm,20.0s						
BOZ	**Bozeman (W)**	**47.62**	**67**	*e*P	**P**	11 30 54.8	-0.6
	comp=Z,71nm,0.8s						
BOZ	**Bozeman (W)**	**47.62**	**67**	*e*P	**P**	11 30 54.8	-0.6
BOZ				pmax	pmax		
	comp=Z,71nm,0.8s						
BOZ	**Bozeman (W)**	**47.62**	**67**	P	**P**	11 30 54.9	-0.5
	baz=307,SNR=18						
WHN	**Wuhan**	**47.81**	**267**	⇑P	**P**	11 30 57.4	+0.6
WHN				S	**S**	11 37 46.9	-4.2
WHN				pmax	pmax		
	comp=Z,390nm,0.8s						
WHN				LR	LR		
	comp=Z,2μm,18.6s						
WHN				LR	LR		
	comp=Z,4μm,19.9s						
WHN				LR	LR		
	comp=Z,3μm,25.1s						
YHNB	**Yeheng**	**47.83**	**255**	*e*P	**P**	11 30 57.9	+0.8
	comp=Z,49nm,1.1s						
KVN	**Kaiserville**	**47.89**	**78**	*e*P	**P**	11 30 57.7	+0.1
	comp=Z,42nm,1.3s						
KVN				LR	LR		
	comp=Z,1μm,18.0s						
KVN	**Kaiserville**	**47.89**	**78**	*e*P	**P**	11 30 57.7	+0.1
KVN				pmax	pmax		
	comp=Z,42nm,1.3s						
KVN				MLR	MLR		
	comp=Z,1μm,18.0s						
RYN	**Ryan**	**47.91**	**78**	*e*P	**P**	11 30 57.8	+0.1
	comp=Z,22nm,0.8s						
RYN				LR	LR		
	comp=Z,2μm,22.0s						
NACB	**Ninganchiao**	**48.08**	**255**	*e*P	**P**	11 30 59.2	+0.2
	comp=Z,80nm,1.2s						
NACB				LR	LR		
	comp=Z,1μm,22.0s						
PMPB	**Monarch Peak**	**48.10**	**82**	*e*P	**P**	11 31 00.6	+1.5
	comp=Z,50nm,0.9s						
PMPB				LR	LR		
	comp=Z,1μm,21.0s						
NV01	**Mina Array Sit**	**48.17**	**78**	*e*P	**P**	11 30 59.9	+0.1
NVAR	**Mina Array Bea**	**48.17**	**78**	P	**P**	11 31 00.0	+0.3
	comp=Z,4.9nm,0.7s,baz=306,slow=8.3,SNR=12						
NVAR				PcP	**PcP**	11 32 27.8	+1.1
	comp=Z,11nm,0.9s,baz=305,slow=3.2,SNR=2.6						
NVAR				ScP	**ScP**	11 36 19.0	+0.5
	comp=Z,8.1nm,1.1s,baz=291,slow=4.3,SNR=5.7						
NVAR				LR	LR	11 48 21.6	
	comp=Z,1μm,21.7s,baz=290,slow=32						
NVAR	**Mina Array Bea**	**48.17**	**78**	P	**P**	11 31 00.1	+0.3
NVAR				PcP	**PcP**	11 32 27.8	+1.1
NVAR				ScP	**ScP**	11 36 19.0	+0.5
QLMT	**Earthquake Lak**	**48.20**	**67**	*e*P	**P**	11 30 59.8	-0.2
MDPB	**Devils Postpil**	**48.22**	**80**	*e*P	**P**	11 31 00.7	+0.4
	comp=Z,27nm,0.9s						
MDPB				LR	LR		
	comp=Z,2μm,22.0s						
NV11	**Mina Array Sit**	**48.26**	**78**	*e*P	**P**	11 31 00.8	+0.4
	comp=Z,2.2nm,1.1s						
OMMB	**Old Mammoth Mi**	**48.28**	**80**	*e*P	**P**	11 31 01.3	+0.5
	comp=Z,25nm,1.2s						
OMMB				LR	LR		
	comp=Z,2μm,22.0s						
YHB	**Horse Butte**	**48.38**	**67**	*e*P	**P**	11 31 01.2	-0.2
	comp=Z,102nm,0.8s						
KBS	**Kingsbay**	**48.50**	**355**	*e*P	**P**	11 31 02.1	+0.5
	comp=Z,64nm,0.9s						
KBS				LR	LR		
	comp=Z,2μm,21.0s						
KBS	**Kingsbay**	**48.50**	**355**	⇓ *i* P	**P**	11 31 01.8	+0.2
KBS				pmax	pmax		
	comp=Z,258nm,1.0s						
KBS	**Kingsbay**	**48.50**	**355**	*e*P	**P**	11 31 02.5	+0.9
YHH	**Holmes Hill**	**48.55**	**67**	*e*P	**P**	11 31 02.5	-0.3
	comp=Z,53nm,0.9s						
YMR	**Madison River**	**48.56**	**67**	*e*P	**P**	11 31 02.5	-0.2
	comp=Z,81nm,1.1s						
GCMT	**Greycliff**	**48.61**	**65**	*e*P	**P**	11 31 03.0	0.0
YNR	**Norris Junctio**	**48.69**	**67**	*e*P	**P**	11 31 04.1	+0.3
	comp=Z,58nm,1.0s						
FCC	**Fort Churchill**	**48.70**	**44**	*e*P	**P**	11 31 03.4	+0.1
	comp=Z,107nm,0.9s						
FCC				LR	LR		
	comp=Z,3μm,18.0s						
FCC	**Fort Churchill**	**48.70**	**44**	*e*P	**P**	11 31 03.4	+0.1
FCC				pmax	pmax		
	comp=Z,107nm,0.9s						
FCC				MLR	MLR		
	comp=Z,3μm,18.0s						
XAN	**Xi'an**	**48.73**	**274**	P	**P**	11 31 04.3	+0.4
XAN				pP	pP	11 31 15.4	+1.5
XAN				PP	**PP**	11 32 55.8	-1.2
XAN				S	**S**	11 38 02.9	-1.3
XAN				pmax	pmax		
	comp=Z,99nm,1.2s						
XAN				pmax	pmax		
	comp=Z,570nm,2.7s						
XAN				LR	LR		
	comp=Z,2μm,19.6s						
XAN				LR	LR		
	comp=Z,2μm,19.6s						
XAN				LR	LR		
	comp=Z,2μm,21.6s						
SSLB	**Suanglung**	**48.75**	**255**	*e*P	**P**	11 31 03.9	-0.2
	comp=Z,79nm,1.2s						
SSLB				LR	LR		
	comp=Z,1μm,22.0s						
YFT	**Old Faithful**	**48.77**	**67**	*e*P	**P**	11 31 04.8	+0.5
	comp=Z,49nm,0.8s						
YFT				LR	LR		
	comp=Z,1μm,20.0s						
YULB	**Yu-li**	**48.85**	**254**	*e*P	**P**	11 31 05.1	+0.2
	comp=Z,96nm,1.1s						
YPP	**Pitchstone Pla**	**48.89**	**68**	*e*P	**P**	11 31 05.5	+0.2
	comp=Z,49nm,1.2s						
YPP				LR	LR		
	comp=Z,700nm,21.0s						
KULLO	**Kullorsuaq**	**48.93**	**16**	*i* P	**P**	11 31 05.0	+0.1
	comp=Z,176nm,0.9s						
KULLO	**Kullorsuaq**	**48.93**	**16**	*i* P	**P**	11 31 05.0	+0.1
KULLO				pmax	pmax		
	comp=Z,180nm,0.9s						
LKWY	**Lake**	**48.94**	**67**	*e*P	**P**	11 31 06.0	+0.3
	comp=Z,30nm,0.8s						
LKWY	**Lake**	**48.94**	**67**	*e*P	**P**	11 31 06.0	+0.3
LKWY				pmax	pmax		
	comp=Z,30nm,0.8s						
H17A	**Grant Village**	**48.95**	**67**	*e*P	**P**	11 31 06.5	+0.8
	comp=Z,72nm,1.0s						
H17A	**Grant Village**	**48.95**	**67**	P	**P**	11 31 06.6	+0.9
	baz=308,SNR=36						
SPA0	**Spitsbergen Ar**	**48.97**	**354**	*e*P	**P**	11 31 04.3	-0.8
SPA0	**Spitsbergen Ar**	**48.97**	**354**	*e*P	**P**	11 31 04.3	-0.8
IMW	**Indian Meadow**	**49.05**	**68**	*e*P	**P**	11 31 06.2	-0.4
	comp=Z,30nm,1.0s						
FLWY	**Flagg Ranch**	**49.07**	**68**	*e*P	**P**	11 31 06.9	+0.3
	comp=Z,104nm,1.1s						
TIN	**Tinemaha, Big**	**49.11**	**80**	P	**P**	11 31 07.5	+0.6
	baz=311						
FXWY	**Fox Creek**	**49.16**	**68**	*e*P	**P**	11 31 07.3	0.0
	comp=Z,18nm,1.0s						
SMMC	**Simmler**	**49.19**	**83**	P	**P**	11 31 07.6	+0.1
	baz=312,SNR=5.5						
RLMT	**Red Lodge**	**49.24**	**66**	*e*P	**P**	11 31 08.1	+0.2
	comp=Z,85nm,1.1s						
RLMT				*e*PcP	**PcP**	11 32 31.3	+0.8
RLMT				LR	LR		
	comp=Z,1μm,20.0s						
RLMT	**Red Lodge**	**49.24**	**66**	P	**P**	11 31 07.4	-0.5
	baz=308,SNR=44						
MOOW	**Moose Ponds**	**49.25**	**68**	*e*P	**P**	11 31 07.9	-0.1
	comp=Z,25nm,1.3s						
MOOW				*e*PcP	**PcP**	11 32 31.3	+0.7
QZH	**Quanzhou**	**49.29**	**258**	⇑ *i* P	**P**	11 31 09.5	+1.3
QZH				S	**S**	11 38 20.0	+7.9
QZH				pmax	pmax		
	comp=Z,98nm,1.3s						
QZH				LR	LR		
	comp=Z,760nm,17.6s						
TPAW	**Teton Pass**	**49.29**	**68**	*e*P	**P**	11 31 08.7	+0.3
	comp=Z,47nm,1.4s						
HVU	**Hansel Valley**	**49.31**	**71**	*e*P	**P**	11 31 08.7	+0.3
	comp=Z,41nm,0.9s						
HVU				*e*PcP	**PcP**	11 32 31.6	+0.8
HVU				LR	LR		
	comp=Z,700nm,19.0s						
HVU	**Hansel Valley**	**49.31**	**71**	*e*P	**P**	11 31 08.7	+0.3
HVU				*e*		11 32 31.6	
HVU				pmax	pmax		
	comp=Z,41nm,0.9s						
HVU				MLR	MLR		
	comp=Z,700nm,19.0s						
TPUB	**Ta-pu**	**49.31**	**255**	*e*P	**P**	11 31 09.3	+0.8
	comp=Z,169nm,1.2s						
VES	**Vestal, Richgr**	**49.39**	**81**	P	**P**	11 31 08.2	-0.7
	baz=312,SNR=6.8						
LOHW	**Long Hollow**	**49.41**	**68**	*e*P	**P**	11 31 09.2	0.0
	comp=Z,18nm,1.0s						
TWG	**Pinlang**	**49.42**	**254**	*e*P	**P**	11 31 09.7	+0.4
	comp=Z,194nm,0.9s						
SNOW	**Snow King Moun**	**49.42**	**68**	*e*P	**P**	11 31 09.7	+0.3
	comp=Z,35nm,1.3s						
SNOW				*e*PcP	**PcP**	11 32 31.9	+0.6
REDW	**Red Top Meadow**	**49.43**	**69**	*e*P	**P**	11 31 09.4	0.0
	comp=Z,60nm,1.5s						
PKM	**Mcpherson Peak**	**49.58**	**83**	P	**P**	11 31 10.5	-0.1
	baz=313,SNR=6.5						
CWC	**Cottonwood Cre**	**49.60**	**80**	P	**P**	11 31 10.5	-0.2
	baz=312						

AHID Auburn Hatcher 49.66 69 *e*P P 11 31 11.1 0.0
comp=Z,54nm,1.0s
AHID *e*PcP **PcP** 11 32 32.8 +0.7
AHID LR LR
comp=Z,1µm,18.0s
GRAC Grapevine Rang 49.67 79 P P 11 31 11.2 +0.2
baz=312
BGU Big Grassy Mou 49.70 72 *e*P P 11 31 11.4 0.0
comp=Z,20nm,0.9s
BGU LR LR
comp=Z,800nm,22.0s
ZAA1 Zalesovo Array 49.74 309 *e*P P 11 31 10.2 -1.1
ZAA1 *e*PcP **PcP** 11 32 32.5 +0.7
ZAA0 Zalesovo Array 49.75 309 *e*P P 11 31 10.4 -0.9
comp=Z,47nm,1.0s
ZAA0 LR LR
comp=Z,3µm,19.0s
ZALV Zalesovo Beam 49.75 309 P P 11 31 10.2 -1.1
comp=Z,19nm,0.6s,baz=56,slow=6.2,SNR=50
ZALV PcP **PcP** 11 32 32.5 +0.7
comp=Z,19nm,0.8s,baz=37,slow=3.7,SNR=4.7
ZALV PP **PP** 11 33 05.5 -0.2
comp=Z,10nm,0.9s,baz=108,slow=3.8,SNR=3.8
ZALV LR LR 11 53 45.6
comp=Z,3µm,19.0s,baz=65,slow=38
ZALV Zalesovo Beam 49.75 309 *e*P P 11 31 10.3 -1.1
ZALV *e*PcP **PcP** 11 32 31.8 -0.1
ZALV PP **PP** 11 33 05.5 -0.2
ZALV Zalesovo Beam 49.75 309 *e*P P 11 31 10.3 -1.1
ZALV *e* 11 32 31.8
ZALV 11 33 05.5
SPUT South Promonto 49.80 72 *e*P P 11 31 12.2 +0.1
comp=Z,33nm,1.0s
SPUT LR LR
comp=Z,700nm,18.0s
HOPEN Hopen 49.82 351 *e*P P 11 31 11.4 -0.2
ISA Isabella, Lake 49.88 81 *e*P P 11 31 12.4 -0.3
comp=Z,18nm,1.1s
ISA LR LR
comp=Z,1µm,22.0s
ISA Isabella, Lake 49.88 81 *e*P P 11 31 12.4 -0.3
ISA pmax pmax
comp=Z,18nm,1.1s
ISA MLR MLR
comp=Z,1µm,22.0s
ISA Isabella, Lake 49.88 81 P P 11 31 13.0 +0.3
baz=312
SBC Santa Barbara 49.95 83 P P 11 31 13.1 0.0
baz=313
DGMT Dagmar 49.95 60 *e*P P 11 31 12.7 -0.4
comp=Z,91nm,0.8s
DGMT LR LR
comp=Z,2µm,19.0s
DGMT Dagmar 49.95 60 P P 11 31 12.4 -0.7
baz=308,SNR=23
LAO LASA Array 49.96 62 *e*P P 11 31 13.1 -0.1
comp=Z,101nm,0.8s
LAO LR LR
comp=Z,1µm,18.0s
LAO LASA Array 49.96 62 P P 11 31 12.9 -0.3
baz=308,SNR=69
NVS Novosibirsk 49.96 311 ⇑*i*P P 11 31 12.6 -0.3
NVS *e* 11 32 32.5
NVS *e*S **S** 11 38 19.4 -1.4
NVS pmax pmax
comp=Z,284nm,1.6s
NVS pmax pmax
comp=E,155nm,1.5s
NVS pmax pmax
comp=Z,61nm,1.5s
NVS pmax pmax
comp=E,49nm,1.3s
NVS smax smax
comp=N,57nm,2.4s
DAC Darwin (Calif) 50.00 80 *e*P P 11 31 14.7 +0.9
comp=N,22nm,1.0s
DAC LR LR
comp=Z,2µm,22.0s
DAC Darwin (Calif) 50.00 80 *e*P P 11 31 14.7 +0.9
DAC pmax pmax
comp=Z,22nm,1.0s
DAC MLR MLR
comp=Z,2µm,22.0s
ARVC Arvin 50.02 82 P P 11 31 13.8 +0.1
baz=312,SNR=6.1
HWUT Hardware Ranch 50.12 71 *e*P P 11 31 14.8 +0.1
comp=Z,39nm,1.1s
HWUT LR LR
comp=Z,500nm,20.0s
HSPB Hornsund (broa 50.15 354 *e*P P 11 31 13.4 -0.7
HSPB Hornsund (broa 50.15 354 *e*P P 11 31 14.0 -0.1
HSPB *e*S **S** 11 38 22.5 -0.5
MPMC Manual Prospec 50.21 80 P P 11 31 14.8 -0.6
baz=312,SNR=35
SCZ2 Santa Cruz Isl 50.29 84 P P 11 31 15.4 -0.4
baz=313,SNR=5.9
DUG Dugway, Tooele 50.30 73 *e*P P 11 31 15.9 0.0
comp=Z,68nm,1.0s
DUG LR LR
comp=Z,600nm,20.0s
DUG Dugway, Tooele 50.30 73 *e*P P 11 31 15.9 0.0
DUG pmax pmax
comp=Z,68nm,1.0s
DUG MLR MLR
comp=Z,600nm,20.0s
DUG Dugway, Tooele 50.30 73 P P 11 31 15.5 -0.4
baz=310,SNR=14
FURC Furnace Creek, 50.32 79 P P 11 31 15.8 -0.1
baz=312,SNR=9.7
TPNV Topopah Spring 50.37 78 *e*P P 11 31 16.7 +0.1
comp=Z,60nm,0.9s
TPNV LR LR
comp=Z,2µm,22.0s
TPNV Topopah Spring 50.37 78 *e*P P 11 31 16.7 +0.1
TPNV pmax pmax
comp=Z,60nm,0.9s
TPNV MLR MLR
comp=Z,2µm,22.0s
TPNV Topopah Spring 50.37 78 P P 11 31 16.3 -0.3
baz=312,SNR=19
OSI Osito Audit: C 50.43 82 *e*P P 11 31 17.2 +0.3
comp=Z,76nm,0.9s
OSI LR LR
comp=Z,900nm,21.0s
OSI Osito Audit: C 50.43 82 P P 11 31 16.7 -0.2
baz=313
LZH Lanzhou 50.44 280 ⇑P P 11 31 18.8 +1.7
LZH pP pP 11 31 27.8 +0.7
LZH sP sP 11 31 32.3 +1.2
LZH PP **PP** 11 33 12.6 -0.1
LZH S **S** 11 38 29.1 +0.7
LZH sS sS 11 38 43.0 -1.9
LZH SS **SS** 11 41 59.9 -2.2
LZH pmax pmax
comp=Z,420nm,1.5s
LZH pmax pmax
comp=Z,620nm,4.8s
LZH LR LR
comp=Z,3µm,16.6s
LZH LR LR
comp=Z,3µm,17.7s
LZH LR LR
comp=Z,4µm,19.8s
LRMC Laurel Mtn Rad 50.48 81 P P 11 31 16.8 -0.6
baz=312
TCUT Toone Canyon 50.52 71 *e*P P 11 31 17.7 -0.1
comp=Z,72nm,1.1s
BW06 Boulder Array 50.54 68 *e*P P 11 31 17.5 -0.4
comp=Z,58nm,0.9s
BW06 LR LR
comp=Z,700nm,22.0s
BW06 Boulder Array 50.54 68 P P 11 31 16.9 -0.9
baz=310,SNR=43
PD31 Pinedale Array 50.54 68 *e*P P 11 31 17.6 -0.3
PDAR Pinedale Array 50.54 68 P P 11 31 17.4 -0.5
comp=Z,15nm,0.6s,baz=306,slow=3.1,SNR=61
PDAR LR LR 11 51 06.6
comp=Z,497nm,21.6s,baz=326,slow=34
PDAR Pinedale Array 50.54 68 *e*P P 11 31 17.5 -0.4
BLG Laguna Peak, P 50.56 83 P P 11 31 17.0 -0.9
baz=313,SNR=7.2
CTU Camp Tracy 50.60 72 *e*P P 11 31 18.2 -0.1
comp=Z,29nm,0.9s
CTU LR LR
comp=Z,600nm,22.0s
GTA Gaotai 50.67 286 ⇑P P 11 31 19.6 +0.9
GTA pP pP 11 31 29.8 +1.0
GTA sP sP 11 31 33.8 +1.1
GTA PcP **PcP** 11 32 36.6 +0.9
GTA ScP **ScP** 11 36 29.3 +0.3
GTA PcS **PcS** 11 36 34.5 +1.3
GTA S **S** 11 38 30.1 -1.3
GTA sS sS 11 38 47.6 -0.3
GTA ScS **ScS** 11 41 06.5 -0.3
GTA SS **SS** 11 42 02.8 -2.6
GTA pmax pmax
comp=Z,150nm,1.3s
GTA pmax pmax
comp=Z,650nm,6.5s
GTA LR LR
comp=Z,2µm,17.5s
GTA LR LR
comp=Z,2µm,18.4s
GTA LR LR
comp=Z,3µm,21.9s
EDW2 Edwards Air Fo 50.69 82 P P 11 31 18.1 -0.8
baz=313,SNR=8.9
PSUT Pine Spring 50.76 75 *e*P P 11 31 19.5 0.0
comp=Z,22nm,0.8s
PSUT LR LR
comp=Z,800nm,21.0s
TARA Tarawa 50.83 181 *e*P P 11 31 21.0 +1.1
comp=Z,403nm,1.9s
JLU Jordanelle 50.83 72 *e*P P 11 31 19.9 -0.1
comp=Z,47nm,1.0s
JLU LR LR
comp=Z,700nm,21.0s
SNCC San Nicolas Is 50.87 84 *e*P P 11 31 20.9 +0.8
comp=Z,92nm,1.0s
SNCC San Nicolas Is 50.87 84 P P 11 31 19.8 -0.3
baz=314
NLU North Lily Min 50.88 73 *e*P P 11 31 20.4 0.0
comp=Z,22nm,0.9s
NLU *e*PcP **PcP** 11 32 36.6 -0.1
NLU LR LR
comp=Z,600nm,20.0s
DECC Green Verdugo 50.91 82 P P 11 31 19.8 -0.7
baz=313,SNR=12
DAG Danmarks Havn 50.91 4⇑*i*P P 11 31 19.1 -0.8
comp=Z,114nm,1.1s
DAG Danmarks Havn 50.91 4⇑*i*P P 11 31 19.1 -0.8
DAG pmax pmax
comp=Z,140nm,1.1s
ENH Enshi 50.98 271 *e*P P 11 31 21.2 +0.2
comp=Z,88nm,1.0s
ENH *e*PcP **PcP** 11 32 37.1 +0.3
ENH LR LR
comp=Z,800nm,19.0s
DGZ Jazzator, Alta 51.04 304 *i* P P 11 31 21.4 0.0
DGZ pmax pmax
comp=Z,52nm,1.1s
SHOC Shoshone, Teco 51.05 79 P P 11 31 20.3 -1.2
baz=312,SNR=15
PASC Pasadena Art C 51.06 82 *e*P P 11 31 21.6 0.0
comp=Z,53nm,0.9s
PASC LR LR
comp=Z,2µm,21.0s
MWC Mount Wilson 51.10 82 *e*P P 11 31 21.8 -0.3
comp=Z,122nm,1.1s
MWC LR LR
comp=Z,2µm,22.0s
MPU Maple Canyon 51.10 72 *e*P P 11 31 21.9 -0.2
comp=Z,20nm,0.9s
MPU LR LR
comp=Z,700nm,18.0s
GSC Goldstone, Bar 51.13 80 *e*P P 11 31 21.6 -0.7
comp=Z,45nm,0.8s
GSC LR LR
comp=Z,900nm,21.0s
GSC Goldstone, Bar 51.13 80 *e*P P 11 31 21.6 -0.7
GSC pmax pmax
comp=Z,45nm,0.8s
GSC MLR MLR
comp=Z,900nm,21.0s
GSC Goldstone, Bar 51.13 80 P P 11 31 21.5 -0.7
baz=313,SNR=20
FMP Fort Macarthur 51.30 83 P P 11 31 22.6 -0.8
baz=313
SHPR Sheep Range 51.32 78 *e*P P 11 31 23.8 +0.1
comp=Z,51nm,1.7s
SHPR LR LR
comp=Z,2µm,21.0s
BFSC Mount Baldy Ra 51.33 82 P P 11 31 23.3 -0.5
baz=313,SNR=25
CIS Catalina Islan 51.44 83 P P 11 31 23.9 -0.5
baz=314,SNR=7.3
TCRU Three Creeks R 51.54 74 *e*P P 11 31 26.2 +0.8
comp=Z,36nm,0.8s
TCRU LR LR
comp=Z,1µm,22.0s
TUQ Turquoise Moun 51.57 80 P P 11 31 24.9 -0.7
baz=313,SNR=9.4
SCI2 San Clemente I 51.65 84 P P 11 31 25.4 -0.6
baz=314,SNR=7.2
CCUT Cedar City 51.70 76 *e*P P 11 31 26.4 -0.2
CCUT *e*pP **pP** 11 31 35.1 -1.6
CCUT *e*sP **sP** 11 31 40.3 -0.3
CCUT LR LR
comp=Z,900nm,21.0s
HEC Hector,Ludlow 51.73 81 P P 11 31 26.3 -0.5
baz=313,SNR=7.6
BBRC Big Bear Solar 51.76 81 P P 11 31 26.6 -0.5
baz=313,SNR=10
MSU Marysvale 51.77 74 *e*P P 11 31 27.2 +0.1
MSU *e*pP **pP** 11 31 36.4 -0.7
MSU Marysvale 51.77 74 *e*P P 11 31 27.2 +0.1
MSU *e*'PP **pP** 11 31 36.4 -0.7
TMUT Trail Mountain 51.82 73 *e*P P 11 31 27.6 0.0
TMUT *e*pP **pP** 11 31 36.3 -1.3
TMUT LR LR
comp=Z,600nm,18.0s
SZCU Shurtz Canyon 51.83 76 *e*P P 11 31 27.3 -0.3
SZCU *e*pP **pP** 11 31 35.7 -1.9
SZCU *e*sP **sP** 11 31 41.0 -0.6
SZCU LR LR
comp=Z,700nm,21.0s
P17A Butcher Ranch, 51.98 72 *e*P P 11 31 28.8 +0.2
P17A *e*pP **pP** 11 31 37.0 -1.7
P17A LR LR
comp=Z,500nm,22.0s
MURC Murrieta 52.05 82 P P 11 31 28.3 -0.7
baz=314,SNR=9.1
MTPU Mount Pierson 52.07 75 *e*P P 11 31 29.2 -0.4
MTPU *e*pP **pP** 11 31 38.2 -1.4
MTPU LR LR
comp=Z,800nm,20.0s
LCMT Little Creek M 52.13 76 *e*P P 11 31 29.8 +0.1
comp=Z,34nm,0.8s
P18A Preston Nutter 52.16 72 *e*P P 11 31 30.6 +0.4
P18A *e*pP **pP** 11 31 38.8 -1.4
P18A LR LR
comp=Z,800nm,19.0s
GMRC Granite Mounta 52.17 80 P P 11 31 29.4 -0.7
baz=313,SNR=38
BJO Bjornoya 52.24 351 *e*P P 11 31 29.8 0.0
BJO *e*S **S** 11 38 53.2 +1.3
LDFC Landfair 52.31 79 *e*P P 11 31 30.1 -0.9
comp=Z,76nm,1.1s
LDFC LR LR
comp=Z,900nm,21.0s
SRU San Rafael Swe 52.34 73 *e*P P 11 31 31.5 +0.2
comp=Z,71nm,0.9s
SRU LR LR
comp=Z,500nm,20.0s
SRU San Rafael Swe 52.34 73 *e*P P 11 31 31.5 +0.2
SRU pmax pmax
comp=Z,71nm,0.9s
SRU MLR MLR
comp=Z,500nm,20.0s
KNB Kanab 52.37 76 *e*P P 11 31 32.2 +0.6
comp=Z,76nm,0.9s
KNB LR LR
comp=Z,1µm,21.0s
KNB Kanab 52.37 76 *e*P P 11 31 32.2 +0.6
KNB pmax pmax
comp=Z,76nm,0.9s
KNB MLR MLR
comp=Z,1µm,21.0s
PKCU Pink Cliffs 52.39 75 *e*P P 11 31 31.9 +0.1
comp=Z,36nm,1.1s
PKCU LR LR
comp=Z,1µm,18.0s
FRD Ford Ranch, An 52.48 82 P P 11 31 31.6 -0.7
baz=314,SNR=9.3
PFO Pinyon Flats O 52.49 82 *e*P P 11 31 32.8 +0.4
comp=Z,21nm,0.9s
PFO LR LR
comp=Z,2µm,21.0s
PFO Pinyon Flats O 52.49 82 *e*P P 11 31 32.8 +0.4
PFO pmax pmax
comp=Z,21nm,0.9s
PFO MLR MLR
comp=Z,2µm,21.0s
PFO Pinyon Flats O 52.49 82 P P 11 31 31.5 -0.9
baz=314
XPFO Piæon Flat 52.49 82 *e*P P 11 31 32.8 +0.4
comp=Z,23nm,1.0s
XPFO LR LR
comp=Z,2µm,22.0s
BELC Belle Mtn. Jos 52.50 81 P P 11 31 32.0 -0.5
baz=314,SNR=7.4
RWWY Rawlins 52.57 68 *e*P P 11 31 32.6 -0.5
comp=Z,58nm,1.1s
RWWY LR LR
comp=Z,900nm,21.0s
RSSD Black Hills 52.77 64 *e*P P 11 31 34.0 -0.5
comp=Z,72nm,0.8s
RSSD LR LR
comp=Z,900nm,19.0s
RSSD Black Hills 52.77 64 *e*P P 11 31 34.0 -0.5
RSSD pmax pmax
comp=Z,72nm,0.8s
RSSD MLR MLR
comp=Z,900nm,19.0s
RSSD Black Hills 52.77 64 P P 11 31 33.9 -0.6
baz=310
IRM Iron Mountain 52.91 80 P P 11 31 34.6 -0.8
baz=314,SNR=20
BAR Barrett 53.00 83 *e*P P 11 31 36.0 -0.1
comp=Z,45nm,1.0s
BAR LR LR
comp=Z,1µm,21.0s
MONP2 Monument Peak 53.00 82 P P 11 31 35.8 -0.5
baz=314,SNR=7.7
W13A Hualapai Mount 53.03 79 *e*P P 11 31 36.1 -0.3
comp=Z,20nm,0.8s
W13A LR LR
comp=Z,1µm,22.0s
BC3 Big Chuckawall 53.07 81 P P 11 31 36.1 -0.6
baz=314,SNR=5.9
U15A North Rim 53.08 76 *e*P P 11 31 37.1 +0.1
comp=Z,40nm,0.8s
U15A LR LR
comp=Z,2µm,22.0s
ULM Lac du Bonnet 53.09 53 P P 11 31 36.0 -0.5
comp=Z,53nm,0.5s,baz=309,slow=7.3,SNR=64
ULM PcP **PcP** 11 32 44.7 +0.2
comp=Z,21nm,0.6s,baz=3.3,slow=3.4,SNR=3.3
ULM Lac du Bonnet 53.09 53 *e*P P 11 31 35.9 -0.5
comp=Z,82nm,0.8s
ULM PcP **PcP** 11 32 44.7 +0.2
ULM LR LR
comp=Z,1µm,19.0s
ULM Lac du Bonnet 53.09 53 *e*P P 11 31 35.9 -0.5
ULM 11 32 44.7
ULM pmax pmax
comp=Z,82nm,0.8s
ULM MLR MLR
comp=Z,1µm,19.0s
SWSC Sam W. Stewart 53.34 82 P P 11 31 38.8 +0.2
baz=314,SNR=6.3
IKP In-Ko-Pah, Jac 53.36 82 P P 11 31 38.4 -0.4
baz=314
SUMG Summit 53.40 11 *e*P P 11 31 38.3 -0.6
comp=Z,191nm,1.0s
SUMG Summit 53.40 11 *i* P P 11 31 38.7 -0.2
comp=Z,473nm,1.0s
SUMG Summit 53.40 11 *e*P P 11 31 38.3 -0.6
SUMG pmax pmax
comp=Z,191nm,1.0s
PDMCI Parker Dam,Lak 53.42 79 P P 11 31 38.1 -0.9
baz=314
ZSN Zaisan 53.78 303 ⇑*i*P P 11 31 41.7 +0.1
comp=Z,42nm,1.3s
ZSN *e*S **S** 11 39 14.3 +0.7
ZSN LR LR 11 55 26.2
comp=Z,176nm,15.5s
PHWY Pilot Hill 53.82 67 *e*P P 11 31 41.9 -0.4
PHWY *e*PcP **PcP** 11 32 48.0 +0.2
PHWY LR LR
comp=Z,600nm,21.0s
GZH Guangzhou 53.84 261 P P 11 31 39.3 -3.0
GZH S **S** 11 39 11.3 -3.6
GZH LR LR
comp=Z,1µm,16.1s
GZH LR LR
comp=Z,1µm,16.5s
GLA Glamis 53.86 81 *e*P P 11 31 42.3 -0.1
comp=Z,31nm,0.8s
GLA LR LR
comp=Z,1µm,20.0s
GLA Glamis 53.86 81 *e*P P 11 31 42.3 -0.1
GLA pmax pmax
comp=Z,31nm,0.8s
GLA MLR MLR
comp=Z,1µm,20.0s
GLA Glamis 53.86 81 P P 11 31 41.9 -0.5
baz=314
CD2 Chengdu 54.04 275 *e*P P 11 31 43.0 -0.7
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.0s
WUAZ Wupatki 54.25 76 *e*P P 11 31 45.5 +0.1
comp=Z,49nm,0.8s
WUAZ LR LR
comp=Z,2µm,22.0s
WUAZ Wupatki 54.25 76 P P 11 31 45.3 -0.1
baz=313,SNR=7.7
SMCO Snowmass 54.36 70 *e*P P 11 31 46.0 -0.4
comp=Z,12nm,0.8s
AGMN Agassiz Nation 54.37 55 *e*P P 11 31 44.7 -1.1
comp=Z,98nm,0.8s
AGMN LR LR
comp=Z,1µm,20.0s
AGMN Agassiz Nation 54.37 55 P P 11 31 45.1 -0.7
baz=311,SNR=42
ILULI Ilulissat 54.43 18 *e*P P 11 31 45.3 -0.7
comp=Z,124nm,0.9s
ILULI Ilulissat 54.43 18 *i* P P 11 31 45.6 -0.4
comp=Z,133nm,0.9s
ILULI Ilulissat 54.43 18 *e*P P 11 31 45.3 -0.7
ILULI pmax pmax
comp=Z,125nm,0.9s
WMQ Urumqi 54.66 298 P P 11 31 48.8 +0.7
WMQ pP pP 11 31 59.8 +1.5
WMQ PcP **PcP** 11 32 50.8 +0.2
WMQ S **S** 11 39 25.6 -0.1
WMQ ScS **ScS** 11 41 28.6 -5.9
WMQ pmax pmax
comp=Z,510nm,1.5s
WMQ pmax pmax
comp=Z,3µm,3.6s
WMQ LR LR
comp=Z,5µm,26.9s
WMQ LR LR
comp=Z,5µm,22.5s
WMQ LR LR
comp=Z,7µm,26.9s
113A Mohawk Valley, 54.70 81 *e*P P 11 31 48.1 -0.3
comp=Z,18nm,0.8s
113A LR LR
comp=Z,1µm,22.0s
ISCO Idaho Springs 54.73 69 *e*P P 11 31 49.4 +0.4
comp=Z,26nm,0.9s
ISCO LR LR
comp=Z,1µm,18.0s
ISCO Idaho Springs 54.73 69 *e*P P 11 31 49.4 +0.4
ISCO pmax pmax
comp=Z,26nm,0.9s
ISCO MLR MLR
comp=Z,1µm,18.0s
ISCO Idaho Springs 54.73 69 P P 11 31 48.6 -0.4
baz=312,SNR=26
KURK Kurchatov 54.74 309 *e*P P 11 31 47.8 -0.6
comp=Z,956nm,1.0s
KURK LR LR
comp=Z,5µm,19.0s
KURK Kurchatov 54.74 309 P P 11 31 48.3 -0.1
SNR=291

KURK **Kurchatov** 54.74 309 *ce* P **P** 11 31 48.1 -0.3
KURK pmax pmax
comp=Z,1μm,1.3s
MVCO **Mesa Verde** 54.80 73 *e* P **P** 11 31 48.7 -0.7
comp=Z,54nm,1.3s
MVCO LR LR
comp=Z,1μm,22.0s
MVCO **Mesa Verde** 54.80 73 P **P** 11 31 48.5 -0.9
baz=313,SNR=8.0
X16A **Lo Mia Camp, P** 54.96 77 *e* P **P** 11 31 50.6 +0.1
comp=Z,36nm,1.0s
X16A LR LR
comp=Z,800nm,18.0s
HAMF **Hammerfest** 55.38 348 *e* P **P** 11 31 51.1 -1.7
GYA **Guiyang** 55.44 269 ⇑P **P** 11 31 56.3 +2.3
GYA pP pP 11 32 05.0 +0.9
GYA PP **PP** 11 34 01.5 +3.7
GYA ScP **ScP** 11 36 51.8 +1.8
GYA S **S** 11 39 36.3 -0.2
GYA SS **SS** 11 43 21.0 -0.2
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,160nm,5.8s
GYA LR LR
comp=Z,620nm,17.8s
GYA LR LR
comp=Z,560nm,18.0s
GYA LR LR
comp=Z,590nm,18.5s
MK31 **Makanchi Array** 55.54 304 *e* P **P** 11 31 53.7 -0.7
MK31 **Makanchi Array** 55.54 304 *e* P **P** 11 31 53.7 -0.7
MK32 **Makanchi Array** 55.54 304 *e* P **P** 11 31 53.7 -0.6
MKAR **Makanchi Array** 55.54 304 P **P** 11 31 53.7 -0.6
comp=Z,90nm,0.7s,baz=52,slow=6.5,SNR=354
MKAR LR LR 11 56 34.4
comp=Z,4μm,21.9s,baz=34,slow=37
MKAR **Makanchi Array** 55.54 304 *e* P **P** 11 31 53.2 -1.1
comp=Z,698nm,0.8s
MKAR LR LR
comp=Z,900nm,21.0s
MKAR **Makanchi Array** 55.54 304 *e* P **P** 11 31 53.3 -1.1
MKAR pmax pmax
comp=Z,698nm,0.8s
MKAR MLR MLR
comp=Z,900nm,21.0s
MK01 **Makanchi Array** 55.55 304 *e* P **P** 11 31 53.5 -1.0
XMAS **Kiritimati** 55.73 144 *e* P **P** 11 31 57.1 +1.2
comp=Z,430nm,1.3s
KEV **Kevo** 55.76 347 *e* P **P** 11 31 54.7 -0.8
comp=Z,54nm,1.0s
KEV LR LR
comp=Z,2μm,18.0s
KEV **Kevo** 55.76 347 *e* P **P** 11 31 54.7 -0.8
KEV pmax pmax
comp=Z,54nm,1.0s
KEV MLR MLR
comp=Z,2μm,18.0s
X18A **Snowflake** 55.77 76 *e* P **P** 11 31 56.0 -0.4
comp=Z,22nm,0.8s
X18A LR LR
comp=Z,2μm,22.0s
OGNE **Ogallala** 55.98 65 *e* P **P** 11 31 57.3 -0.3
comp=Z,217nm,0.8s
OGNE LR LR
comp=Z,1μm,18.0s
OGNE **Ogallala** 55.98 65 P **P** 11 31 57.2 -0.4
baz=313,SNR=36
ARA0 **ARCESS Array S** 56.17 347 *e* P **P** 11 31 57.6 -0.9
ARA0 *e* PcP **PcP** 11 32 56.6 +0.7
ARCES **ARCESS Array B** 56.17 347 P **P** 11 31 57.6 -0.9
comp=Z,64nm,0.9s,baz=19,slow=7.7,SNR=77
ARCES PcP **PcP** 11 32 56.6 +0.7
comp=Z,37nm,0.8s,baz=28,slow=5.5,SNR=9.4
ARCES PKPPKP **P'P'df** 12 02 01.2 -2.3
comp=Z,2.4nm,0.9s,baz=110,slow=1.8,SNR=4.6
ARCES PKP2bc 12 02 12.6
comp=Z,3.0nm,1.0s,baz=232,slow=6.8,SNR=3.1
ARCES PKP2ab 12 02 28.1
comp=Z,1.5nm,0.9s,baz=32,slow=28,SNR=2.2
ARCES **ARCESS Array B** 56.17 347 *e* P **P** 11 31 57.4 -1.1
ARCES *e* PcP **PcP** 11 32 55.7 -0.2
ARE0 **ARCESS Array S** 56.17 347 *e* P **P** 11 31 57.4 -1.1
comp=Z,6.0nm,1.0s
ARE0 LR LR
comp=Z,100nm,19.0s
ARE0 **ARCESS Array S** 56.17 347 *e* P **P** 11 31 58.0 -0.5
LVZ **Lovozero** 56.17 343 *c* i P **P** 11 31 57.5 -1.1
LVZ pmax pmax
comp=Z,821nm,1.3s
SDCO **Great Sand Dun** 56.18 71 *e* P **P** 11 31 59.3 -0.1
comp=Z,54nm,1.1s
SDCO LR LR
comp=Z,600nm,18.0s
SDCO **Great Sand Dun** 56.18 71 P **P** 11 31 59.1 -0.3
baz=313,SNR=37
TGY **Tagaytay City** 56.37 248 P **P** 11 32 01.3 +0.7
comp=Z,483nm,1.0s,baz=319,slow=1.4,SNR=21
TGY LR LR 11 54 09.2
comp=Z,196nm,21.2s,baz=30,slow=34
TGY **Tagaytay City** 56.37 248 *e* P **P** 11 32 01.3 +0.7
SFJD **Kangerlussuaq** 56.43 19 *e* P **P** 11 31 59.8 -0.5
comp=Z,255nm,1.5s
SFJD **Kangerlussuaq** 56.43 19 *i* P **P** 11 31 59.4 -0.9
comp=Z,48nm,0.6s
SFJD **Kangerlussuaq** 56.43 19 *e* P **P** 11 31 59.8 -0.5
SFJD pmax pmax
comp=Z,255nm,1.5s
APA **Apatity** 56.69 343 ⇓ *i* P **P** 11 32 00.1 -2.1
APA *i* 11 32 18.1
APA *i* PPP PPP 11 35 31.0
APA *i* S **S** 11 39 43.0 -8.9
APA *i* SS **SS** 11 43 44.0 +5.1
APA pmax pmax
comp=Z,58nm,1.1s
EYMN **Ely** 56.77 53 *e* P **P** 11 32 02.8 -0.3
comp=Z,108nm,0.8s
EYMN LR LR
comp=Z,900nm,19.0s
EYMN **Ely** 56.77 53 P **P** 11 32 02.9 -0.3
baz=313,SNR=33
TUC **Tucson** 56.82 79 *e* P **P** 11 32 03.5 -0.3
comp=Z,31nm,1.0s
TUC LR LR
comp=Z,600nm,20.0s
TUC **Tucson** 56.82 79 *e* P **P** 11 32 03.5 -0.3
TUC pmax pmax
comp=Z,31nm,1.0s
TUC MLR MLR
comp=Z,600nm,20.0s
TUC **Tucson** 56.82 79 P **P** 11 32 03.9 +0.1
baz=315
BVA0 **Borovoye Array** 56.90 315 *i* P **P** 11 32 03.2 -0.7
BVA0 pmax pmax
comp=Z,166nm,0.9s
BVAR **Borovoye Array** 56.90 315 P **P** 11 32 03.9 0.0
comp=Z,67nm,0.6s,baz=51,slow=7.8,SNR=150
BVAR PcP **PcP** 11 32 59.4 +0.4
comp=Z,41nm,0.8s,baz=53,slow=5.7,SNR=4.7
BVAR **Borovoye Array** 56.90 315 P **P** 11 32 03.9 0.0
BVAR PcP **PcP** 11 32 59.4 +0.4
TRO **Tromso** 56.90 350 *e* P **P** 11 32 03.5 -0.1
BRVK **Borovoye** 56.92 315 *e* P **P** 11 32 03.4 -0.6
comp=Z,161nm,0.8s
BRVK LR LR
comp=Z,4μm,22.0s
BRVK **Borovoye** 56.92 315 P **P** 11 32 03.9 -0.1
SNR=59
BRVK **Borovoye** 56.92 315 *ce* P **P** 11 32 03.8 -0.2
BRVK pmax pmax
comp=Z,370nm,1.7s
KTK1 **Kautokeino** 56.96 348 ⇑ *i* P **P** 11 32 03.5 -0.7
SCO **Scoresbysund** 56.97 6 *e* P **P** 11 32 03.8 -0.3
comp=Z,170nm,1.1s
SCO LR LR
comp=Z,2μm,19.0s
SCO **Scoresbysund** 56.97 6 *i* P **P** 11 32 04.5 +0.4
comp=Z,163nm,1.1s
SCO **Scoresbysund** 56.97 6 *e* P **P** 11 32 03.8 -0.3
SCO pmax pmax
comp=Z,170nm,1.1s
SCO MLR MLR
comp=Z,2μm,19.0s
ECSD **EROS Data Cent** 57.04 60 *e* P **P** 11 32 04.7 -0.3
comp=Z,47nm,1.1s
ECSD *e* PcP **PcP** 11 33 00.3 +0.5
ECSD *e* S **S** 11 39 55.6 -1.5
ECSD LR LR
comp=Z,2μm,18.0s
ECSD **EROS Data Cent** 57.04 60 P **P** 11 32 03.9 -1.1
baz=313,SNR=26
LAZ **Ladron** 57.53 74 *e* P **P** 11 32 09.8 +0.8
ANMO **Albuquerque** 57.55 74 *e* P **P** 11 32 08.9 -0.2
comp=Z,20nm,0.9s
ANMO LR LR
comp=Z,900nm,20.0s
ANMO **Albuquerque** 57.55 74 ⇓ *i* P **P** 11 32 09.7 +0.7
ANMO pmax pmax
comp=Z,16nm,1.3s
ANMO **Albuquerque** 57.55 74 P **P** 11 32 09.1 0.0
baz=315
E38A **The Farm, Brul** 57.67 54 *e* P **P** 11 32 08.8 -0.6
comp=Z,180nm,0.8s
E38A LR LR
comp=Z,1μm,18.0s
E38A **The Farm, Brul** 57.67 54 P **P** 11 32 08.8 -0.6
baz=314,SNR=62
F37A **Hinrichs Farm,** 57.74 56 P **P** 11 32 09.5 -0.4
baz=314,SNR=39
LENM **Lemitar** 57.79 75 *e* P **P** 11 32 11.0 +0.3
BGNE **Belgrade** 57.80 63 *e* P **P** 11 32 10.2 -0.3
comp=Z,415nm,0.8s
BGNE LR LR
comp=Z,2μm,18.0s
BGNE **Belgrade** 57.80 63 P **P** 11 32 10.3 -0.2
baz=314,SNR=46
Y22D **IRIS PASSCAL I** 57.89 75 *e* P **P** 11 32 12.0 +0.6
comp=Z,66nm,1.0s
Y22D LR LR
comp=Z,2μm,22.0s
LPM **Los Pinos Moun** 57.89 74 *e* P **P** 11 32 12.1 +0.7
C40A **Isle Royale Na** 57.94 52 *e* P **P** 11 32 11.0 -0.3
comp=Z,53nm,0.9s
C40A LR LR
comp=Z,1μm,20.0s
F38A **Pierce - Schro** 57.95 55 P **P** 11 32 11.5 0.0
baz=314,SNR=123
BNM **Barren Site** 58.01 74 *e* P **P** 11 32 12.7 +0.3
BRZS **Berezniki** 58.02 312 ⇑ *i* P **P** 11 32 11.5 -0.3
comp=Z,262nm,1.0s
BRZS *e* S **S** 11 40 09.1 -0.7
SVE **Sverdlovsk** 58.03 323 *d i* P **P** 11 32 12.4 +0.6
SVE *e* S **S** 11 40 12.9 +3.1
SVE pmax pmax
comp=Z,202nm,1.6s
SVE MLR MLR
comp=Z,3μm,20.0s
E39A **Mellen** 58.32 54 P **P** 11 32 13.3 -0.7
baz=314,SNR=27
319A **Douglas** 58.38 79 *e* P **P** 11 32 15.3 +0.5
comp=Z,71nm,0.9s
319A LR LR
comp=Z,700nm,22.0s
F39A **Loretta** 58.46 55 P **P** 11 32 14.8 -0.2
baz=314,SNR=38
MANU **Manus Island** 58.48 211 *e* P **P** 11 32 16.7 +1.3
comp=Z,45nm,0.9s
E40A **Wakefield** 58.60 54 P **P** 11 32 15.7 -0.3
baz=315,SNR=57
CBKS **Cedar Bluff** 58.72 66 *e* P **P** 11 32 16.8 -0.2
comp=Z,127nm,0.8s
CBKS LR LR
comp=Z,1μm,19.0s
CBKS **Cedar Bluff** 58.72 66 *e* P **P** 11 32 16.8 -0.2
CBKS pmax pmax
comp=Z,127nm,0.8s
CBKS MLR MLR
comp=Z,1μm,19.0s
CBKS **Cedar Bluff** 58.72 66 P **P** 11 32 16.9 -0.1
baz=314,SNR=12
TDK **Taldyqorghan** 58.74 304 *i* P **P** 11 32 17.0 0.0
comp=Z,342nm,1.5s
TDK *e* S **S** 11 40 19.9 +0.5
TDK LR LR 11 57 10.9
comp=Z,3μm,20.5s
G39A **Holcombe** 58.78 55 P **P** 11 32 16.5 -0.7
baz=315,SNR=53
KMI **Kunming** 58.82 271 P **P** 11 32 18.6 +0.6
KMI pP pP 11 32 28.4 +0.2
KMI sP sP 11 32 32.8 +0.6
KMI PP **PP** 11 34 30.5 +2.5
KMI S **S** 11 40 21.4 +0.1
KMI sS sS 11 40 36.3 -1.8
KMI pmax pmax
comp=Z,76nm,1.3s
KMI pmax pmax
comp=Z,550nm,7.3s
KMI LR LR
comp=Z,950nm,18.1s
KMI LR LR
comp=Z,390nm,16.3s
KMI LR LR
comp=Z,770nm,25.6s
D41A **Chassel** 58.82 52 *e* P **P** 11 32 17.3 -0.2
comp=Z,228nm,1.1s
D41A LR LR
comp=Z,1μm,18.0s
D41A **Chassel** 58.82 52 P **P** 11 32 17.3 -0.2
baz=315,SNR=11
F40A **Park Falls** 58.86 54 P **P** 11 32 16.7 -1.1
baz=315,SNR=26
LOF **Lofoten** 58.89 351 *e* P **P** 11 32 17.0 -0.7
STEI **Steigen** 58.92 351 *e* P **P** 11 32 17.4 -0.4
PRGR **Permogore** 59.03 334 ⇑ *i* P **P** 11 32 19.3 +0.7
PRGR *e** PP **pP** 11 32 28.2 -0.6
PRGR pmax pmax
comp=Z,352nm,1.0s
QIZ **Qiongzhong** 59.04 261 PFAKE 11 32 30.0 +11
QIZ LR LR
comp=Z,700nm,22.0s
E41A **Kenton** 59.05 53 P **P** 11 32 18.2 -0.9
baz=315,SNR=21
HSIG 59.06 82 *e* P **P** 11 32 19.2 -0.2
comp=Z,80nm,1.0s
HSIG LR LR
comp=Z,600nm,21.0s
ARU **Arti** 59.09 324 P **P** 11 32 19.7 +0.5
comp=Z,99nm,0.8s,baz=45,slow=3.8,SNR=116
ARU **Arti** 59.09 324 *e* P **P** 11 32 19.1 0.0
ARU LR LR
comp=Z,2μm,20.0s
ARU **Arti** 59.09 324 *c i* P **P** 11 32 19.9 +0.7
ARU 11 34 27.0
ARU S **S** 11 40 27.3 +3.8
ARU pmax pmax
comp=Z,287nm,1.2s
ARU MLR MLR
comp=Z,2μm,24.0s
RABL **Rabaul** 59.15 205 *e* P **P** 11 32 21.5 +1.5
comp=Z,69nm,1.1s
RABL LR LR
comp=Z,1μm,19.0s
COWI **Conover** 59.22 53 *e* P **P** 11 32 19.8 -0.5
comp=Z,83nm,0.8s
COWI LR LR
comp=Z,800nm,18.0s
G40A **Rib Lake** 59.28 55 *e* P **P** 11 32 20.1 -0.6
comp=Z,224nm,1.6s
G40A LR LR
comp=Z,1μm,19.0s
G40A **Rib Lake** 59.28 55 P **P** 11 32 20.1 -0.6
baz=315,SNR=30
PDGK **Podgornoye** 59.36 302 P **P** 11 32 21.0 -0.4
PDGK pmax pmax
comp=Z,255nm,1.0s
OTUK **Ortayu** 59.41 310 P **P** 11 32 20.6 -1.0
OTUK pmax pmax
comp=Z,311nm,1.0s
F41A **Three Lakes** 59.49 54 *e* P **P** 11 32 21.8 -0.4
comp=Z,138nm,0.6s
F41A LR LR
comp=Z,1μm,18.0s
F41A **Three Lakes** 59.49 54 P **P** 11 32 21.7 -0.5
baz=315,SNR=38
SHLS **Shalkode** 59.49 302 *i* P **P** 11 32 20.8 -1.6
comp=Z,177nm,0.8s
SHLS *e* S **S** 11 40 27.5 -1.9
SRIG **Santa Rosalia** 59.50 84 *e* P **P** 11 32 22.7 +0.3
comp=Z,69nm,0.9s
SRIG LR LR
comp=Z,1μm,21.0s
E42A **Champion** 59.58 52 P **P** 11 32 22.1 -0.7
baz=316,SNR=15
DAV **Davao City (W)** 59.64 238 P **P** 11 32 24.8 +1.2
comp=Z,87nm,0.3s,baz=348,slow=4.0,SNR=4.1
DAV **Davao City (W)** 59.64 238 *e* P **P** 11 32 23.8 +0.3
comp=Z,165nm,0.4s
KPKS **Kokpek** 59.68 303 ⇑ *i* P **P** 11 32 23.7 +0.1
comp=Z,285nm,1.4s
KPKS LR LR 11 57 59.9
comp=Z,784nm,16.0s
UZB **Uzynbulak** 59.73 302 ⇑ *i* P **P** 11 32 23.9 -0.1
comp=Z,85nm,1.2s
UZB LR LR 11 58 08.6
comp=Z,322nm,15.9s
EPT **El Paso** 59.76 76 *e* P **P** 11 32 24.0 -0.4
comp=Z,70nm,0.9s
EPT LR LR
comp=Z,900nm,18.0s
G41A **Antigo** 59.83 54 P **P** 11 32 23.8 -0.7
baz=316,SNR=10
F42A **Maple Grove Fa** 59.95 53 P **P** 11 32 25.0 -0.4
baz=316,SNR=11
ANGG **Ammassalik, Gr** 59.97 14 *e* P **P** 11 32 23.7 -1.4
comp=Z,217nm,1.1s
E43A **Lone Tree Farm** 60.07 52 *e* P **P** 11 32 25.7 -0.3
comp=Z,116nm,0.9s
E43A **Lone Tree Farm** 60.07 52 P **P** 11 32 25.8 -0.3
baz=316,SNR=14
SCIA **State Center** 60.10 59 *e* P **P** 11 32 26.1 -0.3
comp=Z,206nm,0.9s
SCIA LR LR
comp=Z,1μm,19.0s
SCIA **State Center** 60.10 59 P **P** 11 32 25.8 -0.6
baz=315,SNR=9.4
SATY **Saty** 60.11 303 ⇑ *i* P **P** 11 32 26.9 +0.3
comp=Z,216nm,1.2s
SATY *e* S **S** 11 40 38.0 +0.6
SATY LR LR 11 58 22.7
comp=Z,372nm,14.2s
G42A **Mountain** 60.18 54 *e* P **P** 11 32 26.4 -0.5
comp=Z,97nm,0.8s
G42A **Mountain** 60.18 54 P **P** 11 32 25.8 -1.1
baz=316,SNR=18
KSU1 **Kansas State U** 60.26 64 *e* P **P** 11 32 26.2 -1.3
comp=Z,92nm,0.8s
KSU1 *e* PcP **PcP** 11 33 12.9 +0.3
KSU1 LR LR
comp=Z,2μm,18.0s
KSU1 **Kansas State U** 60.26 64 P **P** 11 32 26.3 -1.2
baz=315,SNR=20
F43A **Flat Rock, Esc** 60.37 53 P **P** 11 32 27.7 -0.5
baz=316,SNR=6.6
AMTX **Amarillo** 60.38 70 *e* P **P** 11 32 28.7 +0.2
comp=Z,76nm,0.8s
AMTX LR LR
comp=Z,900nm,21.0s
AMTX **Amarillo** 60.38 70 P **P** 11 32 28.1 -0.5
baz=316
E44A **Grand Marais A** 60.41 51 *e* P **P** 11 32 28.2 -0.2
comp=Z,253nm,0.8s
E44A LR LR
comp=Z,2μm,19.0s
E44A **Grand Marais A** 60.41 51 P **P** 11 32 28.4 0.0
baz=316,SNR=5.4
MNTX **Cornudas Mount** 60.48 75 *e* P **P** 11 32 29.3 +0.2
comp=Z,64nm,0.9s
MNTX LR LR
comp=Z,700nm,21.0s
MNTX **Cornudas Mount** 60.48 75 P **P** 11 32 29.7 +0.6
baz=316,SNR=73
PRZ **Przheval'sk** 60.52 302 *e* P **P** 11 32 29.7 +0.2
comp=Z,187nm,1.0s
PRZ LR LR
comp=Z,3μm,22.0s
PRZ **Przheval'sk** 60.52 302 *e* P **P** 11 32 29.7 +0.2
PRZ pmax pmax
comp=Z,187nm,1.0s
PRZ MLR MLR
comp=Z,3μm,22.0s
KONS **Konsvik** 60.52 351 *e* P **P** 11 32 28.6 -0.3
G43A **Wallace** 60.53 53 *e* P **P** 11 32 28.9 -0.3
comp=Z,99nm,0.9s
G43A LR LR
comp=Z,900nm,19.0s
G43A **Wallace** 60.53 53 P **P** 11 32 28.5 -0.8
baz=316,SNR=9.0
KUU **Kurty** 60.57 305 ⇑ *i* P **P** 11 32 28.8 -0.8
comp=Z,194nm,1.3s
KUU *e* S **S** 11 40 42.7 -0.3
KUU LR LR 11 58 26.1
comp=Z,1μm,18.5s
F44A **Big Bay de Noc** 60.63 52 P **P** 11 32 28.4 -1.5
baz=316
MOR8 **Moi Rana** 60.71 350 *e* P **P** 11 32 28.4 -1.8
GDL2 **Guadalupe Moun** 60.73 74 *e* P **P** 11 32 31.0 0.0
MDOK **Medeo** 60.73 304 *i* P **P** 11 32 30.9 0.0
comp=Z,2μm,0.9s
MDOK LR LR 11 57 51.2
comp=Z,1μm,19.0s
AAA **Alma-Ata** 60.77 304 *e* P **P** 11 32 31.2 +0.2
U32A **Winter Ranch,** 60.85 67 *e* P **P** 11 32 31.3 -0.3
comp=Z,99nm,0.8s
U32A LR LR
comp=Z,900nm,20.0s
JFWS **Jewell Farm** 60.93 57 *e* P **P** 11 32 30.8 -1.2
comp=Z,105nm,0.6s
JFWS LR LR
comp=Z,1μm,18.0s
JFWS **Jewell Farm** 60.93 57 *e* P **P** 11 32 30.8 -1.2
JFWS pmax pmax
comp=Z,105nm,0.6s
JFWS MLR MLR
comp=Z,1μm,18.0s
JFWS **Jewell Farm** 60.93 57 P **P** 11 32 30.9 -1.2
baz=316,SNR=38
E45A **Wooded Hills,** 60.95 51 P **P** 11 32 31.7 -0.4
baz=317,SNR=8.3
JAY **Jayapura** 61.23 218 P **P** 11 32 35.7 +1.3
comp=Z,19nm,1.1s,baz=6.0,slow=2.8,SNR=6.2
JAY **Jayapura** 61.23 218 P **P** 11 32 35.7 +1.3
JAY **Jayapura** 61.23 218 P **P** 11 32 37.1 +2.7
F45A **CMU Biological** 61.28 52 P **P** 11 32 32.7 -1.7
baz=317
E46A **Sault Ste Mari** 61.36 50 P **P** 11 32 34.2 -0.6
baz=317,SNR=15
KDJ **Kajisay** 61.41 303 *e* P **P** 11 32 36.0 +0.5
comp=Z,178nm,0.8s
KDJ LR LR
comp=Z,3μm,22.0s
LKP **Lekhapani** 61.41 278 *e* P **P** 11 32 36.8 +1.3
D47A **Chapleau** 61.42 49 P **P** 11 32 34.1 -1.2
baz=317,SNR=18
GENI **Genyem** 61.51 219 P **P** 11 32 38.8 +2.6
SMPI **Sarmi** 61.52 220 P **P** 11 32 39.8 +3.5
F46A **Macinaw City C** 61.58 51 P **P** 11 32 35.9 -0.5
baz=317,SNR=30
TKM2 **Tokmak 2** 61.65 304 P **P** 11 32 37.3 +0.2
SNR=137
G45A **Suttons Bay** 61.68 52 P **P** 11 32 36.5 -0.6
baz=317,SNR=5.9
SGDS **Sogindy** 61.75 305 ⇑ *i* P **P** 11 32 38.0 +0.3
comp=Z,159nm,1.3s
SGDS LR LR 11 59 55.4
comp=Z,627nm,16.0s
E47A **Iron Bridge** 61.78 50 P **P** 11 32 36.8 -0.9
baz=318,SNR=22
ULHL **Ulahol** 61.81 303 P **P** 11 32 39.0 +0.8
SNR=18
MATQ **Matagami** 61.84 44 P **P** 11 32 36.4 -1.7
baz=319
G46A **Petoskey** 61.86 52 P **P** 11 32 37.7 -0.6
baz=317,SNR=20
D48A **Paudash Townsh** 61.93 48 P **P** 11 32 37.3 -1.4
baz=318,SNR=8.9
CHMS **Chumysh** 62.02 305 P **P** 11 32 39.8 +0.4
SNR=62
IVI **Ivigtut** 62.03 21 *e* P **P** 11 32 38.9 -0.2
comp=Z,116nm,0.8s
SCHQ **Schefferville** 62.09 35 P **P** 11 32 39.3 -0.4
comp=Z,338nm,0.8s,baz=333,slow=6.9,SNR=168
SCHQ **Schefferville** 62.09 35 *e* P **P** 11 32 39.3 -0.4
comp=Z,335nm,0.8s
SCHQ LR LR
comp=Z,2μm,20.0s
WMOK **Wichita Mounta** 62.15 69 *e* P **P** 11 32 40.4 0.0
comp=Z,56nm,0.9s
WMOK LR LR
comp=Z,900nm,19.0s
WMOK **Wichita Mounta** 62.15 69 *e* P **P** 11 32 40.4 0.0
WMOK pmax pmax

comp=Z,56nm,0.9s
WMOK MLR MLR
comp=Z,900nm,19.0s
WMOK Wichita Mounta 62.15 69 P P 11 32 40.4 0.0
baz=316,SNR=51
FRU Bishkek 62.21 305⇑ *i*P P 11 32 40.0 -0.7
FRU *i* 11 32 57.5
FRU pmax pmax
comp=Z,550nm,2.0s
FRU1 Bishkek 62.22 305 *e*P P 11 32 41.1 +0.3
comp=Z,303nm,0.9s
FRU1 LR LR
comp=Z,2μm,20.0s
FRU1 Bishkek 62.22 305 *e*P P 11 32 41.1 +0.3
FRU1 pmax pmax
comp=Z,303nm,0.9s
FRU1 MLR MLR
comp=Z,2μm,20.0s
E48A Lockeyer 62.28 49 P P 11 32 40.0 -1.0
baz=318,SNR=18
GLMI Grayling 62.34 52 *e*P P 11 32 41.4 -0.1
comp=Z,221nm,0.6s
GLMI LR LR
comp=Z,1μm,18.0s
GLMI Grayling 62.34 52 P P 11 32 40.9 -0.6
baz=318,SNR=11
AAK Ala-Archa 62.41 305 P P 11 32 42.6 +0.4
comp=Z,90nm,0.6s,baz=83,slow=3.4,SNR=177
AAK Ala-Archa 62.41 305 *e*P P 11 32 42.6 +0.4
comp=Z,22nm,0.8s
AAK LR LR
comp=Z,2μm,20.0s
AAK Ala-Archa 62.41 305 P P 11 32 42.6 +0.4
SNR=89
AAK Ala-Archa 62.41 305 *i* P P 11 32 42.4 +0.2
SNR=15
AAK Ala-Archa 62.41 305 *c i* P P 11 32 42.4 +0.2
AAK pmax pmax
comp=Z,187nm,0.9s
KZA Kyzart 62.44 304 P P 11 32 43.3 +0.6
SNR=44
G47A Hillman 62.45 51 P P 11 32 41.7 -0.5
baz=318,SNR=12
ZIRO ZIRO 62.48 280 *e*P P 11 32 43.1 +0.2
LSA Lhasa 62.52 284 *e*P P 11 32 44.3 +0.8
comp=Z,66nm,0.9s
LSA LR LR
comp=Z,1μm,18.0s
LSA Lhasa 62.52 284 P P 11 32 44.7 +1.2
NRN Naryn 62.52 303 *e*P P 11 32 43.1 0.0
comp=Z,64nm,0.9s
NSS Namsos 62.56 351 *e*P P 11 32 42.1 -0.5
HNR Honiara 62.62 195 PFAKE 11 33 00.0 +16
HNR LR LR
comp=Z,1μm,20.0s
LSQQ Lebel-sur-Quev 62.65 44 P P 11 32 41.7 -1.8
baz=320
NRS Narsarsuaq 62.67 20 *e*P P 11 32 42.7 -0.7
comp=Z,120nm,1.1s
NRS Narsarsuaq 62.67 20 *e*P P 11 32 42.7 -0.7
NRS pmax pmax
comp=Z,120nm,1.1s
UCH Uchtor 62.70 304 P P 11 32 44.9 +0.3
SNR=66
EKS2 Erkin-Say 62.75 305 P P 11 32 44.9 +0.5
SNR=18
D50A G1974 Best Tow 62.83 47 P P 11 32 43.3 -1.4
baz=319,SNR=18
ITAN ITANAGAR 62.84 280 *e*P P 11 32 46.4 +1.3
F49A Sandfield 62.87 50 P P 11 32 44.0 -1.0
baz=318,SNR=11
MOKO MOKOCHONG 62.96 279 *e*P P 11 32 47.3 +1.2
E50A Wahnapitae 62.98 48 P P 11 32 44.6 -1.2
baz=319,SNR=9.4
LPIG La Paz 63.04 85 P P 11 32 47.6 +1.2
comp=Z,37nm,0.6s,baz=324,slow=1.5,SNR=7.3
LPIG LR LR 11 54 38.0
comp=Z,766nm,21.2s,baz=318,slow=31
LPIG La Paz 63.04 85 *e*P P 11 32 47.6 +1.2
CHGQ Chibougamau 63.09 42 P P 11 32 44.6 -1.8
baz=321
D51A Lot 18 Range I 63.09 47 P P 11 32 44.8 -1.7
baz=319
HDIL Hopedale 63.13 58 *e*P P 11 32 45.9 -0.9
comp=Z,159nm,0.6s
HDIL LR LR
comp=Z,2μm,18.0s
HDIL Hopedale 63.13 58 P P 11 32 46.1 -0.7
baz=317,SNR=32
VLDQ Val d'Or 63.17 45 *e*P P 11 32 44.3 -2.6
comp=Z,108nm,0.8s
VLDQ LR LR
comp=Z,3μm,19.0s
ABTX Abilene, Hawle 63.18 71 *e*P P 11 32 47.3 0.0
comp=Z,122nm,0.9s
ABTX LR LR
comp=Z,1μm,22.0s
ABTX Abilene, Hawle 63.18 71 P P 11 32 47.3 0.0
baz=317,SNR=21
TX31 Lajitas Ar. Si 63.21 76 *e*P P 11 32 47.6 -0.1
LTX Lajitas 63.21 76 *e*P P 11 32 48.0 +0.4
LTX Lajitas 63.21 76 *e*P P 11 32 48.0 +0.4
TXAR Lajitas Array 63.21 76 P P 11 32 48.0 +0.4
comp=Z,40nm,0.8s,baz=301,slow=4.6,SNR=123
TXAR LR LR 11 57 05.2
comp=Z,645nm,22.0s,baz=0.0,slow=33
TXAR PKP2bc 12 01 50.3
comp=Z,1.3nm,1.0s,baz=152,slow=5.7,SNR=6.9
TXAR PKP2ab 12 01 57.3
comp=Z,0.5nm,0.8s,baz=134,slow=5.4,SNR=4.4
TXAR Lajitas Array 63.21 76 P P 11 32 48.0 +0.4
E51A G1948 Merrick 63.46 48 P P 11 32 47.4 -1.6
baz=319,SNR=17
TOBO Tobermory, Bru 63.51 50 P P 11 32 48.4 -0.9
baz=319
MNAS Manas 63.52 306 *i* P P 11 32 49.2 -0.4
MNAS pmax pmax
comp=Z,108nm,1.2s
SLBS Sierra La Lagu 63.57 85 *e*P P 11 32 50.4 +0.3
comp=Z,146nm,1.1s
SLBS LR LR
comp=Z,1μm,22.0s
FIA1 FINESS Array S 63.59 343 *e*P P 11 32 48.9 -0.6
comp=Z,222nm,1.0s
FIA0 FINESS Array S 63.59 343 *e*P P 11 32 49.0 -0.5
FIA0 FINESS Array S 63.59 343 *e*P P 11 32 49.0 -0.5
FINES FINESS Array B 63.59 343 P P 11 32 49.0 -0.5
comp=Z,121nm,0.9s,baz=33,slow=7.3,SNR=105
FINES FINESS Array B 63.59 343 P P 11 32 49.0 -0.5
TAWA Tawang 63.63 282 *e*P P 11 32 51.8 +1.1
KOHI KOHIMA 63.65 278 *e*P P 11 32 51.2 +0.5
SWI Sorong 63.70 228 P P 11 32 52.6 +1.8
SIJI Sorong 63.71 228 P P 11 32 51.8 +0.9
comp=Z,171nm,0.9s,baz=3.1,slow=6.5,SNR=81
F51A Arnstein 63.73 48 P P 11 32 49.2 -1.5
baz=319,SNR=7.9
HHAR Hobbs 63.75 64 *e*P P 11 32 50.1 -0.9
comp=Z,49nm,0.9s
HPIG 63.77 79 *e*P P 11 32 51.0 -0.5
comp=Z,56nm,1.0s
HPIG LR LR
comp=Z,600nm,22.0s
TEZP TEZPUR 63.78 280 *ex* P 11 32 41.3 -10
D53A Lac Vacive, Po 63.85 46 P P 11 32 50.0 -1.5
baz=320
NONG Nongkai 63.85 266 P P 11 32 52.7 +0.8
comp=Z,1.8nm,1.6s
CCM Cathedral Cave 63.92 61 *e*P P 11 32 50.6 -1.5
comp=Z,53nm,0.8s
CCM LR LR
comp=Z,1μm,19.0s
CCM Cathedral Cave 63.92 61 *e*P P 11 32 50.6 -1.5
CCM pmax pmax
comp=Z,53nm,0.8s
CCM MLR MLR
comp=Z,1μm,19.0s
CCM Cathedral Cave 63.92 61 P P 11 32 50.6 -1.5
baz=317
KSH Kashi 63.94 301 P P 11 32 55.9 +3.6
KSH pP sP 11 33 07.0 +0.5
KSH PP **PP 11 35 19.1 +6.4**
KSH S **S 11 41 27.0 +1.3**
KSH sS sS 11 41 44.1 +1.4
KSH SS **SS 11 45 37.1 +3.3**
KSH pmax pmax
comp=Z,580nm,1.0s
KSH LR LR
comp=Z,4μm,17.9s
KSH LR LR
comp=Z,2μm,16.9s
KSH LR LR
comp=Z,7μm,23.1s
AKTO Aktyubinsk 63.95 320 P P 11 32 51.8 -0.3
AKTO pmax pmax
comp=Z,370nm,1.0s
TBLU Trondheim 63.97 352 *e*P P 11 32 50.9 -1.1
KLBO Killbear Provi 64.02 49 P P 11 32 50.8 -1.8
baz=319
SLM Saint Louis 64.04 60 *e*P P 11 32 52.2 -0.6
comp=Z,56nm,0.7s
SLM LR LR
comp=Z,1μm,18.0s
SLM Saint Louis 64.04 60 *e*P P 11 32 52.2 -0.6
SLM pmax pmax
comp=Z,56nm,0.7s
SLM MLR MLR
comp=Z,1μm,18.0s
KK31 Karatay Array 64.04 307 *e*P P 11 32 52.3 -0.5
KK31 Karatay Array 64.04 307 *i* P P 11 32 52.1 -0.7
KK31 pmax pmax
comp=Z,94nm,0.7s
KKAR Karatay Array 64.04 307 *e*P P 11 32 52.3 -0.5
AB31 Akbulak array 64.10 318 *e*P P 11 32 52.9 -0.1
AB31 pmax pmax
comp=Z,109nm,0.7s
ABKAR Akbulak array 64.10 318 *e*P P 11 32 52.7 -0.3
F52A Sundridge 64.10 48 P P 11 32 51.6 -1.5
baz=320,SNR=21
BMRO Meriville Lake 64.13 50 P P 11 32 52.6 -0.8
baz=319
SKNT Sakolnakorn 64.17 264 P P 11 32 54.6 +0.6
comp=Z,44nm,1.8s
X37A Clayton 64.19 66 *e*P P 11 32 53.5 -0.4
comp=Z,60nm,0.9s
X37A LR LR
comp=Z,1μm,19.0s
D54A Lac Fusel, La 64.25 45 P P 11 32 52.4 -1.7
baz=320,SNR=19
BRCO Bruce Peninsul 64.29 50 P P 11 32 54.1 -0.3
baz=319
PUL Pulkovo 64.33 340 *d i* P P 11 32 55.1 +0.7
PUL pmax pmax
comp=Z,173nm,0.6s
BUKO Buck Lake 64.33 48 P P 11 32 53.4 -1.2
baz=320
BASO Ashfield 64.36 51 P P 11 32 54.5 -0.3
baz=319
E53A Dumoine, Ponti 64.40 47 P P 11 32 53.3 -1.8
baz=320,SNR=29
IMP Imphal 64.41 278 *e*P P 11 32 55.1 -0.4
FVM French Village 64.42 61 *e*P P 11 32 54.6 -0.8
comp=Z,41nm,0.8s
FVM LR LR
comp=Z,900nm,19.0s
FVM French Village 64.42 61 *e*P P 11 32 54.6 -0.8
FVM pmax pmax
comp=Z,41nm,0.8s
FVM MLR MLR
comp=Z,900nm,19.0s
BWLO Walkerton 64.53 50 P P 11 32 55.0 -1.0
baz=319
ALGO Algonquin Park 64.55 47 P P 11 32 54.3 -1.7
baz=320
E54A Lac Daplat, Po 64.57 46 P P 11 32 54.3 -1.9
baz=320,SNR=30
JCT Junction City 64.65 73 *e*P P 11 32 56.3 -0.8
comp=Z,68nm,0.9s
JCT LR LR
comp=Z,1μm,22.0s
JCT Junction City 64.65 73 *e*P P 11 32 56.3 -0.8
JCT pmax pmax
comp=Z,68nm,0.9s
JCT MLR MLR
comp=Z,1μm,22.0s
JCT Junction City 64.65 73 P P 11 32 56.7 -0.4
baz=318,SNR=18
CLWO Collingwood 64.67 50 P P 11 32 56.1 -0.8
baz=320
AAM Ann Arbor 64.68 53 *e*P P 11 32 56.5 -0.5
comp=Z,44nm,0.9s
AAM Ann Arbor 64.68 53 P P 11 32 56.4 -0.6
baz=319
GUWA GUWAHATI 64.76 281 *e*P P 11 32 57.3 -0.4
MOL Molde 64.87 353 *e*P P 11 32 58.0 +0.1
PAYA Paknoi 64.88 269 P P 11 32 59.6 +1.0
comp=Z,35nm,1.1s,comp=Z,381nm
SADO Sadowa 64.96 49 *e*P P 11 32 57.5 -1.2
comp=Z,54nm,0.8s
SADO LR LR
comp=Z,1μm,20.0s
IUG Iuzhnay 64.99 307⇑ *i*P P 11 32 59.8 +0.6
comp=Z,248nm,1.4s
IUG LR LR 12 02 41.8
comp=Z,367nm,17.0s
FAKI Fak Fak 65.08 226 *e*P P 11 33 00.3 +0.5
comp=Z,81nm,1.1s
FAKI Fak Fak 65.08 226 P P 11 33 00.7 +0.8
OLIL Olney 65.09 59 *e*P P 11 32 59.4 -0.3
comp=Z,84nm,0.9s
OLIL LR LR
comp=Z,2μm,18.0s
SHL Shillong 65.11 280 *e*P P 11 32 59.9 -0.3
comp=Z,142nm,0.9s
SHL LR LR
comp=Z,1μm,18.0s
SHL Shillong 65.11 280 *e*P P 11 32 59.9 -0.3
SHL pmax pmax
comp=Z,142nm,0.9s
SHL MLR MLR
comp=Z,1μm,18.0s
SHL Shillong 65.11 280 *e*P P 11 32 57.7 -2.5
SHL *ex* x 11 41 38.0
PEMO Pembroke 65.12 47 P P 11 32 57.9 -1.9
baz=321
SILR SILCHAR 65.14 279 *e*P P 11 32 60.0 -0.2
ELFO Elginfield 65.14 51 P P 11 32 59.7 -0.3
baz=320
MIAR Mount Ida 65.23 65 *e*P P 11 33 00.3 -0.4
comp=Z,106nm,1.0s
MIAR LR LR
comp=Z,1μm,19.0s
MIAR Mount Ida 65.23 65 *e*P P 11 33 00.3 -0.4
MIAR pmax pmax
comp=Z,106nm,1.0s
MIAR MLR MLR
comp=Z,1μm,19.0s
MIAR Mount Ida 65.23 65 P P 11 33 00.2 -0.4
baz=318,SNR=33
SIUC Southern Illin 65.26 60 *e*P P 11 32 59.6 -1.2
comp=Z,57nm,0.8s
SIUC LR LR
comp=Z,1μm,20.0s
DOMB Dombas 65.27 352 *e*P P 11 33 00.1 -0.4
AKN Paknoi 65.30 353 *e*P P 11 33 01.6 +0.8
PBMO Poplar Bluff 65.30 61 *e*P P 11 33 00.3 -0.8
comp=Z,199nm,0.9s
PBMO LR LR
comp=Z,900nm,18.0s
BANO Bancroft 65.33 48 P P 11 32 59.6 -1.6
baz=320
KHON Khomkaen 65.37 265 P P 11 33 02.8 +1.0
comp=Z,41nm,0.9s
WHAR Wooly Hollow 65.39 64 *e*P P 11 33 00.8 -0.9
comp=Z,61nm,0.9s
WHAR LR LR
comp=Z,800nm,18.0s
ACTO Acton 65.42 50 P P 11 33 01.3 -0.5
baz=320
PMG Port Moresby 65.51 209 P P 11 33 03.2 +0.6
comp=Z,6.4nm,0.7s,baz=356,slow=7.1,SNR=3.2
PMG Port Moresby 65.51 209 *e*P P 11 33 03.2 +0.6
BLO Bloomington 65.58 57 *e*P P 11 32 02.2 -0.6
comp=Z,68nm,0.8s
BLO LR LR
comp=Z,1μm,22.0s
BLO Bloomington 65.58 57 *e*P P 11 32 02.3 -0.6
BLO pmax pmax
comp=Z,68nm,0.8s
BLO MLR MLR
comp=Z,1μm,22.0s
LAMP Lampang 65.66 269 P P 11 33 04.5 +0.9
comp=Z,20nm,0.8s
UTTA Uttaradit 65.68 268 P P 11 33 04.2 +0.4
comp=Z,32nm,0.8s,comp=Z,193nm
PLVO Plevna 65.69 47 *e*P P 11 33 02.1 -1.4
comp=Z,36nm,0.9s
PLVO LR LR
comp=Z,2μm,18.0s
PLVO Plevna 65.69 47 P P 11 33 01.8 -1.7
baz=321
LATQ La Tuque 65.73 43 P P 11 33 02.6 -1.1
baz=322
UALR University of 65.74 64 *e*P P 11 33 03.2 -0.7
comp=Z,31nm,0.9s
UALR LR LR
comp=Z,1μm,19.0s
PARMO Parma 65.75 61 *e*P P 11 33 03.7 -0.3
comp=Z,205nm,0.8s
PARMO LR LR
comp=Z,1μm,19.0s
GTK Tadong 65.78 284 *e*P P 11 33 04.7 +0.1
GTK IAmb IAmb 11 33 06.8
comp=Z,45nm,0.5s
DRWO Darlington Wes 65.84 49 P P 11 33 03.5 -0.9
baz=320
DRCO St. Marys Ceme 65.85 49 P P 11 33 04.1 -0.4
baz=320
DELO Deloro Mine 65.85 48 P P 11 33 03.1 -1.4
baz=321
CMMT Chiang Mai 65.86 270 P P 11 33 05.2 +0.3
comp=Z,90nm,0.9s,comp=Z,1μm
CHTO Chiang Mai 65.86 270 *e*P P 11 33 04.8 -0.1
comp=Z,98nm,1.0s
CHTO LR LR
comp=Z,400nm,19.0s
CHTO Chiang Mai 65.86 270 P P 11 33 05.5 +0.6
SNR=23
CHTO Chiang Mai 65.86 270 *e*P P 11 33 04.8 -0.1
CHTO pmax pmax
comp=Z,98nm,1.0s
CHTO MLR MLR
comp=Z,400nm,19.0s
CHTO Chiang Mai 65.86 270 P P 11 33 05.3 +0.4
comp=Z,398nm,0.9s,comp=Z,5μm
NC303 NORSAR Array S 65.86 351 *e*P P 11 33 03.7 -0.6
NC204 NORSAR Array S 65.87 351 *e*P P 11 33 03.8 -0.7
USIN University of 65.89 59 *e*P P 11 33 03.5 -1.4
comp=Z,120nm,0.8s
USIN LR LR
comp=Z,2μm,19.0s
TYNO Tyneside 65.90 50 P P 11 33 04.6 -0.3
baz=320
NC405 NORSAR Array S 65.93 350 *e*P P 11 33 04.2 -0.6
KMSI Cibinong 65.99 236 P P 11 33 14.5 +8.8
FOO Floro 66.01 354 *e*P P 11 33 05.8 +0.6
NB201 NORSAR Array S 66.04 351 *e*P P 11 33 04.5 -1.0
NB2 NORSAR Subarra 66.06 351 P P 11 33 05.0 -0.6
comp=Z,268nm,1.2s,baz=12,slow=6.5
NB2 NORSAR Subarra 66.06 351 P P 11 33 05.0 -0.6
baz=12,slow=6.5
NB200 NORSAR Array S 66.06 351 *e*P P 11 33 05.2 -0.5
NOA NORSAR Array B 66.06 351 P P 11 33 05.2 -0.5
comp=Z,119nm,0.9s,baz=12,slow=6.5,SNR=182
NOA NORSAR Array B 66.06 351 P P 11 33 05.2 -0.5
TURI Tura 66.06 281 *e*P P 11 33 05.8 -0.3
ORIO Orleans, Innes 66.07 46 P P 11 33 04.3 -1.6
baz=322
HBAR Harrisburg 66.09 63 PFAKE 11 33 20.0 +14
HBAR LR LR
comp=Z,1μm,18.0s
NBO00 NORSAR Array S 66.11 351 *e*P P 11 33 05.4 -0.6
WLAR White Oak Lake 66.12 66 *e*P P 11 33 06.2 -0.2
comp=Z,146nm,0.9s
WLAR LR LR
comp=Z,1μm,19.0s
CM31 Chiang Mai Arr 66.13 269 *e*P P 11 33 06.9 +0.2
CM31 Chiang Mai Arr 66.13 269 P P 11 33 07.5 +0.9
SNR=22
CMAR Chiang Mai Arr 66.13 269 P P 11 33 07.4 +0.7
comp=Z,43nm,0.7s,baz=25,slow=7.3,SNR=145
CMAR PKPPKP **P'P'df 12 01 39.5 -3.1**
comp=Z,1.6nm,0.7s,baz=235,slow=4.6,SNR=7.8
CMAR PKP2ab 12 01 47.4
comp=Z,1.7nm,0.5s,baz=239,slow=4.1,SNR=13
CMAR LR LR 12 05 29.5
comp=Z,331nm,18.5s,baz=48,slow=39
CMAR Chiang Mai Arr 66.13 269 P P 11 33 07.4 +0.7
GNAR Gosnell 66.13 62 *e*P P 11 33 06.9 +0.4
comp=Z,202nm,1.4s
STCO Saint Catharin 66.14 50 P P 11 33 05.9 -0.5
baz=320
CM01 Chiang Mai Arr 66.15 269 *e*P P 11 33 06.6 -0.2
ALFO Alfred 66.21 45 P P 11 33 05.2 -1.6
baz=322
CHAI Chaiyaphum 66.22 265 P P 11 33 07.8 +0.6
comp=Z,20nm,1.0s,comp=Z,188nm
MOS Moscow 66.24 334 *e*P P 11 33 05.1 -1.7
MOS *e* 11 33 15.8
MOS *e* 11 33 33.7
MOS *e* 11 35 31.8
MOS pmax pmax
comp=Z,309nm,1.2s
MOS pmax pmax
comp=N,160nm,1.1s
MOS MLR MLR
comp=Z,3μm,19.0s
VSU Vasula 66.25 342 *e*P P 11 33 06.8 0.0
VSU IAmb IAmb 11 33 07.7
comp=Z,340nm,0.7s
VSU Vasula 66.25 342 *c i*P P 11 33 06.6 -0.2
VSU pmax pmax
comp=Z,565nm,1.0s
NAO01 NORSAR Array S 66.28 351 *e*P P 11 33 06.2 -0.8
TAPN Taplejung 66.29 284 *e*P P 11 33 08.5 +0.5
comp=Z,569nm,1.2s
GLAT Glass 66.30 61 *e*P P 11 33 07.4 -0.1
comp=Z,316nm,1.2s
GLAT LR LR
comp=Z,1μm,19.0s
NC602 NORSAR Array S 66.32 350 *e*P P 11 33 06.6 -0.7
NC602 NORSAR Array S 66.32 350 *e*P P 11 33 07.2 -0.1
PBKT Sadao Pong 66.32 267 *e*P P 11 33 07.7 -0.2
PBKT Sadao Pong 66.32 267 P P 11 33 08.3 +0.4
comp=Z,42nm,1.0s,comp=Z,809nm
HYA Hoyanger 66.36 353 *e*P P 11 33 08.1 +0.6
WCI Wyandotte Cave 66.41 58 *e*P P 11 33 07.7 -0.5
comp=Z,80nm,0.8s
WCI LR LR
comp=Z,2μm,18.0s
WCI Wyandotte Cave 66.41 58 *e*P P 11 33 07.7 -0.5
WCI pmax pmax
comp=Z,80nm,0.8s
WCI MLR MLR
comp=Z,2μm,18.0s
WCI Wyandotte Cave 66.41 58 P P 11 33 07.3 -1.0
baz=319
SUKH Sukhothai 66.45 268 P P 11 33 09.3 +0.6
comp=Z,16nm,0.7s
UTMT University of 66.47 61 *e*P P 11 33 08.8 +0.2
comp=Z,392nm,1.0s
MEDO Medina 66.51 49 P P 11 33 07.9 -0.9
baz=321
HALT Halls 66.53 61 *e*P P 11 33 08.7 -0.4
comp=Z,338nm,1.1s
HALT LR LR
comp=Z,900nm,19.0s
ACSO Alum Creek Sta 66.58 54 *e*P P 11 33 08.7 -0.6
comp=Z,44nm,0.9s
ACSO Alum Creek Sta 66.58 54 P P 11 33 08.3 -1.0
baz=320,SNR=8.7
ERPA Erie 66.60 51 *e*P P 11 33 08.7 -0.7
comp=Z,238nm,0.7s
ERPA LR LR
comp=Z,1μm,22.0s
ERPA Erie 66.60 51 P P 11 33 08.1 -1.3
baz=320,SNR=23
NATX Nacogdoches 66.68 68 *e*P P 11 33 09.8 -0.2
comp=Z,90nm,0.8s
NATX LR LR
comp=Z,1μm,21.0s
NATX Nacogdoches 66.68 68 P P 11 33 09.8 -0.2
baz=318,SNR=8.6
CCAR Cane Creek 66.69 64 *e*P P 11 33 09.9 -0.2
comp=Z,95nm,0.8s
CCAR LR LR
comp=Z,1μm,21.0s
SAIH SAIHA 66.73 277 *e*P P 11 33 10.9 +0.2
AGT Agartala 66.75 279 *e*P P 11 33 12.3 +1.8
ODAN Odare 66.84 284 *e*P P 11 33 11.7 +0.2
comp=Z,210nm,1.1s
ALLY Alegheny Colle 66.88 51 *e*P P 11 33 10.9 -0.3

comp=Z,309nm,0.8s
GUN Gumba 66.96 286 *e*P **P 11 33 12.7 +0.4**
comp=Z,627nm,0.9s
JIRN Jiri 66.96 286 *e*P **P 11 33 12.9 +0.6**
comp=Z,2μm,1.4s
OBN Obninsk 67.07 335 *e*P **P 11 33 11.8 -0.3**
comp=Z,293nm,1.2s
OBN LR LR
comp=Z,4μm,20.0s
OBN Obninsk 67.07 335 *c i*P **P 11 33 12.0 -0.1**
OBN *i* 11 33 21.9
OBN *e* 11 33 38.8
OBN *e* 11 35 40.4
OBN *e*S **S 11 42 00.4 -2.8**
OBN *e*SS **SS 11 46 25.2 +3.9**
OBN pmax pmax
comp=Z,300nm,1.3s
OBN MLR MLR
comp=Z,3μm,19.0s
BELO BELONIA 67.10 279 *e*P **P 11 33 13.9 +1.1**
MMNY Mt. Morris Dam 67.10 49 *e*P **P 11 33 11.7 -0.8**
comp=Z,117nm,0.8s
MMNY LR LR
comp=Z,900nm,20.0s
ASK Askoy 67.11 354 *e*P **P 11 33 12.6 +0.3**
MRSI Marisa 67.12 238 pP PcP 11 33 50.7 +10
LONY Lake Ozonia 67.13 46 *e*P **P 11 33 10.8 -1.9**
comp=Z,54nm,1.1s
LONY LR LR
comp=Z,1μm,20.0s
LONY Lake Ozonia 67.13 46 P **P 11 33 10.7 -2.0**
baz=322,SNR=9.6
WVT Waverly 67.18 60 *e*P **P 11 33 12.3 -0.8**
comp=Z,63nm,0.8s
WVT LR LR
comp=Z,1μm,18.0s
WVT Waverly 67.18 60 *e*P **P 11 33 12.3 -0.8**
WVT pmax pmax
comp=Z,63nm,0.8s
WVT MLR MLR
comp=Z,1μm,18.0s
WVT Waverly 67.18 60 P **P 11 33 12.4 -0.8**
baz=319
OSL Oslo 67.19 351 *e*P **P 11 33 12.8 0.0**
BER Bergen 67.20 354 *e*P **P 11 33 12.9 +0.1**
AFI Afiamalu 67.23 164 PFAKE 11 33 30.0 +16
AFI LR LR
comp=Z,2μm,20.0s
SANI Sanana 67.24 233 P **P 11 33 13.4 -0.3**
RAMN Ramite 67.25 285 *e*P **P 11 33 14.4 +0.4**
comp=Z,1μm,1.2s
HKT Hockley 67.35 70 *e*P **P 11 33 14.2 0.0**
comp=Z,37nm,1.0s
HKT LR LR
comp=Z,900nm,19.0s
HKT Hockley 67.35 70 *e*P **P 11 33 14.2 0.0**
HKT pmax pmax
comp=Z,37nm,1.0s
HKT MLR MLR
comp=Z,900nm,19.0s
FRNY Flat Rock 67.40 45 *e*P **P 11 33 12.7 -1.7**
comp=Z,73nm,1.5s
FRNY LR LR
comp=Z,2μm,19.0s
KKN Kakani 67.40 286 *e*P **P 11 33 15.4 +0.5**
comp=Z,256nm,0.8s
PKI Pulchoki 67.49 286 *e*P **P 11 33 16.0 +0.4**
comp=Z,369nm,0.8s
PKIN Phulchoki 67.49 286 *e*P **P 11 33 15.8 +0.2**
comp=Z,232nm,0.7s
OXF Oxford 67.55 62 *e*P **P 11 33 14.7 -0.8**
comp=Z,383nm,1.0s
OXF LR LR
comp=Z,900nm,20.0s
OXF Oxford 67.55 62 *e*P **P 11 33 14.7 -0.8**
OXF pmax pmax
comp=Z,383nm,1.0s
OXF MLR MLR
comp=Z,900nm,20.0s
OXF Oxford 67.55 62 P **P 11 33 14.9 -0.6**
baz=319,SNR=20
ODD1 Odda 67.57 353 *e*P **P 11 33 15.3 0.0**
KONO Kongsberg 67.58 351 *e*P **P 11 33 14.5 -0.8**
comp=Z,125nm,0.8s
KONO Kongsberg 67.58 351 *c i*P **P 11 33 14.9 -0.4**
KONO pmax pmax
comp=Z,121nm,0.7s
KONO Kongsberg 67.58 351 *e*P **P 11 33 15.7 +0.4**
MOQ Mont Orford 67.59 44 *e*P **P 11 33 14.1 -1.7**
AAI Ambon 67.61 230 P **P 11 33 18.4 +2.3**
GKN Gorkha 67.62 287 *e*P **P 11 33 16.5 +0.2**
comp=Z,1.2nm,0.3s
DMN Daman 67.64 286 *e*P **P 11 33 17.0 +0.5**
comp=Z,152nm,0.7s
SRAK Srakaew 67.64 264 P **P 11 33 15.0 -1.3**
comp=Z,207nm,1.2s,comp=Z,2μm
LRW Lerwick 67.77 357 *e*P **P 11 33 16.1 -0.4**
LRW IAmb IAmb 11 33 17.2
comp=Z,90nm,0.9s
NCB Newcomb 67.80 46 *e*P **P 11 33 15.4 -1.6**
comp=Z,38nm,0.9s
NCB LR LR
comp=Z,1μm,18.0s
SLIT Slitere, Latvi 67.85 344 *e*P **P 11 33 16.3 -0.7**
SLIT IAmb IAmb 11 33 17.2
comp=Z,572nm,0.8s
DANN Dangsing 67.87 288 *e*P **P 11 33 18.4 +0.4**
comp=Z,463nm,1.0s
UMPA Umpang Tak 67.90 268 P **P 11 33 19.6 +1.7**
comp=Z,51nm,1.0s
PLAL Pickwick Lake 67.91 61 *e*P **P 11 33 16.4 -1.4**
comp=Z,59nm,0.8s
PLAL LR LR
comp=Z,900nm,19.0s
KVTX Kingsville 67.94 73 PFAKE 11 33 30.0 +12
KVTX LR LR
comp=Z,800nm,19.0s
LUWI Luwuk 67.99 236 *e*P **P 11 33 17.1 -1.3**
comp=Z,173nm,1.0s
LUWI Luwuk 67.99 236 P **P 11 33 18.2 -0.2**
UTHA Uthaitani 68.03 267 P **P 11 33 19.6 +0.8**
comp=Z,26nm,1.0s,comp=Z,222nm
BLS5 Blasjo 68.07 353 *e*P **P 11 33 18.6 +0.1**
VT1 Waterbury 68.16 45 *e*P **P 11 33 18.2 -1.0**
comp=Z,52nm,1.1s
PQI Presque Isle 68.25 41 *e*P **P 11 33 18.4 -1.3**
comp=Z,34nm,0.7s
MPSI Mapaga 68.31 240 P **P 11 33 20.8 +0.3**
KOLN Koldanda 68.40 288 *e*P **P 11 33 21.3 +0.1**
comp=Z,307nm,1.1s
BINY Binghamton 68.40 48 *e*P **P 11 33 19.8 -1.0**
comp=Z,68nm,0.9s
BINY LR LR
comp=Z,1μm,20.0s
BINY Binghamton 68.40 48 P **P 11 33 19.8 -1.0**
baz=322,SNR=11
APSI Ampana 68.45 238 P **P 11 33 22.1 +0.8**
PYUN Piuthan 68.51 288 *e*P **P 11 33 22.1 +0.2**
comp=Z,545nm,1.1s
ACCN Adirondack Com 68.51 46 *e*P **P 11 33 19.9 -1.6**
comp=Z,71nm,0.8s
ACCN LR LR
comp=Z,2μm,22.0s
BATG Bathurst New B 68.52 39 *e*P **P 11 33 20.5 -0.9**
comp=Z,99nm,1.0s
BATG LR LR
comp=Z,3μm,19.0s
MCWV Mont Chateau 68.56 53 PFAKE 11 33 30.0 +8.2
MCWV LR LR
comp=Z,700nm,18.0s
MCWV Mont Chateau 68.56 53 P **P 11 33 20.9 -0.9**
baz=321,SNR=9.4
LBNH Lisbon 68.59 45 *e*P **P 11 33 20.6 -1.3**
comp=Z,66nm,0.9s
LBNH LR LR
comp=Z,2μm,19.0s
LBNH Lisbon 68.59 45 *e*P **P 11 33 20.6 -1.3**
LBNH pmax pmax
comp=Z,66nm,0.9s
LBNH MLR MLR
comp=Z,2μm,19.0s
LBNH Lisbon 68.59 45 P **P 11 33 20.7 -1.2**
baz=323,SNR=8.0
LPSR Galich'ya Gora 68.66 332 *e*P **P 11 33 22.0 -0.1**
LPSR pmax pmax
comp=Z,330nm,1.4s
VBMS Vicksburg 68.66 65 *e*P **P 11 33 22.4 -0.1**
baz=319
VBMS Vicksburg 68.66 65 P **P 11 33 21.8 -0.7**
baz=319
ZAIG Zacatecas 68.74 80 *e*P **P 11 33 22.8 -0.6**
comp=Z,135nm,1.5s
ZAIG LR LR
comp=Z,1μm,22.0s
SSPA Standing Stone 68.74 51 *e*P **P 11 33 22.2 -0.7**
comp=Z,165nm,0.6s
SSPA LR LR
comp=Z,1μm,19.0s
SSPA Standing Stone 68.74 51 P **P 11 33 22.1 -0.7**
baz=322
HNH Hanover 68.86 45 *e*P **P 11 33 22.6 -1.0**
comp=Z,44nm,0.9s
PKME Peaks-Kenny Pk 68.87 42 *e*P **P 11 33 22.9 -0.7**
comp=Z,53nm,0.8s
PKME LR LR
comp=Z,2μm,19.0s
PKME Peaks-Kenny Pk 68.87 42 P **P 11 33 22.4 -1.2**
baz=324,SNR=7.0
SWET Sewanee 68.88 60 *e*P **P 11 33 23.1 -0.7**
comp=Z,68nm,0.9s
SWET LR LR
comp=Z,1μm,20.0s
IZAR Zarasai 68.89 341 *e*P **P 11 33 23.9 +0.4**
IZAR IAmb IAmb 11 33 25.2
comp=Z,52nm,0.7s
LNIG Linares 69.00 76 *e*P **P 11 33 24.0 -0.8**
comp=Z,30nm,1.2s
LNIG LR LR
comp=Z,600nm,22.0s
KSPA Keystone Colle 69.01 49 *e*P **P 11 33 23.7 -0.9**
comp=Z,43nm,0.8s
KSPA LR LR
comp=Z,1μm,20.0s
TRY Troy 69.03 47 *e*P **P 11 33 23.7 -0.9**
comp=Z,37nm,0.8s
HOMB Homborsund 69.04 352 *e*P **P 11 33 24.6 +0.2**
VRH Novokhopyorsk 69.05 330 *e*P **P 11 33 24.1 -0.5**
VRH pmax pmax
comp=Z,340nm,1.1s
VRH pmax pmax
comp=Z,220nm,0.8s
VRH MLR MLR
comp=Z,2μm,18.0s
ISAL Salakas 69.08 341 *e*P **P 11 33 25.2 +0.5**
ISAL IAmb IAmb 11 33 26.7
comp=Z,90nm,1.2s
SNART Snartemo 69.09 352 *e*P **P 11 33 25.0 +0.3**
TZTN Tazewell 69.11 57 *e*P **P 11 33 24.8 -0.4**
comp=Z,64nm,1.1s
TZTN LR LR
comp=Z,800nm,21.0s
TZTN Tazewell 69.11 57 P **P 11 33 24.6 -0.6**
baz=320,SNR=7.9
SRDT SRDT 69.16 267 P **P 11 33 26.8 +1.0**
comp=Z,50nm,1.3s,comp=Z,4μm
DHRM DHARAMSHALA 69.18 296 *e*P **P 11 33 25.6 -0.4**
DHRM IAMs_20 IAMs_20 12 06 05.8
comp=Z,4μm,23.0s
IDID Didziasalis 69.19 340 *e*P **P 11 33 25.9 +0.4**
IDID IAmb IAmb 11 33 27.5
comp=Z,122nm,1.1s
PATY Pattaya 69.20 264 P **P 11 33 27.7 +1.7**
IIGN Ignalina 69.26 341 *e*P **P 11 33 26.3 +0.4**
IIGN IAmb IAmb 11 33 27.7
comp=Z,77nm,0.5s
WVL Waterville 69.29 43 *e*P **P 11 33 25.5 -0.7**
comp=Z,55nm,0.9s
FFD Franklin Falls 69.33 45 *e*P **P 11 33 25.6 -0.8**
comp=Z,61nm,0.6s
VORR Voronezh 69.40 332 *e*P **P 11 33 25.0 -1.8**
VORR pmax pmax
comp=Z,300nm,1.6s
CPCT Cooper Cave 69.44 59 *e*P **P 11 33 26.8 -0.6**
comp=Z,94nm,1.2s
CPCT LR LR
comp=Z,2μm,18.0s
SMLA Simla 69.55 295 *e*P **P 11 33 27.6 -0.4**
SMLA IAMs_20 IAMs_20 12 05 38.2
comp=Z,3μm,19.1s
NACGM Naroch 69.57 340 *e*P **P 11 33 27.0 -0.8**
NACGM PM 11 33 28.0
comp=Z,0.6nm,1.0s
NACGM *e*LQ LQ 11 57 06.0
NACGM *e*LR LR 12 00 42.0
PAGS Pennsylvania G 69.61 50 *e*P **P 11 33 27.2 -1.1**
comp=Z,83nm,0.9s
PAGS LR LR
comp=Z,1μm,20.0s
MLA1 Latheron 69.66 358 *e*P **P 11 33 28.3 0.0**
TKL Tuckaleechee C 69.67 58 *e*P **P 11 33 28.3 -0.4**
comp=Z,56nm,1.0s
TKL LR LR
comp=Z,2μm,19.0s
TKL Tuckaleechee C 69.67 58 *e*P **P 11 33 28.3 -0.4**
TKL pmax pmax
comp=Z,56nm,1.0s
TKL MLR MLR
comp=Z,2μm,19.0s
MICGM Minsk 69.71 339⇑ *e*P **P 11 33 28.0 -0.6**
MICGM PM 11 33 30.0
comp=N,1.0nm,1.0s
MICGM PM 11 33 30.0
comp=Z,1.6nm,1.0s
MICGM PM 11 33 30.0
comp=E,0.5nm,1.0s
MICGM *e*PcP **sP 11 33 45.0 +2.1**
MICGM *e*PP PP 11 36 18.0 +16
MICGM *e*S **S 11 42 32.0 -2.7**
MICGM *e*PS PnS 11 43 44.0 +41
MICGM *e*SS SS 11 47 33.0 +31
MICGM *e*SSS SSS 11 50 40.0
MICGM *e*LR LR 12 01 10.0
MICGM LRM MLR 12 08 00.0
comp=Z,2.7nm,16.0s
VSR Storozhevoye 69.81 331 *e*P **P 11 33 28.5 -0.8**
VSR pmax pmax
comp=Z,260nm,1.1s
VSR pmax pmax
comp=Z,370nm,1.5s
VSR MLR MLR
comp=Z,6μm,23.0s
ODNJ Ogdensburg 69.92 48 *e*P **P 11 33 28.9 -1.3**
comp=Z,33nm,1.0s
ODNJ LR LR
comp=Z,1μm,18.0s
DRLN Deer Lake 69.93 33 *e*P **P 11 33 29.3 -0.7**
comp=Z,107nm,0.9s
DRLN LR LR
comp=Z,3μm,21.0s
LUPA Lehigh Univers 69.95 49 *e*P **P 11 33 29.9 -0.4**
comp=Z,7.1nm,1.0s
PHET Kaeng Krachan 69.96 265 P **P 11 33 31.9 +1.1**
comp=Z,18nm,1.2s,comp=Z,183nm
MVL Millersville 69.97 50 *e*P **P 11 33 29.9 -0.6**
comp=Z,78nm,0.8s
MVL LR LR
comp=Z,800nm,22.0s
LRAL Lakeview Retre 69.97 62 *e*P **P 11 33 29.6 -1.0**
comp=Z,26nm,0.8s
LRAL LR LR
comp=Z,800nm,18.0s
LRAL Lakeview Retre 69.97 62 P **P 11 33 29.1 -1.5**
baz=320,SNR=9.3
GGN Saint George 69.99 41 *e*P **P 11 33 29.8 -0.7**
comp=Z,47nm,0.8s
GGN LR LR
comp=Z,2μm,20.0s
VORD Divnogorie 70.00 331 *e*P **P 11 33 30.5 +0.1**
VORD pmax pmax
comp=Z,260nm,1.4s
BOK Bokaro 70.04 283 *e*P **P 11 33 31.5 +0.3**
BOK IAmb IAmb 11 33 33.2
comp=Z,104nm,1.4s
EMMW East Machias 70.08 41 *e*P **P 11 33 30.3 -0.7**
comp=Z,83nm,0.8s
HRV Adam Dziewonsk 70.14 45 *e*P **P 11 33 30.5 -1.0**
comp=Z,44nm,1.0s
HRV LR LR
comp=Z,2μm,19.0s
HRV Adam Dziewonsk 70.14 45 *e*P **P 11 33 30.5 -1.0**
HRV pmax pmax
comp=Z,44nm,1.0s
HRV MLR MLR
comp=Z,2μm,19.0s
HRV Adam Dziewonsk 70.14 45 P **P 11 33 29.9 -1.6**
baz=324
BLA Blacksburg 70.18 55 *e*P **P 11 33 31.4 -0.5**
comp=Z,40nm,0.8s
BLA LR LR
comp=Z,1μm,18.0s
BLA Blacksburg 70.18 55 *e*P **P 11 33 31.4 -0.5**
BLA pmax pmax
comp=Z,40nm,0.8s
BLA MLR MLR
comp=Z,1μm,18.0s
BLA Blacksburg 70.18 55 P **P 11 33 30.8 -1.1**
baz=322,SNR=7.0
LMN Caledonia Moun 70.19 39 *e*P **P 11 33 30.8 -0.9**
comp=Z,96nm,0.9s
LMN LR LR
comp=Z,2μm,19.0s
SDMD Soldier's Deli 70.20 51 *e*P **P 11 33 31.3 -0.6**
comp=Z,70nm,0.9s
BRNJ Basking Ridge 70.26 48 PFAKE 11 33 40.0 +7.8
BRNJ LR LR
comp=Z,1μm,18.0s
PAL Palisades 70.30 48 *e*P **P 11 33 31.6 -0.9**
comp=Z,74nm,0.6s
PAL LR LR
comp=Z,1μm,18.0s
PAL Palisades 70.30 48 *e*P **P 11 33 31.6 -0.9**
PAL pmax pmax
comp=Z,74nm,0.6s
PAL MLR MLR
comp=Z,1μm,18.0s
PAL Palisades 70.30 48 P **P 11 33 31.4 -1.0**
baz=323,SNR=7.6
WES Weston 70.34 45 *e*P **P 11 33 31.7 -1.0**
comp=Z,51nm,0.8s
WES Weston 70.34 45 *e*P **P 11 33 31.7 -1.0**
WES pmax pmax
comp=Z,51nm,0.8s
MCD Coleburn Disti 70.38 358⇑ *e*P **P 11 33 32.7 0.0**
CPNY Central Park 70.45 48 *e*P **P 11 33 32.4 -1.0**
comp=Z,85nm,0.7s
PSUB Penn St. - Bra 70.45 50 *e*P **P 11 33 32.8 -0.6**
comp=Z,38nm,0.9s
PSUB LR LR
comp=Z,1μm,20.0s
YLE Yale 70.49 47 PFAKE 11 33 50.0 +16
YLE LR LR
comp=Z,2μm,22.0s
KAC Achnashellach 70.50 359 *e*P **P 11 33 33.6 +0.2**
BG3 Lake Jocassee 70.62 58 *e*P **P 11 33 34.1 -0.5**
comp=Z,54nm,0.8s
BG3 LR LR
comp=Z,2μm,19.0s
BRYW Bryant College 70.63 46 *e*P **P 11 33 33.9 -0.6**
comp=Z,46nm,0.8s
MUD Monsted U'grnd 70.77 351 *i*P **P 11 33 35.3 +0.2**
comp=Z,167nm,1.1s
MUD Monsted U'grnd 70.77 351 *i*P **P 11 33 35.3 +0.2**
MUD pmax pmax
comp=Z,170nm,1.1s
SBUM Sibu 70.79 248 *e*P **P 11 33 35.8 0.0**
comp=Z,50nm,1.3s
CBN Corbin Frederi 70.90 52 *e*P **P 11 33 35.5 -0.7**
comp=Z,56nm,0.8s
CBN LR LR
comp=Z,1μm,22.0s
CBN Corbin Frederi 70.90 52 P **P 11 33 35.3 -0.9**
baz=322
COEN Coen 71.02 211 *e*P **P 11 33 37.5 +0.4**
comp=Z,43nm,1.4s
KLNR Kaliningrad 71.09 344⇓ *e*P **P 11 33 36.4 -0.7**
KLNR pmax pmax
comp=Z,196nm,1.1s
SUW Suwalki 71.12 342 *e*P **P 11 33 36.7 -0.6**
SUW Suwalki 71.12 342 *e*P **P 11 33 36.3 -1.0**
comp=Z,349nm,1.2s
SUW LR LR
comp=Z,2μm,18.0s
SUW Suwalki 71.12 342 *e*P **P 11 33 36.3 -1.0**
SUW pmax pmax
comp=Z,349nm,1.2s
SUW MLR MLR
comp=Z,2μm,18.0s
COP Copenhagen 71.17 349⇑ *i*P **P 11 33 37.9 +0.4**
COP Copenhagen 71.17 349⇑ *i*P **P 11 33 37.9 +0.4**
BKB Balikpapan 71.26 242 P **P 11 33 40.4 +1.8**
KBL Kabul 71.31 302 *e*P **P 11 33 37.9 -1.2**
comp=Z,203nm,0.9s
KBL LR LR
comp=Z,1μm,22.0s
KBL Kabul 71.31 302 *e*P **P 11 33 37.9 -1.2**
KBL pmax pmax
comp=Z,203nm,0.9s
KBL MLR MLR
comp=Z,1μm,22.0s
PAULI Pauline 71.33 57 *e*P **P 11 33 38.3 -0.6**
comp=Z,85nm,1.2s
PAULI LR LR
comp=Z,2μm,22.0s
BRAL Brewton 71.37 63 *e*P **P 11 33 39.6 +0.4**
comp=Z,116nm,1.2s
BRAL Brewton 71.37 63 P **P 11 33 38.8 -0.4**
baz=321
NDI New Delhi 71.38 293 *e*P **P 11 33 39.0 -0.3**
BSD Bornholm Skovb 71.41 347 *i*P **P 11 33 39.5 +0.5**
comp=Z,47nm,0.8s
BSD Bornholm Skovb 71.41 347 *i*P **P 11 33 39.5 +0.5**
BSD pmax pmax
comp=Z,47nm,0.8s
EDU Dundee 71.42 358⇑ *e*P **P 11 33 38.6 -0.4**
INVG Invergeldie, C 71.56 358⇑ *e*P **P 11 33 39.1 -0.7**
INVG IAmb IAmb 11 33 40.4
comp=Z,53nm,0.9s
HODGE Hodges 71.56 58 *e*P **P 11 33 39.8 -0.4**
comp=Z,60nm,0.7s
GOGA Godfrey 71.57 59 *e*P **P 11 33 39.3 -1.0**
comp=Z,52nm,1.3s
GOGA LR LR
comp=Z,2μm,19.0s
GOGA Godfrey 71.57 59 *e*P **P 11 33 39.3 -1.0**
GOGA pmax pmax
comp=Z,52nm,1.3s
GOGA MLR MLR
comp=Z,2μm,19.0s
JRQG Juriquilla Cam 71.58 80 *e*P **P 11 33 40.9 0.0**
comp=Z,244nm,1.4s
JRQG LR LR
comp=Z,2μm,22.0s
HAL Halifax 71.67 39 *e*P **P 11 33 40.0 -0.7**
comp=Z,95nm,0.7s
HAL Halifax 71.67 39 *e*P **P 11 33 40.0 -0.7**
HAL pmax pmax
comp=Z,95nm,0.7s
LAWE Loch Awe, Argy 71.74 359⇑ *e*P **P 11 33 40.9 -0.1**
LAWE IAmb IAmb 11 33 41.9
comp=Z,114nm,0.8s
EAB Aberfoyle 71.80 359⇑ *e*P **P 11 33 41.2 -0.1**
GBN Guysborough 71.81 37 *e*P **P 11 33 41.2 -0.3**
comp=Z,122nm,1.1s
MOIG Morelia 71.91 81 *e*P **P 11 33 43.0 +0.2**
comp=Z,216nm,1.4s
MOIG LR LR
comp=Z,1μm,21.0s
SPSI Sidrap Palu 72.02 238 P **P 11 33 43.8 +0.6**
ESY Stoneypath 72.04 358⇑ *e*P **P 11 33 42.5 -0.3**
JSC Jenkinsville 72.04 57 *e*P **P 11 33 42.4 -0.7**
comp=Z,44nm,1.0s
JSC LR LR
comp=Z,1μm,18.0s
JSC Jenkinsville 72.04 57 *e*P **P 11 33 42.4 -0.7**
JSC pmax pmax
comp=Z,44nm,1.0s
JSC MLR MLR
comp=Z,1μm,18.0s
RGN Rugen 72.18 348 *e*P **P 11 33 42.7 -0.9**
comp=Z,166nm,0.8s
RGN LR LR
comp=Z,1μm,22.0s
BNSI Bone 72.22 237 P **P 11 33 45.8 +1.5**
ESK Eskdalemuir 72.65 358 *e*P **P 11 33 45.8 -0.6**
comp=Z,99nm,0.8s
ESK Eskdalemuir 72.65 358⇑ *e*P **P 11 33 46.2 -0.2**
ESK IAmb IAmb 11 33 47.4
comp=Z,98nm,0.8s
ESK Eskdalemuir 72.65 358 *e*P **P 11 33 45.8 -0.6**
ESK pmax pmax
comp=Z,99nm,0.8s
KSM Kuching 72.68 249 *e*P **P 11 33 47.4 +0.2**

comp=Z,52nm,0.9s
KSM LR LR
comp=Z,500nm,22.0s
KSM Kuching 72.68 249 P P 11 33 48.0 +0.9
TAOE Nuku Hiva Isla 72.74 131 *e*S **S 11 43 12.7 +1.9**
comp=Z,2µm,32.2s
TAOE Nuku Hiva Isla 72.74 131 *e*LR LR 11 56 02.6
comp=Z,4µm,30.1s,baz=338
BHH Howats Hill 72.88 358⇑ *e*P **P 11 33 47.9 +0.1**
CLGH Cloghs, Cushen 72.92 360 *e*P **P 11 33 48.4 +0.4**
CLGH IAmb IAmb 11 33 49.0
comp=Z,162nm,1.2s
AKASG Malin Array Be 72.94 337 P **P 11 33 48.0 -0.2**
comp=Z,90nm,0.8s,baz=27,slow=6.2,SNR=97
AKASG LR LR 12 09 02.2
comp=Z,2µm,20.7s,baz=10.0,slow=38
AKASG Malin Array Be 72.94 337 P **P 11 33 48.0 -0.2**
AKBB Malin Array Si 72.94 337 *e*P **P 11 33 47.5 -0.7**
comp=Z,142nm,0.9s
AKBB LR LR
comp=Z,2µm,20.0s
KIEV Kiev 72.95 337 *e*P **P 11 33 47.2 -1.0**
comp=Z,138nm,0.9s
KIEV LR LR
comp=Z,2µm,20.0s
KIEV Kiev 72.95 337 *i* P **P 11 33 48.0 -0.3**
SNR=12
KIEV Kiev 72.95 337 *c i*P **P 11 33 47.6 -0.6**
KIEV pmax pmax
comp=Z,146nm,1.0s
AK11 Malin Array Si 72.97 337 *e*P **P 11 33 47.4 -1.0**
CNNC Cliffs of the 72.99 54 PFAKE 11 34 00.0 +11
CNNC LR LR
comp=Z,900nm,20.0s
CNNC Cliffs of the 72.99 54 P **P 11 33 48.1 -0.7**
baz=323
EDMD Edmundbyers 73.11 357⇑ *e*P **P 11 33 48.7 -0.5**
EDMD IAmb IAmb 11 33 49.9
comp=Z,76nm,0.8s
STKI Sintang 73.16 247 P **P 11 33 50.6 +0.6**
BBO1 Bothel 73.23 358⇑ *e*P **P 11 33 49.8 -0.1**
KESW Keswick, Cumbr 73.38 358⇑ *e*P **P 11 33 50.7 -0.1**
KESW IAmb IAmb 11 33 51.9
comp=Z,154nm,1.1s
UNM Universidad Na 73.39 80 PFAKE 11 34 00.0 +8.3
UNM LR LR
comp=Z,1µm,22.0s
GDLE Glaisdale, N Y 73.48 356 *e*P **P 11 33 51.1 -0.2**
GDLE IAmb IAmb 11 33 52.1
comp=Z,89nm,1.0s
NHSC New Hope 73.52 57 *e*P **P 11 33 51.5 -0.4**
comp=Z,175nm,1.0s
NHSC New Hope 73.52 57 P **P 11 33 52.1 +0.2**
baz=322
BEL Belsk 73.64 343 *e*P **P 11 33 53.2 +0.9**
BEL Belsk 73.64 343 *e*P **P 11 33 53.2 +0.9**
IOMK Kirk Michael 73.73 359⇑ *e*P **P 11 33 52.6 -0.2**
IOMK IAmb IAmb 11 33 53.7
comp=Z,94nm,0.8s
SKLT Songkhla 73.84 261 P **P 11 33 55.0 +1.0**
comp=Z,122nm,1.2s,comp=Z,1µm
WIM Isle of Man 73.85 359⇑ *e*P **P 11 33 53.4 -0.1**
KRAB Krabi 73.88 262 P **P 11 33 55.1 +0.8**
comp=Z,72nm,1.0s
TRTT Trang 73.88 262 P **P 11 33 54.7 +0.4**
comp=Z,39nm,1.1s,comp=Z,489nm
GEYT Alibeck 73.95 312 P **P 11 33 54.3 -0.1**
comp=Z,60nm,1.0s,baz=33,slow=3.5,SNR=76
GEYT PP **PP 11 36 39.1 0.0**
comp=Z,9.4nm,0.8s,baz=69,slow=8.2,SNR=4.4
GEYT LR LR 12 09 41.6
comp=Z,2µm,18.1s,baz=340,slow=38
GEYT Alibeck 73.95 312 P **P 11 33 54.3 -0.1**
GYA0B ALIBECK ARRAY 73.95 312 *e*P **P 11 33 54.3 -0.1**
comp=Z,118nm,0.9s
GYA0B LR LR
comp=Z,3µm,18.0s
GOF Gofitskoye 73.99 326⇑ *i*P **P 11 33 55.4 +0.9**
GOF pmax pmax
comp=Z,800nm,1.1s
MAK Makhachkala 74.19 322 *e*P **P 11 33 54.5 -1.2**
MAK *e* 11 36 39.4
MAK *e*PPP PPP 11 38 24.7
MAK *e*S **S 11 43 25.7 -0.7**
MAK *e*SS **SS 11 48 12.7 +1.7**
MAK pmax pmax
comp=Z,364nm,1.3s
DZM Mont Dzumac 74.36 187 P **P 11 33 58.8 +2.0**
comp=Z,6.4nm,0.7s,baz=0.9,slow=6.0,SNR=2.6
DZM Mont Dzumac 74.36 187 *e*P **P 11 33 59.5 +2.7**
comp=Z,76nm,1.2s
DZM Mont Dzumac 74.36 187 *e*LR LR 11 56 56.2
comp=Z,3µm,24.0s
DZM Mont Dzumac 74.36 187 *e*P **P 11 33 57.9 +1.1**
comp=Z,49nm,1.3s
DZM LR LR
comp=Z,2µm,20.0s
LMK Market Rasen 74.42 356 *e*P **P 11 33 57.1 +0.2**
LBWR Ladybower, Pea 74.53 357⇑ *e*P **P 11 33 57.3 -0.2**
LBWR IAmb IAmb 11 33 58.4
comp=Z,127nm,1.0s
WPS Cemaes, Angles 74.60 359⇑ *e*P **P 11 33 57.1 -0.7**
WPS IAmb IAmb 11 33 58.4
comp=Z,78nm,0.9s
WME Myndd Eilian 74.60 359⇑ *e*P **P 11 33 57.3 -0.5**
GROC Groznyy 74.62 323 *e*P **P 11 33 57.2 -1.0**
GROC *e* 11 34 11.7
GROC *e* 11 36 42.9
GROC pmax pmax
comp=Z,128nm,0.9s
PKDT Phuket 74.66 263 P **P 11 33 59.4 +0.6**
comp=Z,44nm,0.9s
WLF1 Llynfaes 74.71 359 *e*P **P 11 33 57.9 -0.6**
WLF1 IAmb IAmb 11 34 00.3
comp=Z,173nm,1.2s
WPM1 Penmaenmawr 74.73 358⇑ *e*P **P 11 33 58.2 -0.5**
YRC Rhoscolyn 74.75 359⇑ *e*P **P 11 33 57.7 -1.0**
LVIG Laguna Verde 74.75 78 PFAKE 11 34 10.0 +11
LVIG LR LR
comp=Z,600nm,22.0s
DSB Dublin 74.77 360 *e*P **P 11 33 58.2 -0.6**
comp=Z,138nm,1.0s
SOEI Soe 74.77 231 *e*P **P 11 33 59.5 0.0**
comp=Z,86nm,1.1s
SOEI Soe 74.77 231 P **P 11 34 01.6 +2.1**
YLL Llanberis 74.85 358 *e*P **P 11 33 58.4 -1.0**
LVV L'vov 74.93 340 *d i*P **P 11 34 00.4 +0.5**
LVV *e*S **S 11 43 39.7 +5.1**
LVV MLR MLR
comp=Z,2µm,17.0s
PMOR Pomariorio Ree 74.98 141 *e*P **P 11 34 02.3 +1.9**
comp=Z,44nm,1.0s
PMOR *e*pP **pP 11 34 10.5 -0.4**
comp=Z,166nm,1.1s
PMOR Pomariorio Ree 74.98 141 *e*T T 12 55 56.6
comp=Z,58nm,0.2s
KIV Kislovodsk 75.08 325 *e*P **P 11 34 00.9 0.0**
comp=Z,128nm,0.9s
KIV LR LR
comp=Z,1µm,22.0s
KIV Kislovodsk 75.08 325 P **P 11 34 02.0 +1.0**
SNR=22
KIV Kislovodsk 75.08 325 *i* P **P 11 34 01.7 +0.7**
SNR=17
KIV Kislovodsk 75.08 325 *e*P **P 11 34 01.7 +0.7**
KIV *e*S **S 11 43 37.7 +1.1**
KIV pmax pmax
comp=Z,165nm,1.1s
KIV pmax pmax
comp=Z,175nm,3.7s
KIV MLR MLR
comp=Z,987nm,18.0s
FOEL Foel Wylfa 75.08 358⇑ *e*P **P 11 34 00.8 0.0**
FOEL IAmb IAmb 11 34 01.8
comp=Z,109nm,0.7s
TLIG Tlapa 75.12 81 *e*P **P 11 34 02.4 +0.8**
comp=Z,100nm,0.9s
TLIG LR LR
comp=Z,1µm,21.0s
LLW Llanuwchllyn 75.13 358⇑ *e*P **P 11 34 00.9 0.0**
NCK Nalchik 75.16 325⇑ *i*P **P 11 34 02.5 +1.1**
NCK pmax pmax
comp=Z,346nm,1.3s
CWF Charnwood Fore 75.18 357 *e*P **P 11 34 01.1 -0.1**
CWF IAmb IAmb 11 34 02.1
comp=Z,252nm,1.6s

KBZ Khabaz 75.20 325 P **P 11 34 02.7 +1.2**
comp=Z,131nm,0.9s,baz=35,slow=2.4,SNR=89
KBZ LR LR 12 12 02.8
comp=Z,1µm,19.4s,baz=30,slow=40
KBZ Khabaz 75.20 325 *e*P **P 11 34 02.7 +1.2**
VAH Vaihoa 75.29 141 *e*P **P 11 34 04.0 +1.8**
comp=Z,36nm,0.9s
VAH *e*pP **pP 11 34 12.2 -0.5**
comp=Z,144nm,0.9s
KULM Kulim 75.31 259 *e*P **P 11 34 02.2 -0.4**
comp=Z,67nm,1.0s
KULM LR LR
comp=Z,500nm,22.0s
KULM Kulim 75.31 259 P **P 11 34 03.0 +0.5**
KSP Ksiaz 75.36 345 *e*P **P 11 34 02.3 -0.1**
KSP Ksiaz 75.36 345 *e*P **P 11 34 02.3 -0.1**
KWP Kalwaria Pacla 75.38 341 *e*P **P 11 34 03.6 +1.1**
KWP Kalwaria Pacla 75.38 341 *e*P **P 11 34 03.6 +1.1**
CLL Collm 75.39 347 *e*P **P 11 34 01.8 -0.6**
comp=Z,179nm,1.8s
CLL LR LR
comp=Z,1µm,21.0s
CLL Collm 75.39 347⇑ *i*P **P 11 34 01.9 -0.6**
comp=Z,171nm,1.8s
CLL *e*(PP) 11 36 44.0
CLL *e*PPP PPP 11 38 38.0
CLL *e*S **S 11 43 46.0 +6.4**
CLL *e*PS **PnS 11 44 20.0 +2.3**
CLL *e*SS SS 11 48 42.0 +13
CLL *e*SSS SSS 11 51 42.0
CLL LmV 12 07 00.0
comp=Z,1µm,21.8s
CLL Collm 75.39 347⇑ *i*P **P 11 34 01.9 -0.6**
CLL pmax pmax
comp=Z,6.0nm,1.8s
CLL MLR MLR
comp=Z,1µm,21.8s
WTSB Winterswijk 75.44 351 *i* P **P 11 34 02.8 +0.1**
comp=Z,201nm,1.3s
BHPL Bhopal 75.44 289 *e*P **P 11 34 02.9 -0.4**
BHPL IAMs_20 IAMs_20 12 09 09.6
comp=Z,1µm,19.6s
HLM1 Long Mynd 75.45 358⇑ *e*P **P 11 34 02.7 -0.1**
HLM1 IAmb IAmb 11 34 03.8
comp=Z,35nm,1.0s
BATI Baumata 75.45 231 P **P 11 34 04.0 +0.7**
comp=Z,78nm,0.8s,baz=296,slow=1.9,SNR=6.6
BATI Baumata 75.45 231 P **P 11 34 04.0 +0.7**
ZEI Tsey 75.67 324 *e*P P 11 33 59.6 -4.9
ZEI pmax pmax
comp=Z,204nm,1.0s
BRG Berggiesshubel 75.68 347 *i* P **P 11 34 03.9 -0.3**
comp=Z,92nm,1.3s
BRG *i* 11 34 14.5
comp=Z,42nm,1.2s
BRG SS SS 11 48 47.0 +14
comp=N,1µm,23.5s
comp=E,784nm,14.9s
comp=Z,1µm,17.4s
BRG Berggiesshubel 75.68 347 *i* P **P 11 34 03.9 -0.3**
BRG *i* 11 34 14.5
BRG pmax pmax
comp=Z,29nm,1.3s
BRG pmax pmax
comp=Z,92nm,1.2s
BRG MLR MLR
comp=N,42µm,23.5s
BRG MLR MLR
comp=E,1µm,14.9s
BRG MLR MLR
comp=Z,784nm,17.4s
NEY Neytrino 75.68 325 *d i*P **P 11 34 06.2 +1.6**
NEY pmax pmax
comp=Z,14nm,1.2s
IPM Ipoh 75.73 259 *e*P **P 11 34 04.4 -0.5**
comp=Z,57nm,0.9s
IPM LR LR
comp=Z,400nm,21.0s
DPC Dobruska-Polom 75.84 345 *e*P **P 11 34 05.8 +0.6**
DPC AMS AMS 12 12 10.0
comp=Z,2µm,17.0s
DPC Dobruska-Polom 75.84 345 *e*P **P 11 34 05.8 +0.6**
DPC MLR MLR
comp=Z,2µm,17.0s
CTA Charters Tower 75.92 206 P **P 11 34 06.7 +0.9**
comp=Z,22nm,1.0s,baz=2.8,slow=8.3,SNR=13
CTA Charters Tower 75.92 206 *e*P **P 11 34 06.7 +0.9**
CTAO Charters Tower 75.92 206 *e*P **P 11 34 06.0 +0.2**
comp=Z,28nm,0.8s
CTAO Charters Tower 75.92 206 *e*P **P 11 34 06.0 +0.2**
CTAO pmax pmax
comp=Z,28nm,0.8s
PVCC Panska Ves 75.93 346 *e*P **P 11 34 06.3 +0.7**
PVCC AMS AMS 12 11 00.0
comp=Z,2µm,20.9s
PVCC Panska Ves 75.93 346 *e*P **P 11 34 06.3 +0.7**
PVCC MLR MLR
comp=Z,2µm,20.9s
MCH1 Michaelchurch 75.97 358⇑ *e*P **P 11 34 05.6 -0.2**
MCH1 IAmb IAmb 11 34 06.7
comp=Z,116nm,0.7s
KRLC Kraliky 76.03 345 *e*P **P 11 34 06.9 +0.6**
KRLC *e*pP **PcP 11 34 17.8 -0.7**
KRLC Kraliky 76.03 345 *e*P **P 11 34 06.9 +0.6**
KRLC *e* 11 34 17.8
OKC Ostrava-Krasne 76.03 344 *e*P **P 11 34 06.8 +0.6**
OKC *e*pP **pP 11 34 17.1 +0.4**
OKC AMS AMS 12 12 20.0
comp=Z,2µm,18.1s
OKC Ostrava-Krasne 76.03 344 *e*P **P 11 34 06.8 +0.6**
OKC *e* 11 34 17.1
OKC MLR MLR
comp=Z,2µm,18.1s
RSBS Rosebush, Pemb 76.05 359⇑ *e*P **P 11 34 05.9 -0.3**
RSBS IAmb IAmb 11 34 07.0
comp=Z,68nm,1.1s
NIE Niedzica 76.05 342 *e*P **P 11 34 07.4 +1.0**
NIE Niedzica 76.05 342 *e*P **P 11 34 07.4 +1.0**
ANN Anapa 76.06 329 *e*P **P 11 34 05.8 -0.6**
ANN *e**PP **pP 11 34 15.5 -1.4**
ANN *e* 11 36 56.5
ANN *e*S **S 11 43 47.5 +0.3**
ANN pmax pmax
comp=Z,90nm,0.9s
ANN MLR MLR
comp=Z,1µm,22.0s
NGP Nagpur 76.11 287 *e*P **P 11 34 06.8 -0.3**
NGP IAmb IAmb 11 34 08.4
comp=Z,95nm,1.1s
STRD Stroud 76.17 357⇑ *e*P **P 11 34 07.0 +0.1**
STRD IAmb IAmb 11 34 08.0
comp=Z,280nm,0.9s
MYKOM Kota Tinggi 76.18 255 *e*P **P 11 34 07.5 0.0**
comp=Z,42nm,1.0s
MYKOM LR LR
comp=Z,400nm,20.0s
MYKOM Kota Tinggi 76.18 255 P **P 11 34 09.0 +1.5**
MORC Moravsky Berou 76.19 344 *e*P **P 11 34 06.6 -0.6**
comp=Z,108nm,1.1s
MORC LR LR
comp=Z,2µm,19.0s
MORC Moravsky Berou 76.19 344⇑ *i*P **P 11 34 07.7 +0.5**
MORC Moravsky Berou 76.19 344 *e*P **P 11 34 06.6 -0.6**
MORC pmax pmax
comp=Z,108nm,1.1s
MORC MLR MLR
comp=Z,2µm,19.0s
MORC Moravsky Berou 76.19 344⇑ *i*P **P 11 34 07.6 +0.4**
TBLG Delisi 76.28 323 *e*P **P 11 34 07.7 -0.1**
comp=Z,260nm,0.9s
TBLG Delisi 76.28 323 *e*P **P 11 34 07.7 -0.1**
TBLG pmax pmax
comp=Z,260nm,0.9s
PRA Prague 76.40 346 *e*P **P 11 34 09.2 +0.9**
PRA AMS AMS 12 11 20.0
comp=Z,2µm,23.8s
PRA Prague 76.40 346 *e*P **P 11 34 09.2 +0.9**
PRA MLR MLR
comp=Z,2µm,23.8s
UZH Uzhgorod 76.42 341⇑ *i*P **P 11 34 08.5 +0.1**
UZH *e* 11 34 16.5
UZH *e* 11 34 22.8
UZH *e* 11 37 05.5
UZH *e*S **S 11 43 47.7 -3.3**
UZH MLR MLR

comp=Z,100nm,19.0s
LANS Liptovska Anna 76.46 343 *e*P **P 11 34 10.3 +1.6**
LANS Liptovska Anna 76.46 343 *e*P **P 11 34 10.3 +1.6**
KIS Kishinev 76.48 336⇑ *i*P **P 11 34 07.0 -1.8**
comp=Z,400nm,1.3s
KIS *e*S **S 11 43 47.0 -4.7**
NKC Novy Kostel 76.51 348 *e*P **P 11 34 09.8 +0.8**
NKC AMS AMS 12 04 50.0
comp=Z,1µm,20.8s
NKC Novy Kostel 76.51 348 *e*P **P 11 34 09.8 +0.8**
NKC MLR MLR
comp=Z,1µm,20.8s
IAS Iasi 76.61 337⇑ *i*P **P 11 34 10.2 +0.7**
BEBN Eben Emael 76.69 352 ⇑P **P 11 34 09.8 -0.1**
PPT Papeete 76.70 144 P **P 11 34 11.8 +1.5**
comp=Z,22nm,1.0s,baz=241,slow=9.1,SNR=3.1
PPT Papeete 76.70 144 *e*P **P 11 34 11.8 +1.5**
HGN Heimansgroeve 76.70 352 *i* P **P 11 34 09.9 0.0**
comp=Z,216nm,1.2s
HGN *e*S **S 11 43 55.7 +1.6**
PPT2 Papeete2 76.72 144 *e*P **P 11 34 12.4 +2.0**
comp=Z,50nm,1.4s
PPT2 *e*pP **pP 11 34 20.1 -0.8**
comp=Z,48nm,1.0s
PPT2 *e*S **S 11 43 56.7 +1.7**
comp=Z,2µm,26.8s
PPT2 Papeete2 76.72 144 *e*LR LR 11 58 03.0
comp=Z,4µm,24.2s,baz=339
PPT2 Papeete2 76.72 144 *e*T T 12 58 04.8
comp=Z,5.7nm,0.3s
BUR08 Bucovina Ar. S 76.73 339 *e*P **P 11 34 10.3 0.0**
BUR04 Bucovina Ar. S 76.75 338 *e*P **P 11 34 09.9 -0.6**
BURAR Bucovina Array 76.75 338⇑ *i*P **P 11 34 11.1 +0.6**
TIAR Tiarei 76.78 144 *e*P **P 11 34 12.5 +1.8**
comp=Z,6.6nm,0.9s
TIAR *e*pP **pP 11 34 20.6 -0.6**
comp=Z,38nm,1.1s
TIAR Tiarei 76.78 144 *e*T T 12 58 11.6
comp=Z,3.2nm,0.3s
PAE Paea 76.79 144 *e*P **P 11 34 12.3 +1.6**
comp=Z,2.8nm,0.8s
PAE *e*pP **pP 11 34 20.0 -1.2**
comp=Z,10nm,0.9s
PAE Paea 76.79 144 *e*T T 12 58 08.0
comp=Z,2.0nm,0.3s
UCC Uccle 76.80 353 PFAKE 11 34 20.0 +10
UCC LR LR
comp=Z,800nm,20.0s
UCC Uccle 76.80 353 ⇑P **P 11 34 10.1 -0.4**
DWPF Disney Wildern 76.80 61 P **P 11 34 10.5 -0.4**
baz=323
VRAC Vranov 76.81 345⇑ *i*P **P 11 34 11.2 +0.6**
VRAC Vranov 76.81 345⇑ *i*P **P 11 34 11.2 +0.6**
TRPA Tarpa 76.84 340⇑ *i*P **P 11 34 11.9 +1.2**
TRPA Tarpa 76.84 340 *e*P **P 11 34 12.0 +1.2**
MEM Membach 76.85 352 ⇑P **P 11 34 10.8 0.0**
comp=Z,85nm,1.0s
MEM ⇑PcP **pP 11 34 20.3 -1.0**
KECS Kecovo 76.91 342 *e*P **P 11 34 11.1 -0.1**
KECS pmax pmax
comp=Z,266nm,1.0s
KECS Kecovo 76.91 342 *e*P **P 11 34 11.1 -0.1**
SIM Simferopol' 76.93 332 *c e*P **P 11 34 11.7 +0.3**
SIM 11 37 07.6
SIM S PnS 11 44 53.0 +15
SIM pmax pmax
comp=Z,65nm,1.0s
SIM MLR MLR
comp=Z,1µm,15.0s
TREC Trest 76.99 345 *e*P **P 11 34 12.6 +0.9**
TREC AMS AMS 12 13 00.0
comp=Z,2µm,19.7s
TREC Trest 76.99 345 *e*P **P 11 34 12.6 +0.9**
TREC MLR MLR
comp=Z,2µm,19.7s
HTL Hartland 77.00 359 *e*P **P 11 34 11.6 -0.1**
HTL IAmb IAmb 11 34 12.8
comp=Z,132nm,1.0s
TVO Taravao 77.02 144 *e*P **P 11 34 14.0 +1.9**
comp=Z,5.9nm,0.8s
AKH Akhalkalaki 77.02 324 *e*P **P 11 34 12.5 +0.3**
comp=Z,122nm,1.0s
AKH LR LR
comp=Z,2µm,19.0s
AKH Akhalkalaki 77.02 324⇑ *i*P **P 11 34 13.6 +1.4**
AKH Akhalkalaki 77.02 324 *e*P **P 11 34 12.5 +0.3**
AKH pmax pmax
comp=Z,122nm,1.0s
AKH MLR MLR
comp=Z,2µm,19.0s
JAVC Velka Javorina 77.06 344⇑ *i*P **P 11 34 13.9 +1.8**
KRUC Moravsky 77.08 345⇑ *i*P **P 11 34 12.7 +0.6**
BMR Baia Mare 77.08 340⇓ *i*P **P 11 34 13.2 +1.1**
SNF Seneffe 77.09 353 ⇑P **P 11 34 12.0 -0.1**
comp=Z,57nm,1.0s
BCLA Clavier 77.10 352 ⇑P **P 11 34 12.1 -0.1**
LEOM Leova 77.11 336⇑ *i*P **P 11 34 13.4 +1.1**
BIZ Bicaz 77.19 338⇑ *i*P **P 11 34 13.7 +0.9**
GRFO Grafenberg 77.20 348 *e*P **P 11 34 13.0 +0.2**
comp=Z,72nm,1.1s
GRFO LR LR
comp=Z,1µm,22.0s
GRFO Grafenberg 77.20 348 *e*P **P 11 34 13.0 +0.2**
GRFO pmax pmax
comp=Z,72nm,1.1s
GRFO MLR MLR
comp=Z,1µm,22.0s
KOLL Kolacno 77.20 343 *e*P **P 11 34 14.0 +1.2**
KOLL Kolacno 77.20 343 *e*P **P 11 34 14.0 +1.2**
VYHS Vyhne 77.21 343 *e*P **P 11 34 13.8 +0.9**
VYHS pmax pmax
comp=Z,94nm,1.2s
VYHS Vyhne 77.21 343 *e*P **P 11 34 13.8 +0.9**
SMOL Smolenice 77.44 344 *e*P **P 11 34 16.3 +2.1**
SMOL Smolenice 77.44 344 *e*P **P 11 34 16.3 +2.1**
KHC Kasperske Hory 77.44 347 *e*P **P 11 34 14.0 -0.2**
comp=Z,50nm,1.2s
KHC LR LR
comp=Z,500nm,20.0s
KHC Kasperske Hory 77.44 347 *e*P **P 11 34 14.9 +0.7**
KHC *ex* x 11 34 19.4
KHC *ex* x 11 44 59.6
KHC AMS AMS 12 04 10.0
comp=Z,2µm,26.8s
KHC Kasperske Hory 77.44 347 *e*P **P 11 34 14.9 +0.7**
KHC *e* 11 34 19.4
KHC *e* 11 44 59.6
KHC MLR MLR
comp=Z,2µm,26.8s
ARCR ARCALIA 77.45 339⇑ *i*P **P 11 34 15.9 +1.6**
DOU Dourbes 77.48 353 ⇑P **P 11 34 13.9 -0.4**
comp=Z,52nm,1.1s
DOU ⇑pP **PcP 11 34 21.9 -2.7**
PSZ Piszkesteto 77.57 342 *e*P **P 11 34 15.2 +0.2**
comp=Z,308nm,1.2s
PSZ LR LR
comp=Z,2µm,20.0s
PSZ Piszkesteto 77.57 342⇓ *i*P **P 11 34 16.2 +1.2**
PSZ Piszkesteto 77.57 342 *e*P **P 11 34 16.2 +1.2**
PSZ Piszkesteto 77.57 342 *e*P **P 11 34 15.2 +0.2**
PSZ pmax pmax
comp=Z,308nm,1.2s
PSZ MLR MLR
comp=Z,2µm,20.0s
MODS Modra-Piesok 77.60 344 *e*P **P 11 34 15.5 +0.4**
MODS pmax pmax
comp=Z,226nm,1.2s
MODS Modra-Piesok 77.60 344 *e*P **P 11 34 15.5 +0.4**
LHMI Lhok Sumawe 77.60 262 *e*P **P 11 34 16.4 +0.9**
comp=Z,430nm,1.0s
GNI Garni 77.66 322 *e*P **P 11 34 16.1 +0.3**
comp=Z,180nm,1.2s
GNI LR LR
comp=Z,3µm,20.0s
GNI Garni 77.66 322 P **P 11 34 17.6 +1.8**
SNR=27
GNI Garni 77.66 322 *i* P **P 11 34 17.2 +1.4**
SNR=19
GNI Garni 77.66 322 *c i*P **P 11 34 17.3 +1.5**
GNI pmax pmax
comp=Z,708nm,1.7s
LTVH L"tav"rtes, 77.68 341 *e*P **P 11 34 17.2 +1.7**
GEC2 GERESS Array S 77.70 346 *e*P **P 11 34 15.5 -0.2**
comp=Z,66nm,1.1s
GEC2 LR LR

comp=Z,1µm,20.0s
GEC2 GERESS Array S 77.70 346 *e*P **P** **11 34 15.5 -0.2**
GEC2 pmax pmax
comp=Z,67nm,1.1s
GEC2 MLR MLR
comp=Z,1µm,20.0s
GERES GERESS Array B 77.70 346 P **P** **11 34 15.9 +0.1**
comp=Z,20nm,0.8s,baz=23,slow=4.4,SNR=104
GERES GERESS Array B 77.70 346 P **P** **11 34 15.9 +0.1**
GEA0 GERESS Array S 77.71 346 *e*P **P** **11 34 15.0 -0.8**
MYIG MØrida 77.75 72 *e*P **P** **11 34 16.5 +0.2**
comp=Z,228nm,0.8s
MYIG *e*pP **PcP** **11 34 24.1 -2.1**
MYIG LR LR
comp=Z,400nm,21.0s
WLF Walferdange 77.78 352 *e*P **P** **11 34 15.9 -0.1**
comp=Z,57nm,0.9s
WLF LR LR
comp=Z,900nm,21.0s
WLF Walferdange 77.78 352 *e*P **P** **11 34 15.9 -0.1**
WLF pmax pmax
comp=Z,57nm,0.9s
WLF MLR MLR
comp=Z,900nm,21.0s
WLF Walferdange 77.78 352 ⇓P **P** **11 34 16.5 +0.5**
comp=Z,57nm,1.4s
ZST Bratislava 77.80 344 *e*P **P** **11 34 17.2 +1.0**
ZST Bratislava 77.80 344 *e*P **P** **11 34 17.2 +1.0**
CCA1 Carnmenellis 77.82 359⇓*e*P **P** **11 34 15.9 -0.3**
CCA1 IAmb IAmb 11 34 17.2
comp=Z,133nm,1.0s
CJR Cluj-Napoca 77.97 339⇑*i*P **P** **11 34 18.3 +1.1**
CMBY CAMPBELL BAY 78.05 266 *e*P **P** **11 34 19.1 +1.1**
VRI Vrincioaia 78.05 337⇑*i*P **P** **11 34 18.1 +0.5**
PETR Petresti 78.06 336⇑*i*P **P** **11 34 19.2 +1.6**
ODBI Odobesti 78.07 337⇓*i*P **P** **11 34 19.9 +2.2**
DRGR 78.08 340⇑*i*P **P** **11 34 18.5 +0.6**
PLOR Plostina 78.08 337⇑*i*P **P** **11 34 18.3 +0.4**
BUD Budapest 78.15 343 *e*P **P** **11 34 19.6 +1.5**
CONA Conrad Observa 78.26 345 *i*P **P** **11 34 19.9 +1.0**
comp=Z,101nm,1.0s,SNR=58
DOPR Dopca 78.27 338⇓*i*P **P** **11 34 20.2 +1.3**
PSI Prapat 78.32 259 *e*P **P** **11 34 19.2 -0.5**
comp=Z,170nm,1.3s
PSI Prapat 78.32 259 *e*P **P** **11 34 19.2 -0.5**
PSI pmax pmax
comp=Z,170nm,1.3s
STU Stuttgart 78.35 349 *e*P **P** **11 34 19.0 -0.2**
comp=Z,49nm,1.0s
STU LR LR
comp=Z,1µm,22.0s
STU Stuttgart 78.35 349 *e*P **P** **11 34 19.0 -0.2**
STU pmax pmax
comp=Z,49nm,1.0s
STU MLR MLR
comp=Z,1µm,22.0s
SOP Sopron 78.39 344 *e*P **P** **11 34 20.7 +1.3**
MOA Molln 78.59 346 *i*P **P** **11 34 20.9 +0.3**
comp=Z,32nm,1.1s,SNR=20
MLR Muntele Rosu 78.59 337 *e*P **P** **11 34 20.0 -0.8**
comp=Z,82nm,0.7s
MLR LR LR
comp=Z,2µm,20.0s
MLR Muntele Rosu 78.59 337⇑*i*P **P** **11 34 21.1 +0.3**
MLR Muntele Rosu 78.59 337 *e*P **P** **11 34 20.0 -0.8**
MLR pmax pmax
comp=Z,82nm,0.7s
MLR MLR MLR
comp=Z,2µm,20.0s
SIRR Siria 78.80 340⇑*i*P **P** **11 34 22.6 +0.8**
VOIR 78.85 338⇓*i*P **P** **11 34 23.2 +1.1**
BFO Black Forest 78.88 350 *e*P **P** **11 34 21.4 -0.7**
comp=Z,43nm,0.9s
BFO Black Forest 78.88 350 *e*P **P** **11 34 21.5 -0.7**
BFO pmax pmax
comp=Z,43nm,0.9s
TIH Tihany 78.92 343⇑*e*P **P** **11 34 23.6 +1.3**
TIRR Tirgusor 78.95 335 *e*P **P** **11 34 22.6 0.0**
comp=Z,85nm,0.9s
TIRR LR LR
comp=Z,3µm,20.0s
TIRR Tirgusor 78.95 335⇑*i*P **P** **11 34 23.0 +0.4**
TIRR Tirgusor 78.95 335 *e*P **P** **11 34 22.6 0.0**
TIRR pmax pmax
comp=Z,85nm,0.9s
TIRR MLR MLR
comp=Z,3µm,20.0s
ARSA Arzberg 78.98 345 *i*P **P** **11 34 23.7 +1.0**
comp=Z,74nm,1.0s,SNR=37
SECR 78.99 337⇑*i*P **P** **11 34 22.6 -0.2**
ARR Arges 79.01 338⇓*i*P **P** **11 34 24.3 +1.3**
BKNI Bangkinang 79.02 256 PFAKE 11 34 40.0 +17
BKNI LR LR
comp=Z,300nm,22.0s
MTUR Matau 79.05 338⇑*i*P **P** **11 34 24.7 +1.5**
ECH Echery 79.11 351 *e*P **P** **11 34 22.8 -0.7**
comp=Z,56nm,1.0s
ECH LR LR
comp=Z,1µm,21.0s
ECH Echery 79.11 351 *e*P **P** **11 34 22.8 -0.7**
ECH pmax pmax
comp=Z,56nm,1.0s
ECH MLR MLR
comp=Z,1µm,21.0s
LOT Lotru 79.13 339⇑*i*P **P** **11 34 23.7 0.0**
TEIG Tepich 79.17 71 *e*P **P** **11 34 24.4 +0.2**
comp=Z,44nm,0.9s
TEIG LR LR
comp=Z,500nm,21.0s
SULR 79.28 337⇑*i*P **P** **11 34 24.9 +0.5**
HYB Hyderabad 79.30 284 *i*P **P** **11 34 24.0 -0.9**
comp=Z,220nm,1.0s
HYB *e*S **S** **11 44 22.0 -1.1**
HYB Hyderabad 79.30 284 *e*P **P** **11 34 24.8 -0.2**
GZR Gura Zlata 79.40 339⇑*i*P **P** **11 34 25.7 +0.6**
RETA Reutte 79.43 348 *i*P **P** **11 34 25.7 +0.5**
comp=Z,30nm,1.1s,SNR=14
BZS Buzias 79.43 340⇑*i*P **P** **11 34 25.6 +0.4**
MORH M˝r˙igy, Hung 79.44 342 *e*P **P** **11 34 25.4 +0.2**
MORH M˝r˙igy, Hung 79.44 342⇑*i*P **P** **11 34 25.3 +0.1**
WATA Walderalm 79.47 348 *i*P **P** **11 34 25.8 +0.2**
comp=Z,39nm,0.7s,SNR=19
KBA Koelnbreinsper 79.48 346 *i*P **P** **11 34 26.6 +1.0**
comp=Z,158nm,0.8s,SNR=82
MOTA Moosalm 79.52 348 *i*P **P** **11 34 26.3 +0.4**
comp=Z,84nm,1.1s,SNR=27
BEHE Becsehely 79.53 344 *e*P **P** **11 34 26.9 +1.2**
BEHE Becsehely 79.53 344⇑*i*P **P** **11 34 26.6 +0.9**
WTTA Wattenberg 79.53 347 *i*P **P** **11 34 26.5 +0.5**
comp=Z,63nm,0.8s,SNR=26
WRAB Tennant Creek 79.60 217 *e*P **P** **11 34 26.6 +0.3**
comp=Z,75nm,0.9s
WRAB Tennant Creek 79.60 217 *e*P **P** **11 34 26.6 +0.3**
WRAB pmax pmax
comp=Z,75nm,0.9s
WB2 Warramunga Arr 79.61 217 *e*P **P** **11 34 26.0 -0.4**
SOKA Soboth 79.61 345 *i*P **P** **11 34 27.0 +0.8**
comp=Z,236nm,1.3s,SNR=86
WR1 Warramunga Arr 79.61 217 *e*P **P** **11 34 26.6 +0.3**
comp=Z,81nm,0.9s
WRA Warramunga Arr 79.61 217 P **P** **11 34 26.6 +0.2**
comp=Z,54nm,1.0s,baz=33,slow=5.9,SNR=183
WRA PKKPbc **PKKPbc** **11 53 13.2 +0.2**
comp=Z,2.8nm,0.9s,baz=215,slow=2.1,SNR=21
WRA LR LR 12 07 34.8
comp=Z,421nm,20.2s,baz=325,slow=34
WRA Warramunga Arr 79.61 217 P **P** **11 34 26.6 +0.2**
SQTA Sankt Quirin 79.63 348 *i*P **P** **11 34 26.8 +0.4**
comp=Z,92nm,1.0s,SNR=40
KOGS Kog 79.64 344 *i*P **P** **11 34 27.0 +0.7**
KOGS *e*pP **pP** **11 34 36.5 -0.3**
KOGS Kog 79.64 344 *i*P **P** **11 34 27.0 +0.7**
KOGS *e*pP **pP** **11 34 36.5 -0.3**
PERS Pernice 79.64 345 *i*P **P** **11 34 27.1 +0.7**
PERS Pernice 79.64 345 *i*P **P** **11 34 27.1 +0.7**
DAVA Damuels 79.73 349 *i*P **P** **11 34 27.0 -0.1**
comp=Z,30nm,1.1s,SNR=15
BANR Banloc 79.75 341⇑*i*P **P** **11 34 28.1 +1.2**
EIDS Eidsvold 79.82 200 *e*P **P** **11 34 28.5 +1.2**
comp=Z,73nm,1.8s
EIDS LR LR
comp=Z,2µm,20.0s
OBKA Obir 79.85 345 *i*P **P** **11 34 28.4 +0.8**
comp=Z,76nm,0.6s,SNR=29
BHJ Bhuj 79.85 295 *e*P **P** **11 34 28.0 +0.2**
BHJ IAmb IAmb 11 34 29.7
comp=Z,76nm,1.0s
BHJ IAMs_20 IAMs_20 12 12 39.5
comp=Z,3µm,15.0s
MYKA Terra Mystica 79.87 346 *i*P **P** **11 34 27.8 +0.1**
comp=Z,71nm,1.3s,SNR=17
FETA Feichten 79.89 348 *i*P **P** **11 34 28.1 +0.2**
comp=Z,88nm,1.2s,SNR=29
ABTA Abtaitersbach 79.92 347 *i*P **P** **11 34 28.3 +0.3**
comp=Z,89nm,1.0s,SNR=35
HERR Herculane 79.97 339⇑*i*P **P** **11 34 27.5 -0.6**
CCIG Comitan 79.97 76 *e*P **P** **11 34 28.8 0.0**
comp=Z,52nm,1.0s
CCIG LR LR
comp=Z,1µm,22.0s
SRE Strehaia 80.00 339⇑*i*P **P** **11 34 28.8 +0.5**
MOZS Mozjanca 80.08 345 *i*P **P** **11 34 28.9 +0.2**
MOZS Mozjanca 80.08 345 *i*P **P** **11 34 28.9 +0.2**
MDVR Moldovita 80.21 340⇓*i*P **P** **11 34 29.9 +0.4**
FRGS Fruska Gora 80.23 341⇑*i*P **P** **11 34 30.1 +0.5**
ZAG Zagreb 80.28 344 *e*P **P** **11 34 30.5 +0.7**
LJU Ljubljana 80.31 345 *e*P **P** **11 34 30.0 0.0**
LJU Ljubljana 80.31 345 *e*P **P** **11 34 30.0 0.0**
LJU Ljubljana 80.31 345⇑*i*P **P** **11 34 29.9 0.0**
GSI Gunungsitoli 80.32 259 *e*P **P** **11 34 30.9 +0.5**
comp=Z,70nm,0.8s
FUORN Ofenpass-Fuorn 80.34 348 *e*P **P** **11 34 30.3 -0.2**
comp=Z,72nm,1.0s
FUORN LR LR
comp=Z,1µm,21.0s
CRES Cresnjev 80.37 345⇑*i*P **P** **11 34 30.5 +0.2**
OZLJ Ozalj 80.58 344 P **P** **11 34 31.3 0.0**
TUE Stuetta 80.60 349 *e*P **P** **11 34 32.1 +0.3**
comp=Z,128nm,1.3s
TUE LR LR
comp=Z,2µm,22.0s
ILGA Ilgaz 80.61 330 *e*P **P** **11 34 33.0 +1.1**
comp=Z,133nm,1.0s
CEY Cerknica 80.62 345⇑*i*P **P** **11 34 31.5 -0.2**
SZH Strazhica 80.69 337 *e*P **P** **11 34 32.0 0.0**
TRI Trieste 80.75 346 PFAKE 11 34 40.0 +7.7
TRI LR LR
comp=Z,2µm,19.0s
TEKS Tekeris 80.88 341 *e*P **P** **11 34 33.9 +0.9**
PVL Pavlikeni 80.88 337 *e*P **P** **11 34 33.7 +0.7**
SENIN Lac Senin/Sane 80.93 350 *e*P **P** **11 34 34.2 +0.6**
comp=Z,50nm,1.0s
SENIN LR LR
comp=Z,1µm,21.0s
LEM Lembang 80.99 246 P **P** **11 34 34.3 +0.1**
comp=Z,16nm,0.5s,baz=28,slow=5.7,SNR=4.9
LEM Lembang 80.99 246 P **P** **11 34 34.3 +0.1**
RIY Rijeka 81.02 345 *e*P **P** **11 34 33.3 -0.4**
BLY Banja Luka 81.12 343 PFAKE 11 34 50.0 +16
BLY LR LR
comp=Z,1µm,21.0s
BLY Banja Luka 81.12 343⇑*i*P **P** **11 34 34.6 +0.3**
BLY Banja Luka 81.12 343⇑*i*P **P** **11 34 34.4 +0.1**
POO Poona 81.19 289 *e*P **P** **11 34 35.3 +0.1**
POO IAMs_20 IAMs_20 12 12 43.6
comp=Z,2µm,11.9s
DIVS Divibare 81.22 341 *e*P **P** **11 34 35.0 0.0**
comp=Z,81nm,0.9s
DIVS LR LR
comp=Z,2µm,20.0s
DIVS Divibare 81.22 341⇑*i*P **P** **11 34 35.2 +0.2**
HAPS Han Pijesak,Bl 81.43 342 *e*P **P** **11 34 35.8 -0.3**
FITZ Fitzroy Crossi 81.47 225 P **P** **11 34 37.2 +0.9**
comp=Z,95nm,1.1s,baz=24,slow=6.1,SNR=84
FITZ Fitzroy Crossi 81.47 225 *e*P **P** **11 34 37.0 +0.7**
comp=Z,85nm,0.9s
BOM Bombay 81.50 290 *ex* **P** **11 34 31.9 -4.7**
UDBI Udbina 81.58 344 P **P** **11 34 37.0 +0.1**
NVLJ Novalja 81.70 345 P **P** **11 34 37.0 -0.3**
PGB Panagyurishte 81.79 338 *e*P **P** **11 34 38.8 +0.8**
BR101 Keskin Array S 81.85 330 *e*P **P** **11 34 38.9 +0.4**
BR131 Keskin Array S 81.85 330 *e*P **P** **11 34 39.0 +0.5**
BR131 Keskin Array S 81.85 330 P **P** **11 34 38.8 +0.4**
BRTR Keskin Array B 81.85 330 P **P** **11 34 38.9 +0.4**
comp=Z,52nm,0.7s,baz=50,slow=3.1,SNR=164
BRTR PP **PP** **11 37 45.8 +0.7**
comp=Z,9.3nm,1.0s,baz=36,slow=5.0,SNR=4.0
BRTR LR LR 12 16 29.3
comp=Z,571nm,19.4s,baz=17,slow=40
BRTR **Keskin Array B 81.85 330** P **P** **11 34 38.9 +0.4**
BRTR PP **PP** **11 37 45.8 +0.7**
VTS Vitosha 81.97 338 *e*P **P** **11 34 38.9 -0.2**
comp=Z,56nm,0.8s
VTS LR LR
comp=Z,2µm,18.0s
VTS Vitosha 81.97 338⇑*i*P **P** **11 34 39.1 +0.1**
VTS Vitosha 81.97 338 *e*P **P** **11 34 39.2 +0.2**
VTS Vitosha 81.97 338 P **P** **11 34 38.8 -0.2**
VTS Vitosha 81.97 338 *e*P **P** **11 34 38.9 -0.2**
VTS pmax pmax
comp=Z,56nm,0.8s
VTS MLR MLR
comp=Z,2µm,18.0s
ANTO Ankara 81.97 330 *e*P **P** **11 34 40.0 +0.9**
comp=Z,136nm,1.1s
ANTO LR LR
comp=Z,700nm,20.0s
ANTO Ankara 81.97 330⇑*i*P **P** **11 34 39.8 +0.8**
ANTO Ankara 81.97 330 P **P** **11 34 39.9 +0.9**
SNR=9.0
ANTO Ankara 81.97 330 *e*P **P** **11 34 40.0 +0.9**
ANTO pmax pmax
comp=Z,136nm,1.1s
ANTO MLR MLR
comp=Z,700nm,20.0s
BR231 Keskin MP Arra 82.00 330 *e*P **P** **11 34 40.5 +1.2**
TBI Tubuai 82.07 146 *e*S **S** **11 44 53.0 +1.7**
comp=Z,1µm,32.5s
TBI Tubuai 82.07 146 *e*LR LR 12 00 19.2
comp=Z,3µm,30.5s,baz=336
TBI Tubuai 82.07 146 *e*T T 13 04 50.0
comp=Z,5.6nm,0.2s
PLE Pljevlja 82.08 341⇑*i*P **P** **11 34 40.4 +0.9**
SSB Saint Sauveur 82.27 352 *e*P **P** **11 34 41.0 +0.6**
comp=Z,68nm,1.0s
SSB Saint Sauveur 82.27 352 *e*P **P** **11 34 41.0 +0.6**
SSB pmax pmax
comp=Z,68nm,1.0s
UPM Unac-Piva 82.29 341⇑*i*P **P** **11 34 40.5 -0.3**
UPM Unac-Piva 82.29 341⇑*i*P **P** **11 34 40.4 -0.3**
BNI Bardonecchia 82.29 351 *e*P **P** **11 34 41.9 +1.2**
comp=Z,99nm,1.0s
BNI LR LR
comp=Z,1µm,22.0s
BNI Bardonecchia 82.29 351 *e*P **P** **11 34 41.9 +1.2**
BNI pmax pmax
comp=Z,99nm,1.0s
BNI MLR MLR
comp=Z,1µm,22.0s
IVA Berane 82.42 341⇑*i*P **P** **11 34 41.7 +0.4**
KOME Kolasin 82.51 341⇑*i*P **P** **11 34 41.9 +0.1**
NKY Niksic 82.65 341⇑*i*P **P** **11 34 42.4 -0.1**
BRY Bratogost 82.66 342⇑*i*P **P** **11 34 42.2 -0.4**
BRY Bratogost 82.66 342⇑*i*P **P** **11 34 42.2 -0.4**
PVY Plav 82.67 341⇑*i*P **P** **11 34 42.6 -0.1**
NKME Niksic 82.70 341⇑*i*P **P** **11 34 42.1 -0.6**
VLC Villacollemand 82.75 348 *e*P **P** **11 34 43.8 +0.9**
comp=Z,91nm,1.0s
VLC LR LR
comp=Z,1µm,20.0s
RDO Rodhopi 82.78 336 P **P** **11 34 43.6 +0.5**
MMB Musomiste 82.80 338 *e*P **P** **11 34 44.1 +0.8**
STON Ston 82.84 342 P **P** **11 34 42.6 -0.7**
STON Ston 82.84 342⇑*i*P **P** **11 34 42.7 -0.7**
TREB Trebinje 82.87 342 *e*P **P** **11 34 42.7 -0.8**
ALN Alexandroupoli 82.89 336 *e*P **P** **11 34 44.2 +0.6**
comp=Z,75nm,1.1s
ALN LR LR
comp=Z,1µm,20.0s
ALN Alexandroupoli 82.89 336 P **P** **11 34 43.4 -0.3**
CEME Cevo 82.92 341⇑*i*P **P** **11 34 43.5 -0.4**
SKO Skopje 82.95 339 *i*P **P** **11 34 44.8 +0.8**
PDG Podgorica 82.97 341⇑*i*P **P** **11 34 44.1 0.0**
PDG Podgorica 82.97 341⇑*i*P **P** **11 34 44.0 0.0**
TTG Podgorica 82.97 341⇑*i*P **P** **11 34 44.0 0.0**
TTG Podgorica 82.97 341 *e*P **P** **11 34 44.1 0.0**
comp=Z,172nm,0.9s
TTG LR LR
comp=Z,2µm,20.0s
TTG Podgorica 82.97 341 *e*P **P** **11 34 44.1 0.0**
TTG pmax pmax
comp=Z,172nm,0.9s
TTG MLR MLR
comp=Z,2µm,20.0s
NVR Nevrokopi 83.00 337 P **P** **11 34 44.8 +0.5**
HCY Herceg Novi 83.10 342⇑*i*P **P** **11 34 43.9 -0.8**
HCY Herceg Novi 83.10 342⇑*i*P **P** **11 34 44.0 -0.8**
AS01 Alice Springs 83.16 216 *e*P **P** **11 34 46.1 +0.9**
BUM Brajici-Budva 83.16 341⇑*i*P **P** **11 34 44.9 -0.3**
AS31 Alice Springs 83.18 216 *e*P **P** **11 34 46.2 +1.0**
comp=Z,8.4nm,0.9s
ASAR Alice Springs 83.18 216 P **P** **11 34 46.0 +0.8**
comp=Z,27nm,0.9s,baz=26,slow=4.6,SNR=88
ASAR PKKPbc **PKKPbc** **11 53 05.4 +0.4**
comp=Z,1.1nm,0.4s,baz=199,slow=2.2,SNR=13
ASAR PKPPKP **P'P'df** **12 01 07.5 +0.5**
comp=Z,1.2nm,1.0s,baz=204,slow=2.7,SNR=4.3
ASAR LR LR 12 09 16.6
comp=Z,664nm,20.8s,baz=19,slow=34
ASAR Alice Springs 83.18 216 P **P** **11 34 46.0 +0.8**
ASAR P'P' 12 01 07.5
DRME Dracevica, Mon 83.22 341⇑*i*P **P** **11 34 45.6 +0.3**
DRME Dracevica, Mon 83.22 341⇑*i*P **P** **11 34 45.4 +0.1**
SRS Serrai 83.28 337 P **P** **11 34 45.9 +0.2**
KNT Kendrikon 83.40 338 P **P** **11 34 46.9 +0.6**
ULC Ulcinj 83.42 341⇑*i*P **P** **11 34 46.4 0.0**
KRUS Krusevo 83.57 339 *i*P **P** **11 34 47.4 +0.1**
SOH Sokhos 83.62 338 P **P** **11 34 47.6 +0.1**
SNET Serv Nac Est T 83.74 76 PFAKE 11 35 00.0 +12
SNET LR LR
comp=Z,1µm,22.0s
TIR Tirane 83.89 340 *e*P **P** **11 34 49.3 +0.5**
comp=Z,106nm,0.7s
TIR LR LR
comp=Z,2µm,21.0s
TIR Tirane 83.89 340⇓*i*P **P** **11 34 49.1 +0.3**
TIR Tirane 83.89 340 *e*P **P** **11 34 49.3 +0.5**
TIR pmax pmax
comp=Z,106nm,0.7s
TIR MLR MLR
comp=Z,2µm,21.0s
BIA Bitola 83.89 339 *i*P **P** **11 34 49.5 +0.6**
OHR Ohrid 83.92 340 *i*P **P** **11 34 48.9 -0.1**
LIA Limnos Island 84.05 336 P **P** **11 34 49.7 +0.1**
AQU L'Aquila 84.08 345 *e*P **P** **11 34 50.8 +0.9**
comp=Z,92nm,1.1s
AQU LR LR
comp=Z,1µm,22.0s
AQU L'Aquila 84.08 345⇑*i*P **P** **11 34 50.5 +0.6**
FNA Florina 84.10 339 *e*P **P** **11 34 50.0 +0.1**
comp=Z,86nm,1.0s
FNA LR LR
comp=Z,1µm,20.0s
FNA Florina 84.10 339 P **P** **11 34 49.5 -0.5**
FNA Florina 84.10 339 *e*P **P** **11 34 50.1 +0.1**
FNA pmax pmax
comp=Z,86nm,1.0s
FNA MLR MLR
comp=Z,1µm,20.0s
PRK Paraskevi 84.39 335 P **P** **11 34 51.2 -0.2**
KZN Kozani 84.47 339 P **P** **11 34 51.5 -0.4**
MANT Manisa 84.48 333 *e*P **P** **11 34 52.3 +0.1**
comp=Z,300nm,1.1s
MANT LR LR
comp=Z,4µm,22.0s
LIT Litokhoron 84.50 338 *e*P **P** **11 34 52.2 +0.2**
comp=Z,55nm,1.0s
LIT LR LR
comp=Z,1µm,19.0s
LIT Litokhoron 84.50 338 *e*P **P** **11 34 52.2 +0.2**
LIT pmax pmax
comp=Z,55nm,1.0s
LIT MLR MLR
comp=Z,1µm,19.0s
ISP Isparta 84.54 331 *e*P **P** **11 34 52.4 +0.1**
comp=Z,97nm,0.9s
ISP LR LR
comp=Z,1µm,19.0s
ISP Isparta 84.54 331⇑*i*P **P** **11 34 52.1 -0.2**
ISP Isparta 84.54 331 *e*P **P** **11 34 52.4 +0.1**
ISP pmax pmax
comp=Z,97nm,0.9s
ISP MLR MLR
comp=Z,1µm,19.0s
ARMA Armidale 84.60 199 *e*P **P** **11 34 54.5 +2.1**
comp=Z,42nm,0.9s
TGUH Teguigalpa,Un 84.60 74 *e*P **P** **11 34 54.4 +1.6**
comp=Z,195nm,1.0s
SHME Shamm 84.70 307 *i*P **P** **11 34 52.3 -0.9**
SNR=16
BANOM Banah 84.72 306 P **P** **11 34 53.7 +0.4**
SNR=19
BANOM Banah 84.72 306 *i*P **P** **11 34 52.8 -0.5**
SNR=23
MDH Madha 85.24 306 *i*P **P** **11 34 54.6 -1.3**
SNR=10
MSFE Esma-Masafi 85.26 306 *i*P **P** **11 34 55.2 -0.9**
SNR=15
UMQ Umm Al-Quwin 85.37 307 P **P** **11 34 56.1 -0.4**
AGG Agios Georgios 85.57 338 PFAKE 11 35 10.0 +13
AGG LR LR
comp=Z,2µm,21.0s
UOSS Minazif 85.58 306 *e*P **P** **11 34 57.0 -0.7**
comp=Z,99nm,0.9s
UOSS LR LR
comp=Z,1µm,22.0s
UOSS Minazif 85.58 306 P **P** **11 34 56.6 -1.0**
SNR=14
UOSS Minazif 85.58 306 *i*P **P** **11 34 56.5 -1.2**
SNR=21
HATD Hatta, Dubai 85.72 306 P **P** **11 34 57.6 -0.7**
SNR=15
HATD S **SKSac** **11 45 17.5 -3.8**
HATD Hatta, Dubai 85.72 306 *i*P **P** **11 34 57.5 -0.8**
SNR=26
WSAR Wadi Sarin 85.78 303 P **P** **11 34 58.8 +0.2**
SNR=32
WSAR S **S** **11 45 33.0 +4.0**
BIDO Bidbid 85.80 304 P **P** **11 34 58.6 -0.1**
SNR=12
NAZ Nazwa, Dubai 85.82 306 P **P** **11 34 58.0 -0.8**
SNR=8.3
NAZ Nazwa, Dubai 85.82 306 *i*P **P** **11 34 58.0 -0.8**
SNR=14
ASHO Ashiyiah 85.88 306 P **P** **11 34 58.3 -0.8**
SNR=18
ASHO Ashiyiah 85.88 306 *i*P **P** **11 34 58.1 -1.0**
SNR=7.4
ESTN Estel 85.89 74 PFAKE 11 35 10.0 +11
ESTN LR LR
comp=Z,900nm,22.0s
PALK Pallekele 85.94 277 *i*P **P** **11 35 00.1 +0.6**
SNR=7.1
CUC Castrocucco 85.98 343 *e*P **P** **11 34 58.8 -0.6**
comp=Z,18nm,0.8s
CUC LR LR
comp=Z,1µm,19.0s
PGAV Gavieira, Arco 86.04 1 *e*P **P** **11 35 00.7 +1.0**
comp=Z,63nm,2.0s
FAQ Al Faqa, Dubai 86.06 306 *i*P **P** **11 34 58.9 -1.0**
SNR=12
WBK Wadi Bani Khal 86.12 303 P **P** **11 35 01.0 +0.7**
SNR=11
PBRG Braganca 86.21 0 *e*P **P** **11 35 00.9 +0.4**
comp=Z,59nm,1.7s
SMDO Samad 86.22 303 P **P** **11 35 01.0 +0.1**
SNR=15
ASUD Al Ashush, Dub 86.28 306 P **P** **11 35 00.6 -0.4**
SNR=6.0
ASUD Al Ashush, Dub 86.28 306 *i*P **P** **11 35 00.4 -0.6**
SNR=20
PCAB Cabril 86.30 1 *e*P **P** **11 35 01.4 +0.5**
comp=Z,52nm,1.2s
CSS Mathiatis 86.31 328 *e*P **P** **11 35 00.9 -0.2**
comp=Z,143nm,1.3s
CSS LR LR
comp=Z,700nm,21.0s
CSS Mathiatis 86.31 328 P **P** **11 35 00.6 -0.5**
ALFC Alefka 86.36 329 P **P** **11 35 00.5 -0.9**
AJN Ajban 86.51 307 *i*P **P** **11 35 01.1 -1.1**
SNR=6.2
KLV Kalavryta, Ach 86.54 338 P **P** **11 34 59.3 -2.9**
ALNE Al Ain 86.55 306 *i*P **P** **11 35 01.7 -0.7**
SNR=23
TIP Timpagrande 86.59 342 *e*P **P** **11 35 02.4 -0.1**
comp=Z,32nm,0.9s

TIP				LR	LR				
	comp=Z,1μm,18.0s								
TIP	**Timpagrande**	**86.59**	**342**	*i*P	**P**	**11 35 01.8**	**-0.7**		
POLO	**Lamas de Olo**	**86.64**	**1**	*e*P	**P**	**11 35 02.6**	**-0.1**		
	comp=Z,28nm,2.1s								
PPCY	**Paphos**	**86.69**	**329**	P	**P**	**11 35 03.3**	**+0.4**		
DRO	**Drossia**	**86.73**	**338**	P	**P**	**11 35 02.6**	**-0.5**		
JMDO	**Jabal Madar**	**86.76**	**303**	P	**P**	**11 35 03.6**	**+0.1**		
	SNR=19								
ARQ	**Aragi**	**86.77**	**305**	P	**P**	**11 35 03.9**	**+0.4**		
	SNR=11								
GTBY	**Guantanamo Bay**	**86.78**	**61**	PFAKE		11 35 10.0	+6.4		
GTBY				LR	LR				
	comp=Z,900nm,19.0s								
MBWA	**Marble Bar**	**86.80**	**229**	*e*P	**P**	**11 35 03.5**	**+0.1**		
	comp=Z,42nm,0.9s								
BOAB	**BOACO BROADBAN**	**86.82**	**74**	*e*P	**P**	**11 35 04.2**	**+0.4**		
	comp=Z,5.4nm,1.0s								
MTDJ	**Mount Denham**	**86.85**	**64**	*e*P	**P**	**11 35 04.3**	**+0.3**		
	comp=Z,86nm,0.8s								
MTDJ				LR	LR				
	comp=Z,600nm,20.0s								
MVO	**Moncorvo**	**86.85**	**0**	*e*P	**P**	**11 35 03.6**	**-0.1**		
	comp=Z,69nm,1.2s								
PTO	**Porto**	**86.86**	**2**	*e*P	**P**	**11 35 04.6**	**+1.0**		
BSY	**Bisya**	**86.92**	**304**	P	**P**	**11 35 04.0**	**-0.3**		
	SNR=20								
PVIS	**Viseu**	**87.30**	**1**	*e*P	**P**	**11 35 05.9**	**+0.1**		
	comp=Z,34nm,1.0s								
SANT	**Santorini**	**87.31**	**335**	PFAKE		11 35 20.0	+14		
SANT				LR	LR				
	comp=Z,1μm,21.0s								
ITM	**Ithomi**	**87.42**	**338**	PFAKE		11 35 20.0	+14		
ITM				LR	LR				
	comp=Z,2μm,21.0s								
RKT	**Rikitea**	**87.59**	**134**	*e*LR	LR	12 02 45.1			
	comp=Z,1μm,32.5s,baz=331								
RKT	**Rikitea**	**87.59**	**134**	*e*T	T	13 11 42.0			
	comp=Z,1.1nm,0.2s								
MTE	**Manteigas**	**87.61**	**1**	*e*P	**P**	**11 35 07.4**	**0.0**		
	comp=Z,44nm,1.0s								
KARP	**Karpathos**	**87.62**	**333**	PFAKE		11 35 20.0	+13		
KARP				LR	LR				
	comp=Z,1μm,21.0s								
KARP	**Karpathos**	**87.62**	**333**	P	**P**	**11 35 06.0**	**-1.5**		
CEL	**Celeste**	**87.65**	**342**	PFAKE		11 35 20.0	+12		
CEL				LR	LR				
	comp=Z,800nm,20.0s								
ESPN	**Las Esperanzas**	**87.83**	**73**	*e*P	**P**	**11 35 09.1**	**+0.5**		
	comp=Z,146nm,1.0s								
ESPN				LR	LR				
	comp=Z,200nm,21.0s								
PCAS	**Casmilo, Conde**	**87.95**	**1**	*e*P	**P**	**11 35 08.5**	**-0.4**		
	comp=Z,76nm,1.1s								
PCBR	**Castelo Branco**	**88.17**	**1**	*e*P	**P**	**11 35 09.8**	**-0.1**		
	comp=Z,54nm,1.3s								
ES19	**SONSECA Array**	**88.28**	**358**	*e*P	**P**	**11 35 10.0**	**-0.6**		
ZKR	**Zakros**	**88.29**	**334**	P	**P**	**11 35 09.4**	**-1.2**		
ESDC	**Sonseca Array**	**88.31**	**358**	P	**P**	**11 35 10.5**	**-0.2**		
	comp=Z,14nm,0.9s,baz=357,slow=4.4,SNR=31								
ESDC	**Sonseca Array**	**88.31**	**358**	*e*P	**P**	**11 35 10.5**	**-0.2**		
ESLA	**Sonseca Array**	**88.31**	**358**	*e*P	**P**	**11 35 10.3**	**-0.4**		
	comp=Z,19nm,1.0s								
STKA	**Stephens Creek**	**88.37**	**207**	P	**P**	**11 35 11.5**	**+0.8**		
	comp=Z,16nm,0.9s,baz=347,slow=6.9,SNR=17								
STKA	**Stephens Creek**	**88.37**	**207**	*e*P	**P**	**11 35 11.4**	**+0.8**		
	comp=Z,18nm,1.6s								
STKA	**Stephens Creek**	**88.37**	**207**	*e*P	**P**	**11 35 11.5**	**+0.8**		
STKA				pmax	pmax				
	comp=Z,18nm,1.6s								
PTOM	**Tomar**	**88.38**	**1**	*e*P	**P**	**11 35 10.6**	**-0.4**		
	comp=Z,65nm,1.2s								
LAST	**Lasithi**	**88.45**	**334**	P	**P**	**11 35 10.4**	**-1.0**		
PAB	**San Pablo**	**88.45**	**358**	*e*P	**P**	**11 35 10.8**	**-0.6**		
	comp=Z,21nm,1.1s								
PAB	**San Pablo**	**88.45**	**358**	*e*P	**P**	**11 35 10.8**	**-0.6**		
PAB				pmax	pmax				
	comp=Z,21nm,1.1s								
IDI	**Anoyia**	**88.48**	**335**	*e*P	**P**	**11 35 10.6**	**-1.0**		
	comp=Z,32nm,1.0s								
IDI				LR	LR				
	comp=Z,1μm,20.0s								
MZR	**Muzera**	**88.56**	**307**	*i*P	**P**	**11 35 11.4**	**-0.7**		
	SNR=6.8								
PMRV	**Marv??o**	**88.58**	**1**	*e*P	**P**	**11 35 12.1**	**+0.2**		
	comp=Z,48nm,1.2s								
CMLA	**Cha da Macela**	**88.75**	**15**	*i*P	**P**	**11 35 16.4**	**+3.7**		
CLTB	**Caltabellotta**	**88.78**	**344**	PFAKE		11 35 20.0	+7.0		
CLTB				LR	LR				
	comp=Z,1μm,18.0s								
ALMR	**Almeirim**	**88.84**	**2**	*e*P	**P**	**11 35 13.7**	**+0.6**		
	comp=Z,119nm,1.4s								
JTS	**JuntasAbangare**	**88.96**	**75**	PFAKE		11 35 30.0	+16		
JTS				LR	LR				
	comp=Z,400nm,18.0s								
JTS	**JuntasAbangare**	**88.96**	**75**	*e*P	**P**	**11 35 13.9**	**-0.1**		
PESTR	**Estremoz**	**89.14**	**1**	*e*P	**P**	**11 35 14.3**	**-0.3**		
	comp=Z,48nm,1.5s								
PESTR	**Estremoz**	**89.14**	**1**	*e*P	**P**	**11 35 14.2**	**-0.3**		
	comp=Z,40nm,1.6s								
EVO	**Evora**	**89.47**	**1**	*e*P	**P**	**11 35 19.5**	**+3.4**		
	comp=Z,63nm,1.0s								
SDDR	**Presa de Saban**	**89.59**	**59**	*e*P	**P**	**11 35 17.4**	**+0.4**		
	comp=Z,77nm,1.0s								
MXZ	**Matakaoa Point**	**89.65**	**176**	PFAKE		11 35 30.0	+13		
MXZ				LR	LR				
	comp=Z,2μm,21.0s								
HDC	**Heredia**	**89.68**	**74**	PFAKE		11 35 30.0	+12		
HDC				LR	LR				
	comp=Z,500nm,21.0s								
MNCI	**Minicoy**	**89.76**	**283**	PFAKE		11 35 30.0	+12		
MNCI				LR	LR				
	comp=Z,2μm,21.0s								
PBEJ	**Beja**	**89.98**	**1**	*e*P	**P**	**11 35 19.1**	**+0.6**		
	comp=Z,61nm,1.6s								
URZ	**Urewera**	**90.30**	**177**	P	**P**	**11 35 21.3**	**+1.7**		
	comp=Z,3.5nm,0.7s,baz=329,slow=23,SNR=2.4								
URZ	**Urewera**	**90.30**	**177**	*e*P	**P**	**11 35 21.3**	**+1.7**		
URZ				LR	LR				
	comp=Z,1μm,22.0s								
BBOO	**Buckleboo**	**90.88**	**211**	*e*P	**P**	**11 35 23.3**	**+0.9**		
	comp=Z,31nm,1.0s								
HMDM	**Hanimaadhoo**	**90.88**	**282**	*e*P	**P**	**11 35 22.4**	**-0.5**		
	comp=Z,44nm,0.8s								
HMDM				LR	LR				
	comp=Z,900nm,21.0s								
KEST	**Kesra**	**91.17**	**347**	P	**P**	**11 35 23.6**	**-0.6**		
	comp=Z,22nm,0.9s,baz=283,slow=2.3,SNR=13								
KEST				PP	**PP**	**11 38 59.2**	**-1.0**		
	comp=Z,19nm,1.1s,baz=20,slow=3.9,SNR=4.2								
KEST	**Kesra**	**91.17**	**347**	*e*P	**P**	**11 35 24.3**	**+0.1**		
	comp=Z,42nm,1.2s								
KEST				LR	LR				
	comp=Z,900nm,20.0s								
BKZ	**Black Stump Fm**	**91.19**	**178**	PFAKE		11 35 40.0	+16		
BKZ				LR	LR				
	comp=Z,1μm,19.0s								
SFS	**San Fernando**	**91.54**	**360**	PFAKE		11 35 40.0	+14		
SFS				LR	LR				
	comp=Z,500nm,20.0s								
FORT	**Forrest**	**91.78**	**218**	*e*P	**P**	**11 35 27.6**	**+1.0**		
	comp=Z,62nm,0.9s								
RAYN	**Ar Rayn**	**91.84**	**314**	*e*P	**P**	**11 35 27.1**	**-0.3**		
	comp=Z,66nm,1.1s								
RAYN				LR	LR				
	comp=Z,1μm,20.0s								
RAYN	**Ar Rayn**	**91.84**	**314**	*i*P	**P**	**11 35 27.0**	**-0.5**		
	SNR=31								
RAYN	**Ar Rayn**	**91.84**	**314**	*e*P	**P**	**11 35 27.1**	**-0.3**		
RAYN				pmax	pmax				
	comp=Z,66nm,1.1s								
RAYN				MLR	MLR				
	comp=Z,1μm,20.0s								
CRPR	**Cabo Rojo, PR**	**92.56**	**56**	*e*P	**P**	**11 35 30.1**	**-0.6**		
	comp=Z,319nm,2.0s								
BFZ	**Birch Farm**	**92.70**	**178**	PFAKE		11 35 40.0	+9.4		
BFZ				LR	LR				
	comp=Z,900nm,20.0s								
OBIP	**Obispado Ponce**	**92.79**	**56**	*e*P	**P**	**11 35 31.9**	**+0.2**		
	comp=Z,38nm,1.0s								
BCIP	**Isla Barro Col**	**92.85**	**71**	PFAKE		11 35 40.0	+7.9		
BCIP				LR	LR				
	comp=Z,300nm,22.0s								
SJG	**San Juan**	**92.96**	**55**	*e*P	**P**	**11 35 33.0**	**+0.4**		
	comp=Z,36nm,0.9s								
SJG				LR	LR				
	comp=Z,800nm,22.0s								
SJG	**San Juan**	**92.96**	**55**	*e*P	**P**	**11 35 33.0**	**+0.4**		
SJG				pmax	pmax				
	comp=Z,36nm,0.9s								
SJG				MLR	MLR				
	comp=Z,800nm,22.0s								
HUMP	**Col San Antoni**	**93.09**	**55**	*e*P	**P**	**11 35 32.9**	**-0.2**		
	comp=Z,40nm,1.1s								
HUMP				LR	LR				
	comp=Z,600nm,19.0s								
MTP	**Monte Pirata**	**93.27**	**55**	*e*P	**P**	**11 35 34.2**	**+0.2**		
	comp=Z,72nm,0.8s								
SNZO	**South Karori**	**93.30**	**179**	PFAKE		11 35 50.0	+17		
SNZO				LR	LR				
	comp=Z,1μm,21.0s								
SMRT	**St. Maarten**	**94.54**	**53**	PFAKE		11 35 50.0	+10		
SMRT				LR	LR				
	comp=Z,900nm,22.0s								
SABA	**Saba**	**94.82**	**53**	PFAKE		11 35 50.0	+8.8		
SABA				LR	LR				
	comp=Z,600nm,22.0s								
SEUS	**St. Eustatius**	**95.06**	**53**	PFAKE		11 35 50.0	+7.8		
SEUS				LR	LR				
	comp=Z,800nm,22.0s								
OXZ	**Oxford**	**95.31**	**181**	PFAKE		11 35 50.0	+7.4		
OXZ				LR	LR				
	comp=Z,900nm,20.0s								
MOTC	**Monteria, Cord**	**95.57**	**68**	*e*P	**P**	**11 35 44.2**	**-0.3**		
MQZ	**McQueen's Vall**	**95.69**	**181**	PFAKE		11 36 00.0	+16		
MQZ				LR	LR				
	comp=Z,800nm,19.0s								
SMLC	**San Mart`n de**	**96.45**	**67**	*e*P	**P**	**11 35 44.9**	**-3.7**		
WKZ	**Wanaka**	**96.88**	**183**	PFAKE		11 36 00.0	+10		
WKZ				LR	LR				
	comp=Z,2μm,22.0s								
PTBC	**PUERTO BERRIO,**	**98.08**	**68**	*e*P	**P**	**11 35 52.9**	**-3.1**		
SDV	**Santo Domingo**	**98.30**	**64**	PFAKE		11 36 10.0	+13		
SDV				LR	LR				
	comp=Z,500nm,20.0s								
FDF	**Fort de France**	**98.32**	**53**	PFAKE		11 36 10.0	+13		
FDF				LR	LR				
	comp=Z,700nm,21.0s								
PAMC	**Pamplona, Colo**	**98.42**	**66**	*e*P	**P**	**11 35 57.5**	**-0.5**		
BARC	**Barichara**	**98.75**	**67**	*e*P	Pdif	11 36 00.8	+1.6		
YOTC	**Yotoco, Valle**	**99.06**	**71**	*e*P	**Pdif**	**11 35 59.5**	**-1.0**		
ANIL	**Santa Ana**	**99.19**	**70**	*e*P	**Pdif**	**11 36 01.5**	**+0.2**		
RUSC	**La Rusia**	**99.38**	**68**	*e*P	**Pdif**	**11 36 02.2**	**-0.2**		
ROSC	**El Rosal**	**99.53**	**69**	LR	LR	12 24 01.4			
	comp=Z,166nm,21.0s,baz=350,slow=37								
DAMY	**Dhamar**	**100.15**	**310**	PFAKE		11 36 20.0	+14		
DAMY				LR	LR				
	comp=Z,2μm,19.0s								
PCON	**Cinco Dias**	**100.36**	**72**	*e*P	**Pdif**	**11 36 07.0**	**+0.1**		
SOTA	**Rioblanco**	**100.40**	**73**	*e*P	**Pdif**	**11 36 07.3**	**+0.4**		
BETC	**Betania**	**100.64**	**71**	*e*P	**Pdif**	**11 36 07.5**	**+0.1**		
OTAV	**Otavalo**	**100.83**	**75**	PFAKE		11 36 20.0	+11		
OTAV				LR	LR				
	comp=Z,300nm,20.0s								
ATD	**Arta Tunnel**	**103.52**	**310**	PFAKE		11 36 30.0	+10		
ATD				LR	LR				
	comp=Z,2μm,20.0s								
TAM	**Tamanrasset**	**104.42**	**348**	PFAKE		11 36 40.0	+16		
TAM				LR	LR				
	comp=Z,600nm,19.0s								
FURI	**Furi**	**107.75**	**312**	PFAKE		11 41 00.0			
FURI				LR	LR				
	comp=Z,700nm,18.0s								
TOC1	**Torodi Ar. Sit**	**114.34**	**351**	PFAKE		11 41 10.0	+11		
TOC1				LR	LR				
	comp=Z,600nm,21.0s								
TOC7	**Torodi Ar. Sit**	**114.36**	**351**	PFAKE		11 41 10.0	+11		
TOC7				LR	LR				
	comp=Z,600nm,21.0s								
TOC2	**Torodi Ar. Sit**	**114.36**	**351**	PFAKE		11 41 10.0	+11		
TOC2				LR	LR				
	comp=Z,500nm,20.0s								
TOA1	**Torodi Ar. Sit**	**114.36**	**351**	*e*PKiKP	**PKiKP**	**11 40 57.3**	**-1.8**		
TOA1				*e*PP	**PP**	**11 41 46.6**	**-7.5**		
TOA1				*e*PKKPbc	**PKKPbc**	**11 51 37.1**	**+0.7**		
TOA1				*e*PKKPab	**PKKPab**	**11 51 44.1**	**-3.4**		
TOA1				*e*PKKPdf	**PKKPdf**	**11 51 53.2**	**-4.5**		
TOA1				LR	LR				
	comp=Z,600nm,21.0s								
TOB5	**Torodi Ar. Sit**	**114.36**	**351**	PFAKE		11 41 10.0	+11		
TOB5				LR	LR				
	comp=Z,600nm,22.0s								
TOA0	**Torodi Ar. Sit**	**114.37**	**351**	PFAKE		11 41 10.0	+11		
TOA0				LR	LR				
	comp=Z,600nm,21.0s								
TORD	**Torodi Ar. Bea**	**114.37**	**351**	PKP	PKPdf	11 40 57.3	-1.8		
	comp=Z,1.4nm,0.5s,baz=11,slow=1.7,SNR=14								
TORD				PP	**PP**	**11 41 46.6**	**-7.5**		
	comp=Z,2.0nm,0.9s,baz=2.7,slow=8.3,SNR=4.4								
TORD				PKKPbc	**PKKPbc**	**11 51 37.1**	**+0.7**		
	comp=Z,1.1nm,1.0s,baz=147,slow=3.0,SNR=3.9								
TORD				PKKPab	**PKKPab**	**11 51 44.1**	**-3.4**		
	comp=Z,2.7nm,1.1s,baz=219,slow=2.7,SNR=7.2								
TORD				PKKP	**PKKPdf**	**11 51 53.2**	**-4.5**		
	comp=Z,5.2nm,0.9s,baz=171,slow=10,SNR=19								
TORD	**Torodi Ar. Bea**	**114.37**	**351**	PKP	PKPdf	11 40 57.3	-1.8		
TORD				PKKPbc	**PKKPbc**	**11 51 37.1**	**+0.7**		
TORD				PKKPab	**PKKPab**	**11 51 44.1**	**-3.4**		
TORD				PKKP	**PKKPdf**	**11 51 53.2**	**-4.5**		
TOC3	**Torodi Ar. Sit**	**114.38**	**351**	PFAKE		11 41 10.0	+11		
TOC3				LR	LR				
	comp=Z,600nm,21.0s								
TOB3	**Torodi Ar. Sit**	**114.38**	**351**	PFAKE		11 41 10.0	+11		
TOB3				LR	LR				
	comp=Z,600nm,21.0s								
TOB4	**Torodi Ar. Sit**	**114.38**	**351**	PFAKE		11 41 10.0	+11		
TOB4				LR	LR				
	comp=Z,600nm,20.0s								
TOC5	**Torodi Ar. Sit**	**114.39**	**351**	PFAKE		11 41 10.0	+11		
TOC5				LR	LR				
	comp=Z,600nm,19.0s								
TOC4	**Torodi Ar. Sit**	**114.39**	**351**	PFAKE		11 41 10.0	+11		
TOC4				LR	LR				
	comp=Z,600nm,20.0s								
SAML	**Samuel**	**117.12**	**68**	PFAKE		11 41 20.0	+16		
SAML				LR	LR				
	comp=Z,500nm,19.0s								
KMBO	**Kilima Mbogo**	**117.22**	**309**	PKP	**PKPdf**	**11 41 05.8**	**+0.9**		
	comp=Z,1.0nm,0.4s,baz=13,slow=2.8,SNR=8.2								
KMBO				PP	**PP**	**11 42 08.1**	**-6.9**		
	comp=Z,1.1nm,0.5s,baz=2.6,slow=4.1,SNR=5.1								
KMBO	**Kilima Mbogo**	**117.22**	**309**	*e*PKPdf	**PKPdf**	**11 41 05.1**	**+0.2**		
KMBO				PP	**PP**	**11 42 08.1**	**-6.9**		
KMBO				LR	LR				
	comp=Z,700nm,19.0s								
KMBO	**Kilima Mbogo**	**117.22**	**309**	*e*PKIKP	**PKPdf**	**11 41 05.1**	**+0.2**		
KMBO				MLR	MLR				
	comp=Z,700nm,19.0s								
NAI	**Nairobi**	**117.57**	**309**	PFAKE		11 41 20.0	+14		
NAI				LR	LR				
	comp=Z,800nm,21.0s								
MBAR	**Mbarara**	**119.72**	**316**	PFAKE		11 41 20.0	+10		
MBAR				LR	LR				
	comp=Z,1μm,22.0s								
LPAZ	**La Paz**	**120.07**	**77**	PKP	**PKPdf**	**11 41 10.2**	**-0.5**		
	comp=Z,2.7nm,0.9s,baz=3.8,slow=3.3,SNR=7.6								
LPAZ				PKKPab	**PKKPab**	**11 51 19.4**	**-1.1**		
	comp=Z,1.0nm,0.7s,baz=232,slow=2.5,SNR=2.8								
LPAZ	**La Paz**	**120.07**	**77**	*e*PKPdf	**PKPdf**	**11 41 10.5**	**-0.1**		
LPAZ				PKKPab	**PKKPab**	**11 51 19.4**	**-1.1**		
DBIC	**Dimbokro**	**121.18**	**358**	PKP	**PKPdf**	**11 41 11.5**	**-0.7**		
	comp=Z,14nm,0.8s,baz=348,slow=2.4,SNR=16								
DBIC	**Dimbokro**	**121.18**	**358**	*e*PKPdf	**PKPdf**	**11 41 11.4**	**-0.7**		
TIC	**Toumodi**	**121.21**	**358**	*e*PKIKP	**PKPdf**	**11 41 11.1**	**-1.2**		
MNMC	**Minye Minye**	**121.38**	**81**	*e*PKPdf	**PKPdf**	**11 41 12.5**	**-0.2**		
KIC	**Kosan Boka**	**121.49**	**358**	*e*PKIKP	**PKPdf**	**11 41 11.6**	**-1.2**		
	comp=Z,45nm,1.0s								
LIC	**Lamto**	**121.63**	**358**	*e*PKIKP	**PKPdf**	**11 41 11.6**	**-1.5**		
	comp=Z,62nm,1.0s								
PB11	**IPOC Station P**	**121.83**	**81**	*e*PKPdf	**PKPdf**	**11 41 13.4**	**0.0**		
PB01	**IPOC Station P**	**122.90**	**82**	*e*PKPdf	**PKPdf**	**11 41 14.7**	**-0.6**		
ABPO	**Ambohimpanom**	**126.74**	**288**	*e*PKPdf	**PKPdf**	**11 41 22.6**	**-0.2**		
ABPO				LR	LR				
	comp=Z,400nm,20.0s								
ABPO	**Ambohimpanom**	**126.74**	**288**	*e*PKIKP	**PKPdf**	**11 41 22.6**	**-0.2**		
ABPO				MLR	MLR				
	comp=Z,400nm,20.0s								
VCA	**Vinchina**	**129.35**	**87**	*e*P	**PKPdf**	**11 41 27.9**	**+0.4**		
AGUA	**GUANDACOL**	**129.71**	**88**	*e*P	**PKPdf**	**11 41 28.6**	**+0.5**		
ACDV	**Cuesta del Vie**	**129.81**	**89**	*e*P	**PKPdf**	**11 41 28.1**	**-0.2**		
VNDA	**Vanda**	**129.81**	**183**	PKP	**PKPdf**	**11 41 27.5**	**+0.8**		
	comp=Z,2.3nm,0.9s,baz=308,slow=5.0,SNR=4.5								
VNDA				SKPbc	SKPbc	11 44 46.0	-0.2		
	comp=Z,4.0nm,1.2s,baz=340,slow=7.1,SNR=4.7								
VNDA	**Vanda**	**129.81**	**183**	*e*PKPdf	**PKPdf**	**11 41 27.1**	**+0.4**		
VNDA	**Vanda**	**129.81**	**183**	*e*PKIKP	**PKPdf**	**11 41 27.1**	**+0.4**		
ACCO	**Cerro Coronel**	**130.13**	**90**	*e*P	**PKPdf**	**11 41 29.6**	**+0.5**		
ROC1	**El Roble**	**130.59**	**93**	*e*P	**PKPdf**	**11 41 29.4**	**-0.4**		
ACLC	**CERRO LA CRUZ**	**130.61**	**87**	*e*P	**PKPdf**	**11 41 30.3**	**+0.4**		
CYA	**Choya**	**130.61**	**85**	*e*P	**PKPdf**	**11 41 30.3**	**+0.5**		
AMOG	**MOGNA**	**130.73**	**90**	*e*P	**PKPdf**	**11 41 30.5**	**+0.6**		
RTLS	**Leoncito**	**130.83**	**91**	*e*P	**PKPdf**	**11 41 30.5**	**+0.1**		
BDFB	**Brasilia**	**130.91**	**57**	PKP	**PKPdf**	**11 41 31.2**	**+0.4**		
	comp=Z,25nm,0.9s,baz=358,slow=2.8,SNR=24								
BDFB				SKPbc	**SKPbc**	**11 44 52.2**	**-0.1**		
	comp=Z,13nm,0.9s,baz=30,slow=3.7,SNR=7.0								
BDFB				SKP		11 45 06.7			
	comp=Z,12nm,0.9s,baz=295,slow=1.7,SNR=5.3								
BDFB	**Brasilia**	**130.91**	**57**	*e*PKPdf	**PKPdf**	**11 41 30.2**	**-0.6**		
BDFB				*e*PKPdf	**PKPdf**	**11 41 31.2**	**+0.4**		
BDFB				*e*SKPbc	**SKPbc**	**11 44 52.2**	**-0.1**		
BDFB				*e*SKPdf	**SKiKP**	**11 45 06.7**	**+1.8**		
BDFB	**Brasilia**	**130.91**	**57**	*e*PKIKP	**PKPdf**	**11 41 30.2**	**-0.6**		
AUSP	**Uspallata**	**131.07**	**91**	*e*P	**PKPdf**	**11 41 32.0**	**+1.2**		
RTCV	**Cerro Valdivia**	**131.34**	**90**	*e*P	**PKPdf**	**11 41 31.6**	**+0.5**		
APLL	**PUNTA DE LOS L**	**131.55**	**87**	*e*P	**PKPdf**	**11 41 30.5**	**-1.0**		
ASAL	**Salagasta**	**131.66**	**91**	*e*P	**PKPdf**	**11 41 30.5**	**-1.2**		
ARCO	**CERRO ARCO**	**131.77**	**92**	*e*P	**PKPdf**	**11 41 31.4**	**-0.6**		
AAGR	**Agrelo**	**132.00**	**92**	*e*P	**PKPdf**	**11 41 32.7**	**+0.3**		
ACAN	**Cantantal**	**132.45**	**90**	*e*P	**PKPdf**	**11 41 33.6**	**+0.4**		
TCA	**Tanti**	**133.39**	**87**	*e*P	**PKPdf**	**11 41 35.1**	**+0.1**		
MRA	**San Martin**	**133.46**	**89**	*e*P	**PKPdf**	**11 41 34.2**	**-0.9**		
LSZ	**Lusaka**	**133.85**	**310**	*e*PKPdf	**PKPdf**	**11 41 36.2**	**-0.1**		
LSZ				LR	LR				
	comp=Z,700nm,19.0s								
LSZ	**Lusaka**	**133.85**	**310**	*e*PKIKP	**PKPdf**	**11 41 36.2**	**-0.1**		
LSZ				MLR	MLR				
	comp=Z,700nm,19.0s								
CPUP	**Villa Florida**	**134.18**	**76**	PKP	**PKPdf**	**11 41 36.6**	**+0.1**		
	comp=Z,4.9nm,0.8s,baz=324,slow=3.3,SNR=8.6								
CPUP				SKPbc	**SKPbc**	**11 45 03.0**	**-0.2**		
	comp=Z,13nm,1.1s,baz=345,slow=4.1,SNR=11								
CPUP	**Villa Florida**	**134.18**	**76**	*e*PKPdf	**PKPdf**	**11 41 36.4**	**-0.1**		
CPUP				*e*SKPbc	**SKPbc**	**11 45 02.8**	**-0.4**		
CPUP	**Villa Florida**	**134.18**	**76**	*e*PKIKP	**PKPdf**	**11 41 36.4**	**-0.1**		
GO06	**Curarrehue**	**134.64**	**101**	*e*PKPdf	**PKPdf**	**11 41 36.8**	**-0.3**		
PLCA	**Paso Flores**	**135.91**	**101**	PKhKP	PKPpre	11 41 35.2			
	comp=Z,9.1nm,0.9s,baz=289,slow=1.2,SNR=16								
PLCA				PKP	**PKPdf**	**11 41 39.7**	**+0.3**		
	comp=Z,9.1nm,0.9s,baz=307,slow=2.7,SNR=16								
PLCA				SKPbc	**SKPbc**	**11 45 08.1**	**-0.2**		
	comp=Z,9.6nm,1.2s,baz=322,slow=6.1,SNR=3.6								
PLCA	**Paso Flores**	**135.91**	**101**	*e*PKPdf	**PKPdf**	**11 41 38.8**	**-0.6**		
PLCA				SKPbc	**SKPbc**	**11 45 08.1**	**-0.2**		
CHRN	**Cochrane**	**138.44**	**110**	*e*PKPdf	**PKPdf**	**11 41 44.6**	**+0.9**		
TRQA	**Tornquist**	**139.47**	**92**	*e*PKPdf	**PKPdf**	**11 41 46.0**	**0.0**		
TRQA	**Tornquist**	**139.47**	**92**	*e*PKIKP	**PKPdf**	**11 41 46.0**	**0.0**		
TSUM	**Tsumeb**	**141.90**	**321**	*e*PKPdf	**PKPdf**	**11 41 50.3**	**-0.8**		
TSUM				LR	LR				
	comp=Z,700nm,20.0s								
QSPA	**South Pole Qui**	**142.11**	**180**	PKhKP	PKPpre	11 41 45.1			
	comp=Z,16nm,1.0s,baz=343,slow=1.4,SNR=2.3								
QSPA				PKP	**PKPdf**	**11 41 49.4**	**-0.4**		
	comp=Z,20nm,0.9s,

HMT	**Hamilton**	**2.76**	**345**	*e*Pn	**Pn**	**11 50 51.7**	**-0.1**
PCA	**Pinnacle**	**2.77**	**28**	*e*Pn	**Pn**	**11 50 52.0**	**0.0**
WAX	**Waxell Ridge**	**2.77**	**0**	*e*Pn	**Pn**	**11 50 51.8**	**-0.3**
KHIT	**Khitrov Hills**	**2.78**	**356**	P	**Pn**	**11 50 51.9**	**-0.2**
DHAK	**Deception Hill**	**2.82**	**58**	*e*Pn	**Pn**	**11 50 52.0**	**-0.7**
DHAK				*e*Sn	**Sn**	**11 51 23.1**	**-3.7**
BCPM	**Bancas Point**	**2.83**	**35**	*e*Pn	**Pn**	**11 50 52.4**	**-0.3**
BAGL	**Bagley Icefiel**	**2.84**	**8**	*e*Pn	**Pn**	**11 50 53.0**	**+0.1**
RAGM	**Ragged Mountai**	**2.87**	**342**	*e*Pn	**Pn**	**11 50 53.9**	**+0.6**
RAGM				*e*Sn	**Sn**	**11 51 27.3**	**-0.7**
TABL	**Table Mountain**	**2.90**	**17**	P	**Pn**	**11 50 54.2**	**+0.3**
ISLE	**Juniper Island**	**2.94**	**5**	P	**Pn**	**11 50 54.2**	**-0.1**
SGAM	**Sherman Glacie**	**3.08**	**338**	*e*Pn	**Pn**	**11 50 56.3**	**+0.1**
EYAK	**Cordova Ski Ar**	**3.24**	**334**	*e*Pn	**Pn**	**11 50 57.7**	**-0.6**
EYAK				*e*Sn	**Sn**	**11 51 34.8**	**-2.1**
HIN	**Hinchinbrook I**	**3.31**	**327**	*e*Pn	**Pn**	**11 50 59.0**	**-0.3**
BMRM	**Bremner River**	**3.41**	**346**	*e*Pn	**Pn**	**11 51 00.3**	**-0.5**
BMRM				*e*Sn	**Sn**	**11 51 42.1**	**+0.7**
FID	**Port Fidalgo**	**3.60**	**330**	*e*Pn	**Pn**	**11 51 03.1**	**-0.2**
FID				*e*Sn	**Sn**	**11 51 44.1**	**-1.7**
MCARA	**McCarthy VSAT**	**3.71**	**359**	P	**Pn**	**11 51 04.9**	**0.0**
YUK7	**Dusty Glacier**	**3.75**	**38**	*e*Pn	**Pn**	**11 51 06.0**	**+0.5**
DIV	**Divide**	**3.76**	**338**	*e*Pn	**Pn**	**11 51 05.0**	**-0.7**
DIV				*e*Sn	**Sn**	**11 51 46.1**	**-3.9**
PLBC	**Pleasant Camp**	**3.83**	**60**	*e*Pn	**Pn**	**11 51 06.4**	**-0.2**
GLI	**Glacier Island**	**3.87**	**328**	*e*Pn	**Pn**	**11 51 06.1**	**-1.0**
GLI				*e*Sn	**Sn**	**11 51 48.8**	**-3.8**
JPK	**Jack Peak**	**3.89**	**332**	*e*Pn	**Pn**	**11 51 06.4**	**-0.9**
PS12	**TAPS Pump St12**	**3.98**	**344**	*e*Pn	**Pn**	**11 51 08.3**	**-0.2**
KLU	**Klutina**	**4.13**	**339**	*e*Pn	**Pn**	**11 51 09.9**	**-0.7**
HYT	**Haines Junctio**	**4.18**	**39**	*e*Pn	**Pn**	**11 51 11.8**	**+0.4**
HYT				*e*Sn	**Sn**	**11 51 59.0**	**-1.3**
SEW	**Seward**	**4.19**	**308**	*e*Pn	**Pn**	**11 51 10.8**	**-0.6**
SEW				*e*Sn	**Sn**	**11 51 57.2**	**-3.2**
PWL	**Port Wells**	**4.25**	**321**	*e*Pn	**Pn**	**11 51 11.0**	**-1.3**
PWL				*e*Sn	**Sn**	**11 51 58.5**	**-3.3**
SKAG	**Skagway**	**4.32**	**63**	*e*Pn	**Pn**	**11 51 12.8**	**-0.4**
BESE	**Bessie Mountai**	**4.33**	**75**	*e*Pn	**Pn**	**11 51 12.4**	**-1.0**
BESE				*e*Sn	**Sn**	**11 51 60.0**	**-4.1**
JIS	**Juneau Island**	**4.55**	**79**	*e*Pn	**Pn**	**11 51 14.8**	**-1.5**
JIS				*e*Sn	**Sn**	**11 52 03.6**	**-5.5**
PS11	**TAPS Pump St11**	**4.60**	**344**	*e*Pn	**Pn**	**11 51 17.8**	**+0.7**
BRLK	**Bradley Lake**	**4.68**	**300**	*e*Pn	**Pn**	**11 51 17.6**	**-0.5**
BRLK				*e*Sn	**Sn**	**11 52 08.0**	**-4.4**
KNK	**Knik Glacier**	**4.70**	**325**	*e*Pn	**Pn**	**11 51 18.4**	**-0.1**
SCM	**Sheep Creek Mo**	**4.74**	**333**	*e*Pn	**Pn**	**11 51 18.5**	**-0.5**
SCM				*e*Sn	**Sn**	**11 52 10.5**	**-3.4**
CNPM	**China Poot**	**4.76**	**296**	*e*Pn	**Pn**	**11 51 18.6**	**-0.6**
CNPM				*e*Sn	**Sn**	**11 52 10.6**	**-3.8**
BVCY	**Beaver Creek**	**4.85**	**11**	P	**Pn**	**11 51 21.4**	**+0.8**
HARP	**HAARP**	**4.88**	**347**	*e*Pn	**Pn**	**11 51 21.0**	**+0.1**
SML	**Sawmill**	**4.98**	**328**	*e*Pn	**Pn**	**11 51 22.7**	**+0.4**
HOM	**Homer**	**5.00**	**297**	*e*Pn	**Pn**	**11 51 22.2**	**-0.3**
HOM				*e*Sn	**Sn**	**11 52 17.2**	**-3.0**
PMR	**Palmer**	**5.05**	**324**	*e*Pn	**Pn**	**11 51 23.3**	**+0.1**
WHY	**Whitehorse**	**5.07**	**51**	*e*Pn	**Pn**	**11 51 23.9**	**+0.3**
GHO	**Glory Hole Cre**	**5.12**	**326**	*e*Pn	**Pn**	**11 51 24.2**	**-0.1**
KDAK	**Kodiak Island**	**5.22**	**275**	Pn	**Pn**	**11 51 25.8**	**+0.4**
	59nm,0.3s,baz=90,slow=9.0,SNR=802						
KDAK				Sn	**Sn**	**11 52 19.4**	**-6.2**
	baz=126,slow=23,SNR=2.0						
BCA3	**Beaver Creek A**	**5.43**	**5**	*e*Pn	**Pn**	**11 51 28.8**	**+0.3**
PAX	**Paxson**	**5.46**	**347**	*e*Pn	**Pn**	**11 51 29.0**	**+0.1**
SUA	**Susitna One**	**5.52**	**317**	*e*Pn	**Pn**	**11 51 29.1**	**-0.6**
SUA				*e*Sn	**Sn**	**11 52 29.4**	**-3.8**
OHAK	**Old Harbor**	**5.65**	**270**	*e*Pn	**Pn**	**11 51 30.0**	**-1.4**
RDT	**Redoubt**	**5.71**	**305**	P	**Pn**	**11 51 32.4**	**+0.1**
AUE	**Augustine Isla**	**5.76**	**291**	*e*Pn	**Pn**	**11 51 32.5**	**-0.4**
IVE	**Iliamna Volcan**	**5.77**	**298**	P	**Pn**	**11 51 32.7**	**-0.5**
ILS	**Iliamna Low So**	**5.78**	**298**	P	**Pn**	**11 51 32.9**	**-0.4**
RED	**Redoubt Volcan**	**5.81**	**302**	P	**Pn**	**11 51 33.5**	**-0.2**
CRAG	**Craig**	**5.82**	**108**	*e*Pn	**Pn**	**11 51 30.3**	**-3.4**
CRAG				*e*Sn	**Sn**	**11 52 32.8**	**-7.6**
ILW	**Iliamna West**	**5.84**	**298**	*e*Pn	**Pn**	**11 51 34.2**	**0.0**
DHY	**Denali Highway**	**5.86**	**339**	*e*Pn	**Pn**	**11 51 33.7**	**-0.7**
DHY				*e*Sn	**Sn**	**11 52 41.6**	**0.0**
RDWB	**Redoubt West**	**5.87**	**303**	P	**Pn**	**11 51 33.9**	**-0.7**
WRAK	**Wrangell Islan**	**5.87**	**98**	*e*Pn	**Pn**	**11 51 32.6**	**-1.9**
WRAK				*e*Sn	**Sn**	**11 52 34.4**	**-7.4**
RDJH	**Redoubt Jeurge**	**5.89**	**304**	P	**Pn**	**11 51 34.4**	**-0.5**
SPGG	**Spurr Capps Gl**	**5.91**	**312**	P	**Pn**	**11 51 35.2**	**+0.2**
CKT	**Bend**	**5.93**	**310**	*e*Pn	**Pn**	**11 51 35.4**	**0.0**
FONW	**Fourpeaked Sta**	**5.96**	**286**	P	**Pn**	**11 51 36.3**	**+0.6**
DOT	**Dot Lake**	**6.01**	**355**	*e*Pn	**Pn**	**11 51 36.1**	**-0.4**
SKT	**Skwentna**	**6.14**	**318**	*e*Pn	**Pn**	**11 51 38.2**	**0.0**
SKT				*e*Sn	**Sn**	**11 52 44.5**	**-3.9**
RIDG	**Independ'e Rid**	**6.16**	**352**	*e*Pn	**Pn**	**11 51 38.7**	**+0.3**
SPNN	**North Nagishla**	**6.22**	**311**	*e*Pn	**Pn**	**11 51 40.0**	**+0.5**
SII	**Sitkinak Islan**	**6.27**	**264**	*e*Pn	**Pn**	**11 51 38.6**	**-1.4**
SII				*e*Sn	**Sn**	**11 52 46.7**	**-5.0**
HUR	**Hurricane**	**6.29**	**330**	*e*Pn	**Pn**	**11 51 41.2**	**+1.0**
SCRK	**Sand Creek**	**6.34**	**355**	*e*Pn	**Pn**	**11 51 41.3**	**+0.3**
RND	**Reindeer**	**6.46**	**335**	*e*Pn	**Pn**	**11 51 42.9**	**+0.3**
RND				*e*Sn	**Sn**	**11 52 54.8**	**-1.5**
DAWY	**Dawson**	**6.62**	**13**	*e*Pn	**Pn**	**11 51 45.0**	**+0.2**
CAHL	**Cahill**	**6.65**	**278**	P	**Pn**	**11 51 45.2**	**0.0**
MCK	**McKinley**	**6.76**	**336**	*e*Pn	**Pn**	**11 51 46.8**	**+0.1**
MCK				*e*Sn	**Sn**	**11 53 02.6**	**-1.0**
TRF	**Thorofare Moun**	**6.84**	**331**	*e*Pn	**Pn**	**11 51 47.6**	**-0.3**
DLBC	**Dease Lake**	**6.85**	**78**	Pn	**Pn**	**11 51 47.7**	**-0.3**
	2.0nm,0.3s,baz=257,slow=6.3,SNR=15						
DLBC				Sn	**Sn**	**11 53 00.6**	**-5.4**
	1.7nm,0.3s,baz=190,slow=25,SNR=4.5						
DLBC	**Dease Lake**	**6.85**	**78**	*e*Pn	**Pn**	**11 51 47.0**	**-0.9**
DLBC				*e*Sn	**Sn**	**11 52 59.9**	**-6.1**
PPLA	**Purkeypile**	**6.99**	**322**	*e*Pn	**Pn**	**11 51 49.2**	**-0.7**
HDA	**Harding Lake**	**7.03**	**345**	*e*Pn	**Pn**	**11 51 50.0**	**-0.4**
EGAK	**Eagle**	**7.17**	**6**	*e*Pn	**Pn**	**11 51 52.7**	**+0.5**
WRH	**Wood River Hil**	**7.27**	**342**	*e*Pn	**Pn**	**11 51 52.9**	**-0.7**
SVW2	**Sparrevohn**	**7.34**	**303**	*e*Pn	**Pn**	**11 51 54.4**	**-0.2**
IL1	**Eielson Array**	**7.37**	**346**	*e*Pn	**Pn**	**11 51 54.1**	**-0.9**
ILAR	**Eielson Array**	**7.37**	**346**	Pn	**Pn**	**11 51 54.0**	**-1.0**
	0.8nm,0.3s,baz=173,slow=13,SNR=44						
ILAR				Sn	**Sn**	**11 53 13.0**	**-5.7**
	0.5nm,0.3s,baz=159,slow=14,SNR=4.4						
ILB	**Eielson Array**	**7.37**	**346**	*e*Pn	**Pn**	**11 51 54.1**	**-1.0**
CCB	**Clear Creek Bu**	**7.38**	**343**	*e*Pn	**Pn**	**11 51 54.6**	**-0.6**
DIB	**Dawson Inlet,**	**7.41**	**123**	*e*Pn	**Pn**	**11 51 52.6**	**-3.0**
H02S1	**DAWSON INLET T**	**7.41**	**123**	Pn	**Pn**	**11 51 53.3**	**-2.3**
	SNR=178						
H02S1				Sn	Sn	11 53 09.0	-11
	SNR=16						
BPAW	**Bear Paw Mtn.**	**7.55**	**332**	*e*Pn	**Pn**	**11 51 57.5**	**-0.1**
MDM	**Murphy Dome**	**7.74**	**343**	*e*Pn	**Pn**	**11 51 59.8**	**-0.4**
MLY	**Manley**	**8.28**	**336**	*e*Pn	**Pn**	**11 52 07.0**	**-0.5**
MLY				*e*Sn	**Sn**	**11 53 37.5**	**-3.5**
TT01	**Tatalina**	**8.37**	**314**	*e*Pn	**Pn**	**11 52 08.2**	**-0.5**
CHGN	**Chignik**	**8.61**	**267**	*e*Pn	**Pn**	**11 52 12.0**	**0.0**
FYU	**Fort Yukon**	**8.98**	**354**	*e*Pn	**Pn**	**11 52 17.0**	**-0.1**
IM3	**Indian Mountai**	**9.77**	**333**	*e*Pn	**Pn**	**11 52 27.6**	**-0.3**
IM3				*e*Sn	**Sn**	**11 54 13.6**	**-4.0**
BM3	**Burnt Mountain**	**9.80**	**356**	*e*Pn	**Pn**	**11 52 28.9**	**+0.5**
SDPT	**Sand Point**	**10.01**	**264**	*e*Pn	**Pn**	**11 52 31.8**	**+0.6**
BBB	**Bella Bella**	**10.10**	**117**	Pn	**Pn**	**11 52 30.0**	**-2.5**
	1.1nm,0.3s,baz=302,slow=7.7,SNR=9.6						
BBB				Sn	Sn	11 54 16.6	-9.2
	0.6nm,0.3s,baz=80,slow=17,SNR=5.2						
COLD	**Coldfoot**	**10.15**	**344**	*e*Pn	**Pn**	**11 52 32.2**	**-1.0**
INK	**Inuvik**	**11.46**	**18**	Pn	**Pn**	**11 52 48.4**	**-2.5**
	0.1nm,0.3s,baz=150,slow=6.7,SNR=2.9						
INK	**Inuvik**	**11.46**	**18**	*e*Pn	**Pn**	**11 52 49.2**	**-1.7**
YKA	**Yellowknife Ar**	**14.82**	**59**	Pn	**Pn**	**11 53 36.4**	**-0.4**
	0.1nm,0.3s,baz=260,slow=13,SNR=7.2						
NEW	**Newport**	**18.03**	**110**	P	**P**	**11 54 20.4**	**+1.9**
	0.1nm,0.3s,baz=319,slow=11,SNR=6.6						
YBH	**Yreka Blue Hor**	**20.48**	**133**	P	Pn	11 54 48.0	+0.6
	1.3nm,0.8s,baz=104,slow=4.0,SNR=3.0						
RES	**Resolute Bay**	**24.67**	**28**	P	**P**	**11 55 28.2**	**+0.2**
	2.0nm,0.9s,baz=256,slow=14,SNR=3.5						
NVAR	**Mina Array Bea**	**25.06**	**130**	P	**P**	**11 55 34.8**	**+2.8**
	1.7nm,0.8s,baz=313,slow=9.6,SNR=10.0						
PDAR	**Pinedale Array**	**25.67**	**111**	P	**P**	**11 55 39.9**	**+2.3**
	0.5nm,0.8s,baz=296,slow=8.1,SNR=4.7						
TIXI	**Tiksi**	**36.37**	**328**	P	**P**	**11 57 11.4**	**+0.2**
	1.3nm,0.3s,baz=31,slow=0.7,SNR=4.7						
TXAR	**Lajitas Array**	**39.23**	**119**	P	**P**	**11 57 38.1**	**+2.2**
	0.1nm,0.5s,baz=316,slow=6.3,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**52.65**	**246**	T	T	12 56 14.7	
	baz=31,slow=76,SNR=7.0						
H11N3	**WAKE ISLAND Hy**	**52.66**	**246**	T	T	12 56 15.4	
	baz=31,slow=76,SNR=5.9						
H11N1	**WAKE ISLAND Hy**	**52.67**	**246**	T	T	12 56 13.3	
	baz=31,slow=76,SNR=3.2						
H11S1	**WAKE ISLAND Hy**	**53.79**	**245**	T	T	12 57 42.4	
	baz=30,slow=76,SNR=3.2						
H11S2	**WAKE ISLAND Hy**	**53.80**	**245**	T	T	12 57 51.5	
	baz=30,slow=76,SNR=4.3						
H11S3	**WAKE ISLAND Hy**	**53.81**	**245**	T	T	12 57 45.1	
	baz=30,slow=76,SNR=4.4						
SONM	**Songino Array**	**60.33**	**314**	P	**P**	**12 00 19.9**	**+3.7**
	0.8nm,1.0s,baz=47,slow=8.7,SNR=3.6						
ZALV	**Zalesovo Beam**	**62.19**	**330**	P	**P**	**12 00 29.8**	**+1.2**
	0.5nm,0.5s,baz=18,slow=6.7,SNR=2.9						
MKAR	**Makanchi Array**	**69.36**	**329**	P	**P**	**12 01 17.0**	**+2.1**
	1.1nm,1.0s,baz=14,slow=7.4,SNR=2.8						
MKAR	**Makanchi Array**	**69.36**	**329**	P	**P**	**12 01 17.0**	**+2.1**

MAN 15 11:55:25.5, 12.72N×125.34E, h25km, mb4.7, ML3.5, MS3.4, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.69**	**253**	*e*P	Pb	11 55 39.0	0.0
CNP				*e*S	Sn	11 55 50.7	+1.0
BESP	**Borongan**	**1.11**	**175**	*e*P	Pn	11 55 35.0	-11
BESP				*e*S	Sn	11 55 55.7	-4.4
PVCP	**Virac**	**1.45**	**307**	*e*P	Pn	11 55 50.0	-0.2
PVCP				*e*S	Sn	11 56 05.5	-2.9
PLP	**Palo**	**1.58**	**193**	*e*P	Pn	11 55 51.4	-0.6
PLP				*e*S	Sn	11 56 12.2	+0.5
OCLP	**Ormoc**	**1.81**	**204**	*e*P	Pb	11 55 56.6	-1.3
OCLP				*e*S	Sn	11 56 17.9	+0.8
MSLP	**Maasin**	**2.61**	**191**	*e*P	Pn	11 56 07.0	+0.9
MSLP				*e*S	Sn	11 56 35.3	-1.7

ISCJB ***15*** *12:05:32.1±0.6, 37.06N±0.03×141.17E±0.07, h73km±4km, mb3.7/5, Error ellipse: s-maj=9.3km s-min=5.1km az=18.9*
IDC ***15*** *12:05:32.8±2.4, 37.06N×141.27E, h64km±20km, mb3.5/5, mb1 3.6/10, mb1mx3.4/41, mbtmp3.7/10, Error ellipse: s-maj=20.7km s-min=12.1km az=74.0*
JMA ***15*** *12:05:34.1±0.1, 37.09N×141.04E, h69km±1km, M3.7*
JMA Felt II J1.
ISC 15 12:05:33.5±1.1, 37.09N±0.05×141.14E±0.08, h67km±7km, n31, σ0.97/40, mb3.6/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.27**	**273**	P	**Pn**	**12 05 44.5**	**+0.3**
ONAJ				S	**Sn**	**12 05 52.0**	**0.0**
JFK	**Kawauchi**	**0.35**	**323**	P	**Pn**	**12 05 45.0**	**+0.2**
JFK				S	**Sn**	**12 05 52.9**	**-0.1**
JFFD	**Fukushimafurud**	**0.46**	**271**	P	**Pn**	**12 05 45.9**	**+0.2**
JFFD				S	**Sn**	**12 05 54.2**	**-0.4**
JHO	**Hitachi**	**0.66**	**224**	P	**Pn**	**12 05 47.8**	**+0.1**
JHO				S	**Sn**	**12 05 57.5**	**-0.6**
JFT	**Otama**	**0.77**	**304**	P	**Pn**	**12 05 49.2**	**+0.2**
JFT				S	**Sn**	**12 06 00.0**	**-0.5**
JMM	**Marumori**	**0.83**	**341**	P	**Pn**	**12 05 50.1**	**+0.4**
JMM				S	**Sn**	**12 06 02.0**	**+0.4**
JFY	**Yanaizu**	**1.19**	**286**	P	**Pn**	**12 05 54.0**	**-0.3**
JFY				S	**Sn**	**12 06 08.7**	**-1.1**
JOU	**Okura**	**1.33**	**344**	P	**Pn**	**12 05 56.4**	**+0.2**
JOU				S	**Sn**	**12 06 13.4**	**+0.2**
JIO	**Ouri**	**1.38**	**7**	P	**Pn**	**12 05 57.2**	**+0.5**
JIO				S	**Sn**	**12 06 14.0**	**-0.1**
JYS	**Shirataka**	**1.42**	**323**	P	**Pn**	**12 05 57.6**	**+0.3**
JYS				S	**Sn**	**12 06 15.8**	**+0.7**
JAG	**Ashikaga**	**1.50**	**245**	P	**Pn**	**12 05 58.4**	**0.0**
JAG				*e*S	**Sn**	**12 06 16.2**	**-1.0**
JKT	**Katashina**	**1.55**	**259**	P	**Pn**	**12 05 59.6**	**+0.5**
JNS	**Sasagawa**	**1.62**	**297**	P	**Pn**	**12 05 59.2**	**-0.8**
JHK	**Hiroka**	**1.70**	**276**	P	**Pn**	**12 06 01.0**	**-0.1**
MJAR	**Matsushiro Arr**	**2.41**	**258**	P	**Pn**	**12 06 11.2**	**+0.5**
	7.1nm,0.3s,baz=94,slow=16,SNR=50						
MJAR				S	**Sn**	**12 06 41.1**	**+1.9**
	9.5nm,0.3s,baz=54,slow=25,SNR=7.0						
MAT	**Matsushiro**	**2.41**	**258**	P	**Pn**	**12 06 11.4**	**+0.7**
MAT				S	**Sn**	**12 06 38.5**	**-0.7**
JHJ	**Hachijo jima 2**	**4.11**	**196**	P	**Pn**	**12 06 34.0**	**+0.2**
	25nm,0.3s,baz=332,slow=21,SNR=6.7						
JHJ				S	**Sn**	**12 07 19.2**	**-1.4**
	57nm,0.3s,baz=78,slow=20,SNR=8.6						
ASAJ	**Asahikawa**	**7.11**	**9**	P	**Pn**	**12 07 14.1**	**-0.8**
	0.7nm,0.3s,baz=193,slow=15,SNR=6.2						
ASAJ				S	**Sn**	**12 08 30.5**	**-3.6**
	0.2nm,0.3s,baz=216,slow=19,SNR=2.5						
USRK	**Ussuriysk Ar.**	**9.94**	**318**	P	**Pn**	**12 07 54.0**	**+0.6**
	0.1nm,0.3s,baz=125,slow=12,SNR=2.3						
KSRS	**Korea Array**	**10.54**	**276**	P	**Pn**	**12 08 04.3**	**+2.7**
	0.2nm,0.3s,baz=92,slow=14,SNR=2.7						
SONM	**Songino Array**	**27.57**	**304**	P	**P**	**12 11 13.8**	**-0.5**
	0.5nm,0.4s,baz=100,slow=10,SNR=6.8						
H11N2	**WAKE ISLAND Hy**	**28.36**	**120**	T	T	12 41 12.0	
	baz=313,slow=75,SNR=9.7						
H11N1	**WAKE ISLAND Hy**	**28.37**	**121**	T	T	12 41 11.4	
	baz=313,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**28.38**	**120**	T	T	12 41 10.3	
	baz=313,slow=75,SNR=8.5						
H11S1	**WAKE ISLAND Hy**	**29.07**	**123**	T	T	12 42 15.8	
	baz=314,slow=75,SNR=18						
H11S3	**WAKE ISLAND Hy**	**29.09**	**123**	T	T	12 42 20.1	
	baz=314,slow=75,SNR=6.0						
H11S2	**WAKE ISLAND Hy**	**29.09**	**123**	T	T	12 42 17.7	
	baz=314,slow=75,SNR=7.3						
ZALV	**Zalesovo Beam**	**41.72**	**312**	P	**P**	**12 13 15.6**	**-0.1**
	2.0nm,0.4s,baz=95,slow=5.9,SNR=9.6						
MKAR	**Makanchi Array**	**43.90**	**302**	P	**P**	**12 13 33.3**	**-0.2**
	0.8nm,0.7s,baz=84,slow=10,SNR=5.5						
WRA	**Warramunga Arr**	**57.08**	**188**	P	**P**	**12 15 12.6**	**-0.4**
	0.5nm,0.6s,baz=5.1,slow=7.2,SNR=16						
ASAR	**Alice Springs**	**60.81**	**188**	P	**P**	**12 15 38.6**	**-0.1**
	0.3nm,0.6s,baz=4.1,slow=7.7,SNR=3.7						

ISCJB ***15*** *12:08:54.2±1.1, 33.69N±0.04×140.5E±0.2, h70km±11km, mb3.5/2, Error ellipse: s-maj=22.6km s-min=6.5km az=172.3*
JMA ***15*** *12:08:54.6±0.1, 33.77N×140.55E, h36km, M2.6*
IDC ***15*** *12:08:55.5±3.0, 33.60N×140.52E, h58km±24km, mb3.1/2, mb1 3.3/3, mb1mx3.0/37, mbtmp3.2/3, ML2.9/1, Error ellipse: s-maj=48.1km s-min=11.2km az=83.0*
ISC 15 12:08:54.4±1.8, 33.70N±0.04×140.6E±0.1, h52km±19km, n12, σ1.900/19, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.88**	**229**	P	**Pn**	**12 09 10.9**	**+0.3**
JHJ2				*e*S	**Sn**	**12 09 22.5**	**+0.1**
JHJ	**Hachijo jima 2**	**0.90**	**230**	P	**Pn**	**12 09 11.2**	**+0.4**
	18nm,0.3s,baz=56,slow=7.3,SNR=17						
JHJ				S	**Sn**	**12 09 22.6**	**-0.2**
	133nm,0.3s,baz=73,slow=19,SNR=30						
JHCJ	**Hachijojimakas**	**0.92**	**228**	P	**Pn**	**12 09 11.5**	**+0.4**
JHCJ				S	**Sn**	**12 09 23.1**	**-0.2**
BSO3	**Boso 3**	**1.10**	**356**	P	**Pn**	**12 09 13.4**	**+0.1**
JTHY	**Toshimahigashi**	**1.37**	**307**	P	**Pn**	**12 09 17.6**	**+0.5**
JTHY				S	**Sn**	**12 09 34.0**	**-0.2**
JIM2	**Oshima 3**	**1.41**	**317**	P	**Pn**	**12 09 17.5**	**-0.2**
JIZS	**Izushimoda**	**1.76**	**306**	P	**Pn**	**12 09 23.1**	**+0.7**
KTJ3	**Kamata3**	**1.77**	**315**	P	**Pn**	**12 09 22.5**	**-0.1**
KTJ3				*e*S	**Sn**	**12 09 42.3**	**-1.7**
JOD2	**Odawara 2**	**2.00**	**322**	P	**Pn**	**12 09 26.0**	**+0.2**
JOD2				*e*S	**Sn**	**12 09 48.0**	**-1.7**
MJAR	**Matsushiro Arr**	**3.45**	**326**	P	**Pn**	**12 09 48.0**	**+2.3**
	1.1nm,0.3s,baz=149,slow=11,SNR=8.5						
MJAR				S	**Sn**	**12 10 26.8**	**+1.5**
	0.7nm,0.3s,baz=147,slow=26,SNR=4.7						
WRA	**Warramunga Arr**	**53.67**	**187**	P	**P**	**12 18 10.3**	**-0.6**
	0.3nm,0.5s,baz=5.8,slow=7.7,SNR=5.8						
ASAR	**Alice Springs**	**57.40**	**187**	P	**P**	**12 18 37.5**	**-0.2**
	0.2nm,0.6s,baz=8.9,slow=6.6,SNR=3.0						

MAN 15 12:09:48.8, 12.64N×125.21E, h34km, mb4.5, ML3.4, MS3.2, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.55**	**257**	*e*P	Pb	12 10 01.3	+1.1
CNP				*e*S	Sn	12 10 09.7	+1.5
BESP	**Borongan**	**1.05**	**168**	*e*P	Pn	12 10 05.8	-1.3
BESP				*e*S	Sn	12 10 20.9	+0.2
PVCP	**Virac**	**1.40**	**313**	*e*P	Pn	12 10 12.2	+0.3
PVCP				*e*S	Sn	12 10 22.9	-6.4
PLP	**Palo**	**1.48**	**189**	*e*P	Pn	12 10 13.7	+0.7
PLP				*e*S	Sb	12 10 35.3	+1.0
OCLP	**Ormoc**	**1.69**	**201**	*e*P	Pb	12 10 18.7	-0.6
OCLP				*e*S	Sb	12 10 43.1	+3.1
MSLP	**Maasin**	**2.51**	**188**	*e*P	Pb	12 10 30.9	-2.4
MSLP				*e*S	Sn	12 10 54.0	-2.7

MEX 15 12:13:22.1±0.5, 18.16N×100.62W, h54km±6km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.28**	**65**	*e*P	Pn	12 13 30.0	-1.5
ARIG				*e*S	Sn	12 13 36.5	-1.8
MEIG	**Mezcala**	**0.98**	**104**	*e*P	Pn	12 13 38.1	-1.6
MEIG				*e*S	Sn	12 13 50.9	-1.8
PLIG	**Platanillo**	**1.08**	**78**	*i* P	Pn	12 13 40.1	-1.0
PLIG				*i* S	Sn	12 13 53.0	-2.2

ISCJB ***15*** *12:22:50.4±1.2, 6.49S±0.07×148.3E±0.2, h46km, mb3.9/5, MS3.5/5, Error ellipse: s-maj=24.4km s-min=10.0km az=6.1*
IDC ***15*** *12:22:51.4±2.7, 6.48S×148.09E, h36km±18km, mb4.0/4, mb1 4.2/6, mb1mx3.7/49, mbtmp4.1/6, ML4.2/1, MS3.5/9, Ms1 3.5/9, ms1mx3.2/40, Error ellipse: s-maj=44.1km s-min=14.5km az=113.0*
ISC 15 12:22:52.0±1.1, 6.53S±0.09×148.3E±0.2, h46km, n16, σ1.943/14, mb3.9/5, MS3.5/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.09**	**202**	Pn	**Pn**	**12 23 39.2**	**+0.9**
	15nm,0.3s,baz=48,slow=5.9,SNR=35						
PMG				Sn	**Sn**	**12 24 15.0**	**+1.0**
	21nm,0.3s,baz=11,slow=15,SNR=8.0						
PMG				LR	LR	12 24 37.0	
	comp=Z,135nm,21.1s,baz=48,slow=34						
JAY	**Jayapura**	**8.58**	**297**	Pn	**Pn**	**12 24 54.7**	**+0.9**
	0.2nm,0.3s,baz=102,slow=17,SNR=1.9						
JAY				LR	LR	12 28 38.9	
	comp=Z,437nm,19.6s,slow=42						
CTA	**Charters Tower**	**13.63**	**188**	LR	LR	12 31 38.2	
	comp=Z,360nm,18.1s,baz=354,slow

MJAR	**Matsushiro Arr**	**19.06**	**340**	P		**Pn**	**12 38 52.7**	**+0.6**
	0.2nm,0.3s,baz=165,slow=9.9,SNR=3.4							
MAJO	**Matsushiro**	**19.06**	**340**	*eP*		**Pn**	**12 38 52.6**	**+0.6**
WRAB	**Tennant Creek**	**40.05**	**197**	*eP*		**P**	**12 42 03.8**	**+0.1**
	12nm,0.6s							
WB2	**Warramunga Arr**	**40.06**	**197**	*eP*		**P**	**12 42 03.5**	**-0.3**
WR1	**Warramunga Arr**	**40.06**	**197**	*eP*		**P**	**12 42 04.5**	**+0.7**
	15nm,0.6s							
WRA	**Warramunga Arr**	**40.06**	**197**	P		**P**	**12 42 04.5**	**+0.7**
	7.8nm,0.7s,baz=22,slow=9.1,SNR=145							
FITZ	**Fitzroy Crossi**	**41.68**	**210**	*eP*		**P**	**12 42 16.5**	**-0.7**
	9.1nm,1.5s							
AS01	**Alice Springs**	**43.71**	**196**	*eP*		**P**	**12 42 33.0**	**-0.6**
AS31	**Alice Springs**	**43.73**	**196**	*eP*		**P**	**12 42 33.8**	**+0.1**
	0.8nm,0.6s							
ASAR	**Alice Springs**	**43.73**	**196**	P		**P**	**12 42 33.9**	**+0.1**
	1.0nm,0.7s,baz=22,slow=8.2,SNR=19							
MYKOM	**Kota Tinggi**	**44.58**	**253**	*eP*		**P**	**12 42 40.1**	**-0.6**
	6.0nm,1.0s							
TLY	**Talaya**	**46.74**	**325**	*eP*		**P**	**12 42 58.5**	**+1.1**
	2.4nm,0.8s							
MBWA	**Marble Bar**	**47.23**	**214**	*eP*		**P**	**12 43 00.5**	**-1.0**
	22nm,1.3s							
PPLA	**Purkeypile**	**60.77**	**28**	*eP*		**P**	**12 44 39.6**	**-0.4**
	22nm,1.4s							
IM3	**Indian Mountai**	**61.10**	**24**	*eP*		**P**	**12 44 42.7**	**+0.7**
TRF	**Thorofare Moun**	**61.75**	**27**	*eP*		**P**	**12 44 46.5**	**-0.1**
GHO	**Glory Hole Cre**	**61.95**	**29**	*eP*		**P**	**12 44 47.7**	**-0.2**
	14nm,1.2s							
HDA	**Harding Lake**	**63.42**	**27**	*eP*		**P**	**12 44 56.9**	**-0.6**
	3.9nm,1.4s							
ILAR	**Eielson Array**	**63.52**	**26**	P		**P**	**12 44 57.4**	**-0.8**
	0.5nm,0.6s,baz=254,slow=5.2,SNR=8.6							
ILB	**Eielson Array**	**63.52**	**26**	*eP*		**P**	**12 44 57.4**	**-0.8**
IL1	**Eielson Array**	**63.52**	**26**	*eP*		**P**	**12 44 57.8**	**-0.4**
EGAK	**Eagle**	**65.94**	**27**	*eP*		**P**	**12 45 14.6**	**+0.6**
	4.9nm,1.3s							
YKA	**Yellowknife Ar**	**77.86**	**28**	P		**P**	**12 46 25.2**	**-0.3**
	0.4nm,0.5s,baz=286,slow=4.9,SNR=2.9							
NV01	**Mina Array Sit**	**82.91**	**52**	*eP*		**P**	**12 46 53.6**	**+0.2**
NVAR	**Mina Array Bea**	**82.91**	**52**	P		**P**	**12 46 54.1**	**+0.6**
	1.1nm,0.5s,baz=267,slow=5.5,SNR=12							
PDAR	**Pinedale Array**	**87.62**	**46**	P		**P**	**12 47 16.9**	**0.0**
	0.2nm,0.6s,baz=270,slow=2.7,SNR=2.5							

*ISK **15** 12:35:55.6, 40.87N×34.05E, h10km, ML2.2/6*
*ISCJB **15** 12:35:56.0±0.5, 40.86N±0.03×34.05E±0.04, h4km±6km, Error ellipse: s-maj=5.8km s-min=4.2km az=23.1*
*DDA **15** 12:35:56.1, 40.84N×34.04E, h7km, Ml2.6*
ISC 15 12:35:55.4±1.1, **40.90N**±0.03×**34.07E**±0.04, **h13**km±11km, **n12**, σ0**947**/21, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOS	**Tosya**	**0.14**	**347**	PG	**Pb**	**12 35 59.8**	**-0.3**
TOS				SG	**Sb**	**12 36 02.7**	**-0.5**
ILGA	**Ilgaz**	**0.31**	**301**	*i* P	**Pg**	**12 36 02.4**	**+0.5**
ILGA				*i* S	**Sg**	**12 36 06.0**	**-0.3**
CANT	**Cankiri**	**0.45**	**230**	PG	**Pg**	**12 36 04.2**	**-0.1**
CANT				SG	**Sg**	**12 36 10.5**	**+0.2**
CTAK	**Corum_Osmancik**	**0.60**	**114**	*i* P	**Pb**	**12 36 07.9**	**0.0**
CTAK				*i* S	**Sb**	**12 36 17.1**	**+0.7**
ELDT	**Eldivan**	**0.63**	**230**	*i* P	**Pg**	**12 36 07.6**	**-0.2**
ELDT				*i* S	**Sg**	**12 36 16.0**	**-0.2**
CORM	**Corum**	**0.83**	**149**	PG	**Pg**	**12 36 11.2**	**-0.4**
CORM				SG	**Sb**	**12 36 23.6**	**+0.6**
COAL	**Corum-Alaca**	**0.95**	**132**	*i* P	**Pb**	**12 36 13.4**	**-0.4**
COAL				*i* S	**Sn**	**12 36 28.0**	**0.0**
CMDR	**Camlidere-ANKA**	**1.27**	**252**	*i* P	**Pg**	**12 36 20.0**	**0.0**
CMDR				*i* S	**Sg**	**12 36 37.5**	**+1.0**
CDAG	**Cicekdag**	**1.29**	**169**	*i* P	**Pb**	**12 36 19.5**	**-0.2**
CDAG				*i* S	**Sn**	**12 36 36.6**	**+0.2**
LOD	**Lodumlu**	**1.41**	**225**	PN	**Pb**	**12 36 21.6**	**-0.1**
KAMT	**Kaman**	**1.55**	**190**	PN	**Pb**	**12 36 23.5**	**-0.5**
AFSR	**Afˇar-Bala (A**	**1.64**	**208**	PN	**Pb**	**12 36 24.8**	**-0.7**

MEX 15 12:48:28.6±0.6, **16.38N**×**98.39W**, **h10**km±3km, **MD3.6**, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.26**	**87**	*i* P	Pg	12 48 33.1	-0.7
PNIG				*i* S	Sg	12 48 37.4	0.0
TLIG	**Tlapa**	**1.19**	**352**	*e*P	Pb	12 48 47.3	-4.0
TLIG				*e*S	Sb	12 49 02.3	-4.5

*ISCJB **15** 12:52:16.7±0.6, 27.31N±0.09×100.36E±0.07, h10km, mb3.6/9, Error ellipse: s-maj=12.7km s-min=8.9km az=18.1*
*IDC **15** 12:52:17.7±0.8, 27.46N×100.52E, h0km, mb3.7/9, mb1 3.8/9, mb1mx3.6/42, mbtmp3.7/9, Error ellipse: s-maj=38.6km s-min=14.0km az=65.0*
*BJI **15** 12:52:20.9, 27.30N×100.31E, h11km, ML3.5/8*
ISC 15 12:52:19.5±0.7, **27.34N**±0.08×**100.27E**±0.09, **h10**km, **n24**, σ1**843**/24, **mb3.7/9**, **Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**3.13**	**134**	Pg	**Pb**	**12 53 15.5**	**0.0**
KMI				Sg	**Sb**	**12 53 55.3**	**+1.5**
KMI				smax	smax		
	comp=N,190nm,0.8s						
KMI				smax	smax		
	comp=E,170nm,0.9s						
PAYA	**Payao**	**7.96**	**183**	P	**Pg**	**12 54 54.1**	**+2.2**
	4.3nm,0.5s						
CHTO	**Chiang Mai**	**8.58**	**188**	P	**Pg**	**12 55 01.7**	**-2.1**
	86nm,0.7s						
CMMT	**Chiang Mai**	**8.58**	**188**	P	**Pg**	**12 55 01.6**	**-2.2**
	19nm,0.7s						
LAMP	**Lampang**	**8.80**	**184**	P	**Pg**	**12 55 07.0**	**-1.1**
CMAR	**Chiang Mai Arr**	**8.93**	**188**	Pg	Pg	12 55 04.5	-6.0
	1.1nm,0.3s,baz=359,slow=17,SNR=54						
CMAR				Lg	Lg	12 57 04.4	
	0.5nm,0.3s,baz=3.6,slow=30,SNR=4.0						
TAPN	**Taplejung**	**11.17**	**273**	*eP*	**Pn**	**12 55 02.4**	**+2.8**
	8.9nm,0.3s						
ODAN	**Odare**	**11.49**	**271**	*eP*	**Pn**	**12 55 05.0**	**+1.1**
	7.8nm,0.5s						
RAMN	**Ramite**	**12.18**	**271**	*eP*	**Pn**	**12 55 13.3**	**-0.1**
	17nm,0.6s						
JIRN	**Jiri**	**12.50**	**275**	*eP*	**Pn**	**12 55 18.8**	**+0.9**
	10nm,0.3s						
GUN	**Gumba**	**12.77**	**276**	*eP*	**Pn**	**12 55 22.3**	**+0.7**
	9.4nm,0.3s						
PKI	**Pulchoki**	**13.20**	**274**	*eP*	**Pn**	**12 55 27.5**	**+0.1**
	5.3nm,0.3s						
PKIN	**Phulchoki**	**13.21**	**274**	*eP*	**Pn**	**12 55 27.2**	**-0.3**
	5.3nm,0.3s						
KKN	**Kakani**	**13.31**	**275**	*eP*	**Pn**	**12 55 28.2**	**-0.6**
	8.8nm,0.6s						
WMQ	**Urumqi**	**19.32**	**332**	*eP*	**P**	**12 56 46.5**	**+1.6**
SONM	**Songino Array**	**21.01**	**12**	P	**P**	**12 57 01.2**	**-2.1**
	1.0nm,0.7s,baz=194,slow=12,SNR=5.8						
MKAR	**Makanchi Array**	**24.04**	**329**	P	**P**	**12 57 35.3**	**+0.6**
	0.5nm,0.7s,baz=132,slow=9.6,SNR=3.4						
AAK	**Ala-Archa**	**25.92**	**313**	P	**P**	**12 57 53.1**	**+1.1**
	0.8nm,0.4s,baz=120,slow=8.1,SNR=4.2						
KURBB	**Kurchatov Arra**	**28.54**	**330**	P	**P**	**12 58 13.3**	**-1.9**
	0.4nm,0.7s,baz=144,slow=8.4,SNR=5.3						
ZALV	**Zalesovo Beam**	**28.92**	**341**	P	**P**	**12 58 18.5**	**-0.1**
	0.4nm,0.3s,baz=134,slow=8.2,SNR=3.1						
BVAR	**Borovoye Array**	**33.90**	**327**	P	**P**	**12 59 01.8**	**-0.7**
	0.2nm,0.4s,baz=81,slow=8.9,SNR=2.6						
WRA	**Warramunga Arr**	**57.43**	**141**	P	**P**	**13 02 07.5**	**-1.2**
	1.2nm,0.5s,baz=330,slow=7.7,SNR=17						
ASAR	**Alice Springs**	**60.22**	**144**	P	**P**	**13 02 27.4**	**-0.7**
	1.0nm,0.6s,baz=326,slow=6.7,SNR=15						
STKA	**Stephens Creek**	**70.84**	**144**	P	**P**	**13 03 37.1**	**+0.6**
	1.1nm,0.7s,baz=353,slow=9.9,SNR=3.0						

IDC 15 13:15:19.5±6.4, **17.29S**×**173.40W**, **h0**km, **mb3.9**/4, **mb1 4.1**/4, **mb1mx3.7**/24, **mbtmp3.9**/4, **MS3.4**/1, **Ms1 3.4**/1, **ms1mx2.5**/37, **Error ellipse: s-maj=269.0km s-min=33.5km az=142.0**, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**27.06**	**283**	LR	LR	13 30 18.5	
	comp=Z,74nm,19.2s,baz=342,slow=33						
CTA	**Charters Tower**	**38.26**	**259**	P	P	13 22 40.6	-1.3
	4.6nm,1.0s,baz=88,slow=12,SNR=4.7						
WRA	**Warramunga Arr**	**49.44**	**258**	P	P	13 24 12.6	+0.8
	0.6nm,0.6s,baz=97,slow=7.5,SNR=30						
ASAR	**Alice Springs**	**49.55**	**253**	P	P	13 24 12.8	+0.1
	1.3nm,0.6s,baz=91,slow=8.2,SNR=29						
ILAR	**Eielson Array**	**84.29**	**11**	P	P	13 27 52.7	-0.1
	0.3nm,0.8s,baz=203,slow=6.7,SNR=3.8						

*ISCJB **15** 13:23:12.5±0.7, 18.25S±0.2×178.1W±0.1, h590km, mb4.1/5, Error ellipse: s-maj=30.0km s-min=9.9km az=148.6*
*IDC **15** 13:23:12.4±1.4, 18.12S×178.18W, h564km±24km, mb3.5/6, mb1 3.6/8, mb1mx3.2/31, mbtmp4.4/8, Error ellipse: s-maj=29.2km s-min=17.8km az=140.0*
ISC 15 13:23:13.3±0.9, **18.15S**±0.2×**178.1W**±0.2, **h590**km, **n8**, σ1**918**/11, **mb4.1/5**, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.37**	**56**	P	**P**	**13 25 05.9**	**-0.6**
	3.6nm,0.3s,baz=180,slow=4.0,SNR=7.8						
AFI				S	**S**	**13 26 38.6**	**-0.5**
	0.5nm,0.3s,baz=323,slow=23,SNR=2.1						
DZM	**Mont Dzumac**	**15.06**	**252**	P	**P**	**13 26 20.8**	**-1.7**
	0.8nm,0.3s,baz=83,slow=21,SNR=8.2						
URZ	**Urewera**	**20.49**	**191**	P	**P**	**13 27 11.3**	**-0.4**
	4.3nm,0.5s,baz=66,slow=1.5,SNR=8.6						
CTA	**Charters Tower**	**33.72**	**261**	P	**P**	**13 29 06.5**	**-0.8**
	4.0nm,0.8s,baz=93,slow=12,SNR=8.0						
STKA	**Stephens Creek**	**38.80**	**241**	P	**P**	**13 29 50.0**	**+1.2**
	3.9nm,0.5s,baz=97,slow=11,SNR=13						
WRA	**Warramunga Arr**	**44.90**	**260**	P	**P**	**13 30 36.1**	**-0.7**
	3.7nm,0.7s,baz=96,slow=7.0,SNR=104						
WRA				PcP	**PcP**	**13 32 06.5**	**+1.0**
	0.2nm,0.5s,baz=91,slow=3.4,SNR=2.7						
ASAR	**Alice Springs**	**45.03**	**254**	P	**P**	**13 30 38.0**	**+0.1**
	27nm,0.6s,baz=88,slow=8.2,SNR=639						
ASAR				PcP	**PcP**	**13 32 07.7**	**+1.8**
	0.4nm,0.5s,baz=109,slow=3.1,SNR=3.4						
ILAR	**Eielson Array**	**86.03**	**13**	P	**P**	**13 34 52.7**	**+0.9**
	0.5nm,1.0s,baz=222,slow=5.3,SNR=4.4						

*IDC **15** 13:26:15.8±2.3, 19.25S×176.76W, h276km±23km, mb3.4/8, mb1 3.6/10, mb1mx3.4/35, mbtmp4.1/10, Error ellipse: s-maj=32.1km s-min=13.0km az=145.0*
*ISCJB **15** 13:26:16.1±0.7, 19.36S±0.10×176.7W±0.1, h300km, mb3.5/8, Error ellipse: s-maj=17.7km s-min=10.4km az=36.4*
ISC 15 13:26:16.4±0.7, **19.35S**±0.1×**176.6W**±0.1, **h300**km, **n13**, σ3**914**/18, **mb3.5/8**, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.10**	**41**	P	**Pn**	**13 27 57.8**	**-1.3**
	6.8nm,0.3s,baz=177,slow=4.0,SNR=22						
AFI				S	**S**	**13 29 14.4**	**-7.8**
	1.9nm,0.3s,baz=246,slow=20,SNR=2.7						
DZM	**Mont Dzumac**	**16.11**	**257**	P	**Pn**	**13 29 46.8**	**-1.1**
	0.2nm,0.3s,baz=90,slow=20,SNR=2.4						
URZ	**Urewera**	**19.64**	**195**	P	**P**	**13 30 20.8**	**-2.5**
	0.6nm,0.3s,baz=87,slow=17,SNR=3.1						
URZ				S	**S**	**13 33 43.3**	**-4.6**
	0.4nm,0.3s,baz=345,slow=18,SNR=3.7						
RPZ	**Rata Peaks**	**26.43**	**200**	P	**P**	**13 31 28.0**	**+1.8**
	6.8nm,0.6s,baz=308,slow=19,SNR=3.2						
CTA	**Charters Tower**	**32.41**	**259**	P	**P**	**13 32 41.7**	**+0.9**
	2.2nm,0.8s,baz=86,slow=14,SNR=3.7						
STKA	**Stephens Creek**	**39.49**	**243**	P	**P**	**13 33 18.9**	**+0.3**
	1.8nm,0.7s,baz=86,slow=16,SNR=2.4						
ASAR	**Alice Springs**	**46.08**	**255**	P	**P**	**13 34 11.7**	**+0.3**
	1.9nm,0.6s,baz=92,slow=7.9,SNR=22						
ASAR				PcP	**PcP**	**13 35 42.2**	**-0.1**
	0.3nm,0.5s,baz=98,slow=4.8,SNR=3.4						
ASAR				S	**S**	**13 40 30.2**	**-3.8**
	0.5nm,0.7s,baz=93,slow=16,SNR=5.4						
WRA	**Warramunga Arr**	**46.09**	**261**	P	**P**	**13 34 11.5**	**+0.1**
	1.2nm,0.5s,baz=93,slow=5.9,SNR=33						
WRA				S	**S**	**13 40 30.8**	**-3.3**
	0.4nm,0.9s,baz=93,slow=13,SNR=2.7						
NVAR	**Mina Array Bea**	**79.27**	**43**	P	**P**	**13 37 52.3**	**+3.2**
	0.1nm,0.5s,baz=238,slow=8.5,SNR=4.7						
TXAR	**Lajitas Array**	**85.31**	**57**	P	**P**	**13 38 23.4**	**+3.0**
	0.6nm,0.9s,baz=220,slow=7.6,SNR=6.2						
ILAR	**Eielson Array**	**86.90**	**12**	P	**P**	**13 38 28.9**	**+1.8**
	0.4nm,0.5s,baz=218,slow=6.5,SNR=9.6						
ARCES	**ARCESS Array B**	**128.01**	**350**	PKP	**PKPdf**	**13 44 47.5**	**+1.5**
	0.5nm,0.4s,baz=336,slow=2.0,SNR=10						
GERES	**GERESS Array B**	**149.41**	**347**	PKPbc	**PKPbc**	**13 45 31.7**	**+1.6**
	1.2nm,0.7s,baz=336,slow=2.9,SNR=7.5						

IDC 15 13:33:10.9±9.1, **19.26S**×**177.43W**, **h442**km±289km, **mb3.0**/3, **mb1 3.2**/4, **mb1mx2.9**/29, **mbtmp3.9**/4, **Error ellipse: s-maj=266.4km s-min=79.6km az=108.0**, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.59**	**46**	P	P	13 35 03.2	+1.2
	1.0nm,0.3s,baz=138,slow=13,SNR=6.1						
AFI				S	S	13 36 32.2	-0.8
	1.1nm,0.3s,baz=270,slow=20,SNR=3.6						
STKA	**Stephens Creek**	**38.82**	**243**	P	P	13 39 55.6	-0.7
	0.8nm,0.5s,baz=84,slow=10,SNR=2.5						
WRA	**Warramunga Arr**	**45.32**	**261**	P	P	13 40 48.2	0.0
	0.6nm,0.5s,baz=96,slow=7.3,SNR=22						
ASAR	**Alice Springs**	**45.34**	**255**	P	P	13 40 48.4	+0.1
	1.5nm,0.6s,baz=88,slow=8.5,SNR=23						

*GCMT **15** 13:43:02.0±0.3, 31.00N±0.03×41.86W±0.02, h12km, MW4.9/93, Moment Tensor Solution. s22,c24; s93,c121; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.81±.07; Mθθ=0.45±.09; Mϕϕ=2.36±.06; Mrθ=1.01±.38; Mϕϕ=0.92±.06; Mϕr=0.81±.26; Best double couple: Mw=3.02 200×10^16 NP1:ϕs=2.00000°, δ52.00000°, λ=-116.00000°. NP2: ϕs=220.00000°, δ44.00000°, λ=-61.00000°. Principal axes: T 2.7560, Plg4.0000°, Azm110.0000°; N 0.5310, Plg20.0000°, Azm18.0000°; P -3.2890, Plg70.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
IDC 15 13:42:51.4±1.3, **30.43N**×**42.33W**, **h0**km, **mb3.8**/9, **mb1 3.9**/9, **mb1mx3.7**/35, **mbtmp3.8**/9, **MS4.0**/27, **Ms1 4.0**/27, **ms1mx4.0**/33 **Error ellipse: s-maj=43.9km s-min=23.0km az=11.0**, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**24.88**	**246**	LR	LR	13 56 49.0	
	comp=Z,154nm,19.5s,baz=71,slow=34						
MDP	**Montagnes des**	**27.01**	**203**	LR	LR	13 57 14.6	
	comp=Z,91nm,19.0s,baz=34,slow=32						
SCHQ	**Schefferville**	**30.03**	**331**	LR	LR	14 00 02.2	
	comp=Z,654nm,20.8s,baz=148,slow=34						
ESDC	**Sonseca Array**	**32.52**	**63**	LR	LR	13 59 18.6	
	comp=Z,181nm,21.9s,baz=275,slow=30						
ROSC	**El Rosal**	**39.45**	**236**	LR	LR	14 07 43.2	
	comp=Z,128nm,18.8s,baz=14,slow=38						
DBIC	**Dimbokro**	**42.35**	**116**	P	P	13 50 48.3	+0.8
	2.5nm,0.8s,baz=287,slow=7.4,SNR=5.1						
DBIC				LR	LR	14 05 39.8	
	comp=Z,511nm,21.2s,baz=291,slow=32						
KEST	**Kesra**	**43.21**	**69**	P	P	13 50 54.4	0.0
	4.7nm,1.0s,baz=275,slow=11,SNR=2.3						
KEST				LR	LR	14 05 39.7	
	comp=Z,160nm,19.7s,baz=260,slow=32						
TORD	**Torodi Ar. Bea**	**44.03**	**103**	P	P	13 50 59.8	-1.3
	0.8nm,0.9s,baz=320,slow=6.6,SNR=5.7						
TORD				LR	LR	14 07 25.9	
	comp=Z,256nm,19.4s,baz=300,slow=34						
ULM	**Lac du Bonnet**	**44.28**	**312**	LR	LR	14 09 45.8	
	comp=Z,180nm,18.3s,baz=104,slow=36						
GERES	**GERESS Array B**	**45.80**	**50**	P	P	13 51 14.8	-0.1
	0.4nm,0.3s,baz=265,slow=7.8,SNR=5.8						
GERES				LR	LR	14 06 21.8	
	comp=Z,99nm,20.4s,baz=252,slow=31						
NOA	**NORSAR Array B**	**46.36**	**33**	LR	LR	14 08 02.5	
	comp=Z,76nm,18.7s,baz=255,slow=33						
H10N2	**ASCENSION HYDR**	**46.49**	**140**	T	T	14 40 55.0	
	baz=327,slow=75,SNR=177						
H10N3	**ASCENSION HYDR**	**46.49**	**140**	T	T	14 40 55.4	
	baz=327,slow=75,SNR=163						
H10N1	**ASCENSION HYDR**	**46.51**	**140**	T	T	14 40 52.7	
	baz=327,slow=75,SNR=163						
H10S1	**ASCENSION HYDR**	**47.32**	**141**	T	T	14 41 58.8	
	baz=328,slow=75,SNR=231						
H10S3	**ASCENSION HYDR**	**47.33**	**141**	T	T	14 41 58.3	
	baz=328,slow=75,SNR=128						
H10S2	**ASCENSION HYDR**	**47.34**	**141**	T	T	14 41 58.3	
	baz=328,slow=75,SNR=138						
TXAR	**Lajitas Array**	**52.60**	**285**	P	P	13 52 07.4	+0.1
	0.2nm,0.7s,baz=80,slow=6.5,SNR=3.0						
TXAR				LR	LR	14 13 34.7	
	comp=Z,112nm,20.2s,baz=0.0,slow=35						
LPAZ	**La Paz**	**52.68**	**212**	LR	LR	14 13 37.3	
	comp=Z,133nm,19.8s,baz=16,slow=35						
FINES	**FINESS Array B**	**53.50**	**34**	LR	LR	14 12 52.8	
	comp=Z,94nm,18.4s,baz=246,slow=34						
PDAR	**Pinedale Array**	**54.05**	**303**	P	P	13 52 11.6	-6.3
	0.3nm,0.6s,baz=94,slow=7.3,SNR=3.4						
PDAR				LR	LR	14 14 28.6	
	comp=Z,764nm,19.0s,baz=120,slow=35						
AKASG	**Malin Array Be**	**55.75**	**47**	P	P	13 52 28.6	-1.2
	0.5nm,0.3s,baz=276,slow=6.3,SNR=4.0						
AKASG				LR	LR	14 14 18.3	
	comp=Z,168nm,18.0s,baz=260,slow=34						
CPUP	**Villa Florida**	**58.24**	**196**	LR	LR	14 15 45.6	
	comp=Z,65nm,21.3s,baz=24,slow=34						
BRTR	**Keskin Array B**	**61.16**	**59**	P	P	13 53 08.2	+0.2
	0.5nm,0.5s,baz=251,slow=6.2,SNR=3.0						
NVAR	**Mina Array Bea**	**61.55**	**300**	P	P	13 53 10.0	-0.8
	0.2nm,0.5s,baz=81,slow=5.8,SNR=2.8						
EIL	**Elat**	**65.56**	**69**	LR	LR	14 21 12.9	
	comp=Z,74nm,21.1s,baz=264,slow=35						
KBZ	**Khabaz**	**66.47**	**52**	LR	LR	14 20 50.9	
	comp=Z,46nm,20.0s,baz=286,slow=34						
ILAR	**Eielson Array**	**68.76**	**334**	LR	LR	14 24 20.5	
	comp=Z,342nm,19.0s,baz=98,slow=36						
PLCA	**Paso Flores**	**75.48**	**202**	LR	LR	14 27 06.9	
	comp=Z,46nm,20.4s,baz=35,slow=35						
TSUM	**Tsumeb**	**75.85**	**123**	LR	LR	14 21 15.0	
	comp=Z,107nm,20.7s,baz=327,slow=30						
KMBO	**Kilima Mbogo**	**81.58**	**96**	LR	LR	14 30 03.5	
	comp=Z,376nm,20.4s,baz=278,slow=35						
ZALV	**Zalesovo Beam**	**84.36**	**28**	P	P	13 55 27.3	+2.0
	1.2nm,0.8s,baz=297,slow=6.3,SNR=3.0						
ZALV				LR	LR	14 32 09.6	
	comp=Z,60nm,20.2s,baz=248,slow=35						
BOSA	**Boshof**	**87.17**	**126**	LR	LR	14 29 25.0	
	comp=Z,100nm,18.7s,baz=1.0,slow=32						
MKAR	**Makanchi Array**	**88.33**	**34**	LR	LR	14 34 46.3	
	comp=Z,120nm,19.1s,baz=330,slow=35						
PETK	**Petropavlovsk-**	**95.00**	**348**	LR	LR	14 37 01.9	
	comp=Z,78nm,18.9s,baz=52,slow=34						

*ISK **15** 13:57:03.8, 37.59N×36.39E, h8km, ML2.3/5*
*DDA **15** 13:57:03.4, 37.55N×36.34E, h4km, Md2.7*
ISC 15 13:57:04.1±0.9, **37.56N**±0.04×**36.35E**±0.04, **h7**km±6km, **n10**, σ0**974**/17, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.02**	**360**	*i* P	**Pg**	**13 57 05.7**	**+0.1**
ANDN				*i* S	**Sg**	**13 57 06.5**	**-0.2**
KOZT	**Kozan**	**0.42**	**259**	PG	**Pb**	**13 57 13.4**	**-0.4**
KOZT				SG	**Sb**	**13 57 20.4**	**0.0**
KMRS	**Kahramanmaras**	**0.45**	**97**	PG	**Pg**	**13 57 12.3**	**-0.4**
KMRS				SG	**Sg**	**13 57 18.6**	**+0.1**
SAIM	**ADANA**	**0.46**	**333**	*i* P	**Pg**	**13 57 13.3**	**+0.2**
SAIM				*i* S	**Sb**	**13 57 21.1**	**-0.6**
GAZ	**Gaziantep**	**0.79**	**119**	PG	**Pg**	**13 57 19.3**	**0.0**
KUZU	**Kuzuini**	**0.98**	**143**	*i* P	**Pg**	**13 57 23.0**	**+0.1**
KUZU				*i* S	**Sn**	**13 57 38.6**	**+0.2**
TAHT	**Tahtakopru-Hat**	**1.19**	**186**	PN	**Pn**	**13 57 27.7**	**+0.6**
DARE	**Darende-Malaty**	**1.35**	**41**	PN	**Pn**	**13 57 28.8**	**-0.6**
AKCD	**Akcadag**	**1.45**	**59**	*i* P	**Pg**	**13 57 32.1**	**+0.3**
AKCD				*i* S	**Sg**	**13 57 52.7**	**+2.2**
SURC	**SANLIURFA_SURC**	**1.93**	**110**	*i* P	**Pg**	**13 57 40.4**	**-0.8**
SURC				*i* S	**Sg**	**13 58 06.7**	**+0.5**

IDC 15 14:05:50.6±1.5, **3.60S**×**149.96E**, **h0**km, **mb3.8**/5, **mb1 4.0**/5, **mb1mx3.6**/39, **mbtmp3.8**/5, **MS3.6**/1, **Ms1 3.6**/1, **ms1mx2.6**/36, **Error ellipse: s-maj=85.8km s-min=27.0km az=124.0**, **Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.27**	**222**	P	P	14 10 47.9	-1.7
	1.0nm,0.8s,baz=45,slow=11,SNR=10.0						
ASAR	**Alice Springs**	**25.27**	**216**	P	P	14 11 18.9	+0.1
	0.5nm,0.6s,baz=45,slow=8.3,SNR=13						
**FITZ

ARCES	**ARCESS Array B**	**134.15 349**	PKP	**PKPdf**	**14 34 35.9**	**-0.3**
	1.8nm,0.9s,baz=50,slow=2.8,SNR=3.6					
HFS	**Hagfors**	**144.78 350**	PKP	PKPbc	14 34 55.3	+0.2
	1.3nm,0.5s,baz=11,slow=1.5,SNR=5.4					
AKASG	**Malin Array Be**	**147.70 327**	PKPbc	**PKPbc**	**14 35 03.2**	**-0.7**
	0.3nm,0.3s,baz=48,slow=4.3,SNR=2.3					

IDC 15 14:17:25.6±1.9, 5°47S×151°62E, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.7/42, mbtmp3.9/5, ML1.7/1, Error ellipse: s-maj=105.0km s-min=24.5km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.90**	**228**	Pn	Pn	14 18 55.5	+1.1
	1.3nm,0.3s,baz=53,slow=20,SNR=3.9						
PMG				Sn	Sn	14 20 02.7	-0.1
	1.2nm,0.3s,baz=225,slow=8.9,SNR=3.0						
WRA	**Warramunga Arr**	**22.12**	**228**	P	P	14 22 23.0	0.0
	3.4nm,0.9s,baz=54,slow=10,SNR=22						
ASAR	**Alice Springs**	**24.87**	**222**	P	P	14 22 50.2	+0.1
	1.5nm,0.8s,baz=60,slow=9.6,SNR=17						
FITZ	**Fitzroy Crossi**	**28.31**	**241**	P	P	14 23 20.8	-0.5
	1.9nm,0.6s,baz=56,slow=8.1,SNR=8.2						
ILAR	**Eielson Array**	**83.22**	**22**	P	P	14 29 53.9	+0.3
	0.4nm,0.7s,baz=251,slow=5.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**149.39**	**287**	PKPbc	PKPbc	14 37 17.0	-0.8
	0.7nm,0.8s,baz=86,slow=2.0,SNR=4.3						

IDC 15 14:28:24.8±1.8, 5°44S×151°44E, h0km, mb4.1/4, mb1 4.4/5, mb1mx3.8/41, mbtmp4.2/5, ML2.0/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/38, Error ellipse: s-maj=98.3km s-min=22.3km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.79**	**227**	Pn	Pn	14 29 53.2	+1.1
	2.7nm,0.3s,baz=53,slow=8.9,SNR=7.7						
PMG				Sn	Sn	14 30 59.4	+0.1
	4.8nm,0.3s,baz=101,slow=18,SNR=5.0						
HNR	**Honiara**	**9.32**	**116**	LR	LR	14 33 44.0	
	comp=Z,85nm,19.5s,baz=55,slow=34						
WRA	**Warramunga Arr**	**22.01**	**228**	P	P	14 33 20.9	-0.1
	4.5nm,0.9s,baz=53,slow=10,SNR=32						
ASAR	**Alice Springs**	**24.77**	**221**	P	P	14 33 48.0	-0.5
	2.1nm,0.7s,baz=55,slow=9.1,SNR=31						
FITZ	**Fitzroy Crossi**	**28.16**	**241**	P	P	14 34 19.6	+0.4
	7.0nm,0.8s,baz=54,slow=8.3,SNR=17						
FITZ				LR	LR	14 47 00.5	
	comp=Z,68nm,19.8s,baz=298,slow=40						
ILAR	**Eielson Array**	**83.26**	**22**	P	P	14 40 53.0	0.0
	1.0nm,0.8s,baz=251,slow=5.4,SNR=9.3						
TORD	**Torodi Ar. Bea**	**149.21**	**287**	PKPbc	PKPbc	14 48 16.0	-0.5
	1.8nm,0.9s,baz=79,slow=3.4,SNR=9.3						

*IDC **15** 14:28:43.2±0.9, 52°63N×132°66W, h0km, mb3.9/6, mb1 3.8/10, mb1mx3.6/67, mbtmp3.6/10, ML3.7/2, Error ellipse: s-maj=22.3km s-min=7.7km az=95.0*
*PGC **15** 14:28:45.6±0.0, 52°76N×132°17W, h25km, ML3.8/15, 60km southwest of Sandspit, Bc Haida Gwaii Region*
ISC 15 14:28:44.7±1.4, 52°69N±0°05×132°27W±0°05, h12km±8km, n50, σ1s51/57, mb4.0/6, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HG1B	**Mitchell Dam**	**0.26**	**19**	P	**Pb**	**14 28 50.8**	**-0.6**
HG1B				S	**Sg**	**14 28 53.7**	**0.0**
BNB	**Barry Inlet**	**0.34**	**110**	P	**Pb**	**14 28 52.6**	**-0.1**
MOBC	**Moresby Island**	**0.49**	**22**	P	**Pg**	**14 28 54.4**	**0.0**
MOBC				S	**Sg**	**14 28 59.6**	**-1.3**
HG3B	**Hotspring**	**0.52**	**102**	P	**Pb**	**14 28 55.3**	**-0.5**
HG3B				S	**Sb**	**14 29 01.8**	**-1.4**
DIB	**Dawson Inlet,**	**0.53**	**346**	P	**Pg**	**14 28 55.0**	**-0.1**
DIB				S	**Sg**	**14 29 01.8**	**-0.3**
H02S1	**DAWSON INLET T**	**0.53**	**346**	Pg	**Pb**	**14 28 55.1**	**-0.8**
H02S1				Lg	Lg	14 29 01.8	
H02N1	**VAN INLET T-PH**	**0.59**	**344**	Pg	**Pb**	**14 28 56.3**	**-0.8**
H02N1				Lg	Lg	14 29 03.8	
VIB	**Van Inlet**	**0.59**	**344**	P	**Pg**	**14 28 56.1**	**-0.1**
VIB				S	**Sg**	**14 29 03.6**	**-0.3**
HG4B	**Hotspring**	**0.77**	**121**	P	**Pb**	**14 28 59.5**	**-0.5**
HG4B				S	**Sb**	**14 29 09.6**	**-0.8**
RUBB	**Prince Rupert**	**2.04**	**36**	Pn	**Pn**	**14 29 17.0**	**-1.8**
RUBB				Sg	**Sb**	**14 29 46.2**	**-0.6**
BBB	**Bella Bella**	**2.59**	**100**	Pn	**Pn**	**14 29 25.1**	**-1.4**
BBB				Sn	**Sn**	**14 29 54.5**	**-3.4**
BBB				Sg	**Sb**	**14 30 03.8**	**+0.8**
PHC	**Port Hardy**	**3.61**	**121**	Pn	**Pn**	**14 29 38.8**	**-1.6**
PHC				Sn	**Sn**	**14 30 18.7**	**-4.2**
PACB	**Port Alice, BC**	**3.74**	**125**	Pn	**Pn**	**14 29 41.4**	**-0.8**
PACB				Sn	**Sn**	**14 30 23.4**	**-2.7**
TLCB	**Telegraph Cove**	**4.01**	**120**	Pn	**Pn**	**14 29 45.0**	**-1.0**
TLCB				Sn	**Sn**	**14 30 29.7**	**-3.1**
EDB	**Eliza Dome**	**4.29**	**129**	Pn	**Pn**	**14 29 49.2**	**-0.6**
WOSB	**Woss**	**4.37**	**123**	Pn	**Pn**	**14 29 50.4**	**-0.7**
NCRB	**Newcastle Ridg**	**4.50**	**118**	Pn	**Pn**	**14 29 52.2**	**-0.7**
GDR	**Gold River**	**4.88**	**124**	Pn	**Pn**	**14 29 58.0**	**0.0**
UBRB	**Upper Baezaeko**	**4.97**	**84**	Pn	**Pn**	**14 30 00.1**	**+0.8**
UBRB				Sg	**Sb**	**14 31 16.5**	**+5.0**
SPLB	**Strathcona Par**	**5.01**	**121**	Pn	**Pn**	**14 29 59.9**	**+0.2**
FSB	**Fort Saint Jam**	**5.06**	**66**	Pn	**Pn**	**14 29 59.7**	**-0.8**
CBB	**Campbell River**	**5.08**	**119**	Pn	**Pn**	**14 30 00.9**	**+0.3**
BTB	**Buttle Lake**	**5.34**	**124**	Pn	**Pn**	**14 30 05.2**	**+0.8**
B012	**Ucluelet**	**5.69**	**129**	Pn	**Pn**	**14 30 10.2**	**+1.2**
TXB	**Texada**	**5.76**	**118**	Pn	**Pn**	**14 30 10.1**	**0.0**
DLBC	**Dease Lake**	**5.90**	**12**	Pn	**Pn**	**14 30 14.3**	**+2.4**
MGB	**Mount Grey**	**6.05**	**125**	Pn	**Pn**	**14 30 16.7**	**+2.5**
SHB	**Sechelt**	**6.12**	**117**	Pn	**Pn**	**14 30 15.2**	**+0.1**
BMBC	**Bull Mountain**	**6.81**	**56**	Pn	**Pn**	**14 30 25.3**	**+0.8**
FNBB	**Fort Nelson**	**8.11**	**36**	Pn	**Pn**	**14 30 42.5**	**+0.3**
WHY	**Whitehorse**	**8.12**	**351**	Pn	**Pn**	**14 30 42.8**	**+0.4**
SLEB	**Sale Mountain**	**8.87**	**94**	Pn	**Pn**	**14 30 53.2**	**+0.3**
YUK5	**Granite Creek**	**8.99**	**342**	Pn	**Pn**	**14 30 52.9**	**-1.6**
YKA	**Yellowknife Ar**	**13.59**	**37**	Pn	**Pn**	**14 31 56.5**	**-0.6**
	0.2nm,0.3s,baz=228,slow=12,SNR=9.4						
YKA				Lg	Lg	14 35 52.6	
	0.1nm,0.3s,baz=228,slow=27,SNR=3.3						
ILAR	**Eielson Array**	**14.24**	**334**	Pn	**Pn**	**14 32 06.3**	**+0.3**
	0.0nm,0.3s,baz=148,slow=9.8,SNR=2.7						
ILAR				Lg	Lg	14 36 25.6	
	0.0nm,0.3s,baz=121,slow=24,SNR=4.2						
NVAR	**Mina Array Bea**	**17.25**	**140**	P	**P**	**14 32 47.4**	**+0.3**
	baz=309,slow=11,SNR=2.0						
PDAR	**Pinedale Array**	**18.15**	**114**	P	**P**	**14 32 59.9**	**+2.9**
	0.1nm,0.3s,baz=309,slow=5.7,SNR=4.2						
TXAR	**Lajitas Array**	**31.42**	**127**	P	**P**	**14 35 07.9**	**+2.0**
	0.4nm,0.7s,baz=334,slow=8.5,SNR=5.2						
TIXI	**Tiksi**	**49.71**	**333**	P	**P**	**14 36 49.2**	**+0.1**
	1.3nm,0.3s,baz=53,slow=2.9,SNR=2.1						
H11N2	**WAKE ISLAND Hy**	**56.93**	**259**	T	T	15 40 20.1	
	baz=39,slow=76,SNR=745						
H11N3	**WAKE ISLAND Hy**	**56.93**	**259**	T	T	15 40 19.0	
	baz=39,slow=76,SNR=646						
H11N1	**WAKE ISLAND Hy**	**56.94**	**259**	T	T	15 40 24.1	
	baz=39,slow=76,SNR=563						
H11S1	**WAKE ISLAND Hy**	**57.99**	**258**	T	T	15 41 38.8	
	baz=39,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy**	**58.00**	**258**	T	T	15 41 42.4	
	baz=39,slow=76,SNR=23						
H11S3	**WAKE ISLAND Hy**	**58.01**	**258**	T	T	15 41 41.2	
	baz=39,slow=76,SNR=22						
ZALV	**Zalesovo Beam**	**69.33**	**338**	P	**P**	**14 39 51.5**	**-0.2**
	1.4nm,0.7s,baz=19,slow=4.4,SNR=5.7						
KURBB	**Kurchatov Arra**	**73.83**	**340**	P	**P**	**14 40 18.5**	**-0.3**
	1.6nm,0.7s,baz=20,slow=5.9,SNR=7.0						
AKASG	**Malin Array Be**	**75.80**	**12**	P	**P**	**14 40 30.6**	**+0.4**
	0.3nm,0.3s,baz=352,slow=5.6,SNR=2.6						
MKAR	**Makanchi Array**	**76.58**	**336**	P	**P**	**14 40 35.1**	**+0.3**
	0.8nm,0.7s,baz=27,slow=6.8,SNR=4.5						
SNAA	**Sanae**	**151.04**	**150**	PKPbc	**PKPbc**	**14 48 35.8**	**-0.3**
	2.0nm,1.2s,baz=340,slow=1.6,SNR=4.1						

*IDC **15** 14:34:42.2±2.5, 13°99N×92°52W, h0km, mb3.6/2, mb1 3.6/5, mb1mx3.4/41, mbtmp3.2/5, ML3.0/3, Error ellipse: s-maj=53.9km s-min=24.2km az=30.0*
ISC 15 14:34:47.4±2.3, 13°9N±0°2×92°57W±0°09, h46km, n6, σ1s75/8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**2.30**	**62**	Pn	**Pn**	**14 35 21.2**	**-1.8**
	2.6nm,0.3s,baz=250,slow=8.6,SNR=33						
APG				Sn	**Sn**	**14 35 51.9**	**+1.7**
	5.5nm,0.3s,baz=306,slow=16,SNR=6.1						
CMIG	**Matias Romero**	**3.85**	**325**	Pn	**Pn**	**14 35 43.0**	**-1.1**
	0.5nm,0.3s,baz=149,slow=12,SNR=3.8						
CMIG				Sn	**Sn**	**14 36 28.6**	**+0.5**
	1.0nm,0.3s,baz=103,slow=7.0,SNR=3.9						
CMIG				Lg	Lg	14 36 44.5	
	1.9nm,0.3s,baz=292,slow=21,SNR=3.1						
TXAR	**Lajitas Array**	**18.45**	**328**	P	**P**	**14 38 57.4**	**-2.0**
	0.0nm,0.3s,baz=137,slow=12,SNR=2.8						
NVAR	**Mina Array Bea**	**33.37**	**322**	P	**P**	**14 41 23.6**	**+1.9**
	0.3nm,0.6s,baz=128,slow=8.2,SNR=2.7						
YKA	**Yellowknife Ar**	**50.96**	**347**	P	**P**	**14 43 44.4**	**+0.4**
	0.9nm,0.6s,baz=149,slow=7.2,SNR=5.4						
CMAR	**Chiang Mai Arr**	**145.87**	**340**	PKPbc	**PKPab**	**14 54 23.3**	**+0.2**
	0.2nm,0.4s,baz=338,slow=3.9,SNR=5.7						

MEX 15 14:37:51.6±0.3, 18°27N×100°56W, h57km±3km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.20**	**88**	*e*P	Pn	14 37 59.3	-1.4
ARIG				*e*S	Sn	14 38 05.5	-1.8
MEIG	**Mezcala**	**0.95**	**111**	*e*P	Pn	14 38 07.6	-1.4
MEIG				*i* S	Sn	14 38 20.0	-1.9
PLIG	**Platanillo**	**1.01**	**83**	*e*P	Pn	14 38 08.4	-1.3
PLIG				*i* S	Sn	14 38 21.2	-1.9

*IDC **15** 14:42:49.5±3.3, 14°25N×92°49W, h0km, mb3.4/2, mb1 3.7/5, mb1mx3.5/39, mbtmp3.3/5, ML2.7/3, Error ellipse: s-maj=66.3km s-min=23.3km az=11.0*
ISC 15 14:42:55.1±2.4, 14°2N±0°3×92°51W±0°09, h46km, n7, σ1s48/8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**2.12**	**69**	Pn	**Pn**	**14 43 26.6**	**-1.7**
	11nm,0.3s,baz=246,slow=9.5,SNR=91						
APG				Sn	**Sn**	**14 43 54.8**	**+1.2**
	35nm,0.3s,baz=315,slow=19,SNR=12						
CMIG	**Matias Romero**	**3.64**	**321**	Pn	**Pn**	**14 43 47.2**	**-1.7**
	1.5nm,0.3s,baz=138,slow=12,SNR=16						
CMIG				Sn	**Sn**	**14 44 30.9**	**+0.3**
	5.2nm,0.3s,baz=85,slow=18,SNR=3.8						
JTS	**JuntasAbangare**	**8.37**	**117**	Lg	Lg	14 47 02.8	
	0.5nm,0.3s,baz=316,slow=22,SNR=6.2						
TXAR	**Lajitas Array**	**18.22**	**327**	P	**Pn**	**14 47 05.4**	**+0.6**
	0.0nm,0.3s,baz=149,slow=13,SNR=3.4						
NVAR	**Mina Array Bea**	**33.17**	**321**	P	**P**	**14 49 29.3**	**+1.7**
	0.3nm,0.6s,baz=130,slow=8.4,SNR=2.6						
YKA	**Yellowknife Ar**	**50.68**	**347**	P	**P**	**14 51 49.2**	**-0.5**
	0.4nm,0.5s,baz=150,slow=7.4,SNR=4.2						
CMAR	**Chiang Mai Arr**	**145.60**	**341**	PKPbc	**PKPab**	**15 02 29.7**	**-0.1**
	0.2nm,0.3s,baz=19,slow=3.2,SNR=2.7						

IDC 15 14:51:12.5±3.6, 3°58S×149°75E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/35, mbtmp3.8/3, Error ellipse: s-maj=119.5km s-min=46.5km az=113.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.14**	**222**	P	P	14 56 09.2	-0.9
	1.1nm,0.7s,baz=45,slow=10,SNR=13						
ASAR	**Alice Springs**	**25.16**	**216**	P	P	14 56 39.1	-0.6
	1.1nm,0.8s,baz=44,slow=8.4,SNR=11						
FITZ	**Fitzroy Crossi**	**27.67**	**237**	P	P	14 57 03.9	+1.5
	2.9nm,0.8s,baz=73,slow=6.9,SNR=5.9						
TORD	**Torodi Ar. Bea**	**147.03**	**289**	PKPbc	PKPbc	15 10 57.6	-0.9
	0.3nm,0.7s,baz=76,slow=3.9,SNR=2.4						

*NIED **15** 14:54:00, 36°90N×141°40E, h8km, Mw3.7 Best double couple: M₀4.35000×10¹⁴ NP1:φ₉28.00000°, δ44.00000°, λ-81.00000°. NP2:φ₉195.00000°, δ47.00000°, λ-99.00000°.*
*IDC **15** 14:54:32.2±0.7, 36°84N×141°36E, h0km, mb4.0/15, mb1 4.1/19, mb1mx3.9/53, mbtmp3.9/19, ML3.5/4, Error ellipse: s-maj=19.3km s-min=16.2km az=104.0*
*ISCJB **15** 14:54:33.8±1.0, 36°84N±0°03×141°39E±0°06, h23km±6km, mb3.9/15, Error ellipse: s-maj=8.6km s-min=4.9km az=11.8*
*JMA **15** 14:54:34.5±0.1, 36°87N×141°37E, h35km±1km, M4.1*
JMA Felt I J1.
ISC 15 14:54:33.4±3.3, 36°85N±0°03×141°32E±0°06, h5km±21km, n36, σ1s11/43, mb3.9/15, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.49**	**302**	P	**Pb**	**14 54 44.9**	**+0.5**
ONAJ				S	**Sb**	**14 54 52.2**	**+0.3**
JFK	**Kawauchi**	**0.63**	**326**	P	**Pb**	**14 54 46.7**	**-0.1**
JFK				S	**Sb**	**14 54 55.2**	**-0.7**
JHO	**Hitachi**	**0.65**	**249**	P	**Pb**	**14 54 47.6**	**+0.5**
JHO				S	**Sb**	**14 54 57.3**	**+0.9**
JFFD	**Fukushimafurud**	**0.65**	**292**	P	**Pb**	**14 54 47.4**	**+0.2**
JFFD				S	**Sb**	**14 54 56.5**	**-0.1**
JHYU	**Hitachinakayam**	**0.78**	**230**	P	**Pb**	**14 54 49.5**	**+0.2**
JHYU				S	**Sb**	**14 55 00.2**	**+0.1**
JFT	**Otama**	**1.03**	**311**	P	**Pb**	**14 54 53.9**	**+0.2**
JFT				S	**Sb**	**14 55 07.4**	**-0.1**
JYT	**Yasato**	**1.10**	**236**	P	**Pn**	**14 54 54.2**	**-1.1**
JYT				eS	**Sb**	**14 55 08.3**	**-1.0**
JMM	**Marumori**	**1.10**	**338**	P	**Pn**	**14 54 53.7**	**-1.7**
JMM				S	**Sb**	**14 55 07.8**	**-1.6**
JFY	**Yanaizu**	**1.41**	**294**	P	**Pn**	**14 54 59.8**	**+0.2**
JFY				S	**Sn**	**14 55 18.4**	**-0.1**
MJAR	**Matsushiro Arr**	**2.52**	**264**	Pn	**Pn**	**14 55 15.8**	**+0.9**
	5.4nm,0.3s,baz=88,slow=15,SNR=39						
MJAR				Sn	**Sb**	**14 55 51.7**	**+1.5**
	12nm,0.3s,baz=74,slow=17,SNR=6.7						
MAT	**Matsushiro**	**2.52**	**264**	P	**Pn**	**14 55 16.1**	**+1.2**
MAT				S	**Sn**	**14 55 44.7**	**-1.3**
JHJ	**Hachijo jima 2**	**3.93**	**199**	Pn	**Pn**	**14 55 33.5**	**-0.8**
	8.6nm,0.3s,baz=56,slow=17,SNR=2.2						
JHJ				Sn	**Sn**	**14 56 20.2**	**-0.5**
	22nm,0.3s,baz=264,slow=21,SNR=1.2						
ASAJ	**Asahikawa**	**7.33**	**7**	Pn	**Pn**	**14 56 19.9**	**-1.1**
	1.7nm,0.3s,baz=207,slow=6.8,SNR=18						
ASAJ				Sn	**Sn**	**14 57 49.6**	**+5.2**
	0.4nm,0.3s,baz=62,slow=21,SNR=1.1						
KSRS	**Korea Array**	**10.71**	**277**	Pn	**Pn**	**14 57 08.5**	**+1.2**
	0.1nm,0.3s,baz=88,slow=13,SNR=2.5						
SEY	**Seymchan**	**26.99**	**11**	P	**P**	**15 00 15.9**	**+0.2**
	4.0nm,0.9s,baz=135,slow=5.7,SNR=3.5						
SONM	**Songino Array**	**27.83**	**304**	P	**P**	**15 00 23.1**	**-0.4**
	1.0nm,0.5s,baz=116,slow=9.7,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**28.12**	**120**	T	T	15 29 48.9	
	baz=313,slow=75,SNR=188						
H11N1	**WAKE ISLAND Hy**	**28.13**	**120**	T	T	15 29 49.5	
	baz=313,slow=75,SNR=160						
H11N3	**WAKE ISLAND Hy**	**28.14**	**120**	T	T	15 29 50.2	
	baz=313,slow=75,SNR=179						
H11S1	**WAKE ISLAND Hy**	**28.82**	**122**	T	T	15 31 07.9	
	baz=314,slow=74						
H11S3	**WAKE ISLAND Hy**	**28.82**	**123**	T	T	15 30 42.6	
	baz=314						
H11S2	**WAKE ISLAND Hy**	**28.84**	**122**	T	T	15 30 46.2	
	baz=314,slow=74						
ZALV	**Zalesovo Beam**	**41.98**	**313**	P	**P**	**15 02 25.1**	**+0.1**
	1.4nm,0.6s,baz=93,slow=5.9,SNR=7.2						
MKAR	**Makanchi Array**	**44.15**	**302**	P	**P**	**15 02 42.4**	**-0.4**
	1.4nm,0.7s,baz=90,slow=10,SNR=7.5						
ILAR	**Eielson Array**	**49.69**	**32**	P	**P**	**15 03 25.7**	**-0.1**
	1.3nm,0.7s,baz=268,slow=6.0,SNR=16						
WRA	**Warramunga Arr**	**56.87**	**188**	P	**P**	**15 04 18.8**	**-0.2**
	0.9nm,0.6s,baz=6.5,slow=7.5,SNR=12						
ASAR	**Alice Springs**	**60.59**	**188**	P	**P**	**15 04 44.4**	**-0.5**
	0.7nm,0.8s,baz=17,slow=13,SNR=4.3						
ARCES	**ARCESS Array B**	**64.14**	**339**	P	**P**	**15 05 08.0**	**-0.2**
	0.7nm,0.5s,baz=54,slow=6.2,SNR=7.1						
FINES	**FINESS Array B**	**68.94**	**332**	P	**P**	**15 05 38.9**	**-0.1**
	3.3nm,0.7s,baz=45,slow=3.0,SNR=4.8						
HFS	**Hagfors**	**74.23**	**336**	P	**P**	**15 06 11.2**	**+0.3**
	0.7nm,0.5s,baz=347,slow=5.9,SNR=4.3						
NOA	**NORSAR Array B**	**74.33**	**337**	P	**P**	**15 06 11.3**	**-0.2**
	0.6nm,0.6s,baz=46,slow=7.0,SNR=2.5						
AKASG	**Malin Array Be**	**74.40**	**322**	P	**P**	**15 06 11.4**	**-0.6**
	0.9nm,0.3s,baz=46,slow=5.9,SNR=5.0						
NVAR	**Mina Array Bea**	**75.16**	**53**	P	**P**	**15 06 17.1**	**+0.1**
	0.5nm,0.7s,baz=291,slow=7.5,SNR=3.1						
GERES	**GERESS Array B**	**82.83**	**328**	P	**P**	**15 06 58.2**	**-0.4**
	0.1nm,0.3s,baz=15,slow=6.9,SNR=3.8						
TXAR	**Lajitas Array**	**90.30**	**52**	P	**P**	**15 07 35.3**	**-0.3**
	0.2nm,0.5s,baz=328,slow=3.2,SNR=3.6						
LPAZ	**La Paz**	**146.85**	**60**	PKPbc	**PKPdf**	**15 14 16.4**	**+0.4**
	0.7nm,0.6s,baz=334,slow=8.7,SNR=2.3						

MEX 15 14:55:56.6±0.3, 18°20N×100°60W, h52km±3km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.26**	**73**	*e*P	Pn	14 56 04.1	-1.5
ARIG				*i* S	Sn	14 56 10.2	-1.8
MEIG	**Mezcala**	**0.97**	**106**	*e*P	Pn	14 56 12.6	-1.5
MEIG				*e*S	Sn	14 56 25.0	-2.0
PLIG	**Platanillo**	**1.06**	**80**	*i* P	Pn	14 56 13.8	-1.5
PLIG				*i* S	Sn	14 56 27.0	-2.2

IDC 15 14:57:33.2±1.5, 3°72S×150°08E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.7/39, mbtmp4.0/5, MS3.2/3, Ms1 3.2/3, ms1mx2.8/34, Error ellipse: s-maj=69.4km s-min=25.2km az=121.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.26**	**222**	P	P	15 02 30.6	-1.5
	1.7nm,0.7s,baz=46,slow=9.9,SNR=18						
DZM	**Mont Dzumac**	**24.18**	**140**	LR	LR	15 11 52.4	
	comp=Z,131nm,18.4s,baz=18,slow=36						
ASAR	**Alice Springs**	**25.25**	**217**	P	P	15 03 01.3	+0.1
	2.3nm,0.7s,baz=49,slow=8.0,SNR=20						
DAV	**Davao City (W)**	**26.70**	**294**	LR	LR	15 12 33.5	
	comp=Z,37nm,19.2s,baz=75,slow=34						
FITZ	**Fitzroy Crossi**	**27.87**	**237**	P	P	15 03 26.3	+1.4
	6.7nm,0.9s,baz=65,slow=8.6,SNR=9.6						
STKA	**Stephens Creek**	**29.12**	**195**	P	P	15 03 35.9	-0.1
	2.2nm,0.8s,baz=25,slow=15,SNR=3.3						
KSRS	**Korea Array**	**45.85**	**335**	LR	LR	15 23 17.5	
	comp=Z,15nm,21.3s,baz=120,slow=34						
ILAR	**Eielson Array**	**82.20**	**23**	P	P	15 09 56.1	+0.1
	0.9nm,0.8s,baz=246,slow=6.0,SNR=6.2						
TORD	**Torodi Ar. Bea**	**147.39**	**289**	PKPbc	PKPdf	15 17 18.8	+1.0
	0.7nm,0.9s,baz=76,slow=6.1,SNR=3.7						

IDC 15 15:01:54.7±3.6, 3°78S×149°99E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/43, mbtmp3.9/3, MS3.4/3, Ms1 3.4/3, ms1mx2.8/39, Error ellipse: s-maj=118.0km s-min=46.8km az=114.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**17.99**	**344**	LR	LR	15 11 57.9	
	comp=Z,62nm,21.3s,baz=164,slow=34						
WRA	**Warramunga Arr**	**22.16**	**222**	P	P	15 06 51.8	-0.7
	2.0nm,0.8s,baz=46,slow=10,SNR=13						
ASAR	**Alice Springs**	**25.14**	**217**	P	P	15 07 21.2	-0.6
	1.3nm,0.7s,baz=47,slow=8.2,SNR=12						
FITZ	**Fitzroy Crossi**	**27.76**	**237**	P	P	15 07 46.6	+1.1
	3.7nm,0.7s,baz=69,slow=8.2,SNR=9.2						
INK	**Inuvik**	**88.52**	**21**	LR	LR	15 50 22.8	
	comp=Z,24nm,19.7s,baz=256,slow=33						
YBH	**Yreka Blue Hor**	**90.47**	**48**	LR	LR	15 52 13.7	
	comp=Z,30nm,18.3s,baz=346,slow=33						
TORD	**Torodi Ar. Bea**	**147.33**	**288**	PKPbc	PKPbc	15 21 40.7	-0.8
	0.4nm,0.9s,baz=64,slow=3.4,SNR=3.0						

*ISK **15** 15:03:54.4, 39°89N×39°78E, h4km, ML3.4/11*
*ISCJB **15** 15:03:55.2±0.5, 39°90N±0°02×39°75E±0°03, h1km±5km, Error ellipse: s-maj=3.9km s-min=3.1km az=44.0*
*DDA **15** 15:03:55.4, 39°92N×39°74E, h18km, Ml3.5*
ISC 15 15:03:55.0±0.9, 39°90N±0°02×39°75E±0°02, h12km±8km, n30, σ1s00/45, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EUZM	**Uzumlu**	**0.20**	**192**	*i* P	**Pg**	**15 03 59.5**	**+0.1**
EUZM		

1.2nm,0.3s,baz=348,slow=18,SNR=3.9
TXAR Lajitas Array 18.45 329 P **P** **15 14 11.4 -0.2**
baz=156,slow=14,SNR=3.0
NVAR Mina Array Bea 33.35 322 P **P** **15 16 34.9 +1.2**
0.2nm,0.5s,baz=134,slow=7.6,SNR=2.3
YKA Yellowknife Ar 51.03 347 P **P** **15 18 57.3 +0.4**
1.0nm,0.5s,baz=152,slow=7.3,SNR=10.0
CMAR Chiang Mai Arr 145.91 340 PKPbc **PKPab** **15 29 36.5 +1.0**
0.5nm,0.3s,baz=338,slow=3.7,SNR=5.0

*ISK **15** 15:11:22.8, 40°.68N × 41°.37E, h6km, ML2.4/4*
*ISCJB **15** 15:11:24.0±0.6, 40°.72N±0°.03 × 41°.30E±0°.04, h0km, Error ellipse: s-maj=4.9km s-min=4.2km az=136.4*
*DDA **15** 15:11:25.0, 40°.74N × 41°.38E, h7km, Ml2.7, Suspected Mining explosion.*
ISC 15 15:11:21.8±1.0, 40°.65N±0°.06 × 41°.31E±0°.04, h0km, n11, σ0.73/19, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDEM	**Demirkent**	**0.41**	**55**	*i* P	**Pb**	**15 11 31.5**	**-0.6**
DDEM				*i* S	**Sb**	**15 11 39.3**	**+0.3**
DBAD	**Bademkaya**	**0.47**	**39**	*i* P	**Pb**	**15 11 32.6**	**-0.5**
DBAD				*i* S	**Sb**	**15 11 38.8**	**-1.7**
CHOM	**Cayeli-Rize**	**0.61**	**317**	PG	**Pb**	**15 11 35.3**	**0.0**
CHOM				SG	**Sb**	**15 11 44.4**	**-0.1**
DAGI	**Agillar**	**0.62**	**47**	*i* P	**Pb**	**15 11 35.7**	**0.0**
DAGI				*i* S	**Sg**	**15 11 42.4**	**+0.4**
ARTV	**Artvin**	**0.71**	**41**	*i* P	**Pg**	**15 11 35.6**	**+0.2**
ARTV				*i* S	**Sg**	**15 11 45.8**	**+1.1**
DBOC	**Borcka**	**0.74**	**21**	*i* P	**Pb**	**15 11 37.9**	**+0.2**
DBOC				*i* S	**Sg**	**15 11 46.9**	**+1.2**
HOMI	**Horasan**	**0.76**	**143**	*i* P	**Pn**	**15 11 40.1**	**+0.1**
HOMI				*i* S	**Sn**	**15 11 52.5**	**+0.2**
BCA	**Borcka**	**0.83**	**17**	PG	**Pb**	**15 11 38.4**	**-0.7**
BCA				SG	**Sb**	**15 11 49.7**	**-1.1**
BAYT	**Ayd¯–ntepe-Bay**	**0.93**	**254**	PG	**Pn**	**15 11 42.1**	**-0.2**
BATM	**Batumi**	**0.99**	**17**	P	**Pb**	**15 11 41.8**	**-0.1**
ESPY	**Espiye-Giresun**	**1.98**	**278**	PN	**Pb**	**15 11 58.4**	**-0.3**

IDC 15 15:15:56.0±2.4, 8°.15S × 117°.63E, h0km, mb3.4/2, mb1 3.4/4, mb1mx3.2/50, mbtmp3.2/4, ML2.8/2, Error ellipse: s-maj=166.9km s-min=26.8km az=52.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.59**	**143**	Pn	Pn	15 18 57.4	+0.9
	0.0nm,0.3s,baz=318,slow=14,SNR=1.3						
FITZ				Sn	Sn	15 21 12.1	-5.5
	0.1nm,0.3s,baz=275,slow=13,SNR=1.9						
WRA	**Warramunga Arr**	**19.98**	**128**	P	P	15 20 29.4	-0.8
	0.0nm,0.3s,baz=300,slow=12,SNR=4.4						
ASAR	**Alice Springs**	**21.94**	**137**	P	P	15 20 51.7	+0.3
	0.4nm,0.4s,baz=315,slow=9.2,SNR=18						
MKAR	**Makanchi Array**	**63.09**	**334**	P	P	15 26 25.3	0.0
	0.5nm,0.6s,baz=145,slow=7.8,SNR=1.7						

MEX 15 15:19:13.7±0.5, 14°.45N × 91°.52W, h109km±6km, MD3.9, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.85**	**302**	*e*P	Pn	15 19 32.6	-0.8
THIG				*e*S	Sn	15 19 46.4	-1.8
CCIG	**Comitan**	**1.92**	**342**	*i* P	Pn	15 19 44.6	-1.2
CCIG				*e*S	Sn	15 20 08.8	-1.5
PCIG		**2.06**	**308**	*i* P	Pn	15 19 46.4	-1.1
PCIG				*i* S	Sn	15 20 11.5	-1.7
TGIG		**2.79**	**327**	*i* P	Pn	15 19 56.2	-0.7
TGIG				*i* S	Sn	15 20 28.8	-1.3

IDC 15 15:20:10.3±2.2, 4°.84N × 126°.56E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/42, mbtmp3.4/4, MS3.4/2, Ms1 3.4/2, ms1mx2.5/33, Error ellipse: s-maj=167.4km s-min=28.3km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.79**	**163**	P	P	15 25 43.4	+0.2
	0.4nm,1.0s,baz=343,slow=10,SNR=2.4						
WRA				LR	LR	15 38 22.8	
	comp=Z,88nm,18.8s,baz=65,slow=42						
ASAR	**Alice Springs**	**29.23**	**166**	P	P	15 26 14.0	-0.1
	0.2nm,0.8s,baz=353,slow=8.5,SNR=1.9						
ASAR				LR	LR	15 39 21.4	
	comp=Z,68nm,18.4s,baz=32,slow=39						
MKAR	**Makanchi Array**	**56.55**	**325**	P	P	15 29 54.7	-0.1
	0.4nm,0.7s,baz=112,slow=7.0,SNR=4.9						
VNDA	**Vanda**	**84.54**	**173**	P	P	15 32 44.9	0.0
	1.0nm,0.8s,baz=338,slow=5.5,SNR=2.4						

*ISCJB **15** 15:23:47.4±0.4, 7°.39S±0°.05 × 156°.17E±0°.06, h45km, mb4.5/31, MS3.2/6, Error ellipse: s-maj=8.8km s-min=7.0km az=174.1*
*IDC **15** 15:23:50.5±2.8, 7°.42S × 156°.22E, h60km±25km, mb3.9/12, mb1 4.0/15, mb1mx3.8/39, mbtmp4.2/15, ML3.2/3, MS3.3/9, Ms1 3.3/9, ms1mx3.1/37, Error ellipse: s-maj=21.6km s-min=17.5km az=94.0*
*NEIC **15** 15:23:52.2±0.7, 7°.44S × 156°.21E, h78km±7km, mb4.6/21, Error ellipse: s-maj=6.3km s-min=5.4km az=74.0*
ISC 15 15:23:49.1±0.5, 7°.45S±0°.06 × 156°.33E±0°.07, h45km, n64, σ1.66/66, mb4.4/31, MS3.2/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.08**	**119**	P	**Pn**	**15 24 51.8**	**+2.7**
	9.3nm,0.3s,baz=294,slow=19,SNR=4.6						
HNR				S	Sn	15 25 50.4	+15
	19nm,0.3s,baz=18,slow=12,SNR=8.8						
HNR				LR	LR	15 26 33.6	
	comp=Z,612nm,19.1s,baz=303,slow=39						
HNR	**Honiara**	**4.08**	**119**	*e*P	Pn	15 24 57.0	+8.0
HNR				*e*S	Sn	15 25 51.0	+15
RABL	**Rabaul**	**5.26**	**308**	*e*Pn	**Pn**	**15 25 08.6**	**+3.3**
RABL				*e*Sn	**Sn**	**15 26 09.5**	**+4.7**
PMG	**Port Moresby**	**9.28**	**257**	P	**Pn**	**15 26 01.9**	**+1.4**
	1.4nm,0.3s,baz=62,slow=12,SNR=5.7						
PMG				S	**Sn**	**15 27 48.0**	**+4.4**
	0.3nm,0.3s,baz=158,slow=16,SNR=2.7						
PMG				LR	LR	15 29 26.7	
	comp=Z,281nm,18.4s,baz=52,slow=37						
PATS	**Pohnpei**	**14.33**	**8**	*e*Pn	**Pn**	**15 27 11.2**	**+1.8**
COEN	**Coen**	**14.45**	**242**	*e*Pn	**Pn**	**15 27 13.4**	**+2.4**
CTA	**Charters Tower**	**15.91**	**217**	P	**Pn**	**15 27 29.6**	**-0.5**
	0.1nm,0.3s,baz=24,slow=12,SNR=2.2						
CTAO	**Charters Tower**	**15.91**	**217**	*e*Pn	**Pn**	**15 27 29.8**	**-0.3**
	18nm,1.3s						
DZM	**Mont Dzumac**	**17.50**	**147**	P	**P**	**15 27 53.7**	**+2.9**
	0.1nm,0.3s,baz=312,slow=12,SNR=2.7						
DZM				LR	LR	15 32 55.0	
	comp=Z,107nm,19.2s,baz=215,slow=31						
DZM	**Mont Dzumac**	**17.50**	**147**	*e*P	**P**	**15 27 53.2**	**+2.5**
	59nm,1.8s						
GUMO	**Guam**	**23.80**	**331**	LR	LR	15 36 54.7	
	comp=Z,53nm,21.7s,baz=95,slow=33						
FAKI	**Fak Fak**	**24.40**	**279**	*e*P	**P**	**15 29 03.2**	**-0.4**
	6.1nm,0.7s						
WRAB	**Tennant Creek**	**24.66**	**238**	*e*P	**P**	**15 29 05.2**	**-0.7**
	8.8nm,1.1s						
WB2	**Warramunga Arr**	**24.66**	**238**	*e*P	**P**	**15 29 04.5**	**-1.4**
WR1	**Warramunga Arr**	**24.67**	**238**	*e*P	**P**	**15 29 05.3**	**-0.7**
	8.8nm,0.9s						
WR1				*e*PcP	**PcP**	**15 32 42.4**	**-0.3**
WRA	**Warramunga Arr**	**24.67**	**238**	P	**P**	**15 29 05.3**	**-0.7**
	3.9nm,0.8s,baz=59,slow=9.1,SNR=42						
WRA				PcP	**PcP**	**15 32 42.4**	**-0.3**
	0.5nm,0.8s,baz=68,slow=2.6,SNR=4.7						
MTN	**Manton Dam**	**25.37**	**256**	*e*P	**P**	**15 29 09.3**	**-3.1**
	30nm,1.3s						
SIJI	**Sorong**	**25.83**	**284**	P	**P**	**15 29 18.3**	**+1.8**
	3.8nm,0.6s,baz=103,slow=18,SNR=3.7						
AS01	**Alice Springs**	**26.85**	**231**	*e*P	**P**	**15 29 25.0**	**-0.7**
AS31	**Alice Springs**	**26.89**	**231**	*e*P	**P**	**15 29 25.9**	**-0.2**
	0.6nm,0.6s						
ASAR	**Alice Springs**	**26.89**	**231**	P	**P**	**15 29 24.9**	**-1.1**
	0.5nm,0.7s,baz=60,slow=9.3,SNR=8.9						
ASAR				PcP	**PcP**	**15 32 47.4**	**-0.3**
	0.6nm,0.7s,baz=65,slow=2.7,SNR=5.7						
STKA	**Stephens Creek**	**27.92**	**208**	LR	LR	15 39 34.9	
	comp=Z,70nm,19.9s,baz=27,slow=34						
STKA	**Stephens Creek**	**27.92**	**208**	*e*P	**P**	**15 29 34.3**	**-0.9**
	5.7nm,1.9s						
WAKE	**Wake Island**	**28.45**	**21**	*e*P	**P**	**15 29 40.2**	**+0.3**
	264nm,1.3s						
FITZ	**Fitzroy Crossi**	**31.70**	**248**	P	**P**	**15 30 06.8**	**-2.0**
	2.3nm,0.8s,baz=80,slow=11,SNR=4.8						
FITZ				LR	LR	15 42 25.1	
	comp=Z,66nm,18.3s,baz=88,slow=35						
FITZ	**Fitzroy Crossi**	**31.70**	**248**	*e*P	**P**	**15 30 06.3**	**-2.4**
	31nm,1.9s						
SOEI	**Soe**	**31.78**	**264**	*e*P	**P**	**15 30 06.7**	**-3.0**
	19nm,1.2s						
LUWI	**Luwuk**	**34.05**	**279**	*e*P	**P**	**15 30 27.0**	**-2.4**
	26nm,0.7s						
URZ	**Urewera**	**35.97**	**152**	*e*P	**P**	**15 30 46.1**	**+0.5**
	42nm,1.4s						
BKZ	**Black Stump Fm**	**36.41**	**153**	*e*P	**P**	**15 30 50.4**	**+0.9**
	28nm,1.5s						
MQZ	**McQueen's Vall**	**38.84**	**161**	*e*P	**P**	**15 31 10.3**	**+0.5**
	26nm,1.5s						
MLZ	**Mavora Lakes**	**39.13**	**167**	*e*P	**P**	**15 31 12.9**	**+0.6**
	34nm,1.5s						
ODZ	**Otahua Downs**	**39.46**	**164**	*e*P	**P**	**15 31 16.9**	**+1.9**
	71nm,1.9s						
RAR	**Rarotonga**	**44.51**	**113**	LR	LR	15 48 39.9	
	comp=Z,67nm,21.2s,baz=286,slow=33						
KSM	**Kuching**	**46.76**	**279**	*e*P	**P**	**15 32 12.8**	**-1.7**
	6.0nm,0.9s						
MJAR	**Matsushiro Arr**	**46.95**	**340**	LR	LR	15 51 17.2	
	comp=Z,29nm,19.8s,baz=150,slow=35						
JNU	**Nakatsue**	**47.05**	**330**	P	**P**	**15 32 15.3**	**-1.1**
	7.9nm,1.0s,baz=188,slow=15,SNR=2.0						
JNU	**Nakatsue**	**47.05**	**330**	*e*P	**P**	**15 32 15.1**	**-1.4**
	54nm,1.5s						
KSRS	**Korea Array**	**51.97**	**331**	P	**P**	**15 32 53.0**	**-0.8**
	1.4nm,0.8s,baz=154,slow=6.7,SNR=4.8						
KSRS				LR	LR	15 56 52.6	
	comp=Z,7.8nm,18.1s,baz=155,slow=38						
KSAR	**Wonju Array Be**	**51.98**	**331**	P	**P**	**15 32 53.0**	**-0.9**
CM01	**Chiang Mai Arr**	**62.15**	**295**	*e*P	**P**	**15 34 05.3**	**-0.9**
CM31	**Chiang Mai Arr**	**62.18**	**295**	*e*P	**P**	**15 34 04.7**	**-1.8**
CMAR	**Chiang Mai Arr**	**62.18**	**295**	P	**P**	**15 34 05.9**	**-0.6**
	1.1nm,0.7s,baz=106,slow=4.9,SNR=10						
VNDA	**Vanda**	**70.09**	**179**	P	**P**	**15 34 56.1**	**-0.1**
	1.3nm,0.9s,baz=350,slow=2.8,SNR=3.5						
ULN	**Ulaanbaatar**	**70.10**	**327**	*e*P	**P**	**15 34 56.0**	**-0.9**
	4.5nm,1.2s						
SONA0	**Songino Array**	**70.44**	**327**	*e*P	**P**	**15 34 58.2**	**-0.8**
SONM	**Songino Array**	**70.44**	**327**	P	**P**	**15 34 58.2**	**-0.8**
	2.6nm,0.8s,baz=146,slow=6.4,SNR=17						
SONA1	**Songino Array**	**70.44**	**327**	*e*P	**P**	**15 34 58.2**	**-0.8**
ILAR	**Eielson Array**	**83.31**	**21**	P	**P**	**15 36 10.4**	**-0.5**
	0.1nm,0.4s,baz=235,slow=4.4,SNR=4.8						
ILB	**Eielson Array**	**83.31**	**21**	*e*P	**P**	**15 36 10.1**	**-0.8**
MAW	**Mawson**	**84.49**	**203**	P	**P**	**15 36 16.9**	**0.0**
	1.9nm,0.8s,baz=58,slow=8.2,SNR=4.2						
MAW	**Mawson**	**84.49**	**203**	*e*P	**P**	**15 36 16.6**	**-0.3**
	7.0nm,1.8s						
MK01	**Makanchi Array**	**84.61**	**318**	*e*P	**P**	**15 36 17.1**	**-0.9**
MK31	**Makanchi Array**	**84.62**	**318**	*e*P	**P**	**15 36 17.4**	**-0.6**
MK32	**Makanchi Array**	**84.62**	**318**	*e*P	**P**	**15 36 17.2**	**-0.8**
MKAR	**Makanchi Array**	**84.62**	**318**	P	**P**	**15 36 17.3**	**-0.8**
	11nm,0.8s,baz=106,slow=5.6,SNR=41						
MKAR	**Makanchi Array**	**84.62**	**318**	*e*P	**P**	**15 36 17.1**	**-0.9**
	63nm,0.8s						
ZAA0	**Zalesovo Array**	**85.30**	**326**	*e*P	**P**	**15 36 19.5**	**-1.7**
	5.0nm,0.6s						
ZALV	**Zalesovo Beam**	**85.30**	**326**	P	**P**	**15 36 19.8**	**-1.4**
	4.2nm,0.5s,baz=117,slow=5.1,SNR=17						
ZALV	**Zalesovo Beam**	**85.30**	**326**	*e*P	**P**	**15 36 19.1**	**-2.1**
ZAA1	**Zalesovo Array**	**85.30**	**326**	*e*P	**P**	**15 36 19.8**	**-1.4**
KDJ	**Kajisay**	**86.98**	**313**	*e*P	**P**	**15 36 29.9**	**-0.1**
	5.5nm,1.1s						
TORD	**Torodi Ar. Bea**	**154.43**	**285**	PKP	**PKPdf**	**15 43 35.9**	**-1.6**
	0.3nm,0.8s,baz=67,slow=1.4,SNR=2.7						
TORD				PKPbc	**PKPbc**	**15 43 44.5**	**-1.3**
	0.7nm,0.9s,baz=64,slow=3.4,SNR=4.8						
TOA1	**Torodi Ar. Sit**	**154.43**	**285**	*e*PKPdf	**PKPdf**	**15 43 35.9**	**-1.6**
TOA1				*e*PKPbc	**PKPbc**	**15 43 44.5**	**-1.3**

*IDC **15** 15:32:10.4±1.0, 5°.33N × 127°.62E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/43, mbtmp3.6/6, ML3.2/1, MS3.1/2, Ms1 3.1/2, ms1mx2.5/45, Error ellipse: s-maj=51.2km s-min=19.3km az=64.0*
*ISCJB **15** 15:32:15.2±0.9, 5°.3N±0°.2 × 127°.7E±0°.3, h53km, mb3.5/5, MS2.6/1, Error ellipse: s-maj=42.2km s-min=14.1km az=150.1*
ISC 15 15:32:17.1±1.0, 5°.2N±0°.2 × 127°.8E±0°.3, h53km, n8, σ1.63/8, mb3.4/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.99**	**150**	Pn	**Pn**	**15 33 58.0**	**+1.1**
	0.5nm,0.3s,baz=248,slow=23,SNR=4.7						
SIJI				Sn	**Sn**	**15 35 12.3**	**-2.7**
	0.6nm,0.3s,baz=236,slow=22,SNR=3.6						
BATI	**Baumata**	**15.88**	**195**	LR	LR	15 42 05.1	
	comp=Z,184nm,19.0s,baz=240,slow=37						
WRA	**Warramunga Arr**	**25.84**	**166**	P	**P**	**15 37 45.2**	**+1.5**
	0.3nm,0.5s,baz=342,slow=10,SNR=13						
JNU	**Nakatsue**	**27.90**	**6**	LR	LR	15 48 32.7	
	comp=Z,16nm,21.5s,baz=134,slow=35						
ASAR	**Alice Springs**	**29.34**	**168**	P	**P**	**15 38 15.6**	**+0.6**
	0.3nm,0.5s,baz=352,slow=7.9,SNR=7.8						
ASAR				PcP	**PcP**	**15 41 21.7**	**+1.1**
	0.2nm,0.8s,baz=342,slow=2.3,SNR=4.6						
CMAR	**Chiang Mai Arr**	**31.07**	**297**	P	**P**	**15 38 29.7**	**-0.8**
	0.3nm,0.3s,baz=114,slow=9.0,SNR=3.3						
MKAR	**Makanchi Array**	**56.94**	**324**	P	**P**	**15 41 56.5**	**-0.5**
	0.8nm,0.4s,baz=119,slow=7.5,SNR=17						
ILAR	**Eielson Array**	**83.31**	**25**	P	**P**	**15 44 37.8**	**-0.2**
	0.3nm,0.7s,baz=251,slow=5.0,SNR=4.6						

*IDC **15** 15:43:44.5±1.9, 3°.84S × 150°.33E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.6/47, mbtmp3.8/4, Error ellipse: s-maj=103.5km s-min=26.1km az=125.0*
*NEIC **15** 15:43:57.6±1.9, 4°.28S × 150°.43E, h105km±19km, mb4.2/6, Error ellipse: s-maj=37.5km s-min=14.4km az=138.0*
ISC 15 15:43:57.6±1.1, 4°.3S±0°.2 × 150°.5E±0°.2, h100km, n14, σ1.21/14, mb3.9/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.71**	**85**	*e*Pn	**Pn**	**15 44 27.3**	**+0.8**
WRAB	**Tennant Creek**	**22.06**	**224**	*e*P	**P**	**15 48 44.2**	**-0.3**
	30nm,2.0s						
WB2	**Warramunga Arr**	**22.07**	**224**	*e*P	**P**	**15 48 43.2**	**-1.4**
	15nm,1.5s						
WR1	**Warramunga Arr**	**22.08**	**224**	*e*P	**P**	**15 48 43.5**	**-1.2**
	7.0nm,1.2s						
WRA	**Warramunga Arr**	**22.08**	**224**	P	**P**	**15 48 43.5**	**-1.2**
	1.8nm,1.0s,baz=49,slow=9.9,SNR=13						
AS01	**Alice Springs**	**24.96**	**218**	*e*P	**P**	**15 49 12.6**	**+0.6**
AS31	**Alice Springs**	**24.99**	**218**	*e*P	**P**	**15 49 13.5**	**+1.3**
	4.4nm,2.0s						
ASAR	**Alice Springs**	**24.99**	**218**	P	**P**	**15 49 13.6**	**+1.3**
	1.0nm,0.7s,baz=49,slow=8.3,SNR=19						
FITZ	**Fitzroy Crossi**	**27.87**	**239**	P	**P**	**15 49 38.1**	**-0.1**
	3.1nm,0.7s,baz=73,slow=7.8,SNR=10						
FITZ	**Fitzroy Crossi**	**27.87**	**239**	*e*P	**P**	**15 49 38.0**	**-0.1**
	21nm,1.8s						
LBZ	**Lake Benmore**	**43.50**	**159**	*e*P	**P**	**15 51 50.1**	**-1.1**
	47nm,1.4s						
ILAR	**Eielson Array**	**82.62**	**23**	P	**P**	**15 56 07.8**	**-1.7**
	0.7nm,0.8s,baz=248,slow=4.9,SNR=5.4						
TORD	**Torodi Ar. Bea**	**147.95**	**288**	PKPbc	**PKPdf**	**16 03 30.4**	**+1.1**
	0.5nm,0.8s,baz=64,slow=3.7,SNR=2.9						
TOA1	**Torodi Ar. Sit**	**147.95**	**288**	*e*PKPdf	**PKPdf**	**16 03 30.4**	**+1.1**

*ISCJB **15** 15:46:10.9±1.1, 43°.77N±0°.08 × 147°.42E±0°.09, h51km±12km, Error ellipse: s-maj=15.6km s-min=6.9km az=142.8*
*JMA **15** 15:46:10.3±0.3, 43°.58N × 147°.34E, h15km, M3.7*
*SKHL **15** 15:46:11.4±1.1, 43°.73N × 147°.41E, h54km±4km, mb4.2/5*
*MOS **15** 15:46:12.5±0.2, 43°.87N × 147°.29E, h32km, mb4.2/1, Error ellipse: s-maj=40.7km s-min=28.4km az=177.8*
ISC 15 15:46:11.2±2.0, 43°.8N±0°.1 × 147°.46E±0°.10, h45km±17km, n19, σ0.77/34, 2C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.47**	**285**	*i* P	**Pn**	**15 46 22.0**	**+0.2**
SHO				AMB	AMB	15 46 22.0	
	220nm,0.5s						
SHO				AMB	AMB	15 46 22.0	
	290nm,0.5s						
SHO				AMB	AMB	15 46 22.0	
	540nm,0.5s						
SHO				*e*S	**Sn**	**15 46 29.0**	**-0.3**
SHO				A	A	15 46 30.0	
	7.0nm,0.4s						
SHO				A	A	15 46 30.0	
	5.0nm,0.4s						
SHO	**Shikotan**	**0.47**	**285**	*d* iPN	**Pn**	**15 46 21.9**	**+0.2**
SHO				*e*S	**Sn**	**15 46 29.8**	**+0.5**
SHO				pmax	pmax		
	comp=Z,543nm,0.4s						
SHO				pmax	pmax		
	comp=E,292nm,0.2s						
SHO				pmax	pmax		
	comp=N,215nm,0.4s						
SHO				smax	smax		
	comp=N,7.0nm,0.5s						
SHO				smax	smax		
	comp=E,5.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.19**	**284**	*i* P	**Pn**	**15 46 31.0**	**-0.3**
YUK				AMB	AMB	15 46 31.0	
	comp=E,150nm,0.2s						
YUK				AMB	AMB	15 46 31.0	
	comp=E,60nm,0.2s						
YUK				*i* S	**Sn**	**15 46 45.0**	**-1.4**
YUK				A	A	15 46 47.0	
	comp=E,1μm,0.4s						
YUK				A	A	15 46 47.0	
	comp=E,989nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.19**	**284**	*c* iPN	**Pn**	**15 46 31.1**	**-0.3**
YUK				*i* S	**Sn**	**15 46 45.8**	**-0.6**
YUK				pmax	pmax		
	comp=Z,330nm,0.2s						
YUK				pmax	pmax		
	comp=N,61nm,0.1s						
YUK				pmax	pmax		
	comp=E,145nm,0.1s						
YUK				smax	smax		
	comp=E,2μm,0.4s						
YUK				smax	smax		
	comp=N,1μm,0.2s						
GRPR	**Tuman**	**1.25**	**282**	*i* P	**Pn**	**15 46 31.0**	**-1.1**
GRPR				AMB	AMB	15 46 34.0	
	comp=N,70nm,0.4s						
GRPR				AMB	AMB	15 46 34.0	
	comp=N,190nm,0.4s						
GRPR				*i* S	**Sn**	**15 46 47.0**	**-0.7**
GRPR				A	A	15 46 49.0	
	comp=N,150nm,0.4s						
GRPR				A	A	15 46 49.0	
	comp=N,1μm,0.4s						
GRPR	**Tuman**	**1.25**	**282**	*d* iPN	**Pn**	**15 46 31.6**	**-0.5**
GRPR				*i* S	**Sn**	**15 46 47.2**	**-0.5**
GRPR				pmax	pmax		
	comp=N,69nm,0.1s						
GRPR				pmax	pmax		
	comp=Z,187nm,0.1s						
GRPR				smax	smax		
	comp=N,149nm,0.2s						
GRPR				smax	smax		
	comp=E,1μm,0.1s						
NEM2	**Nemuro 2**	**1.31**	**253**	P	**Pn**	**15 46 32.1**	**-0.8**
NEM2				*e*S	**Sn**	**15 46 47.7**	**-1.5**
GLVR	**Golovnino**	**1.41**	**270**	*i* P	**Pn**	**15 46 34.0**	**-0.3**
GLVR				AMB	AMB	15 46 35.0	
	comp=E,150nm,0.2s						
GLVR				AMB	AMB	15 46 35.0	
	comp=E,30nm,0.2s						
GLVR				*i* S	**Sn**	**15 46 51.0**	**-0.7**
GLVR				A	A	15 46 58.0	
	comp=E,140nm,0.2s						
GLVR				A	A	15 46 58.0	
	comp=E,168nm,0.2s						
GLVR	**Golovnino**	**1.41**	**270**	*c* iPN	**Pn**	**15 46 34.5**	**+0.2**
GLVR				*i* S	**Sn**	**15 46 51.8**	**+0.1**
GLVR				pmax	pmax		
	comp=Z,222nm,0.3s						
GLVR				pmax	pmax		
	comp=N,145nm,0.4s						
GLVR				smax	smax		
	comp=N,144nm,0.2s						
GLVR				smax	smax		
	comp=E,164nm,0.2s						
KUR	**Kuril'sk**	**1.51**	**11**	*i* P	**Pn**	**15 46 35.6**	**-0.1**
KUR				AMB	AMB	15 46 37.0	
	comp=E,30nm,0.5s						
KUR				AMB	AMB	15 46 37.0	
	comp=E,50nm,0.5s						
KUR				*e*S	**Sn**	**15 46 53.5**	**-0.7**
KUR				A	A	15 46 55.0	
	comp=E,240nm,0.4s						
KUR				A	A	15 46 55.0	
	comp=E,528nm,0.4s						
KUR	**Kuril'sk**	**1.51**	**11**	*i* PN	**Pn**	**15 46 36.4**	**+0.7**
KUR				*e*S	**Sn**	**15 46 53.7**	**-0.5**
KUR				pmax	pmax		
	comp=Z,49nm,0.5s						
KUR				pmax	pmax		
	comp=N,32nm,0.2s						
KUR				pmax	pmax		
	comp=E,47nm,0.2s						
KUR				smax	smax		
	comp=N,236nm,0.2s						
KUR				smax	smax		
	comp=E,520nm,0.2s						
JRA	**Rausu**	**1.70**	**277**	*e*S	**Sn**	**15 46 59.3**	**+0.4**
JKHN	**Kushirohamanak**	**1.81**	**249**	P	**Pn**	**15 46 39.7**	**0.0**
JNK	**Nakash**	**2.00**	**266**	P	**Pn**	**15 46 42.5**	**+0.1**
JNK				*e*S	**Sn**	**15 47 06.0**	**-0.2**
JAK	**Akkeshi**	**2.15**	**250**	P	**Pn**	**15 46 44.4**	**-0.1**
JAK				*e*S	**Sn**	**15 47 09.5**	**-0.5**
JTKR	**Abashiri--Toko**	**2.58**	**276**	P	**Pn**	**15 46 51.6**	**+1.2**
JAR	**Ashorobuto**	**2.72**	**262**	P	**Pn**	**15 46 53.4**	**+1.0**
JAR				*e*S	**Sn**	**15 47 25.0**	**+0.

DZM Mont Dzumac 11.56 287 eP P 15 49 43.1 +0.2
MXZ Matakaoa Point 11.65 180 eP P 15 49 43.8 +0.5
MXZ Matakaoa Point 11.65 180 P P 15 49 44.0 +0.8
MXZ S S 15 51 42.9 -7.5
MXZ Matakaoa Point 11.65 180 P S 15 51 44.1 -6.4
HAZ Te Kaha 11.85 182 P P 15 49 44.1 -1.1
HAZ S S 15 51 47.0 -7.0
HAZ Te Kaha 11.85 182 P S 15 51 47.2 -6.7
WMGZ Waiomatatini S 11.90 180 P P 15 49 43.8 -1.9
WMGZ S S 15 51 49.0 -5.9
WMGZ Waiomatatini S 11.90 180 P S 15 51 49.9 -4.9
TGRZ Tauranga 11.95 188 P P 15 49 49.3 +3.1
PKGZ Pakihiroa 11.97 181 P P 15 49 44.4 -2.1
PKGZ S S 15 51 48.6 -7.6
PKGZ Pakihiroa 11.97 181 P S 15 51 49.7 -6.5
OPRZ Ohinepanea 12.03 187 P P 15 49 48.9 +1.9
RUGZ Raukumara Rang 12.06 183 P P 15 49 46.1 -1.3
RUGZ S S 15 51 51.3 -6.6
RUGZ Raukumara Rang 12.06 183 P S 15 51 50.5 -7.4
MARZ Manawahe 12.15 186 P P 15 49 50.3 +2.1
PUZ Puketiti 12.15 181 P P 15 49 48.5 +0.3
PUZ S S 15 51 52.3 -7.0
PUZ Puketiti 12.15 181 P S 15 51 50.4 -8.9
KARZ Kaharoa 12.24 188 P P 15 49 51.6 +2.6
TWGZ Tauwhareparae 12.26 182 P P 15 49 48.8 -0.4
TWGZ S S 15 51 56.7 -4.5
TWGZ Tauwhareparae 12.26 182 P S 15 51 55.9 -5.3
OMRZ Omania 12.31 187 P S 15 49 52.9 +3.3
URZ Urewera 12.39 185 P P 15 49 49.3 -1.0
8.3nm,0.3s,baz=267,slow=4.1,SNR=43
URZ S S 15 51 57.2 -6.1
5.9nm,0.3s,baz=0.3,slow=21,SNR=17
URZ ScP ScP 15 57 08.5 -0.7
0.8nm,0.3s,baz=24,slow=7.4,SNR=5.4
URZ Urewera 12.39 185 eP P 15 49 48.5 -1.9
URZ eS S 15 51 57.2 -6.1
URZ eScP ScP 15 57 08.5 -0.7
URZ Urewera 12.39 185 P P 15 49 48.6 -1.8
URZ S S 15 51 57.3 -6.0
TARZ Mount Tarawera 12.42 187 P P 15 49 52.4 +1.6
MWZ Matawai 12.44 183 P P 15 49 48.6 -2.3
MWZ S S 15 51 58.4 -5.9
MWZ Matawai 12.44 183 P S 15 52 00.8 -3.5
TKGZ Te Karaka 12.53 182 P P 15 49 51.3 -0.3
TKGZ S S 15 51 59.7 -6.0
TKGZ Te Karaka 12.53 182 P S 15 51 58.8 -6.9
CNGZ Carnagh Statio 12.57 181 P P 15 49 52.3 +0.2
CNGZ S S 15 52 03.3 -3.1
CNGZ Carnagh Statio 12.57 181 P S 15 52 03.6 -2.8
RAGZ Rawiri 12.61 184 P P 15 49 51.1 -1.4
RAGZ S S 15 52 00.0 -7.2
RAGZ Rawiri 12.61 184 P S 15 51 59.1 -8.1
MUGZ Murupara 12.63 186 P P 15 49 51.5 -1.2
MUGZ S S 15 52 03.8 -3.8
TLZ Tolley Road 12.64 190 P P 15 49 55.0 +2.1
RTZ Ruatahuna 12.75 185 P P 15 49 52.1 -1.8
RTZ S S 15 52 04.6 -5.1
RTZ Ruatahuna 12.75 185 P S 15 52 06.2 -3.6
KUTZ Kaahu Road 12.76 189 P P 15 49 56.3 +2.4
ALRZ Allen Road 12.76 187 P P 15 49 54.7 +0.8
RIGZ Rimuhau 12.80 182 P P 15 49 53.6 -0.7
RIGZ S S 15 52 02.9 -7.6
RIGZ Rimuhau 12.80 182 P S 15 52 01.8 -8.6
SNGZ Shannon Statio 12.89 184 P P 15 49 53.7 -1.6
SNGZ S S 15 52 06.9 -5.2
SNGZ Shannon Statio 12.89 184 P S 15 52 09.0 -3.0
HIZ Hauiti 12.94 192 eP P 15 49 57.6 +1.9
WATZ Wairara 12.98 189 P P 15 49 58.3 +2.2
MTHZ Maungataniwha 13.00 185 P P 15 49 55.9 -0.3
MTHZ S S 15 52 09.5 -4.4
PRGZ Paritu Road 13.01 182 P P 15 49 56.2 -0.2
PRGZ S S 15 52 05.4 -8.7
PRGZ Paritu Road 13.01 182 P S 15 52 08.1 -6.0
RAHZ Arahi 13.04 185 P P 15 49 55.7 -1.0
RAHZ S S 15 52 09.4 -5.3
RAHZ Arahi 13.04 185 P S 15 52 13.1 -1.6
KNZ Kokohu 13.12 182 P P 15 49 56.4 -0.9
KNZ S S 15 52 09.9 -5.9
KNZ Kokohu 13.12 182 P S 15 52 14.4 -1.4
RATZ Rangitukua 13.13 189 P P 15 49 59.4 +1.8
WHHZ Waihua 13.19 184 P P 15 49 58.0 -0.1
WHHZ S S 15 52 12.6 -4.6
WHHZ Waihua 13.19 184 P S 15 52 14.4 -2.8
RITZ Rihia Road 13.23 189 P P 15 49 58.9 +0.4
MHGZ Mahia Peninsul 13.24 182 P P 15 49 58.7 +0.1
MHGZ S S 15 52 11.5 -6.4
MHGZ Mahia Peninsul 13.24 182 P S 15 52 12.4 -5.6
NMHZ Naumai 13.24 185 P P 15 49 59.0 +0.3
NMHZ S S 15 52 14.4 -3.8
NMHZ Naumai 13.24 185 P S 15 52 18.1 -0.1
BKZ Black Stump Fm 13.34 186 eP P 15 49 57.2 -2.4
BKZ Black Stump Fm 13.34 186 P P 15 49 57.7 -1.8
BKZ Black Stump Fm 13.34 186 P S 15 52 18.0 -1.8
TWVZ Taurewa 13.38 190 P P 15 50 00.8 +0.8
ARHZ Aropaoanui 13.39 185 P P 15 50 00.5 +0.5
ARHZ S S 15 52 16.8 -3.8
ARHZ Aropaoanui 13.39 185 P S 15 52 17.9 -2.7
WTVZ West Tongariro 13.40 189 P P 15 50 00.6 +0.3
COVZ Chateau Observ 13.49 190 P P 15 50 01.5 +0.4
COVZ Chateau Observ 13.49 190 P S 15 52 24.8 +2.3
FWVZ Far West T-bar 13.55 189 P S 15 50 02.1 +0.3
MHEZ Mangahewa 13.60 194 P S 15 52 36.3 +12
MCHZ McNeill Hill 13.60 186 P P 15 50 01.0 -1.0
MCHZ McNeill Hill 13.60 186 P S 15 52 22.9 -1.2
MCHZ P S 15 52 23.6 -0.5
PKVZ Pokaka 13.61 190 P S 15 52 28.9 +4.5
BHHZ Black Hill Sta 13.71 188 P S 15 52 22.4 -3.7
CKHZ Cape Kidnapper 13.78 184 P S 15 52 27.8 +0.7
KRHZ Kereru 13.83 187 P S 15 52 26.5 -1.4
KAHZ Kahuranaki 13.93 185 P S 15 52 25.8 -3.9
PNHZ Pukenui 14.11 187 P S 15 52 29.7 -3.0
PXZ Pawanui 14.17 185 P S 15 52 28.0 -5.5
TSZ Takapari Road 14.28 188 P S 15 52 33.2 -2.3
PRHZ Porangahau 14.42 185 P S 15 52 37.1 -0.6
DVHZ Dannevirke 14.50 187 P S 15 52 37.2 -1.8
ANWZ Angora Road 14.63 186 P S 15 52 39.5 -1.4
POWZ Post Office Ro 14.64 188 P S 15 52 39.7 -1.5
BFZ Birch Farm 14.87 186 eP P 15 50 12.0 -1.7
BFZ eS S 15 52 41.8 -3.2
TIWZ Tintock 15.00 187 P S 15 52 47.0 -0.2
AFI Afiamalu 15.07 40 P P 15 50 14.1 -1.8
6.6nm,0.3s,baz=155,slow=8.2,SNR=12
AFI S S 15 52 46.5 -2.5
5.4nm,0.3s,baz=81,slow=23,SNR=8.1
AFI Afiamalu 15.07 40 eP P 15 50 14.5 -1.5
56nm,0.8s
AFI eS S 15 52 44.6 -4.4
AFI Afiamalu 15.07 40 eP S 15 50 14.5 -1.5
AFI eS S 15 52 44.6 -4.4
AFI pmax pmax
comp=Z,56nm,0.8s
OGWZ Otaki Gorge 15.13 189 P S 15 52 49.3 0.0
HOWZ Holdsworth Sta 15.17 188 P S 15 52 48.1 -1.7
KIW Kapiti Island 15.22 190 P S 15 52 50.2 -0.4
DUWZ D'Urville Isla 15.34 193 P S 15 52 52.7 +0.1
MTW Mount Morrison 15.42 188 P S 15 52 53.0 -1.0
TCW Tory Channel 15.66 192 P S 15 52 58.8 +0.8
SNZO South Karori 15.69 190 eP P 15 50 20.5 -0.6
comp=Z,228nm,0.6s
SNZO eS S 15 52 58.0 -0.3
MSWZ Moikau Station 15.71 189 P S 15 52 57.8 -0.9
NNZ Nelson 15.85 194 P S 15 53 02.9 +2.0
TUWZ Tuamarina 15.94 192 P S 15 53 02.8 +0.4
THZ Tophouse 16.48 195 eP P 15 50 28.2 -0.2
comp=Z,113nm,0.7s
THZ eS S 15 53 09.7 -1.6
KHZ Kahutara 16.97 192 eP P 15 50 31.8 -1.0
comp=Z,94nm,0.7s
KHZ eS S 15 53 16.5 -2.6
FUNA Funafuti 17.28 3 eP P 15 50 35.7 -0.4
comp=Z,302nm,1.8s
LTZ Lake Taylor 17.59 195 eP P 15 50 37.7 -0.8
comp=Z,102nm,0.5s
LTZ eS S 15 53 25.7 -3.6
OXZ Oxford 18.16 195 eP P 15 50 42.5 -1.2
comp=Z,246nm,0.6s
OXZ eS S 15 53 37.4 -1.0
CRLZ Canterbury Las 18.27 193 eP P 15 50 43.4 -1.2
comp=Z,71nm,1.1s
MQZ McQueen's Vall 18.39 193 eP P 15 50 45.0 -0.7
comp=Z,38nm,0.7s
MQZ eS S 15 53 46.1 +4.2
RPZ Rata Peaks 18.77 197 P P 15 50 49.0 -0.2
comp=Z,5.0nm,0.3s,baz=35,slow=1.3,SNR=36
RPZ S S 15 53 56.7 +8.7
comp=Z,0.9nm,0.3s,baz=7.6,slow=16,SNR=6.4
RPZ ScP ScP 15 57 21.7 +0.3
comp=Z,1.7nm,0.3s,baz=309,slow=3.1,SNR=12
RPZ Rata Peaks 18.77 197 eP P 15 50 48.0 -1.2
comp=Z,38nm,0.6s
RPZ eS S 15 53 56.8 +8.7
RPZ eScP ScP 15 57 21.7 +0.3
FOZ Fox Glacier 18.95 200 eP P 15 50 50.1 -0.7
comp=Z,75nm,0.8s
LBZ Lake Benmore 19.62 198 eP P 15 50 55.8 -1.2
comp=Z,18nm,0.7s
ODZ Otahua Downs 20.12 196 eP P 15 51 00.3 -1.0
comp=Z,16nm,0.8s
WKZ Wanaka 20.36 199 eP P 15 51 02.5 -1.1
comp=Z,60nm,1.1s
MLZ Mavora Lakes 21.13 200 eP P 15 51 10.8 +0.4
comp=Z,73nm,0.7s
DCZ Deep Cove 21.53 202 eP P 15 51 13.9 0.0
comp=Z,32nm,0.8s
WHZ Wether Hill Ro 21.65 200 eP P 15 51 15.2 +0.2
comp=Z,182nm,0.7s
PYZ Puysegur Point 22.30 202 eP P 15 51 20.3 -0.5
comp=Z,69nm,1.2s
HNR Honiara 23.96 310 P P 15 51 34.2 -1.7
comp=Z,43nm,0.6s,baz=166,slow=4.2,SNR=4.0
HNR Honiara 23.96 310 eP P 15 51 34.2 -1.7
comp=Z,117nm,1.3s
HNR Honiara 23.96 310 eP P 15 51 34.2 -1.7
HNR pmax pmax
comp=Z,117nm,1.3s
EIDS Eidsvold 24.61 265 eP P 15 51 41.6 0.0
comp=Z,9.4nm,0.8s
KNTN Kanton 24.86 24 eP P 15 51 43.5 -0.4
comp=Z,119nm,0.8s
CAN Canberra 26.91 242 eP P 15 52 02.6 +0.9
comp=Z,138nm,2.0s
CAN Canberra 26.91 242 eP P 15 52 02.6 +0.9
CAN pmax pmax
comp=Z,138nm,2.0s
TARA Tarawa 27.59 348 eP P 15 52 07.2 -0.5
comp=Z,87nm,0.6s
CTA Charters Tower 30.09 274 P P 15 52 29.7 +0.4
comp=Z,24nm,0.5s,baz=95,slow=11,SNR=84
CTA ScP ScP 15 57 55.5 +1.6
comp=Z,3.7nm,0.8s,baz=109,slow=1.4,SNR=4.5
CTAO Charters Tower 30.09 274 eP P 15 52 29.8 +0.5
comp=Z,28nm,0.5s
CTAO Charters Tower 30.09 274 eP P 15 52 29.8 +0.5
CTAO pmax pmax
comp=Z,28nm,0.5s
TAU Tasmania Unive 30.52 228 eP P 15 52 33.5 +0.9
comp=Z,67nm,1.3s
TAU Tasmania Unive 30.52 228 eP P 15 52 33.5 +0.9
TAU pmax pmax
comp=Z,67nm,1.3s
PPT Papeete 30.82 81 ScP ScP 15 57 55.9 -0.4
comp=Z,10nm,0.7s,baz=233,slow=5.1,SNR=2.0
MCQ Macquarie Isla 31.99 201 eP P 15 52 45.8 +1.0
comp=Z,292nm,1.8s
MCQ Macquarie Isla 31.99 201 eP P 15 52 45.8 +1.0
MCQ pmax pmax
comp=Z,292nm,1.8s
STKA Stephens Creek 32.66 251 P P 15 52 51.0 +0.2
comp=Z,4.5nm,0.7s,baz=78,slow=8.8,SNR=6.9
STKA Stephens Creek 32.66 251 eP P 15 52 50.7 -0.2
comp=Z,10nm,2.0s
STKA Stephens Creek 32.66 251 eP P 15 52 50.7 -0.2
STKA pmax pmax
comp=Z,11nm,2.0s
PMG Port Moresby 33.84 293 P P 15 53 00.3 -0.7
comp=Z,25nm,0.9s,baz=145,slow=7.6,SNR=4.8
COEN Coen 35.06 283 eP P 15 53 11.2 +0.1
comp=Z,22nm,0.8s
XMAS Kiritimati 36.29 44 eP P 15 53 22.9 +1.8
comp=Z,87nm,1.0s
BBOO Buckleboo 37.35 249 eP P 15 53 29.0 -0.5
comp=Z,65nm,1.8s
PATS Pohnpei 37.92 326 eP P 15 53 34.0 -0.4
comp=Z,302nm,1.3s
MANU Manus Island 38.11 303 eP P 15 53 35.4 -0.5
comp=Z,49nm,0.8s
AS01 Alice Springs 40.27 263 eP P 15 53 52.7 -0.4
AS01 epP PcP 15 55 39.9 -0.8
AS31 Alice Springs 40.31 263 eP P 15 53 53.1 -0.4
comp=Z,2.6nm,0.5s
AS31 eScP ScP 15 58 31.9 +0.6
AS31 eS S 15 59 13.6 -4.3
ASAR Alice Springs 40.31 263 P P 15 53 53.2 -0.3
comp=Z,5.7nm,0.5s,baz=91,slow=7.1,SNR=225
ASAR ScP ScP 15 58 31.9 +0.6
comp=Z,1.4nm,0.9s,baz=114,slow=5.3,SNR=4.7
ASAR S S 15 59 15.3 -2.6
comp=Z,3.2nm,0.9s,baz=102,slow=16,SNR=14
WB2 Warramunga Arr 40.85 269 eP P 15 53 56.9 -0.8
WB2 eS S 15 59 21.7 -4.0
WRAB Tennant Creek 40.85 269 eP P 15 53 57.0 -0.8
comp=Z,15nm,0.9s
WRAB Tennant Creek 40.85 269 *d* *i*P P 15 53 56.6 -1.2
WRAB pmax pmax
comp=Z,16nm,1.0s
WR1 Warramunga Arr 40.86 269 eP P 15 53 57.0 -0.8
comp=Z,18nm,0.8s
WR1 eScP ScP 15 58 34.8 +1.2
WR1 eS S 15 59 21.3 -4.6
WRA Warramunga Arr 40.86 269 P P 15 53 57.0 -0.8
comp=Z,12nm,0.7s,baz=104,slow=7.8,SNR=152
WRA ScP ScP 15 58 34.8 +1.2
comp=Z,2.6nm,0.9s,baz=104,slow=4.0,SNR=6.0
WRA S S 15 59 21.3 -4.6
comp=Z,2.9nm,1.0s,baz=97,slow=15,SNR=7.5
JAY Jayapura 43.02 296 P P 15 54 14.0 -0.7
baz=168,slow=4.4,SNR=18
JAY Jayapura 43.02 296 P P 15 54 14.6 -0.1
comp=Z,167nm,0.8s
GENI Genyem 43.41 296 P P 15 54 17.5 -0.2
comp=Z,85nm,0.8s
FORT Forrest 44.28 252 eP P 15 54 23.4 -0.8
comp=Z,33nm,1.0s
MTN Manton Dam 46.20 277 eP P 15 54 38.0 -0.9
comp=Z,23nm,1.2s
WAKE Wake Island 46.32 345 eP P 15 54 39.5 -0.1
comp=Z,435nm,1.5s
SRPI Seru, Papua 47.03 294 P P 15 54 45.2 0.0
comp=Z,144nm,0.7s
FITZ Fitzroy Crossi 49.26 268 P P 15 55 01.6 0.0
comp=Z,12nm,0.8s,baz=107,slow=7.1,SNR=33
FITZ Fitzroy Crossi 49.26 268 eP P 15 55 01.6 0.0
comp=Z,13nm,0.8s
FAKI Fak Fak 49.81 289 eP P 15 55 04.6 -1.1
comp=Z,40nm,1.3s
FAKI Fak Fak 49.81 289 P P 15 55 05.5 -0.2
GUMO Guam 51.03 316 P P 15 55 13.3 -1.1
comp=Z,140nm,0.8s,baz=32,slow=23,SNR=5.1
KHLU Kahalu'u 51.65 31 eP P 15 55 19.7 +0.9
comp=Z,227nm,1.2s
AIN Ainahou 51.66 32 eP P 15 55 20.4 +1.3
comp=Z,882nm,1.7s
MWH Moku'aweowe 51.70 32 eP P 15 55 20.2 +0.5
comp=Z,205nm,1.3s
SIJI Sorong 51.73 291 P P 15 55 19.1 -0.4
comp=Z,100nm,0.7s,baz=91,slow=5.2,SNR=107
SWI Sorong 51.74 291 P P 15 55 19.3 -0.3
comp=Z,127nm,0.9s,comp=Z,1µm
MLOA Mauna Loa Obse 51.75 32 eP P 15 55 20.4 +0.4
comp=Z,231nm,1.2s
HUH Hualalai 51.75 31 eP P 15 55 20.4 +0.6
comp=Z,228nm,1.3s
PUH Pauahi 51.78 32 eP P 15 55 20.6 +0.8
comp=Z,151nm,0.7s
MLH Mauna Loa 51.80 32 eP P 15 55 21.3 +1.1
comp=Z,142nm,0.8s
MLH Mauna Loa 51.80 32 eP P 15 55 21.3 +1.1
MLH pmax pmax
comp=Z,142nm,0.8s
SBLHI Steaming Bluff 51.80 32 eP P 15 55 18.9 -1.1
comp=Z,1µm,1.7s
HMH Humu'ula Sheep 51.85 32 eP P 15 55 21.3 +0.7
comp=Z,298nm,0.9s
POHA Pohakuloa 51.96 32 eP P 15 55 21.6 +0.3
comp=Z,342nm,1.6s
KEKH Kekaha 52.10 26 eP P 15 55 22.8 +0.9
comp=Z,672nm,1.8s
HPAH Hawaii Prepara 52.12 31 eP P 15 55 23.1 +1.0
comp=Z,198nm,0.7s
MHA Mahukona 52.16 31 eP P 15 55 23.4 +1.1
MHA Mahukona 52.16 31 eP P 15 55 23.4 +1.1
HON Honolulu 52.22 28 eP P 15 55 23.5 +0.7
comp=Z,154nm,0.7s
HON Honolulu 52.22 28 eP P 15 55 23.5 +0.7
HON pmax pmax
comp=Z,154nm,0.7s
VNDA Vanda 52.30 184 P P 15 55 23.7 +1.2
comp=Z,8.7nm,0.8s,baz=5.3,slow=8.4,SNR=48
VNDA PcP PcP 15 56 23.4 +0.6
comp=Z,4.1nm,0.7s,baz=352,slow=1.7,SNR=3.8
VNDA ScP ScP 15 59 21.1 +0.6
comp=Z,1.8nm,0.9s,baz=22,slow=6.2,SNR=2.9
VNDA Vanda 52.30 184 eP P 15 55 23.7 +1.2
comp=Z,8.9nm,0.7s
VNDA ePcP PcP 15 56 23.5 +0.8
VNDA e 15 56 23.8
VNDA ScP ScP 15 59 21.1 +0.6
VNDA Vanda 52.30 184 eP P 15 55 23.7 +1.2
VNDA e 15 56 23.8
VNDA pmax pmax
comp=Z,9.0nm,0.7s
SBA Scott Base 52.33 183 eP P 15 55 25.4 +2.7
comp=Z,52nm,0.8s
SBA Scott Base 52.33 183 eP P 15 55 25.4 +2.7
SBA pmax pmax
comp=Z,52nm,0.8s
HLK Haleakala 52.49 30 eP P 15 55 25.9 +0.8
comp=Z,291nm,1.2s
KHLH Kahului Airpor 52.53 30 eP P 15 55 26.2 +1.2
comp=Z,740nm,1.9s
OPA Opana 52.54 28 eP P 15 55 26.1 +1.0
comp=Z,145nm,0.9s
OPA Opana 52.54 28 eP P 15 55 26.1 +1.0
OPA pmax pmax
comp=Z,145nm,0.9s
NWAO Narrogin (SRO) 53.10 247 eP P 15 55 29.4 +0.4
comp=Z,106nm,1.9s
NWAO Narrogin (SRO) 53.10 247 eP P 15 55 29.4 +0.4
NWAO pmax pmax
comp=Z,106nm,1.9s
SOEI Soe 53.60 277 eP P 15 55 33.3 +0.4
comp=Z,41nm,1.0s
MBWA Marble Bar 53.62 262 eP P 15 55 31.9 -1.0
comp=Z,55nm,1.5s
BATI Baumata 53.95 276 P P 15 55 36.2 +0.9
comp=Z,17nm,0.5s,baz=163,slow=4.6,SNR=6.3
NLAI Namlea 54.07 286 P P 15 55 36.1 +0.1
SANI Sanana 55.62 286 P P 15 55 45.7 -1.1
CASY Casey 57.70 206 eP P 15 55 59.9 -0.2
comp=Z,245nm,1.6s
JAGI Jajag, Banyuwa 63.20 274 eP P 15 56 34.9 -2.2
comp=Z,36nm,1.0s
QSPA South Pole Qui 64.21 180 P P 15 56 43.9 +1.2
comp=Z,70nm,0.7s,baz=23,slow=1.2,SNR=219
KDM Kudat 68.04 290 P P 15 57 08.0 +1.0
CISI Cisompet, Garu 69.28 272 eP P 15 57 13.3 -1.3
comp=Z,73nm,1.3s
SBUM Sibu 69.81 283 eP P 15 57 17.5 -0.1
comp=Z,6.0nm,1.0s
SBUM Sibu 69.81 283 P P 15 57 18.0 +0.4
KSM Kuching 71.03 281 eP P 15 57 24.4 -0.4
comp=Z,22nm,0.8s
KSM Kuching 71.03 281 P P 15 57 25.0 +0.2
JOW Kunigami 71.26 314 P P 15 57 25.2 -0.6
comp=Z,25nm,0.8s,baz=121,slow=12,SNR=4.2
JOW Kunigami 71.26 314 eP P 15 57 24.8 -1.1
comp=Z,31nm,0.8s
INU Inuyama 72.39 325 eP P 15 57 32.0 -0.1
comp=Z,290nm,2.0s
MJAR Matsushiro Arr 72.73 327 P P 15 57 33.1 -1.0
comp=Z,9.7nm,0.7s,baz=168,slow=5.6,SNR=30
MAJO Matsushiro 72.73 327 eP P 15 57 33.5 -0.6
comp=Z,13nm,0.8s
MAJO Matsushiro 72.73 327 eP P 15 57 33.5 -0.6
MAJO pmax pmax
comp=Z,13nm,0.8s
MJB9 Matsu-Tunnel 72.73 327 eP P 15 57 33.4 -0.7
comp=Z,14nm,0.8s
YOJ Yonaguni jima 73.28 308 eP P 15 57 37.1 -0.4
comp=Z,217nm,1.1s
YOJ Yonaguni jima 73.28 308 eP P 15 57 37.1 -0.4
YOJ pmax pmax
comp=Z,217nm,1.1s
TWG Pinlang 73.66 306 eP P 15 57 37.5 -2.2
comp=Z,509nm,1.9s
YULB Yu-li 73.84 307 eP P 15 57 38.7 -2.0
comp=Z,154nm,2.0s
JNU Nakatsue 74.07 320 P P 15 57 41.0 -0.8
comp=Z,21nm,0.8s,baz=231,slow=3.3,SNR=13
NACB Ninganchiao 74.11 307 eP P 15 57 40.6 -1.6
comp=Z,46nm,1.1s
TPUB Ta-pu 74.27 306 eP P 15 57 41.1 -2.0
comp=Z,257nm,2.0s
SSLB Suanglung 74.33 307 eP P 15 57 41.3 -2.2
comp=Z,118nm,1.8s
ERM Erimo 75.00 334 eP P 15 57 47.7 +1.0
comp=Z,203nm,1.5s
ERM Erimo 75.00 334 eP P 15 57 47.7 +1.0
ERM pmax pmax
comp=Z,203nm,1.5s
MAW Mawson 75.39 201 P P 15 57 49.0 +0.5
comp=Z,17nm,0.8s,baz=134,slow=6.2,SNR=40
MAW Mawson 75.39 201 eP P 15 57 49.0 +0.5
comp=Z,5.8nm,1.0s
MAW Mawson 75.39 201 eP P 15 57 49.0 +0.5
MAW pmax pmax
comp=Z,6.0nm,1.0s
MYKOM Kota Tinggi 76.91 278 eP P 15 57 57.4 -0.5
comp=Z,14nm,0.9s
MYKOM Kota Tinggi 76.91 278 P P 15 57 58.0 +0.1
ASAJ Asahikawa 76.99 334 P P 15 57 57.0 -0.5
comp=Z,18nm,0.8s,baz=215,slow=2.6,SNR=15
ASAJ Asahikawa 76.99 334 eP P 15 57 58.8 +1.2
comp=Z,217nm,2.0s
ADK Adak 77.55 3 eP P 15 58 00.4 0.0
comp=Z,66nm,0.7s
ADK Adak 77.55 3 eP P 15 58 00.4 0.0
ADK pmax pmax
comp=Z,66nm,0.7s
PMSA Palmer Station 77.66 157 P P 15 58 02.0 +1.1
comp=Z,39nm,1.0s,baz=203,slow=8.1,SNR=3.7
PMSA Palmer Station 77.66 157 eP P 15 58 01.6 +0.6
comp=Z,63nm,1.1s
ATKA Atka Island 78.02 5 eP P 15 58 02.5 -0.3
comp=Z,250nm,1.6s
TJN Taejon 78.41 320 *j* *i*P P 15 58 04.3 -1.1
KSRS Korea Array 78.85 321 P P 15 58 07.9 +0.3
comp=Z,8.0nm,0.8s,baz=137,slow=5.7,SNR=31
KS15 Wonju Array Si 78.86 321 eP P 15 58 08.0 +0.3
KS15 epP pP 16 00 17.0 -0.9
KSAR Wonju Array Be 78.86 321 P P 15 58 07.9 +0.2
KSAR Wonju Array Be 78.86 321 P P 15 58 07.9 +0.2
KS01 Wonju Array Si 78.88 321 eP P 15 58 07.1 -0.7
KS01 epP pP 16 00 17.0 -1.1
NIKH Nikolski High 79.30 8 eP P 15 58 09.6 -0.1
comp=Z,302nm,1.3s
YSS Yuzh-Sakhalins 79.32 336 eP P 15 58 10.8 +0.9
comp=Z,82nm,1.1s
YSS Yuzh-Sakhalins 79.32 336 *j* *i*P P 15 58 11.3 +1.4
YSS e 15 58 17.7
YSS pmax pmax
comp=Z,60nm,1.2s
PET Petropavlovsk 80.43 348 eP P 15 58 15.4 -0.1
comp=Z,727nm,2.0s
PET Petropavlovsk 80.43 348 eP P 15 58 15.4 -0.1
PET pmax pmax
comp=Z,727nm,2.0s
UNV Unalaska Valle 80.47 9 eP P 15 58 15.2 -0.4
comp=Z,320nm,1.7s
IPM Ipoh 80.63 280 eP P 15 58 17.2 -0.4
comp=Z,10nm,0.8s
PEA0B Petropavlovsk- 80.69 348 eP P 15 58 17.1 +0.2
comp=Z,168nm,1.4s
PETK Petropavlovsk- 80.69 348 P P 15 58 16.9 +0.1
comp=Z,25nm,0.6s,baz=134,slow=7.5,SNR=53
PETK Petropavlovsk- 80.69 348 eP P 15 58 17.0 +0.1
PETK Petropavlovsk- 80.69 348 eP P 15 58 17.0 +0.1
PEA1 Petropavlovsk- 80.70 348 eP P 15 58 16.9 0.0
SYO Syowa Base 80.75 194 *j* eP P 15 58 16.0 -1.1
MSHR Mys Shultsa 80.84 327 *d*eP P 15 58 17.7 -0.2
AKUT Akutan 80.85 9 eP P 15 58 17.4 -0.3
comp=Z,375nm,1.4s
NJ2 Nanjing 80.88 312 eP P 15 58 17.4 -0.9
NJ2 pmax pmax

	comp=Z,26nm,0.5s										
VLA	**Vladivostok**	**80.89**	**327**	⇑	*e*P		**P**		**15 58 18.8**	**+0.7**
VLA					pmax		pmax				
	comp=Z,23nm,1.0s										
KULM	**Kulim**	**81.33**	**280**		P		**P**		**15 58 21.0**	**-0.1**
USA0B	**Ussuriysk Arra**	**81.65**	**328**		*e*P		**P**		**15 58 22.9**	**+0.9**
	comp=Z,36nm,1.1s										
USRK	**Ussuriysk Ar.**	**81.65**	**328**		P		**P**		**15 58 22.4**	**+0.4**
	comp=Z,16nm,0.7s,baz=120,slow=3.5,SNR=31										
PSI	**Prapat**	**81.75**	**277**		*e*P		**P**		**15 58 21.3**	**-2.1**
	comp=Z,12nm,1.1s										
PSI	**Prapat**	**81.75**	**277**		*e*P		**P**		**15 58 21.3**	**-2.1**
PSI					pmax		pmax				
	comp=Z,12nm,1.1s										
SNAA	**Sanae**	**82.71**	**180**		*e*P		**P**		**15 58 26.9**	**-0.2**
	comp=Z,26nm,0.6s										
SNAA	**Sanae**	**82.71**	**180**	*c*	*i*P		**P**		**15 58 26.6**	**-0.5**
SNAA					*i* *PP		**pP**		**16 00 41.4**	**+2.5**
SNAA					pmax		pmax				
	comp=Z,1µm,1.0s										
MDJ	**Mudanjiang**	**83.11**	**327**		P		**P**		**15 58 29.9**	**+0.6**
MDJ					pmax		pmax				
	comp=Z,20nm,0.9s										
MDJ	**Mudanjiang**	**83.11**	**327**		*e*P		**P**		**15 58 29.4**	**+0.1**
	comp=Z,21nm,1.1s										
NVL	**N'lazarevskaya**	**83.15**	**184**		*e*P		**P**		**15 58 29.7**	**+0.5**
NVL					pmax		pmax				
	comp=Z,12nm,0.8s										
SNCC	**San Nicolas Is**	**83.31**	**48**		P		**P**		**15 58 31.9**	**+1.3**
	baz=233										
SCI2	**San Clemente I**	**83.81**	**49**		P		**P**		**15 58 34.3**	**+1.3**
	baz=234										
PKM	**Mcpherson Peak**	**84.10**	**47**		P		**P**		**15 58 36.5**	**+1.8**
	baz=233										
BLG	**Laguna Peak, P**	**84.13**	**48**		P		**P**		**15 58 36.3**	**+1.7**
	baz=233										
SMMC	**Simmler**	**84.24**	**46**		P		**P**		**15 58 36.9**	**+1.8**
	baz=233										
TIA	**Tai'an**	**84.56**	**315**		P		**P**		**15 58 37.4**	**+0.8**
HOPS	**Hopland Field**	**84.59**	**42**		*e*P		**P**		**15 58 37.8**	**+1.1**
	comp=Z,28nm,1.0s										
CN2	**Changchun**	**84.63**	**325**		*e*P		**P**		**15 58 36.1**	**-0.7**
CN2					pmax		pmax				
	comp=Z,10.0nm,0.6s										
KCPM	**Cahto Peak**	**84.72**	**41**		*e*P		**P**		**15 58 38.1**	**+0.6**
	comp=Z,17nm,0.8s										
GRNR	**Gornyy**	**84.84**	**335**		*e*P		**P**		**15 58 38.1**	**+0.4**
GRNR					pmax		pmax				
	comp=Z,52nm,1.0s										
BAR	**Barrett**	**84.92**	**50**		*e*P		**P**		**15 58 39.5**	**+1.0**
	comp=Z,28nm,1.8s										
KMRM	**Mail Ridge**	**84.99**	**41**		*e*P		**P**		**15 58 39.9**	**+1.1**
	comp=Z,55nm,1.6s										
MURC	**Murrieta**	**85.09**	**49**		P		**P**		**15 58 40.6**	**+1.2**
	baz=235										
VES	**Vestal, Richgr**	**85.15**	**46**		P		**P**		**15 58 40.7**	**+1.2**
	baz=233										
BFSC	**Mount Baldy Ra**	**85.15**	**48**		P		**P**		**15 58 40.6**	**+0.8**
	baz=234										
MONP2	**Monument Peak**	**85.21**	**50**		P		**P**		**15 58 41.9**	**+1.7**
	baz=235,SNR=21										
IKP	**In-Ko-Pah, Jac**	**85.29**	**50**		P		**P**		**15 58 41.8**	**+1.5**
	baz=235,SNR=7.5										
EDW2	**Edwards Air Fo**	**85.30**	**48**		P		**P**		**15 58 41.4**	**+1.1**
	baz=234,SNR=11										
FRD	**Ford Ranch, An**	**85.44**	**49**		P		**P**		**15 58 42.7**	**+1.6**
	baz=235,SNR=9.2										
ISA	**Isabella, Lake**	**85.44**	**47**		*e*P		**P**		**15 58 41.7**	**+0.7**
	comp=Z,14nm,0.8s										
ISA	**Isabella, Lake**	**85.44**	**47**		*e*P		**P**		**15 58 41.7**	**+0.7**
ISA					pmax		pmax				
	comp=Z,14nm,0.8s										
ISA	**Isabella, Lake**	**85.44**	**47**		P		**P**		**15 58 42.4**	**+1.4**
	baz=234,SNR=16										
O02D	**Mt. Diablo Mer**	**85.51**	**41**		P		**P**		**15 58 43.4**	**+2.2**
	baz=231,SNR=18										
KLR	**Kul'dur**	**85.55**	**331**	*d*	*i*P		**P**		**15 58 42.0**	**+0.9**
	comp=Z,10nm,0.7s,baz=144,slow=3.3,SNR=41										
KLR	**Kul'dur**	**85.55**	**331**	*d*	*i*P		**P**		**15 58 41.7**	**+0.6**
PFO	**Pinyon Flats O**	**85.60**	**49**		P		**P**		**15 58 43.2**	**+1.3**
	baz=235										
CMB	**Columbia Colle**	**85.64**	**44**		*e*P		**P**		**15 58 41.9**	**+0.1**
	comp=Z,9.4nm,0.8s										
CMB	**Columbia Colle**	**85.64**	**44**		*e*P		**P**		**15 58 41.9**	**+0.1**
CMB					pmax		pmax				
	comp=Z,9.0nm,0.8s										
SWSC	**Sam W. Stewart**	**85.67**	**50**		P		**P**		**15 58 43.8**	**+1.7**
	baz=236										
KRMB	**Red Mountain**	**85.71**	**40**		*e*P		**P**		**15 58 43.4**	**+1.1**
	comp=Z,20nm,1.0s										
AFDM	**Forest Hills D**	**85.83**	**43**		*e*P		**P**		**15 58 43.1**	**+0.4**
	comp=Z,7.7nm,0.7s										
LRMC	**Laurel Mtn Rad**	**85.85**	**47**		P		**P**		**15 58 44.4**	**+1.3**
	baz=234,SNR=7.1										
ORV	**Oroville**	**85.89**	**42**		*e*P		**P**		**15 58 43.8**	**+0.8**
	comp=Z,6.9nm,0.8s										
WDC	**Whiskeytown Da**	**85.91**	**41**		*e*P		**P**		**15 58 43.3**	**+0.3**
	comp=Z,18nm,1.2s										
WDC	**Whiskeytown Da**	**85.91**	**41**		*e*P		**P**		**15 58 43.3**	**+0.3**
WDC					pmax		pmax				
	comp=Z,18nm,1.2s										
N02D	**Trinity Center**	**86.06**	**41**		P		**P**		**15 58 45.9**	**+2.1**
	baz=231,SNR=6.9										
BELC	**Belle Mtn. Jos**	**86.14**	**49**		P		**P**		**15 58 46.1**	**+1.6**
	baz=235,SNR=12										
O03E	**Paynes Creek**	**86.17**	**41**		P		**P**		**15 58 45.5**	**+1.1**
	baz=231,SNR=8.7										
MDPB	**Devils Postpil**	**86.22**	**45**		*e*P		**P**		**15 58 45.8**	**+0.9**
	comp=Z,7.1nm,1.0s										
M02C	**Callahan**	**86.24**	**40**		P		**P**		**15 58 46.9**	**+2.3**
	baz=230,SNR=8.1										
PBKT	**Sadao Pong**	**86.27**	**290**		*e*P		**P**		**15 58 45.1**	**-0.1**
	comp=Z,8.4nm,0.8s										
L02E	**Cave Junction**	**86.30**	**39**		P		**P**		**15 58 46.8**	**+2.0**
	baz=230										
BC3	**Big Chuckawall**	**86.31**	**50**		P		**P**		**15 58 47.2**	**+2.0**
	baz=236										
MPMC	**Manual Prospec**	**86.32**	**47**		P		**P**		**15 58 46.5**	**+1.2**
	baz=234,SNR=7.3										
GSC	**Goldstone, Bar**	**86.33**	**48**		*e*P		**P**		**15 58 45.9**	**+0.7**
	comp=Z,7.0nm,0.8s										
GSC	**Goldstone, Bar**	**86.33**	**48**		*e*P		**P**		**15 58 45.9**	**+0.7**
GSC					pmax		pmax				
	comp=Z,7.0nm,0.8s										
GSC	**Goldstone, Bar**	**86.33**	**48**		P		**P**		**15 58 46.6**	**+1.4**
	baz=235,SNR=6.4										
KEBM	**Edson Butte**	**86.35**	**38**		*e*P		**P**		**15 58 45.8**	**+0.7**
	comp=Z,52nm,1.1s										
MLAC	**Mammoth, Mammo**	**86.37**	**45**		P		**P**		**15 58 47.1**	**+1.5**
	baz=233										
HEC	**Hector,Ludlow**	**86.38**	**48**		P		**P**		**15 58 46.8**	**+1.3**
	baz=235,SNR=11										
ENH	**Enshi**	**86.40**	**306**		*e*P		**P**		**15 58 45.0**	**-0.6**
	comp=Z,20nm,1.0s										
GLA	**Glamis**	**86.41**	**51**		P		**P**		**15 58 47.6**	**+2.0**
	baz=236										
GYA	**Guiyang**	**86.51**	**301**		*e*P		**P**		**15 58 47.8**	**+1.5**
GYA					pP		pP		16 01 02.4	+2.4
GYA					sP		sP		16 02 04.0	+1.4
GYA					PP		**PP**		**16 02 24.4**	**+3.7**
GYA					SKS		**SKSac**		**16 08 13.8**	**-0.4**
GYA					S		**S**		**16 08 32.3**	**+0.5**
GYA					pmax		pmax				
	comp=Z,10.0nm,1.0s										
WAKR	**Walker**	**86.52**	**44**		*e*P		**P**		**15 58 47.3**	**+1.1**
	comp=Z,50nm,1.8s										
YBH	**Yreka Blue Hor**	**86.54**	**40**		P		**P**		**15 58 47.8**	**+1.8**
	comp=Z,9.9nm,0.9s,baz=206,slow=1.2,SNR=24										
YBH	**Yreka Blue Hor**	**86.54**	**40**		*e*P		**P**		**15 58 47.6**	**+1.5**
	comp=Z,17nm,1.1s										
K02D	**Willamette Mer**	**86.61**	**39**		P		**P**		**15 58 47.9**	**+1.5**
	baz=230,SNR=6.3										
J01E	**Myrtle Point**	**86.76**	**38**		P		**P**		**15 58 48.2**	**+1.3**
	baz=230										
PNTR	**Pine Nut**	**86.77**	**43**		*e*P		**P**		**15 58 48.4**	**+1.0**
	comp=Z,20nm,0.9s										
BEKR	**Beckworth**	**86.77**	**43**		*e*P		**P**		**15 58 48.1**	**+0.8**
	comp=Z,23nm,1.4s										
IRM	**Iron Mountain**	**86.81**	**50**		P		**P**		**15 58 49.3**	**+1.8**
	baz=236,SNR=9.5										
GMRC	**Granite Mounta**	**86.81**	**49**		P		**P**		**15 58 48.8**	**+1.3**
	baz=235,SNR=5.4										
KDAK	**Kodiak Island**	**86.83**	**15**		P		**P**		**15 58 47.4**	**+0.6**
	comp=Z,5.2nm,0.7s,baz=265,slow=3.8,SNR=5.2										
YERR	**Yerington**	**86.93**	**44**		*e*P		**P**		**15 58 49.0**	**+0.9**
	comp=Z,16nm,1.3s										
GRAC	**Grapevine Rang**	**86.94**	**46**		P		**P**		**15 58 49.6**	**+1.6**
	baz=234,SNR=5.7										
HUMO	**Hull Mountain**	**86.95**	**39**		*e*P		**P**		**15 58 49.6**	**+1.7**
	comp=Z,46nm,1.5s										
FURC	**Furnace Creek,**	**86.97**	**47**		P		**P**		**15 58 49.2**	**+1.2**
	baz=235										
TUQ	**Turquoise Moun**	**87.00**	**48**		P		**P**		**15 58 49.5**	**+1.1**
	baz=235,SNR=7.8										
SHOC	**Shoshone, Teco**	**87.03**	**48**		P		**P**		**15 58 49.8**	**+1.4**
	baz=235										
HSIG		**87.03**	**56**		*e*P		**P**		**15 58 50.1**	**+1.5**
	comp=Z,18nm,1.0s										
M04C	**Macdoel**	**87.08**	**40**		P		**P**		**15 58 50.1**	**+1.5**
	baz=231,SNR=10.0										
L04D	**Klamath Falls**	**87.08**	**40**		P		**P**		**15 58 50.1**	**+1.5**
	baz=231,SNR=13										
NV01	**Mina Array Sit**	**87.19**	**45**		*e*P		**P**		**15 58 49.9**	**+0.6**
NVAR	**Mina Array Bea**	**87.19**	**45**		P		**P**		**15 58 49.9**	**+0.5**
	comp=Z,6.5nm,0.8s,baz=226,slow=7.8,SNR=33										
PAHR	**Pah Rah Range**	**87.27**	**43**		*e*P		**P**		**15 58 50.7**	**+1.1**
	comp=Z,22nm,1.2s										
NV11	**Mina Array Sit**	**87.28**	**45**		*e*P		**P**		**15 58 50.6**	**+0.9**
	comp=Z,0.9nm,1.0s										
LDFC	**Landfair**	**87.35**	**49**		*e*P		**P**		**15 58 52.0**	**+1.9**
	comp=Z,21nm,0.9s										
I03D	**Drain, OR**	**87.43**	**38**		P		**P**		**15 58 51.6**	**+1.6**
	baz=230,SNR=5.1										
BJI	**Beijing**	**87.47**	**317**	⇑	*i*P		**P**		**15 58 51.0**	**+0.7**
BJI					pmax		pmax				
	comp=Z,10.0nm,0.9s										
NANT	**Nan**	**87.54**	**292**		P		**P**		**15 58 52.6**	**+1.4**
PDMCI	**Parker Dam,Lak**	**87.58**	**50**		P		**P**		**15 58 52.4**	**+1.4**
	baz=236										
TPNV	**Topopah Spring**	**87.65**	**47**		*e*P		**P**		**15 58 52.4**	**+0.9**
	comp=Z,11nm,1.0s										
TPNV	**Topopah Spring**	**87.65**	**47**		*e*P		**P**		**15 58 52.4**	**+0.9**
TPNV					pmax		pmax				
	comp=Z,11nm,1.0s										
TPNV	**Topopah Spring**	**87.65**	**47**		P		**P**		**15 58 52.9**	**+1.4**
	baz=235,SNR=9.7										
K04D	**Chiloquin, OR**	**87.65**	**40**		P		**P**		**15 58 52.8**	**+1.5**
	baz=231										
KVN	**Kaiserville**	**87.68**	**44**		*e*P		**P**		**15 58 52.6**	**+1.0**
	comp=Z,21nm,1.3s										
KVN	**Kaiserville**	**87.68**	**44**		*e*P		**P**		**15 58 52.6**	**+1.0**
KVN					pmax		pmax				
	comp=Z,21nm,1.3s										
J04D	**Umpqua Nationa**	**87.83**	**39**		P		**P**		**15 58 53.7**	**+1.5**
	baz=231,SNR=15										
PLCA	**Paso Flores**	**87.92**	**135**		P		**P**		**15 58 54.4**	**+1.7**
	comp=Z,1.8nm,0.5s,baz=249,slow=5.4,SNR=6.9										
PLCA	**Paso Flores**	**87.92**	**135**		*e*P		**P**		**15 58 54.1**	**+1.3**
	comp=Z,45nm,1.8s										
I04A	**Tendick Farm,**	**88.01**	**38**		P		**P**		**15 58 53.9**	**+1.0**
	baz=231,SNR=6.5										
MOD	**Modoc Plateau**	**88.05**	**41**		*e*P		**P**		**15 58 54.0**	**+0.8**
	comp=Z,23nm,0.7s										
SHPR	**Sheep Range**	**88.12**	**48**		*e*P		**P**		**15 58 55.2**	**+1.6**
	comp=Z,13nm,1.4s										
MA2	**Magadan**	**88.14**	**346**		P		**P**		**15 58 52.8**	**-0.1**
	comp=Z,16nm,0.9s,baz=145,slow=6.0,SNR=4.7										
W13A	**Hualapai Mount**	**88.19**	**49**		*e*P		**P**		**15 58 55.5**	**+1.3**
	comp=Z,6.0nm,0.9s										
H04D	**Lebanon**	**88.30**	**38**		P		**P**		**15 58 55.6**	**+1.5**
	baz=230										
EFI	**East Falkland**	**88.30**	**149**		*i*P		**P**		**15 58 55.7**	**+1.6**
EFI					pmax		pmax				
	comp=Z,50nm,1.1s										
LAMP	**Lampang**	**88.31**	**291**		P		**P**		**15 58 57.2**	**+2.5**
J05D	**Fort Rock, OR**	**88.36**	**39**		P		**P**		**15 58 56.3**	**+1.6**
	baz=232,SNR=22										
G03D	**McMinnville, O**	**88.45**	**37**		P		**P**		**15 58 56.3**	**+1.5**
	baz=230										
PAYA	**Payao**	**88.50**	**292**		P		**P**		**15 58 57.5**	**+1.9**
H04A	**Detroit Lake**	**88.70**	**38**		*e*P		**P**		**15 58 57.0**	**+1.0**
	comp=Z,9.9nm,0.8s										
CM01	**Chiang Mai Arr**	**88.83**	**291**		*e*P		**P**		**15 58 57.9**	**+0.7**
CM01					*e*pP		**pP**		**16 01 11.9**	**+0.3**
XAN	**Xi'an**	**88.83**	**309**		P		**P**		**15 58 57.4**	**+0.5**
XAN					pP		pP		16 01 13.6	+2.2
XAN					pmax		pmax				
	comp=Z,17nm,0.8s										
XAN					pmax		pmax				
	comp=Z,110nm,2.7s										
PINE	**Pine Mountain**	**88.84**	**39**		*e*P		**P**		**15 58 58.5**	**+1.6**
	comp=Z,24nm,0.8s										
CM31	**Chiang Mai Arr**	**88.86**	**291**		*e*P		**P**		**15 58 58.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**88.86**	**291**		P		**P**		**15 58 58.3**	**+1.0**
	comp=Z,2.0nm,0.8s,baz=140,slow=3.3,SNR=16										
CMAR					PP		**PP**		**16 02 38.3**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=123,slow=6.6,SNR=3.5										
TUC	**Tucson**	**88.88**	**53**		P		**P**		**15 58 59.4**	**+2.2**
	baz=238										
KMI	**Kunming**	**88.91**	**299**		P		**P**		**15 58 58.5**	**+0.8**
KMI					pmax		pmax				
	comp=Z,18nm,1.0s										
I05D	**Terrebonne, OR**	**88.96**	**39**		P		**P**		**15 58 58.7**	**+1.4**
	baz=232										
CMMT	**Chiang Mai**	**89.02**	**291**		P		**P**		**15 58 59.4**	**+1.4**
CHTO	**Chiang Mai**	**89.02**	**291**		*e*P		**P**		**15 58 58.2**	**+0.2**
	comp=Z,9.6nm,1.1s										
CHTO	**Chiang Mai**	**89.02**	**291**		*e*P		**P**		**15 58 58.2**	**+0.2**
CHTO					pmax		pmax				
	comp=Z,10.0nm,1.1s										
CHTO	**Chiang Mai**	**89.02**	**291**		P		**P**		**15 58 59.5**	**+1.4**
BMN	**Battle Mountai**	**89.04**	**44**		*e*P		**P**		**15 58 59.1**	**+1.3**
	comp=Z,19nm,0.9s										
BMN	**Battle Mountai**	**89.04**	**44**		*e*P		**P**		**15 58 59.1**	**+1.3**
BMN					pmax		pmax				
	comp=Z,19nm,0.9s										
E03A	**Lebam**	**89.14**	**36**		*e*P		**P**		**15 58 59.1**	**+1.1**
	comp=Z,27nm,0.9s										
WVOR	**Wild Horse Val**	**89.36**	**41**		*e*P		**P**		**15 58 59.8**	**+0.6**
	comp=Z,14nm,1.0s										
WVOR	**Wild Horse Val**	**89.36**	**41**		*e*P		**P**		**15 58 59.8**	**+0.6**
WVOR					pmax		pmax				
	comp=Z,14nm,1.0s										
319A	**Douglas**	**89.49**	**55**		*e*P		**P**		**15 59 01.5**	**+1.4**
	comp=Z,14nm,1.3s										
X16A	**Lo Mia Camp, P**	**89.52**	**51**		*e*P		**P**		**15 59 01.6**	**+1.3**
	comp=Z,9.0nm,0.8s										
G05D	**Wamic, OR**	**89.53**	**38**		P		**P**		**15 59 01.2**	**+1.3**
	baz=232										
E04D	**Cinebar**	**89.68**	**36**		P		**P**		**15 59 02.1**	**+1.7**
	baz=231										
CCUT	**Cedar City**	**89.89**	**48**		*e*P		**P**		**15 59 03.7**	**+1.7**
	comp=Z,6.8nm,0.8s										
G06A	**Canon Farm,**	**89.91**	**38**		*e*P		**P**		**15 59 02.5**	**+0.9**
	comp=Z,8.8nm,0.9s										
KNB	**Kanab**	**89.96**	**48**		*e*P		**P**		**15 59 03.6**	**+1.4**
	comp=Z,13nm,0.8s										
KNB	**Kanab**	**89.96**	**48**		*e*P		**P**		**15 59 03.6**	**+1.4**
KNB					pmax		pmax				
	comp=Z,13nm,0.8s										
U15A	**North Rim**	**90.00**	**49**		*e*P		**P**		**15 59 03.8**	**+1.3**
	comp=Z,18nm,0.7s										
J08A	**Circle Bar Ran**	**90.00**	**41**		*e*P		**P**		**15 59 03.1**	**+0.9**
	comp=Z,27nm,1.6s										
D03D	**Eldon**	**90.03**	**35**		P		**P**		**15 59 03.5**	**+1.5**
	baz=230										
PSUT	**Pine Spring**	**90.11**	**47**		*e*P		**P**		**15 59 04.3**	**+1.4**
	comp=Z,6.6nm,0.9s										
WUAZ	**Wupatki**	**90.15**	**50**		*e*P		**P**		**15 59 03.8**	**+0.7**
	comp=Z,8.4nm,0.9s										
WUAZ	**Wupatki**	**90.15**	**50**		P		**P**		**15 59 04.6**	**+1.5**
	baz=238										
PKCU	**Pink Cliffs**	**90.54**	**48**		*e*P		**P**		**15 59 06.8**	**+1.8**
	comp=Z,18nm,0.9s										
SUA	**Susitna One**	**90.54**	**14**		*e*P		**P**		**15 59 04.0**	**-0.2**
	comp=Z,27nm,0.8s										
X18A	**Snowflake**	**90.63**	**52**		*e*P		**P**		**15 59 06.2**	**+0.8**
	comp=Z,6.3nm,0.8s										
ZEA	**Zeya**	**90.77**	**332**		*e*P		**P**		**15 59 05.7**	**+0.4**
ZEA					pmax		pmax				
	comp=Z,20nm,1.0s										
HHC	**Hu-ho-hao-te**	**90.80**	**316**		*e*P		**P**		**15 59 04.5**	**-1.4**
HHC					pmax		pmax				
	comp=Z,6.0nm,0.9s										
HHC					pmax		pmax				
	comp=Z,62nm,6.1s										
G08A	**Pilot Rock**	**90.88**	**39**		*e*P		**P**		**15 59 07.3**	**+1.1**
	comp=Z,3.9nm,0.8s										
SEY	**Seymchan**	**90.90**	**348**		P		**P**		**15 59 05.8**	**+0.1**
	comp=Z,11nm,0.7s,baz=158,slow=5.0,SNR=33										
SEY	**Seymchan**	**90.90**	**348**	⇓	*e*P		**P**		**15 59 06.1**	**+0.4**
SEY					*i* *PP		**pP**		**16 01 25.1**	**+4.4**
MTPU	**Mount Pierson**	**90.94**	**48**		*e*P		**P**		**15 59 08.8**	**+1.8**
	comp=Z,15nm,0.8s										
CD2	**Chengdu**	**90.96**	**304**		*e*P		**P**		**15 59 07.0**	**+0.2**
CD2					pmax		pmax				
	comp=Z,10.0nm,0.5s										
CD2					pmax		pmax				
	comp=Z,140nm,5.0s										
B05A	**Bryant**	**91.01**	**35**		P		**P**		**15 59 08.1**	**+1.6**
	baz=231										
LTY	**Liberty**	**91.13**	**37**		*e*P		**P**		**15 59 07.9**	**+0.6**
	comp=Z,8.6nm,1.1s										
MSU	**Marysvale**	**91.20**	**47**		*e*P		**P**		**15 59 09.2**	**+1.2**
HIA	**Hailar**	**91.20**	**326**	⇓	*i*P		**P**		**15 59 06.8**	**-0.7**
HIA					pmax		pmax				
	comp=Z,7.0nm,1.0s										
BMO	**Blue Mountains**	**91.56**	**40**		*e*P		**P**		**15 59 09.5**	**+0.1**
	comp=Z,20nm,1.9s										
SCM	**Sheep Creek Mo**	**91.66**	**16**		*e*P		**P**		**15 59 08.9**	**-0.4**
	comp=Z,20nm,0.7s										
SCM	**Sheep Creek Mo**	**91.66**	**16**		*e*P		**P**		**15 59 08.9**	**-0.4**
SCM					pmax		pmax				
	comp=Z,20nm,0.7s										
NLU	**North Lily Min**	**92.04**	**46**		*e*P		**P**		**15 59 11.2**	**-0.5**
	comp=Z,3.8nm,0.9s										
TMUT	**Trail Mountain**	**92.26**	**47**		*e*P		**P**		**15 59 13.8**	**+0.8**
	comp=Z,16nm,0.7s										
F10A	**Beach Ranch, E**	**92.26**	**39**		*e*P		**P**		**15 59 12.4**	**-0.1**
	comp=Z,6.3nm,0.9s										
MPU	**Maple Canyon**	**92.36**	**46**		*e*P		**P**		**15 59 12.4**	**-0.8**
	comp=Z,6.1nm,0.9s										
TRF	**Thorofare Moun**	**92.41**	**14**		*e*P		**P**		**15 59 12.2**	**-0.7**
	comp=Z,12nm,0.7s										
MNTX	**Cornudas Mount**	**92.53**	**56**		P		**P**		**15 59 14.8**	**+0.8**
	baz=241										
HLID	**Hailey**	**92.54**	**42**		*e*P		**P**		**15 59 14.3**	**+0.4**
	comp=Z,2.5nm,1.0s										
HLID	**Hailey**	**92.54**	**42**		P		**P**		**15 59 15.1**	**+1.1**
	baz=236										
HVU	**Hansel Valley**	**92.57**	**44**		*e*P		**P**		**15 59 14.9**	**+0.8**
	comp=Z,5.4nm,0.8s										
SRU	**San Rafael Swe**	**92.61**	**47**		*e*P		**P**		**15 59 15.0**	**+0.6**
	comp=Z,9.6nm,0.9s										
SRU	**San Rafael Swe**	**92.61**	**47**		*e*P		**P**		**15 59 15.0**	**+0.6**
SRU					pmax		pmax				
	comp=Z,10.0nm,0.9s										
RND	**Reindeer**	**92.68**	**14**		*e*P		**P**		**15 59 13.4**	**-0.6**
	comp=Z,14nm,0.7s										
RND	**Reindeer**	**92.68**	**14**		*e*P		**P**		**15 59 13.4**	**-0.6**
RND					pmax		pmax				
	comp=Z,14nm,0.7s										
TX31	**Lajitas Ar. Si**	**92.71**	**59**		*e*P		**P**		**15 59 16.0**	**+1.0**
LTX	**Lajitas**	**92.71**	**59**		*e*P		**P**		**15 59 16.2**	**+1.2**
LTX	**Lajitas**	**92.71**	**59**		*e*P		**P**		**15 59 16.2**	**+1.2**
TXAR	**Lajitas Array**	**92.71**	**59**		P		**P**		**15 59 16.2**	**+1.3**
	comp=Z,2.6nm,0.9s,baz=212,slow=6.4,SNR=14										
MVCO	**Mesa Verde**	**93.01**	**50**		P		**P**		**15 59 17.0**	**+0.6**
	baz=240										
TCUT	**Toone Canyon**	**93.09**	**45**		*e*P		**P**		**15 59 17.1**	**+0.5**
	comp=Z,22nm,0.7s										
**AN

RCBR	Riachuelo	134.16	129	PKhKP	PKPpre	16 05 11.6	
	comp=Z,79nm,0.7s,baz=131,slow=0.1,SNR=4.8						
RCBR				SKPbc	**SKPbc**	**16 07 47.8**	**-0.4**
	comp=Z,93nm,0.9s,baz=41,slow=2.7,SNR=2.8						
NCK	**Nalchik**	**139.44**	**307**	⇑*i*PKIKP	**PKPdf**	**16 05 27.9**	**+2.6**
OBN	**Obninsk**	**139.66**	**327**	*c i*PKIKP	**PKPdf**	**16 05 28.1**	**+2.9**
OBN				pmax	pmax		
	comp=Z,13nm,0.5s						
FIA0	**FINESS Array S**	**139.82**	**340**	*e*PKPpre	PKPpre	16 05 17.4	
FIA0				*e*PKPdf	**PKPdf**	**16 05 26.6**	**+1.3**
FIA0				*e*SKPbc	**SKPbc**	**16 08 04.0**	**+1.0**
FIA0				*e*SKPab	**SKPab**	**16 08 14.5**	**-1.2**
FIA0	**FINESS Array S**	**139.82**	**340**	*e*PKHKP	PKPpre	16 05 17.4	
FIA0				*e*		16 05 26.6	
FINES	**FINESS Array B**	**139.82**	**340**	PKhKP	PKPpre	16 05 17.4	
	comp=Z,6.5nm,0.6s,baz=58,slow=4.4,SNR=28						
FINES				PKP	**PKPdf**	**16 05 26.6**	**+1.3**
	comp=Z,3.9nm,0.6s,baz=45,slow=1.7,SNR=8.9						
FINES				SKPbc	**SKPbc**	**16 08 04.0**	**+1.0**
	comp=Z,11nm,0.8s,baz=50,slow=3.2,SNR=16						
FINES				SKPab	**SKPab**	**16 08 14.5**	**-1.2**
	comp=Z,4.8nm,0.8s,baz=72,slow=6.2,SNR=4.2						
KBZ	**Khabaz**	**139.89**	**308**	PKP	**PKPdf**	**16 05 25.2**	**-0.8**
	comp=Z,2.4nm,1.0s,baz=45,slow=1.4,SNR=3.3						
KBZ				SKPbc	**SKPbc**	**16 08 03.3**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=64,slow=3.4,SNR=5.8						
KIV	**Kislovodsk**	**139.99**	**308**	*e*PKIKP	**PKPdf**	**16 05 27.7**	**+1.3**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
VSU	**Vasula**	**141.82**	**336**	*e*P	**PKPdf**	**16 05 24.9**	**-4.1**
VSU				IAmb	IAmb	16 05 25.6	
	comp=Z,51nm,0.5s						
MOL	**Molde**	**142.81**	**353**	*e*PKPab	**PKPdf**	**16 05 28.4**	**-2.2**
DOMB	**Dombas**	**143.14**	**352**	*e*PKPbc	PKPab	16 05 29.4	-0.2
TNCL	**Tunceli-Merkez**	**143.18**	**301**	*i* P	**PKPdf**	**16 05 31.7**	**-0.5**
KELT	**Kelkit**	**143.23**	**303**	*i* P	PKPbc	16 05 31.5	+0.4
AKN	**Aaknes**	**143.25**	**353**	*e*PKPdf	**PKPdf**	**16 05 31.3**	**-0.2**
PTK	**Pertek**	**143.32**	**301**	*e*P	**PKPdf**	**16 05 32.3**	**-0.3**
ANN	**Anapa**	**143.42**	**311**	*e*PKIKP	PKPab	16 05 30.5	-0.6
ANN				pmax	pmax		
	comp=Z,113nm,1.3s						
NC303	**NORSAR Array S**	**143.58**	**349**	*e*PKPbc	PKPbc	16 05 30.4	-0.8
NC405	**NORSAR Array S**	**143.63**	**349**	*e*PKPbc	PKPbc	16 05 30.8	-0.6
NC204	**NORSAR Array S**	**143.63**	**350**	*e*PKPbc	PKPbc	16 05 31.1	-0.4
ELZG	**Elazig**	**143.70**	**300**	*i* P	**PKPdf**	**16 05 33.8**	**+0.6**
NB201	**NORSAR Array S**	**143.76**	**349**	*e*PKPbc	PKPbc	16 05 31.1	-0.7
NB2	**NORSAR Subarra**	**143.78**	**349**	PKP	PKPbc	16 05 31.3	-0.6
	comp=Z,51nm,0.7s,baz=21,slow=4.0						
NB2	**NORSAR Subarra**	**143.78**	**349**	PKP	PKPbc	16 05 31.3	-0.6
	baz=21,slow=4.0						
NB200	**NORSAR Array S**	**143.78**	**349**	*e*PKPbc	PKPbc	16 05 31.3	-0.6
NB200				*e*SKPbc	**SKPbc**	**16 08 12.9**	**+0.1**
NOA	**NORSAR Array B**	**143.78**	**349**	PKP	PKPbc	16 05 31.3	-0.6
	comp=Z,32nm,0.8s,baz=24,slow=2.5,SNR=115						
NOA				SKPbc	**SKPbc**	**16 08 12.9**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=19,slow=4.7,SNR=6.0						
NBO00	**NORSAR Array S**	**143.86**	**350**	*e*PKPbc	PKPbc	16 05 31.8	-0.3
IZAR	**Zarasai**	**143.94**	**333**	*e*P	PKPab	16 05 32.7	0.0
IZAR				IAmb	IAmb	16 05 33.4	
	comp=Z,68nm,0.6s						
KEMA	**Kemaliye**	**143.96**	**302**	*i* P	**PKPdf**	**16 05 34.1**	**+0.6**
URFA	**Urfa**	**143.96**	**299**	*e*P	**PKPdf**	**16 05 33.5**	**-0.1**
SLIT	**Slitere, Latvi**	**144.00**	**338**	*e*P	PKPbc	16 05 31.4	-1.1
SLIT				IAmb	IAmb	16 05 33.2	
	comp=Z,174nm,0.5s						
FOO	**Floro**	**144.01**	**355**	*e*PKPbc	PKPbc	16 05 32.3	-0.1
SUSE	**Susehri**	**144.01**	**303**	*i* P	PKPbc	16 05 33.4	0.0
NC602	**NORSAR Array S**	**144.01**	**349**	*e*PKPbc	PKPbc	16 05 31.5	-1.1
NC602	**NORSAR Array S**	**144.01**	**349**	*e*PKPbc	PKPbc	16 05 31.9	-0.6
NA001	**NORSAR Array S**	**144.02**	**350**	*e*PKPbc	PKPbc	16 05 32.3	-0.2
IDID	**Didziasalis**	**144.04**	**332**	*e*P	PKPbc	16 05 32.8	+0.1
IDID				IAmb	IAmb	16 05 33.7	
	comp=Z,38nm,0.8s						
ISAL	**Salakas**	**144.11**	**333**	*e*P	PKPbc	16 05 33.0	0.0
ISAL				IAmb	IAmb	16 05 34.0	
	comp=Z,26nm,0.8s						
SURC	**SANLIURFA_SURC**	**144.19**	**298**	*i* P	**PKPab**	**16 05 34.3**	**-0.2**
IIGN	**Ignalina**	**144.23**	**333**	*e*P	**PKPdf**	**16 05 33.6**	**+0.3**
IIGN				IAmb	IAmb	16 05 34.3	
	comp=Z,48nm,0.9s						
NACGM	**Naroch**	**144.30**	**332**	*e*P	**PKPdf**	**16 05 32.0**	**-1.5**
NACGM				PM		16 05 33.0	
	comp=Z,0.4nm,1.0s						
HYA	**Hoyanger**	**144.33**	**354**	*e*PKPab	**PKPab**	**16 05 33.8**	**-0.2**
CUZAR	**Zara_SIVAS**	**144.40**	**303**	*i* P	**PKPab**	**16 05 35.4**	**+0.1**
HEKM	**Malatya_Hekimh**	**144.43**	**301**	*i* P	**PKPab**	**16 05 35.7**	**+0.2**
AKCD	**Akcadag**	**144.55**	**300**	*i* P	**PKPab**	**16 05 35.7**	**-0.2**
SUE	**Sulen**	**144.57**	**355**	*e*PKPbc	PKPbc	16 05 34.0	-0.2
OSL	**Oslo**	**144.90**	**349**	*e*P	**PKPdf**	**16 05 34.7**	**+0.4**
SVSK	**Karacayir**	**144.97**	**303**	*e*P	**PKPab**	**16 05 36.9**	**-0.4**
ASK	**Askoy**	**145.10**	**354**	*e*PKPbc	**PKPbc**	**16 05 35.6**	**-0.1**
BER	**Bergen**	**145.18**	**354**	*e*PKPbc	**PKPbc**	**16 05 36.0**	**0.0**
KONO	**Kongsberg**	**145.36**	**350**	*e*PKPdf	**PKPbc**	**16 05 36.2**	**-0.4**
KONO	**Kongsberg**	**145.36**	**350**	*ce*PKP2	**PKPbc**	**16 05 36.7**	**+0.1**
KONO				pmax	pmax		
	comp=Z,57nm,1.7s						
KONO	**Kongsberg**	**145.36**	**350**	*e*PKPbc	**PKPbc**	**16 05 36.2**	**-0.4**
KUZU	**Kuzuini**	**145.43**	**298**	*i* P	**PKPbc**	**16 05 38.1**	**+0.5**
ODD1	**Odda**	**145.51**	**353**	*e*PKPbc	**PKPbc**	**16 05 37.0**	**-0.1**
SIM	**Simferopol'**	**145.59**	**313**	PKP2	**PKPbc**	**16 05 38.0**	**+0.3**
SIM				pmax	pmax		
	comp=Z,19nm,0.8s						
AKASG	**Malin Array Be**	**145.79**	**325**	PKPbc	**PKPbc**	**16 05 37.5**	**-0.6**
	comp=Z,16nm,0.6s,baz=44,slow=4.0,SNR=52						
AKASG				SKPbc	**SKiKP**	**16 08 18.6**	**+0.6**
	comp=Z,6.8nm,0.8s,baz=47,slow=2.8,SNR=11						
AKBB	**Malin Array Si**	**145.79**	**325**	*e*PKPdf	**PKPdf**	**16 05 37.0**	**+0.8**
AKBB				*e*SKPbc	**SKiKP**	**16 08 18.0**	**0.0**
KIEV	**Kiev**	**145.80**	**325**	*e*PKPdf	**PKPdf**	**16 05 36.7**	**+0.5**
KIEV	**Kiev**	**145.80**	**325**	*e*PKIKP	**PKPdf**	**16 05 36.7**	**+0.5**
AK11	**Malin Array Si**	**145.83**	**325**	*e*PKPdf	**PKPdf**	**16 05 34.9**	**-1.4**
BLS5	**Blasjo**	**146.01**	**353**	*e*PKPdf	**PKPdf**	**16 05 36.9**	**+0.6**
TAHT	**Tahtakopru-Hat**	**146.19**	**297**	*e*P	**PKPbc**	**16 05 40.7**	**+1.0**
SUW	**Suwalki**	**146.42**	**333**	*e*PKP	**PKPbc**	**16 05 39.5**	**-0.2**
SUW	**Suwalki**	**146.42**	**333**	*e*PKPdf	**PKPbc**	**16 05 38.9**	**-0.8**
SUW	**Suwalki**	**146.42**	**333**	*e*PKP2	**PKPbc**	**16 05 39.5**	**-0.2**
SNART	**Snartemo**	**146.97**	**351**	*e*PKPbc	**PKPbc**	**16 05 41.1**	**+0.1**
ILGA	**Ilgaz**	**147.13**	**306**	*e*PKPbc	**PKPbc**	**16 05 42.7**	**+0.4**
BR101	**Keskin Array S**	**147.54**	**304**	*e*PKPbc	**PKPbc**	**16 05 42.9**	**-0.4**
BR131	**Keskin Array S**	**147.54**	**304**	*e*PKPbc	**PKPbc**	**16 05 42.6**	**-0.7**
BRTR	**Keskin Array B**	**147.54**	**304**	PKPbc	**PKPbc**	**16 05 42.9**	**-0.4**
	comp=Z,6.2nm,0.6s,baz=83,slow=1.7,SNR=31						
KIZK	**Mersin**	**147.80**	**298**	*e*P	**PKPbc**	**16 05 43.0**	**-0.9**
EREN	**Erenkoy**	**147.92**	**296**	*e*P	**PKPbc**	**16 05 44.2**	**0.0**
ANTO	**Ankara**	**148.13**	**305**	*e*PKPbc	**PKPbc**	**16 05 44.3**	**-0.4**
ANTO	**Ankara**	**148.13**	**305**	⇓*i*P	**PKPbc**	**16 05 44.6**	**-0.1**
ANTO	**Ankara**	**148.13**	**305**	⇓PKP2	**PKPbc**	**16 05 44.6**	**-0.1**
KEBE	**Keben-Mersin**	**148.15**	**298**	*e*P	**PKPbc**	**16 05 45.0**	**+0.2**
IKL	**Isikli**	**148.21**	**298**	*e*P	**PKPbc**	**16 05 44.2**	**-0.7**
BERE	**Bereket-Mersin**	**148.56**	**298**	*e*P	**PKPbc**	**16 05 46.1**	**+0.1**
LEOM	**Leova**	**148.62**	**319**	⇑*i*P	**PKPbc**	**16 05 46.1**	**+0.6**
LEOM	**Leova**	**148.62**	**319**	⇑PKP2	**PKPbc**	**16 05 46.1**	**+0.6**
CSS	**Mathiatis**	**148.67**	**295**	*e*P	**PKPbc**	**16 05 45.8**	**-0.3**
CSS	**Mathiatis**	**148.67**	**295**	*e*PKPbc	**PKPbc**	**16 05 45.5**	**-0.6**
CSS	**Mathiatis**	**148.67**	**295**	P	**PKPbc**	**16 05 49.2**	**+3.1**
TEKE	**Tekeli-Mersin**	**148.68**	**298**	*e*P	**PKPbc**	**16 05 45.2**	**-0.8**
MAMC	**Mammari**	**148.74**	**296**	P	**PKPbc**	**16 05 45.7**	**-0.5**
TLCR		**148.90**	**316**	⇑*i*P	**PKPbc**	**16 05 46.7**	**+0.4**
TLCR		**148.90**	**316**	⇑PKP2	**PKPbc**	**16 05 46.7**	**+0.4**
LVV	**L'vov**	**148.96**	**327**	*e*PKHKP	**PKPbc**	**16 05 46.1**	**-0.2**
LEF	**Lefka**	**149.01**	**296**	*e*P	**PKPbc**	**16 05 47.0**	**+0.1**
BEL	**Belsk**	**149.01**	**333**	*e*PKP	**PKPbc**	**16 05 46.9**	**+0.6**
BEL	**Belsk**	**149.01**	**333**	*e*PKP2	**PKPbc**	**16 05 46.9**	**+0.6**
SZAC	**Souni**	**149.06**	**295**	P	**PKPbc**	**16 05 47.2**	**+0.1**
KIZT	**Kizilcal**	**149.07**	**303**	*e*P	**PKPbc**	**16 05 47.1**	**0.0**
GKP	**Gorka Klasztor**	**149.22**	**338**	*e*PKP	**PKPbc**	**16 05 47.1**	**+0.4**
GKP	**Gorka Klasztor**	**149.22**	**338**	*e*PKHKP	**PKPbc**	**16 05 47.2**	**+0.4**
ALFC	**Alefka**	**149.24**	**296**	P	**PKPbc**	**16 05 46.6**	**-0.9**
GAZI	**Gazipasa**	**149.30**	**298**	*e*P	**PKPbc**	**16 05 50.2**	**+2.6**
PRAR	**RASCA**	**149.31**	**322**	⇑*i*P	**PKPbc**	**16 05 48.3**	**+1.1**
CFR	**Carcaliu**	**149.33**	**317**	⇑*i*P	**PKPbc**	**16 05 47.9**	**+0.6**
CFR	**Carcaliu**	**149.33**	**317**	⇑PKHKP	**PKPbc**	**16 05 47.9**	**+0.6**
PPCY	**Paphos**	**149.48**	**295**	P	**PKPdf**	**16 05 40.5**	**-2.2**
TIRR	**Tirgusor**	**149.49**	**315**	⇑*i*P	**PKPbc**	**16 05 48.4**	**+0.7**
TIRR	**Tirgusor**	**149.49**	**315**	⇑PKHKP	**PKPbc**	**16 05 48.4**	**+0.7**
BIZ	**Bicaz**	**149.62**	**321**	⇑*i*P	**PKPbc**	**16 05 49.1**	**+1.1**
HARR	**Harsova**	**149.69**	**316**	⇑*i*P	**PKPbc**	**16 05 49.0**	**+0.8**
HARR	**Harsova**	**149.69**	**316**	⇑PKHKP	**PKPbc**	**16 05 49.0**	**+0.8**
BUR08	**Bucovina Ar. S**	**149.71**	**323**	*e*PKPdf	**PKPdf**	**16 05 41.9**	**-0.9**
BUR08				*e*PKPbc	**PKPbc**	**16 05 48.5**	**+0.2**
BURAR	**Bucovina Array**	**149.72**	**323**	⇑*i*P	**PKPbc**	**16 05 49.3**	**+1.0**
BURAR	**Bucovina Array**	**149.72**	**323**	⇑PKHKP	**PKPbc**	**16 05 49.3**	**+1.0**
BUR04	**Bucovina Ar. S**	**149.72**	**323**	*e*PKPdf	**PKPdf**	**16 05 42.4**	**-0.4**
BUR04				*e*PKPbc	**PKPbc**	**16 05 48.5**	**+0.2**
KWP	**Kalwaria Pacla**	**149.73**	**328**	*e*PKP	**PKPbc**	**16 05 48.6**	**+0.5**
KWP	**Kalwaria Pacla**	**149.73**	**328**	*e*PKHKP	**PKPbc**	**16 05 48.6**	**+0.5**
VRI	**Vrincioaia**	**149.84**	**319**	⇑*i*P	**PKPbc**	**16 05 48.8**	**+0.3**
VRI	**Vrincioaia**	**149.84**	**319**	⇑PKHKP	**PKPbc**	**16 05 48.8**	**+0.3**
PLOR	**Plostina**	**149.89**	**319**	⇑*i*P	**PKPbc**	**16 05 48.6**	**-0.1**
PLOR	**Plostina**	**149.89**	**319**	⇑PKHKP	**PKPbc**	**16 05 48.6**	**-0.1**
ISR	**Istrita**	**150.34**	**318**	⇑*i*P	**PKPbc**	**16 05 50.4**	**+0.6**
ISR	**Istrita**	**150.34**	**318**	⇑PKIKP	**PKPbc**	**16 05 50.4**	**+0.6**
MLR	**Muntele Rosu**	**150.50**	**319**	*e*PKPbc	**PKPbc**	**16 05 48.9**	**-1.3**
MLR	**Muntele Rosu**	**150.50**	**319**	⇑*i*P	**PKPbc**	**16 05 50.0**	**-0.2**
MLR	**Muntele Rosu**	**150.50**	**319**	⇑PKIKP	**PKPbc**	**16 05 50.0**	**-0.2**
ARCR	**ARCALIA**	**150.51**	**323**	⇑*i*P	**PKPbc**	**16 05 50.9**	**+0.9**
DOPR	**Dopca**	**150.57**	**320**	⇑*i*P	**PKPbc**	**16 05 51.2**	**+1.0**
SECR		**150.67**	**318**	⇑*i*P	**PKPbc**	**16 05 51.1**	**+0.6**
TRPA	**Tarpa**	**150.81**	**326**	⇑*i*P	**PKPbc**	**16 05 51.0**	**+0.4**
NIE	**Niedzica**	**151.00**	**330**	*e*PKP	**PKPbc**	**16 05 52.1**	**+1.0**
NIE	**Niedzica**	**151.00**	**330**	*e*PKIKP	**PKPbc**	**16 05 52.1**	**+1.0**
CJR	**Cluj-Napoca**	**151.15**	**323**	⇑*i*P	**PKPbc**	**16 05 52.3**	**+0.7**
CJR	**Cluj-Napoca**	**151.15**	**323**	⇑PKIKP	**PKPbc**	**16 05 52.3**	**+0.7**
ARR	**Arges**	**151.34**	**319**	⇓*i*P	**PKPbc**	**16 05 53.9**	**+1.8**
KSP	**Ksiaz**	**151.55**	**336**	*e*PKP	**PKPbc**	**16 05 52.9**	**+0.7**
KSP	**Ksiaz**	**151.55**	**336**	*e*PKIKP	**PKPbc**	**16 05 52.9**	**+0.7**
KECS	**Kecovo**	**151.58**	**328**	*e*PKIKP	**PKPbc**	**16 05 51.7**	**-0.7**
KECS				*e*		16 06 03.5	
KECS	**Kecovo**	**151.58**	**328**	*e*PKP	**PKPbc**	**16 05 51.7**	**-0.7**
KECS				*e*		16 06 03.5	
HUMR	**Humele**	**151.59**	**318**	⇑*i*P	**PKPbc**	**16 05 52.3**	**-0.2**
OKC	**Ostrava-Krasne**	**151.62**	**333**	⇑*e*PKP	**PKPbc**	**16 05 53.0**	**+0.6**
OKC				*e*PKPAB	**PKPab**	**16 06 05.2**	**+0.9**
OKC	**Ostrava-Krasne**	**151.62**	**333**	*e*PKIKP	**PKPbc**	**16 05 53.0**	**+0.6**
MORC	**Moravsky Berou**	**151.91**	**333**	*e*PKPbc	**PKPbc**	**16 05 52.1**	**-1.0**
MORC	**Moravsky Berou**	**151.91**	**333**	⇑*i*P	**PKPbc**	**16 05 54.0**	**+0.8**
MORC	**Moravsky Berou**	**151.91**	**333**	⇑PKIKP	**PKPbc**	**16 05 54.0**	**+0.8**
MORC	**Moravsky Berou**	**151.91**	**333**	*e*PKP	**PKPbc**	**16 05 53.4**	**+0.2**
MORC				*e*		16 06 05.8	
DPC	**Dobruska-Polom**	**151.94**	**335**	⇑*e*PKP	**PKPbc**	**16 05 54.0**	**+0.8**
DPC				*e*PKPAB	**PKPab**	**16 06 06.4**	**+0.7**
DPC	**Dobruska-Polom**	**151.94**	**335**	*e*PKIKP	**PKPbc**	**16 05 54.0**	**+0.8**
KRLC	**Kraliky**	**151.98**	**334**	⇑*e*PKP	**PKPbc**	**16 05 53.9**	**+0.6**
KRLC	**Kraliky**	**151.98**	**334**	*e*PKIKP	**PKPbc**	**16 05 53.9**	**+0.6**
PSZ	**Piszkesteto**	**152.25**	**328**	*e*PKPbc	**PKPbc**	**16 05 53.6**	**-0.4**
PSZ				*e*PKPab	**PKPab**	**16 06 06.7**	**-0.5**
CLL	**Collm**	**152.27**	**340**	*e*PKPbc	**PKPbc**	**16 05 53.5**	**-0.3**
CLL				*e*PKPab	**PKPab**	**16 06 06.8**	**-0.1**
CLL	**Collm**	**152.27**	**340**	⇑*i*PKPbc	**PKPbc**	**16 05 53.6**	**-0.2**
	comp=Z,28nm,0.9s						
CLL				⇓*i*PKPab	**PKPab**	**16 06 07.1**	**+0.2**
	comp=Z,26nm,0.6s						
CLL				*ep*PKPab	**pPKPab**	**16 08 23.0**	**-1.1**
CLL	**Collm**	**152.27**	**340**	⇑*i*PKIKP	**PKPbc**	**16 05 53.6**	**-0.2**
CLL				*i*		16 06 07.1	
CLL				pmax	pmax		
	comp=Z,171nm,0.9s						
CLL				pmax	pmax		
	comp=Z,28nm,0.6s						
VYHS	**Vyhne**	**152.33**	**330**	*e*PKIKP	**PKPbc**	**16 05 53.8**	**-0.3**
VYHS				*e*		16 06 07.8	
VYHS	**Vyhne**	**152.33**	**330**	*e*PKP	**PKPbc**	**16 05 53.8**	**-0.3**
VYHS				*e*		16 06 07.8	
BRG	**Berggiesshubel**	**152.34**	**339**	*i* PKP	**PKPbc**	**16 05 54.4**	**+0.4**
	comp=Z,24nm,1.2s						
BRG				*i*		16 06 07.5	
	comp=Z,12nm,0.8s						
BRG	**Berggiesshubel**	**152.34**	**339**	*i* PKIKP	**PKPbc**	**16 05 54.4**	**+0.4**
BRG				*i*		16 06 07.5	
BRG				pmax	pmax		
	comp=Z,1.0nm,1.2s						
BRG				pmax	pmax		
	comp=Z,24nm,0.8s						
GZR	**Gura Zlata**	**152.40**	**321**	⇑*i*P	**PKPbc**	**16 05 54.4**	**0.0**
GZR	**Gura Zlata**	**152.40**	**321**	⇑PKIKP	**PKPbc**	**16 05 54.4**	**0.0**
PVCC	**Panska Ves**	**152.43**	**337**	*e*PKP	**PKPbc**	**16 05 54.9**	**+0.7**
PVCC				*e*PKPAB	**PKPab**	**16 06 08.3**	**+0.6**
PVCC	**Panska Ves**	**152.43**	**337**	*e*PKIKP	**PKPbc**	**16 05 54.9**	**+0.7**
PVCC				*e*		16 06 08.3	
SIRR	**Siria**	**152.47**	**324**	⇑*i*P	**PKPbc**	**16 05 55.0**	**+0.6**
JAVC	**Velka Javorina**	**152.57**	**332**	*e*PKP	**PKPbc**	**16 05 56.0**	**+1.4**
JAVC				*e*		16 06 09.7	
VRAC	**Vranov**	**152.66**	**334**	*e*PKP	**PKPbc**	**16 05 55.0**	**+0.2**
VRAC				*e*		16 06 09.2	
BZS	**Buzias**	**152.91**	**323**	⇑*i*P	**PKPbc**	**16 05 55.6**	**+0.2**
BZS	**Buzias**	**152.91**	**323**	⇑PKIKP	**PKPbc**	**16 05 55.6**	**+0.2**
KRUC	**Moravsky**	**152.94**	**333**	*e*PKP	**PKPbc**	**16 05 55.4**	**+0.1**
KRUC				*e*		16 06 10.2	
MODS	**Modra-Piesok**	**153.11**	**332**	*e*PKIKP	**PKPbc**	**16 05 55.6**	**-0.2**
MODS				*e*		16 06 11.0	
MODS	**Modra-Piesok**	**153.11**	**332**	*e*PKP	**PKPbc**	**16 05 55.6**	**-0.2**
MODS				*e*		16 06 11.0	
TREC	**Trest**	**153.11**	**335**	*e*PP	PP	16 09 54.3	+7.0
ZST	**Bratislava**	**153.32**	**331**	*e*PKIKP	**PKPbc**	**16 05 57.5**	**+1.3**
ZST	**Bratislava**	**153.32**	**331**	*e*PKP	**PKPbc**	**16 05 57.5**	**+1.3**
NKC	**Novy Kostel**	**153.38**	**340**	⇑*e*PKP	**PKPbc**	**16 05 57.7**	**+1.4**
NKC				*e*PKPAB	**PKPab**	**16 06 12.4**	**+0.6**
NKC	**Novy Kostel**	**153.38**	**340**	*e*PKIKP	**PKPbc**	**16 05 57.7**	**+1.4**
KHC	**Kasperske Hory**	**153.95**	**337**	⇑*e*PKP	**PKPbc**	**16 05 58.0**	**+0.5**
KHC				*e*PKPAB	**PKPab**	**16 06 14.9**	**+0.6**
KHC				*e*PP	**PP**	**16 09 52.7**	**+0.8**
KHC	**Kasperske Hory**	**153.95**	**337**	*e*PKIKP	**PKPbc**	**16 05 58.0**	**+0.5**
KHC				*e*		16 06 14.9	
KHC				*e*		16 09 52.7	
CONA	**Conrad Observa**	**154.05**	**333**	*i* PKPab	**PKPab**	**16 06 15.6**	**+0.7**
	comp=Z,7.6nm,0.6s						
GEC2	**GERESS Array S**	**154.15**	**336**	*e*PKPdf	**PKPdf**	**16 05 47.8**	**-1.5**
GEC2				*e*PKPab	**PKPab**	**16 06 14.9**	**-0.3**
GEC2	**GERESS Array S**	**154.15**	**336**	*e*PKIKP	**PKPdf**	**16 05 47.8**	**-1.5**
GEC2				*e*		16 06 14.9	
GERES	**GERESS Array B**	**154.15**	**336**	PKP	**PKPdf**	**16 05 49.5**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=13,slow=1.3,SNR=6.5						
GERES				PKPbc	**PKiKP**	**16 05 58.2**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=48,slow=2.0,SNR=13						
GERES				PKPab	**PKPab**	**16 06 15.3**	**+0.1**
	comp=Z,5.0nm,0.7s,baz=29,slow=4.8,SNR=22						
GEA0	**GERESS Array S**	**154.15**	**336**	*e*PKPdf	**PKPdf**	**16 05 48.2**	**-1.0**
GEA0				*e*PKPbc	**PKiKP**	**16 05 57.5**	**-0.5**
GEA0				*e*PKPab	**PKPab**	**16 06 14.5**	**-0.7**
GRFO	**Grafenberg**	**154.23**	**341**	*e*PKPab	**PKPab**	**16 06 15.3**	**-0.1**
GRFO	**Grafenberg**	**154.23**	**341**	*e*PKP2	**PKPab**	**16 06 15.3**	**-0.1**
MEM	**Membach**	**154.62**	**349**	⇑PKP	**PKPab**	**16 06 17.0**	**-0.1**
ARSA	**Arzberg**	**154.73**	**332**	*i* PKPab	**PKPab**	**16 06 17.5**	**-0.2**
	comp=Z,3.3nm,0.7s						
MOA	**Molln**	**154.76**	**334**	*i* PKPab	**PKPab**	**16 06 18.3**	**+0.5**
	comp=Z,7.9nm,1.0s						
DIVS	**Divibare**	**154.76**	**322**	*e*PKPdf	**PKPdf**	**16 05 50.6**	**+0.3**
DIVS				*e*PKPab	**PKPab**	**16 06 16.7**	**-1.3**
BCLA	**Clavier**	**154.93**	**350**	⇑PKP	**PKPab**	**16 06 18.2**	**-0.1**
DOU	**Dourbes**	**155.35**	**350**	⇑PKP	**PKPab**	**16 06 20.0**	**-0.2**
SOKA	**Soboth**	**155.38**	**332**	*i* PKPab	**PKPab**	**16 06 20.1**	**-0.5**
	comp=Z,4.9nm,0.6s						
WLF	**Walferdange**	**155.50**	**348**	⇓PKP	**PKPab**	**16 06 21.2**	**+0.4**
KBA	**Koelnbreinsper**	**155.75**	**335**	*i* PKPab	**PKPab**	**16 06 22.9**	**+0.6**
	comp=Z,4.7nm,0.7s						
PDKS	**Podkum**	**155.88**	**331**	*i* PKPbc	**PKPab**	**16 06 22.3**	**-0.4**
PDKS	**Podkum**	**155.88**	**331**	*i* PKPbc	**PKPab**	**16 06 22.3**	**-0.4**
MYKA	**Terra Mystica**	**156.00**	**334**	*i* PKPab	**PKPab**	**16 06 22.4**	**-0.9**
	comp=Z,6.7nm,0.6s						
WATA	**Walderalm**	**156.18**	**337**	*i* PKPab	**PKPab**	**16 06 24.3**	**+0.2**
	comp=Z,5.0nm,0.5s						
GBAS	**Gorenja Brezov**	**156.22**	**331**	*i* PKPbc	**PKPab**	**16 06 23.5**	**-0.7**
GBAS	**Gorenja Brezov**	**156.22**	**331**	*i* PKPbc	**PKPab**	**16 06 23.5**	**-0.7**
BFO	**Black Forest**	**156.27**	**343**	*e*PKPab	**PKPab**	**16 06 23.9**	**-0.4**
BFO	**Black Forest**	**156.27**	**343**	*e*PKP2	**PKPab**	**16 06 23.9**	**-0.4**
RETA	**Reutte**	**156.32**	**339**	*i* PKPab	**PKPab**	**16 06 24.6**	**0.0**
	comp=Z,7.4nm,0.6s						
MOTA	**Moosalm**	**156.33**	**338**	*i* PKPab	**PKPab**	**16 06 25.1**	**+0.3**
	comp=Z,8.5nm,0.8s						
ABTA	**Abfaltersbach**	**156.34**	**335**	*i* PKPab	**PKPab**	**16 06 23.3**	**-1.5**
	comp=Z,9.8nm,0.6s,SNR=4.7						
GBRS	**Gornja Briga**	**156.38**	**330**	*i* PKPbc	**PKPab**	**16 06 24.6**	**-0.2**
GBRS	**Gornja Briga**	**156.38**	**330**	*i* PKPbc	**PKPab**	**16 06 24.6**	**-0.2**
SQTA	**Sankt Quirin**	**156.41**	**338**	*i* PKPab	**PKPab**	**16 06 25.5**	**+0.4**
	comp=Z,8.0nm,0.6s						
ECH	**Echery**	**156.67**	**345**	*e*PKPab	**PKPab**	**16 06 24.8**	**-1.2**
ECH	**Echery**	**156.67**	**345**	*e*PKP2	**PKPab**	**16 06 24.8**	**-1.2**
FETA	**Feichten**	**156.74**	**338**	*i* PKPab	**PKPab**	**16 06 26.8**	**+0.2**
	comp=Z,6.8nm,0.8s						
DAVA	**Damuels**	**156.78**	**340**	*i* PKPab	**PKPab**

NRN				⇑*i*S		**Sb**	**16 08 15.6**	**-2.1**
	baz=1.0							
FRU1	**Bishkek**	**1.16**	**1**	⇑*i*P		**Pg**	**16 08 05.4**	**-0.1**
	baz=0.0							
FRU1				⇑*i*S		**Sg**	**16 08 20.4**	**-0.3**
	baz=0.0							
EKS2	**Erkin-Say**	**1.19**	**329**	⇓P		**Pg**	**16 08 05.7**	**-0.2**
	25nm,0.2s,SNR=55							
EKS2				⇑S		**Sb**	**16 08 20.0**	**-1.1**
	62nm,0.2s							
EKS2	**Erkin-Say**	**1.19**	**329**	⇓*i*P		**Pg**	**16 08 05.8**	**-0.2**
	baz=29							
EKS2				⇓*i*S		**Sg**	**16 08 21.2**	**-0.3**
	baz=29							
ARSB	**Arslanbob**	**1.26**	**256**	⇑*i*P		**Pn**	**16 08 06.3**	**-0.5**
	baz=57							
ARSB				⇑*i*S		**Sn**	**16 08 24.0**	**+0.2**
	baz=57							
BOOM	**Boomskoye usch**	**1.30**	**49**	⇓*i*P		**Pb**	**16 08 07.2**	**-0.4**
	baz=48							
BOOM				⇓*i*S		**Sg**	**16 08 25.1**	**0.0**
	baz=48							
CHMS	**Chumysh**	**1.36**	**4**	P		**Pg**	**16 08 08.8**	**-0.3**
	69nm,0.2s,SNR=78							
CHMS				⇓S		**Sg**	**16 08 27.4**	**+0.6**
	135nm,0.2s							
CHMS	**Chumysh**	**1.36**	**4**	⇓*i*P		**Pg**	**16 08 08.9**	**-0.3**
	baz=4.0							
CHMS				⇓*i*S		**Sg**	**16 08 27.1**	**+0.3**
	baz=4.0							
ULHL	**Ulahol**	**1.36**	**63**	⇑P		**Pg**	**16 08 09.6**	**+0.4**
	63nm,0.2s,SNR=82							
ULHL	**Ulahol**	**1.36**	**63**	⇑*i*P		**Pn**	**16 08 07.8**	**-0.3**
	baz=62							
ULHL				⇑*i*S		**Sb**	**16 08 25.8**	**-0.2**
	baz=62							
TKM2	**Tokmak 2**	**1.47**	**30**	⇓P		**Pb**	**16 08 10.4**	**-0.2**
	18nm,0.3s							
TKM2				⇓S		**Sg**	**16 08 30.3**	**-0.1**
	64nm,0.3s							
TKM2	**Tokmak 2**	**1.47**	**30**	⇓P		**Pb**	**16 08 10.5**	**0.0**
	103nm,0.3s,SNR=124							
TKM2	**Tokmak 2**	**1.47**	**30**	⇓*i*P		**Pb**	**16 08 10.5**	**0.0**
	baz=29							
TKM2				⇓*i*S		**Sg**	**16 08 30.0**	**-0.5**
	baz=29							
MRKS	**Merke**	**1.50**	**317**	⇓*i*P		**Pb**	**16 08 11.1**	**0.0**
	48nm,0.2s							
MRKS				⇓*i*S		**Sg**	**16 08 31.4**	**-0.2**
	477nm,0.3s							
USP	**Ospenovka**	**1.62**	**357**	P		**Pg**	**16 08 13.6**	**-0.6**
	84nm,0.2s,SNR=122							
USP	**Ospenovka**	**1.62**	**357**	⇑*i*P		**Pb**	**16 08 13.3**	**+0.3**
	baz=57							
USP				⇑*i*S		**Sg**	**16 08 35.1**	**-0.2**
	baz=57							
KST	**Kastek**	**1.72**	**35**	⇓*i*P		**Pb**	**16 08 15.0**	**+0.2**
	26nm,0.4s							
KST				*e*S		**Sg**	**16 08 37.9**	**-0.6**
	312nm,0.5s							
MNAS	**Manas**	**1.78**	**299**	⇑*i*P		**Pb**	**16 08 15.8**	**0.0**
	baz=99							
MNAS				⇑*i*S		**Sg**	**16 08 39.5**	**-0.9**
	baz=99							
DGS	**Degeres**	**1.81**	**28**	*e*P		**Pg**	**16 08 17.8**	**-0.1**
	97nm,0.3s							
DGS				*e*S		**Sg**	**16 08 42.5**	**+1.1**
	462nm,0.3s							
SFK	**Sufi-Kurgan**	**1.83**	**208**	⇓*i*P		**Pn**	**16 08 16.1**	**+1.4**
	baz=8.0							
SFK				⇓*i*S		**Sb**	**16 08 40.3**	**+0.5**
	baz=8.0							
KDJ	**Kajisay**	**1.98**	**75**	⇑*i*P		**Pn**	**16 08 17.7**	**+1.1**
	baz=74							
KDJ				⇑*i*S		**Sb**	**16 08 43.9**	**0.0**
	baz=74							
ARK	**Arkit**	**1.99**	**275**	⇑*i*P		**Pb**	**16 08 18.3**	**-1.0**
	baz=75							
ARK				⇑*i*S		**Sb**	**16 08 44.0**	**-0.1**
	baz=75							
MTBS	**Maitube**	**2.00**	**42**	⇑*i*P		**Pg**	**16 08 21.2**	**-0.3**
	57nm,0.3s							
MTBS				*e*S		**Sg**	**16 08 48.6**	**+1.1**
	239nm,0.5s							
IZV	**Izvestkoviy**	**2.03**	**46**	*e*P		**Pg**	**16 08 21.3**	**-0.8**
	82nm,0.3s							
IZV				*e*S		**Sg**	**16 08 49.0**	**+0.4**
	243nm,0.4s							
TNSS	**Tian-Shan**	**2.22**	**50**	*e*P		**Pb**	**16 08 24.3**	**+0.9**
	54nm,0.3s							
TNSS				*e*S		**Sg**	**16 08 54.1**	**-0.4**
	168nm,0.6s							
AAA	**Alma-Ata**	**2.31**	**47**	*e*P		**Pg**	**16 08 26.3**	**-1.1**
	124nm,0.3s							
AAA				*e*S		**Sg**	**16 08 57.5**	**+0.1**
	435nm,0.7s							
MDOK	**Medeo**	**2.36**	**49**	Pn		**Pb**	**16 08 26.6**	**+0.9**
	29nm,0.4s							
MDOK				Lg		Lg	16 08 59.8	
	366nm,0.8s							
MDOK	**Medeo**	**2.36**	**49**	*e*P		**Pg**	**16 08 27.8**	**-0.5**
	44nm,0.6s							
MDOK				*e*S		**Sg**	**16 08 59.9**	**+1.0**
	179nm,0.6s							
KOTS	**Kotyrbulak**	**2.44**	**49**	*e*P		**Pg**	**16 08 29.6**	**-0.3**
	70nm,0.6s							
KOTS				*e*S		**Sg**	**16 09 02.6**	**+1.0**
	484nm,0.5s							
KTBS	**Karatobe**	**2.57**	**36**	*e*P		**Pg**	**16 08 30.8**	**-1.6**
	55nm,0.5s							
KTBS				*e*S		**Sg**	**16 09 04.7**	**-1.0**
	438nm,0.6s							
KUU	**Kurty**	**2.58**	**29**	*e*P		**Pb**	**16 08 30.2**	**+0.8**
	99nm,0.4s							
KUU				⇑*i*S		**Sg**	**16 09 04.2**	**-1.9**
	248nm,0.3s							
CHKK	**Chushkaly**	**2.82**	**38**	*e*P		**Pb**	**16 08 34.9**	**+1.5**
	32nm,0.6s							
CHKK				*e*S		**Sg**	**16 09 11.6**	**-2.0**
	277nm,0.2s							
PRZ	**Przheval'sk**	**2.94**	**72**	⇑*e*P		**Pn**	**16 08 31.3**	**+1.4**
	baz=72							
PRZ				⇑*i*S		**Sn**	**16 09 07.1**	**+1.8**
	baz=72							
SATY	**Saty**	**3.15**	**62**	*e*P		**Pb**	**16 08 39.8**	**+0.7**
	14nm,0.4s							
SATY				*e*S		**Sg**	**16 09 20.5**	**-3.7**
	218nm,0.6s							
KURS	**Kuram**	**3.21**	**54**	⇓*i*P		**Pb**	**16 08 41.2**	**+1.1**
	16nm,0.5s							
KURS				*e*S		**Sg**	**16 09 22.8**	**-3.4**
	59nm,0.9s							
ZHN	**Zhinishke**	**3.21**	**60**	*e*P		**Pb**	**16 08 41.8**	**+1.6**
	5.8nm,0.2s							
ZHN				*e*S		**Sg**	**16 09 23.5**	**-2.9**
	117nm,0.2s							
BTK	**Batken**	**3.28**	**242**	⇑*i*P		**Pn**	**16 08 36.5**	**+2.0**
	baz=43							
BTK				⇑*i*S		**Sn**	**16 09 14.9**	**+1.4**
	baz=43							
KK31	**Karatay Array**	**3.37**	**297**	⇓Pg		**Pb**	**16 08 44.1**	**+1.3**
	23nm,0.8s,baz=120,slow=16,SNR=24							
KK31				⇓Lg		Lg	16 09 29.4	
	20nm,0.4s,baz=111,slow=24,SNR=11							
IUG	**Iuzhnay**	**3.46**	**280**	*e*P		**Pb**	**16 08 46.4**	**+2.1**
	38nm,0.4s							
IUG				*e*S		**Sg**	**16 09 31.6**	**-2.4**
	93nm,0.4s							
ARXS	**Arharly**	**3.49**	**42**	*e*P		**Pb**	**16 08 46.5**	**+1.7**
	14nm,0.3s							
ARXS				*e*S		**Sg**	**16 09 32.0**	**-3.1**
	174nm,0.6s							
KPKS	**Kokpek**	**3.52**	**57**	*e*P		**Pb**	**16 08 47.1**	**+1.8**
	22nm,0.4s							
KPKS				*e*S		**Sg**	**16 09 32.6**	**-3.4**
	155nm,0.6s							
UZB	**Uzynbulak**	**3.60**	**64**	*e*P		**Pb**	**16 08 47.6**	**+0.9**
	6.6nm,0.3s							
UZB				*e*S		**Sb**	**16 09 33.5**	**+3.1**
	58nm,0.8s							
MNBS	**Baschi**	**3.70**	**48**	*e*P		**Pb**	**16 08 50.6**	**+2.1**
	46nm,0.6s							
MNBS				*e*S		**Sg**	**16 09 38.8**	**-3.1**
	98nm,0.4s							
BRLS	**Borolday**	**3.80**	**293**	*e*P		**Pg**	**16 08 54.0**	**-1.8**
	0.5nm,0.3s							
BRLS				*e*S		**Sg**	**16 09 44.5**	**-0.6**
	25nm,0.4s							
PDGK	**Podgornoye**	**3.98**	**63**	⇓*i*P		**Pn**	**16 08 46.2**	**+2.1**
	baz=63							
PDGK				⇓*i*S		**Sn**	**16 09 32.0**	**+1.2**
	baz=63							
DJR	**Jarkent**	**4.65**	**53**	*e*P		**Pb**	**16 09 06.7**	**+2.0**
	6.0nm,0.4s							
DJR				*e*S		**Sg**	**16 10 06.2**	**-6.2**
	25nm,0.8s							
KAPS	**Kapalarasan**	**5.02**	**42**	*e*P		**Pb**	**16 09 14.5**	**+3.6**
	6.7nm,0.6s							
KAPS				*e*S		**Sg**	**16 10 20.2**	**-3.9**
	23nm,0.5s							

NEIC ***15*** *16:08:17.8±2.2, 11°.67N×142°.55E, h25km±15km, mb5.0/51, Error ellipse: s-maj=5.5km s-min=4.2km az=109.0*

ISCJB ***15*** *16:08:18.9±1.2, 11°.63N±0°.04×142°.54E±0°.05, h48km±11km, mb4.8/71, Error ellipse: s-maj=7.9km s-min=5.7km az=25.7*

IDC ***15*** *16:08:21.5±2.2, 11°.70N×142°.58E, h55km±21km, mb3.9/20, mb1 4.0/21, mb1mx3.9/45, mbtmp4.2/21, ML4.4/1, MS3.3/6, Ms1 3.3/6, ms1mx2.9/52, Error ellipse: s-maj=17.1km s-min=10.8km az=96.0*

ISC 15 16:08:19.7±0.4, 11°.68N±0°.06×142°.52E±0°.08, h39km±5km, n108, σ90/111, mb4.9/71, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GUMO	**Guam**	**2.98**	**50**	P		**Pn**	**16 09 05.5**	**+1.1**
	58nm,0.3s,baz=184,slow=3.3,SNR=22							
GUMO				S		**Sn**	**16 09 40.2**	**+1.2**
	20nm,0.3s,baz=180,slow=20,SNR=3.3							
GUMO	**Guam**	**2.98**	**50**	*e*Pn		**Pn**	**16 09 05.0**	**+0.5**
GUMO				*e*Sn		**Sn**	**16 09 40.2**	**+1.2**
SARN	**Sarigan**	**5.91**	**32**	*e*Pn		**Pn**	**16 09 40.8**	**-4.0**
DAV	**Davao City (W)**	**17.32**	**256**	LR		LR	16 18 32.1	
	comp=Z,94nm,20.4s,baz=14,slow=35							
FAKI	**Fak Fak**	**17.74**	**216**	*e*Pn		**Pn**	**16 12 23.2**	**-0.7**
	13nm,1.2s							
RABL	**Rabaul**	**18.46**	**148**	*e*P		**Pn**	**16 12 32.9**	**+0.2**
	42nm,1.3s							
JOW	**Kunigami**	**20.17**	**320**	P		Pn	16 12 52.3	-0.7
	17nm,0.8s,baz=143,slow=10,SNR=2.3							
JOW	**Kunigami**	**20.17**	**320**	*e*P		Pn	16 12 52.8	-0.2
	63nm,1.2s							
YULB	**Yu-li**	**23.31**	**303**	*e*P		**P**	**16 13 24.9**	**+0.5**
	37nm,1.3s							
LUWI	**Luwuk**	**23.34**	**239**	*e*P		**P**	**16 13 23.1**	**-1.6**
	46nm,1.0s							
SSLB	**Suanglung**	**23.77**	**303**	*e*P		**P**	**16 13 29.2**	**+0.4**
	76nm,1.8s							
JNU	**Nakatsue**	**23.86**	**335**	P		**P**	**16 13 30.2**	**+0.6**
	11nm,0.8s,baz=112,slow=3.2,SNR=5.2							
JNU	**Nakatsue**	**23.86**	**335**	*e*P		**P**	**16 13 29.9**	**+0.2**
	19nm,0.9s							
KWAJ	**Kwajalein Atol**	**24.86**	**94**	*e*P		**P**	**16 13 37.1**	**-1.7**
	716nm,1.6s							
MJAR	**Matsushiro Arr**	**25.06**	**352**	LR		LR	16 23 08.7	
	comp=Z,74nm,18.4s,baz=160,slow=35							
KSRS	**Korea Array**	**28.82**	**335**	LR		LR	16 24 56.3	
	comp=Z,37nm,19.4s,baz=197,slow=34							
CTA	**Charters Tower**	**31.78**	**173**	P		**P**	**16 14 40.4**	**-0.2**
	3.5nm,0.9s,baz=350,slow=11,SNR=4.4							
CTAO	**Charters Tower**	**31.78**	**173**	*e*P		**P**	**16 14 39.8**	**-0.8**
	8.1nm,1.1s							
WRAB	**Tennant Creek**	**32.43**	**194**	*e*P		**P**	**16 14 46.5**	**+0.2**
	8.9nm,1.4s							
WB2	**Warramunga Arr**	**32.44**	**194**	*e*P		**P**	**16 14 46.7**	**+0.4**
	20nm,1.8s							
WR1	**Warramunga Arr**	**32.44**	**194**	*e*P		**P**	**16 14 46.4**	**+0.1**
	13nm,1.4s							
WRA	**Warramunga Arr**	**32.44**	**194**	P		**P**	**16 14 46.4**	**+0.1**
	0.7nm,0.6s,baz=13,slow=9.8,SNR=10.0							
USRK	**Ussuriysk Ar.**	**33.65**	**346**	P		**P**	**16 14 56.9**	**+0.2**
	1.9nm,0.7s,baz=186,slow=10,SNR=4.3							
FITZ	**Fitzroy Crossi**	**33.95**	**210**	P		**P**	**16 15 00.2**	**+0.6**
	1.9nm,0.8s,baz=49,slow=9.3,SNR=3.0							
FITZ	**Fitzroy Crossi**	**33.95**	**210**	*e*P		**P**	**16 15 00.8**	**+1.2**
AS01	**Alice Springs**	**36.11**	**193**	*e*P		**P**	**16 15 17.2**	**-1.0**
AS31	**Alice Springs**	**36.12**	**193**	*e*P		**P**	**16 15 18.2**	**-0.1**
	2.3nm,1.4s							
ASAR	**Alice Springs**	**36.12**	**193**	P		**P**	**16 15 18.5**	**+0.2**
	0.6nm,0.7s,baz=27,slow=9.6,SNR=9.1							
BJT	**Baijiatuan**	**36.59**	**325**	*e*P		**P**	**16 15 23.0**	**+0.9**
	10nm,0.5s							
KLR	**Kul'dur**	**38.49**	**349**	P		**P**	**16 15 37.7**	**-0.3**
	baz=263,slow=5.5							
PBKT	**Sadao Pong**	**40.53**	**282**	*e*P		**P**	**16 15 57.6**	**+2.2**
	3.6nm,0.9s							
DZM	**Mont Dzumac**	**40.94**	**145**	*e*P		**P**	**16 15 59.3**	**+0.5**
	20nm,1.2s							
KULM	**Kulim**	**41.85**	**265**	*e*P		**P**	**16 16 06.7**	**+0.2**
	5.9nm,0.9s							
CM01	**Chiang Mai Arr**	**42.51**	**285**	*e*P		**P**	**16 16 10.8**	**-1.0**
CM31	**Chiang Mai Arr**	**42.53**	**285**	*e*P		**P**	**16 16 12.1**	**+0.2**
CMAR	**Chiang Mai Arr**	**42.53**	**285**	P		**P**	**16 16 12.8**	**+0.9**
	1.4nm,0.6s,baz=93,slow=6.7,SNR=4.1							
CMAR				LR		LR	16 34 03.1	
	comp=Z,31nm,19.8s,baz=95,slow=36							
STKA	**Stephens Creek**	**43.32**	**181**	P		**P**	**16 16 18.6**	**+0.7**
	2.7nm,0.8s,baz=2.4,slow=9.8,SNR=3.8							
STKA	**Stephens Creek**	**43.32**	**181**	*e*P		**P**	**16 16 18.3**	**+0.3**
	4.6nm,1.6s							
FORT	**Forrest**	**44.44**	**198**	*e*P		**P**	**16 16 26.1**	**-0.9**
	37nm,1.0s							
BBOO	**Buckleboo**	**44.67**	**188**	*e*P		**P**	**16 16 27.4**	**-1.4**
	33nm,1.3s							
GSI	**Gunungsitoli**	**45.76**	**260**	*e*P		**P**	**16 16 36.7**	**-1.1**
	38nm,1.5s							
SONA0	**Songino Array**	**47.02**	**327**	*e*P		**P**	**16 16 47.8**	**+0.4**
SONA0				*e*PcP		**PcP**	**16 18 19.6**	**+0.4**
SONM	**Songino Array**	**47.02**	**327**	P		**P**	**16 16 47.8**	**+0.4**
	0.6nm,0.5s,baz=141,slow=6.9,SNR=5.7							
SONM				PcP		**PcP**	**16 18 19.6**	**+0.4**
	0.7nm,0.6s,baz=148,slow=4.3,SNR=4.3							
SONM				LR		LR	16 37 41.5	
	comp=Z,36nm,20.6s,baz=262,slow=37							
SONA1	**Songino Array**	**47.02**	**327**	*e*P		**P**	**16 16 48.1**	**+0.7**
HON	**Honolulu**	**57.55**	**72**	*e*P		**P**	**16 18 05.5**	**-0.4**
	181nm,1.0s							
UNV	**Unalaska Valle**	**58.17**	**33**	*e*P		**P**	**16 18 09.3**	**-0.2**
	259nm,1.6s							
MWH	**Moku'aweowe**	**59.86**	**74**	*e*P		**P**	**16 18 20.5**	**-2.0**
	539nm,1.7s							
TIXI	**Tiksi**	**60.51**	**355**	P		**P**	**16 18 24.7**	**-0.8**
	1.5nm,0.3s,baz=114,slow=10.0,SNR=4.4							
MK01	**Makanchi Array**	**61.28**	**317**	*e*P		**P**	**16 18 31.4**	**+0.1**
MK31	**Makanchi Array**	**61.29**	**317**	*e*P		**P**	**16 18 32.0**	**+0.7**
MK32	**Makanchi Array**	**61.29**	**317**	*e*P		**P**	**16 18 31.9**	**+0.6**
MK32				*e*PcP		**PcP**	**16 19 13.7**	**+0.2**
MKAR	**Makanchi Array**	**61.29**	**317**	P		**P**	**16 18 31.9**	**+0.6**
	1.2nm,0.5s,baz=94,slow=8.7,SNR=15							
MKAR				PcP		**PcP**	**16 19 13.7**	**+0.2**
	0.8nm,0.6s,baz=96,slow=4.3,SNR=3.1							
MKAR	**Makanchi Array**	**61.29**	**317**	*e*P		**P**	**16 18 32.0**	**+0.7**
	42nm,1.3s							
MKAR				PcP		**PcP**	**16 19 13.7**	**+0.2**
ZAA0	**Zalesovo Array**	**61.86**	**325**	*e*P		**P**	**16 18 33.5**	**-1.5**
	6.6nm,1.5s							
ZALV	**Zalesovo Beam**	**61.86**	**325**	P		**P**	**16 18 34.8**	**-0.1**
	0.8nm,0.4s,baz=122,slow=7.9,SNR=3.1							
ZALV				PcP		**PcP**	**16 19 14.9**	**-0.6**
	0.7nm,0.6s,baz=125,slow=3.9,SNR=2.8							
ZAA1	**Zalesovo Array**	**61.86**	**325**	*e*P		**P**	**16 18 34.8**	**-0.2**
ZAA1				*e*PcP		**PcP**	**16 19 14.9**	**-0.6**
ODZ	**Otahua Downs**	**61.93**	**158**	*e*P		**P**	**16 18 36.5**	**+1.1**
	18nm,1.2s							
KURK	**Kurchatov**	**64.58**	**321**	*e*P		**P**	**16 18 53.2**	**+0.2**
	3.3nm,0.6s							
RAR	**Rarotonga**	**65.42**	**120**	LR		LR	16 43 10.7	
	comp=Z,27nm,21.9s,baz=155,slow=32							
SII	**Sitkinak Islan**	**65.72**	**33**	*e*P		**P**	**16 19 01.1**	**+0.8**
	189nm,1.5s							
OHAK	**Old Harbor**	**66.38**	**32**	*e*P		**P**	**16 19 03.9**	**-0.6**
	211nm,2.0s							
RDOG	**Red Dog Mine**	**66.44**	**20**	*e*P		**P**	**16 19 05.5**	**+0.8**
	28nm,1.9s							
CNPM	**China Poot**	**68.03**	**30**	*e*P		**P**	**16 19 15.0**	**0.0**
	58nm,1.4s							
BRLK	**Bradley Lake**	**68.26**	**30**	*e*P		**P**	**16 19 16.4**	**-0.1**
	130nm,2.0s							
PPLA	**Purkeypile**	**68.51**	**27**	*e*P		**P**	**16 19 18.6**	**+0.5**
	72nm,1.9s							
SKT	**Skwentna**	**68.54**	**28**	*e*P		**P**	**16 19 17.6**	**-0.6**
	28nm,1.8s							
SUA	**Susitna One**	**68.77**	**28**	*e*P		**P**	**16 19 19.3**	**-0.3**
	26nm,1.4s							
IM3	**Indian Mountai**	**68.84**	**23**	*e*P		**P**	**16 19 20.8**	**+0.9**
SEW	**Seward**	**69.05**	**30**	*e*P		**P**	**16 19 20.7**	**-0.6**
	54nm,1.5s							
TRF	**Thorofare Moun**	**69.50**	**26**	*e*P		**P**	**16 19 24.0**	**-0.2**
	32nm,1.8s							
PMR	**Palmer**	**69.55**	**28**	*e*P		**P**	**16 19 24.6**	**+0.3**
	36nm,1.8s							
GHO	**Glory Hole Cre**	**69.69**	**28**	*e*P		**P**	**16 19 25.3**	**0.0**
	44nm,1.6s							
MLY	**Manley**	**69.74**	**25**	*e*P		**P**	**16 19 26.5**	**+0.9**
	32nm,1.9s							
BRVK	**Borovoye**	**70.08**	**322**	*e*P		**P**	**16 19 28.4**	**+0.7**
	3.3nm,0.8s							
GLI	**Glacier Island**	**70.35**	**29**	*e*P		**P**	**16 19 30.5**	**+1.1**
	45nm,1.2s							
SCM	**Sheep Creek Mo**	**70.44**	**28**	*e*P		**P**	**16 19 30.3**	**+0.4**
	51nm,1.6s							
COLD	**Coldfoot**	**70.58**	**22**	*e*P		**P**	**16 19 32.1**	**+1.5**
	4.1nm,1.0s							
FID	**Port Fidalgo**	**70.62**	**29**	*e*P		**P**	**16 19 30.8**	**-0.2**
	80nm,1.3s							
DHY	**Denali Highway**	**70.68**	**27**	*e*P		**P**	**16 19 31.4**	**-0.1**
	22nm,1.6s							
WRH	**Wood River Hil**	**70.69**	**25**	*e*P		**P**	**16 19 30.8**	**-0.5**
	28nm,1.8s							
MDM	**Murphy Dome**	**70.75**	**25**	*e*P		**P**	**16 19 32.6**	**+0.9**
	20nm,1.6s							
KLU	**Klutina**	**71.03**	**29**	*e*P		**P**	**16 19 34.6**	**+1.0**
	50nm,1.8s							
DIV	**Divide**	**71.03**	**29**	*e*P		**P**	**16 19 31.2**	**-2.4**
	75nm,1.9s							
HDA	**Harding Lake**	**71.16**	**26**	*e*P		**P**	**16 19 33.7**	**-0.5**
	19nm,1.6s							
IL1	**Eielson Array**	**71.27**	**25**	*e*P		**P**	**16 19 33.9**	**-0.9**
ILAR	**Eielson Array**	**71.27**	**25**	P		**P**	**16 19 34.1**	**-0.7**
	3.2nm,0.6s,baz=249,slow=5.9,SNR=31							
ILB	**Eielson Array**	**71.27**	**25**	*e*P		**P**	**16 19 34.2**	**-0.7**
HARP	**HAARP**	**71.55**	**28**	*e*P		**P**	**16 19 37.3**	**+0.7**
	147nm,2.0s							
BMRM	**Bremner River**	**71.56**	**29**	*e*P		**P**	**16 19 37.5**	**+0.8**
	90nm,1.8s							
RIDG	**Independ'e Rid**	**71.93**	**27**	*e*P		**P**	**16 19 39.4**	**+0.4**
	18nm,1.4s							
FYU	**Fort Yukon**	**72.32**	**24**	*e*P		**P**	**16 19 42.5**	**+1.4**
	77nm,2.0s							
DAWY	**Dawson**	**74.36**	**27**	*e*P		**P**	**16 19 54.7**	**+1.4**
	32nm,1.9s							
ABKAR	**Akbulak array**	**76.42**	**318**	*e*P		**P**	**16 20 05.3**	**+0.1**
INK	**Inuvik**	**77.00**	**22**	*e*P		**P**	**16 20 08.5**	**+0.4**
	12nm,1.4s							
GEYT	**Alibeck**	**78.54**	**307**	P		**P**	**16 20 18.0**	**+0.6**
	0.9nm,0.6s,baz=90,slow=8.6,SNR=2.5							
YKA	**Yellowknife Ar**	**85.60**	**27**	P		**P**	**16 20 54.0**	**+0.1**
	0.8nm,0.5s,baz=286,slow=5.0,SNR=7.2							
YKB5	**Yellowknife Ar**	**85.60**	**27**	*e*P		**P**	**16 20 53.5**	**-0.4**
B08A	**Colville Reser**	**86.72**	**41**	*e*P		**P**	**16 20 59.6**	**-0.2**
	4.8nm,0.9s							
ARA0	**ARCESS Array S**	**88.18**	**342**	*e*P		**P**	**16 21 06.2**	**-0.1**
ARCES	**ARCESS Array B**	**88.18**	**342**	P		**P**	**16 21 06.2**	**-0.1**
	3.1nm,1.0s,baz=74,slow=8.0,SNR=8.9							
VNDA	**Vanda**	**89.73**	**176**	P		**P**	**16 21 13.8**	**+0.5**
	1.5nm,1.1s,baz=342,slow=3.2,SNR=2.9							
VNDA	**Vanda**	**89.73**	**176**	*e*P		**P**	**16 21 13.0**	**-0.3**
NV01	**Mina Array Sit**	**89.90**	**51**	*e*P		**P**	**16 21 16.8**	**+1.5**
NVAR	**Mina Array Bea**	**89.90**	**51**	P		**P**	**16 21 14.9**	**-0.4**
	1.2nm,0.5s,baz=277,slow=5.3,SNR=6.1							
FIA0	**FINESS Array S**	**91.90**	**335**	*e*P		**P**	**16 21 22.5**	**-1.3**
FINES	**FINESS Array B**	**91.90**	**335**	P		**P**	**16 21 22.5**	**-1.3**
	1.9nm,0.8s,baz=72,slow=6.2,SNR=6.5							
DBIC	**Dimbokro**	**142.78**	**298**	PKP		**PKPdf**	**16 27 49.3**	**-0.7**
	2.0nm,1.0s,baz=77,slow=1.4,SNR=2.2							
LPAZ	**La Paz**	**149.93**	**102**	PKPbc		**PKPbc**	**16 28 08.0**	**+0.3**
	1.3nm,0.7s,baz=262,slow=2.0,SNR=5.7							

IDC 15 16:08:39.4±4.0, 8°.35S×76°.36W, h0km, mb4.2/3, mb1 4.1/6, mb1mx3.8/27, mbtmp4.0/6, ML3.9/3, Error ellipse: s-maj=87.4km s-min=39.8km az=82.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LPAZ	**La Paz**	**11.25**	**135**	Pn		Pn	16 11 21.0	-1.2
	0.1nm,0.3s,baz=294,slow=12,SNR=2.8							
SIV	**San Ignacio**	**16.75**	**118**	Pn		Pn	16 12 36.0	+0.3
	0.9nm,0.3s,baz=297,slow=16,SNR=11							
SIV				Sn		Sn	16 15 40.2	-2.3

*GCMT **15** 16:33:09.5±0.4,3°.55S±0°.02×149°.84E±0°.03,h24km±2km, MW4.8/64,Moment Tensor Solution. s17,c21; s64,c92; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.61±.17; $M_{\theta\theta}$=0.56±.11; $M_{\phi\phi}$=0.04±.12; $M_{r\theta}$=-0.86±.17; $M_{r\phi}$=1.80±.08; $M_{\theta\phi}$=0.00±.14; Best double couple: M_o=2.04200×10^{16} NP1:ϕs=90.00000°,δ81.00000°,λ=-29.00000°. NP2: ϕs=186.00000°,δ61.00000°,λ=-169.00000°. Principal axes: T 2.2760, Plg13.0000°, Azm141.0000°; N -0.4690, Plg59.0000°, Azm254.0000°; P -1.8070, Plg27.0000°, Azm44.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 16:33:06.9±0.5,3°.65S±0°.07×150°.01E±0°.08,h19km,n67, σ1§64/50,mb4.7/26,MS3.7/22,1D,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
RABL	**Rabaul**	**2.21**	**104**	*e*Pn		**Pn**	**16 33 44.0**	**+1.3**
MANU	**Manus Island**	**3.08**	**301**	*e*Pn		Pn	16 33 47.1	-7.5
PMG	**Port Moresby**	**6.39**	**206**	Pn		**Pn**	**16 34 41.9**	**+1.9**
	0.5nm,0.3s,baz=69,slow=8.6,SNR=2.7							
PMG				LR		LR	16 37 22.3	
	comp=Z,979nm,18.6s,baz=4.0,slow=41							
PMG	**Port Moresby**	**6.39**	**206**	*e*Pn		**Pn**	**16 34 39.4**	**-0.6**
JAY	**Jayapura**	**9.36**	**277**	LR		LR	16 38 01.2	
	comp=Z,456nm,20.0s,baz=123,slow=31							
HNR	**Honiara**	**11.42**	**121**	LR		LR	16 40 41.1	
	comp=Z,665nm,18.5s,baz=298,slow=42							
GUMO	**Guam**	**17.87**	**343**	LR		LR	16 43 05.5	
	comp=Z,145nm,19.9s,baz=162,slow=33							
SIJI	**Sorong**	**18.93**	**278**	P		**Pn**	**16 37 30.0**	**+2.4**
	0.2nm,0.3s,baz=67,slow=8.2,SNR=6.8							
EIDS	**Eidsvold**	**21.62**	**177**	*e*P		**P**	**16 37 57.6**	**+1.6**
	25nm,1.3s							
WRAB	**Tennant Creek**	**22.26**	**222**	*e*P		**P**	**16 38 00.5**	**-2.4**
	72nm,1.6s							
WB2	**Warramunga Arr**	**22.26**	**222**	*e*P		**P**	**16 37 59.4**	**-3.6**
	74nm,1.6s							
WR1	**Warramunga Arr**	**22.27**	**222**	*e*P		**P**	**16 38 01.3**	**-1.8**
	72nm,1.6s							
WRA	**Warramunga Arr**	**22.27**	**222**	P		**P**	**16 38 01.3**	**-1.8**
	6.5nm,1.0s,baz=49,slow=10,SNR=23							
WRA				LR		LR	16 47 19.7	
	comp=Z,220nm,18.2s,baz=30,slow=38							
DZM	**Mont Dzumac**	**24.28**	**140**	LR		LR	16 46 27.6	
	comp=Z,601nm,21.4s,baz=228,slow=34							
DZM	**Mont Dzumac**	**24.28**	**140**	*e*S		**S**	**16 42 36.6**	**-4.9**
	132nm,24.1s							
DZM				*e*LR		LR	16 44 29.3	
	1µm,24.6s							
DZM	**Mont Dzumac**	**24.28**	**140**	*e*P		**P**	**16 38 24.9**	**+1.6**
	17nm,1.1s							
AS01	**Alice Springs**	**25.24**	**217**	*e*P		**P**	**16 38 31.2**	**-0.7**
AS31	**Alice Springs**	**25.26**	**217**	*e*P		**P**	**16 38 31.2**	**-1.0**
	2.5nm,1.0s							
ASAR	**Alice Springs**	**25.27**	**217**	P		**P**	**16 38 31.1**	**-1.0**
	2.1nm,0.7s,baz=47,slow=8.3,SNR=25							
ASAR				LR		LR	16 49 22.5	
	comp=Z,252nm,19.8s,baz=44,slow=39							
ARMA	**Armidale**	**26.67**	**177**	*e*P		**P**	**16 38 47.2**	**+2.3**
	51nm,1.5s							
BATI	**Baumata**	**26.94**	**255**	LR		LR	16 51 41.0	
	comp=Z,303nm,20.3s,baz=59,slow=41							
FITZ	**Fitzroy Crossi**	**27.85**	**237**	P		**P**	**16 38 55.5**	**0.0**
	7.7nm,0.6s,baz=71,slow=8.5,SNR=24							
FITZ				LR		LR	16 51 11.1	
	comp=Z,142nm,19.3s,baz=58,slow=39							
FITZ	**Fitzroy Crossi**	**27.85**	**237**	*e*P		**P**	**16 38 55.0**	**-0.5**
	64nm,1.7s							
STKA	**Stephens Creek**	**29.18**	**195**	LR		LR	16 52 12.6	
	comp=Z,118nm,18.0s,baz=15,slow=40							
MJAR	**Matsushiro Arr**	**41.47**	**346**	LR		LR	16 57 21.5	
	comp=Z,67nm,19.2s,baz=155,slow=35							
MJB9	**Matsu-Tunnel**	**41.48**	**346**	*e*P		**P**	**16 40 53.0**	**+0.3**
	52nm,1.6s							
KSRS	**Korea Array**	**45.76**	**335**	LR		LR	16 57 02.1	
	comp=Z,58nm,19.9s,baz=150,slow=31							
NJ2	**Nanjing**	**46.22**	**323**	*e*P		**P**	**16 41 28.3**	**-2.6**
NJ2				pmax		pmax		
	comp=Z,17nm,0.6s							
USRK	**Ussuriysk Ar.**	**50.30**	**343**	LR		LR	17 02 37.5	
	comp=Z,61nm,18.4s,baz=153,slow=35							
GYA	**Guiyang**	**51.49**	**308**	*e*P		**P**	**16 42 11.8**	**+0.1**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
CN2	**Changchun**	**52.15**	**338**	*e*P		**P**	**16 42 15.5**	**-0.6**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
XAN	**Xi'an**	**53.89**	**317**	P		**P**	**16 42 28.3**	**-0.9**
XAN				pmax		pmax		
	comp=Z,5.0nm,1.4s							
KMI	**Kunming**	**54.04**	**305**	P		**P**	**16 42 28.8**	**-1.9**
KMI				pmax		pmax		
	comp=Z,19nm,1.2s							
KMI				LR		LR		
	comp=N,180nm,20.8s							
KMI				LR		LR		
	comp=E,150nm,28.4s							
KMI				LR		LR		
	comp=Z,150nm,22.3s							
CM01	**Chiang Mai Arr**	**54.85**	**295**	*e*P		**P**	**16 42 35.1**	**-1.3**
CMAR	**Chiang Mai Arr**	**54.87**	**295**	P		**P**	**16 42 37.2**	**+0.6**
	2.1nm,0.9s,baz=113,slow=5.5,SNR=11							
CMAR				LR		LR	17 04 22.1	
	comp=Z,29nm,21.4s,baz=116,slow=34							
CD2	**Chengdu**	**55.89**	**311**	*e*P		**P**	**16 42 41.0**	**-2.7**
HHC	**Hu-ho-hao-te**	**56.51**	**326**	*e*P		**P**	**16 42 48.5**	**+0.4**
HHC				pmax		pmax		
	comp=Z,10.0nm,0.9s							
HHC				pmax		pmax		
	comp=Z,120nm,6.1s							
PETK	**Petropavlovsk-**	**56.91**	**6**	P		**P**	**16 42 50.4**	**-0.2**
	13nm,1.1s,baz=250,slow=4.4,SNR=4.0							
PETK	**Petropavlovsk-**	**56.91**	**6**	*e*P		**P**	**16 42 49.5**	**-1.1**
PEA1	**Petropavlovsk-**	**56.92**	**6**	*e*P		**P**	**16 42 50.4**	**-0.3**
LZH	**Lanzhou**	**58.48**	**317**	*e*P		**P**	**16 42 59.8**	**-2.3**
LZH				pP		pP	16 43 04.6	-3.7
LZH				sP		sP	16 43 07.6	-3.0
LZH				*e*PP		**PP**	**16 45 14.4**	**+2.7**
LZH				pmax		pmax		
	comp=Z,22nm,1.0s							
LZH				pmax		pmax		
	comp=Z,330nm,4.8s							
PPT	**Papeete**	**60.72**	**108**	LR		LR	17 06 23.2	
	comp=Z,34nm,18.8s,baz=326,slow=33							
PPT2	**Papeete2**	**60.73**	**108**	*e*LR		LR	17 01 22.7	
	82nm,30.2s							
TBI	**Tubuai**	**61.56**	**115**	*e*LR		LR	17 01 46.9	
	263nm,35.8s							
GTA	**Gaotai**	**62.94**	**318**	⇓P		**P**	**16 43 32.9**	**+0.5**
GTA				pP		pP	16 43 37.1	-1.5
GTA				sP		sP	16 43 40.0	-0.9
GTA				pmax		pmax		
	comp=Z,4.0nm,1.4s							
GTA				pmax		pmax		
	comp=Z,75nm,5.1s							
GTA				LR		LR		
	comp=N,210nm,16.8s							
GTA				LR		LR		
	comp=E,200nm,17.8s							
GTA				LR		LR		
	comp=Z,110nm,17.5s							
SONA0	**Songino Array**	**63.89**	**329**	*e*P		**P**	**16 43 39.5**	**+1.0**
SONA0				*e*PcP		**PcP**	**16 44 14.4**	**+0.2**
SONM	**Songino Array**	**63.89**	**329**	P		**P**	**16 43 39.5**	**+1.0**
	1.3nm,1.1s,baz=134,slow=6.2,SNR=6.1							
SONM				PcP		**PcP**	**16 44 14.4**	**+0.2**
	0.7nm,0.8s,baz=116,slow=3.4,SNR=3.9							
SONM				LR		LR	17 09 26.8	
	comp=Z,61nm,22.0s,baz=162,slow=34							
SONA1	**Songino Array**	**63.89**	**329**	*e*P		**P**	**16 43 38.2**	**-0.3**
LSA	**Lhasa**	**65.30**	**305**	*e*P		**P**	**16 43 47.4**	**-1.1**
	5.6nm,1.0s							
TAOE	**Nuku Hiva Isla**	**69.54**	**98**	*e*LR		LR	17 05 19.0	
	225nm,26.6s							
WMQ	**Urumqi**	**73.02**	**318**	*e*P		**P**	**16 44 35.4**	**-0.3**
WMQ				LR		LR		
	comp=E,100nm,20.7s							
VNDA	**Vanda**	**74.09**	**177**	LR		LR	17 13 47.0	
	comp=Z,39nm,18.2s,baz=346,slow=33							
MKAR	**Makanchi Array**	**77.64**	**319**	LR		LR	17 17 16.5	
	comp=Z,50nm,21.4s,baz=63,slow=34							
ZALV	**Zalesovo Beam**	**78.66**	**327**	P		**P**	**16 45 09.2**	**+1.6**
	0.9nm,0.6s,baz=116,slow=6.8,SNR=4.6							
ZALV				LR		LR	17 18 52.0	
	comp=Z,59nm,21.0s,baz=68,slow=35							
ZAA1	**Zalesovo Array**	**78.67**	**327**	*e*P		**P**	**16 45 09.2**	**+1.6**
KSH	**Kashi**	**80.08**	**311**	*e*P		**P**	**16 45 17.1**	**+1.2**
IM3	**Indian Mountai**	**80.25**	**20**	*e*P		**P**	**16 45 16.2**	**+0.2**
ILAR	**Eielson Array**	**82.16**	**23**	P		**P**	**16 45 24.8**	**-1.4**
	1.5nm,0.7s,baz=253,slow=5.1,SNR=14							
ILB	**Eielson Array**	**82.16**	**23**	*e*P		**P**	**16 45 25.7**	**-0.5**
IL1	**Eielson Array**	**82.16**	**23**	*e*P		**P**	**16 45 25.0**	**-1.2**
NRIK	**Noril'sk**	**83.99**	**342**	LR		LR	17 21 55.9	
	comp=Z,31nm,20.5s,baz=92,slow=35							
MAW	**Mawson**	**85.56**	**203**	LR		LR	17 22 05.5	
	comp=Z,42nm,20.4s,baz=62,slow=34							
ARU	**Arti**	**93.82**	**326**	LR		LR	17 27 49.3	
	comp=Z,134nm,21.2s,baz=80,slow=35							
AKTO	**Aktyubinsk**	**94.06**	**320**	LR		LR	17 28 08.7	
	comp=Z,70nm,20.6s,baz=80,slow=35							
YKA	**Yellowknife Ar**	**95.70**	**28**	P		**P**	**16 46 31.2**	**0.0**
	1.1nm,0.7s,baz=276,slow=5.3,SNR=4.6							
TORD	**Torodi Ar. Bea**	**147.31**	**289**	PKPbc		**PKPbc**	**16 52 49.0**	**-1.3**
	3.3nm,0.9s,baz=52,slow=4.1,SNR=13							
TOA1	**Torodi Ar. Sit**	**147.31**	**289**	*e*PKPdf		**PKPbc**	**16 52 49.0**	**-1.3**

*ISK **15** 16:44:42.5,39°.14N×29°.15E,h10km,ML2.0/7*

*ISCJB **15** 16:44:43.2±0.5,39°.15N±0°.05×29°.11E±0°.05,h11km±5km, Error ellipse: s-maj=9.0km s-min=4.9km az=152.8*

*DDA **15** 16:44:43.3,39°.13N×29°.11E,h7km,Ml2.5*

ISC 15 16:44:42.9±1.0,39°.13N±0°.04×29°.15E±0°.05,h11km±9km, n12,σ0§22/16,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
SMAA	**Simav-Kutahya**	**0.14**	**259**	PG		**Pg**	**16 44 46.1**	**-0.1**
SMAA				SG		**Sg**	**16 44 48.5**	**0.0**
GDZ	**Gediz**	**0.26**	**99**	*i* P		**Pb**	**16 44 49.5**	**-0.2**
GDZ				*i* S		**Sb**	**16 44 54.0**	**-0.3**
DEMI	**Demirci**	**0.35**	**256**	*i* P		**Pg**	**16 44 50.0**	**0.0**
DEMI				*i* S		**Sg**	**16 44 54.5**	**-0.1**
TVSB	**Tavsanli**	**0.40**	**37**	PG		**Pg**	**16 44 50.9**	**0.0**
TVSB				SG		**Sg**	**16 44 56.7**	**+0.5**
DURS	**Dursunbey**	**0.71**	**312**	*i* P		**Pg**	**16 44 56.6**	**0.0**
KULA	**Kula-Manisa**	**0.72**	**212**	PG		**Pg**	**16 44 56.9**	**0.0**
MANT	**Manisa**	**0.79**	**216**	*i* P		**Pg**	**16 44 58.1**	**0.0**
CAVI	**Cavuskoy**	**1.20**	**26**	PN		**Pb**	**16 45 05.6**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.26**	**351**	PN		**Pn**	**16 45 06.4**	**-0.1**
KCTX	**Karacabey (Bur**	**1.29**	**332**	PN		**Pn**	**16 45 07.1**	**+0.1**
ARMT	**Armutlu**	**1.45**	**351**	PN		**Pn**	**16 45 09.4**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**220**	PN		**Pn**	**16 45 10.9**	**+0.4**

*ISCJB **15** 16:58:57.8±0.4,3°.53S±0°.03×140°.22E±0°.05,h35km, mb4.7/13,MS3.4/1,Error ellipse: s-maj=7.7km s-min=4.6km az=5.2*

*IDC **15** 16:58:58.7±1.7,3°.43S×140°.36E,h33km±16km,mb3.7/5, mb1 4.1/9,mb1mx3.7/25,mbtmp4.1/9,ML4.1/4,MS3.5/1, Ms1 3.4/1,ms1mx2.5/35,Error ellipse: s-maj=27.8km s-min=15.2km az=104.0*

*NEIC **15** 16:58:59.8±1.1,3°.40S×140°.09E,h43km±11km,mb4.4/12, Error ellipse: s-maj=9.9km s-min=8.0km az=109.0*

*DJA **15** 16:58:59.7±1.0,3°.S±4°×14°.0E±°,h26km±11km,M4.2/3, MLv4.2/3*

ISC 15 16:58:59.2±0.6,3°.54S±0°.05×140°.18E±0°.06,h35km,n39, σ2§66/44,mb4.7/13,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
GENI	**Genyem**	**0.94**	**359**	P		**Pn**	**16 59 15.8**	**-0.1**
GENI				S		**Sn**	**16 59 27.3**	**-0.8**
JAY	**Jayapura**	**1.14**	**27**	Pg		**Pn**	**16 59 17.7**	**-1.1**
	90nm,0.3s,baz=207,slow=11,SNR=473							
JAY				Lg		Lg	16 59 30.3	
	181nm,0.3s,baz=79,slow=18,SNR=24							
JAY	**Jayapura**	**1.14**	**27**	P		**Pn**	**16 59 18.2**	**-0.6**
JAY				S		**Sn**	**16 59 30.6**	**-2.6**
SMPI	**Sarmi**	**2.12**	**316**	P		**Pn**	**16 59 32.9**	**+0.7**
SMPI				S		**Sn**	**17 00 04.4**	**+3.0**
SRPI	**Serui, Papua**	**4.27**	**293**	P		**Pn**	**17 00 03.3**	**+1.5**
MMPI	**Merauke**	**4.90**	**178**	P		**Pn**	**17 00 14.4**	**+3.9**
RKPI	**Ransiki, Papua**	**6.32**	**288**	P		**Pn**	**17 00 31.9**	**+1.9**
PMG	**Port Moresby**	**9.06**	**130**	Pn		Pn	17 01 13.0	+5.4
	0.4nm,0.3s,baz=330,slow=20,SNR=2.6							
SIJI	**Sorong**	**9.29**	**286**	Pn		**Pn**	**17 01 13.1**	**+2.2**
	0.9nm,0.3s,baz=305,slow=8.2,SNR=6.2							
MTN	**Manton Dam**	**12.87**	**224**	*e*Pn		**Pn**	**17 02 00.0**	**+0.3**
MTN				*e*Sn		**Sn**	**17 04 16.2**	**-5.6**
SOEI	**Soe**	**16.96**	**248**	*e*Pn		**Pn**	**17 02 54.9**	**+0.8**
	37nm,0.8s							
WRAB	**Tennant Creek**	**17.26**	**199**	*e*Pn		**Pn**	**17 02 58.0**	**+0.2**
	19nm,0.8s							
WB2	**Warramunga Arr**	**17.27**	**199**	*e*Pn		**Pn**	**17 02 57.4**	**-0.5**
WR1	**Warramunga Arr**	**17.27**	**199**	*e*Pn		**P**	**17 02 59.1**	**0.0**
	19nm,0.6s							
WR1				*e*Sn		**Sn**	**17 06 02.2**	**-7.0**
WRA	**Warramunga Arr**	**17.27**	**199**	P		**P**	**17 02 59.1**	**0.0**
	2.1nm,0.3s,baz=23,slow=12,SNR=111							
WRA				S		**Sn**	**17 06 02.2**	**-7.0**
	0.3nm,0.3s,baz=18,slow=23,SNR=4.7							
CTA	**Charters Tower**	**17.49**	**161**	P		**Pn**	**17 03 01.4**	**+0.8**
	0.0nm,0.3s,baz=274,slow=13,SNR=2.1							
CTAO	**Charters Tower**	**17.49**	**161**	*e*Pn		**Pn**	**17 03 01.3**	**+0.8**
	16nm,1.3s							
BATI	**Baumata**	**17.68**	**247**	P		**P**	**17 03 04.7**	**+1.1**
	1.9nm,0.3s,baz=82,slow=6.9,SNR=4.0							
FITZ	**Fitzroy Crossi**	**20.30**	**223**	P		**P**	**17 03 32.9**	**+0.6**
	2.0nm,0.5s,baz=47,slow=9.8							
FITZ				S		**S**	**17 07 10.4**	**-7.8**
	4.4nm,0.8s,baz=132,slow=12,SNR=3.8							
AS01	**Alice Springs**	**20.90**	**196**	*e*P		**P**	**17 03 39.0**	**+0.3**
AS31	**Alice Springs**	**20.91**	**196**	*e*P		**P**	**17 03 40.2**	**+1.4**
	4.3nm,0.7s							
ASAR	**Alice Springs**	**20.91**	**196**	P		**P**	**17 03 40.1**	**+1.2**
	4.9nm,0.6s,baz=30,slow=10,SNR=102							
ASAR				S		**S**	**17 07 34.0**	**+3.7**
	1.3nm,0.8s,baz=20,slow=27,SNR=4.9							
EIDS	**Eidsvold**	**24.11**	**155**	*e*P		**P**	**17 04 14.8**	**+3.0**
	8.1nm,0.7s							
MBWA	**Marble Bar**	**26.50**	**227**	*e*P		**P**	**17 04 34.5**	**+0.8**
	64nm,1.9s							
STKA	**Stephens Creek**	**28.23**	**177**	LR		LR	17 17 42.5	
	comp=Z,103nm,20.2s,baz=23,slow=40							
STKA	**Stephens Creek**	**28.23**	**177**	*e*P		**P**	**17 04 49.9**	**+0.9**
	2.0nm,1.3s							
TAU	**Tasmania Unive**	**39.72**	**172**	*e*P		**P**	**17 06 28.8**	**+0.5**
	142nm,1.8s							
KULM	**Kulim**	**40.45**	**282**	*e*P		**P**	**17 06 32.0**	**-2.7**
	24nm,1.7s							
PSI	**Prapat**	**41.71**	**278**	*e*P		**P**	**17 06 43.6**	**-1.7**
	3.3nm,0.7s							
KHZ	**Kahutara**	**48.81**	**147**	*e*P		**P**	**17 07 42.6**	**+1.5**
	40nm,1.6s							
PBA	**Port Blair**	**49.52**	**288**	*e*P		P	17 07 45.2	-1.8
	124nm,0.9s							
MK32	**Makanchi Array**	**71.33**	**322**	*e*P		**P**	**17 10 15.8**	**+0.3**
MKAR	**Makanchi Array**	**71.33**	**322**	P		**P**	**17 10 15.8**	**+0.3**
	1.3nm,1.0s,baz=133,slow=6.3,SNR=2.4							
VNDA	**Vanda**	**74.84**	**175**	P		**P**	**17 10 36.5**	**+0.9**
	1.1nm,0.6s,baz=336,slow=6.4,SNR=11							
VNDA	**Vanda**	**74.84**	**175**	*e*P		**P**	**17 10 36.8**	**+1.1**
BPAW	**Bear Paw Mtn.**	**84.08**	**24**	*e*P		**P**	**17 11 25.1**	**-1.1**
	12nm,1.0s							
RAGM	**Ragged Mountai**	**85.76**	**29**	*e*P		**P**	**17 11 34.2**	**-0.5**
	131nm,0.8s							
ILAR	**Eielson Array**	**85.97**	**24**	P		**P**	**17 11 33.6**	**-2.0**
	0.3nm,0.5s,baz=258,slow=4.5,SNR=5.1							
ILB	**Eielson Array**	**85.97**	**24**	*e*P		**P**	**17 11 33.7**	**-2.0**

MAN 15 17:07:27.8,10°.13N×123°.06E,h32km,mb4.2,ML3.0, MS2.6,Cebu

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
GUIM	**Jordan**	**0.68**	**317**	*e*P		Pb	17 07 42.4	+1.1
GUIM				*e*S		Sn	17 07 51.0	+0.3
MSLP	**Maasin**	**1.77**	**90**	*e*P		Pn	17 07 56.5	+0.2
MSLP				*e*S		Sb	17 08 26.8	+5.2

*IDC **15** 17:11:14.7±0.6,14°.02N×91°.99W,h0km,mb4.2/18, mb1 4.4/20,mb1mx4.3/40,mbtmp4.2/20,ML4.0/2,MS4.0/21, Ms1 4.0/21,ms1mx3.8/32,Error ellipse: s-maj=14.7km s-min=12.4km az=31.0*

*ISCJB **15** 17:11:15.3±0.2,14°.07N±0°.03×92°.05W±0°.03,h10km, mb4.6/144,MS4.0/21,Error ellipse: s-maj=4.2km s-min=2.8km az=42.4*

*NEIC **15** 17:11:19.7±0.4,13°.89N×92°.12W,h35km,mb4.7/154, Error ellipse: s-maj=7.1km s-min=4.6km az=200.0*

*GCMT **15** 17:11:20.7±0.5,13°.78N±0°.03×92°.42W±0°.05,h17km±1km, MW4.8/64,Moment Tensor Solution. s22,c25; s64,c80; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.92±.17; $M_{\theta\theta}$=1.38±.10; $M_{\phi\phi}$=-0.54±.10; $M_{r\theta}$=1.38±.31; $M_{\theta\phi}$=0.65±.07; $M_{r\phi}$=0.75±.34; Best double couple: M_o=2.33500×10^{16} NP1:ϕs=90.00000°,δ64.00000°,λ=67.00000°. NP2: ϕs=314.00000°,δ34.00000°,λ=129.00000°. Principal axes: T 2.6900, Plg64.0000°, Azm321.0000°; N -0.7140, Plg21.0000°, Azm100.0000°; P -1.9800, Plg16.0000°, Azm196.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MEX **15** 17:11:25.7±0.6,14°.28N×92°.50W,h15km±65km,MD3.8*

ISC 15 17:11:16.3±0.5,14°.04N±0°.05×92°.08W±0°.06,h10km,n491, σ1§35/441,mb4.7/145,MS4.0/21,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
THIG		**0.88**	**348**	*e*Sg		**Sb**	**17 11 45.3**	**-0.1**
THIG		**0.88**	**348**	*e*P		**Pn**	**17 11 37.0**	**+2.3**
THIG				*i* S		**Sb**	**17 11 45.0**	**-0.4**
APG	**El Apazote**	**1.83**	**58**	Pg		**Pg**	**17 11 48.5**	**-3.0**
	0.6nm,0.3s,baz=247,slow=15,SNR=5.9							
APG				Lg		Lg	17 12 10.5	
	162nm,0.3s,baz=279,slow=9.8,SNR=9.9							
PCIG		**1.98**	**326**	*e*P		**Pn**	**17 11 49.2**	**-0.7**
PCIG				*e*S		**Sn**	**17 12 08.8**	**-6.1**
CCIG	**Comitan**	**2.23**	**359**	*e*Pn		**Pg**	**17 11 59.6**	**+0.6**
CCIG	**Comitan**	**2.23**	**359**	*e*P		**Pb**	**17 11 56.2**	**-0.5**
CCIG				*i* S		**Sn**	**17 12 19.8**	**-1.4**
SNET	**Serv Nac Est T**	**2.79**	**97**	*e*Pn		**Pb**	**17 12 03.2**	**-3.1**
TGIG		**2.90**	**340**	*e*Pn		**Pn**	**17 12 04.4**	**+1.8**
TGIG		**2.90**	**340**	*e*P		**Pn**	**17 12 04.4**	**+1.8**
TGIG				*i* S		**Sn**	**17 12 33.2**	**-4.4**
CMIG	**Matias Romero**	**4.06**	**319**	Pn		**Pn**	**17 12 17.6**	**-1.0**
	8.4nm,0.3s,baz=168,slow=14,SNR=24							
CMIG				Sn		**Sn**	**17 13 01.7**	**-4.4**
	20nm,0.3s,baz=105,slow=7.7,SNR=9.9							
CMIG				Lg		Lg	17 13 19.9	
	48nm,0.3s,baz=8.5,slow=18,SNR=5.6							
CSGN	**Cosiguina Volc**	**4.53**	**103**	*e*Pn		Pb	17 12 29.0	-7.0
TGUH	**Tegucigalpa,Un**	**4.67**	**89**	*e*Pn		Pb	17 12 30.3	-8.0
ESTN	**Estel**	**5.63**	**99**	*e*Pn		**Pn**	**17 12 40.4**	**+0.1**
BOAB	**BOACO BROADBAN**	**6.44**	**103**	*e*Pn		Pn	17 12 46.1	-5.2
LVIG	**Laguna Verde**	**7.01**	**324**	*e*Pn		**Pn**	**17 12 54.8**	**-4.2**
TEIG	**Tepich**	**7.14**	**30**	*e*Pn		Pn	17 13 06.4	+5.4
TLIG	**Tlapa**	**7.16**	**300**	*e*Pn		**Pn**	**17 12 59.5**	**-1.7**
MYIG	**MÓrida**	**7.23**	**18**	*e*Pn		**Pn**	**17 13 03.6**	**+1.5**
ESPN	**Las Esperanzas**	**7.80**	**103**	*e*Pn		Pn	17 13 16.8	+6.8
JTS	**JuntasAbangare**	**7.91**	**117**	Pn		Pn	17 13 15.0	+3.5
	1.8nm,0.3s,baz=21,slow=17,SNR=5.6							
JTS				Lg		Lg	17 15 26.1	
	0.5nm,0.3s,baz=104,slow=23,SNR=5.5							
JTS	**JuntasAbangare**	**7.91**	**117**	*e*Pn		Pn	17 13 17.2	+5.8
JTS				Lg		Lg	17 15 26.1	
URSC	**Urasca**	**9.14**	**116**	*e*P		Pn	17 13 34.1	+5.6
ICCO	**Coco Island**	**9.79**	**149**	*e*P		**Pn**	**17 13 39.0**	**+1.7**
LNIG	**Linares**	**12.84**	**328**	*e*Pn		**Pn**	**17 14 22.2**	**+3.2**
ZAIG	**Zacatecas**	**13.20**	**313**	*e*Pn		Pn	17 14 19.4	-4.8
833A	**Chaparral WMA,**	**15.75**	**336**	*e*Pn		**Pn**	**17 14 59.0**	**+0.6**
	40nm,1.0s							
833A	**Chaparral WMA,**	**15.75**	**336**	P		**P**	**17 15 02.5**	**+0.2**
	baz=153							
058A	**Arcadia**	**16.12**	**35**	P		**P**	**17 15 09.0**	**+2.6**
	baz=218							
HKT	**Hockley**	**16.20**	**348**	*e*Pn		**P**	**17 15 05.8**	**-1.5**
	40nm,1.8s							
060Z	**West Palm Beac**	**16.36**	**39**	P		**P**	**17 15 12.8**	**+3.7**
	baz=223							
DBBC	**Dabeiba**	**17.09**	**112**	*e*P		**P**	**17 15 16.5**	**-0.8**
435B	**Jarrell**	**17.41**	**344**	*e*Pn		**Pn**	**17 15 17.1**	**-2.4**
	39nm,1.3s							
757A	**Oxford**	**17.49**	**30**	P		**P**	**17 15 24.7**	**+3.1**
	baz=214							
656A	**Willston**	**17.63**	**29**	P		**P**	**17 15 26.3**	**+3

Y46A	Houston	19.97	8	P	Pn	17 15 49.4	-1.0	
	baz=189,SNR=5.7							
BARC	Barichara	20.00	110	eP	Pn	17 15 51.1	-0.2	
Y47A	UCPARC, Winfie	20.14	10	P	Pn	17 15 52.1	-0.4	
	baz=192							
256A	Glennville	20.14	26	P	Pn	17 15 53.0	+0.4	
	baz=210							
PAMC	Pamplona, Colo	20.17	107	eP	Pn	17 15 52.4	-1.1	
154A	Montrose	20.22	22	eP	Pn	17 15 55.6	+2.1	
	73nm,0.8s							
154A	Montrose	20.22	22	P	Pn	17 15 54.4	+0.9	
	baz=206							
Y48A	Jasper	20.28	12	P	Pn	17 15 53.9	-0.3	
	baz=194							
Z52A	Williamson	20.30	19	P	Pn	17 15 55.0	+0.6	
	baz=202							
CHIC	Chingaza	20.36	116	eP	Pn	17 15 55.8	+0.1	
RUSC	La Rusia	20.38	112	eP	Pn	17 15 55.8	-0.1	
Y49A	Blount Mountai	20.39	14	eP	Pn	17 15 54.4	-1.1	
	18nm,0.9s							
Y49A	Blount Mountai	20.39	14	P	Pn	17 15 55.7	+0.3	
	baz=196							
X43A	Marvell	20.41	3	eP	Pn	17 15 56.7	+0.9	
	130nm,1.2s							
X43A	Marvell	20.41	3	P	Pn	17 15 55.4	-0.3	
	baz=183							
FLOC	Florencia	20.42	126	eP	Pn	17 15 56.5	+0.4	
MIAR	Mount Ida	20.46	356	eP	Pn	17 15 56.5	+0.3	
MIAR	Mount Ida	20.46	356	P	Pn	17 15 55.1	-1.1	
	baz=176,SNR=5.7							
155A	Kite	20.47	24	P	Pn	17 15 56.9	+0.5	
	baz=207							
OXF	Oxford	20.52	6	eP	Pn	17 15 58.5	+1.5	
OXF	Oxford	20.52	6	P	Pn	17 15 56.4	-0.6	
	baz=187							
UALR	University of	20.64	359	eP	Pn	17 15 59.1	+0.7	
	64nm,0.8s							
VILC	Villavicencio,	20.65	117	eP	Pn	17 16 00.6	+1.8	
Z53A	Monticello	20.66	21	P	Pn	17 15 58.3	-0.3	
	baz=204							
X37A	Clayton	20.67	352	eP	Pn	17 15 58.5	-0.2	
	31nm,0.8s							
X47A	Russelville	20.74	10	P	Pn	17 15 58.4	-1.2	
	baz=192							
Y51A	Rockmart	20.77	17	P	Pn	17 15 59.5	-0.4	
	baz=199							
GOGA	Godfrey	20.81	21	eP	Pn	17 16 00.6	+0.2	
	28nm,1.0s							
GOGA	Godfrey	20.81	21	P	Pn	17 15 59.8	-0.6	
	baz=204							
X48A	Hartselle	20.82	12	eP	Pn	17 15 59.8	-0.7	
	20nm,0.9s							
X48A	Hartselle	20.82	12	P	Pn	17 15 59.5	-1.0	
	baz=194							
Z54A	Sparta	20.88	22	P	Pn	17 16 00.5	-0.6	
	baz=206							
156A	Sylvania	20.89	26	P	Pn	17 16 00.7	-0.7	
	baz=210							
Y52A	Lilburn	21.03	19	eP	P	17 16 03.9	+3.5	
	56nm,1.0s							
Y52A	Lilburn	21.03	19	P	P	17 16 02.3	+2.0	
	baz=202							
X49A	Woodville	21.03	13	P	P	17 16 01.7	+1.4	
	baz=196,SNR=6.2							
W41B	Gary Mavity, V	21.04	360	eP	P	17 16 03.5	+3.1	
	17nm,0.8s							
W41B	Gary Mavity, V	21.04	360	P	P	17 16 01.1	+0.7	
	baz=180							
W39A	Magazine	21.12	356	eP	P	17 16 04.3	+3.1	
	90nm,1.5s							
W39A	Magazine	21.12	356	P	P	17 16 02.5	+1.2	
	baz=176							
Z55A	Blythe	21.13	24	P	P	17 16 03.6	+2.2	
	baz=208							
X50B	Fort Payne	21.14	15	P	P	17 16 03.0	+1.4	
	baz=197,SNR=5.6							
WHAR	Wooly Hollow	21.16	360	eP	P	17 15 59.0	-2.7	
	26nm,1.0s							
PLAL	Pickwick Lake	21.16	9	eP	P	17 16 04.1	+2.4	
	59nm,1.8s							
Y53A	Monroe	21.18	20	P	P	17 16 03.7	+1.8	
	baz=203							
GDL2	Guadalupe Moun	21.28	330	eP	P	17 16 04.6	+1.5	
TAMC	Tame, Arauca	21.34	109	eP	P	17 16 02.6	-1.3	
MNTX	Cornudas Mount	21.39	327	eP	P	17 16 04.7	+0.5	
	20nm,1.0s							
MNTX	Cornudas Mount	21.39	327	P	P	17 16 04.6	+0.4	
	baz=143,SNR=21							
X51A	Calhoun	21.45	16	P	P	17 16 05.6	+0.8	
	baz=199							
WMOK	Wichita Mounta	21.48	345	eP	P	17 16 06.0	+0.9	
	9.4nm,0.6s							
WMOK	Wichita Mounta	21.48	345	P	P	17 16 05.8	+0.6	
	baz=162,SNR=14							
Y54A	Tignall	21.49	22	P	P	17 16 06.7	+1.4	
	baz=205							
W47A	Westpoint	21.50	10	P	P	17 16 05.8	+0.5	
	baz=192							
W48A	Pulaski	21.51	12	P	P	17 16 05.9	+0.4	
	baz=194							
SDV	Santo Domingo	21.63	101	P	P	17 16 07.0	-0.2	
	2.3nm,0.7s,baz=211,slow=7.9,SNR=4.3							
SDV				LR	LR	17 26 25.7		
	comp=Z,219nm,18.5s,baz=16,slow=42							
SDV	Santo Domingo	21.63	101	eP	P	17 16 09.7	+2.5	
	15nm,1.0s							
W49A	Belvidere	21.63	13	P	P	17 16 07.5	+0.7	
	baz=195,SNR=7.4							
V41A	Mountainview	21.65	360	P	P	17 16 07.5	+0.6	
	baz=180							
V42A	Cord	21.68	2	P	P	17 16 07.2	0.0	
	baz=182,SNR=7.6							
CPRX	Cap Rock	21.74	332	eP	P	17 16 09.1	+1.0	
X52A	Dahlonega	21.77	18	P	P	17 16 09.4	+1.1	
	baz=202							
SWET	Sewanee	21.80	14	eP	P	17 16 10.3	+1.7	
	24nm,0.9s							
NHSC	New Hope	21.86	28	P	P	17 16 11.2	+2.1	
	baz=212							
X53A	Estanollee	21.86	20	P	P	17 16 10.0	+0.8	
	baz=203							
W50A	Signal Mountai	21.93	15	eP	P	17 16 11.5	+1.4	
	25nm,0.9s							
W50A	Signal Mountai	21.93	15	P	P	17 16 10.8	+0.7	
	baz=198							
V46A	Holladay	21.96	9	P	P	17 16 10.3	+0.1	
	baz=190							
TUL1	Leonard	22.03	352	eP	P	17 16 10.8	-0.2	
	24nm,0.9s							
TUL1	Leonard	22.03	352	P	P	17 16 10.9	-0.2	
	baz=170							
W51A	Cleveland	22.04	16	P	P	17 16 12.1	+0.9	
	baz=199							
V47A	Nunnelly	22.08	10	P	P	17 16 12.2	+0.7	
	baz=192							
MSTX	Muleshoe	22.08	336	eP	P	17 16 12.0	+0.3	
	31nm,0.8s							
MSTX	Muleshoe	22.08	336	P	P	17 16 11.4	-0.4	
	baz=152,SNR=17							
V48A	Smith Brothers	22.12	11	eP	P	17 16 12.9	+0.9	
	20nm,0.8s							
V48A	Smith Brothers	22.12	11	P	P	17 16 12.0	0.0	
	baz=194,SNR=7.1							
HHAR	Hobbs	22.21	356	eP	P	17 16 14.1	+1.1	
	24nm,1.1s							
U41A	Viola	22.21	0	P	P	17 16 12.4	-0.6	
	baz=180							
U42A	Revenden	22.23	2	P	P	17 16 13.0	-0.2	
	baz=182,SNR=9.4							
U40A	Yellville	22.23	358	P	P	17 16 12.6	-0.6	
	baz=178							
WVT	Waverly	22.32	9	eP	P	17 16 13.7	-0.5	
	39nm,1.6s							
WVT	Waverly	22.32	9	P	P	17 16 14.4	+0.2	
	baz=191							
V49A	McMinnville	22.33	13	P	P	17 16 14.9	+0.6	
	baz=196,SNR=6.8							
GUVC	San Jose del G	22.36	119	eP	P	17 16 15.5	+0.7	
CPCT	Cooper Cave	22.38	16	eP	P	17 16 16.6	+1.9	
	16nm,0.8s							
JSC	Jenkinsville	22.41	24	eP	P	17 16 16.9	+1.8	
	40nm,1.4s							
V50A	Pikevile	22.43	15	P	P	17 16 15.5	+0.1	
	baz=198							
BG3	Lake Jocassee	22.43	20	eP	P	17 16 18.0	+2.6	
	43nm,1.4s							
AMTX	Amarillo	22.49	339	eP	P	17 16 16.7	+0.6	
	68nm,0.8s							
AMTX	Amarillo	22.49	339	P	P	17 16 16.2	+0.1	
	baz=155							
U46A	Springville	22.50	8	P	P	17 16 16.0	0.0	
	baz=190							
PAULI	Pauline	22.67	22	eP	P	17 16 20.9	+3.0	
	41nm,1.3s							
PBMO	Poplar Bluff	22.69	3	eP	P	17 16 18.4	+0.3	
	16nm,1.0s							
U47A	Clarksville	22.71	10	P	P	17 16 18.3	0.0	
	baz=192							
V51A	Loudon	22.75	16	eP	P	17 16 20.4	+1.6	
	96nm,1.6s							
V51A	Loudon	22.75	16	P	P	17 16 19.8	+1.0	
	baz=200							
TKL	Tuckaleechee C	22.78	18	P	P	17 16 20.1	+1.0	
	12nm,0.8s,baz=189,slow=12,SNR=8.9							
TKL				LR	LR	17 27 00.9		
	comp=Z,1µm,18.5s,baz=207,slow=42							
TKL	Tuckaleechee C	22.78	18	eP	P	17 16 21.1	+2.0	
	87nm,1.7s							
T41A	Mountain View	22.91	1	P	P	17 16 19.8	-0.6	
	baz=181							
T42A	Van Buren	22.91	2	eP	P	17 16 19.6	-0.8	
	12nm,1.1s							
T42A	Van Buren	22.91	2	P	P	17 16 19.6	-0.8	
	baz=182							
U48A	Cassie Pea, Po	22.92	12	P	P	17 16 20.5	0.0	
	baz=194							
HSIG		22.97	313	eP	P	17 16 20.3	-0.8	
	14nm,1.2s							
T43A	Greenville	23.00	4	P	P	17 16 21.0	-0.3	
	baz=184							
V52A	Sevierville	23.01	18	eP	P	17 16 22.9	+1.5	
	29nm,1.0s							
V52A	Sevierville	23.01	18	P	P	17 16 21.4	-0.1	
	baz=201							
T44A	Benton	23.05	5	P	P	17 16 21.6	-0.3	
	baz=186							
U49A	Red Boiling Sp	23.08	13	P	P	17 16 22.0	-0.1	
	baz=196,SNR=10							
V53A	Saluda	23.09	20	eP	P	17 16 24.1	+1.7	
	30nm,1.0s							
V53A	Saluda	23.09	20	P	P	17 16 23.2	+0.9	
	baz=203,SNR=6.7							
KMSC	Kings Mountain	23.14	23	eP	P	17 16 24.5	+1.8	
	24nm,1.0s							
KMSC	Kings Mountain	23.14	23	P	P	17 16 23.9	+1.1	
	baz=207							
U50A	Jamestown	23.20	15	P	P	17 16 23.1	-0.4	
	baz=198,SNR=12							
T46A	Princeton	23.21	9	P	P	17 16 23.2	-0.3	
	baz=190							
T47A	Sharon Grove	23.28	10	eP	P	17 16 24.6	+0.4	
	16nm,0.7s							
T47A	Sharon Grove	23.28	10	P	P	17 16 23.4	-0.8	
	baz=192,SNR=7.0							
121A	Cookes Peak, D	23.33	325	P	P	17 16 25.6	+0.6	
	baz=139,SNR=7.9							
319A	Douglas	23.38	320	eP	P	17 16 26.9	+1.4	
	26nm,1.0s							
U51A	La Follette	23.39	17	P	P	17 16 25.5	+0.2	
	baz=200,SNR=12							
S41A	Jilco Farms,	23.45	1	P	P	17 16 25.1	-0.9	
	baz=181							
S43A	Fulton Ridge,	23.50	4	P	P	17 16 25.8	-0.6	
	baz=185							
T48A	Bowling Green	23.52	11	P	P	17 16 26.1	-0.6	
	baz=194							
U52A	Thorn Hill	23.59	18	P	P	17 16 27.5	+0.2	
	baz=201							
S42A	Caledonia	23.66	3	P	P	17 16 26.8	-1.2	
	baz=183							
TZTN	Tazewell	23.67	17	eP	P	17 16 29.1	+0.9	
	23nm,0.9s							
TZTN	Tazewell	23.67	17	P	P	17 16 27.9	-0.3	
	baz=201							
S44A	Carbondale	23.69	6	P	P	17 16 27.8	-0.4	
	baz=187							
T49A	Edmonton	23.70	13	eP	P	17 16 28.6	+0.2	
	25nm,1.0s							
T49A	Edmonton	23.70	13	P	P	17 16 27.8	-0.5	
	baz=196,SNR=8.0							
SIUC	Southern Illin	23.71	6	eP	P	17 16 28.6	+0.2	
	29nm,0.8s							
T50A	Nancy	23.78	14	P	P	17 16 28.8	-0.3	
	baz=198,SNR=8.6							
U53A	Fall Branch	23.80	19	P	P	17 16 29.3	-0.1	
	baz=203,SNR=5.6							
S46A	Don Dixon Farm	23.86	9	P	P	17 16 29.4	-0.6	
	baz=190							
S47A	Hartford	23.91	10	P	P	17 16 30.0	-0.3	
	baz=192							
CCM	Cathedral Cave	23.93	2	eP	P	17 16 29.9	-0.7	
	12nm,0.8s							
CCM	Cathedral Cave	23.93	2	P	P	17 16 29.5	-1.0	
	baz=182							
T51A	Gray	23.96	16	P	P	17 16 31.0	+0.1	
	baz=200,SNR=5.7							
BNM	Barren Site	23.97	329	eP	P	17 16 32.6	+1.4	
LPM	Los Pinos Moun	24.10	329	eP	P	17 16 33.9	+1.5	
S48A	Wiedman Farm,	24.12	12	P	P	17 16 32.1	-0.3	
	baz=194							
LENM	Lemitar	24.15	329	eP	P	17 16 34.3	+1.4	
R41A	Rosebud	24.16	1	P	P	17 16 31.6	-1.2	
	baz=182,SNR=6.7							
R42A	Luebbering	24.17	2	P	P	17 16 32.2	-0.6	
	baz=183							
T52A	Hallie	24.36	18	P	P	17 16 34.6	-0.1	
	baz=202							
R45A	Skylar, Fairfi	24.39	7	P	P	17 16 34.6	-0.2	
	baz=189							
S49A	Springfield	24.41	13	P	P	17 16 34.4	-0.6	
	baz=196,SNR=8.8							
R46A	Gibon Southern	24.41	9	P	P	17 16 33.9	-1.1	
	baz=191							
LAZ	Ladron	24.42	329	eP	P	17 16 34.5	-0.9	
S50A	Richmond	24.51	15	P	P	17 16 35.5	-0.5	
	baz=198,SNR=6.0							
ANMO	Albuquerque	24.52	331	P	P	17 16 37.2	+0.9	
	2.9nm,0.7s,baz=138,slow=13,SNR=6.6							
ANMO	Albuquerque	24.52	331	eP	P	17 16 37.3	+0.9	
	21nm,1.5s							
ANMO	Albuquerque	24.52	331	P	P	17 16 36.2	-0.2	
	baz=145							
WCI	Wyandotte Cave	24.63	11	eP	P	17 16 37.0	0.0	
	152nm,0.8s							
WCI	Wyandotte Cave	24.63	11	P	P	17 16 36.5	-0.5	
	baz=194							
R47A	Wooly Knot Far	24.65	11	P	P	17 16 36.9	-0.3	
	baz=193,SNR=5.1							
S51A	Beattyville	24.68	16	eP	P	17 16 37.9	+0.3	
	16nm,0.8s							
S51A	Beattyville	24.68	16	P	P	17 16 37.3	-0.2	
	baz=200							
Q42A	Golden Eagle	24.81	3	P	P	17 16 37.8	-0.8	
	baz=184							
Q41A	Truxton	24.82	2	P	P	17 16 37.6	-1.2	
	baz=182							
OLIL	Olney	24.84	7	eP	P	17 16 39.4	+0.5	
	32nm,0.8s							
R48A	Northridge Ran	24.88	12	P	P	17 16 39.2	0.0	
	baz=194							
Q44A	Meyer Farm, Va	24.91	6	P	P	17 16 39.9	+0.3	
	baz=187							
R49A	Shelbyville	24.92	13	P	P	17 16 39.2	-0.4	
	baz=196							
TUC	Tucson	24.95	320	eP	P	17 16 42.5	+2.4	
	12nm,1.1s							
TUC	Tucson	24.95	320	P	P	17 16 40.5	+0.4	
	baz=133							
Q45A	Warren Harvey,	25.00	7	P	P	17 16 39.3	-0.9	
	baz=189							
ATAH	Atahualpa	25.05	146	P	P	17 16 40.8	-0.7	
	3.5nm,0.7s,baz=332,slow=7.0,SNR=2.7							
ATAH				LR	LR	17 24 09.5		
	comp=Z,221nm,19.6s,baz=327,slow=31							
R50A	Paris	25.10	14	P	P	17 16 40.9	-0.3	
	baz=198							
SJG	San Juan	25.23	77	LR	LR	17 27 36.2		
	comp=Z,655nm,19.7s,baz=260,slow=39							
KSU1	Kansas State U	25.28	352	eP	P	17 16 41.6	-1.2	
	18nm,0.8s							
Q47A	Bedord North L	25.29	10	P	P	17 16 42.6	-0.4	
	baz=193							
R51A	Hillsboro	25.31	16	P	P	17 16 42.6	-0.6	
	baz=200							
Q48A	North Vernon	25.41	12	P	P	17 16 43.8	-0.3	
	baz=194							
P42A	Winchester	25.49	3	P	P	17 16 43.8	-1.0	
	baz=184							
T25A	Trinidad	25.50	337	eP	P	17 16 47.3	+2.2	
	29nm,0.9s							
T25A	Trinidad	25.50	337	P	P	17 16 44.2	-0.9	
	baz=152,SNR=18							
P44A	Sand Creek, Wi	25.51	6	P	P	17 16 43.3	-1.6	
	baz=188							
R52A	Catlettsburg	25.60	17	P	P	17 16 45.1	-0.7	
	baz=202							
Q49A	Aurora	25.66	13	P	P	17 16 45.5	-0.8	
	baz=196							
P45A	Graceland, Par	25.67	8	eP	P	17 16 45.9	-0.6	
	17nm,0.6s							
P45A	Graceland, Par	25.67	8	P	P	17 16 45.8	-0.6	
	baz=190							
Q50A	Georgetown	25.72	15	P	P	17 16 46.1	-0.8	
	baz=198							
P46A	Rosedale	25.83	9	P	P	17 16 47.1	-0.8	
	baz=191							
P48A	Milroy	25.99	12	P	P	17 16 48.6	-0.7	
	baz=195							
O41A	Passleys Farm,	25.99	2	P	P	17 16 48.9	-0.5	
	baz=183							
X18A	Snowflake	26.02	325	eP	P	17 16 49.2	-0.7	
	10nm,1.3s							
Q51A	Peebles	26.05	16	eP	P	17 16 50.7	+0.8	
	20nm,0.8s							
Q51A	Peebles	26.05	16	P	P	17 16 49.6	-0.3	
	baz=200							
P49A	Miami Univ. Ec	26.21	13	P	P	17 16 50.6	-0.7	
	baz=196							
Q52A	Bidwell	26.29	17	P	P	17 16 51.7	-0.4	
	baz=202							
O45A	Potomac	26.38	8	P	P	17 16 52.0	-0.8	
	baz=190							
SDCO	Great Sand Dun	26.45	336	eP	P	17 16 55.2	+1.3	
	18nm,1.3s							
SDCO	Great Sand Dun	26.45	336	P	P	17 16 54.7	+0.8	
	baz=150,SNR=11							
P50A	Jamestown	26.49	14	P	P	17 16 53.9	0.0	
	baz=198							
P51A	Williamsport	26.56	16	eP	P	17 16 54.6	+0.2	
	24nm,1.0s							
P51A	Williamsport	26.56	16	P	P	17 16 53.9	-0.5	
	baz=200							
SFIN	Lafayette	26.60	9	eP	P	17 16 54.4	-0.4	
	15nm,0.7s							
SFIN	Lafayette	26.60	9	P	P	17 16 53.8	-0.9	
	baz=191,SNR=5.7							
O47A	Sheridan	26.60	10	P	P	17 16 53.8	-1.0	
	baz=193							
X16A	Lo Mia Camp, P	26.80	323	eP	P	17 16 58.4	+1.4	
	4.7nm,0.9s							
O48A	Farmland	26.81	12	P	P	17 16 55.9	-0.8	
	baz=195							
N44A	Piper City	26.87	7	P	P	17 16 56.3	-1.0	
	baz=188							
N43A	Stutzman Famil	26.92	5	P	P	17 16 57.1	-0.6	
	baz=186							
O49A	Covington	26.92	13	P	P	17 16 57.4	-0.3	
	baz=197							
S22A	4UR Ranch, Cre	27.00	334	eP	P	17 17 00.4	+1.5	
	15nm,1.0s							
S22A	4UR Ranch, Cre	27.00	334	P	P	17 16 59.1	+0.2	
	baz=147,SNR=17							
P53A	Whipple	27.04	18	P	P	17 16 59.0	+0.2	
	baz=203							
O50A	Cable	27.04	14	P	P	17 16 59.0	+0.2	
	baz=198							
M41A	Milan	27.26	3	P	P	17 17 00.2	-0.6	
	baz=183							
ACSO	Alum Creek Sta	27.28	15	P	P	17 17 00.5	-0.5	
	baz=200							
O51A	Pataskala	27.30	16	P	P	17 17 00.9	-0.3	
	baz=200							
MVCO	Mesa Verde	27.32	331	eP	P	17 17 03.4	+1.7	
	23nm,0.9s							
MVCO	Mesa Verde	27.32	331	P	P	17 17 02.2	+0.5	
	baz=144,SNR=14							
Q24A	Divide	27.38	337	eP	P	17 17 03.2	+1.0	
	5.9nm,0.8s							
N48A	Decatur	27.42	12	P	P	17 17 01.6	-0.6	
	baz=195,SNR=5.1							
M43A	Waltham Townsh	27.43	5	P	P	17 17 01.8	-0.5	
	baz=187							
O52A	Adamsville	27.48	17	eP	P	17 17 01.2	-1.6	
	16nm,0.8s							
O52A	Adamsville	27.48	17	P	P	17 17 02.5	-0.3	
	baz=202							
WUAZ	Wupatki	27.54	324	eP	P	17 17 05.1	+1.5	
	9.3nm,1.1s							
WUAZ	Wupatki	27.54	324	P	P	17 17 04.0	+0.5	
	baz=136							
N49A	Columbus Grove	27.65	13	P	P	17 17 04.4	+0.1	
	baz=197							
M47A	Cromwell	27.79	10	P	P	17 17 05.3	-0.2	
	baz=194							
L42A	Oliver, Polo	27.94	4	P	P	17 17 06.0	-0.8	
	baz=185							
SMCO	Snowmass	28.27	335	eP	P	17 17 12.7	+2.4	
	11nm,1.1s							
PDMCI	Parker Dam,Lak	28.38	319	P	P	17 17 11.7	+0.8	
	baz=130							
L47A	Sherwood	28.46	11	P	P	17 17 10.6	-0.9	
	baz=194							
L48A	N Adams	28.58	12	P	P	17 17 12.0	-0.6	
	baz=196							
O56A	Rue Knob Stat	28.68	22	P	P	17 17 13.6	0.0	
	baz=208							
U15A	North Rim	28.71	325	eP	P	17 17 15.8	+1.7	
	18nm,1.7s							
W13A	Hualapai Mount	28.73	321	eP	P	17 17 11.7	-2.6	
	8.9nm,1.6s							
N54A	Moraine State	28.82	19	P	P	17 17 14.6	-0.2	
	baz=205							
BC3	Big Chuckawall	28.83	317	P	P	17 17 15.8	+0.8	
	baz=127,SNR=5.6							
IRM	Iron Mountain	28.93	318	P	P	17 17 16.4	+0.5	
	baz=129							
MONP2	Monument Peak	29.04	314	P	P	17 17 17.4	+0.4	
	baz=125							
BELC	Belle Mtn. Jos	29.40	317	P	P	17 17 20.5	+0.4	
	baz=127							
M54A	Oil Creek Stat	29.42	19	P	P	17 17 19.7	-0.4	
	baz=205							
KNB	Kanab	29.43	325	eP	P	17 17 21.7	+1.4	
	14nm,1.3s							
K48A	Perry	29.47	12	P	P	17 17 19.6	-0.9	
	baz=196							
PFO	Pinyon Flats O	29.48	316	P	P	17 17 21.1	+0.3	
	baz=126							
LDFC	Landfair	29.48	319	eP	P	17 17 25.3	+4.5	
	8.5nm,1.0s							
O20A	White River Ci	29.60	334	eP	P	17 17 23.8	+1.9	
	7.1nm,0.8s							
GMRC	Granite Mounta	29.65	318	P	P	17 17 22.5	+0.2	
	baz=129							
SRU	San Rafael Swe	29.80	330	eP	P	17 17 25.8	+2.1	
	36nm,1.9s							
MTPU	Mount Pierson	29.82	327	eP	P	17 17 25.9	+1.8	
	17nm,1.8s							
I42A	Draeger Farm,	29.87	5	P	P	17 17 22.8	-1.2	
	baz=186							
SZCU	Shurtz Canyon	29.99	325	eP	P	17 17 27.4	+2.0	
	14nm,1.5s							
P18A	Preston Nutter	30.08	331	eP	P	17 17 28.6	+2.3	
	12nm,1.3s							
CCUT	Cedar City	30.11	325	eP	P	17 17 28.7	+2.2	
	6.5nm,1.1s							
P17A	Butcher Ranch,	30.19	330	eP	P	17 17 28.8	+1.7	
	12nm,1.2s							
J49A	Marlette	30.21	13	P	P	17 17 26.1	-0.9	
	baz=197							
TMUT	Trail Mountain	30.28	330	eP	P	17 17 29.8	+1.8	
	8.7nm,1.2s							
N59A	State Game Lan	30.32	25	P	P	17 17 28.2	+0.1	
	baz=212				

BASO	Ashfield	31.17	15	P		P	17 17 35.1	-0.3	
	baz=200								
BINY	Binghamton	31.32	23	P		P	17 17 37.5	+0.6	
	baz=211								
LRMC	Laurel Mtn Rad	31.39	317	P		P	17 17 38.4	+0.7	
	baz=127								
MPMC	Manual Prospec	31.61	318	P		P	17 17 39.9	+0.2	
	baz=128								
RSSD	Black Hills	31.67	343	eP		P	17 17 41.3	+1.2	
	4.4nm,0.8s								
RSSD	Black Hills	31.67	343	P		P	17 17 40.7	+0.5	
	baz=158								
TCUT	Toone Canyon	31.80	332	eP		P	17 17 43.4	+2.0	
	34nm,1.0s								
BMRO	Meriville Lake	31.83	15	P		P	17 17 40.6	-0.6	
	baz=200								
DRCO	St. Marys Ceme	31.86	18	P		P	17 17 41.0	-0.6	
	baz=205								
R11A	Troy Canyon, C	31.92	324	eP		P	17 17 43.7	+1.3	
	15nm,2.0s								
R11A	Troy Canyon, C	31.92	324	P		P	17 17 43.0	+0.6	
	baz=133								
CLWO	Collingwood	31.93	16	P		P	17 17 41.7	-0.5	
	baz=202								
WLVO	Wesleyville	32.00	19	P		P	17 17 42.2	-0.6	
	baz=206								
GRAC	Grapevine Rang	32.11	320	P		P	17 17 44.9	+1.0	
	baz=129,SNR=5.3								
CWC	Cottonwood Cre	32.22	318	P		P	17 17 45.5	+0.5	
	baz=127								
HWUT	Hardware Ranch	32.26	332	eP		P	17 17 46.7	+1.4	
	24nm,1.4s								
BW06	Boulder Array	32.35	336	eP		P	17 17 46.8	+0.7	
	9.9nm,1.4s								
BW06	Boulder Array	32.35	336	P		P	17 17 46.2	+0.1	
	baz=147								
PD31	Pinedale Array	32.35	336	eP		P	17 17 46.9	+0.7	
PDAR	Pinedale Array	32.35	336	P		P	17 17 46.4	+0.2	
	1.7nm,0.9s,baz=134,slow=8.5,SNR=10								
PDAR					PcP	PcP	17 20 34.8	+0.8	
	0.4nm,0.5s,baz=123,slow=5.5,SNR=3.8								
BGU	Big Grassy Mou	32.42	330	eP		P	17 17 48.4	+1.7	
	26nm,2.0s								
DELO	Deloro Mine	32.78	19	P		P	17 17 49.2	-0.5	
	baz=206								
KLBO	Killbear Provi	32.79	16	P		P	17 17 47.1	-2.6	
	baz=202								
HVU	Hansel Valley	32.96	331	eP		P	17 17 53.2	+1.8	
	11nm,0.9s								
AHID	Auburn Hatcher	32.99	334	eP		P	17 17 52.9	+1.1	
	14nm,1.0s								
BUKO	Buck Lake	33.09	16	P		P	17 17 50.8	-1.5	
	baz=203								
BANO	Bancroft	33.13	18	P		P	17 17 51.8	-0.9	
	baz=206								
REDW	Red Top Meadow	33.37	335	eP		P	17 17 56.5	+1.4	
	33nm,0.9s								
SNOW	Snow King Moun	33.41	335	eP		P	17 17 57.3	+1.8	
	38nm,0.8s								
PLVO	Plevna	33.42	19	P		P	17 17 54.1	-1.1	
	baz=207								
F52A	Sundridge	33.44	16	P		P	17 17 54.4	-0.9	
	baz=203								
LOHW	Long Hollow	33.48	335	eP		P	17 17 56.6	+0.6	
	13nm,0.9s								
NV11	Mina Array Sit	33.50	321	eP		P	17 17 58.1	+1.9	
	0.5nm,0.9s								
TPAW	Teton Pass	33.52	335	eP		P	17 17 58.1	+1.6	
	35nm,1.3s								
MDPB	Devils Postpil	33.58	319	eP		P	17 17 58.6	+1.6	
	17nm,1.8s								
NV01	Mina Array Sit	33.59	321	eP		P	17 17 58.2	+1.2	
NVAR	Mina Array Bea	33.59	321	P		P	17 17 58.2	+1.1	
	5.2nm,0.7s,baz=136,slow=8.2,SNR=36								
NVAR					PcP	PcP	17 20 37.5	0.0	
	0.9nm,0.5s,baz=252,slow=1.4,SNR=4.8								
NVAR					LR	LR	17 33 32.0		
	comp=Z,453nm,18.4s,baz=135,slow=40								
MOOW	Moose Ponds	33.65	335	eP		P	17 17 58.4	+1.0	
	14nm,1.3s								
E50A	Wahnapitae	33.66	14	P		P	17 17 55.8	-1.5	
	baz=200								
FXWY	Fox Creek	33.67	335	eP		P	17 17 58.6	+0.9	
	8.7nm,1.1s								
IMW	Indian Meadow	33.85	335	eP		P	17 18 00.3	+1.0	
	6.9nm,0.8s								
FLWY	Flagg Ranch	33.90	336	eP		P	17 18 01.4	+1.7	
	13nm,1.1s								
LONY	Lake Ozonia	33.92	23	P		P	17 17 59.1	-0.5	
	baz=211								
PEMO	Pembroke	33.94	19	P		P	17 17 58.7	-1.0	
	baz=206								
ALGO	Algonquin Park	33.94	18	P		P	17 17 58.9	-0.9	
	baz=205								
E51A	G1948 Merrick	34.07	16	P		P	17 17 59.8	-1.1	
	baz=202								
YPP	Pitchstone Pla	34.10	336	eP		P	17 18 03.8	+2.2	
	9.2nm,1.3s								
H17A	Grant Village	34.12	336	eP		P	17 18 04.0	+2.4	
	17nm,1.5s								
RLMT	Red Lodge	34.24	338	eP		P	17 18 02.4	-0.2	
	30nm,1.8s								
RLMT	Red Lodge	34.24	338	P		P	17 18 01.7	-0.9	
	baz=150								
YFT	Old Faithful	34.27	336	eP		P	17 18 06.2	+3.3	
	8.4nm,0.9s								
BMN	Battle Mountai	34.27	325	eP		P	17 18 04.4	+1.5	
	5.0nm,0.9s								
MDND	Maddock	34.28	351	eP		P	17 18 02.8	+0.1	
	25nm,0.8s								
MDND	Maddock	34.28	351	P		P	17 18 01.4	-1.3	
	baz=167								
AGMN	Agassiz Nation	34.30	356	P		P	17 18 01.8	-1.0	
	baz=174								
E53A	Dumoine, Ponti	34.44	18	P		P	17 18 03.2	-0.8	
	baz=205								
YMR	Madison River	34.50	336	eP		P	17 18 07.0	+2.1	
YERR	Yerington	34.51	321	eP		P	17 18 06.7	+1.7	
	20nm,1.7s								
YHH	Holmes Hill	34.55	336	eP		P	17 18 07.3	+1.9	
	9.3nm,1.2s								
D50A	G1974 Best Tow	34.57	15	P		P	17 18 03.9	-1.3	
	baz=201								
D51A	Lot 18 Range I	34.62	15	P		P	17 18 04.4	-1.2	
	baz=202								
E54A	Lac Daplat, Po	34.63	18	P		P	17 18 04.9	-0.8	
	baz=206								
PNTR	Pine Nut	34.79	321	eP		P	17 18 09.4	+1.9	
	5.8nm,0.7s								
QLMT	Earthquake Lak	34.82	336	eP		P	17 18 10.1	+2.4	
PTGA	Pitinga	35.03	112	eP		P	17 18 11.4	+1.8	
	16nm,0.9s								
D53A	Lac Vacive, Po	35.06	17	P		P	17 18 09.0	-0.5	
	baz=205								
HLID	Hailey	35.10	331	eP		P	17 18 11.5	+1.5	
	7.5nm,0.8s								
HLID	Hailey	35.10	331	P		P	17 18 10.6	+0.6	
	baz=140,SNR=12								
MCMT	McKenzie Canyo	35.40	334	eP		P	17 18 14.8	+2.1	
D54A	Lac Fusel, La	35.44	18	P		P	17 18 12.1	-0.6	
	baz=206								
DLMT	Dillon	35.73	335	eP		P	17 18 17.1	+1.7	
	22nm,1.1s								
BEKR	Beckworth	35.73	321	eP		P	17 18 17.1	+1.5	
	6.5nm,1.2s								
ULM	Lac du Bonnet	36.24	356	P		P	17 18 19.3	-0.2	
	3.6nm,0.7s,baz=175,slow=12,SNR=3.8								
ULM					LR	LR	17 34 56.4		
	comp=Z,98nm,19.8s,baz=206,slow=39								
WVOR	Wild Horse Val	36.41	326	eP		P	17 18 22.6	+1.3	
	9.3nm,1.1s								
SAML	Samuel	36.66	127	eP		P	17 18 21.2	-2.3	
	3.3nm,0.8s								
EGMT	Eagleton	36.92	340	eP		P	17 18 26.5	+1.0	
	12nm,0.8s								
EGMT	Eagleton	36.92	340	P		P	17 18 25.8	+0.3	
	baz=151								
LATQ	La Tuque	36.93	22	P		P	17 18 25.3	-0.1	
	baz=212								
J08A	Circle Bar Ran	36.96	327	eP		P	17 18 27.2	+1.3	
	13nm,0.8s								
LSQQ	Lebel-sur-Quev	37.06	17	P		P	17 18 25.7	-0.8	
	baz=205								
BMO	Blue Mountains	37.44	330	eP		P	17 18 30.2	+0.3	
	5.3nm,0.9s								
MSO	Missoula	37.46	335	P		P	17 18 30.3	+0.2	
	baz=144								
MATQ	Matagami	37.53	15	P		P	17 18 29.4	-1.1	
	baz=203								
F10A	Beach Ranch, E	38.23	331	eP		P	17 18 37.0	+0.4	
	20nm,0.8s								
LPAZ	La Paz	38.32	141	P		P	17 18 37.4	-0.8	
	0.9nm,0.7s,baz=328,slow=9.5,SNR=3.9								
JTMT	Jette	38.34	336	eP		P	17 18 38.5	+1.0	
	9.3nm,0.9s								
CHGQ	Chibougamau	38.59	18	P		P	17 18 38.0	-1.4	
	baz=208								
E09A	Wood Farm, Sta	39.06	331	eP		P	17 18 44.2	+0.8	
	5.7nm,0.9s								
I04A	Tendick Farm,	39.39	325	P		P	17 18 45.4	-0.8	
	baz=130								
H04A	Detroit Lake	39.83	326	eP		P	17 18 50.6	+0.6	
	14nm,1.1s								
C09A	Chrisman Ranch	40.08	332	eP		P	17 18 53.0	+1.0	
	13nm,0.9s								
LTY	Liberty	40.80	330	eP		P	17 18 58.5	+0.5	
	22nm,1.5s								
B08A	Colville Reser	40.97	332	eP		P	17 19 03.1	+3.8	
	14nm,1.6s								
LON	Longmire	41.01	329	eP		P	17 19 00.5	+0.8	
	5.9nm,0.8s								
SIV	San Ignacio	42.78	133	P		P	17 19 13.5	-1.0	
	3.9nm,0.8s,baz=319,slow=8.4,SNR=14								
SIV					PcP	PcP	17 21 05.0	-0.9	
	1.3nm,0.9s,baz=315,slow=4.2,SNR=3.0								
A04D	Lummi Island	42.80	330	P		P	17 19 14.2	0.0	
	baz=134								
RPN	Rapa Nui	44.22	202	LR		LR	17 33 31.3		
	comp=Z,63nm,20.0s,baz=310,slow=30								
SCHQ	Schefferville	45.21	20	P		P	17 19 32.4	-1.1	
	7.1nm,0.9s,baz=208,slow=7.1,SNR=4.8								
SCHQ					PcP	PcP	17 21 13.1	-0.4	
	6.4nm,0.7s,baz=213,slow=3.2,SNR=4.8								
SCHQ					LR	LR	17 39 38.6		
	comp=Z,812nm,19.5s,baz=230,slow=38								
YKA	Yellowknife Ar	50.97	347	P		P	17 20 18.2	+0.3	
	18nm,0.6s,baz=150,slow=7.3,SNR=81								
YKA					PcP	PcP	17 21 34.3	+0.3	
	2.3nm,0.7s,baz=148,slow=4.1,SNR=5.4								
YKB5	Yellowknife Ar	50.97	347	eP		P	17 20 17.3	-0.6	
YKW3	Yellowknife Ar	51.03	347	eP		P	17 20 18.6	+0.3	
	23nm,0.8s								
CPUP	Villa Florida	52.47	140	LR		LR	17 42 21.6		
	comp=Z,59nm,20.2s,baz=346,slow=36								
DLBC	Dease Lake	52.58	336	eP		P	17 20 32.5	+2.3	
	49nm,1.5s								
BDFB	Brasilia	52.61	123	LR		LR	17 42 54.1		
	comp=Z,81nm,19.3s,baz=209,slow=36								
TAOE	Nuku Hiva Isla	52.84	247	eLR		LR	17 35 24.2		
	162nm,28.1s								
RKT	Rikitea	55.91	229	eLR		LR	17 36 56.3		
	488nm,41.0s								
RKT	Rikitea	55.91	229	eT		T	18 20 29.3		
	1.6nm,0.2s								
PLCA	Paso Flores	58.04	161	LR		LR	17 41 17.2		
	comp=Z,128nm,19.0s,baz=6.0,slow=31								
EPYK	Eagle Plains	60.06	341	P		P	17 21 23.1	-0.3	
	baz=128								
INK	Inuvik	60.37	344	eP		P	17 21 25.6	+0.3	
	34nm,1.4s								
KLU	Klutina	60.90	334	eP		P	17 21 30.7	+1.5	
	70nm,1.9s								
PAX	Paxson	61.38	335	eP		P	17 21 33.0	+0.5	
	46nm,1.9s								
PMR	Palmer	62.34	333	eP		P	17 21 39.2	+0.5	
	49nm,1.7s								
HDA	Harding Lake	62.63	336	eP		P	17 21 40.8	+0.1	
	18nm,1.4s								
HDA	Harding Lake	62.63	336	P		P	17 21 40.5	-0.2	
	baz=117								
IL1	Eielson Array	62.77	337	eP		P	17 21 41.2	-0.4	
ILAR	Eielson Array	62.77	337	P		P	17 21 41.6	0.0	
	10.0nm,1.1s,baz=141,slow=4.3,SNR=39								
ILAR					LR	LR	17 50 50.3		
	comp=Z,105nm,18.4s,baz=144,slow=38								
ILB	Eielson Array	62.77	337	eP		P	17 21 41.7	0.0	
RND	Reindeer	62.95	335	eP		P	17 21 43.7	+0.8	
	23nm,0.9s								
SUA	Susitna One	63.01	333	eP		P	17 21 43.8	+0.4	
	20nm,1.1s								
CCB	Clear Creek Bu	63.07	336	eP		P	17 21 43.2	-0.4	
	3.9nm,0.8s								
MCK	McKinley	63.12	335	eP		P	17 21 44.4	+0.4	
	31nm,1.6s								
POKR	Poker Plat Res	63.13	337	P		P	17 21 44.1	0.0	
	baz=117								
COLA	College	63.18	337	eP		P	17 21 44.5	+0.2	
	5.0nm,0.8s								
TCOL	CIGO, UAF Yank	63.19	337	P		P	17 21 44.8	+0.4	
	baz=116								
MDM	Murphy Dome	63.37	337	eP		P	17 21 45.5	-0.1	
	11nm,1.0s								
TRF	Thorofare Moun	63.56	335	eP		P	17 21 47.4	+0.3	
	100nm,2.0s								
MLY	Manley	64.37	336	eP		P	17 21 52.3	+0.1	
	12nm,0.7s								
PPT	Papeete	64.84	243	LR		LR	17 41 45.1		
	comp=Z,73nm,19.6s,baz=7.5,slow=28								
PPT2	Papete2	64.85	243	eLR		LR	17 40 48.0		
	144nm,27.5s								
TOLK	Toolik Lake Re	65.45	340	P		P	17 21 59.7	+0.5	
	baz=116,SNR=6.2								
ESDC	Sonseca Array	79.75	52	P		P	17 23 23.7	-1.2	
	1.7nm,0.7s,baz=284,slow=5.8,SNR=7.6								
ES19	SONSECA Array	79.80	52	eP		P	17 23 23.9	-1.3	
BILL	Bilibino	81.39	338	eP		P	17 23 32.9	-0.2	
	13nm,0.8s								
NB200	NORSAR Array S	84.14	28	eP		P	17 23 47.4	-0.2	
NOA	NORSAR Array B	84.14	28	P		P	17 23 47.4	-0.2	
	0.8nm,0.8s,baz=289,slow=5.3,SNR=3.5								
NOA					LR	LR	17 59 58.2		
	comp=Z,81nm,21.9s,baz=290,slow=35								
DBIC	Dimbokro	85.73	84	P		P	17 23 56.0	-0.4	
	2.3nm,0.6s,baz=272,slow=4.3,SNR=3.6								
DBIC					LR	LR	17 59 34.0		
	comp=Z,55nm,19.0s,baz=258,slow=34								
ARA0	ARCESS Array S	86.12	18	eP		P	17 23 57.0	-0.3	
ARCES	ARCESS Array B	86.12	18	P		P	17 23 57.0	-0.3	
	1.5nm,0.8s,baz=306,slow=4.2,SNR=5.3								
ARCES					LR	LR	18 01 59.1		
	comp=Z,6.3nm,21.3s,baz=335,slow=35								
GERES	GERESS Array B	89.62	39	P		P	17 24 14.8	+0.3	
	0.2nm,0.3s,baz=340,slow=4.3,SNR=4.9								
GERES					LR	LR	18 02 36.5		
	comp=Z,124nm,20.7s,baz=294,slow=34								
TIXI	Tiksi	90.20	348	P		P	17 24 16.1	-0.6	
	3.6nm,0.7s,baz=20,slow=5.3,SNR=14								
TIXI		90.20	348	eP		P	17 24 15.8	-0.9	
	5.2nm,0.8s								
TOA1	Torodi Ar. Sit	90.44	76	eP		P	17 24 17.4	-1.6	
TORD	Torodi Ar. Bea	90.44	76	P		P	17 24 17.4	-1.6	
	0.6nm,0.6s,baz=278,slow=4.3,SNR=5.3								
TORD					LR	LR	18 01 38.4		
	comp=Z,31nm,20.4s,baz=310,slow=34								
FINES	FINESS Array B	90.49	25	LR		LR	18 06 09.4		
	comp=Z,98nm,19.0s,baz=261,slow=36								
NRIK	Norilsk	96.83	0	LR		LR	18 13 15.3		
	comp=Z,223nm,18.7s,baz=33,slow=38								
AKASG	Malin Array Be	97.73	33	LR		LR	18 12 15.3		
	comp=Z,72nm,18.0s,baz=265,slow=38								
BOSA	Boshof	120.45	115	PKP		PKPdf	17 30 10.8	+1.8	
	2.5nm,0.6s,baz=322,slow=3.4,SNR=6.6								
WR1	Warramunga Arr	135.33	256	ePKPdf		PKPpre	17 30 34.5		
WRA	Warramunga Arr	135.33	256	PKhKP		PKPpre	17 30 34.5		
	0.5nm,0.8s,baz=90,slow=3.2,SNR=5.2								
ASAR	Alice Springs	135.60	250	PKhKP		PKPpre	17 30 35.2		
	0.5nm,0.9s,baz=184,slow=18,SNR=4.5								
CM31	Chiang Mai Arr	145.93	341	ePKPdf		PKPab	17 30 56.5	-1.0	
CMAR	Chiang Mai Arr	145.93	341	PKPbc		PKPab	17 30 56.4	-1.1	
	12nm,0.7s,baz=340,slow=3.8,SNR=38								

*ISCJB **15** 17:16:24.8±0.4,25°.84N±0°.07×123°.87E±0°.06, h214km,6km, mb3.4/9, Error ellipse: s-maj=13.3km s-min=5.3km az=148.1*
*IDC **15** 17:16:26.3±3.5,25°.99N×124°.10E, h217km±42km, mb3.2/9, mb1 3.3/10, mb1mx3.1/51, mbtmp3.8/10, Error ellipse: s-maj=48.6km s-min=12.8km az=63.0*
*JMA **15** 17:16:27.3±0.2,25°.68N×123°.86E, h210km±5km, M4.2*

ISC 15 17:16:25.5±0.7, 25°.92N±0°.09×123°.84E±0°.07, h208km±10km, n32, σ1°.9 10/50, mb3.5/9, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JISG	Ishigakijimahi	1.40	162	P		Pn	17 16 59.3	+0.2
JISG				S		S	17 17 24.1	-0.8
JTJ	Tarama	1.50	149	P		Pn	17 17 00.6	+0.7
JTJ				eS		S	17 17 25.8	-0.5
JIJ	Ishigaki jima	1.58	170	P		Pn	17 17 00.4	-0.2
JIJ				S		S	17 17 26.4	-1.2
IRIF	Iriomote-Funau	1.59	184	P		Pn	17 17 00.4	-0.3
IRIF				S		S	17 17 26.7	-1.0
JIKM	Ikemajima	1.61	128	P		Pn	17 17 02.1	+1.2
JIKM				S		S	17 17 28.9	+0.8
JIRB	Irabujima	1.62	132	P		Pn	17 17 01.7	+0.7
JIRB				S		S	17 17 27.4	-0.8
YOJ	Yonaguni jima	1.64	208	P		Pn	17 17 01.4	+0.2
YOJ				eS		S	17 17 27.9	-0.7
JYNG	Yonagunijimaku	1.68	209	P		Pn	17 17 01.7	+0.2
JYNG				S		S	17 17 28.5	-0.7
JKRS	Kuro-shima	1.69	175	P		Pn	17 17 01.7	+0.1
JKRS				S		S	17 17 27.8	-1.5
JMJ	Miyako jima 2	1.71	130	P		Pn	17 17 03.1	+1.2
JMJ				S		S	17 17 29.7	0.0
JOGS	Gusukube	1.83	129	P		Pn	17 17 04.3	+1.4
JOGS				S		S	17 17 32.1	+0.5
HATJ	Hateruma jima	1.86	181	P		Pn	17 17 03.2	-0.1
HATJ				S		S	17 17 30.6	-1.7
JKE	Kume jima 2	2.67	81	P		Pn	17 17 14.7	+2.9
JKE				S		S	17 17 48.7	+1.2
JAGN	Aguni-jima	3.12	77	P		Pn	17 17 17.5	+0.5
JAGN				S		S	17 17 56.7	0.0
JJT3	Tamagusuku3	3.55	86	P		Pn	17 17 23.0	+0.9
JJT3				eS		S	17 18 05.9	-0.1
JNTH	Nagotoyohara	3.80	80	P		Pn	17 17 25.3	+0.2
JNTH				S		S	17 18 08.7	-2.7
JIH	Iheya	3.86	72	P		Pn	17 17 26.1	+0.3
JIH				eS		S	17 18 11.6	-1.1
JOW	Kunigami	4.08	76	P		Pn	17 17 28.4	-0.1
	19nm,0.3s,baz=287,slow=14,SNR=210							
JOW				S		S	17 18 14.2	-3.4
	24nm,0.3s,baz=321,slow=28,SNR=15							
JOW	Kunigami	4.08	76	P		Pn	17 17 28.5	-0.1
JYRO	Yoronjima	4.27	74	P		Pn	17 17 30.7	-0.2
JOKE	Okinoerabujima	4.47	70	P		Pn	17 17 33.0	-0.4
JTK	Tokunoshima	4.92	67	P		Pn	17 17 38.2	-0.9
KSRS	Korea Array	12.01	16	P		P	17 19 13.1	-1.5
	0.4nm,0.3s,baz=197,slow=12,SNR=14							
SONM	Songino Array	25.83	332	P		P	17 21 38.1	+0.3
	0.3nm,0.4s,baz=156,slow=9.7,SNR=3.2							
MKAR	Makanchi Array	38.84	313	P		P	17 23 30.7	+0.2
	0.5nm,0.4s,baz=100,slow=10,SNR=12							
ZALV	Zalesovo Beam	40.16	325	P		P	17 23 41.0	-0.3
	2.5nm,0.5s,baz=113,slow=8.5,SNR=14							
KURBB	Kurchatov Arra	42.39	318	P		P	17 23 59.5	+0.1
	0.3nm,0.5s,baz=109,slow=9.2,SNR=5.7							
WRA	Warramunga Arr	46.72	166	P		P	17 24 33.3	-0.6
	0.5nm,0.6s,baz=348,slow=8.9,SNR=9.5							
ASAR	Alice Springs	50.25	168	P		P	17 25 00.7	-0.2
	0.3nm,0.7s,baz=354,slow=7.9,SNR=5.5							
ARU	Arti	55.20	322	P		P	17 25 37.5	+0.9
	2.5nm,0.5s,baz=94,slow=9.2,SNR=7.0							
GEYT	Alibeck	56.02	300	P		P	17 25 44.3	+1.4
	1.0nm,0.6s,baz=34,slow=3.8,SNR=3.4							
ARCES	ARCESS Array B	68.83	338	P		P	17 27 07.4	+0.3
	1.0nm,0.7s,baz=64,slow=10,SNR=3.6							

*ISCJB **15** 17:22:43.0±0.7, 36°.07N±0°.03×31°.12E±0°.02, h11km±4km, Error ellipse: s-maj=4.8km s-min=2.8km az=27.2*
*ISK **15** 17:22:42.8, 36°.10N×31°.09E, h15km, ML3.1/20*
*DDA **15** 17:22:43.7, 36°.04N×31°.13E, h44km, Ml3.1*
*NIC **15** 17:22:44.2±0.2, 36°.24N×31°.24E, h55km, ML3.5*

ISC 15 17:22:42.8±1.3, 36°.06N±0°.03×31°.12E±0°.02, h8km±10km, n49, σ0°.75/71, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ANTB	Antalya	0.92	336	PG		Pg	17 23 00.1	-0.3
ANTB				SG		Sb	17 23 12.7	-0.6
KEPZ	Antalya-Kepez	0.93	25	iP		Pg	17 23 00.6	-0.1
KEPZ				iS		Sg	17 23 11.9	-0.8
GAZI	Gazipasa	0.99	79	PG		Pn	17 23 02.5	-0.5
GAZI				SG		Sn	17 23 16.8	-0.4
GAZI	Gazipasa	0.99	79	iP		Pn	17 23 05.0	+0.0
GAZI				iS		Sn	17 23 17.7	+0.5
KORT	Korkueli	1.12	327	PN		Pg	17 23 03.9	-0.5
KORT				SN		Sb	17 23 19.3	-0.1
KORT	Korkueli	1.12	327	iP		Pg	17 23 04.3	-0.1
KORT				iS		Sn	17 23 22.7	+2.0
ELL	Elmali	1.19	306	PN		Pb	17 23 04.9	-0.9
AKAS	Kas	1.23	278	PN		Pn	17 23 05.8	-0.7
AKAS	Kas	1.23	278	iP		Pg	17 23 07.2	+0.6
AKAS				iS		Sn	17 23 23.5	+0.1
SUTC	Sutluce-Ispart	1.42	356	PN		Pn	17 23 08.1	-0.9
ALFC	Alefka	1.51	126	P		Pn	17 23 09.8	-0.4
	baz=314							
ALFC				S		Sn	17 23 29.8	-0.2
PPCY	Paphos	1.54	139	P		Pn	17 23 10.7	+0.1
	baz=326							
TEKE	Tekeli-Mersin	1.62	87	PN		Pn	17 23 11.2	-0.5
AKDN	Akdeniz- K¯–br	1.69	116	PN		Pn	17 23 13.0	+0.4
GOLH	Golhisar	1.72	314	iP		Pg	17 23 15.2	-0.5
GOLH				iS		Sg	17 23 39.6	+1.6
LEF	Lefka	1.72	122	PN		Pn	17 23 12.3	-0.8
BERE	Bereket-Mersin	1.73	80	PN		Pn	17 23 13.4	+0.1
FETY

TDD	**Tadjoura Ara**	**1.00**	**258**	*e*P		**Pg**	**17 33 07.8**	**-0.2**
ATD	**Arta Tunnel**	**1.14**	**245**	*e*P		**Pg**	**17 33 10.4**	**-0.4**
ATD				*e*S		**Sg**	**17 33 25.9**	**+0.3**
ATD	**Arta Tunnel**	**1.14**	**245**	*e*P		**Pg**	**17 33 10.4**	**-0.4**
TRBA	**At Turbah**	**1.22**	**10**	⇑*i*P		**Pg**	**17 33 12.0**	**-0.2**
TRBA				*i* S		**Sg**	**17 33 27.7**	**-0.4**
TRBA					AML	AML	17 33 33.1	
	comp=E,4µm,0.5s							
SGH	**Sud-Ghoubbet**	**1.38**	**245**	*e*P		**Pn**	**17 33 14.2**	**-0.4**
MAOD	**Malaho**	**1.64**	**273**	*e*P		**Pn**	**17 33 17.8**	**-0.4**
UDYN	**Al 'Udayn**	**1.93**	**2**	*i* P		**Pn**	**17 33 22.0**	**-0.3**
UDYN				*i* S		**Sg**	**17 33 50.4**	**-0.6**
UDYN					AML	AML	17 33 55.6	
	comp=N,805nm,0.5s							
LBOS		**2.26**	**35**	*i* P		**Pn**	**17 33 26.5**	**-0.3**
LBOS				*i* S		**Sb**	**17 33 59.3**	**+0.9**
BDHA	**Al Bayda'**	**2.53**	**40**	*i* P		**Pn**	**17 33 30.8**	**+0.2**
BDHA				*i* S		**Sb**	**17 34 05.9**	**-0.3**
BDHA					AML	AML	17 34 17.7	
	comp=E,573nm,0.5s							
DHBB	**Dhamar BB**	**2.58**	**11**	*i* P		**Pn**	**17 33 32.8**	**+1.5**
DHBB				*i* S		**Sb**	**17 34 07.5**	**-0.1**

IDC ***15*** *18:00:34.6±1.0, 10°.41N×126°.72E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.8/43, mbtmp3.8/11, ML3.6/1, Error ellipse: s-maj=58.8km s-min=15.2km az=68.0*
ISCJB ***15*** *18:00:38.6±1.7, 10°.47N±0°.07×126°.8E±0°.2, h40km±13km, mb4.0/13, Error ellipse: s-maj=26.2km s-min=7.3km az=159.5*
MAN ***15*** *18:00:38.9, 10°.58N×126°.77E, h33km, mb4.8, ML3.7, MS3.6*
NEIC ***15*** *18:00:40.4±4.4, 10°.37N×126°.75E, h41km±41km, mb4.6/3, Error ellipse: s-maj=27.3km s-min=7.5km az=67.0*

ISC 15 18:00:39.4±2.2, 10°.44N±0°.05×126°.59E±0°.09, h30km±16km, n29, σ1s98/36, mb4.1/13, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**1.62**	**316**	*e*P	**Pn**	**18 01 06.5**	**+0.6**
BESP				*e*S	**Sn**	**18 01 21.6**	**-4.2**
MSLP	**Maasin**	**1.73**	**260**	*e*P	**Pn**	**18 01 10.6**	**+3.2**
MSLP				*e*S	**Sn**	**18 01 24.6**	**-3.9**
PLP	**Palo**	**1.74**	**295**	*e*P	**Pn**	**18 01 09.0**	**+1.4**
PLP				*e*S	**Sn**	**18 01 30.6**	**+1.8**
BUTP	**Butuan**	**1.74**	**213**	*e*P	**Pn**	**18 01 09.9**	**+2.3**
BUTP				*e*S	**Sn**	**18 01 22.9**	**-6.0**
OCLP	**Ormoc**	**2.04**	**288**	*e*P	**Pn**	**18 01 14.6**	**+2.9**
OCLP				*e*S	**Sn**	**18 01 33.4**	**-2.9**
BIPH	**Bislig**	**2.25**	**186**	⇓*i*P	**Pb**	**18 01 19.1**	**-0.3**
BIPH				*i* S	**Sn**	**18 01 42.7**	**+1.3**
CNP	**Catarman**	**2.80**	**318**	*e*P	**Pn**	**18 01 22.0**	**-0.1**
CNP				*e*S	Sn	18 01 45.4	-9.5
SIJI	**Sorong**	**12.16**	**157**	Pn	**Pn**	**18 03 29.3**	**-1.4**
	0.4nm,0.3s,baz=336,slow=20,SNR=3.1						
CMAR	**Chiang Mai Arr**	**27.91**	**290**	P	**P**	**18 06 27.6**	**+0.6**
	0.5nm,0.8s,baz=100,slow=7.4,SNR=5.0						
FITZ	**Fitzroy Crossi**	**28.37**	**182**	P	**P**	**18 06 30.6**	**-0.5**
	1.5nm,0.9s						
WR1	**Warramunga Arr**	**31.14**	**166**	*e*P	**P**	**18 06 54.5**	**-1.2**
	17nm,1.6s						
WRA	**Warramunga Arr**	**31.14**	**166**	P	**P**	**18 06 54.5**	**-1.2**
	0.2nm,0.8s,baz=346,slow=9.5,SNR=3.6						
ASAR	**Alice Springs**	**34.64**	**168**	P	**P**	**18 07 25.4**	**-0.9**
	0.1nm,0.4s,baz=351,slow=6.6,SNR=12						
ASAR				PcP	**PcP**	**18 09 59.9**	**-0.4**
	0.6nm,1.0s,baz=357,slow=2.8,SNR=3.0						
SONA0	**Songino Array**	**40.98**	**339**	*e*P	**P**	**18 08 20.0**	**+0.3**
SONM	**Songino Array**	**40.98**	**339**	P	**P**	**18 08 20.0**	**+0.4**
	0.8nm,0.9s,baz=143,slow=10.0,SNR=4.5						
MK01	**Makanchi Array**	**52.07**	**323**	*e*P	**P**	**18 09 48.3**	**+1.7**
MK32	**Makanchi Array**	**52.09**	**323**	*e*P	**P**	**18 09 48.1**	**+1.4**
MKAR	**Makanchi Array**	**52.09**	**323**	P	**P**	**18 09 48.1**	**+1.4**
	4.9nm,0.8s,baz=120,slow=8.1,SNR=17						
ZALV	**Zalesovo Beam**	**54.63**	**331**	P	**P**	**18 10 05.4**	**+0.2**
	0.9nm,0.6s,baz=116,slow=6.6,SNR=3.7						
ZAA1	**Zalesovo Array**	**54.63**	**331**	*e*P	**P**	**18 10 05.4**	**+0.2**
KURK	**Kurchatov**	**56.11**	**325**	*e*P	**P**	**18 10 17.5**	**+1.6**
	7.8nm,0.9s						
BRVK	**Borovoye**	**61.78**	**325**	*e*P	**P**	**18 10 55.3**	**+0.1**
	3.6nm,0.9s						
ABKAR	**Akbulak array**	**66.96**	**319**	*e*P	**P**	**18 11 30.0**	**+0.8**
ARA0	**ARCESS Array S**	**84.15**	**340**	*e*P	**P**	**18 13 07.5**	**+0.1**
ARCES	**ARCESS Array B**	**84.15**	**340**	P	**P**	**18 13 07.5**	**+0.1**
	3.0nm,0.9s,baz=77,slow=7.6,SNR=5.1						
BR101	**Keskin Array S**	**85.67**	**309**	*e*P	**P**	**18 13 16.1**	**+0.2**
BRTR	**Keskin Array B**	**85.67**	**309**	P	**P**	**18 13 16.1**	**+0.2**
	1.0nm,0.8s,baz=90,slow=5.8,SNR=6.9						
FIA0	**FINESS Array S**	**85.89**	**332**	*e*P	**P**	**18 13 16.1**	**-0.1**
FINES	**FINESS Array B**	**85.89**	**332**	P	**P**	**18 13 16.1**	**-0.1**
	0.7nm,0.5s,baz=95,slow=4.8,SNR=3.6						

ISCJB ***15*** *18:06:04.9±0.7, 5°.04N±0°.04×82°.65W±0°.05, h12km, Error ellipse: s-maj=9.0km s-min=3.5km az=139.6*
UCR ***15*** *18:06:08.5±2.2, 5°.12N×82°.64W, h22km±84km, MD4.6*

ISC 15 18:06:03.5±1.4, 4°.83N±0°.07×82°.70W±0°.08, h12km, n31, σ2s87/45, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AZU	**Azuero**	**3.80**	**39**	*e*P	**Pn**	**18 07 02.2**	**+0.3**
AZU				*e*S	**Sn**	**18 07 43.4**	**-3.3**
AZU				*i*		18 07 46.0	
	comp=Z,73nm,0.6s						
AZU	**Azuero**	**3.80**	**39**	*e*P	**Pn**	**18 07 02.5**	**+0.6**
AZU				*e*S	**Sn**	**18 07 43.8**	**-2.9**
BRU2	**Volcan**	**3.94**	**0**	*e*P	**Pn**	**18 07 02.8**	**-1.2**
BRU2				*e*S	**Sn**	**18 07 46.8**	**-3.5**
EDPN	**Palmar Norte**	**4.17**	**350**	*e*P	**Pn**	**18 07 07.3**	**+0.3**
EDPN				*e*S	**Sn**	**18 07 53.9**	**-2.0**
GRGC	**Isla de Gorgon**	**4.87**	**112**	*e*P	**Pn**	**18 07 16.9**	**+0.3**
GRGC				*i*		18 07 19.4	
	comp=Z,37nm,0.3s						
GRGC				*e*S	**Sn**	**18 08 07.5**	**-5.5**
LCR2	**La Lucha 2**	**5.05**	**345**	*e*P	**Pn**	**18 07 19.7**	**+0.4**
LCR2				*e*S	**Sn**	**18 08 15.3**	**-2.4**
URSC	**Urasca**	**5.09**	**348**	*e*P	**Pn**	**18 07 21.5**	**+1.7**
BCIP	**Isla Barro Col**	**5.16**	**33**	*e*P	**Pn**	**18 07 22.9**	**+2.2**
BCIP				*e*S	**Sn**	**18 08 17.9**	**-2.3**
UPA	**Univ. de Panam**	**5.18**	**37**	*e*P	**Pn**	**18 07 22.8**	**+1.9**
CVTR	**Volcan Turrial**	**5.26**	**349**	*e*P	**Pn**	**18 07 23.6**	**+1.1**
CVTR				*e*S	**Sn**	**18 08 24.0**	**+0.7**
HDC	**Heredia**	**5.33**	**345**	*e*P	**Pn**	**18 07 25.9**	**+2.8**
HDC				*e*S	**Sn**	**18 08 23.3**	**-1.2**
PTAC	**Punta Ardita,**	**5.38**	**64**	*e*P	**Pn**	**18 07 26.2**	**+2.5**
MALC	**Bahia Malaga**	**5.41**	**98**	*e*P	**Pn**	**18 07 26.5**	**+2.5**
MALC				*e*S	**Sn**	**18 08 22.3**	**-3.9**
JTS	**JuntasAbangare**	**5.87**	**338**	*e*P	**Pn**	**18 07 30.9**	**+0.5**
JTS				*e*S	**Sn**	**18 08 35.7**	**-2.0**
UPD2	**Meteti**	**5.94**	**51**	*e*P	**Pn**	**18 07 35.9**	**+4.6**
ARE1	**Arenal 1**	**5.94**	**340**	*e*P	**Pn**	**18 07 33.3**	**+1.9**
VCR	**Vista de Mar**	**6.01**	**331**	*e*P	**Pn**	**18 07 32.6**	**+0.1**
PLVR	**Palo Verde**	**6.08**	**335**	*e*P	**Pn**	**18 07 33.5**	**+0.1**
MESS	**Mesas**	**6.37**	**337**	*e*P	**Pn**	**18 07 39.6**	**+2.2**
MESS				*e*S	**Sn**	**18 08 49.3**	**-0.9**
PLMC	**San Jos^ del**	**6.39**	**89**	*e*P	**Pn**	**18 07 37.9**	**+0.3**
PLMC				*i*		18 07 41.7	
	comp=Z,30nm,0.5s						
POPC	**Popayan, Colom**	**6.42**	**111**	*e*P	**Pn**	**18 07 40.7**	**+2.5**
POPC				*e*S	**Sn**	**18 08 48.0**	**-3.7**
GCUF	**Volcan Galeras**	**6.43**	**124**	*e*P	**Pn**	**18 07 42.1**	**+3.5**
GCUF				*i*		18 07 44.1	
	comp=Z,58nm,0.3s						
CRUC	**La Cruz**	**6.59**	**119**	*e*P	**Pn**	**18 07 43.8**	**+3.2**
PCON	**Cinco Dias**	**6.76**	**111**	*e*P	**Pn**	**18 07 47.9**	**+4.8**
PCON				*i*		18 07 51.3	
	comp=Z,30nm,0.5s						
PCON				*e*S	**Sn**	**18 08 57.3**	**-3.1**
DBBC	**Dabeiba**	**6.81**	**71**	*e*P	**Pn**	**18 07 46.9**	**+3.5**
MARP	**Paez Belalcaza**	**7.01**	**106**	*e*P	**Pn**	**18 07 50.6**	**+4.3**
GUYC	**Guyana, Colomb**	**7.29**	**87**	*e*P	**Pn**	**18 07 54.9**	**+4.6**
RREF	**El Recreo**	**7.32**	**89**	*e*P	**Pn**	**18 07 55.0**	**+4.0**
BETC	**Betania**	**7.55**	**106**	*e*P	**Pn**	**18 07 57.1**	**+3.6**
PRAC	**Prado**	**7.87**	**98**	*e*P	**Pn**	**18 08 02.2**	**+4.3**
ZARC	**Zaragoza, Cauc**	**8.23**	**71**	*e*P	**Pn**	**18 08 05.8**	**+3.0**

KRSC 15 18:09:21.9±0.6, 54°.05N×160°.77E, h58km±13km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.76**	**47**	*i* P	**Pn**	18 09 37.8	+1.1
MKZ				*e*S	Sn	18 09 49.1	+1.5
KII	**Karymskiy**	**0.78**	**270**	*e*P	**Pn**	18 09 38.2	+1.1
KII				*e*S	Sn	18 09 50.1	+1.9
SPN	**Mys Shipunski**	**1.05**	**206**	*e*P	**Pn**	18 09 41.2	+0.8
SPN				*e*S	Sn	18 09 55.2	+1.0
KZV	**Kizimen**	**1.11**	**346**	*e*P	**Pn**	18 09 42.4	+1.0
KZV				*e*S	Sn	18 09 57.1	+1.3
TUMD	**Tumrok D**	**1.18**	**350**	*e*P	**Pn**	18 09 42.9	+0.7
TUMD				*e*S	Sn	18 09 58.2	+0.8
NLC	**Nalytchevo**	**1.22**	**225**	*e*P	**Pn**	18 09 43.6	+0.9
NLC				*e*S	Sn	18 09 59.9	+1.7
TUMR	**Tumrok**	**1.29**	**344**	*e*P	**Pn**	18 09 45.2	+1.4
TUMR				*e*S	Sn	18 10 02.2	+2.0
SDLR	**Sedlovina**	**1.36**	**236**	*i* P	**Pn**	18 09 46.3	+1.6
SDLR				*e*S	Sn	18 10 04.2	+2.4
SMAR	**Somma**	**1.41**	**237**	*i* P	**Pn**	18 09 47.0	+1.5
SMAR				*e*S	Sn	18 10 05.1	+2.0
UGLR	**Uglovaya**	**1.43**	**235**	*e*P	**Pn**	18 09 47.3	+1.7
UGLR				*e*S	Sn	18 10 06.1	+2.6
KRX	**Arik**	**1.44**	**242**	*e*S	Sn	18 10 05.7	+2.0
AVH	**Avacha**	**1.44**	**238**	*e*P	**Pn**	18 09 47.7	+2.0
AVH				*e*S	Sn	18 10 06.6	+2.9
KOK	**Koryaka**	**1.48**	**240**	*i* P	**Pn**	18 09 48.0	+1.7
KOK				*e*S	Sn	18 10 07.0	+2.4
DALK	**Dalny**	**1.58**	**231**	*e*P	**Pn**	18 09 49.0	+1.5
DALK				*e*S	Sn	18 10 08.6	+1.8
PET	**Petropavlovsk**	**1.63**	**232**	*e*P	**Pn**	18 09 49.7	+1.5
PET				*e*S	Sn	18 10 10.1	+2.1
GNL	**Ganaly**	**1.71**	**259**	*i* P	**Pn**	18 09 50.9	+1.4
KMNR	**Kamenistaya**	**1.74**	**350**	*e*P	**Pn**	18 09 51.8	+1.9
BZGR	**Bezymyannyi-Gr**	**1.90**	**359**	*e*P	**Pn**	18 09 54.1	+2.1
BZGR				*e*S	Sn	18 10 18.2	+3.3
BZMR	**Bezymyannaya**	**1.90**	**355**	*e*P	**Pn**	18 09 54.5	+2.4
BZMR				*e*S	Sn	18 10 18.4	+3.4
BZWR	**Bezymyannyi-We**	**1.93**	**355**	*e*P	**Pn**	18 09 54.8	+2.3
KPT	**Kopyto**	**1.95**	**351**	*e*P	**Pn**	18 09 54.8	+2.1
ZLN	**Zelenaya**	**1.98**	**1**	*e*P	**Pn**	18 09 55.0	+2.0
ZLN				*e*S	Sn	18 10 20.6	+3.9
KRMR	**Karymshinskiy**	**2.00**	**233**	*e*P	**Pn**	18 09 55.3	+2.1
KRMR				*e*S	Sn	18 10 20.0	+3.0
CIRR	**Tsirk**	**2.08**	**360**	*e*P	**Pn**	18 09 56.6	+2.2
CIRR				*e*S	Sn	18 10 22.4	+3.2
KOZ	**Kozyrevsk**	**2.08**	**346**	*e*P	**Pn**	18 09 56.1	+1.7
MTVR	**Mutnovka**	**2.21**	**226**	*e*P	**Pn**	18 09 58.4	+2.2
MTVR				*e*S	Sn	18 10 25.0	+2.6
ESO	**Esso**	**2.23**	**328**	*e*P	**Pn**	18 09 57.4	+1.0
ESO				*e*S	Sn	18 10 23.9	+1.1
KLY	**Klyuchi**	**2.27**	**358**	*e*P	**Pn**	18 09 59.5	+2.5
KLY				*e*S	Sn	18 10 26.3	+2.5
SRKR	**Sorokina**	**2.62**	**5**	*e*P	**Pn**	18 10 04.5	+2.7
SRKR				*e*S	Sn	18 10 35.7	+3.2

ISK ***15*** *18:21:37.5, 37°.36N×37°.13E, h8km, ML1.6/4*
ISCJB ***15*** *18:21:38.2±0.8, 37°.34N±0°.04×37°.15E±0°.05, h1km±10km, Error ellipse: s-maj=9.3km s-min=4.5km az=44.8*
DDA ***15*** *18:21:38.4, 37°.32N×37°.18E, h7km, Ml2.5*

ISC 15 18:21:38.2±1.0, 37°.34N±0°.04×37°.14E±0°.04, h10km±8km, n10, σ0s52/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.17**	**162**	PG	**Pg**	**18 22 42.0**	**+0.1**
GAZ				SG	**Sg**	**18 21 45.2**	**+0.7**
KMRS	**Kahramanmaras**	**0.26**	**311**	PG	**Pg**	**18 21 42.9**	**-0.5**
KMRS				SG	**Sg**	**18 21 46.7**	**-0.2**
KUZU	**Kuzuini**	**0.57**	**186**	*i* P	**Pb**	**18 21 49.8**	**-0.4**
KUZU				*i* S	**Sn**	**18 22 01.7**	**-0.2**
ANDN	**Andirin**	**0.68**	**291**	*i* P	**Pg**	**18 21 51.1**	**-0.3**
ANDN				*i* S	**Sb**	**18 22 03.0**	**+1.2**
SAIM	**ADANA**	**1.06**	**307**	*i* P	**Pb**	**18 21 58.9**	**+0.2**
SAIM				*i* S	**Sn**	**18 22 14.3**	**+0.2**
KOZT	**Kozan**	**1.06**	**278**	PG	**Pg**	**18 21 58.0**	**-0.5**
AKCD	**Akcadag**	**1.14**	**33**	*i* P	**Pn**	**18 22 00.2**	**-0.2**
AKCD				*i* S	**Sn**	**18 22 16.5**	**+0.4**
TAHT	**Tahtakopru-Hat**	**1.23**	**219**	PN	**Pb**	**18 22 01.6**	**+0.1**
SURC	**SANLIURFA_SURC**	**1.26**	**111**	*i* P	**Pn**	**18 22 01.5**	**-0.5**
SURC				*i* S	**Sn**	**18 22 19.0**	**+0.1**
URFA	**Urfa**	**1.34**	**85**	PN	**Pg**	**18 22 03.6**	**-0.3**

ISK ***15*** *18:30:59.6, 38°.70N×43°.17E, h6km, ML2.5/6*
DDA ***15*** *18:31:00.6, 38°.68N×43°.19E, h7km, Ml2.8*

ISC 15 18:31:00.8±1.0, 38°.70N±0°.03×43°.17E±0°.03, h9km±10km, n14, σ1s04/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.20**	**122**	PG	**Pg**	**18 31 05.6**	**+0.6**
VANB				SG	**Sg**	**18 31 09.7**	**+1.8**
TVAN	**Van**	**0.26**	**133**	*i* P	**Pg**	**18 31 05.5**	**-0.5**
TVAN				*i* S	**Sg**	**18 31 09.1**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.36**	**287**	*i* P	**Pb**	**18 31 08.7**	**-0.8**
ADCV				*i* S	**Sb**	**18 31 15.4**	**+0.1**
GEVA	**Gevas**	**0.40**	**192**	*i* P	**Pg**	**18 31 08.3**	**-0.4**
GEVA				*i* S	**Sb**	**18 31 15.0**	**-1.4**
VMUR	**Van-Muradiye**	**0.42**	**48**	*i* P	**Pg**	**18 31 09.1**	**-0.1**
VMUR				*i* S	**Sb**	**18 31 16.5**	**-0.7**
CLDR	**Calderan**	**0.73**	**53**	PG	**Pg**	**18 31 14.2**	**-0.7**
CLDR				SG	**Sb**	**18 31 24.8**	**-1.2**
TUTA	**Tutak**	**0.75**	**339**	*i* S	**Sg**	**18 31 24.7**	**-0.4**
AGRB	**Hanur-Agry**	**0.88**	**351**	PG	**Pg**	**18 31 16.9**	**-0.8**
GURO	**Guroymak-BITLI**	**0.90**	**261**	PG	**Pg**	**18 31 17.3**	**-0.8**
GURO				SG	**Sb**	**18 31 30.3**	**-0.6**
EKAR	**Karacoban**	**1.02**	**303**	*i* P	**Pn**	**18 31 23.1**	**+1.6**
EKAR				*i* S	**Sn**	**18 31 38.3**	**+2.2**
EATA	**Eleskirt**	**1.27**	**336**	*i* P	**Pg**	**18 31 24.2**	**-1.0**
EATA				*i* S	**Sn**	**18 31 43.5**	**+1.1**
SIRT	**Sirnak**	**1.33**	**206**	PN	**Pn**	**18 31 25.3**	**-0.3**
CUKT	**Cukurca**	**1.50**	**166**	PN	**Pn**	**18 31 27.7**	**-0.2**
BTMN	**Batman**	**1.70**	**242**	*i* P	**Pb**	**18 31 31.9**	**-0.3**
BTMN				*i* S	**Sg**	**18 31 56.4**	**+1.0**

UCR 15 18:39:46.2±1.0, 9°.92N×85°.38W, h14km±3km, MD3.7, ML3.0, 6D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VCR	**Vista de Mar**	**0.32**	**309**	⇓*i*P	Pg	18 39 52.6	-0.3
PLVR	**Palo Verde**	**0.42**	**4**	⇓*i*P	Pg	18 39 54.6	-0.2
PLVR				*e*S	Sb	18 40 01.8	0.0
JTS	**JuntasAbangare**	**0.56**	**49**	⇓*i*P	Pg	18 39 56.8	-0.4
NY14	**Universidad de**	**0.74**	**348**	*i* P	Pg	18 40 00.3	-0.3
COLC	**Colonia**	**0.76**	**13**	*i* P	Pg	18 40 00.1	-0.9
CUI	**Cuipilapa**	**0.76**	**16**	*i* P	Pg	18 40 00.2	-0.8
LIM1	**Limonal**	**0.78**	**9**	*i* P	Pg	18 40 00.7	-0.8
LIM1				*i* S	Sb	18 40 12.0	-0.1
GUAB	**Guayabo de Bag**	**0.79**	**11**	*i* P	Pg	18 40 00.8	-0.9
GUAB				*i* S	Sg	18 40 11.6	-0.6
HORNC	**Hornillas**	**0.81**	**14**	*i* P	Pg	18 40 00.8	-1.1
CASO	**Castillo**	**0.81**	**51**	*i* P	Pg	18 40 01.4	-0.7
GPS2	**Hotel Rinc^‡n**	**0.82**	**2**	*i* P	Pg	18 40 01.2	-1.0
GPS3	**Bodega del ICE**	**0.83**	**1**	*i* P	Pg	18 40 01.4	-0.9
MESS	**Mesas**	**0.83**	**13**	⇓*e*P	Pg	18 40 01.5	-0.9
MESS				*i* P	Pg	18 40 01.6	-0.9
MESS				*i* S	Sb	18 40 13.6	0.0
LAPC	**Finca la Perla**	**0.84**	**356**	*i* P	Pg	18 40 01.5	-1.1
LAPC				*i* S	Sg	18 40 13.3	-0.3
ARE1	**Arenal 1**	**0.84**	**51**	⇓*i*P	Pg	18 40 02.1	-0.4
GPS1	**Guardaparques**	**0.85**	**2**	*i* P	Pg	18 40 01.6	-1.1
GBS3	**Finca Las Im^¡**	**0.86**	**355**	*i* P	Pg	18 40 01.7	-1.2
FORC	**Fortuna**	**0.88**	**52**	*i* P	Pb	18 40 02.5	-0.8
SRA1	**San Ram^‡n**	**0.90**	**80**	⇓*e*P	Pb	18 40 02.3	-1.3
HDC	**Heredia**	**1.25**	**86**	*e*P	Pn	18 40 08.8	-0.5
LCR2	**La Lucha 2**	**1.37**	**97**	*e*P	Pn	18 40 09.6	-1.5
URSC	**Urasca**	**1.58**	**93**	*e*P	Pn	18 40 13.7	-0.2
CVTR	**Volcan Turrial**	**1.60**	**86**	*e*P	Pn	18 40 14.7	+0.3
CONN	**Concepcion**	**1.65**	**352**	*e*P	Pn	18 40 14.8	+0.1
ACON	**Acoyapa**	**2.04**	**6**	*e*P	Pn	18 40 19.3	-0.8
ACON				*e*S	Sn	18 40 45.9	+0.5
ESPN	**Las Esperanzas**	**2.49**	**25**	*e*P	Pn	18 40 25.8	-0.5
ESPN				*e*S	Sn	18 40 57.4	+0.9
ESPN					IAML	18 41 11.0	
	comp=N,106nm,1.0s						
BOAB	**BOACO BROADBAN**	**2.53**	**354**	*e*P	Pn	18 40 27.2	+0.5
COPN	**Copaltepe**	**2.54**	**332**	*e*P	Pn	18 40 27.2	+0.2

MEX 15 18:49:36.5±0.6, 16°.04N×98°.69W, h11km±16km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.65**	**57**	*i* P	Pg	18 49 47.7	-1.4
PNIG				*e*S	Sg	18 49 56.2	-1.4
TLIG	**Tlapa**	**1.52**	**5**	*e*P	Pn	18 50 00.1	-3.6
TLIG				*i* S	Sn	18 50 18.9	-4.8

ISCJB ***15*** *19:01:40.1±0.4, 36°.85N±0°.04×71°.40E±0°.05, h106km, mb3.3/1, Error ellipse: s-maj=6.8km s-min=4.8km az=37.5*
IDC ***15*** *19:01:42.0±7.2, 36°.91N×71°.61E, h85km±48km, mb3.1/1, mb1 3.2/7, mb1mx3.0/52, mbtmp3.5/7, ML3.2/6, Error ellipse: s-maj=108.1km s-min=25.4km az=147.0*
NNC ***15*** *19:01:47.2±3.9, 37°.48N×71°.26E, h161km±99km, mb2.7, mpv3.5, Error ellipse: s-maj=40.8km s-min=22.8km az=166.0*

ISC 15 19:01:41.9±0.9, 37°.03N±0°.08×71°.51E±0°.06, h106km, n30, σ2s03/36, 6C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.36**	**18**	P	**Pn**	**19 03 02.0**	**+2.1**
	SNR=29						
UCH	**Uchtor**	**5.68**	**23**	P	**Pn**	**19 03 06.2**	**+2.0**
	SNR=7.2						
KZA	**Kyzart**	**5.81**	**29**	P	**Pn**	**19 03 08.1**	**+2.1**
	SNR=5.6						
EKS2	**Erkin-Say**	**5.89**	**17**	P	**Pn**	**19 03 09.6**	**+2.9**
	SNR=14						
AAK	**Ala-Archa**	**6.05**	**21**	P	**Pn**	**19 03 11.3**	**+2.4**
	1.2nm,0.3s,baz=182,slow=7.6,SNR=18						
AAK				⇓S	**Sn**	**19 04 14.8**	**-2.1**
	1.3nm,0.3s,baz=323,slow=22,SNR=12						
AAK	**Ala-Archa**	**6.05**	**21**	⇓P	**Pn**	**19 03 11.4**	**+2.4**
	1.6nm,0.4s						
AAK				⇑S	**Sn**	**19 04 15.0**	**-1.9**
	5.4nm,0.6s						
AAK	**Ala-Archa**	**6.05**	**21**	P	**Pn**	**19 03 11.4**	**+2.4**
	SNR=6.7						
KK31	**Karatay Array**	**6.11**	**353**	⇑P	**Pn**	**19 03 11.5**	**+1.8**
	2.0nm,0.4s,baz=177,slow=12,SNR=16						
KK31				⇓S	**Sn**	**19 04 15.2**	**-3.0**
	3.5nm,0.4s,baz=173,slow=21,SNR=7.6						
ULHL	**Ulahol**	**6.36**	**34**	P	**Pn**	**19 03 15.2**	**+2.0**
	SNR=7.0						
TKM2	**Tokmak 2**	**6.67**	**27**	⇑P	**Pn**	**19 03 18.8**	**+1.4**
	4.6nm,0.8s						
TKM2				⇑S	**Sn**	**19 04 29.7**	**-2.3**
	2.8nm,0.6s						
TKM2	**Tokmak 2**	**6.67**	**27**	P	**Pn**	**19 03 19.2**	**+1.8**
	SNR=7.0						
GEYT	**Alibeck**	**10.68**	**279**	P	**Pn**	**19 04 12.7**	**+0.9**
	0.6nm,0.3s,baz=89,slow=12,SNR=12						
GEYT				S	**Sn**	**19 06 06.8**	**-2.6**
	0.4nm,0.3s,baz=103,slow=16,SNR=6.1						
GYA0B	**ALIBECK ARRAY**	**10.68**	**279**	⇑P	**Pn**	**19 04 11.5**	**-0.3**
	4.7nm,1.1s						
GYA0B				⇑S	**Sn**	**19 06 06.5**	**-2.8**
	10nm,0.6s						
MKAR	**Makanchi Array**	**12.62**	**36**	P	**Pn**	**19 04 37.3**	**-0.2**
	0.1nm,0.3s,baz=233,slow=15,SNR=3.6						
PYUN	**Piuthan**	**13.15**	**129**	*e*P	**Pn**	**19

comp=Z,161nm,0.4s
GCUF eS Sn 19 12 32.5 -0.9
GCUF IAML 19 12 41.3
comp=Z,30nm,0.3s
NORC Norcasia 5.05 88 *e*P **Pn 19 11 40.2 +1.3**
BETC Betania 5.26 121 *e*P **Pn 19 11 43.5 +1.8**
PRAC Prado 5.32 108⇑ *e*P **Pn 19 11 43.8 +1.2**
ZARC Zaragoza, Cauc 5.45 68 *e*P **Pn 19 11 44.8 +0.5**
PTBC PUERTO BERRIO, 5.57 78 *e*P **Pn 19 11 47.3 +1.4**
ROSC El Rosal 5.63 96 Pn **Pn 19 11 50.6 +3.5**
comp=Z,6.5nm,0.3s,baz=248,slow=21,SNR=10
ROSC Sn **Sn 19 12 54.1 +3.3**
comp=Z,4.0nm,0.3s,baz=66,slow=20,SNR=2.2
ROSC LR LR 19 14 11.9
comp=Z,122nm,21.9s,baz=300,slow=39
FLOC Florencia 5.74 132 *e*P **Pn 19 11 49.3 +1.0**
FLOC IAML 19 12 17.1
comp=Z,29nm,0.4s
CHIC Chingaza 6.24 97 *e*P **Pn 19 11 59.1 +3.5**
CHIC IAML 19 12 54.9
comp=Z,21nm,0.5s
VILC Villavicencio, 6.37 102 *e*P **Pn 19 11 59.5 +2.5**
JTS JuntasAbangare 6.92 315 Pn **Pn 19 12 04.0 -0.6**
comp=Z,1.9nm,0.3s,baz=184,slow=10,SNR=6.2
JTS LR LR 19 13 36.2
comp=Z,41nm,20.1s,baz=207,slow=29
SDV Santo Domingo 9.86 69 Pn **Pn 19 12 45.7 +0.7**
comp=Z,1.4nm,0.3s,baz=268,slow=10,SNR=13
SDV Sn **Sn 19 14 34.7 +0.2**
comp=Z,3.8nm,0.3s,baz=332,slow=12,SNR=6.3
SDV LR LR 19 16 48.4
comp=Z,184nm,19.1s,baz=17,slow=38
ATAH Atahualpa 12.58 173 LR LR 19 17 55.9
comp=Z,120nm,19.8s,baz=342,slow=36
SJG San Juan 18.45 46 LR LR 19 21 45.6
comp=Z,42nm,18.6s,baz=56,slow=37
CMIG Matias Romero 18.66 310 P **P 19 14 41.3 +0.7**
comp=Z,0.7nm,0.3s,baz=69,slow=5.9,SNR=5.1
CMIG LR LR 19 20 49.4
comp=Z,36nm,18.9s,baz=144,slow=34
PTGA Pitinga 20.87 106 P **P 19 15 05.8 +1.1**
comp=Z,1.3nm,0.3s,baz=288,slow=14,SNR=5.7
PTGA LR LR 19 22 39.5
comp=Z,61nm,19.5s,baz=286,slow=35
LPAZ La Paz 24.54 152 P **P 19 15 43.5 +0.7**
comp=Z,1.4nm,0.8s,baz=341,slow=11,SNR=5.7
LPAZ LR LR 19 27 36.6
comp=Z,50nm,19.9s,baz=326,slow=42
SIV San Ignacio 28.32 139 P **P 19 16 17.0 +0.8**
comp=Z,1.0nm,0.8s,baz=298,slow=9.7,SNR=5.1
LVC Limon Verde 29.89 159 LR LR 19 29 01.7
comp=Z,57nm,19.7s,baz=338,slow=37
TXAR Lajitas Array 32.68 319 LR LR 19 33 03.7
comp=Z,24nm,18.2s,baz=0.0,slow=42
BDFB Brasilia 37.92 124 LR LR 19 33 50.0
comp=Z,96nm,19.0s,baz=34,slow=37
CPUP Villa Florida 38.44 146 LR LR 19 36 54.6
comp=Z,30nm,19.7s,baz=9.0,slow=41
PDAR Pinedale Array 45.49 329 LR LR 19 40 07.5
comp=Z,48nm,18.4s,baz=319,slow=39
ESDC Sonseca Array 75.76 51 P **P 19 22 09.3 +1.3**
comp=Z,0.4nm,0.5s,baz=241,slow=5.3,SNR=3.5
TORD Torodi Ar. Bea 80.66 78 P **P 19 22 36.1 +0.5**
comp=Z,0.3nm,0.9s,baz=267,slow=5.5,SNR=3.1
ASAR Alice Springs 142.72 237 PKP **PKPdf 19 29 55.0 -1.1**
comp=Z,0.3nm,0.9s,baz=123,slow=3.4,SNR=2.7
WRA Warramunga Arr 143.68 243 PKP PKPbc 19 29 56.9 +1.6
comp=Z,0.5nm,0.8s,baz=103,slow=3.1,SNR=4.1

MEX 15 19:18:43.9±0.5, **16°.31N**×**98°.34W, h5**km±3km, **MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.22**	**67**	*i* P		Pg	19 18 47.9	-0.3
PNIG				*e*S		Sg	19 18 51.3	+0.2
TLIG	**Tlapa**	**1.27**	**350**	*e*P		Pg	19 19 04.9	-3.3
TLIG				*e*S		Sg	19 19 20.8	-3.9

*ISCJB **15** 19:58:39.4±1.2,5°.4S±0°.1×151°.5E±0°.2, h10km, mb3.9/6, MS3.4/1, Error ellipse: s-maj=25.9km s-min=13.0km az=36.3*
*IDC **15** 19:58:39.0±1.1,5°.51S×151°.60E, h0km, mb4.0/4, mb1 4.2/6, mb1mx3.8/49, mbtmp4.0/6, ML1.9/1, MS3.0/3, Ms1 3.0/3, ms1mx2.6/39, Error ellipse: s-maj=44.6km s-min=21.2km az=138.0*
*NEIC **15** 19:58:45.8±2.5,5°.45S×151°.41E, h43km±19km, mb4.0/3, Error ellipse: s-maj=28.5km s-min=11.5km az=108.0*
ISC 15 19:58:40.6±1.2, **5°.5S**±0°.2×**151°.6E**±0°.2, **h10**km, **n18,** σ1⇑**18,** σ**mb3.9/6, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby 5.86 228**			Pn		**Pn**	**20 00 09.2 +1.5**	
	1.8nm,0.3s,baz=69,slow=4.5,SNR=4.4							
PMG				Sn		**Sn**	**20 01 14.9 0.0**	
	3.5nm,0.3s,baz=144,slow=16,SNR=4.8							
PMG	**Port Moresby 5.86 228**			*e*Pn		**Pn**	**20 00 09.2 +1.5**	
PMG				*e*Pg		**Pb**	**20 00 20.2 -2.8**	
PMG				*e*Sn		**Sn**	**20 01 17.6 +2.7**	
HNR	**Honiara 9.16 116**			LR		LR	20 03 32.2	
	comp=Z,46nm,20.5s,baz=277,slow=32							
JAY	**Jayapura 11.25 285**			Pn		**Pn**	**20 01 21.6 -0.1**	
	1.5nm,0.3s,baz=167,slow=23,SNR=16							
GUMO	**Guam 20.10 341**			LR		LR	20 09 48.4	
	comp=Z,29nm,19.2s,baz=138,slow=33							
WR1	**Warramunga Arr 22.08 228**			*e*P		**P**	**20 03 35.6 -0.5**	
	5.6nm,1.0s							
WRA	**Warramunga Arr 22.08 228**			P		**P**	**20 03 35.6 -0.5**	
	1.9nm,0.7s,baz=53,slow=10.0,SNR=17							
AS01	**Alice Springs 24.80 221**			*e*P		**P**	**20 04 03.2 +0.1**	
AS31	**Alice Springs 24.82 222**			*e*P		**P**	**20 04 03.8 +0.4**	
	1.4nm,0.8s							
ASAR	**Alice Springs 24.83 222**			P		**P**	**20 04 03.3 0.0**	
	2.2nm,0.8s,baz=57,slow=9.1,SNR=20							
FITZ	**Fitzroy Crossi 28.27 241**			P		**P**	**20 04 34.1 -0.2**	
	3.7nm,0.9s,baz=54,slow=8.9,SNR=11							
FITZ	**Fitzroy Crossi 28.27 241**			*e*P		**P**	**20 04 34.1 -0.2**	
	34nm,2.0s							
RPZ	**Rata Peaks 41.75 159**			LR		LR	20 21 51.3	
	comp=Z,57nm,21.8s,baz=219,slow=33							
ILAR	**Eielson Array 83.26 22**			P		**P**	**20 11 07.3 +0.2**	
	1.1nm,0.8s,baz=258,slow=5.0,SNR=11							
ILB	**Eielson Array 83.26 22**			*e*P		**P**	**20 11 07.3 +0.2**	
TORD	**Torodi Ar. Bea 149.37 287**			PKPbc		**PKPbc**	**20 18 31.1 +0.1**	
	0.7nm,0.9s,baz=74,slow=2.3,SNR=4.8							
TOA1	**Torodi Ar. Sit 149.36 287**			*e*PKPbc		**PKPbc**	**20 18 31.1 +0.1**	
BDFB	**Brasilia 151.40 138**			PKPbc		**PKPbc**	**20 18 35.5 -0.5**	
	23nm,0.6s,baz=333,slow=2.3,SNR=26							

*ISCJB **15** 20:08:40.3±0.9,2°.2N±0°.1×89°.82E±0°.08, h10km, mb4.0/8, Error ellipse: s-maj=19.5km s-min=10.2km az=23.2*
*IDC **15** 20:08:41.1±1.6,2°.25N×89°.73E, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.6/55, mbtmp3.9/8, ML4.1/2, MS2.9/2, Ms1 3.0/2, ms1mx2.5/37, Error ellipse: s-maj=41.9km s-min=26.2km az=46.0*
*NEIC **15** 20:08:42.4±0.7,2°.23N×89°.80E, h10km, mb4.5/2, Error ellipse: s-maj=14.8km s-min=7.8km az=203.0*
ISC 15 20:08:42.2±1.2, **2°.2N**±0°.2×**89°.8E**±0°.1, **h10**km, **n23,** σ0⇑**78/18, mb4.0/8, North Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LHMI	**Lhok Sumawe 7.77 67**			*e*Pn		**Pn**	**20 10 35.0 -0.4**	
GSI	**Gunungsitoli 7.84 96**			*e*Pn		**Pn**	**20 10 35.3 -1.1**	
PSI	**Prapat 9.15 86**			LR		LR	20 13 59.7	
	comp=Z,95nm,20.7s,baz=269,slow=35							
PSI	**Prapat 9.15 86**			*e*Pn		Pn	20 10 48.8	-5.8
PALK	**Pallekele 10.37 300**			Pn		**Pn**	**20 11 10.6 -0.5**	
	0.8nm,0.3s,baz=116,slow=12,SNR=5.4							
PALK				Sn		Sn	20 12 53.3	-14
	4.1nm,0.3s,baz=116,slow=8.3,SNR=7.2							
KULM	**Kulim 11.28 74**			*e*Pn		**Pn**	**20 11 23.0 -0.5**	
CMAR	**Chiang Mai Arr 18.51 28**			P		**P**	**20 12 58.3 -0.5**	
	0.3nm,0.3s,baz=220,slow=12,SNR=6.3							
CMAR				LR		LR	20 19 59.9	
	comp=Z,26nm,19.0s,baz=205,slow=37							
H08S3	**Diego Garcia H 19.82 240**			T		T	20 33 38.3	
	baz=59,slow=74,SNR=89							
H08S2	**Diego Garcia H 19.82 240**			T		T	20 33 40.4	
	baz=59,slow=74,SNR=68							
H08S1	**Diego Carcia H 19.83 240**			T		T	20 33 42.6	
	baz=59,slow=74,SNR=43							
LSA	**Lhasa 27.41 3**			P		**P**	**20 14 30.2 +1.6**	
	3.6nm,0.8s							
MK32	**Makanchi Array 44.92 353**			*e*P		**P**	**20 16 56.5 -0.6**	
MKAR	**Makanchi Array 44.92 353**			P		**P**	**20 16 56.5 -0.6**	
	0.9nm,0.9s,baz=159,slow=8.3,SNR=3.8							
SONA0	**Songino Array 47.70 15**			*e*P		**P**	**20 17 19.4 +0.3**	
SONM	**Songino Array 47.70 15**			P		**P**	**20 17 19.4 +0.3**	
	2.9nm,0.6s,baz=196,slow=9.4,SNR=27							
WRA	**Warramunga Arr 48.92 119**			P		**P**	**20 17 29.7 +0.8**	
	0.8nm,0.7s,baz=298,slow=8.7,SNR=10							
WR1	**Warramunga Arr 48.92 119**			*e*P		**P**	**20 17 29.7 +0.8**	
	20nm,1.8s							
ZALV	**Zalesovo Beam 51.77 356**			P		**P**	**20 17 48.9 -1.0**	
	0.6nm,0.4s,baz=169,slow=8.8,SNR=4.0							
ZAA1	**Zalesovo Array 51.77 356**			*e*P		**P**	**20 17 48.9 -1.0**	
KLR	**Kul'dur 58.97 31**			P		**P**	**20 18 42.6 +0.7**	
	1.3nm,0.8s,baz=253,slow=11,SNR=4.0							
GERES	**GERESS Array B 79.22 319**			P		**P**	**20 20 47.9 +0.1**	
	0.4nm,0.7s,baz=107,slow=3.3,SNR=3.6							
LTX	**Lajitas 146.12 21**			*e*PKPdf		**PKPbc**	**20 28 23.4 -0.1**	
TXAR	**Lajitas Array 146.12 21**			PKPbc		**PKPbc**	**20 28 23.4 -0.1**	
	0.7nm,0.7s,baz=355,slow=1.9,SNR=7.0							

MEX 15 20:26:59.4±0.5, **13°.94N**×**92°.42W, h11**km±120km, **MD3.8, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
THIG		**0.97**	**9**	*i* P		Pg	20 27 15.3	-2.8
THIG				*e*S		Sg	20 27 27.9	-2.9
PCIG		**1.92**	**336**	*e*P		Pn	20 27 28.0	-3.9
PCIG				*e*S		Sn	20 27 51.5	-4.6
CCIG	**Comitan**	**2.34**	**7**	*e*P		Pn	20 27 34.1	-3.8
CCIG				*i* S		Sn	20 28 02.5	-4.3
TGIG		**2.90**	**346**	*e*P		Pn	20 27 43.6	-2.0
TGIG				*i* S		Sn	20 28 16.6	-3.9

*IDC **15** 20:29:58.1±0.5,2°.61N×92°.70E, h0km, mb4.2/20, mb1 4.3/23, mb1mx4.2/43, mbtmp4.2/23, ML4.5/3, MS3.4/16, Ms1 3.4/16, ms1mx3.3/31, Error ellipse: s-maj=18.8km s-min=12.1km az=52.0*
*BJI **15** 20:29:58.0, 2°.48N×92°.78E, h23km, mb4.7/20, mB4.9/12, Ms4.1/3, Ms7 3.8/2*
*ISCJB **15** 20:29:59.9±0.3, 2°.65N±0°.04×92°.72E±0°.03, h21km, mb4.3/35, MS3.6/14, Error ellipse: s-maj=6.2km s-min=4.0km az=34.5*
*NEIC **15** 20:30:01.7±0.8, 2°.64N×92°.70E, h23km±5km, mb4.7/13, Error ellipse: s-maj=8.0km s-min=5.3km az=214.0*
*KLM **15** 20:30:09.0, 2°.69N×93°.04E, h102km, mb4.7*
*DJA **15** 20:30:12.3±0.8, 3°.N±5°.×9°.3E±°, h48km±9km, M5.0/13, mb5.2/13, mB5.4/10, MLv5.2/12, Mw(mB)4.8/10*
ISC 15 20:30:01.7±0.5, **2°.64N**±0°.06×**92°.77E**±0°.06, **h21**km, **n131,** σ1⇑**68/121, mb4.4/38, MS3.6**/14, **1C, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SNSI	**Sinabang, Aceh 3.56**		**94**	P		**Pn**	**20 30 56.4 +0.7**	
SNSI				S		**Sn**	**20 31 33.9 -3.3**	
MLSI	**Meulaboh, Aceh 3.97**		**66**	P		**Pn**	**20 31 02.1 +0.7**	
TPTI		**4.44**	**82**	P		**Pn**	**20 31 09.1 +1.2**	
LHMI	**Lhok Sumawe 4.89**		**58**	*e*Pn		**Pn**	**20 31 16.0 +1.9**	
LHMI	**Lhok Sumawe 4.89**		**58**	P		**Pn**	**20 31 16.4 +2.3**	
GSI	**Gunungsitoli 4.98**		**105**	*e*Pn		**Pn**	**20 31 16.6 +1.3**	
GSI	**Gunungsitoli 4.98**		**105**	P		**Pn**	**20 31 16.6 +1.3**	
GSI				S		**Sn**	**20 32 10.1 -2.2**	
KCSI	**Kotacane, Aceh 5.07**		**80**	P		**Pn**	**20 31 18.3 +1.8**	
TSI	**Tuntungan 5.85**		**81**	P		**Pn**	**20 31 29.9 +2.7**	
	515nm,0.7s,6μm2.0nm							
PBSI	**Pulau Batu 6.12**		**116**	P		**Pn**	**20 31 32.8 +1.8**	
	199nm,0.6s,3μm2.1nm							
PSI	**Prapat 6.15**		**88**	Pn		**Pn**	**20 31 33.2 +1.8**	
	16nm,0.3s,baz=357,slow=1.0,SNR=128							
PSI				Sn		**Sn**	**20 32 37.1 -4.1**	
	5.6nm,0.3s,baz=0.0,slow=20,SNR=2.2							
PSI				LR		LR	20 33 46.4	
	comp=Z,138nm,19.3s,baz=268,slow=37							
MNSI	**Mandailing Nat 7.04**		**105**	P		**Pn**	**20 31 45.2 +1.5**	
	119nm,0.6s,6μm4.2nm							
PKDT	**Phuket 7.61**		**46**	P		**Pn**	**20 31 52.2 +0.8**	
	305nm,0.9s,4μm1.3nm							
KULM	**Kulim 8.29**		**71**	*e*Pn		**Pn**	**20 32 01.2 +0.4**	
KULM	**Kulim 8.29**		**71**	P		**Pn**	**20 32 02.0 +1.2**	
IPM	**Ipoh 8.44**		**77**	*e*Pn		**Pn**	**20 32 03.3 +0.5**	
PDSI	**Padang 8.46**		**115**	P		Pn	20 32 08.6 +5.5	
	84nm,0.5s,1μm0.7nm							
BKNI	**Bangkinang 8.58**		**105**	P		**Pn**	**20 32 07.7 +3.0**	
	100nm,0.9s,1μm1.2nm							
TRTT	**Trang 8.61**		**53**	P		**Pn**	**20 32 05.7 +0.6**	
	80nm,0.5s,1μm0.4nm							
PBA	**Port Blair 8.96**		**360**	*e*Pn		Pn	20 32 08.7 -1.3	
SKLT	**Songkhla 9.02**		**60**	P		**Pn**	**20 32 11.9 +1.1**	
	321nm,1.0s,3μm1.0nm							
KRJI	**Kerinci 9.88**		**118**	P		**Pn**	**20 32 25.1 +2.4**	
	189nm,1.1s,2μm							
MYKOM	**Kota Tinggi 11.10**		**94**	*e*Pn		**Pn**	**20 32 40.4 +1.1**	
MYKOM	**Kota Tinggi 11.10**		**94**	P		**Pn**	**20 32 41.0 +1.7**	
MNAI	**Manna 12.32**		**124**	*e*Pn		**Pn**	**20 32 52.3 -3.8**	
MNAI				*e*Sn		**Sn**	**20 35 08.2 -4.7**	
PALK	**Pallekele 12.87**		**291**	Pn		**Pn**	**20 33 02.0 -1.7**	
	1.7nm,0.3s,baz=116,slow=15,SNR=26							
PALK				Sn		Sn	20 35 11.4	-15
	32nm,0.3s,baz=116,slow=9.7,SNR=16							
PALK				LR		LR	20 37 19.0	
	comp=Z,80nm,18.5s,baz=115,slow=34							
PATY	**Pattaya 12.98**		**38**	P		**P**	**20 33 16.4 +1.0**	
SRDT	**SRDT 13.22**		**28**	P		**Pn**	**20 33 09.5 +1.2**	
	11nm,0.8s							
MDSI	**Maura Dua 13.41**		**122**	P		**Pn**	**20 33 15.1 +4.1**	
	14nm,0.6s							
LWLI	**Liwa 13.60**		**124**	P		P	20 33 28.9 +6.4	
UTHA	**Uthaitani 14.42**		**27**	P		**Pn**	**20 33 26.5 +1.7**	
	16nm,0.8s,126nm							
UMPA	**Umpang Tak 14.75**		**24**	P		**Pn**	**20 33 30.3 +1.0**	
	11nm,0.7s,106nm							
PBKT	**Sadao Pong 16.02**		**30**	P		**Pn**	**20 33 45.8 -0.1**	
	35nm,0.9s,1μm							
CM01	**Chiang Mai Arr 16.81**		**21**	*e*Pn		**Pn**	**20 33 53.2 -2.8**	
UTTA	**Uttaradit 16.84**		**26**	P		**Pn**	**20 33 56.5 +0.2**	
	8.8nm,0.9s,71nm							
CM31	**Chiang Mai Arr 16.84**		**21**	*e*Pn		**Pn**	**20 33 55.6 -0.8**	
CMAR	**Chiang Mai Arr 16.84**		**21**	Pn		**Pn**	**20 33 55.8 -0.6**	
	0.6nm,0.3s,baz=215,slow=10,SNR=41							
CMAR				LR		LR	20 40 37.6	
	comp=Z,122nm,18.7s,baz=220,slow=38							
LAMP	**Lampang 17.16**		**23**	P		**P**	**20 34 02.4 +0.6**	
	10nm,0.9s							
CHTO	**Chiang Mai 17.17**		**20**	*e*Pn		**Pn**	**20 33 59.4 -1.1**	
	11nm,0.8s							
CHTO	**Chiang Mai 17.17**		**20**	P		**Pn**	**20 34 00.1 -0.4**	
	15nm,1.3s							
CMMT	**Chiang Mai 17.17**		**20**	P		**Pn**	**20 34 00.0 -0.5**	
	13nm,0.9s							
LEM	**Lembang 17.55**		**122**	LR		LR	20 40 30.8	
	comp=Z,39nm,20.7s,baz=316,slow=36							
KSM	**Kuching 17.56**		**93**	*e*Pn		**P**	**20 34 07.4 +1.0**	
	36nm,1.0s							
VIS	**Vishakhapatnam 17.62**		**329**	*i* P		**Pn**	**20 34 01.9 -4.2**	
VIS				*i* S		Sn	20 37 09.5	-12
VIS				*i* S		Sn	20 37 11.0	-11
VIS				*ex*		x	20 37 12.7	
	comp=E,145nm,0.5s							
VIS				*ex*		x	20 37 13.8	
	comp=N,101nm,0.5s							
SKNT	**Sakolnakorn 18.01**		**37**	P		**Pn**	**20 34 10.4 -0.5**	
	comp=N,22nm,0.9s,comp=N,530nm							
STKI	**Sintang 18.87**		**97**	P		**Pn**	**20 34 23.9 +2.4**	
	comp=N,45nm,1.0s,comp=N,1μm							
KPJI	**Karang Pucung 18.92**		**122**	P		**Pn**	**20 34 26.1 +4.0**	
	comp=N,28nm,1.2s							
SBUM	**Sibu 19.43**		**90**	*e*P		**Pn**	**20 34 29.0 +0.8**	
	comp=N,21nm,1.0s							
BRDH	**Bariadhala 19.95**		**357**	LR		LR	20 44 34.5	
	comp=N,274nm,18.2s,baz=178,slow=44							
HYB	**Hyderabad 20.26**		**317**	*i* P		Pn	20 34 38.0 -0.1	
HYB				*e*			20 34 48.0	
HYB				*e*S		**S**	**20 38 20.5 -2.1**	
SHL	**Shillong 22.81**		**358**	*e*P		**P**	**20 35 04.0 +0.5**	
	comp=N,68nm,0.9s							
SHL	**Shillong 22.81**		**358**	*e*P		**P**	**20 35 03.0 -0.5**	
KMI	**Kunming 24.33**		**22**	P		**P**	**20 35 20.0 +1.6**	
KMI				pmax		pmax		
	comp=N,12nm,1.2s							
KMI				pmax		pmax		
	comp=N,71nm,3.6s							
KMI				LR		LR		
	comp=N,210nm,16.1s							
KMI				LR		LR		
	comp=N,230nm,17.4s							
RAMN	**Ramite 24.89**		**347**	*e*P		**P**	**20 35 25.8 +2.3**	
	comp=N,38nm,0.7s							
JIRN	**Jiri 25.66**		**346**	*e*P		**P**	**20 35 29.8 -0.9**	
	comp=N,40nm,0.7s							
PKI	**Pulchoki 25.77**		**345**	*e*P		**P**	**20 35 33.1 +1.5**	
	comp=N,55nm,1.0s							
PKIN	**Phulchoki 25.78**		**345**	*e*P		**P**	**20 35 33.0 +1.4**	
	comp=N,28nm,0.8s							
DMN	**Daman 25.89**		**344**	*e*P		**P**	**20 35 35.5 +2.9**	
	comp=N,26nm,0.8s							
GUN	**Gumba 25.98**		**346**	*e*P		**P**	**20 35 33.2 -0.3**	
KKN	**Kakani 26.02**		**345**	*e*P		**P**	**20 35 35.7 +2.0**	
	comp=N,38nm,0.9s							
GKN	**Gorkha 26.39**		**344**	*e*P		**P**	**20 35 39.4 +2.4**	
	comp=N,0.9nm,0.5s							
KOLN	**Koldanda 26.48**		**342**	*e*P		**P**	**20 35 41.4 +3.5**	
	comp=N,62nm,0.8s							
LSA	**Lhasa 26.96**		**357**	*e*P		**P**	**20 35 43.4 +0.9**	
	comp=N,34nm,0.7s							
DANN	**Dangsing 26.98**		**342**	*e*P		**P**	**20 35 42.4 0.0**	
	comp=N,51nm,0.7s							
PYUN	**Piuthan 26.99**		**341**	*e*P		**P**	**20 35 44.2 +1.8**	
	comp=N,41nm,0.9s							
ENH	**Enshi 31.72**		**28**	*e*P		**P**	**20 36 22.9 -1.3**	
	comp=N,9.2nm,0.6s							
XAN	**Xi'an 34.69**		**24**	P		**P**	**20 36 49.0 -1.1**	
XAN				pP		sP	20 37 02.1	+2.9
XAN				pmax		pmax		
	comp=N,24nm,0.7s							
XAN				LR		LR		
	comp=N,200nm,19.6s							
XAN				LR		LR		
	comp=N,210nm,15.7s							
XAN				LR		LR		
	comp=N,210nm,20.6s							
GTA	**Gaotai 37.16**		**9**	⇑P		**P**	**20 37 10.8 -0.5**	
GTA				pP		pP	20 37 17.5	-0.3
GTA				sP		sP	20 37 20.4	0.0
GTA				pmax		pmax		
	comp=N,4.0nm,1.1s							
GTA				pmax		pmax		
	comp=N,100nm,5.4s							
GTA				LR		LR		
	comp=N,150nm,17.8s							
GTA				LR		LR		
	comp=N,120nm,18.7s							
GTA				LR		LR		
	comp=N,110nm,16.8s							
FITZ	**Fitzroy Crossi 38.38 124**			P		**P**	**20 37 21.4 -0.4**	
	comp=N,2.9nm,0.7s,baz=314,slow=7.1,SNR=9.2							
NWAO	**Narrogin (SRO) 42.27 149**			P		**P**	**20 37 54.0 +0.2**	
	comp=N,9.6nm,0.8s,baz=178,slow=12,SNR=8.5							
BJT	**Baijiatuan 42.83 27**			*e*P		**P**	**20 37 59.6 +1.3**	
	comp=N,21nm,0.9s							
BJI	**Beijing 42.85 27**			P		**P**	**20 37 59.3 +0.9**	
BJI				pmax		pmax		
	comp=N,17nm,0.9s							
AAK	**Ala-Archa 43.05 340**			P		**P**	**20 38 04.0 +3.9**	
	comp=N,9.9nm,0.7s,baz=15,slow=8.4,SNR=4.2							
MK01	**Makanchi Array 44.89 350**			*e*P		**P**	**20 38 14.2 -0.6**	
MK31	**Makanchi Array 44.92 350**			*e*P		**P**	**20 38 14.6 -0.4**	
MK32	**Makanchi Array 44.92 350**			*e*P		**P**	**20 38 14.4 -0.5**	
MKAR	**Makanchi Array 44.92 350**			P		**P**	**20 38 14.4 -0.5**	
	comp=N,2.8nm,0.6s,baz=170,slow=7.8,SNR=8.1							
MKAR				LR		LR	21 00 42.5	
	comp=N,28nm,18.8s,baz=174,slow=41							
MKAR	**Makanchi Array 44.92 350**			*e*P		**P**	**20 38 14.2 -0.7**	
	comp=N,99nm,0.7s							
SONA0	**Songino Array 46.53 13**			*e*P		**P**	**20 38 27.7 -0.2**	
SONM	**Songino Array 46.53 13**			P		**P**	**20 38 27.7 -0.2**	
	comp=N,4.1nm,0.7s,baz=194,slow=8.8,SNR=34							
SONM				LR		LR	21 00 25.8	
	comp=N,71nm,20.2s,baz=190,slow=39							
SONA1	**Songino Array 46.55 13**			*e*P		**P**	**20 38 27.7 -0.3**	
WRA	**Warramunga Arr 46.56 121**			P		**P**	**20 38 28.1 -0.2**	
	comp=N,4.1nm,0.7s,baz=299,slow=8.7,SNR=67							
WR1	**Warramunga Arr 46.56 121**			*e*P		**P**	**20 38 28.1 -0.2**	
	comp=N,28nm,1.8s							
WB2	**Warramunga Arr 46.57 121**			*e*P		**P**	**20 38 28.2 -0.3**	
KSAR	**Wonju Array Be 47.30 39**			P		**P**	**20 38 33.4 -0.5**	
GEYT	**Alibeck 47.33 322**			P		**P**	**20 38 36.4 +2.2**	
	comp=N,1.0nm,0.6s,baz=126,slow=7.4,SNR=3.1							
GEYT				LR		LR	20 59 17.9	
	comp=N,36nm,20.3s,baz=15,slow=37							
KSRS	**Korea Array 47.34 39**			P		**P**	**20 38 33.4 -0.7**	
	comp=N,2.3nm,0.8s,baz=227,slow=8.4,SNR=7.1							
KSRS				LR		LR	21 00 51.8	
	comp=N,57nm,18.2s,baz=233,slow=39							
ASAR	**Alice Springs 47.81 126**			P		**P**	**20 38 37.9 -0.3**	
	comp=N,1.7nm,0.9s,baz=298,slow=7.7,SNR=17							
AS31	**Alice Springs 47.81 126**			*e*P		**P**	**20 38 37.9 -0.3**	
	comp=N,0.8nm,0.6s							
KURK	**Kurchatov 49.38 348**			*e*P		**P**	**20 38 49.0 -0.6**	
	comp=N,8.9nm,0.8s							
ZAA0	**Zalesovo Array 51.56 354**			*e*P		**P**	**20 39 05.3 -0.8**	
	comp=N,28nm,1.3s							
ZALV	**Zalesovo Beam 51.56 354**			P

NOA	**NORSAR Array B**	**83.61**	**331**	P		**P**	**20 42 29.4**	**+0.9**
	comp=N,1.7nm,1.1s,baz=95,slow=5.6,SNR=2.4							
NOA				LR		LR	21 22 51.3	
	comp=N,15nm,20.0s,baz=265,slow=38							
ESDC	**Sonseca Array**	**93.52**	**310**	LR		LR	21 30 32.1	
	comp=N,26nm,18.9s,baz=240,slow=39							
AHID	**Auburn Hatcher**	**129.92**	**23**	*e*PKPpre		PKPpre	20 48 57.0	
TX31	**Lajitas Ar. Si**	**144.52**	**25**	*e*PKPdf		**PKPab**	**20 49 35.2**	**-0.7**
LTX	**Lajitas**	**144.52**	**25**	*e*PKPdf		**PKPab**	**20 49 35.4**	**-0.4**
TXAR	**Lajitas Array**	**144.52**	**25**	PKP		**PKPab**	**20 49 35.4**	**-0.5**
	comp=N,1.5nm,0.8s,baz=319,slow=0.3,SNR=14							

SJA ***15*** *20:32:30.3±0.7, 32°.86S×72°.20W, h6*$^{km}_{\pm 4}$*, MW4.1*

IDC ***15*** *20:32:32.9±0.7, 32°.64S×71°.69W, h0km, mb4.5/9, mb1 4.5/12, mb1mx4.3/27, mbtmp4.4/12, ML4.2/3, MS3.8/14, Ms1 3.8/14, ms1mx3.6/27, Error ellipse: s-maj=30.1km s-min=16.0km az=93.0*

ISCJB ***15*** *20:32:36.1±0.3, 32°.69S±0°.03×71°.99W±0°.04, h33km, mb4.6/26, MS3.8/11, Error ellipse: s-maj=5.4km s-min=3.4km az=148.5*

NEIC ***15*** *20:32:36.7±0.7, 32°.67S×71°.83W, h23km±5km, mb4.7/20, MW4.5, ML4.5(GUC), Error ellipse: s-maj=8.8km s-min=5.3km az=84.0, Moment Tensor Solution. s15 Moment tensor: Scale 10*^{15}*Nm; Mrr5.32; Mθθ1.15; Mφφ-6.47; Mrθ-0.11; Mθφ-1.34; Mφr-3.09; Best double couple: M₀6.90000×10*^{15} *NP1:φs15.00000°, δ32.00000°, λ99.00000°. NP2:φs185.00000°, δ59.00000°, λ85.00000°. Principal axes: T 6.0900, Plg76.0000°, Azm80.0000°; N 1.3500, Plg5.0000°, Azm188.0000°; P -7.4400, Plg14.0000°, Azm279.0000°;*

NEIC Felt [III] at Quillota, Valparaiso, Villa Alemana and Zapallar and [II] at Puente Alto, Salamanca, Santiago and Tiltil. Also felt at Las Condes, La Serena, Los Andes, Renca, Valparaiso and Vina del Mar.

GUC ***15*** *20:32:37.5±0.7, 32°.59S×71°.61W, h31km±5km, ML4.5*

ISC 15 20:32:34.8±1.4, 32°.60S±0°.03×71°.75W±0°.05, h12$^{km}_{\pm 8}$**km, n111,σ1ᵍ60/113, mb4.7/26, MS3.9/11, 2C-5D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.72**	**122**	*e*P	g	**Pn**	**20 32 51.0**	**-0.1**
ROC1				*e*Sg		**Sn**	**20 33 00.7**	**-1.5**
ROC1	**El Roble**	**0.72**	**122**	*e*P		**Pn**	**20 32 50.7**	**-0.4**
ROC1				*e*S		**Sn**	**20 33 00.8**	**-1.4**
ROCH	**El Roble**	**0.72**	**121**	⇓*i*P		**Pn**	**20 32 51.0**	**-0.1**
ROCH				*i* S		**Sn**	**20 33 01.1**	**-1.1**
ROCH				IAML			20 33 01.8	
	comp=N,28μm,0.2s							
PEL	**Peldehue**	**1.05**	**122**	*e*Pn		**Pn**	**20 32 56.0**	**+0.6**
PEL				*e*Sg		**Sn**	**20 33 11.4**	**+1.4**
PEL	**Peldehue**	**1.05**	**122**	*e*P		**Pn**	**20 32 55.6**	**+0.2**
PEL				*e*S		**Sn**	**20 33 14.0**	**+4.0**
PEL	**Peldehue**	**1.05**	**122**	*e*P		**Pn**	**20 32 55.8**	**+0.4**
PEL				*i* S		**Sn**	**20 33 09.8**	**-0.1**
PEL				IAML			20 33 12.9	
	comp=E,41μm,0.2s							
CLCH	**Cerro Calan**	**1.29**	**128**	⇓*i*P		**Pg**	**20 32 59.8**	**+0.2**
CLCH				*i* S		**Sg**	**20 33 17.1**	**+0.6**
CLCH				IAML			20 33 19.3	
	comp=E,12μm,0.3s							
ANTU	**Antumapu**	**1.35**	**136**	⇑*i*P		**Pg**	**20 33 00.8**	**+0.1**
ANTU				*i* S		**Sg**	**20 33 18.3**	**0.0**
ANTU				IAML			20 33 23.5	
	comp=E,10μm,0.4s							
FCH	**Farellones**	**1.43**	**121**	⇓*i*P		**Pg**	**20 33 02.0**	**-0.3**
FCH				*i* S		**Sg**	**20 33 20.9**	**0.0**
FCH				IAML			20 33 22.6	
	comp=E,13μm,0.2s							
CMCH	**Combarbala**	**1.56**	**24**	*e*P		**Pg**	**20 33 04.6**	**0.0**
CMCH				IAML			20 33 34.1	
	comp=E,23μm,0.8s							
LMEL	**Las Melosas**	**1.80**	**134**	⇓*i*P		**Pb**	**20 33 07.8**	**0.0**
LMEL				*i* S		**Sb**	**20 33 31.1**	**+0.7**
LMEL				IAML			20 33 35.1	
	comp=N,10μm,0.4s							
AUSP	**Uspallata**	**2.03**	**80**	*e*P		**Pg**	**20 33 14.1**	**+0.2**
AUSP				*e*S		**Sg**	**20 33 46.2**	**+6.0**
GO05	**HualaæØ**	**2.41**	**184**	*e*Pn		**Pn**	**20 33 12.9**	**-1.2**
GO04	**Tololo Observa**	**2.55**	**19**	*e*Pn		**Pn**	**20 33 18.4**	**+2.2**
ZON	**Zonda**	**2.81**	**69**	*e*P		**Pb**	**20 33 24.7**	**-0.2**
ZON				*e*S		**Sg**	**20 34 04.8**	**-0.3**
RTCV	**Cerro Valdivia**	**2.82**	**76**	*e*P		**Pb**	**20 33 24.7**	**-0.3**
RTCV				*e*S		**Sg**	**20 34 05.1**	**-0.2**
RTLL	**Cerro Villicun**	**3.06**	**66**	*e*P		**Pb**	**20 33 28.4**	**-0.8**
RTLL				*e*S		**Sg**	**20 34 11.4**	**-1.6**
AMOG	**MOGNA**	**3.23**	**60**	*e*P		**Pb**	**20 33 30.6**	**-1.5**
AMOG				*e*S		**Sg**	**20 34 15.8**	**-2.7**
RFA	**San Rafael**	**3.49**	**129**	*e*P		**Pn**	**20 33 30.7**	**+1.7**
RFA				*e*S		**Sb**	**20 34 14.8**	**-4.2**
RFA				IAML			20 34 33.9	
	comp=Z,513nm,0.9s							
LCO	**Las Campanas**	**3.69**	**14**	*e*Pn		**Pn**	**20 33 33.7**	**+1.9**
LCO	**Las Campanas**	**3.69**	**14**	⇑*i*P		**Pn**	**20 33 33.8**	**+1.9**
LCO				*e*S		**Sn**	**20 34 17.9**	**+2.6**
ACAN	**Cantantal**	**3.87**	**86**	*e*P		**Pb**	**20 33 38.7**	**-4.3**
ACAN				*e*S		**Sb**	**20 34 30.1**	**+0.2**
AGUA	**GUANDACOL**	**4.17**	**43**	*e*P		**Pb**	**20 33 44.3**	**-3.9**
AGUA				*e*S		**Sb**	**20 34 39.4**	**+0.8**
APLL	**PUNTA DE LOS L**	**4.97**	**65**	*e*P		Pn	20 33 54.6	+5.3
APLL				*e*S		**Sb**	**20 34 58.9**	**-2.7**
APLL				IAML			20 35 04.3	
	comp=Z,210nm,0.5s							
GO03	**Copiap**	**5.16**	**15**	*e*Pn		**Pn**	**20 33 53.4**	**+1.5**
ACLC	**CERRO LA CRUZ**	**5.19**	**54**	*e*P		**Pn**	**20 33 56.3**	**+3.8**
ACLC				*e*S		**Sb**	**20 35 03.9**	**-4.1**
GO06	**Curarrehue**	**6.98**	**178**	*e*Pn		**Pn**	**20 34 17.5**	**+0.6**
PLCA	**Paso Flores**	**8.18**	**174**	Pn		**Pn**	**20 34 33.8**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=360,slow=10,SNR=22							
PLCA				Lg		Lg	20 36 43.4	
	comp=Z,0.1nm,0.3s,baz=38,slow=18,SNR=2.1							
PLCA				LR		LR	20 37 24.0	
	comp=Z,212nm,21.6s,baz=10,slow=36							
TRQA	**Tornquist**	**9.66**	**127**	*e*Pn		**Pn**	**20 34 55.8**	**+2.2**
LVC	**Limon Verde**	**10.26**	**15**	Pn		**Pn**	**20 35 06.1**	**+3.8**
	comp=Z,1.3nm,0.3s,baz=204,slow=10.0,SNR=3.2							
LVC				Sn		Sn	20 37 14.5	+17
	comp=Z,1.1nm,0.3s,baz=18,slow=20,SNR=3.7							
LVC				LR		LR	20 39 24.9	
	comp=Z,758nm,18.5s,baz=210,slow=40							
MNMC	**Minye Minye**	**13.55**	**9**	*e*Pn		**P**	**20 35 52.7**	**-3.6**
CPUP	**Villa Florida**	**14.02**	**67**	Pn		**Pn**	**20 35 56.2**	**+2.9**
	comp=Z,0.5nm,0.3s,baz=217,slow=9.0,SNR=4.9							
CPUP				Sn		Sn	20 38 17.0	-12
	comp=Z,0.4nm,0.3s,baz=260,slow=18,SNR=3.0							
CPUP				Lg		Lg	20 39 39.4	
	comp=Z,0.3nm,0.3s,baz=147,slow=14,SNR=3.4							
CPUP				LR		LR	20 41 36.4	
	comp=Z,477nm,21.6s,baz=248,slow=39							
CPUP	**Villa Florida**	**14.02**	**67**	*e*Pn		**P**	**20 35 57.8**	**-3.4**
CPUP				Sn		Sn	20 38 17.0	-12
CPUP				Lg		Lg	20 39 39.4	
LPAZ	**La Paz**	**16.57**	**12**	Pn		**P**	**20 36 29.5**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=174,slow=9.0,SNR=11							
LPAZ	**La Paz**	**16.57**	**12**	*e*Pn		**P**	**20 36 29.4**	**-0.7**
	comp=Z,7.6nm,0.8s							
SIV	**San Ignacio**	**19.16**	**33**	P		**Pn**	**20 36 59.1**	**0.0**
	comp=Z,0.4nm,0.3s,baz=259,slow=13,SNR=14							
NNA	**Nana**	**21.04**	**346**	LR		LR	20 43 36.3	
	comp=Z,169nm,21.7s,baz=179,slow=32							
SPB	**Sao Paulo**	**23.21**	**73**	*e*P		**P**	**20 37 41.4**	**-0.3**
	comp=Z,38nm,1.1s							
SAML	**Samuel**	**24.83**	**21**	*e*P		**P**	**20 37 57.8**	**+0.7**
	comp=Z,14nm,1.1s							
ATAH	**Atahualpa**	**26.08**	**345**	LR		LR	20 47 10.1	
	comp=Z,141nm,19.2s,baz=178,slow=34							
BDFB	**Brasilia**	**27.36**	**58**	P		**P**	**20 38 19.6**	**-0.5**
	comp=Z,15nm,1.0s,baz=230,slow=8.9,SNR=13							
BDFB				LR		LR	20 50 47.1	
	comp=Z,413nm,20.8s,baz=216,slow=40							
BDFB	**Brasilia**	**27.36**	**58**	*e*P		**P**	**20 38 20.2**	**+0.1**
	comp=Z,39nm,1.1s							
PMSA	**Palmer Station**	**32.55**	**174**	LR		LR	20 51 50.6	
	comp=Z,327nm,19.5s,baz=328,slow=36							
PTGA	**Pitinga**	**33.59**	**22**	LR		LR	20 55 25.9	
	comp=Z,145nm,19.4s,baz=198,slow=41							
PTGA	**Pitinga**	**33.59**	**22**	*e*P		**P**	**20 39 15.4**	**+0.5**
	comp=Z,11nm,1.0s							
SDV	**Santo Domingo**	**41.26**	**2**	P		**P**	**20 40 20.9**	**+0.6**
	comp=Z,7.3nm,0.8s,baz=223,slow=5.5,SNR=5.2							
SDV	**Santo Domingo**	**41.26**	**2**	*e*P		**P**	**20 40 20.8**	**+0.6**
	comp=Z,8.1nm,0.9s							
MDP	**Montagnes des**	**41.66**	**29**	LR		LR	20 59 40.7	
	comp=Z,190nm,19.1s,baz=206,slow=39							
VNA3	**Neumayer Olymp**	**50.57**	**158**	P		**P**	**20 41 33.0**	**+0.2**
APG	**El Apazote**	**50.61**	**336**	LR		LR	20 58 28.3	
	comp=Z,67nm,20.4s,baz=330,slow=31							
VNA2	**Neumayer--Watz**	**51.21**	**158**	P		**P**	**20 41 38.4**	**+0.8**
	baz=284,slow=7.7							
SNAA	**Sanae**	**52.79**	**158**	P		**P**	**20 41 49.8**	**+0.3**
SNAA	**Sanae**	**52.79**	**158**	P		**P**	**20 41 49.4**	**-0.1**
	comp=Z,6.2nm,1.1s,baz=282,slow=5.2,SNR=9.9							
SNAA	**Sanae**	**52.79**	**158**	*e*P		**P**	**20 41 49.7**	**+0.3**
	comp=Z,11nm,1.2s							
CMIG	**Matias Romero**	**54.14**	**332**	LR		LR	20 59 55.3	
	comp=Z,46nm,19.6s,baz=178,slow=30							
RKT	**Rikitea**	**55.98**	**263**	*e*LR		LR	20 58 40.2	
	comp=Z,137nm,26.2s							
RKT	**Rikitea**	**55.98**	**263**	*e*T		T	21 42 52.1	
	comp=Z,3.1nm,0.3s							
QSPA	**South Pole Qui**	**57.63**	**180**	P		**P**	**20 42 24.7**	**+0.1**
	comp=Z,9.2nm,1.0s,baz=130,slow=3.1,SNR=16							
QSPA	**South Pole Qui**	**57.63**	**180**	*e*P		**P**	**20 42 25.3**	**+0.6**
	comp=Z,10nm,1.0s							
SYO	**Syowa Base**	**67.08**	**159**	⇓P		**P**	**20 43 26.0**	**-1.5**
TBI	**Tubuai**	**67.89**	**256**	*e*LR		LR	21 04 11.2	
	comp=Z,256nm,26.0s							
TBI	**Tubuai**	**67.89**	**256**	*e*T		T	21 57 44.9	
	comp=Z,9.3nm,0.3s							
JCT	**Junction City**	**68.13**	**334**	*e*P		**P**	**20 43 34.2**	**-0.5**
	comp=Z,14nm,1.0s							
TXAR	**Lajitas Array**	**68.64**	**330**	P		**P**	**20 43 38.9**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=155,slow=6.6,SNR=7.3							
V48A	**Smith Brothers**	**69.43**	**347**	*e*P		**P**	**20 43 43.3**	**+0.7**
	comp=Z,12nm,1.0s							
WVT	**Waverly**	**70.01**	**346**	*e*P		**P**	**20 43 46.4**	**+0.3**
	comp=Z,18nm,0.8s							
PPT2	**Papeete2**	**70.68**	**261**	*e*LR		LR	21 05 17.4	
	comp=Z,117nm,27.2s							
MNTX	**Cornudas Mount**	**71.42**	**330**	*e*P		**P**	**20 43 54.9**	**0.0**
	comp=Z,2.6nm,0.9s							
LIC	**Lamto**	**74.10**	**72**	*e*P		**P**	**20 44 11.0**	**-0.3**
	comp=Z,31nm,1.3s							
TIC	**Toumodi**	**74.36**	**71**	*e*P		**P**	**20 44 12.4**	**-0.4**
KIC	**Kosan Boka**	**74.41**	**72**	*e*P		**P**	**20 44 13.0**	**-0.1**
	comp=Z,28nm,1.3s							
MAW	**Mawson**	**74.45**	**164**	P		**P**	**20 44 12.7**	**+0.3**
	comp=Z,3.3nm,0.7s,baz=224,slow=7.3,SNR=5.0							
MAW				LR		LR	21 19 19.5	
	comp=Z,128nm,19.2s,baz=239,slow=38							
DBIC	**Dimbokro**	**74.50**	**71**	P		**P**	**20 44 14.0**	**+0.5**
	comp=Z,4.1nm,0.8s,baz=209,slow=7.7,SNR=6.1							
DBIC				LR		LR	21 14 39.9	
	comp=Z,56nm,19.6s,baz=220,slow=34							
X16A	**Lo Mia Camp, P**	**76.39**	**327**	*e*P		**P**	**20 44 25.2**	**+1.0**
	comp=Z,6.6nm,1.3s							
TSUM	**Tsumeb**	**79.36**	**106**	*e*P		**P**	**20 44 41.8**	**+0.7**
	comp=Z,11nm,1.0s							
CCUT	**Cedar City**	**79.85**	**328**	*e*P		**P**	**20 44 44.2**	**+0.8**
	comp=Z,4.4nm,1.1s							
BOSA	**Boshof**	**80.51**	**118**	P		**P**	**20 44 47.2**	**0.0**
	comp=Z,7.9nm,1.0s,baz=216,slow=4.3,SNR=7.1							
BOSA				LR		LR	21 18 30.1	
	comp=Z,82nm,18.0s,baz=219,slow=34							
LBTB	**Lobatse**	**82.67**	**115**	*e*P		**P**	**20 44 58.9**	**+0.2**
	comp=Z,17nm,1.3s							
TOA0	**Torodi Ar. Sit**	**83.50**	**70**	*e*P		**P**	**20 45 01.2**	**-1.7**
TORD	**Torodi Ar. Bea**	**83.50**	**70**	P		**P**	**20 45 01.5**	**-1.4**
	comp=Z,5.4nm,0.9s,baz=268,slow=4.5,SNR=27							
TPAW	**Teton Pass**	**83.78**	**332**	*e*P		**P**	**20 45 02.8**	**-1.2**
	comp=Z,5.8nm,1.1s							
FXWY	**Fox Creek**	**83.93**	**332**	*e*P		**P**	**20 45 04.1**	**-0.6**
	comp=Z,2.5nm,1.0s							
HRY	**Holter Researc**	**86.83**	**334**	*e*P		**P**	**20 45 20.9**	**+1.9**
J08A	**Circle Bar Ran**	**86.83**	**328**	*e*P		**P**	**20 45 20.6**	**+1.6**
	comp=Z,8.2nm,1.0s							
LSZ	**Lusaka**	**90.01**	**108**	*e*P		**P**	**20 45 36.0**	**+1.1**
	comp=Z,7.0nm,1.1s							
DZM	**Mont Dzumac**	**102.26**	**234**	*e*LR		LR	21 20 04.9	
	comp=Z,107nm,25.4s							
BRTR	**Keskin Array B**	**120.93**	**60**	PKP		**PKPdf**	**20 51 26.3**	**-0.9**
	comp=Z,0.8nm,0.9s,baz=316,slow=4.0,SNR=4.0							
WRA	**Warrumunga Arr**	**122.10**	**209**	PKP		**PKPdf**	**20 51 28.1**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=153,slow=1.8,SNR=8.0							
H11S2	**WAKE ISLAND Hyd**	**126.02**	**270**	T		T	23 10 34.9	
	baz=118,slow=75,SNR=206							
H11S1	**WAKE ISLAND Hyd**	**126.04**	**270**	T		T	23 10 35.1	
	baz=118,slow=75,SNR=308							
H11S3	**WAKE ISLAND Hyd**	**126.04**	**270**	T		T	23 10 35.5	
	baz=118,slow=75,SNR=222							
H11N3	**WAKE ISLAND Hyd**	**126.40**	**271**	T		T	23 11 02.6	
	baz=118,slow=75,SNR=34							
H11N1	**WAKE ISLAND Hyd**	**126.42**	**271**	T		T	23 11 05.1	
	baz=118,slow=75,SNR=24							
H11N2	**WAKE ISLAND Hyd**	**126.42**	**271**	T		T	23 11 03.4	
	baz=118,slow=75,SNR=69							
BRVK	**Borovoye**	**146.01**	**42**	*e*PKPdf		**PKPab**	**20 52 14.7**	**+0.1**
YAK	**Yakutsk**	**147.49**	**341**	*e*PKPdf		**PKPbc**	**20 52 17.1**	**-0.8**
PSI	**Prapat**	**149.09**	**162**	*e*PKPbc		**PKPbc**	**20 52 22.0**	**-1.8**
IPM	**Ipoh**	**151.22**	**165**	*e*PKPbc		**PKPbc**	**20 52 28.4**	**-0.4**
AAK	**Ala-Archa**	**151.61**	**60**	*e*PKPbc		**PKPbc**	**20 52 29.7**	**+0.7**
FRU1	**Bishkek**	**151.68**	**59**	*e*PKPbc		**PKPbc**	**20 52 29.8**	**+0.7**
KURK	**Kurchatov**	**151.68**	**41**	*e*PKPbc		**PKPbc**	**20 52 28.9**	**+0.2**
NRN	**Naryn**	**152.90**	**62**	*e*PKPbc		**PKPbc**	**20 52 32.8**	**+0.6**
ZAA0	**Zalesovo Array**	**152.91**	**31**	epPKPdf		**PKPbc**	**20 52 31.3**	**0.0**
ZALV	**Zalesovo Beam**	**152.91**	**31**	PKPbc		**PKPbc**	**20 52 31.5**	**+0.1**
	comp=Z,7.3nm,0.7s,baz=295,slow=3.5,SNR=30							
ZALV	**Zalesovo Beam**	**152.91**	**31**	*e*PKPdf		**PKPdf**	**20 52 24.0**	**-0.1**
ZALV				*e*PKPbc		**PKPbc**	**20 52 31.2**	**-0.1**
PRZ	**Przheval'sk**	**154.47**	**59**	*e*PKPbc		**PKPbc**	**20 52 36.3**	**+0.9**
MKAR	**Makanchi Array**	**155.65**	**47**	PKPab		**PKPab**	**20 52 54.6**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=294,slow=3.4,SNR=13							
MK01	**Makanchi Array**	**155.66**	**47**	*e*PKPab		**PKPab**	**20 52 54.7**	**+0.2**
SONM	**Songino Array**	**164.72**	**5**	PKPab		**PKPab**	**20 53 33.4**	**-0.5**
	comp=Z,1.2nm,0.9s,baz=5.5,slow=4.5,SNR=6.0							
ULN	**Ulaanbaatar**	**164.72**	**3**	*e*PKPab		**PKPab**	**20 53 35.3**	**+1.3**
CD2	**Chengdu**	**175.82**	**113**	PKP		**PKPdf**	**20 52 45.0**	**-0.1**

MAN 15 21:15:25.3, 9°.71N×122°.29E, h25km, mb4.3, ML3.1, MS2.9, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.96**	**18**	*e*P		Pn	21 15 42.8	-0.4
GUIM				*e*S		Sn	21 15 56.7	+0.6
CUYO	**Cuyo Island**	**1.69**	**312**	*e*P		Pb	21 15 54.9	-0.9
CUYO				*e*S		Sn	21 16 14.6	+0.4
PAGZ	**Pagadian**	**2.14**	**150**	*e*P		Pn	21 15 59.4	-0.2
PAGZ				*e*S		Sn	21 16 21.9	-3.4

MEX 15 21:29:57.3±0.4, 18°.16N×100°.57W, h57km±5km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.24**	**60**	*e*P		Pn	21 30 05.4	-1.3
ARIG				*e*S		Sn	21 30 11.6	-1.9
MEIG	**Mezcala**	**0.93**	**104**	*e*P		Pn	21 30 13.0	-1.4
MEIG				*i* S		Sn	21 30 25.4	-1.7
ZIIG	**Zihuatanejo**	**1.01**	**237**	*i* P		Pn	21 30 14.8	-0.6
ZIIG				*i* S		Sn	21 30 26.6	-2.2
PLIG	**Platanillo**	**1.04**	**77**	*e*P		Pn	21 30 14.4	-1.4
PLIG				*e*S		Sn	21 30 27.4	-2.2

MEX 15 21:38:11.3±0.4, 16°.57N×98°.42W, h2km±5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.33**	**123**	*i* P		Pg	21 38 17.3	-0.5
PNIG				*i* S		Sg	21 38 22.5	+0.4
TLIG	**Tlapa**	**0.99**	**352**	*e*P		Pg	21 38 27.8	-2.6
TLIG				*i* S		Sg	21 38 41.8	-1.5

ISCJB ***15*** *21:44:00.6±0.3, 42°.85N±0°.02×17°.76E±0°.02, h6km±2km, Error ellipse: s-maj=3.1km s-min=2.3km az=36.2*

PDG ***15*** *21:44:00.5±0.3, 42°.84N×17°.75E, h9km, MD3.0/2, ML3.0/11, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*

SAR ***15*** *21:44:01.0±0.3, 42°.84N×17°.76E, h4km±1km, ML3.0/1*

BEO ***15*** *21:44:01.4±0.5, 42°.81N×17°.73E, h2km±2km, ML2.7/12*

PRU ***15*** *21:44:02.7±0.0, 42°.84N×17°.98E, h0km*

ISC 15 21:44:01.3±0.9, 42°.82N±0°.02×17°.78E±0°.02, h4$^{km}_{\pm 7}$**km, n95,σ1ᵍ41/150, 17C-16D, Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STON	**Ston**	**0.08**	**311**	*e*P	g	**Pg**	**21 44 02.9**	**-0.1**
STON				*e*Sg		**Sg**	**21 44 04.1**	**0.0**
STON	**Ston**	**0.08**	**311**	*i* Pg		**Pg**	**21 44 02.9**	**-0.1**
STON				Sg		**Sg**	**21 44 04.0**	**0.0**
STON	**Ston**	**0.08**	**311**	⇑*i*Pg		**Pg**	**21 44 02.7**	**-0.2**
STON				*e*Sg		**Sg**	**21 44 03.9**	**-0.1**
TREB	**Trebinje**	**0.43**	**104**	*e*Pg		**Pg**	**21 44 09.4**	**-0.2**
TREB				*e*Sg		**Sg**	**21 44 16.5**	**+1.3**
TREB	**Trebinje**	**0.43**	**104**	⇑*i*Pg		**Pg**	**21 44 09.1**	**-0.5**
TREB				*e*Sg		**Sg**	**21 44 16.0**	**+0.8**
BRY	**Bratogost**	**0.56**	**81**	⇑*i*Pg		**Pg**	**21 44 11.2**	**-0.9**
BRY				*e*Sg		**Sg**	**21 44 20.5**	**+1.1**
BRY	**Bratogost**	**0.56**	**81**	⇓*i*Pg		**Pg**	**21 44 11.0**	**-1.1**
BRY				*e*Sg		**Sg**	**21 44 19.5**	**+0.1**
HCY	**Herceg Novi**	**0.64**	**125**	⇓*i*Pg		**Pg**	**21 44 13.0**	**-0.6**
HCY				*e*Sg		**Sb**	**21 44 24.3**	**-0.2**
HCY	**Herceg Novi**	**0.64**	**125**	⇑*i*Pg		**Pg**	**21 44 13.1**	**-0.6**
HCY				*e*Sg		**Sb**	**21 44 22.6**	**+0.6**
NKME	**Niksic**	**0.86**	**93**	⇓*i*Pg		**Pg**	**21 44 16.8**	**-1.0**
NKME				*e*Sg		**Sb**	**21 44 31.2**	**+0.3**
CEME	**Cevo**	**0.88**	**108**	⇓*i*Pg		**Pg**	**21 44 17.0**	**-1.2**
CEME				*e*Sg		**Sb**	**21 44 32.1**	**+0.7**
NKY	**Niksic**	**0.89**	**90**	⇓*i*Pg		**Pg**	**21 44 17.6**	**-0.8**
NKY				*e*Sg		**Sb**	**21 44 31.9**	**+0.2**
UPM	**Unac-Piva**	**0.91**	**65**	⇓*i*Pg		**Pg**	**21 44 16.8**	**-2.0**
UPM				*e*Sg		**Sb**	**21 44 31.8**	**-0.5**
UPM	**Unac-Piva**	**0.91**	**65**	⇓*i*Pg		**Pg**	**21 44 16.7**	**-2.0**
UPM				*e*Sg		**Sg**	**21 44 30.6**	**+0.1**
BUM	**Brajici-Budva**	**0.97**	**122**	⇑*i*Pg		**Pg**	**21 44 19.1**	**-0.8**
BUM				*e*Sg		**Sn**	**21 44 35.3**	**-0.8**
PDG	**Podgorica**	**1.16**	**109**	*e*Pg		**Pg**	**21 44 22.5**	**-0.9**
PDG				*e*Sg		**Sn**	**21 44 40.0**	**-0.5**
PDG	**Podgorica**	**1.16**	**109**	⇑*i*P		**Pg**	**21 44 23.1**	**-0.3**
PDG	**Podgorica**	**1.16**	**109**	S		**Sn**	**21 44 42.2**	**+1.7**
PDG	**Podgorica**	**1.16**	**109**	*e*Pg		**Pg**	**21 44 22.2**	**-1.2**
PDG				*e*Sg		**Sg**	**21 44 38.8**	**+0.4**
TTG	**Podgorica**	**1.16**	**109**	⇑*i*Pg		**Pg**	**21 44 22.6**	**-0.9**
TTG				*e*Sg		**Sn**	**21 44 41.3**	**+0.8**
DRME	**Dracevica, Mon**	**1.22**	**121**	⇓*i*Pg		**Pg**	**21 44 23.4**	**-1.2**
DRME				*e*Sg		**Sn**	**21 44 43.6**	**+1.6**
DRME	**Dracevica, Mon**	**1.22**	**121**	⇑*i*Pg		**Pg**	**21 44 23.3**	**-1.3**
DRME				*e*Sg		**Sg**	**21 44 40.4**	**+0.1**
KOME	**Kolasin**	**1.28**	**88**	⇑*i*Pg		**Pg**	**21 44 24.4**	**-1.3**
KOME				*e*Sg		**Sn**	**21 44 45.1**	**+1.4**
PLE	**Pljevlja**	**1.28**	**66**	⇑*i*Pg		**Pg**	**21 44 24.8**	**-1.1**
PLE				*e*Sg		**Sn**	**21 44 44.9**	**+1.0**
ULC	**Ulcinj**	**1.38**	**128**	⇑*i*Pg		**Pn**	**21 44 26.6**	**-0.8**
ULC				*e*Sg		**Sn**	**21 44 49.0**	**+2.9**
HAPS	**Han Pijesak,Bl**	**1.53**	**34**	*e*Pg		**

SMOL	Smolenice	5.70	358	*e*PN	Pn	21 45 27.8	+1.1
VYHS	Vyhne	5.72	7	*e*PN	Pn	21 45 30.2	+3.1
VYHS				*e*SN	Sn	21 46 32.7	-0.5
KECS	Kecovo	5.97	18	*e*PN	Pn	21 45 32.0	+1.5
KECS				*e*SN	Sn	21 46 37.6	-1.7
SQTA	Sankt Quirin 1.0nm,0.2s	6.41	316	*e*Pn	Pn	21 45 39.2	+2.7
KHC	Kasperske Hory	6.96	337	*e*PN	Pn	21 45 48.7	+4.7
KHC				*ex*	x	21 46 07.9	
KHC				*e*SN	Sn	21 47 03.5	-0.1
KHC				*ex*	x	21 47 23.6	

ISCJB ***15*** *21:55:13.9±0.3, 16°.93S±0°.04×175°.08W±0°.06, h256km, mb4.5/64, Error ellipse: s-maj=7.8km s-min=5.3km az=26.7*

IDC ***15*** *21:55:13.4±1.7, 17°.03S×174°.94W, h239km±15km, mb4.0/16, mb1 4.3/18, mb1mx4.0/44, mbtmp4.6/18, Error ellipse: s-maj=14.6km s-min=8.9km az=120.0*

NEIC ***15*** *21:55:15.0±0.8, 16°.88S×175°.03W, h256km±7km, mb4.7/45, Error ellipse: s-maj=7.7km s-min=4.9km az=116.0*

ISC 15 21:55:14.8±0.4, 16°.91S±0°.06×174°.94W±0°.07, h256km, n160, σ1§16/168, mb4.6/64, 4C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.26**	**46**	P	**Pn**	**21 56 21.3**	**-0.8**
	91nm,0.3s,baz=102,slow=1.3,SNR=79						
AFI				S	**S**	**21 57 10.4**	**-5.3**
	305nm,0.3s,baz=11,slow=23,SNR=19						
AFI	**Afiamalu**	**4.26**	**46**	*e*Pn	**Pn**	**21 56 21.3**	**-0.8**
AFI				*e*S	**S**	**21 57 11.4**	**-4.2**
FUNA	**Funafuti**	**10.11**	**325**	*e*Pn	**Pn**	**21 57 35.1**	**+0.4**
KNTN	**Kanton**	**14.40**	**13**	*e*Pn	**Pn**	**21 58 28.5**	**+0.8**
DZM	**Mont Dzumac**	**18.28**	**251**	P	**P**	**21 59 09.9**	**-0.4**
	1.4nm,0.3s,baz=99,slow=22,SNR=11						
DZM	**Mont Dzumac**	**18.28**	**251**	*e*P	**P**	**21 59 10.1**	**-0.1**
	20nm,0.8s						
URZ	**Urewera**	**22.38**	**197**	P	**P**	**21 59 50.2**	**-1.5**
	28nm,0.5s,baz=38,slow=3.5,SNR=27						
URZ				S	**S**	**22 03 38.4**	**0.0**
	13nm,0.8s,baz=53,slow=20,SNR=6.1						
URZ	**Urewera**	**22.38**	**197**	*e*P	**P**	**21 59 52.4**	**+0.7**
	33nm,0.5s						
URZ				S	**S**	**22 03 38.4**	**0.0**
HIZ	**Hauiti**	**23.31**	**201**	*e*P	**P**	**22 00 00.9**	**+0.8**
	199nm,1.5s						
BKZ	**Black Stump Fm**	**23.40**	**197**	*e*P	**P**	**22 00 02.4**	**+1.3**
	14nm,1.1s						
BFZ	**Birch Farm**	**24.89**	**196**	*e*P	**P**	**22 00 15.6**	**+1.2**
	37nm,1.4s						
HNR	**Honiara**	**25.54**	**284**	P	**P**	**22 00 19.7**	**-0.8**
	50nm,0.3s,baz=78,slow=19,SNR=3.7						
THZ	**Tophouse**	**26.88**	**200**	*e*P	**P**	**22 00 32.9**	**+0.6**
	43nm,1.3s						
KHZ	**Kahutara**	**27.27**	**199**	*e*P	**P**	**22 00 35.9**	**+0.3**
	62nm,1.8s						
LTZ	**Lake Taylor**	**28.00**	**200**	*e*P	**P**	**22 00 42.9**	**+0.7**
	37nm,1.4s						
OXZ	**Oxford**	**28.56**	**200**	*e*P	**P**	**22 00 47.4**	**+0.2**
	17nm,0.7s						
MQZ	**McQueen's Vall**	**28.71**	**199**	*e*P	**P**	**22 00 46.8**	**-1.6**
	71nm,1.9s						
RPZ	**Rata Peaks**	**29.24**	**201**	P	**P**	**22 00 50.6**	**-2.5**
	6.2nm,0.5s,baz=198,slow=0.4,SNR=7.4						
RPZ	**Rata Peaks**	**29.24**	**201**	*e*P	**P**	**22 00 53.9**	**+0.8**
	27nm,1.4s						
FOZ	**Fox Glacier**	**29.52**	**203**	*e*P	**P**	**22 00 56.9**	**+1.3**
	72nm,1.4s						
KWAJ	**Kwajalein Atol**	**30.83**	**325**	*e*P	**P**	**22 01 05.2**	**-2.2**
	503nm,1.4s						
MLZ	**Mavora Lakes**	**31.72**	**203**	*e*P	**P**	**22 01 14.5**	**-0.4**
	60nm,1.7s						
DCZ	**Deep Cove**	**32.17**	**204**	*e*P	**P**	**22 01 18.9**	**+0.1**
	45nm,1.5s						
WHZ	**Wether Hill Ro**	**32.23**	**203**	*e*P	**P**	**22 01 19.6**	**+0.3**
	28nm,0.6s						
EIDS	**Eidsvold**	**32.72**	**249**	P	**P**	**22 01 22.7**	**-1.1**
	baz=33,SNR=3.8						
EIDS	**Eidsvold**	**32.72**	**249**	*e*P	**P**	**22 01 22.7**	**-1.1**
	15nm,1.1s						
ARMA	**Armidale**	**33.31**	**240**	P	**P**	**22 01 29.2**	**+0.3**
	baz=33,SNR=34						
ARMA	**Armidale**	**33.31**	**240**	*e*P	**P**	**22 01 28.8**	**-0.2**
	29nm,0.8s						
MGCD	**Mangrove Creek**	**34.58**	**236**	P	**P**	**22 01 40.9**	**+1.2**
	baz=35,SNR=5.0						
RMQ	**Roma**	**34.95**	**248**	P	**P**	**22 01 42.8**	**-0.1**
	baz=35,SNR=7.0						
CTAO	**Charters Tower**	**36.88**	**259**	*e*P	**P**	**22 01 58.8**	**-0.6**
	19nm,1.4s						
CMSA	**Cobar Meteorol**	**38.52**	**240**	P	**P**	**22 02 12.7**	**-0.2**
	baz=39,SNR=55						
QLP	**Quilpie**	**38.98**	**249**	P	**P**	**22 02 16.1**	**-0.7**
	baz=39,SNR=17						
TOO	**Toolangi**	**40.37**	**231**	P	**P**	**22 02 27.9**	**-0.2**
	baz=40,SNR=4.1						
COEN	**Coen**	**40.43**	**268**	P	**P**	**22 02 29.4**	**+0.6**
	baz=40,SNR=7.2						
COEN	**Coen**	**40.43**	**268**	*e*P	**P**	**22 02 29.0**	**+0.2**
	36nm,1.5s						
STKA	**Stephens Creek**	**42.01**	**241**	P	**P**	**22 02 41.6**	**+0.2**
	44nm,0.7s,baz=91,slow=10.0,SNR=71						
STKA	**Stephens Creek**	**42.01**	**241**	P	**P**	**22 02 41.7**	**+0.2**
	baz=42,SNR=50						
STKA	**Stephens Creek**	**42.01**	**241**	*e*P	**P**	**22 02 41.6**	**+0.2**
	9.1nm,0.8s						
ARPS	**Mount Arapiles**	**42.91**	**234**	P	**P**	**22 02 48.1**	**-0.5**
	baz=43						
HTT	**Hallett**	**44.50**	**239**	P	**P**	**22 03 01.2**	**-0.2**
	baz=45,SNR=12						
BBOO	**Buckleboo**	**46.78**	**241**	P	**P**	**22 03 18.7**	**-0.4**
	baz=47,SNR=12						
BBOO	**Buckleboo**	**46.78**	**241**	*e*P	**P**	**22 03 18.7**	**-0.4**
	23nm,0.7s						
WB2	**Warramunga Arr**	**48.06**	**258**	*e*P	**P**	**22 03 28.3**	**-0.8**
WB2				*e*PcP	**PcP**	**22 04 53.0**	**+0.3**
WRA	**Warramunga Arr**	**48.08**	**258**	P	**P**	**22 03 28.2**	**-1.0**
	3.6nm,0.5s,baz=92,slow=7.2,SNR=95						
WRA				PcP	**PcP**	**22 04 52.9**	**+0.1**
	2.3nm,0.7s,baz=89,slow=3.5,SNR=8.4						
AS01	**Alice Springs**	**48.21**	**253**	*e*P	**P**	**22 03 28.9**	**-1.2**
AS31	**Alice Springs** 12nm,0.6s	**48.25**	**253**	*e*P	**P**	**22 03 30.0**	**-0.5**
ASAR	**Alice Springs**	**48.25**	**253**	P	**P**	**22 03 29.9**	**-0.6**
	45nm,0.5s,baz=87,slow=8.5,SNR=574						
ASAR				PcP	**sP**	**22 04 53.6**	**-0.1**
	4.0nm,0.6s,baz=105,slow=3.8,SNR=7.2						
ASAR				S	**S**	**22 10 06.2**	**-4.2**
	0.2nm,0.4s,baz=310,slow=38,SNR=3.0						
GUMO	**Guam**	**49.95**	**305**	*e*P	**P**	**22 03 41.3**	**-1.9**
	720nm,1.8s						
KDU	**Kakadu**	**50.90**	**267**	P	**P**	**22 03 50.0**	**-0.5**
	baz=51,SNR=4.7						
MTN	**Manton Dam**	**52.15**	**267**	P	**P**	**22 03 58.8**	**-0.9**
	baz=52,SNR=4.1						
MTN	**Manton Dam** 40nm,1.6s	**52.15**	**267**	*e*P	**P**	**22 03 59.3**	**-0.4**
WRKA	**Warakurna**	**53.30**	**251**	P	**P**	**22 04 07.6**	**-0.5**
	baz=53,SNR=20						
FORT	**Forrest**	**53.42**	**244**	P	**P**	**22 04 07.7**	**-1.1**
	baz=54,SNR=15						
FORT	**Forrest** 34nm,0.7s	**53.42**	**244**	*e*P	**P**	**22 04 07.9**	**-0.9**
FAKI	**Fak Fak**	**53.67**	**279**	*e*P	**P**	**22 04 09.9**	**-0.9**
	8.7nm,0.9s						
KNRA	**Kununurra**	**53.90**	**263**	P	**P**	**22 04 11.9**	**-0.5**
	baz=54,SNR=3.2						
FITZ	**Fitzroy Crossi**	**56.47**	**259**	P	**P**	**22 04 30.7**	**0.0**
	baz=56,SNR=10.0						
FITZ	**Fitzroy Crossi** 12nm,1.4s	**56.47**	**259**	*e*P	**P**	**22 04 29.7**	**-1.0**
KMBL	**Kambalda** baz=59	**58.72**	**243**	P	**P**	**22 04 45.2**	**-1.0**
SOEI	**Soe** 66nm,0.8s	**59.40**	**269**	*e*P	**P**	**22 04 52.2**	**+1.0**
TNTI	**Ternate** 34nm,1.2s	**59.49**	**281**	*e*P	**P**	**22 04 50.0**	**-1.7**
MBWA	**Marble Bar** 46nm,1.5s	**61.53**	**255**	*e*P	**P**	**22 05 05.2**	**-0.2**
MMRI	**Maumere** 38nm,0.6s	**61.61**	**269**	*e*P	**P**	**22 05 05.9**	**-0.1**
SBA	**Scott Base** 119nm,2.0s	**61.64**	**184**	*e*P	**P**	**22 05 07.0**	**+1.9**
VNDA	**Vanda** 4.9nm,0.9s,baz=2.9,slow=5.7,SNR=15	**61.73**	**186**	P	**P**	**22 05 07.0**	**+1.3**
VNDA	**Vanda** 4.4nm,0.8s	**61.73**	**186**	*e*P	**P**	**22 05 07.0**	**+1.3**
MEEK	**Meekatharra** baz=62,SNR=11	**61.88**	**248**	P	**P**	**22 05 06.9**	**-0.8**
KLBR	**Kellerberrin** baz=62,SNR=11	**62.23**	**243**	P	**P**	**22 05 09.3**	**-0.6**
NWAO	**Narrogin (SRO)** baz=63,SNR=5.9	**62.60**	**241**	P	**P**	**22 05 12.1**	**-0.2**
NWAO	**Narrogin (SRO)** 29nm,1.3s	**62.60**	**241**	*e*P	**P**	**22 05 11.7**	**-0.6**
BLDU	**Ballidu** baz=63,SNR=21	**63.20**	**244**	P	**P**	**22 05 15.7**	**-0.6**
MUN	**Mundaring** baz=64,SNR=9.0	**63.52**	**242**	P	**P**	**22 05 18.5**	**+0.1**
MORW	**Morawa** baz=64,SNR=6.2	**63.91**	**246**	P	**P**	**22 05 20.5**	**-0.4**
QSPA	**South Pole Qui** 12nm,0.9s	**73.14**	**180**	*e*P	**P**	**22 06 17.9**	**+0.6**
PETK	**Petropavlovsk-** 3.7nm,0.7s,baz=152,slow=9.5,SNR=3.2	**73.63**	**343**	P	**P**	**22 06 20.8**	**+0.8**
YBH	**Yreka Blue Hor** 1.5nm,0.6s,baz=125,slow=1.3,SNR=7.0	**75.69**	**38**	P	**P**	**22 06 33.1**	**+0.8**
KSM	**Kuching** 21nm,1.0s	**75.86**	**276**	*e*P	**P**	**22 06 33.8**	**+0.1**
KSRS	**Korea Array** 1.6nm,0.9s,baz=147,slow=7.3,SNR=4.5	**76.22**	**317**	P	**P**	**22 06 37.6**	**+2.4**
KSAR	**Wonju Array Be**	**76.23**	**316**	P	**P**	**22 06 37.6**	**+2.3**
NVAR	**Mina Array Bea** 0.9nm,0.7s,baz=238,slow=8.5,SNR=5.6	**76.43**	**42**	P	**P**	**22 06 37.6**	**+0.9**
U15A	**North Rim** 8.0nm,1.4s	**79.41**	**47**	*e*P	**P**	**22 06 54.0**	**+0.8**
NJ2	**Nanjing**	**79.91**	**308**	*e*P	**P**	**22 06 55.5**	**0.0**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.8s						
TMUT	**Trail Mountain** comp=Z,5.8nm,1.2s	**81.58**	**45**	*e*P	**P**	**22 07 05.6**	**+1.0**
TCUT	**Toone Canyon** comp=Z,7.6nm,0.9s	**82.36**	**43**	*e*P	**P**	**22 07 08.7**	**+0.1**
TCUT				*e*S	**S**	**22 17 05.3**	**+2.5**
TXAR	**Lajitas Array** comp=Z,1.5nm,1.0s,baz=217,slow=6.1,SNR=4.5	**82.67**	**56**	P	**P**	**22 07 11.7**	**+1.5**
SEY	**Seymchan** comp=Z,1.4nm,0.5s,baz=149,slow=17,SNR=2.9	**83.60**	**346**	P	**P**	**22 07 14.7**	**+0.7**
WRH	**Wood River Hil** comp=Z,8.2nm,1.0s	**83.71**	**11**	*e*P	**P**	**22 07 15.4**	**+0.8**
HDA	**Harding Lake** comp=Z,8.0nm,0.9s	**83.87**	**12**	*e*P	**P**	**22 07 16.1**	**+0.7**
CCB	**Clear Creek Bu** comp=Z,5.3nm,0.9s	**83.92**	**11**	*e*P	**P**	**22 07 15.7**	**+0.1**
IL1	**Eielson Array**	**84.21**	**12**	*e*P	**P**	**22 07 16.4**	**-0.7**
ILAR	**Eielson Array** comp=Z,2.3nm,1.0s,baz=207,slow=4.1,SNR=13	**84.21**	**12**	P	**P**	**22 07 17.0**	**-0.1**
PDAR	**Pinedale Array** comp=Z,1.8nm,1.0s,baz=220,slow=3.9,SNR=7.4	**84.37**	**42**	P	**P**	**22 07 18.7**	**0.0**
IPM	**Ipoh** comp=Z,8.5nm,0.7s	**85.60**	**276**	*e*P	**P**	**22 07 25.5**	**+0.3**
MAW	**Mawson** comp=Z,5.8nm,0.6s,baz=123,slow=6.0,SNR=16	**85.89**	**199**	P	**P**	**22 07 25.7**	**+0.2**
MAW	**Mawson** baz=86,SNR=9.6	**85.89**	**199**	P	**P**	**22 07 26.0**	**+0.5**
PSI	**Prapat** comp=Z,11nm,1.2s	**87.11**	**274**	*e*P	**P**	**22 07 32.9**	**+0.3**
GYA	**Guiyang**	**87.45**	**298**	*e*P	**P**	**22 07 35.3**	**+1.3**
GYA				pP	pP	22 08 38.4	+2.8
GYA				sP	sP	22 09 05.0	+2.6
GYA				PP	**PP**	**22 11 05.3**	**+2.4**
GYA	**Guiyang**	**87.45**	**298**	SKS	**S**	**22 17 51.3**	**-1.9**
GYA	**Guiyang**	**87.45**	**298**	S	**S**	**22 17 51.8**	**-1.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
XAN	**Xi'an**		**88.32**	**306**	P	**P**	**22 07 39.3**	**+1.5**
XAN					pP	pP	22 08 40.8	+1.2
XAN					pmax	pmax		
	comp=Z,5.0nm,1.1s							
HHC	**Hu-ho-hao-te**		**88.97**	**313**	*e*P	**P**	**22 07 42.0**	**+1.2**
HHC					pmax	pmax		
	comp=Z,5.0nm,0.7s							
HHC					pmax	pmax		
	comp=Z,58nm,6.1s							
SYO	**Syowa Base**		**90.83**	**192⇑**	*e*P	**P**	**22 07 46.0**	**-2.8**
SYO	**Syowa Base**		**90.83**	**192⇑**	epP	pP	22 08 51.6	+0.9
SNAA	**Sanae**		**91.47**	**178**	P	**P**	**22 07 51.2**	**-0.6**
SNAA	**Sanae**		**91.47**	**178**	*e*P	**P**	**22 07 50.5**	**-1.3**
	comp=Z,6.0nm,1.2s							
VNA3	**Neumayer Olymp**		**91.49**	**175**	P	**P**	**22 07 51.5**	**-0.3**
CM01	**Chiang Mai Arr**		**91.67**	**289**	*e*P	**P**	**22 07 54.4**	**+0.8**
CMAR	**Chiang Mai Arr**		**91.69**	**289**	P	**P**	**22 07 55.7**	**+1.9**
	comp=Z,2.2nm,0.9s,baz=94,slow=2.4,SNR=19							
CHTO	**Chiang Mai**		**91.80**	**289**	*e*P	**P**	**22 07 54.1**	**-0.1**
	comp=Z,3.8nm,0.8s							
VNA2	**Neumayer--Watz** baz=185,slow=3.2		**91.96**	**176**	P	**P**	**22 07 54.6**	**+0.6**
VNA1	**Neumayer--Stat**		**92.17**	**176**	P	**P**	**22 07 55.4**	**+0.4**
LZH	**Lanzhou**		**92.93**	**307**	*e*P	**P**	**22 08 01.1**	**+1.8**
LZH					pP	pP	22 09 07.4	+6.1
LZH					sP	sP	22 09 26.1	-1.9
LZH					*e*PP	**PP**	**22 11 49.4**	**+3.4**
LZH					pmax	pmax		
	comp=Z,31nm,0.9s							
LZH					pmax	pmax		
	comp=Z,260nm,4.8s							
ZALV	**Zalesovo Beam**		**109.50**	**322**	PKiKP	**PKiKP**	**22 13 13.3**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=35,slow=5.3,SNR=3.3							
MKAR	**Makanchi Array**		**110.82**	**314**	PKiKP	**PKiKP**	**22 13 16.4**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=148,slow=0.7,SNR=12							
KURK	**Kurchatov**		**113.29**	**318**	PKiKP	**PKiKP**	**22 13 21.2**	**-0.7**
KURBB	**Kurchatov Arra**		**113.35**	**318**	PKiKP	**PKiKP**	**22 13 21.2**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=79,slow=1.7,SNR=7.9							
KSH	**Kashi**		**115.18**	**306**	*e*PKP	**PKPdf**	**22 13 23.9**	**-2.1**
AAK	**Ala-Archa**		**116.31**	**310**	PKP	**PKPdf**	**22 13 27.9**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=117,slow=2.3,SNR=2.9							
ARU	**Arti**		**123.83**	**327**	PKP	**PKPdf**	**22 13 42.6**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=252,slow=8.3,SNR=5.2							
ARCES	**ARCESS Array B**		**125.88**	**351**	PKP	**PKPdf**	**22 13 45.5**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=357,slow=1.5,SNR=12							
GEYT	**Alibeck**		**129.20**	**305**	PKP	**PKPdf**	**22 13 52.8**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=221,slow=1.5,SNR=3.0							
BOSA	**Boshof**		**130.71**	**204**	PKP	**PKPdf**	**22 13 56.2**	**0.0**
	comp=Z,1.1nm,0.5s,baz=90,slow=1.0,SNR=3.1							
FINES	**FINESS Array B**		**133.07**	**346**	PKP	**PKPdf**	**22 13 59.6**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=333,slow=0.4,SNR=4.4							
AKASG	**Malin Array Be**		**141.13**	**335**	PKhKP	PKPpre	22 14 11.5	
	comp=Z,0.3nm,0.3s,baz=354,slow=0.9,SNR=3.5							
KMBO	**Kilima Mbogo**		**143.55**	**244**	PKP	PKPbc	22 14 19.0	+0.6
	comp=Z,5.5nm,0.8s,baz=56,slow=5.6,SNR=21							
KWP	**Kalwaria Pacla**		**144.37**	**340**	*e*PKP	PKPbc	22 14 19.8	+0.4
KSP	**Ksiaz**		**144.97**	**348**	*e*PKP	**PKPab**	**22 14 22.0**	**+0.5**
CLL	**Collm**		**145.10**	**351**	*i* PKPbc	**PKPdf**	**22 14 21.7**	**+0.1**
	comp=Z,15nm,1.0s							
NIE	**Niedzica**		**145.30**	**342**	*e*PKP	**PKPab**	**22 14 23.3**	**+0.5**
DPC	**Dobruska-Polom**		**145.43**	**347**	*e*PKP	**PKPab**	**22 14 23.8**	**+0.5**
DPC					*ex*	x	22 14 35.1	
KECS	**Kecovo**		**146.08**	**342**	*e*PKP	**PKPdf**	**22 14 24.2**	**+0.9**
NKC	**Novy Kostel**		**146.23**	**351**	*e*PKP	**PKPbc**	**22 14 25.7**	**+0.6**
BRTR	**Keskin Array B**		**146.35**	**318**	PKPbc	**PKPbc**	**22 14 26.2**	**+0.3**
	comp=Z,6.0nm,0.8s,baz=141,slow=3.3,SNR=31							
VYHS	**Vyhne**		**146.55**	**343**	*e*PKP	**PKPbc**	**22 14 26.8**	**+0.8**
BCLA	**Clavier**		**146.57**	**360⇑**	PKP	**PKPab**	**22 14 27.7**	**+0.1**
MLR	**Muntele Rosu**		**146.58**	**333**	PKPbc	**PKPbc**	**22 14 27.2**	**+0.9**
	comp=Z,5.8nm,0.9s,baz=302,slow=7.7,SNR=8.0							
MODS	**Modra-Piesok**		**147.07**	**345**	*e*PKP	**PKPbc**	**22 14 27.8**	**+0.3**
KHC	**Kasperske Hory**		**147.13**	**350**	*e*PKP	**PKPbc**	**22 14 28.4**	**+0.7**
KHC					*ex*	x	22 14 31.2	
WLF	**Walferdange**		**147.32**	**359⇑**	PKP	**PKPbc**	**22 14 29.1**	**+0.9**
GERES	**GERESS Array B**		**147.38**	**349**	PKPbc	**PKPbc**	**22 14 28.9**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=27,slow=3.3,SNR=15							
ASF	**Jabal al Asfar**		**147.45**	**304**	PKPbc	**PKPbc**	**22 14 30.1**	**+1.0**
	comp=Z,3.3nm,0.8s,baz=352,slow=4.5,SNR=7.9							
CONA	**Conrad Observa**		**147.82**	**346**	*i* PKiKP	**PKPbc**	**22 14 30.6**	**+0.9**
	comp=Z,5.6nm,0.6s,SNR=6.6							
MOA	**Molln**		**148.23**	**348**	*i* PKiKP	**PKPbc**	**22 14 31.2**	**+0.6**
	comp=Z,6.1nm,1.0s							
MMAI	**Mount Meron Ar**		**148.31**	**306**	PKPbc	**PKPbc**	**22 14 32.4**	**+1.0**
	comp=Z,7.1nm,0.6s,baz=63,slow=5.7,SNR=16							
ARSA	**Arzberg**		**148.54**	**346**	*i* PKiKP	**PKPbc**	**22 14 32.2**	**+0.8**
	comp=Z,4.3nm,1.1s							
KBA	**Koelnbreinsper**		**149.15**	**349**	*i* PKPbc	**PKPbc**	**22 14 32.6**	**-0.6**
	comp=Z,2.6nm,0.5s							
RETA	**Reutte**		**149.15**	**352**	*i* PKiKP	**PKPbc**	**22 14 33.5**	**+0.5**
	comp=Z,4.3nm,1.0s							
SOKA	**Soboth**		**149.19**	**347**	*i* PKiKP	**PKPbc**	**22 14 33.2**	**+0.1**
	comp=Z,9.9nm,1.8s							
WATA	**Walderalm**		**149.19**	**351**	*i* PKiKP	**PKPbc**	**22 14 33.5**	**+0.3**
	comp=Z,4.3nm,0.4s							
MOTA	**Moosalm**		**149.25**	**352**	*i* PKiKP	**PKPbc**	**22 14 33.6**	**+0.3**
	comp=Z,10nm,1.2s							
WTTA	**Wattenberg**		**149.25**	**351**	*i* PKiKP	**PKPbc**	**22 14 33.3**	**-0.1**
	comp=Z,7.1nm,0.5s							
SQTA	**Sankt Quirin** comp=Z,7.0nm,1.0s		**149.35**	**352**	*i* PKiKP	**PKPbc**	**22 14 34.0**	**+0.5**
DAVA	**Damuels** comp=Z,5.7nm,0.6s,SNR=5.4		**149.45**	**354**	*i* PKiKP	**PKPbc**	**22 14 34.0**	**+0.1**
OBKA	**Obir** comp=Z,6.2nm,1.1s		**149.45**	**347**	*i* PKPbc	**PKPbc**	**22 14 33.6**	**-0.2**
MYKA	**Terra Mystica** comp=Z,4.4nm,0.6s		**149.52**	**348**	*i* PKPbc	**PKPbc**	**22 14 33.6**	**-0.3**
FETA	**Feichten** comp=Z,7.0nm,0.9s		**149.61**	**352**	*i* PKPbc	**PKPbc**	**22 14 33.5**	**-0.7**
ABTA	**Abfaltersbach** comp=Z,6.4nm,0.6s		**149.61**	**350**	*i* PKPbc	**PKPbc**	**22 14 33.7**	**-0.5**
ESDC	**Sonseca Array** comp=Z,1.3nm,0.8s,baz=324,slow=2.6,SNR=7.7		**156.00**	**17**	PKPab	**PKPab**	**22 15 08.2**	**+0.9**
TORD	**Torodi Ar. Bea**		**175.04**	**139**	PKP	**PKPdf**	**22 14 52.7**	**-2.2**
	comp=Z,1.3nm,0.9s,baz=0.0,slow=0.7,SNR=7.3							
TORD					PKPab	**PKPab**	**22 16 30.0**	**-1.5**
	comp=Z,1.0nm,1.0s,baz=298,slow=3.2,SNR=4.7							

GUC 15 21:56:32.0±0.7, 21°.21S×68°.75W, h146km±4km, ML3.5, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.71**	**283**	*e*P	Pn	21 56 54.5	+0.3
PB01				*i* S	Sn	21 57 11.8	+0.6
PB01				IAML		21 57 13.1	
	comp=N,2μm,0.3s						
PB09	**IPOC Station P**	**0.74**	**218**	*e*P	Pn	21 56 55.1	+0.6
PB09				*i* S	Sn	21 57 12.7	+0.8
PB02	**IPOC Station P**	**1.07**	**264**	*e*P	Pn	21 56 57.8	+0.6
PB02				*i* S	Sn	21 57 17.7	+1.4
PB02				IAML		21 57 20.2	
	comp=E,1μm,0.5s						
PB08	**IPOC Station P**	**1.13**	**340**	*e*P	Pn	21 56 58.7	+0.6
PB08				*i* S	Sn	21 57 18.3	+0.6
PB07	**IPOC Station P**	**1.18**	**244**	*e*P	Pn	21 56 59.0	+0.8
PB07				*i* S	Sn	21 57 19.2	+1.0
PB03	**IPOC Station P**	**1.25**	**228**	*e*P	Pn	21 56 59.9	+1.0
PB03				*i* S	Sn	21 57 20.5	+1.0
PB03				IAML		21 57 21.2	
	comp=E,466nm,0.5s						
PB11	**IPOC Station P**	**1.67**	**329**	*e*P	Pn	21 57 03.7	+0.4
PB11				*i* S	Sn	21 57 28.1	+0.8
PB06	**IPOC Station P**	**1.67**	**207**	*e*P	Pn	21 57 04.1	+0.8
PB06				*i* S	Sn	21 57 28.2	+0.8
PB06				IAML		21 57 29.4	
	comp=N,800nm,0.8s						
PB04	**IPOC Station P**	**1.72**	**229**	*e*P	Pn	21 57 04.9	+1.1
PB04				*i* S	Sn	21 57 29.4	+1.2
PB04				IAML		21 57 32.8	
	comp=N,307nm,0.4s						
PSGC	**Pisagua**	**2.06**	**321**	*i* S	Sn	21 57 36.2	+1.2
PB05	**IPOC Station P**	**2.12**	**219**	*e*P	Pn	21 57 09.4	+1.0
PB05				*i* S	Sn	21 57 37.3	+0.9
MNMC	**Minye Minye**	**2.21**	**339**	*e*P	Pn	21 57 10.7	+1.0
MNMC				*i* S	Sn	21 57 40.1	+1.4

ISCJB ***15*** *22:10:24.4±0.3, 0°.00S±0°.03×123°.46E±0°.03, h165km±3km, mb4.5/57, Error ellipse: s-maj=6.2km s-min=4.6km az=144.7*

NEIC ***15*** *22:10:25.1±0.6, 0°.03S×123°.43E, h158km±5km, mb4.7/29, Error ellipse: s-maj=6.7km s-min=4.1km az=69.0*

IDC ***15*** *22:10:25.4±1.7, 0°.01S×123°.35E, h160km±16km, mb4.0/27, mb1 4.1/30, mb1mx3.9/55, mbtmp4.5/30, MS2.7/1, Ms1 2.9/1, ms1mx2.4/41, Error ellipse: s-maj=16.4km s-min=8.2km az=78.0*

DJA ***15*** *22:10:27.4±0.3, 0°.S±3°×12°.3E±°, h112km±6km, M4.5/9, mb4.6/7, mB4.6/3, MLv4.6/9, Mw

	comp=Z,10.0nm,0.8s						
ENH	**Enshi**	**32.95**	**337**	*e*P	**P**	**22 16 45.5**	**+0.7**
	12nm,0.8s						
NWAO	**Narrogin (SRO)**	**33.23**	**190**	P	**P**	**22 16 47.0**	**-0.2**
	4.2nm,0.5s,baz=253,slow=8.5,SNR=11						
NWAO	**Narrogin (SRO)**	**33.23**	**190**	*e*P	**P**	**22 16 47.1**	**-0.1**
	32nm,1.4s						
CD2	**Chengdu**	**36.02**	**331**	*e*P	**P**	**22 17 12.0**	**+0.8**
STKA	**Stephens Creek**	**36.02**	**153**	P	**P**	**22 17 12.2**	**+1.0**
	7.7nm,0.7s,baz=334,slow=9.0,SNR=14						
STKA	**Stephens Creek**	**36.02**	**153**	*e*P	**P**	**22 17 11.8**	**+0.6**
	1.9nm,0.8s						
XAN	**Xi'an**	**36.54**	**340**	P	**P**	**22 17 16.4**	**+0.7**
XAN				pP	pP	22 17 49.5	-0.3
XAN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,120nm,4.5s						
KSAR	**Wonju Array Be**	**37.53**	**6**	P	**P**	**22 17 24.8**	**+0.9**
KSRS	**Korea Array**	**37.54**	**6**	P	**P**	**22 17 24.8**	**+0.8**
	3.0nm,0.9s,baz=189,slow=10,SNR=8.0						
KS01	**Wonju Array Si**	**37.56**	**6**	*e*P	**P**	**22 17 24.8**	**+0.7**
MJAR	**Matsushiro Arr**	**38.90**	**19**	P	**P**	**22 17 34.5**	**-0.9**
	6.3nm,0.8s,baz=197,slow=9.6,SNR=13						
SHL	**Shillong**	**39.71**	**312**	*e*P	**P**	**22 17 43.1**	**+0.6**
	9.1nm,0.9s						
LZH	**Lanzhou**	**40.30**	**335**	*e*P	**P**	**22 17 48.3**	**+1.1**
LZH				pP	pP	22 18 25.6	+3.7
LZH				sP	sP	22 18 43.0	+3.1
LZH				*e*PP	**PnPn**	**22 19 27.6**	**-1.0**
LZH				pmax	pmax		
	comp=Z,32nm,1.0s						
LZH				pmax	pmax		
	comp=Z,240nm,5.4s						
ARMA	**Armidale**	**40.38**	**141**	*e*P	**P**	**22 17 49.3**	**+1.4**
	9.9nm,0.6s						
BJT	**Baijiatuan**	**40.42**	**351**	*e*P	**P**	**22 17 48.4**	**+0.6**
	23nm,1.5s						
HHC	**Hu-ho-hao-te**	**42.11**	**347**	*e*P	**P**	**22 18 04.3**	**+2.5**
HHC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,59nm,6.1s						
CAN	**Canberra**	**42.42**	**148**	*e*P	**P**	**22 18 04.5**	**+0.1**
	101nm,2.0s						
LSA	**Lhasa**	**42.68**	**317**	*e*P	**P**	**22 18 07.2**	**+0.2**
	6.0nm,0.6s						
CN2	**Changchun**	**43.69**	**2**	*e*P	**P**	**22 18 18.0**	**+3.7**
RAMN	**Ramite**	**44.44**	**310**	*e*P	**P**	**22 18 21.7**	**+0.8**
	53nm,0.5s						
USA0B	**Ussuriysk Arra**	**44.70**	**9**	*e*P	**P**	**22 18 22.3**	**-0.1**
	29nm,1.6s						
USRK	**Ussuriysk Ar.**	**44.70**	**9**	P	**P**	**22 18 22.6**	**+0.2**
	4.4nm,0.8s,baz=187,slow=10,SNR=7.5						
GTA	**Gaotai**	**44.83**	**334**	⇑P	**P**	**22 18 24.3**	**+0.7**
GTA				pP	pP	22 19 00.0	+1.1
GTA				sP	sP	22 19 18.9	+2.1
GTA				PcP	**PcP**	**22 20 03.0**	**+0.3**
GTA				S	**S**	**22 24 50.3**	**+1.2**
GTA				sS	sS	22 25 55.4	+4.8
GTA				ScS	**ScS**	**22 28 04.3**	**-0.2**
GTA				pmax	pmax		
	comp=Z,11nm,0.9s						
GTA				pmax	pmax		
	comp=Z,56nm,5.9s						
JIRN	**Jiri**	**45.12**	**311**	*e*P	**P**	**22 18 26.8**	**+0.4**
	56nm,0.5s						
GUN	**Gumba**	**45.48**	**311**	*e*P	**P**	**22 18 29.5**	**+0.3**
	54nm,0.5s						
PKI	**Pulchoki**	**45.67**	**310**	*e*P	**P**	**22 18 30.5**	**-0.2**
	18nm,0.5s						
PKIN	**Phulchoki**	**45.68**	**310**	*e*P	**P**	**22 18 30.7**	**0.0**
	13nm,0.4s						
KKN	**Kakani**	**45.88**	**310**	*e*P	**P**	**22 18 32.5**	**+0.3**
	21nm,0.5s						
DMN	**Daman**	**45.92**	**310**	*e*P	**P**	**22 18 32.7**	**+0.2**
	39nm,0.9s						
GKN	**Gorkha**	**46.47**	**310**	*e*P	**P**	**22 18 37.2**	**+0.4**
KOLN	**Koldanda**	**47.16**	**309**	*e*P	**P**	**22 18 42.5**	**+0.4**
	82nm,0.7s						
ASAJ	**Asahikawa**	**47.17**	**19**	P	**P**	**22 18 41.8**	**+0.2**
	6.2nm,0.4s,baz=176,slow=13,SNR=4.1						
DANN	**Dangsing**	**47.32**	**310**	*e*P	**P**	**22 18 43.4**	**-0.1**
	92nm,0.7s						
PYUN	**Piuthan**	**47.79**	**309**	*e*P	**P**	**22 18 47.3**	**+0.3**
	131nm,0.8s						
KLR	**Kul'dur**	**49.60**	**7**	P	**P**	**22 18 59.9**	**-0.3**
	1.3nm,0.5s,baz=226,slow=4.4,SNR=6.6						
ULN	**Ulaanbaatar**	**49.80**	**346**	*e*P	**P**	**22 19 01.8**	**-0.2**
	5.0nm,0.7s						
SONM	**Songino Array**	**49.94**	**345**	P	**P**	**22 19 02.8**	**-0.2**
	6.2nm,0.8s,baz=161,slow=8.8,SNR=26						
SONM				PcP	**PcP**	**22 20 20.4**	**-0.4**
	1.2nm,0.7s,baz=155,slow=3.5,SNR=4.3						
SONA1	**Songino Array**	**49.95**	**345**	*e*P	**P**	**22 19 02.7**	**-0.4**
WMQ	**Urumqi**	**54.06**	**329**	*e*P	**P**	**22 19 35.4**	**+2.0**
KSH	**Kashi**	**58.51**	**318**	P	**P**	**22 20 05.8**	**+0.7**
KSH				pP	pP	22 20 43.8	+1.6
KSH				S	**S**	**22 27 51.8**	**-4.5**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,150nm,5.4s						
KSH				LR	LR		
	comp=N,140nm,8.5s						
KSH				LR	LR		
	comp=E,190nm,7.3s						
KSH				LR	LR		
	comp=Z,120nm,9.5s						
MK01	**Makanchi Array**	**58.86**	**328**	*e*P	**P**	**22 20 06.5**	**-0.8**
MK31	**Makanchi Array**	**58.88**	**328**	*e*P	**P**	**22 20 07.2**	**-0.2**
MKAR	**Makanchi Array**	**58.88**	**328**	P	**P**	**22 20 06.8**	**-0.6**
	2.6nm,0.5s,baz=125,slow=8.7,SNR=31						
MKAR				PcP	**PcP**	**22 20 54.1**	**-1.0**
	1.9nm,0.5s,baz=150,slow=2.9,SNR=13						
MKAR	**Makanchi Array**	**58.88**	**328**	*e*P	**P**	**22 20 07.2**	**-0.2**
	20nm,0.8s						
MKAR				PcP	**PcP**	**22 20 54.1**	**-1.0**
KDJ	**Kajisay**	**59.09**	**321**	*e*P	**P**	**22 20 09.3**	**+0.2**
	2.6nm,0.7s						
PYZ	**Puysegur Point**	**59.55**	**146**	*e*P	**P**	**22 20 12.3**	**+0.4**
	102nm,1.3s						
PETK	**Petropavlovsk-**	**60.15**	**23**	P	**P**	**22 20 16.9**	**+1.0**
	4.6nm,0.6s,baz=202,slow=4.0,SNR=10						
PETK	**Petropavlovsk-**	**60.15**	**23**	*e*P	**P**	**22 20 15.9**	**0.0**
LBZ	**Lake Benmore**	**60.53**	**143**	*e*P	**P**	**22 20 18.5**	**-0.2**
	29nm,1.5s						
RPZ	**Rata Peaks**	**60.70**	**142**	P	**P**	**22 20 20.2**	**+0.3**
	9.4nm,0.8s,baz=19,slow=4.8,SNR=4.5						
RPZ	**Rata Peaks**	**60.70**	**142**	*e*P	**P**	**22 20 19.9**	**+0.1**
	42nm,1.6s						
KBL	**Kabul**	**61.31**	**310**	*e*P	**P**	**22 20 24.1**	**-0.3**
	9.3nm,0.6s						
YAK	**Yakutsk**	**62.10**	**3**	P	**P**	**22 20 28.2**	**-0.6**
	20nm,0.5s,baz=176,slow=0.5,SNR=7.9						
YAK	**Yakutsk**	**62.10**	**3**	*e*P	**P**	**22 20 28.8**	**0.0**
	34nm,0.7s						
ZAA0	**Zalesovo Array**	**62.54**	**335**	*e*P	**P**	**22 20 31.0**	**-0.9**
	2.2nm,0.8s						
ZALV	**Zalesovo Beam**	**62.54**	**335**	P	**P**	**22 20 30.2**	**-1.7**
	1.0nm,0.4s,baz=125,slow=5.1,SNR=7.2						
ZALV	**Zalesovo Beam**	**62.54**	**335**	*e*P	**P**	**22 20 29.9**	**-2.0**
MA2	**Magadan**	**63.16**	**15**	P	**P**	**22 20 36.5**	**+0.6**
	7.5nm,0.6s,baz=207,slow=9.3,SNR=4.1						
KURK	**Kurchatov**	**63.24**	**330**	*e*P	**P**	**22 20 35.5**	**-1.1**
	5.9nm,0.6s						
AFI	**Afiamalu**	**65.55**	**105**	*e*P	**P**	**22 20 51.5**	**-0.9**
	83nm,0.6s						
SEY	**Seymchan**	**66.44**	**14**	P	**P**	**22 20 58.2**	**+1.2**
	2.7nm,0.6s,baz=200,slow=5.7,SNR=4.5						
WSAR	**Wadi Sarin**	**66.97**	**295**	P	**P**	**22 21 00.1**	**-1.2**
	1.5nm,0.5s,baz=142,slow=5.7,SNR=5.7						
TIXI	**Tiksi**	**71.66**	**2**	P	**P**	**22 21 28.5**	**-0.6**
	baz=194,slow=4.8						
TIXI	**Tiksi**	**71.66**	**2**	*e*P	**P**	**22 21 28.4**	**-0.7**
	9.1nm,0.5s						
ABKAR	**Akbulak array**	**73.04**	**322**	*e*P	**P**	**22 21 36.4**	**-1.4**
NRIK	**Noril'sk**	**73.33**	**347**	P	**P**	**22 21 38.5**	**-0.6**
	4.0nm,0.6s,baz=110,slow=5.6,SNR=4.5						
ARU	**Arti**	**76.40**	**329**	P		**22 21 55.8**	**-1.1**
	1.1nm,0.3s,baz=182,slow=0.8,SNR=5.0						
VNDA	**Vanda**	**80.14**	**172**	P	**P**	**22 22 16.7**	**-0.4**
	1.5nm,0.9s,baz=33,slow=3.0,SNR=4.2						
ASF	**Jabal al Asfar**	**87.09**	**302**	P	**P**	**22 22 54.1**	**+0.5**
	1.0nm,0.5s,baz=107,slow=14,SNR=4.2						
MMAI	**Mount Meron Ar**	**88.38**	**303**	P	**P**	**22 23 00.6**	**+1.0**
	1.2nm,0.5s,baz=87,slow=7.4,SNR=3.6						
ILAR	**Eielson Array**	**89.90**	**25**	P	**P**	**22 23 05.0**	**-1.0**
	0.5nm,0.5s,baz=244,slow=4.9,SNR=11						
ARCES	**ARCESS Array B**	**92.83**	**340**	P	**P**	**22 23 17.3**	**-2.1**
	0.6nm,0.5s,baz=79,slow=6.3,SNR=8.0						
FINES	**FINESS Array B**	**93.57**	**331**	P	**P**	**22 23 20.7**	**-2.2**
	2.7nm,0.9s,baz=33,slow=7.3,SNR=6.7						
TORD	**Torodi Ar. Bea**	**120.85**	**285**	PKP	**PKPdf**	**22 28 58.6**	**-1.0**
	0.5nm,0.8s,baz=30,slow=2.3,SNR=4.6						
TXAR	**Lajitas Array**	**126.49**	**53**	PKP	**PKPdf**	**22 29 11.7**	**+1.5**
	0.4nm,0.9s,baz=306,slow=3.0,SNR=3.3						

ISCJB ***15*** *22:18:12.7±0.2,24.02N±0.01×121.83E±0.02,h53km±3km, Error ellipse: s-maj=2.5km s-min=1.6km az=32.6*
TAP ***15*** *22:18:13.0,24.04N×121.80E,h46km,ML3.5,B*
JMA ***15*** *22:18:12.3,23.98N×121.81E,h43km±1km,M3.0*
ISC 15 22:18:12.9±1.2,24.03N±0.02×121.82E±0.02,h48km±5km, n112,σ1ᵎ04/216,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.20**	**255**	P		**Pn**	**22 18 21.1**	**0.0**
	baz=250							
HWA				*e*S		**Sn**	**22 18 27.0**	**+0.2**
	baz=250							
TWD	**Chiawan**	**0.21**	**284**	*i* P		**Pn**	**22 18 21.0**	**-0.1**
	baz=283							
TWD				S		**Sn**	**22 18 27.0**	**+0.1**
	baz=283							
NACB	**Ninganchiao**	**0.25**	**305**	*i* P		**Pn**	**22 18 21.3**	**-0.2**
	baz=305							
NACB				S		**Sn**	**22 18 27.5**	**0.0**
	baz=305							
NANB	**Nanao**	**0.40**	**351**	P		**Pn**	**22 18 23.0**	**+0.1**
	baz=352							
NANB				S		**Sn**	**22 18 30.6**	**+0.5**
	baz=352							
ENA	**Nanau**	**0.40**	**350**	P		**Pn**	**22 18 23.0**	**+0.1**
	baz=352							
ENA				S		**Sn**	**22 18 30.8**	**+0.7**
	baz=352							
ESL	**Shilin**	**0.41**	**238**	P		**Pn**	**22 18 22.9**	**-0.2**
	baz=235							
ESL				*e*S		**Sn**	**22 18 30.5**	**+0.3**
	baz=235							
WHF	**Hehuan Shan**	**0.52**	**283**	P		**Pn**	**22 18 24.4**	**-0.3**
	baz=282							
WHF				*e*S		**Sn**	**22 18 32.7**	**-0.4**
	baz=282							
NNSB	**Datong**	**0.56**	**315**	P		**Pn**	**22 18 25.1**	**+0.2**
	baz=315							
NNSB				S		**Sn**	**22 18 33.9**	**+0.3**
	baz=315							
NNS	**Nan Shan**	**0.57**	**315**	*e*P		**Pn**	**22 18 25.2**	**+0.1**
	baz=315							
NNS				*e*S		**Sn**	**22 18 34.0**	**+0.1**
	baz=315							
TWC	**Suao**	**0.58**	**3**	*i* P		**Pn**	**22 18 25.5**	**+0.5**
	baz=5.0							
TWC				S		**Sn**	**22 18 34.4**	**+0.7**
	baz=5.0							
CHGB	**Renai**	**0.59**	**273**	*i* P		**Pn**	**22 18 25.7**	**+0.3**
	baz=272							
CHGB				S		**Sn**	**22 18 34.6**	**+0.3**
	baz=272							
EOS1	**EOS1**	**0.59**	**29**	*e*P		**Pn**	**22 18 25.2**	**0.0**
	baz=30							
EOS1				*e*S		**Sn**	**22 18 35.6**	**+1.7**
	baz=30							
TWT	**Tachien**	**0.62**	**291**	P		**Pn**	**22 18 26.5**	**+0.7**
	baz=289							
TWT				*e*S		**Sn**	**22 18 35.6**	**+0.5**
	baz=289							
TDCB	**Techi**	**0.64**	**290**	*i* P		**Pn**	**22 18 26.3**	**+0.4**
	baz=290							
TDCB				S		**Sn**	**22 18 35.5**	**+0.1**
	baz=290							
HGSD	**Ruisui**	**0.65**	**214**	*e*P		**Pn**	**22 18 26.3**	**+0.4**
	baz=212							
HGSD				*e*S		**Sn**	**22 18 36.1**	**+0.9**
	baz=212							
ENTT	**Nioudou**	**0.65**	**340**	*e*P		**Pn**	**22 18 26.3**	**+0.3**
	baz=340							
ENTT				*e*S		**Sn**	**22 18 35.9**	**+0.5**
	baz=340							
VWDT	**VWDT**	**0.68**	**246**	P		**Pn**	**22 18 26.5**	**+0.2**
	baz=245							
VWDT				*e*S		**Sn**	**22 18 36.9**	**+0.9**
	baz=245							
EHY	**Hungye**	**0.69**	**221**	*e*P		**Pn**	**22 18 25.6**	**-0.9**
	baz=219							
EHY				*e*S		**Sn**	**22 18 34.8**	**-1.5**
	baz=219							
TWE	**Neicheng**	**0.70**	**349**	*e*P		**Pn**	**22 18 27.0**	**+0.4**
	baz=350							
TWE				*e*S		**Sn**	**22 18 37.2**	**+0.7**
	baz=350							
ILA	**Ilan**	**0.73**	**355**	*e*P		**Pn**	**22 18 27.0**	**0.0**
	baz=356							
ILA				*e*S		**Sn**	**22 18 38.4**	**+1.1**
	baz=356							
YHNB	**Yeheng**	**0.75**	**328**	*e*P		**Pn**	**22 18 27.8**	**+0.4**
	baz=328							
YHNB				*e*S		**Sn**	**22 18 38.2**	**+0.3**
	baz=328							
NSK	**Sanguang**	**0.77**	**327**	P		**Pn**	**22 18 28.1**	**+0.5**
	baz=327							
NSK				*e*S		**Sn**	**22 18 38.4**	**+0.2**
	baz=327							
YULB	**Yu-li**	**0.79**	**217**	*e*P		**Pn**	**22 18 27.1**	**-0.8**
	baz=215							
YULB				*e*S		**Sn**	**22 18 37.4**	**-1.3**
	baz=215							
NTC	**Toucheng**	**0.82**	**1**	*e*P		**Pn**	**22 18 28.8**	**+0.6**
	baz=1.0							
NTC				*e*S		**Sn**	**22 18 40.4**	**+1.0**
	baz=1.0							
SSLB	**Suanglung**	**0.82**	**253**	P		**Pn**	**22 18 28.3**	**0.0**
	baz=252							
SSLB				*e*S		**Sn**	**22 18 40.2**	**+0.7**
	baz=252							
TWF1	**Yuli**	**0.83**	**215**	*e*P		**Pn**	**22 18 27.4**	**-0.9**
	baz=213							
TWF1				*e*S		**Sn**	**22 18 38.3**	**-1.2**
	baz=213							
SMLT	**Sun Moon Lake**	**0.85**	**260**	P		**Pn**	**22 18 29.0**	**+0.3**
	baz=259							
SMLT				S		**Sn**	**22 18 40.9**	**+0.6**
	baz=259							
TYC	**Yuchr**	**0.89**	**262**	P		**Pn**	**22 18 29.5**	**+0.5**
	baz=261							
TYC				*e*S		**Sn**	**22 18 41.4**	**+0.5**
	baz=261							
TIPB	**Shuangxi**	**0.94**	**1**	P		**Pn**	**22 18 30.6**	**+0.8**
	baz=1.0							
TIPB				S		**Sn**	**22 18 43.2**	**+1.0**
	baz=1.0							
NSTT	**Nanjuang**	**0.95**	**309**	*e*P		**Pn**	**22 18 31.1**	**+1.2**
	baz=309							
NSTT				*e*S		**Sn**	**22 18 43.4**	**+0.8**
	baz=309							
FULB	**Fuli**	**0.96**	**210**	*e*P		**Pn**	**22 18 30.2**	**+0.2**
	baz=209							
FULB				*e*S		**Sn**	**22 18 43.7**	**+1.1**
	baz=209							
YUS	**Yu-Shan**	**0.96**	**236**	*e*P		**Pn**	**22 18 30.7**	**+0.2**
	baz=234							
YUS				*e*S		**Sn**	**22 18 43.3**	**0.0**
	baz=234							
TWA	**Mucha**	**0.97**	**347**	*e*P		**Pn**	**22 18 30.8**	**+0.5**
	baz=348							
TWA				*e*S		**Sn**	**22 18 43.7**	**+0.8**
	baz=348							
TWB1	**Santiao Chiao**	**0.99**	**9**	*e*P		**Pn**	**22 18 31.0**	**+0.6**
	baz=10.0							
TWB1				*e*S		**Sn**	**22 18 44.4**	**+1.1**
	baz=10.0							
TATO	**Taipei**	**0.99**	**342**	*e*P		**Pn**	**22 18 31.1**	**+0.7**
	baz=343							
TATO				*e*S		**Sn**	**22 18 44.2**	**+0.9**
	baz=343							
TWQ1	**Liyutan**	**1.00**	**289**	*e*P		**Pn**	**22 18 31.8**	**+1.1**
	baz=288							
TWQ1				*e*S		**Sn**	**22 18 44.5**	**+0.8**
	baz=288							
CHKT	**Chengkung**	**1.01**	**204**	*e*P		**Pn**	**22 18 31.1**	**+0.3**
	baz=202							
CHKT				*e*S		**Sn**	**22 18 42.5**	**-1.5**
	baz=202							
WJS	**Zhushan**	**1.02**	**258**	*e*P		**Pn**	**22 18 32.3**	**+1.4**
	baz=257							
WJS				*e*S		**Sn**	**22 18 46.3**	**+2.3**
	baz=257							
NSY	**Sanyi**	**1.04**	**292**	P		**Pn**	**22 18 32.3**	**+1.2**
	baz=291							
NSY				*e*S		**Sn**	**22 18 45.2**	**+0.7**
	baz=291							
NWF	**Wu-fen Shan**	**1.04**	**358**	*e*P		**Pn**	**22 18 32.0**	**+0.8**
	baz=358							
NWF				*e*S		**Sn**	**22 18 45.6**	**+1.0**
	baz=358							
WFSB	**Wu-fen Shan**	**1.04**	**358**	*e*P		**Pn**	**22 18 31.9**	**+0.8**
	baz=358							
WFSB				*e*S		**Sn**	**22 18 45.6**	**+1.1**
	baz=358							
TAP1	**Taipei**	**1.04**	**345**	*e*P		**Pn**	**22 18 31.8**	**+0.7**
	baz=345							
TAP1				*e*S		**Sn**	**22 18 45.5**	**+1.0**
	baz=345							
TCU	**Taichung**	**1.05**	**277**	P		**Pn**	**22 18 32.6**	**+1.3**
	baz=276							
TCU				*e*S		**Sn**	**22 18 46.7**	**+2.0**
	baz=276							
ALS	**Alishan**	**1.06**	**241**	P		**Pn**	**22 18 32.5**	**+0.8**
	baz=239							
ALS				*e*S		**Sn**	**22 18 45.7**	**+0.1**
	baz=239							
NMLH	**Miaoli**	**1.06**	**299**	*e*P		**Pn**	**22 18 32.3**	**+0.8**
	baz=298							
NMLH				*e*S		**Sn**	**22 18 46.7**	**+1.5**
	baz=298							
SBCB	**Hsinchu**	**1.07**	**315**	*e*P		**Pn**	**22 18 32.1**	**+0.5**
	baz=315							
SBCB				*e*S		**Sn**	**22 18 46.1**	**+0.8**
	baz=315							
HSN	**Hsinchu**	**1.09**	**315**	*e*P		**Pn**	**22 18 32.2**	**+0.5**
	baz=317							
HSN				*e*S		**Sn**	**22 18 46.2**	**+0.5**
	baz=317							
PTSB	**Yuanli**	**1.09**	**292**	P		**Pn**	**22 18 32.7**	**+0.8**
	baz=292							
PTSB				*e*S		**Sn**	**22 18 47.0**	**+1.0**
	baz=292							
NCU	**National Centr**	**1.10**	**329**	*e*P		**Pn**	**22 18 32.5**	**+0.5**
	baz=329							
NCU				*e*S		**Sn**	**22 18 46.8**	**+0.8**
	baz=329							
NCUH	**Zhongli**	**1.10**	**329**	*e*P		**Pn**	**22 18 31.9**	**0.0**
	baz=328							
NCUH				*e*S		**Sn**	**22 18 47.1**	**+1.1**
	baz=328							
ELDTW	**Lidau**	**1.11**	**221**	*e*P		**Pn**	**22 18 31.8**	**-0.4**
	baz=220							
ELDTW				*e*S		**Sn**	**22 18 46.2**	**-0.4**
	baz=220							
JYNG	**Yonagunijimaku**	**1.11**	**68**	P		**Pn**	**22 18 32.4**	**+0.3**
JYNG				S		**Sn**	**22 18 45.6**	**-0.8**
TWS1	**Kuangyinshan**	**1.12**	**341**	*e*P		**Pn**	**22 18 32.8**	**+0.5**
	baz=341							
TWS1				*e*S		**Sn**	**22 18 47.4**	**+0.8**
	baz=341							
CHN5	**Tsauling**	**1.13**	**248**	*e*P		**Pn**	**22 18 33.4**	**+1.0**
	baz=246							
CHN5				*e*S		**Sn**	**22 18 48.0**	**+1.1**
	baz=246							
YM01	**YM01**	**1.13**	**349**	*e*P		**Pn**	**22 18 34.0**	**+1.5**
	baz=349							
YM01				*e*S		**Sn**	**22 18 47.6**	**+0.7**
	baz=349							
YM10	**YM10**	**1.14**	**348**	*e*P		**Pn**	**22 18 33.0**	**+0.3**
	baz=348							
YM10				*e*S		**Sn**	**22 18 47.7**	**+0.5**
	baz=348							
YM04	**YM04**	**1.15**	**347**	*e*P		**Pn**	**22 18 33.3**	**+0.6**
	baz=347							
YM04				*e*S		**Sn**	**22 18 47.8**	**+0.6**
	baz=347							
WCHH	**Zhanghua**	**1.15**	**273**	*e*P		**Pn**	**22 18 33.7**	**+1.1**
	baz=272							
WCHH				*e*S		**Sn**	**22 18 48.3**	**+1.1**
	baz=272							
YM05	**YM05**	**1.15**	**349**	*e*P		**Pn**	**22 18 33.4**	**+0.6**
	baz=349							
YM05				*e*S		**Sn**	**22 18 47.8**	**+0.4**
	baz=349							
YM11	**YM11**	**1.15**	**349**	*e*P		**Pn**	**22 18 33.1**	**+0.3**
	baz=349							
YM11				*e*S		**Sn**	**22 18 48.2**	**+0.7**
	baz=349							
YM07	**YM07**	**1.15**	**351**	P		**Pn**	**22 18 33.3**	**+0.5**
	baz=351							
YM07				S		**Sn**	**22 18 48.1**	**+0.7**
	baz=351							
YM03	**YM03**	**1.17**	**348**	*e*P		**Pn**	**22 18 33.5**	**+0.5**
	baz=348							
YM03				*e*S		**Sn**	**22 18 48.5**	**+0.6**
	baz=348							
YOJ	**Yonaguni jima**	**1.17**	**68**	P		**Pn**	**22 18 33.0**	**+0.1**
	baz=68							
YOJ				*e*S		**Sn**	**22 18 47.9**	**+0.1**
	baz=68							
YOJ	**Yonaguni jima**	**1.17**	**68**	P		**Pn**	**22 18 33.1**	**+0.1**
YOJ				*e*S		**Sn**	**22 18 48.0**	**+0.2**
NTST	**Danshui**	**1.18**	**344**	*e*P		**Pn**	**22 18 33.4**	**+0.4**
	baz=343							
NTST				*e*S		**Sn**	**22 18 48.7**	**+0.7**
	baz=343							
WGK	**Gukeng**	**1.20**	**254**	*e*P		**Pn**	**22 18 33.7**	**+0.4**
	baz=252							
WGK				*e*S		**Sn**	**22 18 48.5**	**+0.1**
	baz=252							
WDLH	**Douliu**	**1.22**	**254**	*e*P		**Pn**	**22 18 34.7**	**+1.1**
	baz=253							
WDLH				*e*S		**Sn**	**22 18 50.5**	**+1.6**
	baz=253							
TWY	**Chenhua**	**1.25**	**351**	*e*S		**Sn**	**22 18 50.3**	**+0.5**
	baz=351							
STYT	**Tauyuan**	**1.30**	**229**	*e*P		**Pn**	**22 18 35.4**	**+0.7**
	baz=227							
STYT				*e*S		**Sn**	**22 18 51.6**	**+0.6**
	baz=227							
TPUB	**Ta-pu**	**1.31**	**236**	P		**Pn**	**22 18 36.1**	**+1.2**
	baz=235							
TPUB				*e*S		**Sn**	**22 18 51.9**	**+0.8**
	baz=235							
CHN4	**Tsaushan**	**1.31**	**239**	P		**Pn**	**22 18 36.2**	**+1.4**
	baz=238							
CHN4				*e*S		**Sn**	**22 18 52.4**	**+1.2**
	baz=238							
CHN2	**Minshiung**	**1.32**	**248**	*e*P		**Pn**	**22 18 37.1**	**+2.2**

	baz=229									
WSF	**Szhu**		**1.51**	**255**	*e*P		**Pn**	**22 18 38.0**	**+0.5**
	baz=254									
WSF					*e*S		**Sn**	**22 18 56.8**	**+0.8**
	baz=254									
CHN8	**Yiju**		**1.62**	**245**	*e*S		**Sn**	**22 18 59.7**	**+0.9**
	baz=244									
ECL	**Taimali**		**1.63**	**209**	*e*P		**Pn**	**22 18 40.4**	**+1.1**
	baz=208									
SSD	**Sandimen**		**1.68**	**221**	*e*P		**Pn**	**22 18 41.0**	**+1.1**
	baz=219									
SSD					*e*S		**Sn**	**22 19 00.9**	**+0.7**
	baz=219									
IRIF	**Iriomote-Funau**		**1.77**	**80**	P		**Pn**	**22 18 41.3**	**+0.2**
IRIF					*e*S		**Sn**	**22 19 02.4**	**-0.1**
MASBT	**Mashibuluo**		**1.78**	**218**	P		**Pn**	**22 18 41.9**	**+0.7**
	baz=217									
MASBT					*e*S		**Sn**	**22 19 03.5**	**+0.8**
	baz=217									
HATJ	**Hateruma jima**		**1.82**	**89**	P		**Pn**	**22 18 42.2**	**+0.4**
EAST	**Anshuo**		**1.87**	**209**	*e*P		**Pn**	**22 18 43.9**	**+1.5**
	baz=207									
EAST					*e*S		**Sn**	**22 19 05.1**	**+0.3**
	baz=207									
SCZT	**Fangliau**		**1.98**	**214**	*e*P		**Pn**	**22 18 45.1**	**+1.0**
	baz=213									
SCZT					*e*S		**Sn**	**22 19 08.4**	**+0.7**
	baz=213									
LAY	**Lan-yu**		**2.00**	**187**	*e*S		**Sn**	**22 19 08.7**	**+0.7**
	baz=186									
JKRS	**Kuro-shima**		**2.02**	**84**	P		**Pn**	**22 18 45.0**	**+0.6**
JKRS					*e*S		**Sn**	**22 19 09.7**	**+1.3**
PHUB	**P'eng-hu**		**2.12**	**256**	P		**Pn**	**22 18 45.7**	**-0.2**
	baz=255									
PHUB					S		**Sn**	**22 19 11.2**	**+0.2**
	baz=255									
WDGT	**Dungji**		**2.12**	**249**	*i* P		**Pn**	**22 18 46.4**	**+0.5**
	baz=248									
WDGT					S		**Sn**	**22 19 11.2**	**+0.2**
	baz=248									
PNG	**Penghu**		**2.12**	**258**	*e*P		**Pn**	**22 18 45.6**	**-0.3**
	baz=257									
PNG					S		**Sn**	**22 19 10.9**	**-0.1**
	baz=257									
JIJ	**Ishigaki jima**		**2.15**	**81**	P		**Pn**	**22 18 46.3**	**0.0**
JIJ					S		**Sn**	**22 19 10.9**	**-0.9**
TWKBT	**Hengchun**		**2.28**	**204**	*e*P		**Pn**	**22 18 48.7**	**+0.7**
	baz=203									
TWKBT					*e*S		**Sn**	**22 19 15.2**	**+0.3**
	baz=203									
VCHM	**Qimei**		**2.34**	**250**	*e*P		**Pn**	**22 18 47.9**	**-1.0**
	baz=249									
VCHM					*e*S		**Sn**	**22 19 16.3**	**-0.1**
	baz=249									
JISG	**Ishigakijimahi**		**2.34**	**76**	P		**Pn**	**22 18 49.0**	**+0.1**
VWUC	**VWUC**		**2.36**	**294**	*e*P		**Pn**	**22 18 48.5**	**-0.7**
	baz=293									
VWUC					*e*S		**Sn**	**22 19 14.7**	**-2.2**
	baz=293									
PTTC	**Pingtan**		**2.37**	**309**	*e*P		**Pn**	**22 18 49.0**	**-0.3**
	baz=308									
PTTC					*e*S		**Sn**	**22 19 15.8**	**-1.3**
	baz=308									
PTMZ	**Houxiangcun**		**2.65**	**293**	*e*P		**Pn**	**22 18 52.8**	**-0.4**
	baz=292									
PTMZ					*e*S		**Sn**	**22 19 21.6**	**-2.5**
	baz=292									
JTJ	**Tarama**		**2.70**	**76**	P		**Pn**	**22 18 54.4**	**+0.5**
JTJ					*e*S		**Sn**	**22 19 25.7**	**+0.3**
MATB	**Ma-tsu**		**2.71**	**322**	*e*P		**Pn**	**22 18 53.0**	**-1.0**
	baz=321									
MATB					*e*S		**Sn**	**22 19 22.7**	**-2.8**
	baz=321									
KNM	**Kinmen**		**3.11**	**278**	*e*P		**Pn**	**22 19 00.6**	**+1.1**
	baz=276									
KNM					*e*S		**Sn**	**22 19 37.9**	**+2.4**
	baz=276									
LYJJ	**Jianjiangzhen**		**3.12**	**324**	*e*P		**Pn**	**22 18 59.0**	**-0.6**
	baz=323									
LYJJ					*e*S		**Sn**	**22 19 32.9**	**-2.8**
	baz=323									
KNMB	**Chin-men Tao**		**3.16**	**279**	*e*P		**Pn**	**22 18 58.9**	**-1.3**
	baz=277									
KNMB					*e*S		**Sn**	**22 19 34.0**	**-2.5**
	baz=277									
JIRB	**Irabujima**		**3.16**	**75**	*e*S		**Sn**	**22 19 36.9**	**+0.2**
XPSS	**Dashiqiu**		**3.24**	**333**	*e*P		**Pn**	**22 19 00.2**	**-1.1**
	baz=333									
XPSS					*e*S		**Sn**	**22 19 35.5**	**-3.1**
	baz=333									
MHZQ	**Yeshan**		**3.26**	**310**	*e*P		**Pn**	**22 19 01.4**	**-0.1**
	baz=309									
MHZQ					*e*S		**Sn**	**22 19 37.0**	**-2.1**
	baz=309									
AXDP	**Jialang**		**3.61**	**285**	*e*P		**Pn**	**22 19 06.0**	**-0.3**
	baz=283									
AXDP					*e*S		**Sn**	**22 19 46.8**	**-0.9**
	baz=283									
ZPLA	**Ao Xicun**		**3.72**	**269**	*e*P		**Pn**	**22 19 07.5**	**-0.3**
	baz=268									
ZPLA					*e*S		**Sn**	**22 19 47.8**	**-2.6**
	baz=268									

IDC ***15*** *22:19:02.8±0.6,20°.70S×174°.93W, h0km, mb4.3/16, mb1 4.5/18, mb1mx4.4/29, mbtmp4.4/18, ML4.7/2, MS3.4/6, Ms1 3.4/6, ms1mx3.0/35, Error ellipse: s-maj=22.5km s-min=14.0km az=141.0*

NEIC ***15*** *22:19:08.8±0.2,20°.54S×175°.10W, h35km, mb4.8/38, Error ellipse: s-maj=8.9km s-min=4.1km az=123.0*

NEIC Felt at Nuku'alofa.

ISCJB ***15*** *22:19:09.1±0.2,21°.02S±0°.05×174°.95W±0°.07, h57km, mb4.7/53, MS3.1/1, Error ellipse: s-maj=10.0km s-min=5.0km az=31.3*

ISC 15 22:19:10.8±0.4,20°.76S±0°.08×174°.90W±0°.08, h57km, n114, σ1§84/106, mb4.7/54, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.44**	**24**	Pn		Pn		22 20 50.7	-6.1
	19nm,0.3s,baz=203,slow=7.7,SNR=9.0								
AFI				Sn		Sn		22 22 04.7	-15
	14nm,0.3s,baz=56,slow=17,SNR=5.1								
RAO	**Raoul Island**	**8.88**	**197**	LR		LR		22 24 17.8	
	comp=Z,298nm,20.7s,baz=272,slow=35								
GLKZ	**Green Lake**	**8.89**	**197**	P		Pn		22 21 12.0	-4.6
GLKZ				S		Sn		22 22 46.7	-8.8
RAR	**Rarotonga**	**14.13**	**95**	Pn		Pn		22 22 18.5	-10
	2.8nm,0.3s,baz=276,slow=10,SNR=5.5								
RAR				Sn		Sn		22 24 33.6	-30
	3.3nm,0.3s,baz=86,slow=21,SNR=6.4								
RAR				LR		LR		22 26 17.4	
	comp=Z,148nm,21.4s,baz=313,slow=31								
DZM	**Mont Dzumac**	**17.42**	**262**	P		**P**		**22 23 15.8**	**+5.1**
	0.5nm,0.3s,baz=73,slow=15,SNR=7.0								
DZM	**Mont Dzumac**	**17.42**	**262**	*e*P		**P**		**22 23 15.0**	**+4.3**
	45nm,1.1s								
DZM				*e*LR		LR		22 27 04.7	
	303nm,24.9s								
DZM	**Mont Dzumac**	**17.42**	**262**	*e*Pn		**Pn**		**22 23 07.1**	**-3.0**
	17nm,0.9s								
MXZ	**Matakaoa Point**	**17.75**	**198**	*e*Pn		**P**		**22 23 15.1**	**+1.0**
	158nm,1.2s								
WMGZ	**Waiomatatini S**	**17.96**	**197**	P		**P**		**22 23 11.9**	**-4.5**
HAZ	**Te Kaha**	**18.09**	**199**	P		**P**		**22 23 13.9**	**-3.8**
HAZ				S		Sn		22 26 21.5	-18
KNTN	**Kanton**	**18.15**	**10**	*e*Pn		**P**		**22 23 15.7**	**-2.9**
	186nm,1.8s								
MWZ	**Matawai**	**18.70**	**199**	P		**P**		**22 23 20.5**	**-4.1**
URZ	**Urewera**	**18.76**	**200**	P		**P**		**22 23 22.8**	**-2.3**
	1.8nm,0.3s,baz=319,slow=4.4,SNR=8.3								
URZ	**Urewera**	**18.76**	**200**	*e*P		**P**		**22 23 24.5**	**-0.6**
	55nm,1.5s								
URZ	**Urewera**	**18.76**	**200**	P		**P**		**22 23 22.4**	**-2.8**
TOZ	**Tahuroa Road**	**18.85**	**204**	P		**Pn**		**22 23 27.4**	**+0.2**
MTHZ	**Maungataniwha**	**19.38**	**200**	P		**P**		**22 23 29.6**	**-2.5**
MTHZ				S				22 26 46.3	-22
HIZ	**Hauiti**	**19.78**	**204**	*e*P		**Pn**		**22 23 37.6**	**-0.7**
	206nm,1.3s								
HIZ	**Hauiti**	**19.78**	**204**	P		**P**		**22 23 37.0**	**+0.6**
BKZ	**Black Stump Fm**	**19.78**	**200**	*e*P		**P**		**22 23 36.7**	**+0.3**
	20nm,1.0s								
BHHZ	**Black Hill Sta**	**20.21**	**201**	P		**P**		**22 23 37.0**	**-4.2**
KAHZ	**Kahuranaki**	**20.24**	**199**	P		**P**		**22 23 37.7**	**-3.6**
KRHZ	**Kereru**	**20.25**	**200**	P		**P**		**22 23 37.9**	**-3.6**
KRHZ				S		S		22 27 06.9	-19
PNHZ	**Pukenui**	**20.55**	**200**	P		**P**		**22 23 40.8**	**-4.0**
PNHZ				S		S		22 27 11.8	-20
PRHZ	**Porangahau**	**20.74**	**199**	P		**P**		**22 23 43.7**	**-3.1**
BFZ	**Birch Farm**	**21.24**	**199**	*e*P		**P**		**22 23 52.6**	**+0.5**
	23nm,0.7s								
BFZ	**Birch Farm**	**21.24**	**199**	P		**P**		**22 23 49.2**	**-2.9**
BFZ				S		S		22 27 27.2	-18
HOWZ	**Holdsworth Sta**	**21.67**	**200**	P		**P**		**22 23 52.9**	**-3.8**
HOWZ				S		S		22 27 32.8	-21
PLWZ	**Palliser**	**22.36**	**200**	P		**P**		**22 24 00.8**	**-3.3**
THZ	**Tophouse**	**23.34**	**204**	*e*P		**P**		**22 24 14.4**	**+0.2**
	32nm,1.0s								
KHZ	**Kahutara**	**23.68**	**202**	*e*P		**P**		**22 24 18.9**	**+1.6**
	35nm,1.3s								
TBI	**Tubuai**	**23.71**	**101**	*e*LR		LR		22 29 35.3	
	224nm,29.2s								
PPT2	**Papeete2**	**24.12**	**87**	*e*LR		LR		22 29 46.8	
	276nm,26.2s								
PPT	**Papeete**	**24.12**	**87**	P		**P**		**22 24 19.6**	**-1.9**
	24nm,0.7s,baz=241,slow=18,SNR=3.4								
PPT				LR		LR		22 30 52.7	
	comp=Z,67nm,20.8s,baz=194,slow=29								
LTZ	**Lake Taylor**	**24.46**	**203**	*e*P		**P**		**22 24 26.5**	**+2.1**
	32nm,0.6s								
OXZ	**Oxford**	**25.01**	**203**	*e*P		**P**		**22 24 30.9**	**+1.5**
	29nm,0.7s								
RPZ	**Rata Peaks**	**25.71**	**204**	P		**P**		**22 24 34.9**	**-0.8**
	9.6nm,0.6s,baz=95,slow=1.3,SNR=7.7								
RPZ	**Rata Peaks**	**25.71**	**204**	*e*P		**P**		**22 24 37.3**	**+1.5**
	17nm,0.7s								
FOZ	**Fox Glacier**	**26.05**	**206**	*e*P		**P**		**22 24 39.9**	**+1.1**
	59nm,0.6s								
LBZ	**Lake Benmore**	**26.61**	**204**	*e*P		**P**		**22 24 45.5**	**+1.6**
	13nm,0.8s								
ODZ	**Otahua Downs**	**27.00**	**203**	*e*P		**P**		**22 24 48.7**	**+1.3**
	20nm,1.2s								
WKZ	**Wanaka**	**27.44**	**205**	*e*P		**P**		**22 24 53.4**	**+2.0**
	162nm,1.8s								
MLZ	**Mavora Lakes**	**28.25**	**206**	*e*P		**P**		**22 24 59.4**	**+0.8**
	15nm,0.8s								
XMAS	**Kiritimati**	**28.39**	**39**	*e*P		**P**		**22 24 58.7**	**-1.3**
	126nm,1.3s								
WHZ	**Wether Hill Ro**	**28.75**	**205**	*e*P		**P**		**22 25 05.0**	**+2.1**
	26nm,1.1s								
CTA	**Charters Tower**	**36.35**	**264**	P		**P**		**22 26 08.7**	**-1.0**
	1.4nm,0.3s,baz=120,slow=13,SNR=4.1								
RKT	**Rikitea**	**37.03**	**101**	*e*LR		LR		22 35 52.4	
	222nm,29.5s								
PMG	**Port Moresby**	**38.24**	**281**	P		**P**		**22 26 24.1**	**-1.5**
	10nm,0.7s,baz=111,slow=17,SNR=2.0								
STKA	**Stephens Creek**	**40.30**	**245**	P		**P**		**22 26 42.0**	**-0.7**
	1.8nm,0.5s,baz=115,slow=11,SNR=4.6								
AS01	**Alice Springs**	**47.24**	**257**	*e*P		**P**		**22 27 37.5**	**-1.1**
ASAR	**Alice Springs**	**47.28**	**257**	P		**P**		**22 27 37.5**	**-1.4**
	2.8nm,0.6s,baz=98,slow=7.6,SNR=33								
WB2	**Warramunga Arr**	**47.43**	**262**	*e*P		**P**		**22 27 39.0**	**-1.0**
WRA	**Warramunga Arr**	**47.44**	**262**	P		**P**		**22 27 38.8**	**-1.4**
	3.0nm,0.9s,baz=99,slow=8.7,SNR=18								
FORT	**Forrest**	**51.86**	**247**	*e*P		**P**		**22 28 13.0**	**-0.6**
	25nm,0.9s								
FAKI	**Fak Fak**	**54.39**	**282**	*e*P		**P**		**22 28 30.2**	**-2.2**
	10nm,1.1s								
VNDA	**Vanda**	**57.93**	**186**	P		**P**		**22 28 58.6**	**+1.9**
	1.2nm,0.9s,baz=101,slow=0.8,SNR=3.8								
QSPA	**South Pole Qui**	**69.31**	**180**	*e*P		**P**		**22 30 14.7**	**+2.6**
	6.2nm,1.1s								
BBGB	**Big Mountain B**	**76.40**	**42**	*e*P		**P**		**22 30 57.5**	**+3.1**
LPIG	**Laz**	**77.06**	**58**	LR		LR		23 01 56.6	
	comp=Z,40nm,18.3s,baz=201,slow=33								
PETK	**Petropavlovsk-**	**77.31**	**343**	P		**P**		**22 30 59.9**	**+0.9**
	4.9nm,0.9s,baz=159,slow=5.9,SNR=4.2								
NVAR	**Mina Array Bea**	**79.25**	**42**	P		**P**		**22 31 10.9**	**+0.5**
	2.1nm,0.7s,baz=215,slow=6.7,SNR=8.1								
NV11	**Mina Array Sit**	**79.34**	**42**	*e*P		**P**		**22 31 11.4**	**+0.6**
	0.7nm,1.4s								
LDFC	**Landfair**	**79.36**	**46**	*e*P		**P**		**22 31 12.0**	**+1.1**
	19nm,1.4s								
X16A	**Lo Mia Camp, P**	**81.52**	**48**	*e*P		**P**		**22 31 23.7**	**+1.1**
	14nm,0.6s								
CCUT	**Cedar City**	**81.92**	**45**	*e*P		**P**		**22 31 26.0**	**+1.3**
	4.7nm,1.1s								
U15A	**North Rim**	**82.02**	**46**	*e*P		**P**		**22 31 26.5**	**+1.2**
	5.1nm,0.9s								
MAW	**Mawson**	**82.28**	**199**	P		**P**		**22 31 26.3**	**+0.5**
	1.1nm,0.5s,baz=27,slow=2.3,SNR=4.4								
NJ2	**Nanjing**	**82.30**	**308**	*e*P		**P**		**22 31 25.6**	**-0.9**
NJ2					pmax	pmax			
	comp=Z,9.0nm,0.6s								
PKCU	**Pink Cliffs**	**82.56**	**45**	*e*P		**P**		**22 31 28.8**	**+0.7**
	comp=Z,18nm,1.2s								
MTPU	**Mount Pierson**	**82.96**	**45**	*e*P		**P**		**22 31 30.6**	**+0.3**
	comp=Z,8.7nm,1.0s								
G08A	**Pilot Rock**	**83.09**	**36**	*e*P		**P**		**22 31 30.8**	**+0.4**
	comp=Z,7.9nm,1.3s								
MSU	**Marysvale**	**83.23**	**45**	*e*P		**P**		**22 31 32.9**	**+1.5**
TMUT	**Trail Mountain**	**84.29**	**44**	*e*P		**P**		**22 31 37.4**	**+0.4**
	comp=Z,12nm,0.9s								
CN2	**Changchun**	**84.30**	**321**	*e*P		**P**		**22 31 38.0**	**+1.5**
F10A	**Beach Ranch, E**	**84.46**	**36**	*e*P		**P**		**22 31 37.5**	**+0.1**
	comp=Z,8.6nm,1.0s								
RAGM	**Ragged Mountai**	**84.51**	**15**	*e*P		**P**		**22 31 37.6**	**+0.4**
	comp=Z,185nm,1.0s								
MNTX	**Cornudas Mount**	**84.56**	**53**	*e*P		**P**		**22 31 38.2**	**+0.1**
	comp=Z,9.6nm,1.4s								
LAZ	**Ladron**	**84.57**	**50**	*e*P		**P**		**22 31 39.5**	**+1.1**
LENM	**Lemitar**	**84.57**	**51**	*e*P		**P**		**22 31 39.2**	**+0.9**
SPUT	**South Promonto**	**84.59**	**42**	*e*P		**P**		**22 31 38.7**	**+0.5**
	comp=Z,6.8nm,1.1s								
SRU	**San Rafael Swe**	**84.64**	**45**	*e*P		**P**		**22 31 39.8**	**+1.2**
	comp=Z,6.3nm,0.8s								
HVU	**Hansel Valley**	**84.64**	**42**	*e*P		**P**		**22 31 39.2**	**+0.7**
	comp=Z,5.2nm,0.9s								
TX31	**Lajitas Ar. Si**	**84.77**	**56**	*e*P		**P**		**22 31 39.6**	**+0.2**
TXAR	**Lajitas Array**	**84.77**	**56**	P		**P**		**22 31 39.2**	**-0.1**
	comp=Z,2.1nm,0.9s,baz=216,slow=7.7,SNR=18								
ANMO	**Albuquerque**	**85.32**	**50**	*e*P		**P**		**22 31 42.5**	**+0.3**
	comp=Z,7.6nm,1.0s								
LNIG	**Linan**	**86.20**	**62**	*e*P		**P**		**22 31 44.9**	**-1.6**
	comp=Z,8.1nm,1.0s								
CMIG	**Matias Romero**	**87.00**	**71**	LR		LR		23 04 13.0	
	comp=Z,21nm,19.1s,baz=192,slow=31								
PDAR	**Pinedale Array**	**87.19**	**42**	P		**P**		**22 31 50.8**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=205,slow=3.1,SNR=5.8								
PDAR	**Pinedale Array**	**87.19**	**42**	*e*P		**P**		**22 31 50.3**	**-0.8**
ILAR	**Eielson Array**	**87.95**	**12**	P		**P**		**22 31 54.2**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=217,slow=4.9,SNR=9.0								
BJI	**Beijing**	**88.14**	**314**	*e*P		**P**		**22 31 56.4**	**+1.0**
BJI					pmax	pmax			
	comp=Z,6.0nm,2.3s								
GYA	**Guiyang**	**89.31**	**299**	*e*P		**P**		**22 32 02.8**	**+1.3**
GYA					pP	pP		22 32 13.0	-4.8
GYA					sP	sP		22 32 17.9	-6.1
GYA					PP	**PP**		**22 35 34.3**	**+1.1**
GYA	**Guiyang**	**89.31**	**299**	SKS		**SKSac**		**22 42 26.9**	**-0.3**
GYA	**Guiyang**	**89.31**	**299**	S		**S**		**22 42 46.1**	**-1.1**
GYA					pmax	pmax			
	comp=Z,10.0nm,1.0s								
HHC	**Hu-ho-hao-te**	**91.63**	**313**	*e*P		**P**		**22 32 13.4**	**+1.5**
HHC					pmax	pmax			
	comp=Z,4.0nm,0.9s								
HHC					pmax	pmax			
	comp=Z,170nm,6.1s								
CMAR	**Chiang Mai Arr**	**92.95**	**289**	P		**P**		**22 32 18.6**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=98,slow=3.7,SNR=4.1								
CMAR					LR	LR		23 15 15.5	
	comp=Z,6.3nm,18.7s,baz=90,slow=36								
CD2	**Chengdu**	**93.39**	**302**	*e*P		**P**		**22 32 20.0**	**-0.2**
MIAR	**Mount Ida**	**94.72**	**55**	*e*P		**P**		**22 32 27.3**	**+1.1**
	comp=Z,60nm,2.0s								
LZH	**Lanzhou**	**95.25**	**306**	*e*P		**P**		**22 32 29.9**	**+1.1**
LZH					pP	pP		22 32 39.4	-5.7
LZH					sP	sP		22 32 41.5	-10
LZH					*e*PP	**PP**		**22 36 21.3**	**+1.5**
LZH					pmax	pmax			
	comp=Z,20nm,1.0s								
LZH					pmax	pmax			
	comp=Z,180nm,4.8s								
YKA	**Yellowknife Ar**	**95.56**	**24**	P		**P**		**22 32 28.7**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=242,slow=4.5,SNR=3.1								
MKAR	**Makanchi Array**	**113.49**	**313**	PKiKP		**PKiKP**		**22 37 42.2**	**-0.4**
	comp=Z,1.1nm,1.0s,baz=25,slow=0.7,SNR=3.1								
ARCES	**ARCESS Array B**	**129.67**	**351**	PKP		**PKPdf**		**22 38 11.6**	**-1.2**
	comp=Z,1.5nm,0.7s,baz=344,slow=2.6,SNR=4.5								
AKASG	**Malin Array Be**	**144.60**	**333**	PKP		PKPbc		22 38 39.6	-0.1
	comp=Z,1.1nm,0.6s,baz=40,slow=4.3,SNR=9.5								
KIEV	**Kiev**	**144.61**	**333**	*e*PKPdf		PKPbc		22 38 39.9	+0.3
BUR08	**Bucovina Ar. S**	**148.64**	**333**	*e*PKPbc		**PKPbc**		**22 38 52.8**	**+1.1**
BUR04	**Bucovina Ar. S**	**148.66**	**333**	*e*PKPbc		**PKPbc**		**22 38 52.3**	**+0.6**
CLL	**Collm**	**148.89**	**350**	*i* PKPbc		**PKPbc**		**22 38 52.6**	**+0.6**
	comp=Z,4.0nm,0.7s								
CLL				⇓*i*PKPab		**PKPab**		**22 38 56.4**	**+0.4**
	comp=Z,3.0nm,0.5s								
BR131	**Keskin Array S**	**149.14**	**314**	*e*PKPbc		**PKPbc**		**22 38 54.1**	**+0.9**
BRTR	**Keskin Array B**	**149.14**	**314**	PKPbc		**PKPbc**		**22 38 53.9**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=113,slow=5.0,SNR=8.8								
BRG	**Bergqiesshubel**	**149.15**	**349**	*e*PKP		**PKPbc**		**22 38 53.5**	**+0.8**
	comp=Z,1.9nm,0.7s								
LANS	**Liptovska Anna**	**149.44**	**341**	*e*PKP		**PKPbc**		**22 38 52.0**	**-1.5**
VYHS	**Vyhne**	**150.21**	**341**	*e*PKP		**PKPbc**		**22 38 56.7**	**+1.3**
KHC	**Kasperske Hory**	**150.89**	**349**	*e*PKPbc		**PKPbc**		**22 38 57.2**	**+0.2**
GERES	**GERESS Array B**	**151.14**	**348**	PKPbc		**PKPbc**		**22 38 58.2**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=8.5,slow=2.7,SNR=8.7								

IDC ***15*** *22:28:06.2±0.8, 10°.80S×165°.02E, h0km, mb4.2/12, mb1 4.4/14, mb1mx4.2/31, mbtmp4.2/14, ML4.5/2, MS3.7/6, Ms1 3.7/6, ms1mx3.3/31, Error ellipse: s-maj=23.2km s-min=18.4km az=128.0*

ISCJB ***15*** *22:28:09.1±0.4, 10°.94S±0°.08×165°.02E±0°.07, h31km, mb4.2/24, MS3.7/4, Error ellipse: s-maj=10.8km s-min=9.2km az=0.0*

NEIC ***15*** *22:28:09.9±4.0, 10°.83S×165°.06E, h25km±28km, mb4.3/10, Error ellipse: s-maj=12.0km s-min=11.3km az=68.0*

ISC 15 22:28:11.1±0.6,10°.80S±0°.09×165°.08E±0°.08, h31km, n36, σ1§41/30, mb4.1/24, MS3.7/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.24**	**285**	Pn		**Pn**		**22 29 27.1**	**-0.2**
	24nm,0.3s,baz=205,slow=2.1,SNR=11								
HNR				Sn		**Sn**		**22 30 26.5**	**-0.2**
	5.9nm,0.3s,baz=252,slow=20,SNR=2.4								
HNR				LR		LR		22 31 37.8	
	comp=Z,1μm,18.2s,baz=102,slow=41								
HNR	**Honiara**	**5.24**	**285**	*e*P		**Pn**		**22 29 27.0**	**-0.4**
HNR				*e*S		**Sn**		**22 30 30.0**	**+3.3**
DZM	**Mont Dzumac**	**11.28**	**174**	Pn		**Pn**		**22 30 49.0**	**-1.4**
	2.1nm,0.3s,baz=288,slow=19,SNR=12								
DZM				Sn		Sn		22 32 46.7	-8.9
	0.2nm,0.3s,baz=227,slow=19,SNR=1.6								
DZM				LR		LR		22 34 24.6	
	comp=Z,306nm,18.4s,baz=28,slow=34								
CTA	**Charters Tower**	**20.34**	**241**	P		**P**		**22 32 45.4**	**+0.2**
	40nm,0.9s,baz=68,slow=13,SNR=32								
CTAO	**Charters Tower**	**20.34**	**241**	*e*P		**P**		**22 32 44.4**	**-0.8**
	19nm,0.5s								
H11S2	**WAKE ISLAND Hy**	**29.15**	**3**	T		T		23 04 43.6	
	baz=184,slow=76,SNR=29								
H11S3	**WAKE ISLAND Hy**	**29.15**	**3**	T		T		23 04 40.4	
	baz=184,slow=76,SNR=26								
H11S1	**WAKE ISLAND Hy**	**29.17**	**3**	T		T		23 04 47.5	
	baz=184,slow=76,SNR=22								
STKA	**Stephens Creek**	**30.18**	**222**	P		**P**		**22 34 18.6**	**-0.1**
	4.1nm,0.8s,baz=42,slow=12,SNR=6.3								
STKA				LR		LR		22 45 47.5	
	comp=Z,216nm,18.1s,baz=28,slow=35								
H11N1	**WAKE ISLAND Hy**	**30.37**	**3**	T		T		23 06 14.8	
	baz=182,slow=76,SNR=18								
H11N3	**WAKE ISLAND Hy**	**30.38**	**3**	T		T		23 06 15.1	
	baz=182,slow=76,SNR=21								
H11N2	**WAKE ISLAND Hy**	**30.39**	**3**	T		T		23 06 14.2	
	baz=182,slow=76,SNR=20								
WRAB	**Tennant Creek**	**30.95**	**249**	P		**P**		**22 34 24.6**	**-1.1**
	0.6nm,0.5s								
WRA	**Warramunga Arr**	**30.96**	**249**	P		**P**

7.4nm,0.8s
CASY Casey 65.46 205 P **P** 23 11 59.7 -1.2
1.5nm,0.3s
TATO Taipei 75.93 303 P **P** 23 13 05.3 0.0
12nm,0.4s
CMB Columbia Colle 77.45 42 P **P** 23 13 13.6 0.0
2.0nm,0.5s
MDJ Mudanjiang 81.54 324 P **P** 23 13 35.9 +0.3
2.1nm,0.3s
NEW Newport 85.55 35 P **P** 23 13 57.3 +1.0
1.7nm,1.0s
SDCO Great Sand Dun 87.19 48 P **P** 23 14 05.2 +0.3
0.1nm,0.4s
BJT Baijiatuan 87.27 314 P **P** 23 14 04.9 +0.1
1.6nm,0.3s
EFI East Falkland 90.16 146 P **P** 23 14 16.7 -1.6
3.2nm,0.6s
RSSD Black Hills 91.11 43 P **P** 23 14 22.1 -0.9
0.3nm,0.4s
CHTO Chiang Mai 92.39 289 P **P** 23 14 29.1 -0.3
0.3nm,0.3s
INK Inuvik 93.17 14 P **P** 23 14 31.4 -0.3
1.0nm,0.9s
TRQA Tornquist 94.95 133 P **P** 23 14 42.0 +1.1
0.2nm,0.4s

NEIC ***15*** *23:14:42.0±0.0, 16°.35N×98°.47W, h1km, MD4.0(MEX), After MEX.*

MEX 15 23:14:42.2±0.9, 16°.33N×98°.46W, h5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.33**	**79**	*eP*	Pg	23 14 47.8	-0.7
PNIG				*i* S	Sg	23 14 52.3	-0.5
PNIG	**Pinotepa**	**0.33**	**79**	*eP*	Pg	23 14 47.8	-0.7
PNIG				*i* S	Sg	23 14 52.3	-0.5
TLIG	**Tlapa**	**1.23**	**355**	*i* P	Pg	23 15 01.8	-4.0
TLIG				*eS*	Sg	23 15 17.2	-4.5
TLIG	**Tlapa**	**1.23**	**355**	*i* P	Pg	23 15 01.8	-4.0
TLIG				*eS*	Sg	23 15 17.2	-4.5
VHO	**Vista Hermosa**	**1.81**	**66**	*eP*	Pn	23 15 11.7	-2.5
VHO				*eS*	Sn	23 15 33.3	-4.5
VHO	**Vista Hermosa**	**1.81**	**66**	*eP*	Pn	23 15 11.7	-2.5
VHO				*eS*	Sn	23 15 33.3	-4.5
HUIG	**Huatulco**	**2.33**	**104**	*eP*	Pn	23 15 18.6	-2.6
HUIG	**Huatulco**	**2.33**	**104**	*eP*	Pn	23 15 18.6	-2.6
HUIG				*eS*	Sn	23 15 46.3	-4.0

IDC ***15*** *23:40:53.5±2.1, 31°.04S×71°.59W, h0km, mb4.1/2, mb1 3.7/6, mb1mx3.6/46, mbtmp3.7/6, ML3.5/4, MS2.7/2, Ms1 2.8/2, ms1mx2.5/24, Error ellipse: s-maj=69.5km s-min=25.2km az=98.0*

ISCJB ***15*** *23:41:01.4±0.6, 31°.00S±0°.03×71°.59W±0°.07, h74km±6km, mb4.0/6, Error ellipse: s-maj=10.2km s-min=4.2km az=177.4*

GUC ***15*** *23:41:02.2±0.6, 30°.99S×71°.17W, h66km±3km, ML4.4*

SJA ***15*** *23:41:02.8±0.7, 31°.04S×71°.06W, h33km±7km, ML3.7, MW3.9*

NEIC ***15*** *23:41:02.0±0.0, 30°.99S×71°.17W, h66km, mb4.2/4, ML4.4(GUC), After GUC.*

NEIC Felt [III] at Ovalle and Punitaqui; [II] at Combarbala, Monte Patria and Rio Hurtado.

ISC 15 23:41:00.8±0.8, 31°.03S±0°.04×71°.49W±0°.06, h51km±7km, n42, σ2s44/45, mb4.1/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**0.44**	**110**	*eP*	**Pn**	**23 41 13.5**	**+1.9**
CMCH				*i* S	**Sn**	**23 41 21.4**	**+2.2**
CMCH				IAML		23 41 22.9	
	comp=E,36μm,0.7s						
GO04	**Tololo Observa**	**1.04**	**35**	*eP*	**Pn**	**23 41 21.0**	**+1.7**
GO04				*eS*	**Sn**	**23 41 34.9**	**+2.0**
GO04	**Tololo Observa**	**1.04**	**35**	*eP*	**Pn**	**23 41 20.6**	**+1.3**
GO04				*i* S	**Sn**	**23 41 34.6**	**+1.7**
GO04				IAML		23 41 36.8	
	comp=E,31μm,0.6s						
LSCH	**La Serena**	**1.13**	**11**	*eP*	**Pn**	**23 41 22.6**	**+2.3**
LSCH				*i* S	**Sn**	**23 41 37.6**	**+2.8**
AROD	**Rodeo**	**1.94**	**64**	*eP*	Pn	23 41 34.8	+3.2
AROD				*eS*	**Sn**	**23 41 58.1**	**+3.2**
RTLS	**Leoncito**	**2.02**	**113**	*eP*	Pn	23 41 35.9	+3.1
RTLS				*eS*	**Sn**	**23 42 00.2**	**+3.1**
RTLS				IAML		23 42 07.8	
	comp=Z,417nm,0.2s						
LCO	**Las Campanas**	**2.12**	**19**	*eP*	**Pn**	**23 41 35.7**	**+1.7**
LCO				*eS*	**Sn**	**23 41 59.5**	**+0.1**
LCO	**Las Campanas**	**2.12**	**19**	*eP*	**Pn**	**23 41 35.7**	**+1.7**
LCO				*i* S	**Sn**	**23 42 01.4**	**+2.0**
LCO				IAML		23 42 03.4	
	comp=E,4μm,0.5s						
ACCO	**Cerro Coronel**	**2.13**	**79**	*eP*	Pn	23 41 37.4	+3.2
AUSP	**Uspallata**	**2.15**	**124**	*eP*	Pn	23 41 37.9	+3.4
ACDV	**Cuesta del Vie**	**2.21**	**68**	*eP*	Pn	23 41 38.4	+3.1
PEL	**Peldehue**	**2.22**	**162**	*eP*	**Pn**	**23 41 37.6**	**+2.4**
PEL				*i* S	**Sn**	**23 42 04.6**	**+3.1**
ZON	**Zonda**	**2.46**	**103**	*eP*	Pn	23 41 41.6	+3.1
CLCH	**Cerro Calan**	**2.50**	**161**	*eP*	**Pn**	**23 41 41.5**	**+2.5**
CLCH				*i* S	**Sn**	**23 42 11.8**	**+3.4**
CLCH				IAML		23 42 19.4	
	comp=E,1μm,0.5s						
FCH	**Farellones**	**2.51**	**156**	*eP*	**Pn**	**23 41 41.9**	**+2.5**
FCH				*i* S	**Sn**	**23 42 12.7**	**+3.7**
SJA	**San Juan**	**2.55**	**102**	*eP*	Pn	23 41 43.0	+3.2
AMOG	**MOGNA**	**2.57**	**89**	*eP*	Pn	23 41 43.1	+3.0
RTLL	**Cerro Villicun**	**2.60**	**97**	*eP*	**Pn**	**23 41 42.8**	**+2.3**
RTCV	**Cerro Valdivia**	**2.65**	**109**	*eP*	Pn	23 41 44.4	+3.2
ASAL	**Salagasta**	**2.74**	**125**	*eP*	Pn	23 41 46.5	+4.0
ARCO	**CERRO ARCO**	**2.83**	**130**	*eP*	Pn	23 41 48.0	+4.4
ARCO				IAML		23 42 29.7	
	comp=Z,423nm,0.4s						
AGUA	**GUANDACOL**	**3.01**	**60**	*eP*	Pn	23 41 50.4	+4.2
AAGR	**Agrelo**	**3.05**	**133**	*eP*	Pn	23 41 51.0	+4.3
VCA	**Vinchina**	**3.65**	**52**	*eP*	Pn	23 41 59.8	+4.9
ACAN	**Cantantal**	**3.87**	**110**	*eP*	**Pn**	**23 42 00.3**	**+2.4**
GO05	**HualaæØ**	**3.99**	**185**	*eP*	**Pn**	**23 42 00.4**	**+0.9**
ACLC	**CERRO LA CRUZ**	**4.24**	**69**	*eP*	**Pn**	**23 42 05.0**	**+2.0**
APLL	**PUNTA DE LOS L**	**4.32**	**83**	*eP*	**Pn**	**23 42 05.0**	**+1.0**
APLL				IAML		23 42 59.0	
	comp=Z,134nm,0.7s						
TCA	**Tanti**	**5.91**	**95**	*eP*	**Pn**	**23 42 26.1**	**+0.1**
LVC	**Limon Verde**	**8.69**	**16**	Pn	**Pn**	**23 43 02.3**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=197,slow=11,SNR=5.3						
LVC				Sn	**Sn**	**23 44 45.8**	**+4.7**
	comp=Z,0.7nm,0.3s,baz=225,slow=19,SNR=2.3						
LVC				LR	LR	23 46 20.9	
	comp=Z,64nm,21.6s,baz=198,slow=38						
LVC	**Limon Verde**	**8.69**	**16**	*eP*n	**Pn**	**23 43 03.5**	**-0.8**
LVC				Sn	**Sn**	**23 44 45.8**	**+4.7**
TRQA	**Tornquist**	**10.51**	**134**	*eP*n	**Pn**	**23 43 28.4**	**-0.5**
	comp=Z,8.3nm,1.0s						
TRQA				*eS*n	**Sn**	**23 45 21.3**	**-3.9**
CPUP	**Villa Florida**	**13.28**	**73**	Pn	**Pn**	**23 44 06.0**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=240,slow=20,SNR=3.2						
CPUP				Sn	**Sn**	**23 46 28.1**	**-4.6**
	comp=Z,0.2nm,0.3s,baz=215,slow=16,SNR=2.1						
LPAZ	**La Paz**	**14.99**	**13**	Pn	**Pn**	**23 44 27.9**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=197,slow=8.3,SNR=1.6						
LPAZ				Sn	**Sn**	**23 47 18.0**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=236,slow=3.6,SNR=2.2						
LPAZ				LR	LR	23 49 57.5	
	comp=Z,32nm,21.2s,baz=84,slow=36						
SIV	**San Ignacio**	**17.73**	**35**	P	**Pn**	**23 45 03.3**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=217,slow=20,SNR=4.2						
OTAV	**Otavalo**	**31.79**	**347**	P	**P**	**23 47 21.5**	**+0.4**
	comp=Z,0.8nm,0.3s						
OTAV				*ep*P	**sP**	**23 47 37.1**	**-3.1**
PAYG	**Puerto Ayora**	**35.05**	**326**	P	**P**	**23 47 48.7**	**-0.3**
	comp=Z,5.1nm,0.6s						
SNAA	**Sanae**	**54.17**	**159**	P	**P**	**23 50 20.8**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=291,slow=9.2,SNR=11						
OXF	**Oxford**	**67.34**	**344**	P	**P**	**23 51 50.2**	**-0.2**
	comp=Z,2.6nm,0.6s						
MIAR	**Mount Ida**	**68.46**	**341**	P	**P**	**23 51 58.4**	**+0.9**
	comp=Z,1.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**82.76**	**70**	P	**P**	**23 53 18.9**	**-0.9**
	comp=Z,1.0nm,1.1s,baz=263,slow=3.5,SNR=7.5						
ZALV	**Zalesovo Beam**	**151.44**	**30**	PKPbc	**PKPbc**	**00 00 48.9**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=297,slow=4.7,SNR=3.9						

ISCJB ***15*** *23:42:02.0±0.6, 35°.33S±0°.07×106°.1W±0°.1, h15km, mb4.3/24, MS3.7/11, Error ellipse: s-maj=15.7km s-min=9.3km az=163.7*

IDC ***15*** *23:42:01.0±0.7, 35°.29S×106°.25W, h0km, mb4.3/15, mb1 4.4/15, mb1mx4.2/48, mbtmp4.3/15, MS3.7/12, Ms1 3.7/12, ms1mx3.5/24, Error ellipse: s-maj=20.2km s-min=18.9km az=59.0*

NEIC ***15*** *23:42:02.6±0.4, 35°.35S×106°.11W, h10km, mb4.1/10, Error ellipse: s-maj=13.2km s-min=9.7km az=68.0*

ISC 15 23:42:03.4±0.6, 35°.30S±0°.08×106°.2W±0°.1, h15km, n49, σ1s20/42, mb4.2/24, MS3.7/11, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**8.59**	**341**	Pn	**Pn**	**23 44 09.8**	**+2.6**
	1.7nm,0.3s,baz=172,slow=7.1,SNR=3.2						
RPN				Sn	**Sn**	**23 45 41.0**	**-2.8**
	1.9nm,0.3s,baz=360,slow=1.0,SNR=2.6						
RPN				LR	LR	23 46 33.8	
	comp=Z,643nm,20.0s,baz=180,slow=32						
PLCA	**Paso Flores**	**28.44**	**112**	P	**P**	**23 47 59.9**	**+2.3**
	3.0nm,0.8s,baz=285,slow=8.0,SNR=5.1						
PLCA				LR	LR	23 57 13.0	
	comp=Z,26nm,20.0s,baz=312,slow=32						
LVC	**Limon Verde**	**34.76**	**79**	P	**P**	**23 48 55.0**	**+1.4**
	8.9nm,0.9s,baz=236,slow=4.7,SNR=3.8						
LVC	**Limon Verde**	**34.76**	**79**	P	**P**	**23 48 53.9**	**+0.2**
	0.6nm,0.4s						
NNA	**Nana**	**35.25**	**56**	P	**P**	**23 48 59.2**	**+1.6**
	3.1nm,0.3s,baz=236,slow=3.6,SNR=2.8						
NNA	**Nana**	**35.25**	**56**	P	**P**	**23 48 57.7**	**0.0**
	8.5nm,0.6s						
TRQA	**Tornquist**	**35.29**	**108**	P	**P**	**23 48 57.8**	**+0.1**
	1.2nm,0.6s						
EFI	**East Falkland**	**37.78**	**131**	P	**P**	**23 49 17.1**	**-1.7**
	0.6nm,0.4s						
PMSA	**Palmer Station**	**38.76**	**153**	P	**P**	**23 49 26.2**	**-0.5**
	27nm,0.7s						
LPAZ	**La Paz**	**38.82**	**71**	P	**P**	**23 49 28.3**	**-0.3**
	1.9nm,0.8s,baz=210,slow=7.0,SNR=5.4						
LPAZ				LR	LR	00 02 11.1	
	comp=Z,67nm,18.5s,baz=239,slow=31						
TBI	**Tubuai**	**39.31**	**276**	*e*LQ	LQ	23 58 19.3	
	363nm,31.5s						
TBI				*e*LR	LR	00 00 11.3	
	143nm,24.5s						
PPT2	**Papeete2**	**42.31**	**283**	*e*LQ	LQ	23 59 39.0	
	742nm,29.8s						
PPT2				*e*LR	LR	00 01 27.8	
	61nm,24.2s						
CPUP	**Villa Florida**	**42.52**	**92**	P	**P**	**23 49 58.1**	**-0.3**
	1.7nm,0.6s,baz=255,slow=11,SNR=3.7						
CPUP				LR	LR	00 05 16.6	
	comp=Z,75nm,19.7s,baz=248,slow=33						
OTAV	**Otavalo**	**43.80**	**42**	*e*P	**P**	**23 50 09.6**	**+0.3**
	1.2nm,0.7s						
SIV	**San Ignacio**	**44.52**	**76**	P	**P**	**23 50 14.6**	**-0.1**
	11nm,0.9s,baz=252,slow=7.7,SNR=46						
SAML	**Samuel**	**47.14**	**67**	*e*P	**P**	**23 50 34.4**	**-0.9**
	1.3nm,0.8s						
RAR	**Rarotonga**	**48.73**	**272**	LR	LR	00 05 32.8	
	comp=Z,46nm,20.3s,baz=111,slow=29						
JTS	**JuntasÁbangare**	**49.58**	**28**	P	**P**	**23 50 53.4**	**-0.7**
	1.8nm,0.7s						
ROSC	**El Rosal**	**49.89**	**43**	P	**P**	**23 50 58.3**	**+1.4**
	9.4nm,0.8s,baz=176,slow=7.1,SNR=5.7						
ROSC				LR	LR	00 08 24.7	
	comp=Z,70nm,19.0s,baz=232,slow=32						
QSPA	**South Pole Qui**	**54.91**	**180**	P	**P**	**23 51 34.2**	**+0.9**
	1.6nm,0.5s,baz=117,slow=3.7,SNR=6.0						
PTGA	**Pitinga**	**55.00**	**62**	P	**P**	**23 51 33.4**	**-1.0**
	1.4nm,0.3s,baz=239,slow=12,SNR=4.3						
BDFB	**Brasília**	**55.24**	**85**	P	**P**	**23 51 36.0**	**-0.4**
	5.8nm,1.0s,baz=227,slow=7.5,SNR=6.0						
BDFB				LR	LR	00 13 23.6	
	comp=Z,57nm,18.1s,baz=190,slow=34						
VNA3	**Neumayer Olymp**	**59.04**	**158**	P	**P**	**23 52 02.3**	**0.0**
VNA1	**Neumayer--Stat**	**59.67**	**158**	P	**P**	**23 52 09.8**	**+3.2**
URZ	**Urewera**	**59.83**	**242**	LR	LR	00 11 29.5	
	comp=Z,105nm,18.3s,baz=174,slow=30						
VNA2	**Neumayer--Watz**	**59.85**	**158**	P	**P**	**23 52 08.2**	**+0.4**
	baz=228,slow=6.4						
SNAA	**Sanae**	**60.91**	**159**	P	**P**	**23 52 15.0**	**-0.2**
SNAA	**Sanae**	**60.91**	**159**	P	**P**	**23 52 15.5**	**+0.3**
	1.1nm,0.6s,baz=270,slow=5.1,SNR=5.1						
RPZ	**Rata Peaks**	**61.93**	**235**	LR	LR	00 11 41.0	
	comp=Z,139nm,19.1s,baz=161,slow=29						
AFI	**Afiamalu**	**62.27**	**272**	LR	LR	00 13 56.2	
	comp=Z,61nm,18.3s,baz=70,slow=31						
TXAR	**Lajitas Array**	**64.33**	**2**	P	**P**	**23 52 39.0**	**+0.5**
	0.6nm,0.7s,baz=181,slow=8.6,SNR=6.6						
JCT	**Junction City**	**65.70**	**6**	P	**P**	**23 52 47.5**	**+0.2**
	1.2nm,0.5s						
NVAR	**Mina Array Bea**	**74.22**	**350**	P	**P**	**23 53 41.1**	**+1.4**
	1.8nm,0.8s,baz=184,slow=6.6,SNR=7.8						
PDAR	**Pinedale Array**	**77.75**	**357**	P	**P**	**23 53 59.7**	**-0.1**
	1.4nm,0.7s,baz=153,slow=6.5,SNR=13						
HLID	**Hailey**	**78.85**	**354**	*e*P	**P**	**23 54 06.1**	**+0.4**
	3.0nm,0.7s						
ULM	**Lac du Bonnet**	**85.66**	**7**	P	**P**	**23 54 40.4**	**-0.6**
	3.5nm,0.8s,baz=176,slow=3.5,SNR=3.5						
STKA	**Stephens Creek**	**87.78**	**232**	LR	LR	00 27 07.5	
	comp=Z,83nm,19.8s,baz=198,slow=31						
SHEL	**Horse Pasture**	**89.14**	**109**	P	**P**	**23 54 57.8**	**-1.0**
	16nm,0.6s						
ASAR	**Alice Springs**	**98.32**	**233**	LR	LR	00 36 21.1	
	comp=Z,83nm,18.1s,baz=124,slow=33						
NWAO	**Narrogin (SRO)**	**100.88**	**216**	*e*Pdif	**Pdif**	**23 55 53.0**	**+1.0**
TSUM	**Tsumeb**	**103.96**	**126**	*e*Pdif	**Pdif**	**23 56 06.5**	**+0.3**
LSZ	**Lusaka**	**113.65**	**131**	PKP	**PKiKP**	**00 00 41.0**	**-1.0**
ESDC	**Sonseca Array**	**119.94**	**61**	PKP	**PKPdf**	**00 00 51.4**	**-1.8**
	0.5nm,0.7s,baz=297,slow=3.7,SNR=2.8						
AKASG	**Malin Array Be**	**144.51**	**50**	PKP	**PKPab**	**00 01 36.0**	**-1.1**
	0.2nm,0.3s,baz=276,slow=3.4,SNR=6.9						
NRIK	**Noril'sk**	**145.07**	**352**	PKPbc	**PKPbc**	**00 01 38.5**	**-0.1**
	2.8nm,0.6s,baz=44,slow=2.9,SNR=4.8						
BRTR	**Keskin Array B**	**147.99**	**70**	PKPbc	**PKPbc**	**00 01 48.0**	**-0.3**
	1.9nm,0.8s,baz=204,slow=3.3,SNR=12						
CMAR	**Chiang Mai Arr**	**152.15**	**240**	PKPbc	**PKPbc**	**00 01 58.9**	**+0.1**
	1.1nm,0.3s,baz=158,slow=2.9,SNR=3.0						
SONM	**Songino Array**	**152.83**	**307**	PKPbc	**PKPbc**	**00 01 58.3**	**-1.3**
	1.3nm,0.7s,baz=122,slow=1.9,SNR=7.3						
KBZ	**Khabaz**	**154.80**	**61**	PKPbc	**PKPbc**	**00 02 04.1**	**+0.3**
	1.8nm,0.9s,baz=346,slow=5.5,SNR=4.7						

MEX 15 23:46:41.7±0.4, 18°.16N×100°.72W, h40km±7km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.37**	**72**	*e*P	Pn	23 46 48.9	-1.8
ARIG				*e*S	Sn	23 46 55.4	-1.8
ZIIG	**Zihuatanejo**	**0.90**	**232**	*e*P	Pn	23 46 56.4	-1.6
ZIIG				*i* S	Sn	23 47 07.6	-2.1
MEIG	**Mezcala**	**1.07**	**103**	*e*P	Pn	23 46 58.6	-1.6
MEIG				*i* S	Sn	23 47 11.7	-2.3
PLIG	**Platanillo**	**1.18**	**79**	*e*P	Pn	23 47 00.1	-1.7
PLIG				*i* S	Sn	23 47 14.7	-2.0

IDC ***15*** *23:51:01.8±1.6, 10°.76S×164°.96E, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.8/39, mbtmp3.9/7, ML4.1/2, MS3.2/4, Ms1 3.2/4, ms1mx2.8/37, Error ellipse: s-maj=39.8km s-min=27.4km az=130.0*

ISCJB ***15*** *23:51:04.3±0.6, 10°.82S±0°.09×164°.96E±0°.07, h31km, mb4.1/11, Error ellipse: s-maj=13.6km s-min=9.2km az=177.5*

NEIC ***15*** *23:51:07.1±1.0, 10°.76S×164°.98E, h40km±10km, mb4.3/9, Error ellipse: s-maj=10.7km s-min=7.2km az=174.0*

ISC 15 23:51:06.3±0.6, 10°.8S±0°.1×165°.3E±0°.07, h31km, n19, σ1s42/18, mb4.3/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.19**	**285**	Pn	**Pn**	**23 52 21.3**	**-0.5**
	13nm,0.3s,baz=174,slow=6.0,SNR=4.1						
HNR				Sn	**Sn**	**23 53 24.7**	**+4.1**
	4.5nm,0.3s,baz=328,slow=19,SNR=1.8						
HNR				LR	LR	23 54 24.7	
	comp=Z,144nm,20.1s,baz=118,slow=40						
DZM	**Mont Dzumac**	**11.28**	**173**	Pn	**Pn**	**23 53 46.0**	**+0.4**
	0.6nm,0.3s,baz=343,slow=20,SNR=4.1						
FUNA	**Funafuti**	**14.15**	**82**	Pn	**Pn**	**23 54 26.0**	**+1.3**
PMG	**Port Moresby**	**17.65**	**273**	Pn	**Pn**	**23 55 09.6**	**-0.4**
	2.0nm,0.3s						
CTA	**Charters Tower**	**20.29**	**241**	P	Pn	23 55 40.8	-1.0
	11nm,1.1s,baz=71,slow=13,SNR=8.8						
CTAO	**Charters Tower**	**20.29**	**241**	*e*P	**P**	**23 55 40.1**	**+0.4**
	2.9nm,0.6s						
AFI	**Afiamalu**	**22.86**	**100**	P	**P**	**23 56 07.7**	**+0.3**
	7.1nm,0.4s						
STKA	**Stephens Creek**	**30.14**	**222**	P	**P**	**23 57 13.9**	**+0.4**
	1.4nm,0.7s,baz=38,slow=12,SNR=3.0						
STKA				LR	LR	00 07 59.9	
	comp=Z,48nm,18.1s,baz=28,slow=34						
WRAB	**Tennant Creek**	**30.89**	**249**	*e*P	**P**	**23 57 20.2**	**-0.2**
	2.3nm,1.2s						
WRA	**Warramunga Arr**	**30.91**	**249**	P	**P**	**23 57 19.4**	**-1.1**
	0.6nm,0.7s,baz=80,slow=9.1,SNR=3.7						
ASAR	**Alice Springs**	**32.27**	**243**	P	**P**	**23 57 30.7**	**-1.8**
	0.6nm,0.8s,baz=70,slow=10.0,SNR=5.8						
ASAR				LR	LR	00 10 24.7	
	comp=Z,47nm,18.8s,baz=10.0,slow=36						
RAR	**Rarotonga**	**35.30**	**111**	P	**P**	**23 57 59.3**	**+0.5**
	6.3nm,0.7s						
TAU	**Tasmania Unive**	**35.51**	**203**	P	**P**	**23 58 00.6**	**+0.3**
	7.6nm,0.9s						
FITZ	**Fitzroy Crossi**	**38.76**	**255**	LR	LR	00 13 45.8	
	comp=Z,43nm,18.4s,baz=70,slow=35						
NWAO	**Narrogin (SRO)**	**49.01**	**236**	P	**P**	**23 59 50.1**	**-0.3**
	1.3nm,0.4s						
MDJ	**Mudanjiang**	**63.81**	**333**	P	**P**	**00 01 33.2**	**-2.4**
	1.5nm,0.4s						
CASY	**Casey**	**66.35**	**201**	P	**P**	**00 01 51.1**	**-0.6**
	1.0nm,0.4s						
MA2	**Magadan**	**71.08**	**352**	P	**P**	**00 02 21.1**	**-0.1**
ILAR	**Eielson Array**	**83.51**	**19**	P	**P**	**00 03 31.2**	**+0.4**
	0.4nm,0.8s,baz=235,slow=5.4,SNR=4.4						

ISCJB ***16*** *00:07:34.8±0.1, 25°.10S±0°.02×179°.63E±0°.04, h501km, mb4.4/83, Error ellipse: s-maj=5.1km s-min=2.3km az=17.1*

IDC ***16*** *00:07:34.8±0.6, 25°.02S×179°.78E, h497km±5km, mb3.9/18, mb1 4.1/20, mb1mx3.9/41, mbtmp4.8/20, Error ellipse: s-maj=11.9km s-min=9.5km az=51.0*

NEIC ***16*** *00:07:35.5±0.4, 25°.16S×179°.69E, h504km±4km, mb4.5/74, Error ellipse: s-maj=5.9km s-min=4.2km az=128.0*

WEL ***16*** *00:07:37.8±0.8, 25°.5±6'×18°.0W±2°.7, h550km±15km*

ISC 16 00:07:35.3±0.3, 25°.16S±0°.05×179°.76E±0°.06, h501km, n249, σ1s34/291, mb4.4/85, 5C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**4.56**	**154**	P	**P**	**00 09 00.4**	**+2.1**
RIZ				S	**S**	**00 10 08.1**	**+1.9**
RAO	**Raoul Island**	**4.57**	**154**	P	**P**	**00 08 59.8**	**+1.4**
	457nm,0.3s,baz=87,slow=6.4,SNR=50						
RAO				S	**S**	**00 10 06.7**	**+0.4**
	130nm,0.3s,baz=75,slow=20,SNR=2.1						
GLKZ	**Green Lake**	**4.58**	**154**	P	**P**	**00 08 59.9**	**+1.4**
GLKZ				S	**S**	**00 10 06.9**	**+0.5**
OUZ	**Omahuta**	**11.35**	**207**	*e*P	**P**	**00 10 07.4**	**+0.6**
OUZ	**Omahuta**	**11.35**	**207**	P	**P**	**00 10 09.8**	**+3.0**
GRZ	**Great Barrier**	**11.66**	**197**	P	**P**	**00 10 11.9**	**+1.9**
WCZ	**Waipu Caves**	**11.71**	**202**	P	**P**	**00 10 14.0**	**+3.4**
KUZ	**Kuaotunu**	**12.06**	**196**	P	**P**	**00 10 16.3**	**+2.0**
MXZ	**Matakaoa Point**	**12.43**	**185**	*e*P	**P**	**00 10 18.3**	**+0.2**
MXZ	**Matakaoa Point**	**12.43**	**185**	P	**P**	**00 10 19.3**	**+1.1**
MXZ				S	**S**	**00 12 30.6**	**-1.8**
DZM	**Mont Dzumac**	**12.59**	**281**	P	**P**	**00 10 22.6**	**+2.4**
	1.8nm,0.3s,baz=92,slow=16,SNR=18						
DZM	**Mont Dzumac**	**12.59**	**281**	*e*P	**P**	**00 10 21.3**	**+1.1**
HAZ	**Te Kaha**	**12.67**	**187**	P	**P**	**00 10 20.9**	**+0.1**
HAZ				S	**S**	**00 12 35.1**	**-2.1**
WMGZ	**Waiomatatini S**	**12.67**	**185**	P	**P**	**00 10 21.9**	**+1.2**
WMGZ				S	**S**	**00 12 34.7**	**-2.6**
PKGZ	**Pakihiroa**	**12.77**	**186**	P	**P**	**00 10 23.2**	**+1.3**
PKGZ				S	**S**	**00 12 36.7**	**-2.6**
RUGZ	**Raukumara Rang**	**12.89**	**187**	P	**P**	**00 10 24.4**	**+1.2**
RUGZ				S	**S**	**00 12 43.0**	**+1.3**
PUZ	**Puketiti**	**12.94**	**185**	P	**P**	**00 10 24.4**	**+0.8**
PUZ				S	**S**	**00 12 38.5**	**-3.9**
TOZ	**Tahuroa Road**	**13.05**	**195**	P	**P**	**00 10 29.3**	**+4.5**
KMRZ	**Kaimai**	**13.06**	**193**	P	**P**	**00 10 25.3**	**+0.4**
TWGZ	**Tauwhareparae**	**13.07**	**186**	P	**P**	**00 10 26.4**	**+1.4**
TWGZ				S	**S**	**00 12 48.8**	**+3.9**
URZ	**Urewera**	**13.25**	**189**	P	**P**	**00 10 25.4**	**-1.5**
	10nm,0.3s,baz=12,slow=3.1,SNR=44						
URZ				S	**S**	**00 12 47.6**	**-0.8**
	6.9nm,0.3s,baz=197,slow=23,SNR=14						
URZ	**Urewera**	**13.25**	**189**	*e*P	**P**	**00 10 26.6**	**-0.3**
URZ				*e*S	**S**	**00 12 49.7**	**+1.3**
URZ	**

WKZ	Wanaka	21.47	201	eP		P	00 11 47.2	+0.2	
	111nm,1.8s								
MLZ	Mavora Lakes	22.24	202	eP		P	00 11 53.8	-0.1	
	21nm,1.3s								
DCZ	Deep Cove	22.67	203	eP		P	00 11 58.1	+0.4	
	26nm,1.2s								
WHZ	Wether Hill Ro	22.76	202	eP		P	00 11 58.8	+0.2	
	26nm,1.3s								
HNR	Honiara	24.49	306	P		P	00 12 11.8	-2.5	
	57nm,0.5s,baz=202,slow=11,SNR=3.3								
EIDS	Eidsvold	25.91	263	eP		P	00 12 27.2	+0.3	
	14nm,0.9s								
CAN	Canberra	28.34	242	eP		P	00 12 46.8	-1.3	
	39nm,1.6s								
CTA	Charters Tower	31.28	272	P		P	00 13 14.6	+0.7	
	20nm,0.4s,baz=96,slow=11,SNR=45								
CTA				ScP		ScP	00 18 49.6	+1.2	
	3.1nm,0.7s,baz=0.0,slow=5.1,SNR=3.3								
CTAO	Charters Tower	31.28	272	eP		P	00 13 14.8	+0.9	
	22nm,0.8s								
STKA	Stephens Creek	34.06	250	P		P	00 13 39.1	+1.8	
	2.1nm,0.4s,baz=104,slow=13,SNR=6.6								
COEN	Coen	36.12	281	eP		P	00 13 55.0	+0.4	
	9.1nm,0.8s								
AS01	Alice Springs	41.59	262	eP		P	00 14 38.8	-0.1	
AS31	Alice Springs	41.63	262	eP		P	00 14 39.7	+0.4	
	2.6nm,0.3s								
ASAR	Alice Springs	41.63	262	P		P	00 14 39.4	+0.1	
	3.3nm,0.3s,baz=93,slow=7.3,SNR=42								
ASAR				pP		pP	00 16 11.2	+0.7	
	0.9nm,0.7s,baz=86,slow=10,SNR=1.8								
ASAR				ScP		ScP	00 19 28.2	+1.2	
	1.1nm,0.7s,baz=121,slow=4.0,SNR=5.8								
ASAR				S		S	00 20 12.0	-7.2	
	1.0nm,0.9s,baz=108,slow=14,SNR=4.8								
WB2	Warramunga Arr	42.11	268	eP		P	00 14 42.8	-0.3	
WB2				eS		S	00 20 23.5	-2.6	
WRAB	Tennant Creek	42.11	268	eP		P	00 14 42.7	-0.4	
	9.3nm,0.7s								
WRAB				epP		pP	00 16 15.1	+0.4	
WRA	Warramunga Arr	42.12	268	P		P	00 14 42.7	-0.5	
	10nm,0.6s,baz=98,slow=7.1,SNR=140								
WRA				ScP		ScP	00 19 29.9	+0.9	
	3.7nm,0.9s,baz=100,slow=4.0,SNR=12								
WRA				S		S	00 20 23.2	-3.2	
	3.8nm,0.8s,baz=100,slow=15,SNR=15								
JAY	Jayapura	43.82	295	P		P	00 14 55.2	-1.5	
	12nm,0.5s,baz=219,slow=21,SNR=4.7								
FORT	Forrest	45.68	251	eP		P	00 15 10.4	-0.3	
	26nm,0.9s								
SDHHI	Sand Hill	50.50	31	eP		P	00 15 47.2	+0.2	
	669nm,1.2s								
KKO	Keanakako'i	50.52	31	eP		P	00 15 46.7	-0.4	
	2µm,2.0s								
FITZ	Fitzroy Crossi	50.52	267	P		P	00 15 47.5	+0.4	
	8.8nm,0.9s,baz=105,slow=7.7,SNR=21								
FITZ	Fitzroy Crossi	50.52	267	eP		P	00 15 48.1	+0.9	
	24nm,1.4s								
FAKI	Fak Fak	50.75	288	eP		P	00 15 48.6	-0.2	
	13nm,1.2s								
SIJI	Sorong	52.63	290	P		P	00 16 01.7	-0.8	
	34nm,0.7s,baz=73,slow=7.9,SNR=13								
VNDA	Vanda	53.11	185	P		P	00 16 06.2	+1.3	
	3.4nm,0.6s,baz=9.0,slow=8.9,SNR=14								
SOEI	Soe	54.74	276	eP		P	00 16 17.9	+0.4	
	14nm,0.6s								
QSPA	South Pole Qui	64.93	180	P		P	00 17 25.9	+1.2	
	19nm,0.7s,baz=27,slow=1.6,SNR=53								
QSPA	South Pole Qui	64.93	180	eP		P	00 17 25.7	+1.0	
	23nm,0.8s								
MJAR	Matsushiro Arr	72.81	326	P		P	00 18 11.8	-0.7	
	3.6nm,0.8s,baz=165,slow=7.2,SNR=6.5								
MAW	Mawson	76.50	201	P		P	00 18 33.7	+0.9	
	12nm,0.6s,baz=133,slow=6.4,SNR=26								
MAW	Mawson	76.50	201	eP		P	00 18 33.4	+0.6	
	3.9nm,0.7s								
KSRS	Korea Array	79.07	320	P		P	00 18 47.5	+0.4	
	1.6nm,0.7s,baz=128,slow=5.8,SNR=4.6								
KSAR	Wonju Array Be	79.08	320	P		P	00 18 47.5	+0.3	
SYO	Syowa Base	81.74	193	i/P		P	00 18 59.0	-1.6	
SCI2	San Clemente I	82.41	48	P		P	00 19 05.1	+0.5	
	baz=234								
PKM	Mcpherson Peak	82.71	46	P		P	00 19 06.8	+0.5	
	baz=232								
LRV	Little Rabbit	82.88	44	eP		P	00 19 11.2	+4.2	
CHGN	Chignik	83.23	12	eP		P	00 19 09.9	+1.8	
	168nm,0.9s								
SNAA	Sanae	83.42	179	P		P	00 19 08.4	-0.8	
SNAA	Sanae	83.42	179	eP		P	00 19 08.3	-0.9	
	20nm,1.4s								
VNA3	Neumayer Olymp	83.64	177	P		P	00 19 09.7	-0.5	
MURC	Murrieta	83.69	48	P		P	00 19 11.6	+0.5	
	baz=234								
MONP2	Monument Peak	83.81	49	P		P	00 19 12.0	+0.1	
	baz=235,SNR=9.0								
IKP	In-Ko-Pah, Jac	83.89	50	P		P	00 19 12.7	+0.6	
	baz=235,SNR=6.1								
EDW2	Edwards Air Fo	83.90	47	P		P	00 19 12.2	+0.1	
	baz=234,SNR=5.5								
FRD	Ford Ranch, An	84.03	49	P		P	00 19 12.9	0.0	
	baz=235								
ISA	Isabella, Lake	84.05	46	eP		P	00 19 13.3	+0.4	
	7.7nm,0.8s								
ISA	Isabella, Lake	84.05	46	P		P	00 19 13.1	+0.2	
	baz=233,SNR=12								
VNA2	Neumayer--Watz	84.05	178	P		P	00 19 11.8	-0.4	
	baz=187,slow=4.4								
O02D	Mt. Diablo Mer	84.16	40	P		P	00 19 14.2	+1.0	
	baz=230								
PFO	Pinyon Flats O	84.19	49	P		P	00 19 13.7	0.0	
	baz=235								
SWSC	Sam W. Stewart	84.27	50	P		P	00 19 14.3	+0.4	
	baz=235								
VNA1	Neumayer--Stat	84.29	177	P		P	00 19 13.2	-0.2	
LRMC	Laurel Mtn Rad	84.46	47	P		P	00 19 15.0	0.0	
	baz=234,SNR=7.7								
AFDM	Forest Hills D	84.47	42	eP		P	00 19 15.6	+0.8	
	4.1nm,0.9s								
ORV	Oroville	84.53	42	eP		P	00 19 15.5	+0.4	
	6.9nm,1.1s								
WDC	Whiskeytown Da	84.56	40	eP		P	00 19 15.1	-0.1	
	4.6nm,0.8s								
N02D	Trinity Center	84.71	40	P		P	00 19 16.9	+0.9	
	baz=230								
BELC	Belle Mtn. Jos	84.73	49	P		P	00 19 16.8	+0.5	
	baz=235,SNR=9.2								
CWC	Cottonwood Cre	84.77	46	P		P	00 19 16.4	-0.1	
	baz=234								
O03E	Paynes Creek	84.81	41	P		P	00 19 16.4	-0.1	
	baz=231								
M02C	Callahan	84.89	40	P		P	00 19 17.5	+0.6	
	baz=230								
BC3	Big Chuckawall	84.91	49	P		P	00 19 17.5	+0.3	
	baz=235								
MPMC	Manual Prospec	84.93	46	P		P	00 19 17.2	-0.1	
	baz=234								
GSC	Goldstone, Bar	84.94	47	eP		P	00 19 17.6	+0.3	
	6.1nm,0.9s								
GSC	Goldstone, Bar	84.94	47	P		P	00 19 17.2	0.0	
	baz=234,SNR=5.3								
HEC	Hector Ludlow	84.98	48	P		P	00 19 17.5	+0.1	
	baz=235,SNR=7.1								
MLAC	Mammoth, Mammo	84.99	44	P		P	00 19 18.1	+0.4	
	baz=233								
GLA	Glamis	85.00	50	P		P	00 19 18.2	+0.7	
	baz=236								
YBH	Yreka Blue Hor	85.20	39	eP		P	00 19 19.2	+0.9	
	9.2nm,1.6s								
K02D	Willamette Mer	85.28	38	P		P	00 19 19.7	+1.0	
	baz=229								
PNTR	Pine Nut	85.40	43	eP		P	00 19 20.1	+0.5	
	5.9nm,0.8s								
IRM	Iron Mountain	85.40	49	P		P	00 19 19.9	+0.5	
	baz=236,SNR=6.3								
GMRC	Granite Mounta	85.41	48	P		P	00 19 19.9	+0.3	
	baz=235								
BEKR	Beckworth	85.41	42	eP		P	00 19 19.8	+0.2	
	18nm,2.0s								
J01E	Myrtle Point	85.43	38	P		P	00 19 19.9	+0.6	
	baz=229								
GRAC	Grapevine Rang	85.56	46	P		P	00 19 20.3	+0.1	
	baz=234								
Y12C	Blythe	85.60	50	P		P	00 19 20.8	+0.4	
	baz=236								
TUQ	Turquoise Moun	85.60	48	P		P	00 19 20.8	+0.2	
	baz=235								
HSIG		85.61	55	eP		P	00 19 21.2	+0.7	
	12nm,0.9s								
HUMO	Hull Mountain	85.62	39	eP		P	00 19 21.4	+1.1	
	7.1nm,1.3s								
L04D	Klamath Falls	85.74	39	P		P	00 19 22.0	+1.0	
	baz=230								
NVAR	Mina Array Bea	85.81	44	P		P	00 19 22.0	+0.4	
	8.4nm,0.4s,baz=224,slow=7.6,SNR=17								
214A	Organ Pipe Nat	85.82	52	P		P	00 19 22.3	+0.8	
	baz=237								
NV11	Mina Array Sit	85.90	44	eP		P	00 19 22.1	+0.2	
	0.3nm,1.0s								
PAHR	Pah Rah Range	85.91	42	eP		P	00 19 22.1	+0.2	
	3.4nm,0.8s								
LDFC	Landfair	85.95	48	eP		P	00 19 23.0	+0.8	
	13nm,0.8s								
I03D	Drain, OR	86.10	38	P		P	00 19 23.0	+0.5	
	baz=230								
PDMCI	Parker Dam,Lak	86.17	49	P		P	00 19 23.4	+0.3	
	baz=236								
TPNV	Topopah Spring	86.26	46	eP		P	00 19 23.9	+0.3	
	5.8nm,0.8s								
TPNV	Topopah Spring	86.26	46	P		P	00 19 23.5	-0.1	
	baz=235,SNR=9.9								
KVN	Kaiserville	86.31	44	eP		P	00 19 24.0	+0.1	
	4.2nm,0.7s								
K04D	Chiloquin, OR	86.31	39	P		P	00 19 24.1	+0.3	
	baz=231								
J04D	Umpqua Nationa	86.50	38	P		P	00 19 25.0	+0.3	
	baz=230								
I04A	Tendick Farm,	86.69	38	P		P	00 19 25.6	+0.2	
	baz=230								
SHPR	Sheep Range	86.72	47	eP		P	00 19 26.7	+0.8	
	5.3nm,1.2s								
H04D	Lebanon	86.97	37	P		P	00 19 27.0	+0.4	
	baz=230								
J05D	Fort Rock, OR	87.02	39	P		P	00 19 27.6	+0.5	
	baz=231								
GYA	Guiyang	87.20	301	eP		P	00 19 29.8	+1.5	
GYA					pP	pP	00 21 22.0	+2.7	
GYA					sP	sP	00 22 12.3	+2.0	
GYA					PP	PP	00 23 05.5	+4.0	
GYA					S	SKSac	00 29 08.4	+0.4	
GYA					SKS	SKSac	00 29 08.6	+0.6	
GYA					pmax	pmax			
	comp=Z,10.0nm,1.0s								
TUC	Tucson	87.46	53	eP		P	00 19 30.5	+1.2	
	comp=Z,8.1nm,0.8s								
TUC	Tucson	87.46	53	P		P	00 19 30.2	+0.9	
	baz=238								
R11A	Troy Canyon, C	87.49	45	P		P	00 19 29.4	0.0	
	baz=235								
PLCA	Paso Flores	87.55	134	P		P	00 19 30.8	+1.0	
	comp=Z,2.4nm,0.6s,baz=244,slow=5.4,SNR=5.5								
I05D	Terrebonne, OR	87.63	38	P		P	00 19 30.0	+0.2	
	baz=231								
WVOR	Wild Horse Val	88.01	41	eP		P	00 19 32.2	+0.5	
	comp=Z,8.2nm,1.0s								
319A	Douglas	88.06	54	eP		P	00 19 33.5	+1.3	
	comp=Z,19nm,1.1s								
X16A	Lo Mia Camp, P	88.11	50	eP		P	00 19 33.6	+1.1	
	comp=Z,6.8nm,1.0s								
SVW2	Sparrevohn	88.25	12	eP		P	00 19 30.1	-2.2	
	comp=Z,38nm,0.8s								
LCMT	Little Creek M	88.28	47	eP		P	00 19 33.8	+0.7	
	comp=Z,3.7nm,0.9s								
E04D	Cinebar	88.37	36	P		P	00 19 33.9	+0.8	
	baz=230								
I07A	Izee	88.50	39	eP		P	00 19 34.8	+0.8	
	comp=Z,4.4nm,0.8s								
KNB	Kanab	88.56	48	eP		P	00 19 35.2	+0.6	
	comp=Z,6.0nm,1.1s								
HPIG		88.59	59	eP		P	00 19 34.5	-0.4	
	comp=Z,6.6nm,0.7s								
U15A	North Rim	88.60	48	eP		P	00 19 35.6	+0.8	
	comp=Z,9.5nm,1.1s								
J08A	Circle Bar Ran	88.66	40	eP		P	00 19 34.9	+0.2	
	comp=Z,8.6nm,1.0s								
SZCU	Shurtz Canyon	88.70	47	eP		P	00 19 36.2	+1.0	
	comp=Z,3.4nm,0.9s								
D03D	Eldon	88.73	35	P		P	00 19 35.2	+0.4	
	baz=230								
WUAZ	Wupatki	88.74	50	eP		P	00 19 36.1	+0.7	
	comp=Z,3.8nm,0.9s								
WUAZ	Wupatki	88.74	50	P		P	00 19 35.7	+0.3	
	baz=238								
LON	Longmire	88.90	36	eP		P	00 19 35.7	0.0	
	comp=Z,16nm,1.9s								
PKCU	Pink Cliffs	89.14	48	eP		P	00 19 38.8	+1.5	
	comp=Z,9.4nm,0.9s								
X18A	Snowflake	89.21	51	eP		P	00 19 38.5	+0.9	
	comp=Z,4.7nm,0.7s								
MTPU	Mount Pierson	89.55	47	eP		P	00 19 40.1	+0.8	
	comp=Z,5.7nm,0.8s								
G08A	Pilot Rock	89.55	38	eP		P	00 19 39.3	+0.5	
	comp=Z,4.3nm,0.9s								
121A	Cookes Peak, D	89.75	54	P		P	00 19 40.2	0.0	
	baz=240								
CMAR	Chiang Mai Arr	89.75	290	pP		pP	00 21 32.4	+0.6	
	comp=Z,0.7nm,0.4s,baz=136,slow=3.7,SNR=1.9								
MSU	Marysvale	89.81	47	eP		P	00 19 41.4	+1.1	
DUG	Dugway, Tooele	90.31	45	P		P	00 19 42.6	+0.1	
	baz=237								
TMUT	Trail Mountain	90.86	46	eP		P	00 19 45.7	+0.4	
	comp=Z,10nm,0.7s								
F10A	Beach Ranch, E	90.93	38	eP		P	00 19 44.8	-0.4	
	comp=Z,3.6nm,0.8s								
MPU	Maple Canyon	90.97	46	eP		P	00 19 45.9	+0.3	
	comp=Z,4.1nm,0.9s								
MNTX	Cornudas Mount	91.11	55	eP		P	00 19 46.8	+0.5	
	comp=Z,3.8nm,1.0s								
MNTX	Cornudas Mount	91.11	55	P		P	00 19 46.4	+0.2	
	baz=241								
SPUT	South Promonto	91.15	44	eP		P	00 19 46.8	+0.4	
	comp=Z,5.4nm,0.9s								
HHC	Hu-ho-hao-te	91.15	315	eP		P	00 19 48.1	+1.8	
HHC					pmax	pmax			
	comp=Z,4.0nm,1.1s								
HLID	Hailey	91.18	42	eP		P	00 19 47.0	+0.5	
	comp=Z,7.7nm,1.6s								
HLID	Hailey	91.18	42	P		P	00 19 46.7	+0.3	
	baz=236								
HVU	Hansel Valley	91.20	44	eP		P	00 19 47.0	+0.4	
	comp=Z,4.2nm,0.7s								
SRU	San Rafael Swe	91.22	47	eP		P	00 19 47.2	+0.4	
	comp=Z,5.8nm,0.7s								
P17A	Butcher Ranch,	91.27	46	eP		P	00 19 48.1	+1.1	
	comp=Z,4.7nm,0.9s								
TX31	Lajitas Ar. Si	91.28	58	eP		P	00 19 47.5	+0.3	
TXAR	Lajitas Array	91.28	58	P		P	00 19 47.8	+0.6	
	comp=Z,4.0nm,0.8s,baz=212,slow=6.4,SNR=43								
ANMO	Albuquerque	91.90	52	eP		P	00 19 50.3	+0.3	
	comp=Z,13nm,1.9s								
ANMO	Albuquerque	91.90	52	P		P	00 19 50.0	-0.1	
	baz=240								
S22A	4UR Ranch, Cre	93.02	50	eP		P	00 19 55.5	+0.3	
	comp=Z,2.5nm,0.8s								
S22A	4UR Ranch, Cre	93.02	50	P		P	00 19 55.0	-0.2	
	baz=240								
O20A	White River Ci	93.25	47	P		P	00 19 56.7	+0.6	
	baz=240								
ILAR	Eielson Array	93.30	14	P		P	00 19 54.0	-1.5	
	comp=Z,0.6nm,0.9s,baz=222,slow=4.5,SNR=4.7								
BW06	Boulder Array	93.74	44	P		P	00 19 58.4	+0.1	
	baz=239								
PDAR	Pinedale Array	93.75	44	P		P	00 19 57.9	-0.5	
	comp=Z,0.6nm,0.7s,baz=168,slow=2.4,SNR=5.7								
SDCO	Great Sand Dun	93.94	50	P		P	00 19 59.2	-0.2	
	baz=241								
BOZ	Bozeman (W)	93.96	41	P		P	00 19 59.4	+0.3	
	baz=238								
LZH	Lanzhou	93.97	308	eP		P	00 20 01.4	+1.9	
LZH					pP	pP	00 21 51.3	-0.1	
LZH					sP	sP	00 22 41.5	-0.6	
LZH					ePP	PP	00 23 58.0	+3.7	
LZH					pmax	pmax			
	comp=Z,25nm,1.1s								
LZH					pmax	pmax			
	comp=Z,120nm,5.9s								
TOLK	Toolik Lake Re	96.19	11	P		P	00 20 09.7	+1.2	
	baz=208								
SONM	Songino Array	97.91	319	pP		pP	00 22 08.4	-0.8	
	comp=Z,0.5nm,0.9s,baz=130,slow=4.5,SNR=1.4								
MKAR	Makanchi Array	112.84	312	PKiKP		PKiKP	00 25 13.2	-1.4	
	comp=Z,0.4nm,0.6s,baz=77,slow=3.3,SNR=6.9								
MKAR				PKKPbc		PKKPbc	00 36 03.6	-0.9	
	comp=Z,0.8nm,0.6s,baz=266,slow=3.9,SNR=7.8								
KBL	Kabul	120.21	297	ePKPdf		PKPdf	00 25 29.3	-0.2	
BOSA	Boshof	121.18	206	PKP		PKPdf	00 25 30.8	-0.8	
	comp=Z,1.8nm,0.7s,baz=182,slow=5.9,SNR=3.7								
GEYT	Alibeck	129.40	299	SKPbc		SKPbc	00 28 22.4	+1.0	
	comp=Z,3.5nm,1.1s,baz=4.3,slow=5.8,SNR=7.2								
ARCES	ARCESS Array B	133.07	348	PKP		PKPdf	00 25 51.7	-1.0	
	comp=Z,2.4nm,0.6s,baz=73,slow=1.5,SNR=11								
ARCES				SKPbc		SKPbc	00 28 33.4	0.0	
	comp=Z,9.5nm,0.9s,baz=18,slow=2.7,SNR=16								
FINES	FINESS Array B	139.56	341	PKhKP		PKPpre	00 25 57.4		
	comp=Z,0.5nm,0.3s,baz=69,slow=3.4,SNR=9.2								
FINES				PKP		PKPdf	00 26 04.8	0.0	
	comp=Z,2.8nm,0.8s,baz=37,slow=2.0,SNR=8.6								
FINES				SKPbc		SKPbc	00 28 52.8	-0.2	
	comp=Z,8.0nm,0.8s,baz=90,slow=5.7,SNR=12								
NB2	NORSAR Subarra	143.28	351	PKP		PKPab	00 26 08.0	-1.5	
	comp=Z,8.0nm,1.1s,baz=16,slow=3.2								
NOA	NORSAR Array B	143.28	351	PKP		PKPab	00 26 08.3	-1.2	
	comp=Z,4.0nm,0.8s,baz=16,slow=4.8,SNR=8.3								
NOA				SKPbc		SKPbc	00 29 01.3	-1.2	
	comp=Z,1.7nm,0.7s,baz=13,slow=4.1,SNR=6.8								
AKASG	Malin Array Be	145.90	326	PKPbc		PKPdf	00 26 16.8	+0.5	
	comp=Z,1.3nm,0.4s,baz=46,slow=4.2,SNR=6.0								
AKASG				pPKPbc		pPKPab	00 28 12.9	-1.4	
	comp=Z,1.4nm,0.6s,baz=44,slow=4.7,SNR=2.7								
AKASG				SKPbc		SKPbc	00 29 08.8	+0.1	
	comp=Z,1.4nm,0.6s,baz=56,slow=0.3,SNR=4.6								
BR131	Keskin Array S	148.14	305	ePKPbc		PKPbc	00 26 24.1	-0.5	
BRTR	Keskin Array B	148.14	305	PKPbc		PKPbc	00 26 23.6	-1.1	
	comp=Z,1.4nm,0.6s,baz=146,slow=3.7,SNR=14								
BRTR				pPKPbc		pPKPbc	00 28 20.9	-1.2	
	comp=Z,0.7nm,0.8s,baz=219,slow=0.9,SNR=3.1								
BUR08	Bucovina Ar. S	149.86	325	ePKPbc		PKPbc	00 26 28.6	+0.1	
BUR04	Bucovina Ar. S	149.87	325	ePKPbc		PKPbc	00 26 28.2	-0.3	
OKC	Ostrava-Krasne	151.52	335	ePKP		PKPbc	00 26 31.8	-0.3	
DPC	Dobruska-Polom	151.78	337	ePKP		PKPbc	00 26 31.9	-0.8	
CLL	Collm	151.99	342	ePKPbc		PKPbc	00 26 32.0	-1.0	
CLL	Collm	151.99	342	i/PKPbc		PKPbc	00 26 32.3	-0.7	
	comp=Z,10.0nm,0.8s								
CLL				epPKPab		pPKPab	00 28 35.0	-3.2	
VYHS	Vyhne	152.30	332	ePKP		PKPbc	00 26 33.3	-0.6	
VYHS				e			00 26 46.7		
KHC	Kasperske Hory	153.74	339	ePKP		PKPbc	00 26 36.8	-0.2	
GERES	GERESS Array B	153.95	339	PKP		PKPdf	00 26 27.9	-1.2	
	comp=Z,0.3nm,0.6s,baz=42,slow=4.7,SNR=3.2								
GERES				PKPbc		PKPbc	00 26 35.5	-2.0	
	comp=Z,0.5nm,0.6s,baz=79,slow=2.9,SNR=4.9								
LIC	Lamto	160.62	166	ePKP2		PKPab	00 27 22.8	-0.1	
	comp=Z,32nm,0.8s								
KIC	Kosan Boka	160.82	166	ePKP2		PKPab	00 27 23.6	-0.2	
	comp=Z,16nm,0.7s								
TIC	Toumodi	161.03	165	ePKP2		PKPab	00 27 24.6	-0.1	
DBIC	Dimbokro	161.09	166	PKP		PKPdf	00 26 37.2	-1.5	
	comp=Z,1.7nm,0.8s,baz=132,slow=2.7,SNR=4.0								
DBIC				PKPab		PKPab	00 27 24.5	-0.4	
	comp=Z,2.9nm,0.6s,baz=164,slow=4.7,SNR=6.3								
TOA0	Torodi Ar. Sit	167.91	189	ePKPdf		PKPdf	00 26 42.3	-2.3	
TOA0				ePKPdf		PKPdf	00 26 43.3	-1.3	
TOA0				ePKPab		PKPab	00 27 53.0	-1.9	
TOA0				ePKPab		PKPab	00 27 54.8	-0.2	
TORD	Torodi Ar. Bea	167.91	189	PKP		PKPdf	00 26 42.8	-1.8	
	comp=Z,2.1nm,1.0s,baz=202,slow=1.4,SNR=10								
TORD				PKPab		PKPab	00 27 52.8	-2.1	
	comp=Z,3.0nm,0.6s,baz=168,slow=4.1,SNR=19								

ARE **16** *00:21:55.0±0.0, 13°.30S×76°.68W, h57km*

ISCJB **16** *00:21:56.4±0.7, 13°.35S±0°.03×76°.60W±0°.06, h47km±6km, mb4.7/54, MS4.1/14, Error ellipse: s-maj=10.3km s-min=3.9km az=157.5*

NEIC **16** *00:21:58.0±0.5, 13°.29S×76°.53W, h43km±5km, mb4.7/44, ML4.8(ARE), Error ellipse: s-maj=7.5km s-min=3.2km az=66.0*

NEIC Felt [III] at Chincha Alta, Lunahuana, San Borja and San Vicente de Canete; [II] at Ica and Lima. Also felt at Huanza, Imperial, Pisco and Pueblo Nuevo.

IDC **16** *00:21:58.2±0.8, 13°.28S×76°.59W, h44km±6km, mb4.0/14, mb1 4.3/17, mb1mx4.1/34, mbtmp4.3/17, ML3.8/4, MS3.9/14, Ms1 3.9/14, ms1mx3.7/33, Error ellipse: s-maj=19.4km s-min=8.2km az=73.0*

BJI **16** *00:21:58.9, 13°.30S×76°.50W, h42km, Ms7 5.0/1*

ISC 16 00:21:57.8±0.6, 13°.35S±0°.05×76°.56W±0°.08, h43km±5km, h43km:pP-P,n183,σ1s44/200, mb4.8/54, MS4.0/14, 2C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	Nana	1.39	349	P		Pn	00 22 18.6	-2.1
	102nm,0.3s,baz=184,slow=9.6,SNR=131							
NNA				S		Sn	00 22 36.1	-1.7
	709nm,0.3s,baz=208,slow=16,SNR=20							
NNA	Nana	1.39	349	ePn

comp=Z,235nm,21.1s,baz=207,slow=34
GO06 Curarrehue 26.51 171 *e*P **P 00 27 31.8 +0.4**
15nm,1.0s
BDFB Brasilia 27.73 98 LR LR 00 39 54.0
comp=Z,135nm,20.6s,baz=243,slow=39
PLCA Paso Flores 27.78 170 P **P 00 27 43.2 +0.5**
27nm,0.9s,baz=8.8,slow=10,SNR=33
PLCA Paso Flores 27.78 170 *e*P **P 00 27 43.5 +0.8**
32nm,0.9s
TRQA Tornquist 27.81 155 *e*P **P 00 27 43.9 +0.9**
37nm,1.8s
MDP Montagnes des 30.01 54 LR LR 00 40 32.6
comp=Z,505nm,18.3s,baz=229,slow=37
APG El Apazote 31.36 334 LR LR 00 39 04.4
comp=Z,160nm,20.8s,baz=130,slow=33
EMPR Esperanza - Ma 33.14 18 *e*P **P 00 28 30.0 -0.1**
175nm,1.5s
CHRN Cochrane 33.95 175 *e*P **P 00 28 37.1 +0.2**
7.4nm,1.2s
ABVI Anegada Island 34.08 21 *e*P **P 00 28 37.6 -0.7**
141nm,1.0s
060A Indiantown 40.32 355 *e*P **P 00 29 30.6 -0.5**
130nm,1.0s
WHTX Lake Whitney, 49.33 336 *e*P **P 00 30 43.2 +0.4**
10nm,0.9s
TXAR Lajitas Array 49.86 329 P **P 00 30 47.0 -0.1**
1.5nm,0.8s,baz=148,slow=9.4,SNR=13
TXAR pP **pP 00 30 58.8 -0.4**
3.4nm,0.8s,baz=146,slow=8.8,SNR=19
TX31 Lajitas Ar. Si 49.86 329 *e*P **P 00 30 47.0 0.0**
TX31 *e*pP **pP 00 30 58.0 -1.2**
ABTX Abilene, Hawle 50.77 335 *e*P **P 00 30 53.9 +0.1**
ABTX *e*pP **pP 00 31 05.7 -0.3**
X37A Clayton 50.92 340 *e*P **P 00 30 55.2 +0.4**
29nm,1.4s
PMSA Palmer Station 52.08 173 LR LR 00 51 05.6
comp=Z,55nm,19.4s,baz=24,slow=34
TUL1 Leonard 52.26 340 *e*P **P 00 31 04.0 -0.9**
9.3nm,0.8s
WMOK Wichita Mounta 52.27 337 *e*P **P 00 31 04.2 -0.7**
14nm,1.7s
MNTX Cornudas Mount 52.63 329 *e*P **P 00 31 07.1 -0.6**
23nm,1.9s
MNTX *e*pP **pP 00 31 19.4 -0.6**
319A Douglas 54.44 325 *e*P **P 00 31 21.4 +0.3**
319A *e*pP **pP 00 31 34.6 +1.2**
BNM Barren Site 55.23 330 *e*P **P 00 31 27.2 +0.4**
LEMM Lemitar 55.41 329 *e*P **P 00 31 28.7 +0.6**
LAZ Ladron 55.68 329 *e*P **P 00 31 29.9 -0.2**
LAZ *e*pP **pP 00 31 42.9 +0.5**
ANMO Albuquerque 55.78 330 P **P 00 31 30.9 +0.1**
2.0nm,0.8s,baz=354,slow=11,SNR=6.4
ANMO pP **pP 00 31 43.0 -0.1**
6.7nm,1.0s,baz=155,slow=9.4,SNR=12
ANMO Albuquerque 55.78 330 *e*P **P 00 31 31.0 +0.2**
ANMO *e*pP **pP 00 31 43.3 +0.1**
TUC Tucson 55.98 325 *e*P **P 00 31 32.1 0.0**
TUC *e*pP **pP 00 31 45.1 +0.6**
RKT Rikitea 56.01 251 *e*LR LR 00 47 50.6
174nm,25.0s
RKT Rikitea 56.01 251 *e*T T 01 31 45.1
4.0nm,0.2s
CBKS Cedar Bluff 56.24 338 *e*P **P 00 31 33.6 -0.2**
11nm,0.8s
SDCO Great Sand Dun 57.63 333 *e*P **P 00 31 44.0 0.0**
SDCO *e*pP **pP 00 31 56.7 +0.3**
X16A Lo Mia Camp, P 57.93 326 *e*P **P 00 31 46.8 +0.8**
X16A *e*pP **pP 00 31 58.3 -0.1**
113A Mohawk Valley, 58.03 323 *e*P **P 00 31 46.9 +0.4**
5.7nm,1.1s
I42A Draeger Farm, 58.07 350 *e*P **P 00 31 45.9 -0.6**
29nm,1.3s
MVCO Mesa Verde 58.58 330 *e*P **P 00 31 49.3 -1.2**
MVCO *e*pP **pP 00 32 03.3 +0.3**
WUAZ Wupatki 58.72 327 *e*P **P 00 31 51.1 -0.4**
WUAZ *e*pP **pP 00 32 05.0 +1.1**
ISCO Idaho Springs 59.39 334 *e*P **P 00 31 55.7 -0.5**
14nm,1.8s
ECSD EROS Data Cent 59.69 343 *e*P **P 00 31 57.2 -0.6**
W13A Hualapai Mount 59.78 325 *e*P **P 00 31 58.6 -0.3**
W13A *e*pP **pP 00 32 12.8 +1.4**
U15A North Rim 59.90 327 *e*P **P 00 31 59.5 -0.2**
U15A *e*pP **pP 00 32 13.1 +0.9**
KNB Kanab 60.62 327 *e*P **P 00 32 05.6 +1.0**
KNB *e*pP **pP 00 32 17.9 +0.9**
PKCU Pink Cliffs 60.67 328 *e*P **P 00 32 05.0 -0.1**
PKCU *e*pP **pP 00 32 18.5 +1.0**
LCMT Little Creek M 60.84 327 *e*P **P 00 32 06.3 +0.3**
LCMT *e*pP **pP 00 32 19.1 +0.6**
SRU San Rafael Swe 61.06 330 *e*P **P 00 32 07.2 -0.3**
SRU *e*pP **pP 00 32 20.4 +0.5**
ASCN Ascension 61.24 92 *e*P **P 00 32 06.9 -2.1**
92nm,1.0s
MSU Marysvale 61.42 329 *e*P **P 00 32 10.2 +0.2**
P17A Butcher Ranch, 61.45 330 *e*P **P 00 32 10.3 +0.2**
P17A *e*pP **pP 00 32 23.1 +0.5**
SHPR Sheep Range 61.51 325 *e*P **P 00 32 11.2 +0.6**
SHPR *e*pP **pP 00 32 23.3 +0.2**
RWWY Rawlins 61.63 334 *e*P **P 00 32 11.2 -0.2**
17nm,1.4s
PSUT Pine Spring 62.30 328 *e*P **P 00 32 15.9 +0.1**
PSUT *e*pP **pP 00 32 29.5 +1.1**
TAOE Nuku Hiva Isla 62.42 267 *e*LR LR 00 50 53.9
196nm,23.8s
TPNV Topopah Spring 62.44 325 *e*P **P 00 32 17.1 +0.3**
TPNV *e*pP **pP 00 32 30.3 +1.0**
NLU North Lily Min 62.47 330 *e*P **P 00 32 17.3 +0.2**
3.4nm,1.1s
JLU Jordanelle 62.67 331 *e*P **P 00 32 19.0 +0.6**
10nm,1.4s
JLU *e*pP **pP 00 32 31.7 +0.8**
DUG Dugway, Tooele 63.02 329 *e*P **P 00 32 21.4 +0.8**
9.5nm,1.1s
R11A Troy Canyon, C 63.08 326 *e*P **P 00 32 22.0 +0.9**
5.0nm,1.3s
HWUT Hardware Ranch 63.51 331 *e*P **P 00 32 23.1 -0.8**
HWUT *e*pP **pP 00 32 36.5 +0.1**
PDAR Pinedale Array 63.52 333 P **P 00 32 23.5 -0.5**
1.2nm,1.0s,baz=134,slow=6.4,SNR=5.7
PDAR Pinedale Array 63.52 333 *e*P **P 00 32 22.7 -1.2**
BGU Big Grassy Mou 63.68 330 *e*P **P 00 32 25.2 +0.2**
BGU *e*pP **pP 00 32 37.9 +0.4**
AGMN Agassiz Nation 63.73 346 *e*P **P 00 32 24.6 -0.4**
11nm,0.8s
HVU Hansel Valley 64.21 331 *e*P **P 00 32 28.5 0.0**
HVU *e*pP **pP 00 32 40.4 -0.6**
MDND Maddock 64.30 343 *e*P **P 00 32 28.8 +0.1**
45nm,1.2s
OMMB Old Mammoth Mi 64.47 324 *e*P **P 00 32 30.8 +0.4**
OMMB *e*pP **pP 00 32 44.5 +1.6**
MDPB Devils Postpil 64.53 324 *e*P **P 00 32 30.0 -0.7**
MDPB *e*pP **pP 00 32 44.8 +1.5**
NV11 Mina Array Sit 64.56 325 *e*P **P 00 32 30.9 +0.2**
0.3nm,1.0s
REDW Red Top Meadow 64.57 333 *e*P **P 00 32 30.8 -0.1**
5.0nm,1.1s
NVAR Mina Array Bea 64.64 325 P **P 00 32 32.4 +1.0**
1.3nm,0.8s,baz=137,slow=6.8,SNR=9.6
NVAR pP **pP 00 32 44.9 +1.0**
2.2nm,0.9s,baz=133,slow=5.3,SNR=7.7
BBGB Big Mountain B 64.98 322 *e*P **P 00 32 29.4 -4.1**
FLWY Flagg Ranch 65.07 334 *e*P **P 00 32 33.5 -0.5**
FLWY *e*pP **pP 00 32 46.9 +0.3**
ULM Lac du Bonnet 65.56 347 P **P 00 32 36.0 -0.9**
11nm,0.8s,baz=169,slow=4.7,SNR=8.5
PAHR Pah Rah Range 66.13 325 *e*P **P 00 32 41.2 +0.3**
7.8nm,1.0s
PAHR *e*pP **pP 00 32 55.0 +1.5**
BEKR Beckworth 66.78 325 *e*P **P 00 32 45.5 +0.4**
4.9nm,1.1s
BEKR *e*pP **pP 00 32 58.8 +1.1**
ORV Oroville 67.23 324 *e*P **P 00 32 48.0 +0.3**
10nm,1.0s
ORV *e*pP **pP 00 33 01.7 +1.4**
SCHQ Schefferville 68.42 6 LR LR 01 05 47.5
comp=Z,51nm,18.2s,baz=348,slow=38
TBI Tubuai 69.30 250 *e*LR LR 00 53 55.1
167nm,27.0s
TBI Tubuai 69.30 250 *e*T T 01 48 22.0
14nm,0.2s
YBH Yreka Blue Hor 69.36 325 P **P 00 33 00.2 -0.9**
2.6nm,0.9s,baz=96,slow=3.6,SNR=8.2
YBH Yreka Blue Hor 69.36 325 *e*P **P 00 33 00.7 -0.5**
3.6nm,1.0s
PINE Pine Mountain 69.79 327 *e*P **P 00 33 04.3 +0.4**
6.0nm,1.0s
G08A Pilot Rock 69.83 330 *e*P **P 00 33 04.5 +0.5**
G08A *e*pP **pP 00 33 17.4 +0.7**
VNA3 Neumayer Olymp 70.08 162 P **P 00 33 05.7 +0.6**
PPT2 Papeete2 70.11 256 *e*LR LR 00 54 11.9
136nm,28.2s
E09A Wood Farm, Sta 70.32 331 *e*P **P 00 33 07.0 +0.2**
5.5nm,1.0s
VNA1 Neumayer--Stat 70.35 161 P **P 00 33 07.4 +0.8**
VNA2 Neumayer--Watz 70.70 161 P **P 00 33 08.3 -0.5**
baz=290,slow=6.0
E07A Sunnyside 71.17 330 *e*P **P 00 33 12.5 +0.4**
9.1nm,1.0s
SNAA Sanae 72.30 161 P **P 00 33 19.1 +0.5**
SNAA Sanae 72.30 161 *e*P **P 00 33 19.0 +0.4**
10nm,0.9s
LIC Lamto 73.64 79 *e*P **P 00 33 28.0 +0.6**
21nm,0.8s
TIC Toumodi 73.76 79 *e*P **P 00 33 32.6 +4.5**
DBIC Dimbokro 73.92 79 P **P 00 33 29.6 +0.5**
7.0nm,0.8s,baz=207,slow=9.2,SNR=13
DBIC LR LR 01 03 06.9
comp=Z,101nm,21.3s,baz=238,slow=33
KIC Kosan Boka 73.95 79 *e*P **P 00 33 29.3 +0.1**
14nm,0.6s
YKA Yellowknife Ar 81.22 343 P **P 00 34 08.4 -0.3**
1.9nm,0.7s,baz=142,slow=6.1,SNR=7.0
TOA0 Torodi Ar. Sit 81.89 74 *e*P **P 00 34 13.1 -0.3**
TORD Torodi Ar. Bea 81.89 74 P **P 00 34 13.8 +0.4**
4.5nm,0.7s,baz=202,slow=7.7,SNR=34
TORD LR LR 01 10 10.6
comp=Z,101nm,18.6s,baz=280,slow=35
VNDA Vanda 83.50 191 P **P 00 34 22.1 +1.5**
1.4nm,0.8s,baz=123,slow=5.6,SNR=3.9
VNDA LR LR 01 03 43.9
comp=Z,71nm,22.0s,baz=128,slow=30
ESDC Sonseca Array 85.49 48 P **P 00 34 31.9 +0.6**
0.3nm,0.6s,baz=251,slow=6.6,SNR=3.5
ESDC LR LR 01 08 07.7
comp=Z,54nm,21.6s,baz=280,slow=32
SYO Syowa Base 86.59 161‖ *e*P **P 00 34 35.0 -1.2**
SYO Syowa Base 86.59 161‖ *e*PcP **PcP 00 34 40.0 +1.5**
TAM Tamanrasset 87.98 66 *e*P **P 00 34 44.0 +0.1**
12nm,1.8s
SUMG Summit 89.32 11 *i* P **P 00 34 49.6 +0.1**
18nm,0.7s
INK Inuvik 90.90 342 *e*P **P 00 34 56.9 +0.5**
21nm,1.5s
AFI Afiamalu 91.78 255 LR LR 01 07 27.4
comp=Z,60nm,19.7s,baz=36,slow=30
ILAR Eielson Array 93.84 336 P **P 00 35 09.6 -0.5**
0.8nm,0.8s,baz=157,slow=4.6,SNR=8.4
KEST Kesra 94.41 54 LR LR 01 18 07.2
comp=Z,59nm,18.9s,baz=281,slow=36
MDM Murphy Dome 94.44 336 *e*P **P 00 35 12.5 -0.4**
11nm,1.1s
SVW2 Sparrevohn 96.34 331 *e*P **P 00 35 23.0 +1.4**
29nm,0.8s
SVW2 *e*S **S 00 46 34.5 -3.7**
IM3 Indian Mountai 96.95 336 *e*P **P 00 35 22.7 -1.6**
H11N3 WAKE ISLAND Hyl 19.11 285 T T 02 50 47.5
baz=96,slow=74,SNR=30
H11N2 WAKE ISLAND Hyl 19.12 285 T T 02 50 46.0
baz=96,slow=74,SNR=27
H11N1 WAKE ISLAND Hyl 19.13 285 T T 02 50 51.7
baz=96,slow=74,SNR=23
H11S2 WAKE ISLAND Hyl 19.20 284 T T 02 50 51.0
baz=94,slow=74,SNR=59
H11S1 WAKE ISLAND Hyl 19.20 284 T T 02 50 51.0
baz=94,slow=74,SNR=63
H11S3 WAKE ISLAND Hyl 19.22 284 T T 02 50 51.8
baz=94,slow=74,SNR=64
ABKAR Akbulak array 129.49 36 *e*PKPdf **PKPdf 00 41 03.1 +1.2**
AS01 Alice Springs 132.63 219 *e*PKPdf **PKPdf 00 41 07.8 -0.9**
ASAR Alice Springs 132.66 219 PKP **PKPdf 00 41 08.4 -0.3**
1.0nm,0.6s,baz=119,slow=2.0,SNR=8.7
WB2 Warramunga Arr 135.05 223 *e*PKPdf **PKPdf 00 41 11.5 -1.8**
WRA Warramunga Arr 135.06 223 PKP **PKPdf 00 41 13.1 -0.2**
2.6nm,0.8s,baz=129,slow=1.9,SNR=19
ZAA0 Zalesovo Array 136.91 16 *e*PKPdf **PKPdf 00 41 15.8 +0.1**
ZALV Zalesovo Beam 136.91 16 PKhKP PKPpre 00 41 09.4
0.4nm,0.4s,baz=316,slow=4.0,SNR=2.4
ZALV PKP **PKPdf 00 41 15.2 -0.4**
2.1nm,0.8s,baz=318,slow=2.0,SNR=7.1
MKAR Makanchi Array 142.23 24 PKhKP PKPpre 00 41 22.2
0.7nm,0.7s,baz=327,slow=2.4,SNR=2.8
KSH Kashi 144.44 38 PKP **PKPdf 00 41 29.8 -0.1**
KSH PP **PP 00 44 48.8 +3.4**
KSH SKS **SKSdf 00 48 35.0 +1.1**
ULN Ulaanbaatar 145.46 356 *e*PKPdf **PKPab 00 41 32.1 +0.4**
SONA1 Songino Array 145.52 356 *e*PKPdf **PKPdf 00 41 31.2 -0.3**
SONM Songino Array 145.54 356 PKPbc **PKPab 00 41 32.0 +0.1**
9.6nm,0.9s,baz=324,slow=2.5,SNR=53
WMQ Urumqi 146.76 21 *e*PKPbc **PKPdf 00 41 33.8 +0.1**
WMQ LR LR
comp=Z,220nm,18.7s
KSRS Korea Array 147.55 322 PKPbc **PKPdf 00 41 35.7 +0.7**
2.7nm,1.0s,baz=60,slow=5.0,SNR=5.5
KS01 Wonju Array Si 147.55 322 *e*PKPdf **PKPdf 00 41 35.2 +0.1**
KSAR Wonju Array Be 147.58 322 PKPbc **PKPdf 00 41 35.7 +0.6**
HHC Hu-ho-hao-te 151.70 347 *e*PKPbc **PKPdf 00 41 43.4 +1.7**
NJ2 Nanjing 156.63 325 *e*PKP **PKPdf 00 41 49.1 +0.4**
LZH Lanzhou 157.36 359 *e*PKP **PKPdf 00 41 50.3 +0.5**
LZH pPKP pPKPdf 00 42 01.0 -2.3
LZH sPKP 00 42 07.1
XAN Xi'an 158.81 347 PKP PKPdf 00 42 00.4 +8.9
XAN LR LR
comp=N,260nm,14.7s
XAN LR LR
comp=E,240nm,14.7s

SJA ***16*** *00:38:02.0±0.3,21°.47S×69°.81W,h159km±6km, ML4.3, MW4.8*
ISCJB ***16*** *00:38:03.5±0.3,21°.35S±0°.02×69°.24W±0°.04, h54km±3km, mb5.0/194, MS4.1/14, Error ellipse: s-maj=5.7km s-min=3.8km az=167.0*
MOS ***16*** *00:38:03.2±1.2,21°.43S×69°.37W, h44km, mb5.3/41, Error ellipse: s-maj=13.4km s-min=5.9km az=112.0*
GUC ***16*** *00:38:05.6±0.7,21°.51S×69°.49W, h62km±3km, ML5.3, MW5.0*
IDC ***16*** *00:38:06.0±0.3,21°.36S×69°.29W, h57km±2km, mb4.3/16, mb1 4.5/20,mb1mx4.4/31,mbtmp4.6/20,MS3.8/13, Ms1 3.8/13,ms1mx3.7/24, Error ellipse: s-maj=13.8km s-min=5.7km az=72.0*
NEIC ***16*** *00:38:05.0±0.0,21°.51S×69°.50W, h54km, mb5.0/177, MW4.9,ML5.2(GUC),Moment Tensor Solution. s16 Moment tensor: Scale 10¹⁶Nm; Mrr3.14; Mθθ-2.59; Mϕϕ-0.55; Mrθ0.15; Mrϕ-1.45; Mθϕ0.08; Best double couple: M₀3.30000×10¹⁶ NP1:ϕs243.00000°,δ44.00000°, λ90.00000°. NP2:ϕs63.00000°,δ47.00000°,λ90.00000°. Principal axes: T 3.1400, Plg88.0000°, Azm334.0000°; N 0.2100, Plg0.0000°, Azm243.0000°; P -3.3500, Plg2.0000°, Azm153.0000°; After GUC.*
NEIC *Felt [IV] at Calama, Oficina Maria Elena and Tocopilla; [III] at Alto Hospicio, Iquique, La Tirana and Pica.*
BJI ***16*** *00:38:07.5,21°.50S×69°.50W, h54km, mB5.3/8, Ms5.2/3, Ms7 5.0/4*
GCMT ***16*** *00:38:08.0±0.4,21°.51S±0°.02×69°.71W±0°.03, h41km±1km, MW5.0/67,Moment Tensor Solution. s37,c39; s67,c87; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.37±.20; Mθθ-3.15±.12; Mϕϕ0.78±.16; Mrθ1.09±.11; Mϕϕ-0.95±.10; Mϕr1.72±.15; Best double couple: M₀3.61800×10¹⁶ NP1:ϕ51.00000°,δ65.00000°,λ59.00000°. NP2: ϕ285.00000°,δ39.00000°,λ137.00000°. Principal axes: T 3.4980, Plg59.0000°, Azm277.0000°; N 0.2460, Plg27.0000°, Azm65.0000°; P -3.7370, Plg14.0000°, Azm163.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 16 00:38:05.5±0.2,21°.50S±0°.03×69°.49W±0°.04, h55km±1km, h55km:pP-P,n801,σ1$30/897,mb5.0/196,MS3.9/14, 12C-23D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
PB09	**IPOC Station P**	**0.38**	**141**	‖ *i*P	**Pn**	**00 38 16.7**	**+0.7**
PB09				*i* S	**Sn**	**00 38 24.1**	**+0.6**
PB09				IAML		00 38 26.6	
	comp=N,361μm,0.6s						

PB02 IPOC Station P 0.41 296‖ *i*P **Pn 00 38 16.9 +0.6**
PB02 *i* S **Sn 00 38 25.0 +1.0**
PB02 IAML 00 38 26.0
comp=E,266μm,0.1s
PB07 IPOC Station P 0.43 238↑ *i*P **Pn 00 38 17.0 +0.5**
PB07 *i* S **Sn 00 38 25.3 +0.9**
PB01 IPOC Station P 0.46 1 *e*Pn **Pn 00 38 17.3 +0.6**
PB01 *e*Sn **Sn 00 38 25.8 +1.0**
PB01 IPOC Station P 0.46 1‖ *i*P **Pn 00 38 17.2 +0.5**
PB01 *i* S **Sn 00 38 25.7 +1.0**
PB01 IAML 00 38 26.1
comp=E,462μm,0.2s
PB03 IPOC Station P 0.60 204‖ *i*P **Pn 00 38 18.9 +0.6**
PB03 *i* S **Sn 00 38 28.5 +0.8**
PB03 IAML 00 38 28.8
comp=E,170μm,0.2s
PB04 IPOC Station P 1.03 216 *e*Pn **Pn 00 38 24.5 +0.6**
PB04 IPOC Station P 1.03 216‖ *i*P **Pn 00 38 24.3 +0.4**
PB04 *i* S **Sn 00 38 38.5 +1.0**
PB04 IAML 00 38 42.6
comp=E,96μm,0.3s
PB06 IPOC Station P 1.20 183‖ *i*P **Pn 00 38 27.0 +0.8**
PB06 *i* S **Sn 00 38 42.7 +1.1**
PB06 IAML 00 38 43.4
comp=E,123μm,0.4s
LVC Limon Verde 1.23 154 P **Pn 00 38 28.3 +1.6**
comp=E,7μm,0.3s,baz=329,slow=9.4
LVC S **Sn 00 38 44.7 +2.2**
comp=E,14μm,0.3s,baz=337,slow=12,SNR=8.8
LVC LR LR 00 39 15.9
comp=E,5μm,19.8s,baz=333,slow=54
PB08 IPOC Station P 1.39 13‖ *i*P **Pn 00 38 30.0 +1.0**
PB08 *i* S **Sn 00 38 48.0 +1.6**
PB05 IPOC Station P 1.50 206‖ *i*P **Pn 00 38 30.6 +0.4**
PB15 IPOC Station P 1.70 179‖ *i*P **Pn 00 38 34.0 +1.0**
PB15 *i* S **Sn 00 38 55.4 +1.6**
PB11 IPOC Station P 1.74 355 *e*Pn **Pn 00 38 33.6 +0.1**
PB11 IPOC Station P 1.74 355‖ *i*P **Pn 00 38 33.8 +0.4**
PSGC Pisagua 1.98 343‖ *i*P **Pn 00 38 36.8 0.0**
PSGCX Pisagua 1.98 343 *i* P **Pn 00 38 37.1 +0.3**
PB10 IPOC Station P 2.23 206 *e*Pn **Pn 00 38 40.9 +0.8**
PB10 IPOC Station P 2.23 206 *i* P **Pn 00 38 40.2 +0.1**
PB10 *i* S **Sn 00 39 08.3 +1.8**
PB10 IPOC Station P 2.23 206‖ *i*P **Pn 00 38 40.3 +0.3**
PB10 IAML 00 39 24.3
comp=E,11μm,0.5s
MNMC Minye Minye 2.36 358 *e*Pn **Pn 00 38 42.8 +0.8**
MNMC Minye Minye 2.36 358‖ *i*P **Pn 00 38 43.0 +0.9**
YJA Yavi 3.76 101 *i* P **Pn 00 39 05.1 +3.7**
YJA IAML 00 39 41.6
comp=Z,92nm,0.6s
HJA Humahuaca 4.14 115 *i* P **Pn 00 39 10.1 +3.5**
HJA IAML 00 39 12.0
comp=Z,304nm,0.6s
SLA San Lorenzo 4.88 132 *i* P **Pn 00 39 18.6 +2.1**
SLA IAML 00 39 27.1
comp=Z,248nm,0.7s
AZAP Zapla 4.90 124 *i* P **Pn 00 39 19.3 +2.4**
LPAZ La Paz 5.34 14 P **Pn 00 39 26.4 +3.1**
comp=Z,19nm,0.3s,baz=194,slow=7.4,SNR=229
LPAZ La Paz 5.34 14 *e*Pn **Pn 00 39 27.4 +4.1**
LPAZ La Paz 5.34 14 *i* P **Pn 00 39 22.5 -0.8**
LPAZ La Paz 5.34 14 *e*P **Pn 00 39 27.4 +4.1**
ALOL LOMAS DE OLMED 5.59 115 *i* P **Pn 00 39 27.7 +1.6**
GO03 Copiap 6.10 186 *e*Pn **Pn 00 39 31.7 -1.5**
GO03 Copiap 6.10 186 *i* P **Pn 00 39 31.1 -2.1**
LCO Las Campanas 7.56 188 *e*Pn **Pn 00 39 49.9 -3.4**
LCO Las Campanas 7.56 188 *e*P **Pn 00 39 49.9 -3.4**
CYA Choya 7.68 155 *i* P **Pn 00 39 53.8 -1.0**
CYA IAML 00 40 48.1
comp=Z,58nm,0.6s
GO04 Tololo Observa 8.72 187 *e*Pn **Pn 00 40 05.5 -3.6**
SIV San Ignacio 9.68 57 P **Pn 00 40 20.8 -1.4**
comp=Z,2.7nm,0.3s,baz=267,slow=11,SNR=46
ROC1 El Roble 11.51 186 *e*Pn **Pn 00 40 42.6 -4.8**
PEL Peldehue 11.65 185 *e*Pn **Pn 00 40 50.6 +1.6**
PEL Peldehue 11.65 185 *e*P **Pn 00 40 50.6 +1.6**
NNA Nana 11.79 322 P **Pn 00 40 51.7 +0.7**
comp=Z,2.9nm,0.3s,baz=223,slow=7.7,SNR=9.4
NNA S **Sn 00 42 57.4 -3.8**
comp=Z,6.7nm,0.3s,baz=247,slow=11,SNR=5.0
NNA LR LR 00 45 22.1
comp=Z,422nm,21.9s,baz=163,slow=37
CPUP Villa Florida 12.12 116 P **Pn 00 40 54.1 -1.3**
comp=Z,0.2nm,0.3s,baz=298,slow=11,SNR=12
CPUP LR LR 00 46 20.3
comp=Z,971nm,20.8s,baz=296,slow=41
GO05 HualaæØ 13.63 189 *e*Pn **Pn 00 41 14.7 -1.3**
SAML Samuel 13.88 27 *e*Pn **Pn 00 41 18.7 -0.8**
SAML Samuel 13.88 27 *e*P **Pn 00 41 18.7 -0.8**
ATAH Atahualpa 16.67 328 P **P 00 41 59.5 +1.9**
comp=Z,0.4nm,0.3s,baz=141,slow=14,SNR=3.5
TRQA Tornquist 17.73 160 *e*Pn **Pn 00 42 07.0 -1.5**
comp=Z,115nm,0.9s
TRQA Tornquist 17.73 160 *ce*P **Pn 00 42 06.9 -1.6**
TRQA pmax pmax
comp=Z,144nm,1.7s
GO06 Curarrehue 18.11 185 *e*P **P 00 42 12.7 -0.2**
comp=Z,123nm,0.9s
PLCA Paso Flores 19.19 182 P **P 00 42 25.0 +0.2**
comp=Z,0.8nm,0.3s,baz=25,slow=13,SNR=40
PLCA Paso Flores 19.19 182 *e*P **P 00 42 25.1 +0.2**
comp=Z,67nm,1.0s
PLCA Paso Flores 19.19 182 *e*P **P 00 42 25.1 +0.2**
PLCA pmax pmax
comp=Z,67nm,1.0s
SPB Sao Paulo 20.48 100 *e*P **P 00 42 38.0 -0.9**
comp=Z,85nm,1.2s
BDFB Brasilia 21.17 78 P **P 00 42 44.5 -2.0**
comp=Z,8.3nm,0.4s,baz=240,slow=5.9,SNR=19
BDFB LR LR 00 52 03.3
comp=Z,368nm,19.8s,baz=244,slow=40
BDFB Brasilia 21.17 78 *e*P **P 00 42 45.5 -1.0**
comp=Z,154nm,1.5s
BDFB Brasilia 21.17 78 *e*P **P 00 42 45.5 -1.0**
BDFB pmax pmax
comp=Z,154nm,1.5s
GO07 Milladeo Hill, 21.83 188 *e*P **P 00 42 54.5 +1.3**
comp=Z,97nm,0.6s
PTGA Pitinga 22.64 25 P **P 00 43 00.4 -1.7**
comp=Z,3.5nm,0.3s,baz=224,slow=8.7,SNR=12
PTGA Pitinga 22.64 25 *e*P **P 00 43 01.5 -0.6**
comp=Z,28nm,0.8s
OTAV Otavalo 23.31 337 *e*P **P 00 43 10.2 +0.8**
comp=Z,80nm,1.3s
OTAV Otavalo 23.31 337 *e*P pP 00 43 21.2 -0.9
OTAV Otavalo 23.31 337 *e*P **P 00 43 10.2 +0.8**
OTAV pmax pmax
comp=Z,80nm,1.3s
FLOC Florencia 23.72 345 *e*P **P 00 43 13.6 +0.9**
GCUF Volcan Galeras 23.86 340 *e*P P 00 43 22.6 +8.1
CRUC La Cruz 24.06 341 *e*P P 00 43 23.9 +7.7
SOTA Rioblanco 24.50 343 *e*P **P 00 43 22.7 +2.3**
PCON Cinco Dias 24.63 343 *e*P **P 00 43 24.5 +2.9**
BETC Betania 24.73 346 *e*P **P 00 43 23.8 +1.8**
POPC Popayan, Colom 24.91 343 *e*P **P 00 43 25.8 +2.0**
PRAC Prado 25.61 347 *e*P **P 00 43 30.3 +0.4**
CHRN Cochrane 25.81 185 *e*P **P 00 43 32.4 +1.0**
CHRN *e*pP **sP 00 43 48.6 -3.0**
CHIC Chingaza 26.30 350 *e*P **P 00 43 36.0 -0.5**
TOLC Tolima 26.55 347 *e*P pP 00 43 55.2 +2.8
ROSC El Rosal 26.60 349 LR LR 00 55 20.9
comp=Z,271nm,18.2s,baz=196,slow=39
ROSC El Rosal 26.60 349 *e*P pP 00 43 55.0 +2.0
RREF El Recreo 26.86 347 *e*P **P 00 43 44.0 +2.1**
GUYC Guyana, Colomb 27.18 347 *e*P **P 00 43 45.4 +0.8**
NORC Norcasia 27.41 348 *e*P **P 00 43 46.0 -0.2**
RUSC La Rusia 27.45 352 *e*P **P 00 43 47.0 0.0**
TAMC Tame, Arauca 27.85 355 *e*P pP 00 44 03.3 -0.6
HELC Santa Helena 28.15 347 *e*P **P 00 43 52.6 -0.5**
PTBC PUERTO BERRIO, 28.29 350 *e*P **P 00 43 51.4 -2.6**
SDV Santo Domingo 30.22 358 P **P 00 44 11.2 -0.1**
comp=Z,5.1nm,0.4s,baz=286,slow=11,SNR=2.6
SMLC San Mart`n de 30.45 351 *e*P **P 00 44 10.1 -3.0**
MOTC Monteria, Cord 30.69 348 *e*P pP 00 44 28.1 -1.0
JTS JuntasAbangare 35.05 333‖ *e*P **P 00 44 51.3 -2.0**
FDF Fort de France 36.93 14 *e*P **P 00 45 09.1 -0.3**
comp=Z,238nm,1.7s
FDF *e*pP **pP 00 45 25.7 +2.3**
FDF Fort de France 36.93 14 *e*P **P 00 45 09.1 -0.3**
FDF *e**PP **pP 00 45 25.7 +2.3**
FDF pmax pmax
comp=Z,238nm,1.7s
CRPR Cabo Rojo, PR 39.33 4 *e*P **P 00 45 27.7 -1.8**

comp=Z,193nm,1.2s
OBIP Obispado Ponce 39.40 4 *e*P **P 00 45 27.2 -2.9**
OBIP *e*pP **pP 00 45 41.4 -2.8**
TGUH Tegucigalpa,Un 39.41 332 *e*P **P 00 45 31.4 +1.1**
comp=Z,36nm,0.9s
SJG San Juan 39.50 5 *e*P **P 00 45 28.6 -2.4**
comp=Z,91nm,1.3s
SJG San Juan 39.50 5 *e*P **P 00 45 28.6 -2.4**
SJG pmax pmax
comp=Z,91nm,1.3s
MTP Monte Pirata 39.54 6 *e*P **P 00 45 28.6 -2.6**
MTP *e*pP **pP 00 45 43.2 -2.2**
HUMP Col San Antoni 39.56 5 *e*P **P 00 45 31.4 0.0**
comp=Z,56nm,1.3s
CBYP Canovanas 39.69 5 *e*P **P 00 45 29.8 -2.8**
CBYP *e*pP **pP 00 45 44.8 -1.9**
GTBY Guantanamo Bay 41.54 352 *e*P **P 00 45 47.7 0.0**
comp=Z,46nm,1.1s
APG El Apazote 41.71 329 P **P 00 45 48.5 -1.0**
comp=Z,15nm,0.8s,baz=181,slow=14,SNR=5.7
GRTK Grand Turk 42.78 358 *e*P **P 00 45 57.9 +0.1**
comp=Z,395nm,1.6s
CMIG Matias Romero 45.72 325 P **P 00 46 21.8 +0.4**
comp=Z,4.8nm,0.8s,baz=112,slow=8.2,SNR=4.3
CMIG sP **sP 00 46 42.6 +0.5**
comp=Z,11nm,0.9s,baz=147,slow=5.6,SNR=6.5
TLIG Tlapa 48.15 322 *e*P **P 00 46 41.4 +0.8**
comp=Z,15nm,0.8s
058A Arcadia 49.72 346 P **P 00 46 52.0 -0.2**
baz=165
859A Kempfer Cattle 50.49 347 P **P 00 46 58.1 +0.1**
baz=166
757A Oxford 51.59 346 P **P 00 47 06.2 -0.2**
baz=165
453A Whigham 53.97 344 P **P 00 47 23.3 -0.5**
baz=163
353A Camilla 54.41 344 P **P 00 47 26.2 -0.9**
baz=163
ZAIG Zacatecas 54.55 322 *e*P **P 00 47 30.3 +1.7**
comp=Z,22nm,0.8s
LNIG Linares 54.55 326 *e*P **P 00 47 27.9 -0.3**
comp=Z,11nm,0.9s
LNIG *e*pP **pP 00 47 43.9 +0.9**
352A Blakely 54.72 344 P **P 00 47 28.8 -0.5**
baz=162
ASCN Ascension 54.74 84 *e*P **P 00 47 29.6 -0.3**
comp=Z,135nm,1.1s
254A Abbeville 54.76 346 P **P 00 47 28.6 -1.0**
baz=164
349A Repton 55.22 342 P **P 00 47 32.3 -0.6**
baz=160
251A Midway 55.43 344 P **P 00 47 33.0 -1.4**
baz=162
249A Camden 55.79 342 P **P 00 47 35.7 -1.3**
baz=160
152A Waverly Hall 55.80 344 P **P 00 47 35.7 -1.3**
baz=163
151A Opelika 55.82 344 P **P 00 47 36.0 -1.2**
baz=162
150A Eclectic 56.08 343 P **P 00 47 37.8 -1.2**
baz=162
248A Dixon Mills 56.08 341 P **P 00 47 37.9 -1.2**
baz=160
Z52A Williamson 56.22 345 P **P 00 47 39.0 -1.0**
baz=163
344A Westbrook Farm 56.45 338 *e*P **P 00 47 41.4 -0.3**
comp=Z,17nm,0.8s
344A Westbrook Farm 56.45 338 P **P 00 47 40.9 -0.8**
baz=156
Y54A Tignall 56.47 347 P **P 00 47 40.4 -1.4**
baz=165
Z50A Ashland 56.66 344 *e*P **P 00 47 41.9 -1.3**
comp=Z,11nm,0.8s
Z50A *e*pP **pP 00 47 58.5 +0.5**
Z50A Ashland 56.66 344 P **P 00 47 42.0 -1.3**
baz=162
245A Little AP, Sta 56.70 339 P **P 00 47 42.8 -0.7**
baz=157
Z49A Columbiana 56.77 343 P **P 00 47 42.6 -1.3**
baz=161
342A Flagon Creek P 56.95 337 *e*P **P 00 47 46.2 +0.9**
comp=Z,43nm,0.8s
342A Flagon Creek P 56.95 337 P **P 00 47 45.6 +0.4**
baz=155
Y51A Rockmart 57.05 345 P **P 00 47 44.6 -1.4**
baz=163
HKT Hockley 57.09 333 *e*P **P 00 47 46.9 +0.7**
HKT *e*pP **sP 00 48 04.3 -2.9**
HKT Hockley 57.09 333 *e*P **P 00 47 46.9 +0.7**
HKT *e**PP **sP 00 48 04.3 -2.9**
X53A Estanollee 57.22 346 P **P 00 47 45.9 -1.2**
baz=165
Z48A Northport 57.23 342 P **P 00 47 46.1 -1.0**
baz=160
145A Houston Renfro 57.24 339 P **P 00 47 45.8 -1.5**
baz=157
833A Chaparral WMA, 57.33 329 *e*P **P 00 47 48.4 +0.4**
833A *e*pP **pP 00 48 04.3 +1.4**
833A Chaparral WMA, 57.33 329 P **P 00 47 48.1 0.0**
baz=147
Y49A Blount Mountai 57.36 343 P **P 00 47 46.7 -1.5**
baz=161
KMSC Kings Mountain 57.44 348 P **P 00 47 47.3 -1.4**
baz=167
241A Mo Tay, Goldon 57.75 336 *e*P **P 00 47 51.6 +0.7**
comp=Z,41nm,0.9s
241A Mo Tay, Goldon 57.75 336 P **P 00 47 51.1 +0.1**
baz=154
Y47A UCPARC, Winfie 57.80 342 P **P 00 47 49.7 -1.5**
baz=160
W53A Cullowhee 57.83 347 P **P 00 47 50.8 -0.8**
baz=165
Z45A Winona 57.87 340 P **P 00 47 50.9 -0.8**
baz=158
W52A Murphy 57.93 346 P **P 00 47 51.7 -0.5**
baz=164
X49A Woodville 57.96 344 P **P 00 47 51.0 -1.3**
baz=162
Z44A Pea Ridge, Bel 58.02 339 P **P 00 47 52.0 -0.8**
baz=157
Y46A Houston 58.08 341 P **P 00 47 51.5 -1.6**
baz=159
X48A Hartselle 58.09 343 *e*P **P 00 47 52.5 -0.8**
comp=Z,30nm,1.4s
X48A Hartselle 58.09 343 P **P 00 47 51.6 -1.6**
baz=161
W51A Cleveland 58.18 345 P **P 00 47 53.0 -0.9**
baz=163
NATX Nacogdoches 58.19 335 *e*P **P 00 47 55.0 +1.0**
comp=Z,36nm,0.8s
V53A Saluda 58.24 347 *e*P **P 00 47 54.3 0.0**
comp=Z,15nm,1.0s
V53A Saluda 58.24 347 P **P 00 47 53.6 -0.7**
baz=166
Y45A Yeager Farm, C 58.28 340 P **P 00 47 53.6 -0.9**
baz=158
W50A Signal Mountai 58.35 345 *e*P **P 00 47 55.6 +0.5**
comp=Z,49nm,1.5s
W50A Signal Mountai 58.35 345 P **P 00 47 54.0 -1.1**
baz=163
X47A Russelville 58.38 342 P **P 00 47 53.6 -1.7**
baz=160
CPCT Cooper Cave 58.40 346 *e*P **P 00 47 55.7 +0.2**
comp=Z,18nm,1.1s
TKL Tuckaleechee C 58.44 346 *e*P **P 00 47 55.4 -0.3**
comp=Z,20nm,1.1s
TKL Tuckaleechee C 58.44 346 *e*P **P 00 47 55.4 -0.3**
TKL pmax pmax
comp=Z,20nm,1.1s
W49A Belvidere 58.52 344 P **P 00 47 55.3 -0.9**
baz=162
SWET Sewanee 58.52 344 *e*P **P 00 47 55.5 -0.8**
SWET *e*pP **pP 00 48 11.0 -0.1**
435B Jarrell 58.57 332 *e*P **P 00 47 56.7 0.0**
comp=Z,13nm,0.7s
435B Jarrell 58.57 332 P **P 00 47 55.8 -0.8**
baz=149
V52A Sevierville 58.57 347 *e*P **P 00 47 56.0 -0.6**
V52A *e*pP **sP 00 48 15.1 -2.6**
V52A Sevierville 58.57 347 P **P 00 47 55.4 -1.2**
baz=165
Y44A Strider, Charl 58.58 340 P **P 00 47 55.5 -1.2**
baz=157
X46A Booneville 58.63 342 P **P 00 47 55.2 -1.8**
baz=159
V51A Loudon 58.70 346 *e*P **P 00 47 56.8 -0.7**
comp=Z,47nm,1.6s
V51A Loudon 58.70 346 P **P 00 47 56.3 -1.2**
baz=164
W48A Pulaski 58.71 343 P **P 00 47 56.5 -1.1**
baz=161
V50A Pikevile 58.75 345 P **P 00 47 56.6 -1.2**
baz=163
Z41A Richland Creek 58.82 337 *e*P **P 00 47 59.0 +0.6**
comp=Z,29nm,1.0s
OXF Oxford 58.83 341 *e*P **P 00 47 57.0 -1.4**
comp=Z,26nm,0.9s
OXF Oxford 58.83 341 *e*P **P 00 47 57.0 -1.4**
OXF pmax pmax
comp=Z,26nm,0.9s
OXF Oxford 58.83 341 P **P 00 47 56.5 -1.9**
baz=158
U53A Fall Branch 58.87 348 P **P 00 47 57.7 -1.0**
baz=166
PLAL Pickwick Lake 58.88 342 *e*P **P 00 47 58.8 +0.1**
PLAL *e*pP **sP 00 48 19.2 -0.6**
Y42A Garnett, Star 58.99 338 P **P 00 47 59.0 -0.5**
baz=156
W47A Westpoint 59.00 343 P **P 00 47 57.9 -1.7**
baz=160
V49A McMinnville 59.04 344 P **P 00 47 58.5 -1.4**
baz=162
V48A Smith Brothers 59.25 344 *e*P **P 00 48 00.2 -1.1**
comp=Z,71nm,1.7s
V48A *e*pP **pP 00 48 16.1 0.0**
V48A Smith Brothers 59.25 344 P **P 00 48 00.3 -1.1**
baz=161
BLA Blacksburg 59.30 350 P **P 00 48 01.4 -0.3**
baz=168
Y41A Eaglette Beard 59.31 338 P **P 00 48 01.3 -0.5**
baz=155
JCT Junction City 59.33 330 *e*P **P 00 48 02.1 +0.1**
comp=Z,15nm,0.8s
JCT Junction City 59.33 330 *e*P **P 00 48 02.1 +0.1**
JCT pmax pmax
comp=Z,15nm,0.8s
JCT Junction City 59.33 330 P **P 00 48 01.8 -0.2**
baz=147,SNR=7.6
U50A Jamestown 59.40 346 P **P 00 48 01.3 -1.0**
baz=163
V47A Nunnelly 59.52 343 P **P 00 48 01.8 -1.3**
baz=161
HPIG 59.54 322 *e*P **P 00 48 04.6 +0.9**
comp=Z,19nm,1.2s
WHTX Lake Whitney, 59.55 332 *e*P **P 00 48 03.7 +0.3**
comp=Z,132nm,1.8s
WHTX Lake Whitney, 59.55 332 P **P 00 48 03.1 -0.3**
baz=150
V46A Holladay 59.66 342 P **P 00 48 01.9 -2.2**
baz=160
R58B Mineral 59.67 352 P **P 00 48 03.5 -0.6**
baz=171
U49A Red Boiling Sp 59.72 345 P **P 00 48 03.2 -1.3**
baz=162
SLBS Sierra La Lagu 59.73 316 *e*P **P 00 48 07.1 +2.1**
comp=Z,41nm,1.4s
SLBS *e*pP **sP 00 48 23.1 -2.9**
T51A Gray 59.73 347 P **P 00 48 03.5 -1.1**
baz=164
X41A Kaden, Bauxite 59.84 338 P **P 00 48 04.1 -1.2**
baz=155
V45A Humboldt 59.84 342 P **P 00 48 03.8 -1.6**
baz=159
WVT Waverly 59.89 343 *e*P **P 00 48 04.2 -1.5**
WVT *e*pP **pP 00 48 20.1 -0.4**
WVT Waverly 59.89 343 *e*P **P 00 48 04.2 -1.5**
WVT *e**PP **pP 00 48 20.1 -0.4**
WVT Waverly 59.89 343 P **P 00 48 03.9 -1.8**
baz=160
U48A Cassie Pea, Po 59.90 344 P **P 00 48 04.6 -1.2**
baz=162
T50A Nancy 59.98 346 P **P 00 48 05.2 -1.1**
baz=164
U47A Clarksville 60.03 343 P **P 00 48 05.4 -1.3**
baz=161
RKT Rikitea 60.13 255 *e*LR LR 01 06 02.8
comp=Z,295nm,29.2s
U46A Springville 60.20 343 P **P 00 48 06.3 -1.5**
baz=160
T49A Edmonton 60.22 345 *e*P **P 00 48 06.9 -1.0**
comp=Z,28nm,1.0s
T49A Edmonton 60.22 345 P **P 00 48 06.8 -1.2**
baz=163
VNA3 Neumayer Olymp 60.25 161 P **P 00 48 08.2 +0.4**
MIAR Mount Ida 60.26 337 *e*P **P 00 48 07.9 -0.4**
comp=Z,19nm,0.8s
MIAR Mount Ida 60.26 337 *e*P **P 00 48 07.9 -0.4**
MIAR pmax pmax
comp=Z,19nm,0.8s
MIAR Mount Ida 60.26 337 P **P 00 48 07.7 -0.5**
baz=154,SNR=11
S51A Beattyville 60.30 347 *e*P **P 00 48 08.4 -0.1**
comp=Z,46nm,1.5s
S51A Beattyville 60.30 347 P **P 00 48 07.8 -0.7**
baz=165
TXAR Lajitas Array 60.32 326 P **P 00 48 09.0 +0.1**
comp=Z,3.8nm,0.7s,baz=150,slow=8.6,SNR=50
TXAR pP **pP 00 48 24.9 +1.1**
comp=Z,0.8nm,0.5s,baz=147,slow=8.8,SNR=3.2
TXAR sP **sP 00 48 30.6 +0.6**
comp=Z,3.2nm,0.7s,baz=144,slow=7.8,SNR=10
TXAR LR LR 01 12 47.3
comp=Z,52nm,19.4s,baz=0.0,slow=34
TX31 Lajitas Ar. Si 60.32 326 *e*P **P 00 48 08.9 0.0**
U45A Rockin P Farm, 60.35 342 P **P 00 48 08.1 -0.7**
baz=159
W41B Gary Mavity, V 60.36 339 P **P 00 48 07.9 -1.0**
baz=156
T48A Bowling Green 60.44 345 P **P 00 48 08.4 -1.0**
baz=162
VNA1 Neumayer--Stat 60.47 160 P **P 00 48 10.1 +0.9**
WHAR Wooly Hollow 60.48 339 *e*P **P 00 48 09.2 -0.5**
comp=Z,15nm,1.1s
T47A Sharon Grove 60.50 344 *e*P **P 00 48 08.6 -1.3**
T47A *e*pP **pP 00 48 24.4 -0.4**
T47A Sharon Grove 60.50 344 P **P 00 48 08.5 -1.3**
baz=161
S50A Richmond 60.51 346 P **P 00 48 08.9 -1.0**
baz=164
U44B Burton Farm, H 60.51 342 P **P 00 48 08.5 -1.4**
baz=159
T46A Princeton 60.76 343 P **P 00 48 10.3 -1.3**
baz=160
S49A Springfield 60.81 346 P **P 00 48 10.8 -1.1**
baz=163
VNA2 Neumayer--Watz 60.83 161 P **P 00 48 12.8 +1.1**
baz=287,slow=7.5
U43A Rector 60.86 341 P **P 00 48 11.0 -1.3**
baz=158
S48A Wiedeman Farm, 60.87 345 P **P 00 48 10.8 -1.6**
baz=162
V41A Mountainview 60.88 339 P **P 00 48 11.4 -1.1**
baz=156
W39A Magazine 60.91 337 *e*P **P 00 48 13.0 +0.3**
comp=Z,21nm,0.8s
W39A *e*pP **pP 00 48 29.3 +1.7**
W39A Magazine 60.91 337 P **P 00 48 12.6 -0.1**
baz=154
PARMO Parma 60.93 341 *e*P **P 00 48 12.6 -0.2**
comp=Z,50nm,0.6s
R51A Hillsboro 60.94 347 P **P 00 48 12.0 -0.8**
baz=165
X37A Clayton 60.97 336 *e*P **P 00 48 13.5 +0.4**
comp=Z,22nm,0.8s
ABTX Abilene, Hawle 61.05 331 *e*P **P 00 48 13.9 +0.2**
comp=Z,27nm,0.9s
ABTX *e*pP **pP 00 48 29.8 +1.1**
ABTX Abilene, Hawle 61.05 331 P **P 00 48 13.5 -0.3**
baz=148
U42A Revenden 61.10 340 P **P 00 48 12.7 -1.2**
baz=157
PBMO Poplar Bluff 61.24 341 *e*P **P 00 48 13.8 -1.1**
PBMO *e*pP **pP 00 48 30.0 +0.2**
R49A Shelbyville 61.27 346 P **P 00 48 13.6 -1.4**
baz=163
T44A Benton 61.28 342 P **P 00 48 13.8 -1.3**
baz=159
U41A Viola 61.31 339 P **P 00 48 14.0 -1.4**
baz=156
S46A Don Dixon Farm 61.32 344 P **P 00 48 13.9 -1.4**
baz=161
Q52A Bidwell 61.32 349 P **P 00 48 14.5 -0.9**
baz=166
WCI Wyandotte Cave 61.47 345 *e*P **P 00 48 14.1 -2.3**
comp=Z,96nm,1.9s
WCI Wyandotte Cave 61.47 345 *e*P **P 00 48 14.1 -2.3**
WCI pmax pmax
comp=Z,96nm,1.9s
WCI Wyandotte Cave 61.47 345 P **P 00 48 14.9 -1.5**
baz=162
T43A Greenville 61.48 341 P **P 00 48 15.4 -1.1**
baz=158
MVL Millersville 61.51 354 *e*P **P 00 48 17.1 +0.5**
MVL *e*pP **sP 00 48 34.8 -3.0**
R48A Northridge Ran 61.54 345 P **P 00 48 16.0 -0.8**
baz=163
Q50A Georgetown 61.54 347 P **P 00 48 15.7 -1.1**
baz=165
S45A Carrier Mills 61.54 343 P **P 00 48 15.7 -1.2**
baz=160
Q51A Peebles 61.59 348 P **P 00 48 16.1 -1.1**
baz=165
R47A Wooly Knot Far 61.59 345 P **P 00 48 15.8 -1.4**
baz=162
MCWV Mont Chateau 61.60 351 *e*P **P 00 48 17.8 +0.5**
comp=Z,20nm,0.8s
MCWV Mont Chateau 61.60 351 P **P 00 48 17.4 +0.1**
baz=169,SNR=6.6
U40A Yellville 61.64 339 P **P 00 48 16.7 -0.9**
baz=155
T42A Van Buren 61.68 340 *e*P **P 00 48 16.6 -1.2**
T42A *e*pP **sP 00 48 35.9 -3.0**
T42A Van Buren 61.68 340 P **P 00 48 16.6 -1.2**
baz=157
P53A Whipple 61.68 350 *e*P **P 00 48 17.5 -0.3**
P53A *e*pP **pP 00 48 35.1 +2.3**
P53A Whipple 61.68 350 P **P 00 48 17.3 -0.4**
baz=168
S44A Carbondale 61.75 342 P **P 00 48 17.2 -1.1**
baz=159
SIUC Southern Illin 61.76 342 *e*P **P 00 48 17.3 -1.0**
SIUC *e*pP **pP 00 48 33.4 +0.1**
S43A Fulton Ridge, 61.87 342 P **P 00 48 17.8 -1.3**
baz=158
Q49A Aurora 61.89 346 P **P 00 48 17.8 -1.4**
baz=164
T41A Mountain View 61.90 340 P **P 00 48 18.3 -1.1**
baz=156
HHAR Hobbs 61.95 338 *e*P **P 00 48 19.3 -0.4**
comp=Z,34nm,1.3s
HHAR *e*pP **pP 00 48 35.1 +0.5**
P52A Corning 61.95 349 P **P 00 48 19.0 -0.6**
baz=167
P51A Williamsport 61.98 348 P **P 00 48 19.0 -0.8**
baz=166
Q48A North Vernon 62.01 346 P **P 00 48 18.4 -1.6**
baz=163
O56A Blue Knob Stat 62.03 352 *e*P **P 00 48 20.9 +0.7**
O56A *e*pP **pP 00 48 37.1 +2.0**
O56A Blue Knob Stat 62.03 352 P **P 00 48 19.9 -0.2**
baz=170
R45A Skylar, Fairfi 62.04 343 P **P 00 48 18.5 -1.7**
baz=160
Q47A Bedord North L 62.18 345 P **P 00 48 19.4 -1.7**
baz=162
R44A Waltonville 62.22 343 P **P 00 48 19.7 -1.7**
baz=159
P50A Jamestown 62.24 348 P **P 00 48 20.3 -1.3**
baz=165
S42A Caledonia 62.27 341 P **P 00 48 20.2 -1.6**
baz=158
TUL1 Leonard 62.29 336 *e*P **P 00 48 21.5 -0.5**
comp=Z,24nm,0.9s
TUL1 Leonard 62.29 336 P **P 00 48 21.0 -1.0**
baz=152
SSPA Standing Stone 62.31 353 *e*P **P 00 48 22.1 +0.2**
comp=Z,13nm,0.8s
SSPA Standing Stone 62.31 353 P **P 00 48 21.6 -0.3**
baz=171
PAL Palisades 62.32 356 P **P 00 48 21.1 -0.9**
baz=175
FVM French Village 62.36 341 *e*P **P 00 48 21.4 -1.0**
comp=Z,28nm,0.8s
FVM *e*pP **pP 00 48 38.0 +0.7**
FVM French Village 62.36 341 *e*P **P 00 48 21.4 -1.0**
FVM *e**PP **pP 00 48 38.0 +0.7**
FVM pmax pmax
comp=Z,28nm,0.8s
P49A Miami Univ. Ec 62.36 347 P **P 00 48 20.7 -1.7**
baz=164
O52A Adamsville 62.37 349 *e*pP pP 00 48 40.1 +2.8
O52A Adamsville 62.37 349 P **P 00 48 21.5 -0.9**
baz=167
S41A Jillco Farms, 62.40 340 P **P 00 48 21.2 -1.4**
baz=157
P48A Milroy 62.45 346 P **P 00 48 21.1 -1.8**
baz=163
SNAA Sanae 62.46 161 P **P 00 48 23.1 +0.4**
SNAA Sanae 62.46 161 P **P 00 48 23.3 +0.6**
comp=Z,4.7nm,0.8s,baz=274,slow=8.2,SNR=37
SNAA pP **pP 00 48 38.2 +0.5**
comp=Z,18nm,0.9s,baz=295,slow=7.8,SNR=25
SNAA Sanae 62.46 161 *e*P **P 00 48 22.8 0.0**
comp=Z,20nm,0.9s
SNAA pP **pP 00 48 38.2 +0.5**
SNAA Sanae 62.46 161 *c*P **P 00 48 22.8 0.0**
SNAA pmax pmax
comp=Z,353nm,0.9s
WMOK Wichita Mounta 62.47 333 *e*P **P 00 48 22.5 -0.7**
WMOK *e*pP **pP 00 48 40.3 +2.1**
WMOK Wichita Mounta 62.47 333 *e*P **P 00 48 22.5 -0.7**
WMOK *e**PP **pP 00 48 40.3 +2.1**
WMOK Wichita Mounta 62.47 333 P **P 00 48 22.1 -1.1**
baz=149
R43A Red Bud 62.48 342 P **P 00 48 21.9 -1.3**
baz=159
O51A Pataskala 62.53 349 P **P 00 48 22.3 -1.3**
baz=166
Q45A Warren Harvey, 62.57 344 P **P 00 48 22.2 -1.6**
baz=160
P47A Martinsville 62.66 345 P **P 00 48 22.9 -1.5**
baz=162
CCM Cathedral Cave 62.67 341 *e*P **P 00 48 23.5 -1.0**
comp=Z,13nm,0.8s
CCM *e*pP **sP 00 48 44.8 -0.8**
CCM Cathedral Cave 62.67 341 *e*P **P 00 48 23.5 -1.0**
CCM *e**PP **sP 00 48 44.8 -0.8**
CCM pmax pmax
comp=Z,13nm,0.8s
CCM Cathedral Cave 62.67 341 P **P 00 48 23.4 -1.0**
baz=157
ACSO Alum Creek Sta 62.69 348 *e*P **P 00 48 23.9 -0.6**
ACSO *e*pP **pP 00 48 41.1 +1.6**
ACSO Alum Creek Sta 62.69 348 P **P 00 48 23.4 -1.1**
baz=166
O50A Cable 62.73 348 P **P 00 48 23.7 -1.1**
baz=165
R42A Luebbering 62.74 341 P **P 00 48 23.8 -1.1**
baz=158
Q44A Meyer Farm, Va 62.81 343 P **P 00 48 23.9 -1.4**
baz=160
N54A Moraine State 62.90 351 *e*P **P 00 48 26.4 +0.4**
N54A *e*pP **pP 00 48 42.5 +1.5**
N54A Moraine State 62.90 351 P **P 00 48 25.9 0.0**
baz=169
O49A Covington 62.91 347 P **P 00 48 24.6 -1.4**
baz=164
R41A Rosebud 62.93 341 P **P 00 48 25.2 -1.0**
baz=157
GDL2 Guadalupe Moun 62.97 327 *e*P **P 00 48 27.7 +1.0**
KSPA Keystone Colle 63.01 355 *e*P **P 00 48 27.6 +1.0**
comp=Z,146nm,1.9s
P46A Rosedale 63.01 345 P **P 00 48 25.4 -1.3**
baz=162
Q43A New Douglas 63.03 342 P **P 00 48 25.6 -1.3**
baz=159
P45A Graceland, Par 63.06 344 *e*P **P 00 48 25.1 -1.9**
comp=Z,31nm,0.8s
P45A Graceland, Par 63.06 344 P **P 00 48 25.1 -1.9**
baz=161
MNTX Cornudas Mount 63.09 326 *e*P **P 00 48 26.8 -0.7**
comp=Z,11nm,0.9s
MNTX Cornudas Mount 63.09 326 P **P 00 48 26.7 -0.7**
baz=142,SNR=19
BRYW Bryant College 63.12 358 *e*pP pP 00 48 44.2 +1.8
O48A Farmland 63.15 347 P **P 00 48 26.0 -1.6**
baz=164
P44A Sand Creek, Wi 63.23 343 P **P 00 48 26.4 -1.8**
baz=160
N50A Nevada 63.24 348 P **P 00 48 27.0 -1.2**
baz=166

N51A	Ashland	63.24	349	P		P	00 48 27.2	-1.0
	baz=167							
Q42A	Golden Eagle	63.25	342	P		P	00 48 27.1	-1.1
	baz=158							
O47A	Sheridan	63.36	346	P		P	00 48 27.3	-1.7
	baz=163							
M54A	Oil Creek Stat	63.39	351	*e*P		P	00 48 29.4	+0.2
M54A				*ep*P		*p*P	00 48 45.2	+1.0
M54A	Oil Creek Stat	63.39	351	P		P	00 48 29.0	-0.2
	baz=169							
Q41A	Truxton	63.49	341	P		P	00 48 28.9	-1.0
	baz=157							
N49A	Columbus Grove	63.59	348	*e*P		P	00 48 29.4	-1.0
N49A				*ep*P		*p*P	00 48 45.5	0.0
N49A	Columbus Grove	63.59	348	P		P	00 48 29.4	-1.0
	baz=165							
M51A	Elyria	63.61	349	P		P	00 48 29.7	-0.9
	baz=167							
MSTX	Muleshoe	63.62	329	*e*P		P	00 48 30.9	-0.1
MSTX				*ep*P		*p*P	00 48 47.0	+0.9
MSTX	Muleshoe	63.62	329	P		P	00 48 30.4	-0.5
	baz=145							
P43A	Skaggs, Pawnee	63.64	343	P		P	00 48 29.1	-1.7
	baz=159							
BINY	Binghamton	63.66	355	*e*P		P	00 48 31.6	+0.6
	comp=Z,38nm,1.0s							
BINY				*ep*P		*p*P	00 48 47.5	+1.5
BINY	Binghamton	63.66	355	P		P	00 48 31.1	+0.2
	baz=173,SNR=5.2							
N48A	Decatur	63.70	347	P		P	00 48 29.7	-1.5
	baz=164							
SFIN	Lafayette	63.71	345	*ep*P		pP	00 48 51.0	+4.7
O45A	Potomac	63.74	345	P		P	00 48 29.8	-1.7
	baz=161							
P42A	Winchester	63.82	342	*ep*P		pP	00 48 51.4	+4.4
P42A	Winchester	63.82	342	P		P	00 48 31.0	-1.0
	baz=158							
M50A	Fremont	63.83	349	P		P	00 48 30.7	-1.4
	baz=166							
N47A	Urbana	63.86	346	P		P	00 48 30.6	-1.6
	baz=163							
AMTX	Amarillo	63.87	331	*e*P		P	00 48 32.2	-0.3
AMTX				*ep*P		*s*P	00 48 50.8	-2.9
AMTX	Amarillo	63.87	331	P		P	00 48 31.8	-0.8
	baz=147							
TRY	Troy	64.03	357	*ep*P		pP	00 48 50.0	+1.6
ERPA	Erie	64.04	351	*e*P		P	00 48 33.5	+0.1
ERPA				*ep*P		*p*P	00 48 49.1	+0.7
ERPA	Erie	64.04	351	P		P	00 48 32.7	-0.7
	baz=169							
M49A	Liberty Center	64.08	348	P		P	00 48 32.5	-1.2
	baz=165							
P41A	Barry, Barry	64.11	342	P		P	00 48 32.3	-1.6
	baz=158							
N46A	Monticello	64.11	346	P		P	00 48 32.3	-1.6
	baz=162							
O43A	Sugar Creek Fa	64.18	343	P		P	00 48 32.8	-1.6
	baz=160							
N45A	Kentland	64.25	345	P		P	00 48 33.4	-1.4
	baz=161							
M47A	Cromwell	64.31	347	P		P	00 48 34.0	-1.1
	baz=163							
O42A	Bath	64.31	343	P		P	00 48 33.6	-1.6
	baz=159							
N44A	Piper City	64.36	344	P		P	00 48 33.5	-2.0
	baz=161							
MMNY	Mt. Morris Dam	64.38	353	*ep*P		pP	00 48 51.4	+0.7
HDIL	Hopedale	64.43	343	*ep*P		pP	00 48 55.6	+4.6
HDIL	Hopedale	64.43	343	P		P	00 48 34.3	-1.8
	baz=160							
O41A	Passeys Farm,	64.46	342	P		P	00 48 34.5	-1.7
	baz=158							
L48A	N Adams	64.62	348	P		P	00 48 36.3	-0.9
	baz=165							
L49A	Milan	64.65	348	P		P	00 48 36.3	-1.1
	baz=165							
L47A	Sherwood	64.81	347	P		P	00 48 37.0	-1.5
	baz=164							
319A	Douglas	64.96	323	*e*P		P	00 48 41.1	+1.3
	comp=Z,26nm,0.8s							
STCO	Saint Catharin	65.00	352	P		P	00 48 39.4	-0.2
	baz=170							
121A	Cookes Peak, D	65.01	325	P		P	00 48 41.5	+1.3
	baz=141							
L46A	Eue Claire	65.08	346	P		P	00 48 37.8	-2.4
	baz=163							
M43A	Waltham Townsh	65.17	344	P		P	00 48 38.6	-2.2
	baz=160							
ELFO	Elginfield	65.28	351	P		P	00 48 40.3	-1.2
	baz=168							
NCB	Newcomb	65.29	356	*ep*P		pP	00 48 57.5	+0.8
N40A	Mertquake, Sal	65.38	342	P		P	00 48 40.5	-1.6
	baz=157							
K48A	Perry	65.39	348	P		P	00 48 40.5	-1.7
	baz=165							
KSU1	Kansas State U	65.41	337	*e*P		P	00 48 42.0	-0.5
	comp=Z,15nm,1.0s							
KSU1	Kansas State U	65.41	337	P		P	00 48 41.3	-1.1
	baz=152							
K47A	Vermontville	65.43	347	P		P	00 48 40.9	-1.5
	baz=164							
ACTO	Acton	65.51	352	P		P	00 48 42.7	-0.3
	baz=169							
M41A	Milan	65.53	343	P		P	00 48 41.6	-1.6
	baz=158							
DRWO	Darlington Wes	65.60	353	P		P	00 48 43.1	-0.4
	baz=171							
DRCO	St. Marys Ceme	65.60	353	P		P	00 48 42.7	-0.8
	baz=171							
L44A	Lake County Fo	65.61	345	P		P	00 48 41.0	-2.6
	baz=161							
K46A	Dorr	65.61	347	P		P	00 48 41.6	-2.0
	baz=163							
N39A	Derby Farms, D	65.64	341	*e*P		P	00 48 43.1	-0.8
N39A				*ep*P		*p*P	00 48 59.2	+0.2
N39A	Derby Farms, D	65.64	341	P		P	00 48 42.6	-1.3
	baz=156							
BNM	Barren Site	65.66	327	*e*P		P	00 48 45.5	+1.0
PKRO	Pickering	65.73	352	P		P	00 48 44.1	-0.3
	baz=170							
J49A	Marlette	65.75	349	P		P	00 48 42.8	-1.7
	baz=166							
LPM	Los Pinos Moun	65.79	327	*e*P		P	00 48 46.0	+0.8
LPM				*ep*P		*p*P	00 49 02.9	+2.5
J48A	Bridge Port	65.81	349	P		P	00 48 43.1	-1.8
	baz=166							
L43A	Garden Prairie	65.82	344	P		P	00 48 43.7	-1.3
	baz=160							
M40A	Post Highland	65.84	342	P		P	00 48 43.5	-1.6
	baz=158							
LENM	Lemitar	65.85	326	*e*P		P	00 48 46.8	+1.2
J47A	Sunmer	65.94	348	P		P	00 48 44.2	-1.5
	baz=164							
LONY	Lake Ozonia	65.96	356	*ep*P		pP	00 49 02.2	+1.2
LONY	Lake Ozonia	65.96	356	P		P	00 48 45.8	0.0
	baz=175							
M39A	Webster	66.10	342	P		P	00 48 45.5	-1.3
	baz=157							
DELO	DeLoro Mine	66.11	354	P		P	00 48 46.0	-0.8
	baz=172							
FRNY	Flat Rock	66.12	357	*e*P		P	00 48 46.8	0.0
FRNY				*ep*P		*p*P	00 49 02.9	+1.0
LAZ	Ladron	66.12	326	*e*P		P	00 48 48.8	+1.4
BASO	Ashfield	66.14	350	P		P	00 48 46.7	-0.3
	baz=168							
BWLO	Walkerton	66.16	351	P		P	00 48 45.5	-1.6
	baz=168							
L41A	Preston	66.17	343	P		P	00 48 45.7	-1.6
	baz=159							
ANMO	Albuquerque	66.20	327	*e*P		P	00 48 48.6	+0.8
	comp=Z,8.2nm,0.8s							
ANMO	Albuquerque	66.20	327	*c i*P		P	00 48 48.3	+0.5
ANMO					pmax	pmax		
	comp=Z,11nm,1.3s							
ANMO	Albuquerque	66.20	327	P		P	00 48 48.4	+0.5
	baz=142							
K43A	Burlington	66.21	345	P		P	00 48 45.9	-1.6
	baz=167							
BRCO	Bruce Peninsul	66.33	351	P		P	00 48 47.8	-0.5
	baz=168							
CBKS	Cedar Bluff	66.36	335	*e*P		P	00 48 48.7	+0.1
	comp=Z,36nm,0.9s							
CBKS				*ep*P		*p*P	00 49 05.5	+1.8
CBKS	Cedar Bluff	66.36	335	*e*P		P	00 48 48.7	+0.1
CBKS				*e**PP		*p*P	00 49 05.5	+1.8
CBKS					pmax	pmax		
	comp=Z,36nm,0.9s							
CBKS	Cedar Bluff	66.36	335	P		P	00 48 48.3	-0.3
	baz=149,SNR=9.8							
L40A	Anamosa	66.36	342	P		P	00 48 47.4	-1.1
	baz=158							
CLWO	Collingwood	66.37	352	P		P	00 48 48.2	-0.3
	baz=169							
TUC	Tucson	66.50	322	*e*P		P	00 48 50.8	+1.0
	comp=Z,12nm,1.1s							
TUC				*ep*P		*s*P	00 49 10.1	-0.9
TUC	Tucson	66.50	322	*e*P		P	00 48 50.8	+1.0
TUC				*e**PP		*s*P	00 49 10.1	-0.9
TUC					pmax	pmax		
	comp=Z,12nm,1.1s							
TUC	Tucson	66.50	322	P		P	00 48 50.7	+1.0
	baz=138							
K42A	Prairie Point,	66.53	344	P		P	00 48 48.4	-1.2
	baz=160							
SADO	Sadowa	66.53	353	LR		LR	01 19 08.2	
	comp=Z,76nm,21.6s,baz=187,slow=37							
PLVO	Plevna	66.58	354	P		P	00 48 48.9	-0.8
	baz=172							
K41A	Shullsburg	66.62	343	P		P	00 48 49.0	-1.1
	baz=159							
I47A	Gladwin	66.64	348	P		P	00 48 48.8	-1.4
	baz=165							
L39A	Vinton	66.64	342	P		P	00 48 49.0	-1.3
	baz=157							
BMRO	Meriville Lake	66.64	351	P		P	00 48 49.3	-0.8
	baz=168							
BANO	Bancroft	66.64	353	P		P	00 48 49.4	-0.9
	baz=172							
I48A	Sherman Twp	66.65	349	P		P	00 48 49.2	-1.1
	baz=166							
I46A	Reed City	66.74	348	P		P	00 48 49.0	-1.9
	baz=164							
SCIA	State Center	66.80	341	*ep*P		pP	00 49 06.6	+0.2
SCIA	State Center	66.80	341	P		P	00 48 50.0	-1.3
	baz=156							
ORIO	Orleans, Innes	66.85	355	P		P	00 48 50.7	-0.8
	baz=174							
J43A	Natural Harves	66.86	345	P		P	00 48 50.7	-1.0
	baz=161							
JFWS	Jewell Farm	66.89	344	P		P	00 48 50.8	-1.0
	baz=159							
K40A	Colesburg	66.93	343	P		P	00 48 50.8	-1.3
	baz=158							
T25A	Trinidad	66.97	330	*e*P		P	00 48 53.8	+1.0
	comp=Z,47nm,1.8s							
T25A	Trinidad	66.97	330	P		P	00 48 51.6	-1.2
	baz=145							
ALFO	Alfred	66.98	356	P		P	00 48 51.7	-0.6
	baz=175							
NVL	N'lazarevskaya	67.03	159⇑	*i*P		*p*P	00 49 09.0	+1.5
NVL					pmax	pmax		
	comp=Z,24nm,1.0s							
K39A	Oelwein	67.14	342	P		P	00 48 52.1	-1.4
	baz=157							
PEMO	Pembroke	67.23	354	P		P	00 48 53.0	-0.8
	baz=172							
BUKO	Buck Lake	67.23	352	P		P	00 48 53.4	-0.5
	baz=170							
KLBO	Killbear Provi	67.25	352	P		P	00 48 52.8	-1.2
	baz=169							
J41A	Loganville	67.25	344	P		P	00 48 52.7	-1.4
	baz=159							
H46A	Fifth Lake	67.27	348	P		P	00 48 52.8	-1.4
	baz=164							
I43A	Langenfeld Bro	67.28	345	P		P	00 48 52.8	-1.5
	baz=161							
214A	Organ Pipe Nat	67.42	321	P		P	00 48 56.8	+1.3
	baz=136							
I42A	Draeger Farm,	67.47	345	P		P	00 48 54.6	-0.8
	baz=160							
J40A	Soldiers Grove	67.47	343	P		P	00 48 54.6	-0.8
	baz=159							
F52A	Sundridge	67.57	353	P		P	00 48 55.6	-0.5
	baz=170							
ALGO	Algonquin Park	67.58	354	P		P	00 48 55.7	-0.5
	baz=171							
J39A	Decorah	67.67	343	P		P	00 48 56.1	-0.7
	baz=158							
X18A	Snowflake	67.70	325	*e*P		P	00 48 59.2	+1.8
	comp=Z,7.2nm,0.8s							
KSCO	Kaye Shedlock'	67.72	333	*e*P		P	00 48 58.0	+0.6
	comp=Z,56nm,1.4s							
KSCO	Kaye Shedlock'	67.72	333	P		P	00 48 57.6	+0.3
	baz=147							
H43A	Windswept, Lux	67.75	346	P		P	00 48 57.1	-0.1
	baz=162							
I41A	Arkdale	67.86	344	P		P	00 48 57.0	-1.0
	baz=160							
I40A	Norwalk	67.90	344	P		P	00 48 56.9	-1.3
	baz=159							
H42A	Shiocton	67.96	345	P		P	00 48 57.6	-0.9
	baz=161							
E53A	Dumoine, Ponti	67.96	354	P		P	00 48 58.2	-0.3
	baz=172							
E54A	Lac Daplat, Po	67.97	354	P		P	00 48 58.3	-0.3
	baz=172							
SDCO	Great Sand Dun	67.97	330	*e*P		P	00 48 59.8	+0.6
	comp=Z,39nm,1.4s							
SDCO	Great Sand Dun	67.97	330	P		P	00 48 59.7	+0.6
	baz=144,SNR=20							
BGNE	Belgrade	68.00	337	*e*P		P	00 48 58.8	-0.2
	comp=Z,78nm,0.6s							
BGNE	Belgrade	68.00	337	P		P	00 48 58.5	-0.4
	baz=151							
W18A	Petrified Fore	68.03	325	P		P	00 49 00.4	+0.9
	baz=140							
I39A	Houston	68.10	343	*ep*P		pP	00 49 15.6	+1.0
I39A	Houston	68.10	343	P		P	00 48 59.2	-0.3
	baz=158							
H41A	Junction City	68.33	345	P		P	00 48 59.7	-1.2
	baz=160							
E50A	Wahnapitae	68.36	352	P		P	00 49 03.2	+2.1
	baz=169							
X16A	Lo Mia Camp, P	68.43	324	*e*P		P	00 49 03.5	+1.5
	comp=Z,8.5nm,0.9s							
X16A				*ep*P		*p*P	00 49 19.1	+2.0
H40A	Chili	68.52	344	P		P	00 49 00.9	-1.1
	baz=159							
113A	Mohawk Valley,	68.56	321	*e*P		P	00 49 03.9	+1.4
113A				*ep*P		*s*P	00 49 22.7	-1.2
S22A	4UR Ranch, Cre	68.60	329	*e*P		P	00 49 03.8	+0.7
	comp=Z,6.9nm,0.9s							
S22A	4UR Ranch, Cre	68.60	329	P		P	00 49 03.5	+0.4
	baz=143							
LATQ	La Tuque	68.62	358	P		P	00 49 02.5	-0.1
	baz=177							
E48A	Lockeyer	68.63	351	P		P	00 49 01.4	-1.2
	baz=167							
D54A	Lac Fusel, La	68.64	355	P		P	00 49 01.9	-0.9
	baz=173							
D53A	Lac Vacive, Po	68.66	354	P		P	00 49 02.5	-0.3
	baz=172							
G41A	Antigo	68.77	345	P		P	00 49 02.6	-1.0
	baz=160							
Q24A	Divide	68.80	331	*e*P		P	00 49 05.3	+1.0
	comp=Z,19nm,0.9s							
Q24A	Divide	68.80	331	P		P	00 49 04.7	+0.4
	baz=144							
H39A	Augusta	68.80	344	P		P	00 49 03.1	-0.7
	baz=158							
F43A	Flat Rock, Esc	68.91	347	P		P	00 49 03.4	-1.0
	baz=162							
LIC	Lamto	68.91	74	*e*P		P	00 49 03.9	-1.3
	comp=Z,30nm,0.6s							
D50A	G1974 Best Tow	68.98	352	P		P	00 49 05.1	+0.3
	baz=170							
MVCO	Mesa Verde	69.00	327	*e*P		P	00 49 06.5	+1.0
	comp=Z,16nm,0.8s							
MVCO	Mesa Verde	69.00	327	P		P	00 49 06.4	+0.8
	baz=141,SNR=12							
TIC	Toumodi	69.10	74	*e*P		P	00 49 05.0	-1.4
WUAZ	Wupatki	69.21	324	*e*P		P	00 49 08.3	+1.5
	comp=Z,30nm,1.0s							
WUAZ	Wupatki	69.21	324	P		P	00 49 08.1	+1.3
	baz=138,SNR=16							
KIC	Kosan Boka	69.23	74	*e*P		P	00 49 06.1	-1.0
	comp=Z,47nm,0.6s							
F41A	Three Lakes	69.25	345	P		P	00 49 06.2	-0.4
	baz=160							
DBIC	Dimbokro	69.26	74	P		P	00 49 06.3	-1.0
	comp=Z,11nm,0.8s,baz=215,slow=6.0,SNR=17							
DBIC				*p*P		*p*P	00 49 21.2	-1.3
	comp=Z,17nm,0.5s,baz=224,slow=6.6,SNR=16							
DBIC				LR		LR	01 19 06.0	
	comp=Z,66nm,19.1s,baz=223,slow=36							
GLA	Glamis	69.39	320	*e*P		P	00 49 09.6	+1.8
	comp=Z,71nm,2.0s							
GLA	Glamis	69.39	320	*e*P		P	00 49 09.6	+1.8
GLA					pmax	pmax		
	comp=Z,71nm,2.0s							
GLA	Glamis	69.39	320	P		P	00 49 09.1	+1.3
	baz=135							
ECSD	EROS Data Cent	69.52	339	*e*P		P	00 49 07.9	-0.4
	comp=Z,43nm,1.9s							
ECSD	EROS Data Cent	69.52	339	P		P	00 49 07.6	-0.7
	baz=153,SNR=5.0							
VLDQ	Val d'Or	69.66	354	*ep*P		pP	00 49 25.5	+1.3
F40A	Park Falls	69.67	345	P		P	00 49 08.9	-0.3
	baz=160							
ISCO	Idaho Springs	69.68	331	*e*P		P	00 49 10.3	+0.5
	comp=Z,50nm,1.9s							
ISCO				*ep*P		*p*P	00 49 27.0	+2.0
ISCO	Idaho Springs	69.68	331	*e*P		P	00 49 10.3	+0.5
ISCO				*e**PP		*p*P	00 49 27.0	+2.0
ISCO					pmax	pmax		
	comp=Z,50nm,1.9s							
ISCO	Idaho Springs	69.68	331	P		P	00 49 09.9	+0.2
	baz=144,SNR=8.3							
Y12C	Blythe	69.70	321	*e*P		P	00 49 11.2	+1.6
	comp=Z,18nm,1.0s							
Y12C	Blythe	69.70	321	P		P	00 49 11.0	+1.4
	baz=136							
SPMN	Marine on St.	69.72	343	P		P	00 49 08.6	-0.9
	baz=157							
SMCO	Snowmass	69.81	330	*e*P		P	00 49 11.8	+1.1
	comp=Z,8.8nm,0.8s							
PDMCI	Parker Dam,Lak	69.88	322	P		P	00 49 11.8	+1.1
	baz=136							
IKP	In-Ko-Pah, Jac	69.88	319	P		P	00 49 11.9	+1.1
	baz=134,SNR=6.8							
SWSC	Sam W. Stewart	69.90	320	P		P	00 49 12.0	+1.2
	baz=134							
E40A	Wakefield	70.10	345	P		P	00 49 11.3	-0.6
	baz=160							
F37A	Hinrichs Farm,	70.13	343	P		P	00 49 11.5	-0.5
	baz=157							
F38A	Pierce - Schro	70.15	344	P		P	00 49 10.9	-1.2
	baz=158							
BC3	Big Chuckawall	70.19	320	P		P	00 49 14.1	+1.4
	baz=135,SNR=17							
MONP2	Monument Peak	70.24	319	P		P	00 49 14.7	+1.4
	baz=134,SNR=7.0							
BAR	Barrett	70.24	319	*e*P		P	00 49 14.8	+1.8
	comp=Z,16nm,0.8s							
W13A	Hualapai Mount	70.30	322	*e*P		P	00 49 15.2	+1.7
	comp=Z,8.3nm,0.8s							
IRM	Iron Mountain	70.36	321	P		P	00 49 15.1	+1.4
	baz=135,SNR=23							
U15A	North Rim	70.39	324	*e*P		P	00 49 16.0	+1.9
	comp=Z,22nm,1.1s							
LSQQ	Lebel-sur-Quev	70.55	355	P		P	00 49 14.0	-0.5
	baz=173							
N23A	Red Feather La	70.72	332	*e*P		P	00 49 17.1	+1.0
	comp=Z,9.5nm,0.9s							
N23A				*ep*P		*p*P	00 49 33.4	+2.1
N23A	Red Feather La	70.72	332	P		P	00 49 16.8	+0.7
	baz=144							
BELC	Belle Mtn. Jos	70.75	320	P		P	00 49 17.6	+1.4
	baz=134,SNR=7.9							
XPFO	Piæon Flat	70.75	320	*e*P		P	00 49 17.8	+1.6
	comp=Z,11nm,0.9s							
PFO	Pinyon Flats O	70.76	320	*e*P		P	00 49 17.8	+1.6
	comp=Z,11nm,0.9s							
PFO	Pinyon Flats O	70.76	320	*e*P		P	00 49 17.8	+1.6
PFO					pmax	pmax		
	comp=Z,11nm,0.9s							
PFO	Pinyon Flats O	70.76	320	P		P	00 49 17.7	+1.4
	baz=134,SNR=7.8							
FRD	Ford Ranch, An	70.76	320	P		P	00 49 18.1	+1.8
	baz=134							
LDFC	Landfair	70.99	322	*e*P		P	00 49 19.6	+2.0
	comp=Z,25nm,1.0s							
GMRC	Granite Mounta	71.10	321	P		P	00 49 19.9	+1.6
	baz=135,SNR=20							
KNB	Kanab	71.11	325	*e*P		P	00 49 20.7	+2.3
	comp=Z,45nm,1.1s							
KNB	Kanab	71.11	325	*e*P		P	00 49 20.7	+2.3
KNB					pmax	pmax		
	comp=Z,45nm,1.1s							
PKCU	Pink Cliffs	71.15	325	*e*P		P	00 49 20.8	+2.0
PKCU				*ep*P		*PcP*	00 49 38.8	+0.2
O20A	White River Ci	71.16	330	*e*P		P	00 49 19.7	+1.0
	comp=Z,20nm,0.9s							
O20A				*ep*P		*p*P	00 49 35.9	+1.9
O20A	White River Ci	71.16	330	P		P	00 49 19.6	+1.0
	baz=142							
CHGQ	Chibougamau	71.22	357	P		P	00 49 17.8	-0.7
	baz=175							
LCMT	Little Creek M	71.33	324	*e*P		P	00 49 21.6	+1.9
	comp=Z,12nm,1.0s							
SRU	San Rafael Swe	71.48	327	*e*P		P	00 49 21.5	+0.9
	comp=Z,19nm,0.8s							
SRU	San Rafael Swe	71.48	327	*e*P		P	00 49 21.5	+0.9
SRU					pmax	pmax		
	comp=Z,19nm,0.8s							
HEC	Hector,Ludlow	71.53	321	P		P	00 49 22.5	+1.7
	baz=134							
MTPU	Mount Pierson	71.53	326	*e*P		P	00 49 22.3	+1.2
	comp=Z,7.8nm,0.9s							
TUQ	Turquoise Moun	71.71	321	P		P	00 49 23.3	+1.3
	baz=135,SNR=10							
P18A	Preston Nutter	71.74	328	*e*P		P	00 49 23.5	+1.2
	comp=Z,22nm,0.8s							
CCUT	Cedar City	71.79	325	*e*P		P	00 49 24.7	+2.1
	comp=Z,28nm,0.9s							
P17A	Butcher Ranch,	71.87	328	*e*P		P	00 49 24.3	+1.4
P17A				*ep*P		*PcP*	00 49 40.7	-0.7
MSU	Marysvale	71.88	326	*e*P		P	00 49 24.5	+1.5
MSU	Marysvale	71.88	326	*e*P		P	00 49 24.5	+1.5
BFSC	Mount Baldy Ra	71.91	320	P		P	00 49 24.3	+1.1
	baz=133,SNR=6.1							
RWWY	Rawlins	71.92	331	*e*P		P	00 49 24.4	+1.2
	comp=Z,12nm,0.9s							
TMUT	Trail Mountain	71.97	327	*e*P		P	00 49 25.1	+1.5
	comp=Z,11nm,0.8s							
SHPR	Sheep Range	72.03	323	*e*P		P	00 49 25.6	+1.7
	comp=Z,10nm,0.9s							
GSC	Goldstone, Bar	72.13	321	*e*P		P	00 49 26.1	+1.6
	comp=Z,8.4nm,0.8s							
GSC				*ep*P		*p*P	00 49 41.1	+1.3
GSC	Goldstone, Bar	72.13	321	*e*P		P	00 49 26.1	+1.6
GSC				*e**PP		*p*P	00 49 41.1	+1.3
GSC					pmax	pmax		
	comp=Z,8.0nm,0.8s							
GSC	Goldstone, Bar	72.13	321	P		P	00 49 26.1	+1.6
	baz=134,SNR=10							
MWC	Mount Wilson	72.14	319	*e*P		P	00 49 26.4	+1.7
	comp=Z,13nm,0.7s							
MWC	Mount Wilson	72.14	319	*e*P		P	00 49 26.4	+1.7
MWC					pmax	pmax		
	comp=Z,13nm,0.7s							
DECC	Green Verdugo	72.33	319	P		P	00 49 27.0	+1.4
	baz=133							
K22A	Casper	72.39	332	*e*P		P	00 49 27.0	+1.0
	comp=Z,23nm,1.3s							
K22A	Casper	72.39	332	P		P	00 49 26.4	+0.5
	baz=144							
SNCC	San Nicolas Is	72.39	318	P		P	00 49 27.0	+1.0
	baz=132

comp=Z,20nm,1.0s
TPNV Topopah Spring 72.96 322 *e*P **P** **00 49 31.3 +1.9**
TPNV pmax pmax
comp=Z,20nm,1.0s
TPNV Topopah Spring 72.96 322 P **P** **00 49 31.2 +1.7**
baz=135,SNR=17
FURC Furnace Creek, 72.97 322 P **P** **00 49 30.7 +1.4**
baz=134,SNR=5.7
MPMC Manual Prospec 73.06 321 P **P** **00 49 31.1 +1.0**
baz=134,SNR=10.0
JLU Jordanelle 73.08 328 *e*P **P** **00 49 31.7 +1.5**
comp=Z,19nm,1.1s
JLU *e*pP **PcP** **00 49 47.4 +0.7**
DAC Darwin (Calif) 73.27 321 *e*P **P** **00 49 32.7 +1.4**
DAC Darwin (Calif) 73.27 321 *e*P **P** **00 49 32.7 +1.4**
ISA Isabella, Lake 73.37 320 *e*P **P** **00 49 33.4 +1.6**
comp=Z,15nm,0.8s
ISA *e*pP **PcP** **00 49 49.2 +1.4**
ISA Isabella, Lake 73.37 320 *e*P **P** **00 49 33.4 +1.6**
ISA *e**PP **PcP** **00 49 49.2 +1.4**
ISA pmax pmax
comp=Z,15nm,0.8s
ISA Isabella, Lake 73.37 320 P **P** **00 49 33.3 +1.5**
baz=133,SNR=18
AGMN Agassiz Nation 73.39 342 *e*P **P** **00 49 30.6 -0.9**
comp=Z,18nm,1.0s
AGMN *e*pP **PcP** **00 49 47.6 +0.1**
AGMN Agassiz Nation 73.39 342 P **P** **00 49 31.7 +0.2**
baz=154
TCUT Toone Canyon 73.45 328 *e*P **P** **00 49 33.7 +1.3**
comp=Z,16nm,0.9s
DUG Dugway, Tooele 73.46 327 *e*P **P** **00 49 33.6 +1.3**
comp=Z,17nm,1.1s
DUG Dugway, Tooele 73.46 327 *e*P **P** **00 49 33.6 +1.3**
DUG pmax pmax
comp=Z,17nm,1.1s
DUG Dugway, Tooele 73.46 327 P **P** **00 49 33.6 +1.3**
baz=138,SNR=13
R11A Troy Canyon, C 73.58 324 *e*P **P** **00 49 34.6 +1.5**
comp=Z,18nm,1.4s
R11A Troy Canyon, C 73.58 324 P **P** **00 49 34.5 +1.4**
baz=136
GRAC Grapevine Rang 73.63 322 P **P** **00 49 34.7 +1.5**
baz=134,SNR=5.9
PKM Mcpherson Peak 73.66 319 P **P** **00 49 34.8 +1.2**
baz=132,SNR=6.4
CWC Cottonwood Cre 73.67 321 P **P** **00 49 34.9 +1.3**
baz=133
PD31 Pinedale Array 73.84 330 *e*P **P** **00 49 34.5 -0.1**
PD31 *e*pP **pP** **00 49 51.2 +1.2**
PDAR Pinedale Array 73.84 330 P **P** **00 49 34.5 -0.1**
comp=Z,1.0nm,0.6s,baz=142,slow=7.5,SNR=14
PDAR pP **PcP** **00 49 49.5 -0.3**
comp=Z,1.2nm,0.8s,baz=116,slow=8.4,SNR=4.9
PDAR sP **sP** **00 49 58.1 +2.1**
comp=Z,1.6nm,0.6s,baz=178,slow=4.5,SNR=5.9
PDAR LR LR 01 24 39.2
comp=Z,60nm,18.3s,baz=112,slow=38
BW06 Boulder Array 73.84 330 *e*P **P** **00 49 35.0 +0.4**
comp=Z,14nm,1.5s
BW06 Boulder Array 73.84 330 P **P** **00 49 34.6 0.0**
baz=142
VES Vestal, Richgr 73.85 320 P **P** **00 49 35.6 +1.1**
baz=133
HWUT Hardware Ranch 73.90 328 *e*P **P** **00 49 35.4 +0.5**
comp=Z,16nm,0.7s
SPUT South Promonto 74.11 328 *e*P **P** **00 49 37.3 +1.2**
comp=Z,16nm,1.0s
BGU Big Grassy Mou 74.11 327 *e*P **P** **00 49 37.2 +1.1**
comp=Z,12nm,1.1s
MDND Maddock 74.14 339 *e*P **P** **00 49 36.5 +0.6**
comp=Z,58nm,0.9s
MDND *e*pP **pP** **00 49 53.4 +2.1**
MDND Maddock 74.14 339 P **P** **00 49 36.0 +0.1**
baz=151
TIN Tinemaha, Big 74.17 321 P **P** **00 49 37.4 +0.8**
baz=133
PAGB Antelope Grade 74.48 319 *e*P **P** **00 49 40.0 +1.7**
comp=Z,39nm,1.4s
AHID Auburn Hatcher 74.56 330 *e*P **P** **00 49 39.4 +0.7**
comp=Z,21nm,0.9s
AHID *e*pP **sP** **00 49 57.3 -2.9**
HVU Hansel Valley 74.62 328 *e*P **P** **00 49 39.7 +0.6**
comp=Z,10.0nm,0.9s
HVU Hansel Valley 74.62 328 *e*P **P** **00 49 39.7 +0.6**
HVU pmax pmax
comp=Z,10.0nm,0.9s
PPT2 Papeete2 74.78 257 *e*LR LR 01 12 43.8
comp=Z,143nm,28.8s
REDW Red Top Meadow 74.90 330 *e*P **P** **00 49 41.6 +0.8**
comp=Z,30nm,1.5s
SNOW Snow King Moun 74.93 330 *e*P **P** **00 49 42.2 +1.3**
comp=Z,14nm,1.0s
SNOW *e*PcP **sP** **00 50 02.3 -0.1**
LOHW Long Hollow 74.98 330 *e*P **P** **00 49 41.9 +0.7**
comp=Z,19nm,1.4s
OMMB Old Mammoth Mi 75.00 321 *e*P **P** **00 49 42.9 +1.3**
comp=Z,15nm,0.9s
TPAW Teton Pass 75.05 330 *e*P **P** **00 49 42.6 +0.9**
comp=Z,11nm,0.9s
MDPB Devils Postpil 75.06 321 *e*P **P** **00 49 43.4 +1.5**
comp=Z,11nm,0.9s
NV11 Mina Array Sit 75.08 322 *e*P **P** **00 49 43.0 +1.2**
comp=Z,0.8nm,1.1s
NV11 *e*PcP **sP** **00 50 05.0 +1.8**
MOOW Moose Ponds 75.15 330 *e*P **P** **00 49 42.8 +0.7**
comp=Z,36nm,2.0s
ULM Lac du Bonnet 75.16 343 P **P** **00 49 40.8 -0.9**
comp=Z,7.7nm,0.9s,baz=156,slow=5.7,SNR=6.8
ULM pP **pP** **00 49 57.1 0.0**
comp=Z,4.0nm,0.7s,baz=153,slow=6.6,SNR=2.5
ULM LR LR 01 26 56.8
comp=Z,75nm,18.1s,baz=329,slow=39
NVAR Mina Array Bea 75.16 322 P **P** **00 49 43.5 +1.2**
comp=Z,7.1nm,0.8s,baz=153,slow=6.5,SNR=30
NVAR sP **sP** **00 50 05.5 +1.7**
comp=Z,7.5nm,0.8s,baz=154,slow=6.1,SNR=10.0
FXWY Fox Creek 75.19 330 *e*P **P** **00 49 43.1 +0.7**
comp=Z,13nm,1.3s
IMW Indian Meadow 75.35 330 *e*P **P** **00 49 44.3 +0.9**
comp=Z,9.3nm,0.8s
FLWY Flagg Ranch 75.39 331 *e*P **P** **00 49 44.8 +1.3**
comp=Z,32nm,1.0s
RYN Ryan 75.42 322 *e*P **P** **00 49 45.1 +1.3**
comp=Z,13nm,1.2s
KVN Kaiserville 75.47 323 *e*P **P** **00 49 45.0 +0.9**
comp=Z,15nm,1.0s
KVN Kaiserville 75.47 323 *e*P **P** **00 49 45.0 +0.9**
KVN pmax pmax
comp=Z,15nm,1.0s
LAO LASA Array 75.55 335 *e*P **P** **00 49 45.0 +0.8**
comp=Z,26nm,1.0s
LAO *e*pP **pP** **00 50 01.6 +2.0**
LAO LASA Array 75.55 335 P **P** **00 49 44.7 +0.5**
baz=145,SNR=8.2
RLMT Red Lodge 75.56 332 *e*P **P** **00 49 45.4 +1.0**
comp=Z,26nm,1.2s
RLMT Red Lodge 75.56 332 P **P** **00 49 45.2 +0.8**
baz=142,SNR=9.7
H17A Grant Village 75.57 331 *e*P **P** **00 49 46.3 +1.7**
comp=Z,5.5nm,0.9s
H17A Grant Village 75.57 331 P **P** **00 49 45.9 +1.3**
baz=141
YPP Pitchstone Pla 75.58 331 *e*P **P** **00 49 47.3 +2.6**
comp=Z,14nm,1.5s
YFT Old Faithful 75.73 331 *e*P **P** **00 49 48.1 +2.6**
comp=Z,14nm,1.2s
WAKR Walker 75.86 322 *e*P **P** **00 49 48.4 +2.1**
comp=Z,24nm,1.5s
YNR Norris Junctio 75.87 331 *e*P **P** **00 49 48.3 +2.0**
YNR *e*PcP **sP** **00 50 09.2 +1.5**
YMR Madison River 75.96 331 *e*P **P** **00 49 48.5 +1.7**
comp=Z,37nm,1.2s
YHH Holmes Hill 76.00 331 *e*P **P** **00 49 48.8 +1.7**
comp=Z,24nm,1.0s
SCHQ Schefferville 76.05 2 P **P** **00 49 46.4 -0.4**
comp=Z,4.5nm,0.8s,baz=115,slow=9.0,SNR=4.4
SCHQ pP **pP** **00 50 02.3 +0.1**
comp=Z,6.2nm,0.7s,baz=213,slow=4.3,SNR=3.6
SCHQ LR LR 01 23 42.6
comp=Z,49nm,21.9s,baz=46,slow=36
YERR Yerington 76.07 322 *e*P **P** **00 49 49.3 +1.8**
comp=Z,27nm,1.5s
CMB Columbia Colle 76.10 321 *e*P **P** **00 49 48.0 +0.5**
comp=Z,40nm,1.0s
CMB Columbia Colle 76.10 321 *e*P **P** **00 49 48.0 +0.5**
CMB pmax pmax
comp=Z,40nm,1.0s
YHB Horse Butte 76.13 331 *e*P **P** **00 49 49.6 +1.9**
YHB *e*pP **sP** **00 50 07.3 -1.9**
DGMT Dagmar 76.26 337 *e*P **P** **00 49 49.0 +0.9**
comp=Z,37nm,0.8s
DGMT *e*pP **pP** **00 50 05.8 +2.3**
DGMT Dagmar 76.26 337 P **P** **00 49 48.9 +0.8**
baz=147,SNR=10
GCMT Greycliff 76.26 332 *e*P **P** **00 49 49.1 +0.8**
PNTR Pine Nut 76.35 322 *e*P **P** **00 49 51.1 +2.0**
comp=Z,14nm,0.8s
VCNR Virginia City 76.52 322 *e*P **P** **00 49 51.9 +1.9**
comp=Z,19nm,1.4s
PAHR Pah Rah Range 76.65 323 *e*P **P** **00 49 52.2 +1.5**
comp=Z,25nm,0.9s
SYO Syowa Base 76.69 160⇑ *e*P **P** **00 49 50.4 +0.1**
SYO Syowa Base 76.69 160⇑ *i*PcP **PcP** **00 49 57.8 -3.7**
HLID Hailey 76.75 328 *e*P **P** **00 49 52.5 +1.3**
comp=Z,16nm,1.0s
HLID Hailey 76.75 328 P **P** **00 49 52.6 +1.4**
baz=138,SNR=26
VNDA Vanda 76.75 190 pP **pP** **00 50 08.2 +2.2**
comp=Z,3.3nm,0.9s,baz=155,slow=0.6,SNR=4.0
VNDA LR LR 01 23 25.6
comp=Z,36nm,19.1s,baz=134,slow=35
MCMT McKenzie Canyo 76.95 330 *e*P **P** **00 49 53.8 +1.4**
MCMT *e*PcP **PcP** **00 50 03.3 0.0**
BOZ Bozeman (W) 76.97 331 *e*P **P** **00 49 53.5 +1.1**
comp=Z,9.7nm,1.1s
BOZ Bozeman (W) 76.97 331 *e*P **P** **00 49 53.5 +1.1**
BOZ pmax pmax
comp=Z,10.0nm,1.1s
BOZ Bozeman (W) 76.97 331 P **P** **00 49 53.0 +0.6**
baz=140,SNR=8.3
AFDM Forest Hills D 77.05 321 *e*P **P** **00 49 53.9 +1.1**
comp=Z,6.8nm,0.9s
DLMT Dillon 77.24 330 *e*P **P** **00 49 54.9 +1.0**
comp=Z,14nm,1.1s
BEKR Beckworth 77.31 322 *e*P **P** **00 49 55.7 +1.3**
comp=Z,29nm,1.6s
ORV Oroville 77.76 321 *e*P **P** **00 49 58.0 +1.3**
comp=Z,29nm,1.3s
ORV Oroville 77.76 321 *e*P **P** **00 49 58.0 +1.3**
ORV pmax pmax
comp=Z,29nm,1.3s
TOA0 Torodi Ar. Sit 77.87 71 *e*P **P** **00 49 56.6 -1.3**
TORD Torodi Ar. Bea 77.87 71 P **P** **00 49 55.5 -2.4**
comp=Z,5.0nm,0.8s,baz=260,slow=4.2,SNR=31
TORD pP **pP** **00 50 12.5 -0.8**
comp=Z,8.2nm,0.6s,baz=256,slow=5.2,SNR=14
HRY Holter Researc 77.92 332 *e*P **P** **00 49 59.0 +1.4**
EGMT Eagleton 78.05 334 *e*P **P** **00 49 59.0 +0.7**
comp=Z,23nm,1.0s
EGMT Eagleton 78.05 334 P **P** **00 49 58.5 +0.2**
baz=142,SNR=6.7
O03E Paynes Creek 78.42 322 P **P** **00 50 00.4 -0.1**
baz=131
MOD Modoc Plateau 78.65 324 *e*P **P** **00 50 02.9 +1.1**
comp=Z,16nm,1.0s
J08A Circle Bar Ran 78.67 326 *e*P **P** **00 50 02.8 +1.0**
comp=Z,4.7nm,0.8s
O02D Mt. Diablo Mer 78.91 321 P **P** **00 50 03.2 0.0**
baz=131
MSO Missoula 78.96 331 *e*P **P** **00 50 04.7 +1.4**
comp=Z,21nm,1.6s
MSO Missoula 78.96 331 P **P** **00 50 04.2 +0.9**
baz=138,SNR=6.3
WDC Whiskeytown Da 79.03 322 *e*P **P** **00 50 03.2 -0.5**
WDC *e*pP **pP** **00 50 20.8 +1.6**
WDC Whiskeytown Da 79.03 322 *e*P **P** **00 50 03.2 -0.5**
WDC *e**PP **pP** **00 50 20.8 +1.6**
BMO Blue Mountains 79.12 328 *e*P **P** **00 50 05.0 +0.7**
comp=Z,14nm,0.9s
BMO Blue Mountains 79.12 328 *e*P **P** **00 50 05.0 +0.7**
BMO pmax pmax
comp=Z,14nm,0.9s
N02D Trinity Center 79.38 322 P **P** **00 50 05.6 -0.1**
baz=131
M04C Macdoel 79.42 323 P **P** **00 50 06.7 +0.7**
baz=132
KMRM Mail Ridge 79.48 321 *e*P **P** **00 50 08.1 +1.8**
comp=Z,17nm,1.0s
I07A Izee 79.71 326 *e*P **P** **00 50 08.9 +1.4**
comp=Z,9.9nm,0.9s
M02C Callahan 79.74 322 P **P** **00 50 07.7 0.0**
baz=131
JTMT Jette 79.80 331 *e*P **P** **00 50 08.8 +1.0**
comp=Z,16nm,1.1s
YBH Yreka Blue Hor 79.88 322 LR LR 01 23 03.6
comp=Z,60nm,20.2s,baz=116,slow=34
YBH Yreka Blue Hor 79.88 322 *e*P **P** **00 50 08.0 -0.4**
comp=Z,5.8nm,0.9s
YBH *e*pP **pP** **00 50 23.5 -0.4**
YBH Yreka Blue Hor 79.88 322 *e*P **P** **00 50 08.0 -0.4**
YBH *e**PP **pP** **00 50 23.5 -0.4**
YBH pmax pmax
comp=Z,6.0nm,0.9s
F10A Beach Ranch, E 79.88 328 *e*P **P** **00 50 09.3 +0.9**
comp=Z,11nm,0.9s
K04D Chiloquin, OR 79.93 324 P **P** **00 50 09.3 +0.6**
baz=132
L04D Klamath Falls 79.97 323 P **P** **00 50 09.2 +0.3**
baz=131
J05D Fort Rock, OR 80.09 324 P **P** **00 50 10.8 +1.2**
baz=132
G08A Pilot Rock 80.26 327 *e*P **P** **00 50 11.3 +0.8**
comp=Z,6.8nm,0.6s
PINE Pine Mountain 80.27 325 *e*P **P** **00 50 12.1 +1.4**
comp=Z,25nm,0.8s
KRMB Red Mountain 80.43 322 *e*P **P** **00 50 13.0 +1.5**
comp=Z,12nm,0.9s
J04D Umpqua Nationa 80.53 324 P **P** **00 50 12.6 +0.5**
baz=132
HUMO Hull Mountain 80.59 323 *e*P **P** **00 50 12.3 +0.2**
comp=Z,10nm,1.4s
WALA Waterton Lakes 80.61 332 *e*P **P** **00 50 12.9 +0.6**
comp=Z,15nm,0.8s
L02E Cave Junction 80.66 322 P **P** **00 50 13.4 +0.8**
baz=130
E09A Wood Farm, Sta 80.72 328 *e*P **P** **00 50 13.3 +0.6**
comp=Z,30nm,1.7s
I05D Terrebonne, OR 80.85 325 P **P** **00 50 14.8 +1.3**
baz=132
FFC Flin Flon 80.86 342 *ce*P **P** **00 50 14.3 +1.1**
K02D Willamette Mer 81.04 323 P **P** **00 50 15.5 +0.9**
baz=130
I04A Tendick Farm, 81.06 324 P **P** **00 50 14.8 +0.1**
baz=131
G06A Carlson Farm, 81.08 326 *e*P **P** **00 50 16.1 +1.4**
comp=Z,16nm,1.1s
F07A Phinny Hill Vi 81.17 327 *e*P **P** **00 50 17.0 +1.9**
comp=Z,14nm,1.1s
HAWA Hanford 81.32 328 *e*P **P** **00 50 16.9 +1.0**
comp=Z,18nm,0.9s
HAWA *e*pP **pP** **00 50 34.2 +2.7**
G05D Wamic, OR 81.44 326 P **P** **00 50 18.0 +1.3**
baz=132
NEW Newport 81.47 330 LR LR 01 29 38.3
comp=Z,71nm,18.9s,baz=124,slow=38
NEW Newport 81.47 330 *e*P **P** **00 50 17.1 +0.3**
comp=Z,23nm,1.6s
NEW Newport 81.47 330 *e*P **P** **00 50 17.1 +0.3**
NEW pmax pmax
comp=Z,23nm,1.6s
NEW Newport 81.47 330 P **P** **00 50 17.2 +0.5**
baz=136
D08A Wollman Farm, 81.48 328 *e*P **P** **00 50 18.0 +1.3**
comp=Z,26nm,1.5s
J01E Myrtle Point 81.49 323 P **P** **00 50 17.5 +0.6**
baz=130
I03D Drain, OR 81.51 324 P **P** **00 50 17.8 +0.8**
baz=131
H04A Detroit Lake 81.53 325 *e*P **P** **00 50 17.5 +0.4**
comp=Z,15nm,0.8s
KEBM Edson Butte 81.53 323 *e*P **P** **00 50 19.3 +2.1**
comp=Z,41nm,1.1s
E07A Sunnyside 81.59 328 *e*P **P** **00 50 18.8 +1.4**
comp=Z,25nm,1.5s
C09A Chrisman Ranch 81.69 329 *e*P **P** **00 50 18.8 +0.9**
comp=Z,30nm,0.8s
H04D Lebanon 81.72 325 P **P** **00 50 18.1 0.0**
baz=131
F05D White Salmon 81.95 326 P **P** **00 50 20.2 +0.9**
baz=132
I02D Swisshome 82.05 324 P **P** **00 50 20.8 +1.0**
baz=130
COR Corvallis 82.07 324 *e*P **P** **00 50 21.6 +1.8**
comp=Z,35nm,0.9s
COR Corvallis 82.07 324 *e*P **P** **00 50 21.6 +1.8**
COR pmax pmax
comp=Z,35nm,0.9s
G03D McMinnville, O 82.45 325 P **P** **00 50 22.8 +0.9**
baz=131
B08A Colville Reser 82.58 329 *e*P **P** **00 50 22.6 +0.1**
comp=Z,9.8nm,1.0s
LON Longmire 82.71 327 *e*P **P** **00 50 23.2 -0.1**
comp=Z,4.2nm,0.9s
LON Longmire 82.71 327 *e*P **P** **00 50 23.2 -0.1**
LON pmax pmax
comp=Z,4.0nm,0.9s
D05A Enumclaw 83.09 327 *e*P **P** **00 50 25.5 +0.3**
comp=Z,17nm,0.8s
B06A Marblemount 83.74 328 *e*P **P** **00 50 28.4 0.0**
comp=Z,20nm,0.9s
B05A Bryant 83.87 328 P **P** **00 50 28.7 -0.4**
baz=132
D03D Eldon 83.89 327 P **P** **00 50 29.5 +0.3**
baz=131
BOSA Boshof 83.93 118 P **P** **00 50 30.0 -0.2**
comp=Z,4.4nm,0.9s,baz=159,slow=9.9,SNR=4.5
BOSA pP **pP** **00 50 46.2 +0.4**
comp=Z,7.4nm,0.6s,baz=264,slow=5.3,SNR=8.4
MAW Mawson 84.48 163 P **P** **00 50 32.7 +0.6**
comp=Z,4.5nm,0.9s,baz=280,slow=8.6,SNR=5.7
MAW pP **pP** **00 50 48.5 +0.9**
comp=Z,7.5nm,0.6s,baz=193,slow=5.6,SNR=8.0
TAM Tamanrasset 85.31 63 *e*P **P** **00 50 36.8 -0.4**
comp=Z,6.8nm,1.1s
TAM *e*pP **pP** **00 50 53.7 +0.9**
TAM Tamanrasset 85.31 63 *e*P **P** **00 50 36.8 -0.4**
TAM *e**PP **pP** **00 50 53.7 +0.9**
TAM pmax pmax
comp=Z,7.0nm,1.1s
ESDC Sonseca Array 86.22 45 P **P** **00 50 41.0 -0.2**
comp=Z,3.6nm,1.0s,baz=233,slow=5.7,SNR=12
ESDC pP **pP** **00 50 57.0 +0.1**
comp=Z,2.4nm,0.9s,baz=245,slow=4.8,SNR=5.9
ES19 SONSECA Array 86.27 45 *e*P **P** **00 50 41.4 0.0**
ES19 *e*pP **pP** **00 50 57.9 +0.8**
YKA Yellowknife Ar 91.01 341 P **P** **00 51 02.8 -0.4**
comp=Z,16nm,0.8s,baz=137,slow=4.2,SNR=61
YKA pP **pP** **00 51 20.3 +1.3**
comp=Z,5.7nm,0.7s,baz=134,slow=4.4,SNR=8.3
YKB5 Yellowknife Ar 91.01 341 *e*P **P** **00 51 02.1 -1.1**
YKB5 *e*pP **pP** **00 51 20.2 +1.2**
YKW3 Yellowknife Ar 91.06 341 *e*P **P** **00 51 03.4 -0.1**
comp=Z,16nm,0.8s
KONO Kongsberg 102.97 31⇓ *e*P **Pdif** **00 51 57.6 +0.1**
VSR Storozhevoye 118.08 42⇓ *i*PKIKP **PKPdf** **00 56 45.8 -0.2**
KIV Kislovodsk 120.39 51 *i* PKIKP **PKPdf** **00 56 50.2 -0.7**
KIV pmax pmax
comp=Z,5.0nm,1.1s
NEY Neytrino 120.40 52⇓ *i*PKIKP **PKPdf** **00 56 52.2 +1.2**
KBZ Khabaz 120.54 51 PKP **PKPdf** **00 56 50.2 -0.8**
comp=Z,4.6nm,0.9s,baz=31,slow=1.6,SNR=10
KBZ pPKP **pPKPdf** **00 57 08.4 +1.1**
comp=Z,4.0nm,0.9s,baz=204,slow=5.4,SNR=4.5
GNI Garni 121.81 55 *d i*PKIKP **PKPdf** **00 56 47.8 -6.0**
GNI pmax pmax
comp=Z,27nm,1.7s
BILL Bilibino 122.32 338⇓ *i*PKIKP **PKPdf** **00 56 53.4 -0.3**
BILL *i* 01 03 53.0
BILL SS SS 01 15 03.0 -2.8
BILL pmax pmax
comp=Z,8.0nm,2.2s
H11S2 WAKE ISLAND Hyl 27.34 277 T T 03 16 46.5
baz=102,slow=74,SNR=366
H11S1 WAKE ISLAND Hyl 27.35 277 T T 03 16 57.5
baz=102,slow=74,SNR=395
H11S3 WAKE ISLAND Hyl 27.36 277 T T 03 16 47.3
baz=102,slow=74,SNR=312
H11N3 WAKE ISLAND Hyl 27.42 279 T T 03 17 01.8
baz=103,slow=74,SNR=724
H11N2 WAKE ISLAND Hyl 27.44 279 T T 03 16 53.8
baz=103,slow=74,SNR=577
H11N1 WAKE ISLAND Hyl 27.44 279 T T 03 16 53.9
baz=103,slow=74,SNR=506
ARU Arti 128.45 34 *i* PKIKP **PKPdf** **00 57 06.8 +1.0**
ARU 01 04 12.3
AS01 Alice Springs 129.64 208 *e*PKPdf **PKPdf** **00 57 08.5 -0.7**
ASAR Alice Springs 129.66 208 PKP **PKPdf** **00 57 08.9 -0.3**
comp=Z,3.6nm,0.9s,baz=147,slow=2.1,SNR=26
ASAR pPKP **pPKPdf** **00 57 25.4 -0.1**
comp=Z,2.1nm,0.7s,baz=146,slow=2.2,SNR=5.9
PETK Petropavlovsk- 132.24 323 PKP **PKPdf** **00 57 14.6 +1.5**
comp=Z,2.6nm,0.6s,baz=60,slow=4.7,SNR=3.3
WRA Warramunga Arr 132.67 211 PKP **PKPdf** **00 57 14.9 -0.1**
comp=Z,2.2nm,0.7s,baz=158,slow=1.7,SNR=29
BRVK Borovoye 136.03 34⇓ *i*PKIKP **PKPdf** **00 57 21.0 +0.8**
MANU Manus Island 137.03 242 *e*PKPdf **PKPdf** **00 57 24.8 +1.5**
FITZ Fitzroy Crossi 137.95 202 PKP **PKPdf** **00 57 25.2 +0.4**
comp=Z,2.2nm,0.8s,baz=135,slow=5.7,SNR=3.3
NVS Novosibirsk 140.90 25 *e*PKIKP **PKPdf** **00 57 29.2 +0.2**
NVS pmax pmax
comp=Z,9.0nm,1.6s
KURK Kurchatov 141.62 33⇑ *i*PKIKP **PKPdf** **00 57 33.6 +3.1**
ZALV Zalesovo Beam 142.18 25 PKP **PKPdf** **00 57 29.3 -2.1**
comp=Z,5.7nm,0.7s,baz=283,slow=2.8,SNR=18
BOD Bodaibo 143.63 357 *e*PKHKP PKPpre 00 57 29.6
BOD pmax pmax
comp=Z,12nm,1.5s
GRNR Gornyy 144.43 332 *e*PKIKP **PKPab** **00 57 33.4 -0.4**
GRNR pmax pmax
comp=Z,28nm,0.8s
ZEA Zeya 145.37 342 *e*PKIKP **PKPbc** **00 57 36.8 -0.1**
ZEA pmax pmax
comp=Z,71nm,1.2s
KSH Kashi 145.52 51 PKPbc **PKPdf** **00 57 37.6 -0.3**
KSH PP **PP** **01 01 01.9 +3.2**
KSH SKS **SKSdf** **01 04 41.3 -1.3**
KSH LR LR
comp=Z,140nm,13.0s
MKAR Makanchi Array 145.95 35 PKPbc **PKPdf** **00 57 38.4 +0.1**
comp=Z,9.8nm,0.7s,baz=328,slow=3.1,SNR=47
DGZ Jazzator, Alta 146.45 27 *de*PKP2 **PKPbc** **00 57 40.1 -0.5**
KLR Kul'dur 147.58 334⇓ *e*PKIKP **PKPdf** **00 57 41.4 +0.5**
HVS Khovu-Aksy 147.63 20⇓ *i*PKIKP **PKPdf** **00 57 41.1 +0.1**
FAKI Fak Fak 147.72 224 *e*PKPdf **PKPbc** **00 57 44.8 -0.3**
TEY Ternei 148.20 324⇑ *e*PKIKP **PKPdf** **00 57 42.1 +0.1**
MOY Mondy 148.99 12 *e*PKP2 **PKPbc** **00 57 48.2 +0.8**
MOY pmax pmax
comp=Z,30nm,2.8s
TLY Talaya 149.41 8 *e*PKP2 **PKPab** **00 57 53.4 +0.3**
TLY pmax pmax
comp=Z,16nm,0.9s
SIJI Sorong 149.91 225 PKPbc **PKPbc** **00 57 51.1 +0.5**
comp=Z,20nm,0.7s,baz=9.2,slow=5.2,SNR=11
SIJI pPKPbc **sPKPdf** **00 58 08.0 0.0**
comp=Z,10nm,0.6s,baz=61,slow=8.0,SNR=2.5
ZAK Zakamensk 150.62 9 *e*PKIKP **PKPbc** **00 57 51.2 -0.1**
ZAK pmax pmax
comp=Z,6.0nm,1.1s
WMQ Urumqi 150.78 35 *e*PKPbc **PKPdf** **00 57 46.3 0.0**
WMQ LR LR
comp=Z,230nm,18.5s
WMQ LR LR
comp=Z,220nm,17.9s
CISI Cisompet, Garu 151.00 174 *e*PKPbc **PKPbc** **00 57 52.7 -0.6**
USA0B Ussuriysk Arra 151.21 327 *e*PKPbc **PKPbc** **00 57 53.4 +0.6**
USRK Ussuriysk Ar. 151.21 327 PKPbc **PKPbc** **00 57 52.7 -0.1**
comp=Z,9.7nm,0.7s,baz=20,slow=4.1,SNR=20
HIA Hailar 151.33 347 *c i*PKIKP **PKPbc** **00 57 53.1 +0.1**
MJAR Matsushiro Arr 151.64 308 PKPbc **PKPbc** **00 57 54.1 0.0**
comp=Z,6.4nm,0.8s,baz=106,slow=1.1,SNR=13
MAJO Matsushiro 151.64 308 *e*PKPbc **PKPbc** **00 57 54.2 +0.1**
MAJO *e*PKPab **pPKPdf** **00 58 03.6 -0.5**
MAJO Matsushiro 151.64 308 *c i*PKIKP **PKPbc** **00 57 54.4 +0.3**
MAJO pmax pmax
comp=Z,9.0nm,0.6s
MAT Matsushiro 151.64 308 PKP **PKPbc** **00 57 53.5 -0.6**
LEM Lembang 151.71 174 PKPbc **PKPbc** **00 57 56.1 +1.1**
comp=Z,36nm,0.7s,baz=306,slow=19,SNR=7.6
LEM pPKPbc **pPKPbc** **00 58 13.1 +1.8**
comp=Z,31nm,0.5s,baz=295,slow=14,SNR=3.4
SONM Songino Array 153.52 6 PKP **PKPdf** **00 57 51.0 +0.7**
comp=Z,1.6nm,0.8s,baz=302,slow=3.1,SNR=9.1
SONM PKPbc **PKPbc** **00 57 57.7 -0.3**
comp=Z,2.8nm,0.8s,baz=329,slow=1.5,SNR=13
SONM PKPab **PKPab** **00 58 10.1 -0.3**
comp=Z,3.9nm,0.8s,baz=328,slow=3.7,SNR=13
ULN Ulaanbaatar 153.55 5 *e*PKPab **PKPab** **00 58 11.2 +0.6**
KSRS Korea Array 158.09 320 PKP **PKPdf** **00 57 56.2 -0.3**
comp=Z,3.4nm,1.0s,baz=314,slow=0.2,SNR=7.8

KSRS					PKPab	**PKPab**	**00 58 30.1**	**-0.1**
	comp=Z,3.1nm,0.9s,baz=46,slow=3.0,SNR=5.8								
KSAR	**Wonju Array Be**	**158.12**	**320**		PKP	**PKPdf**	**00 57 56.2**	**-0.4**
KSAR					PKPab	**PKPab**	**00 58 30.1**	**-0.3**
KSAR	**Wonju Array Be**	**158.12**	**320**		PKIKP	**PKPdf**	**00 57 56.2**	**-0.4**
KSAR							00 58 30.1	
GTA	**Gaotai**	**159.94**	**25**	*e*	PKP	**PKPdf**	**00 57 59.6**	**+0.8**
GTA					LR	LR		
	comp=Z,330nm,20.6s								
GTA					LR	LR		
	comp=Z,130nm,21.6s								
HHC	**Hu-ho-hao-te**	**160.69**	**358**	*e*	PKP	**PKPdf**	**00 58 02.1**	**+2.5**
BJI	**Beijing**	**160.90**	**347**	*e*	PKP	**PKPdf**	**00 58 00.6**	**+0.9**
LZH	**Lanzhou**	**164.34**	**20**	*e*	PKP	**PKPdf**	**00 58 04.5**	**+1.1**
LZH					pPKP	pPKPdf	00 58 15.6	-4.2
LZH					LR	LR		
	comp=Z,150nm,18.1s								
LZH					LR	LR		
	comp=Z,190nm,18.2s								
LZH					LR	LR		
	comp=Z,220nm,20.1s								
NJ2	**Nanjing**	**167.12**	**326**	*e*	PKP	**PKPdf**	**00 58 06.4**	**+0.8**
XAN	**Xi'an**	**167.43**	**6**		PKP	**PKPdf**	**00 58 06.4**	**+0.6**
CMAR	**Chiang Mai Arr**	**168.72**	**104**		PKP	**PKPdf**	**00 58 06.5**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=249,slow=1.5,SNR=7.6								
CD2	**Chengdu**	**168.85**	**31**		PKP	**PKPdf**	**00 58 05.5**	**-1.4**
GYA	**Guiyang**	**173.94**	**35**	*e*	PKP	**PKPdf**	**00 58 08.8**	**-0.8**
GYA					PKPab	**PKPab**	**00 59 41.0**	**+0.6**
GYA					PKS	**PKSdf**	**01 01 39.6**	**-2.5**
GYA					PP	**PP**	**01 03 34.3**	**+2.5**
GYA					AMB	AMB		
	comp=Z,120nm,8.2s								

*DRS **16** 00:48:37.0±0.0,41°.61N×46°.40E,h12km*
*AZER **16** 00:48:37.8±0.1,41°.63N×46°.50E,h2km,ml3.1/25,Error ellipse: s-maj=3.3km s-min=0.9km az=353.0*
*TIF **16** 00:48:38.8,41°.69N×46°.53E,h3km±1km*
*MOS **16** 00:48:39.6±0.0,41°.77N×46°.61E,h15km,MPVA4.1*
*NSSP **16** 00:48:40.2,41°.78N×46°.50E,h15km,Ms3.4*
*DDA **16** 00:48:57.1,41°.74N×44°.76E,h10km,Ml2.9*
ISC 16 00:48:39.9±1.1,**41°.72N**±0°.01×**46°.51E**±0°.01,**h1**km±8km,
n122,σ1°46/216,**27C-35D,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZKTA	**Zakatala**	**0.12**	**133**	PG	**Pg**	**00 48 41.3**	**-0.8**
ZKTA	**Zakatala**	**0.12**	**133**	⇑P	**Pg**	**00 48 41.2**	**-0.8**
ZKTA				⇑S	**Sg**	**00 48 43.2**	**-0.5**
KMKR	**Kumukh**	**0.60**	**47**	⇓*i*PG	**Pg**	**00 48 51.5**	**0.0**
KMKR				*i* S	**Sb**	**00 49 01.5**	**-0.9**
KMKR				pmax	pmax		
	comp=Z,587nm,0.2s						
KMKR	**Kumukh**	**0.60**	**47**	*i* Pg	**Pg**	**00 48 51.5**	**0.0**
KMKR				*i* Sg	**Sb**	**00 49 01.5**	**-0.9**
SEKA	**Sheki**	**0.73**	**134**	PG	**Pg**	**00 48 53.2**	**-0.6**
SEKA	**Sheki**	**0.73**	**134**	⇓Pg	**Pg**	**00 48 53.2**	**-0.6**
	SNR=192						
SEKA				⇑Sg	**Sg**	**00 49 03.8**	**+0.6**
GNBR	**Gunib**	**0.75**	**27**	⇓*i*PG	**Pg**	**00 48 54.1**	**-0.2**
GNBR				*e*		00 49 05.2	
GNBR				pmax	pmax		
	comp=Z,289nm,0.5s						
GNBR				smax	smax		
	comp=N,1μm,0.8s						
GNBR	**Gunib**	**0.75**	**27**	*i* Pg	**Pg**	**00 48 54.2**	**0.0**
GNBR				eSg	**Sg**	**00 49 03.8**	**-0.2**
XNZR	**Khunzakh**	**0.84**	**10**	*e*PG	**Pg**	**00 48 55.8**	**-0.1**
XNZR				*e*S	**Sb**	**00 49 08.3**	**-0.8**
XNZR	**Khunzakh**	**0.84**	**10**	*e*Pg	**Pb**	**00 48 56.4**	**-0.9**
XNZR				eSg	**Sb**	**00 49 07.9**	**-1.2**
AKT	**Akhty**	**0.95**	**104**	⇓*e*PG	**Pg**	**00 48 56.3**	**-1.7**
AKT				*e*		00 49 10.2	
AKT				pmax	pmax		
	comp=Z,77nm,0.6s						
AKT				smax	smax		
	comp=N,475nm,0.6s						
AKT	**Akhty**	**0.95**	**104**	*e*Pg	**Pg**	**00 48 56.5**	**-1.6**
AKT				eSg	**Sb**	**00 49 11.8**	**-0.5**
URKR	**Urkarakh**	**0.95**	**62**	⇓*e*PG	**Pg**	**00 48 57.6**	**-0.5**
URKR				*e*		00 49 11.0	
URKR	**Urkarakh**	**0.95**	**62**	*e*Pg	**Pg**	**00 48 57.6**	**-0.5**
URKR				eSg	**Sb**	**00 49 11.2**	**-1.2**
ARKR	**Arakani**	**0.95**	**22**	*i* PG	**Pg**	**00 48 58.2**	**0.0**
ARKR				*e*S	**Sb**	**00 49 11.2**	**-1.2**
ARKR				pmax	pmax		
	comp=Z,99nm,0.2s						
ARKR	**Arakani**	**0.95**	**22**	*i* Pg	**Pg**	**00 48 58.2**	**0.0**
ARKR				eSg	**Sb**	**00 49 11.2**	**-1.2**
BTLR	**Botlikh**	**0.97**	**347**	*e*PG	**Pg**	**00 48 58.5**	**+0.1**
BTLR				*e*S	**Sb**	**00 49 11.5**	**-1.3**
BTLR	**Botlikh**	**0.97**	**347**	*e*Pg	**Pb**	**00 48 58.9**	**-0.6**
BTLR				eSg	**Sb**	**00 49 11.5**	**-1.3**
UNCR	**Uncukul**	**1.02**	**12**	⇓*i*PG	**Pg**	**00 48 59.5**	**+0.1**
UNCR				*i* S	**Sb**	**00 49 14.0**	**-0.2**
UNCR				pmax	pmax		
	comp=Z,308nm,0.3s						
UNCR	**Uncukul**	**1.02**	**12**	*i* Pg	**Pg**	**00 48 59.5**	**+0.1**
UNCR				*i* Sg	**Sb**	**00 49 14.0**	**-0.2**
MNGR	**Mingechevir, A**	**1.04**	**155**	⇓P	**Pn**	**00 49 01.0**	**-0.5**
MNGR				⇑S	**Sn**	**00 49 17.1**	**+0.4**
QZX	**Qazax, Azerbai**	**1.08**	**233**	P	**Pg**	**00 49 00.4**	**-0.1**
	SNR=439						
QZX				⇓S	**Sn**	**00 49 16.9**	**-0.8**
GANJ	**Ganja**	**1.08**	**187**	PG	**Pg**	**00 49 00.2**	**-0.4**
GANJ	**Ganja**	**1.08**	**187**	⇑P	**Pg**	**00 48 60.0**	**-0.6**
	SNR=48						
GANJ				⇑S	**Sb**	**00 49 15.7**	**-0.3**
SGKR	**Sergokala**	**1.13**	**49**	*e*PG	**Pb**	**00 49 02.0**	**-0.2**
SGKR				*i* S	**Sn**	**00 49 20.0**	**+0.9**
SGKR	**Sergokala**	**1.13**	**49**	*e*Pg	**Pb**	**00 49 02.0**	**-0.2**
SGKR				*i* Sg	**Sn**	**00 49 20.0**	**+0.9**
GDB	**GEDABAY**	**1.15**	**210**	⇓P	**Pg**	**00 49 00.8**	**-1.0**
	SNR=1018						
GDB				⇓S	**Sb**	**00 49 17.4**	**-0.6**
KRNR	**Karanay**	**1.15**	**15**	*e*PG	**Pg**	**00 49 01.5**	**-0.3**
KRNR				*e*S	**Sb**	**00 49 17.5**	**-0.5**
KRNR				pmax	pmax		
	comp=Z,48nm,0.4s						
KRNR	**Karanay**	**1.15**	**15**	*e*Pg	**Pg**	**00 49 01.5**	**-0.3**
KRNR				eSg	**Sb**	**00 49 17.5**	**-0.5**
BUJR	**Buynaksk**	**1.19**	**22**	*i* PG	**Pg**	**00 49 02.7**	**0.0**
BUJR				*i* S	**Sn**	**00 49 20.7**	**+0.2**
BUJR				pmax	pmax		
	comp=Z,68nm,0.2s						
BUJR	**Buynaksk**	**1.19**	**22**	*i* Pg	**Pg**	**00 49 02.7**	**0.0**
BUJR				*i* Sg	**Sn**	**00 49 20.7**	**+0.2**
KSMR	**Kasumkent**	**1.22**	**95**	*i* PG	**Pg**	**00 49 02.0**	**-1.2**
KSMR				*e*S	**Sg**	**00 49 18.5**	**-0.5**
KSMR				pmax	pmax		
	comp=Z,293nm,0.3s						
KSMR	**Kasumkent**	**1.22**	**95**	*i* Pg	**Pg**	**00 49 02.0**	**-1.2**
KSMR				eSg	**Sg**	**00 49 18.5**	**-0.5**
QBL	**Gabala**	**1.26**	**127**	⇓P	**Pg**	**00 49 03.0**	**-1.1**
	SNR=8.0						
QBL				⇑S	**Sn**	**00 49 21.3**	**-1.0**
DVE	**Vedeno**	**1.27**	**347**	*e*PG	**Pn**	**00 49 04.3**	**-0.5**
DVE				*e*S	**Sn**	**00 49 21.6**	**-0.9**
DVE	**Vedeno**	**1.27**	**347**	*i* Pg	**Pn**	**00 49 04.3**	**-0.5**
DVE				eSg	**Sb**	**00 49 21.0**	**-0.4**
DBC	**Dubki**	**1.32**	**10**	*e*PG	**Pn**	**00 49 04.8**	**-0.7**
DBC				*e*S	**Sn**	**00 49 23.0**	**-0.8**
DBC	**Dubki**	**1.32**	**10**	*e*Pg	**Pn**	**00 49 04.8**	**-0.7**
DBC				eSg	**Sn**	**00 49 22.9**	**-0.8**
TBLG	**Delisi**	**1.32**	**271**	*e*P	**Pn**	**00 49 03.9**	**-1.6**
TBLG				*e*S	**Sn**	**00 49 24.1**	**+0.3**
TBLG	**Delisi**	**1.32**	**271**	P	**Pg**	**00 49 05.3**	**0.0**
TBLG				S	**Sn**	**00 49 25.1**	**+1.3**
TBLG	**Delisi**	**1.32**	**271**	*e*PG	**Pg**	**00 49 05.2**	**0.0**
TBLG				*e*S	**Sn**	**00 49 25.0**	**+1.3**
QSAR	**Qusar**	**1.33**	**98**	⇑P	**Pn**	**00 49 04.2**	**-1.4**
	SNR=15						
QSAR				⇓S	**Sn**	**00 49 28.1**	**+4.1**
XNQ	**Khinaliq**	**1.34**	**113**	⇓P	**Pn**	**00 49 04.3**	**-1.6**
	SNR=15						
XNQ				⇓S	**Sn**	**00 49 27.4**	**+2.9**
DLMR	**Dylym**	**1.35**	**4**	*i* PG	**Pg**	**00 49 06.0**	**+0.2**
DLMR				*e*S	**Sn**	**00 49 24.0**	**-0.5**
DLMR				pmax	pmax		
	comp=Z,91nm,0.3s						
DLMR	**Dylym**	**1.35**	**4**	*i* Pg	**Pg**	**00 49 06.0**	**+0.2**
DLMR				eSg	**Sn**	**00 49 24.0**	**-0.5**
DRN	**Derbent**	**1.40**	**77**	*e*PG	**Pn**	**00 49 05.8**	**-0.6**
DRN				*e*S	**Sn**	**00 49 25.3**	**-0.2**
DRN				pmax	pmax		
	comp=Z,84nm,0.5s						
DRN	**Derbent**	**1.40**	**77**	*e*Pg	**Pn**	**00 49 05.9**	**-0.6**
DRN				*e*Sg	**Sn**	**00 49 25.2**	**-0.2**
DUS	**Dusheti**	**1.40**	**286**	P	**Pg**	**00 49 07.6**	**+1.0**
DUS				S	**Sn**	**00 49 28.0**	**+2.3**
DUS	**Dusheti**	**1.40**	**286**	*e*PG	**Pg**	**00 49 07.6**	**+1.0**
DUS				*e*S	**Sn**	**00 49 27.9**	**+2.3**
MAK	**Makhachkala**	**1.45**	**30**	*e*PG	**Pg**	**00 49 08.9**	**+1.3**
MAK				*e*		00 49 32.7	
MAK				pmax	pmax		
	comp=Z,140nm,0.3s						
MAK				smax	smax		
	comp=E,560nm,0.6s						
MAK				smax	smax		
	comp=E,620nm,0.6s						
QUBA	**Quba, Azerbaij**	**1.53**	**103**	⇑Pn	**Pb**	**00 49 08.8**	**-0.3**
QUBA				⇓Sn	**Sg**	**00 49 33.6**	**+4.5**
BRDA	**Brd**	**1.54**	**161**	⇓Pn	**Pb**	**00 49 08.5**	**-0.6**
	SNR=16						
BRDA				⇓Sn	**Sg**	**00 49 32.4**	**+3.0**
IML	**Ismayilli**	**1.56**	**126**	⇓Pn	**Pn**	**00 49 08.2**	**-0.6**
	SNR=12						
IML				⇑Sn	**Sg**	**00 49 31.4**	**+1.3**
GROC	**Groznyy**	**1.57**	**341**	*e*PN	**Pg**	**00 49 10.7**	**+0.7**
GROC				*e*S	**Sg**	**00 49 33.5**	**+3.1**
GROC	**Groznyy**	**1.57**	**341**	*e*Pg	**Pb**	**00 49 09.3**	**-0.4**
GROC				*e*Sg	**Sg**	**00 49 30.1**	**-0.3**
KZRT	**Kazreti**	**1.62**	**259**	P	**Pn**	**00 49 09.4**	**-0.1**
KZRT				S	**Sb**	**00 49 31.2**	**-0.2**
GUDG	**Gudauri**	**1.69**	**297**	P	**Pb**	**00 49 11.2**	**-0.5**
GUDG				S	**Sg**	**00 49 35.3**	**+1.3**
ZRD	**Zardab**	**1.69**	**148**	⇓Pn	**Pn**	**00 49 10.5**	**+0.1**
	SNR=20						
ZRD				⇑Sn	**Sg**	**00 49 35.2**	**+1.0**
STEZ	**Stepenevan**	**1.74**	**246**	⇓*e*P	**Pn**	**00 49 11.0**	**-0.3**
STEZ				⇓*e*S	**Sb**	**00 49 35.0**	**-0.1**
KMGR	**Komgaron**	**1.81**	**318**	*e*PN	**Pg**	**00 49 16.0**	**+1.5**
KMGR	**Komgaron**	**1.81**	**318**	*e*Pg	**Pg**	**00 49 14.4**	**-0.1**
KMGR				*e*Sg	**Sg**	**00 49 38.3**	**+0.3**
TRLG	**Trialeti**	**1.81**	**265**	P	**Pn**	**00 49 12.7**	**+0.3**
TRLG				S	**Sg**	**00 49 38.0**	**-0.1**
PQL	**Pirkuli**	**1.83**	**120**	Pn	**Pb**	**00 49 13.4**	**-0.7**
	SNR=21						
KDMR	**Kurdemir**	**1.85**	**136**	⇑Pn	**Pn**	**00 49 13.1**	**+0.5**
	SNR=3.6						
KDMR				⇑Sn	**Sg**	**00 49 39.9**	**+0.8**
VLKR	**Vladikavkaz**	**1.90**	**315**	*e*PN	**Pg**	**00 49 18.5**	**+2.3**
VLKR				*e*S	**Sg**	**00 49 47.8**	**+7.0**
VLKR	**Vladikavkaz**	**1.90**	**315**	*e*Pg	**Pb**	**00 49 15.0**	**-0.3**
VLKR				*e*Sg	**Sg**	**00 49 40.1**	**-0.7**
SIZA	**Siyzn**	**1.91**	**109**	⇓Pn	**Pb**	**00 49 15.0**	**-0.5**
	SNR=13						
LACR	**Lac**	**1.98**	**305**	*e*PN	**Pb**	**00 49 16.7**	**0.0**
LACR				*e*S	**Sg**	**00 49 44.5**	**+1.1**
LACR	**Lac**	**1.98**	**305**	*i* Pg	**Pb**	**00 49 16.4**	**-0.3**
LACR				eSg	**Sg**	**00 49 42.8**	**-0.6**
ATGJ	**Altiaghaj**	**2.02**	**114**	⇑Pn	**Pg**	**00 49 18.1**	**-0.5**
	SNR=9.3						
GNI	**Garni**	**2.06**	**221**	*e*P	**Pb**	**00 49 16.9**	**-1.2**
GNI	**Garni**	**2.06**	**221**	⇓*i*P	**Pb**	**00 49 17.4**	**-0.7**
GNI				⇑*i*S	**Sg**	**00 49 45.4**	**-0.6**
GNI	**Garni**	**2.06**	**221**	*e*PN	**Pb**	**00 49 17.1**	**-1.0**
GNI				pmax	pmax		
	comp=Z,500nm,0.6s						
GBS	**Qobustan**	**2.19**	**122**	⇑Pn	**Pb**	**00 49 19.2**	**-1.1**
	SNR=5.9						
GBS				⇓Sn	**Sg**	**00 49 57.4**	**+7.3**
ARNR	**Ardon**	**2.20**	**312**	*e*Pg	**Pb**	**00 49 19.3**	**-1.1**
ARNR				eSg	**Sb**	**00 49 48.1**	**-0.1**
BTKR	**Batakoyurt**	**2.20**	**319**	*e*PN	**Pg**	**00 49 22.3**	**+0.3**
BTKR				*e*S	**Sg**	**00 49 51.9**	**+1.4**
BTKR	**Batakoyurt**	**2.20**	**319**	*e*Pg	**Pb**	**00 49 19.6**	**-0.9**
BTKR				eSg	**Sb**	**00 49 47.9**	**-0.3**
ZEI	**Tsey**	**2.21**	**300**	*e*PN	**Pb**	**00 49 19.9**	**-0.8**
ZEI				*e*S	**Sg**	**00 49 52.0**	**+1.1**
ZEI	**Tsey**	**2.21**	**300**	*e*Pn	**Pb**	**00 49 19.7**	**-1.0**
ZEI				*e*Sn	**Sb**	**00 49 48.8**	**+0.1**
BGD	**Bogdanovka**	**2.23**	**259**	P	**Pn**	**00 49 19.2**	**+1.1**
BGD				S	**Sb**	**00 49 50.0**	**+0.7**
KORR	**Kora**	**2.27**	**308**	*e*PN	**Pg**	**00 49 22.3**	**-1.0**
KORR				*e*S	**Sg**	**00 49 52.4**	**-0.2**
KORR	**Kora**	**2.27**	**308**	*i* Pn	**Pb**	**00 49 20.6**	**-0.9**
KORR				*e*Sn	**Sb**	**00 49 50.5**	**+0.4**
AKH	**Akhalkalaki**	**2.28**	**263**	*e*P	**Pb**	**00 49 20.6**	**-1.3**
AKH				*e*S	**Sb**	**00 49 51.1**	**+0.4**
AKH	**Akhalkalaki**	**2.28**	**263**	P	**Pb**	**00 49 20.7**	**-1.2**
AKH				S	**Sb**	**00 49 51.6**	**+0.9**
AKH	**Akhalkalaki**	**2.28**	**263**	*e*PN	**Pb**	**00 49 20.7**	**-1.2**
AKH				*e*S	**Sb**	**00 49 51.6**	**+0.9**
HYR	**Heyderabad**	**2.36**	**213**	⇓Pn	**Pb**	**00 49 21.8**	**-1.4**
TRKR	**Terskaya**	**2.39**	**327**	*e*PN	**Pb**	**00 49 23.0**	**-0.7**
TRKR				*e*S	**Sg**	**00 49 57.0**	**+0.3**
TRKR	**Terskaya**	**2.39**	**327**	*e*Pn	**Pb**	**00 49 22.9**	**-1.8**
TRKR				*e*Sn	**Sb**	**00 49 52.7**	**-1.0**
EAK	**Akyaka**	**2.42**	**246**	*i* P	**Pb**	**00 49 22.8**	**-1.4**
EAK				*i* S	**Sg**	**00 49 56.9**	**-0.7**
ONI	**Oni**	**2.43**	**292**	P	**Pb**	**00 49 23.3**	**-1.1**
ONI				S	**Sg**	**00 49 56.5**	**-1.5**
ONI	**Oni**	**2.43**	**292**	*e*PN	**Pb**	**00 49 23.3**	**-1.1**
ONI				*e*S	**Sg**	**00 49 56.5**	**-1.5**
TASB	**TASBURUN-IGDIR**	**2.44**	**226**	*e*P	**Pb**	**00 49 24.5**	**-0.1**
STDR	**Stavd-Durt**	**2.45**	**313**	*e*PN	**Pg**	**00 49 25.7**	**-1.0**
STDR				*e*S	**Sg**	**00 50 00.3**	**+1.9**
STDR	**Stavd-Durt**	**2.45**	**313**	*e*Pn	**Pb**	**00 49 22.8**	**-1.8**
STDR				*e*Sn	**Sb**	**00 49 54.5**	**-0.8**
DIGR	**Digorskoe uzhe**	**2.47**	**300**	*e*PN	**Pb**	**00 49 23.7**	**-1.5**
DIGR				*e*S	**Sg**	**00 49 58.0**	**-1.2**
DIGR	**Digorskoe uzhe**	**2.47**	**300**	*e*Pn	**Pb**	**00 49 23.6**	**-1.6**
DIGR				*e*Sn	**Sb**	**00 49 55.7**	**-0.4**
LSNR	**Lesken**	**2.52**	**309**	*e*PN	**Pg**	**00 49 27.7**	**-0.5**
LSNR				*e*S	**Sg**	**00 50 03.3**	**+0.6**
LSNR	**Lesken**	**2.52**	**309**	*e*Pn	**Pg**	**00 49 27.3**	**-0.9**
LSNR				*e*Sn	**Sg**	**00 49 59.6**	**-1.3**
NAX	**Nakhchivan**	**2.66**	**197**	⇑Pn	**Pb**	**00 49 26.3**	**-1.9**
DIGO	**Kars**	**2.70**	**242**	*i* P	**Pb**	**00 49 28.6**	**-0.6**
DIGO				*i* S	**Sg**	**00 50 05.9**	**-0.8**
NCK	**Nalchik**	**2.79**	**311**	⇑*e*PN	**Pb**	**00 49 27.8**	**-2.7**
NCK	**Nalchik**	**2.79**	**311**	*e*Pn	**Pn**	**00 49 27.4**	**+1.8**
NCK				*e*Sn	**Sb**	**00 50 02.8**	**-2.3**
KARS	**Kars**	**2.81**	**248**	*e*P	**Pb**	**00 49 30.1**	**-0.8**
ORD	**Ordubad**	**2.81**	**188**	⇓Pn	**Pn**	**00 49 27.2**	**+1.2**
EPOS	**Posof**	**2.84**	**267**	*i* P	**Pb**	**00 49 28.8**	**-2.6**
EPOS				*i* S	**Sb**	**00 50 06.8**	**+0.1**
GLBA	**Clilabad**	**2.86**	**149**	⇓Pn	**Pn**	**00 49 27.3**	**+0.7**
GLBA				⇓Sn	**Sb**	**00 50 04.1**	**-3.0**
NEY	**Neytrino**	**3.19**	**300**	⇑*e*PN	**Pn**	**00 49 32.8**	**+1.5**
NEY	**Neytrino**	**3.19**	**300**	*e*Pn	**Pn**	**00 49 33.1**	**+1.9**
NEY				*e*Sn	**Sb**	**00 50 10.1**	**-3.7**
SENK	**Senkaya-Erzuru**	**3.34**	**251**	*e*P	**Pg**	**00 49 42.3**	**-1.7**
LRK	**Lerik**	**3.38**	**155**	⇓Pn	**Pn**	**00 49 34.5**	**+0.7**
LRK				⇓Sn	**Sn**	**00 50 16.2**	**+1.6**
AGRB	**Hanur-Agry**	**3.42**	**232**	*e*P	**Pb**	**00 49 41.5**	**+0.1**
LKRN	**Lenkeran, Azer**	**3.47**	**149**	⇓Pn	**Pn**	**00 49 34.6**	**-0.4**
LKRN				⇑Sn	**Sn**	**00 50 18.9**	**+2.3**
KIV	**Kislovodsk**	**3.59**	**310**	*e*PN	**Pn**	**00 49 38.6**	**+1.9**
ASTR	**Astara**	**3.61**	**150**	⇓Pn	**Pn**	**00 49 37.2**	**+0.3**
ASTR				⇓Sn	**Sn**	**00 50 22.8**	**+2.7**
DBOC	**Borcka**	**3.65**	**266**	*i* P	**Pn**	**00 49 37.0**	**-0.5**
DBOC				*i* S	**Sg**	**00 50 34.1**	**-3.1**
BCA	**Borcka**	**3.67**	**267**	*e*P	**Pb**	**00 49 44.9**	**-0.7**
AKTO	**Aktyubinsk**	**11.81**	**39**	⇑Pn	**Pn**	**00 51 28.4**	**-0.9**
	comp=Z,2.2nm,0.8s						
AKTO				⇑Sn	**Sn**	**00 53 35.3**	**-6.4**
	comp=Z,2.9nm,0.8s						
AB31	**Akbulak array**	**12.06**	**47**	⇑Pn	**Pn**	**00 51 35.4**	**+2.7**
	comp=Z,3.2nm,1.3s,baz=228,slow=13,SNR=7.8						
AB31				⇑Sn	**Sn**	**00 53 46.0**	**-1.7**
	comp=Z,1.1nm,0.6s,baz=235,slow=21,SNR=5.0						
KIEV	**Kiev**	**14.94**	**313**	⇓*e*P	**Pn**	**00 52 13.8**	**+1.8**
BRVK	**Borovoye**	**19.59**	**47**	⇓*e*P	**Pn**	**00 53 10.3**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AAK	**Ala-Archa**	**20.73**	**78**	⇑*i*P	**P**	**00 53 22.0**	**+0.2**
KURK	**Kurchatov**	**23.81**	**57**	⇓*e*P	**P**	**00 53 56.5**	**+2.5**

*IDC **16** 00:52:07.1±1.6,2°.52N×125°.00E,h0km,mb4.0/4,*
mb1 4.2/4,mb1mx3.7/38,mbtmp4.0/4,Error ellipse:
s-maj=112.7km s-min=23.4km az=67.0
*ISCJB **16** 00:52:09.8±1.0,2°.7N±0°.1×125°.3E±0°.2,h33km,mb4.0/8,*
Error ellipse: s-maj=29.1km s-min=13.5km az=155.6
*NEIC **16** 00:52:11.8±0.6,2°.66N×125°.34E,h35km,mb4.1/5,Error*
ellipse: s-maj=19.3km s-min=9.0km az=66.0
ISC 16 00:52:11.8±1.1,**2°.7N**±0°.1×**125°.3E**±0°.2,**h35**km,**n10,**
σ0°22/9,mb4.0/8,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.63**	**179**	P	Pn	00 56 48.2	-2.5
	1.7nm,0.3s,baz=8.1,slow=7.1,SNR=28						
WRAB	**Tennant Creek**	**24.14**	**159**	*e*P	**P**	**00 57 24.4**	**-0.2**
	1.5nm,0.5s						
WRA	**Warramunga Arr**	**24.14**	**159**	P	**P**	**00 57 24.7**	**0.0**
	3.2nm,0.4s,baz=334,slow=10,SNR=77						
MBWA	**Marble Bar**	**24.30**	**193**	P	**P**	**00 57 26.1**	**-0.1**
	13nm,0.9s						
COCO	**West Island**	**31.93**	**242**	P	**P**	**00 58 34.5**	**+0.1**
NWAO	**Narrogin (SRO)**	**36.21**	**192**	P	**P**	**00 59 11.7**	**+0.3**
	2.6nm,0.4s						
STKA	**Stephens Creek**	**37.66**	**157**	P	**P**	**00 59 23.6**	**-0.1**
	1.4nm,0.6s,baz=346,slow=12,SNR=3.5						
PALK	**Pallekele**	**44.68**	**278**	P	**P**	**01 00 21.5**	**-0.3**
	1.1nm,0.6s						
ULN	**Ulaanbaatar**	**47.72**	**343**	*e*P	**P**	**01 00 45.5**	**+0.2**
	0.2nm,0.2s						
MKAR	**Makanchi Array**	**57.65**	**326**	P	**P**	**01 01 58.6**	**-0.1**
	0.5nm,0.4s,baz=120,slow=7.9,SNR=8.5						

*NNC **16** 00:58:02.5±4.4,39°.67N×74°.07E,h0km,mb3.2,mpv2.9,*
Error ellipse: s-maj=42.7km s-min=18.9km az=21.0
*KRNET **16** 00:58:02.3±0.1,39°.46N×73°.57E,mb2.8*
ISC 16 00:57:58.2±1.6,**39°.38N**±0°.06×**73°.65E**±0°.03,**h17**km±12km,
n19,σ1°60/36,33C-5D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.65**	**350**	⇑P	**Pn**	**00 58 12.9**	**+0.1**
	28nm,0.3s						
SFK				⇑S	**Sb**	**00 58 21.4**	**+1.3**
	42nm,0.2s						
SFK	**Sufi-Kurgan**	**0.65**	**350**	⇑*i*P	**Pn**	**00 58 13.2**	**+0.4**
	baz=55						
SFK				⇑*i*S	**Sb**	**00 58 21.3**	**+1.3**
	baz=55						
KSH	**Kashi**	**1.81**	**85**	Pg	**Pg**	**00 58 33.9**	**+1.0**
KSH				Sg	**Sn**	**00 58 50.6**	**-0.7**
KSH				smax	smax		
	comp=N,72nm,0.4s						
KSH				smax	smax		
	comp=E,49nm,0.8s						
ARSB	**Arslanbob**	**2.01**	**346**	⇑*i*P	**Pg**	**00 58 38.1**	**+1.3**
	baz=47						
ARSB				⇑*i*S	**Sg**	**00 59 04.1**	**+1.2**
	baz=47						
BTK	**Batken**	**2.29**	**288**	⇑*i*P	**Pg**	**00 58 42.3**	**+0.3**
	baz=87						
BTK				⇑*i*S	**Sg**	**00 59 11.3**	**-0.4**
	baz=87						
ARLS	**Aral**	**2.54**	**12**	⇑*e*P	**Pg**	**00 58 46.1**	**-0.7**
	baz=13						
ARLS				⇑*e*S	**Sg**	**00 59 18.4**	**-1.3**
	baz=13						
NRN	**Naryn**	**2.73**	**40**	⇑*e*P	**Pg**	**00 58 49.1**	**-1.4**
	baz=42						
NRN				⇑*i*S	**Sg**	**00 59 23.1**	**-2.8**
	baz=42						
ARK	**Arkit**	**2.74**	**333**	⇓*e*P	**Pb**	**00 58 48.3**	**+1.5**
	baz=33						

SIVA				AML	AML	01 05 40.7	
	comp=E,959μm,0.3s						
SIVA				AML	AML	01 05 41.1	
	comp=N,777μm,0.2s						
SIVA	**Sivas**	**0.74**	**91**	P	**Pg**	**01 05 26.3**	**-0.2**
SIVA				S	**Sb**	**01 05 37.5**	**+1.0**
ANKY	**Antikythira Is**	**0.97**	**329**	P	**Pg**	**01 05 30.8**	**-0.1**
LAST	**Lasithi**	**1.29**	**84**	P	**Pn**	**01 05 35.6**	**-0.1**
LAST	**Lasithi**	**1.29**	**84**	P	**Pn**	**01 05 35.6**	**-0.1**
NPS	**Neapolis**	**1.41**	**80**	P	**Pb**	**01 05 38.3**	**+0.1**
NPS	**Neapolis**	**1.41**	**80**	P	**Pb**	**01 05 37.8**	**-0.4**

*IDC **16** 01:18:29.6±0.7, 16°.38N×120°.93E, h0km, mb4.0/14, mb1 4.2/15, mb1mx3.9/47, mbtmp4.0/15, ML4.4/1, MS3.4/11, Ms1 3.4/11, ms1mx3.1/41, Error ellipse: s-maj=30.5km s-min=14.5km az=77.0*
*ISCJB **16** 01:18:32.4±1.1, 16°.35N±0°.04×120°.83E±0°.08, h30km±9km, mb4.0/20, MS3.4/7, Error ellipse: s-maj=12.4km s-min=6.5km az=177.2*
*MAN **16** 01:18:32.0, 16°.36N×120°.57E, h11km, mb5.0, ML4.0, MS4.0*
*NEIC **16** 01:18:34.0±1.6, 16°.37N×120°.96E, h30km±12km, mb4.2/8, Error ellipse: s-maj=8.6km s-min=4.4km az=76.0*
NEIC Felt [III PIVS] at Baguio City and La Trinidad.

ISC 16 01:18:32.4±1.4, **16°.37N**±0°.03×**120°.95E**±0°.09, **h17**km±9km, **n50**, σ0**88**/**51**, **mb4.0**/21, **MS3.3**/**7**, **4C**, **Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCPH	**Palayan**	**0.81**	**170**	⇑*e*P	**Pb**	**01 18 48.2**	**+0.2**
PCPH				*i* S	**Sb**	**01 18 59.0**	**+0.3**
CVP	**Callao Caves**	**1.57**	**32**	*i* P	**Pg**	**01 19 02.5**	**0.0**
CVP				*i* S	**Sg**	**01 19 22.5**	**-0.5**
TGY	**Tagaytay City**	**2.25**	**180**	Pn	**Pn**	**01 19 09.9**	**+1.0**
	111nm,0.3s,baz=290,slow=1.8,SNR=9.4						
TGY				Sn	**Sn**	**01 19 33.4**	**-2.9**
	281nm,0.3s,baz=301,slow=11,SNR=6.1						
TGY				LR	LR	01 20 19.8	
	comp=Z,1μm,21.6s,baz=118,slow=49						
TGY	**Tagaytay City**	**2.25**	**180**	⇑*e*P	**Pg**	**01 19 15.5**	**-0.2**
TGY				*e*S	**Sg**	**01 19 45.6**	**+0.6**
GQP	**Guinayangan**	**2.84**	**149**	⇑*e*P	**Pb**	**01 19 21.2**	**-1.5**
GQP				*e*S	**Sb**	**01 20 00.1**	**+2.9**
TPUB	**Ta-pu**	**6.90**	**358**	*e*Pn	**Pn**	**01 20 12.1**	**-0.7**
YULB	**Yu-li**	**7.00**	**3**	*e*Pn	**Pn**	**01 20 15.4**	**+1.3**
SSLB	**Suanglung**	**7.38**	**0**	*e*Pn	**Pn**	**01 20 19.3**	**-0.1**
JOW	**Kunigami**	**12.44**	**32**	LR	LR	01 26 19.0	
	comp=Z,87nm,19.6s,baz=112,slow=38						
JNU	**Nakatsue**	**18.94**	**26**	LR	LR	01 30 08.2	
	comp=Z,62nm,21.6s,baz=228,slow=37						
SIJI	**Sorong**	**19.93**	**148**	LR	LR	01 32 14.1	
	comp=Z,75nm,18.5s,baz=148,slow=41						
CM31	**Chiang Mai Arr**	**21.10**	**279**	*e*P	**P**	**01 23 16.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**21.10**	**279**	P	**P**	**01 23 16.8**	**+0.5**
	0.9nm,0.3s,baz=97,slow=8.7,SNR=8.9						
CMAR				LR	LR	01 31 27.1	
	comp=Z,113nm,19.0s,baz=92,slow=37						
KS15	**Wonju Array Si**	**21.87**	**15**	*e*P	**P**	**01 23 25.1**	**+0.8**
KSAR	**Wonju Array Be**	**21.87**	**15**	P	**P**	**01 23 25.1**	**+0.8**
KSRS	**Korea Array**	**21.89**	**15**	P	**P**	**01 23 25.1**	**+0.6**
	2.8nm,0.7s,baz=196,slow=10,SNR=7.1						
KSRS				LR	LR	01 33 40.0	
	comp=Z,61nm,18.6s,baz=185,slow=42						
BATI	**Baumata**	**26.54**	**174**	LR	LR	01 37 00.2	
	comp=Z,210nm,18.8s,baz=42,slow=42						
LEM	**Lembang**	**26.55**	**211**	LR	LR	01 36 48.4	
	comp=Z,46nm,18.2s,baz=74,slow=41						
SONA0	**Songino Array**	**33.59**	**342**	*e*P	**P**	**01 25 11.6**	**-0.2**
SONM	**Songino Array**	**33.59**	**342**	P	**P**	**01 25 11.6**	**-0.2**
	0.6nm,0.6s,baz=162,slow=10.0,SNR=5.5						
SONM				LR	LR	01 39 21.0	
	comp=Z,54nm,19.7s,baz=160,slow=37						
KLR	**Kul'dur**	**33.94**	**13**	P	**P**	**01 25 15.2**	**+0.6**
	2.4nm,0.7s,baz=210,slow=6.1,SNR=9.5						
WRAB	**Tennant Creek**	**38.40**	**159**	*e*P	**P**	**01 25 52.5**	**-0.5**
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**38.41**	**159**	P	**P**	**01 25 52.5**	**-0.7**
	1.9nm,0.8s,baz=339,slow=9.3,SNR=19						
WR1	**Warramunga Ar**	**38.41**	**159**	*e*P	**P**	**01 25 52.5**	**-0.6**
	4.4nm,0.8s						
AS31	**Alice Springs**	**41.76**	**162**	*e*P	**P**	**01 26 20.8**	**-0.1**
	1.3nm,0.8s						
ASAR	**Alice Springs**	**41.76**	**162**	P	**P**	**01 26 20.8**	**-0.1**
	1.1nm,0.5s,baz=342,slow=6.9,SNR=12						
CTAO	**Charters Tower**	**43.94**	**145**	*e*P	**P**	**01 26 38.8**	**+0.2**
MK32	**Makanchi Array**	**44.06**	**322**	*e*P	**P**	**01 26 39.5**	**+0.1**
MKAR	**Makanchi Array**	**44.06**	**322**	P	**P**	**01 26 39.5**	**+0.1**
	1.1nm,0.9s,baz=120,slow=12,SNR=3.8						
ZALV	**Zalesovo Beam**	**46.83**	**331**	P	**P**	**01 27 00.6**	**-0.5**
	0.3nm,0.3s,baz=119,slow=8.9,SNR=3.0						
ZAA1	**Zalesovo Array**	**46.83**	**331**	*e*P	**P**	**01 27 00.6**	**-0.5**
AAK	**Ala-Archa**	**47.39**	**313**	*e*P	**P**	**01 27 06.6**	**+0.7**
	1.0nm,0.7s						
KURK	**Kurchatov**	**48.14**	**325**	*e*P	**P**	**01 27 10.9**	**-0.5**
BRVK	**Borovoye**	**53.80**	**325**	*e*P	**P**	**01 27 54.1**	**+0.2**
NRIK	**Noril'sk**	**56.89**	**347**	P	**P**	**01 28 15.1**	**-0.8**
	1.0nm,0.4s,baz=108,slow=6.4,SNR=4.0						
ARU	**Arti**	**61.31**	**326**	*e*P	**P**	**01 28 46.1**	**-0.7**
	4.2nm,0.4s						
GNI	**Garni**	**69.19**	**307**	*e*P	**P**	**01 29 39.2**	**+0.8**
KIV	**Kislovodsk**	**70.44**	**311**	*e*P	**P**	**01 29 45.8**	**-0.1**
	3.1nm,0.7s						
RAYN	**Ar Rayn**	**70.57**	**290**	*e*P	**P**	**01 29 47.7**	**+0.6**
	1.1nm,0.7s						
ARA0	**ARCESS Array S**	**76.69**	**339**	*e*P	**P**	**01 30 22.8**	**+0.6**
ARCES	**ARCESS Array B**	**76.69**	**339**	P	**P**	**01 30 22.8**	**+0.6**
	3.1nm,1.1s,baz=72,slow=6.9,SNR=3.5						
FIA0	**FINESS Array S**	**78.09**	**331**	*e*P	**P**	**01 30 29.6**	**-0.4**
FINES	**FINESS Array B**	**78.09**	**331**	P	**P**	**01 30 29.6**	**-0.4**
	2.3nm,0.9s,baz=29,slow=4.4,SNR=6.5						
FINES				LR	LR	02 10 31.9	
	comp=Z,55nm,19.1s,baz=261,slow=40						
INK	**Inuvik**	**80.54**	**21**	P	**P**	**01 30 43.0**	**-0.3**
	1.5nm,0.8s,baz=242,slow=7.6,SNR=4.6						
INK	**Inuvik**	**80.54**	**21**	*e*P	**P**	**01 30 43.0**	**-0.3**
	3.5nm,1.0s						
NB200	**NORSAR Array S**	**85.01**	**333**	*e*P	**P**	**01 31 05.5**	**-1.3**
NOA	**NORSAR Array B**	**85.01**	**333**	P	**P**	**01 31 05.5**	**-1.3**
	0.7nm,0.8s,baz=61,slow=4.9,SNR=2.4						
NOA				LR	LR	02 10 02.1	
	comp=Z,18nm,20.4s,baz=335,slow=36						
YKA	**Yellowknife Ar**	**90.23**	**23**	P	**P**	**01 31 32.5**	**+0.7**
	1.1nm,0.7s,baz=311,slow=4.1,SNR=5.1						
YKB5	**Yellowknife Ar**	**90.23**	**23**	*e*P	**P**	**01 31 32.5**	**+0.7**
SDV	**Santo Domingo**	**152.41**	**25**	*e*PKPdf	**PKPdf**	**01 38 21.5**	**-0.5**
SDV				*e*PKPbc	**PKPbc**	**01 38 29.2**	**+0.4**

*ISCJB **16** 01:32:21.9±0.3, 34°.99N±0°.02×33°.95E±0°.06, h50km±9km, Error ellipse: s-maj=8.5km s-min=2.8km az=164.5*
*DDA **16** 01:32:22.1, 35°.15N×33°.89E, h10km, Ml2.6*
*GII **16** 01:32:23.2±0.0, 34°.87N×33°.98E, h16km, MD2.3/3*
*ISK **16** 01:32:24.6, 35°.26N×33°.80E, h17km, ML2.6/8*

ISC 16 01:32:21.4±1.1, **35°.07N**±0°.03×**34°.01E**±0°.04, **h32**km±11km, **n32**, σ1**9**20/**54**, **Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKIN	**Ak¯-nc¯-lar- K**	**0.45**	**264**	PG	**Pn**	**01 32 32.5**	**+0.9**
AKIN				SG	**Sb**	**01 32 38.7**	**+0.9**
EREN	**Erenkoy**	**0.48**	**16**	PG	**Pn**	**01 32 33.4**	**+1.3**
CSS	**Mathiatis**	**0.56**	**260**	Pg	**Pn**	**01 32 33.4**	**+0.1**
CSS				Sg	**Sn**	**01 32 42.1**	**+0.6**
AKKU	**Akkuyu-Mersin**	**1.15**	**341**	PG	**Pb**	**01 32 43.0**	**+0.3**
AKKU				SG	**Sn**	**01 32 56.3**	**+0.3**
GULN	**MERSIN_Gulnar**	**1.18**	**341**	*i* P	**Pn**	**01 32 40.0**	**-1.6**
GULN				*i* S	**Sn**	**01 32 57.8**	**+1.2**
IKL	**Isikli**	**1.20**	**347**	PG	**Pb**	**01 32 43.6**	**+0.1**
IKL				SG	**Sn**	**01 32 58.4**	**+1.3**
TEKE	**Tekeli-Mersin**	**1.30**	**326**	PG	**Pb**	**01 32 44.5**	**-0.7**
KEBE	**Keben-Mersin**	**1.40**	**350**	PN	**Pb**	**01 32 46.8**	**-0.2**
KEBE				SN	**Sb**	**01 33 03.9**	**-0.6**
KIZK	**Mersin**	**1.41**	**4**	PN	**Pb**	**01 32 47.8**	**+0.6**
KIZK				SN	**Sb**	**01 33 04.9**	**0.0**
KIZK	**Mersin**	**1.41**	**4**	*i* P	**Pb**	**01 32 47.4**	**+0.2**
KIZK				*i* S	**Sb**	**01 33 05.0**	**+0.1**
BERE	**Bereket-Mersin**	**1.43**	**334**	PN	**Pb**	**01 32 47.1**	**-0.4**
TEVE	**Tevekalti-Mers**	**1.44**	**342**	PN	**Pb**	**01 32 47.5**	**-0.2**
GAZI	**Gazipasa**	**1.80**	**311**	PN	**Pb**	**01 32 52.2**	**-1.6**
GAZI	**Gazipasa**	**1.80**	**311**	*i* P	**Pb**	**01 32 53.8**	**0.0**
GAZI				*i* S	**Sb**	**01 33 14.6**	**-1.5**

HNTI	**Hanita**	**2.20**	**154**	Pn	**Pn**	**01 32 56.8**	**+1.0**
HNTI				Sn	**Sn**	**01 33 21.8**	**-0.2**
NATI	**Neve Ativ**	**2.30**	**141**	Pn	**Pn**	**01 32 58.8**	**+1.7**
NATI				Sn	**Sn**	**01 33 25.0**	**+0.7**
KSDI	**Kefar Szold**	**2.32**	**143**	Pn	**Pn**	**01 32 58.6**	**+1.2**
KSDI				Sn	**Sn**	**01 33 24.8**	**0.0**
KERG	**Konya-Eregli**	**2.34**	**2**	*i* P	**Pb**	**01 33 00.1**	**-3.0**
KERG				*i* S	**Sb**	**01 33 28.9**	**-2.7**
MMA0B	**Mount Meron ar**	**2.35**	**150**	Pn	**Pn**	**01 32 58.7**	**+0.8**
BLGI	**Bet Lehem HaGe**	**2.53**	**157**	Pn	**Pn**	**01 33 01.2**	**+1.0**
BLGI				Sn	**Sn**	**01 33 30.2**	**+0.3**
OFRI	**'Ofer**	**2.57**	**161**	Pn	**Pn**	**01 33 01.3**	**+0.4**
OFRI				Sn	**Sn**	**01 33 30.5**	**-0.6**
KEPZ	**Antalya-Kepez**	**2.67**	**314**	*i* P	**Pn**	**01 33 04.2**	**+1.9**
KEPZ				*i* S	**Sn**	**01 33 35.5**	**+1.9**
MMLI	**Mount Malkishu**	**2.88**	**155**	Pn	**Pn**	**01 33 06.3**	**+1.2**
MMLI				Sn	**Sn**	**01 33 38.9**	**+0.3**
HMDT	**Nahal Hemdat**	**3.08**	**155**	Pn	**Pn**	**01 33 09.6**	**+1.8**
HMDT				Sn	**Sn**	**01 33 44.4**	**+0.8**
AMAZ	**Amatzia**	**3.61**	**168**	Pn	**Pn**	**01 33 16.3**	**+1.2**
AMAZ				Sn	**Sn**	**01 33 56.4**	**-0.2**
DSI	**Dead Sea**	**3.67**	**161**	Pn	**Pn**	**01 33 16.9**	**+0.9**
DSI				Sn	**Sn**	**01 33 58.2**	**0.0**
KZIT	**Kziot**	**4.16**	**175**	Sn	**Sn**	**01 34 08.7**	**-1.6**
ZFRI	**Zfri**	**4.61**	**167**	Sn	**Sn**	**01 34 20.9**	**-0.3**
PRNI	**Paran**	**4.78**	**170**	Pn	**Pn**	**01 33 32.4**	**+1.2**
PRNI				Sn	**Sn**	**01 34 24.5**	**-1.0**
HRFI	**Mount Harif**	**5.09**	**170**	Pn	**Pn**	**01 33 36.9**	**+1.4**
MBRI	**Mt Berech**	**5.31**	**171**	Sn	**Sn**	**01 34 35.7**	**-3.1**
EIL	**Elat**	**5.44**	**171**	Pn	**Pn**	**01 33 41.1**	**+0.8**
EIL				Sn	**Sn**	**01 34 42.1**	**+0.3**

MEX 16 01:42:26.7±0.8, **17°.94N×99°.76W**, **h55**km±6km, **MD3.7, Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEIG	**Mezcala**	**0.14**	**95**	*e*P	Pn	01 42 33.8	-1.6
MEIG				*i* S	Sn	01 42 40.1	-1.6
PLIG	**Platanillo**	**0.52**	**29**	*i* P	Pn	01 42 37.3	-1.3
PLIG				*e*S	Sn	01 42 45.3	-1.8
ARIG	**Puente Sto Nin**	**0.65**	**302**	*e*P	Pn	01 42 38.8	-1.4
ARIG				*e*S	Sn	01 42 48.3	-1.6
CAIG	**El Cayaco**	**1.01**	**209**	*e*P	Pn	01 42 42.5	-2.2
CAIG				*i* S	Sn	01 42 56.3	-1.7
TLIG	**Tlapa**	**1.20**	**108**	*e*P	Pn	01 42 46.5	-0.9
TLIG				*e*S	Sn	01 43 00.5	-2.3
ZIIG	**Zihuatanejo**	**1.66**	**259**	*e*P	Pn	01 42 51.8	-1.6
ZIIG				*i* S	Sn	01 43 12.1	-1.4

*SOME **16** 01:52:16.7, 42°.12N×82°.38E, h5km*
*NNC **16** 01:52:19.5±2.3, 42°.10N×82°.21E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=18.2km s-min=10.5km az=147.0*

ISC 16 01:52:18.6±2.3, **41°.86N**±0°.10×**82°.12E**±0°.08, **h18**km, **n28**, σ2**54**/**48**, **8C-10D**, **Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**2.05**	**321**	*e*P	**Pb**	**01 52 56.4**	**+1.0**
	93nm,0.2s						
KTMS				*e*S	**Sg**	**01 53 24.2**	**-0.6**
	280nm,0.3s						
SHLS	**Shalkode**	**2.36**	**304**	*e*P	**Pb**	**01 52 58.2**	**-2.4**
	60nm,0.2s						
SHLS				*e*S	**Sn**	**01 53 27.2**	**+2.2**
	633nm,0.7s						
PDGK	**Podgornoye**	**2.44**	**308**	⇓Pg	**Pb**	**01 53 01.6**	**-0.4**
	18nm,0.8s						
PDGK				⇓Lg	Lg	01 53 36.0	
	125nm,0.8s						
UZB	**Uzynbulak**	**2.63**	**300**	*e*P	**Pg**	**01 53 07.2**	**-1.8**
	12nm,0.3s						
UZB				*e*S	**Sg**	**01 53 42.1**	**-1.1**
	72nm,0.3s						
SATY	**Saty**	**3.00**	**295**	*e*P	**Pb**	**01 53 12.4**	**+0.8**
	20nm,0.2s						
SATY				*e*S	**Sb**	**01 53 50.8**	**+2.8**
	86nm,0.3s						
KPKS	**Kokpek**	**3.00**	**303**	*e*P	**Pb**	**01 53 10.4**	**-1.2**
	24nm,0.3s						
KPKS				*e*S	**Sb**	**01 53 48.6**	**+0.6**
	163nm,0.5s						
DJR	**Jarkent**	**3.00**	**326**	*e*P	**Pn**	**01 53 08.2**	**+2.8**
	6.9nm,0.3s						
DJR				*e*S	**Sn**	**01 53 43.2**	**+2.3**
	10nm,0.3s						
ZHN	**Zhinishke**	**3.02**	**297**	⇓*i*P	**Pg**	**01 53 14.8**	**-1.7**
	11nm,0.2s						
ZHN				*e*S	**Sg**	**01 53 55.9**	**+0.1**
	110nm,0.3s						
KURS	**Kuram**	**3.34**	**300**	*e*P	**Pg**	**01 53 19.7**	**-2.9**
	4.9nm,0.3s						
KURS				*e*S	**Sg**	**01 54 03.2**	**-2.7**
	19nm,0.5s						
MNBS	**Baschi**	**3.52**	**310**	*e*P	**Pb**	**01 53 22.9**	**+2.5**
	18nm,0.5s						
MNBS				*e*S	**Sg**	**01 54 09.0**	**-2.6**
	29nm,0.4s						
ARXS	**Arharly**	**3.93**	**308**	*e*P	**Pg**	**01 53 30.7**	**-3.2**
	7.2nm,0.4s						
ARXS				*e*S	**Sg**	**01 54 21.8**	**-3.0**
	22nm,0.6s						
KOTS	**Kotyrbulak**	**3.95**	**292**	*e*P	**Pb**	**01 53 27.7**	**-0.1**
	6.2nm,0.4s						
KOTS				*e*S	**Sb**	**01 54 17.1**	**+1.8**
	31nm,0.4s						
MDOK	**Medeo**	**3.97**	**291**	⇑Pg	**Pg**	**01 53 31.1**	**-3.6**
	3.9nm,0.5s						
MDOK				⇑Lg	Lg	01 54 26.0	
	33nm,0.7s						
MDOK	**Medeo**	**3.97**	**291**	*e*P	**Pg**	**01 53 30.7**	**-4.0**
	6.9nm,0.4s						
MDOK				*e*S	**Sg**	**01 54 22.0**	**-4.1**
	18nm,0.7s						
TNSS	**Tian-Shan**	**4.01**	**289**	*e*P	**Pg**	**01 53 32.0**	**-3.4**
	11nm,0.3s						
TNSS				*e*S	**Sg**	**01 54 24.5**	**-2.8**
	17nm,0.4s						
IZV	**Izvestkoviy**	**4.24**	**288**	*e*P	**Pg**	**01 53 37.0**	**-2.9**
	14nm,0.7s						
IZV				*e*S	**Sg**	**01 54 33.6**	**-1.3**
	32nm,0.3s						
CHKK	**Chushkaly**	**4.27**	**300**	⇓*i*P	**Pg**	**01 53 39.5**	**-0.9**
	3.7nm,0.4s						
CHKK				⇓*i*S	**Sg**	**01 54 37.6**	**+2.0**
	30nm,0.3s						
MTBS	**Maitube**	**4.40**	**289**	*e*P	**Pb**	**01 53 37.7**	**+2.3**
	6.9nm,0.3s						
MTBS				*e*S	**Sg**	**01 54 34.1**	**-5.6**
	12nm,0.5s						
KTBS	**Karatobe**	**4.41**	**297**	*e*P	**Pg**	**01 53 39.9**	**-3.2**
	5.0nm,0.5s						
KTBS				*e*S	**Sg**	**01 54 37.7**	**-2.5**
	23nm,0.5s						
KST	**Kastek**	**4.71**	**287**	*e*P	**Pb**	**01 53 42.6**	**+1.8**
	8.5nm,0.5s						
KST				*e*S	**Sb**	**01 54 42.2**	**+5.1**
	16nm,1.1s						
KUU	**Kurty**	**4.71**	**297**	*e*P	**Pg**	**01 53 45.8**	**-3.0**
	2.5nm,0.6s						
KUU				*e*S	**Sg**	**01 54 47.8**	**-2.0**
	16nm,0.3s						
DGS	**Degeres**	**4.89**	**289**	*e*P	**Pg**	**01 53 50.0**	**-2.2**
	8.0nm,0.5s						
DGS				*e*S	**Sg**	**01 54 55.0**	**-0.6**
	20nm,0.5s						
MK31	**Makanchi Array**	**4.93**	**1**	⇑Pn	**Pn**	**01 53 32.8**	**+0.9**
	0.4nm,0.2s,baz=186,slow=12,SNR=44						
MK31				⇓Pg	**Pb**	**01 53 43.9**	**-0.6**
	4.9nm,0.6s,baz=179,slow=14,SNR=11						
MK31				⇑Lg	Lg	01 54 49.0	
	4.9nm,0.5s,baz=181,slow=29,SNR=4.3						
TKM2	**Tokmak 2**	**4.95**	**285**	⇓Pn	Pn	01 53 37.3	+5.0
	4.1nm,0.8s						
TKM2				⇑Lg	Lg	01 54 57.9	
	13nm,0.8s						
AAK	**Ala-Archa**	**5.71**	**280**	⇓Pg	Pb	01 54 01.3	+3.5
	3.4nm,0.8s						
AAK				⇓Lg	Lg	01 55 22.1	
	12nm,0.7s						
MRKS	**Merke**	**6.66**	**281**	*e*P	**Pg**	**01 54 22.6**	**-3.4**
	2.0nm,0.4s						
MRKS				*e*S	**Sg**	**01 55 51.1**	**-1.0**
	3.1nm,0.3s						

KURBB	**Kurchatov Arra**	**9.11**	**345**	⇑Sn	**Sn**	**01 56 12.2**	**+1.2**
	3.2nm,0.7s						
KURBB				⇓Lg	Lg	01 57 02.1	
	6.7nm,0.7s						
KURK	**Kurchatov**	**9.18**	**346**	⇑Sn	**Sn**	**01 56 12.2**	**-0.6**
	5.6nm,0.9s						
KURK				⇑Lg	Lg	01 57 03.3	
	8.4nm,1.3s						

*DDA **16** 01:54:57.6, 39°.78N×30°.53E, h20km, Ml3.3*
*ISK **16** 01:54:57.2, 39°.82N×30°.56E, h5km, ML3.6/31*

ISC 16 01:54:58.0±1.0, **39°.80N**±0°.02×**30°.53E**±0°.02, **h15**km±9km, **n76**, σ1**9**41/**96**, **4C-2D**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESKT	**Eskisehir**	**0.37**	**139**	PG	**Pb**	**01 55 05.4**	**-1.0**
GPA	**Golpazari**	**0.52**	**341**	PG	**Pb**	**01 55 09.0**	**+0.1**
GULT	**Gulveren**	**0.63**	**359**	PG	**Pg**	**01 55 09.8**	**-0.7**
GULT				SG	**Sb**	**01 55 19.8**	**+0.2**
CAVI	**Cavuskoy**	**0.67**	**307**	PG	**Pb**	**01 55 11.3**	**-0.1**
GEYV	**SAKARYA_Geyve**	**0.71**	**345**	*i* P	**Pg**	**01 55 11.1**	**-0.8**
GEYV				*i* S	**Sn**	**01 55 26.0**	**+1.8**
MDUB	**Mudurnu**	**0.84**	**37**	PG	**Pg**	**01 55 13.6**	**-0.8**
SVRH	**Sivrihisar-ESK**	**0.84**	**114**	PG	**Pb**	**01 55 14.3**	**-0.2**
BTAS	**Taskesti**	**0.85**	**25**	*i* P	**Pb**	**01 55 14.1**	**-0.5**
BTAS				*i* S	**Sn**	**01 55 26.7**	**-1.1**
SPNC	**Sapanca-Adapaz**	**0.90**	**349**	PG	**Pn**	**01 55 15.6**	**-0.6**
SPNC				SG	**Sn**	**01 55 28.7**	**-0.3**
SAUV	**Serdivan-Sakar**	**0.95**	**351**	PG	**Pn**	**01 55 16.4**	**-0.5**
SAUV				SG	**Sn**	**01 55 29.7**	**-0.6**
IZI	**Iznik**	**0.97**	**304**	PG	**Pn**	**01 55 16.9**	**-0.4**
IZI				SG	**Sn**	**01 55 31.9**	**+0.9**
GDZ	**Gediz**	**1.08**	**229**	*i* P	**Pb**	**01 55 17.6**	**-1.0**
GDZ				*i* S	**Sg**	**01 55 32.6**	**-0.4**
SAHE	**Sakarya_HENDEK**	**1.08**	**13**	*i* P	**Pb**	**01 55 17.9**	**-0.6**
SAHE				*i* S	**Sn**	**01 55 35.1**	**+1.7**
BOLV	**Bolvadin**	**1.13**	**163**	*i* P	**Pg**	**01 55 19.9**	**+0.1**
BOLV				*i* S	**Sn**	**01 55 35.5**	**+0.7**
GEDZ	**Gediz**	**1.15**	**229**	PN	**Pg**	**01 55 20.5**	**+0.2**
YLV	**Yalova**	**1.17**	**311**	PN	**Pg**	**01 55 20.9**	**+0.2**
GEMT	**Gemlik**	**1.21**	**302**	PN	**Pg**	**01 55 21.2**	**-0.2**
HRT	**Hereke**	**1.22**	**327**	PN	**Pg**	**01 55 21.0**	**-0.5**
ORLT	**Orhaneli**	**1.28**	**282**	PN	**Pg**	**01 55 22.9**	**+0.1**
KAND	**Kocaeli-Kandir**	**1.32**	**349**	*i* P	**Pg**	**01 55 22.9**	**-0.5**
KAND				*i* S	**Sg**	**01 55 41.8**	**+1.2**
MDNY	**Mudanya-Bursa**	**1.39**	**295**	PN	**Pg**	**01 55 25.0**	**+0.3**
SMAA	**Simav-Kutahya**	**1.39**	**240**	PN	**Pg**	**01 55 25.0**	**+0.2**
KIZT	**Kizilcal**	**1.39**	**131**	PN	**Pg**	**01 55 24.7**	**-0.1**
SIMA	**Simav-Kutahya**	**1.40**	**240**	PN	**Pg**	**01 55 25.5**	**+0.6**
ARMT	**Armutlu**	**1.49**	**301**	PN	**Pg**	**01 55 26.0**	**-0.7**
BUY	**Buyukada**	**1.51**	**315**	PN	**Pg**	**01 55 26.6**	**-0.4**
BUY	**Buyukada**	**1.51**	**315**	*i* P	**Pb**	**01 55 25.1**	**-0.7**
BUY				*i* S	**Sg**	**01 55 47.8**	**+1.1**
SILT	**Sile**	**1.51**	**334**	PN	**Pg**	**01 55 26.4**	**-0.7**
SILT				SN	**Sn**	**01 55 47.7**	**+0.9**
SBT5	**Esenkoy-Cinarc**	**1.51**	**304**	PN	**Pg**	**01 55 26.8**	**-0.3**
SBT5				SN	**Sg**	**01 55 48.1**	**+1.3**
BCAM	**Yenicaga**	**1.55**	**49**	*i* P	**Pg**	**01 55 26.5**	**-1.3**
BCAM				*i* S	**Sg**	**01 55 49.9**	**+1.8**
KZIL	**AFYON_Kizioren**	**1.57**	**191**	*i* P	**Pb**	**01 55 26.4**	**-0.4**
DEMI	**Demirci**	**1.60**	**242**	*i* P	**Pb**	**01 55 26.9**	**-0.5**
DEMI				*i* S	**Sg**	**01 55 49.6**	**+0.1**
DURS	**Dursunbey**	**1.60**	**264**	*i* P	**Pb**	**01 55 26.7**	**-0.7**
DURS				*i* S	**Sg**	**01 55 50.0**	**+0.4**
KHAL	**Karahalli**	**1.64**	**210**	*i* P	**Pb**	**01 55 27.1**	**-1.0**
KHAL				*i* S	**Sb**	**01 55 49.1**	**+0.4**
CMDR	**Camlidere-ANKA**	**1.64**	**64**	*i* P	**Pb**	**01 55 27.4**	**-0.8**
CMDR				*i* S	**Sg**	**01 55 50.6**	**-0.4**
KAVV	**Kandilli-Istan**	**1.69**	**319**	PN	**Pb**	**01 55 29.0**	**+0.1**

comp=N,11400µm,1.3s
MAGA AML AML
comp=E,16800µm,0.4s
MAGA AML AML
comp=N,11400µm,1.3s
MAGA AML AML
comp=E,16800µm,0.4s
MAGA AML AML
comp=N,11400µm,1.3s
MAGA AML AML
comp=N,11400µm,1.3s
MAGA AML AML
comp=E,16800µm,0.4s
ROVR Rover˜¤ Verone 0.22 151 P **Pg 02 37 17.5 -0.9**
ROVR S **Sg 02 37 20.7 -1.3**
ROVR AML AML
comp=E,6165µm,0.1s
ROVR AML AML
comp=N,12800µm,0.9s
ROVR AML AML
comp=E,6165µm,0.1s
ROVR AML AML
comp=N,12800µm,0.9s
ROVR AML AML
comp=E,6165µm,0.1s
ROVR AML AML
comp=N,12800µm,0.9s
ROVR AML AML
comp=E,6165µm,0.1s
ROVR AML AML
comp=N,12800µm,0.9s
ZEN8 San Zeno di Mo 0.24 213 P **Pg 02 37 17.8 -0.8**
ZEN8 S **Sg 02 37 21.3 -1.0**
RNI Roncone 0.25 304⇓*e*Pg **Pg 02 37 17.9 -0.9**
RNI *e*Sg **Sg 02 37 22.1 -0.8**
MARN Marana (Italy) 0.29 134⇑*e*Pg **Pg 02 37 18.5 -0.8**
MARN *e*Sg **Sg 02 37 22.8 -0.8**
BAG8 Bagolino 0.32 267 P **Pg 02 37 19.0 -0.9**
BAG8 S **Sg 02 37 23.8 -0.7**
SALO Salr 0.35 231 ⇓Pg **Pg 02 37 20.3 -0.2**
comp=N,4.3nm,SNR=20
SALO ⇓Pg **Pg 02 37 20.3 -0.2**
SALO Salr 0.35 231 P **Pg 02 37 20.2 -0.2**
SALO S **Sg 02 37 25.2 -0.3**
SALO AML AML
comp=E,3430µm,0.2s
SALO AML AML
comp=N,3515µm,0.9s
SALO AML AML
comp=E,3430µm,0.2s
SALO AML AML
comp=N,3515µm,0.9s
SALO AML AML
comp=E,3430µm,0.2s
SALO AML AML
comp=N,3515µm,0.9s
SALO AML AML
comp=N,3515µm,0.9s
SALO AML AML
comp=E,3430µm,0.2s
MABI Malga Bissina 0.35 308⇓*i*P*P **Pg 02 37 19.6 -1.0**
MABI Malga Bissina 0.35 308 ⇓Pg **Pg 02 37 19.6 -1.0**
comp=E,4.6nm,SNR=227
MABI ⇓Pg **Pg 02 37 19.6 -1.0**
MABI Malga Bissina 0.35 308 P **Pg 02 37 19.7 -1.0**
MABI S **Sg 02 37 24.5 -1.2**
MABI AML AML
comp=E,2145µm,0.4s
MABI AML AML
comp=N,2485µm,0.4s
MABI AML AML
comp=E,2145µm,0.4s
MABI AML AML
comp=N,2485µm,0.4s
MABI AML AML
comp=E,2145µm,0.4s
MABI AML AML
comp=N,2485µm,0.4s
MABI AML AML
comp=N,2485µm,0.4s
MABI AML AML
comp=E,2145µm,0.4s
PANI Panarotta 0.36 54⇑*e*Pg **Pg 02 37 19.7 -1.0**
PANI *e*Sg **Sg 02 37 24.4 -1.5**
TREG Tregnago 0.36 152 P **Pg 02 37 20.0 -0.6**
CTI Castel Tesino 0.55 68 *i* P **Pg 02 37 22.9 -1.2**
CTI S **Sg 02 37 30.1 -1.5**
CTI AML AML
comp=E,1725µm,0.3s
CTI AML AML
comp=N,2065µm,0.3s
CTI AML AML
comp=E,1725µm,0.3s
CTI AML AML
comp=N,2065µm,0.3s
CTI AML AML
comp=E,1725µm,0.3s
CTI AML AML
comp=N,2065µm,0.3s
CTI AML AML
comp=N,2065µm,0.3s
CTI AML AML
comp=E,1725µm,0.3s
ZOVE Zovencedo 0.56 134 P **Pg 02 37 23.4 -0.7**
ZOVE S **Sg 02 37 30.9 -0.7**
OPPE Oppeano 0.56 161 P **Pg 02 37 23.9 -0.3**
OZOL Ozolo 0.57 9⇓*e*Pg **Pg 02 37 23.4 -1.2**
CARE Lago del Cares 0.61 345⇓*e*Pg **Pg 02 37 24.3 -0.9**
CGRP Cima Grappa 0.62 86⇑*e*Pg **Pg 02 37 24.4 -1.0**
CGRP *e*Sg **Sg 02 37 32.5 -1.2**
CGRP Cima Grappa 0.62 86⇑*i*P*P **Pg 02 37 24.1 -1.2**
CGRP Cima Grappa 0.62 86 ⇑Pg **Pg 02 37 24.2 -1.2**
comp=E,1.2nm,SNR=50
CGRP ⇑Pg **Pg 02 37 24.2 -1.2**
CGRP Cima Grappa 0.62 86 *i* P **Pg 02 37 24.1 -1.2**
CGRP S **Sg 02 37 32.4 -1.2**
CGRP AML AML
comp=E,1375µm,1.4s
CGRP AML AML
comp=N,1125µm,1.4s
CGRP AML AML
comp=E,1375µm,1.4s
CGRP AML AML
comp=N,1125µm,1.4s
CGRP AML AML
comp=E,1375µm,1.4s
CGRP AML AML
comp=N,1125µm,1.4s
CGRP AML AML
comp=N,1125µm,1.4s
CGRP AML AML
comp=E,1375µm,1.4s
APPI Appiano 0.68 19 P **Pg 02 37 25.4 -1.0**
APPI S **Sg 02 37 33.8 -1.6**
APPI AML AML
comp=E,2815µm,0.9s
APPI AML AML
comp=N,2470µm,0.1s
APPI AML AML
comp=E,2820µm,0.9s
APPI AML AML
comp=N,2475µm,0.1s
APPI AML AML
comp=E,2820µm,0.9s
APPI AML AML
comp=N,2470µm,0.1s
APPI AML AML
comp=E,2820µm,0.9s
APPI AML AML
comp=N,2470µm,0.1s
MNTV Mantova 0.70 187 P **Pg 02 37 26.8 +0.1**
MNTV AML AML
comp=E,2005µm,0.4s
MNTV AML AML
comp=N,1285µm,0.2s
MNTV AML AML
comp=E,2005µm,0.4s
MNTV AML AML
comp=N,1290µm,0.2s
MNTV AML AML
comp=E,2005µm,0.4s
MNTV AML AML
comp=N,1290µm,0.2s
KOSI Kohlern 0.70 27⇓*i*P*P **Pg 02 37 25.9 -1.0**
KOSI Kohlern 0.70 27 ⇓Pg **Pg 02 37 25.9 -1.0**
comp=N,1.3nm,SNR=44
KOSI ⇓Pg **Pg 02 37 25.9 -1.0**
KOSI Kohlern 0.70 27 P **Pg 02 37 25.9 -1.0**
KOSI S **Sg 02 37 34.7 -1.6**
KOSI AML AML
comp=E,944µm,1.4s
KOSI AML AML
comp=N,853µm,0.4s
KOSI AML AML
comp=E,944µm,1.4s
KOSI AML AML
comp=N,853µm,0.4s
KOSI AML AML
comp=N,853µm,0.4s
KOSI AML AML
comp=E,944µm,1.4s
BOSI Bolzano 0.71 23⇓*i*P*P **Pg 02 37 26.3 -0.8**
BOSI Bolzano 0.71 23 ⇓Pg **Pg 02 37 26.2 -0.8**
BOSI ⇓Pg **Pg 02 37 26.2 -0.8**
comp=E,2.6nm,SNR=22
BOSI Bolzano 0.71 23 P **Pg 02 37 26.2 -0.8**
BOSI S **Sb 02 37 35.3 -1.2**
BOSI AML AML
comp=E,2080µm,0.4s
BOSI AML AML
comp=N,2025µm,0.8s
BOSI AML AML
comp=E,2080µm,0.4s
BOSI AML AML
comp=N,2025µm,0.8s
BOSI AML AML
comp=E,2080µm,0.4s
BOSI AML AML
comp=N,2025µm,0.8s
TEOL Teolo 0.71 132⇑*e*Pg **Pg 02 37 26.3 -0.8**
TEOL *e*Sg **Sg 02 37 37.0 +0.4**
TEOL Teolo 0.71 132 P **Pg 02 37 26.3 -0.8**
TEOL S **Sg 02 37 35.8 -0.8**
TEOL AML AML
comp=E,3220µm,1.0s
TEOL AML AML
comp=N,2400µm,0.9s
TEOL AML AML
comp=E,3220µm,1.0s
TEOL AML AML
comp=N,2400µm,0.9s
TEOL AML AML
comp=E,3220µm,1.0s
TEOL AML AML
comp=N,2400µm,0.9s
TEOL AML AML
comp=N,2400µm,0.9s
TEOL AML AML
comp=E,3220µm,1.0s
BRMO Bormio 0.74 329 Pg **Pb 02 37 26.8 -0.8**
SBPO S.Benedetto Po 0.79 180 P **Pb 02 37 28.7 +0.4**
MOSI Grossmontoni 0.82 342⇓*i*P*P **Pb 02 37 28.3 -0.7**
MOSI Grossmontoni 0.82 342 ⇓Pn **Pb 02 37 28.3 -0.7**
comp=E,1.9nm,SNR=79
MOSI ⇓Pn **Pb 02 37 28.3 -0.7**
MOSI Grossmontoni 0.82 342 P **Pb 02 37 28.3 -0.7**
MOSI AML AML
comp=E,1215µm,0.8s
MOSI AML AML
comp=N,1740µm,0.8s
MOSI AML AML
comp=E,1215µm,0.8s
MOSI AML AML
comp=N,1740µm,0.8s
MOSI AML AML
comp=E,1215µm,0.8s
MOSI AML AML
comp=N,1740µm,0.8s
MTLO Montello 0.82 91⇑*e*Pg **Pb 02 37 28.6 -0.3**
MTLO *e*Sg **Sb 02 37 40.7 +0.9**
VARN Col Varnada, M 0.84 79⇑*e*Pg **Pb 02 37 28.1 -1.2**
BERNI Berninapass 0.85 313⇑*i*P*P **Pb 02 37 28.6 -0.9**
BERNI Berninapass 0.85 313 ⇓Pn **Pb 02 37 28.5 -0.9**
BERNI ⇓Pn **Pb 02 37 28.5 -0.9**
comp=N,1.4nm,SNR=61
BERNI Berninapass 0.85 313 P **Pb 02 37 28.6 -0.9**
BERNI S **Sb 02 37 39.4 -1.2**
BERNI AML AML
comp=E,606µm,0.3s
BERNI AML AML
comp=N,742µm,0.6s
BERNI AML AML
comp=E,606µm,0.3s
BERNI AML AML
comp=N,742µm,0.6s
BERNI AML AML
comp=E,606µm,0.3s
BERNI AML AML
comp=N,742µm,0.6s
SERM Sermide 0.87 162 *i* P **Pb 02 37 29.8 +0.1**
SERM AML AML
comp=E,588µm,0.8s
SERM AML AML
comp=N,864µm,0.5s
SERM AML AML
comp=N,864µm,0.5s
SERM AML AML
comp=E,588µm,0.8s
AGOR Agordo 0.90 60⇑*e*Pg **Pb 02 37 29.5 -0.9**
AGOR Agordo 0.90 60⇑*i*PmP **Pb 02 37 29.5 -0.9**
AGOR Agordo 0.90 60 ⇑Pg **Pb 02 37 29.4 -0.9**
comp=E,1.1nm,SNR=70
AGOR ⇑Pg **Pb 02 37 29.4 -0.9**
AGOR Agordo 0.90 60 P **Pb 02 37 29.4 -0.9**
AGOR AML AML
comp=E,1165µm,0.5s
AGOR AML AML
comp=N,890µm,0.3s
AGOR AML AML
comp=E,1165µm,0.5s
AGOR AML AML
comp=N,890µm,0.3s
AGOR AML AML
comp=E,1165µm,0.5s
AGOR AML AML
comp=N,890µm,0.3s
FUORN Ofenpass-Fuorn 0.90 330⇓*i*P*P **Pb 02 37 29.5 -1.0**
FUORN Ofenpass-Fuorn 0.90 330 ⇓Pn **Pb 02 37 29.5 -1.0**
FUORN ⇓Pn **Pb 02 37 29.5 -1.0**
comp=N,1.4nm,SNR=54
FUORN Ofenpass-Fuorn 0.90 330 P **Pb 02 37 29.4 -1.0**
FUORN S **Sb 02 37 41.0 -1.3**
FUORN AML AML
comp=E,979µm,0.6s
FUORN AML AML
comp=N,740µm,0.6s
FUORN AML AML
comp=E,979µm,0.6s
FUORN AML AML
comp=N,740µm,0.6s
FUORN AML AML
comp=E,979µm,0.6s
FUORN AML AML
comp=N,740µm,0.6s
ABSI Aberstueckl 0.93 17⇓*i*P*P **Pb 02 37 30.0 -0.9**
ABSI Aberstueckl 0.93 17 ⇓Pn **Pb 02 37 30.0 -0.9**
comp=N,1.8nm,SNR=71
ABSI ⇓Pn **Pb 02 37 30.0 -0.9**
ABSI Aberstueckl 0.93 17 P **Pb 02 37 30.0 -0.9**
ABSI AML AML
comp=E,1730µm,0.1s
ABSI AML AML
comp=N,1730µm,0.3s
ABSI AML AML
comp=E,1730µm,0.1s
ABSI AML AML
comp=N,1730µm,0.3s
ABSI AML AML
comp=E,1730µm,0.1s
ABSI AML AML
comp=N,1730µm,0.3s
NDIM Novi di Modena 0.95 181 P **Pb 02 37 31.2 +0.2**
NDIM AML AML
comp=E,1460µm,1.1s
NDIM AML AML
comp=N,1380µm,0.6s
NDIM AML AML
comp=E,1450µm,1.2s
NDIM AML AML
comp=N,1395µm,0.6s
NDIM AML AML
comp=E,1459µm,1.1s
NDIM AML AML
comp=E,1450µm,1.2s
CTL8 Castelleone 0.99 236 P **Pb 02 37 32.6 +0.9**
CTL8 AML AML
comp=E,437µm,0.3s
CTL8 AML AML
comp=N,527µm,0.2s
CTL8 AML AML
comp=E,3265µm,1.6s
CTL8 AML AML
CTL8 AML AML
comp=E,437µm,0.3s
CTL8 AML AML
comp=N,526µm,0.2s
CTL8 AML AML
CTL8 AML AML
comp=N,526µm,0.2s
CTL8 AML AML
comp=E,437µm,0.3s
CTL8 AML AML
comp=E,3265µm,1.6s
BRES Bressanone 1.03 33 P **Pb 02 37 31.8 -0.8**
BRES S **Sb 02 37 44.4 -1.5**
BRES AML AML
comp=E,900µm,0.5s
BRES AML AML
comp=N,1024µm,0.3s
BRES AML AML
comp=E,900µm,0.5s
BRES AML AML
comp=N,1026µm,0.3s
BRES AML AML
comp=E,900µm,0.5s
BRES AML AML
comp=N,1026µm,0.3s
NOVE Novellara 1.05 188 P **Pb 02 37 33.4 +0.6**
NOVE AML AML
comp=E,1278µm,1.2s
NOVE AML AML
comp=N,1335µm,0.3s
NOVE AML AML
comp=E,1280µm,1.2s
NOVE AML AML
comp=N,1335µm,0.3s
NOVE AML AML
comp=N,1335µm,0.3s
NOVE AML AML
comp=E,1280µm,1.2s
CAE Caneva 1.07 81⇓*e*Pg **Pb 02 37 32.4 -0.8**
CAE *e*Sg **Sg 02 37 48.5 +0.5**
RAVA Ravarino 1.09 172 P **Pb 02 37 34.0 +0.6**
RAVA AML AML
comp=E,1645µm,0.3s
RAVA AML AML
comp=N,1940µm,0.4s
RAVA AML AML
comp=E,1645µm,0.3s
RAVA AML AML
comp=N,1935µm,0.4s
RAVA AML AML
comp=N,1935µm,0.4s
RAVA AML AML
comp=E,1645µm,0.3s
ROSI Rosskopf 1.14 17⇓*i*P* **Pn 02 37 33.7 -0.7**
ROSI Rosskopf 1.14 17 ⇓Pn **Pn 02 37 33.7 -0.7**
comp=E,1.8nm,SNR=76
ROSI ⇓Pn **Pn 02 37 33.7 -0.7**
ROSI Rosskopf 1.14 17 P **Pn 02 37 33.5 -0.9**
ROSI AML AML
comp=E,659µm,1.2s
ROSI AML AML
comp=N,1590µm,0.5s
ROSI AML AML
comp=E,659µm,1.2s
ROSI AML AML
comp=N,1590µm,0.5s
ROSI AML AML
comp=E,659µm,1.2s
ROSI AML AML
comp=N,1590µm,0.5s
CIMO Cimolais 1.16 66⇑*e*Pg **Pn 02 37 33.9 -0.7**
DAVOX Davos/Dischmat 1.18 323⇓*i*Pn **Pn 02 37 34.7 -0.4**
DAVOX Davos/Dischmat 1.18 323 ⇓Pn **Pn 02 37 34.6 -0.4**
comp=N,0.8nm,SNR=22
DAVOX ⇓Pn **Pn 02 37 34.6 -0.4**
DAVOX Davos/Dischmat 1.18 323 P **Pn 02 37 34.6 -0.4**
DAVOX AML AML
comp=E,534µm,0.3s
DAVOX AML AML
comp=N,516µm,1.1s
DAVOX AML AML
comp=E,534µm,0.3s
DAVOX AML AML
comp=N,516µm,1.1s
DAVOX AML AML
comp=E,534µm,0.3s
DAVOX AML AML
comp=N,516µm,1.1s
FETA Feichten 1.19 354 *e*Pg **Pn 02 37 34.6 -0.4**
comp=N,17nm,0.1s,SNR=111
FETA *e*Sg **Sb 02 37 50.1 -0.4**
comp=N,14nm,0.2s
VDL Val di Lei 1.21 303⇓*i*P* **Pn 02 37 34.8 -0.6**
VDL Val di Lei 1.21 303 ⇓Pn **Pn 02 37 34.8 -0.6**
comp=N,0.8nm,SNR=32
VDL ⇓Pn **Pn 02 37 34.8 -0.6**
MLNI Malnisio 1.22 75⇑*e*Pg **Pn 02 37 35.0 -0.4**
TUE Stuetta 1.26 301⇑*i*Pn **Pn 02 37 35.8 -0.3**
TUE Stuetta 1.26 301 ⇑Pn **Pn 02 37 35.7 -0.3**
TUE ⇑Pn **Pn 02 37 35.7 -0.3**
comp=N,1.2nm,SNR=50
TUE Stuetta 1.26 301 P **Pn 02 37 35.7 -0.3**
TUE AML AML
comp=E,752µm,0.4s
TUE AML AML
comp=N,538µm,1.3s
TUE AML AML
comp=E,752µm,0.4s
TUE AML AML
comp=N,538µm,1.3s
TUE AML AML
comp=E,752µm,0.4s
TUE AML AML
comp=N,538µm,1.3s
FIU Minerbio Fiu 1.27 161 P **Pb 02 37 37.2 +0.8**
FIU AML AML
comp=E,964µm,0.8s
FIU AML AML
comp=N,1110µm,0.6s
FIU AML AML
comp=E,964µm,0.8s
FIU AML AML
comp=N,1110µm,0.6s
FIU AML AML
comp=N,1110µm,0.6s
FIU AML AML
comp=E,964µm,0.8s
MUGIO Muggio 1.31 274⇑*i*Pn **Pn 02 37 36.3 -0.3**
MUGIO Muggio 1.31 274 ⇑Pn **Pn 02 37 36.2 -0.4**
MUGIO ⇑Pn **Pn 02 37 36.2 -0.4**
comp=E,1.4nm,SNR=48
MUGIO Muggio 1.31 274 P **Pn 02 37 36.3 -0.4**
MUGIO AML AML
comp=E,569µm,0.3s
MUGIO AML AML
comp=N,606µm,0.4s
MUGIO AML AML
comp=E,569µm,0.3s
MUGIO AML AML
comp=N,607µm,0.4s
MUGIO AML AML
comp=E,569µm,0.3s
MUGIO AML AML
comp=N,607µm,0.4s
STAL STALIGIAL 1.32 71 P **Pn 02 37 36.9 +0.2**

STAL AML AML
comp=E,1360µm,0.3s
STAL AML AML
comp=N,1107µm,0.3s
STAL AML AML
comp=E,1200µm,0.7s
STAL AML AML
comp=N,1048µm,0.3s
STAL AML AML
comp=E,1360µm,0.3s
STAL AML AML
comp=N,1107µm,0.3s
STAL AML AML
comp=E,1200µm,0.7s
STAL AML AML
comp=N,1048µm,0.3s
STAL AML AML
comp=E,1200µm,0.7s
STAL AML AML
comp=E,1360µm,0.3s
STAL AML AML
comp=N,1048µm,0.3s
STAL AML AML
comp=N,1107µm,0.3s
RISI Rein 1.37 36 ⇓*i*Pn **Pn 02 37 37.7 +0.1**
RISI Rein 1.37 36 ⇓Pn **Pn 02 37 37.7 +0.1**
comp=N,4.0nm,SNR=212
RISI ⇓Pn **Pn 02 37 37.7 +0.1**
RISI Rein 1.37 36 P **Pn 02 37 37.7 +0.1**
RISI AML AML
comp=E,4055µm,0.4s
RISI AML AML
comp=N,3385µm,0.3s
RISI AML AML
comp=E,4055µm,0.4s
RISI AML AML
comp=N,3385µm,0.3s
RISI AML AML
comp=E,4055µm,0.4s
RISI AML AML
comp=N,3385µm,0.3s
CSMI Casera Mimoias 1.38 60 ⇑*e*Pg **Pn 02 37 38.0 +0.3**
SQTA Sankt Quirin 1.40 8 *e*Pg **Pn 02 37 38.4 +0.6**
comp=N,24nm,0.1s,SNR=125
SQTA Sn **Sn 02 37 56.6 +0.6**
comp=N,72nm,0.2s
ABTA Abfaltersbach 1.43 50 *e*Pg **Pn 02 37 38.9 +0.6**
comp=N,6.0nm,0.1s,SNR=32
ABTA Sn **Sn 02 37 57.4 +0.6**
comp=N,36nm,0.1s
ERBM Eremo 1.47 194 P **Pn 02 37 39.7 +0.9**
ERBM AML AML
comp=E,219µm,0.9s
ERBM AML AML
comp=N,262µm,0.7s
ERBM AML AML
comp=N,262µm,0.7s
ERBM AML AML
comp=E,219µm,0.9s
ZCCA Zocca 1.49 178 AML AML
comp=E,186µm,0.6s
ZCCA AML AML
comp=E,186µm,0.6s
ZCCA AML AML
comp=N,180µm,0.9s
ZCCA AML AML
comp=N,180µm,0.9s
BOB Bobbio (Coli) 1.49 225 ⇓*e*Pg **Pn 02 37 40.6 +1.5**
CLUD Cludinico 1.50 65 ⇑*e*Pg **Pn 02 37 40.0 +0.8**
MPRI Monte Prat 1.50 74 *e*Pg **Pn 02 37 39.9 +0.7**
WTTA Wattenberg 1.51 19 *e*Pn **Pn 02 37 40.2 +0.8**
comp=N,9.5nm,0.2s,SNR=16
WTTA Sn **Sn 02 37 59.5 +0.7**
comp=N,82nm,0.2s
WTTA Wattenberg 1.51 19 *e*Pg **Pn 02 37 40.7 +1.2**
WTTA *e*Sg **Sn 02 37 59.4 +0.7**
WTTA Wattenberg 1.51 19 ⇓*i*Pn **Pn 02 37 40.7 +1.2**
WTTA Wattenberg 1.51 19 Pn **Pn 02 37 40.6 +1.1**
WTTA Pn **Pn 02 37 40.6 +1.1**
comp=N,1.0nm,SNR=51
WTTA Wattenberg 1.51 19 P **Pn 02 37 40.4 +0.9**
WTTA AML AML
comp=E,374µm,0.3s
WTTA AML AML
comp=N,251µm,0.7s
WTTA AML AML
comp=N,251µm,0.7s
WTTA AML AML
comp=E,374µm,0.3s
MOTA Moosalm 1.51 5 *e*Pg **Pn 02 37 40.4 +0.9**
comp=E,15nm,0.3s,SNR=39
FUSE Fusea 1.56 68 ⇑*e*Pg **Pn 02 37 40.8 +0.7**
WATA Walderalm 1.56 17 *e*Pg **Pn 02 37 41.2 +1.0**
comp=E,12nm,0.1s,SNR=11
BUA Buia 1.58 75 *e*Pg **Pn 02 37 41.9 +1.5**
BOO Bordano 1.59 72 ⇑*e*Pg **Pn 02 37 41.5 +1.0**
PANIX Pigniu (Panix) 1.59 309 ⇓*i*Pn **Pn 02 37 42.3 +1.7**
PANIX Pigniu (Panix) 1.59 309 Pn **Pn 02 37 42.0 +1.4**
comp=E,0.2nm,SNR=8.9
PANIX Pn **Pn 02 37 42.0 +1.4**
ZOU Zoufplan 1.60 63 *e*Pg **Pn 02 37 41.6 +0.9**
ZOU Zoufplan 1.60 63 *e*Pg **Pn 02 37 41.6 +0.9**
PLONS Plons/SG 1.61 319 *e*Pn **Pn 02 37 42.3 +1.6**
PLONS *e*Pg **Pb 02 37 44.0 +1.7**
PLONS *e*Sg **Sn 02 38 03.4 +2.2**
PLONS Plons/SG 1.61 319 ⇑*i*Pn **Pn 02 37 42.8 +2.0**
PLONS Plons/SG 1.61 319 Pn **Pn 02 37 42.7 +2.0**
comp=E,0.3nm,SNR=9.4
PLONS Pn **Pn 02 37 42.7 +2.0**
PLONS Plons/SG 1.61 319 AML AML
comp=E,160µm,0.4s
PLONS AML AML
comp=N,140µm,0.5s
PLONS AML AML
comp=N,140µm,0.5s
PLONS AML AML
comp=E,160µm,0.4s
DAVA Damuels 1.61 334 *e*Pg **Pn 02 37 42.6 +1.7**
comp=E,0.1nm,0.1s,SNR=33
DAVA Sg **Sn 02 38 03.4 +2.0**
comp=E,75nm,0.5s
DAVA Damuels 1.61 334 *e*Pg **Pn 02 37 42.6 +1.7**
DAVA *e*Sg **Sn 02 38 03.4 +2.0**
DAVA Damuels 1.61 334 ⇑*i*Pn **Pn 02 37 42.6 +1.7**
DAVA Damuels 1.61 334 Pn **Pn 02 37 42.6 +1.7**
comp=E,0.5nm,SNR=15
DAVA Pn **Pn 02 37 42.6 +1.7**
RETA Reutte 1.65 356 Pg **Pn 02 37 42.7 +1.3**
comp=E,5.9nm,0.2s,SNR=27
RETA Sg **Sg 02 38 07.7 +1.4**
comp=E,16nm,0.3s
PART Garmisch-Parte 1.66 5 *e*Pg **Pb 02 37 43.9 +0.7**
PART *e*Sg **Sb 02 38 06.0 +2.1**
BAD Bernadia 1.67 75 *e*Pg **Pn 02 37 43.1 +1.5**
FUSIO Fusio 1.68 292 ⇑*i*Pn **Pn 02 37 42.6 +0.8**
FUSIO Fusio 1.68 292 Pn **Pn 02 37 42.6 +0.8**
FUSIO Pn **Pn 02 37 42.6 +0.8**
comp=E,0.7nm,SNR=24
FUSIO Fusio 1.68 292 P **Pn 02 37 42.4 +0.5**
FUSIO AML AML
comp=E,394µm,0.8s
FUSIO AML AML
comp=N,288µm,0.4s
FUSIO AML AML
comp=E,394µm,0.8s
FUSIO AML AML
comp=N,288µm,0.4s
VINO Villanova 1.70 75 *e*Pg **Pn 02 37 41.7 -0.2**
LIENZ Kamor/St.Gall 1.76 326 ⇑*i*Pn **Pb 02 37 45.6 +0.7**
LIENZ Kamor/St.Gall 1.76 326 Pn **Pb 02 37 45.5 +0.7**
comp=N,0.3nm,SNR=8.2
LIENZ Pn **Pb 02 37 45.5 +0.7**
PTCC Patocco-Chiusa 1.79 71 P **Pn 02 37 44.6 +1.5**
PTCC AML AML
comp=E,246µm,0.6s
PTCC AML AML
comp=N,172µm,0.5s
PTCC AML AML
comp=E,246µm,0.6s
PTCC AML AML
comp=N,172µm,0.5s
BDI Bagni Di Lucca 1.79 187 P **Pn 02 37 44.6 +1.3**
BDI AML AML
comp=E,198µm,0.4s
BDI AML AML
comp=N,175µm,0.9s
BDI AML AML
comp=E,198µm,0.4s
BDI AML AML
comp=N,175µm,0.9s
MSSA Maissana 1.82 214 AML AML
comp=E,150µm,1.4s
MSSA AML AML
comp=N,134µm,0.5s
MSSA AML AML
comp=E,150µm,1.4s
MSSA AML AML
comp=N,134µm,0.5s
SGT04 Schlatt-Haslen 1.87 325 ⇓*i*Pn **Pn 02 37 46.8 +2.5**
SGT04 Schlatt-Haslen 1.87 325 Pn **Pb 02 37 46.9 +0.2**
comp=N,0.3nm,SNR=8.7
SGT04 Pn **Pb 02 37 46.9 +0.2**
SABO M.te Sabotino 1.88 85 AML AML
comp=N,688µm,0.9s
SABO AML AML
comp=E,572µm,0.8s
SABO AML AML
comp=N,688µm,0.9s
SABO AML AML
comp=E,572µm,0.8s
UBR Ueberruh 1.92 343 *e*Pn **Pn 02 37 47.1 +2.0**
UBR *e*Pg **Pb 02 37 49.8 +2.1**
UBR Ueberruh 1.92 343 ⇑Pn **Pn 02 37 47.4 +2.3**
comp=E,0.3nm,SNR=6.0
UBR ⇑Pn **Pn 02 37 47.4 +2.3**
ACOM Acomizza, Ital 1.94 68 AML AML
comp=N,464µm,0.7s
ACOM AML AML
comp=E,612µm,1.0s
ACOM AML AML
comp=N,464µm,0.7s
ACOM AML AML
comp=E,612µm,1.0s
MUO Muotathal 1.94 306 ⇓*i*Pn **Pb 02 37 48.2 +0.1**
MUO Muotathal 1.94 306 ⇓Pn **Pb 02 37 48.2 +0.1**
MUO ⇓Pn **Pb 02 37 48.2 +0.1**
comp=E,0.4nm,SNR=13
PLMA Palmaria, Port 1.94 203 P **Pn 02 37 46.3 +1.1**
PLMA AML AML
comp=E,186µm,0.7s
PLMA AML AML
comp=N,222µm,1.4s
PLMA AML AML
comp=N,222µm,1.4s
PLMA AML AML
comp=E,186µm,0.7s
TRI Trieste 2.00 93 AML AML
comp=N,101µm,0.4s
TRI AML AML
comp=E,172µm,0.6s
TRI AML AML
comp=N,101µm,0.4s
TRI AML AML
comp=E,172µm,0.6s
BNALP Bannalp 2.01 302 ⇓*i*Pn **Pn 02 37 48.8 +2.4**
BNALP Bannalp 2.01 302 ⇓Pn **Pn 02 37 48.7 +2.4**
BNALP ⇓Pn **Pn 02 37 48.7 +2.4**
comp=E,0.4nm,SNR=9.9
BNALP Bannalp 2.01 302 AML AML
comp=N,240µm,0.5s
BNALP AML AML
comp=E,138µm,0.7s
BNALP AML AML
comp=E,138µm,0.7s
BNALP AML AML
comp=N,240µm,0.5s
SGT02 Zihlschlacht 2.03 326 ⇓*i*P* **Pb 02 37 50.1 +0.6**
FIESA Fiescheralp 2.04 288 ⇑*i*Pn **Pn 02 37 47.0 +0.1**
FIESA Fiescheralp 2.04 288 Pn **Pn 02 37 47.2 +0.3**
FIESA Pn **Pn 02 37 47.2 +0.3**
comp=N,0.2nm,SNR=6.8
MYKA Terra Mystica 2.05 66 Pn **Pb 02 37 50.3 +0.5**
comp=N,20nm,0.4s,SNR=19
MYKA Sg **Sb 02 38 17.3 +2.3**
comp=N,23nm,0.3s
SIMPL Simplonpass 2.06 282 ⇑*i*Pn **Pn 02 37 46.9 -0.1**
SIMPL Simplonpass 2.06 282 Pn **Pn 02 37 46.9 -0.1**
comp=N,0.3nm,SNR=12
SIMPL Pn **Pn 02 37 46.9 -0.1**
MMK Mattmark 2.07 277 ⇑*i*Pn **Pn 02 37 46.9 -0.4**
MMK Mattmark 2.07 277 Pn **Pn 02 37 46.8 -0.4**
comp=N,0.3nm,SNR=15
MMK Pn **Pn 02 37 46.8 -0.4**
KBA Koelnbreinsper 2.09 53 Pg **Pb 02 37 51.7 +1.1**
comp=N,11nm,0.3s,SNR=5.2
KBA *e*Sg **Sb 02 38 18.7 +2.4**
comp=N,0.1nm,0.0s,SNR=5.6
KBA Koelnbreinsper 2.09 53 *e*Pg **Pb 02 37 51.6 +1.1**
KBA *e*Sg **Sb 02 38 18.0 +1.7**
WILA Wila 2.10 319 *e*Pg **Pb 02 37 52.3 +1.6**
WILA *e*Sg **Sb 02 38 20.1 +3.6**
WILA Wila 2.10 319 ⇓*i*Pn **Pn 02 37 49.8 +2.3**
PCP Piancastagn 2.12 233 AML AML
comp=N,148µm,0.3s
PCP AML AML
comp=E,184µm,0.4s
PCP AML AML
comp=N,148µm,0.3s
PCP AML AML
comp=E,184µm,0.4s
HASLI Hasliberg/Brie 2.13 297 ⇓*i*Pn **Pn 02 37 49.5 +1.6**
SATI Passo dei Sala 2.13 272 ⇓*e*Pn **Pn 02 37 45.9 -2.3**
WEIN Weingarten 2.15 322 ⇓*i*P* **Pb 02 37 53.5 +2.0**
EMBD Embd, Matterta 2.18 281 ⇑*i*Pn **Pn 02 37 48.9 +0.2**
TRAV Traversella 2.25 263 ⇑*e*Pn **Pn 02 37 47.6 -1.9**
LAUCH Lauchernalp 2.26 286 ⇑*i*Pn **Pn 02 37 50.6 +0.7**
STEIN Stein am Rhein 2.31 323 ⇑*i*P* **Pb 02 37 56.7 +2.5**
LKBD2 Leukerbad 2 2.34 284 ⇓*i*Pn **Pn 02 37 51.8 +0.8**
LKBD Leukerbad 2.35 285 ⇑*i*Pn **Pn 02 37 52.0 +1.0**
CIRO Champorcher 2.36 265 ⇑*i*Pn **Pn 02 37 50.4 -0.8**
FLACH Flaach 2.37 318 ⇑*i*P* **Pb 02 37 58.0 +2.8**
TRULL Truellikon 2.37 320 ⇓P* **Pb 02 37 56.5 +1.2**
CSNT Castellina Chi 2.38 173 AML AML
comp=E,43µm,0.7s
CSNT AML AML
comp=N,45µm,0.6s
CSNT AML AML
comp=E,43µm,0.7s
CSNT AML AML
comp=N,45µm,0.6s
PE3 Peglio 2.42 152 AML AML
comp=N,212µm,0.6s
PE3 AML AML
comp=E,170µm,1.5s
PE3 AML AML
comp=N,212µm,0.6s
PE3 AML AML
comp=E,170µm,1.5s
WIMIS Wimmis 2.43 291 ⇓*e*Pn **Pn 02 37 53.6 +1.6**
CEY Cerknica 2.46 91 *e*Pn **Pb 02 37 56.3 -0.5**
DIX Grande Dixence 2.46 277 ⇓*i*Pn **Pn 02 37 52.7 +0.1**
FSSB Fossombrone 2.52 148 AML AML
comp=N,196µm,0.4s
FSSB AML AML
comp=E,156µm,0.5s
FSSB AML AML
comp=N,196µm,0.4s
FSSB AML AML
comp=E,156µm,0.5s
NARO Abbazia di Nar 2.52 151 AML AML
comp=E,38µm,0.6s
NARO AML AML
comp=N,47µm,1.1s
NARO AML AML
comp=N,47µm,1.1s
NARO AML AML
comp=E,38µm,0.6s
LJU Ljubljana 2.53 84 *e*Pn **Pb 02 37 59.0 +1.0**
ACHB Acheberg 2.53 315 ⇓*e*P* **Pb 02 38 00.5 +2.4**
SLE Schleitheim 2.55 320 *e*Pn **Pn 02 37 54.9 +1.3**
SLE *e*Sg **Sb 02 38 33.6 +4.3**
SLE Schleitheim 2.55 320 ⇓Pn **Pn 02 37 55.1 +1.5**
GUT Gutenstein 2.55 332 ⇑*i*P* **Pb 02 37 59.0 +0.6**
RIY Rijeka 2.56 100 *e*Pn **Pb 02 37 58.6 +0.2**
SULZ Cheisacher 2.56 312 *e*Sg **Sb 02 38 34.1 +4.2**
SULZ Cheisacher 2.56 312 ⇓*i*P* **Pb 02 38 00.5 +1.8**
SENIN Lac Senin/Sane 2.57 283 ⇑*i*Pn **Pn 02 37 55.6 +1.5**
OBKA Obir 2.61 74 *e*Pg **Pb 02 38 01.0 +1.6**
comp=E,6.1nm,0.3s,SNR=8.5
OBKA Sg **Sb 02 38 34.8 +3.6**
comp=E,21nm,0.3s
OBKA Obir 2.61 74 *e*Pg **Pb 02 38 01.1 +1.6**
RSP Reno Superiore 2.66 256 ⇑*e*Pn **Pn 02 37 52.6 -2.6**
BALST Balsthal 2.68 305 *e*Pn **Pn 02 37 56.7 +1.2**
BALST *e*Pg **Pb 02 38 03.5 +2.9**
BALST *e*Sg **Sg 02 38 38.6 -0.6**
BALST Balsthal 2.68 305 ⇑*i*P* **Pb 02 38 03.5 +2.9**
LSD Lago del Serru 2.68 263 ⇓*i*Pn **Pn 02 37 53.9 -1.7**
GRYON Gryon 2.68 280 ⇑*i*Pn **Pn 02 37 56.9 +1.4**
MRGE Morge 2.70 270 ⇓*i*Pn **Pn 02 37 56.5 +0.7**
MRGE Morge 2.70 270 AML AML
comp=E,63µm,0.5s
MRGE AML AML
comp=N,79µm,0.7s
MRGE AML AML
comp=N,79µm,0.7s
MRGE AML AML
comp=E,63µm,0.5s
NORI Noerdlinger Ri 2.89 356 *e*Pg **Pg 02 38 08.0 -0.5**
TORNY Torny/Romont 2.90 290 ⇑*i*Pn **Pn 02 37 59.3 +0.9**
LPG La Plagne 2.94 265 *e*Pn **Pn 02 37 59.5 +0.3**
SNR=1.0
LPG *e*Sn **Sn 02 38 33.0 -1.3**
comp=E,18nm,0.3s
KIZ Kirchzarten 2.95 317 P **Pn 02 38 00.5 +1.4**
KIZ Kirchzarten 2.95 317 ⇓Pn **Pn 02 38 00.7 +1.5**
LPL La Plagne 2.95 265 *e*Pn **Pn 02 37 59.3 0.0**
SNR=1.0
LPL *e*Sn **Sn 02 38 33.2 -1.2**
SNR=1.0
LPL *e*Sg **Sb 02 38 45.3 +4.1**
comp=E,19nm,0.4s
SOKA Soboth 2.98 72 Pn **Pb 02 38 06.6 +0.9**
comp=E,5.2nm,0.3s,SNR=11
SOKA *i* Sg **Sb 02 38 45.0 +3.3**
comp=E,6.1nm,0.4s
BOURR Bourrignon 2.98 303 ⇑*e*P* **Pb 02 38 08.9 +3.2**
RSL Roselend 3.01 269 ⇑*i*Pn **Pn 02 38 01.8 +1.7**
MOA Molln 3.05 48 Pn **Pn 02 38 03.0 +2.5**
comp=E,1.4nm,0.3s
MOA *i* Sg **Sb 02 38 47.3 +3.5**
comp=E,20nm,0.4s
BFO Black Forest 3.06 326 *e*Pn **Pn 02 38 01.8 +1.3**
BFO *e*Sn **Sn 02 38 38.8 +2.0**
BFO *e*Sg **Sb 02 38 49.2 +5.2**
BFO Black Forest 3.06 326 ⇓Pn **Pn 02 38 02.1 +1.6**
NVLJ Novalja 3.07 113 *e*Pn **Pn 02 38 00.8 0.0**
NVLJ Sn **Sn 02 38 34.2 -2.9**
MBDF Montbardon 3.13 251 *e*Pn **Pn 02 38 00.7 -1.0**
SNR=1.0
MBDF *e*Sn **Sn 02 38 37.0 -1.8**
SNR=1.0
MBDF *e*Sg **Sb 02 38 51.0 +4.7**
comp=E,20nm,0.5s
SBF Sospel 3.17 233 *e*Pn **Pn 02 38 01.8 -0.4**
SNR=1.0
SBF Sospel 3.17 233 *e*Pg **Pb 02 38 11.6 +2.7**
SBF *e*Sn **Sn 02 38 37.5 -2.1**
SNR=1.0
SBF *e*Sg **Sg 02 38 52.1 -2.7**
comp=E,28nm,0.3s,SNR=1.0
CRES Cresnjev 3.17 89 *e*Pn **Pb 02 38 10.4 +1.4**
LOMF Lomont 3.20 300 P **Pn 02 38 02.5 -0.1**
LOMF S **Sn 02 38 41.4 +1.1**
FDMO Fiordimonte 3.21 150 AML AML
comp=N,34µm,1.4s
FDMO AML AML
comp=E,39µm,1.2s
FDMO AML AML
comp=N,34µm,1.4s
FDMO AML AML
comp=E,39µm,1.2s
SURF Saint Ours 3.21 246 P **Pn 02 38 01.1 -1.7**
ESCA l'Escarene 3.22 233 P **Pn 02 38 03.0 +0.1**
OPP Oppenau 3.25 326 P **Pn 02 38 04.5 +1.3**
CHMF Charmoille 3.26 297 P **Pn 02 38 04.1 +0.6**
BRANT Les Verrieres 3.27 291 ⇓*e*Pn **Pn 02 38 04.2 +0.7**
MOF Molkenrain 3.29 309 P **Pn 02 38 04.5 +0.7**
MOF S **Sn 02 38 43.8 +1.3**
GIMEL St. Georges / 3.31 284 ⇓Pn **Pn 02 38 04.8 +0.7**
HINF Hinteralfeld 3.42 307 *e*Pn **Pn 02 38 06.2 +0.6**
SNR=1.0
HINF *e*Sn **Sn 02 38 44.4 -1.3**
SNR=1.0
HINF *e*Sg **Sb 02 39 00.2 +5.8**
comp=E,15nm,0.4s
CABF La Chapelle 3.44 285 *e*Pn **Pn 02 38 06.1 +0.2**
SNR=1.0
CABF La Chapelle 3.44 285 *e*Pg **Pb 02 38 16.8 +3.2**
CABF *e*Sn **Sn 02 38 44.3 -2.0**
comp=E,11nm,0.5s,SNR=1.0
ARSA Arzberg 3.48 64 *e*Pg **Pb 02 38 16.0 +1.8**
ARSA *e*Sg **Sg 02 39 03.9 -0.8**
ECH Echery 3.50 314 P **Pn 02 38 07.8 +1.1**
ECH Echery 3.50 314 *e*Pn **Pn 02 38 07.6 +0.9**
ECH *e*Sn **Sn 02 38 48.7 +1.0**
CALF Calern 3.53 235 P **Pn 02 38 07.1 -0.1**
WLS Welschbruch 3.54 318 P **Pn 02 38 08.6 +1.3**
ZAG Zagreb 3.54 88 *e*Pn **Pb 02 38 16.8 +1.5**
GEC2 GERESS Array S 3.55 31 *e*Pn **Pn 02 38 07.2 -0.3**
GEC2 *e*Sn **Sn 02 38 48.8 -0.3**
GEC2 *e*Sg **Sb 02 39 03.3 +5.0**
WET Wettzell 3.56 21 *e*Pn **Pn 02 38 07.4 -0.1**
PGF Pioggiola 3.57 203 *e*Pn **Pn 02 38 07.7 0.0**
SNR=1.0
PGF *e*Sn **Sn 02 38 46.3 -3.2**
comp=E,6.7nm,0.3s,SNR=1.0
CDF Champ du Feu 3.58 317 *e*Pn **Pn 02 38 08.7 +0.9**
SNR=1.0
CDF *e*Sg **Sb 02 39 05.1 +6.1**
comp=E,20nm,0.5s
ORIF Oris-en-Rattie 3.67 257 *e*Pn **Pn 02 38 10.1 +1.0**
ORIF Oris-en-Rattie 3.67 257 *e*Pg **Pb 02 38 20.8 +3.4**
ORIF *e*Sn **Sn 02 38 50.0 -1.9**
SNR=1.0
ORIF *e*Sg **Sg 02 39 07.5 -3.3**
comp=E,12nm,0.5s
OG35 Corcelles 3.73 275 P **Pn 02 38 10.2 +0.2**
KHC Kasperske Hory 3.75 28 *e*PN **Pn 02 38 10.1 -0.1**
KHC *e*PG **Pb 02 38 20.5 +1.6**
KHC *e*SN **Sn 02 38 53.8 -0.2**
KHC *e*SG **Sb 02 39 09.5 +5.4**
LANF Langenberg 3.79 327 P **Pn 02 38 11.1 +0.5**
FRF La Foret Royal 3.80 235 *e*Pn **Pn 02 38 10.0 -0.8**
SNR=1.0
FRF *e*Sn **Sn 02 38 52.5 -2.6**
SNR=1.0
FRF *e*Sg **Sg 02 39 11.8 -3.4**
comp=E,6.6nm,0.3s
HAU Haudompre 3.81 306 *e*Pn **Pn 02 38 11.5 +0.6**
SNR=1.0
HAU Haudompre 3.81 306 *e*Pg Pb 02 38 24.2 +4.4
HAU *e*Sn **Sn 02 38 54.0 -1.3**
HAU *e*Sg **Sg 02 39 12.7 -2.6**
comp=E,32nm,0.4s,SNR=1.0
GRFO Grafenberg 3.86 3 *e*Pg Pb 02 38 25.1 +4.4
GRFO *e*Sg **Sg 02 39 14.7 -2.3**
GRF Grafenberg Arr 3.86 3 *e*Pg Pb 02 38 25.1 +4.4
GRF *e*Sg **Sg 02 39 14.7 -2.3**
LMR La Mourre 4.02 233 *e*Pn **Pn 02 38 13.0 -0.9**
SNR=1.0
LMR La Mourre 4.02 233 *e*Pg Pb 02 38 27.4 +4.0
LMR *e*Sn **Sn 02 38 56.8 -3.8**
SNR=1.0
LMR *e*Sg **Sg 02 39 18.9 -3.3**
comp=E,4.8nm,0.3s
ROTZ Rotzenmuhle 4.03 12 *e*Pn **Pn 02 38 12.3 -1.6**
ROTZ *e*Pg **Pb 02 38 26.8 +3.4**
ROTZ *e*Sg **Sb 02 39 15.9 +4.1**
THEF They Montfort 4.13 307 P **Pn 02 38 15.5 +0.1**
MANZ Manzenberg 4.23 10 *e*Pg Pb 02 38 31.8 +4.8
MANZ *e*Sg **Sg 02 39 25.5 -3.2**
SMRF Simiane la Rot 4.23 246 *e*Pn **Pn 02 38 16.7 0.0**
SNR=1.0
SMRF Simiane la Rot 4.23 246 *e*Pg Pb 02 38 31.4 +4.4
SMRF *e*Sn **Sn 02 39 03.4 -2.3**
comp=E,6.6nm,0.3s,SNR=1.0
PAGF Fort de Pagny 4.46 309 *e*Pn **Pn 02 38 20.5 +0.6**
PAGF *e*Sn **Sn 02 39 09.1 -2.2**
comp=E,3.2nm,0.4s
VIVF Saint-Julien-l 4.51 260 *e*Pn **Pn 02 38 20.4 -0.2**
SNR=1.0
VIVF *e*Sn **Sn 02 39 10.0 -2.6**
comp=E,0.7nm,0.2s
NKC Novy Kostel 4.51 13 *e*SG **Sg 02 39 34.5 -3.4**
BLY Banja Luka 4.55 102 *e*Pn **Pb 02 38 31.8 -0.7**

ABH	**Alteburg**	**4.64**	**332**	*e*P	**Pn**	**02 38 24.0**	**+1.7**
TREC	**Trest**	**4.64**	**40**	*e*SG	**Sb**	**02 39 36.1**	**+6.6**
SFTF	**Sexfontaines** baz=123	**4.67**	**303**	*e*Pn	**Pn**	**02 38 23.3**	**+0.6**
SFTF				*e*Sn	**Sn**	**02 39 14.1**	**-2.3**
	comp=E,2.6nm,0.2s						
MEZF	**Maizieres J'vi**	**4.80**	**306**	*e*Pn	**Pn**	**02 38 25.0**	**+0.4**
MEZF				*e*Sn	**Sn**	**02 39 17.5**	**-2.3**
	comp=E,3.5nm,0.4s,baz=137						
MOX	**Moxa**	**4.83**	**5**	*e*Pg	**Pg**	**02 38 44.2**	**-1.3**
KRUC	**Moravsky**	**4.92**	**47**	*e*SN	**Sn**	**02 39 19.2**	**-3.4**
KRUC				*e*SG	**Sg**	**02 39 46.9**	**-4.0**
SMF	**Signal de Mont** SNR=1.0	**4.97**	**282**	*e*Pn	**Pn**	**02 38 27.0**	**+0.1**
SMF				*e*Sn	**Sn**	**02 39 20.9**	**-3.1**
	comp=E,11nm,0.5s,SNR=1.0						
WLF	**Walferdange**	**5.00**	**322**	*e*Sg	**Sg**	**02 39 50.4**	**-3.0**
LOR	**Lormes** baz=109,SNR=1.0	**5.07**	**289**	*e*Pn	**Pn**	**02 38 28.0**	**-0.3**
LOR				*e*Sn	**Sn**	**02 39 23.8**	**-2.7**
	comp=E,6.3nm,0.3s,SNR=1.0						
LOR	**Lormes**	**5.07**	**289**	P	**Pn**	**02 38 28.4**	**+0.1**
VRAC	**Vranov**	**5.18**	**46**	*e*SG	Sb	02 39 53.2	+8.3
TRBF	**Trabuc cave**	**5.23**	**253**	P	**Pn**	**02 38 30.2**	**-0.2**
SSF	**Saint Saulge** SNR=1.0	**5.27**	**286**	*e*Pn	**Pn**	**02 38 30.5**	**-0.4**
SSF	**Saint Saulge**	**5.27**	**286**	*e*Pg	Pb	02 38 50.4	+5.8
SSF				*e*Sn	**Sn**	**02 39 27.0**	**-4.2**
	comp=E,2.0nm,0.3s,SNR=1.0						
LASF	**Ste Croix** SNR=1.0	**5.31**	**253**	*e*Pn	**Pn**	**02 38 30.5**	**-1.1**
LASF				*e*Sn	**Sn**	**02 39 28.4**	**-4.0**
	comp=E,1.0nm,0.3s						
AVF	**Avril sur Loir** SNR=1.0	**5.33**	**283**	*e*Pn	**Pn**	**02 38 31.5**	**-0.2**
AVF	**Avril sur Loir**	**5.33**	**283**	*e*Pg	Pb	02 38 51.6	+6.0
AVF				*e*Sn	**Sn**	**02 39 29.4**	**-3.2**
	comp=E,2.1nm,0.4s,SNR=1.0						
LBL	**Lubilhac**	**5.42**	**266**	P	**Pn**	**02 38 32.7**	**-0.5**
BRG	**Berggiesshubel** comp=E,6.2nm,0.7s	**5.42**	**21**	SG	Sb	02 40 01.0	+8.9
AGO	**Saint Agoulin**	**5.43**	**275**	P	**Pn**	**02 38 32.8**	**-0.5**
PYM	**Petit Puy Mans**	**5.53**	**272**	P	**Pn**	**02 38 33.7**	**-0.9**
CLL	**Collm**	**5.64**	**13**	*e*Pg	**Pg**	**02 39 03.0**	**+1.9**
CLL				*e*Sg	**Sg**	**02 40 10.0**	**-4.1**
	comp=Z,8.0nm,0.7s						
BGF	**Bois d'Agland** SNR=1.0	**5.65**	**280**	*e*Pn	**Pn**	**02 38 36.1**	**-0.1**
BGF	**Bois d'Agland**	**5.65**	**280**	*e*Pg	Pb	02 38 57.4	+6.3
BGF				*e*Sn	**Sn**	**02 39 37.2**	**-3.4**
	comp=Z,4.4nm,0.3s						
DPC	**Dobruska-Polom**	**5.79**	**37**	*e*SG	**Sg**	**02 40 12.3**	**-6.3**
HYF	**Humbligny**	**5.88**	**287**	*e*Pn	**Pn**	**02 38 39.4**	**0.0**
HYF				*e*Sn	**Sn**	**02 39 42.8**	**-3.6**
MORC	**Moravsky Berou**	**5.95**	**46**	*e*SG	**Sg**	**02 40 20.6**	**-3.4**
TCF	**Toulx Ste Croi** SNR=1.0	**6.08**	**277**	*e*Pn	**Pn**	**02 38 41.1**	**-1.0**
TCF				*e*Sn	**Sn**	**02 39 45.3**	**-5.9**
	comp=Z,2.8nm,0.3s,SNR=1.0						
CAF	**Calviac** SNR=1.0	**6.30**	**265**	*e*Pn	**Pn**	**02 38 44.6**	**-0.6**
CAF	**Calviac**	**6.30**	**265**	*e*Pg	Pg	02 39 09.2	-4.5
CAF				*e*Sn	**Sn**	**02 39 52.5**	**-4.3**
	comp=Z,0.5nm,0.2s						
RJF	**Les Rejaudoux** SNR=1.0	**6.62**	**269**	*e*Pn	**Pn**	**02 38 49.1**	**-0.4**
RJF				*e*Sn	**Sn**	**02 39 57.6**	**-7.0**
	comp=Z,0.6nm,0.3s						
MTLF	**Montolieu** SNR=1.0	**6.70**	**251**	*e*Pn	**Pn**	**02 38 50.1**	**-0.5**
MTLF				*e*Sn	**Sn**	**02 40 01.5**	**-4.9**
	comp=Z,0.3nm,0.3s						
LFF	**La Frestale**	**7.22**	**266**	*e*Pn	**Pn**	**02 38 56.9**	**-0.9**
LFF				*e*Sn	**Sn**	**02 40 12.3**	**-7.0**
	comp=Z,1.1nm,0.3s						
MFF	**Saint Martin d** SNR=1.0	**7.71**	**280**	*e*Pn	**Pn**	**02 39 04.6**	**+0.1**
MFF				*e*Sn	**Sn**	**02 40 24.4**	**-7.0**
	comp=Z,1.2nm,0.3s						
SGMF	**Saint Gilles**	**9.51**	**290**	*e*Pn	**Pn**	**02 39 28.5**	**-0.6**
SGMF				*e*Sn	**Sn**	**02 41 08.1**	**-7.5**
	comp=Z,0.4nm,0.2s						
QUIF	**Quistinic**	**9.87**	**287**	*e*Pn	**Pn**	**02 39 33.5**	**-0.5**
QUIF				*e*Sn	Sn	02 41 16.4	-7.8
	comp=Z,0.9nm,0.3s						

*ISCJB **16** 02:41:22.7±0.7,6.°30N±0.°06×126.°16E±0.°10, h86km±7km, mb3.8/7, Error ellipse: s-maj=16.3km s-min=9.9km az=165.7*

*IDC **16** 02:41:24.0±1.3,6.°33N×126.°06E, h85km±12km, mb3.6/7, mb1 3.7/8, mb1mx3.5/48, mbtmp3.9/8, Error ellipse: s-maj=74.2km s-min=13.3km az=69.0*

*MAN **16** 02:41:30.2, 6.°72N×125.°66E, h49km, mb4.7, ML3.5, MS3.4*

ISC 16 02:41:24.1±0.8, 6.°37N±0.°05×125.°96E±0.°07, h86km±7km, n17, σ2s25/25, mb3.7/7, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.36**	**224**	*e*P	**Pn**	**02 41 36.8**	**-0.6**
DDMP				*e*S	**Sn**	**02 41 45.9**	**-1.4**
DAV	**Davao City (W)** 478nm,0.3s,baz=173,slow=0.8,SNR=28	**0.80**	**331**	P	**Pn**	**02 41 42.2**	**+0.9**
DAV				LR	LR	02 42 03.1	
	comp=Z,136nm,18.4s,baz=183,slow=44						
GSPH	**General Santos**	**1.04**	**255**	*i*P	**Pn**	**02 41 45.5**	**+1.3**
GSPH				*i* S	**Sn**	**02 42 02.7**	**+3.6**
SKMP	**Bagumbayan, Su**	**1.42**	**276**	*e*P	**Pn**	**02 41 51.3**	**+2.7**
SKMP				*e*S	**Sn**	**02 42 04.7**	**-2.5**
BUKP	**Musuan**	**1.75**	**329**	*e*P	**Pn**	**02 41 53.0**	**0.0**
BUKP				*e*S	**Sn**	**02 42 10.0**	**-4.8**
BIPH	**Bislig**	**1.85**	**12**	*i*P	**Pn**	**02 41 57.0**	**+2.8**
BIPH				*i* S	**Sn**	**02 42 20.9**	**+3.8**
CTBH	**Cotabato--PC H**	**1.91**	**297**	*e*P	**Pn**	**02 41 57.3**	**+2.4**
CTBH				*i* S	Sn	02 42 27.0	+8.7
BUTP	**Butuan**	**2.61**	**353**	*e*P	**Pn**	**02 42 05.5**	**+1.2**
BUTP				*e*S	**Sn**	**02 42 32.2**	**-2.9**
SIJI	**Sorong** 0.9nm,0.3s,baz=335,slow=9.3,SNR=5.0	**8.93**	**143**	P	**Pn**	**02 43 28.7**	**-1.6**
FITZ	**Fitzroy Crossi** 1.7nm,0.5s,baz=350,slow=8.9,SNR=12	**24.31**	**181**	P	**P**	**02 46 34.7**	**+0.9**
WRA	**Warramunga Arr** 0.9nm,0.5s,baz=345,slow=10.0,SNR=13	**27.41**	**163**	P	**P**	**02 47 00.3**	**-1.5**
ASAR	**Alice Springs** 0.5nm,0.5s,baz=344,slow=6.7,SNR=8.9	**30.84**	**166**	P	**P**	**02 47 31.4**	**-0.9**
ASAR				PcP	**PcP**	**02 50 27.8**	**+0.3**
	0.4nm,0.5s,baz=336,slow=1.8,SNR=4.2						
STKA	**Stephens Creek** 1.1nm,0.4s,baz=319,slow=11,SNR=3.4	**40.85**	**159**	P	**P**	**02 48 57.5**	**-0.1**
SONM	**Songino Array** 0.3nm,0.3s,baz=146,slow=8.7,SNR=7.1	**44.57**	**341**	P	**P**	**02 49 29.0**	**+1.3**
SONM				PcP	**PcP**	**02 51 10.3**	**+0.9**
	0.3nm,0.5s,baz=149,slow=3.0,SNR=3.2						
MKAR	**Makanchi Array** 0.6nm,0.5s,baz=121,slow=7.4,SNR=7.1	**54.97**	**325**	P	**P**	**02 50 46.8**	**+0.3**
ARCES	**ARCESS Array B** 2.6nm,0.9s,baz=54,slow=6.2,SNR=4.2	**87.73**	**340**	P	**P**	**02 54 02.9**	**-0.2**
TORD	**Torodi Ar. Bea** 0.3nm,0.6s,baz=64,slow=1.9,SNR=4.3	**121.35**	**289**	PKP	**PKPdf**	**03 00 06.2**	**-2.2**

IDC 16 02:48:12.6±27.0, 18.°39S×172.°23W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.7/51, mbtmp4.1/4, Error ellipse: s-maj=505.9km s-min=181.9km az=71.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower** 2.1nm,0.4s,baz=110,slow=11,SNR=4.6	**39.17**	**261**	P	P	02 55 42.5	-0.1
STKA	**Stephens Creek** 3.1nm,1.0s,baz=80,slow=12,SNR=3.2	**43.60**	**243**	P	P	02 56 18.6	-0.2
ASAR	**Alice Springs** 1.7nm,0.6s,baz=94,slow=8.1,SNR=19	**50.32**	**254**	P	P	02 57 11.4	-0.1
WRA	**Warramunga Arr** 0.8nm,0.4s,baz=94,slow=7.0,SNR=6.2	**50.32**	**259**	P	P	02 57 11.5	-0.1

IDC 16 02:49:16.4±3.3, 20.°39S×66.°13E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/43, mbtmp3.7/4, MS3.2/4, Ms1 3.2/4, ms1mx2.8/28, Error ellipse: s-maj=115.6km s-min=34.5km az=45.0, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H** baz=205,slow=76,SNR=33	**14.09**	**27**	T	T	03 06 35.9	
H08S2	**Diego Carcia H** baz=205,slow=76,SNR=26	**14.09**	**27**	T	T	03 06 47.0	
H08S3	**Diego Carcia H** baz=205,slow=76,SNR=31	**14.11**	**27**	T	T	03 06 36.5	
H08N3	**Diego Carcia H** baz=198,slow=76,SNR=12	**14.74**	**19**	T	T	03 07 22.0	
H08N1	**Diego Carcia H** baz=198,slow=76,SNR=7.7	**14.75**	**19**	T	T	03 07 32.1	
H08N2	**Diego Carcia H** baz=198,slow=76,SNR=18	**14.76**	**19**	T	T	03 07 21.1	
BOSA	**Boshof** comp=Z,30nm,21.2s,baz=353,slow=32	**37.93**	**249**	LR	LR	03 09 14.6	
LEM	**Lembang** comp=Z,37nm,20.7s,baz=219,slow=30	**42.38**	**77**	LR	LR	03 10 45.0	
CMAR	**Chiang Mai Arr** comp=Z,24nm,21.5s,baz=185,slow=32	**50.26**	**42**	LR	LR	03 15 53.0	
ASAR	**Alice Springs** 0.6nm,0.7s,baz=266,slow=5.6,SNR=4.1	**62.38**	**107**	P	P	02 59 41.4	0.0
BRTR	**Keskin Array B** 0.5nm,0.6s,baz=157,slow=9.0,SNR=5.5	**67.06**	**333**	P	P	03 00 11.7	+0.1
ZALV	**Zalesovo Beam** 1.1nm,0.8s,baz=205,slow=6.4,SNR=2.4	**75.77**	**11**	P	P	03 01 03.6	-0.1
SONM	**Songino Array** 0.2nm,0.5s,baz=204,slow=6.3,SNR=2.3	**76.92**	**27**	P	P	03 01 10.8	+0.2
KSRS	**Korea Array** comp=Z,11nm,19.0s,baz=120,slow=36	**81.78**	**45**	LR	LR	03 37 48.3	

*IDC **16** 02:53:23.4±1.4, 5.°69S×133.°72E, h0km, mb4.1/2, mb1 4.0/7, mb1mx3.8/38, mbtmp4.0/7, ML3.8/5, MS3.2/2, Ms1 3.2/2, ms1mx2.6/29, Error ellipse: s-maj=63.7km s-min=21.3km az=73.0*

*ISCJB **16** 02:53:25.8±0.9, 5.°82S±0.°07×133.°5E±0.°1, h33km, mb4.0/2, MS3.3/1, Error ellipse: s-maj=19.0km s-min=9.8km az=179.5*

ISC 16 02:53:26.6±1.0, 5.°79S±0.°07×133.°5E±0.°2, h35km, n9, σ3s33/10, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong** 3.4nm,0.3s,baz=252,slow=23,SNR=16	**5.36**	**336**	Pn	**Pn**	**02 54 45.1**	**+0.9**
SIJI				Sn	**Sn**	**02 55 39.1**	**-5.6**
	14nm,0.3s,baz=327,slow=21,SNR=15						
PMG	**Port Moresby** comp=Z,62nm,18.8s,baz=186,slow=41	**14.04**	**106**	LR	LR	03 02 44.6	
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=359,slow=13,SNR=33	**14.10**	**177**	Pn	**Pn**	**02 56 43.7**	**-0.3**
WRA				Sn	**Sn**	**02 59 14.3**	**-4.9**
	0.5nm,0.3s,baz=355,slow=24,SNR=7.0						
FITZ	**Fitzroy Crossi** 0.5nm,0.3s,baz=26,slow=9.1,SNR=21	**14.42**	**211**	Pn	**P**	**02 56 53.4**	**-1.4**
FITZ				Sn	**Sn**	**02 59 28.9**	**+1.7**
	0.5nm,0.3s,baz=195,slow=16,SNR=5.0						
ASAR	**Alice Springs** 0.2nm,0.3s,baz=356,slow=8.8,SNR=12	**17.78**	**179**	P	**P**	**02 57 33.8**	**+1.8**
CTA	**Charters Tower** 0.3nm,0.3s,baz=300,slow=11,SNR=3.7	**18.88**	**140**	P	**P**	**02 57 44.9**	**+0.7**
STKA	**Stephens Creek** comp=Z,78nm,19.6s,baz=26,slow=38	**27.05**	**165**	LR	LR	03 10 40.6	
MKAR	**Makanchi Array** 1.7nm,0.5s,baz=114,slow=7.7,SNR=19	**69.16**	**325**	P	**P**	**03 04 32.8**	**+3.2**
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=102,slow=6.2,SNR=2.4	**72.08**	**332**	P	**P**	**03 04 48.9**	**+1.8**

MEX 16 03:04:47.8±0.7, 18.°20N×100.°54W, h51km±6km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.20**	**65**	*e*P	Pn	03 04 54.4	-1.8
ARIG				*i* S	Sn	03 05 00.9	-1.4
MEIG	**Mezcala**	**0.91**	**107**	*i* P	Pn	03 05 02.8	-1.7
MEIG				*i* S	Sn	03 05 14.6	-2.1
PLIG	**Platanillo**	**1.00**	**79**	*i* P	Pn	03 05 03.9	-1.7
PLIG				*e*S	Sn	03 05 16.6	-2.2
ZIIG	**Zihuatanejo**	**1.06**	**236**	*e*P	Pn	03 05 04.9	-1.4
ZIIG				*i* S	Sn	03 05 17.8	-2.3

*ISCJB **16** 03:04:56.0±0.4, 13.°95N±0.°05×92.°50W±0.°05, h46km, mb4.3/37, MS3.8/3, Error ellipse: s-maj=8.0km s-min=4.9km az=44.7*

*NEIC **16** 03:04:56.2±0.5, 13.°83N×92.°56W, h35km, mb4.4/34, Error ellipse: s-maj=11.2km s-min=5.0km az=218.0*

*MEX **16** 03:04:56.5±0.4, 13.°99N×92.°87W, h24km±15km, MD3.6*

*IDC **16** 03:04:57.8±5.8, 14.°20N×92.°26W, h33km±35km, mb3.7/6, mb1 4.0/9, mb1mx3.8/35, mbtmp3.8/9, ML3.5/3, MS3.5/4, Ms1 3.6/4, ms1mx3.0/28, Free ellipse: s-maj=67.1km s-min=20.6km az=32.0*

ISC 16 03:04:57.3±0.6, 13.°98N±0.°07×92.°61W±0.°08, h46km, n67, σ1s73/69, mb4.4/37, MS3.8/3, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.98**	**20**	*e*P	**Pn**	**03 05 13.4**	**-1.3**
THIG				*i* S	**Sn**	**03 05 26.3**	**-1.2**
PCIG		**1.81**	**341**	*i* P	**Pn**	**03 05 23.1**	**-3.0**
PCIG				*i* S	**Sn**	**03 05 43.0**	**-4.9**
APG	**El Apazote** 12nm,0.3s,baz=243,slow=7.1,SNR=91	**2.31**	**64**	Pg	**Pn**	**03 05 33.5**	**+0.4**
APG				LR	LR	03 06 34.0	
	comp=Z,760nm,18.1s,baz=224,slow=50						
CCIG	**Comitan**	**2.33**	**11**	*e*Pn	**Pn**	**03 05 35.5**	**+2.1**
CCIG	**Comitan**	**2.33**	**11**	*i* P	**Pn**	**03 05 32.7**	**-0.8**
CCIG				*e*S	**Sn**	**03 06 00.3**	**-0.7**
TGIG		**2.83**	**350**	*i* P	**Pn**	**03 05 37.0**	**-3.0**
TGIG				*i* S	**Sn**	**03 06 08.8**	**-4.2**
CMIG	**Matias Romero** 2.2nm,0.3s,baz=135,slow=11,SNR=21	**3.79**	**325**	Pn	**Pn**	**03 05 52.1**	**-1.1**
CMIG				Sn	**Sn**	**03 06 35.6**	**-1.0**
	8.2nm,0.3s,baz=114,slow=15,SNR=8.7						
CMIG				LR	LR	03 07 35.2	
	comp=Z,151nm,20.1s,baz=124,slow=41						
CSGN	**Cosiguina Volc**	**5.01**	**101**	*e*Pn	**Pn**	**03 06 09.4**	**-0.8**
TGUH	**Tegucigalpa,Un**	**5.18**	**89**	*e*Pn	**Pn**	**03 06 12.2**	**-0.1**
ESTN	**Estel**	**6.13**	**97**	*e*Pn	**Pn**	**03 06 24.8**	**-0.7**
TEIG	**Tepich**	**7.47**	**33**	*e*Pn	**Pn**	**03 06 44.0**	**+0.3**
JTS	**JuntasAbangare** 0.6nm,0.3s,baz=354,slow=10,SNR=3.0	**8.34**	**115**	Pn	**Pn**	**03 06 55.2**	**-0.5**
HKT	**Hockley**	**16.17**	**350**	*e*Pn	**P**	**03 08 42.9**	**-1.0**
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=153,slow=11,SNR=9.5	**18.39**	**328**	P	**Pn**	**03 09 10.9**	**+1.9**
TX31	**Lajitas Ar. Si**	**18.39**	**328**	*e*P	**Pn**	**03 09 10.8**	**+1.7**
OTAV	**Otavalo** 1.7nm,0.8s	**19.57**	**133**	*e*P	**P**	**03 09 20.3**	**-1.7**
ABTX	**Abilene, Hawle** 6.8nm,0.9s	**19.64**	**342**	*e*P	**Pn**	**03 09 23.9**	**0.0**
ROSC	**El Rosal** 0.4nm,0.3s,baz=317,slow=7.9,SNR=6.1	**20.18**	**115**	P	Pn	03 09 31.0	+0.1
MIAR	**Mount Ida** 16nm,1.2s	**20.50**	**358**	*e*P	**P**	**03 09 31.9**	**+0.4**
X37A	**Clayton** 29nm,1.4s	**20.67**	**354**	*e*P	**P**	**03 09 33.5**	**+0.1**
MNTX	**Cornudas Mount** 4.1nm,0.9s	**21.17**	**329**	*e*P	**P**	**03 09 39.7**	**+0.9**
WMOK	**Wichita Mounta** 2.5nm,0.6s	**21.41**	**346**	*e*P	**P**	**03 09 42.3**	**+1.0**
MSTX	**Muleshoe** 9.3nm,1.1s	**21.93**	**337**	*e*P	**P**	**03 09 49.0**	**+2.0**
SDV	**Santo Domingo** 1.1nm,0.4s,baz=315,slow=5.7,SNR=2.6	**22.12**	**101**	P	**P**	**03 09 50.5**	**+1.2**
SDV	**Santo Domingo** 2.1nm,0.7s	**22.12**	**101**	*e*P	**P**	**03 09 47.2**	**-2.2**
AMTX	**Amarillo** 18nm,0.8s	**22.37**	**340**	*e*P	**P**	**03 09 52.7**	**+1.0**
SIUC	**Sheiks Illin** 11nm,0.8s	**23.83**	**7**	*e*P	**P**	**03 10 06.2**	**+0.1**
ANMO	**Albuquerque** 0.6nm,0.4s,baz=145,slow=14,SNR=3.8	**24.33**	**332**	P	**P**	**03 10 11.6**	**+0.6**
TUC	**Tucson** 3.0nm,1.0s	**24.67**	**321**	*e*P	**P**	**03 10 16.6**	**+2.5**
WCI	**Wyandotte Cave** 36nm,0.9s	**24.80**	**12**	*e*P	**P**	**03 10 14.5**	**-0.5**
MPR	**Mayaguez** 44nm,1.2s	**24.82**	**77**	*e*P	**P**	**03 10 12.6**	**-2.8**
T25A	**Trinidad** 8.9nm,1.0s	**25.36**	**338**	*e*P	**P**	**03 10 22.0**	**+1.7**
CBKS	**Cedar Bluff** 15nm,0.8s	**25.53**	**347**	*e*P	**P**	**03 10 23.3**	**+1.7**
SDCO	**Great Sand Dun** 16nm,1.8s	**26.30**	**336**	*e*P	**P**	**03 10 29.7**	**+0.7**
S22A	**4UR Ranch, Cre** 5.5nm,1.0s	**26.84**	**334**	*e*P	**P**	**03 10 35.8**	**+1.9**
MVCO	**Mesa Verde** 8.9nm,0.9s	**27.13**	**331**	*e*P	**P**	**03 10 37.8**	**+1.4**
XPFO	**Piæon Flat** 17nm,1.8s	**29.16**	**316**	*e*P	**P**	**03 10 54.7**	**+0.2**
PFO	**Pinyon Flats O** 18nm,1.9s	**29.17**	**316**	*e*P	**P**	**03 10 55.0**	**+0.5**
PDAR	**Pinedale Array** 0.6nm,0.8s,baz=142,slow=7.4,SNR=5.0	**32.20**	**336**	P	**P**	**03 11 22.9**	**+1.6**
REDW	**Red Top Meadow** 20nm,1.4s	**33.21**	**335**	*e*P	**P**	**03 11 32.0**	**+1.8**
SNOW	**Snow King Moun** 12nm,0.9s	**33.26**	**336**	*e*P	**P**	**03 11 32.2**	**+1.7**
NV01	**Mina Array Sit**	**33.32**	**322**	*e*P	**P**	**03 11 33.2**	**+2.1**
NVAR	**Mina Array Bea** 2.0nm,0.7s,baz=135,slow=8.8,SNR=19	**33.32**	**322**	P	**P**	**03 11 33.8**	**+2.7**
NVAR				LR	LR	03 26 54.9	
	comp=Z,112nm,18.9s,baz=296,slow=40						
LOHW	**Long Hollow** 6.1nm,1.1s	**33.32**	**336**	*e*P	**P**	**03 11 32.1**	**+1.1**
TPAW	**Teton Pass** 24nm,1.5s	**33.36**	**335**	*e*P	**P**	**03 11 33.1**	**+1.7**
MOOW	**Moose Ponds** 9.4nm,1.6s	**33.49**	**336**	*e*P	**P**	**03 11 34.3**	**+1.7**
FXWY	**Fox Creek** 13nm,1.9s	**33.51**	**335**	*e*P	**P**	**03 11 33.9**	**+1.1**
YMR	**Madison River** 22nm,1.6s	**34.35**	**337**	*e*P	**P**	**03 11 42.0**	**+2.0**
CMB	**Columbia Colle** 7.1nm,1.4s	**34.36**	**319**	*e*P	**P**	**03 11 39.3**	**-0.6**
HLID	**Hailey** 11nm,1.8s	**34.91**	**332**	*e*P	**P**	**03 11 46.1**	**+1.3**
MCMT	**McKenzie Canyo**	**35.23**	**335**	*e*P	**P**	**03 11 49.6**	**+1.9**
J08A	**Circle Bar Ran** 3.4nm,0.8s	**36.74**	**328**	*e*P	**P**	**03 12 02.6**	**+2.2**
SAML	**Samuel** 1.2nm,0.8s	**37.04**	**126**	*e*P	**P**	**03 12 01.2**	**-1.9**
F10A	**Beach Ranch, E** 5.8nm,0.8s	**38.05**	**332**	*e*P	**P**	**03 12 13.2**	**+1.8**
LVC	**Limon Verde** 4.3nm,0.8s	**43.15**	**147**	*e*P	**P**	**03 12 52.9**	**-1.1**
SCHQ	**Schefferville** comp=Z,124nm,18.0s,baz=324,slow=38	**45.45**	**21**	LR	LR	03 33 15.9	
YKA	**Yellowknife Ar** 4.9nm,0.7s,baz=150,slow=7.1,SNR=18	**50.91**	**347**	P	**P**	**03 13 54.5**	**+0.9**
INK	**Inuvik** 3.1nm,0.8s	**60.29**	**344**	*e*P	**P**	**03 15 02.0**	**+1.2**
IL1	**Eielson Array**	**62.62**	**337**	*e*P	**P**	**03 15 17.5**	**+0.8**
ILAR	**Eielson Array** 2.8nm,1.1s,baz=146,slow=5.3,SNR=11	**62.62**	**337**	P	**P**	**03 15 18.3**	**+1.6**
ILB	**Eielson Array**	**62.62**	**337**	*e*P	**P**	**03 15 18.4**	**+1.7**
JMIC	**Jan Mayen** comp=Z,51nm,21.6s,baz=251,slow=35	**74.96**	**20**	LR	LR	03 48 58.5	
BILL	**Bilibino** 20nm,1.5s	**81.26**	**338**	*e*P	**P**	**03 17 09.6**	**+1.4**
TORD	**Torodi Ar. Bea** 0.2nm,0.6s,baz=273,slow=2.5,SNR=2.6	**90.96**	**76**	P	**P**	**03 17 55.6**	**-1.6**
KSH	**Kashi**	**125.73**	**11**	*e*PKP	**PKPdf**	**03 23 56.9**	**+2.4**
LZH	**Lanzhou**	**127.83**	**343**	*e*PKP	**PKPdf**	**03 24 00.3**	**+1.7**
LZH				pPKP	pPKPdf	03 24 11.5	-1.3
LZH				sPKP		03 24 16.8	
LZH				smax	smax		
	comp=N,140nm,0.9s						
LZH				smax	smax		
	comp=E,220nm,0.7s						
CMAR	**Chiang Mai Arr** comp=E,1.8nm,0.3s,baz=342,slow=4.0,SNR=14	**145.81**	**340**	PKPbc	**PKPab**	**03 24 33.9**	**+1.1**

MEX 16 03:09:01.6±0.3, 13.°71N×92.°54W, h15km±151km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.22**	**12**	*i* P	Pn	03 09 21.0	-3.1
THIG				*i* S	Sb	03 09 35.0	-4.9
PCIG		**2.09**	**342**	*e*P	Pn	03 09 33.4	-2.7
PCIG				*e*S	Sn	03 09 57.3	-4.6
CCIG	**Comitan**	**2.59**	**9**	*i* P	Pn	03 09 40.2	-2.9
CCIG				*e*S	Sn	03 10 10.6	-3.8
TGIG		**3.10**	**350**	*i* P	Pn	03 09 47.8	-2.3
TGIG				*e*S	Sn	03 10 22.9	-4.1

*DDA **16** 03:58:18.1, 38.°39N×47.°29E, h4km, Ml4.2*

*BJI **16** 03:58:21.6, 38.°34N×46.°10E, h8km, mb4.8/45, mB5.0/25, Ms4.5/25, Ms7 4.2/26*

*AZER **16** 03:58:23.3±13.0, 38.°52N×46.°57E, h10km±1km, ml5.1/30, Error ellipse: s-maj=6.2km s-min=1.0km az=23.0*

*IDC **16** 03:58:24.9±0.5, 38.°41N×46.°58E, h0km, mb4.5/29, mb1 4.5/38, mb1mx4.5/46, mbtmp4.5/38, ML3.9/9, MS4.1/45, Ms1 4.1/45, ms1mx4.0/56, Error ellipse: s-maj=12.2km s-min=8.0km az=18.0*

*NEIC **16** 03:58:25.1±0.0, 38.°56N×46.°59E, h15km, mb4.9/68, ML4.7(THR), MN4.9(TEH), After THR.*

NEIC Felt [III] at Tabriz.

*TEH **16** 03:58:25.6, 38.°48N×46.°57E, h10km, ML4.7*

*THR **16** 03:58:25.1±0.3, 38.°56N×46.°59E, h15km, ML4.7*

*MOS **16** 03:58:27.6±1.5, 38.°36N×46.°65E, h27km, mb4.9/41, MS4.2/15, Error ellipse: s-maj=5.1km s-min=3.2km az=111.7*

*DSN **16** 03:58:27.2±0.6, 38.°27N×46.°64E, h5km, mb5.0/11, Error ellipse: s-maj=11.0km s-min=7.0km az=52.0*

*GCMT **16** 03:58:28.1±0.3, 38.°49N±0.°02×46.°66E±0.°02, h16km±1km, MW4.8/84, Moment Tensor Solution. s20,c23; s84,c129; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.30±.12; Mθθ -1.99±.10; Mϕϕ 0.69±.07; Mrθ -0.35±.24; Mrϕ -1.79±.07; Mθϕ -0.21±.25; Best double couple: Mo 2.25700×10^16 NP1: ϕs 199.00000°, δ89.00000°, λ 9.00000°. NP2: ϕs 109.00000°, δ81.00000°, λ 179.00000°. Principal axes: T 1.5900, Plg7.0000°, Azm64.0000°; N 1.3360, Plg81.0000°, Azm204.0000°; P -2.9250, Plg6.0000°, Azm333.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

IBST IAMB IAmb 03 58 59.0
comp=E,81µm,0.4s
ISHB Shabestar 0.85 254 Pg **Pg 03 58 39.9 -3.3**
ISHB Shabestar 0.85 254 *e*Pg **Pg 03 58 40.0 -3.3**
ISHB IAMB IAmb 03 58 54.8
comp=Z,8µm,0.4s
ISHB IAMB IAmb 03 58 58.5
comp=N,95µm,0.6s
ISHB IAMB IAmb 03 59 02.5
comp=E,48µm,0.5s
IAZR Azarshahr 0.99 213 Pg **Pg 03 58 42.6 -3.4**
IAZR Azarshahr 0.99 213 *e*Pg **Pg 03 58 42.7 -3.3**
IAZR IAMB IAmb 03 58 59.8
comp=E,1147µm,0.4s
IAZR IAMB IAmb 03 59 00.6
comp=N,1081µm,0.3s
IAZR IAMB IAmb 03 59 01.2
comp=Z,81µm,0.3s
GRMI Germi 1.01 73 Pg **Pg 03 58 44.0 -2.3**
GRMI Germi 1.01 73 *e*Pg **Pg 03 58 44.9 -1.4**
GRMI Germi 1.01 73 *e*Pg **Pg 03 58 44.9 -1.4**
NAX Nakhchivan 1.12 306 ⇓P **Pg 03 58 45.7 -2.7**
SNR=723
NAX ⇑S **Sg 03 59 02.0 -0.8**
SBZ Shahbuz 1.23 316 ⇓P **Pb 03 58 47.4 -3.0**
SBZ ⇑S **Sb 03 59 05.5 -1.0**
SBZ Shahbuz 1.23 316 *e*Pg **Pb 03 58 47.8 -2.6**
LRK Lerik 1.33 84 ⇓P **Pn 03 58 50.3 -1.5**
SNR=1339
LRK ⇓S **Sg 03 59 10.8 +1.3**
LRK Lerik 1.33 84 *e*Pg **Pn 03 58 50.6 -1.3**
GLBA Clilabad 1.54 61 P **Pb 03 58 55.4 -0.2**
SNR=371
GLBA ⇓S **Sg 03 59 16.8 +0.6**
GLBA Clilabad 1.54 61 *e*Pn **Pb 03 58 55.3 -0.2**
LKRN Lenkeran, Azer 1.67 83 PN **Pn 03 58 56.7 +0.2**
LKRN Lenkeran, Azer 1.67 83 P **Pn 03 58 56.7 +0.2**
SNR=230
LKRN ⇓S **Sb 03 59 19.9 +0.7**
LKRN Lenkeran, Azer 1.67 83 *e*Pn **Pn 03 58 56.7 +0.2**
ASTR Astara 1.68 88 ⇑P **Pn 03 58 56.8 +0.3**
SNR=767
ASTR ⇓S **Sg 03 59 21.7 +1.0**
ASTR Astara 1.68 88 *e*Pn **Pn 03 58 56.7 +0.3**
MAKU Maku 1.75 299 Pg **Pn 03 58 55.0 -2.7**
MAKU Maku 1.75 299 *e*Pg **Pn 03 58 56.0 -1.7**
MAKU Maku 1.75 299 *e*Pn **Pn 03 58 56.0 -1.7**
BRDA Brd 1.79 13 ⇓P **Pn 03 58 56.9 -1.2**
SNR=28
BRDA ⇑S **Sg 03 59 23.7 -0.7**
BRDA Brd 1.79 13 *e*Pn **Pn 03 58 58.7 +0.6**
HYR Heyderabad 1.84 311 ⇑P **Pn 03 58 57.8 -1.1**
HYR ⇑S **Sb 03 59 24.1 0.0**
HYR Heyderabad 1.84 311 *e*Pn **Pn 03 58 57.8 -1.1**
SAAT Saatly 1.92 45 ⇓P **Pn 03 58 59.8 0.0**
SNR=63
SAAT ⇓S **Sg 03 59 27.9 -0.6**
SAAT Saatly 1.92 45 *e*Pn **Pn 03 59 00.5 +0.7**
ZRD Zardab 1.93 24 ⇓P **Pn 03 58 59.8 -0.2**
SNR=48
ZRD ⇑S **Sb 03 59 26.0 -0.6**
ZRD Zardab 1.93 24 *e*Pn **Pb 03 59 01.1 -1.2**
YOVA Hakkari_Y˜…kse 2.09 244 *i*P **Pn 03 59 02.7 +0.3**
YOVA *i*S **Sb 03 59 30.9 -0.3**
YOVA Hakkari_Y˜…kse 2.09 244 *e*Pn **Pn 03 59 02.7 +0.3**
GANJ Ganja 2.14 353 PN **Pn 03 59 03.6 +0.7**
GANJ Ganja 2.14 353 ⇑P **Pn 03 59 02.1 -0.9**
SNR=2513
GANJ ⇓S **Sb 03 59 32.3 -0.3**
GANJ Ganja 2.14 353 *e*Pn **Pn 03 59 03.6 +0.7**
KDMR Kurdemir 2.20 32 ⇑P **Pn 03 59 03.3 -0.4**
SNR=92
KDMR ⇓S **Sb 03 59 35.0 +0.7**
KDMR Kurdemir 2.20 32 *e*Pn **Pb 03 59 05.6 -1.3**
GNI Garni 2.20 318 *e*P **Pn 03 59 04.0 +0.1**
GNI Garni 2.20 318 Pn **Pn 03 59 04.9 +1.0**
comp=Z,152nm,0.3s,baz=150,slow=2.7,SNR=619
GNI Lg Lg 03 59 35.7
comp=Z,471nm,0.3s,baz=183,slow=20,SNR=11
GNI LR LR 03 59 54.2
comp=Z,6µm,19.5s,baz=150,slow=40
GNI Garni 2.20 318 *e*Pn **Pn 03 59 05.0 +1.0**
GNI *e*Pg **Pg 03 59 09.4 +0.3**
GNI *e*Sg **Sg 03 59 38.4 +0.7**
GNI Garni 2.20 318 P **Pn 03 59 05.1 +1.1**
SNR=1131
GNI Garni 2.20 318 *e*P **Pb 03 59 05.4 -1.7**
SNR=2145
GNI Garni 2.20 318 *d i*PN **Pn 03 59 04.9 +1.0**
GNI pmax pmax
comp=Z,9µm,0.7s
GNI Garni 2.20 318 *e*Pn **Pn 03 59 04.9 +1.0**
CLDR Caldiran 2.23 287 *e*P **Pn 03 59 05.3 +1.0**
CLDR Caldiran 2.23 287 *i*P **Pn 03 59 05.5 +1.1**
CLDR *i*S **Sg 03 59 38.5 +0.1**
CLDR Caldiran 2.23 287 *e*Pn **Pn 03 59 05.4 +1.1**
MNGR Mingechevir, A 2.27 8 PN **Pb 03 59 06.5 -1.7**
MNGR Mingechevir, A 2.27 8 ⇑P **Pn 03 59 04.1 -0.6**
SNR=22
MNGR ⇓S **Sb 03 59 36.6 +0.1**
MNGR Mingechevir, A 2.27 8 *e*Pn **Pb 03 59 06.5 -1.7**
GDB GEDABAY 2.31 343 ⇑P **Pn 03 59 04.2 -1.2**
SNR=559
GDB ⇑S **Sb 03 59 36.7 -0.8**
GDB GEDABAY 2.31 343 *e*Pn **Pn 03 59 06.5 +1.1**
ALIB Äli-Bayra 2.32 51 ⇑P **Pn 03 59 05.4 0.0**
SNR=60
ALIB ⇑S **Sb 03 59 37.8 0.0**
ALIB Äli-Bayra 2.32 51 *e*Pn **Pb 03 59 07.7 -1.3**
TASB TASBURUN-IGDIR 2.38 309 *e*P **Pn 03 59 06.7 +0.4**
IGDI IGDIR 2.41 305 *i*P **Pn 03 59 06.9 +0.2**
IGDI *i*S **Sb 03 59 39.0 -1.6**
IGDI IGDIR 2.41 305 *e*Pn **Pn 03 59 06.9 +0.2**
ZNJK Zanjan 2.45 138 Pn **Pn 03 59 07.0 -0.4**
ZNJK Zanjan 2.45 138 *e*Pn **Pn 03 59 07.8 +0.4**
ZNJK Zanjan 2.45 138 *e*Pn **Pn 03 59 07.8 +0.4**
VMUR Van-Muradiye 2.46 282 *i*P **Pb 03 59 09.1 -2.4**
VMUR *i*S **Sg 03 59 48.9 +3.1**
VMUR Van-Muradiye 2.46 282 *e*Pn **Pb 03 59 09.0 -2.4**
DYDN Diyadin 2.53 295 *i*P **Pn 03 59 08.6 +0.1**
DYDN *i*S **Sg 03 59 49.7 +1.6**
DYDN Diyadin 2.53 295 *e*Pn **Pn 03 59 08.5 +0.1**
TVAN Van 2.55 271 *i*P **Pb 03 59 10.4 -2.6**
TVAN *i*S **Sg 03 59 48.6 -0.1**
TVAN Van 2.55 271 *e*Pn **Pn 03 59 10.3 +1.6**
IML Ismayilli 2.56 27 ⇑P **Pn 03 59 08.4 -0.3**
SNR=44
IML ⇑S **Sn 03 59 41.8 +1.7**
IML Ismayilli 2.56 27 *e*Pn **Pn 03 59 10.2 +1.5**
VANB Van 2.56 273 *e*P **Pn 03 59 10.2 +1.4**
VANB Van 2.56 273 *e*Pn **Pb 03 59 11.8 -1.4**
QBL Gabala 2.59 20 ⇑P **Pn 03 59 08.6 -0.5**
SNR=85
QBL ⇓S **Sb 03 59 43.4 -2.2**
QBL Gabala 2.59 20 *e*Pn **Pn 03 59 10.8 +1.7**
GBS Qobustan 2.68 41 ⇓P **Pn 03 59 10.3 -0.1**
SNR=90
GBS ⇓S **Sn 03 59 45.6 +2.5**
GBS Qobustan 2.68 41 *e*Pn **Pb 03 59 13.7 -1.4**
PQL Pirkuli 2.72 33 ⇑P **Pn 03 59 10.7 -0.3**
SNR=125
PQL ⇑S **Sn 03 59 46.6 +2.5**
PQL Pirkuli 2.72 33 *e*Pn **Pn 03 59 12.7 +1.7**
SEKA Sheki 2.72 9 PN **Pn 03 59 12.2 +1.3**
SEKA Sheki 2.72 9 ⇓P **Pn 03 59 10.7 -0.2**
SNR=308
SEKA ⇓S **Sn 03 59 46.2 +2.1**
SEKA Sheki 2.72 9 *e*Pn **Pn 03 59 12.2 +1.3**
QZX Qazax, Azerbai 2.72 339 ⇑P **Pn 03 59 10.4 -0.5**
SNR=774
QZX ⇑S **Sn 03 59 45.6 +1.6**
QZX Qazax, Azerbai 2.72 339 *e*Pn **Pn 03 59 12.1 +1.2**
CUKT Cukurca 2.73 243 *e*P **Pn 03 59 11.9 +0.8**
CUKT Cukurca 2.73 243 *i*P **Pn 03 59 11.9 +0.8**
CUKT *i*S **Sb 03 59 50.9 +1.3**
CUKT Cukurca 2.73 243 *e*Pn **Pn 03 59 11.9 +0.8**
GEVA Gevas 2.83 267 *i*P **Pn 03 59 13.7 +1.0**
GEVA *i*S **Sn 03 59 48.7 +1.7**
GEVA Gevas 2.83 267 *e*Pn **Pn 03 59 13.6 +1.0**
XNQ Khinaliq 2.89 23 ⇓P **Pn 03 59 12.7 -0.7**
SNR=73
XNQ ⇑S **Sb 03 59 51.5 -2.8**
XNQ Khinaliq 2.89 23 *e*Pn **Pn 03 59 14.2 +0.8**

ATGJ Altiaghaj 2.93 36 ⇓P **Pn 03 59 13.4 -0.4**
SNR=163
ATGJ Altiaghaj 2.93 36 *e*Pn **Pn 03 59 16.5 +2.7**
GOBA Gobu 3.03 51 ⇓P **Pn 03 59 14.8 -0.4**
SNR=15
GOBA Gobu 3.03 51 *e*Pn **Pb 03 59 18.2 -2.9**
AGRB Hanur-Agry 3.04 291 *e*P **Pn 03 59 16.4 +0.9**
AGRB Hanur-Agry 3.04 291 *e*Pn **Pn 03 59 16.9 +1.4**
AKT Akhty 3.07 15 *e*PN **Pn 03 59 17.4 +1.6**
AKT *e* 03 59 28.4
AKT *e*S **Sb 04 00 00.3 +0.8**
AKT *e* 04 00 10.1
AKT *e* 04 00 20.5
AKT pmax pmax
comp=Z,819nm,0.6s
AKT smax smax
comp=E,2µm,0.6s
AKT smax smax
comp=N,896nm,0.5s
AKT smax smax
comp=E,2µm,0.5s
SIZA Siyzn 3.08 33 ⇓P **Pn 03 59 15.3 -0.7**
SNR=50
SIZA ⇑S **Sb 03 59 57.0 -2.8**
SIZA Siyzn 3.08 33 *e*Pn **Pn 03 59 18.8 +2.8**
ADCV BITLIS_Adilcev 3.09 277 *i*P **Pn 03 59 17.4 +1.3**
ZKTA Zakatala 3.12 360 PN **Pn 03 59 18.4 +2.1**
ZKTA Zakatala 3.12 360 ⇑P **Pn 03 59 15.3 -1.0**
SNR=65
ZKTA ⇑S **Sb 03 59 57.2 -3.5**
ZKTA Zakatala 3.12 360 *e*Pn **Pn 03 59 18.4 +2.1**
TUTA Tutak 3.12 288 *i*P **Pb 03 59 19.3 -3.5**
QUB Quba 3.14 24 *e*Pn **Pn 03 59 19.8 +3.0**
QUBA Quba, Azerbaij 3.17 26 ⇓P **Pn 03 59 16.2 -0.8**
SNR=32
DIGO Kars 3.17 308 *i*P **Pn 03 59 19.4 +2.2**
DIGO *i*S **Sg 04 00 11.6 +3.0**
EAK Akyaka 3.20 314 *i*P **Pn 03 59 19.4 +1.8**
EAK *i*S **Sg 04 00 09.7 +0.1**
QSAR Qusar 3.24 22 ⇓P **Pn 03 59 17.3 -0.7**
SNR=134
QSAR Qusar 3.24 22 *e*Pn **Pn 03 59 20.3 +2.3**
NDR Nardaran 3.30 50 ⇓P **Pn 03 59 18.7 -0.1**
KZRT Kazreti 3.35 330 P **Pb 03 59 24.6 -2.0**
KZRT S **Sb 04 00 09.9 +2.5**
KARS Kars 3.48 308 *e*P **Pg 03 59 32.7 -0.7**
SIRT Sirnak 3.48 254 *e*P **Pn 03 59 23.7 +2.3**
EATA Eleskirt 3.50 294 *i*P **Pb 03 59 26.1 -3.2**
SIRN S˜–rnak 3.50 254 *i*P **Pn 03 59 24.4 +2.6**
TBLG Delisi 3.53 336 *e*P **Pb 03 59 26.4 -3.2**
TBLG Delisi 3.53 336 P **Pb 03 59 25.9 -3.8**
TBLG S **Sb 04 00 16.1 +3.5**
TBLG Delisi 3.53 336 *e*Pn **Pn 03 59 24.1 +2.0**
TBLG Delisi 3.53 336 *e*PN **Pb 03 59 25.8 -3.8**
TBLG *e*S **Sb 04 00 16.1 +3.5**
IGZV Ghazvin 3.54 126 Pn **Pn 03 59 23.1 +0.7**
IGZV Ghazvin 3.54 126 *e*Pn **Pn 03 59 23.3 +0.9**
IGZV IAMB IAmb 04 00 30.9
comp=Z,17µm,1.0s
IGZV IAMB IAmb 04 00 35.1
comp=N,38µm,0.8s
IGZV IAMB IAmb 04 00 35.1
comp=E,24µm,0.6s
TRLG Trialeti 3.60 328 P **Pb 03 59 28.1 -2.7**
TRLG S **Sb 04 00 17.4 +2.7**
ILIN Lien 3.60 176 Pn **Pn 03 59 24.5 +1.3**
ILIN Lien 3.60 176 *e*Pn **Pn 03 59 25.1 +1.9**
ILIN IAMB IAmb 04 00 34.8
comp=Z,20µm,1.1s
BGD Bogdanovka 3.61 320 P **Pb 03 59 30.4 -0.7**
BGD S **Sg 04 00 19.8 -3.1**
HKZM Kohzaman 3.62 149 *e*Pn **Pn 03 59 24.8 +1.4**
HKZM IAMB IAmb 04 00 33.6
comp=Z,0.0nm,1.7s
GURO Guroymak-BITLI 3.63 272 *e*P **Pn 03 59 25.6 +2.1**
QABG Abgarm-Qazvin 3.65 139 *e*Pn **Pn 03 59 24.3 +0.4**
QABG IAMB IAmb 04 00 28.5
comp=Z,0.0nm,2.2s
EKAR Karacoban 3.66 283 *i*P **Pb 03 59 28.9 -3.0**
URKR Urkarakh 3.72 11⇑*e*PN **Pb 03 59 29.8 -3.1**
URKR *e* 04 00 29.1
DRN Derbent 3.73 20⇑*e*PN **Pb 03 59 30.2 -2.8**
DRN *e* 04 00 28.0
DRN pmax pmax
comp=Z,323nm,1.0s
DRN smax smax
comp=N,1µm,1.7s
SRTM Siirt_Merkez 3.76 263 *i*P **Pn 03 59 26.1 +0.7**
AKH Akhalkalaki 3.77 321 *e*P **Pb 03 59 32.5 -1.3**
AKH Akhalkalaki 3.77 321 P **Pb 03 59 33.3 -0.6**
AKH S **Sg 04 00 25.1 -3.0**
AKH Akhalkalaki 3.77 321 *e*Pn **Pn 03 59 29.1 +3.6**
AKH Akhalkalaki 3.77 321 *e*PN **Pn 03 59 29.1 +3.6**
QALM Alamut, Qazvin 3.80 122 *e*Pn **Pn 03 59 26.8 +0.9**
QALM IAMB IAmb 04 00 57.4
comp=Z,0.0nm,1.7s
DUS Dusheti 3.87 338 P **Pb 03 59 32.9 -2.5**
DUS S **Sg 04 00 27.6 -3.4**
DUS Dusheti 3.87 338 *e*PN **Pb 03 59 32.9 -2.5**
DUS *e*S **Sg 04 00 27.6 -3.4**
GNBR Gunib 3.87 3⇑*e*PN **Pb 03 59 31.5 -4.0**
GNBR *e* 04 00 29.6
GNBR pmax pmax
comp=Z,439nm,0.7s
GNBR smax smax
comp=N,1µm,1.6s
SENK Senkaya-Erzuru 3.90 303 *e*P **Pg 03 59 39.8 -1.8**
IVIS Veis 3.99 178 Pn **Pn 03 59 30.4 +2.0**
IVIS Veis 3.99 178 *e*Pn **Pn 03 59 28.4 0.0**
IVIS IAMB IAmb 04 00 44.0
comp=N,37µm,1.3s
HOMI Horasan 3.99 294 *i*P **Pn 03 59 32.6 +4.1**
XNZR Khunzakh 4.02 1⇑*e*PN **Pb 03 59 34.1 -3.9**
XNZR *e* 04 00 33.6
VRTB Varto-Mus 4.11 281 *e*P **Pn 03 59 32.0 +1.9**
BTLR Botlikh 4.15 356⇓*e*PN **Pb 03 59 37.4 -2.8**
BTLR *e* 04 00 39.6
BTLR pmax pmax
comp=Z,335nm,0.7s
BTLR smax smax
comp=N,501nm,1.6s
HAGD Aghdareh 4.20 151 *e*Pn **Pn 03 59 32.3 +0.9**
HAGD IAMB IAmb 03 59 49.4
comp=N,0.0nm,0.9s
HAGD IAMB IAmb 04 01 09.8
comp=E,0.0nm,1.5s
HAGD IAMB IAmb 04 01 22.0
comp=Z,0.0nm,1.0s
IMHD Mahdasht 4.28 130 Pn **Pn 03 59 33.4 +1.0**
IMHD Mahdasht 4.28 130 *e*Pn **Pn 03 59 33.4 +1.0**
IMHD IAMB IAmb 04 00 44.4
comp=N,11µm,0.3s
GUDG Gudauri 4.28 338 P **Pn 03 59 36.2 +3.7**
GUDG S **Sb 04 00 38.2 +3.9**
BTMN Batman 4.29 263 *i*P **Pn 03 59 35.4 +2.9**
SVAN Silvan-Diyarba 4.31 267 *i*P **Pn 03 59 34.3 +1.5**
IKOM Komasi 4.39 171 Pn **Pn 03 59 35.6 +1.6**
IKOM Komasi 4.39 171 *e*Pn **Pn 03 59 35.4 +1.4**
IKOM IAMB IAmb 04 01 13.8
comp=Z,0.0nm,1.9s
MAK Makhachkala 4.48 8 *e*PN **Pn 03 59 32.3 -2.8**
MAK *e* 04 00 52.2
MAK pmax pmax
comp=Z,98nm,0.3s
TEH Tehran 4.69 125 IAMB IAmb 04 01 03.6
comp=E,0.0nm,1.7s
TEH IAMB IAmb 04 01 04.3
comp=N,0.0nm,2.6s
TEH IAMB IAmb 04 01 14.6
comp=Z,0.0nm,1.2s
BNGB Bing˜¶l 4.70 278 *e*P **Pb 03 59 52.0 +2.5**
GROC Groznyy 4.72 352 *e*PN **Pn** 03 59 43.6 +5.2
GROC pmax pmax
comp=Z,618nm,1.2s
ONI Oni 4.74 330 P **Pb 03 59 48.1 -2.2**
ONI Oni 4.74 330 *e*PN **Pb 03 59 48.1 -2.2**
ZEI Tsey 4.75 335 *e*PN **Pn 03 59 40.1 +1.1**
ZEI pmax pmax
comp=Z,472nm,1.0s
MARD Mardin 4.80 257 *i*P **Pn 03 59 41.6 +2.1**
BCA Borcka 4.85 309 *e*P **Pb 03 59 52.6 +0.6**
YEDI Yedisu-Bingol 4.85 283 *e*P **Pn 03 59 42.9 +2.6**
IPRN Peran 5.06 115 *e*Pn **Pn 03 59 44.6 +1.4**

IPRN IAMB IAmb 04 01 26.6
comp=Z,6µm,0.9s
BAYT Ayd¯–ntepe-Bay 5.38 292 *e*P **Pb 04 00 01.4 +0.2**
IVRN Varamin 5.38 129 *e*Pn **Pn 03 59 49.3 +1.8**
IVRN IAMB IAmb 04 01 57.8
comp=Z,0.0nm,2.7s
NCK Nalchik 5.48 336⇑*e*P **Pn 03 59 47.0 -1.9**
GHVR GHOM 5.50 136 *i*PA **Pb 04 00 00.0 -3.1**
NEY Neytrino 5.59 329 *i*P Pn 03 59 55.4 +5.0
KBZ Khabaz 5.93 333 Pn Pn 03 59 59.8 +4.9
comp=Z,0.3nm,0.3s,baz=153,slow=11,SNR=13
KBZ Lg Lg 04 01 33.7
comp=Z,1.0nm,0.3s,baz=58,slow=21,SNR=4.8
KBZ LR LR 04 02 39.2
comp=Z,3µm,19.5s,baz=124,slow=42
ILAS Lasjerd 5.94 120 *e*Pn **Pn 03 59 58.5 +3.1**
ILAS IAMB IAmb 04 01 48.2
comp=Z,3µm,1.2s
ISHM Shahmirzad 5.95 115 *e*Pn **Pn 03 59 57.6 +2.0**
ISHM IAMB IAmb 04 00 04.6
comp=Z,2µm,0.3s
KVAR Kislovodsk Arr 6.20 332 LR LR 04 02 34.4
comp=Z,3µm,20.5s,baz=29,slow=40
KIV Kislovodsk 6.20 332 *e*Pn **Pn 04 00 01.2 +2.4**
KIV *e*Sg **Sg 04 01 43.1 -2.8**
KIV Kislovodsk 6.20 332 P Pn 04 00 03.9 +5.2
SNR=38
KIV Kislovodsk 6.20 332 *i*P **Pn 04 00 03.0 +4.2**
SNR=21
KIV Kislovodsk 6.20 332 *e*P **Pn 03 59 57.7 -1.1**
KIV pmax pmax
comp=Z,53nm,1.1s
KIV MLR MLR
comp=Z,684nm,9.0s
URFA Urfa 6.28 263 *e*P Pg 04 00 21.7 -5.5
KRSH Karshahi 6.34 134 *e*Pn **Pn 04 00 02.0 +1.2**
KRSH IAMB IAmb 04 01 56.5
comp=Z,0.0nm,1.8s
IKLH Kolahrood 6.55 141 *e*Pn **Pn 04 00 06.4 +2.7**
ESPY Espiye-Giresun 6.56 294 *e*P Pn 04 00 08.6 +4.9
IPIR Pirpir 6.77 148 *e*Pn **Pn 04 00 08.4 +1.6**
IPIR IAMB IAmb 04 02 24.7
comp=Z,2µm,1.2s
GOF Gofitskoye 7.07 339 *e*P **Pn 04 00 10.6 0.0**
ROKH ROKH 7.12 149 *e*Pn **Pn 04 00 12.8 +1.2**
ROKH IAMB IAmb 04 02 50.8
comp=Z,0.0nm,7.2s
ZNGN Zangian 7.25 151 *e*Pn **Pn 04 00 13.7 +0.3**
ZNGN IAMB IAmb 04 02 42.2
comp=Z,0.0nm,1.4s
IZEF Zefreh 7.26 139 *e*Pn **Pn 04 00 15.7 +2.1**
IZEF IAMB IAmb 04 03 17.5
comp=Z,1µm,1.5s
MRVT Maraveh tapeh 7.49 94 *i*PA **Sb 04 02 00.0 -6.6**
SVSK Karacayir 7.63 284 *e*P Pn 04 00 23.6 +5.3
SHRO Shahrood 7.88 106 *i*PA **Pn 04 00 25.7 +3.9**
TOKT Tokat 8.03 286 *e*P Pn 04 00 28.7 +4.8
IRAM Ramesheh 8.17 143 *e*Pn **Pn 04 00 28.6 +2.6**
IRAM IAMB IAmb 04 03 03.2
comp=Z,2µm,1.4s
IRAM IAMB IAmb 04 03 06.0
comp=E,1µm,1.6s
IRAM IAMB IAmb 04 03 22.6
comp=N,247nm,1.2s
BJRD Bojnurd 8.52 92 IAML 04 02 18.0
comp=N,47nm,0.5s
BJRD Bojnurd 8.52 92 *i*PA **Pn 04 00 32.6 +2.0**
KLNJ Kolanjah 8.52 150 *e*Pn **Pn 04 00 31.7 +0.8**
KLNJ IAMB IAmb 04 03 31.9
comp=Z,0.0nm,2.5s
TAHT Tahtakopru-Hat 8.60 259 *e*P Pn 04 00 40.1 +8.5
ISAD Sadrabad 8.74 137 *e*Pn **Pn 04 00 35.9 +2.0**
SBZV Sabzevar 8.97 100 *e*Pn **Pn 04 00 37.7 +0.8**
SBZV IAMB IAmb 04 05 59.9
comp=Z,0.0nm,8.9s
GEYT Alibeck 9.04 90 Pn **Pn 04 00 36.8 -0.9**
comp=Z,3.8nm,0.3s,baz=301,slow=12,SNR=21
GEYT LR LR 04 05 43.1
comp=Z,750nm,20.7s,baz=305,slow=48
GYA0B ALIBECK ARRAY 9.04 90 ⇑Pn **Pn 04 00 36.5 -1.2**
comp=Z,119nm,0.9s
GYA0B ⇓Sn **Sn 04 02 20.4 +0.7**
comp=Z,244nm,1.2s
GYA0B ALIBECK ARRAY 9.04 90 *e*Pn **Pn 04 00 37.2 -0.5**
ISFR Sfrayin 9.10 96 *e*Pn **Pn 04 00 40.0 +1.2**
ISFR IAMB IAmb 04 00 52.1
comp=Z,4µm,0.6s
TNSJ Nastanj 9.23 116 *e*Pn **Pn 04 00 41.6 +1.2**
ANN Anapa 9.32 315 *e*P Pn 04 00 46.3 +4.8
ANN *e*S **Sn 04 02 34.5 +8.0**
ANN pmax pmax
comp=Z,23nm,0.9s
ANN MLR MLR
comp=N,3µm,15.0s
ANN MLR MLR
comp=Z,2µm,15.0s
IKRD Kardeh 9.56 97 *e*Pn Pn 04 00 55.4 +10
IKRD IAMB IAmb 04 01 01.3
comp=Z,1µm,0.8s
TABS Tabas 9.76 117 *i*PA **Pn 04 00 51.9 +4.2**
TKDS Koohdasht(Taba 9.78 117 *e*Pn **Pn 04 00 50.0 +2.0**
TPRV Parvadeh(Tabas 9.82 121 *e*Pn **Pn 04 00 50.4 +2.0**
IPAY Payeh 10.02 98 *e*Pn **Pn 04 00 51.1 -0.3**
IPAR Pars 10.14 147 *e*Pn **Pn 04 00 54.7 +1.6**
BR131 Keskin Array S 10.19 281 *e*Pn **Pn 04 00 57.3 +3.8**
BR131 Keskin Array S 10.19 281 P Pn 04 00 59.0 +5.5
SNR=18
BRTR Keskin Array B 10.19 281 Pn **Pn 04 00 55.9 +2.4**
comp=Z,0.5nm,0.3s,baz=106,slow=11,SNR=79
BRTR LR LR 04 04 54.4
comp=Z,849nm,20.1s,baz=91,slow=38
ILGA Ilgaz 10.28 288 *e*Pn **Pn 04 00 58.3 +3.5**
MMA0B Mount Meron ar 10.66 242 Pn **Pn 04 01 03.5 +3.5**
ANTO Ankara 10.85 281 *e*Pn **Pn 04 01 05.3 +2.9**
ANTO Ankara 10.85 281 P Pn 04 01 09.0 +6.6
SNR=6.0
ANTO Ankara 10.85 281 *e*P **Pn 04 01 05.3 +2.9**
IMYA Miami 10.91 97 IAMB IAmb 04 01 09.0
comp=Z,747nm,0.6s
IMYA *e*Pn **Pn 04 01 03.3 -0.2**
BLGI Bet Lehem HaGe 10.97 242 Pn **Pn 04 01 07.3 +3.2**
MMLI Mount Malkishu 10.98 240 Pn **Pn 04 01 07.8 +3.5**
OFRI 'Ofer 11.17 242 Pn **Pn 04 01 09.7 +2.7**
CSS Mathiatis 11.27 256 *e*Pn **Pn 04 01 10.3 +2.2**
CSS Mathiatis 11.27 256 Pn **Pn 04 01 11.4 +3.2**
ITEG Tejag 11.31 116 *e*Pn **Pn 04 01 11.3 +2.3**
SIM Simferopol' 11.35 308 *e*P Pn 04 01 21.1 +12
SIM *e*S Sn 04 03 29.0 +13
SIM pmax pmax
comp=Z,37nm,0.3s
SLTI Sal'it 11.36 240 Pn **Pn 04 01 12.7 +3.3**
KHGB Koh Gabri 11.47 132 *e*Pn **Pn 04 01 14.8 +3.6**
IKOO Kooshah 11.76 117 *e*Pn **Pn 04 01 17.9 +2.8**
IKOO IAMB IAmb 04 05 43.9
comp=Z,360nm,1.4s
AMAZ Amatzia 11.88 238 Pn **Pn 04 01 19.0 +2.5**
ZFRI Zfri 12.35 233 Pn **Pn 04 01 25.4 +2.4**
RMNI Mount Ramon 12.58 235 Pn **Pn 04 01 29.4 +3.1**
PRNI Paran 12.60 233 Pn **Pn 04 01 28.6 +2.2**
KZIT Kziot 12.62 237 Pn **Pn 04 01 29.8 +3.1**
HRFI Mount Harif 12.79 232 Pn **Pn 04 01 31.7 +2.6**
MBRI Mt Berech 13.04 232 Pn **Pn 04 01 34.2 +1.7**
EIL Elat 13.10 231 Pn **Pn 04 01 35.3 +2.0**
comp=Z,0.1nm,0.3s,baz=27,slow=4.2,SNR=11
EIL Lg Lg 04 05 09.9
comp=Z,0.5nm,0.3s,baz=78,slow=20,SNR=2.0
EIL LR LR 04 07 09.8
comp=Z,841nm,18.3s,baz=50,slow=40
EIL Elat 13.10 231 Pn **Pn 04 01 35.0 +1.7**
VRH Novokhopyorsk 13.15 346 *e*P **Pn 04 01 34.6 +0.8**
VRH pmax pmax
comp=Z,100nm,1.4s
VRH MLR MLR
comp=Z,2µm,13.0s
VORD Divnogorie 13.49 340 *e*P **Pn 04 01 39.2 +0.8**
VORD pmax pmax
comp=Z,50nm,1.1s
GENO Geno 13.65 141 *e*Pn **Pn 04 01 41.0 0.0**
VSR Storozhevoye 13.75 340⇑*i*P **Pn 04 01 41.9 -0.1**
VORR Voronezh 14.15 341 *e*P **Pn 04 01 47.0 -0.5**
VORR pmax pmax
comp=Z,300nm,1.4s
AB31 Akbulak array 14.36 37 ⇑P **Pn 04 01 46.8 -3.6**
comp=Z,19nm,0.6s,baz=220,slow=13,SNR=3.6

AB31 ⇓S **Sn** **04 04 22.4 -7.4**
comp=Z,27nm,0.7s,baz=215,slow=24
ABKAR Akbulak array 14.36 37 *e*Pn **Pn** **04 01 47.1 -3.3**
AKTO Aktyubinsk 14.39 30 ⇓P **Pn** **04 01 46.6 -4.2**
comp=Z,69nm,0.9s
AKTO ⇑S **Sn** **04 04 24.0 -6.5**
comp=Z,57nm,0.8s
PSN Preselentsi 14.84 296 P **Pn** **04 01 58.9 +1.9**
TIRR Tirgusor 14.89 299 *e*Pn **Pn** **04 01 59.2 +1.6**
BANOM Banah 14.96 144 P **Pn** **04 02 00.7 +2.0**
SNR=9.3
BANOM Banah 14.96 144 *i* P **Pn** **04 01 57.6 -1.1**
SNR=13
RAYN Ar Rayn 14.98 184 *e*Pn **Pn** **04 01 54.4 -4.6**
RAYN Ar Rayn 14.98 184 P **Pn** **04 01 54.9 -4.2**
RAYN Ar Rayn 14.98 184 *e*P **Pn** **04 01 54.4 -4.6**
LPSR Galich'ya Gora 15.07 342 *e*P **Pn** **04 01 58.9 -1.1**
LPSR pmax pmax
comp=Z,70nm,1.1s
TLB Topalu 15.18 299 ⇑*i*P **P** **04 02 08.4 +1.7**
TLB Topalu 15.18 299 ⇑P **P** **04 02 08.4 +1.7**
MSFE Esma-Masafi 15.39 146 *i* P **Pn** **04 02 03.3 -1.0**
SNR=19
NAZ Nazwa, Dubai 15.50 148 P **Pn** **04 02 05.2 -0.6**
SNR=9.6
NAZ Nazwa, Dubai 15.50 148 *i* P **Pn** **04 02 05.1 -0.6**
SNR=9.0
MDH Madha 15.50 145 *i* P **Pn** **04 02 04.3 -1.6**
SNR=13
KIS Kishinev 15.58 309 *e*P **P** **04 02 09.0 -2.0**
KIS LRM MLR 04 09 10.0
comp=Z,900nm,15.0s
KIS Kishinev 15.58 309 *e*P **P** **04 02 09.0 -2.0**
KIS MLR MLR
comp=Z,900nm,15.0s
KIS MLR MLR
comp=Z,800nm,16.0s
ASUD Al Ashush, Dub 15.69 149 P **Pn** **04 02 08.4 +0.2**
SNR=7.3
ASUD Al Ashush, Dub 15.69 149 *i* P **Pn** **04 02 07.4 -0.9**
SNR=12
FAQ Al Faqa, Dubai 15.69 149 P **Pn** **04 02 07.5 -0.7**
SNR=8.3
FAQ Al Faqa, Dubai 15.69 149 *i* P **Pn** **04 02 06.8 -1.4**
SNR=10
LEOM Leova 15.71 306 ⇑*i*P **P** **04 02 13.8 +1.3**
LEOM Leova 15.71 306 ⇑P **P** **04 02 13.8 +1.3**
UOSS Minazif 15.77 146 *e*Pn **Pn** **04 02 08.1 -1.2**
comp=Z,30nm,0.9s
UOSS Minazif 15.77 146 P **Pn** **04 02 08.0 -1.2**
SNR=9.8
UOSS S **Sn** **04 05 04.1 -0.2**
UOSS Minazif 15.77 146 *i* P **Pn** **04 02 06.7 -2.7**
SNR=8.3
HATD Hatta, Dubai 15.84 147 P **Pn** **04 02 09.1 -1.2**
SNR=13
HATD Hatta, Dubai 15.84 147 *i* P **Pn** **04 02 08.4 -1.9**
SNR=8.7
ASHO Ashiyiah 15.94 147 P **Pn** **04 02 10.1 -1.4**
SNR=22
ASHO Ashiyiah 15.94 147 *i* P **Pn** **04 02 09.5 -2.0**
SNR=15
ALN Alexandroupoli 16.04 285 *e*Pn **Pn** **04 02 12.5 -0.2**
comp=Z,22nm,1.2s
ALN Alexandroupoli 16.04 285 *e*P **Pn** **04 02 12.5 -0.2**
ALN pmax pmax
comp=Z,22nm,1.2s
ODBI Odobesti 16.22 303 ⇓*i*P **P** **04 02 19.4 +1.3**
ISR Istrita 16.36 300 ⇑*i*P **P** **04 02 22.4 +2.6**
ISR Istrita 16.36 300 ⇑P **P** **04 02 22.4 +2.6**
SZH Strazhica 16.36 293 P **Pn** **04 02 17.5 +0.7**
ALNE Al Ain 16.36 149 *i* P **Pn** **04 02 16.0 -1.0**
SNR=18
VRI Vrincioaia 16.47 303 ⇑*i*P **P** **04 02 22.2 +1.3**
VRI Vrincioaia 16.47 303 ⇑P **P** **04 02 22.2 +1.3**
PLOR Plostina 16.51 303 ⇑*i*P **P** **04 02 22.3 +0.8**
PLOR Plostina 16.51 303 ⇑P **P** **04 02 22.3 +0.8**
MZR Muzera 16.53 157 *i* P **Pn** **04 02 18.0 -1.1**
SNR=9.2
KDZ Kurdzhali 16.55 288 P P 04 02 32.7 +11
APE Apeiranthos 16.76 272 ⇑*i*P **P** **04 02 25.8 +1.5**
APE Apeiranthos 16.76 272 ⇑P **P** **04 02 25.8 +1.5**
MLR Muntele Rosu 16.87 301 Pn **P** **04 02 26.3 +0.7**
comp=Z,0.3nm,0.3s,baz=176,slow=19,SNR=13
MLR LR LR 04 11 17.3
comp=Z,1μm,18.2s,baz=77,slow=46
MLR Muntele Rosu 16.87 301 *e*Pn **P** **04 02 25.1 -0.4**
comp=Z,49nm,1.3s
MLR Muntele Rosu 16.87 301 ⇑*i*P **P** **04 02 27.4 +1.9**
MLR Muntele Rosu 16.87 301 ⇑P **P** **04 02 27.4 +1.9**
SANT Santorini 16.97 269 *e*Pn **P** **04 02 25.8 -0.8**
comp=Z,27nm,1.0s
OZUR 17.16 303 ⇓*i*P **P** **04 02 29.8 +1.1**
BIZ Bicaz 17.25 306 ⇑*i*P **P** **04 02 29.8 +0.2**
AKASG Malin Array Be 17.34 320 P **Pn** **04 02 28.3 -0.8**
comp=Z,0.8nm,0.3s,baz=125,slow=12,SNR=18
AKASG LR LR 04 09 40.4
comp=Z,1μm,19.6s,baz=125,slow=39
KIEV Kiev 17.34 320 *e*Pn **Pn** **04 02 27.6 -1.5**
comp=Z,26nm,1.1s
KIEV Kiev 17.34 320 ⇑*e*P **Pn** **04 02 28.1 -1.0**
KIEV pmax pmax
comp=Z,22nm,1.3s
AK11 Malin Array Si 17.35 320 *e*Pn **Pn** **04 02 28.8 -0.4**
DOPR Dopca 17.39 302 ⇑*i*P **P** **04 02 32.8 +1.7**
MTUR Matau 17.40 300 ⇑*i*P **P** **04 02 33.8 +2.5**
MTUR Matau 17.40 300 ⇑P **P** **04 02 33.8 +2.5**
VOIR 17.46 300 ⇑*i*P **P** **04 02 33.6 +1.6**
VOIR 17.46 300 ⇑P **P** **04 02 33.6 +1.6**
PGB Panagyurishte 17.55 290 P **Pn** **04 02 30.9 -1.0**
IDI Anoyia 17.70 266 P **Pn** **04 02 33.7 -0.1**
comp=Z,0.4nm,0.3s,baz=83,slow=8.1,SNR=6.9
IDI LR LR 04 09 26.6
comp=Z,451nm,21.6s,baz=65,slow=38
IDI Anoyia 17.70 266 *e*Pn **P** **04 02 35.3 +0.6**
comp=Z,118nm,1.6s
IDI Anoyia 17.70 266 ⇑*i*P **P** **04 02 35.3 +0.6**
ARR Arges 17.73 300 ⇑*i*P **P** **04 02 35.9 +1.0**
OBN Obninsk 17.95 341 P **Pn** **04 02 36.1 -0.5**
comp=Z,0.8nm,0.3s,baz=347,slow=14,SNR=3.2
OBN LR LR 04 10 13.2
comp=Z,361nm,20.0s,baz=156,slow=39
OBN Obninsk 17.95 341 ⇓*e*P **P** **04 02 36.9 -0.2**
OBN *e*S **Sn** **04 05 54.6 -2.1**
OBN pmax pmax
comp=Z,7.0nm,0.5s
OBN MLR MLR
comp=Z,2μm,17.0s
BURAR Bucovina Array 18.06 307 ⇑*i*P **P** **04 02 38.9 +0.2**
BURAR Bucovina Array 18.06 307 ⇑P **P** **04 02 38.9 +0.2**
BUR04 Bucovina Ar. S 18.07 307 *e*Pn **P** **04 02 38.1 -0.6**
BUR08 Bucovina Ar. S 18.09 307 *e*Pn **P** **04 02 38.9 0.0**
SMDO Samad 18.23 144 P **P** **04 02 41.4 +0.7**
SNR=7.4
VTS Vitosha 18.26 290 *e*P **P** **04 02 41.6 +0.7**
comp=Z,27nm,1.4s
VTS Vitosha 18.26 290 ⇑*i*P **P** **04 02 43.6 +2.7**
VTS Vitosha 18.26 290 P **P** **04 02 42.7 +1.8**
VTS Vitosha 18.26 290 ⇑P **P** **04 02 43.6 +2.7**
MOS Moscow 18.26 344 *e*P **Pn** **04 02 37.8 -2.6**
MOS *e*S **Sn** **04 06 03.1 -1.2**
MOS pmax pmax
comp=Z,97nm,1.3s
MOS MLR MLR
comp=Z,1μm,18.0s
KKB Krupnik 18.30 288 P **P** **04 02 43.3 +2.0**
LOT Lotru 18.34 300 ⇑*i*P **P** **04 02 43.8 +2.1**
WSAR Wadi Sarin 18.35 143 P **P** **04 02 42.0 +0.1**
comp=Z,0.3nm,0.3s,baz=345,slow=13,SNR=8.3
WSAR LR LR 04 11 16.8
comp=Z,369nm,21.5s,baz=328,slow=42
WSAR Wadi Sarin 18.35 143 P **P** **04 02 41.6 -0.3**
SNR=7.5
WSAR S **S** **04 06 11.8 +0.1**
KBL Kabul 18.41 96 *e*Pn **Pn** **04 02 42.9 +0.2**
comp=Z,46nm,1.3s
KBL Kabul 18.41 96 *e*P **Pn** **04 02 42.9 +0.2**
KBL pmax pmax
comp=Z,46nm,1.3s
KK31 Karatay Array 18.61 68 ⇓P **P** **04 02 43.4 -1.2**
comp=Z,38nm,1.0s,baz=266,slow=14,SNR=14
KK31 Karatay Array 18.61 68 *e*P **P** **04 02 43.5 -1.0**
KK31 Karatay Array 18.61 68 *e*P **P** **04 02 43.6 -1.0**
KKAR Karatay Array 18.61 68 *e*P **P** **04 02 43.5 -1.0**
KKAR Karatay Array 18.61 68 *e*P **P** **04 02 43.6 -1.0**

AGG Agios Georgios 18.97 279 *e*P **P** **04 02 48.1 -0.5**
comp=Z,33nm,1.1s
AGG Agios Georgios 18.97 279 *e*P **P** **04 02 48.1 -0.5**
AGG pmax pmax
comp=Z,33nm,1.1s
STIP Stip 18.97 287 *i* P **Pn** **04 02 48.5 -0.7**
DRGR 19.40 303 ⇓*i*P **Pn** **04 02 54.5 +0.1**
DRGR 19.40 303 ⇓P **Pn** **04 02 54.5 +0.1**
SKO Skopje 19.53 288 *i* P **P** **04 02 51.1 -3.7**
FNA Florina 19.58 285 *e*P **Pn** **04 02 56.6 0.0**
comp=Z,32nm,1.1s
ARU Arti 19.59 20 P **P** **04 02 55.1 -0.2**
ARU LR LR 04 12 31.8
comp=Z,313nm,19.1s,baz=213,slow=43
ARU Arti 19.59 20 *e*P **P** **04 02 55.0 -0.2**
comp=Z,58nm,0.9s
ARU Arti 19.59 20*c i*P **P** **04 02 54.2 -1.0**
ARU S **S** **04 06 33.7 -2.7**
ARU pmax pmax
comp=Z,115nm,1.7s
ARU MLR MLR
comp=Z,736nm,18.0s
BIA Bitola 19.61 285 *i* P **Pn** **04 02 58.5 +1.5**
MDVR Moldovita 19.62 297 ⇓*i*P **Pn** **04 02 57.0 -0.1**
LVV L'vov 19.69 312 *e*P **Pn** **04 02 57.0 -0.8**
LVV *e*S **S** **04 06 38.0 -0.5**
BZS Buzias 19.85 299 ⇑*i*P **Pn** **04 02 58.9 -0.8**
BZS Buzias 19.85 299 ⇑P **Pn** **04 02 58.9 -0.8**
TRPA Tarpa 19.93 307 ⇑*i*P **P** **04 02 59.3 +0.3**
TRPA Tarpa 19.93 307 ⇑*e*P **Pn** **04 03 00.8 +0.2**
SIRR Siria 19.96 301 ⇑*i*P **Pn** **04 03 00.3 -0.8**
OHR Ohrid 20.01 286 *i* P **Pn** **04 03 02.6 +0.9**
MNAS Manas 20.02 70 ⇓P Pn 04 03 02.3 +0.4
comp=Z,15nm,1.3s
LTVH L"tav"rtes, 20.10 304 ⇑*e*P Pn 04 03 03.8 +1.1
UZH Uzhgorod 20.26 308 ⇑*i*P **P** **04 03 02.3 -0.3**
UZH *e* 04 03 08.5
UZH *e*S **S** **04 06 46.0 -3.8**
KWP Kalwaria Pacla 20.39 311 *e*P Pn 04 03 05.8 -0.3
KWP Kalwaria Pacla 20.39 311 *e*P Pn 04 03 05.8 -0.3
MICGM Minsk 20.45 328 *e*P Pn 04 03 06.0 -0.7
MICGM *e*LR LR 04 10 20.0
SVE Sverdlovsk 20.52 22*ce*P Pn 04 03 06.5 -1.0
SVE *e*S **S** **04 06 49.9 -5.0**
SVE pmax pmax
comp=Z,135nm,1.1s
DIVS Divibare 20.75 294 *e*P **P** **04 03 07.9 -0.1**
comp=Z,47nm,1.2s
DIVS Divibare 20.75 294 *e*P **P** **04 03 07.7 -0.3**
SFK Sufi-Kurgan 20.82 77 ⇓P Pn 04 03 11.2 -0.2
comp=Z,28nm,1.2s
AML Almayashu 20.89 71 P Pn 04 03 16.2 +3.8
SNR=8.7
OTUK Ortayu 20.96 54 ⇓P **P** **04 03 10.2 0.0**
comp=Z,60nm,1.2s
OTUK ⇑S **S** **04 06 59.4 -4.5**
comp=Z,32nm,1.3s
EKS2 Erkin-Say 20.97 70 P Pn 04 03 11.8 -1.2
SNR=16
FRGS Fruska Gora 21.02 297 *e*P **P** **04 03 11.1 +0.3**
NACGM Naroch 21.19 327 *e*P **P** **04 03 10.0 -2.6**
NACGM PM 04 03 18.0
comp=Z,2.4nm,1.0s
NACGM *e*S **S** **04 07 10.0 +1.8**
NACGM *e*SS **SnSn** **04 07 44.0 +14**
NACGM *e*LQ LQ 04 10 24.0
NACGM *e*LR LR 04 11 41.0
NACGM LRM MLR 04 11 58.0
comp=Z,2.7nm,18.0s
KECS Kecovo 21.34 306 *e*P **P** **04 03 14.9 +0.6**
KECS pmax pmax
comp=Z,20nm,0.9s
KECS Kecovo 21.34 306 *e*P **P** **04 03 14.9 +0.6**
WHFO Wadi Hawf 21.45 161 P **P** **04 03 14.0 -1.6**
SNR=9.7
UPM Unac-Piva 21.46 291 *e*P **P** **04 03 15.7 -0.1**
HAPS Han Pijesak,BI 21.49 294 *e*P **P** **04 03 16.8 +0.7**
IDID Didziasalis 21.49 328 *e*P **P** **04 03 15.7 -0.1**
IDID IAmb IAmb 04 03 20.5
comp=Z,22nm,0.7s
AAK Ala-Archa 21.50 70 P **P** **04 03 17.3 +1.1**
comp=Z,10nm,1.0s,baz=240,slow=14,SNR=24
AAK LR LR 04 13 38.5
comp=Z,524nm,18.3s,baz=266,slow=42
AAK Ala-Archa 21.50 70 *e*P **P** **04 03 17.7 +1.5**
comp=Z,55nm,1.0s
AAK Ala-Archa 21.50 70 P **P** **04 03 19.4 +3.2**
SNR=35
AAK Ala-Archa 21.50 70 *i* P **P** **04 03 18.1 +1.9**
SNR=42
AAK Ala-Archa 21.50 70⇓*e*P **P** **04 03 14.0 -2.2**
AAK pmax pmax
comp=Z,35nm,2.5s
UCH Uchtor 21.50 71 P **P** **04 03 20.0 +3.4**
SNR=8.4
PSZ Piszkesteto 21.55 304 *e*P **P** **04 03 17.1 +0.4**
comp=Z,60nm,1.3s
PSZ Piszkesteto 21.55 304 ⇑*e*P **P** **04 03 18.6 +1.9**
PSZ Piszkesteto 21.55 304 *e*P **P** **04 03 17.1 +0.4**
PSZ pmax pmax
comp=Z,60nm,1.3s
FRU Bishkek 21.59 70 *e*P **P** **04 03 18.0 +0.9**
FRU *e* 04 03 32.0
FRU pmax pmax
comp=Z,280nm,1.6s
CHMS Chumysh 21.70 69 P **P** **04 03 24.8 +6.6**
SNR=11
BRY Bratogost 21.71 291 *e*P **P** **04 03 19.4 +0.9**
IIGN Ignalina 21.73 327 *e*P **P** **04 03 18.4 0.0**
IIGN IAmb IAmb 04 03 22.2
comp=Z,18nm,0.6s
BRZS Berezniki 21.76 50 ⇑*i*P **P** **04 03 18.9 0.0**
comp=Z,78nm,2.0s
BRZS *e*S **S** **04 07 19.6 0.0**
NIE Niedzica 21.76 309 *e*P **P** **04 03 20.5 +1.6**
NIE Niedzica 21.76 309 *e*P **P** **04 03 20.5 +1.6**
BRVK Borovoye 21.83 41 ⇑P **P** **04 03 19.7 +0.2**
comp=Z,46nm,1.1s
BRVK ⇑S **S** **04 07 16.2 -4.7**
comp=Z,28nm,1.1s
BRVK Borovoye 21.83 41 *e*P **P** **04 03 20.0 +0.5**
BRVK *e*S **S** **04 07 21.6 +0.7**
BRVK Borovoye 21.83 41 P **P** **04 03 19.7 +0.2**
SNR=19
BRVK Borovoye 21.83 41*ce*P **P** **04 03 19.4 -0.1**
BRVK pmax pmax
comp=Z,33nm,1.3s
KBK Karagaybulak 21.83 70 P **P** **04 03 25.6 +5.8**
SNR=11
BVA0 Borovoye Array 21.87 41 ⇓P **P** **04 03 19.6 -0.3**
comp=Z,51nm,1.1s
BVA0 ⇑S **S** **04 07 17.4 -4.2**
comp=Z,26nm,1.1s
BVAR Borovoye Array 21.87 41 LR LR 04 13 24.9
comp=Z,278nm,19.5s,baz=242,slow=41
ISAL Salakas 21.92 328 *e*P **P** **04 03 20.6 +0.2**
ISAL IAmb IAmb 04 03 27.4
comp=Z,28nm,1.2s
IZAR Zarasai 21.99 328 *e*P **P** **04 03 21.5 +0.3**
IZAR IAmb IAmb 04 03 27.2
comp=Z,30nm,0.9s
MORH M¨ţr¡gy, Hung 22.00 299 ⇑*e*P **P** **04 03 21.6 +0.2**
MORH M¨ţr¡gy, Hung 22.00 299 *e*P **P** **04 03 20.9 -0.5**
BUD Budapest 22.01 303 ⇑*e*P **P** **04 03 23.4 +1.9**
SUW Suwalki 22.28 322 *e*P **P** **04 03 24.1 -0.2**
SUW Suwalki 22.28 322 *e*P **P** **04 03 24.1 -0.2**
TKM2 Tokmak 2 22.32 69 ⇑P **P** **04 03 27.0 +1.9**
comp=Z,63nm,1.3s
TKM2 Tokmak 2 22.32 69 P **P** **04 03 24.9 -0.2**
SNR=17
VYHS Vyhne 22.39 305 *e*P **P** **04 03 26.6 +1.0**
VYHS pmax pmax
comp=Z,25nm,1.4s
VYHS Vyhne 22.39 305 *e*P **P** **04 03 26.6 +1.0**
NRN Naryn 22.63 73 *e*P **P** **04 03 29.7 +1.2**
comp=Z,54nm,1.1s
NRN Naryn 22.63 73 *e*P **P** **04 03 29.7 +1.2**
NRN pmax pmax
comp=Z,54nm,1.1s
TIH Tihany 22.64 301 ⇓*e*P **P** **04 03 32.2 +4.0**
KSH Kashi 22.76 78 P **P** **04 03 29.1 -0.6**
KSH PP **PnPn** **04 03 56.1 +2.6**
KSH S **S** **04 07 31.6 -7.2**
KSH SS **SnSn** **04 08 11.8 +3.1**

KSH pmax pmax
comp=Z,25nm,0.7s
KSH pmax pmax
comp=Z,390nm,4.1s
KSH LR LR
KSH LR LR
comp=Z,900nm,8.4s
KSH LR LR
comp=Z,1μm,19.0s
ULHL Ulahol 22.79 71 P **P** **04 03 33.7 +3.6**
SNR=12
BLY Banja Luka 22.81 295 *e*P **P** **04 03 30.8 +0.7**
comp=Z,13nm,0.8s
BLY Banja Luka 22.81 295 *e*P **P** **04 03 30.1 0.0**
PRGR Permogore 23.15 359 ⇑*i*P **P** **04 03 32.5 -0.9**
PRGR *e*S **S** **04 07 47.9 +3.0**
PRGR pmax pmax
comp=Z,40nm,0.7s
JAVC Velka Javorina 23.24 306 *e*P **P** **04 03 37.1 +2.6**
TIP Timpagrande 23.25 281 *e*P **P** **04 03 34.0 -0.7**
comp=Z,55nm,1.3s
BEHE Becsehely 23.32 300 ⇑*e*P **P** **04 03 37.6 +2.3**
MODS Modra-Piesok 23.36 304 *e*P **P** **04 03 36.0 +0.2**
MODS pmax pmax
comp=Z,40nm,1.4s
MODS Modra-Piesok 23.36 304 *e*P **P** **04 03 36.0 +0.2**
MDOK Medeo 23.39 69 *i* P **P** **04 03 37.8 +1.6**
comp=Z,463nm,1.7s
MDOK *e*S **S** **04 07 51.5 +2.0**
KDJ Kajisay 23.49 71 *e*P **P** **04 03 40.9 +3.7**
comp=Z,32nm,0.9s
KDJ Kajisay 23.49 71 *e*P **P** **04 03 40.9 +3.7**
KDJ pmax pmax
comp=Z,33nm,0.9s
MORC Moravsky Berou 23.58 308 *e*P **P** **04 03 39.3 +1.4**
comp=Z,41nm,1.7s
MORC Moravsky Berou 23.58 308 *e*P **P** **04 03 39.3 +1.4**
MORC pmax pmax
comp=Z,41nm,1.7s
MORC Moravsky Berou 23.58 308 *e*P **P** **04 03 39.1 +1.2**
SOP Sopron 23.68 302 ⇑*e*P **P** **04 03 40.3 +1.4**
VSU Vasula 23.76 334 *e*P **P** **04 03 39.1 -0.3**
VSU IAmb IAmb 04 03 40.7
comp=Z,115nm,0.6s
VSU Vasula 23.76 334*c i*P **P** **04 03 39.9 +0.5**
CUC Castrocucco 23.87 283 *e*P **P** **04 03 42.2 +1.4**
comp=Z,32nm,1.1s
DAMY Dhamar 23.94 185 *e*P **P** **04 03 42.9 +1.1**
comp=Z,66nm,1.1s
VRAC Vranov 24.04 306 P **P** **04 03 41.3 -1.0**
comp=Z,8.2nm,0.8s,baz=96,slow=8.4,SNR=14
VRAC LR LR 04 14 54.4
comp=Z,544nm,20.0s,baz=88,slow=41
VRAC Vranov 24.04 306 *e*P **P** **04 03 43.0 +0.7**
KRUC Moravsky 24.10 306 *e*P **P** **04 03 43.0 +0.1**
CRES Cresnjev 24.14 298 *e*P **P** **04 03 41.7 -1.5**
CONA Conrad Observa 24.19 303 *i* pP **P** **04 03 45.2 +1.4**
comp=Z,28nm,1.4s,SNR=11
BOJS Bojanci 24.25 297 *i* P **P** **04 03 46.6 +2.3**
BOJS Bojanci 24.25 297 *i* P **P** **04 03 46.6 +2.3**
ARSA Arzberg 24.29 301 *i* pP **P** **04 03 45.7 +1.0**
comp=Z,36nm,1.6s,SNR=8.9
SATY Saty 24.38 69 ⇑*i*P **P** **04 03 47.2 +1.6**
comp=Z,78nm,2.1s
SATY *e*S **S** **04 08 07.5 +2.1**
SATY LR LR 04 12 52.2
comp=Z,42nm,12.0s
PERS Pernice 24.47 300 *i* P **P** **04 03 48.3 +1.9**
PERS Pernice 24.47 300 *i* P **P** **04 03 48.3 +1.9**
DPC Dobruska-Polom 24.50 309 *e*P **P** **04 03 46.6 0.0**
DPC *e*pP **sP** **04 03 51.8 +1.9**
DPC *e*S **S** **04 08 13.6 +6.6**
DPC AMS AMS 04 14 00.0
comp=Z,500nm,16.8s
DPC Dobruska-Polom 24.50 309 *e*P **P** **04 03 46.6 0.0**
DPC *e* 04 03 51.8
DPC MLR MLR
comp=Z,500nm,16.8s
SOKA Soboth 24.54 300 *i* pP **P** **04 03 47.7 +0.7**
comp=Z,38nm,1.1s,SNR=16
VISS Visnje 24.57 297 *e*P **P** **04 03 48.5 +1.4**
VISS Visnje 24.57 297 *e*P **P** **04 03 48.5 +1.4**
KPKS Kokpek 24.59 68 *e*P **P** **04 03 48.3 +0.8**
comp=Z,77nm,2.7s
KSP Ksiaz 24.67 310 *e*P **P** **04 03 50.4 +2.4**
KSP Ksiaz 24.67 310 *e*P **P** **04 03 50.4 +2.4**
LJU Ljubljana 24.81 298 *e*P **P** **04 03 51.4 +2.1**
UZB Uzynbulak 24.83 69 *i* P **P** **04 03 51.1 +1.4**
comp=Z,39nm,3.1s
UZB LR LR 04 13 31.1
comp=Z,17nm,11.5s
CEY Cerknica 24.85 297 *e*P **P** **04 03 49.0 -0.7**
OBKA Obir 24.85 299 *i* pP **P** **04 03 50.6 +0.9**
comp=Z,13nm,0.8s
JAVS Javornik 25.11 298 *i* P **P** **04 03 53.1 +0.9**
JAVS Javornik 25.11 298 *i* P **P** **04 03 53.1 +0.9**
SHLS Shalkode 25.15 69 *e*P **P** **04 03 56.9 +4.2**
comp=Z,47nm,3.4s
SHLS LR LR 04 13 46.8
comp=Z,18nm,10.8s
PDGK Podgornoye 25.17 68 ⇑P **P** **04 03 53.1 +0.4**
comp=Z,24nm,1.2s
MOA Molln 25.23 302 *i* pP **P** **04 03 52.8 -0.4**
comp=Z,23nm,1.1s,SNR=9.0
MYKA Terra Mystica 25.48 299 *i* sP **P** **04 03 57.5 +2.1**
comp=Z,10.0nm,0.9s
AQU L'Aquila 25.50 289 *e*P **P** **04 03 57.0 +1.3**
KURBB Kurchatov Arra 25.52 51 P **P** **04 03 56.9 +1.2**
comp=Z,12nm,0.8s,baz=262,slow=9.8,SNR=49
KURBB Kurchatov Arra 25.52 51 ⇑P **P** **04 03 55.9 +0.2**
comp=Z,67nm,1.4s
PRA Prague 25.59 307 *e*P **P** **04 03 57.1 +0.8**
PRA *e*S S 04 08 37.9 +14
PRA Prague 25.59 307 *e*P **P** **04 03 57.1 +0.8**
KURK Kurchatov 25.60 51 ⇓P **P** **04 03 57.1 +0.7**
comp=Z,67nm,1.4s
KURK Kurchatov 25.60 51 *e*P **P** **04 03 56.6 +0.2**
KURK Kurchatov 25.60 51 P **P** **04 03 57.7 +1.3**
SNR=27
KURK Kurchatov 25.60 51*c i*P **P** **04 03 57.0 +0.6**
KURK pmax pmax
comp=Z,66nm,1.3s
PVCC Panska Ves 25.62 308 *e*P **P** **04 03 57.7 +1.0**
PVCC Panska Ves 25.62 308 *e*P **P** **04 03 57.7 +1.0**
KBA Koelnbreinsper 25.74 300 *i* pP **P** **04 03 57.9 -0.1**
comp=Z,12nm,0.7s
GEA0 GERESS Array S 25.78 304 *e*P **P** **04 03 57.3 -0.9**
GEC2 GERESS Array S 25.78 304 *e*P **P** **04 03 57.9 -0.3**
comp=Z,34nm,0.7s
GEC2 GERESS Array S 25.78 304 *e*P **P** **04 03 57.9 -0.3**
GEC2 pmax pmax
comp=Z,34nm,0.7s
GERES GERESS Array B 25.78 304 P **P** **04 03 57.9 -0.3**
comp=Z,22nm,0.6s,baz=104,slow=8.3,SNR=131
GERES LR LR 04 16 21.3
comp=Z,389nm,18.4s,baz=102,slow=42
KHC Kasperske Hory 25.92 305 *e*P **P** **04 03 59.4 0.0**
comp=Z,17nm,1.5s
KHC Kasperske Hory 25.92 305 *e*P **P** **04 03 59.1 -0.3**
KHC *e*pP **sP** **04 04 05.1 +2.4**
KHC *e*S S 04 08 40.5 +11
KHC AMS AMS 04 16 20.0
comp=Z,400nm,13.9s
KHC Kasperske Hory 25.92 305 *e*P **P** **04 03 59.4 0.0**
KHC pmax pmax
comp=Z,17nm,1.5s
BRG Berggiesshubel 26.10 309 *e*P **P** **04 04 01.9 +0.8**
comp=Z,3.1nm,0.8s
BRG Berggiesshubel 26.10 309 *e*P **P** **04 04 04.7 +3.8**
comp=Z,8.7nm,1.1s
BRG S **S** **04 08 41.0 +8.6**
comp=Z,414nm,14.4s
comp=N,465nm,14.3s
comp=E,272nm,14.3s
BRG Berggiesshubel 26.10 309 *e*P **P** **04 04 01.8 +0.8**
FIA1 FINESS Array S 26.26 338 *e*P **P** **04 04 01.5 -0.8**
FINES FINESS Array B 26.26 338 P **P** **04 04 01.9 -0.4**
comp=E,4.6nm,0.7s,baz=133,slow=11,SNR=11
FINES LR LR 04 15 34.9
comp=E,911nm,18.4s,baz=124,slow=39
ABTA Abfaltersbach 26.27 299 *i* pP **P** **04 04 03.7 +1.1**
comp=E,6.9nm,0.8s
CLL Collm 26.79 309 *e*P **P** **04 04 07.0 -0.2**
comp=E,15nm,0.9s
CLL Collm 26.79 309 *e*(P) **P** **04 04 07.0 -0.2**
comp=Z,20nm,1.0s
CLL *i* 04 04 16.3

CLL ePP PnPn 04 04 45.0 -3.3
CLL eS S 04 08 48.0 +4.7
CLL eSS SnSn 04 09 48.0 +1.2
CLL LmV 04 17 00.0
comp=Z,400nm,18.4s
CLL Collm 26.79 309 eP P 04 04 07.0 -0.2
CLL i 04 04 16.3
CLL pmax pmax
comp=Z,20nm,1.0s
CLL MLR MLR
comp=Z,400nm,18.4s
NKC Novy Kostel 26.87 307 eP P 04 04 08.6 +0.6
NKC Novy Kostel 26.87 307 eP P 04 04 08.6 +0.6
WTTA Wattenberg 26.92 300 i pP P 04 04 09.7 +1.0
comp=Z,19nm,0.9s
WATA Walderalm 26.96 300 i P P 04 04 08.8 -0.2
comp=Z,14nm,0.8s
ATD Arta Tunnel 27.09 188 LR LR 04 15 27.1
comp=Z,278nm,18.6s,baz=4.5,slow=38
NDI New Delhi 27.17 102 eP P 04 04 13.0 +2.1
SQTA Sankt Quirin 27.20 300 i P P 04 04 10.0 -1.1
comp=Z,30nm,1.4s,SNR=6.8
MOTA Moosalm 27.29 300 i P P 04 04 10.6 -1.3
comp=Z,19nm,1.0s,SNR=10
MK31 Makanchi Array 27.29 61 ⇑P P 04 04 15.6 +3.8
comp=Z,8.7nm,0.8s,baz=268,slow=8.3,SNR=48
MK31 Makanchi Array 27.29 61 eP P 04 04 12.1 +0.3
MK31 Makanchi Array 27.29 61 eP P 04 04 12.1 +0.3
MKAR Makanchi Array 27.29 61 P P 04 04 13.3 +1.5
comp=Z,8.3nm,0.8s,baz=263,slow=6.8,SNR=15
MKAR LR LR 04 15 52.5
comp=Z,195nm,19.0s,baz=256,slow=38
MK01 Makanchi Array 27.30 61 eP P 04 04 12.6 +0.7
FETA Feichten 27.51 300 i P P 04 04 12.4 -1.6
comp=Z,17nm,1.1s,SNR=7.5
RETA Reutte 27.53 301 i P P 04 04 12.8 -1.2
comp=Z,9.9nm,0.7s
GRFO Grafenberg 27.54 305 eP P 04 04 14.7 +0.8
comp=Z,4.5nm,0.6s
GRFO Grafenberg 27.54 305 eP P 04 04 14.7 +0.8
GRFO pmax pmax
comp=Z,5.0nm,0.6s
FUORN Ofenpass-Fuorn 27.80 299 eP P 04 04 16.9 +0.3
comp=Z,54nm,1.8s
DAVOX Davos/Dischmat 28.07 299 P P 04 04 18.0 -1.0
comp=Z,6.8nm,0.7s,baz=99,slow=8.3,SNR=14
DAVOX LR LR 04 17 33.9
comp=Z,500nm,19.7s,baz=83,slow=41
DAVOX Davos/Dischmat 28.07 299 P P 04 04 18.0 -1.0
DAVOX pmax pmax
comp=Z,9.0nm,0.6s
DAVOX MLR MLR
comp=Z,500nm,19.7s
DAVA Damuels 28.11 300 i pP P 04 04 18.0 -1.3
comp=Z,25nm,1.1s,SNR=6.5
TUE Stuetta 28.42 298 eP P 04 04 22.1 0.0
comp=Z,56nm,1.8s
NVS Novosibirsk 29.51 44 eP P 04 04 33.3 +1.9
NVS pmax pmax
comp=Z,25nm,1.8s
NVS pmax pmax
comp=E,7.0nm,1.1s
KEST Kesra 29.75 276 P P 04 04 34.7 +0.8
comp=E,6.4nm,0.9s,baz=317,slow=7.5,SNR=4.8
KEST LR LR 04 18 17.2
comp=E,410nm,18.2s,baz=334,slow=40
SENIN Lac Senin/Sane 29.84 298 eP P 04 04 34.5 -0.1
comp=E,39nm,1.8s
HFS Hagfors 29.96 327 P P 04 04 34.3 -1.1
comp=E,9.8nm,0.8s,baz=128,slow=12,SNR=11
HFS LR LR 04 17 18.7
comp=E,1µm,19.7s,baz=122,slow=38
ECH Echery 30.01 302 eP P 04 04 35.3 -0.7
comp=E,6.8nm,1.2s
ECH Echery 30.01 302 eP P 04 04 35.3 -0.7
ECH pmax pmax
comp=Z,7.0nm,1.2s
APA Apatity 30.03 350⇑ i P P 04 04 30.6 -5.3
APA pmax pmax
comp=Z,7.0nm,1.1s
APA MLR MLR
comp=Z,1µm,13.0s
ZALV Zalesovo Beam 30.14 47 P P 04 04 38.7 +1.7
comp=Z,0.9nm,0.4s,baz=284,slow=6.0,SNR=5.2
ZALV LR LR 04 18 54.1
comp=Z,673nm,18.4s,baz=250,slow=41
ZALV Zalesovo Beam 30.14 47 eP P 04 04 36.9 -0.1
BNI Bardonecchia 30.28 295 eP P 04 04 38.0 -0.5
comp=Z,19nm,1.0s
BNI Bardonecchia 30.28 295 eP P 04 04 38.1 -0.5
BNI pmax pmax
comp=Z,19nm,1.0s
WLF Walferdange 30.80 304 eP P 04 04 43.7 +0.8
comp=Z,23nm,1.5s
WLF Walferdange 30.80 304 eP P 04 04 43.7 +0.8
WLF pmax pmax
comp=Z,23nm,1.5s
DGZ Jazzator, Alta 30.98 55c i P P 04 04 45.4 +0.8
DGZ pmax pmax
comp=Z,8.0nm,1.1s
MEM Membach 30.99 306⇑P P 04 04 45.2 +0.6
WMQ Urumqi 31.11 67 P P 04 04 47.3 +1.5
WMQ sP sP 04 04 57.3 +8.2
WMQ S S 04 09 59.5 +8.0
WMQ ScS ScS 04 15 21.9 +0.7
WMQ pmax pmax
comp=Z,41nm,1.5s
WMQ pmax pmax
comp=Z,310nm,4.9s
WMQ LR LR
comp=Z,840nm,16.1s
WMQ LR LR
comp=Z,870nm,16.1s
WMQ LR LR
comp=Z,450nm,20.1s
NC405 NORSAR Array S 31.30 328 eP P 04 04 45.9 -1.3
BCLA Clavier 31.42 306⇑P P 04 04 50.3 +1.9
NB2 NORSAR Subarra 31.48 327 P P 04 04 46.9 -1.9
comp=Z,4.3nm,0.8s,baz=122,slow=8.6
NOA NORSAR Array B 31.48 327 P P 04 04 46.9 -1.9
comp=Z,3.0nm,0.8s,baz=121,slow=8.4,SNR=14
NOA LR LR 04 18 15.5
comp=Z,1µm,19.5s,baz=120,slow=38
KONO Kongsberg 31.55 324 eP P 04 04 49.1 -0.2
comp=Z,14nm,0.8s
KONO Kongsberg 31.55 324⇑ eP P 04 04 49.4 0.0
KONO pmax pmax
comp=Z,14nm,0.9s
SSB Saint Sauveur 31.78 296 eP P 04 04 51.6 -0.1
comp=Z,8.7nm,0.7s
SSB Saint Sauveur 31.78 296 eP P 04 04 51.6 -0.1
SSB pmax pmax
comp=Z,9.0nm,0.7s
DOU Dourbes 31.84 305 ⇓P P 04 04 52.8 +0.8
PYUN Piuthan 31.91 98 eP P 04 04 53.9 +0.7
comp=Z,26nm,0.8s
DANN Dangsing 32.39 97 eP P 04 04 58.7 +1.2
comp=Z,100nm,0.9s
KOLN Koldanda 32.54 98 eP P 04 04 59.6 +0.9
comp=Z,104nm,1.5s
ARCES ARCESS Array B 33.08 347 P P 04 05 02.9 +0.1
comp=Z,3.6nm,0.6s,baz=146,slow=7.2,SNR=24
ARCES LR LR 04 19 31.0
comp=Z,43nm,18.1s,baz=154,slow=38
ARCES ARCESS Array B 33.08 347 eP P 04 05 03.2 +0.5
ARCES ARCESS Array B 33.08 347 eP P 04 05 03.2 +0.5
DMN Daman 33.79 97 eP P 04 05 10.6 +0.9
comp=Z,103nm,1.2s
KKN Kakani 33.84 97 eP P 04 05 10.5 +0.5
PKIN Phulchoki 34.03 97 eP P 04 05 12.5 +0.7
comp=Z,87nm,1.6s
PKI Pulchoki 34.05 97 eP P 04 05 12.6 +0.6
comp=Z,111nm,1.5s
GUN Gumba 34.25 96 eP P 04 05 14.4 +0.6
comp=Z,76nm,1.2s
JIRN Jiri 34.61 96 eP P 04 05 17.9 +1.0
comp=Z,66nm,0.9s
HVS Khovu-Aksy 35.08 53⇓ eP P 04 05 21.8 +1.5
HVS pmax pmax
comp=Z,11nm,1.0s
RAMN Ramite 35.27 97 eP P 04 05 23.1 +0.6
comp=Z,40nm,0.7s
GDLE Glaisdale, N Y 35.59 312 eP P 04 05 25.4 +0.7
GDLE IAmb IAmb 04 05 25.4
comp=Z,54nm,1.0s
ODAN Odare 35.93 97 eP P 04 05 29.3 +1.2
comp=Z,178nm,1.3s
TAPN Taplejung 35.95 96 eP P 04 05 29.2 +0.9
comp=Z,26nm,0.7s
HPK Haverah Park 36.02 311 eP P 04 05 28.5 +0.2
HPK IAmb IAmb 04 05 29.4
comp=Z,17nm,0.7s
EDMD Edmundbyers 36.30 313 eP P 04 05 31.0 +0.3
EDMD IAmb IAmb 04 05 32.2
comp=Z,20nm,0.7s
HLM1 Long Mynd 36.68 309 eP P 04 05 34.4 +0.5
HLM1 IAmb IAmb 04 05 35.4
comp=Z,12nm,1.0s
MCH1 Michaelchurch 36.73 308 eP P 04 05 34.5 +0.1
FOEL Foel Wylfa 36.89 309 eP P 04 05 36.3 +0.6
FOEL IAmb IAmb 04 05 37.6
comp=Z,24nm,0.7s
ESK Eskdalemuir 37.06 314 eP P 04 05 37.2 0.0
comp=Z,12nm,0.7s
ESK Eskdalemuir 37.06 314 eP P 04 05 37.4 +0.2
ESK Eskdalemuir 37.06 314 eP P 04 05 37.2 0.0
ESK pmax pmax
comp=Z,12nm,0.7s
KNGR Kungurtug, Tuv 37.49 54⇓ eP P 04 05 43.0 +2.0
LSA Lhasa 37.57 90 eP P 04 05 42.9 +0.5
comp=Z,13nm,0.8s
LSA Lhasa 37.57 90 eP P 04 05 42.9 +0.5
LSA pmax pmax
comp=Z,13nm,0.8s
NRIK Noril'sk 37.79 22 P P 04 05 44.4 +1.2
comp=Z,2.7nm,0.5s,baz=200,slow=8.9,SNR=5.3
NRIK LR LR 04 25 01.2
comp=Z,414nm,18.5s,baz=230,slow=42
TAM Tamanrasset 38.36 258 eP P 04 05 48.9 +0.2
comp=Z,11nm,0.9s
TAM Tamanrasset 38.36 258 eP P 04 05 48.9 +0.2
TAM pmax pmax
comp=Z,11nm,0.9s
ES19 SONSECA Array 38.82 288 eP P 04 05 52.1 -0.2
ES19 ePcP PcP 04 08 03.7 +0.2
ESDC Sonseca Array 38.88 288 P P 04 05 51.5 -1.3
comp=Z,1.6nm,0.7s,baz=68,slow=8.9,SNR=11
ESDC LR LR 04 23 29.7
comp=Z,170nm,18.5s,baz=35,slow=39
ESLA Sonseca Array 38.88 288 eP P 04 05 51.8 -1.0
comp=Z,27nm,1.5s
MOY Mondy 39.64 52 eP P 04 06 01.0 +1.9
MOY pmax pmax
comp=Z,30nm,2.3s
KMBO Kilima Mbogo 40.39 195 P P 04 06 07.8 +2.0
comp=Z,1.2nm,0.8s,baz=347,slow=10.0,SNR=4.6
KMBO Kilima Mbogo 40.39 195 eP P 04 06 05.6 -0.1
comp=Z,2.8nm,1.1s
KMBO Kilima Mbogo 40.39 195 eP P 04 06 05.6 -0.1
KMBO pmax pmax
comp=Z,3.0nm,1.1s
GTA Gaotai 40.84 71 eP P 04 06 10.1 +0.9
GTA pP sP 04 06 14.3 +1.8
GTA sP pP 04 06 17.5 +5.9
GTA pmax pmax
comp=Z,11nm,1.5s
GTA LR LR
comp=Z,250nm,18.2s
GTA LR LR
comp=Z,230nm,16.1s
GTA LR LR
comp=Z,260nm,16.8s
ZAK Zakamensk 41.17 54 eP P 04 06 13.0 +1.2
ZAK pmax pmax
comp=Z,5.0nm,1.7s
SPITS Spitsbergen Ar 41.71 351 P P 04 06 14.3 -1.4
comp=Z,1.3nm,0.4s,baz=78,slow=14,SNR=3.6
SONM Songino Array 43.56 58 P P 04 06 31.6 +0.3
comp=Z,0.9nm,0.6s,baz=278,slow=8.8,SNR=5.8
SONM PcP PcP 04 08 16.3 -2.5
comp=Z,1.3nm,1.1s,baz=306,slow=5.2,SNR=3.7
SONM LR LR 04 27 27.7
comp=Z,227nm,18.8s,baz=250,slow=40
SONA1 Songino Array 43.56 58 eP P 04 06 31.3 0.0
PALK Pallekele 43.71 127 LR LR 04 25 18.4
comp=Z,158nm,21.9s,baz=295,slow=37
ULN Ulaanbaatar 43.99 57 eP P 04 06 34.9 +0.1
comp=Z,20nm,1.2s
ULN Ulaanbaatar 43.99 57 P P 04 06 36.0 +1.2
SNR=8.6
ULN Ulaanbaatar 43.99 57c iP P 04 06 35.7 +0.9
ULN pmax pmax
comp=Z,29nm,1.7s
LZH Lanzhou 44.93 75 eP P 04 06 42.8 +0.4
LZH pP sP 04 06 48.0 +2.2
LZH sP pP 04 06 49.6 +4.8
LZH pmax pmax
comp=Z,24nm,1.0s
LZH pmax pmax
comp=Z,95nm,4.2s
LZH LR LR
comp=Z,470nm,17.1s
LZH LR LR
comp=Z,450nm,16.9s
LZH LR LR
comp=Z,410nm,17.9s
BOD Bodaibo 46.72 43 eP P 04 06 49.4 -6.6
BOD pmax pmax
comp=Z,9.0nm,1.7s
CD2 Chengdu 46.90 81 eP P 04 06 55.0 -2.9
CD2 pmax pmax
comp=Z,10.0nm,0.5s
TOA0 Torodi Ar. Sit 47.09 250 eP P 04 06 57.6 -1.8
TORD Torodi Ar. Bea 47.09 250 P P 04 06 56.7 -2.7
comp=Z,4.7nm,1.0s,baz=15,slow=12,SNR=30
TORD LR LR 04 30 19.7
comp=Z,127nm,18.3s,baz=0.0,slow=41
BTO Baotou 47.95 66 eP P 04 07 05.3 -0.7
KMI Kunming 48.80 89 P P 04 07 13.5 +0.6
KMI pmax pmax
comp=Z,30nm,1.1s
KMI LR LR
comp=Z,180nm,10.8s
KMI LR LR
comp=Z,190nm,13.3s
KMI LR LR
comp=Z,220nm,19.4s
HHC Hu-ho-hao-te 48.97 66 eP P 04 07 15.8 +1.9
HHC S S 04 14 18.9 +0.6
HHC SS SS 04 17 44.6 -4.2
HHC pmax pmax
comp=Z,15nm,1.1s
HHC pmax pmax
comp=Z,220nm,5.4s
HHC LR LR
comp=Z,260nm,10.4s
HHC LR LR
comp=Z,140nm,10.8s
HHC LR LR
comp=Z,230nm,10.2s
CHTO Chiang Mai 49.21 98 eP P 04 07 16.0 +0.1
comp=Z,55nm,1.8s
CHTO Chiang Mai 49.21 98 P P 04 07 16.0 +0.1
SNR=6.9
CHTO Chiang Mai 49.21 98 P P 04 07 16.2 +0.4
comp=Z,75nm,1.5s
CMMT Chiang Mai 49.21 98 P P 04 07 16.1 +0.2
comp=Z,17nm,1.5s
CMAR Chiang Mai Arr 49.41 99 P P 04 07 15.1 -2.3
comp=Z,5.3nm,0.9s,baz=300,slow=8.7,SNR=25
CMAR LR LR 04 35 00.2
comp=Z,98nm,18.1s,baz=295,slow=44
CM01 Chiang Mai Arr 49.44 99 eP P 04 07 17.5 -0.1
XAN Xi'an 49.56 75 P P 04 07 19.0 +0.6
XAN pP sP 04 07 23.9 +2.1
XAN sP pP 04 07 26.8 +6.0
XAN pmax pmax
comp=Z,19nm,1.6s
XAN pmax pmax
comp=Z,160nm,4.7s
XAN LR LR
comp=Z,280nm,18.6s
XAN LR LR
comp=Z,220nm,17.2s
SUKH Sukhothai 50.51 99 P P 04 07 27.4 +1.7
comp=Z,3.3nm,1.0s
UMPA Umpang Tak 50.66 101 P P 04 07 28.5 +1.6
comp=Z,9.0nm,1.4s,comp=Z,964nm
UTTA Uttaradit 51.07 98 P P 04 07 31.4 +1.5
comp=Z,3.1nm,1.1s
GYA Guiyang 51.22 85 eP P 04 07 32.0 +0.9
GYA pmax pmax
comp=Z,10.0nm,1.0s
UTHA Uthaitani 51.50 101 P P 04 07 34.2 +1.0
comp=Z,4.2nm,0.7s,comp=Z,71nm
TIXI Tiksi 51.54 24 eP P 04 07 33.6 +0.9
TIXI Tiksi 51.54 24⇓ iP P 04 07 33.0 +0.3
HIA Hailar 51.82 53⇓ iP P 04 07 36.4 +1.2
SRDT SRDT 51.98 103 P P 04 07 38.4 +1.6
comp=Z,18nm,1.2s
PBKT Sadao Pong 52.08 99 eP P 04 07 38.1 +0.7
PBKT Sadao Pong 52.08 99 P P 04 07 38.5 +1.0
comp=Z,27nm,1.6s
BJI Beijing 52.55 65 eP P 04 07 41.1 +0.4
BJI pmax pmax
comp=Z,6.0nm,1.8s
BJI LR LR
comp=Z,320nm,16.5s
BJI LR LR
comp=Z,170nm,39.8s
NONG Nongkai 52.91 96 P P 04 07 47.6 +4.0
comp=Z,0.3nm,1.2s,comp=Z,67nm
PHET Kaeng Krachan 53.25 104 P P 04 07 48.6 +2.4
comp=Z,7.0nm,0.7s
CHAI Chaiyaphum 53.26 99 P P 04 07 49.4 +3.2
comp=Z,5.3nm,0.8s
SRAK Srakaew 54.43 101 P P 04 07 59.2 +4.4
comp=Z,89nm,0.7s,comp=Z,866nm
WHN Wuhan 55.22 76⇑P P 04 08 01.9 +1.5
DBIC Dimbokro 56.19 249 P P 04 08 06.5 -0.9
comp=Z,8.9nm,0.9s,baz=14,slow=8.0,SNR=8.6
DBIC LR LR 04 37 19.9
comp=Z,155nm,19.8s,baz=28,slow=42
LSZ Lusaka 56.24 202 eP P 04 08 08.3 +0.4
comp=Z,13nm,1.4s
LSZ Lusaka 56.24 202 eP P 04 08 08.3 +0.4
LSZ pmax pmax
comp=Z,13nm,1.4s
KIC Kosan Boka 56.31 249 eP P 04 08 07.5 -0.9
comp=Z,60nm,1.1s
TIC Toumodi 56.32 249 eP P 04 08 07.5 -1.0
TRTT Trang 56.54 108 P P 04 08 12.0 +2.0
comp=Z,3.9nm,0.8s,comp=Z,205nm
LIC Lamto 56.61 249 eP P 04 08 09.6 -0.9
comp=Z,66nm,1.1s
TPTI 57.80 114 P P 04 08 18.5 -0.4
NJ2 Nanjing 57.91 73 eP P 04 08 21.6 +2.0
NJ2 pmax pmax
comp=Z,28nm,0.5s
KLR Kul'dur 59.18 50⇓ iP P 04 08 28.5 +0.4
PSI Prapat 59.36 113 eP P 04 08 29.1 -0.9
comp=Z,39nm,1.6s
PSI Prapat 59.36 113 eP P 04 08 29.1 -0.9
PSI pmax pmax
comp=Z,39nm,1.6s
GSI Gunungsitoli 59.44 116 eP P 04 08 29.6 -0.8
comp=Z,74nm,1.7s
USRK Ussuriysk Ar. 61.52 55 P P 04 08 43.7 -0.6
comp=Z,3.9nm,0.8s,baz=256,slow=8.9,SNR=7.3
USRK LR LR 04 38 14.6
comp=Z,177nm,20.3s,baz=283,slow=39
KS01 Wonju Array Si 61.91 63 eP P 04 08 46.7 -0.3
KSAR Wonju Array Be 61.92 63 P P 04 08 46.8 -0.3
KSAR Wonju Array Be 61.92 63 P P 04 08 46.8 -0.3
KSRS Korea Array 61.94 63 P P 04 08 46.8 -0.4
comp=Z,2.0nm,0.7s,baz=289,slow=9.0,SNR=6.4
BILL Bilibino 64.61 21 eP P 04 09 04.8 +0.5
BILL Bilibino 64.61 21⇓ iP P 04 09 05.2 +0.9
BILL *SP sP 04 09 10.5 +2.7
BILL eSSS SSS 04 24 49.9
BILL pmax pmax
comp=Z,17nm,1.5s
BILL MLR MLR
comp=Z,258nm,20.0s
JNU Nakatsue 66.20 66 LR LR 04 41 15.8
comp=Z,69nm,18.4s,baz=304,slow=39
LBTB Lobatse 66.21 201 eP P 04 09 14.6 -0.7
comp=Z,37nm,1.7s
LBTB Lobatse 66.21 201 eP P 04 09 14.6 -0.7
LBTB pmax pmax
comp=Z,37nm,1.7s
JOW Kunigami 67.63 73 LR LR 04 41 33.5
comp=Z,90nm,19.9s,baz=208,slow=38
PPBI Pangkal Pinang 67.98 112 P P 04 09 26.9 +0.1
ASAJ Asahikawa 68.18 51 LR LR 04 42 23.5
comp=Z,151nm,18.1s,baz=118,slow=39
MJAR Matsushiro Arr 69.48 59 P P 04 09 36.2 +0.3
comp=Z,1.9nm,0.8s,baz=307,slow=6.7,SNR=4.1
MJAR LR LR 04 41 57.8
comp=Z,68nm,18.8s,baz=280,slow=38
BOSA Boshof 69.72 200 P P 04 09 35.0 -2.3
comp=Z,3.7nm,0.9s,baz=343,slow=5.5,SNR=4.2
BOSA LR LR 04 41 20.5
comp=Z,160nm,21.6s,baz=23,slow=37
BOSA Boshof 69.72 200 P P 04 09 35.0 -2.3
PETK Petropavlovsk- 71.03 37 LR LR 04 45 11.2
comp=Z,120nm,19.1s,baz=304,slow=39
SCHQ Schefferville 71.04 326 LR LR 04 40 41.8
comp=Z,133nm,18.4s,baz=354,slow=36
RDOG Red Dog Mine 71.44 11 eP P 04 09 48.1 +0.8
comp=Z,28nm,1.4s
ASCN Ascension 73.05 245 eP P 04 09 54.0 -3.6
INK Inuvik 73.49 0 eP P 04 09 59.5 0.0
comp=Z,7.7nm,1.1s
INK Inuvik 73.49 0 eP P 04 09 59.5 0.0
INK pmax pmax
comp=Z,8.0nm,1.1s
COLD Coldfoot 73.80 7 eP P 04 10 02.3 +1.0
comp=Z,14nm,0.9s
IM3 Indian Mountai 74.64 9 eP P 04 10 06.5 +0.3
FYU Fort Yukon 74.84 5 eP P 04 10 09.1 +1.7
comp=Z,41nm,1.2s
COLA College 76.31 6 eP P 04 10 15.4 -0.4
COLA College 76.31 6 eP P 04 10 15.4 -0.4
IL1 Eielson Array 76.50 6 eP P 04 10 16.6 -0.3
ILAR Eielson Array 76.50 6 P P 04 10 17.1 +0.2
comp=Z,4.1nm,0.9s,baz=338,slow=5.0,SNR=32
ILAR LR LR 04 48 31.9
comp=Z,118nm,18.6s,baz=342,slow=39
ILB Eielson Array 76.50 6 eP P 04 10 17.6 +0.6
CCB Clear Creek Bu 76.54 6 eP P 04 10 17.5 +0.3
comp=Z,14nm,0.9s
WRH Wood River Hil 76.69 7 eP P 04 10 19.3 +1.3
comp=Z,11nm,1.1s
BPAW Bear Paw Mtn. 76.77 8 eP P 04 10 21.7 +3.2
comp=Z,47nm,1.3s
HDA Harding Lake 76.85 6 eP P 04 10 19.4 +0.5
comp=Z,20nm,0.9s
EGAK Eagle 76.86 3 eP P 04 10 19.5 +0.6
comp=Z,18nm,0.9s
MCK McKinley 77.34 7 eP P 04 10 22.4 +0.7
comp=Z,25nm,1.1s
MCK McKinley 77.34 7 eP P 04 10 22.4 +0.7
MCK pmax pmax
comp=Z,25nm,1.1s
TRF Thorofare Moun 77.47 8 eP P 04 10 23.8 +1.1
comp=Z,23nm,1.2s
SCRK Sand Creek 77.50 5 eP P 04 10 22.9 +0.2
comp=Z,20nm,1.1s
DAWY Dawson 77.64 3 eP P 04 10 23.8 +0.4
comp=Z,20nm,1.0s
RND Reindeer 77.66 7 eP P 04 10 23.8 +0.2
comp=Z,28nm,1.0s
RND Reindeer 77.66 7 eP P 04 10 23.8 +0.2
RND pmax pmax
comp=Z,28nm,1.0s
PPLA Purkeypile 77.80 9 eP P 04 10 24.6 +0.1
comp=Z,54nm,1.4s
DHY Denali Highway 78.12 6 eP P 04 10 26.9 +0.7
comp=Z,34nm,1.5s
YKA Yellowknife Ar 78.20 351 P P 04 10 26.3 -0.2
comp=Z,4.1nm,1.0s,baz=14,slow=6.3,SNR=6.1
SKT Skwentna 78.77 9 eP P 04 10 30.2 +0.5
comp=Z,26nm,1.0s
SML Sawmill 79.28 7 eP P 04 10 32.8 +0.3
comp=Z,22nm,0.8s
SML Sawmill 79.28 7 eP P 04 10 32.8 +0.3
SML pmax pmax
comp=Z,22nm,0.8s
KLU Klutina 79.81 6 eP P 04 10 35.9 +0.4
comp=Z,32nm,0.9s
DIV Divide 80.18 6 eP P 04 10 37.6 +0.2
comp=Z,32nm,1.1s
HYT Haines Junctio 80.95 2 eP P 04 10 42.6 +0.9
comp=Z,25nm,1.1s
KDAK Kodiak Island 82.71 10 P P 04 10 49.8 -0.9
comp=Z,21nm,1.0s,baz=46,slow=3.5,SNR=5.1
DLBC Dease Lake 83.36 358 P P 04 10 55.0 +0.7
comp=Z,7.4nm,1.0s,baz=358,slow=7.3,SNR=4.4

DLBC	**Dease Lake**	**83.36**	**358**	*e*P	**P**	**04 10 55.3**	**+1.0**
	comp=Z,20nm,1.4s						
SADO	**Sadowa**	**83.77**	**324**	LR	LR	04 48 56.9	
	comp=Z,121nm,18.2s,baz=57,slow=36						
ULM	**Lac du Bonnet**	**85.65**	**337**	P	**P**	**04 11 06.0**	**+0.1**
	comp=Z,4.5nm,0.9s,baz=254,slow=1.7,SNR=3.9						
ULM				LR	LR	04 50 50.1	
	comp=Z,239nm,18.1s,baz=38,slow=37						
NEW	**Newport**	**92.40**	**349**	P	**P**	**04 11 39.6**	**+1.5**
	comp=Z,4.6nm,0.8s,baz=25,slow=7.4,SNR=8.0						
NEW	**Newport**	**92.40**	**349**	*e*P	**P**	**04 11 39.0**	**+1.0**
	comp=Z,7.8nm,1.0s						
NEW	**Newport**	**92.40**	**349**	*e*P	**P**	**04 11 39.0**	**+1.0**
NEW				pmax	pmax		
	comp=Z,8.0nm,1.0s						
RSSD	**Black Hills**	**93.58**	**339**	*e*P	**P**	**04 11 44.7**	**+0.9**
	comp=Z,6.6nm,1.1s						
RSSD	**Black Hills**	**93.58**	**339**	*e*P	**P**	**04 11 44.7**	**+0.9**
RSSD				pmax	pmax		
	comp=Z,7.0nm,1.1s						
E03A	**Lebam**	**94.86**	**353**	*e*P	**P**	**04 11 51.4**	**+2.1**
	comp=Z,6.9nm,0.8s						
SJG	**San Juan**	**95.60**	**298**	LR	LR	04 51 46.2	
	comp=Z,52nm,21.9s,baz=56,slow=34						
PDAR	**Pinedale Array**	**96.26**	**343**	LR	LR	04 58 15.0	
	comp=Z,171nm,18.5s,baz=17,slow=37						
WRA	**Warramunga Arr**	**100.40**	**107**	P	**Pdif**	**04 12 15.7**	**+1.1**
	comp=Z,0.4nm,0.9s,baz=342,slow=5.2,SNR=2.9						

IDC ***16*** *04:08:12.6±0.5, 58°.87S×25°.25W, h0km, mb4.2/12, mb1 4.2/13, mb1mx4.1/31, mbtmp4.2/13, ML4.5/1, MS3.3/6, Ms1 3.3/6, ms1mx3.1/27, Error ellipse: s-maj=21.3km s-min=17.2km az=68.0*

ISCJB ***16*** *04:08:13.3±0.4, 58°.90S±0°.07×25°.2W±0°.2, h18km, mb4.2/16, MS3.3/4, Error ellipse: s-maj=13.9km s-min=7.8km az=148.7*

NEIC ***16*** *04:08:15.3±3.6, 58°.91S×25°.24W, h18km±22km, mb4.3/8, Error ellipse: s-maj=8.8km s-min=6.2km az=218.0*

ISC 16 04:08:15.2±0.5, 59°.04S±0°.09×25°.1W±0°.1, h18km, n58, σ1§79/52, mb4.3/16, MS3.3/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.60**	**156**	P	**Pn**	**04 11 28.7**	**+1.9**
VNA3	**Neumayer Olymp**	**13.79**	**159**	P	**Pn**	**04 11 30.7**	**+1.3**
VNA3				S	Sn	04 13 48.6	-13
VNA2	**Neumayer--Watz**	**13.99**	**156**	P	**Pn**	**04 11 33.9**	**+1.7**
	baz=314,slow=15						
VNA2				S	Sn	04 13 55.9	-11
SNAA	**Sanae**	**15.55**	**153**	P	**Pn**	**04 11 55.0**	**+1.8**
SNAA				S	Sn	04 14 33.1	-12
SNAA	**Sanae**	**15.55**	**153**	Pn	**Pn**	**04 11 54.6**	**+1.4**
	1.7nm,0.3s,baz=323,slow=17,SNR=55						
SNAA				Sn	**Sn**	**04 14 36.5**	**-8.3**
	0.5nm,0.3s,baz=302,slow=19,SNR=3.8						
SNAA				LR	LR	04 16 48.7	
	comp=Z,128nm,19.3s,baz=352,slow=33						
SNAA	**Sanae**	**15.55**	**153**	*e*Pn	**Pn**	**04 11 54.4**	**+1.1**
	9.5nm,0.7s						
SNAA				*e*Sn	**Sn**	**04 14 39.0**	**-5.8**
PMSA	**Palmer Station**	**18.97**	**236**	LR	LR	04 18 28.4	
	comp=Z,72nm,21.2s,baz=75,slow=32						
QSPA	**South Pole Qui**	**31.20**	**180**	P	**P**	**04 14 35.0**	**+1.9**
	2.7nm,0.7s,baz=252,slow=1.4,SNR=7.8						
QSPA	**South Pole Qui**	**31.20**	**180**	*e*P	**P**	**04 14 34.7**	**+1.6**
	12nm,1.4s						
TRQA	**Tornquist**	**31.58**	**295**	*e*P	**P**	**04 14 35.6**	**-0.9**
	2.8nm,0.7s						
PLCA	**Paso Flores**	**33.70**	**283**	P	**P**	**04 14 54.1**	**-0.9**
	1.5nm,0.7s,baz=190,slow=5.6,SNR=4.7						
PLCA				LR	LR	04 27 31.9	
	comp=Z,40nm,19.0s,baz=132,slow=34						
PLCA	**Paso Flores**	**33.70**	**283**	*e*P	**P**	**04 14 54.1**	**-0.9**
	43nm,1.9s						
PLCA	**Paso Flores**	**33.70**	**283**	P	**P**	**04 14 54.1**	**-0.9**
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MAW	**Mawson**	**37.09**	**141**	P	**P**	**04 15 25.4**	**+1.6**
	comp=Z,2.7nm,0.8s,baz=259,slow=5.2,SNR=3.7						
MAW				LR	LR	04 28 57.7	
	comp=Z,60nm,19.7s,baz=239,slow=33						
GO05	**HualaæØ**	**38.81**	**287**	*e*P	**P**	**04 15 37.9**	**-0.8**
	comp=Z,53nm,1.8s						
SUR	**Sutherland**	**40.48**	**69**	LR	LR	04 28 44.0	
	comp=Z,60nm,21.3s,baz=190,slow=30						
LCO	**Las Campanas**	**43.13**	**294**	*e*P	**P**	**04 16 13.6**	**-1.0**
	comp=Z,2.7nm,0.5s						
VNDA	**Vanda**	**43.63**	**182**	P	**P**	**04 16 20.5**	**+2.8**
	comp=Z,3.7nm,0.9s,baz=158,slow=8.1,SNR=5.4						
VNDA	**Vanda**	**43.63**	**182**	*e*P	**P**	**04 16 19.5**	**+1.8**
SIV	**San Ignacio**	**50.45**	**313**	P	**P**	**04 17 10.2**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=86,slow=20,SNR=2.1						
H10S2	**ASCENSION HYDR**	**50.60**	**13**	T	T	05 11 42.4	
	baz=188,slow=74,SNR=10.0						
H10S3	**ASCENSION HYDR**	**50.60**	**13**	T	T	05 11 45.8	
	baz=188,slow=74,SNR=9.2						
H10S1	**ASCENSION HYDR**	**50.61**	**13**	T	T	05 11 44.0	
	baz=188,slow=74,SNR=8.9						
H10N1	**ASCENSION HYDR**	**51.72**	**13**	T	T	05 13 07.1	
	baz=181,slow=72,SNR=4.5						
H10N3	**ASCENSION HYDR**	**51.72**	**13**	T	T	05 13 06.8	
	baz=181,slow=72,SNR=6.8						
H10N2	**ASCENSION HYDR**	**51.73**	**13**	T	T	05 13 09.2	
	baz=181,slow=72,SNR=7.1						
LPAZ	**La Paz**	**53.02**	**305**	P	**P**	**04 17 31.3**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=68,slow=8.4,SNR=2.3						
LPAZ				LR	LR	04 41 24.5	
	comp=Z,19nm,21.3s,baz=55,slow=38						
LPAZ	**La Paz**	**53.02**	**305**	PKIKP	**P**	**04 17 31.3**	**-0.2**
MATP	**Matopo**	**54.21**	**69**	P	**P**	**04 17 40.0**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=221,slow=6.4,SNR=3.0						
SAML	**Samuel**	**57.70**	**314**	*e*P	**P**	**04 18 02.8**	**-1.8**
	comp=Z,0.7nm,0.4s						
LSZ	**Lusaka**	**58.50**	**65**	P	**P**	**04 18 11.3**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=138,slow=1.3,SNR=3.6						
DBIC	**Dimbokro**	**67.47**	**22**	P	**P**	**04 19 10.0**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=167,slow=9.4,SNR=4.5						
TOA0	**Torodi Ar. Sit**	**75.16**	**27**	*e*P	**P**	**04 19 55.2**	**-0.9**
TORD	**Torodi Ar. Bea**	**75.16**	**27**	P	**P**	**04 19 55.3**	**-0.8**
	comp=Z,4.0nm,0.4s,baz=193,slow=6.3,SNR=90						
TOA1	**Torodi Ar. Sit**	**75.16**	**27**	*e*P	**P**	**04 19 55.3**	**-0.8**
STKA	**Stephens Creek**	**88.75**	**169**	P	**P**	**04 21 08.1**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=227,slow=6.1,SNR=3.5						
ASAR	**Alice Springs**	**95.79**	**161**	P	**P**	**04 21 39.9**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=182,slow=4.7,SNR=6.3						
PDAR	**Pinedale Array**	**122.84**	**299**	PKP	**PKPdf**	**04 27 08.2**	**-1.2**
	comp=Z,0.1nm,0.4s,baz=119,slow=3.3,SNR=6.0						
ULM	**Lac du Bonnet**	**123.16**	**314**	PKP	**PKPdf**	**04 27 08.3**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=134,slow=9.6,SNR=1.5						
NV01	**Mina Array Sit**	**123.54**	**290**	*e*PKPdf	**PKPdf**	**04 27 10.5**	**-0.3**
NVAR	**Mina Array Bea**	**123.54**	**290**	PKP	**PKPdf**	**04 27 11.7**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=155,slow=2.1,SNR=4.0						
FIA0	**FINESS Array S**	**126.51**	**28**	*e*PKPdf	**PKPdf**	**04 27 15.3**	**-0.1**
FINES	**FINESS Array B**	**126.51**	**28**	PKP	**PKPdf**	**04 27 15.3**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=169,slow=1.9,SNR=7.1						
ARA0	**ARCESS Array S**	**133.30**	**22**	*e*PKPdf	**PKPdf**	**04 27 28.1**	**-0.1**
ARCES	**ARCESS Array B**	**133.30**	**22**	PKP	**PKPdf**	**04 27 28.1**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=251,slow=2.4,SNR=12						
YKA	**Yellowknife Ar**	**139.12**	**315**	PKP	**PKPdf**	**04 27 39.3**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=135,slow=2.2,SNR=17						
YKB5	**Yellowknife Ar**	**139.12**	**315**	*e*PKPdf	**PKPdf**	**04 27 38.8**	**-0.3**
INK	**Inuvik**	**148.80**	**317**	PKPbc	**PKPbc**	**04 27 59.5**	**-0.2**
	comp=Z,4.0nm,0.8s,baz=57,slow=2.7,SNR=12						
INK	**Inuvik**	**148.80**	**317**	*e*PKPbc	**PKPbc**	**04 27 59.0**	**-0.7**
SONA0	**Songino Array**	**149.69**	**90**	*e*PKPbc	**PKPbc**	**04 28 03.1**	**+0.3**
SONM	**Songino Array**	**149.69**	**90**	PKPbc	**PKPbc**	**04 28 03.1**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=222,slow=2.6,SNR=8.9						
SONA1	**Songino Array**	**149.70**	**90**	*e*PKPbc	**PKPbc**	**04 28 02.9**	**0.0**
RIDG	**Independ'e Rid**	**151.73**	**305**	*e*PKPbc	**PKPbc**	**04 28 07.6**	**+0.7**
IL1	**Eielson Array**	**152.89**	**307**	*e*PKPbc	**PKPbc**	**04 28 09.0**	**-0.5**
ILAR	**Eielson Array**	**152.89**	**307**	PKPbc	**PKPbc**	**04 28 09.2**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=152,slow=2.2,SNR=37						
ILB	**Eielson Array**	**152.89**	**307**	*e*PKPbc	**PKPbc**	**04 28 09.3**	**-0.2**
KDAK	**Kodiak Island**	**153.04**	**290**	PKPbc	**PKPbc**	**04 28 09.9**	**0.0**
	comp=Z,3.9nm,0.6s,baz=214,slow=6.1,SNR=3.7						
TOLK	**Toolik Lake Re**	**154.65**	**315**	*e*PKPbc	**PKPbc**	**04 28 12.3**	**-0.9**

IDC 16 04:18:12.2±735.0, 51°.17N×130°.61E, h0km, Error ellipse: s-maj=272.7km s-min=138.7km az=163.0, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I45RU	**USSURIYSK INFR**	**7.03**	**172**	*i*		05 02 10.0	
	baz=353,slow=328,SNR=2.8						
I44RU	**PETROPAVLOVSK**	**16.72**	**73**	*i*		06 08 10.0	
	baz=276,slow=324,SNR=0.7						
I30JP	**ISUMI INFRASON**	**17.33**	**152**	*i*		06 02 20.0	
	baz=342,slow=326,SNR=0.4						

IDC 16 04:28:46.4±4.7, 43°.76N×132°.05E, h0km, Error ellipse: s-maj=26.2km s-min=6.7km az=174.0, Primorye

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
USRK	**Ussuriysk Ar.**	**0.45**	**355**	Pg	Pg	04 28 55.0	+0.1
	baz=174,slow=17,SNR=2.4						
USRK				Lg	Lg	04 29 00.9	
	0.2nm,0.3s,baz=174,slow=27,SNR=2.9						
I45RU	**USSURIYSK INFR**	**0.45**	**354**	*i*		04 32 00.0	
	baz=174,slow=334,SNR=25						
I30JP	**ISUMI INFRASON**	**10.57**	**140**	*i*		05 31 00.0	
	baz=330,slow=318,SNR=0.4						

IDC ***16*** *04:30:53.6±1.1, 2°.06N×126°.39E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/42, mbtmp3.9/6, MS2.9/2, Ms1 2.9/2, ms1mx2.6/38, Error ellipse: s-maj=70.3km s-min=18.4km az=75.0*

DJA ***16*** *04:30:58.9±0.7, 2°.1N±6°×12°.7E±°, h10km, M3.9/6, mb4.1/1, MLv3.7/6*

ISCJB ***16*** *04:31:00.1±0.8, 2°.07N±0°.08×126°.79E±0°.09, h63km, mb3.9/5, Error ellipse: s-maj=14.1km s-min=10.1km az=150.8*

ISC 16 04:31:01.4±0.9, 2°.11N±0°.08×126°.8E±0°.1, h63km, n14, σ1§18/12, mb4.1/5, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.43**	**158**	P	**Pn**	**04 31 24.6**	**-0.6**
SGSI	**Sangihe**	**2.04**	**320**	P	**Pn**	**04 31 32.6**	**-1.0**
KMSI	**Cibinong**	**3.24**	**242**	P	**Pn**	**04 31 49.8**	**-0.1**
SANI	**Sanana**	**4.22**	**192**	P	**Pn**	**04 32 02.0**	**-1.2**
MRSI	**Marisa**	**5.16**	**252**	P	**Pn**	**04 32 15.4**	**-0.7**
SIJI	**Sorong**	**5.32**	**124**	LR	LR	04 34 47.3	
	comp=Z,134nm,20.8s,baz=166,slow=41						
APSI	**Ampana**	**6.00**	**240**	P	**Pn**	**04 32 28.1**	**+0.5**
JAY	**Jayapura**	**14.60**	**108**	LR	LR	04 40 17.8	
	comp=Z,38nm,19.6s,baz=32,slow=38						
FITZ	**Fitzroy Crossi**	**20.11**	**183**	P	**P**	**04 35 30.2**	**-0.1**
	2.1nm,0.8s,baz=355,slow=6.2,SNR=10						
WRA	**Warramunga Arr**	**23.11**	**162**	P	**P**	**04 36 01.3**	**-0.9**
	1.8nm,0.3s,baz=341,slow=11,SNR=29						
ASAR	**Alice Springs**	**26.52**	**165**	P	**P**	**04 36 34.3**	**+0.9**
	0.9nm,0.7s,baz=342,slow=9.7,SNR=13						
STKA	**Stephens Creek**	**36.59**	**159**	P	**P**	**04 38 02.0**	**+0.6**
	1.9nm,0.7s,baz=359,slow=6.0,SNR=3.0						
USRK	**Ussuriysk Ar.**	**42.16**	**6**	P	**P**	**04 38 49.7**	**+2.0**
	3.4nm,1.0s,baz=207,slow=9.7,SNR=4.4						
MKAR	**Makanchi Array**	**58.95**	**326**	P	**P**	**04 40 52.6**	**-1.7**
	0.6nm,0.4s,baz=118,slow=7.1,SNR=9.9						

IDC 16 04:32:36.0±45.0, 14°.66S×171°.73W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/40, mbtmp4.2/3, MS3.1/2, Ms1 3.1/2, ms1mx2.6/34, Error ellipse: s-maj=874.1km s-min=185.0km az=78.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**0.74**	**356**	LR	LR	04 33 13.0	
	comp=Z,58nm,18.4s,baz=60,slow=50						
RAO	**Raoul Island**	**15.61**	**201**	LR	LR	04 41 09.0	
	comp=Z,85nm,20.1s,baz=152,slow=33						
STKA	**Stephens Creek**	**45.81**	**240**	P	P	04 40 59.9	+0.1
	0.8nm,0.4s,baz=59,slow=9.5,SNR=3.8						
WRA	**Warramunga Arr**	**51.59**	**256**	P	P	04 41 45.0	+0.5
	0.5nm,0.4s,baz=92,slow=7.0,SNR=31						
ASAR	**Alice Springs**	**51.88**	**251**	P	P	04 41 45.9	-0.8
	5.0nm,0.4s,baz=88,slow=8.1,SNR=70						
YKA	**Yellowknife Ar**	**88.78**	**23**	LR	LR	05 17 49.1	
	comp=Z,8.2nm,20.2s,baz=70,slow=30						

ISCJB ***16*** *04:36:10.8±1.3, 14°.14N±0°.08×92°.46W±0°.08, h39km±14km, MS3.1/1, Error ellipse: s-maj=16.5km s-min=7.2km az=44.2*

NEIC ***16*** *04:36:11.8±0.0, 14°.12N×92°.58W, h12km, MD4.0(MEX), After MEX.*

MEX ***16*** *04:36:12.0±0.4, 14°.12N×92°.59W, h15km, MD3.7*

IDC ***16*** *04:36:12.5±2.8, 14°.01N×92°.53W, h41km±22km, mb3.3/3, mb1 3.8/7, mb1mx3.5/37, mbtmp3.6/7, ML3.6/4, MS3.0/2, Ms1 3.0/2, ms1mx2.5/24, Error ellipse: s-maj=26.4km s-min=9.8km az=18.0*

ISC 16 04:36:10.9±2.4, 14°.16N±0°.09×92°.54W±0°.07, h22km±16km, n17, σ1§43/24, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.79**	**19**	*e*P	**Pb**	**04 36 25.7**	**-0.2**
THIG				*e*S	**Sb**	**04 36 36.0**	**-0.1**
THIG		**0.79**	**19**	*e*P	**Pb**	**04 36 25.7**	**-0.2**
THIG				*e*S	**Sb**	**04 36 35.8**	**-0.4**
PCIG		**1.67**	**337**	*e*P	**Pn**	**04 36 37.7**	**-1.2**
PCIG		**1.67**	**337**	*e*P	**Pn**	**04 36 37.7**	**-1.2**
PCIG				*i* S	**Sn**	**04 36 57.8**	**-1.8**
CCIG	**Comitan**	**2.14**	**10**	*e*P	**Pn**	**04 36 47.1**	**+1.5**
CCIG	**Comitan**	**2.14**	**10**	*e*P	**Pn**	**04 36 45.4**	**-0.1**
CCIG				*i* S	**Sn**	**04 37 10.7**	**-0.9**
APG	**El Apazote**	**2.17**	**67**	P	**Pn**	**04 36 46.6**	**+0.6**
	42nm,0.3s,baz=206,slow=15,SNR=172						
APG				S	**Sn**	**04 37 14.3**	**+1.9**
	62nm,0.3s,baz=320,slow=22,SNR=14						
APG				LR	LR	04 38 01.2	
	comp=Z,219nm,19.6s,baz=249,slow=49						
TGIG		**2.66**	**348**	*e*P	**Pn**	**04 36 53.1**	**+0.5**
TGIG		**2.66**	**348**	*e*P	**Pn**	**04 36 52.8**	**+0.2**
TGIG				*e*S	**Sn**	**04 37 23.3**	**-1.0**
CMIG	**Matias Romero**	**3.69**	**322**	P	**Pn**	**04 37 07.0**	**+0.4**
	2.6nm,0.3s,baz=137,slow=10,SNR=16						
CMIG				S	**Sn**	**04 37 53.0**	**+3.5**
	13nm,0.3s,baz=62,slow=20,SNR=8.1						
JTS	**JuntasAbangare**	**8.35**	**117**	P	**Pn**	**04 38 11.3**	**+0.6**
	0.5nm,0.3s,baz=227,slow=20,SNR=1.3						
JTS				S	**Sn**	**04 39 42.3**	**-2.1**
	0.6nm,0.3s,baz=252,slow=22,SNR=1.7						
TXAR	**Lajitas Array**	**18.28**	**327**	P	**P**	**04 40 24.7**	**+1.3**
	0.0nm,0.3s,baz=146,slow=12,SNR=1.8						
ANMO	**Albuquerque**	**24.21**	**331**	LR	LR	04 50 39.6	
	comp=Z,62nm,20.2s,baz=60,slow=36						
NVAR	**Mina Array Bea**	**33.22**	**321**	P	**P**	**04 42 48.7**	**+2.0**
	0.1nm,0.5s,baz=143,slow=9.1,SNR=3.1						
YKA	**Yellowknife Ar**	**50.75**	**347**	P	**P**	**04 45 08.0**	**-1.0**
	1.4nm,0.6s,baz=150,slow=7.4,SNR=6.6						
ILAR	**Eielson Array**	**62.49**	**337**	P	**P**	**04 46 32.2**	**-0.2**
	0.2nm,0.7s,baz=108,slow=5.8,SNR=3.0						
CMAR	**Chiang Mai Arr**	**145.67**	**340**	PKPbc	**PKPdf**	**04 55 47.2**	**-1.4**
	0.8nm,0.4s,baz=354,slow=3.0,SNR=5.6						

ISK ***16*** *04:48:28.4, 36°.09N×31°.22E, h25km, ML3.3/19*

DDA ***16*** *04:48:29.7, 36°.26N×31°.23E, h53km, Ml3.2*

HLW ***16*** *04:48:30.7, 36°.06N×31°.84E, h33km±32km, Ml3.3*

ISC 16 04:48:28.6±1.2, 36°.10N±0°.03×31°.21E±0°.02, h29km±13km, n50, σ1§33/76, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEMT	**Kemer-ANTALYA**	**0.72**	**314**	PG	**Pn**	**04 48 44.0**	**+1.1**
KEMT				SG	**Sn**	**04 48 55.4**	**+2.4**
KEPZ	**Antalya-Kepez**	**0.86**	**22**	*i* P	**Pb**	**04 48 44.4**	**-0.6**
KEPZ				*i* S	**Sb**	**04 48 55.2**	**-1.0**
GAZI	**Gazipasa**	**0.91**	**81**	PG	**Pn**	**04 48 46.4**	**+1.0**
GAZI				SG	**Sn**	**04 48 58.7**	**+1.2**
GAZI	**Gazipasa**	**0.91**	**81**	*i* P	**Pn**	**04 48 48.0**	**+2.6**
GAZI				*i* S	**Sn**	**04 48 59.8**	**+2.3**
ANTB	**Antalya**	**0.91**	**331**	PG	**Pn**	**04 48 45.4**	**0.0**
KORT	**Korkueli**	**1.13**	**323**	PN	**Pb**	**04 48 49.5**	**-0.1**
KORT	**Korkueli**	**1.13**	**323**	*i* P	**Pn**	**04 48 49.1**	**+0.5**
KORT				*i* S	**Sb**	**04 49 04.9**	**+0.9**
ELL	**Elmali**	**1.23**	**302**	PN	**Pb**	**04 48 51.1**	**-0.2**
AKAS	**Kas**	**1.30**	**276**	PN	**Pn**	**04 48 51.6**	**+0.7**
AKAS	**Kas**	**1.30**	**276**	*i* P	**Pb**	**04 48 52.1**	**-0.4**
AKAS				*i* S	**Sb**	**04 49 09.5**	**+0.5**
SUTC	**Sutluce-Ispart**	**1.38**	**353**	PN	**Pn**	**04 48 52.2**	**+0.2**
SUTC				SN	**Sn**	**04 49 10.6**	**+1.2**
TEKE	**Tekeli-Mersin**	**1.54**	**88**	PN	**Pn**	**04 48 54.5**	**+0.3**
AKDN	**Akdeniz- K¨–br**	**1.64**	**119**	PN	**Pn**	**04 48 56.1**	**+0.6**
BERE	**Bereket-Mersin**	**1.65**	**81**	PN	**Pn**	**04 48 56.6**	**+0.9**
BERE				SN	**Sn**	**04 49 17.0**	**+1.0**
LEF	**Lefka**	**1.69**	**125**	PN	**Pn**	**04 48 55.9**	**-0.2**
GOLH	**Golhisar**	**1.74**	**311**	*i* P	**Pb**	**04 48 59.6**	**-0.4**
GOLH				*i* S	**Sb**	**04 49 21.9**	**+0.4**
BRDR	**BURDUR-Merkez**	**1.84**	**330**	*i* P	**Pn**	**04 48 59.6**	**+1.3**
BRDR				*i* S	**Sb**	**04 49 23.8**	**-0.4**
TEVE	**Tevekalti-Mers**	**1.84**	**79**	PN	**Pn**	**04 48 59.2**	**+0.9**
AKK2	**Akkuyu-Mersin**	**1.90**	**88**	PN	**Pn**	**04 48 59.6**	**+0.6**
AKKU	**Akkuyu-Mersin**	**1.90**	**88**	PN	**Pn**	**04 48 59.6**	**+0.6**
AKKU				SN	**Sn**	**04 49 22.9**	**+0.9**
KMER	**Konya-Meram**	**1.91**	**29**	*i* P	**Pn**	**04 48 59.4**	**+0.2**
KMER				*i* S	**Sn**	**04 49 21.0**	**-1.3**
BAGO	**Egridir - ISPA**	**1.91**	**350**	*i* P	**Pn**	**04 48 59.5**	**+0.1**
BAGO				*i* S	**Sn**	**04 49 21.5**	**-1.0**
IKL	**Isikli**	**2.01**	**85**	PN	**Pn**	**04 49 01.0**	**+0.4**
DOGA	**KONYA_Doganhis**	**2.03**	**10**	*i* P	**Pn**	**04 49 01.2**	**+0.2**
DOGA				*i* S	**Sn**	**04 49 24.6**	**-0.9**
KEBE	**Keben-Mersin**	**2.06**	**80**	PN	**Pn**	**04 49 02.3**	**+1.1**
KONT	**Konya--Tatoy**	**2.06**	**26**	PN	**Pn**	**04 49 01.6**	**+0.3**
KONT	**Konya--Tatoy**	**2.06**	**26**	*i* P	**Pn**	**04 49 01.1**	**-0.2**
KONT				*i* S	**Sn**	**04 49 24.3**	**-1.7**
LFK	**Lefkose**	**2.06**	**113**	PN	**Pn**	**04 49 02.1**	**+0.7**
CSS	**Mathiatis**	**2.07**	**123**	PN	**Pn**	**04 49 02.2**	**+0.7**
DALY	**Dalyan (Mu¨la**	**2.18**	**290**	*i* P	**Pn**	**04 49 03.9**	**+1.1**
DALY				*i* S	**Sn**	**04 49 29.4**	**+0.6**
TAVA	**DENIZLI_Tavas**	**2.29**	**307**	*i* P	**Pn**	**04 49 05.8**	**+1.3**
TAVA				*i* S	**Sn**	**04 49 32.5**	**+0.7**
KZIL	**AFYON_Kizioren**	**2.31**	**339**	*i* P	**Pn**	**04 49 04.7**	**-0.1**
KZIL				*i* S	**Sn**	**04 49 32.5**	**+0.1**
DNZL	**Cakiroluk**	**2.35**	**313**	*i* P	Pb	04 49 16.2	±5.9
DNZL				*i* S	**Sn**	**04 49 35.4**	**+2.1**
KIZK	**Mersin**	**2.40**	**80**	PN	**Pn**	**04 49 07.2**	**+1.2**
EREN	**Erenkoy**	**2.48**	**102**	PN	**Pn**	**04 49 08.0**	**+1.0**
KDHN	**Kadinhani**	**2.52**	**16**	*i* P	**Pn**	**04 49 07.1**	**-0.6**
KDHN				*i* S	**Sn**	**04 49 35.1**	**-2.4**
BOLV	**Bolvadin**	**2.62**	**356**	*i* P	**Pn**	**04 49 09.5**	**+0.5**
BOLV				*i* S	**Sn**	**04 49 38.7**	**-1.2**
KHAL	**Karahalli**	**2.64**	**329**	*i* P	**Pn**	**04 49 09.7**	**+0.3**
KHAL				*i* S	**Sn**	**04 49 40.6**	**0.0**
MERS	**Mersin**	**2.78**	**73**	PN	**Pn**	**04 49 12.2**	**+1.0**
DAT	**Datca**	**2.99**	**283**	*i* P	**Pn**	**04 49 15.1**	**+0.9**
DAT				*i* S	**Sn**	**04 49 46.7**	**-2.4**
AYDN	**Tasoluk**	**3.09**	**301**	*i* P	**Pn**	**04 49 15.9**	**+0.5**
AYDN				*i* S	**Sn**	**04 49 49.7**	**-1.7**
MANT	**Manisa**	**3.18**	**319**	*i* P	**Pn**	**04 49 16.4**	**-0.5**
MANT				*i* S	**Sn**	**04 49 52.0**	**-2.0**
HHAG	**Hagoal**	**6.18**	**173**	P	**Pn**	**04 49 58.5**	**+0.5**
	baz=177						
HHAG				S	**Sn**	**04 51 03.1**	**-4.5**
	baz=177						
KOT	**Kottamia**	**6.18**	**175**	P	**Pn**	**04 49 59.6**	**+1.7**
	baz=181						
KOT				S	**Sn**	**04 51 03.7**	**-4.0**
	baz=181						
SQR	**Saqqara**	**6.21**	**180**	P	**Pn**	**04 50 00.6**	**+2.4**
	baz=186						
SUZ	**Suez**	**6.39**	**167**	P	**Pn**	**04 50 01.1**	**+0.2**
	baz=172						
HSAF	**As Saff**	**6.47**	**177**	P	**Pn**	**04 50 02.8**	**+0.8**
	baz=183						
GLL	**Jalalah**	**6.52**	**176

ASHO					S		Sn	04 59 55.9	-0.1
ASHO	**Ashiyiah**	**4.80**	**129**	*i*	P		**Pn**	**04 59 00.9**	**+0.3**
	SNR=15								
ASHO					S		Sn	04 59 53.5	-2.5
ICHK	**Chekchek**	**4.90**	**25**		IAMB	IAmb		04 59 07.3	
	comp=N,209nm,0.2s								
ICHK				*e*	Pn		Pn	04 59 02.9	+0.7
ICHK					IAMB	IAmb		05 00 01.7	
	comp=Z,229nm,0.4s								
ALNE	**Al Ain**	**5.04**	**137**	*i*	P		**Pn**	**04 59 05.2**	**+1.3**
	SNR=5.8								

NEIC ***16*** *05:04:13.4±0.9,5.78S×151.84E,h35km,mb4.1/5, Error ellipse: s-maj=29.6km s-min=9.9km az=117.0*
IDC ***16*** *05:04:16.4±5.8,5.72S×151.61E,h60km±48km, mb3.8/7, mb1 4.0/8, mb1mx3.7/45, mbtmp4.1/8, ML2.2/1, MS3.2/3, Ms1 3.2/3, ms1mx2.7/39, Error ellipse: s-maj=42.5km s-min=22.8km az=99.0*

ISC 16 05:04:13.3±0.9,5.92S±0.09×152.1E±0.1, h35km, n26, σ2$ 06/25, mb4.0/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RABL	**Rabaul**	**1.72**	**3**	*e*	Pn	**Pn**	**05 04 40.7**	**-0.2**
PMG	**Port Moresby**	**5.97**	**234**	P		**Pn**	**05 05 39.9**	**+0.6**
	4.5nm,0.3s,baz=15,slow=7.6,SNR=7.3							
PMG				S		**Sn**	**05 06 44.8**	**-1.7**
	2.7nm,0.3s,baz=40,slow=14,SNR=7.3							
PMG	**Port Moresby**	**5.97**	**234**	*e*	Pn	**Pn**	**05 05 39.3**	**+0.1**
PMG				*e*	Sn	**Sn**	**05 06 46.1**	**-0.3**
MANU	**Manus Island**	**6.07**	**309**	*e*	Pn	**Pn**	**05 05 43.3**	**+2.6**
HNR	**Honiara**	**8.55**	**115**	LR		LR	05 10 16.3	
	comp=Z,96nm,18.9s,baz=286,slow=40							
DZM	**Mont Dzumac**	**21.23**	**141**	LR		LR	05 15 58.4	
	comp=Z,76nm,20.1s,baz=228,slow=32							
MTN	**Manton Dam**	**21.76**	**250**	*e*	P	**P**	**05 09 03.3**	**+1.2**
	18nm,1.1s							
WRAB	**Tennant Creek**	**22.15**	**229**	*e*	P	**P**	**05 09 05.8**	**-0.5**
	6.8nm,0.9s							
WB2	**Warramunga Arr**	**22.15**	**229**	*e*	P	**P**	**05 09 05.9**	**-0.4**
WR1	**Warramunga Arr**	**22.16**	**229**	*e*	P	**P**	**05 09 03.8**	**-2.7**
	7.9nm,1.0s							
WRA	**Warramunga Arr**	**22.16**	**229**		P	**P**	**05 09 03.8**	**-2.7**
	4.7nm,0.8s,baz=55,slow=10,SNR=35							
AS01	**Alice Springs**	**24.80**	**223**	*e*	P	**P**	**05 09 31.5**	**-0.8**
AS31	**Alice Springs**	**24.83**	**223**	*e*	P	**P**	**05 09 32.2**	**-0.4**
	2.0nm,0.9s							
ASAR	**Alice Springs**	**24.84**	**223**		P	**P**	**05 09 31.4**	**-1.2**
	4.2nm,0.8s,baz=58,slow=8.8,SNR=29							
STKA	**Stephens Creek**	**27.62**	**199**		P	**P**	**05 09 59.8**	**+2.2**
	2.5nm,0.8s,baz=352,slow=14,SNR=3.9							
FITZ	**Fitzroy Crossi**	**28.49**	**243**		P	**P**	**05 10 03.4**	**-2.1**
	6.7nm,0.9s,baz=86,slow=7.9,SNR=11							
FITZ	**Fitzroy Crossi**	**28.49**	**243**	*e*	P	**P**	**05 10 03.5**	**-2.0**
	6.0nm,0.9s							
DAV	**Davao City (W)**	**29.41**	**296**	LR		LR	05 21 54.4	
	comp=Z,57nm,19.1s,baz=340,slow=37							
SONA0	**Songino Array**	**66.89**	**328**	*e*	P	**P**	**05 15 01.0**	**-1.1**
SONM	**Songino Array**	**66.89**	**328**		P	**P**	**05 15 01.0**	**-1.1**
	0.5nm,1.0s,baz=129,slow=5.7,SNR=2.6							
ZALV	**Zalesovo Beam**	**81.68**	**327**		P	**P**	**05 16 25.3**	**-2.6**
	0.6nm,0.4s,baz=116,slow=6.6,SNR=2.7							
ZAA1	**Zalesovo Array**	**81.68**	**327**	*e*	P	**P**	**05 16 25.3**	**-2.6**
ILAR	**Eielson Array**	**83.47**	**22**	P		**P**	**05 16 36.5**	**-0.6**
	2.2nm,0.9s,baz=250,slow=5.3,SNR=14							
QSPA	**South Pole Qui**	**84.04**	**180**	P		**P**	**05 16 41.9**	**+1.7**
	baz=15,slow=2.8							
TORD	**Torodi Ar. Bea**	**149.94**	**286**	PKPbc		**PKPdf**	**05 24 00.2**	**+4.0**
	1.0nm,0.8s,baz=64,slow=2.4,SNR=7.8							
TOA1	**Torodi Ar. Sit**	**149.94**	**286**	*e*	PKPbc	**PKPdf**	**05 24 00.2**	**+4.0**

ISCJB ***16*** *05:09:08.7±1.7,5.14S±0.3×151.5E±0.4, h57km, mb3.8/5, Error ellipse: s-maj=66.0km s-min=12.3km az=37.8*
IDC ***16*** *05:09:09.2±5.3,5.47S×151.60E, h48km±45km, mb3.7/5, mb1 4.0/6, mb1mx3.6/41, mbtmp4.0/6, ML2.0/1, Error ellipse: s-maj=61.6km s-min=28.3km az=119.0*

ISC 16 05:09:09.7±1.9,5.5S±0.3×151.7E±0.4, h57km, n7, σ0$ 89/8, mb3.8/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**5.91**	**229**	P		**Pn**	**05 10 34.3**	**-0.4**
	2.4nm,0.3s,baz=30,slow=5.8,SNR=5.1							
PMG				S		**Sn**	**05 11 41.8**	**+0.7**
	2.5nm,0.3s,baz=297,slow=5.6,SNR=6.0							
WRA	**Warramunga Arr**	**22.12**	**228**		P	**P**	**05 13 59.9**	**-0.8**
	1.3nm,0.7s,baz=53,slow=10.0,SNR=13							
ASAR	**Alice Springs**	**24.86**	**222**		P	**P**	**05 14 28.4**	**+1.2**
	3.0nm,0.8s,baz=56,slow=9.2,SNR=15							
FITZ	**Fitzroy Crossi**	**28.33**	**242**		P	**P**	**05 14 57.5**	**-0.9**
	4.6nm,0.5s,baz=70,slow=6.7,SNR=12							
SONM	**Songino Array**	**66.36**	**328**		P	**P**	**05 19 53.2**	**+0.4**
	0.2nm,0.4s,baz=131,slow=5.9,SNR=3.2							
ILAR	**Eielson Array**	**83.26**	**22**		P	**P**	**05 21 29.9**	**+0.1**
	0.9nm,0.7s,baz=246,slow=4.8,SNR=13							
TORD	**Torodi Ar. Bea**	**149.46**	**286**	PKPbc		**PKPbc**	**05 28 53.2**	**-0.4**
	0.5nm,0.4s,baz=99,slow=2.6,SNR=7.6							

ISCJB ***16*** *05:10:57.5±0.4,2.10S±0.05×139.17E±0.04, h29km, mb4.5/19, Error ellipse: s-maj=7.4km s-min=4.9km az=29.9*
DJA ***16*** *05:10:58.4±1.3,2.3S±36.3×13.9E±, h19km±4km, M4.5/5, mb4.7/1, MLv4.4/5*
NEIC ***16*** *05:10:59.8±2.8,2.07S×139.22E, h35km±20km, mb4.4/14, Error ellipse: s-maj=9.4km s-min=6.5km az=53.0*
IDC ***16*** *05:11:00.7±3.6,2.11S×139.20E, h44km±44km, mb3.8/7, mb1 4.1/9, mb1mx3.8/35, mbtmp4.1/9, ML4.1/2, MS3.3/7, Ms1 3.3/7, ms1mx2.9/31, Error ellipse: s-maj=26.5km s-min=17.4km az=113.0*

ISC 16 05:10:59.2±0.6,2.09S±0.08×139.18E±0.04, h29km, n57, σ0$ 92/50, mb4.4/19, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SMPI	**Sarmi**	**0.48**	**282**	P		**Pb**	**05 11 07.7**	**-1.6**
SMPI				S		**Sn**	**05 11 17.6**	**0.0**
GENI	**Genyem**	**1.10**	**117**	P		**Pb**	**05 11 19.6**	**-0.2**
JAY	**Jayapura**	**1.58**	**105**	P		**Pn**	**05 11 25.2**	**-0.1**
	18nm,0.3s,baz=246,slow=9.4,SNR=48							
JAY				S		**Sn**	**05 11 45.1**	**+0.2**
	27nm,0.3s,baz=162,slow=22,SNR=15							
JAY				LR		LR	05 12 22.7	
	comp=Z,974nm,18.4s,baz=339,slow=53							
JAY	**Jayapura**	**1.58**	**105**	P		**Pn**	**05 11 25.0**	**-0.4**
JAY				S		**Sb**	**05 11 50.5**	**+3.0**
SRPI	**Serui, Papua**	**2.95**	**274**	P		**Pn**	**05 11 46.4**	**+2.3**
SRPI				S		**Sn**	**05 12 18.9**	**+0.3**
RKPI	**Ransiki, Papua**	**5.03**	**277**	P		Pn	05 12 17.2	+4.3
FAKI	**Fak Fak**	**6.97**	**263**	*e*	Pn	**Pn**	**05 12 40.7**	**+1.2**
FAKI				*e*	Sn	**Sn**	**05 13 58.6**	**+0.7**
FAKI	**Fak Fak**	**6.97**	**263**	P		**Pn**	**05 12 39.7**	**+0.2**
COEN	**Coen**	**12.43**	**162**	*e*	Pn	**Pn**	**05 13 53.0**	**-1.3**
GUMO	**Guam**	**16.57**	**20**	LR		LR	05 21 11.2	
	comp=Z,53nm,19.1s,baz=96,slow=37							
SOEI	**Soe**	**16.66**	**242**	*e*	Pn	**Pn**	**05 14 51.5**	**+0.6**
	64nm,1.1s							
BATI	**Baumata**	**17.39**	**242**	LR		LR	05 23 13.8	
	comp=Z,116nm,21.6s,baz=70,slow=42							
WRAB	**Tennant Creek**	**18.35**	**195**	*e*	P	**Pn**	**05 15 12.3**	**+0.6**
	18nm,0.8s							
WB2	**Warramunga Arr**	**18.36**	**195**	*e*	P	**P**	**05 15 11.5**	**-0.3**
	20nm,0.6s							
WR1	**Warramunga Arr**	**18.36**	**195**	*e*	P	**Pn**	**05 15 11.7**	**-0.2**
	21nm,0.7s							
WRA	**Warramunga Arr**	**18.36**	**195**		P	**Pn**	**05 15 11.7**	**-0.2**
	1.0nm,0.3s,baz=22,slow=10,SNR=19							
WRA					LR	LR	05 22 41.1	
	comp=Z,114nm,19.2s,baz=5.0,slow=38							
CTA	**Charters Tower**	**19.18**	**159**		P	**P**	**05 15 19.9**	**-0.8**
	0.2nm,0.3s,baz=336,slow=10.0,SNR=2.6							
FITZ	**Fitzroy Crossi**	**20.72**	**219**		P	**P**	**05 15 36.5**	**-1.0**
	2.2nm,0.7s,baz=22,slow=5.7,SNR=2.2							
FITZ					LR	LR	05 24 52.3	
	comp=Z,87nm,18.4s,baz=41,slow=40							
FITZ	**Fitzroy Crossi**	**20.72**	**219**	*e*	P	**P**	**05 15 36.9**	**-0.7**
	5.4nm,1.0s							
AS01	**Alice Springs**	**22.03**	**193**	*e*	P	**P**	**05 15 51.9**	**+0.3**
AS31	**Alice Springs**	**22.05**	**193**	*e*	P	**P**	**05 15 52.3**	**+0.5**
	4.3nm,0.6s							
ASAR	**Alice Springs**	**22.05**	**193**		P	**P**	**05 15 52.2**	**+0.4**
	12nm,0.7s,baz=25,slow=10,SNR=31							

STKA	**Stephens Creek**	**29.71**	**176**		P	**P**	**05 17 03.0**	**0.0**
	2.3nm,0.7s,baz=326,slow=9.3,SNR=4.8								
STKA					LR	LR	05 32 02.0		
	comp=Z,90nm,18.7s,baz=24,slow=42								
STKA	**Stephens Creek**	**29.71**	**176**	*e*	P	**P**	**05 17 03.9**	**+0.9**	
	0.9nm,1.0s								
FORT	**Forrest**	**30.41**	**199**	*e*	P	**P**	**05 17 10.5**	**+1.4**	
	29nm,0.7s								
BBOO	**Buckleboo**	**30.70**	**185**	*e*	P	**P**	**05 17 12.7**	**+1.1**	
	6.3nm,0.9s								
H11S3	**WAKE ISLAND Hy**	**33.93**	**52**		T	T	05 53 14.5		
	baz=236,slow=75,SNR=121								
H11S2	**WAKE ISLAND Hy**	**33.94**	**52**		T	T	05 53 15.4		
	baz=236,slow=75,SNR=46								
H11S1	**WAKE ISLAND Hy**	**33.95**	**52**		T	T	05 53 15.8		
	baz=236,slow=75,SNR=92								
LHI	**Lord Howe Isla**	**34.77**	**149**	*e*	P	**P**	**05 17 47.7**	**+0.4**	
	111nm,1.0s								
H11N1	**WAKE ISLAND Hy**	**34.78**	**50**		T	T	05 54 23.9		
	baz=232,slow=75,SNR=12								
H11N2	**WAKE ISLAND Hy**	**34.80**	**50**		T	T	05 54 24.3		
	baz=232,slow=75,SNR=12								
H11N3	**WAKE ISLAND Hy**	**34.80**	**50**		T	T	05 54 24.8		
	baz=232,slow=75,SNR=10								
JNU	**Nakatsue**	**35.89**	**348**	LR		LR	05 32 16.3		
	comp=Z,37nm,18.3s,baz=104,slow=36								
IPM	**Ipoh**	**38.68**	**280**	*e*	P	**P**	**05 18 20.4**	**-0.5**	
	6.6nm,0.8s								
SKLT	**Songkhla**	**39.56**	**284**		P	**P**	**05 18 28.5**	**+0.2**	
	16nm,0.8s								
PSI	**Prapat**	**40.54**	**277**	*e*	P	**P**	**05 18 35.4**	**-1.1**	
	9.4nm,0.8s								
TRTT	**Trang**	**40.60**	**285**		P	**P**	**05 18 37.0**	**+0.1**	
	6.9nm,0.9s								
KSRS	**Korea Array**	**40.71**	**346**	LR		LR	05 33 05.5		
	comp=Z,20nm,21.3s,baz=135,slow=32								
CHAI	**Chaiyaphum**	**40.88**	**297**		P	**P**	**05 18 39.0**	**-0.1**	
	4.6nm,0.5s,91nm								
GSI	**Gunungsitoli**	**41.73**	**274**	*e*	P	**P**	**05 18 45.3**	**-0.9**	
	12nm,0.7s								
PAYA	**Payao**	**44.10**	**301**		P	**P**	**05 19 05.7**	**+0.3**	
CM01	**Chiang Mai Arr**	**44.52**	**299**	*e*	P	**P**	**05 19 08.6**	**-0.1**	
CM31	**Chiang Mai Arr**	**44.55**	**299**	*e*	P	**P**	**05 19 09.2**	**+0.3**	
CMAR	**Chiang Mai Arr**	**44.55**	**299**		P	**P**	**05 19 09.0**	**+0.1**	
	2.9nm,0.4s,baz=122,slow=6.7,SNR=17								
PYZ	**Puysegur Point**	**50.05**	**155**	*e*	P	**P**	**05 19 49.5**	**-1.9**	
	52nm,0.9s								
SONA0	**Songino Array**	**57.37**	**334**	*e*	P	**P**	**05 20 45.3**	**+0.3**	
SONM	**Songino Array**	**57.37**	**334**		P	**P**	**05 20 45.3**	**+0.2**	
	0.4nm,0.5s,baz=154,slow=8.0,SNR=3.0								
SONA1	**Songino Array**	**57.37**	**334**	*e*	P	**P**	**05 20 46.0**	**+0.9**	
MK32	**Makanchi Array**	**69.59**	**322**	*e*	P	**P**	**05 22 05.8**	**0.0**	
MKAR	**Makanchi Array**	**69.59**	**322**		P	**P**	**05 22 05.8**	**0.0**	
	1.6nm,0.8s,baz=108,slow=7.8,SNR=7.7								
ZALV	**Zalesovo Beam**	**71.64**	**330**		P	**P**	**05 22 16.7**	**-1.4**	
	0.7nm,0.6s,baz=131,slow=9.8,SNR=3.0								
ZAA1	**Zalesovo Array**	**71.64**	**330**	*e*	P	**P**	**05 22 16.7**	**-1.4**	
BRVK	**Borovoye**	**79.15**	**325**	*e*	P	**P**	**05 23 01.4**	**+0.1**	
	3.3nm,0.8s								
ABKAR	**Akbulak array**	**84.56**	**320**	*e*	P	**P**	**05 23 29.6**	**-0.2**	
QSPA	**South Pole Qui**	**87.85**	**180**	*e*	P	**P**	**05 23 46.6**	**+0.8**	
	1.9nm,1.1s								
DBIC	**Dimbokro**	**143.87**	**278**	PKP		PKPbc	05 30 30.6	0.0	
	3.7nm,1.0s,baz=160,slow=5.4,SNR=3.3								

MEX 16 05:13:48.6±0.6,13.92N×92.57W, h33km±34km, MD3.7, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
THIG		**1.02**	**16**	*e*	P	Pn	05 14 04.2	-2.4
THIG				*e*	S	Sn	05 14 17.5	-2.3
PCIG		**1.88**	**340**	*i*	P	Pn	05 14 16.3	-2.1
PCIG				*i*	S	Sn	05 14 38.7	-2.3
CCIG	**Comitan**	**2.38**	**10**	*e*	P	Pn	05 14 24.0	-1.5
CCIG				*i*	S	Sn	05 14 51.3	-2.4
TGIG		**2.89**	**349**	*i*	P	Pn	05 14 30.9	-1.5
TGIG				*i*	S	Sn	05 15 03.7	-2.4

JMA 16 05:20:41.6, 40.04N×140.54E, h9km±1km, M3.3, 1D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAH	**Hinai**	**0.17**	**26**	||P	Pg	05 20 45.4	+0.3
JAH				*e*	S	Sg	05 20 47.9	+0.3

NIED ***16*** *05:20:00, 40.00N×140.50E, h8km, Mw3.7 Best double couple: M0 3.88000×10^14 NP1:φs 330.00000°, δ26.00000°, λ 79.00000°. NP2:φs 163.00000°, δ65.00000°, λ 95.00000°.*
ISCJB ***16*** *05:20:49.3±0.7, 40.12N±0.03×140.63E±0.07, h33km±6km, mb3.4/2, Error ellipse: s-maj=8.5km s-min=5.7km az=173.2*
IDC ***16*** *05:20:50.0±2.3, 40.48N×139.95E, h55km±27km, mb3.0/2, mb1 3.4/5, mb1mx3.1/42, mbtmp3.4/5, ML3.2/3, Error ellipse: s-maj=50.8km s-min=15.6km az=110.0*
JMA ***16*** *05:20:50.2, 40.04N×140.53E, h8km±2km, M3.5*
JMA Felt II J1.

ISC 16 05:20:48.1±0.9, 40.19N±0.05×140.61E±0.07, h31km±6km, n11, σ2$ 53/14, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAH	**Hinai**	**0.02**	**101**	P		**Pb**	**05 20 53.7**	**+0.5**
JAH				*e*	S	**Sn**	**05 20 56.6**	**-0.1**
JNTW	**Noshirotokiwa**	**0.35**	**283**	*e*	S	**Sn**	**05 21 04.0**	**+0.9**
JKZ	**Kuzumaki**	**0.59**	**110**	S		**Sb**	**05 21 09.9**	**+1.8**
JIW	**Iwasaki**	**0.61**	**311**	S		**Sn**	**05 21 12.6**	**+3.1**
JRG	**Rokugo**	**0.80**	**179**	P		**Pn**	**05 21 02.9**	**-0.2**
JRG				S		**Sn**	**05 21 12.0**	**-1.9**
MAT	**Matsushiro**	**4.11**	**208**	P		Pb	05 21 55.8	-3.8
MAT				*e*	S	**Sn**	**05 22 37.7**	**+2.0**
MJAR	**Matsushiro Arr**	**4.11**	**208**	P		**Pn**	**05 21 51.9**	**+3.2**
	0.6nm,0.3s,baz=20,slow=14,SNR=3.7							
MJAR				S		**Sn**	**05 22 38.0**	**+2.4**
	0.6nm,0.3s,baz=8.3,slow=15,SNR=3.5							
ASAJ	**Asahikawa**	**4.19**	**20**	P		**Pn**	**05 21 52.4**	**+2.5**
	1.0nm,0.3s,baz=281,slow=12,SNR=2.1							
KSRS	**Korea Array**	**10.27**	**259**	P		**Pn**	**05 23 09.7**	**-3.6**
	0.5nm,0.3s,baz=67,slow=14,SNR=6.7							
ILAR	**Eielson Array**	**47.20**	**34**	P		**P**	**05 29 15.6**	**-1.9**
	0.7nm,0.7s,baz=286,slow=6.5,SNR=3.4							
WRA	**Warramunga Arr**	**60.11**	**187**	P		**P**	**05 30 54.3**	**+1.8**
	0.4nm,0.8s,baz=6.4,slow=7.6,SNR=3.5							

ISCJB ***16*** *05:39:22.9±0.5, 35.23N±0.04×23.16E±0.04, h72km±4km, mb3.7/10, Error ellipse: s-maj=7.6km s-min=4.0km az=42.5*
HLW ***16*** *05:39:22.2, 35.33N×23.43E, h33km±22km, Ml3.9*
ATH ***16*** *05:39:23.6, 35.26N×23.13E, h38km±3km, ML3.5/11, Error ellipse: s-maj=4.1km s-min=1.1km az=55.0*
THE ***16*** *05:39:25.0, 35.28N×23.20E, h26km, ML3.6/5, Error ellipse: s-maj=0.9km s-min=0.3km az=53.0*
IDC ***16*** *05:39:25.7±1.9, 35.45N×23.14E, h67km±18km, mb3.6/10, mb1 3.7/15, mb1mx3.5/51, mbtmp3.8/15, MS2.9/3, Ms1 2.9/3, ms1mx2.5/33, Error ellipse: s-maj=22.2km s-min=16.8km az=24.0*
DDA ***16*** *05:39:53.7, 35.19N×23.89E, h50km, Ml3.6*

ISC 16 05:39:23.5±0.8, 35.23N±0.05×23.20E±0.04, h59km±8km, n85, σ1$ 70/105, mb3.9/10, 1D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ANKY	**Antikythira Is**	**0.64**	**7**	P		**Pn**	**05 39 36.4**	**-0.6**
ANKY				S		**Sn**	**05 39 46.6**	**-0.2**
ANKY					AML	AML	05 39 48.5	
	comp=N,26828μm,0.5s							
ANKY					AML	AML	05 39 50.2	
	comp=E,18792μm,0.4s							
ANKY	**Antikythira Is**	**0.64**	**7**	P		**Pn**	**05 39 36.4**	**-0.6**
ANKY				S		**Sn**	**05 39 45.5**	**-1.4**
IMMV	**Iera Moni Meta**	**0.68**	**70**	P		**Pn**	**05 39 38.6**	**+1.1**
IMMV				S		**Sn**	**05 39 49.5**	**+1.8**
IMMV					AML	AML	05 39 54.6	
	comp=N,11824μm,0.5s							
IMMV					AML	AML	05 39 58.8	
	comp=E,8712μm,0.9s							
IMMV	**Iera Moni Meta**	**0.68**	**70**	P		**Pn**	**05 39 37.8**	**+0.3**
IMMV				S		**Sn**	**05 39 47.3**	**-0.4**

CHAN	**Chania**	**0.75**	**67**	P		**Pn**	**05 39 38.4**	**+0.1**	
CHAN				S		**Sn**	**05 39 49.2**	**+0.1**	
GVD	**Gavdhos**	**0.83**	**118**	P		**Pn**	**05 39 40.7**	**+1.4**	
GVD				||S		**Sn**	**05 39 53.7**	**+2.7**	
GVD					AML	AML	05 40 05.6		
	comp=N,4167μm,0.3s								
GVD					AML	AML	05 40 07.8		
	comp=E,3945μm,0.6s								
GVD	**Gavdhos**	**0.83**	**118**	P		**Pn**	**05 39 40.4**	**+1.1**	
GVDS	**Gavdos**	**0.83**	**118**	P		**Pn**	**05 39 39.9**	**+0.6**	
VAM	**Vamos**	**0.84**	**78**	P		**Pn**	**05 39 41.1**	**+1.7**	
VAM				S		**Sn**	**05 39 52.6**	**+1.4**	
VAM					AML	AML	05 40 02.2		
	comp=N,7926μm,0.5s								
VAM					AML	AML	05 40 04.2		
	comp=E,5806μm,0.6s								
VAM	**Vamos**	**0.84**	**78**	P		**Pn**	**05 39 39.9**	**+0.5**	
VAM				S		**Sn**	**05 39 51.8**	**+0.7**	
KYTH	**Kithira**	**1.04**	**353**	P		**Pn**	**05 39 42.6**	**+0.6**	
KYTH				S		**Sn**	**05 39 56.7**	**+0.8**	
KYTH					AML	AML	05 39 58.1		
	comp=N,7973μm,0.6s								
KYTH					AML	AML	05 40 01.6		
	comp=E,9674μm,1.0s								
KYTH	**Kithira**	**1.04**	**353**	P		**Pn**	**05 39 42.5**	**+0.4**	
KYTH				S		**Sn**	**05 39 55.9**	**+0.1**	
KTHR	**Kythira**	**1.04**	**351**	P		**Pn**	**05 39 42.2**	**+0.1**	
KTHR				S		**Sn**	**05 39 55.4**	**-0.4**	
SIVA	**Sivas**	**1.34**	**99**	P		**Pn**	**05 39 48.3**	**+2.2**	
SIVA					AML	AML	05 40 22.8		
	comp=E,2700μm,0.5s								
SIVA					AML	AML	05 40 27.3		
	comp=N,2465μm,0.9s								
SIVA	**Sivas**	**1.34**	**99**	P		**Pn**	**05 39 47.3**	**+1.3**	
IDI	**Anoyia**	**1.38**	**87**	*e*	P	**Pn**	**05 39 47.2**	**+0.5**	
IDI	**Anoyia**	**1.38**	**87**	P		**Pn**	**05 39 48.8**	**+2.0**	
	comp=N,8.9nm,0.3s,baz=245,slow=13,SNR=28								
IDI				S		**Sn**	**05 40 08.0**	**+3.9**	
	comp=N,33nm,0.3s,baz=324,slow=19,SNR=8.7								
IDI				LR		LR	05 40 40.6		
	comp=N,243nm,20.8s,baz=259,slow=52								
MNVA	**Monemvasia**	**1.46**	**355**	P		**Pn**	**05 39 49.1**	**+1.4**	
VLI	**Veliai**	**1.50**	**352**	P		**Pn**	**05 39 50.1**	**+1.9**	
VLI				S		**Sn**	**05 40 07.8**	**+1.0**	
VLI					AML	AML	05 40 17.9		
	comp=E,4153μm,1.1s								
VLI					AML	AML	05 40 21.6		
	comp=N,3881μm,0.8s								
VLI	**Veliai**	**1.50**	**352**	P		**Pn**	**05 39 48.7**	**+0.5**	
VLI				S		**Sn**	**05 40 07.6**	**+0.9**	
DYR	**Agios Nikonas**	**1.68**	**336**	P		**Pn**	**05 39 51.6**	**+0.9**	
DYR				S		**Sn**	**05 40 13.1**	**+2.0**	
DYR					AML	AML	05 40 30.4		
	comp=E,1200μm,0.7s								
DYR					AML	AML	05 40 35.8		
	comp=N,1417μm,0.6s								
DYR	**Agios Nikonas**	**1.68**	**336**	P		**Pn**	**05 39 51.7**	**+1.0**	
MHLO	**Agia Marina, M**	**1.75**	**34**	P		**Pn**	**05 39 53.3**	**+1.7**	
MHLO	**Agia Marina, M**	**1.75**	**34**	P		**Pn**	**05 39 52.3**	**+0.7**	
LAST	**Lasithi**	**1.87**	**92**	P		**Pn**	**05 39 55.4**	**+2.2**	
LAST					AML	AML	05 40 48.0		
	comp=N,687μm,0.8s								
LAST					AML	AML	05 40 50.7		
	comp=E,783μm,1.4s								
PYL	**PYLOS**	**2.04**	**325**	P		**Pn**	**05 39 57.4**	**+1.9**	
PYL					AML	AML	05 40 41.4		
	comp=N,659μm,0.8s								
PYL					AML	AML	05 40 51.5		
	comp=E,733μm,0.6s								
THR5	**Thira Island,**	**2.11**	**55**	P		**Pn**	**05 39 57.4**	**+0.9**	
THR3	**Thira Island,**	**2.14**	**56**	P		**Pn**	**05 39 58.0**	**+1.1**	
THT1	**Athinios (Pele**	**2.15**	**57**	P		**Pn**	**05 39 58.2**	**+1.2**	
SANT	**Santorini**	**2.16**	**58**	*e*	P	**Pn**	**05 39 56.8**	**-0.4**	
SANT	**Santorini**	**2.16**	**58**	P		**Pn**	**05 39 58.3**	**+1.1**	
THR8	**Santorini-Mono**	**2.19**	**57**	P		**Pn**	**05 39 58.5**	**+0.9**	
ITM	**Ithomi**	**2.20**	**332**	P		**Pn**	**05 39 58.5**	**+0.8**	
ITM					AML	AML	05 40 43.7		
	comp=N,790μm,0.5s								
ITM					AML	AML	05 40 49.8		
	comp=E,953μm,0.8s								
VLX	**Vlachokerasia**	**2.23**	**343**	P		**Pn**	**05 39 58.9**	**+0.6**	
DID	**Didima**	**2.27**	**1**	P		**

comp=E,5.9nm,21.4s,baz=70,slow=37
SONM Songino Array 60.68 50 P P 05 49 29.7 +1.0
comp=E,0.5nm,0.9s,baz=272,slow=9.8,SNR=3.6

*JMA **16** 05:46:23.3±0.5,21°.97N×122°.76E,h43km,M3.5*
*TAP **16** 05:46:23.6,21°.97N×122°.66E,h22km±2km,ML3.2,C*
ISC 16 05:46:21.1±3.2,21°.94N±0°.07×122°.79E±0°.04,h14km±24km, n45,σ1§56/76,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**1.15**	**275**	P			**Pb**	**05 46 42.3**	**-0.5**
	baz=273								
LAY				S			**Sb**	**05 46 56.3**	**-1.3**
	baz=273								
CHKT	**Chengkung**	**1.75**	**312**		*e*S		**Sn**	**05 47 10.7**	**-2.4**
	baz=314								
TSEB	**Hengchuen, Pin**	**1.75**	**269**		*e*S		**Sb**	**05 47 15.5**	**+0.6**
	baz=267								
TWGBT	**Beinan**	**1.80**	**299**		*e*P		**Pn**	**05 46 52.4**	**+0.6**
	baz=311								
TWGBT					*e*S		**Sn**	**05 47 13.0**	**-1.5**
	baz=311								
TWG	**Pinlang**	**1.81**	**299**		*e*P		**Pn**	**05 46 52.4**	**+0.5**
	baz=311								
TWG					*e*S		**Sn**	**05 47 14.2**	**-0.5**
	baz=311								
TWKBT	**Hengchun**	**1.83**	**270**		*e*P		**Pn**	**05 46 53.3**	**+1.1**
	baz=268								
TWKBT					*e*S		**Sn**	**05 47 15.2**	**0.0**
	baz=268								
TWK1	**Hengchun**	**1.84**	**270**		*e*S		**Sn**	**05 47 14.9**	**-0.4**
	baz=268								
EAST	**Anshuo**	**1.85**	**284**		*e*P		**Pn**	**05 46 52.7**	**+0.2**
	baz=284								
EAST					*e*S		**Sn**	**05 47 13.7**	**-1.9**
	baz=284								
FULB	**Fuli**	**1.86**	**312**		*e*P		**Pn**	**05 46 52.5**	**-0.1**
	baz=314								
FULB					S		**Sn**	**05 47 13.9**	**-2.1**
	baz=314								
TWF1	**Yuli**	**1.96**	**316**		*e*P		**Pn**	**05 46 54.3**	**+0.3**
	baz=318								
TWF1					*e*S		**Sn**	**05 47 18.0**	**-0.5**
	baz=318								
HGSD	**Ruisui**	**1.99**	**321**		*e*P		**Pn**	**05 46 54.3**	**0.0**
	baz=323								
HGSD					*e*S		**Sn**	**05 47 17.0**	**-2.1**
	baz=323								
YULB	**Yu-li**	**1.99**	**317**		*e*P		**Pn**	**05 46 54.8**	**+0.4**
	baz=319								
YULB					*e*S		**Sn**	**05 47 18.7**	**-0.5**
	baz=319								
ELDTW	**Lidau**	**2.05**	**308**		*e*P		**Pn**	**05 46 55.5**	**+0.2**
	baz=319								
ELDTW					*e*S		**Sn**	**05 47 18.1**	**-2.7**
	baz=319								
SCZT	**Fangliau**	**2.05**	**282**		*e*P		**Pn**	**05 46 55.8**	**+0.6**
	baz=282								
SCZT					*e*S		**Sn**	**05 47 20.4**	**-0.2**
	baz=282								
MASBT	**Mashibuluo**	**2.10**	**289**		*e*P		**Pn**	**05 46 57.3**	**+1.4**
	baz=289								
STYT	**Tauyuan**	**2.23**	**303**	P			**Pn**	**05 46 58.6**	**+0.9**
	baz=304								
STYT					*e*S		**Sn**	**05 47 25.8**	**+0.5**
	baz=304								
ESL	**Shilin**	**2.24**	**326**		*e*P		**Pn**	**05 46 58.6**	**+0.7**
	baz=342								
ESL					*e*S		**Sn**	**05 47 23.7**	**-1.6**
	baz=342								
YUS	**Yu-Shan**	**2.29**	**313**		*e*P		**Pn**	**05 47 00.1**	**+1.2**
	baz=314								
YUS					*e*S		**Sn**	**05 47 26.8**	**-0.4**
	baz=314								
HATJ	**Hateruma jima**	**2.30**	**24**	P			**Pn**	**05 46 59.9**	**+1.2**
HATJ					*e*S		**Sn**	**05 47 26.3**	**-0.5**
SGST	**Jiashian**	**2.33**	**300**		*e*P		**Pn**	**05 47 01.7**	**+2.6**
	baz=311								
VWDT	**VWDT**	**2.35**	**320**		*e*P		**Pn**	**05 47 01.1**	**+1.8**
	baz=334								
VWDT					*e*S		**Sn**	**05 47 27.4**	**-0.7**
	baz=334								
WTP	**Ta-pu**	**2.39**	**303**	P			**Pn**	**05 47 02.5**	**+2.5**
	baz=314								
WTP					*e*S		**Sn**	**05 47 31.5**	**+2.5**
	baz=314								
TWD	**Chiawan**	**2.39**	**333**		*e*S		**Sn**	**05 47 27.0**	**-2.0**
	baz=336								
TPUB	**Ta-pu**	**2.41**	**305**		*e*P		**Pb**	**05 47 03.6**	**-0.6**
	baz=315								
TPUB					*e*S		**Sn**	**05 47 31.1**	**+1.7**
	baz=315								
CHN4	**Tsaushan**	**2.46**	**305**	P			**Pn**	**05 47 03.9**	**+3.1**
	baz=315								
CHN4					*e*S		**Sn**	**05 47 33.9**	**+3.1**
	baz=315								
NACB	**Ninganchiao**	**2.48**	**334**		*e*P		**Pn**	**05 47 02.5**	**+1.5**
	baz=336								
NACB					*e*S		**Sn**	**05 47 29.7**	**-1.4**
	baz=336								
SSLB	**Suanglung**	**2.49**	**318**		*e*P		**Pn**	**05 47 02.9**	**+1.6**
	baz=319								
TWK	**Hsinying**	**2.50**	**302**		*e*P		**Pb**	**05 47 05.0**	**-0.9**
	baz=303								
TWK					*e*S		**Sb**	**05 47 35.6**	**-0.9**
	baz=303								
IRIF	**Iriomote-Funau**	**2.54**	**20**	P			**Pn**	**05 47 03.3**	**+1.4**
IRIF				S			**Sn**	**05 47 32.6**	**+0.1**
JKRS	**Kuro-shima**	**2.55**	**26**	P			**Pn**	**05 47 03.4**	**+1.4**
JKRS				S			**Sn**	**05 47 32.7**	**-0.1**
CHGB	**Renai**	**2.58**	**325**		*e*P		**Pn**	**05 47 04.4**	**+1.7**
	baz=327								
SMLT	**Sun Moon Lake**	**2.60**	**318**		*e*P		**Pb**	**05 47 06.0**	**+3.1**
	baz=320								
WHF	**Hehuan Shan**	**2.60**	**328**	P			**Pn**	**05 47 04.5**	**+1.3**
	baz=330								
WHF					*e*S		**Sn**	**05 47 34.4**	**-0.3**
	baz=330								
TYC	**Yuchr**	**2.64**	**318**		*e*P		**Pn**	**05 47 06.8**	**+3.5**
	baz=329								
TYC					*e*S		**Sn**	**05 47 37.3**	**+2.2**
	baz=329								
NANB	**Nanao**	**2.65**	**339**		*e*P		**Pn**	**05 47 05.1**	**+1.6**
	baz=342								
NANB					*e*S		**Sn**	**05 47 35.0**	**-0.4**
	baz=342								
ENA	**Nanau**	**2.65**	**339**		*e*S		**Sn**	**05 47 35.9**	**+0.4**
	baz=342								
EOS1	**EOS1**	**2.66**	**347**		*e*S		**Sn**	**05 47 36.7**	**+1.0**
	baz=350								
WDLH	**Douliu**	**2.71**	**310**		*e*S		**Sb**	**05 47 40.5**	**-1.9**
	baz=325								
JIJ	**Ishigaki jima**	**2.71**	**27**	P			**Pn**	**05 47 05.4**	**+1.1**
JIJ				S			**Sn**	**05 47 35.8**	**-1.2**
TWT	**Tachien**	**2.74**	**328**		*e*P		**Pn**	**05 47 07.7**	**+2.9**
	baz=329								
TWT					*e*S		**Sn**	**05 47 38.2**	**+0.4**
	baz=329								
TDCB	**Techi**	**2.74**	**327**		*e*P		**Pn**	**05 47 06.8**	**+1.9**
	baz=329								
TDCB					*e*S		**Sn**	**05 47 37.5**	**-0.4**
	baz=329								
JISG	**Ishigakijimahi**	**2.98**	**28**	P			**Pn**	**05 47 08.8**	**+0.8**
JISG				S			**Sn**	**05 47 42.7**	**-0.9**
YHNB	**Yeheng**	**3.01**	**335**		*e*P		**Pn**	**05 47 10.9**	**+2.5**
	baz=337								
YHNB					*e*S		**Sn**	**05 47 44.7**	**+0.4**
	baz=337								
NSTT	**Nanjuang**	**3.14**	**329**		*e*S		**Sn**	**05 47 50.2**	**+2.7**
	baz=342								
JTJ	**Tarama**	**3.21**	**33**		*e*S		**Sn**	**05 47 48.0**	**-1.2**

IDC 16 05:54:49.4±723.0,50°.99N×130°.98E,h0km,Error ellipse: s-maj=270.4km s-min=134.9km az=165.0,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**6.82**	**174**	*i*				06 37 50.0	
	baz=355,slow=333,SNR=2.8								
I44RU	**PETROPAVLOVSK**	**16.55**	**72**	*i*				07 43 20.0	
	baz=276,slow=315,SNR=0.6								
I30JP	**ISUMI INFRASON**	**17.06**	**153**	*i*				07 36 50.0	
	baz=341,slow=324,SNR=1.2								

*ISCJB **16** 06:05:39.0±0.5,7°.95S×0°.03×74°.40W±0°.03,h148km±5km, mb4.3/68,Error ellipse: s-maj=5.5km s-min=3.8km az=149.4*
*IDC **16** 06:05:39.5±0.5,7°.98S×74°.41W,h141km±4km,mb4.0/20, mb1 4.1/28,mb1mx4.0/33,mbtmp4.4/28,Error ellipse: s-maj=8.9km s-min=8.2km az=48.0*
*NEIC **16** 06:05:40.4±0.1,7°.97S×74°.36W,mb4.3/58,Error ellipse: s-maj=4.2km s-min=2.8km az=67.0*
NEIC Felt at Cruzeiro do Sul, Brazil.
ISC 16 06:05:40.1±0.3,7°.99S±0°.04×74°.35W±0°.05,h146km±3km, h146km:pP-P,n159,σ1§32/195,mb4.3/69,1D,Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**4.10**	**282**	P			**Pn**	**06 06 40.0**	**-2.0**
	29nm,0.3s,baz=70,slow=5.6,SNR=168								
ATAH				S			**Sn**	**06 07 26.3**	**-3.5**
	109nm,0.3s,baz=50,slow=23,SNR=36								
NNA	**Nana**	**4.67**	**211**	P			**Pn**	**06 06 49.1**	**-0.1**
	41nm,0.3s,baz=0.5,slow=3.4,SNR=58								
NNA				S			**Sn**	**06 07 41.0**	**-1.9**
	413nm,0.3s,baz=109,slow=16,SNR=12								
NNA	**Nana**	**4.67**	**211**	*e*Pn			**Pn**	**06 06 48.9**	**-0.3**
NNA				*e*Sn			**Sn**	**06 07 40.8**	**-2.1**
OTAV	**Otavalo**	**9.14**	**333**	*e*Pn			**Pn**	**06 07 49.4**	**+0.2**
OTAV	**Otavalo**	**9.14**	**333**	*e*P			**Pn**	**06 07 49.7**	**+0.5**
FLOC	**Florencia**	**9.60**	**352**	*e*P			**Pn**	**06 07 53.6**	**-1.3**
GCUF	**Volcan Galeras**	**9.63**	**342**	*e*P			**Pn**	**06 07 53.3**	**-2.5**
LPAZ	**La Paz**	**10.25**	**144**	P			**Pn**	**06 08 04.7**	**+0.6**
	1.7nm,0.3s,baz=318,slow=7.6,SNR=80								
LPAZ				S			**Sn**	**06 09 56.8**	**-1.0**
	1.2nm,0.3s,baz=77,slow=19,SNR=2.3								
LPAZ	**La Paz**	**10.25**	**144**	*e*Pn			**Pn**	**06 08 04.5**	**+0.5**
LPAZ				*e*Sn			**Sn**	**06 09 58.6**	**+0.8**
SOTA	**Rioblanco**	**10.30**	**347**	*e*P			**Pn**	**06 08 04.6**	**-0.1**
PCON	**Cinco Dias**	**10.45**	**349**	*e*P			**Pn**	**06 08 06.6**	**-0.2**
POPC	**Popayan, Colom**	**10.71**	**347**	*e*P			**Pn**	**06 08 07.3**	**-2.6**
SAML	**Samuel**	**11.09**	**96**	*e*Pn			**Pn**	**06 08 14.1**	**-0.5**
SAML				*e*Sn			**Sn**	**06 10 15.2**	**-2.1**
MNMC	**Minye Minye**	**12.00**	**158**	*e*Pn			**Pn**	**06 08 27.7**	**+0.8**
VILC	**Villavicencio,**	**12.04**	**3**	*e*P			**P**	**06 08 35.3**	**+1.4**
PB11	**IPOC Station P**	**12.56**	**159**	*e*Pn			**Pn**	**06 08 34.9**	**+1.0**
ROSC	**El Rosal**	**12.74**	**0**	P			**Pn**	**06 08 37.7**	**+1.1**
	0.9nm,0.3s,baz=174,slow=19,SNR=3.7								
SIV				sP			**sP**	**06 09 47.4**	**-5.4**
	2.0nm,0.3s,baz=299,slow=14,SNR=6.0								
ROSC	**El Rosal**	**12.74**	**0**	*e*Pn			**Pn**	**06 08 38.5**	**+1.9**
ROSC	**El Rosal**	**12.74**	**0**	*e*P			**Pn**	**06 08 37.8**	**+1.1**
PB01	**IPOC Station P**	**13.80**	**161**	*e*P			**P**	**06 08 54.0**	**+0.5**
RUSC	**La Rusia**	**13.85**	**5**	*e*P			**Pn**	**06 08 50.1**	**-0.7**
PB04	**IPOC Station P**	**14.83**	**165**	*e*Pn			**P**	**06 09 04.4**	**-0.5**
SIV	**San Ignacio**	**15.22**	**123**	P			**Pn**	**06 09 07.9**	**+0.3**
	1.1nm,0.3s,baz=318,slow=11,SNR=55								
SIV				sP			**sP**	**06 09 47.4**	**-5.4**
	2.0nm,0.3s,baz=299,slow=14,SNR=6.0								
SIV				S			**Sn**	**06 11 55.1**	**-1.8**
	1.2nm,0.3s,baz=40,slow=23,SNR=3.6								
PAMC	**Pamplona, Colo**	**15.31**	**6**	*e*P			**P**	**06 09 12.0**	**+1.3**
ZARC	**Zaragoza, Cauc**	**15.39**	**358**	*e*P			**Pn**	**06 09 10.1**	**+0.5**
LVC	**Limon Verde**	**15.45**	**161**	P			**P**	**06 09 11.9**	**-0.2**
	0.3nm,0.3s,baz=43,slow=7.4,SNR=4.6								
LVC	**Limon Verde**	**15.45**	**161**	*e*Pn			**P**	**06 09 12.1**	**+0.1**
	12nm,0.8s								
PTGA	**Pitinga**	**16.05**	**64**	P			**Pn**	**06 09 17.8**	**0.0**
	4.3nm,0.3s,baz=248,slow=14,SNR=46								
PTGA				S			**Sn**	**06 12 12.1**	**-4.5**
	baz=145,slow=21,SNR=4.6								
PTGA	**Pitinga**	**16.05**	**64**	*e*Pn			**P**	**06 09 18.7**	**+0.4**
	18nm,0.6s								
PTGA				S			**Sn**	**06 12 12.1**	**-4.5**
OCAC	**Ocana**	**16.15**	**4**	*e*P			**Pn**	**06 09 18.5**	**-0.7**
SMLC	**San Mart`›n de**	**16.68**	**1**	*e*P			**P**	**06 09 24.1**	**-1.2**
SDV	**Santo Domingo**	**17.17**	**13**	P			**P**	**06 09 30.0**	**-0.8**
	1.0nm,0.3s,baz=186,slow=10,SNR=20								
SDV	**Santo Domingo**	**17.17**	**13**	*e*P			**P**	**06 09 30.9**	**+0.1**
	10nm,0.8s								
SDV	**Santo Domingo**	**17.17**	**13**	*e*P			**P**	**06 09 29.6**	**-1.2**
PAYG	**Puerto Ayora**	**17.46**	**294**	*e*P			**Pn**	**06 09 34.9**	**0.0**
	58nm,1.1s								
GO02	**Mina Guanaco**	**17.67**	**166**	*e*P			**Pn**	**06 09 38.8**	**+1.1**
	15nm,1.1s								
CODC	**Agust`›n Codaz**	**17.83**	**3**	*e*P			**P**	**06 09 38.0**	**+0.1**
SMRC	**Santa Marta, M**	**19.03**	**0**	*e*P			**P**	**06 09 51.8**	**+0.9**
URIC	**Uribia, Colomb**	**19.70**	**7**	*e*P			**P**	**06 09 56.1**	**-2.2**
PCRV	**Puerto La Cruz**	**20.47**	**28**	P			**P**	**06 10 08.1**	**+1.4**
	9.4nm,0.7s,baz=70,slow=7.7,SNR=3.2								
JTS	**JuntasAbangare**	**21.00**	**330**	P			**P**	**06 10 11.3**	**-0.9**
	4.9nm,0.8s,baz=310,slow=14,SNR=3.0								
JTS	**JuntasAbangare**	**21.00**	**330**	*e*P			**P**	**06 10 14.1**	**+1.8**
	6.5nm,1.0s								
GO04	**Tololo Observa**	**22.32**	**172**	*e*P			**P**	**06 10 27.6**	**+1.5**
	12nm,1.1s								
CPUP	**Villa Florida**	**24.38**	**140**	P			**P**	**06 10 44.7**	**-0.2**
	14nm,0.8s,baz=332,slow=9.4,SNR=36								
CPUP	**Villa Florida**	**24.38**	**140**	*e*P			**P**	**06 10 44.6**	**-0.3**
	14nm,0.8s								
MDP	**Montagnes des**	**25.26**	**60**	P			**P**	**06 10 52.7**	**-0.3**
	5.3nm,0.6s,baz=210,slow=7.5,SNR=5.5								
MDP				pP			**pP**	**06 11 26.4**	**+2.8**
	14nm,0.9s,baz=275,slow=8.2,SNR=4.6								
BDFB	**Brasilia**	**26.86**	**109**	P			**P**	**06 11 08.0**	**+0.5**
	4.5nm,0.7s,baz=280,slow=12,SNR=8.9								
BDFB				pP			**pP**	**06 11 41.3**	**+3.1**
	22nm,0.7s,baz=272,slow=11,SNR=18								
OBIP	**Obispado Ponce**	**26.97**	**16**	*e*P			**P**	**06 11 08.9**	**+0.6**
	20nm,1.1s								
MPR	**Mayaguez**	**26.99**	**15**	*e*P			**P**	**06 11 08.7**	**+0.3**
	15nm,1.0s								
SJG	**San Juan**	**27.17**	**17**	P			**P**	**06 11 10.4**	**+0.4**
	34nm,0.8s,baz=187,slow=6.2,SNR=13								
SJG	**San Juan**	**27.17**	**17**	*e*P			**P**	**06 11 09.8**	**-0.2**
	31nm,0.6s								
SJG				*e*pP			**pP**	**06 11 41.9**	**+1.1**
HUMP	**Col San Antoni**	**27.29**	**18**	*e*P			**P**	**06 11 11.9**	**+0.8**
	19nm,0.9s								
MTP	**Monte Pirata**	**27.34**	**18**	*e*P			**P**	**06 11 12.0**	**+0.5**
	28nm,0.9s								
CBYP	**Canovanas**	**27.41**	**18**	*e*P			**P**	**06 11 15.0**	**+2.7**
	30nm,0.9s								
STVI	**Saint Thomas**	**27.77**	**19**	*e*P			**P**	**06 11 14.4**	**-0.9**
	22nm,0.7s								
APG	**El Apazote**	**27.87**	**325**	P			**P**	**06 11 16.8**	**+0.2**
	3.8nm,0.8s,baz=42,slow=5.6,SNR=4.3								
SMRT	**St. Maarten**	**28.17**	**23**	*e*P			**P**	**06 11 18.2**	**-0.7**
	23nm,0.8s								
TRQA	**Tornquist**	**31.96**	**161**	*e*P			**P**	**06 11 52.5**	**+0.3**
	4.6nm,1.0s								
MYIG	**MÛrida**	**32.50**	**333**	*e*P			**P**	**06 11 58.7**	**+1.6**
	72nm,0.8s								
PLCA	**Paso Flores**	**32.78**	**175**	P			**P**	**06 12 00.4**	**+0.9**
	1.2nm,0.5s,baz=8.8,slow=11,SNR=10								
PLCA	**Paso Flores**	**32.78**	**175**	*e*P			**P**	**06 12 00.2**	**+0.7**
	3.0nm,1.1s								
RPN	**Rapa Nui**	**38.20**	**236**	P			**P**	**06 12 46.3**	**+0.4**
	24nm,0.8s,baz=42,slow=4.5,SNR=2.6								
CHRN	**Cochrane**	**39.15**	**178**	*e*P			**P**	**06 12 54.3**	**+0.9**
	4.1nm,1.0s								
LNIG	**Linares**	**40.83**	**324**	*e*P			**P**	**06 13 08.1**	**+0.4**
	4.6nm,0.8s								
LTX	**Lajitas**	**46.62**	**324**	*e*P			**P**	**06 13 53.9**	**-0.1**
LTX				*e*pP			**pP**	**06 14 26.2**	**-0.8**
LTX				*e*sP			**sP**	**06 14 41.1**	**-2.2**
TX31	**Lajitas Ar. Si**	**46.62**	**324**	*e*P			**P**	**06 13 53.8**	**-0.2**
TXAR	**Lajitas Array**	**46.62**	**324**	P			**P**	**06 13 53.9**	**-0.1**
	0.7nm,0.6s,baz=149,slow=9.0,SNR=6.6								
TXAR				pP			**pP**	**06 14 26.2**	**-0.8**
	0.7nm,0.7s,baz=153,slow=8.4,SNR=3.4								
TXAR				sP			**sP**	**06 14 41.1**	**-2.2**
	0.6nm,0.5s,baz=146,slow=7.0,SNR=4.5								
O56A	**Blue Knob Stat**	**48.17**	**356**	*e*P			**P**	**06 14 06.2**	**+0.5**
	6.3nm,1.0s								
SSPA	**Standing Stone**	**48.49**	**356**	*e*P			**P**	**06 14 08.3**	**+0.3**
	5.2nm,0.8s								
MSTX	**Muleshoe**	**49.67**	**329**	*e*P			**P**	**06 14 17.2**	**-0.1**
	3.3nm,1.0s								
BINY	**Binghamton**	**49.97**	**358**	*e*P			**P**	**06 14 19.6**	**+0.3**
	15nm,0.8s								
319A	**Douglas**	**51.46**	**321**	*e*P			**P**	**06 14 31.1**	**+0.3**
	5.8nm,0.9s								
FRNY	**Flat Rock**	**52.58**	**1**	*e*P			**P**	**06 14 38.8**	**+0.1**
	2.6nm,1.0s								
PLVO	**Plevna**	**52.84**	**358**	*e*P			**P**	**06 14 40.7**	**+0.1**
	8.1nm,1.1s								
PKME	**Peaks-Kenny Pk**	**53.20**	**4**	*e*P			**P**	**06 14 43.7**	**+0.5**
	7.6nm,0.9s								

SDCO	**Great Sand Dun**	**54.00**	**330**	*e*P			**P**	**06 14 50.7**	**+1.1**
	2.2nm,1.1s								
X18A	**Snowflake**	**54.06**	**324**	*e*P			**P**	**06 14 50.6**	**+0.7**
	2.9nm,0.8s								
X16A	**Lo Mia Camp, P**	**54.87**	**322**	*e*P			**P**	**06 14 56.2**	**+0.4**
	1.9nm,0.8s								
ECSD	**EROS Data Cent**	**55.30**	**340**	*e*P			**P**	**06 14 58.0**	**-0.4**
	0.8nm,0.8s								
ECSD				*e*pP			**pP**	**06 15 37.1**	**+4.7**
WUAZ	**Wupatki**	**55.58**	**323**	*e*P			**P**	**06 15 01.2**	**+0.4**
	3.3nm,0.9s								
GSC	**Goldstone, Bar**	**58.78**	**320**	*e*P			**P**	**06 15 23.8**	**+0.6**
	1.9nm,0.7s								
DRLN	**Deer Lake**	**58.88**	**13**	*e*P			**P**	**06 15 23.9**	**+0.4**
	7.5nm,0.7s								
PSUT	**Pine Spring**	**59.09**	**324**	*e*P			**P**	**06 15 26.2**	**+0.7**
	2.5nm,0.9s								
TPNV	**Topopah Spring**	**59.47**	**322**	*e*P			**P**	**06 15 28.7**	**+0.6**
	3.7nm,0.9s								
TCUT	**Toone Canyon**	**59.55**	**328**	*e*P			**P**	**06 15 29.4**	**+0.8**
	7.0nm,0.7s								
DUG	**Dugway, Tooele**	**59.65**	**326**	*e*P			**P**	**06 15 29.4**	**+0.2**
	2.7nm,0.8s								
PDAR	**Pinedale Array**	**59.83**	**331**	P			**P**	**06 15 29.1**	**-1.4**
	0.4nm,0.6s,baz=110,slow=8.7,SNR=4.1								
PDAR	**Pinedale Array**	**59.83**	**331**	*e*P			**P**	**06 15 30.5**	**0.0**
R11A	**Troy Canyon, C**	**59.98**	**323**	*e*P			**P**	**06 15 31.8**	**+0.3**
	1.1nm,0.7s								
HWUT	**Hardware Ranch**	**59.99**	**328**	*e*P			**P**	**06 15 31.2**	**-0.4**
	2.1nm,0.6s								
ULM	**Lac du Bonnet**	**60.95**	**344**	P			**P**	**06 15 36.0**	**-1.6**
	2.5nm,0.6s,baz=146,slow=4.9,SNR=4.8								
ULM	**Lac du Bonnet**	**60.95**	**344**	*e*P			**P**	**06 15 36.6**	**-1.0**
	5.9nm,1.1s								
FXWY	**Fox Creek**	**61.20**	**330**	*e*P			**P**	**06 15 40.1**	**+0.3**
	1.2nm,1.1s								
OMMB	**Old Mammoth Mi**	**61.60**	**321**	*e*P			**P**	**06 15 43.0**	**+0.4**
	2.7nm,0.8s								
MDPB	**Devils Postpil**	**61.66**	**321**	*e*P			**P**	**06 15 43.1**	**+0.1**
	2.6nm,0.7s								
NV01	**Mina Array Sit**	**61.67**	**322**	*e*P			**P**	**06 15 43.7**	**+0.7**
NVAR	**Mina Array Bea**	**61.67**	**322**	P			**P**	**06 15 43.1**	**+0.2**
	1.3nm,0.8s,baz=146,slow=6.8,SNR=7.4								
NVAR				pP			**pP**	**06 16 17.0**	**-0.6**
	0.6nm,0.7s,baz=147,slow=8.9,SNR=2.6								
YHB	**Horse Butte**	**62.10**	**331**	*e*P			**P**	**06 15 46.7**	**+1.0**
	4.1nm,1.0s								
WAKR	**Walker**	**62.41**	**321**	*e*P			**P**	**06 15 48.3**	**+0.4**
	1.4nm,0.7s								
ORV	**Oroville**	**64.33**	**321**	*e*P			**P**	**06 16 00.8**	**+0.5**
	4.4nm,1.0s								
MSO	**Missoula**	**64.93**	**331**	*e*P			**P**	**06 16 04.6**	**+0.4**
	3.9nm,1.0s								
G08A	**Pilot Rock**	**66.42**	**327**	*e*P			**P**	**06 16 14.6**	**+0.8**
	1.0nm,0.9s								
LIC	**Lamto**	**70.56**	**81**	*e*P			**P**	**06 16 39.3**	**-0.7**
	56nm,1.3s								
TIC	**Toumodi**	**70.65**	**80**	*e*P			**P**	**06 16 39.7**	**-0.8**
DBIC	**Dimbokro**	**70.81**	**80**	P			**P**	**06 16 41.2**	**-0.3**
	26nm,0.6s,baz=238,slow=5.6,SNR=50								
KIC	**Kosan Boka**	**70.87**	**80**	*e*P			**P**	**06 16 41.4**	**-0.4**
	54nm,0.7s								
VNA3	**Neumayer Olymp**	**74.48**	**162**	P			**P**	**06 17 02.8**	**+0.7**
VNA1	**Neumayer--Stat**	**74.69**	**162**	P			**P**	**06 17 02.6**	**-0.7**
VNA2	**Neumayer--Watz**	**75.06**	**162**	P			**P**	**06 17 05.9**	**+0.4**
	baz=281,slow=5.6								
SNAA	**Sanae**	**76.68**	**162**	P			**P**	**06 17 15.5**	**+0.7**
SNAA	**Sanae**	**76.68**	**162**	*e*P			**P**	**06 17 15.6**	**+0.9**
	3.9nm,0.8s								
SNAA				*e*pP			**pP**	**06 17 51.7**	**+0.9**
YKA	**Yellowknife Ar**	**76.78**	**342**	P			**P**	**06 17 14.4**	**-0.8**
	0.8nm,0.7s,baz=138,slow=5.9,SNR=4.7								
YKA				pP			**pP**	**06 17 48.8**	**-2.5**
	0.8nm,0.7s,baz=139,slow=6.1,SNR=2.1								
TOA1	**Torodi Ar. Sit**	**78.38**	**75**	*e*P			**P**	**06 17 24.3**	**-0.8**
TOA1			

LZH				sPKP			06 26 07.9	
UGM	**Wanagama**	**163.47**	**197**	*e*PKPdf	**PKPdf**	**06 25 26.1**	**-0.5**
CM31	**Chiang Mai Arr**	**167.72**	**31**	*e*PKPab	**PKPab**	**06 26 38.2**	**+1.3**
CMAR	**Chiang Mai Arr**	**167.72**	**31**	PKPab	**PKPab**	**06 26 37.5**	**+0.6**
	1.6nm,0.7s,baz=319,slow=5.4,SNR=8.0							
PSI	**Prapat**	**171.55**	**127**	*e*PKPdf	**PKPdf**	**06 25 32.1**	**-0.4**

ISCJB **16** *06:13:43.1±0.3, 17.74S±0.03×69.49W±0.06, h168km±3km, mb4.2/17, Error ellipse: s-maj=9.1km s-min=4.3km az=18.0*
GUC **16** *06:13:44.8±0.5, 17.79S×69.63W, h155km±3km, ML4.1*
NEIC **16** *06:13:44.0±0.0, 17.74S×69.61W, h154km, mb4.1/12, ML4.1(GUC), After GUC.*
IDC **16** *06:13:44.3±1.0, 17.67S×69.49W, h158km±7km, mb4.0/8, mb1 4.0/12, mb1mx3.7/38, mbtmp4.5/12, MS2.9/1, Ms1 2.9/1, ms1mx2.4/26, Error ellipse: s-maj=14.0km s-min=10.1km az=104.0*
SCB **16** *06:13:47.0±1.5, 17.63S×69.37W, h117km±66km, ML3.5/1, Error ellipse: s-maj=36.8km s-min=26.9km az=0.0*

ISC 16 06:13:43.7±0.6, 17.66S±0.04×69.54W±0.05, h151km±6km, n57, σ1§54/76, mb4.2/17, 5C, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.68**	**177**	⇑*i*P		**P**	**Pn**	**06 14 08.6**	**+1.7**
PB16				*i* S		S	**Sn**	**06 14 26.7**	**+2.1**
PB12	**IPOC Station P**	**1.21**	**218**	⇑*i*P		**P**	**Pn**	**06 14 11.0**	**+0.5**
PB12				*i* S		S	**Sn**	**06 14 31.3**	**+0.1**
PB12				IAML				06 14 32.1	
	comp=N,3μm,0.1s								
BBOD	**La Paz, Gloria**	**1.36**	**42**	P		**P**	**Pn**	**06 14 12.5**	**0.0**
BBOJ	**La Paz, Jacaqu**	**1.46**	**62**	P		**P**	**Pn**	**06 14 14.4**	**+0.9**
MNMC	**Minye Minye**	**1.47**	**182**	*e*Pn		**P**	**Pn**	**06 14 14.7**	**+1.4**
MNMC				*e*Sn		S	**Sn**	**06 14 37.6**	**+1.6**
MNMC	**Minye Minye**	**1.47**	**182**	*i*P		**P**	**Pn**	**06 14 14.6**	**+1.3**
MNMC				*i* S		S	**Sn**	**06 14 37.9**	**+1.9**
MNMC				IAML				06 14 40.8	
	comp=E,4μm,0.2s								
BBOE	**La Paz, Chanca**	**1.71**	**61**	P		**P**	**Pn**	**06 14 17.7**	**+1.5**
BBOE				S		S	**Sn**	**06 14 39.5**	**-1.5**
BBOE				AML		AML		06 14 43.0	
	comp=E,424nm,0.6s								
LPAZ	**La Paz**	**1.92**	**45**	P		**P**	**Pn**	**06 14 19.7**	**+1.2**
	comp=E,98nm,0.3s,baz=290,slow=2.5,SNR=1054								
LPAZ				S		S	**Sn**	**06 14 47.7**	**+2.5**
	comp=E,16nm,0.3s,baz=84,slow=19,SNR=5.6								
LPAZ	**La Paz**	**1.92**	**45**	*e*P		**P**	**Pn**	**06 14 19.8**	**+1.2**
LPAZ				*e*Sn		S	**Sn**	**06 14 48.1**	**+2.9**
PSGC	**Pisagua**	**2.01**	**196**	⇑*i*P		**P**	**Pn**	**06 14 19.4**	**+0.4**
PSGC				*i* S		S	**Sn**	**06 14 45.5**	**-0.8**
PSGC				IAML				06 14 46.4	
	comp=E,971nm,0.6s								
BBOB	**La Paz, Bander**	**2.02**	**42**	P		**P**	**Pn**	**06 14 20.2**	**+0.5**
PB11	**IPOC Station P**	**2.10**	**183**	*e*Pn		**P**	**Pn**	**06 14 21.1**	**+0.9**
PB11				*e*Sn		S	**Sn**	**06 14 48.5**	**+0.2**
PB11	**IPOC Station P**	**2.10**	**183**	⇑*i*P		**P**	**Pn**	**06 14 21.1**	**+0.9**
PB11				*i* S		S	**Sn**	**06 14 48.5**	**+0.2**
PB11				IAML				06 14 52.6	
	comp=E,1μm,0.3s								
PB01	**IPOC Station P**	**3.37**	**179**	*e*Pn		**P**	**Pn**	**06 14 36.5**	**+0.6**
PB01				*e*Sn		S	**Sn**	**06 15 14.8**	**-1.6**
PB01	**IPOC Station P**	**3.37**	**179**	*i*P		**P**	**Pn**	**06 14 37.0**	**+1.1**
PB01				*i* S		S	**Sn**	**06 15 14.4**	**-2.0**
PB02	**IPOC Station P**	**3.66**	**185**	*i*P		**P**	**Pn**	**06 14 40.7**	**+1.1**
PB02				*i* S		S	**Sn**	**06 15 20.8**	**-2.3**
PB04	**IPOC Station P**	**4.69**	**187**	*e*Pn		**P**	**Pn**	**06 14 52.8**	**-0.4**
PB04				*e*Sn		S	**Sn**	**06 15 46.1**	**-1.3**
LVC	**Limon Verde**	**4.96**	**173**	P		**P**	**Pn**	**06 14 58.2**	**+1.2**
	comp=E,2.5nm,0.3s,baz=345,slow=7.4,SNR=38								
LVC				S		S	**Sn**	**06 15 51.6**	**-2.5**
	comp=E,11nm,0.3s,baz=37,slow=23,SNR=3.7								
LVC	**Limon Verde**	**4.96**	**173**	*e*Pn		**P**	**Pn**	**06 14 57.9**	**+1.0**
LVC				*e*Sn		S	**Sn**	**06 15 51.9**	**-2.2**
MOCB	**Mochara**	**5.13**	**135**	P		**P**	**Pn**	**06 15 01.7**	**+2.4**
PB10	**IPOC Station P**	**5.90**	**189**	*e*Pn		**P**	**Pn**	**06 15 07.9**	**-1.2**
PB10				*e*Sn		S	**Sn**	**06 16 12.6**	**-3.4**
GO02	**Mina Guanaco**	**7.47**	**180**	*e*Pn		**P**	**Pn**	**06 15 29.3**	**-1.0**
GO02				*e*Sn		S	**Sn**	**06 16 51.6**	**-2.3**
SIV	**San Ignacio**	**8.28**	**80**	P		**P**	**Pn**	**06 15 38.9**	**-2.0**
	comp=E,4.7nm,0.3s,baz=254,slow=11,SNR=42								
SIV				S		S	**Sn**	**06 17 09.4**	**-3.6**
	comp=E,2.2nm,0.3s,baz=22,slow=19,SNR=4.0								
NNA	**Nana**	**9.03**	**308**	P		**P**	**Pn**	**06 15 50.3**	**-0.7**
	comp=E,4.3nm,0.3s,baz=142,slow=11,SNR=8.9								
NNA				S		S	**Sn**	**06 17 28.1**	**-3.3**
	comp=E,1.8nm,0.3s,baz=193,slow=17,SNR=3.6								
NNA	**Nana**	**9.03**	**308**	*e*Pn		**P**	**Pn**	**06 15 50.4**	**-0.6**
GO04	**Tololo Observa**	**12.51**	**185**	*e*Pn		**P**	**Pn**	**06 16 34.5**	**-2.3**
ATAH	**Atahualpa**	**13.56**	**319**	LR		LR		06 23 23.4	
	comp=E,55nm,21.1s,baz=196,slow=43								
PTGA	**Pitinga**	**19.28**	**30**	P		**P**		**06 17 55.6**	**-1.3**
	comp=E,6.6nm,0.3s,baz=326,slow=22,SNR=15								
PTGA	**Pitinga**	**19.28**	**30**	*e*P		**P**		**06 17 55.6**	**-1.3**
	comp=E,18nm,0.4s								
BDFB	**Brasilia**	**20.72**	**88**	P		**P**		**06 18 11.2**	**-1.3**
	comp=E,4.9nm,0.3s,baz=257,slow=5.6,SNR=19								
BDFB	**Brasilia**	**20.72**	**88**	*e*P		**P**		**06 18 11.1**	**-1.4**
	comp=E,7.6nm,0.9s								
TRQA	**Tornquist**	**21.38**	**163**	*e*P		**P**		**06 18 20.2**	**+0.9**
	comp=E,1.2nm,0.7s								
PLCA	**Paso Flores**	**23.01**	**182**	P		**P**		**06 18 37.1**	**+1.6**
	comp=E,2.8nm,0.8s,baz=6.1,slow=12,SNR=7.1								
MDP	**Montagnes des**	**28.10**	**38**	P		**P**		**06 19 20.2**	**-1.3**
	comp=E,5.1nm,0.6s,baz=215,slow=8.0,SNR=8.1								
AOPR	**Arecibo Observ**	**35.88**	**5**	*e*P		**P**		**06 20 28.6**	**-0.7**
	comp=E,1.2nm,1.1s								
833A	**Chaparral WMA,**	**54.07**	**327**	*e*P		**P**		**06 22 54.5**	**+1.7**
	comp=E,3.4nm,0.5s								
X37A	**Clayton**	**57.48**	**335**	*e*P		**P**		**06 23 18.3**	**+1.4**
	comp=E,2.7nm,0.9s								
PBMO	**Poplar Bluff**	**57.62**	**340**	*e*P		**P**		**06 23 17.8**	**-0.2**
	comp=E,3.7nm,0.6s								
T42A	**Van Buren**	**58.07**	**340**	*e*P		**P**		**06 23 21.0**	**-0.1**
	comp=E,3.3nm,1.1s								
HRV	**Adam Dziewonsk**	**59.89**	**358**	*e*P		**P**		**06 23 33.9**	**+0.5**
	comp=E,14nm,1.0s								
ECSD	**EROS Data Cent**	**65.94**	**339**	*e*P		**P**		**06 24 14.2**	**+0.8**
SNAA	**Sanae**	**66.09**	**161**	*e*P		**P**		**06 24 15.6**	**+1.5**
	comp=E,1.4nm,0.9s								
LIC	**Lamto**	**67.95**	**76**	*e*P		**P**		**06 24 25.9**	**-0.9**
	comp=E,25nm,0.9s								
TIC	**Toumodi**	**68.11**	**75**	*e*P		**P**		**06 24 27.1**	**-0.7**
KIC	**Kosan Boka**	**68.26**	**76**	*e*P		**P**		**06 24 28.1**	**-0.7**
	comp=E,19nm,0.7s								
DBIC	**Dimbokro**	**68.27**	**75**	P		**P**		**06 24 28.4**	**-0.4**
	comp=E,9.3nm,0.6s,baz=227,slow=7.1,SNR=17								
ULM	**Lac du Bonnet**	**71.49**	**343**	P		**P**		**06 24 48.0**	**+0.3**
	comp=E,1.9nm,0.4s,baz=151,slow=5.5,SNR=9.1								
ULM	**Lac du Bonnet**	**71.49**	**343**	*e*P		**P**		**06 24 48.1**	**+0.5**
	comp=E,3.6nm,1.1s								
TOA1	**Torodi Ar. Sit**	**76.66**	**71**	*e*P		**P**		**06 25 17.3**	**-1.2**
TORD	**Torodi Ar. Bea**	**76.66**	**71**	P		**P**		**06 25 17.3**	**-1.2**
	comp=E,3.7nm,0.4s,baz=255,slow=4.8,SNR=31								
YKA	**Yellowknife Ar**	**87.38**	**341**	P		**P**		**06 26 14.0**	**+0.8**
	comp=E,1.8nm,0.9s,baz=132,slow=4.7,SNR=4.1								
MAW	**Mawson**	**88.16**	**164**	P		**P**		**06 26 18.5**	**+1.4**
	comp=E,1.2nm,0.5s,baz=287,slow=21,SNR=5.2								
ASAR	**Alice Springs**	**132.98**	**210**	PKP		**PKPdf**		**06 32 43.1**	**+1.2**
	comp=E,0.1nm,0.3s,baz=126,slow=1.6,SNR=3.7								
WB2	**Warramunga Arr**	**135.88**	**213**	*e*PKPdf		**PKPdf**		**06 32 49.9**	**+2.5**
WR1	**Warramunga Arr**	**135.89**	**213**	*e*PKPdf		**PKPdf**		**06 32 48.6**	**+1.1**
WRA	**Warramunga Arr**	**135.89**	**213**	PKP		**PKPdf**		**06 32 48.6**	**+1.1**
	comp=E,0.4nm,0.5s,baz=140,slow=1.7,SNR=8.5								
MBWA	**Marble Bar**	**140.37**	**194**	*e*PKPdf		**PKPdf**		**06 32 57.0**	**+1.4**

ISCJB **16** *06:24:40.4±0.2, 54.31S±0.05×134.67W±0.09, h10km, mb5.1/85, MS5.3/149, Error ellipse: s-maj=7.7km s-min=7.3km az=140.6*
IDC **16** *06:24:40.3±0.4, 53.80S×134.68W, h0km, mb4.5/15, mb1 4.7/15, mb1mx4.6/25, mbtmp4.5/15, MS5.2/23, Ms1 5.2/23, ms1mx5.1/28, Error ellipse: s-maj=19.0km s-min=14.2km az=155.0*
NEIC **16** *06:24:42.0±0.2, 53.96S×134.76W, h10km, mb5.3/76, MS5.3/118, Error ellipse: s-maj=7.3km s-min=5.6km az=149.0*
MOS **16** *06:24:42.0±1.4, 53.78S×134.49W, h10km, mb5.4/24, MS5.2/8, Error ellipse: s-maj=20.3km s-min=12.1km az=76.6*
GCMT **16** *06:24:47.0±0.1, 53.95S±0.01×134.30W±0.01, h14km,*
MW5.6/133, Moment Tensor Solution. s113,c210; s133,c348; Duration: 1§6 Moment tensor: Scale 10^17 Nm; Mrr=0.31±.03; Mθθ=2.48±.04; Mϕϕ=-2.17±.03; Mrθ=0.39±.07; Mrϕ=2.43±.03; Mθϕ=0.94±.09; Best double couple: M=3.51700×10^17 NP1:φ=202.00000°, δ=88.00000°, λ=-163.00000°. NP2:φ=112.00000°, δ=73.00000°, λ=-2.00000°. Principal axes: T 3.6540, Plg11.0000°, Azm336.0000°; N -0.2740, Plg73.0000°, Azm209.0000°; P -3.3800, Plg13.0000°, Azm68.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function

ISC 16 06:24:43.0±0.3, 54.11S±0.07×134.40W±0.06, h10km, n448, σ1§87/328, mb5.2/85, MS5.3/150, 10C-1D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PTCN	**Pitcairn Islan**	**29.18**	**8**	PFAKE				06 30 50.0	+5.6
PTCN				LR		LR			
	comp=E,6μm,19.0s								
RKT	**Rikitea**	**30.95**	**359**	*e*S		**S**		**06 36 06.5**	**+2.2**
	comp=E,1μm,25.0s								
RKT				*e*LQ		LQ		06 37 34.2	
	comp=E,2μm,25.3s								
RKT				*e*LR		LR		06 38 49.9	
	comp=E,8μm,28.2s,baz=175								
RKT	**Rikitea**	**30.95**	**359**	*e*T		T		07 02 51.7	
	comp=E,36nm,0.3s								
SBA	**Scott Base**	**31.30**	**200**	PFAKE				06 31 10.0	+7.3
SBA				LR		LR			
	comp=E,3μm,20.0s								
VNDA	**Vanda**	**32.27**	**201**	P		**P**		**06 31 13.9**	**+2.7**
	comp=E,2.6nm,0.9s,baz=65,slow=9.2,SNR=3.5								
VNDA				LR		LR		06 41 16.8	
	comp=E,2μm,18.4s,baz=84,slow=31								
VNDA	**Vanda**	**32.27**	**201**	*e*P		**P**		**06 31 14.1**	**+3.0**
	comp=E,31nm,1.1s								
RPN	**Rapa Nui**	**32.66**	**44**	LR		LR		06 41 03.7	
	comp=E,4μm,19.2s,baz=210,slow=30								
TBI	**Tubuai**	**32.74**	**334**	*e*S		**S**		**06 36 38.3**	**+6.1**
	comp=E,450nm,28.2s								
TBI				*e*LQ		LQ		06 38 21.9	
	comp=E,2μm,31.0s								
TBI				*e*LR		LR		06 39 32.2	
	comp=E,17μm,28.2s,baz=168								
TBI	**Tubuai**	**32.74**	**334**	*e*T		T		07 05 09.7	
	comp=E,309nm,0.4s								
PMSA	**Palmer Station**	**35.40**	**136**	LR		LR		06 42 14.4	
	comp=Z,4μm,20.7s,baz=248,slow=30								
SNZO	**South Karori**	**35.77**	**270**	PFAKE				06 31 50.0	+8.1
SNZO				LR		LR			
	comp=E,4μm,19.0s								
QSPA	**South Pole Qui**	**36.06**	**180**	P		**P**		**06 31 46.0**	**+1.6**
	comp=E,6.4nm,0.8s,baz=114,slow=1.5,SNR=7.5								
QSPA				LR		LR		06 44 04.4	
	comp=Z,4μm,21.5s,baz=73,slow=32								
QSPA	**South Pole Qui**	**36.06**	**180**	*e*P		**P**		**06 31 47.0**	**+2.6**
	comp=Z,81nm,1.6s								
GO09	**Cerro Castillo**	**36.66**	**112**	*e*P		**P**		**06 31 50.6**	**+1.2**
	comp=E,86nm,1.4s								
TVO	**Taravao**	**38.03**	**337**	*e*T		T		07 11 46.1	
	comp=Z,3.4nm,0.4s								
RAR	**Rarotonga**	**38.08**	**320**	LR		LR		06 44 10.5	
	comp=Z,5μm,18.3s,baz=151,slow=31								
PAE	**Paea**	**38.23**	**336**	*e*T		T		07 12 00.5	
	comp=Z,1.7nm,0.3s								
TIAR	**Tiarei**	**38.27**	**337**	*e*T		T		07 12 03.6	
	comp=Z,2.8nm,0.3s								
PPT2	**Papeete2**	**38.29**	**336**	*e*S		**S**		**06 38 02.6**	**+4.9**
	comp=S,511nm,25.0s								
PPT2				*e*LQ		LQ		06 40 37.0	
	comp=Z,1μm,31.5s								
PPT2				*e*LR		LR		06 42 18.2	
	comp=Z,17μm,25.5s,baz=170								
PPT2	**Papeete2**	**38.29**	**336**	*e*T		T		07 12 05.4	
	comp=Z,4.2nm,0.3s								
PPT	**Papeete**	**38.31**	**336**	LR		LR		06 43 23.0	
	comp=Z,5μm,20.2s,baz=136,slow=30								
RAO	**Raoul Island**	**39.99**	**291**	LR		LR		06 46 11.8	
	comp=Z,1μm,20.0s,baz=133,slow=32								
VAH	**Vaihoa**	**40.14**	**340**	*e*T		T		07 14 23.3	
	comp=Z,43nm,0.3s								
PMOR	**Pomariorio Ree**	**40.43**	**340**	*e*T		T		07 14 44.4	
	comp=Z,5.8nm,0.3s								
PLCA	**Paso Flores**	**43.73**	**99**	P		**P**		**06 32 48.7**	**+0.4**
	comp=Z,9.9nm,1.1s,baz=225,slow=15,SNR=5.2								
PLCA				LR		LR		06 46 24.7	
	comp=Z,2μm,20.8s,baz=254,slow=30								
PLCA	**Paso Flores**	**43.73**	**99**	*e*P		**P**		**06 32 49.2**	**+0.9**
	comp=Z,62nm,1.5s								
PLCA	**Paso Flores**	**43.73**	**99**	*e*P		**P**		**06 32 49.2**	**+0.9**
PLCA				pmax		pmax			
	comp=Z,56nm,1.2s								
VNA3	**Neumayer Olymp**	**48.99**	**159**	P		**P**		**06 33 29.2**	**+0.1**
AFI	**Afiamalu**	**49.65**	**309**	PFAKE				06 33 40.0	+5.2
AFI				LR		LR			
	comp=Z,2μm,20.0s								
VNA2	**Neumayer--Watz**	**49.70**	**160**	P		**P**		**06 33 33.2**	**-1.3**
	baz=219,slow=8.5								
VNA1	**Neumayer--Stat**	**49.74**	**159**	P		**P**		**06 33 34.1**	**-0.7**
SNAA	**Sanae**	**49.98**	**162**	P		**P**		**06 33 36.8**	**+0.2**
SNAA	**Sanae**	**49.98**	**162**	P		**P**		**06 33 36.9**	**+0.3**
	comp=Z,3.5nm,0.6s,baz=234,slow=8.6,SNR=12								
SNAA	**Sanae**	**49.98**	**162**	*e*P		**P**		**06 33 36.7**	**0.0**
	comp=Z,28nm,1.4s								
SNAA	**Sanae**	**49.98**	**162**	*e*P		**P**		**06 33 37.3**	**+0.6**
TRQA	**Tornquist**	**50.47**	**103**	*e*P		**P**		**06 33 40.9**	**+0.2**
	comp=Z,49nm,1.3s								
TRQA				LR		LR			
	comp=Z,4μm,19.0s								
TRQA	**Tornquist**	**50.47**	**103**	*ce*P		**P**		**06 33 43.9**	**+3.1**
TRQA				pmax		pmax			
	comp=Z,58nm,1.7s								
TAU	**Tasmania Unive**	**50.49**	**249**	PFAKE				06 33 50.0	+9.2
TAU				LR		LR			
	comp=Z,4μm,21.0s								
GO04	**Tololo Observa**	**50.88**	**89**	*e*P		**P**		**06 33 44.6**	**+0.3**
	comp=Z,107nm,1.7s								
LCO	**Las Campanas**	**51.80**	**88**	PFAKE				06 34 00.0	+8.8
LCO				LR		LR			
	comp=Z,3μm,20.0s								
LCO	**Las Campanas**	**51.80**	**88**	*ce*P		P		06 33 56.2	+5.0
HOPE	**Hope Point**	**52.62**	**133**	PFAKE				06 34 10.0	+13
HOPE				LR		LR			
	comp=Z,2μm,20.0s								
NVL	**N'lazarevskaya**	**53.10**	**167**	⇓*i*P		P		06 34 06.3	+6.3
NVL				*e*S		**S**		**06 41 33.0**	**+3.3**
NVL				pmax		pmax			
	comp=Z,23nm,1.1s								
NVL				MLR		MLR			
	comp=Z,1μm,18.0s								
GO03	**Copiap**	**53.12**	**87**	*e*P		**P**		**06 34 01.0**	**+0.3**
	comp=Z,33nm,1.3s								
DZM	**Mont Dzumac**	**54.41**	**282**	LR		LR		06 54 23.4	
	comp=Z,2μm,18.3s,baz=152,slow=33								
DZM	**Mont Dzumac**	**54.41**	**282**	*e*S		S		06 41 57.8	+9.2
	comp=Z,320nm,23.1s								
DZM				*e*LQ		LQ		06 47 45.7	
	comp=Z,2μm,24.8s								
DZM				*e*LR		LR		06 50 08.0	
	comp=Z,4μm,28.2s								
SYO	**Syowa Base**	**57.12**	**177**	⇓*i*P		**P**		**06 34 29.0**	**+0.1**
LVC	**Limon Verde**	**57.68**	**84**	*e*P		**P**		**06 34 33.2**	**-0.7**
	comp=Z,43nm,1.0s								
LVC	**Limon Verde**	**57.68**	**84**	*ce*P		**P**		**06 34 35.8**	**+1.8**
LVC				pmax		pmax			
	comp=Z,108nm,2.5s								
MAW	**Mawson**	**57.92**	**188**	P		**P**		**06 34 35.5**	**+0.9**
	comp=Z,9.3nm,0.9s,baz=191,slow=8.5,SNR=7.1								
MAW				LR		LR		06 58 58.0	
	comp=Z,1μm,18.1s,baz=162,slow=35								
MAW	**Mawson**	**57.92**	**188**	*e*P		**P**		**06 34 35.9**	**+1.3**
	comp=Z,8.7nm,1.1s								
MAW	**Mawson**	**57.92**	**188**	*e*P		**P**		**06 34 35.9**	**+1.3**
MAW				pmax		pmax			
	comp=Z,9.0nm,1.1s								
PB01	**IPOC Station P**	**58.55**	**83**	*e*P		**P**		**06 34 39.9**	**+0.1**
	comp=Z,44nm,1.0s								
FUNA	**Funafuti**	**58.62**	**303**	PFAKE				06 34 50.0	+10
FUNA				LR		LR			
	comp=Z,5μm,19.0s								
PB11	**IPOC Station P**	**59.45**	**82**	*e*P		**P**		**06 34 45.0**	**-1.2**
	comp=Z,47nm,1.0s								
MNMC	**Minye Minye**	**59.98**	**81**	*e*P		**P**		**06 34 50.5**	**+0.6**
	comp=Z,58nm,0.9s								
EIDS	**Eidsvold**	**60.88**	**266**	*e*P		**P**		**06 34 53.3**	**-2.4**
	comp=Z,25nm,1.1s								
STKA	**Stephens Creek**	**61.50**	**254**	P		**P**		**06 34 59.9**	**+0.1**
	comp=Z,3.2nm,0.8s,baz=108,slow=8.6,SNR=6.1								
STKA				LR		LR		06 57 14.2	
	comp=Z,2μm,20.0s,baz=139,slow=32								
STKA	**Stephens Creek**	**61.50**	**254**	*e*P		**P**		**06 34 58.6**	**-1.2**
	comp=Z,1.7nm,1.0s								
NNA	**Nana**	**61.59**	**70**	*e*P		**P**		**06 35 01.6**	**+1.0**
	comp=Z,28nm,0.9s								
NNA				LR		LR			
	comp=Z,3μm,20.0s								
NNA	**Nana**	**61.59**	**70**	*ce*P		**P**		**06 35 02.7**	**+2.1**
NNA				pmax		pmax			
	comp=Z,103nm,1.3s								
CPUP	**Villa Florida**	**61.66**	**96**	P		**P**		**06 35 00.8**	**-0.1**
	comp=Z,14nm,1.1s,baz=237,slow=6.5,SNR=6.2								
CPUP				LR		LR		06 57 17.4	
	comp=Z,3μm,20.5s,baz=224,slow=32								
CPUP	**Villa Florida**	**61.66**	**96**	*e*P		**P**		**06 35 01.6**	**+0.7**
	comp=Z,44nm,1.4s								
CPUP	**Villa Florida**	**61.66**	**96**	*e*P		**P**		**06 35 01.6**	**+0.7**
CPUP				pmax		pmax			
	comp=Z,44nm,1.4s								
LPAZ	**La Paz**	**63.08**	**80**	P		**P**		**06 35 10.7**	**-0.6**
	comp=Z,5.1nm,0.8s,baz=200,slow=5.1,SNR=15								
LPAZ				LR		LR		06 56 06.0	
	comp=Z,1μm,19.6s,baz=212,slow=30								
PAYG	**Puerto Ayora**	**64.40**	**51**	*e*P		**P**		**06 35 20.3**	**+1.1**
	comp=Z,43nm,1.1s								
PAYG				LR		LR			
	comp=Z,2μm,20.0s								
CTA	**Charters Tower**	**67.77**	**266**	LR		LR		07 00 34.2	
	comp=Z,1μm,20.2s,baz=137,slow=32								
CTAO	**Charters Tower**	**67.77**	**266**	*e*P		**P**		**06 35 40.9**	**0.0**
	comp=Z,14nm,1.0s								
CTAO				LR		LR			
	comp=Z,3μm,20.0s								
CTAO	**Charters Tower**	**67.77**	**266**	*e*P		**P**		**06 35 40.9**	**0.0**
CTAO				pmax		pmax			
	comp=Z,14nm,1.0s								
CTAO				MLR		MLR			
	comp=Z,3μm,20.0s								
HNR	**Honiara**	**68.21**	**285**	LR		LR		07 02 15.6	
	comp=Z,537nm,18.6s,baz=154,slow=33								
FORT	**Forrest**	**69.81**	**245**	*e*P		**P**		**06 35 51.7**	**-1.8**
	comp=Z,42nm,1.0s								
OTAV	**Otavalo**	**70.95**	**61**	*e*P		**P**		**06 36 00.3**	**-0.9**
	comp=Z,49nm,1.8s								
OTAV				LR		LR			
	comp=Z,861nm,21.0s								
OTAV	**Otavalo**	**70.95**	**61**	*e*P		**P**		**06 35 59.5**	**-1.6**
OTAV	**Otavalo**	**70.95**	**61**	*ce*P		**P**		**06 36 00.6**	**-0.5**
OTAV				pmax		pmax			
	comp=Z,28nm,1.7s								
SAML	**Samuel**	**71.81**	**80**	*e*P		**P**		**06 36 04.5**	**-1.3**
	comp=Z,22nm,1.3s								
SAML				LR		LR			
	comp=Z,1μm,21.0s								
SAML	**Samuel**	**71.81**	**80**	*ce*P		**P**		**06 36 06.1**	**+0.3**
SAML				pmax		pmax			
	comp=Z,12nm,1.7s								
AS01	**Alice Springs**	**72.12**	**254**	*e*P		**P**		**06 36 04.5**	**-3.1**
AS31	**Alice Springs**	**72.14**	**254**	*e*P		**P**		**06 36 06.0**	**-1.8**
	comp=Z,3.4nm,1.0s								
ASAR	**Alice Springs**	**72.14**	**254**	P		**P**		**06 36 05.2**	**-2.6**
	comp=Z,3.3nm,0.7s,baz=139,slow=6.1,SNR=19								
ASAR				LR		LR		07 04 46.0	
	comp=Z,2μm,18.1s,baz=148,slow=33								
GCUF	**Volcan Galeras**	**72.36**	**62**	*e*P		**P**		**06 36 10.8**	**+1.2**
SOTA	**Rioblanco**	**73.52**	**62**	*e*P		**P**		**06 36 16.4**	**-0.1**
H01W1	**Cape Leeuwin H**	**73.54**	**233**	T		T		07 57 46.0	
	baz=144,slow=76,SNR=41								
H01W2	**Cape Leeuwin H**	**73.55**	**233**	T		T		07 57 44.1	
	baz=144,slow=76,SNR=46								
H01W3	**Cape Leeuwin H**	**73.56**	**233**	T		T		07 57 46.2	
	baz=144,slow=76,SN

LNIG Linares 84.26 32 *e*P P 06 37 14.2 -0.4
comp=Z,26nm,1.2s

HPIG 84.45 26 *e*P P 06 37 14.2 -1.4
comp=Z,12nm,0.9s

HSIG 85.24 20 *e*P P 06 37 18.6 -0.7
comp=Z,14nm,1.2s

MTDJ Mount Denham 86.87 53 PFAKE 06 37 40.0 +12
MTDJ LR LR
comp=Z,896nm,19.0s

KVTX Kingsville 87.22 32 PFAKE 06 37 40.0 +11
KVTX LR LR
comp=Z,490nm,19.0s

LTX Lajitas 87.25 27 *e*P P 06 37 26.6 -2.7
LTX Lajitas 87.25 27 *e*P P 06 37 26.7 -2.7
TX31 Lajitas Ar. Si 87.25 27 *e*P P 06 37 27.4 -2.0
TXAR Lajitas Array 87.25 27 P P 06 37 26.6 -2.7
comp=Z,2.3nm,0.8s,baz=186,slow=7.2,SNR=6.0

833A Chaparral WMA, 87.50 30 *e*P P 06 37 29.4 -1.1
comp=Z,37nm,1.1s

214A Organ Pipe Nat 87.72 18 P P 06 37 30.6 -1.0
baz=193

BAR Barrett 87.78 15 *e*P P 06 37 30.2 -1.6
comp=Z,40nm,1.9s

IKP In-Ko-Pah, Jac 87.84 15 P P 06 37 30.0 -2.2
baz=191

319A Douglas 87.86 21 *e*P P 06 37 31.6 -0.7
comp=Z,18nm,0.9s

MONP2 Monument Peak 88.03 15 P P 06 37 32.0 -1.2
baz=191

H11S2 WAKE ISLAND Hy 88.06 306 T T 08 14 54.6
baz=143,slow=76,SNR=196

H11S3 WAKE ISLAND Hy 88.07 306 T T 08 14 56.6
baz=143,slow=76,SNR=122

H11S1 WAKE ISLAND Hy 88.07 306 T T 08 15 02.5
baz=143,slow=76,SNR=103

SWSC Sam W. Stewart 88.18 16 P P 06 37 32.7 -0.9
baz=191

CIS Catalina Islan 88.24 13 P P 06 37 33.8 -0.1
baz=190

113A Mohawk Valley, 88.34 17 *e*P P 06 37 32.6 -1.8
comp=Z,36nm,1.6s

GLA Glamis 88.44 16 *e*P P 06 37 33.6 -1.3
comp=Z,23nm,1.3s

GLA Glamis 88.44 16 P P 06 37 33.9 -1.0
baz=192

TUC Tucson 88.46 20 *e*P P 06 37 33.0 -2.1
comp=Z,54nm,1.8s
TUC LR LR
comp=Z,1μm,21.0s

TUC Tucson 88.46 20 *e*P P 06 37 33.0 -2.1
TUC pmax pmax
comp=Z,54nm,1.8s
TUC MLR MLR
comp=Z,1μm,21.0s

TUC Tucson 88.46 20 P P 06 37 33.8 -1.3
baz=194

FRD Ford Ranch, An 88.59 15 P P 06 37 33.2 -2.5
baz=191

MURC Murrieta 88.61 14 P P 06 37 35.0 -0.7
baz=190

TPFO Pinon Flats 88.72 15 P P 06 37 35.0 -1.4
baz=191

PFO Pinyon Flats O 88.73 15 *e*P P 06 37 34.3 -2.1
comp=Z,19nm,1.4s
PFO LR LR
comp=Z,1μm,21.0s

PFO Pinyon Flats O 88.73 15 *e*P P 06 37 34.3 -2.1
PFO pmax pmax
comp=Z,19nm,1.4s
PFO MLR MLR
comp=Z,1μm,21.0s

PFO Pinyon Flats O 88.73 15 P P 06 37 34.7 -1.7
baz=191

XPFO Piæon Flat 88.73 15 *e*P P 06 37 34.1 -2.2
comp=Z,21nm,1.4s

WAKE Wake Island 88.76 306 PFAKE 06 37 50.0 +13
WAKE LR LR
comp=Z,2μm,20.0s

EPT El Paso 88.87 23 *e*P P 06 37 35.8 -1.2
comp=Z,54nm,1.6s

BC3 Big Chuckawall 88.93 16 P P 06 37 37.1 -0.2
baz=191

H11N3 WAKE ISLAND Hy 89.01 306 T T 08 15 50.4
baz=149,slow=76,SNR=38

H11N1 WAKE ISLAND Hy 89.02 306 T T 08 16 06.3
baz=149,slow=76,SNR=51

H11N2 WAKE ISLAND Hy 89.03 306 T T 08 15 52.8
baz=149,slow=76,SNR=37

MNTX Cornudas Mount 89.07 24 *e*P P 06 37 35.9 -2.0
comp=Z,44nm,1.7s
MNTX LR LR
comp=Z,1μm,19.0s

MNTX Cornudas Mount 89.07 24 P P 06 37 36.1 -1.8
baz=197

MWC Mount Wilson 89.10 13 *e*P P 06 37 37.7 -0.5
comp=Z,36nm,1.5s

MWC Mount Wilson 89.10 13 *e*P P 06 37 37.7 -0.5
MWC pmax pmax
comp=Z,36nm,1.5s

BFSC Mount Baldy Ra 89.17 14 P P 06 37 37.1 -1.4
baz=190

Y12C Blythe 89.17 16 *e*P P 06 37 37.2 -1.1
comp=Z,42nm,1.8s

Y12C Blythe 89.17 16 P P 06 37 37.4 -0.9
baz=192

BELC Belle Mtn. Jos 89.18 15 P P 06 37 37.1 -1.4
baz=191

121A Cookes Peak, D 89.31 22 P P 06 37 38.1 -1.1
baz=196

JCT Junction City 89.40 29 *e*P P 06 37 37.9 -1.6
comp=Z,100nm,1.6s
JCT LR LR
comp=Z,327nm,19.0s

JCT Junction City 89.40 29 *e*P P 06 37 37.9 -1.6
JCT pmax pmax
comp=Z,100nm,1.6s
JCT MLR MLR
comp=Z,327nm,19.0s

JCT Junction City 89.40 29 P P 06 37 38.0 -1.6
baz=200

IRM Iron Mountain 89.47 16 P P 06 37 38.8 -0.9
baz=191

GTBY Guantanamo Bay 89.48 54 PFAKE 06 37 50.0 +10
GTBY LR LR
comp=Z,1μm,19.0s

EDW2 Edwards Air Fo 89.76 13 P P 06 37 40.6 -0.4
baz=190

PDMCI Parker Dam,Lak 89.78 17 P P 06 37 40.8 -0.3
baz=192

GDL2 Guadalupe Moun 89.80 25 *e*P P 06 37 40.5 -1.0
GRGR Grenville 89.89 69 PFAKE 06 37 50.0 +7.9
GRGR LR LR
comp=Z,2μm,20.0s

HEC Hector,Ludlow 89.94 15 P P 06 37 40.6 -1.4
baz=191

MIDW Midway 89.99 323 PFAKE 06 37 50.0 +7.8
MIDW LR LR
comp=Z,3μm,19.0s

GMRC Granite Mounta 90.00 15 P P 06 37 41.3 -1.1
baz=191

HKT Hockley 90.11 33 *e*P P 06 37 43.0 +0.3
comp=Z,33nm,1.5s

HKT Hockley 90.11 33 *e*P P 06 37 43.0 +0.3
HKT pmax pmax
comp=Z,33nm,1.5s

GSC Goldstone, Bar 90.34 14 *e*P P 06 37 43.1 -0.7
comp=Z,41nm,1.9s

GSC Goldstone, Bar 90.34 14 *e*P P 06 37 43.1 -0.7
GSC pmax pmax
comp=Z,41nm,1.9s

GSC Goldstone, Bar 90.34 14 P P 06 37 42.6 -1.2
baz=190

435B Jarrell 90.34 31 *e*P P 06 37 42.5 -1.3
comp=Z,114nm,1.9s

435B Jarrell 90.34 31 P P 06 37 44.9 +1.1
baz=201

X16A Lo Mia Camp, P 90.37 19 *e*P P 06 37 43.9 -0.2
comp=Z,27nm,1.9s

LDFC Landfair 90.38 16 *e*P P 06 37 43.8 -0.2
comp=Z,57nm,1.6s

LRMC Laurel Mtn Rad 90.39 14 P P 06 37 43.2 -0.9
baz=190

ISA Isabella, Lake 90.46 13 *e*P P 06 37 43.2 -1.2
comp=Z,7.6nm,1.1s

ISA Isabella, Lake 90.46 13 *e*P P 06 37 43.2 -1.2
ISA pmax pmax
comp=Z,8.0nm,1.1s

ISA Isabella, Lake 90.46 13 P P 06 37 43.9 -0.4
baz=190

SDDR Presa de Saban 90.54 58 PFAKE 06 38 00.0 +15
SDDR LR LR
comp=Z,635nm,21.0s

W13A Hualapai Mount 90.60 17 *e*P P 06 37 44.3 -0.9
comp=Z,17nm,1.5s

TUQ Turquoise Moun 90.60 15 P P 06 37 44.3 -0.8
baz=191

X18A Snowflake 90.77 20 *e*P P 06 37 45.5 -0.5
comp=Z,19nm,1.2s

MPMC Manual Prospec 90.98 14 P P 06 37 44.4 -2.6
baz=190

BBGB Big Mountain B 91.06 11 *e*P P 06 37 49.8 +2.7
LENM Lemitar 91.06 22 *e*P P 06 37 46.3 -1.0
BNM Barren Site 91.12 23 *e*P P 06 37 46.9 -0.8
DAC Darwin (Calif) 91.18 14 *e*P P 06 37 45.8 -2.1
comp=Z,30nm,1.9s
DAC Darwin (Calif) 91.18 14 *e*P P 06 37 45.8 -2.1
DAC pmax pmax
comp=Z,30nm,1.9s

SUR Sutherland 91.24 159 PFAKE 06 38 00.0 +11
SUR LR LR
comp=Z,4μm,21.0s

LAZ Ladron 91.25 22 *e*P P 06 37 47.6 -0.6
LPM Los Pinos Moun 91.28 23 *e*P P 06 37 47.7 -0.6
CWC Cottonwood Cre 91.28 13 P P 06 37 48.9 +0.6
baz=190

WUAZ Wupatki 91.45 19 *e*P P 06 37 48.3 -0.8
comp=Z,52nm,1.9s
WUAZ LR LR
comp=Z,1μm,20.0s

WUAZ Wupatki 91.45 19 P P 06 37 48.0 -1.1
baz=194

ABTX Abilene, Hawle 91.46 29 *e*P P 06 37 48.6 -0.4
comp=Z,50nm,1.3s

ABTX Abilene, Hawle 91.46 29 P P 06 37 47.9 -1.2
baz=200

FURC Furnace Creek, 91.47 14 P P 06 37 48.1 -0.8
baz=190

WHTX Lake Whitney, 91.50 31 *e*P P 06 37 48.2 -1.0
comp=Z,17nm,1.1s

WHTX Lake Whitney, 91.50 31 P P 06 37 49.2 0.0
baz=201

SHPR Sheep Range 91.77 15 *e*P P 06 37 49.9 -0.6
comp=Z,33nm,1.9s

BBGH Gun Hill 91.87 70 PFAKE 06 38 00.0 +8.7
BBGH LR LR
comp=Z,1μm,20.0s

MSTX Muleshoe 91.88 26 *e*P P 06 37 50.0 -1.1
comp=Z,39nm,1.8s

MSTX Muleshoe 91.88 26 P P 06 37 50.4 -0.7
baz=198

ANMO Albuquerque 91.92 23 *e*P P 06 37 49.7 -1.7
comp=Z,12nm,1.0s
ANMO LR LR
comp=Z,761nm,19.0s

ANMO Albuquerque 91.92 23 *ce*P P 06 37 49.6 -1.7
ANMO pmax pmax
comp=Z,11nm,1.0s

ANMO Albuquerque 91.92 23 P P 06 37 50.2 -1.1
baz=196

TPNV Topopah Spring 92.03 14 *e*P P 06 37 50.3 -1.5
comp=Z,8.2nm,1.3s

TPNV Topopah Spring 92.03 14 *e*P P 06 37 50.3 -1.5
TPNV pmax pmax
comp=Z,8.0nm,1.3s

TPNV Topopah Spring 92.03 14 P P 06 37 50.1 -1.7
baz=191

NATX Nacogdoches 92.16 33 PFAKE 06 38 00.0 +7.8
NATX LR LR
comp=Z,485nm,19.0s

U15A North Rim 92.17 18 *e*P P 06 37 51.0 -1.6
comp=Z,72nm,1.8s

OMMB Old Mammoth Mi 92.31 12 *e*P P 06 37 53.0 -0.2
comp=Z,18nm,1.6s

MDPB Devils Postpil 92.32 12 *e*P P 06 37 52.5 -0.7
comp=Z,9.7nm,1.2s

MLAC Mammoth, Mammo 92.35 12 P P 06 37 53.0 -0.3
baz=189

SJG San Juan 92.42 62 PFAKE 06 38 00.0 +6.2
SJG LR LR
comp=Z,772nm,20.0s

LCMT Little Creek M 92.57 17 *e*P P 06 37 51.9 -2.3
comp=Z,6.9nm,1.1s

KNB Kanab 92.65 17 *e*P P 06 37 52.6 -2.0
comp=Z,15nm,1.3s

KNB Kanab 92.65 17 *e*P P 06 37 52.6 -2.0
KNB pmax pmax
comp=Z,15nm,1.3s

GRTK Grand Turk 92.75 56 PFAKE 06 38 10.0 +15
GRTK LR LR
comp=Z,610nm,21.0s

AMTX Amarillo 93.03 26 P P 06 37 55.4 -0.9
baz=199

PKCU Pink Cliffs 93.16 17 *e*P P 06 37 56.4 -0.7
comp=Z,29nm,1.5s

344A Westbrook Farm 93.19 36 P P 06 37 55.9 -1.1
baz=204

NVAR Mina Array Bea 93.21 13 P P 06 37 55.9 -1.3
comp=Z,1.8nm,1.0s,baz=188,slow=8.5,SNR=6.5
NVAR LR LR 07 10 55.0
comp=Z,2μm,19.6s,baz=200,slow=30

R11A Troy Canyon, C 93.51 15 P P 06 37 57.4 -1.1
baz=191

MVCO Mesa Verde 93.66 20 *e*P P 06 37 58.0 -1.4
comp=Z,9.3nm,1.0s
MVCO LR LR
comp=Z,887nm,21.0s

MVCO Mesa Verde 93.66 20 P P 06 37 57.9 -1.4
baz=195

WMOK Wichita Mounta 93.69 29 PFAKE 06 38 10.0 +11
WMOK LR LR
comp=Z,551nm,20.0s

WMOK Wichita Mounta 93.69 29 P P 06 37 57.3 -2.0
baz=200

244A Avery, Jackson 93.75 36 P P 06 37 58.7 -0.8
baz=204

MTPU Mount Pierson 93.76 17 *e*P P 06 37 59.2 -0.8
comp=Z,7.2nm,1.1s

KVN Kaiserville 93.85 13 *e*P P 06 37 58.6 -1.5
comp=Z,28nm,2.0s
KVN Kaiserville 93.85 13 *e*P P 06 37 58.6 -1.5
KVN pmax pmax
comp=Z,28nm,2.0s

552A Lynn Haven 94.00 41 P P 06 37 58.2 -2.5
baz=207

BRAL Brewton 94.26 39 PFAKE 06 38 10.0 +8.1
BRAL LR LR
comp=Z,649nm,19.0s

ANWB Willy Bob 94.36 66 PFAKE 06 38 10.0 +7.3
ANWB LR LR
comp=Z,1μm,22.0s

T25A Trinidad 94.49 24 P P 06 38 02.3 -0.8
baz=197

S22A 4UR Ranch, Cre 94.53 22 P P 06 37 59.6 -3.8
baz=196

452A Marianna 94.68 41 P P 06 38 04.2 +0.3
baz=207

SDCO Great Sand Dun 94.82 23 PFAKE 06 38 10.0 +5.3
SDCO LR LR
comp=Z,1μm,19.0s

SDCO Great Sand Dun 94.82 23 P P 06 38 03.0 -1.8
baz=197

MIAR Mount Ida 95.07 33 PFAKE 06 38 20.0 +14
MIAR LR LR
comp=Z,445nm,22.0s

SRU San Rafael Swe 95.10 18 *e*P P 06 38 04.5 -1.3
comp=Z,18nm,1.5s

SRU San Rafael Swe 95.10 18 *e*P P 06 38 04.5 -1.3
SRU pmax pmax
comp=Z,18nm,1.5s

KAPI Kappang 95.16 254 PFAKE 06 38 20.0 +13
KAPI LR LR
comp=Z,828nm,20.0s

W39A Magazine 95.61 32 P P 06 38 10.0 +2.0
baz=203

NLU North Lily Min 95.64 17 *e*P P 06 38 07.4 -0.9
comp=Z,8.1nm,1.1s

DUG Dugway, Tooele 95.75 16 *e*P P 06 38 08.1 -0.7
comp=Z,6.6nm,1.3s
DUG LR LR
comp=Z,808nm,21.0s

DUG Dugway, Tooele 95.75 16 *e*P P 06 38 08.1 -0.7
DUG pmax pmax
comp=Z,7.0nm,1.3s
DUG MLR MLR
comp=Z,808nm,21.0s

DUG Dugway, Tooele 95.75 16 P P 06 38 08.0 -0.7
baz=193

BOSA Boshof 95.76 162 LR LR 07 17 54.9
comp=Z,1μm,19.4s,baz=198,slow=33

ISCO Idaho Springs 96.76 22 PFAKE 06 38 20.0 +6.4
ISCO LR LR
comp=Z,1μm,21.0s

WVOR Wild Horse Val 97.11 12 PFAKE 06 38 20.0 +5.1
WVOR LR LR
comp=Z,2μm,20.0s

CBKS Cedar Bluff 97.25 27 PFAKE 06 38 30.0 +14
CBKS LR LR
comp=Z,526nm,20.0s

HWUT Hardware Ranch 97.34 17 PFAKE 06 38 30.0 +14
HWUT LR LR
comp=Z,807nm,22.0s

GOGA Godfrey 97.62 41 PFAKE 06 38 30.0 +13
GOGA LR LR
comp=Z,635nm,20.0s

KSU1 Kansas State U 98.37 29 PFAKE 06 38 30.0 +10
KSU1 LR LR
comp=Z,632nm,20.0s

AHID Auburn Hatcher 98.54 17 PFAKE 06 38 30.0 +8.6
AHID LR LR
comp=Z,652nm,19.0s

NHSC New Hope 98.65 44 PFAKE 06 38 30.0 +8.2
NHSC LR LR
comp=Z,803nm,19.0s

OGNE Ogallala 98.68 24 PFAKE 06 38 30.0 +8.1
OGNE LR LR
comp=Z,825nm,20.0s

HLID Hailey 98.79 15 PFAKE 06 38 30.0 +7.6
HLID LR LR
comp=Z,1μm,20.0s

BW06 Boulder Array 98.82 18 PFAKE 06 38 30.0 +7.3
BW06 LR LR
comp=Z,1μm,20.0s

PDAR Pinedale Array 98.82 18 P P 06 38 20.8 -1.8
comp=Z,0.6nm,0.7s,baz=214,slow=3.6,SNR=6.6
PDAR LR LR 07 15 52.0
comp=Z,909nm,18.4s,baz=212,slow=31

BMO Blue Mountains 99.66 12 PFAKE 06 38 40.0 +14
BMO LR LR
comp=Z,1μm,20.0s

LKWY Lake 100.41 17 PFAKE 06 38 40.0 +10
LKWY LR LR
comp=Z,771nm,19.0s

HAWA Hanford 100.92 10 PFAKE 06 38 40.0 +8.4
HAWA LR LR
comp=Z,1μm,19.0s

COCO West Island 101.00 231 PFAKE 06 38 40.0 +7.1
COCO LR LR
comp=Z,468nm,19.0s

RLMT Red Lodge 101.15 18 PFAKE 06 38 40.0 +7.0
RLMT LR LR
comp=Z,1μm,20.0s

BOZ Bozeman (W) 101.21 16 PFAKE 06 38 40.0 +6.9
BOZ LR LR
comp=Z,976nm,20.0s

CNNC Cliffs of the 101.44 44 PFAKE 06 38 40.0 +5.8
CNNC LR LR
comp=Z,1μm,19.0s

DAV Davao City (W) 101.56 266 PFAKE 06 38 40.0 +4.7
DAV LR LR
comp=Z,358nm,20.0s

HDIL Hopedale 101.94 33 PFAKE 06 38 50.0 +14
HDIL LR LR
comp=Z,332nm,19.0s

SCIA State Center 101.95 30 PFAKE 06 38 50.0 +14
SCIA LR LR
comp=Z,793nm,19.0s

BLA Blacksburg 102.14 41 PFAKE 06 38 50.0 +13
BLA LR LR
comp=Z,596nm,19.0s

ECSD EROS Data Cent 102.68 27 PFAKE 06 38 50.0 +10
ECSD LR LR
comp=Z,745nm,21.0s

NEW Newport 103.04 12 PFAKE 06 38 50.0 +9.0
NEW LR LR
comp=Z,908nm,19.0s

TSUM Tsumeb 103.12 153 PFAKE 06 38 50.0 +7.5
TSUM LR LR
comp=Z,2μm,22.0s

LAO LASA Array 103.23 20 PFAKE 06 38 50.0 +8.0
LAO LR LR
comp=Z,830nm,19.0s

ACSO Alum Creek Sta 103.82 38 PFAKE 06 39 00.0 +15
ACSO LR LR
comp=Z,798nm,19.0s

EGMT Eagleton 103.87 17 PFAKE 06 38 50.0 +5.2
EGMT LR LR
comp=Z,1μm,20.0s

CBN Corbin Frederi 104.20 43 PFAKE 06 39 00.0 +14
CBN LR LR
comp=Z,1μm,20.0s

DGMT Dagmar 105.34 20 PFAKE 06 43 20.0
DGMT LR LR
comp=Z,697nm,19.0s

AAM Ann Arbor 105.40 37 PFAKE 06 43 20.0
AAM LR LR
comp=Z,687nm,19.0s

COWI Conover 106.99 31 PFAKE 06 43 20.0
COWI LR LR
comp=Z,610nm,19.0s

AGMN Agassiz Nation 107.10 26 PFAKE 06 43 20.0
AGMN LR LR
comp=Z,627nm,20.0s

ABPO Ambohimpanom 107.16 182 PFAKE 06 43 20.0
ABPO LR LR
comp=Z,553nm,19.0s

GLMI Grayling 107.30 35 PFAKE 06 43 20.0
GLMI LR LR
comp=Z,445nm,20.0s

EYMN Ely 107.96 29 PFAKE 06 43 20.0
EYMN LR LR
comp=Z,788nm,19.0s

BINY Binghamton 108.17 42 PFAKE 06 43 20.0
BINY LR LR
comp=Z,1μm,20.0s

LSZ Lusaka 109.31 162 PFAKE 06 43 20.0
LSZ LR LR
comp=Z,2μm,22.0s

WRAK Wrangell Islan 110.18 1 PFAKE 06 43 20.0
WRAK LR LR
comp=Z,2μm,19.0s

LONY Lake Ozonia 110.76 41 PFAKE 06 43 30.0
LONY LR LR
comp=Z,739nm,20.0s

ADK Adak 111.36 333 PFAKE 06 43 30.0
ADK LR LR
comp=Z,3μm,19.0s

FFC Flin Flon 111.72 20 PFAKE 06 43 30.0
FFC LR LR
comp=Z,1μm,20.0s

KDAK Kodiak Island 112.51 350 PFAKE 06 43 30.0
KDAK LR LR
comp=Z,914nm,20.0s

PKME Peaks-Kenny Pk 113.41 44 PFAKE 06 43 30.0
PKME LR LR
comp=Z,692nm,19.0s

MAJO Matsushiro 117.23 295 PFAKE 06 43 40.0 +12
MAJO LR LR
comp=Z,688nm,21.0s

TATO Taipei 118.01 274 PFAKE 06 43 40.0 +10
TATO LR LR
comp=Z,641nm,19.0s

EGAK Eagle 118.67 357 PFAKE 06 43 40.0 +10
EGAK LR LR
comp=Z,2μm,21.0s

ERM Erimo 118.77 303 PFAKE 06 43 40.0 +9.5
ERM LR LR
comp=Z,586nm,22.0s

IL1 Eielson Array 118.94 354 *e*PKPdf **PKPdf** **06 43 28.9 -1.3**
ILAR Eielson Array 118.94 354 PKP **PKPdf** **06 43 26.7 -3.4**
comp=Z,2.0nm,0.8s,baz=216,slow=2.0,SNR=13

COLA College 119.10 353 PFAKE 06 43 40.0 +10
COLA LR LR
comp=Z,1μm,20.0s

QIZ Qiongzhong 120.26 261 PKP **PKPdf** **06 43 33.1 -1.1**
QIZ PP **PP** **06 44 58.4 -1.6**
QIZ SS SS 07 01 27.3 -0.4
QIZ LR LR
comp=Z,560nm,25.5s

QIZ Qiongzhong 120.26 261 PFAKE 06 43 40.0 +5.8

QIZ LR LR
comp=Z,372nm,21.0s
PET Petropavlovsk 120.32 320 PFAKE 06 43 40.0 +6.9
PET LR LR
comp=Z,2μm,21.0s
IM3 Indian Mountai 120.67 351 *e*PKPdf **PKPdf 06 43 31.7 -1.8**
YSS Yuzh-Sakhalins 122.58 306 PFAKE 06 43 50.0 +12
YSS LR LR
comp=Z,487nm,22.0s
TOLK Toolik Lake Re 122.95 353 *e*PKPdf **PKPdf 06 43 38.3 +0.4**
KMBO Kilima Mbogo 124.52 170 PFAKE 06 43 50.0 +7.1
KMBO LR LR
comp=Z,908nm,19.0s
NJ2 Nanjing 124.81 278 *e*PKP **PKPdf 06 43 41.1 -1.4**
CM01 Chiang Mai Arr 125.98 250 *e*PKPdf **PKPdf 06 43 43.7 -1.5**
CMAR Chiang Mai Arr 126.02 250 PKP **PKPdf 06 43 43.6 -1.6**
comp=Z,1.4nm,0.3s,baz=198,slow=1.7,SNR=4.0
CHTO Chiang Mai 126.30 251 PFAKE 06 44 00.0 +14
CHTO LR LR
comp=Z,552nm,22.0s
TOA0 Torodi Ar. Sit 126.58 123 *e*PKPdf **PKPdf 06 43 46.2 -0.2**
TORD Torodi Ar. Bea 126.58 123 PKP **PKPdf 06 43 45.9 -0.5**
comp=Z,6.9nm,1.2s,baz=199,slow=1.4,SNR=16
TOA1 Torodi Ar. Sit 126.59 123 *e*PKPdf **PKPdf 06 43 45.9 -0.5**
MDJ Mudanjiang 127.57 296 PFAKE 06 44 00.0 +13
MDJ LR LR
comp=Z,530nm,21.0s
GYA Guiyang 127.85 263 *e*Pdif **Pdif 06 40 31.3 -0.7**
GYA PKP **PKPdf 06 43 48.0 -0.7**
GYA PP **PP 06 45 54.8 +3.7**
GYA AMB AMB
comp=Z,130nm,7.9s
MA2 Magadan 128.12 321 PFAKE 06 44 00.0 +12
MA2 LR LR
comp=Z,1μm,20.0s
ENH Enshi 129.02 269 PFAKE 06 44 00.0 +9.3
ENH LR LR
comp=Z,258nm,19.0s
KMI Kunming 129.11 259 PKP **PKPdf 06 43 51.3 0.0**
KMI LR LR
comp=Z,230nm,21.8s
KMI LR LR
comp=Z,210nm,20.7s
KMI LR LR
comp=Z,790nm,32.8s
BILL Bilibino 129.49 335 *e*PKIKP **PKPdf 06 43 50.2 -0.1**
BILL pmax pmax
comp=Z,1.0nm,1.0s
KLR Kul'dur 129.51 302 *i* PKIKP **PKPdf 06 43 51.6 +0.7**
SEY Seymchan 129.86 325 *i* PKIKP **PKPdf 06 43 49.5 -1.6**
MDRS Chennai 130.81 227 *ex* **PKiKP 06 43 53.8 -1.5**
MDRS *ex* x 06 47 49.8
MDRS *ex* x 06 51 01.8
MDRS *ex* x 07 00 16.8
MDRS *ex* x 07 06 58.8
BJT Baijiatuau 131.92 283 PFAKE 06 44 10.0 +14
BJT LR LR
comp=Z,454nm,20.0s
BJI Beijing 131.93 283 *e*PKP **PKPdf 06 43 53.3 -2.5**
BJI LR LR
comp=Z,280nm,12.1s
BJI LR LR
comp=Z,210nm,14.9s
BJI LR LR
comp=Z,230nm,49.3s
CD2 Chengdu 132.85 265 PKP **PKPdf 06 43 57.0 -0.9**
CD2 PP **PP 06 46 22.1 -1.4**
CD2 AMB AMB
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,370nm,17.9s
CD2 LR LR
comp=Z,390nm,20.9s
HHC Hu-ho-hao-te 135.12 281 *e*PKP **PKPdf 06 44 03.6 +1.7**
HHC PP **PP 06 46 42.6 +4.6**
HHC SKS **SKSdf 06 51 13.0 +0.2**
HHC SS **SS 07 04 35.3 +2.7**
HHC AMB AMB
comp=Z,170nm,5.4s
HHC LR LR
comp=Z,160nm,19.0s
HHC LR LR
comp=Z,320nm,19.0s
HHC LR LR
comp=Z,540nm,20.4s
HIA Hailar 135.73 295 PFAKE 06 44 10.0 +7.3
HIA LR LR
comp=Z,503nm,20.0s
HIA Hailar 135.73 295 *i* PKIKP **PKPdf 06 44 02.7 0.0**
LZH Lanzhou 136.47 270 *e*PKP **PKPdf 06 44 00.4 -4.3**
LZH LR LR
comp=Z,480nm,18.7s
LZH LR LR
comp=Z,540nm,18.7s
LZH LR LR
comp=Z,790nm,20.3s
YAK Yakutsk 137.85 316 PFAKE 06 44 20.0 +14
YAK LR LR
comp=Z,610nm,20.0s
LSA Lhasa 139.22 252 PFAKE 06 44 20.0 +10
LSA LR LR
comp=Z,454nm,21.0s
GTA Gaotai 141.06 271 *e*PKP **PKPdf 06 44 15.3 +2.4**
GTA PP **PP 06 47 20.0 +5.0**
GTA PKS **PKSdf 06 47 41.4 -7.5**
GTA SS SS 07 05 44.4 +1.4
GTA AMB AMB
comp=Z,220nm,11.7s
GTA LR LR
comp=Z,200nm,24.7s
GTA LR LR
comp=Z,360nm,24.0s
GTA LR LR
comp=Z,600nm,24.4s
ULN Ulaanbaatar 141.91 287 PFAKE 06 44 20.0 +5.8
ULN LR LR
comp=Z,392nm,21.0s
ULN Ulaanbaatar 141.91 287 *i* PKIKP **PKPdf 06 44 15.5 +1.3**
TIXI Tiksi 142.04 329 *e*PKPpre PKPpre 06 44 05.7
TIXI LR LR
comp=Z,501nm,21.0s
TIXI Tiksi 142.04 329*c* *i*PKIKP **PKPdf 06 44 11.2 -2.3**
TIXI pmax pmax
comp=Z,6.0nm,0.8s
SUMG Summit 142.10 29 *i* P **PKPdf 06 44 13.1 -1.0**
SUMG Summit 142.10 29 *e*PKIKP **PKPdf 06 44 13.1 -1.0**
SONA0 Songino Array 142.26 286 *e*PKPdf **PKPdf 06 44 13.0 -1.8**
SONM Songino Array 142.26 286 PKP **PKPdf 06 44 13.0 -1.8**
comp=Z,1.2nm,0.7s,baz=122,slow=1.9,SNR=3.0
PAB San Pablo 143.66 93 PFAKE 06 44 30.0 +12
PAB LR LR
comp=Z,566nm,20.0s
ESDC Sonseca Array 143.97 93 PKP PKPbc 06 44 16.4 +0.5
comp=Z,0.6nm,0.3s,baz=301,slow=0.7,SNR=7.9
ES19 SONSECA Array 144.03 93 *e*PKPdf PKPbc 06 44 16.0 -0.1
ZAK Zakamensk 145.33 288 *e*PKP2 **PKPbc 06 44 17.8 -2.1**
ZAK pmax pmax
comp=Z,21nm,1.6s
IRK Irkutsk 145.65 291 *e*PKP2 **PKPdf 06 44 18.8 -1.6**
IRK pmax pmax
comp=Z,71nm,2.7s
TLY Talaya 145.74 290 PFAKE 06 44 30.0 +8.5
TLY LR LR
comp=Z,592nm,20.0s
TLY Talaya 145.74 290 *e*PKIKP **PKPbc 06 44 20.9 -0.2**
TLY *e*SS SS 07 06 34.2 -2.4
TLY pmax pmax
comp=Z,26nm,1.7s
MOY Mondy 147.21 289 *e*PKP2 **PKPbc 06 44 24.4 -1.1**
MOY pmax pmax
comp=Z,54nm,2.9s
WSAR Wadi Sarin 147.65 203 PKPbc **PKPbc 06 44 26.4 -1.1**
comp=Z,10nm,0.9s,baz=254,slow=4.2,SNR=4.1
DAG Danmarks Havn 147.72 23 *i* P **PKPdf 06 44 22.9 -0.3**
DAG Danmarks Havn 147.72 23 *e*PKIKP **PKPdf 06 44 22.9 -0.3**
KEST Kesra 148.90 111 PKPbc **PKPbc 06 44 30.2 -0.3**
comp=Z,7.8nm,1.0s,baz=20,slow=6.3,SNR=2.0
RAYN Ar Rayn 149.46 180 *e*PKPbc **PKPbc 06 44 30.9 -1.3**
RAYN LR LR
comp=Z,957nm,20.0s
RAYN Ar Rayn 149.46 180 *i* PKPbc **PKPbc 06 44 30.9 -1.3**
SNR=7.6
ASHO Ashiyiah 149.59 199 *i* PKPbc **PKPbc 06 44 31.5 -1.0**
SNR=6.6
ASUD Al Ashush, Dub 149.67 198 *i* PKiKP **PKiKP 06 44 33.5 -0.1**
SNR=5.6
HATD Hatta, Dubai 149.71 199 *i* PKiKP **PKPbc 06 44 33.2 +0.4**
SNR=20
FAQ Al Faqa, Dubai 149.74 198 PKPbc **PKPbc 06 44 32.1 -0.7**
UOSS Minazif 149.81 199 *ep*PKPdf pPKPdf 06 44 30.2 -1.4
UOSS Minazif 149.81 199 *i* PKPbc **PKPbc 06 44 31.2 -1.8**
SNR=6.4
MDH Madha 150.14 200 *i* PKPbc **PKPbc 06 44 33.0 -0.7**
SNR=6.0
MSFE Esma-Masafi 150.23 200 *i* PKiKP **PKiKP 06 44 35.5 +0.7**
SNR=5.5
BANOM Banah 150.75 200 *i* PKiKP **PKiKP 06 44 36.8 +1.0**
SNR=7.0
SHME Shamm 150.90 200 PKPbc **PKPbc 06 44 34.3 -1.3**
WMQ Urumqi 150.92 267 *e*PKPbc **PKPdf 06 44 28.9 -0.5**
WMQ LR LR
comp=Z,860nm,17.5s
WMQ LR LR
comp=Z,980nm,25.1s
ESK Eskdalemuir 152.24 67 PFAKE 06 44 40.0 +2.4
ESK LR LR
comp=Z,622nm,21.0s
KBS Kingsbay 152.59 13 PFAKE 06 44 40.0 +2.2
KBS LR LR
comp=Z,807nm,20.0s
EIL Elat 154.38 158 PKPbc **PKPbc 06 44 43.7 +0.5**
comp=Z,3.0nm,0.8s,baz=270,slow=3.0,SNR=3.2
KSH Kashi 154.85 247 *e*PKPbc **PKPdf 06 44 36.3 +0.9**
KSH PP **PP 06 48 39.3 +3.8**
KSH SKS **SKSdf 06 51 41.4 -0.4**
KSH AMB AMB
comp=Z,530nm,5.4s
KSH LR LR
comp=Z,610nm,14.4s
KSH LR LR
comp=Z,760nm,16.6s
KSH LR LR
comp=Z,1μm,18.4s
MK01 Makanchi Array 155.72 268 *e*PKPab **PKPab 06 45 00.2 -2.5**
MK31 Makanchi Array 155.74 268 *e*PKPab **PKPab 06 45 00.1 -2.7**
MK32 Makanchi Array 155.74 268 *e*PKPdif **PKPdf 06 44 43.0 +6.8**
MKAR Makanchi Array 155.74 268 PKPbc **PKPdf 06 44 43.0 +6.8**
comp=Z,1.1nm,0.7s,baz=90,slow=3.6,SNR=2.8
MKAR Makanchi Array 155.74 268 PKPbc **PKPdf 06 44 43.0 +6.8**
MKAR *e*PKPab **PKPab 06 45 00.3 -2.5**
MKAR Makanchi Array 155.74 268 PKIKP **PKPdf 06 44 43.0 +6.8**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
ZALV Zalesovo Beam 157.16 286 PKP **PKPdf 06 44 36.2 -1.5**
comp=Z,0.6nm,0.5s,baz=356,slow=4.6,SNR=2.1
ZALV PKPab **PKPab 06 45 06.6 -2.1**
comp=Z,4.0nm,0.8s,baz=138,slow=5.8,SNR=4.7
ZAA1 Zalesovo Array 157.16 286 *e*PKPdf **PKPdf 06 44 36.2 -1.5**
ZAA1 *e*PKPab **PKPab 06 45 06.6 -2.1**
AAK Ala-Archa 157.80 251 PKPab **PKPab 06 45 08.3 -3.7**
comp=Z,0.9nm,0.5s,baz=337,slow=5.9,SNR=3.6
AAK Ala-Archa 157.80 251 *e*PKPab **PKPab 06 45 08.3 -3.7**
AAK LR LR
comp=Z,776nm,22.0s
GERES GERESS Array B 159.56 92 PKP **PKPdf 06 44 40.5 -0.4**
comp=Z,0.5nm,0.5s,baz=151,slow=3.0,SNR=8.0
GERES PKPab **PKPab 06 45 19.1 -0.3**
comp=Z,0.3nm,0.2s,baz=222,slow=34,SNR=2.1
KHC Kasperske Hory 159.62 91 *e*PP PP 06 49 00.0 -1.8
KHC *e*SS SS 07 09 11.5 +2.4
KHC AMS AMS 08 05 10.0
comp=Z,800nm,20.5s
KURK Kurchatov 159.68 274 PFAKE 06 44 50.0 +9.1
KURK LR LR
comp=Z,1μm,22.0s
CLL Collm 160.15 85 *e*PKPdf **PKPdf 06 44 44.0 +2.6**
comp=Z,14nm,1.6s
CLL *e*PKPlp 06 45 05.0
CLL *e*PKPab **PKPab 06 45 23.0 +1.3**
comp=Z,13nm,1.2s
CLL *e* 06 45 48.0
CLL *e*PP **PP 06 49 04.0 -0.6**
CLL *e*SKSdf **SKSdf 06 51 48.0 +1.8**
CLL *e*PPP PPP 06 52 48.0
CLL *e*SKKSac **SKKSac 06 55 58.0 +5.9**
CLL *e* 06 56 37.0
CLL *e*(PSKS) 06 59 18.0
CLL *e*PPS PPS 07 02 30.0
CLL *e*SS **SS 07 09 13.0 -1.6**
CLL *e*PSS PSS 07 10 04.0
CLL *e*PSPS 07 10 48.0
CLL *e*SSS SSS 07 15 24.0
CLL *e*SSSS 07 19 36.0
CLL LmV 08 04 00.0
comp=Z,600nm,20.1s
CLL Collm 160.15 85 *e*PKIKP **PKPdf 06 44 44.0 +2.6**
CLL *e* 06 49 04.0
CLL pmax pmax
comp=Z,14nm,1.6s
CLL pmax pmax
comp=Z,13nm,1.2s
CLL MLR MLR
comp=Z,600nm,20.1s
NB200 NORSAR Array S 160.49 55 *e*PKPdf **PKPdf 06 44 41.5 0.0**
NOA NORSAR Array B 160.49 55 PKP **PKPdf 06 44 41.5 0.0**
comp=Z,2.2nm,1.0s,baz=280,slow=1.0,SNR=2.6
PRA Prague 160.52 89 AMS AMS 08 07 40.0
comp=Z,1μm,25.0s
BRG Berggiesshubel 160.54 87 *e*P **PKPab 06 45 23.3 -0.2**
BRG *e* 06 45 27.7
comp=Z,60nm,1.9s
BRG Berggiesshubel 160.54 87 *e*PKP2 **PKPab 06 45 23.3 -0.2**
BRG pmax pmax
comp=Z,3.0nm,1.9s
PVCC Panska Ves 160.78 88 AMS AMS 08 07 20.0
comp=Z,800nm,22.8s
TREC Trest 160.81 92 AMS AMS 08 07 30.0
comp=Z,1μm,19.1s
MODS Modra-Piesok 161.44 96 *e*PKIKP **PKPdf 06 44 45.3 +2.4**
MODS Modra-Piesok 161.44 96 *e*PKP **PKPdf 06 44 45.3 +2.4**
DPC Dobruska-Polom 161.74 90 *e*SS SS 07 09 35.7 +4.3
DPC AMS AMS 08 07 10.0
comp=Z,700nm,21.7s
ARA0 ARCESS Array S 162.01 23 *e*PKPab **PKPab 06 45 27.8 -1.5**
ARCES ARCESS Array B 162.01 23 PKPab **PKPab 06 45 27.8 -1.5**
comp=Z,2.3nm,0.8s,baz=7.4,slow=2.8,SNR=5.3
KEV Kevo 162.17 21 PFAKE 06 44 50.0 +7.0
KEV LR LR
comp=Z,2μm,20.0s
VYHS Vyhne 162.41 98 *e*PKIKP **PKPdf 06 44 45.6 +1.7**
VYHS Vyhne 162.41 98 *e*PKP **PKPdf 06 44 45.6 +1.7**
VYHS *e* 06 45 34.5
OKC Ostrava-Krasne 162.61 93 AMS AMS 08 04 30.0
comp=Z,800nm,18.2s
ANTO Ankara 163.33 144 PFAKE 06 45 00.0 +15
ANTO LR LR
comp=Z,620nm,21.0s
BR101 Keskin Array S 163.49 146 *e*PKPdf **PKPdf 06 44 45.8 +0.4**
BR101 *e*PKPab **PKPab 06 45 36.9 +0.1**
BRTR Keskin Array B 163.49 146 PKP **PKPdf 06 44 45.8 +0.4**
comp=Z,1.4nm,0.8s,baz=186,slow=5.7,SNR=5.7
BRTR PKPab **PKPab 06 45 36.9 +0.1**
comp=Z,1.9nm,1.1s,baz=220,slow=3.8,SNR=2.3
KWP Kalwaria Pacla 165.19 98 *e*PKPdf **PKPdf 06 44 45.3 -1.1**
KWP Kalwaria Pacla 165.19 98 *e*PKIKP **PKPdf 06 44 45.3 -1.1**
BVAR Borovoye Array 165.25 276 PKP **PKPdf 06 44 44.9 -1.4**
comp=Z,0.3nm,0.4s,baz=129,slow=2.0,SNR=2.0
BVAR PKPab **PKPab 06 45 43.1 -1.0**
comp=Z,0.3nm,0.4s,baz=149,slow=3.4,SNR=2.7
BRVK Borovoye 165.32 276 PFAKE 06 45 00.0 +14
BRVK LR LR
comp=Z,574nm,22.0s
BUR04 Bucovina Ar. S 165.61 109 *e*PKPdf **PKPdf 06 44 46.0 -0.9**
GNI Garni 166.02 177 PFAKE 06 45 00.0 +12
GNI LR LR
comp=Z,1μm,20.0s
FIA0 FINESS Array S 167.29 47 *e*PKPab **PKPab 06 45 50.5 -2.3**
FINES FINESS Array B 167.29 47 PKPab **PKPab 06 45 50.5 -2.3**
comp=Z,2.7nm,1.0s,baz=114,slow=24,SNR=3.4
SIM Simferopol' 168.20 136 *e*PKIKP **PKPdf 06 44 47.8 -1.1**
AK11 Malin Array Si 169.39 102 *e*PKPdf **PKPdf 06 44 48.1 -1.3**
KIEV Kiev 169.42 102 *e*PKPdf **PKPdf 06 44 50.0 +0.6**
KIEV LR LR
comp=Z,782nm,20.0s
AKASG Malin Array Be 169.43 102 PKP **PKPdf 06 44 48.2 -1.2**
comp=Z,0.3nm,0.3s,baz=289,slow=0.6,SNR=9.9
AKASG PKPab **PKPab 06 46 02.1 -0.5**
comp=Z,0.2nm,0.3s,baz=254,slow=3.5,SNR=3.4
AKBB Malin Array Si 169.43 102 *e*PKPdf **PKPdf 06 44 50.9 +1.5**
AKBB *e*PKPab **PKPab 06 46 02.8 +0.1**
AKBB Malin Array Si 169.43 102 *e*PKIKP **PKPdf 06 44 50.9 +1.5**
AKBB *e* 06 46 02.8
KBZ Khabaz 169.46 169 PKPab **PKPab 06 46 03.5 +0.7**
comp=Z,6.0nm,1.1s,baz=14,slow=2.8,SNR=5.5
KIV Kislovodsk 169.66 168 PFAKE 06 45 00.0 +10
KIV LR LR
comp=Z,1μm,22.0s
KIV Kislovodsk 169.66 168 *e*PKIKP **PKPdf 06 44 49.9 -0.1**
KIV pmax pmax
comp=Z,8.0nm,1.1s
ARU Arti 172.24 293 PFAKE 06 45 00.0 +9.3
ARU LR LR
comp=Z,1μm,20.0s
OBN Obninsk 174.66 75 PFAKE 06 45 00.0 +8.3
OBN LR LR
comp=Z,820nm,20.0s
OBN Obninsk 174.66 75[1] *e*PKIKP **PKPdf 06 44 52.7 +1.0**
OBN 06 50 22.0
OBN SSS SSS 07 18 33.0
OBN pmax pmax
comp=Z,11nm,1.3s

IDC 16 06:34:54.0±2.5, 48°.54N×151°.23E, h0km, mb4.1/6, mb1 4.2/6, mb1mx3.6/53, mbtmp4.1/6, Error ellipse: s-maj=92.6km s-min=22.8km az=70.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**40.54**	**304**	P		06 42 35.0	+0.3
	1.1nm,0.4s,baz=61,slow=6.0,SNR=6.1						
KURBB	**Kurchatov Arra**	**45.42**	**301**	P	P	06 43 14.1	-0.1
	1.7nm,0.6s,baz=70,slow=8.4,SNR=11						
BVAR	**Borovoye Array**	**48.74**	**308**	P	P	06 43 40.3	+0.2
	1.0nm,0.4s,baz=61,slow=6.7,SNR=5.0						
FINES	**FINESS Array B**	**61.87**	**334**	P	P	06 45 14.0	-0.5
	2.2nm,0.8s,baz=41,slow=6.1,SNR=5.8						
WRA	**Warramunga Arr**	**69.82**	**197**	P	P	06 46 06.0	-0.3
	1.0nm,0.6s,baz=11,slow=6.4,SNR=12						
ASAR	**Alice Springs**	**73.53**	**197**	P	P	06 46 28.8	+0.2
	0.8nm,0.5s,baz=13,slow=6.6,SNR=9.5						

IDC 16 06:53:23.9±5.6, 22°.51S×177°.46W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.5/32, mbtmp3.6/2, Error ellipse: s-maj=210.2km s-min=57.8km az=141.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.41**	**247**	P	P	07 00 38.8	-0.1
	1.0nm,0.6s,baz=96,slow=10,SNR=3.3						
WRA	**Warramunga Arr**	**44.86**	**264**	P	P	07 01 40.2	-0.1
	0.2nm,0.4s,baz=94,slow=8.4,SNR=15						
AKASG	**Malin Array Be**	**145.00**	**330**	PKPbc	PKPbc	07 13 01.5	-0.8
	0.3nm,0.3s,baz=42,slow=4.1,SNR=4.9						

MEX 16 06:53:28.2±0.5, 13°.97N×92°.19W, h14km±120km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.94**	**355**	*i* P	Pb	06 53 43.6	-2.6
THIG				*e*S	Sb	06 53 54.6	-3.9
PCIG		**1.99**	**330**	*e*P	Pn	06 53 57.8	-3.7
PCIG				*i* S	Sn	06 54 21.8	-4.5
CCIG	**Comitan**	**2.30**	**1**	*e*P	Pn	06 54 03.6	-2.4
CCIG				*i* S	Sn	06 54 29.9	-4.2
TGIG		**2.93**	**342**	*e*P	Pn	06 54 12.3	-2.2
TGIG				*i* S	Sn	06 54 45.9	-3.8

ISCJB ***16*** *06:54:54.8±0.4, 37°.57N±0°.02×27°.18E±0°.03, h3km±4km, Error ellipse: s-maj=3.5km s-min=2.7km az=150.6*
THE ***16*** *06:54:54.4, 37°.53N×27°.17E, h0km, ML2.5/4, Error ellipse: s-maj=1.2km s-min=0.3km az=61.0*
ATH ***16*** *06:54:54.9, 37°.58N×27°.18E, h16km±1km, ML2.6/5, Error ellipse: s-maj=2.6km s-min=1.1km az=256.0*
ISK ***16*** *06:54:54.6, 37°.55N×27°.12E, h8km, ML2.8/17*
DDA ***16*** *06:54:55.1, 37°.59N×27°.24E, h7km, Ml2.8*

ISC 16 06:54:54.8±0.9, 37°.57N±0°.02×27°.21E±0°.02, h13km±7km, n45, σ0°83/66, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DIDI	**Didim-Aydin**	**0.19**	**173**	PG	**Pg**	**06 54 58.9**	**-0.1**
DIDI				SG	**Sg**	**06 55 02.7**	**+0.7**
SMG	**Samos**	**0.33**	**296**	P	**Pg**	**06 55 01.3**	**-0.2**
SMG				S	**Sg**	**06 55 06.0**	**0.0**
SMG				AML	AML	06 55 08.2	
	comp=N,3384μm,0.2s						
SMG				AML	AML	06 55 12.8	
	comp=E,3167μm,0.3s						
SMG	**Samos**	**0.33**	**296**	P	**Pg**	**06 55 01.1**	**-0.4**
SMG				S	**Sg**	**06 55 06.2**	**+0.2**
BODT	**Bodrum**	**0.51**	**171**	PG	**Pg**	**06 55 04.8**	**0.0**
BODT				SG	**Sb**	**06 55 12.7**	**-0.2**
BODT	**Bodrum**	**0.51**	**171**	P	**Pg**	**06 55 04.4**	**-0.4**
BODT				S	**Sg**	**06 55 11.7**	**+0.1**
MLSB	**Milas**	**0.53**	**121**	PG	**Pg**	**06 55 05.4**	**+0.3**
AYDN	**Tasoluk**	**0.54**	**80**	*i* P	**Pb**	**06 55 06.2**	**0.0**
AYDN				*i* S	**Sb**	**06 55 13.7**	**-0.1**
DGB	**˜zmir**	**0.55**	**332**	*i* P	**Pg**	**06 55 05.7**	**+0.1**
DGB				*i* S	**Sb**	**06 55 13.6**	**-0.5**
GMLD	**Gumuldur**	**0.56**	**335**	PG	**Pg**	**06 55 05.6**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.66**	**55**	PG	**Pb**	**06 55 08.5**	**+0.3**
DATC	**Datca-Mugla**	**0.88**	**156**	PG	**Pb**	**06 55 12.5**	**+0.6**
DAT	**Datca**	**0.89**	**161**	PG	**Pn**	**06 55 13.1**	**0.0**
DAT	**Datca**	**0.89**	**161**	*i* P	**Pb**	**06 55 12.6**	**+0.5**
DAT				*i* S	**Sn**	**06 55 26.2**	**+0.4**
URLA	**Izmir**	**0.93**	**329**	PG	**Pb**	**06 55 12.9**	**+0.1**
URLA	**Izmir**	**0.93**	**329**	*i* P	**Pb**	**06 55 13.3**	**+0.5**
URLA				*i* S	**Sn**	**06 55 26.3**	**-0.5**
NIS1	**Nisyros Isl.**	**0.96**	**182**	PG	**Pg**	**06 55 13.0**	**-0.4**
NIS1	**Nisyros Isl.**	**0.96**	**182**	P	**Pg**	**06 55 13.5**	**+0.1**
NIS1				S	**Sb**	**06 55 27.1**	**+1.1**
NIS1				AML	AML	06 55 33.2	
	comp=N,611μm,0.4s						
NIS1				AML	AML	06 55 35.1	
	comp=E,780μm,0.5s						
NIS1	**Nisyros Isl.**	**0.96**	**182**	P	**Pg**	**06 55 12.3**	**-1.1**
NIS1				S	**Sb**	**06 55 26.6**	**+0.6**
KRBN	**Karaburun**	**1.15**	**333**	PN	**Pn**	**06 55 17.6**	**+1.0**
MRSB	**Marmaris-Mugla**	**1.16**	**137**	PN	**Pn**	**06 55 18.2**	**+1.5**
FOCM	**Fo˜ça**	**1.21**	**342**	PN	**Pg**	**06 55 18.4**	**+0.4**
CHOS	**Chios island**	**1.23**	**312**	PN	**Pn**	**06 55 16.8**	**-0.9**
CHOS	**Chios island**	**1.23**	**312**	P	**Pn**	**06 55 17.7**	**0.0**
CHOS				S	**Sn**	**06 55 34.7**	**+0.5**
CHOS				AML	AML	06 55 36.8	
	comp=E,304μm,0.5s						
CHOS				AML	AML	06 55 45.3	
	comp=N,161μm,0.5s						
CHOS	**Chios island**	**1.23**	**312**	P	**Pn**	**06 55 17.1**	**-0.6**
CHOS				S	**Sn**	**06 55 35.4**	**+1.2**
AMGA	**Amorgos Island**	**1.28**	**235**	P	**Pn**	**06 55 18.3**	**-0.1**
AMGA				S	**Sn**	**06 55 36.2**	**+0.7**
AMGA				AML	AML	06 55 37.3	
	comp=N,311μm,0.4s						
AMGA				AML	AML	06 55 39.6	
	comp=E,380μm,0.3s						
AMGA	**Amorgos Island**	**1.28**	**235**	P	**Pn**	**06 55 17.5**	**-0.9**
AMGA				S	**Sb**	**06 55 35.3**	**+0.1**
TURN	**Turunc**	**1.31**	**121**	PN	**Pn**	**06 55 18.2**	**-0.6**
TURN	**Turunc**	**1.31**	**121**	*i* P	**Pn**	**06 55 16.7**	**-2.1**
TURN				*i* S	**Sb**	**06 55 32.2**	**-3.7**
TAVA	**DENIZLI_Tavas**	**1.36**	**94**	*i* P	**Pg**	**06 55 20.7**	**-0.2**
TAVA				*i* S	**Sg**	**06 55 39.7**	**+1.2**
DALY	**Dalyan (Mu˜la**	**1.37**	**123**	PN	**Pg**	**06 55 22.3**	**+1.1**
DALY	**Dalyan (Mu˜la**	**1.37**	**123**	*i* P	**Pb**	**06 55 20.4**	**+0.1**
DALY				*i* S	**Sg**	**06 55 39.6**	**+0.6**
AKHS	**Akhisar**	**1.39**	**20**	*i* P	**Pn**	**06 55 19.8**	**-0.1**
AKHS				*i* S	**Sg**	**06 55 39.9**	**+0.2**
MANT	**Manisa**	**1.41**	**49**	*i* P	**Pg**	**06 55 22.5**	**+0.6**
MANT				*i* S	**Sg**	**06 55 39.5**	**-0.7**
APE	**Apeiranthos**	**1.43**	**250**	PN	**Pn**	**06 55 19.6**	**-0.9**
APE	**Apeiranthos**	**1.43**	**250**	P	**Pb**	**06 55 21.5**	**+0.3**
APE	**Apeiranthos**	**1.43**	**250**	P	**Pn**	**06 55 19.8**	**-0.7**
KULA	**Kula-Manisa**	**1.49**	**50**	PN	**Pg**	**06 55 23.1**	**-0.2**
ANAF	**Anafi Island**	**1.67**	**224**	P	**Pb**	**06 55 25.2**	**-0.1**
ANAF				S	**Sg**	**06 55 48.3**	**-0.2**
ANAF				AML	AML	06 55 54.4	
	comp=E,526μm,0.3s						

ANAF				AML	AML	06 55 55.4
	comp=N,505μm,0.4s					
ANAF	**Anafi Island**	**1.67**	**242**	P	**Pn**	**06 55 23.1 -0.6**
IOSP	**Ios island**	**1.75**	**242**	P	**Pn**	**06 55 26.1 +1.3**
IOSP	**Ios island**	**1.75**	**242**	P	**Pn**	**06 55 24.0 -0.8**
FETY	**Fethiye**	**1.76**	**121**	PN	**Pb**	**06 55 27.0 0.0**
SIGR	**SIGRI**	**1.96**	**327**	PN	**Pn**	**06 55 28.6 +0.9**
SIGR	**SIGRI**	**1.96**	**327**	P	**Pb**	**06 55 29.3 -1.0**
AKAS	**Kas**	**2.34**	**124**	PN	**Pb**	**06 55 35.7 -1.1**

JMA 16 06:57:58.7, 37.16N×136.56E, h10km±1km, M3.6, 4D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJH	**Hakui**	**0.29**	**143**	⇓P	Pg	06 58 04.8	+0.2
JSZ	**Suzu**	**0.70**	**66**	⇓P	Pg	06 58 12.0	-0.3
JSZ				S	Sg	06 58 21.6	+0.1
JHG	**Hegura jima**	**0.74**	**23**	⇓P	Pg	06 58 13.0	-0.1
JHG				S	Sg	06 58 23.3	+0.5
JTT	**Ttatey**	**0.83**	**132**	⇓P	Pg	06 58 14.6	-0.1
JKG	**Kaga**	**0.90**	**192**	P	Pg	06 58 15.9	-0.1
JKG				*e*S	Sg	06 58 27.8	+0.1
MAT	**Matsushiro**	**1.46**	**115**	P	Pn	06 58 24.3	-0.8
MAT				S	Sn	06 58 44.4	+0.1

MAN 16 07:08:41.1, 7.01N×126.32E, h28km, mb4.5, ML3.3, MS3.1, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.08**	**214**	*e*P	Pb	07 09 06.1	+4.8
DDMP				*e*S	Sb	07 09 25.9	+11
BIPH	**Bislig**	**1.17**	**2**	⇑*i*P	Pb	07 09 02.8	+0.2
BIPH				*i* S	Sb	07 09 17.4	-0.1
BUKP	**Musuan**	**1.52**	**305**	*e*P	Pn	07 09 05.8	-0.6
BUKP				*e*S	Sn	07 09 26.1	+0.8
SKMP	**Bagumbayan, Su**	**1.83**	**255**	*e*P	Pn	07 09 10.7	0.0
SKMP				*e*S	Sn	07 09 33.8	+0.8

IDC 16 07:23:00.3±2.6, 5.68S×151.02E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/24, mbtmp4.0/4, ML2.1/1, Error ellipse: s-maj=76.4km s-min=41.0km az=113.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.32**	**226**	Pn	Pn	07 24 21.7	+0.6
	3.8nm,0.3s,baz=23,slow=7.7,SNR=5.4						
PMG				Sn	Sn	07 25 14.2	-9.0
	5.9nm,0.3s,baz=108,slow=19,SNR=10.0						
WRA	**Warramunga Arr**	**21.54**	**227**	P	P	07 27 50.7	-0.7
	4.8nm,0.7s,baz=50,slow=10.0,SNR=25						
ASAR	**Alice Springs**	**24.32**	**221**	P	P	07 28 20.4	+0.5
	1.7nm,0.8s,baz=56,slow=8.2,SNR=20						
STKA	**Stephens Creek**	**27.51**	**198**	P	P	07 28 48.1	-0.6
	2.2nm,0.9s,baz=28,slow=15,SNR=2.5						
TORD	**Torodi Ar. Bea**	**148.87**	**286**	PKPbc	PKPbc	07 42 50.9	-0.2
	0.5nm,0.9s,baz=109,slow=3.3,SNR=2.7						

IDC 16 07:47:20.5±3.3, 44.23N×131.57E, h0km, Error ellipse: s-maj=19.4km s-min=4.2km az=96.0, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I45RU	**USSURIYSK INFR**	**0.29**	**96**	*i*		07 48 50.0	
	baz=275,slow=331,SNR=174						
USRK	**Ussuriysk Ar.**	**0.30**	**96**	Pg	Pg	07 47 26.3	0.0
	3.6nm,0.3s,baz=278,slow=18,SNR=82						
USRK				Lg	Lg	07 47 30.5	
	7.0nm,0.3s,baz=277,slow=31,SNR=58						
I30JP	**ISUMI INFRASON**	**11.16**	**140**	*i*		08 51 30.0	
	baz=329,slow=322,SNR=1.9						

IDC 16 07:49:35.1±1.3, 3.77N×124.86E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.7/54, mbtmp4.0/6, Error ellipse: s-maj=107.8km s-min=17.9km az=67.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.74**	**178**	P	P	07 54 28.7	+0.4
	2.6nm,0.3s,baz=9.0,slow=9.8,SNR=23						
WRA	**Warramunga Arr**	**25.34**	**159**	P	P	07 55 04.0	+0.1
	1.7nm,0.5s,baz=338,slow=9.7,SNR=36						
ASAR	**Alice Springs**	**28.66**	**163**	P	P	07 55 33.2	-0.6
	0.5nm,0.4s,baz=338,slow=7.2,SNR=16						
STKA	**Stephens Creek**	**38.86**	**157**	P	P	07 57 02.4	+0.1
	1.3nm,0.3s,baz=341,slow=7.9,SNR=11						
MKAR	**Makanchi Array**	**56.47**	**326**	P	P	07 59 18.1	-0.9
	0.4nm,0.4s,baz=127,slow=7.7,SNR=6.3						
KURBB	**Kurchatov Arra**	**60.71**	**328**	P	P	07 59 49.0	+0.7
	0.3nm,0.3s,baz=129,slow=5.7,SNR=4.1						

IDC 16 08:00:32.7±4.2, 52.46N×35.70E, h0km, mb1 3.7/2, mb1mx3.1/53, mbtmp3.6/2, ML3.1/3, Error ellipse: s-maj=48.4km s-min=15.0km az=105.0

VKMS 16 08:00:30.0, 52.31N×35.43E, M2.1, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKASG	**Malin Array Be**	**4.20**	**250**	Pn	Pn	08 01 39.0	+3.8
	1.0nm,0.3s,baz=60,slow=15,SNR=3.8						
AKASG				Pg	Pg	08 01 49.3	-1.1
	1.8nm,0.3s,baz=59,slow=15,SNR=4.8						
AKASG				Sn	Sn	08 02 25.5	+0.5
	1.7nm,0.3s,baz=59,slow=20,SNR=3.4						
AKASG				Lg	Lg	08 02 47.1	
	3.1nm,0.3s,baz=69,slow=30,SNR=4.4						
I43RU	**DUBNA INFRASON**	**4.54**	**13**	*i*		08 28 50.0	
	baz=180,slow=325,SNR=0.8						
FINES	**FINESS Array B**	**10.48**	**335**	Pn	Pn	08 02 58.8	-2.5
	0.2nm,0.3s,baz=146,slow=14,SNR=3.9						
FINES				Sn	Sn	08 04 52.0	-7.2
	0.2nm,0.3s,baz=156,slow=24,SNR=3.0						
FINES				Lg	Lg	08 05 58.2	
	0.2nm,0.3s,baz=148,slow=29,SNR=2.4						
ARCES	**ARCESS Array B**	**17.90**	**349**	P	Pn	08 04 40.0	0.0
	0.3nm,0.3s,baz=162,slow=9.4,SNR=7.9						

ATH 16 08:00:53.3, 41.57N×19.98E, h20km±1km, ML2.4/4, Error ellipse: s-maj=3.8km s-min=1.2km az=199.0
PDG 16 08:00:54.7±0.2, 41.45N×19.93E, h14km, ML2.6/13, Error ellipse: s-maj=0.4km s-min=0.4km az=90.0
SKO 16 08:00:55.7, 41.44N×19.88E, h14km
SAR 16 08:00:55.7±0.9, 41.44N×19.85E, h11km±3km, ML2.5/5
THE 16 08:00:55.3, 41.47N×19.95E, h13km, ML2.2/3, Error ellipse: s-maj=0.7km s-min=0.5km az=141.0
BEO 16 08:00:56.4±0.3, 41.48N×19.91E, h5km±3km, ML2.4/7

ISC 16 08:00:55.5±0.8, 41.46N±0.02×19.93E±0.02, h14km±6km, n43, σ0.85/84, 11C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.12**	**204**	⇓*e*Pg	**Pg**	**08 00 58.8**	**-0.1**
TIR				*e*Sg	**Sb**	**08 01 02.9**	**+0.8**
TIR	**Tirane**	**0.12**	**204**	P	**Pg**	**08 00 58.8**	**-0.1**
TIR				S	**Sb**	**08 01 03.1**	**+1.0**
TIR				AML	AML	08 01 03.4	
	comp=N,5139μm,0.4s						
TIR				AML	AML	08 01 03.5	
	comp=E,9062μm,0.5s						
TIR	**Tirane**	**0.12**	**204**	P	**Pg**	**08 00 58.7**	**-0.1**
TIR				S	**Sg**	**08 01 01.4**	**+0.3**
PHP	**Peshkopia**	**0.45**	**59**	P	**Pg**	**08 01 03.5**	**-0.9**
PHP				S	**Sg**	**08 01 10.5**	**0.0**
ULC	**Ulcinj**	**0.72**	**315**	⇑*i*Pg	**Pg**	**08 01 08.4**	**-1.1**
ULC				*e*Sg	**Sb**	**08 01 20.1**	**+0.6**
OHR	**Ohrid**	**0.74**	**117**	*i* Pg	**Pg**	**08 01 09.9**	**0.0**
OHR				*i* Sg	**Sb**	**08 01 21.2**	**+1.1**
DRME	**Dracevica, Mon**	**0.92**	**323**	⇑*i*Pg	**Pb**	**08 01 12.2**	**-0.9**
DRME				*e*Sg	**Sn**	**08 01 26.2**	**-0.7**
DRME	**Dracevica, Mon**	**0.92**	**323**	⇑*i*Pg	**Pb**	**08 01 11.6**	**-1.5**
DRME				*e*Sg	**Sg**	**08 01 24.5**	**-0.8**
KRUS	**Krusevo**	**1.00**	**95**	*i* Pg	**Pb**	**08 01 13.6**	**-0.9**
KRUS				*i* Sg	**Sn**	**08 01 28.9**	**-0.1**
PDG	**Podgorica**	**1.10**	**333**	*e*Pg	**Pb**	**08 01 15.8**	**-0.3**
PDG				*e*Sg	**Sg**	**08 01 30.6**	**-0.3**
PDG	**Podgorica**	**1.10**	**333**	P	**Pb**	**08 01 15.2**	**-0.9**
PDG				S	**Sn**	**08 01 31.1**	**-0.1**
PDG	**Podgorica**	**1.10**	**333**	*e*Pg	**Pb**	**08 01 15.3**	**-0.9**
PDG				*e*Sg	**Sg**	**08 01 30.7**	**-0.2**
TTG	**Podgorica**	**1.10**	**333**	⇑*i*Pg	**Pb**	**08 01 15.4**	**-0.7**
TTG				*e*Sg	**Sn**	**08 01 32.5**	**+1.3**
PVY	**Plav**	**1.14**	**1**	⇑*i*Pg	**Pb**	**08 01 15.9**	**-1.1**
PVY				*e*Sg	**Sn**	**08 01 33.7**	**+1.2**
BUM	**Brajici-Budva**	**1.14**	**318**	⇑*i*Pg	**Pb**	**08 01 15.9**	**-1.1**
BUM				*e*Sg	**Sn**	**08 01 33.8**	**+1.2**
SKO	**Skopje**	**1.24**	**65**	*e*Pg	**Pn**	**08 01 18.0**	**-0.4**
SKO				*e*Sg	**Sg**	**08 01 36.0**	**+0.4**
FNA	**Florina**	**1.28**	**121**	P	**Pn**	**08 01 18.4**	**-0.5**
FNA				S	**Sb**	**08 01 36.2**	**+0.4**
FNA				AML	AML	08 01 37.8	
	comp=E,465μm,0.5s						
FNA				AML	AML	08 01 37.9	
	comp=N,493μm,0.5s						
CEME	**Cevo**	**1.32**	**326**	⇓*i*Pg	**Pn**	**08 01 19.2**	**-0.4**
CEME				*e*Sg	**Sg**	**08 01 40.2**	**+2.0**
NEST	**Nestorio**	**1.34**	**140**	P	**Pn**	**08 01 19.8**	**0.0**
NEST				S	**Sg**	**08 01 39.2**	**+0.5**
NEST				AML	AML	08 01 40.0	
	comp=E,105μm,0.5s						
NEST				AML	AML	08 01 40.7	
	comp=N,105μm,0.4s						
NEST	**Nestorio**	**1.34**	**140**	P	**Pn**	**08 01 18.7**	**-1.1**
NEST				S	**Sb**	**08 01 37.5**	**0.0**
IVA	**Berane**	**1.42**	**359**	⇓*i*Pg	**Pn**	**08 01 21.3**	**+0.5**
IVA				*e*Sg	**Sg**	**08 01 42.4**	**+1.3**
KOME	**Kolasin**	**1.43**	**348**	⇑*i*Pg	**Pn**	**08 01 21.5**	**+0.5**
KOME				*e*Sg	**Sg**	**08 01 42.7**	**+1.2**
HCY	**Herceg Novi**	**1.46**	**313**	⇓*i*Pg	**Pn**	**08 01 21.8**	**+0.5**
HCY				*e*Sg	**Sg**	**08 01 43.3**	**+0.8**
HCY	**Herceg Novi**	**1.46**	**313**	*e*Pg	**Pn**	**08 01 20.9**	**-0.4**
HCY				*e*Sg	**Sn**	**08 01 40.6**	**+0.4**
NKME	**Niksic**	**1.50**	**331**	⇑*i*Pg	**Pn**	**08 01 22.2**	**+0.3**
NKME				*e*Sg	**Sg**	**08 01 44.1**	**+0.4**
NKY	**Niksic**	**1.52**	**333**	⇓*i*Pg	**Pn**	**08 01 22.6**	**+0.3**
NKY				*e*Sg	**Sg**	**08 01 45.1**	**+0.5**
PENT	**Pentalofos**	**1.56**	**143**	P	**Pn**	**08 01 23.1**	**+0.3**
PENT				S	**Sb**	**08 01 44.6**	**+0.9**
PENT				AML	AML	08 01 46.5	
	comp=E,96μm,1.0s						
PENT				AML	AML	08 01 47.0	
	comp=N,92μm,0.8s						
TREB	**Trebinje**	**1.72**	**318**	*e*Pn	**Pb**	**08 01 26.3**	**-0.6**
TREB				*e*Sn	**Sb**	**08 01 48.9**	**+0.6**
TREB	**Trebinje**	**1.72**	**318**	*e*Pn	**Pn**	**08 01 25.3**	**+0.3**
TREB				*e*Sn	**Sn**	**08 01 47.0**	**+0.2**
BRY	**Bratogost**	**1.78**	**325**	⇑*i*Pn	**Pn**	**08 01 26.6**	**+0.8**
BRY				*e*Sn	**Sb**	**08 01 50.9**	**+0.9**
BRY	**Bratogost**	**1.78**	**325**	*e*Pn	**Pn**	**08 01 25.4**	**+0.4**
BRY				*e*Sn	**Sn**	**08 01 48.3**	**0.0**
SJES	**Sjenica**	**1.81**	**1**	*e*Pn	**Pb**	**08 01 28.3**	**0.0**
SJES				*e*Sg	**Sg**	**08 01 52.9**	**-0.7**
UPM	**Unac-Piva**	**1.90**	**337**	⇑*i*Pn	**Pn**	**08 01 28.3**	**+0.7**
UPM				*e*Sn	**Sb**	**08 01 54.1**	**+0.3**
UPM	**Unac-Piva**	**1.90**	**337**	*e*Pn	**Pn**	**08 01 28.1**	**+0.5**
UPM				*e*Sn	**Sn**	**08 01 51.7**	**+0.2**
PLE	**Pljevlja**	**1.92**	**348**	⇑*i*Pn	**Pn**	**08 01 28.2**	**+0.5**
PLE				*e*Sn	**Sb**	**08 01 54.3**	**+0.3**
GRG	**Griva**	**1.93**	**104**	P	**Pn**	**08 01 27.3**	**-0.6**
SELS	**Selova**	**1.97**	**26**	*e*Pn	**Pn**	**08 01 29.5**	**+1.1**
IVAS	**Ivanjica**	**2.13**	**4**	*e*Pn	**Pb**	**08 01 32.5**	**-1.3**
IVAS				*e*Sn	**Sb**	**08 01 58.9**	**-1.1**
STON	**Ston**	**2.18**	**311**	*e*Pg	**Pb**	**08 01 34.9**	**+0.3**
STON				*e*Sg	**Sg**	**08 02 03.8**	**-1.7**
STON	**Ston**	**2.18**	**311**	*e*Pn	**Pn**	**08 01 30.2**	**-1.0**
STON				*e*Sn	**Sn**	**08 01 56.0**	**-1.9**
STON	**Ston**	**2.18**	**311**	*e*Pn	**Pn**	**08 01 31.9**	**+0.7**
STON				*e*Sn	**Sn**	**08 01 58.5**	**+0.6**
DIVS	**Divibare**	**2.64**	**1**	*e*Pn	**Pn**	**08 01 38.7**	**+1.0**
DIVS				*e*Sn	**Sn**	**08 02 11.7**	**+2.2**
DIVS	**Divibare**	**2.64**	**1**	*e*Pn	**Pn**	**08 01 39.1**	**+1.4**
DIVS				*e*Sn	**Sn**	**08 02 10.4**	**+0.9**

ISCJB 16 08:02:19.2±0.9, 5.6N±0.1×126.6E±0.1, h10km, mb3.6/6, Error ellipse: s-maj=23.2km s-min=10.4km az=32.9
IDC 16 08:02:19.3±0.9, 5.49N×126.21E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/46, mbtmp3.7/6, Error ellipse: s-maj=66.9km s-min=18.9km az=70.0

ISC 16 08:02:20.9±1.0, 5.5N±0.2×126.4E±0.1, h10km, n7, σ1$36/9, mb3.8/6, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.58**	**290**	⇓*i*P	Pg	08 02 52.9	+1.7
GSPH				*i* S	**Sg**	**08 03 12.0**	**+0.2**
WRA	**Warramunga Arr**	**26.49**	**163**	P	**P**	**08 07 59.5**	**+0.9**
WRA				ScP	**ScP**	**08 15 06.2**	**+2.3**
	0.3nm,0.9s,baz=330,slow=2.9,SNR=2.8						
ASAR	**Alice Springs**	**29.93**	**166**	P	**P**	**08 08 29.1**	**-0.3**
	0.5nm,0.6s,baz=338,slow=6.7,SNR=9.1						
ASAR				PcP	**PcP**	**08 11 30.4**	**-1.8**
	0.3nm,0.7s,baz=349,slow=2.1,SNR=2.7						
STKA	**Stephens Creek**	**39.92**	**160**	P	**P**	**08 09 55.2**	**-0.1**
	3.1nm,0.7s,baz=326,slow=11,SNR=3.2						
MKAR	**Makanchi Array**	**55.92**	**325**	P	**P**	**08 11 58.1**	**-1.1**
	0.7nm,0.7s,baz=131,slow=6.7,SNR=2.9						
KURBB	**Kurchatov Arra**	**60.07**	**327**	P	**P**	**08 12 28.9**	**+0.7**
	0.4nm,0.6s,baz=124,slow=6.4,SNR=4.9						
ILAR	**Eielson Array**	**83.60**	**26**	P	**P**	**08 14 49.5**	**+0.2**
	0.2nm,0.8s,baz=258,slow=4.5,SNR=3.6						

IDC 16 08:19:35.4±3.7, 14.19N×92.53W, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.6/32, mbtmp3.4/4, ML3.5/2, Error ellipse: s-maj=186.2km s-min=34.0km az=49.0

MEX 16 08:19:38.4±0.5, 14.23N×92.12W, h25km±15km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.68**	**348**	*e*P	Pb	08 19 50.0	-1.8
THIG				*i* S	Sb	08 19 58.3	-2.5
PCIG		**1.81**	**324**	*e*P	Pn	08 20 05.2	-2.8
PCIG				*i* S	Sn	08 20 26.8	-3.3
CCIG	**Comitan**	**2.04**	**360**	*e*P	Pn	08 20 09.5	-1.8
CCIG				*e*S	Sn	08 20 33.3	-2.8
TGIG		**2.71**	**339**	*e*P	Pn	08 20 18.9	-1.5
TGIG				*i* S	Sn	08 20 49.5	-3.0
CMIG	**Matias Romero**	**3.89**	**317**	Pn	Pn	08 20 34.1	-2.6
	1.6nm,0.3s,baz=141,slow=13,SNR=28						
CMIG				Sn	Sn	08 21 20.2	-1.4
	8.9nm,0.3s,baz=146,slow=15,SNR=4.5						
CMIG				Lg	Lg	08 21 31.3	
	12nm,0.3s,baz=225,slow=14,SNR=11						
TXAR	**Lajitas Array**	**18.44**	**326**	P	P	08 23 50.5	-1.7
	0.1nm,0.3s,baz=148,slow=10,SNR=3.9						
PDAR	**Pinedale Array**	**32.16**	**336**	P	P	08 26 04.1	-0.3
	0.1nm,0.5s,baz=139,slow=14,SNR=2.9						
NVAR	**Mina Array Bea**	**33.41**	**321**	P	P	08 26 14.0	-1.4
	0.7nm,0.6s,baz=130,slow=9.2,SNR=3.9						

UCR 16 08:25:41.1±2.8, 7.47N×82.54W, h7km±19km, MD4.3, 3C, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTJ1	**Puerto Jim˜ne**	**1.30**	**325**	⇑*e*P	Pn	08 26 04.4	-1.3
BRU2	**Volcan**	**1.32**	**354**	⇑*e*P	Pn	08 26 04.1	-2.1
EDSV	**San Vito**	**1.41**	**342**	*e*P	Pn	08 26 06.2	-1.1
EDPN	**Palmar Norte**	**1.74**	**329**	*e*P	Pn	08 26 10.6	-1.2
EDBA	**Buenos Aires**	**1.83**	**337**	*e*P	Pn	08 26 12.8	-0.3
DRK0	**Durika**	**1.91**	**339**	⇑*e*P	Pn	08 26 13.3	-1.0
DRK0				*e*S	Sb	08 26 40.2	-0.4
EDLM	**Las Mercedes**	**2.08**	**330**	*e*P	Pn	08 26 16.2	-0.3
AZU	**Azuero**	**2.27**	**82**	*e*P	Pn	08 26 16.5	-2.6
PNME	**Penonome**	**2.42**	**65**	*e*P	Pn	08 26 20.3	-0.8
URSC	**Urasca**	**2.65**	**333**	*e*P	Pn	08 26 24.5	0.0
LCR2	**La Lucha 2**	**2.68**	**327**	*e*P	Pn	08 26 24.4	-0.5
CVTR	**Volcan Turrial**	**2.81**	**335**	*e*P	Pn	08 26 26.6	-0.3
HDC	**Heredia**	**2.96**	**328**	*e*P	Pn	08 26 28.2	-0.5
HDC				*e*S	Sn	08 27 02.8	-1.8
ZANG	**Zanguenga, Cho**	**3.03**	**61**	*e*P	Pn	08 26 30.7	+1.1
BCIP	**Isla Barro Col**	**3.16**	**58**	*e*P	Pn	08 26 32.3	+0.9
BCIP				*e*S	Sn	08 27 09.4	0.0
FLAM	**Flamenco Islan**	**3.30**	**64**	*e*S	Sn	08 27 13.3	+0.4
UPA	**Univ. de Panam**	**3.33**	**63**	*e*P	Pn	08 26 35.7	+2.0
ARE1	**Arenal 1**	**3.67**	**324**	*e*P	Pn	08 26 40.4	+2.1
JTS	**JuntasAbangare**	**3.68**	**320**	*e*P	Pn	08 26 37.0	-1.5
PLVR	**Palo Verde**	**3.98**	**316**	*e*P	Pn	08 26 42.9	0.0

NIED 16 08:25:00, 35.40N×141.20E, h26km, Mw5.4 Best double couple: M0 1.30000×10^17 NP1:φs34.00000°, δ45.00000°, λ-104.00000°. NP2:φs233.00000°, δ47.00000°, λ-77.00000°.
IDC 16 08:25:51.1±0.3, 35.24N×141.18E, h0km, mb4.9/35, mb1 5.0/42, mb1mx5.0/47, mbtmp4.9/42, ML4.3/5, MS5.0/39, Ms1 5.0/39, ms1mx4.9/46, Error ellipse: s-maj=11.3km s-min=7.7km az=87.0
BJI 16 08:25:52.5, 35.27N×141.13E, h26km, mb5.1/73, mB5.2/53, Ms5.4/86, Ms7 5.3/78
JMA 16 08:25:53.8±0.1, 35.36N×141.23E, h30km±2km, M5.5
JMA Felt III J1.
ISCJB 16 08:25:54.2±0.4, 35.23N±0.02×141.07E±0.02, h27km±3km, mb5.3/441, MS5.2/72, Error ellipse: s-maj=3.0km s-min=2.1km az=160.6
GCMT 16 08:25:55.8±0.1, 35.46N±0.01×141.14E±0.01, h19km, MW5.3/114, Moment Tensor Solution. s90,c151; s114,c203; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr-0.96±.02; Mθθ0.50±.01; Mφφ0.45±.02; Mrθ0.44±.03; Mθφ0.50±.01; Mφr-0.02±.03; Best double couple: M0 1.06300×10^17 NP1:φs242.00000°, δ56.00000°, λ-71.00000°. NP2:φs31.00000°, δ38.00000°, λ-116.00000°. Principal axes: T 1.0280, Plg9.0000°, Azm319.0000°; N 0.0710, Plg16.0000°, Azm52.0000°; P -1.0990, Plg72.0000°, Azm200.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
MOS 16 08:25:55.1±1.0, 35.17N×141.04E, h35km, mb5.5/107, MS5.3/24 Error ellipse: s-maj=6.3km s-min=4.0km az=112.6
NEIC 16 08:25:57.8±0.4, 35.22N×140.99E, h42km±3km, mb5.3/296, Error ellipse: s-maj=2.5km s-min=1.9km az=133.0
NEIC Felt [III] at Tsuchiura and [II] at Narita. Felt widely in east-central Honshu. Recorded [3 JMA] in Chiba.

ISC 16 08:25:56.1±0.4, 35.30N±0.03×141.16E±0.03, h31km±2km, h31km:pP-P, n1316, σ1$42/1373, mb5.3/468, MS5.3/79, 50C-40D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.47**	**329**	⇑P	**Pb**	**08 26 03.4**	**-2.8**
CHOJ				S	**Sb**	**08 26 10.1**	**-2.9**
BSO1	**Boso 1**	**0.66**	**193**	⇓P	**Pb**	**08 26 07.3**	**-1.5**
JSMT	**Sammumatsuo**	**0.67**	**301**	P	**Pb**	**08 26 07.7**	**-1.7**
I30JP	**ISUMI INFRASON**	**0.69**	**271**	Pg	**Pb**	**08 26 09.3**	**-0.3**
	baz=95,slow=30,SNR=2.8						
I30JP				Lg	Lg	08 26 21.5	
	baz=54,slow=18,SNR=37						
KTR	**Katsuura**	**0.70**	**258**	P	**Pb**	**08 26 08.6**	**-1.3**
BSO3	**Boso 3**	**0.72**	**227**	⇓P	**Pn**	**08 26 08.9**	**-1.1**
BSO4	**Boso 4**	**0.74**	**246**	⇓P	**Pn**	**08 26 09.2**	**-1.1**
JYT	**Yasato**	**1.21**	**320**	P	**Pn**	**08 26 15.6**	**-1.4**
JHO	**Hitachi**	**1.40**	**340**	P	**Pn**	**08 26 16.8**	**-2.7**
JIM2	**Oshima 3**	**1.53**	**248**	⇓P	**Pn**	**08 26 19.1**	**-2.2**
JOD2	**Odawara 2**	**1.69**	**269**	⇓P	**Pn**	**08 26 21.9**	**-1.7**
JIZS	**Izushimoda**	**1.96**	**253**	⇓P	**Pn**	**08 26 25.2**	**-2.0**
JHJ2	**Mitsune**	**2.45**	**207**	*e*Pn	**Pn**	**08 26 33.0**	**-0.9**
JHJ	**Hachijo jima 2**	**2.45**	**208**	Pn	**Pn**	**08 26 33.3**	**-0.7**
	141nm,0.3s,baz=332,slow=22,SNR=41						
JHJ				Sn	**Sn**	**08 27 04.1**	**+1.2**
	793nm,0.3s,baz=90,slow=20,SNR=8.5						
JHJ				LR	LR	08 27 40.3	
	comp=Z,21μm,19.4s,baz=54,slow=46						
MJAR	**Matsushiro Arr**	**2.69**	**298**	Pn	**Pn**	**08 26 38.0**	**+0.6**
	97nm,0.3s,baz=114,slow=8.3,SNR=272						
MJAR				LR		08 27 17.3	
	comp=Z,8μm,19.0s,baz=120,slow=32						
MJAR	**Matsushiro Arr**	**2.69**	**298**	P	**Pn**	**08 26 38.0**	**+0.6**
MAJO	**Matsushiro**	**2.70**	**298**	*e*Pn	**Pn**	**08 26 38.5**	**+1.1**
MAJO	**Matsushiro**	**2.70**	**298**	*d* iP	**Pn**	**08 26 38.7**	**+1.3**
MAT	**Matsushiro**	**2.70**	**298**	P	**Pn**	**08 26 38.0**	**+0.6**
MAT				S	**Sb**	**08 27 17.8**	**+1.4**
MJB9	**Matsu-Tunnel**	**2.70**	**298**	*e*Pn	**Pn**	**08 26 38.7**	**+1.2**
JYZW	**Yoshizawa**	**2.82**	**265**	P	**Pn**	**08 26 38.3**	**-0.7**
INU	**Inuyama**	**3.38**	**272**	*e*Pn	**Pn**	**08 26 47.2**	**+0.4**
JKZ	**Kuzumaki**	**4.68**	**2**	⇓P	**Pn**	**08 27 03.5**	**-1.2**
JAH	**Hinai**	**4.90**	**355**	⇓P	**Pn**	**08 27 07.7**	**+0.1**
ERM	**Erimo**	**6.89**	**13**	*e*Pn	**Pn**	**08 27 32.2**	**-2.7**
ERM	**Erimo**	**6.89**	**13**	*e*P	**Pn**	**08 27 32.2**	**-2.7**
CBIJ	**Chichi jima**	**8.22**	**174**	*e*Pn	**Pn**	**08 27 52.4**	**-1.0**
CBIJ				*e*Sn	**Sn**	**08 29 20.6**	**-4.6**
JCJ	**Chichijima**	**8.22**	**174

KSRS LR LR 08 32 59.8
comp=Z,18μm,18.6s,baz=84,slow=39
KSRS PcP **PcP** **08 34 27.3 -1.0**
comp=Z,0.1nm,0.3s,baz=50,slow=1.5,SNR=4.1
KS01 Wonju Array Si 10.91 285 *e*Pn **Pn** **08 28 34.0 +3.9**
KS15 Wonju Array Si 10.91 285 *e*Pn **Pn** **08 28 34.0 +3.9**
KSAR Wonju Array Be 10.91 285 Pn **Pn** **08 28 30.9 +0.8**
KSAR PcP **PcP** **08 34 27.3 -1.1**
KSAR Wonju Array Be 10.91 285 P **Pn** **08 28 30.9 +0.8**
KUR Kuril'sk 11.17 25 *e*P **Pn** **08 28 30.3 -3.2**
KUR pmax pmax
comp=Z,97nm,0.5s
KUR pmax pmax
comp=N,28nm,0.3s
KUR pmax pmax
comp=E,22nm,0.3s
TJN Taejon 11.25 280 *ce*P **Pn** **08 28 38.4 +3.7**
USA0B Ussuriysk Arra 11.34 324 *e*Pn **Pn** **08 28 37.2 +1.2**
USRK Ussuriysk Ar. 11.34 324 Pn **Pn** **08 28 36.8 +0.8**
comp=E,0.7nm,0.3s,baz=137,slow=12,SNR=20
USRK LR LR 08 32 52.4
comp=E,18μm,18.2s,baz=126,slow=37
YSS Yuzh-Sakhalins 11.71 5 *e*Pn **Pn** **08 28 39.3 -1.7**
YSS Yuzh-Sakhalins 11.71 5⇑*e*P **Pn** **08 28 38.4 -2.5**
YSS *e* 08 30 53.8
YSS pmax pmax
comp=N,70nm,0.8s
YSS pmax pmax
comp=Z,80nm,0.8s
YSS MLR MLR
comp=Z,13μm,17.0s
YSS MLR MLR
comp=N,11μm,18.0s
MDJ Mudanjiang 12.85 320 P **P** **08 29 05.6 -1.4**
MDJ S **Sn** **08 31 25.3 +7.0**
MDJ pmax pmax
comp=Z,26nm,0.9s
MDJ pmax pmax
comp=Z,1μm,5.3s
MDJ LR LR
comp=N,11μm,15.8s
MDJ LR LR
comp=E,10μm,15.9s
MDJ LR LR
comp=Z,18μm,15.5s
MDJ Mudanjiang 12.85 320 *e*Pn **Pn** **08 28 57.0 +0.5**
UGL Uglegorsk 13.79 3 P **P** **08 29 13.5 -3.9**
UGL pmax pmax
comp=Z,87nm,0.9s
UGL MLR MLR
comp=Z,16μm,16.0s
UGL MLR MLR
comp=E,5μm,16.0s
UGL MLR MLR
comp=N,16μm,17.0s
JOW Kunigami 13.88 236 Pn **Pn** **08 29 10.8 0.0**
comp=N,0.7nm,0.3s,baz=67,slow=14,SNR=4.5
JOW LR LR 08 34 14.6
comp=N,4μm,21.7s,baz=60,slow=36
JOW Kunigami 13.88 236 *e*Pn **Pn** **08 29 11.5 +0.7**
CN2 Changchun 14.78 310 *e*P **Pn** **08 29 22.0 -0.9**
CN2 *e*pP P 08 29 33.6 +5.1
CN2 pmax pmax
comp=N,10.0nm,1.2s
CN2 pmax pmax
comp=N,200nm,4.0s
CN2 LR LR
comp=N,5μm,13.0s
CN2 LR LR
comp=N,8μm,13.0s
CN2 LR LR
comp=N,8μm,15.0s
SNY Shenyang 15.21 301 ⇓P **P** **08 29 31.5 -1.7**
SNY S **Sn** **08 32 23.1 +7.2**
SNY pmax pmax
comp=N,45nm,1.3s
SNY pmax pmax
comp=N,900nm,4.7s
SNY LR LR
comp=N,5μm,14.1s
SNY LR LR
comp=N,6μm,18.9s
SNY LR LR
comp=N,10μm,20.0s
KLR Kul'dur 15.55 336 *i*P **Pn** **08 29 31.0 -2.0**
TYV Tymovskoe 15.60 4 *e*P **Pn** **08 29 30.3 -3.3**
TYV *e*S **Sn** **08 32 21.0 -4.3**
TYV pmax pmax
comp=Z,400nm,4.1s
TYV pmax pmax
comp=Z,61nm,1.0s
TYV smax smax
comp=E,24nm,1.4s
TYV smax smax
comp=E,400nm,3.8s
TYV MLR MLR
comp=N,11μm,16.0s
TYV MLR MLR
comp=Z,15μm,16.0s
GRNR Gornyy 15.84 349 *e*P **Pn** **08 29 32.8 -4.0**
GRNR pmax pmax
comp=Z,21nm,1.0s
DL2 Dalian 15.99 289 P **Pn** **08 29 39.0 +0.3**
DL2 S **Sn** **08 32 38.5 +3.5**
DL2 pmax pmax
comp=Z,130nm,1.0s
DL2 pmax pmax
comp=Z,1μm,5.1s
DL2 LR LR
comp=Z,4μm,13.4s
DL2 LR LR
comp=Z,10μm,17.7s
DL2 LR LR
comp=Z,13μm,18.4s
NKL Nikolayevsk 17.85 359 *e*P **Pn** **08 30 00.5 -1.4**
NKL *e*S **S** **08 33 25.0 -0.9**
NKL pmax pmax
comp=Z,43nm,1.0s
NKL pmax pmax
comp=Z,500nm,8.0s
NKL smax smax
comp=N,600nm,12.0s
NKL smax smax
comp=E,2μm,12.0s
NKL MLR MLR
comp=N,14μm,15.0s
NKL MLR MLR
comp=E,8μm,15.0s
NKL MLR MLR
comp=Z,15μm,15.0s
NJ2 Nanjing 18.84 266 *e*P **Pn** **08 30 13.8 -0.3**
NJ2 S **S** **08 33 45.5 -0.4**
NJ2 pmax pmax
comp=Z,18nm,0.7s
NJ2 pmax pmax
comp=Z,1μm,3.7s
NJ2 LR LR
comp=Z,6μm,13.0s
NJ2 LR LR
comp=Z,6μm,15.7s
NJ2 LR LR
comp=Z,9μm,14.6s
SARN Sarigan 18.98 166 *e*P **P** **08 30 15.1 0.0**
comp=Z,89nm,1.0s
YOJ Yonaguni jima 19.05 240 *e*P **P** **08 30 15.8 0.0**
comp=Z,201nm,1.2s
YOJ Yonaguni jima 19.05 240 *e*P **P** **08 30 15.9 0.0**
YOJ pmax pmax
comp=Z,201nm,1.2s
TIA Tai'an 19.52 280 P **P** **08 30 18.9 -2.0**
TIA pmax pmax
comp=Z,30nm,1.3s
TIA pmax pmax
comp=Z,660nm,14.7s
TIA LR LR
comp=Z,3μm,12.3s
TIA LR LR
comp=Z,8μm,18.0s
TIA LR LR
comp=Z,10μm,14.2s
YHNB Yeheng 20.11 244 *e*P **P** **08 30 25.9 -1.5**
comp=Z,60nm,1.1s
NACB Ninganchiao 20.24 242 *e*P **P** **08 30 26.9 -2.0**
comp=Z,178nm,1.8s
BJI Beijing 20.31 291⇑*i*P **P** **08 30 27.0 -2.4**
BJI pmax pmax
comp=Z,55nm,1.4s
BJI LR LR
comp=Z,3μm,14.1s
BJI LR LR
comp=Z,3μm,15.7s
BJI LR LR
comp=Z,3μm,23.0s
BJT Baijiatuao 20.31 291 *e*P **P** **08 30 27.0 -2.5**
comp=Z,445nm,1.8s
BJT Baijiatuao 20.31 291 *e*P **P** **08 30 27.0 -2.5**
BJT pmax pmax
comp=Z,445nm,1.8s
ZEA Zeya 20.86 336 *e*P **P** **08 30 32.8 -2.6**
ZEA *e*S **S** **08 34 26.0 -0.3**
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=N,72nm,1.2s
ZEA pmax pmax
comp=Z,110nm,1.2s
ZEA pmax pmax
comp=Z,600nm,4.0s
ZEA smax smax
comp=E,2μm,9.0s
ZEA smax smax
comp=N,3μm,11.0s
ZEA MLR MLR
comp=Z,10μm,17.0s
ZEA MLR MLR
comp=E,3μm,15.0s
ZEA MLR MLR
comp=N,9μm,17.0s
YULB Yu-li 20.94 241 *e*P **P** **08 30 33.8 -2.7**
comp=N,30nm,1.0s
SSLB Suanglung 20.94 242 *e*P **P** **08 30 34.9 -1.6**
comp=N,67nm,1.2s
HIA Hailar 21.02 318 *e*P **P** **08 30 36.8 -0.3**
comp=N,62nm,1.2s
HIA Hailar 21.02 318 *e*P **P** **08 30 36.8 -0.3**
HIA pmax pmax
comp=Z,62nm,1.2s
PEA0B Petropavlovsk- 21.30 28 *e*P **P** **08 30 41.7 +1.6**
comp=Z,120nm,1.0s
PETK Petropavlovsk- 21.30 28 P **P** **08 30 41.2 +1.1**
comp=Z,22nm,0.9s,baz=216,slow=11,SNR=16
PETK LR LR 08 39 21.6
comp=Z,3μm,19.5s,baz=230,slow=38
PETK Petropavlovsk- 21.30 28 *e*P **P** **08 30 41.7 +1.6**
PEA1 Petropavlovsk- 21.31 28 *e*P **P** **08 30 41.2 +1.1**
TPUB Ta-pu 21.48 242 *e*P **P** **08 30 40.2 -2.0**
comp=Z,135nm,1.4s
PET Petropavlovsk 21.62 30 *e*P **P** **08 30 44.3 +0.9**
comp=Z,250nm,1.4s
PET Petropavlovsk 21.62 30 *e*P **P** **08 30 45.7 +2.3**
PET *e*S **S** **08 34 39.8 -1.3**
PET pmax pmax
comp=Z,134nm,1.4s
PET MLR MLR
comp=Z,5μm,19.0s
PET MLR MLR
comp=Z,5μm,18.0s
GUMO Guam 21.87 170 P **P** **08 30 46.1 -0.3**
comp=Z,727nm,1.0s,baz=349,slow=5.2,SNR=3.5
GUMO Guam 21.87 170 *e*P **P** **08 30 47.1 +0.6**
comp=Z,1μm,1.1s
QZH Quanzhou 22.03 248 *e*P **P** **08 30 50.1 +2.0**
QZH LR LR
comp=Z,3μm,17.3s
QZH LR LR
comp=Z,2μm,13.3s
QZH LR LR
comp=Z,4μm,14.3s
WHN Wuhan 22.96 266⇑P **P** **08 30 55.8 -2.2**
WHN S **S** **08 34 59.0 -7.2**
WHN LR LR
comp=Z,14μm,14.4s
WHN LR LR
comp=Z,22μm,14.5s
WHN LR LR
comp=Z,29μm,14.3s
TIY Taiyuan 23.18 284 *e*P **P** **08 31 01.8 +1.6**
TIY S **S** **08 35 02.1 -7.8**
TIY pmax pmax
comp=Z,210nm,8.0s
TIY LR LR
comp=Z,4μm,13.5s
TIY LR LR
comp=Z,6μm,15.3s
TIY LR LR
comp=Z,10μm,15.8s
HHC Hu-ho-hao-te 23.88 292 *e*P **P** **08 31 04.8 -2.2**
HHC pP pP 08 31 14.0 -1.9
HHC sP sP 08 31 18.0 -1.7
HHC PP **PnPn** **08 31 38.3 +2.6**
HHC S **S** **08 35 14.9 -6.4**
HHC sS pS 08 35 30.1 -0.5
HHC SS **SnSn** **08 36 05.3 +3.6**
HHC pmax pmax
comp=Z,42nm,1.1s
HHC pmax pmax
comp=Z,210nm,5.2s
HHC LR LR
comp=Z,2μm,12.4s
HHC LR LR
comp=Z,3μm,14.4s
HHC LR LR
comp=Z,3μm,14.3s
BTO Baotou 25.04 292 *e*P **P** **08 31 15.8 -1.8**
BTO S **S** **08 35 30.0 -10**
MA2 Magadan 25.09 12 *e*P **P** **08 31 18.1 +0.4**
comp=Z,82nm,0.8s
MA2 Magadan 25.09 12 *ce*P **P** **08 31 18.9 +1.1**
MA2 pmax pmax
comp=Z,68nm,1.0s
XAN Xi'an 26.48 277 P **P** **08 31 28.3 -2.4**
XAN pP pP 08 31 37.3 -2.3
XAN sP sP 08 31 41.6 -1.8
XAN S **S** **08 36 01.3 -1.4**
XAN SS **SnSn** **08 37 13.8 +8.5**
XAN pmax pmax
comp=Z,49nm,1.2s
XAN pmax pmax
comp=Z,450nm,7.3s
XAN LR LR
comp=Z,8μm,16.7s
XAN LR LR
comp=Z,6μm,16.3s
XAN LR LR
comp=Z,8μm,14.9s
ENH Enshi 27.02 268 *e*P **P** **08 31 33.0 -2.6**
comp=Z,98nm,0.8s
GZH Guangzhou 27.06 251 P **P** **08 31 32.8 -3.1**
GZH S **S** **08 36 09.6 -2.2**
GZH LR LR
comp=Z,4μm,15.5s
GZH LR LR
comp=Z,4μm,15.3s
H11N2 WAKE ISLAND Hy 27.48 118 T T 09 00 25.4
baz=310,slow=75,SNR=2115
H11N1 WAKE ISLAND Hy 27.49 118 T T 09 00 23.4
baz=310,slow=75,SNR=2377
H11N3 WAKE ISLAND Hy 27.50 118 T T 09 00 27.1
baz=310,slow=75,SNR=1897
YAK Yakutsk 27.72 348 *e*P **P** **08 31 41.9 +0.5**
comp=Z,123nm,0.7s
YAK *e*PcP **PcP** **08 34 57.7 +0.3**
YAK Yakutsk 27.72 348 *e*P **P** **08 31 40.0 -1.4**
YAK *e**PP **pP** **08 31 49.7 -0.6**
YAK *e*S **S** **08 36 19.8 -1.7**
YAK *e**SS **pS** **08 36 33.2 +2.3**
YAK *e*SSS SSS 08 37 49.0
YAK pmax pmax
comp=Z,68nm,1.1s
YAK pmax pmax
comp=N,38nm,1.2s
YAK pmax pmax
comp=E,15nm,0.6s
YAK pmax pmax
comp=Z,217nm,1.2s
YAK pmax pmax
comp=N,88nm,1.2s
YAK pmax pmax
comp=E,41nm,1.1s
YAK smax smax
comp=N,386nm,3.5s
YAK smax smax
comp=E,74nm,2.0s
YAK MLR MLR
comp=Z,5μm,19.0s
YAK MLR MLR
comp=N,7μm,19.0s
YAK MLR MLR
comp=E,3μm,23.0s
TGY Tagaytay City 27.87 226 LR LR 08 43 03.0
comp=E,1μm,18.4s,baz=20,slow=37
H11S1 WAKE ISLAND Hy 28.14 120 T T 09 01 10.8
baz=312,slow=76,SNR=6455
H11S3 WAKE ISLAND Hy 28.14 120 T T 09 01 10.9
baz=312,slow=76,SNR=6727
H11S2 WAKE ISLAND Hy 28.15 120 T T 09 01 13.2
baz=312,slow=76,SNR=7629
ULN Ulaanbaatar 28.19 307 *e*P **P** **08 31 46.5 +0.5**
comp=E,51nm,1.2s
ULN Ulaanbaatar 28.19 307 P **P** **08 31 46.1 0.0**
SNR=18
ULN Ulaanbaatar 28.19 307 P **P** **08 31 46.1 0.0**
SNR=18
ULN Ulaanbaatar 28.19 307 *ce*P **P** **08 31 46.0 0.0**
ULN pmax pmax
comp=Z,30nm,1.7s
SEY Seymchan 28.53 11 *ce*P **P** **08 31 49.7 +1.1**
SONA1 Songino Array 28.61 307 *e*P **P** **08 31 49.5 -0.2**
SONA0 Songino Array 28.62 307 *e*P **P** **08 31 49.5 -0.3**
SONA0 *e*PcP **PcP** **08 35 00.3 +0.2**
SONM Songino Array 28.62 307 P **P** **08 31 49.5 -0.3**
comp=Z,5.5nm,0.5s,baz=103,slow=7.0,SNR=30
SONM PcP **PcP** **08 35 00.3 +0.2**
comp=Z,1.7nm,0.9s,baz=105,slow=2.5,SNR=2.7
SONM LR LR 08 43 37.3
comp=Z,5μm,19.0s,baz=110,slow=37
BOD Bodaibo 28.90 330 *e*P **P** **08 31 52.0 0.0**
BOD pmax pmax
comp=Z,81nm,1.2s
LZH Lanzhou 30.20 283⇑P **P** **08 32 03.4 -0.5**
LZH pP sP 08 32 17.1 +0.5
LZH sP pP 08 32 18.8 +5.9
LZH PP **PnPn** **08 33 03.4 +1.5**
LZH S **S** **08 37 01.6 +0.2**
LZH sS pS 08 37 13.6 +2.4
LZH SS **ScP** **08 38 42.9 -1.5**
LZH pmax pmax
comp=Z,94nm,1.3s
LZH pmax pmax
comp=Z,670nm,6.4s
LZH LR LR
comp=Z,8μm,14.4s
LZH LR LR
comp=Z,12μm,17.7s
LZH LR LR
comp=Z,14μm,17.1s
GYA Guiyang 30.76 263⇑*i*P **P** **08 32 07.4 -1.5**
GYA pP pP 08 32 19.6 +1.7
GYA PP **PnPn** **08 33 11.0 +1.6**
GYA S **S** **08 37 08.4 -1.9**
GYA sS sS 08 37 25.3 +0.2
GYA SS **SnSn** **08 38 51.9 +1.9**
GYA pmax pmax
comp=Z,60nm,1.1s
GYA pmax pmax
comp=Z,140nm,5.4s
GYA LR LR
comp=Z,720nm,17.2s
GYA LR LR
comp=Z,650nm,17.8s
GYA LR LR
comp=Z,690nm,17.5s
ZAK Zakamensk 31.21 311 *e*P **P** **08 32 11.7 -0.9**
ZAK *e* 08 35 07.8
ZAK pmax pmax
comp=Z,12nm,1.3s
ZAK pmax pmax
comp=Z,7.0nm,1.4s
TLY Talaya 31.34 313 *e*P **P** **08 32 14.3 +0.7**
comp=Z,14nm,1.0s
TLY Talaya 31.34 313 *e*P **P** **08 32 15.2 +1.6**
TLY *e* 08 33 31.5
TLY *e*S **S** **08 37 22.3 +3.6**
TLY *e*SS **SnSn** **08 39 00.7 -2.5**
TLY pmax pmax
comp=Z,12nm,0.9s
TLY MLR MLR
comp=Z,4μm,12.0s
CD2 Chengdu 31.51 273 P **P** **08 32 14.0 -1.4**
CD2 pP pP 08 32 23.8 -0.6
CD2 S **S** **08 37 19.1 -2.7**
CD2 sS sS 08 37 36.6 0.0
CD2 pmax pmax
comp=Z,80nm,0.6s
CD2 pmax pmax
comp=Z,340nm,5.6s
CD2 LR LR
comp=Z,14μm,14.9s
CD2 LR LR
comp=Z,16μm,19.4s
CD2 LR LR
comp=Z,20μm,17.9s
DAV Davao City (W) 31.53 211 LR LR 08 45 26.0
comp=Z,2μm,19.4s,baz=41,slow=37
QIZ Qiongzhong 32.05 248 P **P** **08 32 20.6 +0.4**
QIZ S **S** **08 37 30.3 0.0**
QIZ LR LR
comp=Z,2μm,12.6s
QIZ LR LR
comp=Z,2μm,14.7s
QIZ LR LR
comp=Z,2μm,13.9s
GTA Gaotai 32.91 290 *e*P **P** **08 32 27.1 -0.6**
GTA pP pP 08 32 36.3 -0.4
GTA sP sP 08 32 40.4 -0.1
GTA PcP **PcP** **08 35 12.3 +0.6**
GTA S **S** **08 37 38.8 -4.9**
GTA sS pS 08 37 54.9 +1.3
GTA PcS **PcS** **08 38 57.6 +0.5**
GTA SS **SnSn** **08 39 39.1 -2.8**
GTA pmax pmax
comp=Z,11nm,1.2s
GTA pmax pmax
comp=Z,250nm,9.3s
GTA LR LR
comp=Z,3μm,16.2s
GTA LR LR
comp=Z,3μm,18.6s
GTA LR LR
comp=Z,5μm,19.6s
MOY Mondy 32.93 312 *e*P P 08 32 39.5 +12
MOY pmax pmax
comp=Z,11nm,1.3s
KMI Kunming 34.53 264 P **P** **08 32 41.3 -0.7**
KMI pP pP 08 32 51.8 +0.8
KMI sP sP 08 32 56.3 +1.5
KMI S **S** **08 38 06.8 -2.3**
KMI pmax pmax
comp=Z,18nm,1.1s
KMI pmax pmax
comp=Z,150nm,3.9s
KMI LR LR
comp=Z,4μm,15.3s
KMI LR LR
comp=Z,7μm,14.5s
KMI LR LR
comp=Z,9μm,14.9s
BILL Bilibino 35.75 16 *e*P **P** **08 32 51.6 -0.2**
comp=Z,56nm,1.2s
BILL Bilibino 35.75 16 *d i*P **P** **08 32 51.8 0.0**
BILL *i* *PP **pP** **08 33 00.0 -0.8**
BILL 08 34 11.0
BILL PPP PPP 08 34 30.0
BILL *e* 08 35 20.6
BILL pmax pmax
comp=Z,44nm,1.0s
BILL MLR MLR
comp=Z,2μm,16.0s
KDM Kudat 36.02 224 P P 08 32 46.0 -8.6
TNTI Ternate 36.67 204 *e*P **P** **08 32 59.2 -1.0**
comp=Z,178nm,1.6s
TNTI Ternate 36.67 204 P **P** **08 32 59.5 -0.7**
TIXI Tiksi 36.99 354 *e*P **P** **08 33 02.4 +0.1**
comp=Z,73nm,1.0s
TIXI Tiksi 36.99 354 *ce*P **P** **08 33 02.4 +0.1**
TIXI pmax pmax
comp=Z,67nm,0.8s
SIJI Sorong 37.15 197 LR LR 08 45 49.4

comp=Z,2μm,20.9s,baz=30,slow=32
SMPI Sarmi 37.16 184 P **P** **08 33 04.9 +0.6**
RKPI Ransiki, Papua 37.19 192 P **P** **08 33 05.6 +1.0**
HVS Khovu-Aksy 37.33 310 *i* P **P** **08 33 06.9 +1.3**
HVS pmax pmax
comp=Z,22nm,1.1s
JAY Jayapura 37.62 181 P **P** **08 33 05.8 -2.4**
comp=Z,31nm,1.1s,baz=312,slow=4.3,SNR=10
JAY LR LR 08 46 22.8
comp=Z,1μm,20.1s,baz=9.0,slow=33
JAY Jayapura 37.62 181 P **P** **08 33 09.3 +1.1**
GENI Genyem 37.70 182 P **P** **08 33 11.0 +2.1**
SKNT Sakolnakorn 37.75 251 P **P** **08 33 09.4 0.0**
comp=Z,11nm,1.8s,comp=Z,608nm
NONG Nongkai 37.78 253 P **P** **08 33 08.6 -1.0**
comp=Z,1.0nm,0.9s
FAKI Fak Fak 38.92 194 *eP* **P** **08 33 18.0 -1.1**
comp=Z,162nm,1.0s
FAKI Fak Fak 38.92 194 P **P** **08 33 18.5 -0.7**
MRSI Marisa 39.00 212 P **P** **08 33 17.9 -1.9**
NIKH Nikolski High 39.09 47 *eP* **P** **08 33 21.3 +1.1**
comp=Z,345nm,1.7s
NIKH *ePcP* **PcP** **08 35 32.1 +2.5**
SANI Sanana 39.77 204 P **P** **08 33 25.8 -0.5**
CHAI Chaiyaphum 39.93 251 P **P** **08 33 26.2 -1.4**
comp=Z,12nm,0.8s,comp=Z,137nm
DIBR DIBRUGARH 39.95 272 *eP* **P** **08 33 27.0 -0.7**
UTTA Uttaradit 39.99 255 P **P** **08 33 27.6 -0.5**
comp=Z,7.4nm,1.0s,comp=Z,81nm
MPSI Mapaga 40.03 214 P **P** **08 33 27.4 -1.0**
LAMP Lampang 40.30 257 P **P** **08 33 30.9 +0.2**
comp=Z,7.4nm,1.1s
APSI Ampana 40.37 211 P **P** **08 33 31.7 +0.5**
NLAI Namlea 40.54 202 P **P** **08 33 36.4 +3.8**
AAI Ambon 40.64 200 P **P** **08 33 35.2 +1.7**
CMMT Chiang Mai 40.68 257 P **P** **08 33 33.6 -0.3**
comp=Z,11nm,1.0s,comp=Z,445nm
CHTO Chiang Mai 40.69 257 *eP* **P** **08 33 32.5 -1.4**
comp=Z,16nm,1.1s
CHTO Chiang Mai 40.69 257 P **P** **08 33 33.0 -0.9**
SNR=5.3
CHTO Chiang Mai 40.69 257 P **P** **08 33 33.0 -0.9**
SNR=5.3
CHTO Chiang Mai 40.69 257 *eP* **P** **08 33 32.5 -1.4**
CHTO pmax pmax
comp=Z,16nm,1.1s
CHTO Chiang Mai 40.69 257 P **P** **08 33 33.7 -0.2**
comp=Z,54nm,1.0s
MOKO MOKOCHONG 40.73 271 *eP* **P** **08 33 33.5 -0.9**
MOKO IAmb IAmb 08 33 34.8
comp=Z,46nm,0.5s
ZIRO ZIRO 40.80 273 *eP* **P** **08 33 35.0 +0.1**
SUKH Sukhothai 40.87 255 P **P** **08 33 35.1 -0.3**
comp=Z,8.1nm,0.9s
CM31 Chiang Mai Arr 40.88 257 *eP* **P** **08 33 35.2 -0.3**
CMAR Chiang Mai Arr 40.88 257 P **P** **08 33 34.0 -1.5**
comp=Z,2.3nm,0.5s,baz=48,slow=6.8,SNR=13
CMAR PcP **PcP** **08 35 36.3 +0.5**
comp=Z,4.9nm,1.0s,baz=28,slow=3.1,SNR=7.6
CMAR LR LR 08 51 25.4
comp=Z,1μm,20.1s,baz=58,slow=38
CM01 Chiang Mai Arr 40.89 257 *eP* **P** **08 33 33.7 -1.9**
CM01 *ePcP* **PcP** **08 35 37.3 +1.4**
BNDI Bandanaira 41.00 197 P **P** **08 33 38.4 +2.0**
SRAK Srakaew 41.02 249 P **P** **08 33 32.1 -4.6**
ITAN ITANAGAR 41.05 272 *eP* **P** **08 33 36.0 -0.9**
DGZ Jazzator, Alta 41.26 307 *c iP* **P** **08 33 39.4 +0.9**
DGZ pmax pmax
comp=Z,58nm,1.0s
KOHI KOHIMA 41.32 270 *eP* **P** **08 33 34.8 -4.4**
WMQ Urumqi 41.46 299 P **P** **08 33 41.6 +1.5**
WMQ sP sP 08 33 54.8 +1.8
WMQ PcP **PcP** **08 35 36.3 -1.2**
WMQ S **S** **08 39 53.9 +0.5**
WMQ SS **SS** **08 42 53.8 -4.3**
WMQ pmax pmax
comp=Z,130nm,1.5s
WMQ pmax pmax
comp=Z,1μm,5.3s
WMQ LR LR
comp=Z,5μm,14.3s
WMQ LR LR
comp=Z,4μm,16.1s
WMQ LR LR
comp=Z,4μm,20.1s
TEZP TEZPUR 42.02 272 *eP* **P** **08 33 43.3 -1.5**
TEZP IAmb IAmb 08 33 46.0
comp=Z,32nm,0.8s
UTHA Uthaitani 42.11 253 P **P** **08 33 45.6 0.0**
comp=Z,6.3nm,1.0s,comp=Z,66nm
LSA Lhasa 42.19 277 *eP* **P** **08 33 48.2 +1.6**
comp=Z,36nm,1.0s
LSA Lhasa 42.19 277 P **P** **08 33 48.7 +2.0**
LSA Lhasa 42.19 277 *eP* **P** **08 33 48.2 +1.6**
LSA pmax pmax
comp=Z,36nm,1.0s
UMPA Umpang Tak 42.19 254 P **P** **08 33 47.4 +1.1**
comp=Z,9.4nm,1.1s,comp=Z,838nm
SBUM Sibu 42.30 226 *eP* **P** **08 33 45.8 -1.3**
comp=Z,22nm,1.2s
SBUM Sibu 42.30 226 P **P** **08 33 46.0 -1.1**
TAWA Tawang 42.39 274 *eP* **P** **08 33 48.5 +0.3**
TAWA IAmb IAmb 08 33 55.0
comp=Z,78nm,0.5s
SILR SILCHAR 42.79 269 *eP* **P** **08 33 50.8 -0.2**
ZAA1 Zalesovo Array 42.95 314 *eP* **P** **08 33 51.9 -0.1**
ZALV Zalesovo Beam 42.95 314 P **P** **08 33 51.9 -0.1**
comp=Z,6.7nm,0.5s,baz=104,slow=6.3,SNR=11
ZALV LR LR 08 52 29.2
comp=Z,1μm,19.9s,baz=72,slow=37
ZALV Zalesovo Beam 42.95 314 *eP* **P** **08 33 52.3 +0.3**
ZSN Zaisan 43.06 304 ⇓ *iP* **P** **08 33 54.2 +1.1**
comp=Z,25nm,1.4s
ZSN *eS* **S** **08 40 19.0 +2.1**
ZSN LR LR 08 52 09.8
comp=Z,282nm,13.7s
SRDT SRDT 43.07 252 P **P** **08 33 53.6 +0.2**
comp=Z,22nm,0.9s
GUWA GUWAHATI 43.10 272 *eP* **P** **08 33 52.2 -1.3**
GUWA IAmb IAmb 08 33 54.3
comp=Z,29nm,0.5s
SHL Shillong 43.20 271 *eP* **P** **08 33 53.7 -0.9**
comp=Z,22nm,0.8s
SHL Shillong 43.20 271 *eP* **P** **08 33 53.7 -0.9**
SHL pmax pmax
comp=Z,22nm,0.8s
SHL Shillong 43.20 271 *eP* **P** **08 33 53.6 -1.1**
SHL IAmb IAmb 08 33 57.3
comp=Z,14nm,0.7s
PHET Kaeng Krachan 43.55 250 P **P** **08 33 57.2 0.0**
comp=Z,16nm,0.9s
SAIH SAIHA 43.67 266 *eP* **P** **08 33 57.5 -0.9**
SAIH IAmb IAmb 08 34 00.7
comp=Z,31nm,0.4s
NVS Novosibirsk 43.90 315 *eP* **P** **08 33 59.6 0.0**
NVS pmax pmax
comp=Z,79nm,1.4s
NVS pmax pmax
comp=N,21nm,1.1s
NVS pmax pmax
comp=E,49nm,1.5s
SPSI Sidrap Palu 43.91 212 P **P** **08 33 58.6 -1.5**
SAUI Saumlaki 44.04 194 *eP* **P** **08 34 01.9 +0.8**
comp=E,344nm,0.9s
BNSI Bone 44.16 211 P **P** **08 34 01.2 -0.9**
KSM Kuching 44.21 227 *eP* **P** **08 34 02.5 -0.1**
comp=E,77nm,1.5s
KSM Kuching 44.21 227 P **P** **08 34 02.0 -0.6**
TURI Tura 44.48 272 *eP* **P** **08 34 04.4 -0.3**
TURI IAmb IAmb 08 34 10.1
comp=Z,14nm,0.8s
NRIK Noril'sk 44.76 336 P **P** **08 34 05.3 -1.0**
comp=Z,26nm,0.9s,baz=121,slow=6.7,SNR=33
NRIK LR LR 08 53 50.9
comp=Z,5μm,18.8s,baz=108,slow=38
PMG Port Moresby 44.82 172 P **P** **08 34 05.0 -2.3**
comp=Z,27nm,1.0s,baz=325,slow=8.4,SNR=7.1
PMG Port Moresby 44.82 172 *eP* **P** **08 34 08.3 +1.0**
comp=Z,61nm,1.1s
MK01 Makanchi Array 44.88 304 *eP* **P** **08 34 07.5 -0.1**
MK31 Makanchi Array 44.88 304 *eP* **P** **08 34 07.7 0.0**
MK31 Makanchi Array 44.88 304 P **P** **08 34 07.0 -0.7**
MK31 pmax pmax
comp=Z,57nm,1.2s
MK32 Makanchi Array 44.88 304 *eP* **P** **08 34 07.5 -0.1**
MK32 *ePcP* **PcP** **08 35 49.5 +0.6**
MKAR Makanchi Array 44.88 304 P **P** **08 34 07.5 -0.1**
comp=Z,16nm,0.7s,baz=83,slow=9.8,SNR=56
MKAR PcP **PcP** **08 35 49.5 +0.6**
comp=Z,3.3nm,0.8s,baz=86,slow=6.0,SNR=2.2
MKAR LR LR 08 53 41.3
comp=Z,4μm,18.6s,baz=88,slow=37
MKAR Makanchi Array 44.88 304 *eP* **P** **08 34 07.7 0.0**
comp=Z,199nm,0.9s
MKAR PcP **PcP** **08 35 49.5 +0.6**
RDOG Red Dog Mine 45.15 26 *eP* **P** **08 34 11.0 +1.5**
comp=Z,41nm,0.9s
GTK Tadong 45.16 275 *eP* **P** **08 34 10.1 -0.2**
GTK IAmb IAmb 08 34 13.0
comp=Z,10nm,0.6s
CHGN Chignik 45.37 43 *eP* **P** **08 34 12.6 +1.3**
comp=Z,157nm,1.2s
TAPN Taplejung 45.88 276 *eP* **P** **08 34 15.9 -0.2**
comp=Z,36nm,0.6s
ODAN Odare 46.34 275 *eP* **P** **08 34 19.4 -0.3**
comp=Z,55nm,0.6s
SKLT Songkhla 46.51 243 P **P** **08 34 20.8 0.0**
comp=Z,31nm,1.3s
TRTT Trang 46.74 244 P **P** **08 34 22.5 -0.2**
comp=Z,10nm,1.2s,comp=Z,191nm
KURK Kurchatov 46.85 309 *eP* **P** **08 34 22.7 -0.3**
comp=Z,117nm,1.0s
KURK Kurchatov 46.85 309 P **P** **08 34 22.6 -0.5**
SNR=43
KURK Kurchatov 46.85 309 P **P** **08 34 22.6 -0.5**
SNR=43
KURK Kurchatov 46.85 309 *de* P **P** **08 34 22.9 -0.2**
KURK pmax pmax
comp=Z,67nm,1.1s
KRAB Krabi 46.86 245 P **P** **08 34 23.9 +0.4**
comp=Z,52nm,0.7s,comp=Z,3μm
KURBB Kurchatov Arra 46.92 309 P **P** **08 34 23.3 -0.3**
comp=Z,26nm,0.7s,baz=84,slow=7.9,SNR=109
RAMN Ramite 46.94 276 *eP* **P** **08 34 24.2 -0.2**
comp=Z,119nm,0.7s
JIRN Jiri 46.99 277 *eP* **P** **08 34 24.7 -0.2**
comp=Z,323nm,1.0s
SVW2 Sparrevohn 47.03 36 *eP* **P** **08 34 25.7 +1.3**
comp=Z,55nm,1.1s
GUN Gumba 47.14 277 *eP* **P** **08 34 26.1 0.0**
comp=Z,237nm,1.2s
MMRI Maumere 47.21 206 *eP* **P** **08 34 23.8 -2.4**
comp=Z,188nm,1.4s
PDGK Podgornoye 47.42 299 P **P** **08 34 27.7 -0.1**
PDGK pmax pmax
comp=Z,86nm,1.2s
SHLS Shalkode 47.48 299 ⇓ *iP* **P** **08 34 26.2 -2.1**
comp=Z,26nm,0.9s
SHLS *eS* **S** **08 41 18.0 -2.9**
SHLS LR LR 08 54 51.2
comp=Z,881nm,15.9s
EDFI Ende, Flores 47.51 207 P **P** **08 34 24.8 -3.9**
SOEI Soe 47.57 203 *eP* **P** **08 34 28.9 -0.2**
comp=Z,556nm,1.1s
PKI Pulchoki 47.66 277 *eP* **P** **08 34 29.6 -0.5**
comp=Z,110nm,1.0s
PKIN Phulchoki 47.67 277 *eP* **P** **08 34 29.6 -0.5**
comp=Z,61nm,0.8s
KKN Kakani 47.67 277 *eP* **P** **08 34 30.0 -0.1**
comp=Z,133nm,1.0s
PKDT Phuket 47.71 246 P **P** **08 34 30.7 +0.5**
KULM Kulim 47.78 241 *eP* **P** **08 34 30.1 -0.7**
comp=Z,40nm,1.3s
KULM Kulim 47.78 241 P **P** **08 34 30.0 -0.7**
UZB Uzynbulak 47.79 299 ⇓ *iP* **P** **08 34 31.0 +0.2**
comp=Z,38nm,1.7s
UZB *eS* **S** **08 41 26.6 +1.2**
UZB LR LR 08 55 02.1
comp=Z,338nm,13.9s
DMN Daman 47.89 277 *eP* **P** **08 34 31.6 -0.2**
comp=Z,72nm,0.9s
KPKS Kokpek 47.97 300 *eP* **P** **08 34 32.4 +0.4**
comp=Z,56nm,1.6s
KPKS *eS* **S** **08 41 29.4 +1.6**
KPKS LR LR 08 54 57.3
comp=Z,1μm,16.3s
MYKOM Kota Tinggi 48.07 235 *eP* **P** **08 34 31.4 -1.5**
IPM Ipoh 48.07 240 *eP* **P** **08 34 30.8 -2.2**
comp=Z,35nm,1.4s
MYKOM Kota Tinggi 48.07 235 P **P** **08 34 29.0 -4.0**
comp=Z,64nm,1.3s
GKN Gorkha 48.11 278 *eP* **P** **08 34 33.4 0.0**
ZHN Zhushkhe 48.21 299 ⇓ *iP* **P** **08 34 34.2 +0.3**
comp=Z,12nm,1.1s
ZHN *eS* **S** **08 41 32.6 +1.4**
SATY Saty 48.25 299 ⇓ *iP* **P** **08 34 34.8 +0.5**
comp=Z,46nm,1.6s
SATY *eS* **S** **08 41 33.5 +1.6**
SATY LR LR 08 55 14.8
comp=Z,485nm,13.7s
IM3 Indian Mountai 48.26 30 *eP* **P** **08 34 34.2 +0.4**
PRZ Przheval'sk 48.39 298 *eP* **P** **08 34 35.9 +0.5**
comp=Z,99nm,1.1s
RSO Reboubt South 48.40 37 *eP* **P** **08 34 35.4 +0.2**
KDAK Kodiak Island 48.54 41 P **P** **08 34 35.5 -0.5**
comp=Z,47nm,1.0s,baz=314,slow=6.6,SNR=12
DANN Dangsing 48.68 279 *eP* **P** **08 34 38.1 +0.1**
comp=Z,267nm,0.9s
PPLA Purkeypile 48.72 34 *eP* **P** **08 34 39.2 +1.7**
comp=Z,146nm,1.7s
SPU Mount Spurr 48.75 36 *eP* **P** **08 34 39.4 +1.7**
CAST Castle Rocks 48.78 33 *eP* **P** **08 34 39.5 +1.6**
comp=Z,26nm,1.0s
MTN Manton Dam 48.81 193 *eP* **P** **08 34 37.5 -1.1**
comp=Z,344nm,1.4s
BOK Bokaro 48.88 272 *eP* **P** **08 34 37.8 -1.4**
BOK IAmb IAmb 08 36 26.8
comp=Z,54nm,0.6s
BOK IAMs_20 IAMs_20 08 57 44.5
comp=Z,2μm,13.5s
COEN Coen 49.02 177 *eP* **P** **08 34 40.5 +0.3**
comp=Z,170nm,1.4s
KOLN Koldanda 49.05 278 *eP* **P** **08 34 40.4 -0.2**
comp=Z,217nm,1.4s
CNPM China Poot 49.18 39 *eP* **P** **08 34 43.2 +2.2**
comp=Z,62nm,1.3s
MDOK Medeo 49.20 300 *i* P **P** **08 34 42.3 +0.7**
comp=Z,470nm,1.6s
MDOK *eS* **S** **08 41 47.0 +1.7**
MDOK LR LR 08 55 14.8
comp=Z,2μm,16.5s
BPAW Bear Paw Mtn. 49.30 32 *eP* **P** **08 34 43.2 +1.4**
comp=Z,86nm,1.9s
KDJ Kajisay 49.35 298 *eP* **P** **08 34 44.2 +1.4**
comp=Z,22nm,0.9s
KDJ Kajisay 49.35 298 *eP* **P** **08 34 44.2 +1.4**
KDJ pmax pmax
comp=Z,23nm,0.9s
PYUN Piuthan 49.41 279 *eP* **P** **08 34 43.2 -0.2**
comp=Z,270nm,0.9s
MLY Manley 49.44 31 *eP* **P** **08 34 44.6 +1.7**
comp=Z,42nm,1.0s
MLY *ePcP* **PcP** **08 36 08.0 +3.3**
KUU Kurty 49.53 301 ⇓ *iP* **P** **08 34 44.0 +0.1**
comp=Z,79nm,1.6s
KUU *eS* **S** **08 41 50.9 +1.2**
KUU LR LR 08 55 34.9
comp=Z,1μm,15.8s
TRF Thorofare Moun 49.59 33 *eP* **P** **08 34 46.0 +1.8**
comp=Z,24nm,1.1s
COLD Coldfoot 49.77 28 *eP* **P** **08 34 45.7 +0.3**
comp=Z,12nm,1.0s
BWN Browne 49.96 32 *eP* **P** **08 34 49.0 +2.1**
comp=Z,106nm,1.1s
SEW Seward 50.05 38 *eP* **P** **08 34 48.5 +0.9**
comp=Z,95nm,1.3s
TOLK Toolik Lake Re 50.11 27 *eP* **P** **08 34 50.0 +2.0**
comp=Z,38nm,1.2s
TOLK Toolik Lake Re 50.11 27 P **P** **08 34 48.7 +0.7**
baz=266
PMR Palmer 50.15 36 *eP* **P** **08 34 49.0 +0.7**
comp=Z,50nm,1.2s
PMR Palmer 50.15 36 *eP* **P** **08 34 49.0 +0.7**
PMR pmax pmax
comp=Z,50nm,1.2s
MCK McKinley 50.20 33 *eP* **P** **08 34 49.4 +0.7**
comp=Z,28nm,0.9s
MCK McKinley 50.20 33 *eP* **P** **08 34 49.4 +0.7**
MCK pmax pmax
comp=Z,28nm,0.9s
RND Reindeer 50.23 33 *eP* **P** **08 34 49.6 +0.6**
comp=Z,44nm,1.1s
RND Reindeer 50.23 33 *eP* **P** **08 34 49.6 +0.6**
RND pmax pmax
comp=Z,44nm,1.1s
GHO Glory Hole Cre 50.24 36 *eP* **P** **08 34 50.1 +1.0**
comp=Z,272nm,1.8s
TKM2 Tokmak 2 50.29 300 P **P** **08 34 50.2 +0.3**
SNR=27
TKM2 Tokmak 2 50.29 300 *i* P **P** **08 34 49.5 -0.4**
TKM2 pmax pmax
comp=Z,75nm,1.3s
NRN Naryn 50.38 298 *eP* **P** **08 34 50.6 -0.2**
comp=Z,58nm,1.5s
MDM Murphy Dome 50.50 31 *eP* **P** **08 34 51.5 +0.6**
comp=Z,74nm,1.0s
SML Sawmill 50.52 35 *eP* **P** **08 34 52.8 +1.6**
comp=Z,49nm,1.0s
SML Sawmill 50.52 35 *eP* **P** **08 34 52.8 +1.6**
SML pmax pmax
comp=Z,49nm,1.0s
WRH Wood River Hil 50.56 32 *eP* **P** **08 34 52.7 +1.3**
comp=Z,32nm,1.0s
WRH *ePcP* **PcP** **08 36 10.7 +2.0**
BWNR Bhubaneshwar 50.59 268 *ex* P 08 34 45.9 -6.2
TCOL CIGO, UAF Yank 50.66 31 P **P** **08 34 52.6 +0.5**
baz=270,SNR=6.3
COLA College 50.66 31 *eP* **P** **08 34 53.1 +1.0**
comp=Z,39nm,0.9s
COLA College 50.66 31 *eP* **P** **08 34 53.1 +1.0**
COLA pmax pmax
comp=Z,39nm,0.9s
CCB Clear Creek Bu 50.68 32 *eP* **P** **08 34 53.2 +0.9**
comp=Z,19nm,1.1s
BRZS Berezniki 50.73 309 ⇓ *iP* **P** **08 34 52.7 -0.1**
comp=Z,46nm,1.6s
BRZS *eS* **S** **08 42 07.0 +0.9**
BRZS LR LR 08 56 28.3
comp=Z,825nm,13.1s
PSI Prapat 50.74 240 *eP* **P** **08 34 51.6 -1.9**
comp=Z,43nm,1.3s
PSI Prapat 50.74 240 *eP* **P** **08 34 51.6 -1.9**
PSI pmax pmax
comp=Z,43nm,1.3s
KZA Kyzart 50.75 299 P **P** **08 34 55.3 +1.6**
SNR=13
KBK Karagaybulak 50.82 299 P **P** **08 34 54.8 +0.9**
SNR=26
POKR Poker Flat Res 50.84 31 P **P** **08 34 54.9 +1.4**
baz=271,SNR=30
SGDS Sogindy 50.84 301 *i* P **P** **08 34 54.3 +0.4**
comp=Z,36nm,2.5s
SGDS LR LR 08 56 39.6
comp=Z,1μm,16.8s
BTLS Baital 50.86 303 *eS* **S** **08 42 09.6 +1.5**
CHMS Chumysh 50.87 300 P **P** **08 34 54.7 +0.6**
SNR=6.0
DHY Denali Highway 50.91 34 *eP* **P** **08 34 54.9 +0.6**
comp=Z,27nm,1.2s
KSH Kashi 50.94 295 P **P** **08 34 58.8 +4.0**
KSH pP sP 08 35 08.6 +0.8
KSH PP **PP** **08 36 56.6 +5.4**
KSH S **S** **08 42 12.5 +2.9**
KSH sS sS 08 42 29.5 +4.5
KSH pmax pmax
comp=Z,64nm,1.1s
KSH pmax pmax
comp=Z,670nm,5.9s
KSH LR LR
comp=Z,5μm,17.8s
KSH LR LR
comp=Z,4μm,14.8s
KSH LR LR
comp=Z,8μm,16.3s
USP Ospenovka 50.98 300 P **P** **08 34 55.5 +0.6**
SNR=10.0
SCM Sheep Creek Mo 50.99 35 *eP* **P** **08 34 56.4 +1.6**
comp=Z,56nm,1.0s
FRU1 Bishkek 51.00 300 *eP* **P** **08 34 56.0 +0.9**
comp=Z,59nm,1.0s
FRU Bishkek 51.01 300 *eP* **P** **08 34 55.0 -0.1**
FRU pmax pmax
comp=Z,100nm,2.0s
FRU MLR MLR
comp=E,3μm,20.0s
BKNI Bangkinang 51.04 236 *eP* **P** **08 34 55.1 -0.5**
comp=E,140nm,1.1s
HDA Harding Lake 51.06 32 *eP* **P** **08 34 55.7 +0.5**
comp=E,31nm,1.0s
HDA Harding Lake 51.06 32 P **P** **08 34 55.3 +0.1**
baz=272,SNR=10.0
IL1 Eielson Array 51.08 32 *eP* **P** **08 34 55.5 +0.3**
ILAR Eielson Array 51.08 32 P **P** **08 34 55.4 +0.1**
comp=E,15nm,0.9s,baz=268,slow=5.8,SNR=90
ILAR LR LR 08 57 28.6
comp=E,525nm,20.7s,baz=279,slow=37
ILB Eielson Array 51.08 32 *eP* **P** **08 34 55.5 +0.2**
AAK Ala-Archa 51.15 300 P **P** **08 34 56.8 +0.5**
comp=E,5.7nm,0.4s,baz=93,slow=6.1,SNR=22
AAK LR LR 08 58 01.1
comp=E,4μm,19.3s,baz=74,slow=38
AAK Ala-Archa 51.15 300 P **P** **08 34 56.9 +0.5**
SNR=12
AAK Ala-Archa 51.15 300 *eP* **P** **08 34 55.9 -0.4**
comp=E,24nm,0.9s
AAK Ala-Archa 51.15 300 P **P** **08 34 57.2 +0.8**
SNR=14
AAK Ala-Archa 51.15 300 P **P** **08 34 57.2 +0.8**
SNR=14
AAK Ala-Archa 51.15 300 *i* P **P** **08 34 56.6 +0.2**
SNR=14
AAK Ala-Archa 51.15 300 *di* P **P** **08 34 56.7 +0.5**
AAK pmax pmax
comp=Z,15nm,1.1s
UCH Uchtor 51.24 299 P **P** **08 34 58.6 +1.2**
SNR=14
OTUK Ortayu 51.29 307 P **P** **08 34 56.6 -0.5**
OTUK pmax pmax
comp=Z,58nm,1.0s
FID Port Fidalgo 51.48 37 *eP* **P** **08 34 59.0 +0.6**
comp=Z,32nm,1.3s
BVAR Borovoye Array 51.60 313 P **P** **08 34 59.5 +0.2**
comp=Z,5.0nm,0.5s,baz=90,slow=7.4,SNR=37
BVAR LR LR 08 57 50.2
comp=Z,945nm,21.1s,baz=81,slow=37
EKS2 Erkin-Say 51.65 300 P **P** **08 35 00.6 +0.6**
SNR=8.3
BRVK Borovoye 51.65 313 *eP* **P** **08 34 59.5 -0.2**
comp=Z,59nm,1.2s
BRVK Borovoye 51.65 313 P **P** **08 35 00.6 +0.8**
SNR=18
BRVK Borovoye 51.65 313 P **P** **08 35 00.6 +0.8**
SNR=18
BRVK Borovoye 51.65 313 *ce* P **P** **08 35 00.0 +0.2**
BRVK pmax pmax
comp=Z,76nm,2.5s
KLU Klutina 51.69 36 *eP* **P** **08 35 01.9 +1.9**
comp=Z,43nm,1.2s
FYU Fort Yukon 51.72 29 *eP* **P** **08 35 02.7 +2.6**
comp=Z,76nm,1.2s
UGM Wanagama 51.79 220 *eP* **P** **08 35 00.7 -0.5**
comp=Z,502nm,1.5s
DIV Divide 51.79 36 *eP* **P** **08 35 02.2 +1.4**
comp=Z,86nm,1.2s
AML Almayashu 51.85 299 P **P** **08 35 03.2 +1.3**
SNR=45
HARP HAARP 51.97 35 *eP* **P** **08 35 03.9 +1.8**
comp=Z,62nm,1.1s
RIDG Independ'e Rid 52.02 33 *eP* **P** **08 35 03.3 +0.9**
comp=Z,124nm,2.0s
DOT Dot Lake 52.37 33 *eP* **P** **08 35 06.3 +1.3**
comp=Z,22nm,0.8s
BMRM Bremner River 52.37 36 *eP* **P** **08 35 07.3 +2.2**
comp=Z,57nm,1.0s
SCRK Sand Creek 52.38 33 *eP* **P** **08 35 05.9 +0.8**
comp=Z,40nm,1.0s
DDI Dehra Dun 52.48 284 *eP* **P** **08 35 05.8 -0.6**
DDI IAmb IAmb 08 35 08.0
comp=Z,32nm,0.7s
MNAS Manas 52.60 300 *i* P **P** **08 35 07.5 +0.3**
MNAS pmax pmax
comp=Z,40nm,1.2s
SFK Sufi-Kurgan 52.61 297 *i* P **P** **08 35 07.5 +0.1**
SFK pmax pmax
comp=Z,48nm,1.3s
GSI Gunungsitoli 52.74 240 *eP* **P** **08 35 07.3 -1.0**
comp=Z,240nm,1.2s
SMLA Simla 52.88 285 *eP* **P** **08 35 07.6 -1.6**
DHRM DHARAMSHALA 53.13 287 *eP* **P** **08 35 10.6 -0.7**

DHRM IAmb IAmb 08 35 15.0
comp=Z,105nm,1.1s
DHRM IAMs_20 IAMs_20 08 59 24.1
comp=Z,3µm,21.2s
EGAK Eagle 53.52 31 *eP* **P 08 35 14.1 +0.7**
comp=Z,21nm,0.9s
NDI New Delhi 53.81 282 *eP* **P 08 35 16.0 -0.1**
KK31 Karatay Array 53.83 301 *eP* **P 08 35 16.2 +0.2**
KK31 Karatay Array 53.83 301 *i P* **P 08 35 16.1 +0.1**
KK31 pmax pmax
comp=Z,63nm,1.2s
KKAR Karatay Array 53.83 301 *eP* **P 08 35 16.0 0.0**
KKAR Karatay Array 53.83 301 *eP* **P 08 35 16.0 0.0**
DAWY Dawson 54.38 32 *eP* **P 08 35 21.1 +1.3**
comp=Z,18nm,1.1s
IUG luzhnay 54.45 300⇓ *i P* **P 08 35 21.7 +1.0**
comp=Z,60nm,1.2s
IUG *eS* **S 08 42 59.6 +2.1**
IUG LR LR 08 59 08.7
comp=Z,467nm,15.4s
CHCP Chirak Chowk 54.96 289 P **P 08 35 25.4 +1.0**
CHCP S PP 08 37 37.0 +10
FITZ Fitzroy Crossi 55.11 198 P **P 08 35 25.2 -0.1**
comp=Z,31nm,0.6s,baz=16,slow=11
FITZ Fitzroy Crossi 55.11 198 *eP* **P 08 35 25.1 -0.3**
comp=Z,266nm,1.6s
EPYK Eagle Plains 55.14 29 P **P 08 35 25.4 +0.2**
baz=279
CTA Charters Tower 55.29 174 P **P 08 35 26.2 -0.5**
comp=Z,9.9nm,0.5s,baz=354,slow=7.2,SNR=7.1
CTAO Charters Tower 55.29 174 *eP* **P 08 35 25.2 -1.5**
comp=Z,24nm,1.2s
CTAO Charters Tower 55.29 174 *eP* **P 08 35 25.2 -1.5**
CTAO pmax pmax
comp=Z,24nm,1.2s
WRAB Tennant Creek 55.30 188 *eP* **P 08 35 25.8 -1.0**
comp=Z,215nm,1.2s
WRAB Tennant Creek 55.30 188 *ceP* **P 08 35 26.1 -0.7**
WRAB pmax pmax
comp=Z,228nm,1.3s
WB2 Warramunga Arr 55.31 188 *eP* **P 08 35 25.8 -1.1**
comp=Z,187nm,1.1s
WR1 Warramunga Arr 55.31 188 *eP* **P 08 35 25.8 -1.1**
comp=Z,189nm,1.1s
WR1 *eS* **S 08 43 12.1 +3.1**
WRA Warramunga Arr 55.31 188 P **P 08 35 25.8 -1.1**
comp=Z,174nm,1.1s,baz=2.0,slow=7.6,SNR=173
WRA S **S 08 43 12.1 +3.1**
comp=Z,2.3nm,1.2s,baz=19,slow=12,SNR=5.8
WRA LR LR 08 58 36.7
comp=Z,416nm,20.4s,baz=0.0,slow=36
NGP Nagpur 55.70 273 *eP* **P 08 35 28.5 -1.3**
HYT Haines Junctio 55.82 36 *eP* **P 08 35 32.5 +2.3**
comp=Z,47nm,1.1s
CEP Cherat 55.94 290 P **P 08 35 31.4 -0.2**
INK Inuvik 56.03 27 P **P 08 35 32.1 +0.6**
comp=Z,16nm,0.9s,baz=275,slow=7.2,SNR=26
INK Inuvik 56.03 27 *eP* **P 08 35 32.3 +0.8**
comp=Z,22nm,0.9s
BHPL Bhopal 56.03 276 *eP* **P 08 35 31.4 -0.8**
BHPL IAmb IAmb 08 35 32.7
comp=Z,30nm,0.6s
BHPL IAMs_20 IAMs_20 09 12 24.0
comp=Z,951nm,3.3s
SVE Sverdlovsk 56.32 319⇑ *eP* **P 08 35 34.4 +0.7**
SVE pmax pmax
comp=Z,47nm,0.9s
SVE MLR MLR
comp=Z,3µm,15.0s
THW Thamme Wali 56.47 289 P **P 08 35 35.2 -0.1**
WHY Whitehorse 57.11 36 *eP* **P 08 35 41.5 +2.0**
comp=Z,40nm,1.3s
ARU Arti 57.53 319 P P 08 35 51.8 +9.5
MLH Mauna Loa 57.61 88 *eP* **P 08 35 47.5 +3.7**
comp=Z,280nm,1.4s
KBL Kabul 57.85 292 *eP* **P 08 35 44.5 -0.7**
comp=Z,34nm,1.1s
KBL Kabul 57.85 292 *eP* **P 08 35 44.5 -0.7**
KBL pmax pmax
comp=Z,34nm,1.1s
HYB Hyderabad 57.96 269 *i P* **P 08 35 45.5 -0.5**
comp=Z,100nm,1.0s
HYB Hyderabad 57.96 269 *eP* **P 08 35 44.9 -1.0**
HYB IAmb IAmb 08 35 46.6
comp=Z,66nm,1.1s
HYB IAMs_20 IAMs_20 09 02 47.3
comp=Z,1µm,17.4s
AB31 Akbulak array 58.91 311 P **P 08 35 52.0 -0.1**
AB31 pmax pmax
comp=Z,39nm,1.1s
ABKAR Akbulak array 58.91 311 *eP* **P 08 35 51.3 -0.8**
AS01 Alice Springs 59.03 188 *eP* **P 08 35 52.2 -0.9**
AS31 Alice Springs 59.04 188 *eP* **P 08 35 52.3 -0.9**
comp=Z,6.9nm,0.6s
ASAR Alice Springs 59.04 188 P **P 08 35 52.6 -0.6**
comp=Z,12nm,0.8s,baz=7.7,slow=4.8,SNR=74
ASAR S **S 08 43 60.0 +1.9**
comp=Z,2.6nm,1.2s,baz=17,slow=10,SNR=6.5
ASAR LR LR 09 00 51.7
comp=Z,282nm,21.2s,baz=10,slow=36
ASAR PKP2bc 09 05 33.7
comp=Z,4.7nm,1.0s,baz=159,slow=3.5,SNR=5.7
AKTO Aktyubinsk 59.69 313 LR LR 09 02 47.6
comp=Z,1µm,21.2s,baz=66,slow=37
MBWA Marble Bar 59.71 203 *eP* **P 08 35 57.0 -0.8**
comp=Z,191nm,1.5s
DLBC Dease Lake 60.13 37 *eP* **P 08 36 03.4 +3.0**
comp=Z,28nm,1.3s
EIDS Eidsvold 61.06 170 *eP* **P 08 36 07.6 +0.6**
comp=Z,69nm,1.4s
POO Poona 61.24 273 *eP* **P 08 36 07.6 -0.9**
POO IAmb IAmb 08 36 09.4
comp=Z,82nm,0.8s
POO IAMs_20 IAMs_20 09 04 25.5
comp=Z,1µm,16.7s
DZM Mont Dzumac 61.89 153 P **P 08 36 12.2 -0.5**
comp=Z,32nm,1.1s,baz=36,slow=10,SNR=7.2
DZM Mont Dzumac 61.89 153 *eP* **P 08 36 13.9 +1.1**
comp=Z,136nm,1.4s
DZM *eS* **S 08 44 34.1 -0.5**
comp=Z,3µm,28.4s
DZM *eLR* LR 08 54 28.5
comp=Z,2µm,22.1s
DZM Mont Dzumac 61.89 153 *eP* **P 08 36 14.1 +1.3**
comp=Z,77nm,1.3s
BOM Bombay 61.90 274 *ex* P 08 36 06.0 -6.9
BOM IAmb IAmb 08 36 09.8
comp=Z,54nm,0.8s
PRGR Permogore 62.11 327 *eP* **P 08 36 12.9 -0.8**
PRGR pmax pmax
comp=Z,47nm,1.4s
BHJ Bhuj 62.32 280 *eP* **P 08 36 15.1 -0.6**
BHJ IAmb IAmb 08 36 18.8
comp=Z,38nm,1.0s
BHJ IAMs_20 IAMs_20 09 05 56.9
comp=Z,2µm,14.3s
KBS Kingsbay 62.33 350 *eP* **P 08 36 16.7 +1.7**
comp=Z,56nm,1.0s
KBS Kingsbay 62.33 350 *ceP* **P 08 36 16.6 +1.7**
KBS pmax pmax
comp=Z,369nm,1.7s
APA Apatity 64.18 336⇓ *i P* **P 08 36 26.8 -0.6**
APA pmax pmax
comp=Z,20nm,0.9s
APA MLR MLR
comp=Z,5µm,17.0s
RES Resolute Bay 64.33 14 *eP* **P 08 36 29.2 +1.0**
comp=Z,54nm,1.0s
RES Resolute Bay 64.33 14 *eP* **P 08 36 29.2 +1.0**
RES pmax pmax
comp=Z,54nm,1.0s
GEYT Alibeck 64.50 300 P **P 08 36 29.9 -0.1**
comp=Z,10nm,1.0s,baz=46,slow=4.3,SNR=16
GEYT LR LR 09 06 41.7
comp=Z,1µm,18.1s,baz=290,slow=38
GYA0B ALIBECK ARRAY 64.50 300 *eP* **P 08 36 30.5 +0.5**
comp=Z,26nm,1.0s
YKA Yellowknife Ar 65.42 30 P **P 08 36 35.6 +0.1**
comp=Z,9.5nm,0.9s,baz=298,slow=6.6,SNR=13
YKB5 Yellowknife Ar 65.42 30 *eP* **P 08 36 36.3 +0.9**
ARA0 ARCESS Array S 65.55 340 *eP* **P 08 36 36.9 +0.7**
ARCES ARCESS Array B 65.55 340 P **P 08 36 36.9 +0.7**
comp=Z,20nm,0.9s,baz=59,slow=6.9,SNR=24
ARCES LR LR 09 08 36.2
comp=Z,115nm,19.4s,baz=53,slow=39
ARCES ARCESS Array B 65.55 340 *eP* **P 08 36 36.5 +0.3**
ARCES ARCESS Array B 65.55 340 *eP* **P 08 36 36.5 +0.3**

ARE0 ARCESS Array S 65.55 340 *eP* **P 08 36 37.1 +0.9**
comp=Z,2.7nm,1.3s
ARMA Armidale 66.11 170 *eP* **P 08 36 41.1 +0.7**
comp=Z,40nm,1.1s
STKA Stephens Creek 66.82 180 P **P 08 36 44.4 -0.4**
comp=Z,17nm,1.1s,baz=359,slow=6.4,SNR=15
STKA LR LR 09 05 18.9
comp=Z,870nm,21.1s,baz=358,slow=36
STKA Stephens Creek 66.82 180 *eP* **P 08 36 44.4 -0.4**
comp=Z,4.1nm,1.1s
STKA Stephens Creek 66.82 180 *eP* **P 08 36 44.4 -0.4**
STKA pmax pmax
comp=Z,4.0nm,1.1s
TULEG Thule 66.85 7 *eP* **P 08 36 44.7 +0.3**
comp=Z,28nm,0.9s
FORT Forrest 66.87 192 *eP* **P 08 36 45.0 -0.1**
comp=Z,113nm,0.8s
MNCI Minicoy 67.40 264 *eP* **P 08 36 48.6 -0.3**
comp=Z,99nm,1.1s
DAG Danmarks Havn 67.48 355 *i P* **P 08 36 49.1 +0.6**
comp=Z,79nm,1.2s
DAG Danmarks Havn 67.48 355 *i P* **P 08 36 49.1 +0.6**
DAG pmax pmax
comp=Z,120nm,1.2s
PGC Sidney 67.69 46 *eP* **P 08 36 51.7 +1.4**
BBOO Buckleboo 67.92 185 *eP* **P 08 36 51.0 -0.6**
comp=Z,23nm,0.9s
A04D Lummi Island 68.09 45 P **P 08 36 53.3 +0.6**
baz=299
HMDM Hanimaadhoo 68.16 263 *eP* **P 08 36 54.4 +0.7**
comp=Z,136nm,1.2s
D03D Eldon 68.44 46 P **P 08 36 54.9 -0.1**
baz=299,SNR=20
MOS Moscow 68.52 324 *eP* **P 08 36 54.7 -0.6**
MOS *e* 08 37 19.7
MOS *e* 08 39 24.7
MOS pmax pmax
comp=Z,81nm,1.1s
MOS MLR MLR
comp=Z,3µm,16.0s
E03A Lebam 68.64 48 *eP* **P 08 36 58.1 +1.9**
comp=Z,41nm,1.0s
B05A Bryant 68.67 45 P **P 08 36 56.8 +0.5**
baz=299,SNR=13
VRH Novokhopyorsk 68.73 318 *eP* **P 08 36 55.6 -1.1**
VRH pmax pmax
comp=Z,30nm,0.9s
VRH MLR MLR
comp=Z,5µm,21.0s
D04E Lakebay 68.80 47 P **P 08 36 57.1 -0.1**
baz=299
B06A Marblemount 68.90 45 *eP* **P 08 36 59.0 +1.2**
comp=Z,29nm,1.0s
F04D Rainier, OR 69.20 48 P **P 08 36 59.6 -0.1**
baz=300
E04D Cinebar 69.23 47 P **P 08 37 00.6 +0.7**
baz=300,SNR=12
D05A Enumclaw 69.26 46 *eP* **P 08 37 01.8 +1.7**
comp=Z,46nm,1.2s
OBN Obninsk 69.36 324 *eP* **P 08 37 00.9 +0.4**
comp=Z,86nm,1.3s
OBN Obninsk 69.36 324 *c i P* **P 08 37 01.2 +0.7**
OBN *PP **pP** 08 37 11.0 +0.8
OBN *SP **sP** 08 37 16.0 +2.2
OBN 08 37 24.0
OBN *e* 08 39 35.7
OBN *i S* **S 08 46 12.9 +7.8**
OBN *e* 08 46 55.5
OBN *eSS **SS** 08 50 32.3 +0.8
OBN *eSSS SSS 08 53 36.4
OBN pmax pmax
comp=Z,96nm,1.7s
OBN MLR MLR
comp=Z,2µm,16.0s
G03D McMinnville, O 69.47 49 P **P 08 37 02.8 +1.3**
baz=300,SNR=7.5
LPSR Galich'ya Gora 69.50 320 *eP* **P 08 37 01.0 -0.4**
LPSR pmax pmax
comp=Z,40nm,1.0s
C06D Leavenworth 69.54 45 P **P 08 37 03.0 +1.1**
baz=300
PUL Pulkovo 69.58 330 *i P* **P 08 37 01.5 -0.3**
PUL pmax pmax
comp=Z,48nm,0.6s
LON Longmire 69.59 47 *eP* **P 08 37 03.5 +1.3**
comp=Z,15nm,1.2s
LON Longmire 69.59 47 *eP* **P 08 37 03.5 +1.3**
LON pmax pmax
comp=Z,15nm,1.2s
I02D Swisshome 69.66 50 P **P 08 37 03.2 +0.7**
baz=300
COR Corvallis 69.76 49 *eP* **P 08 37 06.0 +2.8**
comp=Z,60nm,1.1s
AKT Akhty 69.95 307 *eP* **P 08 37 03.4 -1.2**
AKT *e* 08 37 25.4
AKT pmax pmax
comp=Z,40nm,0.7s
KEBM Edson Butte 69.96 51 *eP* **P 08 37 07.3 +2.8**
comp=Z,69nm,1.0s
LTY Liberty 70.01 46 *eP* **P 08 37 05.8 +1.1**
comp=Z,21nm,1.1s
J01E Myrtle Point 70.07 51 P **P 08 37 06.5 +1.3**
baz=300,SNR=6.1
VSR Storozhevoye 70.10 319 *eP* **P 08 37 04.6 -0.6**
VSR pmax pmax
comp=Z,40nm,1.2s
VSR MLR MLR
comp=Z,3µm,18.0s
H04D Lebanon 70.14 49 P **P 08 37 06.7 +1.1**
baz=300,SNR=5.9
VORD Divnogorie 70.17 319 *eP* **P 08 37 05.2 -0.4**
VORD pmax pmax
comp=Z,20nm,0.8s
I03D Drain, OR 70.17 50 P **P 08 37 04.9 -0.8**
baz=300,SNR=21
B08A Colville Reser 70.22 44 *eP* **P 08 37 07.6 +1.5**
comp=Z,32nm,1.1s
F05D White Salmon 70.23 47 P **P 08 37 07.3 +1.2**
baz=301
FIA1 FINESS Array S 70.25 332 *eP* **P 08 37 06.0 +0.2**
comp=Z,77nm,1.1s
FIA0 FINESS Array S 70.25 332 *eP* **P 08 37 05.5 -0.3**
FIA0 FINESS Array S 70.25 332 *eP* **P 08 37 05.6 -0.3**
FINES FINESS Array B 70.25 332 P **P 08 37 05.5 -0.3**
comp=Z,44nm,1.0s,baz=63,slow=8.8,SNR=45
FINES LR LR 09 10 08.9
comp=Z,2µm,18.4s,baz=18,slow=38
GROC Groznyy 70.33 309 *eP* **P 08 37 05.7 -1.1**
GROC *e* 08 37 26.2
GROC *e* 08 39 40.6
GROC *eS* **S 08 46 16.1 -0.8**
GROC pmax pmax
comp=Z,18nm,0.5s
KBO Bosley Butte 70.36 52 *eP* **P 08 37 08.9 +1.9**
comp=Z,56nm,1.1s
H04A Detroit Lake 70.40 49 *eP* **P 08 37 08.1 +0.9**
comp=Z,52nm,1.2s
K02D Willamette Mer 70.48 51 P **P 08 37 08.5 +0.7**
baz=300,SNR=11
CAN Canberra 70.64 173 *eP* **P 08 37 09.5 +1.0**
comp=Z,52nm,1.2s
CAN Canberra 70.64 173 *eP* **P 08 37 09.5 +1.0**
CAN pmax pmax
comp=Z,52nm,1.2s
G05D Wamic, OR 70.65 48 P **P 08 37 09.8 +1.2**
baz=301,SNR=8.7
I04A Tendick Farm, 70.71 50 P **P 08 37 10.1 +1.0**
baz=301,SNR=23
L02E Cave Junction 70.79 52 P **P 08 37 09.7 +0.1**
baz=300,SNR=7.6
E07A Sunnyside 70.84 46 *eP* **P 08 37 12.0 +2.2**
comp=Z,35nm,1.1s
HUMO Hull Mountain 70.97 51 *eP* **P 08 37 13.2 +2.5**
comp=Z,10.0nm,1.1s
G06A Carlson Farm, 71.06 48 *eP* **P 08 37 12.9 +1.7**
comp=Z,35nm,1.3s
GOF Gofitskoye 71.10 312 *eP* **P 08 37 12.3 +0.9**
GOF pmax pmax
comp=Z,90nm,1.2s
I05D Terrebonne, OR 71.10 49 P **P 08 37 12.5 +1.0**
baz=301,SNR=7.4
C09A Chrisman Ranch 71.11 44 *eP* **P 08 37 12.2 +0.7**
comp=Z,42nm,1.1s
HAWA Hanford 71.12 46 *eP* **P 08 37 13.1 +1.6**
comp=Z,20nm,1.1s
D08A Wollman Farm, 71.13 45 *eP* **P 08 37 11.9 +0.3**
comp=Z,33nm,1.1s

F07A Phinny Hill Vi 71.15 47 *eP* **P 08 37 12.8 +1.1**
comp=Z,34nm,1.1s
J04D Umpqua Nationa 71.18 50 P **P 08 37 12.4 +0.2**
baz=301,SNR=5.7
E08A Dider Farm, El 71.35 46 *eP* **P 08 37 14.2 +1.3**
comp=Z,26nm,1.1s
KHMM Horse Mountain 71.36 53 *eP* **P 08 37 15.5 +2.3**
comp=Z,27nm,1.0s
BIDO Bidbid 71.37 286 P **P 08 37 16.0 +2.6**
SNR=5.8
BIDO Bidbid 71.37 286 P **P 08 37 16.0 +2.6**
SNR=5.8
NWAO Narrogin (SRO) 71.48 201 *eP* **P 08 37 12.8 -0.8**
comp=Z,93nm,1.5s
NWAO Narrogin (SRO) 71.48 201 *eP* **P 08 37 12.8 -0.8**
NWAO pmax pmax
comp=Z,93nm,1.5s
NEW Newport 71.52 44 *eP* **P 08 37 15.1 +1.2**
comp=Z,33nm,1.2s
NEW Newport 71.52 44 *eP* **P 08 37 15.1 +1.2**
NEW pmax pmax
comp=Z,33nm,1.2s
NEW Newport 71.52 44 P **P 08 37 14.4 +0.5**
baz=302
NCK Nalchik 71.57 310 *i P* **P 08 37 14.9 +0.6**
BANOM Banah 71.57 289 *i P* **P 08 37 15.8 +1.2**
SNR=5.9
YBH Yreka Blue Hor 71.58 52 *eP* **P 08 37 16.0 +1.6**
comp=Z,24nm,1.1s
L04D Klamath Falls 71.59 51 P **P 08 37 15.2 +0.7**
baz=301,SNR=17
PINE Pine Mountain 71.63 49 *eP* **P 08 37 16.4 +1.5**
comp=Z,76nm,1.1s
SHME Shamm 71.63 289 *i P* **P 08 37 15.2 +0.2**
SNR=7.6
M02C Callahan 71.66 52 P **P 08 37 16.5 +1.5**
baz=301,SNR=7.9
J05D Fort Rock, OR 71.71 50 P **P 08 37 16.1 +0.8**
baz=302,SNR=26
K04D Chiloquin, OR 71.72 50 P **P 08 37 15.4 0.0**
baz=301
ZEI Tsey 71.74 310 *eP* **P 08 37 11.6 -4.0**
ZEI pmax pmax
comp=Z,19nm,0.8s
TBLG Delisi 71.76 308 *eP* **P 08 37 15.8 +0.3**
comp=Z,42nm,1.0s
TBLG Delisi 71.76 308 *eP* **P 08 37 15.8 +0.3**
TBLG pmax pmax
comp=Z,42nm,1.0s
VSU Vasula 71.84 330 *eP* **P 08 37 15.8 +0.2**
VSU IAmb IAmb 08 37 17.3
comp=Z,144nm,1.0s
VSU Vasula 71.84 330 *ceP* **P 08 37 16.8 +1.2**
VSU pmax pmax
comp=Z,165nm,1.3s
E09A Wood Farm, Sta 71.87 46 *eP* **P 08 37 16.9 +0.8**
comp=Z,40nm,1.1s
KBZ Khabaz 71.88 311 P **P 08 37 15.8 -0.2**
comp=Z,20nm,0.9s,baz=53,slow=2.1,SNR=37
KBZ LR LR 09 12 39.2
comp=Z,954nm,18.5s,baz=44,slow=39
KIV Kislovodsk 71.89 311 *eP* **P 08 37 17.4 +1.1**
comp=Z,63nm,1.0s
KIV Kislovodsk 71.89 311 P **P 08 37 17.6 +1.2**
SNR=17
KIV Kislovodsk 71.89 311 P **P 08 37 17.6 +1.2**
SNR=17
KIV Kislovodsk 71.89 311 *i P* **P 08 37 17.4 +1.1**
SNR=13
KIV Kislovodsk 71.89 311 *eP* **P 08 37 17.5 +1.2**
KIV *eS* **S 08 46 35.6 +0.5**
KIV pmax pmax
comp=Z,68nm,1.0s
KIV pmax pmax
comp=Z,28nm,3.3s
MDH Madha 71.89 288 P **P 08 37 17.1 +0.7**
MSFE Esma-Masafi 71.97 289 P **P 08 37 17.3 +0.4**
N02D Trinity Center 71.97 52 P **P 08 37 17.3 +0.4**
baz=301,SNR=10
G08A Pilot Rock 72.04 47 *eP* **P 08 37 19.2 +1.9**
comp=Z,39nm,1.8s
M04C Macdoel 72.11 51 P **P 08 37 17.7 0.0**
baz=302,SNR=20
UOSS Minazif 72.14 288 *eP* **P 08 37 18.5 +0.4**
comp=Z,16nm,0.9s
UOSS Minazif 72.14 288 *i P* **P 08 37 18.2 +0.2**
SNR=8.0
NEY Neytrino 72.24 311 *i P* **P 08 37 19.4 +0.9**
NEY pmax pmax
comp=Z,3.0nm,1.0s
HATD Hatta, Dubai 72.26 288 P **P 08 37 20.0 +1.3**
SNR=8.5
HATD Hatta, Dubai 72.26 288 P **P 08 37 20.0 +1.3**
SNR=8.5
HATD Hatta, Dubai 72.26 288 *i P* **P 08 37 19.0 +0.3**
SNR=13
UMQ Umm Al-Quwin 72.27 289 P **P 08 37 19.3 +0.6**
WDC Whiskeytown Da 72.28 53 *eP* **P 08 37 20.2 +1.6**
comp=Z,18nm,0.9s
WDC Whiskeytown Da 72.28 53 *eP* **P 08 37 20.2 +1.6**
WDC pmax pmax
comp=Z,18nm,0.9s
O02D Mt. Diablo Mer 72.33 53 P **P 08 37 19.6 +0.6**
baz=302
I07A Izee 72.36 48 *eP* **P 08 37 21.1 +2.0**
comp=Z,10nm,1.0s
ASHO Ashiyiah 72.39 288 P **P 08 37 20.8 +1.2**
SNR=8.0
ASHO Ashiyiah 72.39 288 P **P 08 37 20.8 +1.2**
SNR=8.0
ASHO Ashiyiah 72.39 288 *i P* **P 08 37 19.8 +0.3**
SNR=8.8
SUMG Summit 72.42 360 *eP* **P 08 37 20.7 +1.4**
comp=Z,127nm,1.1s
SUMG Summit 72.42 360 *i P* **P 08 37 20.5 +1.2**
comp=Z,286nm,1.0s
SUMG Summit 72.42 360 *i P* **P 08 37 20.5 +1.2**
SUMG pmax pmax
comp=Z,290nm,1.0s
GNI Garni 72.58 307 LR LR 09 11 54.9
comp=Z,1µm,19.2s,baz=25,slow=38
GNI Garni 72.58 307 *eP* **P 08 37 21.8 +1.2**
comp=Z,74nm,1.0s
GNI Garni 72.58 307 P **P 08 37 23.0 +2.4**
SNR=9.8
GNI Garni 72.58 307 P **P 08 37 23.0 +2.4**
SNR=9.8
GNI Garni 72.58 307 P **P 08 37 22.0 +1.4**
GNI Garni 72.58 307 *ceP* **P 08 37 22.4 +1.8**
GNI pmax pmax
comp=Z,152nm,1.3s
F10A Beach Ranch, E 72.70 46 *eP* **P 08 37 22.6 +1.5**
comp=Z,9.6nm,0.9s
AKH Akhalkalaki 72.72 309 *eP* **P 08 37 22.9 +1.5**
comp=Z,18nm,0.9s
AKH Akhalkalaki 72.72 309⇑ *i P* **P 08 37 21.5 +0.1**
AKH Akhalkalaki 72.72 309 *eP* **P 08 37 22.9 +1.5**
AKH pmax pmax
comp=Z,18nm,0.9s
FAQ Al Faqa, Dubai 72.72 288 P **P 08 37 21.4 0.0**
WALA Waterton Lakes 72.87 42 *eP* **P 08 37 23.2 +1.2**
comp=Z,40nm,1.4s
O03E Paynes Creek 72.91 53 P **P 08 37 22.1 -0.4**
baz=302,SNR=17
ALNE Al Ain 72.96 288 *i P* **P 08 37 22.9 0.0**
SNR=7.8
ASUD Al Ashush, Dub 72.99 288 P **P 08 37 22.7 -0.4**
MOD Modoc Plateau 73.02 51 *eP* **P 08 37 24.3 +1.2**
comp=Z,26nm,1.0s
GDXM Geysers 73.04 54 *eP* **P 08 37 25.6 +2.4**
comp=Z,52nm,1.6s
BMO Blue Mountains 73.27 47 *eP* **P 08 37 25.7 +1.2**
comp=Z,21nm,1.1s
BMO Blue Mountains 73.27 47 *eP* **P 08 37 25.7 +1.2**
BMO pmax pmax
comp=Z,21nm,1.1s
J08A Circle Bar Ran 73.37 48 *eP* **P 08 37 26.8 +1.7**
comp=Z,37nm,1.1s
JTMT Jette 73.40 43 *eP* **P 08 37 26.3 +1.0**
comp=Z,41nm,1.1s
ORV Oroville 73.50 53 *eP* **P 08 37 26.7 +0.8**
comp=Z,19nm,1.0s
ORV Oroville 73.50 53 *eP* **P 08 37 26.7 +0.8**
ORV pmax pmax
comp=Z,19nm,1.0s
WVOR Wild Horse Val 73.78 49 *eP* **P 08 37 29.0 +1.4**
comp=Z,27nm,1.1s

WVOR **Wild Horse Val** 73.78 49 *eP* P 08 37 29.0 +1.4
WVOR pmax pmax
comp=Z,27nm,1.1s
MICGM **Minsk** 73.81 326 *eP* P 08 37 39.0 +12
MICGM *eLQ* LQ 09 08 40.0
MICGM *eLR* LR 09 11 26.0
IDID **Didziasalis** 73.82 327 *eP* P 08 37 27.7 +0.4
IDID IAmb IAmb 08 37 29.2
comp=Z,23nm,1.2s
ISAL **Salakas** 73.93 328 *eP* P 08 37 28.2 +0.3
ISAL IAmb IAmb 08 37 31.1
comp=Z,45nm,1.2s
IIGN **Ignalina** 74.02 327 *eP* P 08 37 29.1 +0.5
IIGN IAmb IAmb 08 37 30.5
comp=Z,16nm,0.8s
NACGM **Naroch** 74.06 327 *e* P 08 37 28.0 -0.8
NACGM *eLR* LR 09 09 54.0
NACGM LRM MLR 09 12 58.0
comp=Z,3.4nm,15.0s
BEKR **Beckworth** 74.08 52 *eP* P 08 37 30.4 +1.0
comp=Z,24nm,0.9s
MSO **Missoula** 74.11 44 *eP* P 08 37 30.6 +1.1
comp=Z,24nm,1.3s
MSO **Missoula** 74.11 44 P P 08 37 29.1 -0.3
baz=305
AFDM **Forest Hills D** 74.17 53 *eP* P 08 37 31.2 +1.4
comp=Z,31nm,1.5s
SLIT **Slitere, Latvi** 74.19 331 *eP* P 08 37 29.3 -0.2
SLIT IAmb IAmb 08 37 30.8
comp=Z,252nm,0.8s
ANN **Anapa** 74.58 314 *eP* P 08 37 31.6 -0.4
ANN *e* 08 37 43.7
ANN *eS* S 08 47 05.5 +0.1
ANN pmax pmax
comp=Z,65nm,1.3s
PAHR **Pah Rah Range** 74.79 52 *eP* P 08 37 34.9 +1.4
comp=Z,22nm,1.0s
VCNR **Virginia City** 74.85 53 *eP* P 08 37 35.5 +1.6
comp=Z,9.9nm,0.9s
MFID **Camas Ranch** 74.95 47 *eP* P 08 37 35.5 +1.1
comp=Z,29nm,1.1s
PNTR **Pine Nut** 74.99 53 *eP* P 08 37 35.9 +1.0
comp=Z,33nm,1.3s
SAO **San Andreas Ge** 75.03 56 *eP* P 08 37 36.8 +2.0
comp=Z,21nm,1.0s
CMB **Columbia Colle** 75.05 54 *eP* P 08 37 35.9 +0.9
comp=Z,27nm,1.0s
CMB **Columbia Colle** 75.05 54 *eP* P 08 37 35.9 +0.9
CMB pmax pmax
comp=Z,27nm,1.0s
FFC **Flin Flon** 75.28 32 *eP* P 08 37 36.0 +0.2
comp=Z,26nm,0.9s
FFC **Flin Flon** 75.28 32 *ceP* P 08 37 37.2 +1.3
YERR **Yerington** 75.28 53 *eP* P 08 37 37.2 +0.7
comp=Z,36nm,1.1s
HRY **Holter Researc** 75.36 43 *eP* P 08 37 37.6 +1.0
BBGB **Big Mountain B** 75.41 55 *eP* P 08 37 39.1 +2.0
WAKR **Walker** 75.42 53 *eP* P 08 37 38.7 +1.4
comp=Z,16nm,1.0s
NC405 **NORSAR Array S** 75.49 337 *eP* P 08 37 37.9 +0.9
NC303 **NORSAR Array S** 75.52 337 *eP* P 08 37 37.3 +0.2
AKASG **Malin Array Be** 75.54 322 P P 08 37 37.0 -0.4
comp=Z,6.5nm,0.5s,baz=48,slow=6.1,SNR=40
AKASG LR LR 09 13 51.9
comp=Z,4μm,18.4s,baz=45,slow=38
AKBB **Malin Array Si** 75.54 322 *eP* P 08 37 37.2 -0.2
KIEV **Kiev** 75.56 322 *eP* P 08 37 37.2 -0.3
comp=Z,29nm,0.9s
KIEV **Kiev** 75.56 322 *i P* P 08 37 36.8 -0.7
SNR=20
KIEV **Kiev** 75.56 322 *d iP* P 08 37 37.5 0.0
KIEV pmax pmax
comp=Z,51nm,1.4s
AK11 **Malin Array Si** 75.58 322 *eP* P 08 37 36.8 -0.8
NC204 **NORSAR Array S** 75.67 338 *eP* P 08 37 39.0 +0.9
NB201 **NORSAR Array S** 75.67 337 *eP* P 08 37 38.4 +0.3
NB2 **NORSAR Subarra** 75.70 337 P P 08 37 37.8 -0.5
comp=Z,105nm,1.4s,baz=41,slow=5.9
NB2 **NORSAR Subarra** 75.70 337 P P 08 37 37.8 -0.5
baz=41,slow=5.9
NB200 **NORSAR Array S** 75.70 337 *eP* P 08 37 38.4 +0.1
NB200 *ePP* PP 08 40 27.3 -0.2
NOA **NORSAR Array B** 75.70 337 P P 08 37 38.4 +0.1
comp=Z,27nm,0.9s,baz=39,slow=5.7,SNR=48
NOA PP PP 08 40 27.3 -0.2
comp=Z,4.1nm,1.0s,baz=39,slow=8.1,SNR=3.3
NOA LR LR 09 13 58.0
comp=Z,4μm,19.9s,baz=25,slow=38
HLID **Hailey** 75.71 47 *eP* P 08 37 40.6 +1.8
comp=Z,15nm,1.1s
HLID **Hailey** 75.71 47 P P 08 37 39.7 +0.9
baz=305
EGMT **Eagleton** 75.71 41 *eP* P 08 37 39.5 +0.9
comp=Z,49nm,1.1s
EGMT **Eagleton** 75.71 41 P P 08 37 39.0 +0.3
baz=307
DLMT **Dillon** 75.72 44 *eP* P 08 37 40.1 +1.2
comp=Z,37nm,1.1s
PMPB **Monarch Peak** 75.77 56 *eP* P 08 37 41.7 +2.5
comp=Z,32nm,1.1s
BMN **Battle Mountai** 75.77 50 *eP* P 08 37 40.7 +1.5
BMN **Battle Mountai** 75.77 50 *eP* P 08 37 40.7 +1.5
NC602 **NORSAR Array S** 75.83 337 *eP* P 08 37 38.7 -0.2
NB000 **NORSAR Array S** 75.85 338 *eP* P 08 37 39.2 +0.1
LCCM **Lewis and Clar** 75.85 44 *eP* P 08 37 40.3 +0.7
MCMT **McKenzie Canyo** 75.89 45 *eP* P 08 37 41.5 +1.6
RYN **Ryan** 75.95 53 *eP* P 08 37 41.0 +0.8
comp=Z,17nm,1.0s
NAO01 **NORSAR Array S** 75.96 337 *eP* P 08 37 40.4 +0.7
KVN **Kaiserville** 75.98 52 *eP* P 08 37 41.5 +1.1
comp=Z,28nm,1.1s
BOZ **Bozeman (W)** 76.14 44 *eP* P 08 37 41.4 +0.2
comp=Z,24nm,1.0s
BOZ **Bozeman (W)** 76.14 44 *eP* P 08 37 41.4 +0.2
BOZ pmax pmax
comp=Z,24nm,1.0s
BOZ **Bozeman (W)** 76.14 44 P P 08 37 41.8 +0.6
baz=306
MDPB **Devils Postpil** 76.14 54 *eP* P 08 37 43.4 +1.9
comp=Z,14nm,0.9s
OMMB **Old Mammoth Mi** 76.20 54 *eP* P 08 37 43.0 +1.2
comp=Z,24nm,1.3s
NV01 **Mina Array Sit** 76.20 53 *eP* P 08 37 42.6 +0.8
NVAR **Mina Array Bea** 76.20 53 P P 08 37 43.0 +1.3
comp=Z,7.6nm,0.7s,baz=287,slow=6.1,SNR=49
NVAR LR LR 09 05 15.0
comp=Z,559nm,21.7s,baz=288,slow=31
SUW **Suwalki** 76.24 328 *eP* P 08 37 42.1 +0.8
SUW **Suwalki** 76.24 328 *eP* P 08 37 41.8 +0.5
comp=Z,73nm,1.1s
SUW **Suwalki** 76.24 328 *eP* P 08 37 42.1 +0.8
NV11 **Mina Array Sit** 76.30 53 *eP* P 08 37 43.0 +0.8
comp=Z,5.4nm,1.8s
MLAC **Mammoth, Mammo** 76.30 54 P P 08 37 43.1 +0.7
baz=304
PAGB **Antelope Grade** 76.41 56 *eP* P 08 37 45.1 +2.4
comp=Z,66nm,1.1s
SIM **Simferopol'** 76.42 316 *eP* P 08 37 43.2 +0.6
SIM *e* 08 37 50.0
SIM *eS* S 08 47 26.0 +0.2
SIM pmax pmax
comp=Z,17nm,0.6s
SIM MLR MLR
comp=Z,6μm,23.0s
QLMT **Earthquake Lak** 76.70 44 *eP* P 08 37 46.1 +1.6
SMMC **Simmler** 76.81 56 P P 08 37 44.1 -1.0
baz=304
YHB **Horse Butte** 76.89 44 *eP* P 08 37 46.8 +1.2
comp=Z,28nm,1.1s
TIN **Tinemaha, Big** 77.02 54 P P 08 37 47.2 +1.0
baz=304
YHH **Holmes Hill** 77.06 44 *eP* P 08 37 48.0 +1.4
comp=Z,17nm,1.2s
YMR **Madison River** 77.07 44 *eP* P 08 37 47.1 +0.6
comp=Z,25nm,1.1s
GCMT **Greycliff** 77.12 43 *eP* P 08 37 48.5 +1.8
VES **Vestal, Richgr** 77.14 55 P P 08 37 46.1 -0.6
baz=304
PKM **Mcpherson Peak** 77.17 56 P P 08 37 47.7 +0.4
baz=304
YNR **Norris Junctio** 77.20 44 *eP* P 08 37 49.8 +2.4
comp=Z,26nm,1.3s
YFT **Old Faithful** 77.27 44 *eP* P 08 37 51.0 +3.3
comp=Z,14nm,1.0s
KONO **Kongsberg** 77.29 337 *ceP* P 08 37 46.8 -0.4
KONO pmax pmax
comp=Z,52nm,2.5s
YPP **Pitchstone Pla** 77.40 44 *eP* P 08 37 50.3 +1.8
comp=Z,27nm,1.5s
LKWY **Lake** 77.45 44 *eP* P 08 37 52.5 +3.8
comp=Z,50nm,1.4s
H17A **Grant Village** 77.45 44 *eP* P 08 37 52.0 +3.2
comp=Z,45nm,1.0s
H17A **Grant Village** 77.45 44 P P 08 37 48.7 0.0
baz=307
CWC **Cottonwood Cre** 77.47 54 P P 08 37 48.2 -0.6
baz=305
SBC **Santa Barbara** 77.49 57 P P 08 37 49.6 +0.8
baz=304
IMW **Indian Meadow** 77.55 45 *eP* P 08 37 51.1 +1.8
comp=Z,24nm,1.0s
FLWY **Flagg Ranch** 77.57 45 *eP* P 08 37 51.5 +2.2
comp=Z,36nm,1.2s
GRAC **Grapevine Rang** 77.62 53 P P 08 37 49.6 0.0
baz=305
ISA **Isabella, Lake** 77.64 55 *eP* P 08 37 51.1 +1.3
comp=Z,15nm,1.2s
ISA **Isabella, Lake** 77.64 55 *eP* P 08 37 51.1 +1.3
ISA pmax pmax
comp=Z,15nm,1.2s
ISA **Isabella, Lake** 77.64 55 P P 08 37 50.0 +0.2
baz=305
FXWY **Fox Creek** 77.65 45 *eP* P 08 37 51.6 +1.7
comp=Z,24nm,1.3s
ARVC **Arvin** 77.71 56 P P 08 37 51.2 +1.2
baz=305
HVU **Hansel Valley** 77.73 47 *eP* P 08 37 51.4 +1.2
comp=Z,18nm,0.9s
HVU **Hansel Valley** 77.73 47 *eP* P 08 37 51.4 +1.2
HVU pmax pmax
comp=Z,19nm,0.9s
MOOW **Moose Ponds** 77.75 45 *eP* P 08 37 51.7 +1.3
comp=Z,40nm,1.7s
RLMT **Red Lodge** 77.75 43 *eP* P 08 37 52.4 +2.1
comp=Z,23nm,1.1s
RLMT **Red Lodge** 77.75 43 P P 08 37 51.1 +0.7
baz=308
TPAW **Teton Pass** 77.79 45 *eP* P 08 37 52.4 +1.7
comp=Z,19nm,1.1s
SCZ2 **Santa Cruz Isl** 77.80 57 P P 08 37 50.9 +0.4
baz=304
DAC **Darwin (Calif)** 77.88 54 *eP* P 08 37 52.8 +1.6
comp=Z,20nm,1.2s
DAC **Darwin (Calif)** 77.88 54 *eP* P 08 37 52.8 +1.6
DAC pmax pmax
comp=Z,20nm,1.2s
LOHW **Long Hollow** 77.91 45 *eP* P 08 37 52.9 +1.6
comp=Z,12nm,1.2s
SNOW **Snow King Moun** 77.92 45 *eP* P 08 37 53.2 +1.8
comp=Z,17nm,1.0s
REDW **Red Top Meadow** 77.92 45 *eP* P 08 37 53.1 +1.7
comp=Z,36nm,1.3s
R11A **Troy Canyon, C** 78.00 51 *eP* P 08 37 52.9 +1.1
comp=Z,16nm,0.9s
R11A **Troy Canyon, C** 78.00 51 P P 08 37 52.9 +1.1
baz=306
OSI **Osito Audit: C** 78.07 56 *eP* P 08 37 53.3 +1.2
comp=Z,33nm,1.1s
OSI **Osito Audit: C** 78.07 56 P P 08 37 52.9 +0.8
baz=305
MPMC **Manual Prospec** 78.08 54 P P 08 37 52.9 +0.6
baz=305
KIS **Kishinev** 78.08 320 *eP* P 08 37 45.0 -6.8
KIS LRM MLR 09 15 08.0
comp=Z,6μm,16.0s
KIS **Kishinev** 78.08 320 *eP* P 08 37 45.0 -6.8
KIS *e* 08 42 34.0
KIS *e* 08 47 58.0
KIS *e* 08 48 12.0
KIS MLR MLR
comp=N,3μm,16.0s
KIS MLR MLR
comp=E,2μm,16.0s
KIS MLR MLR
comp=Z,6μm,16.0s
BGU **Big Grassy Mou** 78.09 48 *eP* P 08 37 53.5 +1.3
comp=Z,18nm,1.1s
BLG **Laguna Peak, P** 78.12 57 P P 08 37 52.9 +0.5
baz=305
AHID **Auburn Hatcher** 78.14 46 *eP* P 08 37 54.0 +1.4
comp=Z,15nm,1.0s
SPUT **South Prmonto** 78.21 48 *eP* P 08 37 54.1 +1.2
comp=Z,25nm,1.3s
FURC **Furnace Creek,** 78.26 54 P P 08 37 53.7 +0.7
baz=305
LRMC **Laurel Mtn Rad** 78.28 55 P P 08 37 54.1 +0.8
baz=305
SNCC **San Nicolas Is** 78.30 58 *eP* P 08 37 54.8 +1.5
comp=Z,73nm,1.0s
SNCC **San Nicolas Is** 78.30 58 P P 08 37 54.2 +0.9
baz=305
DGMT **Dagmar** 78.33 38 *eP* P 08 37 54.5 +1.2
comp=Z,42nm,1.1s
DGMT **Dagmar** 78.33 38 P P 08 37 54.0 +0.7
baz=311
TPNV **Topopah Spring** 78.38 53 *eP* P 08 37 54.8 +0.8
comp=Z,37nm,1.2s
TPNV **Topopah Spring** 78.38 53 *eP* P 08 37 54.8 +0.8
TPNV pmax pmax
comp=Z,37nm,1.2s
TPNV **Topopah Spring** 78.38 53 P P 08 37 54.5 +0.5
baz=306
EDW2 **Edwards Air Fo** 78.41 56 P P 08 37 53.5 -0.5
baz=305
LAO **LASA Array** 78.43 40 *eP* P 08 37 55.2 +1.3
comp=Z,41nm,1.1s
LAO **LASA Array** 78.43 40 P P 08 37 54.6 +0.7
baz=310
DECC **Green Verdugo** 78.54 56 P P 08 37 54.8 +0.1
baz=305
HWUT **Hardware Ranch** 78.56 47 *eP* P 08 37 56.1 +1.3
comp=Z,40nm,1.1s
DUG **Dugway, Tooele** 78.65 49 *eP* P 08 37 56.6 +1.2
comp=Z,31nm,0.9s
DUG **Dugway, Tooele** 78.65 49 *eP* P 08 37 56.6 +1.2
DUG pmax pmax
comp=Z,31nm,0.9s
DUG **Dugway, Tooele** 78.65 49 P P 08 37 56.0 +0.7
baz=307
LVV **L'vov** 78.66 324 *eP* P 08 37 55.5 +0.5
PASC **Pasadena Art C** 78.69 56 *eP* P 08 37 57.1 +1.6
comp=Z,82nm,1.8s
MWC **Mount Wilson** 78.75 56 *eP* P 08 37 56.8 +0.8
comp=Z,55nm,1.4s
MWC **Mount Wilson** 78.75 56 *eP* P 08 37 56.8 +0.8
MWC pmax pmax
comp=Z,55nm,1.4s
BEL **Belsk** 78.78 327 *eP* P 08 37 58.1 +2.5
BEL **Belsk** 78.78 327 *eP* P 08 37 58.1 +2.5
BSD **Bornholm Skovb** 78.87 332 *i P* P 08 37 55.7 -0.3
comp=Z,86nm,1.1s
comp=Z,2μm,19.0s
BSD **Bornholm Skovb** 78.87 332 *eP* P 08 37 55.7 -0.3
BSD pmax pmax
comp=Z,86nm,1.1s
BSD MLR MLR
comp=Z,2μm,19.0s
FMP **Fort Macarthur** 78.88 57 P P 08 37 57.1 +0.7
baz=305
TCUT **Toone Canyon** 78.95 47 *eP* P 08 37 58.0 +0.9
comp=Z,40nm,1.0s
GSC **Goldstone, Bar** 78.97 55 *eP* P 08 37 57.9 +0.8
comp=Z,27nm,1.2s
GSC **Goldstone, Bar** 78.97 55 *eP* P 08 37 57.9 +0.8
GSC pmax pmax
comp=Z,27nm,1.2s
GSC **Goldstone, Bar** 78.97 55 P P 08 37 57.9 +0.8
baz=306
CIS **Catalina Islan** 78.97 57 P P 08 37 57.0 -0.1
baz=305
SHOC **Shoshone, Teco** 78.97 54 P P 08 37 57.4 +0.4
baz=306
PSUT **Pine Spring** 78.99 51 *eP* P 08 37 58.5 +1.2
comp=Z,18nm,1.0s
ILGA **Ilgaz** 78.99 313 *eP* P 08 37 58.5 +1.3
comp=Z,40nm,0.9s
CTU **Camp Tracy** 79.00 48 *eP* P 08 37 58.3 +1.0
comp=Z,13nm,0.9s
BFSC **Mount Baldy Ra** 79.01 56 P P 08 37 57.8 +0.5
baz=305
BW06 **Boulder Array** 79.03 45 *eP* P 08 37 58.1 +0.6
comp=Z,12nm,0.9s
BW06 **Boulder Array** 79.03 45 P P 08 37 57.0 -0.5
baz=308
PD31 **Pinedale Array** 79.03 45 *eP* P 08 37 57.9 +0.3
PDAR **Pinedale Array** 79.03 45 P P 08 37 58.0 +0.5
comp=Z,3.7nm,0.8s,baz=272,slow=1.9,SNR=30
PDAR LR LR 09 08 35.4
comp=Z,347nm,22.0s,baz=342,slow=32
PDAR **Pinedale Array** 79.03 45 *eP* P 08 37 57.7 +0.2
RRX **Edison Barstow** 79.09 55 P P 08 37 58.4 +0.7
baz=306
JLU **Jordanelle** 79.24 48 *eP* P 08 37 59.9 +1.2
comp=Z,23nm,1.1s
NLU **North Lily Min** 79.25 49 *eP* P 08 37 60.0 +1.3
comp=Z,22nm,1.0s
GKP **Gorka Klasztor** 79.30 330 *eP* P 08 37 59.2 +0.8
GKP **Gorka Klasztor** 79.30 330 *eP* P 08 37 59.2 +0.8
SHPR **Sheep Range** 79.35 53 *eP* P 08 38 00.8 +1.6
comp=Z,61nm,1.5s
COP **Copenhagen** 79.38 333 *i* P P 08 37 59.1 +0.3
comp=Z,1μm,16.0s
COP **Copenhagen** 79.38 333 *eP* P 08 37 59.1 +0.3
COP MLR MLR
comp=Z,1μm,16.0s
KWP **Kalwaria Pacla** 79.42 324 *eP* P 08 38 00.4 +1.2
KWP **Kalwaria Pacla** 79.42 324 *eP* P 08 37 59.0 -0.2
KWP **Kalwaria Pacla** 79.42 324 *eP* P 08 37 59.0 -0.2
TUQ **Turquoise Moun** 79.47 54 P P 08 38 00.4 +0.5
baz=306
MPU **Maple Canyon** 79.48 48 *eP* P 08 38 00.7 +0.7
comp=Z,20nm,1.0s
BBRC **Big Bear Solar** 79.49 56 P P 08 38 00.4 +0.3
baz=306
BUR08 **Bucovina Ar. S** 79.53 322 *eP* P 08 38 00.1 +0.1
BIZ **Bicaz** 79.54 321 *|| iP* P 08 38 00.8 +0.9
BUR04 **Bucovina Ar. S** 79.54 322 *eP* P 08 37 60.0 0.0
BURAR **Bucovina Array** 79.54 322 *|| iP* P 08 38 00.7 +0.7
HEC **Hector,Ludlow** 79.56 55 P P 08 38 01.0 +0.7
baz=306
CFR **Carcaliu** 79.61 319 *⇑ iP* P 08 38 00.1 -0.1
MURC **Murrieta** 79.69 56 P P 08 38 01.8 +0.8
baz=306
TCRU **Three Creeks R** 79.83 50 *eP* P 08 38 04.6 +2.7
comp=Z,15nm,0.8s
BR101 **Keskin Array S** 79.85 312 *eP* P 08 38 02.0 +0.2
BR131 **Keskin Array S** 79.85 312 *eP* P 08 38 01.9 0.0
BR131 **Keskin Array S** 79.85 312 P P 08 38 02.7 +0.8
SNR=20
BRTR **Keskin Array B** 79.85 312 P P 08 38 02.0 +0.2
comp=Z,9.3nm,1.0s,baz=107,slow=3.0,SNR=27
BRTR LR LR 09 17 58.5
comp=Z,610nm,18.7s,baz=36,slow=39
CCUT **Cedar City** 79.89 51 *eP* P 08 38 04.3 +2.1
comp=Z,44nm,1.5s
VRI **Vrincioaia** 79.91 320 *|| iP* P 08 38 03.3 +1.4
TIRR **Tirgusor** 79.92 318 *⇑ iP* P 08 38 01.5 -0.4
PLOR **Plostina** 79.97 320 *⇑ iP* P 08 38 18.0 +16
GMRC **Granite Mounta** 80.03 54 P P 08 38 02.8 -0.1
baz=306
TLB **Topalu** 80.04 318 *⇑ iP* P 08 38 03.4 +0.8
MSU **Marysvale** 80.06 50 *eP* P 08 38 04.5 +1.4
FRD **Ford Ranch, An** 80.15 56 P P 08 38 04.5 +0.9
baz=306
109C **Camp Elliot, M** 80.16 57 P P 08 38 03.6 +0.1
baz=306
CPE **Camp Elliot** 80.16 57 *eP* P 08 38 04.3 +0.8
comp=Z,52nm,1.0s
TMUT **Trail Mountain** 80.18 49 *eP* P 08 38 05.8 +1.9
comp=Z,10nm,0.9s
PFO **Pinyon Flats O** 80.18 56 *eP* P 08 38 04.2 +0.5
comp=Z,59nm,1.0s
PFO **Pinyon Flats O** 80.18 56 *eP* P 08 38 04.2 +0.5
PFO pmax pmax
comp=Z,59nm,1.0s
PFO **Pinyon Flats O** 80.18 56 P P 08 38 04.3 +0.5
baz=306
XPFO **Piæon Flat** 80.19 56 *eP* P 08 38 04.4 +0.6
comp=Z,59nm,1.0s
LDFC **Landfair** 80.22 54 *eP* P 08 38 05.8 +1.9
comp=Z,126nm,1.6s
BELC **Belle Mtn. Jos** 80.27 55 P P 08 38 04.7 +0.4
baz=306
ANTO **Ankara** 80.27 312 *eP* P 08 38 04.8 +0.8
comp=Z,26nm,0.7s
ANTO **Ankara** 80.27 312 *⇑ iP* P 08 38 06.3 +2.2
LCMT **Little Creek M** 80.29 51 *eP* P 08 38 05.9 +1.6
comp=Z,32nm,1.1s
UZH **Uzhgorod** 80.30 324 *|| iP* P 08 38 04.0 +0.1
UZH *e* 08 38 13.8
MTPU **Mount Pierson** 80.34 50 *eP* P 08 38 06.3 +1.5
comp=Z,47nm,1.4s
P17A **Butcher Ranch,** 80.36 48 *eP* P 08 38 05.5 +0.9
comp=Z,31nm,0.9s
OJC **Ojcow** 80.36 326 *eP* P 08 38 05.3 +1.0
OJC **Ojcow** 80.36 326 *eP* P 08 38 05.1 +0.8
comp=Z,83nm,1.3s
OJC **Ojcow** 80.36 326 *eP* P 08 38 05.1 +0.8
OJC pmax pmax
comp=Z,83nm,1.3s
TRPA **Tarpa** 80.53 323 *⇑ iP* P 08 38 05.6 +0.5
TRPA **Tarpa** 80.53 323 *|| eP* P 08 38 06.6 +1.5
DOPR **Dopca** 80.55 320 *⇑ iP* P 08 38 06.3 +0.9
KNB **Kanab** 80.55 51 *eP* P 08 38 07.7 +1.9
comp=Z,93nm,1.3s
P18A **Preston Nutter** 80.56 48 *eP* P 08 38 07.8 +1.9
comp=Z,27nm,1.1s
MLR **Muntele Rosu** 80.57 320 *eP* P 08 38 06.7 +1.0
comp=Z,57nm,1.7s
MLR **Muntele Rosu** 80.57 320 *⇑ iP* P 08 38 05.3 -0.4
MLR **Muntele Rosu** 80.57 320 *eP* P 08 38 06.7 +1.0
MLR pmax pmax
comp=Z,57nm,1.7s
BAR **Barrett** 80.58 57 *eP* P 08 38 07.0 +1.1
comp=Z,40nm,0.9s
MONP2 **Monument Peak** 80.63 56 P P 08 38 06.8 +0.5
baz=306
NIE **Niedzica** 80.70 325 *eP* P 08 38 07.5 +1.4
NIE **Niedzica** 80.70 325 *eP* P 08 38 07.5 +1.4
SRU **San Rafael Swe** 80.72 48 *eP* P 08 38 07.5 +0.9
comp=Z,29nm,0.8s
SRU **San Rafael Swe** 80.72 48 *eP* P 08 38 07.5 +0.9
SRU pmax pmax
comp=Z,29nm,0.8s
NEE2 **Needles Airpor** 80.73 54 P P 08 38 07.3 +0.8
baz=307
IRM **Iron Mountain** 80.75 55 P P 08 38 06.4 -0.2
baz=306
BC3 **Big Chuckawall** 80.83 55 P P 08 38 07.7 +0.4
baz=306
K22A **Casper** 80.84 44 *eP* P 08 38 08.5 +1.3
comp=Z,18nm,1.0s
K22A **Casper** 80.84 44 P P 08 38 07.6 +0.4
baz=310
IKP **In-Ko-Pah, Jac** 80.98 56 P P 08 38 08.6 +0.6
baz=306
W13A **Hualapai Mount** 81.02 53 *eP* P 08 38 08.8 +0.5
comp=Z,29nm,1.3s
SWSC **Sam W. Stewart** 81.02 56 P P 08 38 09.0 +0.9
baz=306
MDND **Maddock** 81.03 37 *eP* P 08 38 08.6 +0.7
comp=Z,42nm,0.9s
MDND **Maddock** 81.03 37 P P 08 38 07.8 -0.1
baz=314
RWWY **Rawlins** 81.07 45 *eP* P 08 38 09.8 +1.2
comp=Z,15nm,0.8s
ULM **Lac du Bonnet** 81.07 33 P P 08 38 06.2 -1.8
comp=Z,12nm,1.1s,baz=319,slow=6.7,SNR=4.6
ULM **Lac du Bonnet** 81.07 33 *eP* P 08 38 07.8 -0.2
comp=Z,16nm,1.0s
RAYN **Ar Rayn** 81.12 292 *eP* P 08 38 08.7 -0.2
comp=Z,24nm,1.0s
RAYN **Ar Rayn** 81.12 292 *i P* P 08 38 08.7 -0.2
SNR=7.4
U15A **North Rim** 81.25 51 *eP* P 08 38 11.9 +2.3
comp=Z,80nm,1.6s
RSSD **Black Hills** 81.26 41 *eP* P 08 38 10.1 +0.6
comp=Z,50nm,1.9s
RSSD **Black Hills** 81.26 41 *eP* P 08 38 10.1 +0.6
RSSD pmax pmax
comp=Z,50nm,1.9s
RSSD **Black Hills** 81.26 41 P P 08 38 10.0 +0.6
baz=311
KECS **Kecovo** 81.27 325 *eP* P 08 38 09.4 +0.3
KECS pmax pmax
comp=Z,24nm,1.1s
KECS **Kecovo** 81.27 325 *eP* P 08 38 09.4 +0.3
LANS **Liptovska Anna** 81.27 326 *eP* P 08 38 11.0 +1.8
LANS **Liptovska Anna** 81.27 326 *eP* P 08 38 11.0 +1.8
PDMCI **Parker Dam,Lak** 81.33 54 P P 08 38 10.6 +0.9

baz=307
ARR Arges 81.34 320⇑*i*P P 08 38 10.7 +1.0
LTVH L˜'tav˜'rtes, 81.35 323⇓*e*P P 08 38 11.9 +2.3
OKC Ostrava-Krasne 81.38 327 AMS AMS 09 18 10.0
comp=Z,3µm,13.6s
Y12C Blythe 81.40 55 *e*P P 08 38 10.9 +0.8
comp=E,61nm,1.0s
Y12C Blythe 81.40 55 P P 08 38 11.2 +1.1
baz=307
O20A White River Ci 81.45 47 *e*P P 08 38 11.9 +1.4
comp=Z,15nm,0.8s
O20A White River Ci 81.45 47 P P 08 38 10.8 +0.3
baz=309
KSP Ksiaz 81.47 328 *e*P P 08 38 11.1 +1.0
KSP Ksiaz 81.47 328 *e*P P 08 38 11.1 +1.0
GLA Glamis 81.61 55 *e*P P 08 38 12.5 +1.2
comp=Z,66nm,0.9s
GLA Glamis 81.61 55 *e*P P 08 38 12.5 +1.2
GLA pmax pmax
comp=Z,66nm,0.9s
GLA Glamis 81.61 55 P P 08 38 12.2 +0.9
baz=307
MORC Moravsky Berou 81.70 327 *e*P P 08 38 11.6 +0.1
comp=Z,44nm,1.3s
MORC Moravsky Berou 81.70 327⇑*i*P P 08 38 12.0 +0.6
MORC Moravsky Berou 81.70 327 *e*P P 08 38 11.6 +0.1
MORC pmax pmax
comp=Z,44nm,1.3s
MORC Moravsky Berou 81.70 327 *e*P P 08 38 11.6 +0.1
DPC Dobruska-Polom 81.81 328 *e*P P 08 38 13.3 +1.2
DPC AMS AMS 09 18 40.0
comp=Z,2µm,15.9s
DPC Dobruska-Polom 81.81 328 *e*P P 08 38 13.3 +1.2
DPC MLR MLR
comp=Z,2µm,15.9s
PSZ Piszkesteto 81.95 324 *e*P P 08 38 13.9 +1.1
comp=Z,66nm,1.3s
PSZ Piszkesteto 81.95 324⇑*i*P P 08 38 13.4 +0.6
PSZ Piszkesteto 81.95 324⇓*e*P P 08 38 15.1 +2.3
PSZ Piszkesteto 81.95 324 *e*P P 08 38 13.9 +1.1
PSZ pmax pmax
comp=Z,66nm,1.3s
THZ Tophouse 82.03 157 *e*P P 08 38 13.7 +0.7
comp=Z,52nm,1.1s
VYHS Vyhne 82.03 325 *e*P P 08 38 13.5 +0.3
VYHS *e* 08 38 25.2
VYHS pmax pmax
comp=Z,22nm,1.4s
VYHS MLR MLR
comp=Z,2µm,15.8s
VYHS Vyhne 82.03 325 *e*P P 08 38 13.5 +0.3
VYHS *e*pP sP 08 38 25.2 -1.4
BFZ Birch Farm 82.21 154 *e*P P 08 38 14.9 +1.0
comp=Z,82nm,1.3s
Y14A Wickenburg 82.30 54 *e*P P 08 38 15.2 +0.3
comp=Z,77nm,1.5s
JAVC Velka Javorina 82.31 326 *e*P P 08 38 16.0 +1.3
N23A Red Feather La 82.31 45 *e*P P 08 38 15.8 +0.6
comp=Z,44nm,1.1s
N23A Red Feather La 82.31 45 P P 08 38 15.7 +0.6
baz=311
PHWY Pilot Hill 82.32 44 *e*P P 08 38 16.7 +1.5
comp=Z,47nm,1.9s
WUAZ Wupatki 82.39 52 *e*P P 08 38 16.9 +1.4
comp=Z,31nm,1.0s
WUAZ Wupatki 82.39 52 P P 08 38 16.5 +1.0
baz=308
PVCC Panska Ves 82.44 329 AMS AMS 09 17 30.0
comp=Z,2µm,16.3s
BRG Berggiesshubel 82.44 329 *e*P P 08 38 16.0 +0.8
comp=Z,47nm,1.4s
BRG PP PP 08 41 25.0 +1.2
comp=Z,30nm,1.9s
BRG S SKiKP 08 47 30.0 +22
BRG SS SS 08 51 57.0 -112
comp=Z,2µm,15.6s
comp=N,1µm,17.6s
comp=E,640nm,17.6s
BRG Berggiesshubel 82.44 329 *e*P P 08 38 16.0 +0.8
BRG 08 41 25.0
BRG pmax pmax
comp=Z,60nm,1.4s
BRG pmax pmax
comp=Z,47nm,1.9s
BRG MLR MLR
comp=Z,30µm,15.6s
BRG MLR MLR
comp=N,2µm,17.6s
BRG MLR MLR
comp=E,1µm,17.6s
VRAC Vranov 82.46 327⇑*i*P P 08 38 15.9 +0.5
VRAC Vranov 82.46 327 *e*P P 08 38 15.9 +0.5
AGMN Agassiz Nation 82.48 34 P P 08 38 15.7 +0.2
baz=316
CLL Collm 82.50 330 *e*P P 08 38 15.6 +0.2
comp=E,61nm,1.1s
CLL Collm 82.50 330⇓*i*P P 08 38 15.7 +0.2
comp=Z,77nm,1.2s
CLL *e*PP PP 08 41 23.0 -1.2
CLL *e*S S 08 48 30.0 +0.1
CLL *e*SS SS 08 53 54.0 +3.9
CLL *e*SSS SSS 08 57 18.0
CLL Collm 82.50 330⇓*i*P P 08 38 15.7 +0.2
CLL *e*S S 08 48 30.0 +0.1
CLL pmax pmax
comp=Z,77nm,1.2s
113A Mohawk Valley, 82.50 55 *e*P P 08 38 16.8 +0.9
comp=Z,43nm,1.2s
BUD Budapest 82.67 325⇓*e*P P 08 38 17.8 +1.3
BZS Buzias 82.72 322⇑*i*P P 08 38 16.8 0.0
KRUC Moravsky 82.73 327 *e*P P 08 38 17.0 +0.2
SMCO Snowmass 82.81 47 *e*P P 08 38 19.2 +1.3
comp=Z,23nm,1.2s
KHZ Kahutara 82.82 156 *e*P P 08 38 17.0 0.0
comp=Z,48nm,1.2s
HERR Herculane 82.83 321⇑*i*P P 08 38 17.4 0.0
PRA Prague 82.84 329 AMS AMS 09 21 40.0
comp=Z,3µm,16.5s
MODS Modra-Piesok 82.84 326 *e*P P 08 38 17.5 +0.1
MODS pmax pmax
comp=Z,118nm,2.0s
MODS Modra-Piesok 82.84 326 *e*P P 08 38 17.5 +0.1
TREC Trest 82.96 328 AMS AMS 09 18 50.0
comp=Z,2µm,16.0s
X16A Lo Mia Camp, P 83.03 53 *e*P P 08 38 20.4 +1.6
comp=Z,56nm,1.3s
MVCO Mesa Verde 83.15 49 *e*P P 08 38 20.5 +1.0
comp=Z,98nm,1.8s
MVCO Mesa Verde 83.15 49 P P 08 38 20.1 +0.6
baz=310
ISCO Idaho Springs 83.21 45 *e*P P 08 38 21.9 +2.0
comp=Z,11nm,0.9s
ISCO Idaho Springs 83.21 45 *e*P P 08 38 21.9 +2.0
ISCO pmax pmax
comp=Z,11nm,0.9s
ISCO Idaho Springs 83.21 45 P P 08 38 20.0 +0.1
baz=311
MDVR Moldovita 83.25 321⇑*i*P P 08 38 19.6 -0.1
PGB Panagyurishte 83.50 318 P P 08 38 22.2 +1.2
NKC Novy Kostel 83.55 330 AMS AMS 09 22 00.0
comp=Z,3µm,17.8s
LBZ Lake Benmore 83.58 160 *e*P P 08 38 22.0 +1.0
comp=Z,102nm,1.6s
TIH Tihany 83.62 325⇓*e*P P 08 38 22.3 +0.9
214A Organ Pipe Nat 83.63 55 P P 08 38 22.3 +0.5
baz=308
SOP Sopron 83.67 326⇓*e*P P 08 38 23.6 +1.9
PMOR Pomariorio Ree 83.68 113 *e*T T 10 10 28.4
comp=Z,34nm,0.2s
MANT Manisa 83.69 313 *e*P P 08 38 22.7 +0.4
comp=Z,141nm,1.3s
W18A Petrified Fore 83.69 51 P P 08 38 22.3 0.0
baz=309
SUSD Miller 83.72 39 P P 08 38 21.9 -0.1
baz=315
MORH M˜‡r¡gy, Hung 83.76 324⇓*e*P P 08 38 22.0 -0.1
MORH M˜‡r¡gy, Hung 83.76 324 *e*P P 08 38 22.2 +0.1
RZN Rozhen 83.78 318 P P 08 38 23.8 +1.2
CONA Conrad Observa 83.81 326 *i*P P 08 38 22.9 +0.4
comp=Z,56nm,1.4s,SNR=26
S22A 4UR Ranch, Cre 83.82 48 *e*P P 08 38 23.8 +0.7
comp=Z,25nm,1.1s
S22A 4UR Ranch, Cre 83.82 48 P P 08 38 23.1 +0.1
baz=310
KHC Kasperske Hory 83.91 328 *e*P P 08 38 22.4 -0.5
comp=Z,24nm,1.3s
KHC Kasperske Hory 83.91 328 *e*P P 08 38 23.4 +0.5
KHC *e*PCP PcP 08 38 28.1 +1.2
KHC AMS AMS 09 20 00.0
comp=Z,2µm,14.2s
KHC Kasperske Hory 83.91 328 *e*P P 08 38 23.4 +0.5
KHC MLR MLR
comp=Z,2µm,14.2s
X18A Snowflake 83.92 52 *e*P P 08 38 25.0 +1.6
comp=Z,25nm,1.0s
FRGS Fruska Gora 83.95 323 *e*P P 08 38 23.8 +0.6
VTS Vitosha 83.98 319 *e*P P 08 38 24.1 +0.5
comp=Z,51nm,1.2s
VTS Vitosha 83.98 319⇓*i*P P 08 38 24.7 +1.2
VTS Vitosha 83.98 319 P P 08 38 24.8 +1.2
Q24A Divide 84.03 46 *e*P P 08 38 26.0 +1.9
comp=Z,14nm,1.0s
Q24A Divide 84.03 46 P P 08 38 24.4 +0.3
baz=311
PPT Papeete 84.05 116 LR LR 09 08 35.9
comp=Z,717nm,20.1s,baz=302,slow=30
PPT2 Papeete2 84.06 116 *e*S S 08 48 48.4 +1.6
comp=Z,886nm,31.5s
PPT2 Papeete2 84.06 116 *e*LQ LQ 09 00 59.3
comp=Z,486nm,25.5s
PPT2 *e*LR LR 09 04 52.9
comp=Z,1µm,21.8s,baz=311
PPT2 Papeete2 84.06 116 *e*T T 10 10 57.3
comp=Z,12nm,0.3s
GEC2 GERESS Array S 84.08 328 *e*P P 08 38 24.6 +0.7
comp=Z,29nm,1.2s
GEC2 GERESS Array S 84.08 328 *e*P P 08 38 24.6 +0.7
GEC2 pmax pmax
comp=Z,29nm,1.2s
GERES GERESS Array B 84.08 328 P P 08 38 23.6 -0.2
comp=Z,12nm,1.0s,baz=45,slow=4.5,SNR=39
GERES PP PP 08 41 38.1 +0.8
comp=Z,1.3nm,0.8s,baz=18,slow=4.6,SNR=3.8
GERES LR LR 09 20 02.8
comp=Z,2µm,18.4s,baz=20,slow=39
GEA0 GERESS Array S 84.08 328 *e*P P 08 38 23.3 -0.6
PAE Paea 84.11 116 *e*T T 10 10 59.9
comp=Z,2.0nm,0.3s
TIAR Tiarei 84.21 116 *e*T T 10 11 07.7
comp=Z,5.7nm,0.2s
WTSB Winterswijk 84.37 334 *e*P P 08 38 25.8 +0.7
comp=Z,61nm,1.4s
TVO Taravao 84.42 116 *e*T T 10 11 23.3
comp=Z,0.9nm,0.4s
BEHE Becsehely 84.46 325 *e*P P 08 38 25.5 -0.2
ARSA Arzberg 84.47 326 *i*PcP P 08 38 26.6 +0.9
comp=Z,34nm,1.6s,SNR=8.9
GRFO Grafenberg 84.47 330 *e*P P 08 38 25.6 -0.1
comp=Z,119nm,1.3s
GRFO Grafenberg 84.47 330 *e*P P 08 38 25.6 -0.1
GRFO pmax pmax
comp=Z,119nm,1.3s
OGNE Ogallala 84.49 43 P P 08 38 26.0 -0.1
baz=313
KKB Krunik 84.55 319 P P 08 38 27.3 +1.0
MOA Molln 84.58 327 *i*PcP P 08 38 27.4 +1.0
comp=Z,39nm,1.5s,SNR=10.0
DIVS Divibare 84.61 322 *e*P P 08 38 26.6 0.0
comp=Z,78nm,1.5s
DIVS Divibare 84.61 322 *e*P P 08 38 26.3 -0.3
SDCO Great Sand Dun 84.62 47 *e*P P 08 38 28.1 +1.0
comp=Z,23nm,1.1s
SDCO Great Sand Dun 84.62 47 P P 08 38 27.8 +0.7
baz=311
EYMN Ely 84.71 32 *e*P P 08 38 26.9 0.0
comp=Z,24nm,1.1s
EYMN Ely 84.71 32 P P 08 38 26.5 -0.4
baz=319
ESK Eskdalemuir 84.72 340*ce*P P 08 38 25.6 -1.3
TUC Tucson 84.77 54 *e*P P 08 38 28.6 +1.0
comp=Z,43nm,1.3s
TUC Tucson 84.77 54 *e*P P 08 38 28.6 +1.0
TUC pmax pmax
comp=Z,43nm,1.3s
TUC Tucson 84.77 54 P P 08 38 28.5 +0.8
baz=309
PERS Pernice 85.11 326 *e*P P 08 38 29.4 +0.3
PERS Pernice 85.11 326 *e*P P 08 38 29.4 +0.3
SOKA Soboth 85.12 326 *i*PcP P 08 38 29.8 +0.7
comp=Z,74nm,1.4s,SNR=15
HAPS Han Pijesak,Bl 85.14 322 *e*P P 08 38 29.3 -0.1
STIP Stip 85.15 319 *i*P P 08 38 29.4 0.0
SKO Skopje 85.36 319 *i*P P 08 38 32.1 +1.7
ECSD EROS Data Cent 85.41 38 *e*P P 08 38 31.3 +0.7
comp=Z,22nm,1.2s
ECSD EROS Data Cent 85.41 38 P P 08 38 31.3 +0.7
baz=316
KSCO Kaye Shedlock' 85.46 45 *e*P P 08 38 32.6 +1.5
comp=Z,101nm,1.4s
KSCO Kaye Shedlock' 85.46 45 P P 08 38 31.7 +0.6
baz=313
BLY Banja Luka 85.53 324 *e*P P 08 38 31.6 +0.5
comp=Z,74nm,1.6s
BLY Banja Luka 85.53 324 *e*P P 08 38 31.4 +0.3
CRES Cresnjev 85.56 325 *e*P P 08 38 29.8 -1.5
KBA Koelnbreinsper 85.57 327 *i*PcP P 08 38 33.1 +1.6
comp=Z,28nm,1.8s,SNR=6.6
HGN Heimansgroeve 85.67 333 *e*P P 08 38 32.1 +0.5
comp=Z,95nm,1.3s
T25A Trinidad 85.67 47 *e*P P 08 38 33.8 +1.5
comp=Z,37nm,0.9s
T25A Trinidad 85.67 47 P P 08 38 31.9 -0.4
baz=312
E38A The Farm, Brul 85.70 33 *e*P P 08 38 32.5 +0.6
comp=Z,31nm,1.0s
E38A The Farm, Brul 85.70 33 P P 08 38 31.3 -0.6
baz=319
BEBN Eben Emael 85.73 333⇑P P 08 38 32.9 +0.9
C40A Isle Royale Na 85.75 31 P P 08 38 30.9 -1.2
baz=321
MEM Membach 85.76 333⇓P P 08 38 31.7 -0.4
comp=Z,30nm,1.3s
MEM ⇑pP pP 08 38 42.7 +0.7
MYKA Terra Mystica 85.78 327 *i*P P 08 38 32.2 -0.2
comp=Z,20nm,1.2s
LAZ Ladron 85.79 50 *e*P P 08 38 34.1 +1.2
UPM Unac-Piva 85.80 322 *e*P P 08 38 32.4 -0.4
LJU Ljubljana 85.82 326 *e*P P 08 38 31.4 -1.2
VISS Visnje 85.86 326 *i*P P 08 38 32.9 +0.2
VISS Visnje 85.86 326 *i*P P 08 38 32.9 +0.2
ANMO Albuquerque 85.87 50 *e*P P 08 38 34.8 +1.5
comp=Z,27nm,1.1s
ANMO Albuquerque 85.87 50*ce*P P 08 38 32.6 -0.7
ANMO pmax pmax
comp=Z,20nm,1.1s
ANMO Albuquerque 85.87 50 P P 08 38 34.0 +0.7
baz=311
F37A Hinrichs Farm, 85.88 35 P P 08 38 32.9 +0.1
baz=319
KRUS Krusevo 85.89 319 *i*P P 08 38 34.7 +1.6
BOJS Bojanci 85.89 325 *i*P P 08 38 33.4 +0.5
BOJS Bojanci 85.89 325 *i*P P 08 38 33.4 +0.5
TAOE Nuku Hiva Isla 85.96 104 *e*LR LR 09 05 51.0
comp=Z,857nm,23.4s,baz=316
STU Stuttgart 86.01 330 *e*P P 08 38 34.1 +0.7
comp=Z,73nm,1.1s
STU Stuttgart 86.01 330 *e*P P 08 38 34.2 +0.7
STU pmax pmax
comp=Z,73nm,1.1s
F38A Pierce - Schro 86.04 34 P P 08 38 33.7 +0.1
baz=319
LENM Lemitar 86.05 50 *e*P P 08 38 35.5 +1.3
CEY Cerknica 86.10 326 *e*P P 08 38 33.3 -0.7
Y22D IRIS PASSCAL I 86.14 51 P P 08 38 34.1 -0.5
baz=311
JAVS Javornik 86.15 326 *i*P P 08 38 34.0 -0.3
JAVS Javornik 86.15 326 *i*P P 08 38 34.0 -0.3
SPMN Marine on St. 86.17 35 *e*P P 08 38 35.1 +0.8
comp=Z,39nm,1.4s
SPMN Marine on St. 86.17 35 P P 08 38 34.8 +0.6
baz=319
WTTA Wattenberg 86.18 328 PcP P 08 38 35.0 +0.4
comp=Z,5.7nm,0.7s
BCLA Clavier 86.18 333 ⇓P P 08 38 34.4 +0.2
comp=Z,34nm,1.5s
BCLA ⇑pP pP 08 38 44.7 +0.7
PDG Podgorica 86.18 321 *e*P P 08 38 35.3 +0.9
ABTA Abfaltersbach 86.19 327 *i*P P 08 38 34.1 -0.4
comp=Z,20nm,1.1s
BRY Bratogost 86.20 322 *e*P P 08 38 33.5 -1.2
UCC Uccle 86.21 334 ⇑P P 08 38 35.1 +0.8
BGNE Belgrade 86.28 40 *e*P P 08 38 34.8 -0.2
comp=Z,143nm,1.4s
BGNE Belgrade 86.28 40 P P 08 38 33.5 -1.5
baz=315
BNM Barren Site 86.28 50 *e*P P 08 38 36.0 +0.7
OHR Ohrid 86.31 319 *i*P P 08 38 36.5 +1.4
E39A Mellen 86.32 33 P P 08 38 33.8 -1.2
baz=320
MOTA Moosalm 86.34 329 *i*PcP P 08 38 36.5 +1.2
comp=Z,6.8nm,0.8s
319A Douglas 86.34 54 *e*P P 08 38 36.9 +1.4
comp=Z,26nm,0.9s
RETA Reutte 86.38 329 *i*PcP P 08 38 35.9 +0.6
comp=Z,49nm,1.3s,SNR=15
DRME Dracevica, Mon 86.39 321 *e*P P 08 38 35.4 0.0
SQTA Sankt Quirin 86.39 328 *i*PcP P 08 38 35.7 +0.2
comp=Z,9.0nm,1.0s
SNF Seneffe 86.47 334 ⇑P P 08 38 36.4 +0.8
comp=Z,46nm,1.2s
WLF Walferdange 86.48 333 *e*P P 08 38 36.5 +0.8
comp=Z,76nm,1.3s
WLF Walferdange 86.48 333 *e*P P 08 38 36.5 +0.8
WLF pmax pmax
comp=Z,76nm,1.3s
WLF Walferdange 86.48 333 ⇑P P 08 38 35.7 -0.1
comp=Z,45nm,1.7s
F39A Loretta 86.51 33 P P 08 38 35.4 -0.6
baz=320
E40A Wakefield 86.56 33 P P 08 38 35.9 -0.3
baz=321
121A Cookes Peak, D 86.58 52 P P 08 38 36.2 -0.6
baz=310
STON Ston 86.65 322 *e*P P 08 38 39.8 +3.1
D41A Chassel 86.66 31 P P 08 38 36.4 -0.3
baz=322
DOU Dourbes 86.70 334 ⇓P P 08 38 37.0 +0.2
comp=Z,17nm,1.5s
DOU ⇓sP sP 08 38 52.4 +2.2
HSIG 86.71 57 *e*P P 08 38 38.4 +1.2
comp=Z,36nm,1.3s
BFO Black Forest 86.71 331 *e*P P 08 38 37.0 0.0
comp=Z,73nm,1.3s
BFO Black Forest 86.71 331*ce*P P 08 38 37.1 +0.2
FETA Feichten 86.75 329 *i*PcP P 08 38 37.8 +0.4
comp=Z,21nm,1.2s,SNR=6.6
H38A Maiden Rock 86.82 35 P P 08 38 35.8 -1.7
baz=319
F40A Park Falls 86.87 33 P P 08 38 37.7 0.0
baz=320
G39A Holcombe 86.88 34 P P 08 38 36.7 -1.0
baz=320
DAVA Damuels 86.91 329 *i*PcP P 08 38 38.6 +0.5
comp=Z,44nm,1.2s,SNR=11
E41A Kenton 86.95 32 P P 08 38 36.7 -1.4
baz=321
SCHQ Schefferville 87.06 16 P P 08 38 38.1 -0.4
comp=Z,20nm,0.8s,baz=319,slow=4.7,SNR=11
SCHQ LR LR 09 20 06.4
comp=Z,494nm,20.9s,baz=2.0,slow=37
SCHQ Schefferville 87.06 16 *e*P P 08 38 39.5 +1.0
comp=Z,32nm,1.0s
CBKS Cedar Bluff 87.24 43 *e*P P 08 38 40.3 +0.6
comp=Z,56nm,1.2s
CBKS Cedar Bluff 87.24 43 *e*P P 08 38 40.3 +0.6
CBKS pmax pmax
comp=Z,56nm,1.2s
CBKS Cedar Bluff 87.24 43 P P 08 38 37.9 -1.8
baz=314
FUORN Ofenpass-Fuorn 87.27 329 *e*P P 08 38 40.6 +0.6
comp=Z,58nm,1.2s
ECH Echery 87.27 331 *e*P P 08 38 39.6 -0.1
comp=Z,30nm,1.1s
ECH Echery 87.27 331 *e*P P 08 38 39.6 -0.1
ECH pmax pmax
comp=Z,30nm,1.1s
H39A Augusta 87.29 34 P P 08 38 37.8 -1.9
baz=320
G40A Rib Lake 87.33 34 *e*P P 08 38 41.2 +1.2
comp=Z,30nm,1.1s
G40A Rib Lake 87.33 34 P P 08 38 39.4 -0.5
baz=320
E42A Champion 87.43 32 P P 08 38 39.2 -1.3
baz=322
F41A Three Lakes 87.46 33 *e*P P 08 38 41.4 +0.8
comp=Z,19nm,1.0s
F41A Three Lakes 87.46 33 P P 08 38 38.8 -1.8
baz=321
H40A Chili 87.74 34 P P 08 38 39.7 -2.3
baz=320
TUE Stuetta 87.77 329 *e*P P 08 38 42.5 +0.2
comp=Z,43nm,1.5s
I39A Houston 87.80 35 *e*P P 08 38 42.3 +0.1
comp=Z,27nm,0.9s
I39A Houston 87.80 35 P P 08 38 41.4 -0.9
baz=320
TBI Tubuai 87.82 121 *e*S S 08 49 20.5 -2.7
comp=Z,412nm,31.0s
TBI Tubuai 87.82 121 *e*LQ LQ 09 02 15.9
comp=Z,435nm,30.5s
TBI *e*LR LR 09 06 41.9
comp=Z,2µm,21.8s,baz=307
TBI Tubuai 87.82 121 *e*T T 10 15 37.3
comp=Z,23nm,0.3s
G41A Antigo 87.83 33 P P 08 38 40.4 -2.0
baz=321
F42A Maple Grove Fa 87.87 32 P P 08 38 41.1 -1.4
baz=322
E43A Lone Tree Farm 87.87 31 P P 08 38 41.8 -0.7
baz=323
H41A Junction City 88.08 34 P P 08 38 42.5 -1.1
baz=321
J39A Decorah 88.11 36 P P 08 38 41.4 -2.3
baz=319
E44A Grand Marais A 88.12 30 P P 08 38 43.1 -0.6
baz=323
I40A Norwalk 88.20 35 P P 08 38 41.3 -2.9
baz=320
I41A Arkdale 88.41 34 *e*P P 08 38 45.5 +0.4
comp=Z,36nm,1.1s
I41A Arkdale 88.41 34 P P 08 38 43.5 -1.6
baz=321
F44A Big Bay de Noc 88.43 31 P P 08 38 43.6 -1.6
baz=323
ITM Ithomi 88.45 316 *e*P P 08 38 46.1 +0.7
comp=Z,181nm,1.9s
SCIA State Center 88.45 37 *e*P P 08 38 46.7 +1.3
comp=Z,101nm,1.4s
SCIA State Center 88.45 37 P P 08 38 44.8 -0.5
baz=318
G43A Wallace 88.45 32 P P 08 38 43.9 -1.4
baz=322
K39A Oelwein 88.50 36 P P 08 38 45.6 0.0
baz=319
J40A Soldiers Grove 88.52 35 P P 08 38 43.4 -2.3
baz=320
MATQ Matagami 88.60 24 P P 08 38 46.6 +0.7
baz=329
MNTX Cornudas Mount 88.67 51 *e*P P 08 38 47.9 +1.3
comp=Z,10nm,1.3s
MNTX Cornudas Mount 88.67 51 P P 08 38 46.9 +0.3
baz=312
KSU1 Kansas State U 88.75 41 *e*P P 08 38 46.8 0.0
comp=Z,37nm,0.9s
KSU1 Kansas State U 88.75 41 P P 08 38 45.4 -1.4
baz=316
MSTX Muleshoe 88.79 48 *e*P P 08 38 47.7 +0.4
comp=Z,18nm,1.3s
MSTX Muleshoe 88.79 48 P P 08 38 46.7 -0.6
baz=313
AMTX Amarillo 88.83 47 *e*P P 08 38 49.0 +1.6
comp=Z,33nm,0.9s
AMTX Amarillo 88.83 47 P P 08 38 46.6 -0.8
baz=313
K40A Colesburg 88.86 36 P P 08 38 46.6 -0.7
baz=320
J41A Loganville 88.88 35 P P 08 38 47.3 0.0
baz=321
L39A Vinton 88.88 37 P P 08 38 45.1 -2.3
baz=319
D47A Chapleau 88.90 29 P P 08 38 46.4 -1.0
baz=325
I42A Draeger Farm, 88.98 34 P P 08 38 45.5 -2.3
baz=321
E46A Sault Ste Mari 88.99 30 P P 08 38 46.7 -1.1
baz=324
GDL2 Guadalupe Moun 88.99 51 *e*P P 08 38 49.6 +1.4
JFWS Jewell Farm 89.12 35 P P 08 38 48.3 -0.2
baz=320
AQU L'Aquila 89.15 324 *e*P P 08 38 49.7 +1.0

comp=Z,101nm,1.2s
AQU **L'Aquila** **89.15 324** *e*P **P** **08 38 49.7 +1.0**
AQU pmax pmax
comp=Z,101nm,1.2s
F46A **Macinaw City C** **89.28 30** P **P** **08 38 48.8 -0.4**
baz=324
M39A **Webster** **89.29 37** P **P** **08 38 48.9 -0.4**
baz=319
D48A **Paudash Townsh** **89.30 28** P **P** **08 38 47.6 -1.7**
baz=326
L40A **Anamosa** **89.31 36** *e*P **P** **08 38 49.9 +0.5**
comp=Z,45nm,1.3s
L40A **Anamosa** **89.31 36** P **P** **08 38 48.8 -0.5**
baz=320
E47A **Iron Bridge** **89.33 29** P **P** **08 38 48.8 -0.6**
baz=325
K41A **Shullsburg** **89.33 35** P **P** **08 38 48.2 -1.3**
baz=320
J42A **Columbus** **89.33 34** P **P** **08 38 48.9 -0.6**
baz=321
I43A **Langenfeld Bro** **89.33 33** P **P** **08 38 48.7 -0.7**
baz=322
U32A **Winter Ranch,** **89.36 44** *e*P **P** **08 38 50.6 +0.8**
comp=Z,74nm,1.5s
LSQQ **Lebel-sur-Quev** **89.43 24** P **P** **08 38 49.4 -0.4**
baz=330
CHGQ **Chibougamau** **89.52 22** P **P** **08 38 50.1 -0.2**
baz=332
N39A **Derby Farms, D** **89.57 38** *e*P **P** **08 38 51.8 +1.1**
comp=Z,97nm,1.6s
N39A **Derby Farms, D** **89.57 38** P **P** **08 38 49.9 -0.7**
baz=319
J43A **Natural Harves** **89.60 34** P **P** **08 38 48.6 -2.2**
baz=322
G46A **Petoskey** **89.61 31** P **P** **08 38 50.3 -0.4**
baz=324
K42A **Prairie Point,** **89.64 35** P **P** **08 38 49.5 -1.4**
baz=321
L41A **Preston** **89.64 36** P **P** **08 38 49.2 -1.8**
baz=320
M40A **Post Highland** **89.67 37** P **P** **08 38 49.8 -1.2**
baz=320
H45A **Beulah** **89.67 32** P **P** **08 38 50.8 -0.2**
baz=323
E48A **Lockeyer** **89.74 28** P **P** **08 38 49.8 -1.5**
baz=326
N40A **Mertquake, Sal** **90.03 37** P **P** **08 38 51.9 -0.9**
baz=320
D50A **G1974 Best Tow** **90.04 27** P **P** **08 38 50.7 -2.0**
baz=328
VLDQ **Val d'Or** **90.08 25** *e*P **P** **08 38 52.7 -0.1**
comp=Z,78nm,1.6s
H46A **Fife Lake** **90.09 31** P **P** **08 38 52.8 -0.2**
baz=324
GLMI **Grayling** **90.11 31** *e*P **P** **08 38 53.0 -0.1**
comp=Z,102nm,1.0s
GLMI **Grayling** **90.11 31** P **P** **08 38 53.0 -0.1**
baz=324
G47A **Hillman** **90.14 30** P **P** **08 38 53.0 -0.2**
baz=325
M41A **Milan** **90.16 36** P **P** **08 38 52.3 -1.1**
baz=320
K43A **Burlington** **90.17 34** P **P** **08 38 52.0 -1.5**
baz=322
D51A **Lot 18 Range I** **90.28 26** P **P** **08 38 53.4 -0.4**
baz=328
E50A **Wahnapitae** **90.33 28** P **P** **08 38 53.6 -0.4**
baz=327
F49A **Sandfield** **90.38 29** P **P** **08 38 52.3 -2.0**
baz=326
H47A **Mio** **90.46 31** P **P** **08 38 54.0 -0.8**
baz=325
I46A **Reed City** **90.47 32** P **P** **08 38 55.1 +0.3**
baz=324
M42A **Sheffield** **90.48 36** P **P** **08 38 54.3 -0.6**
baz=321
N41A **Harden Midland** **90.52 37** P **P** **08 38 55.0 0.0**
baz=320
WMOK **Wichita Mounta** **90.64 45** *e*P **P** **08 38 57.0 +1.2**
comp=Z,39nm,1.4s
WMOK **Wichita Mounta** **90.64 45** *e*P **P** **08 38 57.0 +1.2**
WMOK pmax pmax
comp=Z,39nm,1.4s
WMOK **Wichita Mounta** **90.64 45** P **P** **08 38 55.1 -0.7**
baz=315
E51A **G1948 Merrick** **90.70 27** P **P** **08 38 55.4 -0.5**
baz=328
SSB **Saint Sauveur** **90.71 331** *e*P **P** **08 38 56.1 +0.2**
comp=Z,26nm,1.4s
SSB **Saint Sauveur** **90.71 331** *e*P **P** **08 38 56.1 +0.2**
SSB pmax pmax
comp=Z,26nm,1.4s
SLBS **Sierra La Lagu** **90.75 60** *e*P **P** **08 38 59.0 +2.4**
comp=Z,36nm,1.2s
L44A **Lake County Fo** **90.78 34** P **P** **08 38 55.7 -0.6**
baz=322
I47A **Gladwin** **90.81 31** P **P** **08 38 56.3 -0.1**
baz=324
N42A **Yates City** **90.83 36** P **P** **08 38 55.7 -0.7**
baz=321
J46A **Howard City** **90.86 32** P **P** **08 38 55.5 -1.1**
baz=324
M43A **Waltham Townsh** **90.87 35** P **P** **08 38 56.6 0.0**
baz=321
O41A **Passleys Farm,** **90.96 37** P **P** **08 38 56.7 -0.4**
baz=320
I48A **Sherman Twp** **91.01 30** P **P** **08 38 57.4 +0.1**
baz=325
F51A **Arnstein** **91.06 27** P **P** **08 38 57.7 +0.3**
baz=328
N43A **Stutzman Famil** **91.15 36** P **P** **08 38 58.1 +0.1**
baz=321
D54A **Lac Fusel, La** **91.18 25** P **P** **08 38 57.7 -0.3**
baz=330
P41A **Barry, Barry** **91.20 38** P **P** **08 38 59.1 +0.8**
baz=320
J47A **Sunmer** **91.31 32** P **P** **08 38 58.2 -0.4**
baz=324
K46A **Dorr** **91.33 33** P **P** **08 38 57.7 -1.1**
baz=324
M44A **Midewin, Midew** **91.34 35** *e*P **P** **08 38 58.7 -0.1**
comp=Z,162nm,2.0s
M44A **Midewin, Midew** **91.34 35** P **P** **08 38 58.6 -0.2**
baz=322
TX31 **Lajitas Ar. Si** **91.35 52** *e*P **P** **08 39 00.3 +1.1**
LTX **Lajitas** **91.35 52** *e*P **P** **08 39 00.3 +1.0**
LTX *e*PP **PP** **08 42 32.9 -3.4**
LTX **Lajitas** **91.35 52** *e*P **P** **08 39 00.3 +1.0**
LTX *e* 08 42 32.9
TXAR **Lajitas Array** **91.35 52** P **P** **08 39 00.3 +1.0**
comp=Z,10nm,1.0s,baz=298,slow=2.7,SNR=36
TXAR PP **PP** **08 42 32.9 -3.4**
comp=Z,0.4nm,0.7s,baz=12,slow=15,SNR=2.4
TXAR LR LR 09 16 46.6
comp=Z,646nm,19.9s,baz=0.0,slow=33
F52A **Sundridge** **91.39 27** P **P** **08 38 59.1 0.0**
baz=328
HDIL **Hopedale** **91.39 36** *e*P **P** **08 38 59.7 +0.6**
comp=Z,37nm,1.3s
HDIL **Hopedale** **91.39 36** P **P** **08 38 58.5 -0.6**
baz=321
KLBO **Killbear Provi** **91.43 28** P **P** **08 38 59.1 -0.1**
baz=327
E53A **Dumoine, Ponti** **91.50 26** P **P** **08 38 59.7 +0.2**
baz=329
TUL1 **Leonard** **91.51 43** *e*P **P** **08 39 00.3 +0.6**
comp=Z,31nm,1.0s
TUL1 **Leonard** **91.51 43** P **P** **08 39 00.3 +0.6**
baz=317
I49A **Point Hope** **91.57 30** P **P** **08 39 00.1 +0.3**
baz=326
O43A **Sugar Creek Fa** **91.59 36** P **P** **08 39 00.5 +0.5**
baz=321
ABTX **Abilene, Hawle** **91.61 47** *e*P **P** **08 39 00.7 +0.3**
comp=Z,68nm,1.4s
ABTX **Abilene, Hawle** **91.61 47** P **P** **08 39 01.1 +0.7**
baz=315
E54A **Lac Daplat, Po** **91.62 25** P **P** **08 38 59.0 -1.0**
baz=330
HPIG **91.62 55** *e*P **P** **08 39 00.9 +0.2**
comp=Z,26nm,1.2s
P42A **Winchester** **91.63 37** *e*P **P** **08 39 00.1 -0.1**
comp=Z,43nm,1.2s
P42A **Winchester** **91.63 37** P **P** **08 39 00.5 +0.3**
baz=320
L46A **Eue Claire** **91.64 33** P **P** **08 38 59.5 -0.8**
baz=323
BUKO **Buck Lake** **91.66 27** P **P** **08 39 00.3 0.0**
baz=328
Q41A **Truxton** **91.67 38** P **P** **08 39 01.5 +1.0**
baz=320
J48A **Bridge Port** **91.70 31** P **P** **08 39 01.3 +0.8**
baz=325
ALGO **Algonquin Park** **91.72 26** P **P** **08 39 00.7 +0.1**
baz=329
N44A **Piper City** **91.76 35** P **P** **08 39 00.8 -0.1**
baz=322
J49A **Marlette** **91.92 31** P **P** **08 39 01.1 -0.5**
baz=325
K48A **Perry** **91.96 32** P **P** **08 39 01.6 -0.1**
baz=325
BASO **Ashfield** **91.98 29** P **P** **08 39 03.0 +1.2**
baz=326
P43A **Skaggs, Pawnee** **91.99 37** P **P** **08 39 02.2 +0.3**
baz=321
N45A **Kentland** **92.01 35** P **P** **08 39 02.3 +0.3**
baz=322
Q42A **Golden Eagle** **92.05 38** P **P** **08 39 02.9 +0.7**
baz=320
R41A **Rosebud** **92.09 39** P **P** **08 39 03.1 +0.7**
baz=320
BWLO **Walkerton** **92.11 29** P **P** **08 39 03.4 +1.1**
baz=327
CLWO **Collingwood** **92.16 28** P **P** **08 39 04.0 +1.3**
baz=327
L47A **Sherwood** **92.16 33** P **P** **08 39 02.5 -0.1**
baz=324
LATQ **La Tuque** **92.25 22** P **P** **08 39 03.2 +0.3**
baz=333
PEMO **Pembroke** **92.25 26** P **P** **08 39 03.7 +0.8**
baz=330
HHAR **Hobbs** **92.25 42** *e*P **P** **08 39 03.5 +0.3**
comp=Z,18nm,1.0s
K49A **Clarkson** **92.26 31** P **P** **08 39 03.2 +0.1**
baz=325
N46A **Monticello** **92.33 34** P **P** **08 39 03.2 -0.3**
baz=323
CCM **Cathedral Cave** **92.34 39** *e*P **P** **08 39 03.8 +0.3**
comp=Z,56nm,1.4s
CCM **Cathedral Cave** **92.34 39** *e*P **P** **08 39 03.8 +0.3**
CCM pmax pmax
comp=Z,56nm,1.4s
CCM **Cathedral Cave** **92.34 39** P **P** **08 39 03.9 +0.3**
baz=320
O45A **Potomac** **92.38 35** P **P** **08 39 03.8 +0.1**
baz=322
R42A **Luebbering** **92.40 38** P **P** **08 39 04.6 +0.8**
baz=320
S41A **Jillco Farms,** **92.44 39** P **P** **08 39 04.5 +0.5**
baz=319
Q43A **New Douglas** **92.44 37** P **P** **08 39 04.0 -0.1**
baz=322
M47A **Cromwell** **92.47 33** P **P** **08 39 04.3 +0.2**
baz=324
L48A **N Adams** **92.52 32** P **P** **08 39 05.3 +0.9**
baz=324
P44A **Sand Creek, Wi** **92.56 36** P **P** **08 39 04.7 +0.1**
baz=322
BANO **Bancroft** **92.57 27** P **P** **08 39 04.8 +0.3**
baz=329
SFIN **Lafayette** **92.57 35** P **P** **08 39 04.3 -0.3**
baz=322
L49A **Milan** **92.68 32** P **P** **08 39 05.6 +0.6**
baz=325
X37A **Clayton** **92.70 44** *e*P **P** **08 39 05.9 +0.6**
comp=Z,21nm,1.1s
U40A **Yellville** **92.78 41** P **P** **08 39 05.8 +0.1**
baz=319
S42A **Caledonia** **92.79 39** P **P** **08 39 05.9 +0.3**
baz=320
ELFO **Elginfield** **92.81 30** P **P** **08 39 05.9 +0.3**
baz=327
Q44A **Meyer Farm, Va** **92.81 37** P **P** **08 39 05.8 +0.1**
baz=321
FVM **French Village** **92.81 38** *e*P **P** **08 39 06.5 +0.7**
comp=Z,48nm,1.5s
FVM **French Village** **92.81 38** *e*P **P** **08 39 06.5 +0.7**
FVM pmax pmax
comp=Z,49nm,1.5s
N47A **Urbana** **92.82 34** P **P** **08 39 05.8 +0.1**
baz=324
R43A **Red Bud** **92.84 38** P **P** **08 39 06.1 +0.3**
baz=321
T41A **Mountain View** **92.84 40** P **P** **08 39 06.4 +0.4**
baz=319
PLVO **Plevna** **92.86 26** P **P** **08 39 06.5 +0.7**
baz=330
P45A **Graceland, Par** **92.94 36** P **P** **08 39 06.6 +0.3**
baz=322
JCT **Junction City** **93.01 49** *e*P **P** **08 39 06.7 -0.1**
comp=Z,12nm,0.8s
JCT **Junction City** **93.01 49** *e*P **P** **08 39 06.7 -0.1**
JCT pmax pmax
comp=Z,12nm,0.8s
JCT **Junction City** **93.01 49** P **P** **08 39 07.2 +0.3**
baz=314
H06N1 **SOCORRO T-PHAS** **93.02 64** T T 10 22 31.4
SNR=51
ORIO **Orleans, Innes** **93.05 25** P **P** **08 39 07.3 +0.6**
baz=331
M49A **Liberty Center** **93.10 32** P **P** **08 39 07.6 +0.6**
baz=325
ALFO **Alfred** **93.11 24** P **P** **08 39 07.2 +0.3**
baz=331
H06S1 **SOCORRO T** **93.12 65** T T 10 22 45.1
SNR=11
N48A **Decatur** **93.14 33** P **P** **08 39 06.4 -0.8**
baz=324
W39A **Magazine** **93.14 42** *e*P **P** **08 39 08.6 +1.3**
comp=Z,66nm,1.6s
W39A **Magazine** **93.14 42** P **P** **08 39 08.0 +0.7**
baz=318
T42A **Van Buren** **93.20 39** *e*P **P** **08 39 07.3 -0.3**
comp=Z,34nm,1.4s
T42A **Van Buren** **93.20 39** P **P** **08 39 07.3 -0.3**
baz=320
Q45A **Warren Harvey,** **93.24 36** P **P** **08 39 07.8 +0.1**
baz=322
R44A **Waltonville** **93.29 37** P **P** **08 39 07.7 -0.3**
baz=321
U41A **Viola** **93.29 40** P **P** **08 39 07.7 -0.3**
baz=319
S43A **Fulton Ridge,** **93.31 38** P **P** **08 39 08.1 +0.1**
baz=320
WHTX **Lake Whitney,** **93.37 47** *e*P **P** **08 39 09.3 +0.9**
comp=Z,50nm,1.1s
WHTX **Lake Whitney,** **93.37 47** P **P** **08 39 08.2 -0.2**
baz=316
N49A **Columbus Grove** **93.46 33** P **P** **08 39 08.4 -0.3**
baz=324
TYNO **Tyneside** **93.47 29** P **P** **08 39 09.1 +0.4**
baz=328
O48A **Farmland** **93.56 34** P **P** **08 39 09.2 0.0**
baz=324
T43A **Greenville** **93.58 39** P **P** **08 39 08.2 -1.1**
baz=320
V41A **Mountainview** **93.58 41** P **P** **08 39 09.4 +0.1**
baz=319
S44A **Carbondale** **93.63 38** P **P** **08 39 10.3 +0.8**
baz=321
U42A **Revenden** **93.64 40** P **P** **08 39 09.3 -0.2**
baz=320
R45A **Skylar, Fairfi** **93.65 37** P **P** **08 39 09.5 -0.1**
baz=322
P47A **Mansfield** **93.67 35** P **P** **08 39 09.5 -0.1**
baz=323
PBMO **Poplar Bluff** **93.74 39** *e*P **P** **08 39 10.5 +0.5**
comp=Z,36nm,1.3s
MIAR **Mount Ida** **93.74 42** *e*P **P** **08 39 10.3 +0.2**
comp=Z,69nm,1.4s
MIAR **Mount Ida** **93.74 42** *e*P **P** **08 39 10.3 +0.2**
MIAR pmax pmax
comp=Z,69nm,1.4s
MIAR **Mount Ida** **93.74 42** P **P** **08 39 09.3 -0.8**
baz=318
WHAR **Wooly Hollow** **93.88 41** *e*P **P** **08 39 11.1 +0.4**
comp=Z,53nm,1.3s
V42A **Cord** **93.97 40** P **P** **08 39 11.6 +0.5**
baz=320
W41B **Gary Mavity, V** **93.99 41** *e*P **P** **08 39 11.2 0.0**
comp=Z,54nm,1.8s
W41B **Gary Mavity, V** **93.99 41** P **P** **08 39 12.2 +1.0**
baz=319
Q47A **Bedord North L** **94.03 35** P **P** **08 39 11.4 0.0**
baz=323
N50A **Nevada** **94.04 32** P **P** **08 39 11.2 -0.1**
baz=325
ERPA **Erie** **94.24 29** P **P** **08 39 12.8 +0.5**
baz=328
BATG **Bathurst New B** **94.25 18** *e*P **P** **08 39 12.6 +0.5**
comp=Z,72nm,1.4s
N51A **Ashland** **94.25 32** P **P** **08 39 12.0 -0.4**
baz=326
O50A **Cable** **94.34 33** P **P** **08 39 12.2 -0.5**
baz=325
P49A **Miami Univ. Ec** **94.34 34** P **P** **08 39 12.7 -0.1**
baz=324
Q48A **North Vernon** **94.36 35** P **P** **08 39 12.9 0.0**
baz=323
S46A **Don Dixon Farm** **94.40 37** P **P** **08 39 12.2 -0.8**
baz=322
R47A **Wooly Knot Far** **94.49 36** P **P** **08 39 12.3 -1.1**
baz=323
ACSO **Alum Creek Sta** **94.55 32** *e*P **P** **08 39 14.4 +0.7**
comp=Z,27nm,1.3s
ACSO **Alum Creek Sta** **94.55 32** P **P** **08 39 12.0 -1.7**
baz=325
WCI **Wyandotte Cave** **94.66 36** P **P** **08 39 14.1 -0.1**
baz=323
P50A **Jamestown** **94.70 33** P **P** **08 39 13.9 -0.5**
baz=325
R48A **Northridge Ran** **94.72 35** P **P** **08 39 14.7 +0.2**
baz=323
833A **Chaparral WMA,** **94.77 50** *e*P **P** **08 39 15.0 +0.1**
comp=Z,13nm,0.9s
833A **Chaparral WMA,** **94.77 50** P **P** **08 39 13.9 -1.0**
baz=315
R49A **Shelbyville** **95.14 35** P **P** **08 39 15.0 -1.4**
baz=324
O52A **Adamsville** **95.14 32** P **P** **08 39 16.7 +0.3**
baz=326
S48A **Wiedeman Farm,** **95.22 36** P **P** **08 39 16.7 -0.2**
baz=323
T47A **Sharon Grove** **95.25 37** *e*P **P** **08 39 17.7 +0.8**
comp=Z,16nm,1.1s
T47A **Sharon Grove** **95.25 37** P **P** **08 39 15.9 -1.0**
baz=322
Q51A **Peebles** **95.38 33** *e*P **P** **08 39 17.5 0.0**
comp=Z,68nm,1.8s
Q51A **Peebles** **95.38 33** P **P** **08 39 17.7 +0.1**
baz=325
P52A **Corning** **95.41 32** P **P** **08 39 17.4 -0.2**
baz=326
S49A **Springfield** **95.49 35** P **P** **08 39 17.9 -0.1**
baz=324
R50A **Paris** **95.54 34** P **P** **08 39 18.4 +0.2**
baz=324
WVT **Waverly** **95.56 38** P **P** **08 39 17.5 -0.9**
baz=322
Z42A **Norrel Spur, H** **95.58 42** P **P** **08 39 19.0 +0.4**
baz=319
V46A **Holladay** **95.67 38** P **P** **08 39 17.5 -1.4**
baz=322
HKT **Hockley** **95.80 47** *e*P **P** **08 39 20.5 +1.0**
comp=Z,13nm,1.4s
HKT **Hockley** **95.80 47** *e*P **P** **08 39 20.5 +1.0**
HKT pmax pmax
comp=Z,13nm,1.4s
R51A **Hillsboro** **95.86 34** P **P** **08 39 20.0 +0.3**
baz=325
U48A **Cassie Pea, Po** **95.90 37** P **P** **08 39 19.6 -0.4**
baz=323
T49A **Edmonton** **95.92 36** P **P** **08 39 20.3 +0.3**
baz=323
V47A **Nunnelly** **95.95 38** P **P** **08 39 20.0 -0.2**
baz=322
S50A **Richmond** **95.99 35** P **P** **08 39 18.6 -1.7**
baz=324
U49A **Red Boiling Sp** **96.27 36** P **P** **08 39 21.6 0.0**
baz=323
KEST **Kesra** **96.27 322** LR LR 09 27 14.7
comp=Z,1µm,18.4s,baz=350,slow=38
T50A **Nancy** **96.31 35** P **P** **08 39 21.1 -0.8**
baz=324
V48A **Smith Brothers** **96.37 37** P **P** **08 39 22.2 +0.1**
baz=322
O56A **Blue Knob Stat** **96.38 29** P **P** **08 39 21.8 -0.3**
baz=328
Y45A **Yeager Farm, C** **96.43 40** P **P** **08 39 21.5 -0.9**
baz=321
ZAIG **Zacatecas** **96.48 56** *e*P **P** **08 39 25.4 +2.2**
comp=Z,9.3nm,1.1s
T51A **Gray** **96.78 35** P **P** **08 39 23.1 -0.8**
baz=324
Y46A **Houston** **96.78 40** P **P** **08 39 24.5 +0.5**
baz=321
W48A **Pulaski** **96.79 38** P **P** **08 39 24.1 +0.1**
baz=322
U50A **Jamestown** **96.80 36** P **P** **08 39 23.6 -0.5**
baz=324
T52A **Hallie** **97.11 34** P Pdif 08 39 25.7 +0.1
baz=325
244A **Avery, Jackson** **97.21 42** P Pdif 08 39 26.3 +0.3
baz=320
TZTN **Tazewell** **97.31 35** P Pdif 08 39 26.6 +0.2
baz=325
U52A **Thorn Hill** **97.51 35** P **P** **08 39 27.3 0.0**
baz=325
V51A **Loudon** **97.53 36** P Pdif 08 39 27.6 +0.2
baz=324
X49A **Woodville** **97.59 38** P **P** **08 39 27.2 -0.5**
baz=323
146A **Union** **97.64 41** P **P** **08 39 27.8 0.0**
baz=321
245A **Little AP, Sta** **97.65 42** P Pdif 08 39 28.0 +0.1
baz=320
RKT **Rikitea** **98.29 112** *e*LR LR 09 11 34.6
comp=Z,842nm,23.2s,baz=303
ESDC **Sonseca Array** **98.75 333** P Pdif 08 39 33.2 +0.4
comp=Z,0.2nm,0.3s,baz=77,slow=3.2,SNR=5.8
ESDC PP **PP** **08 43 29.2 -3.9**
comp=Z,0.2nm,0.3s,baz=20,slow=5.8,SNR=4.0
ESDC LR LR 09 28 10.3
comp=Z,1µm,20.5s,baz=45,slow=38
Z50A **Ashland** **98.79 38** P **P** **08 39 30.4 -2.6**
baz=323
150A **Eclectic** **99.25 39** P **Pdif** **08 39 32.0 -3.1**
baz=323
GOGA **Godfrey** **99.89 37** P **Pdif** **08 39 36.9 -1.0**
baz=324
251A **Midway** **99.97 39** P **Pdif** **08 39 37.8 -0.5**
baz=323
KMBO **Kilima Mbogo** **101.99 277** PP PP 08 43 58.5 -0.9
comp=Z,1.1nm,0.3s,baz=51,slow=8.4,SNR=6.6
MAW **Mawson** **117.88 205** PKP **PKPdf** **08 44 37.9 -0.5**
comp=Z,2.3nm,0.9s,baz=158,slow=16,SNR=4.3
MAW **Mawson** **117.88 205** *e*PKPdf **PKPdf** **08 44 39.1 +0.6**
TOA1 **Torodi Ar. Sit** **118.39 314** *e*PKPdf **PKPdf** **08 44 39.5 -1.6**
TOA1 *e*PP **PP** **08 45 49.2 -7.7**
TOA1 *e*PKKPbc **PKKPbc** **08 54 57.6 0.0**
TOA0 **Torodi Ar. Sit** **118.39 314** *e*PKPdf **PKPdf** **08 44 41.1 0.0**
TORD **Torodi Ar. Bea** **118.39 314** PKP **PKPdf** **08 44 39.5 -1.6**
comp=Z,2.6nm,0.9s,baz=341,slow=3.5,SNR=12
TORD PP **PP** **08 45 49.2 -7.7**
comp=Z,2.4nm,1.2s,baz=46,slow=6.4,SNR=4.3
TORD PKKPbc **PKKPbc** **08 54 57.6 0.0**
comp=Z,1.3nm,0.9s,baz=202,slow=3.2,SNR=5.9
QSPA **South Pole Qui** **125.04 180** *e*PKPdf **PKPdf** **08 44 52.1 -0.3**
BOSA **Boshof** **126.03 258** PKP **PKPdf** **08 44 56.1 +0.6**
comp=Z,1.7nm,0.8s,baz=45,slow=2.9,SNR=2.1
SYO **Syowa Base** **126.56 206** *e*Pdiff **Pdif** **08 41 37.2 +1.8**
SDV **Santo Domingo** **126.78 41** PKP **PKPdf** **08 44 56.5 -1.0**
comp=Z,8.4nm,1.0s,baz=357,slow=2.6,SNR=10
SDV **Santo Domingo** **126.78 41** *e*PKPdf **PKPdf** **08 44 57.3 -0.2**
DBIC **Dimbokro** **127.40 316** PKP **PKPdf** **08 44 57.9 -0.5**
comp=Z,7.5nm,1.1s,baz=345,slow=3.3,SNR=5.0
ROSC **El Rosal** **128.00 47** PKP **PKPdf** **08 45 00.5 +0.4**
comp=Z,3.3nm,0.3s,baz=355,slow=11,SNR=5.5
OTAV **Otavalo** **128.89 55** *e*PKPdf **PKPdf** **08 45 03.1 +1.2**
OTAV **Otavalo** **128.89 55** *e*PKIKP **PKPdf** **08 45 03.1 +1.2**
SNAA **Sanae** **139.03 196** PKP PKPpre 08 45 07.7
PTGA **Pitinga** **140.38 34** PKhKP PKPpre 08 45 16.0
comp=Z,1.6nm,0.3s,baz=313,slow=1.2,SNR=7.4
VNA2 **Neumayer--Watz** **140.59 196** PKP PKPpre 08 45 15.5
baz=100,slow=1.2
VNA3 **Neumayer Olymp** **140.84 194** PKP PKPpre 08 45 15.9
VNA1 **Neumayer--Stat** **140.99 196** PKP PKPpre 08 45 14.2
SAML **Samuel** **145.61 46** *e*PKPdf **PKPdf** **08 45 31.7 -0.2**
SAML **Samuel** **145.61 46** *e*PKP2 **PKPdf** **08 45 31.7 -0.2**
LPAZ **La Paz** **147.73 62** PKPbc **PKPbc** **08 45 37.7 -1.3**
comp=Z,15nm,0.8s,baz=310,slow=2.9,SNR=34
LPAZ **La Paz** **147.73 62** *e*PKPdf **PKPbc** **08 45 37.9 -1.1**
MNMC **Minye Minye** **148.43 67** *e*PKPdf **PKPdf** **08 45 38.4 +1.6**

PB11	**IPOC Station P**	**148.76**	**68**	*e*PKPbc	**PKPbc**	**08 45 42.0**	**+0.9**
PB01	**IPOC Station P**	**149.63**	**70**	*e*PKPbc	**PKPbc**	**08 45 42.6**	**-0.5**
RCBR	**Riachuelo**	**150.55**	**354**	*e*PKPbc	**PKPbc**	**08 45 46.3**	**+0.8**
LVC	**Limon Verde**	**150.93**	**72**	*e*PKPdf	**PKPdf**	**08 45 40.9**	**+0.1**
LVC				*e*PKPbc	**PKiKP**	**08 45 47.7**	**+0.6**
LVC	**Limon Verde**	**150.93**	**72**	*e*PKIKP	**PKPdf**	**08 45 40.9**	**+0.1**
LVC				*e*		08 45 47.7	
GO09	**Cerro Castillo**	**151.17**	**134**	*e*PKPbc	**PKPbc**	**08 45 46.9**	**+1.1**
GO02	**Mina Guanaco**	**151.68**	**78**	*e*PKPbc	**PKPbc**	**08 45 49.2**	**+1.0**
GO03	**Copiap**	**152.22**	**83**	*e*PKPbc	**PKPbc**	**08 45 49.2**	**+0.2**
SIV	**San Ignacio**	**152.35**	**52**	PKPbc	**PKPbc**	**08 45 49.7**	**+0.2**
	baz=317,slow=2.4						
LCO	**Las Campanas**	**152.39**	**86**	*e*PKPbc	**PKPbc**	**08 45 49.7**	**+0.1**
LCO	**Las Campanas**	**152.39**	**86**	*e*PKIKP	**PKPbc**	**08 45 49.7**	**+0.1**
GO04	**Tololo Observa**	**152.71**	**88**	*e*PKPdf	**PKPdf**	**08 45 44.1**	**+1.0**
GO04				*e*PKPbc	**PKiKP**	**08 45 50.5**	**+0.1**
PEL	**Peldehue**	**153.64**	**95**	*e*PKPbc	**PKPbc**	**08 45 52.2**	**+0.2**
PEL	**Peldehue**	**153.64**	**95**	*e*PKIKP	**PKPbc**	**08 45 52.2**	**+0.2**
PLCA	**Paso Flores**	**154.52**	**112**	PKPbc	**PKPbc**	**08 45 54.4**	**+0.7**
	comp=Z,3.7nm,1.0s,baz=270,slow=2.0,SNR=4.8						
PLCA				PKPab	**sPKPbc**	**08 46 06.9**	**-0.4**
	comp=Z,11nm,1.2s,baz=288,slow=6.0,SNR=5.7						
PLCA	**Paso Flores**	**154.52**	**112**	PKPbc	**PKPbc**	**08 45 54.4**	**+0.7**
PLCA				*e*PKPab	**sPKPbc**	**08 46 07.5**	**+0.2**
PLCA	**Paso Flores**	**154.52**	**112**	PKIKP	**PKPbc**	**08 45 54.4**	**+0.7**
PLCA				*e*		08 46 07.5	
BDFB	**Brasilia**	**158.77**	**25**	PKPab	**PKPab**	**08 46 25.9**	**-1.0**
	comp=Z,1.5nm,0.3s,baz=327,slow=19,SNR=5.2						
CPUP	**Villa Florida**	**161.80**	**66**	PKP	**PKPdf**	**08 45 54.7**	**+0.4**
	comp=Z,3.1nm,1.1s,baz=336,slow=4.2,SNR=3.3						
CPUP				PKPab	**PKPab**	**08 46 39.2**	**-0.8**
	comp=Z,5.5nm,1.1s,baz=316,slow=6.2,SNR=3.9						

IDC 16 08:35:09.7±2.2,5.83S×151.90E,h0km,mb3.8/4, mb1 4.1/4,mb1mx3.7/26,mbtmp3.8/4,MS3.7/1,Ms1 3.7/1, ms1mx2.9/26,Error ellipse: s-maj=121.4km s-min=29.8km az=131.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**21.41**	**140**	LR	LR	08 45 40.0	
	comp=Z,186nm,20.1s,baz=54,slow=29						
WRA	**Warramunga Arr**	**22.10**	**229**	P	P	08 40 06.7	-0.1
	1.4nm,0.5s,baz=54,slow=9.9,SNR=5.0						
ASAR	**Alice Springs**	**24.79**	**222**	P	P	08 40 34.0	+0.4
	1.3nm,0.6s,baz=58,slow=8.7,SNR=6.3						
FITZ	**Fitzroy Crossi**	**28.39**	**242**	P	P	08 41 05.6	-0.4
	2.2nm,0.6s,baz=73,slow=10.0,SNR=7.0						
ILAR	**Eielson Array**	**83.44**	**22**	P	P	08 47 38.9	0.0
	0.3nm,0.8s,baz=228,slow=5.2,SNR=4.4						

UCR 16 08:44:45.5±1.8,9.38N×84.59W,h1km±4km,MD4.1,3C-9D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCR2	**La Lucha 2**	**0.68**	**58**	⇓*e*P	Pb	08 44 59.7	-0.6
LCR2				*e*S	Sb	08 45 10.2	-0.2
SRA1	**San Ram˜‡n**	**0.71**	**9**	⇓*i*P	Pg	08 44 59.9	+0.8
SJS	**Escuela Geolog**	**0.76**	**43**	⇓*i*P	Pb	08 45 01.5	-0.2
SJS				*e*S	Sb	08 45 13.2	+0.5
HDC	**Heredia**	**0.77**	**37**	⇓*i*P	Pb	08 45 01.4	-0.5
HDC				*e*S	Sb	08 45 12.5	-0.4
URSC	**Urasca**	**0.92**	**60**	⇓*i*P	Pb	08 45 04.2	-0.2
URSC				*e*S	Sb	08 45 18.1	+1.0
JTS	**JuntasAbangare**	**0.97**	**338**	*i*P	Pg	08 45 03.8	-0.4
EDLM	**Las Mercedes**	**0.99**	**96**	*e*P	Pg	08 45 04.7	+0.2
CVTR	**Volcan Turrial**	**1.03**	**52**	⇓*e*P	Pb	08 45 06.2	-0.4
CASO	**Castillo**	**1.06**	**352**	*i*P	Pg	08 45 05.7	-0.1
ARE1	**Arenal 1**	**1.08**	**353**	⇓*e*P	Pg	08 45 06.4	+0.1
FORC	**Fortuna**	**1.08**	**356**	*i*P	Pg	08 45 06.4	+0.1
FORC				*i*S	Sn	08 45 22.9	-0.7
EDPN	**Palmar Norte**	**1.19**	**110**	⇑*e*P	Pg	08 45 07.8	-0.5
PLVR	**Palo Verde**	**1.22**	**322**	⇑*e*P	Pg	08 45 07.7	-1.3
VCR	**Vista de Mar**	**1.27**	**306**	*e*P	Pg	08 45 10.0	+0.2
AMAS	**Alto Masis**	**1.29**	**342**	*i*P	Pg	08 45 09.5	-0.7
EDBA	**Buenos Aires**	**1.31**	**99**	*e*P	Pg	08 45 09.6	-1.2
ACAL	**Aguas Claras**	**1.32**	**341**	*i*P	Pg	08 45 10.1	-0.8
DRK0	**Durika**	**1.33**	**95**	⇓*e*P	Pg	08 45 10.6	-0.5
COLC	**Colonia**	**1.41**	**335**	*i*P	Pn	08 45 11.4	-1.1
COLC				*i*S	Sb	08 45 31.5	+0.1
HORNC	**Hornillas**	**1.45**	**336**	*i*P	Pn	08 45 11.6	-1.3
LIM1	**Limonal**	**1.46**	**333**	*i*P	Pn	08 45 12.0	-1.2
MESS	**Mesas**	**1.48**	**336**	⇑*e*P	Pn	08 45 12.7	-0.7
GPS2	**Hotel Rinc˜‡n**	**1.56**	**331**	*i*P	Pn	08 45 12.9	-1.6
EDSV	**San Vito**	**1.69**	**109**	⇓*e*P	Pn	08 45 15.5	-0.9
BRU2	**Volcan**	**1.96**	**107**	*e*P	Pn	08 45 18.9	-1.2
CONN	**Concepcion**	**2.40**	**335**	*e*P	Pn	08 45 27.3	+1.3
ACON	**Acoyapa**	**2.63**	**347**	*e*P	Pn	08 45 28.9	-0.3
ESPN	**Las Esperanzas**	**2.81**	**6**	*e*P	Pn	08 45 31.5	-0.2
ESPN				*e*S	Sb	08 46 09.1	-2.4
COPN	**Copaltepe**	**3.41**	**325**	*e*P	Pn	08 45 41.7	+1.8
MOMN	**Momotombo**	**3.57**	**328**	*e*P	Pn	08 45 43.4	+1.3

NNC 16 08:52:14.2±2.3,37.27N×71.01E,h0km,mb3.7,mpv3.3, 2C-4D,Error ellipse: s-maj=17.3km s-min=15.1km az=170.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.36**	**35**	⇓Pn	Pn	08 53 08.3	0.0
	5.5nm,0.3s						
SFK				⇓Sn	Sn	08 53 50.5	+1.5
	8.3nm,0.3s						
MNAS	**Manas**	**5.34**	**12**	⇑Pn	Pn	08 53 35.0	-0.2
	2.6nm,0.5s						
MNAS				⇓Sn	Sn	08 54 37.7	+0.2
	2.6nm,0.7s						
KK31	**Karatay Array**	**5.84**	**356**	⇓Pn	Pn	08 53 42.3	+0.3
	0.5nm,0.2s,baz=176,slow=12,SNR=16						
KK31				⇑Sn	Sn	08 54 51.7	+2.0
	0.6nm,0.3s,baz=177,slow=20,SNR=5.5						

NNC 16 09:01:04.1±3.5,53.55N×87.67E,h0km,mb3.9,mpv3.6, 6C-3D,Error ellipse: s-maj=30.1km s-min=17.0km az=52.0,Suspected Mining explosion.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**1.74**	**284**	⇑Pg	Pn	09 01 35.0	-0.6
	4.8nm,0.3s						
ZAA0				⇓Lg	Lg	09 02 00.9	
	38nm,0.8s						
KURK	**Kurchatov**	**6.25**	**247**	⇑Pn	Pn	09 02 39.5	+2.0
	3.6nm,0.5s						
KURK				⇑Lg	Lg	09 04 21.4	
	6.5nm,0.9s						
KURBB	**Kurchatov Arra**	**6.35**	**246**	⇑Pn	Pn	09 02 40.0	+1.1
	2.9nm,0.3s						
KURBB				⇓Sn	Sn	09 03 51.8	-0.1
	7.4nm,0.9s						
KURBB				⇑Lg	Lg	09 04 25.5	
	9.0nm,0.8s						
MK31	**Makanchi Array**	**7.59**	**209**	⇓Pn	Pn	09 02 56.4	+0.4
	10nm,1.4s,baz=28,slow=13,SNR=18						
MK31				⇑Lg	Lg	09 05 03.2	
	11nm,1.1s,baz=30,slow=31,SNR=2.5						

IDC 16 09:08:50.7±1.8,8.13S×125.48E,h0km,mb3.7/1, mb1 3.9/5,mb1mx3.6/38,mbtmp3.8/5,ML3.7/4,Error ellipse: s-maj=51.2km s-min=25.9km az=77.0,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**2.73**	**221**	Pn	Pn	09 09 36.4	+0.6
	10.0nm,0.3s,baz=76,slow=4.2,SNR=3.8						
BATI				Sn	Sn	09 10 03.0	-6.7
	14nm,0.3s,baz=10,slow=11,SNR=5.1						
FITZ	**Fitzroy Crossi**	**9.91**	**179**	Pn	Pn	09 11 13.4	-1.0
	0.4nm,0.3s,baz=353,slow=12,SNR=6.0						
FITZ				Sn	Sn	09 12 56.0	-10
	0.9nm,0.3s,baz=278,slow=15,SNR=4.5						
WRA	**Warramunga Arr**	**14.54**	**145**	Pn	Pn	09 12 17.9	0.0
	0.4nm,0.3s,baz=319,slow=12,SNR=11						
WRA				Sn	Sn	09 14 53.3	-6.7
	0.2nm,0.3s,baz=321,slow=24,SNR=3.0						
ASAR	**Alice Springs**	**17.43**	**153**	Pn	Pn	09 12 56.0	+0.6
	0.3nm,0.3s,baz=323,slow=11,SNR=17						
ASAR				Sn		09 16 03.3	-6.9
	0.1nm,0.3s,baz=326,slow=23,SNR=5.8						
MKAR	**Makanchi Array**	**66.81**	**329**	P	P	09 19 44.2	0.0
	0.7nm,0.8s,baz=122,slow=7.0,SNR=3.0						

MOS 16 09:09:10.3±2.6,51.73N×96.19E,h10km,mb4.1/2,1C-1D, Error ellipse: s-maj=20.0km s-min=13.5km az=8.6, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNGR	**Kungurtug, Tuv**	**1.40**	**143**	*c i*PG	Pn	09 09 33.3	-2.7
HVS	**Khovu-Aksy**	**1.67**	**250**	*d i*PN	Pn	09 09 34.0	-5.6
ORL	**Orlik**	**2.37**	**69**	*e*PN	Pn	09 09 49.8	+0.4
ORL				*e*		09 10 23.0	
ORL				pmax	pmax		
	comp=Z,54nm,0.4s						
ORL				smax	smax		
	comp=N,158nm,0.9s						
MOY	**Mondy**	**2.99**	**89**	*e*PN	Pn	09 09 57.0	-0.8
MOY				*e*		09 10 43.7	
MOY				pmax	pmax		
	comp=Z,35nm,0.5s						
MOY				smax	smax		
	comp=N,173nm,0.8s						
ARS	**Arshan**	**3.87**	**85**	*e*PN	Pb	09 10 20.6	+1.9
ARS				*e*		09 11 11.7	
ARS				pmax	pmax		
	comp=Z,33nm,0.4s						
ARS				smax	smax		
	comp=E,357nm,0.7s						
ZAK	**Zakamensk**	**4.67**	**104**	*e*PN	Pb	09 10 31.3	-1.0
ZAK				*e*		09 11 35.5	
ZAK				pmax	pmax		
	comp=Z,9.0nm,0.4s						
ZAK				smax	smax		
	comp=N,111nm,0.8s						
IRK	**Irkutsk**	**5.02**	**81**	*e*PN	Pb	09 10 39.4	+1.2
IRK				*e*		09 11 43.9	
IRK				pmax	pmax		
	comp=Z,98nm,0.1s						
IRK				smax	smax		
	comp=N,249nm,0.5s						
DGZ	**Jazzator, Alta**	**5.92**	**253**	*e*PN	Pn	09 10 34.0	-4.2
ULN	**Ulaanbaatar**	**8.02**	**115**	*i*P	Pn	09 11 08.8	+1.8
NVS	**Novosibirsk**	**8.36**	**297**	*e*P	Pn	09 11 02.6	-8.9
KURK	**Kurchatov**	**11.07**	**272**	*e*P	Pn	09 11 45.6	-2.9
HIA	**Hailar**	**15.17**	**90**	*i*P	Pn	09 12 46.6	+2.1
HIA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	**Borovoye**	**15.85**	**285**	*e*P	Pn	09 12 49.3	-3.9
BRVK				pmax	pmax		
	comp=Z,7.0nm,2.2s						
ARU	**Arti**	**22.37**	**297**	*e*P	P	09 14 07.8	-0.5
ARU				pmax	pmax		
	comp=Z,17nm,4.0s						
TIXI	**Tiksi**	**24.69**	**24**	*e*P	P	09 14 34.4	+3.4
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.7s						

*MOS **16** 09:19:29.6±2.5,53.95N×110.35E,h10km,mb4.4/1,Error ellipse: s-maj=15.5km s-min=8.7km az=64.0*
BYKL 16 09:19:29.9±0.2,53.97N×110.30E,h19km±3km,1C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SYVR	**Suvo**	**0.36**	**210**	*e*Pg	Pg	09 19 37.1	-0.4
SYVR				*i* Sg	Sg	09 19 42.8	+0.1
SYVR				Pmax			
	80nm,0.2s						
SYVR				Smax			
	3µm,0.8s						
SYVR	**Suvo**	**0.36**	**210**	*e*PG	Pg	09 19 37.0	-0.5
SYVR				*e*		09 19 42.1	
SYVR				pmax	pmax		
	comp=Z,188nm,0.4s						
SYVR				smax	smax		
	comp=N,3µm,0.3s						
YLYR	**Ulyunkhan**	**1.04**	**29**	⇓*i*Pg	Pb	09 19 49.0	-0.3
YLYR				*e*Pb	Pg	09 19 50.4	+0.3
YLYR				*e*Sg	Sb	09 20 02.9	+0.4
YLYR				*e*Sb	Sg	09 20 05.8	+2.1
YLYR				max			
	comp=N,150nm,0.6s						
YLYR				max			
	comp=N,1µm,0.7s						
MXMB	**Maximikha**	**1.17**	**233**	*e*Pg	Pn	09 19 51.2	0.0
MXMB				*e*		09 19 56.2	
MXMB				*i* Sg	Sg	09 20 07.4	-0.3
OGRR	**Ongureny**	**1.64**	**260**	*e*Pg	Pb	09 19 59.0	-0.5
OGRR				*e*Sg	Sb	09 20 21.0	+1.3
OGRR				*e*		09 20 23.0	
OGRR				Pmax			
	comp=N,97nm,1.0s						
OGRR				max			
	comp=N,1µm,0.9s						
OGRR	**Ongureny**	**1.64**	**260**	*e*PN	Pb	09 19 59.6	+0.1
OGRR				*e*		09 20 21.4	
OGRR				pmax	pmax		
	comp=Z,40nm,0.4s						
OGRR				smax	smax		
	comp=N,1µm,1.3s						
KELR	**Kotokel**	**1.80**	**229**	*e*Pg	Pb	09 20 01.7	-0.5
KELR				*e*Sg	Sg	09 20 26.7	-1.2
KELR				*e*		09 20 30.5	
NIZ	**Nizh Angarsk**	**1.86**	**347**	⇓*i*Pg	Pb	09 20 03.4	+0.1
NIZ				*e*Sg	Sg	09 20 28.3	-1.6
NIZ				Pmax			
	comp=N,112nm,0.4s						
NIZ				Smax			
	comp=N,2µm,0.6s						
NIZ	**Nizh Angarsk**	**1.86**	**347**	*e*PN	Pb	09 20 03.2	-0.1
NIZ				*e*		09 20 28.6	
NIZ				pmax	pmax		
	comp=Z,115nm,0.4s						
NIZ				smax	smax		
	comp=N,2µm,0.7s						
KMO	**Kumora**	**1.99**	**15**	*e*Pn	Pn	09 20 03.9	+1.4
KMO				*e*Pg	Pb	09 20 05.4	-0.1
KMO				*e*		09 20 08.5	
KMO				*e*Sg	Sb	09 20 31.8	+1.9
KMO				max			
	comp=N,159nm,0.4s						
KMO				Smax			
	comp=N,1µm,1.1s						
KMO	**Kumora**	**1.99**	**15**	*e*PN	Pn	09 20 02.0	-0.5
KMO				*e*		09 20 30.6	
KMO				pmax	pmax		
	comp=Z,137nm,0.4s						
KMO				smax	smax		
	comp=N,1µm,1.0s						
YOA	**Uoyan**	**2.32**	**20**	*e*Pg	Pb	09 20 12.0	+0.9
YOA				*e*Sg	Sb	09 20 41.8	+2.5
YOA				Smax			
	comp=N,2µm,1.4s						
YOA	**Uoyan**	**2.32**	**20**	*e*PN	Pg	09 20 13.8	-0.5
YOA				*i*		09 20 41.9	
YOA				pmax	pmax		
	comp=Z,411nm,0.4s						
YOA				smax	smax		
	comp=E,2µm,1.3s						
TRTB	**Turuntaevo**	**2.37**	**224**	*e*Pn	Pn	09 20 09.1	+1.3
TRTB				*e*Pg	Pb	09 20 11.7	-0.3
TRTB				*e*PgPg	Pg	09 20 16.6	+1.2
TRTB				*e*Sg	Sb	09 20 43.5	+2.6
UKT	**Uakit**	**2.46**	**50**	*e*Pn	Pn	09 20 10.2	+1.2
UKT				*e*Pg	Pb	09 20 13.5	0.0
UKT				*e*		09 20 19.6	
UKT				*i* Sg	Sg	09 20 46.4	-2.5
UKT				max			
	comp=E,123nm,0.9s						
UKT				Smax			
	comp=E,555nm,0.8s						
UUDB	**Ulan-Yde**	**2.64**	**218**	*e*Pn	Pn	09 20 12.9	+1.4
UUDB				*e*Pg	Pb	09 20 18.2	+1.6
UUDB				*e*PgPg	Pg	09 20 21.1	+0.5
UUDB				*e*Sg	Sg	09 20 52.9	-1.9
UUDB				max			
	comp=E,132nm,0.9s						
UUDB				Smax			
	comp=E,795nm,0.8s						
TRG	**Tyrgan**	**2.66**	**244**	*e*Pn	Pn	09 20 12.3	+0.5
TRG				*e*Pg	Pb	09 20 16.7	-0.2
TRG				*e*		09 20 43.6	
TRG				*e*Sg	Sb	09 20 52.0	+2.8
TRG				Pmax			
	comp=E,25nm,0.6s						
TRG				Smax			
	comp=E,376nm,0.7s						
TRG	**Tyrgan**	**2.66**	**244**	*e*PN	Pn	09 20 12.5	+0.7
TRG				*e*		09 20 17.0	
TRG				*e*S	Sn	09 20 44.8	+1.3
TRG				*e*		09 20 51.3	
TRG				pmax	pmax		
	comp=Z,26nm,0.6s						
TRG				smax	smax		
	comp=N,376nm,0.5s						
CIT	**Chita**	**2.77**	**134**	*e*Sg	Sb	09 20 55.2	+2.9
CIT				Smax			
	comp=N,320nm,0.3s						
CIT	**Chita**	**2.77**	**134**	*e*PN	Pn	09 20 10.7	-2.6
CIT				*e*		09 20 17.5	
CIT				*e*S	Sn	09 20 46.8	+0.6
CIT				*e*		09 20 52.7	
CIT				pmax	pmax		
	comp=Z,251nm,0.9s						
CIT				smax	smax		
	comp=E,448nm,1.0s						
SVKR	**Severomuysk**	**2.85**	**40**	*e*	Pg	09 20 24.5	-0.1
SVKR				*e*Sg	Sg	09 20 58.5	-3.1
SVKR				*e*		09 21 01.0	
SVKR				max			
	comp=E,738nm,1.1s						
KAB	**Kabansk**	**2.92**	**230**	*e*Pn	Pn	09 20 17.2	+1.8
KAB				*e*Sg	Sg	09 21 01.4	-2.4
KAB				Smax			
	comp=E,1µm,1.5s						
KAB	**Kabansk**	**2.92**	**230**	*e*PN	Pb	09 20 21.4	0.0
KAB				*e*		09 21 01.3	
KAB				pmax	pmax		
	comp=Z,125nm,0.2s						
KAB				smax	smax		
	comp=N,1µm,1.4s						
STDB	**Stepnoy Dvoret**	**2.98**	**234**	*e*Sg	Sg	09 21 03.6	-2.0
HRMR	**Khuramsha**	**3.10**	**222**	*e*Pn	Pn	09 20 19.1	+1.3
HRMR				*e*Pg	Pb	09 20 25.2	+0.8
HRMR				*e*Sg	Sg	09 21 06.5	-3.0
HRMR				*e*		09 21 13.4	
HRMR				Pmax			
	comp=N,78nm,0.5s						
HRMR				max			
	comp=N,2µm,0.7s						
BGT	**Bolshoye Golou**	**3.53**	**239**	*e*Pn	Pn	09 20 24.4	+0.7
BGT				*e*		09 20 29.7	
BGT				*e*		09 20 41.8	
BGT				*e*Sg	Sg	09 21 19.7	-3.5
BGT				max			
	comp=N,2.0nm,0.1s						
BGT				Smax			
	comp=N,192nm,1.1s						
LSTR	**Listvyanka**	**3.92**	**240**	*e*Pn	Pn	09 20 29.9	+0.8
LSTR				*e*		09 20 35.8	
LSTR				*e*		09 20 45.5	
LSTR				*e*		09 21 04.0	
LSTR				*e*Sg	Sg	09 21 31.1	-4.7
LSTR				Smax			
	comp=N,130nm,0.8s						
NLYR	**Nelyaty**	**3.99**	**49**	*e*Pn	Pn	09 20 31.0	+0.9
NLYR				*e*Pg	Pb	09 20 41.6	+2.0
NLYR				*e*		09 20 48.0	
NLYR				*e*		09 21 29.3	
NLYR				*e*Sg	Sg	09 21 33.3	-4.7
NLYR				max			
	comp=N,27nm,0.6s						
NLYR				Smax			
	comp=N,427nm,1.0s						
IRK	**Irkutsk**	**4.02**	**247**	*e*Sg	Sg	09 21 34.4	-4.6
IRK				*e*		09 21 40.7	
IRK				Smax			
	comp=N,573nm,0.9s						
IRK	**Irkutsk**	**4.02**	**247**	*e*PN	Pb	09 20 42.2	+2.1
IRK				*e*		09 21 34.5	
IRK				pmax	pmax		
	comp=Z,71nm,0.3s						
IRK				smax	smax		
	comp=N,575nm,0.7s						
IVK	**Ivanovka**	**4.17**	**241**	*e*Pn	Pn	09 20 32.6	+0.1
IVK				*e*Pg	Pb	09 20 44.5	+1.8
IVK				*e*Sg	Sg	09 21 38.3	-5.5
IVK				Pmax			
	comp=N,10.0nm,0.7s						
IVK				Smax			
	comp=N,157nm,1.4s						
BOD	**Bodaibo**	**4.38**	**27**	*e*Sn	Pg	09 20 54.3	+0.5
BOD				*e*Sg	Sg	09 21 46.7	-3.8
BOD				*e*		09 21 57.3	
BOD				max			
	comp=N,131nm,1.3s						
KPC	**Khapcheranga**	**4.46**	**162**	*e*Pn	Pn	09 20 37.9	+1.3
KPC				*e*		09 20 41.7	
KPC				*e*Pg	Pb	09 20 49.2	+1.6
KPC				*e*		09 21 19.8	
KPC				*e*Sg	Sg	09 21 47.2	-5.9
KPC				Pmax			
	comp=N,26nm,1.0s						
KPC				Smax			
	comp=N,371nm,1.1s						
KPC	**Khapcheranga**	**4.46**	**162**	*e*PN	Pn	09 20 38.2	+1.6
KPC				*e*		09 20 50.3	
KPC				*e*		09 21 47.4	
KPC				pmax	pmax		
	comp=Z,26nm,0.5s						
KPC				smax	smax		
	comp=E,372nm,1.0s						
TLY	**Talaya**	**4.64**	**243**	*e*Pn	Pn	09 20 38.1	-0.9
TLY				*e*		09 20 46.4	
TLY				*e*Pg	Pb	09 20 52.6	+1.9
TLY				*e*		09 21 04.8	
TLY				*e*Sg	Sg	09 21 53.1	-5.7
TLY				max			
	comp=E,26nm,0.8s						
TLY				Smax			
	comp=E,135nm,1.2s						
TLY	**Talaya**	**4.64**	**243**	*e*PN	Pb	09 20 54.0	+3.3
TLY				*e*		09 21 53.3	
TLY				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ARS	**Arshan**	**5.19**	**250**	*e*Pg	Pb	09 21 02.7	+2.7
ARS				*e*		09 21 09.3	
ARS				*e*		09 22 04.3	
ARS				*e*Sg	Sg	09 22 09.1	-7.1
ARS				max			
	comp=Z,23nm,0.7s						
ARS				Smax			
	comp=Z,505nm,0.9s						
ARS	**Arshan**	**5.19**	**250**	*e*PN	Pb	09 21 03.2	+3.2
CRS	**Chara**	**5.40**	**54**	*e*Pn	Pn	09 20 51.0	+1.6
CRS				*e*		09 21 15.0	
CRS				*e*Sg	Sg	09 22 17.8	-5.4
CRS				max			
	comp=Z,38nm,1.5s						
CRS				Smax			
	comp=Z,177nm,1.5s						
CRS	**Chara**	**5.40**	**54**	*e*PN	Pb	09 21 07.6	+4.0
CRS				*e*		09 22 17.6	
CRS				pmax	pmax		
	comp=Z,52nm,1.2s						
CRS				smax	smax		
	comp=E,177nm,1.4s						
ZAK	**Zakamensk**	**5.62**	**233**	*e*Pg	Pb	09 21 11.3	+4.0
ZAK				*e*Sg	Sg	09 22 25.6	-4.4
ZAK				*e*		09 22 32.9	
ZAK				Pmax			
	comp=E,2.0nm,0.1s						
ZAK				max			
	comp=E,80nm,0.9s						
ZAK	**Zakamensk**	**5.62**	**233**	*e*PN	Pb	09 21 11.4	+4.1
ZAK				*e*		09 22 25.3	
ZAK				pmax	pmax		
	comp=Z,8.0

TUP			*e*Sg	Sg	09 22 26.3	-5.9
TUP			*e*		09 22 34.8	
TUP			Pmax			
	comp=E,7.0nm,0.6s					
TUP			Smax			
	comp=E,333nm,1.4s					
TUP	**Tupik**	**5.69 82**	*e*PN	Pn	09 20 53.8	+0.5
TUP			*e*		09 21 11.4	
TUP			*e*		09 22 26.1	
TUP			pmax	pmax		
	comp=Z,16nm,0.6s					
TUP			smax	smax		
	comp=N,336nm,1.4s					
MOY	**Mondy**	**6.10 252**	*e*PN	Pn	09 20 58.7	-0.3
MOY			*e*		09 21 21.2	
MOY			*e*Sg	Sb	09 22 36.2	+8.2
MOY			*e*		09 22 49.1	
MOY			max			
	comp=N,17nm,0.7s					
MOY			max			
	comp=N,226nm,1.3s					
MOY	**Mondy**	**6.10 252**	*e*PN	Pn	09 21 01.9	+2.9
MOY			*e*		09 21 21.2	
MOY			*e*S	Sn	09 22 08.5	+0.3
ORL	**Orlik**	**6.46 261** ⇑	*i*Pn	Pn	09 21 05.5	+1.5
ORL			*e*		09 21 12.3	
ORL			*e*Sn	Sn	09 22 17.3	+0.2
ORL			*e*Sg	Sg	09 22 49.4	-7.5
ORL			max			
	comp=N,10.0nm,0.6s					
ORL			Smax			
	comp=N,161nm,1.1s					
ORL	**Orlik**	**6.46 261**	*e*PN	Pn	09 21 05.6	+1.6
ORL			*e*		09 21 25.1	
ORL			*e*S	Sn	09 22 14.9	-2.2
ORL			*e*		09 22 49.2	
ORL			pmax	pmax		
	comp=Z,28nm,0.8s					
ORL			smax	smax		
	comp=N,161nm,1.4s					
KNGR	**Kungurtug, Tuv**	**8.53 252**	*e*		09 23 22.3	
KNGR			*e*Sg	Sn	09 23 54.5	+46
KNGR			*e*		09 24 10.5	
TDJR	**Todzha**	**8.67 265**	*e*		09 23 25.6	
TDJR			*e*Sg	Sn	09 23 55.9	+44
KZLR	**Kyzyl**	**9.86 263**	*e*Sg	Sn	09 24 33.7	+53
ERNS	**Erzin**	**10.03 254**	*e*		09 24 12.3	
ERNS			*e*Sg	Sn	09 24 41.8	+57

DDA **16** *09:19:36.8,37.30N×42.69E,h5km,Ml2.8*
ISK **16** *09:19:40.4,37.47N×42.56E,h1km±1km,ML2.3/5*
ISN **16** *09:19:40.0±0.3,37.12N×42.65E,h0km,ML2.4*

ISC 16 09:19:39.6±1.7, 37.33N±0.07×42.55E±0.05, h7km±10km, n11, σ1s69/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIRT	**Sirnak**	**0.19**	**334**		**Pg**	**Pg**	**09 19 42.5**	**-1.0**
SIRT					SG	**Sg**	**09 19 46.5**	**+0.3**
SIRN	**S˘–rnak**	**0.20**	**328**	*i* P	**Pg**	**Pg**	**09 19 42.6**	**-1.0**
SIRN				*i* S	**Sg**	**Sg**	**09 19 47.4**	**+1.0**
SRTM	**Siirt_Merkez**	**0.82**	**323**	*i* P	**Pg**	**Pg**	**09 19 54.6**	**-0.9**
SRTM				*i* S	**Sn**	**Sn**	**09 20 11.7**	**+1.3**
CUKT	**Cukurca**	**0.85**	**95**	PG	**Pn**	**Pn**	**09 19 57.9**	**-0.3**
BTMN	**Batman**	**1.16**	**299**	*i* P	**Pb**	**Pb**	**09 20 01.9**	**-0.2**
BTMN				*i* S	**Sn**	**Sn**	**09 20 19.0**	**+0.5**
GURO	**Guroymak-BITLI**	**1.29**	**342**	PN	**Pn**	**Pn**	**09 20 03.4**	**-0.8**
GURO				SN	**Sb**	**Sb**	**09 20 19.0**	**-2.1**
SVAN	**Silvan-Diyarba**	**1.35**	**308**	PN	**Pb**	**Pb**	**09 20 05.0**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.35**	**308**	*i* P	**Pn**	**Pn**	**09 20 03.9**	**-1.0**
SVAN				*i* S	**Sg**	**Sg**	**09 20 25.5**	**+2.6**
MARD	**Mardin**	**1.41**	**270**	*i* P	**Pn**	**Pn**	**09 20 05.5**	**-0.4**
MARD				*i* S	**Sg**	**Sg**	**09 20 27.2**	**+2.3**
ADCV	**BITLIS_Adilcev**	**1.48**	**5**	*i* P	**Pb**	**Pb**	**09 20 07.6**	**-0.1**
ADCV				*i* S	**Sg**	**Sg**	**09 20 31.7**	**+4.3**
MAZI	**Mazidag**	**1.68**	**275**	PN	**Pn**	**Pn**	**09 20 09.6**	**+0.1**

IDC **16** *09:29:14.4±0.7, 10.21S×161.00E, h0km, mb4.0/11, mb1 4.2/13, mb1mx4.0/36, mbtmp4.0/13, ML3.3/2, MS3.7/1, Ms1 3.7/1, ms1mx2.8/34, Error ellipse: s-maj=18.1km s-min=14.1km az=36.0*
ISCJB **16** *09:29:22.3±0.6, 10.17S±0.08×160.71E±0.09, h67km, mb3.8/11, Error ellipse: s-maj=12.8km s-min=11.5km az=155.2*

ISC 16 09:29:22.9±0.7, 10.20S±0.10×160.8E±0.1, h67km, n21, σ1s77/18, mb3.9/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.12**	**313**		**Pg**	**Pn**	**09 29 40.0**	**-2.8**
	350nm,0.3s,baz=146,slow=7.8,SNR=100							
HNR					Lg	Lg	09 29 56.2	
	1µm,0.3s,baz=61,slow=23,SNR=21							
HNR	**Honiara**	**1.12**	**313**	*i* P	**Pn**	**Pn**	**09 29 40.0**	**-2.8**
HNR				*i* S	**Sn**	**Sn**	**09 29 56.5**	**-1.1**
DZM	**Mont Dzumac**	**12.99**	**156**	Pn	**Pn**	**Pn**	**09 32 21.3**	**-3.4**
	0.1nm,0.3s,baz=307,slow=18,SNR=4.6							
CTA	**Charters Tower**	**17.11**	**233**	Pn	**Pn**	**Pn**	**09 33 18.2**	**+0.5**
	0.2nm,0.3s,baz=48,slow=12,SNR=6.1							
WRA	**Warramunga Arr**	**27.27**	**246**	P	**P**	**P**	**09 35 02.4**	**+1.2**
	1.1nm,0.5s,baz=74,slow=9.9,SNR=16							
WRA				PcP	**PcP**	**PcP**	**09 38 20.0**	**+0.3**
	0.3nm,0.6s,baz=61,slow=2.0,SNR=4.9							
STKA	**Stephens Creek**	**27.94**	**217**	P	**P**	**P**	**09 35 09.0**	**+2.0**
	1.7nm,0.6s,baz=44,slow=14,SNR=3.9							
ASAR	**Alice Springs**	**28.92**	**239**	P	**P**	**P**	**09 35 16.2**	**+0.4**
	0.4nm,0.5s,baz=64,slow=10,SNR=7.6							
ASAR				PcP	**PcP**	**PcP**	**09 38 24.1**	**+0.4**
	0.2nm,0.6s,baz=64,slow=4.2,SNR=2.7							
ASAR				LR	LR	LR	09 46 31.5	
	comp=Z,119nm,18.1s,baz=97,slow=36							
H11S2	**WAKE ISLAND Hy 29.10**	**12**		T	T	T	10 04 10.8	
	baz=194,slow=76,SNR=8.6							
H11S3	**WAKE ISLAND Hy 29.10**	**12**		T	T	T	10 04 09.2	
	baz=194,slow=76,SNR=11							
H11S1	**WAKE ISLAND Hy 29.12**	**12**		T	T	T	10 04 10.6	
	baz=194,slow=76,SNR=5.8							
H11N1	**WAKE ISLAND Hy 30.33**	**11**		T	T	T	10 05 49.0	
	baz=193,slow=76,SNR=20							
H11N3	**WAKE ISLAND Hy 30.34**	**11**		T	T	T	10 05 43.4	
	baz=193,slow=76,SNR=11							
H11N2	**WAKE ISLAND Hy 30.34**	**11**		T	T	T	10 05 41.4	
	baz=193,slow=76,SNR=21							
SONM	**Songino Array**	**75.15**	**325**	P	**P**	**P**	**09 40 59.5**	**+1.3**
	2.1nm,0.7s,baz=145,slow=5.8,SNR=13							
MAW	**Mawson**	**83.65**	**202**	P	**P**	**P**	**09 41 44.2**	**+0.4**
	1.7nm,0.7s,baz=102,slow=20,SNR=4.5							
ILAR	**Eielson Array**	**84.33**	**20**	P	**P**	**P**	**09 41 46.9**	**-0.3**
	0.4nm,0.6s,baz=250,slow=4.3,SNR=8.9							
NVAR	**Mina Array Bea**	**89.25**	**51**	P	**P**	**P**	**09 42 14.0**	**+1.9**
	0.5nm,0.6s,baz=236,slow=7.4,SNR=3.7							
MKAR	**Makanchi Array**	**89.59**	**318**	P	**P**	**P**	**09 42 15.0**	**+1.7**
	1.1nm,0.8s,baz=92,slow=5.5,SNR=4.0							
NEW	**Newport**	**92.32**	**41**	P	**P**	**P**	**09 42 25.2**	**-0.7**
	0.7nm,0.5s,baz=246,slow=18,SNR=2.5							
YKA	**Yellowknife Ar**	**96.48**	**28**	P	**P**	**P**	**09 42 44.0**	**-0.6**
	0.4nm,0.6s,baz=262,slow=4.8,SNR=3.2							
PDAR	**Pinedale Array**	**96.59**	**48**	P	**P**	**P**	**09 42 47.6**	**+1.8**
	0.2nm,0.6s,baz=350,slow=2.7,SNR=3.1							

KRNET **16** *09:45:25.4±0.1, 43.76N×69.24E, mb2.9*
SOME **16** *09:45:29.7, 43.63N×69.63E*
NNC **16** *09:45:30.4±0.8, 43.68N×69.73E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=4.4km s-min=3.5km az=123.0, Suspected Mining explosion.*

ISC 16 09:45:29.9±2.9, 43.6N±0.1×69.5E±0.1, h0km, n9, σ1s35/13, 6C-9D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.89**	**123**	⇓P	**Pg**	**Pg**	**09 45 46.2**	**-0.8**
	7.1nm,0.6s,baz=324,slow=17,SNR=49							
KK31				S	**Sg**	**Sg**	**09 45 57.5**	**-1.0**
	109nm,0.9s,baz=315,slow=29,SNR=40							
MNAS	**Manas**	**2.47**	**116**	⇑Pg	**Pn**	**Pn**	**09 46 13.2**	**+1.6**
	4.2nm,0.7s							
MNAS				⇑Lg	Lg	Lg	09 46 45.7	
	11nm,0.8s							
MNAS	**Manas**	**2.47**	**116**	⇓*i*P	**Pn**	**Pn**	**09 46 11.7**	**+0.1**
	baz=17							
MNAS				⇓*i*S	**Sb**	**Sb**	**09 46 45.5**	**-0.8**
	baz=17							
ARSB	**Arslanbob**	**3.44**	**130**	⇑*e*P	**Pn**	**Pn**	**09 46 25.4**	**+0.5**
	baz=30							
ARSB				⇑*i*S	**Sn**	**Sn**	**09 47 08.9**	**+2.5**
	baz=30							
BTK	**Batken**	**3.67**	**164**	⇓*i*P	**Pn**	**Pn**	**09 46 27.6**	**-0.5**
	baz=62							
BTK				⇓*i*S	**Sn**	**Sn**	**09 47 13.9**	**+1.8**
	baz=62							
AAK	**Ala-Archa**	**3.78**	**103**	⇓Pg	**Pb**	**Pb**	**09 46 36.6**	**-1.1**
	4.2nm,0.5s							
AAK				⇑Lg	Lg	Lg	09 47 26.2	
	4.9nm,0.6s							
ARLS	**Aral**	**3.96**	**114**	⇓*e*P	**Pn**	**Pn**	**09 46 32.2**	**+0.1**
	baz=15							
ARLS				⇓*i*S	**Sn**	**Sn**	**09 47 20.8**	**+1.5**
	baz=15							
TKM2	**Tokmak 2**	**4.51**	**97**	⇑Pg	**Pb**	**Pb**	**09 46 50.0**	**-0.1**
	4.3nm,0.8s							
TKM2				Lg	Lg	Lg	09 47 49.0	
SFK	**Sufi-Kurgan**	**4.67**	**139**	⇓Lg	Lg	Lg	09 47 55.6	
	1.0nm,0.4s							

IDC 16 09:54:06.1±10.0, 13.00S×167.07E, h300km±126km, mb2.7/3, mb1 3.0/4, mb1mx2.8/39, mbtmp3.5/4, Error ellipse: s-maj=103.6km s-min=29.5km az=158.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.05**	**184**	P	P	Pn	09 56 13.2	+0.6
	0.2nm,0.3s,baz=51,slow=7.4,SNR=9.9							
DZM				S	S	S	09 57 54.7	-0.9
	0.1nm,0.3s,baz=37,slow=20,SNR=2.2							
WRA	**Warramunga Arr**	**32.10**	**253**	P	P	P	10 00 05.2	-0.9
	0.2nm,0.9s,baz=86,slow=9.4,SNR=3.3							
ASAR	**Alice Springs**	**33.14**	**247**	P	P	P	10 00 15.9	+0.8
	0.1nm,0.3s,baz=68,slow=10,SNR=6.2							
ILAR	**Eielson Array**	**84.95**	**18**	P	P	P	10 06 07.3	-0.1
	0.7nm,0.6s,baz=237,slow=4.7,SNR=11							

MEX 16 09:59:14.5±0.3, 16.17N×98.25W, h10km±1km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.25**	**28**	*e*P	P	Pg	09 59 19.2	-0.4
PNIG				*i* S	S	Sg	09 59 22.9	-0.1
TLIG	**Tlapa**	**1.42**	**348**	*e*P	P	Pn	09 59 36.9	-3.7
TLIG				*i* S	S	Sn	09 59 54.7	-4.7
MEIG	**Mezcala**	**2.18**	**323**	*i* P	P	Pn	09 59 47.4	-3.6
MEIG				*e*S	S	Sn	10 00 13.6	-4.5

IDC 16 10:01:05.2±2.1, 6.11S×129.36E, h0km, mb3.5/1, mb1 3.5/4, mb1mx3.4/29, mbtmp3.4/4, ML3.1/3, Error ellipse: s-maj=94.5km s-min=27.4km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.46**	**197**	Pn	P	Pn	10 04 02.6	-1.2
	0.1nm,0.3s,baz=288,slow=20,SNR=8.0							
FITZ				Sn	S	Sn	10 06 13.1	-10
	0.1nm,0.3s,baz=32,slow=9.5,SNR=2.2							
WRA	**Warramunga Arr**	**14.58**	**161**	Pn	P	Pn	10 04 32.8	-0.1
	0.1nm,0.3s,baz=346,slow=13,SNR=5.5							
WRA				Sn	S	Sn	10 06 58.9	-17
	0.2nm,0.3s,baz=337,slow=22,SNR=7.5							
ASAR	**Alice Springs**	**18.00**	**166**	P	P	P	10 05 17.9	+0.3
	0.1nm,0.3s,baz=345,slow=9.6,SNR=16							
ASAR				S	S	Sn	10 08 23.6	-15
	0.1nm,0.3s,baz=355,slow=28,SNR=3.9							
MKAR	**Makanchi Array**	**67.14**	**327**	P	P	P	10 12 00.9	0.0
	2.2nm,1.2s,baz=115,slow=7.0,SNR=2.4							

ISCJB **16** *10:01:33.9±0.8, 51.18N±0.10×73.57E±0.08, h0km, Error ellipse: s-maj=14.5km s-min=6.3km az=16.0*
NNC **16** *10:01:35.1±0.7, 50.87N×73.52E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=8.2km s-min=5.9km az=40.0, Suspected Mining explosion.*
IDC **16** *10:01:37.8±1.0, 51.08N×73.67E, h0km, mb1 3.1/4, mb1mx3.0/47, mbtmp3.1/4, ML2.4/3, Error ellipse: s-maj=25.5km s-min=9.4km az=34.0*

ISC 16 10:01:36.9±1.0, 51.08N±0.09×73.66E±0.06, h0km, n14, σ0s67/12, 9C-5D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BVA0	**Borovoye Array**	**2.81**	**315**	⇑Pg	**Pb**	**Pb**	**10 02 27.2**	**-0.6**
	2.4nm,0.5s,baz=134,slow=16,SNR=19							
BVA0				⇑Lg	Lg	Lg	10 03 06.7	
	51nm,1.1s,baz=126,slow=29,SNR=12							
BVAR	**Borovoye Array**	**2.81**	**315**	Pn	**Pn**	**Pn**	**10 02 23.9**	**+0.9**
	0.1nm,0.3s,baz=133,slow=14,SNR=2.4							
BVAR				Pg	**Pb**	**Pb**	**10 02 28.0**	**+0.1**
	1.2nm,0.3s,baz=123,slow=15,SNR=13							
BVAR				Lg	Lg	Lg	10 03 07.0	
	2.1nm,0.3s,baz=122,slow=28,SNR=7.6							
BRVK	**Borovoye**	**2.88**	**315**	⇑Pg	**Pb**	**Pb**	**10 02 29.6**	**+0.6**
	3.4nm,0.6s							
BRVK				⇓Lg	Lg	Lg	10 03 08.5	
	30nm,0.6s							
OTUK	**Ortayu**	**2.97**	**197**	⇓Pg	**Pn**	**Pn**	**10 02 25.5**	**+0.3**
	8.9nm,0.8s							
OTUK				⇓Lg	Lg	Lg	10 02 59.9	
	25nm,0.8s							
KURBB	**Kurchatov Arra**	**3.12**	**97**	⇑Pn	**Pn**	**Pn**	**10 02 27.2**	**-0.1**
	14nm,0.7s							
KURBB				⇑Lg	Lg	Lg	10 03 13.8	
	136nm,0.8s							
KURK	**Kurchatov**	**3.16**	**95**	⇑Pn	**Pn**	**Pn**	**10 02 27.7**	**-0.1**
	7.4nm,0.8s							
KURK				⇓Lg	Lg	Lg	10 03 16.3	
	79nm,1.0s							
MK31	**Makanchi Array**	**7.12**	**124**	⇑Lg	Lg	Lg	10 05 21.1	
	18nm,0.9s,baz=316,slow=24,SNR=4.5							
MKAR	**Makanchi Array**	**7.12**	**124**	Pn	**Pn**	**Pn**	**10 03 22.6**	**+0.3**
	0.1nm,0.3s,baz=301,slow=12,SNR=3.0							
MKAR				Pg	**Pb**	**Pb**	**10 03 41.5**	**+0.1**
	0.2nm,0.3s,baz=303,slow=13,SNR=4.9							
MKAR				Lg	Lg	Lg	10 05 18.1	
	0.4nm,0.3s,baz=308,slow=26,SNR=5.5							
I46RU	**ZALESOVO INFRA**	**7.39**	**63**	*i*			10 46 40.0	
	baz=246,slow=300,SNR=0.9							
ZALV	**Zalesovo Beam**	**7.39**	**63**	Pn	**Pn**	**Pn**	**10 03 25.3**	**-0.6**
	baz=254,slow=16,SNR=2.9							
ZALV				Sn	**Sn**	**Sn**	**10 04 51.1**	**+0.7**
	0.3nm,0.3s,baz=259,slow=23,SNR=2.7							
KK31	**Karatay Array**	**8.26**	**196**	⇑Lg	Lg	Lg	10 05 51.2	
	4.4nm,0.9s,baz=14,slow=24,SNR=4.3							
TKM2	**Tokmak 2**	**8.27**	**170**	⇓Lg	Lg	Lg	10 05 49.7	
	21nm,1.0s							
AAK	**Ala-Archa**	**8.47**	**176**	⇑Lg	Lg	Lg	10 05 58.7	
	26nm,1.1s							
AKTO	**Aktyubinsk**	**9.94**	**272**	Pn	**Pn**	**Pn**	**10 03 59.7**	**-1.2**
	0.2nm,0.3s,baz=92,slow=12,SNR=4.1							
AKTO				Lg	Lg	Lg	10 06 53.7	
	0.1nm,0.3s,baz=16,slow=15,SNR=4.4							

IDC 16 10:08:07.2±1.4, 7.27S×128.29E, h0km, mb3.7/3, mb1 3.8/6, mb1mx3.6/39, mbtmp3.7/6, ML3.7/3, Error ellipse: s-maj=48.1km s-min=22.6km az=85.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.43**	**237**	Pn	Pn	Pn	10 09 28.9	-0.7
	43nm,0.3s,baz=137,slow=2.9,SNR=17							
BATI				Sn	Sn	Sn	10 10 26.2	-6.6
	4.8nm,0.3s,baz=126,slow=8.7,SNR=1.8							
FITZ	**Fitzroy Crossi**	**11.07**	**193**	Pn	Pn	Pn	10 10 45.2	-1.7
	0.7nm,0.3s,baz=17,slow=11,SNR=16							
FITZ				Sn	Sn	Sn	10 12 40.5	-11
	1.3nm,0.3s,baz=54,slow=12,SNR=7.1							
WRA	**Warramunga Arr**	**13.90**	**156**	Pn	Pn	Pn	10 11 26.4	+0.7
	0.3nm,0.3s,baz=342,slow=13,SNR=27							
WRA				Sn	Sn	Sn	10 13 54.6	-6.3
	0.5nm,0.3s,baz=325,slow=24,SNR=6.1							
ASAR	**Alice Springs**	**17.18**	**162**	P	P	P	10 12 10.4	-0.1
	0.1nm,0.3s,baz=344,slow=14,SNR=14							
ASAR				S		Sn	10 15 14.9	-5.7
	0.2nm,0.3s,baz=332,slow=17,SNR=4.7							
SONM	**Songino Array**	**58.17**	**343**	P	P	P	10 18 03.3	+0.2
	0.1nm,0.3s,baz=167,slow=8.9,SNR=3.2							
MKAR	**Makanchi Array**	**67.53**	**328**	P	P	P	10 19 05.6	+0.3
	0.8nm,0.9s,baz=124,slow=7.6,SNR=2.8							
KURBB	**Kurchatov Arra**	**71.86**	**329**	P	P	P	10 19 31.6	-0.3
	0.6nm,0.2s,baz=126,slow=4.7,SNR=3.6							

MEX 16 10:09:18.4±0.4, 14.49N×91.95W, h78km±4km, MD3.7, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
THIG		**0.51**	**324**	*e*P	P	Pn	10 09 30.8	-1.4
THIG				*i* S	S	Sn	10 09 40.6	-1.7
PCIG		**1.72**	**315**	*e*P	P	Pn	10 09 45.4	-1.2
PCIG				*i* S	S	Sn	10 10 06.0	-1.9
CCIG	**Comitan**	**1.79**	**354**	*i* P	P	Pn	10 09 46.1	-1.6
CCIG				*e*S	S	Sn	10 10 08.2	-1.7
TGIG		**2.54**	**334**	*e*P	P	Pn	10 09 56.7	-0.8
TGIG				*e*S	S	Sn	10 10 25.6	-2.1

IDC 16 10:20:41.9±1.4, 13.10N×119.91E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/52, mbtmp3.2/3, Error ellipse: s-maj=31.3km s-min=15.2km az=116.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.41**	**45**	Pg	Pg	Pn	10 21 08.6	-0.3
	93nm,0.3s,baz=186,slow=5.3,SNR=6.9							
TGY				Lg	Lg	Lg	10 21 26.6	
	131nm,0.3s,baz=292,slow=22,SNR=11							
WRA	**Warramunga Arr**	**35.78**	**156**	P	P	P	10 27 43.0	0.0
	0.1nm,0.4s,baz=332,slow=10,SNR=2.9							
SONM	**Songino Array**	**36.42**	**345**	P	P	P	10 27 48.2	-0.1
	0.3nm,0.5s,baz=150,slow=6.7,SNR=3.3							
ASAR	**Alice Springs**	**39.02**	**159**	P	P	P	10 28 10.2	-0.3
	0.3nm,0.9s,baz=334,slow=6.9,SNR=3.1							

IDC **16** *10:44:15.3±1.1, 5.73S×151.95E, h0km, mb4.1/7, mb1 4.4/8, mb1mx4.0/38, mbtmp4.2/8, ML2.4/1, MS3.3/12, Ms1 3.3/12, ms1mx3.1/35, Error ellipse: s-maj=51.1km s-min=19.5km az=126.0*
ISCJB **16** *10:44:19.8±0.8, 5.78S±0.1×151.79E±0.2, h36km, mb4.2/13, MS3.4/10, Error ellipse: s-maj=29.8km s-min=9.3km az=30.0*
NEIC **16** *10:44:20.1±0.8, 5.97S×152.21E, h35km, mb4.5/7, Error ellipse: s-maj=20.2km s-min=9.3km az=112.0*

ISC 16 10:44:21.5±0.9, 5.78S±0.2×151.78E±0.2, h36km, n31, σ1s60/27, mb4.4/13, MS3.5/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.60**	**13**	*e*Pn	**Pn**	**Pn**	**10 44 48.9**	**+1.7**
MANU	**Manus Island**	**5.76**	**310**	*e*Pn	Pn	Pn	10 45 51.2	+6.8
PMG	**Port Moresby**	**5.86**	**231**	Pn	**Pn**	**Pn**	**10 45 47.5**	**+1.7**
	6.7nm,0.3s,baz=48,slow=9.1,SNR=14							
PMG				Sn	**Sn**	**Sn**	**10 46 49.7**	**-2.0**
	1.9nm,0.3s,baz=84,slow=17,SNR=1.7							
PMG				LR	LR	LR	10 48 04.6	
	comp=Z,166nm,21.7s,baz=43,slow=38							
PMG	**Port Moresby**	**5.86**	**231**	*e*Pn	**Pn**	**Pn**	**10 45 48.8**	**+3.0**
PMG				*e*Sn	**Sn**	**Sn**	**10 46 49.7**	**-2.0**
HNR	**Honiara**	**8.86**	**115**	LR	LR	LR	10 50 16.9	
	comp=Z,111nm,18.2s,baz=284,slow=41							
DZM	**Mont Dzumac**	**21.53**	**140**	LR	LR	LR	10 56 15.4	
	comp=Z,172nm,21.0s,baz=214,slow=34							
WRAB	**Tennant Creek**	**22.05**	**229**	*e*P	**P**	**P**	**10 49 13.2**	**-0.1**
	16nm,0.9s							
WB2	**Warramunga Arr**	**22.06**	**229**	*e*P	**P**	**P**	**10 49 13.4**	**+0.1**
	15nm,0.9s							
WR1	**Warramunga Arr**	**22.07**	**229**	*e*P	**P**	**P**	**10 49 13.4**	**0.0**
	19nm,1.0s							
WR1				*e*PcP	**PcP**	**PcP**	**10 53 09.1**	**-1.5**
WRA	**Warramunga Arr**	**22.07**	**229**	P	**P**	**P**	**10 49 13.4**	**-0.1**
	12nm,0.8s,baz=54,slow=10.0,SNR=40							
WRA				PcP	**PcP**	**PcP**	**10 53 09.1**	**-1.5**
	0.4nm,0.8s,baz=36,slow=1.9,SNR=3.7							
WRA				ScP	**ScP**	**ScP**	**10 56 48.6**	**+3.2**
	0.4nm,0.8s,baz=54,slow=3.9,SNR=3.7							
WRA				LR	LR	LR	10 57 56.7	
	comp=Z,44nm,21.1s,baz=225,slow=37							
AS01	**Alice Springs**	**24.74**	**222**	*e*P	**P**	**P**	**10 49 39.9**	**+0.1**
AS31	**Alice Springs**	**24.77**	**222**	*e*P	**P**	**P**	**10 49 40.7**	**+0.6**
	2.4nm,0.9s							
ASAR	**Alice Springs**	**24.78**	**222**	P	**P**	**P**	**10 49 40.4**	**+0.3**
	10.0nm,1.0s,baz=58,slow=8.9,SNR=51							
ASAR				ScP	**ScP**	**ScP**	**10 56 56.8**	**+4.2**
	0.3nm,0.9s,baz=64,slow=2.2,SNR=4.1							
STKA	**Stephens Creek**	**27.68**	**199**	P	**P**	**P**	**10 50 06.3**	**+0.1**
	1.4nm,0.8s,baz=32,slow=13,SNR=2.9							
FITZ	**Fitzroy Crossi**	**28.33**	**242**	P	**P**	**P**	**10 50 11.9**	**-0.2**
	6.3nm,0.7s,baz=58,slow=7.7,SNR=20							
FITZ	**Fitzroy Crossi**	**28.33**	**242**	*e*P	**P**	**P**	**10 50 12.2**	**0.0**
	9.3nm,0.9s							
FORT	**Forrest**	**33.42**	**219**	*e*P	**P**	**P**	**10 50 57.0**	**+0.1**
	16nm,0.9s							
MBWA	**Marble Bar**	**34.63**	**241**	*e*P	**P**	**P**	**10 51 07.2**	**-0.4**
	18nm,1.1s							
MJAR	**Matsushiro Arr**	**43.96**	**344**	LR	LR	LR	11 09 21.1	
	comp=Z,29nm,20.8s,baz=205,slow=34							
CMAR	**Chiang Mai Arr**	**57.39**	**296**	LR	LR	LR	11 20 31.9	
	comp=Z,13nm,18.2s,baz=190,slow=38							
PETK	**Petropavlovsk-**

URFA	**Urfa**	**1.37**	**83**	PN	**Pn**	**10 52 40.3**	**0.0**
HEKM	**Malatya_Hekimh**	**1.72**	**23**	*i* P	**Pg**	**10 52 47.3**	**-0.4**
HEKM				*i* S	**Sg**	**10 53 10.7**	**+0.7**
ELZG	**Elazig**	**1.91**	**50**	*i* P	**Pn**	**10 52 47.9**	**+0.1**
PTK	**Pertek**	**2.40**	**48**	PN	**Pn**	**10 52 55.7**	**+1.0**

IDC 16 10:56:29.8±3.1, 4°.89S×133°.52E, h0km, mb3.7/1, mb1 3.4/4, mb1mx3.3/26, mbtmp3.3/4, ML2.9/3, Error ellipse: s-maj=131.6km s-min=29.4km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.99**	**177**	Pn	Pn	11 00 01.0	-2.1
	0.0nm,0.3s,baz=355,slow=12,SNR=4.4						
WRA				Sn	Sn	11 02 36.8	-13
	0.0nm,0.3s,baz=358,slow=24,SNR=3.3						
FITZ	**Fitzroy Crossi**	**15.22**	**210**	Pn	Pn	11 00 06.0	-0.2
	0.1nm,0.3s,baz=32,slow=13,SNR=3.2						
FITZ				Sn	Sn	11 02 45.3	-10
	0.1nm,0.3s,baz=30,slow=20,SNR=2.7						
ASAR	**Alice Springs**	**18.68**	**179**	P	Pn	11 00 50.6	+0.8
	0.1nm,0.3s,baz=6.4,slow=12,SNR=5.6						
MKAR	**Makanchi Array**	**68.46**	**325**	P	P	11 07 33.8	0.0
	0.6nm,0.7s,baz=115,slow=9.7,SNR=3.1						

*ISCJB **16** 11:07:17.8±0.7, 14°.33N×0°.09×145°.6E±0°.1, h109km, mb3.8/15, Error ellipse: s-maj=19.6km s-min=9.7km az=25.5*
*IDC **16** 11:07:19.9±0.9, 14°.22N×145°.50E, h119km±8km, mb3.5/15, mb1 3.7/15, mb1mx3.6/38, mbtmp3.9/15, Error ellipse: s-maj=24.3km s-min=14.8km az=90.0*

ISC 16 11:07:19.2±0.8, 14°.3N±0°.1×145°.6E±0°.2, h109km, n22, σ1s08/17, mb3.8/15, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.01**	**226**	P	**Pn**	**11 07 42.0**	**+1.5**
	631nm,0.3s,baz=47,slow=2.6,SNR=1036						
GUMO				S	**Sn**	**11 07 57.0**	**+0.5**
	400nm,0.3s,baz=345,slow=21,SNR=12						
H11S3	**WAKE ISLAND Hy 20.63**	**75**		T	T	11 33 30.1	
	baz=265,slow=74						
H11S1	**WAKE ISLAND Hy 20.64**	**75**		T	T	11 33 31.5	
	baz=265						
H11S2	**WAKE ISLAND Hy 20.65**	**75**		T	T	11 33 34.2	
	baz=265,slow=74						
H11N1	**WAKE ISLAND Hy 21.03**	**72**		T	T	11 33 36.3	
	baz=260,slow=75,SNR=5.9						
H11N2	**WAKE ISLAND Hy 21.04**	**72**		T	T	11 33 36.9	
	baz=260,slow=75,SNR=7.3						
H11N3	**WAKE ISLAND Hy 21.05**	**72**		T	T	11 33 38.7	
	baz=260,slow=75,SNR=6.9						
JNU	**Nakatsue**	**23.05**	**327**	P	**P**	**11 12 15.8**	**+0.5**
	3.5nm,0.6s,baz=233,slow=20,SNR=4.4						
KSRS	**Korea Array**	**27.93**	**329**	P	**P**	**11 12 58.7**	**-0.5**
	0.7nm,0.6s,baz=149,slow=9.3,SNR=3.3						
USRK	**Ussuriysk Ar.**	**32.00**	**341**	P	**P**	**11 13 35.2**	**+0.2**
	0.9nm,0.6s,baz=151,slow=9.4,SNR=2.8						
WRA	**Warramunga Arr**	**35.79**	**198**	P	**P**	**11 14 06.8**	**-1.2**
	2.2nm,0.9s,baz=21,slow=9.8,SNR=19						
ASAR	**Alice Springs**	**39.43**	**197**	P	**P**	**11 14 37.7**	**-1.1**
	0.3nm,0.7s,baz=27,slow=11,SNR=5.8						
PETK	**Petropavlovsk-**	**39.89**	**11**	P	**P**	**11 14 43.2**	**+1.0**
	7.6nm,1.1s,baz=149,slow=5.2,SNR=5.2						
SONM	**Songino Array**	**46.59**	**324**	P	**P**	**11 15 36.7**	**+0.4**
	0.4nm,0.4s,baz=130,slow=6.2,SNR=3.5						
ZALV	**Zalesovo Beam**	**61.48**	**324**	P	**P**	**11 17 23.3**	**-1.0**
	0.4nm,0.3s,baz=90,slow=10,SNR=4.6						
MKAR	**Makanchi Array**	**61.50**	**316**	P	**P**	**11 17 24.3**	**-0.3**
	0.5nm,0.5s,baz=93,slow=8.3,SNR=4.4						
ILAR	**Eielson Array**	**67.62**	**25**	P	**P**	**11 18 03.3**	**-0.7**
	0.5nm,0.4s,baz=253,slow=5.6,SNR=12						
INK	**Inuvik**	**73.44**	**23**	P	**P**	**11 18 38.5**	**-0.7**
	3.0nm,1.2s,baz=282,slow=4.9,SNR=3.9						
YKA	**Yellowknife Ar**	**81.90**	**28**	P	**P**	**11 19 26.6**	**+0.3**
	0.5nm,0.4s,baz=286,slow=5.1,SNR=9.5						
NVAR	**Mina Array Bea**	**85.91**	**52**	P	**P**	**11 19 49.1**	**+1.5**
	0.5nm,0.5s,baz=263,slow=6.0,SNR=3.9						
FINES	**FINESS Array B**	**90.83**	**335**	P	**P**	**11 20 08.0**	**-2.1**
	1.4nm,0.6s,baz=93,slow=4.0,SNR=6.5						
PDAR	**Pinedale Array**	**90.95**	**45**	P	**P**	**11 20 12.4**	**+1.0**
	0.2nm,0.6s,baz=258,slow=4.2,SNR=2.4						

*ISCJB **16** 11:17:10.6±0.8, 34°.15N±0°.09×136°.91E±0°.09, h370km±6km, mb3.1/1, Error ellipse: s-maj=14.9km s-min=10.6km az=146.0*
*JMA **16** 11:17:11.6±0.3, 34°.24N×136°.84E, h368km±3km, M2.6*
*IDC **16** 11:17:11.2±1.3, 34°.06N×137°.11E, h355km±26km, mb2.9/1, mb1 3.1/4, mb1mx2.6/52, mbtmp3.8/4, Error ellipse: s-maj=62.0km s-min=30.2km az=79.0*

ISC 16 11:17:11.4±1.1, 34°.16N±0°.09×136°.89E±0°.08, h365km±9km, n18, σ0s73/24, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.28**	**326**	P	**Pn**	**11 17 57.8**	**+0.9**
JKN2	**Miekihoku**	**0.52**	**279**	P	**Pn**	**11 17 57.8**	**+0.5**
JKN2				S	**S**	**11 18 33.5**	**-0.7**
TK02	**Tokai 2**	**0.75**	**106**	P	**Pn**	**11 17 58.8**	**+1.2**
JTNC	**Tanabenakahech**	**1.12**	**253**	P	**Pn**	**11 17 59.7**	**+0.4**
JTNC				*e*S	**S**	**11 18 37.0**	**-0.7**
JYTA	**Yamagatataniai**	**1.44**	**355**	P	**Pn**	**11 18 01.2**	**+0.6**
JWT	**Wachi**	**1.66**	**313**	P	**Pn**	**11 18 02.2**	**+0.3**
JWT				*e*S	**S**	**11 18 41.2**	**-1.3**
JAI	**Aioi**	**2.06**	**260**	P	**Pn**	**11 18 04.6**	**+0.1**
JOD2	**Odawara 2**	**2.12**	**58**	P	**Pn**	**11 18 05.8**	**+1.0**
JKG	**Kaga**	**2.16**	**348**	P	**Pn**	**11 18 05.3**	**+0.2**
JRY	**Ryogami san**	**2.48**	**41**	P	**Pn**	**11 18 08.3**	**+0.8**
MJAR	**Matsushiro Arr**	**2.61**	**24**	P	**Pn**	**11 18 08.9**	**+0.4**
	2.9nm,0.3s,baz=200,slow=9.3,SNR=36						
MJAR				S	**S**	**11 18 53.4**	**-1.2**
	baz=196,slow=18,SNR=3.0						
MAT	**Matsushiro**	**2.61**	**24**	P	**Pn**	**11 18 08.9**	**+0.4**
MAT				*e*S	**S**	**11 18 55.0**	**+0.4**
MAT	**Matsushiro**	**2.61**	**24**	P	**Pn**	**11 18 08.8**	**+0.3**
JAG	**Ashikaga**	**3.08**	**42**	P	**Pn**	**11 18 11.8**	**-0.7**
BSO1	**Boso 1**	**3.41**	**81**	P	**Pn**	**11 18 14.3**	**-0.6**
BSO1				*e*S	**S**	**11 19 06.0**	**-0.3**
USRK	**Ussuriysk Ar.**	**10.72**	**341**	P	**P**	**11 19 38.5**	**+0.5**
	0.6nm,0.3s,baz=147,slow=10,SNR=12						
ASAJ	**Asahikawa**	**10.88**	**22**	P	**Pn**	**11 19 39.6**	**0.0**
	0.6nm,0.3s,baz=202,slow=11,SNR=5.5						
WRA	**Warramunga Arr**	**53.86**	**183**	P	**P**	**11 25 58.1**	**-0.1**
	0.3nm,0.3s,baz=0.2,slow=7.6,SNR=17						

*IDC **16** 11:23:07.8±5.4, 37°.94N×74°.24E, h136km±43km, mb3.4/3, mb1 3.3/9, mb1mx3.1/58, mbtmp3.7/9, MS3.5/2, Ms1 3.5/2, ms1mx2.6/40, Error ellipse: s-maj=47.3km s-min=41.0km az=133.0*
*ISCJB **16** 11:23:08.6±0.6, 37°.97N±0°.05×74°.0E±0°.1, h152km, mb3.8/3, Error ellipse: s-maj=13.0km s-min=4.9km az=152.1*
*NNC **16** 11:23:11.1±5.6, 38°.15N×72°.62E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=46.4km s-min=33.0km az=136.0*

ISC 16 11:23:09.4±0.9, 38°.00N±0°.08×73°.9E±0°.1, h152km, n28, σ2s06/31, mb3.7/3, 7C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.04**	**351**	⇓P	**Pn**	**11 23 47.0**	**+1.7**
	19nm,0.4s						
SFK				⇑S	**Sn**	**11 24 13.3**	**+0.4**
	136nm,0.4s						
AML	**Almayashu**	**4.13**	**358**	P	**Pn**	**11 24 12.7**	**+1.0**
	SNR=16						
KZA	**Kyzart**	**4.20**	**14**	P	**Pn**	**11 24 12.8**	**+0.2**
	SNR=14						
UCH	**Uchtor**	**4.25**	**6**	P	**Pn**	**11 24 14.0**	**+0.8**
	SNR=9.0						
MNAS	**Manas**	**4.61**	**347**	⇓P	**Pn**	**11 24 19.0**	**+1.2**
	4.2nm,0.4s						
MNAS				⇓S	**Sn**	**11 25 08.6**	**-2.6**
	37nm,0.6s						
AAK	**Ala-Archa**	**4.65**	**5**	P	**Pn**	**11 24 18.9**	**+0.6**
	0.6nm,0.3s,baz=171,slow=7.1,SNR=6.0						
AAK				S	**Sn**	**11 25 10.6**	**-1.4**
	1.4nm,0.3s,baz=159,slow=5.1,SNR=4.4						
AAK	**Ala-Archa**	**4.65**	**5**	⇑P	**Pn**	**11 24 20.8**	**+2.5**
	1.9nm,0.7s						
AAK				⇑S	**Sn**	**11 25 17.4**	**+5.3**
	23nm,0.9s						
EKS2	**Erkin-Say**	**4.66**	**359**	P	**Pn**	**11 24 20.9**	**+2.5**
	SNR=8.3						
TKM2	**Tokmak 2**	**5.08**	**14**	⇑P	Pn	11 24 29.5	+5.6
	2.2nm,0.5s						
TKM2				⇓S	Sn	11 25 34.1	+12
	15nm,0.6s						
TKM2	**Tokmak 2**	**5.08**	**14**	P	**Pn**	**11 24 25.2**	**+1.3**
	SNR=5.5						
KK31	**Karatay Array**	**5.72**	**334**	⇑P	**Pn**	**11 24 32.4**	**0.0**
	12nm,0.7s,baz=179,slow=15,SNR=86						
KK31				⇑S	**Sn**	**11 25 34.4**	**-2.9**
	5.5nm,0.2s,baz=176,slow=26,SNR=10						
MKAR	**Makanchi Array**	**10.73**	**32**	P	**Pn**	**11 25 37.0**	**-2.0**
	0.3nm,0.3s,baz=218,slow=16,SNR=4.2						
PYUN	**Piuthan**	**12.45**	**140**	*e*P	**Pn**	**11 26 00.7**	**-1.0**
	26nm,0.6s						
DANN	**Dangsing**	**12.66**	**137**	*e*P	**Pn**	**11 26 03.0**	**-1.4**
	11nm,0.4s						
KOLN	**Koldanda**	**13.03**	**139**	*e*P	**Pn**	**11 26 07.9**	**-1.3**
KURBB	**Kurchatov Arra**	**13.04**	**13**	P	**Pn**	**11 26 06.1**	**-2.7**
	0.0nm,0.3s,baz=195,slow=12,SNR=2.8						
PKI	**Pulchoki**	**14.18**	**134**	*e*P	**Pn**	**11 26 22.5**	**-1.3**
GUN	**Gumba**	**14.19**	**132**	*e*P	**Pn**	**11 26 22.9**	**-1.1**
	4.2nm,0.3s						
JIRN	**Jiri**	**14.56**	**132**	*e*P	**Pn**	**11 26 27.7**	**-1.0**
	11nm,0.4s						
AB31	**Akbulak array**	**15.11**	**323**	P	**Pn**	**11 26 35.1**	**+0.3**
	0.6nm,0.6s,baz=127,slow=14,SNR=16						
AB31				⇑S	**Sn**	**11 29 18.0**	**-4.7**
	1.3nm,0.7s,baz=144,slow=23,SNR=3.7						
BVAR	**Borovoye Array**	**15.22**	**352**	P	**Pn**	**11 26 35.2**	**-1.1**
	0.2nm,0.3s,baz=158,slow=9.5,SNR=3.5						
AKTO	**Aktyubinsk**	**16.83**	**325**	P	**Pn**	**11 26 57.5**	**+1.6**
	0.2nm,0.3s,baz=112,slow=14,SNR=3.7						
ZALV	**Zalesovo Beam**	**17.62**	**22**	P	**P**	**11 27 03.3**	**-0.8**
	0.8nm,0.3s,baz=219,slow=11,SNR=13						
KVAR	**Kislovodsk Arr**	**24.23**	**294**	LR	LR	11 39 31.2	
	comp=Z,75nm,19.4s,baz=267,slow=40						
FINES	**FINESS Array B**	**37.59**	**324**	P	**P**	**11 30 10.6**	**+1.8**
	3.8nm,0.7s,baz=103,slow=10,SNR=5.4						
ARCES	**ARCESS Array B**	**40.68**	**336**	P	**P**	**11 30 36.0**	**+1.6**
	1.5nm,0.8s,baz=108,slow=7.8,SNR=8.8						
TORD	**Torodi Ar. Bea**	**60.08**	**270**	P	**P**	**11 33 54.0**	**+1.0**
	0.6nm,0.5s,baz=53,slow=6.2,SNR=6.4						
FITZ	**Fitzroy Crossi**	**73.96**	**129**	LR	LR	12 13 56.8	
	comp=Z,47nm,18.0s,baz=18,slow=41						

IDC 16 11:48:16.6±3.4, 5°.50S×151°.53E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/39, mbtmp3.6/3, MS2.7/1, Ms1 2.7/1, ms1mx2.1/34, Error ellipse: s-maj=119.7km s-min=47.7km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.04**	**228**	P	P	11 53 13.6	+0.6
	1.2nm,0.8s,baz=53,slow=10,SNR=10						
ASAR	**Alice Springs**	**24.78**	**221**	P	P	11 53 39.8	-0.6
	0.6nm,0.8s,baz=59,slow=9.6,SNR=5.8						
FITZ	**Fitzroy Crossi**	**28.21**	**241**	P	P	11 54 11.3	0.0
	1.2nm,0.7s,baz=65,slow=14,SNR=4.9						
DAV	**Davao City (W)**	**76.83**	**295**	LR	LR	12 05 20.4	
	comp=Z,15nm,19.9s,baz=300,slow=36						
TORD	**Torodi Ar. Bea**	**149.31**	**286**	PKPbc	PKPbc	12 08 08.1	-0.4
	0.4nm,0.8s,baz=96,slow=1.4,SNR=2.6						

*IDC **16** 12:00:27.6±3.1, 10°.82S×164°.82E, h93km±26km, mb3.2/4, mb1 3.7/6, mb1mx3.4/51, mbtmp3.9/6, MS3.1/1, Ms1 3.1/1, ms1mx2.5/15, Error ellipse: s-maj=28.6km s-min=19.3km az=48.0*

ISC 16 12:00:21.8±1.4, 10°.6S±0°.1×164°.5E±0°.1, h31km, n13, σ2s26/10, mb3.4/4, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.61**	**284**	P	**Pb**	**12 01 39.9**	**-2.1**
	40nm,0.3s,baz=150,slow=8.7,SNR=11						
HNR				S	**Sb**	**12 02 37.3**	**+0.2**
	13nm,0.3s,baz=49,slow=20,SNR=3.0						
HNR	**Honiara**	**4.61**	**284**	*e*P	**Pb**	**12 01 40.0**	**-2.0**
HNR				*e*S	**Sb**	**12 02 38.0**	**+0.9**
DZM	**Mont Dzumac**	**11.56**	**171**	P	**Pn**	**12 03 06.8**	**+2.0**
	3.4nm,0.3s,baz=311,slow=19,SNR=130						
DZM				S	**Sn**	**12 05 09.4**	**-3.6**
	0.3nm,0.3s,baz=133,slow=19,SNR=3.1						
DZM				LR	LR	12 06 46.2	
	comp=Z,80nm,18.5s,baz=30,slow=34						
H11S2	**WAKE ISLAND Hy 28.99**	**4**		T	T	12 36 35.0	
	baz=184,slow=76,SNR=19						
H11S3	**WAKE ISLAND Hy 28.99**	**4**		T	T	12 36 37.1	
	baz=184,slow=76,SNR=15						
H11S1	**WAKE ISLAND Hy 29.00**	**4**		T	T	12 36 34.5	
	baz=184,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy 30.21**	**5**		T	T	12 38 04.2	
	baz=182,slow=76,SNR=20						
H11N3	**WAKE ISLAND Hy 30.22**	**5**		T	T	12 38 04.7	
	baz=182,slow=76,SNR=13						
H11N2	**WAKE ISLAND Hy 30.23**	**5**		T	T	12 38 05.6	
	baz=182,slow=76,SNR=18						
WRA	**Warramunga Arr**	**30.48**	**249**	P	**P**	**12 06 34.0**	**+1.8**
	0.3nm,0.6s,baz=78,slow=8.9,SNR=6.1						
ASAR	**Alice Springs**	**31.89**	**242**	P	**P**	**12 06 45.5**	**+0.9**
	0.4nm,0.7s,baz=63,slow=11,SNR=6.5						
FITZ	**Fitzroy Crossi**	**38.30**	**254**	P	**P**	**12 07 42.0**	**+2.1**
	1.5nm,0.8s,baz=104,slow=11,SNR=3.5						
ILAR	**Eielson Array**	**83.49**	**19**	P	**P**	**12 12 45.2**	**-1.0**
	0.2nm,0.6s,baz=255,slow=5.3,SNR=4.0						

IDC 16 12:00:54.8±2.7, 1°.78N×99°.46E, h164km±13km, mb3.2/4, mb1 3.3/4, mb1mx3.0/59, mbtmp3.7/4, Error ellipse: s-maj=194.2km s-min=18.1km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.14**	**332**	P	Pn	12 01 22.3	-0.1
	16nm,0.3s,baz=0.0,slow=19,SNR=26						
PSI				S	Sn	12 01 42.1	-1.4
	1.2nm,0.3s,baz=180,slow=17,SNR=6.9						
WRA	**Warramunga Arr**	**40.45**	**124**	P	P	12 08 17.6	0.0
	0.4nm,0.4s,baz=302,slow=9.0,SNR=8.1						
ASAR	**Alice Springs**	**41.98**	**129**	P	P	12 08 29.6	-0.4
	0.2nm,0.4s,baz=299,slow=6.6,SNR=5.3						
MKAR	**Makanchi Array**	**47.27**	**344**	P	P	12 09 11.3	-0.2
	0.5nm,0.3s,baz=160,slow=8.4,SNR=6.2						
ZALV	**Zalesovo Beam**	**53.38**	**349**	P	P	12 09 57.2	0.0
	1.1nm,0.5s,baz=167,slow=7.0,SNR=4.3						

MEX 16 12:06:01.4±0.3, 13°.51N×91°.85W, h26km±13km, MD3.7, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**2.55**	**329**	*e*P	Pn	12 06 39.3	-1.8
PCIG				*e*S	Sn	12 07 08.3	-3.0
CCIG	**Comitan**	**2.77**	**354**	*e*P	Pn	12 06 41.9	-2.3
CCIG				*i* S	Sn	12 07 14.2	-2.7
TGIG		**3.47**	**339**	*i* P	Pn	12 06 51.9	-2.0
TGIG				*i* S	Sn	12 07 32.0	-2.1

MEX 16 12:29:19.7±45.0, 25°.01N×99°.04W, h20km±999km, MD3.5, Northern Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNIG	**Linares**	**0.40**	**254**	*e*P	Pb	12 29 27.4	-0.7
	baz=246,slow=12						
LNIG				*i* S	Sb	12 29 31.7	-2.1

IDC 16 12:36:15.6±1.9, 5°.51S×151°.57E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/41, mbtmp3.9/5, ML1.3/1, Error ellipse: s-maj=102.3km s-min=24.1km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.83**	**228**	Pn	Pn	12 37 42.8	-0.7
	0.5nm,0.3s,baz=173,slow=16,SNR=2.2						
PMG				Sn	Sn	12 38 52.2	+1.0
	1.5nm,0.3s,baz=90,slow=14,SNR=3.0						
WRA	**Warramunga Arr**	**22.06**	**228**	P	P	12 41 12.8	+0.6
	4.2nm,0.9s,baz=53,slow=10,SNR=24						
ASAR	**Alice Springs**	**24.80**	**222**	P	P	12 41 39.4	-0.3
	2.0nm,0.8s,baz=59,slow=9.4,SNR=17						
FITZ	**Fitzroy Crossi**	**28.24**	**242**	P	P	12 42 11.2	+0.6
	3.1nm,0.8s,baz=59,slow=6.9,SNR=8.3						
ILAR	**Eielson Array**	**83.28**	**22**	P	P	12 48 44.5	+0.5
	0.7nm,0.9s,baz=255,slow=5.3,SNR=4.4						
TORD	**Torodi Ar. Bea**	**149.34**	**286**	PKPbc	PKPbc	12 56 06.0	-1.6
	0.6nm,0.6s,baz=90,slow=3.0,SNR=4.4						

*NIED **16** 12:41:00.38°.90N×142°.00E, h47km, Mw3.8 Best double couple: M0 6.33000×10^14 NP1:φs181.00000°, δ23.00000°, λ68.00000°. NP2:φs25.00000°, δ69.00000°, λ99.00000°.*
*ISCJB **16** 12:41:03.8±0.9, 38°.87N±0°.04×142°.12E±0°.10, h50km±7km, mb3.7/8, Error ellipse: s-maj=13.4km s-min=5.7km az=18.3*
*JMA **16** 12:41:05.6±0.1, 38°.89N×141°.97E, h50km±1km, M3.9*
JMA Felt II J1.
*IDC **16** 12:41:06.4±2.0, 38°.89N×142°.25E, h64km±18km, mb3.4/8, mb1 3.6/13, mb1mx3.4/51, mbtmp3.8/13, MS2.5/3, Ms1 2.5/3, ms1mx2.4/36, Error ellipse: s-maj=21.1km s-min=10.6km az=110.0*

ISC 16 12:41:04.4±1.5, 38°.85N±0°.05×142°.19E±0°.10, h42km±14km, n31, σ1s87/35, mb3.8/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.47**	**300**	P	**Pn**	**12 41 14.9**	**+0.1**
OFUJ				S	**Sn**	**12 41 21.2**	**-1.0**
JKMT	**Kesennumamotoy**	**0.56**	**266**	P	**Pn**	**12 41 15.7**	**-0.3**
JKMT				*i* S	**Sn**	**12 41 22.5**	**-1.8**
JMK	**Ichinoseki**	**0.77**	**278**	P	**Pn**	**12 41 18.0**	**-0.8**
JMK				S	**Sn**	**12 41 26.6**	**-2.5**
JIO	**Ouri**	**0.77**	**239**	P	**Pn**	**12 41 18.6**	**-0.2**
JIO				S	**Sn**	**12 41 27.4**	**-1.8**
JOM	**Ohasama**	**0.94**	**312**	P	**Pn**	**12 41 20.6**	**-0.5**
JOM				S	**Sn**	**12 41 31.3**	**-2.1**
JOU	**Okura**	**1.29**	**249**	P	**Pn**	**12 41 25.1**	**-0.9**
JOU				S	**Sn**	**12 41 40.1**	**-1.9**
JRG	**Rokugo**	**1.33**	**295**	P	**Pn**	**12 41 25.4**	**-1.1**
JYK	**Kaneyama**	**1.43**	**273**	P	**Pn**	**12 41 27.0**	**-0.9**
JMM	**Marumori**	**1.47**	**229**	P	**Pn**	**12 41 28.0**	**-0.4**
JMM				*e*S	**Sn**	**12 41 44.9**	**-1.6**
JANG	**Nango**	**1.61**	**341**	P	**Pn**	**12 41 30.3**	**-0.1**
MJAR	**Matsushiro Arr**	**3.91**	**235**	P	**Pn**	**12 42 03.6**	**+1.6**
	3.4nm,0.3s,baz=37,slow=12,SNR=48						
MJAR				S	**Sn**	**12 42 50.5**	**+4.0**
	1.3nm,0.3s,baz=84,slow=16,SNR=4.0						
MJAR				LR	LR	12 43 42.1	
	comp=Z,50nm,21.3s,baz=60,slow=39						
MAT	**Matsushiro**	**3.91**	**235**	P	**Pn**	**12 42 03.5**	**+1.6**
MAT				S	**Sn**	**12 42 50.3**	**+3.7**
ASAJ	**Asahikawa**	**5.27**	**3**	P	**Pn**	**12 42 22.6**	**+2.0**
	0.5nm,0.3s,baz=199,slow=17,SNR=7.5						
ASAJ				S	**Sn**	**12 43 21.3**	**+1.2**
	0.4nm,0.3s,baz=150,slow=20,SNR=2.1						
JHJ	**Hachijo jima 2**	**6.04**	**200**	P	**Pn**	**12 42 32.6**	**+1.4**
	2.9nm,0.3s,baz=50,slow=17,SNR=3.6						
JHJ				S	**Sn**	**12 43 35.9**	**-3.1**
	6.6nm,0.3s,baz=73,slow=19,SNR=3.7						
USRK	**Ussuriysk Ar.**	**9.33**	**308**	P	**Pn**	**12 43 18.9**	**+2.6**
	0.3nm,0.3s,baz=119,slow=14,SNR=12						
KSRS	**Korea Array**	**11.32**	**267**	P	**Pn**	**12 43 47.1**	**+3.6**
	0.2nm,0.3s,baz=85,slow=14,SNR=3.4						
KSRS				LR	LR	12 47 26.3	
	comp=Z,26nm,20.8s,baz=108,slow=33						
KLR	**Kul'dur**	**12.80**	**328**	LR	LR	12 48 55.5	
	comp=Z,41nm,21.7s,baz=90,slow=37						
SONM	**Songino Array**	**27.33**	**301**	P	**P**	**12 46 46.8**	**+1.4**
	0.4nm,0.6s,baz=100,slow=7.5,SNR=2.8						
H11N2	**WAKE ISLAND Hy 28.61**	**125**		T	T	13 17 23.8	
	baz=317,slow=75,SNR=557						
H11N1	**WAKE ISLAND Hy 28.62**	**125**		T	T	13 17 24.5	
	baz=317,slow=75,SNR=351						
H11N3	**WAKE ISLAND Hy 28.63**	**125**		T	T	13 17 25.3	
	baz=317,slow=75,SNR=478						
H11S1	**WAKE ISLAND Hy 29.39**	**127**		T	T	13 18 23.1	
	baz=318,slow=76,SNR=84						
H11S3	**WAKE ISLAND Hy 29.39**	**127**		T	T	13 18 21.2	
	baz=318,slow=76,SNR=118						
H11S2	**WAKE ISLAND Hy 29.40**	**127**		T	T	13 18 22.4	
	baz=318,slow=76,SNR=86						
ZALV	**Zalesovo Beam**	**41.17**	**311**	P	**P**	**12 48 43.5**	**-0.9**
	2.0nm,0.7s,baz=86,slow=7.9,SNR=6.1						
MKAR	**Makanchi Array**	**43.70**	**301**	P	**P**	**12 49 03.9**	**-1.3**
	1.6nm,0.6s,baz=85,slow=9.2,SNR=7.5						
ILAR	**Eielson Array**	**47.64**	**33**	P	**P**	**12 49 36.9**	**+0.9**
	0.3nm,0.6s,baz=267,slow=6.2,SNR=4.5						
WRA	**Warramunga Arr**	**58.94**	**189**	P	**P**	**12 50 59.4**	**0.0**
	0.6nm,0.5s,baz=6.4,slow=7.0,SNR=22						
ASAR	**Alice Springs**	**62.67**	**189**	P	**P**	**12 51 25.1**	**+0.4**
	0.4nm,0.7s,baz=12,slow=5.6,SNR=5.0						
FINES	**FINESS Array B**	**67.50**	**332**	P	**P**	**12 51 55.0**	**-0.7**
	1.6nm,0.8s,baz=73,slow=11,SNR=2.8						
PDAR	**Pinedale Array**	**75.96**	**46**	P	**P**	**

MTSU	**Mount Surprise** baz=14,SNR=12	14.28	210	P	P	12 51 42.0 +1.6
CTA	**Charters Tower** 0.2nm,0.3s,baz=10,slow=13,SNR=6.3	15.23	200	P	Pn	12 51 48.1 +1.5
CTA	comp=Z,979nm,19.4s,baz=13,slow=36			LR	LR	12 57 21.6
CTA	**Charters Tower** baz=15	15.23	200	P	P	12 51 51.6 +0.7
CTAO	**Charters Tower** 7.1nm,1.0s	15.23	200	ePn	P	12 51 50.3 -0.5
QIS	**Mount Isa** baz=19,SNR=11	18.85	217	P	P	12 52 32.0 +1.1
EIDS	**Eidsvold** 7.3nm,0.8s	19.54	182	eP	P	12 52 37.4 -1.1
FAKI	**Fak Fak** 16nm,1.1s	19.59	277	eP	P	12 52 38.6 -0.5
FAKI	**Fak Fak**	19.59	277	P	Pn	12 52 41.5 +0.8
GUMO	**Guam** comp=Z,297nm,18.3s,baz=66,slow=40	20.35	341	LR	LR	13 01 50.0
RMQ	**Roma** baz=21	20.84	187	P	P	12 52 53.1 +0.6
SIJI	**Sorong** 3.8nm,0.4s,baz=66,slow=10,SNR=4.2	20.95	283	P	P	12 52 54.3 +0.4
MTN	**Manton Dam** baz=21,SNR=19	21.48	249	P	P	12 52 59.4 -0.1
MTN	**Manton Dam** 31nm,1.0s	21.48	249	eP	P	12 52 59.1 -0.4
DZM	**Mont Dzumac** 22nm,1.1s,baz=24,slow=7.1,SNR=5.3	21.62	140	P	P	12 53 00.0 -1.1
DZM	comp=Z,872nm,20.5s,baz=246,slow=33			LR	LR	13 00 15.6
QLP	**Quilpie** baz=22,SNR=3.5	21.93	198	P	P	12 53 04.4 +0.2
WRAB	**Tennant Creek** 41nm,1.0s	22.00	228	eP	P	12 53 04.8 -0.3
WB2	**Warramunga Arr**	22.00	228	eP	P	12 53 05.3 +0.2
WR1	**Warramunga Arr** 48nm,1.1s	22.01	228	eP	P	12 53 03.8 -1.5
WR1				eS	S	12 57 03.1 -2.7
WRA	**Warramunga Arr** 12nm,0.4s,baz=54,slow=10,SNR=117	22.01	228	P	P	12 53 03.8 -1.5
WRA	4.3nm,1.1s,baz=55,slow=18,SNR=7.8			S	S	12 57 03.1 -2.7
WRA	comp=Z,352nm,20.7s,baz=55,slow=36			LR	LR	13 01 32.9
ARMA	**Armidale** baz=25	24.56	180	P	P	12 53 31.3 +1.0
KNRA	**Kununurra** baz=24,SNR=3.6	24.58	244	P	P	12 53 30.6 0.0
AS01	**Alice Springs**	24.70	222	eP	P	12 53 31.7 +0.1
AS31	**Alice Springs** 9.6nm,1.0s	24.73	222	eP	P	12 53 32.2 +0.3
ASAR	**Alice Springs** 34nm,1.0s,baz=58,slow=8.6,SNR=101	24.73	222	P	P	12 53 31.5 -0.4
ASAR	1.1nm,0.8s,baz=35,slow=3.4,SNR=3.9			PcP	PcP	12 57 07.7 -0.4
ASAR	0.6nm,1.1s,baz=39,slow=19,SNR=2.4			S	S	12 57 53.0 +1.9
ASAR	comp=Z,285nm,21.0s,baz=50,slow=36			LR	LR	13 02 54.2
CMSA	**Cobar Meteorol** baz=26,SNR=6.8	26.29	192	P	P	12 53 45.4 -0.5
SOEI	**Soe** 28nm,0.9s	27.46	260	eP	P	12 53 56.5 -0.3
SOEI	**Soe**	27.46	260	P	P	12 54 03.0 +6.2
STKA	**Stephens Creek** 3.2nm,0.8s,baz=13,slow=13,SNR=3.3	27.68	199	P	P	12 53 56.3 -2.1
STKA	**Stephens Creek** 1.4nm,1.1s	27.68	199	eP	P	12 53 56.9 -1.5
BATI	**Baumata** 19nm,0.7s,baz=133,slow=4.3,SNR=7.4	28.11	259	P	P	12 54 02.9 +0.4
BATI	comp=Z,695nm,22.0s,baz=121,slow=40			LR	LR	13 07 11.1
BATI	**Baumata**	28.11	259	P	P	12 54 04.8 +2.3
FITZ	**Fitzroy Crossi** 17nm,0.8s,baz=51,slow=8.1,SNR=62	28.25	242	P	P	12 54 03.1 -0.5
FITZ	comp=Z,252nm,18.1s,baz=58,slow=38			LR	LR	13 06 03.9
FITZ	**Fitzroy Crossi** baz=28,SNR=13	28.25	242	P	P	12 54 03.2 -0.5
FITZ	**Fitzroy Crossi** 22nm,0.9s	28.25	242	eP	P	12 54 03.5 -0.2
DAV	**Davao City (W)** comp=Z,389nm,18.3s,baz=128,slow=35	29.00	296	LR	LR	13 05 24.6
WRKA	**Warakurna** baz=30,SNR=14	29.53	227	P	P	12 54 14.3 -0.7
EDFI	**Ende, Flores**	29.91	262	P	P	12 54 17.0 -1.6
BBOO	**Buckleboo**	30.64	206	eP	P	12 54 23.6 -1.1
WBSI	**Waikabubak, Su**	32.24	261	P	P	12 54 38.6 -0.4
FORT	**Forrest** 24nm,0.9s	33.38	219	eP	P	12 54 48.2 -0.5
PLAI	**Plampang**	33.78	263	P	P	12 54 56.3 +3.9
MBWA	**Marble Bar** 18nm,0.7s	34.56	241	eP	P	12 54 59.1 0.0
MEEK	**Meekatharra** baz=38,SNR=30	37.77	233	P	P	12 55 26.1 -0.4
KMBL	**Kambalda** baz=38,SNR=5.7	37.83	224	P	P	12 55 26.6 -0.4
MORW	**Morawa** baz=41,SNR=4.1	40.91	231	P	P	12 55 52.5 -0.2
CISI	**Cisompet, Garu** 34nm,1.0s	43.61	265	eP	P	12 56 14.5 -0.5
MJAR	**Matsushiro Arr** comp=Z,180nm,19.9s,baz=205,slow=34	43.90	344	LR	LR	13 13 25.0
KSRS	**Korea Array** comp=Z,101nm,20.6s,baz=137,slow=34	48.34	335	LR	LR	13 15 59.4
USRK	**Ussuriysk Ar.** comp=Z,124nm,18.4s,baz=167,slow=36	52.77	342	LR	LR	13 19 35.7
CMAR	**Chiang Mai Arr** 0.8nm,0.3s,baz=108,slow=5.1,SNR=5.7	57.28	296	P	P	12 57 58.4 +0.2
CMAR	comp=Z,83nm,18.4s,baz=120,slow=36			LR	LR	13 22 50.3
PETK	**Petropavlovsk-** 5.3nm,0.9s,baz=175,slow=7.4,SNR=4.3	58.83	4	P	P	12 58 09.3 +1.0
PETK	comp=Z,118nm,18.0s,baz=178,slow=38			LR	LR	13 25 44.1
PEA1	**Petropavlovsk-**	58.84	4	eP	P	12 58 09.3 +0.9
SONA0	**Songino Array**	66.53	329	eP	P	12 58 60.0 +0.1
SONM	**Songino Array** 1.9nm,0.7s,baz=139,slow=3.9,SNR=11	66.53	329	P	P	12 58 60.0 +0.1
SONM	comp=Z,158nm,19.4s,baz=159,slow=36			LR	LR	13 28 03.6
SONA1	**Songino Array**	66.53	329	eP	P	12 59 00.1 +0.2
VNDA	**Vanda** 5.1nm,1.1s,baz=327,slow=6.1,SNR=8.4	71.95	178	P	P	12 59 31.6 -1.2
VNDA	**Vanda**	71.95	178	eP	P	12 59 33.4 +0.6
MK32	**Makanchi Array**	80.30	319	eP	P	13 00 19.8 -1.1
MKAR	**Makanchi Array** 1.0nm,0.8s,baz=112,slow=6.1,SNR=3.0	80.30	319	P	P	13 00 19.8 -1.1
ZALV	**Zalesovo Beam** 2.7nm,0.8s,baz=99,slow=4.7,SNR=8.6	81.31	327	P	P	13 00 24.3 -1.7
ZAA1	**Zalesovo Array**	81.31	327	eP	P	13 00 24.3 -1.7
IM3	**Indian Mountai**	81.62	20	eP	P	13 00 28.2 +0.7
MCK	**McKinley** 19nm,1.2s	82.14	23	eP	P	13 00 30.3 +0.1
MLY	**Manley** 6.9nm,0.7s	82.14	21	eP	P	13 00 30.9 +0.7
DHY	**Denali Highway** 13nm,1.2s	82.42	24	eP	P	13 00 32.9 +1.0
CCB	**Clear Creek Bu** 11nm,1.1s	83.02	22	eP	P	13 00 34.1 -0.7
COLA	**College** 8.4nm,0.8s	83.11	22	eP	P	13 00 34.7 -0.5
HDA	**Harding Lake** 4.3nm,0.9s	83.23	23	eP	P	13 00 35.1 -0.8
ILAR	**Eielson Array** 4.3nm,0.7s,baz=254,slow=5.0,SNR=50	83.42	22	P	P	13 00 35.6 -1.3
ILB	**Eielson Array**	83.42	22	eP	P	13 00 35.4 -1.5
IL1	**Eielson Array**	83.43	22	eP	P	13 00 36.1 -0.8
KURK	**Kurchatov**	83.82	322	eP	P	13 00 37.4 -1.7
KURBB	**Kurchatov Arra** 2.1nm,0.8s,baz=113,slow=4.3,SNR=12	83.85	322	P	P	13 00 37.4 -1.9
EGAK	**Eagle** 11nm,1.0s	85.64	23	eP	P	13 00 48.7 +0.7
DAWY	**Dawson** 4.1nm,1.0s	86.08	24	eP	P	13 00 50.2 -0.1
BVAR	**Borovoye Array** 0.9nm,0.5s,baz=102,slow=4.0,SNR=6.7	89.32	323	P	P	13 01 05.4 -0.6
INK	**Inuvik** 8.4nm,1.1s	89.71	21	eP	P	13 01 06.0 -1.5
YBH	**Yreka Blue Hor** comp=Z,230nm,21.6s,baz=137,slow=30	90.49	48	LR	LR	13 33 02.1
NV01	**Mina Array Sit**	93.52	52	eP	P	13 01 25.6 -0.6
NVAR	**Mina Array Bea** 2.2nm,0.8s,baz=246,slow=4.4,SNR=14	93.52	52	P	P	13 01 25.6 -0.6
YKA	**Yellowknife Ar** 1.3nm,0.8s,baz=278,slow=5.1,SNR=4.9	96.75	28	P	P	13 01 40.0 -0.1
YKA	**Yellowknife Ar**	96.75	28	P	P	13 01 40.0 -0.1
PDAR	**Pinedale Array** 0.4nm,0.8s,baz=197,slow=0.9,SNR=3.2	100.28	48	P	Pdif	13 01 57.4 +0.7
GERES	**GERESS Array B** 1.0nm,0.7s,baz=14,slow=2.8,SNR=6.3	124.25	328	PKP	PKPdf	13 07 07.2 -1.5
LPAZ	**La Paz** 1.1nm,0.8s,baz=214,slow=3.6,SNR=4.0	134.94	120	PKP	PKPdf	13 07 29.1 -1.4
TORD	**Torodi Ar. Bea** 11nm,1.1s,baz=21,slow=1.1,SNR=38	149.53	286	PKPbc	PKPbc	13 07 58.2 -1.8
TOA1	**Torodi Ar. Sit**	149.53	286	ePKPbc	PKPbc	13 07 58.2 -1.8

GUC 16 12:53:38.4±0.5, 23.61S×67.56W, h262km±10km, ML3.5, 3C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	1.80	282	i	P	Pn		12 54 21.8	+1.4
PB15				i	S	S		12 54 55.4	+1.8
PB06	**IPOC Station P**	2.06	295	↑i	P	Pn		12 54 24.4	+1.8
PB06				i	S	S		12 54 59.3	+1.7
PB06	comp=N,71nm,0.1s				IAML			12 55 01.6	
PB09	**IPOC Station P**	2.38	319	eP		Pn		12 54 27.4	+1.8
PB09				i	S	S		12 55 05.4	+2.4
GO02	**Mina Guanaco**	2.41	230	↑i	P	Pn		12 54 25.9	-0.1
GO02				i	S	S		12 55 02.7	-1.0
PB05	**IPOC Station P**	2.54	287	eP		Pn		12 54 29.7	+2.6
PB05				i	S	S		12 55 07.8	+2.1
PB03	**IPOC Station P**	2.55	307	i	P	Pn		12 54 29.4	+2.1
PB03				↓i	S	S		12 55 07.9	+2.0
PB03	comp=N,62nm,0.2s				IAML			12 55 09.1	
PB07	**IPOC Station P**	2.85	311	↑i	P	Pn		12 54 32.6	+2.3
PB07				i	S	S		12 55 13.7	+2.3
PB07	comp=N,50nm,0.3s				IAML			12 55 16.4	
PB01	**IPOC Station P**	3.11	325	↓i	P	Pn		12 54 34.9	+1.9
PB01				i	S	S		12 55 18.1	+1.7
PB01	comp=E,44nm,0.1s				IAML			12 55 20.6	
PB02	**IPOC Station P**	3.14	316	eP		Pn		12 54 35.6	+2.3
PB02				i	S	S		12 55 19.0	+2.2

IDC 16 12:56:39.3±2.2, 5.51S×151.44E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/49, mbtmp3.5/4, ML1.6/1, MS3.5/1, Ms1 3.5/1, ms1mx2.9/21, Error ellipse: s-maj=183.1km s-min=24.5km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 1.1nm,0.3s,baz=60,slow=20,SNR=3.7	5.75	227	Pn		Pn		12 58 07.7	+1.7
PMG	1.2nm,0.3s,baz=72,slow=20,SNR=3.6			Sn		Sn		12 59 15.3	+2.7
WRA	**Warramunga Arr** 0.6nm,0.7s,baz=51,slow=9.7,SNR=4.6	21.97	228	P		P		13 01 35.1	+0.1
ASAR	**Alice Springs** 1.0nm,0.7s,baz=53,slow=8.9,SNR=9.0	24.72	221	P		P		13 02 01.6	-1.0
KLR	**Kul'dur** comp=Z,40nm,18.4s,baz=189,slow=36	57.16	345	LR		LR		13 30 55.1	
ILAR	**Eielson Array** 0.3nm,0.8s,baz=248,slow=4.8,SNR=4.6	83.32	22	P		P		13 09 08.1	+0.2

NNC 16 12:56:48.4±3.9, 37.70N×71.26E, h0km, mb3.6, mpv3.2, 4C-4D, Error ellipse: s-maj=29.6km s-min=24.6km az=169.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan** 6.2nm,0.3s	2.90	36	↓Pn		Pn		12 57 35.9	-0.2
SFK	17nm,0.3s			↓Sn		Sn		12 58 12.8	+1.1
MNAS	**Manas** 1.2nm,0.3s	4.88	11	↓Pn		Pn		12 58 03.3	+0.2
MNAS	16nm,0.6s			↑Sn		Sn		12 59 00.6	+0.2
KK31	**Karatay Array** 0.5nm,0.3s,baz=182,slow=14,SNR=7.1	5.43	354	↓Pn		Pn		12 58 11.7	+1.1
KK31	6.5nm,0.5s,baz=184,slow=27,SNR=5.2			↑Sn		Sn		12 59 15.7	+1.9
AAK	**Ala-Archa** 1.2nm,0.3s	5.52	26	↑Pn		Pn		12 58 11.6	-0.4
AAK	4.7nm,0.8s			↑Sn		Sn		12 59 18.0	+1.7

UCR ***16*** *13:01:57.0±1.8, 13.95N×92.25W, h25km, MD4.3, ML4.5, mb4.8(NEIC)*

MEX ***16*** *13:01:58.8±0.4, 13.75N×92.10W, h16km±23km, MD4.7*

GCMT ***16*** *13:02:00.3±0.2, 13.80N±0.01×92.22W±0.02, h19km, MW5.1/87, Moment Tensor Solution. s60,c88; s87,c139; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.21±.15; Mθθ-5.23±.12; Mφφ2.01±.12; Mrθ2.39±.23; Mrφ0.43±.09; Mθφ-0.97±.27; Best double couple: Mo5.04000×10¹⁶ NP1:φs111.00000°,δ63.00000°,λ112.00000°. NP2: φs249.00000°,δ34.00000°,λ54.00000°. Principal axes: T 4.1650, Plg65.0000°, Azm60.0000°; N 1.7410, Plg19.0000°, Azm280.0000°; P -5.9150, Plg15.0000°, Azm185.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***16*** *13:02:01.3±0.3, 13.87N×91.86W, h35km, mb4.8/200, MD4.7(MEX) Error ellipse: s-maj=5.2km s-min=3.6km az=215.0*

ISCJB ***16*** *13:02:03.0±0.4, 14.01N±0.02×91.77W±0.02, h73km±3km, mb4.7/172, Error ellipse: s-maj=4.2km s-min=2.6km az=139.8*

IDC ***16*** *13:02:06.0±1.8, 14.00N×91.64W, h87km±14km, mb4.2/22, mb1 4.4/25, mb1mx4.3/39, mbtmp4.6/25, MS4.4/25, Ms1 4.4/25, ms1mx4.3/35, Error ellipse: s-maj=18.8km s-min=9.5km az=58.0*

ISC 16 13:01:59.1±1.3, 13.91N±0.05×92.03W±0.04, h26km±9km, n734, σ1§69/734, mb4.8/173, MS4.5/28, 2C, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		1.01	347	eP		Pb		13 02 17.0	-0.9
THIG				i	S	Sb		13 02 30.4	-0.5
THIG		1.01	347	eP		Pb		13 02 17.0	-0.9
THIG				i	S	Sb		13 02 30.4	-0.5
APG	**El Apazote** 555nm,0.3s,baz=197,slow=11,SNR=970	1.87	54	P		Pb		13 02 32.0	-0.6
APG	257nm,0.3s,baz=255,slow=21,SNR=7.2			S		Sn		13 02 51.8	-0.6
APG	comp=Z,2μm,20.5s,baz=212,slow=33			LR		LR		13 02 56.1	
PCIG		2.12	327	eP		Pn		13 02 31.4	-1.4
PCIG		2.12	327	eP		Pn		13 02 31.4	-1.4
PCIG				i	S	Sn		13 02 58.2	-0.1
RTR	**El Retiro**	2.32	90	eP		Pn		13 02 36.7	+0.9
CEVE	**Cerro Verde**	2.34	92	eP		Pn		13 02 36.8	+0.7
CEVE				eS		Sb		13 03 09.7	+0.3
CEVE	comp=Z,14μm,0.4s				IAML			13 03 19.5	
SBLS	**San Blas**	2.34	92	eP		Pn		13 02 36.5	+0.4
CCIG	**Comitan**	2.36	358	ePn		Pb		13 02 39.8	-1.2
CCIG				eSn		Sb		13 03 09.5	-2.2
CCIG	**Comitan**	2.36	358	eP		Pn		13 02 36.2	+0.0
CCIG				eS		Sn		13 03 05.6	+1.2
MTO3	**Montecristo**	2.64	79	↑eP		Pn		13 02 41.5	+1.3
MTO3				eS		Sb		13 03 17.0	-0.9
MTO3	comp=Z,756nm,0.5s				IAML			13 03 29.3	
BOQS	**Boqueron**	2.68	93	eP		Pn		13 02 41.6	+0.8
UEES	**San Salvador**	2.72	94	eP		Pn		13 02 42.2	+1.1
SNET	**Serv Nac Est T**	2.73	94	ePn		Pn		13 02 41.8	+0.4
SNET	**Serv Nac Est T**	2.73	94	eP		Pn		13 02 42.1	+0.8
SNET				eS		Sn		13 03 16.7	+3.1
LFU	**La Fuente**	2.84	93	eP		Pn		13 02 43.9	+1.1
LFRS	**El Faro**	2.90	95	↑eP		Pn		13 02 44.4	+0.7
LBRS	**Las Brisas**	2.91	93	eP		Pn		13 02 44.8	+1.0
PAVA	**Las Pavas**	3.02	93	eP		Pn		13 02 46.2	+1.0
TGIG		3.04	340	eP		Pn		13 02 45.8	+0.4
TGIG		3.04	340	eP		Pn		13 02 45.8	+0.4
TGIG				i	S	Sn		13 03 21.9	+0.9
SNVI	**San Vicente**	3.12	95	eP		Pn		13 02 48.2	+1.5
LCY	**Lacayo**	3.67	97	eP		Pn		13 02 55.7	+1.5
LCND	**La Ca¨–ada**	4.07	98	eP		Pn		13 03 00.7	+0.9
LCND	comp=Z,2μm,0.4s				IAML			13 03 09.6	
CMIG	**Matias Romero** comp=Z,8.3nm,0.3s,baz=156,slow=14,SNR=68	4.19	319	P		Pn		13 03 00.6	-0.6
CMIG				S		Sn		13 03 47.6	-1.8
HUIG	**Huatulco**	4.35	296	eP		Pn		13 03 01.7	-1.9
HUIG	**Huatulco**	4.35	296	eP		Pn		13 03 01.7	-1.9
HUIG				eS		Sn		13 03 51.4	-2.0
CSGN	**Cosiguina Volc**	4.45	102	ePn		Pn		13 03 06.8	+1.7
CSGN				eSn		Sn		13 03 53.7	-2.3
CSGN	**Cosiguina Volc**	4.45	102	eP		Pn		13 03 06.0	+1.0
CSGN				eS		Sn		13 04 02.3	+6.3
CNGN	**Cerro Negro**	5.38	105	eP		Pn		13 03 18.5	+0.7
MOMN	**Momotombo**	5.56	105	eP		Pn		13 03 20.3	+0.2
ESTN	**Estel**	5.57	98	ePn		Pn		13 03 20.8	+0.4
ESTN	**Estel**	5.57	98	eP		Pn		13 03 20.6	+0.2
COPN	**Copaltepe**	5.58	107	eP		Pn		13 03 20.7	+0.3
MATN	**Matagalpa**	6.02	99	eP		Pn		13 03 26.6	0.0
MASN	**Masaya**	6.05	108	eP		Pn		13 03 31.0	+4.1
BOAB	**BOACO BROADBAN**	6.37	102	ePn		Pn		13 03 31.3	0.0
BOAB				eSn		Sn		13 04 40.4	-2.8
BOAB	**BOACO BROADBAN**	6.37	102	eP		Pn		13 03 31.1	-0.2
ACON	**Acoyapa**	6.96	105	eP		Pn		13 03 38.3	-1.2
LVIG	**Laguna Verde**	7.14	325	ePn		Pn		13 03 41.3	-0.6
TEIG	**Tepich**	7.23	29	ePn		Pn		13 03 45.7	+2.6
TEIG	**Tepich**	7.23	29	eP		Pn		13 03 45.3	+2.2
TLIG	**Tlapa**	7.26	301	ePn		Pn		13 03 45.9	+2.2
MYIG	**MÖrida**	7.34	17	ePn		Pn		13 03 46.5	+1.9
PLVR	**Palo Verde**	7.43	118	eP		Pn		13 03 48.0	+2.0
ESPN	**Las Esperanzas**	7.73	102	ePn		Pn		13 03 50.6	+0.6
ESPN	**Las Esperanzas**	7.73	102	eP		Pn		13 03 52.6	+2.6
JTS	**JuntasAbangare** comp=Z,14nm,0.3s,baz=23,slow=12,SNR=9.4	7.80	117	P		Pn		13 03 53.0	+1.9
JTS	baz=360,slow=19,SNR=1.3			S		Sn		13 05 13.0	-5.6
JTS	**JuntasAbangare**	7.80	117	eP		Pn		13 03 54.0	+2.9
HDC	**Heredia**	8.57	116	eP		Pn		13 04 06.7	+3.6
CVTR	**Volcan Turrial**	8.97	115	eP		Pn		13 04 09.0	+1.6
URSC	**Urasca**	9.04	116	eP		Pn		13 04 10.9	+2.8
ICCO	**Coco Island**	9.65	149	eP		Pn		13 04 18.2	+1.8
PRVC	**Isla de Provid**	10.39	92	eP		Pn		13 04 20.7	-5.8
MOIG	**Morelia**	10.47	304	ePn		Pn		13 04 31.6	+3.7
JRQG	**Juriquilla Cam**	10.49	311	ePn		Pn		13 04 32.1	+4.0
BCIP	**Isla Barro Col**	12.85	110	ePn		Pn		13 05 01.1	+1.0
BCIP	**Isla Barro Col**	12.85	110	eP		P		13 05 06.4	-4.3
LNIG	**Linares**	12.98	328	ePn		Pn		13 05 06.3	+4.4
AZU	**Azuero**	13.05	117	eP		Pn		13 05 01.2	-1.7
ZAIG	**Zacatecas**	13.32	313	ePn		Pn		13 05 10.7	+3.9
PAYG	**Puerto Ayora**	14.60	173	ePn		Pn		13 05 24.4	+0.4
UPD2	**Meteti**	14.75	110	eP		P		13 05 34.3	+2.4
061Z	**Ochoppi** comp=Z,153nm,0.8s	15.82	40	ePn		Pn		13 05 42.0	+1.8
061Z	**Ochoppi** baz=223	15.82	40	P		Pn		13 05 38.3	-1.9
833A	**Chaparral WMA,** comp=Z,49nm,0.8s	15.89	336	ePn		Pn		13 05 42.8	+1.8
833A	**Chaparral WMA,** baz=153	15.89	336	P		Pn		13 05 41.5	+0.5
058A	**Arcadia** baz=217	16.20	35	P		Pn		13 05 44.5	-0.4
SOLC	**Bahia Solano**	16.29	117	eP		Pn		13 05 46.6	+0.3
HKT	**Hockley** comp=Z,59nm,1.5s	16.34	348	ePn		P		13 05 49.4	0.0
059A	**Moore Haven** comp=Z,133nm,1.1s	16.50	36	ePn		Pn		13 05 48.8	0.0
958A	**Wauchula** baz=216	16.64	34	P		Pn		13 05 50.0	-0.6
441A	**DeRidder** baz=176	16.79	357	P		P		13 05 54.4	0.0
MOTC	**Monteria, Cord**	16.84	106	eP		Pn		13 05 49.9	-3.3
857A	**Zephyrhills** baz=214	16.95	31	P		Pn		13 05 54.0	-0.4
060A	**Indiantown** comp=Z,176nm,0.8s	17.01	38	ePn		Pn		13 05 53.5	-1.7
DWPF	**Disney Wildern** comp=Z,83nm,0.8s	17.23	33	ePn		Pn		13 05 59.0	+1.0
DWPF	**Disney Wildern** baz=216	17.23	33	P		Pn		13 05 58.4	+0.4
858A	**St. Cloud** baz=216	17.35	33	P		P		13 06 00.6	0.0
342A	**Flagon Creek P** comp=Z,73nm,1.2s	17.38	359	ePn		Pn		13 06 00.5	+0.7
859A	**Kempfer Cattle** baz=218	17.48	35	P		Pn		13 06 01.5	+0.4
344A	**Westbrook Farm**	17.50	4	ePn		P		13 06 03.1	+0.8
344A	**Westbrook Farm** baz=184	17.50	4	P		P		13 06 03.7	+1.5
655A	**Horseshoe Beac** baz=209	17.52	26	P		Pn		13 06 02.4	+0.9
435B	**Jarrell** comp=Z,36nm,1.0s	17.55	344	ePn		P		13 06 03.8	+0.9
435B	**Jarrell** baz=161	17.55	344	P		P		13 06 04.3	+1.4
346A	**Big Creek Wild** comp=Z,59nm,0.9s	17.55	7	ePn		P		13 06 04.4	+1.6
346A	**Big Creek Wild** baz=188	17.55	7	P		P		13 06 03.5	+0.7
757A	**Oxford** baz=213	17.58	30	P		Pn		13 06 03.0	+0.7
451A	**Vernon** baz=200	17.60	18	P		Pn		13 06 03.1	+0.5
553A	**Crawfordville** baz=204	17.65	22	P		P		13 06 05.1	+1.1
347A	**Saraland** baz=191	17.70	10	P		P		13 06 05.2	+0.7
656A	**Willston** comp=Z,114nm,0.8s	17.72	28	ePn		P		13 06 06.4	+1.7
656A	**Willston** baz=211	17.72	28	P		Pn		13 06 04.3	+0.3
BRAL	**Brewton** comp=Z,142nm,0.8s	17.77	14	ePn		P		13 06 08.8	+3.4
BRAL	**Brewton** baz=195	17.77	14	P		Pn		13 06 05.2	+0.6
348A	**Jackson** comp=Z,126nm,1.0s	17.83	12	ePn		P		13 06 09.7	+3.8
348A	**Jackson** baz=193	17.83	12	P		P		13 06 06.5	+0.6
554A	**Perry** baz=207	17.84	24	P		P		13 06 06.8	+0.7
243A	**Waterproof** baz=181	17.89	2	P		P		13 06 07.8	+1.3
349A	**Repton** baz=195	17.92	14	P		P		13 06 07.4	+0.5
PLMC	**San Jos¨ del**	17.92	118	eP		P		13 06 08.2	+1.0
NATX	**Nacogdoches** comp=Z,109nm,1.4s	17.93	353	ePn		P		13 06 09.7	+2.7
NATX	**Nacogdoches** baz=171	17.93	353	P		P		13 06 08.9	+1.9
HELC	**Santa Helena**	17.96	114	eP		Pn		13 06 08.0	+0.5
JCT	**Junction City** comp=Z,18nm,0.8s	17.98	338	ePn		P		13 06 11.2	+3.6
JCT	**Junction City** baz=154	17.98	338	P		P		13 06 09.0	+1.4
452A	**Marianna** baz=201	18.00	19	P		P		13 06 08.5	+0.7
ZARC	**Zaragoza, Cauc**	18.04	109	eP		Pn		13 06 06.8	-1.2
241A	**Mo Tay, Goldon** comp=Z,87nm,1.1s	18.04	358	ePn		P		13 06 10.9	+2.7
241A

baz=184
453A **Whigham** 18.29 22 eP P 13 06 15.9 +4.9
comp=Z,142nm,1.2s
453A **Whigham** 18.29 22 P Pn 13 06 11.2 +0.1
baz=204
556A **Lake Butler** 18.32 27 P P 13 06 10.7 -0.6
baz=210
247A **Quitman** 18.32 9 P Pn 13 06 13.2 +1.7
baz=190
SMLC **San Mart`n de** 18.32 104 eP Pn 13 06 13.5 +1.9
248A **Dixon Mills** 18.52 12 P Pn 13 06 15.8 +2.0
baz=193
249A **Camden** 18.53 13 P Pn 13 06 14.8 +0.9
baz=195
GUYC **Guyana, Colomb** 18.53 116 eP Pn 13 06 16.0 +1.4
CODC **Agust`›n Codaz** 18.61 100 eP P 13 06 14.7 0.0
557A **Orange Park** 18.64 29 P P 13 06 15.2 +0.4
baz=212
352A **Blakely** 18.66 19 eP Pn 13 06 20.2 +4.7
comp=Z,76nm,0.8s
352A **Blakely** 18.66 19 P Pn 13 06 16.2 +0.7
baz=201,SNR=8.9
WHTX **Lake Whitney,** 18.67 345 eP Pn 13 06 19.0 +3.4
comp=Z,49nm,1.1s
WHTX **Lake Whitney,** 18.67 345 P Pn 13 06 17.0 +1.4
baz=163
144A **Alexander Plac** 18.69 4 P Pn 13 06 17.1 +1.3
baz=184
455A **Stateville** 18.69 25 P P 13 06 15.9 +0.5
baz=208
143A **Socs Landing,** 18.71 2 eP Pn 13 06 17.8 +1.6
comp=Z,54nm,0.9s
143A **Socs Landing,** 18.71 2 P Pn 13 06 16.8 +0.7
baz=181
RREF **El Recreo** 18.73 117 eP Pn 13 06 18.9 +1.8
250A **Grady** 18.74 15 eP Pn 13 06 18.0 +1.5
comp=Z,55nm,0.9s
250A **Grady** 18.74 15 P P 13 06 16.3 +0.3
baz=197
TXAR **Lajitas Array** 18.75 327 P Pn 13 06 18.9 +2.2
comp=Z,0.6nm,0.3s,baz=152,slow=11,SNR=86
TXAR LR LR 13 14 03.4
comp=Z,376nm,19.7s,baz=0.0,slow=38
TX31 **Lajitas Ar. Si** 18.75 327 eP Pn 13 06 19.2 +2.5
PTBC **PUERTO BERRIO,** 18.78 111 eP P 13 06 16.1 -0.4
353A **Camilla** 18.78 21 P P 13 06 16.5 +0.2
baz=204,SNR=6.1
H06S1 **SOCORRO T** 18.78 287 T T 13 25 34.3
SNR=75
H06N1 **SOCORRO T-PHAS** 18.83 288 T T 13 25 33.1
SNR=33
146A **Union** 18.84 8 P Pn 13 06 18.0 +0.4
baz=188
ANIL **Santa Ana** 18.88 118 eP Pn 13 06 20.1 +1.4
TOLC **Tolima** 18.91 118 eP P 13 06 18.8 +0.5
147A **Livingston** 18.99 10 eP Pn 13 06 21.7 +2.2
comp=Z,106nm,1.2s
147A **Livingston** 18.99 10 P Pn 13 06 19.8 +0.3
baz=191
251A **Midway** 19.08 17 P P 13 06 20.2 +0.5
baz=199
148A **Greensboro** 19.09 12 P P 13 06 20.1 +0.4
baz=193
TIGA **Tifton** 19.09 23 P P 13 06 20.3 +0.5
baz=205
OTAV **Otavalo** 19.12 134 eP P 13 06 15.3 -5.4
comp=Z,36nm,1.5s
252A **Lumpkin** 19.20 19 P Pn 13 06 22.5 +0.4
baz=201
149A **Jones** 19.21 14 P P 13 06 22.0 +0.9
baz=195
OCAC **Ocana** 19.21 105 eP P 13 06 21.0 -0.4
Z41A **Richland Creek** 19.27 358 eP Pn 13 06 25.7 +2.8
comp=Z,76nm,1.0s
Z41A **Richland Creek** 19.27 358 P P 13 06 22.6 +0.9
baz=177
Z42A **Norrel Spur, H** 19.27 0 P Pn 13 06 23.1 +0.2
baz=180
355A **Pearson** 19.29 24 P Pn 13 06 23.6 +0.5
baz=207
CRUC **La Cruz** 19.31 128 eP Pn 13 06 23.9 0.0
Z46A **Louisville** 19.40 8 P P 13 06 22.7 -0.5
baz=188
150A **Eclectic** 19.40 15 P P 13 06 23.9 +0.7
baz=197,SNR=9.9
253A **Americus** 19.46 21 eP Pn 13 06 31.8 +6.7
comp=Z,50nm,0.9s
253A **Americus** 19.46 21 P P 13 06 24.2 +0.4
baz=203
Z45A **Winona** 19.49 6 P P 13 06 25.0 +0.9
baz=186
151A **Opelika** 19.52 17 P P 13 06 25.6 +1.1
baz=199,SNR=17
Z47A **Carrollton** 19.54 10 P Pn 13 06 26.0 0.0
baz=191,SNR=8.9
LRAL **Lakeview Retre** 19.58 13 eP Pn 13 06 27.1 +0.5
comp=Z,50nm,1.0s
LRAL **Lakeview Retre** 19.58 13 P P 13 06 26.4 +1.3
baz=194,SNR=18
ROSC **El Rosal** 19.65 116 P P 13 06 27.0 +0.5
comp=Z,1.5nm,0.3s,baz=39,slow=4.2,SNR=35
ROSC **El Rosal** 19.65 116 eP Pn 13 06 29.9 +1.9
comp=Z,184nm,1.4s
ROSC **El Rosal** 19.65 116 eP Pn 13 06 29.4 +1.5
254A **Abbeville** 19.65 23 P P 13 06 25.9 0.0
baz=205
WLAR **White Oak Lake** 19.71 357 eP Pn 13 06 28.8 +0.7
comp=Z,115nm,1.1s
PRAC **Prado** 19.73 119 eP P 13 06 26.8 -0.2
Z48A **Northport** 19.80 11 P P 13 06 28.9 +1.3
baz=192,SNR=7.1
152A **Waverly Hall** 19.83 18 eP P 13 06 29.1 +1.3
comp=Z,26nm,0.8s
152A **Waverly Hall** 19.83 18 P P 13 06 28.3 +0.4
baz=201
BETC **Betania** 19.83 123 eP P 13 06 21.6 -6.5
Y42A **Garnett, Star** 19.84 1 P P 13 06 28.8 +0.9
baz=180
Z49A **Columbiana** 19.84 14 P Pn 13 06 30.0 +0.3
baz=195,SNR=27
ABTX **Abilene, Hawle** 19.88 341 eP Pn 13 06 30.4 +0.3
comp=Z,34nm,1.0s
ABTX **Abilene, Hawle** 19.88 341 P Pn 13 06 30.0 -0.1
baz=158,SNR=11
Y41A **Eaglette Beard** 19.89 359 P P 13 06 28.7 +0.3
baz=178
BARC **Barichara** 19.91 110 eP Pn 13 06 31.4 +0.5
CCAR **Cane Creek** 19.92 1 eP Pn 13 06 31.0 +0.4
comp=Z,226nm,1.7s
Y45A **Yeager Farm, C** 19.99 6 P Pn 13 06 31.2 -0.2
baz=187
LPIG **La Paz** 20.01 303 P Pn 13 06 35.9 +4.2
comp=Z,25nm,0.3s,baz=0.6,slow=8.2,SNR=3.8
LPIG LR LR 13 14 27.4
comp=Z,1µm,19.2s,baz=118,slow=37
CVER **Cruz Verde, Cu** 20.02 116 eP P 13 06 29.4 -1.2
Y44A **Strider, Charl** 20.03 4 P P 13 06 30.7 +0.7
baz=185
Z50A **Ashland** 20.04 15 eP Pn 13 06 32.5 +0.4
comp=Z,40nm,0.9s
Z50A **Ashland** 20.04 15 P P 13 06 31.2 +1.0
baz=197
PAMC **Pamplona, Colo** 20.09 107 eP P 13 06 32.1 +0.8
Y46A **Houston** 20.09 8 P Pn 13 06 32.4 -0.2
baz=188
153A **Fort Valley** 20.10 21 P P 13 06 31.9 +1.1
baz=203
Y47A **UCPARC, Winfie** 20.26 10 P P 13 06 34.0 +1.4
baz=191
CHIC **Chingaza** 20.27 115 eP P 13 06 33.4 +0.1
RUSC **La Rusia** 20.29 111 eP P 13 06 33.4 -0.1
Z51A **Franklin** 20.30 17 P P 13 06 34.4 +1.4
baz=199
FLOC **Florencia** 20.31 126 eP P 13 06 34.7 +1.4
154A **Montrose** 20.32 22 eP P 13 06 34.2 +1.0
comp=Z,91nm,0.9s
154A **Montrose** 20.32 22 P P 13 06 32.5 -0.7
baz=205
Y48A **Jasper** 20.39 12 P P 13 06 34.2 +0.2
baz=193
Z52A **Williamson** 20.40 19 P P 13 06 35.0 +0.8
baz=201
X41A **Kaden, Bauxite** 20.50 359 P P 13 06 36.1 +1.0
baz=178
Y49A **Blount Mountai** 20.50 13 eP P 13 06 36.7 +1.5
comp=Z,62nm,1.4s
Y49A **Blount Mountai** 20.50 13 P P 13 06 36.0 +0.8
baz=195
SDDR **Presa de Saban** 20.52 73 eP P 13 06 35.0 -0.6
comp=Z,33nm,1.2s
VILC **Villavicencio,** 20.55 117 eP Pn 13 06 38.5 +0.2
X44A **Crenshaw** 20.57 4 P P 13 06 37.3 +1.4
baz=185
155A **Kite** 20.57 24 P P 13 06 35.3 -0.6
baz=207,SNR=7.1
MIAR **Mount Ida** 20.59 356 eP P 13 06 36.3 +0.2
comp=Z,72nm,1.3s
MIAR **Mount Ida** 20.59 356 P P 13 06 37.1 +1.0
baz=175
OXF **Oxford** 20.64 6 eP Pn 13 06 38.8 -0.3
OXF **Oxford** 20.64 6 P P 13 06 37.2 +0.5
baz=187
Y50A **Piedmont** 20.69 15 P P 13 06 38.4 +1.1
baz=197
Z53A **Monticello** 20.76 20 P P 13 06 36.8 -1.2
baz=203,SNR=10.0
UALR **University of** 20.77 359 eP P 13 06 39.8 +1.7
comp=Z,58nm,1.0s
X37A **Clayton** 20.80 352 eP Pn 13 06 40.4 -0.6
comp=Z,160nm,1.5s
X47A **Russelville** 20.86 10 P P 13 06 39.0 0.0
baz=191,SNR=14
Y51A **Rockmart** 20.88 16 P P 13 06 38.5 -0.8
baz=199,SNR=10
GOGA **Godfrey** 20.92 20 eP P 13 06 40.8 +1.1
comp=Z,26nm,0.9s
GOGA **Godfrey** 20.92 20 P P 13 06 39.9 +0.3
baz=203
X48A **Hartselle** 20.94 12 eP P 13 06 40.6 +0.7
comp=Z,46nm,0.8s
X48A **Hartselle** 20.94 12 P P 13 06 40.3 +0.4
baz=193
Z54A **Sparta** 20.98 22 P P 13 06 40.8 +0.5
baz=205
156A **Sylvania** 20.99 26 P P 13 06 40.0 -0.5
baz=209
Y52A **Lilburn** 21.14 19 eP P 13 06 43.7 +1.6
comp=Z,77nm,1.3s
Y52A **Lilburn** 21.14 19 P P 13 06 42.6 +0.6
baz=201
X49A **Woodville** 21.15 13 P P 13 06 42.5 +0.4
baz=195,SNR=8.0
W41B **Gary Mavity, V** 21.17 360 eP P 13 06 45.3 +2.9
comp=Z,39nm,1.3s
W41B **Gary Mavity, V** 21.17 360 P P 13 06 43.5 +1.2
baz=179
W39A **Magazine** 21.25 356 eP P 13 06 46.6 +3.4
comp=Z,49nm,1.4s
TAMC **Tame, Arauca** 21.25 108 eP P 13 06 43.3 -0.2
X50B **Fort Payne** 21.26 15 P P 13 06 43.8 +0.4
baz=197,SNR=13
PLAL **Pickwick Lake** 21.28 9 eP P 13 06 45.9 +2.3
comp=Z,12nm,0.8s
WHAR **Wooly Hollow** 21.29 359 eP P 13 06 46.4 +2.8
comp=Z,66nm,1.6s
W45A **Hickory Valley** 21.31 6 P P 13 06 45.2 +1.4
baz=187
W46A **Michie** 21.38 8 P P 13 06 45.8 +1.1
baz=189
GDL2 **Guadalupe Moun** 21.41 330 eP P 13 06 47.5 +2.3
MNTX **Cornudas Mount** 21.52 328 eP P 13 06 47.4 +1.2
comp=Z,64nm,1.1s
MNTX **Cornudas Mount** 21.52 328 P P 13 06 47.5 +1.3
baz=142,SNR=61
SDV **Santo Domingo** 21.56 101 P P 13 06 45.5 -1.5
comp=Z,16nm,0.5s,baz=329,slow=11,SNR=10
SDV **Santo Domingo** 21.56 101 eP P 13 06 46.0 -1.0
comp=Z,25nm,0.8s
X51A **Calhoun** 21.56 16 eP P 13 06 50.3 +3.7
comp=Z,74nm,1.0s
X51A **Calhoun** 21.56 16 P P 13 06 47.4 +0.8
baz=199,SNR=7.7
Y54A **Tignall** 21.60 22 P P 13 06 46.6 -0.4
baz=205
WMOK **Wichita Mounta** 21.61 345 eP P 13 06 47.2 +0.1
comp=Z,24nm,1.0s
WMOK **Wichita Mounta** 21.61 345 P P 13 06 47.4 +0.2
baz=162,SNR=20
W47A **Westpoint** 21.62 10 P P 13 06 46.9 -0.3
baz=191
W48A **Pulaski** 21.63 11 P P 13 06 47.4 +0.1
baz=193
W49A **Belvidere** 21.75 13 P P 13 06 48.7 +0.1
baz=195,SNR=9.0
V41A **Mountainview** 21.78 360 P P 13 06 49.9 +1.0
baz=179,SNR=7.9
V42A **Cord** 21.81 1 P P 13 06 49.5 +0.3
baz=181
V43A **Jonesboro** 21.82 3 P P 13 06 49.9 +0.5
baz=183
X52A **Dahlonega** 21.88 18 P P 13 06 50.3 +0.3
baz=201,SNR=5.8
V45A **Humboldt** 21.91 7 P P 13 06 50.9 +0.6
baz=188
SWET **Sewanee** 21.91 13 eP P 13 06 51.3 +0.9
comp=Z,138nm,1.6s
NHSC **New Hope** 21.95 27 P P 13 06 49.8 -0.9
baz=212
X53A **Estoollee** 21.97 20 P P 13 06 50.7 -0.3
baz=203
W50A **Signal Mountai** 22.05 15 eP P 13 06 53.0 +1.1
comp=Z,44nm,1.0s
W50A **Signal Mountai** 22.05 15 P P 13 06 51.9 +0.1
baz=197
V46A **Holladay** 22.08 8 P P 13 06 51.2 -0.9
baz=190,SNR=10
W51A **Cleveland** 22.15 16 P P 13 06 52.5 -0.4
baz=198
TUL1 **Leonard** 22.16 352 eP P 13 06 57.6 +4.6
comp=Z,57nm,1.1s
TUL1 **Leonard** 22.16 352 P P 13 06 53.5 +0.5
baz=170
V47A **Nunnelly** 22.20 10 P P 13 06 52.5 -0.8
baz=191,SNR=6.8
MSTX **Muleshoe** 22.22 336 eP P 13 06 54.3 +0.5
comp=Z,100nm,1.4s
MSTX **Muleshoe** 22.22 336 P P 13 06 53.6 -0.2
baz=151,SNR=22
V48A **Smith Brothers** 22.23 11 eP P 13 06 54.7 +0.9
comp=Z,34nm,1.0s
V48A **Smith Brothers** 22.23 11 P P 13 06 53.4 -0.4
baz=193,SNR=9.0
GUVC **San Jose del G** 22.25 119 eP P 13 06 55.0 +0.8
W52A **Murphy** 22.32 18 eP P 13 06 56.5 +1.7
comp=Z,19nm,0.6s
W52A **Murphy** 22.32 18 P P 13 06 54.7 -0.1
baz=201
HHAR **Hobbs** 22.34 356 eP P 13 06 55.1 +0.2
comp=Z,18nm,1.1s
U42A **Revenden** 22.35 2 P P 13 06 54.8 -0.2
baz=182
U40A **Yellville** 22.36 358 P P 13 06 55.5 +0.3
baz=178
GLAT **Glass** 22.40 6 eP P 13 06 56.0 +0.4
comp=Z,183nm,1.2s
U43A **Rector** 22.41 3 P P 13 06 55.6 -0.1
baz=184
WVT **Waverly** 22.44 9 eP P 13 06 55.4 -0.6
comp=Z,21nm,1.0s
WVT **Waverly** 22.44 9 P P 13 06 55.1 -1.0
baz=190
V49A **McMinnville** 22.45 13 P P 13 06 55.9 -0.2
baz=195
U44B **Burton Farm, H** 22.46 6 P P 13 06 56.2 0.0
baz=186
CPCT **Cooper Cave** 22.49 16 eP P 13 06 57.5 +1.0
comp=Z,59nm,1.1s
JSC **Jenkinsville** 22.50 24 eP P 13 06 57.9 +1.2
comp=Z,26nm,1.2s
U45A **Rockin P Farm,** 22.53 7 P P 13 06 57.0 0.0
baz=188
BG3 **Lake Jocassee** 22.54 20 eP P 13 06 58.2 +1.1
comp=Z,69nm,1.3s
V50A **Pikeville** 22.55 15 P P 13 06 56.9 -0.3
baz=197
U44A **Portageville** 22.59 5 P P 13 06 57.4 -0.2
baz=186
U46A **Springville** 22.62 8 P P 13 06 57.3 -0.6
baz=189
AMTX **Amarillo** 22.62 339 eP P 13 06 58.6 +0.5
comp=Z,69nm,0.6s
AMTX **Amarillo** 22.62 339 P P 13 06 58.9 +0.8
baz=155
W53A **Cullowhee** 22.63 19 P P 13 06 57.4 -0.7
baz=202
PAULI **Pauline** 22.77 22 eP P 13 07 01.6 +2.0
comp=Z,21nm,0.9s
PBMO **Poplar Bluff** 22.82 3 eP P 13 06 59.1 -0.8
comp=Z,20nm,0.8s
U47A **Clarksville** 22.83 10 P P 13 06 58.9 -1.2
baz=192
V51A **Loudon** 22.86 16 eP P 13 07 01.4 +0.9
comp=Z,85nm,1.3s
V51A **Loudon** 22.86 16 P P 13 06 60.0 -0.5
baz=199
TKL **Tuckaleechee C** 22.89 18 P P 13 07 00.9 +0.1
comp=Z,7.3nm,0.5s,baz=188,slow=9.7,SNR=12
TKL LR LR 13 17 19.3
comp=Z,3µm,19.7s,baz=200,slow=40
TKL **Tuckaleechee C** 22.89 18 eP P 13 07 01.9 +1.1
comp=Z,49nm,0.9s
U48A **Cassie Pea, Po** 23.03 11 P P 13 07 01.6 -0.7
baz=193,SNR=5.8
T41A **Mountain View** 23.04 1 P P 13 07 01.8 -0.5
baz=180
T42A **Van Buren** 23.04 2 eP P 13 07 01.6 -0.6
comp=Z,9.1nm,0.8s
T42A **Van Buren** 23.04 2 P P 13 07 01.4 -0.9
baz=182
V52A **Sevierville** 23.11 18 eP P 13 07 03.8 +0.7
comp=Z,34nm,1.0s
V52A **Sevierville** 23.11 18 P P 13 07 02.4 -0.7
baz=201
T43A **Greenville** 23.13 4 P P 13 07 01.4 -1.8
baz=184,SNR=8.3
T44A **Benton** 23.18 5 P P 13 07 03.2 -0.5
baz=186
U49A **Red Boiling Sp** 23.19 13 P P 13 07 03.6 -0.2
baz=195,SNR=9.8
V53A **Saluda** 23.20 19 eP P 13 07 04.2 +0.3
comp=Z,101nm,1.5s
V53A **Saluda** 23.20 19 P P 13 07 03.3 -0.6
baz=203
T45A **Paducah** 23.21 7 eP P 13 07 08.7 +4.7
comp=Z,70nm,0.6s
KMSC **Kings Mountain** 23.24 23 eP P 13 07 05.2 +0.9
comp=Z,67nm,1.3s
KMSC **Kings Mountain** 23.24 23 P P 13 07 03.2 -1.1
baz=207
U50A **Jamestown** 23.32 15 P P 13 07 04.7 -0.4
baz=197,SNR=11
T46A **Princeton** 23.33 8 P P 13 07 04.4 -0.8
baz=190,SNR=6.5
T47A **Sharon Grove** 23.40 10 eP P 13 07 05.2 -0.7
comp=Z,60nm,1.1s
T47A **Sharon Grove** 23.40 10 P P 13 07 04.9 -1.0
baz=192,SNR=11
121A **Cookes Peak, D** 23.46 325 P P 13 07 06.7 0.0
baz=138,SNR=21
U51A **La Follette** 23.50 16 P P 13 07 05.2 -1.7
baz=199,SNR=12
319A **Douglas** 23.51 321 eP P 13 07 10.1 +2.9
comp=Z,75nm,1.2s
S41A **Jillco Farms,** 23.58 1 P P 13 07 07.1 -0.5
baz=180
S43A **Fulton Ridge,** 23.62 4 P P 13 07 06.5 -1.6
baz=184,SNR=7.8
T48A **Bowling Green** 23.64 11 P P 13 07 07.2 -1.1
baz=193
U52A **Thorn Hill** 23.69 18 P P 13 07 08.5 -0.3
baz=201
TZTN **Tazewell** 23.78 17 eP P 13 07 09.1 -0.5
comp=Z,58nm,1.4s
TZTN **Tazewell** 23.78 17 P P 13 07 08.2 -1.4
baz=200
S42A **Caledonia** 23.79 2 P P 13 07 08.4 -1.2
baz=183,SNR=6.0
S44A **Carbondale** 23.81 5 P P 13 07 08.7 -1.2
baz=186,SNR=20
T49A **Edmonton** 23.81 13 eP P 13 07 09.0 -0.9
comp=Z,48nm,1.3s
T49A **Edmonton** 23.81 13 P P 13 07 09.4 -0.5
baz=195
SIUC **Southern Illin** 23.84 6 eP P 13 07 09.4 -0.7
comp=Z,66nm,0.8s
S45A **Carrier Mills** 23.87 7 P P 13 07 09.4 -1.0
baz=188
T50A **Nancy** 23.89 14 P P 13 07 09.2 -1.5
baz=197,SNR=8.1
U53A **Fall Branch** 23.91 19 P P 13 07 09.3 -1.5
baz=203
S46A **Don Dixon Farm** 23.98 8 P P 13 07 10.0 -1.4
baz=190
S47A **Hartford** 24.03 10 P P 13 07 11.4 -0.5
baz=192
CCM **Cathedral Cave** 24.05 2 eP P 13 07 11.8 -0.3
comp=Z,17nm,1.0s
CCM **Cathedral Cave** 24.05 2 P P 13 07 11.3 -0.9
baz=182
T51A **Gray** 24.07 16 P P 13 07 11.7 -0.6
baz=199
BNM **Barren Site** 24.10 329 eP P 13 07 15.2 +2.3
LPM **Los Pinos Moun** 24.23 329 eP P 13 07 16.7 +2.6
S48A **Wiedeman Farm,** 24.24 12 P P 13 07 12.7 -1.1
baz=194
USIN **University of** 24.27 8 eP P 13 07 14.1 0.0
comp=Z,33nm,0.6s
LENM **Lemitar** 24.29 329 eP P 13 07 16.8 +2.2
R41A **Rosebud** 24.29 1 P P 13 07 14.1 -0.3
baz=181
R42A **Luebbering** 24.29 2 P P 13 07 13.4 -1.0
baz=182,SNR=5.7
R43A **Red Bud** 24.34 4 P P 13 07 14.2 -0.5
baz=184
R44A **Waltonville** 24.38 6 P P 13 07 14.4 -0.7
baz=186
T52A **Hallie** 24.47 18 P P 13 07 15.6 -0.4
baz=201
R45A **Skylar, Fairfi** 24.51 7 P P 13 07 15.7 -0.6
baz=188
S49A **Springfield** 24.52 13 P P 13 07 15.5 -0.9
baz=196,SNR=6.4
R46A **Gibon Southern** 24.53 9 P P 13 07 15.9 -0.6
baz=190
LAZ **Ladron** 24.56 329 eP P 13 07 19.9 +2.8
S50A **Richmond** 24.62 15 P P 13 07 15.7 -1.7
baz=198,SNR=6.5
ANMO **Albuquerque** 24.66 331 P P 13 07 19.8 +1.9
comp=Z,14nm,0.8s,baz=142,slow=12,SNR=42
ANMO **Albuquerque** 24.66 331 eP P 13 07 20.1 +2.1
comp=Z,15nm,0.8s
ANMO **Albuquerque** 24.66 331 P P 13 07 18.6 +0.7
baz=144
WCI **Wyandotte Cave** 24.75 11 eP P 13 07 17.5 -1.0
comp=Z,35nm,0.8s
WCI **Wyandotte Cave** 24.75 11 P P 13 07 17.9 -0.5
baz=193
R47A **Wooly Knot Far** 24.77 10 P P 13 07 17.5 -1.2
baz=192,SNR=6.9
S51A **Beattyville** 24.80 16 eP P 13 07 18.4 -0.6
comp=Z,68nm,1.5s
S51A **Beattyville** 24.80 16 P P 13 07 18.5 -0.4
baz=199
ATAH **Atahualpa** 24.91 146 P P 13 07 20.1 -0.6
comp=Z,22nm,0.9s,baz=324,slow=7.5,SNR=9.9
ATAH LR LR 13 15 37.8
comp=Z,842nm,18.8s,baz=333,slow=33
Q42A **Golden Eagle** 24.93 3 P P 13 07 19.9 -0.2
baz=183
Q41A **Truxton** 24.95 1 P P 13 07 19.9 -0.4
baz=181
OLIL **Olney** 24.96 7 eP P 13 07 20.5 +0.1
comp=Z,41nm,0.9s
R48A **Northridge Ran** 24.99 12 P P 13 07 20.1 -0.6
baz=194
Q43A **New Douglas** 25.01 4 P P 13 07 21.2 +0.4
baz=185
R49A **Shelbyville** 25.03 13 P P 13 07 20.2 -0.8
baz=195
Q44A **Meyer Farm, Va** 25.03 6 P P 13 07 20.3 -0.7
baz=186,SNR=5.4
TUC **Tucson** 25.08 320 eP P 13 07 24.5 +2.8
comp=Z,18nm,1.2s
TUC **Tucson** 25.08 320 P P 13 07 22.7 +1.1
baz=132
Q45A **Warren Harvey,** 25.12 7 P P 13 07 20.5 -1.3
baz=188,SNR=7.6
R50A **Paris** 25.21 14 P P 13 07 22.1 -0.6
baz=197
BLA **Blacksburg** 25.41 22 P P 13 07 24.6 0.0
baz=207
KSU1 **Kansas State U** 25.41 352 eP P 13 07 28.0 +3.5
comp=Z,16nm,0.9s

KSU1 **Kansas State U** 25.41 352 P P 13 07 25.1 +0.6
baz=169
Q47A **Bedord North L** 25.41 10 P P 13 07 24.0 -0.5
baz=192
R51A **Hillsboro** 25.42 16 P P 13 07 25.2 +0.6
baz=199
Q48A **North Vernon** 25.53 11 P P 13 07 25.1 -0.4
baz=194
P42A **Winchester** 25.61 3 eP P 13 07 25.9 -0.5
comp=Z,28nm,1.3s
P42A **Winchester** 25.61 3 P P 13 07 26.0 -0.3
baz=183
P44A **Sand Creek, Wi** 25.63 6 P P 13 07 26.3 -0.1
baz=187
T25A **Trinidad** 25.63 337 eP P 13 07 28.9 +2.1
comp=Z,30nm,1.0s
T25A **Trinidad** 25.63 337 P P 13 07 27.7 +0.9
baz=151,SNR=17
P41A **Barry, Barry** 25.68 2 P P 13 07 27.3 +0.5
baz=182
CBKS **Cedar Bluff** 25.72 346 eP P 13 07 30.2 +2.9
comp=Z,40nm,1.4s
CBKS **Cedar Bluff** 25.72 346 P P 13 07 28.1 +0.7
baz=162
P43A **Skaggs, Pawnee** 25.72 4 P P 13 07 26.2 -1.1
baz=185
Q49A **Aurora** 25.78 13 P P 13 07 26.9 -0.9
baz=196
P45A **Graceland, Par** 25.79 8 eP P 13 07 27.3 -0.7
comp=Z,25nm,0.9s
P45A **Graceland, Par** 25.79 8 P P 13 07 27.5 -0.4
baz=189
Q50A **Georgetown** 25.83 15 P P 13 07 27.5 -0.8
baz=198
P46A **Rosedale** 25.95 9 P P 13 07 28.1 -1.3
baz=190
P47A **Martinsville** 25.98 10 P P 13 07 28.7 -0.9
baz=192
P48A **Milroy** 26.11 12 P P 13 07 29.1 -1.7
baz=194
O41A **Passleys Farm,** 26.12 2 P P 13 07 30.0 -0.9
baz=182
X18A **Snowflake** 26.15 325 eP P 13 07 33.6 +2.1
comp=Z,38nm,1.5s
214A **Organ Pipe Nat** 26.16 317 P P 13 07 32.3 +0.9
baz=128,SNR=6.1
Q51A **Peebles** 26.16 15 eP P 13 07 31.2 -0.1
comp=Z,37nm,1.1s
Q51A **Peebles** 26.16 15 P P 13 07 30.4 -0.9
baz=199
O44A **Mansfield** 26.32 6 P P 13 07 32.4 -0.4
baz=187
Q52A **Bidwell** 26.40 17 P P 13 07 32.4 -1.0
baz=201
W18A **Petrified Fore** 26.47 326 P P 13 07 34.1 -0.2
baz=138
O45A **Potomac** 26.51 7 P P 13 07 32.6 -1.8
baz=189,SNR=6.5
SDCO **Great Sand Dun** 26.59 336 eP P 13 07 37.3 +1.7
comp=Z,7.3nm,0.9s
SDCO **Great Sand Dun** 26.59 336 P P 13 07 36.1 +0.6
baz=150,SNR=13
P50A **Jamestown** 26.60 14 P P 13 07 34.9 -0.4
baz=198
HDIL **Hopedale** 26.65 5 P P 13 07 34.7 -0.9
baz=186
P51A **Williamsport** 26.67 16 eP P 13 07 35.6 -0.2
comp=Z,22nm,1.1s
P51A **Williamsport** 26.67 16 P P 13 07 35.2 -0.7
baz=199
KSCO **Kaye Shedlock'** 26.69 341 P P 13 07 36.8 +0.6
baz=156
N41A **Harden Midland** 26.71 2 P P 13 07 35.6 -0.6
baz=182
SFIN **Lafayette** 26.72 8 eP P 13 07 35.0 -1.3
comp=Z,15nm,0.8s
SFIN **Lafayette** 26.72 8 P P 13 07 34.5 -1.7
baz=190
O47A **Sheridan** 26.72 10 P P 13 07 35.0 -1.4
baz=192
N39A **Derby Farms, D** 26.87 359 P P 13 07 37.3 -0.3
baz=179
O48A **Farmland** 26.93 12 P P 13 07 37.0 -1.2
baz=194
N44A **Piper City** 27.00 7 P P 13 07 37.8 -1.0
baz=188,SNR=5.2
N43A **Stutzman Famil** 27.04 5 P P 13 07 39.1 -0.1
baz=186
R58B **Mineral** 27.05 25 P P 13 07 38.9 -0.4
baz=211
P52A **Corning** 27.06 17 P P 13 07 39.1 -0.3
baz=201
N45A **Kentland** 27.12 8 P P 13 07 39.5 -0.4
baz=189
S22A **4UR Ranch, Cre** 27.14 334 eP P 13 07 42.7 +2.2
comp=Z,19nm,1.1s
S22A **4UR Ranch, Cre** 27.14 334 P P 13 07 41.7 +1.2
baz=147,SNR=16
P53A **Whipple** 27.14 18 P P 13 07 39.3 -0.8
baz=203
O50A **Cable** 27.16 14 P P 13 07 40.2 -0.1
baz=198
N46A **Monticello** 27.28 9 P P 13 07 40.7 -0.6
baz=191
ACSO **Alum Creek Sta** 27.39 15 P P 13 07 41.9 -0.5
baz=199
M40A **Post Highland** 27.39 1 P P 13 07 43.2 +0.9
baz=181
O51A **Pataskala** 27.41 16 P P 13 07 41.8 -0.7
baz=200
N47A **Urbana** 27.43 10 P P 13 07 40.9 -1.8
baz=193
MVCO **Mesa Verde** 27.46 331 eP P 13 07 45.7 +2.4
comp=Z,58nm,1.0s
MVCO **Mesa Verde** 27.46 331 P P 13 07 44.0 +0.7
baz=143,SNR=33
M39A **Webster** 27.46 360 P P 13 07 42.2 -0.8
baz=179
Q24A **Divide** 27.51 337 P P 13 07 42.6 -1.3
baz=151
N48A **Decatur** 27.53 12 P P 13 07 42.0 -1.6
baz=194,SNR=5.6
M43A **Waltham Townsh** 27.55 5 P P 13 07 42.6 -1.2
baz=186
M44A **Midewin, Midew** 27.59 6 P P 13 07 42.5 -1.7
baz=188
O52A **Adamsville** 27.59 17 eP P 13 07 43.2 -0.9
comp=Z,62nm,1.5s
O52A **Adamsville** 27.59 17 P P 13 07 42.8 -1.4
baz=201
WUAZ **Wupatki** 27.67 324 eP P 13 07 47.6 +2.5
comp=Z,14nm,1.0s
WUAZ **Wupatki** 27.67 324 P P 13 07 46.1 +0.9
baz=136,SNR=13
M47A **Cromwell** 27.91 10 P P 13 07 45.8 -1.2
baz=193
L40A **Anamosa** 28.05 1 P P 13 07 48.2 -0.1
baz=181
L42A **Oliver, Polo** 28.06 4 P P 13 07 48.1 -0.3
baz=184
L41A **Preston** 28.09 2 P P 13 07 47.9 -0.7
baz=183
GLA **Glamis** 28.17 316 P P 13 07 49.7 +0.2
baz=127
Y12C **Blythe** 28.40 318 eP P 13 07 54.4 +3.0
comp=Z,17nm,1.4s
Y12C **Blythe** 28.40 318 P P 13 07 51.6 +0.1
baz=129
SMCO **Snowmass** 28.41 335 eP P 13 07 54.3 +2.3
comp=Z,19nm,1.4s
ISCO **Idaho Springs** 28.42 338 eP P 13 07 54.7 +2.8
comp=Z,17nm,1.6s
ISCO **Idaho Springs** 28.42 338 P P 13 07 51.7 -0.2
baz=151
PDMCI **Parker Dam,Lak** 28.50 319 P P 13 07 52.2 -0.2
baz=130
M51A **Elyria** 28.63 16 P P 13 07 51.7 -1.7
baz=200
K39A **Oelwein** 28.69 0 P P 13 07 53.0 -0.9
baz=180
K40A **Colesburg** 28.69 1 P P 13 07 53.8 -0.2
baz=182
L48A **N Adams** 28.70 12 P P 13 07 52.0 -2.1
baz=195
SWSC **Sam W. Stewart** 28.77 315 P P 13 07 56.7 +1.9
baz=126
O56A **Blue Knob Stat** 28.79 22 P P 13 07 54.5 -0.3
baz=208

IKP **In-Ko-Pah, Jac** 28.81 314 P P 13 07 55.3 +0.1
baz=125
N54A **Moraine State** 28.93 19 P P 13 07 54.8 -1.3
baz=204
BC3 **Big Chuckawall** 28.95 317 P P 13 07 56.1 -0.4
baz=127,SNR=11
IRM **Iron Mountain** 29.06 318 P P 13 07 57.8 +0.4
baz=128,SNR=6.4
MONP2 **Monument Peak** 29.16 315 P P 13 07 60.0 +1.4
baz=125
J39A **Decorah** 29.32 0 P P 13 07 58.7 -0.8
baz=180
SSPA **Standing Stone** 29.36 22 P P 13 07 57.6 -2.3
baz=208
J42A **Columbus** 29.41 4 P P 13 07 59.6 -0.7
baz=185
BELC **Belle Mtn. Jos** 29.52 317 P P 13 08 02.6 +1.0
baz=127
M54A **Oil Creek Stat** 29.52 19 P P 13 07 59.6 -1.7
baz=204
KNB **Kanab** 29.56 325 eP P 13 08 04.4 +2.4
comp=Z,59nm,1.6s
PKCU **Pink Cliffs** 29.59 326 eP P 13 08 06.1 +3.8
comp=Z,27nm,1.4s
K48A **Perry** 29.59 12 P P 13 08 00.2 -1.6
baz=195
PFO **Pinyon Flats O** 29.60 316 P P 13 08 02.3 0.0
baz=126
LDFC **Landfair** 29.61 319 eP P 13 08 06.5 +4.2
comp=Z,23nm,1.3s
FRD **Ford Ranch, An** 29.63 315 P P 13 08 02.8 +0.2
baz=125
K49A **Clarkson** 29.70 13 P P 13 08 01.9 -1.0
baz=197
O20A **White River Ci** 29.74 334 eP P 13 08 06.3 +2.8
comp=Z,11nm,1.2s
O20A **White River Ci** 29.74 334 P P 13 08 03.3 -0.3
baz=147
GMRC **Granite Mounta** 29.78 318 P P 13 08 03.2 -0.7
baz=128
LCMT **Little Creek M** 29.79 324 eP P 13 08 07.1 +3.2
comp=Z,10nm,1.3s
NNA **Nana** 29.82 149 LR LR 13 18 00.8
comp=Z,443nm,18.7s,baz=318,slow=32
I39A **Houston** 29.84 1 P P 13 08 04.8 +0.6
baz=181
SRU **San Rafael Swe** 29.93 330 eP P 13 08 07.7 +2.5
comp=Z,30nm,1.4s
MTPU **Mount Pierson** 29.96 327 eP P 13 08 08.7 +3.0
comp=Z,14nm,0.9s
ECSD **EROS Data Cent** 29.98 353 P P 13 08 04.7 -0.7
baz=171
I43A **Langenfeld Bro** 30.05 6 P P 13 08 06.1 +0.1
baz=187
MURC **Murrieta** 30.10 315 P P 13 08 06.2 -0.4
baz=124
SZCU **Shurtz Canyon** 30.12 325 eP P 13 08 10.0 +3.0
comp=Z,14nm,1.0s
J48A **Bridge Port** 30.13 12 P P 13 08 06.2 -0.4
baz=196
P18A **Preston Nutter** 30.21 331 eP P 13 08 10.7 +2.8
comp=Z,22nm,1.3s
CCUT **Cedar City** 30.24 325 eP P 13 08 11.4 +3.3
comp=Z,19nm,1.1s
HEC **Hector,Ludlow** 30.24 318 P P 13 08 07.7 -0.2
baz=127
MSU **Marysvale** 30.30 328 eP P 13 08 12.1 +3.5
P17A **Butcher Ranch,** 30.32 331 eP P 13 08 11.1 +2.5
comp=Z,27nm,1.1s
J49A **Marlette** 30.32 13 P P 13 08 06.7 -1.7
baz=197
TUQ **Turquoise Moun** 30.35 319 P P 13 08 10.0 +1.0
baz=129
TMUT **Trail Mountain** 30.41 330 eP P 13 08 11.7 +2.0
comp=Z,13nm,1.0s
N59A **State Game Lan** 30.42 25 P P 13 08 08.7 -0.7
baz=212
SHPR **Sheep Range** 30.57 322 eP P 13 08 13.7 +2.8
comp=Z,7.8nm,1.1s
GSC **Goldstone, Bar** 30.84 318 P P 13 08 15.6 +2.5
baz=127
CIS **Catalina Islan** 30.84 314 P P 13 08 15.6 +2.5
baz=123
SHOC **Shoshone, Teco** 30.87 319 P P 13 08 15.4 +2.1
baz=129
TYNO **Tyneside** 30.91 17 P P 13 08 12.7 -0.9
baz=203
MPU **Maple Canyon** 31.18 330 eP P 13 08 19.3 +3.1
comp=Z,41nm,1.5s
PSUT **Pine Spring** 31.21 326 eP P 13 08 19.6 +3.0
comp=Z,11nm,1.1s
K22A **Casper** 31.25 339 P P 13 08 16.1 -0.7
baz=152
G39A **Holcombe** 31.28 1 P P 13 08 15.9 -0.9
baz=181
PAL **Palisades** 31.28 27 P P 13 08 15.5 -1.4
baz=215
NLU **North Lily Min** 31.34 330 eP P 13 08 20.7 +2.9
comp=Z,13nm,1.2s
EDW2 **Edwards Air Fo** 31.37 316 P P 13 08 19.0 +1.1
baz=125
G42A **Mountain** 31.37 5 P P 13 08 17.4 -0.3
baz=186
BINY **Binghamton** 31.43 23 eP P 13 08 18.0 -0.1
comp=Z,36nm,1.4s
BINY **Binghamton** 31.43 23 P P 13 08 17.6 -0.6
baz=211
BWLO **Walkerton** 31.51 15 P P 13 08 17.0 -1.9
baz=200
TPNV **Topopah Spring** 31.52 321 eP P 13 08 22.5 +3.3
comp=Z,16nm,1.3s
TPNV **Topopah Spring** 31.52 321 P P 13 08 20.5 +1.2
baz=130
JLU **Jordanelle** 31.55 331 eP P 13 08 22.2 +2.6
comp=Z,15nm,1.2s
FURC **Furnace Creek,** 31.59 320 P P 13 08 21.5 +1.8
baz=129
MPMC **Manual Prospec** 31.74 319 P P 13 08 22.0 +0.8
baz=127,SNR=7.1
CTU **Camp Tracy** 31.76 331 eP P 13 08 24.4 +3.1
comp=Z,18nm,1.0s
RSSD **Black Hills** 31.81 343 eP P 13 08 23.0 +1.2
comp=Z,6.9nm,1.0s
RSSD **Black Hills** 31.81 343 P P 13 08 22.7 +1.0
baz=157
DUG **Dugway, Tooele** 31.89 329 eP P 13 08 25.3 +2.8
comp=Z,17nm,1.4s
DUG **Dugway, Tooele** 31.89 329 P P 13 08 23.3 +0.8
baz=139,SNR=8.2
F42A **Maple Grove Fa** 31.91 5 P P 13 08 21.8 -0.5
baz=187
G47A **Hillman** 31.92 11 P P 13 08 21.7 -0.7
baz=195
TCUT **Toone Canyon** 31.93 332 eP P 13 08 25.6 +2.6
comp=Z,86nm,1.3s
DAC **Darwin (Calif)** 31.94 319 eP P 13 08 26.0 +3.0
comp=Z,7.3nm,1.1s
F38A **Pierce - Schro** 31.94 0 P P 13 08 21.4 -1.2
baz=180
F40A **Park Falls** 31.94 3 P P 13 08 21.9 -0.8
baz=183
DRCO **St. Marys Ceme** 31.97 18 P P 13 08 21.9 -0.9
baz=205
CLWO **Collingwood** 32.04 16 P P 13 08 22.3 -1.2
baz=202
R11A **Troy Canyon, C** 32.05 324 eP P 13 08 26.9 +2.9
comp=Z,14nm,1.2s
R11A **Troy Canyon, C** 32.05 324 P P 13 08 26.0 +2.0
baz=133,SNR=17
ISA **Isabella, Lake** 32.14 317 eP P 13 08 27.6 +3.0
comp=Z,16nm,1.5s
ISA **Isabella, Lake** 32.14 317 P P 13 08 25.0 +0.3
baz=126
F44A **Big Bay de Noc** 32.31 7 P P 13 08 23.7 -2.2
baz=190
CWC **Cottonwood Cre** 32.35 319 P P 13 08 26.8 +0.2
baz=127
HWUT **Hardware Ranch** 32.40 332 eP P 13 08 28.8 +1.9
comp=Z,20nm,1.1s
HWUT eP PcP PcP 13 11 17.0 +2.9
BW06 **Boulder Array** 32.48 336 P P 13 08 28.4 +0.7
baz=147
PD31 **Pinedale Array** 32.48 336 eP P 13 08 29.2 +1.4
PDAR **Pinedale Array** 32.48 336 P P 13 08 28.5 +0.8
comp=Z,1.0nm,0.5s,baz=131,slow=9.2,SNR=11
PDAR PcP PcP 13 11 13.9 -0.5
comp=Z,1.2nm,0.7s,baz=120,slow=5.3,SNR=8.7
PDAR LR LR 13 23 45.6

comp=Z,368nm,18.6s,baz=159,slow=40
BGU **Big Grassy Mou** 32.56 330 eP P 13 08 30.7 +2.4
comp=Z,19nm,1.2s
SPUT **South Promonto** 32.57 331 eP P 13 08 31.1 +2.6
comp=Z,22nm,1.1s
PKM **Mcpherson Peak** 32.62 315 P P 13 08 28.5 -0.5
baz=123
VES **Vestal, Richgr** 32.65 317 P P 13 08 29.4 +0.4
baz=125,SNR=8.6
TRY **Troy** 32.80 25 eP P 13 08 30.2 0.0
comp=Z,69nm,1.5s
DELO **Deloro Mine** 32.89 19 P P 13 08 29.5 -1.4
baz=206
KLBO **Killbear Provi** 32.90 15 P P 13 08 28.1 -2.9
baz=201
HVU **Hansel Valley** 33.09 331 eP P 13 08 35.4 +2.4
comp=Z,37nm,1.1s
HVU eP PcP PcP 13 11 19.6 +3.6
AHID **Auburn Hatcher** 33.12 334 eP P 13 08 34.9 +1.7
comp=Z,40nm,1.4s
BANO **Bancroft** 33.24 18 P P 13 08 32.3 -1.7
baz=205
REDW **Red Top Meadow** 33.51 335 eP P 13 08 38.5 +1.8
comp=Z,76nm,1.4s
F51A **Arnstein** 33.51 15 P P 13 08 35.0 -1.4
baz=201
HRV **Adam Dziewonsk** 33.54 28 P P 13 08 34.9 -1.7
baz=218
SNOW **Snow King Moun** 33.55 335 eP P 13 08 39.0 +1.9
comp=Z,72nm,1.4s
LOHW **Long Hollow** 33.61 335 eP P 13 08 39.1 +1.6
comp=Z,38nm,1.6s
NV11 **Mina Array Sit** 33.63 321 eP P 13 08 40.4 +2.7
comp=Z,2.3nm,1.4s
OMMB **Old Mammoth Mi** 33.64 319 eP P 13 08 41.5 +3.4
comp=Z,13nm,1.2s
TPAW **Teton Pass** 33.65 335 eP P 13 08 39.7 +1.8
comp=Z,39nm,1.4s
MDPB **Devils Postpil** 33.70 319 eP P 13 08 42.0 +3.5
comp=Z,12nm,1.2s
NV01 **Mina Array Sit** 33.72 321 eP P 13 08 41.0 +2.5
NVAR **Mina Array Bea** 33.72 321 P P 13 08 41.0 +2.5
comp=Z,13nm,0.7s,baz=136,slow=7.8,SNR=65
NVAR PcP PcP 13 11 18.5 +0.6
comp=Z,1.2nm,0.7s,baz=139,slow=4.3,SNR=3.5
NVAR LR LR 13 24 31.5
comp=Z,1µm,18.3s,baz=134,slow=40
MOOW **Moose Ponds** 33.78 335 eP P 13 08 40.4 +1.3
comp=Z,14nm,1.4s
MOOW eP PcP PcP 13 11 20.3 +2.3
FXWY **Fox Creek** 33.80 335 eP P 13 08 40.7 +1.5
comp=Z,13nm,1.3s
FXWY eP PcP PcP 13 11 22.1 +4.0
RYN **Ryan** 33.98 321 eP P 13 08 44.3 +3.6
comp=Z,11nm,1.2s
IMW **Indian Meadow** 33.98 335 eP P 13 08 43.0 +2.1
comp=Z,15nm,1.4s
IMW eP PcP PcP 13 11 20.3 +1.6
KVN **Kaiserville** 33.99 322 eP P 13 08 43.5 +2.6
comp=Z,13nm,1.0s
LONY **Lake Ozonia** 34.02 23 eP P 13 08 40.2 -0.7
comp=Z,17nm,0.9s
LONY **Lake Ozonia** 34.02 23 P P 13 08 40.0 -0.8
baz=211
PEMO **Pembroke** 34.04 19 P P 13 08 39.8 -1.2
baz=206
ALGO **Algonquin Park** 34.05 18 P P 13 08 40.0 -1.1
baz=204
E51A **G1948 Merrick** 34.18 15 P P 13 08 42.0 -0.2
baz=202,SNR=5.4
H17A **Grant Village** 34.25 336 eP P 13 08 46.9 +3.7
comp=Z,16nm,1.5s
RLMT **Red Lodge** 34.38 338 P P 13 08 45.3 +1.2
baz=149
YFT **Old Faithful** 34.40 336 eP P 13 08 48.5 +4.1
comp=Z,18nm,1.4s
ORIO **Orleans, Innes** 34.41 21 P P 13 08 43.2 -1.0
baz=209
MDND **Maddock** 34.41 351 eP P 13 08 45.2 +1.0
comp=Z,29nm,0.8s
MDND **Maddock** 34.41 351 P P 13 08 44.2 -0.1
baz=167
AGMN **Agassiz Nation** 34.43 355 P P 13 08 44.2 -0.1
baz=173
WAKR **Walker** 34.46 320 eP P 13 08 48.7 +3.7
comp=Z,17nm,1.3s
E53A **Dumoine, Ponti** 34.55 18 P P 13 08 44.1 -1.3
baz=205
YMR **Madison River** 34.63 336 eP P 13 08 49.2 +2.8
comp=Z,12nm,1.2s
YERR **Yerington** 34.63 321 eP P 13 08 49.3 +2.8
comp=Z,26nm,1.5s
D50A **G1974 Best Tow** 34.69 15 P P 13 08 44.3 -2.3
baz=201
E54A **Lac Daplat, Po** 34.74 18 P P 13 08 45.5 -1.5
baz=206
CMB **Columbia Colle** 34.77 319 eP P 13 08 50.2 +2.6
comp=Z,6.8nm,1.1s
LAO **LASA Array** 34.78 343 eP P 13 08 48.2 +0.7
comp=Z,6.3nm,0.8s
LAO **LASA Array** 34.78 343 P P 13 08 47.8 +0.4
baz=155
ALFO **Alfred** 34.78 21 P P 13 08 45.8 -1.5
baz=210
PNTR **Pine Nut** 34.92 321 eP P 13 08 52.6 +3.7
comp=Z,16nm,0.9s
PTGA **Pitinga** 34.94 112 eP P 13 08 49.0 -0.2
comp=Z,20nm,0.9s
QLMT **Earthquake Lak** 34.95 336 eP P 13 08 52.4 +3.3
VCNR **Virginia City** 35.08 321 eP P 13 08 53.7 +3.4
comp=Z,8.1nm,1.0s
GCMT **Greyclifff** 35.09 338 eP P 13 08 51.2 +0.9
PAHR **Pah Rah Range** 35.17 322 eP P 13 08 54.5 +3.4
comp=Z,8.8nm,0.9s
HLID **Hailey** 35.23 331 eP P 13 08 53.3 +1.7
comp=Z,30nm,1.3s
HLID **Hailey** 35.23 331 P P 13 08 52.9 +1.4
baz=140,SNR=30
MCMT **McKenzie Canyo** 35.53 334 eP P 13 08 56.9 +2.7
D54A **Lac Fusel, La** 35.55 18 P P 13 08 52.8 -1.2
baz=206
BOZ **Bozeman (W)** 35.67 336 P P 13 08 56.5 +1.3
baz=146
BEKR **Beckworth** 35.86 321 eP P 13 08 59.6 +2.5
comp=Z,8.2nm,1.0s
DLMT **Dillon** 35.86 335 eP P 13 08 59.0 +2.1
comp=Z,15nm,1.0s
DGMT **Dagmar** 35.90 346 P P 13 08 56.7 -0.3
baz=159
ULM **Lac du Bonnet** 36.37 356 LR LR 13 27 16.3
comp=Z,349nm,18.8s,baz=176,slow=42
ORV **Oroville** 36.37 320 eP P 13 09 04.8 +3.6
comp=Z,9.6nm,1.3s
WVOR **Wild Horse Val** 36.54 326 eP P 13 09 05.0 +2.2
comp=Z,27nm,1.4s
SAML **Samuel** 36.55 127 eP P 13 09 00.5 -2.5
comp=Z,6.9nm,0.8s
HRY **Holter Researc** 36.67 337 eP P 13 09 05.4 +1.6
PKME **Peaks-Kenny Pk** 36.72 27 P P 13 09 03.6 -0.4
baz=218
O03E **Paynes Creek** 37.00 321 P P 13 09 07.4 +0.7
baz=127
LATQ **La Tuque** 37.03 22 P P 13 09 05.2 -1.5
baz=212
EGMT **Eagleton** 37.06 340 eP P 13 09 07.8 +0.9
comp=Z,37nm,1.5s
EGMT **Eagleton** 37.06 340 P P 13 09 07.4 +0.5
baz=150,SNR=7.5
J08A **Circle Bar Ran** 37.09 327 eP P 13 09 09.2 +1.8
comp=Z,31nm,0.8s
MOD **Modoc Plateau** 37.12 324 eP P 13 09 09.4 +1.8
comp=Z,12nm,1.1s
LSQQ **Lebel-sur-Quev** 37.17 16 P P 13 09 06.1 -1.7
baz=204
O02D **Mt. Diablo Mer** 37.54 320 P P 13 09 11.7 +0.5
baz=125
BMO **Blue Mountains** 37.58 330 eP P 13 09 12.4 +0.9
comp=Z,19nm,1.3s
MSO **Missoula** 37.60 335 eP P 13 09 13.5 +1.9
MSO **Missoula** 37.60 335 P P 13 09 13.3 +1.7
baz=143,SNR=7.9
MATQ **Matagami** 37.64 15 P P 13 09 10.7 -1.0
baz=203
GGN **Saint George** 37.73 30 eP P 13 09 12.5 -0.1
comp=Z,32nm,1.1s
M04C **Macdoel** 37.93 323 P P 13 09 14.5 -0.1
baz=128,SNR=6.2
I07A **Izee** 38.13 327 eP P 13 09 21.0 +4.8

comp=Z,8.6nm,1.0s
LPAZ La Paz 38.19 141 P P 13 09 16.4 -1.0
comp=Z,3.5nm,0.8s,baz=330,slow=6.7,SNR=8.8
LPAZ La Paz 38.19 141 eP P 13 09 16.9 -0.6
comp=Z,6.3nm,0.8s
F10A Beach Ranch, E 38.37 331 eP P 13 09 19.1 +1.0
comp=Z,31nm,0.9s
K04D Chiloquin, OR 38.40 324 P P 13 09 19.0 +0.5
baz=129
L04D Klamath Falls 38.47 323 P P 13 09 19.7 +0.7
baz=128
JTMT Jette 38.48 336 eP P 13 09 21.0 +1.9
comp=Z,13nm,1.2s
JTMT ePcP PcP 13 11 34.7 +2.9
J05D Fort Rock, OR 38.53 325 P P 13 09 20.9 +1.3
baz=130
G08A Pilot Rock 38.70 329 eP P 13 09 22.6 +1.7
comp=Z,14nm,1.5s
G08A ePcP PcP 13 11 36.6 +4.1
PINE Pine Mountain 38.70 326 eP P 13 09 22.5 +1.4
comp=Z,18nm,1.1s
J04D Umpqua Nationa 39.00 324 P P 13 09 25.2 +1.7
baz=129
E09A Wood Farm, Sta 39.20 331 eP P 13 09 26.1 +1.1
comp=Z,18nm,1.1s
LMN Caledonia Moun 39.25 30 eP P 13 09 24.5 -0.9
comp=Z,56nm,1.2s
I05D Terrebonne, OR 39.28 326 P P 13 09 27.6 +1.9
baz=131
G06A Carlson Farm, 39.51 328 eP P 13 09 31.6 +3.9
comp=Z,7.9nm,1.1s
I04A Tendick Farm, 39.52 325 P P 13 09 28.7 +1.0
baz=129
MNMC Minye Minye 39.58 146 eP P 13 09 29.3 +0.5
comp=Z,28nm,1.1s
KBO Bosley Butte 39.61 322 eP P 13 09 31.6 +3.0
comp=Z,98nm,1.4s
E08A Dider Farm, El 39.61 331 eP P 13 09 29.2 +0.8
comp=Z,18nm,1.5s
HAWA Hanford 39.77 330 eP P 13 09 31.1 +1.4
comp=Z,4.2nm,0.8s
G05D Wamic, OR 39.87 327 P P 13 09 32.7 +2.1
baz=132
H04A Detroit Lake 39.97 326 eP P 13 09 33.6 +2.1
comp=Z,24nm,1.0s
I03D Drain, OR 39.99 324 P P 13 09 31.9 +0.4
baz=128,SNR=5.3
J01E Myrtle Point 39.99 323 P P 13 09 32.0 +0.4
baz=127
E07A Sunnyside 40.04 330 eP P 13 09 33.7 +1.6
comp=Z,8.6nm,1.0s
NEW Newport 40.06 334 eP P 13 09 33.6 +1.5
comp=Z,9.7nm,1.2s
NEW Newport 40.06 334 P P 13 09 32.1 0.0
baz=140
KEBM Edson Butte 40.06 322 eP P 13 09 36.6 +4.4
comp=Z,123nm,1.2s
H04D Lebanon 40.16 326 P P 13 09 33.8 +0.8
baz=130
C09A Chrisman Ranch 40.21 333 eP P 13 09 35.0 +1.6
comp=Z,43nm,1.4s
F05D White Salmon 40.38 328 P P 13 09 36.5 +1.7
baz=132
I02D Swisshome 40.52 324 P P 13 09 37.5 +1.6
baz=128
G03D McMinnville, O 40.89 326 P P 13 09 40.2 +1.2
baz=130
LTY Liberty 40.93 330 eP P 13 09 41.4 +1.9
comp=Z,39nm,1.4s
B08A Colville Reser 41.10 332 eP P 13 09 42.4 +1.6
comp=Z,10nm,1.3s
LON Longmire 41.15 329 eP P 13 09 42.7 +1.6
comp=Z,9.7nm,0.9s
E04D Cinebar 41.40 328 P P 13 09 44.7 +1.6
baz=132
C06D Leavenworth 41.51 331 P P 13 09 46.9 +2.8
baz=135
D05A Enumclaw 41.53 329 eP P 13 09 49.5 +5.2
comp=Z,23nm,1.0s
D04E Lakebay 41.92 329 P P 13 09 48.2 +0.9
baz=132
B06A Marblemount 42.21 331 eP P 13 09 51.6 +1.9
comp=Z,30nm,1.1s
D03D Eldon 42.32 329 P P 13 09 52.6 +1.9
baz=132
B05A Bryant 42.33 330 P P 13 09 51.3 +0.6
baz=134
LVC Limon Verde 42.79 148 eP P 13 09 55.9 +0.7
comp=Z,14nm,1.1s
A04D Lummi Island 42.93 330 P P 13 09 56.9 +1.3
baz=133,SNR=15
SCHQ Schefferville 45.31 20 P P 13 10 12.9 -1.8
comp=Z,14nm,0.9s,baz=138,slow=1.5,SNR=5.7
SCHQ LR LR 13 30 16.1
comp=Z,2μm,20.3s,baz=218,slow=38
SCHQ Schefferville 45.31 20 eP P 13 10 14.3 -0.3
comp=Z,33nm,1.4s
LCO Las Campanas 47.39 154 eP P 13 10 31.6 0.0
comp=Z,17nm,0.9s
YKA Yellowknife Ar 51.10 347 P P 13 10 58.8 -0.3
comp=Z,4.6nm,0.7s,baz=151,slow=7.5,SNR=29
YKA PcP PcP 13 12 14.3 -0.3
comp=Z,2.2nm,0.8s,baz=147,slow=4.2,SNR=3.8
YKA LR LR 13 36 37.0
comp=Z,30nm,18.2s,baz=164,slow=40
CPUP Villa Florida 52.34 140 P P 13 11 06.8 -2.1
comp=Z,4.9nm,0.8s,baz=324,slow=8.6,SNR=11
CPUP LR LR 13 34 28.7
comp=Z,262nm,18.8s,baz=336,slow=37
CPUP Villa Florida 52.34 140 eP P 13 11 07.0 -2.0
comp=Z,9.1nm,1.1s
BDFB Brasilia 52.50 122 LR LR 13 34 08.6
comp=Z,420nm,21.1s,baz=290,slow=37
DLBC Dease Lake 52.72 336 eP P 13 11 14.1 +2.7
comp=Z,54nm,1.3s
TAOE Nuku Hiva Isla 52.83 247 eS S 13 18 41.7 +1.2
comp=Z,129nm,23.9s
TAOE eLR LR 13 26 06.6
comp=Z,329nm,26.0s,baz=68
TAOE Nuku Hiva Isla 52.83 247 eT T 14 07 45.2
comp=Z,41nm,0.2s
RKT Rikitea 55.86 229 eLR LR 13 27 44.9
comp=Z,422nm,23.2s
RKT Rikitea 55.86 229 eT T 14 11 33.0
comp=Z,6.9nm,0.3s
PLCA Paso Flores 57.91 161 P P 13 11 47.7 -1.3
comp=Z,3.9nm,0.9s,baz=17,slow=6.0,SNR=5.7
PLCA LR LR 13 31 49.3
comp=Z,329nm,18.1s,baz=16,slow=31
INK Inuvik 60.51 344 P P 13 12 06.5 -0.1
comp=Z,8.4nm,0.7s,baz=136,slow=4.9,SNR=19
INK LR LR 13 42 35.9
comp=Z,434nm,20.1s,baz=123,slow=40
RES Resolute Bay 60.78 359 LR LR 13 42 40.8
comp=Z,496nm,18.2s,baz=148,slow=40
PMOR Pomariorio Ree 62.28 245 eT T 14 19 33.5
comp=Z,3nm,0.2s
HDA Harding Lake 62.76 336 P P 13 12 22.0 +0.2
baz=116,SNR=9.3
KDAK Kodiak Island 62.77 328 P P 13 12 22.5 +0.6
comp=Z,9.7nm,1.0s,baz=211,slow=2.6,SNR=5.3
KDAK LR LR 13 40 00.5
comp=Z,259nm,19.2s,baz=129,slow=36
ILAR Eielson Array 62.91 337 P P 13 12 22.8 +0.1
comp=Z,17nm,1.1s,baz=124,slow=3.8,SNR=54
ILAR LR LR 13 43 24.2
comp=Z,280nm,18.6s,baz=142,slow=39
POKR Poker Plat Res 63.27 337 P P 13 12 24.9 -0.3
baz=116,SNR=8.5
COLA College 63.32 337 eP P 13 12 25.6 +0.1
comp=Z,21nm,1.4s
TCOL CIGO, UAF Yank 63.32 337 P P 13 12 24.9 -0.6
baz=116
TVO Taravao 64.63 242 eT T 14 22 29.3
comp=Z,0.4nm,0.2s
PPT Papeete 64.82 243 LR LR 13 35 10.3
comp=Z,269nm,18.1s,baz=44,slow=30
PPT2 Papeete2 64.83 243 eS S 13 21 18.6 +2.4
comp=Z,97nm,23.5s
PPT2 eLQ LQ 13 29 10.0
comp=Z,306nm,27.2s
PPT2 eLR LR 13 31 43.6
comp=Z,450nm,25.2s,baz=58
TOLK Toolik Lake Re 65.59 340 P P 13 12 39.5 -0.8
baz=116,SNR=8.7
TBI Tubuai 67.28 237 eLR LR 13 33 05.7
comp=Z,356nm,25.2s,baz=59
ESDC Sonseca Array 79.80 52 P P 13 14 02.5 -2.9
comp=Z,0.2nm,0.3s,baz=282,slow=6.5,SNR=7.4
ESDC LR LR 13 44 48.7
comp=Z,114nm,21.2s,baz=330,slow=32
SPITS Spitsbergen Ar 80.18 11 P P 13 14 05.9 -0.8
comp=Z,2.5nm,0.5s,baz=184,slow=3.3,SNR=14
BILL Bilibino 81.53 338 eP P 13 14 13.7 -0.3
comp=Z,5.1nm,1.2s
NB2 NORSAR Subarra 84.24 28 P P 13 14 27.3 -0.9
comp=Z,1.6nm,0.6s,baz=291,slow=5.3
NOA NORSAR Array B 84.24 28 P P 13 14 27.4 -0.8
comp=Z,2.5nm,1.0s,baz=289,slow=5.3,SNR=5.0
NOA LR LR 13 50 27.2
comp=Z,190nm,21.4s,baz=280,slow=34
DBIC Dimbokro 85.69 84 LR LR 13 51 41.4
comp=Z,100nm,18.4s,baz=256,slow=35
ARCES ARCESS Array B 86.23 18 P P 13 14 36.5 -1.5
comp=Z,1.8nm,0.5s,baz=296,slow=3.9,SNR=16
ARCES LR LR 13 52 36.4
comp=Z,26nm,21.8s,baz=328,slow=35
CLL Collm 88.40 37 eP P 13 14 49.0 +0.2
CLL Lm MLR 13 54 00.0
comp=Z,200nm,19.7s
TIXI Tiksi 90.33 348 P P 13 14 56.9 -0.6
comp=Z,4.7nm,0.5s,baz=32,slow=5.4,SNR=10
TORD Torodi Ar. Bea 90.43 76 P P 13 14 55.1 -4.0
comp=Z,0.4nm,0.5s,baz=290,slow=3.9,SNR=5.6
TORD LR LR 13 53 01.4
comp=Z,151nm,20.5s,baz=305,slow=34
FINES FINESS Array B 90.59 25 P P 13 14 57.1 -1.7
comp=Z,4.8nm,1.1s,baz=291,slow=4.3,SNR=3.9
FINES LR LR 13 56 06.3
comp=Z,250nm,20.2s,baz=302,slow=36
NRIK Noril'sk 96.96 0 LR LR 14 03 52.9
comp=Z,722nm,18.4s,baz=24,slow=38
AKASG Malin Array Be 97.82 33 LR LR 13 59 54.2
comp=Z,119nm,20.5s,baz=305,slow=36
DZM Mont Dzumac 105.62 251 eLR LR 13 50 46.1
comp=Z,140nm,22.4s
SONM Songino Array 116.37 346 PKP PKPdf 13 20 41.7 +1.0
comp=Z,0.6nm,0.7s,baz=10,slow=1.8,SNR=3.8
MKAR Makanchi Array 119.36 4 PKP PKPdf 13 20 45.6 -0.7
comp=Z,0.4nm,0.5s,baz=10,slow=2.4,SNR=2.9
BOSA Boshof 120.35 115 PKP PKPdf 13 20 48.4 -0.4
comp=Z,3.5nm,0.9s,baz=288,slow=4.0,SNR=4.6
HHC Hu-ho-hao-te 121.29 339 ePKP PKPdf 13 20 50.5 +0.2
WMQ Urumqi 122.55 0 ePKP PKPdf 13 20 53.3 +0.7
WMQ LR LR
comp=Z,310nm,20.9s
WMQ LR LR
comp=Z,560nm,20.1s
NJ2 Nanjing 125.55 328 ePKP PKPdf 13 20 59.3 +0.7
KSH Kashi 125.68 11 ePKP PKPdf 13 20 59.0 +0.2
GTA Gaotai 125.81 349 ePKP PKPdf 13 21 01.6 +2.5
LZH Lanzhou 128.05 344 ePKP PKPdf 13 21 02.3 -1.2
LZH sPKP 13 21 17.6
LZH LR LR
comp=Z,150nm,18.1s
LZH LR LR
comp=Z,190nm,18.2s
LZH LR LR
comp=Z,220nm,20.1s
XAN Xi'an 128.31 338 PKP PKPdf 13 21 00.4 -3.5
CD2 Chengdu 132.92 341 PKP PKPdf 13 21 12.0 -0.7
WRA Warramunga Arr 135.34 256 PKhKP PKPpre 13 21 10.3
comp=Z,0.2nm,0.7s,baz=94,slow=3.2,SNR=3.1
WRA PKP **PKPdf 13 21 17.0 -0.4**
comp=Z,1.0nm,0.9s,baz=86,slow=2.6,SNR=6.3
ASAR Alice Springs 135.60 250 PKhKP PKPpre 13 21 12.5
comp=Z,0.2nm,0.7s,baz=107,slow=3.8,SNR=3.8
ASAR PKP **PKPdf 13 21 17.9 0.0**
comp=Z,0.9nm,0.8s,baz=100,slow=3.1,SNR=9.0
CMAR Chiang Mai Arr 146.06 341 PKPbc PKPdf 13 21 37.5 +0.7
comp=Z,13nm,0.7s,baz=344,slow=4.3,SNR=61
HYB Hyderabad 147.51 17 *i* PKP **PKPbc 13 21 41.5 -0.3**

ISCJB ***16*** *13:08:02.2s 0.3, 44.38N ±0.04 × 146.06E ±0.05, h176km ±2km, mb4.0/32, Error ellipse: s-maj=7.5km s-min=5.2km az=143.5*
MOS ***16*** *13:08:02.6s 1.2, 45.00N × 145.73E, h147km, mb4.0/16, Error ellipse: s-maj=13.8km s-min=8.1km az=108.8*
SKHL ***16*** *13:08:03.7s 0.8, 44.88N × 146.00E, h146km ±2km, mb4.9/8, msh5.5/5*
IDC ***16*** *13:08:03.6s 1.5, 44.45N × 145.99E, h174km ±13km, mb3.6/21, mb1 3.7/29, mb1mx3.6/48, mbtmp4.0/29, Error ellipse: s-maj=12.9km s-min=10.1km az=134.0*
JMA ***16*** *13:08:04.1s 0.2, 44.23N × 146.09E, h170km ±2km, M3.6*
ISC 16 13:08:03.1 ±0.6, 44.36N ±0.06 × 146.04E ±0.05, h172km ±5km, n111, σ1s16/120, mb3.9/32, 11C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.35**	**202**	*i* P		**Pn**	**13 08 27.2**	**+0.8**
YUK				AMB		AMB	13 08 27.8	
	40nm,0.2s							
YUK				AMB		AMB	13 08 27.8	
	50nm,0.2s							
YUK				AMB		AMB	13 08 27.8	
	220nm,0.2s							
YUK				*i* S		**Sn**	**13 08 44.2**	**0.0**
YUK				A		A	13 08 46.0	
	1μm,0.6s							
YUK				A		A	13 08 46.0	
	2μm,0.6s							
YUK	**Yuzh-Kuril'sk**	**0.35**	**202**	*c i* PN		**Pn**	**13 08 27.1**	**+0.7**
YUK				*i* S		**Sn**	**13 08 44.8**	**+0.6**
YUK				pmax		pmax		
	comp=Z,219nm,0.2s							
YUK				pmax		pmax		
	comp=N,35nm,0.1s							
YUK				pmax		pmax		
	comp=E,53nm,0.2s							
YUK				smax		smax		
	comp=N,1μm,0.6s							
YUK				smax		smax		
	comp=E,2μm,0.6s							
LAGR	**Lagunnoye**	**0.35**	**211**	*e* P		**Pn**	**13 08 27.0**	**+0.6**
LAGR				AMB		AMB	13 08 27.0	
	comp=E,20nm,0.2s							
LAGR				AMB		AMB	13 08 27.0	
	comp=E,100nm,0.2s							
LAGR				AMB		AMB	13 08 27.0	
	comp=E,310nm,0.2s							
LAGR				*e* S		**Sn**	**13 08 45.0**	**+0.8**
LAGR				A		A	13 08 45.0	
	comp=E,2μm,0.5s							
LAGR				A		A	13 08 45.0	
	comp=E,990nm,0.5s							
LAGR	**Lagunnoye**	**0.35**	**211**	*e* PN		**Pn**	**13 08 27.2**	**+0.8**
LAGR				S		**Sn**	**13 08 45.1**	**+0.8**
LAGR				pmax		pmax		
	comp=Z,306nm,0.2s							
LAGR				pmax		pmax		
	comp=N,24nm,0.1s							
LAGR				pmax		pmax		
	comp=E,95nm,0.1s							
LAGR				smax		smax		
	comp=N,2μm,0.6s							
LAGR				smax		smax		
	comp=E,991nm,0.5s							
GRPR	**Tuman**	**0.41**	**208**	*i* P		**Pn**	**13 08 27.0**	**+0.3**
GRPR				AMB		AMB	13 08 27.0	
	comp=E,160nm,0.3s							
GRPR				AMB		AMB	13 08 27.0	
	comp=E,110nm,0.3s							
GRPR				AMB		AMB	13 08 27.0	
	comp=E,680nm,0.3s							
GRPR				*i* S		**Sn**	**13 08 45.0**	**+0.4**
GRPR				A		A	13 08 45.0	
	comp=E,2μm,0.5s							
GRPR				A		A	13 08 45.0	
	comp=E,640nm,0.5s							
GRPR	**Tuman**	**0.41**	**208**	⇑*i* PN		**Pn**	**13 08 27.4**	**+0.7**
GRPR				*i* S		**Sn**	**13 08 45.0**	**+0.4**
GRPR				pmax		pmax		
	comp=E,105nm,0.3s							
GRPR				pmax		pmax		
	comp=Z,675nm,0.3s							
GRPR				pmax		pmax		
	comp=N,161nm,0.1s							
GRPR				smax		smax		
	comp=E,641nm,0.5s							
GRPR				smax		smax		
	comp=N,2μm,0.7s							
GLVR	**Golovnino**	**0.72**	**211**	*e* P		**Pn**	**13 08 29.0**	**+0.9**
GLVR				AMB		AMB	13 08 30.0	
	comp=N,190nm,0.2s							
GLVR				AMB		AMB	13 08 30.0	
	comp=N,120nm,0.2s							
GLVR				AMB		AMB	13 08 30.0	
	comp=N,130nm,0.2s							
GLVR				*e* S		**Sn**	**13 08 48.0**	**+0.7**
GLVR				A		A	13 08 49.0	
	comp=N,970nm,0.6s							
GLVR				A		A	13 08 49.0	
	comp=N,2μm,0.6s							
GLVR	**Golovnino**	**0.72**	**211**	*e* PN		**Pn**	**13 08 29.3**	**+1.2**
GLVR				*e* S		**Sn**	**13 08 48.5**	**+1.2**
GLVR				pmax		pmax		
	comp=Z,1μm,0.1s							
GLVR				pmax		pmax		
	comp=N,192nm,0.2s							
GLVR				pmax		pmax		
	comp=E,117nm,0.1s							
GLVR				smax		smax		
	comp=E,2μm,0.5s							
GLVR				smax		smax		
	comp=N,968nm,0.6s							
SHO	**Shikotan**	**0.75**	**130**	*i* P		**Pn**	**13 08 28.5**	**+0.2**
SHO				AMB		AMB	13 08 30.1	
	comp=N,1μm,0.5s							
SHO				AMB		AMB	13 08 30.1	
	comp=N,660nm,0.5s							
SHO				AMB		AMB	13 08 30.1	
	comp=N,980nm,0.5s							
SHO				*e* S		**Sn**	**13 08 46.2**	**-1.3**
JRA	**Rausu**	**0.78**	**238**	P		**Pn**	**13 08 29.2**	**+0.7**
JRA				*e* S		**Sn**	**13 08 48.6**	**+0.7**
NEM2	**Nemuro 2**	**1.01**	**192**	P		**Pn**	**13 08 30.0**	**-0.1**
NEM2				*e* S		**Sn**	**13 08 49.4**	**-1.5**
JNK	**Nakash**	**1.23**	**231**	P		**Pn**	**13 08 32.5**	**+0.6**
JKHN	**Kushirohamanak**	**1.42**	**207**	P		**Pn**	**13 08 33.7**	**0.0**
KUR	**Kuril'sk**	**1.57**	**55**	*i* P		**Pn**	**13 08 35.5**	**+0.5**
KUR				AMB		AMB	13 08 36.1	
	comp=N,100nm,0.6s							
KUR				AMB		AMB	13 08 36.1	
	comp=N,120nm,0.6s							
KUR				AMB		AMB	13 08 36.1	
	comp=N,700nm,0.6s							
KUR				*e* rx		rx	13 08 59.7	
KUR				A		A	13 09 01.0	
	comp=N,480nm,0.5s							
KUR				A		A	13 09 01.0	
	comp=N,270nm,0.5s							
KUR	**Kuril'sk**	**1.57**	**55**	*d i* PN		**Pn**	**13 08 35.5**	**+0.5**
KUR				*i* S		**Sn**	**13 09 00.1**	**+0.4**
KUR				pmax		pmax		
	comp=Z,500nm,0.5s							
KUR				pmax		pmax		
	comp=N,98nm,0.3s							
KUR				pmax		pmax		
	comp=E,119nm,0.3s							
KUR				smax		smax		
	comp=N,383nm,0.9s							
KUR				smax		smax		
	comp=E,258nm,0.5s							
JTKR	**Abashiri--Toko**	**1.58**	**257**	P		**Pn**	**13 08 36.3**	**+1.1**
JTKR				*e* S		**Sn**	**13 08 59.7**	**-0.2**
JAK	**Akkeshi**	**1.67**	**216**	P		**Pn**	**13 08 36.3**	**+0.2**
JAK				*e* S		**Sn**	**13 09 00.1**	**-1.5**
JAR	**Ashorobuto**	**1.95**	**238**	P		**Pn**	**13 08 40.4**	**+1.3**
JMP	**Maruseppu**	**1.96**	**261**	P		**Pn**	**13 08 40.1**	**+0.9**
JOB	**Onbets**	**2.16**	**229**	P		**Pn**	**13 08 42.2**	**+0.8**
JOB				*e* S		**Sn**	**13 09 10.8**	**-0.2**
HRK	**Horoka**	**2.28**	**248**	*e* P		**Pn**	**13 08 44.2**	**+1.3**
JKK2	**Kamakawa 2**	**2.42**	**260**	P		**Pn**	**13 08 45.5**	**+1.1**
JKA	**Kamikawa-asahi**	**2.48**	**266**	*i* P		**Pn**	**13 08 46.5**	**+1.4**
ASAJ	**Asahikawa**	**2.48**	**266**	P		**Pn**	**13 08 46.5**	**+1.3**
ASAJ	comp=E,2.3nm,0.3s,baz=93,slow=13,SNR=20					S	Sn	13 09 28.7 +11
	comp=E,1.8nm,0.3s,baz=252,slow=20,SNR=2.3							
ASAJ	**Asahikawa**	**2.48**	**266**	P		**Pn**	**13 08 47.0**	**+1.8**
JSE	**Soyaes**	**2.54**	**285**	P		**Pn**	**13 08 46.6**	**+0.9**
JSE				*e* S		**Sn**	**13 09 19.4**	**+0.6**
JCH	**Churui**	**2.61**	**229**	P		**Pn**	**13 08 47.0**	**+0.3**
JCH				*e* S		**Sn**	**13 09 18.3**	**-2.2**
JFR	**Furan**	**2.77**	**246**	P		**Pn**	**13 08 50.0**	**+1.4**
JNBK	**Urakawa-nobuka**	**3.17**	**230**	P		**Pn**	**13 08 52.9**	**-0.6**
JNBK				*e* S		**Sn**	**13 09 29.2**	**-3.5**
YSS	**Yuzh-Sakhalins**	**3.47**	**320**	*e* P		**Pn**	**13 08 57.1**	**-0.1**
YSS				AMB		AMB	13 08 58.2	
	comp=E,40nm,0.8s							
YSS				AMB		AMB	13 08 58.2	
	comp=E,50nm,0.8s							
YSS				AMB		AMB	13 08 58.2	
	comp=E,70nm,0.8s							
YSS				*e* S		Sn	13 09 31.7	-7.7
YSS				A		A	13 09 42.2	
	comp=E,70nm,1.0s							
YSS				A		A	13 09 42.2	
	comp=E,170nm,1.0s							
YSS	**Yuzh-Sakhalins**	**3.47**	**320**	⇑*i* PN		**Pn**	**13 08 57.6**	**+0.4**
YSS				pmax		pmax		
	comp=Z,80nm,0.8s							
YSS				pmax		pmax		
	comp=N,40nm,0.7s							
YSS				pmax		pmax		
	comp=E,50nm,0.7s							
TYV	**Tymovskoe**	**6.90**	**342**	*e* P		Pn	13 09 36.3	-5.4
TYV				AMB		AMB	13 09 45.6	
	comp=E,30nm,0.9s							
TYV				AMB		AMB	13 09 45.6	
	comp=E,4μm,0.9s							
TYV	**Tymovskoe**	**6.90**	**342**	*e* PN		Pn	13 09 30.4	-11
TYV				pmax		pmax		
	comp=Z,300nm,5.5s							
TYV				pmax		pmax		
	comp=Z,14nm,1.4s							
NKL	**Nikolayevsk**	**9.48**	**340**	*e* P		Pn	13 10 13.5	-2.3
MJAR	**Matsushiro Arr**	**9.82**	**220**	P		**Pn**	**13 10 19.6**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=24,slow=10,SNR=5.0							
MJAR				S		**Sn**	**13 12 08.8**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=195,slow=37,SNR=3.0							
USRK	**Issuriysk Ar.**	**10.08**	**274**	P		**Pn**	**13 10 23.4**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=89,slow=13,SNR=9.3							
KLR	**Kul'dur**	**10.94**	**301**	P		**Pn**	**13 10 35.3**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=124,slow=13,SNR=4.0							
KLR	**Kul'dur**	**10.94**	**301**	*e* P		**Pn**	**13 10 34.5**	**-0.4**
KLR	**Kul'dur**	**10.94**	**301**	*ce* PN		**Pn**	**13 10 34.5**	**-0.4**
PETK	**Petropavlovsk-**	**11.65**	**37**	P		**Pn**	**13 10 44.9**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=211,slow=12,SNR=4.2							
EKMR	**Ekimchan**	**12.26**	**320**	*e* P		Pn	13 10 48.8	-3.1
BMKR	**Bomnak**	**15.19**	**319**	*e* P		Pn	13 11 22.8	-5.8
BMKR				AMB		AMB	13 11 28.9	
	comp=Z,20nm,0.5s							
KSRS	**Korea Array**	**15.32**	**249**	P		**P**	**13 11 32.1**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=63,slow=11,SNR=3.2							
MA2	**Magadan**	**15.51**	**9**	P		**Pn**	**13 11 30.3**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=180,slow=20,SNR=2.6							
KROS	**Kirovskiy**	**15.94**	**316**	*e* P		P	13 11 31.8	-6.2
KROS				AMB		AMB	13 11 35.0	
	comp=Z,4.0nm,0.5s							
HIA	**Hailar**	**18.61**	**295**	*ce* P		**P**	**13 12 05.4**	**-1.9**
SEY	**Seymchan**	**18.97**	**9**	P		**P**	**13 12 08.7**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=188,slow=11,SNR=8.2							
YAK	**Yakutsk**	**20.13**	**337**	P		**P**	**13 12 19.5**	**-3.9**
	comp=Z,21nm,0.5s,baz=73,slow=1.1,SNR=9.1							
YAK	**Yakutsk**	**20.13**	**337**	*e* P		**P**	**13 12 23.1**	**-0.3**
YAK	**Yakutsk**	**20.13**	**337**	*e* P		**P**	**13 12 18.8**	**-4.6**
YAK				pmax		pmax		
	comp=Z,26nm,0.9s							
YAK				pmax		pmax		
	comp=N,5.0nm,1.4s							
YAK				pmax		pmax		
	comp=E,6.0nm,0.9s							
ULN	**Ulaanbaatar**	**27.06**	**291**	*i* P		**P**	**13 13 29.5**	**0.0**
ULN				pmax		pmax		
	comp=Z,1.0nm,0.8s							
SONM	**Songino Array**	**27.50**	**291**	P		**P**	**13 13 32.4**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=78,slow=9.9,SNR=7.3							
SONM	**Songino Array**	**27.50**	**291**	*e* P		**P**	**13 13 33.6**	**+0.2**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**30.09**	**138**	T		T	13 45 18.3	
	baz=330,slow=75,SNR=112							
H11N1	**WAKE ISLAND Hy**	**30.10**	**138**	T		T	13 45 16.6	
	baz=330,slow=75,SNR=78							
H11N3	**WAKE ISLAND Hy**	**30.10**	**138**	T		T	13 45 16.3	
	baz=330,slow=75,SNR=68							
H11S1	**WAKE ISLAND Hy**	**31.05**	**140**	T		T	13 46 24.7	
	baz=331,slow=76,SNR=168							

H11S3	**WAKE ISLAND Hy**	**31.05**	**140**	T	T	13 46 33.7	
	baz=331,slow=76,SNR=79						
H11S2	**WAKE ISLAND Hy**	**31.06**	**140**	T	T	13 46 26.0	
	baz=331,slow=76,SNR=84						
DGZ	**Jazzator, Alta**	**39.42**	**299**	*i* P	**P**	**13 15 15.7**	**-0.5**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ZALV	**Zalesovo Beam**	**39.99**	**306**	P	**P**	**13 15 18.3**	**-2.4**
	comp=Z,0.6nm,0.4s,baz=60,slow=6.0,SNR=4.4						
ZALV	**Zalesovo Beam**	**39.99**	**306**	*e*P	**P**	**13 15 20.8**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	**Eielson Array**	**41.48**	**37**	P	**P**	**13 15 32.2**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=258,slow=5.6,SNR=20						
ILAR	**Eielson Array**	**41.48**	**37**	*e*P	**P**	**13 15 32.8**	**+0.1**
ILAR	**Eielson Array**	**41.48**	**37**	*e*P	**P**	**13 15 32.8**	**+0.1**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**43.59**	**297**	P	**P**	**13 15 50.2**	**+0.2**
	comp=Z,3.5nm,0.7s,baz=78,slow=8.5,SNR=15						
KURK	**Kurchatov**	**44.53**	**303**	*e*P	**P**	**13 15 56.7**	**-0.6**
KURK	**Kurchatov**	**44.53**	**303**	P	**P**	**13 15 57.6**	**+0.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KURBB	**Kurchatov Arra**	**44.61**	**303**	P	**P**	**13 15 57.6**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=75,slow=8.3,SNR=18						
INK	**Inuvik**	**46.29**	**30**	P	**P**	**13 16 10.2**	**-0.6**
	comp=Z,2.3nm,0.5s,baz=287,slow=7.1,SNR=8.2						
CMAR	**Chiang Mai Arr**	**46.94**	**252**	P	**P**	**13 16 17.3**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=41,slow=7.1,SNR=9.8						
CMAR	**Chiang Mai Arr**	**46.94**	**252**	*e*P	**P**	**13 16 17.9**	**+1.3**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**48.55**	**309**	*e*P	**P**	**13 16 29.5**	**+1.0**
BRVK	**Borovoye**	**48.55**	**309**	*e*P	**P**	**13 16 29.5**	**+1.0**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AAK	**Ala-Archa**	**50.37**	**295**	P	**P**	**13 16 42.9**	**+0.2**
	comp=Z,2.4nm,0.5s,baz=97,slow=6.2,SNR=10						
AAK	**Ala-Archa**	**50.37**	**295**	*e*P	**P**	**13 16 43.7**	**+1.0**
AAK	**Ala-Archa**	**50.37**	**295***c**e*P		**P**	**13 16 43.7**	**+1.0**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ARU	**Arti**	**53.35**	**316**	*e*P	**P**	**13 17 04.8**	**+0.4**
ARU	**Arti**	**53.35**	**316***c i*P		**P**	**13 17 04.7**	**+0.4**
ARU						13 18 07.7	
ARU						13 19 03.8	
ARU				S	**S**	**13 24 23.8**	**+1.3**
ARU				SS	**SKiKP**	**13 28 01.9**	**+0.4**
ARU				pmax	pmax		
	comp=Z,13nm,2.5s						
YKA	**Yellowknife Ar**	**55.74**	**34**	P	**P**	**13 17 21.6**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=298,slow=6.6,SNR=4.3						
YKA	**Yellowknife Ar**	**55.74**	**34**	*e*P	**P**	**13 17 22.0**	**+0.6**
ARCES	**ARCESS Array B**	**58.40**	**339**	P	**P**	**13 17 39.6**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=46,slow=9.0,SNR=5.9						
ARCES	**ARCESS Array B**	**58.40**	**339**	*e*P	**P**	**13 17 41.9**	**+1.9**
ARCES	**ARCESS Array B**	**58.40**	**339**	*e*P	**P**	**13 17 41.9**	**+1.9**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**63.97**	**332**	P	**P**	**13 18 15.9**	**-1.6**
	comp=Z,2.0nm,0.5s,baz=43,slow=7.0,SNR=13						
FINES	**FINESS Array B**	**63.97**	**332**	*e*P	**P**	**13 18 16.4**	**-1.1**
FINES	**FINESS Array B**	**63.97**	**332**	*e*P	**P**	**13 18 16.4**	**-1.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
OBN	**Obninsk**	**64.35**	**323**	*e*P	**P**	**13 18 21.1**	**+1.1**
OBN	**Obninsk**	**64.35**	**323**‖ *e*P		**P**	**13 18 19.8**	**-0.2**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.5s						
VRH	**Novokhopyorsk**	**64.53**	**318**	*e*P	**P**	**13 18 20.8**	**-0.5**
VRH				pmax	pmax		
	comp=Z,20nm,0.9s						
WRAB	**Tennant Creek**	**64.86**	**192***ce*P		**P**	**13 18 25.0**	**+1.2**
WRAB				pmax	pmax		
	comp=Z,8.0nm,1.7s						
WRA	**Warramunga Arr**	**64.87**	**192**	P	**P**	**13 18 23.9**	**+0.1**
	comp=Z,3.6nm,0.8s,baz=8.9,slow=6.7,SNR=35						
VSR	**Storozhevoye**	**65.75**	**319**	*e*P	**P**	**13 18 28.8**	**-0.4**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
NVAR	**Mina Array Bea**	**67.93**	**57**	P	**P**	**13 18 44.6**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=288,slow=8.9,SNR=4.1						
ASAR	**Alice Springs**	**68.60**	**192**	P	**P**	**13 18 48.3**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=12,slow=6.9,SNR=22						
NB2	**NORSAR Subarra**	**68.75**	**338**	P	**P**	**13 18 46.5**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**68.75**	**338**	P	**P**	**13 18 46.8**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=33,slow=6.6,SNR=5.0						
KIV	**Kislovodsk**	**68.76**	**311**	*e*P	**P**	**13 18 50.4**	**+2.0**
KIV	**Kislovodsk**	**68.76**	**311**	*e*P	**P**	**13 18 50.4**	**+2.0**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KBZ	**Khabaz**	**68.80**	**311**	P	**P**	**13 18 49.5**	**+1.1**
	comp=Z,5.5nm,0.8s,baz=47,slow=4.7,SNR=16						
PDAR	**Pinedale Array**	**70.12**	**49**	P	**P**	**13 18 57.7**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=67,slow=1.3,SNR=5.1						
AKASG	**Malin Array Be**	**70.61**	**323**	P	**P**	**13 18 59.3**	**-0.1**
	comp=Z,2.3nm,0.5s,baz=40,slow=6.8,SNR=8.2						
AKASG	**Malin Array Be**	**70.61**	**323***ce*P		**P**	**13 18 59.5**	**+0.1**
KIEV	**Kiev**	**70.63**	**323**	*e*P	**P**	**13 18 59.5**	**0.0**
KIEV	**Kiev**	**70.63**	**323***ce*P		**P**	**13 18 59.5**	**0.0**
KIEV				pmax	pmax		
	comp=Z,15nm,2.5s						
CLL	**Collm**	**76.40**	**332**	*e*P	**P**	**13 19 33.0**	**-0.2**
CLL	**Collm**	**76.40**	**332**	*e*P	**P**	**13 19 33.0**	**-0.2**
BRTR	**Keskin Array B**	**76.55**	**313**	P	**P**	**13 19 34.7**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=42,slow=4.5,SNR=4.2						
GERES	**GERESS Array B**	**78.23**	**330**	P	**P**	**13 19 43.5**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=36,slow=5.0,SNR=4.6						
TXAR	**Lajitas Array**	**82.97**	**56**	P	**P**	**13 20 09.6**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=298,slow=3.8,SNR=3.6						
TXAR	**Lajitas Array**	**82.97**	**56**	*e*P	**P**	**13 20 09.8**	**+0.7**

MEX 16 13:26:02.7±0.5, 16°09'N×98°46'W, h5km±2km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.44**	**47**	*i* P	Pg	13 26 10.9	-0.3
PNIG				*i* S	Sg	13 26 17.1	0.0
TLIG	**Tlapa**	**1.47**	**356**	*e*P	Pn	13 26 26.1	-3.9
TLIG				*i* S	Sb	13 26 44.3	-5.3
VHO	**Vista Hermosa**	**1.93**	**59**	*e*P	Pn	13 26 33.4	-2.9
VHO				*i* S	Sn	13 26 55.8	-5.2
CAIG	**El Cayaco**	**1.98**	**299**	*e*P	Pn	13 26 32.5	-4.3
CAIG				*e*S	Sn	13 26 56.8	-5.1
MEIG	**Mezcala**	**2.14**	**329**	*e*P	Pn	13 26 36.1	-3.0
MEIG				*e*S	Sn	13 27 02.1	-3.9
ARIG	**Puente Sto Nin**	**2.83**	**321**	*e*P	Pn	13 26 46.4	-2.2
ARIG				*e*S	Sn	13 27 19.1	-3.9

*IDC **16** 13:38:59.7±9.5, 13°.77N×91°.36W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/25, mbtmp3.4/4, ML3.8/1, MS2.5/1, Ms1 2.5/1, ms1mx2.4/19, Error ellipse: s-maj=210.3km s-min=98.6km az=13.0*

MEX 16 13:39:08.0±0.7, 13°.87N×92°.09W, h10km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.04**	**351**	*i* P	Pg	13 39 25.4	-2.6
THIG				*i* S	Sg	13 39 38.0	-3.7
PCIG		**2.12**	**329**	*e*P	Pn	13 39 40.7	-2.8
PCIG				*e*S	Sn	13 40 05.3	-4.8
CCIG	**Comitan**	**2.40**	**359**	*e*P	Pn	13 39 44.9	-2.6
CCIG				*e*S	Sn	13 40 13.7	-3.3
TGIG		**3.06**	**341**	*e*P	Pn	13 39 54.1	-2.4
TGIG				*i* S	Sn	13 40 30.2	-3.0
TXAR	**Lajitas Array**	**18.75**	**327**	P	P	13 43 25.0	-2.3
	0.1nm,0.3s,baz=145,slow=11,SNR=6.4						
NVAR	**Mina Array Bea**	**33.72**	**321**	P	P	13 45 47.9	-2.0
	0.4nm,0.6s,baz=129,slow=8.6,SNR=7.0						
YKA	**Yellowknife Ar**	**51.13**	**347**	P	P	13 48 06.2	-4.5
	0.5nm,0.6s,baz=151,slow=7.2,SNR=3.5						
YKA				LR	LR	14 13 53.9	
	comp=Z,5.0nm,20.7s,baz=140,slow=41						
ILAR	**Eielson Array**	**62.92**	**337**	P	P	13 49 29.8	-4.6
	0.7nm,1.0s,baz=112,slow=8.9,SNR=4.6						

IDC 16 13:42:42.9±1.9, 5°.60S×151°.72E, h0km, mb3.7/4,

mb1 4.0/5, mb1mx3.6/31, mbtmp3.8/5, ML1.8/1, Error ellipse: s-maj=101.0km s-min=23.9km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.90**	**230**	Pn	Pn	13 44 13.5	+1.9
	1.6nm,0.3s,baz=45,slow=11,SNR=5.3						
PMG				Sn	Sn	13 45 21.1	+1.2
	0.8nm,0.3s,baz=205,slow=19,SNR=2.8						
WRA	**Warramunga Arr**	**22.11**	**228**	P	P	13 47 39.8	-0.3
	3.0nm,0.9s,baz=54,slow=10,SNR=26						
ASAR	**Alice Springs**	**24.84**	**222**	P	P	13 48 07.1	-0.1
	1.4nm,0.8s,baz=54,slow=9.6,SNR=14						
FITZ	**Fitzroy Crossi**	**28.34**	**242**	P	P	13 48 38.5	-0.2
	1.3nm,0.6s,baz=75,slow=8.9,SNR=7.6						
ILAR	**Eielson Array**	**83.30**	**22**	P	P	13 55 11.6	+0.3
	0.2nm,0.6s,baz=245,slow=5.7,SNR=4.8						
TORD	**Torodi Ar. Bea**	**149.52**	**286**	PKPbc	PKPbc	14 02 34.6	-0.7
	0.4nm,0.6s,baz=105,slow=4.9,SNR=3.2						

IDC 16 13:51:08.1±1.9, 7°.08S×152°.21E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.5/28, mbtmp3.6/5, ML1.3/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/26, Error ellipse: s-maj=93.7km s-min=24.5km az=138.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.51**	**245**	Pn	Pn	13 52 33.5	+2.0
	0.6nm,0.3s,baz=54,slow=8.7,SNR=2.4						
PMG				Sn	Sn	13 53 38.4	+2.8
	0.5nm,0.3s,baz=342,slow=20,SNR=2.3						
WRA	**Warramunga Arr**	**21.54**	**232**	P	P	13 55 59.1	-0.2
	1.4nm,0.9s,baz=56,slow=11,SNR=8.9						
ASAR	**Alice Springs**	**24.11**	**225**	P	P	13 56 25.2	-0.5
	0.8nm,0.9s,baz=55,slow=9.2,SNR=5.8						
FITZ	**Fitzroy Crossi**	**28.10**	**245**	P	P	13 57 01.4	-0.5
	1.4nm,0.7s,baz=73,slow=7.6,SNR=5.1						
RPZ	**Rata Peaks**	**40.06**	**159**	LR	LR	14 15 46.2	
	comp=Z,62nm,18.2s,baz=50,slow=37						
ILAR	**Eielson Array**	**84.48**	**22**	P	P	14 03 42.8	+0.2
	0.5nm,1.0s,baz=236,slow=4.9,SNR=2.9						

*ISCJB **16** 13:54:19.7±1.6, 41°.21N±0°.03×42°.0E±0°.1, h0km, Error ellipse: s-maj=11.5km s-min=4.7km az=179.3*
*DDA **16** 13:54:19.9, 41°.20N×41°.95E, h5km, Ml2.5, Suspected Mining explosion.*

ISC 16 13:54:20.4±2.2, 41°.20N±0°.03×42°.0E±0°.1, h0km, n6, σ0s33/12, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARTV	**Artvin**	**0.04**	**248**	*i* P	**Pg**	**13 54 21.1**	**-0.2**
ARTV				*i* S	**Sg**	**13 54 22.0**	**+0.2**
DAGI	**Agillar**	**0.13**	**203**	*i* P	**Pg**	**13 54 22.6**	**-0.3**
DAGI				*i* S	**Sg**	**13 54 25.0**	**+0.4**
DBOC	**Borcka**	**0.28**	**301**	*i* P	**Pg**	**13 54 25.5**	**-0.2**
DBOC				*i* S	**Sg**	**13 54 29.5**	**+0.1**
DBAD	**Bademkaya**	**0.28**	**230**	*i* P	**Pg**	**13 54 25.6**	**-0.3**
DBAD				*i* S	**Sg**	**13 54 29.6**	**+0.1**
DDEM	**Demirkent**	**0.36**	**210**	*i* P	**Pg**	**13 54 27.0**	**-0.2**
DDEM				*i* S	**Sg**	**13 54 32.2**	**+0.5**
BATM	**Batumi**	**0.46**	**332**	P	**Pg**	**13 54 28.9**	**-0.2**
BATM				S	**Sg**	**13 54 35.6**	**+0.5**

*WEL **16** 14:01:30.3±0.8, 33°.5S×4°.17'.8W±1°.2, h0km, ML5.3/22*
*ISCJB **16** 14:01:31.8±0.7, 32°.71S±0°.04×177°.9W±0°.2, h21km, mb4.0/5, MS3.6/1, Error ellipse: s-maj=19.6km s-min=3.0km az=17.2*
*IDC **16** 14:01:33.6±1.1, 32°.67S×177°.69W, h0km, mb4.1/5, mb1 4.4/6, mb1mx4.0/23, mbtmp4.1/6, ML4.4/1, MS3.3/3, Ms1 3.3/3, ms1mx2.9/28, Error ellipse: s-maj=37.2km s-min=25.1km az=163.0*

ISC 16 14:01:34.8±0.9, 32°.76S±0°.06×177°.6W±0°.1, h21km, n58, σ2s14/66, mb4.2/4, 1C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.49**	**356**	P	**Pn**	**14 02 26.2**	**-1.6**
GLKZ				S	**Sn**	**14 03 05.6**	**-2.9**
RAO	**Raoul Island**	**3.50**	**356**	Pn	**Pn**	**14 02 26.2**	**-1.8**
	32nm,0.3s,baz=55,slow=22,SNR=4.2						
RAO				Sn	**Sn**	**14 03 05.4**	**-3.4**
	188nm,0.3s,baz=30,slow=23,SNR=7.4						
RIZ	**Raoul Island**	**3.51**	**356**	P	**Pn**	**14 02 26.1**	**-2.0**
RIZ				S	**Sn**	**14 03 06.1**	**-2.9**
MXZ	**Matakaoa Point**	**5.84**	**214**	P	**Pn**	**14 02 58.2**	**-1.9**
MXZ				S	**Sn**	**14 04 04.8**	**-1.6**
WMGZ	**Waiomatatini S**	**6.00**	**212**	P	**Pn**	**14 03 01.1**	**-1.2**
WMGZ				S	**Sn**	**14 04 10.2**	**-0.2**
PKGZ	**Pakihiroa**	**6.21**	**213**	P	**Pn**	**14 03 03.9**	**-1.4**
PKGZ				S	**Sn**	**14 04 03.0**	**-1.6**
HAZ	**Te Kaha**	**6.24**	**216**	P	**Pn**	**14 03 05.2**	**-0.4**
HAZ				S	**Sn**	**14 04 16.1**	**-0.2**
PUZ	**Puketiti**	**6.28**	**211**	P	**Pn**	**14 03 04.2**	**-1.9**
PUZ				S	**Sn**	**14 04 15.8**	**-1.5**
RUGZ	**Raukumara Rang**	**6.46**	**215**	P	**Pn**	**14 03 07.8**	**-0.9**
RUGZ				S	**Sn**	**14 04 21.7**	**-0.2**
TWGZ	**Tauwhareparae**	**6.49**	**212**	P	**Pn**	**14 03 07.5**	**-1.6**
TWGZ				S	**Sn**	**14 04 21.7**	**-0.8**
CNGZ	**Carnagh Statio**	**6.64**	**209**	P	**Pn**	**14 03 09.4**	**-1.7**
WHRZ	**Whale Island**	**6.73**	**219**	P	**Pn**	**14 03 13.8**	**+1.4**
WHRZ				S	**Sn**	**14 04 28.6**	**+0.1**
TKGZ	**Te Karaka**	**6.76**	**212**	P	**Pn**	**14 03 11.2**	**-1.5**
TKGZ				S	**Sn**	**14 04 27.6**	**-1.5**
KUZ	**Kuaotunu**	**6.77**	**232**	P	Pn	14 03 16.4	+3.6
MWZ	**Matawai**	**6.82**	**214**	P	**Pn**	**14 03 11.7**	**-2.0**
MWZ				S	**Sn**	**14 04 28.3**	**-2.4**
URZ	**Urewera**	**6.97**	**217**	Pn	**Pn**	**14 03 13.5**	**-2.1**
	2.5nm,0.3s,baz=265,slow=2.5,SNR=37						
URZ				Sn	**Sn**	**14 04 32.7**	**-1.5**
	8.5nm,0.3s,baz=147,slow=23,SNR=13						
URZ	**Urewera**	**6.97**	**217**	P	**Pn**	**14 03 13.7**	**-1.8**
URZ				S	**Sn**	**14 04 32.2**	**-1.9**
MARZ	**Manawahe**	**6.99**	**220**	P	**Pn**	**14 03 17.2**	**+1.2**
RAGZ	**Rawiri**	**7.00**	**214**	P	**Pn**	**14 03 14.1**	**-2.1**
RAGZ				S	**Sn**	**14 04 33.0**	**-2.2**
RIGZ	**Rimuhau**	**7.02**	**211**	P	**Pn**	**14 03 14.0**	**-2.4**
RIGZ				S	**Sn**	**14 04 33.7**	**-1.8**
PRGZ	**Paritu Road**	**7.15**	**209**	P	**Pn**	**14 03 15.3**	**-2.9**
PRGZ				S	**Sn**	**14 04 34.7**	**-4.1**
SNGZ	**Shannon Statio**	**7.27**	**213**	P	**Pn**	**14 03 17.6**	**-2.2**
SNGZ				S	**Sn**	**14 04 40.2**	**-1.5**
MUGZ	**Murupara**	**7.30**	**217**	P	**Pn**	**14 03 18.6**	**-1.7**
RTZ	**Ruatahuna**	**7.31**	**215**	P	**Pn**	**14 03 19.4**	**-1.0**
KNZ	**Kokohu**	**7.32**	**210**	P	**Pn**	**14 03 17.3**	**-3.1**
MHGZ	**Mahia Peninsul**	**7.34**	**208**	P	**Pn**	**14 03 17.9**	**-2.8**
WCZ	**Waipu Caves**	**7.36**	**242**	P	Pn	14 03 25.2	+4.2
RAHZ	**Arahi**	**7.50**	**213**	P	**Pn**	**14 03 21.4**	**-1.5**
MTHZ	**Maungataniwha**	**7.56**	**215**	P	**Pn**	**14 03 23.4**	**-0.4**
OUZ	**Omahuta**	**7.69**	**249**	P	Pn	14 03 29.7	+4.2
ARHZ	**Aropaoanui**	**7.82**	**212**	P	**Pn**	**14 03 24.6**	**-2.7**
BKZ	**Black Stump Fm**	**7.97**	**215**	P	**Pn**	**14 03 26.7**	**-2.8**
NGZ	**Ngauruhoe**	**8.43**	**219**	P	**Pn**	**14 03 34.8**	**-1.0**
PXZ	**Pawanui**	**8.51**	**210**	P	**Pn**	**14 03 32.0**	**-4.8**
PXZ				S	**Sn**	**14 05 06.5**	**-5.6**
TSZ	**Takapari Road**	**8.93**	**213**	P	**Pn**	**14 03 38.6**	**-4.0**
WAZ	**Wanganui**	**9.18**	**218**	P	**Pn**	**14 03 45.3**	**-0.7**
BFZ	**Birch Farm**	**9.31**	**210**	P	Pn	14 03 42.3	-5.5
RPZ	**Rata Peaks**	**14.08**	**216**	Pn	Pn	14 04 46.8	-6.2
	0.9nm,0.3s,baz=334,slow=1.1,SNR=4.1						
RPZ				Sn	Sn	14 07 13.3	-15
	0.9nm,0.3s,baz=305,slow=23,SNR=7.2						
DZM	**Mont Dzumac**	**17.68**	**303**	LR	LR	14 11 23.5	
	comp=Z,60nm,19.1s,baz=196,slow=34						
DZM	**Mont Dzumac**	**17.68**	**303**	*e*LR	LR	14 09 50.5	
	100nm,21.8s						
RAR	**Rarotonga**	**19.60**	**59**	LR	LR	14 10 37.2	
	comp=Z,50nm,21.9s,baz=246,slow=28						
PPT2	**Papeete2**	**29.42**	**66**	*e*LR	LR	14 14 37.2	
	95nm,27.8s						
STKA	**Stephens Creek**	**34.32**	**260**	LR	LR	14 21 48.0	
	comp=Z,108nm,18.0s,baz=26,slow=35						
CTA	**Charters Tower**	**34.55**	**282**	P	**P**	**14 08 23.1**	**+1.1**
	3.2nm,0.9s,baz=110,slow=17,SNR=2.3						
TAOE	**Nuku Hiva Isla**	**42.00**	**64**	*e*LR	LR	14 20 58.6	
	38nm,23.9s						
ASAR	**Alice Springs**	**43.35**	**269**	P	**P**	**14 09 37.4**	**+1.7**
	1.2nm,0.6s,baz=108,slow=7.0,SNR=17						
ASAR				PcP	**PcP**	**14 11 26.8**	**+2.5**
	0.2nm,0.4s,baz=112,slow=4.1,SNR=2.6						
WRA	**Warramunga Arr**	**44.55**	**274**	P	**P**	**14 09 47.1**	**+1.7**
	2.9nm,0.7s,baz=113,slow=7.9,SNR=32						
SYO	**Syowa Base**	**74.90**	**193**‖ *e*P		P	14 13 27.4	+14
SNAA	**Sanae**	**75.80**	**178**	P	**P**	**14 13 20.7**	**+1.9**
VNA3	**Neumayer Olymp**	**75.94**	**176**	P	**P**	**14 13 21.3**	**+1.7**
VNA2	**Neumayer--Watz**	**76.38**	**177**	P	**P**	**14 13 23.9**	**+1.8**
	baz=184,slow=4.3						
NVAR	**Mina Array Bea**	**89.75**	**42**	P	P	14 14 34.9	+3.1
	0.8nm,0.6s,baz=222,slow=8.5,SNR=7.8						
PDAR	**Pinedale Array**	**97.62**	**44**	P	Pdif	14 15 09.7	+1.8
	0.1nm,0.3s,baz=266,slow=4.4,SNR=2.3						
FINES	**FINESS Array B**	**147.46**	**339**	PKPbc	**PKPab**	**14 21 17.9**	**-0.5**
	7.8nm,0.9s,baz=64,slow=3.6,SNR=16						
LIC	**Lamto**	**152.72**	**164**	*e*PKP1	**PKPbc**	**14 21 32.2**	**+1.5**
	21nm,0.9s						
KIC	**Kosan Boka**	**152.91**	**164**	*e*PKP1	**PKPbc**	**14 21 32.8**	**+1.7**
	7.0nm,0.7s						
TIC	**Toumodi**	**153.12**	**164**	*e*PKP1	**PKPbc**	**14 21 33.4**	**+1.8**
TORD	**Torodi Ar. Bea**	**160.47**	**178**	PKP	**PKPdf**	**14 21 34.8**	**+1.2**
	0.4nm,0.6s,baz=178,slow=4.3,SNR=3.6						
TORD				PKPab	**PKPab**	**14 22 15.4**	**+1.0**
	0.6nm,0.6s,baz=173,slow=5.5,SNR=5.2						

MEX 16 14:25:28.2±0.5, 13°.90N×92°.47W, h15km±123km, MD3.7, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.02**	**11**	*e*P	Pb	14 25 44.6	-3.0
THIG				*e*S	Sb	14 25 56.6	-4.3
PCIG		**1.94**	**338**	*e*P	Pn	14 25 57.0	-3.6
PCIG				*e*S	Sn	14 26 20.1	-4.6
CCIG	**Comitan**	**2.39**	**8**	*e*P	Pn	14 26 04.3	-2.7
CCIG				*i* S	Sn	14 26 32.5	-3.7
TGIG		**2.93**	**348**	*e*P	Pn	14 26 12.2	-2.1
TGIG				*i* S	Sn	14 26 45.6	-3.8

*ISCJB **16** 14:33:19.2±1.6, 10°.3S±0°.2×161°.0E±0°.2, h100km, mb3.3/3, Error ellipse: s-maj=36.2km s-min=11.6km az=144.2*
*IDC **16** 14:33:19.4±2.8, 10°.32S×161°.04E, h77km±20km, mb3.3/3, mb1 3.6/4, mb1mx3.3/33, mbtmp3.8/4, Error ellipse: s-maj=41.8km s-min=22.6km az=59.0*

ISC 16 14:33:18.6±1.6, 10°.3S±0°.1×161°.2E±0°.2, h100km, n7, σ3s68/12, mb3.6/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.48**	**304**	P	**Pn**	**14 33 42.7**	**-1.9**
	59nm,0.3s,baz=197,slow=11,SNR=42						
HNR				S	**Sn**	**14 34 01.0**	**-3.3**
	289nm,0.3s,baz=32,slow=19,SNR=29						
HNR	**Honiara**	**1.48**	**304**	*e*P	**Pn**	**14 33 42.0**	**-2.6**
HNR				*e*S	**Sn**	**14 34 02.0**	**-2.4**
DZM	**Mont Dzumac**	**12.77**	**157**	P	**Pn**	**14 36 18.3**	**+1.7**
	0.8nm,0.3s,baz=13,slow=11,SNR=36						
DZM				S	**Sn**	**14 38 30.8**	**-6.4**
	0.1nm,0.3s,baz=288,slow=20,SNR=2.6						
CTA	**Charters Tower**	**17.40**	**234**	P	**Pn**	**14 37 20.5**	**+5.3**
	0.1nm,0.3s,baz=64,slow=13,SNR=6.2						
WRA	**Warramunga Arr**	**27.61**	**246**	P	**P**	**14 38 58.7**	**+1.8**
	0.7nm,0.6s,baz=74,slow=9.2,SNR=10						
WRA				pP	**pP**	**14 39 17.4**	**-1.7**
	1.7nm,0.8s,baz=76,slow=9.3,SNR=8.9						
ASAR	**Alice Springs**	**29.23**	**239**	P	**P**	**14 39 12.3**	**+1.1**
	0.2nm,0.5s,baz=62,slow=10.0,SNR=6.3						
ASAR				pP	**pP**	**14 39 31.6**	**-2.1**
	0.9nm,0.8s,baz=62,slow=10,SNR=6.5						
SONM	**Songino Array**	**75.44**	**325**	P	**P**	**14 44 55.0**	**+3.2**
	0.5nm,0.5s,baz=127,slow=5.5,SNR=4.0						

IDC 16 14:44:31.0±8.7, 2°.55N×96°.80W, h0km, mb3.4/4, mb1 3.8/4, mb1mx3.6/23, mbtmp3.4/4, MS3.3/2, Ms1 3.3/2, ms1mx3.0/10, Error ellipse: s-maj=238.9km s-min=152.5km az=89.0, West of Galapagos Islands

JOD2	**Odawara 2**	**5.18**	**242**	P		**Pn**	**15 13 16.3**	**-1.1**
JOD2				S		**Sn**	**15 14 10.9**	**-5.0**
MJAR	**Matsushiro Arr**	**5.31**	**258**	Pn		**Pn**	**15 13 19.7**	**+0.5**
	13nm,0.3s,baz=70,slow=14,SNR=86							
MJAR				Sn		**Sn**	**15 14 16.4**	**-2.8**
	2.0nm,0.3s,baz=94,slow=14,SNR=3.4							
MAT	**Matsushiro**	**5.32**	**258**	P		**Pn**	**15 13 20.0**	**+0.8**
MAT				S		**Sn**	**15 14 17.7**	**-1.5**
NEM2	**Nemuro 2**	**5.55**	**8**	P		**Pn**	**15 13 20.7**	**-1.7**
NEM2				S		**Sn**	**15 14 18.2**	**-6.8**
JOSM	**Okushiri--Mats**	**5.79**	**318**	P		**Pn**	**15 13 26.1**	**+0.4**
JTKR	**Abashiri--Toko**	**6.12**	**355**	P		**Pn**	**15 13 29.4**	**-0.9**
JTKR				S		**Sn**	**15 14 34.3**	**-4.7**
JHJ	**Hachijo jima 2**	**6.18**	**221**	Pn		**Pn**	**15 13 29.2**	**-1.9**
	20nm,0.3s,baz=90,slow=22,SNR=7.2							
JHJ				Sn		**Sn**	**15 14 33.4**	**-7.2**
	38nm,0.3s,baz=75,slow=20,SNR=8.1							
JHR	**Hokuryu**	**6.28**	**340**	P		**Pn**	**15 13 33.6**	**+1.2**
JHR				S		**Sn**	**15 14 42.4**	**-0.4**
ASAJ	**Asahikawa**	**6.43**	**347**	Pn		**Pn**	**15 13 34.5**	**0.0**
	3.0nm,0.3s,baz=188,slow=16,SNR=38							
ASAJ				Sn		**Sn**	**15 14 45.5**	**-1.2**
	0.7nm,0.3s,baz=36,slow=18,SNR=4.5							
USRK	**Ussuriysk Ar.**	**11.46**	**307**	Pn		**Pn**	**15 14 45.1**	**+1.7**
	0.4nm,0.3s,baz=120,slow=13,SNR=12							
KSRS	**Korea Array**	**13.27**	**273**	Pn		**Pn**	**15 15 10.0**	**+1.9**
	0.2nm,0.3s,baz=83,slow=14,SNR=6.1							
KSRS				LR		LR	15 20 08.0	
	comp=Z,54nm,18.4s,baz=141,slow=36							
KLR	**Kul'dur**	**14.69**	**325**	Pn		**Pn**	**15 15 28.1**	**+0.6**
	0.2nm,0.3s,baz=150,slow=20,SNR=3.1							
H11N2	**WAKE ISLAND Hy**	**26.46**	**127**	T		T	15 44 46.3	
	baz=311,slow=74,SNR=5.2							
H11N1	**WAKE ISLAND Hy**	**26.47**	**127**	T		T	15 44 59.5	
	baz=311							
H11N3	**WAKE ISLAND Hy**	**26.48**	**127**	T		T	15 44 42.6	
	baz=311,slow=74,SNR=3.8							
SONM	**Songino Array**	**29.50**	**302**	P		**P**	**15 18 05.5**	**+2.3**
	0.2nm,0.4s,baz=82,slow=10,SNR=2.2							
TLY	**Talaya**	**31.77**	**309**	LR		LR	15 31 31.8	
	comp=Z,24nm,19.7s,baz=6.5,slow=37							
ZALV	**Zalesovo Beam**	**43.27**	**312**	P		**P**	**15 20 01.8**	**+1.6**
	0.4nm,0.4s,baz=65,slow=6.6,SNR=2.1							
ZALV				PcP		**PcP**	**15 21 47.7**	**-1.1**
	0.7nm,0.4s,baz=85,slow=3.5,SNR=4.7							
MKAR	**Makanchi Array**	**45.87**	**302**	P		**P**	**15 20 24.0**	**+3.0**
	0.8nm,0.8s,baz=88,slow=13,SNR=3.0							
ILAR	**Eielson Array**	**47.41**	**33**	P		**P**	**15 20 33.0**	**+0.2**
	1.0nm,0.8s,baz=266,slow=7.1,SNR=10							
KURBB	**Kurchatov Arra**	**47.53**	**308**	P		**P**	**15 20 34.7**	**+0.7**
	1.0nm,0.5s,baz=82,slow=8.1,SNR=8.7							
BVAR	**Borovoye Array**	**51.92**	**312**	P		**P**	**15 21 09.0**	**+1.6**
	0.5nm,0.5s,baz=97,slow=12,SNR=3.6							
INK	**Inuvik**	**52.46**	**28**	P		**P**	**15 21 11.9**	**+0.8**
	1.0nm,0.8s,baz=263,slow=5.1,SNR=4.5							
WRA	**Warramunga Arr**	**58.31**	**191**	P		**P**	**15 21 52.8**	**-1.0**
	1.2nm,0.6s,baz=9.7,slow=7.1,SNR=18							
YKA	**Yellowknife Ar**	**61.78**	**31**	P		**P**	**15 22 17.2**	**+0.1**
	0.7nm,0.7s,baz=310,slow=5.3,SNR=3.4							
ASAR	**Alice Springs**	**62.03**	**191**	P		**P**	**15 22 18.7**	**-0.5**
	0.6nm,0.7s,baz=7.3,slow=7.2,SNR=10							
PDAR	**Pinedale Array**	**75.23**	**47**	P		**P**	**15 23 42.2**	**+0.5**
	0.5nm,0.7s,baz=321,slow=3.6,SNR=5.7							

*ISK **16** 15:15:02.7,37.18N×37.13E,h6km,ML2.7/5*
*DDA **16** 15:15:03.3,37.12N×37.14E,h17km,Ml3.3*
ISC 16 15:15:03.2±1.0,37.15N±0.03×37.13E±0.02,h9km±7km, n22,σ0°95/38,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GAZ	**Gaziantep**	**0.07**	**70**	PG		**Pg**	**15 15 04.8**	**-0.5**
KUZU	**Kuzuini**	**0.38**	**187**	*i* P		**Pg**	**15 15 10.6**	**0.0**
KUZU				*i* S		**Sg**	**15 15 16.4**	**+0.7**
KMRS	**Kahramanmaras**	**0.40**	**333**	PG		**Pg**	**15 15 10.6**	**-0.5**
KMRS				SG		**Sg**	**15 15 15.9**	**-0.5**
ANDN	**Andirin**	**0.76**	**305**	*i* P		**Pg**	**15 15 17.5**	**-0.4**
ANDN				*i* S		**Sn**	**15 15 30.3**	**-1.6**
ATAB	**Bozova**	**0.98**	**71**	*i* P		**Pn**	**15 15 22.9**	**-0.3**
ATAB				*i* S		**Sn**	**15 15 36.6**	**-0.6**
TAHT	**Tahtakopru-Hat**	**1.08**	**225**	PN		**Pn**	**15 15 24.3**	**-0.3**
KOZT	**Kozan**	**1.09**	**288**	PG		**Pg**	**15 15 23.6**	**-0.7**
KOZT				SG		**Sn**	**15 15 39.0**	**-0.9**
ELBS	**KAHRAMANMARAS**	**1.17**	**0**	*i* P		**Pg**	**15 15 26.6**	**+0.8**
ELBS				*i* S		**Sn**	**15 15 43.6**	**+1.5**
SAIM	**ADANA**	**1.17**	**315**	*i* P		**Pg**	**15 15 25.5**	**-0.2**
SAIM				*i* S		**Sn**	**15 15 41.4**	**-0.7**
SURC	**SANLIURFA_SURC**	**1.22**	**102**	*i* P		**Pg**	**15 15 26.3**	**-0.3**
SURC				*i* S		**Sn**	**15 15 42.8**	**-0.2**
YURE	**YUREGIR**	**1.24**	**255**	PN		**Pg**	**15 15 27.0**	**-0.1**
YURE	**YUREGIR**	**1.24**	**255**	*i* P		**Pg**	**15 15 26.9**	**-0.1**
YURE				*i* S		**Sg**	**15 15 46.5**	**+3.3**
AKCD	**Akcadag**	**1.30**	**28**	*i* P		**Pg**	**15 15 28.1**	**-0.1**
AKCD				*i* S		**Sg**	**15 15 46.1**	**+0.9**
URFA	**Urfa**	**1.38**	**77**	PN		**Pb**	**15 15 28.7**	**-0.5**
DARE	**Darende-Malaty**	**1.45**	**11**	PN		**Pb**	**15 15 30.2**	**-0.2**
CUGUR	**Gurin_S^VAS**	**1.58**	**4**	*i* P		**Pg**	**15 15 33.4**	**0.0**
CUGUR				*i* S		**Sg**	**15 15 55.2**	**+1.3**
HEKM	**Malatya_Hekimh**	**1.85**	**20**	*i* P		**Pg**	**15 15 37.9**	**-0.7**
HEKM				*i* S		**Sg**	**15 16 03.8**	**+1.2**
GULE	**Gulek**	**1.89**	**275**	*i* P		**Pn**	**15 15 36.0**	**+0.2**
GULE				*i* S		**Sb**	**15 16 00.2**	**-1.4**
ELZG	**Elazig**	**1.99**	**47**	*i* P		**Pn**	**15 15 37.1**	**-0.1**
ELZG				*i* S		**Sg**	**15 16 06.8**	**-0.4**
KEMA	**Kemaliye**	**2.37**	**26**	*i* P		**Pb**	**15 15 45.3**	**-0.8**
KEMA				*i* S		**Sb**	**15 16 16.9**	**+1.3**
KERG	**Konya-Eregli**	**2.41**	**277**	*i* P		**Pn**	**15 15 43.3**	**+0.3**
KERG				*i* S		**Sn**	**15 16 13.1**	**+0.4**
MAZI	**Mazidag**	**2.66**	**82**	PN		**Pn**	**15 15 47.3**	**+0.9**

IDC 16 15:16:38.4±5.9,30.70S×178.22W,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.6/26,mbtmp3.6/2,Error ellipse: s-maj=229.4km s-min=58.0km az=155.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAR	**Alice Springs**	**42.90**	**267**	P		P	15 24 38.2	-0.8
	0.2nm,0.4s,baz=104,slow=7.4,SNR=13							
WRA	**Warramunga Arr**	**43.92**	**273**	P		P	15 24 47.9	+0.6
	0.8nm,0.5s,baz=113,slow=7.9,SNR=13							
FINES	**FINESS Array B**	**145.36**	**340**	PKPbc		PKPbc	15 36 16.4	-1.0
	0.9nm,0.5s,baz=72,slow=4.5,SNR=4.9							

*NAO **16** 15:34:01.9±1.4,77.26N×18.15E,h15km±11km,ML2.5*
*BER **16** 15:34:04.2±2.8,77.22N×17.94E,h22km±16km,ML2.4, ML2.5(NAO)*
ISC 16 15:34:02.0±1.1,77.18N±0.05×18.07E±0.04,h32km±12km, n13,σ2°21/25,Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HSP	**Hornsund**	**0.59**	**254**	Pg		**Pn**	**15 34 15.1**	**+0.9**
HSP				Lg		Lg	15 34 23.0	
HSPB	**Hornsund (broa**	**0.60**	**254**	*e*P		**Pn**	**15 34 15.1**	**+0.9**
HSPB				*e*S		**Sb**	**15 34 22.9**	**+0.6**
SPA0	**Spitsbergen Ar**	**1.07**	**341**	Pg		**Pn**	**15 34 20.9**	**+0.1**
	baz=150,slow=22							
SPA0				Lg		Lg	15 34 34.2	
	baz=163,slow=37							
SPA0	**Spitsbergen Ar**	**1.07**	**341**	*e*P		**Pn**	**15 34 20.9**	**+0.1**
SPA0				*e*S		**Sb**	**15 34 34.1**	**-1.5**
SPA0				IAML			15 34 39.0	
	comp=Z,101nm,0.3s							
BRBA	**Barentsburg A**	**1.22**	**319**	Pn		**Pb**	**15 34 24.1**	**-0.3**
BRBA				Lg		Lg	15 34 39.7	
BRBA	**Barentsburg A**	**1.22**	**319**	Pn		**Pb**	**15 34 24.1**	**-0.3**
BRBA				Sg		**Sb**	**15 34 39.7**	**0.0**
HOPEN	**Hopen**	**1.73**	**109**	Pn		**Pb**	**15 34 32.5**	**-0.5**
HOPEN				Sn		**Sb**	**15 34 53.3**	**-0.9**
HOPEN				Lg		Lg	15 34 57.2	
HOPEN	**Hopen**	**1.73**	**109**	*e*P		**Pb**	**15 34 32.8**	**-0.2**
HOPEN				*e*S		**Sb**	**15 34 53.5**	**-0.7**
HOPEN				*e*Sg		**Sn**	**15 34 57.3**	**+6.6**
HOPEN				IAML			15 34 58.7	
	comp=Z,64nm,0.1s							
KBS	**Kingsbay**	**2.17**	**327**	Pn		**Pn**	**15 34 36.8**	**+1.0**
KBS				Pg		**Pb**	**15 34 40.3**	**-0.3**
KBS				Lg		Lg	15 35 07.2	
KBS	**Kingsbay**	**2.17**	**327**	*e*P		**Pn**	**15 34 37.0**	**+1.2**
KBS				*e*Pg		**Pb**	**15 34 40.8**	**+0.2**
KBS				*e*Sg		**Sb**	**15 35 07.1**	**+0.1**
KBS				IAML			15 35 11.6	
	comp=Z,47nm,0.2s							
ZFI2	**Zemlya Franca-**	**6.64**	**43**	*i* P		**Pn**	**15 35 38.3**	**+1.1**
ZFI2				*i* S		**Sn**	**15 36 48.2**	**-3.4**
	comp=Z,5.5nm,0.9s							
ARA0	**ARCESS Array S**	**7.96**	**161**	Pn		**Pn**	**15 35 57.5**	**+2.1**
	baz=357,slow=10							
ARA0				Sn		**Sn**	**15 37 20.5**	**-3.7**
	baz=0.8,slow=22							
ARA0	**ARCESS Array S**	**7.96**	**161**	Pn		**Pn**	**15 35 57.5**	**+2.1**
	baz=357,slow=10							
ARA0				Sn		**Sn**	**15 37 20.5**	**-3.7**
	baz=0.8,slow=22							

*IDC **16** 15:38:34.9±5.2,42.98S×76.75W,h0km,mb3.6/5, mb1 3.8/6,mb1mx3.7/22,mbtmp3.6/6,ML2.9/1,MS3.4/5, Ms1 3.4/5,ms1mx3.0/26,Error ellipse: s-maj=102.9km s-min=41.2km az=175.0*
ISC 16 15:38:40.7±4.6,42.9S±0.6×76.6W±0.2,h35km,n10, σ0°57/6,mb3.5/5,MS3.4/5,Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLCA	**Paso Flores**	**5.02**	**67**	Pn		**Pn**	**15 39 53.8**	**+0.2**
	0.1nm,0.3s,baz=252,slow=16,SNR=3.7							
LVC	**Limon Verde**	**21.21**	**20**	P		**P**	**15 43 23.9**	**+0.2**
	0.7nm,0.3s,baz=220,slow=11,SNR=1.5							
CPUP	**Villa Florida**	**22.82**	**50**	P		**P**	**15 43 40.6**	**0.0**
	2.2nm,0.7s,baz=220,slow=9.5,SNR=7.4							
CPUP				LR		LR	15 53 17.0	
	comp=Z,65nm,20.2s,baz=208,slow=38							
PMSA	**Palmer Station**	**23.07**	**166**	LR		LR	15 50 15.9	
	comp=Z,82nm,20.3s,baz=159,slow=30							
LPAZ	**La Paz**	**27.48**	**18**	P		**P**	**15 44 25.1**	**+0.8**
	0.6nm,0.7s,baz=192,slow=10,SNR=2.9							
SIV	**San Ignacio**	**29.92**	**31**	P		**P**	**15 44 44.9**	**-0.5**
	0.6nm,0.6s,baz=235,slow=16,SNR=3.7							
ROSC	**El Rosal**	**47.54**	**3**	LR		LR	16 05 37.8	
	comp=Z,66nm,19.0s,baz=80,slow=34							
APG	**El Apazote**	**58.98**	**344**	LR		LR	16 09 37.2	
	comp=Z,28nm,18.3s,baz=302,slow=32							
MAW	**Mawson**	**65.67**	**164**	LR		LR	16 19 15.9	
	comp=Z,41nm,18.2s,baz=239,slow=37							
TXAR	**Lajitas Array**	**76.04**	**336**	P		**P**	**15 50 24.4**	**0.0**
	0.5nm,0.8s,baz=146,slow=9.1,SNR=3.4							

*IDC **16** 15:54:14.9±0.9,28.31N×51.46E,h0km,mb3.9/11, mb1 3.9/15,mb1mx3.7/55,mbtmp3.8/15,ML3.2/4,MS3.2/4, Ms1 3.2/4,ms1mx2.7/47,Error ellipse: s-maj=21.0km s-min=17.7km az=180.0*
*ISCJB **16** 15:54:18.6±0.4,28.53N±0.03×51.32E±0.04,h24km, mb3.8/11,MS3.2/3,Error ellipse: s-maj=5.9km s-min=3.6km az=152.6*
*THR **16** 15:54:18.4±0.3,28.68N×51.23E,h22km±2km,ML4.0*
*TEH **16** 15:54:18.8,28.61N×51.35E,h14km,ML3.8*
*DSN **16** 15:54:22.6±1.4,28.41N×51.49E,h15km,ML4.1/11,Error ellipse: s-maj=21.0km s-min=9.2km az=9.0*
ISC 16 15:54:19.8±0.7,28.52N±0.07×51.34E±0.06,h24km,n79, σ1°52/80,mb3.8/11,MS3.2/3,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**1.47**	**99**	*e*Pn		**Pb**	**15 54 47.5**	**+1.0**
GHIR				*e*Sg		**Sb**	**15 55 08.1**	**+3.3**
GHIR				IAML			15 55 09.9	
	comp=N,3μm,0.5s							
GHIR				IAML			15 55 11.0	
	comp=E,3μm,0.6s							
GHIR	**Ghir-Karzin**	**1.47**	**99**	*e*Pn		**Pb**	**15 54 47.5**	**+1.0**
SHI	**Shiraz**	**1.52**	**42**	*e*Pn		**Pn**	**15 54 46.2**	**+0.6**
SHI				IAMB		IAmb	15 55 07.7	
	comp=Z,41μm,1.0s							
SHI				IAMB		IAmb	15 55 11.9	
	comp=N,23μm,0.6s							
ISRV	**Sarvestan**	**1.77**	**61**	*e*Pn		**Pn**	**15 54 50.9**	**+1.6**
ISRV				IAMB		IAmb	15 55 27.7	
	comp=Z,56μm,1.4s							
ISRV				IAMB		IAmb	15 55 29.6	
	comp=N,90μm,1.1s							
JHRM	**Jahrom**	**1.97**	**90**	*e*Pn		**Pn**	**15 54 53.2**	**+1.4**
JHRM				IAMB		IAmb	15 55 31.4	
	comp=Z,0.0nm,0.5s							
JHRM				IAMB		IAmb	15 55 33.3	
	comp=N,0.0nm,0.6s							
JHRM				IAMB		IAmb	15 55 35.9	
	comp=E,0.0nm,0.7s							
IPAR	**Pars**	**1.99**	**48**	*e*Pn		**Pn**	**15 54 53.3**	**+1.0**
IPAR				IAMB		IAmb	15 55 23.2	
	comp=Z,8μm,0.7s							
IPAR				IAMB		IAmb	15 55 24.4	
	comp=N,15μm,0.8s							
IPAR				IAMB		IAmb	15 55 28.4	
	comp=E,20μm,1.2s							
KLNJ	**Kolanjah**	**2.49**	**5**	*e*Pn		**Pn**	**15 54 59.9**	**+0.7**
KLNJ				IAMB		IAmb	15 55 46.7	
	comp=N,0.0nm,0.6s							
KLNJ				IAMB		IAmb	15 55 46.8	
	comp=E,0.0nm,0.5s							
KLNJ				IAMB		IAmb	15 55 53.3	
	comp=Z,0.0nm,0.6s							
IRAM	**Ramesheh**	**3.40**	**15**	*e*Pn		**Pn**	**15 55 12.2**	**+0.6**
IRAM				IAMB		IAmb	15 55 26.3	
	comp=N,1μm,0.4s							
IRAM				IAMB		IAmb	15 55 53.8	
	comp=E,1μm,0.5s							
IRAM				IAMB		IAmb	15 56 20.4	
	comp=Z,1μm,0.7s							
ZNGN	**Zangian**	**3.61**	**353**	*e*Pn		**Pn**	**15 55 15.3**	**+0.8**
ZNGN				IAMB		IAmb	15 56 24.6	
	comp=E,0.0nm,1.1s							
ZNGN				IAMB		IAmb	15 56 27.0	
	comp=Z,0.0nm,0.7s							
ZNGN				IAMB		IAmb	15 56 31.2	
	comp=N,0.0nm,1.3s							
ROKH	**ROKH**	**3.82**	**356**	*e*Pn		**Pn**	**15 55 17.8**	**+0.4**
ROKH				IAMB		IAmb	15 56 33.3	
	comp=N,0.0nm,2.1s							
ROKH				IAMB		IAmb	15 56 45.7	
	comp=E,0.0nm,1.9s							
ROKH				IAMB		IAmb	15 57 05.6	
	comp=Z,0.0nm,3.6s							
IGAR	**Gharneh**	**3.92**	**9**	*e*Pn		**Pn**	**15 55 19.7**	**+1.0**
IGAR				IAMB		IAmb	15 56 06.4	
	comp=Z,672nm,0.4s							
IGAR				IAMB		IAmb	15 56 07.4	
	comp=N,2μm,0.5s							
ISAD	**Sadrabad**	**3.94**	**30**	*e*Pn		**Pn**	**15 55 20.6**	**+1.5**
ISAD				IAMB		IAmb	15 55 46.4	
	comp=Z,937nm,0.7s							
ISAD				IAMB		IAmb	15 56 07.2	
	comp=N,1μm,0.4s							
ISAD				IAMB		IAmb	15 56 39.1	
	comp=E,2μm,1.0s							
IMEH	**Mehriz**	**4.03**	**44**	*e*Pn		**Pn**	**15 55 21.9**	**+1.7**
IMEH				IAMB		IAmb	15 55 23.1	
	comp=Z,1μm,0.5s							
IMEH				IAMB		IAmb	15 56 10.4	
	comp=N,1μm,0.4s							
IZEF	**Zefreh**	**4.44**	**11**	*e*Pn		**Pn**	**15 55 26.8**	**+0.9**
IZEF				IAMB		IAmb	15 55 53.3	
	comp=Z,388nm,0.4s							
IZEF				IAMB		IAmb	15 56 18.3	
	comp=E,753nm,0.4s							
IZEF				IAMB		IAmb	15 56 19.3	
	comp=N,491nm,0.4s							
ICHK	**Chekchek**	**4.56**	**35**	*e*Pn		**Pn**	**15 55 28.2**	**+0.7**
ICHK				IAMB		IAmb	15 56 21.4	
	comp=N,1μm,0.5s							
ICHK				IAMB		IAmb	15 56 24.9	
	comp=Z,722nm,0.4s							
YZKH	**Yazd**	**4.77**	**35**	*e*Pn		**Pn**	**15 55 30.5**	**+0.2**
YZKH	**Yazd**	**4.77**	**35**	*e*Pn		**Pn**	**15 55 30.5**	**+0.2**
IKLH	**Kolahrood**	**4.79**	**2**	*e*Pn		**Pn**	**15 55 31.2**	**+0.5**
IKLH				IAMB		IAmb	15 56 28.1	
	comp=N,625nm,0.5s							
IKLH				IAMB		IAmb	15 56 53.0	
	comp=E,505nm,0.6s							
IKLH				IAMB		IAmb	15 57 10.3	
	comp=Z,1μm,1.4s							
KHGB	**Koh Gabri**	**4.84**	**66**	*e*Pn		**Pn**	**15 55 31.9**	**+0.4**
KHGB				IAMB		IAmb	15 56 30.2	
	comp=E,0.0nm,0.4s							
KHGB				IAMB		IAmb	15 57 13.3	
	comp=N,0.0nm,1.4s							
KHGB				IAMB		IAmb	15 57 38.9	
	comp=Z,0.0nm,3.2s							
NGRK	**Negar Kerman**	**4.85**	**75**	*e*Pn		**Pn**	**15 55 32.7**	**+1.1**
NGRK				IAMB		IAmb	15 55 47.9	
	comp=N,0.0nm,0.0s							
NGRK				IAMB		IAmb	15 55 47.9	
	comp=Z,0.0nm,0.0s							
NGRK				IAMB		IAmb	15 56 33.7	
	comp=E,0.0nm,0.3s							
SHME	**Shamm**	**4.93**	**119**	P		**Pn**	**15 55 32.9**	**+0.4**
SHME	**Shamm**	**4.93**	**119**	*e*Pn		**Pn**	**15 55 31.0**	**-1.5**
KRBR	**Kerman**	**4.95**	**72**	IAML			15 56 32.6	
	comp=N,72nm,0.4s							
KRBR				IAML			15 57 00.9	
	comp=E,99nm,0.7s							
TVBK	**TV Kerman**	**4.96**	**72**	*e*Pn		**Pn**	**15 55 34.5**	**+1.4**
TVBK				IAMB		IAmb	15 56 35.5	
	comp=N,0.0nm,0.3s							
TVBK				IAMB		IAmb	15 56 36.1	
	comp=Z,0.0nm,0.2s							
TVBK				IAMB		IAmb	15 56 57.9	
	comp=E,0.0nm,0.4s							
ANAR	**Anarak**	**5.08**	**23**	*e*Pn		**Pn**	**15 55 35.7**	**+1.0**
ANAR				IAMB		IAmb	15 55 54.9	
	comp=N,0.0nm,1.3s							
ANAR				IAMB		IAmb	15 57 13.4	
	comp=E,0.0nm,1.4s							
ANAR				IAMB		IAmb	15 57 36.4	
	comp=Z,0.0nm,1.7s							
AJN	**Ajban**	**5.12**	**140**	P		**Pn**	**15 55 37.2**	**+2.2**
NAZ	**Nazwa, Dubai**	**5.22**	**131**	P		**Pn**	**15 55 38.7**	**+2.2**
NAZ	**Nazwa, Dubai**	**5.22**	**131**	*e*Pn		**Pn**	**15 55 39.0**	**+2.5**
ASUD	**Al Ashush, Dub**	**5.27**	**136**	*i* P		**Pn**	**15 55 39.3**	**+2.1**
	SNR=25							
MSFE	**Esma-Masafi**	**5.33**	**125**	*i* P		**Pn**	**15 55 39.1**	**+1.1**
	SNR=8.1							
MSFE	**Esma-Masafi**	**5.33**	**125**	*e*Pn		**Pn**	**15 55 39.4**	**+1.4**
FAQ	**Al Faqa, Dubai**	**5.35**	**134**	P		**Pn**	**15 55 40.3**	**+2.1**
MDH	**Madha**	**5.47**	**125**	P		**Pn**	**15 55 40.8**	**+1.0**
KRSH	**Karshahi**	**5.47**	**7**	*e*Pn		**Pn**	**15 55 40.2**	**+0.2**
KRSH				IAMB		IAmb	15 56 42.7	
	comp=E,0.0nm,0.9s							
KRSH				IAMB		IAmb	15 56 44.5	
	comp=Z,0.0nm,0.4s							
KRSH				IAMB		IAmb	15 56 44.6	
	comp=N,0.0nm,0.4s							
CHMN	**Cheshme madani**	**5.58**	**75**	*e*Pn		**Pn**	**15 55 42.6**	**+0.9**
CHMN				IAMB		IAmb	15 56 48.4	
	comp=E,0.0nm,1.0s							
CHMN				IAMB		IAmb	15 57 32.0	
	comp=N,0.0nm,1.2s							
CHMN				IAMB		IAmb	15 57 33.0	
	comp=Z,0.0nm,1.8s							
UOSS	**Minazif**	**5.62**	**128**	*i* P		**Pn**	**15 55 42.9**	**+1.0**
	SNR=15							
UOSS	**Minazif**	**5.62**	**128**	*e*Pn		**Pn**	**15 55 43.0**	**+1.1**
HATD	**Hatta, Dubai**	**5.65**	**130**	P		**Pn**	**15 55 43.8**	**+1.5**
HATD	**Hatta, Dubai**	**5.65**	**130**	*e*Pn		**Pn**	**15 55 44.3**	**+2.0**
ASHO	**Ashiyiah**	**5.70**	**131**	P		**Pn**	**15 55 44.3**	**+1.3**
ASHO				S		**Sn**	**15 56 47.5**	**-0.1**
MZR	**Muzera**	**5.83**	**160**	*i* P		**Pn**	**15 55 48.2**	**+3.4**
	SNR=18							
MZR	**Muzera**	**5.83**	**160**	*e*Pn		**Pn**	**15 55 48.5**	**+3.8**
ALNE	**Al Ain**	**5.95**	**137**	*i* P		**Pn**	**15 55 48.5**	**+2.0**
	SNR=10							
ALNE	**Al Ain**	**5.95**	**137**	*e*Pn		**Pn**	**15 55 49.0**	**+2.5**
HSAM	**Samen**	**6.14**	**338**	*e*Pn		**Pn**	**15 55 49.8**	**+0.6**
TPRV	**Parvadeh(Tabas**	**6.43**	**44**	*e*Pn		**Pn**	**15 55 53.4**	**+0.3**
TPRV				IAMB		IAmb	15 57 48.4	
	comp=Z,0.0nm,3.0s							
IVRN	**Varamin**	**6.46**	**3**	*e*Pn		**Pn**	**15 55 53.4**	**-0.1**
IKOM	**Komasi**	**6.52**	**331**	*e*Pn		**Pn**	**15 55 56.3**	**+1.9**
IKOM				IAMB		IAmb	15 58 34.8	
	comp=E,0.0nm,2.3s							
IKOM				IAMB		IAmb	15 58 47.3	
	comp=N,0.0nm,1.6s							
IDMV	**Damavand**	**7.06**	**5**	IAMB		IAmb	15 56 11.3	
	comp=N,270nm,0.5s							
IDMV				*e*Pn		**Pn**	**15 56 02.3**	**+0.4**
IDMV				IAMB		IAmb	15 56 15.6	
	comp=Z,189nm,0.5s							
IDMV				IAMB		IAmb	15 57 19.9	
	comp=E,293nm,0.6s							
TKDS	**Koohdasht(Taba**	**7.09**	**43**	*e*Pn		**Pn**	**15 56 02.7**	**+0.5**
TKDS				IAMB		IAmb	15 58 59.3	
	comp=Z,0.0nm,4.4s							
RAYN	**Ar Rayn**	**7.24**	**228**	*i* P		**Pn**	**15 56 06.5**	**+2.3**

IDC **16** *16:14:47.8±2.0,5˚.36S×151˚.56E,h0km,mb3.7/4, mb1 4.0/5,mb1mx3.6/35,mbtmp3.8/5,ML1.8/1,Error ellipse: s-maj=116.2km s-min=24.8km az=129.0*

ISC 16 16:14:55.7±2.5,5˚.4S±0.7×151˚.4E±0.8,h57km,n6,σ0s47/6, mb3.5/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
PMG	**Port Moresby**	**5.78**	**227**	Pn		**Pn**	**16 16 18.6**	**-0.3**
	1.6nm,0.3s,baz=72,slow=3.9,SNR=6.3							
WRA	**Warramunga Arr**	**22.00**	**227**	P		**P**	**16 19 46.1**	**+0.8**
	1.8nm,0.8s,baz=52,slow=9.9,SNR=13							
ASAR	**Alice Springs**	**24.77**	**221**	P		**P**	**16 20 12.2**	**0.0**
	1.3nm,0.8s,baz=59,slow=9.1,SNR=11							
FITZ	**Fitzroy Crossi**	**28.14**	**241**	P		**P**	**16 20 42.6**	**-0.1**
	1.8nm,0.5s,baz=66,slow=8.7,SNR=5.8							
ILAR	**Eielson Array**	**83.26**	**22**	P		**P**	**16 27 15.8**	**0.0**
	0.3nm,0.6s,baz=255,slow=5.0,SNR=6.6							
TORD	**Torodi Ar. Bea**	**149.17**	**287**	PKPbc		**PKPbc**	**16 34 38.9**	**+0.1**
	0.3nm,0.7s,baz=89,slow=3.4,SNR=3.7							

MEX 16 16:22:46.4±0.5,13˚.97N×92˚.49W,h10km,MD3.8,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
THIG		**0.96**	**13**	*eP*		Pg	16 23 02.8	-2.1
THIG				*eS*		Sg	16 23 13.8	-3.7
PCIG		**1.87**	**338**	*i* P		Pn	16 23 14.6	-3.9
PCIG				*i* S		Sn	16 23 38.1	-4.0
CCIG	**Comitan**	**2.33**	**8**	*i* P		Pn	16 23 22.1	-2.8
CCIG				*i* S		Sn	16 23 49.5	-4.3
TGIG		**2.86**	**348**	*eP*		Pn	16 23 29.5	-2.7
TGIG				*i* S		Sn	16 24 02.9	-3.8

ISCJB **16** *16:34:22.4±1.1,36˚.30N±0˚.07×142˚.40E±0˚.08,h15km, mb3.5/2,Error ellipse: s-maj=10.2km s-min=8.9km az=178.2*

JMA **16** *16:34:23.0±0.1,36˚.32N×142˚.47E,h63km,M2.9*

IDC **16** *16:34:27.4±2.8,36˚.49N×142˚.01E,h0km,mb3.5/2, mb1 3.5/3,mb1mx3.3/52,mbtmp3.3/3,ML2.9/1,Error ellipse: s-maj=64.4km s-min=31.5km az=40.0*

ISC 16 16:34:24.2±2.0,36˚.32N±0˚.07×142˚.4E±0˚.1,h15km,n14, σ1s30/19,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
CHOJ	**Chosi**	**1.37**	**244**	P		**Pn**	**16 34 47.5**	**-1.3**
JHYU	**Hitachinakayam**	**1.44**	**271**	P		**Pn**	**16 34 48.7**	**-1.0**
JHYU				*eS*		**Sn**	**16 35 07.6**	**-0.8**
JHO	**Hitachi**	**1.48**	**282**	P		**Pn**	**16 34 48.9**	**-1.4**
JHO				*eS*		**Sn**	**16 35 08.5**	**-1.0**
JMM	**Marumori**	**2.00**	**321**	P		**Pn**	**16 34 55.7**	**-1.7**
BSO1	**Boso 1**	**2.01**	**215**	P		**Pn**	**16 34 55.7**	**-1.4**
BSO3	**Boso 3**	**2.14**	**226**	P		**Pn**	**16 34 58.1**	**-1.1**
JAG	**Ashikaga**	**2.36**	**273**	P		**Pn**	**16 35 01.6**	**-0.8**
JAG				*eS*		**Sn**	**16 35 30.4**	**-0.7**
JMK	**Ichinoseki**	**2.79**	**341**	P		**Pn**	**16 35 06.6**	**-1.6**
JRY	**Ryogami san**	**2.82**	**265**	P		**Pn**	**16 35 07.9**	**-0.9**
JOD2	**Odawara 2**	**2.87**	**249**	P		**Pn**	**16 35 08.6**	**-0.8**
JOD2				*eS*		**Sn**	**16 35 42.6**	**-1.1**
MJAR	**Matsushiro Arr**	**3.37**	**275**	Pn		**Pn**	**16 35 16.1**	**-0.1**
	1.5nm,0.3s,baz=125,slow=7.7,SNR=16							
MJAR					Sn	**Sn**	**16 35 56.5**	**+0.6**
	0.7nm,0.3s,baz=81,slow=8.3,SNR=4.5							
MAT	**Matsushiro**	**3.37**	**275**	P		**Pn**	**16 35 16.8**	**+0.5**
MAT				S		**Sn**	**16 35 55.2**	**-0.8**
MKAR	**Makanchi Array**	**45.15**	**303**	P		**P**	**16 42 42.8**	**+2.6**
	0.6nm,0.7s,baz=91,slow=9.5,SNR=4.1							
WRA	**Warramunga Arr**	**56.47**	**189**	P		P	16 44 11.9	+6.4
	0.5nm,0.9s,baz=3.6,slow=7.7,SNR=3.9							

ISCJB **16** *16:40:14.3±0.3,37˚.42N±0˚.02×72˚.00E±0˚.02,h110km±3km, mb4.8/131,Error ellipse: s-maj=3.2km s-min=2.5km az=139.3*

MOS **16** *16:40:15.6±1.1,37˚.52N×72˚.03E,h121km,mb4.9/47,Error ellipse: s-maj=6.0km s-min=4.1km az=118.6*

NNC **16** *16:40:16.0±1.8,37˚.93N×71˚.42E,h0km,mb5.3,mpv4.9, Error ellipse: s-maj=16.0km s-min=9.6km az=159.0*

NEIC **16** *16:40:16.6±0.6,37˚.51N×72˚.05E,h119km±6km,mb4.9/37, Error ellipse: s-maj=4.8km s-min=3.8km az=194.0*

BJI **16** *16:40:16.4,37˚.49N×72˚.12E,h120km,mb4.7/37,mB4.8/25*

IDC **16** *16:40:17.5±0.7,37˚.43N×72˚.00E,h130km±6km,mb4.3/40, mb1 4.4/45,mb1mx4.3/59,mbtmp4.7/45,MS3.3/6, Ms1 3.3/6,ms1mx2.8/46,Error ellipse: s-maj=9.7km s-min=7.2km az=16.0*

ISC 16 16:40:16.5±0.4,37˚.46N±0˚.03×71˚.96E±0˚.03,h122km±3km, h121km:pP-P,n440,σ1s90/487,mb4.8/137,40C-49D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.82**	**25**	⇑P		**Pn**	**16 41 01.6**	**+0.9**
	198nm,0.3s							
SFK				⇓S		**Sn**	**16 41 34.0**	**-0.8**
	934nm,0.4s							
CEP	**Cherat**	**3.63**	**181**	P		**Pn**	**16 41 13.0**	**+1.7**
KBL	**Kabul**	**3.75**	**220**	*e*Pn		**Pn**	**16 41 14.8**	**+1.8**
KBL	**Kabul**	**3.75**	**220**	*e*PN		**Pn**	**16 41 14.8**	**+1.8**
KSH	**Kashi**	**3.76**	**56**	⇓*i*P		**Pn**	**16 41 09.3**	**-3.7**
KSH					S	Sn	16 41 46.1	-11
KSH					smax	smax		
	comp=N,26μm,0.7s							
KSH					smax	smax		
	comp=E,11μm,0.5s							
CHCP	**Chirah Chowk**	**3.94**	**164**	P		**Pn**	**16 41 17.5**	**+2.1**
THW	**Thamme Wali**	**4.66**	**182**	P		**Pn**	**16 41 25.6**	**+0.6**
AML	**Almayashu**	**4.85**	**15**	P		**Pn**	**16 41 27.8**	**-0.1**
	SNR=511							
MNAS	**Manas**	**5.04**	**5**	⇑P		**Pn**	**16 41 29.9**	**-0.2**
	195nm,0.5s							
MNAS				⇓S		**Sn**	**16 42 23.4**	**-3.9**
	901nm,0.8s							
UCH	**Uchtor**	**5.15**	**22**	P		**Pn**	**16 41 31.8**	**-0.1**
	SNR=154							
KZA	**Kyzart**	**5.26**	**28**	P		**Pn**	**16 41 33.2**	**-0.2**
	SNR=30							
JMU	**Jammu**	**5.31**	**152**	*e*P		**Pn**	**16 41 30.5**	**-3.2**
JMU				*ex*		x	16 45 35.0	
EKS2	**Erkin-Say**	**5.38**	**14**	P		**Pn**	**16 41 35.0**	**+0.3**
	SNR=211							
AAK	**Ala-Archa**	**5.53**	**20**	P		**Pn**	**16 41 36.6**	**0.0**
	70nm,0.3s,baz=177,slow=6.5,SNR=982							
AAK					S	**Sn**	**16 42 36.4**	**-2.7**
	45nm,0.3s,baz=324,slow=20,SNR=21							
AAK	**Ala-Archa**	**5.53**	**20**	⇓P		**Pn**	**16 41 37.0**	**+0.3**
	106nm,0.4s							
AAK				⇑S		**Sn**	**16 42 36.2**	**-2.8**
	446nm,0.7s							
AAK	**Ala-Archa**	**5.53**	**20**	P		**Pn**	**16 41 37.1**	**+0.5**
	SNR=110							
AAK	**Ala-Archa**	**5.53**	**20**	*e*Pn		**Pn**	**16 41 37.1**	**+0.5**
AAK				*e*Sn		**Sn**	**16 42 37.2**	**-1.8**
AAK	**Ala-Archa**	**5.53**	**20**	P		**Pn**	**16 41 37.0**	**+0.3**
	SNR=46							
AAK	**Ala-Archa**	**5.53**	**20**	Pn		**Pn**	**16 41 37.0**	**+0.3**
	SNR=46							
AAK	**Ala-Archa**	**5.53**	**20**	*i* P		**Pn**	**16 41 37.3**	**+0.7**
	SNR=290							
AAK	**Ala-Archa**	**5.53**	**20**	*c i*PN		**Pn**	**16 41 37.0**	**+0.3**
SARP	**Sargodha**	**5.56**	**174**	P		**Pn**	**16 41 36.5**	**-0.5**
KBK	**Karagaybulak**	**5.67**	**23**	P		**Pn**	**16 41 39.1**	**+0.5**
	SNR=30							
FRU	**Bishkek**	**5.74**	**20**	⇑*i*PN		Pn	16 41 33.0	-6.4
FRU				*e*			16 42 54.0	
FRU					pmax	pmax		
	comp=Z,270nm,1.0s							
FRU					smax	smax		
	comp=E,1μm,1.6s							
KK31	**Karatay Array**	**5.74**	**349**	⇑P		**Pn**	**16 41 37.2**	**-2.2**
	comp=E,158nm,0.5s,baz=181,slow=15,SNR=1701							
KK31				⇑S		**Sn**	**16 42 38.9**	**-5.2**
	comp=E,363nm,0.4s,baz=163,slow=22,SNR=17							
KK31	**Karatay Array**	**5.74**	**349**	*e*Pn		**Pn**	**16 41 39.0**	**-0.5**
KK31	**Karatay Array**	**5.74**	**349**	*e*PN		**Pn**	**16 41 39.0**	**-0.5**
KKAR	**Karatay Array**	**5.74**	**349**	*e*Pn		**Pn**	**16 41 39.0**	**-0.5**
KKAR	**Karatay Array**	**5.74**	**349**	*e*PN		**Pn**	**16 41 39.0**	**-0.5**
ULHL	**Ulahol**	**5.80**	**33**	P		**Pn**	**16 41 40.3**	**-0.2**
	SNR=48							
CHMS	**Chumysh**	**5.93**	**20**	P		**Pn**	**16 41 42.3**	**+0.3**
	SNR=91							
USP	**Ospenovka**	**6.12**	**18**	P		**Pn**	**16 41 44.2**	**-0.3**
	SNR=84							
TKM2	**Tokmak 2**	**6.12**	**26**	⇓P		**Pn**	**16 41 44.5**	**-0.2**
	comp=E,61nm,0.7s							
TKM2				⇓S		**Sn**	**16 42 55.5**	**+1.9**
	comp=E,107nm,0.6s							
TKM2	**Tokmak 2**	**6.12**	**26**	P		**Pn**	**16 41 44.8**	**0.0**
	SNR=83							
DHRM	**DHARAMSHALA**	**6.31**	**144**	*e*P		**Pn**	**16 41 47.2**	**-0.1**
DHRM				*e*S		**Sn**	**16 42 54.1**	**-4.0**
AAA	**Alma-Ata**	**6.88**	**32**	*e*PN		**Pn**	**16 41 58.4**	**+3.6**
AAA				*e*S		**Sn**	**16 43 18.2**	**+6.6**
AAA					pmax	pmax		
	comp=Z,42nm,0.9s							
AAA					smax	smax		
	comp=N,38nm,0.5s							
MDOK	**Medeo**	**6.90**	**33**	⇑P		**Pn**	**16 41 55.2**	**0.0**
	comp=N,41nm,1.0s							
MDOK				⇑S		**Sn**	**16 43 16.1**	**+3.9**
	comp=N,93nm,1.0s							
SMLA	**Simla**	**7.65**	**144**	*e*P		**Pn**	**16 42 04.2**	**-1.0**
SMLA				*e*S		**Sn**	**16 43 23.0**	**-7.2**
SMLA				IAML			16 43 26.4	
	comp=E,1μm,0.7s							
SMLA				IAML			16 43 26.7	
	comp=N,2μm,0.6s							
PDGK	**Podgornoye**	**8.21**	**42**	⇑P		**Pn**	**16 42 13.7**	**+0.8**
	comp=N,37nm,0.9s							
PDGK				⇓S		Sn	16 43 51.7	+7.8
	comp=N,167nm,1.1s							
DDI	**Dehra Dun**	**8.74**	**143**	*e*P		**Pn**	**16 42 19.1**	**-0.9**
DDI				*e*S		**Sn**	**16 43 49.0**	**-7.9**
NDI	**New Delhi**	**9.80**	**152**	*e*P		**Pn**	**16 42 33.0**	**-1.3**
OTUK	**Ortayu**	**10.78**	**1**	⇑P		**Pn**	**16 42 44.6**	**-2.8**
	comp=N,25nm,0.7s							
OTUK				⇑S		**Sn**	**16 44 41.3**	**-4.8**
	comp=N,82nm,0.8s							
GEYT	**Alibeck**	**10.98**	**277**	P		Pn	16 42 45.5	-4.6
	comp=N,8.7nm,0.3s,baz=348,slow=33,SNR=151							
GEYT					S	**Sn**	**16 44 44.7**	**-6.3**
	comp=N,24nm,0.3s,baz=107,slow=35,SNR=17							
GEYT					LR	LR	16 48 40.9	
	comp=N,74nm,18.3s,baz=45,slow=46							
GYA0B	**ALIBECK ARRAY**	**10.98**	**277**	⇓P		Pn	16 42 45.7	-4.4
	comp=N,25nm,0.5s							
GYA0B				⇓S		**Sn**	**16 44 47.4**	**-3.6**
	comp=N,277nm,0.6s							
GYA0B	**ALIBECK ARRAY**	**10.98**	**277**	*e*Pn		Pn	16 42 45.9	-4.2
MK01	**Makanchi Array**	**12.05**	**36**	*e*Pn		**Pn**	**16 43 02.2**	**-2.0**
MK31	**Makanchi Array**	**12.06**	**36**	*e*Pn		**Pn**	**16 43 03.3**	**-1.1**
MK31	**Makanchi Array**	**12.06**	**36**	*e*P		**Pn**	**16 43 03.3**	**-1.1**
MKAR	**Makanchi Array**	**12.06**	**36**	P		**Pn**	**16 43 03.4**	**-1.0**
	comp=N,0.6nm,0.3s,baz=219,slow=13,SNR=28							
MKAR	**Makanchi Array**	**12.06**	**36**	*e*Pn		**Pn**	**16 43 03.2**	**-1.2**
PYUN	**Piuthan**	**13.15**	**132**	*e*P		**Pn**	**16 43 15.2**	**-3.7**
	comp=N,332nm,0.7s							
DANN	**Dangsing**	**13.44**	**129**	*e*P		**Pn**	**16 43 19.1**	**-3.6**
	comp=N,170nm,0.4s							
WMQ	**Urumqi**	**13.53**	**57**	*e*P		**Pn**	**16 43 22.6**	**-0.9**
WMQ					pmax	pmax		
	comp=N,40nm,0.7s							
WMQ					pmax	pmax		
	comp=N,320nm,5.3s							
WMQ					LR	LR		
	comp=N,570nm,5.7s							
WMQ					LR	LR		
	comp=N,600nm,7.1s							
WMQ					LR	LR		
	comp=N,400nm,6.1s							
KOLN	**Koldanda**	**13.76**	**131**	*e*P		**Pn**	**16 43 23.5**	**-3.2**
	comp=N,94nm,0.4s							
KURBB	**Kurchatov Arra**	**13.97**	**18**	P		**Pn**	**16 43 25.9**	**-3.1**
	comp=N,0.1nm,0.3s,baz=209,slow=12,SNR=7.9							
KURBB					S	**Sn**	**16 46 05.4**	**+2.4**
	comp=N,0.1nm,0.3s,baz=205,slow=22,SNR=3.4							
KURK	**Kurchatov**	**14.08**	**18**	*e*Pn		**Pn**	**16 43 27.2**	**-3.2**
KURK	**Kurchatov**	**14.08**	**18**	P		**Pn**	**16 43 29.5**	**-0.9**
	SNR=6.0							
KURK	**Kurchatov**	**14.08**	**18**	Pn		**Pn**	**16 43 29.5**	**-0.9**
	SNR=6.0							
KURK	**Kurchatov**	**14.08**	**18**	*ce*P		**Pn**	**16 43 27.5**	**-2.9**
KURK					pmax	pmax		
	comp=Z,9.0nm,1.3s							
GKN	**Gorkha**	**14.23**	**128**	*e*P		**Pn**	**16 43 29.5**	**-3.2**
	comp=Z,4.6nm,0.2s							
BHJ	**Bhuj**	**14.30**	**189**	*e*P		**Pn**	**16 43 31.7**	**-1.7**
BHJ					lAmb	lAmb	16 43 32.3	
	comp=Z,92nm,1.1s							
AB31	**Akbulak array**	**14.65**	**327**	⇓P		**Pn**	**16 43 34.5**	**-3.2**
	comp=Z,32nm,0.5s,baz=140,slow=12,SNR=806							
AB31				⇓S		**Sn**	**16 46 12.0**	**-7.5**
	comp=Z,110nm,0.6s,baz=139,slow=11,SNR=9.7							
ABKAR	**Akbulak array**	**14.65**	**327**	*e*Pn		**Pn**	**16 43 34.4**	**-3.3**
KKN	**Kakani**	**14.78**	**127**	*e*P		**Pn**	**16 43 35.8**	**-4.0**
	comp=Z,102nm,0.5s							
DMN	**Daman**	**14.80**	**128**	*e*P		**Pn**	**16 43 36.6**	**-3.4**
	comp=Z,112nm,0.4s							
BHPL	**Bhopal**	**14.93**	**160**	*e*P		**Pn**	**16 43 38.6**	**-2.8**
BHPL					lAmb	lAmb	16 43 39.6	
	comp=Z,41nm,1.0s							
PKIN	**Phulchoki**	**15.01**	**127**	*e*P		**Pn**	**16 43 38.9**	**-3.7**
	comp=Z,53nm,0.3s							
PKI	**Pulchoki**	**15.02**	**127**	*e*P		**Pn**	**16 43 39.1**	**-3.7**
	comp=Z,167nm,0.6s							
GUN	**Gumba**	**15.09**	**125**	*e*P		**Pn**	**16 43 39.6**	**-4.1**
	comp=Z,174nm,0.6s							
JIRN	**Jiri**	**15.46**	**125**	*e*P		**Pn**	**16 43 44.7**	**-3.7**
	comp=Z,381nm,0.6s							
BVA0	**Borovoye Array**	**15.60**	**356**	⇓P		**Pn**	**16 43 47.9**	**-1.7**
	comp=Z,13nm,0.5s,baz=167,slow=13,SNR=184							
BVA0				⇑S		**Sn**	**16 46 40.8**	**-1.6**
	comp=Z,35nm,1.2s,baz=168,slow=22,SNR=7.2							
BVAR	**Borovoye Array**	**15.60**	**356**	P		**Pn**	**16 43 47.2**	**-2.4**
	comp=Z,9.1nm,0.3s,baz=164,slow=12,SNR=50							
BVAR					S	**Sn**	**16 46 31.7**	**-11**
	comp=Z,2.5nm,0.3s,baz=169,slow=25,SNR=8.3							
BRVK	**Borovoye**	**15.64**	**356**	⇓P		**Pn**	**16 43 48.9**	**-1.2**
	comp=Z,57nm,0.9s							
BRVK				⇑S		**Sn**	**16 46 39.8**	**-3.4**
	comp=Z,28nm,1.0s							
BRVK	**Borovoye**	**15.64**	**356**	P		**P**	**16 43 52.4**	**+0.8**
	SNR=19							
BRVK	**Borovoye**	**15.64**	**356**	P		**P**	**16 43 52.4**	**+0.8**
	SNR=19							
BRVK	**Borovoye**	**15.64**	**356**	*ce*P		**Pn**	**16 43 48.1**	**-1.9**
BRVK					pmax	pmax		
	comp=Z,66nm,1.0s							
RAMN	**Ramite**	**16.21**	**126**	*e*P		**Pn**	**16 43 53.5**	**-4.0**
	comp=Z,131nm,0.4s							
AKTO	**Aktyubinsk**	**16.36**	**327**	P		**Pn**	**16 43 58.3**	**-0.7**
	comp=Z,15nm,0.3s,baz=130,slow=14,SNR=95							
AKTO					S	Sn	16 46 47.8	-13
	comp=Z,2.8nm,0.3s,baz=343,slow=15,SNR=7.2							
AKTO	**Aktyubinsk**	**16.36**	**327**	⇓P		**Pn**	**16 43 57.5**	**-1.4**
	comp=Z,200nm,0.9s							
AKTO				⇓S		**Sn**	**16 46 53.5**	**-7.1**
	comp=Z,92nm,0.7s							
DGZ	**Jazzator, Alta**	**16.55**	**37**	*i* P		**Pn**	**16 43 59.4**	**-2.1**
TAPN	**Taplejung**	**16.67**	**123**	*e*P		**Pn**	**16 44 00.1**	**-3.1**
ODAN	**Odare**	**16.79**	**125**	*e*P		**Pn**	**16 44 01.0**	**-3.6**
	comp=Z,197nm,0.9s							
GTK	**Tadong**	**17.29**	**121**	*ex*		**Pn**	**16 44 08.2**	**-2.4**
NGP	**Nagpur**	**17.38**	**157**	*e*P		**P**	**16 44 11.3**	**+0.2**
NGP					lAmb	lAmb	16 44 13.2	
	comp=Z,117nm,1.7s							
SHME	**Shamm**	**17.59**	**234**	P		**P**	**16 44 14.7**	**+1.4**
LSA	**Lhasa**	**17.75**	**110**	P		**Pn**	**16 44 16.1**	**-0.3**
LSA					pmax	pmax		
	comp=Z,47nm,0.7s							
LSA	**Lhasa**	**17.75**	**110**	P		**Pn**	**16 44 17.3**	**+0.9**
MDH	**Madha**	**18.02**	**232**	P		**P**	**16 44 17.5**	**-0.5**
MSFE	**Esma-Masafi**	**18.06**	**233**	P		**Pn**	**16 44 20.6**	**+0.9**
BOK	**Bokaro**	**18.11**	**135**	*e*P		**P**	**16 44 19.1**	**0.0**
BOK					lAmb	lAmb	16 44 21.2	
	comp=Z,145nm,0.5s							
WSAR	**Wadi Sarin**	**18.22**	**223**	P		**P**	**16 44 20.3**	**0.0**
	comp=Z,0.9nm,0.3s,baz=71,slow=4.8,SNR=18							
UOSS	**Minazif**	**18.33**	**232**	*e*P		**P**	**16 44 21.5**	**+0.1**
	comp=Z,29nm,0.9s							
UOSS	**Minazif**	**18.33**	**232**	*i* P		**P**	**16 44 23.1**	**+1.6**
	SNR=7.0							
HATD	**Hatta, Dubai**	**18.46**	**231**	*i* P		**P**	**16 44 22.4**	**-0.6**
	SNR=9.2							
ASHO	**Ashiyiah**	**18.61**	**231**	P		**P**	**16 44 25.4**	**+0.8**
NAZ	**Nazwa, Dubai**	**18.64**	**233**	P		**Pn**	**16 44 27.4**	**+0.9**
ZAA0	**Zalesovo Array**	**18.73**	**24**	*e*P		**P**	**16 44 25.2**	**-0.3**
	comp=Z,17nm,0.8s							
ZALV	**Zalesovo Beam**	**18.73**	**24**	P		**P**	**16 44 25.2**	**-0.2**
	comp=Z,2.2nm,0.3s,baz=225,slow=11,SNR=58							
ZALV	**Zalesovo Beam**	**18.73**	**24**	*e*P		**P**	**16 44 24.1**	**-1.4**
FAQ	**Al Faqa, Dubai**	**18.86**	**232**	P		**P**	**16 44 28.0**	**+0.8**
POO	**Poona**	**18.93**	**174**	*e*P		**P**	**16 44 27.6**	**-0.5**
POO					lAmb	lAmb	16 44 30.6	
	comp=Z,41nm,0.9s							
NVS	**Novosibirsk**	**19.02**	**20**	*e*P		**P**	**16 44 28.2**	**-0.4**
NVS				*e*			16 47 56.0	
AKT	**Akhty**	**19.11**	**290**	⇓*i*P		**P**	**16 44 30.6**	**+0.6**
AKT				*e*S		**S**	**16 48 00.4**	**+0.2**
AKT					pmax	pmax		
	comp=Z,28nm,0.6s							
AKT					smax	smax		
	comp=E,36nm,0.4s							
AKT					smax	smax		
	comp=N,46nm,0.7s							
ASUD	**Al Ashush, Dub**	**19.11**	**233**	*i* P		**P**	**16 44 31.3**	**+1.4**
	SNR=6.8							
ALNE	**Al Ain**	**19.26**	**231**	*i* P		**P**	**16 44 32.1**	**+0.5**
	SNR=11							
AJN	**Ajban**	**19.37**	**233**	P		**P**	**16 44 32.8**	**0.0**
TAWA	**Tawang**	**19.43**	**115**	*e*P		**P**	**16 44 34.4**	**+0.7**
TAWA					lAmb	lAmb	16 44 37.3	
	comp=Z,186nm,0.8s							
HVS	**Khovu-Aksy**	**20.61**	**42**	*i* P		**P**	**16 44 45.9**	**-0.1**
HVS					pmax	pmax		
	comp=Z,6.0nm,0.5s							
SHL	**Shillong**	**20.67**	**119**	*e*P		**P**	**16 44 47.2**	**+0.2**
SHL	**Shillong**	**20.67**	**119**	*e*P		**P**	**16 44 47.2**	**+0.2**
SHL	**Shillong**	**20.67**	**119**	*e*P		**P**	**16 44 46.0**	**-1.0**
SHL				*e*P		Pn	16 44 47.5	-2.9
SHL				lAmb		lAmb	16 44 48.7	
	comp=Z,87nm,1.3s							
SHL				*i* x		x	16 48 25.0	
TEZP	**TEZPUR**	**20.67**	**116**	*e*P		**P**	**16 44 47.6**	**+0.8**
GROC	**Groznyy**	**20.71**	**294**	*e*P		**P**	**16 44 47.1**	**+0.1**
GROC				*e**PP		**pP**	**16 45 10.1**	**+0.7**
GROC				*e**SP		**sP**	**16 45 27.0**	**+2.4**
GROC				*e*S		**S**	**16 48 31.5**	**0.0**
GROC				*e**SS		**sS**	**16 49 10.7**	**+2.0**
GROC					pmax	pmax		
	comp=Z,200nm,1.2s							
HYB	**Hyderabad**	**20.80**	**162**	*i* P		**P**	**16 44 47.0**	**-1.2**
	comp=Z,86nm,0.8s							
HYB					eS	**S**	**16 48 31.0**	**-2.6**
HYB	**Hyderabad**	**20.80**	**162**	*e*P		**P**	**16 44 48.3**	**+0.1**
HYB					lAmb	lAmb	16 44 51.6	
	comp=Z,48nm,0.6s							
SVE	**Sverdlovsk**	**20.80**	**342**	⇑*e*P		**P**	**16 44 47.8**	**0.0**
SVE				*e*S		**S**	**16 48 32.2**	**-0.7**
SVE					pmax	pmax		
	comp=Z,54nm,1.0s							
ZIRO	**ZIRO**	**20.91**	**112**	*e*P		**P**	**16 44 50.3**	**+0.7**
ZIRO					lAmb	lAmb	16 44 51.4	
	comp=Z,57nm,0.6s							
BWNR	**Bhubaneshwar**	**20.92**	**141**	*e*P		**P**	**16 44 49.8**	**+0.3**
BWNR					lAmb	lAmb	16 44 51.0	
	comp=Z,58nm,0.8s							
ARU	**Arti**	**20.99**	**339**	P		**P**	**16 44 50.3**	**+0.4**
	comp=Z,41nm,0.6s,baz=138,slow=7.1,SNR=100							
ARU					LR	LR	16 53 17.2	
	comp=Z,111nm,20.9s,baz=144,slow=37							
ARU	**Arti**	**20.99**	**339**	*e*P		**P**	**16 44 50.4**	**+0.5**
	comp=Z,66nm,0.8s							
ARU	**Arti**	**20.99**	**339**	*d i*P		**P**	**16 44 50.3**	**+0.4**
ARU							16 45 21.7	
ARU					S	**S**	**16 48 36.6**	**-0.2**
ARU					SS	Sn	16 49 18.6	+27
ARU					pmax	pmax		
	comp=Z,112nm,1.2s							
ITAN	**ITANAGAR**	**21.03**	**113**	*e*P		**P**	**16 44 52.0**	**+1.3**
GNI	**Garni**	**21.35**	**286**	P		**P**	**16 44 55.4**	**+1.2**
	comp=Z,41nm,0.6s,baz=93,slow=2.5,SNR=21							
GNI	**Garni**	**21.35**	**286**	*e*P		**P**	**16 44 56.9**	**+2.8**
	comp=Z,139nm,1.0s							
GNI	**Garni**	**21.35**	**286**	P		**P**	**16 44 57.2**	**+3.0**
	SNR=27							
GNI	**Garni**	**21.35**	**286**	P		**P**	**16 44 57.2**	**+3.0**
	SNR=27							
GNI	**Garni**	**21.35**	**286**	*i* P		**P**	**16 44 55.8**	**+1.6**
	SNR=23							
GNI	**Garni**	**21.35**	**286**	*ce*P		**P**	**16 44 56.2**	**+2.1**
GNI			

comp=Z,8.6nm,0.6s
RAYN Ar Rayn 26.59 246 *i* P **P 16 45 43.7 +0.3**
SNR=9.0
RAYN Ar Rayn 26.59 246 *e*P **P 16 45 43.1 -0.3**
RAYN pmax pmax
comp=Z,9.0nm,0.6s
VORD Divnogorie 26.77 311 *e*P **P 16 45 44.7 -0.1**
VORD pmax pmax
comp=Z,20nm,0.9s
VSR Storozhevoye 26.93 311*c i*P **P 16 45 46.3 +0.2**
VSR pmax pmax
comp=Z,34nm,0.8s
CD2 Chengdu 27.02 95 *e*P **P 16 45 46.5 -0.8**
SONM Songino Array 27.16 57 P **P 16 45 49.2 +0.7**
comp=Z,1.6nm,0.8s,baz=253,slow=10,SNR=7.5
SONM pP **pP 16 46 18.0 +3.3**
comp=Z,5.7nm,0.9s,baz=259,slow=10,SNR=8.2
LPSR Galich'ya Gora 27.52 314 *e*P **P 16 45 50.7 -0.7**
LPSR pmax pmax
comp=Z,20nm,1.0s
KMI Kunming 28.91 106 P **P 16 46 06.3 +2.0**
KMI pmax pmax
comp=Z,7.0nm,0.5s
ASF Jabal al Asfar 29.15 270 P **P 16 46 07.8 +1.6**
comp=Z,3.4nm,0.8s,baz=60,slow=1.9,SNR=6.7
MOS Moscow 29.41 319 *e*P **P 16 46 07.3 -0.9**
MOS *e**PP **pP 16 46 34.1 -0.4**
MOS *e* 16 47 06.4
MOS pmax pmax
comp=Z,31nm,0.7s
BTO Baotou 29.58 72 *e*P **P 16 46 08.5 -1.5**
ILGA Ilgaz 29.67 289 *e*P **P 16 46 13.4 +2.5**
comp=Z,26nm,1.0s
OBN Obninsk 29.72 318 P **P 16 46 11.5 +0.6**
comp=Z,5.8nm,0.5s,baz=88,slow=8.9,SNR=9.8
OBN Obninsk 29.72 318 *e*P **P 16 46 11.6 +0.6**
comp=Z,37nm,0.7s
OBN Obninsk 29.72 318*d i*P **P 16 46 11.4 +0.6**
OBN *e**PP **pP 16 46 40.7 +3.4**
OBN *i* 16 47 08.9
OBN *e* 16 49 11.6
OBN S **S 16 50 54.0 -3.8**
OBN pmax pmax
comp=Z,35nm,0.7s
BR131 Keskin Array S 29.89 286 *e*P **P 16 46 14.3 +1.6**
BR131 Keskin Array S 29.89 286 P **P 16 46 14.3 +1.6**
SNR=7.5
BR131 Keskin Array S 29.89 286 P **P 16 46 14.3 +1.6**
SNR=7.5
BRTR Keskin Array B 29.89 286 P **P 16 46 14.2 +1.6**
comp=Z,11nm,0.7s,baz=102,slow=8.4,SNR=80
CHTO Chiang Mai 30.02 121 *e*P **P 16 46 15.9 +1.9**
comp=Z,2.7nm,0.8s
CHTO Chiang Mai 30.02 121 *e*P **P 16 46 15.9 +1.9**
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CHTO Chiang Mai 30.02 121 P **P 16 46 16.9 +2.9**
comp=Z,23nm,0.9s
CMMT Chiang Mai 30.03 121 P **P 16 46 16.8 +2.8**
comp=Z,5.2nm,0.9s
MMAI Mount Meron Ar 30.06 273 P **P 16 46 16.1 +1.9**
comp=Z,1.6nm,0.5s,baz=61,slow=8.7,SNR=4.7
XAN Xi'an 30.07 85 P **P 16 46 14.8 +0.5**
XAN pP pP 16 46 37.0 -3.8
XAN pmax pmax
comp=Z,11nm,0.8s
XAN pmax pmax
comp=Z,98nm,5.3s
CM31 Chiang Mai Arr 30.27 121 *e*P **P 16 46 16.6 +0.4**
CMAR Chiang Mai Arr 30.27 121 P **P 16 46 16.4 +0.2**
comp=Z,1.9nm,0.8s,baz=312,slow=9.9,SNR=13
CM01 Chiang Mai Arr 30.31 121 *e*P **P 16 46 16.6 +0.1**
ANTO Ankara 30.51 287 *e*P **P 16 46 20.5 +2.3**
comp=Z,13nm,0.6s
ANTO Ankara 30.51 287⇓*i*P **P 16 46 19.6 +1.4**
ANTO Ankara 30.51 287 *e*P **P 16 46 20.5 +2.3**
ANTO pmax pmax
comp=Z,13nm,0.6s
HHC Hu-ho-hao-te 30.72 71 *e*P **P 16 46 22.3 +2.3**
HHC S **S 16 51 13.8 -0.2**
HHC pmax pmax
comp=Z,15nm,1.2s
HHC pmax pmax
comp=Z,92nm,5.7s
KLMR Klimovskoe 31.03 329 *e*P **P 16 46 21.2 -1.1**
KLMR pmax pmax
comp=Z,12nm,0.8s
KLMR Klimovskoe 31.03 329 *e*P **P 16 46 21.3 -1.1**
KLMR AMP 16 46 23.8
comp=Z,12nm,0.8s
PALK Pallekele 31.09 163 P **P 16 46 23.4 +0.1**
comp=Z,15nm,0.9s,baz=296,slow=6.2,SNR=5.3
NANT Nan 31.25 119 P **P 16 46 26.9 +2.1**
comp=Z,2.1nm,0.9s
EIL Elat 31.64 267 P **P 16 46 29.1 +0.9**
comp=Z,12nm,1.0s,baz=13,slow=3.2,SNR=12
UTHA Uthaitani 32.67 124 P **P 16 46 39.0 +1.8**
comp=Z,5.7nm,0.8s,comp=Z,51nm
AKASG Malin Array Be 32.95 308 P **P 16 46 39.7 +0.4**
comp=Z,18nm,0.7s,baz=78,slow=7.8,SNR=39
AKASG PP **PP 16 47 55.9 -0.2**
comp=Z,2.4nm,0.6s,baz=88,slow=11,SNR=5.7
AKASG Malin Array Be 32.95 308 P **P 16 46 39.7 +0.4**
AKASG 16 47 55.9
AKASG pmax pmax
comp=Z,9.0nm,0.5s
AKASG pmax pmax
comp=Z,2.0nm,0.6s
KIEV Kiev 32.96 307 *e*P **P 16 46 39.8 +0.4**
comp=Z,23nm,0.7s
KIEV Kiev 32.96 307 *i* P **P 16 46 39.8 +0.4**
SNR=21
KIEV Kiev 32.96 307*d i*P **P 16 46 39.6 +0.2**
KIEV pmax pmax
comp=Z,27nm,0.8s
PBKT Sadao Pong 32.97 121 P **P 16 46 42.9 +3.1**
comp=Z,5.8nm,1.9s,comp=Z,765nm
AK11 Malin Array Si 32.99 307 *e*P **P 16 46 39.6 0.0**
NRIK Noril'sk 33.05 10 P **P 16 46 41.0 +1.1**
comp=Z,12nm,0.7s,baz=201,slow=6.0,SNR=14
NRIK LR LR 17 00 26.1
comp=Z,27nm,19.8s,baz=256,slow=36
NRIK Noril'sk 33.05 10 P **P 16 46 41.0 +1.1**
NRIK pmax pmax
comp=Z,12nm,0.7s
NRIK MLR MLR
comp=Z,27nm,19.8s
SRDT SRDT 33.35 126 P **P 16 46 44.8 +1.7**
comp=Z,35nm,0.9s,comp=Z,2μm
CFR Carcaliu 33.47 297⇑*i*P **P 16 46 45.1 +1.3**
TLB Topalu 33.56 296⇑*i*P **P 16 46 46.7 +2.0**
AMRR Amara 34.06 296⇓*i*P **P 16 46 50.1 +1.1**
BJI Beijing 34.32 72⇑*i*P **P 16 46 52.5 +1.2**
BJI pmax pmax
comp=Z,9.0nm,0.7s
VRI Vrincioaia 34.43 299⇑*i*P **P 16 46 54.5 +2.3**
PLOR Plostina 34.48 299⇓*i*P **P 16 46 54.9 +2.2**
PUL Pulkovo 34.58 324*ce*P **P 16 46 54.0 +0.7**
PUL pmax pmax
comp=Z,70nm,0.7s
ISR Istrita 34.59 297⇓*i*P **P 16 46 56.3 +2.6**
SKNT Sakolnakorn 34.78 117 P **P 16 46 56.7 +1.2**
comp=Z,9.7nm,1.5s
BIZ Bicaz 34.83 301⇓*i*P **P 16 46 57.1 +1.5**
MLR Muntele Rosu 34.99 298 P **P 16 46 59.0 +1.8**
comp=Z,33nm,0.8s,baz=10,slow=0.9,SNR=72
MLR PP **PP 16 48 20.5 +1.8**
comp=Z,16nm,1.1s,baz=69,slow=8.9,SNR=5.2
MLR Muntele Rosu 34.99 298 *e*P **P 16 46 59.8 +2.6**
comp=Z,42nm,0.8s
MLR PP **PP 16 48 20.6 +1.8**
MLR Muntele Rosu 34.99 298⇓*i*P **P 16 47 00.0 +2.8**
MLR Muntele Rosu 34.99 298 *e*P **P 16 46 59.8 +2.6**
MLR 16 48 20.6
MLR pmax pmax
comp=Z,42nm,0.8s
IDID Didziasalis 35.18 315 *e*P **P 16 46 59.6 +1.1**
IDID IAmb IAmb 16 47 00.2
comp=Z,12nm,1.0s
DOPR Dopca 35.36 299⇑*i*P **P 16 47 02.0 +1.8**
BURAR Bucovina Array 35.42 302⇓*i*P **P 16 47 02.0 +1.2**
BUR04 Bucovina Ar. S 35.42 302 *e*P **P 16 47 01.8 +1.0**
BUR08 Bucovina Ar. S 35.43 302 *e*P **P 16 47 02.2 +1.4**
IIGN Ignalina 35.48 315 *e*P **P 16 47 02.3 +1.3**
IIGN IAmb IAmb 16 47 02.9
comp=Z,12nm,0.5s
IZAR Zarasai 35.54 316 *e*P **P 16 47 02.8 +1.2**
IZAR IAmb IAmb 16 47 03.4
comp=Z,14nm,0.7s
ISAL Salakas 35.57 316 *e*P **P 16 47 03.1 +1.3**
ISAL IAmb IAmb 16 47 03.7
comp=Z,5.1nm,0.6s
WHN Wuhan 35.59 88⇑*i*P **P 16 47 03.8 +1.6**
VOIR 35.62 298⇓*i*P **P 16 47 04.1 +1.5**
VSU Vasula 35.92 321 *e*P **P 16 47 05.1 +0.4**
VSU IAmb IAmb 16 47 05.9
comp=Z,74nm,0.7s
VSU Vasula 35.92 321*de*P **P 16 47 05.1 +0.4**
VSU pmax pmax
comp=Z,66nm,0.9s
ARR Arges 35.92 298⇑*i*P **P 16 47 06.4 +1.3**
ARCR ARCALIA 36.02 301⇑*i*P **P 16 47 08.4 +2.6**
LVV L'vov 36.22 306 *e*P **P 16 47 08.1 +0.7**
CMBY CAMPBELL BAY 36.30 141 *e*P **P 16 47 09.1 +0.6**
CJR Cluj-Napoca 36.55 300⇓*i*P **P 16 47 12.9 +2.5**
APE Apeiranthos 36.66 284⇑*i*P **P 16 47 12.9 +1.5**
APE Apeiranthos 36.66 284 *i* P **P 16 47 12.4 +1.0**
APE pmax pmax
comp=Z,19nm,0.5s
SUW Suwalki 37.02 313 *e*P **P 16 47 14.0 -0.2**
SUW Suwalki 37.02 313 *e*P **P 16 47 14.0 -0.2**
comp=Z,45nm,1.1s
SUW Suwalki 37.02 313 *e*P **P 16 47 14.0 -0.2**
APA Apatity 37.05 337⇓*i*P P 16 47 08.5 -5.8
APA *i* *PP pP 16 47 30.6 -11
APA pmax pmax
comp=Z,6.0nm,1.1s
APA MLR MLR
comp=Z,700nm,14.0s
KWP Kalwaria Pacla 37.07 305 *e*P **P 16 47 16.2 +1.5**
KWP Kalwaria Pacla 37.07 305 *e*P **P 16 47 16.2 +1.5**
DEV Deva 37.09 299⇓*i*P **P 16 47 17.3 +2.4**
FIA1 FINESS Array S 37.12 325 *e*P **P 16 47 15.5 +0.6**
FINES FINESS Array B 37.12 325 P **P 16 47 15.5 +0.6**
comp=Z,20nm,0.4s,baz=118,slow=9.5,SNR=238
DRGR 37.16 300⇓*i*P **P 16 47 17.6 +2.0**
TRPA Tarpa 37.21 303⇓*i*P **P 16 47 17.6 +1.8**
VTS Vitosha 37.27 294 *e*P **P 16 47 17.4 +0.8**
comp=Z,8.6nm,0.6s
VTS Vitosha 37.27 294⇑*i*P **P 16 47 18.1 +1.5**
VTS Vitosha 37.27 294 *e*P **P 16 47 17.4 +0.8**
VTS pmax pmax
comp=Z,9.0nm,0.6s
UZH Uzhgorod 37.36 304⇓*i*P **P 16 47 18.0 +0.9**
UZH *i* 16 47 48.5
HERR Herculane 37.53 297⇑*i*P **P 16 47 19.3 +0.7**
SIRR Siria 37.92 300⇑*i*P **P 16 47 24.5 +2.6**
BZS Buzias 38.01 299⇓*i*P **P 16 47 24.6 +1.9**
SLIT Slitere, Latvi 38.04 318 *e*P **P 16 47 22.4 -0.3**
SLIT IAmb IAmb 16 47 23.2
comp=Z,215nm,0.6s
KECS Kecovo 38.56 303 *e*P **P 16 47 27.7 +0.5**
KECS pmax pmax
comp=Z,18nm,0.7s
KECS Kecovo 38.56 303 *e*P **P 16 47 27.7 +0.5**
NJ2 Nanjing 38.59 84 *e*P **P 16 47 28.3 +0.6**
NJ2 pmax pmax
comp=Z,38nm,0.5s
NIE Niedzica 38.64 305 *e*P **P 16 47 29.9 +2.0**
NIE Niedzica 38.64 305 *e*P **P 16 47 29.9 +2.0**
FNA Florina 38.94 291 *e*P **P 16 47 31.6 +1.0**
comp=Z,13nm,0.7s
FNA Florina 38.94 291 *e*P **P 16 47 31.6 +1.0**
FNA pmax pmax
comp=Z,13nm,0.7s
OJC Ojcow 38.95 306 *e*P **P 16 47 31.3 +0.9**
OJC Ojcow 38.95 306 *e*P **P 16 47 31.2 +0.9**
comp=Z,30nm,0.7s
OJC Ojcow 38.95 306 *e*P **P 16 47 31.3 +0.9**
PSZ Piszkesteto 38.99 303 *e*P **P 16 47 32.6 +1.7**
comp=Z,12nm,0.8s
PSZ Piszkesteto 38.99 303⇑*i*P **P 16 47 32.6 +1.7**
PSZ Piszkesteto 38.99 303 *e*P **P 16 47 32.6 +1.7**
PSZ pmax pmax
comp=Z,12nm,0.8s
LANS Liptovska Anna 39.20 305 *e*P **P 16 47 34.4 +1.8**
LANS Liptovska Anna 39.20 305 *e*P **P 16 47 34.4 +1.8**
FRGS Fruska Gora 39.33 298 *e*P **P 16 47 35.2 +1.5**
DIVS Divibare 39.35 297 *e*P **P 16 47 35.1 +1.1**
comp=Z,23nm,0.9s
DIVS Divibare 39.35 297⇓*i*P **P 16 47 35.2 +1.2**
VYHS Vyhne 39.66 304 *e*P **P 16 47 37.8 +1.4**
VYHS pmax pmax
comp=Z,7.0nm,1.2s
VYHS Vyhne 39.66 304 *e*P **P 16 47 37.8 +1.4**
MORH M̈ ‡r̈gy, Hung 40.01 300⇓*i*P **P 16 47 40.5 +1.3**
HAPS Han Pijesak,Bl 40.10 297 *e*P **P 16 47 40.6 +0.4**
PDG Podgorica 40.17 294⇑*i*P **P 16 47 41.5 +0.9**
UPM Unac-Piva 40.28 295⇓*i*P **P 16 47 43.2 +1.4**
JAVC Velka Javorina 40.40 304 *e*P **P 16 47 44.5 +2.0**
MORC Moravsky Berou 40.42 306 *e*P **P 16 47 44.1 +1.5**
comp=Z,14nm,0.8s
MORC Moravsky Berou 40.42 306⇑*i*P **P 16 47 44.1 +1.5**
MORC Moravsky Berou 40.42 306 *e*P **P 16 47 43.7 +1.0**
GKP Gorka Klasztor 40.51 311 *e*P **P 16 47 44.3 +1.0**
GKP Gorka Klasztor 40.51 311 *e*P **P 16 47 44.3 +1.0**
ARCES ARCESS Array B 40.56 337 P **P 16 47 44.2 +0.7**
comp=Z,25nm,0.7s,baz=112,slow=8.3,SNR=156
ARCES ARCESS Array B 40.56 337 *e*P **P 16 47 44.0 +0.5**
ARE0 ARCESS Array S 40.56 337 *e*P **P 16 47 44.5 +1.0**
comp=Z,1.2nm,0.6s
ARE0 ARCESS Array S 40.56 337 *e*P **P 16 47 44.3 +0.8**
BRY Bratogost 40.60 295 *e*P **P 16 47 45.4 +1.0**
MODS Modra-Piesok 40.70 303 *e*P **P 16 47 45.0 0.0**
MODS pmax pmax
comp=Z,12nm,1.0s
MODS Modra-Piesok 40.70 303 *e*P **P 16 47 45.0 0.0**
HCY Herceg Novi 40.72 294 *e*P **P 16 47 45.9 +0.7**
TREB Trebinje 40.77 295 *e*P **P 16 47 46.1 +0.5**
KRLC Kraliky 40.89 306 *e*P **P 16 47 48.0 +1.5**
KRLC Kraliky 40.89 306 *e*P **P 16 47 48.0 +1.5**
KTK1 Kautokeino 41.05 336 *e*P **P 16 47 48.1 +0.5**
VRAC Vranov 41.07 305 P **P 16 47 49.2 +1.3**
comp=Z,30nm,0.7s,baz=85,slow=8.8,SNR=25
VRAC Vranov 41.07 305⇓*i*P **P 16 47 50.0 +2.0**
VRAC Vranov 41.07 305 *e*P **P 16 47 49.4 +1.4**
KSP Ksiaz 41.16 307 *e*P **P 16 47 49.8 +1.2**
KSP Ksiaz 41.16 307 *e*P **P 16 47 49.8 +1.2**
DPC Dobruska-Polom 41.17 307 *e*P **P 16 47 50.4 +1.6**
DPC Dobruska-Polom 41.17 307 *e*P **P 16 47 50.4 +1.6**
STON Ston 41.21 295 P **P 16 47 49.7 +0.5**
KRUC Moravsky 41.22 305 *e*P **P 16 47 50.4 +1.2**
KCSI Kotacane, Aceh 41.24 139 P **P 16 47 48.5 -1.2**
SNSI Sinabang, Aceh 41.45 141 P **P 16 47 51.6 +0.2**
comp=Z,242nm,0.8s,comp=Z,2μm
HAMF Hammerfest 41.62 338 *e*P **P 16 47 53.2 +1.1**
CONA Conrad Observa 41.69 303 *i* P **P 16 47 54.7 +1.5**
comp=Z,28nm,0.7s,SNR=20
TREC Trest 41.79 305 *e*P **P 16 47 55.7 +1.8**
TREC Trest 41.79 305 *e*P **P 16 47 55.7 +1.8**
ARSA Arzberg 42.00 302 *i* P **P 16 47 56.8 +1.1**
comp=Z,12nm,0.8s,SNR=5.6
CRES Cresnjev 42.26 300⇓*i*P **P 16 47 58.9 +1.2**
PVCC Panska Ves 42.27 307 *e*P **P 16 47 59.3 +1.6**
PVCC Panska Ves 42.27 307 *e*P **P 16 47 59.3 +1.6**
OZLJ Ozalj 42.29 300 P **P 16 47 59.2 +1.3**
PERS Pernice 42.37 301 *e*P **P 16 47 60.0 +1.4**
PERS Pernice 42.37 301 *e*P **P 16 47 60.0 +1.4**
SOKA Soboth 42.42 301 *i* P **P 16 48 00.5 +1.4**
comp=Z,22nm,0.7s,SNR=13
BOJS Bojanci 42.46 299 *i* P **P 16 48 00.7 +1.4**
BOJS Bojanci 42.46 299 *i* P **P 16 48 00.7 +1.4**
PSI Prapat 42.46 138 P **P 16 47 59.3 -0.5**
comp=Z,13nm,0.9s,baz=358,slow=0.6,SNR=6.6
PSI Prapat 42.46 138 *e*P **P 16 47 59.2 -0.5**
comp=Z,11nm,0.8s
BRG Berggiesshubel 42.64 308⇓*i*P **P 16 48 02.2 +1.5**
comp=Z,32nm,0.6s
BRG pP **pP 16 48 32.5 +4.3**
comp=Z,18nm,1.7s
BRG PP **PP 16 49 40.3 -1.4**
comp=Z,8.1nm,1.2s
BRG Berggiesshubel 42.64 308⇓*i*P **P 16 48 02.2 +1.5**
BRG *PP **pP 16 48 32.5 +4.3**
BRG 16 49 40.3
BRG pmax pmax
comp=Z,1.0nm,0.6s
BRG pmax pmax
comp=Z,32nm,1.7s
BRG pmax pmax
comp=Z,18nm,1.2s
VISS Visnje 42.69 300 *e*P **P 16 48 02.5 +1.3**
VISS Visnje 42.69 300 *e*P **P 16 48 02.5 +1.3**
TRO Tromso 42.70 336 *e*P **P 16 48 01.4 +0.5**
YAK Yakutsk 42.74 36 *i* P **P 16 48 02.9 +1.6**
YAK pmax pmax
comp=Z,7.0nm,0.4s
MOA Molln 42.77 303 *i* P **P 16 48 02.7 +0.9**
comp=Z,17nm,0.7s,SNR=10
OBKA Obir 42.77 301 *e*P **P 16 48 03.5 +1.6**
comp=Z,21nm,1.2s
HFS Hagfors 42.79 321 P **P 16 48 02.1 +0.4**
comp=Z,58nm,0.5s,baz=98,slow=11,SNR=225
LJU Ljubljana 42.87 300⇓*i*P **P 16 48 04.0 +1.4**
NVLJ Novalja 42.89 298 P **P 16 48 03.0 +0.2**
CEY Cerknica 42.99 300⇓*i*P **P 16 48 04.8 +1.2**
GEC2 GERESS Array S 43.01 305 *e*P **P 16 48 04.3 +0.5**
comp=Z,5.5nm,0.6s
GEC2 GERESS Array S 43.01 305 *e*P **P 16 48 04.3 +0.5**
GEC2 pmax pmax
comp=Z,6.0nm,0.6s
GERES GERESS Array B 43.01 305 P **P 16 48 04.9 +1.1**
comp=Z,4.2nm,0.6s,baz=80,slow=7.2,SNR=51
GERES PP **PP 16 49 46.8 +0.9**
comp=Z,2.1nm,0.7s,baz=74,slow=9.8,SNR=6.1
GEA0 GERESS Array S 43.01 305 *e*P **P 16 48 03.9 +0.1**
GSI Gunungsitoli 43.03 141 P **P 16 48 05.9 +1.7**
comp=Z,156nm,0.8s,comp=Z,2μm
KHC Kasperske Hory 43.05 305 *e*P **P 16 48 05.3 +1.2**
comp=Z,7.3nm,0.6s
KHC Kasperske Hory 43.05 305 *e*P **P 16 48 05.8 +1.7**
KHC Kasperske Hory 43.05 305 *e*P **P 16 48 05.8 +1.7**
CLL Collm 43.19 308 *e*P **P 16 48 05.5 +0.4**
comp=Z,16nm,0.7s
CLL Collm 43.19 308⇓*i*P **P 16 48 05.8 +0.7**
comp=Z,17nm,0.8s
CLL *e*PP **PP 16 49 48.0 +0.4**
CLL Collm 43.19 308⇓*i*P **P 16 48 05.8 +0.7**
CLL pmax pmax
comp=Z,17nm,0.8s
JAVS Javornik 43.21 300 *i* P **P 16 48 06.6 +1.1**
JAVS Javornik 43.21 300 *i* P **P 16 48 06.6 +1.1**
CUC Castrocucco 43.26 291 *e*P **P 16 48 06.3 +0.4**
comp=Z,42nm,0.7s
MOR8 Moi Rana 43.36 330 *e*P **P 16 48 06.2 -0.1**
MYKA Terra Mystica 43.37 301 *i* P **P 16 48 07.9 +1.1**
comp=Z,8.4nm,0.7s
STEI Steigen 43.47 333 *e*P **P 16 48 07.8 +0.7**
KBA Koelnbreinsper 43.50 302 *i* P **P 16 48 08.9 +1.0**
comp=Z,9.2nm,0.5s,SNR=5.5
KS01 Wonju Array Si 43.82 72 *e*P **P 16 48 09.2 -1.2**
KSAR Wonju Array Be 43.82 72 P **P 16 48 11.3 +0.9**
KSAR Wonju Array Be 43.82 72 P **P 16 48 11.3 +0.9**
KSRS Korea Array 43.85 72 P **P 16 48 11.3 +0.7**
comp=Z,1.7nm,0.5s,baz=275,slow=7.6,SNR=6.0
SSLB Suanglung 43.85 94 *e*P **P 16 48 10.1 -0.7**
comp=Z,20nm,0.8s
NC602 NORSAR Array S 43.90 322 *e*P **P 16 48 09.7 -0.9**
NC602 NORSAR Array S 43.90 322 *e*P **P 16 48 10.7 0.0**
KONS Konsvik 43.95 330 *e*P **P 16 48 11.7 +0.7**
KLR Kul'dur 43.96 55 *i* P **P 16 48 11.5 +0.2**
NC303 NORSAR Array S 44.02 323 *e*P **P 16 48 11.9 +0.2**
NB201 NORSAR Array S 44.04 322 *e*P **P 16 48 12.0 +0.1**
NB2 NORSAR Subarra 44.08 322 P **P 16 48 11.8 -0.4**
comp=Z,23nm,0.7s,baz=91,slow=7.9
NB2 NORSAR Subarra 44.08 322 P **P 16 48 11.8 -0.4**
baz=91,slow=7.9
NOA NORSAR Array B 44.08 322 P **P 16 48 12.0 -0.1**
comp=Z,18nm,0.7s,baz=94,slow=7.6,SNR=69
NOA PP **PcP 16 49 53.5 -1.7**
comp=Z,5.9nm,0.9s,baz=94,slow=9.9,SNR=4.5
NOA LR LR 17 09 13.0
comp=Z,40nm,18.0s,baz=310,slow=39
NOA NORSAR Array B 44.08 322 P **P 16 48 12.0 -0.1**
NOA 16 49 53.5
NOA pmax pmax
comp=Z,24nm,0.8s
NOA pmax pmax
comp=Z,6.0nm,0.9s
NOA MLR MLR
comp=Z,40nm,18.0s
NSS Namsos 44.09 327 *e*P **P 16 48 12.8 +0.7**
ABTA Abfaltersbach 44.12 302 *i* P **P 16 48 13.0 +0.3**
comp=Z,8.1nm,0.5s
NAO01 NORSAR Array S 44.23 322 *e*P **P 16 48 13.0 -0.3**
NBO00 NORSAR Array S 44.29 322 *e*P **P 16 48 12.9 -0.9**
NC204 NORSAR Array S 44.31 323 *e*P **P 16 48 13.5 -0.5**
MNSI Mandailing Nat 44.49 139 P **P 16 48 16.7 +0.8**
GRFO Grafenberg 44.51 306 *e*P **P 16 48 17.2 +1.5**
comp=Z,28nm,1.1s
GRFO Grafenberg 44.51 306 *e*P **P 16 48 17.2 +1.5**
GRFO pmax pmax
comp=Z,28nm,1.1s
TIXI Tiksi 44.60 22 P **P 16 48 16.1 +0.1**
comp=Z,2.3nm,0.3s,baz=286,slow=5.5
WTTA Wattenberg 44.62 303 *e*P **P 16 48 17.3 +0.5**
comp=Z,15nm,0.6s
WATA Walderalm 44.65 303 *i* P **P 16 48 17.2 +0.2**
comp=Z,9.3nm,0.6s
MSHR Mys Shultsa 44.83 64 *i* P **P 16 48 20.2 +1.9**
KONO Kongsberg 44.83 320*ce*P **P 16 48 18.3 +0.3**
KONO pmax pmax
comp=Z,24nm,0.9s
KONO Kongsberg 44.83 320 *e*P **P 16 48 18.4 +0.4**
SQTA Sankt Quirin 44.91 303 *i* P **P 16 48 19.2 +0.2**
comp=Z,15nm,0.6s,SNR=9.3
MOTA Moosalm 44.96 303 *i* P **P 16 48 19.5 0.0**
comp=Z,12nm,0.7s,SNR=12
USRK Ussuriysk Ar. 45.04 62 P **P 16 48 20.3 +0.4**
comp=Z,0.8nm,0.5s,baz=271,slow=7.7,SNR=4.4
VLA Vladivostok 45.22 63 *i* P **P 16 48 22.2 +0.9**
VLA pmax pmax
comp=Z,10.0nm,0.8s
FETA Feichten 45.27 302 *i* P **P 16 48 22.1 +0.2**
comp=Z,8.0nm,0.5s,SNR=6.9
FUORN Ofenpass-Fuorn 45.66 302 *e*P **P 16 48 24.8 -0.3**
comp=Z,15nm,0.8s
DAVA Damuels 45.79 303 *i* P **P 16 48 26.6 +0.6**
comp=Z,62nm,0.5s,SNR=28
DAVOX Davos/Dischmat 45.89 302 P **P 16 48 27.3 +0.4**
comp=Z,37nm,0.6s,baz=115,slow=5.7,SNR=78
VLC Villacollemand 46.12 299 *e*P **P 16 48 28.8 +0.2**
comp=Z,28nm,0.7s
TUE Stuetta 46.31 302 *e*P **P 16 48 29.8 -0.4**
comp=Z,8.3nm,0.7s
BFO Black Forest 46.61 305 *i* P **P 16 48 33.3 +1.0**
SPITS Spitsbergen Ar 46.74 346 P **P 16 48 33.4 +0.6**
comp=Z,3.1nm,0.5s,baz=77,slow=16,SNR=6.0
MEM Membach 47.67 308⇑P **P 16 48 41.1 +0.7**
SENIN Lac Senin/Sane 47.72 302 *e*P **P 16 48 41.6 +0.4**
comp=Z,24nm,0.6s
WLF Walferdange 47.76 307 *e*P **P 16 48 41.2 +0.1**
comp=Z,26nm,0.8s
WLF Walferdange 47.76 307 *e*P **P 16 48 41.2 +0.1**
WLF pmax pmax
comp=Z,26nm,0.8s
WLF Walferdange 47.76 307⇑P **P 16 48 42.6 +1.5**
comp=Z,21nm,0.8s
KBS Kingsbay 47.85 347*ce*P **P 16 48 42.3 +0.9**
KBS pmax pmax
comp=Z,99nm,1.0s
KBS Kingsbay 47.85 347 *e*P **P 16 48 42.5 +1.1**
BCLA Clavier 48.15 308⇓P **P 16 48 43.9 -0.2**
BNI Bardonecchia 48.46 301 *e*P **P 16 48 45.1 -1.7**
comp=Z,31nm,1.3s
BNI Bardonecchia 48.46 301 *e*P **P 16 48 45.1 -1.7**
BNI pmax pmax
comp=Z,31nm,1.3s
DOU Dourbes 48.66 308⇓P **P 16 48 48.9 +0.9**
comp=Z,11nm,1.1s
KEST Kesra 49.46 288 P **P 16 48 55.2 +0.8**
comp=Z,9.6nm,0.6s,baz=352,slow=2.1,SNR=17
KMBO Kilima Mbogo 50.04 228 P **P 16 49 00.1 +0.8**
comp=Z,2.4nm,0.6s,baz=34,slow=12,SNR=6.1
YSS Yuzh-Sakhalins 51.65 56⇑*e*P **P 16 49 12.4 +1.8**
YSS pmax pmax
comp=Z,20nm,1.1s
MAT Matsushiro 51.89 70 P **P 16 49 12.6 0.0**
MJAR Matsushiro Arr 51.90 70 P **P 16 49 13.1 +0.5**
comp=Z,4.2nm,0.8s,baz=286,slow=10,SNR=13
EKA Eskdalemuir Ar 52.13 316 P **P 16 49 14.1 +0.1**
comp=Z,4.0nm,0.6s,baz=89,slow=7.7,SNR=20
BILL Bilibino 57.41 26⇓*e*P **P 16 49 53.1 +1.2**
BILL *PP **sP 16 50 27.0 -7.3**
BILL *SP **PcP 16 50 38.0 -6.3**

BILL								16 52 04.0		
BILL					*e*S		**S**	**16 57 42.1**	**+3.2**	
BILL					pmax		pmax			
	comp=Z,4.0nm,0.9s									
ES19	**SONSECA Array**	**57.63**	**298**	*e*P			**P**	**16 49 54.6**	**+0.7**	
ESDC	**Sonseca Array**	**57.69**	**298**	P			**P**	**16 49 54.2**	**-0.2**	
	comp=Z,9.3nm,0.6s,baz=58,slow=7.5,SNR=46									
PGAV	**Gavieira, Arco**	**59.72**	**302**	*e*P			**P**	**16 50 09.3**	**+0.9**	
	comp=Z,58nm,1.7s									
PVIS	**Viseu**	**59.99**	**300**	*e*P			**P**	**16 50 11.4**	**+1.1**	
	comp=Z,32nm,1.5s									
PTOM	**Tomar**	**60.82**	**299**	*e*P			**P**	**16 50 17.2**	**+1.4**	
	comp=Z,44nm,1.4s									
PVAQ	**Vaqueiros**	**61.32**	**297**	*e*P			**P**	**16 50 19.8**	**+0.6**	
	comp=Z,130nm,1.7s									
TORD	**Torodi Ar. Bea**	**66.50**	**269**	P			**P**	**16 50 51.9**	**-1.6**	
	comp=Z,5.8nm,0.5s,baz=44,slow=5.8,SNR=62									
TORD				pP			**pP**	**16 51 23.8**	**+0.5**	
	comp=Z,2.4nm,0.8s,baz=43,slow=6.0,SNR=3.2									
TOLK	**Toolik Lake Re**	**69.80**	**15**	*e*P			**P**	**16 51 14.2**	**+0.9**	
	comp=Z,9.4nm,0.9s									
INK	**Inuvik**	**72.83**	**10**	*e*P			**P**	**16 51 32.2**	**+0.8**	
	comp=Z,11nm,1.4s									
INK	**Inuvik**	**72.83**	**10**	*e*P			**P**	**16 51 32.2**	**+0.8**	
INK				pmax		pmax				
	comp=Z,11nm,1.4s									
ILAR	**Eielson Array**	**73.64**	**16**	P			**P**	**16 51 35.5**	**-0.8**	
	comp=Z,1.0nm,0.8s,baz=320,slow=4.5,SNR=13									
ILAR				pP			**pP**	**16 52 08.6**	**+2.0**	
	comp=Z,1.7nm,1.0s,baz=309,slow=5.1,SNR=4.9									
DHY	**Denali Highway**	**74.99**	**17**	*e*P			**P**	**16 51 45.5**	**+1.3**	
	comp=Z,5.8nm,1.3s									
DBIC	**Dimbokro**	**75.51**	**267**	P			**P**	**16 51 47.5**	**-0.3**	
	comp=Z,2.5nm,0.5s,baz=12,slow=6.5,SNR=5.1									
KIC	**Kosan Boka**	**75.60**	**267**	*e*P			**P**	**16 51 48.0**	**-0.4**	
	comp=Z,8.4nm,0.6s									
TIC	**Toumodi**	**75.66**	**267**	*e*P			**P**	**16 51 48.1**	**-0.6**	
LIC	**Lamto**	**75.91**	**267**	*e*P			**P**	**16 51 49.7**	**-0.4**	
	comp=Z,42nm,1.7s									
BOSA	**Boshof**	**78.97**	**221**	LR			LR	17 29 08.7		
	comp=Z,22nm,19.2s,baz=30,slow=37									
YKA	**Yellowknife Ar**	**80.25**	**3**	P			**P**	**16 52 13.8**	**+0.5**	
	comp=Z,3.0nm,0.5s,baz=351,slow=5.4,SNR=20									
SCHQ	**Schefferville**	**81.51**	**337**	P			**P**	**16 52 20.6**	**+0.5**	
	comp=Z,5.0nm,0.8s,baz=75,slow=19,SNR=5.6									
WRA	**Warramunga Arr**	**81.86**	**123**	P			**P**	**16 52 21.4**	**-0.9**	
	comp=Z,2.4nm,0.8s,baz=329,slow=5.1,SNR=26									
WRA				pP			**pP**	**16 52 55.2**	**+2.0**	
	comp=Z,1.6nm,0.7s,baz=321,slow=5.1,SNR=4.8									
WRA				PKKPbc			**PKKPbc**	**17 10 54.2**	**+2.3**	
	comp=Z,0.3nm,0.9s,baz=120,slow=2.4,SNR=7.5									
WRAB	**Tennant Creek**	**81.86**	**123**	*i* P			**P**	**16 52 22.3**	**-0.1**	
WRAB				pmax		pmax				
	comp=Z,2.0nm,0.8s									
WB2	**Warramunga Arr**	**81.86**	**123**	*e*P			**P**	**16 52 22.5**	**+0.1**	
ASAR	**Alice Springs**	**84.18**	**126**	P			**P**	**16 52 33.4**	**-1.0**	
	comp=Z,1.1nm,0.9s,baz=316,slow=4.8,SNR=11									
FFC	**Flin Flon**	**88.03**	**356**	*i* P			**P**	**16 52 51.0**	**-1.8**	
ULM	**Lac du Bonnet**	**92.01**	**352**	LR			LR	17 41 13.3		
	comp=Z,35nm,19.0s,baz=6.5,slow=40									
PLCA	**Paso Flores**	**150.86**	**252**	PKPbc			**PKPbc**	**16 59 54.7**	**+0.1**	
	comp=Z,1.7nm,0.8s,baz=9.9,slow=2.4,SNR=3.0									

*IDC **16** 16:57:56.4±1.5,27.7′N×92.9′E,h0km,mb3.5/5, mb1 3.7/6,mb1mx3.4/54,mbtmp3.6/6,ML4.0/1,MS3.5/2, Ms1 3.5/2,ms1mx2.6/34,Error ellipse: s-maj=62.6km s-min=19.3km az=67.0*

*ISCJB **16** 16:57:58.6±1.8,28.1′N±0.04×93.23′E±0.04,h8km±12km, mb3.6/4,MS4.3/1,Error ellipse: s-maj=7.2km s-min=5.6km az=33.8*

*NDI **16** 16:58:00.6±2.4,28.03′N×93.28E,h10km,ML3.6*

ISC 16 16:58:00.1±1.4,**27.99N**±0.05×**93.21E**±0.03,**h13**km±9km, **n20,σ1§30/30,mb3.8**/4,**Northeastern India**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
ZIRO	**ZIRO**	**0.73**	**129**	*e*P		**Pg**	**16 58 14.0**	**-0.4**
ZIRO				*e*S		**Sg**	**16 58 23.9**	**-0.2**
ZIRO				IAML			16 58 28.3	
	comp=E,7μm,0.5s							
ZIRO				IAML			16 58 28.9	
	comp=N,5μm,0.4s							
ITAN	**ITANAGAR**	**0.96**	**151**	*e*P		**Pb**	**16 58 18.7**	**0.0**
ITAN				*e*S		**Sb**	**16 58 31.9**	**+0.7**
ITAN				IAML			16 58 35.4	
	comp=N,1μm,0.4s							
ITAN				IAML			16 58 38.1	
	comp=E,2μm,0.2s							
TAWA	**Tawang**	**1.25**	**252**	*e*P		**Pg**	**16 58 24.4**	**+0.2**
TAWA				*ex*		**Sb**	**16 58 40.1**	**+0.1**
TAWA				IAML			16 58 42.5	
	comp=N,2μm,0.5s							
TAWA				IAML			16 58 42.5	
	comp=E,2μm,0.3s							
TEZP	**TEZPUR**	**1.42**	**195**	*e*P		**Pn**	**16 58 26.0**	**+0.4**
TEZP				*e*S		**Sg**	**16 58 47.4**	**+1.7**
TEZP				IAML			16 58 47.9	
	comp=E,1μm,0.2s							
TEZP				IAML			16 58 49.4	
	comp=N,1μm,0.2s							
JORH	**JORHAT**	**1.55**	**143**	*e*P		**Pg**	**16 58 29.2**	**-0.7**
JORH				*e*S		**Sg**	**16 58 50.0**	**-0.1**
JORH				*e*S		**Sb**	**16 58 52.2**	**+3.9**
JORH				IAML			16 58 53.1	
	comp=N,3μm,0.5s							
JORH				IAML			16 58 53.9	
	comp=E,4μm,0.5s							
MOKO	**MOKOCHONG**	**2.03**	**145**	*e*P		**Pn**	**16 58 35.3**	**+1.1**
MOKO				*e*S		**Sb**	**16 59 01.7**	**-0.5**
MOKO				*e*S		**Sg**	**16 59 04.7**	**-0.8**
MOKO				IAML			16 59 06.3	
	comp=N,2μm,0.5s							
MOKO				IAML			16 59 06.7	
	comp=E,2μm,0.5s							
KOHI	**KOHIMA**	**2.40**	**160**	*e*P		**Pn**	**16 58 39.6**	**+0.3**
KOHI				*e*S		**Sn**	**16 59 11.1**	**+2.5**
KOHI				IAML			16 59 19.4	
	comp=N,337nm,0.5s							
KOHI				IAML			16 59 24.6	
	comp=E,359nm,0.7s							
LKP	**Lekhapani**	**2.43**	**105**	*e*P		**Pn**	**16 58 40.6**	**+1.1**
LKP				*e*S		**Sn**	**16 59 10.0**	**+0.8**
LKP				IAML			16 59 19.8	
	comp=E,295nm,0.3s							
LKP				IAML			16 59 24.1	
	comp=N,198nm,0.5s							
SHL	**Shillong**	**2.69**	**206**	*e*P		**Pn**	**16 58 43.9**	**+0.6**
SHL				*e*S		**Sb**	**16 59 20.0**	**-1.2**
SHL				IAML			16 59 24.6	
	comp=N,202nm,0.3s							
SHL				IAML			16 59 29.3	
	comp=E,152nm,0.2s							
GTK	**Tadong**	**4.14**	**262**	*e*S		**Sn**	**16 59 53.1**	**+1.6**
GTK				IAML			16 59 54.8	
	comp=N,23nm,0.2s							
GTK				IAML			17 00 12.9	
	comp=E,45nm,0.3s							
AZL	**Aizawl**	**4.26**	**186**	*e*S		**Sn**	**16 59 53.6**	**-0.9**
AZL				IAML			16 59 54.8	
	comp=N,22nm,0.1s							
AZL				IAML			17 00 25.2	
	comp=E,82nm,0.5s							
BRDH	**Bariadhala**	**5.48**	**195**	LR		LR	17 01 32.9	
	comp=E,60nm,18.5s,baz=142,slow=42							
SAIH	**SAIHA**	**5.48**	**182**	*e*P		**Pn**	**16 59 22.3**	**+0.7**
SAIH				*e*S		**Sn**	**17 00 24.4**	**-0.3**
SAIH				IAML			17 00 30.3	
	comp=E,67nm,0.5s							
CMAR	**Chiang Mai Arr**	**10.85**	**150**	Pn		**Pn**	**17 00 33.7**	**-1.6**
	comp=E,0.4nm,0.3s,baz=320,slow=13,SNR=18							
MKAR	**Makanchi Array**	**20.64**	**338**	P		**P**	**17 02 38.9**	**-0.5**
	comp=E,0.6nm,0.5s,baz=136,slow=14,SNR=4.8							
SONM	**Songino Array**	**22.32**	**24**	P		**P**	**17 02 58.4**	**+0.8**
	comp=E,1.2nm,1.0s,baz=207,slow=9.6,SNR=5.3							
TLY	**Talaya**	**24.93**	**16**	LR		LR	17 15 04.0	
	comp=E,967nm,21.4s,baz=288,slow=41							
KURBB	**Kurchatov Arra**	**25.20**	**338**	P		**P**	**17 03 24.9**	**-0.4**
	comp=E,0.7nm,0.3s,baz=149,slow=9.6,SNR=5.9							
WRA	**Warramunga Arr**	**62.08**	**136**	P		**P**	**17 08 19.1**	**-1.8**
	comp=E,0.3nm,0.6s,baz=321,slow=8.0,SNR=9.5							
ASAR	**Alice Springs**	**64.64**	**139**	P		**P**	**17 08 36.4**	**-1.4**
	comp=E,0.5nm,0.6s,baz=321,slow=6.5,SNR=13							

IDC 16 17:15:40.4±5.8,**20.16S**×**176.52W**,**h0**km,**mb3.7**/3, **mb1 3.9**/3,**mb1mx3.5**/28,**mbtmp3.7**/3,**MS3.4**/1,**Ms1 3.4**/1, **ms1mx2.6**/31,**Error ellipse: s-maj=262.7km s-min=92.9km az=158.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
CTA	**Charters Tower**	**34.91**	**264**	P		P	17 22 35.7	+1.7
	0.9nm,0.4s,baz=82,slow=15,SNR=3.2							
ASAR	**Alice Springs**	**45.95**	**256**	P		P	17 24 04.5	-1.0
	0.4nm,0.5s,baz=94,slow=7.9,SNR=7.9							
WRA	**Warramunga Arr**	**46.02**	**261**	P		P	17 24 05.3	-0.8
	0.2nm,0.3s,baz=95,slow=8.7,SNR=28							
BATI	**Baumata**	**58.31**	**270**	LR		LR	17 50 26.2	
	comp=Z,33nm,18.8s,baz=264,slow=36							
AKASG	**Malin Array Be**	**143.37**	**332**	PKP		PKPdf	17 35 16.4	-0.3
	0.4nm,0.4s,baz=42,slow=4.1,SNR=4.6							

IDC 16 17:39:12.4±3.1,**1.42N**×**121.75E**,**h513**km±47km,**mb2.6**/5, **mb1 2.8**/7,**mb1mx2.6**/38,**mbtmp3.6**/7,**Error ellipse: s-maj=44.4km s-min=15.9km az=80.0,Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
SIJI	**Sorong**	**9.78**	**103**	P		P	17 41 28.3	+0.6
	0.8nm,0.3s,baz=324,slow=20,SNR=4.9							
BATI	**Baumata**	**11.70**	**171**	P		P	17 41 47.2	-0.7
	4.8nm,0.3s,baz=26,slow=2.9,SNR=12							
FITZ	**Fitzroy Crossi**	**19.77**	**169**	P		P	17 43 08.6	+0.3
	0.1nm,0.3s,baz=9.5,slow=6.7,SNR=7.3							
WRA	**Warramunga Arr**	**24.56**	**150**	P		P	17 43 50.5	-0.8
	0.2nm,0.7s,baz=337,slow=9.3,SNR=4.6							
ASAR	**Alice Springs**	**27.59**	**155**	P		P	17 44 18.4	+0.3
	0.3nm,1.0s,baz=334,slow=8.2,SNR=4.8							
USRK	**Ussuriysk Ar.**	**43.56**	**11**	P		P	17 46 30.9	+0.5
	1.4nm,0.4s,baz=194,slow=6.4,SNR=5.6							
SONM	**Songino Array**	**48.11**	**346**	P		P	17 47 04.1	-1.2
	0.4nm,0.5s,baz=162,slow=12,SNR=3.3							
MKAR	**Makanchi Array**	**56.76**	**329**	P		P	17 48 07.5	+0.3
	0.8nm,0.5s,baz=126,slow=8.6,SNR=9.5							

*IDC **16** 18:00:25.0±0.6,55.67′S×26.32W,h0km,mb4.5/11, mb1 4.6/12,mb1mx4.4/21,mbtmp4.5/12,ML4.3/1,MS3.9/2, Ms1 3.9/2,ms1mx3.6/27,Error ellipse: s-maj=20.0km s-min=16.7km az=63.0*

*ISCJB **16** 18:00:28.1±0.3,55.71′S±0.06×26.57W±0.10,h35km, mb4.8/31,MS4.4/2,Error ellipse: s-maj=9.7km s-min=6.3km az=42.5*

*NEIC **16** 18:00:30.0±0.2,55.78′S×26.58W,h35km,mb4.9/30,Error ellipse: s-maj=8.8km s-min=5.6km az=204.0*

ISC 16 18:00:29.9±0.4,**55.84S**±0.08×**26.82W**±0.07,**h35**km,**n83, σ1§48/82,mb4.9**/29,**2C,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
HOPE	**Hope Point**	**5.77**	**282**	*e*Pn		**Pn**	**18 01 52.8**	**-0.1**
HOPE				*e*Sn		**Sn**	**18 02 51.5**	**-6.2**
VNA1	**Neumayer--Stat**	**16.92**	**159**	P		**P**	**18 04 24.6**	**-0.6**
VNA3	**Neumayer Olymp**	**17.13**	**161**	P		**Pn**	**18 04 26.4**	**+0.2**
VNA2	**Neumayer--Watz**	**17.32**	**158**	P		**P**	**18 04 30.4**	**+0.8**
	baz=318,slow=14							
EFI	**East Falkland**	**18.84**	**270**	*e*P		**P**	**18 04 47.5**	**+1.0**
	164nm,1.5s							
SNAA	**Sanae**	**18.86**	**157**	P		**P**	**18 04 46.7**	**0.0**
SNAA	**Sanae**	**18.86**	**157**	P		**P**	**18 04 46.4**	**-0.2**
	0.9nm,0.3s,baz=293,slow=11,SNR=40							
SNAA				LR		LR	18 11 29.7	
	comp=Z,225nm,18.4s,baz=339,slow=35							
SNAA	**Sanae**	**18.86**	**157**	*e*P		**P**	**18 04 46.0**	**-0.7**
	14nm,0.6s							
PMSA	**Palmer Station**	**20.20**	**229**	P		Pn	18 05 05.3	+2.1
	27nm,0.5s,baz=71,slow=6.1,SNR=12							
PMSA				LR		LR	18 11 40.5	
	comp=Z,588nm,21.1s,baz=81,slow=33							
PMSA	**Palmer Station**	**20.20**	**229**	*e*P		**P**	**18 04 58.6**	**-2.6**
	168nm,1.6s							
TRQA	**Tornquist**	**29.43**	**292**	*e*P		**P**	**18 06 30.2**	**+0.3**
	35nm,1.8s							
SYO	**Syowa Base**	**31.62**	**141**	*e*X		**P**	**18 06 48.0**	**-0.9**
SYO	**Syowa Base**	**31.62**	**141**	*e*pP		pP	18 06 55.4	-3.6
PLCA	**Paso Flores**	**32.17**	**279**	P		**P**	**18 06 56.4**	**+2.2**
	1.5nm,0.7s,baz=151,slow=10,SNR=3.1							
PLCA	**Paso Flores**	**32.17**	**279**	*e*P		**P**	**18 06 56.3**	**+2.2**
	27nm,1.9s							
QSPA	**South Pole Qui**	**34.41**	**180**	*e*P		**P**	**18 07 13.8**	**+0.2**
	18nm,0.6s							
CPUP	**Villa Florida**	**36.83**	**311**	P		**P**	**18 07 34.9**	**+0.5**
	2.4nm,0.4s,baz=159,slow=7.5,SNR=8.4							
CPUP	**Villa Florida**	**36.83**	**311**	*e*P		**P**	**18 07 36.1**	**+1.7**
	6.1nm,1.0s							
PEL	**Peldehue**	**37.76**	**288**	*e*P		**P**	**18 07 41.6**	**-0.8**
	17nm,0.7s							
ROC1	**El Roble**	**38.07**	**288**	*e*P		**P**	**18 07 45.4**	**+0.2**
	13nm,0.7s							
GO04	**Tololo Observa**	**40.14**	**291**	*e*P		**P**	**18 08 02.8**	**+0.3**
	12nm,0.7s							
MAW	**Mawson**	**40.20**	**144**	P		**P**	**18 08 02.6**	**+0.4**
	14nm,0.6s,baz=224,slow=8.2,SNR=39							
MAW	**Mawson**	**40.20**	**144**	*e*P		**P**	**18 08 02.6**	**+0.4**
	3.3nm,0.7s							
SUR	**Sutherland**	**40.38**	**75**	*e*P		**P**	**18 08 02.8**	**-1.7**
	88nm,1.7s							
GO03	**Copiap**	**41.91**	**294**	*e*P		**P**	**18 08 17.2**	**+0.2**
	10nm,0.8s							
LVC	**Limon Verde**	**45.37**	**300**	*e*P		**P**	**18 08 46.3**	**+1.2**
	15nm,0.6s							
PB10	**IPOC Station P**	**45.43**	**297**	*e*P		**P**	**18 08 46.7**	**+1.5**
	35nm,1.1s							
BOSA	**Boshof**	**45.72**	**76**	P		**P**	**18 08 45.8**	**-1.7**
	7.0nm,1.0s,baz=208,slow=8.1,SNR=7.9							
PB04	**IPOC Station P**	**46.22**	**298**	*e*P		**P**	**18 08 53.0**	**+1.4**
	29nm,1.0s							
SBA	**Scott Base**	**46.31**	**184**	*e*P		**P**	**18 08 52.8**	**+1.4**
	8.3nm,1.1s							
VNDA	**Vanda**	**46.80**	**183**	P		**P**	**18 08 56.5**	**+1.3**
	8.3nm,0.6s,baz=189,slow=6.5,SNR=97							
VNDA	**Vanda**	**46.80**	**183**	*e*P		**P**	**18 08 55.7**	**+0.4**
	9.2nm,0.7s							
PB01	**IPOC Station P**	**46.98**	**300**	*e*P		**P**	**18 08 58.9**	**+1.5**
	22nm,0.6s							
PB11	**IPOC Station P**	**48.15**	**301**	*e*P		**P**	**18 09 07.2**	**+0.5**
	14nm,0.6s							
MNMC	**Minye Minye**	**48.66**	**301**	*e*P		**P**	**18 09 11.9**	**+1.2**
	22nm,0.8s							
LBTB	**Lobatse**	**48.75**	**73**	*e*P		**P**	**18 09 10.2**	**-0.9**
	43nm,1.8s							
H10N1	**ASCENSION HYDR**	**48.85**	**16**	T		T	19 02 50.6	
	baz=189,slow=75,SNR=31							
H10N3	**ASCENSION HYDR**	**48.85**	**16**	T		T	19 02 54.1	
	baz=189,slow=75,SNR=64							
H10N2	**ASCENSION HYDR**	**48.87**	**16**	T		T	19 02 53.0	
	baz=189,slow=75,SNR=55							
LPAZ	**La Paz**	**50.42**	**305**	P		**P**	**18 09 26.0**	**+1.4**
	5.6nm,0.5s,baz=153,slow=6.9,SNR=19							
LPAZ	**La Paz**	**50.42**	**305**	*e*P		**P**	**18 09 25.9**	**+1.4**
	12nm,0.9s							
SAML	**Samuel**	**54.80**	**314**	*e*P		**P**	**18 09 56.3**	**+0.1**
	6.3nm,1.0s							
LSZ	**Lusaka**	**58.10**	**69**	*e*P		**P**	**18 10 19.4**	**-0.4**
	44nm,2.0s							
PTGA	**Pitinga**	**61.13**	**321**	*e*P		**P**	**18 10 40.2**	**-0.4**
	2.9nm,0.8s							
DBIC	**Dimbokro**	**64.89**	**24**	P		**P**	**18 11 04.6**	**-0.8**
	1.9nm,0.5s,baz=184,slow=5.8,SNR=5.7							
OTAV	**Otavalo**	**69.71**	**303**	*e*P		**P**	**18 11 39.5**	**+2.9**
	14nm,1.4s							
TOA0	**Torodi Ar. Sit**	**72.77**	**29**	*e*P		**P**	**18 11 52.6**	**-1.8**
TORD	**Torodi Ar. Bea**	**72.77**	**29**	P		**P**	**18 11 52.5**	**-1.9**
	3.4nm,0.8s,baz=197,slow=4.6,SNR=20							
TOA1	**Torodi Ar. Sit**	**72.77**	**29**	*e*P		**P**	**18 11 52.5**	**-1.9**
JTS	**JuntasAbangare**	**81.57**	**302**	*e*P		**P**	**18 12 45.2**	**+1.3**
	12nm,0.4s							
STKA	**Stephens Creek**	**92.08**	**170**	P		**P**	**18 13 35.5**	**+0.3**
	1.7nm,0.6s,baz=142,slow=5.2,SNR=6.6							
STKA	**Stephens Creek**	**92.08**	**170**	*e*P		**P**	**18 13 35.3**	**0.0**
	3.7nm,1.6s							
ASAR	**Alice Springs**	**99.13**	**162**	P		**Pdif**	**18 14 07.0**	**-0.6**
	0.5nm,0.5s,baz=186,slow=4.0,SNR=24							
ASAR				PP		**PP**	**18 18 06.1**	**-3.0**
	0.2nm,0.6s,baz=190,slow=7.3,SNR=2.8							
AS31	**Alice Springs**	**99.13**	**162**	*e*P		**Pdif**	**18 14 07.3**	**-0.3**
	0.6nm,0.6s							
AS01	**Alice Springs**	**99.14**	**162**	*e*P		**Pdif**	**18 14 06.7**	**-0.9**

WR1	**Warramunga Arr**	**102.85**	**162**	*e*Pdif		**Pdif**	**18 14 23.6**	**-0.4**
WRA	**Warramunga Arr**	**102.85**	**162**	P		**Pdif**	**18 14 23.6**	**-0.4**
	0.4nm,0.6s,baz=196,slow=4.3,SNR=4.6							
NVAR	**Mina Array Bea**	**121.50**	**293**	PKP		**PKPdf**	**18 19 21.8**	**+2.7**
	0.6nm,0.7s,baz=140,slow=2.9,SNR=3.8							
FIA0	**FINESS Array S**	**124.10**	**28**	*e*PKPdf		**PKPdf**	**18 19 23.1**	**+0.1**
FINES	**FINESS Array B**	**124.10**	**28**	PKP		**PKPdf**	**18 19 23.1**	**+0.1**
	2.4nm,0.6s,baz=134,slow=2.6,SNR=13							
CM01	**Chiang Mai Arr**	**124.92**	**110**	*e*PKPdf		**PKPdf**	**18 19 25.7**	**-0.3**
CM31	**Chiang Mai Arr**	**124.95**	**110**	*e*PKPdf		**PKPdf**	**18 19 25.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**124.95**	**110**	PKP		**PKPdf**	**18 19 26.3**	**+0.3**
	1.6nm,0.7s,baz=229,slow=3.8,SNR=19							
ABKAR	**Akbulak array**	**127.08**	**55**	*e*PKPdf		**PKPdf**	**18 19 29.3**	**+0.1**
KK31	**Karatay Array**	**127.95**	**67**	*e*PKPdf		**PKPdf**	**18 19 30.6**	**-0.4**
KKAR	**Karatay Array**	**127.95**	**67**	*e*PKPdf		**PKPdf**	**18 19 30.4**	**-0.7**
KSH	**Kashi**	**128.31**	**74**	PKP		**PKPdf**	**18 19 35.1**	**+3.1**
ARA0	**ARCESS Array S**	**130.67**	**22**	*e*PKPdf		**PKPdf**	**18 19 34.8**	**-0.5**
ARCES	**ARCESS Array B**	**130.67**	**22**	PKP		**PKPdf**	**18 19 34.8**	**-0.5**
	3.4nm,0.9s,baz=222,slow=1.6,SNR=6.4							
ARU	**Arti**	**131.40**	**48**	*e*PKPdf		**PKPdf**	**18 19 38.0**	**+0.9**
GYA	**Guiyang**	**135.56**	**112**	*e*Pdif		**Pdif**	**18 16 49.0**	**-0.3**
GYA				PKP		**PKPdf**	**18 19 46.4**	**+0.3**
GYA				PP		**PP**	**18 22 27.3**	**+3.5**
GYA				AMB		AMB		
	comp=Z,120nm,7.9s							
YKA	**Yellowknife Ar**	**136.15**	**318**	PKP		**PKPdf**	**18 19 46.1**	**+0.3**
	0.9nm,0.7s,baz=124,slow=2.3,SNR=11							
MK32	**Makanchi Array**	**136.62**	**71**	*e*PKPdf		**PKPdf**	**18 19 46.9**	**-0.4**
MKAR	**Makanchi Array**	**136.62**	**71**	PKP		**PKPdf**	**18 19 46.9**	**-0.4**
	0.5nm,0.6s,baz=231,slow=2.2,SNR=6.0							
CD2	**Chengdu**	**137.52**	**105**	PKP		**PKPdf**	**18 19 49.0**	**-0.5**
WMQ	**Urumqi**	**137.66**	**78**	*e*PKP		**PKPdf**	**18 19 50.5**	**+1.1**
LZH	**Lanzhou**	**141.44**	**100**	*e*PKP		**PKPdf**	**18 19 54.0**	**-2.6**
LZH				sPKP			18 20 07.0	
LZH				LR		LR		
	comp=N,150nm,18.1s							
LZH				LR		LR		
	comp=Z,220nm,20.1s							
ZALV	**Zalesovo Beam**	**142.09**	**63**	PKP		**PKPdf**	**18 19 58.3**	**+1.4**
	0.7nm,0.3s,baz=262,slow=5.5,SNR=2.6							
ZAA1	**Zalesovo Array**	**142.09**	**63**	*e*PKPdf		**PKPdf**	**18 19 58.3**	**+1.4**
NJ2	**Nanjing**	**146.27**	**120**	*e*PKPbc		**PKPab**	**18 20 06.8**	**-0.2**
HHC	**Hu-ho-hao-te**	**149.09**	**101**	*e*PKPbc		**PKPdf**	**18 20 06.6**	**-2.9**
SONA0	**Songino Array**	**150.51**	**86**	*e*PKPbc		**PKPbc**	**18 20 16.6**	**-0.3**
SONM	**Songino Array**	**150.51**	**86**	PKPbc		**PKPbc**	**18 20 16.6**	**-0.3**
	7.6nm,0.8s,baz=219,slow=3.8,SNR=5.4							

*ISCJB **16** 18:01:08.8±0.5,40.56N±0.03×33.76E±0.03,h3km±5km, Error ellipse: s-maj=5.1km s-min=3.9km az=162.7*

*ISK **16** 18:01:08.2,40.55N×33.77E,h5km,ML2.5/13*

*DDA **16** 18:01:09.0,40.57N×33.77E,h6km,Ml2.9*

ISC 16 18:01:09.0±1.1,**40.55N**±0.03×**33.79E**±0.03,**h6**km±10km, **n23,σ0§65/34,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
CANT	**Cankiri**	**0.14**	**293**	PG		**Pg**	**18 01 11.2**	**-0.7**
ELDT	**Eldivan**	**0.28**	**257**	*i* P		**Pg**	**18 01 14.3**	**-0.2**
ELDT				*i* S		**Sg**	**18 01 19.0**	**+0.8**
ILGA	**Ilgaz**	**0.50**	**354**	*i* P		**Pg**	**18 01 18.4**	**-0.3**
ILGA				*i* S		**Sg**	**18 01 25.4**	**+0.1**
TOS	**Tosya**	**0.52**	**20**	PG		**Pg**	**18 01 18.9**	**-0.1**
CORM	**Corum**	**0.75**	**120**	PG		**Pg**	**18 01 22.8**	**-0.5**
CORM				SG		**Sb**	**18 01 34.3**	**-0.6**
CTAK	**Corum_Osmancik**	**0.77**	**83**	*i* P		**Pb**	**18 01 24.8**	**-0.1**
CTAK				*i* S

Tensor Solution. s91 Moment tensor: Scale 10^{18}Nm; M_{rr}6.65; $M_{\theta\theta}$-2.20; $M_{\phi\phi}$-4.45; $M_{r\theta}$1.36; $M_{\theta\phi}$-2.70; $M_{r\phi}$2.78; Best double couple: M_o7.20000×10^{18} NP1:ϕ_{ss}217.00000°, δ32.00000°,λ95.00000°. NP2:ϕ_{ss}31.00000°,δ58.00000°, λ87.00000°. Principal axes: T 7.3600, Plg77.0000°, Azm291.0000°; N -0.4200, Plg3.0000°, Azm32.0000°; P -6.9400, Plg13.0000°, Azm123.0000°;

ISC 16 18:12:43.3±0.3, 49°24N±0'.02×155°65E±0'.03, h51^{km}×$_2$2km, h51^{km}:pP-P, n2898, σ1937/2694, mb6.1/333, MS6.3/241, 253C-37D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.48**	**11**	*e*P		**Pn**	**18 13 07.0**	**-0.5**
SKR				*e*S		**Sn**	**18 13 26.2**	**+0.6**
SKR	**Severo-Kuril's**	**1.48**	**11**	⇓*i*Pn		**Pn**	**18 13 06.9**	**-0.5**
SKR				*i* S		**Sn**	**18 13 26.2**	**+0.6**
SKR				pmax	pmax			
	comp=Z,34μm,0.9s							
SKR				pmax	pmax			
	comp=Z,106μm,3.5s							
SKR				smax	smax			
	comp=N,561μm,0.9s							
PAU	**Pauzhetka**	**2.35**	**18**	*e*P		**Pn**	**18 13 19.5**	**+0.1**
PAU				*e*S		**Sn**	**18 13 49.1**	**+2.1**
PAU	**Pauzhetka**	**2.35**	**18**	PN		**Pn**	**18 13 19.5**	**+0.1**
PAU				S		**Sn**	**18 13 49.1**	**+2.1**
KDTR	**Khodutka, Kamc**	**3.00**	**30**	*e*P		**Pn**	**18 13 27.4**	**-0.9**
KDTR				*e*S		**Sn**	**18 14 02.1**	**-0.9**
MTVR	**Mutnovka**	**3.62**	**25**	*e*P		**Pn**	**18 13 37.2**	**+0.3**
MTVR	**Mutnovka**	**3.62**	**25**	PN		**Pn**	**18 13 37.2**	**+0.3**
GRL	**Gorelyy**	**3.66**	**24**	*e*P		**Pn**	**18 13 38.5**	**+1.1**
GRL	**Gorelyy**	**3.66**	**24**	PN		**Pn**	**18 13 38.5**	**+1.1**
RUS	**Russkaya**	**3.68**	**28**	*i* P		**Pn**	**18 13 36.8**	**-0.7**
RUS				*e*P		**Pn**	**18 13 37.5**	**0.0**
RUS				*e*S		**Sn**	**18 14 19.4**	**-0.2**
RUS	**Russkaya**	**3.68**	**28**	PN		**Pn**	**18 13 37.5**	**0.0**
RUS				S		**Sn**	**18 14 19.4**	**-0.2**
APC	**Apacha**	**3.81**	**14**	*e*P		**Pn**	**18 13 40.7**	**+1.3**
APC				*e*S		**Sn**	**18 14 24.9**	**+2.0**
APC	**Apacha**	**3.81**	**14**	PN		**Pn**	**18 13 40.7**	**+1.3**
APC				S		**Sn**	**18 14 24.9**	**+2.0**
KRMR	**Karymshinskiy**	**3.92**	**23**	*e*P		**Pn**	**18 13 41.8**	**+0.9**
KRMR				*e*S		**Sn**	**18 14 28.5**	**+2.9**
KRMR	**Karymshinskiy**	**3.92**	**23**	PN		**Pn**	**18 13 41.8**	**+0.9**
KRMR				S		**Sn**	**18 14 28.5**	**+2.9**
I44RU	**PETROPAVLOVSK-**	**4.08**	**18**	Pn		**Pn**	**18 13 46.1**	**+3.0**
	baz=172,slow=17,SNR=0.8							
I44RU				*i*			18 30 10.0	
	baz=197,slow=327,SNR=1.3							
PEA0B	**Petropavlovsk-**	**4.08**	**18**	*e*Pn		**Pn**	**18 13 43.3**	**+0.2**
PETK	**Petropavlovsk-**	**4.08**	**18**	Pn		**Pn**	**18 13 40.6**	**-2.5**
	comp=N,158nm,0.3s,baz=176,slow=8.6,SNR=618							
PETK				LR		LR	18 15 38.2	
	comp=N,424μm,20.0s,baz=149,slow=45							
PETK	**Petropavlovsk-**	**4.08**	**18**	*e*Pn		**Pn**	**18 13 43.0**	**-0.1**
PETK	**Petropavlovsk-**	**4.08**	**18**	*e*Pn		**Pn**	**18 13 43.0**	**-0.1**
PEA1	**Petropavlovsk-**	**4.09**	**18**	*e*Pn		**Pn**	**18 13 40.6**	**-2.6**
PET	**Petropavlovsk**	**4.24**	**25**	*e*Pn		**Pn**	**18 13 44.6**	**-0.5**
PET				*e*Sn		**Sn**	**18 14 32.2**	**-1.1**
PET	**Petropavlovsk**	**4.24**	**25**	*i* P		**Pn**	**18 13 45.8**	**+0.6**
PET	**Petropavlovsk**	**4.24**	**25**	⇑*i*Pn		**Pn**	**18 13 45.7**	**+0.6**
PET				*e*S		**Sn**	**18 14 35.0**	**+1.7**
PET				pmax	pmax			
	comp=Z,19μm,5.3s							
PET				pmax	pmax			
	comp=Z,14μm,10.6s							
PET				pmax	pmax			
	comp=Z,7μm,0.6s							
PET				smax	smax			
	comp=E,191μm,2.9s							
PET				smax	smax			
	comp=E,42μm,0.6s							
PET				smax	smax			
	comp=N,51μm,0.6s							
PET				MLR	MLR			
	comp=Z,314μm,16.0s							
PET				MLR	MLR			
	comp=Z,286μm,9.0s							
DALK	**Dalny**	**4.27**	**26**	*e*P		**Pn**	**18 13 46.4**	**+0.7**
DALK				*e*S		**Sn**	**18 14 36.4**	**+2.2**
DALK	**Dalny**	**4.27**	**26**	PN		**Pn**	**18 13 46.4**	**+0.7**
DALK				S		**Sn**	**18 14 36.4**	**+2.2**
UGLR	**Uglovaya**	**4.45**	**25**	*e*P		**Pn**	**18 13 50.2**	**+2.0**
UGLR	**Uglovaya**	**4.45**	**25**	PN		**Pn**	**18 13 50.2**	**+2.0**
KOK	**Koryaka**	**4.47**	**24**	*e*P		**Pn**	**18 13 50.4**	**+1.9**
KOK	**Koryaka**	**4.47**	**24**	PN		**Pn**	**18 13 50.4**	**+1.9**
AVH	**Avacha**	**4.47**	**24**	*e*P		**Pn**	**18 13 50.2**	**+1.7**
AVH	**Avacha**	**4.47**	**24**	PN		**Pn**	**18 13 50.2**	**+1.7**
SMAR	**Somma**	**4.49**	**25**	*e*P		**Pn**	**18 13 51.0**	**+2.1**
SMAR	**Somma**	**4.49**	**25**	PN		**Pn**	**18 13 51.0**	**+2.1**
SDLR	**Sedlovina**	**4.53**	**25**	*i* P		**Pn**	**18 13 49.8**	**+0.5**
SDLR	**Sedlovina**	**4.53**	**25**	PN		**Pn**	**18 13 49.8**	**+0.5**
KRX	**Arik**	**4.54**	**23**	*e*P		**Pn**	**18 13 51.0**	**+1.6**
KRX	**Arik**	**4.54**	**23**	PN		**Pn**	**18 13 51.0**	**+1.6**
NLC	**Nalytchevo**	**4.57**	**29**	*e*P		**Pn**	**18 13 49.1**	**-0.7**
NLC	**Nalytchevo**	**4.57**	**29**	PN		**Pn**	**18 13 49.1**	**-0.7**
GNL	**Ganaly**	**4.69**	**17**	*e*P		**Pn**	**18 13 53.6**	**+2.1**
GNL	**Ganaly**	**4.69**	**17**	PN		**Pn**	**18 13 53.6**	**+2.1**
SPN	**Mys Shipunski**	**4.74**	**34**	*e*P		**Pn**	**18 13 52.1**	**0.0**
SPN				*i* P		**Pn**	**18 13 52.4**	**+0.3**
SPN				*e*S		**Sn**	**18 14 45.8**	**0.0**
SPN	**Mys Shipunski**	**4.74**	**34**	PN		**Pn**	**18 13 52.1**	**0.0**
SPN				S		**Sn**	**18 14 45.8**	**0.0**
KII	**Karymskiy**	**5.36**	**25**	*e*P		**Pn**	**18 14 02.9**	**+2.3**
KII	**Karymskiy**	**5.36**	**25**	PN		**Pn**	**18 14 02.9**	**+2.3**
MKZ	**Mys Kozlova**	**6.52**	**33**	*e*P		**Pn**	**18 14 14.8**	**-1.6**
MKZ	**Mys Kozlova**	**6.52**	**33**	PN		**Pn**	**18 14 14.8**	**-1.6**
KZV	**Kizimen**	**6.54**	**24**	*e*P		**Pn**	**18 14 18.1**	**+1.2**
KZV				*i* P		**Pn**	**18 14 19.1**	**+2.2**
KZV	**Kizimen**	**6.54**	**24**	PN		**Pn**	**18 14 18.1**	**+1.2**
KUR	**Kuril'sk**	**6.64**	**236***c*	*i*PN		**Pn**	**18 14 19.3**	**+1.1**
KUR				*e*S		**Sn**	**18 15 35.8**	**+3.3**
KUR				pmax	pmax			
	comp=Z,23μm,1.5s							
KUR				pmax	pmax			
	comp=Z,4μm,0.7s							
KUR				pmax	pmax			
	comp=N,3μm,0.6s							
KUR				pmax	pmax			
	comp=E,2μm,0.6s							
KUR				smax	smax			
	comp=E,67μm,1.7s							
KUR				smax	smax			
	comp=N,56μm,2.1s							
KUR				smax	smax			
	comp=N,11μm,0.8s							
KUR				smax	smax			
	comp=E,4μm,0.8s							
KUR				MLR	MLR			
	comp=Z,215μm,13.0s							
TUMD	**Tumrok D**	**6.65**	**24**	*e*P		**Pn**	**18 14 19.5**	**+1.2**
TUMR	**Tumrok**	**6.65**	**23**	*e*P		**Pn**	**18 14 20.5**	**+2.1**
TUMR	**Tumrok**	**6.65**	**23**	PN		**Pn**	**18 14 19.5**	**+1.1**
ESO	**Esso**	**6.95**	**14**	*e*P		**Pn**	**18 14 24.8**	**+2.4**
ESO	**Esso**	**6.95**	**14**	PN		**Pn**	**18 14 24.8**	**+2.4**
KMNR	**Kamenistaya**	**7.10**	**21**	*e*P		**Pn**	**18 14 26.1**	**+1.5**
KMNR	**Kamenistaya**	**7.10**	**21**	PN		**Pn**	**18 14 26.1**	**+1.5**
KPT	**Kopyto**	**7.29**	**21**	*e*P		**Pn**	**18 14 27.8**	**+0.7**
KPT	**Kopyto**	**7.29**	**21**	PN		**Pn**	**18 14 27.8**	**+0.7**
KOZ	**Kozyrevsk**	**7.30**	**19**	*e*P		**Pn**	**18 14 27.9**	**+0.8**
KOZ	**Kozyrevsk**	**7.30**	**19**	PN		**Pn**	**18 14 27.9**	**+0.8**
BZMR	**Bezymyannaya**	**7.33**	**22**	*e*P		**Pn**	**18 14 29.5**	**+1.8**
BZMR	**Bezymyannaya**	**7.33**	**22**	PN		**Pn**	**18 14 29.5**	**+1.8**
BZWR	**Bezymyannyi-We**	**7.35**	**22**	*e*P		**Pn**	**18 14 29.8**	**+1.7**
BZWR	**Bezymyannyi-We**	**7.35**	**22**	PN		**Pn**	**18 14 29.8**	**+1.7**
BZGR	**Bezymyannyi-Gr**	**7.38**	**23**	*e*P		**Pn**	**18 14 30.0**	**+1.6**
BZGR	**Bezymyannyi-Gr**	**7.38**	**23**	PN		**Pn**	**18 14 30.0**	**+1.6**
ZLN	**Zelenaya**	**7.48**	**23**	*e*P		**Pn**	**18 14 31.3**	**+1.6**
ZLN	**Zelenaya**	**7.48**	**23**	PN		**Pn**	**18 14 31.3**	**+1.6**
LGNR	**Loginova**	**7.51**	**22**	*e*P		**Pn**	**18 14 32.2**	**+1.9**
LGNR	**Loginova**	**7.51**	**22**	PN		**Pn**	**18 14 32.2**	**+1.9**
CIRR	**Tsirk**	**7.55**	**22**	*e*P		**Pn**	**18 14 32.2**	**+1.5**
CIRR	**Tsirk**	**7.55**	**22**	PN		**Pn**	**18 14 32.2**	**+1.5**
KRSR	**Krestovskiy**	**7.60**	**21**	*e*P		**Pn**	**18 14 31.0**	**-0.4**
KRSR	**Krestovskiy**	**7.60**	**21**	PN		**Pn**	**18 14 31.0**	**-0.4**
KLY	**Klyuchi**	**7.71**	**21**	*e*P		**Pn**	**18 14 34.3**	**+1.6**
KLY	**Klyuchi**	**7.71**	**21**	PN		**Pn**	**18 14 34.3**	**+1.6**
BDR	**Baidarnaya**	**8.07**	**22**	*e*P		**Pn**	**18 14 38.9**	**+1.1**
BDR	**Baidarnaya**	**8.07**	**22**	PN		**Pn**	**18 14 38.9**	**+1.1**
SHO	**Shikotan**	**8.11**	**232***c*	*i*PN		Pn	18 14 35.6	-2.7
SHO				pmax	pmax			
	comp=Z,1μm,0.4s							
SHO				pmax	pmax			
	comp=N,65nm,0.1s							
SHO				pmax	pmax			
	comp=E,88nm,0.3s							
SRKR	**Sorokina**	**8.14**	**22**	*e*P		**Pn**	**18 14 39.5**	**+0.8**
SRKR	**Sorokina**	**8.14**	**22**	PN		**Pn**	**18 14 39.5**	**+0.8**
SMKR	**Semkarok**	**8.15**	**23**	*e*P		**Pn**	**18 14 39.0**	**+0.1**
SMKR	**Semkarok**	**8.15**	**23**	PN		**Pn**	**18 14 39.0**	**+0.1**
KBTR	**Krutoberegovo**	**8.22**	**29**	*e*P		**Pn**	**18 14 39.1**	**-0.7**
KBTR	**Krutoberegovo**	**8.22**	**29**	PN		**Pn**	**18 14 39.1**	**-0.7**
KBG	**Krutoberegovo**	**8.22**	**29**	*e*P		**Pn**	**18 14 40.7**	**+0.9**
KBG				*e*S		**Sn**	**18 16 10.9**	**-0.3**
KBG	**Krutoberegovo**	**8.22**	**29**	PN		**Pn**	**18 14 40.7**	**+0.9**
YUK	**Yuzh-Kuril'sk**	**8.51**	**236***d*	*i*PN		**Pn**	**18 14 42.8**	**-1.0**
YUK				*i* S		**Sn**	**18 16 19.0**	**+0.7**
YUK				pmax	pmax			
	comp=Z,7μm,0.4s							
YUK				pmax	pmax			
	comp=E,7μm,0.5s							
YUK				pmax	pmax			
	comp=N,1μm,0.3s							
TYV	**Tymovskoe**	**8.52**	**286**	*e*PN		**Pn**	**18 14 47.8**	**+3.9**
TYV				*e*S		**Sn**	**18 16 20.5**	**+1.9**
TYV				pmax	pmax			
	comp=Z,10μm,1.8s							
TYV				pmax	pmax			
	comp=Z,3μm,1.4s							
TYV				smax	smax			
	comp=N,261nm,1.0s							
LAGR	**Lagunnoye**	**8.54**	**236**	⇑*i*PN		**Pn**	**18 14 43.6**	**-0.5**
LAGR				*e*S		**Sn**	**18 16 21.1**	**+2.1**
LAGR				pmax	pmax			
	comp=Z,9μm,0.5s							
LAGR				pmax	pmax			
	comp=E,4μm,0.6s							
LAGR				pmax	pmax			
	comp=N,5μm,0.5s							
GRPR	**Tuman**	**8.59**	**236***c*	*i*PN		**Pn**	**18 14 43.9**	**-0.9**
GRPR				*e*S		**Sn**	**18 16 21.6**	**+1.4**
GRPR				pmax	pmax			
	comp=E,3μm,0.5s							
GRPR				pmax	pmax			
	comp=Z,6μm,0.5s							
GRPR				pmax	pmax			
	comp=N,3μm,0.3s							
BKI	**Bering**	**8.70**	**43**	*e*P		**Pn**	**18 14 45.1**	**-1.2**
BKI	**Bering**	**8.70**	**43**	PN		**Pn**	**18 14 45.1**	**-1.2**
GLVR	**Golovnino**	**8.89**	**236**	⇓*i*PN		**Pn**	**18 14 47.8**	**-1.2**
GLVR				*e*S		**Sn**	**18 16 28.5**	**+0.8**
GLVR				pmax	pmax			
	comp=N,3μm,0.5s							
GLVR				pmax	pmax			
	comp=E,1μm,0.5s							
GLVR				pmax	pmax			
	comp=Z,5μm,0.5s							
UGL	**Uglegorsk**	**8.91**	**274**	*de*PN		**Pn**	**18 14 51.9**	**+2.7**
UGL				*e*			18 16 35.8	
UGL				pmax	pmax			
	comp=Z,7μm,1.3s							
UGL				pmax	pmax			
	comp=E,2μm,1.2s							
UGL				pmax	pmax			
	comp=Z,20μm,4.7s							
UGL				pmax	pmax			
	comp=E,16μm,4.2s							
UGL				MLR	MLR			
	comp=E,291μm,15.0s							
UGL				MLR	MLR			
	comp=Z,305μm,15.0s							
UGL				MLR	MLR			
	comp=N,278μm,14.0s							
YSS	**Yuzh-Sakhalins**	**8.93**	**260**	*e*Pn		Pn	18 14 48.3	-1.2
YSS				*e*Sn		**Sn**	**18 16 28.2**	**-0.4**
YSS	**Yuzh-Sakhalins**	**8.93**	**260**$_K$	*i*PN		**Pn**	**18 14 51.8**	**+2.3**
YSS				*e*S		**Sn**	**18 16 30.0**	**+1.4**
YSS				pmax	pmax			
	comp=Z,2μm,1.4s							
YSS				pmax	pmax			
	comp=E,1μm,1.3s							
YSS				pmax	pmax			
	comp=Z,13μm,5.2s							
YSS				pmax	pmax			
	comp=N,6μm,3.0s							
YSS				pmax	pmax			
	comp=E,16μm,5.3s							
YSS				smax	smax			
	comp=E,720nm,0.7s							
OKH	**Okha**	**9.05**	**303**	⇓*i*PN		**Pn**	**18 14 53.7**	**+2.6**
OKH				*e*S		Sn	18 16 41.2	+10
OKH				pmax	pmax			
	comp=Z,18μm,10.5s							
OKH				MLR	MLR			
	comp=Z,254μm,22.0s							
NKL	**Nikolayevsk**	**10.18**	**298**	*i* PN		**Pn**	**18 15 08.0**	**+1.5**
NKL				*e*S		**Sn**	**18 17 02.0**	**+2.9**
NKL				pmax	pmax			
	comp=N,1μm,1.2s							
NKL				pmax	pmax			
	comp=E,5μm,1.2s							
NKL				pmax	pmax			
	comp=Z,5μm,1.2s							
NKL				pmax	pmax			
	comp=N,4μm,8.0s							
NKL				pmax	pmax			
	comp=E,15μm,8.0s							
NKL				pmax	pmax			
	comp=Z,42μm,10.0s							
NKL				smax	smax			
	comp=N,35μm,10.0s							
NKL				smax	smax			
	comp=E,38μm,10.0s							
PALN	**Palana**	**10.19**	**13**	*e*P		**Pn**	**18 15 09.0**	**+2.4**
PALN	**Palana**	**10.19**	**13**	PN		**Pn**	**18 15 09.0**	**+2.4**
ASAJ	**Asahikawa**	**10.33**	**245**	*e*Pn		**Pn**	**18 15 10.1**	**+1.5**
MA2	**Magadan**	**10.74**	**347**	Pn		**Pn**	**18 15 14.3**	**+0.1**
	comp=E,54nm,0.3s,baz=162,slow=10,SNR=106							
MA2				LR		LR	18 20 03.4	
	comp=E,171μm,18.9s,baz=178,slow=42							
MA2	**Magadan**	**10.74**	**347**	*e*Pn		**Pn**	**18 15 12.6**	**-1.6**
MA2	**Magadan**	**10.74**	**347**	*de*PN		**Pn**	**18 15 14.1**	**-0.1**
MA2				pmax	pmax			
	comp=Z,827nm,0.7s							
OSSR	**Ossora**	**10.92**	**20**	*e*P		**Pn**	**18 15 18.4**	**+1.8**
OSSR	**Ossora**	**10.92**	**20**	PN		**Pn**	**18 15 18.4**	**+1.8**
ERM	**Erimo**	**11.34**	**235**	*e*Pn		Pn	18 15 19.3	-3.1
ERM	**Erimo**	**11.34**	**235**	*e*PN		Pn	18 15 19.3	-3.1
SMY	**Shemya**	**12.13**	**66**	*e*Pn		**Pn**	**18 15 30.4**	**-2.8**
SMY	**Shemya**	**12.13**	**66**	*e*PN		**Pn**	**18 15 30.4**	**-2.8**
GRNR	**Gornyy**	**12.47**	**284**	*e*PN		**Pn**	**18 15 41.0**	**+3.2**
GRNR				pmax	pmax			
	comp=E,130nm,1.0s							
GRNR				pmax	pmax			
	comp=Z,170nm,1.0s							
TILK	**Tilichiki**	**12.73**	**24**	*e*P		**Pn**	**18 15 41.2**	**-0.1**
TILK	**Tilichiki**	**12.73**	**24**	PN		**Pn**	**18 15 41.2**	**-0.1**
TEY	**Ternei**	**13.63**	**259**	⇑*e*P		**Pn**	**18 15 55.7**	**+2.1**
TEY				*e*S		**Sn**	**18 18 26.3**	**+3.0**
TEY				pmax	pmax			
	comp=N,60nm,1.3s							
TEY				pmax	pmax			
	comp=E,150nm,1.3s							
TEY				pmax	pmax			
	comp=Z,140nm,1.3s							
TEY				pmax	pmax			
	comp=Z,11μm,5.8s							
TEY				smax	smax			
	comp=E,19μm,1.0s							
TEY				smax	smax			
	comp=N,37μm,8.1s							
TEY				MLR	MLR			
	comp=N,22μm,13.0s							
TEY				MLR	MLR			
	comp=Z,73μm,15.0s							
SEY	**Seymchan**	**13.85**	**354**	*ce*P		**Pn**	**18 15 57.6**	**+1.1**
KMSK	**Kamenskaya**	**14.49**	**20**	*e*P		**Pn**	**18 16 03.0**	**-2.1**
KMSK	**Kamenskaya**	**14.49**	**20**	P		**Pn**	**18 16 03.0**	**-2.1**
KLR	**Kul'dur**	**15.60**	**279**	Pn		**Pn**	**18 16 18.9**	**-0.7**
	comp=Z,1.3nm,0.3s,baz=78,slow=13,SNR=113							
KLR				LR		LR	18 23 00.9	
	comp=Z,239μm,18.5s,baz=78,slow=40							
KLR	**Kul'dur**	**15.60**	**279**	*c* *i*P		**Pn**	**18 16 20.8**	**+1.1**
USA0B	**Ussuriysk Arra**	**16.96**	**262**	*e*Pn		**Pn**	**18 16 34.4**	**-2.4**
USRK	**Ussuriysk Ar.**	**16.96**	**262**	Pn		**Pn**	**18 16 35.9**	**-1.0**
	comp=Z,3.7nm,0.3s,baz=66,slow=10,SNR=71							
USRK				LR		LR	18 22 42.5	
	comp=Z,100μm,21.7s,baz=54,slow=36							
USRK	**Ussuriysk Ar.**	**16.96**	**262**	Pn		**Pn**	**18 16 35.9**	**-1.0**
KIWB	**Kanaga Island**	**17.44**	**71**	*e*Pn		**Pn**	**18 16 41.2**	**-1.5**
VLA	**Vladivostok**	**17.52**	**259***c*	*i*P		Pn	18 16 40.1	-3.6
VLA				pmax	pmax			
	comp=Z,426nm,1.0s							
VLA				MLR	MLR			
	comp=Z,95μm,22.0s							
ADK	**Adak**	**17.73**	**71**	*e*Pn		**Pn**	**18 16 44.4**	**-1.8**
	comp=Z,1μm,1.5s							
ADK	**Adak**	**17.73**	**71**	*e*P		**Pn**	**18 16 44.4**	**-1.8**
ADK				pmax	pmax			
	comp=Z,1μm,1.5s							
MJB9	**Matsu-Tunnel**	**17.95**	**232**	*e*Pn		Pn	18 16 43.4	-5.8
MAJO	**Matsushiro**	**17.95**	**232**	*e*Pn		Pn	18 16 43.9	-5.2
MAJO				*e*S		**Sn**	**18 20 10.0**	**+1.6**
MAJO	**Matsushiro**	**17.95**	**232***c*	*i*P		**Pn**	**18 16 46.2**	**-2.9**
MAJO				pmax	pmax			
	comp=Z,74nm,0.9s							
MAJO				MLR	MLR			
	comp=Z,102μm,20.0s							
MAT	**Matsushiro**	**17.95**	**232**	P		Pn	18 16 44.5	-4.6
MAT				S		**Sn**	**18 20 04.0**	**-4.4**
MJAR	**Matsushiro Arr**	**17.95**	**232**	P		Pn	18 16 44.5	-4.6
	comp=Z,2.5nm,0.3s,baz=24,slow=12,SNR=58							
MJAR				S		**Sn**	**18 20 10.0**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=32,slow=32,SNR=2.5							
MJAR				LR		LR	18 24 28.2	
	comp=Z,94μm,20.2s,baz=80,slow=40							
MJAR	**Matsushiro Arr**	**17.95**	**232**	P		Pn	18 16 44.5	-4.6
MJAR				S		**Sn**	**18 20 10.0**	**+1.6**
MJAR	**Matsushiro Arr**	**17.95**	**232**	P		Pn	18 16 44.5	-4.6
MJAR				S		**Sn**	**18 20 10.0**	**+1.6**
MJAR				pmax	pmax			
	comp=Z,3.0nm,0.3s							
MJAR				MLR	MLR			
	comp=Z,94μm,20.2s							
GSTR	**Great Sitkin T**	**18.11**	**70**	*e*Pn		**Pn**	**18 16 48.9**	**-2.0**
ZEA	**Zeya**	**18.19**	**295***c*	*i*P		**P**	**18 16 50.6**	**-1.0**
ZEA				*e*S		Sn	18 20 04.0	-10
ZEA				pmax	pmax			
	comp=E,440nm,1.4s							
ZEA				pmax	pmax			
	comp=N,83nm,1.0s							
ZEA				pmax	pmax			
	comp=Z,500nm,1.2s							
ZEA				pmax	pmax			
	comp=E,14μm,9.0s							
ZEA				pmax	pmax			
	comp=Z,22μm,9.0s							
ZEA				smax	smax			
	comp=E,24μm,10.0s							
ZEA				smax	smax			
	comp=N,38μm,12.0s							
MSHR	**Mys Shultsa**	**18.25**	**258***ce*	P		**P**	**18 16 50.1**	**-2.2**
MDJ	**Mudanjiang**	**18.35**	**265**	P		**P**	**18 16 51.8**	**-1.6**
MDJ				S		**Sn**	**18 20 19.4**	**+1.6**
MDJ				pmax	pmax			
	comp=N,4μm,1.9s							
MDJ				LR	LR			
	comp=N,75μm,17.2s							
MDJ				LR	LR			
	comp=N,138μm,20.3s							
MDJ				LR	LR			
	comp=N,212μm,20.6s							
MDJ	**Mudanjiang**	**18.35**	**265**	*e*Pn		**P**	**18 16 50.2**	**-3.2**
	comp=N,1μm,1.5s							
ATKA	**Atka Island**	**19.25**	**70**	*e*P		**P**	**18 17 01.5**	**-1.7**
YAK	**Yakutsk**	**19.29**	**321**	P		**P**	**18 17 02.3**	**-1.2**
	comp=N,0.1nm,0.3s,baz=62,slow=2.3,SNR=113							
YAK				S		**S**	**18 20 36.4**	**-2.6**
	comp=N,0.0nm,0.3s,baz=171,slow=19,SNR=1.4							
YAK				LR		LR	18 24 26.1	
	comp=N,159μm,21.1s,baz=89,slow=37							
YAK	**Yakutsk**	**19.29**	**321**	*e*P		**P**	**18 17 01.6**	**-1.9**
	comp=N,2μm,1.2s							
YAK				*e*S		**S**	**18 20 36.0**	**-3.0**
YAK	**Yakutsk**	**19.29**	**321***c*	*i*P		**P**	**18 17 02.6**	**-1.0**
YAK				*e*S		**S**	**18 20 35.1**	**-3.9**
YAK				pmax	pmax			
	comp=Z,1μm,1.3s							
YAK				pmax	pmax			
	comp=N,389nm,1.3s							
YAK				pmax	pmax			
	comp=E,15μm,3.8s							
YAK				pmax	pmax			
	comp=Z,14μm,3.1s							
YAK				pmax	pmax			
	comp=N,9μm,3.7s							
YAK				smax	smax			
	comp=N,4μm,3.5s							
YAK				smax	smax			
	comp=E,3μm,2.5s							
YAK				MLR	MLR			
	comp=Z,195μm,24.0s							
YAK				MLR	MLR			
	comp=N,385μm,24.0s							
YAK				MLR	MLR			
	comp=E,64μm,20.0s							
INU	**Inuyama**	**19.49**	**232**	*e*P		**P**	**18 17 02.8**	**-3.1**
BILL	**Bilibino**	**19.59**	**12**	*e*P		**P**	**18 17 03.0**	**-3.8**
	comp=E,256nm,0.5s							
BILL	**Bilibino**	**19.59**	**12***c*	*i*P		**P**	**18 17 05.0**	**-1.8**
BILL				*e*S		**S**	**18 20 37.7**	**-7.2**
BILL				pmax	pmax			
	comp=Z,254nm,0.9s							
BILL				MLR	MLR			
	comp=Z,200μm,17.0s							
JHJ2	**Mitsune**	**19.97**	**222**	*e*P		**P**	**18 17 08.7**	**-2.5**
JHJ	**Hachijo jima 2**	**19.98**	**

TJN Taejon 24.25 249 *ce*P **P 18 17 54.5 -0.8**
CBIJ Chichi jima 24.44 210 *e*P **P 18 17 55.8 -1.3**
JCJ Chichijima 24.44 210 P **P 18 17 56.5 -0.6**
comp=Z,442nm,1.0s,baz=243,slow=18
JCJ LR LR 18 26 40.4
comp=Z,22µm,22.0s,baz=20,slow=35
JNU Nakatsue 24.47 238 P **P 18 17 57.0 -0.5**
comp=Z,1µm,1.0s,baz=30,slow=8.9,SNR=64
JNU LR LR 18 27 42.2
comp=Z,30µm,20.6s,baz=40,slow=37
JNU Nakatsue 24.47 238 *e*P **P 18 17 56.2 -1.2**
FALS False Pass 25.51 62 *e*P **P 18 18 06.2 -0.3**
TIXI Tiksi 25.62 341 P **P 18 18 04.7 -2.8**
comp=Z,261nm,1.1s,baz=131,slow=9.3,SNR=95
TIXI LR LR 18 29 10.0
comp=Z,73µm,20.3s,baz=146,slow=39
TIXI Tiksi 25.62 341 *e*P **P 18 18 04.0 -3.4**
TIXI LR LR
comp=Z,71µm,20.0s
TIXI Tiksi 25.62 341 *ce*P **P 18 18 04.6 -2.8**
TIXI *e**PP **sP 18 18 24.5 -1.9**
TIXI pmax pmax
comp=Z,291nm,1.1s
TIXI MLR MLR
comp=Z,74µm,15.0s
ANM Nome 25.68 39 *e*P **P 18 18 08.2 +0.2**
ANM Nome 25.68 39 *e*P **P 18 18 08.2 +0.2**
BOD Bodaibo 25.83 305 *e*P **P 18 18 08.2 -1.3**
BOD pmax pmax
comp=Z,139nm,1.3s
DL2 Dalian 26.33 260 ⇑*i*P **P 18 18 12.3 -1.9**
DL2 sP **pP 18 18 27.0 -0.1**
DL2 S **S 18 22 40.9 -2.5**
DL2 pmax pmax
comp=Z,280nm,1.0s
DL2 pmax pmax
comp=Z,10µm,9.9s
DL2 LR LR
comp=Z,44µm,19.2s
DL2 LR LR
comp=Z,47µm,21.4s
DL2 LR LR
comp=Z,67µm,21.4s
CIT Chita 26.58 292 *e*P P 18 18 32.8 +16
CIT *e* 18 18 48.6
CIT *e* 18 19 10.2
CIT pmax pmax
comp=Z,753nm,1.3s
SDPT Sand Point 27.15 60 *e*P **P 18 18 20.6 -0.8**
RDOG Red Dog Mine 27.80 32 *e*P **P 18 18 26.6 -0.5**
CHGN Chignik 28.22 58 *e*P **P 18 18 29.9 -1.0**
BJI Beijing 29.27 267 ⇑*i*P P 18 18 38.5 -1.9
BJI S **S 18 23 29.9 +0.3**
BJI pmax pmax
comp=Z,120nm,1.3s
BJT Baijiatuau 29.28 267 *e*P P 18 18 38.7 -1.8
comp=Z,157nm,1.1s
BJT LR LR
comp=Z,87µm,21.0s
BJT Baijiatuau 29.28 267 *e*P P 18 18 38.7 -1.8
BJT pmax pmax
comp=Z,157nm,1.1s
BJT MLR MLR
comp=Z,87µm,21.0s
MIDW Midway 29.46 126 *e*P **P 18 18 41.5 -0.7**
MIDW LR LR
comp=Z,41µm,21.0s
SVW2 Sparrevohn 29.54 48 *e*P **P 18 18 42.7 +0.1**
SII Sitkinak Islan 30.53 57 *e*P **P 18 18 50.7 -0.7**
IM3 Indian Mountai 30.75 38 *e*P **P 18 18 52.1 -1.2**
JOW Kunigami 30.78 233 LR LR 18 31 43.9
comp=Z,49µm,21.9s,baz=36,slow=37
JOW Kunigami 30.78 233 *e*P P 18 18 52.2 -1.7
H11N2 WAKE ISLAND Hy 30.79 159 T T 18 51 34.7
baz=44,slow=74,SNR=638
H11N1 WAKE ISLAND Hy 30.81 159 T T 18 51 31.1
baz=350,slow=74,SNR=1810
H11N3 WAKE ISLAND Hy 30.81 159 T T 18 51 29.7
SNR=823
TIA Tai'an 30.81 260 P P 18 18 52.3 -1.8
TIA S S 18 23 48.8 -5.1
TIA pmax pmax
comp=Z,88nm,1.3s
TIA LR LR
comp=Z,38µm,18.1s
TIA LR LR
comp=Z,22µm,16.7s
TIA LR LR
comp=Z,34µm,18.1s
OHAK Old Harbor 30.93 55 *e*P **P 18 18 53.8 -1.1**
RSO Redoubt South 30.93 49 *e*P **P 18 18 55.2 +0.1**
WAKE Wake Island 31.16 160 *e*P **P 18 18 56.4 -0.8**
WAKE LR LR
comp=Z,64µm,20.0s
PPLA Purkeypile 31.18 44 *e*P **P 18 18 57.7 +0.5**
KDAK Kodiak Island 31.23 54 PFAKE 18 19 10.0 +12
KDAK LR LR
comp=Z,29µm,20.0s
CAST Castle Rocks 31.24 43 *e*P **P 18 18 58.1 +0.5**
SPU Mount Spurr 31.25 48 *e*P **P 18 18 58.0 +0.2**
SKT Skwentna 31.48 46 *e*P **P 18 19 00.0 +0.3**
HOM Homer 31.54 51 *e*P **P 18 18 59.7 -0.5**
SSE Sheshan 31.60 248 P **P 18 19 00.0 -1.1**
SSE S **S 18 24 07.1 +0.8**
SSE pmax pmax
comp=Z,190nm,1.1s
SSE pmax pmax
comp=Z,4µm,5.8s
SSE LR LR
comp=Z,8µm,18.3s
SSE LR LR
comp=Z,3µm,17.0s
CNPM China Poot 31.75 51 *e*P **P 18 19 02.1 -0.1**
BPAW Bear Paw Mtn. 31.76 42 *e*P **P 18 19 01.9 -0.2**
ULN Ulaanbaatar 31.76 286 *e*P P 18 19 00.3 -2.2
comp=Z,47nm,1.0s
ULN LR LR
comp=Z,134µm,19.0s
ULN Ulaanbaatar 31.76 286 P P 18 19 01.5 -1.0
SNR=17
ULN Ulaanbaatar 31.76 286 P P 18 19 01.5 -1.0
SNR=17
ULN Ulaanbaatar 31.76 286 *c*⇓*i*P P 18 19 00.1 -2.5
ULN pmax pmax
comp=Z,41nm,1.0s
ULN MLR MLR
comp=Z,123µm,16.0s
SUA Susitna One 31.87 47 *e*P **P 18 19 02.8 -0.5**
HHC Hu-ho-hao-te 31.87 272 *e*P P 18 19 01.8 -1.7
HHC pP pP 18 19 08.9 -7.7
HHC sP sP 18 19 12.3 -10
HHC S **S 18 24 08.6 -2.1**
HHC sS sS 18 24 20.8 -12
HHC SS **SnSn 18 25 59.0 -3.3**
HHC pmax pmax
comp=Z,37nm,1.1s
HHC pmax pmax
comp=Z,4µm,5.5s
HHC LR LR
comp=Z,102µm,18.2s
HHC LR LR
comp=Z,83µm,22.6s
HHC LR LR
comp=Z,89µm,24.5s
MLY Manley 31.91 40 *e*P **P 18 19 03.6 +0.1**
BRLK Bradley Lake 31.91 50 *e*P **P 18 19 02.7 -0.9**
H11S1 WAKE ISLAND Hy 31.93 160 T T 18 52 54.3
baz=347,slow=74,SNR=4491
H11S3 WAKE ISLAND Hy 31.93 160 T T 18 52 50.6
baz=344,slow=74,SNR=597
H11S2 WAKE ISLAND Hy 31.94 160 T T 18 52 48.6
baz=225,slow=74,SNR=3060
TRF Thorofare Moun 32.05 43 *e*P **P 18 19 04.7 -0.2**
IRK Irkutsk 32.10 295 ⇓*i*P **P 18 19 04.8 -0.5**
IRK *e* 18 19 20.4
IRK pmax pmax
comp=Z,363nm,1.1s
SONA1 Songino Array 32.18 287 *e*P P 18 19 03.7 -2.5
SONA0 Songino Array 32.19 287 *e*P P 18 19 04.9 -1.4
SONA0 *e*PcP **PcP 18 21 53.8 0.0**
SONA0 *e* 18 50 33.7
SONM Songino Array 32.19 287 P P 18 19 04.9 -1.4
comp=Z,10nm,0.6s,baz=77,slow=5.5,SNR=63
SONM PcP **PcP 18 21 53.8 0.0**
comp=Z,33nm,0.9s,baz=116,slow=3.4,SNR=5.6
SONM LR LR 18 33 37.2
comp=Z,136µm,18.6s,baz=88,slow=39
SONM P3KPbc 18 50 33.7
comp=Z,1.9nm,0.9s,baz=246,slow=4.4,SNR=8.2
SONM Songino Array 32.19 287 P P 18 19 04.9 -1.4
SONM PcP **PcP 18 21 53.8 0.0**
SONM *e* 18 50 33.7
SONM Songino Array 32.19 287 P P 18 19 04.9 -1.4
SONM LR 18 21 53.8
SONM MLR MLR
comp=Z,136µm,18.6s
COLD Coldfoot 32.31 36 *e*P **P 18 19 07.1 +0.2**
NJ2 Nanjing 32.38 252 *e*P **P 18 19 06.8 -1.1**
NJ2 pP pP 18 19 14.0 -7.0
NJ2 S **S 18 24 15.4 -3.0**
NJ2 sS sS 18 24 30.5 -10
NJ2 pmax pmax
comp=Z,200nm,1.2s
NJ2 pmax pmax
comp=Z,7µm,4.9s
NJ2 LR LR
comp=Z,52µm,21.1s
NJ2 LR LR
comp=Z,56µm,21.1s
NJ2 LR LR
comp=Z,76µm,21.1s
BWN Browne 32.42 42 *e*P **P 18 19 08.0 +0.1**
SEW Seward 32.60 50 *e*P **P 18 19 08.2 -1.3**
TLY Talaya 32.63 294 LR LR 18 33 39.7
comp=Z,84µm,18.3s,baz=62,slow=39
TLY Talaya 32.63 294 *e*P P 18 19 08.8 -1.1
comp=Z,442nm,1.1s
TLY Talaya 32.63 294 *c*⇓*i*P P 18 19 08.3 -1.6
TLY *e* 18 20 22.5
TLY *e*PPP PPP 18 20 36.1
TLY *e*S **S 18 24 19.8 -2.3**
TLY *e*SS **SS 18 26 47.6 +4.0**
TLY pmax pmax
comp=Z,404nm,1.1s
TLY MLR MLR
comp=Z,84µm,18.0s
PMR Palmer 32.64 47 *e*P **P 18 19 08.1 -1.7**
PMR Palmer 32.64 47 *e*P **P 18 19 08.1 -1.7**
MCK McKinley 32.66 43 *e*P **P 18 19 09.6 -0.5**
RND Reindeer 32.70 43 *e*P **P 18 19 09.5 -1.0**
RND Reindeer 32.70 43 *e*P **P 18 19 09.5 -1.0**
GHO Glory Hole Cre 32.73 46 *e*P **P 18 19 09.4 -1.3**
TOLK Toolik Lake Re 32.73 34 *e*P **P 18 19 10.2 -0.5**
TOLK Toolik Lake Re 32.73 34 P **P 18 19 11.0 +0.4**
baz=262,SNR=428
TOLK S **S 18 24 25.1 +1.8**
baz=262
MDM Murphy Dome 32.97 40 *e*P **P 18 19 12.6 -0.2**
TIY Taiyuan 32.98 266 *e*P P 18 19 12.0 -1.2
TIY PP **PnPn 18 20 24.8 +1.2**
TIY S S 18 24 21.3 -6.6
TIY SS **SnSn 18 26 26.0 -3.2**
TIY pmax pmax
comp=Z,600nm,1.5s
TIY pmax pmax
comp=Z,3µm,8.8s
TIY LR LR
comp=Z,8µm,14.1s
TIY LR LR
comp=Z,16µm,12.6s
TIY LR LR
comp=Z,37µm,18.1s
SML Sawmill 33.00 46 *e*P **P 18 19 12.4 -0.7**
SML Sawmill 33.00 46 *e*P **P 18 19 12.4 -0.7**
BTO Baotou 33.01 272 *e*P P 18 19 09.3 -4.2
BTO S S 18 24 19.3 -9.0
WRH Wood River Hil 33.03 41 *e*P **P 18 19 13.1 -0.2**
TCOL CIGO, UAF Yank 33.13 41 P **P 18 19 14.6 +0.6**
baz=270,SNR=187
COLA College 33.13 41 *e*P **P 18 19 14.0 -0.1**
comp=Z,828nm,0.8s
COLA LR LR
comp=Z,27µm,20.0s
COLA College 33.13 41 *e*P **P 18 19 14.0 -0.1**
COLA pmax pmax
comp=Z,828nm,0.8s
COLA MLR MLR
comp=Z,27µm,20.0s
CCB Clear Creek Bu 33.15 41 *e*P **P 18 19 14.0 -0.3**
ZAK Zakamensk 33.24 292 *e*P P 18 19 14.2 -1.2
ZAK *e* 18 21 57.6
ZAK pmax pmax
comp=Z,102nm,1.1s
POKR Poker Plat Res 33.31 40 P **P 18 19 16.4 +0.7**
baz=270,SNR=264
DHY Denali Highway 33.38 44 *e*P **P 18 19 15.6 -0.9**
SARN Sarigan 33.43 197 *e*P P 18 19 14.6 -2.6
SCM Sheep Creek Mo 33.48 46 *e*P **P 18 19 16.6 -0.7**
SCM Sheep Creek Mo 33.48 46 *e*P **P 18 19 16.6 -0.7**
HDA Harding Lake 33.52 41 *e*P **P 18 19 16.3 -1.3**
HDA Harding Lake 33.52 41 P **P 18 19 16.9 -0.7**
baz=271,SNR=148
IL1 Eielson Array 33.54 41 *e*P **P 18 19 16.5 -1.3**
ILAR Eielson Array 33.54 41 P **P 18 19 17.4 -0.4**
comp=Z,145nm,0.8s,baz=254,slow=6.5,SNR=308
ILAR LR LR 18 34 14.3
comp=Z,32µm,19.7s,baz=262,slow=39
ILAR P3KPbc 18 50 27.4
comp=Z,3.2nm,1.1s,baz=86,slow=3.3,SNR=10
ILAR P3KP 18 51 48.2
comp=Z,0.7nm,0.9s,baz=226,slow=3.3,SNR=4.2
ILAR Eielson Array 33.54 41 P **P 18 19 17.4 -0.4**
ILAR *e* 18 50 27.4
ILAR PKKKP 18 51 48.2
ILAR Eielson Array 33.54 41 P **P 18 19 17.4 -0.4**
ILAR pmax pmax
comp=Z,145nm,0.8s
ILAR MLR MLR
comp=Z,32µm,19.7s
ILB Eielson Array 33.54 41 *e*P **P 18 19 16.9 -0.9**
GLI Glacier Island 33.68 48 *e*P **P 18 19 17.9 -1.1**
ANA2 Anatahan 33.80 197 *e*P P 18 19 18.2 -2.2
FID Port Fidalgo 33.99 48 *e*P **P 18 19 20.0 -1.7**
KLU Klutina 34.18 47 *e*P **P 18 19 22.9 -0.5**
MOY Mondy 34.21 295 *e*P **P 18 19 23.4 -0.4**
MOY pmax pmax
comp=Z,198nm,1.8s
FYU Fort Yukon 34.23 38 *e*P **P 18 19 24.4 +0.8**
MID Middleton Isla 34.25 50 *e*P **P 18 19 23.5 -0.3**
MID Middleton Isla 34.25 50 *e*P **P 18 19 23.5 -0.3**
PAX Paxson 34.25 44 *e*P **P 18 19 23.1 -0.9**
PAX Paxson 34.25 44 *e*P **P 18 19 23.1 -0.9**
DIV Divide 34.29 47 *e*P **P 18 19 24.0 -0.3**
EYAK Cordova Ski Ar 34.38 48 *e*P **P 18 19 24.9 -0.1**
HARP HAARP 34.44 45 *e*P **P 18 19 25.8 +0.2**
RIDG Independ'e Rid 34.48 43 *e*P **P 18 19 25.2 -0.6**
SCRK Sand Creek 34.84 42 *e*P **P 18 19 28.1 -1.0**
BMRM Bremner River 34.88 47 *e*P **P 18 19 29.7 +0.4**
RAGM Ragged Mountai 34.93 48 *e*P **P 18 19 30.0 +0.3**
YOJ Yonaguni jima 35.52 238 *e*P P 18 19 33.5 -1.7
YOJ Yonaguni jima 35.52 238 *e*P P 18 19 33.5 -1.6
TATO Taipei 35.97 240 *e*P P 18 19 37.6 -1.4
TATO LR LR
comp=Z,53µm,21.0s
EGAK Eagle 35.99 41 *e*P **P 18 19 38.4 -0.4**
comp=Z,619nm,0.8s
EGAK LR LR
comp=Z,25µm,20.0s
WHN Wuhan 36.23 254 ⇑*i*P P 18 19 40.0 -1.2
WHN S S 18 25 13.0 -4.8
WHN pmax pmax
comp=Z,420nm,0.8s
WHN pmax pmax
comp=Z,10µm,6.1s
WHN LR LR
comp=Z,110µm,18.5s
WHN LR LR
comp=Z,46µm,16.9s
WHN LR LR
comp=Z,81µm,22.7s
YHNB Yeheng 36.27 240 *e*P P 18 19 40.3 -1.4
NACB Ninganchiao 36.53 239 *e*P P 18 19 41.2 -2.6
KNGR Kungurtug, Tuv 36.63 295 *c*⇓*i*P P 18 19 42.8 -1.8
GUMO Guam 36.64 198 LR LR 18 33 20.3
comp=Z,21µm,20.2s,baz=26,slow=34
DAWY Dawson 36.84 42 *e*P **P 18 19 46.5 +0.4**
comp=Z,340nm,1.1s
PCA Pinnacle 37.15 48 *e*P **P 18 19 49.2 +0.5**
SSLB Suanglung 37.20 240 *e*P **P 18 19 48.8 -0.8**
YULB Yu-li 37.32 239 *e*P **P 18 19 49.8 -0.7**
XAN Xi'an 37.45 264 P P 18 19 49.3 -2.4
XAN pP pP 18 20 01.8 -3.1
XAN sP sP 18 20 07.6 -3.3
XAN PP **PP 18 21 22.0 +4.3**
XAN PcP **PcP 18 22 10.3 +1.1**
XAN S S 18 25 29.0 -7.6
XAN PcS **PcS 18 25 58.1 +0.2**
XAN ScS **ScS 18 30 01.4 +1.0**
XAN pmax pmax
comp=Z,92nm,1.5s
XAN pmax pmax
comp=Z,5µm,8.8s
XAN LR LR
comp=Z,69µm,20.6s
XAN LR LR
comp=Z,53µm,20.1s
XAN LR LR
comp=Z,66µm,25.0s
NRIK Noril'sk 37.55 327 P P 18 19 49.1 -2.9
comp=Z,60nm,1.0s,baz=95,slow=7.4,SNR=47
NRIK PcP **PcP 18 22 09.2 +0.3**
comp=Z,84nm,0.9s,baz=85,slow=3.7,SNR=4.4
NRIK LR LR 18 37 27.2
comp=Z,52µm,18.9s,baz=78,slow=40
NRIK Noril'sk 37.55 327 P P 18 19 49.1 -2.9
NRIK 18 22 09.2
NRIK pmax pmax
comp=Z,61nm,1.0s
NRIK MLR MLR
comp=Z,52µm,18.9s
EPYK Eagle Plains 37.65 38 P **P 18 19 53.8 +0.8**
baz=277,SNR=236
QZH Quanzhou 37.67 244 ⇑*i*P **P 18 19 53.4 -0.1**
QZH S **S 18 25 39.9 +0.1**
QZH pmax pmax
comp=Z,280nm,1.2s
QZH pmax pmax
comp=Z,9µm,5.1s
QZH LR LR
comp=Z,20µm,16.3s
QZH LR LR
comp=Z,6µm,13.3s
QZH LR LR
comp=Z,23µm,16.8s
TPUB Ta-pu 37.76 240 *e*P P 18 19 53.0 -1.3
TWG Pinlang 37.89 238 *e*P P 18 19 53.7 -1.7
HYT Haines Junctio 38.31 47 *e*P **P 18 19 59.8 +1.2**
INK Inuvik 38.63 34 *e*P **P 18 20 01.8 +0.7**
comp=Z,379nm,0.9s
INK Inuvik 38.63 34 *e*P **P 18 20 01.8 +0.7**
INK pmax pmax
comp=Z,379nm,0.9s
HVS Khovu-Aksy 38.68 297 *d*⇓*i*P **P 18 20 02.1 +0.3**
HVS pmax pmax
comp=Z,291nm,1.1s
HVS MLR MLR
comp=Z,152µm,13.0s
BBP Basco 39.32 235 *e*P P 18 20 05.3 -2.0
ENH Enshi 39.51 259 *e*P P 18 20 06.7 -2.3
comp=Z,518nm,1.2s
ENH *e*PcP **PcP 18 22 15.6 -0.1**
ENH LR LR
comp=Z,26µm,22.0s
LZH Lanzhou 39.54 271 ⇑P P 18 20 08.3 -1.0
LZH pP pP 18 20 18.0 -4.6
LZH sP sP 18 20 21.4 -7.2
LZH S S 18 26 04.1 -4.2
LZH sS sS 18 26 22.3 -8.4
LZH SS SS 18 28 53.4 -11
LZH pmax pmax
comp=Z,980nm,1.2s
LZH pmax pmax
comp=Z,8µm,4.8s
LZH LR LR
comp=Z,89µm,18.7s
LZH LR LR
comp=Z,109µm,18.7s
LZH LR LR
comp=Z,163µm,19.2s
WHY Whitehorse 39.60 46 *e*P **P 18 20 11.0 +1.6**
SKAG Skagway 39.72 48 *e*P **P 18 20 11.9 +1.7**
BESE Bessie Mountai 40.22 49 *e*P **P 18 20 16.2 +1.7**
GTA Gaotai 40.30 278 P P 18 20 13.9 -1.6
GTA pP pP 18 20 20.5 -8.4
GTA sP sP 18 20 23.9 -11
GTA PcS **PcS 18 26 10.8 +2.0**
GTA S S 18 26 12.3 -7.2
GTA sS sS 18 26 30.1 -12
GTA ScS **ScS 18 30 18.5 +1.5**
GTA pmax pmax
comp=Z,32nm,1.0s
GTA pmax pmax
comp=Z,5µm,8.3s
GTA LR LR
comp=Z,35µm,16.5s
GTA LR LR
comp=Z,97µm,16.5s
GTA LR LR
comp=Z,141µm,15.8s
JIS Juneau Island 40.55 50 *e*P **P 18 20 18.8 +1.7**
APYP Conner 41.82 234 *e*P P 18 20 25.5 -2.5
CRAG Craig 42.19 53 *e*P **P 18 20 31.2 +0.7**
GZH Guangzhou 42.20 247 P P 18 20 25.3 -5.7
GZH PcP **PcP 18 22 24.3 -0.1**
GZH PcS **PcS 18 26 15.0 -1.4**
GZH S S 18 26 40.4 -7.2
GZH SS SS 18 29 45.3 -12
GZH ScS **ScS 18 30 30.3 +1.8**
GZH pmax pmax
comp=Z,8µm,7.5s
GZH LR LR
comp=Z,16µm,20.0s
GZH LR LR
comp=Z,23µm,20.0s
WRAK Wrangell Islan 42.23 52 *e*P **P 18 20 32.2 +1.2**
comp=Z,119nm,0.9s
WRAK LR LR
comp=Z,23µm,19.0s
ABRA Dolores 42.28 234 *e*P **P 18 20 31.8 +0.1**
CAUP Cauayan 42.28 232 *e*P **P 18 20 31.8 +0.1**
HKC Hong Kong Obse 42.29 246 ⇑P **P 18 20 32.0 +0.2**
PATS Pohnpei 42.31 176 *e*P **P 18 20 32.6 +0.6**
ZAA1 Zalesovo Array 42.58 304 *e*P P 18 20 31.3 -2.5
ZAA1 *e*PcP **PcP 18 22 24.9 -0.3**
ZAA1 *e*ScP **ScP 18 26 14.9 +3.4**
ZAA1 *e*ScS **ScS 18 30 32.8 +2.8**
ZAA0 Zalesovo Array 42.58 304 *e*P P 18 20 31.6 -2.2
ZAA0 *e*PcP **PcP 18 22 23.9 -1.4**
ZALV Zalesovo Beam 42.58 304 P P 18 20 31.3 -2.5
comp=Z,59nm,0.8s,baz=63,slow=6.1,SNR=77
ZALV PcP **PcP 18 22 24.9 -0.3**
comp=Z,210nm,0.9s,baz=50,slow=2.5,SNR=22
ZALV ScP **ScP 18 26 14.9 +3.4**
comp=Z,18nm,1.0s,baz=70,slow=4.9,SNR=4.0
ZALV ScS **ScS 18 30 32.8 +2.8**
comp=Z,6.3nm,1.1s,baz=346,slow=3.1,SNR=3.5
ZALV LR LR 18 39 26.0
comp=Z,53µm,18.3s,baz=54,slow=38
ZALV Zalesovo Beam 42.58 304 *e*P P 18 20 31.4 -2.4
ZALV *e*PcP **PcP 18 22 23.3 -2.0**
ZALV ScP **ScP 18 26 14.9 +3.4**
ZALV ScS **ScS 18 30 32.8 +2.8**
ZALV Zalesovo Beam 42.58 304 P P 18 20 31.3 -2.5
ZALV 18 22 24.9
ZALV 18 30 32.8
ZALV pmax pmax
comp=Z,59nm,0.9s
ZALV MLR MLR
comp=Z,53µm,18.3s
DLBC Dease Lake 42.65 48 LR LR 18 38 58.5
comp=Z,10µm,21.5s,baz=301,slow=37
DLBC Dease Lake 42.65 48 *e*P **P 18 20 36.1 +1.7**
comp=Z,170nm,0.9s
MCO Taipa Grande 42.80 246 P **P 18 20 36.0 +0.1**
CD2 Chengdu 42.80 264 ⇑P P 18 20 34.5 -1.5
CD2 pP pP 18 20 43.3 -6.1
CD2 PP **PP 18 22 13.8 -2.1**
CD2 PcS **PcS 18 26 18.5 -0.4**
CD2 S S **S 18 26 56.1 -0.4**
CD2 sS sS 18 27 11.0 -8.1
CD2 pmax pmax
comp=Z,170nm,0.7s
CD2 pmax pmax

CD2 LR LR
comp=Z,9µm,7.0s
CD2 LR LR
comp=Z,66µm,20.9s
CD2 LR LR
comp=Z,58µm,22.9s
CD2 LR LR
comp=Z,63µm,23.3s
DGZ Jazzator, Alta 42.92 298 *c* iP P 18 20 35.6 -1.3
DGZ pmax pmax
comp=Z,92nm,1.1s
JOHN Johnston Islan 42.97 127 PFAKE 18 20 50.0 +13
JOHN LR LR
comp=Z,2µm,21.0s
NVS Novosibirsk 43.06 306⇓ *i* P **P 18 20 37.4 -0.3**
NVS *e* 18 20 55.7
NVS *e* 18 22 21.4
NVS *e* S **S 18 26 59.1 -0.6**
NVS *e* 18 30 35.2
NVS pmax pmax
comp=Z,400nm,1.8s
NVS pmax pmax
comp=N,111nm,1.7s
NVS pmax pmax
comp=E,195nm,1.4s
NVS smax smax
comp=N,180nm,2.4s
NVS smax smax
comp=E,31nm,1.6s
BALP Baler 43.41 232 *e*P **P 18 20 41.6 +0.7**
DIB Dawson Inlet, 43.45 56 *e*P **P 18 20 41.1 +0.3**
BOLP Bolinao 43.75 234 *e*P P 18 20 40.1 -3.5
GYA Guiyang 43.92 257⇑ *i*P P 18 20 43.8 -1.4
GYA pP pP 18 20 52.8 -5.8
GYA PP **PP 18 22 28.0 0.0**
GYA ScP **ScP 18 26 19.3 +1.7**
GYA S **S 18 27 12.4 -0.7**
GYA sS sS 18 27 27.6 -8.2
GYA SS SS 18 30 21.8 -9.0
GYA pmax pmax
comp=E,520nm,1.1s
GYA pmax pmax
comp=E,5µm,12.9s
GYA LR LR
comp=E,28µm,18.2s
GYA LR LR
comp=E,25µm,17.9s
GYA LR LR
comp=E,26µm,22.3s
GQP Guinayangan 44.53 229⇑ *e*P **P 18 20 49.2 -0.7**
TGY Tagaytay City 45.12 231 LR LR 18 37 49.8
comp=E,8µm,21.2s,baz=32,slow=34
BOAC Boac 45.21 230 *e*P **P 18 20 54.9 -0.4**
PALU Palau 45.40 210 P **P 18 20 56.9 +0.1**
baz=45,SNR=14
ZSN Zaisan 45.49 296⇑ *i*P P 18 20 55.3 -1.9
comp=E,155nm,4.1s
ZSN *i* pP pP 18 21 12.6 +1.8
ZSN *i* sP sP 18 21 21.2 +4.5
ZSN *i* S **S 18 27 31.8 -3.4**
ZSN LR LR 18 41 01.3
comp=E,6µm,11.9s
WMQ Urumqi 45.64 290 P **P 18 20 58.6 0.0**
WMQ pP pP 18 21 06.3 -5.8
WMQ sP sP 18 21 15.8 -2.2
WMQ PcP **PcP 18 22 35.8 -0.2**
WMQ S **S 18 27 37.8 +0.3**
WMQ sS sS 18 27 52.3 -8.0
WMQ pmax pmax
comp=E,280nm,1.3s
WMQ pmax pmax
comp=E,11µm,10.5s
WMQ LR LR
comp=E,106µm,20.7s
WMQ LR LR
comp=E,64µm,15.7s
WMQ LR LR
comp=E,59µm,16.9s
PLP Palo 45.69 224⇑ *e*P **P 18 20 58.2 -0.9**
KIP Kipapa 45.90 110 *e*P **P 18 21 03.6 +2.9**
KIP LR LR
comp=Z,60µm,22.0s
KIP Kipapa 45.90 110 *e*P **P 18 21 03.6 +2.9**
KIP MLR MLR
comp=Z,60µm,22.0s
BBB Bella Bella 46.28 56 P **P 18 21 03.4 +0.1**
comp=Z,76nm,1.0s,baz=244,slow=12,SNR=6.1
BBB Bella Bella 46.28 56 *e*P **P 18 21 04.4 +1.1**
RCP Roxas 46.40 227⇑ *e*P **P 18 21 04.4 -0.3**
KHLH Kahului Airpor 47.27 109 *e*P **P 18 21 12.0 +0.5**
BUSP Coron 47.28 231 *e*P **P 18 21 10.9 -0.6**
GUIM Jordan 47.28 227 *e*P P 18 21 08.6 -3.0
MK31 Makanchi Array 47.34 296 *e*P P 18 21 09.2 -2.6
MK31 *e*PcP **PcP 18 22 41.6 -0.3**
MK31 Makanchi Array 47.34 296 *e*P P 18 21 09.2 -2.6
MK31 *e* 18 22 41.6
MK32 Makanchi Array 47.34 296 *e*P P 18 21 09.4 -2.3
MK32 *e*PcP **PcP 18 22 41.9 0.0**
MK32 *e*ScP **ScP 18 26 35.0 +3.7**
MK32 *e* 18 52 18.9
MK32 *e* 18 58 53.8
MKAR Makanchi Array 47.34 296 P P 18 21 09.4 -2.3
comp=Z,94nm,0.9s,baz=63,slow=8.3,SNR=174
MKAR PcP **PcP 18 22 41.9 0.0**
comp=Z,81nm,0.9s,baz=46,slow=5.2,SNR=5.7
MKAR ScP **ScP 18 26 35.0 +3.7**
comp=Z,30nm,1.0s,baz=86,slow=5.0,SNR=8.2
MKAR LR LR 18 42 36.4
comp=Z,153µm,18.4s,baz=44,slow=38
MKAR PKPPKP P'P'df 18 52 18.9 -13
comp=Z,2.5nm,0.9s,baz=208,slow=2.3,SNR=5.8
MKAR P4KPbc 18 58 53.8
comp=Z,3.1nm,1.0s,baz=64,slow=5.5,SNR=8.9
MKAR Makanchi Array 47.34 296 *e*P P 18 21 09.2 -2.6
MKAR *e*PcP **PcP 18 22 41.4 -0.5**
MKAR ScP **ScP 18 26 35.0 +3.7**
MKAR P'P' 18 52 18.9
MKAR *e* 18 58 53.8
MKAR Makanchi Array 47.34 296 *e*P P 18 21 09.2 -2.6
MKAR *e* 18 22 41.4
MK01 Makanchi Array 47.34 296 *e*P P 18 21 09.3 -2.6
MK01 *e*PcP **PcP 18 22 40.9 -1.0**
KMI Kunming 47.38 259 P **P 18 21 11.8 -0.7**
KMI pP pP 18 21 19.3 -6.9
KMI sP sP 18 21 25.1 -6.9
KMI PP **PP 18 23 02.1 -1.9**
KMI S S 18 27 57.9 -5.1
KMI sS sS 18 28 14.3 -12
KMI SS SS 18 31 22.4 -8.5
KMI pmax pmax
comp=Z,310nm,1.4s
KMI pmax pmax
comp=Z,7µm,5.4s
KMI LR LR
comp=Z,24µm,18.0s
KMI LR LR
comp=Z,14µm,17.3s
KMI LR LR
comp=Z,35µm,23.1s
QIZ Qiongzhong 47.39 247 P **P 18 21 12.4 0.0**
QIZ PP **PP 18 23 02.3 -1.7**
QIZ S **S 18 28 06.0 +3.1**
QIZ pmax pmax
comp=Z,6µm,7.3s
QIZ LR LR
comp=Z,18µm,20.6s
QIZ LR LR
comp=Z,27µm,17.3s
QIZ LR LR
comp=Z,24µm,20.2s
QIZ Qiongzhong 47.39 247 *e*P **P 18 21 12.2 -0.2**
comp=Z,349nm,1.2s
QIZ LR LR
comp=Z,29µm,20.0s
KURK Kurchatov 47.43 303 *e*P P 18 21 10.1 -2.3
comp=Z,4µm,1.1s
KURK *e*PcP **PcP 18 22 41.7 -0.3**
KURK LR LR
comp=Z,111µm,22.0s
KURK Kurchatov 47.43 303 P P 18 21 10.5 -1.9
SNR=198
KURK Kurchatov 47.43 303 P P 18 21 10.5 -1.9
SNR=198
KURK Kurchatov 47.43 303 *ce*P P 18 21 10.0 -2.4
KURK pmax pmax
comp=Z,605nm,1.1s

KURK MLR MLR
comp=Z,69µm,23.0s
HLK Haleakala 47.48 109 *e*P **P 18 21 14.3 +0.9**
CUYO Cuyo Island 47.85 229 *e*P **P 18 21 15.6 -0.4**
YKW3 Yellowknife Ar 47.88 39 *e*P **P 18 21 15.8 +0.1**
YKB5 Yellowknife Ar 47.91 39 *e*P **P 18 21 14.5 -1.4**
YKB5 *e*PcP **PcP 18 22 42.8 -0.8**
YKB5 *e* 18 52 21.2
YKA Yellowknife Ar 47.91 39 P **P 18 21 16.2 +0.3**
comp=Z,110nm,0.9s,baz=298,slow=7.4,SNR=58
YKA PcP **PcP 18 22 43.6 0.0**
comp=Z,38nm,0.9s,baz=302,slow=4.1,SNR=4.8
YKA LR LR 18 42 54.9
comp=Z,2µm,21.2s,baz=302,slow=38
YKA PKPPKP P'P'df 18 52 21.2 -11
comp=Z,3.4nm,1.0s,baz=141,slow=2.1,SNR=4.2
YKA Yellowknife Ar 47.91 39 P **P 18 21 16.2 +0.3**
YKA PcP **PcP 18 22 43.6 0.0**
YKA P'P' 18 52 21.2
YKA Yellowknife Ar 47.91 39 P **P 18 21 16.3 +0.3**
YKA 18 22 43.6
RES Resolute Bay 47.93 20 *e*P **P 18 21 15.3 -0.6**
comp=Z,167nm,0.9s
RES Resolute Bay 47.93 20 *e*P **P 18 21 15.3 -0.6**
RES pmax pmax
comp=Z,167nm,0.9s
MHA Mahukona 48.12 109 *e*P **P 18 21 17.6 -0.5**
MHA Mahukona 48.12 109 *e*P **P 18 21 17.6 -0.5**
CGP Cagayan de Oro 48.21 223 *e*P **P 18 21 19.2 +0.4**
ENPP El Nido 48.35 231 *e*P P 18 21 15.6 -4.2
HPAH Hawaii Prepara 48.37 109 *e*P **P 18 21 22.0 +1.9**
BUKP Musuan 48.56 222 *e*P P 18 21 20.0 -1.5
LPH Laupahoehoe 48.58 109 *e*P **P 18 21 22.2 +0.6**
POHA Pohakuloa 48.68 109 *e*P **P 18 21 23.4 +0.7**
comp=Z,1µm,1.2s
POHA LR LR
comp=Z,44µm,21.0s
MLOA Mauna Loa Obse 48.82 110 *e*P **P 18 21 22.7 -1.2**
HMH Humu'ula Sheep 48.82 109 *e*P **P 18 21 24.1 +0.3**
MLH Mauna Loa 48.97 109 *e*P **P 18 21 24.6 -0.2**
MLH Mauna Loa 48.97 109 *e*P **P 18 21 24.6 -0.2**
AIN Ainahou 49.01 110 *e*P **P 18 21 25.7 +0.6**
DAV Davao City (W) 49.06 221⇑ *i*P **P 18 21 24.0 -1.3**
DAV Davao City (W) 49.06 221 *e*P **P 18 21 23.8 -1.5**
DAV LR LR
comp=Z,9µm,20.0s
DAV Davao City (W) 49.06 221 P **P 18 21 24.5 -0.8**
SNR=11
DAV Davao City (W) 49.06 221 P **P 18 21 24.5 -0.8**
SNR=11
PUH Pauahi 49.16 109 *e*P **P 18 21 28.7 +2.5**
DDMP Don Marcelino, 49.87 220 *e*P P 18 21 29.7 -1.7
TARA Tarawa 49.95 157 *e*P **P 18 21 32.8 +0.8**
TARA LR LR
comp=Z,4µm,21.0s
KBS Kingsbay 50.29 351 *e*P **P 18 21 33.6 -0.3**
KBS *e*PcP **PcP 18 22 52.3 +0.3**
KBS LR LR
comp=Z,28µm,21.0s
KBS Kingsbay 50.29 351 *ce*P P 18 21 31.8 -2.1
KBS pmax pmax
comp=Z,358nm,1.1s
KBS MLR MLR
comp=Z,109µm,20.0s
KBS Kingsbay 50.29 351⇑ *i*P P 18 21 31.4 -2.6
KBS *e*S **S 18 28 43.9 +1.6**
LKP Lekhapani 50.34 267 *e*P **P 18 21 34.7 -0.3**
SPA0 Spitsbergen Ar 50.46 350 *e*P **P 18 21 34.0 -1.3**
SPA0 *e*PcP **PcP 18 22 53.0 +0.3**
SPA0 Spitsbergen Ar 50.46 350 *e*P **P 18 21 33.9 -1.4**
SPA0 *e*S **S 18 28 45.3 +0.6**
TDK Taldygorghan 50.59 296 *i* P P 18 21 35.1 -1.5
comp=Z,600nm,1.6s
TDK *i* sP sP 18 22 01.1 +4.8
TDK *e*S **S 18 28 44.0 -3.3**
TDK LR LR 18 42 49.3
comp=Z,110µm,17.1s
BVAR Borovoye Array 50.61 309 LR LR 18 44 06.4
comp=Z,71µm,20.3s,baz=68,slow=37
BVAR PKPPKP 18 52 25.9
comp=Z,2.8nm,1.0s,baz=191,slow=3.0,SNR=4.4
BVAR P4KPbc 18 59 06.9
comp=Z,1.6nm,0.5s,baz=72,slow=4.8,SNR=10.0
BRVK Borovoye 50.65 309 *e*P P 18 21 34.8 -2.2
BRVK *e*PcP **PcP 18 22 52.4 -1.3**
BRVK LR LR
comp=Z,49µm,21.0s
BRVK Borovoye 50.65 309 P **P 18 21 36.4 -0.5**
SNR=108
BRVK Borovoye 50.65 309 P **P 18 21 36.4 -0.5**
SNR=108
BRVK Borovoye 50.65 309 *ce*P P 18 21 35.0 -2.0
BRVK pmax pmax
comp=Z,354nm,1.0s
BRVK MLR MLR
comp=Z,78µm,20.0s
PGC Sidney 50.65 58 *e*P **P 18 21 37.4 +0.5**
PDGK Podgornoye 50.89 294 P P 18 21 37.2 -1.9
PDGK pmax pmax
comp=Z,165nm,1.3s
SHLS Shalkode 51.01 294⇑ *i*P P 18 21 36.0 -3.9
comp=Z,234nm,2.5s
SHLS *e*S S 18 28 46.1 -7.3
SHLS LR LR 18 44 37.4
comp=Z,7µm,12.6s
A04D Lummi Island 51.02 57 P **P 18 21 40.1 +0.3**
baz=304,SNR=8.5
A04D S **S 18 28 57.0 +4.0**
baz=304
BRZS Berezniki 51.06 305⇑ *i*P P 18 21 38.0 -2.2
comp=Z,276nm,1.0s
BRZS *e*S **S 18 28 50.1 -3.5**
BRZS LR LR 18 43 39.5
comp=Z,19µm,15.7s
A05A Maple Falls 51.21 57 *e*P **P 18 21 41.0 -0.3**
BATP Bataraza 51.22 231 *e*P **P 18 21 41.5 -0.1**
UZB Uzynbulak 51.28 294⇑ *i*P P 18 21 39.8 -2.2
comp=Z,143nm,1.8s
UZB *i* sP sP 18 22 05.9 +4.3
UZB *e*S S 18 28 53.2 -3.9
UZB LR LR 18 45 21.6
comp=Z,6µm,13.1s
KPKS Kokpek 51.30 295⇑ *i*P P 18 21 40.5 -1.6
comp=Z,214nm,1.8s
KPKS *e*S **S 18 28 54.2 -3.1**
KPKS LR LR 18 43 54.1
comp=Z,28µm,15.8s
TULEG Thule 51.34 12 *e*P **P 18 21 40.5 -1.3**
D03D Eldon 51.47 59 P **P 18 21 43.8 +0.6**
baz=304,SNR=36
ZIRO ZIRO 51.52 269 *e*P P 18 21 42.3 -1.8
ZIRO IAMs_20 IAMs_20 18 46 09.6
comp=Z,28µm,16.7s
HSPB Hornsund (broa 51.55 349 *e*P P 18 21 40.4 -3.0
HSPB MLR MLR
comp=Z,40µm,21.5s
HSPB Hornsund (broa 51.55 349⇑ *i*P P 18 21 41.2 -2.2
HSPB *e*PP **PP 18 23 39.9 -0.7**
HSPB *e*PP **PP 18 23 43.4 +2.8**
HSPB *e*S **S 18 28 56.9 -2.9**
MANU Manus Island 51.58 191 *e*P **P 18 21 43.1 -1.2**
B05A Bryant 51.61 58 P **P 18 21 44.8 +0.5**
baz=304,SNR=28
ZHN Zhinishke 51.62 294⇑ *i*P P 18 21 42.7 -1.8
comp=Z,159nm,2.1s
ZHN LR LR 18 44 02.8
comp=Z,13µm,16.1s
SATY Saty 51.70 294⇑ *i*P P 18 21 43.7 -1.5
comp=Z,386nm,2.4s
SATY *i* sP sP 18 22 09.4 +4.6
SATY *e*S **S 18 28 59.6 -3.2**
SATY LR LR 18 44 18.3
comp=Z,18µm,17.3s
E03A Lebam 51.76 60 *e*P **P 18 21 45.7 +0.3**
JORH JORHAT 51.79 268 *e*P **P 18 21 45.1 -0.7**
B06A Marblemount 51.81 57 *e*P **P 18 21 45.8 +0.2**
LSA Lhasa 51.85 273 P **P 18 21 46.8 0.0**
LSA pmax pmax
comp=Z,15nm,0.6s
LSA LR LR
comp=Z,14µm,22.5s
LSA LR LR
comp=Z,11µm,28.9s
LSA LR LR
comp=Z,74µm,19.2s

LSA Lhasa 51.85 273 *e*P **P 18 21 46.4 -0.4**
LSA LR LR
comp=Z,80µm,22.0s
LSA Lhasa 51.85 273 *i* P **P 18 21 46.5 -0.3**
SNR=98
LSA Lhasa 51.85 273 *e*P **P 18 21 46.4 -0.4**
LSA MLR MLR
comp=Z,80µm,22.0s
D04E Lakebay 51.85 59 P **P 18 21 47.5 +1.5**
baz=305,SNR=9.1
MOKO MOKOCHONG 51.90 267 *e*P **P 18 21 46.5 -0.3**
MOKO IAmb IAmb 18 21 49.8
comp=Z,317nm,1.0s
MOKO IAMs_20 IAMs_20 18 46 53.8
comp=Z,79µm,5.7s
PRZ Przheval'sk 52.04 294 *e*P **P 18 21 47.8 +0.1**
PRZ *e*PcP **PcP 18 23 01.0 +1.6**
PRZ Przheval'sk 52.04 294 *e*P **P 18 21 47.8 +0.1**
PRZ *e* 18 23 01.0
SGSI Sangihe 52.12 219 P **P 18 21 49.7 +1.3**
comp=Z,319nm,1.1s
OTUK Ortayu 52.21 303 P **P 18 21 47.6 -1.2**
OTUK pmax pmax
comp=Z,218nm,1.3s
NONG Nongkai 52.25 253 P **P 18 21 49.3 0.0**
comp=Z,9.8nm,0.8s,comp=Z,250nm
D05A Enumclaw 52.28 59 *e*P **P 18 21 50.1 +0.8**
E04D Cinebar 52.32 60 P **P 18 21 50.4 +0.9**
baz=305,SNR=43
F04D Rainier, OR 52.34 60 P **P 18 21 50.2 +0.6**
baz=305
KUU Kurty 52.44 296⇑ *i*P P 18 21 48.1 -2.4
comp=Z,249nm,1.7s
KUU *i* sP sP 18 22 14.2 +4.0
KUU *i* PcP **PcP 18 22 58.4 -2.2**
KUU LR LR 18 44 27.2
comp=Z,60µm,16.2s
MDOK Medeo 52.44 295⇓ *i*P P 18 21 48.9 -1.8
comp=Z,2µm,3.0s
MDOK *i* PcP **PcP 18 22 59.4 -1.4**
MDOK *e*S **S 18 29 09.7 -3.5**
MDOK *e*sS sS 18 29 40.6 +4.3
MDOK LR LR 18 43 53.2
comp=Z,72µm,16.7s
C06D Leavenworth 52.47 57 P **P 18 21 51.2 +0.5**
baz=305,SNR=8.5
AAA Alma-Ata 52.50 295⇑ *e*P P 18 21 49.7 -1.3
comp=Z,267nm,1.3s
AAA LR LR 18 44 04.5
comp=Z,53µm,13.7s
SKNT Sakolnakorn 52.55 251 P **P 18 21 51.3 -0.2**
comp=Z,233nm,1.5s,comp=Z,4µm
KOHI KOHIMA 52.58 267 *e*P P 18 21 48.4 -3.5
LON Longmire 52.63 59 *e*P **P 18 21 51.6 -0.4**
LON Longmire 52.63 59 *e*P **P 18 21 51.6 -0.4**
G03D McMinnville, O 52.70 61 P **P 18 21 52.9 +0.6**
baz=306
B202 Windy Ridge, M 52.74 60 *e*P **P 18 21 53.6 +0.8**
TAWA Tawang 52.78 270 *e*P P 18 21 51.7 -1.9
TEZP TEZPUR 52.83 269 *e*P P 18 21 51.2 -2.3
KDJ Kajisay 52.98 294 *e*P **P 18 21 54.6 -0.1**
KDJ *e*PcP **PcP 18 23 04.0 +1.1**
KDJ Kajisay 52.98 294 *e*P **P 18 21 54.6 -0.1**
KDJ *e* 18 23 04.0
LTY Liberty 52.98 58 *e*P **P 18 21 53.9 -0.6**
I02D Swisshome 53.00 63 P **P 18 21 55.1 +0.5**
baz=306,SNR=9.3
COR Corvallis 53.04 62 *e*P **P 18 21 55.7 +0.9**
COR Corvallis 53.04 62 *e*P **P 18 21 55.7 +0.9**
B08A Colville Reser 53.08 56 *e*P **P 18 21 54.8 -0.4**
SMPI Sarmi 53.09 201 P **P 18 21 55.6 +0.1**
comp=Z,164nm,1.2s,comp=Z,5µm
BJO Bjornoya 53.15 347 *e*P **P 18 21 55.3 +0.1**
BJO *e*S **S 18 29 19.8 -1.8**
SVE Sverdlovsk 53.18 317⇓ *d* iP P 18 21 54.2 -1.5
SVE *e* 18 23 53.0
SVE *e*S S 18 29 15.2 -7.2
SVE *e* 18 34 42.5
SVE pmax pmax
comp=Z,849nm,1.3s
SVE pmax pmax
comp=Z,5µm,21.4s
SVE MLR MLR
comp=Z,41µm,20.0s
RABL Rabaul 53.30 184 *e*P **P 18 21 56.0 -1.1**
KDM Kudat 53.32 231 P **P 18 21 56.0 -1.2**
F05D White Salmon 53.33 60 P **P 18 21 57.5 +0.4**
baz=306,SNR=5.4
PAYA Payao 53.36 257 P **P 18 21 57.8 +0.3**
comp=Z,255nm,0.9s,comp=Z,2µm
H04D Lebanon 53.40 62 P **P 18 21 58.6 +1.0**
baz=306,SNR=16
TKM2 Tokmak 2 53.45 296 P **P 18 21 58.3 +0.1**
SNR=42
KEBM Edson Butte 53.45 64 *e*P **P 18 21 58.5 +0.5**
ULHL Ulahol 53.47 295 P **P 18 21 59.0 +0.7**
SNR=9.3
J01E Myrtle Point 53.51 64 P **P 18 21 59.8 +1.4**
baz=307,SNR=7.2
I03D Drain, OR 53.54 63 P **P 18 21 59.9 +1.3**
baz=307,SNR=17
SRPI Serui, Papua 53.60 204 P **P 18 22 02.4 +3.1**
H04A Detroit Lake 53.63 61 *e*P **P 18 21 59.1 -0.2**
G05D Wamic, OR 53.79 60 P **P 18 22 01.3 +0.8**
baz=306,SNR=21
GUWA GUWAHATI 53.84 269 *e*P **P 18 22 00.8 -0.2**
E07A Sunnyside 53.84 58 *e*P **P 18 22 00.7 -0.1**
USP Ospenovka 53.88 297 P **P 18 22 01.1 0.0**
SNR=72
CHMS Chumysh 53.90 296 P **P 18 22 01.4 +0.1**
SNR=61
KBO Bosley Butte 53.91 65 *e*P **P 18 22 02.4 +1.0**
K02D Willamette Mer 53.95 64 P **P 18 22 02.7 +1.0**
baz=307,SNR=17
C09A Chrisman Ranch 53.98 56 *e*P **P 18 22 01.1 -0.6**
KBK Karagaybulak 53.99 296 P **P 18 22 02.3 +0.2**
SNR=96
I04A Tendick Farm, 54.02 62 P **P 18 22 02.9 +0.7**
baz=307,SNR=42
TNTI Ternate 54.04 216 *e*P P 18 22 00.3 -2.1
TNTI Ternate 54.04 216 P **P 18 22 01.7 -0.8**
comp=Z,62nm,2.1s,comp=Z,3µmcomp=Z,11µm
FRU Bishkek 54.08 296 *i* P P 18 22 00.0 -2.5
FRU *e* 18 22 24.0
FRU *i* 18 23 07.0
FRU *e* 18 31 40.0
FRU pmax pmax
comp=Z,440nm,1.4s
SILR SILCHAR 54.08 267 *e*P P 18 22 01.4 -1.3
FRU1 Bishkek 54.08 296 *e*P **P 18 22 01.6 -1.0**
FRU1 *e*PcP **PcP 18 23 07.4 +0.5**
FRU1 Bishkek 54.08 296 *e*P **P 18 22 01.6 -1.0**
FRU1 *e* 18 23 07.4
NRN Naryn 54.10 294 *e*P P 18 22 01.8 -1.3
NRN *e*PcP **PcP 18 23 07.0 -0.4**
NRN Naryn 54.10 294 *e*P P 18 22 01.8 -1.3
NRN *e* 18 23 07.0
UTTA Uttaradit 54.12 255 P **P 18 22 03.0 0.0**
comp=Z,83nm,0.8s,comp=Z,869nm
HAWA Hanford 54.12 58 *e*P **P 18 22 02.9 +0.1**
HAWA LR LR
comp=Z,14µm,22.0s
LAMP Lampang 54.12 256 P **P 18 22 03.4 +0.3**
comp=Z,249nm,1.0s,comp=Z,2µm
SHL Shillong 54.14 269 *e*P P 18 22 01.9 -1.5
SHL Shillong 54.14 269 *e*P P 18 22 01.9 -1.5
SHL Shillong 54.14 269 *e*P P 18 22 00.9 -2.5
SHL IAmb IAmb 18 22 05.6
comp=Z,340nm,1.0s
SHL *i* x x 18 29 30.0
KZA Kyzart 54.16 295 P **P 18 22 05.0 +1.4**
SNR=35
SWI Sorong 54.16 211 P **P 18 22 04.5 +1.2**
comp=Z,160nm,1.0s,comp=Z,3µm
G06A Carlson Farm, 54.19 60 *e*P **P 18 22 03.2 -0.1**
F07A Phinny Hill Vi 54.19 59 *e*P **P 18 22 03.4 +0.1**
DAG Danmarks Havn 54.22 358⇑ *i*P **P 18 22 01.7 -1.3**
comp=Z,88nm,1.1s
comp=Z,8µm,18.0s
DAG Danmarks Havn 54.22 358 *i*P **P 18 22 01.7 -1.3**
DAG pmax pmax
comp=Z,110nm,1.1s
DAG MLR MLR
comp=Z,8µm,18.0s
AAK Ala-Archa 54.27 296 P **P 18 22 03.9 -0.2**

SNR=90
AAK Ala-Archa 54.27 296 *e*P P 18 22 02.3 -1.8
AAK LR LR
comp=Z,114µm,19.0s
AAK Ala-Archa 54.27 296 P P 18 22 02.7 -1.4
SNR=59
AAK Ala-Archa 54.27 296 P P 18 22 02.7 -1.4
SNR=59
AAK Ala-Archa 54.27 296 *i* P P 18 22 02.4 -1.7
SNR=113
AAK Ala-Archa 54.27 296*c i*P P 18 22 01.4 -2.7
AAK pmax pmax
comp=Z,84nm,1.2s
AAK MLR MLR
comp=Z,111µm,18.0s
L02E Cave Junction 54.31 65 P **P 18 22 05.6 +1.4**
baz=307,SNR=28
I05D Terrebonne, OR 54.32 61 P **P 18 22 05.1 +0.8**
baz=307,SNR=21
E08A Dider Farm, El 54.32 58 *e*P **P 18 22 04.2 0.0**
NEW Newport 54.33 55 P **P 18 22 05.0 +0.6**
comp=Z,55nm,1.0s,baz=315,slow=6.7,SNR=31
NEW Newport 54.33 55 *e*P **P 18 22 04.0 -0.4**
NEW LR LR
comp=Z,11µm,20.0s
NEW Newport 54.33 55 *e*P **P 18 22 04.0 -0.4**
NEW MLR MLR
comp=Z,11µm,20.0s
NEW Newport 54.33 55 P **P 18 22 04.4 +0.1**
baz=306,SNR=46
ARU Arti 54.34 317 LR LR 18 46 39.0
comp=Z,23µm,19.5s,baz=33,slow=38
ARU Arti 54.34 317 *e*P **P 18 22 02.9 -1.3**
ARU Arti 54.34 317*c i*P P 18 22 02.8 -1.4
ARU *PP sP 18 22 27.2 +3.3
ARU 18 23 05.0
ARU 18 24 05.9
ARU PPP PPP 18 25 12.8
ARU S **S 18 29 35.1 -3.0**
ARU 18 31 43.0
ARU pmax pmax
comp=Z,2µm,1.2s
CMMT Chiang Mai 54.35 257 P **P 18 22 04.5 -0.3**
comp=Z,1µm,1.1s,comp=Z,13µm
CHTO Chiang Mai 54.35 257 *e*P **P 18 22 04.1 -0.7**
CHTO LR LR
comp=Z,26µm,21.0s
CHTO Chiang Mai 54.35 257 P **P 18 22 05.3 +0.5**
SNR=465
CHTO Chiang Mai 54.35 257 P **P 18 22 05.3 +0.5**
SNR=465
CHTO Chiang Mai 54.35 257 P **P 18 22 04.5 -0.3**
comp=Z,5µm,1.1s,comp=Z,57µmcomp=Z,171µm
HUMO Hull Mountain 54.42 64 *e*P **P 18 22 05.5 +0.5**
comp=Z,1µm,1.4s
UCH Uchtor 54.50 296 P **P 18 22 06.4 +0.2**
SNR=25
KRMB Red Mountain 54.51 65 *e*P **P 18 22 07.2 +1.4**
KULLO Kullorsuaq 54.52 10⇑ *i*P **P 18 22 04.8 -0.4**
comp=Z,456nm,1.0s
KULLO Kullorsuaq 54.52 10⇑ *i*P **P 18 22 04.8 -0.4**
KULLO pmax pmax
comp=Z,460nm,1.0s
J04D Umpqua Nationa 54.53 63 P **P 18 22 07.0 +1.0**
baz=307,SNR=20
CHAI Chaiyaphum 54.60 252 P **P 18 22 06.1 -0.5**
comp=Z,205nm,1.0s,comp=Z,2µm
CM31 Chiang Mai Arr 54.61 257 *e*P **P 18 22 06.5 -0.1**
CM31 *e*PcP **PcP 18 23 11.8 +2.6**
CM31 Chiang Mai Arr 54.61 257 P **P 18 22 07.3 +0.7**
SNR=365
CM31 Chiang Mai Arr 54.61 257 P **P 18 22 07.3 +0.7**
SNR=365
CMAR Chiang Mai Arr 54.61 257 P **P 18 22 07.0 +0.4**
comp=Z,432nm,0.9s,baz=30,slow=7.0,SNR=954
CMAR LR LR 18 46 29.8
comp=Z,25µm,19.1s,baz=52,slow=37
CMAR PKPPKP **P'P'df 18 52 13.1 -5.1**
comp=Z,1.5nm,0.9s,baz=254,slow=4.0,SNR=5.3
CMAR P4KPbc 18 59 27.0
comp=Z,1.6nm,0.9s,baz=17,slow=3.6,SNR=10
CMAR Chiang Mai Arr 54.61 257 P **P 18 22 07.0 +0.4**
CMAR P'P' 18 52 13.1
CMAR *e* 18 59 27.0
CMAR Chiang Mai Arr 54.61 257 *i* P **P 18 22 07.0 +0.4**
CMAR pmax pmax
comp=Z,433nm,0.9s
CM01 Chiang Mai Arr 54.63 257 *e*P **P 18 22 06.4 -0.4**
EKS2 Erkin-Say 54.67 296 P **P 18 22 07.0 0.0**
SNR=72
E09A Wood Farm, Sta 54.82 57 *e*P **P 18 22 07.4 -0.4**
JCC Jacoby Creek, 54.87 66 *e*P **P 18 22 08.0 -0.2**
PINE Pine Mountain 54.88 62 *e*P **P 18 22 09.0 +0.4**
SUKH Sukhothai 54.89 255 P **P 18 22 09.0 +0.3**
comp=Z,57nm,0.7s,comp=Z,680nm
KHMM Horse Mountain 55.01 66 *e*P **P 18 22 10.4 +0.9**
J05D Fort Rock, OR 55.01 62 P **P 18 22 11.0 +1.6**
baz=308,SNR=136
L04D Klamath Falls 55.04 64 P **P 18 22 10.9 +1.2**
baz=308,SNR=70
AML Almayashu 55.04 296 P P 18 22 08.6 -1.4
SNR=48
YBH Yreka Blue Hor 55.10 65 *e*P **P 18 22 11.0 +1.0**
YBH Yreka Blue Hor 55.10 65 *e*P **P 18 22 11.0 +1.0**
G08A Pilot Rock 55.10 59 *e*P **P 18 22 09.6 -0.4**
GTK Tadong 55.10 273 *e*P **P 18 22 09.3 -1.0**
K04D Chiloquin, OR 55.11 63 P **P 18 22 11.0 +0.8**
baz=308
LVZ Lovozero 55.16 337 *e*P P 18 22 08.4 -1.6
comp=Z,468nm,1.1s
LVZ *e*PcP **PcP 18 23 10.1 -0.5**
LVZ LR LR
comp=Z,41µm,20.0s
LVZ Lovozero 55.16 337*c e*P **P 18 22 09.0 -1.0**
LVZ pmax pmax
comp=Z,515nm,1.1s
LVZ MLR MLR
comp=Z,159µm,19.0s
M02C Callahan 55.22 65 P **P 18 22 12.6 +1.7**
baz=308,SNR=62
KSH Kashi 55.29 292 P **P 18 22 13.5 +2.0**
KSH pP pP 18 22 23.5 -1.9
KSH PP **PP 18 24 19.6 +4.5**
KSH PcS **PcS 18 27 13.8 +2.0**
KSH S **S 18 29 55.8 +4.2**
KSH SS **SS 18 33 39.6 +3.7**
KSH pmax pmax
comp=Z,420nm,1.4s
KSH pmax pmax
comp=Z,7µm,7.4s
KSH LR LR
comp=Z,33µm,14.0s
KSH LR LR
comp=Z,37µm,14.8s
KSH LR LR
comp=Z,192µm,17.1s
KMRM Mail Ridge 55.43 67 *e*P **P 18 22 13.5 +1.1**
I07A Izee 55.52 61 *e*P **P 18 22 13.1 0.0**
MNAS Manas 55.52 297 *i* P **P 18 22 12.4 -0.8**
MNAS pmax pmax
comp=Z,49nm,0.8s
HAMF Hammerfest 55.54 343 *e*P **P 18 22 11.1 -1.5**
HAMF *e*S **S 18 29 51.1 -2.7**
WALA Waterton Lakes 55.56 53 *e*P **P 18 22 13.3 0.0**
SAIH SAIHA 55.56 265 *e*P **P 18 22 12.7 -0.9**
KEV Kevo 55.56 341 *e*P **P 18 22 11.2 -1.6**
KEV *e*PcP **PcP 18 23 10.2 -1.8**
KEV LR LR
comp=Z,99µm,21.0s
KEV Kevo 55.56 341 *e*P **P 18 22 11.2 -1.6**
KEV *e* 18 23 10.2
KEV MLR MLR
comp=Z,99µm,21.0s
N02D Trinity Center 55.56 65 P **P 18 22 14.9 +1.5**
baz=308,SNR=66
KMSI Cibinong 55.58 220 P **P 18 22 13.7 +0.1**
comp=Z,490nm,1.2s,comp=Z,8µmcomp=Z,19µm
M04C Macdoel 55.58 64 P **P 18 22 14.7 +1.1**
baz=308,SNR=63
F10A Beach Ranch, E 55.65 58 *e*P **P 18 22 13.7 -0.3**
AGT Agartala 55.72 268 *e*P **P 18 22 13.6 -1.0**
AGT IAmb IAmb 18 22 18.8
comp=Z,219nm,0.6s
APA Apatity 55.72 337⇓ *i*P P 18 22 12.1 -1.9
APA *i* 18 23 11.7
APA *i* 18 24 26.9
APA *i* PPP PPP 18 25 38.9
APA *i* S S 18 29 49.0 -7.4
APA *i* PS **PnS 18 30 18.0 +5.7**
APA pmax pmax
comp=Z,90nm,1.0s
FAKI Fak Fak 55.77 209 *e*P P 18 22 13.0 -1.9
FAKI Fak Fak 55.77 209 P **P 18 22 13.7 -1.2**
comp=Z,247nm,1.3s,comp=Z,6µmcomp=Z,21µm
BSMT Bassoo Peak 55.83 54 *e*P **P 18 22 16.2 +0.8**
KCPM Cahto Peak 55.84 67 *e*P **P 18 22 16.4 +1.0**
WDC Whiskeytown Da 55.91 66 *e*P **P 18 22 16.3 +0.6**
SRAK Srakaew 56.00 250 P P 18 22 14.2 -2.5
comp=Z,1µm,0.8s,comp=Z,11µm
O02D Mt. Diablo Mer 56.01 66 P **P 18 22 17.8 +1.2**
baz=309,SNR=42
BELO BELONIA 56.03 267 *e*P **P 18 22 17.0 +0.2**
ARA0 ARCESS Array S 56.06 341 *e*P P 18 22 14.2 -2.2
ARA0 ⇑*e* *e*PcP **PcP 18 23 13.6 -0.4**
ARA0 18 52 19.1
ARCES ARCESS Array B 56.06 341 P P 18 22 14.2 -2.2
comp=Z,68nm,0.9s,baz=38,slow=6.8,SNR=39
ARCES PcP **PcP 18 23 13.6 -0.4**
comp=Z,40nm,0.8s,baz=46,slow=3.5,SNR=5.6
ARCES LR LR 18 49 39.3
comp=Z,3µm,21.5s,baz=33,slow=40
ARCES PKPPKP **P'P'df 18 52 19.1 -1.8**
comp=Z,7.1nm,0.9s,baz=249,slow=1.0,SNR=6.8
ARCES ARCESS Array B 56.06 341 *e*P **P 18 22 15.2 -1.2**
ARCES *e*PcP **PcP 18 23 13.2 -0.8**
ARCES P'P' 18 52 19.1
ARCES ARCESS Array B 56.06 341 *e*P **P 18 22 15.2 -1.2**
ARCES *e* 18 23 13.2
ARE0 ARCESS Array S 56.06 341 *e*P **P 18 22 15.1 -1.4**
ARE0 *e*PcP **PcP 18 23 12.4 -1.6**
ARE0 ARCESS Array S 56.06 341 *e*P P 18 22 14.1 -2.3
ARE0 *e*S **S 18 30 04.0 +3.2**
JTMT Jette 56.16 54 *e*P **P 18 22 18.0 +0.3**
ODAN Odare 56.20 273 *e*Pn P 18 22 16.8 -1.5
comp=Z,326nm,1.0s
BMO Blue Mountains 56.29 59 *e*P **P 18 22 18.9 +0.4**
BMO LR LR
comp=Z,15µm,22.0s
BMO Blue Mountains 56.29 59 *e*P **P 18 22 19.0 +0.4**
BMO MLR MLR
comp=Z,15µm,22.0s
KK31 Karatay Array 56.30 299 *e*P P 18 22 16.6 -2.0
KK31 *e*PcP **PcP 18 23 15.0 -0.4**
KK31 Karatay Array 56.30 299 *e*P P 18 22 16.6 -1.9
KK31 *e* 18 23 15.0
KKAR Karatay Array 56.30 299 *e*P P 18 22 16.3 -2.3
KKAR *e*PcP **PcP 18 23 15.1 -0.3**
KKAR Karatay Array 56.30 299 *e*P P 18 22 16.3 -2.2
KKAR *e* 18 23 15.1
BRDH Bariadhala 56.30 266 LR LR 18 47 46.8
comp=Z,38µm,21.5s,baz=43,slow=38
UMPA Umpang Tak 56.33 255 P **P 18 22 20.6 +1.5**
comp=Z,142nm,0.8s,comp=Z,1µm
MOD Modoc Plateau 56.41 63 *e*P **P 18 22 20.0 +0.5**
JIRN Jiri 56.45 275 *e*Pn P 18 22 18.4 -1.8
comp=Z,1µm,1.0s
UTHA Uthaitani 56.45 254 P **P 18 22 20.3 +0.4**
comp=Z,64nm,0.8s,comp=Z,915nm
SFK Sufi-Kurgan 56.47 294 *i* P **P 18 22 19.3 -0.7**
SFK pmax pmax
comp=Z,136nm,1.1s
GUN Gumba 56.48 275 *e*Pn P 18 22 18.7 -1.7
comp=Z,184nm,0.4s
O03E Paynes Creek 56.52 65 P **P 18 22 20.7 +0.4**
baz=309,SNR=96
MRSI Marisa 56.53 222 P **P 18 22 19.3 -1.1**
comp=Z,144nm,1.3s,comp=Z,4µmcomp=Z,14µm
J08A Circle Bar Ran 56.56 61 *e*P **P 18 22 21.0 +0.5**
HOPS Hopland Field 56.58 67 *e*P **P 18 22 20.9 +0.3**
RAMN Ramite 56.66 274 *e*Pn P 18 22 20.4 -1.2
comp=Z,1µm,1.0s
GDXM Geysers 56.86 67 *e*P **P 18 22 22.9 +0.2**
MSO Missoula 56.91 55 *e*P **P 18 22 22.9 -0.1**
MSO Missoula 56.91 55 P **P 18 22 23.4 +0.5**
baz=309,SNR=67
KKN Kakani 56.95 275 *e*Pn P 18 22 21.9 -1.7
comp=Z,943nm,1.2s
KTK1 Kautokeino 56.96 342 *e*P P 18 22 20.5 -2.3
PKI Pulchoki 57.02 275 *e*Pn P 18 22 22.4 -1.8
comp=Z,749nm,1.1s
PKIN Phulchoki 57.02 275 *e*Pn P 18 22 22.2 -2.0
comp=Z,565nm,1.1s
WVOR Wild Horse Val 57.04 62 *e*P **P 18 22 24.4 +0.5**
WVOR LR LR
comp=Z,18µm,21.0s
SANI Sanana 57.16 216 P P 18 22 22.7 -2.1
comp=Z,174nm,1.1s,comp=Z,6µmcomp=Z,21µm
ORV Oroville 57.17 66 *e*P **P 18 22 24.2 -0.5**
ORV Oroville 57.17 66 *e*P **P 18 22 24.2 -0.5**
IUG luzhnay 57.17 298⇑ *i*P P 18 22 23.3 -1.6
comp=Z,180nm,1.6s
IUG *e*S **S 18 30 13.3 -3.2**
IUG LR LR 18 47 25.1
comp=Z,10µm,15.4s
DMN Daman 57.19 275 *e*Pn P 18 22 24.0 -1.3
comp=Z,1µm,1.1s
GKN Gorkha 57.23 276 *e*Pn **P 18 22 24.5 -1.0**
MCCM Marconi Confer 57.23 68 *e*P **P 18 22 26.8 +1.7**
MSAI Masohi 57.27 212 P **P 18 22 27.4 +1.8**
comp=Z,54nm,1.1s,comp=Z,1µm
TRO Tromso 57.29 343 *e*P P 18 22 23.2 -1.9
TRO *i* 18 25 50.6
TRO *e*S **S 18 30 15.3 -1.7**
LUWI Luwuk 57.54 220 *e*P P 18 22 24.0 -3.5
LUWI Luwuk 57.54 220 P P 18 22 25.8 -1.7
comp=Z,310nm,1.2s,comp=Z,5µmcomp=Z,24µm
MPSI Mapaga 57.57 224 P **P 18 22 27.3 -0.4**
comp=Z,39nm,1.0s,comp=Z,2µmcomp=Z,17µm
PATY Pattaya 57.57 251 P **P 18 22 28.8 +1.0**
comp=Z,66nm,0.9s,comp=Z,984nm
SRDT SRDT 57.57 253 P **P 18 22 28.0 +0.2**
comp=Z,143nm,1.2s,comp=Z,8µm
DANN Dangsing 57.57 277 *e*Pn P 18 22 26.8 -1.2
comp=Z,283nm,0.6s
FFC Flin Flon 57.74 42 *e*P **P 18 22 28.5 0.0**
FFC LR LR
comp=Z,20µm,19.0s
FFC Flin Flon 57.74 42 *e*P **P 18 22 28.5 0.0**
FFC MLR MLR
comp=Z,20µm,19.0s
NLAI Namlea 57.83 214 P **P 18 22 30.0 +0.5**
comp=Z,86nm,0.9s,comp=Z,3µm
AFDM Forest Hills D 57.87 66 *e*P **P 18 22 29.3 -0.5**
APSI Ampana 57.90 221 P **P 18 22 28.9 -1.2**
comp=Z,232nm,1.1s,comp=Z,4µmcomp=Z,13µm
BNDI Bandanaira 58.03 211 P **P 18 22 30.2 -0.8**
comp=Z,567nm,1.2s,comp=Z,8µm
KOLN Koldanda 58.06 277 *e*Pn P 18 22 29.7 -1.7
comp=Z,527nm,1.0s
SUMG Summit 58.09 5 *e*P **P 18 22 30.2 -1.0**
SUMG *e*S **S 18 30 27.3 -0.9**
SUMG Summit 58.09 5⇑ *i*P **P 18 22 31.3 +0.1**
comp=Z,1µm,1.0s
SUMG *i* 18 22 56.2
SUMG Summit 58.09 5⇑ *i*P **P 18 22 31.3 +0.1**
SUMG *i* 18 22 56.2
SUMG pmax pmax
comp=Z,1µm,1.0s
HRY Holter Researc 58.12 54 *e*P **P 18 22 32.0 +0.5**
AB31 Akbulak array 58.14 310 P **P 18 22 30.3 -1.1**
AB31 pmax pmax
comp=Z,583nm,1.4s
ABKAR Akbulak array 58.14 310 *e*P P 18 22 29.7 -1.7
ABKAR *e*PcP **PcP 18 23 21.1 -1.4**
PYUN Piuthan 58.24 277 *e*Pn P 18 22 30.8 -1.8
comp=Z,994nm,1.1s
FCC Fort Churchill 58.24 35 *e*P **P 18 22 31.6 -0.3**
FCC Fort Churchill 58.24 35 *e*P **P 18 22 31.6 -0.3**
AKTO Aktyubinsk 58.34 312 P P 18 22 31.3 -1.5
AKTO pmax pmax
comp=Z,254nm,1.4s
PHET Kaeng Krachan 58.34 252 P **P 18 22 34.0 +0.8**
comp=Z,134nm,1.2s,comp=Z,969nm
LRM Limekiln Ridge 58.35 55 *e*P P 18 22 29.2 -4.1
EGMT Eagleton 58.36 52 *e*P **P 18 22 33.4 +0.3**
EGMT LR LR
comp=Z,15µm,20.0s
EGMT Eagleton 58.36 52 P **P 18 22 33.4 +0.3**
baz=310,SNR=42
HNR Honiara 58.54 175 *e*P **P 18 22 34.4 0.0**
HNR LR LR
comp=Z,24µm,20.0s
HNR Honiara 58.54 175 *e*P **P 18 22 34.4 0.0**
HNR MLR MLR
comp=Z,24µm,20.0s
DLMT Dillon 58.57 56 *e*P **P 18 22 34.9 +0.2**
PNTR Pine Nut 58.60 65 *e*P **P 18 22 36.1 +1.0**
HLID Hailey 58.72 58 *e*P **P 18 22 36.4 +0.6**
HLID LR LR
comp=Z,13µm,20.0s
HLID Hailey 58.72 58 P **P 18 22 36.8 +1.1**
baz=310,SNR=120
MCMT McKenzie Canyo 58.77 56 *e*P **P 18 22 36.3 +0.1**
CMB Columbia Colle 58.81 67 *e*P **P 18 22 36.4 +0.1**
CMB Columbia Colle 58.81 67 *e*P **P 18 22 36.4 +0.1**
KLMR Klimovskoe 58.85 329 *e*P P 18 22 32.4 -3.8
KLMR *e* 18 23 22.5
KLMR *e* 18 24 43.3
KLMR pmax pmax
comp=Z,753nm,1.3s
KLMR Klimovskoe 58.85 329 *e*P P 18 22 32.5 -3.7
KLMR AMP 18 22 38.2
comp=Z,753nm,1.3s
KLMR *e*PcP **PcP 18 23 22.6 -2.5**
KLMR *e*PP **PP 18 24 43.3 -2.8**
PMG Port Moresby 58.87 190 *e*P **P 18 22 35.5 -1.2**
PMG LR LR
comp=Z,15µm,22.0s
PMG Port Moresby 58.87 190 *e*P **P 18 22 35.5 -1.2**
PMG MLR MLR
comp=Z,15µm,22.0s
BOZ Bozeman (W) 58.94 55 *e*P **P 18 22 37.7 +0.5**
BOZ LR LR
comp=Z,12µm,20.0s
BOZ Bozeman (W) 58.94 55 *e*P **P 18 22 37.7 +0.5**
BOZ MLR MLR
comp=Z,12µm,20.0s
BOZ Bozeman (W) 58.94 55 P **P 18 22 38.1 +0.9**
baz=310,SNR=95
SAO San Andreas Ge 58.99 68 *e*P **P 18 22 38.0 +0.5**
SAO San Andreas Ge 58.99 68 *e*P **P 18 22 38.0 +0.5**
KNTN Kanton 59.00 141 *e*P **P 18 22 38.8 +1.1**
BMN Battle Mountai 59.14 63 *e*P **P 18 22 38.9 +0.2**
BMN Battle Mountai 59.14 63 *e*P **P 18 22 38.9 +0.2**
BOK Bokaro 59.30 272 *e*P **P 18 22 39.2 -0.6**
BOK IAmb IAmb 18 22 42.7
comp=Z,80nm,0.7s
SGKI Sangatta, Kali 59.39 226 P P 18 22 36.3 -4.1
STEI Steigen 59.45 344 *e*P **P 18 22 39.6 -0.5**
SBUM Sibu 59.50 233 *e*P **P 18 22 40.8 -0.4**
SMKI Samarinda 59.50 226 P **P 18 22 43.5 +2.3**
comp=Z,159nm,1.3s,comp=Z,5µmcomp=Z,23µm
QLMT Earthquake Lak 59.54 56 *e*P **P 18 22 41.9 +0.4**
JMIC Jan Mayen 59.55 354 *e*P **P 18 22 40.5 -0.3**
JMIC *e*S **S 18 30 49.0 +2.7**
LOF Lofoten 59.57 345 *e*P **P 18 22 39.5 -1.5**
LOF *e*S **S 18 30 49.5 +2.8**
YHB Horse Butte 59.72 55 *e*P **P 18 22 43.2 +0.5**
PMPB Monarch Peak 59.74 68 *e*P **P 18 22 42.9 +0.1**
DHRM DHARAMSHALA 59.76 285 *e*P P 18 22 41.0 -2.1
DHRM IAmb IAmb 18 22 46.1
comp=Z,270nm,1.2s
NV01 Mina Array Sit 59.80 65 *e*P **P 18 22 43.7 +0.3**
NVAR Mina Array Bea 59.80 65 P **P 18 22 44.1 +0.7**
comp=Z,64nm,0.9s,baz=293,slow=6.7,SNR=103
NVAR LR LR 18 44 20.2
comp=Z,16µm,21.7s,baz=297,slow=32
NVAR PKPPKP P'P'df 18 52 02.4 -11
comp=Z,6.3nm,1.1s,baz=110,slow=4.3,SNR=6.3
NVAR P4KPbc 18 59 49.8
comp=Z,0.4nm,0.6s,baz=344,slow=4.8,SNR=3.8
NVAR Mina Array Bea 59.80 65 P **P 18 22 44.1 +0.7**
NVAR P'P' 18 52 02.4
NVAR *e* 18 59 49.8
GCMT Greycliff 59.86 54 *e*P **P 18 22 44.1 +0.6**
MDPB Devils Postpil 59.86 66 *e*P **P 18 22 44.1 +0.3**
YHH Holmes Hill 59.88 55 *e*P **P 18 22 44.5 +0.6**
NV11 Mina Array Sit 59.89 65 *e*P **P 18 22 44.1 +0.3**
YMR Madison River 59.90 55 *e*P **P 18 22 44.0 +0.1**
DDI Dehra Dun 59.93 283 *e*P P 18 22 41.9 -2.2
DDI IAmb IAmb 18 22 45.9
comp=Z,25µm,4.3s
SMLA Simla 59.95 284 *e*P P 18 22 42.2 -2.0
MLAC Mammoth, Mammc 60.01 66 P **P 18 22 46.1 +1.3**
baz=311
YNR Norris Junctio 60.02 55 *e*P **P 18 22 45.8 +1.0**
YFT Old Faithful 60.11 56 *e*P **P 18 22 47.5 +2.1**
ILULI Ilulissat 60.23 11 *e*P **P 18 22 44.7 -0.8**
ILULI Ilulissat 60.23 11⇑ *i*P **P 18 22 45.0 -0.5**
comp=Z,333nm,1.0s
ILULI Ilulissat 60.23 11⇑ *i*P **P 18 22 45.0 -0.5**
ILULI pmax pmax
comp=Z,330nm,1.0s
YPP Pitchstone Pla 60.24 56 *e*P **P 18 22 47.5 +1.1**
LKWY Lake 60.27 55 *e*P **P 18 22 48.2 +1.7**
LKWY LR LR
comp=Z,18µm,22.0s
H17A Grant Village 60.29 55 *e*P **P 18 22 48.8 +2.1**
H17A Grant Village 60.29 55 P **P 18 22 49.3 +2.6**
baz=311,SNR=140
BKB Balikpapan 60.36 226 P **P 18 22 47.9 +0.8**
comp=Z,477nm,1.2s,comp=Z,11µm
PAGB Antelope Grade 60.40 69 *e*P **P 18 22 48.0 +0.7**
IMW Indian Meadow 60.42 56 *e*P **P 18 22 48.6 +1.0**
FLWY Flagg Ranch 60.43 56 *e*P **P 18 22 48.8 +1.2**
RLMT Red Lodge 60.51 54 *e*P **P 18 22 49.1 +1.1**
RLMT LR LR
comp=Z,18µm,22.0s
RLMT Red Lodge 60.51 54 P **P 18 22 49.5 +1.4**
baz=312,SNR=118
FXWY Fox Creek 60.54 56 *e*P **P 18 22 49.4 +1.1**
SCO Scoresbysund 60.58 359 *e*P **P 18 22 48.1 +0.3**
SCO Scoresbysund 60.58 359 *i* P **P 18 22 48.3 +0.4**
comp=Z,33nm,0.7s
SCO *i* 18 23 33.1
SCO Scoresbysund 60.58 359 *i* P **P 18 22 48.3 +0.4**
SCO *i* 18 23 33.1
SCO pmax pmax
comp=Z,33nm,0.7s
MOOW Moose Ponds 60.62 56 *e*P **P 18 22 50.0 +1.1**
TPAW Teton Pass 60.68 56 *e*P **P 18 22 50.5 +1.1**
TIN Tinemaha, Big 60.75 66 P **P 18 22 50.5 +0.8**
baz=312,SNR=14
LOHW Long Hollow 60.79 56 *e*P **P 18 22 51.1 +1.1**
HVU Hansel Valley 60.80 59 *e*P **P 18 22 50.5 +0.5**
HVU Hansel Valley 60.80 59 *e*P **P 18 22 50.5 +0.5**
SNOW Snow King Moun 60.80 56 *e*P **P 18 22 51.8 +1.6**
REDW Red Top Meadow 60.82 56 *e*P **P 18 22 50.9 +0.7**
SMMC Simmler 60.83 69 P **P 18 22 50.9 +0.7**
baz=312
SAUI Saumlaki 60.84 208 *e*P **P 18 22 50.4 +0.1**
SAUI Saumlaki 60.84 208 P **P 18 22 52.0 +1.7**
comp=Z,704nm,1.1s,comp=Z,11µm
DGMT Dagmar 60.87 49 *e*P **P 18 22 50.3 0.0**
DGMT LR LR
comp=Z,31µm,22.0s
DGMT Dagmar 60.87 49 P **P 18 22 50.9 +0.7**
baz=313,SNR=59
VES Vestal, Richgr 61.04 68 P **P 18 22 51.3 -0.2**
baz=312,SNR=12
MTKI Muara Teweh, K 61.05 228 P P 18 22 47.2 -4.6
LAO LASA Array 61.05 51 *e*P **P 18 22 52.4 +0.8**
LAO LR LR
comp=Z,20µm,20.0s
LAO LASA Array 61.05 51 P **P 18 22 52.8 +1.2**
baz=312,SNR=166
AHID Auburn Hatcher 61.08 57 *e*P **P 18 22 52.5 +0.5**
AHID LR LR
comp=Z,11µm,20.0s
FUNA Funafuti 61.11 153 PFAKE 18 23 00.0 +7.9
FUNA LR LR
comp=Z,25µm,22.0s
MOR8 Moi Rana 61.15 343 *e*P P 18 22 48.5 -3.3
MOR8 *e*S **S 18 31 05.0 -2.0**
MOR8 *e*SS **SS 18 35 09.7 +3.2**
BGU Big Grassy Mou 61.22 60 *e*P **P 18 22 52.8 -0.2**
PKM Mcpherson Peak 61.23 69 P **P 18 22 53.8 +0.7**
baz=312,SNR=16
CWC Cottonwood Cre 61.24 67 P **P 18 22 53.4 +0.3**
baz=312
SPUT South Promonto 61.29 59 *e*P **P 18 22 54.0 +0.6**
GRAC Grapevine Rang 61.30 66 P **P 18 22 54.4 +1.0**
baz=312,SNR=31
KSM Kuching 61.33 234 *e*P **P 18 22 53.7 0.0**

R11A Troy Canyon, C 61.46 63 eP P 18 22 54.8 +0.2
R11A Troy Canyon, C 61.46 63 P P 18 22 55.2 +0.6
baz=312,SNR=147
ISA Isabella, Lake 61.52 68 eP P 18 22 53.8 -1.1
ISA Isabella, Lake 61.52 68 eP P 18 22 53.8 -1.1
ISA Isabella, Lake 61.52 68 P P 18 22 54.5 -0.4
baz=312,SNR=33
NDI New Delhi 61.57 282 eP P 18 22 54.0 -1.2
SBC Santa Barbara 61.58 69 P P 18 22 55.8 +0.6
baz=312
HWUT Hardware Ranch 61.59 58 eP P 18 22 55.9 +0.4
HWUT LR LR
comp=Z,8µm,20.0s
BBSI Bau Bau 61.64 218 P P 18 22 57.3 +1.5
comp=Z,25nm,1.1s,comp=Z,1µm
DAC Darwin (Calif) 61.65 66 eP P 18 22 55.3 -0.6
DAC Darwin (Calif) 61.65 66 eP P 18 22 55.3 -0.6
ARVC Arvin 61.67 68 P P 18 22 55.6 -0.2
baz=312,SNR=7.4
BNSI Bone 61.69 221 P P 18 22 55.3 -0.8
comp=Z,241nm,1.2s,comp=Z,6µm
BWNR Bhubaneshwar 61.81 269 eP P 18 22 53.6 -3.3
BWNR IAmb IAmb 18 22 57.2
comp=Z,162nm,0.6s
DUG Dugway, Tooele 61.83 60 eP P 18 22 57.4 +0.4
DUG LR LR
comp=Z,15µm,22.0s
DUG Dugway, Tooele 61.83 60 eP P 18 22 57.4 +0.4
DUG MLR MLR
comp=Z,15µm,22.0s
DUG Dugway, Tooele 61.83 60 P P 18 22 58.1 +1.1
baz=312,SNR=130
MPMC Manual Prospec 61.85 67 P P 18 22 57.8 +0.5
baz=312,SNR=80
STKI Sintang 61.91 232 P P 18 22 57.7 +0.1
comp=Z,160nm,1.0s,comp=Z,8µmcomp=Z,21µm
BW06 Boulder Array 61.92 56 eP P 18 22 57.8 +0.1
BW06 LR LR
comp=Z,11µm,19.0s
BW06 Boulder Array 61.92 56 P P 18 22 58.5 +0.8
baz=312,SNR=207
PD31 Pinedale Array 61.92 56 eP P 18 22 57.9 +0.2
PDAR Pinedale Array 61.92 56 P P 18 22 58.3 +0.6
comp=Z,122nm,0.9s,baz=299,slow=2.1,SNR=117
PDAR LR LR 18 46 08.9
comp=Z,7µm,21.1s,baz=343,slow=32
PDAR PKPPKP P'P'df 18 51 58.6 -12
comp=Z,0.6nm,0.8s,baz=225,slow=5.9,SNR=3.9
PDAR Pinedale Array 61.92 56 eP P 18 22 57.8 +0.1
PDAR P'P' 18 51 58.6
SCZ2 Santa Cruz Isl 61.93 70 P P 18 22 57.8 +0.2
baz=312
FURC Furnace Creek, 61.96 66 P P 18 22 58.4 +0.8
baz=312,SNR=77
TPNV Topopah Spring 62.00 65 eP P 18 22 58.5 +0.3
TPNV Topopah Spring 62.00 65 eP P 18 22 58.5 +0.3
TPNV Topopah Spring 62.00 65 P P 18 22 58.8 +0.6
baz=312,SNR=72
TCUT Toone Canyon 62.01 59 eP P 18 22 58.4 +0.1
OSI Osito Audit: C 62.07 69 eP P 18 22 59.0 +0.4
OSI Osito Audit: C 62.07 69 P P 18 22 58.8 +0.2
baz=312
CTU Camp Tracy 62.10 59 eP P 18 22 59.2 +0.3
LRMC Laurel Mtn Rad 62.13 67 P P 18 22 59.1 0.0
baz=312,SNR=6.9
SKLT Songkhla 62.20 247 P P 18 23 00.3 +0.7
comp=Z,193nm,1.6s,comp=Z,8µm
BLG Laguna Peak, P 62.20 69 P P 18 22 59.2 -0.2
baz=313
KRAB Krabi 62.24 249 P P 18 23 02.8 +3.0
comp=Z,943nm,0.7s
TRTT Trang 62.24 248 P P 18 23 00.2 +0.4
comp=Z,73nm,1.3s,comp=Z,2µmcomp=Z,10µm
JLU Jordanelle 62.33 59 eP P 18 23 01.1 +0.6
EDW2 Edwards Air Fo 62.34 68 P P 18 23 00.7 +0.3
baz=313,SNR=97
PSUT Pine Spring 62.34 62 eP P 18 23 00.5 -0.1
SFJD Kangerlussuaq 62.39 11 eP P 18 22 58.8 -1.3
SFJD LR LR
comp=Z,27µm,20.0s
SFJD Kangerlussuaq 62.39 11⇑ iP P 18 22 59.7 -0.4
comp=Z,273nm,1.1s
SFJD Kangerlussuaq 62.39 11⇑ iP P 18 22 59.7 -0.4
SFJD pmax pmax
comp=Z,270nm,1.1s
KAPI Kappang 62.40 221 PFAKE 18 23 10.0 +9.2
KAPI LR LR
comp=Z,3µm,20.0s
NLU North Lily Min 62.41 60 eP P 18 23 01.3 +0.3
KBKI Kotabaru 62.49 226 P P 18 23 00.8 -0.7
comp=Z,39nm,1.1s,comp=Z,884nm
FIA1 FINESS Array S 62.50 335 eP P 18 22 58.5 -2.5
FIA1 ePcP PcP 18 23 38.6 -1.1
SNCC San Nicolas Is 62.50 70 eP P 18 23 02.7 +1.3
SNCC San Nicolas Is 62.50 70 P P 18 23 01.6 +0.1
baz=313
FIA0 FINESS Array S 62.51 335 eP P 18 22 58.7 -2.3
FIA0 e 18 52 06.3
FIA0 FINESS Array S 62.51 335 eP P 18 22 58.7 -2.3
FINES FINESS Array B 62.51 335 P P 18 22 58.7 -2.3
comp=Z,45nm,0.5s,baz=35,slow=8.1,SNR=108
FINES PKPPKP P'P'df 18 52 06.3 -4.2
comp=Z,4.6nm,0.8s,baz=258,slow=5.5,SNR=5.9
FINES LR LR 18 53 06.5
comp=Z,74µm,20.3s,baz=27,slow=39
FINES FINESS Array B 62.51 335 P P 18 22 58.7 -2.3
FINES P'P' 18 52 06.3
FINES FINESS Array B 62.51 335 P P 18 22 58.7 -2.3
FINES pmax pmax
comp=Z,45nm,0.5s
FINES MLR MLR
comp=Z,74µm,20.3s
DECC Green Verdugo 62.55 69 P P 18 23 02.1 +0.2
baz=313
MPU Maple Canyon 62.62 60 eP P 18 23 02.7 +0.3
PUL Pulkovo 62.64 332 ceP P 18 23 01.0 -0.9
PUL pmax pmax
comp=Z,332nm,1.1s
PUL MLR MLR
comp=Z,75nm,20.0s
PASC Pasadena Art C 62.70 69 eP P 18 23 02.6 -0.1
KBL Kabul 62.73 292 eP P 18 23 00.9 -2.2
KBL Kabul 62.73 292 eP P 18 23 00.9 -2.3
MWC Mount Wilson 62.74 68 eP P 18 23 03.1 -0.2
MWC Mount Wilson 62.74 68 eP P 18 23 03.1 -0.2
GSC Goldstone, Bar 62.77 67 eP P 18 23 03.2 -0.1
GSC Goldstone, Bar 62.77 67 eP P 18 23 03.2 -0.1
GSC Goldstone, Bar 62.77 67 P P 18 23 03.7 +0.4
baz=313,SNR=53
FMP Fort Macarthur 62.95 69 P P 18 23 04.3 0.0
baz=313
RRX Edison Barstow 62.95 67 P P 18 23 04.5 +0.1
baz=313
BFSC Mount Baldy Ra 62.98 68 P P 18 23 04.9 +0.1
baz=313,SNR=26
PKDT Phuket 63.02 249 P P 18 23 06.0 +0.9
comp=Z,70nm,1.4s,comp=Z,3µm
CIS Catalina Islan 63.08 69 P P 18 23 05.1 -0.2
baz=313,SNR=9.4
NSS Namsos 63.09 343 eP P 18 23 06.4 +1.7
NSS eS S 18 31 30.5 -0.9
NSS eSS SS 18 35 44.9 +8.1
TCRU Three Creeks R 63.11 61 eP P 18 23 06.2 +0.5
SCI2 San Clemente I 63.29 70 P P 18 23 06.3 -0.3
baz=313,SNR=5.1
CCUT Cedar City 63.29 63 eP P 18 23 07.2 +0.3
MSU Marysvale 63.33 61 eP P 18 23 07.8 +0.7
MOS Moscow 63.34 326 eP P 18 23 02.5 -4.1
MOS e*PP sP 18 23 29.0 +2.5
MOS e 18 25 23.1
MOS ePPP PPP 18 26 54.6
MOS eS S 18 31 26.9 -7.9
MOS e*SS sS 18 32 12.5 +14
MOS e 18 32 46.4
MOS eSS SS 18 35 42.8 +1.7
MOS pmax pmax
comp=Z,402nm,1.2s
MOS MLR MLR
comp=E,38µm,19.0s
MOS MLR MLR
comp=Z,47µm,19.0s
TMUT Trail Mountain 63.35 60 eP P 18 23 07.6 +0.3
BBRC Big Bear Solar 63.41 68 P P 18 23 07.9 +0.2
baz=313
SZCU Shurtz Canyon 63.42 63 eP P 18 23 08.0 +0.3

P17A Butcher Ranch, 63.49 60 eP P 18 23 08.3 +0.2
MDND Maddock 63.52 47 eP P 18 23 08.7 +0.7
MDND Maddock 63.52 47 P P 18 23 08.6 +0.7
baz=315,SNR=7.7
ULM Lac du Bonnet 63.53 43 P P 18 23 07.8 -0.2
comp=Z,81nm,0.9s,baz=309,slow=7.1,SNR=42
ULM LR LR 18 54 03.6
comp=Z,20µm,18.6s,baz=330,slow=39
ULM Lac du Bonnet 63.53 43 eP P 18 23 07.2 -0.8
ULM Lac du Bonnet 63.53 43 eP P 18 23 07.2 -0.8
K22A Casper 63.64 55 eP P 18 23 08.7 -0.4
K22A Casper 63.64 55 P P 18 23 09.4 +0.3
baz=314,SNR=20
PBA Port Blair 63.64 257 eP P 18 23 08.3 -0.8
MTPU Mount Pierson 63.64 62 eP P 18 23 10.3 +0.9
P18A Preston Nutter 63.67 59 eP P 18 23 10.0 +0.6
KULM Kulim 63.67 246 eP P 18 23 09.2 -0.2
MURC Murrieta 63.69 68 P P 18 23 09.5 +0.1
baz=313,SNR=18
LCMT Little Creek M 63.73 63 eP P 18 23 10.2 +0.5
GMRC Granite Mounta 63.81 66 P P 18 23 10.7 +0.4
baz=313,SNR=47
SRU San Rafael Swe 63.86 60 eP P 18 23 11.0 +0.4
SRU San Rafael Swe 63.86 60 eP P 18 23 11.0 +0.4
COEN Coen 63.88 194 P P 18 23 10.0 -0.5
baz=64,SNR=23
COEN Coen 63.88 194 eP P 18 23 09.8 -0.8
RSSD Black Hills 63.93 52 eP P 18 23 11.2 +0.2
RSSD Black Hills 63.93 52 eP P 18 23 11.2 +0.2
RSSD Black Hills 63.93 52 P P 18 23 11.4 +0.4
baz=314
RWWY Rawlins 63.93 56 eP P 18 23 10.7 -0.4
LDFC Landfair 63.94 66 eP P 18 23 11.1 0.0
KNB Kanab 63.97 63 eP P 18 23 12.2 +0.9
PKCU Pink Cliffs 63.98 62 eP P 18 23 12.6 +1.1
IPM Ipoh 64.10 245 eP P 18 23 11.2 -1.0
FRD Ford Ranch, An 64.12 68 P P 18 23 12.4 +0.1
baz=314,SNR=34
PFO Pinyon Flats O 64.13 68 eP P 18 23 11.8 -0.6
PFO LR LR
comp=Z,27µm,22.0s
PFO Pinyon Flats O 64.13 68 eP P 18 23 11.8 -0.6
PFO MLR MLR
comp=Z,27µm,22.0s
PFO Pinyon Flats O 64.13 68 P P 18 23 12.3 -0.1
baz=314,SNR=11
XPFO Piæon Flat 64.14 68 eP P 18 23 11.8 -0.6
BELC Belle Mtn. Jos 64.15 67 P P 18 23 12.2 -0.2
baz=314,SNR=24
PBKI Pangkalan Bun 64.17 230 P P 18 23 13.0 +0.4
comp=Z,927nm,1.1s,comp=Z,11µm
OBN Obninsk 64.21 326 eP P 18 23 09.8 -2.5
OBN LR LR
comp=Z,25µm,20.0s
OBN Obninsk 64.21 326 c iP P 18 23 09.9 -2.4
OBN i *PP pP 18 23 26.6 +0.1
OBN i *SP sP 18 23 34.9 +2.7
OBN i 18 23 46.5
OBN e 18 25 30.5
OBN i PPP PPP 18 27 05.7
OBN i S S 18 31 40.9 -4.6
OBN i *SS pS 18 32 07.0 +4.6
OBN pmax pmax
comp=Z,400nm,1.1s
OBN MLR MLR
comp=Z,41µm,19.0s
109C Camp Elliot, M 64.23 69 P P 18 23 13.1 +0.2
baz=314
CPE Camp Elliot 64.23 69 eP P 18 23 12.8 -0.1
O20A White River Ci 64.44 58 eP P 18 23 14.5 +0.1
O20A White River Ci 64.44 58 P P 18 23 14.8 +0.5
baz=314,SNR=28
NEE2 Needles Airpor 64.45 66 P P 18 23 14.3 +0.1
baz=314,SNR=5.4
IRM Iron Mountain 64.55 67 eP P 18 23 15.4 +0.4
IRM Iron Mountain 64.55 67 P P 18 23 15.3 +0.4
baz=314,SNR=160
TBLU Trondheim 64.57 343 eP P 18 23 12.7 -1.9
TBLU eS S 18 31 49.0 -0.8
MYKOM Kota Tinggi 64.62 240 eP P 18 23 15.8 +0.2
MYKOM Kota Tinggi 64.62 240 P P 18 23 15.0 -0.6
MMRI Maumere 64.64 217 eP P 18 23 13.7 -1.9
MMRI Maumere 64.64 217 P P 18 23 14.9 -0.7
comp=Z,296nm,1.1s,comp=Z,8µm
BAR Barrett 64.64 69 eP P 18 23 15.0 -0.6
MONP2 Monument Peak 64.65 68 P P 18 23 15.8 -0.1
baz=314,SNR=21
W13A Hualapai Mount 64.66 65 eP P 18 23 15.8 -0.1
U15A North Rim 64.69 63 eP P 18 23 16.3 +0.2
BC3 Big Chuckawall 64.71 67 P P 18 23 16.2 0.0
baz=314,SNR=26
VSU Vasula 64.78 333 eP P 18 23 14.1 -1.9
VSU IAmb IAmb 18 23 15.7
comp=Z,700nm,1.3s
VSU Vasula 64.78 333 ceP P 18 23 14.1 -1.9
VSU pmax pmax
comp=Z,415nm,1.1s
VSU MLR MLR
comp=Z,213µm,22.0s
SOEI Soe 64.89 215 eP P 18 23 15.4 -1.9
SOEI Soe 64.89 215 P P 18 23 15.8 -1.5
comp=Z,296nm,1.2s,comp=Z,5µm
AGMN Agassiz Nation 64.95 44 eP P 18 23 16.5 -0.8
AGMN LR LR
comp=Z,19µm,21.0s
AGMN Agassiz Nation 64.95 44 P P 18 23 17.1 -0.2
baz=317,SNR=35
TPRI Tanjung Pinang 64.96 239 P P 18 23 18.6 +0.9
comp=Z,381nm,1.2s,comp=Z,9µm
EDFI Ende, Flores 64.96 218 P P 18 23 15.5 -2.3
comp=Z,145nm,1.3s,comp=Z,5µm
KDU Kakadu 64.96 205 P P 18 23 16.7 -0.9
baz=65,SNR=76
SWSC Sam W. Stewart 64.99 68 P P 18 23 17.4 -0.4
baz=314,SNR=9.1
IKP In-Ko-Pah, Jac 65.00 68 P P 18 23 18.2 +0.2
baz=314,SNR=27
ANGG Ammassalik, Gr 65.02 6 eP P 18 23 16.4 -1.0
PDMCI Parker Dam,Lak 65.06 66 P P 18 23 18.5 +0.3
baz=314,SNR=45
PHWY Pilot Hill 65.15 55 eP P 18 23 18.8 -0.3
N23A Red Feather La 65.17 56 eP P 18 23 19.6 +0.4
N23A Red Feather La 65.17 56 P P 18 23 20.2 +1.0
baz=315,SNR=73
VRH Novokhopyorsk 65.18 321 eP P 18 23 16.2 -2.5
VRH eS S 18 31 58.5 +0.9
VRH eSSS SSS 18 39 00.0
VRH pmax pmax
comp=Z,670nm,1.3s
VRH pmax pmax
comp=Z,470nm,1.0s
VRH smax smax
comp=N,210nm,1.4s
VRH MLR MLR
comp=Z,44µm,17.0s
Y12C Blythe 65.21 67 eP P 18 23 19.2 0.0
Y12C Blythe 65.21 67 P P 18 23 19.7 +0.5
baz=314,SNR=20
BHPL Bhopal 65.21 277 eP P 18 23 17.7 -1.7
BHPL IAmb IAmb 18 23 21.7
comp=Z,267nm,1.0s
LPSR Galich'ya Gora 65.25 323 eP P 18 23 16.9 -2.2
LPSR eS S 18 31 58.5 +0.1
LPSR pmax pmax
comp=Z,500nm,0.9s
LPSR pmax pmax
comp=Z,680nm,1.2s
LPSR smax smax
comp=N,230nm,2.0s
LPSR MLR MLR
comp=Z,34µm,18.0s
VIS Vishakhapatnam 65.28 269⇑ iP P 18 23 19.3 -0.5
VIS i x x 18 32 05.0
MTN Manton Dam 65.49 206 P P 18 23 20.3 -0.8
baz=66,SNR=22
MTN Manton Dam 65.49 206 eP P 18 23 19.9 -1.1
GLA Glamis 65.51 67 eP P 18 23 21.3 +0.1
GLA Glamis 65.51 67 eP P 18 23 21.3 +0.1
GLA Glamis 65.51 67 P P 18 23 21.6 +0.4
baz=314,SNR=34
BATI Baumata 65.53 215 P P 18 23 20.2 -1.2
comp=Z,83nm,1.2s,comp=Z,2µm
NGP Nagpur 65.63 275 eP P 18 23 21.1 -1.0
MOL Molde 65.69 344 eP P 18 23 21.3 -0.5
MOL eS S 18 32 06.2 +2.6

SMCO Snowmass 65.81 58 eP P 18 23 23.8 +0.3
WUAZ Wupatki 65.85 63 eP P 18 23 24.0 +0.4
WUAZ LR LR
comp=Z,28µm,22.0s
WUAZ Wupatki 65.85 63 P P 18 23 24.5 +0.9
baz=314,SNR=71
DOMB Dombas 65.91 343 eP P 18 23 21.8 -1.5
DOMB eS S 18 32 06.8 +0.5
DOMB eSS SS 18 36 25.2 +4.5
LHMI Lhok Sumawe 65.96 249 eP P 18 23 24.9 +0.7
LHMI Lhok Sumawe 65.96 249 P P 18 23 28.5 +4.3
Y14A Wickenburg 65.99 65 eP P 18 23 24.8 +0.5
DSRI Dabo 66.08 238 P P 18 23 25.6 +0.6
comp=Z,1µm,1.1s,comp=Z,21µm
ISCO Idaho Springs 66.12 56 eP P 18 23 25.9 +0.5
ISCO LR LR
comp=Z,12µm,19.0s
ISCO Idaho Springs 66.12 56 P P 18 23 26.4 +1.0
baz=315,SNR=148
AKN Aaknes 66.15 345 eP P 18 23 24.8 -0.1
AKN eS S 18 32 08.7 -0.6
NC303 NORSAR Array S 66.21 342 eP P 18 23 24.2 -1.0
VSR Storozhevoye 66.22 322 eP P 18 23 23.0 -2.4
VSR eS S 18 32 08.6 -1.7
VSR eSSS SSS 18 39 19.0
VSR pmax pmax
comp=Z,990nm,1.8s
VSR pmax pmax
comp=Z,420nm,1.1s
VSR smax smax
comp=N,780nm,4.2s
VSR MLR MLR
comp=Z,63µm,23.0s
NC405 NORSAR Array S 66.24 342 eP P 18 23 24.0 -1.4
SUSD Miller 66.27 49 P P 18 23 25.5 -0.4
baz=317
NC204 NORSAR Array S 66.28 342 eP P 18 23 23.6 -2.2
MVCO Mesa Verde 66.33 60 eP P 18 23 26.9 +0.2
MVCO LR LR
comp=Z,14µm,22.0s
MVCO Mesa Verde 66.33 60 P P 18 23 27.1 +0.4
baz=315,SNR=62
BORG Borgarnes 66.33 359 LR LR 18 52 59.5
comp=Z,8µm,20.1s,baz=358,slow=37
BORG Borgarnes 66.33 359 eP P 18 23 26.4 +0.5
BORG Borgarnes 66.33 359 i P P 18 23 28.5 +2.6
TSI Tuntungan 66.34 246 P P 18 23 26.9 +0.2
comp=Z,282nm,1.2s,comp=Z,9µm
113A Mohawk Valley, 66.34 67 eP P 18 23 26.3 -0.3
VORD Divnogorie 66.36 322 eP P 18 23 24.0 -2.3
VORD pmax pmax
comp=Z,550nm,1.3s
VORD pmax pmax
comp=Z,460nm,1.2s
VORD MLR MLR
comp=Z,23µm,15.0s
NB201 NORSAR Array S 66.38 342 eP P 18 23 25.2 -1.2
NB2 NORSAR Subarra 66.41 342 P P 18 23 24.7 -1.8
comp=Z,540nm,1.4s,baz=27,slow=6.2
NB2 NORSAR Subarra 66.41 342 P P 18 23 24.7 -1.8
baz=27,slow=6.2
NB200 NORSAR Array S 66.41 342 eP P 18 23 24.8 -1.7
NB200 e 18 51 51.9
NOA NORSAR Array B 66.41 342 P P 18 23 24.8 -1.7
comp=Z,88nm,1.0s,baz=28,slow=6.6,SNR=62
NOA PKPPKP P'P'df 18 51 51.9 -12
comp=Z,3.9nm,1.2s,baz=173,slow=3.1,SNR=4.1
NOA LR LR 18 56 51.7
comp=Z,53µm,20.0s,baz=25,slow=40
NOA NORSAR Array B 66.41 342 P P 18 23 24.8 -1.7
NOA P'P' 18 51 51.9
NOA NORSAR Array B 66.41 342 P P 18 23 24.8 -1.7
NOA pmax pmax
comp=Z,84nm,1.0s
NOA MLR MLR
comp=Z,53µm,20.0s
CMBY CAMPBELL BAY 66.44 253 eP P 18 23 25.1 -2.2
CMBY IAMs_20 IAMs_20 18 51 49.3
comp=Z,10µm,16.2s
NBO00 NORSAR Array S 66.50 342 eP P 18 23 26.2 -0.9
X16A Lo Mia Camp, P 66.58 64 eP P 18 23 29.0 +0.7
PPBI Pangkal Pinang 66.61 236 P P 18 23 28.4 0.0
comp=Z,219nm,1.2s,comp=Z,5µm
NC602 NORSAR Array S 66.62 342 eP P 18 23 26.4 -1.4
NAO01 NORSAR Array S 66.65 342 eP P 18 23 25.5 -2.5
NAO01 NORSAR Array S 66.65 342 eP P 18 23 27.4 -0.6
PLAI Plampang 66.66 221 P P 18 23 26.2 -2.4
PSI Prapat 66.68 245 LR LR 18 52 13.8
comp=Z,9µm,21.9s,baz=89,slow=36
PSI Prapat 66.68 245 eP P 18 23 28.4 -0.6
PSI Prapat 66.68 245 eP P 18 23 28.4 -0.6
WBSI Waikabubak, Su 66.70 219 P P 18 23 26.8 -2.1
comp=Z,109nm,1.0s,comp=Z,4µm
BASI Baing, Sumba 66.74 218 P P 18 23 28.6 -0.5
comp=Z,519nm,1.3s,comp=Z,8µm
SLIT Slitere, Latvi 66.76 335 eP P 18 23 26.4 -2.3
SLIT IAmb IAmb 18 23 32.2
comp=Z,849nm,1.0s
GEYT Alibeck 66.78 301 P P 18 23 28.5 -0.8
comp=Z,47nm,0.8s,baz=306,slow=5.0,SNR=61
GEYT LR LR 18 54 38.6
comp=Z,59µm,21.3s,baz=340,slow=38
GEYT Alibeck 66.78 301 P P 18 23 28.5 -0.8
GYA0B ALIBECK ARRAY 66.78 301 eP P 18 23 27.4 -1.9
KCSI Kotacane, Aceh 66.80 247 P P 18 23 28.0 -1.6
comp=Z,37nm,0.8s,comp=Z,3µm
KMMI Kalianget 66.81 226 P P 18 23 31.8 +2.2
comp=Z,96nm,1.2s,comp=Z,3µm
S22A 4UR Ranch, Cre 66.89 59 eP P 18 23 30.9 +0.6
S22A 4UR Ranch, Cre 66.89 59 P P 18 23 31.4 +1.0
baz=315,SNR=124
Q24A Divide 66.96 57 eP P 18 23 30.6 -0.1
Q24A Divide 66.96 57 P P 18 23 31.3 +0.5
baz=316,SNR=42
TWSI Taliwang, Sumb 66.97 222 P P 18 23 29.2 -1.4
comp=Z,133nm,1.1s,comp=Z,4µm
FOO Floro 67.03 345 eP P 18 23 30.1 -0.3
FOO eS S 18 32 21.1 +1.4
MLSI Meulaboh, Aceh 67.04 249 P P 18 23 30.1 -1.1
comp=Z,405nm,1.1s,comp=Z,9µm
W18A Petrified Fore 67.09 63 eP P 18 23 31.9 +0.4
W18A Petrified Fore 67.09 63 P P 18 23 32.4 +0.9
baz=315,SNR=9.5
SRBI Singaraja 67.14 224 P P 18 23 31.1 -0.6
comp=Z,170nm,1.4s,comp=Z,6µm
EYMN Ely 67.17 42 eP P 18 23 30.8 -0.8
EYMN LR LR
comp=Z,20µm,21.0s
EYMN Ely 67.17 42 P P 18 23 31.3 -0.3
baz=319,SNR=48
IZAR Zarasai 67.19 332 eP P 18 23 29.9 -1.7
IZAR IAmb IAmb 18 23 34.4
comp=Z,47nm,0.7s
OGNE Ogallala 67.22 53 eP P 18 23 32.4 +0.3
OGNE LR LR
comp=Z,12µm,21.0s
OGNE Ogallala 67.22 53 P P 18 23 32.6 +0.5
baz=316,SNR=58
RGRI Rengat 67.23 240 P P 18 23 34.1 +1.8
comp=Z,72nm,0.7s,comp=Z,23µm
HYA Hoyanger 67.24 345 eP P 18 23 30.9 -0.8
TPTI 67.37 247 P P 18 23 36.4 +3.2
comp=Z,56nm,1.1s,comp=Z,2µm
ISAL Salakas 67.38 332 eP P 18 23 31.2 -1.5
ISAL IAmb IAmb 18 23 35.8
comp=Z,55nm,0.7s
X18A Snowflake 67.38 63 eP P 18 23 33.9 +0.6
IDID Didziasalis 67.40 331 eP P 18 23 31.3 -1.5
IDID IAmb IAmb 18 23 36.8
comp=Z,97nm,0.9s
BKNI Bangkinang 67.43 242 eP P 18 23 33.5 0.0
BKNI Bangkinang 67.43 242 P P 18 23 34.2 +0.6
comp=Z,917nm,1.3s,comp=Z,13µm
214A Organ Pipe Nat 67.49 67 P P 18 23 34.2 +0.4
baz=315,SNR=83
OSL Oslo 67.52 342 eP P 18 23 33.7 +0.2
IIGN Ignalina 67.53 331 eP P 18 23 32.5 -1.2
IIGN IAmb IAmb 18 23 37.7
comp=Z,120nm,1.0s
SUE Sulen 67.59 345 eP P 18 23 34.0 +0.1
SUE eS S 18 32 26.6 +0.2
BLJI Banyuglugur 67.59 226 P P 18 23 34.5 0.0
comp=Z,139nm,1.1s,comp=Z,6µm
SDCO Great Sand Dun 67.64 58 eP P 18 23 34.9 -0.1
SDCO LR LR

comp=Z,8µm,21.0s
SDCO Great Sand Dun 67.64 58 P **P** 18 23 35.6 **+0.6**
baz=316,SNR=69
DNP Denpasar 67.67 224 P P 18 23 33.4 -1.6
comp=Z,262nm,1.1s,comp=Z,23µm
SBSI Sibolga 67.70 245 P P
MICGM Minsk 67.71 330⇑*eP* P 18 23 33.0 -1.8
MICGM ⇑*eP* P 18 23 33.0 -1.8
MICGM PM 18 23 34.0
comp=Z,0.9nm,1.0s
MICGM PM 18 23 34.0
comp=Z,8.8nm,7.0s
MICGM *e*pP **PcP** **18 24 00.0 -1.4**
MICGM *e*PP **PP** **18 26 04.0 +0.1**
MICGM *e*PPP PPP 18 27 24.0
MICGM *e*S **S** **18 32 24.0 -4.2**
MICGM SM 18 32 25.0
comp=E,4.0nm,8.0s
MICGM *e*SS SS 18 37 44.0 +55
MICGM *e*SSS SSS 18 40 16.0
MICGM *e*LQ LQ 18 47 42.0
MICGM LQM 18 48 59.0
comp=N,26nm,30.0s
MICGM LQM 18 49 20.0
comp=E,47nm,28.0s
MICGM LQM 18 49 26.0
comp=E,27nm,26.0s
MICGM *e*LR LR 18 50 36.0
MICGM LRM MLR 18 53 44.0
comp=E,22nm,22.0s
MICGM LRM MLR 18 53 48.0
comp=Z,104nm,24.0s
MICGM LRM MLR 18 53 50.0
comp=Z,73nm,24.0s
MICGM LRM MLR 18 53 56.0
comp=N,38nm,22.0s
MICGM LRM MLR 18 54 00.0
comp=N,57nm,24.0s
MNK Minsk 67.71 330*d iP* P 18 23 33.0 -1.8
NACGM Naroch 67.73 331 *eP* P 18 23 31.0 -3.9
NACGM *eP* P 18 23 32.0 -2.9
NACGM PM 18 23 37.0
comp=Z,0.8nm,1.0s
NACGM *e*PP PP 18 25 48.0 -16
NACGM *e*PPP PPP 18 27 40.0
NACGM *e*ScP 18 28 02.0
NACGM *e*S S 18 32 22.0 -6.4
NACGM *e*PS **PnS** **18 33 10.0 +13**
NACGM *e*ScS **SKiKP** **18 33 27.0 0.0**
NACGM *e*SS SS 18 37 28.0 +39
NACGM *e*SSS SSS 18 39 17.0
NACGM *e*LQ LQ 18 44 34.0
NACGM *e*LR LR 18 49 40.0
NACGM LRM MLR 18 54 41.0
comp=E,33nm,18.0s
NACGM LRM MLR 18 54 55.0
comp=Z,67nm,22.0s
NACGM LRM MLR 18 55 02.0
comp=N,44nm,21.0s
IGBI Denpasar 67.82 224 P **P** **18 23 34.9 -1.0**
comp=N,238nm,1.4s,comp=N,6µm
MTSU Mount Surprise 67.82 192 P **P** **18 23 35.3 -0.5**
baz=68,SNR=25
MNSI Mandaling Nat 67.90 244 P **P** **18 23 35.3 -1.3**
comp=N,61nm,0.6s,comp=N,4µm
ECSD EROS Data Cent 67.94 48 *eP* **P** **18 23 35.8 -0.8**
ECSD LR LR
comp=Z,22µm,22.0s
ECSD EROS Data Cent 67.94 48 P **P** **18 23 36.4 -0.2**
baz=318,SNR=110
JAGI Jajag, Banyuwa 67.97 225 *eP* P 18 23 33.4 -3.5
JAGI Jajag, Banyuwa 67.97 225 P P 18 23 35.2 -1.7
comp=Z,82nm,1.1s,comp=Z,3µm
PMBI Palembang 68.00 237 P **P** **18 23 38.4 +1.3**
comp=Z,1µm,1.2s,comp=Z,15µm
KONO Kongsberg 68.01 342 *eP* **P** **18 23 35.2 -1.4**
KONO Kongsberg 68.01 342*ceP* P 18 23 34.0 -2.6
KONO pmax pmax
comp=Z,216nm,1.2s
KONO Kongsberg 68.01 342 *eP* **P** **18 23 36.0 -0.6**
KONO *e*PP **PP** **18 26 04.2 -2.2**
KONO *e*S **S** **18 32 33.1 +1.5**
KONO *e* 18 37 11.1
ASK Askoy 68.05 345 *eP* **P** **18 23 37.1 +0.3**
ASK *e*S **S** **18 32 34.1 +2.1**
BER Bergen 68.12 345 *eP* **P** **18 23 36.4 -0.9**
BER *e*S **S** **18 32 33.9 +1.1**
GMJI Gumukmas 68.13 226 P **P** **18 23 36.6 -1.3**
comp=Z,112nm,1.2s,comp=Z,4µm
E38A The Farm, Brul 68.16 43 *eP* **P** **18 23 36.9 -0.9**
E38A The Farm, Brul 68.16 43 P **P** **18 23 37.2 -0.6**
baz=320,SNR=57
C40A Isle Royale Na 68.22 41 *eP* **P** **18 23 36.7 -1.4**
C40A Isle Royale Na 68.22 41 P **P** **18 23 37.2 -0.9**
baz=320,SNR=7.8
SDSI Sungai Dareh 68.23 241 P **P** **18 23 39.1 +0.5**
comp=Z,230nm,1.2s,comp=Z,8µm
IVI Ivigtut 68.25 12 *eP* **P** **18 23 37.4 -0.7**
NGJI Ngawi 68.29 228 P **P** **18 23 40.0 +1.1**
comp=Z,159nm,1.1s,comp=Z,12µm
KSCO Kaye Shedlock' 68.30 55 *eP* **P** **18 23 38.5 -0.5**
KSCO Kaye Shedlock' 68.30 55 P **P** **18 23 39.1 +0.1**
baz=317
ODD1 Odda 68.33 344 *eP* **P** **18 23 39.4 +0.7**
F37A Hinrichs Farm, 68.34 44 P **P** **18 23 38.5 -0.4**
baz=319,SNR=8.3
TUC Tucson 68.45 65 *eP* **P** **18 23 40.1 +0.1**
TUC LR LR
comp=Z,13µm,22.0s
TUC Tucson 68.45 65 *eP* **P** **18 23 40.1 +0.1**
TUC MLR MLR
comp=Z,13µm,22.0s
TUC Tucson 68.45 65 P **P** **18 23 40.5 +0.5**
baz=316
F38A Pierce - Schro 68.51 44 P **P** **18 23 40.0 0.0**
baz=320,SNR=94
SMRI Semarang 68.52 229 *eP* **P** **18 23 39.6 -0.8**
SMRI Semarang 68.52 229 P **P** **18 23 40.1 -0.3**
comp=Z,298nm,1.3s,comp=Z,13µm
SNSI Sinabang, Aceh 68.56 247 P **P** **18 23 41.3 +0.6**
comp=Z,591nm,1.2s,comp=Z,13µm
HYB Hyderabad 68.63 272⇑*iP* **P** **18 23 40.5 -0.6**
comp=Z,660nm,1.0s
HYB *e*S **S** **18 32 38.0 -2.2**
HYB LR LR
comp=Z,11nm,18.0s
HYB Hyderabad 68.63 272 *eP* **P** **18 23 40.6 -0.6**
HYB IAMs_20 IAMs_20 18 56 01.1
comp=Z,10µm,18.0s
SPMN Marine on St. 68.64 45 *eP* **P** **18 23 40.1 -0.8**
SPMN Marine on St. 68.64 45 P **P** **18 23 40.5 -0.3**
baz=319,SNR=30
NRS Narsarsuaq 68.66 11 *eP* **P** **18 23 40.3 -0.3**
NRS Narsarsuaq 68.66 11⇑*iP* **P** **18 23 40.3 -0.3**
comp=Z,237nm,1.2s
NRS Narsarsuaq 68.66 11⇑*iP* **P** **18 23 40.3 -0.3**
NRS pmax pmax
comp=Z,240nm,1.2s
T25A Trinidad 68.67 58 *eP* **P** **18 23 41.2 -0.3**
T25A Trinidad 68.67 58 P **P** **18 23 41.9 +0.5**
baz=316,SNR=48
GSI Gunungsitoli 68.68 246 *eP* **P** **18 23 41.0 -0.5**
GSI Gunungsitoli 68.68 246 P **P** **18 23 41.4 -0.1**
comp=Z,180nm,1.5s,comp=Z,12µm
PWJI Pagerwojo 68.69 227 P P 18 23 39.7 -1.7
MAK Makhachkala 68.72 312 *eP* **P** 18 23 38.8 -2.5
MAK *e**PP pP 18 23 57.4 +1.8
MAK *e**SP **PcP** **18 24 05.7 -0.1**
MAK *e* 18 26 10.8
MAK *e*PPP PPP 18 27 55.2
MAK *e*S **S** **18 32 37.1 -3.4**
MAK *e**SS sS 18 33 08.1 +3.6
MAK *e*SS **SS** **18 37 11.1 +6.1**
MAK pmax pmax
comp=Z,299nm,1.3s
PDSI Padang 68.77 242 P P 18 23 40.5 -1.5
comp=Z,94nm,1.1s,comp=Z,4µm
E39A Mellen 68.78 43 P **P** **18 23 41.3 -0.5**
baz=320,SNR=45
BLS5 Blasjo 68.82 344 *eP* **P** **18 23 41.8 +0.1**
KNRA Kununurra 68.88 208 P **P** **18 23 41.9 -0.6**
baz=69,SNR=17
BGNE Belgrade 68.89 51 *eP* **P** **18 23 41.9 -0.6**
BGNE Belgrade 68.89 51 P **P** **18 23 42.1 -0.4**
baz=318,SNR=18

WOJI Wonogiri, Jawa 68.96 228 P **P** **18 23 42.6 -0.5**
comp=Z,97nm,1.5s,comp=Z,4µm
F39A Loretta 68.97 43 P **P** **18 23 42.5 -0.4**
baz=320,SNR=52
E40A Wakefield 69.02 42 P **P** **18 23 43.3 +0.1**
baz=320,SNR=69
LAZ Ladron 69.10 61 *eP* **P** **18 23 44.6 +0.5**
ANMO Albuquerque 69.10 61 *eP* **P** **18 23 44.4 +0.3**
ANMO LR LR
comp=Z,12µm,21.0s
ANMO Albuquerque 69.10 61 *i* P **P** **18 23 44.4 +0.3**
ANMO pmax pmax
comp=Z,143nm,2.7s
ANMO Albuquerque 69.10 61 P **P** **18 23 44.8 +0.7**
baz=316
D41A Chassel 69.13 41 *eP* **P** **18 23 43.3 -0.5**
D41A Chassel 69.13 41 P **P** **18 23 43.6 -0.2**
baz=321,SNR=19
PCJI Pacitan 69.14 228 P **P** **18 23 45.3 +1.1**
comp=Z,132nm,1.2s,comp=Z,5µm
AFI Afiamalu 69.15 146 *eP* **P** **18 23 45.0 +0.8**
AFI LR LR
comp=Z,12µm,21.0s
KRJI Kerinci 69.15 240 P **P** **18 23 44.4 -0.1**
comp=Z,895nm,1.1s,comp=Z,11µm
UGM Wanagama 69.22 229 *eP* P 18 23 42.6 -2.1
UGM Wanagama 69.22 229 P **P** **18 23 43.6 -1.2**
comp=Z,470nm,1.3s,comp=Z,8µm
GOF Gofitskoye 69.26 316⇑*iP* **P** **18 23 43.9 -0.8**
GOF *e*S **S** **18 32 48.7 +1.8**
GOF pmax pmax
comp=Z,2µm,1.0s
H38A Maiden Rock 69.30 45 P **P** **18 23 44.6 -0.3**
baz=320,SNR=26
F40A Park Falls 69.33 43 P **P** **18 23 44.6 -0.5**
baz=320,SNR=43
G39A Holcombe 69.34 44 P **P** **18 23 44.4 -0.8**
baz=320,SNR=42
PBSI Pulau Batu 69.35 244 P **P** **18 23 49.1 +3.5**
comp=Z,207nm,1.2s,comp=Z,7µm
LENM Lemitar 69.36 61 *eP* **P** **18 23 46.1 +0.4**
GROC Groznyy 69.37 313 *eP* P 18 23 42.3 -3.1
GROC *e**PP pP 18 24 01.2 +1.5
GROC *e* 18 24 04.4
GROC *e*S **S** **18 32 46.1 -2.1**
GROC *e**SS sS 18 33 15.5 +3.3
GROC pmax pmax
comp=Z,335nm,1.3s
LRW Lerwick 69.37 348⇑*eP* **P** **18 23 43.3 -1.7**
E41A Kenton 69.42 42 P **P** **18 23 44.8 -0.8**
baz=321,SNR=26
LPM Los Pinos Moun 69.45 61 *eP* **P** **18 23 46.5 +0.2**
HOMB Homborsund 69.50 342 *eP* **P** **18 23 45.6 -0.3**
HOMB *e*S **S** **18 32 51.4 +2.1**
KPJI Karang Pucung 69.52 230 P **P** **18 23 45.2 -1.3**
comp=Z,140nm,1.2s,comp=Z,5µm
CTAO Charters Tower 69.52 189 *eP* **P** **18 23 45.0 -1.3**
CTAO LR LR
comp=Z,13µm,20.0s
CTAO Charters Tower 69.52 189 *eP* **P** **18 23 45.1 -1.3**
CTAO MLR MLR
comp=Z,13µm,20.0s
KLI Kotabumi 69.56 235 P **P** **18 23 46.4 -0.4**
comp=Z,340nm,1.1s,comp=Z,7µm
BNM Barren Site 69.57 61 *eP* **P** **18 23 47.3 +0.2**
MASI Maura Aman, Be 69.58 239 P **P** **18 23 46.5 -0.5**
comp=Z,1µm,1.1s,comp=Z,14µm
SUW Suwalki 69.61 332 *eP* P 18 23 44.5 -2.2
SUW *e*pP **PcP** **18 24 09.9 +0.6**
SUW *e*S **S** **18 32 46.9 -3.8**
SUW LMZ LR 18 55 43.5
comp=Z,87µm,23.7s
SUW Suwalki 69.61 332 *eP* P 18 23 44.4 -2.2
SUW Suwalki 69.61 332⇑*eP* P 18 23 44.5 -2.1
SUW *e**PP **PcP** **18 24 09.9 +0.6**
SUW *e*S **S** **18 32 46.9 -3.8**
SUW MLR MLR
comp=Z,87µm,23.7s
MDSI Maura Dua 69.61 236 P P 18 23 45.6 -1.6
comp=Z,140nm,1.1s,comp=Z,5µm
COWI Conover 69.62 42 *eP* **P** **18 23 46.0 -0.9**
COWI LR LR
comp=Z,23µm,22.0s
SNART Snartemo 69.69 343 *eP* **P** **18 23 46.5 -0.6**
AKT Akhty 69.71 310⇑*iP* **P** **18 23 46.6 -1.1**
AKT *e* 18 24 11.1
AKT *e* 18 26 20.0
AKT pmax pmax
comp=Z,351nm,1.1s
H39A Augusta 69.75 44 P **P** **18 23 47.2 -0.5**
baz=320,SNR=19
LEM Lembang 69.76 232 LR LR 18 56 13.9
comp=Z,3µm,20.2s,baz=30,slow=38
BLSI Bandar Lampung 69.77 235 P **P** **18 23 48.6 +0.4**
comp=Z,152nm,0.4s,comp=Z,6µm
G40A Rib Lake 69.79 43 *eP* **P** **18 23 47.1 -0.9**
G40A Rib Lake 69.79 43 P **P** **18 23 47.5 -0.5**
baz=321,SNR=45
CBJI Citeko 69.81 233 P **P** **18 23 48.1 -0.3**
comp=Z,342nm,1.1s,comp=Z,10µm
E42A Champion 69.90 41 P **P** **18 23 48.2 -0.4**
baz=322,SNR=37
F41A Three Lakes 69.92 42 *eP* **P** **18 23 48.1 -0.7**
F41A Three Lakes 69.92 42 P **P** **18 23 48.5 -0.2**
baz=321,SNR=57
SBJI Serang 69.94 234 P **P** **18 23 48.8 -0.3**
comp=Z,356nm,1.3s,comp=Z,7µm
KLNR Kaliningrad 69.97 334*c iP* P 18 23 46.4 -2.4
KLNR pmax pmax
comp=Z,393nm,1.1s
CBKS Cedar Bluff 69.98 54 *eP* **P** **18 23 48.5 -0.8**
CBKS LR LR
comp=Z,11µm,19.0s
CBKS Cedar Bluff 69.98 54 *eP* **P** **18 23 48.5 -0.8**
CBKS MLR MLR
comp=Z,11µm,19.0s
CBKS Cedar Bluff 69.98 54 P **P** **18 23 48.7 -0.6**
baz=318,SNR=28
319A Douglas 70.01 65 *eP* **P** **18 23 50.1 +0.4**
121A Cookes Peak, D 70.06 63 P **P** **18 23 51.1 +1.0**
baz=316,SNR=35
LWLI Liwa 70.12 236 P P 18 23 48.2 -2.2
comp=Z,118nm,1.3s
LGD Lagodekhi 70.18 311 P **P** **18 23 49.4 -1.0**
LGD Lagodekhi 70.18 311 *eP* **P** **18 23 49.4 -1.0**
MNAI Manna 70.18 237 *eP* **P** **18 23 49.7 -1.0**
MNAI Manna 70.18 237 P **P** **18 23 51.5 +0.8**
comp=Z,255nm,1.0s,comp=Z,8µm
NCK Nalchik 70.19 314*c iP* **P** **18 23 49.4 -1.1**
NCK pmax pmax
comp=Z,736nm,1.0s
H40A Chili 70.21 44 P **P** **18 23 50.1 -0.4**
baz=321,SNR=45
BHJ Bhuj 70.21 283 *eP* P 18 23 47.5 -3.4
KIV Kislovodsk 70.27 315 *eP* **P** **18 23 50.0 -1.1**
KIV LR LR
comp=Z,20µm,19.0s
KIV Kislovodsk 70.27 315 P **P** **18 23 50.5 -0.5**
SNR=144
KIV Kislovodsk 70.27 315 P **P** **18 23 50.5 -0.5**
SNR=144
KIV Kislovodsk 70.27 315 *iP* **P** **18 23 50.5 -0.5**
SNR=228
KIV Kislovodsk 70.27 315 *eP* P 18 23 49.6 -1.4
KIV *e**SP **PcP** **18 24 16.6 +4.1**
KIV *e* 18 26 24.6
KIV *e*PPP PPP 18 28 08.7
KIV *e*S **S** **18 32 55.9 -3.0**
KIV *e*SS **SS** **18 37 29.8 +0.8**
KIV pmax pmax
comp=Z,678nm,1.1s
KIV pmax pmax
comp=Z,2µm,3.7s
KIV MLR MLR
comp=Z,21µm,18.0s
CISI Cisompet, Garu 70.27 231 *eP* P 18 23 47.3 -4.0
CISI Cisompet, Garu 70.27 231 P **P** **18 23 53.6 +2.3**
comp=Z,108nm,1.2s,comp=Z,4µm
I39A Houston 70.28 45 *eP* **P** **18 23 49.8 -1.2**
I39A Houston 70.28 45 P **P** **18 23 50.3 -0.7**
baz=320,SNR=56
G41A Antigo 70.29 43 P **P** **18 23 50.6 -0.5**
baz=321,SNR=11
KASI Kota Agung 70.31 235 P P 18 23 49.1 -2.3
F42A Maple Grove Fa 70.33 42 P **P** **18 23 51.0 -0.2**

baz=322,SNR=9.7
E43A Lone Tree Farm 70.34 41 *eP* **P** **18 23 50.1 -1.2**
E43A Lone Tree Farm 70.34 41 P **P** **18 23 50.8 -0.4**
baz=322,SNR=18
KBZ Khabaz 70.34 315 P **P** **18 23 50.6 -0.7**
comp=Z,477nm,1.0s,baz=69,slow=2.1,SNR=156
KBZ PKPPKP P'P'df 18 51 47.1 -10
comp=Z,3.7nm,1.1s,baz=244,slow=2.8,SNR=8.1
KBZ LR LR 18 59 53.7
comp=Z,43µm,18.9s,baz=26,slow=40
KBZ Khabaz 70.34 315 *eP* **P** **18 23 50.6 -0.7**
KBZ *eP'P'df* P'P'df 18 51 47.1 -10
KBZ *e* 18 59 53.7
KBZ Khabaz 70.34 315 P **P** **18 23 50.6 -0.7**
KBZ pmax pmax
comp=Z,477nm,1.0s
KBZ MLR MLR
comp=Z,43µm,18.9s
SCHQ Schefferville 70.34 25 P **P** **18 23 51.1 -0.1**
comp=Z,138nm,0.8s,baz=347,slow=6.6,SNR=61
SCHQ PKP2ab 18 51 47.8
comp=Z,39nm,1.0s,baz=189,slow=3.7,SNR=8.6
SCHQ LR LR 18 57 52.4
comp=Z,18µm,20.5s,baz=332,slow=39
SCHQ Schefferville 70.34 25 *eP* **P** **18 23 50.2 -1.0**
SCHQ *eP'P'df* P'P'df 18 51 47.0 -10
AKASG Malin Array Be 70.41 327 P P 18 23 49.3 -2.3
comp=Z,33nm,0.4s,baz=35,slow=6.2,SNR=133
AKASG PKPPKP P'P'df 18 51 45.0 -12
comp=Z,1.4nm,0.7s,baz=211,slow=1.6,SNR=5.5
AKASG LR LR 18 56 59.4
comp=Z,40µm,21.3s,baz=20,slow=38
AKASG Malin Array Be 70.41 327 P P 18 23 49.3 -2.3
AKASG P'P' 18 51 45.0
AKASG Malin Array Be 70.41 327 *i* P P 18 23 49.2 -2.4
AKASG pmax pmax
comp=Z,33nm,0.4s
KIEV Kiev 70.42 327 *eP* P 18 23 49.0 -2.7
KIEV LR LR
comp=Z,42µm,20.0s
KIEV Kiev 70.42 327 *i* P P 18 23 49.3 -2.4
SNR=17
KIEV Kiev 70.42 327*c iP* P 18 23 49.0 -2.7
KIEV pmax pmax
comp=Z,267nm,1.2s
KIEV MLR MLR
comp=Z,47µm,21.0s
SKJI Sukabumi 70.46 233 P P 18 23 50.1 -2.2
comp=Z,374nm,1.2s,comp=Z,5µm
PPSI Pulau Pagai 70.53 241 P **P** **18 23 52.9 +0.1**
comp=Z,557nm,1.1s,comp=Z,11µm
DDFL Dedoflistskaro 70.53 311 P **P** **18 23 53.6 +0.9**
H41A Junction City 70.54 43 *eP* **P** **18 23 51.7 -0.9**
H41A Junction City 70.54 43 P **P** **18 23 52.0 -0.6**
baz=321,SNR=24
GUDG Gudauri 70.56 313 P **P** **18 23 52.6 -0.3**
CGJI Cibinong 70.58 234 P P 18 23 49.7 -3.4
J39A Decorah 70.59 46 P **P** **18 23 51.9 -1.0**
baz=320,SNR=35
ZEI Tsey 70.59 314 *eP* P 18 23 49.3 -3.8
ZEI pmax pmax
comp=Z,262nm,1.0s
E44A Grand Marais A 70.60 40 *eP* **P** **18 23 52.1 -0.8**
E44A Grand Marais A 70.60 40 P **P** **18 23 52.7 -0.2**
baz=323,SNR=6.9
G42A Mountain 70.60 42 *eP* **P** **18 23 52.1 -0.8**
G42A Mountain 70.60 42 P **P** **18 23 52.6 -0.4**
baz=322,SNR=28
I40A Norwalk 70.67 45 P **P** **18 23 52.8 -0.5**
baz=321,SNR=28
F43A Flat Rock, Esc 70.69 41 P **P** **18 23 53.1 -0.3**
baz=322,SNR=28
HSIG 70.70 68 *eP* **P** **18 23 53.4 -0.4**
DUS Dusheti 70.74 313 P P **18 23 53.9 0.0**
DUS Dusheti 70.74 313 *eP* **P** **18 23 53.9 0.0**
NEY Neytrino 70.79 315*c iP* **P** **18 23 53.2 -1.1**
NEY pmax pmax
comp=Z,24nm,0.9s
NEY MLR MLR
comp=Z,15µm,18.0s
I41A Arkdale 70.88 44 *eP* **P** **18 23 53.8 -0.8**
I41A Arkdale 70.88 44 P **P** **18 23 54.3 -0.3**
baz=321,SNR=14
F44A Big Bay de Noc 70.90 41 P **P** **18 23 54.3 -0.4**
baz=322,SNR=17
POO Poona 70.90 276 *eP* **P** **18 23 55.4 +0.3**
POO *i* PCP **sP** **18 24 15.0 -0.2**
G43A Wallace 70.92 42 *eP* **P** **18 23 54.2 -0.6**
G43A Wallace 70.92 42 P **P** **18 23 54.6 -0.2**
baz=322,SNR=38
QIS Mount Isa 70.94 196 P **P** **18 23 53.7 -1.3**
baz=71,SNR=19
BSD Bornholm Skovb 70.94 337⇑*iP* **P** **18 23 53.4 -1.3**
comp=Z,214nm,1.1s
BSD *i* 18 24 18.5
comp=Z,48µm,19.0s
BSD Bornholm Skovb 70.94 337⇑*iP* **P** **18 23 53.4 -1.3**
BSD *i* 18 24 18.5
BSD pmax pmax
comp=Z,210nm,1.1s
BSD MLR MLR
comp=Z,48µm,19.0s
ONI Oni 70.95 314 P **P** **18 23 54.8 -0.4**
ONI Oni 70.95 314 *eP* **P** **18 23 54.7 -0.4**
SCIA State Center 70.96 47 *eP* **P** **18 23 54.7 -0.5**
SCIA LR LR
comp=Z,27µm,22.0s
SCIA State Center 70.96 47 P **P** **18 23 55.2 0.0**
baz=320,SNR=56
K39A Oelwein 70.99 46 P **P** **18 23 54.2 -1.1**
baz=320,SNR=28
J40A Soldiers Grove 70.99 45 P **P** **18 23 54.4 -0.9**
baz=321,SNR=15
TBLG Delisi 70.99 312 P **P** **18 23 54.9 -0.5**
TBLG Delisi 70.99 312 *eP* **P** **18 23 54.4 -1.0**
TBLG Delisi 70.99 312 *eP* **P** **18 23 54.4 -1.0**
COP Copenhagen 71.03 339⇑*iP* **P** **18 23 54.6 -0.6**
comp=Z,87nm,0.9s
COP *i* 18 24 20.0
comp=Z,35µm,21.0s
COP Copenhagen 71.03 339⇑*iP* **P** **18 23 54.6 -0.6**
COP *i* 18 24 20.0
COP pmax pmax
comp=Z,87nm,0.9s
COP MLR MLR
comp=Z,35µm,21.0s
MUD Monsted U'grnd 71.05 341⇑*iP* **P** **18 23 54.9 -0.5**
comp=Z,158nm,1.2s
MUD Monsted U'grnd 71.05 341⇑*iP* **P** **18 23 54.9 -0.5**
MUD pmax pmax
comp=Z,160nm,1.2s
E45A Wooded Hills, 71.12 40 P **P** **18 23 55.5 -0.6**
baz=323,SNR=15
H42A Shiocton 71.13 43 *eP* **P** **18 23 55.2 -0.9**
H42A Shiocton 71.13 43 P **P** **18 23 55.5 -0.6**
baz=322
SRIG Santa Rosalia 71.13 70 *eP* **P** **18 23 56.1 -0.3**
MATQ Matagami 71.29 33 P **P** **18 23 55.7 -1.2**
baz=326
BOM Bombay 71.31 277 *iP* P 18 23 54.4 -3.1
BOM *ex* x 18 33 08.6
BIGH Upper Bighouse 71.33 349⇑*eP* **P** **18 23 56.1 -0.9**
K40A Colesburg 71.34 46 P **P** **18 23 56.7 -0.8**
baz=321,SNR=34
J41A Loganville 71.35 45 P **P** **18 23 56.7 -0.8**
baz=321,SNR=28
EPT El Paso 71.36 63 *eP* **P** **18 23 57.4 -0.5**
L39A Vinton 71.38 47 P **P** **18 23 57.2 -0.5**
baz=320,SNR=38
KSU1 Kansas State U 71.40 51 *eP* **P** **18 23 56.2 -1.6**
KSU1 LR LR
comp=Z,19µm,19.0s
KSU1 Kansas State U 71.40 51 P **P** **18 23 56.6 -1.3**
baz=319,SNR=18
D47A Chapleau 71.42 38 P **P** **18 23 56.6 -1.2**
baz=324
WRAB Tennant Creek 71.42 201 *eP* **P** **18 23 56.8 -1.3**
WRAB LR LR
comp=Z,10µm,21.0s
WRAB Tennant Creek 71.42 201*c iP* **P** **18 23 56.5 -1.5**
WRAB pmax pmax
comp=Z,95nm,1.0s
WRAB MLR MLR
comp=Z,10µm,20.0s
WB2 Warramunga Arr 71.43 201 *eP* P 18 23 55.9 -2.2
WR1 Warramunga Arr 71.44 201 *eP* **P** **18 23 56.5 -1.6**

WR1 eP'P'df **P'P'df** 18 51 53.0 +7.0
WR1 e 18 52 31.1
WRA Warramunga Arr 71.44 201 P **P** 18 23 56.5 -1.7
comp=Z,131nm,1.1s,baz=18,slow=5.9,SNR=127
WRA PKPPKP **P'P'df** 18 51 53.0 +7.0
comp=Z,2.1nm,1.0s,baz=217,slow=2.0,SNR=5.2
WRA LR LR 18 52 31.1
comp=Z,9μm,21.9s,baz=20,slow=34
WRA Warramunga Arr 71.44 201 P **P** **18 23 56.5 -1.7**
WRA P'P' 18 51 53.0
WRA Warramunga Arr 71.44 201 *i* P P 18 23 55.7 -2.4
WRA pmax pmax
comp=Z,131nm,1.1s
I42A Draeger Farm, 71.44 44 eP **P** **18 23 57.1 -0.9**
I42A Draeger Farm, 71.44 44 P **P** **18 23 57.6 -0.4**
baz=322,SNR=25
WC3 Warramunga Arr 71.44 201 eP **P** **18 23 56.5 -1.7**
TRLG Trialeti 71.45 313 P **P** **18 23 57.9 -0.4**
E46A Sault Ste Mari 71.48 39 P **P** **18 23 57.2 -1.0**
baz=324,SNR=13
H43A Windswept, Lux 71.50 42 eP **P** **18 23 56.9 -1.5**
H43A Windswept, Lux 71.50 42 P **P** **18 23 57.9 -0.5**
baz=322,SNR=12
F45A CMU Biological 71.52 40 P **P** **18 23 58.0 -0.4**
baz=323,SNR=11
JFWS Jewell Farm 71.59 45 eP **P** **18 23 57.6 -1.3**
JFWS LR LR
comp=Z,25μm,19.0s
JFWS Jewell Farm 71.59 45 eP **P** **18 23 57.6 -1.3**
JFWS MLR MLR
comp=Z,25μm,19.0s
JFWS Jewell Farm 71.59 45 P **P** **18 23 57.9 -1.1**
baz=321,SNR=11
DZM Mont Dzumac 71.63 169 P **P** **18 23 59.2 -0.2**
comp=Z,52nm,1.1s,baz=44,slow=9.9,SNR=8.5
DZM Mont Dzumac 71.63 169 eP **P** **18 24 00.4 +1.1**
comp=Z,494nm,1.4s
DZM eS **S** **18 33 18.7 +3.8**
comp=Z,35μm,29.2s
DZM eLQ LQ 18 42 43.9
comp=Z,35μm,33.5s
DZM eLR LR 18 46 02.4
comp=Z,46μm,26.6s
DZM Mont Dzumac 71.63 169 eP **P** **18 23 59.6 +0.3**
F46A Macinaw City C 71.77 40 P **P** **18 23 59.3 -0.6**
baz=323,SNR=22
I43A Langenfeld Bro 71.79 43 P **P** **18 23 59.6 -0.6**
baz=322,SNR=17
M39A Webster 71.79 47 P **P** **18 23 59.8 -0.3**
baz=320,SNR=24
J42A Columbus 71.79 44 P **P** **18 23 59.4 -0.8**
baz=322,SNR=33
L40A Anamosa 71.80 46 eP **P** **18 23 59.3 -0.9**
L40A Anamosa 71.80 46 P **P** **18 23 59.4 -0.8**
baz=321,SNR=37
K41A Shullsburg 71.80 45 P **P** **18 23 59.4 -0.8**
baz=321,SNR=18
AMTX Amarillo 71.83 58 eP **P** **18 24 00.5 -0.2**
AMTX Amarillo 71.83 58 P **P** **18 24 00.8 +0.2**
baz=318
E47A Iron Bridge 71.83 39 P **P** **18 23 59.1 -1.2**
baz=324,SNR=15
AKH Akhalkalaki 71.84 313 P **P** **18 24 00.7 0.0**
AKH Akhalkalaki 71.84 313 eP **P** **18 24 00.2 -0.5**
AKH Akhalkalaki 71.84 313 ⇓*i*P **P** **18 24 01.1 +0.4**
AKH Akhalkalaki 71.84 313 eP **P** **18 24 00.2 -0.5**
D48A Paudash Townsh 71.84 37 P **P** **18 23 59.0 -1.3**
baz=325,SNR=13
RGN Rugen 71.85 338 eP P 18 23 58.0 -2.2
MSTX Muleshoe 71.89 59 eP **P** **18 24 00.7 -0.3**
MSTX Muleshoe 71.89 59 P **P** **18 24 01.0 0.0**
baz=318,SNR=74
BGD Bogdanovka 71.90 313 P **P** **18 24 01.3 +0.2**
ANN Anapa 71.96 319*c i*P P 18 23 59.1 -2.0
ANN e*PP pP 18 24 17.6 +2.2
ANN e 18 26 38.2
ANN ePPP PPP 18 28 24.1
ANN eS S 18 33 12.0 -6.2
ANN e 18 33 56.1
ANN pmax pmax
comp=E,57nm,1.4s
ANN MLR MLR
comp=Z,32μm,21.0s
ANN MLR MLR
comp=N,35μm,21.0s
CPRX Cap Rock 71.97 60 eP **P** **18 24 01.2 -0.4**
G45A Suttons Bay 71.97 41 P **P** **18 24 00.7 -0.4**
baz=323,SNR=12
GKP Gorka Klasztor 71.98 335 eP **P** **18 23 59.6 -1.4**
GKP epP **PcP** **18 24 25.5 +6.1**
GKP eS **S** **18 33 17.0 -1.2**
GKP LMZ LR 18 58 28.5
comp=N,77μm,20.3s
GKP Gorka Klasztor 71.98 335⇑eP **P** **18 23 59.7 -1.4**
GKP e*PP **PcP** **18 24 25.5 +6.1**
GKP eS **S** **18 33 17.0 -1.2**
GKP MLR MLR
comp=Z,77μm,20.3s
J43A Natural Harves 72.06 44 P **P** **18 24 00.9 -0.9**
baz=322,SNR=11
MNTX Cornudas Mount 72.07 62 eP **P** **18 24 01.8 -0.2**
MNTX LR LR
comp=Z,9μm,21.0s
MNTX Cornudas Mount 72.07 62 P **P** **18 24 02.6 +0.6**
baz=317,SNR=62
G46A Petoskey 72.09 40 P **P** **18 24 01.4 -0.4**
baz=323,SNR=14
N39A Derby Farms, D 72.09 48 eP **P** **18 24 00.8 -1.2**
N39A Derby Farms, D 72.09 48 P **P** **18 24 01.6 -0.4**
baz=320,SNR=19
LSQQ Lebel-sur-Quev 72.11 33 P **P** **18 24 01.1 -0.8**
baz=327
K42A Prairie Point, 72.11 45 P **P** **18 24 01.3 -0.8**
baz=322,SNR=19
L41A Preston 72.13 46 P **P** **18 24 01.3 -0.8**
baz=321,SNR=35
MCD Coleburn Disti 72.13 348 eP **P** **18 24 01.0 -0.8**
H45A Beulah 72.13 41 P **P** **18 24 01.7 -0.4**
baz=323,SNR=6.6
FITZ Fitzroy Crossi 72.14 210 P **P** **18 24 02.1 -0.2**
baz=72,SNR=71
FITZ Fitzroy Crossi 72.14 210 eP **P** **18 24 02.1 -0.2**
M40A Post Highland 72.17 47 P **P** **18 24 01.8 -0.5**
baz=321,SNR=35
RRR Rubha Reidh 72.18 350 eP **P** **18 24 01.0 -1.1**
U32A Winter Ranch, 72.18 55 eP **P** **18 24 02.1 -0.5**
GNI Garni 72.20 311 eP **P** **18 24 02.7 -0.1**
GNI LR LR
comp=Z,55μm,22.0s
GNI Garni 72.20 311 P **P** **18 24 03.4 +0.5**
SNR=99
GNI Garni 72.20 311 P **P** **18 24 03.4 +0.5**
SNR=99
GNI Garni 72.20 311 *i* P **P** **18 24 02.9 +0.1**
SNR=63
GNI Garni 72.20 311*ce*P **P** **18 24 02.4 -0.4**
GNI pmax pmax
comp=Z,2μm,1.4s
BEL Belsk 72.22 332 eP **P** **18 24 01.3 -1.2**
BEL eS **S** **18 33 18.9 -2.2**
BEL LMZ LR 18 57 50.0
comp=Z,86μm,22.1s
BEL Belsk 72.22 332⇑eP **P** **18 24 01.3 -1.2**
BEL eS **S** **18 33 18.9 -2.2**
BEL MLR MLR
comp=Z,86μm,22.1s
E48A Lockeyer 72.26 38 P **P** **18 24 01.7 -1.2**
baz=325,SNR=14
GDL2 Guadalupe Moun 72.29 61 eP **P** **18 24 03.5 +0.1**
CHGQ Chibougamau 72.31 31 P **P** **18 24 01.9 -1.1**
baz=326
MDO Dochfour 72.41 349⇑eP **P** **18 24 02.5 -1.0**
KAC Achnashellach 72.47 349⇑eP **P** **18 24 02.6 -1.3**
I45A Fountain 72.52 42 P **P** **18 24 04.3 -0.1**
baz=323,SNR=6.2
N40A Mertquake, Sal 72.53 47 P **P** **18 24 04.3 -0.2**
baz=321,SNR=51
H46A Fife Lake 72.56 41 P **P** **18 24 04.3 -0.4**
baz=323,SNR=33
L42A Oliver, Polo 72.57 45 eP **P** **18 24 03.3 -1.5**
L42A Oliver, Polo 72.57 45 P **P** **18 24 03.7 -1.1**
baz=322,SNR=27
TASB TASBURUN-IGDIR 72.57 311 P **P** **18 24 04.8 -0.2**
GLMI Grayling 72.58 40 eP **P** **18 24 04.2 -0.7**
GLMI LR LR
comp=Z,19μm,20.0s
GLMI Grayling 72.58 40 P **P** **18 24 04.3 -0.6**
baz=324
D50A G1974 Best Tow 72.62 36 P **P** **18 24 03.8 -1.2**
baz=326,SNR=14
G47A Hillman 72.63 40 P **P** **18 24 04.4 -0.6**
baz=324,SNR=14
K43A Burlington 72.64 44 eP **P** **18 24 04.3 -0.9**
K43A Burlington 72.64 44 P **P** **18 24 04.3 -0.9**
baz=322,SNR=23
KARS Kars 72.64 313 P **P** **18 24 05.7 +0.3**
M41A Milan 72.65 46 P **P** **18 24 04.6 -0.7**
baz=321,SNR=24
KPL Plockton 72.67 350⇑eP **P** **18 24 04.3 -0.8**
KPL IAmb IAmb 18 24 07.5
comp=Z,170nm,1.0s
BCA Borcka 72.70 314 P **P** **18 24 04.7 -0.9**
VLDQ Val d'Or 72.73 34 eP **P** **18 24 03.4 -2.3**
L43A Garden Prairie 72.86 45 P **P** **18 24 05.5 -1.0**
baz=322,SNR=10
E50A Wahnapitae 72.88 37 P **P** **18 24 05.4 -1.2**
baz=325,SNR=9.5
F49A Sandfield 72.89 38 P **P** **18 24 05.6 -1.1**
baz=325,SNR=9.0
J45A Montague 72.93 42 P **P** **18 24 06.4 -0.5**
baz=323
I46A Reed City 72.94 41 P **P** **18 24 06.9 -0.1**
baz=323,SNR=11
LVV L'vov 72.94 330⇓*i*P P 18 24 05.1 -1.8
LVV eS **S** **18 33 28.1 -1.2**
LVV MLR MLR
comp=N,34μm,20.0s
LVV MLR MLR
comp=E,9μm,21.0s
LVV MLR MLR
comp=Z,36μm,21.0s
H47A Mio 72.94 40 P **P** **18 24 06.7 -0.3**
baz=324,SNR=6.0
M42A Sheffield 72.96 46 P **P** **18 24 06.0 -1.1**
baz=322
N41A Harden Midland 73.02 47 eP **P** **18 24 06.7 -0.8**
N41A Harden Midland 73.02 47 P **P** **18 24 07.1 -0.4**
baz=321,SNR=78
H48A Harrisville 73.23 40 P **P** **18 24 08.2 -0.5**
baz=324,SNR=12
L44A Lake County Fo 73.24 44 P **P** **18 24 08.1 -0.7**
baz=322,SNR=6.5
SIM Simferopol' 73.24 321*ce*P **P** **18 24 07.3 -1.4**
SIM *e* 18 26 52.0
SIM ePPP PPP 18 28 36.0
SIM eS **S** **18 33 30.4 -2.6**
SIM pmax pmax
comp=Z,2μm,5.1s
SIM pmax pmax
comp=Z,146nm,1.1s
SIM MLR MLR
comp=Z,22μm,15.3s
E51A G1948 Merrick 73.27 36 P **P** **18 24 07.6 -1.3**
baz=326,SNR=12
I47A Gladwin 73.28 41 P **P** **18 24 08.9 -0.1**
baz=324,SNR=9.4
N42A Yates City 73.31 46 P **P** **18 24 08.5 -0.7**
baz=322,SNR=23
J46A Howard City 73.32 42 P **P** **18 24 09.1 -0.1**
baz=323,SNR=14
M43A Waltham Townsh 73.34 45 P **P** **18 24 08.7 -0.7**
baz=322,SNR=14
INVG Invergeldie, C 73.36 348⇑eP **P** **18 24 08.0 -1.2**
CLDR Caldiran 73.38 311 P **P** **18 24 10.2 +0.3**
O41A Passleys Farm, 73.47 47 P **P** **18 24 09.8 -0.3**
baz=321,SNR=55
I48A Sherman Twp 73.49 40 P **P** **18 24 10.0 -0.1**
baz=324,SNR=15
AGRB Hanur-Agry 73.50 312 P **P** **18 24 11.0 +0.4**
D53A Lac Vacive, Po 73.50 35 P **P** **18 24 09.3 -0.9**
baz=327,SNR=25
WMOK Wichita Mounta 73.53 56 eP **P** **18 24 09.7 -0.9**
comp=Z,164nm,0.9s
WMOK LR LR
comp=Z,12μm,22.0s
WMOK Wichita Mounta 73.53 56 eP **P** **18 24 09.7 -0.9**
WMOK pmax pmax
comp=Z,164nm,0.9s
WMOK MLR MLR
comp=Z,12μm,22.0s
WMOK Wichita Mounta 73.53 56 P **P** **18 24 10.6 0.0**
baz=319,SNR=209
KWP Kalwaria Pacla 73.54 330 eP **P** **18 24 09.7 -0.7**
KWP epP sP 18 24 35.5 +5.0
KWP eS **SKiKP** **18 33 34.4 -1.4**
KWP LMZ LR 18 55 52.5
comp=Z,26μm,25.4s
KWP Kalwaria Pacla 73.54 330 eP P 18 24 08.8 -1.6
KWP Kalwaria Pacla 73.54 330⇑eP **P** **18 24 09.7 -0.7**
KWP e*PP sP 18 24 35.5 +5.0
KWP eS **SKiKP** **18 33 34.4 -1.4**
KWP MLR MLR
comp=Z,26μm,25.4s
TOBO Tobermory, Bru 73.54 38 P **P** **18 24 09.7 -0.8**
baz=325
F51A Arnstein 73.61 37 P **P** **18 24 09.5 -1.3**
baz=326,SNR=7.4
EAB Aberfoyle 73.63 349⇑eP **P** **18 24 09.8 -1.0**
N43A Stutzman Famil 73.63 46 P **P** **18 24 10.5 -0.6**
baz=322,SNR=24
KIS Kishinev 73.64 325⇑*i*P P 18 24 08.0 -3.0
comp=Z,1μm,2.0s
KIS Kishinev 73.64 325 *i* PcP **PcP** **18 24 28.0 +1.3**
KIS Kishinev 73.64 325 *e*PP PP 18 27 04.0 +9.0
KIS Kishinev 73.64 325*ce i*P P 18 24 08.0 -3.0
KIS *i* 18 24 28.0
KIS *e* 18 27 04.0
KIS *i* S **SKiKP** **18 33 30.0 -5.9**
KIS pmax pmax
comp=Z,1μm,2.0s
KIS pmax pmax
comp=N,2μm,4.0s
KIS pmax pmax
comp=E,2μm,4.0s
KIS pmax pmax
comp=Z,6μm,4.0s
KIS pmax pmax
comp=Z,8μm,8.0s
KIS smax smax
comp=N,4μm,10.0s
KIS smax smax
comp=E,3μm,10.0s
KIS MLR MLR
comp=Z,42μm,20.0s
LAWE Loch Awe, Argy 73.69 349⇑eP **P** **18 24 10.0 -1.2**
LAWE IAmb IAmb 18 24 12.2
comp=Z,582nm,1.5s
P41A Barry, Barry 73.72 48 P **P** **18 24 11.4 -0.2**
baz=321,SNR=8.4
J47A Sunmer 73.77 41 P **P** **18 24 11.9 0.0**
baz=324,SNR=13
O42A Bath 73.79 47 P **P** **18 24 11.6 -0.4**
baz=322,SNR=7.3
K46A Dorr 73.79 42 P **P** **18 24 11.4 -0.6**
baz=323,SNR=17
M44A Midewin, Midew 73.81 45 eP **P** **18 24 10.8 -1.3**
M44A Midewin, Midew 73.81 45 P **P** **18 24 11.4 -0.7**
baz=322,SNR=22
D54A Lac Fusel, La 73.83 34 P **P** **18 24 11.2 -1.0**
baz=328,SNR=29
HDIL Hopedale 73.88 46 eP **P** **18 24 11.6 -0.9**
comp=Z,388nm,1.0s
HDIL LR LR
comp=Z,16μm,22.0s
HDIL Hopedale 73.88 46 P **P** **18 24 12.1 -0.4**
baz=322,SNR=19
KTUT Trabzon 73.93 315 P P 18 24 11.4 -1.4
OJC Ojcow 73.94 332 eP **P** **18 24 11.5 -1.2**
OJC epP **sP** **18 24 37.3 +4.4**
OJC eS **SKiKP** **18 33 35.6 -0.7**
OJC LMZ LR 18 58 53.2
comp=Z,68μm,22.1s
OJC Ojcow 73.94 332 eP **P** **18 24 11.3 -1.5**
OJC Ojcow 73.94 332⇑eP **P** **18 24 11.5 -1.2**
OJC e*PP **sP** **18 24 37.3 +4.4**
OJC eS **SKiKP** **18 33 35.6 -0.7**
OJC MLR MLR
comp=Z,68μm,22.1s
F52A Sundridge 73.95 37 P **P** **18 24 11.9 -1.0**
baz=326,SNR=15
KLBO Killbear Provi 73.96 37 P **P** **18 24 11.0 -1.9**
baz=326
PGBU Glenifferbraes 74.01 348⇑eP **P** **18 24 12.1 -1.0**
PGBU IAmb IAmb 18 24 15.2
comp=Z,1μm,1.2s
I49A Point Hope 74.06 40 P **P** **18 24 13.1 -0.4**
baz=325,SNR=11
VANB Van 74.06 311 P **P** **18 24 14.5 +0.7**
O43A Sugar Creek Fa 74.08 46 P **P** **18 24 13.1 -0.7**
baz=322
L46A Eue Claire 74.10 43 P **P** **18 24 13.3 -0.6**
baz=323,SNR=6.0
E53A Dumoine, Ponti 74.10 35 P **P** **18 24 12.6 -1.2**
baz=327,SNR=32
P42A Winchester 74.14 47 eP **P** **18 24 13.2 -0.9**
P42A Winchester 74.14 47 P **P** **18 24 13.7 -0.4**
baz=322,SNR=16
K47A Vermontville 74.15 42 P **P** **18 24 13.8 -0.3**
baz=324,SNR=26
M45A Boilermakers S 74.17 44 P **P** **18 24 13.5 -0.8**
baz=323
J48A Bridge Port 74.17 41 P **P** **18 24 14.1 -0.1**
baz=324,SNR=12
BMRO Meriville Lake 74.19 38 P **P** **18 24 13.4 -0.8**
baz=326
Q41A Truxton 74.20 48 P **P** **18 24 14.3 -0.2**
baz=322,SNR=111
BUKO Buck Lake 74.22 37 P **P** **18 24 13.6 -0.9**
baz=326
N44A Piper City 74.23 45 P **P** **18 24 14.1 -0.5**
baz=323,SNR=19
TUL1 Leonard 74.23 53 eP **P** **18 24 13.9 -0.8**
TUL1 Leonard 74.23 53 P **P** **18 24 14.6 -0.1**
baz=320,SNR=21
E54A Lac Daplat, Po 74.24 35 P **P** **18 24 13.4 -1.1**
baz=327,SNR=27
LEOM Leova 74.30 325⇑*i*P **P** **18 24 14.9 +0.1**
ALGO Algonquin Park 74.31 36 P **P** **18 24 14.4 -0.6**
baz=327
ESK Eskdalemuir 74.32 348 eP **P** **18 24 13.5 -1.3**
comp=Z,368nm,1.2s
ESK LR LR
comp=Z,19μm,19.0s
ESK Eskdalemuir 74.32 348*ce*P **P** **18 24 16.0 +1.1**
EIDS Eidsvold 74.38 184 P **P** **18 24 15.5 +0.2**
baz=74,SNR=7.2
EIDS Eidsvold 74.38 184 eP **P** **18 24 14.9 -0.4**
BRCO Bruce Peninsul 74.38 39 P **P** **18 24 15.3 -0.1**
baz=325
J49A Marlette 74.40 40 P **P** **18 24 15.2 -0.3**
baz=325,SNR=9.4
BUR08 Bucovina Ar. S 74.41 328 eP P 18 24 13.4 -2.2
KSP Ksiaz 74.41 335 eP **P** **18 24 14.4 -1.1**
KSP epP **sP** **18 24 40.2 +4.6**
KSP eS **SKiKP** **18 33 42.9 +5.9**
KSP LMZ LR 18 59 53.7
comp=Z,65μm,20.3s
KSP Ksiaz 74.41 335⇑eP **P** **18 24 14.4 -1.1**
KSP e*PP **sP** **18 24 40.2 +4.6**
KSP eS **SKiKP** **18 33 42.9 +5.9**
KSP MLR MLR
comp=Z,65μm,20.3s
BUR04 Bucovina Ar. S 74.42 328 eP P 18 24 13.1 -2.6
BURAR Bucovina Array 74.42 328⇓*i*P **P** **18 24 14.9 -0.8**
K48A Perry 74.43 41 P **P** **18 24 15.6 -0.1**
baz=324,SNR=37
ESPY Espiye-Giresun 74.47 315 P **P** **18 24 14.6 -1.4**
N45A Kentland 74.48 45 P **P** **18 24 15.6 -0.4**
baz=323,SNR=8.8
BASO Ashfield 74.48 39 P **P** **18 24 15.5 -0.5**
baz=325
P43A Skaggs, Pawnee 74.49 47 P **P** **18 24 15.7 -0.4**
baz=322,SNR=23
NIE Niedzica 74.49 332 eP **P** **18 24 15.7 -0.3**
NIE eS **SKiKP** **18 33 43.9 +6.7**
NIE LMZ LR 18 59 14.6
comp=Z,35μm,23.0s
NIE Niedzica 74.49 332⇑eP **P** **18 24 15.7 -0.3**
NIE eS **SKiKP** **18 33 43.9 +6.7**
NIE MLR MLR
comp=Z,35μm,23.0s
UZH Uzhgorod 74.54 330⇓*i*P **P** **18 24 15.0 -1.2**
UZH *e* 18 24 31.0
UZH *i* S **SKiKP** **18 33 44.0 +6.7**
UZH MLR MLR
comp=Z,2μm,16.0s
BHH Howats Hill 74.54 348⇑eP **P** **18 24 15.5 -0.6**
RAC Raciborz 74.54 333 eP **P** **18 24 14.9 -1.3**
RAC eS **SKiKP** **18 33 44.9 +7.7**
RAC MLR MLR
comp=Z,80μm,21.5s
M46A Old House Fiel 74.56 44 eP **P** **18 24 15.6 -0.9**
M46A Old House Fiel 74.56 44 P **P** **18 24 16.1 -0.4**
baz=323,SNR=7.9
VRTB Varto-Mus 74.57 313 P **P** **18 24 17.3 +0.5**
Q42A Golden Eagle 74.57 48 P **P** **18 24 16.6 0.0**
baz=322,SNR=64
O44A Mansfield 74.58 46 P **P** **18 24 16.1 -0.5**
baz=322,SNR=8.8
BWLO Walkerton 74.61 39 P **P** **18 24 16.1 -0.7**
baz=326
EDMD Edmundbyers 74.61 347⇑eP **P** **18 24 15.5 -1.1**
EDMD IAmb IAmb 18 24 17.6
comp=Z,447nm,1.4s
L47A Sherwood 74.62 42 P **P** **18 24 16.3 -0.6**
baz=324,SNR=17
R41A Rosebud 74.64 49 P **P** **18 24 16.5 -0.5**
baz=322,SNR=46
ABTX Abilene, Hawle 74.64 58 eP **P** **18 24 16.8 -0.4**
ABTX Abilene, Hawle 74.64 58 P **P** **18 24 17.3 +0.1**
baz=319,SNR=31
CLWO Collingwood 74.68 38 P **P** **18 24 16.6 -0.6**
baz=326
BIZ Bicaz 74.69 327⇑*i*P **P** **18 24 17.6 +0.5**
PALK Pallekele 74.70 263 LR LR 18 59 14.6
comp=Z,9μm,20.5s,baz=116,slow=38
PALK Pallekele 74.70 263 eP **P** **18 24 16.8 -1.0**
comp=Z,428nm,1.0s
PALK Pallekele 74.70 263 *i* P **P** **18 24 17.3 -0.4**
SNR=60
PALK Pallekele 74.70 263*ce*P **P** **18 24 19.2 +1.5**
K49A Clarkson 74.73 41 P **P** **18 24 17.6 +0.2**
baz=325,SNR=15
GURO Guroymak-BITLI 74.76 312 P **P** **18 24 17.7 -0.2**
OKC Ostrava-Krasne 74.78 333 eP **P** **18 24 17.8 +0.2**
OKC ePP **PP** **18 27 01.5 -3.0**
OKC eS **S** **18 33 49.0 -1.0**
OKC AMS AMS 18 59 40.0
comp=Z,55μm,21.9s
OKC Ostrava-Krasne 74.78 333 eP **P** **18 24 17.8 +0.2**
OKC *e* 18 27 01.5
OKC eS **S** **18 33 49.0 -1.0**
OKC MLR MLR
comp=Z,55μm,21.9s
N46A Monticello 74.80 44 P **P** **18 24 17.0 -0.9**
baz=323,SNR=6.9
LTX Lajitas 74.81 63 eP **P** **18 24 18.6 +0.3**
LTX ePKKPbc **PKKPbc** **18 43 42.7 +2.3**
LTX eP'P'df P'P'df 18 51 42.0 -6.2
TX31 Lajitas Ar. Si 74.81 63 eP **P** **18 24 17.7 -0.6**
TXAR Lajitas Array 74.81 63 P **P** **18 24 18.6 +0.3**
comp=Z,92nm,0.9s,baz=299,slow=4.2,SNR=313
TXAR PKKPbc **PKKPbc** **18 43 42.7 +2.3**
comp=Z,0.7nm,0.9s,baz=145,slow=4.6,SNR=3.7
TXAR PKPPKP P'P'df 18 51 42.0 -6.2
comp=Z,0.8nm,1.0s,baz=132,slow=1.9,SNR=3.6
TXAR Lajitas Array 74.81 63 P **P** **18 24 18.6 +0.3**
TXAR PKKPbc **PKKPbc** **18 43 42.7 +2.3**
TXAR P'P' 18 51 42.0
TXAR Lajitas Array 74.81 63 P **P** **18 24 18.6 +0.3**
TXAR pmax pmax
comp=Z,92nm,0.9s
GDLE Glaisdale, N Y 74.83 346⇑eP **P** **18 24 16.5 -1.3**
GDLE IAmb IAmb 18 24 19.0
comp=Z,519nm,1.3s
DPC Dobruska-Polom 74.85 334 eP **P** **18 24 18.5 +0.4**
DPC eS **S** **18 33 49.0 -1.9**
DPC AMS AMS 19 00 30.0
comp=Z,66μm,19.7s
DPC Dobruska-Polom 74.85 334 eP **P** **18 24 18.5 +0.4**
DPC eS **S** **18 33 49.0 -1.9**
DPC MLR MLR
comp=Z,66μm,19.7s
PEMO Pembroke 74.85 35 P **P** **18 24 16.9 -1.1**
baz=327
O45A Potomac 74.86 45 P **P** **18 24 18.0 -0.2**

baz=323,SNR=28
SADO Sadowa 74.88 37 *e*P P 18 24 16.9 -1.4
comp=Z,103nm,1.3s
CLL Collm 74.88 337 *e*P P 18 24 16.5 -1.6
CLL Collm 74.88 337⇑ *i*P P 18 24 16.9 -1.2
comp=Z,598nm,1.2s
CLL *e*Pmax 18 24 19.0
CLL *e* 18 24 42.0
CLL *e*PP **PP** **18 27 06.0 +0.7**
CLL *e*PPP PPP 18 29 00.0
CLL *e*S **SKiKP** **18 33 48.0 +10**
CLL *es*S **pS** **18 34 12.0 +3.1**
CLL *e*PPS PPS 18 34 46.0
CLL *e*SS SS 18 38 54.0 +15
CLL *e* 18 42 48.0
CLL LmH 18 58 00.0
comp=N,19µm,21.3s
CLL LmH 18 58 00.0
comp=E,30µm,20.2s
CLL Lmax 19 01 00.0
CLL LmV 19 02 00.0
comp=Z,41µm,18.8s
CLL Collm 74.88 337⇑ *i*P P 18 24 16.9 -1.2
CLL *e*SP **sP** **18 24 42.0 +3.7**
CLL *e*S **SKiKP** **18 33 44.0 +6.3**
CLL pmax pmax
comp=Z,598nm,1.2s
CLL MLR MLR
comp=Z,41µm,18.8s
TRPA Tarpa 74.89 330⇑ *i*P P 18 24 17.6 -0.7
TRPA Tarpa 74.89 330⇑ *e*P P 18 24 17.7 -0.6
CCM Cathedral Cave 74.89 49 *e*P P 18 24 17.6 -0.9
comp=Z,735nm,1.0s
CCM Cathedral Cave 74.89 49 *e*P P 18 24 17.6 -0.9
CCM pmax pmax
comp=Z,735nm,1.0s
CCM Cathedral Cave 74.89 49 P P 18 24 17.9 -0.6
baz=322
HHAR Hobbs 74.91 52 *e*P P 18 24 17.8 -0.8
M47A Cromwell 74.93 43 P P 18 24 18.2 -0.4
baz=324,SNR=15
CLGH Cloghs, Cushen 74.93 349⇑ *e*P P 18 24 17.6 -0.7
CLGH IAmb IAmb 18 24 20.4
comp=Z,678nm,1.2s
SLM Saint Louis 74.93 48 *e*P P 18 24 18.0 -0.7
SLM Saint Louis 74.93 48 *e*P P 18 24 18.0 -0.7
R42A Luebbering 74.94 48 P P 18 24 18.4 -0.3
baz=322,SNR=34
Q43A New Douglas 74.95 47 P P 18 24 18.6 -0.2
baz=322,SNR=15
KRLC Kraliky 74.96 334 *e*P P 18 24 18.8 +0.1
KRLC *e*S S 18 33 52.6 +0.4
KRLC Kraliky 74.96 334 *e*P P 18 24 18.8 +0.1
KRLC *e*S S 18 33 52.6 +0.4
BMR Baia Mare 74.97 329⇓ *i*P P 18 24 19.6 +0.9
LANS Liptovska Anna 74.98 332 *e*P P 18 24 18.9 0.0
LANS Liptovska Anna 74.98 332 *e*P P 18 24 18.9 0.0
L48A N Adams 74.98 42 P P 18 24 18.7 -0.2
baz=324,SNR=32
CUKT Cukurca 75.00 310 P P 18 24 18.8 -0.5
MORC Moravsky Berou 75.01 333 *e*P P 18 24 17.8 -1.2
MORC Moravsky Berou 75.01 333⇑ *i*P P 18 24 18.6 -0.4
MORC Moravsky Berou 75.01 333⇑ *i*P P 18 24 18.3 -0.7
MORC *e*S S 18 33 51.0 -1.7
S41A Jillco Farms, 75.01 49 P P 18 24 18.4 -0.8
baz=322,SNR=45
KESW Keswick, Cumbr 75.02 347⇑ *e*P P 18 24 17.7 -1.2
KESW IAmb IAmb 18 24 21.1
comp=Z,885nm,1.2s
LATQ La Tuque 75.02 32 P P 18 24 17.9 -1.1
baz=330
BRG Berggiesshubel 75.03 336 *i*P P 18 24 18.0 -1.0
comp=Z,308nm,1.3s
BRG PP **PP** **18 27 09.0 +2.4**
BRG S **S** **18 33 53.0 +0.2**
BRG SS **SS** **18 38 38.0 -2.9**
BRG PKPPKP P'P'df 18 51 23.6 -25
comp=Z,18nm,2.0s
comp=Z,65µm,20.1s
comp=N,59µm,19.8s
comp=E,15µm,19.8s
BRG Berggiesshubel 75.03 336 *i*P P 18 24 18.0 -1.0
BRG 18 27 09.0
BRG S **S** **18 33 53.0 +0.2**
BRG SS **SS** **18 38 38.0 -2.9**
BRG pmax pmax
comp=Z,66nm,1.3s
BRG MLR MLR
comp=Z,18µm,20.1s
BRG MLR MLR
comp=N,65µm,19.8s
BRG MLR MLR
comp=E,59µm,19.8s
AAM Ann Arbor 75.03 41 *e*P P 18 24 18.8 -0.4
comp=E,166nm,0.9s
AAM LR LR
comp=Z,21µm,20.0s
AAM Ann Arbor 75.03 41 *e*P P 18 24 18.8 -0.4
AAM pmax pmax
comp=Z,167nm,0.9s
AAM MLR MLR
comp=Z,21µm,20.0s
AAM Ann Arbor 75.03 41 P P 18 24 18.8 -0.4
baz=325,SNR=6.5
SFIN Lafayette 75.04 45 *e*P P 18 24 18.4 -0.9
SFIN Lafayette 75.04 45 P P 18 24 18.8 -0.5
baz=323,SNR=24
P44A Sand Creek, Wi 75.05 46 P P 18 24 19.2 -0.2
baz=323,SNR=52
BNGB Bing ¶ll 75.07 313 P P 18 24 19.7 +0.1
K50A Casco 75.09 40 P P 18 24 19.3 -0.2
baz=325,SNR=6.3
AS01 Alice Springs 75.11 201 *e*P P 18 24 18.5 -1.2
AS31 Alice Springs 75.12 201 *e*P P 18 24 19.2 -0.6
ASAR Alice Springs 75.12 201 P P 18 24 19.6 -0.1
comp=Z,37nm,0.6s,baz=14,slow=5.3,SNR=240
ASAR PKKPbc PKKPbc 18 43 52.2 +10
comp=Z,1.7nm,0.9s,baz=200,slow=2.9,SNR=5.5
ASAR PKP2ab 18 51 30.5
comp=Z,0.7nm,0.8s,baz=176,slow=2.3,SNR=4.5
ASAR PKPPKP **P'P'df** **18 51 46.1 +6.6**
comp=Z,3.7nm,1.0s,baz=148,slow=1.3,SNR=11
ASAR LR LR 18 55 07.7
comp=Z,8µm,21.8s,baz=19,slow=34
ASAR Alice Springs 75.12 201 P P 18 24 19.6 -0.1
ASAR PKKPbc PKKPbc 18 43 52.2 +10
ASAR P'P'ab 18 51 30.5
ASAR P'P' 18 51 46.1
ASAR Alice Springs 75.12 201 P P 18 24 19.7 -0.1
ASAR pmax pmax
comp=Z,37nm,0.6s
ASAR MLR MLR
comp=Z,8µm,21.8s
BANO Bancroft 75.14 36 P P 18 24 18.9 -0.9
baz=327
L49A Milan 75.14 42 P P 18 24 19.9 +0.1
baz=324,SNR=22
SNOP Sinop 75.16 318 P P 18 24 18.8 -1.1
TLCR 75.16 324⇑ *i*P P 18 24 19.9 0.0
PVCC Panska Ves 75.17 335 *e*P P 18 24 20.0 +0.1
PVCC AMS AMS 19 00 20.0
comp=Z,80µm,20.5s
PVCC Panska Ves 75.17 335 *e*P P 18 24 20.0 +0.1
PVCC MLR MLR
comp=Z,80µm,20.5s
ARCR ARCALIA 75.18 328⇑ *i*P P 18 24 21.0 +1.0
SLBS Sierra La Lagu 75.19 71 *e*P P 18 24 20.6 +0.1
M48A Edgerton 75.23 42 *e*P P 18 24 19.4 -0.9
M48A Edgerton 75.23 42 P P 18 24 19.8 -0.6
baz=324,SNR=8.4
KECS Kecovo 75.25 331 *e*P P 18 24 18.3 -2.1
KECS pmax pmax
comp=Z,424nm,1.2s
KECS Kecovo 75.25 331 *e*P P 18 24 18.2 -2.2
N47A Urbana 75.28 43 P P 18 24 19.7 -1.0
baz=324,SNR=17
ELFO Elginfield 75.30 39 P P 18 24 20.1 -0.6
baz=326
PETR Petresti 75.31 325⇓ *i*P P 18 24 21.6 +0.9
Q44A Meyer Farm, Va 75.31 47 P P 18 24 20.5 -0.4
baz=322,SNR=25
ODBI Odobesti 75.34 326⇑ *i*P P 18 24 23.3 +2.4
S42A Caledonia 75.34 49 P P 18 24 20.7 -0.4
baz=322,SNR=89
FVM French Village 75.35 48 *e*P P 18 24 20.3 -0.8
FVM French Village 75.35 48 *e*P P 18 24 20.3 -0.8
R43A Red Bud 75.36 48 P P 18 24 20.5 -0.7
baz=322,SNR=29
VRI Vrincioaia 75.37 326⇑ *i*P P 18 24 22.2 +1.1
SIRT Sirnak 75.38 311 P P 18 24 20.8 -0.6
HPIG 75.41 66 *e*P P 18 24 21.8 -0.1
HPK Haverah Park 75.41 346⇑ *e*P P 18 24 20.5 -0.6
HPK IAmb IAmb 18 24 23.8
comp=Z,719nm,0.0s
U40A Yellville 75.41 51 P P 18 24 20.8 -0.7
baz=321,SNR=158
PLOR Plostina 75.42 326⇑ *i*P P 18 24 22.6 +1.2
P45A Graceland, Par 75.42 46 *e*P P 18 24 20.7 -0.8
P45A Graceland, Par 75.42 46 P P 18 24 21.0 -0.5
baz=323,SNR=19
T41A Mountain View 75.43 50 P P 18 24 20.7 -0.9
baz=322,SNR=51
CFR Carcaliu 75.43 325⇑ *i*P P 18 24 21.5 +0.1
DIKM Dikmen 75.44 318 P P 18 24 21.5 0.0
PLVO Plevna 75.45 36 *e*P P 18 24 19.1 -2.5
PLVO Plevna 75.45 36 P P 18 24 20.7 -0.9
baz=328
X37A Clayton 75.47 54 *e*P P 18 24 21.3 -0.5
ACTO Acton 75.47 38 P P 18 24 21.0 -0.7
baz=326
SVAN Silvan-Diyarba 75.48 312 P P 18 24 22.1 +0.2
IOMK Kirk Michael 75.54 348⇑ *e*P P 18 24 21.1 -0.7
IOMK IAmb IAmb 18 24 23.8
comp=Z,552nm,1.2s
M49A Liberty Center 75.57 42 P P 18 24 21.9 -0.4
baz=324,SNR=20
PKRO Pickering 75.57 37 P P 18 24 21.5 -0.8
baz=327
O47A Sheridan 75.58 44 P P 18 24 21.4 -1.0
baz=324,SNR=12
N48A Decatur 75.60 43 P P 18 24 21.8 -0.6
baz=324,SNR=42
P46A Rosedale 75.60 45 P P 18 24 22.2 -0.3
baz=323,SNR=37
PRA Prague 75.62 335 *e*P P 18 24 23.4 +1.0
PRA *e*PP **PP** **18 27 08.6 -3.1**
PRA *e*S S **18 33 58.0 -1.4**
PRA AMS AMS 19 00 50.0
comp=Z,91µm,20.8s
PRA Prague 75.62 335 *e*P P 18 24 23.4 +1.0
PRA *e* 18 27 08.6
PRA *e*S S **18 33 58.0 -1.4**
PRA MLR MLR
comp=Z,91µm,20.8s
RMQ Roma 75.63 186 P P 18 24 23.0 +0.4
baz=76,SNR=34
WIM Isle of Man 75.66 348 *e*P P 18 24 21.9 -0.7
DELO Deloro Mine 75.68 36 P P 18 24 22.2 -0.7
baz=327
LMK Market Rasen 75.68 345⇑ *e*P P 18 24 22.0 -0.7
LMK IAmb IAmb 18 24 24.6
comp=Z,821nm,1.3s
ORIO Orleans, Innes 75.69 34 P P 18 24 22.2 -0.7
baz=328
GRER 75.70 325⇑ *i*P P 18 24 23.2 +0.2
VRAC Vranov 75.70 334⇑ *i*P P 18 24 22.8 -0.2
VRAC Vranov 75.70 334⇑ *i*P P 18 24 22.6 -0.4
VRAC *e*S S 18 33 56.5 -3.8
ILIC ilic-Erzincan 75.71 315 P P 18 24 24.5 +1.2
BZK Bozkurt 75.73 319 P P 18 24 22.3 -0.9
Q45A Warren Harvey, 75.73 46 P P 18 24 23.0 -0.2
baz=323,SNR=44
WTSB Winterswijk 75.74 341 *i*P P 18 24 22.1 -0.9
comp=Z,969nm,1.3s
LTVH L˜˜tav˜˜rtes, 75.76 330⇑ *e*P P 18 24 22.9 -0.3
VYHS Vyhne 75.76 332 *e*P P 18 24 22.7 -0.6
VYHS pmax pmax
comp=Z,273nm,1.3s
VYHS Vyhne 75.76 332 *e*P P 18 24 22.7 -0.6
VYHS *e*S S 18 33 56.0 -5.0
VYHS *e*SS SS 18 39 10.4 +18
VYHS *e*L L 19 00 00.4
CJR Cluj-Napoca 75.76 328⇓ *i*P P 18 24 23.6 +0.2
PTK Pertek 75.76 314 P P 18 24 23.9 +0.2
T42A Van Buren 75.77 49 *e*P P 18 24 22.1 -1.5
T42A Van Buren 75.77 49 P P 18 24 22.7 -0.9
baz=322,SNR=46
ALFO Alfred 75.77 34 P P 18 24 22.5 -0.8
baz=329
DOPR Dopca 75.78 327⇓ *i*P P 18 24 23.7 +0.3
DRWO Darlington Wes 75.79 37 P P 18 24 22.6 -0.9
baz=327
JAVC Velka Javorina 75.79 333⇑ *i*P P 18 24 23.9 +0.4
JAVC *e*S S 18 34 01.5 +0.1
DRCO St. Marys Ceme 75.79 37 P P 18 24 22.9 -0.6
baz=327
R44A Waltonville 75.80 47 P P 18 24 23.4 -0.2
baz=323,SNR=33
W39A Magazine 75.83 52 *e*P P 18 24 23.0 -0.9
W39A Magazine 75.83 52 P P 18 24 23.6 -0.3
baz=321,SNR=55
S43A Fulton Ridge, 75.85 48 P P 18 24 23.4 -0.5
baz=322,SNR=42
WLVO Wesleyville 75.88 37 P P 18 24 23.3 -0.6
baz=327
OLIL Olney 75.88 46 *e*P P 18 24 23.2 -0.9
U41A Viola 75.89 50 P P 18 24 23.4 -0.8
baz=322,SNR=32
HARR Harsova 75.92 324⇑ *i*P P 18 24 24.0 -0.2
N49A Columbus Grove 75.92 42 *e*P P 18 24 23.5 -0.8
N49A Columbus Grove 75.92 42 P P 18 24 23.8 -0.5
baz=324,SNR=13
TIRR Tirgusor 75.93 324 *e*P P 18 24 22.5 -1.8
TIRR Tirgusor 75.93 324⇑ *i*P P 18 24 24.5 +0.2
TIRR Tirgusor 75.93 324 *e*P P 18 24 22.5 -1.8
PSZ Piszkesteto 75.94 331 *e*P P 18 24 23.4 -1.0
PSZ Piszkesteto 75.94 331⇓ *i*P P 18 24 24.4 0.0
PSZ Piszkesteto 75.94 331⇑ *e*P P 18 24 24.1 -0.3
TOKT Tokat 75.94 316 P P 18 24 24.3 -0.2
LBWR Ladybower, Pea 75.96 346⇑ *e*P P 18 24 23.6 -0.8
LBWR IAmb IAmb 18 24 26.5
comp=Z,1µm,1.2s
TLB Topalu 75.97 324⇑ *i*P P 18 24 24.9 +0.4
TYNO Tyneside 75.97 38 P P 18 24 24.4 -0.2
baz=326
MLR Muntele Rosu 75.98 326 *e*P P 18 24 23.0 -1.7
MLR Muntele Rosu 75.98 326⇑ *i*P P 18 24 25.5 +0.7
MLR Muntele Rosu 75.98 326 *e*P P 18 24 23.0 -1.8
KRUC Moravsky 75.98 334⇑ *i*P P 18 24 24.1 -0.4
KRUC *e*S S 18 34 02.3 -1.1
MDB Medias 75.98 327⇑ *i*P P 18 24 25.0 +0.4
DRGR 76.00 329⇓ *i*P P 18 24 24.4 -0.4
Q46A CEJHS Indians, 76.00 46 P P 18 24 24.5 -0.3
baz=323
NKC Novy Kostel 76.00 337 *e*P P 18 24 24.6 -0.1
NKC *e*PP **PP** **18 27 14.4 -0.5**
NKC *e*S S **18 34 02.4 -1.3**
NKC AMS AMS 19 02 30.0
comp=Z,50µm,17.8s
NKC Novy Kostel 76.00 337 *e*P P 18 24 24.6 -0.1
NKC *e* 18 27 14.4
NKC *e*S S **18 34 02.4 -1.3**
NKC MLR MLR
comp=Z,50µm,17.8s
O48A Farmland 76.03 44 P P 18 24 24.2 -0.7
baz=324,SNR=30
M50A Fremont 76.03 41 *e*P P 18 24 24.0 -0.9
M50A Fremont 76.03 41 P P 18 24 24.3 -0.6
baz=325,SNR=10.0
TREC Trest 76.03 334 *e*P P 18 24 24.9 +0.1
TREC *e*S S **18 34 04.2 +0.2**
TREC AMS AMS 19 01 30.0
comp=Z,59µm,18.9s
TREC Trest 76.03 334 *e*P P 18 24 24.9 +0.1
TREC *e*S S **18 34 04.2 +0.2**
TREC MLR MLR
comp=Z,59µm,18.9s
SVSK Karacayir 76.06 316 P P 18 24 25.4 +0.3
ISR Istrita 76.08 326⇑ *i*P P 18 24 25.8 +0.6
T43A Greenville 76.13 49 P P 18 24 25.3 -0.3
baz=322,SNR=24
P47A Martinsville 76.14 45 P P 18 24 25.0 -0.5
baz=324,SNR=24
R45A Skylar, Fairfi 76.15 47 P P 18 24 25.4 -0.2
baz=323,SNR=19
S44A Carbondale 76.15 48 P P 18 24 25.5 -0.2
baz=323,SNR=34
SIUC Southern Illin 76.15 48 *e*P P 18 24 25.0 -0.7
QLP Quilpie 76.16 191 P P 18 24 25.4 -0.2
baz=76,SNR=78
STCO Saint Catharin 76.16 38 P P 18 24 24.7 -0.9
baz=327
JCT Junction City 76.17 59 *e*P P 18 24 25.0 -1.0
JCT LR LR
comp=Z,17µm,21.0s
JCT Junction City 76.17 59 *e*P P 18 24 25.0 -1.0
JCT MLR MLR
comp=Z,17µm,21.0s
JCT Junction City 76.17 59 P P 18 24 25.9 0.0
baz=320,SNR=23
SMOL Smolenice 76.17 333 *e*P P 18 24 25.7 +0.1
SMOL Smolenice 76.17 333 *e*P P 18 24 25.7 +0.1
V41A Mountainview 76.21 51 P P 18 24 25.2 -0.9
baz=322,SNR=51
AMRR Amara 76.21 325⇑ *i*P P 18 24 26.8 +0.9
WACR West Acre 76.23 345⇑ *e*P P 18 24 24.9 -0.9
WACR IAmb IAmb 18 24 27.9
comp=Z,1µm,1.2s
U42A Revenden 76.23 50 P P 18 24 25.3 -0.8
baz=322,SNR=20
BLO Bloomington 76.27 45 *e*P P 18 24 25.5 -0.8
BLO Bloomington 76.27 45 *e*P P 18 24 25.5 -0.8
PBMO Poplar Bluff 76.30 49 *e*P P 18 24 26.1 -0.4
SECR 76.33 326⇑ *i*P P 18 24 25.3 -1.3
WHTX Lake Whitney, 76.33 57 *e*P P 18 24 26.1 -0.6
WHTX Lake Whitney, 76.33 57 P P 18 24 26.9 +0.1
baz=320,SNR=29
MODS Modra-Piesok 76.34 333 *e*P P 18 24 25.7 -0.9
MODS pmax pmax
comp=Z,627nm,1.2s
MODS Modra-Piesok 76.34 333 *e*P P 18 24 25.7 -0.9
MODS *e*S S 18 34 01.0 -6.4
MODS *e*SS SS 18 39 16.6 +16
MODS *e*L L 18 59 09.0
WME Myndd Eilian 76.34 348⇑ *e*P P 18 24 25.6 -0.9
VOIR 76.35 327⇓ *i*P P 18 24 26.5 -0.3
WPS Cemaes, Angles 76.37 348⇑ *e*P P 18 24 25.5 -1.0
WPS IAmb IAmb 18 24 27.5
comp=Z,424nm,1.3s
MAZI Mazidag 76.39 312 P P 18 24 26.9 -0.3
WPM1 Penmaenmawr 76.42 348⇑ *e*P P 18 24 26.1 -0.8
MIAR Mount Ida 76.44 53 *e*P P 18 24 26.2 -1.2
MIAR LR LR
comp=Z,19µm,20.0s
MIAR Mount Ida 76.44 53 *e*P P 18 24 26.2 -1.2
MIAR MLR MLR
comp=Z,19µm,20.0s
MIAR Mount Ida 76.44 53 P P 18 24 27.3 0.0
baz=321,SNR=119
O49A Covington 76.45 43 *e*P P 18 24 26.5 -0.8
O49A Covington 76.45 43 P P 18 24 26.8 -0.6
baz=324,SNR=16
M51A Elyria 76.46 41 P P 18 24 26.9 -0.5
baz=325,SNR=5.6
WLF1 Llynfaes 76.46 348⇑ *e*P P 18 24 26.1 -1.0
WLF1 IAmb IAmb 18 24 28.2
comp=Z,830nm,1.3s
T44A Benton 76.47 48 P P 18 24 27.3 -0.2
baz=322,SNR=19
MEDO Medina 76.49 38 P P 18 24 27.3 -0.2
baz=327
S45A Carrier Mills 76.49 47 P P 18 24 27.4 -0.2
baz=323,SNR=29
N50A Nevada 76.50 42 P P 18 24 27.4 -0.3
baz=325,SNR=21
Q47A Bedord North L 76.51 45 P P 18 24 27.4 -0.3
baz=324,SNR=16
YRC Rhoscolyn 76.52 348 *e*P P 18 24 26.6 -0.8
WHAR Wooly Hollow 76.53 51 *e*P P 18 24 26.9 -0.9
MTUR Matau 76.53 327⇑ *i*P P 18 24 28.0 +0.2
CWF Charnwood Fore 76.53 346⇑ *e*P P 18 24 26.7 -0.9
CWF IAmb IAmb 18 24 30.3
comp=Z,1µm,1.4s
P48A Milroy 76.55 44 P P 18 24 27.3 -0.6
baz=324,SNR=34
ZST Bratislava 76.55 333 *e*P P 18 24 27.4 -0.4
ZST *e*S S 18 34 07.9 -1.7
ZST Bratislava 76.55 333 *e*P P 18 24 27.4 -0.4
ZST *e*S S 18 34 07.9 -1.7
SHME Shamm 76.56 294 *i*P P 18 24 26.8 -1.5
SNR=14
SULR 76.56 325⇑ *i*P P 18 24 28.0 +0.2
ARR Arges 76.56 327⇓ *i*P P 18 24 28.7 +0.7
YLL Llanberis 76.58 348⇑ *e*P P 18 24 26.7 -1.1
R46A Gibon Southern 76.58 46 P P 18 24 28.1 0.0
baz=323,SNR=22
V42A Cord 76.58 50 P P 18 24 27.3 -0.8
baz=322,SNR=56
ILGA Ilgaz 76.59 319 *e*P P 18 24 27.8 -0.6
BUD Budapest 76.60 331⇑ *e*P P 18 24 28.1 +0.1
U43A Rector 76.63 49 P P 18 24 28.2 -0.2
baz=322,SNR=5.6
W41B Gary Mavity, V 76.64 51 *e*P P 18 24 27.5 -0.9
W41B Gary Mavity, V 76.64 51 P P 18 24 28.0 -0.5
baz=322,SNR=83
PSN Preselentsi 76.67 324 P P 18 24 28.6 +0.1
FOEL Foel Wylfa 76.68 347⇑ *e*P P 18 24 27.5 -0.9
FOEL IAmb IAmb 18 24 30.0
comp=Z,632nm,1.2s
USIN University of 76.70 47 *e*P P 18 24 28.4 -0.3
KHC Kasperske Hory 76.71 335 *e*P P 18 24 28.1 -0.6
KHC Kasperske Hory 76.71 335 *e*P P 18 24 29.2 +0.5
KHC *ex* x 18 24 47.0
KHC *e*PP **PP** **18 27 21.1 +0.2**
KHC *e*S S **18 34 09.6 -1.9**
KHC AMS AMS 19 01 30.0
comp=Z,94µm,20.2s
KHC Kasperske Hory 76.71 335 *e*P P 18 24 29.2 +0.5
KHC *e* 18 24 47.0
KHC *e* 18 27 21.1
KHC *e*S S **18 34 09.6 -1.9**
KHC MLR MLR
comp=Z,94µm,20.2s
N51A Ashland 76.72 41 *e*P P 18 24 27.9 -0.9
N51A Ashland 76.72 41 P P 18 24 28.3 -0.6
baz=325,SNR=18
PARMO Parma 76.72 49 *e*P P 18 24 28.6 -0.3
DEV Deva 76.72 328⇑ *i*P P 18 24 29.2 +0.4
ERPA Erie 76.74 39 *e*P P 18 24 28.6 -0.3
ERPA Erie 76.74 39 P P 18 24 28.6 -0.3
baz=326,SNR=11
LONY Lake Ozonia 76.75 34 *e*P P 18 24 27.8 -1.1
LONY LR LR
comp=Z,10µm,20.0s
LONY Lake Ozonia 76.75 34 P P 18 24 27.9 -1.1
baz=329,SNR=17
DSB Dublin 76.77 349 *e*P P 18 24 27.7 -1.2
LLW Llanuwchllyn 76.79 347⇑ *e*P P 18 24 28.4 -0.6
LOT Lotru 76.80 327⇓ *i*P P 18 24 28.6 -0.8
O50A Cable 76.80 43 P P 18 24 29.0 -0.4
baz=325
P49A Miami Univ. Ec 76.81 44 P P 18 24 28.7 -0.7
baz=324,SNR=26
SIRR Siria 76.81 329⇓ *i*P P 18 24 29.1 -0.2
GRFO Grafenberg 76.82 337 *e*P P 18 24 28.7 -0.6
Q48A North Vernon 76.83 45 P P 18 24 29.0 -0.5
baz=324,SNR=18
U44A Portageville 76.88 49 P P 18 24 30.1 +0.3
baz=323,SNR=7.6
GOLR 76.90 326⇑ *i*P P 18 24 29.7 -0.1
S46A Don Dixon Farm 76.90 47 P P 18 24 29.7 -0.2
baz=323,SNR=15
UALR University of 76.90 52 *e*P P 18 24 29.2 -0.8
CORM Corum 76.91 318 P P 18 24 28.3 -1.8
DARE Darende-Malaty 76.92 315 P P 18 24 30.4 +0.3
FRNY Flat Rock 76.92 34 *e*P P 18 24 28.2 -1.7
W42A Bald Knob 76.93 51 P P 18 24 29.7 -0.4
baz=322
GEC2 GERESS Array S 76.94 335 *e*P P 18 24 28.6 -1.4
GEC2 GERESS Array S 76.94 335 *e*P P 18 24 28.7 -1.4
GERES GERESS Array B 76.94 335 P P 18 24 29.3 -0.8
comp=Z,45nm,0.6s,baz=35,slow=4.9,SNR=100
GERES PKKPbc **PKKPbc** **18 43 34.3 -1.8**
comp=Z,1.0nm,0.8s,baz=153,slow=1.5,SNR=5.1
GERES PKP2ab 18 51 14.7
comp=Z,0.4nm,0.8s,baz=151,slow=3.0,SNR=3.5
GERES PKPPKP P'P'df 18 51 38.2 -7.4
comp=Z,1.0nm,0.8s,baz=210,slow=1.1,SNR=4.7
GERES LR LR 19 02 17.2
comp=Z,99µm,20.4s,baz=24,slow=39
GERES GERESS Array B 76.94 335 P P 18 24 29.3 -0.8
GERES PKKPbc **PKKPbc** **18 43 34.3 -1.8**
GERES P'P'ab 18 51 14.7

GERES P'P' 18 51 38.2
GERES GERESS Array B 76.94 335 P P 18 24 29.3 -0.8
GERES pmax pmax
comp=Z,45nm,0.6s
GERES MLR MLR
comp=Z,99µm,20.4s
PVMO Portageville 76.94 49 eP P 18 24 30.0 -0.2
GEA0 GERESS Array S 76.95 335 eP P 18 24 28.3 -1.8
R47A Wooly Knot Far 76.97 46 P P 18 24 30.1 -0.2
baz=324,SNR=65
T45A Paducah 76.98 48 eP P 18 24 29.8 -0.6
T45A Paducah 76.98 48 P P 18 24 30.3 -0.1
baz=323
MOQ Mont Orford 76.99 33 eP P 18 24 29.4 -1.0
HLM1 Long Mynd 76.99 347⇑eP P 18 24 29.7 -0.5
HLM1 IAmb IAmb 18 24 31.6
comp=Z,285nm,1.5s
CANT Cankiri 77.00 319 P P 18 24 30.4 -0.1
ACSO Alum Creek Sta 77.01 42 eP P 18 24 29.8 -0.8
ACSO LR LR
comp=Z,22µm,20.0s
ACSO Alum Creek Sta 77.01 42 P P 18 24 30.3 -0.3
baz=325
V43A Jonesboro 77.02 50 P P 18 24 30.5 -0.1
baz=322
MDH Madha 77.03 294 *i* P P 18 24 28.7 -2.1
SNR=17
X41A Kaden, Bauxite 77.03 52 P P 18 24 30.4 -0.2
baz=322
MBWA Marble Bar 77.03 214 eP P 18 24 29.4 -1.2
MBWA LR LR
comp=Z,5µm,22.0s
MBWA Marble Bar 77.03 214 P P 18 24 30.6 -0.1
SNR=7.2
MBWA Marble Bar 77.03 214 P P 18 24 30.6 -0.1
SNR=7.2
YOZ Yozgat 77.04 317 P P 18 24 30.1 -0.8
SGRR Singureni 77.05 325⇑*i*P P 18 24 30.1 -0.5
ALLY Alegheny Colle 77.06 39 eP P 18 24 30.1 -0.6
HGN Heimansgroeve 77.06 341 *i* P P 18 24 29.7 -0.8
comp=Z,2µm,1.2s
HGN eS S 18 34 14.5 -0.6
HGN eSS SS 18 39 33.6 +22
MSFE Esma-Masafi 77.06 294 *i* P P 18 24 29.8 -1.3
SNR=21
MMNY Mt. Morris Dam 77.07 37 eP P 18 24 29.7 -1.0
BEBN Eben Emael 77.08 341 ⇑P P 18 24 30.1 -0.6
WCI Wyandotte Cave 77.14 45 eP P 18 24 30.8 -0.5
WCI Wyandotte Cave 77.14 45 P P 18 24 31.1 -0.1
baz=324
WSAR Wadi Sarin 77.14 291 P P 18 24 32.6 +1.1
SNR=53
WSAR Wadi Sarin 77.14 291 P P 18 24 32.6 +1.1
SNR=53
GNAR Gosnell 77.14 49 eP P 18 24 31.5 +0.2
HBAR Harrisburg 77.14 50 eP P 18 24 31.3 0.0
Q49A Aurora 77.16 44 P P 18 24 30.9 -0.4
baz=324,SNR=9.3
CONA Conrad Observa 77.16 334 *i* P P 18 24 31.3 0.0
comp=Z,729nm,1.3s,SNR=274
HUMR Humele 77.16 326⇑*i*P P 18 24 29.4 -1.8
P50A Jamestown 77.16 43 P P 18 24 31.0 -0.3
baz=325,SNR=21
SOP Sopron 77.17 333⇑eP P 18 24 31.5 +0.2
U44B Burton Farm, H 77.18 49 P P 18 24 31.8 +0.3
baz=323,SNR=5.9
435B Jarrell 77.18 58 eP P 18 24 31.0 -0.6
435B Jarrell 77.18 58 P P 18 24 31.4 -0.2
baz=320
MEM Membach 77.19 341 ⇑P P 18 24 30.6 -0.7
comp=Z,657nm,1.2s
URFA Urfa 77.19 313 P P 18 24 31.9 +0.2
R48A Northridge Ran 77.19 45 P P 18 24 31.6 +0.1
baz=324,SNR=25
PQI Presque Isle 77.22 29 eP P 18 24 30.8 -0.8
UMQ Umm Al-Quwin 77.24 294 *i* P P 18 24 31.7 -0.3
SNR=11
O51A Pataskala 77.25 42 P P 18 24 31.4 -0.4
baz=325,SNR=7.0
GLAT Glass 77.26 49 eP P 18 24 31.8 -0.2
BATG Bathurst New B 77.29 28 eP P 18 24 30.9 -1.1
V44A Blytheville 77.31 49 P P 18 24 32.6 +0.3
baz=323
T46A Princeton 77.33 47 P P 18 24 32.8 +0.5
baz=323,SNR=82
UOSS Minazif 77.34 293 eP P 18 24 30.3 -2.3
UOSS Minazif 77.34 293 P P 18 24 31.9 -0.8
SNR=91
UOSS Minazif 77.34 293 P P 18 24 31.9 -0.8
SNR=91
UOSS Minazif 77.34 293 *i* P P 18 24 31.0 -1.6
SNR=10
UCC Uccle 77.36 342 eP P 18 24 30.3 -1.9
UCC Uccle 77.36 342 eP P 18 24 30.3 -1.9
UCC Uccle 77.36 342 ⇑P P 18 24 31.4 -0.8
comp=Z,173nm,1.4s
S47A Hartford 77.37 46 P P 18 24 32.2 -0.4
baz=324,SNR=13
M54A Oil Creek Stat 77.38 39 eP P 18 24 31.8 -0.8
M54A Oil Creek Stat 77.38 39 P P 18 24 32.2 -0.4
baz=327,SNR=22
PRD Provadia 77.39 324 P P 18 24 31.9 -0.6
BZS Buzias 77.40 329⇑*i*P P 18 24 31.5 -1.1
UTMT University of 77.41 48 eP P 18 24 32.6 -0.2
TIM Timisoara 77.43 329⇑*i*P P 18 24 31.8 -0.9
NCB Newcomb 77.43 34 eP P 18 24 31.7 -1.1
X42A Stuttgart 77.44 51 P P 18 24 32.7 -0.2
baz=322
BNN Bunyan 77.44 316 P P 18 24 32.5 -0.6
U45A Rockin P Farm, 77.46 48 P P 18 24 33.1 +0.1
baz=323,SNR=9.7
Y41A Eaglette Beard 77.46 52 P P 18 24 33.1 0.0
baz=322,SNR=8.2
TIH Tihany 77.47 332⇑eP P 18 24 32.6 -0.3
HATD Hatta, Dubai 77.48 293 P P 18 24 33.0 -0.4
SNR=117
HATD Hatta, Dubai 77.48 293 P P 18 24 33.0 -0.4
SNR=117
HATD Hatta, Dubai 77.48 293 *i* P P 18 24 32.5 -0.9
SNR=86
W43A Forest City 77.49 50 P P 18 24 32.8 -0.4
baz=322
MCH1 Michaelchurch 77.52 347⇑eP P 18 24 32.5 -0.6
MCH1 IAmb IAmb 18 24 34.5
comp=Z,986nm,1.6s
BCLA Clavier 77.52 341 ⇑P P 18 24 32.3 -0.8
comp=Z,525nm,1.2s
HALT Halls 77.52 49 eP P 18 24 33.1 -0.3
P51A Williamsport 77.59 43 eP P 18 24 32.9 -0.9
P51A Williamsport 77.59 43 P P 18 24 33.0 -0.8
baz=325,SNR=7.2
STRD Stroud 77.60 346⇑eP P 18 24 33.0 -0.6
STRD IAmb IAmb 18 24 35.8
comp=Z,2µm,1.3s
R49A Shelbyville 77.61 45 P P 18 24 34.0 +0.1
baz=324,SNR=18
O52A Adamsville 77.61 41 eP P 18 24 33.0 -0.9
O52A Adamsville 77.61 41 P P 18 24 33.4 -0.4
baz=326,SNR=19
ASHO Ashiyiah 77.63 293 P P 18 24 33.2 -1.1
SMDO Samad 77.63 291 P P 18 24 36.1 +1.7
SNR=35
SMDO Samad 77.63 291 P P 18 24 36.1 +1.7
SNR=35
NAZ Nazwa, Dubai 77.64 294 P P 18 24 35.2 +1.0
SNR=33
NAZ Nazwa, Dubai 77.64 294 P P 18 24 35.2 +1.0
SNR=33
NAZ Nazwa, Dubai 77.64 294 *i* P P 18 24 33.4 -0.9
SNR=41
ELSH Elham, Standar 77.65 344⇑eP P 18 24 33.4 -0.5
ELSH IAmb IAmb 18 24 36.2
comp=Z,2µm,1.1s
SNF Seneffe 77.65 342 ⇑P P 18 24 33.3 -0.6
comp=Z,397nm,1.3s
VT1 Waterbury 77.66 33 eP P 18 24 33.6 -0.5
SRE Strehaia 77.68 327⇑*i*P P 18 24 34.2 0.0
MOA Molln 77.69 335 *i* P P 18 24 33.8 -0.3
comp=Z,292nm,1.0s,SNR=83
HOQ Hoqain 77.69 292 P P 18 24 36.0 +1.4
SNR=26
HOQ Hoqain 77.69 292 P P 18 24 36.0 +1.4
SNR=26
N54A Moraine State 77.70 40 eP P 18 24 33.5 -0.8
N54A Moraine State 77.70 40 P P 18 24 34.1 -0.2
baz=327,SNR=23

Q50A Georgetown 77.70 44 P P 18 24 34.3 -0.1
baz=325,SNR=22
S48A Wiedeman Farm, 77.71 46 P P 18 24 34.3 -0.1
baz=324,SNR=52
BR101 Keskin Array S 77.72 318 *e*P P 18 24 33.8 -0.9
BR101 *e*PKKPbc **PKKPbc 18 43 35.0 +0.6**
BR101 *e*P'P'df P'P'df 18 51 11.2 -33
BR131 Keskin Array S 77.72 318 *e*P P 18 24 33.2 -1.5
BR131 Keskin Array S 77.72 318 P P 18 24 34.0 -0.6
SNR=308
BR131 Keskin Array S 77.72 318 P P 18 24 34.0 -0.6
SNR=308
BRTR Keskin Array B 77.72 318 P P 18 24 33.8 -0.9
comp=Z,389nm,1.1s,baz=59,slow=3.2,SNR=282
BRTR PKKPbc **PKKPbc 18 43 35.0 +0.6**
comp=Z,1.6nm,0.9s,baz=177,slow=4.8,SNR=6.3
BRTR PKP2ab 18 51 11.2
comp=Z,1.3nm,0.9s,baz=180,slow=3.7,SNR=4.5
BRTR LR LR 19 05 16.8
comp=Z,11µm,18.1s,baz=24,slow=41
BRTR Keskin Array B 77.72 318 P P 18 24 33.8 -0.9
BRTR PKKPbc **PKKPbc 18 43 35.0 +0.6**
BRTR P'P'ab 18 51 11.2
BRTR Keskin Array B 77.72 318 P P 18 24 33.8 -0.9
BRTR pmax pmax
comp=Z,389nm,1.1s
BRTR MLR MLR
comp=Z,11µm,18.2s
U46A Springville 77.73 48 P P 18 24 34.5 -0.1
baz=323
T47A Sharon Grove 77.75 47 eP P 18 24 34.6 -0.1
T47A Sharon Grove 77.75 47 P P 18 24 34.7 +0.1
baz=324,SNR=46
CRAR CRAIOVA 77.76 327⇑*i*P P 18 24 34.9 +0.3
BANR Banloc 77.77 329⇓*i*P P 18 24 34.8 +0.2
HERR Herculane 77.77 328⇓*i*P P 18 24 33.8 -0.8
OLDB Oldbury-Upon-S 77.78 346⇑eP P 18 24 33.6 -0.9
OLDB IAmb IAmb 18 24 35.8
comp=Z,807nm,1.4s
SWN1 Swindon 77.80 346⇑eP P 18 24 34.6 0.0
SWN1 IAmb IAmb 18 24 37.1
comp=Z,4µm,1.3s
RSBS Rosebush, Pemb 77.81 348⇑eP P 18 24 33.9 -0.8
RSBS IAmb IAmb 18 24 36.0
comp=Z,293nm,1.4s
DRLN Deer Lake 77.82 22 eP P 18 24 34.2 -0.6
Q51A Peebles 77.84 43 eP P 18 24 34.1 -1.1
Q51A Peebles 77.84 43 P P 18 24 35.0 -0.2
baz=325,SNR=35
V45A Humboldt 77.84 49 P P 18 24 35.1 -0.1
baz=323,SNR=6.3
Z41A Richland Creek 77.84 53 eP P 18 24 34.8 -0.4
Z41A Richland Creek 77.84 53 P P 18 24 35.3 +0.1
baz=322,SNR=5.2
MORH M¯ŧr¡gy, Hung 77.84 331⇑eP P 18 24 33.7 -1.3
MORH M¯ŧr¡gy, Hung 77.84 331⇑*i*P P 18 24 33.7 -1.3
X43A Marvell 77.85 51 eP P 18 24 34.2 -1.0
X43A Marvell 77.85 51 P P 18 24 35.2 0.0
baz=322,SNR=7.3
MET Memphis--Engin 77.85 50 eP P 18 24 35.1 -0.2
FAQ Al Faqa, Dubai 77.86 294 P P 18 24 36.0 +0.5
SNR=35
FAQ Al Faqa, Dubai 77.86 294 P P 18 24 36.0 +0.5
SNR=35
FAQ Al Faqa, Dubai 77.86 294 *i* P P 18 24 33.7 -1.8
SNR=69
CCAR Cane Creek 77.86 52 eP P 18 24 35.6 +0.2
WRKA Warakurna 77.86 205 P P 18 24 35.0 -0.2
baz=78,SNR=181
ARSA Arzberg 77.87 333 *i* P P 18 24 35.3 +0.1
comp=Z,653nm,1.3s,SNR=147
P52A Corning 77.88 42 P P 18 24 34.6 -0.8
baz=326,SNR=9.9
SZH Strazhica 77.89 325 P P 18 24 33.5 -1.8
W44A Shelby Farms P 77.89 50 P P 18 24 35.5 0.0
baz=323
WOL Wolverton 77.90 345⇑eP P 18 24 34.6 -0.7
WOL IAmb IAmb 18 24 37.1
comp=Z,1µm,1.3s
Y42A Garnett, Star 77.92 52 P P 18 24 35.9 +0.2
baz=322,SNR=5.4
LOD Lodumlu 77.96 319 P P 18 24 35.4 -0.5
S49A Springfield 77.96 45 P P 18 24 35.8 0.0
baz=324,SNR=55
ANTO Ankara 77.97 319 eP P 18 24 35.2 -0.7
ANTO LR LR
comp=Z,13µm,20.0s
ANTO Ankara 77.97 319⇓*i*P P 18 24 36.3 +0.4
ANTO Ankara 77.97 319 P P 18 24 36.0 0.0
SNR=180
ANTO Ankara 77.97 319 P P 18 24 36.0 0.0
SNR=180
DOU Dourbes 77.97 341 ⇑P P 18 24 35.0 -0.7
comp=Z,300nm,1.4s
KAMT Kaman 77.97 318 P P 18 24 34.8 -1.2
T48A Bowling Green 77.99 46 P P 18 24 35.8 -0.2
baz=324,SNR=30
BR231 Keskin MP Arra 78.00 319 eP P 18 24 35.1 -1.0
R50A Paris 78.00 44 P P 18 24 36.0 0.0
baz=325,SNR=28
NATX Nacogdoches 78.02 55 eP P 18 24 36.8 +0.5
NATX LR LR
comp=Z,9µm,21.0s
NATX Nacogdoches 78.02 55 P P 18 24 37.0 +0.7
baz=321,SNR=18
833A Chaparral WMA, 78.03 61 eP P 18 24 36.6 +0.2
833A Chaparral WMA, 78.03 61 P P 18 24 37.0 +0.6
baz=320,SNR=8.7
LBNH Lisbon 78.04 33 eP P 18 24 35.6 -0.6
LBNH Lisbon 78.04 33 eP P 18 24 35.6 -0.6
LBNH Lisbon 78.04 33 P P 18 24 36.2 +0.1
baz=331,SNR=9.2
KMRS Kahramanmaras 78.05 315 P P 18 24 36.1 -0.3
WLF Walferdange 78.05 340 eP P 18 24 35.2 -0.9
WLF Walferdange 78.05 340 eP P 18 24 35.2 -0.9
WLF Walferdange 78.05 340 ⇓P P 18 24 35.8 -0.3
comp=Z,267nm,1.4s
PKME Peaks-Kenny Pk 78.05 31 eP P 18 24 35.5 -0.7
PKME LR LR
comp=Z,30µm,20.0s
PKME Peaks-Kenny Pk 78.05 31 P P 18 24 36.1 -0.1
baz=332,SNR=11
HMNX Herstmonceux 78.06 344⇑eP P 18 24 36.5 +0.4
HMNX IAmb IAmb 18 24 38.9
comp=Z,2µm,1.3s
WVT Waverly 78.08 48 eP P 18 24 36.2 -0.3
WVT Waverly 78.08 48 eP P 18 24 36.2 -0.3
WVT Waverly 78.08 48 P P 18 24 36.7 +0.1
baz=323
H06N1 SOCORRO T-PHAS 78.09 75 T T 19 50 44.0
SNR=248
MDVR Moldovita 78.10 328⇑*i*P P 18 24 35.7 -0.8
U47A Clarksville 78.10 47 P P 18 24 36.6 -0.1
baz=324,SNR=29
JMDO Jabal Madar 78.11 290 P P 18 24 39.0 +2.1
SNR=48
JMDO Jabal Madar 78.11 290 P P 18 24 39.0 +2.1
SNR=48
ASUD Al Ashush, Dub 78.11 294 P P 18 24 38.0 +1.1
SNR=27
ASUD Al Ashush, Dub 78.11 294 P P 18 24 38.0 +1.1
SNR=27
ASUD Al Ashush, Dub 78.11 294 *i* P P 18 24 36.0 -0.9
SNR=54
ACCN Adirondack Com 78.14 34 eP P 18 24 35.9 -0.9
MDUB Mudurnu 78.15 320 P P 18 24 35.9 -1.1
PVL Pavlikeni 78.16 325 P P 18 24 36.6 -0.2
GAZ Gaziantep 78.17 314 P P 18 24 37.3 +0.2
STU Stuttgart 78.17 338 eP P 18 24 36.3 -0.6
AFSR Afar-Bala (A 78.19 318 P P 18 24 36.3 -0.9
W45A Hickory Valley 78.19 49 P P 18 24 37.1 -0.1
baz=323
BEHE Becsehely 78.20 332⇑eP P 18 24 36.8 -0.2
BEHE Becsehely 78.20 332⇑*i*P P 18 24 36.7 -0.2
V46A Holladay 78.21 48 P P 18 24 36.9 -0.3
baz=323,SNR=45
SILT Sile 78.22 321 P P 18 24 36.5 -0.7
X44A Crenshaw 78.23 50 P P 18 24 37.5 +0.1
baz=323
BINY Binghamton 78.28 37 eP P 18 24 36.9 -0.7
BINY LR LR
comp=Z,22µm,22.0s
BINY Binghamton 78.28 37 P P 18 24 36.9 -0.7
baz=329,SNR=8.2
Z42A Norrel Spur, H 78.28 52 P P 18 24 38.0 +0.4

baz=322,SNR=15
ALNE Al Ain 78.28 293 *i* P P 18 24 37.2 -0.7
SNR=127
240A Hunter Patters 78.29 54 eP P 18 24 37.8 +0.1
240A Hunter Patters 78.29 54 P P 18 24 38.0 +0.3
baz=322,SNR=7.4
SAUV Serdivan-Sakar 78.29 321 P P 18 24 36.6 -1.0
Y43A Makayla and Ka 78.30 51 P P 18 24 37.9 +0.1
baz=322,SNR=7.9
P53A Whipple 78.32 42 eP P 18 24 36.9 -0.9
P53A Whipple 78.32 42 P P 18 24 37.3 -0.5
baz=326,SNR=12
R51A Hillsboro 78.32 44 P P 18 24 37.9 +0.1
baz=325,SNR=33
JMB Yambol 78.33 324 P P 18 24 36.9 -0.9
SPNC Sapanca-Adapaz 78.34 321 P P 18 24 37.7 -0.2
AJN Ajban 78.36 294 *i* P P 18 24 38.3 +0.1
SNR=30
Q52A Bidwell 78.37 42 P P 18 24 37.7 -0.4
baz=326,SNR=13
HNH Hanover 78.37 33 eP P 18 24 37.5 -0.5
KOGS Kog 78.38 333 *i* P P 18 24 37.2 -0.7
KOGS Kog 78.38 333 *i* P P 18 24 37.2 -0.7
KLYT Kilyos 78.38 322 P P 18 24 37.1 -1.0
SERE Sereflikochisa 78.39 318 P P 18 24 37.7 -0.7
T49A Edmonton 78.40 46 eP P 18 24 37.9 -0.4
T49A Edmonton 78.40 46 P P 18 24 38.1 -0.2
baz=324,SNR=34
U48A Cassie Pea, Po 78.40 47 P P 18 24 38.2 -0.2
baz=324,SNR=42
FRGS Fruska Gora 78.41 330⇑*i*P P 18 24 37.2 -1.0
S50A Richmond 78.46 45 P P 18 24 38.5 -0.1
baz=325,SNR=26
GULT Gulveren 78.47 320 P P 18 24 38.0 -0.7
V47A Nunnelly 78.48 48 P P 18 24 38.5 -0.2
baz=324,SNR=35
VAL Valentia 78.49 351⇓*i*P P 18 24 39.9 +1.5
VAL Valentia 78.49 351⇑*i*S S 18 34 32.3 +1.9
HRT Hereke 78.49 321 P P 18 24 37.7 -1.1
CTYL Yalikoy Yolu 78.50 322 P P 18 24 37.5 -1.2
SOKA Soboth 78.53 334 *i* P P 18 24 38.7 -0.3
comp=Z,1µm,1.3s,SNR=309
ISK Istanbul-Kandi 78.53 322 P P 18 24 37.9 -1.0
KAVV Kandilli-Istan 78.54 322 P P 18 24 38.1 -0.8
WVL Waterville 78.54 31 eP P 18 24 38.9 0.0
PERS Pernice 78.54 333 eP P 18 24 38.6 -0.4
PERS *i* PcP **PcP 18 24 49.7 +1.8**
PERS *e*S **S 18 34 28.4 -3.0**
PERS Pernice 78.54 333 eP P 18 24 38.6 -0.4
PERS *i* PcP **PcP 18 24 49.7 +1.8**
PERS *e*S **S 18 34 28.4 -3.0**
BGKT Bogazkoy 78.55 322 P P 18 24 38.1 -0.9
KULU Kulu 78.56 318 P P 18 24 38.6 -0.7
KOZT Kozan 78.56 315 P P 18 24 38.7 -0.5
OXF Oxford 78.59 50 eP P 18 24 38.8 -0.6
OXF Oxford 78.59 50 eP P 18 24 38.8 -0.6
OXF Oxford 78.59 50 P P 18 24 39.1 -0.2
baz=323,SNR=25
W46A Michie 78.61 49 P P 18 24 39.0 -0.5
baz=323
CTKS Kestanelik-??a 78.61 322 P P 18 24 38.6 -0.8
MPEP Malo Peshtene 78.62 326 P P 18 24 38.7 -0.7
Y44A Strider, Charl 78.63 51 P P 18 24 39.8 +0.2
baz=323,SNR=17
KBA Koelnbreinsper 78.65 335 *i* P P 18 24 39.9 +0.2
comp=Z,2µm,1.1s,SNR=539
PHSR Pinarhisar 78.67 323 P P 18 24 39.1 -0.6
X45A UM Field Stati 78.67 50 P P 18 24 39.5 -0.3
baz=323,SNR=5.7
BUY Buyukada 78.69 322 P P 18 24 38.7 -1.1
Z43A Armstrong Fami 78.69 52 P P 18 24 40.0 +0.1
baz=322
TRY Troy 78.71 35 eP P 18 24 38.4 -1.5
HTL Hartland 78.71 347⇑eP P 18 24 39.4 -0.3
HTL IAmb IAmb 18 24 41.4
comp=Z,588nm,1.1s
R52A Catlettsburg 78.72 43 P P 18 24 39.6 -0.4
baz=326,SNR=20
241A Mo Tay, Goldon 78.75 54 eP P 18 24 39.7 -0.6
241A Mo Tay, Goldon 78.75 54 P P 18 24 40.9 +0.6
baz=322,SNR=8.5
U49A Red Boiling Sp 78.76 46 P P 18 24 40.1 -0.1
baz=324,SNR=47
HKT Hockley 78.78 57 eP P 18 24 40.2 -0.2
HKT Hockley 78.78 57 eP P 18 24 40.2 -0.2
T50A Nancy 78.79 45 P P 18 24 40.4 -0.1
baz=325,SNR=63
EDRB Edirne 78.79 324 P P 18 24 39.2 -1.1
BFO Black Forest 78.80 338 eP P 18 24 39.3 -1.0
BFO LR LR
comp=Z,2µm,22.0s
BFO Black Forest 78.80 338 eP P 18 24 39.3 -1.0
FFD Franklin Falls 78.80 33 eP P 18 24 40.3 -0.1
OBKA Obir 78.82 334 *i* P P 18 24 40.2 -0.4
comp=Z,472nm,0.9s,SNR=97
YLV Yalova 78.83 321 P P 18 24 39.9 -0.8
SSPA Standing Stone 78.84 39 eP P 18 24 39.6 -1.1
SSPA Standing Stone 78.84 39 P P 18 24 40.3 -0.4
baz=328
MCWV Mont Chateau 78.84 40 eP P 18 24 40.2 -0.5
MCWV Mont Chateau 78.84 40 P P 18 24 40.9 +0.2
baz=327,SNR=16
S51A Beattyville 78.86 44 eP P 18 24 40.0 -0.8
S51A Beattyville 78.86 44 P P 18 24 40.5 -0.3
baz=325,SNR=27
SVRH Sivrihisar-ESK 78.86 319 P P 18 24 39.9 -1.0
O56A Blue Knob Stat 78.87 39 eP P 18 24 39.8 -1.1
O56A Blue Knob Stat 78.87 39 P P 18 24 40.6 -0.3
baz=327,SNR=19
PLAL Pickwick Lake 78.88 49 eP P 18 24 39.9 -1.0
V48A Smith Brothers 78.89 47 eP P 18 24 40.1 -0.9
V48A Smith Brothers 78.89 47 P P 18 24 40.7 -0.3
baz=324,SNR=33
WATA Walderalm 78.89 336 *i* P P 18 24 41.0 -0.1
comp=Z,2µm,1.3s,SNR=141
W47A Westpoint 78.90 48 P P 18 24 40.8 -0.3
baz=324,SNR=31
KSPA Keystone Colle 78.91 37 eP P 18 24 40.4 -0.7
WTTA Wattenberg 78.94 336 *i* P P 18 24 41.4 +0.1
comp=Z,2µm,1.3s,SNR=217
MNCI Minicoy 78.95 270 eP P 18 24 41.3 -0.2
LMN Caledonia Moun 78.95 28 eP P 18 24 40.6 -0.6
RETA Reutte 78.97 337 *i* P P 18 24 41.2 -0.2
comp=Z,520nm,1.3s,SNR=76
X46A Booneville 78.97 49 P P 18 24 40.8 -0.6
baz=323
MYKA Terra Mystica 78.97 334 *i* P P 18 24 40.8 -0.6
comp=Z,642nm,1.2s,SNR=129
GGN Saint George 78.98 29 eP P 18 24 40.6 -0.7
CHBY Cihanbeyli 78.99 318 P P 18 24 40.4 -1.2
143A Socs Landing, 79.01 52 eP P 18 24 42.0 +0.4
143A Socs Landing, 79.01 52 P P 18 24 41.9 +0.2
baz=322
MOTA Moosalm 79.01 336 *i* P P 18 24 41.5 -0.2
comp=Z,1µm,1.1s,SNR=187
GEMT Gemlik 79.01 321 P P 18 24 40.6 -1.0
ZAG Zagreb 79.02 333⇑*i*P P 18 24 41.0 -0.5
SULT Sultanhani-AKS 79.03 317 P P 18 24 41.2 -0.6
ARMT Armutlu 79.04 322 P P 18 24 40.5 -1.3
TEKS Tekeris 79.04 330 eP P 18 24 41.2 -0.5
Y45A Yeager Farm, C 79.04 50 P P 18 24 42.2 +0.3
baz=323,SNR=21
Z44A Pea Ridge, Bel 79.05 51 P P 18 24 41.7 -0.2
baz=323
S52A Salyersville 79.06 44 P P 18 24 41.8 -0.1
baz=326,SNR=9.3
DIM Dimitrovgrad 79.08 325 P P 18 24 41.6 -0.3
SQTA Sankt Pölten 79.10 336 *i* P P 18 24 42.2 +0.1
comp=Z,2µm,1.2s,SNR=323
EMMW East Machias 79.14 30 eP P 18 24 42.0 -0.2
VNDS Vrh nad Dolski 79.15 333 *i* P P 18 24 41.2 -1.1
VNDS Vrh nad Dolski 79.15 333 *i* P P 18 24 41.2 -1.1
GORS Gorjuse 79.16 334 *i* P P 18 24 41.1 -1.4
GORS Gorjuse 79.16 334 *i* P P 18 24 41.1 -1.4
PGB Panagyurishte 79.16 326 P P 18 24 41.5 -1.0
CRES Cresnjev 79.18 333⇑*i*P P 18 24 41.5 -0.9
KIZT Kizilcal 79.18 319 P P 18 24 41.5 -1.2
ECH Echery 79.18 339 eP P 18 24 41.1 -1.2
ECH Echery 79.18 339 eP P 18 24 41.2 -1.2
ABTA Abfaltersbach 79.18 335 *i* P P 18 24 41.9 -0.7
comp=Z,996nm,1.3s,SNR=151
T51A Gray 79.25 45 P P 18 24 42.8 -0.2
baz=325,SNR=21
LJU Ljubljana 79.25 334⇑*i*P P 18 24 41.8 -1.0

U50A	Jamestown	79.28	46	P		P	18 24 43.0	-0.2			
	baz=325,SNR=53										
DIVS	Divibare	79.28	329	eP		P	18 24 41.5	-1.6			
DIVS	Divibare	79.28	329⇑	iP		P	18 24 42.0	-1.1			
TAHT	Tahtakopru-Hat	79.30	314	P		P	18 24 42.8	-0.4			
V49A	McMinnville	79.31	47	P		P	18 24 42.9	-0.4			
	baz=324,SNR=26										
W48A	Pulaski	79.31	48	P		P	18 24 43.1	-0.2			
	baz=324,SNR=44										
DOB	Doboj	79.34	331⇑	iP		P	18 24 41.8	-1.5			
PLD	Plovdiv	79.35	325	P		P	18 24 42.4	-1.0			
Z45A	Winona	79.36	51	eP		P	18 24 43.8	+0.2			
Z45A	Winona	79.36	51	P		P	18 24 43.8	+0.2			
	baz=323,SNR=14										
X47A	Russelville	79.36	49	P		P	18 24 43.0	-0.6			
	baz=324,SNR=18										
OZLJ	Ozalj	79.36	333	P		P	18 24 42.5	-0.9			
Y46A	Houston	79.37	50	P		P	18 24 43.7	+0.1			
	baz=323,SNR=28										
KDHN	Kadinhani	79.38	318	iP		P	18 24 43.0	-0.7			
ARMA	Armidale	79.38	184	P		P	18 24 44.2	+0.6			
	baz=80,SNR=26										
ARMA	Armidale	79.38	184	eP		P	18 24 43.9	+0.4			
VISS	Visnje	79.38	333	eP		P	18 24 42.5	-1.0			
VISS				eS		S	18 34 37.7	-2.5			
VISS	Visnje	79.38	333	eP		P	18 24 42.5	-1.0			
VISS				eS		S	18 34 37.7	-2.5			
DAVA	Damuels	79.38	337	iP		P	18 24 43.5	-0.2			
	comp=Z,734nm,1.1s,SNR=122										
FETA	Feichten	79.41	336	iP		P	18 24 43.9	+0.1			
	comp=Z,862nm,1.2s,SNR=182										
N59A	State Game Lan	79.45	37	eP		P	18 24 42.6	-1.4			
N59A	State Game Lan	79.45	37	P		P	18 24 43.7	-0.3			
	baz=329,SNR=19										
MRAK	Mrakovica	79.47	332	eP		P	18 24 44.8	+0.7			
KDZ	Kurdzhali	79.47	324	P		P	18 24 47.6	+3.5			
KVTX	Kingsville	79.48	60	eP		P	18 24 44.4	+0.1			
KVTX				LR		LR					
	comp=Z,10μm,19.0s										
VTS	Vitosha	79.48	326	eP		P	18 24 42.8	-1.5			
VTS	Vitosha	79.48	326⇑	iP		P	18 24 43.4	-0.9			
VTS	Vitosha	79.48	326	P		P	18 24 43.6	-0.7			
VTS	Vitosha	79.48	326	P		P	18 24 43.5	-0.9			
VTS	Vitosha	79.48	326	eP		P	18 24 42.8	-1.5			
KCTX	Karacabey (Bur	79.50	322	P		P	18 24 43.2	-1.1			
MRMT	Marmara Adasi	79.52	322	P		P	18 24 43.1	-1.3			
JAVS	Javornik	79.52	334	eP		P	18 24 43.0	-1.5			
JAVS				e			18 25 09.8				
JAVS				eS		S	18 34 38.0	-3.9			
JAVS	Javornik	79.52	334	eP		P	18 24 43.0	-1.5			
JAVS				e			18 25 09.8				
JAVS				eS		S	18 34 38.0	-3.9			
BOJS	Bojanci	79.53	333	iP		P	18 24 43.5	-0.8			
BOJS				i			18 25 09.1				
BOJS				ePP		PP	18 27 35.7	-8.8			
BOJS				e			18 30 57.0				
BOJS				eS		S	18 34 38.4	-3.3			
BOJS				i SS		SS	18 39 39.5	-9.4			
BOJS				e			18 40 49.7				
BOJS	Bojanci	79.53	333	iP		P	18 24 43.5	-0.8			
BOJS				i			18 25 09.1				
BOJS				ePP		PP	18 27 35.7	-8.8			
BOJS				e			18 30 57.0				
BOJS				eS		S	18 34 38.4	-3.3			
BOJS				i SS		SS	18 39 39.5	-9.4			
BOJS				e			18 40 49.7				
LADK	Ladik-KONYA	79.53	318	P		P	18 24 43.4	-1.2			
CEY	Cerknica	79.56	334⇑	iP		P	18 24 43.4	-1.1			
342A	Flagon Creek P	79.57	54	eP		P	18 24 44.5	-0.2			
342A	Flagon Creek P	79.57	54	P		P	18 24 45.5	+0.8			
	baz=322										
144A	Alexander Plac	79.57	52	P		P	18 24 45.2	+0.4			
	baz=323										
T52A	Hallie	79.57	44	P		P	18 24 44.8	+0.1			
	baz=326,SNR=22										
QUA2	Belchertown	79.58	34	eP		P	18 24 43.9	-0.8			
441A	DeRidder	79.60	55	P		P	18 24 45.5	+0.6			
	baz=322										
CCA1	Carnmenellis	79.61	348⇑	eP		P	18 24 44.1	-0.6			
CCA1				lAmb		lAmb	18 24 46.1				
	comp=Z,840nm,1.2s										
243A	Waterproof	79.61	53	P		P	18 24 45.7	+0.8			
	baz=322,SNR=10.0										
BLY	Banja Luka	79.62	331	eP		P	18 24 43.2	-1.6			
BLY	Banja Luka	79.62	331⇓	iP		P	18 24 44.0	-0.8			
BLY	Banja Luka	79.62	331⇑	iP		P	18 24 43.6	-1.2			
EDC	Edincik	79.63	322	P		P	18 24 43.9	-1.0			
HAPS	Han Pijesak,BI	79.64	330⇑	iP		P	18 24 43.8	-1.3			
W49A	Belvidere	79.65	47	P		P	18 24 44.9	-0.3			
	baz=324,SNR=22										
PAGS	Pennsylvania G	79.66	38	eP		P	18 24 44.3	-0.8			
MERS	Mersin	79.67	316	P		P	18 24 44.6	-0.7			
HRV	Adam Dziewonsk	79.68	33	eP		P	18 24 44.2	-1.0			
HRV	Adam Dziewonsk	79.68	33	eP		P	18 24 44.2	-1.0			
HRV	Adam Dziewonsk	79.68	33	P		P	18 24 44.9	-0.3			
	baz=331										
BBLS	Lazići	79.68	329⇑	iP		P	18 24 44.8	-0.5			
U51A	La Follette	79.69	45	P		P	18 24 45.0	-0.4			
	baz=325,SNR=15										
RZN	Rozhen	79.70	325	P		P	18 24 45.1	-0.5			
BOLV	Bolvadin	79.72	319	iP		P	18 24 45.5	-0.1			
TVSB	Tavsanli	79.73	321	P		P	18 24 44.4	-1.3			
SWET	Sewanee	79.73	47	eP		P	18 24 44.6	-1.1			
KONT	Konya--Tatoy	79.75	318	P		P	18 24 44.7	-1.0			
KONT	Konya--Tatoy	79.75	318	iP		P	18 24 45.3	-0.4			
V50A	Pikevile	79.76	46	P		P	18 24 45.5	-0.3			
	baz=325,SNR=37										
ODNJ	Ogdensburg	79.77	36	eP		P	18 24 44.8	-0.9			
TZTN	Tazewell	79.78	45	eP		P	18 24 45.6	-0.3			
TZTN	Tazewell	79.78	45	P		P	18 24 45.8	0.0			
	baz=325,SNR=17										
TRI	Trieste	79.78	334	eP		P	18 24 43.8	-1.8			
TRI	Trieste	79.78	334	eP		P	18 24 43.8	-1.8			
KRBG	Karabiga-Canak	79.81	323	P		P	18 24 45.4	-0.5			
X48A	Hartselle	79.81	48	eP		P	18 24 45.0	-1.0			
X48A	Hartselle	79.81	48	P		P	18 24 45.3	-0.7			
	baz=324,SNR=14										
145A	Houston Renfro	79.84	51	P		P	18 24 46.6	+0.4			
	baz=323										
VBMS	Vicksburg	79.85	52	eP		P	18 24 46.3	+0.1			
VBMS	Vicksburg	79.85	52	P		P	18 24 46.8	+0.6			
	baz=323,SNR=8.0										
SKDS	Skadanscina	79.85	334	iP		P	18 24 44.7	-1.4			
SKDS	Skadanscina	79.85	334	iP		P	18 24 44.7	-1.4			
Y47A	UCPARC, Winfie	79.86	49	P		P	18 24 45.7	-0.6			
	baz=324,SNR=36										
RDO	Rodhopi	79.86	324	eP		P	18 24 45.6	-0.6			
RDO	Rodhopi	79.86	324	P		P	18 24 45.6	-0.6			
WES	Weston	79.87	33	eP		P	18 24 45.7	-0.5			
WES	Weston	79.87	33	eP		P	18 24 45.7	-0.5			
ALN	Alexandroupoli	79.88	324	eP		P	18 24 44.7	-1.6			
ALN	Alexandroupoli	79.88	324	P		P	18 24 45.3	-1.0			
ALN	Alexandroupoli	79.88	324	eP		P	18 24 44.7	-1.6			
Z46A	Louisville	79.88	50	P		P	18 24 46.7	+0.3			
	baz=323										
LUPA	Lehigh Univers	79.88	37	eP		P	18 24 45.6	-0.7			
ERIK	Erikli-Kesan	79.89	323	P		P	18 24 45.2	-1.1			
KMER	Konya-Meram	79.89	318	iP		P	18 24 45.9	-0.7			
244A	Avery, Jackson	79.90	52	P		P	18 24 47.2	+0.7			
	baz=323,SNR=20										
FUORN	Ofenpass-Fuorn	79.90	337	eP		P	18 24 46.1	-0.5			
RIY	Rijeka	79.92	333⇑	iP		P	18 24 45.2	-1.2			
BCX	Boston College	79.97	33	eP		P	18 24 45.9	-0.8			
ENEZ	Enez	79.97	323	P		P	18 24 45.6	-1.2			
U52A	Thorn Hill	79.98	45	P		P	18 24 47.0	0.0			
	baz=326,SNR=33										
HMDM	Hanimaadhoo	79.99	269	eP		P	18 24 46.6	-0.6			
MVL	Millersville	80.00	38	eP		P	18 24 46.3	-0.6			
V51A	Loudon	80.01	46	eP		P	18 24 46.2	-0.9			
V51A	Loudon	80.01	46	P		P	18 24 46.9	-0.2			
	baz=325,SNR=25										
343A	Vidalia	80.01	53	P		P	18 24 48.0	+0.8			
	baz=322										
COCO	West Island	80.02	238	eP		P	18 24 46.7	-0.5			
COCO				LR		LR					
	comp=Z,4μm,20.0s										
COCO	West Island	80.02	238	P		P	18 24 48.2	+1.0			
	SNR=6.0										
COCO	West Island	80.02	238	P		P	18 24 48.2	+1.0			
	SNR=6.0										
COCO	West Island	80.02	238	ceP		P	18 24 48.3	+1.1			
GDZ	Gediz	80.03	320	iP		P	18 24 46.5	-0.8			
442A	Mamou	80.03	54	P		P	18 24 48.3	+1.1			
	baz=322										
LPK	Lapseki	80.05	323	P		P	18 24 46.2	-1.0			
W50A	Signal Mountai	80.05	47	eP		P	18 24 46.2	-1.1			
W50A	Signal Mountai	80.05	47	P		P	18 24 47.1	-0.2			
	baz=325,SNR=47										
JDG	Jersey Dam (Ga	80.08	345⇑	eP		P	18 24 46.8	-0.4			
PAL	Palisades	80.10	36	eP		P	18 24 46.4	-1.1			
PAL	Palisades	80.10	36	eP		P	18 24 46.4	-1.1			
PAL	Palisades	80.10	36	P		P	18 24 46.9	-0.5			
	baz=330,SNR=8.9										
JSA	Saint Aubin	80.11	345⇑	eP		P	18 24 47.0	-0.3			
JSA				lAmb		lAmb	18 24 49.6				
	comp=Z,2μm,1.3s										
X49A	Woodville	80.11	48	P		P	18 24 47.3	-0.3			
	baz=324,SNR=30										
BRNJ	Basking Ridge	80.13	36	eP		P	18 24 46.7	-0.9			
GELI	Tayfur-Gelibol	80.14	323	P		P	18 24 46.3	-1.4			
541A	Lake Charles	80.14	55	eP		P	18 24 47.8	-0.1			
541A	Lake Charles	80.14	55	P		P	18 24 49.1	+1.3			
	baz=322										
KIZK	Mersin	80.16	316	P		P	18 24 46.8	-1.1			
KKB	Krupnik	80.16	326	P		P	18 24 47.1	-0.7			
MMB	Musomiste	80.16	325	P		P	18 24 46.8	-1.1			
PLE	Pljevlja	80.17	329⇑	iP		P	18 24 46.6	-1.4			
Y48A	Jasper	80.19	49	P		P	18 24 47.1	-0.9			
	baz=324,SNR=16										
BRYW	Bryant College	80.20	34	eP		P	18 24 47.6	-0.4			
YLE	Yale	80.20	35	eP		P	18 24 47.0	-1.0			
CPCT	Cooper Cave	80.22	46	eP		P	18 24 47.4	-0.8			
BALB	Balikesir	80.22	322	P		P	18 24 46.8	-1.3			
UDBI	Udbina	80.26	332	P		P	18 24 46.8	-1.5			
146A	Union	80.26	51	eP		P	18 24 49.0	+0.5			
146A	Union	80.26	51	P		P	18 24 49.2	+0.7			
	baz=323,SNR=29										
CPNY	Central Park	80.27	36	eP		P	18 24 47.6	-0.8			
TUE	Stretta	80.28	337	eP		P	18 24 48.2	-0.4			
SDMD	Soldier's Deli	80.31	39	eP		P	18 24 47.7	-0.9			
Z47A	Carrollton	80.31	50	P		P	18 24 48.6	-0.2			
	baz=324,SNR=18										
245A	Little AP, Sta	80.31	52	P		P	18 24 49.4	+0.7			
	baz=323,SNR=7.6										
NVR	Nevrokopi	80.32	325	P		P	18 24 47.9	-0.8			
NVR	Nevrokopi	80.32	325	P		P	18 24 47.9	-0.8			
GBN	Guysborough	80.32	26	eP		P	18 24 48.6	0.0			
V52A	Sevierville	80.33	45	eP		P	18 24 48.3	-0.5			
V52A	Sevierville	80.33	45	P		P	18 24 48.7	-0.1			
	baz=325,SNR=20										
443A	Delano Plantat	80.33	54	P		P	18 24 50.4	+1.5			
	baz=322										
W51A	Cleveland	80.34	46	P		P	18 24 48.6	-0.3			
	baz=325,SNR=20										
344A	Westbrook Farm	80.34	53	eP		P	18 24 49.4	+0.5			
344A	Westbrook Farm	80.34	53	P		P	18 24 50.0	+1.0			
	baz=323,SNR=19										
U53A	Fali Branch	80.37	44	P		P	18 24 48.8	-0.3			
	baz=326,SNR=33										
ZAIG	Zacatecas	80.38	66	eP		P	18 24 49.9	+0.2			
KEBE	Keben-Mersin	80.38	316	P		P	18 24 47.6	-1.6			
TKL	Tuckaleechee C	80.40	45	eP		P	18 24 48.5	-0.7			
TKL	Tuckaleechee C	80.40	45	eP		P	18 24 48.5	-0.7			
IVA	Berane	80.40	329⇑	iP		P	18 24 48.1	-1.1			
HAL	Halifax	80.42	27	eP		P	18 24 48.3	-0.8			
HAL	Halifax	80.42	27	eP		P	18 24 48.3	-0.8			
TAOE	Nuku Hiva Isla	80.42	116	eS		S	18 34 52.2	+0.2			
	comp=Z,5μm,22.2s										
TAOE	Nuku Hiva Isla	80.42	116	eLQ		LQ	18 46 28.5				
	comp=Z,11μm,25.2s										
TAOE				eLR		LR	18 50 00.9				
	comp=Z,87μm,22.8s										
PSUB	Penn St. - Bra	80.42	37	eP		P	18 24 48.2	-1.1			
Z48A	Northport	80.42	49	P		P	18 24 48.7	-0.6			
	baz=324,SNR=16										
542A	Morse	80.43	55	P		P	18 24 51.3	+1.9			
	baz=322										
MZR	Muzera	80.44	294	iP		P	18 24 49.1	-0.5			
	SNR=69										
UPM	Unac-Piva	80.44	329⇑	iP		P	18 24 48.0	-1.5			
UPM	Unac-Piva	80.44	329⇑	iP		P	18 24 48.1	-1.5			
SMTH	Samothraki Isl	80.44	324	P		P	18 24 47.9	-1.5			
KZIL	AFYON_Kizioren	80.45	319	iP		P	18 24 48.5	-1.1			
LHI	Lord Howe Isla	80.45	177	eP		P	18 24 48.3	-0.8			
X50B	Foyne	80.48	47	P		P	18 24 49.2	-0.5			
	baz=325,SNR=39										
NVLJ	Novalja	80.50	333	P		P	18 24 47.8	-1.7			
GIRL	Giralia	80.50	218	P		P	18 24 50.5	+0.9			
	baz=81,SNR=3.5										
TEVE	Tevekalti-Mers	80.51	316	P		P	18 24 48.3	-1.6			
GADA	Gvkgeada	80.54	323	eP		P	18 24 48.8	-1.0			
GADA	Gvkgeada	80.54	323	P		P	18 24 48.8	-1.0			
KOME	Kolasin	80.55	329⇑	iP		P	18 24 48.7	-1.3			
RAR	Rarotonga	80.56	138	eP		P	18 24 49.6	-0.3			
RAR				LR		LR					
	comp=Z,13μm,21.0s										
RAR	Rarotonga	80.56	138	eP		P	18 24 49.7	-0.3			
RAR				MLR		MLR					
	comp=Z,13μm,21.0s										
IKL	Isikli	80.56	316	P		P	18 24 48.4	-1.6			
LNIG	Linares	80.60	63	eP		P	18 24 49.4	-1.0			
Y49A	Blount Mountai	80.60	48	eP		P	18 24 49.4	-0.9			
Y49A	Blount Mountai	80.60	48	P		P	18 24 49.8	-0.5			
	baz=324,SNR=19										
SRS	Serrai	80.62	325	eP		P	18 24 49.1	-1.2			
SRS	Serrai	80.62	325	P		P	18 24 49.1	-1.2			
SRS	Serrai	80.62	325	eP		P	18 24 49.1	-1.2			
PVY	Plav	80.62	328⇑	iP		P	18 24 49.3	-1.1			
147A	Livingston	80.63	50	eP		P	18 24 50.0	-0.5			
147A	Livingston	80.63	50	P		P	18 24 50.5	+0.1			
	baz=324,SNR=30										
STIP	Stip	80.63	327	iP		P	18 24 48.6	-1.7			
BLA	Blacksburg	80.63	42	eP		P	18 24 49.9	-0.6			
BLA				LR		LR					
	comp=Z,19μm,20.0s										
BLA	Blacksburg	80.63	42	eP		P	18 24 49.9	-0.6			
BLA				MLR		MLR					
	comp=Z,19μm,20.0s										
BLA	Blacksburg	80.63	42	P		P	18 24 50.3	-0.2			
	baz=327,SNR=25										
THAS	Thassos island	80.64	324	P		P	18 24 49.0	-1.4			
ISP	Isparta	80.65	319	eP		P	18 24 49.3	-1.3			
ISP	Isparta	80.65	319⇑	iP		P	18 24 49.4	-1.2			
ISP	Isparta	80.65	319	P		P	18 24 49.3	-1.3			
ISP	Isparta	80.65	319	eP		P	18 24 49.3	-1.3			
SKO	Skopje	80.66	327	P		P	18 24 49.9	-0.6			
SKO	Skopje	80.66	327	iP		P	18 24 50.1	-0.4			
GULN	MERSIN_Gulnar	80.67	316	iP		P	18 24 49.4	-1.3			
BERE	Bereket-Mersin	80.68	316	P		P	18 24 49.2	-1.7			
EZN	Ezine	80.69	323	P		P	18 24 49.0	-1.6			
EZN	Ezine	80.69	323	P		P	18 24 49.7	-0.9			
AKKU	Akkuyu-Mersin	80.69	316	P		P	18 24 48.9	-1.8			
246A	Jackson Lee, B	80.72	51	P		P	18 24 51.9	+0.9			
	baz=323										
SUTC	Sutluce-Ispart	80.73	318	P		P	18 24 49.8	-1.3			
NKY	Niksic	80.76	329⇑	iP		P	18 24 49.6	-1.5			
X51A	Calhoun	80.78	47	eP		P	18 24 50.3	-0.9			
X51A	Calhoun	80.78	47	P		P	18 24 50.9	-0.3			
	baz=325,SNR=12										
W52A	Murphy	80.79	46	eP		P	18 24 50.8	-0.6			
W52A	Murphy	80.79	46	P		P	18 24 51.2	-0.1			
	baz=325,SNR=11										
NKME	Niksic	80.81	329⇑	iP		P	18 24 49.8	-1.5			
345A	Thompson Farm,	80.82	52	P		P	18 24 52.4	+0.9			
	baz=323,SNR=8.4										
VAY	Valandovo	80.82	326	P		P	18 24 50.7	-0.6			
VAY	Valandovo	80.82	326	iP		P	18 24 50.9	-0.4			
543A	St. Martinvill	80.83	54	eP		P	18 24 52.2	+0.6			
543A	St. Martinvill	80.83	54	P		P	18 24 53.2	+1.7			
	baz=322										
BRY	Bratogost	80.83	330⇑	iP		P	18 24 49.9	-1.7			
BRY	Bratogost	80.83	330⇑	iP		P	18 24 49.9	-1.7			
M65A	Busby, Falmout	80.83	33	P		P	18 24 51.1	-0.3			
	baz=332										
V53A	Saluda	80.83	45	eP		P	18 24 50.9	-0.7			
V53A	Saluda	80.83	45	P		P	18 24 51.4	-0.2			
	baz=326,SNR=14										
KNT	Kendrikon	80.84	326	P		P	18 24 50.8	-0.7			
KNT	Kendrikon	80.84	326	P		P	18 24 50.8	-0.7			
KULA	Kula-Manisa	80.85	321	P		P	18 24 50.4	-1.3			
SENIN	Lac Senin/Sane	80.89	338	eP		P	18 24 51.0	-0.8			
AKHS	Akhisar	80.89	321	iP		P	18 24 51.3	-0.5			
CMSA	Cobar Meteorol	80.90	189	P		P	18 24 51.7	+0.1			
	baz=81,SNR=38										
TEKE	Tekeli-Mersin	80.90	316	P		P	18 24 49.9	-2.0			
Y50A	Piedmont	80.90	48	P		P	18 24 51.4	-0.5			
	baz=325,SNR=16										
MANT	Manisa	80.92	321	iP		P	18 24 51.6	-0.6			
MANT	Manisa	80.92	321	eP		P	18 24 51.2	-1.0			
444A	Pine Grove	80.92	53	P		P	18 24 53.2	+1.2			
	baz=323										
KEPZ	Antalya-Kepez	80.95	318	iP		P	18 24 51.0	-1.2			
BRDR	BURDUR-Merkez	80.95	319	iP		P	18 24 51.7	-0.5			
247A	Quitman	80.96	51	P		P	18 24 53.1	+0.9			
	baz=324,SNR=13										
SOH	Sokhos	80.97	325	P		P	18 24 51.0	-1.2			
LRAL	Lakeview Retre	80.98	49	eP		P	18 24 51.2	-1.1			
LRAL	Lakeview Retre	80.98	49	P		P	18 24 51.7	-0.6			
	baz=324,SNR=22										
148A	Greensboro	81.00	50	P		P	18 24 52.1	-0.3			
	baz=324,SNR=13										
PDG	Podgorica	81.01	329⇑	iP		P	18 24 51.3	-1.0			
PDG	Podgorica	81.01	329⇑	iP		P	18 24 51.0	-1.3			
TTG	Podgorica	81.01	329⇑	iP		P	18 24 51.1	-1.3			
TTG	Podgorica	81.01	329	eP		P	18 24 50.5	-1.8			
TTG	Podgorica	81.01	329	eP		P	18 24 50.5	-1.8			
CEME	Cevo	81.02	329⇑	iP		P	18 24 51.0	-1.5			
PMOR	Pomariorio Ree	81.04	125	eP		P	18 24 52.5	-0.2			
	comp=Z,212nm,1.2s										
PMOR	Pomariorio Ree	81.04	125	eT		T	19 54 14.5				
	comp=Z,25nm,0.2s										
346A	Big Creek Wild	81.05	52	eP		P	18 24 53.0	+0.3			
346A	Big Creek Wild	81.05	52	P		P	18 24 53.5	+0.7			
	baz=323,SNR=5.3										
TREB	Trebinje	81.06	330⇑	iP		P	18 24 50.5	-2.1			
LIA	Limnos Island	81.07	324	P		P	18 24 51.6	-1.1			
LIA	Limnos Island	81.07	324	P		P	18 24 51.6	-1.1			
Z49A	Columbiana	81.08	49	P		P	18 24 52.3	-0.5			
	baz=324,SNR=26										
W53A	Cullowhee	81.08	45	P		P	18 24 52.7	-0.3			
	baz=326,SNR=18										
R58B	Mineral	81.10	40	P		P	18 24 52.8	-0.1			
	baz=328,SNR=12										
CBN	Corbin Frederi	81.11	40	eP		P	18 24 52.5	-0.4			
CBN				LR		LR					
	comp=Z,8μm,20.0s										
CBN	Corbin Frederi	81.11	40	P		P	18 24 52.6	-0.4			
	baz=328										
445A	Amite	81.12	53	P		P	18 24 54.1	+1.0			
	baz=323,SNR=6.0										
STON	Ston	81.13	330	P		P	18 24 51.1	-1.8			
STON	Ston	81.13	330⇑	iP		P	18 24 51.0	-1.9			
OUR	Ouranopolis	81.15	325	P		P	18 24 52.0	-1.1			
544A	White Castle	81.18	54	P		P	18 24 54.9	+1.5			
	baz=323										
GAZI	Gazipasa	81.19	317	P		P	18 24 54.0	+0.6			
GAZI	Gazipasa	81.19	317	iP		P	18 24 55.0	+1.6			
GRG	Griva	81.20	326	P		P	18 24 52.5	-0.9			
PRK	Paraskevi	81.20	323	P		P	18 24 52.4	-1.0			
PRK	Paraskevi	81.20	323	P		P	18 24 52.4	-1.0			
X52A	Dahlonega	81.20	46	P		P	18 24 53.4	-0.2			
	baz=325,SNR=28										
Y51A	Rockmart	81.22	47	P		P	18 24 53.2	-0.5			
	baz=325,SNR=33										
BUM	Brajici-Budva	81.25	329⇑	iP		P	18 24 52.1	-1.6			
DRME	Dracevica, Mon	81.25	329

KZN Kozani 82.00 326 P P 18 24 56.1 -1.6
KZN Kozani 82.00 326 P P 18 24 56.1 -1.6
KZN Kozani 82.00 326 P P 18 24 56.1 -1.6
CHOS Chios island 82.03 322 P P **18 24 56.7 -1.2**
CHOS Chios island 82.03 322 P P **18 24 56.7 -1.2**
KBN Korca 82.08 327 *e*P P **18 24 56.8 -1.3**
KBN Korca 82.08 327 P P **18 24 56.8 -1.3**
KBN Korca 82.08 327 *e*P P **18 24 56.8 -1.3**
Z52A Williamson 82.11 47 P P **18 24 58.2 -0.1**
baz=325,SNR=22
VLC Villacollemand 82.15 336 *e*P P **18 24 57.4 -1.0**
SZAC Souni 82.16 316 P P **18 24 57.6 -1.0**
NEST Nestorio 82.17 327 P P **18 24 57.4 -1.2**
MGCD Mangrove Creek 82.18 184 P P **18 24 59.6 +1.3**
baz=82,SNR=6.4
250A Grady 82.19 49 *e*P P **18 24 58.3 -0.5**
250A Grady 82.19 49 P P **18 24 58.9 +0.1**
baz=325,SNR=13
SKY Skiros Island 82.20 324 P P **18 24 57.7 -1.0**
AOS Alonnisos 82.20 324 P P **18 24 57.4 -1.3**
151A Opelika 82.21 48 P P **18 24 58.3 -0.6**
baz=325,SNR=8.3
349A Repton 82.24 50 P P **18 24 59.7 +0.7**
baz=324,SNR=9.6
448A Bay Minette 82.24 51 P P **18 24 59.9 +1.0**
baz=324,SNR=5.8
MLSB Milas 82.26 321 P P **18 24 57.8 -1.2**
FETY Fethiye 82.27 319 P P 18 24 57.6 -1.5
FETY Fethiye 82.27 319 P P **18 24 58.0 -1.1**
BNI Bardonecchia 82.27 338 *e*P P **18 24 58.7 -0.4**
BNI Bardonecchia 82.27 338 *e*P P **18 24 58.7 -0.4**
TURN Turunc 82.27 320 P P **18 24 59.2 +0.2**
TURN Turunc 82.27 320 *i* P P **18 24 60.0 +0.9**
HODGE Hodges 82.28 45 *e*P P **18 24 58.1 -1.0**
SMG Samos 82.29 321 P P **18 24 57.7 -1.5**
SMG Samos 82.29 321 P P **18 24 57.7 -1.5**
PPT Papeete 82.29 128 P P **18 24 59.7 +0.4**
comp=Z,48nm,0.9s,baz=60,slow=20,SNR=2.8
PPT LR LR 18 53 37.2
comp=Z,8µm,21.4s,baz=329,slow=30
PPT Papeete 82.29 128 *e*P P **18 24 59.6 +0.3**
PPT Papeete 82.29 128 P P **18 24 59.7 +0.4**
PPT pmax pmax
comp=Z,48nm,0.9s
PPT MLR MLR
comp=Z,8µm,21.4s
DALY Dalyan (Mu`la 82.29 320 P P **18 24 57.9 -1.3**
DALY Dalyan (Mu`la 82.29 320 *i* P P **18 24 58.5 -0.7**
PPCY Paphos 82.30 316 P P 18 24 57.6 -1.6
XOR Xorichti 82.30 325 P P 18 24 57.4 -1.8
XOR Xorichti 82.30 325 P P 18 24 57.4 -1.8
PPT2 Papeete2 82.31 128 *e*P P **18 24 59.2 -0.2**
comp=Z,148nm,1.3s
PPT2 Papeete2 82.31 128 *e*S S **18 35 12.3 +1.0**
comp=Z,7µm,27.0s
PPT2 Papeete2 82.31 128 *e*LR LR 18 50 42.8
comp=Z,22µm,24.0s
PPT2 Papeete2 82.31 128 *e*T T 19 55 47.5
comp=Z,12nm,0.2s
PPTF Pamatai, Papee 82.32 128 *e*P P **18 24 59.0 -0.4**
PENT Pentalofos 82.33 327 P P **18 24 58.2 -1.3**
NEO Neokhori 82.33 325 P P 18 24 57.8 -1.6
NEO Neokhori 82.33 325 P P 18 24 57.8 -1.6
FYTO Fytoko, Volos 82.35 325 P P **18 24 58.0 -1.5**
SKIA Skiathos 82.36 324 P P 18 24 57.9 -1.6
PAE Paea 82.37 128 *e*P P **18 24 59.3 -0.3**
comp=Z,8.1nm,0.9s
PAE Paea 82.37 128 *e*T T 19 55 51.5
comp=Z,3.4nm,0.2s
Y54A Tignall 82.38 46 P P **18 24 59.9 +0.2**
baz=326,SNR=115
AKAS Kas 82.38 319 P P 18 24 57.8 -2.0
AKAS Kas 82.38 319 *i* P P **18 24 58.6 -1.2**
GOGA Godfrey 82.38 46 *e*P P **18 24 59.2 -0.4**
GOGA LR LR
comp=Z,12µm,19.0s
GOGA Godfrey 82.38 46 *e*P P **18 24 59.3 -0.4**
GOGA MLR MLR
comp=Z,12µm,19.0s
GOGA Godfrey 82.38 46 P P **18 24 59.5 -0.2**
baz=326,SNR=13
152A Waverly Hall 82.39 48 *e*P P **18 24 59.0 -0.7**
152A Waverly Hall 82.39 48 P P **18 24 59.4 -0.4**
baz=325,SNR=25
TIAR Tiarei 82.40 128 *e*P P **18 24 59.5 -0.3**
comp=Z,30nm,1.0s
TIAR Tiarei 82.40 128 *e*T T 19 55 54.1
comp=Z,11nm,0.3s
Z53A Monticello 82.44 47 P P **18 24 59.8 -0.2**
baz=326,SNR=44
MEEK Meekatharra 82.44 213 P P **18 24 59.0 -0.9**
baz=83,SNR=11
BRAL Brewton 82.45 50 *e*P P **18 25 00.2 +0.1**
BRAL LR LR
comp=Z,9µm,20.0s
BRAL Brewton 82.45 50 P P **18 25 01.1 +1.0**
baz=324,SNR=14
KSL Kastellorizon 82.46 319 P P **18 24 58.7 -1.4**
251A Midway 82.52 49 P P **18 25 00.3 -0.2**
baz=325,SNR=22
SSB Saint Sauveur 82.55 340 *e*P P **18 24 59.5 -0.9**
SSB Saint Sauveur 82.55 340 *e*P P **18 24 59.6 -0.9**
THL Klokotos Trika 82.56 326 P P 18 24 57.9 -2.6
350A Dozier 82.61 50 P P **18 25 01.6 +0.7**
baz=325,SNR=18
TVO Taravao 82.64 128 *e*P P **18 25 00.8 -0.3**
comp=Z,22nm,0.9s
BODT Bodrum 82.65 321 P P 18 24 59.1 -2.0
BODT Bodrum 82.65 321 *e*P P **18 24 59.8 -1.3**
BODT Bodrum 82.65 321 P P **18 24 59.8 -1.3**
VLO Vlora 82.67 328 P P **18 25 00.5 -0.6**
JSC Jenkinsville 82.69 44 *e*P P **18 25 00.4 -0.9**
449A Pace 82.70 51 P P **18 25 02.4 +1.0**
baz=324,SNR=6.3
SMIA Simia 82.71 325 P P 18 24 59.5 -1.9
DAT Datca 82.82 320 P P 18 24 59.6 -2.5
DAT Datca 82.82 320 *i* P P 18 25 00.3 -1.8
Z54A Sparta 82.82 46 P P **18 25 02.1 +0.1**
baz=326,SNR=32
153A Fort Valley 82.83 47 P P **18 25 02.0 -0.1**
baz=326,SNR=6.8
EREA Eretria 82.83 324 P P 18 25 00.5 -1.5
JAN Janina 82.91 326 *e*P P **18 25 01.8 -0.6**
JAN Janina 82.91 326 P P **18 25 01.8 -0.6**
AGG Agios Georgios 82.92 325 *e*P P 18 25 00.0 -2.5
AGG Agios Georgios 82.92 325 P P 18 25 00.0 -2.5
AGG Agios Georgios 82.92 325 *e*P P 18 25 00.0 -2.5
252A Lumpkin 82.93 48 P P **18 25 02.3 -0.3**
baz=325,SNR=13
AQU L'Aquila 82.95 333 *e*P P **18 25 02.2 -0.4**
AQU L'Aquila 82.95 333 ⇑*i*P P **18 25 02.4 -0.2**
450A Crestview 82.98 50 P P **18 25 03.7 +0.8**
baz=324,SNR=5.5
BAI Bari 82.99 330 ⇑*i*P P **18 25 01.5 -1.2**
LKR Lokris 82.99 325 P P 18 25 00.1 -2.7
LKR Lokris 82.99 325 P P 18 25 00.1 -2.7
MAKR Makrakomi, Fth 83.00 325 *e*P P 18 25 00.8 -2.1
MAKR Makrakomi, Fth 83.00 325 P P 18 25 00.8 -2.1
SRN Sarande 83.01 327 P P **18 25 01.4 -1.5**
AXAR Agios Charalam 83.02 325 P P **18 25 03.0 0.0**
ARG Arkhangelos 83.03 320 P P **18 25 02.2 -0.8**
FASA Fasano 83.09 329 ⇑*i*P P **18 25 02.6 -0.7**
351A Pinckard 83.09 49 P P **18 25 03.8 +0.4**
baz=325,SNR=15
NIS1 Nisyros Isl. 83.10 321 *e*P P 18 25 01.6 -1.8
NIS1 Nisyros Isl. 83.10 321 P P 18 25 01.6 -1.8
NISR Nisiros 83.11 321 P P 18 25 01.4 -2.0
SGD Sagiada 83.17 327 P P **18 25 02.4 -1.3**
Z55A Blythe 83.17 46 P P **18 25 04.1 +0.3**
baz=326,SNR=11
253A Americus 83.17 48 *e*P P **18 25 03.6 -0.2**
253A Americus 83.17 48 P P **18 25 03.8 0.0**
baz=326,SNR=5.8
PTL Penteli 83.18 324 *e*P P 18 25 01.8 -2.0
PTL Penteli 83.18 324 P P 18 25 01.8 -2.0
IGT Igoumenitsa 83.20 327 P P **18 25 02.4 -1.5**
EVR Evrytania 83.21 325 P P 18 25 02.1 -1.9
EVR Evrytania 83.21 325 P P 18 25 02.1 -1.9
154A Montrose 83.21 47 *e*P P **18 25 03.8 -0.2**
154A Montrose 83.21 47 P P **18 25 04.3 +0.2**
baz=326,SNR=17
JRQG Juriquilla Cam 83.22 66 *e*P P **18 25 04.4 -0.2**
KEK Kerkira 83.23 327 P P **18 25 02.7 -1.3**
KEK Kerkira 83.23 327 P P **18 25 02.7 -1.3**
352A Blakely 83.26 49 *e*P P **18 25 04.2 -0.1**
352A Blakely 83.26 49 P P **18 25 04.5 +0.3**
baz=325,SNR=19
ATHU Athens Univers 83.29 324 P P 18 25 02.0 -2.3
SG1 Sgolgore (BA) 83.29 330 ⇑*i*P P **18 25 03.5 -0.9**
VILL Villia 83.30 324 P P 18 25 02.2 -2.2
ATH Athens Observa 83.31 324 P P 18 25 02.3 -2.1
ATH Athens Observa 83.31 324 P P 18 25 02.3 -2.1
MASS Massafra 83.32 329 ⇑*i*P P **18 25 03.3 -1.2**
APE Apeiranthos 83.37 322 *e*P P 18 25 02.1 -2.8
APE Apeiranthos 83.37 322 ⇑*i*P P 18 25 01.8 -3.1
APE Apeiranthos 83.37 322 P P 18 25 02.1 -2.8
APE Apeiranthos 83.37 322 *e*P P 18 25 02.1 -2.8
PROD Prodromos 83.37 324 P P 18 25 02.3 -2.5
FORT Forrest 83.37 204 P P **18 25 04.5 0.0**
baz=84,SNR=94
FORT Forrest 83.37 204 *e*P P **18 25 04.0 -0.5**
TAR1 Taranto 83.37 329 ⇑*i*P P **18 25 03.6 -1.1**
VLY Voula,Athens 83.38 324 P P 18 25 02.3 -2.5
CNNC Cliffs of the 83.40 42 *e*P P **18 25 03.8 -1.2**
CNNC LR LR
comp=Z,27µm,21.0s
CNNC Cliffs of the 83.40 42 P P **18 25 04.8 -0.1**
baz=328
YNG Young 83.42 186 P P **18 25 05.0 +0.3**
baz=84,SNR=24
AMGA Amorgos Island 83.43 322 P P 18 25 02.5 -2.6
ANX Ano Chora 83.45 325 P P 18 25 03.4 -1.9
MATE Matera 83.45 330 ⇑*i*P P **18 25 04.4 -0.7**
155A Kite 83.51 46 P P **18 25 05.8 +0.2**
baz=326,SNR=13
BBOO Buckleboo 83.53 197 P P **18 25 04.7 -0.6**
baz=84,SNR=32
BBOO Buckleboo 83.53 197 *e*P P **18 25 04.2 -1.1**
KALE Kalithea 83.54 325 P P 18 25 03.5 -2.2
LTK Loutraki 83.55 324 P P 18 25 03.0 -2.7
451A Vernon 83.56 50 *e*P P **18 25 06.6 +0.8**
451A Vernon 83.56 50 P P **18 25 06.8 +1.0**
baz=325,SNR=7.8
SERG Sergoula 83.56 325 P P 18 25 03.5 -2.2
MOIG Morelia 83.56 67 *e*P P **18 25 06.5 +0.2**
PVO Paravola 83.58 326 P P **18 25 04.3 -1.5**
LOUT Loutraki 83.58 324 P P 18 25 03.0 -2.9
TRIZ Trizonia 83.59 325 P P 18 25 03.8 -2.1
EFP Efpalio 83.60 325 P P 18 25 04.3 -1.6
HTT Hallett 83.64 194 P P **18 25 05.8 -0.2**
baz=84,SNR=31
452A Marianna 83.65 49 P P **18 25 06.7 +0.4**
baz=325
254A Abbeville 83.67 47 P P **18 25 06.8 +0.4**
baz=326,SNR=32
SERI Serifos 83.71 323 P P 18 25 03.1 -3.5
353A Camilla 83.71 48 P P **18 25 07.0 +0.4**
baz=326,SNR=29
LAKA Lakka 83.74 325 P P 18 25 05.0 -1.7
IOSP Ios island 83.77 322 P P 18 25 03.5 -3.3
KLV Kalavryta, Ach 83.84 325 P P 18 25 05.3 -2.0
KLV Kalavryta, Ach 83.84 325 P P 18 25 05.3 -2.0
GUR Goura 83.87 325 P P 18 25 05.2 -2.2
ANAF Anafi Island 83.89 321 P P 18 25 04.5 -3.0
DID Didima 83.90 324 *e*P P 18 25 04.1 -3.4
DID Didima 83.90 324 P P 18 25 04.1 -3.4
156A Sylvania 83.94 45 P P **18 25 08.6 +0.9**
baz=327,SNR=16
CMBO Columbo, Santo 83.94 322 P P 18 25 04.3 -3.4
TIGA Tifton 83.94 48 *e*P P **18 25 07.6 -0.2**
TIGA Tifton 83.94 48 P P **18 25 08.3 +0.6**
baz=326,SNR=33
THT2 Imerovigli 83.96 322 P P 18 25 04.9 -2.9
SAP3 Santorini-Thir 83.99 322 P P 18 25 04.4 -3.6
THT1 Athinios (Pele 84.00 322 P P 18 25 04.6 -3.4
SANT Santorini 84.00 322 *e*P P 18 25 04.2 -3.9
SANT Santorini 84.00 322 ⇑*i*P P 18 25 04.8 -3.3
SANT Santorini 84.00 322 P P 18 25 04.6 -3.5
KARP Karpathos 84.01 320 P P 18 25 06.2 -1.9
KARP Karpathos 84.01 320 P P 18 25 06.2 -1.9
SAP1 Santorini-Akro 84.04 322 P P 18 25 05.1 -3.1
453A Whigham 84.07 48 *e*P P **18 25 08.4 -0.1**
453A Whigham 84.07 48 P P **18 25 09.4 +0.9**
baz=326
FSK Fiskardo 84.07 326 P P 18 25 06.4 -1.9
255A Hazlehurst 84.08 47 *e*P P **18 25 08.0 -0.5**
255A Hazlehurst 84.08 47 P P **18 25 08.8 +0.3**
baz=326
RLS Riolos of Patr 84.09 325 P P **18 25 07.4 -1.0**
RLS Riolos of Patr 84.09 325 P P **18 25 07.4 -1.0**
DRO Drossia 84.09 325 P P **18 25 07.4 -1.1**
WHFO Wadi Hawf 84.12 291 PcP P **18 25 09.0 0.0**
SNR=46
WHFO Wadi Hawf 84.12 291 P P **18 25 09.0 0.0**
SNR=46
MHLO Agia Marina, M 84.15 323 P P 18 25 06.5 -2.3
NHSC New Hope 84.17 44 *e*P P **18 25 08.8 -0.1**
NHSC LR LR
comp=Z,19µm,21.0s
NHSC New Hope 84.17 44 P P **18 25 09.2 +0.3**
baz=327,SNR=7.3
RBK Rabkut 84.17 290 PcP P **18 25 10.0 +0.8**
SNR=28
RBK Rabkut 84.17 290 P P **18 25 10.0 +0.8**
SNR=28
552A Lynn Haven 84.17 50 P P **18 25 09.6 +0.6**
baz=325
TRIP Tripoli 84.25 324 P P 18 25 07.5 -1.9
VLS Valsamata 84.31 326 P P 18 25 07.9 -1.7
VLS Valsamata 84.31 326 P P 18 25 07.9 -1.7
VLS Valsamata 84.31 326 P P 18 25 07.9 -1.7
256A Glennville 84.31 46 P P **18 25 09.8 +0.2**
baz=326
CSU Charleston Sou 84.32 44 *e*P P **18 25 09.3 -0.3**
RGRS Roger Stewart 84.33 44 *e*P P **18 25 10.9 +1.2**
CUC Castrocucco 84.34 330 *e*P P 18 25 07.6 -2.2
VLX Vlachokerasia 84.35 324 P P 18 25 07.6 -2.3
CNB Canberra Magne 84.37 185 P P **18 25 10.0 +0.4**
baz=85,SNR=4.5
355A Pearson 84.38 47 P P **18 25 10.5 +0.5**
baz=326,SNR=7.8
CAN Canberra 84.39 185 *e*P P **18 25 09.6 -0.1**
CAN Canberra 84.39 185 *e*P P **18 25 09.6 -0.1**
AMT Artemida-Makis 84.46 325 P P 18 25 08.8 -1.6
553A Crawfordville 84.56 49 P P **18 25 11.6 +0.7**
baz=326,SNR=5.4
ITM Ithoni 84.69 325 *e*P P 18 25 09.3 -2.2
ITM Ithomi 84.69 325 P P 18 25 09.6 -1.9
RAYN Ar Rayn 84.69 300 *e*P P **18 25 11.0 -0.8**
RAYN LR LR
comp=Z,26µm,19.0s
RAYN Ar Rayn 84.69 300 *i* P P **18 25 11.6 -0.2**
SNR=1413
VLI Veliai 84.70 324 P P 18 25 08.2 -3.4
257A Skidaway Islan 84.72 45 *e*P P **18 25 10.9 -0.8**
257A Skidaway Islan 84.72 45 P P **18 25 11.7 0.0**
baz=327
356A Blackshear 84.74 47 P P **18 25 12.2 +0.4**
baz=326
TIP Timpagrande 84.76 329 *e*P P **18 25 11.1 -0.8**
TIP Timpagrande 84.76 329 ⇑*i*P P **18 25 11.6 -0.3**
TIP Timpagrande 84.76 329 P P **18 25 11.2 -0.7**
ZKR Zakros 84.77 321 *e*P P **18 25 10.6 -1.4**
ZKR Zakros 84.77 321 P P **18 25 10.6 -1.4**
455A Stateville 84.79 48 P P **18 25 12.7 +0.6**
baz=326,SNR=11
ABTO Aybut 84.84 290 PcP P **18 25 13.0 +0.4**
SNR=26
ABTO Aybut 84.84 290 P P **18 25 13.0 +0.4**
SNR=26
NPS Neapolis 84.89 321 P P 18 25 10.2 -2.4
NPS Neapolis 84.89 321 P P 18 25 10.2 -2.4
NPS Neapolis 84.89 321 P P 18 25 10.2 -2.4
DYR Agios Nikonas 84.90 324 P P 18 25 10.9 -1.7
357A Townsend 84.96 46 P P **18 25 13.3 +0.4**
baz=327
PYL PYLOS 85.01 325 *e*P P 18 25 10.8 -2.3
PYL PYLOS 85.01 325 P P 18 25 10.8 -2.3
554A Perry 85.01 48 P P **18 25 13.9 +0.7**
baz=326,SNR=6.7
UNM Universidad Na 85.03 66 *e*P P **18 25 13.7 -0.1**
LAST Lasithi 85.04 321 *e*P P 18 25 11.6 -1.8
LAST Lasithi 85.04 321 P P 18 25 11.6 -1.8
KYTH Kithira 85.06 323 P P 18 25 10.9 -2.5
KTHR Kythira 85.08 323 P P 18 25 11.2 -2.3
IDI Anoyia 85.17 322 *e*P P 18 25 10.9 -3.1
IDI Anoyia 85.17 322 ⇑*i*P P 18 25 11.3 -2.7
IDI Anoyia 85.17 322 P P 18 25 09.8 -4.2
456A Hilliard 85.29 47 *e*P P **18 25 14.9 +0.3**
456A Hilliard 85.29 47 P P **18 25 15.3 +0.8**
baz=326
ANKY Antikythira Is 85.30 323 *e*P P 18 25 12.3 -2.3
ANKY Antikythira Is 85.30 323 P P 18 25 12.3 -2.3
CHAN Chania 85.31 322 P P 18 25 11.9 -2.7
555A McAlpin 85.33 48 *e*P P **18 25 15.1 +0.3**
555A McAlpin 85.33 48 P P **18 25 15.5 +0.7**
baz=326,SNR=9.3
VAM Vamos 85.35 322 P P 18 25 12.4 -2.4
VAM Vamos 85.35 322 P P 18 25 12.4 -2.4
VAM Vamos 85.35 322 P P 18 25 12.4 -2.4
IMMV Iera Moni Meta 85.39 322 P P 18 25 13.4 -1.6
TMBK Timbaki Herakl 85.41 322 P P **18 25 14.0 -1.1**
SIVA Sivas 85.44 321 P P **18 25 13.9 -1.3**
SIVA Sivas 85.44 321 P P **18 25 13.9 -1.3**
MORW Morawa 85.58 214 P P **18 25 15.2 -0.6**
baz=86,SNR=10
OUZ Omahuta 85.59 165 *e*P P **18 25 15.8 +0.2**
457A Yulee 85.60 47 P P **18 25 17.3 +1.2**
baz=327
655A Horseshoe Beac 85.69 48 P P **18 25 17.1 +0.5**
baz=326
556A Lake Butler 85.70 48 P P **18 25 17.7 +1.1**
baz=326,SNR=24
KMBL Kambalda 85.71 208 P P **18 25 15.4 -0.9**
baz=86,SNR=12
CEL Celeste 85.88 329 *e*P P 18 25 14.9 -2.6
GVD Gavdhos 85.88 322 P P 18 25 15.7 -1.8
557A Orange Park 86.02 47 P P **18 25 18.6 +0.4**
baz=327,SNR=9.8
MILA Mila 86.11 185 P P **18 25 19.0 +0.8**
baz=86,SNR=9.4
656A Willston 86.16 48 *e*P P **18 25 19.4 +0.5**
656A Willston 86.16 48 P P **18 25 20.1 +1.2**
baz=326,SNR=18
657A Interlachen 86.31 47 P P **18 25 20.5 +0.8**
baz=327
ARPS Mount Arapiles 86.51 191 P P **18 25 19.9 -0.2**
baz=87,SNR=27
658A Bunnell 86.74 47 *e*P P **18 25 22.3 +0.6**
658A Bunnell 86.74 47 P P **18 25 22.8 +1.1**
baz=327
757A Oxford 86.74 48 P P **18 25 22.4 +0.6**
baz=327,SNR=7.0
BLDU Ballidu 86.75 213 P P **18 25 20.6 -0.9**
baz=87,SNR=20
TLIG Tlapa 86.76 67 *e*P P **18 25 22.4 +0.2**
TOO Toolangi 86.90 188 P P **18 25 22.7 +0.6**
baz=87,SNR=15
758A Lake Helen 87.15 47 P P **18 25 24.8 +1.0**
baz=327
TBI Tubuai 87.20 131 *e*P P **18 25 23.3 -0.5**
comp=Z,346nm,1.3s
TBI Tubuai 87.20 131 *e*S S **18 36 00.1 +0.7**
comp=Z,7µm,27.0s
TBI *e*SS SS **18 41 48.5 +3.6**
comp=Z,6µm,28.2s
TBI Tubuai 87.20 131 *e*LR LR 18 53 04.2
comp=Z,49µm,22.8s
TBI Tubuai 87.20 131 *e*T T 20 01 50.3
comp=Z,15nm,0.3s
857A Zephyrhills 87.22 48 P P **18 25 24.8 +0.7**
baz=326,SNR=9.9
KLBR Kellerberrin 87.27 212 P P **18 25 23.1 -0.8**
baz=88,SNR=46
CLTB Caltabellotta 87.37 331 *e*P P 18 25 22.2 -2.6
858A St. Cloud 87.69 48 P P **18 25 27.1 +0.7**
baz=327,SNR=7.3
957A Wimauma 87.72 49 *e*P P **18 25 26.3 -0.2**
957A Wimauma 87.72 49 P P **18 25 27.0 +0.5**
baz=326
MAHO Mahon 87.72 338 ⇑*i*P P **18 25 24.8 -1.5**
MAHO *i* S S 18 35 48.9 -15
DWPF Disney Wildern 87.74 48 *e*P P **18 25 26.8 +0.2**
DWPF Disney Wildern 87.74 48 P P **18 25 27.4 +0.8**
baz=327
958A Wauchula 88.02 48 P P **18 25 28.5 +0.6**
baz=327,SNR=12
PBRG Braganca 88.03 347 *e*P P **18 25 27.1 -0.7**
comp=Z,137nm,1.5s
PBRG Braganca 88.03 347 *e*S SKSac **18 35 50.2 -1.8**
859A Kemper Cattle 88.05 48 P P **18 25 28.9 +0.8**
baz=327,SNR=14
PGAV Gavieira, Arco 88.08 348 *e*P P **18 25 27.1 -1.1**
comp=Z,171nm,1.8s
PGAV Gavieira, Arco 88.08 348 *e*PP PP 18 28 47.7 -6.6
PGAV *e*S SKSac **18 35 56.8 +4.4**
PGAV Gavieira, Arco 88.08 348 *e*LQ LQ 18 49 20.6
PGAV *e*LR LR 18 55 34.8
comp=Z,11µm,20.0s
MUN Mundaring 88.16 213 P P **18 25 27.3 -0.9**
baz=88,SNR=20
PCAB Cabril 88.30 348 *e*P P **18 25 29.1 0.0**
comp=Z,202nm,1.5s
058A Arcadia 88.44 49 P P **18 25 30.7 +0.7**
baz=327,SNR=10.0
959A Okeechobee 88.50 48 P P **18 25 31.0 +0.8**
baz=327
WDD Wied Dalam 88.53 329 *e*P P **18 25 28.9 -1.4**
POLO Lamas de Olo 88.60 348 *e*P P **18 25 30.2 -0.4**
comp=Z,140nm,1.1s
POLO Lamas de Olo 88.60 348 *e*S SKSac **18 35 59.8 +4.3**
NWAO Narrogin (SRO) 88.67 212 P P **18 25 30.0 -0.6**
baz=89,SNR=20
NWAO Narrogin (SRO) 88.67 212 *e*P P **18 25 29.5 -1.1**
NWAO LR LR
comp=Z,6µm,20.0s
NWAO Narrogin (SRO) 88.67 212 P P **18 25 30.4 -0.2**
SNR=10
NWAO Narrogin (SRO) 88.67 212 P P **18 25 30.4 -0.2**
SNR=10
NWAO Narrogin (SRO) 88.67 212 *e*P P **18 25 29.5 -1.1**
NWAO MLR MLR
comp=Z,6µm,20.0s
MVO Moncorvo 88.69 347 *e*P P **18 25 30.1 -0.9**
comp=Z,261nm,1.3s
MVO Moncorvo 88.69 347 *e*PP PP 18 28 57.7 -1.5
MVO *e*S SKSac **18 35 57.6 +1.6**
MVO *e*SS SS 18 42 31.1 +27
MVO *e*LQ LQ 18 48 26.5
MVO *e*LR LR 18 56 05.3
comp=Z,18µm,20.0s
MXZ Matakaoa Point 88.73 162 *e*P P **18 25 31.6 +0.8**
059A Moore Haven 88.83 48 *e*P P **18 25 30.5 -1.3**
059A Moore Haven 88.83 48 P P **18 25 32.5 +0.7**
baz=327,SNR=8.3
UCM Universidad Co 88.91 344 ⇑*i*P P **18 25 31.1 -0.9**
UCM *i* SKS SKSac **18 35 59.5 +2.2**
PTO Porto 88.94 348 *e*P P **18 25 32.5 +0.4**
comp=Z,193nm,1.8s
HIZ Hauiti 89.01 165 *e*P P **18 25 32.9 +0.8**
TAMR Tamra 89.11 334 *e*P P **18 25 32.0 -0.9**
060A Indiantown 89.16 48 *e*P P **18 25 33.6 +0.3**
060A Indiantown 89.16 48 P P **18 25 33.9 +0.6**
baz=327
URZ Urewera 89.17 163 P P **18 25 30.8 -2.0**
comp=Z,53nm,1.0s,baz=307,slow=2.9,SNR=8.2
CMIG Matias Romero 89.33 64 *e*P P **18 25 32.3 -2.0**
MTE Manteigas 89.52 347 *e*P P **18 25 33.7 -1.2**
comp=Z,221nm,1.7s
MTE Manteigas 89.52 347 *e*PP PP 18 29 07.2 +1.4
MTE *e*S SKSac **18 36 04.8 +3.9**
MTE *e*SS SS 18 42 37.1 +21
MTE *e*LQ LQ 18 49 50.4
MTE *e*LR LR 18 56 09.1
comp=Z,13µm,18.0s
MTE Manteigas 89.52 347 *e*P P 18 25 33.0 -2.0
060Z West Palm Beac 89.59 48 P P **18 25 35.6 +0.3**
baz=327
ES19 SONSECA Array 89.62 344 *e*P P 18 25 33.4 -2.0
ESDC Sonseca Array 89.65 344 P P **18 25 34.1 -1.4**
comp=Z,96nm,1.0s,baz=8.3,slow=3.9,SNR=129
ESDC PKKPbc **PKKPbc 18 43 10.6 +3.7**
comp=Z,0.6nm,0.6s,baz=188,slow=2.0,SNR=5.2

ESDC LR LR 19 10 57.6
comp=Z,25µm,20.8s,baz=30,slow=39
ESDC Sonseca Array 89.65 344 *e*P **P 18 25 34.1 -1.4**
ESDC *e*PKKPbc **PKKPbc 18 43 10.6 +3.7**
ESLA Sonseca Array 89.65 344 *e*P **P 18 25 33.8 -1.7**
PAB San Pablo 89.85 345 *e*P P 18 25 34.5 -2.0
PAB LR LR
comp=Z,31µm,20.0s
PAB San Pablo 89.85 345 *e*P P 18 25 34.5 -2.0
PAB MLR MLR
comp=Z,31µm,20.0s
061Z Ochoppi 89.87 49 *e*P **P 18 25 36.1 -0.5**
061Z Ochoppi 89.87 49 P **P 18 25 37.0 +0.4**
baz=327
BKZ Black Stump Fm 89.93 164 *e*P **P 18 25 34.5 -2.0**
CMAH Djebel Manchou 89.98 335 P P 18 25 34.7 -2.5
CAEH 'Ain El Ouahch 89.99 335 P **P 18 25 36.5 -0.6**
PCAS Casmilo, Conde 90.00 348 *e*P **P 18 25 36.7 -0.4**
comp=Z,219nm,1.6s
PCAS Casmilo, Conde 90.00 348 *e*S **SKSac 18 35 59.7 -3.9**
PCBR Castelo Branco 90.06 347 *e*P **P 18 25 37.0 -0.3**
comp=Z,208nm,1.6s
KEST Kesra 90.26 333 P **P 18 25 37.9 -0.6**
comp=Z,172nm,1.0s,baz=328,slow=1.7,SNR=63
KEST LR LR 19 10 02.4
comp=Z,56µm,21.4s,baz=325,slow=38
KEST Kesra 90.26 333 *e*P **P 18 25 37.4 -1.1**
RKGY Rocky Gully 90.28 211 P **P 18 25 38.9 +0.8**
baz=90,SNR=11
ABSA Djebel Ababsia 90.30 335 P P 18 25 36.1 -2.6
CKFL Kef-Lekhel 90.39 335 P P 18 25 36.7 -2.4
PTOM Tomar 90.41 348 *e*P **P 18 25 38.8 -0.2**
comp=Z,182nm,1.2s
PMRV Marv??o 90.45 347 *e*P **P 18 25 39.1 -0.1**
comp=Z,183nm,1.6s
PMRV Marv??o 90.45 347 *e*PP PP 18 29 12.3 -0.8
PMRV *e*S **SKSac 18 36 08.9 +2.7**
PMRV *e*SS SS 18 42 41.9 +12
PMRV Marv??o 90.45 347 *e*LQ LQ 18 56 45.6
PMRV *e*LR LR 19 04 19.5
comp=Z,29µm,20.0s
DFRA Djebel Bou Aff 90.48 336 P P 18 25 37.7 -1.8
CASM Ain Smara 90.58 336 P P 18 25 37.2 -2.7
062Z Marathon 90.75 49 P **P 18 25 41.1 +0.4**
baz=327
CTEI Djebel Teioual 90.79 336 P P 18 25 38.8 -2.2
SET Setif 90.93 336 P **P 18 25 41.0 -0.6**
ABA Alger-Bouzarea 90.96 338 P **P 18 25 42.0 +0.4**
PESTR Estremoz 91.03 347 *e*P **P 18 25 40.8 -1.1**
comp=Z,186nm,1.5s
PESTR Estremoz 91.03 347 *e*P **P 18 25 40.3 -1.6**
CKHR Kef el Ahmar 91.07 336 P P 18 25 40.5 -1.8
CART Cartagena 91.11 342 ⇑ *i*P P 18 25 39.9 -2.3
CART *i* SKS **SKSac 18 36 07.2 -2.7**
DGAR Diego Garcia 91.14 260 *e*P **P 18 25 43.1 +0.5**
DGAR LR LR
comp=Z,4µm,20.0s
DGAR Diego Garcia 91.14 260 *e*P **P 18 25 43.1 +0.5**
DGAR MLR MLR
comp=Z,4µm,20.0s
BBSR BB Station 91.16 33 *e*P **P 18 25 42.5 -0.1**
PMAFR Mafra 91.18 348 *e*P **P 18 25 42.2 -0.4**
PMAFR Mafra 91.18 348 *e*S **SKSac 18 36 04.9 -5.5**
PMST Lisbon--Monsan 91.38 348 *e*P **P 18 25 45.4 +1.9**
LIS Lisbon 91.40 348 *e*P **P 18 25 42.4 -1.2**
LIS *e*PP **PP 18 29 20.3 -0.2**
LIS *e*SKSac **SKSac 18 36 12.7 +1.1**
LIS AMS AMS 19 10 00.4
comp=E,13µm,18.6s
EMHD Djebel Mahouad 91.55 338 P **P 18 25 42.9 -1.6**
CCIG Comitan 91.58 63 *e*P **P 18 25 44.5 -0.5**
SNZO South Karori 91.72 166 PFAKE 18 26 00.0 +15
SNZO LR LR
comp=Z,23µm,21.0s
EBNR Beni Rached 91.80 339 P **P 18 25 45.0 -0.6**
PBEJ Beja 91.89 347 *e*P **P 18 25 47.0 +1.1**
comp=Z,176nm,1.5s
PNCL Nicolau / Gran 91.91 348 *e*P **P 18 25 44.9 -1.0**
comp=Z,126nm,1.6s
PNCL Nicolau / Gran 91.91 348 *e*S **SKSac 18 36 10.8 -3.7**
ECHA Ech Chlef 91.97 339 P **P 18 25 45.5 -0.8**
PGRA Graciosa 92.05 3 *e*P **P 18 25 45.3 -1.3**
comp=Z,567nm,1.7s
TAU Tasmania Unive 92.06 186 *e*P **P 18 25 47.1 +1.0**
TAU LR LR
comp=Z,9µm,20.0s
TAU Tasmania Unive 92.06 186 *e*P **P 18 25 47.1 +1.0**
TAU MLR MLR
comp=Z,9µm,20.0s
MESJ Messejana 92.13 347 *e*P **P 18 25 45.8 -1.2**
MESJ *e*PP **PP 18 29 26.1 -0.3**
MESJ *e*SKSac **SKSac 18 36 16.7 +0.9**
MESJ AMS AMS 19 13 42.5
comp=Z,17µm,21.1s
MESJ Messejana 92.13 347 *e*P **P 18 25 46.3 -0.7**
comp=Z,176nm,1.4s
EANR 'Ain N'Sour 92.22 340 P **P 18 25 46.0 -1.5**
ROSA Rosais 92.35 3 *e*P **P 18 25 46.7 -1.3**
comp=Z,592nm,1.3s
ROSA Rosais 92.35 3 *e*P **P 18 25 47.7 -0.4**
DAMY Dhamar 92.37 295 *e*P **P 18 25 48.7 -0.1**
PMAN Manadas 92.45 3 *e*P **P 18 25 47.8 -0.6**
comp=Z,645nm,1.1s
PVAQ Vaqueiros 92.48 347 *e*P **P 18 25 47.6 -1.0**
PVAQ Vaqueiros 92.48 347 *e*PP PP 18 29 39.5 +10
PVAQ *e*S **SKSac 18 36 23.7 +5.9**
PVAQ Vaqueiros 92.48 347 *e*LQ LQ 18 51 46.7
PVAQ *e*LR LR 18 58 20.6
comp=Z,22µm,20.0s
EMAL Malaga-Limoner 92.57 344 ⇑ *i*P P 18 25 47.1 -1.9
EMAL *i* SKS **SKSac 18 36 17.4 -0.9**
LIJA Lijar 92.60 345 *i* P **P 18 25 48.5 -0.8**
PCAN Candelaria 92.60 3 *e*P **P 18 25 47.8 -1.4**
comp=Z,387nm,1.3s
ETRT Tiaret 92.71 339 P **P 18 25 48.7 -1.2**
MORF Marmelete 92.72 348 *e*P **P 18 25 48.5 -1.3**
MORF *e*PP **PP 18 29 30.6 -0.4**
MORF *e*SKSac **SKSac 18 36 20.2 +1.0**
MORF AMS AMS 19 14 34.0
comp=Z,19µm,17.6s
MORF Marmelete 92.72 348 *e*P **P 18 25 50.4 +0.6**
comp=Z,323nm,1.8s
PFVI Vila Bisbo 92.91 348 *e*S **SKSac 18 36 14.3 -5.9**
SFS San Fernando 93.16 345 *i* P **P 18 25 51.5 -0.3**
SFS *i* SKS **SKSac 18 36 28.5 +7.0**
OXZ Oxford 93.29 168 *e*P **P 18 25 50.1 -1.7**
PSET Sete Cidades 93.31 1 *e*P **P 18 25 51.4 -1.1**
comp=Z,917nm,1.5s
CMLA Cha da Macela 93.37 1 *e*P **P 18 25 51.4 -1.3**
comp=Z,185nm,1.3s
CMLA Cha da Macela 93.37 1 PFAKE 18 26 00.0 +7.3
CMLA LR LR
comp=Z,9µm,22.0s
CEU Ceuta 93.58 345 ⇑ *i*P P 18 25 51.7 -1.9
CEU *i* SKS **SKSac 18 36 25.3 +1.5**
MELI Melilla 93.71 343 ⇑ *i*P P 18 25 51.5 -2.8
MELI *i* SKS **SKSac 18 36 25.7 +1.1**
PVLZ Peæn de 94.09 344 *i* P P 18 25 49.1 -6.9
PVLZ *i* SKS **SKSac 18 36 23.6 -3.1**
PSMN Pico do Norte, 94.13 1 *e*P **P 18 25 55.2 -1.0**
comp=Z,238nm,1.4s
RKT Rikitea 94.72 120 *e*SKSac **SKSac 18 36 29.5 -0.4**
comp=Z,7µm,27.2s
RKT Rikitea 94.72 120 *e*PS PS 18 38 30.8 +0.1
comp=Z,6µm,33.5s
RKT *e*SS SS 18 43 35.4 +2.0
comp=Z,6µm,28.2s
RKT Rikitea 94.72 120 *e*LR LR 18 56 30.0
comp=Z,19µm,33.5s
ODZ Otahua Downs 94.81 169 *e*P **P 18 25 58.8 +0.1**
ATD Arta Tunnel 95.68 295 *e*P **P 18 26 03.2 -0.5**
IFR Ifrane 95.85 344 ⇑ *i*P P 18 26 01.4 -2.9
IFR *i* SKS **SKSac 18 36 40.3 +3.8**
TGUH Tegucigalpa,Un 96.15 60 *e*P **P 18 26 05.5 -0.3**
AVE Averroes 96.46 346 ⇑ *i*P **P 18 26 06.5 -0.5**
AVE *i* SKS **SKSac 18 36 42.7 +3.4**
GTBY Guantanamo Bay 97.71 47 PFAKE 18 26 20.0 +7.2
GTBY LR LR
comp=Z,11µm,19.0s
MTDJ Mount Denham 97.96 50 PFAKE 18 26 30.0 +16
MTDJ LR LR
comp=Z,9µm,21.0s
PMOZ Porto Moniz, M 98.06 354 *e*P **P 18 26 15.4 +1.1**
PMOZ Porto Moniz, M 98.06 354 *e*PP PP 18 30 18.5 +6.0
PMOZ *e*S **SKSac 18 36 55.1 +7.3**
PMOZ Porto Moniz, M 98.06 354 *e*LR LR 19 06 01.8
comp=Z,10µm,22.0s
GRTK Grand Turk 98.20 43 PFAKE 18 26 30.0 +15
GRTK LR LR
comp=Z,9µm,20.0s
PTCN Pitcairn Islan 99.03 118 PFAKE 18 26 30.0 +12
PTCN LR LR
comp=Z,13µm,20.0s
ANKE Ethiopia-Afar 99.06 296 *i* P **Pdif 18 26 18.5 -0.9**
ANKE *i* S **pSKSac 18 37 18.5 +4.2**
ANKE Ethiopia-Afar 99.06 296 *i* P **Pdif 18 26 18.5 -0.9**
ANKE *i* S **pSKSac 18 37 18.5 +4.2**
AAE Adis Abeba 100.08 297 *i* P **Pdif 18 26 22.8 -1.0**
AAE *e*S **pSKSac 18 37 24.0 +4.9**
AAE Adis Abeba 100.08 297 *i* P **Pdif 18 26 22.8 -1.0**
AAE *e*S **pSKSac 18 37 24.0 +4.9**
SDDR Presa de Saban 100.33 45 PFAKE 18 26 40.0 +15
SDDR LR LR
comp=Z,12µm,20.0s
JTS JuntasAbangare 100.52 61 PFAKE 18 26 40.0 +15
JTS LR LR
comp=Z,6µm,22.0s
SJG San Juan 103.38 41 PFAKE 18 26 50.0 +12
SJG LR LR
comp=Z,8µm,20.0s
SJG San Juan 103.38 41 *e*P **PP 18 30 52.2 -0.9**
TAM Tamanrasset 103.51 332 *e*Pdif **Pdif 18 26 37.8 -1.0**
TAM Tamanrasset 103.51 332 *e*P **Pdif 18 26 37.8 -1.0**
BCIP Isla Barro Col 104.31 57 PFAKE 18 26 50.0 +7.8
BCIP LR LR
comp=Z,5µm,20.0s
ANWB Willy Bob 105.57 37 PFAKE 18 31 10.0
ANWB LR LR
comp=Z,8µm,20.0s
SMRC Santa Marta, M 105.62 51 *e*P **PP 18 31 06.9 -3.1**
PAYG Puerto Ayora 106.02 72 PFAKE 18 31 10.0
PAYG LR LR
comp=Z,8µm,22.0s
SJCC San Jacinto, C 106.20 53 *e*P **PP 18 31 11.0 -3.4**
URIC Uribia, Colomb 106.28 49 *e*P **PP 18 31 13.8 -1.1**
MOTC Monteria, Cord 106.88 54 *e*P **PP 18 31 18.4 -1.0**
CODC Agust`›n Codaz 107.06 51 *e*P **PP 18 31 21.7 +1.0**
PTAC Punta Ardita, 107.09 57 *e*P **PP 18 31 21.6 +0.6**
SMLC San Mart`›n de 107.70 52 *e*P **PP 18 31 22.8 -2.6**
DBBC Dabeiba 108.07 55 *e*P PP 18 31 20.4 -7.8
ZARC Zaragoza, Cauc 108.39 54 *e*P PP 18 31 24.4 -6.1
OCAC Ocana 108.56 52 *e*P **PP 18 31 33.9 +2.0**
KMBO Kilima Mbogo 109.05 291 Pdiff **Pdif 18 27 03.6 0.0**
comp=Z,1.6nm,0.4s,baz=32,slow=7.9,SNR=6.8
KMBO Kilima Mbogo 109.05 291 *e*Pdif **Pdif 18 27 03.4 -0.2**
KMBO LR LR
comp=Z,19µm,20.0s
KMBO Kilima Mbogo 109.05 291 *e*P **Pdif 18 27 03.4 -0.2**
KMBO MLR MLR
comp=Z,19µm,20.0s
HELC Santa Helena 109.12 55 *e*P **PP 18 31 36.4 +0.1**
BRRC Barranca, Sant 109.32 53 *e*P **PP 18 31 35.7 -1.5**
SDV Santo Domingo 109.37 49 PFAKE 18 31 20.0
SDV LR LR
comp=Z,7µm,19.0s
SDV Santo Domingo 109.37 49 *e*P PP 18 31 26.9 -11
PTBC PUERTO BERRIO 109.40 54 *e*P **PP 18 31 36.3 -1.6**
PLMC San Jos`` del 109.78 56 *e*P **PP 18 31 41.0 +0.2**
NORC Norcasia 110.00 55 *e*P **PP 18 31 41.7 -0.6**
BARC Barichara 110.03 53 *e*P **PP 18 31 41.0 -1.6**
RREF El Recreo 110.30 56 *e*P **PP 18 31 46.9 +1.7**
BBGH Gun Hill 110.55 37 PFAKE 18 31 20.0
BBGH LR LR
comp=Z,12µm,22.0s
ANIL Santa Ana 110.61 56 *e*P PP 18 31 35.1 -12
GRGR Grenville 110.62 39 PFAKE 18 31 20.0
GRGR LR LR
comp=Z,8µm,20.0s
RUSC La Rusia 110.67 53 *e*P **PP 18 31 44.5 -3.1**
ROSC El Rosal 110.90 55 *e*P **PP 18 31 48.6 -0.6**
CVER Cruz Verde, Cu 111.30 55 *e*P **PP 18 31 48.0 -4.1**
CHIC Chingaza 111.39 54 *e*P **PP 18 31 50.3 -2.4**
POPC Popayan, Colom 111.53 58 *e*P **PP 18 31 56.3 +2.7**
PRAC Prado 111.54 56 *e*P PP 18 31 42.7 -11
BETC Betania 112.09 57 *e*P PP 18 31 25.7 -32
CRUC La Cruz 112.17 59 *e*P PP 18 31 39.8 -19
GCUF Volcan Galeras 112.23 60 *e*P **PP 18 31 59.8 +0.8**
OTAV Otavalo 112.41 61 PFAKE 18 31 30.0
OTAV LR LR
comp=Z,5µm,22.0s
MBAR Mbarara 112.52 297 PFAKE 18 31 30.0
MBAR LR LR
comp=Z,948nm,20.0s
FLOC Florencia 112.89 58 *e*P **PP 18 32 04.9 +1.9**
RPN Rapa Nui 113.18 105 PFAKE 18 31 30.0
RPN LR LR
comp=Z,9µm,21.0s
GUVC San Jose del G 113.73 55 *e*P **PP 18 32 06.8 -2.2**
TOA1 Torodi Ar. Sit 113.76 332 *e*Pdif **Pdif 18 27 22.9 -1.4**
TOA1 *e*PKiKP **PKiKP 18 31 16.1 -0.2**
TOA1 *e*PP PP 18 31 59.5 -9.1
TOA1 *e*PKKPbc **PKKPbc 18 41 57.9 +0.9**
TOA1 *e*PKKSdf PKKSdf 18 45 41.0 -12
TORD Torodi Ar. Bea 113.77 332 PKP **Pdif 18 27 22.9 -1.4**
comp=Z,3.6nm,1.0s,baz=3.5,slow=2.2,SNR=13
TORD PKiKP **PKiKP 18 31 16.1 -0.2**
comp=Z,7.2nm,1.0s,baz=8.7,slow=2.1,SNR=8.6
TORD PP PP 18 31 59.5 -9.1
comp=Z,11nm,1.1s,baz=31,slow=5.2,SNR=5.8
TORD PKKPbc **PKKPbc 18 41 57.9 +0.9**
comp=Z,4.9nm,0.9s,baz=176,slow=2.4,SNR=12
TORD SKKPbc SKKPbc 18 45 41.0 +6.9
comp=Z,4.6nm,1.0s,baz=213,slow=2.7,SNR=5.2
TORD Torodi Ar. Bea 113.77 332 PKP **Pdif 18 27 22.9 -1.4**
TORD PKiKP **PKiKP 18 31 16.1 -0.2**
TORD PP PP 18 31 59.5 -9.1
TORD PKKPbc **PKKPbc 18 41 57.9 +0.9**
TORD SKKPbc SKKPbc 18 45 41.0 +6.9
ABPO Ambohimpanom 116.14 271 *e*PKPdf **PKPdf 18 31 20.9 0.0**
ABPO LR LR
comp=Z,7µm,22.0s
ABPO Ambohimpanom 116.14 271 *e*PKIKP **PKPdf 18 31 20.9 0.0**
ABPO MLR MLR
comp=Z,7µm,22.0s
CASY Casey 120.24 199 PFAKE 18 31 40.0 +13
CASY LR LR
comp=Z,930nm,20.0s
MDP Montagnes des 120.54 33 PKP **PKPdf 18 31 28.3 -1.2**
comp=Z,9.4nm,0.8s,baz=7.2,slow=2.8,SNR=8.7
MDP PP **PP 18 32 52.8 -3.2**
comp=Z,19nm,1.0s,baz=343,slow=9.8,SNR=6.5
MDP Montagnes des 120.54 33 PKP **PKPdf 18 31 28.3 -1.2**
MDP PP **PP 18 32 52.8 -3.2**
DBIC Dimbokro 121.78 337 PKP **PKPdf 18 31 30.9 -0.9**
comp=Z,27nm,0.9s,baz=14,slow=2.4,SNR=18
DBIC PKKPbc **PKKPbc 18 41 29.9 +1.5**
comp=Z,6.5nm,1.0s,baz=163,slow=5.2,SNR=5.0
DBIC Dimbokro 121.78 337 *e*PKPdf **PKPdf 18 31 30.7 -1.1**
DBIC PKKPbc **PKKPbc 18 41 29.9 +1.5**
DBIC Dimbokro 121.78 337 *e*PKIKP **PKPdf 18 31 30.7 -1.1**
TIC Toumodi 121.84 337 *e*PKP1 **PKPdf 18 31 30.6 -1.4**
KIC Kosan Boka 122.05 337 *e*PKP1 **PKPdf 18 31 31.4 -0.9**
comp=Z,92nm,1.2s
LIC Lamto 122.25 337 *e*PKP1 **PKPdf 18 31 31.6 -1.1**
comp=Z,124nm,1.2s
PTGA Pitinga 122.84 44 PKP **PKPdf 18 31 32.6 -1.2**
comp=Z,2.8nm,0.3s,baz=14,slow=1.1,SNR=9.4
PTGA PP **PP 18 33 08.1 -3.8**
comp=Z,11nm,0.9s,baz=327,slow=6.1,SNR=5.7
PTGA Pitinga 122.84 44 *e*PKPdf **PKPdf 18 31 32.6 -1.2**
PTGA PP **PP 18 33 08.1 -3.8**
PTGA LR LR
comp=Z,13µm,20.0s
NNA Nana 123.11 68 PFAKE 18 31 50.0 +16
NNA LR LR
comp=Z,3µm,22.0s
LSZ Lusaka 125.63 290 *e*PKPdf **PKPdf 18 31 38.3 -0.9**
LSZ LR LR
comp=Z,20µm,20.0s
LSZ Lusaka 125.63 290 PKiKP **PKPdf 18 31 39.3 +0.1**
SNR=8.7
VNDA Vanda 126.54 178 PKP **PKPdf 18 31 38.1 -0.8**
comp=Z,20nm,1.0s,baz=304,slow=3.7,SNR=54
VNDA Vanda 126.54 178 *e*PKPdf **PKPdf 18 31 37.6 -1.4**
VNDA Vanda 126.54 178 *e*PKIKP **PKPdf 18 31 37.6 -1.4**
SBA Scott Base 127.00 177 *e*PKPdf **PKPdf 18 31 38.5 -1.3**
SBA LR LR
comp=Z,6µm,21.0s
SBA Scott Base 127.00 177 *e*PKIKP **PKPdf 18 31 38.5 -1.3**
SBA MLR MLR
comp=Z,6µm,21.0s
SAML Samuel 128.40 52 *e*PKPdf **PKPdf 18 31 43.1 -1.3**
SAML LR LR
comp=Z,5µm,22.0s
LPAZ La Paz 131.68 63 PKP **PKPdf 18 31 50.9 -0.4**
comp=Z,7.3nm,0.8s,baz=14,slow=3.9,SNR=9.0
LPAZ La Paz 131.68 63 *e*PKPdf **PKPdf 18 31 50.2 -1.1**
LPAZ La Paz 131.68 63 *e*P **PKPdf 18 31 52.2 +0.9**
LPAZ La Paz 131.68 63 PKIKP **PKPdf 18 31 50.9 -0.4**
LPAZ pmax pmax
comp=Z,7.0nm,0.8s
PB12 IPOC Station P 132.19 67 *e*P **PKPdf 18 31 49.5 -2.1**
PB12 IPOC Station P 132.19 67 *e*P **PKPdf 18 31 52.0 +0.4**
PB16 IPOC Station P 132.46 66 *e*P **PKPdf 18 31 52.5 -0.2**
MNMC Minye Minye 133.02 67 *e*PKPdf **PKPdf 18 31 51.7 -1.7**
MNMC Minye Minye 133.02 67 *e*P **PKPdf 18 31 53.7 +0.4**
MNMCX Minye Minye 133.02 67 *e*P **PKPdf 18 31 52.5 -0.9**
PSGC Pisagua 133.06 68 *e*P **PKPdf 18 31 53.3 +0.1**
PSGCX Pisagua 133.06 68 *e*P PKPpre 18 31 46.8
PB11 IPOC Station P 133.47 67 *e*PKPdf **PKPdf 18 31 52.8 -1.2**
PB11 IPOC Station P 133.47 67 *e*P **PKPdf 18 31 54.0 0.0**
PB08 IPOC Station P 134.06 67 *e*P **PKPdf 18 31 55.0 -0.5**
LBTB Lobatse 134.45 283 *e*PKPpre PKPpre 18 31 40.6
LBTB *e*PKPdf **PKPdf 18 31 55.1 -0.5**
LBTB Lobatse 134.45 283 *e*PKHKP PKPpre 18 31 40.6
LBTB *e* 18 31 55.1
PB01 IPOC Station P 134.54 68 *e*PKPdf **PKPdf 18 31 54.7 -1.2**
PB01 IPOC Station P 134.54 68 *e*P **PKPdf 18 31 55.9 0.0**
PB07 IPOC Station P 134.81 69 *e*P **PKPdf 18 31 56.0 -0.5**
PB07 IPOC Station P 134.81 69 *e*P **PKPdf 18 31 55.9 -0.6**
TSUM Tsumeb 135.05 297 *e*PKPpre PKPpre 18 31 46.7
TSUM LR LR
comp=Z,15µm,20.0s
PB03 IPOC Station P 135.14 69 *e*P **PKPdf 18 31 56.3 -0.8**
PB03 IPOC Station P 135.14 69 *e*P **PKPdf 18 31 57.2 +0.1**
MAW Mawson 135.22 213 PKhKP PKPpre 18 31 44.7
comp=Z,3.6nm,0.8s,baz=348,slow=6.0,SNR=3.9
MAW PKP **PKPdf 18 31 53.9 -1.6**
comp=Z,18nm,0.8s,baz=83,slow=3.6,SNR=19
MAW Mawson 135.22 213 *e*PKPpre PKPpre 18 31 45.0
MAW *e*PKPdf **PKPdf 18 31 54.8 -0.8**
MAW Mawson 135.22 213 *e*PKHKP PKPpre 18 31 45.0
MAW *e* 18 31 54.8
PB09 IPOC Station P 135.26 69 *e*P **PKPdf 18 31 57.4 +0.1**
PB09 IPOC Station P 135.26 69 *e*P **PKPdf 18 31 56.8 -0.6**
SIV San Ignacio 135.40 55 PKhKP PKPpre 18 31 43.9
comp=Z,6.0nm,0.8s,baz=228,slow=9.3,SNR=9.5
SIV PP **PP 18 34 32.2 -2.1**
comp=Z,8.9nm,0.9s,baz=353,slow=6.3,SNR=3.0
PB05 IPOC Station P 135.46 71 *e*P **PKPdf 18 31 57.8 +0.1**
PB05 IPOC Station P 135.46 71 *e*P **PKPdf 18 31 58.1 +0.4**
RCBR Riachuelo 135.65 17 *e*PKPdf **PKPdf 18 31 58.3 +0.1**
RCBR LR LR
comp=Z,12µm,20.0s
PB06 IPOC Station P 135.74 70 *e*P **PKPdf 18 31 57.6 -0.6**
LVC Limon Verde 136.07 69 PKP **PKPdf 18 31 58.7 -0.4**
comp=Z,14nm,0.8s,baz=296,slow=1.0,SNR=10
LVC Limon Verde 136.07 69 *e*PKPdf **PKPdf 18 31 58.1 -1.0**
LVC LR LR
comp=Z,5µm,22.0s
LVC Limon Verde 136.07 69 *e*P **PKPdf 18 31 58.8 -0.4**
LVC Limon Verde 136.07 69 *e*P **PKPdf 18 31 59.4 +0.3**
LVC Limon Verde 136.07 69 PKIKP **PKPdf 18 31 58.7 -0.4**
LVC pmax pmax
comp=Z,14nm,0.8s
PB15 IPOC Station P 136.17 70 *e*P **PKPdf 18 31 59.7 +0.6**
PB15 IPOC Station P 136.17 70 *e*P **PKPdf 18 31 55.9 -3.2**
BOSA Boshof 137.16 280 PKhKP PKPpre 18 31 49.3
comp=Z,3.4nm,0.7s,baz=59,slow=1.9,SNR=5.8
BOSA PKP **PKPdf 18 31 58.8 -1.9**
comp=Z,14nm,0.9s,baz=78,slow=1.3,SNR=6.6
BOSA PP **PP 18 34 45.2 -0.6**
comp=Z,49nm,1.1s,baz=44,slow=8.2,SNR=6.7
BOSA Boshof 137.16 280 *e*PKPpre PKPpre 18 31 49.0
BOSA *e*PKPpre PKPpre 18 31 49.3
BOSA *e*PKPdf **PKPdf 18 31 58.4 -2.2**
BOSA Boshof 137.16 280 PKHKP PKPpre 18 31 49.3
BOSA 18 31 58.8
BOSA 18 34 45.3
BOSA pmax pmax
comp=Z,3.0nm,0.7s
BOSA pmax pmax
comp=Z,14nm,0.9s
BOSA pmax pmax
comp=Z,49nm,1.1s
YJA Yavi 137.80 65 *e*P PKPpre 18 31 54.2
ASCN Ascension 137.99 345 PFAKE 18 32 10.0 +7.5
ASCN LR LR
comp=Z,5µm,21.0s
HJA Humahuaca 138.64 66 *e*P PKPpre 18 31 59.5
QSPA South Pole Qui 138.97 180 PFAKE 18 32 10.0 +7.3
QSPA LR LR
comp=Z,4µm,21.0s
LCO Las Campanas 139.52 78 *e*PKPpre PKPpre 18 31 56.7
LCO *e*PKPdf **PKPdf 18 32 05.0 -0.1**
LCO LR LR
comp=Z,10µm,22.0s
LCO Las Campanas 139.52 78 *e*P **PKPdf 18 32 03.1 -2.0**
LCO Las Campanas 139.52 78 *e*P **PKPdf 18 32 05.4 +0.3**
LCO Las Campanas 139.52 78 *e*PKHKP PKPpre 18 31 56.7
LCO *e* 18 32 05.0
LCO MLR MLR
comp=Z,10µm,22.0s
AZAP Zapla 139.61 67 *e*P PKPpre 18 32 01.8
ALOL LOMAS DE OLMED 139.95 65 *e*P PKPpre 18 31 57.7
GO04 Tololo Observa 140.24 79 *e*PKPpre PKPpre 18 31 55.7
GO04 Tololo Observa 140.24 79 *e*P PKPpre 18 31 55.8
FSA Cafayete 140.45 70 *e*P PKPpre 18 32 02.5
VCA Vinchina 140.92 75 *e*P PKPpre 18 32 01.0
AGUA GUANDACOL 141.25 76 *e*P PKPpre 18 32 01.3
BDFB Brasilia 141.33 38 PKhKP PKPpre 18 32 02.7
comp=Z,12nm,0.9s,baz=324,slow=2.8,SNR=13
BDFB Brasilia 141.33 38 *e*PKPpre PKPpre 18 32 02.3
BDFB Brasilia 141.33 38 *e*PKIKP PKPpre 18 32 02.3
AHML Horco Molle 141.33 70 *e*P PKPpre 18 32 00.4
ROC1 El Roble 141.92 82 *e*PKPdf **PKPdf 18 32 08.9 -0.4**
ROC1 El Roble 141.92 82 *e*P **PKPdf 18 32 09.2 -0.2**
ROCH El Roble 141.92 82 *e*P **PKPdf 18 32 09.3 0.0**
ACLC CERRO LA CRUZ 142.19 74 *e*P PKPpre 18 32 04.8
CYA Choya 142.22 72 *e*P PKPpre 18 32 04.6
AMOG MOGNA 142.23 78 *e*P PKPpre 18 32 03.9
PEL Peldehue 142.24 82 *e*PKPpre PKPpre 18 32 03.4
PEL *e*PKPdf **PKPdf 18 32 09.3 -0.4**
PEL Peldehue 142.24 82 *e*PKIKP PKPpre 18 32 03.4
RTLS Leoncito 142.28 80 *e*P PKPpre 18 32 05.8
AUSP Uspallata 142.50 80 *e*P PKPpre 18 32 06.7
RTLL Cerro Villicun 142.50 78 *e*P PKPpre 18 32 05.6
ZON Zonda 142.51 79 *e*P PKPpre 18 32 07.5
SUR Sutherland 142.52 280 *e*PKPpre PKPpre 18 32 02.2
SUR LR LR
comp=Z,23µm,21.0s
RTCV Cerro Valdivia 142.81 79 *e*P PKPpre 18 32 05.3
LMEL Las Melosas 143.00 83 *e*P **PKPdf 18 32 08.0 -3.1**
ASAL Salagasta 143.09 80 *e*P **PKPdf 18 32 07.8 -3.4**
APLL PUNTA DE LOS L 143.12 75 *e*P **PKPdf 18 32 07.1 -4.2**
AAGR Agrelo 143.41 81 *e*P PKPab 18 32 07.0 -1.0
SHEL Horse Pasture 143.51 329 PFAKE 18 32 20.0 +7.7
SHEL LR LR
comp=Z,5µm,22.0s
SYO Syowa Base 143.93 213 ⇓ *i*P PKPab 18 32 07.4 -1.3
SYO Syowa Base 143.93 213 ⇓ *i*P **PKPdf 18 32 14.6 +3.2**
ACAN Cantantal 143.94 78 *e*P PKPab 18 32 08.1 -1.9
RFA San Rafael 144.70 83 *e*P **PKPab 18 32 11.3 -1.5**
TCA Tanti 144.98 74 *e*P **PKPab 18 32 12.8 -1.2**
MRA San Martin 144.98 77 *e*P **PKPab 18 32 12.9 -1.1**
GO06 Curarrehue 145.48 92 *e*PKPdf **PKPbc 18 32 14.4 -1.0**
CPUP Villa Florida 145.75 60 PKPbc **PKPdf 18 32 15.8 -0.1**
comp=Z,48nm,1.0s,baz=338,slow=2.9,SNR=66
CPUP Villa Florida 145.75 60 *e*PKPdf **PKPdf 18 32 15.3 -0.6**
CPUP Villa Florida 145.75 60 *e*PKP2 **PKPdf 18 32 15.3 -0.6**
GO07 Milladeo Hill, 145.81 99 *e*PKPdf **PKPdf 18 32 15.8 +0.3**
PLCA Paso Flores 146.68 93 PKPbc **PKPdf 18 32 18.9 +1.7**
comp=Z,154nm,1.1s,baz=329,slow=3.9,SNR=37
PLCA Paso Flores 146.68 93 *e*PKPdf **PKPdf 18 32 17.5 +0.4**
PLCA Paso Flores 146.68 93 *e*PKP2 **PKPdf 18 32 17.5 +0.4**
CHRN Cochrane 148.24 105 *e*PKPdf **PKPdf 18 32 20.8 +1.5**
SPB Sao Paulo 148.62 44 *e*PKPdf **PKPdf 18 32 20.6 -0.2**
SPB *e*PKPbc **PKPbc 18 32 25.9 +1.4**
GO09 Cerro Castillo 149.68 112 *e*PKPdf **PKPdf 18 32 21.3 -0.2**
GO09 *e*PKPbc **PKPbc 18 32 28.3 +2.0**

TRQA	**Tornquist**	**150.85**	**82**	*e*PKPdf	**PKPdf**	**18 32 23.8**	**-0.1**
TRQA				*e*PKPbc	**PKPbc**	**18 32 28.9**	**-0.7**
TRQA				LR	LR		
	comp=Z,13µm,22.0s						
TRQA	**Tornquist**	**150.85**	**82**	*e*PKIKP	**PKPdf**	**18 32 23.8**	**-0.1**
TRQA				MLR	MLR		
	comp=Z,13µm,22.0s						
GO10	**Punta Arenas**	**150.88**	**116**	*e*PKPbc	**PKPdf**	**18 32 28.5**	**+5.1**
LPA	**La Plata**	**151.52**	**72**	*e*PKIKP	**PKPdf**	**18 32 25.0**	**0.0**
NVL	**N'lazarevskaya**	**152.61**	**205**	*e*PKIKP	**PKPbc**	**18 32 32.4**	**-0.1**
NVL				*e*		18 36 19.1	
NVL				*e*SS	SS	18 55 39.6	-3.4
NVL				*e*SSS	SSS	19 01 30.2	
PMSA	**Palmer Station**	**153.96**	**141**	PKPbc	**PKPdf**	**18 32 33.5**	**+5.9**
	comp=Z,68nm,0.9s,baz=175,slow=1.8,SNR=9.9						
PMSA				PKPab	**pPKPbc**	**18 32 49.8**	**-1.1**
	comp=Z,107nm,1.0s,baz=214,slow=2.3,SNR=8.6						
PMSA	**Palmer Station**	**153.96**	**141**	*e*PKPbc	**PKPdf**	**18 32 34.1**	**+6.6**
PMSA				*e*PKPab	**pPKPbc**	**18 32 49.8**	**-1.1**
PMSA				LR	LR		
	comp=Z,15µm,20.0s						
SNAA	**Sanae**	**155.42**	**196**	P	**PKPdf**	**18 32 29.4**	**-0.1**
SNAA	**Sanae**	**155.42**	**196**	PKPbc	**PKPdf**	**18 32 37.2**	**+7.7**
	comp=Z,32nm,1.0s,baz=86,slow=0.9,SNR=17						
SNAA				PKPab	pPKPbc	18 32 54.4	+0.4
	comp=Z,195nm,1.1s,baz=102,slow=2.7,SNR=26						
SNAA	**Sanae**	**155.42**	**196**	*e*PKPdf	**PKPdf**	**18 32 27.5**	**-2.0**
SNAA				*e*PKPbc	PKPbc	18 32 37.6	
SNAA				*e*PKPab	pPKPbc	18 32 54.0	0.0
SNAA	**Sanae**	**155.42**	**196**	*e*PKIKP	**PKPdf**	**18 32 27.5**	**-2.0**
SNAA				*e*		18 32 54.0	
VNA2	**Neumayer--Watz**	**156.84**	**194**	P	**PKPdf**	**18 32 30.4**	**-0.9**
	baz=131,slow=3.4						
VNA3	**Neumayer Olymp**	**156.89**	**192**	P	**PKPdf**	**18 32 29.4**	**-2.0**
VNA1	**Neumayer--Stat**	**157.22**	**194**	P	**PKPdf**	**18 32 31.0**	**-0.7**
EFI	**East Falkland**	**158.50**	**109**	PFAKE		18 32 40.0	+6.1
EFI				LR	LR		
	comp=Z,20µm,22.0s						
HOPE	**Hope Point**	**170.94**	**128**	PFAKE		18 32 50.0	+5.4
HOPE				LR	LR		
	comp=Z,11µm,20.0s						

*ISCJB **16** 18:21:17.1±0.4, 51.55N±0.02×16.11E±0.04, h0km, Error ellipse: s-maj=3.5km s-min=2.6km az=147.7*
*UPP **16** 18:21:22.7±3.0, 51.79N×15.76E, h0km, ML1.7*
*VIE **16** 18:21:23.9±0.9, 51.22N×16.02E, h0km, mb2.2/4, ml2.7/5, Error ellipse: s-maj=8.0km s-min=7.2km az=21.0 70 km WNW of Wroclaw Suspected Mining induced.*

ISC 16 18:21:18.6±0.8, 51.62N±0.03×16.12E±0.03, h0km, n30, σ1§41/54, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.79**	**172**	*e*Pg	**Pg**	**18 21 33.6**	**-0.1**
KSP				*e*Sg	**Sg**	**18 21 43.0**	**-0.9**
DPC	**Dobruska-Polom**	**1.28**	**174**	*e*PG	**Pg**	**18 21 42.5**	**-0.7**
DPC				*e*SG	**Sg**	**18 21 57.4**	**-2.3**
	comp=Z,31nm,0.4s						
PVCC	**Panska Ves**	**1.47**	**222**	*e*PG	**Pn**	**18 21 45.8**	**-0.6**
PVCC				*e*SG	**Sg**	**18 22 04.8**	**-1.1**
	comp=Z,144nm,0.4s						
BRG	**Berggiesshubel**	**1.56**	**242**	PG	**Pn**	**18 21 48.2**	**+0.6**
BRG				SG	**Sg**	**18 22 12.1**	**+3.2**
	66nm,0.5s						
KRLC	**Kraliky**	**1.60**	**165**	*e*PG	**Pn**	**18 21 48.6**	**+0.3**
KRLC				*e*SG	**Sn**	**18 22 07.7**	**-2.0**
	comp=Z,14nm,0.6s						
PRA	**Prague**	**1.89**	**215**	*e*PN	**Pn**	**18 21 52.2**	**+0.1**
PRA				*e*PG	**Pg**	**18 21 54.6**	**-0.2**
PRA				*e*SG	**Sn**	**18 22 15.9**	**-0.7**
	comp=Z,39nm,0.4s						
CLL	**Collm**	**1.98**	**262**	*i* Pn	**Pn**	**18 21 52.6**	**-0.8**
CLL				*e*Pg	**Pb**	**18 21 56.0**	**+0.5**
CLL				*i*		18 22 00.0	
CLL				*e*Sg	**Sb**	**18 22 21.0**	**+0.3**
	comp=Z,39nm,0.6s						
MORC	**Moravsky Berou**	**2.06**	**153**	*e*PN	**Pn**	**18 21 54.2**	**-0.3**
MORC				*e*SG	**Sn**	**18 22 20.9**	**0.0**
OKC	**Ostrava-Krasne**	**2.20**	**143**	*e*SG	**Sb**	**18 22 27.4**	**+0.3**
	comp=Z,28nm,0.5s						
VRAC	**Vranov**	**2.34**	**172**	*e*PN	**Pn**	**18 21 57.9**	**-0.4**
VRAC				*e*SG	**Sb**	**18 22 30.4**	**-0.6**
KRUC	**Moravsky**	**2.57**	**176**	*e*PN	**Pn**	**18 22 01.4**	**-0.1**
KRUC				*e*SG	**Sb**	**18 22 37.9**	**+0.2**
NKC	**Novy Kostel**	**2.71**	**241**	*e*PN	**Pn**	**18 22 03.3**	**-0.2**
NKC				*e*PG	**Pg**	**18 22 09.9**	**-0.7**
NKC				*e*SG	**Sg**	**18 22 44.6**	**-1.1**
	comp=Z,55nm,0.4s						
OJC	**Ojcow**	**2.72**	**120**	*e*Pg	**Pg**	**18 22 11.5**	**+0.8**
OJC				*e*Sg	**Sg**	**18 22 46.9**	**+1.1**
KHC	**Kasperske Hory**	**2.98**	**214**	*e*PN	**Pn**	**18 22 06.4**	**-0.8**
KHC				*e*PG	**Pb**	**18 22 12.6**	**0.0**
KHC				*e*SG	**Sb**	**18 22 50.3**	**+0.8**
	comp=Z,9.9nm,0.4s						
LANS	**Liptovska Anna**	**3.27**	**138**	*e*PG	**Pg**	**18 22 22.7**	**+1.4**
LANS				*e*SG	**Sg**	**18 23 03.2**	**-0.5**
MODS	**Modra-Piesok**	**3.34**	**167**	*e*SG	**Sg**	**18 23 05.0**	**-0.8**
MODS				*e*LG	Lg	18 23 08.1	
BSD	**Bornholm Skovb**	**3.57**	**349**	*i* P	**Pn**	**18 22 16.1**	**+0.9**
BSD				*i* S	**Sn**	**18 22 56.1**	**-2.0**
VYHS	**Vyhne**	**3.59**	**150**	*e*PG	**Pg**	**18 22 27.1**	**-0.2**
VYHS				*e*SG	**Sg**	**18 23 12.3**	**-1.5**
CONA	**Conrad Observa**	**3.70**	**183**	*i* Pn	**Pn**	**18 22 17.5**	**+0.4**
	comp=Z,0.3nm,0.1s						
CONA				Sg	**Sb**	**18 23 13.3**	**+2.9**
	comp=Z,13nm,0.4s						
MOA	**Molln**	**3.96**	**198**	*i* Pn	**Pn**	**18 22 20.8**	**+0.1**
	comp=Z,1.8nm,0.3s						
MOA				*e*Sg	**Sb**	**18 23 20.7**	**+2.8**
	comp=Z,7.3nm,0.4s						
KECS	**Kecovo**	**4.22**	**137**	*e*SG	**Sg**	**18 23 32.2**	**-1.8**
KECS				*e*LG	Lg	18 23 43.8	
LUNU	**Lund**	**4.32**	**339**	P	**Pn**	**18 22 25.9**	**+0.4**
LUNU				S	**Sn**	**18 23 15.2**	**-1.4**
ARSA	**Arzberg**	**4.39**	**185**	Sg	**Sb**	**18 23 34.9**	**+4.6**
	comp=Z,2.8nm,0.4s						
BLEU	**Blekinge**	**4.69**	**358**	P	**Pn**	**18 22 28.9**	**-1.7**
BLEU				S	**Sn**	**18 23 23.7**	**-2.1**
BJUU	**Bjuv**	**4.82**	**339**	P	**Pn**	**18 22 32.0**	**-0.4**
DEL	**Delary**	**5.04**	**346**	P	**Pn**	**18 22 35.6**	**+0.2**
VXJU	**Vaexsjoe**	**5.36**	**353**	P	**Pn**	**18 22 40.9**	**+1.2**
OSKU	**Oskarshamn**	**5.58**	**360**	P	**Pn**	**18 22 44.4**	**+1.6**
BYXU	**Byxelkrok**	**5.70**	**5**	P	**Pn**	**18 22 46.7**	**+2.2**
GNOU	**Gnosjoe**	**5.84**	**347**	P	**Pn**	**18 22 47.7**	**+1.3**

*IDC **16** 18:24:44.4±0.8, 41.17N×143.16E, h0km, mb4.1/18, mb1 4.2/21, mb1mx4.1/51, mbtmp4.1/21, ML3.1/3, MS5.4/1, Ms1 5.4/1, ms1mx3.9/55, Error ellipse: s-maj=18.7km s-min=17.0km az=87.0*
*JMA **16** 18:24:49.3±0.2, 41.06N×142.83E, h16km±3km, M4.3 JMA Felt I J1.*
*ISCJB **16** 18:24:50.2±0.5, 41.08N±0.03×142.93E±0.04, h59km±3km, mb4.6/44, MS5.5/1, Error ellipse: s-maj=6.4km s-min=3.3km az=34.2*
*NEIC **16** 18:24:50.8±0.7, 41.14N×143.04E, h50km±7km, mb4.9/26, Error ellipse: s-maj=9.0km s-min=5.7km az=131.0*
NEIC Recorded [1 JMA] in Aomori and Iwate, Honshu.

ISC 16 18:24:46.0±1.4, 41.03N±0.03×143.08E±0.05, h13km±8km, n99, σ1§70/116, mb4.7/44, 1C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.98**	**3**	*e*Pn	**Pn**	**18 25 07.9**	**+2.5**
ERM				*e*Sn	**Sn**	**18 25 21.1**	**+1.9**
JEM	**Erimo**	**0.98**	**3**	P	**Pn**	**18 25 07.9**	**+2.5**
JEM				*e*S	**Sn**	**18 25 20.2**	**+1.0**
JNBK	**Urakawa-nobuka**	**1.27**	**349**	⇑P	**Pg**	**18 25 11.5**	**+1.1**
JNBK				*e*S	**Sg**	**18 25 28.4**	**+1.4**
JARK	**Aomorirokkasho**	**1.30**	**269**	P	**Pn**	**18 25 09.6**	**-0.1**
JARK				S	**Sb**	**18 25 23.8**	**-2.9**
JKEN	**Kujiedanarisaw**	**1.33**	**232**	P	**Pb**	**18 25 10.9**	**+0.2**
JKEN				*e*S	**Sb**	**18 25 27.7**	**+0.1**
JAHD	**Aomorihigashid**	**1.34**	**281**	⇓P	**Pn**	**18 25 10.2**	**-0.1**
JAHD				S	**Sn**	**18 25 25.6**	**-2.3**
JANG	**Nango**	**1.36**	**242**	P	**Pb**	**18 25 11.2**	**0.0**
JANG				*e*S	**Sb**	**18 25 28.3**	**-0.2**
JTM	**Tenmabayashi**	**1.54**	**262**	⇓P	**Pb**	**18 25 14.0**	**-0.4**
JTM				S	**Sn**	**18 25 31.1**	**-1.9**
JOT	**Ohata**	**1.57**	**284**	⇓P	**Pn**	**18 25 13.6**	**+0.1**
JOT				S	**Sn**	**18 25 31.5**	**-2.2**
JCH	**Churui**	**1.60**	**8**	P	**Pg**	**18 25 16.7**	**+0.1**
JCH				S	**Sg**	**18 25 36.6**	**-0.7**
JKB	**Kayabe**	**1.76**	**300**	P	**Pn**	**18 25 16.3**	**+0.2**
JKB				S	**Sn**	**18 25 35.4**	**-2.9**
JIAM	**Iburiatsuma**	**1.81**	**332**	P	**Pb**	**18 25 19.5**	**+0.6**
JIAM				*e*S	**Sb**	**18 25 42.2**	**+0.7**
JBT2	**Biratori 2**	**1.82**	**343**	P	**Pg**	**18 25 20.2**	**-0.8**
JBT2				S	**Sg**	**18 25 43.4**	**-1.3**
JAH	**Hinai**	**2.04**	**246**	⇓P	**Pb**	**18 25 22.1**	**-0.8**
JAH				S	**Sn**	**18 25 46.1**	**+0.8**
JSR	**Shiriuchi**	**2.07**	**285**	P	**Pb**	**18 25 21.7**	**-1.6**
JSR				S	**Sn**	**18 25 44.6**	**-1.3**
JOM	**Ohasama**	**2.07**	**222**	P	**Pb**	**18 25 23.7**	**+0.3**
JOM				S	**Sb**	**18 25 48.6**	**-0.4**
JFR	**Furan**	**2.16**	**351**	P	**Pb**	**18 25 25.7**	**+0.8**
JFR				S	**Sb**	**18 25 52.6**	**+1.0**
JEW	**Eniwo**	**2.18**	**327**	P	**Pb**	**18 25 23.6**	**-1.6**
JEW				S	**Sn**	**18 25 49.2**	**+0.5**
ASAJ	**Asahikawa**	**3.10**	**354**	*e*Pn	**Pn**	**18 25 36.7**	**+2.1**
MJB9	**Matsu-Tunnel**	**5.88**	**222**	*e*Pn	Pn	18 26 17.6	+4.9
MAJO	**Matsushiro**	**5.88**	**222**	*e*Pn	**Pn**	**18 26 17.4**	**+4.6**
MAT	**Matsushiro**	**5.88**	**222**	P	Pn	18 26 17.8	+5.0
MAT				*e*S	**Sb**	**18 27 35.1**	**-3.5**
MJAR	**Matsushiro Arr**	**5.88**	**222**	Pn	**Pn**	**18 26 16.2**	**+3.5**
	0.9nm,0.3s,baz=24,slow=15,SNR=21						
YSS	**Yuzh-Sakhalins**	**5.92**	**358**	*e*Pn	**Pn**	**18 26 12.1**	**-1.2**
INU	**Inuyama**	**7.41**	**222**	*e*Pn	Pn	18 26 39.3	+5.5
JHJ2	**Mitsune**	**8.32**	**199**	*e*Pn	**Pn**	**18 26 46.3**	**0.0**
JHJ	**Hachijo jima 2**	**8.32**	**199**	Sn	**Sn**	**18 28 18.4**	**-1.7**
	9.6nm,0.3s,baz=84,slow=19,SNR=2.5						
USA0B	**Ussuriysk Arra**	**8.77**	**295**	*e*Pn	**Pn**	**18 26 51.0**	**-1.4**
USRK	**Ussuriysk Ar.**	**8.77**	**295**	Pn	**Pn**	**18 26 53.4**	**+1.1**
	0.2nm,0.3s,baz=104,slow=15,SNR=9.4						
KSRS	**Korea Array**	**12.28**	**258**	Pn	**Pn**	**18 27 43.8**	**+3.3**
	0.4nm,0.3s,baz=63,slow=14,SNR=7.9						
KSRS				Sn	**Sn**	**18 30 03.0**	**+5.8**
	0.2nm,0.3s,baz=69,slow=24,SNR=5.2						
KS01	**Wonju Array Si**	**12.29**	**258**	*e*Pn	**Pn**	**18 27 44.1**	**+3.5**
KSAR	**Wonju Array Be**	**12.31**	**258**	Pn	**Pn**	**18 27 43.8**	**+2.9**
KSAR				Sn	**Sn**	**18 30 03.0**	**+5.0**
PETK	**Petropavlovsk-**	**15.62**	**34**	*e*Pn	**P**	**18 28 28.4**	**-1.4**
YAK	**Yakutsk**	**22.53**	**343**	*e*P	**P**	**18 29 42.7**	**-2.4**
	26nm,1.2s						
YHNB	**Yeheng**	**24.37**	**235**	*e*P	**P**	**18 30 03.4**	**-0.4**
	107nm,1.8s						
SSLB	**Suanglung**	**25.27**	**234**	*e*P	**P**	**18 30 13.8**	**+1.8**
	84nm,2.0s						
YULB	**Yu-li**	**25.36**	**233**	*e*P	**P**	**18 30 12.6**	**-0.1**
	50nm,1.7s						
TPUB	**Ta-pu**	**25.84**	**234**	*e*P	**P**	**18 30 15.9**	**-1.1**
	81nm,1.7s						
ULN	**Ulaanbaatar**	**26.43**	**297**	*e*P	**P**	**18 30 23.0**	**+0.6**
	13nm,1.1s						
SONA1	**Songino Array**	**26.87**	**297**	*e*P	**P**	**18 30 26.4**	**+0.1**
SONA0	**Songino Array**	**26.87**	**297**	*e*P	**P**	**18 30 26.1**	**-0.3**
SONM	**Songino Array**	**26.87**	**297**	P	**P**	**18 30 26.1**	**-0.3**
	3.0nm,0.6s,baz=85,slow=8.6,SNR=13						
CHGN	**Chignik**	**40.25**	**47**	*e*P	**P**	**18 32 22.6**	**+0.5**
	58nm,0.9s						
ZAA0	**Zalesovo Array**	**40.29**	**309**	*e*P	**P**	**18 32 22.4**	**-0.2**
	22nm,1.4s						
ZAA1	**Zalesovo Array**	**40.29**	**309**	*e*P	**P**	**18 32 22.6**	**0.0**
ZALV	**Zalesovo Beam**	**40.29**	**309**	P	**P**	**18 32 22.6**	**0.0**
	3.4nm,0.5s,baz=82,slow=6.7,SNR=5.1						
ZALV	**Zalesovo Beam**	**40.29**	**309**	*e*P	**P**	**18 32 23.2**	**+0.7**
IM3	**Indian Mountai**	**42.57**	**33**	*e*P	**P**	**18 32 42.4**	**+1.3**
PPLA	**Purkeypile**	**43.18**	**37**	*e*P	**P**	**18 32 47.5**	**+1.3**
	70nm,1.6s						
MK01	**Makanchi Array**	**43.21**	**299**	*e*P	**P**	**18 32 46.2**	**-0.3**
MK31	**Makanchi Array**	**43.21**	**299**	*e*P	**P**	**18 32 45.8**	**-0.7**
MK32	**Makanchi Array**	**43.21**	**299**	*e*P	**P**	**18 32 46.5**	**-0.1**
MKAR	**Makanchi Array**	**43.21**	**299**	P	**P**	**18 32 46.5**	**-0.1**
	2.3nm,0.6s,baz=87,slow=9.5,SNR=13						
MKAR	**Makanchi Array**	**43.21**	**299**	*e*P	**P**	**18 32 46.1**	**-0.5**
	25nm,0.8s						
LSA	**Lhasa**	**43.26**	**272**	*e*P	**P**	**18 32 49.3**	**+1.7**
	39nm,2.0s						
CHTO	**Chiang Mai**	**43.62**	**253**	*e*P	**P**	**18 32 50.9**	**+0.8**
	27nm,1.8s						
CM31	**Chiang Mai Arr**	**43.85**	**253**	*e*P	**P**	**18 32 50.6**	**-1.3**
CMAR	**Chiang Mai Arr**	**43.85**	**253**	P	**P**	**18 32 52.4**	**+0.4**
	1.2nm,0.7s,baz=43,slow=7.2,SNR=9.3						
CM01	**Chiang Mai Arr**	**43.86**	**253**	*e*P	**P**	**18 32 50.5**	**-1.6**
BRLK	**Bradley Lake**	**43.98**	**42**	*e*P	**P**	**18 32 51.4**	**-1.2**
	247nm,2.0s						
TOLK	**Toolik Lake Re**	**44.34**	**29**	*e*P	**P**	**18 32 53.7**	**-1.6**
	28nm,1.9s						
KURK	**Kurchatov**	**44.59**	**305**	*e*P	**P**	**18 32 55.3**	**-2.2**
	46nm,1.8s						
KURBB	**Kurchatov Arra**	**44.67**	**305**	P	**P**	**18 32 57.4**	**-0.7**
	8.1nm,0.8s,baz=78,slow=8.9,SNR=15						
MDM	**Mudy Dome**	**44.86**	**34**	*e*P	**P**	**18 33 01.0**	**+1.4**
	20nm,1.6s						
IL1	**Eielson Array**	**45.45**	**34**	*e*P	**P**	**18 33 05.6**	**+1.4**
ILAR	**Eielson Array**	**45.45**	**34**	P	**P**	**18 33 03.9**	**-0.3**
	0.5nm,0.7s,baz=263,slow=6.3,SNR=5.1						
ILB	**Eielson Array**	**45.45**	**34**	*e*P	**P**	**18 33 04.2**	**+0.1**
RIDG	**Independ'e Rid**	**46.43**	**36**	*e*P	**P**	**18 33 10.6**	**-1.4**
	58nm,2.0s						
SCRK	**Sand Creek**	**46.78**	**35**	*e*P	**P**	**18 33 12.1**	**-2.7**
	11nm,1.4s						
BVAR	**Borovoye Array**	**48.92**	**310**	P	**P**	**18 33 31.3**	**-0.1**
	1.2nm,0.6s,baz=64,slow=6.6,SNR=4.1						
BRVK	**Borovoye**	**48.97**	**310**	*e*P	**P**	**18 33 31.3**	**-0.5**
	42nm,2.0s						
PCA	**Pinnacle**	**49.20**	**40**	*e*P	**P**	**18 33 33.7**	**+0.1**
	152nm,1.8s						
AAK	**Ala-Archa**	**49.82**	**296**	P	**P**	**18 33 39.5**	**+0.9**
	2.1nm,0.6s,baz=110,slow=8.7,SNR=5.6						
INK	**Inuvik**	**50.25**	**29**	*e*P	**P**	**18 33 40.2**	**-1.1**
	21nm,1.6s						
HYT	**Haines Junctio**	**50.34**	**39**	*e*P	**P**	**18 33 40.6**	**-1.7**
	45nm,1.7s						
DHAK	**Deception Hill**	**50.46**	**41**	*e*P	**P**	**18 33 43.4**	**+0.3**
	156nm,0.7s						
KK31	**Karatay Array**	**52.32**	**298**	*e*P	**P**	**18 33 55.2**	**-2.0**
KKAR	**Karatay Array**	**52.32**	**298**	*e*P	**P**	**18 33 55.2**	**-2.0**
BATI	**Baumata**	**54.04**	**204**	LR	LR	18 54 33.1	
	comp=Z,4µm,22.0s,baz=340,slow=33						
ABKAR	**Akbulak array**	**56.41**	**309**	*e*P	**P**	**18 34 26.1**	**-0.7**
AKTO	**Aktyubinsk**	**57.02**	**311**	P	**P**	**18 34 31.7**	**+0.5**
	1.3nm,0.5s,baz=68,slow=9,SNR=3.8						
WR1	**Warramunga Arr**	**61.20**	**189**	*e*P	**P**	**18 35 01.5**	**+1.2**
	37nm,1.9s						
WRA	**Warramunga Arr**	**61.20**	**189**	P	**P**	**18 35 01.5**	**+1.1**
	0.8nm,0.5s,baz=5.1,slow=7.0,SNR=18						
GEYT	**Alibeck**	**63.07**	**298**	P	**P**	**18 35 14.8**	**+1.8**
	0.7nm,0.6s,baz=60,slow=12,SNR=2.4						
AS31	**Alice Springs**	**64.93**	**189**	*e*P	**P**	**18 35 29.4**	**+4.3**
	4.3nm,1.8s						
ASAR	**Alice Springs**	**64.93**	**189**	P	**P**	**18 35 26.5**	**+1.4**
	0.8nm,0.8s,baz=3.8,slow=5.1,SNR=6.7						
FIA0	**FINESS Array S**	**65.89**	**332**	*e*P	**P**	**18 35 31.1**	**+0.1**
FINES	**FINESS Array B**	**65.89**	**332**	P	**P**	**18 35 31.1**	**+0.1**
	3.9nm,0.7s,baz=45,slow=8.4,SNR=9.7						
KBZ	**Khabaz**	**69.30**	**310**	P	**P**	**18 35 53.4**	**+0.7**
	1.8nm,0.9s,baz=86,slow=16,SNR=2.4						
JLAB	**Laurel Hill**	**70.20**	**58**	*e*P	**P**	**18 35 56.5**	**-2.0**
NB2	**NORSAR Subarra**	**71.00**	**337**	P	**P**	**18 36 03.0**	**0.0**
	comp=Z,0.9nm,0.8s,baz=39,slow=6.2						
NB200	**NORSAR Array S**	**71.00**	**337**	*e*P	**P**	**18 36 01.9**	**-1.1**
NOA	**NORSAR Array B**	**71.00**	**337**	P	**P**	**18 36 01.9**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=37,slow=6.0,SNR=4.8						
NV01	**Mina Array Sit**	**71.59**	**55**	*e*P	**P**	**18 36 06.0**	**-1.2**
NVAR	**Mina Array Bea**	**71.59**	**55**	P	**P**	**18 36 07.5**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=280,slow=6.3,SNR=6.2						
AKASG	**Malin Array Be**	**71.93**	**322**	P	**P**	**18 36 08.3**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=46,slow=6.1,SNR=9.7						
AKBB	**Malin Array Si**	**71.93**	**322**	*e*P	**P**	**18 36 08.0**	**-0.6**
	comp=Z,5.8nm,0.8s						
GERES	**GERESS Array B**	**79.99**	**329**	P	**P**	**18 36 54.9**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=12,slow=5.0,SNR=3.7						
TZTN	**Tazewell**	**91.76**	**36**	*e*P	**P**	**18 37 49.9**	**-3.4**
	comp=Z,45nm,1.0s						

TRN 16 18:29:45.9, 14.84N×60.60W, h60km, MD3.5, 1C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVM	**Montagne Vaucl**	**0.40**	**225**	*e*P	Pn	18 29 57.5	+0.7
ZAM	**Aeronautique**	**0.49**	**237**	*e*P	Pn	18 29 58.5	+0.9
TRMF	**Trois Ilets**	**0.53**	**235**	*e*P	Pn	18 29 58.9	+0.8
BAMF	**Morne Balai**	**0.53**	**268**	*e*P	Pn	18 29 59.4	+1.2
FDF	**Fort de France**	**0.54**	**259**	*e*P	Pn	18 29 59.2	+0.9
FDF				*e*S	Sn	18 30 09.1	+1.8
GBMF	**Grand Be**	**0.55**	**266**	*e*P	Pn	18 29 59.7	+1.3
CXM	**Morne La Croix**	**0.55**	**267**	*e*P	Pn	18 29 59.8	+1.4
CXM				*e*S	Sn	18 30 09.5	+1.9
BIM	**Bigot**	**0.55**	**235**	*e*P	Pn	18 29 59.5	+1.0
BIM				*e*S	Sn	18 30 09.2	+1.6
PML	**Morne Lenard**	**0.56**	**264**	*e*P	Pn	18 30 00.0	+1.5
PCM	**Pelee Case Pet**	**0.59**	**268**	*e*P	Pn	18 30 00.2	+1.4
DLPL	**La Plaine**	**0.79**	**308**	*e*P	Pn	18 30 03.1	+1.9
DLPL				*e*S	Sn	18 30 14.9	+2.3
BBL	**Barber's Block**	**1.08**	**309**	*e*P	Pn	18 30 06.6	+1.6
BBL				*e*S	Sn	18 30 20.9	+1.7
SLB	**Belfond**	**1.09**	**203**	*e*P	Pn	18 30 07.9	+2.7
SLB				*e*S	Sn	18 30 21.9	+2.4
MCLT	**Moule a Chique**	**1.17**	**196**	*e*P	Pn	18 30 06.4	+0.3
MCLT				*e*S	Sn	18 30 23.7	+2.4
MGG	**Marie-Galante**	**1.28**	**327**	⇑*i*P	Pn	18 30 08.3	+0.8
MGG				*e*S	Sn	18 30 25.3	+1.6
MAGL	**Barre de l'ile**	**1.28**	**329**	*e*P	Pn	18 30 08.3	+0.6
MAGL				*e*S	Sn	18 30 24.2	+0.3
TDBA	**Terre de Bas,**	**1.42**	**315**	*e*P	Pn	18 30 11.3	+1.9
TBG	**Guadaloupe-3**	**1.42**	**315**	*e*P	Pn	18 30 11.0	+1.4
TBG				*e*S	Sn	18 30 29.1	+1.8
PHG	**Guadaloupe-2**	**1.54**	**320**	*e*P	Pn	18 30 12.6	+1.4
CBE	**F¯f¯, Capest**	**1.56**	**322**	*e*P	Pn	18 30 12.9	+1.4
TAG	**Tarade**	**1.57**	**320**	*e*P	Pn	18 30 13.2	+1.5
FNG	**Fond-Bernard**	**1.60**	**319**	⇓*i*P	Pn	18 30 13.3	+1.3
SSV	**Crater Summit**	**1.61**	**201**	*e*P	Pn	18 30 13.9	+1.8
SSV				*e*S	Sn	18 30 32.7	+0.8
SVV	**Soufriere Volc**	**1.62**	**202**	*e*P	Pn	18 30 13.6	+1.3
SVV				*e*S	Sn	18 30 32.9	+0.7
SVB	**Belmont**	**1.68**	**202**	*e*P	Pn	18 30 14.6	+1.6
SVB				*e*S	Sn	18 30 35.0	+1.5
FCV	**Fort Charlotte**	**1.78**	**201**	*e*P	Pn	18 30 15.5	+1.1
FCV				*e*S	Sn	18 30 37.3	+1.3

MEX 16 18:30:39.6±0.6, 14.10N×92.38W, h40km±34km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.81**	**8**	*e*P	Pn	18 30 53.3	-1.3
THIG				*e*S	Sn	18 31 03.6	-1.8
PCIG		**1.79**	**333**	*e*P	Pn	18 31 07.0	-1.0
PCIG				*i* S	Sn	18 31 26.9	-2.6
CCIG	**Comitan**	**2.18**	**6**	*e*P	Pn	18 31 12.9	-0.6
CCIG				*e*S	Sn	18 31 38.1	-1.4
TGIG		**2.76**	**345**	*i* P	Pn	18 31 20.4	-0.9
TGIG				*e*S	Sn	18 31 51.2	-2.2

*ISK **16** 19:16:33.6, 37.59N×36.37E, h9km, ML2.4/7*
*ISCJB **16** 19:16:34.3±0.5, 37.59N±0.03×36.36E±0.04, h5km±3km, Error ellipse: s-maj=5.5km s-min=4.7km az=36.1*
*DDA **16** 19:16:34.3, 37.60N×36.37E, h2km, Ml2.7*

ISC 16 19:16:34.0±0.9, 37.60N±0.03×36.36E±0.03, h5km±6km, n14, σ0§55/22, Turkey

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

JOU				*e*S	**Sn**	19 25 17.6	+0.1
JRG	**Rokugo**	**1.19**	**297**	P	**Pn**	19 25 03.1	-0.2
JRG				*e*S	**Sn**	19 25 19.2	+0.9
JYK	**Kaneyama**	**1.28**	**273**	P	**Pn**	19 25 04.5	0.0
JMM	**Marumori**	**1.38**	**224**	P	**Pn**	19 25 05.5	-0.3
JMM				S	**Sn**	19 25 22.1	-0.7
MJAR	**Matsushiro Arr**	**3.80**	**234**	P	**Pn**	19 25 41.6	+2.6
	1.2nm,0.3s,baz=38,slow=12,SNR=20						
MJAR				S	Sn	19 26 36.6	+14
	0.5nm,0.3s,baz=78,slow=10.0,SNR=4.1						
ASAJ	**Asahikawa**	**5.27**	**5**	P	**Pn**	19 25 59.0	-0.2
	0.2nm,0.3s,baz=228,slow=14,SNR=4.1						
ASAJ				S	**Sn**	19 26 60.0	+1.4
	0.1nm,0.3s,baz=134,slow=33,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**28.74**	**124**	T	T	20 00 59.9	
	baz=317,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**28.75**	**124**	T	T	20 01 02.0	
	baz=317,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**28.76**	**124**	T	T	20 01 04.2	
	baz=317,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**29.51**	**126**	T	T	20 01 58.7	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**29.52**	**126**	T	T	20 02 00.5	
	baz=318,slow=74						
H11S2	**WAKE ISLAND Hy**	**29.53**	**126**	T	T	20 01 56.8	
	baz=318,slow=74						
MKAR	**Makanchi Array**	**43.57**	**301**	P	**P**	19 32 42.0	-0.4
	0.5nm,0.6s,baz=82,slow=8.5,SNR=4.4						
WRA	**Warramunga Arr**	**58.93**	**188**	P	**P**	19 34 37.2	-0.4
	0.3nm,0.6s,baz=8.2,slow=6.9,SNR=4.3						

ISCJB ***16*** *19:35:45.3±0.7, 16°.6S×0°.2×174°.6W±0°.1, h50km, mb3.7/1, Error ellipse: s-maj=27.5km s-min=9.0km az=138.9*
NEIC ***16*** *19:35:49.1±0.7, 16°.675S×174°.67W, h64km±7km, mb4.5/6, Error ellipse: s-maj=19.3km s-min=11.4km az=132.0*
IDC ***16*** *19:35:50.3±4.0, 16°.81S×174°.49W, h80km±54km, mb3.7/4, mb1 3.8/5, mb1mx3.4/56, mbtmp4.0/5, ML3.9/1, Error ellipse: s-maj=62.7km s-min=32.7km az=113.0*
ISC 16 19:35:47.9±0.9, 16°.6S±0°.2×174°.6W±0°.2, h50km, n16, σ1№41/17, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.87**	**46**	P	**Pn**	19 36 47.8	+2.8
	8.0nm,0.3s,baz=203,slow=2.3,SNR=17						
AFI				S	**Sn**	19 37 27.0	-2.3
	28nm,0.3s,baz=48,slow=22,SNR=12						
AFI	**Afiamalu**	**3.87**	**46**	*e*Pn	**Pn**	19 36 47.1	+2.1
AFI				*e*Sn	**Sn**	19 37 26.7	-2.6
URZ	**Urewera**	**22.73**	**197**	P	**P**	19 40 44.4	-1.3
	3.9nm,0.7s,baz=307,slow=20,SNR=4.2						
RPZ	**Rata Peaks**	**29.60**	**201**	*e*P	**P**	19 41 48.7	+0.4
	82nm,1.7s						
STKA	**Stephens Creek**	**42.39**	**241**	P	**P**	19 43 37.8	+0.1
	1.1nm,0.7s,baz=90,slow=16,SNR=3.2						
STKA	**Stephens Creek**	**42.39**	**241**	*e*P	**P**	19 43 37.8	+0.1
	4.5nm,1.9s						
WB2	**Warramunga Arr**	**48.40**	**258**	*e*P	**P**	19 44 24.8	-0.6
	23nm,1.9s						
WRAB	**Tennant Creek**	**48.40**	**258**	*e*P	**P**	19 44 24.7	-0.7
	12nm,1.4s						
WR1	**Warramunga Arr**	**48.41**	**258**	*e*P	**P**	19 44 25.2	-0.3
	5.8nm,1.1s						
WRA	**Warramunga Arr**	**48.41**	**258**	P	**P**	19 44 25.2	-0.3
	0.3nm,0.4s,baz=96,slow=7.2,SNR=19						
AS01	**Alice Springs**	**48.56**	**253**	*e*P	**P**	19 44 26.0	-0.6
AS31	**Alice Springs**	**48.60**	**253**	*e*P	**P**	19 44 26.6	-0.4
	1.0nm,0.6s						
ASAR	**Alice Springs**	**48.60**	**253**	P	**P**	19 44 26.9	0.0
	3.5nm,0.5s,baz=88,slow=8.5,SNR=72						
MLY	**Manley**	**83.43**	**10**	*e*pP	pP	19 48 27.0	+2.9
BR101	**Keskin Array S**	**146.32**	**319**	*e*PKPdf	**PKPdf**	19 55 22.2	-0.2
BRTR	**Keskin Array B**	**146.32**	**319**	PKPbc	**PKPdf**	19 55 22.2	-0.2
	0.3nm,0.5s,baz=86,slow=4.5,SNR=3.1						

JMA ***16*** *19:36:37.3±0.2, 41°.08N×142°.83E, h12km±3km, M3.6*
ISCJB ***16*** *19:36:38.0±0.9, 41°.08N±0°.04×142°.86E±0°.06, h25km±6km, mb3.4/3, Error ellipse: s-maj=8.9km s-min=3.9km az=35.5*
IDC ***16*** *19:36:41.0±3.4, 41°.42N×141°.82E, h0km, mb3.5/3, mb1 3.4/5, mb1mx3.3/55, mbtmp3.4/5, ML3.3/1, Error ellipse: s-maj=63.0km s-min=26.4km az=115.0*
ISC 16 19:36:38.6±1.7, 41°.11N±0°.05×142°.80E±0°.06, h25km±13km, n20, σ0№92/34, mb3.3/3, 1C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**0.95**	**16**	P	**Pn**	19 36 55.6	-0.7
JEM				*e*S	**Sb**	19 37 08.4	0.0
JARK	**Aomorirokkasho**	**1.09**	**265**	P	**Pn**	19 36 58.0	-0.2
JARK				S	**Sb**	19 37 12.8	+0.3
JAHD	**Aomorihigashid**	**1.12**	**279**	P	**Pn**	19 36 58.3	-0.3
JAHD				*e*S	**Sn**	19 37 13.0	-0.1
JNBK	**Urakawa-nobuka**	**1.17**	**358**	P	**Pn**	19 36 59.6	+0.2
JNBK				*e*S	**Sb**	19 37 16.1	+1.2
JANG	**Nango**	**1.22**	**234**	P	**Pn**	19 36 59.8	-0.2
JANG				*e*S	**Sn**	19 37 16.3	+0.5
JKEN	**Kujiedanarisaw**	**1.22**	**223**	P	**Pn**	19 36 59.6	-0.5
JKEN				*e*S	**Sn**	19 37 15.9	+0.1
JOT	**Ohata**	**1.35**	**282**	⇑P	**Pn**	19 37 01.9	+0.1
JOT				*e*S	**Sb**	19 37 20.1	+0.1
JTM	**Tenmabayashi**	**1.35**	**257**	P	**Pn**	19 37 02.3	+0.5
JTM				*e*S	**Sb**	19 37 20.6	+0.6
JKB	**Kayabe**	**1.54**	**301**	P	**Pn**	19 37 04.7	+0.3
JKB				*e*S	**Sn**	19 37 24.1	+0.5
JCH	**Churui**	**1.56**	**15**	P	**Pn**	19 37 04.7	-0.1
JCH				*e*S	**Sn**	19 37 24.3	+0.1
JIAM	**Iburiatsuma**	**1.65**	**337**	P	**Pb**	19 37 08.0	-0.3
JIAM				*e*S	**Sb**	19 37 30.1	+1.4
JBT2	**Biratori 2**	**1.70**	**349**	P	**Pb**	19 37 08.5	-0.7
JSR	**Shiriuchi**	**1.84**	**284**	P	**Pn**	19 37 10.0	+1.4
JSR				*e*S	**Sb**	19 37 32.9	-1.3
JAH	**Hinai**	**1.89**	**242**	P	**Pn**	19 37 10.7	+1.5
JAH				*e*S	**Sb**	19 37 34.1	-1.3
JNB	**Noboribetsu**	**1.90**	**316**	P	**Pn**	19 37 09.5	+0.2
ASAJ	**Asahikawa**	**3.01**	**357**	Pn	**Pn**	19 37 25.9	+1.3
	3.7nm,0.3s,baz=198,slow=15,SNR=24						
ASAJ				Sn	**Sn**	19 38 00.5	+0.5
	2.2nm,0.3s,baz=221,slow=20,SNR=2.2						
MJAR	**Matsushiro Arr**	**5.80**	**220**	Pn	**Pn**	19 38 05.4	+2.4
	baz=27,slow=14,SNR=2.8						
SONM	**Songino Array**	**26.65**	**297**	P	**P**	19 42 14.6	-0.8
	0.5nm,0.6s,baz=81,slow=7.7,SNR=4.2						
ZALV	**Zalesovo Beam**	**40.03**	**309**	P	**P**	19 44 12.5	+0.8
	0.7nm,0.5s,baz=100,slow=7.9,SNR=2.3						
MKAR	**Makanchi Array**	**42.99**	**299**	P	**P**	19 44 34.0	-1.6
	0.3nm,0.5s,baz=93,slow=10,SNR=4.9						

IDC ***16*** *19:39:36.5±1.9, 5°.74S×151°.85E, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.7/52, mbtmp4.0/5, ML2.0/1, Error ellipse: s-maj=92.9km s-min=24.0km az=129.0*
ISCJB ***16*** *19:39:44.0±0.9, 5°.5S±0°.1×151°.4E±0°.2, h57km, mb4.2/13, Error ellipse: s-maj=29.3km s-min=7.8km az=34.5*
NEIC ***16*** *19:39:43.2±0.8, 5°.57S×151°.48E, h35km, mb4.4/10, Error ellipse: s-maj=26.6km s-min=7.6km az=122.0*
ISC 16 19:39:44.9±1.4, 5°.6S±0°.2×151°.5E±0°.3, h57km, n22, σ0№58/25, mb4.1/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.54**	**24**	*e*Pn	**Pn**	19 40 10.1	-0.1
MANU	**Manus Island**	**5.47**	**310**	*e*Pn	**Pn**	19 41 10.7	+6.8
PMG	**Port Moresby**	**5.75**	**229**	Pn	**Pn**	19 41 07.5	-0.2
	2.3nm,0.3s,baz=58,slow=5.5,SNR=12						
PMG				Sn	**Sn**	19 42 12.0	-0.3
	3.0nm,0.3s,baz=171,slow=14,SNR=7.4						
PMG	**Port Moresby**	**5.75**	**229**	*e*Pn	**Pn**	19 41 07.1	-0.6
PMG				*e*Sn	**Sn**	19 42 13.4	+1.1
MTN	**Manton Dam**	**21.37**	**249**	*e*P	**P**	19 44 27.8	0.0
	34nm,1.4s						
WC3	**Warramunga Arr**	**21.95**	**228**	*e*P	**P**	19 44 34.8	+0.7
	7.4nm,1.3s						
WRAB	**Tennant Creek**	**21.95**	**228**	*e*P	**P**	19 44 34.3	+0.3
	12nm,1.4s						
WB2	**Warramunga Arr**	**21.96**	**228**	*e*P	**P**	19 44 34.3	+0.2
WR1	**Warramunga Arr**	**21.97**	**228**	*e*P	**P**	19 44 34.9	+0.7
	5.8nm,1.1s						
WRA	**Warramunga Arr**	**21.97**	**228**	P	**P**	19 44 34.9	+0.7
	1.5nm,0.7s,baz=55,slow=10,SNR=20						
AS01	**Alice Springs**	**24.68**	**222**	*e*P	**P**	19 45 00.8	+0.1
AS31	**Alice Springs**	**24.71**	**222**	*e*P	**P**	19 45 00.1	-0.8
	1.0nm,0.7s						
ASAR	**Alice Springs**	**24.71**	**222**	P	**P**	19 45 00.1	-0.9
	1.7nm,0.6s,baz=55,slow=9.0,SNR=20						
SOEI	**Soe**	**27.33**	**260**	*e*P	**P**	19 45 25.2	+0.3
	7.1nm,0.9s						
FITZ	**Fitzroy Crossi**	**28.17**	**242**	P	**P**	19 45 31.9	-0.3
	2.6nm,0.6s,baz=69,slow=8.0,SNR=10						
FITZ	**Fitzroy Crossi**	**28.17**	**242**	*e*P	**P**	19 45 31.3	-0.9
	20nm,1.8s						
LUWI	**Luwuk**	**29.07**	**278**	*e*P	**P**	19 45 39.7	-0.5
	28nm,0.9s						
MAJO	**Matsushiro**	**43.75**	**344**	*e*P	**P**	19 47 44.5	-0.3
	50nm,1.8s						
MJB9	**Matsu-Tunnel**	**43.76**	**344**	*e*P	**P**	19 47 44.4	-0.5
	48nm,1.8s						
ILAR	**Eielson Array**	**83.38**	**22**	P	**P**	19 52 05.7	0.0
	0.7nm,0.7s,baz=247,slow=5.0,SNR=8.1						
TORD	**Torodi Ar. Bea**	**149.34**	**286**	PKPbc	**PKPbc**	19 59 28.8	+0.2
	0.5nm,0.8s,baz=80,slow=4.5,SNR=4.4						
TORD				PKPab	**PKPab**	19 59 34.0	+0.7
	0.4nm,0.6s,baz=96,slow=3.1,SNR=5.2						
TOA1	**Torodi Ar. Sit**	**149.35**	**286**	*e*PKPbc	**PKPbc**	19 59 28.8	+0.2
TOA1				*e*PKPab	**PKPab**	19 59 34.0	+0.7

IDC ***16*** *19:42:35.4±2.9, 13°.87N×92°.50W, h0km, mb3.6/3, mb1 4.0/6, mb1mx3.6/49, mbtmp3.6/6, ML3.4/3, Error ellipse: s-maj=56.5km s-min=25.4km az=5.0*
MEX ***16*** *19:42:37.3±0.7, 13°.85N×92°.55W, h10km±149km, MD3.7*
ISC 16 19:42:38.5±4.0, 14°.1N±0°.1×92°.50W±0°.07, h12km±25km, n12, σ1№36/17, mb3.6/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.87**	**15**	*e*P	**Pb**	19 42 55.6	+0.1
THIG				*e*S	**Sn**	19 43 08.0	-1.2
PCIG		**1.77**	**337**	*e*P	**Pn**	19 43 07.2	-1.9
PCIG				*e*S	**Sn**	19 43 30.6	-1.0
APG	**El Apazote**	**2.18**	**64**	Pn	**Pn**	19 43 14.8	-0.1
	4.3nm,0.3s,baz=229,slow=8.4,SNR=33						
APG				Sn	**Sb**	19 43 45.1	0.0
	17nm,0.3s,baz=313,slow=16,SNR=9.9						
CCIG	**Comitan**	**2.23**	**9**	*i* P	**Pn**	19 43 15.3	-0.2
CCIG				*i* S	**Sn**	19 43 44.1	+1.0
TGIG		**2.76**	**347**	*e*P	**Pn**	19 43 22.1	-0.6
TGIG				*i* S	**Sn**	19 43 56.6	+0.5
CMIG	**Matias Romero**	**3.79**	**323**	Pn	**Pn**	19 43 36.0	-0.8
	2.4nm,0.3s,baz=131,slow=12,SNR=15						
CMIG				Sn	**Sn**	19 44 23.4	+2.0
	5.5nm,0.3s,baz=107,slow=12,SNR=5.1						
JTS	**JuntasAbangare**	**8.27**	**116**	Lg	Lg	19 46 46.9	
	1.0nm,0.3s,baz=202,slow=16,SNR=4.3						
TXAR	**Lajitas Array**	**18.38**	**329**	P	**P**	19 46 55.3	+1.8
	0.6nm,0.3s,baz=153,slow=12,SNR=3.3						
NVAR	**Mina Array Bea**	**33.32**	**322**	P	**P**	19 49 18.4	+1.8
	0.2nm,0.4s,baz=138,slow=9.8,SNR=2.2						
YKA	**Yellowknife Ar**	**50.85**	**347**	P	**P**	19 51 37.5	-1.4
	1.2nm,0.7s,baz=151,slow=7.8,SNR=5.8						
ILAR	**Eielson Array**	**62.59**	**337**	P	**P**	19 53 02.6	+0.3
	0.3nm,0.7s,baz=96,slow=6.6,SNR=4.1						
CMAR	**Chiang Mai Arr**	**145.77**	**340**	PKPbc	**PKPdf**	20 02 16.2	-1.9
	0.4nm,0.7s,baz=352,slow=2.9,SNR=3.6						

ISCJB ***16*** *19:43:35.1±0.7, 40°.37N±0°.05×63°.42E±0°.06, h13km, Error ellipse: s-maj=9.0km s-min=4.9km az=141.8*
NNC ***16*** *19:43:35.2±1.3, 40°.33N×63°.39E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=19.1km s-min=8.6km az=144.0*
IDC ***16*** *19:43:38.1±2.4, 40°.23N×63°.25E, h0km, mb1 3.3/3, mb1mx3.0/57, mbtmp3.3/3, ML3.1/3, Error ellipse: s-maj=128.1km s-min=23.1km az=148.0*
ISC 16 19:43:38.1±0.9, 40°.33N±0°.08×63°.38E±0°.06, h13km, n9, σ1№60/16, 8C-7D, Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GEYT	**Alibeck**	**4.74**	**241**	Pn	**Pn**	19 44 49.8	+0.5
	1.1nm,0.3s,baz=65,slow=14,SNR=38						
GEYT				Sn	**Sn**	19 45 42.8	-1.4
	0.8nm,0.3s,baz=193,slow=12,SNR=1.8						
GYA0B	**ALIBECK ARRAY**	**4.74**	**241**	⇓Pn	**Pn**	19 44 50.3	+1.0
	2.8nm,0.4s						
GYA0B				⇓Pg	**Pb**	19 45 00.4	-0.7
	6.4nm,0.5s						
GYA0B				⇓Sn	**Sn**	19 45 43.6	-0.6
	18nm,0.5s						
GYA0B				⇑Lg	Lg	19 46 06.1	
	31nm,0.6s						
KK31	**Karatay Array**	**6.01**	**60**	Pn	**Pn**	19 45 07.6	+0.8
	1.4nm,0.7s,baz=251,slow=10,SNR=9.5						
KK31				⇑Pg	**Pb**	19 45 25.7	+2.9
	1.6nm,0.5s,baz=238,slow=18,SNR=9.3						
KK31				⇓Lg	Lg	19 46 47.1	
	6.6nm,0.6s,baz=240,slow=32,SNR=4.6						
MNAS	**Manas**	**7.19**	**70**	⇑Sn	**Sn**	19 46 42.9	-1.8
	1.7nm,0.6s						
MNAS				⇑Lg	Lg	19 47 25.4	
	6.5nm,1.1s						
AB31	**Akbulak array**	**9.25**	**346**	Pn	**Pn**	19 45 51.6	+0.4
	0.1nm,0.3s,baz=149,slow=16,SNR=3.6						
AB31				Sn	**Sn**	19 47 34.2	-0.9
	0.3nm,0.5s,baz=147,slow=26,SNR=4.0						
AB31				⇓Lg	Lg	19 48 30.3	
	1.4nm,0.6s,baz=160,slow=26,SNR=3.9						
OTUK	**Ortayu**	**10.19**	**36**	⇑Pn	**Pn**	19 46 01.4	-2.6
	2.0nm,0.8s						
OTUK				⇓Sn	**Sn**	19 47 55.9	-2.1
	2.7nm,0.8s						
OTUK				⇓Lg	Lg	19 48 56.4	
	3.4nm,0.9s						
AKTO	**Aktyubinsk**	**10.78**	**341**	⇑Pn	**Pn**	19 46 12.0	-0.1
	5.8nm,1.5s						
AKTO				⇑Sn	**Sn**	19 48 14.3	+1.7
	2.0nm,0.8s						
AKTO				⇑Lg	Lg	19 49 17.7	
	3.7nm,1.3s						
MKAR	**Makanchi Array**	**15.14**	**59**	Pn	**Pn**	19 47 10.4	-1.3
	0.1nm,0.3s,baz=250,slow=17,SNR=1.8						
ZALV	**Zalesovo Beam**	**19.85**	**40**	P	**Pn**	19 48 10.7	+0.5
	0.2nm,0.3s,baz=253,slow=13,SNR=1.8						

WEL 16 20:18:55.7±0.9, 38°.S±3°×17°.9E±°, h20km±6km, ML3.7/13, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNGZ	**Carnagh Statio**	**0.38**	**261**	P	Pn	20 19 05.0	-1.0
PUZ	**Puketiti**	**0.49**	**316**	P	Pb	20 19 05.8	+0.2
PUZ				S	Sb	20 19 13.7	+1.3
TWGZ	**Tauwhareparae**	**0.61**	**294**	P	Pb	20 19 08.3	+0.5
TWGZ				S	Sn	20 19 18.1	-0.5
WMGZ	**Waiomatatini S**	**0.64**	**340**	P	Pb	20 19 08.9	+0.6
WMGZ				S	Sn	20 19 19.3	+0.1
TKGZ	**Te Karaka**	**0.66**	**269**	P	Pn	20 19 09.2	-0.6
TKGZ				S	Sn	20 19 19.7	0.0
PKGZ	**Pakihiroa**	**0.72**	**318**	P	Pb	20 19 09.9	+0.3
PKGZ				S	Sn	20 19 21.1	-0.2
RIGZ	**Rimuhau**	**0.78**	**249**	P	Pn	20 19 11.2	-0.4
PRGZ	**Paritu Road**	**0.80**	**232**	P	Pn	20 19 11.6	-0.3
MXZ	**Matakaoa Point**	**0.91**	**341**	P	Pn	20 19 13.1	-0.2
MXZ				S	Sn	20 19 26.7	+0.7
MWZ	**Matawai**	**0.92**	**275**	P	Pb	20 19 12.8	-0.1
MWZ				S	Sn	20 19 25.7	-0.4
RUGZ	**Raukumara Rang**	**0.92**	**300**	P	Pb	20 19 12.7	-0.3
RUGZ				S	Sn	20 19 25.8	-0.5
MHGZ	**Mahia Peninsul**	**0.95**	**220**	P	Pb	20 19 13.6	+0.2
HAZ	**Te Kaha**	**0.98**	**313**	P	Pb	20 19 13.6	-0.3
HAZ				S	Sn	20 19 27.6	+0.1
KNZ	**Kokohu**	**0.99**	**233**	P	Pb	20 19 13.8	-0.3
KNZ				S	Sn	20 19 27.4	-0.4
RAGZ	**Rawiri**	**1.00**	**266**	P	Pn	20 19 14.7	+0.1
RAGZ				S	Sn	20 19 28.5	+0.3
SNGZ	**Shannon Statio**	**1.11**	**251**	P	Pn	20 19 15.7	-0.5
URZ	**Urewera**	**1.25**	**277**	P	Pn	20 19 17.8	-0.2
WHHZ	**Waihua**	**1.31**	**240**	P	Pn	20 19 17.9	-0.9
RAHZ	**Arahi**	**1.34**	**248**	P	Pb	20 19 20.4	+0.1
WHRZ	**Whale Island**	**1.47**	**292**	P	Pn	20 19 21.5	+0.5
MUGZ	**Murupara**	**1.51**	**268**	P	Pn	20 19 21.9	+0.4
MTHZ	**Maungataniwha**	**1.51**	**253**	P	Pn	20 19 22.3	+0.7
ARHZ	**Aropaoanui**	**1.56**	**237**	P	Pn	20 19 22.8	+0.5
NMHZ	**Naumai**	**1.61**	**245**	P	Pn	20 19 24.0	+0.9
NMHZ				S	Sn	20 19 43.5	+0.1
CKHZ	**Cape Kidnapper**	**1.75**	**225**	P	Pn	20 19 24.4	-0.6
CKHZ				S	Sn	20 19 46.2	-0.5
OPRZ	**Ohinepanea**	**1.78**	**288**	P	Pn	20 19 22.7	-2.6
MCHZ	**McNeill Hill**	**1.85**	**236**	P	Pn	20 19 27.0	+0.6
KAHZ	**Kahuranaki**	**1.96**	**225**	P	Pn	20 19 27.2	-0.7
KWHZ	**Kaweka Forest**	**2.03**	**240**	P	Pn	20 19 28.6	-0.2
KRHZ	**Kereru**	**2.17**	**235**	P	Pn	20 19 30.2	-0.6
BHHZ	**Black Hill Sta**	**2.30**	**242**	P	Pn	20 19 32.1	-0.5
PRHZ	**Porangahau**	**2.43**	**220**	P	Pn	20 19 32.4	-1.8
PNHZ	**Pukenui**	**2.44**	**232**	P	Pn	20 19 33.3	-1.1
TSZ	**Takapari Road**	**2.67**	**232**	P	Pn	20 19 36.0	-1.6
DVHZ	**Dannevirke**	**2.70**	**225**	P	Pn	20 19 36.1	-1.9
BFZ	**Birch Farm**	**2.94**	**219**	P	Pn	20 19 38.8	-2.5
PRWZ	**Pori Road**	**2.99**	**224**	P	Pn	20 19 40.5	-1.4
HOWZ	**Holdsworth Sta**	**3.48**	**224**	P	Pn	20 19 46.2	-2.5
CTZ	**Chatham Island**	**6.38**	**148**	P	Pn	20 20 29.0	+0.5

WEL 16 20:20:19.1±1.2, 38°.S±5°×17°.9E±°, h19km±6km, ML3.5/10, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNGZ	**Carnagh Statio**	**0.36**	**258**	P	Pn	20 20 28.2	-1.1
PUZ	**Puketiti**	**0.46**	**317**	P	Pb	20 20 28.9	+0.3
PUZ				S	Sb	20 20 36.1	+1.0
TWGZ	**Tauwhareparae**	**0.58**	**293**	P	Pg	20 20 31.4	+0.7
TWGZ				S	Sn	20 20 40.9	-0.5
WMGZ	**Waiomatatini S**	**0.62**	**342**	P	Pn	20 20 32.1	-0.7
WMGZ				S	Sn	20 20 42.0	-0.2
TKGZ	**Te Karaka**	**0.64**	**267**	P	Pb	20 20 31.7	+0.2
TKGZ				P	Pg	20 20 31.7	-0.1
TKGZ				S	Sn	20 20 42.9	+0.2
PKGZ	**Pakihiroa**	**0.69**	**318**	P	Pg	20 20 33.0	+0.2
PKGZ				S	Sn	20 20 43.8	-0.3
MXZ	**Matakaoa Point**	**0.89**	**342**	P	Pg	20 20 36.3	-0.1
MXZ				S	Sn	20 20 49.0	+0.2
RUGZ	**Raukumara Rang**	**0.89**	**299**	P	Pb	20 20 35.9	-0.1
RUGZ				S	Sg	20 20 48.2	-0.1
MWZ	**Matawai**	**0.89**	**274**	P	Pb	20 20 36.0	0.0
MWZ				S	Sg	20 20 48.6	+0.3
HAZ	**Te Kaha**	**0.95**	**313**	P	Pb	20 20 36.8	-0.1
HAZ				S	Sg	20 20 50.0	-0.1
RAGZ	**Rawiri**	**0.98**	**264**	P	Pn	20 20 37.8	-0.1
URZ	**Urewera**	**1.23**	**276**	P	Pn	20 20 41.2	+0.1
BKZ	**Black Stump Fm**	**1.85**	**245**	P	Pb	20 20 51.5	-0.9
BHHZ	**Black Hill Sta**	**2.29**	**241**	P	Pn	20 20 55.6	-0.4

NNC 16 20:52:29.3±4.9, 38°.19N×82°.92E, h0km, mb3.8, mpv3.4, 7C-3D, Error ellipse: s-maj=47.6km s-min=36.7km az=82.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**5.75**	**334**	⇑Pn	Pn	20 53 56.5	+0.4
	1.6nm,0.4s						
PDGK				⇓Sn	Sn	20 55 04.7	+1.8
	16nm,0.5s						
PDGK				⇓Lg	Lg	20 55 32.4	
	14nm,0.6s						
MDOK	**Medeo**	**6.67**	**320**	⇑Pn	Pn	20 54 09.6	+0.8
	12nm,1.4s						
MDOK				⇑Lg	Lg	20 56 02.2	
	12nm,0.8s						
TKM2	**Tokmak 2**	**7.31**	**313**	⇑Pn	Pn	20 54 16.8	-0.7
	4.3nm,1.2s						
TKM2				⇑Lg	Lg	20 56 22.5	
	5.1nm,0.6s						
MK31	**Makanchi Array**	**8.61**	**357**	⇑Pn	Pn	20 54 34.2	-1.0
	0.1nm,0.2s,baz=188,slow=12,SNR=32						
MK31				⇑Sn	Sn	20 56 12.9	0.0
	0.7nm,0.5s,baz=182,slow=27,SNR=5.6						
MK31				⇓Lg	Lg	20 57 02.2	
	0.6nm,0.4s						

ISCJB ***16*** *20:57:35.1±0.4, 50°.26N±0°.03×18°.72E±0°.02, h0km, Error ellipse: s-maj=4.1km s-min=1.8km az=16.5*
BGR ***16*** *20:57:37.3±1.0, 50°.08N×18°.85E, h1km, ML3.1/16, Error ellipse: s-maj=8.9km s-min=6.7km az=40.0*
PRU ***16*** *20:57:37.6±0.0, 50°.26N×18°.85E, h0km*
WAR ***16*** *20:57:37.9, 50°.24N×18°.93E, h1km, Mw2.8*
VIE ***16*** *20:57:38.1±1.4, 49°.82N×19°.00E, h0km, mb2.2/3, ml2.8/4, Error

WET					*e*Sg		**Sg**		**20 59 42.9**	**-3.1**
ABG1	**Leinawald**	**4.07**	**283**		*e*Sg		**Sg**		**20 59 48.5**	**+0.7**
TANN	**Tannenbergstha**	**4.10**	**276**		*e*Sg		**Sg**		**20 59 47.3**	**-1.3**
NKC	**Novy Kostel**	**4.11**	**273**		*e*Sg		**Sg**		**20 59 47.8**	**-1.1**
MODW	**Modelwitz**	**4.13**	**283**		*e*Sg		**Sg**		**20 59 50.0**	**+0.2**
MULD	**Muldenberg**	**4.13**	**275**		*e*Sg		**Sg**		**20 59 49.3**	**-0.5**
WERN	**Wernitzgruen**	**4.15**	**274**		*e*Sg		**Sg**		**20 59 50.3**	**-0.1**
GUNZ	**Gunzen**	**4.18**	**275**		*e*Pn		**Pn**		**20 58 42.1**	**0.0**
GUNZ					*e*Sg		**Sg**		**20 59 49.6**	**-1.6**
ROHR	**Rohrbach**	**4.19**	**273**		*e*Sg		**Sg**		**20 59 50.8**	**-0.9**
HKWD	**Heukewalde**	**4.25**	**281**		*e*Sg		**Sg**		**20 59 52.9**	**-0.4**
DRGR		**4.27**	**141**	⇑	*i*P		**Pn**		**20 58 43.5**	**+0.2**
DRGR		**4.27**	**141**		S		**Sn**		**20 59 34.4**	**+0.6**
PLN	**Plauen**	**4.29**	**276**		*e*Sg		**Sg**		**20 59 53.7**	**-1.2**
TRIB	**Obertriebel**	**4.31**	**275**		*e*Sg		**Sg**		**20 59 53.5**	**-1.7**
TAUT	**Tautenburg**	**4.61**	**283**		*e*Sg		**Sg**		**21 00 05.4**	**+0.2**
BURAR	**Bucovina Array**	**4.93**	**119**	⇑	*i*P		**Pn**		**20 58 52.2**	**-0.2**
BZS	**Buzias**	**4.95**	**157**	⇑	*i*P		**Pn**		**20 58 53.0**	**+0.5**

BJI **16** *21:06:46.0, 12.°90N×88.°80W, h65km*
ISCJB **16** *21:06:47.1±0.4, 12.°98N±0.°05×88.°79W±0.°04, h70km±3km, mb4.3/17, Error ellipse: s-maj=10.2km s-min=3.5km az=31.6*
NEIC **16** *21:06:47.9±0.9, 12.°92N×88.°80W, h65km±7km, mb4.7/14, MD4.4(SNET), Error ellipse: s-maj=13.9km s-min=6.4km az=225.0*
NEIC Felt [II] at San Salvador.
UCR **16** *21:06:47.9±1.7, 13.°02N×88.°78W, h62km±11km, ML4.3, mb4.7(NEIC)*
IDC **16** *21:06:48.6±2.2, 13.°36N×88.°36W, h61km±23km, mb3.3/5, mb1 3.7/9, mb1mx3.5/38, mbtmp3.6/9, ML3.2/4, MS3.5/3, Ms1 3.5/3, ms1mx3.2/22, Error ellipse: s-maj=66.9km s-min=19.1km az=39.0*
ISC 16 21:06:47.3±1.0, 12.°92N±0.°07×88.°80W±0.°05, h66km±8km, n84, σ1§92/91, mb4.5/17, 10D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
UESV	**Ojushtada**	**0.46**	**1**	⇓	*e*P	**Pn**	**21 07 01.6**	**+2.2**
UESV					IAML		21 07 13.5	
	comp=Z,26μm,0.3s							
AIES	**Las Flores**	**0.58**	**335**		*e*P	**Pn**	**21 06 59.7**	**-1.0**
AIES					*e*S	**Sn**	**21 07 07.9**	**-2.5**
AIES					AML	AML	21 07 10.3	
	comp=Z,7μm,0.1s							
TECA	**Tecapa**	**0.64**	**27**	⇓	*i*P	**Pn**	**21 07 01.0**	**-0.5**
SNVI	**San Vicente**	**0.69**	**357**		*e*P	**Pn**	**21 07 01.2**	**-0.7**
LCY	**Lacayo**	**0.70**	**45**	⇓	*i*P	**Pn**	**21 07 01.8**	**-0.3**
PACA	**Pacayal**	**0.71**	**41**		*e*S	**Sn**	**21 07 13.0**	**-0.2**
VSM	**San Miguel**	**0.72**	**46**		*e*P	**Pn**	**21 07 02.2**	**-0.2**
LFRS	**El Faro**	**0.74**	**340**	⇓	*i*P	**Pn**	**21 07 01.7**	**-0.9**
PAVA	**Las Pavas**	**0.80**	**350**	⇓	*i*P	**Pn**	**21 07 02.8**	**-0.4**
PAVA					IAML		21 07 16.8	
	comp=Z,16μm,0.2s							
LBRS	**Las Brisas**	**0.84**	**344**		*e*P	**Pn**	**21 07 03.2**	**-0.5**
SNET	**Serv Nac Est T**	**0.87**	**331**		*e*Pn	**Pn**	**21 07 03.5**	**-0.6**
SNET	**Serv Nac Est T**	**0.87**	**331**		*e*P	**Pn**	**21 07 03.4**	**-0.6**
SNET					*e*S	**Sn**	**21 07 15.0**	**-1.4**
SNET					IAML		21 07 17.3	
	comp=Z,9μm,0.2s							
UDBS	**Soyapango**	**0.87**	**336**		*e*P	**Pn**	**21 07 03.4**	**-0.6**
UDBS					IAML		21 07 19.7	
	comp=Z,23μm,0.2s							
LFU	**La Fuente**	**0.88**	**340**	⇓	*i*P	**Pn**	**21 07 03.7**	**-0.4**
OPAM	**San Salvador**	**0.88**	**334**		IAML		21 07 18.4	
	comp=Z,9μm,0.2s							
CUSC	**San Salvador**	**0.89**	**335**		*e*P	**Pn**	**21 07 03.7**	**-0.6**
CUSC					IAML		21 07 18.9	
	comp=Z,10μm,0.2s							
UEES	**San Salvador**	**0.91**	**332**		*e*P	**Pn**	**21 07 04.0**	**-0.6**
UEES					IAML		21 07 19.2	
	comp=Z,6μm,0.2s							
BOQS	**Boqueron**	**0.93**	**330**	⇓	*e*P	**Pn**	**21 07 04.6**	**-0.3**
LCND	**La Ca˜–ada**	**0.97**	**67**	⇓	*i*P	**Pn**	**21 07 05.2**	**0.0**
LCND					*e*S	**Sn**	**21 07 18.8**	**+0.4**
LCND					IAML		21 07 25.4	
	comp=Z,11μm,0.3s							
CEVE	**Cerro Verde**	**1.21**	**318**		*e*P	**Pn**	**21 07 08.3**	**-0.1**
CEVE					*e*S	**Sn**	**21 07 24.5**	**+0.2**
CEVE					IAML		21 07 27.9	
	comp=Z,9μm,0.2s							
CSGN	**Cosiguina Volc**	**1.21**	**87**		*e*Pn	**Pn**	**21 07 09.1**	**+0.7**
CSGN	**Cosiguina Volc**	**1.21**	**87**		*e*P	**Pn**	**21 07 08.9**	**+0.5**
SBLS	**San Blas**	**1.21**	**319**		*e*P	**Pn**	**21 07 08.6**	**0.0**
LLGN	**La Laguna**	**1.25**	**353**	⇓	*e*P	**Pn**	**21 07 08.8**	**-0.2**
RTR	**El Retiro**	**1.27**	**320**		*e*P	**Pn**	**21 07 09.4**	**+0.2**
UNIC	**Santa Ana**	**1.29**	**325**		*e*P	**Pn**	**21 07 09.5**	**0.0**
MTO3	**Montecristo**	**1.56**	**340**	⇓	*i*P	**Pn**	**21 07 13.3**	**0.0**
CRIN	**San Cristobal**	**1.72**	**97**		*e*P	**Pn**	**21 07 15.7**	**+0.6**
CRIN					*e*S	**Sn**	**21 07 37.4**	**+1.1**
CRIN					IAML		21 07 37.7	
	comp=N,2μm,0.5s							
TGUH	**Tegucigalpa,Un**	**1.86**	**53**		*e*Pn	**Pn**	**21 07 17.7**	**+0.7**
MOMN	**Momotombo**	**2.27**	**103**		*e*P	**Pn**	**21 07 22.3**	**-0.1**
COPN	**Copaltepe**	**2.28**	**109**		*e*P	**Pn**	**21 07 22.1**	**-0.5**
ESTN	**Estel**	**2.38**	**85**		*e*Pn	**Pn**	**21 07 24.6**	**+0.6**
APG	**El Apazote**	**2.62**	**322**		P	**Pn**	**21 07 28.3**	**+0.8**
	comp=N,2.6nm,0.3s,baz=147,slow=7.5,SNR=6.7							
APG					S	**Sn**	**21 08 06.0**	**+7.6**
	comp=N,7.5nm,0.3s,baz=250,slow=14,SNR=5.1							
MATN	**Matagalpa**	**2.80**	**90**		*e*P	**Pn**	**21 07 30.0**	**+0.1**
MATN					*e*S	**Sn**	**21 08 02.1**	**-0.5**
MATN					IAML		21 08 03.8	
	comp=N,606nm,0.3s							
BOAB	**BOACO BROADBAN**	**3.10**	**98**		*e*Pn	**Pn**	**21 07 33.7**	**0.0**
BOAB	**BOACO BROADBAN**	**3.10**	**98**		*e*P	**Pn**	**21 07 33.5**	**-0.3**
ACON	**Acoyapa**	**3.67**	**105**		*e*P	**Pn**	**21 07 41.6**	**+0.1**
VCR	**Vista de Mar**	**4.17**	**131**		*e*P	**Pn**	**21 07 50.2**	**+1.6**
ESPN	**Las Esperanzas**	**4.45**	**99**		*e*Pn	**Pn**	**21 07 52.8**	**+0.5**
JTS	**JuntasAbangare**	**4.59**	**124**		P	**Pn**	**21 07 55.8**	**+1.6**
	comp=N,2.7nm,0.3s,baz=178,slow=23,SNR=14							
JTS					S	**Sn**	**21 08 44.3**	**-1.9**
	comp=N,9.4nm,0.3s,baz=197,slow=13,SNR=3.9							
JTS					LR	LR	21 09 16.2	
	comp=N,160nm,21.3s,baz=68,slow=33							
JTS	**JuntasAbangare**	**4.59**	**124**		*e*Pn	**Pn**	**21 07 55.5**	**+1.3**
JTS	**JuntasAbangare**	**4.59**	**124**		*e*P	**Pn**	**21 07 57.4**	**+3.2**
ARE1	**Arenal 1**	**4.69**	**121**		*e*P	**Pn**	**21 07 58.0**	**+2.5**
LCR2	**La Lucha 2**	**5.67**	**123**		*e*P	**Pn**	**21 08 12.3**	**+3.1**
URSC	**Urasca**	**5.80**	**121**		*e*P	**Pn**	**21 08 14.7**	**+3.8**
DRK0	**Durika**	**6.55**	**123**		*e*P	**Pn**	**21 08 23.6**	**+2.4**
CMIG	**Matias Romero**	**7.19**	**306**		P	**Pn**	**21 08 31.7**	**+1.9**
	comp=N,0.4nm,0.3s,baz=131,slow=9.3,SNR=3.8							
CMIG					S	**Sn**	**21 09 49.7**	**-0.3**
	comp=N,0.6nm,0.3s,baz=80,slow=19,SNR=2.8							
TEIG	**Tepich**	**7.28**	**4**		*e*Pn	**Pn**	**21 08 32.2**	**+1.2**
061Z	**Ochoppi**	**14.87**	**29**		*e*Pn	**Pn**	**21 10 14.9**	**+1.2**
SDV	**Santo Domingo**	**18.28**	**101**		P	**P**	**21 10 53.0**	**-3.1**
	comp=N,0.6nm,0.3s,baz=311,slow=4.0,SNR=5.5							
250A	**Grady**	**19.11**	**7**		*e*P	**Pn**	**21 11 06.0**	**-0.2**
	comp=N,34nm,1.4s							
Z45A	**Winona**	**20.37**	**358**		*e*P	Pn	21 11 19.9	-1.1
	comp=N,42nm,0.5s							
TXAR	**Lajitas Array**	**21.38**	**322**		P	**P**	**21 11 30.8**	**+1.2**
	comp=N,1.4nm,0.7s,baz=151,slow=11,SNR=16							
TX31	**Lajitas Ar. Si**	**21.39**	**322**		*e*P	**P**	**21 11 32.0**	**+2.4**
ATAH	**Atahualpa**	**22.45**	**152**		LR	LR	21 20 19.0	
	comp=N,200nm,18.2s,baz=89,slow=36							
TKL	**Tuckaleechee C**	**23.09**	**10**		LR	LR	21 20 07.4	
	comp=N,286nm,19.6s,baz=36,slow=35							
MSTX	**Muleshoe**	**24.51**	**331**		*e*P	**P**	**21 12 01.4**	**+0.8**
	comp=N,6.5nm,0.7s							
CCM	**Cathedral Cave**	**25.12**	**355**		*e*P	**P**	**21 12 06.9**	**+0.9**
	comp=N,7.3nm,0.9s							
N51A	**Ashland**	**28.45**	**10**		*e*P	**P**	**21 12 35.9**	**0.0**
	comp=N,14nm,0.6s							
H43A	**Windswept, Lux**	**31.45**	**1**		*e*P	**P**	**21 13 03.5**	**+1.2**
	comp=N,19nm,0.9s							
RWWY	**Rawlins**	**32.85**	**334**		*e*P	**P**	**21 13 15.8**	**+0.9**
	comp=N,28nm,0.8s							
SAML	**Samuel**	**33.46**	**129**		*e*P	**P**	**21 13 20.6**	**+0.3**
	comp=N,3.7nm,0.8s							
PDAR	**Pinedale Array**	**34.74**	**333**		P	**P**	**21 13 32.8**	**+1.4**
	comp=N,0.2nm,0.4s,baz=138,slow=12,SNR=3.1							
REDW	**Red Top Meadow**	**35.80**	**332**		*e*P	**P**	**21 13 41.3**	**+0.9**
	comp=N,20nm,1.9s							
NV01	**Mina Array Sit**	**36.48**	**319**		*e*P	**P**	**21 13 46.2**	**-0.1**
NVAR	**Mina Array Bea**	**36.48**	**319**		P	**P**	**21 13 48.9**	**+2.5**
	comp=N,0.4nm,0.5s,baz=115,slow=8.0,SNR=3.6							
NVAR					PcP	**PcP**	**21 16 10.8**	**+1.7**
	comp=N,0.8nm,0.6s,baz=140,slow=2.9,SNR=5.2							
GCMT	**Greycliff**	**37.23**	**336**		*e*P	**P**	**21 13 54.3**	**+1.8**
MCMT	**McKenzie Canyo**	**37.84**	**332**		*e*P	**P**	**21 13 59.2**	**+1.4**
BOZ	**Bozeman (W)**	**37.89**	**334**		*e*P	**P**	**21 13 54.3**	**-3.8**
	comp=N,6.1nm,0.6s							
HRY	**Holter Researc**	**38.86**	**335**		*e*P	**P**	**21 14 06.9**	**+0.7**
EGMT	**Eagleton**	**39.11**	**338**		*e*P	**P**	**21 14 09.4**	**+1.2**
	comp=N,5.8nm,0.8s							
WVOR	**Wild Horse Val**	**39.15**	**324**		*e*P	**P**	**21 14 09.5**	**+0.8**
	comp=N,14nm,2.0s							
YKA	**Yellowknife Ar**	**52.82**	**345**		P	**P**	**21 15 55.3**	**-0.3**
	comp=N,1.6nm,0.4s,baz=131,slow=8.6,SNR=12							
YKB5	**Yellowknife Ar**	**52.82**	**345**		*e*P	**P**	**21 15 56.2**	**+0.6**
YKW3	**Yellowknife Ar**	**52.88**	**345**		*e*P	**P**	**21 15 56.5**	**+0.4**
	comp=N,45nm,1.6s							
DLBC	**Dease Lake**	**54.92**	**335**		*e*P	**P**	**21 16 12.7**	**+1.5**
	comp=N,60nm,1.9s							
ILAR	**Eielson Array**	**65.06**	**336**		P	**P**	**21 17 19.8**	**-0.6**
	comp=N,0.6nm,0.9s,baz=93,slow=4.7,SNR=5.6							
HHC	**Hu-ho-hao-te**	**123.27**	**342**		*e*PKP	**PKPdf**	**21 25 34.3**	**-2.8**
WMQ	**Urumqi**	**123.44**	**3**		*e*PKP	**PKPdf**	**21 25 38.3**	**+1.0**
GTA	**Gaotai**	**127.32**	**352**		PKP	**PKPdf**	**21 25 39.4**	**-5.6**
GTA					PKS	**PKSdf**	**21 29 14.8**	**-6.9**
NJ2	**Nanjing**	**128.02**	**330**		*e*PKP	**PKPdf**	**21 25 47.8**	**+1.5**
LZH	**Lanzhou**	**129.81**	**347**		*e*PKP	**PKPdf**	**21 25 45.0**	**-4.8**
WRA	**Warramunga Arr**	**138.13**	**255**		PKP	**PKPdf**	**21 26 07.3**	**+1.8**
	comp=N,0.5nm,0.7s,baz=83,slow=1.9,SNR=8.6							
ASAR	**Alice Springs**	**138.21**	**249**		PKP	**PKPdf**	**21 26 07.7**	**+2.0**
	comp=N,0.3nm,0.8s,baz=105,slow=2.1,SNR=3.5							

ISCJB **16** *21:16:31.0±0.5, 38.°52N±0.°03×31.°61E±0.°04, h8km±6km, Error ellipse: s-maj=5.3km s-min=4.7km az=173.7*
DDA **16** *21:16:30.8, 38.°54N×31.°61E, h10km, Ml2.7*
ISK **16** *21:16:30.9, 38.°50N×31.°64E, h10km, ML2.0/7*
ISC 16 21:16:30.8±1.1, 38.°52N±0.°03×31.°58E±0.°03, h5km±11km, n15, σ1§02/23, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DOGA	**KONYA_Doganhis**	**0.42**	**170**		*i*P	**Pg**	**21 16 39.3**	**+0.4**
DOGA					*i*S	**Sb**	**21 16 46.0**	**-1.4**
KDHN	**Kadinhani**	**0.42**	**89**		*i*P	**Pg**	**21 16 39.1**	**+0.1**
KDHN					*i*S	**Sg**	**21 16 44.9**	**+0.3**
KIZT	**Kizilcal**	**0.43**	**33**	PG		**Pb**	**21 16 39.9**	**-1.1**
KIZT				SG		**Sg**	**21 16 45.7**	**+0.8**
BOLV	**Bolvadin**	**0.53**	**293**		*i*P	**Pg**	**21 16 41.3**	**+0.3**
BOLV					*i*S	**Sb**	**21 16 49.4**	**-1.2**
BAGO	**Egridir - ISPA**	**0.81**	**230**		*i*P	**Pb**	**21 16 47.6**	**+0.2**
BAGO					*i*S	**Sg**	**21 16 58.0**	**+1.1**
KONT	**Konya--Tatoy**	**0.84**	**132**	PG		**Pg**	**21 16 46.8**	**-0.1**
KONT	**Konya--Tatoy**	**0.84**	**132**		*i*P	**Pg**	**21 16 46.9**	**-0.1**
SVRH	**Sivrihisar-ESK**	**0.93**	**358**	PG		**Pb**	**21 16 49.6**	**+0.2**
KMER	**Konya-Meram**	**0.97**	**140**		*i*P	**Pg**	**21 16 49.5**	**+0.1**
KMER					*i*S	**Sn**	**21 17 07.0**	**+1.6**
CHBY	**Cihanbeyli**	**1.03**	**86**	PG		**Pg**	**21 16 50.5**	**-0.1**
CHBY				SG		**Sg**	**21 17 03.8**	**-0.2**
SUTC	**Sutluce-Ispart**	**1.13**	**204**	PN		**Pg**	**21 16 52.5**	**0.0**
SUTC				SN		**Sn**	**21 17 09.3**	**-0.1**
KULU	**Kulu**	**1.23**	**64**	PN		**Pn**	**21 16 54.3**	**-0.5**
KKUL	**Konya-Kulu**	**1.23**	**58**	*i*	S	**Sn**	**21 17 14.9**	**+3.0**
AFSR	**Af˙ar-Bala (A**	**1.49**	**51**	PN		**Pn**	**21 16 57.9**	**-0.4**
TVSB	**Tavsanli**	**1.89**	**300**	PN		**Pb**	**21 17 04.9**	**-0.9**

DDA **16** *21:17:17.6, 38.°65N×43.°13E, h7km, Ml2.5*
ISK **16** *21:17:17.8, 38.°63N×42.°97E, h5km, ML1.7/3*
ISC 16 21:17:18.1±1.2, 38.°64N±0.°05×43.°01E±0.°04, h10km±13km, n7, σ0§59/13, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ADCV	**BITLIS_Adilcev**	**0.28**	**307**		*i*P	**Pb**	**21 17 24.8**	**-0.6**
ADCV					*i*S	**Sb**	**21 17 30.3**	**0.0**
GEVA	**Gevas**	**0.33**	**174**		*i*P	**Pg**	**21 17 24.5**	**-0.2**
GEVA					*i*S	**Sg**	**21 17 30.0**	**+0.8**
GURO	**Guroymak-BITLI**	**0.78**	**264**		PG	**Pg**	**21 17 32.7**	**-0.4**
GURO					SG	**Sg**	**21 17 43.3**	**+0.1**
TUTA	**Tutak**	**0.78**	**348**		*i*P	**Pg**	**21 17 33.0**	**-0.1**
CLDR	**Caldiran**	**0.86**	**54**	PG		**Pb**	**21 17 35.0**	**-0.4**
CLDR				SG		**Sn**	**21 17 48.7**	**-0.7**
AGRB	**Hanur-Agry**	**0.93**	**359**	PG		**Pb**	**21 17 36.4**	**-0.2**
AGRB				SG		**Sb**	**21 17 49.9**	**+0.8**
EKAR	**Karacoban**	**0.96**	**310**	*i*	P	**Pn**	**21 17 38.2**	**+0.3**
EKAR				*i*	S	**Sn**	**21 17 52.5**	**+0.6**

ISCJB **16** *21:24:59.0±0.3, 32.°28N±0.°03×96.°48E±0.°06, h10km, mb3.8/15, Error ellipse: s-maj=7.4km s-min=4.0km az=17.7*
NDI **16** *21:24:58.7±2.6, 32.°48N×96.°69E, h10km, ML3.9, mb4.0(NEIC)*
IDC **16** *21:24:59.3±0.7, 32.°33N×96.°50E, h0km, mb3.8/15, mb1 3.9/18, mb1mx3.8/56, mbtmp3.8/18, ML3.6/3, Error ellipse: s-maj=24.8km s-min=13.6km az=53.0*
NEIC **16** *21:25:01.0±0.4, 32.°34N×96.°47E, h10km, mb4.0/3, Error ellipse: s-maj=9.0km s-min=7.0km az=76.0*
BJI **16** *21:25:02.0, 32.°22N×96.°34E, h5km, mb3.7/1, ML3.4/11*
ISC 16 21:25:01.2±0.5, 32.°25N±0.°05×96.°35E±0.°06, h10km, n38, σ1§83/44, mb3.8/15, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LKP	**Lekhapani**	**4.92**	**185**		*e*P	**Pn**	**21 26 16.8**	**+1.6**
LKP					*e*S	**Sn**	**21 27 13.6**	**+1.3**
LSA	**Lhasa**	**5.14**	**242**		*e*Pn	**Pn**	**21 26 21.2**	**+2.5**
	12nm,0.6s							
ZIRO	**ZIRO**	**5.19**	**205**		*e*P	**Pn**	**21 26 21.4**	**+2.3**
ZIRO					*e*S	**Sn**	**21 27 19.6**	**+0.5**
ZIRO					IAML		21 27 56.9	
	comp=E,388nm,0.7s							
ZIRO					IAML		21 27 58.4	
	comp=N,339nm,0.6s							
TAWA	**Tawang**	**6.06**	**221**		*e*P	**Pn**	**21 26 32.9**	**+1.7**
TAWA					*e*S	**Sn**	**21 27 42.4**	**+1.6**
TAWA					IAML		21 27 53.3	
	comp=N,90nm,0.5s							
TAWA					IAML		21 27 54.4	
	comp=E,82nm,0.2s							
MOKO	**MOKOCHONG**	**6.12**	**196**		*e*P	**Pn**	**21 26 31.9**	**0.0**
MOKO					*e*S	**Sn**	**21 27 39.4**	**-2.7**
TEZP	**TEZPUR**	**6.41**	**210**		*e*P	**Pn**	**21 26 37.0**	**+1.3**
TEZP					*e*S	**Sn**	**21 27 50.9**	**+1.8**
KOHI	**KOHIMA**	**6.80**	**197**		*e*P	**Pn**	**21 26 41.2**	**0.0**
LZH	**Lanzhou**	**7.29**	**56**		*e*Pn	**Pn**	**21 26 45.3**	**-2.7**
LZH					Pg	**Pb**	**21 27 09.4**	**+1.4**
LZH					Sg	**Sb**	**21 28 43.0**	**+7.9**
LZH					smax	smax		
	comp=E,42nm,0.9s							
LZH					smax	smax		
	comp=E,37nm,0.9s							
SHL	**Shillong**	**7.73**	**212**		*e*P	**Pn**	**21 26 55.4**	**+1.4**
SAIH	**SAIHA**	**10.17**	**198**		*e*P	**Pn**	**21 27 28.6**	**+1.1**
XAN	**Xi˙an**	**10.69**	**77**		P	Pn	21 27 40.9	+6.5
WMQ	**Urumqi**	**13.40**	**332**		*e*P	**Pn**	**21 28 12.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**13.93**	**170**		Pn	**Pn**	**21 28 20.1**	**+1.3**
	comp=E,0.2nm,0.3s,baz=343,slow=11,SNR=3.9							
SMLA	**Simla**	**16.37**	**271**		*e*P	**Pn**	**21 28 52.0**	**+0.8**
DHRM	**DHARAMSHALA**	**16.97**	**275**		*e*P	**Pn**	**21 28 59.5**	**+0.5**
SONM	**Songino Array**	**17.34**	**23**		P	**Pn**	**21 29 02.8**	**-0.6**
	comp=E,0.1nm,0.3s,baz=203,slow=11,SNR=17							
ULN	**Ulaanbaatar**	**17.59**	**24**		*e*Pn	**Pn**	**21 29 06.2**	**-0.4**
	comp=E,9.4nm,1.4s							
MKAR	**Makanchi Array**	**18.09**	**327**		P	**Pn**	**21 29 12.0**	**-0.5**
	comp=E,0.1nm,0.3s,baz=129,slow=14,SNR=6.3							
BHPL	**Bhopal**	**18.98**	**247**		*e*P	**Pn**	**21 29 24.9**	**+1.3**
AAK	**Ala-Archa**	**20.16**	**307**		P	**P**	**21 29 37.0**	**+1.1**
	comp=E,2.6nm,0.7s,baz=106,slow=5.2,SNR=8.8							
AAK	**Ala-Archa**	**20.16**	**307**		*e*P	**P**	**21 29 36.2**	**+0.3**
	comp=E,4.5nm,0.8s							
KURBB	**Kurchatov Arra**	**22.60**	**330**		P	**P**	**21 30 00.8**	**-1.0**
	comp=E,2.8nm,0.9s,baz=139,slow=11,SNR=16							
KURK	**Kurchatov**	**22.63**	**330**		*e*P	**P**	**21 30 01.1**	**-1.0**
	comp=E,26nm,0.8s							
ZALV	**Zalesovo Beam**	**23.20**	**343**		P	**P**	**21 30 07.2**	**-0.9**
	comp=E,1.0nm,0.4s,baz=153,slow=9.7,SNR=5.0							
KSAR	**Wonju Array Be**	**26.32**	**70**		P	**P**	**21 30 35.5**	**-1.6**
KSRS	**Korea Array**	**26.35**	**70**		P	**P**	**21 30 35.5**	**-1.9**
	comp=E,1.2nm,0.7s,baz=264,slow=10.0,SNR=3.3							
BVAR	**Borovoye Array**	**27.95**	**326**		P	**P**	**21 30 52.7**	**+1.0**
	comp=E,0.3nm,0.5s,baz=133,slow=10,SNR=3.6							
TIXI	**Tiksi**	**43.11**	**14**		P	**P**	**21 32 59.8**	**-1.4**
	comp=E,1.0nm,0.5s,baz=257,slow=4.1,SNR=3.0							
BRTR	**Keskin Array B**	**50.38**	**297**		P	**P**	**21 33 58.5**	**-0.3**
	comp=E,0.3nm,0.6s,baz=94,slow=4.8,SNR=2.8							
FINES	**FINESS Array B**	**52.91**	**325**		P	**P**	**21 34 16.6**	**-0.5**
	comp=E,1.0nm,0.5s,baz=86,slow=8.9,SNR=8.2							
ARCES	**ARCESS Array B**	**53.49**	**336**		P	**P**	**21 34 21.2**	**-0.2**
	comp=E,5.5nm,1.1s,baz=90,slow=9.0,SNR=3.2							
NB2	**NORSAR Subarra**	**60.08**	**326**		P	**P**	**21 35 07.6**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=78,slow=6.9							
NOA	**NORSAR Array B**	**60.08**	**326**		P	**P**	**21 35 07.2**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=78,slow=7.7,SNR=3.9							
WRA	**Warramunga Arr**	**63.37**	**140**		P	**P**	**21 35 30.7**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=311,slow=12,SNR=9.0							
ASAR	**Alice Springs**	**66.17**	**142**		P	**P**	**21 35 49.0**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=323,slow=6.9,SNR=13							
ILAR	**Eielson Array**	**71.56**	**24**		P	**P**	**21 36 19.9**	**-2.3**
	comp=Z,0.5nm,0.8s,baz=294,slow=6.6,SNR=5.3							
STKA	**Stephens Creek**	**76.79**	**142**		P	**P**	**21 36 52.5**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=318,slow=16,SNR=2.9							
TORD	**Torodi Ar. Bea**	**86.96**	**284**		P	**P**	**21 37 46.4**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=45,slow=4.4,SNR=3.4							

ISCJB **16** *21:26:01.8±0.3, 39.°82N±0.°02×26.°24E±0.°03, h9km±3km, Error ellipse: s-maj=3.4km s-min=2.7km az=11.3*
ISK **16** *21:26:01.4, 39.°82N×26.°23E, h9km, ML3.1/24*
ATH **16** *21:26:01.8, 39.°82N×26.°22E, h26km±1km, ML2.6/7, Error ellipse: s-maj=1.9km s-min=0.8km az=262.0*
THE **16** *21:26:02.3, 39.°82N×26.°22E, h5km±1km, ML2.5/5, Error ellipse: s-maj=1.1km s-min=0.4km az=79.0*
ISC 16 21:26:01.9±0.8, 39.°81N±0.°02×26.°24E±0.°02, h9km±5km, n71, σ0§40/93, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EZN	**Ezine**	**0.07**	**76**		P	**Pg**	**21 26 03.9**	**0.0**
EZN					S	**Sg**	**21 26 05.3**	**-0.1**
EZN	**Ezine**	**0.07**	**76**		P	**Pg**	**21 26 04.0**	**0.0**
EZN					S	**Sg**	**21 26 05.3**	**-0.1**
GADA	**Gvkgeada**	**0.46**	**326**	PG		**Pg**	**21 26 10.9**	**0.0**
GADA				SG		**Sg**	**21 26 17.5**	**+0.5**
GADA	**Gvkgeada**	**0.46**	**326**		P	**Pg**	**21 26 11.1**	**+0.2**
GADA					S	**Sg**	**21 26 17.5**	**+0.5**
PRK	**Paraskevi**	**0.56**	**177**		P	**Pb**	**21 26 13.6**	**-0.4**
PRK					S	**Sb**	**21 26 21.6**	**-0.5**
PRK					AML	AML	21 26 22.1	
	comp=E,4737μm,0.2s							
PRK					AML	AML	21 26 22.

ISC 16 21:31:29.6±1.4, 8°33S±0.1×125°26E±0.0, h10km, n10, σ4§08/14, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.47**	**220**	**Pn**	**Pn**	**21 32 12.4**	**+2.5**
	3.3nm,0.3s,baz=355,slow=2.9,SNR=4.1						
BATI				Sn	**Sn**	**21 32 44.4**	**+4.3**
	5.6nm,0.3s,baz=0.0,slow=20,SNR=2.3						
MTN	**Manton Dam**	**7.33**	**129**	P	Pn	21 33 25.6	+8.8
	baz=7.1,SNR=3.9						
MTN				S	**Sn**	**21 34 45.2**	**+5.1**
	baz=7.1						
KNRA	**Kununurra**	**8.09**	**155**	P	**Pn**	**21 33 31.8**	**+4.6**
	baz=7.6,SNR=6.1						
KDU	**Kakadu**	**8.32**	**122**	P	Pn	21 33 37.7	+7.3
	baz=8.1,SNR=5.2						
FITZ	**Fitzroy Crossi**	**9.75**	**178**	Pn	**Pn**	**21 33 51.8**	**+1.9**
	0.2nm,0.3s,baz=0.1,slow=12,SNR=1.7						
FITZ				Sn	**Sn**	**21 35 36.7**	**-2.8**
	0.2nm,0.3s,baz=270,slow=20,SNR=2.6						
FITZ	**Fitzroy Crossi**	**9.75**	**178**	P	**Pn**	**21 33 53.6**	**+3.7**
	baz=9.2,SNR=3.8						
FITZ				S	**Sn**	**21 35 35.5**	**-4.0**
	baz=9.2						
WRA	**Warramunga Arr**	**14.53**	**144**	Pn	**Pn**	**21 34 55.4**	**-0.1**
	0.3nm,0.3s,baz=317,slow=13,SNR=18						
WRA				Sn	**Sn**	**21 37 31.4**	**-5.4**
	0.1nm,0.3s,baz=318,slow=24,SNR=7.3						
WRKA	**Warakurna**	**16.90**	**170**	P	**P**	**21 35 30.7**	**+2.4**
	baz=16,SNR=3.6						
ASAR	**Alice Springs**	**17.38**	**153**	P	**P**	**21 35 34.0**	**+0.2**
	0.2nm,0.3s,baz=321,slow=10,SNR=26						
ASAR				S	**Sn**	**21 38 40.8**	**-5.3**
	0.1nm,0.3s,baz=315,slow=20,SNR=4.7						
MKAR	**Makanchi Array**	**66.84**	**329**	P	**P**	**21 42 19.2**	**-2.5**
	0.3nm,0.5s,baz=129,slow=5.9,SNR=6.6						

*ISK **16** 21:34:08.7, 39°80N×26°22E, h6km, ML2.5/15*
*ISCJB **16** 21:34:09.2±0.4, 39°82N±0°02×26°20E±0°03, h4km±4km, Error ellipse: s-maj=4.0km s-min=3.2km az=161.8*
*ATH **16** 21:34:09.5, 39°80N×26°19E, h28km±1km, ML1.9/4, Error ellipse: s-maj=2.5km s-min=0.8km az=254.0*
*DDA **16** 21:34:11.5, 39°96N×26°34E, h7km, Ml2.8*
ISC 16 21:34:09.4±1.0, 39°81N±0°02×26°22E±0°03, h6km±7km, n30, σ0§60/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZN	**Ezine**	**0.08**	**81**	PG	**Pg**	**21 34 11.2**	**-0.1**
EZN				SG	**Sg**	**21 34 12.5**	**-0.1**
GADA	**Gvkgeada**	**0.45**	**327**	PG	**Pg**	**21 34 18.4**	**+0.3**
GADA				SG	**Sg**	**21 34 24.9**	**+0.9**
PRK	**Paraskevi**	**0.57**	**176**	P	**Pg**	**21 34 20.9**	**+0.6**
PRK				S	**Sb**	**21 34 29.3**	**-0.7**
PRK				AML	AML	21 34 29.4	
	comp=E,778μm,0.2s						
PRK				AML	AML	21 34 30.2	
	comp=N,735μm,0.2s						
GELI	**Tayfur-Gelibol**	**0.62**	**18**	PG	**Pg**	**21 34 21.5**	**+0.2**
GELI				SG	**Sb**	**21 34 30.7**	**-0.8**
SIGR	**SIGRI**	**0.66**	**205**	PG	**Pg**	**21 34 21.9**	**-0.2**
SIGR				SG	**Sg**	**21 34 31.2**	**+0.4**
SIGR	**SIGRI**	**0.66**	**205**	P	**Pg**	**21 34 22.3**	**+0.2**
SIGR				S	**Sb**	**21 34 32.3**	**-0.5**
SIGR				AML	AML	21 34 33.6	
	comp=N,265μm,0.4s						
SIGR				AML	AML	21 34 36.1	
	comp=E,161μm,0.3s						
LPK	**Lapseki**	**0.70**	**36**	PG	**Pg**	**21 34 22.4**	**-0.4**
LIA	**Limnos Island**	**0.80**	**276**	P	**Pg**	**21 34 25.0**	**+0.2**
LIA				S	**Sg**	**21 34 35.8**	**+0.5**
LIA				AML	AML	21 34 39.8	
	comp=N,132μm,0.3s						
LIA				AML	AML	21 34 39.8	
	comp=E,152μm,0.4s						
SMTH	**Samothraki Isl**	**0.84**	**321**	P	**Pg**	**21 34 25.8**	**+0.2**
SMTH				S	**Sg**	**21 34 37.3**	**+0.8**
ERIK	**Erikli-Kesan**	**0.89**	**15**	PG	**Pg**	**21 34 26.1**	**-0.3**
DKL	**Dikili**	**0.91**	**144**	PG	**Pg**	**21 34 26.6**	**-0.3**
ENEZ	**Enez**	**0.92**	**357**	PG	**Pg**	**21 34 26.9**	**-0.2**
KRBG	**Karabiga-Canak**	**1.01**	**55**	PG	**Pg**	**21 34 28.7**	**-0.1**
ALN	**Alexandroupoli**	**1.09**	**353**	PN	**Pg**	**21 34 29.7**	**-0.6**
ALN	**Alexandroupoli**	**1.09**	**353**	P	**Pg**	**21 34 30.5**	**+0.1**
ALN				S	**Sb**	**21 34 45.7**	**+0.5**
ALN				AML	AML	21 34 47.3	
	comp=N,50μm,0.5s						
ALN				AML	AML	21 34 49.2	
	comp=E,31μm,0.3s						
GONE	**Gonen-Balikesi**	**1.15**	**78**	PN	**Pg**	**21 34 31.2**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.24**	**110**	*i* P	**Pn**	**21 34 34.9**	**+1.7**
STEP				*i* S	**Sn**	**21 34 51.8**	**+1.5**
BALB	**Balikesir**	**1.29**	**97**	PN	**Pn**	**21 34 33.8**	**-0.2**
MRMT	**Marmara Adasi**	**1.32**	**53**	PN	**Pn**	**21 34 33.5**	**-0.9**
EDC	**Edincik**	**1.37**	**67**	PN	**Pn**	**21 34 34.9**	**-0.2**
SBT4	**Kumbag-Tekirda**	**1.43**	**44**	PN	**Pb**	**21 34 36.2**	**-0.1**
CHOS	**Chios island**	**1.43**	**185**	P	**Pn**	**21 34 35.5**	**-0.5**
CHOS				S	**Sb**	**21 34 54.0**	**-1.0**
RDO	**Rodhopi**	**1.43**	**339**	PN	**Pn**	**21 34 35.2**	**-0.6**
RDO	**Rodhopi**	**1.43**	**339**	P	**Pn**	**21 34 36.0**	**+0.1**
RDO				S	**Sn**	**21 34 54.7**	**-0.3**
URLA	**Izmir**	**1.48**	**169**	PN	**Pn**	**21 34 36.3**	**-0.3**
KCTX	**Karacabey (Bur**	**1.70**	**74**	PN	**Pn**	**21 34 39.4**	**-0.2**
DURS	**Dursunbey**	**1.75**	**96**	*i* P	**Pb**	**21 34 41.4**	**-0.6**
DURS				*i* S	**Sb**	**21 35 04.8**	**+0.5**
EDRB	**Edirne**	**2.07**	**11**	PN	**Pn**	**21 34 44.9**	**+0.2**
ARMT	**Armutlu**	**2.16**	**69**	PN	**Pn**	**21 34 46.4**	**+0.5**
NVR	**Nevrokopi**	**2.36**	**311**	P	**Pn**	**21 34 48.3**	**-0.5**

*KRSC **16** 21:51:01.8±0.9, 55°73N×162°88E, h19km±19km, ML4.3*
*ISCJB **16** 21:51:04.0±0.5, 55°82N±0°02×162°83E±0°05, h31km±5km, mb3.7/9, Error ellipse: s-maj=4.7km s-min=3.8km az=26.7*
*MOS **16** 21:51:03.5±0.6, 55°80N×162°79E, h24km, mb4.1/2, Error ellipse: s-maj=7.5km s-min=5.0km az=73.8*
*IDC **16** 21:51:09.0±3.5, 55°80N×162°37E, h69km±36km, mb3.4/9, mb1 3.6/10, mb1mx3.3/50, mbtmp3.7/10, ML2.6/1, Error ellipse: s-maj=28.0km s-min=19.6km az=166.0*
ISC 16 21:51:04.1±0.6, 55°88N±0°03×162°79E±0°03, h22km±4km, n97, σ1§31/130, mb3.6/9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.33**	**3**	*i* P	**Pn**	**21 51 12.0**	**-1.6**
KBTR				*e*S	**Sn**	**21 51 20.0**	**+0.3**
KBTR	**Krutoberegovo**	**0.33**	**3**	PN	**Pn**	**21 51 12.0**	**-1.6**
KBTR				S	**Sn**	**21 51 20.0**	**+0.3**
KBG	**Krutoberegovo**	**0.38**	**353**	*e*P	**Pn**	**21 51 12.7**	**-1.6**
KBG				*e*S	**Sn**	**21 51 21.0**	**+0.2**
KBG	**Krutoberegovo**	**0.38**	**353**	PN	**Pn**	**21 51 12.7**	**-1.6**
KBG				S	**Sn**	**21 51 21.0**	**+0.2**
SMKR	**Semkarok**	**1.02**	**314**	*e*P	**Pb**	**21 51 22.5**	**-0.6**
SMKR				*e*S	**Sb**	**21 51 37.5**	**+1.5**
SMKR	**Semkarok**	**1.02**	**314**	PN	**Pb**	**21 51 22.5**	**-0.6**
SMKR				S	**Sb**	**21 51 37.5**	**+1.5**
BDR	**Baidarnaya**	**1.12**	**308**	*e*P	**Pb**	**21 51 24.3**	**-0.5**
BDR	**Baidarnaya**	**1.12**	**308**	PN	**Pb**	**21 51 24.3**	**-0.5**
ZLN	**Zelenaya**	**1.12**	**278**	*e*P	**Pn**	**21 51 23.7**	**-1.0**
ZLN	**Zelenaya**	**1.12**	**278**	PN	**Pn**	**21 51 23.7**	**-1.0**
CIRR	**Tsirk**	**1.17**	**282**	*e*P	**Pn**	**21 51 24.4**	**-0.9**
CIRR	**Tsirk**	**1.17**	**282**	PN	**Pn**	**21 51 24.4**	**-0.9**
BZGR	**Bezymyannyi-Gr**	**1.18**	**274**	*e*P	**Pn**	**21 51 24.4**	**-1.0**
BZGR	**Bezymyannyi-Gr**	**1.18**	**274**	PN	**Pn**	**21 51 24.4**	**-1.0**
SRKR	**Sorokina**	**1.19**	**311**	*e*P	**Pb**	**21 51 25.4**	**-0.6**
SRKR				*e*S	**Sb**	**21 51 42.2**	**+1.2**
SRKR	**Sorokina**	**1.19**	**311**	PN	**Pb**	**21 51 25.4**	**-0.6**
SRKR				S	**Sb**	**21 51 42.2**	**+1.2**
LGNR	**Loginova**	**1.20**	**280**	*e*P	**Pn**	**21 51 25.0**	**-0.8**
LGNR	**Loginova**	**1.20**	**280**	PN	**Pn**	**21 51 25.0**	**-0.8**
KLY	**Klyuchi**	**1.27**	**291**	*e*P	**Pn**	**21 51 24.2**	**-2.4**
KLY				*e*S	**Sn**	**21 51 40.3**	**-2.7**
KLY	**Klyuchi**	**1.27**	**291**	PN	**Pn**	**21 51 24.2**	**-2.4**
KLY				S	**Sn**	**21 51 40.3**	**-2.7**
KRSR	**Krestovskiy**	**1.29**	**286**	*e*P	**Pn**	**21 51 25.8**	**-1.2**
KRSR	**Krestovskiy**	**1.29**	**286**	PN	**Pn**	**21 51 25.8**	**-1.2**
BZWR	**Bezymyannyi-We**	**1.29**	**275**	*e*P	**Pn**	**21 51 26.1**	**-0.9**
BZWR	**Bezymyannyi-We**	**1.29**	**275**	PN	**Pn**	**21 51 26.1**	**-0.9**
BZMR	**Bezymyannaya**	**1.29**	**273**	*e*P	**Pn**	**21 51 26.0**	**-1.1**
BZMR	**Bezymyannaya**	**1.29**	**273**	PN	**Pn**	**21 51 26.0**	**-1.1**
KIRR	**Kirishev**	**1.38**	**274**	*e*P	**Pn**	**21 51 27.7**	**-0.5**
KIRR	**Kirishev**	**1.38**	**274**	PN	**Pn**	**21 51 27.7**	**-0.5**
KMNR	**Kamenistaya**	**1.45**	**266**	*e*P	**Pn**	**21 51 28.6**	**-0.5**
KMNR				*e*S	**Sn**	**21 51 48.4**	**+1.0**
KMNR	**Kamenistaya**	**1.45**	**266**	PN	**Pn**	**21 51 28.6**	**-0.5**
KMNR				S	**Sn**	**21 51 48.4**	**+1.0**
KPT	**Kopyto**	**1.45**	**274**	*e*P	**Pn**	**21 51 28.6**	**-0.5**
KPT				*e*S	**Sb**	**21 51 48.6**	**+0.2**
KPT	**Kopyto**	**1.45**	**274**	PN	**Pn**	**21 51 28.6**	**-0.5**
KPT				S	**Sb**	**21 51 48.6**	**+0.2**
MKZ	**Mys Kozlova**	**1.46**	**205**	*e*P	**Pn**	**21 51 27.5**	**-1.7**
MKZ				*e*S	**Sn**	**21 51 45.5**	**-2.1**
MKZ	**Mys Kozlova**	**1.46**	**205**	PN	**Pn**	**21 51 27.5**	**-1.7**
MKZ				S	**Sn**	**21 51 45.5**	**-2.1**
TUMD	**Tumrok D**	**1.52**	**244**	*e*P	**Pn**	**21 51 29.1**	**-0.9**
TUMD				*e*S	**Sn**	**21 51 48.9**	**-0.2**
KZV	**Kizimen**	**1.62**	**242**	*e*P	**Pn**	**21 51 30.6**	**-0.9**
KZV	**Kizimen**	**1.62**	**242**	PN	**Pn**	**21 51 30.6**	**-0.9**
TUMR	**Tumrok**	**1.62**	**249**	*e*P	**Pn**	**21 51 31.4**	**0.0**
TUMR				*e*S	**Sn**	**21 51 52.4**	**+0.7**
TUMR	**Tumrok**	**1.62**	**249**	PN	**Pn**	**21 51 31.4**	**0.0**
TUMR				S	**Sn**	**21 51 52.4**	**+0.7**
KOZ	**Kozyrevsk**	**1.65**	**277**	*e*P	**Pn**	**21 51 32.5**	**+0.7**
KOZ				*e*S	**Sb**	**21 51 54.5**	**+0.4**
KOZ	**Kozyrevsk**	**1.65**	**277**	PN	**Pn**	**21 51 32.5**	**+0.7**
KOZ				S	**Sb**	**21 51 54.5**	**+0.4**
BKI	**Bering**	**1.93**	**109**	*e*P	**Pn**	**21 51 35.3**	**-0.3**
BKI				*e*S	**Sn**	**21 51 58.7**	**-0.5**
BKI	**Bering**	**1.93**	**109**	PN	**Pn**	**21 51 35.3**	**-0.3**
BKI				S	**Sn**	**21 51 58.7**	**-0.5**
ESO	**Esso**	**2.30**	**273**	*e*P	**Pn**	**21 51 41.3**	**+0.5**
ESO	**Esso**	**2.30**	**273**	PN	**Pn**	**21 51 41.3**	**+0.5**
KII	**Karymskiy**	**2.67**	**227**	*e*P	**Pn**	**21 51 45.3**	**-0.6**
KII	**Karymskiy**	**2.67**	**227**	PN	**Pn**	**21 51 45.3**	**-0.6**
NLC	**Nalytchevo**	**3.38**	**218**	*e*P	**Pn**	**21 51 54.7**	**-0.8**
NLC				*e*S	**Sn**	**21 52 34.7**	**-0.2**
NLC	**Nalytchevo**	**3.38**	**218**	PN	**Pn**	**21 51 54.7**	**-0.8**
NLC				S	**Sn**	**21 52 34.7**	**-0.2**
OSSR	**Ossora**	**3.38**	**2**	*e*P	**Pn**	**21 51 57.7**	**+2.2**
OSSR	**Ossora**	**3.38**	**2**	PN	**Pn**	**21 51 57.7**	**+2.2**
SDLR	**Sedlovina**	**3.46**	**223**	*e*P	**Pn**	**21 51 56.4**	**-0.4**
SDLR	**Sedlovina**	**3.46**	**223**	PN	**Pn**	**21 51 56.4**	**-0.4**
KRX	**Arik**	**3.49**	**225**	*e*P	**Pn**	**21 51 57.6**	**+0.4**
KRX	**Arik**	**3.49**	**225**	PN	**Pn**	**21 51 57.6**	**+0.4**
SMAR	**Somma**	**3.50**	**223**	*e*P	**Pn**	**21 51 57.2**	**-0.3**
SMAR	**Somma**	**3.50**	**223**	PN	**Pn**	**21 51 57.2**	**-0.3**
AVH	**Avacha**	**3.53**	**224**	*e*P	**Pn**	**21 51 58.1**	**+0.4**
AVH				*e*S	**Sn**	**21 52 39.4**	**+0.7**
AVH	**Avacha**	**3.53**	**224**	PN	**Pn**	**21 51 58.1**	**+0.4**
AVH				S	**Sn**	**21 52 39.4**	**+0.7**
UGLR	**Uglovaya**	**3.54**	**222**	*e*P	**Pn**	**21 51 57.6**	**-0.2**
UGLR	**Uglovaya**	**3.54**	**222**	PN	**Pn**	**21 51 57.6**	**-0.2**
KOK	**Koryaka**	**3.55**	**225**	*e*P	**Pn**	**21 51 58.5**	**+0.6**
KOK	**Koryaka**	**3.55**	**225**	PN	**Pn**	**21 51 58.5**	**+0.6**
PALN	**Palana**	**3.56**	**336**	*e*P	**Pb**	**21 52 03.4**	**-2.9**
PALN	**Palana**	**3.56**	**336**	PN	**Pb**	**21 52 03.4**	**-2.9**
GNL	**Ganaly**	**3.56**	**234**	*e*P	**Pn**	**21 51 58.4**	**+0.2**
GNL	**Ganaly**	**3.56**	**234**	PN	**Pn**	**21 51 58.4**	**+0.2**
DALK	**Dalny**	**3.70**	**221**	*e*P	**Pn**	**21 51 59.5**	**-0.5**
DALK				*e*S	**Sn**	**21 52 42.3**	**-0.6**
DALK	**Dalny**	**3.70**	**221**	PN	**Pn**	**21 51 59.5**	**-0.5**
DALK				S	**Sn**	**21 52 42.3**	**-0.6**
PET	**Petropavlovsk**	**3.75**	**222**	*e*P	**Pn**	**21 52 00.7**	**+0.1**
PET				*e*S	**Sn**	**21 52 44.7**	**+0.7**
PET	**Petropavlovsk**	**3.75**	**222**	PN	**Pn**	**21 52 00.7**	**+0.1**
PET				S	**Sn**	**21 52 44.7**	**+0.7**
PETK	**Petropavlovsk-**	**4.07**	**229**	P	**Pn**	**21 52 05.4**	**+0.4**
	2.4nm,0.3s,baz=60,slow=16,SNR=25						
PETK				S	**Sn**	**21 52 58.4**	**+6.5**
	0.8nm,0.3s,baz=90,slow=16,SNR=3.1						
KRMR	**Karymshinskiy**	**4.10**	**224**	*e*P	**Pn**	**21 52 05.8**	**+0.4**
KRMR				*e*S	**Sn**	**21 52 55.5**	**+2.9**
KRMR	**Karymshinskiy**	**4.10**	**224**	PN	**Pn**	**21 52 05.8**	**+0.4**
KRMR				S	**Sn**	**21 52 55.5**	**+2.9**
RUS	**Russkaya**	**4.27**	**218**	*e*P	**Pn**	**21 52 07.1**	**-0.7**
RUS				*e*S	**Sn**	**21 52 56.1**	**-0.9**
RUS	**Russkaya**	**4.27**	**218**	PN	**Pn**	**21 52 07.1**	**-0.7**
MTVR	**Mutnovka**	**4.35**	**220**	*e*P	**Pn**	**21 52 09.4**	**+0.4**
MTVR				*e*S	**Sn**	**21 53 00.9**	**+1.8**
MTVR	**Mutnovka**	**4.35**	**220**	PN	**Pn**	**21 52 09.4**	**+0.4**
MTVR				S	**Sn**	**21 53 00.9**	**+1.8**
APC	**Apacha**	**4.43**	**230**	*e*P	**Pn**	**21 52 10.6**	**+0.7**
APC	**Apacha**	**4.43**	**230**	PN	**Pn**	**21 52 10.6**	**+0.7**
TILK	**Tilichiki**	**4.91**	**20**	*e*P	Pn	21 52 20.5	+4.0
TILK	**Tilichiki**	**4.91**	**20**	PN	Pn	21 52 20.5	+4.0
KDTR	**Khodutka, Kamc**	**4.94**	**216**	*e*P	**Pn**	**21 52 17.4**	**+0.4**
KDTR				*e*S	**Sn**	**21 53 13.6**	**+0.1**
TIXI	**Tiksi**	**21.30**	**331**	P	**P**	**21 55 50.2**	**+1.4**
	0.7nm,0.3s,baz=113,slow=11,SNR=3.8						
ILAR	**Eielson Array**	**25.76**	**49**	P	**P**	**21 56 34.2**	**+1.4**
	1.2nm,1.0s,baz=260,slow=8.1,SNR=7.6						
H11N2	**WAKE ISLAND Hy**	**36.23**	**173**	T	T	22 36 38.0	
	baz=356,slow=76,SNR=115						
H11N3	**WAKE ISLAND Hy**	**36.24**	**173**	T	T	22 36 38.9	
	baz=356,slow=76,SNR=29						
H11N1	**WAKE ISLAND Hy**	**36.24**	**173**	T	T	22 36 41.7	
	baz=356,slow=76,SNR=100						
YKA	**Yellowknife Ar**	**40.06**	**46**	P	**P**	**21 58 39.1**	**+1.9**
	1.5nm,0.7s,baz=297,slow=7.6,SNR=3.4						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**47.62**	**301**	P	**P**	**21 59 36.4**	**-1.6**
KURBB	**Kurchatov Arra**	**47.72**	**301**	P	**P**	**21 59 36.4**	**-2.5**
	comp=Z,0.4nm,0.4s,baz=56,slow=7.6,SNR=3.0						
MKAR	**Makanchi Array**	**48.38**	**295**	P	**P**	**21 59 42.2**	**-1.9**
	comp=Z,0.2nm,0.4s,baz=43,slow=8.7,SNR=8.2						
PDAR	**Pinedale Array**	**54.84**	**64**	P	**P**	**22 00 33.4**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=303,slow=11,SNR=3.1						
FINES	**FINESS Array B**	**58.17**	**337**	P	**P**	**22 00 54.7**	**-1.0**
	comp=Z,6.3nm,1.2s,baz=24,slow=11,SNR=3.0						
TXAR	**Lajitas Array**	**68.15**	**70**	P	**P**	**22 02 03.9**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=297,slow=5.0,SNR=6.0						
WRA	**Warramunga Arr**	**79.28**	**207**	P	**P**	**22 03 05.9**	**-1.8**
	comp=Z,0.3nm,0.8s,baz=17,slow=6.3,SNR=3.3						

*DDA **16** 22:37:43.1, 39°03N×41°88E, h22km, Ml2.5*
*ISK **16** 22:37:44.3, 39°12N×41°94E, h20km, ML1.8/4*
*ISCJB **16** 22:37:45.4±0.7, 39°12N±0°05×41°94E±0°04, h26km±7km, Error ellipse: s-maj=9.0km s-min=4.8km az=161.8*
ISC 16 22:37:44.0±1.2, 39°07N±0°06×41°92E±0°03, h21km±2km, n9, σ1§09/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKAR	**Karacoban**	**0.21**	**32**	*i* P	**Pb**	**22 37 59.9**	**-0.4**
EKAR				*i* S	**Sb**	**22 37 54.4**	**-0.2**
VRTB	**Varto-Mus**	**0.37**	**284**	PG	**Pn**	**22 37 52.8**	**-1.4**
VRTB	**Varto-Mus**	**0.37**	**284**	*i* P	**Pb**	**22 37 52.6**	**+0.7**
VRTB				*i* S	**Sn**	**22 37 59.3**	**-1.6**
GURO	**Guroymak-BITLI**	**0.53**	**170**	PG	**Pn**	**22 37 56.4**	**0.0**
GURO				SG	**Sn**	**22 38 04.9**	**+0.1**
BNGL	**BINGOL**	**0.61**	**259**	*i* P	**Pb**	**22 37 54.6**	**-1.6**
BNGL				*i* S	**Sn**	**22 38 07.6**	**+0.7**
TUTA	**Tutak**	**0.77**	**64**	*i* P	**Pb**	**22 37 58.9**	**+0.1**
TUTA				*i* S	**Sn**	**22 38 10.0**	**-0.8**
BNGB	**Bing¨¶l**	**0.97**	**266**	PG	**Pn**	**22 38 03.5**	**+1.1**
BNGB				SG	**Sn**	**22 38 17.5**	**+1.9**
AGRB	**Hanur-Agry**	**0.97**	**59**	PG	**Pn**	**22 38 02.8**	**+0.3**
AGRB				SG	**Sn**	**22 38 16.1**	**+0.3**
YEDI	**Yedisu-Bingol**	**1.13**	**289**	PN	**Pb**	**22 38 05.4**	**+0.5**

*MOS **16** 22:42:14.0±2.2, 49°21N×156°72E, h7km, mb4.3/1, Error ellipse: s-maj=56.9km s-min=7.1km az=81.8*
KRSC 16 22:42:14.1±1.5, 49°21N×156°72E, h7km±18km, ML4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.52**	**345**	*e*P	Pn	22 42 40.7	-1.0
SKR				*e*S	Sn	22 43 00.4	-1.3
SKR	**Severo-Kuril's**	**1.52**	**345**	*e*PN	Pn	22 42 42.1	+0.4
SKR				*e*S	Sn	22 43 00.8	-0.9
SKR				smax	smax		
	comp=E,372nm,0.7s						
SKR				smax	smax		
	comp=N,245nm,0.7s						
PAU	**Pauzhetka**	**2.26**	**1**	*e*P	Pb	22 42 53.7	-1.4
PAU				*e*S	Sb	22 43 22.1	-1.2
PAU	**Pauzhetka**	**2.26**	**1**	PN	Pb	22 42 53.7	-1.4
PAU				S	Sb	22 43 22.1	-1.2
KDTR	**Khodutka, Kamc**	**2.74**	**18**	*e*P	Pn	22 43 00.7	+2.3
KDTR				*e*S	Sn	22 43 34.4	+2.7
MTVR	**Mutnovka**	**3.40**	**15**	*e*P	Pn	22 43 10.9	+3.2
MTVR				*e*S	Sb	22 43 52.5	-3.9
MTVR	**Mutnovka**	**3.40**	**15**	PN	Pn	22 43 10.9	+3.2
MTVR				S	Sb	22 43 52.5	-3.9
RUS	**Russkaya**	**3.42**	**19**	*e*P	Pn	22 43 10.3	+2.6
RUS				*e*S	Sn	22 43 51.7	+3.2
RUS	**Russkaya**	**3.42**	**19**	PN	Pn	22 43 10.3	+2.6
RUS				S	Sn	22 43 51.7	+3.2
KRMR	**Karymshinskiy**	**3.73**	**13**	*e*P	Pn	22 43 15.6	+3.6
KRMR				*e*S	Sn	22 44 00.6	+4.4
KRMR	**Karymshinskiy**	**3.73**	**13**	PN	Pn	22 43 15.6	+3.6
KRMR				S	Sn	22 44 00.6	+4.4
DALK	**Dalny**	**4.03**	**18**	*e*P	Pb	22 43 20.8	-4.6
DALK				*e*S	Sb	22 44 09.9	-4.4
DALK	**Dalny**	**4.03**	**18**	PN	Pb	22 43 20.8	-4.6
DALK				S	Sb	22 44 09.9	-4.4
AVH	**Avacha**	**4.25**	**17**	*e*P	Pn	22 43 23.7	+4.4
AVH	**Avacha**	**4.25**	**17**	PN	Pn	22 43 23.7	+4.4
KOK	**Koryaka**	**4.26**	**16**	P	Pb	22 43 24.4	-4.9
KOK	**Koryaka**	**4.26**	**16**	PN	Pb	22 43 24.4	-4.9
SMAR	**Somma**	**4.26**	**17**	*e*P	Pn	22 43 24.1	+4.6
SMAR	**Somma**	**4.26**	**17**	PN	Pn	22 43 24.1	+4.6
SDLR	**Sedlovina**	**4.29**	**18**	*e*P	Pn	22 43 23.4	+3.5
SDLR	**Sedlovina**	**4.29**	**18**	PN	Pn	22 43 23.4	+3.5
KRX	**Arik**	**4.33**	**16**	*e*P	Pn	22 43 24.2	+3.9
KRX	**Arik**	**4.33**	**16**	PN	Pn	22 43 24.2	+3.9
SPN	**Mys Shipunski**	**4.41**	**27**	*e*P	Pn	22 43 25.5	+4.1
SPN				*e*S	Sn	22 44 18.5	+5.6
SPN	**Mys Shipunski**	**4.41**	**27**	PN	Pn	22 43 25.5	+4.1
SPN				S	Sn	22 44 18.5	+5.6
GNL	**Ganaly**	**4.55**	**9**	*e*P	Pn	22 43 27.9	+4.5
GNL	**Ganaly**	**4.55**	**9**	PN	Pn	22 43 27.9	+4.5

*TIR **16** 22:43:53.8, 41°57N×20°76E, h3km, Md2.7/4*
*SKO **16** 22:43:54.2, 41°58N×20°69E, h20km, M1.1, ML1.6*
*ATH **16** 22:43:56.1, 41°55N×20°75E, h9km±31km, ML1.7/1, Error ellipse: s-maj=31.6km s-min=4.2km az=0.0*
ISC 16 22:43:55.5±1.2, 41°50N±0°04×20°66E±0°03, h1km±12km, n12, σ0§88/20, 2C, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.24**	**319**	*i* PG	**Pg**	**22 44 00.1**	**-0.1**
PHP				*i* SG	**Sg**	**22 44 03.9**	**+0.5**
OHR	**Ohrid**	**0.40**	**164**	*i* Pg	**Pg**	**22 44 04.4**	**+1.2**
OHR				*i* Sg	**Sb**	**22 44 11.1**	**-1.0**
OHR				*e*Lg	Lg	22 44 11.2	
	comp=N,40nm,0.3s						
OHR				*e*Lg	Lg	22 44 11.6	
	comp=E,7.8nm,0.3s						
KRUS	**Krusevo**	**0.47**	**106**	*i* Pg	**Pg**	**22 44 04.0**	**-0.4**
KRUS				*i* Sg	**Sg**	**22 44 10.7**	**+0.2**
KRUS				*e*Lg	Lg	22 44 10.8	
	comp=N,14nm,0.4s						
KRUS				*e*Lg	Lg	22 44 10.9	
	comp=E,21nm,0.3s						
TIR	**Tirane**	**0.61**	**256**	*i* PG	**Pg**	**22 44 07.9**	**+0.7**
TIR				*i* SG	**Sn**	**22 44 20.6**	**-1.2**
PUK	**Puka**	**0.79**	**314**	*i* PG	**Pg**	**22 44 10.2**	**-0.4**
PUK				*i

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.17**	**161**	PG	**Pg**	**23 25 08.9**	**+0.1**
GAZ				SG	**Sg**	**23 25 11.6**	**+0.2**
KMRS	**Kahramanmaras**	**0.26**	**312**	PG	**Pg**	**23 25 10.3**	**-0.1**
KMRS				SG	**Sg**	**23 25 14.1**	**0.0**
KUZU	**Kuzuini**	**0.56**	**186**	*i* P	**Pb**	**23 25 16.5**	**-0.2**
KUZU				*i* S	**Sn**	**23 25 29.3**	**+1.3**
ANDN	**Andirin**	**0.68**	**292**	*i* P	**Pg**	**23 25 18.3**	**+0.1**
ANDN				*i* S	**Sb**	**23 25 27.7**	**-0.7**
KOZT	**Kozan**	**1.06**	**279**	PG	**Pb**	**23 25 25.1**	**-0.1**
SAIM	**ADANA**	**1.06**	**308**	*i* P	**Pg**	**23 25 25.1**	**-0.3**
SAIM				*i* S	**Sn**	**23 25 40.6**	**+0.1**
AKCD	**Akcadag**	**1.15**	**32**	*i* P	**Pn**	**23 25 27.7**	**+0.7**
AKCD				*i* S	**Sn**	**23 25 43.2**	**+0.5**
TAHT	**Tahtakopru-Hat**	**1.22**	**219**	PN	**Pn**	**23 25 28.4**	**+0.5**
SURC	**SANLIURFA_SURC**	**1.26**	**110**	*i* P	**Pn**	**23 25 26.4**	**-2.0**
SURC				*i* S	**Sn**	**23 25 45.8**	**+0.5**
DARE	**Darende-Malaty**	**1.27**	**12**	PN	**Pg**	**23 25 29.4**	**+0.1**
URFA	**Urfa**	**1.34**	**85**	PN	**Pb**	**23 25 30.5**	**+0.4**

NNC 16 23:33:34.2±8.7, 38°.62N×73°.98E, h0km, mb3.6, mpv3.3, 8C-3D, Error ellipse: s-maj=72.3km s-min=52.0km az=71.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.44**	**345**	⇓P	Pb	23 34 02.2	+0.1
	9.9nm,0.3s						
SFK				⇓S	Sn	23 34 21.6	0.0
	52nm,0.3s						
MNAS	**Manas**	**4.02**	**344**	⇑Pn	Pn	23 34 34.4	-2.9
	4.6nm,0.4s						
MNAS				⇓Sn	Sn	23 35 21.9	-3.3
	3.5nm,0.4s						
MNAS				⇑Lg	Lg	23 35 43.9	
	4.1nm,0.6s						
AAK	**Ala-Archa**	**4.03**	**5**	⇑Pn	Pn	23 34 38.6	+1.2
	1.9nm,0.6s						
AAK				⇑Sn	Sn	23 35 26.0	+0.6
	6.5nm,0.6s						
TKM2	**Tokmak 2**	**4.47**	**15**	⇑Sn	Sn	23 35 41.5	+5.3
	3.4nm,0.7s						
TKM2				⇑Lg	Lg	23 35 56.3	
	4.8nm,1.1s						
KK31	**Karatay Array**	**5.19**	**331**	Pn	Pn	23 34 48.1	-5.1
	1.4nm,0.2s,baz=139,slow=14,SNR=142						
KK31				⇑Sn	Sn	23 35 51.9	-1.9
	2.9nm,0.6s,baz=156,slow=24,SNR=4.2						
KK31				⇑Lg	Lg	23 36 17.4	
	2.6nm,0.6s,baz=131,slow=30						

*SJA **16** 23:51:17.2±0.5, 32°.52S×71°.72W, h72km±7km, ML2.8, MW2.8*
*GUC **16** 23:51:18.5±0.7, 32°.31S×71°.36W, h33km±6km, ML2.7*
ISC 16 23:51:16.9±2.5, 32°.46S±0°.05×71°.9W±0°.1, h24km±15km, n18, σ0s94/28, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.89**	**125**	*e*P	**Pb**	**23 51 34.0**	**+0.2**
ROC1				*e*S	**Sb**	**23 51 46.2**	**+0.8**
ROCH	**El Roble**	**0.89**	**125**	*e*P	**Pb**	**23 51 33.3**	**-0.5**
ROCH				*i* S	**Sb**	**23 51 44.8**	**-0.6**
PEL	**Peldehue**	**1.21**	**124**	*e*P	**Pn**	**23 51 37.6**	**-0.8**
PEL				*i* S	**Sn**	**23 51 52.1**	**-2.0**
PEL				IAML		23 51 54.4	
	comp=N,274nm,0.6s						
CLCH	**Cerro Calan**	**1.46**	**130**	*e*P	**Pn**	**23 51 42.6**	**+0.8**
CLCH				*i* S	**Sn**	**23 51 59.9**	**-0.3**
FCH	**Farellones**	**1.59**	**123**	*e*P	**Pn**	**23 51 43.8**	**0.0**
FCH				*i* S	**Sn**	**23 52 02.3**	**-1.4**
FCH				IAML		23 52 06.3	
	comp=E,186nm,0.2s						
LMEL	**Las Melosas**	**1.97**	**135**	*e*P	**Pn**	**23 51 50.5**	**+1.6**
LMEL				*i* S	**Sn**	**23 52 14.3**	**+1.4**
LMEL				IAML		23 52 20.1	
	comp=N,184nm,0.3s						
AUSP	**Uspallata**	**2.12**	**84**	*e*P	**Pn**	**23 51 51.1**	**+0.1**
AUSP				*e*S	**Sn**	**23 52 16.0**	**-0.8**
RTLS	**Leoncito**	**2.29**	**74**	*e*P	**Pn**	**23 51 54.0**	**+0.6**
GO04	**Tololo Observa**	**2.46**	**22**	*e*P	**Pn**	**23 51 54.5**	**-1.2**
GO04				*i* S	**Sn**	**23 52 24.4**	**-0.8**
ZON	**Zonda**	**2.87**	**72**	*e*P	**Pn**	**23 52 01.1**	**0.0**
RTCV	**Cerro Valdivia**	**2.89**	**79**	*e*P	**Pn**	**23 52 01.9**	**+0.4**
ACCO	**Cerro Coronel**	**3.04**	**53**	*e*P	**Pn**	**23 52 04.8**	**+1.0**
ACCO				*e*S	**Sn**	**23 52 40.3**	**+0.7**
AROD	**Rodeo**	**3.08**	**43**	*e*P	**Pn**	**23 52 05.3**	**+1.1**
AROD				*e*S	**Sn**	**23 52 41.7**	**+1.3**
RTLL	**Cerro Villicun**	**3.11**	**70**	*e*P	**Pn**	**23 52 04.7**	**+0.3**
RTLL				IAML		23 52 51.4	
	comp=E,27nm,0.3s						
AMOG	**MOGNA**	**3.26**	**63**	*e*P	**Pn**	**23 52 06.6**	**+0.1**
AGUA	**GUANDACOL**	**4.15**	**45**	*e*P	**Pn**	**23 52 19.5**	**+0.6**
APLL	**PUNTA DE LOS L**	**5.02**	**67**	*e*P	**Pn**	**23 52 30.3**	**-0.3**
APLL				IAML		23 53 33.3	
	comp=Z,7.9nm,0.5s						
ACLC	**CERRO LA CRUZ**	**5.20**	**56**	*e*P	**Pn**	**23 52 33.4**	**+0.1**

*ISCJB **16** 23:54:28.5±1.3, 7°.4S±0°.1×125°.3E±0°.2, h371km, mb3.1/2, Error ellipse: s-maj=21.8km s-min=18.9km az=179.7*
*IDC **16** 23:54:30.7±4.3, 7°.56S×125°.04E, h378km±52km, mb2.8/2, mb1 2.9/6, mb1mx2.7/37, mbtmp3.6/6, Error ellipse: s-maj=119.6km s-min=18.4km az=54.0*
ISC 16 23:54:30.1±1.4, 7°.5S±0°.1×125°.2E±0°.2, h371km, n6, σ0s69/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.09**	**209**	P	**Pn**	**23 55 32.9**	**+0.9**
	8.5nm,0.3s,baz=251,slow=3.7,SNR=4.0						
BATI				S	**S**	**23 56 21.3**	**-0.5**
	9.9nm,0.3s,baz=211,slow=14,SNR=5.6						
FITZ	**Fitzroy Crossi**	**10.55**	**178**	P	**P**	**23 56 54.2**	**-0.7**
	0.4nm,0.3s,baz=6.2,slow=11,SNR=15						
WRA	**Warramunga Arr**	**15.23**	**145**	P	**P**	**23 57 46.1**	**-0.3**
	0.2nm,0.3s,baz=324,slow=11,SNR=14						
ASAR	**Alice Springs**	**18.13**	**153**	P	**P**	**23 58 17.8**	**+0.2**
	0.3nm,0.3s,baz=328,slow=8.8,SNR=8.4						
STKA	**Stephens Creek**	**28.68**	**150**	P	**P**	**23 59 54.6**	**+0.2**
	0.5nm,0.4s,baz=311,slow=9.3,SNR=2.6						
MKAR	**Makanchi Array**	**66.11**	**329**	P	**P**	**00 04 38.4**	**-0.3**
	0.2nm,0.5s,baz=141,slow=5.2,SNR=2.0						

*ISCJB **16** 23:55:48.7±0.2, 52°.14N±0°.04×152°.87E±0°.03, h400km, mb4.1/82, Error ellipse: s-maj=5.6km s-min=2.5km az=164.4*
*MOS **16** 23:55:49.3±1.0, 51°.83N×153°.54E, h448km, mb4.0/25, Error ellipse: s-maj=9.4km s-min=5.3km az=67.1*
*KRSC **16** 23:55:49.7±1.3, 51°.63N×154°.29E, h455km±14km, ML5.0*
*NEIC **16** 23:55:50.2±0.3, 52°.12N×153°.03E, h410km±4km, mb4.3/44, Error ellipse: s-maj=7.5km s-min=3.4km az=160.0*
*IDC **16** 23:55:50.6±0.7, 52°.15N×153°.06E, h418km±8km, mb3.5/24, mb1 3.7/29, mb1mx3.6/56, mbtmp4.3/29, Error ellipse: s-maj=10.8km s-min=8.0km az=151.0*
ISC 16 23:55:49.1±0.4, 52°.05N±0°.05×153°.19E±0°.05, h400km, n266, σ1s77/308, mb4.2/82, 31C-9D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.29**	**125**	*e*P	**Pn**	**23 56 48.4**	**+1.5**
SKR	**Severo-Kuril's**	**2.29**	**125**	*e*PN	**Pn**	**23 56 48.6**	**+1.7**
SKR				*e*S	**S**	**23 57 35.3**	**+1.7**
SKR				pmax	pmax		
	comp=Z,468nm,0.6s						
SKR				smax	smax		
	comp=N,77nm,1.0s						
SKR				smax	smax		
	comp=E,202nm,0.7s						
PEA0B	**Petropavlovsk-**	**2.95**	**67**	*e*P	**Pn**	**23 56 54.1**	**+2.3**
PETK	**Petropavlovsk-**	**2.95**	**67**	P	**Pn**	**23 56 53.9**	**+2.2**
	comp=E,11nm,0.3s,baz=236,slow=4.8,SNR=118						
PETK				S	**S**	**23 57 47.2**	**+4.6**
	baz=315,slow=19,SNR=2.2						
MTVR	**Mutnovka**	**3.10**	**80**	*e*P	**Pn**	**23 56 56.2**	**+3.0**
MTVR				*e*S	**S**	**23 57 47.4**	**+2.2**
MTVR	**Mutnovka**	**3.10**	**80**	PN	**Pn**	**23 56 56.2**	**+3.0**
MTVR				S	**S**	**23 57 47.4**	**+2.2**
RUS	**Russkaya**	**3.30**	**81**	*e*P	**Pn**	**23 56 56.6**	**+2.0**
RUS				*e*S	**S**	**23 57 47.8**	**0.0**
RUS	**Russkaya**	**3.30**	**81**	PN	**Pn**	**23 56 56.6**	**+2.0**
RUS				S	**S**	**23 57 47.8**	**0.0**
GNL	**Ganaly**	**3.32**	**58**	*e*P	**Pn**	**23 56 57.2**	**+2.2**
GNL	**Ganaly**	**3.32**	**58**	PN	**Pn**	**23 56 57.2**	**+2.2**
PET	**Petropavlovsk**	**3.48**	**71**	*e*P	**Pn**	**23 56 58.3**	**+2.1**
PET	**Petropavlovsk**	**3.48**	**71**	*e*P	**Pn**	**23 56 58.9**	**+2.7**
PET				*e*S	**S**	**23 57 50.5**	**-0.2**
PET	**Petropavlovsk**	**3.48**	**71**	*e*PN	**Pn**	**23 56 57.7**	**+1.5**
PET				*e*S	**S**	**23 57 53.5**	**+2.8**
PET				pmax	pmax		
	comp=Z,189nm,0.5s						
PET				smax	smax		
	comp=N,369nm,0.9s						
PET				smax	smax		
	comp=E,260nm,0.6s						
DALK	**Dalny**	**3.54**	**72**	*e*P	**Pn**	**23 56 59.3**	**+2.6**
DALK				*e*S	**S**	**23 57 52.5**	**+0.8**
DALK	**Dalny**	**3.54**	**72**	PN	**Pn**	**23 56 59.3**	**+2.6**
DALK				S	**S**	**23 57 52.5**	**+0.8**
KOK	**Koryaka**	**3.55**	**67**	*e*P	**Pn**	**23 56 59.8**	**+2.9**
KOK	**Koryaka**	**3.55**	**67**	PN	**Pn**	**23 56 59.8**	**+2.9**
KRX	**Arik**	**3.58**	**66**	*e*P	**Pn**	**23 56 59.9**	**+2.7**
KRX				*e*S	**S**	**23 57 54.1**	**+1.5**
KRX	**Arik**	**3.58**	**66**	PN	**Pn**	**23 56 59.9**	**+2.7**
KRX				S	**S**	**23 57 54.1**	**+1.5**
AVH	**Avacha**	**3.60**	**68**	*e*P	**Pn**	**23 57 00.2**	**+2.9**
AVH				*e*S	**S**	**23 57 54.9**	**+2.1**
AVH	**Avacha**	**3.60**	**68**	PN	**Pn**	**23 57 00.2**	**+2.9**
AVH				S	**S**	**23 57 54.9**	**+2.1**
UGLR	**Uglovaya**	**3.63**	**69**	*e*P	**Pn**	**23 57 01.0**	**+3.3**
UGLR				*e*S	**S**	**23 57 55.2**	**+1.8**
UGLR	**Uglovaya**	**3.63**	**69**	PN	**Pn**	**23 57 01.0**	**+3.3**
UGLR				S	**S**	**23 57 55.2**	**+1.8**
SMAR	**Somma**	**3.63**	**68**	*e*P	**Pn**	**23 57 00.2**	**+2.4**
SMAR	**Somma**	**3.63**	**68**	PN	**Pn**	**23 57 00.2**	**+2.4**
SDLR	**Sedlovina**	**3.68**	**68**	*i* P	**Pn**	**23 57 00.8**	**+2.6**
SDLR				*e*S	**S**	**23 57 55.4**	**+1.1**
SDLR	**Sedlovina**	**3.68**	**68**	PN	**Pn**	**23 57 00.8**	**+2.6**
SDLR				S	**S**	**23 57 55.4**	**+1.1**
NLC	**Nalytchevo**	**3.92**	**71**	*e*P	**Pn**	**23 57 01.5**	**+1.3**
NLC				*e*S	**S**	**23 57 57.3**	**-0.7**
NLC	**Nalytchevo**	**3.92**	**71**	PN	**Pn**	**23 57 01.5**	**+1.3**
NLC				S	**S**	**23 57 57.3**	**-0.7**
KII	**Karymskiy**	**4.27**	**60**	*e*P	**Pn**	**23 57 06.6**	**+2.9**
KII				*e*S	**S**	**23 58 05.4**	**+1.0**
KII	**Karymskiy**	**4.27**	**60**	PN	**Pn**	**23 57 06.6**	**+2.9**
KII				S	**S**	**23 58 05.4**	**+1.0**
ESO	**Esso**	**5.07**	**38**	*e*P	**Pn**	**23 57 15.4**	**+3.8**
ESO	**Esso**	**5.07**	**38**	PN	**Pn**	**23 57 15.4**	**+3.8**
KZV	**Kizimen**	**5.23**	**51**	*e*P	**Pn**	**23 57 16.6**	**+3.1**
KZV				*e*S	**S**	**23 58 23.6**	**+1.4**
KZV	**Kizimen**	**5.23**	**51**	PN	**Pn**	**23 57 16.6**	**+3.1**
KZV				S	**S**	**23 58 23.6**	**+1.4**
TUMR	**Tumrok**	**5.26**	**49**	*e*P	**Pn**	**23 57 17.3**	**+3.6**
TUMR	**Tumrok**	**5.26**	**49**	PN	**Pn**	**23 57 17.3**	**+3.6**
KMNR	**Kamenistaya**	**5.58**	**45**	*e*P	**Pn**	**23 57 20.6**	**+3.5**
KMNR	**Kamenistaya**	**5.58**	**45**	PN	**Pn**	**23 57 20.6**	**+3.5**
KOZ	**Kozyrevsk**	**5.63**	**42**	*e*P	**Pn**	**23 57 20.2**	**+2.7**
KOZ	**Kozyrevsk**	**5.63**	**42**	PN	**Pn**	**23 57 20.2**	**+2.7**
MKZ	**Mys Kozlova**	**5.71**	**60**	*e*P	**Pn**	**23 57 18.7**	**+0.4**
MKZ				*e*S	**S**	**23 58 26.5**	**-4.6**
MKZ	**Mys Kozlova**	**5.71**	**60**	PN	**Pn**	**23 57 18.7**	**+0.4**
KPT	**Kopyto**	**5.71**	**44**	*e*P	**Pn**	**23 57 21.7**	**+3.2**
KPT	**Kopyto**	**5.71**	**44**	PN	**Pn**	**23 57 21.7**	**+3.2**
KIRR	**Kirishev**	**5.75**	**44**	*e*P	**Pn**	**23 57 21.4**	**+2.4**
KIRR	**Kirishev**	**5.75**	**44**	PN	**Pn**	**23 57 21.4**	**+2.4**
BZMR	**Bezymyannaya**	**5.81**	**45**	*e*P	**Pn**	**23 57 22.5**	**+2.9**
BZMR	**Bezymyannaya**	**5.81**	**45**	PN	**Pn**	**23 57 22.5**	**+2.9**
BZWR	**Bezymyannyi-We**	**5.83**	**45**	*e*P	**Pn**	**23 57 23.1**	**+3.3**
BZWR	**Bezymyannyi-We**	**5.83**	**45**	PN	**Pn**	**23 57 23.1**	**+3.3**
BZGR	**Bezymyannyi-Gr**	**5.90**	**46**	*e*P	**Pn**	**23 57 24.0**	**+3.5**
BZGR	**Bezymyannyi-Gr**	**5.90**	**46**	PN	**Pn**	**23 57 24.0**	**+3.5**
ZLN	**Zelenaya**	**6.00**	**45**	*e*P	**Pn**	**23 57 25.3**	**+3.8**
ZLN				*e*S	**S**	**23 58 36.9**	**-0.1**
ZLN	**Zelenaya**	**6.00**	**45**	PN	**Pn**	**23 57 25.3**	**+3.8**
ZLN				S	**S**	**23 58 36.9**	**-0.1**
KRSR	**Krestovskiy**	**6.02**	**43**	*e*P	**Pn**	**23 57 24.7**	**+2.9**
KRSR				*e*S	**S**	**23 58 39.3**	**+1.8**
KRSR	**Krestovskiy**	**6.02**	**43**	PN	**Pn**	**23 57 24.7**	**+2.9**
KRSR				S	**S**	**23 58 39.3**	**+1.8**
CIRR	**Tsirk**	**6.04**	**45**	*e*P	**Pn**	**23 57 25.4**	**+3.4**
CIRR	**Tsirk**	**6.04**	**45**	PN	**Pn**	**23 57 25.4**	**+3.4**
KLY	**Klyuchi**	**6.12**	**43**	*e*P	**Pn**	**23 57 26.4**	**+3.6**
KLY	**Klyuchi**	**6.12**	**43**	PN	**Pn**	**23 57 26.4**	**+3.6**
BDR	**Baidarnaya**	**6.52**	**43**	*e*P	**P**	**23 57 31.1**	**+3.2**
BDR	**Baidarnaya**	**6.52**	**43**	PN	**P**	**23 57 31.1**	**+3.2**
SRKR	**Sorokina**	**6.56**	**42**	*e*P	**P**	**23 57 31.7**	**+3.4**
SRKR	**Sorokina**	**6.56**	**42**	PN	**P**	**23 57 31.7**	**+3.4**
SMKR	**Semkarok**	**6.64**	**44**	*e*P	**P**	**23 57 32.0**	**+2.8**
SMKR	**Semkarok**	**6.64**	**44**	PN	**P**	**23 57 32.0**	**+2.8**
TYV	**Tymovskoe**	**6.69**	**264**	*e*PN	**P**	**23 57 33.0**	**+3.3**
TYV				*e*S	S	23 58 59.0	+8.2
TYV				pmax	pmax		
	comp=Z,500nm,4.2s						
TYV				pmax	pmax		
	comp=Z,52nm,1.0s						
TYV				smax	smax		
	comp=E,19nm,1.3s						
KBTR	**Krutoberegovo**	**7.03**	**50**	*e*P	**P**	**23 57 34.4**	**+1.0**
KBTR				*e*S	**S**	**23 58 54.7**	**-3.0**
KBTR	**Krutoberegovo**	**7.03**	**50**	PN	**P**	**23 57 34.4**	**+1.0**
KBTR				S	**S**	**23 58 54.7**	**-3.0**
KUR	**Kuril'sk**	**7.67**	**209**	*i* PN	**P**	**23 57 42.2**	**+1.4**
NKL	**Nikolayevsk**	**7.70**	**283**	*e*PN	**P**	**23 57 43.0**	**+2.1**
NKL				pmax	pmax		
	comp=Z,48nm,0.6s						
BKI	**Bering**	**8.23**	**62**	*e*P	**Pn**	**23 57 46.9**	**+0.4**
BKI				*e*S	**S**	**23 59 17.0**	**-5.7**
BKI	**Bering**	**8.23**	**62**	PN	**Pn**	**23 57 46.9**	**+0.4**
BKI				S	**S**	**23 59 17.0**	**-5.7**
YSS	**Yuzh-Sakhalins**	**8.48**	**237**	⇓*i* PN	**P**	**23 57 52.6**	**+2.9**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
OSSR	**Ossora**	**9.12**	**34**	*e*P	**Pn**	**23 57 58.8**	**+2.2**
OSSR	**Ossora**	**9.12**	**34**	PN	**Pn**	**23 57 58.8**	**+2.2**
ASAJ	**Asahikawa**	**10.63**	**226**	P	**Pn**	**23 58 16.4**	**+2.1**
	comp=Z,5.8nm,0.3s,baz=52,slow=8.0,SNR=20						
ASAJ	**Asahikawa**	**10.63**	**226**	*e*P	**Pn**	**23 58 14.7**	**+0.4**
ERM	**Erimo**	**12.13**	**218**	*e*P	**Pn**	**23 58 30.7**	**-1.0**
ERM	**Erimo**	**12.13**	**218**	*e*PN	**Pn**	**23 58 30.7**	**-1.0**
SMY	**Shemya**	**12.79**	**79**	*e*P	**P**	**23 58 38.7**	**+1.5**
SMY	**Shemya**	**12.79**	**79**	*e*PN	**P**	**23 58 38.7**	**+1.5**
KLR	**Kul'dur**	**13.88**	**267**	P	**Pn**	**23 58 50.9**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=69,slow=10,SNR=17						
KLR	**Kul'dur**	**13.88**	**267**	*i* P	**Pn**	**23 58 50.3**	**-1.6**
USRK	**Ussuriysk Ar.**	**16.14**	**249**	P	**P**	**23 59 14.3**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=52,slow=12,SNR=5.3						
BILL	**Bilibino**	**17.25**	**17**	⇓*i* P	**P**	**23 59 25.8**	**+0.6**
BILL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MJAR	**Matsushiro Arr**	**18.79**	**220**	P	**P**	**23 59 43.0**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=16,slow=10.0,SNR=5.2						
MJAR	**Matsushiro Arr**	**18.79**	**220**	P	**P**	**23 59 43.0**	**+1.2**
HIA	**Hailar**	**21.28**	**276**	*e*P	**P**	**00 00 05.1**	**+0.1**
	comp=Z,15nm,0.6s						
TIXI	**Tiksi**	**22.44**	**340**	P	**P**	**00 00 15.1**	**-0.1**
	comp=Z,1.9nm,0.4s,baz=131,slow=11,SNR=6.1						
TIXI	**Tiksi**	**22.44**	**340**	*e*P	**P**	**00 00 15.6**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KSRS	**Korea Array**	**22.96**	**241**	P	**P**	**00 00 21.0**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=44,slow=11,SNR=4.2						
BJT	**Baijiatuau**	**28.06**	**259**	*e*P	**P**	**00 01 04.7**	**-0.9**
	comp=Z,6.7nm,0.7s						
IM3	**Indian Mountai**	**29.60**	**41**	*e*P	**P**	**00 01 19.2**	**+0.4**
SONA1	**Songino Array**	**29.98**	**281**	*e*P	**P**	**00 01 23.2**	**+0.7**
SONM	**Songino Array**	**29.99**	**281**	P	**P**	**00 01 22.2**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=60,slow=8.4,SNR=5.1						
SONM				PcP	**PcP**	**00 04 11.2**	**-1.9**
	comp=Z,0.4nm,0.5s,baz=61,slow=1.0,SNR=4.1						
RSO	**Redoubt South**	**30.37**	**53**	*e*P	**P**	**00 01 27.3**	**+1.5**
HHC	**Hu-ho-hao-te**	**30.38**	**265**	*e*P	**P**	**00 01 26.9**	**+0.8**
HHC				S	**S**	**00 05 56.1**	**-0.7**
HHC				pmax	pmax		
	comp=Z,12nm,1.1s						
HHC				pmax	pmax		
	comp=Z,140nm,5.7s						
SKT	**Skwentna**	**30.75**	**49**	*e*P	**P**	**00 01 30.2**	**+1.3**
	comp=Z,26nm,1.5s						
BPAW	**Bear Paw Mtn.**	**30.80**	**45**	*e*P	**P**	**00 01 29.6**	**+0.3**
	comp=Z,8.6nm,0.8s						
MLY	**Manley**	**30.86**	**43**	*e*P	**P**	**00 01 27.1**	**-2.7**
	comp=Z,4.8nm,0.8s						
KDAK	**Kodiak Island**	**30.96**	**58**	P	**P**	**00 01 30.5**	**-0.2**
	comp=Z,17nm,0.9s,baz=159,slow=1.5,SNR=13						
COLD	**Coldfoot**	**31.05**	**39**	*e*P	**P**	**00 01 31.5**	**+0.2**
	comp=Z,8.0nm,1.5s						
TRF	**Thorofare Moun**	**31.17**	**46**	*e*P	**P**	**00 01 33.7**	**+1.0**
	comp=Z,45nm,1.8s						
CNPM	**China Poot**	**31.28**	**54**	*e*P	**P**	**00 01 33.8**	**+0.3**
	comp=Z,200nm,1.8s						
TOLK	**Toolik Lake Re**	**31.32**	**36**	*e*P	**P**	**00 01 34.8**	**+1.0**
	comp=Z,22nm,1.8s						
MCK	**McKinley**	**31.74**	**46**	*e*P	**P**	**00 01 38.8**	**+1.3**
	comp=Z,28nm,1.8s						
RND	**Reindeer**	**31.81**	**46**	*e*P	**P**	**00 01 38.8**	**+0.7**
	comp=Z,48nm,1.8s						
WRH	**Wood River Hil**	**32.03**	**44**	*e*P	**P**	**00 01 41.1**	**+1.3**
	comp=Z,13nm,1.0s						
SML	**Sawmill**	**32.28**	**49**	*e*P	**P**	**00 01 43.4**	**+1.3**
	comp=Z,15nm,0.7s						
ILAR	**Eielson Array**	**32.52**	**44**	P	**P**	**00 01 44.0**	**-0.1**
	comp=Z,2.7nm,0.8s,baz=269,slow=8.7,SNR=23						
ILAR	**Eielson Array**	**32.52**	**44**	P	**P**	**00 01 44.0**	**-0.1**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ILB	**Eielson Array**	**32.52**	**44**	*e*P	**P**	**00 01 44.6**	**+0.6**
IL1	**Eielson Array**	**32.52**	**44**	*e*P	**P**	**00 01 44.2**	**+0.2**
DHY	**Denali Highway**	**32.52**	**47**	*e*P	**P**	**00 01 44.7**	**+0.4**
	comp=Z,42nm,2.0s						
FYU	**Fort Yukon**	**33.03**	**40**	*e*P	**P**	**00 01 49.3**	**+0.9**
	comp=Z,36nm,0.8s						
FID	**Port Fidalgo**	**33.36**	**51**	*e*P	**P**	**00 01 51.7**	**+0.4**
	comp=Z,91nm,1.4s						
KLU	**Klutina**	**33.47**	**49**	*e*P	**P**	**00 01 53.2**	**+0.9**
	comp=Z,60nm,1.8s						
SCRK	**Sand Creek**	**33.88**	**45**	*e*P	**P**	**00 01 55.9**	**+0.1**
	comp=Z,32nm,1.8s						
DOT	**Dot Lake**	**33.90**	**45**	*e*P	**P**	**00 01 56.4**	**+0.5**
	comp=Z,27nm,1.8s						
INK	**Inuvik**	**37.24**	**36**	*e*P	**P**	**00 02 24.9**	**+1.1**
	comp=Z,5.2nm,0.4s						
LZH	**Lanzhou**	**38.08**	**265**	*e*P	**P**	**00 02 32.4**	**+1.0**
LZH				pP	pP	00 03 46.8	-0.1
LZH				*e*PP	**PP**	**00 04 12.3**	**+3.5**
LZH				sP	PcP	00 04 39.1	+2.3
LZH				pmax	pmax		
	comp=Z,26nm,1.0s						
LZH				pmax	pmax		
	comp=Z,230nm,4.3s						
ENH	**Enshi**	**38.67**	**253**	*e*P	**P**	**00 02 35.2**	**-0.9**
	comp=Z,18nm,1.0s						
WHY	**Whitehorse**	**38.85**	**48**	*e*P	**P**	**00 02 39.0**	**+1.7**
	comp=Z,34nm,1.8s						
ZALV	**Zalesovo Beam**	**39.74**	**301**	P	**P**	**00 02 43.9**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=61,slow=6.3,SNR=4.3						
ZALV				PcP	**PcP**	**00 04 39.5**	**-2.0**
	comp=Z,0.5nm,0.4s,baz=342,slow=3.3,SNR=3.3						
ZALV	**Zalesovo Beam**	**39.74**	**301**	*e*P	**P**	**00 02 44.1**	**-0.4**
NVS	**Novosibirsk**	**40.18**	**303**	*e*P	**P**	**00 02 48.2**	**+0.2**
WMQ	**Urumqi**	**43.27**	**286**	*e*P	**P**	**00 03 14.6**	**+1.6**
KURK	**Kurchatov**	**44.63**	**299**	*ce*P	**P**	**00 03 23.4**	**-0.1**
	comp=Z,6.0nm,0.4s						
KURK	**Kurchatov**	**44.63**	**299**	*ce*P	**P**	**00 03 23.5**	**0.0**
KURK				pmax	pmax		
	comp=Z,11nm,1.3s						
MK31	**Makanchi Array**	**44.74**	**293**	*e*P	**P**	**00 03 24.2**	**-0.1**
MKAR	**Makanchi Array**	**44.74**	**293**	P	**P**	**00 03 24.2**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=59,slow=7.0,SNR=47						
MKAR	**Makanchi Array**	**44.74**	**293**	*e*P	**P**	**00 03 24.2**	**-0.2**
	comp=Z,29nm,0.3s						
MK01	**Makanchi Array**	**44.74**	**293**

MSU	Marysvale	63.35	61	*e*P		P		00 05 38.3	+1.0
SRU	San Rafael Swe	63.80	60	*e*P		P		00 05 41.2	+1.0
	comp=Z,13nm,1.7s								
GEYT	Alibeck	64.00	299	P		P		00 05 41.0	-0.4
	comp=Z,3.8nm,0.4s,baz=53,slow=6.1,SNR=25								
GYA0B	ALIBECK ARRAY	64.00	299	*e*P		P		00 05 41.3	0.0
	comp=Z,8.4nm,0.6s								
NCK	Nalchik	67.12	312	*ce*P		P		00 05 59.8	-1.1
NCK				pmax	pmax				
	comp=Z,4.0nm,0.9s								
AKASG	Malin Array Be	67.20	325	P		P		00 05 59.4	-1.8
	comp=Z,1.5nm,0.4s,baz=36,slow=6.7,SNR=8.2								
AKASG	Malin Array Be	67.20	325	*ce*P		P		00 05 59.5	-1.7
KIEV	Kiev	67.21	325	*ce*P		P		00 05 58.8	-2.4
KIEV				pmax	pmax				
	comp=Z,5.0nm,1.1s								
KBZ	Khabaz	67.26	313	P		P		00 06 00.9	-0.8
	comp=Z,4.8nm,0.8s,baz=64,slow=4.2,SNR=11								
AKH	Akhalkalaki	68.80	311	⇑*i*P		P		00 06 12.9	+1.5
BUR08	Bucovina Ar. S	71.19	326	*e*P		P		00 06 23.8	-1.9
BUR04	Bucovina Ar. S	71.21	326	*e*P		P		00 06 24.4	-1.3
BURAR	Bucovina Array	71.21	326	⇑*i*P		P		00 06 24.6	-1.1
BURAR	Bucovina Array	71.21	326	⇑⇑P		P		00 06 24.6	-1.1
BIZ	Bicaz	71.48	325	⇑*i*P		P		00 06 26.6	-0.6
DPC	Dobruska-Polom	71.63	333	*e*P		P		00 06 27.7	-0.4
DPC	Dobruska-Polom	71.63	333	*e*P		P		00 06 27.7	-0.4
CLL	Collm	71.67	335	*e*P		P		00 06 26.7	-1.5
	comp=Z,4.6nm,0.7s								
CLL	Collm	71.67	335	⇓*i*P		P		00 06 27.0	-1.2
	comp=Z,6.0nm,0.9s								
CLL	Collm	71.67	335	⇓*i*P		P		00 06 27.0	-1.2
CLL				pmax	pmax				
	comp=Z,6.0nm,0.9s								
TRPA	Tarpa	71.67	328	⇓*i*P		P		00 06 28.0	-0.3
LANS	Liptovska Anna	71.76	330	*e*P		P		00 06 29.2	+0.3
MORC	Moravsky Berou	71.79	332	*e*P		P		00 06 28.2	-0.8
	comp=Z,6.0nm,0.8s								
MORC	Moravsky Berou	71.79	332	⇑*i*P		P		00 06 29.0	0.0
MORC	Moravsky Berou	71.79	332	⇑⇑P		P		00 06 29.0	0.0
MORC	Moravsky Berou	71.79	332	*e*P		P		00 06 28.7	-0.3
BRG	Berggiesshubel	71.81	334	*e*P		P		00 06 28.8	-0.3
	comp=Z,2.0nm,0.3s								
BRG	Berggiesshubel	71.81	334	*e*P		P		00 06 28.8	-0.3
BRG				pmax	pmax				
	comp=Z,2.0nm,0.3s								
CFR	Carcaliu	72.23	323	⇑*i*P		P		00 06 30.4	-1.2
CFR	Carcaliu	72.23	323	⇑⇑P		P		00 06 30.4	-1.2
VRAC	Vranov	72.48	332	⇑*i*P		P		00 06 33.1	0.0
VRAC	Vranov	72.48	332	⇑⇑P		P		00 06 33.1	0.0
VRAC	Vranov	72.48	332	*e*P		P		00 06 32.9	-0.2
VYHS	Vyhne	72.54	330	*e*P		P		00 06 32.9	-0.5
VYHS				pmax	pmax				
	comp=Z,2.0nm,0.6s								
CJR	Cluj-Napoca	72.55	326	⇓*i*P		P		00 06 33.1	-0.4
CJR	Cluj-Napoca	72.55	326	⇓⇓P		P		00 06 33.1	-0.4
HARR	Harsova	72.72	322	⇑*i*P		P		00 06 34.3	-0.2
HARR	Harsova	72.72	322	⇑⇑P		P		00 06 34.3	-0.2
KRUC	Moravsky	72.76	332	*e*P		P		00 06 34.3	-0.4
MLR	Muntele Rosu	72.78	324	*e*P		P		00 06 34.2	-0.8
	comp=Z,4.9nm,0.6s								
MLR	Muntele Rosu	72.78	324	⇑*i*P		P		00 06 35.0	0.0
MLR	Muntele Rosu	72.78	324	⇑⇑P		P		00 06 35.0	0.0
DRGR		72.78	327	⇑*i*P		P		00 06 34.3	-0.6
DRGR		72.78	327	⇑⇑P		P		00 06 34.3	-0.6
TREC	Trest	72.81	333	*e*P		P		00 06 34.6	-0.4
TREC	Trest	72.81	333	*e*P		P		00 06 34.6	-0.4
VOIR		73.14	325	⇑*i*P		P		00 06 36.9	-0.1
VOIR		73.14	325	⇑⇑P		P		00 06 36.9	-0.1
ARR	Arges	73.35	325	⇑*i*P		P		00 06 37.5	-0.7
KHC	Kasperske Hory	73.50	334	*e*P		P		00 06 37.9	-1.1
	comp=Z,1.6nm,0.8s								
KHC	Kasperske Hory	73.50	334	*e*P		P		00 06 38.7	-0.3
KHC	Kasperske Hory	73.50	334	*e*P		P		00 06 38.7	-0.3
WB2	Warramunga Arr	73.55	198	*e*P		P		00 06 39.5	+0.1
WRA	Warramunga Arr	73.55	198	P		P		00 06 39.4	-0.1
	comp=Z,4.5nm,0.5s,baz=13,slow=6.0,SNR=92								
SIRR	Siria	73.59	327	⇑*i*P		P		00 06 39.2	-0.3
GERES	GERESS Array B	73.72	333	P		P		00 06 39.5	-0.8
	comp=Z,1.6nm,0.5s,baz=34,slow=5.7,SNR=23								
GEA0	GERESS Array S	73.73	333	*e*P		P		00 06 39.3	-1.1
CONA	Conrad Observa	73.94	332	*i*P		P		00 06 41.5	-0.1
	comp=Z,2.9nm,0.5s								
BZS	Buzias	74.18	327	⇑*i*P		P		00 06 41.9	-1.0
BZS	Buzias	74.18	327	⇑⇑P		P		00 06 41.9	-1.0
MOA	Molln	74.47	333	*i*P		P		00 06 44.2	-0.3
	comp=Z,2.4nm,0.8s								
BR131	Keskin Array S	74.59	316	*e*P		P		00 06 45.0	-0.5
BRTR	Keskin Array B	74.59	316	P		P		00 06 44.8	-0.7
	comp=Z,2.0nm,0.7s,baz=46,slow=3.0,SNR=12								
TXAR	Lajitas Array	74.89	62	P		P		00 06 48.3	+1.0
	comp=Z,0.6nm,0.6s,baz=298,slow=5.5,SNR=7.4								
SOKA	Soboth	75.31	332	*i*P		P		00 06 48.9	-0.5
	comp=Z,7.3nm,1.1s								
KBA	Koelnbreinsper	75.43	333	*i*P		P		00 06 50.2	+0.1
	comp=Z,8.7nm,0.5s								
OBKA	Obir	75.60	332	*i*P		P		00 06 50.7	-0.3
	comp=Z,3.2nm,0.6s								
MYKA	Terra Mystica	75.76	333	*i*P		P		00 06 51.5	-0.4
	comp=Z,5.4nm,0.8s								
ABTA	Abfaltersbach	75.97	333	*i*P		P		00 06 52.7	-0.4
	comp=Z,2.6nm,0.6s								
DIVS	Divibare	76.06	327	*e*P		P		00 06 51.8	-1.8
	comp=Z,7.1nm,0.6s								
FETA	Feichten	76.20	335	*e*P		P		00 06 54.5	0.0
	comp=Z,3.1nm,0.7s								
VTS	Vitosha	76.27	324	*e*P		P		00 06 53.8	-1.1
	comp=Z,6.5nm,0.6s								
VTS	Vitosha	76.27	324	⇑*i*P		P		00 06 54.2	-0.7
VTS	Vitosha	76.27	324	⇑⇑P		P		00 06 54.2	-0.7
FUORN	Ofenpass-Fuorn	76.69	335	*e*P		P		00 06 57.4	+0.1
	comp=Z,4.1nm,0.8s								
TUE	Stuetta	77.07	335	*e*P		P		00 06 59.3	0.0
	comp=Z,5.5nm,0.7s								
AS01	Alice Springs	77.25	198	*e*P		P		00 06 60.0	-0.2
AS31	Alice Springs	77.25	198	*e*P		P		00 07 00.4	+0.1
	comp=Z,5.7nm,1.2s								
ASAR	Alice Springs	77.26	198	P		P		00 07 00.8	+0.6
	comp=Z,5.0nm,0.6s,baz=9.6,slow=5.3,SNR=50								
RAYN	Ar Rayn	81.95	298	*e*P		P		00 07 24.7	-0.8
	comp=Z,4.7nm,1.0s								
STKA	Stephens Creek	84.18	190	P		P		00 07 34.6	-1.6
	comp=Z,0.8nm,0.4s,baz=340,slow=8.2,SNR=3.4								
KEST	Kesra	87.04	331	P		P		00 07 48.2	-2.2
	comp=Z,1.5nm,0.6s,baz=78,slow=4.1,SNR=4.8								
TORD	Torodi Ar. Bea	110.54	330	PKiKP		PKiKP		00 13 32.8	-2.1
	comp=Z,0.3nm,0.9s,baz=9.2,slow=2.1,SNR=4.2								
PLCA	Paso Flores	148.25	87	PKPbc		PKPbc		00 14 47.5	-0.6
	comp=Z,1.2nm,0.7s,baz=300,slow=6.3,SNR=3.5								

MEX 16 23:56:59.2±0.7, 16.12N×98.25W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.30	24	*e*P	Pg	23 57 03.9	-1.1
PNIG				*i* S	Sg	23 57 09.1	+0.2
TLIG	Tlapa	1.47	348	*e*P	Pn	23 57 22.7	-3.8
TLIG				*i* S	Sb	23 57 41.5	-4.7
CAIG	El Cayaco	2.14	296	*e*P	Pn	23 57 33.0	-2.7
CAIG				*e*S	Sn	23 57 58.0	-4.7
MEIG	Mezcala	2.22	324	*e*P	Pn	23 57 33.7	-3.2
MEIG				*e*S	Sn	23 58 00.7	-4.1
ARIG	Puente Sto Nin	2.94	317	*e*P	Pn	23 57 44.2	-2.4
ARIG				*e*S	Sn	23 58 18.4	-3.9

*ISCJB **17** 00:03:38.8±0.6, 5.84S±0.07×151.74E±0.10, h36km, mb4.1/18, MS3.5/11, Error ellipse: s-maj=15.0km s-min=8.2km az=24.8*

*NEIC **17** 00:03:39.8±0.7, 5.86S×151.83E, h35km, mb4.3/9, Error ellipse: s-maj=20.8km s-min=10.5km az=103.0*

*IDC **17** 00:03:44.6±5.5, 5.94S×151.69E, h77km±45km, mb3.8/10, mb1 4.0/11, mb1mx3.8/37, mbtmp4.1/11, ML2.1/1, MS3.6/12, Ms1 3.6/12, ms1mx3.4/35, Error ellipse: s-maj=36.2km s-min=23.0km az=85.0*

ISC 17 00:03:39.8±0.7, 5.84S±0.09×151.9E±0.1, h36km, n34, σ1§22/27, mb4.2/18, MS3.5/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.85	232	P	Pn	00 05 05.6	+1.6
	4.0nm,0.3s,baz=55,slow=8.4,SNR=15						
PMG				S	Sn	00 06 10.7	+0.8
	3.9nm,0.3s,baz=8.4,slow=14,SNR=7.9						
PMG	Port Moresby	5.85	232	*e*Pn	Pn	00 05 05.4	+1.3
	74nm,0.9s						
PMG				*e*Sn	Sn	00 06 09.9	0.0
HNR	Honiara	8.78	114	LR	LR	00 08 51.3	
	comp=Z,206nm,20.9s,baz=304,slow=34						
CTAO	Charters Tower	15.17	201	Pn	Pn	00 07 12.2	+0.6
	8.2nm,0.7s						
GUMO	Guam	20.51	340	LR	LR	00 16 57.2	
	comp=Z,93nm,18.1s,baz=35,slow=39						
GUMO	Guam	20.51	340	P	P	00 08 16.8	+1.7
	23nm,0.5s						
SIJI	Sorong	21.14	283	P	P	00 08 21.0	-0.9
	4.2nm,0.3s,baz=198,slow=20,SNR=2.4						
DZM	Mont Dzumac	21.43	140	LR	LR	00 15 32.1	
	comp=Z,272nm,21.5s,baz=252,slow=33						
WRAB	Tennant Creek	22.04	229	*e*P	P	00 08 30.6	-1.0
	20nm,1.9s						
WRA	Warramunga Arr	22.06	229	P	P	00 08 31.1	-0.7
	11nm,0.9s,baz=52,slow=9.9,SNR=49						
WRA				LR	LR	00 17 01.3	
	comp=Z,98nm,21.5s,baz=80,slow=36						
ASAR	Alice Springs	24.75	222	P	P	00 08 58.3	0.0
	15nm,1.0s,baz=58,slow=9.3,SNR=60						
STKA	Stephens Creek	27.62	199	P	P	00 09 26.6	+2.6
	1.4nm,0.6s,baz=15,slow=16,SNR=4.5						
STKA				LR	LR	00 20 52.2	
	comp=Z,134nm,18.2s,baz=26,slow=37						
FITZ	Fitzroy Crossi	28.34	242	P	P	00 09 29.8	-0.8
	11nm,0.8s,baz=72,slow=8.5,SNR=12						
FITZ				LR	LR	00 22 33.2	
	comp=Z,99nm,19.1s,baz=55,slow=40						
DAV	Davao City (W)	29.19	296	LR	LR	00 20 50.8	
	comp=Z,107nm,18.7s,baz=164,slow=35						
MBWA	Marble Bar	34.64	241	P	P	00 10 25.1	-0.9
	8.9nm,0.8s						
TAU	Tasmania Unive	37.13	186	P	P	00 10 47.3	+0.2
	1.1nm,0.7s						
NWAO	Narrogin (SRO)	41.99	226	*e*P	P	00 11 25.2	-2.5
	4.3nm,0.8s						
MJAR	Matsushiro Arr	44.06	344	LR	LR	00 28 39.6	
	comp=Z,55nm,20.6s,baz=235,slow=34						
QIZ	Qiongzhong	48.20	302	P	P	00 12 17.2	0.0
	3.2nm,0.5s						
KSRS	Korea Array	48.52	334	LR	LR	00 31 23.5	
	comp=Z,34nm,20.4s,baz=120,slow=34						
KLR	Kul'dur	57.58	345	LR	LR	00 34 52.2	
	comp=Z,49nm,21.1s,baz=162,slow=32						
SONM	Songino Array	66.71	328	P	P	00 14 29.2	+1.8
	0.5nm,0.5s,baz=111,slow=3.3,SNR=4.4						
TLY	Talaya	70.51	330	P	P	00 14 51.0	+0.1
	1.0nm,0.6s						
VNDA	Vanda	71.83	178	P	P	00 14 58.1	-0.3
	1.3nm,1.0s,baz=337,slow=7.5,SNR=6.4						
MKAR	Makanchi Array	80.49	319	P	P	00 15 48.5	+0.2
	0.3nm,0.6s,baz=95,slow=7.5,SNR=5.3						
KURK	Kurchatov	84.01	322	P	P	00 16 06.1	-0.4
KURBB	Kurchatov Arra	84.04	322	P	P	00 16 06.1	-0.5
	0.6nm,0.8s,baz=116,slow=4.2,SNR=5.0						
QSPA	South Pole Qui	84.12	180	*e*P	P	00 16 06.6	-0.4
	4.8nm,1.0s						
BBB	Bella Bella	88.49	37	LR	LR	00 53 43.2	
	comp=Z,59nm,18.2s,baz=210,slow=34						
DLBC	Dease Lake	88.75	31	LR	LR	00 50 18.1	
	comp=Z,93nm,19.1s,baz=265,slow=31						
BVAR	Borovoye Array	89.51	323	P	P	00 16 33.3	0.0
	0.9nm,0.8s,baz=79,slow=7.5,SNR=4.6						
NVAR	Mina Array Bea	93.46	52	P	P	00 16 53.2	+0.9
	0.7nm,0.9s,baz=263,slow=4.5,SNR=3.5						
GERES	GERESS Array B	124.44	328	PKP	PKPdf	00 22 33.6	-1.8
	0.4nm,0.6s,baz=98,slow=1.9,SNR=4.2						
TORD	Torodi Ar. Bea	149.71	286	PKPbc	PKPbc	00 23 25.2	-1.8
	3.5nm,1.0s,baz=91,slow=2.5,SNR=13						

*MOS **17** 00:11:41.6±0.8, 53.06N×160.17E, h63km, mb4.3/1, Error ellipse: s-maj=12.6km s-min=4.8km az=85.7*

*KRSC **17** 00:11:41.7±1.2, 53.20N×160.15E, h60km±11km, ML4.2*

*ISCJB **17** 00:11:43.4±0.7, 53.20N±0.05×160.08E±0.07, h58km±7km, Error ellipse: s-maj=9.0km s-min=4.7km az=140.8*

ISC 17 00:11:42.9±1.2, 53.16N±0.04×160.15E±0.04, h61km±7km, n68, σ1§26/96, 1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.10	230	*e*P	Pn	00 11 52.5	+0.4
SPN				*e*S	Sn	00 11 58.7	0.0
SPN	Mys Shipunski	0.10	230	PN	Pn	00 11 52.5	+0.4
SPN				S	Sn	00 11 58.7	0.0
NLC	Nalytchevo	0.48	272	*e*P	Pn	00 11 54.0	-0.1
NLC				*e*S	Sn	00 12 03.2	-0.2
NLC	Nalytchevo	0.48	272	PN	Pn	00 11 54.6	-0.1
NLC				S	Sn	00 12 03.2	-0.2
SDLR	Sedlovina	0.77	279	*e*P	Pn	00 11 57.9	-0.3
SDLR	Sedlovina	0.77	279	PN	Pn	00 11 57.9	-0.3
UGLR	Uglovaya	0.80	274	*e*P	Pn	00 11 58.8	+0.3
UGLR				*e*S	Sn	00 12 09.8	-0.2
UGLR	Uglovaya	0.80	274	PN	Pn	00 11 58.8	+0.3
UGLR				S	Sn	00 12 09.8	-0.2
SMAR	Somma	0.81	278	*e*P	Pn	00 11 58.5	-0.4
SMAR	Somma	0.81	278	PN	Pn	00 11 58.5	-0.4
DALK	Dalny	0.85	262	*i*P	Pn	00 11 59.1	+0.1
DALK				*i* S	Sn	00 12 10.4	-0.5
DALK	Dalny	0.85	262	PN	Pn	00 11 59.1	+0.1
DALK				S	Sn	00 12 10.4	-0.5
AVH	Avacha	0.85	278	*e*P	Pn	00 11 59.3	+0.1
AVH				*e*S	Sn	00 12 10.4	-0.8
AVH	Avacha	0.85	278	PN	Pn	00 11 59.3	+0.1
AVH				S	Sn	00 12 10.4	-0.8
PET	Petropavlovsk	0.91	262	*e*P	Pn	00 12 00.0	+0.1
PET				*e*S	Sn	00 12 11.7	-0.5
PET	Petropavlovsk	0.91	262	⇓*i*PN	Pn	00 11 59.9	+0.1
PET				*i* S	Sn	00 12 11.8	-0.5
PET				pmax	pmax		
	comp=Z,54nm,0.3s						
PET				smax	smax		
	comp=N,840nm,0.7s						
PET				smax	smax		
	comp=E,1μm,0.4s						
KOK	Koryaka	0.92	279	*e*P	Pn	00 11 59.9	-0.1
KOK	Koryaka	0.92	279	PN	Pn	00 11 59.9	-0.1
KRX	Arik	0.92	283	*e*P	Pn	00 11 59.9	-0.2
KRX				*e*S	Sn	00 12 11.8	-1.0
KRX	Arik	0.92	283	PN	Pn	00 11 59.9	-0.2
KRX				S	Sn	00 12 11.8	-1.0
KII	Karymskiy	0.97	335	*e*P	Pn	00 12 00.2	-0.5
KII				*e*S	Sn	00 12 12.3	-1.5
KII	Karymskiy	0.97	335	PN	Pn	00 12 00.2	-0.5
KII				S	Sn	00 12 12.3	-1.5
RUS	Russkaya	1.23	234	*e*P	Pn	00 12 04.6	+0.6
RUS				*e*S	Sn	00 12 20.2	+0.5
RUS	Russkaya	1.23	234	PN	Pn	00 12 04.6	+0.6
RUS				S	Sn	00 12 20.2	+0.5
MTVR	Mutnovka	1.37	241	*e*P	Pn	00 12 07.0	+1.0
MTVR				*e*S	Sn	00 12 24.1	+0.8
MTVR	Mutnovka	1.37	241	PN	Pn	00 12 07.0	+1.0
MTVR				S	Sn	00 12 24.1	+0.8
GNL	Ganaly	1.42	293	*e*P	Pn	00 12 06.5	-0.2
GNL				*e*S	Sn	00 12 23.3	-1.2
GNL	Ganaly	1.42	293	PN	Pn	00 12 06.5	-0.2
GNL				S	Sn	00 12 23.3	-1.2
MKZ	Mys Kozlova	1.68	33	*e*P	Pn	00 12 10.3	+0.2
MKZ				*e*S	Sn	00 12 30.2	-0.4
MKZ	Mys Kozlova	1.68	33	PN	Pn	00 12 10.3	+0.2
MKZ				S	Sn	00 12 30.2	-0.4
KZV	Kizimen	1.96	2	*e*P	Pn	00 12 14.4	+0.4
KZV				*e*S	Sn	00 12 37.3	-0.2
KZV	Kizimen	1.96	2	PN	Pn	00 12 14.4	+0.4
KZV				S	Sn	00 12 37.3	-0.2
KMNR	Kamenistaya	2.60	1	*e*P	Pn	00 12 24.6	+2.0
KMNR	Kamenistaya	2.60	1	PN	Pn	00 12 24.6	+2.0
BZMR	Bezymyannaya	2.79	4	*e*P	Pn	00 12 27.3	+2.1
BZMR	Bezymyannaya	2.79	4	PN	Pn	00 12 27.3	+2.1
KIRR	Kirishev	2.80	2	P	Pn	00 12 26.3	+0.9
KIRR	Kirishev	2.80	2	PN	Pn	00 12 26.3	+0.9
BZGR	Bezymyannyi-Gr	2.80	6	*e*P	Pn	00 12 26.7	+1.3
BZGR	Bezymyannyi-Gr	2.80	6	PN	Pn	00 12 26.7	+1.3
KPT	Kopyto	2.81	1	*e*P	Pn	00 12 26.9	+1.4
KPT	Kopyto	2.81	1	PN	Pn	00 12 26.9	+1.4
BZWR	Bezymyannyi-We	2.82	4	*e*P	Pn	00 12 26.9	+1.3
BZWR	Bezymyannyi-We	2.82	4	PN	Pn	00 12 26.9	+1.3
ZLN	Zelenaya	2.89	7	*e*P	Pn	00 12 29.2	+2.6
ZLN	Zelenaya	2.89	7	PN	Pn	00 12 29.2	+2.6
KOZ	Kozyrevsk	2.91	357	*e*P	Pn	00 12 27.2	+0.5
KOZ	Kozyrevsk	2.91	357	PN	Pn	00 12 27.2	+0.5
LGNR	Loginova	2.95	6	*e*P	Pn	00 12 27.8	+0.3
LGNR	Loginova	2.95	6	PN	Pn	00 12 27.8	+0.3
CIRR	Tsirk	2.98	6	*e*P	Pn	00 12 30.0	+2.1
CIRR	Tsirk	2.98	6	PN	Pn	00 12 30.0	+2.1
KRSR	Krestovskiy	3.07	4	*e*P	Pn	00 12 30.7	+1.6
KRSR	Krestovskiy	3.07	4	PN	Pn	00 12 30.7	+1.6
KLY	Klyuchi	3.17	5	P	Pn	00 12 33.3	+3.0
KLY	Klyuchi	3.17	5	PN	Pn	00 12 33.3	+3.0
KBTR	Krutoberegovo	3.42	26	*e*P	Pn	00 12 35.2	+1.4
KBTR	Krutoberegovo	3.42	26	PN	Pn	00 12 35.2	+1.4
BDR	Baidarnaya	3.47	10	P	Pn	00 12 36.6	+2.1
BDR	Baidarnaya	3.47	10	PN	Pn	00 12 36.6	+2.1
SMKR	Semkarok	3.51	12	*e*P	Pn	00 12 36.7	+1.6
SMKR	Semkarok	3.51	12	PN	Pn	00 12 36.7	+1.6
SKR	Severo-Kuril's	3.52	227	*i* PN	Pn	00 12 33.2	-1.8
SRKR	Sorokina	3.55	9	*e*P	Pn	00 12 37.6	+2.0
SRKR	Sorokina	3.55	9	PN	Pn	00 12 37.6	+2.0
BKI	Bering	3.99	57	*e*P	Pn	00 12 41.8	+0.4
BKI				*e*S	Sn	00 13 23.5	-3.4
BKI	Bering	3.99	57	PN	Pn	00 12 41.8	+0.4
BKI				S	Sn	00 13 23.5	-3.4
BILL	Bilibino	15.21	9	*e*P	Pn	00 15 14.1	+0.4
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						

IDC 17 00:12:03.0±3.3, 5.23S×151.78E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/34, mbtmp3.7/3, Error ellipse: s-maj=119.2km s-min=46.3km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.41	228	P	P	00 17 03.1	-0.2
	1.5nm,0.7s,baz=54,slow=10,SNR=14						
ASAR	Alice Springs	25.16	221	P	P	00 17 29.8	-0.4
	0.7nm,0.8s,baz=31,slow=13,SNR=6.2						
FITZ	Fitzroy Crossi	28.56	241	P	P	00 18 01.3	+0.4
	1.1nm,0.6s,baz=64,slow=11,SNR=3.5						
TORD	Torodi Ar. Bea	149.47	287	PKPbc	PKPbc	00 31 54.9	-0.4
	0.5nm,1.1s,baz=103,slow=2.6,SNR=4.4						

BER 17 00:22:23.2±1.5, 60.82N×7.13E, h11km±32km, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HYA	Hoyanger	0.57	307	*e*P	Pg	00 22 33.5	-0.8
ODD1	Odda	0.95	195	*e*P	Pg	00 22 39.8	-1.6
ASK	Askoy	1.01	251	*e*P	Pg	00 22 41.2	-1.5
FOO	Floro	1.27	308	*e*P	Pn	00 22 45.0	-1.9
BLS5	Blasjo	1.45	194	*e*P	Pn	00 22 47.6	-1.7
NBO00	NORSAR Array S	1.79	82	*e*P	Pn	00 22 51.4	-2.7
NAO01	NORSAR Array S	1.84	88	*e*P	Pn	00 22 52.6	-2.0
NC303	NORSAR Array S	2.10	77	*e*P	Pn	00 22 57.9	-0.4

*HEL **17** 00:22:45.8±0.2, 67.85N×20.25E, h0km, ML2.1(UPP), Explosion*

UPP 17 00:22:43.3±0.1, 67.84N×20.20E, h0km, ML2.0, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.13	25	P	Pg	00 22 46.0	+0.3
KUA				S	Sg	00 22 47.8	+0.4
KUA	Kurravaara	0.13	25	P	Pg	00 22 48.0	+2.3
KUA				S	Sg	00 22 49.0	+2.6
KUA	Kurravaara	0.13	25	*i* P	Pg	00 22 48.0	+2.3
KUA				*i* S	Sg	00 22 49.9	+2.6
RATU	Laukkuluspa	0.23	266	P	Pg	00 22 47.9	+0.2
NIKU	Nikkaluokta	0.44	274	P	Pg	00 22 51.8	+0.1
NIKU	Nikkaluokta	0.44	274	P	Pb	00 22 54.1	+0.2
NIKU				S	Sb	00 22 60.0	-1.1
NIKU	Nikkaluokta	0.44	274	*i* P	Pb	00 22 54.1	+0.2
NIKU				*i* S	Sb	00 22 60.0	-1.1
DUNU	Dundret	0.73	169	P	Pb	00 22 59.1	+0.1
DUNU	Dundret	0.73	169	*i* P	Pb	00 22 59.1	+0.1
MAS

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUR	**Hurricane**	**0.18**	**233**	P	**Pn**	**00 35 14.6**	**+0.2**
HUR				S	**Sn**	**00 35 24.3**	**-0.2**
RND	**Reindeer**	**0.39**	**33**	*e*Pn	**Pn**	**00 35 16.0**	**+0.6**
RND				*e*Sn	**Sn**	**00 35 26.1**	**-0.3**
TRF	**Thorofare Moun**	**0.57**	**311**	*e*Pn	**Pn**	**00 35 17.6**	**+0.8**
MCK	**McKinley**	**0.68**	**15**	*e*Pn	**Pn**	**00 35 18.3**	**+0.8**
MCK				*e*Sn	**Sn**	**00 35 30.3**	**+0.1**
DHY	**Denali Highway**	**0.89**	**90**	*e*Pn	**Pn**	**00 35 20.5**	**+0.7**
BWN	**Browne**	**1.09**	**357**	*e*Pn	**Pn**	**00 35 22.3**	**+0.5**
BPAW	**Bear Paw Mtn.**	**1.26**	**325**	*e*Pn	**Pn**	**00 35 24.4**	**+0.6**
CAST	**Castle Rocks**	**1.29**	**286**	*e*Pn	**Pn**	**00 35 24.6**	**+0.4**
CAST				*e*Sn	**Sn**	**00 35 41.1**	**-0.8**
PPLA	**Purkeypile**	**1.32**	**263**	*e*Pn	**Pn**	**00 35 25.8**	**+1.2**
GHO	**Glory Hole Cre**	**1.33**	**172**	*e*Pn	**Pn**	**00 35 25.5**	**+0.8**
SML	**Sawmill**	**1.36**	**160**	*e*Pn	**Pn**	**00 35 25.8**	**+0.8**
WRH	**Wood River Hil**	**1.50**	**21**	*e*Pn	**Pn**	**00 35 27.3**	**+0.7**
WRH				*e*Sn	**Sn**	**00 35 45.7**	**-0.6**
PMR	**Palmer**	**1.50**	**176**	*e*Pn	**Pn**	**00 35 27.0**	**+0.4**
NEA	**Nenana**	**1.50**	**4**	P	**Pn**	**00 35 27.3**	**+0.5**
SKT	**Skwentna**	**1.51**	**224**	*e*Pn	**Pn**	**00 35 27.5**	**+0.7**
SKT				*e*Sn	**Sn**	**00 35 47.0**	**+0.4**
CHUM	**Lake Minchumin**	**1.56**	**302**	P	**Pn**	**00 35 28.4**	**+1.0**
SCM	**Sheep Creek Mo**	**1.56**	**143**	*e*Pn	**Pn**	**00 35 27.5**	**0.0**
PS10	**TAPS Pump St10**	**1.65**	**76**	P	**Pn**	**00 35 30.7**	**+2.1**
HDA	**Harding Lake**	**1.70**	**37**	*e*Pn	**Pn**	**00 35 29.9**	**+0.7**
CCB	**Clear Creek Bu**	**1.71**	**23**	*e*Pn	**Pn**	**00 35 29.7**	**+0.4**
KNK	**Knik Glacier**	**1.73**	**166**	P	**Pn**	**00 35 30.5**	**+0.9**
SUA	**Susitna One**	**1.75**	**203**	*e*Pn	**Pn**	**00 35 30.6**	**+0.5**
PAX	**Paxson**	**1.76**	**92**	*e*Pn	**Pn**	**00 35 31.7**	**+1.6**
PS08	**TAPS Pump Stn8**	**1.84**	**36**	P	**Pn**	**00 35 31.7**	**+0.7**
COLA	**College**	**1.91**	**19**	P	**Pn**	**00 35 32.8**	**+0.9**
COLA				*e*Sn	**Sn**	**00 35 55.0**	**-0.7**
MDM	**Murphy Dome**	**1.94**	**14**	*e*Pn	**Pn**	**00 35 32.8**	**+0.4**
FIB	**Fire Island**	**1.96**	**192**	P	**Pn**	**00 35 35.8**	**+3.2**
IL1	**Eielson Array**	**2.01**	**31**	*e*Pn	**Pn**	**00 35 33.1**	**0.0**
ILAR	**Eielson Array** 13nm,0.3s,baz=216,slow=14,SNR=319	**2.01**	**31**	P	**Pn**	**00 35 33.6**	**+0.5**
ILAR				S	**Sn**	**00 35 57.8**	**-0.1**
	26nm,0.3s,baz=215,slow=23,SNR=30						
ILB	**Eielson Array**	**2.01**	**31**	*e*Pn	**Pn**	**00 35 33.8**	**+0.7**
ILB				*e*Sn	**Sn**	**00 35 57.8**	**-0.1**
HARP	**HAARP**	**2.04**	**108**	*e*Pn	**Pn**	**00 35 35.0**	**+1.4**
PS11	**TAPS Pump St11**	**2.05**	**118**	P	**Pn**	**00 35 35.4**	**+1.7**
MLY	**Manley**	**2.05**	**349**	*e*Pn	**Pn**	**00 35 34.4**	**+0.7**
GLM	**Gilmore Dome**	**2.09**	**23**	P	**Pn**	**00 35 35.1**	**+0.7**
RIDG	**Independ'e Rid**	**2.12**	**70**	*e*Pn	**Pn**	**00 35 35.9**	**+1.2**
SPCG	**Spurr Capps Gl**	**2.20**	**216**	P	**Pn**	**00 35 37.6**	**+1.8**
KLU	**Klutina**	**2.25**	**134**	*e*Pn	**Pn**	**00 35 37.0**	**+0.5**
SPCP	**Crater Peak Br**	**2.25**	**217**	P	**Pn**	**00 35 38.6**	**+2.0**
PWL	**Port Wells**	**2.28**	**168**	P	**Pn**	**00 35 37.7**	**+0.9**
PS07	**TAPS Pump Stn7**	**2.28**	**11**	P	**Pn**	**00 35 38.0**	**+1.3**
SPU	**Mount Spurr**	**2.30**	**215**	*e*Pn	**Pn**	**00 35 38.1**	**+1.1**
CKT	**Bend**	**2.32**	**217**	P	**Pn**	**00 35 39.0**	**+1.6**
SPNN	**North Nagishla**	**2.34**	**224**	P	**Pn**	**00 35 39.1**	**+1.5**
JPK	**Jack Peak**	**2.41**	**147**	P	**Pn**	**00 35 38.8**	**+0.3**
DOT	**Dot Lake**	**2.44**	**74**	*e*Pn	**Pn**	**00 35 39.7**	**+0.8**
GLI	**Glacier Island**	**2.45**	**154**	*e*Pn	**Pn**	**00 35 39.4**	**+0.4**
SCRK	**Sand Creek**	**2.56**	**67**	*e*Pn	**Pn**	**00 35 40.9**	**+0.5**
DIV	**Divide**	**2.58**	**138**	*e*Pn	**Pn**	**00 35 40.6**	**-0.1**
FID	**Port Fidalgo**	**2.70**	**149**	*e*Pn	**Pn**	**00 35 42.6**	**+0.3**
SEW	**Seward**	**2.99**	**181**	*e*Pn	Pn	00 35 41.0	-5.1
EYAK	**Cordova Ski Ar**	**3.00**	**145**	*e*Pn	**Pn**	**00 35 47.8**	**+0.8**
TT01	**Tatalina**	**3.06**	**270**	P	**Pn**	**00 35 47.8**	**+0.7**
BMRM	**Bremner River**	**3.08**	**132**	*e*Pn	**Pn**	**00 35 47.5**	**+0.2**
RSO	**Redoubt South**	**3.09**	**213**	*e*Pn	Pn	00 35 43.6	-4.1
MCARA	**McCarthy VSAT**	**3.41**	**117**	P	**Pn**	**00 35 53.5**	**+1.7**
BRLK	**Bradley Lake**	**3.41**	**193**	*e*Pn	**Pn**	**00 35 52.2**	**+0.3**
BCA3	**Beaver Creek A**	**3.43**	**87**	P	**Pn**	**00 35 52.5**	**+0.3**
IM3	**Indian Mountai**	**3.48**	**329**	*e*Pn	**Pn**	**00 35 52.6**	**-0.1**
RAGM	**Ragged Mountai**	**3.50**	**139**	*e*Pn	**Pn**	**00 35 53.5**	**+0.6**
SVW2	**Sparrevohn**	**3.55**	**239**	*e*Pn	**Pn**	**00 35 54.9**	**+1.2**
CNPM	**China Poot**	**3.69**	**195**	*e*Pn	**Pn**	**00 35 55.5**	**0.0**
CNPM				*e*Sn	Sn	00 36 49.3	+11
PS05	**TAPS Pump Stn5**	**3.79**	**352**	P	**Pn**	**00 35 58.5**	**+1.7**
FYU	**Fort Yukon**	**3.91**	**25**	*e*Pn	**Pn**	**00 35 59.1**	**+0.7**
EGAK	**Eagle**	**3.99**	**61**	*e*Pn	**Pn**	**00 36 00.2**	**+0.7**
EGAK				*e*Sn	**Sn**	**00 36 45.5**	**+0.4**
YUK2	**White River**	**4.15**	**104**	P	**Pn**	**00 36 03.6**	**+1.7**
YUK1	**Sand Pete Hill**	**4.17**	**99**	P	**Pn**	**00 36 03.5**	**+1.2**
COLD	**Coldfoot**	**4.18**	**355**	*e*Pn	**Pn**	**00 36 03.4**	**+1.3**
YUK3	**Moose Creek**	**4.33**	**104**	P	**Pn**	**00 36 06.1**	**+1.8**
DAWY	**Dawson**	**4.55**	**73**	*e*Pn	**Pn**	**00 36 07.9**	**+0.7**
BM3	**Burnt Mountain**	**4.78**	**22**	P	**Pn**	**00 36 11.3**	**+1.0**
PCA	**Pinnacle**	**5.27**	**121**	*e*Pn	**Pn**	**00 36 16.8**	**-0.2**
KDAK	**Kodiak Island** 0.4nm,0.3s,baz=24,slow=12,SNR=9.8	**5.56**	**198**	P	**Pn**	**00 36 20.7**	**-0.1**
KDAK				S	**Sn**	**00 37 18.7**	**-4.5**
	2.7nm,0.3s,baz=140,slow=21,SNR=12						
TOLK	**Toolik Lake Re**	**5.58**	**359**	*e*Pn	**Pn**	**00 36 22.2**	**+1.0**
HYT	**Haines Junctio**	**6.02**	**107**	*e*Pn	**Pn**	**00 36 27.9**	**+0.7**
INK	**Inuvik** 0.2nm,0.3s,baz=220,slow=13,SNR=4.9	**8.35**	**44**	P	**Pn**	**00 36 59.8**	**+1.2**
INK				S	**Sn**	**00 38 28.1**	**-2.8**
	0.0nm,0.3s,baz=81,slow=19,SNR=4.3						
FIA0	**FINESS Array S**	**55.74**	**3**	*e*P	**P**	**00 44 26.8**	**+0.1**
FINES	**FINESS Array B** 1.0nm,0.7s,baz=12,slow=7.1,SNR=3.0	**55.74**	**3**	P	**P**	**00 44 26.7**	**+0.1**
MK32	**Makanchi Array**	**63.07**	**323**	*e*P	**P**	**00 45 17.0**	**-0.4**
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=42,slow=6.3,SNR=4.4	**63.07**	**323**	P	**P**	**00 45 17.0**	**-0.4**

*DRS **17** 01:01:38.6±0.0, 43.39N×45.63E, h10km*
MOS 17 01:01:41.3±0.0, 43.40N×45.93E, h17km, MPVA3.3, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.22**	**206**	*i* Pg	Pb	01 01 47.7	+0.9
GROC				*e*Sg	Sb	01 01 51.9	+1.4
DVE	**Vedeno**	**0.47**	**162**	*i* Pg	Pb	01 01 51.6	+0.6
DVE				*e*Sg	Sn	01 02 00.1	-1.0
DLMR	**Dylym**	**0.61**	**122**	*e*Pg	Pn	01 01 55.5	+0.3
DLMR				*e*Sg	Sn	01 02 04.5	-0.1
DBC	**Dubki**	**0.76**	**120**	*i* Pg	Pn	01 01 56.9	-0.4
DBC				*e*Sg	Sn	01 02 08.9	+0.5
BTLR	**Botlikh**	**0.77**	**163**	*e*Pg	Pn	01 01 57.0	-0.4
BTLR				*e*Sg	Sn	01 02 08.8	+0.3
KMGR	**Komgaron**	**0.85**	**247**	*e*Pg	Pn	01 02 00.3	+1.8
KMGR				*e*Sg	Sn	01 02 11.2	+0.7
BTKR	**Batakoyurt**	**1.01**	**269**	*e*Pg	Pg	01 02 02.1	+1.2
BTKR				*e*Sg	Sn	01 02 16.2	+1.7
XNZR	**Khunzakh**	**1.03**	**146**	*e*Pg	Pg	01 02 02.5	+1.1
XNZR				*e*Sg	Sn	01 02 17.8	+2.6
ARNR	**Ardon**	**1.22**	**260**	*e*Pg	Pg	01 02 04.9	+0.1
ARNR				*e*Sg	Sg	01 02 23.5	+2.7
PRTR	**Priterechnaya**	**1.25**	**287**	*i* Pg	Pg	01 02 05.3	-0.1
PRTR				*e*Sg	Sg	01 02 23.2	+1.6
GNBR	**Gunib**	**1.27**	**143**	*e*Pg	Pg	01 02 07.5	+1.7
GNBR				*e*Sg	Sg	01 02 26.2	+4.0
STDR	**Stavd-Durt**	**1.36**	**269**	*i* Pg	Pg	01 02 07.7	+0.1
STDR				*e*Sg	Sg	01 02 27.9	+2.7
KORR	**Kora**	**1.39**	**258**	*e*Pg	Pg	01 02 07.6	-0.6
KORR				*e*Sg	Sg	01 02 28.4	+2.0
LSNR	**Lesken**	**1.54**	**266**	*e*Pg	Pg	01 02 10.3	-0.6
LSNR				*e*Sg	Sg	01 02 31.8	+0.8
ZEI	**Tsey**	**1.60**	**248**	*e*Pg	Pb	01 02 10.5	-0.1
ZEI				*e*Sg	Sg	01 02 32.0	-1.1
NCK	**Nalchik**	**1.70**	**274**	*e*Pg	Pb	01 02 12.8	+0.7
NCK				*e*Sg	Sg	01 02 36.0	-0.1
DIGR	**Digorskoe uzhe**	**1.79**	**255**	*e*Pg	Pb	01 02 13.2	-0.5
DIGR				*e*Sg	Sg	01 02 37.6	-1.3
KBTC	**Kuba-Taba**	**1.88**	**284**	*e*Pg	Pn	01 02 13.8	+1.2
KBTC				*e*Sg	Sb	01 02 39.9	+1.7
NEY	**Neytrino**	**2.34**	**267**	*e*Pn	Pb	01 02 22.1	-1.1
NEY				*e*Sn	Sb	01 02 50.4	-1.5
SHA1	**Shidzhatmaz**	**2.40**	**279**	*e*Pn	Pn	01 02 19.8	-0.2
SHA1				*e*Sn	Sn	01 02 49.4	+0.3
KIV0	**Kislovodsk Arr**	**2.41**	**284**	*e*Pn	Pb	01 02 25.4	+1.1
KIV0				*e*Sn	Sb	01 02 53.8	+0.2

*ISCJB **17** 01:02:12.4±0.8, 41.75N±0.04×42.87E±0.04, h4km±7km, Error ellipse: s-maj=7.1km s-min=4.5km az=161.0*
*ISK **17** 01:02:12.1, 41.72N×42.86E, h10km, ML2.1/2*
*DDA **17** 01:02:14.5, 41.71N×42.79E, h7km, Ml2.5*
ISC 17 01:02:12.7±1.2, 41.74N±0.04×42.84E±0.05, h9km±13km, n11, σ0.945/21, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKH	**Akhalkalaki**	**0.59**	**124**	PG	**Pg**	**01 02 24.0**	**-0.2**
AKH				SG	**Sg**	**01 02 31.6**	**-0.4**
AKH	**Akhalkalaki**	**0.59**	**124**	P	**Pg**	**01 02 24.1**	**0.0**
AKH				S	**Sg**	**01 02 32.4**	**+0.5**
BGD	**Bogdanovka**	**0.74**	**130**	P	**Pg**	**01 02 26.9**	**-0.2**
BGD				S	**Sg**	**01 02 36.7**	**0.0**
ARTV	**Artvin**	**0.88**	**231**	*i* P	**Pb**	**01 02 30.7**	**+0.4**
ARTV				*i* S	**Sb**	**01 02 43.2**	**+0.9**
BCA	**Borcka**	**0.96**	**252**	PG	**Pg**	**01 02 30.9**	**-0.2**
BCA				SG	**Sb**	**01 02 45.0**	**+0.7**
DAGI	**Agillar**	**0.96**	**227**	*i* P	**Pn**	**01 02 32.5**	**0.0**
DAGI				*i* S	**Sn**	**01 02 45.8**	**-0.6**
ONI	**Oni**	**0.96**	**28**	P	**Pg**	**01 02 30.9**	**-0.3**
ONI				S	**Sg**	**01 02 43.8**	**+0.2**
DBOC	**Borcka**	**0.96**	**246**	*i* P	**Pb**	**01 02 31.7**	**+0.1**
DBOC				*i* S	**Sb**	**01 02 44.7**	**+0.2**
DBAD	**Bademkaya**	**1.12**	**230**	*i* P	**Pn**	**01 02 35.0**	**+0.3**
DBAD				*i* S	**Sn**	**01 02 50.1**	**-0.3**
SENK	**Senkaya-Erzuru**	**1.24**	**197**	PN	**Pg**	**01 02 35.9**	**-0.5**
SENK				SN	**Sn**	**01 02 52.9**	**-0.4**
CHOM	**Cayeli-Rize**	**1.69**	**248**	PN	**Pn**	**01 02 41.7**	**-0.7**

*NEIC **17** 01:30:09.5±0.5, 5.70S×151.80E, h35km, mb4.5/6, Error ellipse: s-maj=17.7km s-min=7.3km az=119.0*
*ISCJB **17** 01:30:11.0±0.5, 5.68S±0.07×151.58E±0.10, h57km, mb4.2/15, MS3.2/1, Error ellipse: s-maj=15.6km s-min=7.0km az=33.6*
*IDC **17** 01:30:12.9±4.4, 5.67S×151.55E, h61km±39km, mb4.0/9, mb1 4.2/11, mb1mx3.8/48, mbtmp4.3/11, ML3.0/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/29, Error ellipse: s-maj=25.4km s-min=23.4km az=165.0*
ISC 17 01:30:12.1±0.6, 5.66S±0.09×151.6E±0.1, h57km, n38, σ1.903/38, mb4.2/15, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.54**	**20**	*e*Pn	**Pn**	**01 30 37.1**	**-0.3**
MANU	**Manus Island**	**5.58**	**310**	*e*Pn	Pn	01 31 39.1	+6.5
PMG	**Port Moresby** 5.8nm,0.3s,baz=42,slow=10.0,SNR=22	**5.80**	**230**	P	**Pn**	**01 31 36.2**	**+0.5**
PMG				S	**Sn**	**01 32 39.6**	**-1.3**
	12nm,0.3s,baz=130,slow=20,SNR=7.3						
PMG	**Port Moresby**	**5.80**	**230**	*e*Pn	**Pn**	**01 31 35.5**	**-0.1**
PMG				*e*Sn	**Sn**	**01 32 39.6**	**-1.3**
PMG				*e*Sn	Sn	01 32 41.0	+0.1
CTA	**Charters Tower** 0.2nm,0.3s,baz=18,slow=16,SNR=2.8	**15.27**	**200**	P	**Pn**	**01 33 44.0**	**-0.3**
CTAO	**Charters Tower**	**15.27**	**200**	*e*Pn	**Pn**	**01 33 44.3**	**-0.1**
MTN	**Manton Dam** 20nm,0.6s	**21.45**	**249**	*e*P	**P**	**01 34 55.9**	**-0.1**
DZM	**Mont Dzumac**	**21.71**	**140**	P	**P**	**01 35 00.5**	**+1.8**
	12nm,1.1s,baz=78,slow=14,SNR=4.1						
DZM	**Mont Dzumac** 14nm,1.1s	**21.71**	**140**	*e*P	**P**	**01 34 59.3**	**+0.7**
WRAB	**Tennant Creek** 9.9nm,0.6s	**22.01**	**228**	*e*P	**P**	**01 35 01.4**	**-0.5**
WB2	**Warramunga Arr** 16nm,0.8s	**22.01**	**228**	*e*P	**P**	**01 35 00.9**	**-1.0**
WR1	**Warramunga Arr** 17nm,0.8s	**22.02**	**228**	*e*P	**P**	**01 35 01.5**	**-0.5**
WRA	**Warramunga Arr** 19nm,0.9s,baz=54,slow=10,SNR=47	**22.02**	**228**	P	**P**	**01 35 01.5**	**-0.5**
AS01	**Alice Springs**	**24.71**	**222**	*e*P	**P**	**01 35 28.4**	**+0.2**
ASAR	**Alice Springs** 0.8nm,0.7s,baz=50,slow=9.8,SNR=6.2	**24.75**	**222**	P	**P**	**01 35 28.4**	**-0.2**
STKA	**Stephens Creek** 2.4nm,1.0s,baz=27,slow=16,SNR=4.4	**27.73**	**199**	P	**P**	**01 35 54.9**	**-0.5**
STKA	**Stephens Creek** 0.9nm,1.0s	**27.73**	**199**	*e*P	**P**	**01 35 54.2**	**-1.2**
FITZ	**Fitzroy Crossi** 22nm,0.8s,baz=64,slow=7.1,SNR=44	**28.24**	**242**	P	**P**	**01 36 00.1**	**+0.1**
FITZ	**Fitzroy Crossi** 18nm,0.8s	**28.24**	**242**	*e*P	**P**	**01 35 59.8**	**-0.2**
MBWA	**Marble Bar**	**34.55**	**240**	*e*P	**P**	**01 36 58.6**	**+3.1**
MJAR	**Matsushiro Arr** comp=Z,25nm,18.0s,baz=215,slow=36	**43.82**	**344**	LR	LR	01 56 28.1	
SONA0	**Songino Array**	**66.44**	**329**	*e*P	**P**	**01 40 56.9**	**+1.2**
SONM	**Songino Array** 1.4nm,1.0s,baz=153,slow=2.6,SNR=5.7	**66.44**	**329**	P	**P**	**01 40 56.9**	**+1.2**
ZALV	**Zalesovo Beam** 0.8nm,0.4s,baz=144,slow=5.2,SNR=2.5	**81.23**	**327**	P	**P**	**01 42 21.7**	**-0.2**
ZAA1	**Zalesovo Array**	**81.23**	**327**	*e*P	**P**	**01 42 21.7**	**-0.2**
ILAR	**Eielson Array** 1.1nm,0.6s,baz=247,slow=5.3,SNR=15	**83.38**	**22**	P	**P**	**01 42 31.9**	**-1.0**
ILB	**Eielson Array**	**83.38**	**22**	*e*P	**P**	**01 42 31.9**	**-1.0**
KURK	**Kurchatov**	**83.73**	**322**	*e*P	**P**	**01 42 34.8**	**-0.2**
AAK	**Ala-Archa** 0.9nm,0.5s	**84.42**	**314**	*e*P	**P**	**01 42 39.4**	**+0.4**
BRVK	**Borovoye**	**89.30**	**323**	*e*P	**P**	**01 43 02.8**	**+0.6**
LON	**Longmire** 5.6nm,0.9s	**91.71**	**43**	*e*P	**P**	**01 43 11.4**	**-2.3**
NVAR	**Mina Array Bea** 0.6nm,0.9s,baz=251,slow=5.6,SNR=2.8	**93.52**	**52**	P	**P**	**01 43 24.2**	**+1.8**
GERES	**GERESS Array B** 0.4nm,0.6s,baz=85,slow=2.8,SNR=4.7	**124.17**	**328**	PKP	**PKPdf**	**01 49 04.7**	**0.0**
SDV	**Santo Domingo**	**137.96**	**83**	*e*PKPdf	**PKPdf**	**01 49 31.5**	**-0.2**
SAML	**Samuel**	**142.37**	**112**	*e*PKPdf	**PKPdf**	**01 49 38.2**	**-1.3**
PTGA	**Pitinga** 1.3nm,0.3s,baz=341,slow=20,SNR=4.4	**147.80**	**100**	PKPbc	**PKPbc**	**01 49 51.4**	**-0.4**
TORD	**Torodi Ar. Bea** 3.9nm,0.9s,baz=114,slow=3.7,SNR=18	**149.46**	**286**	PKPbc	**PKPbc**	**01 49 55.9**	**-0.2**
TOA1	**Torodi Ar. Sit**	**149.46**	**286**	*e*PKPbc	**PKPbc**	**01 49 55.9**	**-0.2**

*IDC **17** 01:32:32.0±1.4, 13.73N×92.49W, h0km, mb3.5/4, mb1 3.8/8, mb1mx3.6/51, mbtmp3.6/8, ML3.6/4, MS3.1/4, Ms1 3.1/4, ms1mx2.8/31, Error ellipse: s-maj=43.4km s-min=17.5km az=39.0*
*MEX **17** 01:32:32.7±0.4, 13.65N×92.46W, h12km±122km, MD4.1*
*ISCJB **17** 01:32:34.5±0.8, 13.81N±0.06×92.52W±0.07, h35km, mb3.4/4, MS3.3/2, Error ellipse: s-maj=11.6km s-min=6.2km az=148.6*
ISC 17 01:32:36.7±1.1, 13.87N±0.09×92.49W±0.09, h35km, n15, σ1.932/18, mb3.4/4, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.05**	**12**	*e*P	**Pn**	**01 32 52.6**	**-2.4**
THIG				*e*S	**Sn**	**01 33 08.4**	**-0.5**
PCIG		**1.96**	**339**	*e*P	**Pn**	**01 33 05.5**	**-2.0**
PCIG				*i* S	**Sn**	**01 33 31.1**	**+0.4**
APG	**El Apazote** 13nm,0.3s,baz=228,slow=8.3,SNR=61	**2.26**	**60**	Pn	**Pn**	**01 33 11.6**	**-0.3**
APG				Lg	Lg	01 33 40.4	
	22nm,0.3s,baz=297,slow=17,SNR=14						
APG				LR	LR	01 34 19.9	
	comp=Z,404nm,19.2s,baz=334,slow=46						
CCIG	**Comitan**	**2.42**	**8**	*e*P	**Pn**	**01 33 12.6**	**-1.4**
CCIG				*i* S	**Sn**	**01 33 43.8**	**+1.2**
TGIG		**2.96**	**348**	*e*P	**Pn**	**01 33 20.5**	**-0.7**
TGIG				*i* S	**Sn**	**01 33 56.5**	**+1.0**
CMIG	**Matias Romero** 1.7nm,0.3s,baz=129,slow=11,SNR=12	**3.95**	**325**	Pn	**Pn**	**01 33 33.8**	**-1.0**
CMIG				Sn	**Sn**	**01 34 19.4**	**-0.6**
	4.2nm,0.3s,baz=91,slow=12,SNR=6.4						
CMIG				LR	LR	01 34 55.5	
	comp=Z,101nm,19.3s,baz=148,slow=35						
JTS	**JuntasAbangare** 1.2nm,0.3s,baz=217,slow=20,SNR=2.9	**8.18**	**115**	Pn	**Pn**	**01 34 33.1**	**+0.1**
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=156,slow=14,SNR=4.8	**18.55**	**328**	P	**Pn**	**01 36 51.8**	**+0.8**
SDV	**Santo Domingo** 0.5nm,0.3s,baz=304,slow=4.5,SNR=4.4	**21.98**	**101**	P	**P**	**01 37 27.6**	**-0.5**
TKL	**Tuckaleechee C** comp=Z,48nm,18.9s,baz=343,slow=38	**23.07**	**18**	LR	LR	01 47 12.1	
PDAR	**Pinedale Array** 0.1nm,0.4s,baz=88,slow=8.2,SNR=2.4	**32.34**	**336**	P	**P**	**01 39 04.7**	**+1.7**
NVAR	**Mina Array Bea** 0.7nm,0.7s,baz=133,slow=8.6,SNR=6.4	**33.48**	**322**	P	**P**	**01 39 15.1**	**+2.2**
SIV	**San Ignacio** 0.6nm,0.8s,baz=284,slow=14,SNR=3.5	**42.95**	**133**	P	**P**	**01 40 31.7**	**-1.0**
INK	**Inuvik** comp=Z,38nm,18.1s,baz=98,slow=39	**60.43**	**344**	LR	LR	02 12 02.9	
CMAR	**Chiang Mai Arr** 0.8nm,0.3s,baz=350,slow=3.4,SNR=4.1	**145.96**	**340**	PKPbc	**PKPab**	**01 52 13.7**	**-0.3**

*NNC **17** 01:34:50.6±0.8, 46.03N×79.65E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=10.3km s-min=4.9km az=139.0*

*BJI **17** 01:34:50.5, 46.28N×79.88E, h17km, ML3.1/5*
*SOME **17** 01:34:52.5, 45.87N×79.63E, h5km*
ISC 17 01:34:47.6±1.4, 46.02N±0.04×79.65E±0.03, h6km±14km, n33, σ1.933/56, 9C-10D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPS	**Kapalarasan** 32nm,0.1s	**0.77**	**196**	*e*P	**Pn**	**01 35 05.1**	**+0.1**
KAPS				*e*S	**Sb**	**01 35 14.4**	**+0.4**
	588nm,0.2s						
TDK	**Taldyqorghan** 453nm,0.5s	**1.34**	**221**	*e*P	**Pg**	**01 35 16.7**	**+3.3**
TDK				*e*S	**Sg**	**01 35 33.7**	**+3.0**
	657nm,0.3s						
DJR	**Jarkent** 61nm,0.2s	**1.69**	**177**	*e*P	**Pg**	**01 35 22.1**	**+2.1**
DJR				*e*S	**Sg**	**01 35 43.4**	**+1.5**
	287nm,0.2s						
MK31	**Makanchi Array** 26nm,0.5s,baz=247,slow=6,SNR=612	**1.98**	**66**	⇑Pn	**Pg**	**01 35 25.5**	**0.0**
MK31				⇑Sn	**Sg**	**01 35 51.8**	**+0.6**
	38nm,0.5s,baz=240,slow=27,SNR=10.0						
ARXS	**Arharly** 22nm,0.2s	**2.22**	**216**	*e*P	**Pg**	**01 35 31.2**	**+1.0**
ARXS				*e*S	**Sg**	**01 35 58.7**	**-0.2**
	406nm,0.5s						
KTMS	**Ketmen** 29nm,0.1s	**2.62**	**169**	*e*P	**Pg**	**01 35 38.1**	**+0.3**
KTMS				*e*S	**Sg**	**01 36 11.1**	**-0.7**
	133nm,0.3s						
KPKS	**Kokpek** 27nm,0.1s	**2.65**	**195**	*e*P	**Pg**	**01 35 38.6**	**+0.3**
KPKS				*e*S	**Sg**	**01 36 11.8**	**-0.7**
	210nm,0.3s						
PDGK	**Podgornoye** 12nm,0.4s	**2.69**	**183**	⇑Pg	**Pg**	**01 35 39.8**	**+0.6**
PDGK				⇓Lg	Lg	01 36 13.5	
	132nm,0.6s						
KURS	**Kuram** 12nm,0.3s	**2.74**	**203**	*e*P	**Pg**	**01 35 40.6**	**+0.5**
KURS				*e*S	**Sg**	**01 36 15.5**	**-0.2**
	86nm,0.6s						
SHLS	**Shalkode** 33nm,0.3s	**2.87**	**183**	*e*P	**Pg**	**01 35 42.3**	**-0.2**
SHLS				*e*S	**Sg**	**01 36 18.1**	**-1.5**
	72nm,0.4s						
CHKK	**Chushkaly** 24nm,0.3s	**2.88**	**222**	*e*P	**Pg**	**01 35 42.4**	**-0.2**
CHKK				*e*S	**Sg**	**01 36 18.7**	**-1.2**
	112nm,0.3s						
UZB	**Uzynbulak** 9.0nm,0.2s	**2.91**	**189**	*e*P	**Pg**	**01 35 42.9**	**-0.4**
UZB				*e*S	**Sg**	**01 36 19.4**	**-1.5**
	90nm,0.3s						
ZHN	**Zhinishke** 4.0nm,0.1s	**2.98**	**197**	*e*P	**Pg**	**01 35 44.2**	**-0.5**
ZHN				*e*S	**Sg**	**01 36 21.3**	**-2.0**
	181nm,0.2s						
SATY	**Saty** 6.7nm,0.1s	**3.09**	**197**	*e*P	**Pg**	**01 35 46.5**	**-0.3**
SATY				*e*S	**Sg**	**01 36 25.2**	**-1.6**
	101nm,0.1s						
KTBS	**Karatobe** 16nm,0.2s	**3.13**	**224**	*e*P	**Pg**	**01 35 48.0**	**+0.5**
KTBS				*e*S	**Sg**	**01 36 27.7**	**-0.4**
	122nm,0.4s						
KUU	**Kurty** 14nm,0.2s	**3.17**	**229**	*e*P	**Pg**	**01 35 48.8**	**+0.5**
KUU				*e*S	**Sg**	**01 36 29.3**	**-0.1**
	173nm,0.4s						
KOTS	**Kotyrbulak** 10.0nm,0.3s	**3.33**	**214**	*

MJAR	**Matsushiro Arr**	**23.50**	**347**	P	**P**	**01 44 59.5**	**-0.7**
	3.7nm,0.8s,baz=177,slow=7.5,SNR=8.1							
KSRS	**Korea Array**	**28.03**	**331**	P	**P**	**01 45 41.2**	**+0.3**
	1.1nm,0.5s,baz=146,slow=9.4,SNR=4.2							
WRA	**Warramunga Arr**	**34.96**	**197**	P	**P**	**01 46 41.2**	**-0.6**
	1.9nm,0.8s,baz=20,slow=9.7,SNR=30							
WRA				PcP	**PcP**	**01 49 11.7**	**+0.7**
	0.4nm,0.5s,baz=21,slow=3.3,SNR=7.0							
KLR	**Kul'dur**	**37.02**	**346**	P	**P**	**01 46 59.0**	**0.0**
	1.8nm,0.8s,baz=143,slow=8.5,SNR=4.8							
ASAR	**Alice Springs**	**38.62**	**196**	P	**P**	**01 47 12.3**	**-0.4**
	1.1nm,0.5s,baz=17,slow=12,SNR=19							
ASAR				PcP	**PcP**	**01 49 21.9**	**-0.1**
	0.2nm,0.4s,baz=22,slow=3.8,SNR=4.4							
CMAR	**Chiang Mai Arr**	**44.20**	**282**	P	**P**	**01 47 58.4**	**0.0**
	2.8nm,0.5s,baz=90,slow=6.3,SNR=12							
SONM	**Songino Array**	**46.59**	**325**	P	**P**	**01 48 16.9**	**0.0**
	1.0nm,0.6s,baz=138,slow=7.6,SNR=8.3							
SEY	**Seymchan**	**49.47**	**5**	P	**P**	**01 48 39.2**	**+0.7**
	1.2nm,0.5s,baz=183,slow=13,SNR=4.1							
MKAR	**Makanchi Array**	**61.35**	**316**	P	**P**	**01 50 03.6**	**-0.2**
	1.4nm,0.4s,baz=91,slow=8.6,SNR=34							
ILAR	**Eielson Array**	**68.52**	**25**	P	**P**	**01 50 48.0**	**-1.7**
	0.6nm,0.5s,baz=250,slow=5.8,SNR=13							
YKA	**Yellowknife Array**	**82.81**	**27**	P	**P**	**01 52 10.9**	**-0.1**
	1.1nm,0.5s,baz=286,slow=4.9,SNR=5.4							
NVAR	**Mina Array Bea**	**86.93**	**51**	P	**P**	**01 52 33.5**	**+1.0**
	1.8nm,0.7s,baz=259,slow=6.0,SNR=12							
PDAR	**Pinedale Array**	**91.96**	**45**	P	**P**	**01 52 56.5**	**+0.6**
	0.2nm,0.5s,baz=270,slow=2.7,SNR=2.6							
TORD	**Torodi Ar. Bea**	**134.73**	**305**	PKP	**PKPdf**	**01 59 05.7**	**0.0**
	0.5nm,0.6s,baz=147,slow=2.7,SNR=6.4							
LPAZ	**La Paz**	**148.13**	**99**	PKPbc	**PKPdf**	**01 59 30.8**	**+0.6**
	2.5nm,0.7s,baz=244,slow=3.3,SNR=4.0							

*IDC **17** 01:40:00.1±4.2, 1°.28S×16°.12W, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.4/42, mbtmp3.9/3, ML4.3/1, MS3.5/13, Ms1 3.5/13, ms1mx3.3/39, Error ellipse: s-maj=99.0km s-min=39.5km az=109.0*

ISC 17 01:40:04.5±2.3, 1°.4S±0°.2×15°.7W±0°.4, h12km, n22, σ0966/9, MS3.5/12, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**6.49**	**169**	Pn	**Pn**	**01 41 39.0**	**-0.7**
H10N2				T	T	01 48 23.9	
	baz=349,slow=73,SNR=77						
H10N3	**ASCENSION HYDR**	**6.50**	**170**	Pn	**Pn**	**01 41 39.7**	**-0.1**
H10N3				T	T	01 48 22.8	
	baz=349,slow=73,SNR=74						
H10N1	**ASCENSION HYDR**	**6.51**	**169**	Pn	**Pn**	**01 41 39.4**	**-0.5**
H10N1				T	T	01 48 23.2	
	baz=349,slow=73,SNR=125						
H10S1	**ASCENSION HYDR**	**7.55**	**172**	T	T	01 49 43.0	
	baz=352,slow=74,SNR=45						
H10S3	**ASCENSION HYDR**	**7.56**	**172**	T	T	01 49 40.6	
	baz=352,slow=74,SNR=83						
H10S2	**ASCENSION HYDR**	**7.57**	**172**	T	T	01 49 41.8	
	baz=352,slow=74,SNR=42						
DBIC	**Dimbokro**	**13.47**	**53**	Pn	**Pn**	**01 43 15.3**	**-0.3**
	1.3nm,0.3s,baz=232,slow=13,SNR=18						
DBIC				Sn	Sn	01 45 38.4	-7.0
	0.2nm,0.3s,baz=150,slow=20,SNR=2.4						
DBIC				LR	LR	01 47 27.6	
	comp=Z,198nm,19.8s,baz=203,slow=33						
TORD	**Torodi Ar. Bea**	**22.51**	**49**	P	**P**	**01 45 04.6**	**+0.3**
	1.7nm,0.9s,baz=224,slow=12,SNR=10						
TORD				LR	LR	01 53 00.8	
	comp=Z,169nm,18.4s,baz=285,slow=34						
KEST	**Kesra**	**43.72**	**30**	LR	LR	02 07 12.8	
	comp=Z,145nm,18.9s,baz=232,slow=37						
CPUP	**Villa Florida**	**47.06**	**235**	LR	LR	02 05 33.2	
	comp=Z,41nm,20.8s,baz=44,slow=33						
BOSA	**Boshof**	**47.51**	**129**	P	**P**	**01 48 40.7**	**+0.7**
	1.7nm,0.8s,baz=297,slow=9.0,SNR=4.5						
BOSA				LR	LR	02 05 55.6	
	comp=Z,29nm,18.4s,baz=59,slow=32						
IDI	**Anoyia**	**52.62**	**42**	LR	LR	02 11 12.2	
	comp=Z,25nm,21.0s,baz=211,slow=35						
LPAZ	**La Paz**	**53.70**	**251**	LR	LR	02 11 00.1	
	comp=Z,48nm,20.6s,baz=93,slow=35						
GERES	**GERESS Array B**	**56.15**	**23**	LR	LR	02 12 25.1	
	comp=Z,53nm,18.1s,baz=308,slow=35						
PLCA	**Paso Flores**	**63.05**	**224**	LR	LR	02 15 46.6	
	comp=Z,27nm,18.9s,baz=126,slow=34						
NOA	**NORSAR Array B**	**65.64**	**14**	LR	LR	02 20 25.0	
	comp=Z,20nm,19.8s,baz=325,slow=37						
BORG	**Borgarnes**	**66.13**	**357**	LR	LR	02 16 11.3	
	comp=Z,50nm,18.3s,baz=313,slow=33						
VNA2	**Neumayer--Watz**	**69.62**	**177**	P	**P**	**01 51 14.0**	**+0.7**
	baz=342,slow=7.6						
FINES	**FINESS Array B**	**70.31**	**20**	LR	LR	02 21 46.6	
	comp=Z,52nm,18.0s,baz=282,slow=36						
NRIK	**Norilʹsk**	**95.98**	**20**	LR	LR	02 40 30.3	
	comp=Z,18nm,18.6s,baz=32,slow=38						
ASAR	**Alice Springs**	**141.33**	**132**	PKP	**PKPdf**	**01 59 35.5**	**-0.9**
	0.3nm,0.5s,baz=218,slow=2.2,SNR=3.2						
WRA	**Warramunga Arr**	**143.75**	**127**	PKP	**PKPab**	**01 59 37.3**	**-0.2**
	0.1nm,0.6s,baz=241,slow=2.4,SNR=4.6						

*ISCJB **17** 01:42:03.0±0.5, 32°.26N±0°.03×115°.28W±0°.03, h13km±3km, Error ellipse: s-maj=4.6km s-min=3.8km az=136.0*
*NEIC **17** 01:42:03.5±0.0, 32°.22N×115°.30W, h7km, ML2.7(ECX), ML2.8(PAS), After PAS.*
*ECX **17** 01:42:04.1±0.5, 32°.27N×115°.27W, h6km, MD2.7, ML2.9*
*MEX **17** 01:42:05.8±0.9, 32°.29N×115°.25W, h10km, MD3.6*

ISC 17 01:42:02.9±0.9, 32°.24N±0°.03×115°.30W±0°.02, h16km±6km, n33, σ0989/52, 4C, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.18**	**360**	*e*P	**Pg**	**01 42 07.0**	**-0.4**
CPBX				*e*S	**Sg**	**01 42 09.3**	**-1.1**
CPBX				IAML		01 42 11.5	
	comp=E,7μm,0.2s						
CPBX				⇑*e*		01 42 11.5	
CPBX				*e*		01 42 14.1	
CPBX				IAML		01 42 14.1	
	comp=N,7μm,0.1s						
MBIG	**Mexicali**	**0.19**	**28**	*e*Pg	**Pg**	**01 42 08.4**	**+0.9**
MBIG				*e*Sg	**Sg**	**01 42 10.6**	**-0.1**
MBIG	**Mexicali**	**0.19**	**28**	*e*P	**Pg**	**01 42 08.4**	**+0.9**
MBIG				*e*S	**Sg**	**01 42 10.6**	**-0.1**
YUH	**Yuha Desert**	**0.67**	**308**	⇑*i* P	**Pb**	**01 42 16.2**	**0.0**
YUH	**Yuha Desert**	**0.67**	**308**	*i* P	**Pb**	**01 42 16.2**	**0.0**
RMX	**La Rumorosa**	**0.75**	**299**	⇑*e*P	**Pg**	**01 42 16.8**	**-0.8**
RMX				*i* S	**Sg**	**01 42 26.1**	**-1.5**
RMX	**La Rumorosa**	**0.75**	**299**	*e*P	**Pg**	**01 42 16.8**	**-0.8**
RMX				*i* S	**Sg**	**01 42 26.1**	**-1.5**
ECBX	**El Chinero**	**0.79**	**164**	*e*P	**Pb**	**01 42 18.5**	**+0.2**
ECBX				*e*S	**Sb**	**01 42 29.8**	**+1.0**
IKP	**In-Ko-Pah, Jac**	**0.80**	**301**	⇑*e*P	**Pb**	**01 42 18.6**	**+0.2**
IKP				*e*S	**Sb**	**01 42 29.1**	**+0.1**
GLA	**Glamis**	**0.90**	**26**	*e*Pg	**Pg**	**01 42 19.6**	**-1.0**
GLA				*e*Sg	**Sg**	**01 42 31.7**	**-0.7**
ZAX	**El Zacaton**	**1.10**	**229**	*e*P	**Pn**	**01 42 23.9**	**+0.3**
MONP2	**Monument Peak**	**1.15**	**305**	*e*P	**Pb**	**01 42 24.4**	**-0.2**
CBX	**Cerro Bola**	**1.16**	**274**	*e*P	**Pb**	**01 42 24.6**	**0.0**
CBX	**Cerro Bola**	**1.16**	**274**	*e*P	**Pb**	**01 42 24.6**	**0.0**
CBX				*i* S	**Sb**	**01 42 40.2**	**+0.8**
TJIG	**Tijuana**	**1.18**	**280**	*e*P	**Pb**	**01 42 24.6**	**-0.3**
TJIG	**Tijuana**	**1.18**	**280**	*e*P	**Pb**	**01 42 24.7**	**-0.2**
TJIG				*e*S	**Sg**	**01 42 39.9**	**-1.2**
SPIG	**San Pedro Mart**	**1.20**	**187**	*e*P	**Pb**	**01 42 25.1**	**-0.4**
SPIG	**San Pedro Mart**	**1.20**	**187**	*e*Pg	**Pb**	**01 42 25.3**	**-0.2**
SPIG				*e*Sn	**Sn**	**01 42 42.1**	**+0.7**
SPIG	**San Pedro Mart**	**1.20**	**187**	*i* P	**Pb**	**01 42 25.3**	**-0.2**
SPIG				*e*S	**Sn**	**01 42 42.1**	**+0.7**
SPX	**San Pedro Mart**	**1.20**	**187**	*e*P	**Pb**	**01 42 25.3**	**-0.2**
SPX	**San Pedro Mart**	**1.20**	**187**	*e*P	**Pb**	**01 42 25.3**	**-0.2**
SPX				*e*Sn	**Sn**	**01 42 42.0**	**+0.6**
BAR	**Barrett**	**1.24**	**291**	*e*P	**Pb**	**01 42 25.8**	**-0.2**
BAR	**Barrett**	**1.24**	**291**	*e*Pn	**Pg**	**01 42 25.4**	**-1.4**
BAR				*e*Sg	**Sb**	**01 42 42.1**	**+0.4**
BAR				*e*Sn	**Sn**	**01 42 42.7**	**+0.7**
ECNX	**Esteban Cantu**	**1.24**	**243**	*e*P	**Pn**	**01 42 26.0**	**+0.3**
113A	**Mohawk Valley,**	**1.40**	**67**	*e*Pn	**Pn**	**01 42 27.5**	**-0.3**
113A				*e*Sn	**Sb**	**01 42 44.4**	**-1.9**
EML	**El Monte Cty P**	**1.46**	**297**	*e*P	**Pn**	**01 42 29.2**	**+0.7**
EML	**El Monte Cty P**	**1.46**	**297**	*e*P	**Pn**	**01 42 29.2**	**+0.7**
CPE	**Camp Elliot**	**1.65**	**294**	*e*Pn	**Pn**	**01 42 31.8**	**+0.5**
CPE				*e*Sn	**Sb**	**01 42 54.5**	**+0.9**
XPFO	**Piæon Flat**	**1.68**	**325**	*e*Pn	**Pn**	**01 42 32.0**	**+0.3**
XPFO				*e*Sn	**Sn**	**01 42 53.9**	**+0.9**
PFO	**Pinyon Flats O**	**1.68**	**325**	*e*Pn	**Pn**	**01 42 32.3**	**+0.6**
PFO				*e*Sn	**Sn**	**01 42 54.2**	**+1.2**
Y14A	**Wickenburg**	**2.57**	**48**	*e*Pn	**Pb**	**01 42 47.2**	**-1.4**
LDFC	**Landfair**	**2.84**	**3**	*e*Pn	**Pn**	**01 42 50.8**	**+3.1**
X16A	**Lo Mia Camp, P**	**3.90**	**55**	*e*Pn	**Pn**	**01 43 02.5**	**+0.2**

SVSA 17 01:44:59.5±0.3, 37°.52N×25°.01W, h6km±4km, MD3.5, ML2.0, Error ellipse: s-maj=6.9km s-min=0.8km az=70.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BART	**Pico Bartolome**	**0.29**	**335**	*e*P	Pg	01 45 04.8	-0.4
BART				*e*S	Sg	01 45 09.0	-0.1
BART				A	A	01 45 09.9	
	282nm,0.2s						
CMLA	**Cha da Macela**	**0.48**	**302**	*e*S	Sg	01 45 13.9	-1.0
CMLA				A	A	01 45 19.4	
	78nm,0.3s						
GRON	**Grota Negra**	**0.48**	**302**	*e*P	Pg	01 45 06.5	-2.4
GRON				*e*S	Sg	01 45 11.7	-3.5
GRON				A	A	01 45 15.3	
	15nm,0.1s						
PSMN	**Pico do Norte,**	**0.51**	**185**	*e*P	Pg	01 45 08.3	-1.1
PSMN				*e*S	Sg	01 45 14.9	-1.1
PSMN				A	A	01 45 18.1	
	27nm,0.2s						
PSMA	**Santa Maria**	**0.53**	**190**	*e*P	Pg	01 45 08.6	-1.0
PSMA				*e*S	Sg	01 45 15.2	-1.3
PSMA				A	A	01 45 17.1	
	64nm,0.2s						
PDA	**Ponta Delgada**	**0.57**	**294**	*e*P	Pg	01 45 09.1	-1.3
PDA				*e*S	Sg	01 45 16.3	-1.5
PDA				A	A	01 45 18.6	
	20nm,0.2s						
PSET	**Sete Cidades**	**0.64**	**299**	*e*S	Sg	01 45 18.2	-2.0
PSET				A	A	01 45 23.3	
	39nm,0.1s						

*SOME **17** 01:57:22.3, 49°.52N×85°.78E, h5km*
*NNC **17** 01:57:27.3±1.4, 49°.27N×86°.84E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=11.3km s-min=6.1km az=66.0*

ISC 17 01:57:26.5±4.5, 49°.3N±0°.1×87°.1E±0°.3, h10km, n4, σ0973/9, 7C-2D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZSN	**Zaisan**	**2.36**	**220**	*e*P	**Pn**	**01 58 04.4**	**-0.9**
	98nm,0.4s						
ZSN				*e*S	**Sn**	**01 58 34.0**	**-0.4**
	93nm,0.3s						
MK31	**Makanchi Array**	**4.08**	**234**	⇑Pn	**Pn**	**01 58 28.9**	**0.0**
	2.2nm,0.3s,baz=67,slow=13,SNR=27						
MK31				Pg	**Pb**	**01 58 39.5**	**+1.1**
	1.4nm,0.2s,baz=52,slow=15,SNR=6.5						
MK31				⇑Sn	**Sn**	**01 59 16.2**	**-0.5**
	2.5nm,0.2s,baz=62,slow=22,SNR=7.3						
MK31				⇑Lg	Lg	01 59 33.2	
	8.6nm,0.4s,baz=51,slow=26,SNR=3.5						
KURK	**Kurchatov**	**5.67**	**288**	⇓Pn	**Pn**	**01 58 50.3**	**-0.3**
	0.5nm,0.3s						
KURK				⇑Sn	**Sn**	**01 59 55.0**	**-0.7**
	3.5nm,0.4s						
KURK				⇑Lg	Lg	02 00 22.4	
	12nm,0.5s						
KURBB	**Kurchatov Arra**	**5.70**	**287**	⇑Pn	**Pn**	**01 58 51.2**	**+0.1**
	1.2nm,0.3s						
KURBB				⇑Sn	**Sn**	**01 59 56.1**	**-0.5**
	17nm,0.6s						
KURBB				⇓Lg	Lg	02 00 25.7	
	16nm,0.4s						

IDC 17 02:01:09.0±4.9, 31°.43S×59°.98E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/40, mbtmp3.6/3, Error ellipse: s-maj=729.1km s-min=28.6km az=20.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**26.38**	**29**	T	T	02 32 50.3	
	baz=203,slow=76,SNR=4.4						
H08S3	**Diego Garcia H**	**26.40**	**29**	T	T	02 32 49.8	
	baz=213,slow=76,SNR=6.8						
H01W2	**Cape Leeuwin H**	**45.01**	**110**	T	T	02 57 52.0	
	baz=260,slow=74,SNR=9.0						
H01W3	**Cape Leeuwin H**	**45.01**	**110**	T	T	02 57 45.8	
	baz=260,slow=74,SNR=6.9						
H01W1	**Cape Leeuwin H**	**45.02**	**110**	T	T	02 57 46.6	
	baz=260,slow=74,SNR=7.4						
H09W1	**TRISTAN DA CUN**	**58.72**	**243**	T	T	03 14 19.9	
	SNR=15						
ASAR	**Alice Springs**	**64.90**	**103**	P	P	02 11 50.6	+0.1
	0.5nm,0.5s,baz=242,slow=6.2,SNR=8.4						
WRA	**Warramunga Arr**	**66.87**	**100**	P	P	02 12 03.2	0.0
	0.8nm,0.6s,baz=245,slow=5.6,SNR=14						
TORD	**Torodi Ar. Bea**	**71.31**	**299**	P	P	02 12 30.8	0.0
	0.1nm,0.5s,baz=121,slow=7.7,SNR=2.8						

*MOS **17** 02:05:51.2±0.0, 42°.66N×46°.35E, h16km, MPVA3.4*
*DRS **17** 02:05:53.0±0.0, 42°.62N×46°.33E, h11km*

ISC 17 02:05:52.4±0.9, 42°.65N±0°.03×46°.35E±0°.02, h13km±6km, n23, σ1900/45, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTLR	**Botlikh**	**0.09**	**276**	*i* Pg	**Pg**	**02 05 55.2**	**-0.1**
BTLR				*e*Sg	**Sg**	**02 05 57.0**	**-0.5**
XNZR	**Khunzakh**	**0.29**	**113**	*e*Pg	**Pb**	**02 05 59.3**	**-0.2**
XNZR				*e*Sg	**Sb**	**02 06 03.7**	**-0.6**
UNCR	**Uncukul**	**0.34**	**80**	*e*Pg	**Pb**	**02 06 00.2**	**-0.3**
UNCR				*i* Sg	**Sb**	**02 06 05.0**	**-0.6**
DVE	**Vedeno**	**0.34**	**332**	*e*Pg	**Pb**	**02 05 59.9**	**-0.6**
DVE				*e*Sg	**Sg**	**02 06 04.8**	**+0.7**
KRNR	**Karanay**	**0.45**	**67**	*e*Pg	**Pb**	**02 06 02.0**	**-0.3**
KRNR				*i* Sg	**Sg**	**02 06 08.0**	**+0.7**
DLMR	**Dylym**	**0.47**	**27**	*e*Pg	**Pb**	**02 06 03.0**	**+0.5**
DLMR				*i* Sg	**Sb**	**02 06 09.5**	**+0.2**
DBC	**Dubki**	**0.51**	**44**	*e*Pg	**Pb**	**02 06 03.1**	**-0.2**
DBC				*e*Sg	**Sb**	**02 06 10.9**	**+0.2**
GNBR	**Gunib**	**0.53**	**120**	*e*Pg	**Pb**	**02 06 03.7**	**+0.1**
GNBR				*e*Sg	**Sb**	**02 06 11.4**	**+0.3**
GROC	**Groznyy**	**0.68**	**324**	*e*Pg	**Pn**	**02 06 08.2**	**+0.4**
GROC				*e*Sg	**Sn**	**02 06 17.7**	**-0.6**
KMKR	**Kumukh**	**0.77**	**133**	*e*Pg	**Pn**	**02 06 08.0**	**-1.1**
KMKR				*e*Sg	**Sn**	**02 06 19.0**	**-1.6**
KMGR	**Komgaron**	**1.16**	**291**	*e*Pg	**Pg**	**02 06 15.3**	**+0.6**
KMGR				*e*Sg	**Sn**	**02 06 31.1**	**+0.9**
DDFL	**Dedoflistskaro**	**1.22**	**188**	P	**Pg**	**02 06 19.2**	**+3.3**
DDFL				S	Sg	02 06 44.6	+13
VLKR	**Vladikavkaz**	**1.29**	**288**	*e*Pg	**Pg**	**02 06 17.3**	**+0.2**
VLKR				*i* Sg	**Sg**	**02 06 34.9**	**+1.0**
GUDG	**Gudauri**	**1.39**	**263**	P	**Pg**	**02 06 19.1**	**-0.1**
GUDG				S	**Sg**	**02 06 36.5**	**-0.9**
BTKR	**Batakoyurt**	**1.50**	**299**	*e*Pg	**Pg**	**02 06 22.5**	**+1.1**
BTKR				*e*Sg	**Sg**	**02 06 42.7**	**+1.9**
AKT	**Akhty**	**1.56**	**138**	*e*Pg	**Pg**	**02 06 22.2**	**-0.1**
AKT				*e*Sg	**Sg**	**02 06 42.4**	**-0.3**
ARNR	**Ardon**	**1.60**	**290**	*e*Pg	**Pg**	**02 06 22.4**	**-0.8**
ARNR				*e*Sg	**Sg**	**02 06 44.1**	**+0.1**
KORR	**Kora**	**1.73**	**285**	*e*Pg	**Pg**	**02 06 24.6**	**-1.0**
KORR				*e*Sg	**Sg**	**02 06 47.5**	**-0.5**
ZEI	**Tsey**	**1.81**	**275**	*e*Pg	**Pb**	**02 06 25.3**	**-0.2**
ZEI				*e*Sg	**Sg**	**02 06 49.5**	**-1.1**
STDR	**Stavd-Durt**	**1.82**	**294**	*e*Pg	**Pb**	**02 06 25.7**	**+0.1**
STDR				*e*Sg	**Sg**	**02 06 49.8**	**-1.2**
LSNR	**Lesken**	**1.95**	**289**	*e*Pg	**Pb**	**02 06 27.6**	**-0.3**
LSNR				*e*Sg	**Sg**	**02 06 53.6**	**-1.6**
DIGR	**Digorskoe uzhe**	**2.05**	**278**	*e*Pg	**Pb**	**02 06 29.1**	**-0.5**
DIGR				*e*Sg	**Sb**	**02 06 56.0**	**+0.9**
NEY	**Neytrino**	**2.73**	**284**	*e*Pn	**Pn**	**02 06 38.0**	**+1.9**
NEY				*e*Sn	**Sb**	**02 07 12.6**	**-1.9**

*ISCJB **17** 02:12:52.4±0.3, 51°.50N±0°.02×16°.20E±0°.03, h0km, Error ellipse: s-maj=2.8km s-min=2.2km az=163.0*
*IDC **17** 02:12:55.9±0.8, 51°.42N×16°.14E, h0km, mb1 3.4/7,*
mb1mx3.2/45, mbtmp3.2/7, ML2.8/7, Error ellipse: s-maj=18.1km s-min=6.6km az=105.0
*PRU **17** 02:12:56.2±0.0, 51°.41N×16°.15E, h0km*
*VIE **17** 02:12:58.8±0.8, 51°.16N×16°.24E, h0km, mb2.4/8, ml2.7/10, Error ellipse: s-maj=8.6km s-min=5.6km az=61.0 54 km W of Wroclaw Suspected Mining induced.*
*UPP **17** 02:12:58.0±3.0, 51°.64N×15°.66E, h0km, ML2.2*
*WAR **17** 02:13:00.2, 51°.02N×15°.79E, h1km, Mw2.6*

ISC 17 02:12:53.0±0.7, 51°.51N±0°.03×16°.16E±0°.02, h0km, n52, σ1975/93, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.68**	**173**	*i* Pg	**Pg**	**02 13 07.1**	**+1.1**
KSP				*e*Sg	**Sg**	**02 13 14.9**	**+0.2**
KSP	**Ksiaz**	**0.68**	**173**	*i* Pg	**Pg**	**02 13 07.1**	**+1.1**
KSP				*e*Sg	**Sg**	**02 13 14.9**	**+0.2**
DPC	**Dobruska-Polom**	**1.17**	**175**	*e*PG	**Pg**	**02 13 16.0**	**+0.6**
DPC				*e*SG	**Sg**	**02 13 30.5**	**0.0**
	comp=Z,55nm,0.4s						
PVCC	**Panska Ves**	**1.41**	**226**	*e*PG	**Pb**	**02 13 21.6**	**+1.4**
PVCC				*e*SG	**Sn**	**02 13 40.0**	**+0.8**
	comp=Z,274nm,0.3s						
KRLC	**Kraliky**	**1.49**	**164**	*e*PG	**Pn**	**02 13 21.7**	**+0.6**
KRLC				*e*SG	**Sg**	**02 13 41.0**	**+0.1**
	comp=Z,11nm,0.3s						
BRG	**Berggiesshubel**	**1.54**	**246**	PG	**Pg**	**02 13 23.6**	**+1.2**
BRG				SG	**Sg**	**02 13 43.4**	**+1.1**
	74nm,0.6s						
PRA	**Prague**	**1.81**	**218**	*e*PN	**Pb**	**02 13 26.7**	**-0.4**
PRA				*e*PG	**Pg**	**02 13 29.1**	**+1.3**
PRA				*e*SG	**Sg**	**02 13 51.8**	**+0.5**
	comp=Z,39nm,0.4s						
MORC	**Moravsky Berou**	**1.95**	**153**	*e*PN	**Pn**	**02 13 27.7**	**+0.3**
MORC				*e*SG	**Sb**	**02 13 54.8**	**+0.5**
CLL	**Collm**	**1.99**	**265**	*e*Pn	**Pn**	**02 13 29.0**	**+1.1**
CLL				*e*Pg	**Pg**	**02 13 32.0**	**+0.9**
CLL				*e*Sg	**Sg**	**02 14 00.0**	**+3.1**
	comp=Z,32nm,0.4s						
OKC	**Ostrava-Krasne**	**2.10**	**142**	*e*PG	**Pg**	**02 13 33.2**	**-0.1**
OKC				*e*SG	**Sg**	**02 14 00.3**	**-0.2**
	comp=Z,70nm,1.3s						
CHZP	**Chorzow**	**2.17**	**123**	*e*Pg	**Pg**	**02 13 37.4**	**+2.8**
CHZP				*e*Sn	**Sn**	**02 13 57.1**	**-0.8**
CHZP				*e*Sg	**Sg**	**02 14 04.5**	**+1.8**
CHZP	**Chorzow**	**2.17**	**123**	*e*Pg	**Pg**	**02 13 37.4**	**+2.8**
CHZP				*e*Sn	**Sn**	**02 13 57.1**	**-0.8**
CHZP				*e*Sg	**Sg**	**02 14 04.5**	**+1.8**
VRAC	**Vranov**	**2.23**	**173**	Pn	**Pn**	**02 13 32.4**	**+1.2**
	comp=Z,4.0nm,0.3s,baz=345,slow=16,SNR=10						
VRAC				Lg	Lg	02 14 01.8	
	comp=Z,8.2nm,0.3s,baz=82,slow=22,SNR=9.2						
VRAC	**Vranov**	**2.23**	**173**	*e*PN	**Pn**	**02 13 32.1**	**+0.9**
VRAC				*e*SG	**Sb**	**02 14 01.5**	**-0.7**
TREC	**Trest**	**2.26**	**191**	*e*PG	**Pg**	**02 13 36.2**	**-0.2**
TREC				*e*SG	**Sb**	**02 14 04.8**	**+1.5**
	comp=Z,28nm,0.3s						
KRUC	**Moravsky**	**2.46**	**176**	*e*PN	**Pn**	**02 13 35.7**	**+1.3**
KRUC				*e*SG	**Sg**	**02 14 11.4**	**-0.6**
OJC	**Ojcow**	**2.64**	**118**	*e*Pg	**Pg**	**02 13 44.7**	**+1.0**
OJC				*e*Sg	**Sg**	**02 14 19.1**	**+1.2**
OJC	**Ojcow**	**2.64**	**118**	*e*Pg	**Pg**	**02 13 44.7**	**+1.0**
OJC				*e*Sg	**Sg**	**02 14 19.1**	**+1.2**
NKC	**Novy Kostel**	**2.68**	**243**	*e*PN	**Pn**	**02 13 39.0**	**+1.6**
NKC				*e*PG	**Pg**	**02 13 45.5**	**+1.2**
NKC				*e*SG	**Sg**	**02 14 19.3**	**+0.3**
	comp=Z,35nm,0.3s						
KHC	**Kasperske Hory**	**2.90**	**216**	*e*PN	**Pn**	**02 13 42.0**	**+1.5**
KHC				*e*PG	**Pg**	**02 13 48.2**	**-0.4**
KHC				*e*SN	**Sn**	**02 14 14.5**	**-1.6**
KHC				*e*SG	**Sb**	**02 14 23.7**	**+2.0**
	comp=Z,24nm,0.6s						
GERES	**GERESS Array B**	**3.10**	**212**	Pn	**Pn**	**02 13 45.3**	**+2.0**
	comp=Z,0.6nm,0.3s,baz=33,slow=14,SNR=14						
GERES				Pg	**Pb**	**02 13 51.2**	**+2.1**
	comp=Z,5.9nm,0.3s,baz=30,slow=17,SNR=61						
GERES				Lg	Lg	02 14 30.8	
	comp=Z,6.4nm,0.3s,baz=39,slow=26,SNR=8.3						
SMOL	**

IDC ***17*** *02:28:36.4±1.2,59°.13S×30°.26W,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.7/15,mbtmp3.7/3,MS3.5/4,Ms1 3.5/4, ms1mx3.2/22,Error ellipse: s-maj=55.5km s-min=32.5km az=88.0*

ISCJB ***17*** *02:28:38.8±1.7,59°.6S±0°.2×27°.1W±0°.7,h10km,mb3.6/3, MS3.5/4,Error ellipse: s-maj=55.5km s-min=18.6km az=167.5*

ISC 17 02:28:40.8±1.5,59°.6S±0°.2×27°.1W±0°.4,h10km,n17, σ0991/7,mb3.6/3,MS3.4/4,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.56**	**153**	P	**Pn**	**02 31 53.5**	**+0.7**
VNA3	**Neumayer Olymp**	**13.69**	**156**	P	**Pn**	**02 31 53.9**	**-0.7**
VNA2	**Neumayer--Watz**	**13.96**	**153**	P	**Pn**	**02 31 57.6**	**-0.6**
	baz=302,slow=15						
SNAA	**Sanae**	**15.55**	**151**	P	**Pn**	**02 32 21.0**	**+1.2**
PLCA	**Paso Flores**	**32.81**	**285**	LR	LR	02 47 19.2	
	comp=Z,68nm,18.1s,baz=164,slow=36						
CPUP	**Villa Florida**	**39.24**	**314**	P	P	02 35 54.0	-15
	0.8nm,0.5s,baz=151,slow=6.4,SNR=3.0						
CPUP				LR	LR	02 51 35.8	
	comp=Z,50nm,19.0s,baz=161,slow=36						
VNDA	**Vanda**	**43.03**	**183**	P	**P**	**02 36 39.7**	**-0.1**
	0.5nm,0.7s,baz=135,slow=2.9,SNR=4.8						
H10S2	**ASCENSION HYDR**	**51.40**	**16**	T	T	03 34 25.1	
	baz=189,slow=75,SNR=7.2						
H10S3	**ASCENSION HYDR**	**51.40**	**16**	T	T	03 34 02.4	
	baz=189,slow=75,SNR=6.9						
H10S1	**ASCENSION HYDR**	**51.41**	**16**	T	T	03 34 23.5	
	baz=189,slow=75,SNR=7.1						
LPAZ	**La Paz**	**52.50**	**307**	LR	LR	03 02 42.2	
	comp=Z,23nm,18.6s,baz=92,slow=40						
H10N1	**ASCENSION HYDR**	**52.51**	**16**	T	T	03 35 55.9	
	baz=189						
H10N3	**ASCENSION HYDR**	**52.52**	**16**	T	T	03 35 36.1	
	baz=189,SNR=4.0						
H10N2	**ASCENSION HYDR**	**52.53**	**16**	T	T	03 35 44.3	
	baz=189						
RPZ	**Rata Peaks**	**75.97**	**193**	LR	LR	03 08 07.8	
	comp=Z,59nm,19.7s,baz=16,slow=31						
TORD	**Torodi Ar. Bea**	**76.14**	**29**	P	**P**	**02 40 28.2**	**-0.3**
	1.0nm,1.0s,baz=208,slow=4.9,SNR=4.2						
ILAR	**Eielson Array**	**152.38**	**307**	PKPbc	**PKPdf**	**02 48 29.1**	**+0.6**
	0.4nm,0.7s,baz=79,slow=1.9,SNR=4.0						

IDC 17 02:29:11.2±2.5,4°.32S×129°.87E,h0km,mb3.9/2, mb1 3.8/5,mb1mx3.5/31,mbtmp3.6/5,ML3.3/3,Error ellipse: s-maj=79.6km s-min=24.8km az=86.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.71**	**22**	Pn	Pn	02 30 07.9	-1.8
	1.6nm,0.3s,baz=232,slow=22,SNR=26						
SIJI				Sn	Sn	02 30 48.1	-6.1
	5.6nm,0.3s,baz=248,slow=22,SNR=9.3						
WRA	**Warramunga Arr**	**16.12**	**165**	Pn	Pn	02 33 00.9	+1.5
	0.1nm,0.3s,baz=344,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**19.62**	**169**	P	P	02 33 39.9	-1.6
	0.2nm,0.3s,baz=348,slow=11,SNR=8.2						
CTA	**Charters Tower**	**22.37**	**136**	P	P	02 34 11.4	+0.2
	1.8nm,0.8s,baz=326,slow=7.3,SNR=2.3						
ILAR	**Eielson Array**	**91.00**	**25**	P	P	02 42 17.8	+0.7
	0.8nm,0.6s,baz=247,slow=4.9,SNR=16						

BJI ***17*** *02:51:23.7,14°.54S×167°.56E,h125km,mb5.3/65, mB5.5/50*

ISCJB ***17*** *02:51:23.0±0.8,15°.03S±0°.02×167°.39E±0°.02,h130km±7km, mb5.2/180,Error ellipse: s-maj=4.1km s-min=3.5km az=0.3*

MOS ***17*** *02:51:23.0±1.1,14°.96S×167°.42E,h129km,mb5.2/45, MS4.7/6,Error ellipse: s-maj=7.3km s-min=6.5km az=126.3*

NEIC ***17*** *02:51:23.4±0.1,14°.99S×167°.46E,mb5.5/109,MW5.7, MW5.6,Error ellipse: s-maj=3.1km s-min=2.7km az=142.0, Moment Tensor Solution. s34 Moment tensor: Scale 10^17Nm; Mrr3.98; Mθθ0.71; Mϕϕ-4.69; Mrθ-0.50; Mθϕ-0.38; Mϕr1.34; Best double couple: M◻4.60000×10^17 NP1: ϕs194.00000°,δ37.00000°,λ105.00000°. NP2: ϕs355.00000°,δ54.00000°,λ79.00000°. Principal axes: T 4.2700, Plg78.0000°, Azm225.0000°; N 0.6400, Plg9.0000°, Azm2.0000°; P -4.9100, Plg8.0000°, Azm93.0000°;*

NEIC Felt at Luganville and Port-Olry.

IDC ***17*** *02:51:24.2±0.4,15°.01S×167°.48E,h129km±3km,mb5.0/36, mb1 5.0/38,mb1mx4.9/46,mbtmp5.4/38,MS4.4/22, Ms1 4.4/22,ms1mx4.2/41 Error ellipse: s-maj=7.6km s-min=7.4km az=3.0*

NEIC ***17*** *02:51:24.0±0.0,14°.93S×167°.22E,h120km,Moment Tensor Solution. s24 Moment tensor: Scale 10^17Nm; Mrr2.98; Mθθ0.37; Mϕϕ-3.35; Mrθ-0.51; Mθϕ-0.32; Mϕr0.24; Best double couple: M◻3.20000×10^17 NP1:ϕs354.00000°, δ52.00000°, λ74.00000°. NP2:ϕs198.00000°,δ41.00000°,λ109.00000°. Principal axes: T 3.8060, Plg76.0000°, Azm209.0000°; N 0.4610, Plg12.0000°, Azm3.0000°; P -4.2600, Plg6.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 17 02:51:23.9±0.3,15°.01S±0°.03×167°.48E±0°.03,h129km±1km, h129km:pP-P,n705,σ1940/904,mb5.4/180,39C-22D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.09**	**188**	P	**Pn**	**02 53 05.0**	**-0.3**
	25nm,0.3s,baz=47,slow=7.2,SNR=435						
DZM				S	**Sn**	**02 54 25.8**	**+1.2**
	128nm,0.3s,baz=336,slow=22,SNR=8.9						
DZM	**Mont Dzumac**	**7.09**	**188**	*e*Pn	**Pn**	**02 53 05.3**	**0.0**
	263nm,0.2s						
DZM				*e*Sn	**Sn**	**02 54 21.0**	**-3.5**
	3μm,1.0s						
DZM	**Mont Dzumac**	**7.09**	**188**	*e*Pn	**Pn**	**02 53 04.9**	**-0.3**
DZM				*e*Sn	**Sn**	**02 54 20.1**	**-4.5**
DZM				S	**Sn**	**02 54 25.8**	**+1.2**
HNR	**Honiara**	**9.21**	**306**	P	**Pn**	**02 53 33.9**	**+0.1**
	61nm,0.3s,baz=178,slow=2.5,SNR=49						
HNR				S	**Sn**	**02 55 15.8**	**-0.1**
	230nm,0.3s,baz=221,slow=23,SNR=6.2						
HNR				LR	LR	02 57 09.3	
	comp=Z,2μm,18.5s,baz=146,slow=38						
HNR	**Honiara**	**9.21**	**306**	*e*P	**Pn**	**02 53 34.0**	**+0.2**
HNR				*e*S	**Sn**	**02 55 18.0**	**+2.2**
HNR	**Honiara**	**9.21**	**306**	*e*Pn	**Pn**	**02 53 33.5**	**-0.3**
HNR				*e*Sn	**Sn**	**02 55 13.6**	**-2.3**
FUNA	**Funafuti**	**13.15**	**62**	*e*Pn	**Pn**	**02 54 25.0**	**-0.9**
TARA	**Tarawa**	**17.13**	**19**	*e*P	**P**	**02 55 15.3**	**0.0**
EIDS	**Eidsvold**	**18.50**	**234**	P	**Pn**	**02 55 32.6**	**+0.6**
	baz=18,SNR=59						
EIDS	**Eidsvold**	**18.50**	**234**	*e*P	**Pn**	**02 55 31.6**	**-0.4**
	145nm,0.8s						
AFI	**Afiamalu**	**20.12**	**90**	P	Pn	02 55 49.5	-1.5
	17nm,0.5s,baz=335,slow=19,SNR=1.8						
AFI	**Afiamalu**	**20.12**	**90**	*e*P	**P**	**02 55 49.0**	**+1.1**
	102nm,0.9s						
PMG	**Port Moresby**	**20.62**	**283**	P	**P**	**02 55 54.5**	**+1.3**
	108nm,1.1s,baz=96,slow=5.5,SNR=15						
PMG				S	**S**	**02 59 39.4**	**+2.6**
	3.6nm,0.4s,baz=280,slow=17,SNR=2.5						
PMG	**Port Moresby**	**20.62**	**283**	*e*P	**P**	**02 55 54.1**	**+0.8**
	239nm,1.1s						
PMG				S	**S**	**02 59 39.4**	**+2.6**
CTA	**Charters Tower**	**20.85**	**253**	P	**P**	**02 55 56.5**	**+0.8**
	64nm,0.9s,baz=77,slow=12,SNR=77						
CTA				S	**S**	**02 59 40.8**	**-0.5**
	1.4nm,0.4s,baz=197,slow=18,SNR=2.6						
CTAO	**Charters Tower**	**20.85**	**253**	*e*P	**P**	**02 55 56.0**	**+0.3**
	103nm,0.9s						
CTAO	**Charters Tower**	**20.85**	**253**	*e*P	**P**	**02 55 56.0**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,103nm,0.9s						
OUZ	**Omahuta**	**20.86**	**166**	*e*P	**P**	**02 55 57.1**	**+1.4**
	comp=Z,154nm,1.0s						
RMQ	**Roma**	**20.87**	**234**	P	**P**	**02 55 57.7**	**+1.8**
	baz=21,SNR=21						
ARMA	**Armidale**	**21.15**	**221**	P	**P**	**02 56 00.5**	**+1.6**
	baz=21,SNR=63						
ARMA	**Armidale**	**21.15**	**221**	*e*P	**P**	**02 55 59.3**	**+0.4**
	comp=Z,387nm,1.1s						
NIUE	**Niue**	**21.97**	**104**	P	**P**	**02 56 11.6**	**+4.0**
	baz=22,SNR=6.0						
MTSU	**Mount Surprise**	**22.41**	**259**	P	**P**	**02 56 12.8**	**+0.6**
	baz=22,SNR=44						
MGCD	**Mangrove Creek**	**23.43**	**216**	P	**P**	**02 56 22.8**	**+1.3**
	baz=23,SNR=25						
PATS	**Pohnpei**	**23.53**	**337**	P	**P**	**02 56 23.1**	**+0.5**
	baz=24,SNR=5.4						
PATS	**Pohnpei**	**23.53**	**337**	*e*P	**P**	**02 56 22.0**	**-0.6**
	comp=Z,309nm,1.2s						
COEN	**Coen**	**23.55**	**269**	P	**P**	**02 56 23.4**	**+0.5**
	baz=23,SNR=21						
COEN	**Coen**	**23.55**	**269**	*e*P	**P**	**02 56 23.4**	**+0.5**
	comp=Z,91nm,1.0s						
MANU	**Manus Island**	**23.66**	**301**	*e*P	**P**	**02 56 24.3**	**+0.4**
	comp=Z,101nm,1.0s						
RIV	**Riverview**	**23.86**	**215**	P	**P**	**02 56 26.9**	**+1.5**
	baz=24,SNR=7.4						
HIZ	**Hauiti**	**24.30**	**166**	*e*P	**P**	**02 56 31.4**	**+2.0**
	comp=Z,392nm,1.0s						
MXZ	**Matakaoa Point**	**24.43**	**159**	*e*P	**P**	**02 56 30.7**	**+0.2**
	comp=Z,260nm,1.3s						
QLP	**Quilpie**	**24.55**	**238**	P	**P**	**02 56 32.6**	**+0.8**
	baz=24,SNR=119						
URZ	**Urewera**	**24.68**	**162**	P	**P**	**02 56 33.1**	**+0.3**
	comp=Z,106nm,0.9s,baz=352,slow=4.3,SNR=21						
URZ	**Urewera**	**24.68**	**162**	*e*P	**P**	**02 56 32.9**	**+0.1**
	comp=Z,114nm,0.9s						
BKZ	**Black Stump Fm**	**25.34**	**163**	*e*P	**P**	**02 56 39.5**	**+0.7**
	comp=Z,49nm,0.8s						
YNG	**Young**	**25.79**	**218**	P	**P**	**02 56 44.1**	**+1.1**
	baz=26,SNR=14						
CMSA	**Cobar Meteorol**	**25.83**	**227**	P	**P**	**02 56 44.0**	**+0.7**
	baz=26,SNR=28						
CNB	**Canberra Magne**	**25.95**	**216**	P	**P**	**02 56 43.8**	**-0.7**
	baz=26,SNR=24						
CAN	**Canberra**	**26.16**	**216**	*e*P	**P**	**02 56 47.0**	**+0.7**
	comp=Z,77nm,1.2s						
CAN	**Canberra**	**26.16**	**216**	*e*P	**P**	**02 56 47.0**	**+0.7**
CAN				pmax	pmax		
	comp=Z,77nm,1.2s						
BFZ	**Birch Farm**	**26.70**	**165**	*e*P	**P**	**02 56 50.6**	**-0.4**
	comp=Z,287nm,1.9s						
THZ	**Tophouse**	**27.07**	**171**	*e*P	**P**	**02 56 55.2**	**+0.8**
	comp=Z,67nm,1.1s						
QIS	**Mount Isa**	**27.09**	**254**	P	**P**	**02 56 54.7**	**-0.1**
	baz=27,SNR=20						
KHZ	**Kahutara**	**27.81**	**170**	*e*P	**P**	**02 57 00.9**	**0.0**
	comp=Z,139nm,1.7s						
LTZ	**Lake Taylor**	**27.98**	**172**	*e*P	**P**	**02 57 02.5**	**-0.1**
	comp=Z,90nm,1.0s						
OXZ	**Oxford**	**28.49**	**173**	*e*P	**P**	**02 57 07.3**	**+0.4**
	comp=Z,93nm,1.1s						
FOZ	**Fox Glacier**	**28.50**	**176**	*e*P	**P**	**02 57 07.8**	**+0.8**
	comp=Z,249nm,1.5s						
RPZ	**Rata Peaks**	**28.77**	**175**	P	**P**	**02 57 10.4**	**+0.9**
	comp=Z,50nm,0.8s,baz=344,slow=1.0,SNR=18						
RPZ	**Rata Peaks**	**28.77**	**175**	*e*P	**P**	**02 57 09.4**	**0.0**
	comp=Z,93nm,1.1s						
CRLZ	**Canterbury Las**	**28.81**	**172**	*e*P	**P**	**02 57 10.3**	**+0.6**
	comp=Z,218nm,1.7s						
MQZ	**McQueen's Vall**	**28.94**	**172**	*e*P	**P**	**02 57 11.3**	**+0.4**
	comp=Z,105nm,1.3s						
STKA	**Stephens Creek**	**28.97**	**230**	P	**P**	**02 57 12.6**	**+1.2**
	comp=Z,217nm,0.9s,baz=50,slow=8.6,SNR=384						
STKA				PcP	**PcP**	**03 00 17.1**	**+0.1**
	comp=Z,34nm,0.8s,baz=63,slow=1.7,SNR=4.9						
STKA				LR	LR	03 09 33.6	
	comp=Z,1μm,18.1s,baz=63,slow=38						
STKA	**Stephens Creek**	**28.97**	**230**	P	**P**	**02 57 12.6**	**+1.2**
	baz=29,SNR=194						
STKA	**Stephens Creek**	**28.97**	**230**	*e*P	**P**	**02 57 11.6**	**+0.2**
	comp=Z,58nm,1.0s						
STKA				PcP	**PcP**	**03 00 17.1**	**+0.1**
JAY	**Jayapura**	**29.18**	**293**	P	**P**	**02 57 13.6**	**+0.2**
	comp=Z,9.2nm,0.6s,baz=8.4,slow=9.0,SNR=5.0						
LBZ	**Lake Benmore**	**29.37**	**176**	*e*P	**P**	**02 57 15.1**	**+0.3**
	comp=Z,96nm,1.1s						
TOO	**Toolangi**	**29.75**	**217**	P	**P**	**02 57 19.0**	**+0.7**
	baz=30,SNR=21						
WKZ	**Wanaka**	**29.75**	**178**	*e*P	**P**	**02 57 18.4**	**+0.2**
	comp=Z,342nm,1.9s						
ODZ	**Otahua Downs**	**30.06**	**176**	*e*P	**P**	**02 57 21.1**	**+0.3**
	comp=Z,76nm,1.3s						
MLZ	**Mavora Lakes**	**30.27**	**179**	*e*P	**P**	**02 57 23.5**	**+0.8**
	comp=Z,85nm,1.1s						
DCZ	**Deep Cove**	**30.36**	**180**	*e*P	**P**	**02 57 24.3**	**+0.8**
	comp=Z,142nm,1.1s						
WHZ	**Wether Hill Ro**	**30.79**	**179**	*e*P	**P**	**02 57 27.7**	**+0.4**
	comp=Z,57nm,1.0s						
PYZ	**Puysegur Point**	**31.07**	**181**	*e*P	**P**	**02 57 29.0**	**-0.7**
	comp=Z,120nm,1.3s						
ARPS	**Mount Arapiles**	**31.47**	**222**	P	**P**	**02 57 34.6**	**+1.2**
	baz=31,SNR=13						
RAR	**Rarotonga**	**31.69**	**106**	P	**P**	**02 57 35.0**	**-0.5**
	comp=Z,30nm,1.0s,baz=300,slow=9.4,SNR=4.1						
RAR	**Rarotonga**	**31.69**	**106**	*e*P	**P**	**02 57 36.7**	**+1.2**
	comp=Z,315nm,1.9s						
RAR	**Rarotonga**	**31.69**	**106**	P	**P**	**02 57 35.0**	**-0.5**
RAR				pmax	pmax		
	comp=Z,30nm,1.0s						
HTT	**Hallett**	**31.69**	**230**	P	**P**	**02 57 36.3**	**+0.9**
	baz=32,SNR=99						
WC3	**Warramunga Arr**	**31.93**	**256**	*e*P	**P**	**02 57 35.8**	**-1.8**
	comp=Z,71nm,1.1s						
WB2	**Warramunga Arr**	**31.95**	**256**	*e*P	**P**	**02 57 35.6**	**-2.1**
WRAB	**Tennant Creek**	**31.95**	**256**	*e*P	**P**	**02 57 36.4**	**-1.4**
	comp=Z,71nm,1.1s						
WRAB				*e*PcP	**PcP**	**03 00 25.0**	**-0.2**
WRAB	**Tennant Creek**	**31.95**	**256**	*e*P	**P**	**02 57 36.4**	**-1.4**
WRAB				*e*		03 00 25.0	
WRAB				pmax	pmax		
	comp=Z,71nm,1.1s						
WRA	**Warramunga Arr**	**31.96**	**256**	P	**P**	**02 57 36.5**	**-1.4**
	comp=Z,34nm,0.9s,baz=86,slow=8.4,SNR=111						
WRA				PcP	**PcP**	**03 00 25.0**	**-0.2**
	comp=Z,24nm,0.9s,baz=85,slow=2.8,SNR=11						
WRA				S	**S**	**03 02 35.4**	**-4.5**
	comp=Z,2.5nm,1.0s,baz=84,slow=14,SNR=5.3						
WRA				PKiKP	**PKiKP**	**03 07 52.5**	**-1.0**
	comp=Z,2.5nm,0.9s,baz=16,slow=0.7,SNR=8.2						
WRA				LR	LR	03 10 38.0	
	comp=Z,3μm,18.4s,baz=85,slow=36						
WRA				SKKS	**SKKSdf**	**03 29 40.2**	**-1.3**
	comp=Z,3.8nm,1.0s,baz=274,slow=3.2,SNR=6.3						
WRA	**Warramunga Arr**	**31.96**	**256**	P	**P**	**02 57 36.5**	**-1.4**
WRA						03 00 25.0	
WRA				S	**S**	**03 02 35.4**	**-4.5**
WRA				*i*		03 07 52.5	
WRA				pmax	pmax		
	comp=Z,35nm,0.9s						
WRA				pmax	pmax		
	comp=Z,24nm,0.9s						
WRA				smax	smax		
	comp=N,3.0nm,1.0s						
WRA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRA				MLR	MLR		
	comp=Z,3μm,18.4s						
MOO	**Moorlands**	**32.44**	**209**	P	**P**	**02 57 42.8**	**+1.0**
	baz=32,SNR=9.6						
AS01	**Alice Springs**	**32.72**	**250**	*e*P	**P**	**02 57 42.9**	**-1.6**
TAU	**Tasmania Unive**	**32.75**	**208**	*e*P	**P**	**02 57 44.5**	**0.0**
	comp=Z,274nm,1.7s						
TAU				*e*PcP	**PcP**	**03 00 26.9**	**0.0**
TAU	**Tasmania Unive**	**32.75**	**208**	*e*P	**P**	**02 57 44.5**	**0.0**
TAU				*e*		03 00 26.9	
TAU				pmax	pmax		
	comp=Z,274nm,1.7s						
AS31	**Alice Springs**	**32.76**	**250**	*e*P	**P**	**02 57 44.1**	**-0.8**
	comp=Z,44nm,0.8s						
ASAR	**Alice Springs**	**32.77**	**250**	P	**P**	**02 57 44.0**	**-0.9**
	comp=Z,132nm,0.9s,baz=79,slow=9.0,SNR=610						
ASAR				PcP	**PcP**	**03 00 27.0**	**-0.4**
	comp=Z,14nm,0.9s,baz=88,slow=2.4,SNR=8.1						
ASAR				S	**S**	**03 02 47.9**	**-4.6**
	comp=Z,15nm,1.2s,baz=71,slow=16,SNR=6.4						
ASAR				ScP	**ScP**	**03 04 01.1**	**+1.5**
	comp=Z,3.2nm,0.9s,baz=79,slow=3.7,SNR=4.9						
ASAR				PKiKP	**PKiKP**	**03 07 52.5**	**-1.6**
	comp=Z,1.3nm,0.9s,baz=139,slow=1.9,SNR=4.1						
ASAR				SKKS	**SKKSdf**	**03 29 40.2**	**-0.6**
	comp=Z,1.0nm,1.0s,baz=276,slow=3.6,SNR=5.9						
BBOO	**Buckleboo**	**33.57**	**233**	P	**P**	**02 57 52.6**	**+0.8**
	baz=34,SNR=123						
BBOO	**Buckleboo**	**33.57**	**233**	*e*P	**P**	**02 57 52.1**	**+0.3**
	comp=Z,318nm,1.0s						
KDU	**Kakadu**	**34.05**	**269**	P	**P**	**02 57 55.5**	**-0.6**
	baz=34,SNR=14						
MTN	**Manton Dam**	**35.32**	**269**	*e*P	**P**	**02 58 06.9**	**-0.1**
	comp=Z,38nm,1.0s						
GUMO	**Guam**	**36.17**	**321**	LR	LR	03 11 43.8	
	comp=Z,474nm,22.0s,baz=144,slow=34						
FAKI	**Fak Fak**	**36.74**	**286**	*e*P	**P**	**02 58 19.1**	**-0.1**
	comp=Z,117nm,1.2s						
KNRA	**Kununurra**	**37.31**	**264**	P	**P**	**02 58 23.2**	**-0.7**
	baz=37,SNR=34						
WRKA	**Warakurna**	**38.02**	**248**	P	**P**	**02 58 29.3**	**-0.6**
	baz=38,SNR=124						
XMAS	**Kiritimati**	**38.63**	**67**	*e*P	**P**	**02 58 32.7**	**-2.3**
	comp=Z,193nm,1.3s						
FORT	**Forrest**	**39.33**	**240**	P	**P**	**02 58 40.9**	**+0.3**
	baz=39,SNR=107						
FORT	**Forrest**	**39.33**	**240**	*e*P	**P**	**02 58 40.2**	**-0.5**
	comp=Z,226nm,0.8s						
PALU	**Palau**	**39.54**	**302**	P	**P**	**02 58 43.6**	**+1.0**
	baz=40,SNR=7.8						
FITZ	**Fitzroy Crossi**	**40.16**	**260**	P	**P**	**02 58 47.3**	**-0.4**
	comp=Z,75nm,0.9s,baz=92,slow=11						
FITZ				S	**S**	**03 04 41.8**	**-3.2**
	comp=Z,2.7nm,0.9s,baz=197,slow=14,SNR=3.3						
FITZ				LR	LR	03 15 41.0	
	comp=Z,2μm,18.7s,baz=92,slow=36						
FITZ	**Fitzroy Crossi**	**40.16**	**260**	P	**P**	**02 58 47.4**	**-0.4**
	baz=40,SNR=67						
FITZ	**Fitzroy Crossi**	**40.16**	**260**	*e*P	**P**	**02 58 47.4**	**-0.4**
	comp=Z,116nm,1.0s						
FITZ				S	**S**	**03 04 41.8**	**-3.2**
PAE	**Paea**	**41.23**	**100**	*e*P	**P**	**02 58 58.1**	**+1.6**
	comp=Z,28nm,1.2s						
PPT2	**Papeete2**	**41.24**	**100**	*e*P	**P**	**02 58 58.6**	**+2.0**
	comp=Z,134nm,1.2s						
PPT2				*e*S	**S**	**03 05 01.7**	**+0.6**
	comp=Z,734nm,23.8s						
PPT2				*e*LQ	LQ	03 08 56.6	
	comp=Z,1μm,22.8s						
PPT2				*e*LR	LR	03 10 45.2	
	comp=Z,4μm,32.0s						
PPT	**Papeete**	**41.24**	**100**	P	**P**	**02 58 57.5**	**+1.0**
	comp=Z,87nm,0.9s,baz=57,slow=8.4,SNR=7.5						
PPT	**Papeete**	**41.24**	**100**	*e*P	**P**	**02 58 57.7**	**+1.1**
PPT	**Papeete**	**41.24**	**100**	*e*P	**P**	**02 58 57.7**	**+1.1**
PPTF	**Pamatai, Papee**	**41.25**	**100**	*e*P	**P**	**02 58 58.0**	**+1.3**
	comp=Z,224nm,1.2s						
TBI	**Tubuai**	**41.38**	**108**	*e*P	**P**	**02 58 59.5**	**+1.8**
	comp=Z,130nm,1.1s						
TBI				*e*S	**S**	**03 05 04.2**	**+1.2**
	comp=Z,666nm,27.0s						
TBI				*e*LQ	LQ	03 09 07.9	
	comp=Z,2μm,30.8s						
TBI				*e*LR	LR	03 10 57.2	
	comp=Z,3μm,35.0s						
TIAR	**Tiarei**	**41.46**	**100**	*e*P	**P**	**02 59 00.3**	**+1.9**
	comp=Z,81nm,1.3s						
TVO	**Taravao**	**41.53**	**100**	*e*P	**P**	**02 59 01.0**	**+1.9**
	comp=Z,62nm,1.3s						
SOEI	**Soe**	**42.48**	**272**	*e*P	**P**	**02 59 07.3**	**+0.4**
	comp=Z,198nm,1.1s						
BATI	**Baumata**	**42.97**	**271**	P	**P**	**02 59 11.9**	**+1.1**
	baz=302,slow=1.3						
BATI				LR	LR	03 17 40.4	
	comp=Z,620nm,18.7s,baz=117,slow=37						
PMOR	**Pomariorio Ree**	**43.05**	**96**	*e*P	**P**	**02 59 13.1**	**+1.9**
	comp=Z,417nm,1.4s						
VAH	**Vaihoa**	**43.28**	**96**	*e*P	**P**	**02 59 14.8**	**+1.7**
	comp=Z,287nm,1.5s						
KMBL	**Kambalda**	**44.63**	**240**	P	**P**	**02 59 23.6**	**-0.2**
	baz=44,SNR=18						
MMRI	**Maumere**	**44.67**	**273**	*e*P	**P**	**02 59 24.4**	**+0.1**
	comp=Z,347nm,1.2s						
MBWA	**Marble Bar**	**45.67**	**255**	*e*P	**P**	**02 59 31.4**	**-0.6**
MBWA	**Marble Bar**	**45.67**	**255**	P	**P**	**02 59 32.7**	**+0.6**
	SNR=11						
LUWI	**Luwuk**	**46.27**	**283**	*e*P	**P**	**02 59 36.9**	**+0.1**
	comp=Z,264nm,1.2s						
MEEK	**Meekatharra**	**46.87**	**247**	P	**P**	**02 59 41.3**	**-0.1**
	baz=47,SNR=37						
DAV	**Davao City (W)**	**46.97**	**295**	LR	LR	03 19 06.2	
	comp=Z,403nm,19.0s,baz=126,slow=35						
KLBR	**Kellerberrin**	**48.15**	**241**	P	**P**	**02 59 50.6**	**-0.6**
	baz=48,SNR=29						
NWAO	**Narrogin (SRO)**	**48.78**	**239**	P	**P**	**02 59 55.7**	**-0.4**
	baz=49,SNR=20						
NWAO	**Narrogin (SRO)**	**48.78**	**239**	*e*P	**P**	**02 59 55.6**	**-0.4**
	comp=Z,204nm,1.1s						
NWAO	**Narrogin (SRO)**	**48.78**	**239**	P	**P**	**02 59 56.1**	**+0.1**
	SNR=10						
NWAO	**Narrogin (SRO)**	**48.78**	**239**	*e*P	**P**	**02 59 55.6**	**-0.4**
NWAO				pmax	pmax		
	comp=Z,204nm,1.1s						
BLDU	**Ballidu**	**48.91**	**242**	P	**P**	**02 59 56.7**	**-0.4**
	baz=49,SNR=7.2						
RKGY	**Rocky Gully**	**49.27**	**237**	P	**P**	**03 00 00.1**	**+0.3**
	baz=49,SNR=14						
MORW	**Morawa**	**49.33**	**244**	P	**P**	**03 00 00.1**	**-0.2**
	baz=49,SNR=21						
MUN	**Mundaring**	**49.50**	**241**	P	**P**	**03 00 01.4**	**-0.2**
	baz=49,SNR=13						
TAOE	**Nuku Hiva Isla**	**51.51**	**89**	*e*S	**S**	**03 07 27.9**	**0.0**
	comp=Z,939nm,24.9s						
TAOE				*e*LR	LR	03 15 28.3	
	comp=Z,2μm,35.2s						
RCP	**Roxas**	**51.58**	**298**	*e*P	**P**	**03 00 17.9

YULB	**Yu-li**	**59.13 309**	*e*P		**P**	**03 01 11.3**	**0.0**
	comp=Z,98nm,1.6s							
LEM	**Lembang**	**59.19 271**	P		**P**	**03 01 11.9**	**-0.2**
	baz=117,slow=5.1							
LEM	**Lembang**	**59.19 271**	P		**P**	**03 01 12.0**	**-0.2**
JNU	**Nakatsue**	**59.27 324**	*e*P		**P**	**03 01 12.6**	**+0.5**
	comp=Z,278nm,2.0s							
NACB	**Ninganchiao**	**59.37 310**	*e*P		**P**	**03 01 13.4**	**+0.5**
	comp=Z,134nm,1.3s							
TPUB	**Ta-pu**	**59.58 309**	*e*P		**P**	**03 01 13.7**	**-0.7**
	comp=Z,52nm,0.8s							
SSLB	**Suanglung**	**59.61 310**	*e*P		**P**	**03 01 14.5**	**-0.1**
	comp=Z,41nm,0.9s							
YHNB	**Yeheng**	**59.82 311**	*e*P		**P**	**03 01 16.4**	**+0.3**
	comp=Z,117nm,0.9s							
YUK	**Yuzh-Kuril'sk**	**61.99 342**	*e*P		**P**	**03 01 29.4**	**-0.8**
YUK			*e*			03 02 12.3		
YUK			*e*			03 03 55.8		
YUK			*e*S		**S**	**03 09 42.5**	**-1.9**
YUK			*e*			03 11 00.8		
YUK			*e*SS		**SS**	**03 13 43.0**	**-6.5**
YUK			pmax	pmax				
	comp=Z,544nm,1.1s							
YUK			pmax	pmax				
	comp=N,138nm,0.9s							
YUK			pmax	pmax				
	comp=E,262nm,1.2s							
YUK			pmax	pmax				
	comp=Z,468nm,2.8s							
QZH	**Quanzhou**	**62.04 309**	*e*P		**P**	**03 01 34.6**	**+3.6**
QZH			S		**S**	**03 09 45.6**	**-0.1**
QZH			sS		**sS**	**03 10 39.3**	**0.0**
KUR	**Kuril'sk**	**62.54 344**	*ce*P		**P**	**03 01 34.6**	**+0.7**
VNDA	**Vanda**	**62.59 181**	P		**P**	**03 01 34.3**	**+0.5**
	comp=Z,19nm,0.7s,baz=357,slow=7.1,SNR=111							
VNDA			LR		LR	03 26 58.1		
	comp=Z,185nm,18.3s,baz=34,slow=34							
VNDA	**Vanda**	**62.59 181**	*e*P		**P**	**03 01 34.5**	**+0.6**
	comp=Z,221nm,1.8s							
VNDA	**Vanda**	**62.59 181**	*e*P		**P**	**03 01 34.5**	**+0.6**
VNDA			pmax	pmax				
	comp=Z,221nm,1.8s							
SBA	**Scott Base**	**62.86 180**	*e*P		**P**	**03 01 37.0**	**+1.4**
	comp=Z,115nm,0.9s							
SBA	**Scott Base**	**62.86 180**	*e*P		**P**	**03 01 37.0**	**+1.4**
SBA			pmax	pmax				
	comp=Z,115nm,0.9s							
ASAJ	**Asahikawa**	**63.07 340**	P		**P**	**03 01 38.4**	**+0.9**
	comp=Z,123nm,1.1s,baz=222,slow=11,SNR=26							
ASAJ			LR		LR	03 25 49.7		
	comp=Z,276nm,20.3s,baz=168,slow=33							
ASAJ	**Asahikawa**	**63.07 340**	*e*P		**P**	**03 01 38.4**	**+0.9**
	comp=Z,125nm,1.0s							
CASY	**Casey**	**63.35 202**	*e*P		**P**	**03 01 38.9**	**-0.1**
	comp=Z,206nm,1.7s							
TJN	**Taejon**	**63.61 325**	*ce*P		**P**	**03 01 40.4**	**-0.8**
KSRS	**Korea Array**	**64.08 326**	P		**P**	**03 01 44.6**	**+0.4**
	comp=Z,5.6nm,0.8s,baz=138,slow=6.6,SNR=12							
KSRS			pP		**pP**	**03 02 15.8**	**+0.3**
	comp=Z,5.7nm,0.8s,baz=144,slow=6.8,SNR=4.5							
KSRS			LR		LR	03 25 36.6		
	comp=Z,193nm,22.0s,baz=120,slow=32							
KSAR	**Wonju Array Be**	**64.10 326**	P		**P**	**03 01 44.6**	**+0.3**
KSAR			pP		**pP**	**03 02 15.8**	**+0.2**
KSAR	**Wonju Array Be**	**64.10 326**	P		**P**	**03 01 44.6**	**+0.3**
KSAR			*PP		**pP**	**03 02 15.8**	**+0.2**
KS01	**Wonju Array Si**	**64.12 326**	*e*P		**P**	**03 01 44.1**	**-0.3**
MYKOM	**Kota Tinggi**	**65.10 279**	*e*P		**P**	**03 01 51.6**	**+0.3**
	comp=Z,71nm,1.3s							
MYKOM			*ep*P		**pP**	**03 02 22.6**	**-0.1**
YSS	**Yuzh-Sakhalins**	**65.56 342**	*e*P		**P**	**03 01 54.7**	**+1.2**
	comp=Z,230nm,1.3s							
YSS	**Yuzh-Sakhalins**	**65.56 342**	*α i*P		**P**	**03 01 55.3**	**+1.7**
YSS			*e**PP		**pP**	**03 02 26.0**	**+1.0**
YSS			*e**SP		**sP**	**03 02 42.9**	**+4.0**
YSS			*e*S		**S**	**03 10 32.7**	**+4.3**
YSS			pmax	pmax				
	comp=Z,500nm,2.0s							
YSS			pmax	pmax				
	comp=Z,110nm,1.2s							
YSS			pmax	pmax				
	comp=Z,500nm,4.0s							
TEY	**Ternei**	**66.01 337**	⇑*e*P		**P**	**03 01 59.4**	**+2.9**
TEY			pmax	pmax				
	comp=Z,20nm,1.1s							
NJ2	**Nanjing**	**66.02 316**	*e*P		**P**	**03 01 57.5**	**+0.6**
NJ2			pmax	pmax				
	comp=Z,44nm,0.5s							
QIZ	**Qiongzhong**	**66.05 299**	P		**P**	**03 01 58.8**	**+1.5**
QIZ			pP		**PcP**	**03 02 26.6**	**-0.3**
QIZ			S		**S**	**03 10 38.3**	**+2.8**
QIZ			sS		**sS**	**03 11 28.0**	**-1.7**
QIZ			pmax	pmax				
	comp=Z,300nm,4.6s							
USA0B	**Ussuriysk Arra**	**67.23 333**	*e*P		**P**	**03 02 04.6**	**+0.4**
	comp=Z,131nm,1.4s							
USRK	**Ussuriysk Ar.**	**67.23 333**	P		**P**	**03 02 05.2**	**+1.0**
	comp=Z,51nm,1.0s,baz=134,slow=5.5,SNR=43							
PET	**Petropavlovsk**	**68.18 354**	*e*P		**P**	**03 02 11.2**	**+1.2**
PET			*e**PP		**pP**	**03 02 43.4**	**+1.8**
PET			*e*S		**S**	**03 11 03.1**	**+3.4**
PET			pmax	pmax				
	comp=Z,47nm,0.9s							
WHN	**Wuhan**	**68.28 312**	⇑*i*P		**P**	**03 02 11.5**	**+0.3**
WHN			S		**S**	**03 11 00.6**	**-1.2**
WHN			pmax	pmax				
	comp=Z,74nm,0.9s							
WHN			LR	LR				
	comp=Z,1μm,18.1s							
PEA0B	**Petropavlovsk-**	**68.36 354**	*e*P		**P**	**03 02 11.4**	**+0.2**
	comp=Z,72nm,1.1s							
PETK	**Petropavlovsk-**	**68.36 354**	P		**P**	**03 02 11.9**	**+0.7**
	comp=Z,32nm,0.9s,baz=142,slow=7.5,SNR=22							
PETK			pP		**pP**	**03 02 44.4**	**+1.6**
	comp=Z,18nm,1.0s,baz=153,slow=8.0,SNR=3.5							
PETK			LR		LR	03 27 16.3		
	comp=Z,226nm,20.5s,baz=163,slow=32							
COCO	**West Island**	**68.46 263**	*i* P		**P**	**03 02 14.9**	**+2.2**
IPM	**Ipoh**	**68.60 281**	*e*P		**P**	**03 02 13.0**	**-0.6**
	comp=Z,157nm,1.1s							
MDJ	**Mudanjiang**	**68.62 332**	P		**P**	**03 02 14.3**	**+1.3**
MDJ			pP		pP	03 02 45.8	+1.1
MDJ			sP		sP	03 02 59.8	+1.2
MDJ			S		**S**	**03 11 09.0**	**+3.7**
MDJ			pmax	pmax				
	comp=Z,79nm,1.2s							
MDJ			pmax	pmax				
	comp=Z,610nm,5.7s							
MDJ	**Mudanjiang**	**68.62 332**	*e*P		**P**	**03 02 13.8**	**+0.8**
	comp=Z,101nm,1.3s							
DL2	**Dalian**	**68.64 323**	⇑*i*P		**P**	**03 02 13.9**	**+0.6**
DL2			pP		**PcP**	**03 02 40.3**	**+3.0**
DL2			*e*S		**S**	**03 11 04.0**	**-1.8**
DL2			pmax	pmax				
	comp=Z,59nm,1.0s							
DL2			pmax	pmax				
	comp=Z,230nm,3.5s							
TYV	**Tymovskoe**	**69.10 343**	*e*P		**P**	**03 02 17.1**	**+1.3**
TYV			pmax	pmax				
	comp=Z,300nm,3.9s							
TYV			pmax	pmax				
	comp=Z,30nm,1.4s							
KULM	**Kulim**	**69.20 282**	*e*P		**P**	**03 02 16.9**	**-0.4**
	comp=Z,111nm,1.1s							
KULM	**Kulim**	**69.20 282**	P		**P**	**03 02 17.0**	**-0.3**
SKLT	**Songkhla**	**69.82 284**	P		**P**	**03 02 22.4**	**+1.3**
	comp=Z,109nm,1.2s,comp=Z,1μm							
CN2	**Changchun**	**69.99 329**	*e*P		**P**	**03 02 21.9**	**+0.5**
CN2			PcP		**PcP**	**03 02 43.0**	**+0.1**
CN2			*es*P		sP	03 03 08.0	+0.9
CN2			*e*S		**S**	**03 11 21.8**	**+0.4**
CN2			pmax	pmax				
	comp=Z,40nm,1.0s							
CN2			pmax	pmax				
	comp=Z,200nm,3.0s							
PSI	**Prapat**	**70.10 279**	P		**P**	**03 02 21.9**	**-1.0**
	comp=Z,80nm,1.0s,baz=180,slow=2.9,SNR=43							
PSI			pP		**pP**	**03 02 53.6**	**-1.1**
	comp=Z,25nm,0.9s,baz=182,slow=0.8,SNR=2.8							
PSI	**Prapat**	**70.10 279**	*e*P		**P**	**03 02 21.6**	**-1.3**
	comp=Z,170nm,1.2s							
PSI			pP		**pP**	**03 02 53.6**	**-1.1**
SKNT	**Sakolnakorn**	**70.25 294**	P		**P**	**03 02 24.4**	**+0.8**
	comp=Z,57nm,1.2s,comp=Z,2μm							
SRAK	**Srakaew**	**70.86 291**	P		**P**	**03 02 27.3**	**0.0**
	comp=Z,34nm,1.1s,comp=Z,474nm							
TRTT	**Trang**	**70.91 284**	P		**P**	**03 02 28.7**	**+1.0**
	comp=Z,40nm,1.1s,comp=Z,531nm							
GRNR	**Gornyy**	**70.92 340**	*e*P		**P**	**03 02 29.0**	**+2.0**
GRNR			pmax	pmax				
	comp=N,40nm,1.0s							
GRNR			pmax	pmax				
	comp=Z,84nm,1.0s							
GSI	**Gunungsitoli**	**70.97 277**	*e*P		**P**	**03 02 28.9**	**+0.8**
	comp=Z,199nm,1.0s							
KLR	**Kul'dur**	**71.34 336**	P		**P**	**03 02 30.5**	**+1.0**
	comp=Z,77nm,1.2s,baz=129,slow=4.8,SNR=47							
KLR			pP		**pP**	**03 03 01.8**	**+0.4**
	comp=Z,7.3nm,0.8s,baz=307,slow=3.0,SNR=2.0							
KLR			LR		LR	03 30 15.7		
	comp=Z,128nm,21.5s,baz=160,slow=33							
KLR	**Kul'dur**	**71.34 336**	*c i*P		**P**	**03 02 30.3**	**+0.8**
SURA	**Surathani**	**71.40 285**	P		P	03 02 38.5	+7.9
PATY	**Pattaya**	**71.53 289**	P		**P**	**03 02 33.8**	**+2.4**
	comp=Z,27nm,1.1s,comp=Z,2μm							
CHAI	**Chaiyaphum**	**71.60 293**	P		**P**	**03 02 32.5**	**+0.7**
	comp=Z,14nm,1.0s,comp=Z,142nm							
NKL	**Nikolayevsk**	**71.69 343**	*e*P		**P**	**03 02 32.0**	**+0.5**
NKL			*e*			03 03 05.0		
NKL			pmax	pmax				
	comp=Z,600nm,8.0s							
NKL			pmax	pmax				
	comp=Z,60nm,1.0s							
ENH	**Enshi**	**71.70 309**	*e*P		**P**	**03 02 32.3**	**+0.1**
	comp=Z,76nm,0.9s							
GYA	**Guiyang**	**72.04 305**	⇑*i*P		**P**	**03 02 34.6**	**+0.2**
GYA			pP		pP	03 03 08.4	+2.1
GYA			sP		sP	03 03 22.0	+1.8
GYA			PP		**PP**	**03 05 19.8**	**+3.5**
GYA			S		**S**	**03 11 46.4**	**+0.3**
GYA			SKS		**SKSac**	**03 12 23.3**	**-3.6**
GYA			sS		sS	03 12 42.0	+0.9
GYA			SS		**SS**	**03 16 28.5**	**+2.4**
GYA			pmax	pmax				
	comp=Z,50nm,0.9s							
GYA			pmax	pmax				
	comp=Z,140nm,5.6s							
GYA			LR	LR				
	comp=Z,640nm,18.9s							
GYA			LR	LR				
	comp=Z,680nm,19.4s							
GYA			LR	LR				
	comp=Z,710nm,20.8s							
PKDT	**Phuket**	**72.20 284**	P		**P**	**03 02 37.6**	**+2.2**
	comp=Z,22nm,1.4s,comp=Z,640nm							
BJT	**Baijiatuan**	**72.60 321**	*e*P		**P**	**03 02 36.9**	**-0.3**
	comp=Z,140nm,1.8s							
BJT			*ep*P		**pP**	**03 03 09.3**	**+0.1**
BJT	**Baijiatuan**	**72.60 321**	*e*P		**P**	**03 02 36.9**	**-0.3**
BJT			*e**PP		**pP**	**03 03 09.3**	**+0.1**
BJT			pmax	pmax				
	comp=Z,140nm,1.8s							
BJI	**Beijing**	**72.61 321**	⇓*i*P		**P**	**03 02 37.4**	**+0.1**
BJI			sP		**sP**	**03 03 26.0**	**+2.9**
BJI			S		**S**	**03 11 55.1**	**+3.4**
BJI			pmax	pmax				
	comp=Z,24nm,1.4s							
BJI			pmax	pmax				
	comp=Z,360nm,4.1s							
PHET	**Kaeng Krachan**	**72.66 289**	P		**P**	**03 02 40.1**	**+2.0**
	comp=Z,21nm,1.2s							
PBKT	**Sadao Pong**	**72.76 293**	*e*P		**P**	**03 02 39.2**	**+0.6**
PBKT	**Sadao Pong**	**72.76 293**	P		**P**	**03 02 40.0**	**+1.4**
	comp=Z,65nm,1.4s							
UTTA	**Uttaradit**	**73.56 294**	P		**P**	**03 02 44.8**	**+1.4**
	comp=Z,20nm,1.0s,comp=Z,168nm							
SRDT	**SRDT**	**73.62 290**	P		**P**	**03 02 45.8**	**+2.1**
	comp=Z,67nm,1.4s,comp=Z,2μm							
UTHA	**Uthaitani**	**73.75 291**	P		**P**	**03 02 46.1**	**+1.6**
	comp=Z,20nm,1.2s,comp=Z,192nm							
NANT	**Nan**	**73.83 295**	P		**P**	**03 02 45.9**	**+1.0**
	comp=Z,35nm,1.0s,comp=Z,311nm							
XAN	**Xi'an**	**74.03 313**	P		**P**	**03 02 46.4**	**+0.6**
XAN			pP		pP	03 03 16.4	-1.5
XAN			sP		sP	03 03 33.0	+1.3
XAN			S		**SKiKP**	**03 12 02.0**	**+0.6**
XAN			sS		sS	03 12 56.3	-7.1
XAN			pmax	pmax				
	comp=Z,41nm,0.9s							
XAN			pmax	pmax				
	comp=Z,390nm,4.9s							
XAN			LR	LR				
	comp=Z,320nm,22.8s							
XAN			LR	LR				
	comp=Z,230nm,18.4s							
XAN			LR	LR				
	comp=Z,310nm,21.7s							
SUKH	**Sukhothai**	**74.28 293**	P		**P**	**03 02 49.2**	**+1.6**
	comp=Z,13nm,1.0s							
UMPA	**Umpang Tak**	**74.51 292**	P		**P**	**03 02 50.8**	**+1.9**
	comp=Z,13nm,1.1s,comp=Z,2μm							
KMI	**Kunming**	**74.62 302**	P		**P**	**03 02 51.3**	**+1.6**
KMI			pP		pP	03 03 23.0	+1.2
KMI			sP		sP	03 03 37.3	+1.7
KMI			S		**S**	**03 12 15.4**	**-0.1**
KMI			sS		sS	03 13 10.5	-0.4
KMI			pmax	pmax				
	comp=Z,91nm,1.1s							
KMI			pmax	pmax				
	comp=Z,250nm,3.1s							
KMI			LR	LR				
	comp=Z,210nm,17.7s							
KMI			LR	LR				
	comp=Z,160nm,12.0s							
KMI			LR	LR				
	comp=Z,290nm,19.5s							
LAMP	**Lampang**	**74.67 294**	P		**P**	**03 02 51.5**	**+1.7**
	comp=Z,42nm,0.9s,comp=Z,345nm							
PAYA	**Payao**	**74.77 295**	P		**P**	**03 02 51.6**	**+1.2**
	comp=Z,35nm,1.3s,comp=Z,264nm							
QSPA	**South Pole Qui**	**75.02 180**	P		**P**	**03 02 51.4**	**+0.2**
	comp=Z,123nm,1.0s,baz=18,slow=1.8,SNR=244							
CM01	**Chiang Mai Arr**	**75.22 294**	*e*P		**P**	**03 02 53.8**	**+0.9**
CM01			*ep*P		**pP**	**03 03 24.0**	**-1.1**
CM31	**Chiang Mai Arr**	**75.25 294**	*e*P		**P**	**03 02 53.1**	**-0.1**
CM31	**Chiang Mai Arr**	**75.25 294**	P		**P**	**03 02 54.9**	**+1.7**
	SNR=15							
CM31	**Chiang Mai Arr**	**75.25 294**	P		**P**	**03 02 54.9**	**+1.7**
	SNR=15							
CMAR	**Chiang Mai Arr**	**75.25 294**	P		**P**	**03 02 54.2**	**+1.1**
	comp=Z,34nm,1.0s,baz=122,slow=4.0,SNR=85							
CMAR			pP		**pP**	**03 03 24.7**	**-0.6**
	comp=Z,13nm,0.9s,baz=124,slow=3.9,SNR=4.4							
CMMT	**Chiang Mai**	**75.37 294**	P		**P**	**03 02 55.0**	**+1.1**
	comp=Z,64nm,1.3s,comp=Z,997nm							
CHTO	**Chiang Mai**	**75.38 294**	*e*P		**P**	**03 02 54.3**	**+0.4**
	comp=Z,108nm,1.4s							
CHTO			*ep*P		**pP**	**03 03 25.2**	**-0.9**
CHTO	**Chiang Mai**	**75.38 294**	P		**P**	**03 02 55.4**	**+1.5**
	SNR=17							
CHTO	**Chiang Mai**	**75.38 294**	P		**P**	**03 02 55.4**	**+1.5**
	SNR=17							
CHTO	**Chiang Mai**	**75.38 294**	*e*P		**P**	**03 02 54.3**	**+0.4**
CHTO			*e**PP		**pP**	**03 03 25.2**	**-0.9**
CHTO			pmax	pmax				
	comp=Z,108nm,1.4s							
CHTO	**Chiang Mai**	**75.38 294**	P		**P**	**03 02 55.0**	**+1.1**
	comp=Z,289nm,1.3s,comp=Z,4μm							
MA2	**Magadan**	**75.55 351**	P		**P**	**03 02 54.9**	**+0.9**
	comp=Z,17nm,0.9s,baz=186,slow=8.4,SNR=4.0							
HHC	**Hu-ho-hao-te**	**75.93 320**	*e*P		**P**	**03 02 58.4**	**+1.7**
HHC			pP		pP	03 03 30.3	+1.4
HHC			S		**S**	**03 12 29.1**	**0.0**
HHC			pmax	pmax				
	comp=Z,47nm,1.0s							
HHC			pmax	pmax				
	comp=Z,340nm,6.2s							
CD2	**Chengdu**	**76.34 308**	P		**P**	**03 02 59.0**	**-0.2**
CD2			pP		pP	03 03 29.9	-1.5
CD2			PP		**PP**	**03 05 52.1**	**-0.5**
CD2			S		**S**	**03 12 34.1**	**+0.2**
CD2			SKS		**SKSac**	**03 12 58.0**	**-0.8**
CD2			SS		**SS**	**03 17 32.8**	**+1.6**
CD2			pmax	pmax				
	comp=Z,10.0nm,0.5s							
CD2			pmax	pmax				
	comp=Z,510nm,4.4s							
CD2			LR	LR				
	comp=Z,640nm,26.8s							
CD2			LR	LR				
	comp=Z,460nm,19.9s							
CHGN	**Chignik**	**76.56 19**	*e*P		**P**	**03 03 00.8**	**+1.1**
	comp=Z,232nm,1.6s							
HIA	**Hailar**	**76.63 330**	*e*P		**P**	**03 02 59.6**	**-0.8**
	comp=Z,81nm,1.4s							
HIA	**Hailar**	**76.63 330**	*c i*P		**P**	**03 03 00.1**	**-0.2**
HIA			pmax	pmax				
	comp=Z,47nm,1.3s							
ZEA	**Zeya**	**76.63 337**	*e*P		**P**	**03 03 00.5**	**+0.3**
ZEA			pmax	pmax				
	comp=N,72nm,1.2s							
ZEA			pmax	pmax				
	comp=Z,85nm,1.2s							
BTO	**Baotou**	**76.77 319**	*e*P		**P**	**03 03 02.5**	**+1.1**
SEY	**Seymchan**	**78.58 353**	P		**P**	**03 03 10.8**	**0.0**
	comp=Z,23nm,1.0s,baz=162,slow=6.7,SNR=16							
SEY			pP		**pP**	**03 03 43.5**	**+0.3**
	comp=Z,13nm,1.0s,baz=160,slow=7.9,SNR=3.5							
SEY	**Seymchan**	**78.58 353**	*ce*P		**P**	**03 03 09.4**	**-1.4**
LZH	**Lanzhou**	**78.66 312**	⇑P		**P**	**03 03 14.0**	**+1.9**
LZH			pP		pP	03 03 43.9	-0.6
LZH			sP		sP	03 04 00.0	+1.8
LZH			PP		**PP**	**03 06 18.3**	**+6.2**
LZH			S		**S**	**03 12 52.8**	**-6.1**
LZH			pmax	pmax				
	comp=Z,110nm,1.3s							
LZH			pmax	pmax				
	comp=Z,610nm,4.9s							
LZH			LR	LR				
	comp=Z,590nm,12.5s							
LZH			LR	LR				
	comp=Z,500nm,13.6s							
LZH			LR	LR				
	comp=Z,710nm,13.6s							
MAW	**Mawson**	**81.70 202**	P		**P**	**03 03 28.2**	**+0.6**
	comp=Z,45nm,1.1s,baz=101,slow=7.2,SNR=37							
MAW			LR		LR	03 35 07.8		
	comp=Z,323nm,20.6s,baz=76,slow=32							
MAW	**Mawson**	**81.70 202**	P		**P**	**03 03 27.4**	**-0.3**
	baz=82,SNR=18							
MAW	**Mawson**	**81.70 202**	*e*P		**P**	**03 03 27.6**	**0.0**
	comp=Z,16nm,1.1s							
ANM	**Nome**	**82.00 11**	*e*P		**P**	**03 03 30.5**	**+1.4**
ANM			*ep*P		**pP**	**03 04 02.5**	**+0.8**
ANM	**Nome**	**82.00 11**	*e*P		**P**	**03 03 30.5**	**+1.4**
ANM			*e**PP		**pP**	**03 04 02.5**	**+0.8**
YAK	**Yakutsk**	**82.36 343**	P		**P**	**03 03 31.0**	**0.0**
	comp=Z,37nm,0.6s,baz=112,slow=1.4,SNR=26							
YAK	**Yakutsk**	**82.36 343**	*e*P		**P**	**03 03 31.0**	**0.0**
	comp=Z,161nm,1.0s							
YAK	**Yakutsk**	**82.36 343**	*e*P		**P**	**03 03 30.6**	**-0.4**
YAK			*e**PP		**pP**	**03 04 01.1**	**-2.5**
YAK			*e*			03 06 41.4		
YAK			*e*S		**S**	**03 13 34.2**	**-1.7**
YAK			*e**SS		**sS**	**03 14 29.2**	**-3.1**
YAK			*e*SS		**SS**	**03 19 00.4**	**+0.6**
YAK			*e*SSS		SSS	03 22 30.7		
YAK			pmax	pmax				
	comp=Z,204nm,1.4s							
YAK			pmax	pmax				
	comp=N,66nm,1.5s							
YAK			pmax	pmax				
	comp=E,31nm,1.5s							
YAK			pmax	pmax				
	comp=Z,14nm,0.9s							
YAK			pmax	pmax				
	comp=N,14nm,1.0s							
YAK			pmax	pmax				
	comp=E,68nm,1.9s							
YAK			smax	smax				
	comp=N,82nm,2.8s							
YAK			smax	smax				
	comp=E,271nm,3.6s							
ULN	**Ulaanbaatar**	**82.48 324**	*e*P		**P**	**03 03 32.5**	**+0.3**
	comp=E,171nm,1.6s							
ULN	**Ulaanbaatar**	**82.48 324**	P		**P**	**03 03 33.3**	**+1.1**
	SNR=29							
ULN	**Ulaanbaatar**	**82.48 324**	P		**P**	**03 03 33.3**	**+1.1**
	SNR=29							
ULN	**Ulaanbaatar**	**82.48 324**	*ce*P		**P**	**03 03 33.0**	**+0.8**
ULN			pmax	pmax				
	comp=Z,100nm,1.4s							
BILL	**Bilibino**	**82.82 360**	*e*P		**P**	**03 03 33.6**	**+0.3**
	comp=Z,30nm,1.1s							
BILL	**Bilibino**	**82.82 360**	*de*P		**P**	**03 03 33.9**	**+0.6**
BILL			*e**PP		**pP**	**03 04 06.8**	**+0.8**
BILL			*e*			03 06 52.0		
BILL			pmax	pmax				
	comp=Z,27nm,1.0s							
SONM	**Songino Array**	**82.84 324**	P		**P**	**03 03 34.7**	**+0.7**
	comp=Z,36nm,1.2s,baz=138,slow=3.8,SNR=100							
SONM			LR		LR	03 39 20.9		
	comp=Z,130nm,20.0s,baz=134,slow=35							
SONA1	**Songino Array**	**82.84 324**	*e*P		**P**	**03 03 33.8**	**-0.3**
GTA	**Gaotai**	**83.01 314**	*e*P		**P**	**03 03 36.3**	**+1.2**
GTA			pP		pP	03 04 06.9	-0.9
GTA			sP		sP	03 04 20.0	-1.5
GTA			S		**S**	**03 13 44.3**	**+0.4**
GTA			sS		sS	03 14 37.8	-2.5
GTA			pmax	pmax				
	comp=Z,70nm,1.4s							
GTA			pmax	pmax				
	comp=Z,490nm,9.3s							
GTA			LR	LR				
	comp=Z,470nm,20.6s							
GTA			LR	LR				
	comp=Z,340nm,21.0s							
GTA			LR	LR				
	comp=Z,250nm,18.9s							
BRDH	**Bariadhala**	**83.12 296**	P		**P**	**03 03 36.7**	**+0.8**
	comp=Z,68nm,0.4s,baz=89,slow=10,SNR=7.8							
SHL	**Shillong**	**83.88 298**	*e*P		**P**	**03 03 40.5**	**+0.6**
	comp=Z,183nm,0.9s							
SHL	**Shillong**	**83.88 298**	*e*P		**P**	**03 03 40.5**	**+0.6**
SHL			pmax	pmax				
	comp=Z,183nm,0.9s							
SHL	**Shillong**	**83.88 298**	*i* P		**P**	**03 03 41.0**	**+1.1**
KCPM	**Cahto Peak**	**84.01 46**	*ep*P		pP	03 04 16.6	+3.6
HOPS	**Hopland Field**	**84.08 47**	*e*P		**P**	**03 03 40.9**	**+0.5**
HOPS			*ep*P		**pP**	**03 04 15.0**	**+1.8**
KMRM	**Mail Ridge**	**84.15 46**	*e*P		**P**	**03 03 42.0**	**+1.2**
KMRM			*ep*P		**pP**	**03 04 12.9**	**-0.7**
KMRM			*ep*P		**pP**	**03 04 17.7**	**+4.1**
CAST	**Castle Rocks**	**84.20 17**	*e*P		**P**	**03 03 41.0**	**+0.5**
CAST			*ep*P		**pP**	**03 04 11.8**	**-1.5**
SAO	**San Andreas Ge**	**84.36 50**	*e*P		**P**	**03 03 41.3**	**-0.6**
SAO			*ep*P		**pP**	**03 04 16.2**	**+1.6**
SAO	**San Andreas Ge**	**84.36 50**	*e*P		**P**	**03 03 41.3**	**-0.6**
SAO			*e**PP		**pP**	**03 04 16.2**	**+1.6**
KHMM	**Horse Mountain**	**84.41 45**	*ep*P		pP	03 04 19.0	+4.0
PMPB	**Monarch Peak**	**84.62 50**	*e*P		**P**	**03 03 42.0**	**-1.3**
PMPB			*ep*P		**pP**	**03 04 16.2**	**+0.1**
PMPB			*ep*P		**pP**	**03 04 21.0**	**+4.9**
TRF	**Thorofare Moun**	**84.74 18**	*e*P		**P**	**03 03 43.0**	**-0.4**
TRF			*ep*P		**pP**	**03 04 13.2**	**-3.0**
O02D	**Mt. Diablo Mer**	**84.77 46**	P		**P**	**03 03 45.5**	**+1.6**
	baz=246

comp=Z,19nm,1.1s,baz=196,slow=6.7,SNR=8.8
YBH Yreka Blue Hor 85.47 45 *e*P **P 03 03 46.7 -0.7**
YBH ePP **pP 03 04 19.7 -0.6**
O03E Paynes Creek 85.51 46 P **P 03 03 50.0 +2.4**
baz=246
BWN Browne 85.53 17 *e*P **P 03 03 48.3 +1.2**
BWN ePP **pP 03 04 19.9 0.0**
AFDM Forest Hills D 85.56 48 *e*P **P 03 03 48.9 +1.0**
AFDM ePP **pP 03 04 19.4 -1.3**
CMB Columbia Colle 85.63 49 *e*P **P 03 03 48.8 +0.5**
comp=Z,9.8nm,0.6s
CMB ePP **pP 03 04 20.2 -1.0**
CMB Columbia Colle 85.63 49 *e*P **P 03 03 48.8 +0.5**
CMB *e**PP **pP 03 04 20.2 -1.0**
CMB pmax pmax
comp=Z,10.0nm,0.6s
HUMO Hull Mountain 85.67 44 *e*P **P 03 03 48.2 -0.1**
HUMO ePP **pP 03 04 20.7 -0.5**
ARVC Arvin 85.70 52 P **P 03 03 51.2 +2.6**
baz=248
VES Vestal, Richgr 85.77 51 P **P 03 03 49.4 +0.5**
baz=248
IM3 Indian Mountai 85.78 15 *e*P **P 03 03 48.0 -0.3**
IM3 ePP **pP 03 04 19.5 -1.7**
PASC Pasadena Art C 85.84 53 *e*P **P 03 03 49.7 +0.4**
PASC ePP **pP 03 04 21.7 -0.5**
PASC ePP **pP 03 04 24.8 +2.6**
LSA Lhasa 85.88 302 P **P 03 03 51.1 +0.9**
LSA pmax pmax
comp=Z,29nm,0.9s
LSA Lhasa 85.88 302 *e*P **P 03 03 50.5 +0.3**
comp=Z,26nm,0.8s
LSA Lhasa 85.88 302 *e*P **P 03 03 50.5 +0.3**
LSA pmax pmax
comp=Z,26nm,0.8s
ZAK Zakamensk 85.90 325 *e*P **P 03 03 47.7 -1.6**
ZAK pmax pmax
comp=Z,54nm,1.3s
L04D Klamath Falls 85.95 44 P **P 03 03 50.6 +0.8**
baz=246
MWC Mount Wilson 85.96 53 *e*P **P 03 03 51.1 +0.9**
MWC ePP **pP 03 04 22.3 -0.8**
MWC Mount Wilson 85.96 53 *e*P **P 03 03 51.1 +0.9**
MWC *e**PP **pP 03 04 22.3 -0.8**
M04C Macdoel 86.08 45 P **P 03 03 51.1 +0.6**
baz=246
WRH Wood River Hil 86.15 18 *e*P **P 03 03 50.9 +0.7**
WRH ePP **pP 03 04 20.7 -2.4**
ISA Isabella, Lake 86.16 52 *e*P **P 03 03 52.0 +1.1**
ISA ePP **pP 03 04 22.6 -1.3**
ISA Isabella, Lake 86.16 52 P **P 03 03 51.7 +0.7**
baz=249
CPE Camp Elliot 86.23 55 ePP pP 03 04 27.2 +3.0
EDW2 Edwards Air Fo 86.25 53 P **P 03 03 51.7 +0.3**
baz=249
BFSC Mount Baldy Ra 86.28 53 P **P 03 03 52.1 +0.4**
baz=249
TLY Talaya 86.34 326 *e*P **P 03 03 51.3 -0.1**
TLY *e*S **S 03 14 18.7 +2.6**
TLY pmax pmax
comp=Z,55nm,1.3s
BEKR Beckworth 86.36 47 *e*P **P 03 03 52.8 +0.9**
BEKR ePP **pP 03 04 24.0 -0.9**
CCB Clear Creek Bu 86.37 18 *e*P **P 03 03 51.4 +0.2**
CCB ePP **pP 03 04 24.4 +0.3**
MURC Murrieta 86.41 54 P **P 03 03 52.6 +0.4**
baz=249
MDPB Devils Postpil 86.44 50 *e*P **P 03 03 53.6 +1.1**
MDPB ePP **pP 03 04 24.7 -0.7**
HDA Harding Lake 86.45 18 *e*P **P 03 03 52.4 +0.8**
HDA ePP **pP 03 04 24.6 +0.1**
HDA Harding Lake 86.45 18 P **P 03 03 51.4 -0.2**
baz=224
MDM Murphy Dome 86.47 17 *e*P **P 03 03 52.0 +0.3**
MDM ePP **pP 03 04 24.1 -0.6**
WAKR Walker 86.50 49 *e*P **P 03 03 54.0 +1.3**
WAKR ePP **pP 03 04 25.2 -0.5**
BAR Barrett 86.50 55 ePP pP 03 04 24.2 -1.4
COLA College 86.52 18 *e*P **P 03 03 51.9 0.0**
comp=Z,10nm,1.3s
COLA ePP **pP 03 04 21.8 -3.0**
I04A Tendick Farm, 86.53 43 P **P 03 03 57.3 +4.7**
baz=246
G03D McMinnville, O 86.56 41 P **P 03 03 55.8 +3.2**
baz=245
PNTR Pine Nut 86.60 48 *e*P **P 03 03 53.6 +0.3**
PNTR ePP **pP 03 04 26.2 0.0**
H04D Lebanon 86.61 42 P **P 03 03 54.3 +1.4**
baz=245
RIDG Independe'e Rid 86.62 19 *e*P **P 03 03 53.4 +0.9**
RIDG ePP **pP 03 04 26.7 +1.2**
VCNR Virginia City 86.64 48 *e*P **P 03 03 53.9 +0.5**
VCNR ePP **pP 03 04 29.5 +3.1**
LRMC Laurel Mtn Rad 86.70 52 P **P 03 03 54.7 +1.0**
baz=249
IL1 Eielson Array 86.73 18 *e*P **P 03 03 51.1 -1.9**
ILAR Eielson Array 86.73 18 P **P 03 03 51.7 -1.3**
comp=Z,5.6nm,0.8s,baz=236,slow=5.5,SNR=35
ILAR PKKP **PKKPdf 03 21 46.5 +2.7**
comp=Z,1.1nm,0.9s,baz=2.1,slow=3.2,SNR=8.0
ILAR LR LR 03 36 12.9
comp=Z,265nm,20.9s,baz=237,slow=31
ILAR Eielson Array 86.73 18 P **P 03 03 51.7 -1.3**
ILAR pmax pmax
comp=Z,5.0nm,0.8s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILB Eielson Array 86.73 18 *e*P **P 03 03 52.7 -0.2**
CWC Cottonwood Cre 86.74 51 P **P 03 03 54.5 +0.6**
baz=249
MONP2 Monument Peak 86.78 55 P **P 03 03 55.0 +0.8**
baz=250
POKR Poker Plat Res 86.82 17 P **P 03 03 53.8 +0.4**
baz=223
YERR Yerington 86.82 48 *e*P **P 03 03 54.6 +0.3**
YERR ePP **pP 03 04 26.2 -1.0**
FRD Ford Ranch, An 86.84 54 P **P 03 03 55.0 +0.6**
baz=250
IKP In-Ko-Pah, Jac 86.94 55 P **P 03 03 55.1 +0.2**
baz=250
PAHR Pah Rah Range 86.99 48 *e*P **P 03 03 55.9 +0.9**
PAHR ePP **pP 03 04 27.1 -0.9**
PFO Pinyon Flats O 86.99 54 *e*P **P 03 03 54.8 -0.3**
comp=Z,3.4nm,0.7s
PFO ePP **pP 03 04 26.5 -1.6**
PFO Pinyon Flats O 86.99 54 *e*P **P 03 03 54.8 -0.3**
PFO *e**PP **pP 03 04 26.5 -1.6**
PFO pmax pmax
comp=Z,3.0nm,0.7s
PFO Pinyon Flats O 86.99 54 P **P 03 03 55.8 +0.6**
baz=250
XPFO Piæon Flat 87.00 54 *e*P **P 03 03 55.5 +0.4**
XPFO ePP **pP 03 04 27.4 -0.7**
H04A Detroit Lake 87.04 42 *e*P **P 03 03 55.7 +0.7**
H04A ePP **pP 03 04 28.0 0.0**
DAC Darwin (Calif) 87.05 51 *e*P **P 03 03 55.7 +0.3**
comp=Z,16nm,1.5s
DAC ePP **pP 03 04 27.3 -1.1**
DAC Darwin (Calif) 87.05 51 *e*P **P 03 03 55.7 +0.3**
DAC *e**PP **pP 03 04 27.3 -1.1**
DAC pmax pmax
comp=Z,16nm,1.5s
MPMC Manual Prospec 87.05 52 P **P 03 03 55.2 -0.2**
baz=249,SNR=6.3
SCRK Sand Creek 87.06 19 *e*P **P 03 03 56.0 +1.2**
comp=Z,14nm,0.9s
SCRK ePP **pP 03 04 32.4 +4.7**
J05D Fort Rock, OR 87.10 44 P **P 03 03 56.7 +1.3**
baz=246
MOD Modoc Plateau 87.19 45 *e*P **P 03 03 55.0 -0.9**
comp=Z,14nm,1.5s
MOD ePP **pP 03 04 29.1 +0.2**
RYN Ryan 87.21 49 *e*P **P 03 03 57.6 +1.5**
RYN ePP **pP 03 04 28.3 -0.8**
SWSC Sam W. Stewart 87.28 55 P **P 03 03 57.4 +1.0**
baz=250
NV01 Mina Array Sit 87.30 49 *e*P **P 03 03 57.0 +0.4**
NV01 ePP **pP 03 04 28.4 -1.2**
NVAR Mina Array Bea 87.30 49 P **P 03 03 56.3 -0.3**
comp=Z,2.8nm,0.9s,baz=235,slow=7.7,SNR=12
NVAR pP **pP 03 04 28.2 -1.4**
comp=Z,29nm,1.1s,baz=226,slow=7.0,SNR=11
NVAR PKKP **PKKPbc 03 21 48.8 +0.8**
comp=Z,0.8nm,0.8s,baz=131,slow=3.2,SNR=5.8
NVAR PKPPKP **P'P'df 03 29 47.8 -6.2**
comp=Z,0.5nm,0.8s,baz=241,slow=3.1,SNR=3.5
NVAR LR LR 03 35 34.6
comp=Z,181nm,21.4s,baz=261,slow=30
GSC Goldstone, Bar 87.31 53 *e*P **P 03 03 57.1 +0.5**
GSC ePP **pP 03 04 28.7 -0.8**
GSC Goldstone, Bar 87.31 53 *e*P **P 03 03 57.1 +0.5**
GSC *e**PP **pP 03 04 28.7 -0.8**
GSC Goldstone, Bar 87.31 53 P **P 03 03 56.6 0.0**
baz=250
NV11 Mina Array Sit 87.41 49 *e*P **P 03 03 58.0 +0.9**
NV11 ePP **pP 03 04 29.3 -0.7**
GRAC Grapevine Rang 87.48 51 P **P 03 03 57.9 +0.6**
baz=249,SNR=7.2
BELC Belle Mtn. Jos 87.49 54 P **P 03 03 58.7 +1.1**
baz=250,SNR=6.3
PINE Pine Mountain 87.50 43 *e*P **P 03 03 58.3 +0.9**
PINE ePP **pP 03 04 30.6 +0.2**
FURC Furnace Creek, 87.67 51 P **P 03 03 58.8 +0.7**
baz=250
KVN Kaiserville 87.67 49 *e*P **P 03 03 59.2 +0.8**
KVN ePP **pP 03 04 30.6 -0.8**
KVN Kaiserville 87.67 49 *e*P **P 03 03 59.2 +0.8**
KVN *e**PP **pP 03 04 30.6 -0.8**
BC3 Big Chuckawall 87.80 54 P **P 03 04 00.2 +1.2**
baz=250
GMRC Granite Mounta 88.01 53 P **P 03 04 00.5 +0.5**
baz=250,SNR=6.2
GLA Glamis 88.09 55 *e*P **P 03 04 00.8 +0.5**
GLA ePP **pP 03 04 33.5 +0.1**
GLA Glamis 88.09 55 *e*P **P 03 04 00.8 +0.5**
GLA *e**PP **pP 03 04 33.5 +0.1**
GLA Glamis 88.09 55 P **P 03 04 01.7 +1.5**
baz=251
ODAN Odare 88.11 298 *e*P **P 03 04 01.0 +0.2**
comp=Z,122nm,0.9s
IRM Iron Mountain 88.20 54 P **P 03 04 01.6 +0.8**
baz=251,SNR=16
TPNV Topopah Spring 88.30 51 *e*P **P 03 04 02.5 +1.1**
TPNV ePP **pP 03 04 33.4 -1.1**
TPNV Topopah Spring 88.30 51 P **P 03 04 01.9 +0.6**
baz=250,SNR=6.5
SYO Syowa Base 88.50 197↓ *i*P **P 03 04 00.8 -0.7**
SYO Syowa Base 88.50 197↓ *e*PcP **PcP 03 04 03.6 +0.6**
SYO Syowa Base 88.50 197↓ *i*pP pP 03 04 32.0 -2.5
EGAK Eagle 88.51 20 *e*P **P 03 04 02.8 +1.4**
comp=Z,17nm,1.0s
WVOR Wild Horse Val 88.53 45 *e*P **P 03 04 02.4 +0.1**
comp=Z,25nm,1.6s
WVOR ePP **pP 03 04 36.2 +0.8**
WVOR Wild Horse Val 88.53 45 *e*P **P 03 04 02.4 +0.1**
WVOR *e**PP **pP 03 04 36.2 +0.8**
WVOR pmax pmax
comp=Z,25nm,1.6s
LDFC Landfair 88.54 53 *e*P **P 03 04 02.6 +0.1**
LDFC ePP **pP 03 04 34.9 -0.6**
Y12C Blythe 88.56 55 *e*P **P 03 04 03.2 +0.8**
Y12C ePP **pP 03 04 35.3 -0.2**
Y12C Blythe 88.56 55 P **P 03 04 03.6 +1.2**
baz=251
I07A Izee 88.57 44 *e*P **P 03 04 02.9 +0.6**
I07A ePP **pP 03 04 38.8 +3.3**
PALK Pallekele 88.77 278 P **P 03 04 05.2 +1.3**
comp=Z,22nm,0.9s,baz=115,slow=4.1,SNR=8.9
PALK Pallekele 88.77 278 *e*P **P 03 04 04.0 +0.1**
comp=Z,21nm,0.8s
RAMN Ramite 88.81 298 *e*P **P 03 04 04.1 0.0**
113A Mohawk Valley, 88.84 56 *e*P **P 03 04 03.5 -0.3**
113A ePP **pP 03 04 36.4 -0.5**
113A ePP **pP 03 04 40.2 +3.4**
TOLK Toolik Lake Re 88.87 14 *e*P **P 03 04 03.6 +0.5**
TOLK ePP **pP 03 04 36.1 -0.2**
TOLK ePP **pP 03 04 39.2 +3.0**
TOLK Toolik Lake Re 88.87 14 P **P 03 04 04.4 +1.2**
baz=221
SHPR Sheep Range 88.97 52 *e*P **P 03 04 04.4 -0.1**
SHPR ePP **pP 03 04 36.5 -1.1**
F07A Phinny Hill Vi 88.98 42 *e*P **P 03 04 04.9 +0.8**
F07A ePP **pP 03 04 37.4 +0.2**
J08A Circle Bar Ran 88.99 45 *e*P **P 03 04 05.3 +1.0**
J08A ePP **pP 03 04 36.9 -0.6**
PDMCI Parker Dam,Lak 89.04 54 P **P 03 04 05.7 +1.0**
baz=251
R11A Troy Canyon, C 89.27 50 *e*P **P 03 04 06.7 +0.8**
R11A ePP **pP 03 04 38.1 -0.8**
R11A Troy Canyon, C 89.27 50 P **P 03 04 06.6 +0.7**
baz=250,SNR=9.6
E07A Sunnyside 89.29 41 *e*P **P 03 04 05.8 +0.3**
E07A ePP **pP 03 04 37.8 -0.9**
SLBS Sierra La Lagu 89.33 65 *e*P **P 03 04 04.9 -1.4**
SLBS ePP **pP 03 04 40.0 +0.5**
214A Organ Pipe Nat 89.36 57 P **P 03 04 07.4 +1.2**
baz=252
JIRN Jiri 89.37 299 *e*P **P 03 04 06.9 +0.1**
comp=Z,135nm,1.1s
G08A Pilot Rock 89.38 43 *e*P **P 03 04 07.1 +0.9**
G08A ePP **pP 03 04 38.9 -0.4**
HAWA Hanford 89.43 41 *e*P **P 03 04 04.9 -1.3**
comp=Z,35nm,1.8s
HAWA ePP **pP 03 04 37.1 -2.2**
W13A Hualapai Mount 89.49 54 *e*P **P 03 04 08.4 +1.3**
W13A ePP **pP 03 04 39.9 -0.3**
GUN Gumba 89.71 299 *e*P **P 03 04 08.4 0.0**
comp=Z,136nm,1.2s
E08A Dider Farm, El 89.77 41 *e*P **P 03 04 08.9 +1.1**
E08A ePP **pP 03 04 40.1 -0.8**
PKI Pulchoki 90.01 298 *e*P **P 03 04 09.5 -0.3**
comp=Z,118nm,1.1s
PKIN Phulchoki 90.02 298 *e*P **P 03 04 09.4 -0.3**
comp=Z,92nm,1.2s
KKN Kakani 90.18 299 *e*P **P 03 04 10.3 -0.1**
comp=Z,63nm,1.0s
DMN Daman 90.28 298 *e*P **P 03 04 10.9 0.0**
comp=Z,149nm,1.1s
TIXI Tiksi 90.28 349 P **P 03 04 09.0 -0.6**
comp=Z,13nm,1.0s,baz=119,slow=5.9,SNR=11
TIXI pP **pP 03 04 44.3 +1.6**
comp=Z,4.8nm,0.9s,baz=74,slow=2.8,SNR=1.9
TIXI Tiksi 90.28 349 *d i*P **P 03 04 09.4 -0.2**
TIXI pmax pmax
comp=Z,21nm,1.2s
B08A Colville Reser 90.31 40 *e*P **P 03 04 09.4 -0.9**
B08A ePP **pP 03 04 41.7 -1.7**
BMO Blue Mountains 90.31 43 *e*P **P 03 04 11.0 +0.5**
comp=Z,3.6nm,0.9s
BMO ePP **pP 03 04 42.0 -1.6**
BMO Blue Mountains 90.31 43 *e*P **P 03 04 11.0 +0.5**
BMO *e**PP **pP 03 04 42.0 -1.6**
BMO pmax pmax
comp=Z,4.0nm,0.9s
E09A Wood Farm, Sta 90.36 42 *e*P **P 03 04 10.7 +0.1**
E09A ePP **pP 03 04 42.5 -1.2**
LCMT Little Creek M 90.59 52 *e*P **P 03 04 13.3 +1.3**
LCMT ePP **pP 03 04 43.7 -1.5**
PSUT Pine Spring 90.61 50 *e*P **P 03 04 13.6 +1.4**
PSUT ePP **pP 03 04 44.3 -1.1**
CCUT Cedar City 90.67 51 *e*P **P 03 04 14.1 +1.6**
CCUT ePP **pP 03 04 45.2 -0.4**
F10A Beach Ranch, E 90.76 42 *e*P **P 03 04 13.0 +0.5**
F10A ePP **pP 03 04 43.7 -2.0**
KNB Kanab 90.91 52 *e*P **P 03 04 14.2 +0.6**
KNB ePP **pP 03 04 46.6 -0.2**
TUC Tucson 91.10 57 *e*P **P 03 04 14.1 -0.4**
comp=Z,5.4nm,1.1s
TUC ePP **pP 03 04 46.3 -1.3**
TUC Tucson 91.10 57 *e*P **P 03 04 14.1 -0.4**
TUC *e**PP **pP 03 04 46.3 -1.3**
TUC pmax pmax
comp=Z,5.0nm,1.1s
TUC Tucson 91.10 57 P **P 03 04 15.1 +0.6**
baz=253
U15A North Rim 91.14 53 *e*P **P 03 04 16.3 +1.5**
U15A ePP **pP 03 04 47.1 -0.8**
X16A Lo Mia Camp, P 91.20 55 *e*P **P 03 04 16.4 +1.4**
X16A ePP **pP 03 04 47.5 -0.6**
PKCU Pink Cliffs 91.43 52 *e*P **P 03 04 16.0 -0.2**
PKCU ePP **pP 03 04 48.3 -1.0**
WUAZ Wupatki 91.58 54 *e*P **P 03 04 17.0 +0.4**
comp=Z,4.0nm,0.9s
WUAZ ePP **pP 03 04 48.1 -1.7**
WUAZ Wupatki 91.58 54 P **P 03 04 17.8 +1.1**
baz=253
KOLN Koldanda 91.60 298 *e*P **P 03 04 16.0 -1.0**
comp=Z,67nm,1.4s
DANN Dangsing 91.63 299 *e*P **P 03 04 16.3 -0.9**
comp=Z,91nm,1.4s
NEW Newport 91.64 40 P **P 03 04 17.9 +1.4**
comp=Z,1.6nm,0.8s,baz=57,slow=7.9,SNR=3.8
NEW Newport 91.64 40 P **P 03 04 17.9 +1.4**
NEW ePP **pP 03 04 48.0 -1.7**
NEW Newport 91.64 40 P **P 03 04 17.8 +1.3**
baz=249
HVS Khovu-Aksy 91.71 323 *e*P **P 03 04 16.0 -0.8**
HVS pmax pmax
comp=Z,17nm,1.1s
MTPU Mount Pierson 91.71 51 *e*P **P 03 04 17.2 -0.2**
MTPU ePP **pP 03 04 51.0 +0.4**
HLID Hailey 91.83 45 *e*P **P 03 04 16.1 -1.6**
comp=Z,1.2nm,0.8s
HLID ePP **pP 03 04 50.1 -0.7**
HLID Hailey 91.83 45 P **P 03 04 18.4 +0.7**
baz=251
MSU Marysvale 91.86 51 *e*P **P 03 04 17.1 -0.9**
MSU ePP **pP 03 04 51.2 +0.1**
MSU Marysvale 91.86 51 *e*P **P 03 04 17.1 -0.9**
MSU *e**PP **pP 03 04 51.2 +0.1**
DUG Dugway, Tooele 91.90 49 *e*P **P 03 04 18.6 +0.6**
comp=Z,1.2nm,0.7s
DUG ePP **pP 03 04 48.5 -2.7**
DUG Dugway, Tooele 91.90 49 *e*P **P 03 04 18.7 +0.6**
DUG *e**PP **pP 03 04 48.5 -2.7**
DUG pmax pmax
comp=Z,1.0nm,0.7s
DUG Dugway, Tooele 91.90 49 P **P 03 04 19.6 +1.5**
baz=252
319A Douglas 92.06 58 *e*P **P 03 04 18.6 -0.3**
319A ePP **pP 03 04 52.2 0.0**
PYUN Piuthan 92.21 298 *e*P **P 03 04 18.7 -1.1**
comp=Z,31nm,1.0s
NLU North Lily Min 92.37 49 *e*P **P 03 04 20.6 +0.3**
NLU ePP **pP 03 04 52.6 -0.8**
X18A Snowflake 92.41 55 *e*P **P 03 04 21.2 +0.7**
X18A ePP **pP 03 04 52.2 -1.5**
HVU Hansel Valley 92.42 47 *e*P **P 03 04 19.8 -0.6**
HVU ePP **pP 03 04 52.7 -0.9**
HVU Hansel Valley 92.42 47 *e*P **P 03 04 19.8 -0.6**
HVU *e**PP **pP 03 04 52.7 -0.9**
SPUT South Promonto 92.50 48 *e*P **P 03 04 21.0 +0.2**
SPUT ePP **pP 03 04 52.4 -1.6**
MPU Maple Canyon 92.71 49 *e*P **P 03 04 21.5 -0.4**
MPU ePP **pP 03 04 53.5 -1.5**
NVL N'lazarevskaya 92.81 188↓ *i*P **P 03 04 22.0 +0.5**
NVL *e*S **SKSac 03 14 44.3 +1.3**
NVL *e* 03 15 16.4
NVL *e*SS **SS 03 21 36.5 +6.2**
NVL *e*SSS SSS 03 25 17.5
NVL pmax pmax
comp=Z,66nm,1.0s
WMQ Urumqi 93.07 314 P **P 03 04 23.9 +0.7**
WMQ pP pP 03 04 57.3 +0.9
WMQ PP **PP 03 08 07.4 -0.8**
WMQ SS SS 03 21 37.1 +0.2
WMQ pmax pmax
comp=Z,91nm,1.5s
WMQ pmax pmax
comp=Z,490nm,5.3s
WMQ LR LR
comp=Z,460nm,27.9s
WMQ LR LR
comp=Z,570nm,25.7s
INK Inuvik 93.09 19 *e*P **P 03 04 22.1 -0.5**
comp=Z,2.5nm,0.6s
INK Inuvik 93.09 19 *e*P **P 03 04 22.1 -0.5**
INK pmax pmax
comp=Z,2.0nm,0.6s
HWUT Hardware Ranch 93.23 48 *e*P **P 03 04 22.9 -1.2**
comp=Z,1.1nm,0.7s
HWUT ePP **pP 03 04 57.8 +0.5**
SRU San Rafael Swe 93.27 51 *e*P **P 03 04 22.6 -1.8**
SRU ePP **pP 03 04 57.2 -0.4**
SRU San Rafael Swe 93.27 51 *e*P **P 03 04 22.6 -1.8**
SRU *e**PP **pP 03 04 57.2 -0.4**
SNAA Sanae 93.28 183 P **P 03 04 22.9 -0.9**
SNAA Sanae 93.28 183 *e*P **P 03 04 23.0 -0.8**
comp=Z,102nm,1.4s
SNAA Sanae 93.28 183 *c i*P **P 03 04 22.4 -1.4**
HYB Hyderabad 93.40 287 *i*P **P 03 04 25.0 -0.3**
DLMT Dillon 93.63 44 *e*P **P 03 04 25.4 -0.5**
DLMT ePP **pP 03 04 59.4 +0.3**
VNA3 Neumayer Olymp 93.94 181 P **P 03 04 25.7 -1.1**
VNA3 Neumayer Olymp 93.94 181 PKiKP PKiKP 03 08 59.7 -11
PV09 Paradox Valley 94.14 51 *e*P **P 03 04 28.7 +0.1**
PV09 ePP **pP 03 05 00.5 -1.3**
VNA2 Neumayer--Watz 94.21 182 P **P 03 04 27.1 -0.8**
baz=168,slow=4.2
VNA2 Neumayer--Watz 94.21 182 PKiKP PKiKP 03 09 02.4 -8.6
baz=188,slow=4.8
PV23 Carpenter Ridg 94.22 51 *e*P **P 03 04 26.6 -2.3**
PV23 ePP **pP 03 05 01.0 -1.1**
REDW Red Top Meadow 94.24 46 *e*P **P 03 04 26.9 -2.0**
REDW ePP **pP 03 05 02.8 +0.7**
PV18 Skein Mesa, Pa 94.24 52 *e*P **P 03 04 27.9 -1.1**
ePP **pP 03 05 00.8 -1.3**
PV21 Cone Mtn., Par 94.28 51 *e*P **P 03 04 28.8 -0.3**
PV21 ePP **pP 03 05 01.4 -1.0**
MVCO Mesa Verde 94.28 53 ePP pP 03 05 06.0 +3.6
PV12 Saucer Basin, 94.34 52 *e*P **P 03 04 29.9 +0.5**
PV12 ePP **pP 03 05 01.3 -1.3**
BOZ Bozeman (W) 94.35 44 *e*P **P 03 04 29.2 0.0**
comp=Z,5.2nm,0.8s
BOZ Bozeman (W) 94.35 44 *e*P **P 03 04 29.2 0.0**
BOZ pmax pmax
comp=Z,5.0nm,0.8s
PV22 Blue Mesa, Par 94.41 51 *e*P **P 03 04 29.2 -0.5**
PV22 ePP **pP 03 05 01.9 -1.1**
PV01 Paradox Valley 94.47 52 *e*P **P 03 04 28.4 -1.7**
PV01 ePP **pP 03 05 03.2 -0.1**
VNA1 Neumayer--Stat 94.51 181 P **P 03 04 28.6 -0.6**
PDAR Pinedale Array 94.99 47 P **P 03 04 30.8 -1.4**
comp=Z,0.5nm,0.9s,baz=249,slow=2.5,SNR=3.2
PDAR PP **PP 03 08 17.8 -5.7**
comp=Z,0.1nm,0.3s,baz=222,slow=1.2,SNR=3.7
PDAR PKKPbc **PKKPdf 03 21 25.6 -3.0**
comp=Z,1.1nm,0.8s,baz=74,slow=5.3,SNR=9.8
PDAR PKPPKP **P'P'df 03 29 36.9 -2.7**
comp=Z,0.6nm,0.9s,baz=64,slow=6.1,SNR=4.1
PDAR LR LR 03 46 55.8
comp=Z,83nm,18.0s,baz=266,slow=35
PDAR Pinedale Array 94.99 47 *e*P **P 03 04 31.3 -1.0**
PDAR ePP **pP 03 05 04.8 -0.7**
PDAR PP **PP 03 08 17.8 -5.7**
PDAR PKKPbc **PKKPdf 03 21 25.6 -3.0**
PDAR P'P' 03 29 36.9
DGZ Jazzator, Alta 95.01 320 *e*P **P 03 04 29.7 -2.4**
DGZ pmax pmax
comp=Z,10.0nm,1.1s
O20A White River Ci 95.24 50 P **P 03 04 33.1 -0.4**
baz=255
ANMO Albuquerque 95.29 55 *e*P **P 03 04 33.0 -0.8**
comp=Z,0.6nm,0.6s
ANMO ePP **pP 03 05 04.8 -2.2**
ANMO Albuquerque 95.29 55 *i*P **P 03 04 33.4 -0.4**
ANMO pmax pmax
comp=Z,1.0nm,1.0s
ANMO Albuquerque 95.29 55 P **P 03 04 32.8 -1.1**
baz=256
MNTX Cornudas Mount 95.36 59 *e*pP pP 03 05 06.1 -1.1
MNTX Cornudas Mount 95.36 59 P **P 03 04 35.3 +1.4**
baz=256
TX31 Lajitas Ar. Si 96.23 61 *e*P **P 03 04 36.2 -1.9**
TX31 ePP **pP 03 05 09.8 -1.5**
TXAR Lajitas Array 96.23 61 pP **pP 03 05 09.9 -1.4**
comp=Z,1.7nm,0.7s,baz=224,slow=2.5,SNR=4.0
TXAR PP **PP 03 08 32.5 -0.7**
comp=Z,2.1nm,1.2s,baz=270,slow=8.1,SNR=5.1
TXAR PKKPbc **PKKPdf 03 21 30.6 +4.9**
comp=Z,0.7nm,1.0s,baz=131,slow=5.1,SNR=3.5
TXAR LR LR 03 38 29.2
comp=Z,101nm,21.6s,baz=0.0,slow=29
SDCO Great Sand Dun 96.72 53 P **P 03 04 42.5 +2.2**
baz=256
N23A Red Feather La 97.13 50 *e*P **P 03 04 40.9 -1.2**
N23A ePP **pP 03 05 14.2 -1.1**
N23A Red Feather La 97.13 50 P **P 03 04 41.6 -0.5**
baz=256
MK01 Makanchi Array 97.53 316 *e*P **P 03 04 42.8 -0.6**
MK31 Makanchi Array 97.55 316 *e*P Pdif 03 04 43.7 +0.2
MKAR Makanchi Array 97.55 316 P Pdif 03 04 43.8 +0.2

comp=Z,14nm,0.8s,baz=100,slow=6.3,SNR=94
MKAR pP pP 03 05 15.6 -1.2
comp=Z,4.6nm,0.8s,baz=97,slow=6.2,SNR=3.7
MKAR LR LR 03 48 24.7
comp=Z,118nm,21.6s,baz=102,slow=35
MKAR Makanchi Array 97.55 316 *e*P Pdif 03 04 43.7 +0.2
comp=Z,98nm,0.9s
MKAR pP pP 03 05 15.6 -1.2
YKA Yellowknife Ar 97.70 27 P Pdif 03 04 43.8 +0.1
comp=Z,3.9nm,1.0s,baz=244,slow=4.5,SNR=5.4
YKA LR LR 03 44 55.3
comp=Z,13nm,18.6s,baz=248,slow=33
ZAA0 Zalesovo Array 97.74 324 *e*P **P 03 04 43.5 -0.6**
comp=Z,42nm,1.3s
ZAA0 *e*pP **pP 03 05 14.6 -2.8**
ZALV Zalesovo Beam 97.74 324 P **P 03 04 43.4 -0.7**
comp=Z,17nm,1.1s,baz=108,slow=3.3,SNR=40
ZALV pP **pP 03 05 15.1 -2.3**
comp=Z,5.5nm,0.9s,baz=119,slow=5.7,SNR=3.3
NVS Novosibirsk 98.85 324 *e*P **P 03 04 48.7 -0.4**
NVS pmax pmax
comp=N,7.0nm,1.5s
NVS pmax pmax
comp=E,12nm,1.5s
NVS pmax pmax
comp=Z,25nm,1.5s
JCT Junction City 99.75 61 *e*pP pP 03 05 26.0 -1.1
NRIK Noril'sk 100.40 339 P **Pdif 03 04 55.6 -0.1**
comp=Z,5.2nm,0.6s,baz=162,slow=3.8,SNR=8.4
KSH Kashi 100.53 308 *e*P **Pdif 03 04 58.8 +1.6**
KSH S **Sdif 03 16 18.4 -4.6**
KSH pmax pmax
comp=Z,340nm,5.9s
KSH LR LR
comp=Z,310nm,7.6s
KSH LR LR
comp=Z,460nm,7.2s
KSH LR LR
comp=Z,690nm,23.1s
KURK Kurchatov 100.74 320 *e*Pdif **Pdif 03 04 56.8 -0.9**
KURK *e*PP **PP 03 09 05.0 -1.9**
KURK PP **PP 03 09 05.4 -1.5**
KURK Kurchatov 100.74 320 P **Pdif 03 04 57.1 -0.5**
SNR=6.5
KURK Kurchatov 100.74 320 Pdiff **Pdif 03 04 57.1 -0.5**
SNR=6.5
KURK Kurchatov 100.74 320 *c i*P **Pdif 03 04 56.7 -0.9**
KURBB Kurchatov Arra 100.78 320 P **Pdif 03 04 56.9 -0.9**
comp=Z,5.1nm,1.3s,baz=110,slow=3.2,SNR=8.6
KURBB PP **PP 03 09 05.4 -1.8**
comp=Z,3.0nm,1.1s,baz=105,slow=7.8,SNR=6.8
AAK Ala-Archa 102.17 311 *i* P **Pdif 03 05 05.3 +0.9**
GEYT Alibeck 114.26 305 PKP PKPdf 03 09 48.1 -0.5
comp=Z,0.5nm,0.4s,baz=123,slow=5.5,SNR=4.2
APA Apatity 119.71 341 ⇑*i*PKIKP **PKPdf 03 09 56.2 -1.9**
APA *i* *PP **pPKPdf 03 10 31.3 -1.5**
APA pmax pmax
comp=Z,5μm,0.9s
APA MLR MLR
comp=Z,800nm,19.0s
ARCES ARCESS Array B 120.57 345 PKP **PKPdf 03 09 59.6 -0.1**
comp=Z,5.6nm,0.5s,baz=72,slow=2.0,SNR=146
KLMR Klimovskoe 121.02 333 *e*PKIKP **PKPdf 03 09 57.6 -3.2**
KLMR pmax pmax
comp=Z,34nm,1.5s
KLMR Klimovskoe 121.02 333 *e*PKPdf **PKPdf 03 09 57.6 -3.2**
KLMR AMP 03 10 02.0
comp=Z,34nm,1.4s
SDV Santo Domingo 122.95 89 *e*PKPdf **PKPdf 03 10 05.3 -0.9**
SUR Sutherland 123.09 214 *e*PKPdf **PKPdf 03 10 06.2 +0.2**
GROC Groznyy 123.14 312 *i* PKIKP **PKPdf 03 10 06.8 +1.3**
GROC *e* 03 11 42.4
GROC pmax pmax
comp=Z,28nm,1.1s
BOSA Boshof 123.29 220 PKP **PKPdf 03 10 06.7 +0.2**
comp=Z,15nm,1.0s,baz=141,slow=2.1,SNR=15
VRH Novokhopyorsk 123.73 322 *e*PKIKP **PKPdf 03 10 05.7 -0.6**
VRH *e* 03 10 42.8
VRH pmax pmax
comp=Z,20nm,0.8s
TBLG Delisi 124.18 310 *e*PKPdf **PKPdf 03 10 07.8 +0.2**
MOS Moscow 124.23 328 *e*PKIKP **PKPdf 03 10 05.5 -1.6**
MOS pmax pmax
comp=Z,30nm,0.9s
SAML Samuel 124.43 112 *e*PKPdf **PKPdf 03 10 07.7 -1.1**
SAML Samuel 124.43 112 *e*PKIKP **PKPdf 03 10 07.7 -1.1**
GNI Garni 124.46 309 *e*PKPdf **PKPdf 03 10 08.3 0.0**
GNI Garni 124.46 309 *c i*PKIKP **PKPdf 03 10 08.3 0.0**
GNI pmax pmax
comp=Z,65nm,1.7s
ZEI Tsey 124.58 312 *i* PKIKP **PKPdf 03 10 08.1 -0.4**
ZEI pmax pmax
comp=Z,11nm,1.0s
NCK Nalchik 124.65 313 *i* PKIKP **PKPdf 03 10 07.1 -1.3**
LPSR Galich'ya Gora 124.84 324 *e*PKIKP **PKPdf 03 10 08.6 +0.2**
LPSR *e* 03 10 45.6
LPSR pmax pmax
comp=Z,40nm,1.2s
RAYN Ar Rayn 124.88 288 *e*PKPdf **PKPdf 03 10 09.4 0.0**
OBN Obninsk 125.05 328 *c i*PKIKP **PKPdf 03 10 07.4 -1.3**
OBN *e* 03 10 44.4
OBN *e* 03 14 36.7
OBN pmax pmax
comp=Z,20nm,1.2s
KBZ Khabaz 125.09 313 PKP **PKPdf 03 10 09.9 +0.8**
comp=Z,3.9nm,0.9s,baz=89,slow=6.4,SNR=8.0
KBZ pPKP **pPKPdf 03 10 44.9 +1.1**
comp=Z,5.1nm,0.9s,baz=182,slow=4.6,SNR=4.4
DAMY Dhamar 125.11 277 *e*PKPdf **PKPdf 03 10 11.5 +1.1**
AKH Akhalkalaki 125.16 310 *e*PKPdf **PKPdf 03 10 10.3 +0.7**
AKH Akhalkalaki 125.16 310 ⇓*i*P **PKPdf 03 10 10.7 +1.0**
KIV Kislovodsk 125.19 313 *e*PKPdf **PKPdf 03 10 09.2 -0.3**
KIV Kislovodsk 125.19 313 *i* PKIKP **PKPdf 03 10 08.9 -0.6**
KIV pmax pmax
comp=Z,14nm,1.1s
KIV MLR MLR
comp=Z,138nm,23.0s
VSR Storozhevoye 125.23 323 *e*PKIKP **PKPdf 03 10 08.7 -0.5**
VSR *e* 03 10 45.3
VSR pmax pmax
comp=Z,20nm,1.0s
VORD Divnogorie 125.25 323 *e*PKIKP **PKPdf 03 10 07.8 -1.4**
VORD pmax pmax
comp=Z,10.0nm,0.4s
NEY Neytrino 125.33 313 *e*PKIKP **PKPdf 03 10 09.1 -0.8**
LBTB Lobatse 125.56 224 *e*PKPdf **PKPdf 03 10 10.6 -0.3**
FIA1 FINESS Array S 126.06 338 *e*PKPdf **PKPdf 03 10 10.1 -0.3**
FIA1 *e*PKPdf **PKiKP 03 10 10.5 -0.4**
FINES FINESS Array B 126.06 338 PKP **PKPdf 03 10 09.9 -0.6**
comp=Z,7.0nm,0.9s,baz=103,slow=3.8,SNR=25
VSU Vasula 127.75 335 *e*P **PKPdf 03 10 13.3 -0.4**
VSU IAmb IAmb 03 10 14.3
comp=Z,38nm,1.1s
KMBO Kilima Mbogo 128.24 256 PKP **PKPdf 03 10 17.1 +0.6**
comp=Z,14nm,1.0s,baz=49,slow=3.2,SNR=27
KMBO Kilima Mbogo 128.24 256 *e*PKPdf **PKPdf 03 10 17.4 +1.0**
KMBO Kilima Mbogo 128.24 256 PKPdf **PKPdf 03 10 18.1 +1.6**
SNR=14
KMBO Kilima Mbogo 128.24 256 *e*PKIKP **PKPdf 03 10 17.4 +1.0**
IZAR Zarasai 129.66 333 *e*P **PKPdf 03 10 15.4 -2.2**
IDID Didziasalis 129.71 332 *e*P **PKPdf 03 10 18.4 +0.8**
IDID IAmb IAmb 03 10 19.6
comp=Z,8.3nm,1.1s
LSZ Lusaka 129.76 235 *e*PKPdf **PKPdf 03 10 18.6 -0.5**
LSZ *e*PP **PP 03 12 28.1 -2.9**
LSZ Lusaka 129.76 235 PKPdf **PKPdf 03 10 20.1 +1.0**
SNR=14
LSZ Lusaka 129.76 235 *e*PKIKP **PKPdf 03 10 18.6 -0.5**
LSZ *e* 03 12 28.2
ISAL Salakas 129.83 332 *e*P **PKPdf 03 10 16.9 -0.9**
ISAL IAmb IAmb 03 10 19.9
comp=Z,16nm,1.4s
IIGN Ignalina 129.92 332 *e*P **PKPdf 03 10 18.2 +0.1**
IIGN IAmb IAmb 03 10 20.2
comp=Z,10nm,1.1s
PTGA Pitinga 130.56 104 *e*PKPdf **PKPdf 03 10 20.3 -0.2**
NB2 NORSAR Subarra 130.94 345 PKPdf **PKPdf 03 10 20.1 +0.2**
comp=Z,11nm,1.2s,baz=31,slow=1.9
NB2 NORSAR Subarra 130.94 345 PKPdf **PKPdf 03 10 20.1 +0.2**
baz=31,slow=1.9
NOA NORSAR Array B 130.94 345 PKP **PKPdf 03 10 20.5 +0.6**
comp=Z,3.5nm,0.9s,baz=33,slow=1.9,SNR=8.5
NOA SKPbc **SKPbc 03 13 30.7 -1.8**
comp=Z,1.0nm,0.8s,baz=32,slow=2.8,SNR=2.7
AKASG Malin Array Be 131.08 326 PKP **PKPdf 03 10 19.2 -1.2**
comp=Z,3.0nm,0.8s,baz=60,slow=2.1,SNR=20
AKASG pPKP **pPKPdf 03 10 53.4 -1.6**
comp=Z,1.2nm,0.5s,baz=53,slow=1.8,SNR=2.0
AKASG SKPbc **SKPbc 03 13 32.7 -0.5**
comp=Z,1.0nm,0.5s,baz=48,slow=4.6,SNR=5.4
KIEV Kiev 131.09 326 *e*PKPdf **PKPdf 03 10 20.5 +0.1**
KIEV Kiev 131.09 326 *e*PKIKP **PKPdf 03 10 20.5 +0.1**
AK11 Malin Array Si 131.12 326 *e*PKPdf **PKPdf 03 10 20.5 +0.1**
BR131 Keskin Array S 132.84 311 *e*PKPdf **PKPdf 03 10 24.6 +0.3**
BRTR Keskin Array B 132.84 311 PKP **PKPdf 03 10 23.7 -0.6**
comp=Z,3.4nm,1.0s,baz=148,slow=1.2,SNR=12
BRTR pPKP **pPKPdf 03 11 01.9 +3.0**
comp=Z,4.5nm,0.9s,baz=72,slow=1.5,SNR=7.7
ANTO Ankara 133.42 311 *e*PKPdf **PKPdf 03 10 25.1 -0.2**
ANTO Ankara 133.42 311 ⇓*i*P **PKPdf 03 10 22.0 -3.3**
ANTO Ankara 133.42 311 ⇓PKIKP **PKPdf 03 10 22.0 -3.3**
CFR Carcaliu 134.46 320 ⇓*i*P **PKPdf 03 10 27.2 +0.3**
CFR Carcaliu 134.46 320 ⇓PKIKP **PKPdf 03 10 27.2 +0.3**
TSUM Tsumeb 134.90 222 *e*PKPdf **PKPdf 03 10 29.4 +0.6**
BUR08 Bucovina Ar. S 134.95 324 *e*PKPdf **PKPdf 03 10 28.8 +0.9**
BURAR Bucovina Array 134.95 324 ⇓*i*P **PKPdf 03 10 30.8 +2.9**
BURAR Bucovina Array 134.95 324 ⇓PKIKP **PKPdf 03 10 30.8 +2.9**
BUR04 Bucovina Ar. S 134.96 324 *e*PKPdf **PKPdf 03 10 28.7 +0.7**
PLOR Plostina 135.04 321 ⇓*i*P **PKPdf 03 10 28.2 +0.1**
PLOR Plostina 135.04 321 ⇓PKIKP **PKPdf 03 10 28.2 +0.1**
MLR Muntele Rosu 135.65 321 *e*PKPdf **PKPdf 03 10 29.4 +0.1**
MLR Muntele Rosu 135.65 321 ⇑*i*P **PKPdf 03 10 29.4 +0.1**
MLR Muntele Rosu 135.65 321 ⇑PKIKP **PKPdf 03 10 29.4 +0.1**
UZH Uzhgorod 135.96 327 *e*PKHKP PKPpre 03 10 18.8
TRPA Tarpa 136.13 326 ⇑*i*P **PKPdf 03 10 29.5 -0.4**
CJR Cluj-Napoca 136.37 324 ⇑*i*P **PKPdf 03 10 30.6 +0.1**
CJR Cluj-Napoca 136.37 324 ⇑PKIKP **PKPdf 03 10 30.6 +0.1**
ARR Arges 136.51 322 ⇓*i*P **PKPdf 03 10 32.3 +1.4**
DRGR 136.83 325 ⇓*i*P **PKPdf 03 10 27.7 -3.7**
DRGR 136.83 325 ⇓PKIKP **PKPdf 03 10 27.7 -3.7**
DEV Deva 137.24 323 ⇑*i*P **PKPdf 03 10 33.1 +1.0**
DEV Deva 137.24 323 ⇑PKIKP **PKPdf 03 10 33.1 +1.0**
KSP Ksiaz 137.38 333 *e*PKP **PKPdf 03 10 32.6 +0.4**
KSP Ksiaz 137.38 333 *e*PKIKP **PKPdf 03 10 32.6 +0.4**
MORC Moravsky Berou 137.57 331 *e*PKPdf **PKPdf 03 10 32.6 -0.1**
PSZ Piszkesteto 137.66 328 *e*PKPdf **PKPdf 03 10 33.3 +0.4**
PSZ Piszkesteto 137.66 328 ⇑*i*P **PKPdf 03 10 33.1 +0.2**
PSZ Piszkesteto 137.66 328 ⇑PKIKP **PKPdf 03 10 33.1 +0.2**
KRLC Kraliky 137.71 332 *e*PKPdf **PKPdf 03 10 32.6 -0.3**
KRLC Kraliky 137.71 332 *e*PKIKP **PKPdf 03 10 32.6 -0.3**
DPC Dobruska-Polom 137.72 333 *e*PKPdf **PKPdf 03 10 35.5 +2.6**
DPC Dobruska-Polom 137.72 333 *e*PKIKP **PKPdf 03 10 35.5 +2.6**
SIRR Siria 137.72 325 ⇑*i*P **PKPdf 03 10 31.1 -1.9**
VYHS Vyhne 137.82 329 *e*PKIKP **PKPdf 03 10 33.8 +0.7**
VYHS Vyhne 137.82 329 *e*PKP **PKPdf 03 10 33.8 +0.7**
BZS Buzias 138.13 324 ⇑*i*P **PKPdf 03 10 31.1 -2.6**
BZS Buzias 138.13 324 ⇑PKIKP **PKPdf 03 10 31.1 -2.6**
VRAC Vranov 138.34 331 ⇑*i*P PKPpre 03 10 26.9
VRAC Vranov 138.34 331 ⇑PKHKP PKPpre 03 10 26.9
VRAC Vranov 138.34 331 *e*PKP PKPpre 03 10 27.3
BRG Berggiesshubel 138.35 335 *e*PKP **PKPdf 03 10 35.3 +1.3**
comp=Z,26nm,1.4s
BRG pPKP **pPKPdf 03 11 07.0 -1.6**
comp=Z,5.3nm,1.0s
BRG *e* 03 15 11.0
comp=Z,6.0nm,1.1s
BRG Berggiesshubel 138.35 335 *e*PKIKP **PKPdf 03 10 35.3 +1.3**
BRG 03 11 07.0
BRG pmax pmax
comp=Z,74nm,1.4s
BRG pmax pmax
comp=Z,26nm,1.0s
CLL Collm 138.39 336 *e*PKPdf **PKPdf 03 10 34.4 +0.4**
CLL Collm 138.39 336 *e*PKPdf **PKPdf 03 10 34.0 0.0**
comp=Z,19nm,1.3s
CLL *e* 03 10 58.0
CLL *e* 03 11 13.0
CLL *e*(PP) 03 13 20.0
CLL *e*SS 03 32 24.0
CLL *e*(SSS) 03 37 06.0
CLL LmV 04 09 00.0
comp=Z,300nm,21.6s
CLL Collm 138.39 336 *e*PKIKP **PKPdf 03 10 34.0 0.0**
CLL pmax pmax
comp=Z,19nm,1.3s
CLL MLR MLR
comp=Z,300nm,21.6s
MODS Modra-Piesok 138.67 330 *e*PKIKP **PKPdf 03 10 34.8 +0.1**
MODS Modra-Piesok 138.67 330 *e*PKP **PKPdf 03 10 34.8 +0.1**
VTS Vitosha 138.83 319 *e*PKPdf **PKPdf 03 10 35.4 +0.1**
VTS Vitosha 138.83 319 ⇓*i*P **PKPdf 03 10 35.4 +0.1**
VTS Vitosha 138.83 319 ⇓PKIKP **PKPdf 03 10 35.4 +0.1**
EKA Eskdalemuir Ar 139.11 352 PKP **PKPdf 03 10 36.1 +0.9**
comp=Z,0.8nm,0.5s,baz=320,slow=2.0,SNR=4.5
CONA Conrad Observa 139.66 330 *e*PKPdf PKPpre 03 10 32.8
comp=Z,28nm,1.6s
KHC Kasperske Hory 139.82 333 *e*PKPdf **PKPdf 03 10 36.7 -0.1**
KHC Kasperske Hory 139.82 333 *e*PKPdf **PKPdf 03 10 37.4 +0.6**
KHC Kasperske Hory 139.82 333 *e*PKIKP **PKPdf 03 10 37.4 +0.6**
DIVS Divibare 139.96 323 *e*PKPpre PKPpre 03 10 33.4
GEC2 GERESS Array S 139.98 333 *e*PKPpre PKPpre 03 10 31.2
GEC2 GERESS Array S 139.98 333 *e*PKHKP PKPpre 03 10 31.2
GERES GERESS Array B 139.98 333 PKhKP PKPpre 03 10 30.4
comp=Z,1.1nm,0.7s,baz=46,slow=4.1,SNR=12
GEA0 GERESS Array S 139.99 333 *e*PKPpre PKPpre 03 10 30.9
MOA Molln 140.47 332 *e*PKPdf PKPpre 03 10 32.6
comp=Z,11nm,1.4s
SOKA Soboth 140.94 330 *e*PKPdf PKPpre 03 10 34.9
comp=Z,12nm,1.4s
FNA Flona 140.94 318 *e*PKPdf **PKPdf 03 10 39.0 -0.2**
AGG Agios Georgios 141.18 315 *e*PKPdf **PKPdf 03 10 39.0 -0.6**
KBA Koelnbreinsper 141.46 331 *e*PKPdf PKPpre 03 10 35.2
comp=Z,16nm,1.4s
MEM Membach 141.46 341 ⇑PKiKP **PKiKP 03 10 41.9 -0.5**
MYKA Terra Mystica 141.65 331 *e*PKPdf PKPpre 03 10 36.0
comp=Z,8.1nm,1.1s
BCLA Clavier 141.84 342 ⇑PKiKP **PKPdf 03 10 40.2 -0.1**
GBRS Gornja Briga 141.86 328 *e*PKPdf PKPpre 03 10 35.9
GBRS Gornja Briga 141.86 328 *e*PKPdf PKPpre 03 10 35.9
CEY Cerknica 141.90 329 *e*PKPdf PKPpre 03 10 35.8
CEY Cerknica 141.90 329 *e*PKPdf PKPpre 03 10 35.8
WATA Walderalm 142.06 333 *e*PKPdf PKPpre 03 10 37.1
comp=Z,11nm,1.0s
ABTA Abfaltersbach 142.08 332 *i* PKPdf PKPpre 03 10 36.5
comp=Z,28nm,1.3s,SNR=10
WTTA Wattenberg 142.09 333 *i* PKPdf PKPpre 03 10 37.6
comp=Z,35nm,1.4s,SNR=7.0
WLF Walferdange 142.23 340 *e*PKPpre PKPpre 03 10 37.6
WLF Walferdange 142.23 340 *e*PKIKP PKPpre 03 10 37.6
WLF Walferdange 142.23 340 ⇑PKiKP PKPpre 03 10 37.7
MOTA Moosalm 142.25 334 *e*PKPdf PKPpre 03 10 37.3
comp=Z,57nm,1.3s,SNR=22
RETA Reutte 142.29 334 *e*PKPdf PKPpre 03 10 38.1
comp=Z,37nm,1.4s,SNR=17
SQTA Sankt Quirin 142.31 333 *i* PKPdf PKPpre 03 10 37.8
comp=Z,57nm,1.4s,SNR=24
DOU Dourbes 142.34 342 ⇑PKiKP PKPpre 03 10 38.4
BFO Black Forest 142.59 337 *e*PKPpre PKPpre 03 10 37.8
BFO Black Forest 142.59 337 *e*PKIKP PKPpre 03 10 37.8
FETA Feichten 142.67 334 *i* PKPdf PKPpre 03 10 39.2
comp=Z,66nm,1.2s,SNR=36
DAVA Damuels 142.82 335 *e*PKPdf PKPpre 03 10 39.7
comp=Z,42nm,1.2s,SNR=13
ECH Echery 143.12 338 *e*PKPdf PKPbc 03 10 40.5 +0.6
ECH Echery 143.12 338 *e*PKIKP PKPbc 03 10 40.5 +0.6
FUORN Ofenpass-Fuorn 143.18 334 *e*PKPdf PKPbc 03 10 41.3 +0.8
DAVOX Davos/Dischmat 143.22 334 PKP PKPbc 03 10 41.2 +0.8
comp=Z,38nm,1.1s,baz=18,slow=1.6,SNR=34
TUE Stuetta 143.69 334 *e*PKPdf PKPbc 03 10 42.7 +0.8
MATE Matera 143.96 321 ⇑*i*P PKPab 03 10 41.7 -0.2
SENIN Lac Senin/Sane 144.61 336 *e*PKPdf **PKPdf 03 10 45.2 -0.4**
AQU L'Aquila 144.78 326 *e*PKPbc PKPbc 03 10 45.4 +0.3
AQU L'Aquila 144.78 326 *e*PKIKP PKPbc 03 10 45.4 +0.3
TIP Timpagrande 144.79 319 *e*PKPbc **PKPdf 03 10 46.1 +0.2**
TIP Timpagrande 144.79 319 ⇓*i*P **PKPdf 03 10 46.0 0.0**
CUC Castrocucco 144.90 321 *e*PKPbc PKPbc 03 10 45.2 -0.4
CEL Celeste 145.87 318 *e*PKPdf **PKPbc 03 10 48.6 0.0**
BNI Bardonecchia 145.93 335 *e*PKPdf **PKPab 03 10 49.1 -0.3**
BNI Bardonecchia 145.93 335 *e*PKP2 **PKPab 03 10 49.1 -0.3**
SSB Saint Sauveur 146.56 338 *e*PKPbc **PKPbc 03 10 50.6 +0.2**
SSB Saint Sauveur 146.56 338 *e*PKP2 **PKPbc 03 10 50.6 +0.2**
CLTB Caltabellotta 147.98 319 *e*PKPbc **PKPbc 03 10 53.5 -1.2**
SHEL Horse Pasture 148.51 193 *e*PKPbc **PKPbc 03 10 57.8 +1.3**
SHEL Horse Pasture 148.51 193 *i* PKP2 **PKPab 03 10 58.4 -1.7**
TAMR Tamra 150.82 323 *e*PKPbc **PKPbc 03 11 03.0 +1.4**
KEST Kesra 151.55 320 PKP **PKPdf 03 10 58.3 +1.1**
comp=Z,9.8nm,1.1s,baz=281,slow=16,SNR=3.6
KEST PKPbc **PKiKP 03 11 04.5 +0.7**
comp=Z,35nm,1.0s,baz=330,slow=1.5,SNR=27
KEST pPKPbc **pPKPbc 03 11 39.4 +1.4**
comp=Z,53nm,0.9s,baz=250,slow=6.0,SNR=7.5
KEST Kesra 151.55 320 *e*PKPdf **PKPdf 03 10 56.8 -0.3**
KEST *e*PKPbc **PKiKP 03 11 04.0 +0.1**
KEST pPKPbc **pPKPbc 03 11 39.4 +1.4**
PBRG Braganca 152.83 351 *e*PKPab **PKPab 03 11 17.0 -0.4**
PGAV Gavieira, Arco 152.89 353 *e*PKPdf **PKPdf 03 11 00.2 +1.3**
POLO Lamas de Olo 153.41 352 *e*PKPdf **PKPbc 03 11 07.0 -0.4**
POLO Lamas de Olo 153.41 352 *e*PKPab **PKPab 03 11 22.0 +2.1**
MVO Moncorvo 153.50 351 *e*PKPdf **PKPbc 03 11 08.7 +1.1**
SET Setif 153.51 326 P **PKPbc 03 11 09.0 +1.2**
ES19 SONSECA Array 154.27 345 *e*PKPdf **PKPdf 03 11 00.8 -0.1**
ES19 *e*PKPbc **PKiKP 03 11 09.4 +0.1**
ES19 *e*PKPab **PKPab 03 11 24.0 +0.5**
ESDC Sonseca Array 154.31 345 PKP **PKPdf 03 11 01.1 +0.2**
comp=Z,1.5nm,1.0s,baz=197,slow=4.6,SNR=4.0
ESDC PKPbc **PKiKP 03 11 09.6 +0.3**
comp=Z,1.6nm,0.8s,baz=89,slow=0.1,SNR=8.0
ESDC PKPab **PKPab 03 11 22.9 -0.8**
comp=Z,5.7nm,1.0s,baz=19,slow=3.5,SNR=10
ESDC pP **PP 03 14 53.3 -4.9**
comp=Z,1.6nm,0.8s,baz=8.6,slow=6.4,SNR=4.5
PAB San Pablo 154.53 345 *e*PKPbc **PKPbc 03 11 08.3 -1.5**
PAB *e*PKPab **PKPab 03 11 24.5 -0.2**
PAB *e*PKPab **PKPab 03 11 26.1 +1.4**
PAB San Pablo 154.53 345 *e*PKIKP **PKPbc 03 11 08.3 -1.5**
PAB *e* 03 11 24.5
PCBR Castelo Branco 154.87 351 *e*PKPdf **PKPdf 03 11 02.5 +0.8**
PTOM Tomar 155.22 352 *e*PKPab **PKPab 03 11 28.8 +1.3**
MESJ Messejana 156.94 351 *e*PKPab **PKPab 03 11 36.7 +1.8**
MDT Midelt 160.87 339 PKP **PKPdf 03 11 09.9 +0.5**
comp=Z,6.3nm,1.1s,baz=357,slow=2.3,SNR=3.9
MDT PKPab **PKPab 03 11 52.0 -0.3**
comp=Z,13nm,1.2s,baz=344,slow=2.5,SNR=5.8
TAM Tamanrasset 161.27 297 *e*PKPdf **PKPdf 03 11 10.7 +0.5**
TAM *e*PKPab **PKPab 03 11 53.6 -0.9**
TAM Tamanrasset 161.27 297 *e*PKIKP **PKPdf 03 11 10.7 +0.5**
TAM *e* 03 11 53.7
TOA0 Torodi Ar. Sit 166.09 264 *e*PKPdf **PKPdf 03 11 12.8 -1.8**
TOA0 *e*PKPdf **PKPdf 03 11 14.3 -0.3**
TOA0 *e*PKPab **PKPab 03 12 13.3 -2.5**
TOA0 *e*PKPab **PKPab 03 12 14.6 -1.2**
TOA0 Torodi Ar. Sit 166.09 264 P **PKPdf 03 11 14.5 -0.1**
SNR=9.3
TOA0 Torodi Ar. Sit 166.09 264 PKPdf **PKPdf 03 11 14.5 -0.1**
SNR=9.3
TORD Torodi Ar. Bea 166.09 264 PKP **PKPdf 03 11 13.3 -1.3**
comp=Z,9.6nm,1.0s,baz=25,slow=1.1,SNR=38
TORD pPKP **pPKPdf 03 11 49.8 +0.3**
comp=Z,5.9nm,1.0s,baz=111,slow=2.4,SNR=5.2
TORD PKPab **PKPab 03 12 15.1 -0.8**
comp=Z,12nm,1.0s,baz=96,slow=3.4,SNR=10.0
KIC Kosan Boka 168.50 222 *e*P **PKPdf 03 11 13.7 -2.7**
comp=Z,83nm,1.3s
LIC Lamto 168.58 221 *e*P **PKPdf 03 11 15.7 -0.8**
comp=Z,120nm,1.4s
DBIC Dimbokro 168.81 223 PKP **PKPdf 03 11 15.9 -0.7**
comp=Z,16nm,1.0s,baz=42,slow=2.2,SNR=9.1
DBIC PKPab **PKPab 03 12 28.0 +0.4**
comp=Z,6.5nm,1.0s,baz=106,slow=8.7,SNR=4.0
TIC Toumodi 168.90 222 *e*P **PKPdf 03 11 15.5 -1.2**

ISCJB **17** *02:57:16.8±0.7,26.77S±0.05×178.8W±0.1,h350km, mb3.9/9, Error ellipse: s-maj=12.8km s-min=6.1km az=176.7*

IDC **17** *02:57:18.0±1.7,26.41S×178.75W,h355km±16km, mb3.7/9, mb1 3.9/10,mb1mx3.6/52, mbtmp4.5/10, Error ellipse: s-maj=19.5km s-min=14.6km az=10.0*

WEL **17** *02:57:23.4±0.9,27.5S±0.10×177.8W±0.3,h372km±6km*

ISC 17 02:57:18.2±0.8, 26.84S±0.07×178.7W±0.1, h350km, n54, σ 2.8 18/66, mb4.0/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**2.48**	**165**	P		P	**Pn**	**02 58 16.3**	**+3.2**
RIZ				S		S	**S**	**02 58 58.8**	**+1.6**
RAO	**Raoul Island**	**2.49**	**165**	P		P	**Pn**	**02 58 16.4**	**+3.3**
	82nm,0.3s,baz=28,slow=23,SNR=7.0								
RAO				S		S	**S**	**02 58 59.9**	**+2.6**
	254nm,0.3s,baz=94,slow=22,SNR=12								
GLKZ	**Green Lake**	**2.50**	**165**	P		P	**Pn**	**02 58 15.9**	**+2.6**
GLKZ				S		S	**S**	**02 58 55.8**	**-1.6**
OUZ	**Omahuta**	**10.66**	**217**	P		P	**P**	**02 59 48.9**	**+4.0**
KUZ	**Kuaotunu**	**10.96**	**204**	P		P	**P**	**02 59 49.6**	**+1.4**
MXZ	**Matakaoa Point**	**10.99**	**193**	P		P	**P**	**02 59 51.1**	**+2.6**
MXZ				S		S	**S**	**03 01 46.6**	**-4.3**
WMGZ	**Waiomatatini S**	**11.22**	**192**	P		P	**P**	**02 59 51.3**	**+0.2**
WMGZ				S		S	**S**	**03 01 53.3**	**-2.7**
HAZ	**Te Kaha**	**11.29**	**195**	P		P	**Pn**	**02 59 50.7**	**-0.6**
HAZ				S		S	**S**	**03 01 55.6**	**-1.8**
PKGZ	**Pakihiroa**	**11.35**	**193**	P		P	**P**	**02 59 52.2**	**-0.4**
PKGZ				S		S	**S**	**03 01 54.5**	**-4.6**
PUZ	**Puketiti**	**11.49**	**192**	P		P	**Pn**	**02 59 52.9**	**-0.9**
PUZ				S		S	**S**	**03 01 57.3**	**-4.9**
TWGZ	**Tauwhareparae**	**11.65**	**193**	P		P	**P**	**02 59 57.0**	**+1.2**
TWGZ				S		S	**S**	**03 02 03.5**	**-2.1**
MWZ	**Matawai**	**11.90**	**195**	P		P	**P**	**02 59 57.6**	**-1.0**
MWZ				S		S	**S**	**03 02 07.7**	**-3.3**
CNGZ	**Carnagh Statio**	**11.90**	**192**	P		P	**P**	**02 59 58.4**	**-0.3**
TOZ	**Tahuroa Road**	**11.92**	**203**	P		P	**Pn**	**03 00 02.7**	**+3.8**
URZ	**Urewera**	**11.93**	**196**	P		P	**P**	**02 59 57.0**	**-1.9**
	6.5nm,0.3s,baz=271,slow=3.5,SNR=56								
URZ				S		S	**S**	**03 02 09.4**	**-2.1**
	7.5nm,0.3s,baz=233,slow=22,SNR=14								
URZ	**Urewera**	**11.93**	**196**	P		P	**P**	**02 59 57.3**	**-1.5**
URZ				S		S	**S**	**03 02 08.9**	**-2.6**
TKGZ	**Te Karaka**	**11.93**	**193**	P		P	**P**	**02 59 58.2**	**-0.7**
TKGZ				S		S	**S**	**03 02 07.5**	**-4.1**
KARZ	**Kaharoa**	**11.94**	**200**	P		P	**Pn**	**03 00 03.1**	**+4.0**
RIGZ	**Rimuhau**	**12.20**	**193**	P		P	**Pn**	**03 00 02.1**	**-0.2**
MUGZ	**Murupara**	**12.22**	**197**	P		P	**Pn**	**03 00 03.4**	**+1.0**
SNGZ	**Shannon Statio**	**12.37**	**195**	P		P	**P**	**03 00 01.3**	**-2.5**
PRGZ	**Paritu Road**	**12.39**	**193**	P		P	**Pn**	**03 00 05.6**	**+1.1**
ALRZ	**Allen Road**	**12.41**	**198**	P		P	**Pn**	**03 00 06.4**	**+1.6**
KNZ	**Kokohu**	**12.53**	**193**	P		P	**P**	**03 00 03.6**	**-1.9**
MTHZ	**Maungataniwha**	**12.55**	**196**	P		P	**Pn**	**03 00 07.0**	**+0.6**
RAHZ	**Arahi**	**12.55**	**195**	P		P	**P**	**03 00 05.3**	**-0.6**
MHGZ	**Mahia Peninsul**	**12.61**	**192**	P		P	**Pn**	**03 00 08.0**	**+1.0**
MRGZ	**Matea Rd**	**12.65**	**198**	P		P	**Pn**	**03 00 07.4**	**-0.2**
WHHZ	**Waihua**	**12.67**	**195**	P		P	**Pn**	**03 00 07.7**	**-0.1**
WATZ	**Wairara**	**12.73**	**200**	P		P	**Pn**	**03 00 09.0**	**+0.5**
NMHZ	**Naumai**	**12.79**	**196**	P		P	**P**	**03 00 07.9**	**-0.7**
HIZ	**Hauiti**	**12.85**	**203**	P		P	**Pn**	**03 00 13.3**	**+3.5**
RATZ	**Rangitukua**	**12.86**	**200**	P		P	**Pn**	**03 00 11.0**	**+0.9**
ARHZ	**Aropaoanui**	**12.91**	**195**	P		P	**P**	**03 00 08.5**	**-1.2**
BKZ	**

AKASG **Malin Array Be** 148.08 326 PKPbc **PKPdf** 03 16 19.8 +0.8
comp=Z,0.4nm,0.3s,baz=43,slow=3.7,SNR=3.4
EKA **Eskdalemuir Ar** 151.35 5 PKPbc **PKPbc** 03 16 28.0 -2.4
comp=Z,1.0nm,0.5s,baz=341,slow=2.6,SNR=10

IDC 17 03:05:53.9±2.2, 1.56N×126.81E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/43, mbtmp3.3/3, Error ellipse: s-maj=183.3km s-min=25.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.61**	**161**	P		P	03 10 55.1	-1.4
	0.3nm,0.5s,baz=340,slow=11,SNR=7.4							
ASAR	**Alice Springs**	**26.01**	**165**	P		P	03 11 29.8	+1.0
	0.1nm,0.4s,baz=345,slow=11,SNR=2.9							
MKAR	**Makanchi Array**	**59.38**	**326**	P		P	03 15 58.1	-0.1
	0.3nm,0.4s,baz=114,slow=7.5,SNR=6.6							

IDC ***17*** *03:11:24.2±1.1, 37.15S×96.09W, h0km, mb4.1/12, mb1 4.3/12, mb1mx4.2/31, mbtmp4.1/12, MS4.1/7, Ms1 4.1/7, ms1mx3.8/28, Error ellipse: s-maj=27.7km s-min=22.4km az=22.0*

ISCJB ***17*** *03:11:26.6±0.4, 37.05S±0.07×95.84W±0.09, h10km, mb4.4/51, MS4.1/6, Error ellipse: s-maj=12.0km s-min=7.8km az=137.9*

GCMT ***17*** *03:11:28.2±0.4, 37.00S±0.02×96.18W±0.03, h26km±1km, MW5.1/77, Moment Tensor Solution. s17,c21; s77,c102; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.06±.43; Mθθ 0.28±.27; Mϕϕ 1.78±.28; Mrθ 0.54±.48; Mrϕ -4.40±.17; Mθϕ 1.43±.49; Best double couple: Mo 4.91500×10^16 NP1: ϕs 180.00000°, δ 72.00000°, λ -28.00000°. NP2: ϕs 279.00000°, δ 64.00000°, λ -160.00000°. Principal axes: T 5.5670, Plg 6.0000°, Azm 231.0000°; N -1.3070, Plg 58.0000°, Azm 330.0000°; P -4.2630, Plg 32.0000°, Azm 137.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***17*** *03:11:29.2±0.6, 36.91S×95.96W, h10km, mb4.5/47 Error ellipse: s-maj=17.6km s-min=9.6km az=210.0*

ISC 17 03:11:27.4±0.6, 37.10S±0.09×96.0W±0.1, h10km, n84, σ1§76/77, mb4.5/52, MS4.0/6, 1D, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RPN	**Rapa Nui**	**15.02**	**308**	LR		LR	03 18 50.9	
	comp=Z,1μm,20.5s,baz=126,slow=30							
GO06	**Curarrehue**	**19.41**	**105**	*eP*		**Pn**	**03 15 55.0**	**0.0**
	7.3nm,1.0s							
GO05	**HualaæØ**	**19.59**	**91**	*eP*		**Pn**	**03 15 58.1**	**+1.0**
	40nm,1.2s							
PLCA	**Paso Flores**	**20.13**	**108**	P		**P**	**03 16 01.9**	**+0.3**
	15nm,1.2s,baz=296,slow=13,SNR=8.7							
PLCA				LR		LR	03 21 58.2	
	comp=Z,550nm,20.0s,baz=302,slow=31							
PLCA	**Paso Flores**	**20.13**	**108**	*eP*		Pn	03 16 03.9	+0.4
	22nm,1.3s							
PEL	**Peldehue**	**21.08**	**87**	*eP*		**P**	**03 16 15.4**	**+3.4**
	65nm,1.6s							
LCO	**Las Campanas**	**22.66**	**77**	*eP*		**P**	**03 16 32.2**	**+3.0**
	27nm,1.2s							
LVC	**Limon Verde**	**27.48**	**66**	P		**P**	**03 17 13.0**	**-1.3**
	2.3nm,0.8s,baz=215,slow=7.6,SNR=3.0							
LVC				LR		LR	03 25 32.4	
	comp=Z,362nm,19.3s,baz=228,slow=31							
LVC	**Limon Verde**	**27.48**	**66**	*eP*		**P**	**03 17 13.3**	**-1.0**
	9.7nm,1.2s							
MNMC	**Minye Minye**	**29.24**	**59**	*eP*		**P**	**03 17 30.9**	**+1.0**
	60nm,1.8s							
NNA	**Nana**	**30.36**	**40**	*eP*		**P**	**03 17 40.2**	**+0.6**
LPAZ	**La Paz**	**32.22**	**57**	P		**P**	**03 17 55.4**	**-1.2**
	5.8nm,1.1s,baz=205,slow=8.6,SNR=12							
LPAZ	**La Paz**	**32.22**	**57**	*eP*		**P**	**03 17 56.5**	**-0.2**
	19nm,1.4s							
ATAH	**Atahualpa**	**33.88**	**33**	P		**P**	**03 18 10.1**	**-0.8**
	2.5nm,0.6s,baz=201,slow=8.6,SNR=4.3							
CPUP	**Villa Florida**	**34.42**	**83**	P		**P**	**03 18 12.8**	**-2.2**
	4.1nm,1.2s,baz=257,slow=4.4,SNR=3.8							
CPUP				LR		LR	03 30 11.4	
	comp=Z,295nm,20.6s,baz=252,slow=33							
CPUP	**Villa Florida**	**34.42**	**83**	*eP*		**P**	**03 18 15.2**	**+0.1**
	13nm,1.4s							
SIV	**San Ignacio**	**37.37**	**65**	P		**P**	**03 18 37.8**	**-2.7**
	1.4nm,1.0s,baz=277,slow=11,SNR=4.7							
OTAV	**Otavalo**	**40.56**	**28**	*eP*		**P**	**03 19 04.5**	**-3.2**
	6.5nm,1.1s							
SAML	**Samuel**	**40.85**	**55**	*eP*		**P**	**03 19 07.2**	**-2.4**
	15nm,1.7s							
ROSC	**El Rosal**	**46.38**	**31**	P		**P**	**03 19 54.9**	**+0.4**
	2.7nm,0.4s,baz=179,slow=13,SNR=5.2							
JTS	**JuntasAbangare**	**48.27**	**15**	*eP*		**P**	**03 20 09.6**	**+0.7**
QSPA	**South Pole Qui**	**53.12**	**180**	*eP*		**P**	**03 20 46.8**	**+1.7**
CMIG	**Matias Romero**	**53.91**	**1**	LR		LR	03 38 44.4	
	comp=Z,234nm,21.9s,baz=213,slow=30							
VNA3	**Neumayer Olymp**	**54.22**	**157**	P		**P**	**03 20 51.3**	**-1.5**
VNA1	**Neumayer--Stat**	**54.78**	**156**	P		**P**	**03 20 55.8**	**-1.1**
VNA2	**Neumayer--Watz**	**55.01**	**156**	P		**P**	**03 20 57.3**	**-1.3**
	baz=257,slow=8.1							
SNAA	**Sanae**	**56.24**	**158**	P		**P**	**03 21 08.5**	**+1.0**
VNDA	**Vanda**	**56.65**	**195**	P		**P**	**03 21 08.2**	**-2.0**
	0.9nm,1.0s,baz=81,slow=7.1,SNR=3.3							
VNDA				LR		LR	03 39 48.0	
	comp=Z,131nm,20.3s,baz=102,slow=30							
TX31	**Lajitas Ar. Si**	**66.47**	**353**	*eP*		**P**	**03 22 16.8**	**-0.4**
TXAR	**Lajitas Array**	**66.47**	**353**	P		**P**	**03 22 16.5**	**-0.7**
	0.6nm,0.7s,baz=136,slow=5.7,SNR=5.4							
HKT	**Hockley**	**66.70**	**0**	*eP*		**P**	**03 22 17.7**	**-0.6**
JCT	**Junction City**	**67.32**	**356**	*eP*		**P**	**03 22 22.1**	**-0.4**
	2.6nm,0.6s							
MNTX	**Cornudas Mount**	**69.00**	**351**	*eP*		**P**	**03 22 32.1**	**-0.8**
	1.2nm,0.7s							
SYO	**Syowa Base**	**69.25**	**164**	*ieX*		**P**	**03 22 30.0**	**-4.1**
TUC	**Tucson**	**70.41**	**347**	*eP*		**P**	**03 22 43.0**	**+1.3**
	3.1nm,1.0s							
MSTX	**Muleshoe**	**70.98**	**354**	*eP*		**P**	**03 22 44.9**	**-0.3**
	12nm,1.0s							
AMTX	**Amarillo**	**71.81**	**355**	*eP*		**P**	**03 22 49.5**	**-0.6**
	11nm,1.0s							
ANMO	**Albuquerque**	**72.33**	**351**	P		**P**	**03 22 52.0**	**-1.4**
	0.5nm,0.4s,baz=286,slow=7.4,SNR=2.5							
ANMO	**Albuquerque**	**72.33**	**351**	*eP*		**P**	**03 22 55.9**	**+2.5**
	2.7nm,1.1s							
X18A	**Snowflake**	**72.43**	**348**	*eP*		**P**	**03 22 56.0**	**+2.0**
	4.9nm,1.2s							
W13A	**Hualapai Mount**	**73.73**	**345**	*eP*		**P**	**03 23 04.6**	**+2.9**
	2.3nm,0.8s							
LDFC	**Landfair**	**73.97**	**344**	*eP*		**P**	**03 23 05.5**	**+2.5**
	9.7nm,0.8s							
MAW	**Mawson**	**74.40**	**172**	*eP*		**P**	**03 23 07.9**	**+2.9**
	10.0nm,1.9s							
GSC	**Goldstone, Bar**	**74.58**	**342**	*eP*		**P**	**03 23 09.0**	**+2.5**
	10nm,0.3s							
U15A	**North Rim**	**74.70**	**346**	*eP*		**P**	**03 23 07.0**	**-0.4**
	9.9nm,1.6s							
MVCO	**Mesa Verde**	**74.83**	**350**	*eP*		**P**	**03 23 07.0**	**-1.2**
	6.5nm,0.9s							
S22A	**4UR Ranch, Cre**	**75.14**	**351**	*eP*		**P**	**03 23 11.8**	**+1.8**
	3.6nm,0.9s							
SHPR	**Sheep Range**	**75.35**	**344**	*eP*		**P**	**03 23 12.0**	**+1.0**
	4.3nm,1.2s							
WCI	**Wyandotte Cave**	**75.49**	**8**	*eP*		**P**	**03 23 10.1**	**-1.4**
DAC	**Darwin (Calif)**	**75.70**	**342**	*eP*		**P**	**03 23 11.0**	**-2.0**
PV01	**Paradox Valley**	**75.75**	**350**	*eP*		**P**	**03 23 13.8**	**+0.4**
PV12	**Saucer Basin,**	**75.97**	**350**	*eP*		**P**	**03 23 15.9**	**+1.3**
	6.2nm,0.9s							
CCUT	**Cedar City**	**75.99**	**346**	*eP*		**P**	**03 23 15.6**	**+0.9**
	4.9nm,1.0s							
PV09	**Paradox Valley**	**76.19**	**349**	*eP*		**P**	**03 23 16.9**	**+0.9**
PV21	**Cone Mtn., Par**	**76.23**	**350**	*eP*		**P**	**03 23 16.0**	**-0.1**
	4.4nm,0.9s							
PSUT	**Pine Spring**	**77.04**	**346**	*eP*		**P**	**03 23 22.1**	**+1.5**
	3.4nm,0.9s							
NV11	**Mina Array Sit**	**77.88**	**342**	*eP*		**P**	**03 23 28.3**	**+3.0**
	0.3nm,1.0s							
NVAR	**Mina Array Bea**	**77.92**	**342**	P		**P**	**03 23 24.6**	**-1.0**
	5.4nm,0.8s,baz=180,slow=7.0,SNR=16							
NLU	**North Lily Min**	**78.08**	**347**	*eP*		**P**	**03 23 27.2**	**+0.7**
	3.2nm,0.9s							
RYN	**Ryan**	**78.16**	**342**	*eP*		**P**	**03 23 29.7**	**+2.9**
	7.7nm,1.2s							
KVN	**Kaiserville**	**78.46**	**343**	*eP*		**P**	**03 23 31.0**	**+2.4**
	3.4nm,0.9s							
YERR	**Yerington**	**78.67**	**342**	*eP*		**P**	**03 23 32.4**	**+2.7**
	4.0nm,0.9s							
PNTR	**Pine Nut**	**78.86**	**342**	*eP*		**P**	**03 23 33.5**	**+2.7**
	6.3nm,0.9s							
VCNR	**Virginia City**	**79.07**	**342**	*eP*		**P**	**03 23 34.4**	**+2.5**
	4.6nm,1.0s							
SPUT	**South Promonto**	**79.47**	**347**	*eP*		**P**	**03 23 34.6**	**+0.7**
	3.7nm,1.0s							
BW06	**Boulder Array**	**80.44**	**350**	*eP*		**P**	**03 23 39.2**	**-0.1**
	3.3nm,0.8s							
PD31	**Pinedale Array**	**80.44**	**350**	*eP*		**P**	**03 23 39.1**	**-0.2**
PDAR	**Pinedale Array**	**80.44**	**350**	P		**P**	**03 23 36.5**	**-2.7**
	1.5nm,0.7s,baz=157,slow=5.3,SNR=13							
PDAR	**Pinedale Array**	**80.44**	**350**	*eP*		**P**	**03 23 38.8**	**-0.5**
RSSD	**Black Hills**	**81.17**	**354**	*eP*		**P**	**03 23 42.4**	**-0.7**
	6.9nm,1.1s							
REDW	**Red Top Meadow**	**81.21**	**349**	*eP*		**P**	**03 23 45.8**	**+2.4**
	8.8nm,1.4s							
TPAW	**Teton Pass**	**81.35**	**349**	*eP*		**P**	**03 23 44.0**	**-0.2**
	12nm,1.4s							
FXWY	**Fox Creek**	**81.51**	**349**	*eP*		**P**	**03 23 44.9**	**-0.1**
	3.1nm,0.9s							
WVOR	**Wild Horse Val**	**81.80**	**343**	*eP*		**P**	**03 23 48.8**	**+2.4**
	6.6nm,1.4s							
FLWY	**Flagg Ranch**	**81.89**	**349**	*eP*		**P**	**03 23 48.8**	**+1.8**
	4.9nm,0.8s							
HLID	**Hailey**	**82.00**	**347**	*eP*		**P**	**03 23 46.0**	**-1.5**
	4.1nm,0.9s							
J08A	**Circle Bar Ran**	**82.64**	**344**	*eP*		**P**	**03 23 52.1**	**+1.4**
	8.2nm,1.2s							
STKA	**Stephens Creek**	**92.78**	**226**	LR		LR	03 58 28.5	
	comp=Z,113nm,19.6s,baz=180,slow=30							
TSUM	**Tsumeb**	**96.10**	**119**	*eP*		**P**	**03 24 57.5**	**+1.6**
	3.2nm,0.7s							
H01W1	**Cape Leeuwin H**	**103.07**	**205**	T		T	05 21 22.1	
	baz=154,slow=76,SNR=34							
H01W2	**Cape Leeuwin H**	**103.07**	**205**	T		T	05 21 25.4	
	baz=154,slow=76,SNR=34							
H01W3	**Cape Leeuwin H**	**103.08**	**205**	T		T	05 21 20.2	
	baz=154,slow=76,SNR=29							
KURK	**Kurchatov**	**165.86**	**14**	*e*PKPab		**PKPab**	**03 32 32.0**	**+0.4**
KSH	**Kashi**	**173.26**	**67**	*e*PKP		**PKPdf**	**03 31 39.0**	**+2.0**

ISCJB ***17*** *03:22:27.8±1.1, 10.4S±0.1×161.6E±0.1, h61km, mb3.3/4, Error ellipse: s-maj=21.8km s-min=8.6km az=142.3*

IDC ***17*** *03:22:32.8±2.6, 10.30S×161.33E, h88km±20km, mb3.2/4, mb1 3.5/5, mb1mx3.3/44, mbtmp3.7/5, Error ellipse: s-maj=28.8km s-min=21.7km az=74.0*

ISC 17 03:22:28.5±1.1, 10.4S±0.1×161.7E±0.1, h61km, n7, σ2§20/9, mb3.3/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**1.95**	**299**	P		**P**	**03 23 00.0**	**+0.8**
	116nm,0.3s,baz=147,slow=5.7,SNR=16							
HNR				S		Sn	03 23 20.6	-2.1
	239nm,0.3s,baz=345,slow=23,SNR=15							
DZM	**Mont Dzumac**	**12.48**	**159**	P		**P**	**03 25 29.9**	**-3.3**
	2.3nm,0.3s,baz=313,slow=11,SNR=33							
DZM				S		**Sn**	**03 27 42.9**	**+1.9**
	0.3nm,0.3s,baz=165,slow=20,SNR=4.1							
CTA	**Charters Tower**	**17.71**	**235**	P		**P**	**03 26 33.9**	**+2.7**
	0.2nm,0.3s,baz=45,slow=13,SNR=3.5							
WRA	**Warramunga Arr**	**28.00**	**247**	P		**P**	**03 28 13.5**	**-0.4**
	0.3nm,0.4s,baz=77,slow=8.9,SNR=8.2							
ASAR	**Alice Springs**	**29.57**	**240**	P		**P**	**03 28 27.4**	**-0.5**
	0.1nm,0.4s,baz=63,slow=8.5,SNR=2.6							
SONM	**Songino Array**	**75.81**	**325**	P		**P**	**03 34 08.1**	**-0.1**
	0.4nm,0.5s,baz=120,slow=8.8,SNR=3.0							
ILAR	**Eielson Array**	**84.21**	**20**	P		**P**	**03 34 54.3**	**+1.4**
	0.2nm,0.5s,baz=240,slow=5.3,SNR=3.5							

SJA 17 03:34:57.5±0.5, 33.37S×67.48W, h212km±3km, ML3.5, MW3.2, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ACAN	**Cantantal**	**1.12**	**13**	*eP*		**Pn**	**03 35 29.9**	**+0.5**
ACAN				*eS*		S	03 35 53.2	-0.8
ASAL	**Salagasta**	**1.38**	**304**	*eP*		Pn	03 35 32.0	+0.6
ASAL				*eS*		S	03 35 56.9	-0.5
RTCV	**Cerro Valdivia**	**1.75**	**329**	*eP*		Pn	03 35 35.0	+0.4
RTCV				*eS*		S	03 36 02.9	-0.3
MRA	**San Martin**	**1.76**	**58**	*eP*		Pn	03 35 35.1	+0.4
AUSP	**Uspallata**	**1.98**	**305**	*eP*		Pn	03 35 37.8	+0.8
AUSP				*eS*		S	03 36 07.6	+0.3
RTLS	**Leoncito**	**2.20**	**315**	*eP*		Pn	03 35 40.1	+0.8
RTLS				IAML			03 36 11.9	
	comp=Z,94nm,0.2s							
RTLL	**Cerro Villicun**	**2.21**	**337**	*eP*		Pn	03 35 39.7	+0.6
RTLL				*eS*		S	03 36 10.6	-0.5
RTLL				IAML			03 36 12.4	
	comp=E,179nm,0.3s							
AMOG	**MOGNA**	**2.58**	**340**	*eP*		Pn	03 35 43.5	+0.5
AMOG				*eS*		S	03 36 17.8	-0.5
ROC1	**El Roble**	**3.00**	**277**	*eP*		Pn	03 35 48.3	+0.3
ROC1				*eS*		S	03 36 26.2	-0.7
APLL	**PUNTA DE LOS L**	**3.08**	**15**	*eP*		Pn	03 35 49.1	+0.3
APLL				IAML			03 36 26.9	
	comp=Z,84nm,0.4s							
APLL				*eS*		S	03 36 27.2	-1.3
ACCO	**Cerro Coronel**	**3.09**	**334**	*eP*		Pn	03 35 50.5	+1.4
ACCO				*eS*		S	03 36 28.9	-0.2
TCA	**Tanti**	**3.17**	**51**	*eP*		Pn	03 35 50.4	+0.5
AROD	**Rodeo**	**3.62**	**331**	*eP*		Pn	03 35 56.6	+1.1
VCA	**Vinchina**	**4.66**	**352**	*eP*		Pn	03 36 08.9	+0.8
VCA				*eS*		S	03 37 01.6	-1.9
VCA				IAML			03 37 14.1	
	comp=Z,29nm,0.5s							
CYA	**Choya**	**5.12**	**17**	IAML			03 36 13.2	
	comp=Z,21nm,0.1s							
CYA				*eP*		Pn	03 36 13.3	-0.5

ISCJB ***17*** *03:44:32.3±0.7, 5.07S±0.10×153.6E±0.1, h56km, mb3.8/9, MS3.4/1, Error ellipse: s-maj=18.2km s-min=13.2km az=26.5*

IDC ***17*** *03:44:34.8±4.3, 5.08S×153.62E, h66km±36km, mb3.7/10, mb1 3.8/12, mb1mx3.6/35, mbtmp4.0/12, ML3.0/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/34, Error ellipse: s-maj=29.9km s-min=19.1km az=74.0*

ISC 17 03:44:33.8±0.8, 5.1S±0.1×153.6E±0.1, h56km, n17, σ1§13/16, mb3.8/9, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**7.72**	**236**	P		**Pn**	**03 46 25.8**	**+2.1**
	2.3nm,0.3s,baz=27,slow=9.5,SNR=5.5							
PMG				S		**Sn**	**03 47 47.6**	**-2.2**
	1.7nm,0.3s,baz=163,slow=17,SNR=2.1							
CTA	**Charters Tower**	**16.56**	**205**	P		**Pn**	**03 48 22.5**	**0.0**
	0.2nm,0.3s,baz=10,slow=11,SNR=2.9							
DZM	**Mont Dzumac**	**20.98**	**145**	P		**P**	**03 49 12.6**	**0.0**
	7.0nm,0.6s,baz=254,slow=5.9,SNR=24							
WRA	**Warramunga Arr**	**23.89**	**230**	P		**P**	**03 49 41.9**	**-0.7**
	1.4nm,0.7s,baz=54,slow=9.8,SNR=19							
WRA				PcP		**PcP**	**03 53 24.8**	**+0.5**
	0.7nm,0.6s,baz=55,slow=2.3,SNR=6.6							
ASAR	**Alice Springs**	**26.51**	**224**	P		**P**	**03 50 05.7**	**-0.6**
	0.3nm,0.5s,baz=59,slow=8.6,SNR=3.7							
ASAR				PcP		**PcP**	**03 53 30.8**	**+0.7**
	0.6nm,0.7s,baz=59,slow=2.3,SNR=5.4							
H11S3	**WAKE ISLAND Hy**	**26.72**	**29**	T		T	04 18 27.0	
	baz=208,slow=72,SNR=10							
H11S2	**WAKE ISLAND Hy**	**26.73**	**29**	T		T	04 18 21.2	
	baz=208,slow=72,SNR=6.1							
H11S1	**WAKE ISLAND Hy**	**26.74**	**29**	T		T	04 18 25.4	
	baz=208,slow=72,SNR=5.3							
PETK	**Petropavlovsk-**	**58.06**	**3**	LR		LR	04 17 03.9	
	comp=Z,26nm,19.8s,baz=140,slow=34							
SONM	**Songino Array**	**66.98**	**328**	P		**P**	**03 55 21.6**	**+0.7**
	0.5nm,0.7s,baz=148,slow=6.3,SNR=3.3							
VNDA	**Vanda**	**72.54**	**178**	P		**P**	**03 55 54.1**	**-0.3**
	1.0nm,0.7s,baz=329,slow=5.0,SNR=6.6							
MKAR	**Makanchi Array**	**81.06**	**319**	P		**P**	**03 56 43.0**	**0.0**
	1.0nm,0.7s,baz=100,slow=6.2,SNR=8.4							
ZALV	**Zalesovo Beam**	**81.82**	**326**	P		**P**	**03 56 46.7**	**0.0**
	0.5nm,0.3s,baz=110,slow=7.6,SNR=2.6							
ILAR	**Eielson Array**	**82.10**	**22**	P		**P**	**03 56 47.2**	**-0.8**
	0.4nm,0.8s,baz=250,slow=4.7,SNR=4.8							
QSPA	**South Pole Qui**	**84.90**	**180**	P		**P**	**03 57 02.6**	**0.0**
	4.5nm,0.7s,baz=234,slow=0.1,SNR=15							
MAW	**Mawson**	**85.64**	**203**	P		**P**	**03 57 06.8**	**+0.8**
	1.5nm,0.5s,baz=78,slow=7.6,SNR=3.6							
TORD	**Torodi Ar. Bea**	**151.16**	**288**	PKPbc		**PKPbc**	**04 04 19.9**	**-2.0**
	0.7nm,0.8s,baz=82,slow=2.9,SNR=22							

MEX ***17*** *03:45:59.1±0.6, 14.05N×92.61W, h10km, MD4.0*

IDC ***17*** *03:46:05.0±1.7, 15.81N×91.94W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/36, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=64.9km s-min=20.5km az=33.0*

ISC 17 03:45:57.2±1.5, 14.1N±0.1×92.66W±0.07, h10km, n11, σ1§46/15, mb3.5/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
THIG		**0.88**	**26**	*eP*		**Pg**	**03 46 14.2**	**+0.1**
THIG				*eS*		**Sg**	**03 46 26.4**	**+0.9**
PCIG		**1.67**	**341**	*eP*		**Pn**	**03 46 25.8**	**-0.7**
PCIG				*i* S		**Sn**	**03 46 47.1**	**-0.9**
CCIG	**Comitan**	**2.21**	**13**	*eP*		**Pn**	**03 46 34.2**	**0.0**
CCIG				*eS*		**Sn**	**03 47 01.0**	**-0.6**
APG	**El Apazote**	**2.31**	**67**	Pn		**Pn**	**03 46 34.5**	**-0.9**
	20nm,0.3s,baz=248,slow=6.6,SNR=225							
APG				Lg		Lg	03 47 02.3	
	24nm,0.3s,baz=341,slow=22,SNR=7.1							
TGIG		**2.68**	**351**	*eP*		**Pn**	**03 46 40.9**	**+0.3**
TGIG				*i* S		**Sn**	**03 47 12.5**	**-0.6**
CMIG	**Matias Romero**	**3.65**	**324**	Pn		**Pn**	**03 46 54.4**	**+0.6**
	1.8nm,0.3s,baz=152,slow=12,SNR=23							
CMIG						Sn		
	5.7nm,0.3s,baz=88,slow=12,SNR=7.8							
TXAR	**Lajitas Array**	**18.25**	**328**	P		**Pn**	**03 50 11.5**	**+0.7**
	0.1nm,0.3s,baz=154,slow=15,SNR=3.1							
NVAR	**Mina Array Bea**	**33.18**	**322**	P		**P**	**03 52 36.6**	**+2.3**
	0.2nm,0.5s,baz=126,slow=14,SNR=2.7							
YKA	**Yellowknife Ar**	**50.77**	**347**	*eP*		**P**	**03 54 56.2**	**-1.0**
	0.8nm,0.5s,baz=152,slow=7.3,SNR=7.8							
ILAR	**Eielson Array**	**62.48**	**337**	P		**P**	**03 56 20.3**	**-0.3**
	0.2nm,0.6s,baz=104,slow=5.9,SNR=2.8							
ASAR	**Alice Springs**	**135.10**	**251**	PKP		PKPdf	04 05 31.0	+13
	0.2nm,0.7s,baz=83,slow=2.9,SNR=2.9							

TRN ***17*** *03:51:11.6, 9.86N×63.37W, h114km, MD4.1*

IDC ***17*** *03:51:12.2±0.8, 10.02N×62.92W, h0km, mb3.8/8, mb1 4.1/11, mb1mx3.8/38, mbtmp3.9/11, ML3.6/3, MS3.4/2, Ms1 3.4/2, ms1mx2.9/41, Error ellipse: s-maj=17.8km s-min=12.6km az=11.0*

NEIC ***17*** *03:51:14.4±0.0, 10.08N×63.01W, h8km, mb4.1/1, MD4.1(TRN), MW4.1(CAR), After CAR.*

ISC 17 03:51:14.2±1.4, 10.06N±0.04×63.04W±0.04, h15km±9km, n98, σ1§94/136, mb3.7/9, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BUAY	**Buenos Aires**	**1.34**	**88**	*eP*		**Pg**	**03 51 41.6**	**+1.7**
BUAY				*eS*		**Sn**	**03 52 02.9**	**+7.0**
BUAY	**Buenos Aires**	**1.34**	**88**	*eP*		**Pg**	**03 51 41.6**	**+1.7**
BUAY				*eS*		**Sn**	**03 52 02.9**	**+7.0**
ALNG	**Atlantic LNG**	**1.34**	**85**	*eP*		**Pg**	**03 51 41.4**	**+1.4**
ALNG				*eS*		**Sn**	**03 52 02.9**	**+7.0**
ALNG	**Atlantic LNG**	**1.34**	**85**	*eP*		**Pg**	**03 51 41.4**	**+1.4**
ALNG				*eS*		**Sn**	**03 52 02.9**	**+7.0**
PCRV	**Puerto La Cruz**	**1.57**	**274**	Pn		**Pn**	**03 51 41.0**	**-0.6**
	56nm,0.3s,baz=97,slow=8.8,SNR=131							
PCRV				Lg		Lg	03 52 05.0	
	84nm,0.3s,baz=209,slow=22,SNR=14							
TPP	**Pointe-a-Pierr**	**1.59**	**81**	*eP*		**Pg**	**03 51 44.1**	**-0.6**
TPP				*eS*		**Sg**	**03 52 07.0**	**+1.6**
TPP	**Pointe-a-Pierr**	**1.59**	**81**	*eP*		**Pg**	**03 51 44.1**	**-0.6**
TPP				*eS*		**Sg**	**03 52 07.0**	**+1.6**
TRN	**Trinidad (W)**	**1.72**	**70**	*eP*		**Pb**	**03 51 45.4**	**0.0**
TRN				*eS*		**Sg**	**03 52 11.0**	**+1.5**
TRN	**Trinidad (W)**	**1.72**	**70**	*eP*		**Pb**	**03 51 45.4**	**0.0**
TRN				*eS*		**Sg**	**03 52 11.0**	**+1.5**
TBH	**Brigand Hill**	**1.99**	**78**	*eP*		**Pb**	**03 51 49.2**	**-0.9**
TBH				*eS*		**Sg**	**03 52 16.1**	**-2.1**
TBH	**Brigand Hill**	**1.99**	**78**	*e*		**Pb**	**03 51 49.2**	**-0.9**
TBH	**Brigand Hill**	**1.99**	**78**	*eP*		**Pb**	**03 51 50.9**	**+0.7**
TBH				*eS*		**Sg**	**03

SDV			Sn		**Sn**	03 54 27.6	-2.5
	14nm,0.3s,baz=352,slow=11,SNR=17						
SDV			LR		LR	03 56 35.3	
	comp=Z,144nm,19.1s,baz=42,slow=42						
SDV	**Santo Domingo**	**7.58**	**262**	*e*Pn	**Pn**	**03 53 04.4**	**0.0**
SDV				*e*Sn	**Sn**	**03 54 26.8**	**-3.4**
STVI	**Saint Thomas**	**8.45**	**348**	*e*Pn	**Pn**	**03 53 15.0**	**-1.1**
URIC	**Uribia, Colomb**	**8.94**	**281**	*e*P	**Pn**	**03 53 21.6**	**-1.2**
CODC	**Agust`›n Codaz**	**10.24**	**270**	*e*P	**Pn**	**03 53 42.7**	**+1.9**
OCAC	**Ocana**	**10.30**	**261**	*e*P	**Pn**	**03 53 42.5**	**+0.8**
BARC	**Barichara**	**10.61**	**252**	*e*P	**Pn**	**03 53 44.5**	**-1.4**
RUSC	**La Rusia**	**10.77**	**248**	*e*P	**Pn**	**03 53 47.5**	**-0.9**
SMLC	**San Mart`›n de**	**10.95**	**264**	*e*P	**Pn**	**03 53 50.0**	**-0.5**
PTGA	**Pitinga**	**11.15**	**164**	Pn	**Pn**	**03 53 51.3**	**-1.8**
	0.6nm,0.3s,baz=340,slow=16,SNR=10						
PTGA			Sn		**Sn**	**03 55 51.7**	**-5.9**
	1.2nm,0.3s,baz=38,slow=20,SNR=5.6						
PTGA			Lg		Lg	03 56 55.7	
	1.8nm,0.3s,baz=79,slow=21,SNR=7.1						
MDP	**Montagnes des**	**11.43**	**115**	Pn	**Pn**	**03 53 54.0**	**-3.0**
	0.8nm,0.3s,baz=298,slow=13,SNR=7.4						
MDP			Sn		Sn	03 55 54.0	-10
	2.5nm,0.3s,baz=51,slow=18,SNR=11						
PTBC	**PUERTO BERRIO,**	**11.82**	**254**	*e*P	**Pn**	**03 53 59.4**	**-3.0**
SJCC	**San Jacinto, C**	**11.96**	**270**	*e*P	**Pn**	**03 54 03.0**	**-1.2**
VILC	**Villavicencio,**	**12.10**	**242**	*e*P	**Pn**	**03 54 06.8**	**+0.5**
MOTC	**Monteria, Cord**	**12.52**	**265**	*e*P	**Pn**	**03 54 10.0**	**-1.9**
GUYC	**Guyana, Colomb**	**13.14**	**249**	*e*P	**Pn**	**03 54 19.9**	**-1.0**
RREF	**El Recreo**	**13.23**	**248**	*e*P	Pn	03 54 18.7	-3.5
PRAC	**Prado**	**13.34**	**243**	*e*P	**Pn**	**03 54 23.5**	**+0.4**
BCIP	**Isla Barro Col**	**16.58**	**268**	*e*Pn	**Pn**	**03 55 06.6**	**+0.3**
SAML	**Samuel**	**18.88**	**180**	*e*P	**P**	**03 55 32.4**	**-1.7**
SIV	**San Ignacio**	**25.96**	**176**	P	**P**	**03 56 46.7**	**+0.4**
	1.5nm,0.8s,baz=24,slow=8.8,SNR=8.6						
LPAZ	**La Paz**	**26.66**	**191**	P	**P**	**03 56 54.0**	**+0.7**
	1.1nm,0.9s,baz=342,slow=12,SNR=3.0						
SDCO	**Great Sand Dun**	**47.02**	**313**	*e*P	**P**	**03 59 47.6**	**+2.2**
	1.4nm,0.8s						
ULM	**Lac du Bonnet**	**48.37**	**332**	P	**P**	**03 59 56.6**	**+1.3**
	2.0nm,0.5s,baz=128,slow=10,SNR=5.6						
PLCA	**Paso Flores**	**51.01**	**187**	LR	LR	04 25 18.2	
	comp=Z,72nm,18.8s,baz=123,slow=40						
PD31	**Pinedale Array**	**51.94**	**317**	*e*P	**P**	**04 00 23.5**	**+0.6**
PDAR	**Pinedale Array**	**51.94**	**317**	P	**P**	**04 00 23.5**	**+0.6**
	0.6nm,0.6s,baz=106,slow=9.0,SNR=7.0						
NV01	**Mina Array Sit**	**56.76**	**309**	*e*P	**P**	**04 01 00.2**	**+2.2**
NVAR	**Mina Array Bea**	**56.76**	**309**	P	**P**	**04 01 00.3**	**+2.2**
	0.2nm,0.4s,baz=103,slow=7.8,SNR=2.7						
TOA1	**Torodi Ar. Sit**	**63.34**	**80**	*e*P	**P**	**04 01 42.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**63.34**	**80**	P	**P**	**04 01 42.6**	**-0.8**
	0.3nm,0.7s,baz=315,slow=12,SNR=5.6						
GERES	**GERESS Array B**	**73.77**	**42**	P	**P**	**04 02 48.3**	**+0.3**
	0.9nm,0.8s,baz=272,slow=3.9,SNR=6.9						
ILAR	**Eielson Array**	**78.34**	**334**	P	**P**	**04 03 15.3**	**+1.7**
	0.6nm,0.6s,baz=86,slow=4.1,SNR=7.2						
ILB	**Eielson Array**	**78.34**	**334**	*e*P	**P**	**04 03 15.3**	**+1.7**

IDC ***17*** *04:11:10.5±11.0, 26.6°S×177.6°W, h404km±63km, mb3.0/4, mb1 3.3/6, mb1mx3.1/32, mbtmp4.1/6, Error ellipse: s-maj=163.9km s-min=38.9km az=73.0*

ISC 17 04:11:19.6±2.2, 26.9°S±0.2°×178.9°W±0.3°, h400km, n8, σ1°§44/9, mb3.2/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**11.78**	**195**	P		**P**	**P**	**04 13 54.7**	**-2.0**
	4.2nm,0.3s,baz=352,slow=3.5,SNR=16								
URZ				S			**S**	**04 16 08.1**	**+1.7**
	1.1nm,0.3s,baz=245,slow=23,SNR=11								
DZM	**Mont Dzumac**	**14.17**	**287**	P		**P**	**P**	**04 14 24.5**	**+1.3**
	0.3nm,0.3s,baz=113,slow=18,SNR=5.7								
CTA	**Charters Tower**	**32.58**	**275**	P		**P**	**P**	**04 17 15.1**	**-0.7**
	1.2nm,0.4s,baz=96,slow=9.9,SNR=3.6								
STKA	**Stephens Creek**	**34.62**	**252**	P		**P**	**P**	**04 17 33.1**	**+0.1**
	0.6nm,0.5s,baz=90,slow=11,SNR=2.8								
ASAR	**Alice Springs**	**42.59**	**264**	P		**P**	**P**	**04 18 38.4**	**-0.2**
	0.5nm,0.4s,baz=94,slow=6.8,SNR=12								
WRA	**Warramunga Arr**	**43.25**	**269**	P		**P**	**P**	**04 18 42.8**	**-1.0**
	0.9nm,0.7s,baz=108,slow=7.2,SNR=11								
VNA3	**Neumayer Olymp**	**81.81**	**177**	P		**P**	**P**	**04 22 55.2**	**+0.5**
VNA2	**Neumayer--Watz**	**82.23**	**177**	P		**P**	**P**	**04 22 58.3**	**+1.4**
	baz=191,slow=4.2								

ISCJB ***17*** *04:29:25.9±0.5, 6.87°N±0.02°×73.12°W±0.03, h159km±4km, mb3.3/2, Error ellipse: s-maj=5.2km s-min=3.8km az=24.3*

IDC ***17*** *04:29:26.1±0.8, 6.73°N×72.94°W, h163km±8km, mb3.1/2, mb1 3.6/5, mb1mx3.1/37, mbtmp3.9/5, Error ellipse: s-maj=35.7km s-min=7.5km az=134.0*

RSNC ***17*** *04:29:28.1±0.9, 6.82°N×73.15°W, h148km±4km, ML3.6, Mw3.8*

ISC 17 04:29:26.0±0.8, 6.87°N±0.03°×73.10°W±0.04, h160km±5km, n34, σ1°§12/58, 1C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GIRC	**Giron, Santand**	**0.23**	**336**	*e*P		**P**	**Pn**	**04 29 48.0**	**+0.3**
GIRC				*e*S		**S**	**Sn**	**04 30 03.8**	**-0.6**
BARC	**Barichara**	**0.29**	**197**	*e*P		**P**	**Pn**	**04 29 48.0**	**0.0**
BARC				*e*S		**S**	**Sn**	**04 30 02.9**	**-1.9**
BARC				*i*				04 30 07.1	
	comp=Z,1μm,0.5s								
PAMC	**Pamplona, Colo**	**0.61**	**40**	*i* P		**P**	**Pn**	**04 29 50.8**	**+1.1**
PAMC				*e*S		**S**	**Sn**	**04 30 08.2**	**+0.5**
PAMC				*i*				04 30 10.4	
	comp=Z,619nm,0.5s								
BRRC	**Barranca, Sant**	**0.65**	**291**	*e*P		**P**	**Pn**	**04 29 49.8**	**+0.6**
BRRC				*e*S		**S**	**Sn**	**04 30 07.2**	**+0.2**
BRRC				*i*				04 30 13.1	
	comp=Z,351nm,0.2s								
RUSC	**La Rusia**	**0.97**	**179**	||*i* P		**P**	**Pn**	**04 29 51.9**	**-0.2**
RUSC				*e*S		**S**	**Sn**	**04 30 10.2**	**-1.8**
RUSC				*i*				04 30 13.3	
	comp=Z,433nm,0.5s								
TAMC	**Tame, Arauca**	**1.37**	**108**	⇑*i* P		**P**	**Pn**	**04 29 56.1**	**+1.1**
	comp=Z,339nm,0.4s								
TAMC				*i*				04 30 16.9	
	comp=Z,339nm,0.4s								
TAMC				*e*S			**Sn**	**04 30 17.9**	**+0.5**
OCAC	**Ocana**	**1.38**	**351**	*e*P		**P**	**Pn**	**04 29 56.2**	**+0.9**
OCAC				*e*S			**Sn**	**04 30 18.7**	**+0.9**
PTBC	**PUERTO BERRIO,**	**1.39**	**256**	*e*P		**P**	**Pn**	**04 29 54.5**	**-0.7**
PTBC				*e*S			**Sn**	**04 30 15.9**	**-1.7**
PTBC				*i*				04 30 18.2	
	comp=Z,667nm,0.4s								
ZARC	**Zaragoza, Cauc**	**1.85**	**290**	*e*P		**P**	**Pn**	**04 30 00.1**	**+0.1**
ZARC				*e*S			**Sn**	**04 30 26.1**	**-0.2**
ZARC				*i*				04 30 33.2	
	comp=Z,524nm,0.5s								
SMLC	**San Mart`›n de**	**2.15**	**333**	*e*P		**P**	**Pn**	**04 30 04.5**	**+1.1**
SMLC				*e*S			**Sn**	**04 30 32.8**	**+0.5**
CTAB	**Cerro Tablazo,**	**2.15**	**211**	*e*P		**P**	**Pn**	**04 30 05.2**	**+1.3**
CHIC	**Chingaza**	**2.31**	**196**	*e*P		**P**	**Pn**	**04 30 05.9**	**+0.1**
CHIC				*e*S			**Sn**	**04 30 35.0**	**-1.5**
CHIC				*i*				04 30 43.3	
	comp=Z,168nm,0.5s								
ROSC	**El Rosal**	**2.35**	**211**	P		**P**	**Pn**	**04 30 07.5**	**+1.3**
	comp=Z,80nm,0.3s,baz=323,slow=15,SNR=146								
ROSC				S			**Sn**	**04 30 37.1**	**-0.2**
	comp=Z,91nm,0.3s,baz=28,slow=22,SNR=8.1								
ROSC	**El Rosal**	**2.35**	**211**	||*P*		**Pn**	**04 30 07.5**	**+1.3**
ROSC				*e*S			**Sn**	**04 30 40.5**	**+3.2**
HELC	**Santa Helena**	**2.51**	**255**	*e*P		**P**	**Pn**	**04 30 07.9**	**-0.1**
HELC				*e*S			**Sn**	**04 30 40.5**	**+0.1**
HELC				*i*				04 30 46.2	
	comp=Z,209nm,0.3s								
VILC	**Villavicencio,**	**2.80**	**192**	*e*P		**P**	**Pn**	**04 30 10.8**	**-0.6**
VILC				*e*S			**Sn**	**04 30 46.3**	**-0.4**
VILC				*i*				04 30 55.2	
	comp=Z,269nm,0.4s								
GUYC	**Guyana, Colomb**	**2.80**	**234**	*e*P		**P**	**Pn**	**04 30 12.8**	**+1.0**
GUYC				*e*S			**Sn**	**04 30 47.4**	**+0.2**
GUYC				*i*				04 30 56.1	
	comp=Z,481nm,0.3s								
RREF	**El Recreo**	**2.97**	**229**	*e*P		**P**	**Pn**	**04 30 14.2**	**+0.2**
CODC	**Agust`›n Codaz**	**3.06**	**354**	*e*P		**P**	**Pn**	**04 30 15.5**	**+0.9**
CODC				*e*S			**Sn**	**04 30 53.7**	**+1.3**
CODC				*i*				04 31 00.6	
	comp=Z,77nm,0.5s								
DBBC	**Dabeiba**	**3.09**	**273**	*e*P		**P**	**Pn**	**04 30 15.5**	**+0.6**
SDV	**Santo Domingo**	**3.16**	**50**	P		**P**	**Pn**	**04 30 17.2**	**+1.3**
	comp=Z,57nm,0.3s,baz=251,slow=5.3,SNR=399								
SDV				S			**Sn**	**04 30 54.2**	**-0.5**
	comp=Z,28nm,0.3s,baz=274,slow=21,SNR=19								
SDV	**Santo Domingo**	**3.16**	**50**	*e*P			**Pn**	**04 30 17.1**	**+1.2**
TOLC	**Tolima**	**3.17**	**224**	*e*P			**Pn**	**04 30 17.1**	**+0.9**
MOTC	**Monteria, Cord**	**3.17**	**307**	*e*P			**Pn**	**04 30 15.0**	**-0.9**
MOTC				*e*S			**Sn**	**04 30 53.9**	**-0.7**
ANIL	**Santa Ana**	**3.29**	**224**	*e*P			**Pn**	**04 30 18.8**	**+1.1**
ANIL				*e*S			**Sn**	**04 30 57.7**	**-0.2**
PRAC	**Prado**	**3.60**	**210**	*e*P			**Pn**	**04 30 21.3**	**-0.1**
PRAC				*e*S			**Sn**	**04 31 03.4**	**-1.3**
PRAC				*i*				04 31 08.6	
	comp=Z,191nm,0.3s								
SJCC	**San Jacinto, C**	**3.64**	**326**	*e*P			**Pn**	**04 30 21.8**	**-0.2**
SJCC				*e*S			**Sn**	**04 31 03.2**	**-2.4**
SJCC				*i*				04 31 07.9	
	comp=Z,59nm,0.4s								
PLMC	**San Jos`` del**	**3.72**	**239**	*e*P			**Pn**	**04 30 23.6**	**+0.6**
SMRC	**Santa Marta, M**	**4.41**	**345**	*e*P			**Pn**	**04 30 33.6**	**+1.8**
SMRC				*e*S			**Sn**	**04 31 20.7**	**-2.5**
PCRV	**Puerto La Cruz**	**8.99**	**68**	P			**Pn**	**04 31 33.4**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=220,slow=7.9,SNR=7.9								
PCRV				S			**Sn**	**04 33 12.7**	**0.0**
	comp=Z,0.5nm,0.3s,baz=187,slow=13,SNR=1.9								
YKA	**Yellowknife Ar**	**63.23**	**340**	P			**P**	**04 39 37.8**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=132,slow=6.4,SNR=5.4								
TORD	**Torodi Ar. Bea**	**73.71**	**78**	P			**P**	**04 40 41.0**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=269,slow=6.3,SNR=3.3								
ASAR	**Alice Springs**	**149.16**	**234**	PKPbc		**PKPbc**		**04 48 56.3**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=119,slow=3.7,SNR=4.2								
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc		**PKPbc**		**04 48 59.2**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=107,slow=2.5,SNR=4.7								

MEX ***17*** *04:31:44.9±0.8, 13.63°N×92.38°W, h18km±185km, MD4.0*

IDC ***17*** *04:31:50.9±5.2, 14.43°N×92.30°W, h20km±29km, mb3.6/4, mb1 3.9/5, mb1mx3.4/40, mbtmp3.6/5, ML3.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/32, Error ellipse: s-maj=46.9km s-min=15.3km az=27.0*

ISC 17 04:31:53.0±1.1, 14.13°N±0.10°×92.42°W±0.08, h46km, n13, σ2°§69/17, mb3.6/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		**0.79**	**11**	*e*P			**Pn**	**04 32 04.7**	**-3.1**
THIG				*e*S			**Sn**	**04 32 19.9**	**+1.4**
PCIG		**1.75**	**334**	*e*P			**Pn**	**04 32 17.1**	**-3.7**
PCIG				*i* S			**Sn**	**04 32 44.3**	**+2.4**
APG	**El Apazote**	**2.08**	**65**	Pg			**Pn**	**04 32 23.4**	**-2.3**
	2.6nm,0.3s,baz=244,slow=6.4,SNR=37								
APG				Lg			Lg	04 32 52.4	
	8.9nm,0.3s,baz=298,slow=17,SNR=14								
CCIG	**Comitan**	**2.16**	**7**	*e*P			**Pn**	**04 32 23.7**	**-3.0**
CCIG				*i* S			**Sn**	**04 32 55.6**	**+3.3**
TGIG		**2.72**	**346**	*e*P			**Pn**	**04 32 32.6**	**-1.7**
TGIG				*i* S			**Sn**	**04 33 09.3**	**+3.3**
CMIG	**Matias Romero**	**3.78**	**321**	Pn			**Pn**	**04 32 46.0**	**-2.9**
	1.7nm,0.3s,baz=146,slow=13,SNR=15								
CMIG				Sn			**Sn**	**04 33 35.5**	**+3.5**
	3.5nm,0.3s,baz=16,slow=14,SNR=5.9								
CMIG				Lg			Lg	04 33 47.2	
	5.4nm,0.3s,baz=72,slow=20,SNR=5.9								
TXAR	**Lajitas Array**	**18.36**	**327**	P			**Pn**	**04 36 05.0**	**+0.5**
	0.0nm,0.3s,baz=154,slow=13,SNR=3.5								
ATAH	**Atahualpa**	**25.30**	**146**	LR			LR	04 44 46.2	
	comp=Z,50nm,21.1s,baz=38,slow=30								
NVAR	**Mina Array Bea**	**33.31**	**321**	P			**P**	**04 38 27.8**	**+1.0**
	0.6nm,0.6s,baz=134,slow=9.0,SNR=4.5								
SIV	**San Ignacio**	**43.08**	**133**	P			**P**	**04 39 51.4**	**+2.5**
	0.7nm,0.6s,baz=281,slow=11,SNR=3.8								
YKA	**Yellowknife Ar**	**50.81**	**347**	P			**P**	**04 40 47.0**	**-1.6**
	1.2nm,0.7s,baz=153,slow=7.4,SNR=4.2								
ILAR	**Eielson Array**	**62.56**	**337**	P			**P**	**04 42 11.1**	**-0.9**
	0.4nm,0.7s,baz=134,slow=6.3,SNR=5.0								
CMAR	**Chiang Mai Arr**	**145.74**	**341**	PKPbc			**PKPdf**	**04 51 27.0**	**-0.5**
	1.6nm,0.4s,baz=343,slow=5.8,SNR=4.4								

ISCJB ***17*** *04:35:57.8±0.2, 10.80°N±0.04°×84.92°W±0.04, h186km±2km, mb4.6/60, Error ellipse: s-maj=9.0km s-min=3.2km az=44.4*

IDC ***17*** *04:35:58.0±0.4, 10.90°N×84.78°W, h171km±5km, mb3.6/11, mb1 3.9/14, mb1mx3.6/40, mbtmp4.2/14, Error ellipse: s-maj=22.3km s-min=12.1km az=56.0*

NEIC ***17*** *04:35:58.6±0.4, 10.73°N×84.93°W, h181km±4km, mb4.8/54, Error ellipse: s-maj=10.9km s-min=5.4km az=217.0*

UCR ***17*** *04:35:58.2±1.5, 10.83°N×84.94°W, h180km±3km, MD3.9, ML4.0, mb4.8(NEIC)*

BJI ***17*** *04:35:59.5, 10.70°N×84.90°W, h181km*

ISC 17 04:35:58.6±0.5, 10.84°N±0.05°×84.89°W±0.05, h178km±4km, n300, σ0°§97/321, mb4.7/60, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PTEN	**Parque Tenorio**	**0.16**	**219**	*i* P			**Pn**	**04 36 22.8**	**+0.4**
HORNC	**Hornillas**	**0.31**	**247**	*i* P			**Pn**	**04 36 22.9**	**+0.2**
MESS	**Mesas**	**0.32**	**252**	*e*P			**Pn**	**04 36 23.0**	**+0.4**
MESS				*i* P				04 36 23.1	
MESS				*i* S			**Sn**	**04 36 42.3**	**+1.3**
MESS				*e*S				04 36 42.8	
CUI	**Cuipilapa**	**0.33**	**237**	*i* P			**Pn**	**04 36 22.8**	**+0.1**
COLC	**Colonia**	**0.35**	**241**	*i* P			**Pn**	**04 36 22.8**	**0.0**
COLC				*i* S			**Sn**	**04 36 41.7**	**+0.5**
GUAB	**Guayabo de Bag**	**0.36**	**249**	*i* P			**Pn**	**04 36 22.9**	**+0.2**
GUAB				*i* S			**Sn**	**04 36 42.1**	**+0.9**
PACM	**Arenal**	**0.37**	**161**	*i* P			**Pn**	**04 36 23.3**	**+0.5**
LIM1	**Limonal**	**0.38**	**249**	*i* P			**Pn**	**04 36 23.1**	**+0.2**
LIM1				*i* S			**Sn**	**04 36 42.0**	**+0.6**
CEDE	**Laguna Cede^–o**	**0.39**	**153**	*i* P			**Pn**	**04 36 23.3**	**+0.4**
ARE1	**Arenal 1**	**0.41**	**156**	*e*P			**Pn**	**04 36 23.4**	**+0.5**
FORC	**Fortuna**	**0.43**	**150**	*i* P			**Pn**	**04 36 23.5**	**+0.5**
CASC	**Castillo**	**0.43**	**159**	*i* P			**Pn**	**04 36 23.1**	**0.0**
GPS2	**Hotel Rinc^‡n**	**0.46**	**260**	*i* P			**Pn**	**04 36 23.2**	**0.0**
GPS2				*i* S			**Sn**	**04 36 42.0**	**+0.1**
GPS3	**Bodega del ICE**	**0.48**	**260**	*i* P			**Pn**	**04 36 23.2**	**0.0**
JTS	**JuntasAbangare**	**0.55**	**187**	P			**Pn**	**04 36 22.9**	**-0.6**
	730nm,0.3s,baz=26,slow=4.7,SNR=1937								
JTS				S			**Sn**	**04 36 42.1**	**-0.5**
	1μm,0.3s,baz=79,slow=21,SNR=50								
JTS	**JuntasAbangare**	**0.55**	**187**	*e*Pn			**Pn**	**04 36 23.1**	**-0.4**
JTS				*e*Sn			**Sn**	**04 36 41.7**	**-0.9**
JTS	**JuntasAbangare**	**0.55**	**187**	*e*P			**Pn**	**04 36 23.1**	**-0.4**
JTS				*e*S			**Sn**	**04 36 42.0**	**-0.6**
PLVR	**Palo Verde**	**0.67**	**223**	*e*P			**Pn**	**04 36 23.7**	**-0.5**
PLVR				*e*S			**Sn**	**04 36 44.3**	**+0.5**
SRA1	**San Ram^‡n**	**0.85**	**152**	*e*P			**Pn**	**04 36 25.1**	**-0.2**
VCR	**Vista de Mar**	**1.02**	**226**	*e*P			**Pn**	**04 36 25.3**	**-1.1**
HDC	**Heredia**	**1.13**	**137**	*e*Pn			**Pn**	**04 36 27.6**	**+0.3**
HDC				*e*Sn			**Sn**	**04 36 49.1**	**-0.3**
HDC	**Heredia**	**1.13**	**137**	*e*P			**Pn**	**04 36 27.5**	**+0.2**
HDC				*e*S			**Sn**	**04 36 50.1**	**+0.7**
ACON	**Acoyapa**	**1.16**	**346**	*e*P			**Pn**	**04 36 27.9**	**+0.5**
CVTR	**Volcan Turrial**	**1.38**	**126**	*e*P			**Pn**	**04 36 29.9**	**+0.2**
LCR2	**La Lucha 2**	**1.39**	**141**	*e*P			**Pn**	**04 36 29.9**	**+0.2**
LCR2				*e*S			**Sn**	**04 36 54.5**	**+0.8**
ESPN	**Las Esperanzas**	**1.47**	**23**	*e*Pn			**Pn**	**04 36 30.7**	**+0.6**
ESPN				*e*Sn			**Sn**	**04 36 52.5**	**-2.1**
ESPN	**Las Esperanzas**	**1.47**	**23**	*e*P			**Pn**	**04 36 30.6**	**+0.5**
URSC	**Urasca**	**1.48**	**132**	*e*P			**Pn**	**04 36 31.0**	**+0.6**
MASN	**Masaya**	**1.69**	**313**	*e*P			**Pn**	**04 36 31.6**	**-0.8**
BOAB	**BOACO BROADBAN**	**1.77**	**335**	*e*Pn			**Pn**	**04 36 33.4**	**+0.2**
BOAB				*e*Sn			**Sn**	**04 36 59.4**	**-0.6**
BOAB	**BOACO BROADBAN**	**1.77**	**335**	*e*P			**Pn**	**04 36 33.7**	**+0.5**
MGAN	**Managua**	**1.86**	**314**	*e*P			**Pn**	**04 36 34.4**	**+0.3**
MGAN				*e*S			**Sn**	**04 37 01.7**	**+0.1**
EDLM	**Las Mercedes**	**2.01**	**140**	*e*P			**Pn**	**04 36 36.9**	**+1.1**
COPN	**Copaltepe**	**2.14**	**309**	*e*P			**Pn**	**04 36 37.1**	**0.0**
COPN				*e*S			**Sn**	**04 37 05.5**	**-1.5**
MOMN	**Momotombo**	**2.25**	**314**	*e*P			**Pn**	**04 36 38.5**	**+0.1**
MOMN				*e*S			**Sn**	**04 37 08.8**	**-0.5**
DRK0	**Durika**	**2.25**	**134**	*e*P			**Pn**	**04 36 39.1**	**+0.5**
DRK0				*e*S			**Sn**	**04 37 08.8**	**-0.7**
EDBA	**Buenos Aires**	**2.30**	**136**	*e*P			**Pn**	**04 36 39.7**	**+0.7**
MATN	**Matagalpa**	**2.31**	**334**	*e*P			**Pn**	**04 36 39.8**	**+0.6**
EDPN	**Palmar Norte**	**2.34**	**143**	*e*P			**Pn**	**04 36 40.8**	**+1.4**
CNGN	**Cerro Negro**	**2.42**	**313**	*e*P			**Pn**	**04 36 39.9**	**-0.5**
CNGN				*e*S			**Sn**	**04 37 11.9**	**-0.9**
ESTN	**Estel**	**2.68**	**327**	*e*Pn			**Pn**	**04 36 43.6**	**+0.2**
ESTN	**Estel**	**2.68**	**327**	*e*P			**Pn**	**04 36 44.0**	**+0.6**
EDSV	**San Vito**	**2.75**	**137**	*e*P			**Pn**	**04 36 46.1**	**+1.8**
PTJ1	**Puerto Jim^‘ne**	**2.77**	**146**	*e*P			**Pn**	**04 36 45.7**	**+1.3**
PTJ1				*e*S			**Sn**	**04 37 22.0**	**+1.9**
CRIN	**San Cristobal**	**2.81**	**311**	*e*P			**Pn**	**04 36 45.4**	**+0.3**
CRIN				*e*S			**Sn**	**04 37 23.1**	**+2.0**
CRIN				IAML				04 37 30.9	
	comp=N,682nm,0.3s								
BRU2	**Volcan**	**2.97**	**133**	*e*P			**Pn**	**04 36 48.1**	**+1.2**
BRU2				*i* S			**Sn**	**04 37 24.1**	**-0.5**
CSGN	**Cosiguina Volc**	**3.37**	**309**	*e*Pn			**Pn**	**04 36 53.3**	**+1.5**
CSGN				*e*Sn			**Sn**	**04 37 33.5**	**+0.1**
CSGN	**Cosiguina Volc**	**3.37**	**309**	*e*P			**Pn**	**04 36 53.2**	**+1.4**
CSGN				*e*S			**Sn**	**04 37 34.4**	**+1.0**
LCND	**La Ca^–ada**	**3.83**	**310**	*e*P			**Pn**	**04 36 57.6**	**0.0**
LCND				IAML				04 36 59.1	
	comp=Z,214nm,0.4s								
TGUH	**Tegucigalpa,Un**	**3.96**	**324**	*e*Pn			**Pn**	**04 37 00.8**	**+1.6**
TGUH	**Tegucigalpa,Un**	**3.96**	**324**	*e*P			**Pn**	**04 37 00.4**	**+1.3**
LCY	**Lacayo**	**4.21**	**308**	*e*P			**Pn**	**04 37 03.2**	**+0.7**
PACA	**Pacayal**	**4.26**	**308**	*e*P			**Pn**	**04 37 04.3**	**+1.1**
PAVA	**Las Pavas**	**4.88**	**306**	*e*P			**Pn**	**04 37 11.6**	**+0.4**
PAVA				IAML				04 37 15.4	
	comp=Z,322nm,0.3s								
SNET	**Serv Nac Est T**	**5.10**	**304**	*e*Pn			**Pn**	**04 37 14.2**	**+0.2**
SNET	**Serv Nac Est T**	**5.10**	**304**	*e*P			**Pn**	**04 37 14.7**	**+0.7**
SNET				IAML				04 37 15.7	
	comp=Z,525nm,0.3s								
UEES	**San Salvador**	**5.13**	**304**	*e*P			**Pn**	**04 37 14.7**	**+0.2**
UEES				IAML				04 37 16.2	
	comp=Z,312nm,0.3s								
BCIP	**Isla Barro Col**	**5.24**	**108**	*e*Pn			**Pn**	**04 37 16.5**	**+0.7**
SBLS	**San Blas**	**5.50**	**303**	*e*P			**Pn**	**04 37 19.9**	**+0.5**
IXG	**Ixpaco**	**6.37**	**302**	*e*P			**Pn**	**04 37 31.4**	**+0.7**
APG	**El Apazote**	**6.83**	**308**	P			**Pn**	**04 37 38.2**	**+1.4**
	comp=Z,5.3nm,0.3s,baz=121,slow=7.0,SNR=30								
CCIG	**Comitan**	**8.88**	**308**	*e*Pn			**Pn**	**04 38 04.4**	**+0.6**
CMIG	**Matias Romero**	**11.52**	**304**	P			**Pn**	**04 38 37.1**	**-0.9**
	comp=Z,2.5nm,0.3s,baz=149,slow=10,SNR=25								
ROSC	**El Rosal**	**12.04**	**119**	P			**Pn**	**04 38 49.1**	**-1.5**
	comp=Z,0.

comp=Z,11nm,0.8s
X48A **Hartselle** 23.59 356 P P 04 40 53.9 +0.7
baz=175,SNR=7.5
X49A **Woodville** 23.60 357 P P 04 40 54.2 +0.9
baz=177,SNR=7.6
X51A **Calhoun** 23.62 0 P P 04 40 54.7 +1.1
baz=180
X47A **Russellville** 23.73 354 P P 04 40 56.3 +1.8
baz=173,SNR=13
X45A **UM Field Stati** 23.84 351 P P 04 40 55.5 -0.1
baz=169,SNR=5.6
X46A **Booneville** 23.85 352 P P 04 40 56.0 +0.3
baz=171,SNR=10
OXF **Oxford** 23.93 351 eP P 04 40 56.2 -0.1
comp=Z,22nm,0.7s
PAULI **Pauline** 24.04 6 eP P 04 40 58.9 +1.5
comp=Z,17nm,0.8s
BG3 **Lake Jocassee** 24.11 4 eP P 04 40 59.8 +1.7
comp=Z,25nm,0.8s
W52A **Murphy** 24.16 2 eP P 04 41 00.5 +2.0
comp=Z,16nm,0.7s
W52A **Murphy** 24.16 2 P P 04 40 59.9 +1.4
baz=182
W49A **Belvidere** 24.20 357 P P 04 41 00.0 +1.2
baz=177
PLAL **Pickwick Lake** 24.21 354 eP P 04 40 59.2 +0.3
comp=Z,40nm,1.9s
W51A **Cleveland** 24.21 0 P P 04 41 00.7 +1.7
baz=180
W50A **Signal Mountai** 24.26 359 eP P 04 41 00.1 +0.7
comp=Z,48nm,1.3s
W50A **Signal Mountain** 24.26 359 P P 04 41 01.4 +2.0
baz=179,SNR=6.4
W48A **Pulaski** 24.26 356 P P 04 41 00.6 +1.2
baz=175,SNR=8.8
KMSC **Kings Mountain** 24.41 7 eP P 04 41 02.1 +1.3
comp=Z,19nm,0.9s
W47A **Westpoint** 24.43 355 P P 04 41 01.6 +0.7
baz=174,SNR=11
CPCT **Cooper Cave** 24.50 1 eP P 04 41 03.3 +1.7
comp=Z,25nm,0.8s
TKL **Tuckaleechee C** 24.73 2 P P 04 41 04.0 +0.4
comp=Z,5.7nm,0.7s,baz=174,slow=14,SNR=7.5
V53A **Saluda** 24.79 4 eP P 04 41 05.7 +1.4
comp=Z,49nm,2.0s
V48A **Smith Brothers** 24.85 356 eP P 04 41 05.6 +0.8
comp=Z,9.3nm,0.8s
V48A **Smith Brothers** 24.85 356 P P 04 41 05.4 +0.7
baz=176
V51A **Loudon** 24.86 1 eP P 04 41 05.2 +0.4
comp=Z,70nm,1.6s
V51A **Loudon** 24.86 1 P P 04 41 06.1 +1.3
baz=181
MIAR **Mount Ida** 24.90 343 eP P 04 41 05.3 +0.1
comp=Z,9.2nm,0.7s
MIAR **Mount Ida** 24.90 343 P P 04 41 05.4 +0.2
baz=160,SNR=6.4
V47A **Nunnelly** 24.99 355 P P 04 41 06.6 +0.6
baz=174
V46A **Holladay** 25.02 354 P P 04 41 06.1 -0.2
baz=173,SNR=6.1
V45A **Humboldt** 25.07 352 P P 04 41 06.8 +0.1
baz=171
W41B **Gary Mavity, V** 25.14 346 eP P 04 41 07.7 +0.4
comp=Z,21nm,1.4s
W41B **Gary Mavity, V** 25.14 346 P P 04 41 07.5 +0.2
baz=163
WHAR **Wooly Hollow** 25.26 346 eP P 04 41 08.8 +0.4
comp=Z,11nm,0.8s
WVT **Waverly** 25.32 354 eP P 04 41 08.7 -0.2
comp=Z,38nm,1.8s
WVT **Waverly** 25.32 354 P P 04 41 08.9 0.0
baz=173
TXAR **Lajitas Array** 25.42 319 P P 04 41 10.5 +0.4
comp=Z,0.4nm,0.5s,baz=142,slow=9.8,SNR=6.2
TXAR pP pP 04 41 46.7 +0.4
comp=Z,1.2nm,0.9s,baz=132,slow=12,SNR=4.0
U50A **Jamestown** 25.46 0 P P 04 41 10.6 +0.3
baz=180
U53A **Fall Branch** 25.50 4 P P 04 41 11.5 +0.9
baz=185
W39A **Magazine** 25.57 343 P P 04 41 11.3 +0.1
baz=160
U49A **Red Boiling Sp** 25.57 358 P P 04 41 11.6 +0.3
baz=178
V41A **Mountainview** 25.70 346 P P 04 41 12.2 -0.2
baz=164
U42A **Revenden** 26.04 348 P P 04 41 15.4 -0.1
baz=166,SNR=8.7
T50A **Nancy** 26.07 0 P P 04 41 15.7 0.0
baz=180
PARMO **Parma** 26.09 351 eP P 04 41 16.8 +0.9
comp=Z,52nm,0.8s
T47A **Sharon Grove** 26.11 356 eP P 04 41 16.9 +0.8
comp=Z,9.2nm,0.8s
T47A **Sharon Grove** 26.11 356 P P 04 41 16.4 +0.3
baz=175
T49A **Edmonton** 26.16 359 P P 04 41 16.8 +0.3
baz=179
T46A **Princeton** 26.23 355 P P 04 41 17.0 -0.2
baz=174
U40A **Yellville** 26.41 345 P P 04 41 19.0 +0.2
baz=162
T42A **Van Buren** 26.67 349 eP P 04 41 20.1 -1.0
comp=Z,10nm,0.8s
T42A **Van Buren** 26.67 349 P P 04 41 20.5 -0.6
baz=166,SNR=7.4
S51A **Beattyville** 26.71 2 eP P 04 41 21.8 +0.4
comp=Z,11nm,0.8s
S51A **Beattyville** 26.71 2 P P 04 41 21.1 -0.4
baz=183
T41A **Mountain View** 26.82 348 P P 04 41 22.5 +0.1
baz=165,SNR=8.6
S49A **Springfield** 26.84 359 P P 04 41 22.5 -0.1
baz=179
WCI **Wyandotte Cave** 27.30 358 eP P 04 41 27.0 +0.3
comp=Z,16nm,0.9s
WCI **Wyandotte Cave** 27.30 358 P P 04 41 26.5 -0.2
baz=177
S42A **Caledonia** 27.34 350 P P 04 41 26.2 -0.8
baz=168
R49A **Shelbyville** 27.34 360 P P 04 41 27.3 +0.3
baz=180
R51A **Hillsboro** 27.37 2 P P 04 41 28.2 +0.9
baz=183,SNR=5.6
R45A **Skylar, Fairfi** 27.51 354 P P 04 41 28.6 +0.1
baz=173
R43A **Red Bud** 27.69 351 P P 04 41 30.0 -0.2
baz=170
CCM **Cathedral Cave** 27.70 349 eP P 04 41 29.8 -0.4
comp=Z,10nm,0.8s
CCM **Cathedral Cave** 27.70 349 P P 04 41 29.9 -0.4
baz=167
OLIL **Olney** 27.93 355 eP P 04 41 32.5 +0.3
comp=Z,20nm,1.1s
R41A **Rosebud** 27.96 349 P P 04 41 31.8 -0.8
baz=166
Q47A **Bedord North L** 28.02 357 P P 04 41 32.7 -0.4
baz=177,SNR=5.8
Q45A **Warren Harvey,** 28.09 355 P P 04 41 33.3 -0.4
baz=173
Q51A **Peebles** 28.11 3 eP P 04 41 34.5 +0.6
comp=Z,25nm,0.8s
Q51A **Peebles** 28.11 3 P P 04 41 34.0 +0.2
baz=183,SNR=9.1
Q52A **Bidwell** 28.11 4 P P 04 41 33.6 -0.2
baz=186
P48A **Milroy** 28.51 359 P P 04 41 37.0 -0.4
baz=179
Q41A **Truxton** 28.57 350 P P 04 41 37.3 -0.6
baz=167,SNR=5.9
P45A **Graceland, Par** 28.68 355 eP P 04 41 39.3 +0.3
comp=Z,18nm,1.0s
P45A **Graceland, Par** 28.68 355 P P 04 41 39.0 +0.1
baz=174
P53A **Whipple** 28.70 6 P P 04 41 40.3 +1.2
baz=187
P46A **Rosedale** 28.74 356 P P 04 41 39.3 -0.1
baz=175
P52A **Corning** 28.78 4 P P 04 41 40.5 +0.7
baz=186
O50A **Cable** 29.21 2 P P 04 41 44.0 +0.4
baz=183
O49A **Covington** 29.24 1 P P 04 41 43.8 0.0
baz=181
O51A **Pataskala** 29.26 4 P P 04 41 44.3 +0.3
baz=185,SNR=6.1
O48A **Farmland** 29.30 360 P P 04 41 44.2 -0.2
baz=180

ACSO **Alum Creek Sta** 29.32 3 eP P 04 41 45.2 +0.6
comp=Z,14nm,0.7s
ACSO **Alum Creek Sta** 29.32 3 P P 04 41 45.1 +0.5
baz=184
SFIN **Lafayette** 29.49 357 P P 04 41 45.5 -0.5
baz=176
HDIL **Hopedale** 29.86 353 P P 04 41 48.2 -1.1
baz=171
N48A **Decatur** 29.90 360 P P 04 41 49.2 -0.5
baz=180
N49A **Columbus Grove** 29.97 1 eP P 04 41 50.4 +0.1
comp=Z,9.9nm,0.8s
N49A **Columbus Grove** 29.97 1 P P 04 41 50.3 +0.1
baz=182
N44A **Piper City** 29.98 355 P P 04 41 49.9 -0.5
baz=174
N45A **Kentland** 29.98 356 P P 04 41 49.9 -0.5
baz=175
N46A **Monticello** 29.98 357 P P 04 41 49.9 -0.5
baz=176
MVL **Millersville** 30.02 13 eP P 04 41 52.6 +1.9
comp=Z,33nm,1.4s
N42A **Yates City** 30.22 352 P P 04 41 52.2 -0.2
baz=170
SSPA **Standing Stone** 30.32 11 P P 04 41 53.4 0.0
baz=194
N39A **Derby Farms, D** 30.67 349 eP P 04 41 56.0 -0.4
comp=Z,15nm,0.6s
N39A **Derby Farms, D** 30.67 349 P P 04 41 56.1 -0.4
baz=165,SNR=5.4
N59A **State Game Lan** 31.02 13 P P 04 42 00.8 +1.2
baz=198
L42A **Oliver, Polo** 31.33 353 eP P 04 42 01.2 -1.0
comp=Z,16nm,0.8s
L42A **Oliver, Polo** 31.33 353 P P 04 42 01.7 -0.6
baz=171
L41A **Preston** 31.50 352 P P 04 42 03.0 -0.7
baz=170,SNR=6.8
L40A **Anamosa** 31.60 351 eP P 04 42 03.8 -0.8
comp=Z,13nm,0.8s
L40A **Anamosa** 31.60 351 P P 04 42 03.6 -1.0
baz=168
K47A **Vermontville** 31.71 360 P P 04 42 04.8 -0.8
baz=180
JFWS **Jewell Farm** 32.30 353 eP P 04 42 09.9 -0.8
comp=Z,23nm,1.4s
JFWS **Jewell Farm** 32.30 353 P P 04 42 09.6 -1.1
baz=170
K39A **Oelwein** 32.33 350 P P 04 42 09.7 -1.3
baz=167
ELFO **Elginfield** 32.38 5 P P 04 42 11.2 -0.2
baz=187
TYNO **Tyneside** 32.43 7 P P 04 42 11.7 -0.1
baz=189
J42A **Columbus** 32.57 354 P P 04 42 11.8 -1.2
baz=172
J41A **Loganville** 32.71 353 P P 04 42 13.5 -0.8
baz=171
J40A **Soldiers Grove** 32.83 352 P P 04 42 14.8 -0.6
baz=170
ACTO **Acton** 32.92 6 P P 04 42 15.9 -0.1
baz=189
I43A **Langenfeld Bro** 33.05 356 P P 04 42 16.2 -1.0
baz=174
I42A **Draeger Farm,** 33.12 355 eP P 04 42 17.0 -0.8
comp=Z,19nm,1.0s
I42A **Draeger Farm,** 33.12 355 P P 04 42 16.8 -1.0
baz=173
BASO **Ashfield** 33.17 4 P P 04 42 18.5 +0.2
baz=186
I40A **Norwalk** 33.30 352 P P 04 42 18.4 -1.1
baz=170
BWLO **Walkerton** 33.32 5 P P 04 42 19.5 0.0
baz=187
DRWO **Darlington Wes** 33.34 8 P P 04 42 19.8 +0.1
baz=191
DRCO **St. Marys Ceme** 33.35 8 P P 04 42 19.9 +0.1
baz=191,SNR=5.0
PKRO **Pickering** 33.39 8 P P 04 42 20.3 +0.2
baz=190
BRCO **Bruce Peninsul** 33.42 4 P P 04 42 20.6 +0.2
baz=186
H43A **Windswept, Lux** 33.60 356 P P 04 42 21.0 -1.0
baz=175
CLWO **Collingwood** 33.72 6 P P 04 42 23.1 0.0
baz=188
H48A **Harrisville** 33.77 2 P P 04 42 22.4 -1.0
baz=183
BMRO **Meriville Lake** 33.78 5 P P 04 42 23.2 -0.3
baz=186
H40A **Chili** 34.00 353 P P 04 42 24.4 -1.0
baz=170
H39A **Augusta** 34.17 352 P P 04 42 25.4 -1.5
baz=169
SADO **Sadowa** 34.17 7 P P 04 42 26.6 -0.3
comp=Z,11nm,0.7s,baz=208,slow=8.1,SNR=14
SADO **Sadowa** 34.17 7 eP P 04 42 26.7 -0.2
comp=Z,16nm,0.8s
H38A **Maiden Rock** 34.31 351 P P 04 42 26.7 -1.4
baz=167
ECSD **EROS Data Cent** 34.32 345 eP P 04 42 27.1 -1.1
comp=Z,9.3nm,1.3s
ECSD **EROS Data Cent** 34.32 345 P P 04 42 26.5 -1.7
baz=159,SNR=5.1
TOBO **Tobermory, Bru** 34.39 4 P P 04 42 28.0 -0.8
baz=186
G38A **Ridgeland** 34.73 351 P P 04 42 30.4 -1.3
baz=168,SNR=5.7
G39A **Holcombe** 34.75 352 P P 04 42 30.7 -1.2
baz=169,SNR=7.0
BUKO **Buck Lake** 34.80 7 P P 04 42 32.3 -0.1
baz=190
F43A **Flat Rock, Esc** 34.93 357 P P 04 42 32.3 -1.0
baz=176
SPMN **Marine on St.** 34.93 350 eP P 04 42 31.6 -1.8
comp=Z,11nm,0.8s
F41A **Three Lakes** 34.97 355 P P 04 42 32.7 -1.0
baz=175
F44A **Big Bay de Noc** 35.04 358 P P 04 42 33.4 -0.9
baz=178
F52A **Sundridge** 35.16 7 P P 04 42 34.9 -0.4
baz=190
F40A **Park Falls** 35.24 354 P P 04 42 34.6 -1.5
baz=171
ORIO **Orleans, Innes** 35.42 11 P P 04 42 37.3 -0.3
baz=196
E43A **Lone Tree Farm** 35.46 357 P P 04 42 36.9 -1.0
baz=176
ALGO **Algonquin Park** 35.48 8 P P 04 42 37.6 -0.5
baz=192
E47A **Iron Bridge** 35.52 2 P P 04 42 37.6 -0.9
baz=183
SIV **San Ignacio** 35.58 138 P P 04 42 38.3 -1.0
comp=Z,0.9nm,0.5s,baz=305,slow=8.4,SNR=5.4
ALFO **Alfred** 35.71 12 P P 04 42 39.9 -0.2
baz=197
E51A **Wm48 Merrick** 35.87 6 P P 04 42 41.2 -0.2
baz=189
LATQ **La Tuque** 37.83 13 P P 04 42 57.8 -0.1
baz=200
PDAR **Pinedale Array** 38.39 330 PcP PcP 04 45 12.0 -0.8
comp=Z,0.3nm,0.7s,baz=113,slow=6.9,SNR=3.4
LSQQ **Lebel-sur-Quev** 38.67 8 P P 04 43 03.9 -1.0
baz=192
MATQ **Matagami** 39.27 7 P P 04 43 09.1 -0.8
baz=191
ULM **Lac du Bonnet** 40.33 349 P P 04 43 16.6 -2.0
comp=Z,4.6nm,0.8s,baz=173,slow=7.6,SNR=5.2
NVAR **Mina Array Bea** 40.57 318 P P 04 43 21.6 +0.6
comp=Z,1.5nm,0.8s,baz=133,slow=6.8,SNR=7.5
NVAR PcP PcP 04 45 20.4 +0.5
comp=Z,1.5nm,0.8s,baz=134,slow=4.9,SNR=8.0
SCHQ **Schefferville** 46.15 14 P P 04 44 03.9 -1.3
comp=Z,11nm,0.9s,baz=217,slow=5.9,SNR=10.0
PLCA **Paso Flores** 53.00 166 P P 04 44 58.3 +1.2
comp=Z,1.7nm,0.9s,baz=15,slow=4.7,SNR=3.8
PLCA pP pP 04 45 38.0 +0.6
comp=Z,1.7nm,0.8s,baz=358,slow=9.7,SNR=3.5
YKA **Yellowknife Ar** 55.83 344 P P 04 45 16.2 -1.1
comp=Z,0.6nm,0.6s,baz=146,slow=6.6,SNR=3.7
ILAR **Eielson Array** 68.50 336 P P 04 46 40.4 -1.0
comp=Z,0.5nm,0.9s,baz=124,slow=5.6,SNR=4.1
ESDC **Sonseca Array** 76.21 52 P P 04 47 26.8 -0.9
comp=Z,2.6nm,0.9s,baz=274,slow=5.6,SNR=8.9
WMQ **Urumqi** 125.19 7 ePKP PKPdf 04 54 39.3 +0.9
WMQ LR LR
comp=Z,120nm,17.3s
WMQ LR LR

comp=Z,250nm,19.1s
HHC **Hu-ho-hao-te** 126.37 345 ePKP PKPdf 04 54 40.8 0.0
KSH **Kashi** 126.84 18 ePKP PKPdf 04 54 43.8 +2.0
NJ2 **Nanjing** 131.68 333 ePKP PKPdf 04 54 51.8 +0.8
ASAR **Alice Springs** 140.95 246 PKhKP PKPpre 04 55 01.4
comp=Z,0.5nm,0.8s,baz=90,slow=2.8,SNR=4.0
ASAR PKP PKPdf 04 55 09.0 +0.6
comp=Z,0.3nm,0.9s,baz=158,slow=1.6,SNR=6.8
ASAR pPKP pPKPdf 04 55 54.0 -1.0
comp=Z,0.5nm,0.9s,baz=67,slow=2.4,SNR=2.3
WRA **Warramunga Arr** 141.19 252 PKhKP PKPpre 04 55 02.9
comp=Z,0.6nm,0.6s,baz=97,slow=3.0,SNR=14
WRA pPKP pPKPdf 04 55 54.3 -1.2
comp=Z,0.3nm,0.7s,baz=0.2,slow=0.2,SNR=1.9

*ISCJB **17** 04:52:03.1±0.8,27°.36N±0°.09×103°.8E±0°.1, h10km, mb3.8/6, MS3.0/1, Error ellipse: s-maj=18.0km s-min=11.4km az=22.2*
*IDC **17** 04:52:03.7±1.0,27°.30N×103°.64E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.5/43, mbtmp3.7/7, MS2.9/2, Ms1 3.0/2, ms1mx2.6/56, Error ellipse: s-maj=77.9km s-min=18.1km az=62.0*
ISC 17 04:52:05.3±1.2, 27°.3N±0°.1×103°.6E±0°.2, h10km, n10, σ1s78/10, mb3.7/6, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XAN	**Xi'an**	8.15	33	Pn	**Pn**	**04 54 02.9**	**-0.8**
XAN				Pg	**Pb**	**04 54 29.8**	**+3.2**
XAN				Sn	**Sn**	**04 55 32.8**	**-3.1**
XAN				Sg	Sb	04 56 15.0	+11
XAN				smax	smax		
	comp=N,48nm,1.0s						
XAN				smax	smax		
	comp=E,34nm,1.0s						
XAN				LR	LR		
	comp=E,160nm,4.6s						
CMAR	**Chiang Mai Arr**	9.78	207	LR	LR	04 58 54.5	
	comp=E,51nm,18.6s,baz=15,slow=42						
SONM	**Songino Array**	20.63	5	P	**P**	**04 56 44.9**	**-0.1**
	comp=E,0.9nm,0.5s,baz=189,slow=11,SNR=7.5						
MKAR	**Makanchi Array**	25.70	325	P	**P**	**04 57 36.1**	**+0.6**
	comp=E,0.9nm,0.8s,baz=128,slow=10,SNR=6.6						
ZALV	**Zalesovo Beam**	30.00	338	P	**P**	**04 58 13.1**	**-1.0**
	comp=E,0.5nm,0.3s,baz=156,slow=7.3,SNR=4.0						
MJAR	**Matsushiro Arr**	30.67	64	LR	LR	05 10 50.8	
	comp=E,31nm,18.2s,baz=290,slow=37						
WRA	**Warramunga Arr**	55.61	144	P	**P**	**05 01 41.3**	**-0.2**
	comp=E,0.4nm,0.5s,baz=333,slow=8.5,SNR=9.4						
ASAR	**Alice Springs**	58.52	147	P	**P**	**05 02 01.7**	**-0.3**
	comp=E,0.3nm,0.7s,baz=327,slow=6.3,SNR=4.4						
FINES	**FINESS Array B**	60.49	327	P	**P**	**05 02 15.2**	**0.0**
	comp=E,2.7nm,1.1s,baz=128,slow=9.0,SNR=3.0						
ARCES	**ARCESS Array B**	60.55	337	P	**P**	**05 02 15.8**	**+0.3**
	comp=E,3.3nm,0.9s,baz=90,slow=7.2,SNR=3.3						

*IDC **17** 04:57:12.8±3.0, 35°.49N×141°.56E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.5/38, mbtmp3.6/5, ML3.0/1, MS2.8/3, Ms1 2.8/3, ms1mx2.5/59, Error ellipse: s-maj=96.5km s-min=25.7km az=61.0*
*ISCJB **17** 04:57:15.1±1.2, 35°.45N±0°.07×141°.5E±0°.1, h25km, mb3.6/4, Error ellipse: s-maj=15.6km s-min=8.0km az=147.9*
*JMA **17** 04:57:17.0±0.2, 35°.45N×141°.27E, h31km±2km, M3.1*
ISC 17 04:57:17.4±1.5, 35°.43N±0°.07×141°.3E±0°.1, h25km, n23, σ1s66/17, mb3.7/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	0.47	305	P	**Pb**	**04 57 26.1**	**-1.0**
CHOJ				S	**Sb**	**04 57 32.7**	**-1.0**
JSMT	**Sammumatsuo**	0.75	287	P	**Pb**	**04 57 30.7**	**-1.1**
BSO1	**Boso 1**	0.83	200	P	**Pb**	**04 57 32.3**	**-0.5**
JIHU	**Itakohorinouch**	0.84	309	P	**Pb**	**04 57 32.4**	**-1.0**
BSO3	**Boso 3**	0.92	227	P	**Pn**	**04 57 33.6**	**-0.9**
JCN	**Nagara**	0.92	270	P	**Pn**	**04 57 34.2**	**-0.6**
BSO4	**Boso 4**	0.92	242	P	**Pn**	**04 57 33.6**	**-1.1**
JYT	**Yasato**	1.22	311	P	**Pn**	**04 57 37.4**	**-1.5**
MJAR	**Matsushiro Arr**	2.76	295	Pn	**Pn**	**04 58 01.0**	**+0.9**
	2.4nm,0.3s,baz=109,slow=9.3,SNR=18						
MJAR				LR	LR	04 59 14.3	
	comp=Z,102nm,19.2s,baz=95,slow=42						
MAT	**Matsushiro**	2.76	295	P	**Pn**	**04 58 00.9**	**+0.7**
MAT				eS	**Sn**	**04 58 34.2**	**+1.4**
KSRS	**Korea Array**	10.99	285	LR	LR	05 03 37.5	
	comp=Z,39nm,19.6s,baz=6.5,slow=34						
USRK	**Ussuriysk Ar.**	11.32	324	LR	LR	05 04 01.5	
	comp=Z,72nm,21.7s,baz=184,slow=36						
HHC	**Hu-ho-hao-te**	23.96	292	eP	**P**	**05 02 34.9**	**+5.0**
H11N2	**WAKE ISLAND Hy**	27.42	118	T	T	05 31 57.3	
	baz=310,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	27.43	118	T	T	05 31 57.9	
	baz=310,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	27.44	118	T	T	05 31 58.7	
	baz=310,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy**	28.08	120	T	T	05 32 37.0	
	baz=312,slow=75,SNR=67						
H11S3	**WAKE ISLAND Hy**	28.08	120	T	T	05 32 37.7	
	baz=312,slow=75,SNR=60						
H11S2	**WAKE ISLAND Hy**	28.10	120	T	T	05 32 36.2	
	baz=312,slow=75,SNR=55						
SONM	**Songino Array**	28.65	306	P	**P**	**05 03 12.6**	**+0.5**
	0.4nm,0.6s,baz=116,slow=9.8,SNR=3.1						
ZALV	**Zalesovo Beam**	42.95	314	P	**P**	**05 05 13.8**	**-0.3**
	0.9nm,0.4s,baz=98,slow=6.3,SNR=3.9						
MKAR	**Makanchi Array**	44.93	303	P	**P**	**05 05 29.6**	**-0.5**
	0.7nm,0.7s,baz=95,slow=8.8,SNR=6.3						
WRA	**Warramunga Arr**	55.47	188	P	**P**	**05 06 49.9**	**-0.2**
	0.4nm,0.5s,baz=3.3,slow=7.6,SNR=13						

*ISK **17** 05:03:46.9, 37°.33N×37°.12E, h8km, ML3.2/9*
*ISCJB **17** 05:03:47.6±0.6, 37°.31N±0°.03×37°.11E±0°.03, h6km±5km, Error ellipse: s-maj=5.9km s-min=4.1km az=30.6*
*DDA **17** 05:03:47.1, 37°.29N×37°.13E, h7km, Ml3.8*
ISC 17 05:03:47.8±0.9, 37°.31N±0°.03×37°.13E±0°.03, h10km±7km, n22, σ0s98/32, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	0.15	155	PG	**Pg**	**05 03 51.3**	**0.0**
GAZ				SG	**Sg**	**05 03 54.2**	**+0.5**
KMRS	**Kahramanmaras**	0.27	317	PG	**Pg**	**05 03 52.6**	**-0.7**
KMRS				SG	**Sg**	**05 03 56.3**	**-0.6**
KUZU	**Kuzuini**	0.54	185	*i* P	**Pb**	**05 03 59.1**	**-0.3**
KUZU				*i* S	**Sn**	**05 04 11.3**	**+0.6**
ANDN	**Andirin**	0.68	293	*i* P	**Pg**	**05 04 00.4**	**-0.6**
ANDN				*i* S	**Sn**	**05 04 13.7**	**-0.6**
ATAB	**Bozova**	0.94	80	*i* P	**Pg**	**05 04 05.2**	**-0.7**
ATAB				*i* S	**Sb**	**05 04 18.3**	**-0.4**
KOZT	**Kozan**	1.05	280	PG	**Pg**	**05 04 07.2**	**-0.8**
SAIM	**ADANA**	1.06	309	*i* P	**Pb**	**05 04 07.9**	**-0.5**
SAIM				*i* S	**Sn**	**05 04 23.4**	**-0.4**
AKCD	**Akcadag**	1.17	32	*i* P	**Pg**	**05 04 09.2**	**-1.0**
AKCD				*i* S	**Sn**	**05 04 26.7**	**+0.4**
TAHT	**Tahtakopru-Hat**	1.20	219	PN	**Pn**	**05 04 10.1**	**-0.5**
SURC	**SANLIURFA_SURC**	1.26	110	*i* P	**Pn**	**05 04 10.9**	**-0.6**
SURC				*i* S	**Sn**	**05 04 29.1**	**+0.6**
DARE	**Darende-Malaty**	1.29	12	PN	**Pn**	**05 04 11.3**	**-0.6**
YURE	**YUREGIR**	1.29	248	PN	**Pg**	**05 04 12.1**	**-0.5**
URFA	**Urfa**	1.35	84	PN	**Pn**	**05 04 12.1**	**-0.7**
CUGUR	**Gurin_S¨VAS**	1.41	4	*i* P	**Pg**	**05 04 14.0**	**-1.0**
CUGUR				*i* S	**Sg**	**05 04 36.8**	**+3.4**
HEKM	**Malatya_Hekimh**	1.70	22	*i* P	**Pg**	**05 04 19.4**	**-1.0**
HEKM				*i* S	**Sg**	**05 04 44.2**	**+1.8**
BNN	**Bunyan**	1.84	327	PN	**Pn**	**05 04 19.9**	**+0.3**
MERS	**Mersin**	2.13	259	PN	**Pn**	**05 04 24.1**	**+0.6**
PTK	**Pertek**	2.38	48	PN	**Pn**	**05 04 27.6**	**+0.5**
SVSK	**Karacayir**	2.60	358	PN	**Pn**	**05 04 30.4**	**+0.5**
YOZ	**Yozgat**	2.73	329	PN	**Pn**	**05 04 32.0**	**+0.3**
KEBE	**Keben-Mersin**	2.87	254	PN	**Pn**	**05 04 34.7**	**+1.0**
IKL	**Isikli**	2.97	250	PN	**Pn**	**05 04 35.6**	**+0.7**

*IDC **17** 05:12:55.0±0.3, 18°.44S×172°.37W, h0km, mb5.6/39, mb1 5.6/40, mb1mx5.6/42, mbtmp5.6/40, ML6.2/1, MS5.3/47, Ms1 5.3/47, ms1mx5.2/58, Error ellipse: s-maj=12.7km s-min=9.1km az=149.0*
*ISCJB **17** 05:12:55.3±0.1, 18°.41S±0°.02×172°.32W±0°.02, h10km,*

mb5.7/497,MS5.5/651,Error ellipse: s-maj=3.8km s-min=2.1km az=152.2

MOS ***17*** *05:12:55.8±1.1, 18˚.30S×172˚.39W,h10km,mb5.8/110, MS5.5/64,Error ellipse: s-maj=7.8km s-min=6.3km az=68.3*

BJI ***17*** *05:12:55.7, 18˚.31S×172˚.29W,h10km,mb5.6/50, mB6.1/64,Ms5.6/67,Ms7 5.3/65*

NEIC ***17*** *05:12:56.0±0.0, 18˚.31S×172˚.16W,h11km,Moment Tensor Solution. s21 Moment tensor: Scale 10^{17}Nm; M_{rr}=5.34; $M_{\theta\theta}$=-1.43; $M_{\phi\phi}$6.77; $M_{r\theta}$1.29; $M_{\theta\phi}$2.67; $M_{\phi r}$7.21; Best double couple: $M_0$9.90000×10^{17} NP1:ϕ_s190.00000°, δ69.00000°,λ-95.00000°. NP2:ϕ_s26.00000°,δ21.00000°, λ-75.00000°. Principal axes: T 10.9000, Plg24.0000°, Azm284.0000°; N -2.2000, Plg5.0000°, Azm192.0000°; P -8.7000, Plg65.0000°, Azm90.0000°;*

NEIC ***17*** *05:12:56.8±0.1, 18˚.38S×172˚.32W,h10km,mb5.8/298, ME6.0,MS5.5/298,MW5.8,MW5.9,MW5.9 Error ellipse: s-maj=3.2km s-min=1.9km az=141.0,Moment Tensor Solution. s86 Moment tensor: Scale 10^{17}Nm; M_{rr}-4.96; $M_{\theta\theta}$0.39; $M_{\phi\phi}$4.57; $M_{r\theta}$-0.60; $M_{\theta\phi}$0.88; $M_{\phi r}$4.80; Best double couple: $M_0$6.80000×10^{17} NP1:ϕ_s22.00000°, δ24.00000°,λ-69.00000°. NP2:ϕ_s179.00000°,δ68.00000°, λ-99.00000°. Principal axes: T 6.6200, Plg22.0000°, Azm276.0000°; N 0.4400, Plg8.0000°, Azm182.0000°; P -7.0600, Plg66.0000°, Azm73.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s77.00000°,δ61.00000°, λ-17.00000°. NP2:ϕ_s175.00000°,δ75.00000°, λ-150.00000°. Principal axes: T Plg9.0000°, Azm303.0000°; N Plg0.0000°, Azm0.0000°; P Plg32.0000°, Azm39.0000°; Depth from synthetics of broadband displacement seismograms. Apparent Stress 0.91 MPa. Energy computed from BB mechanism.*

NEIC Felt at Neiafu.

GCMT ***17*** *05:13:00.8±0.1,18˚.46S±0˚.01×171˚.99W,h12km, MW5.9/141,Moment Tensor Solution. s129,c268; s141,c437; Duration: 2e1 Moment tensor: Scale 10^{18} Nm; M_{rr}-0.59±.00; $M_{\theta\theta}$-0.12±.01; $M_{\phi\phi}$0.70±.00; $M_{r\theta}$-0.08±.01; $M_{\theta\phi}$0.26±.00; $M_{\phi r}$0.35±.01; Best double couple: $M_0$0.78000×10^{18} NP1:ϕ_s180.00000°,δ60.00000°, λ-110.00000°. NP2:ϕ_s35.00000°,δ36.00000°, λ-60.00000°. Principal axes: T 0.8520, Plg12.0000°, Azm284.0000°; N -0.1430, Plg17.0000°, Azm190.0000°; P -0.7080, Plg69.0000°, Azm48.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***17*** *05:13:20.0±0.0, 17˚.73S×172˚.11W,h10km,Moment Tensor Solution. s37 Moment tensor: Scale 10^{17}Nm; M_{rr}-7.71; $M_{\theta\theta}$-0.56; $M_{\phi\phi}$8.27; $M_{r\theta}$1.41; $M_{\theta\phi}$2.61; $M_{\phi r}$0.70; Best double couple: $M_0$8.50000×10^{17} NP1:ϕ_s205.00000°, δ49.00000°,λ-77.00000°. NP2:ϕ_s5.00000°,δ42.00000°, λ-105.00000°. Principal axes: T 9.0500, Plg4.0000°, Azm286.0000°; N -1.0700, Plg10.0000°, Azm16.0000°; P -7.9800, Plg79.0000°, Azm176.0000°;*

ISC 17 05:12:55.7±0.5,18˚.35S±0˚.04×172˚.29W±0˚.04,h6km±2km, h6km:pP-P,n1763,σ1s32/1631,mb5.8/485,MS5.5/654, 60C-83D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.44**	**6**	Pn		**Pn**	**05 13 59.4**	**-4.2**
	390nm,0.3s,baz=198,slow=1.8,SNR=155							
AFI				Sn		Sn	05 14 46.3	-9.5
	1μm,0.3s,baz=192,slow=22,SNR=10							
AFI				LR		LR	05 15 40.6	
	comp=Z,20μm,21.3s,baz=148,slow=36							
AFI	**Afiamalu**	**4.44**	**6**	*e*Pn		**Pn**	**05 13 59.5**	**-4.2**
AFI				*e*Sn		**Sn**	**05 14 52.1**	**-3.7**
AFI	**Afiamalu**	**4.44**	**6**	*e*P		**Pn**	**05 13 59.5**	**-4.2**
AFI				*e*			05 14 52.1	
RAO	**Raoul Island**	**12.01**	**204**	Pn		**Pn**	**05 15 43.9**	**-3.6**
	142nm,0.3s,baz=51,slow=14,SNR=12							
RAO				Sn		Sn	05 17 46.6	-15
	202nm,0.3s,baz=101,slow=23,SNR=2.9							
RAO	**Raoul Island**	**12.01**	**204**	*e*Pn		**Pn**	**05 15 45.2**	**-2.3**
RAO				*e*Sn		Sn	05 17 46.6	-15
RAR	**Rarotonga**	**12.12**	**106**	Pn		Pn	05 15 43.1	-5.9
	44nm,0.3s,baz=258,slow=7.5,SNR=92							
RAR				Sn		Sn	05 17 48.8	-16
	30nm,0.3s,baz=100,slow=19,SNR=2.7							
RAR	**Rarotonga**	**12.12**	**106**	*e*P		Pn	05 15 43.3	-5.7
FUNA	**Funafuti**	**12.80**	**319**	*e*Pn		**Pn**	**05 16 00.0**	**+1.7**
KNTN	**Kanton**	**15.49**	**2**	*e*Pn		**Pn**	**05 16 31.5**	**-3.4**
	246nm,0.9s							
DZM	**Mont Dzumac**	**20.30**	**256**	P		**P**	**05 17 31.1**	**-1.4**
	186nm,0.6s,baz=80,slow=15,SNR=66							
DZM				S		**S**	**05 21 17.6**	**-3.0**
	32nm,1.2s,baz=341,slow=23,SNR=2.2							
DZM				LR		LR	05 24 04.0	
	comp=Z,17μm,21.6s,baz=90,slow=33							
DZM	**Mont Dzumac**	**20.30**	**256**	*e*P		**P**	**05 17 32.3**	**-0.2**
	2μm,1.4s							
DZM				*e*LQ		LQ	05 21 23.8	
	36μm,29.0s							
DZM				*e*LR		LR	05 22 14.0	
	32μm,26.8s							
DZM	**Mont Dzumac**	**20.30**	**256**	*e*P		**P**	**05 17 31.3**	**-1.2**
	2μm,1.8s							
DZM				S		**S**	**05 21 17.6**	**-3.0**
DZM				LR		LR		
	comp=Z,14μm,20.0s							
MXZ	**Matakaoa Point**	**20.84**	**201**	*e*P		**P**	**05 17 39.1**	**+1.0**
	comp=Z,118nm,0.9s							
MXZ				LR		LR		
	comp=Z,9μm,19.0s							
OUZ	**Omahuta**	**20.96**	**214**	*e*P		Pn	05 17 41.0	-1.0
	comp=Z,341nm,0.9s							
NFK	**Norfolk Island**	**20.97**	**236**	P		**P**	**05 17 39.4**	**-0.3**
	baz=21,SNR=6.3							
PAE	**Paea**	**21.60**	**92**	*e*P		**P**	**05 17 46.4**	**-0.1**
	comp=Z,113nm,1.2s							
PAE	**Paea**	**21.60**	**92**	*e*T		T	05 39 50.5	
	comp=Z,124nm,0.3s							
PPT2	**Papeete2**	**21.61**	**92**	*e*P		**P**	**05 17 46.9**	**+0.2**
	comp=Z,524nm,1.1s							
PPT2				*e*LQ		LQ	05 21 53.8	
	comp=Z,35μm,25.8s							
PPT2				*e*LR		LR	05 22 30.5	
	comp=Z,40μm,27.2s,baz=257							
PPT2	**Papeete2**	**21.61**	**92**	*e*T		T	05 39 52.3	
	comp=Z,71nm,0.2s							
PPT	**Papeete**	**21.62**	**91**	P		**P**	**05 17 47.3**	**+0.6**
	comp=Z,448nm,1.1s,baz=257,slow=5.6,SNR=19							
PPT				LR		LR	05 25 22.7	
	comp=Z,8μm,18.3s,baz=246,slow=34							
PPTF	**Pamatai, Papee**	**21.62**	**92**	*e*P		**P**	**05 17 46.6**	**-0.3**
	comp=Z,611nm,1.0s							
PPTF				LR		LR		
	comp=Z,9μm,19.0s							
TIAR	**Tiarei**	**21.84**	**92**	*e*P		**P**	**05 17 49.1**	**0.0**
	comp=Z,196nm,1.1s							
TIAR	**Tiarei**	**21.84**	**92**	*e*T		T	05 39 55.2	
	comp=Z,18nm,0.3s							
URZ	**Urewera**	**21.89**	**203**	P		**P**	**05 17 48.9**	**-0.5**
	comp=Z,103nm,0.6s,baz=33,slow=3.9,SNR=38							
URZ				S		S	05 21 40.1	-12
	comp=Z,42nm,0.8s,baz=338,slow=16,SNR=2.2							
URZ				LR		LR	05 29 18.9	
	comp=Z,2μm,18.3s,baz=26,slow=45							
TBI	**Tubuai**	**21.89**	**107**	*e*P		**P**	**05 17 49.0**	**-0.6**
	comp=Z,2μm,1.3s							
TBI				*e*LQ		LQ	05 21 54.0	
	comp=Z,16μm,27.0s							
TBI				*e*LR		LR	05 22 42.8	
	comp=Z,35μm,30.8s,baz=282							
TBI	**Tubuai**	**21.89**	**107**	*e*T		T	05 40 04.2	
	comp=Z,63nm,0.3s							
TVO	**Taravao**	**21.91**	**92**	*e*P		**P**	**05 17 49.8**	**-0.1**
	comp=Z,302nm,1.1s							
TVO	**Taravao**	**21.91**	**92**	*e*T		T	05 39 58.3	
	comp=Z,32nm,0.3s							
BKZ	**Black Stump Fm**	**22.92**	**203**	*e*P		**P**	**05 18 00.5**	**0.0**
	comp=Z,140nm,1.0s							
BKZ				LR		LR		
	comp=Z,6μm,21.0s							
HIZ	**Hauiti**	**23.01**	**207**	*e*P		**P**	**05 18 05.9**	**+4.6**
	comp=Z,706nm,0.9s							
PMOR	**Pomariorio Ree**	**23.60**	**86**	*e*P		**P**	**05 18 06.4**	**-1.1**
	comp=Z,706nm,1.1s							
PMOR	**Pomariorio Ree**	**23.60**	**86**	*e*T		T	05 42 21.5	
	comp=Z,13nm,0.2s							
VAH	**Vaihoa**	**23.80**	**86**	*e*P		**P**	**05 18 07.9**	**-1.6**
	comp=Z,382nm,1.1s							
VAH	**Vaihoa**	**23.80**	**86**	*e*T		T	05 42 36.6	
	comp=Z,15nm,0.2s							
BFZ	**Birch Farm**	**24.34**	**202**	*e*P		**P**	**05 18 15.2**	**+0.9**
	comp=Z,198nm,0.8s							
TARA	**Tarawa**	**24.40**	**322**	*e*P		**P**	**05 18 14.7**	**-0.3**
	comp=Z,153nm,0.8s							
XMAS	**Kiritimati**	**24.98**	**37**	*e*P		**P**	**05 18 20.2**	**-0.1**
	comp=Z,469nm,0.8s							
XMAS				LR		LR		
	comp=Z,11μm,19.0s							
SNZO	**South Karori**	**25.45**	**203**	*e*P		**P**	**05 18 25.6**	**+1.3**
	comp=Z,337nm,0.8s							
SNZO				LR		LR		
	comp=Z,5μm,18.0s							
THZ	**Tophouse**	**26.54**	**205**	*e*P		**P**	**05 18 33.2**	**-1.2**
	comp=Z,192nm,0.6s							
THZ				LR		LR		
	comp=Z,6μm,18.0s							
KHZ	**Kahutara**	**26.85**	**204**	*e*P		**P**	**05 18 37.8**	**+0.8**
	comp=Z,257nm,0.9s							
KHZ				*e*PcP		**PcP**	**05 22 00.1**	**+0.6**
KHZ				LR		LR		
	comp=Z,6μm,18.0s							
LTZ	**Lake Taylor**	**27.65**	**205**	*e*P		**P**	**05 18 42.7**	**-1.6**
	comp=Z,456nm,0.7s							
LTZ				LR		LR		
	comp=Z,5μm,19.0s							
CRLZ	**Canterbury Las**	**28.19**	**204**	*e*P		**P**	**05 18 50.1**	**+1.2**
	comp=Z,437nm,1.5s							
CRLZ				LR		LR		
	comp=Z,5μm,19.0s							
OXZ	**Oxford**	**28.20**	**205**	*e*P		**P**	**05 18 48.7**	**-0.5**
	comp=Z,608nm,0.8s							
OXZ				LR		LR		
	comp=Z,5μm,20.0s							
MQZ	**McQueen's Vall**	**28.29**	**203**	*e*P		**P**	**05 18 50.4**	**+0.5**
	comp=Z,102nm,0.7s							
MQZ				LR		LR		
	comp=Z,4μm,20.0s							
HNR	**Honiara**	**28.34**	**284**	P		**P**	**05 18 50.4**	**-0.3**
	comp=Z,145nm,0.9s,baz=135,slow=10.0,SNR=12							
HNR				LR		LR	05 28 33.9	
	comp=Z,8μm,19.2s,baz=130,slow=33							
HNR	**Honiara**	**28.34**	**284**	*e*P		**P**	**05 18 50.6**	**0.0**
	comp=Z,187nm,0.9s							
RPZ	**Rata Peaks**	**28.92**	**205**	P		**P**	**05 18 54.7**	**-0.8**
	comp=Z,18nm,0.7s,baz=57,slow=1.3,SNR=6.2							
RPZ				S		S	05 23 59.9	+13
	comp=Z,22nm,1.1s,baz=7.6,slow=14,SNR=2.6							
RPZ	**Rata Peaks**	**28.92**	**205**	*e*P		**P**	**05 18 56.3**	**+0.7**
	comp=Z,325nm,0.7s							
RPZ				*e*S		S	05 23 59.9	+13
RPZ				LR		LR		
	comp=Z,4μm,19.0s							
LHI	**Lord Howe Isla**	**29.00**	**238**	P		**P**	**05 18 56.8**	**+0.4**
	baz=29,SNR=9.1							
LHI	**Lord Howe Isla**	**29.00**	**238**	*e*P		**P**	**05 18 54.0**	**-2.4**
	comp=Z,408nm,1.1s							
LHI				LR		LR		
	comp=Z,5μm,18.0s							
FOZ	**Fox Glacier**	**29.30**	**207**	*e*P		**P**	**05 18 59.0**	**+0.2**
	comp=Z,607nm,0.8s							
FOZ				LR		LR		
	comp=Z,7μm,18.0s							
LBZ	**Lake Benmore**	**29.83**	**206**	*e*P		**P**	**05 19 04.5**	**+0.9**
	comp=Z,128nm,0.9s							
LBZ				*e*PcP		**PcP**	**05 22 09.5**	**+2.6**
LBZ				LR		LR		
	comp=Z,5μm,19.0s							
ODZ	**Otahua Downs**	**30.19**	**204**	*e*P		**P**	**05 19 06.9**	**+0.1**
	comp=Z,502nm,2.0s							
ODZ				LR		LR		
	comp=Z,4μm,19.0s							
WKZ	**Wanaka**	**30.68**	**207**	*e*P		**P**	**05 19 12.3**	**+1.2**
	comp=Z,732nm,1.7s							
WKZ				LR		LR		
	comp=Z,6μm,18.0s							
MLZ	**Mavora Lakes**	**31.49**	**207**	*e*P		**P**	**05 19 18.1**	**-0.2**
	comp=Z,76nm,0.9s							
MLZ				LR		LR		
	comp=Z,5μm,20.0s							
WHZ	**Wether Hill Ro**	**31.98**	**206**	*e*P		**P**	**05 19 22.2**	**-0.4**
	comp=Z,296nm,0.8s							
WHZ				LR		LR		
	comp=Z,4μm,21.0s							
DCZ	**Deep Cove**	**31.99**	**208**	*e*P		**P**	**05 19 23.2**	**+0.6**
	comp=Z,113nm,0.9s							
DCZ				LR		LR		
	comp=Z,4μm,22.0s							
TAOE	**Nuku Hiva Isla**	**32.58**	**77**	*e*P		**P**	**05 19 27.7**	**-0.6**
	comp=Z,389nm,1.0s							
TAOE				*e*S		**S**	**05 24 42.1**	**-2.4**
	comp=Z,1μm,24.3s							
TAOE				*e*LR		LR	05 27 42.1	
	comp=Z,10μm,26.1s,baz=253							
TAOE	**Nuku Hiva Isla**	**32.58**	**77**	*e*T		T	05 53 33.2	
	comp=Z,372nm,0.2s							
TAOE	**Nuku Hiva Isla**	**32.58**	**77**	*e*P		**P**	**05 19 27.8**	**-0.4**
	comp=Z,144nm,0.9s							
TAOE				LR		LR		
	comp=Z,9μm,18.0s							
PYZ	**Puysegur Point**	**32.74**	**207**	PFAKE			05 19 40.0	+11
PYZ				LR		LR		
	comp=Z,4μm,19.0s							
KWAJ	**Kwajalein Atol**	**33.49**	**322**	PFAKE			05 19 50.0	+14
KWAJ				LR		LR		
	comp=Z,4μm,18.0s							
EIDS	**Eidsvold**	**34.63**	**252**	P		**P**	**05 19 44.4**	**-1.5**
	baz=35,SNR=5.9							
EIDS	**Eidsvold**	**34.63**	**252**	*e*P		**P**	**05 19 44.4**	**-1.5**
	comp=Z,210nm,1.3s							
EIDS				LR		LR		
	comp=Z,6μm,21.0s							
ARMA	**Armidale**	**34.85**	**243**	P		**P**	**05 19 47.5**	**-0.4**
	baz=35,SNR=42							
ARMA	**Armidale**	**34.85**	**243**	*e*P		**P**	**05 19 47.6**	**-0.4**
	comp=Z,290nm,1.4s							
ARMA				LR		LR		
	comp=Z,10μm,21.0s							
JOHN	**Johnston Islan**	**34.97**	**5**	*e*P		**P**	**05 19 50.0**	**+1.3**
	comp=Z,240nm,0.9s							
RKT	**Rikitea**	**35.15**	**104**	*e*P		**P**	**05 19 50.2**	**-0.3**
	comp=Z,186nm,1.1s							
RKT				*e*S		**S**	**05 25 22.0**	**-2.1**
	comp=Z,1μm,26.5s							
RKT				*e*LR		LR	05 28 49.0	
	comp=Z,14μm,29.5s,baz=272							
RKT	**Rikitea**	**35.15**	**104**	*e*T		T	05 56 42.1	
	comp=Z,9.8nm,0.3s							
MGCD	**Mangrove Creek**	**35.93**	**238**	P		**P**	**05 19 57.1**	**+0.1**
	baz=36,SNR=16							
RMQ	**Roma**	**36.80**	**250**	P		**P**	**05 20 03.8**	**-0.8**
	baz=37,SNR=30							
RABL	**Rabaul**	**37.49**	**288**	PFAKE			05 20 20.0	+9.4
RABL				LR		LR		
	comp=Z,4μm,20.0s							
CNB	**Canberra Magne**	**37.89**	**236**	P		**P**	**05 20 13.7**	**0.0**
	baz=38,SNR=72							
CAN	**Canberra**	**38.17**	**236**	*e*P		**P**	**05 20 16.3**	**+0.1**
	comp=Z,176nm,1.0s							
CAN				LR		LR		
	comp=Z,3μm,19.0s							
CAN	**Canberra**	**38.17**	**236**	*e*P		**P**	**05 20 16.3**	**+0.1**
CAN				pmax		pmax		
	comp=Z,176nm,1.0s							
CAN				MLR		MLR		
	comp=Z,3μm,19.0s							
PATS	**Pohnpei**	**38.31**	**308**	PFAKE			05 20 30.0	+13
PATS				LR		LR		
	comp=Z,11μm,22.0s							
YNG	**Young**	**38.39**	**238**	P		**P**	**05 20 20.1**	**+2.1**
	baz=38,SNR=10							
MILA	**Mila**	**38.56**	**233**	P		**P**	**05 20 19.9**	**+0.4**
	baz=39,SNR=13							
CTA	**Charters Tower**	**39.12**	**261**	P		**P**	**05 20 22.4**	**-1.9**
	comp=Z,188nm,0.7s,baz=94,slow=11,SNR=38							
CTA				S		**S**	**05 26 18.1**	**-6.5**
	comp=Z,8.9nm,1.1s,baz=261,slow=17,SNR=3.8							
CTA				LR		LR	05 34 38.8	
	comp=Z,7μm,20.0s,baz=94,slow=33							
CTAO	**Charters Tower**	**39.12**	**261**	*e*P		**P**	**05 20 22.8**	**-1.4**
	comp=Z,228nm,0.8s							
CTAO				LR		LR		
	comp=Z,8μm,20.0s							
CTAO	**Charters Tower**	**39.12**	**261**	*e*P		**P**	**05 20 22.8**	**-1.4**
	comp=Z,228nm,0.8s							
CTAO				pmax		pmax		
CTAO				MLR		MLR		
	comp=Z,8μm,20.0s							
CMSA	**Cobar Meteorol**	**40.06**	**243**	P		**P**	**05 20 30.8**	**-1.2**
	baz=40,SNR=64							
PMG	**Port Moresby**	**40.28**	**277**	P		**P**	**05 20 32.9**	**-1.1**
	comp=Z,107nm,0.9s,baz=105,slow=4.7,SNR=23							
PMG				LR		LR	05 34 32.3	
	comp=Z,6μm,20.8s,baz=76,slow=32							
PMG	**Port Moresby**	**40.28**	**277**	*e*P		**P**	**05 20 34.3**	**+0.3**
	comp=Z,184nm,1.1s							
KHU	**Kahuku**	**40.79**	**25**	*e*P		**P**	**05 20 38.7**	**+0.4**
	comp=Z,469nm,1.6s							
KHU	**Kahuku**	**40.79**	**25**	*e*P		**P**	**05 20 38.7**	**+0.4**
KHU				pmax		pmax		
	comp=Z,469nm,1.6s							
QLP	**Quilpie**	**40.85**	**250**	P		**P**	**05 20 37.1**	**-1.4**
	baz=41,SNR=36							
HLP	**Hilina Pali**	**40.96**	**25**	*e*P		**P**	**05 20 39.2**	**-0.2**
	comp=Z,263nm,1.0s							
KHLU	**Kahalu'u**	**40.99**	**24**	*e*P		**P**	**05 20 40.6**	**+0.8**
	comp=Z,215nm,1.2s							
MWH	**Moku'aweowe**	**41.01**	**24**	PFAKE			05 20 50.0	+10
MWH				LR		LR		
	comp=Z,5μm,18.0s							
SDHHI	**Sand Hill**	**41.05**	**25**	PFAKE			05 20 50.0	+10
SDHHI				LR		LR		
	comp=Z,4μm,21.0s							
RIM	**Rim**	**41.06**	**25**	PFAKE			05 20 50.0	+10
RIM				LR		LR		
	comp=Z,4μm,20.0s							
WRMHI	**West Rim**	**41.06**	**25**	PFAKE			05 20 50.0	+10
WRMHI				LR		LR		
	comp=Z,5μm,20.0s							
PUH	**Pauahi**	**41.06**	**25**	*e*P		**P**	**05 20 41.0**	**+0.6**
	comp=Z,634nm,1.8s							
KKO	**Keanakako'i**	**41.07**	**25**	PFAKE			05 20 50.0	+10
KKO				LR		LR		
	comp=Z,4μm,19.0s							
MLOA	**Mauna Loa Obse**	**41.07**	**24**	PFAKE			05 20 50.0	+9.2
MLOA				LR		LR		
	comp=Z,5μm,20.0s							
OBL	**Observatory Le**	**41.08**	**25**	PFAKE			05 20 50.0	+9.5
OBL				LR		LR		
	comp=Z,5μm,20.0s							
UWE	**Uwekahuna**	**41.08**	**25**	PFAKE			05 20 50.0	+9.5
UWE				LR		LR		
	comp=Z,5μm,19.0s							
SBLHI	**Steaming Bluff**	**41.09**	**25**	PFAKE			05 20 50.0	+9.4
SBLHI				LR		LR		
	comp=Z,5μm,19.0s							
HUH	**Hualalai**	**41.10**	**24**	*e*P		**P**	**05 20 41.7**	**+0.8**
NPOC	**North of Pu'u**	**41.12**	**25**	PFAKE			05 20 50.0	+9.2
NPOC				LR		LR		
	comp=Z,4μm,19.0s							
MTSU	**Mount Surprise**	**41.14**	**263**	P		**P**	**05 20 39.7**	**-1.4**
	baz=41,SNR=27							
HMH	**Humu'ula Sheep**	**41.16**	**24**	*e*P		**P**	**05 20 42.6**	**+1.1**
	comp=Z,176nm,1.1s							
HMH				LR		LR		
	comp=Z,5μm,20.0s							
POHA	**Pohakuloa**	**41.28**	**24**	*e*P		**P**	**05 20 42.8**	**+0.4**
	comp=Z,296nm,1.4s							
POHA				LR		LR		
	comp=Z,4μm,18.0s							
HPAH	**Hawaii Prepara**	**41.47**	**24**	*e*P		**P**	**05 20 44.3**	**+0.7**
	comp=Z,426nm,1.5s							
HPAH				LR		LR		
	comp=Z,4μm,18.0s							
TOO	**Toolangi**	**41.51**	**234**	P		**P**	**05 20 44.0**	**+0.1**
	baz=42,SNR=70							
HON	**Honolulu**	**41.84**	**20**	*e*P		**P**	**05 20 47.4**	**+0.8**
	comp=Z,324nm,1.0s							
HON	**Honolulu**	**41.84**	**20**	*e*P		**P**	**05 20 47.4**	**+0.8**
HON				pmax		pmax		
	comp=Z,324nm,1.0s							
MOO	**Moorlands**	**41.86**	**226**	P		**P**	**05 20 48.1**	**+1.5**
	baz=42,SNR=10							
KIP	**Kipapa**	**41.93**	**20**	*e*P		**P**	**05 20 47.5**	**+0.2**
	comp=Z,336nm,0.9s							
KIP	**Kipapa**	**41.93**	**20**	*ce*P		**P**	**05 20 48.5**	**+1.2**
KIP				pmax		pmax		
	comp=Z,2μm,0.8s							
KEKH	**Kekaha**	**41.93**	**18**	*e*P		**P**	**05 20 48.1**	**+0.8**
	comp=Z,1μm,2.0s							
TAU	**Tasmania Unive**	**41.95**	**225**	*e*P		**P**	**05 20 48.2**	**+0.9**
	comp=Z,92nm,0.9s							
TAU				LR		LR		
	comp=Z,3μm,18.0s							
KHLH	**Kahului Airpor**	**41.99**	**22**	*e*P		**P**	**05 20 50.4**	**+2.6**
	comp=Z,97nm,0.9s							
H11S2	**WAKE ISLAND Hy**	**42.03**	**329**	T		T	06 06 30.0	
	baz=147,slow=76,SNR=4.9							
H11S3	**WAKE ISLAND Hy**	**42.04**	**329**	T		T	06 06 31.0	
	baz=147,slow=76,SNR=4.4							
H11S1	**WAKE ISLAND Hy**	**42.05**	**329**	T		T	06 06 30.4	
	baz=147,slow=76,SNR=31							
WAKE	**Wake Island**	**42.73**	**330**	*e*P		**P**	**05 20 55.3**	**+1.4**
	comp=Z,557nm,1.4s							
MANU	**Manus Island**	**42.74**	**288**	*e*P		**P**	**05 20 55.3**	**+1.1**
	comp=Z,91nm,0.8s							
MANU				LR		LR		
	comp=Z,3μm,20.0s							
COEN	**Coen**	**42.93**	**269**	P		**P**	**05 20 54.2**	**-1.5**
	baz=43,SNR=88							
COEN	**Coen**	**42.93**	**269**	*e*P		**P**	**05 20 54.3**	**-1.4**
	comp=Z,136nm,1.0s							
COEN				LR		LR		
	comp=Z,4μm,20.0s							
H11N3	**WAKE ISLAND Hy**	**42.99**	**331**	T		T	06 07 09.9	
	baz=150,slow=76,SNR=37							
H11N1	**WAKE ISLAND Hy**	**42.99**	**331**	T		T	06 07 08.3	
	baz=150,slow=76,SNR=99							
H11N2	**WAKE ISLAND Hy**	**43.01**	**331**	T		T	06 07 08.9	
	baz=150,slow=76,SNR=56							
STKA	**Stephens Creek**	**43.57**	**243**	P		**P**	**05 21 00.5**	**-0.2**
	comp=Z,127nm,0.9s,baz=92,slow=9.8,SNR=76							
STKA				LR		LR	05 35 54.7	
	comp=Z,6μm,20.7s,baz=75,slow=32							
STKA				PKP2ab			05 53 59.8	
	comp=Z,0.5nm,0.4s,baz=140,slow=3.7,SNR=2.9							
STKA	**Stephens Creek**	**43.57**	**243**	P		**P**	**05 21 00.3**	**-0.4**
	baz=44,SNR=131							
STKA	**Stephens Creek**	**43.57**	**243**	*e*P		**P**	**05 21 00.3**	**-0.4**
	comp=Z,61nm,1.3s							
STKA				P'P'ab		**P'P'ab**	**05 53 59.8**	**-4.4**
STKA	**Stephens Creek**	**43.57**	**243**	*e*P		**P**	**05 21 00.3**	**-0.4**
STKA				pmax		pmax		
	comp=Z,61nm,1.3s			

comp=Z,3µm,19.0s
WR3 Warramunga Arr 50.23 259 PFAKE 05 22 10.0 +17
WR3 LR LR
comp=Z,3µm,20.0s
AS01 Alice Springs 50.23 254 *e*P **P** **05 21 52.1 -0.9**
AS01 *e*PcP **PcP** **05 23 12.3 +0.1**
WC3 Warramunga Arr 50.24 259 PFAKE 05 22 10.0 +17
WC3 LR LR
comp=Z,3µm,19.0s
WB0 Warramunga Arr 50.24 259 PFAKE 05 22 10.0 +17
WB0 LR LR
comp=Z,3µm,21.0s
WB8 Warramunga Arr 50.25 259 PFAKE 05 22 10.0 +17
WB8 LR LR
comp=Z,3µm,21.0s
WB9 Warramunga Arr 50.25 259 PFAKE 05 22 10.0 +17
WB9 LR LR
comp=Z,6µm,21.0s
WC2 Warramunga Arr 50.25 259 PFAKE 05 22 10.0 +17
WC2 LR LR
comp=Z,3µm,20.0s
WR2 Warramunga Arr 50.25 259 PFAKE 05 22 10.0 +17
WR2 LR LR
comp=Z,3µm,20.0s
WB5 Warramunga Arr 50.26 259 PFAKE 05 22 10.0 +17
WB5 LR LR
comp=Z,3µm,21.0s
WB6 Warramunga Arr 50.26 259 PFAKE 05 22 10.0 +17
WB6 LR LR
comp=Z,3µm,21.0s
WB3 Warramunga Arr 50.26 259 PFAKE 05 22 10.0 +17
WB3 LR LR
comp=Z,3µm,20.0s
WB4 Warramunga Arr 50.26 259 PFAKE 05 22 10.0 +17
WB4 LR LR
comp=Z,3µm,21.0s
WB2 Warramunga Arr 50.26 259 *e*P **P** **05 21 51.9 -1.3**
comp=Z,369nm,0.9s
WB2 LR LR
comp=Z,4µm,22.0s
WRAB Tennant Creek 50.26 259 *e*P **P** **05 21 51.7 -1.5**
comp=Z,314nm,0.9s
WRAB LR LR
comp=Z,3µm,22.0s
WRAB Tennant Creek 50.26 259 *ce*P **P** **05 21 51.8 -1.5**
WRAB pmax pmax
comp=Z,408nm,1.0s
WC4 Warramunga Arr 50.27 259 PFAKE 05 22 10.0 +17
WC4 LR LR
comp=Z,3µm,20.0s
WR1 Warramunga Arr 50.27 259 *e*P **P** **05 21 51.6 -1.7**
comp=Z,416nm,0.9s
WR1 *e*S **S** **05 28 60.0 -6.6**
WRA Warramunga Arr 50.27 259 P **P** **05 21 51.6 -1.7**
comp=Z,261nm,0.9s,baz=94,slow=7.0,SNR=261
WRA S **S** **05 28 60.0 -6.6**
comp=Z,7.0nm,0.9s,baz=93,slow=14,SNR=12
WRA LR LR 05 41 26.6
comp=Z,3µm,21.2s,baz=90,slow=34
WRA Warramunga Arr 50.27 259 P **P** **05 21 51.6 -1.7**
WRA S **S** **05 29 00.0 -6.6**
WRA pmax pmax
comp=Z,221nm,0.9s
WRA smax smax
comp=N,7.0nm,0.9s
WC1 Warramunga Arr 50.27 259 PFAKE 05 22 10.0 +17
WC1 LR LR
comp=Z,3µm,21.0s
AS31 Alice Springs 50.27 254 *e*P **P** **05 21 52.6 -0.7**
comp=Z,147nm,1.1s
AS31 LR LR
comp=Z,100nm,18.0s
ASAR Alice Springs 50.28 254 P **P** **05 21 52.1 -1.3**
comp=Z,283nm,0.9s,baz=87,slow=8.4,SNR=486
ASAR S **S** **05 29 01.0 -5.6**
comp=Z,23nm,1.0s,baz=94,slow=15,SNR=23
ASAR LR LR 05 41 30.2
comp=Z,3µm,20.5s,baz=92,slow=34
ASAR PKP2ab 05 53 29.1
comp=Z,0.9nm,0.9s,baz=306,slow=1.7,SNR=2.9
SMPI Sarmi 50.69 283 P **P** **05 21 56.0 -0.5**
comp=Z,87nm,1.0s,comp=Z,2µm
GUMO Guam 52.84 304 LR LR 05 42 25.2
comp=Z,1µm,21.0s,baz=106,slow=34
GUMO Guam 52.84 304 *e*P **P** **05 22 12.4 0.0**
comp=Z,1µm,1.8s
GUMO Guam 52.84 304 *e*P **P** **05 22 12.4 0.0**
GUMO pmax pmax
comp=Z,1µm,1.8s
KDU Kakadu 53.37 268 P **P** **05 22 15.6 -0.8**
baz=53,SNR=65
SARN Sarigan 54.00 308 PFAKE 05 22 30.0 +9.0
SARN LR LR
comp=Z,3µm,22.0s
MTN Manton Dam 54.60 267 P **P** **05 22 24.6 -0.8**
baz=54,SNR=29
MTN Manton Dam 54.60 267 *e*P **P** **05 22 24.4 -1.1**
comp=Z,292nm,1.1s
MTN LR LR
comp=Z,4µm,18.0s
FORT Forrest 55.09 245 P **P** **05 22 28.3 -0.5**
baz=55,SNR=49
FORT Forrest 55.09 245 *e*P **P** **05 22 28.1 -0.7**
comp=Z,308nm,0.9s
FORT LR LR
comp=Z,4µm,21.0s
WRKA Warakurna 55.25 252 P **P** **05 22 29.5 -0.6**
baz=55,SNR=186
SAUI Saumlaki 55.70 273 *e*P **P** **05 22 34.3 +0.9**
comp=Z,372nm,1.0s
SAUI LR LR
comp=Z,3µm,19.0s
SAUI Saumlaki 55.70 273 P **P** **05 22 33.8 +0.4**
KNRA Kununurra 56.23 263 P **P** **05 22 37.1 -0.1**
baz=56,SNR=44
FAKI Fak Fak 56.39 279 *e*P **P** **05 22 40.4 +2.0**
comp=Z,72nm,1.1s
FAKI Fak Fak 56.39 279 P **P** **05 22 39.2 +0.8**
comp=Z,69nm,1.2s,comp=Z,3µm
SIJI Sorong 58.02 281 LR LR 05 46 16.0
comp=Z,4µm,21.6s,slow=34
SWI Sorong 58.03 281 P **P** **05 22 51.0 +1.0**
comp=Z,211nm,1.1s,comp=Z,4µm
BNDI Bandanaira 58.07 276 P **P** **05 22 50.8 +0.6**
comp=Z,471nm,1.6s,comp=Z,7µm
RPN Rapa Nui 58.21 111 LR LR 05 41 54.0
comp=Z,4µm,18.8s,baz=254,slow=30
FITZ Fitzroy Crossi 58.69 260 P **P** **05 22 54.1 -0.4**
comp=Z,27nm,0.6s,baz=101,slow=4.1,SNR=77
FITZ LR LR 05 46 26.4
comp=Z,3µm,20.9s,baz=100,slow=34
FITZ Fitzroy Crossi 58.69 260 P **P** **05 22 54.6 0.0**
baz=59,SNR=62
FITZ Fitzroy Crossi 58.69 260 *e*P **P** **05 22 54.9 +0.4**
MSAI Masohi 59.37 277 P **P** **05 22 59.5 +0.2**
comp=Z,37nm,0.8s,comp=Z,1µm
AAI Ambon 59.95 276 P **P** **05 23 02.7 -0.6**
comp=Z,189nm,1.1s,comp=Z,4µm
KMBL Kambalda 60.35 244 P **P** **05 23 06.6 +0.7**
baz=60,SNR=12
SBA Scott Base 60.42 185 *e*P **P** **05 23 07.3 +1.8**
comp=Z,92nm,1.0s
SBA LR LR
comp=Z,2µm,18.0s
SBA Scott Base 60.42 185 *e*P **P** **05 23 07.3 +1.8**
SBA pmax pmax
comp=Z,92nm,1.0s
SBA MLR MLR
comp=Z,2µm,18.0s
VNDA Vanda 60.57 186 P **P** **05 23 07.5 +1.0**
comp=Z,22nm,0.8s,baz=8.3,slow=7.0,SNR=78
VNDA LR LR 05 44 34.8
comp=Z,842nm,20.4s,baz=24,slow=31
VNDA PKP2bc 05 52 37.3
comp=Z,3.5nm,1.1s,baz=238,slow=6.9,SNR=4.4
VNDA Vanda 60.57 186 *e*P **P** **05 23 07.4 +0.8**
VNDA *e*pP **P** **05 23 07.7 +1.1**
VNDA ⇑*e* 05 52 37.3
VNDA Vanda 60.57 186 *e*P **P** **05 23 07.4 +0.8**
VNDA *e**PP **P** **05 23 07.7 +1.1**
NLAI Namlea 61.13 277 P **P** **05 23 11.6 +0.2**
comp=Z,266nm,1.5s,comp=Z,4µm
LBMI Labuha 61.62 279 P **P** **05 23 16.1 +1.4**
comp=Z,374nm,1.1s,comp=Z,6µm
SOEI Soe 61.89 269 *e*P **P** **05 23 18.5 +1.8**
comp=Z,860nm,1.1s
SOEI Soe 61.89 269 P **P** **05 23 18.1 +1.4**
comp=Z,807nm,1.1s,comp=Z,8µm
TNTI Ternate 62.25 281 *e*P **P** **05 23 20.6 +1.7**
comp=Z,530nm,1.4s
TNTI LR LR
comp=Z,1µm,19.0s
TNTI Ternate 62.25 281 P **P** **05 23 20.6 +1.7**
comp=Z,304nm,1.3s,comp=Z,4µm
BATI Baumata 62.34 268 P **P** **05 23 20.8 +1.1**
comp=Z,162nm,0.9s,baz=89,slow=5.8,SNR=9.8
BATI LR LR 05 49 45.8
comp=Z,4µm,19.1s,baz=127,slow=36
BATI Baumata 62.34 268 P **P** **05 23 19.8 +0.2**
comp=Z,62nm,1.1s,comp=Z,2µm
SANI Sanana 62.57 277 P **P** **05 23 21.1 0.0**
comp=Z,331nm,1.2s,comp=Z,4µm
MBWA Marble Bar 63.60 255 *e*P **P** **05 23 28.0 +0.1**
comp=Z,155nm,1.0s
MBWA LR LR
comp=Z,3µm,19.0s
MBWA Marble Bar 63.60 255 P **P** **05 23 28.7 +0.8**
SNR=10
MEEK Meekatharra 63.72 249 P **P** **05 23 28.3 -0.3**
baz=64,SNR=23
KLBR Kellerberrin 63.84 243 P **P** **05 23 29.4 +0.1**
baz=64,SNR=42
MMRI Maumere 64.12 269 *e*P **P** **05 23 31.9 +0.6**
comp=Z,236nm,1.0s
MMRI Maumere 64.12 269 P **P** **05 23 31.7 +0.3**
comp=Z,239nm,0.9s,comp=Z,4µm
NWAO Narrogin (SRO) 64.14 242 P **P** **05 23 31.3 +0.1**
comp=Z,55nm,1.0s,baz=3.5,slow=8.4,SNR=17
NWAO LR LR 05 48 12.0
comp=Z,3µm,21.1s,baz=318,slow=33
NWAO Narrogin (SRO) 64.14 242 P **P** **05 23 31.2 -0.1**
baz=64,SNR=14
NWAO Narrogin (SRO) 64.14 242 *e*P **P** **05 23 31.6 +0.4**
comp=Z,133nm,1.3s
NWAO Narrogin (SRO) 64.14 242 P **P** **05 23 32.4 +1.1**
SNR=11
RKGY Rocky Gully 64.19 240 P **P** **05 23 33.4 +1.9**
baz=64,SNR=6.9
EDFI Ende, Flores 64.61 269 P **P** **05 23 34.7 0.0**
comp=Z,259nm,1.0s,comp=Z,3µm
BLDU Ballidu 64.84 244 P **P** **05 23 36.0 +0.1**
baz=65,SNR=34
SGSI Sangihe 65.02 283 P **P** **05 23 38.4 +1.1**
MUN Mundaring 65.11 243 P **P** **05 23 38.0 +0.5**
baz=65,SNR=22
BASI Baing, Sumba 65.27 267 P **P** **05 23 37.8 -1.1**
comp=Z,508nm,1.3s,comp=Z,7µm
KMSI Cibinong 65.34 279 P **P** **05 23 38.7 -0.7**
MORW Morawa 65.63 246 P **P** **05 23 41.2 +0.2**
baz=66,SNR=25
LUWI Luwuk 65.93 277 *e*P **P** **05 23 45.0 +1.8**
comp=Z,701nm,1.2s
LUWI Luwuk 65.93 277 P **P** **05 23 45.3 +2.1**
comp=Z,519nm,1.4s,comp=Z,7µm
DAV Davao City (W) 66.28 287 LR LR 05 47 44.8
comp=Z,1µm,20.6s,baz=136,slow=32
DAV Davao City (W) 66.28 287 ⇓*i*P **P** **05 23 44.9 -0.5**
DAV Davao City (W) 66.28 287 *e*P **P** **05 23 48.1 +2.7**
comp=Z,250nm,0.4s
WBSI Waikabubak, Su 66.55 267 P **P** **05 23 48.4 +1.2**
comp=Z,206nm,1.1s,comp=Z,3µm
APSI Ampana 67.03 277 P **P** **05 23 53.0 +2.8**
BKSI Bulukumba 67.09 272 P **P** **05 23 51.1 +0.5**
comp=Z,52nm,1.2s,comp=Z,1µm
MRSI Marisa 67.22 278 P **P** **05 23 51.9 +0.5**
comp=Z,58nm,1.1s,comp=Z,1µm
BNSI Bone 67.38 273 P **P** **05 23 53.8 +1.4**
comp=Z,213nm,1.2s,comp=Z,3µm
SPSI Sidrap Palu 67.83 273 P **P** **05 23 55.1 -0.2**
comp=Z,68nm,1.1s,comp=Z,956nm
CASY Casey 68.20 205 *e*P **P** **05 23 56.7 0.0**
comp=Z,71nm,1.0s
CASY LR LR
comp=Z,900nm,20.0s
PLAI Plampang 68.30 268 P **P** **05 23 59.0 +0.8**
comp=Z,395nm,1.2s,comp=Z,4µm
GIRL Giralia 68.33 252 P **P** **05 23 58.2 -0.1**
baz=68,SNR=7.6
PAGZ Pagadian 68.58 286 *e*P **P** **05 24 00.7 +0.8**
MPSI Mapaga 69.10 278 P **P** **05 24 04.0 +0.8**
TWSI Taliwang, Sumb 69.18 267 P **P** **05 24 04.3 +0.6**
comp=Z,346nm,1.0s,comp=Z,4µm
ATKA Atka Island 70.27 359 *e*P **P** **05 24 08.6 -0.9**
comp=Z,175nm,1.1s
H06S1 SOCORRO T 70.61 62 T T 06 41 19.3
SNR=136
RCP Roxas 70.64 290 ⇑*e*P **P** **05 24 13.9 +1.2**
H06N1 SOCORRO T-PHAS 70.65 62 T T 06 41 20.6
SNR=72
DNP Denpasar 70.78 267 P **P** **05 24 12.6 -0.9**
comp=Z,416nm,0.8s
IGBI Denpasar 70.80 267 P **P** **05 24 14.5 +0.8**
comp=Z,651nm,1.2s,comp=Z,9µm
SRBI Singaraja 70.94 268 P **P** **05 24 14.8 +0.3**
comp=Z,106nm,1.6s,comp=Z,2µm
NIKH Nikolski High 71.08 2 *e*P **P** **05 24 14.3 -0.1**
comp=Z,220nm,0.9s
NIKH *e*PcP **PcP** **05 24 33.6 -1.0**
SMKI Samarinda 71.38 276 P **P** **05 24 20.8 +3.6**
KBKI Kotabaru 71.46 273 P **P** **05 24 19.6 +1.9**
comp=Z,24nm,1.7s,comp=Z,954nm
QSPA South Pole Qui 71.71 180 PKP2bc 05 52 05.7
comp=Z,2.7nm,1.0s,baz=272,slow=3.8,SNR=4.3
QSPA South Pole Qui 71.71 180 *e*P **P** **05 24 18.8 +0.4**
comp=Z,304nm,1.1s
QSPA *e*P'P'df P'P'df 05 52 05.7 -8.0
QSPA LR LR
comp=Z,2µm,18.0s
JAGI Jajag, Banyuwa 71.84 267 *e*P **P** **05 24 19.7 -0.3**
comp=Z,247nm,1.1s
JAGI LR LR
comp=Z,1µm,21.0s
JAGI Jajag, Banyuwa 71.84 267 P **P** **05 24 19.7 -0.3**
comp=Z,204nm,0.9s,comp=Z,3µm
MJAR Matsushiro Arr 71.87 320 P **P** **05 24 20.1 +0.4**
comp=Z,22nm,0.9s,baz=164,slow=6.1,SNR=32
MJAR LR LR 05 51 23.5
comp=Z,489nm,21.8s,baz=140,slow=32
MAJO Matsushiro 71.87 320 *e*P **P** **05 24 20.2 +0.6**
comp=Z,40nm,1.0s
MAJO Matsushiro 71.87 320 *de*P **P** **05 24 20.3 +0.6**
MAJO pmax pmax
comp=Z,146nm,2.5s
MAT Matsushiro 71.87 320 P **P** **05 24 20.2 +0.5**
MAT S **S** **05 33 44.4 +3.4**
MJB9 Matsu-Tunnel 71.88 320 *e*P **P** **05 24 20.3 +0.6**
comp=Z,39nm,1.0s
SNCC San Nicolas Is 71.89 45 PFAKE 05 24 30.0 +10
SNCC LR LR
comp=Z,3µm,19.0s
SNCC San Nicolas Is 71.89 45 P **P** **05 24 21.0 +1.2**
baz=233
UNV Unalaska Valle 72.07 4 *e*P **P** **05 24 20.0 -0.4**
comp=Z,99nm,0.8s
UNV LR LR
comp=Z,3µm,22.0s
SCZ2 Santa Cruz Isl 72.27 44 P **P** **05 24 23.6 +1.5**
baz=232,SNR=5.9
SCI2 San Clemente I 72.38 45 P **P** **05 24 23.8 +1.0**
baz=233,SNR=8.4
AKUT Akutan 72.40 4 *e*P **P** **05 24 22.2 -0.2**
comp=Z,839nm,1.8s
KMMI Kalianget 72.42 268 P **P** **05 24 24.3 +0.8**
comp=Z,48nm,0.8s
SBC Santa Barbara 72.49 43 P **P** **05 24 24.7 +1.3**
baz=232
GMJI Gumukmas 72.57 267 P **P** **05 24 24.4 +0.1**
comp=Z,106nm,0.9s,comp=Z,3µm
BLJI Banyuglugur 72.58 267 P **P** **05 24 24.8 +0.4**
comp=Z,184nm,1.7s,comp=Z,3µm
PKM Mcpherson Peak 72.70 43 P **P** **05 24 26.3 +1.4**
baz=232
BLG Laguna Peak, P 72.71 44 P **P** **05 24 26.1 +1.3**
baz=233
CIS Catalina Islan 72.72 45 P **P** **05 24 25.6 +0.8**
baz=233,SNR=12
ERM Erimo 72.80 327 PFAKE 05 24 40.0 +15
ERM LR LR
comp=Z,2µm,21.0s
SAO San Andreas Ge 72.83 41 *e*P **P** **05 24 26.9 +1.5**
comp=Z,62nm,1.0s
SAO LR LR
comp=Z,4µm,19.0s
SAO San Andreas Ge 72.83 41 *e*P **P** **05 24 26.9 +1.5**
SAO pmax pmax
comp=Z,62nm,1.0s
SAO MLR MLR
comp=Z,4µm,19.0s
SMMC Simmler 72.84 43 P **P** **05 24 26.6 +1.1**
baz=232,SNR=5.3
MCCM Marconi Confer 72.85 39 PFAKE 05 24 40.0 +15
MCCM LR LR
comp=Z,3µm,18.0s
PMPB Monarch Peak 72.89 41 *e*P **P** **05 24 27.3 +1.5**
comp=Z,386nm,1.9s
PMPB LR LR
comp=Z,5µm,18.0s
KUR Kuril'sk 72.91 332 *d i*P **P** **05 24 27.0 +1.4**
KUR *e*S **SKiKP** **05 34 00.8 +1.1**
KUR pmax pmax
comp=Z,1µm,4.6s
KUR MLR MLR
comp=Z,777nm,14.0s
YUK Yuzh-Kuril'sk 72.93 330 *c i*P **P** **05 24 25.8 0.0**
YUK *e* 05 24 41.2
YUK 05 27 09.7
YUK *e*S **S** **05 33 47.6 -5.2**
YUK *e* 05 34 24.0
YUK pmax pmax
comp=Z,567nm,1.1s
YUK pmax pmax
comp=E,479nm,1.0s
YUK pmax pmax
comp=N,594nm,1.1s
YUK pmax pmax
comp=Z,563nm,2.8s
PAGB Antelope Grade 72.94 42 *e*P **P** **05 24 27.6 +1.5**
comp=Z,59nm,1.2s
PAGB LR LR
comp=Z,4µm,20.0s
FMP Fort Macarthur 72.99 45 P **P** **05 24 27.0 +0.7**
baz=233
JOW Kunigami 73.08 306 LR LR 05 50 49.1
comp=Z,2µm,20.6s,baz=117,slow=31
OSI Osito Audit: C 73.24 44 *e*P **P** **05 24 28.3 +0.4**
comp=Z,208nm,1.8s
OSI LR LR
comp=Z,3µm,18.0s
OSI Osito Audit: C 73.24 44 P **P** **05 24 29.3 +1.4**
baz=233
DECC Green Verdugo 73.28 44 P **P** **05 24 28.5 +0.3**
baz=233
TGY Tagaytay City 73.29 291 LR LR 05 51 49.6
comp=Z,2µm,21.5s,baz=104,slow=32
HOPS Hopland Field 73.30 38 *e*P **P** **05 24 29.4 +1.3**
comp=Z,74nm,1.2s
HOPS LR LR
comp=Z,3µm,18.0s
FALS False Pass 73.30 5 PFAKE 05 24 40.0 +12
FALS LR LR
comp=Z,4µm,22.0s
109C Camp Elliot, M 73.31 46 P **P** **05 24 29.1 +0.8**
baz=234,SNR=6.4
CPE Camp Elliot 73.31 46 *e*P **P** **05 24 28.8 +0.5**
comp=Z,112nm,1.6s
CPE LR LR
comp=Z,2µm,20.0s
PASC Pasadena Art C 73.33 45 *e*P **P** **05 24 28.4 0.0**
comp=Z,142nm,1.5s
PASC LR LR
comp=Z,3µm,19.0s
GDXM Geysers 73.34 38 *e*P **P** **05 24 30.0 +1.6**
comp=Z,33nm,1.2s
GDXM LR LR
comp=Z,3µm,18.0s
MWC Mount Wilson 73.45 45 *e*P **P** **05 24 29.8 +0.4**
comp=Z,145nm,1.5s
MWC LR LR
comp=Z,3µm,19.0s
MWC Mount Wilson 73.45 45 *e*P **P** **05 24 29.8 +0.4**
MWC pmax pmax
comp=Z,145nm,1.5s
MWC MLR MLR
comp=Z,3µm,19.0s
KCPM Cahto Peak 73.46 37 *e*P **P** **05 24 30.4 +1.2**
comp=Z,116nm,1.2s
KCPM LR LR
comp=Z,4µm,19.0s
ARVC Arvin 73.48 43 P **P** **05 24 30.4 +1.1**
baz=233,SNR=6.6
ENPP El Nido 73.48 288 *e*P **P** **05 24 29.7 0.0**
BAR Barrett 73.49 47 *e*P **P** **05 24 29.9 +0.5**
comp=Z,48nm,1.3s
BAR LR LR
comp=Z,2µm,18.0s
MURC Murrieta 73.66 45 P **P** **05 24 31.6 +1.2**
baz=234,SNR=18
LPIG La Paz 73.70 57 LR LR 05 50 37.2
comp=Z,3µm,18.8s,baz=266,slow=31
CAUP Cauayan 73.70 294 *e*P P 05 24 36.6 +5.8
BFSC Mount Baldy Ra 73.72 45 P **P** **05 24 31.6 +0.7**
baz=234,SNR=20
KMRM Mail Ridge 73.75 37 *e*P **P** **05 24 31.6 +0.7**
comp=Z,142nm,0.9s
KMRM LR LR
comp=Z,4µm,20.0s
LUBP Lubang 73.75 291 *e*P **P** **05 24 30.6 -0.6**
VES Vestal, Richgr 73.75 43 P **P** **05 24 31.7 +0.9**
baz=232,SNR=16
MONP2 Monument Peak 73.78 46 P **P** **05 24 32.2 +0.9**
baz=235,SNR=51
SLBS Sierra La Lagu 73.79 58 *e*P **P** **05 24 32.6 +1.2**
comp=Z,53nm,1.0s
SLBS LR LR
comp=Z,3µm,19.0s
SRIG Santa Rosalia 73.79 53 *e*P **P** **05 24 31.9 +0.6**
comp=Z,140nm,1.3s
SRIG LR LR
comp=Z,3µm,18.0s
IKP In-Ko-Pah, Jac 73.86 47 P **P** **05 24 33.0 +1.3**
baz=235,SNR=32
GRJI Gresik 73.88 268 P **P** **05 24 34.2 +2.1**
EDW2 Edwards Air Fo 73.88 44 P **P** **05 24 32.7 +1.0**
baz=233,SNR=48
JCC Jacoby Creek, 73.97 36 PFAKE 05 24 40.0 +8.1
JCC LR LR
comp=Z,5µm,18.0s
FRD Ford Ranch, An 74.00 46 P **P** **05 24 33.6 +1.1**
baz=235,SNR=82
ISA Isabella, Lake 74.04 43 *e*P **P** **05 24 33.3 +0.7**
comp=Z,58nm,1.1s
ISA LR LR
comp=Z,3µm,18.0s
ISA Isabella, Lake 74.04 43 *e*P **P** **05 24 33.3 +0.7**
ISA pmax pmax
comp=Z,58nm,1.1s
ISA MLR MLR
comp=Z,3µm,18.0s
ISA Isabella, Lake 74.04 43 P **P** **05 24 33.5 +0.9**
baz=233,SNR=35
BATP Bataraza 74.05 285 *e*P **P** **05 24 33.3 +0.3**
SDPT Sand Point 74.09 7 *e*P **P** **05 24 32.3 0.0**
comp=Z,235nm,0.9s
SDPT LR LR
comp=Z,3µm,21.0s
SKR Severo-Kuril's 74.14 340 *e*P P 05 24 23.4 -9.3
SKR *e* 05 24 51.9
SKR *e*S **SKiKP** **05 34 00.9 -0.5**
SKR pmax pmax
comp=Z,900nm,8.0s
SKR MLR MLR
comp=Z,800nm,19.0s
SKR MLR MLR
comp=Z,1µm,17.0s
PFO Pinyon Flats O 74.17 46 *e*P **P** **05 24 34.2 +0.7**
comp=Z,97nm,1.3s
PFO LR LR
comp=Z,2µm,18.0s
PFO Pinyon Flats O 74.17 46 *e*P **P** **05 24 34.2 +0.7**
PFO pmax pmax
comp=Z,97nm,1.3s
PFO MLR MLR
comp=Z,2µm,18.0s
PFO Pinyon Flats O 74.17 46 P **P** **05 24 34.4 +0.9**
baz=235,SNR=40
XPFO Piæon Flat 74.17 46 *e*P **P** **05 24 34.0 +0.5**
comp=Z,97nm,1.3s
KHMM Horse Mountain 74.17 36 *e*P **P** **05 24 34.9 +1.5**
comp=Z,78nm,1.1s
KHMM LR LR
comp=Z,4µm,19.0s
PWJI Pagerwojo 74.19 267 P **P** **05 24 34.4 +0.5**

BBRC Big Bear Solar 74.23 45 P P 05 24 34.9 +0.9
baz=234
SWSC Sam W. Stewart 74.24 47 P P 05 24 34.5 +0.8
baz=235,SNR=10
O02D Mt. Diablo Mer 74.24 37 P P 05 24 35.2 +1.5
baz=228,SNR=24
CMB Columbia Colle 74.29 40 eP P 05 24 34.7 +0.7
comp=Z,73nm,1.4s
CMB LR LR
comp=Z,2µm,20.0s
CMB Columbia Colle 74.29 40 eP P 05 24 34.7 +0.7
CMB pmax pmax
comp=Z,73nm,1.4s
CMB MLR MLR
comp=Z,2µm,20.0s
SMPP San Manuel, Pa 74.36 293 eP P 05 24 36.0 +1.2
TBJI Tambak Boyo 74.50 268 P P 05 24 37.4 +1.7
AFDM Forest Hills D 74.51 39 eP P 05 24 35.9 +0.7
comp=Z,47nm,1.1s
AFDM LR LR
comp=Z,2µm,18.0s
JNU Nakatsue 74.58 313 P P 05 24 37.1 +1.3
comp=Z,20nm,0.8s,baz=114,slow=10.0,SNR=6.1
JNU LR LR 05 51 35.4
comp=Z,762nm,21.8s,baz=118,slow=31
JNU Nakatsue 74.58 313 eP P 05 24 36.9 +1.1
comp=Z,45nm,0.9s
ORV Oroville 74.59 38 eP P 05 24 36.4 +0.7
comp=Z,32nm,1.1s
ORV LR LR
comp=Z,1µm,19.0s
ORV Oroville 74.59 38 eP P 05 24 36.4 +0.7
ORV pmax pmax
comp=Z,32nm,1.1s
ORV MLR MLR
comp=Z,1µm,19.0s
APYP Conner 74.59 295 eP P 05 24 36.9 +0.8
ASAJ Asahikawa 74.59 328 P P 05 24 37.4 +1.9
comp=Z,26nm,0.7s,baz=217,slow=8.3,SNR=12
ASAJ LR LR 05 51 59.2
comp=Z,461nm,21.4s,baz=153,slow=31
ASAJ Asahikawa 74.59 328 eP P 05 24 37.5 +1.9
comp=Z,58nm,1.1s
WDC Whiskeytown Da 74.65 37 eP P 05 24 36.6 +0.6
comp=Z,54nm,1.1s
WDC LR LR
comp=Z,4µm,21.0s
WDC Whiskeytown Da 74.65 37 eP P 05 24 36.6 +0.6
WDC pmax pmax
comp=Z,54nm,1.1s
WDC MLR MLR
comp=Z,4µm,21.0s
BELC Belle Mtn. Jos 74.71 46 P P 05 24 37.6 +1.0
baz=235,SNR=48
PCJI Pacitan 74.74 266 P P 05 24 38.1 +1.0
CWC Cottonwood Cre 74.76 43 P P 05 24 38.0 +1.1
baz=233
KBO Bosley Butte 74.80 35 PFAKE 05 24 50.0 +13
KBO LR LR
comp=Z,5µm,20.0s
N02D Trinity Center 74.82 37 P P 05 24 38.7 +1.6
baz=228,SNR=24
MDPB Devils Postpil 74.85 41 eP P 05 24 38.1 +0.6
comp=Z,37nm,1.0s
MDPB LR LR
comp=Z,4µm,19.0s
BC3 Big Chuckawall 74.88 46 P P 05 24 38.6 +1.0
baz=235,SNR=28
O03E Paynes Creek 74.89 38 P P 05 24 38.3 +0.8
baz=229,SNR=18
MPMC Manual Prospec 74.91 43 P P 05 24 38.7 +0.9
baz=233,SNR=91
GSC Goldstone, Bar 74.92 44 eP P 05 24 38.3 +0.6
comp=Z,45nm,1.0s
GSC LR LR
comp=Z,3µm,20.0s
GSC Goldstone, Bar 74.92 44 eP P 05 24 38.3 +0.6
GSC pmax pmax
comp=Z,45nm,1.0s
GSC MLR MLR
comp=Z,3µm,20.0s
GSC Goldstone, Bar 74.92 44 P P 05 24 38.4 +0.6
baz=234,SNR=44
HEC Hector,Ludlow 74.96 45 P P 05 24 38.6 +0.6
baz=234
DAC Darwin (Calif) 74.97 43 eP P 05 24 39.0 +0.8
comp=Z,57nm,1.4s
DAC LR LR
comp=Z,4µm,18.0s
DAC Darwin (Calif) 74.97 43 eP P 05 24 39.0 +0.8
DAC pmax pmax
comp=Z,57nm,1.4s
DAC MLR MLR
comp=Z,4µm,18.0s
GLA Glamis 74.98 47 eP P 05 24 39.1 +1.0
comp=Z,110nm,1.3s
GLA LR LR
comp=Z,2µm,19.0s
GLA Glamis 74.98 47 eP P 05 24 39.1 +1.0
GLA pmax pmax
comp=Z,110nm,1.3s
GLA MLR MLR
comp=Z,2µm,19.0s
GLA Glamis 74.98 47 P P 05 24 39.3 +1.2
baz=236,SNR=13
MLAC Mammoth, Mammo 75.00 41 P P 05 24 39.8 +1.4
baz=232,SNR=10
M02C Callahan 75.01 36 P P 05 24 39.8 +1.6
baz=228,SNR=18
TIN Tinemaha, Big 75.03 42 P P 05 24 39.4 +1.0
baz=233,SNR=13
RUBR Rubicon Trail 75.07 40 eP P 05 24 39.5 +0.8
comp=Z,41nm,1.0s
RUBR LR LR
comp=Z,2µm,18.0s
WOJI Wonogiri, Jawa 75.08 267 P P 05 24 39.7 +0.6
L02E Cave Junction 75.11 35 P P 05 24 40.0 +1.3
baz=228,SNR=5.5
WAKR Walker 75.17 40 eP P 05 24 40.3 +1.1
comp=Z,43nm,1.0s
WAKR LR LR
comp=Z,3µm,19.0s
KEBM Edson Butte 75.20 34 eP P 05 24 40.5 +1.3
comp=Z,212nm,1.6s
KEBM LR LR
comp=Z,5µm,19.0s
CHGN Chignik 75.28 8 eP P 05 24 39.1 0.0
comp=Z,141nm,0.8s
CHGN LR LR
comp=Z,2µm,20.0s
YBH Yreka Blue Hor 75.32 36 LR LR 05 52 16.0
comp=Z,3µm,19.0s,baz=231,slow=31
YBH Yreka Blue Hor 75.32 36 eP P 05 24 41.2 +1.2
comp=Z,81nm,1.1s
YBH Yreka Blue Hor 75.32 36 eP P 05 24 41.2 +1.2
YBH pmax pmax
comp=Z,81nm,1.1s
IRM Iron Mountain 75.38 46 P P 05 24 41.5 +1.2
baz=235,SNR=19
GMRC Granite Mounta 75.38 45 P P 05 24 41.3 +0.8
baz=235,SNR=35
PET Petropavlovsk 75.40 342 eP P 05 24 40.4 +0.4
PET eS S 05 34 16.1 -4.0
PET eSS SS 05 39 12.6 +1.7
PET pmax pmax
comp=Z,700nm,13.9s
PET MLR MLR
comp=Z,2µm,17.0s
PNTR Pine Nut 75.43 40 eP P 05 24 41.8 +1.0
comp=Z,60nm,1.0s
PNTR LR LR
comp=Z,3µm,18.0s
K02D Willamette Mer 75.44 35 P P 05 24 41.7 +1.1
baz=227,SNR=7.6
UGM Wanagama 75.44 266 eP P 05 24 41.6 +0.4
comp=Z,360nm,1.2s
UGM Wanagama 75.44 266 P P 05 24 42.1 +0.9
BEKR Beckworth 75.46 39 eP P 05 24 41.6 +0.7
comp=Z,43nm,1.0s
BEKR LR LR
comp=Z,1µm,18.0s
VCNR Virginia City 75.53 40 eP P 05 24 42.3 +0.9
comp=Z,37nm,1.0s
VCNR LR LR
comp=Z,3µm,18.0s
GRAC Grapevine Rang 75.55 43 P P 05 24 42.9 +1.6
baz=233,SNR=26

FURC Furnace Creek, 75.56 43 P P 05 24 42.3 +1.0
baz=234,SNR=19
113A Mohawk Valley, 75.56 48 eP P 05 24 42.2 +0.8
comp=Z,58nm,1.1s
113A LR LR
comp=Z,2µm,20.0s
Y12C Blythe 75.58 47 eP P 05 24 42.5 +1.0
comp=Z,85nm,1.2s
Y12C LR LR
comp=Z,2µm,19.0s
Y12C Blythe 75.58 47 P P 05 24 42.6 +1.1
baz=236,SNR=45
YERR Yerington 75.58 40 eP P 05 24 42.4 +0.7
comp=Z,72nm,1.2s
YERR LR LR
comp=Z,3µm,18.0s
J01E Myrtle Point 75.61 34 P P 05 24 42.8 +1.4
baz=227
HSIG 75.64 52 eP P 05 24 42.5 +0.6
comp=Z,193nm,2.0s
HSIG LR LR
comp=Z,2µm,19.0s
PEA0B Petropavlovsk- 75.75 342 eP P 05 24 42.8 +0.8
comp=Z,74nm,0.9s
PETK Petropavlovsk- 75.75 342 P P 05 24 42.4 +0.4
comp=Z,49nm,0.8s,baz=133,slow=8.7,SNR=38
PETK LR LR 05 53 49.4
comp=Z,856nm,20.1s,baz=152,slow=32
PETK Petropavlovsk- 75.75 342 eP P 05 24 42.5 +0.5
PETK Petropavlovsk- 75.75 342 P P 05 24 42.4 +0.4
PETK pmax pmax
comp=Z,46nm,0.8s
PEA1 Petropavlovsk- 75.75 342 eP P 05 24 42.4 +0.3
HUMO Hull Mountain 75.76 35 eP P 05 24 43.8 +1.4
comp=Z,62nm,1.2s
HUMO LR LR
comp=Z,3µm,19.0s
SMRI Semarang 75.77 267 eP P 05 24 44.0 +1.0
comp=Z,257nm,1.0s
214A Organ Pipe Nat 75.80 49 P P 05 24 43.9 +1.0
baz=237,SNR=26
RYN Ryan 75.81 41 eP P 05 24 43.6 +0.7
comp=Z,66nm,1.2s
RYN LR LR
comp=Z,3µm,19.0s
NV01 Mina Array Sit 75.82 41 eP P 05 24 43.5 +0.5
NVAR Mina Array Bea 75.82 41 P P 05 24 43.5 +0.4
comp=Z,45nm,0.9s,baz=226,slow=9.5,SNR=166
NVAR PKPPKP P'P'df 05 51 54.5 -5.2
comp=Z,2.1nm,1.1s,baz=159,slow=0.8,SNR=5.6
NVAR LR LR 05 52 33.1
comp=Z,3µm,18.5s,baz=240,slow=31
M04C Macdoel 75.84 36 P P 05 24 44.0 +1.0
baz=229,SNR=17
L04D Klamath Falls 75.87 36 P P 05 24 43.9 +0.8
baz=228,SNR=19
NV11 Mina Array Sit 75.91 41 eP P 05 24 44.3 +0.8
comp=Z,6.0nm,1.1s
NV11 LR LR
comp=Z,200nm,19.0s
LDFC Landfair 75.92 45 eP P 05 24 44.7 +1.1
comp=Z,76nm,0.9s
LDFC LR LR
comp=Z,2µm,19.0s
NEE2 Needles Airpor 76.08 46 P P 05 24 45.3 +1.0
baz=236,SNR=6.2
PDMCI Parker Dam,Lak 76.15 46 P P 05 24 45.8 +1.1
baz=236,SNR=32
SII Sitkinak Islan 76.16 10 eP P 05 24 44.7 +0.4
comp=Z,139nm,0.8s
TPNV Topopah Spring 76.24 43 eP P 05 24 46.4 +0.9
comp=Z,71nm,1.0s
TPNV LR LR
comp=Z,4µm,19.0s
TPNV Topopah Spring 76.24 43 eP P 05 24 46.4 +0.9
TPNV pmax pmax
comp=Z,71nm,1.0s
TPNV MLR MLR
comp=Z,4µm,19.0s
TPNV Topopah Spring 76.24 43 P P 05 24 46.3 +0.9
baz=234,SNR=58
I03D Drain, OR 76.28 34 P P 05 24 46.5 +1.3
baz=227
KVN Kaiserville 76.33 41 eP P 05 24 46.7 +0.8
comp=Z,38nm,1.1s
KVN LR LR
comp=Z,2µm,19.0s
KVN Kaiserville 76.33 41 eP P 05 24 46.7 +0.8
KVN pmax pmax
comp=Z,39nm,1.1s
KVN MLR MLR
comp=Z,2µm,19.0s
K04D Chiloquin, OR 76.44 36 P P 05 24 47.8 +1.4
baz=229
YSS Yuzh-Sakhalins 76.56 330 eP P 05 24 47.9 +1.1
comp=Z,75nm,1.0s
YSS LR LR
comp=Z,500nm,20.0s
YSS Yuzh-Sakhalins 76.56 330 κ iP P 05 24 48.1 +1.4
YSS e*SP PcP 05 24 54.4 -3.9
YSS e 05 25 00.0
YSS e 05 27 48.1
YSS i S S 05 34 36.8 +3.6
YSS eSS SS 05 39 29.4 +0.6
YSS eSSS SSS 05 42 37.9
YSS pmax pmax
comp=Z,50nm,1.0s
YSS pmax pmax
comp=Z,1µm,7.0s
YSS pmax pmax
comp=E,300nm,8.0s
YSS pmax pmax
comp=Z,400nm,10.0s
YSS pmax pmax
comp=E,300nm,6.0s
YSS MLR MLR
comp=Z,900nm,19.0s
YSS MLR MLR
comp=N,800nm,13.0s
J04D Umpqua Nationa 76.65 35 P P 05 24 48.8 +1.1
baz=228
SHPR Sheep Range 76.70 44 eP P 05 24 49.0 +0.9
comp=N,43nm,1.0s
SHPR LR LR
comp=Z,3µm,18.0s
Y14A Wickenburg 76.73 47 eP P 05 24 49.1 +1.0
comp=Z,89nm,0.9s
Y14A LR LR
comp=Z,2µm,18.0s
W13A Hualapai Mount 76.76 46 eP P 05 24 49.4 +0.9
comp=Z,132nm,1.7s
W13A LR LR
comp=Z,2µm,19.0s
MOD Modoc Plateau 76.79 37 eP P 05 24 49.2 +0.8
comp=Z,55nm,1.0s
MOD LR LR
comp=Z,3µm,19.0s
I04A Tendick Farm, 76.85 35 P P 05 24 49.5 +0.9
baz=228,SNR=11
TWG Pinlang 76.89 300 PFAKE 05 25 00.0 +11
TWG LR LR
comp=Z,5µm,22.0s
COR Corvallis 76.91 34 PFAKE 05 25 00.0 +11
COR LR LR
comp=Z,6µm,20.0s
OHAK Old Harbor 76.94 10 eP P 05 24 48.4 -0.2
comp=Z,72nm,0.9s
OHAK LR LR
comp=Z,4µm,21.0s
STKI Sintang 76.96 274 P P 05 24 51.9 +2.1
YULB Yu-li 76.96 300 PFAKE 05 25 00.0 +10
YULB LR LR
comp=Z,1µm,22.0s
SBUM Sibu 77.03 277 eP P 05 24 52.0 +1.7
comp=Z,66nm,1.4s
SBUM Sibu 77.03 277 P P 05 24 51.0 +0.8
NACB Ninganchiao 77.07 301 eP P 05 24 51.2 +1.1
comp=Z,111nm,1.2s
NACB LR LR
comp=Z,3µm,22.0s
KPJI Karang Pucung 77.12 266 P P 05 24 51.7 +1.0
J05D Fort Rock, OR 77.16 36 P P 05 24 51.6 +1.1
baz=229,SNR=51
H04D Lebanon 77.17 34 P P 05 24 51.5 +1.3
baz=228,SNR=7.0
G03D McMinnville, O 77.35 33 P P 05 24 52.7 +1.4
baz=227,SNR=7.2

SSLB Suanglung 77.42 300 PFAKE 05 25 00.0 +7.8
SSLB LR LR
comp=Z,1µm,22.0s
CMJI Cimerak 77.44 266 P P 05 24 52.1 -0.4
TUC Tucson 77.45 50 eP P 05 24 53.5 +1.3
comp=Z,50nm,0.9s
TUC LR LR
comp=Z,3µm,18.0s
TUC Tucson 77.45 50 P P 05 24 53.7 +1.4
baz=239
TPUB Ta-pu 77.47 300 eP P 05 24 52.6 +0.2
comp=Z,168nm,1.5s
TPUB LR LR
comp=Z,2µm,22.0s
YHNB Yeheng 77.47 301 PFAKE 05 25 00.0 +7.5
YHNB LR LR
comp=Z,2µm,22.0s
R11A Troy Canyon, C 77.49 42 eP P 05 24 52.8 +0.3
comp=Z,43nm,1.3s
R11A LR LR
comp=Z,3µm,19.0s
R11A Troy Canyon, C 77.49 42 P P 05 24 53.7 +1.2
baz=234,SNR=42
H04A Detroit Lake 77.57 34 eP P 05 24 52.8 +0.3
comp=Z,66nm,1.1s
H04A LR LR
comp=Z,5µm,19.0s
KDAK Kodiak Island 77.60 11 P P 05 24 52.7 +0.4
comp=Z,43nm,0.8s,baz=208,slow=3.3,SNR=17
KDAK LR LR 05 57 35.7
comp=Z,3µm,18.1s,baz=197,slow=34
PINE Pine Mountain 77.65 35 eP P 05 24 54.2 +0.9
comp=Z,102nm,1.0s
PINE LR LR
comp=Z,4µm,18.0s
I05D Terrebonne, OR 77.79 35 P P 05 24 55.1 +1.3
baz=229,SNR=13
JCJI Jatiwangi 77.99 267 P P 05 24 56.1 +0.5
319A Douglas 78.08 51 eP P 05 24 57.2 +1.4
comp=Z,62nm,0.8s
319A LR LR
comp=Z,3µm,19.0s
F04D Rainier, OR 78.08 33 P P 05 24 56.6 +1.3
baz=227,SNR=5.2
X16A Lo Mia Camp, P 78.08 48 eP P 05 24 56.6 +0.7
comp=Z,57nm,0.9s
X16A LR LR
comp=Z,2µm,18.0s
WVOR Wild Horse Val 78.09 38 eP P 05 24 56.3 +0.7
comp=Z,83nm,1.3s
WVOR LR LR
comp=Z,3µm,18.0s
WVOR Wild Horse Val 78.09 38 eP P 05 24 56.3 +0.7
WVOR pmax pmax
comp=Z,83nm,1.3s
WVOR MLR MLR
comp=Z,3µm,18.0s
E03A Lebam 78.11 32 eP P 05 24 56.7 +1.2
comp=Z,134nm,1.0s
E03A LR LR
comp=Z,4µm,19.0s
CISI Cisompet, Garu 78.11 266 eP P 05 24 56.1 -0.3
comp=Z,580nm,1.4s
CISI LR LR
comp=Z,1µm,21.0s
CISI Cisompet, Garu 78.11 266 P P 05 24 56.0 -0.3
LCMT Little Creek M 78.26 45 eP P 05 24 57.7 +1.0
comp=Z,38nm,1.0s
LCMT LR LR
comp=Z,2µm,18.0s
TEY Ternei 78.34 326 i eP P 05 24 56.8 +0.1
TEY pmax pmax
comp=Z,10.0nm,2.5s
TEY pmax pmax
comp=Z,200nm,11.0s
G05D Wamic, OR 78.40 34 P P 05 24 58.1 +0.9
baz=229,SNR=11
CCUT Cedar City 78.48 44 eP P 05 24 59.1 +1.1
comp=Z,50nm,1.1s
CCUT LR LR
comp=Z,2µm,20.0s
LEM Lembang 78.51 267 LR LR 06 00 39.3
comp=Z,869nm,18.2s,baz=127,slow=36
LEM Lembang 78.51 267 P P 05 25 00.0 +1.3
KSM Kuching 78.52 275 eP P 05 25 00.4 +1.8
comp=Z,327nm,1.1s
KSM Kuching 78.52 275 P P 05 24 59.0 +0.5
KNB Kanab 78.54 45 eP P 05 24 59.7 +1.4
comp=Z,113nm,1.3s
KNB LR LR
comp=Z,2µm,19.0s
KNB Kanab 78.54 45 eP P 05 24 59.7 +1.4
KNB pmax pmax
comp=Z,113nm,1.3s
KNB MLR MLR
comp=Z,2µm,19.0s
U15A North Rim 78.58 45 eP P 05 25 00.1 +1.4
comp=Z,66nm,1.1s
U15A LR LR
comp=Z,1µm,20.0s
E04D Cinebar 78.62 32 P P 05 24 59.8 +1.5
baz=228,SNR=13
I07A Izee 78.63 36 eP P 05 24 59.3 +0.7
comp=Z,41nm,1.1s
I07A LR LR
comp=Z,3µm,18.0s
SZCU Shurtz Canyon 78.68 44 eP P 05 25 00.5 +1.3
comp=Z,66nm,1.3s
SZCU LR LR
comp=Z,2µm,19.0s
PSUT Pine Spring 78.71 43 eP P 05 25 00.2 +1.0
comp=Z,57nm,1.0s
PSUT LR LR
comp=Z,4µm,19.0s
WUAZ Wupatki 78.71 47 eP P 05 25 00.6 +1.3
comp=Z,91nm,1.1s
WUAZ LR LR
comp=Z,2µm,19.0s
WUAZ Wupatki 78.71 47 P P 05 25 00.6 +1.3
baz=238,SNR=37
HPIG 78.73 57 eP P 05 25 00.7 +1.1
comp=Z,94nm,1.0s
HPIG LR LR
comp=Z,2µm,19.0s
F05D White Salmon 78.75 34 P P 05 25 00.1 +1.0
baz=229,SNR=7.3
G06A Carlson Farm, 78.76 34 eP P 05 24 59.9 +0.7
comp=Z,243nm,1.9s
G06A LR LR
comp=Z,4µm,19.0s
J08A Circle Bar Ran 78.76 37 eP P 05 25 00.0 +0.7
comp=Z,67nm,1.1s
J08A LR LR
comp=Z,4µm,19.0s
KSRS Korea Array 79.00 316 P P 05 25 02.7 +2.1
comp=Z,25nm,0.9s,baz=129,slow=6.3,SNR=44
KSRS LR LR 05 56 39.0
comp=Z,482nm,19.1s,baz=120,slow=33
KS15 Wonju Array Si 79.02 315 eP P 05 25 02.8 +2.1
KSAR Wonju Array Be 79.02 315 P P 05 25 02.7 +2.0
D03D Eldon 79.02 31 P P 05 25 01.8 +1.4
baz=227,SNR=8.3
KS01 Wonju Array Si 79.03 316 eP P 05 25 03.0 +2.3
PKCU Pink Cliffs 79.12 45 eP P 05 25 03.8 +2.2
comp=Z,118nm,1.1s
PKCU LR LR
comp=Z,2µm,19.0s
LON Longmire 79.14 33 eP P 05 25 01.7 +0.4
comp=Z,38nm,1.1s
LON Longmire 79.14 33 eP P 05 25 01.7 +0.4
LON pmax pmax
comp=Z,38nm,1.1s
X18A Snowflake 79.19 48 eP P 05 25 02.4 +0.4
comp=Z,34nm,0.9s
X18A LR LR
comp=Z,2µm,19.0s
MOIG Morelia 79.33 65 eP P 05 25 04.0 +0.9
comp=Z,148nm,1.1s
MOIG LR LR
comp=Z,3µm,20.0s
D05A Enumclaw 79.34 32 eP P 05 25 03.1 +0.9
comp=Z,156nm,1.3s
D05A LR LR
comp=Z,3µm,18.0s
CBJI Citeko 79.36 267 P P 05 25 02.9 -0.2
ZAIG Zacatecas 79.43 62 eP P 05 25 05.3 +1.7
comp=Z,98nm,1.2s
ZAIG LR LR

comp=Z,3µm,18.0s
TYV Tymovskoe 79.45 333 *e*P **P** 05 25 03.4 +0.7
TYV *e*S **S** 05 35 04.3 +0.1
TYV pmax pmax
comp=Z,43nm,1.5s
TYV pmax pmax
comp=Z,1µm,3.9s
TYV smax smax
comp=N,700nm,4.9s
SKJI Sukabumi 79.47 266 P **P** 05 25 04.1 +0.4
CNPM China Poot 79.48 11 *e*P **P** 05 25 02.9 +0.1
comp=N,103nm,1.0s
CNPM LR LR
comp=Z,4µm,19.0s
MTPU Mount Pierson 79.53 44 *e*P **P** 05 25 05.8 +1.8
comp=Z,71nm,1.1s
MTPU LR LR
comp=Z,2µm,19.0s
F07A Phinny Hill Vi 79.56 34 *e*P **P** 05 25 04.2 +0.7
comp=Z,49nm,1.1s
F07A LR LR
comp=Z,6µm,18.0s
PGC Sidney 79.61 31 *e*P **P** 05 25 03.8 +0.2
W18A Petrified Fore 79.65 48 *e*P **P** 05 25 05.7 +1.2
comp=Z,80nm,1.3s
W18A LR LR
comp=Z,2µm,19.0s
W18A Petrified Fore 79.65 48 P **P** 05 25 05.7 +1.2
baz=239
TCRU Three Creeks R 79.67 44 *e*P **P** 05 25 05.7 +1.2
comp=Z,74nm,1.0s
TCRU LR LR
comp=Z,3µm,19.0s
G08A Pilot Rock 79.70 35 *e*P **P** 05 25 04.7 +0.3
comp=Z,71nm,1.1s
G08A LR LR
comp=Z,3µm,19.0s
121A Cookes Peak, D 79.75 51 P **P** 05 25 06.6 +1.6
baz=240
BRLK Bradley Lake 79.77 11 *e*P **P** 05 25 04.7 +0.4
comp=Z,162nm,1.1s
VLA Vladivostok 79.78 322 *i* P **P** 05 25 04.6 -0.1
VLA pmax pmax
comp=Z,49nm,0.8s
MSU Marysvale 79.79 44 *e*P **P** 05 25 06.8 +1.6
MSU Marysvale 79.79 44 *e*P **P** 05 25 06.8 +1.6
QZH Quanzhou 79.86 300 *i* P **P** 05 25 08.9 +3.3
QZH S **S** 05 35 15.1 +5.4
QZH pmax pmax
comp=Z,1µm,4.5s
QZH LR LR
comp=Z,970nm,14.6s
QZH LR LR
comp=Z,830nm,23.3s
QZH LR LR
comp=Z,2µm,32.8s
MSHR Mys Shultsa 79.88 321 *i* P **P** 05 25 05.2 -0.1
B05A Bryant 80.01 31 P **P** 05 25 07.0 +1.2
baz=228,SNR=13
A04D Lummi Island 80.02 31 P **P** 05 25 07.3 +1.5
baz=227,SNR=5.7
E07A Sunnyside 80.03 34 *e*P **P** 05 25 06.5 +0.5
comp=Z,84nm,1.1s
E07A LR LR
comp=Z,7µm,19.0s
BBB Bella Bella 80.05 26 P **P** 05 25 07.0 +1.1
comp=Z,95nm,0.9s,baz=246,slow=4.9,SNR=14
BBB Bella Bella 80.05 26 *e*P **P** 05 25 07.2 +1.2
comp=Z,121nm,0.9s
LTY Liberty 80.06 33 *e*P **P** 05 25 06.6 +0.4
comp=Z,49nm,1.3s
LTY LR LR
comp=Z,2µm,20.0s
HAWA Hanford 80.09 34 *e*P **P** 05 25 06.8 +0.4
comp=Z,62nm,1.1s
HAWA LR LR
comp=Z,6µm,18.0s
SBJI Serang 80.13 267 P **P** 05 25 07.9 +0.6
SVW2 Sparrevohn 80.30 8 *e*P **P** 05 25 07.2 0.0
comp=Z,31nm,0.9s
SVW2 LR LR
comp=Z,2µm,20.0s
DUG Dugway, Tooele 80.31 42 *e*P **P** 05 25 08.3 +0.5
comp=Z,61nm,1.2s
DUG LR LR
comp=Z,2µm,19.0s
DUG Dugway, Tooele 80.31 42 P **P** 05 25 08.7 +0.8
baz=236
MFID Camas Ranch 80.32 38 PFAKE 05 25 20.0 +12
MFID LR LR
comp=Z,2µm,18.0s
EPT El Paso 80.33 52 *e*P **P** 05 25 09.1 +1.0
comp=Z,88nm,1.2s
EPT LR LR
comp=Z,2µm,19.0s
BMO Blue Mountains 80.34 36 *e*P **P** 05 25 08.0 +0.1
comp=Z,52nm,1.2s
BMO LR LR
comp=Z,3µm,19.0s
BMO Blue Mountains 80.34 36 *e*P **P** 05 25 08.0 +0.1
BMO pmax pmax
comp=Z,52nm,1.2s
BMO MLR MLR
comp=Z,3µm,19.0s
SEW Seward 80.35 11 *e*P **P** 05 25 08.1 +0.8
comp=Z,94nm,0.9s
SEW LR LR
comp=Z,4µm,18.0s
USA0B Ussuriysk Arra 80.37 323 *e*P **P** 05 25 09.7 +1.8
comp=Z,52nm,1.3s
USA0B LR LR
comp=Z,1µm,19.0s
USRK Ussuriysk Ar. 80.37 323 P **P** 05 25 09.6 +1.7
comp=Z,11nm,1.1s,baz=93,slow=3.8,SNR=13
JRQG Juriquilla Cam 80.38 64 *e*P **P** 05 25 09.8 +1.1
comp=Z,291nm,1.3s
JRQG LR LR
comp=Z,6µm,19.0s
C06D Leavenworth 80.38 32 P **P** 05 25 08.4 +0.5
baz=229
CGJI Cibinong 80.40 266 P **P** 05 25 08.2 -0.6
E08A Dider Farm, El 80.41 34 *e*P **P** 05 25 08.4 +0.4
comp=Z,76nm,1.3s
E08A LR LR
comp=Z,6µm,19.0s
B06A Marblemount 80.48 31 *e*P **P** 05 25 08.8 +0.5
comp=Z,47nm,1.0s
B06A LR LR
comp=Z,4µm,19.0s
BGU Big Grassy Mou 80.58 41 *e*P **P** 05 25 09.7 +0.4
comp=Z,33nm,1.2s
BGU LR LR
comp=Z,3µm,19.0s
NLU North Lily Min 80.64 43 *e*P **P** 05 25 10.5 +0.7
comp=Z,44nm,1.2s
NLU LR LR
comp=Z,4µm,19.0s
CRAG Craig 80.67 21 *e*P **P** 05 25 10.5 +1.3
comp=Z,102nm,1.0s
TLIG Tlapa 80.78 68 *e*P **P** 05 25 12.3 +1.5
comp=Z,108nm,1.1s
TLIG LR LR
comp=Z,4µm,19.0s
TMUT Trail Mountain 80.85 43 *e*P **P** 05 25 12.6 +1.6
comp=Z,131nm,1.1s
TMUT LR LR
comp=Z,3µm,19.0s
E09A Wood Farm, Sta 80.91 35 *e*P **P** 05 25 11.0 +0.3
comp=Z,72nm,1.2s
E09A LR LR
comp=Z,4µm,19.0s
UNM Universidad Na 80.93 66 PFAKE 05 25 20.0 +8.2
UNM LR LR
comp=Z,2µm,19.0s
MPU Maple Canyon 80.96 43 *e*P **P** 05 25 12.2 +0.7
comp=Z,56nm,1.1s
MPU LR LR
comp=Z,4µm,18.0s
F10A Beach Ranch, E 81.08 35 *e*P **P** 05 25 11.7 -0.1
comp=Z,76nm,1.0s
F10A LR LR
comp=Z,3µm,19.0s
Y22D IRIS PASSCAL I 81.13 50 PFAKE 05 25 20.0 +7.6
Y22D LR LR
comp=Z,2µm,19.0s
Y22D IRIS PASSCAL I 81.13 50 P **P** 05 25 14.3 +1.8
baz=241
LAZ Ladron 81.14 49 *e*P **P** 05 25 14.1 +1.6

LENM Lemitar 81.14 50 *e*P **P** 05 25 13.7 +1.2
MNTX Cornudas Mount 81.14 53 *e*P **P** 05 25 13.7 +1.3
comp=Z,98nm,1.0s
MNTX LR LR
comp=Z,2µm,19.0s
MNTX Cornudas Mount 81.14 53 P **P** 05 25 13.7 +1.3
baz=242
SPUT South Promonto 81.16 41 *e*P **P** 05 25 13.2 +0.8
comp=Z,48nm,1.1s
SPUT LR LR
comp=Z,3µm,19.0s
SRU San Rafael Swe 81.20 44 *e*P **P** 05 25 13.6 +0.9
comp=Z,53nm,1.0s
SRU LR LR
comp=Z,2µm,20.0s
HVU Hansel Valley 81.22 41 *e*P **P** 05 25 13.2 +0.5
comp=Z,65nm,1.1s
HVU LR LR
comp=Z,3µm,18.0s
HVU Hansel Valley 81.22 41 *e*P **P** 05 25 13.2 +0.5
HVU pmax pmax
comp=Z,65nm,1.1s
HVU MLR MLR
comp=Z,3µm,18.0s
HLID Hailey 81.24 39 *e*P **P** 05 25 13.3 +0.5
comp=Z,61nm,1.1s
HLID LR LR
comp=Z,1µm,19.0s
HLID Hailey 81.24 39 P **P** 05 25 13.6 +0.7
baz=234,SNR=58
P17A Butcher Ranch, 81.25 44 *e*P **P** 05 25 14.4 +1.4
comp=Z,72nm,1.1s
P17A LR LR
comp=Z,3µm,19.0s
CTU Camp Tracy 81.26 42 *e*P **P** 05 25 13.3 +0.3
comp=Z,40nm,1.0s
CTU LR LR
comp=Z,2µm,18.0s
LTX Lajitas 81.38 55 *e*P **P** 05 25 15.2 +1.4
LTX *e*PKiKP **PKiKP** 05 30 39.4 +0.4
LTX *e*PKKPbc **PKKPbc** 05 43 46.5 -2.5
LTX *e*P'P'df **P'P'df** 05 51 48.5 -2.8
TX31 Lajitas Ar. Si 81.38 55 *e*P **P** 05 25 15.2 +1.4
TXAR Lajitas Array 81.38 55 P **P** 05 25 15.2 +1.4
comp=Z,71nm,0.9s,baz=217,slow=7.7,SNR=311
TXAR PKiKP **PKiKP** 05 30 39.4 +0.4
comp=Z,1.1nm,0.9s,baz=207,slow=1.4,SNR=4.3
TXAR PKKPbc **PKKPbc** 05 43 46.5 -2.5
comp=Z,1.8nm,1.1s,baz=284,slow=5.0,SNR=3.9
TXAR PKPPKP **P'P'df** 05 51 48.5 -2.8
comp=Z,0.3nm,0.9s,baz=104,slow=4.0,SNR=3.9
TXAR LR LR 05 55 28.5
comp=Z,2µm,18.7s,baz=0.0,slow=31
TXAR Lajitas Array 81.38 55 P **P** 05 25 15.2 +1.4
TXAR pmax pmax
comp=Z,70nm,0.9s
TXAR pmax pmax
comp=Z,1.0nm,0.9s
TXAR pmax pmax
comp=Z,2.0nm,1.1s
BNM Barren Site 81.38 50 *e*P **P** 05 25 15.1 +1.2
SUA Susitna One 81.39 10 PFAKE 05 25 30.0 +17
SUA LR LR
comp=Z,4µm,18.0s
JLU Jordanelle 81.40 42 *e*P **P** 05 25 13.8 0.0
comp=Z,61nm,1.2s
JLU LR LR
comp=Z,3µm,19.0s
LPM Los Pinos Moun 81.46 50 *e*P **P** 05 25 15.3 +1.1
B08A Colville Reser 81.46 33 *e*P **P** 05 25 13.4 -0.3
comp=Z,61nm,1.1s
EYAK Cordova Ski Ar 81.50 13 PFAKE 05 25 30.0 +17
EYAK LR LR
comp=Z,4µm,18.0s
GLI Glacier Island 81.52 12 *e*P **P** 05 25 13.7 +0.1
comp=Z,166nm,0.9s
GLI LR LR
comp=Z,3µm,19.0s
FID Port Fidalgo 81.53 12 *e*P **P** 05 25 13.7 0.0
comp=Z,108nm,1.1s
FID LR LR
comp=Z,4µm,18.0s
MVCO Mesa Verde 81.58 46 *e*P **P** 05 25 14.7 -0.1
comp=Z,33nm,1.0s
MVCO LR LR
comp=Z,2µm,18.0s
MVCO Mesa Verde 81.58 46 P **P** 05 25 15.4 +0.5
baz=239
RAGM Ragged Mountai 81.58 13 *e*P **P** 05 25 14.3 +0.3
comp=Z,70nm,1.0s
RAGM LR LR
comp=Z,7µm,18.0s
PV05 Paradox Valley 81.61 45 *e*P **P** 05 25 16.7 +1.8
C09A Chrisman Ranch 81.65 33 *e*P **P** 05 25 15.0 +0.3
comp=Z,73nm,1.1s
C09A LR LR
comp=Z,6µm,19.0s
P18A Preston Nutter 81.66 44 *e*P **P** 05 25 16.1 +0.8
comp=Z,53nm,1.1s
P18A LR LR
comp=Z,3µm,20.0s
WRAK Wrangell Islan 81.69 21 *e*P **P** 05 25 15.8 +1.1
comp=Z,64nm,1.0s
TCUT Toone Canyon 81.71 42 *e*P **P** 05 25 16.5 +1.1
comp=Z,142nm,0.9s
TCUT LR LR
comp=Z,4µm,19.0s
SKT Skwentna 81.75 10 PFAKE 05 25 30.0 +15
SKT LR LR
comp=Z,3µm,21.0s
PMR Palmer 81.79 11 *e*P **P** 05 25 15.2 +0.2
comp=Z,132nm,1.2s
PMR LR LR
comp=Z,2µm,18.0s
PMR Palmer 81.79 11 *e*P **P** 05 25 15.2 +0.2
PMR pmax pmax
comp=Z,132nm,1.2s
PMR MLR MLR
comp=Z,2µm,18.0s
PV09 Paradox Valley 81.80 45 *e*P **P** 05 25 17.3 +1.2
PV10 Paradox Valley 81.80 45 *e*P **P** 05 25 16.7 +0.7
PV19 Morning Glory 81.81 45 *e*P **P** 05 25 17.1 +1.1
comp=Z,85nm,1.1s
PV19 LR LR
comp=Z,2µm,21.0s
PV17 East Wray Mesa 81.81 45 *e*P **P** 05 25 16.7 +0.7
comp=Z,146nm,1.5s
PV14 Lion Creek, Pa 81.81 45 *e*P **P** 05 25 17.1 +1.1
comp=Z,89nm,1.1s
PV14 LR LR
comp=Z,2µm,20.0s
PV18 Skein Mesa, Pa 81.82 45 *e*P **P** 05 25 17.0 +0.9
comp=Z,75nm,1.1s
PV18 LR LR
comp=Z,2µm,21.0s
PV20 West Nyswonger 81.83 45 *e*P **P** 05 25 16.9 +0.8
comp=Z,87nm,1.2s
PV20 LR LR
comp=Z,2µm,21.0s
PV13 Radium Mtn., P 81.84 45 *e*P **P** 05 25 17.1 +1.0
comp=Z,101nm,1.3s
PV16 Nyswonger Mesa 81.85 45 *e*P **P** 05 25 16.9 +0.7
comp=Z,133nm,1.5s
PV16 LR LR
comp=Z,2µm,18.0s
PV23 Carpenter Ridg 81.86 45 *e*P **P** 05 25 17.5 +1.1
comp=Z,79nm,0.9s
PV23 LR LR
comp=Z,3µm,18.0s
PV03 Paradox Valley 81.87 45 *e*P **P** 05 25 17.0 +0.7
HWUT Hardware Ranch 81.87 41 *e*P **P** 05 25 16.3 +0.1
comp=Z,68nm,1.7s
HWUT LR LR
comp=Z,3µm,18.0s
PV11 David Mesa, Pa 81.88 45 *e*P **P** 05 25 17.4 +1.1
comp=Z,126nm,1.3s
PV11 LR LR
comp=Z,2µm,20.0s
ANMO Albuquerque 81.89 49 PKKPbc PKKPbc 05 43 46.9 -1.4
comp=Z,1.0nm,0.9s,baz=231,slow=3.7,SNR=3.1
ANMO LR LR 05 55 37.4
comp=Z,2µm,18.7s,baz=240,slow=31
ANMO Albuquerque 81.89 49 *e*P **P** 05 25 17.6 +1.1
comp=Z,108nm,1.4s
ANMO PKKPbc **PKKPbc** 05 43 47.0 -1.4
ANMO Albuquerque 81.89 49 *de*P **P** 05 25 17.5 +1.0
ANMO pmax pmax
comp=Z,32nm,1.1s
ANMO Albuquerque 81.89 49 P **P** 05 25 17.4 +1.0
baz=241
PV02 Paradox Valley 81.92 45 *e*P **P** 05 25 17.6 +1.0
comp=Z,78nm,1.1s
GO09 Cerro Castillo 81.93 141 *e*P **P** 05 25 17.6 +1.3
comp=Z,99nm,1.3s
PV12 Saucer Basin, 81.93 45 *e*P **P** 05 25 17.6 +1.0
comp=Z,132nm,1.2s
PV21 Cone Mtn., Par 81.94 45 *e*P **P** 05 25 18.0 +1.3
comp=Z,59nm,0.8s
NKL Nikolayevsk 81.95 334 *e*P **P** 05 25 15.0 -1.0
NKL *e*S **S** 05 35 30.0 -0.2
NKL pmax pmax
comp=E,600nm,10.0s
NKL pmax pmax
comp=Z,1µm,11.0s
NKL smax smax
comp=N,1µm,12.0s
NKL smax smax
comp=E,1µm,12.0s
NKL MLR MLR
comp=E,1µm,15.0s
NKL MLR MLR
comp=Z,1µm,13.0s
GHO Glory Hole Cre 82.00 11 PFAKE 05 25 30.0 +14
GHO LR LR
comp=Z,3µm,19.0s
PV01 Paradox Valley 82.00 46 *e*P **P** 05 25 18.1 +1.1
MDJ Mudanjiang 82.00 322 *e*P **P** 05 25 18.3 +1.8
comp=Z,44nm,1.1s
MDJ LR LR
comp=Z,1µm,21.0s
DIV Divide 82.02 13 *e*P **P** 05 25 16.8 +0.4
comp=Z,151nm,0.9s
DIV LR LR
comp=Z,3µm,19.0s
GO10 Punta Arenas 82.05 143 *e*P **P** 05 25 18.5 +1.6
comp=Z,136nm,1.2s
PV22 Blue Mesa, Par 82.05 45 *e*P **P** 05 25 18.1 +0.9
comp=Z,45nm,1.0s
PV22 LR LR
comp=Z,2µm,20.0s
BMRM Bremner River 82.12 13 *e*P **P** 05 25 17.4 +0.6
comp=Z,167nm,1.1s
BMRM LR LR
comp=Z,4µm,18.0s
SML Sawmill 82.14 11 *e*P **P** 05 25 17.5 +0.6
comp=Z,136nm,1.4s
SML LR LR
comp=Z,3µm,18.0s
SML Sawmill 82.14 11 *e*P **P** 05 25 17.5 +0.6
SML pmax pmax
comp=Z,137nm,1.4s
SML MLR MLR
comp=Z,3µm,18.0s
GDL2 Guadalupe Moun 82.14 52 *e*P **P** 05 25 19.3 +1.5
PAYG Puerto Ayora 82.19 88 PFAKE 05 25 30.0 +12
PAYG LR LR
comp=Z,2µm,19.0s
GRNR Gornyy 82.22 330 *e*P **P** 05 25 17.8 +0.2
GRNR pmax pmax
comp=Z,42nm,1.0s
KLU Klutina 82.32 12 *e*P **P** 05 25 18.3 +0.4
comp=Z,111nm,1.2s
KLU LR LR
comp=Z,2µm,19.0s
SCM Sheep Creek Mo 82.35 12 *e*P **P** 05 25 18.5 +0.4
comp=Z,197nm,0.9s
SCM LR LR
comp=Z,2µm,18.0s
SCM Sheep Creek Mo 82.35 12 *e*P **P** 05 25 18.5 +0.4
SCM pmax pmax
comp=Z,197nm,0.9s
SCM MLR MLR
comp=Z,2µm,18.0s
PCA Pinnacle 82.38 16 *e*P **P** 05 25 19.1 +0.8
comp=Z,84nm,1.0s
PCA LR LR
comp=Z,3µm,18.0s
PPLA Purkeypile 82.51 9 *e*P **P** 05 25 19.1 +0.1
comp=Z,42nm,1.1s
PPLA LR LR
comp=Z,3µm,19.0s
NEW Newport 82.55 34 LR LR 05 55 51.1
comp=Z,4µm,19.6s,baz=227,slow=31
NEW Newport 82.55 34 *e*P **P** 05 25 19.3 -0.1
comp=Z,27nm,1.0s
NEW Newport 82.55 34 *e*P **P** 05 25 19.3 -0.1
NEW pmax pmax
comp=Z,27nm,1.0s
NEW Newport 82.55 34 P **P** 05 25 19.5 +0.1
baz=232
NJ2 Nanjing 82.78 307 *e*P **P** 05 25 23.5 +2.6
NJ2 S **S** 05 35 43.8 +4.0
NJ2 pmax pmax
comp=Z,17nm,0.9s
NJ2 LR LR
comp=Z,840nm,16.8s
NJ2 LR LR
comp=Z,1µm,18.4s
NJ2 LR LR
comp=Z,3µm,24.9s
AHID Auburn Hatcher 82.80 41 *e*P **P** 05 25 21.4 +0.3
comp=Z,102nm,1.3s
AHID LR LR
comp=Z,2µm,19.0s
ANM Nome 82.82 3 *e*P **P** 05 25 21.3 +0.9
comp=Z,67nm,1.6s
ANM LR LR
comp=Z,2µm,21.0s
ANM Nome 82.82 3 *e*P **P** 05 25 21.3 +0.9
ANM pmax pmax
comp=Z,67nm,1.6s
ANM MLR MLR
comp=Z,2µm,21.0s
MCMT McKenzie Canyo 82.89 38 *e*P **P** 05 25 22.4 +0.9
LNIG Linares 82.89 61 *e*P **P** 05 25 22.1 +0.4
comp=Z,160nm,0.9s
LNIG LR LR
comp=Z,4µm,18.0s
S22A 4UR Ranch, Cre 82.99 47 *e*P **P** 05 25 23.9 +1.6
comp=Z,77nm,0.9s
S22A LR LR
comp=Z,2µm,19.0s
S22A 4UR Ranch, Cre 82.99 47 P **P** 05 25 23.9 +1.6
baz=240
CAST Castle Rocks 83.02 9 *e*P **P** 05 25 20.4 -1.1
comp=Z,56nm,1.2s
CAST LR LR
comp=Z,3µm,19.0s
SKAG Skagway 83.19 18 *e*P **P** 05 25 23.9 +1.5
comp=Z,108nm,1.1s
SKAG LR LR
comp=Z,2µm,20.0s
O20A White River Ci 83.23 44 *e*P **P** 05 25 24.2 +0.8
comp=Z,66nm,0.9s
O20A LR LR
comp=Z,1µm,22.0s
O20A White River Ci 83.23 44 P **P** 05 25 24.3 +0.9
baz=239
REDW Red Top Meadow 83.27 40 *e*P **P** 05 25 24.2 +0.7
comp=Z,89nm,1.2s
REDW LR LR
comp=Z,2µm,20.0s
TPAW Teton Pass 83.28 40 *e*P **P** 05 25 24.4 +0.8
comp=Z,68nm,1.0s
TPAW LR LR
comp=Z,2µm,18.0s
MA2 Magadan 83.28 342 P **P** 05 25 22.6 -0.2
comp=Z,24nm,0.9s,baz=201,slow=5.4,SNR=9.3
MA2 Magadan 83.28 342 *e*P **P** 05 25 23.3 +0.4
comp=Z,47nm,1.1s
MA2 LR LR
comp=Z,1µm,19.0s
MA2 Magadan 83.28 342 *d i*P **P** 05 25 22.8 -0.1
MA2 pmax pmax
comp=Z,24nm,2.3s
HARP HAARP 83.30 12 *e*P **P** 05 25 23.7 +0.7
comp=Z,109nm,1.0s
FXWY Fox Creek 83.32 40 *e*P **P** 05 25 24.5 +0.8
comp=Z,59nm,1.3s
TRF Thorofare Moun 83.33 10 *e*P **P** 05 25 22.7 -0.6
comp=Z,170nm,1.0s
TRF LR LR
comp=Z,4µm,18.0s
DLMT Dillon 83.34 38 *e*P **P** 05 25 24.2 +0.5
comp=Z,73nm,1.0s

DLMT LR LR
comp=Z,2µm,19.0s
SNOW Snow King Moun 83.39 40 *e*P **P 05 25 25.0 +0.8**
comp=Z,114nm,1.0s
SNOW LR LR
comp=Z,2µm,18.0s
MSO Missoula 83.41 36 *e*P **P 05 25 23.7 -0.3**
comp=Z,44nm,1.1s
MSO LR LR
comp=Z,4µm,19.0s
MSO Missoula 83.41 36 P **P 05 25 23.9 -0.1**
baz=234
GZH Guangzhou 83.48 297 P **P 05 25 26.8 +2.1**
GZH PP **PP 05 28 40.6 +3.5**
GZH S **S 05 35 53.4 +6.3**
GZH pmax pmax
comp=Z,1µm,5.9s
DHY Denali Highway 83.48 11 *e*P **P 05 25 24.1 +0.1**
comp=Z,63nm,1.1s
DHY LR LR
comp=Z,2µm,19.0s
IMW Indian Meadow 83.51 40 *e*P **P 05 25 25.6 +0.8**
comp=Z,67nm,1.0s
IMW LR LR
comp=Z,1µm,18.0s
RND Reindeer 83.52 10 *e*P **P 05 25 24.6 +0.4**
comp=Z,116nm,1.0s
RND LR LR
comp=Z,3µm,18.0s
RND Reindeer 83.52 10 *e*P **P 05 25 24.6 +0.4**
RND pmax pmax
comp=Z,116nm,1.0s
RND MLR MLR
comp=Z,3µm,18.0s
BSMT Bassoo Peak 83.54 35 *e*P **P 05 25 24.8 0.0**
MOOW Moose Ponds 83.55 40 *e*P **P 05 25 25.5 +0.6**
comp=Z,57nm,1.4s
MOOW LR LR
comp=Z,2µm,18.0s
KLR Kul'dur 83.56 327 P **P 05 25 25.8 +1.2**
comp=Z,8,6nm,1.0s,baz=86,slow=2.4,SNR=13
KLR LR LR 06 00 05.6
comp=Z,725nm,19.2s,baz=138,slow=34
KLR Kul'dur 83.56 327 *de*P **P 05 25 24.2 -0.4**
LOHW Long Hollow 83.56 40 *e*P **P 05 25 25.5 +0.5**
comp=Z,53nm,1.0s
LOHW LR LR
comp=Z,2µm,18.0s
SMCO Snowmass 83.60 45 *e*P **P 05 25 26.0 +0.5**
comp=Z,98nm,1.0s
HYT Haines Junctio 83.72 16 *e*P **P 05 25 25.9 +0.6**
comp=Z,104nm,1.1s
HYT LR LR
comp=Z,2µm,19.0s
QLMT Earthquake Lak 83.73 39 *e*P **P 05 25 27.2 +1.4**
PAX Paxson 83.75 12 *e*P **P 05 25 25.2 -0.1**
comp=Z,76nm,1.2s
PAX LR LR
comp=Z,2µm,19.0s
PAX Paxson 83.75 12 *e*P **P 05 25 25.2 -0.1**
PAX pmax pmax
comp=Z,77nm,1.2s
PAX MLR MLR
comp=Z,2µm,19.0s
GO07 Milladeo Hill, 83.75 133 *e*P **P 05 25 27.0 +1.2**
comp=Z,244nm,1.3s
BW06 Boulder Array 83.75 41 *e*P **P 05 25 26.2 +0.2**
comp=Z,70nm,1.0s
BW06 LR LR
comp=Z,2µm,18.0s
BW06 Boulder Array 83.75 41 P **P 05 25 26.2 +0.2**
baz=238,SNR=80
PD31 Pinedale Array 83.75 41 *e*P **P 05 25 26.0 0.0**
PDAR Pinedale Array 83.75 41 P **P 05 25 26.1 0.0**
comp=Z,55nm,0.8s,baz=204,slow=3.3,SNR=276
PDAR PP **PP 05 28 35.3 -4.0**
comp=Z,2.4nm,0.9s,baz=224,slow=7.6,SNR=4.3
PDAR PKKPbc **PKKPbc 05 43 43.4 -1.1**
comp=Z,1.2nm,0.8s,baz=96,slow=3.0,SNR=6.6
PDAR PKPPKP **P'P'df 05 51 39.1 -6.5**
comp=Z,1.0nm,1.0s,baz=64,slow=3.4,SNR=6.2
PDAR PKP2ab 05 51 50.1
comp=Z,1.3nm,1.0s,baz=125,slow=2.3,SNR=5.9
PDAR LR LR 05 57 07.4
comp=Z,2µm,18.9s,baz=249,slow=32
FLWY Flagg Ranch 83.76 40 *e*P **P 05 25 27.0 +1.0**
comp=Z,116nm,0.9s
FLWY LR LR
comp=Z,1µm,18.0s
JTMT Jette 83.76 35 *e*P **P 05 25 24.7 -1.1**
comp=Z,38nm,1.0s
JTMT LR LR
comp=Z,4µm,19.0s
YPP Pitchstone Pla 83.80 39 *e*P **P 05 25 26.6 +0.3**
comp=Z,51nm,1.3s
MCK McKinley 83.81 10 *e*P **P 05 25 25.9 +0.3**
comp=Z,214nm,1.0s
MCK LR LR
comp=Z,3µm,19.0s
MCK McKinley 83.81 10 *e*P **P 05 25 25.9 +0.3**
MCK pmax pmax
comp=Z,214nm,1.0s
MCK MLR MLR
comp=Z,3µm,19.0s
YHB Horse Butte 83.82 39 *e*P **P 05 25 27.4 +1.1**
comp=Z,100nm,0.9s
YHB LR LR
comp=Z,1µm,18.0s
BPAW Bear Paw Mtn. 83.83 9 *e*P **P 05 25 24.6 -1.0**
comp=Z,32nm,1.0s
BPAW LR LR
comp=Z,3µm,18.0s
CMIG Matias Romero 83.87 70 LR LR 05 55 36.0
comp=Z,4µm,18.6s,baz=244,slow=30
YFT Old Faithful 83.87 39 *e*P **P 05 25 28.7 +2.0**
comp=Z,64nm,1.0s
SDCO Great Sand Dun 83.91 47 *e*P **P 05 25 27.5 +0.4**
comp=Z,40nm,1.1s
SDCO LR LR
comp=Z,2µm,19.0s
SDCO Great Sand Dun 83.91 47 P **P 05 25 28.1 +1.0**
baz=241
YMR Madison River 83.92 39 *e*P **P 05 25 28.1 +1.3**
comp=Z,91nm,1.0s
YMR LR LR
comp=Z,1µm,21.0s
DL2 Dalian 83.99 314 ⇓*i*P **P 05 25 29.0 +2.0**
DL2 S **S 05 35 56.0 +4.3**
DL2 pmax pmax
comp=Z,70nm,1.3s
DL2 pmax pmax
comp=Z,1µm,5.9s
DL2 LR LR
comp=Z,520nm,22.6s
DL2 LR LR
comp=Z,770nm,20.8s
DL2 LR LR
comp=Z,1µm,23.3s
H17A Grant Village 84.00 39 *e*P **P 05 25 28.8 +1.5**
comp=Z,52nm,0.9s
H17A Grant Village 84.00 39 P **P 05 25 29.2 +1.9**
baz=237,SNR=36
CN2 Changchun 84.02 320 ⇑*i*P **P 05 25 28.4 +1.4**
CN2 *es*P PcP 05 25 35.3 +4.3
CN2 *e*PP **PP 05 28 44.8 +3.6**
CN2 *e*S **S 05 35 52.3 +0.5**
CN2 pmax pmax
comp=Z,40nm,0.9s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,580nm,16.0s
CN2 LR LR
comp=Z,720nm,16.0s
CN2 LR LR
comp=Z,890nm,19.0s
LCCM Lewis and Clar 84.02 38 *e*P **P 05 25 27.7 +0.5**
BOZ Bozeman (W) 84.03 38 PFAKE 05 25 40.0 +13
BOZ LR LR
comp=Z,2µm,20.0s
BOZ Bozeman (W) 84.03 38 P **P 05 25 28.1 +0.8**
baz=236
YHH Holmes Hill 84.05 39 *e*P **P 05 25 28.8 +1.2**
comp=Z,64nm,1.0s
YHH LR LR
comp=Z,1µm,20.0s
DLBC Dease Lake 84.05 21 P **P 05 25 27.8 +0.8**
comp=Z,37nm,0.9s,baz=220,slow=4.9,SNR=47
DLBC Dease Lake 84.05 21 *e*P **P 05 25 28.0 +1.0**
comp=Z,70nm,1.1s
YNR Norris Junctio 84.11 39 *e*P **P 05 25 29.2 +1.4**
comp=Z,48nm,1.0s
MSTX Muleshoe 84.13 52 *e*P **P 05 25 28.7 +0.7**
comp=Z,167nm,1.3s
MSTX LR LR
comp=Z,3µm,19.0s
MSTX Muleshoe 84.13 52 P **P 05 25 28.9 +0.9**
baz=243
BWN Browne 84.14 10 PFAKE 05 25 40.0 +13
BWN LR LR
comp=Z,4µm,19.0s
SNY Shenyang 84.16 317 ⇓P **P 05 25 29.4 +1.6**
SNY LR LR
comp=Z,680nm,19.2s
SNY LR LR
comp=Z,640nm,19.9s
SNY LR LR
comp=Z,1µm,24.2s
LKWY Lake 84.20 39 *e*P **P 05 25 30.0 +1.7**
comp=Z,91nm,0.9s
LKWY Lake 84.20 39 *e*P **P 05 25 30.0 +1.7**
LKWY pmax pmax
comp=Z,91nm,0.9s
WHY Whitehorse 84.30 17 *e*P **P 05 25 29.2 +1.0**
comp=Z,78nm,1.0s
WHY LR LR
comp=Z,2µm,19.0s
833A Chaparral WMA, 84.34 58 *e*P **P 05 25 29.8 +0.8**
comp=Z,200nm,1.0s
833A LR LR
comp=Z,3µm,19.0s
833A Chaparral WMA, 84.34 58 P **P 05 25 30.1 +1.0**
baz=246
T25A Trinidad 84.39 48 *e*P **P 05 25 30.1 +0.8**
comp=Z,45nm,1.1s
T25A LR LR
comp=Z,2µm,18.0s
T25A Trinidad 84.39 48 P **P 05 25 30.0 +0.6**
baz=242
HRY Holter Researc 84.54 37 *e*P **P 05 25 30.3 +0.5**
RIDG Independ'e Rid 84.57 12 *e*P **P 05 25 29.4 -0.1**
comp=Z,152nm,1.1s
RIDG LR LR
comp=Z,3µm,19.0s
DOT Dot Lake 84.64 12 PFAKE 05 25 40.0 +10
DOT LR LR
comp=Z,2µm,20.0s
WRH Wood River Hil 84.64 10 *e*P **P 05 25 30.0 +0.3**
comp=Z,346nm,1.0s
WRH LR LR
comp=Z,2µm,20.0s
RWWY Rawlins 84.69 43 *e*P **P 05 25 30.8 0.0**
comp=Z,78nm,0.9s
RWWY LR LR
comp=Z,4µm,19.0s
WALA Waterton Lakes 84.73 34 *e*P **P 05 25 30.9 +0.3**
comp=Z,50nm,1.0s
WALA LR LR
comp=Z,4µm,19.0s
MYKOM Kota Tinggi 84.73 274 *e*P **P 05 25 32.7 +1.3**
comp=Z,80nm,1.1s
MYKOM Kota Tinggi 84.73 274 P **P 05 25 32.0 +0.6**
Q24A Divide 84.74 46 *e*P **P 05 25 31.1 -0.2**
comp=Z,104nm,1.4s
Q24A LR LR
comp=Z,2µm,19.0s
Q24A Divide 84.74 46 P **P 05 25 32.3 +1.1**
baz=241
MLY Manley 84.74 9 *e*P **P 05 25 30.0 -0.3**
comp=Z,79nm,1.0s
MLY LR LR
comp=Z,2µm,18.0s
HDA Harding Lake 84.78 11 *e*P **P 05 25 30.7 +0.3**
comp=Z,168nm,0.9s
HDA LR LR
comp=Z,2µm,20.0s
HDA Harding Lake 84.78 11 P **P 05 25 31.3 +0.8**
baz=204
ISCO Idaho Springs 84.82 45 *e*P **P 05 25 32.4 +0.7**
comp=Z,26nm,1.1s
ISCO LR LR
comp=Z,2µm,18.0s
ISCO Idaho Springs 84.82 45 P **P 05 25 32.7 +1.0**
baz=241
CCB Clear Creek Bu 84.85 10 *e*P **P 05 25 30.8 0.0**
comp=Z,143nm,0.9s
CCB LR LR
comp=Z,2µm,20.0s
JCT Junction City 84.90 56 *e*P **P 05 25 32.1 +0.2**
comp=Z,34nm,0.9s
JCT LR LR
comp=Z,1µm,19.0s
JCT Junction City 84.90 56 P **P 05 25 32.6 +0.7**
baz=245
SCRK Sand Creek 84.95 12 *e*P **P 05 25 31.8 +0.3**
comp=Z,125nm,0.9s
SCRK LR LR
comp=Z,2µm,18.0s
QIZ Qiongzhong 84.99 292 P **P 05 25 34.9 +2.4**
QIZ PP **PP 05 28 49.3 -0.3**
QIZ S **S 05 36 04.4 +1.9**
QIZ pmax pmax
comp=Z,970nm,8.2s
QIZ LR LR
comp=Z,920nm,30.4s
QIZ LR LR
comp=Z,1µm,23.0s
QIZ LR LR
comp=Z,2µm,27.1s
QIZ Qiongzhong 84.99 292 PFAKE 05 25 40.0 +7.5
QIZ LR LR
comp=Z,1µm,22.0s
TCOL CIGO, UAF Yank 85.05 10 P **P 05 25 32.6 +0.8**
baz=203
COLA College 85.05 10 *e*P **P 05 25 32.1 +0.3**
comp=Z,312nm,0.9s
COLA LR LR
comp=Z,2µm,22.0s
COLA College 85.05 10 *e*P **P 05 25 32.1 +0.3**
COLA pmax pmax
comp=Z,312nm,0.9s
COLA MLR MLR
comp=Z,2µm,22.0s
MDM Murphy Dome 85.07 10 *e*P **P 05 25 31.9 -0.1**
comp=Z,192nm,1.1s
MDM LR LR
comp=Z,3µm,22.0s
IL1 Eielson Array 85.12 11 *e*P **P 05 25 32.1 0.0**
ILAR Eielson Array 85.12 11 P **P 05 25 32.1 -0.1**
comp=Z,37nm,0.8s,baz=209,slow=6.1,SNR=207
ILAR PP **PP 05 28 43.1 -6.6**
comp=Z,5.1nm,0.9s,baz=218,slow=7.8,SNR=5.2
ILAR PKKPbc **PKKPbc 05 43 41.0 -0.9**
comp=Z,4.1nm,1.2s,baz=227,slow=5.3,SNR=5.2
ILAR PKPPKP **P'P'df 05 51 42.2 +1.7**
comp=Z,2.4nm,1.1s,baz=351,slow=3.3,SNR=6.0
ILAR LR LR 06 01 25.0
comp=Z,1µm,18.1s,baz=219,slow=34
ILB Eielson Array 85.12 11 *e*P **P 05 25 32.0 -0.1**
N23A Red Feather La 85.13 44 *e*P **P 05 25 33.9 +0.7**
comp=Z,84nm,1.1s
N23A LR LR
comp=Z,1µm,19.0s
N23A Red Feather La 85.13 44 P **P 05 25 33.8 +0.7**
baz=241
RLMT Red Lodge 85.18 39 *e*P **P 05 25 33.5 +0.3**
comp=Z,44nm,1.0s
RLMT LR LR
comp=Z,2µm,19.0s
RLMT Red Lodge 85.18 39 P **P 05 25 33.9 +0.7**
baz=238
IM3 Indian Mountai 85.24 8 *e*P **P 05 25 33.1 +0.4**
KVTX Kingsville 85.24 59 *e*P **P 05 25 36.1 +2.5**
comp=Z,152nm,1.0s
KVTX LR LR
comp=Z,2µm,19.0s
GCMT Greycliff 85.29 39 *e*P **P 05 25 34.5 +0.9**
AMTX Amarillo 85.34 51 *e*P **P 05 25 34.9 +0.8**
comp=Z,171nm,1.1s
AMTX LR LR
comp=Z,4µm,19.0s
AMTX Amarillo 85.34 51 P **P 05 25 35.3 +1.2**
baz=244
POKR Poker Plat Res 85.35 10 P **P 05 25 34.0 +0.7**
baz=204
MAW Mawson 85.35 198 P **P 05 25 33.7 +0.3**
comp=Z,103nm,1.0s,baz=124,slow=6.2,SNR=62
MAW LR LR 06 01 31.7
comp=Z,465nm,20.9s,baz=114,slow=34
MAW Mawson 85.35 198 P **P 05 25 33.8 +0.4**
baz=85,SNR=27
MAW Mawson 85.35 198 *e*P **P 05 25 33.9 +0.5**
comp=Z,39nm,1.2s
K22A Casper 85.62 42 *e*P **P 05 25 35.8 +0.4**
comp=Z,36nm,1.0s
K22A LR LR
comp=Z,4µm,19.0s
K22A Casper 85.62 42 P **P 05 25 35.6 +0.2**
baz=240,SNR=11
WHN Wuhan 85.62 304 ⇓*i*P **P 05 25 37.5 +2.1**
WHN S **S 05 36 12.6 +4.3**
WHN pmax pmax
comp=Z,2µm,7.4s
WHN LR LR
comp=Z,3µm,20.7s
SEY Seymchan 85.63 345 P **P 05 25 35.3 +0.6**
comp=Z,42nm,1.0s,baz=150,slow=6.1,SNR=34
SEY Seymchan 85.63 345 *d*⇓P **P 05 25 34.9 +0.2**
PHWY Pilot Hill 85.65 44 PFAKE 05 25 50.0 +14
PHWY LR LR
comp=Z,800nm,18.0s
ABTX Abilene, Hawle 85.92 54 *e*P **P 05 25 37.8 +0.8**
comp=Z,202nm,1.0s
ABTX LR LR
comp=Z,3µm,20.0s
ABTX Abilene, Hawle 85.92 54 P **P 05 25 37.7 +0.8**
baz=245
TIA Tai'an 85.92 310 P **P 05 25 38.3 +1.5**
TIA S **S 05 36 07.6 -3.4**
TIA pmax pmax
comp=Z,1µm,8.2s
TIA LR LR
comp=Z,560nm,21.1s
TIA LR LR
comp=Z,1µm,19.6s
TIA LR LR
comp=Z,1µm,21.6s
DAWY Dawson 86.01 14 *e*P **P 05 25 37.7 +1.1**
comp=Z,186nm,0.9s
DAWY LR LR
comp=Z,3µm,19.0s
CCIG Comitan 86.05 72 *e*P **P 05 25 39.5 +1.4**
comp=Z,122nm,1.1s
CCIG LR LR
comp=Z,2µm,19.0s
EGAK Eagle 86.24 13 *e*P **P 05 25 38.5 +0.8**
comp=Z,126nm,0.9s
EGAK LR LR
comp=Z,3µm,19.0s
RDOG Red Dog Mine 86.43 4 PFAKE 05 25 50.0 +11
RDOG LR LR
comp=Z,3µm,21.0s
EGMT Eagleton 86.44 37 *e*P **P 05 25 39.5 +0.3**
comp=Z,34nm,1.1s
EGMT LR LR
comp=Z,3µm,19.0s
EGMT Eagleton 86.44 37 P **P 05 25 39.4 +0.3**
baz=238
KSCO Kaye Shedlock' 86.50 47 *e*P **P 05 25 40.5 +0.7**
comp=Z,46nm,1.0s
KSCO LR LR
comp=Z,1µm,18.0s
GO06 Curarrehue 86.51 130 *e*P **P 05 25 40.5 +0.6**
comp=Z,100nm,1.1s
GO06 LR LR
comp=Z,2µm,21.0s
PLCA Paso Flores 86.75 132 P **P 05 25 41.8 +0.7**
comp=Z,54nm,1.1s,baz=263,slow=5.9,SNR=48
PLCA PKKPbc **PKKPbc 05 43 36.6 +0.5**
comp=Z,2.6nm,0.9s,baz=281,slow=1.2,SNR=5.9
PLCA LR LR 05 57 31.6
comp=Z,1µm,18.6s,baz=282,slow=31
PLCA Paso Flores 86.75 132 *e*P **P 05 25 41.5 +0.4**
comp=Z,128nm,1.4s
PLCA PKKPbc **PKKPbc 05 43 36.6 +0.5**
PLCA Paso Flores 86.75 132 *e*P **P 05 25 41.5 +0.4**
PLCA pmax pmax
comp=Z,129nm,1.4s
435B Jarrell 86.77 56 *e*P **P 05 25 41.8 +0.7**
comp=Z,175nm,1.0s
435B LR LR
comp=Z,3µm,20.0s
435B Jarrell 86.77 56 P **P 05 25 42.3 +1.2**
baz=246
COLD Coldfoot 86.88 8 *e*P **P 05 25 42.0 +1.2**
comp=Z,35nm,1.2s
COLD LR LR
comp=Z,2µm,19.0s
BKNI Bangkinang 86.94 271 PFAKE 05 25 50.0 +7.6
BKNI LR LR
comp=Z,1µm,19.0s
FYU Fort Yukon 87.05 10 PFAKE 05 25 50.0 +8.4
FYU LR LR
comp=Z,2µm,20.0s
COCO West Island 87.05 258 PFAKE 05 25 50.0 +7.1
COCO LR LR
comp=Z,2µm,22.0s
APG El Apazote 87.13 73 LR LR 05 57 09.3
comp=Z,2µm,18.8s,baz=249,slow=30
WHTX Lake Whitney, 87.35 55 *e*P **P 05 25 44.5 +0.6**
comp=Z,113nm,0.9s
WHTX LR LR
comp=Z,2µm,19.0s
WHTX Lake Whitney, 87.35 55 P **P 05 25 45.1 +1.2**
baz=246
WMOK Wichita Mounta 87.44 52 *e*P **P 05 25 44.6 +0.3**
comp=Z,76nm,1.4s
WMOK LR LR
comp=Z,2µm,20.0s
WMOK Wichita Mounta 87.44 52 *e*P **P 05 25 44.6 +0.3**
WMOK pmax pmax
comp=Z,76nm,1.4s
WMOK MLR MLR
comp=Z,2µm,20.0s
WMOK Wichita Mounta 87.44 52 P **P 05 25 44.4 +0.1**
baz=246
BILL Bilibino 87.56 352 *d*⇓P **P 05 25 44.3 +0.2**
BILL *e* 05 29 09.4
BILL *e*PPP PPP 05 31 04.6
BILL *e*S **S 05 36 20.3 -5.3**
BILL *e*SS **SS 05 42 10.4 -1.3**
BILL *e*SSS SSS 05 45 44.2
BILL pmax pmax
comp=Z,141nm,2.7s
OGNE Ogallala 87.78 46 PFAKE 05 26 00.0 +14
OGNE LR LR
comp=Z,2µm,20.0s
GO05 HualaæØ 87.79 126 *e*P **P 05 25 45.8 -0.3**
comp=Z,70nm,1.4s
GO05 LR LR
comp=Z,2µm,20.0s
LAO LASA Array 87.80 39 *e*P **P 05 25 46.6 +0.8**
comp=Z,47nm,1.0s
LAO LASA Array 87.80 39 P **P 05 25 46.6 +0.8**
baz=240
SNET Serv Nac Est T 87.82 75 PFAKE 05 26 00.0 +13
SNET LR LR
comp=Z,2µm,18.0s
HKT Hockley 87.84 58 *e*P **P 05 25 47.4 +1.2**
comp=Z,294nm,1.9s
HKT LR LR
comp=Z,2µm,18.0s
RSSD Black Hills 87.92 42 *e*P **P 05 25 46.2 -0.4**
comp=Z,53nm,0.9s
RSSD LR LR
comp=Z,2µm,19.0s
RSSD Black Hills 87.92 42 *e*P **P 05 25 46.2 -0.4**
RSSD pmax pmax
comp=Z,53nm,0.9s
RSSD MLR MLR
comp=Z,2µm,19.0s
RSSD Black Hills 87.92 42 P **P 05 25 46.7 +0.1**
baz=242
U32A Winter Ranch, 87.96 51 *e*P **P 05 25 47.7 +0.9**
comp=Z,221nm,1.1s
U32A LR LR
comp=Z,3µm,18.0s
BJT Baijiatuau 88.25 313 *e*P **P 05 25 50.1 +2.0**
comp=Z,100nm,1.2s
BJT LR LR
comp=Z,900nm,20.0s
IPM Ipoh 88.26 275 *e*P **P 05 25 50.5 +1.8**

IPM LR LR
comp=Z,119nm,1.0s
comp=Z,1μm,18.0s
BJI Beijing 88.26 313 ⇓ *i*P P 05 25 49.6 +1.6
BJI PP **PP** 05 29 16.8 +1.2
BJI SKS **SKSac** 05 36 19.3 +1.9
BJI SS **SS** 05 42 23.0 0.0
BJI pmax pmax
comp=Z,55nm,2.3s
BJI LR LR
comp=Z,570nm,16.3s
BJI LR LR
comp=Z,670nm,18.0s
BJI LR LR
comp=Z,690nm,27.5s
TOLK Toolik Lake Re 88.29 8 *e*P P 05 25 48.1 +0.5
comp=Z,108nm,1.4s
TOLK LR LR
comp=Z,2μm,21.0s
TOLK Toolik Lake Re 88.29 8 P P 05 25 48.4 +0.8
baz=202
CBKS Cedar Bluff 88.44 48 *e*P P 05 25 49.4 +0.4
comp=Z,44nm,1.0s
CBKS LR LR
comp=Z,2μm,19.0s
CBKS Cedar Bluff 88.44 48 *e*P P 05 25 49.4 +0.4
CBKS pmax pmax
comp=Z,44nm,1.0s
CBKS MLR MLR
comp=Z,2μm,19.0s
CBKS Cedar Bluff 88.44 48 P P 05 25 49.8 +0.8
baz=245
ZEA Zeya 88.49 329 *e*P P 05 25 49.8 +1.0
ZEA *e*S **SKSac** 05 36 21.0 +2.8
ZEA pmax pmax
comp=N,160nm,1.8s
ZEA pmax pmax
comp=Z,310nm,2.0s
ZEA pmax pmax
comp=Z,1μm,8.0s
ZEA smax smax
comp=E,1μm,10.0s
EPYK Eagle Plains 88.56 14 P P 05 25 49.6 +0.6
baz=214
KULM Kulim 88.87 276 *e*P P 05 25 53.4 +1.9
comp=E,65nm,1.1s
KULM LR LR
comp=Z,1μm,22.0s
KULM Kulim 88.87 276 P P 05 25 53.0 +1.5
ROC1 El Roble 89.23 124 *e*P P 05 25 54.2 +1.0
comp=Z,38nm,1.0s
ENH Enshi 89.39 302 *e*P P 05 25 55.4 +1.7
comp=Z,181nm,1.5s
ENH LR LR
comp=Z,600nm,19.0s
PEL Peldehue 89.42 125 *e*P P 05 25 54.7 +0.8
comp=Z,69nm,1.0s
PEL LR LR
comp=Z,2μm,20.0s
PEL Peldehue 89.42 125 *e*P P 05 25 54.7 +0.8
PEL pmax pmax
comp=Z,69nm,1.0s
PEL MLR MLR
comp=Z,2μm,20.0s
NATX Nacogdoches 89.46 56 *e*P P 05 25 55.1 +1.2
comp=Z,285nm,1.6s
NATX LR LR
comp=Z,3μm,20.0s
SKLT Songkhla 89.49 278 P P 05 25 57.1 +2.7
SKNT Sakolnakorn 89.52 288 P P 05 25 57.3 +2.8
PSI Prapat 89.72 273 *e*P P 05 25 56.2 +0.5
comp=Z,131nm,1.1s
PSI LR LR
comp=Z,1μm,20.0s
MYIG MØrida 89.78 68 PFAKE 05 26 10.0 +14
MYIG LR LR
comp=Z,2μm,19.0s
VNA3 Neumayer Olymp 89.84 174 P P 05 25 54.3 -0.7
DGMT Dagmar 89.87 38 *e*P P 05 25 56.0 +0.5
comp=Z,122nm,1.0s
DGMT LR LR
comp=Z,2μm,19.0s
DGMT Dagmar 89.87 38 P P 05 25 55.9 +0.5
baz=242
EFI East Falkland 89.87 145 *e*P P 05 25 55.3 -0.3
comp=Z,291nm,1.8s
EFI LR LR
comp=Z,2μm,22.0s
EFI East Falkland 89.87 145 *ce*P P 05 25 55.6 +0.1
EFI pmax pmax
comp=Z,62nm,1.2s
SNAA Sanae 89.92 177 P P 05 25 55.0 -0.6
SNAA Sanae 89.92 177 PKKPbc PKKPbc 05 43 26.1 -3.2
comp=Z,1.9nm,0.9s,baz=4.0,slow=5.1,SNR=4.2
SNAA Sanae 89.92 177 *e*P P 05 25 54.9 -0.6
comp=Z,99nm,1.1s
SNAA PKKPbc **PKKPdf** 05 43 26.1 +2.3
SNAA LR LR
comp=Z,2μm,18.0s
SNAA Sanae 89.92 177 *d i*P P 05 25 54.4 -1.1
SYO Syowa Base 89.93 191 ⇑ *i*P P 05 25 54.4 -1.0
SYO Syowa Base 89.93 191 ⇓ *i*P P 05 25 58.0 +2.6
TIY Taiyuan 89.95 310 *e*P P 05 25 58.3 +2.1
TIY PP **PP** 05 29 32.0 +2.7
TIY SKS **SKSac** 05 36 25.5 -2.3
TIY S **SKKSac** 05 36 44.8 +3.9
TIY pmax pmax
comp=Z,67nm,1.0s
TIY pmax pmax
comp=Z,870nm,7.1s
TIY LR LR
comp=Z,610nm,12.5s
TIY LR LR
comp=Z,210nm,8.9s
TIY LR LR
comp=Z,1μm,19.3s
X37A Clayton 89.97 53 *e*P P 05 25 56.9 +0.7
comp=Z,215nm,1.5s
X37A LR LR
comp=Z,3μm,19.0s
541A Lake Charles 90.01 58 PFAKE 05 26 10.0 +13
541A LR LR
comp=Z,3μm,19.0s
TUL1 Leonard 90.15 52 *e*P P 05 25 57.7 +0.7
comp=Z,38nm,1.0s
TUL1 LR LR
comp=Z,2μm,19.0s
TUL1 Leonard 90.15 52 P P 05 25 57.6 +0.5
baz=247,SNR=12
HIA Hailar 90.18 323 *e*P P 05 25 58.1 +1.2
comp=Z,51nm,1.3s
HIA Hailar 90.18 323 *e*P P 05 25 58.1 +1.2
HIA pmax pmax
comp=Z,51nm,1.3s
ESTN Estel 90.26 76 *e*P P 05 25 58.7 +0.6
comp=Z,137nm,1.1s
ESTN LR LR
comp=Z,1μm,20.0s
240A Hunter Patters 90.27 56 *e*P P 05 25 59.0 +1.3
comp=Z,59nm,0.9s
240A LR LR
comp=Z,3μm,19.0s
VNA2 Neumayer--Watz 90.34 175 P P 05 25 56.9 -0.5
baz=185,slow=3.5
GYA Guiyang 90.36 298 ⇓ *i*P P 05 26 00.5 +2.1
GYA PP **PP** 05 29 35.6 +2.8
GYA S **S** 05 36 52.1 -1.8
GYA SS **SS** 05 42 55.3 +1.0
GYA pmax pmax
comp=Z,50nm,1.1s
GYA pmax pmax
comp=Z,870nm,9.9s
GYA LR LR
comp=Z,1μm,21.2s
GYA LR LR
comp=Z,650nm,21.3s
GYA LR LR
comp=Z,1μm,19.8s
GO04 Tololo Observa 90.42 122 *e*P P 05 25 58.9 0.0
comp=Z,80nm,0.9s
GO04 LR LR
comp=Z,3μm,20.0s
VNA1 Neumayer--Stat 90.53 175 P P 05 25 58.0 -0.2
GSI Gunungsitoli 90.54 271 *e*P P 05 26 00.9 +1.6
comp=Z,287nm,1.2s
TRTT Trang 90.57 278 P P 05 26 02.0 +2.5
BGNE Belgrade 90.62 46 PFAKE 05 26 10.0 +11
BGNE LR LR
comp=Z,2μm,20.0s
NONG Nongkai 90.63 289 P P 05 26 02.1 +2.5
JTS JuntasAbangare 90.69 79 LR LR 05 58 01.7
comp=Z,4μm,19.1s,baz=316,slow=30
JTS JuntasAbangare 90.69 79 *e*P P 05 26 01.5 +1.5
comp=Z,169nm,1.0s
JTS JuntasAbangare 90.69 79 *d i*P P 05 26 00.2 +0.1
BOAB BOACO BRÓADBAN 90.71 77 *e*P P 05 26 00.2 +0.2
comp=Z,13nm,1.2s
KSU1 Kansas State U 90.79 49 *e*P P 05 26 00.6 +0.6
comp=Z,51nm,0.9s
KSU1 LR LR
comp=Z,2μm,20.0s
TEIG Tepich 90.83 69 *e*P P 05 26 01.7 +1.2
comp=Z,101nm,1.1s
TEIG LR LR
comp=Z,2μm,19.0s
INK Inuvik 90.87 13 P P 05 25 59.9 +0.3
comp=Z,53nm,0.9s,baz=216,slow=5.0,SNR=75
INK PKKPbc **PKKPdf** 05 43 22.3 -2.4
comp=Z,3.5nm,1.0s,baz=152,slow=2.4,SNR=3.6
INK Inuvik 90.87 13 *e*P P 05 25 59.8 +0.2
comp=Z,76nm,0.9s
INK PKKPbc **PKKPdf** 05 43 22.3 -2.4
INK LR LR
comp=Z,4μm,18.0s
INK Inuvik 90.87 13 *e*P P 05 25 59.8 +0.2
INK pmax pmax
comp=Z,76nm,0.9s
INK MLR MLR
comp=Z,4μm,18.0s
LCO Las Campanas 90.92 121 *e*P P 05 26 02.1 +0.8
comp=Z,144nm,1.6s
LCO LR LR
comp=Z,3μm,18.0s
LCO Las Campanas 90.92 121 *ce*P P 05 26 02.5 +1.2
241A Mo Tay, Goldon 90.93 57 *e*P P 05 26 02.6 +1.8
comp=Z,140nm,1.0s
241A LR LR
comp=Z,2μm,19.0s
241A Mo Tay, Goldon 90.93 57 P P 05 26 02.3 +1.5
baz=249,SNR=11
CHAI Chaiyaphum 90.98 286 P P 05 26 03.1 +1.8
PATY Pattaya 91.07 283 P P 05 26 05.6 +3.9
NVL N'lazarevskaya 91.07 181 *i*P P 05 26 00.1 -0.6
NVL *e*S **SKSac** 05 36 28.0 -5.1
NVL pmax pmax
comp=Z,55nm,1.1s
NVL MLR MLR
comp=Z,1μm,16.0s
543A St. Martinvill 91.10 59 PFAKE 05 26 10.0 +8.4
543A LR LR
comp=Z,6μm,19.0s
KRAB Krabi 91.15 278 P P 05 26 05.1 +2.9
342A Flagon Creek P 91.17 57 *e*P P 05 26 03.6 +1.7
comp=Z,74nm,1.2s
342A LR LR
comp=Z,2μm,19.0s
342A Flagon Creek P 91.17 57 P P 05 26 03.7 +1.7
baz=249,SNR=8.3
XAN Xi'an 91.21 305 P P 05 26 03.8 +1.7
XAN pP sP 05 26 11.8 +6.9
XAN sP pP 05 26 15.9 +12
XAN SKS **SKSac** 05 36 36.4 +1.3
XAN S **ScS** 05 37 05.6 +1.3
XAN SS **SS** 05 43 07.0 +0.8
XAN pmax pmax
comp=Z,33nm,1.2s
XAN pmax pmax
comp=Z,780nm,4.7s
XAN LR LR
comp=Z,550nm,18.4s
XAN LR LR
comp=Z,1μm,20.0s
XAN LR LR
comp=Z,1μm,22.6s
MIAR Mount Ida 91.33 54 *e*P P 05 26 03.2 +0.6
comp=Z,93nm,1.4s
MIAR LR LR
comp=Z,2μm,20.0s
MIAR Mount Ida 91.33 54 *e*P P 05 26 03.2 +0.6
MIAR pmax pmax
comp=Z,93nm,1.4s
MIAR MLR MLR
comp=Z,2μm,20.0s
MIAR Mount Ida 91.33 54 P P 05 26 03.1 +0.6
baz=249,SNR=23
NNA Nana 91.35 103 PFAKE 05 26 10.0 +6.8
NNA LR LR
comp=Z,1μm,18.0s
HDC Heredia 91.38 80 *e*P P 05 26 05.3 +1.9
comp=Z,166nm,1.1s
HDC LR LR
comp=Z,2μm,20.0s
W39A Magazine 91.40 53 *e*P P 05 26 03.8 +0.9
comp=Z,104nm,1.1s
W39A LR LR
comp=Z,3μm,19.0s
W39A Magazine 91.40 53 P P 05 26 04.2 +1.3
baz=248,SNR=35
Z41A Richland Creek 91.46 55 *e*P P 05 26 04.1 +0.9
comp=Z,100nm,1.1s
Z41A LR LR
comp=Z,3μm,19.0s
Z41A Richland Creek 91.46 55 P P 05 26 04.4 +1.2
baz=249,SNR=9.1
HHAR Hobbs 91.68 52 *e*P P 05 26 04.7 +0.5
comp=Z,58nm,1.2s
HHAR LR LR
comp=Z,2μm,19.0s
HHC Hu-ho-hao-te 91.80 313 *e*P P 05 26 06.8 +2.1
HHC sP sP 05 26 16.5 +9.0
HHC SKS **SKSac** 05 36 40.6 +2.3
HHC S **ScS** 05 37 12.6 +3.5
HHC SS **SS** 05 43 17.3 +2.7
HHC pmax pmax
comp=Z,51nm,0.9s
HHC pmax pmax
comp=Z,770nm,6.1s
HHC LR LR
comp=Z,490nm,19.0s
HHC LR LR
comp=Z,300nm,22.5s
HHC LR LR
comp=Z,850nm,14.7s
GO03 Copiap 91.82 120 *e*P P 05 26 05.8 +0.6
comp=Z,29nm,1.3s
GO03 LR LR
comp=Z,2μm,18.0s
Y41A Eaglette Beard 91.83 55 P P 05 26 06.3 +1.4
baz=249,SNR=24
PKDT Phuket 91.86 278 P P 05 26 17.1 +12
ESPN Las Esperanzas 91.89 78 *e*P P 05 26 07.0 +1.4
comp=Z,54nm,1.1s
ESPN LR LR
comp=Z,2μm,20.0s
PBKT Sadao Pong 92.12 287 *e*P P 05 26 08.6 +2.0
PBKT Sadao Pong 92.12 287 P P 05 26 08.9 +2.3
X41A Kaden, Bauxite 92.13 54 P P 05 26 07.3 +1.1
baz=249,SNR=6.0
545A Edgard 92.20 59 PFAKE 05 26 20.0 +13
545A LR LR
comp=Z,5μm,19.0s
PHET Kaeng Krachan 92.21 283 P P 05 26 10.4 +3.4
YAK Yakutsk 92.23 336 P P 05 26 05.7 -0.3
comp=Z,14nm,0.4s,baz=239,slow=2.3,SNR=6.2
YAK Yakutsk 92.23 336 *e*P P 05 26 05.7 -0.3
comp=Z,49nm,1.2s
YAK LR LR
comp=Z,800nm,21.0s
YAK Yakutsk 92.23 336 *e*P P 05 26 05.0 -1.0
YAK *e* 05 26 08.0
YAK *e*S **SKSac** 05 36 35.3 -4.1
YAK *e**SS **SKKSac** 05 36 56.2 -0.4
YAK *e*PS **PS** 05 38 17.7 -2.7
YAK *e*SS **SS** 05 43 20.3 +0.8
YAK pmax pmax
comp=Z,27nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=Z,381nm,4.1s
YAK pmax pmax
comp=N,117nm,3.0s
YAK pmax pmax
comp=E,214nm,4.1s
YAK smax smax
comp=N,57nm,1.9s
YAK smax smax
comp=E,137nm,2.9s
YAK MLR MLR
comp=E,320nm,19.0s
MDND Maddock 92.34 40 *e*P P 05 26 06.9 0.0
comp=E,66nm,0.9s
MDND LR LR
comp=Z,2μm,18.0s
UALR University of 92.36 54 *e*P P 05 26 08.4 +1.1
comp=Z,54nm,1.0s
UALR LR LR
comp=Z,1μm,20.0s
143A Socs Landing, 92.37 56 *e*P P 05 26 09.0 +1.6
comp=Z,62nm,1.1s
143A LR LR
comp=Z,2μm,19.0s
143A Socs Landing, 92.37 56 P P 05 26 08.8 +1.4
baz=250,SNR=7.0
YKA Yellowknife Ar 92.37 23 P P 05 26 06.9 +0.2
comp=Z,16nm,0.9s,baz=235,slow=4.1,SNR=27
YKA PKKPbc **PKKPdf** 05 43 19.0 -2.8
comp=Z,0.3nm,0.5s,baz=39,slow=1.9,SNR=4.1
YKA LR LR 06 03 33.2
comp=Z,97nm,18.2s,baz=237,slow=33
YKB5 Yellowknife Ar 92.37 23 *e*P P 05 26 06.7 0.0
YKW3 Yellowknife Ar 92.41 23 *e*P P 05 26 07.3 +0.5
comp=Z,36nm,1.1s
344A Westbrook Farm 92.48 58 *e*P P 05 26 09.6 +1.7
comp=Z,111nm,1.2s
344A LR LR
comp=Z,2μm,19.0s
344A Westbrook Farm 92.48 58 P P 05 26 09.8 +1.8
baz=250,SNR=11
CCAR Cane Creek 92.50 55 *e*P P 05 26 09.4 +1.4
comp=Z,107nm,1.4s
CCAR LR LR
comp=Z,3μm,20.0s
U40A Yellville 92.53 53 P P 05 26 08.7 +0.6
baz=249,SNR=66
W41B Gary Mavity, V 92.57 54 *e*P P 05 26 09.0 +0.8
comp=Z,92nm,1.2s
W41B LR LR
comp=Z,2μm,19.0s
W41B Gary Mavity, V 92.57 54 P P 05 26 09.3 +1.0
baz=249,SNR=25
WHAR Wooly Hollow 92.58 54 *e*P P 05 26 08.9 +0.5
comp=Z,120nm,1.3s
WHAR LR LR
comp=Z,2μm,19.0s
ECSD EROS Data Cent 92.59 45 *e*P P 05 26 08.6 +0.4
comp=Z,101nm,1.2s
ECSD LR LR
comp=Z,2μm,18.0s
ECSD EROS Data Cent 92.59 45 P P 05 26 09.0 +0.8
baz=247
244A Avery, Jackson 92.72 57 P P 05 26 10.5 +1.4
baz=250,SNR=9.0
BTO Baotou 92.79 312 *e*P P 05 26 11.4 +2.1
V41A Mountainview 92.85 53 P P 05 26 10.5 +0.9
baz=249,SNR=19
UTTA Uttaradit 92.86 288 P P 05 26 12.4 +2.4
VBMS Vicksburg 92.91 57 *e*P P 05 26 10.8 +0.8
comp=Z,81nm,1.1s
VBMS LR LR
comp=Z,1μm,20.0s
VBMS Vicksburg 92.91 57 P P 05 26 11.5 +1.6
baz=250
345A Thompson Farm, 93.00 58 P P 05 26 12.0 +1.6
baz=250
PB10 IPOC Station P 93.05 116 PFAKE 05 26 20.0 +9.1
PB10 LR LR
comp=Z,2μm,21.0s
NANT Nan 93.06 289 P P 05 26 12.9 +2.0
SRDT SRDT 93.12 284 P P 05 26 18.4 +7.1
144A Alexander Plac 93.12 57 P P 05 26 12.5 +1.6
baz=250
Y43A Makayla and Ka 93.16 55 P P 05 26 12.5 +1.5
baz=250
UTHA Uthaitani 93.20 285 P P 05 26 14.0 +2.4
U41A Viola 93.23 53 P P 05 26 12.1 +0.8
baz=250,SNR=49
KMI Kunming 93.25 295 P P 05 26 14.8 +2.8
KMI pP sP 05 26 17.4 +2.6
KMI S **S** 05 37 18.8 -1.5
KMI SS **SS** 05 43 34.8 -1.5
KMI pmax pmax
comp=Z,53nm,1.2s
KMI pmax pmax
comp=Z,670nm,6.7s
KMI LR LR
comp=Z,800nm,23.8s
KMI LR LR
comp=Z,780nm,28.4s
KMI LR LR
comp=Z,2μm,36.7s
GO02 Mina Guanaco 93.26 118 PFAKE 05 26 20.0 +7.8
GO02 LR LR
comp=Z,3μm,19.0s
Z44A Pea Ridge, Bel 93.33 56 P P 05 26 13.1 +1.3
baz=250
245A Little AP, Sta 93.34 57 P P 05 26 13.6 +1.7
baz=250,SNR=11
446A Poplarville 93.36 59 P P 05 26 13.7 +1.6
baz=251
X43A Marvell 93.40 55 PFAKE 05 26 20.0 +7.9
X43A LR LR
comp=Z,2μm,19.0s
V42A Cord 93.44 54 P P 05 26 12.9 +0.6
baz=250,SNR=11
346A Big Creek Wild 93.48 58 *e*P P 05 26 13.7 +1.1
comp=Z,97nm,1.2s
346A LR LR
comp=Z,2μm,18.0s
346A Big Creek Wild 93.48 58 P P 05 26 13.6 +1.1
baz=251
145A Houston Renfro 93.51 57 P P 05 26 14.4 +1.7
baz=250
T41A Mountain View 93.59 52 P P 05 26 13.7 +0.8
baz=250,SNR=112
SUKH Sukhothai 93.62 287 P P 05 26 16.0 +2.5
OTAV Otavalo 93.72 91 *e*P P 05 26 15.6 +0.9
comp=Z,17nm,1.4s
OTAV LR LR
comp=Z,2μm,20.0s
U42A Revenden 93.75 53 P P 05 26 14.2 +0.5
baz=250,SNR=14
S41A Jillco Farms, 93.79 52 P P 05 26 14.3 +0.5
baz=250
PB04 IPOC Station P 93.82 115 PFAKE 05 26 30.0 +15
PB04 LR LR
comp=Z,2μm,21.0s
TRQA Tornquist 93.91 132 PFAKE 05 26 30.0 +15
TRQA LR LR
comp=Z,1μm,19.0s
TRQA Tornquist 93.91 132 *ce*P P 05 26 18.6 +4.0
TRQA pmax pmax
comp=Z,34nm,2.5s
HBAR Harrisburg 93.92 54 PFAKE 05 26 30.0 +16
HBAR LR LR
comp=Z,2μm,19.0s
UMPA Umpang Tak 93.93 286 P P 05 26 17.7 +2.7
LAMP Lampang 93.94 288 P P 05 26 17.6 +2.6
447A Lucedale 93.94 59 PFAKE 05 26 30.0 +15
447A LR LR
comp=Z,2μm,20.0s
Z45A Winona 93.95 56 *e*P P 05 26 16.1 +1.4
comp=Z,106nm,1.0s
Z45A LR LR
comp=Z,1μm,18.0s
Z45A Winona 93.95 56 P P 05 26 15.7 +1.0
baz=251,SNR=11
X44A Crenshaw 93.97 55 P P 05 26 15.4 +0.7
baz=250
FFC Flin Flon 93.97 33 *e*P P 05 26 13.8 -0.4
comp=Z,24nm,1.4s
FFC LR LR
comp=Z,3μm,19.0s
FFC Flin Flon 93.97 33 *e*P P 05 26 13.8 -0.4
FFC pmax pmax
comp=Z,24nm,1.4s
FFC MLR MLR
comp=Z,3μm,19.0s

PAYA **Payao** 93.98 289 P P 05 26 17.7 +2.5
T42A **Van Buren** 94.09 52 eP P 05 26 15.4 +0.1
comp=Z,58nm,1.1s
T42A LR LR
comp=Z,2µm,18.0s
T42A Van Buren 94.09 52 P P 05 26 16.0 +0.7
baz=250,SNR=33
146A Union 94.21 57 eP P 05 26 16.9 +0.9
comp=Z,83nm,1.0s
146A LR LR
comp=Z,2µm,19.0s
146A Union 94.21 57 P P 05 26 17.3 +1.4
baz=251
SCIA State Center 94.23 47 eP P 05 26 16.2 +0.4
comp=Z,102nm,1.1s
SCIA LR LR
comp=Z,2µm,19.0s
SCIA State Center 94.23 47 P P 05 26 16.2 +0.4
baz=249
CD2 Chengdu 94.24 301 P P 05 26 17.6 +1.4
CD2 pP sP 05 26 20.9 +1.9
CD2 PP **PP** 05 30 04.3 +1.0
CD2 SKS **SKSac** 05 36 52.4 +0.2
CD2 S **ScS** 05 37 30.4 +0.7
CD2 sS sS 05 37 34.8 +2.9
CD2 SS **SS** 05 43 51.8 +1.9
CD2 pmax pmax
comp=Z,30nm,0.4s
CD2 pmax pmax
comp=Z,1µm,5.2s
CD2 LR LR
comp=Z,1µm,16.9s
CD2 LR LR
comp=Z,1µm,19.9s
CD2 LR LR
comp=Z,2µm,22.4s
R41A Rosebud 94.30 51 P P 05 26 16.6 +0.4
baz=250,SNR=42
CCM Cathedral Cave 94.32 51 eP P 05 26 16.2 -0.1
comp=Z,61nm,1.0s
CCM LR LR
comp=Z,3µm,19.0s
CCM Cathedral Cave 94.32 51 eP P 05 26 16.2 -0.1
CCM pmax pmax
comp=Z,61nm,1.0s
CCM MLR MLR
comp=Z,3µm,19.0s
CCM Cathedral Cave 94.32 51 P P 05 26 16.6 +0.3
baz=250
MET Memphis--Engin 94.33 55 PFAKE 05 26 30.0 +14
MET LR LR
comp=Z,2µm,19.0s
N39A Derby Farms, D 94.37 48 eP P 05 26 16.8 +0.3
comp=Z,132nm,1.0s
N39A LR LR
comp=Z,2µm,20.0s
N39A Derby Farms, D 94.37 48 P P 05 26 16.7 +0.3
baz=250,SNR=39
Z46A Louisville 94.48 57 P P 05 26 18.2 +1.1
baz=251
PBMO Poplar Bluff 94.50 53 eP P 05 26 17.4 +0.2
comp=Z,30nm,1.1s
PBMO LR LR
comp=Z,3µm,19.0s
CM01 Chiang Mai Arr 94.51 288 eP P 05 26 19.6 +2.0
X45A UM Field Stati 94.53 55 P P 05 26 17.9 +0.5
baz=251,SNR=9.4
CM31 Chiang Mai Arr 94.54 288 eP P 05 26 20.2 +2.4
CM31 Chiang Mai Arr 94.54 288 P P 05 26 20.7 +2.9
SNR=10
CMAR Chiang Mai Arr 94.54 288 P P 05 26 19.6 +1.9
comp=Z,14nm,0.9s,baz=99,slow=2.9,SNR=56
CMAR PKKPbc **PKKPdf** 05 43 17.1 +0.9
comp=Z,3.5nm,1.0s,baz=283,slow=4.3,SNR=7.0
CMAR LR LR 06 04 50.1
comp=Z,632nm,21.8s,baz=102,slow=33
OXF Oxford 94.54 55 eP P 05 26 17.5 +0.1
comp=Z,76nm,1.1s
OXF LR LR
comp=Z,2µm,19.0s
OXF Oxford 94.54 55 eP P 05 26 17.5 +0.1
OXF pmax pmax
comp=Z,76nm,1.1s
OXF MLR MLR
comp=Z,2µm,19.0s
OXF Oxford 94.54 55 P P 05 26 17.8 +0.4
baz=251,SNR=8.6
GNAR Gosnell 94.55 54 PFAKE 05 26 30.0 +13
GNAR LR LR
comp=Z,2µm,19.0s
S42A Caledonia 94.56 52 P P 05 26 17.6 +0.2
baz=250,SNR=44
Q41A Truxton 94.63 51 P P 05 26 17.9 +0.2
baz=250,SNR=42
CMMT Chiang Mai 94.64 288 P P 05 26 20.5 +2.3
CHTO Chiang Mai 94.65 288 eP P 05 26 20.1 +1.9
comp=Z,28nm,1.1s
CHTO LR LR
comp=Z,700nm,21.0s
CHTO Chiang Mai 94.65 288 P P 05 26 20.5 +2.2
SNR=10.0
CHTO Chiang Mai 94.65 288 P P 05 26 20.6 +2.4
comp=Z,94nm,1.3s,comp=Z,2µm
T43A Greenville 94.71 53 P P 05 26 18.6 +0.5
baz=251,SNR=14
348A Jackson 94.75 59 PFAKE 05 26 30.0 +12
348A LR LR
comp=Z,1µm,19.0s
Y46A Houston 94.77 56 P P 05 26 19.4 +1.0
baz=251
LVC Limon Verde 94.78 116 eP P 05 26 20.6 +1.2
comp=Z,32nm,1.1s
LVC LR LR
comp=Z,2µm,19.0s
LVC Limon Verde 94.78 116 ceP P 05 26 21.5 +2.2
LVC pmax pmax
comp=Z,38nm,1.3s
M39A Webster 94.81 48 P P 05 26 18.6 +0.1
baz=250,SNR=22
AGMN Agassiz Nation 94.82 41 eP P 05 26 17.3 -1.0
comp=Z,36nm,1.2s
AGMN LR LR
comp=Z,2µm,18.0s
147A Livingston 94.85 57 eP P 05 26 20.7 +1.8
comp=Z,65nm,1.2s
147A LR LR
comp=Z,2µm,20.0s
PB01 IPOC Station P 94.87 114 eP P 05 26 20.7 +1.3
comp=Z,18nm,1.0s
PB01 LR LR
comp=Z,1µm,20.0s
FVM French Village 94.91 52 eP P 05 26 19.7 +0.7
comp=Z,99nm,1.0s
FVM LR LR
comp=Z,2µm,20.0s
FVM French Village 94.91 52 eP P 05 26 19.7 +0.7
FVM pmax pmax
comp=Z,99nm,1.0s
FVM MLR MLR
comp=Z,2µm,20.0s
PVMO Portageville 94.94 53 PFAKE 05 26 30.0 +11
PVMO LR LR
comp=Z,2µm,19.0s
PARMO Parma 94.98 53 PFAKE 05 26 30.0 +11
PARMO LR LR
comp=Z,3µm,19.0s
P41A Barry, Barry 95.00 50 P P 05 26 19.6 +0.2
baz=250,SNR=42
N40A Mertquake, Sal 95.03 49 P P 05 26 19.7 +0.2
baz=250,SNR=15
S43A Fulton Ridge, 95.03 52 P P 05 26 20.0 +0.4
baz=251,SNR=23
HALT Halls 95.05 54 PFAKE 05 26 30.0 +10
HALT LR LR
comp=Z,1µm,19.0s
Q42A Golden Eagle 95.13 51 P P 05 26 20.6 +0.6
baz=251,SNR=20
L39A Vinton 95.16 47 P P 05 26 20.4 +0.4
baz=250,SNR=30
PB11 IPOC Station P 95.19 113 eP P 05 26 21.2 +0.2
comp=Z,55nm,1.1s
PB11 LR LR
comp=Z,2µm,20.0s
GLAT Glass 95.21 54 PFAKE 05 26 30.0 +10
GLAT LR LR
comp=Z,2µm,19.0s
T44A Benton 95.24 53 P P 05 26 21.4 +0.9
baz=251
M40A Post Highland 95.26 48 P P 05 26 20.7 +0.3
baz=250,SNR=39
SLM Saint Louis 95.26 51 PFAKE 05 26 30.0 +9.4
SLM LR LR
comp=Z,2µm,19.0s
O41A Passleys Farm, 95.28 50 P P 05 26 21.0 +0.4
baz=250,SNR=43
349A Repton 95.31 59 P P 05 26 22.3 +1.3
baz=252
R43A Red Bud 95.37 52 P P 05 26 21.5 +0.5
baz=251,SNR=22
148A Greensboro 95.41 58 P P 05 26 21.8 +0.4
baz=252
K39A Oelwein 95.43 47 P P 05 26 21.2 -0.1
baz=250,SNR=18
MNMC Minye Minye 95.47 112 eP P 05 26 23.6 +1.2
comp=Z,45nm,1.1s
MNMC LR LR
comp=Z,2µm,21.0s
N41A Harden Midland 95.49 49 eP P 05 26 21.6 0.0
comp=Z,57nm,1.0s
N41A LR LR
comp=Z,2µm,19.0s
N41A Harden Midland 95.49 49 P P 05 26 21.9 +0.3
baz=251,SNR=14
P42A Winchester 95.49 50 eP P 05 26 22.1 +0.5
comp=Z,144nm,1.0s
P42A LR LR
comp=Z,3µm,18.0s
P42A Winchester 95.49 50 P P 05 26 22.1 +0.5
baz=251,SNR=46
ULM Lac du Bonnet 95.55 39 P P 05 26 20.8 -0.9
comp=Z,22nm,0.9s,baz=236,slow=4.7,SNR=17
ULM LR LR 06 05 13.1
comp=Z,3µm,18.7s,baz=254,slow=33
ULM Lac du Bonnet 95.55 39 eP P 05 26 20.7 -0.9
comp=Z,44nm,1.1s
ULM Lac du Bonnet 95.55 39 eP P 05 26 20.7 -0.9
ULM pmax pmax
comp=Z,44nm,1.1s
W46A Michie 95.55 55 P P 05 26 22.6 +0.7
baz=252
UTMT University of 95.55 54 eP P 05 26 23.1 +1.1
comp=Z,217nm,1.1s
Y47A UCPARC, Winfie 95.58 56 P P 05 26 22.9 +0.8
baz=252
U45A Rockin P Farm, 95.63 54 P P 05 26 23.3 +1.0
baz=251,SNR=12
SPMN Marine on St. 95.67 44 eP P 05 26 22.6 +0.3
comp=Z,62nm,1.1s
SPMN LR LR
comp=Z,1µm,19.0s
SPMN Marine on St. 95.67 44 P P 05 26 22.7 +0.4
baz=250,SNR=15
L40A Anamosa 95.68 48 eP P 05 26 22.5 +0.1
comp=Z,91nm,1.0s
L40A LR LR
comp=Z,2µm,19.0s
L40A Anamosa 95.68 48 P P 05 26 22.9 +0.5
baz=250,SNR=30
SIUC Southern Illin 95.72 52 eP P 05 26 23.2 +0.5
comp=Z,31nm,1.2s
SIUC LR LR
comp=Z,2µm,18.0s
PLAL Pickwick Lake 95.73 55 eP P 05 26 22.9 +0.1
comp=Z,22nm,1.4s
PLAL LR LR
comp=Z,2µm,20.0s
Q43A New Douglas 95.76 51 P P 05 26 23.3 +0.5
baz=251,SNR=19
X47A Russelville 95.76 56 P P 05 26 23.2 +0.2
baz=252
J39A Decorah 95.77 46 P P 05 26 22.9 +0.1
baz=250,SNR=28
LZH Lanzhou 95.82 306 eP P 05 26 26.0 +2.6
LZH pP sP 05 26 31.3 +5.1
LZH sP pP 05 26 33.9 +8.4
LZH PP **PP** 05 30 14.8 -0.8
LZH SS SS 05 44 15.8 +3.4
LZH pmax pmax
comp=Z,44nm,1.2s
LZH pmax pmax
comp=Z,240nm,6.5s
LZH LR LR
comp=Z,1µm,14.1s
LZH LR LR
comp=Z,1µm,16.8s
LZH LR LR
comp=Z,1µm,16.3s
H38A Maiden Rock 95.83 45 P P 05 26 23.3 +0.2
baz=250,SNR=9.4
O42A Bath 95.88 50 P P 05 26 23.6 +0.3
baz=251,SNR=7.8
M41A Milan 95.94 48 P P 05 26 24.3 +0.7
baz=251,SNR=12
T45A Paducah 95.94 53 PFAKE 05 26 40.0 +16
T45A LR LR
comp=Z,3µm,18.0s
K40A Colesburg 95.95 47 P P 05 26 24.1 +0.4
baz=251,SNR=6.0
V46A Holladay 95.96 54 P P 05 26 24.0 +0.2
baz=252
F37A Hinrichs Farm, 95.96 44 P P 05 26 24.2 +0.6
baz=250,SNR=9.8
LRAL Lakeview Retre 95.98 57 eP P 05 26 24.3 +0.3
comp=Z,16nm,1.3s
LRAL LR LR
comp=Z,2µm,20.0s
R44A Waltonville 95.99 52 P P 05 26 24.5 +0.6
baz=251
149A Jones 96.02 58 P P 05 26 24.9 +0.7
baz=252
I39A Houston 96.07 46 eP P 05 26 23.8 -0.4
comp=Z,55nm,0.9s
I39A LR LR
comp=Z,2µm,19.0s
I39A Houston 96.07 46 P P 05 26 24.1 -0.1
baz=250,SNR=6.8
U46A Springville 96.08 54 P P 05 26 24.6 +0.2
baz=252
P43A Skaggs, Pawnee 96.11 50 P P 05 26 24.7 +0.3
baz=251,SNR=18
W47A Westpoint 96.19 55 P P 05 26 26.0 +1.1
baz=252
250A Grady 96.25 59 eP P 05 26 25.8 +0.5
comp=Z,26nm,1.0s
250A LR LR
comp=Z,800nm,19.0s
250A Grady 96.25 59 P P 05 26 26.4 +1.1
baz=252
451A Vernon 96.27 60 PFAKE 05 26 40.0 +15
451A LR LR
comp=Z,1µm,18.0s
WVT Waverly 96.28 54 eP P 05 26 25.2 -0.1
comp=Z,37nm,1.4s
WVT LR LR
comp=Z,2µm,19.0s
WVT Waverly 96.28 54 eP P 05 26 25.2 -0.1
WVT pmax pmax
comp=Z,37nm,1.4s
WVT MLR MLR
comp=Z,2µm,19.0s
WVT Waverly 96.28 54 P P 05 26 25.8 +0.5
baz=252
G38A Ridgeland 96.29 45 P P 05 26 25.1 0.0
baz=250,SNR=27
X48A Hartselle 96.38 56 PFAKE 05 26 40.0 +14
X48A LR LR
comp=Z,2µm,19.0s
X48A Hartselle 96.38 56 P P 05 26 26.0 +0.2
baz=252
Z49A Columbiana 96.41 57 P P 05 26 26.5 +0.6
baz=252
V47A Nunnelly 96.43 55 P P 05 26 26.2 +0.2
baz=252
J40A Soldiers Grove 96.45 47 P P 05 26 26.2 +0.3
baz=251,SNR=27
O43A Sugar Creek Fa 96.47 50 P P 05 26 26.3 +0.3
baz=252
K41A Shullsburg 96.50 47 P P 05 26 26.5 +0.4
baz=251,SNR=12
H39A Augusta 96.51 45 P P 05 26 26.2 +0.1
baz=251,SNR=16
T46A Princeton 96.51 53 P P 05 26 27.4 +1.0
baz=252
M42A Sheffield 96.52 49 P P 05 26 26.4 +0.1
baz=251
F38A Pierce - Schro 96.53 44 P P 05 26 26.7 +0.5
baz=250,SNR=14
HDIL Hopedale 96.57 50 eP P 05 26 26.6 +0.1
comp=Z,38nm,0.9s
HDIL LR LR
comp=Z,3µm,19.0s
HDIL Hopedale 96.57 50 P P 05 26 26.9 +0.4
baz=252,SNR=8.7
R45A Skylar, Fairfi 96.61 52 P P 05 26 27.1 +0.4
baz=252,SNR=7.9
JFWS Jewell Farm 96.64 47 eP P 05 26 26.5 -0.3
comp=Z,36nm,0.9s
JFWS LR LR
comp=Z,2µm,21.0s
JFWS Jewell Farm 96.64 47 eP P 05 26 26.5 -0.3
JFWS pmax pmax
comp=Z,36nm,0.9s
JFWS MLR MLR
comp=Z,2µm,21.0s
JFWS Jewell Farm 96.64 47 P P 05 26 27.1 +0.3
baz=251,SNR=12
W48A Pulaski 96.67 55 P P 05 26 27.1 0.0
baz=252
Y49A Blount Mountai 96.70 57 PFAKE 05 26 40.0 +13
Y49A LR LR
comp=Z,2µm,19.0s
I40A Norwalk 96.70 46 P P 05 26 27.2 +0.1
baz=251,SNR=16
P44A Sand Creek, Wi 96.72 51 P P 05 26 27.7 +0.5
baz=252
L42A Oliver, Polo 96.76 48 eP P 05 26 27.2 -0.1
comp=Z,48nm,1.1s
L42A LR LR
comp=Z,2µm,19.0s
L42A Oliver, Polo 96.76 48 P P 05 26 27.4 +0.1
baz=252,SNR=7.6
G39A Holcombe 96.78 45 P P 05 26 27.3 -0.1
baz=251,SNR=8.8
OLIL Olney 96.88 52 eP P 05 26 28.1 +0.1
comp=Z,17nm,0.9s
OLIL LR LR
comp=Z,2µm,19.0s
Q45A Warren Harvey, 96.88 51 P P 05 26 28.2 +0.2
baz=252
Z50A Ashland 96.91 57 PFAKE 05 26 40.0 +12
Z50A LR LR
comp=Z,1µm,18.0s
V48A Smith Brothers 96.94 55 PFAKE 05 26 40.0 +12
V48A LR LR
comp=Z,2µm,18.0s
J41A Loganville 96.95 47 P P 05 26 28.2 0.0
baz=251,SNR=13
E38A The Farm, Brul 96.96 43 eP P 05 26 27.3 -0.8
comp=Z,58nm,1.5s
E38A LR LR
comp=Z,3µm,19.0s
X49A Woodville 96.96 56 P P 05 26 28.5 +0.1
baz=253
USIN University of 96.97 52 eP P 05 26 28.6 +0.3
comp=Z,50nm,1.1s
USIN LR LR
comp=Z,3µm,19.0s
M43A Waltham Townsh 97.08 49 P P 05 26 28.6 -0.2
baz=252,SNR=7.2
H40A Chili 97.09 45 P Pdif 05 26 28.9 +0.1
baz=251,SNR=16
T47A Sharon Grove 97.10 54 eP P 05 26 29.0 0.0
comp=Z,23nm,0.9s
T47A LR LR
comp=Z,2µm,20.0s
T47A Sharon Grove 97.10 54 P Pdif 05 26 29.5 +0.4
baz=252
352A Blakely 97.19 59 eP Pdif 05 26 30.1 +0.5
comp=Z,141nm,1.8s
K42A Prairie Point, 97.23 47 P Pdif 05 26 29.6 +0.1
baz=252,SNR=8.6
I41A Arkdale 97.27 46 eP P 05 26 29.3 -0.3
comp=Z,45nm,1.3s
I41A LR LR
comp=Z,2µm,19.0s
I41A Arkdale 97.27 46 P Pdif 05 26 29.8 +0.1
baz=252,SNR=6.0
ULN Ulaanbaatar 97.33 318 eP Pdif 05 26 30.7 +0.6
comp=Z,10nm,1.3s
ULN Ulaanbaatar 97.33 318 ceP Pdif 05 26 30.4 +0.3
ULN pmax pmax
comp=Z,9.0nm,1.4s
P45A Graceland, Par 97.38 51 eP P 05 26 30.2 0.0
comp=Z,31nm,1.0s
P45A LR LR
comp=Z,3µm,19.0s
P45A Graceland, Par 97.38 51 P Pdif 05 26 30.4 +0.1
baz=252,SNR=6.1
U48A Cassie Pea, Po 97.39 54 P P 05 26 30.3 0.0
baz=253
G40A Rib Lake 97.42 45 eP Pdif 05 26 30.5 +0.1
comp=Z,34nm,1.2s
G40A LR LR
comp=Z,2µm,18.0s
G40A Rib Lake 97.42 45 P Pdif 05 26 30.9 +0.5
baz=252,SNR=8.0
EYMN Ely 97.44 42 PFAKE 05 26 40.0 +10
EYMN LR LR
comp=Z,3µm,20.0s
L43A Garden Prairie 97.47 48 P Pdif 05 26 30.8 +0.2
baz=252
SWET Sewanee 97.48 56 eP P 05 26 30.6 -0.2
comp=Z,23nm,1.2s
SWET LR LR
comp=Z,2µm,20.0s
N44A Piper City 97.48 50 P Pdif 05 26 30.9 +0.2
baz=252,SNR=5.2
E39A Mellen 97.54 44 P Pdif 05 26 31.0 +0.1
baz=251,SNR=5.7
J42A Columbus 97.55 47 P Pdif 05 26 30.9 0.0
baz=252
H41A Junction City 97.59 46 eP P 05 26 30.0 -1.0
comp=Z,35nm,1.2s
H41A LR LR
comp=Z,2µm,18.0s
H41A Junction City 97.59 46 P Pdif 05 26 31.3 +0.2
baz=252
V49A McMinnville 97.66 55 P P 05 26 31.5 -0.1
baz=253
T48A Bowling Green 97.68 54 P Pdif 05 26 31.9 +0.3
baz=253
F40A Park Falls 97.68 44 P Pdif 05 26 31.6 +0.1
baz=252,SNR=9.7
152A Waverly Hall 97.71 58 eP Pdif 05 26 32.2 +0.3
comp=Z,11nm,0.9s
152A LR LR
comp=Z,2µm,19.0s
M44A Midewin, Midew 97.72 49 PFAKE 05 26 40.0 +8.2
M44A LR LR
comp=Z,3µm,19.0s
SONA1 Songino Array 97.74 318 eP Pdif 05 26 32.0 +0.2
SONA0 Songino Array 97.74 318 eP Pdif 05 26 32.2 +0.3
SONA0 ePP **PP** 05 30 30.4 +0.4
SONA0 ePKKPbc **PKKPbc** 05 43 07.3 -1.5
SONM Songino Array 97.74 318 P Pdif 05 26 32.2 +0.3
comp=Z,1.8nm,1.0s,baz=112,slow=3.1,SNR=8.0
SONM PP **PP** 05 30 30.4 +0.4
comp=Z,2.7nm,1.1s,baz=104,slow=6.5,SNR=5.3
SONM PKKPbc **PKKPbc** 05 43 07.3 -1.5
comp=Z,1.7nm,1.0s,baz=219,slow=3.4,SNR=3.7
SONM LR LR 06 06 09.7
comp=Z,576nm,21.9s,baz=112,slow=33
LPAZ La Paz 97.81 110 P Pdif 05 26 34.6 +1.1
comp=Z,8.2nm,1.2s,baz=305,slow=5.0,SNR=9.3
LPAZ LR LR 06 01 58.3
comp=Z,2µm,19.1s,baz=266,slow=30
LPAZ La Paz 97.81 110 eP P 05 26 34.2 +0.7
LPAZ epP P 05 26 34.8 +1.4
I42A Draeger Farm, 97.87 46 eP P 05 26 31.9 -0.4
comp=Z,18nm,0.9s
I42A LR LR
comp=Z,2µm,20.0s
I42A Draeger Farm, 97.87 46 P P 05 26 32.2 -0.1
baz=252,SNR=6.0
K43A Burlington 97.92 48 eP P 05 26 32.5 -0.1
comp=Z,28nm,0.9s
K43A LR LR
comp=Z,2µm,18.0s
K43A Burlington 97.92 48 P Pdif 05 26 32.6 +0.1
baz=252
R47A Wooly Knot Far 97.92 52 P Pdif 05 26 32.8 +0.1
baz=253
N45A Kentland 97.95 50 P Pdif 05 26 33.1 +0.4

baz=253,SNR=5.5
W50A **Signal Mountai** **97.96** **56** PFAKE 05 26 40.0 +7.0
W50A LR LR
comp=Z,2µm,18.0s
U49A **Red Boiling Sp** **97.97** **54** P **P** **05 26 32.9 -0.1**
baz=253
E40A **Wakefield** **97.99** **44** P Pdif 05 26 33.1 +0.3
baz=252,SNR=13
WCI **Wyandotte Cave** **98.08** **53** *e*P **P** **05 26 33.4 0.0**
comp=Z,64nm,1.9s
WCI LR LR
comp=Z,3µm,18.0s
WCI **Wyandotte Cave** **98.08** **53** P **P** **05 26 33.4 0.0**
baz=253
SFIN **Lafayette** **98.11** **50** *e*P Pdif 05 26 33.8 +0.3
comp=Z,24nm,0.9s
SFIN LR LR
comp=Z,2µm,20.0s
SFIN **Lafayette** **98.11** **50** P Pdif 05 26 33.9 +0.4
baz=253
TIXI **Tiksi** **98.12** **344** P **P** **05 26 32.6 -0.1**
comp=Z,2.5nm,0.3s,baz=241,slow=2.9,SNR=5.2
TIXI PP **PP** **05 30 29.0 -3.2**
comp=Z,1.7nm,0.3s,baz=132,slow=12,SNR=3.7
TIXI **Tiksi** **98.12** **344** *e*P Pdif 05 26 33.1 +0.3
comp=Z,8.8nm,1.1s
TIXI *e*PP **PP** **05 30 29.0 -3.2**
TIXI **Tiksi** **98.12** **344** *ce*P Pdif 05 26 33.0 +0.2
TIXI pmax pmax
comp=Z,13nm,2.1s
X51A **Calhoun** **98.14** **56** *e*P Pdif 05 26 34.1 +0.4
comp=Z,43nm,1.2s
X51A LR LR
comp=Z,2µm,19.0s
BLO **Bloomington** **98.18** **52** *e*P Pdif 05 26 34.1 +0.2
comp=Z,17nm,1.1s
BLO LR LR
comp=Z,2µm,18.0s
BLO **Bloomington** **98.18** **52** *e*P Pdif 05 26 34.1 +0.2
BLO pmax pmax
comp=Z,17nm,1.1s
BLO MLR MLR
comp=Z,2µm,18.0s
Q47A **Bedord North L** **98.19** **52** P Pdif 05 26 34.2 +0.3
baz=253
V50A **Pikevile** **98.26** **55** P **P** **05 26 34.2 -0.1**
baz=253
F41A **Three Lakes** **98.30** **45** *e*P **P** **05 26 34.2 0.0**
comp=Z,42nm,1.2s
F41A LR LR
comp=Z,2µm,18.0s
F41A **Three Lakes** **98.30** **45** P Pdif 05 26 34.6 +0.3
baz=252,SNR=7.4
H42A **Shiocton** **98.32** **46** PFAKE 05 26 50.0 +16
H42A LR LR
comp=Z,2µm,19.0s
T49A **Edmonton** **98.33** **54** *e*P **P** **05 26 34.0 -0.5**
comp=Z,23nm,1.3s
T49A LR LR
comp=Z,2µm,18.0s
COWI **Conover** **98.39** **44** *e*P Pdif 05 26 34.8 +0.1
comp=Z,84nm,1.4s
COWI LR LR
comp=Z,2µm,18.0s
I43A **Langenfeld Bro** **98.40** **47** P **P** **05 26 34.4 -0.3**
baz=253,SNR=5.2
555A **McAlpin** **98.42** **61** PFAKE 05 26 50.0 +15
555A LR LR
comp=Z,1µm,19.0s
P47A **Martinsville** **98.46** **51** P Pdif 05 26 35.2 +0.1
baz=253
Y52A **Lilburn** **98.57** **57** PFAKE 05 26 50.0 +14
Y52A LR LR
comp=Z,1µm,19.0s
656A **Willston** **98.57** **62** PFAKE 05 26 50.0 +14
656A LR LR
comp=Z,1µm,19.0s
G42A **Mountain** **98.61** **45** *e*P **P** **05 26 34.8 -0.8**
comp=Z,20nm,1.1s
G42A LR LR
comp=Z,2µm,18.0s
G42A **Mountain** **98.61** **45** P **P** **05 26 35.6 0.0**
baz=253
E41A **Kenton** **98.61** **44** P Pdif 05 26 35.7 +0.1
baz=252,SNR=6.4
CPCT **Cooper Cave** **98.65** **56** PFAKE 05 26 50.0 +14
CPCT LR LR
comp=Z,2µm,19.0s
Q48A **North Vernon** **98.70** **52** P **P** **05 26 36.1 -0.1**
baz=254
S49A **Springfield** **98.71** **53** P **P** **05 26 36.1 -0.1**
baz=254
O47A **Sheridan** **98.74** **51** P **P** **05 26 36.2 -0.1**
baz=253
H43A **Windswept, Lux** **98.83** **46** PFAKE 05 26 50.0 +13
H43A LR LR
comp=Z,2µm,19.0s
H43A **Windswept, Lux** **98.83** **46** P Pdif 05 26 37.4 +0.8
baz=253
V51A **Loudon** **98.88** **55** PFAKE 05 26 50.0 +13
V51A LR LR
comp=Z,2µm,19.0s
GOGA **Godfrey** **98.92** **58** PFAKE 05 26 50.0 +13
GOGA LR LR
comp=Z,1µm,18.0s
C40A **Isle Royale Na** **98.93** **43** *e*P Pdif 05 26 37.2 +0.3
comp=Z,59nm,1.2s
C40A LR LR
comp=Z,2µm,20.0s
C40A **Isle Royale Na** **98.93** **43** P Pdif 05 26 37.2 +0.3
baz=253
R49A **Shelbyville** **98.94** **53** P Pdif 05 26 37.7 +0.5
baz=254
M46A **Old House Fiel** **98.95** **49** *e*P Pdif 05 26 37.5 +0.3
comp=Z,30nm,0.9s
M46A LR LR
comp=Z,3µm,19.0s
M46A **Old House Fiel** **98.95** **49** P Pdif 05 26 37.5 +0.3
baz=254
061Z **Ochoppi** **99.00** **66** PFAKE 05 26 50.0 +12
061Z LR LR
comp=Z,2µm,20.0s
154A **Montrose** **99.00** **59** PFAKE 05 26 50.0 +12
154A LR LR
comp=Z,1µm,18.0s
W52A **Murphy** **99.02** **56** PFAKE 05 26 50.0 +12
W52A LR LR
comp=Z,2µm,19.0s
D41A **Chassel** **99.05** **43** *e*P **Pdif** **05 26 37.8 +0.3**
comp=Z,52nm,1.0s
D41A LR LR
comp=Z,3µm,19.0s
D41A **Chassel** **99.05** **43** P **Pdif** **05 26 37.9 +0.3**
baz=253
ROSC **El Rosal** **99.06** **88** LR LR 06 03 12.8
comp=Z,478nm,18.6s,baz=246,slow=30
059A **Moore Haven** **99.09** **65** PFAKE 05 26 50.0 +12
059A LR LR
comp=Z,1µm,20.0s
G43A **Wallace** **99.11** **45** PFAKE 05 26 50.0 +12
G43A LR LR
comp=Z,2µm,18.0s
DWPF **Disney Wildern** **99.16** **63** PFAKE 05 26 50.0 +12
DWPF LR LR
comp=Z,1µm,18.0s
N47A **Urbana** **99.28** **50** P **Pdif** **05 26 38.7 +0.1**
baz=254
TKL **Tuckaleechee C** **99.30** **56** PFAKE 05 26 50.0 +11
TKL LR LR
comp=Z,2µm,19.0s
E42A **Champion** **99.30** **44** P **Pdif** **05 26 38.9 +0.3**
baz=253
255A **Hazlehurst** **99.32** **60** PFAKE 05 26 50.0 +11
255A LR LR
comp=Z,1µm,19.0s
V52A **Sevierville** **99.48** **55** PFAKE 05 26 50.0 +10
V52A LR LR
comp=Z,2µm,20.0s
O48A **Farmland** **99.50** **51** P **Pdif** **05 26 39.9 +0.2**
baz=254
FCC **Fort Churchill** **99.55** **31** PFAKE 05 26 50.0 +11
FCC LR LR
comp=Z,2µm,19.0s
F43A **Flat Rock, Esc** **99.62** **45** P **Pdif** **05 26 40.0 -0.1**
baz=254
658A **Bunnell** **99.66** **62** PFAKE 05 26 50.0 +9.4
658A LR LR
comp=Z,1µm,18.0s
TZTN **Tazewell** **99.71** **55** PFAKE 05 26 50.0 +9.3
TZTN LR LR
comp=Z,2µm,19.0s
N48A **Decatur** **99.76** **50** P **Pdif** **05 26 41.0 +0.2**
baz=254
060A **Indiantown** **99.78** **65** PFAKE 05 26 50.0 +8.8
060A LR LR
comp=Z,2µm,18.0s
GTA **Gaotai** **99.84** **308** *e*P **Pdif** **05 26 42.5 +1.1**
GTA pP sP 05 26 46.8 +2.6
GTA sP pP 05 26 50.1 +6.6
GTA PP **PP** **05 30 51.6 +5.3**
GTA SKS **SKSac** **05 37 18.1 -2.8**
GTA S **ScS** **05 38 13.8 -2.4**
GTA SS **SS** **05 45 04.8 -4.0**
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA pmax pmax
comp=Z,490nm,9.3s
GTA LR LR
comp=Z,470nm,21.3s
GTA LR LR
comp=Z,1µm,21.3s
GTA LR LR
comp=Z,2µm,24.1s
E43A **Lone Tree Farm** **99.89** **44** *e*Pdif **Pdif** **05 26 41.1 -0.2**
comp=Z,39nm,1.3s
E43A LR LR
comp=Z,2µm,18.0s
E43A **Lone Tree Farm** **99.89** **44** P **Pdif** **05 26 41.4 +0.2**
baz=254
L47A **Sherwood** **99.93** **49** P **Pdif** **05 26 41.9 +0.3**
baz=254
S51A **Beattyville** **99.97** **54** PFAKE 05 26 50.0 +8.2
S51A LR LR
comp=Z,2µm,19.0s
J46A **Howard City** **99.99** **48** P **Pdif** **05 26 42.0 +0.3**
baz=254
V53A **Saluda** **100.05** **56** PFAKE 05 26 50.0 +7.7
V53A LR LR
comp=Z,2µm,19.0s
O49A **Covington** **100.08** **51** PFAKE 05 26 50.0 +7.7
O49A LR LR
comp=Z,2µm,18.0s
O49A **Covington** **100.08** **51** P **Pdif** **05 26 42.3 0.0**
baz=254
M48A **Edgerton** **100.15** **50** PFAKE 05 26 50.0 +7.4
M48A LR LR
comp=Z,2µm,19.0s
K47A **Vermontville** **100.26** **48** P **Pdif** **05 26 43.1 +0.1**
baz=255
N49A **Columbus Grove** **100.39** **50** *e*Pdif **Pdif** **05 26 43.9 +0.2**
N49A LR LR
comp=Z,3µm,18.0s
N49A **Columbus Grove** **100.39** **50** P **Pdif** **05 26 44.1 +0.5**
baz=255
Q51A **Peebles** **100.52** **52** PFAKE 05 27 00.0 +16
Q51A LR LR
comp=Z,3µm,19.0s
Q51A **Peebles** **100.52** **52** P **Pdif** **05 26 44.6 +0.3**
baz=255
257A **Skidaway Islan** **100.52** **60** PFAKE 05 27 00.0 +16
257A LR LR
comp=Z,1µm,19.0s
J47A **Sunmer** **100.54** **48** P **Pdif** **05 26 44.5 +0.3**
baz=255
TLY **Talaya** **100.59** **321** PFAKE 05 27 00.0 +16
TLY LR LR
comp=Z,700nm,19.0s
PAULI **Pauline** **100.62** **57** PFAKE 05 27 00.0 +15
PAULI LR LR
comp=Z,2µm,19.0s
E44A **Grand Marais A** **100.67** **44** PFAKE 05 27 00.0 +15
E44A LR LR
comp=Z,2µm,18.0s
P51A **Williamsport** **100.85** **52** PFAKE 05 27 00.0 +14
P51A LR LR
comp=Z,3µm,19.0s
I47A **Gladwin** **100.96** **47** P **Pdif** **05 26 46.8 +0.7**
baz=255
KMSC **Kings Mountain** **101.08** **57** PFAKE 05 27 00.0 +13
KMSC LR LR
comp=Z,2µm,19.0s
GLMI **Grayling** **101.09** **46** PFAKE 05 27 00.0 +13
GLMI LR LR
comp=Z,2µm,19.0s
ACSO **Alum Creek Sta** **101.10** **51** PFAKE 05 27 00.0 +13
ACSO LR LR
comp=Z,2µm,19.0s
AAM **Ann Arbor** **101.13** **49** PFAKE 05 27 00.0 +13
AAM LR LR
comp=Z,3µm,19.0s
Q52A **Bidwell** **101.31** **53** P **Pdif** **05 26 48.1 +0.3**
baz=256
M50A **Fremont** **101.34** **50** PFAKE 05 27 00.0 +12
M50A LR LR
comp=Z,2µm,20.0s
K49A **Clarkson** **101.39** **49** P **Pdif** **05 26 48.6 +0.5**
baz=256
NHSC **New Hope** **101.50** **59** PFAKE 05 27 00.0 +11
NHSC LR LR
comp=Z,1µm,18.0s
E46A **Sault Ste Mari** **101.69** **45** P **Pdif** **05 26 50.6 +1.4**
baz=256
N51A **Ashland** **101.72** **51** PFAKE 05 27 00.0 +10
N51A LR LR
comp=Z,2µm,19.0s
O52A **Adamsville** **101.92** **52** PFAKE 05 27 00.0 +10
O52A LR LR
comp=Z,70µm,18.0s
P53A **Whipple** **102.10** **52** PFAKE 05 27 00.0 +8.7
P53A LR LR
comp=Z,3µm,19.0s
BLA **Blacksburg** **102.31** **55** PFAKE 05 27 00.0 +7.7
BLA LR LR
comp=Z,2µm,19.0s
GTBY **Guantanamo Bay** **102.57** **73** PFAKE 05 27 10.0 +16
GTBY LR LR
comp=Z,1µm,18.0s
CPUP **Villa Florida** **102.80** **123** P **Pdif** **05 26 56.1 +1.3**
comp=Z,1.6nm,0.9s,baz=259,slow=6.4,SNR=4.6
CPUP PKKPbc **PKKPbc** **05 42 53.1 0.0**
comp=Z,1.1nm,0.8s,baz=7.7,slow=9.9,SNR=5.0
BASO **Ashfield** **102.95** **48** P **Pdif** **05 26 55.4 +0.5**
baz=257
ELFO **Elginfield** **103.01** **49** P **Pdif** **05 26 55.2 0.0**
baz=257
BRCO **Bruce Peninsul** **103.16** **48** P **Pdif** **05 26 56.9 +1.0**
baz=257
MCWV **Mont Chateau** **103.30** **52** PFAKE 05 27 10.0 +13
MCWV LR LR
comp=Z,1µm,19.0s
TOBO **Tobermory, Bru** **103.32** **47** P **Pdif** **05 26 57.3 +0.8**
baz=257
BWLO **Walkerton** **103.34** **48** P **Pdif** **05 26 57.4 +0.7**
baz=257
N54A **Moraine State** **103.48** **51** PFAKE 05 27 10.0 +13
N54A LR LR
comp=Z,2µm,19.0s
ERPA **Erie** **103.73** **50** PFAKE 05 27 10.0 +12
ERPA LR LR
comp=Z,2µm,20.0s
SDV **Santo Domingo** **103.74** **85** PFAKE 05 27 10.0 +11
SDV LR LR
comp=Z,600nm,20.0s
M54A **Oil Creek Stat** **103.84** **51** PFAKE 05 27 10.0 +11
M54A LR LR
comp=Z,2µm,20.0s
CNNC **Cliffs of the** **103.85** **57** PFAKE 05 27 10.0 +11
CNNC LR LR
comp=Z,2µm,19.0s
CLWO **Collingwood** **104.00** **48** P **Pdif** **05 27 00.2 +0.5**
baz=258
TYNO **Tyneside** **104.03** **49** P **Pdif** **05 27 00.3 +0.5**
baz=258
SIV **San Ignacio** **104.17** **112** PKKPbc PKKPbc 05 42 49.7 +0.7
comp=Z,3.6nm,0.9s,baz=73,slow=3.9,SNR=12
RES **Resolute Bay** **104.27** **16** PFAKE 05 27 10.0 +10
RES LR LR
comp=Z,2µm,20.0s
O56A **Blue Knob Stat** **104.39** **52** PFAKE 05 27 10.0 +8.5
O56A LR LR
comp=Z,3µm,19.0s
LSA **Lhasa** **104.40** **297** PFAKE 05 27 10.0 +7.7
LSA LR LR
comp=Z,1µm,22.0s
BUKO **Buck Lake** **104.83** **47** P **Pdif** **05 27 03.4 +0.1**
baz=259
SADO **Sadowa** **104.88** **47** PFAKE 05 27 20.0 +17
SADO LR LR
comp=Z,1µm,18.0s
CBN **Corbin Frederi** **104.88** **54** PFAKE 05 27 20.0 +16
CBN LR LR
comp=Z,2µm,19.0s
SSPA **Standing Stone** **104.98** **52** PFAKE 05 31 30.0
SSPA LR LR
comp=Z,3µm,19.0s
SAML **Samuel** **105.00** **105** PFAKE 05 31 30.0
SAML LR LR
comp=Z,2µm,20.0s
MMNY **Mt. Morris Dam** **105.37** **50** PFAKE 05 31 30.0
MMNY LR LR
comp=Z,3µm,19.0s
SDMD **Soldier's Deli** **105.53** **53** PFAKE 05 31 30.0
SDMD LR LR
comp=Z,1µm,19.0s
PAGS **Pennsylvania G** **105.77** **52** PFAKE 05 31 30.0
PAGS LR LR
comp=Z,2µm,20.0s
SDDR **Presa de Saban** **105.82** **75** PFAKE 05 31 30.0
SDDR LR LR
comp=Z,2µm,20.0s
PLVO **Plevna** **106.37** **47** PFAKE 05 31 30.0
PLVO LR LR
comp=Z,1µm,19.0s
N59A **State Game Lan** **106.61** **52** PFAKE 05 31 30.0
N59A LR LR
comp=Z,2µm,19.0s
VLDQ **Val d'Or** **106.61** **44** PFAKE 05 31 30.0
VLDQ LR LR
comp=Z,2µm,18.0s
BINY **Binghamton** **106.67** **50** PFAKE 05 31 30.0
BINY LR LR
comp=Z,2µm,20.0s
PSUB **Penn St. - Bra** **106.67** **53** PFAKE 05 31 30.0
PSUB LR LR
comp=Z,3µm,19.0s
KSPA **Keystone Colle** **106.72** **51** PFAKE 05 31 30.0
KSPA LR LR
comp=Z,3µm,18.0s
LUPA **Lehigh Univers** **106.85** **52** PFAKE 05 31 30.0
LUPA LR LR
comp=Z,200nm,19.0s
BRNJ **Basking Ridge** **107.47** **52** PFAKE 05 31 40.0
BRNJ LR LR
comp=Z,2µm,20.0s
ODNJ **Ogdensburg** **107.51** **52** PFAKE 05 31 40.0
ODNJ LR LR
comp=Z,2µm,19.0s
RAMN **Ramite** **107.73** **293** *e*P **PKiKP** **05 31 24.9 +0.1**
PAL **Palisades** **108.01** **52** PFAKE 05 31 40.0
PAL LR LR
comp=Z,2µm,20.0s
LONY **Lake Ozonia** **108.06** **48** PFAKE 05 31 40.0
LONY LR LR
comp=Z,2µm,18.0s
NCB **Newcomb** **108.22** **49** PFAKE 05 31 40.0
NCB LR LR
comp=Z,2µm,19.0s
PALK **Pallekele** **108.36** **272** PFAKE 05 31 40.0
PALK LR LR
comp=Z,1µm,22.0s
ACCN **Adirondack Com** **108.54** **49** PFAKE 05 31 40.0
ACCN LR LR
comp=Z,3µm,19.0s
YLE **Yale** **108.79** **52** PFAKE 05 31 40.0
YLE LR LR
comp=Z,2µm,18.0s
FRNY **Flat Rock** **108.79** **48** PFAKE 05 31 40.0
FRNY LR LR
comp=Z,2µm,18.0s
PKI **Pulchoki** **108.89** **294** *e*P **PKiKP** **05 31 26.1 -1.0**
PKIN **Phulchoki** **108.90** **294** *e*P **PKiKP** **05 31 25.8 -1.2**
CRPR **Cabo Rojo, PR** **109.44** **77** PFAKE 05 31 40.0
CRPR LR LR
comp=Z,1µm,19.0s
MPR **Mayaguez** **109.46** **77** PFAKE 05 31 40.0
MPR LR LR
comp=Z,800nm,20.0s
WMQ **Urumqi** **109.60** **311** Pdif **Pdif** **05 27 25.8 +1.2**
WMQ PP **PP** **05 32 03.0 +4.3**
WMQ AMB AMB
comp=Z,540nm,8.5s
WMQ LR LR
comp=Z,2µm,19.3s
WMQ LR LR
comp=Z,1µm,24.3s
WMQ LR LR
comp=Z,1µm,21.7s
LBNH **Lisbon** **109.90** **49** PFAKE 05 31 40.0
LBNH LR LR
comp=Z,3µm,19.0s
HRV **Adam Dziewonsk** **109.96** **51** PFAKE 05 31 40.0
HRV LR LR
comp=Z,4µm,20.0s
DANN **Dangsing** **110.47** **294** *e*P **PKiKP** **05 31 29.6 -0.4**
comp=Z,19nm,0.8s
KOLN **Koldanda** **110.50** **293** *e*P **PKiKP** **05 31 29.2 -0.7**
comp=Z,13nm,0.8s
TULEG **Thule** **110.86** **14** PFAKE 05 31 40.0
TULEG LR LR
comp=Z,3µm,20.0s
PTGA **Pitinga** **110.90** **98** PKKPbc PKKPbc 05 42 29.1 +1.4
comp=Z,4.6nm,1.0s,baz=111,slow=3.6,SNR=5.3
PTGA **Pitinga** **110.90** **98** PKKPbc PKKPbc 05 42 29.1 +1.4
PTGA LR LR
comp=Z,2µm,20.0s
PYUN **Piuthan** **111.09** **294** *e*P **PKiKP** **05 31 30.5 -0.6**
PKME **Peaks-Kenny Pk** **111.86** **48** PFAKE 05 31 40.0
PKME LR LR
comp=Z,2µm,19.0s
SPB **Sao Paulo** **111.93** **126** PFAKE 05 31 40.0
SPB LR LR
comp=Z,3µm,20.0s
ABVI **Anegada Island** **112.17** **77** PFAKE 05 31 50.0
ABVI LR LR
comp=Z,2µm,19.0s
ZAA1 **Zalesovo Array** **112.19** **322** *e*PKiKP **PKiKP** **05 31 31.6 -0.4**
ZALV **Zalesovo Beam** **112.19** **322** PKiKP **PKiKP** **05 31 31.6 -0.4**
comp=Z,2.4nm,0.5s,baz=96,slow=1.0,SNR=4.7
NVS **Novosibirsk** **113.12** **322** *e*PKiKP **PKiKP** **05 31 31.9 -1.9**
SEUS **St. Eustatius** **113.15** **78** PFAKE 05 31 50.0
SEUS LR LR
comp=Z,900nm,21.0s
SMRT **St. Maarten** **113.19** **78** PFAKE 05 31 50.0
SMRT LR LR
comp=Z,900nm,21.0s
GGN **Saint George** **113.58** **48** PFAKE 05 31 50.0
GGN LR LR
comp=Z,2µm,18.0s
MK31 **Makanchi Array** **113.64** **314** *i* PKiKP **PKiKP** **05 31 34.5 -0.6**
MK31 pmax pmax
comp=Z,5.0nm,0.6s
MK32 **Makanchi Array** **113.64** **314** *e*Pdif **Pdif** **05 27 43.5 +1.0**
MK32 *e*PKiKP **PKiKP** **05 31 34.8 -0.3**
MK32 *e*PKKPbc **PKKPbc** **05 42 18.8 -0.9**
MKAR **Makanchi Array** **113.64** **314** Pdiff **Pdif** **05 27 43.5 +1.0**
comp=Z,0.5nm,0.8s,baz=62,slow=6.2,SNR=3.9
MKAR PKiKP **PKiKP** **05 31 34.8 -0.3**
comp=Z,5.2nm,0.5s,baz=147,slow=0.3,SNR=61
MKAR PKKPbc **PKKPbc** **05 42 18.8 -0.9**
comp=Z,3.8nm,0.9s,baz=266,slow=3.0,SNR=14
SCHQ **Schefferville** **113.68** **38** PFAKE 05 31 50.0
SCHQ LR LR
comp=Z,2µm,20.0s
BATG **Bathurst New B** **114.20** **46** PFAKE 05 31 50.0 +14
BATG LR LR
comp=Z,3µm,19.0s
LMN **Caledonia Moun** **115.04** **47** PFAKE 05 31 50.0 +12
LMN LR LR
comp=Z,3µm,19.0s
HMDM **Hanimaadhoo** **115.36** **269** PFAKE 05 31 50.0 +11
HMDM LR LR
comp=Z,800nm,19.0s
PDGK **Podgornoye** **115.51** **310** PKiKP **PKPdf** **05 31 38.2 -0.7**
PDGK pmax pmax
comp=Z,9.0nm,1.0s
BDFB **Brasilia** **115.56** **118** PKP **PKPdf** **05 31 38.8 -1.1**
comp=Z,4.2nm,0.9s,baz=211,slow=7.6,SNR=4.9
BDFB **Brasilia** **115.56** **118** *e*PKPdf **PKPdf** **05 31 38.8 -1.1**

BDFB LR LR
comp=Z,1μm,19.0s
KURK Kurchatov 116.04 318 *e*PKPdf **PKPdf** 05 31 39.3 -0.3
KURK *e*PP **PP** 05 32 41.2 -3.0
KURK Kurchatov 116.04 318 P **PKPdf** 05 31 39.6 +0.1
SNR=5.1
KURK Kurchatov 116.04 318*c i*PKIKP **PKPdf** 05 31 39.4 -0.1
KURK pmax pmax
comp=Z,58nm,0.8s
KURBB Kurchatov Arra 116.11 318 PKP **PKPdf** 05 31 39.1 -0.5
comp=Z,5.9nm,0.6s,baz=90,slow=1.8,SNR=8.0
KURBB PP **PP** 05 32 41.2 -3.5
comp=Z,2.2nm,0.9s,baz=88,slow=7.2,SNR=11
KURBB PKKPbc **PKKPbc** 05 42 10.2 -0.9
comp=Z,5.6nm,1.0s,baz=264,slow=4.5,SNR=24
KDJ Kajisay 117.19 308 PFAKE 05 31 50.0 +7.7
KDJ LR LR
comp=Z,900nm,22.0s
POO Poona 117.61 282 *e*P PKPpre 05 31 31.0
KSH Kashi 118.06 305 PKP **PKPdf** 05 31 44.9 +0.9
KSH PP **PP** 05 33 06.1 +7.2
KSH SS SS 05 49 19.3 +4.9
KSH AMB AMB
comp=Z,910nm,8.0s
KSH LR LR
comp=Z,850nm,13.6s
KSH LR LR
comp=Z,960nm,14.2s
KSH LR LR
comp=Z,2μm,21.3s
NRN Naryn 118.07 308 *e*PKPdf **PKPdf** 05 31 44.5 +0.3
NRN LR LR
comp=Z,700nm,20.0s
NRN Naryn 118.07 308 *e*PKIKP **PKPdf** 05 31 44.5 +0.3
NRN MLR MLR
comp=Z,700nm,20.0s
TKM2 Tokmak 2 118.36 309 P **PKPdf** 05 31 44.5 -0.1
SNR=10
TKM2 Tokmak 2 118.36 309 PKIKP **PKPdf** 05 31 44.1 -0.4
TKM2 pmax pmax
comp=Z,9.0nm,0.8s
KBK Karagaybulak 118.84 309 P **PKPdf** 05 31 45.6 +0.2
SNR=7.8
CHMS Chumysh 118.98 309 P **PKPdf** 05 31 45.5 0.0
SNR=5.9
USP Ospenovka 119.16 310 P **PKPdf** 05 31 46.2 +0.4
SNR=6.9
UCH Uchtor 119.17 309 P **PKPdf** 05 31 47.1 +0.7
SNR=15
AAK Ala-Archa 119.18 309 PKP **PKPdf** 05 31 45.7 -0.3
comp=Z,3.3nm,0.6s,baz=167,slow=2.1,SNR=11
AAK PKKPbc **PKKPbc** 05 41 58.6 -1.5
comp=Z,3.5nm,0.8s,baz=227,slow=2.7,SNR=6.1
AAK Ala-Archa 119.18 309 P **PKPdf** 05 31 46.3 +0.2
SNR=5.8
AAK Ala-Archa 119.18 309 *e*PKPdf **PKPdf** 05 31 46.2 +0.2
AAK Ala-Archa 119.18 309 *i* PKiKP **PKPdf** 05 31 46.4 +0.2
SNR=6.9
AAK Ala-Archa 119.18 309*c i*PKIKP **PKPdf** 05 31 46.4 +0.3
AAK pmax pmax
comp=Z,10.0nm,0.8s
KBS Kingsbay 119.35 359 *e*PKPdf **PKPdf** 05 31 46.1 +0.9
KBS Kingsbay 119.35 359 *e*PKIKP **PKPdf** 05 31 46.1 +0.9
EKS2 Erkin-Say 119.70 309 P **PKPdf** 05 31 47.4 +0.4
SNR=6.9
SUMG Summit 119.77 14 *e*PKPdf **PKPdf** 05 31 46.9 +0.3
SUMG Summit 119.77 14 *i* P **PKPdf** 05 31 46.7 +0.1
comp=Z,73nm,1.0s
SUMG Summit 119.77 14 *i* P **PKKPab** 05 41 57.3 0.0
comp=Z,28nm,0.9s
SUMG Summit 119.77 14 *i* PKIKP **PKPdf** 05 31 46.7 +0.1
SUMG pmax pmax
comp=Z,73nm,1.0s
AML Almayashu 119.78 308 P **PKPdf** 05 31 48.1 +0.5
SNR=21
SFK Sufi-Kurgan 119.97 306 PKIKP **PKPdf** 05 31 47.8 0.0
SFK pmax pmax
comp=Z,31nm,1.0s
SPA0 Spitsbergen Ar 119.99 358 *e*PKPdf **PKPdf** 05 31 46.9 +0.4
SPITS Spitsbergen Ar 119.99 358 PKP **PKPdf** 05 31 46.4 0.0
comp=Z,50nm,0.9s,baz=39,slow=7.4,SNR=15
DAG Danmarks Havn 120.03 7 *i* P **PKPdf** 05 31 45.8 -0.7
comp=Z,15nm,1.0s
DAG Danmarks Havn 120.03 7 *i* PKIKP **PKPdf** 05 31 45.8 -0.7
DAG pmax pmax
comp=Z,15nm,1.0s
OTUK Ortayu 120.32 316 PKIKP **PKPdf** 05 31 47.1 -0.8
OTUK pmax pmax
comp=Z,14nm,0.8s
MNAS Manas 120.65 309 PKIKP **PKPdf** 05 31 48.7 -0.2
MNAS pmax pmax
comp=Z,18nm,0.8s
BVA0 Borovoye Array 120.85 321 *i* PKIKP **PKPdf** 05 31 48.1 -0.6
BVA0 pmax pmax
comp=Z,22nm,0.9s
BVAR Borovoye Array 120.85 321 PKP **PKPdf** 05 31 48.5 -0.3
comp=Z,14nm,0.6s,baz=85,slow=1.6,SNR=63
BVAR PKKPbc **PKKPab** 05 41 52.8 +0.1
comp=Z,2.6nm,0.9s,baz=231,slow=18,SNR=7.5
BRVK Borovoye 120.90 321 *e*PKPdf **PKPdf** 05 31 48.8 -0.1
BRVK Borovoye 120.90 321 P **PKPdf** 05 31 49.2 +0.4
SNR=8.3
BRVK Borovoye 120.90 321*c i*PKIKP **PKPdf** 05 31 48.7 -0.1
BRVK pmax pmax
comp=Z,129nm,2.5s
KK31 Karatay Array 122.08 310 *e*PKPdf **PKPdf** 05 31 51.3 -0.2
KK31 Karatay Array 122.08 310 *i* PKIKP **PKPdf** 05 31 50.7 -0.7
KK31 pmax pmax
comp=Z,8.0nm,1.0s
KKAR Karatay Array 122.08 310 *e*PKPdf **PKPdf** 05 31 51.1 -0.3
KKAR Karatay Array 122.08 310 *e*PKIKP **PKPdf** 05 31 51.1 -0.3
NRS Narsarsuaq 123.36 28 *i* P **PKPdf** 05 31 52.5 -0.8
comp=Z,36nm,1.1s
NRS Narsarsuaq 123.36 28 *i* PKIKP **PKPdf** 05 31 52.5 -0.8
NRS pmax pmax
comp=Z,36nm,1.1s
KBL Kabul 123.56 300 *e*PKPdf **PKPdf** 05 31 55.5 +0.7
KBL Kabul 123.56 300 *e*PKIKP **PKPdf** 05 31 55.5 +0.7
SCO Scoresbysund 124.90 12 *e*PKPdf **PKPdf** 05 31 56.9 +0.9
SCO Scoresbysund 124.90 12 *i* P **PKPdf** 05 31 56.9 +0.9
comp=Z,61nm,1.1s
SCO Scoresbysund 124.90 12 *i* PKIKP **PKPdf** 05 31 56.9 +0.9
SCO pmax pmax
comp=Z,61nm,1.1s
SVE Sverdlovsk 125.18 328⇓*i*PKIKP **PKPdf** 05 31 57.6 +0.7
SVE pmax pmax
comp=Z,21nm,1.0s
ABPO Ambohimpanom 126.29 228 *e*PKPdf **PKPdf** 05 32 00.8 +0.4
ABPO LR LR
comp=Z,900nm,19.0s
ARU Arti 126.39 328 PKP **PKPdf** 05 31 59.2 0.0
comp=Z,12nm,0.9s,baz=89,slow=1.8,SNR=16
KEV Kevo 127.26 352 *e*PKPdf **PKPdf** 05 32 01.0 +0.5
KEV Kevo 127.26 352 *e*PKIKP **PKPdf** 05 32 01.0 +0.5
LVZ Lovozero 127.59 348 *e*PKPdf **PKPdf** 05 32 01.4 +0.1
LVZ Lovozero 127.59 348*c i*PKIKP **PKPdf** 05 32 02.2 +0.9
ARA0 ARCESS Array S 127.66 352 *e*PKPdf **PKPdf** 05 32 01.8 +0.5
ARCES ARCESS Array B 127.66 352 PKP **PKPdf** 05 32 01.8 +0.5
comp=Z,35nm,0.8s,baz=349,slow=1.2,SNR=46
ARE0 ARCESS Array S 127.66 352 *e*PKPdf **PKPdf** 05 32 01.5 +0.2
SUR Sutherland 128.02 194 *e*PKPdf **PKPdf** 05 32 03.1 -0.4
APA Apatity 128.13 348⇑*i*PKIKP **PKPdf** 05 31 59.8 -2.4
APA pmax pmax
comp=Z,15nm,1.0s
AB31 Akbulak array 128.14 319 *i* PKIKP **PKPdf** 05 32 02.4 -0.4
AB31 pmax pmax
comp=Z,12nm,1.2s
ABKAR Akbulak array 128.14 319 *e*PKPdf **PKPdf** 05 32 03.4 +0.6
AKTO Aktyubinsk 128.94 321 PKHKP PKPpre 05 32 02.3
comp=Z,2.8nm,1.0s,baz=116,slow=3.5,SNR=8.9
AKTO Aktyubinsk 128.94 321 PKIKP **PKPdf** 05 32 03.7 -0.6
AKTO pmax pmax
comp=Z,9.0nm,1.3s
PRGR Permogore 129.25 338 *e*PKIKP **PKPdf** 05 32 04.0 -0.5
PRGR pmax pmax
comp=Z,27nm,1.0s
BOSA Boshof 130.33 200 PKP **PKPdf** 05 32 07.8 0.0
comp=Z,39nm,0.9s,baz=159,slow=2.7,SNR=28
BOSA Boshof 130.33 200 *e*PKPdf **PKPdf** 05 32 08.4 +0.5
RCBR Riachuelo 130.73 115 PFAKE 05 32 20.0 +11
RCBR LR LR
comp=Z,2μm,20.0s
KLMR Klimovskoe 131.91 340 *e*PKIKP **PKPdf** 05 32 07.9 -1.6
KLMR pmax pmax
comp=Z,32nm,1.4s
KLMR Klimovskoe 131.91 340 *e*PKPdf **PKPdf** 05 32 08.0 -1.6
KLMR AMP 05 32 11.6
comp=Z,32nm,1.4s
GEYT Alibeck 132.09 305 PKhKP PKPpre 05 32 00.8
comp=Z,1.2nm,0.6s,baz=302,slow=2.7,SNR=2.9
GEYT PKP **PKPdf** 05 32 11.0 +0.2
comp=Z,10nm,0.9s,baz=269,slow=5.9,SNR=18
GEYT PP **PP** 05 34 31.0 -1.5
comp=Z,1.2nm,0.7s,baz=96,slow=15,SNR=2.7
GYA0B ALIBECK ARRAY 132.09 305 *e*PKPdf **PKPdf** 05 32 11.3 +0.6
GYA0B LR LR
comp=Z,700nm,21.0s
LBTB Lobatse 133.51 203 *e*PKPdf **PKPdf** 05 32 15.2 +1.2
MDH Madha 134.57 288 PKPdf **PKPdf** 05 32 13.6 -2.1
UOSS Minazif 134.64 287 *e*PKPdf **PKPdf** 05 32 15.6 -0.3
UOSS Minazif 134.64 287 PKiKP **PKPdf** 05 32 16.2 +0.4
HATD Hatta, Dubai 134.70 287 *i* PKPdf **PKPdf** 05 32 15.6 -0.4
SNR=8.9
SHME Shamm 134.72 289 PKPdf **PKPdf** 05 32 15.5 -0.6
ASHO Ashiyiah 134.77 287 *i* PKPdf **PKPdf** 05 32 15.7 -0.5
SNR=9.2
ALNE Al Ain 135.02 286 PKiKP **PKPdf** 05 32 17.3 +0.7
FIA1 FINESS Array S 135.04 348 *e*PKPdf **PKPdf** 05 32 14.9 -0.5
FIA0 FINESS Array S 135.04 348 *e*PKPpre PKPpre 05 32 05.2
FIA0 *e*PKPdf **PKPdf** 05 32 14.8 -0.7
FIA0 *e*SKKSac SKKSac 05 41 57.5 +12
FIA0 FINESS Array S 135.04 348 *e*PKHKP PKPpre 05 32 05.2
FIA0 *e* 05 32 14.8
FINES FINESS Array B 135.04 348 PKhKP PKPpre 05 32 05.2
comp=Z,1.3nm,0.8s,baz=54,slow=3.3,SNR=3.7
FINES PKP **PKPdf** 05 32 14.8 -0.7
comp=Z,31nm,1.0s,baz=345,slow=3.0,SNR=8.2
FINES PKKP **PKKPdf** 05 41 57.5 -3.3
comp=Z,3.0nm,1.0s,baz=222,slow=1.9,SNR=4.0
NAZ Nazwa, Dubai 135.13 287 PKPdf **PKPdf** 05 32 15.8 -1.0
FAQ Al Faqa, Dubai 135.19 287 PKPdf **PKPdf** 05 32 16.6 -0.3
ASUD Al Ashush, Dub 135.43 287 PKPdf **PKPdf** 05 32 15.3 -2.1
MOS Moscow 136.36 336 *e*PKIKP **PKPdf** 05 32 19.5 +1.4
MOS MLR MLR
comp=Z,700nm,22.0s
NC303 NORSAR Array S 137.09 357 *e*PKPdf **PKPdf** 05 32 20.1 +0.7
OBN Obninsk 137.23 336 *e*PKPdf **PKPdf** 05 32 20.3 +0.6
OBN Obninsk 137.23 336*c i*PKIKP **PKPdf** 05 32 18.7 -1.0
OBN *e* 05 35 01.4
OBN *e*SSS SSS 05 58 16.2
OBN pmax pmax
comp=Z,52nm,1.3s
NB201 NORSAR Array S 137.27 357 *e*PKPdf **PKPdf** 05 32 20.1 +0.4
NB2 NORSAR Subarra 137.29 357 PKP **PKPdf** 05 32 19.6 -0.1
comp=Z,93nm,2.0s,baz=11,slow=4.1
NB2 NORSAR Subarra 137.29 357 PKP **PKPdf** 05 32 19.6 -0.1
baz=11,slow=4.1
NB200 NORSAR Array S 137.29 357 *e*PKPdf **PKPdf** 05 32 20.0 +0.2
NB200 *e*PP **PP** 05 34 58.1 -5.9
NOA NORSAR Array B 137.29 357 PKP **PKPdf** 05 32 20.0 +0.2
comp=Z,9.3nm,0.9s,baz=13,slow=4.1,SNR=11
NOA PP **PP** 05 34 58.1 -5.9
comp=Z,1.2nm,1.0s,baz=8.1,slow=6.3,SNR=2.2
NOA NORSAR Array B 137.29 357 PKIKP **PKPdf** 05 32 20.0 +0.2
NOA pmax pmax
comp=Z,9.0nm,0.9s
NOA pmax pmax
comp=Z,1.0nm,1.0s
NBO00 NORSAR Array S 137.31 358 *e*PKPdf **PKPdf** 05 32 20.3 +0.6
NAO01 NORSAR Array S 137.49 358 *e*PKPdf **PKPdf** 05 32 20.5 +0.4
NC602 NORSAR Array S 137.58 357 *e*PKPdf **PKPdf** 05 32 20.4 +0.2
VSU Vasula 137.58 345 *e*P **PKPdf** 05 32 19.2 -1.1
VSU IAmb IAmb 05 32 23.0
comp=Z,92nm,1.1s
VSU Vasula 137.58 345*c i*PKIKP **PKPdf** 05 32 19.6 -0.6
VRH Novokhopyorsk 137.61 329 *e*PKIKP **PKPdf** 05 32 21.0 +0.5
VRH pmax pmax
comp=Z,10.0nm,0.8s
LPSR Galich'ya Gora 138.02 332 *e*PKIKP PKPpre 05 32 17.7
LPSR pmax pmax
comp=Z,10.0nm,0.8s
MAK Makhachkala 138.44 315 *i* PKIKP **PKPdf** 05 32 24.0 +1.7
MAK *e* 05 35 11.6
MAK pmax pmax
comp=Z,85nm,0.9s
KONO Kongsberg 138.73 359*c i*PKIKP **PKPdf** 05 32 21.7 -0.7
KONO pmax pmax
comp=Z,25nm,1.3s
VSR Storozhevoye 138.84 330 *i* PKIKP **PKPdf** 05 32 23.0 +0.2
IZAR Zarasai 140.11 344 *e*P PKPpre 05 32 18.7
IZAR IAmb IAmb 05 32 23.3
comp=Z,8.5nm,0.7s
ISAL Salakas 140.30 344 *e*P PKPpre 05 32 20.5
ISAL IAmb IAmb 05 32 27.1
comp=Z,11nm,0.8s
GOF Gofitskoye 140.35 320 *e*PKHKP PKPpre 05 32 19.5
IDID Didziasalis 140.36 343 *e*P PKPpre 05 32 18.7
IDID IAmb IAmb 05 32 27.1
comp=Z,12nm,0.9s
H07S1 FLORES T-PHASE 140.40 50 *e*PKP **PKPdf** 05 32 26.9 +0.8
IIGN Ignalina 140.47 343 *e*P PKPpre 05 32 19.5
IIGN IAmb IAmb 05 32 27.6
comp=Z,13nm,0.9s
NCK Nalchik 140.77 318 *i* PKIKP **PKPdf** 05 32 26.4 -0.2
ZEI Tsey 140.90 316 *i* PKHKP PKPpre 05 32 20.6
ZEI pmax pmax
comp=Z,14nm,1.0s
LSZ Lusaka 140.97 212 *e*PKPdf **PKPdf** 05 32 27.6 -0.4
LSZ LR LR
comp=Z,900nm,18.0s
KBZ Khabaz 141.10 318 PKhKP PKPpre 05 32 22.4
comp=Z,11nm,1.0s,baz=212,slow=0.3,SNR=16
KBZ PP **PP** 05 35 24.3 -4.1
comp=Z,0.5nm,0.4s,baz=37,slow=8.3,SNR=2.4
KIV Kislovodsk 141.12 319 *e*PKPpre PKPpre 05 32 23.2
KIV LR LR
comp=Z,600nm,20.0s
KIV Kislovodsk 141.12 319 *e*PKIKP PKPpre 05 32 23.4
KIV *i* 05 32 26.8
KIV *e* 05 35 25.1
KIV *e*SS SS 05 53 51.0 -6.5
KIV pmax pmax
comp=Z,37nm,1.1s
KIV MLR MLR
comp=Z,663nm,24.0s
TSUM Tsumeb 141.44 195 *e*PKPpre PKPpre 05 32 20.9
TSUM LR LR
comp=Z,2μm,20.0s
NEY Neytrino 141.45 318 *i* PKIKP **PKPdf** 05 32 27.7 -0.4
GNI Garni 141.46 312 PFAKE 05 32 40.0 +12
GNI LR LR
comp=Z,500nm,21.0s
GNI Garni 141.46 312 *i* PKIKP **PKPdf** 05 32 27.8 -0.4
AKH Akhalkalaki 141.79 315 *e*PKPdf **PKPdf** 05 32 26.4 -2.4
AKH LR LR
comp=Z,800nm,20.0s
AKH Akhalkalaki 141.79 315⇑*i*P PKPpre 05 32 23.6
MUD Monsted U'grnd 141.94 359 *i* P PKPpre 05 32 23.5
comp=Z,22nm,1.0s
MUD Monsted U'grnd 141.94 359 *i* PKHKP PKPpre 05 32 23.5
MUD pmax pmax
comp=Z,22nm,1.0s
SUW Suwalki 142.45 345 *e*PKP PKPpre 05 32 25.3
SUW Suwalki 142.45 345 *e*PKPpre PKPpre 05 32 25.1
SUW Suwalki 142.45 345 *e*PKIKP PKPpre 05 32 25.1
EDMD Edmundbyers 142.84 9 *e*P **PKPdf** 05 32 27.3 -2.6
BSD Bornholm Skovb 142.89 353 *i* P **PKPdf** 05 32 26.1 -3.9
comp=Z,53nm,1.1s
BSD Bornholm Skovb 142.89 353 *e*PKIKP **PKPdf** 05 32 26.1 -3.9
BSD pmax pmax
comp=Z,53nm,1.1s
TUTA Tutak 143.12 312 *i* P PKPbc 05 32 29.6 +1.5
EATA Eleskirt 143.15 313 *i* P PKPbc 05 32 29.7 +1.4
ADCV BITLIS_Adilcev 143.43 311 *i* P **PKPdf** 05 32 30.6 -1.2
AKASG Malin Array Be 143.46 337 PKhKP PKPpre 05 32 27.7
comp=Z,5.5nm,0.5s,baz=38,slow=4.2,SNR=31
AKBB Malin Array Si 143.46 337 *e*PKPpre PKPbc 05 32 27.9 -0.3
AKBB Malin Array Si 143.46 337 *e*PKIKP PKPbc 05 32 27.9 -0.4
KIEV Kiev 143.47 337 *e*PKPpre PKPpre 05 32 28.0
KIEV Kiev 143.47 337 *i* PKPdf PKPbc 05 32 28.5 +0.2
SNR=9.5
KIEV Kiev 143.47 337 *i* PKIKP PKPbc 05 32 28.0 -0.3
HOMI Horasan 143.48 314 *i* P **PKPdf** 05 32 31.0 -0.9
DSB Dublin 143.49 14 *e*PKPpre PKPpre 05 32 27.1
AK11 Malin Array Si 143.50 337 *e*PKPpre PKPpre 05 32 28.5
EKAR Karacoban 143.71 312 *i* P **PKPdf** 05 32 31.9 -0.4
ANN Anapa 143.80 323 *i* PKIKP PKPbc 05 32 29.4 -0.1
ANN pmax pmax
comp=Z,96nm,2.2s
WPM1 Penmaenmawr 144.01 12 *e*P PKPbc 05 32 30.7 +0.8
LBWR Ladybower, Pea 144.26 10 *e*P PKPbc 05 32 31.4 +0.8
GKP Gorka Klasztor 144.37 350 *e*PKP PKPbc 05 32 30.9 0.0
GKP Gorka Klasztor 144.37 350 *e*PKIKP PKPbc 05 32 30.9 -0.1
RAYN Ar Rayn 144.40 285 *e*PKPdf **PKPdf** 05 32 33.1 -0.6
RAYN LR LR
comp=Z,600nm,22.0s
RAYN Ar Rayn 144.40 285 *i* PKPdf **PKPdf** 05 32 33.0 -0.7
SNR=18
RAYN Ar Rayn 144.40 285 *e*PKIKP **PKPdf** 05 32 33.1 -0.6
RAYN MLR MLR
comp=Z,600nm,22.0s
LLW Llanuwchllyn 144.44 12 *e*P PKPbc 05 32 31.6 +0.4
BNGL BINGOL 144.48 312 *i* P **PKPdf** 05 32 34.6 +1.0
FOEL Foel Wylfa 144.49 11 *e*P PKPbc 05 32 32.1 +0.7
DAMY Dhamar 144.66 269 *e*PKPdf **PKPdf** 05 32 35.8 +1.1
DAMY LR LR
comp=Z,800nm,20.0s
HLM1 Long Mynd 144.90 11 *e*P **PKPab** 05 32 32.6 -0.1
CWF Charnwood Fore 144.96 10 *e*P PKPbc 05 32 32.9 0.0
BEL Belsk 145.03 346 *e*PKP **PKPdf** 05 32 34.1 +0.3
BEL Belsk 145.03 346 *e*PKIKP **PKPdf** 05 32 34.1 +0.3
RSBS Rosebush, Pemb 145.06 13⇓*e*P **PKPab** 05 32 33.5 +0.3
KMBO Kilima Mbogo 145.09 239 PKP **PKPdf** 05 32 35.6 +0.2
comp=Z,114nm,1.0s,baz=94,slow=3.3,SNR=139
KMBO Kilima Mbogo 145.09 239 *e*PKPbc **PKPdf** 05 32 35.8 +0.3
KMBO LR LR
comp=Z,700nm,20.0s
KMBO Kilima Mbogo 145.09 239 P **PKPdf** 05 32 36.3 +0.9
SNR=70
KMBO Kilima Mbogo 145.09 239 *i* PKPdf **PKPab** 05 32 35.1 +0.2
SNR=158
CMLA Cha da Macela 145.12 49 *e*PKP **PKPdf** 05 32 35.1 +0.6
CMLA Cha da Macela 145.12 49 *e*PKPbc **PKPdf** 05 32 35.6 +1.1
CMLA Cha da Macela 145.12 49 *e*PKIKP **PKPdf** 05 32 35.6 +1.1
PCALD Caldeiras da R 145.14 49 *e*PKP **PKPdf** 05 32 35.0 +0.5
NAI Nairobi 145.37 239 *e*PKPbc **PKPdf** 05 32 37.3 +1.4
NAI LR LR
comp=Z,800nm,19.0s
BART Pico Bartolome 145.38 49 *e*PKP **PKPab** 05 32 35.6 +0.6
MCH1 Michaelchurch 145.38 12⇓*e*P **PKPbc** 05 32 33.8 -0.5
ATD Arta Tunnel 145.43 264 *e*PKPbc **PKPab** 05 32 37.9 +2.0
ATD LR LR
comp=Z,700nm,21.0s
SIM Simferopol' 145.53 326*d i*PKIKP **PKPab** 05 32 36.2 +1.0
SIM pmax pmax
comp=Z,74nm,0.9s
PSMA Santa Maria 145.73 50 *e*PKP **PKPab** 05 32 36.4 +0.2
STRD Stroud 145.75 11⇓*e*P **PKPdf** 05 32 34.2 -0.8
PSMN Pico do Norte, 145.77 50 *e*PKP **PKPbc** 05 32 36.2 +0.2
OLDB Oldbury-Upon-S 145.78 11⇓*e*P **PKPdf** 05 32 34.5 -0.6
LVV L'vov 145.98 341 *e*PKP2 **PKPbc** 05 32 36.3 0.0
ASCN Ascension 145.99 138 *e*PKPdf **PKPab** 05 32 37.8 0.0
HTL Hartland 146.01 14 *e*P **PKPdf** 05 32 35.8 +0.2
BATH Bath 146.03 11⇓*e*P **PKPab** 05 32 36.8 -0.1
SWN1 Swindon 146.06 11⇓*e*P **PKPbc** 05 32 36.3 -0.2
HEX Exmoor 146.10 13 *e*P **PKPab** 05 32 37.2 0.0
WTSB Winterswijk 146.45 1 *e*PKPdf **PKPdf** 05 32 36.3 +0.1
comp=Z,31nm,1.0s
WTSB *e*PKPbc **PKPab** 05 32 38.3 -0.1
comp=Z,558nm,1.2s
KWP Kalwaria Pacla 146.54 342 *e*PKP **PKPab** 05 32 38.9 0.0
KWP Kalwaria Pacla 146.54 342 *e*PKPdf **PKPbc** 05 32 37.3 -0.7
KWP Kalwaria Pacla 146.54 342 *e*PKP2 **PKPab** 05 32 38.9 0.0
KIS Kishinev 146.58 333⇓*i*PKP **PKPdf** 05 32 36.0 -0.6
KIS M M 05 32 38.0
comp=Z,1μm,2.5s
KIS Kishinev 146.58 333 *i* PsP 05 32 56.0
KIS Kishinev 146.58 333 *e*PP PP 05 36 15.0 +14
KIS Kishinev 146.58 333*k i*PKIKP **PKPdf** 05 32 36.0 -0.6
KIS pmax pmax
comp=Z,1μm,2.5s
KIS pmax pmax
comp=Z,3μm,6.0s
KIS MLR MLR
comp=Z,700nm,20.0s
KIS MLR MLR
comp=Z,700nm,22.0s
CCA1 Carnmenellis 146.59 15⇓*e*P **PKPbc** 05 32 38.5 +0.4
OJC Ojcow 146.76 346 *e*PKPdf **PKPdf** 05 32 37.1 +0.2
OJC *e*PKPab **PKPab** 05 32 39.6 -0.1
OJC Ojcow 146.76 346 *e*PKPdf **PKPdf** 05 32 36.7 -0.2
OJC Ojcow 146.76 346 *e*PKIKP **PKPdf** 05 32 37.1 +0.2
CLL Collm 146.85 354 *e*PKPdf **PKPdf** 05 32 37.3 +0.4
CLL *e*PKPbc **sPKPdf** 05 32 39.3 -0.5
CLL Collm 146.85 354 *e*PKPdf **PKPbc** 05 32 38.0 -0.8
CLL ⇓*i*PKPbc **sPKPdf** 05 32 39.6 -0.2
comp=Z,268nm,1.1s
CLL *i* PKPab **PKiKP** 05 32 41.3 -0.1
comp=Z,168nm,1.2s
CLL *es*PKPbc pPKPab 05 32 42.0 -0.1
comp=Z,1μm,18.4s
CLL *e* 05 33 00.0
CLL *e*(PP) 05 35 57.0
CLL *e*PSKS 05 46 15.0
CLL *e*PPPrev 05 47 00.0
CLL *e*PPS PPS 05 48 42.0
CLL *e*SS SS 05 55 00.0 -1.3
CLL *e*PSPS 05 56 12.0
CLL *e*SSS SSS 06 00 36.0
CLL *e*SSSS 06 04 30.0
CLL Lm MLR 06 45 00.0
comp=N,700nm,19.6s
CLL Lm MLR 06 45 00.0
comp=E,800nm,20.3s
CLL Lm MLR 06 45 00.0
comp=Z,1μm,19.6s
CLL Collm 146.85 354⇓*e*PKP2 **PKPbc** 05 32 38.0 -0.8
CLL pmax pmax
comp=Z,268nm,1.1s
CLL MLR MLR
comp=Z,1μm,19.6s
KSP Ksiaz 146.87 350 *e*PKPdf **PKPbc** 05 32 38.1 -0.7
KSP *e*PKPab **PKPab** 05 32 40.2 +0.1
KSP Ksiaz 146.87 350 *e*PKP2 **PKPbc** 05 32 38.1 -0.7
IAS Iasi 146.94 335⇓*i*P **PKPbc** 05 32 39.4 +0.2
IAS Iasi 146.94 335⇓PKP2 **PKPbc** 05 32 39.4 +0.2
HMNX Herstmonceux 147.03 9 *e*P **PKPab** 05 32 40.1 -0.6
BRG Berggiesshubel 147.17 353 *i* PKP **PKPdf** 05 32 38.2 +0.7
comp=Z,43nm,1.3s
BRG *i* 05 32 40.6
comp=Z,171nm,1.2s
BRG *i* 05 32 44.1
comp=Z,179nm,1.6s
BRG SS SS 05 55 09.0 +4.0
comp=Z,1μm,23.3s
comp=N,1μm,22.7s
comp=E,830nm,22.7s
BRG Berggiesshubel 147.17 353 *i* PKIKP **PKPdf** 05 32 38.2 +0.7
BRG *i* 05 32 40.6
BRG *i* 05 32 44.1
BRG SS SS 05 55 09.0 +4.0
BRG pmax pmax
comp=Z,2.0nm,1.3s
BRG pmax pmax
comp=Z,43nm,1.2s
BRG pmax pmax
comp=Z,171nm,1.6s
BRG MLR MLR
comp=Z,179μm,23.3s
BRG MLR MLR
comp=N,1μm,22.7s
BRG MLR MLR
comp=E,1μm,22.7s
LEOM Leova 147.23 333⇓*i*P **PKPab** 05 32 41.2 -0.5
LEOM Leova 147.23 333⇓PKP2 **PKPab** 05 32 41.2 -0.5
DPC Dobruska-Polom 147.34 350 *e*PKP **PKPbc** 05 32 39.6 -0.7
DPC *ep*PKP **pPKPbc** 05 32 41.8 -0.6
DPC AMS AMS 06 36 50.0
comp=E,1μm,21.8s
DPC Dobruska-Polom 147.34 350 *e*PKP2 **PKPbc** 05 32 39.6 -0.7
DPC MLR MLR
comp=Z,1μm,21.8s
NIE Niedzica 147.39 345 *e*PKPdf **PKPbc** 05 32 39.4 -1.0
NIE *e*PKPab **pPKPbc** 05 32 41.9 -0.6
NIE Niedzica 147.39 345 *e*PKP2 **PKPbc** 05 32 39.4 -1.0
PVCC Panska Ves 147.43 352 *e*PKP **PKPab** 05 32 41.9 -0.4
PVCC *ep*PKP **sPKPab** 05 32 44.7 -0.4
PVCC AMS AMS 06 46 20.0
comp=Z,2μm,20.5s
PVCC Panska Ves 147.43 352 *e*PKP2 **PKPab** 05 32 41.9 -0.4
PVCC MLR MLR
comp=Z,2μm,20.5s
BUR08 Bucovina Ar. S 147.47 338 *e*PKPdf **PKPdf** 05 32 38.6 +0.4

BUR04 **Bucovina Ar. S** 147.49 338 ePKPdf **PKPdf** 05 32 38.8 +0.5
OKC **Ostrava-Krasne** 147.49 347 AMS AMS 06 45 50.0
comp=Z,1µm,17.7s
UCC **Uccle** 147.51 4 ePKPdf **PKPdf** 05 32 38.6 +0.6
UCC ePKPbc **pPKPbc** 05 32 41.7 -1.0
UCC **Uccle** 147.51 4 ePKIKP **PKPdf** 05 32 38.6 +0.6
UCC e 05 32 41.7
UCC **Uccle** 147.51 4 ⇓PKPbc **PKPdf** 05 32 38.7 +0.6
UCC ⇓PKPbc **PKPbc** 05 32 41.4 +0.8
KRLC **Kraliky** 147.52 349 ePKP **PKPab** 05 32 41.9 -0.9
KRLC **Kraliky** 147.52 349 ePKP2 **PKPab** 05 32 41.9 -0.9
UZH **Uzhgorod** 147.56 342 ePKP2 **PKPbc** 05 32 39.8 -1.0
BEBN **Eben Emael** 147.59 2 ⇓PKPbc **PKPdf** 05 32 38.9 +0.7
BEBN ⇓PKPab **PKPbc** 05 32 41.6 +0.8
HGN **Heimansgroeve** 147.63 2 ePKPdf **PKPdf** 05 32 38.6 +0.4
comp=Z,24nm,0.9s
HGN eP **PKPdf** 05 32 38.9 +0.6
comp=Z,469nm,2.0s
HGN ePKPbc **PKPbc** 05 32 41.5 +0.6
comp=Z,1µm,2.8s
HGN **Heimansgroeve** 147.63 2 eSS SS 05 55 09.6 -0.5
MORC **Moravsky Berou** 147.67 348 ePKPdf **PKPdf** 05 32 39.2 +0.8
MORC ePKPbc **pPKPbc** 05 32 42.5 -0.8
MORC **Moravsky Berou** 147.67 348 ⇑P **PKPdf** 05 32 39.0 +0.6
MORC **Moravsky Berou** 147.67 348 ⇑PKIKP **PKPdf** 05 32 39.1 +0.6
MORC **Moravsky Berou** 147.67 348 ePKP **PKPdf** 05 32 39.2 +0.8
BIZ **Bicaz** 147.72 336 ⇑iP **PKPdf** 05 32 39.8 +1.2
MEM **Membach** 147.79 2 ⇓PKPbc **PKPdf** 05 32 39.0 +0.4
MEM ⇓PKPab **PKPbc** 05 32 41.8 +0.4
SNF **Seneffe** 147.80 4 ⇑PKPbc **PKPdf** 05 32 39.6 +1.1
SNF ⇑PKPab **PKPbc** 05 32 41.7 +0.3
LANS **Liptovska Anna** 147.84 345 ePKP2 **PKPbc** 05 32 40.7 -1.0
LANS **Liptovska Anna** 147.84 345 ePKP **PKPbc** 05 32 40.7 -1.0
LANS e 05 32 43.2
PRA **Prague** 147.90 352 ePKP **PKPab** 05 32 43.0 -1.2
PRA AMS AMS 06 46 00.0
comp=Z,1µm,19.1s
PRA **Prague** 147.90 352 ePKP2 **PKPab** 05 32 43.0 -1.2
PRA MLR MLR
comp=Z,1µm,19.1s
TRPA **Tarpa** 147.93 341 ⇓iP **PKPbc** 05 32 42.8 +1.0
TRPA **Tarpa** 147.93 341 ⇓ePKPdf **PKPbc** 05 32 42.6 +0.8
BCLA **Clavier** 147.95 3 ⇓PKPbc **PKPdf** 05 32 39.1 +0.3
BCLA ⇓PKPab **PKPbc** 05 32 42.4 +0.6
NKC **Novy Kostel** 147.97 354 ePKP **PKPbc** 05 32 43.0 +1.1
NKC ex x 05 32 45.8
NKC **Novy Kostel** 147.97 354 ePKP2 **PKPbc** 05 32 43.0 +1.1
TLCR 147.98 331 ⇑iP **PKPbc** 05 32 43.3 +1.2
TLCR 147.98 331 ⇑PKP2 **PKPbc** 05 32 43.3 +1.2
BMR **Baia Mare** 148.03 340 ⇑iP **PKPbc** 05 32 42.4 +0.2
BMR **Baia Mare** 148.03 340 ⇑PKP2 **PKPbc** 05 32 42.4 +0.2
KECS **Kecovo** 148.20 344 ePKP2 **PKPbc** 05 32 42.2 -0.4
KECS **Kecovo** 148.20 344 ePKP **PKPbc** 05 32 42.2 -0.4
KECS e 05 32 46.0
JSA **Saint Aubin** 148.22 12 ⇓eP **PKPbc** 05 32 43.0 +0.5
DOU **Dourbes** 148.23 4 ⇓PKPbc **PKPdf** 05 32 40.0 +0.7
DOU ⇓PKPab **PKiKP** 05 32 43.5 -0.8
ARCR **ARCALIA** 148.25 338 ⇓iP **PKPbc** 05 32 42.7 -0.1
ILGA **Ilgaz** 148.25 321 ePKPdf **PKPdf** 05 32 41.0 +1.0
ILGA ePKPbc **PKiKP** 05 32 44.6 -0.4
ILGA LR LR
comp=Z,500nm,21.0s
VRAC **Vranov** 148.29 349 ⇓iP **PKPdf** 05 32 39.9 +0.4
VRAC **Vranov** 148.29 349 ⇓PKIKP **PKPdf** 05 32 39.9 +0.4
VRAC **Vranov** 148.29 349 ePKP **PKPdf** 05 32 40.4 +0.9
ODBI **Odobesti** 148.30 334 ⇑iP **PKPbc** 05 32 44.3 +1.4
VRI **Vrincioaia** 148.35 334 ⇓iP **PKPbc** 05 32 42.8 -0.3
VRI **Vrincioaia** 148.35 334 ⇓PKP2 **PKPbc** 05 32 42.8 -0.3
PLOR **Plostina** 148.40 334 ⇓iP **PKPbc** 05 32 43.8 +0.6
PLOR **Plostina** 148.40 334 ⇓PKP2 **PKPbc** 05 32 43.8 +0.6
TREC **Trest** 148.50 350 ePKP **PKPbc** 05 32 44.5 +1.1
TREC AMS AMS 06 46 00.0
comp=Z,2µm,20.0s
TREC **Trest** 148.50 350 ePKP2 **PKPbc** 05 32 44.5 +1.1
TREC MLR MLR
comp=Z,2µm,20.0s
JAVC **Velka Javorina** 148.51 347 ePKP **PKPbc** 05 32 41.9 -1.6
FURI **Furi** 148.52 257 ePKPdf **PKPbc** 05 32 43.6 -1.3
FURI LR LR
comp=Z,900nm,19.0s
KRUC **Moravsky** 148.57 349 ePKP **PKPdf** 05 32 40.7 +0.8
VYHS **Vyhne** 148.60 346 ePKIKP **PKPdf** 05 32 40.4 +0.4
VYHS e 05 32 44.8
VYHS e 05 32 48.4
VYHS **Vyhne** 148.60 346 ePKP **PKPdf** 05 32 40.4 +0.4
VYHS e 05 32 44.8
VYHS e 05 32 48.4
GRFO **Grafenberg** 148.61 356 ePKPdf **PKPdf** 05 32 40.4 +0.5
GRFO ePKPbc **PKiKP** 05 32 44.6 -0.5
GRFO **Grafenberg** 148.61 356 ePKIKP **PKPdf** 05 32 40.4 +0.5
GRFO e 05 32 44.6
KOLL **Kolacno** 148.62 346 ePKIKP **PKPdf** 05 32 41.2 +1.2
KOLL e 05 32 44.7
KOLL **Kolacno** 148.62 346 ePKP **PKPdf** 05 32 41.1 +1.1
KOLL e 05 32 44.7
GRER 148.64 333 ⇓iP **PKPab** 05 32 50.0 +2.7
TIRR **Tirgusor** 148.72 331 ePKPdf **PKPdf** 05 32 40.6 +0.3
TIRR ePKPbc **PKPbc** 05 32 44.6 +0.6
TIRR LR LR
comp=Z,800nm,22.0s
TIRR **Tirgusor** 148.72 331 ⇓iP **PKPbc** 05 32 44.1 +0.1
TIRR **Tirgusor** 148.72 331 ⇓PKP2 **PKPbc** 05 32 44.1 +0.1
WLF **Walferdange** 148.74 2 ePKPdf **PKPdf** 05 32 41.9 +1.8
WLF **Walferdange** 148.74 2 ⇓PKPbc **PKPdf** 05 32 41.6 +1.5
WLF ⇑PKPab **PKiKP** 05 32 45.3 -0.1
HARR **Harsova** 148.76 332 ⇓iP **PKPdf** 05 32 41.6 +1.3
HARR **Harsova** 148.76 332 ⇓PKIKP **PKPdf** 05 32 41.6 +1.3
LTVH **L˜tav˜rtes,** 148.79 341 ⇓ePKPdf **PKPbc** 05 32 45.3 +1.2
DOPR **Dopca** 148.81 336 ⇑iP **PKPbc** 05 32 42.6 -1.7
CJR **Cluj-Napoca** 148.83 339 ⇓iP **PKPbc** 05 32 44.8 +0.5
CJR **Cluj-Napoca** 148.83 339 ⇓PKP2 **PKPbc** 05 32 44.8 +0.5
PSZ **Piszkesteto** 148.88 344 ePKPdf **PKPdf** 05 32 40.5 -0.1
PSZ ePKPbc **PKPbc** 05 32 45.1 +0.7
PSZ LR LR
comp=Z,1µm,20.0s
PSZ **Piszkesteto** 148.88 344 ⇑iP **PKPbc** 05 32 45.8 +1.3
PSZ **Piszkesteto** 148.88 344 ⇓ePKPdf **PKPbc** 05 32 45.5 +1.0
PSZ **Piszkesteto** 148.88 344 ePKIKP **PKPdf** 05 32 40.5 -0.1
PSZ e 05 32 45.1
PSZ MLR MLR
comp=Z,1µm,20.0s
SMOL **Smolenice** 148.89 347 ePKP2 **PKPbc** 05 32 46.1 +1.7
SMOL **Smolenice** 148.89 347 ePKP **PKPbc** 05 32 46.1 +1.7
KHC **Kasperske Hory** 148.93 353 ePKPdf **PKPdf** 05 32 41.0 +0.5
KHC ePKPbc **PKiKP** 05 32 45.5 -0.4
KHC **Kasperske Hory** 148.93 353 ePKP **PKPdf** 05 32 41.8 +1.3
KHC epPKP **PKiKP** 05 32 45.8 -0.1
KHC AMS AMS 06 41 40.0
comp=Z,1µm,19.5s
KHC **Kasperske Hory** 148.93 353 ePKIKP **PKPdf** 05 32 41.8 +1.3
KHC e 05 32 45.8
KHC MLR MLR
comp=Z,1µm,19.5s
MLR **Muntele Rosu** 148.98 335 ePKPdf **PKPdf** 05 32 40.9 0.0
MLR ePKPbc **PKPbc** 05 32 45.0 +0.1
MLR LR LR
comp=Z,1µm,22.0s
MLR **Muntele Rosu** 148.98 335 ⇑iP **PKPbc** 05 32 45.0 +0.1
MLR **Muntele Rosu** 148.98 335 ⇑PKP2 **PKPbc** 05 32 45.0 +0.1
ISR **Istrita** 149.03 334 ⇑iP **PKPbc** 05 32 44.5 -0.4
ISR **Istrita** 149.03 334 ⇑PKP2 **PKPbc** 05 32 44.5 -0.4
MODS **Modra-Piesok** 149.06 348 ePKIKP **PKPdf** 05 32 41.1 +0.4
MODS e 05 32 45.5
MODS **Modra-Piesok** 149.06 348 ePKP **PKPdf** 05 32 41.1 +0.4
MODS e 05 32 45.5
DRGR 149.06 340 ⇓iP **PKPdf** 05 32 41.3 +0.4
DRGR 149.06 340 ⇓PKIKP **PKPdf** 05 32 41.3 +0.4
BR101 **Keskin Array S** 149.09 319 ePKPdf **PKPdf** 05 32 40.5 -0.7
BR101 ePKPbc **PKiKP** 05 32 46.1 -0.6
BR131 **Keskin Array S** 149.09 319 ePKPdf **PKPdf** 05 32 41.1 -0.1
BR131 ePKPbc **PKPbc** 05 32 46.3 +0.9
BR131 **Keskin Array S** 149.09 319 P **PKPbc** 05 32 46.2 +0.9
SNR=78
BRTR **Keskin Array B** 149.09 319 PKP **PKPdf** 05 32 40.5 -0.7
comp=Z,26nm,1.1s,baz=129,slow=1.8,SNR=19
BRTR PKPbc **PKiKP** 05 32 46.1 -0.6
comp=Z,66nm,0.8s,baz=129,slow=2.2,SNR=155
GEC2 **GERESS Array S** 149.20 352 ePKPdf **PKPdf** 05 32 41.1 +0.1
GEC2 ePKPbc **PKiKP** 05 32 45.9 -0.6
GEC2 LR LR
comp=Z,1µm,21.0s
GEC2 **GERESS Array S** 149.20 352 ePKIKP **PKPdf** 05 32 41.1 0.0
GEC2 e 05 32 45.9
GEC2 MLR MLR
comp=Z,1µm,21.0s
GERES **GERESS Array B** 149.20 352 PKP **PKPdf** 05 32 41.2 +0.1
comp=Z,46nm,0.9s,baz=70,slow=1.6,SNR=32
GERES PKPbc **PKiKP** 05 32 45.9 -0.6
comp=Z,48nm,0.9s,baz=24,slow=3.2,SNR=100
GEA0 **GERESS Array S** 149.20 352 ePKPdf **PKPdf** 05 32 41.3 +0.3
GEA0 ePKPbc **PKiKP** 05 32 46.3 -0.2
ZST **Bratislava** 149.26 348 ePKP2 **PKPbc** 05 32 46.2 +0.9
ZST **Bratislava** 149.26 348 ePKP **PKPbc** 05 32 46.2 +0.9
SECR 149.30 334 ⇓iP **PKPbc** 05 32 45.8 +0.3
VOIR 149.38 336 ⇑iP **PKPbc** 05 32 46.2 +0.4
VOIR 149.38 336 ⇑PKP2 **PKPbc** 05 32 46.2 +0.4
PSN **Preselentsi** 149.42 330 P **PKPdf** 05 32 42.8 +1.4
BUD **Budapest** 149.50 345 ePKPdf **PKPdf** 05 32 42.0 +0.6
SULR 149.51 333 ⇑iP **PKPbc** 05 32 47.2 +1.2
ANTO **Ankara** 149.53 320 ePKPdf **PKPdf** 05 32 42.1 +0.3
ANTO ePKPbc **PKiKP** 05 32 47.6 +0.2
ANTO **Ankara** 149.53 320 ⇑iP **PKPdf** 05 32 42.9 +1.1
ANTO **Ankara** 149.53 320 P **PKPdf** 05 32 42.6 +0.7
SNR=36
BR231 **Keskin MP Arra** 149.55 320 ePKPdf **PKPdf** 05 32 42.9 +0.9
BR231 ePKPbc **pPKPbc** 05 32 47.9 -0.7
ARR **Arges** 149.60 336 ⇑iP **PKPdf** 05 32 43.1 +1.3
STU **Stuttgart** 149.63 358 ePKPdf **PKPdf** 05 32 42.3 +0.7
CONA **Conrad Observa** 149.76 349 iPKPdf **PKPdf** 05 32 42.5 +0.6
comp=Z,27nm,1.3s,SNR=64
CONA iPKiKP **PKiKP** 05 32 47.9 +0.2
comp=Z,168nm,1.1s
DEV **Deva** 149.79 339 ⇑iP **PKPbc** 05 32 47.4 +0.7
DEV **Deva** 149.79 339 ⇑PKP2 **PKPbc** 05 32 47.4 +0.7
LOT **Lotru** 149.86 337 ⇑iP **PKPbc** 05 32 47.3 +0.3
SOP **Sopron** 149.86 348 ⇓ePKPdf **PKPbc** 05 32 47.8 +1.0
SIRR **Siria** 149.86 341 ⇑iP **PKPdf** 05 32 43.2 +1.1
BFO **Black Forest** 150.09 359 ePKPdf **PKPdf** 05 32 42.6 +0.2
BFO ePKPbc **PKiKP** 05 32 48.5 +0.2
MOA **Molln** 150.09 351 iPKPdf **PKPdf** 05 32 42.7 +0.3
comp=Z,12nm,1.1s,SNR=27
MOA ePKiKP **PKiKP** 05 32 48.1 -0.1
comp=Z,76nm,1.2s
PRD **Provadia** 150.16 330 P **PKPdf** 05 32 42.8 +0.2
ECH **Echery** 150.21 1 ePKPdf **PKPdf** 05 32 42.8 +0.2
ECH ePKPbc **PKiKP** 05 32 48.7 +0.1
TIH **Tihany** 150.32 346 ⇓ePKPdf **PKPbc** 05 32 48.7 +0.8
BZS **Buzias** 150.46 340 ⇑iP **PKPdf** 05 32 43.7 +0.7
BZS **Buzias** 150.46 340 ⇑PKIKP **PKPdf** 05 32 43.7 +0.7
ARSA **Arzberg** 150.47 349 iPKPdf **PKPdf** 05 32 43.1 +0.1
comp=Z,15nm,1.3s,SNR=17
ARSA iPKiKP **PKiKP** 05 32 48.9 -0.2
comp=Z,35nm,0.9s
MBAR **Mbarara** 150.55 233 ePKPdf **PKPdf** 05 32 42.5 -1.9
MBAR ePKPbc **PKPbc** 05 32 49.8 +0.1
MBAR LR LR
comp=Z,900nm,19.0s
MBAR **Mbarara** 150.55 233 ePKIKP **PKPdf** 05 32 42.5 -1.9
MBAR e 05 32 49.8
MBAR MLR MLR
comp=Z,900nm,19.0s
SRE **Strehaia** 150.74 337 ⇑iP **PKPbc** 05 32 50.1 +1.1
SRE **Strehaia** 150.74 337 ⇑PKIKP **PKPbc** 05 32 50.1 +1.1
MORH **M˜r˜igy, Hung** 150.78 344 ⇓ePKPdf **PKPdf** 05 32 43.6 +0.1
MORH **M˜r˜igy, Hung** 150.78 344 ⇓eP **PKPdf** 05 32 43.3 -0.2
BANR **Banloc** 150.82 340 ⇑iP **PKPbc** 05 32 49.1 0.0
HERR **Herculane** 150.83 338 ⇓iP **PKPbc** 05 32 49.1 -0.1
RETA **Reutte** 150.83 356 iPKPdf **PKPdf** 05 32 44.0 +0.3
comp=Z,12nm,1.2s
RETA iPKiKP **PKiKP** 05 32 50.0 +0.2
comp=Z,110nm,1.2s,SNR=15
WATA **Walderalm** 150.92 355 iPKPdf **PKPdf** 05 32 44.3 +0.5
comp=Z,12nm,0.9s
WATA iPKiKP **PKiKP** 05 32 50.0 -0.2
comp=Z,52nm,0.6s,SNR=14
MOTA **Moosalm** 150.95 355 iPKPdf **PKPdf** 05 32 43.9 -0.1
comp=Z,17nm,1.0s,SNR=24
MOTA iPKiKP **PKiKP** 05 32 50.0 -0.2
comp=Z,118nm,0.9s
BEHE **Becsehely** 150.97 347 ePKPdf **PKPdf** 05 32 44.1 +0.3
BEHE **Becsehely** 150.97 347 ⇓iP **PKPbc** 05 32 50.1 +0.6
KBA **Koelnbreinsper** 150.98 352 iPKPdf **PKPdf** 05 32 43.6 -0.5
comp=Z,16nm,1.1s,SNR=22
KBA iPKiKP **PKPbc** 05 32 49.9 +0.2
comp=Z,45nm,0.6s
WTTA **Wattenberg** 150.98 354 iPKPdf **PKPdf** 05 32 44.5 +0.5
comp=Z,16nm,1.0s
WTTA iPKiKP **PKiKP** 05 32 50.6 +0.2
comp=Z,101nm,0.6s,SNR=18
SQTA **Sankt Quirin** 151.06 355 iPKPdf **PKPdf** 05 32 44.3 +0.2
comp=Z,20nm,0.9s,SNR=26
SQTA iPKiKP **PKiKP** 05 32 50.6 +0.2
comp=Z,134nm,1.0s
DAVA **Damuels** 151.09 357 ePKPdf **PKPdf** 05 32 44.7 +0.5
comp=Z,14nm,1.2s
DAVA iPKiKP **PKiKP** 05 32 50.8 +0.3
comp=Z,116nm,0.9s,SNR=21
SOKA **Soboth** 151.11 350 iPKPdf **PKPdf** 05 32 44.0 -0.1
comp=Z,20nm,1.1s,SNR=26
SOKA iPKiKP **PKPbc** 05 32 50.2 +0.2
comp=Z,103nm,1.1s
PERS **Pernice** 151.14 349 ePKPdf **PKPdf** 05 32 44.2 +0.1
PERS iPKPbc **PKPbc** 05 32 50.0 +0.1
PERS **Pernice** 151.14 349 ePKPdf **PKPdf** 05 32 44.2 +0.1
PERS iPKPbc **PKPbc** 05 32 50.0 +0.1
MDVR **Moldovita** 151.16 339 ⇑iP **PKPdf** 05 32 44.9 +0.7
FETA **Feichten** 151.30 356 iPKPdf **PKPdf** 05 32 45.0 +0.5
comp=Z,34nm,1.0s,SNR=15
FETA iPKiKP **PKiKP** 05 32 51.3 +0.4
comp=Z,146nm,1.0s
OBKA **Obir** 151.36 350 iPKPdf **PKPdf** 05 32 44.7 +0.2
comp=Z,11nm,1.2s
OBKA ePKPbc **PKPbc** 05 32 50.6 +0.1
comp=Z,26nm,0.8s,SNR=5.7
MYKA **Terra Mystica** 151.38 351 iPKPdf **PKPdf** 05 32 44.2 -0.3
comp=Z,16nm,1.1s,SNR=23
MYKA iPKPbc **PKPbc** 05 32 50.5 -0.1
comp=Z,80nm,1.1s
ABTA **Abfaltersbach** 151.41 353 iPKPdf **PKPdf** 05 32 44.4 -0.1
comp=Z,30nm,1.0s,SNR=14
ABTA iPKPbc **PKPbc** 05 32 50.8 +0.2
comp=Z,155nm,0.7s
FRGS **Fruska Gora** 151.43 342 ⇓iP **PKPdf** 05 32 44.7 +0.1
MPEP **Malo Peshtene** 151.63 335 P **PKPdf** 05 32 45.8 +0.9
FUORN **Ofenpass-Fuorn** 151.73 356 ePKPdf **PKPdf** 05 32 45.7 +0.4
FUORN ePKPbc **pPKPbc** 05 32 52.8 -0.9
FUORN LR LR
comp=Z,1µm,21.0s
ZAG **Zagreb** 151.75 348 eP **PKPdf** 05 32 45.4 +0.4
LJU **Ljubljana** 151.81 350 ePKPdf **PKPdf** 05 32 45.7 +0.6
LJU iPKPbc **PKiKP** 05 32 52.0 +0.1
LJU **Ljubljana** 151.81 350 ePKPdf **PKPdf** 05 32 45.7 +0.6
LJU iPKPbc **PKiKP** 05 32 52.0 +0.1
LJU **Ljubljana** 151.81 350 ⇓iP **PKPdf** 05 32 44.9 -0.2
CRES **Cresnjev** 151.86 348 ⇓iP **PKPdf** 05 32 45.2 0.0
CSS **Mathiatis** 151.87 311 ePKPdf **PKPdf** 05 32 46.4 +0.8
CSS ePKPbc **PKiKP** 05 32 52.3 -0.1
CSS LR LR
comp=Z,700nm,20.0s
TUE **Stuetta** 151.92 358 ePKPdf **PKPdf** 05 32 46.0 +0.5
SENIN **Lac Senin/Sane** 152.06 1 ePKPdf **PKPdf** 05 32 46.4 +0.7
SENIN ePKPbc **pPKPbc** 05 32 53.6 -0.8
CEY **Cerknica** 152.12 350 ⇓iP **PKPdf** 05 32 45.5 -0.1
ISP **Isparta** 152.18 319 ePKPbc **PKPbc** 05 32 52.5 -0.2
ISP LR LR
comp=Z,900nm,21.0s
ISP **Isparta** 152.18 319 ⇑iP **PKPbc** 05 32 52.2 -0.5
ISP **Isparta** 152.18 319 ⇑PKIKP **PKPbc** 05 32 52.2 -0.5
PLD **Plovdiv** 152.25 332 P **PKPdf** 05 32 45.1 -0.7
TRI **Trieste** 152.26 351 ePKPdf **PKPdf** 05 32 46.3 +0.6
TRI ePKPbc **PKiKP** 05 32 53.1 +0.3
TRI LR LR
comp=Z,1µm,19.0s
DIVS **Divibare** 152.33 341 ePKPdf **PKPdf** 05 32 46.1 +0.1
DIVS ePKPbc **pPKPbc** 05 32 53.9 -1.0
DIVS LR LR
comp=Z,800nm,22.0s
DIVS **Divibare** 152.33 341 ⇓iP **PKPdf** 05 32 46.3 +0.3
VTS **Vitosha** 152.48 335 ePKPdf **PKPdf** 05 32 46.1 -0.3
VTS **Vitosha** 152.48 335 ⇑iP **PKPbc** 05 32 54.3 +1.0
VTS **Vitosha** 152.48 335 P **PKPdf** 05 32 47.2 +0.8
VTS **Vitosha** 152.48 335 ePKIKP **PKPdf** 05 32 46.1 -0.3
BLY **Banja Luka** 152.51 345 ePKPdf **PKPdf** 05 32 46.8 +0.6
BLY ePKPbc **pPKPbc** 05 32 54.4 -0.8
BLY LR LR
comp=Z,1µm,19.0s
BLY **Banja Luka** 152.51 345 ⇓iP **PKPbc** 05 32 52.9 -0.2
BLY **Banja Luka** 152.51 345 eP **PKPdf** 05 32 46.4 +0.2
RIY **Rijeka** 152.52 350 eP **PKPdf** 05 32 46.4 +0.3
ALN **Alexandroupoli** 152.56 329 PFAKE 05 33 00.0 -3.6
ALN LR LR
comp=Z,500nm,18.0s
RZN **Rozhen** 152.58 332 P **PKPdf** 05 32 45.9 -0.7
HAPS **Han Pijesak,BI** 152.66 342 eP **PKPbc** 05 32 53.0 -0.6
BRZ **Lazići** 152.72 341 ⇓iP **PKPdf** 05 32 46.9 +0.3
PGAV **Gavieira, Arco** 152.80 27 ePKPdf **PKPdf** 05 32 47.9 +1.1
PGAV **Gavieira, Arco** 152.80 27 ePKPab **PKPbc** 05 32 54.7 +0.8
MANT **Manisa** 152.94 322 ePKPdf **PKPdf** 05 32 47.1 -0.2
MANT ePKPbc **PKiKP** 05 32 55.2 +0.4
MANT LR LR
comp=Z,2µm,20.0s
SSB **Saint Sauveur** 153.02 5 ePKPdf **PKPdf** 05 32 47.5 +0.6
SSB ePKPbc **pPKPbc** 05 32 55.8 -0.6
SSB **Saint Sauveur** 153.02 5 ePKIKP **PKPdf** 05 32 47.6 +0.6
SSB e 05 32 55.8
PCAB **Cabril** 153.11 27 ePKPdf **PKPdf** 05 32 48.5 +1.3
KKB **Krupnik** 153.14 334 P **PKPbc** 05 32 51.5 -3.1
PTO **Porto** 153.32 28 ePKPdf **PKPbc** 05 32 55.6 +0.6
PTO **Porto** 153.32 28 ePKPab **PKPab** 05 33 07.1 +0.3
BNI **Bardonecchia** 153.36 2 ePKPdf **PKPdf** 05 32 48.6 +1.1
UPM **Unac-Piva** 153.48 341 eP **PKPdf** 05 32 51.3 +3.4
POLO **Lamas de Olo** 153.49 27 ePKPdf **PKPdf** 05 32 49.4 +1.6
PBRG **Braganca** 153.56 25 ePKPdf **PKPbc** 05 32 55.8 +0.2
PBRG **Braganca** 153.56 25 ePKPab **PKPab** 05 33 09.0 +1.1
STIP **Stip** 153.65 335 iPKP **PKPdf** 05 32 47.8 -0.1
PMAR **Madeira** 153.65 52 ePKPdf **PKPdf** 05 32 52.1 +3.7
PMAR **Madeira** 153.65 52 ePKPab **PKPab** 05 33 12.5 +3.7
SKO **Skopje** 153.70 336 iPKP **PKPdf** 05 32 49.1 +1.1
VAY **Valandovo** 153.81 334 iPKP **PKPdf** 05 32 48.0 -0.1
BRY **Bratogost** 153.86 342 eP **PKPbc** 05 32 54.3 -2.0
PVIS **Viseu** 153.98 28 ePKPdf **PKPbc** 05 32 57.0 +0.5
PVIS **Viseu** 153.98 28 ePKPab **PKPab** 05 33 08.0 -1.7
MVO **Moncorvo** 153.98 26 ePKPdf **PKPdf** 05 32 49.9 +1.4
PDG **Podgorica** 154.07 340 ⇑iP **PKPbc** 05 32 56.2 -0.3
PDG **Podgorica** 154.07 340 ⇓iP **PKPdf** 05 32 48.2 -0.3
TTG **Podgorica** 154.07 340 ePKPdf **PKPdf** 05 32 48.5 +0.1
TTG LR LR
comp=Z,1µm,21.0s
TTG **Podgorica** 154.07 340 ePKIKP **PKPdf** 05 32 48.5 +0.1
TTG MLR MLR
comp=Z,1µm,21.0s
TREB **Trebinje** 154.09 342 eP **PKPbc** 05 32 54.8 -1.8
STON **Ston** 154.13 343 eP **PKPdf** 05 32 46.3 -2.2
VLC **Villacollemand** 154.17 356 PFAKE 05 33 00.0 +3.2
VLC LR LR
comp=Z,1µm,19.0s
PCAS **Casmilo, Conde** 154.24 30 ePKPdf **PKPdf** 05 32 50.1 +1.3
PCAS **Casmilo, Conde** 154.24 30 ePKPab **PKPbc** 05 32 57.6 +0.6
KRUS **Krusevo** 154.29 336 iPKP **PKPdf** 05 32 48.9 0.0
DRME **Dracevica, Mon** 154.31 340 eP **PKPdf** 05 32 47.6 -1.2
MTE **Manteigas** 154.39 28 ePKPdf **PKPbc** 05 32 50.3 +1.2
MTE **Manteigas** 154.39 28 ePKPab **PKPbc** 05 32 58.0 +0.6
MTE **Manteigas** 154.39 28 ePKPdf **PKPdf** 05 32 50.4 +1.2
BIA **Bitola** 154.56 336 iPKP **PKPdf** 05 32 49.7 +0.3
PTOM **Tomar** 154.62 30 ePKPdf **PKPdf** 05 32 51.0 +1.7
OHR **Ohrid** 154.69 336 iPKP **PKPdf** 05 32 50.1 +0.6
PMAFR **Mafra** 154.71 32 ePKPdf **PKPdf** 05 32 51.0 +1.5
FNA **Florina** 154.75 335 ePKPdf **PKPdf** 05 32 49.0 -0.6
FNA **Florina** 154.75 335 ePKIKP **PKPdf** 05 32 49.0 -0.6
TIR **Tirane** 154.83 338 PFAKE 05 33 00.0 +1.8
TIR LR LR
comp=Z,900nm,20.0s
LIT **Litokhoron** 154.85 333 PFAKE 05 33 00.0 +1.7
LIT LR LR
comp=Z,800nm,21.0s
PCBR **Castelo Branco** 154.88 28 ePKPdf **PKPdf** 05 32 51.0 +1.3
LIS **Lisbon** 154.96 32 ePKPdf **PKPdf** 05 32 49.4 -0.4
LIS AMS AMS 06 45 04.9
comp=E,2µm,22.6s
LIS **Lisbon** 154.96 32 ePKPdf **PKPdf** 05 32 52.0 +2.2
PMRV **Marv??o** 155.25 29 ePKPdf **PKPdf** 05 32 52.3 +2.0
PMRV **Marv??o** 155.25 29 ePKPab **PKPab** 05 33 17.1 +2.0
AQU **L'Aquila** 155.59 350 PFAKE 05 33 00.0 +9.3
AQU LR LR
comp=Z,900nm,20.0s
AQU **L'Aquila** 155.59 350 eP **PKPdf** 05 32 50.3 -0.4
PESTR **Estremoz** 155.60 30 ePKPdf **PKPdf** 05 32 51.7 +1.0
PESTR **Estremoz** 155.60 30 ePKPdf **PKPdf** 05 32 50.8 +0.1
PESTR ePKPab **PKPab** 05 33 17.2 +0.6
PNCL **Nicolau / Gran** 155.73 32 ePKPdf **PKPdf** 05 32 52.6 +1.7
MESJ **Messejana** 156.09 32 ePKPdf **PKPdf** 05 32 51.0 -0.4
MESJ ePP **PP** 05 36 56.5 +1.0
MESJ AMS AMS 06 38 57.6
comp=Z,1µm,16.3s
MESJ **Messejana** 156.09 32 ePKPdf **PKPdf** 05 32 53.0 +1.6
PBEJ **Beja** 156.13 32 ePKPdf **PKPdf** 05 32 54.1 +2.6
MORF **Marmelete** 156.27 34 ePKPdf **PKPdf** 05 32 51.2 -0.5
MORF AMS AMS 06 39 02.4
comp=Z,1µm,21.1s
MORF **Marmelete** 156.27 34 ePKPdf **PKPdf** 05 32 53.5 +1.8
PFVI **Vila Bisbo** 156.31 34 ePKPdf **PKPdf** 05 32 53.8 +2.1
PFVI **Vila Bisbo** 156.31 34 ePKPdf **PKPdf** 05 32 52.8 +1.1
PAB **San Pablo** 156.43 24 ePKPdf **PKPdf** 05 32 53.6 +1.7
PAB LR LR
comp=Z,2µm,20.0s
PAB **San Pablo** 156.43 24 ePKIKP **PKPdf** 05 32 53.6 +1.7
PAB MLR MLR
comp=Z,2µm,20.0s
ES19 **SONSECA Array** 156.47 23 ePKPdf **PKPdf** 05 32 52.6 +0.7
ESDC **Sonseca Array** 156.47 23 PKP **PKPdf** 05 32 52.5 +0.6
comp=Z,4.6nm,0.9s,baz=354,slow=2.7,SNR=16
ESDC PKPab **pPKPab** 05 33 21.8 -0.6
comp=Z,8.7nm,0.9s,baz=316,slow=4.0,SNR=8.4
ESDC PP **PP** 05 36 59.4 +2.0
comp=Z,1.5nm,0.8s,baz=320,slow=5.5,SNR=3.7
ESLA **Sonseca Array** 156.47 23 ePKPdf **PKPdf** 05 32 52.6 +0.7
ESLA ePKPab **pPKPab** 05 33 22.1 -0.3
ESLA LR LR
comp=Z,1µm,19.0s
PVAQ **Vaqueiros** 156.69 32 ePKPdf **PKPdf** 05 32 53.5 +1.3
CUC **Castrocucco** 157.32 344 PFAKE 05 33 00.0 +7.0
CUC LR LR
comp=Z,900nm,19.0s
TIP **Timpagrande** 157.81 341 PFAKE 05 33 10.0 -16
TIP LR LR
comp=Z,1µm,22.0s
CEL **Celeste** 158.92 342 PFAKE 05 33 10.0 +15
CEL LR LR
comp=Z,600nm,20.0s
CART **Cartagena** 159.37 20 PFAKE 05 33 10.0 +15
CART LR LR
comp=Z,1µm,19.0s
RTC **Rabat Centre** 159.70 37 PFAKE 05 33 10.0 +14
RTC LR LR
comp=Z,4µm,20.0s
KEST **Kesra** 162.62 356 PKP **PKPdf** 05 32 59.6 +0.5
comp=Z,11nm,0.9s,baz=342,slow=3.2,SNR=11
KEST PKPab **PKPab** 05 33 48.0 +0.9
comp=Z,6.3nm,0.9s,baz=355,slow=14,SNR=4.3
KEST **Kesra** 162.62 356 ePKPdf **PKPdf** 05 33 01.5 +2.4
KEST PKPab **PKPab** 05 33 48.0 +0.9
LIC **Lamto** 162.69 133 ePKIKP **PKPdf** 05 32 58.3 -1.4
comp=Z,92nm,1.1s
KIC **Kosan Boka** 162.99 133 ePKIKP **PKPdf** 05 32 58.5 -1.5
comp=Z,220nm,1.6s
TIC **Toumodi** 162.99 132 ePKIKP **PKPdf** 05 32 58.6 -1.4
DBIC **Dimbokro** 163.12 132 PKP **PKPdf** 05 32 59.1 -1.0
comp=Z,23nm,1.0s,baz=247,slow=0.3,SNR=17
DBIC PKPab **PKPab** 05 33 49.2 -0.7
comp=Z,6.4nm,0.7s,baz=256,slow=3.9,SNR=4.2
TOA0 **Torodi Ar. Sit** 172.23 131 ePKPdf **PKPdf** 05 33 04.8 -1.7
TOA0 ePKPab **PKPab** 05 34 30.1 0.0
TOA0 **Torodi Ar. Sit** 172.23 131 P **PKPdf** 05 33 05.7 -0.8
SNR=14
TORD **Torodi Ar. Bea** 172.23 131 PKP **PKPdf** 05 33 04.3 -2.2
comp=Z,30nm,1.0s,baz=307,slow=0.7,SNR=81
TORD PKPab **PKPab** 05 34 28.9 -1.3
comp=Z,23nm,0.9s,baz=261,slow=3.4,SNR=18
TORD PP **PP** 05 38 25.0 +4.1
comp=Z,4.4nm,1.1s,baz=242,slow=3.1,SNR=5.2
TOA1 **Torodi Ar. Sit** 172.24 131 ePKPdf **PKPdf

ISCJB **17** *05:15:29.5±1.1,48.1N±0.1×33.4E±0.2,h10km,Error ellipse: s-maj=22.3km s-min=10.8km az=140.1*

IDC **17** *05:15:29.1±1.8,47.91N×33.34E,h0km,mb3.6/3, mb1 3.7/4,mb1mx3.4/46,mbtmp3.6/4,ML2.6/2,Error ellipse: s-maj=27.1km s-min=20.6km az=44.0*

ISC 17 05:15:31.0±1.2,48.10N±0.08×33.50E±0.10,h10km,n16, σ1§38/15,7C-2D,Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KIS	**Kishinev**	**3.35**	**253**	*eP*		**Sb**		**05 17 14.0**	**+2.7**
AKASG	**Malin Array Be**	**3.82**	**315**	Pn		**Pn**		**05 16 30.6**	**+0.8**
	0.8nm,0.3s,baz=135,slow=24,SNR=2.7								
AKASG				Pg		**Pb**		**05 16 37.3**	**-1.1**
	2.8nm,0.3s,baz=138,slow=17,SNR=7.8								
AKASG				Lg		Lg		05 17 25.0	
	5.2nm,0.3s,baz=126,slow=30,SNR=4.9								
CFR	**Carcaliu**	**4.71**	**234**	*iP*		**Pn**		**05 16 43.3**	**+1.4**
TIRR	**Tirgusor**	**5.06**	**226**	*iP*		**Pn**		**05 16 46.6**	**-0.3**
BIZ	**Bicaz**	**5.14**	**260**	*iP*		**Pn**		**05 16 49.5**	**+1.5**
VRI	**Vrincioaia**	**5.14**	**247**	*iP*		**Pn**		**05 16 47.8**	**-0.2**
BURAR	**Bucovina Array**	**5.59**	**268**	*iP*		**Pn**		**05 16 54.4**	**+0.1**
MLR	**Muntele Rosu**	**5.80**	**246**	*iP*		**Pn**		**05 16 57.2**	**0.0**
DOPR	**Dopca**	**5.94**	**252**	*iP*		**Pn**		**05 16 58.9**	**0.0**
VOIR		**6.38**	**249**	*iP*		**Pn**		**05 17 04.5**	**-0.6**
DRGR		**7.43**	**264**	*iP*		**Pn**		**05 17 18.4**	**-1.0**
BRTR	**Keskin Array B**	**8.37**	**179**	Pg		Pn		05 17 42.6	+10
	0.1nm,0.3s,baz=353,slow=19,SNR=2.9								
FINES	**FINESS Array B**	**14.03**	**345**	Pn		Pn		05 18 43.8	-5.8
	0.1nm,0.3s,baz=158,slow=16,SNR=3.7								
ARCES	**ARCESS Array B**	**21.86**	**352**	P		**P**		**05 20 22.8**	**-0.6**
	1.9nm,0.6s,baz=173,slow=11,SNR=10								
ZALV	**Zalesovo Beam**	**32.20**	**60**	P		**P**		**05 22 00.6**	**+1.8**
	1.2nm,0.5s,baz=290,slow=8.4,SNR=4.4								
TORD	**Torodi Ar. Bea**	**43.72**	**228**	P		**P**		**05 23 34.3**	**-2.1**
	0.3nm,0.7s,baz=28,slow=7.6,SNR=3.3								

MEX 17 05:15:50.7±0.8,17.70N×102.82W,h16km±15km,MD3.9, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.77**	**320**	*eP*		Pb		05 16 02.9	-2.9
MMIG				*eS*		Sg		05 16 12.6	-3.5
ZIIG	**Zihuatanejo**	**1.29**	**94**	*eP*		Pn		05 16 10.0	-4.1
ZIIG				*eS*		Sb		05 16 24.9	-6.1
R15V		**1.83**	**323**	*eP*		Pn		05 16 18.0	-3.6
R15V				*i*	S	Sn		05 16 39.6	-5.0
EZ5V		**1.92**	**337**	*i*	P	Pn		05 16 20.4	-2.6
EZ5V				*i*	S	Sn		05 16 42.1	-4.9
ARIG	**Puente Sto Nin**	**2.42**	**76**	*eP*		Pn		05 16 27.3	-2.3
ARIG				*eS*		Sn		05 16 55.3	-3.7

IDC 17 05:25:07.4±16.0,17.80S×173.26W,h0km,mb4.1/5, mb1 4.3/5,mb1mx3.8/55,mbtmp4.1/5,MS4.4/1,Ms1 4.4/1, ms1mx3.7/47,Error ellipse: s-maj=308.7km s-min=155.4km az=79.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**19.55**	**254**	LR		LR		05 35 33.3	
	comp=Z,1μm,19.7s,baz=116,slow=32								
CTA	**Charters Tower**	**38.30**	**260**	P		P		05 32 30.7	+0.7
	1.1nm,0.4s,baz=90,slow=7.1,SNR=3.3								
STKA	**Stephens Creek**	**43.00**	**242**	P		P		05 33 09.2	+0.5
	0.5nm,0.3s,baz=81,slow=9.3,SNR=3.4								
WRA	**Warramunga Arr**	**49.47**	**259**	P		P		05 33 59.2	-0.8
	1.2nm,0.4s,baz=98,slow=7.4,SNR=39								
ASAR	**Alice Springs**	**49.54**	**254**	P		P		05 33 60.0	-0.5
	1.7nm,0.4s,baz=86,slow=8.5,SNR=32								
FITZ	**Fitzroy Crossi**	**57.88**	**259**	P		P		05 35 01.6	0.0
	2.4nm,1.0s,baz=149,slow=3.8,SNR=4.8								

IDC **17** *05:27:05.9±1.4,4.00S×122.55E,h0km,mb3.7/3, mb1 3.8/4,mb1mx3.5/60,mbtmp3.7/4,ML3.2/1,MS4.2/1, Ms1 4.2/1,ms1mx3.3/47,Error ellipse: s-maj=240.6km s-min=23.5km az=59.0*

DJA **17** *05:27:07.1±0.4,4°S±4°×122°3E±4°,h10km,M4.3/8,mb4.9/2, mB4.9/1,MLv4.1/8,Mw(mB)4.2/1*

ISCJB **17** *05:27:08.5±0.6,4.04S±0.07×122.63E±0.07,h33km, mb3.8/3,Error ellipse: s-maj=10.4km s-min=9.4km az=12.7*

ISC 17 05:27:10.7±1.0,3.99S±0.06×122.59E±0.07,h35km,n13, σ1§35/12,mb3.7/3,Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**1.49**	**181**	P		**Pn**		**05 27 36.4**	**+1.5**
BNSI	**Bone**	**2.51**	**261**	P		**Pn**		**05 27 48.4**	**-0.6**
BKSI	**Bulukumba**	**2.79**	**242**	P		**Pn**		**05 27 51.9**	**-1.0**
SPSI	**Sidrap Palu**	**2.81**	**270**	P		**Pn**		**05 27 52.4**	**-0.8**
LUWI	**Luwuk**	**2.94**	**4**	P		**Pn**		**05 27 54.7**	**-0.2**
APSI	**Ampana**	**3.20**	**343**	P		**Pn**		**05 27 58.8**	**+0.3**
SANI	**Sanana**	**3.90**	**60**	P		**Pn**		**05 28 06.6**	**-1.6**
EDFI	**Ende, Flores**	**4.81**	**191**	P		**Pn**		**05 28 18.7**	**-2.1**
DAV	**Davao City (W)**	**11.38**	**15**	LR		LR		05 34 42.0	
	comp=Z,1μm,18.8s,baz=284,slow=40								
WRA	**Warramunga Arr**	**19.56**	**145**	P		**P**		**05 31 34.0**	**-1.7**
	0.1nm,0.3s,baz=315,slow=13,SNR=6.1								
ASAR	**Alice Springs**	**22.40**	**152**	P		**P**		**05 32 06.6**	**+0.2**
	2.6nm,0.8s,baz=336,slow=13,SNR=9.4								
STKA	**Stephens Creek**	**32.98**	**149**	P		**P**		**05 33 44.0**	**+1.6**
	1.4nm,0.5s,baz=327,slow=16,SNR=3.4								
MKAR	**Makanchi Array**	**61.80**	**330**	P		**P**		**05 37 26.4**	**+0.4**
	0.4nm,0.7s,baz=126,slow=6.4,SNR=3.5								

ISCJB **17** *05:29:42.9±0.6,20.35S±0.03×178.50W±0.03, h569km±7km,mb4.6/249,Error ellipse: s-maj=5.4km s-min=3.6km az=153.5*

BJI **17** *05:29:43.6,20.02S×177.77W,h596km,mb5.0/41, mB5.3/29*

NEIC **17** *05:29:45.0±0.4,20.35S×178.49W,h586km±5km, mb4.7/187,Error ellipse: s-maj=4.4km s-min=3.4km az=134.0*

IDC **17** *05:29:46.4±1.2,20.35S×178.52W,h601km±14km, mb4.2/41,mb1 4.3/42,mb1mx4.2/53,mbtmp5.1/42,Error ellipse: s-maj=8.6km s-min=7.7km az=140.0*

ISC 17 05:29:44.5±0.5,20.31S±0.04×178.36W±0.05, h585km±5km,h585km:pP-P,n622,σ1§32/665,mb4.7/249, 26C-19D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.91**	**178**	P		**P**		**05 31 50.7**	**-1.3**
	115nm,0.3s,baz=71,slow=8.2,SNR=6.1								
RAO				S		**S**		**05 33 35.0**	**-1.6**
	63nm,0.3s,baz=98,slow=23,SNR=1.3								
RAO	**Raoul Island**	**8.91**	**178**	*eP*		**P**		**05 31 50.8**	**-1.3**
RAO				*eS*		**S**		**05 33 35.0**	**-1.6**
RAO				*eS*		S		05 33 37.0	+0.3
AFI	**Afiamalu**	**8.95**	**46**	P		**P**		**05 31 50.5**	**-2.3**
	85nm,0.3s,baz=148,slow=1.5,SNR=48								
AFI				S		**S**		**05 33 33.4**	**-4.5**
	50nm,0.3s,baz=108,slow=20,SNR=6.2								
AFI	**Afiamalu**	**8.95**	**46**	*eP*		**P**		**05 31 50.5**	**-2.3**
AFI				*eS*		**S**		**05 33 33.0**	**-4.9**
FUNA	**Funafuti**	**11.95**	**348**	*eP*		**P**		**05 32 23.0**	**+0.1**
DZM	**Mont Dzumac**	**14.28**	**260**	P		**P**		**05 32 45.8**	**-0.7**
	6.2nm,0.3s,baz=104,slow=6.3,SNR=46								
DZM				S		**S**		**05 35 16.5**	**+1.0**
	0.5nm,0.3s,baz=327,slow=14,SNR=20								
OUZ	**Onahuta**	**16.46**	**204**	*eP*		**P**		**05 33 08.8**	**+2.2**
	570nm,0.8s								
MXZ	**Matakaoa Point**	**17.43**	**189**	*eP*		**P**		**05 33 15.7**	**+0.3**
	160nm,1.1s								
URZ	**Urewera**	**18.31**	**191**	P		**P**		**05 33 20.4**	**-3.0**
	19nm,0.3s,baz=315,slow=2.7,SNR=64								
URZ				S		**S**		**05 36 24.5**	**+3.3**
	4.5nm,0.3s,baz=175,slow=22,SNR=7.9								
URZ	**Urewera**	**18.31**	**191**	*eP*		**P**		**05 33 20.4**	**-3.0**
	153nm,0.7s								
URZ				*eS*		**S**		**05 36 24.5**	**+3.3**
HIZ	**Hauiti**	**19.06**	**196**	*eP*		**P**		**05 33 32.4**	**+2.1**
	274nm,1.2s								
BKZ	**Black Stump Fm**	**19.31**	**192**	*eP*		**P**		**05 33 29.8**	**-2.7**
	43nm,0.5s								
BFZ	**Birch Farm**	**20.82**	**192**	*eP*		**P**		**05 33 44.3**	**-1.8**
	77nm,0.5s								
SNZO	**South Karori**	**21.75**	**194**	*eP*		**P**		**05 33 53.1**	**-1.3**
	134nm,0.6s								
THZ	**Tophouse**	**22.63**	**197**	*eP*		**P**		**05 34 01.1**	**-1.2**
	60nm,0.6s								
KHZ	**Kahutara**	**23.07**	**195**	*eP*		**P**		**05 34 04.6**	**-1.6**
	145nm,1.1s								
TARA	**Tarawa**	**23.17**	**337**	*eP*		**P**		**05 34 07.5**	**+0.1**
	451nm,1.1s								
HNR	**Honiara**	**23.56**	**294**	P		**P**		**05 34 10.4**	**-0.6**
	31nm,0.4s,baz=104,slow=8.3,SNR=4.1								
LTZ	**Lake Taylor**	**23.75**	**197**	*eP*		**P**		**05 34 10.2**	**-2.0**
	59nm,0.7s								
OXZ	**Oxford**	**24.32**	**197**	*eP*		**P**		**05 34 15.9**	**-1.3**
	75nm,0.7s								
CRLZ	**Canterbury Las**	**24.39**	**196**	*eP*		**P**		**05 34 16.4**	**-1.4**
	96nm,1.1s								
MQZ	**McQueen's Vall**	**24.51**	**196**	*eP*		**P**		**05 34 17.2**	**-1.6**
	51nm,1.1s								
RPZ	**Rata Peaks**	**24.96**	**198**	P		**P**		**05 34 21.5**	**-1.3**
	27nm,0.5s,baz=28,slow=3.0,SNR=20								
RPZ	**Rata Peaks**	**24.96**	**198**	*eP*		**P**		**05 34 23.0**	**+0.2**
	34nm,0.5s								
FOZ	**Fox Glacier**	**25.18**	**201**	*eP*		**P**		**05 34 24.3**	**-0.5**
	92nm,0.8s								
LBZ	**Lake Benmore**	**25.83**	**199**	*eP*		**P**		**05 34 29.7**	**-0.8**
	49nm,1.1s								
ODZ	**Otahua Downs**	**26.29**	**198**	*eP*		**P**		**05 34 34.6**	**0.0**
	18nm,0.9s								
WKZ	**Wanaka**	**26.59**	**200**	*eP*		**P**		**05 34 36.3**	**-1.0**
	71nm,1.1s								
MLZ	**Mavora Lakes**	**27.37**	**201**	*eP*		**P**		**05 34 44.1**	**0.0**
	97nm,0.8s								
DCZ	**Deep Cove**	**27.79**	**202**	*eP*		**P**		**05 34 47.6**	**0.0**
	171nm,1.0s								
WHZ	**Wether Hill Ro**	**27.89**	**201**	*eP*		**P**		**05 34 48.7**	**+0.2**
	341nm,1.8s								
PYZ	**Puysegur Point**	**28.56**	**202**	*eP*		**P**		**05 34 55.4**	**+1.1**
	85nm,1.1s								
ARMA	**Armidale**	**28.85**	**244**	*eP*		**P**		**05 34 58.0**	**+0.7**
	25nm,0.8s								
KWAJ	**Kwajalein Atol**	**32.06**	**333**	*eP*		**P**		**05 35 26.1**	**+1.4**
	175nm,0.9s								
CAN	**Canberra**	**32.34**	**236**	*eP*		**P**		**05 35 27.2**	**+0.3**
	9.3nm,1.0s								
CTA	**Charters Tower**	**33.17**	**264**	P		**P**		**05 35 34.4**	**+0.2**
	93nm,0.4s,baz=98,slow=10,SNR=5.6								
CTAO	**Charters Tower**	**33.17**	**264**	*eP*		**P**		**05 35 35.0**	**+0.9**
	109nm,0.4s								
PMG	**Port Moresby**	**34.97**	**283**	P		**P**		**05 35 49.3**	**+0.1**
	219nm,0.9s,baz=88,slow=5.3,SNR=62								
PMG	**Port Moresby**	**34.97**	**283**	*eP*		**P**		**05 35 49.7**	**+0.5**
	240nm,0.9s								
PATS	**Pohnpei**	**35.41**	**317**	*eP*		**P**		**05 35 53.6**	**+0.7**
	176nm,1.1s								
TAU	**Tasmania Unive**	**36.52**	**224**	*eP*		**P**		**05 36 01.7**	**+0.1**
	36nm,1.0s								
COEN	**Coen**	**37.23**	**274**	*eP*		**P**		**05 36 08.1**	**+0.2**
	130nm,1.0s								
STKA	**Stephens Creek**	**37.57**	**244**	P		**P**		**05 36 10.7**	**+0.4**
	30nm,0.7s,baz=86,slow=8.9,SNR=42								
STKA	**Stephens Creek**	**37.57**	**244**	*eP*		**P**		**05 36 10.8**	**+0.4**
	18nm,1.1s								
MANU	**Manus Island**	**38.07**	**294**	*eP*		**P**		**05 36 15.4**	**+0.7**
	224nm,0.9s								
MCQ	**Macquarie Isla**	**38.24**	**201**	*eP*		**P**		**05 36 16.7**	**+1.4**
	62nm,1.1s								
WAKE	**Wake Island**	**42.00**	**339**	*eP*		**P**		**05 36 45.8**	**0.0**
	66nm,0.9s								
BBOO	**Buckleboo**	**42.33**	**243**	*eP*		**P**		**05 36 48.2**	**-0.2**
	60nm,0.8s								
BBOO				*eS*		**S**		**05 42 26.1**	**-2.0**
JAY	**Jayapura**	**43.67**	**289**	P		**P**		**05 36 59.3**	**+0.3**
	268nm,0.5s,baz=151,slow=4.5,SNR=181								
JAY	**Jayapura**	**43.67**	**289**	P		**P**		**05 36 59.1**	**+0.1**
GENI	**Genyem**	**44.11**	**288**	P		**P**		**05 37 03.1**	**+0.7**
AS01	**Alice Springs**	**44.19**	**257**	*eP*		**P**		**05 37 02.9**	**-0.1**
AS01				*eS*		**S**		**05 42 53.3**	**-1.5**
AS31	**Alice Springs**	**44.23**	**257**	*eP*		**P**		**05 37 03.1**	**-0.1**
	14nm,0.9s								
AS31				*ePcP*		**PcP**		**05 38 35.5**	**+0.6**
AS31				*eS*		**S**		**05 42 56.1**	**+0.7**
ASAR	**Alice Springs**	**44.23**	**257**	P		**P**		**05 37 03.0**	**-0.3**
	32nm,0.8s,baz=87,slow=8.5,SNR=146								
ASAR				*PcP*		**PcP**		**05 38 34.8**	**0.0**
	8.1nm,0.5s,baz=99,slow=4.4,SNR=7.5								
ASAR				S		**S**		**05 42 53.1**	**-2.2**
	16nm,0.9s,baz=94,slow=16,SNR=25								
WB2	**Warramunga Arr**	**44.28**	**262**	*eP*		**P**		**05 37 03.1**	**-0.5**
	98nm,1.1s								
WRAB	**Tennant Creek**	**44.28**	**262**	*eP*		**P**		**05 37 02.8**	**-0.8**
	33nm,0.8s								
WR1	**Warramunga Arr**	**44.29**	**262**	*eP*		**P**		**05 37 02.6**	**-1.2**
	47nm,0.6s								
WR1				*eS*		**S**		**05 42 52.8**	**-3.4**
WR1				*eScS*		**ScS**		**05 45 52.2**	**-5.3**
WRA	**Warramunga Arr**	**44.29**	**262**	P		**P**		**05 37 02.6**	**-1.2**
	15nm,0.3s,baz=97,slow=7.4,SNR=185								
WRA				S		**S**		**05 42 52.8**	**-3.4**
	2.4nm,0.6s,baz=105,slow=12,SNR=6.7								
WRA				*ScS*		**ScS**		**05 45 52.2**	**-5.3**
	1.9nm,0.8s,baz=130,slow=7.4,SNR=5.6								
HMH	**Humu'ula Sheep**	**45.56**	**31**	*eP*		**P**		**05 37 15.4**	**+1.7**
	65nm,1.1s								
SMPI	**Sarmi**	**45.68**	**288**	P		**P**		**05 37 14.6**	**+0.2**
MTN	**Manton Dam**	**48.83**	**271**	*eP*		**P**		**05 37 37.6**	**-0.2**
	70nm,0.7s								
FORT	**Forrest**	**49.06**	**246**	*eP*		**P**		**05 37 39.0**	**-0.4**
	36nm,0.8s								
GUMO	**Guam**	**49.42**	**310**	P		**P**		**05 37 42.5**	**+0.2**
	212nm,0.9s,baz=200,slow=8.2,SNR=4.4								
SAUI	**Saumlaki**	**50.14**	**277**	*eP*		**P**		**05 37 48.6**	**+1.0**
	139nm,0.8s								
FAKI	**Fak Fak**	**51.13**	**283**	*eP*		**P**		**05 37 54.4**	**-0.3**
	23nm,0.8s								
FAKI	**Fak Fak**	**51.13**	**283**	P		**P**		**05 37 54.6**	**-0.2**
BNDI	**Bandanaira**	**52.67**	**280**	P		**P**		**05 38 07.2**	**+1.5**
FITZ	**Fitzroy Crossi**	**52.72**	**262**	P		**P**		**05 38 05.9**	**-0.2**
	9.8nm,0.4s,baz=82,slow=4.7,SNR=110								
FITZ				S		**S**		**05 44 48.5**	**-2.7**
	6.5nm,1.1s,baz=282,slow=21,SNR=6.3								
FITZ	**Fitzroy Crossi**	**52.72**	**262**	*eP*		**P**		**05 38 06.3**	**+0.2**
	6.6nm,1.0s								
FITZ				*eS*		**S**		**05 44 48.7**	**-2.5**
SIJI	**Sorong**	**52.87**	**285**	P		**P**		**05 38 06.9**	**-0.3**
	190nm,0.8s,baz=92,slow=5.5,SNR=42								
SWI	**Sorong**	**52.87**	**285**	P		**P**		**05 38 07.6**	**+0.4**
	203nm,0.9s								
NLAI	**Namlea**	**55.74**	**280**	P		**P**		**05 38 27.4**	**+0.1**
	91nm,1.3s								
SOEI	**Soe**	**56.16**	**272**	*eP*		**P**		**05 38 31.7**	**+1.4**
	210nm,1.1s								
SOEI	**Soe**	**56.16**	**272**	P		**P**		**05 38 32.5**	**+2.2**
TNTI	**Ternate**	**57.09**	**285**	*eP*		**P**		**05 38 36.7**	**+0.2**
	141nm,1.1s								
TNTI	**Ternate**	**57.09**	**285**	P		**P**		**05 38 37.5**	**+1.0**
SANI	**Sanana**	**57.22**	**281**	P		**P**		**05 38 38.5**	**+1.1**
MBWA	**Marble Bar**	**57.57**	**257**	*eP*		**P**		**05 38 38.9**	**-0.8**
	19nm,0.5s								
SBA	**Scott Base**	**58.03**	**184**	*eP*		**P**		**05 38 44.3**	**+2.4**
	32nm,0.8s								
VNDA	**Vanda**	**58.07**	**185**	P		**P**		**05 38 43.5**	**+1.4**
	6.5nm,0.5s,baz=5.5,slow=7.8,SNR=99								
VNDA	**Vanda**	**58.07**	**185**	*eP*		**P**		**05 38 44.2**	**+2.1**
	15nm,0.9s								
NWAO	**Narrogin (SRO)**	**58.15**	**243**	P		**P**		**05 38 43.0**	**-0.5**
	5.7nm,0.8s,baz=121,slow=8.1,SNR=3.1								
EDFI	**Ende, Flores**	**58.89**	**272**	P		**P**		**05 38 48.4**	**-0.4**
	61nm,1.3s								
LUWI	**Luwuk**	**60.57**	**281**	*eP*		**P**		**05 39 00.6**	**+0.8**
	89nm,1.0s								
LUWI	**Luwuk**	**60.57**	**281**	P		**P**		**05 39 01.1**	**+1.3**
	116nm,1.5s,2μm								
WBSI	**Waikabubak, Su**	**60.77**	**270**	P		**P**		**05 39 02.4**	**+1.2**
BNSI	**Bone**	**61.81**	**276**	P		**P**		**05 39 08.0**	**0.0**
PLAI	**Plampang**	**62.54**	**270**	P		**P**		**05 39 12.2**	**-0.5**
TWSI	**Taliwang, Sumb**	**63.40**	**270**	P		**P**		**05 39 18.1**	**-0.1**
MPSI	**Mapaga**	**63.75**	**281**	P		**P**		**05 39 20.1**	**-0.3**
CASY	**Casey**	**63.99**	**205**	*eP*		**P**		**05 39 21.2**	**+0.2**
	70nm,1.1s								
JHJ	**Hachijo jima 2**	**66.49**	**322**	P		**P**		**05 39 37.5**	**+0.3**
	136nm,0.4s,baz=72,slow=17,SNR=3.2								
KDM	**Kudat**	**69.19**	**286**	P		**P**		**05 39 54.0**	**+0.1**
UGM	**Wanagama**	**69.63**	**269**	*eP*		**P**		**05 39 56.5**	**-0.2**
	48nm,0.7s								
QSPA	**South Pole Qui**	**69.75**	**180**	P		**P**		**05 39 57.4**	**+0.8**
	35nm,0.6s,baz=22,slow=4.2,SNR=125								
QSPA	**South Pole Qui**	**69.75**	**180**	*eP*		**P**		**05 39 57.6**	**+1.1**
	49nm,0.8s								
JOW	**Kunigami**	**69.79**	**310**	P		**P**		**05 39 57.9**	**+0.6**
	18nm,0.3s,baz=117,slow=22,SNR=12								
JOW	**Kunigami**	**69.79**	**310**	*eP*		**P**		**05 39 57.8**	**+0.5**
	20nm,0.7s								
MJAR	**Matsushiro Arr**	**69.86**	**324**	P		**P**		**05 39 57.0**	**-0.5**
	9.2nm,0.5s,baz=166,slow=6.2,SNR=27								
MAJO	**Matsushiro**	**69.86**	**324**	*eP*		**P**		**05 39 57.4**	**-0.1**
	18nm,0.7s								
MAT	**Matsushiro**	**69.86**	**324**	P		**P**		**05 39 56.8**	**-0.7**
MJB9	**Matsu-Tunnel**	**69.87**	**324**	*eP*		**P**		**05 39 57.6**	**+0.1**
	44nm,1.2s								
SBUM	**Sibu**	**71.64**	**280**	P		**P**		**05 40 09.0**	**+0.6**
ADK	**Adak**	**71.90**	**1**	*eP*		**P**		**05 40 08.4**	**-0.6**
	44nm,0.6s								
JNU	**Nakatsue**	**71.91**	**317**	P		**P**		**05 40 09.3**	**-0.2**
	26nm,0.9s,baz=114,slow=4.7,SNR=6.6								
JNU	**Nakatsue**	**71.91**	**317**	*eP*		**P**		**05 40 09.6**	**0.0**
	58nm,1.1s								
GSTR	**Great Sitkin T**	**72.12**	**1**	*eP*		**P**		**05 40 10.3**	**-0.1**
CISI	**Cisompet, Garu**	**72.29**	**268**	*eP*		**P**		**05 40 11.6**	**-0.6**
	47nm,0.9s								
ATKA	**Atka Island**	**72.30**	**3**	*eP*		**P**		**05 40 10.7**	**-0.5**
	94nm,1.0s								
LEM	**Lembang**	**72.71**	**269**	P		**P**		**05 40 15.0**	**+0.2**
	51nm,0.7s,baz=96,slow=9.3,SNR=6.9								
TWG	**Pinlang**	**73.00**	**303**	*eP*		**P**		**05 40 14.5**	**-1.5**
	128nm,1.1s								
SMY	**Shemya**	**73.03**	**355**	*eP*		**P**		**05 40 15.2**	**-0.2**
	138nm,1.1s								
KSM	**Kuching**	**73.05**	**278**	*eP*		**P**		**05 40 17.2**	**+0.6**
	31nm,0.6s								
KSM	**Kuching**	**73.05**	**278**	P		**P**		**05 40 17.0**	**+0.4**
YULB	**Yu-li**	**73.12**	**303**	*eP*		**P**		**05 40 15.6**	**-1.2**
	15nm,1.0s								
NACB	**Ninganchiao**	**73.29**	**304**	*eP*		**P**		**05 40 17.1**	**-0.6**
	48nm,1.1s								
ASAJ	**Asahikawa**	**73.40**	**332**	P		**P**		**05 40 19.2**	**+1.4**
	41nm,0.6s,baz=233,slow=8.5,SNR=20								
ASAJ	**Asahikawa**	**73.40**	**332**	*eP*		**P**		**05 40 19.6**	**+1.8**
	81nm,1.0s								
NIKH	**Nikolski High**	**73.44**	**6**	*eP*		**P**		**05 40 19.1**	**+1.3**
	172nm,1.2s								
SSLB	**Suanglung**	**73.59**	**304**	*eP*		**P**		**05 40 18.2**	**-1.2**
	31nm,0.5s								
TPUB	**Ta-pu**	**73.59**	**303**	*eP*		**P**		**05 40 18.5**	**-0.9**
	57nm,0.7s								
YHNB	**Yeheng**	**73.72**	**305**	*eP*		**P**		**05 40 19.4**	**-0.8**
	49nm,1.1s								
UNV	**Unalaska Valle**	**74.56**	**7**	*eP*		**P**		**05 40 23.1**	**-1.0**
	34nm,1.0s								
AKUT	**Akutan**	**74.93**	**8**	*eP*		**P**		**05 40 25.4**	**-0.8**
	38nm,0.9s								
YSS	**Yuzh-Sakhalins**	**75.58**	**334**	*eP*		**P**		**05 40 30.9**	**+1.0**
	82nm,1.0s								
PEA0B	**Petropavlovsk-**	**76.01**	**345**	*eP*		**P**		**05 40 32.4**	**+0.2**
	43nm,1.1s								
PETK	**Petropavlovsk-**	**76.01**	**345**	P		**P**		**05 40 31.8**	**-0.4**
	24nm,0.7s,baz=137,slow=7.4,SNR=25								
PEA1	**Petropavlovsk-**	**76.01**	**345**	*eP*		**P**		**05 40 31.8**	**-0.5**
KSRS	**Korea Array**	**76.53**	**319**	P		**P**		**05 40 36.0**	**+0.7**
	6.9nm,0.6s,baz=129,slow=6.0,SNR=19								
KS15	**Wonju Array Si**	**76.54**	**319**	*eP*		**P**		**05 40 36.0**	**+0.6**
KSAR	**Wonju Array Be**	**76.54**	**319**	P		**P**		**05 40 36.0**	**+0.6**
KS01	**Wonju Array Si**	**76.56**	**319**	*eP*		**P**		**05 40 36.2**	**+0.6**
MNAI	**Manna**	**77.90**	**270**	*eP*		**P**		**05 40 43.9**	**+0.5**
	112nm,1.0s								
CHGN	**Chignik**

PNTR **Pine Nut** 80.67 42 *e*P P 05 40 59.2 +1.5
23nm,1.0s
KDAK **Kodiak Island** 80.71 14 P P 05 40 57.6 +0.5
19nm,1.0s,baz=177,slow=4.8,SNR=5.2
HUMO **Hull Mountain** 80.75 38 *e*P P 05 41 00.2 +2.4
15nm,1.1s
VCNR **Virginia City** 80.76 42 *e*P P 05 40 59.4 +1.3
9.4nm,1.0s
YERR **Yerington** 80.84 43 *e*P P 05 40 59.9 +1.4
10nm,0.7s
GMRC **Granite Mounta** 80.89 48 P P 05 41 00.0 +1.2
baz=238
L04D **Klamath Falls** 80.89 39 P P 05 41 00.3 +1.6
baz=232,SNR=5.2
M04C **Macdoel** 80.90 39 P P 05 41 00.8 +2.0
baz=232
IRM **Iron Mountain** 80.92 49 P P 05 41 00.7 +1.8
baz=238,SNR=6.4
GRAC **Grapevine Rang** 80.93 45 P P 05 41 00.8 +2.0
baz=236
FURC **Furnace Creek,** 80.98 46 P P 05 41 00.6 +1.6
baz=237
TUQ **Turquoise Moun** 81.06 47 P P 05 41 01.6 +1.9
baz=237
RYN **Ryan** 81.09 43 *e*P P 05 41 01.3 +1.4
6.7nm,1.0s
NVAR **Mina Array Bea** 81.12 44 P P 05 41 01.7 +1.6
4.5nm,0.7s,baz=224,slow=9.0,SNR=29
NVAR pP **pP** 05 43 05.5 +1.7
2.3nm,1.1s,baz=238,slow=10,SNR=3.0
NV01 **Mina Array Sit** 81.12 44 *e*P P 05 41 01.1 +1.0
Y12C **Blythe** 81.14 49 *e*P P 05 41 02.0 +2.0
6.8nm,0.8s
Y12C **Blythe** 81.14 49 P P 05 41 02.0 +2.0
baz=238
113A **Mohawk Valley,** 81.18 50 *e*P P 05 41 02.1 +1.9
8.5nm,0.9s
NV11 **Mina Array Sit** 81.22 44 *e*P P 05 41 01.9 +1.5
1.0nm,1.0s
LDFC **Landfair** 81.43 48 *e*P P 05 41 03.3 +1.8
19nm,0.8s
214A **Organ Pipe Nat** 81.46 51 P P 05 41 03.5 +1.8
baz=240
KVN **Kaiserville** 81.60 43 *e*P P 05 41 03.4 +0.9
9.0nm,0.8s
MAW **Mawson** 81.62 200 P P 05 41 02.2 +0.4
4.0nm,0.5s,baz=141,slow=5.4,SNR=18
MAW **Mawson** 81.62 200 *e*P P 05 41 02.5 +0.7
0.8nm,0.6s
TPNV **Topopah Spring** 81.65 46 *e*P P 05 41 04.3 +1.6
8.2nm,0.9s
TPNV **Topopah Spring** 81.65 46 P P 05 41 04.1 +1.4
baz=237,SNR=8.7
PDMCI **Parker Dam,Lak** 81.70 49 P P 05 41 04.8 +2.0
baz=239
I04A **Tendick Farm,** 81.80 37 P P 05 41 04.9 +1.8
baz=232
MOD **Modoc Plateau** 81.89 40 *e*P P 05 41 05.0 +1.2
6.3nm,1.0s
CN2 **Changchun** 81.95 323 *e*P P 05 41 04.3 +0.5
CN2 pmax pmax
comp=Z,30nm,1.1s
WHN **Wuhan** 82.06 307 ⇓*i*P P 05 41 05.1 +0.4
H04D **Lebanon** 82.07 37 P P 05 41 05.6 +1.1
baz=231
SHPR **Sheep Range** 82.15 47 *e*P P 05 41 06.7 +1.5
6.4nm,1.1s
J05D **Fort Rock, OR** 82.17 38 P P 05 41 07.0 +1.8
baz=233,SNR=22
KLR **Kul'dur** 82.20 330 P P 05 41 05.6 +0.6
11nm,1.0s,baz=110,slow=4.3,SNR=15
W13A **Hualapai Mount** 82.29 48 *e*P P 05 41 07.9 +1.8
5.2nm,0.9s
H04A **Detroit Lake** 82.48 37 *e*P P 05 41 07.9 +1.4
12nm,1.0s
PINE **Pine Mountain** 82.64 38 *e*P P 05 41 09.2 +1.6
38nm,1.1s
I05D **Terrebonne, OR** 82.75 37 P P 05 41 09.7 +1.8
baz=232
IPM **Ipoh** 82.77 277 *e*P P 05 41 09.5 +0.8
34nm,0.7s
R11A **Troy Canyon, C** 82.85 45 *e*P P 05 41 09.9 +1.1
3.2nm,1.1s
R11A **Troy Canyon, C** 82.85 45 P P 05 41 10.0 +1.2
baz=237
TUC **Tucson** 83.13 52 *e*P P 05 41 12.2 +2.1
7.3nm,0.9s
TUC **Tucson** 83.13 52 P P 05 41 12.4 +2.2
baz=241
WVOR **Wild Horse Val** 83.20 40 *e*P P 05 41 11.8 +1.5
13nm,1.0s
G05D **Wamic, OR** 83.31 37 P P 05 41 12.4 +1.7
baz=232
KULM **Kulim** 83.41 278 P P 05 41 12.0 +0.1
MA2 **Magadan** 83.52 345 P P 05 41 10.8 -0.5
12nm,0.8s,baz=94,slow=3.9,SNR=4.7
I07A **Izee** 83.65 38 *e*P P 05 41 14.2 +1.7
10nm,1.0s
G06A **Carlson Farm,** 83.69 37 *e*P P 05 41 13.6 +1.0
2.3nm,0.9s
D04E **Lakebay** 83.71 34 P P 05 41 14.6 +2.1
baz=231
LCMT **Little Creek M** 83.72 47 *e*P P 05 41 14.3 +1.2
7.1nm,1.1s
D03D **Eldon** 83.77 34 P P 05 41 15.0 +2.2
baz=231
319A **Douglas** 83.81 53 *e*P P 05 41 15.9 +2.3
12nm,0.8s
J08A **Circle Bar Ran** 83.83 39 *e*P P 05 41 14.7 +1.2
2.7nm,0.8s
CCUT **Cedar City** 83.92 46 *e*P P 05 41 15.7 +1.5
4.1nm,0.9s
KNB **Kanab** 84.02 47 *e*P P 05 41 15.7 +1.2
12nm,1.2s
U15A **North Rim** 84.08 48 *e*P P 05 41 17.0 +1.9
8.5nm,0.7s
PSUT **Pine Spring** 84.10 45 *e*P P 05 41 16.2 +1.2
2.9nm,0.8s
SKLT **Songkhla** 84.11 280 P P 05 41 17.1 +1.8
50nm,1.0s,819nm
D05A **Enumclaw** 84.14 35 *e*P P 05 41 16.6 +2.0
3.6nm,0.7s
PSI **Prapat** 84.14 275 P P 05 41 15.0 -0.6
11nm,0.8s,baz=180,slow=4.0,SNR=7.8
PSI **Prapat** 84.14 275 *e*P P 05 41 14.9 -0.7
17nm,0.9s
WUAZ **Wupatki** 84.27 49 *e*P P 05 41 17.2 +1.3
8.8nm,1.1s
WUAZ **Wupatki** 84.27 49 P P 05 41 17.7 +1.8
baz=240
G08A **Pilot Rock** 84.67 38 *e*P P 05 41 18.9 +1.4
13nm,1.1s
SKNT **Sakolnakorn** 84.73 290 P P 05 41 19.8 +1.5
19nm,1.1s
B05A **Bryant** 84.75 34 P P 05 41 19.4 +1.8
baz=232
PMR **Palmer** 84.92 14 *e*P P 05 41 18.2 +0.1
17nm,1.0s
E07A **Sunnyside** 84.92 36 *e*P P 05 41 19.7 +1.1
2.1nm,0.8s
HAWA **Hanford** 85.00 36 *e*P P 05 41 19.8 +0.9
2.5nm,0.9s
TRTT **Trang** 85.21 280 P P 05 41 22.4 +1.7
19nm,1.3s,577nm
DIV **Divide** 85.29 15 *e*P P 05 41 20.4 +0.4
21nm,1.0s
E08A **Dider Farm, El** 85.32 37 *e*P P 05 41 21.8 +1.4
15nm,1.1s
SRAK **Srakaew** 85.33 287 P P 05 41 21.2 0.0
35nm,1.4s,535nm
BMO **Blue Mountains** 85.38 39 *e*P P 05 41 21.7 +0.8
9.4nm,1.0s
BMRM **Bremner River** 85.45 16 *e*P P 05 41 21.1 +0.4
20nm,1.1s
BJT **Baijiatuau** 85.52 316 *e*P P 05 41 21.9 +0.4
6.9nm,0.7s
BJI **Beijing** 85.52 316 ⇓*i*P P 05 41 21.8 +0.3
BJI pmax pmax
comp=Z,25nm,2.1s
SCM **Sheep Creek Mo** 85.53 14 *e*P P 05 41 21.2 0.0
33nm,0.8s
ENH **Enshi** 85.66 304 *e*P P 05 41 23.3 +0.8
68nm,1.0s
E09A **Wood Farm, Sta** 85.85 37 *e*P P 05 41 24.2 +1.3
5.0nm,1.0s
NONG **Nongkai** 85.89 291 P P 05 41 25.5 +1.7
0.6nm,1.8s,51nm
CAST **Castle Rocks** 85.96 12 *e*P P 05 41 23.0 -0.1
15nm,0.7s
F10A **Beach Ranch, E** 86.06 38 *e*P P 05 41 25.0 +0.9
12nm,0.8s
CHAI **Chaiyaphum** 86.09 288 P P 05 41 25.8 +1.0
7.0nm,0.6s
SEY **Seymchan** 86.12 347 P P 05 41 23.6 -0.2
18nm,0.6s,baz=146,slow=5.8,SNR=54
GYA **Guiyang** 86.27 300 *e*P P 05 41 27.5 +1.9
GYA pP pP 05 43 33.3 +1.9
GYA sP sP 05 44 31.0 +0.9
GYA PP **PP** **05 45 01.6 +3.7**
GYA SKS **SKSac** **05 50 57.4 +0.5**
GYA S **S** **05 51 13.3 +0.3**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.6s
TMUT **Trail Mountain** 86.27 46 *e*P P 05 41 26.4 +0.9
7.7nm,1.0s
B08A **Colville Reser** 86.27 35 *e*P P 05 41 24.7 -0.2
11nm,1.0s
TRF **Thorofare Moun** 86.34 12 *e*P P 05 41 24.7 -0.4
42nm,1.0s
HLID **Hailey** 86.41 41 *e*P P 05 41 27.4 +1.5
9.0nm,1.0s
HLID **Hailey** 86.41 41 P P 05 41 28.0 +2.1
baz=238
SPUT **South Promonto** 86.46 44 *e*P P 05 41 27.8 +1.6
0.7nm,0.8s
HVU **Hansel Valley** 86.50 43 *e*P P 05 41 26.6 +0.3
2.2nm,0.8s
C09A **Chrisman Ranch** 86.52 36 *e*P P 05 41 27.0 +0.9
8.1nm,0.8s
RND **Reindeer** 86.59 13 *e*P P 05 41 25.9 -0.2
46nm,0.9s
DHY **Denali Highway** 86.62 14 *e*P P 05 41 26.0 -0.4
12nm,1.0s
SRU **San Rafael Swe** 86.64 46 *e*P P 05 41 27.4 +0.3
9.3nm,0.9s
P17A **Butcher Ranch,** 86.67 46 *e*P P 05 41 28.4 +1.1
1.2nm,0.6s
JLU **Jordanelle** 86.76 45 *e*P P 05 41 28.7 +0.9
1.6nm,0.9s
SYO **Syowa Base** 86.83 193 ⇓*e*P P 05 41 26.0 -1.3
SYO **Syowa Base** 86.83 193 ⇓*i*PcP P 05 41 27.0 -0.3
MCK **McKinley** 86.86 13 *e*P P 05 41 26.8 -0.6
8.7nm,0.8s
MNTX **Cornudas Mount** 86.92 55 *e*P P 05 41 30.3 +2.0
8.1nm,1.0s
MNTX **Cornudas Mount** 86.92 55 P P 05 41 30.0 +1.6
baz=244
TCUT **Toone Canyon** 87.04 44 *e*P P 05 41 30.6 +1.6
15nm,1.2s
PHET **Kaeng Krachan** 87.10 285 P P 05 41 32.0 +2.4
17nm,1.0s,199nm
MVCO **Mesa Verde** 87.12 49 P P 05 41 29.9 +0.4
baz=242
HWUT **Hardware Ranch** 87.19 44 *e*P P 05 41 30.5 +0.9
3.0nm,0.9s
LTX **Lajitas** 87.24 57 *e*P P 05 41 31.6 +1.6
TX31 **Lajitas Ar. Si** 87.24 57 *e*P P 05 41 31.9 +1.8
TXAR **Lajitas Array** 87.24 57 P P 05 41 31.6 +1.6
5.3nm,0.8s,baz=220,slow=6.7,SNR=38
PBKT **Sadao Pong** 87.25 289 *e*P P 05 41 31.9 +1.7
14nm,0.9s
PBKT **Sadao Pong** 87.25 289 P P 05 41 32.0 +1.8
28nm,1.5s
PV10 **Paradox Valley** 87.30 47 *e*P P 05 41 31.1 +0.8
PV14 **Lion Creek, Pa** 87.31 47 *e*P P 05 41 31.6 +1.3
2.6nm,0.9s
PV03 **Paradox Valley** 87.37 48 *e*P P 05 41 31.7 +1.1
PV11 **David Mesa, Pa** 87.38 48 *e*P P 05 41 31.8 +1.2
6.1nm,1.2s
NEW **Newport** 87.42 36 P P 05 41 31.2 +0.9
2.1nm,0.7s,baz=293,slow=6.7,SNR=3.8
PV21 **Cone Mtn., Par** 87.43 47 *e*P P 05 41 32.4 +1.5
5.0nm,0.9s
PV12 **Saucer Basin,** 87.43 48 *e*P P 05 41 32.3 +1.4
7.2nm,1.1s
PV01 **Paradox Valley** 87.51 48 *e*P P 05 41 32.1 +0.9
PV22 **Blue Mesa, Par** 87.55 47 *e*P P 05 41 32.1 +0.7
4.1nm,1.2s
ANMO **Albuquerque** 87.55 51 P P 05 41 32.5 +1.0
2.8nm,0.9s,baz=218,slow=4.7,SNR=9.3
ANMO **Albuquerque** 87.55 51 *e*P P 05 41 32.2 +0.7
3.0nm,0.8s
ANMO **Albuquerque** 87.55 51 P P 05 41 32.5 +1.0
baz=243
MLY **Manley** 87.68 11 *e*P P 05 41 30.4 -0.8
12nm,0.7s
WRH **Wood River Hil** 87.69 13 *e*P P 05 41 30.5 -0.7
33nm,0.9s
XAN **Xi'an** 87.75 307 P P 05 41 32.9 +0.6
XAN S **S** 05 51 29.9 +3.5
XAN pmax pmax
comp=Z,42nm,1.3s
XAN pmax pmax
comp=Z,310nm,10.8s
RIDG **Independ'e Rid** 87.77 14 *e*P P 05 41 31.4 -0.2
6.1nm,1.1s
HDA **Harding Lake** 87.88 13 *e*P P 05 41 32.0 -0.1
23nm,0.8s
CCB **Clear Creek Bu** 87.91 13 *e*P P 05 41 31.6 -0.6
26nm,0.6s
DLBC **Dease Lake** 88.01 23 P P 05 41 34.3 +1.4
3.7nm,0.8s,baz=209,slow=4.9,SNR=4.4
DLBC **Dease Lake** 88.01 23 *e*P P 05 41 34.3 +1.4
1.0nm,0.6s
MCMT **McKenzie Canyo** 88.03 40 *e*P P 05 41 34.9 +1.4
IM3 **Indian Mountai** 88.03 10 *e*P P 05 41 32.7 -0.1
UTTA **Uttaradit** 88.05 290 P P 05 41 35.8 +1.9
4.1nm,1.3s,81nm
SRDT **SRDT** 88.08 286 P P 05 41 36.3 +2.2
35nm,1.1s
SRDT **SRDT** 88.08 286 P P 05 41 36.3 +2.2
TCOL **CIGO, UAF Yank** 88.10 13 P P 05 41 33.7 +0.6
baz=208
MDM **Murphy Dome** 88.10 12 *e*P P 05 41 31.9 -1.2
30nm,1.0s
COLA **College** 88.10 13 *e*P P 05 41 32.6 -0.4
32nm,0.8s
SCRK **Sand Creek** 88.17 14 *e*P P 05 41 34.1 +0.5
19nm,1.1s
SNAA **Sanae** 88.20 179 P P 05 41 33.0 -0.8
SNAA **Sanae** 88.20 179 P P 05 41 33.0 -0.8
1.7nm,0.5s,baz=204,slow=12,SNR=20
SNAA **Sanae** 88.20 179 *e*P P 05 41 33.6 -0.2
4.7nm,1.0s
IL1 **Eielson Array** 88.21 13 *e*P P 05 41 32.5 -1.1
ILAR **Eielson Array** 88.21 13 P P 05 41 32.8 -0.9
4.4nm,0.4s,baz=217,slow=5.5,SNR=126
ILB **Eielson Array** 88.21 13 *e*P P 05 41 32.7 -0.9
UTHA **Uthaitani** 88.23 287 P P 05 41 36.6 +1.8
9.3nm,0.9s,91nm
UTHA **Uthaitani** 88.23 287 P P 05 41 36.6 +1.8
VNA3 **Neumayer Olymp** 88.35 176 P P 05 41 33.7 -0.7
POKR **Poker Plat Res** 88.40 13 P P 05 41 34.4 -0.1
baz=209
MSO **Missoula** 88.43 38 P P 05 41 35.2 0.0
baz=238
DLMT **Dillon** 88.46 40 *e*P P 05 41 36.8 +1.4
4.4nm,1.0s
REDW **Red Top Meadow** 88.52 42 *e*P P 05 41 37.5 +1.7
11nm,1.0s
TPAW **Teton Pass** 88.52 42 *e*P P 05 41 37.1 +1.2
1.8nm,0.8s
S22A **4UR Ranch, Cre** 88.55 49 *e*P P 05 41 37.7 +1.5
4.8nm,1.0s
S22A **4UR Ranch, Cre** 88.55 49 P P 05 41 37.5 +1.3
baz=243
FXWY **Fox Creek** 88.55 42 *e*P P 05 41 37.6 +1.5
3.8nm,1.0s
O20A **White River Ci** 88.67 46 *e*P P 05 41 37.7 +1.1
1.8nm,0.8s
O20A **White River Ci** 88.67 46 P P 05 41 38.0 +1.4
baz=242
IMW **Indian Meadow** 88.73 42 *e*P P 05 41 38.1 +1.2
12nm,1.0s
SUKH **Sukhothai** 88.77 289 P P 05 41 39.2 +1.9
11nm,1.1s
MOOW **Moose Ponds** 88.78 42 *e*P P 05 41 38.3 +1.2
3.3nm,1.0s
VNA2 **Neumayer--Watz** 88.79 177 P P 05 41 36.3 -0.1
baz=205,slow=3.9
LOHW **Long Hollow** 88.80 42 *e*P P 05 41 38.0 +0.8
4.7nm,0.8s
RDOG **Red Dog Mine** 88.84 6 *e*P P 05 41 37.0 +0.6
11nm,1.0s
LNIG **Linares** 88.87 63 *e*P P 05 41 36.8 -0.9
14nm,1.1s
QLMT **Earthquake Lak** 88.90 41 *e*P P 05 41 39.1 +1.6
KMI **Kunming** 88.97 297 P P 05 41 40.0 +1.6
KMI pmax pmax
comp=Z,34nm,0.8s
KMI pmax pmax
comp=Z,260nm,4.6s
FLWY **Flagg Ranch** 88.98 42 *e*P P 05 41 39.9 +2.0
12nm,1.1s
HHC **Hu-ho-hao-te** 88.98 314 *e*P P 05 41 38.6 +0.7
HHC SKS **SKSac** 05 51 13.0 +0.7
HHC pmax pmax
comp=Z,28nm,0.9s
HHC pmax pmax
comp=Z,240nm,5.6s
UMPA **Umpang Tak** 88.99 288 P P 05 41 41.3 +2.9
5.6nm,1.1s
UMPA **Umpang Tak** 88.99 288 P P 05 41 41.3 +2.9
5.6nm,1.1s
YHB **Horse Butte** 89.00 41 *e*P P 05 41 40.0 +1.9
7.2nm,1.1s
YPP **Pitchstone Pla** 89.00 42 *e*P P 05 41 40.0 +1.8
1.9nm,1.0s
VNA1 **Neumayer--Stat** 89.02 177 P P 05 41 37.5 0.0
BW06 **Boulder Array** 89.06 43 *e*P P 05 41 39.4 +1.0
10.0nm,1.1s
BW06 **Boulder Array** 89.06 43 P P 05 41 39.3 +1.0
baz=241
PD31 **Pinedale Array** 89.06 43 *e*P P 05 41 39.0 +0.7
PDAR **Pinedale Array** 89.06 43 P P 05 41 39.3 +1.0
3.4nm,0.6s,baz=204,slow=2.9,SNR=38
PDAR **Pinedale Array** 89.06 43 *e*P P 05 41 39.1 +0.8
YFT **Old Faithful** 89.07 41 *e*P P 05 41 40.9 +2.4
7.8nm,1.1s
YMR **Madison River** 89.10 41 *e*P P 05 41 40.8 +2.3
18nm,1.1s
LAMP **Lampang** 89.15 290 P P 05 41 41.0 +1.9
16nm,0.9s
BOZ **Bozeman (W)** 89.16 40 P P 05 41 40.2 +1.5
baz=240
H17A **Grant Village** 89.21 42 P P 05 41 41.6 +2.5
baz=240
YHH **Holmes Hill** 89.23 41 *e*P P 05 41 41.5 +2.2
2.2nm,1.1s
PAYA **Payao** 89.25 291 P P 05 41 40.8 +1.3
15nm,0.9s
DAWY **Dawson** 89.37 16 *e*P P 05 41 39.7 +0.6
18nm,1.0s
SDCO **Great Sand Dun** 89.49 49 *e*P P 05 41 41.4 +0.8
1.2nm,0.8s
SDCO **Great Sand Dun** 89.49 49 P P 05 41 41.4 +0.8
baz=244
EGAK **Eagle** 89.51 15 *e*P P 05 41 39.7 +0.1
20nm,0.9s
HRY **Holter Researc** 89.61 39 *e*P P 05 41 41.3 +0.6
PLCA **Paso Flores** 89.64 134 P P 05 41 43.0 +1.9
1.6nm,0.7s,baz=236,slow=3.7,SNR=6.7
CM01 **Chiang Mai Arr** 89.71 290 *e*P P 05 41 42.9 +1.2
CM31 **Chiang Mai Arr** 89.74 290 *e*P P 05 41 43.7 +1.9
CMAR **Chiang Mai Arr** 89.74 290 P P 05 41 43.4 +1.6
15nm,0.9s,baz=121,slow=2.9,SNR=75
CMAR PP **PP** 05 45 26.0 +0.9
1.3nm,0.7s,baz=134,slow=6.5,SNR=6.2
CMMT **Chiang Mai** 89.86 290 P P 05 41 43.5 +1.1
42nm,1.2s
CMMT **Chiang Mai** 89.86 290 P P 05 41 43.1 +1.1
42nm,1.2s
CHTO **Chiang Mai** 89.86 290 *e*P P 05 41 43.2 +0.8
24nm,0.7s
CHTO **Chiang Mai** 89.86 290 P P 05 41 43.6 +1.2
186nm,1.2s
CHTO **Chiang Mai** 89.86 290 P P 05 41 43.6 +1.2
186nm,1.2s
MSTX **Muleshoe** 89.87 54 P P 05 41 43.1 +0.9
baz=245
T25A **Trinidad** 90.00 50 P P 05 41 43.9 +1.0
baz=244
833A **Chaparral WMA,** 90.26 60 P P 05 41 44.5 +0.5
baz=247
Q24A **Divide** 90.27 48 P P 05 41 45.2 +1.0
baz=244
RLMT **Red Lodge** 90.38 41 P P 05 41 46.0 +1.6
baz=241
CD2 **Chengdu** 90.41 303 *e*P P 05 41 46.0 +1.3
N23A **Red Feather La** 90.58 46 P P 05 41 47.3 +1.8
baz=243
JCT **Junction City** 90.77 58 P P 05 41 46.8 +0.4
baz=247
K22A **Casper** 90.98 45 P P 05 41 47.9 +0.7
baz=243
TOLK **Toolik Lake Re** 91.13 10 *e*P P 05 41 47.5 +0.4
YAK **Yakutsk** 91.82 338 P P 05 41 49.8 -0.5
13nm,0.4s,baz=208,slow=1.3,SNR=4.7
YAK **Yakutsk** 91.82 338 *e*P P 05 41 50.0 -0.3
31nm,0.8s
EPYK **Eagle Plains** 91.90 16 P P 05 41 51.8 +1.1
baz=219
LZH **Lanzhou** 92.39 308 *e*P P 05 41 55.3 +1.5
LZH pP pP 05 44 07.4 +6.3
LZH pmax pmax
comp=Z,71nm,1.3s
LZH pmax pmax
comp=Z,140nm,4.7s
INK **Inuvik** 94.18 15 P P 05 42 00.5 -0.5
5.2nm,1.1s,baz=209,slow=6.0,SNR=5.5
INK **Inuvik** 94.18 15 *e*P P 05 42 00.4 -0.6
3.6nm,1.0s
DGMT **Dagmar** 95.00 40 P P 05 42 06.7 +1.5
baz=245
ULN **Ulaanbaatar** 95.00 319 *e*P P 05 42 04.8 -0.7
3.7nm,0.6s
SONA0 **Songino Array** 95.39 319 *e*P P 05 42 06.6 -0.6
SONA1 **Songino Array** 95.39 319 *e*P P 05 42 06.6 -0.6
SONM **Songino Array** 95.39 319 P P 05 42 06.6 -0.6
1.5nm,0.7s,baz=135,slow=4.5,SNR=6.8
GTA **Gaotai** 96.60 309 *e*P P 05 42 12.9 +0.1
GTA pmax pmax
comp=Z,7.0nm,1.3s
ZALV **Zalesovo Beam** 110.14 321 PKiKP **PKiKP** 05 47 08.8 -1.4
2.5nm,0.6s,baz=143,slow=2.0,SNR=11
ZAA1 **Zalesovo Array** 110.14 321 *e*PKiKP **PKiKP** 05 47 08.8 -1.4
MK32 **Makanchi Array** 110.83 314 *e*PKiKP **PKiKP** 05 47 10.9 -0.9
MKAR **Makanchi Array** 110.83 314 PKiKP **PKiKP** 05 47 10.9 -0.9
2.7nm,0.6s,baz=120,slow=0.3,SNR=19
KURK **Kurchatov** 113.63 317 *e*PKiKP **PKiKP** 05 47 16.1 -0.8
KURK *e*PP **PP** 05 48 16.2 -4.6
KURBB **Kurchatov Arra** 113.68 317 PKiKP **PKiKP** 05 47 16.1 -0.9
2.9nm,0.6s,baz=94,slow=1.8,SNR=25
KURBB PP **PP** 05 48 16.2 -4.9
2.5nm,1.0s,baz=94,slow=5.6,SNR=6.6
KSH **Kashi** 114.51 305 *e*PKP PKPdf 05 47 19.8 +0.7
AAK **Ala-Archa** 115.92 308 PKP **PKPdf** 05 47 18.1 -3.7
2.1nm,0.3s,baz=127,slow=4.0,SNR=12
BVAR **Borovoye Array** 118.72 320 PKP **PKPdf** 05 47 25.7 -0.9
6.7nm,0.4s,baz=123,slow=1.3,SNR=35
BVAR PP PP 05 48 43.6 -12
0.4nm,0.4s,baz=87,slow=6.2,SNR=2.1
BRVK **Borovoye** 118.78 320 *e*PKPdf **PKPdf** 05 47 26.3 -0.5
KK31 **Karatay Array** 118.87 309 *e*PKPdf **PKPdf** 05 47 26.7 -0.6
KKAR **Karatay Array** 118.87 309 *e*PKPdf **PKPdf** 05 47 26.7 -0.6
BATG **Bathurst New B** 119.68 46 *e*PKPdf **PKPdf** 05 47 28.1 -0.6
SUR **Sutherland** 124.48 200 PKP **PKPdf** 05 47 39.3 +0.6
12nm,1.2s,baz=236,slow=7.3,SNR=4.2
ARU **Arti** 124.86 325 PKP **PKPdf** 05 47 38.7 +0.4
11nm,0.6s,baz=85,slow=1.1,SNR=16
ABKAR **Akbulak array** 125.72 317 *e*PKPdf **PKPdf** 05 47 39.8 -0.3
AKTO **Aktyubinsk** 126.70 318 PKP **PKPdf** 05 47 41.8 -0.3
4.7nm,0.6s,baz=80,slow=3.4,SNR=16
GEYT **Alibeck** 128.40 303 PKP **PKPdf** 05 47 44.6 -1.1
2.2nm,0.6s,baz=133,slow=3.9,SNR=7.5
GEYT PP **PP** 05 49 57.4 -2.8
0.8nm,0.3s,baz=93,slow=28,SNR=5.1
GYA0B **ALIBECK ARRAY** 128.40 303 *e*PKPdf **PKPdf** 05 47 46.7 +1.0
ARA0 **ARCESS Array S** 128.68 349 *e*PKPdf **PKPdf** 05 47 44.1 -1.1
ARCES **ARCESS Array B** 128.68 349 PKP **PKPdf** 05 47 44.1 -1.1
4.4nm,0.6s,baz=108,slow=1.8,SNR=32
ARCES **ARCESS Array B** 128.68 349 *e*PKPdf **PKPdf** 05 47 45.4 +0.1
ARE0 **ARCESS Array S** 128.68 349 *e*PKPdf **PKPdf** 05 47 45.3 +0.1
LBTB **Lobatse** 129.28 208 SKPbc SKPbc 05 50 16.0 +0.4
1.9nm,0.8s,baz=153,slow=10,SNR=3.8
UOSS **Minazif** 129.70 286 *e*PKPdf **PKPdf** 05 47 48.2 -0.3
KLMR **Klimovskoe** 131.57 336 *e*PKPdf **PKPdf** 05 47 50.4 -0.5
KLMR AMP 05 47 52.6
comp=Z,14nm,1.4s
KLMR *e*PP **PP** 05 50 22.0 +2.7

MATP **Matopo** 131.73 215 SKPbc **SKPab** 05 50 26.2 +0.4
comp=Z,8.1nm,0.9s,baz=148,slow=3.9,SNR=13
FIA0 **FINESS Array S** 135.50 344 *e*PKPpre PKPpre 05 47 43.7
FIA0 *e*PKPdf **PKPdf** **05 47 57.6 -0.7**
FIA0 *e*SKPbc **SKPbc** **05 50 36.0 +0.8**
FINES **FINESS Array B** 135.50 344 PKhKP PKPpre 05 47 43.7
comp=Z,0.5nm,0.3s,baz=45,slow=3.8,SNR=8.9
FINES PKP **PKPdf** **05 47 57.6 -0.7**
comp=Z,1.0nm,0.4s,baz=72,slow=1.7,SNR=7.1
FINES SKPbc **SKPbc** **05 50 36.0 +0.8**
comp=Z,3.5nm,0.9s,baz=45,slow=8.4,SNR=4.9
LSZ **Lusaka** 136.05 218 SKPbc **SKPbc** **05 50 40.1 +1.5**
comp=Z,2.7nm,0.8s,baz=153,slow=1.4,SNR=5.1
OBN **Obninsk** 136.43 331 SKPbc **SKPbc** **05 50 39.0 +0.8**
comp=Z,4.5nm,0.4s,baz=90,slow=4.0,SNR=12
KBZ **Khabaz** 138.52 314 SKPbc **SKPbc** **05 50 45.2 +0.6**
comp=Z,1.4nm,0.7s,baz=50,slow=2.8,SNR=4.2
NC303 **NORSAR Array S** 138.56 353 *e*PKPpre PKPpre 05 47 54.4
NC303 *e*PKPdf **PKiKP** **05 48 05.5 -0.7**
NB201 **NORSAR Array S** 138.74 353 *e*PKPpre PKPpre 05 47 55.3
NB201 *e*PKPdf **PKPdf** **05 48 04.5 +0.2**
NB2 **NORSAR Subarra** 138.76 353 PKP PKPpre 05 47 55.0
comp=Z,2.1nm,0.6s,baz=13,slow=3.3
NB200 **NORSAR Array S** 138.76 353 *e*PKPpre PKPpre 05 47 54.7
NB200 *e*PKPdf **PKiKP** **05 48 05.8 -0.9**
NB200 *e*SKPdf **SKPdf** **05 50 38.5 -5.8**
NOA **NORSAR Array B** 138.76 353 PKhKP PKPpre 05 47 54.7
comp=Z,0.5nm,0.6s,baz=8.6,slow=11,SNR=14
NOA PKP **PKiKP** **05 48 05.8 -0.9**
comp=Z,0.6nm,0.5s,baz=32,slow=1.5,SNR=4.8
NOA SKPbc **SKPdf** **05 50 38.5 -5.8**
comp=Z,0.9nm,1.0s,baz=69,slow=3.5,SNR=3.3
NAO01 **NORSAR Array S** 138.98 353 *e*PKPpre PKPpre 05 47 58.9
NC602 **NORSAR Array S** 139.01 353 *e*PKPpre PKPpre 05 47 58.2
KONO **Kongsberg** 140.29 354 *e*PKPpre PKPpre 05 48 00.8
KAC **Achnashellach** 142.51 6 *e*P PKPpre 05 48 08.2
SUW **Suwalki** 142.55 339 *e*PKP PKPpre 05 48 08.6
SUW **Suwalki** 142.55 339 *e*PKPpre PKPpre 05 48 09.1
MCD **Coleburn Disti** 142.60 4 *e*P PKPpre 05 48 07.6
KPL **Plockton** 142.63 7 *e*P PKPpre 05 48 08.2
AKASG **Malin Array Be** 142.69 331 PKhKP PKPpre 05 48 07.8
comp=Z,28nm,0.5s,baz=44,slow=4.4,SNR=124
AKASG SKPbc **SKiKP** **05 50 55.9 -0.4**
comp=Z,2.1nm,0.7s,baz=47,slow=2.5,SNR=13
AKBB **Malin Array Si** 142.69 331 *e*PKPpre PKPpre 05 48 08.0
KIEV **Kiev** 142.70 331 *e*PKPpre PKPpre 05 48 08.1
AK11 **Malin Array Si** 142.73 331 *e*PKPpre PKPpre 05 48 08.1
DRUM **Mains of Drumt** 143.32 4 *e*P PKPab 05 48 10.3 -0.6
MUD **Monsted U'grnd** 143.47 353 *i* P PKPab 05 48 11.4 -0.1
comp=Z,79nm,0.8s
EDU **Dundee** 143.65 4 *e*P PKPbc 05 48 11.9 -0.3
INVG **Invergeldie, C** 143.69 5 *e*P PKPbc 05 48 11.6 -0.7
LAWE **Loch Awe, Argy** 143.72 7 *e*P PKPbc 05 48 12.0 -0.4
COP **Copenhagen** 143.76 350 *i* P PKPbc 05 48 12.5 0.0
BSD **Bornholm Skovb** 143.83 347 *i* P PKPbc 05 48 12.4 -0.4
comp=Z,88nm,0.9s
EAB **Aberfoyle** 143.90 6 *e*P PKPbc 05 48 12.5 -0.5
ESY **Stoneypath** 144.31 4 *e*P PKPbc 05 48 13.7 -0.6
MBAR **Mbarara** 144.73 237 *e*PKPdf **PKPab** **05 48 17.8 -0.1**
CLGH **Cloghs, Cushen** 144.79 8 *e*P PKPbc 05 48 16.0 +0.3
ESK **Eskdalemuir** 144.86 5 *e*PKPdf PKPbc 05 48 16.1 +0.1
ESK **Eskdalemuir** 144.86 5 *e*P **PKPdf** **05 48 15.6 +0.3**
GKP **Gorka Klasztor** 144.97 344 *e*PKP PKPbc 05 48 16.5 +0.1
BEL **Belsk** 145.16 339 *e*PKP **PKPbc** **05 48 17.1 +0.2**
CTAK **Corum_Osmancik** 145.27 313 *i* P **PKPbc** **05 48 18.5 +0.6**
COAL **Corum-Alaca** 145.30 312 *i* P **PKPbc** **05 48 18.6 +0.6**
KIS **Kishinev** 145.40 327 ⇓ *i* PKP **PKPdf** **05 48 16.0 -0.5**
KIS M M 05 48 17.0
comp=Z,200nm,1.5s
KIS LRM MLR 06 53 20.0
comp=Z,600nm,22.0s
IOMK **Kirk Michael** 145.78 6 *e*P **PKPbc** **05 48 18.3 -0.4**
ILGA **Ilgaz** 145.82 314 *e*PKPbc **PKPbc** **05 48 19.8 +0.3**
WIM **Isle of Man** 145.88 7 *e*P **PKPbc** **05 48 18.7 -0.3**
GDLE **Glaisdale, N Y** 145.90 3 *e*P **PKPbc** **05 48 18.7 -0.3**
CDAG **Cicekdag** 146.00 312 *i* P **PKPbc** **05 48 19.7 -0.2**
LEOM **Leova** 146.04 326 ⇑ *i* P **PKPbc** **05 48 19.9 +0.3**
ELDT **Eldivan** 146.27 314 *i* P **PKPbc** **05 48 20.5 -0.3**
KWP **Kalwaria Pacla** 146.27 335 *e*PKP **PKPbc** **05 48 20.1 -0.1**
KWP **Kalwaria Pacla** 146.27 335 *e*PKPbc **PKPbc** **05 48 20.2 -0.1**
HPK **Haverah Park** 146.32 3 *e*P **PKPbc** **05 48 20.3 +0.2**
BR101 **Keskin Array S** 146.47 312 *e*PKPdf **PKPbc** **05 48 20.9 -0.4**
BR101 *e* 05 51 30.2
BR131 **Keskin Array S** 146.47 312 *e*PKPbc **PKPbc** **05 48 21.1 -0.2**
BRTR **Keskin Array B** 146.47 312 PKPbc **PKPbc** **05 48 20.9 -0.4**
comp=Z,12nm,0.6s,baz=135,slow=4.0,SNR=44
BRTR SKPab SKPab 05 51 30.2
comp=Z,2.4nm,1.1s,baz=155,slow=3.5,SNR=3.8
DSB **Dublin** 146.55 9 *e*PKPbc **PKPbc** **05 48 20.7 -0.1**
TLCR 146.56 324 ⇑ *i* P **PKPbc** **05 48 21.2 +0.1**
BUR08 **Bucovina Ar. S** 146.72 330 *e*PKPbc **PKPbc** **05 48 22.4 +0.7**
BUR04 **Bucovina Ar. S** 146.73 330 *e*PKPbc **PKPbc** **05 48 22.3 +0.6**
BURAR **Bucovina Array** 146.73 330 ⇓ *i* P **PKPbc** **05 48 22.4 +0.7**
WLF1 **Llynfaes** 146.75 7 *e*P **PKPbc** **05 48 20.8 -0.6**
BIZ **Bicaz** 146.80 329 ⇓ *i* P **PKPbc** **05 48 22.2 +0.5**
OJC **Ojcow** 146.87 339 *e*PKP **PKPbc** **05 48 21.6 -0.2**
OJC **Ojcow** 146.87 339 *e*PKPbc **PKPbc** **05 48 21.6 -0.2**
LBWR **Ladybower, Pea** 146.87 4 *e*P **PKPbc** **05 48 21.2 -0.5**
CFR **Carcaliu** 146.94 325 ⇑ *i* P **PKPbc** **05 48 22.1 0.0**
ANTO **Ankara** 146.99 313 *e*PKPbc **PKPbc** **05 48 22.5 0.0**
ANTO **Ankara** 146.99 313 ⇓ *i* P **PKPbc** **05 48 22.2 -0.4**
BR231 **Keskin MP Arra** 147.01 313 *e*PKPbc **PKPbc** **05 48 22.9 +0.2**
ODBI **Odobesti** 147.13 326 ⇓ *i* P **PKPbc** **05 48 23.3 +0.7**
VRI **Vrinceioaia** 147.23 327 ⇑ *i* P **PKPbc** **05 48 22.8 -0.1**
TIRR **Tirgusor** 147.24 323 *e*PKPbc **PKPbc** **05 48 23.3 +0.4**
TIRR **Tirgusor** 147.24 323 ⇑ *i* P **PKPbc** **05 48 23.4 +0.5**
FOEL **Foel Wylfa** 147.27 5 *e*P **PKPbc** **05 48 22.4 -0.4**
PLOR **Plostina** 147.28 327 ⇑ *i* P **PKPbc** **05 48 22.9 -0.2**
NIE **Niedzica** 147.36 337 *e*PKP **PKPbc** **05 48 23.5 +0.4**
HARR **Harsova** 147.36 324 ⇑ *i* P **PKPbc** **05 48 22.8 -0.4**
KSP **Ksiaz** 147.41 343 *e*PKP **PKPbc** **05 48 23.5 +0.3**
ARCR **ARCALIA** 147.52 331 ⇑ *i* P **PKPbc** **05 48 24.3 +0.7**
TRPA **Tarpa** 147.53 334 ⇑ *i* P **PKPbc** **05 48 23.8 +0.3**
CWF **Charnwood Fore** 147.55 3 *e*P **PKPbc** **05 48 22.8 -0.7**
HLM1 **Long Mynd** 147.66 5 *e*P **PKPbc** **05 48 23.3 -0.5**
CLL **Collm** 147.81 347 *e*PKPdf **PKPdf** **05 48 20.0 -0.3**
CLL ⇓ *i* PKPbc **PKPbc** **05 48 24.2 0.0**
comp=Z,57nm,0.8s
CLL *i* PKPab **PKPab** **05 48 28.9 +0.1**
comp=Z,32nm,0.8s
ISR **Istrita** 147.83 326 ⇑ *i* P **PKPbc** **05 48 25.6 +1.1**
DOPR **Dopca** 147.83 328 ⇓ *i* P **PKPbc** **05 48 24.7 +0.2**
DPC **Dobruska-Polom** 147.85 342 *e*PKP **PKPbc** **05 48 24.7 +0.3**
DPC *e*PKPAB **PKPab** **05 48 29.1 0.0**
LANS **Liptovska Anna** 147.88 338 *e*PKP **PKPbc** **05 48 25.0 +0.5**
LANS *e* 05 48 30.7
MLR **Muntele Rosu** 147.88 327 *e*PKPbc **PKPbc** **05 48 24.3 -0.4**
MLR **Muntele Rosu** 147.88 327 ⇑ *i* P **PKPbc** **05 48 24.5 -0.3**
KRLC **Kraliky** 147.96 342 ⇑ *e*PKP **PKPbc** **05 48 25.4 +0.7**
MORC **Moravsky Berou** 147.99 340 *e*PKPbc **PKPbc** **05 48 24.7 -0.1**
MORC **Moravsky Berou** 147.99 340 ⇓ *i* P **PKPbc** **05 48 24.8 0.0**
MORC **Moravsky Berou** 147.99 340 *e*PKP **PKPbc** **05 48 25.2 +0.4**
BRG **Berggiesshubel** 148.00 345 *e*PKP **PKPdf** **05 48 20.8 +0.1**
comp=Z,22nm,1.7s
BRG *i* 05 48 24.8
comp=Z,163nm,1.9s
BRG *i* 05 48 29.5
comp=Z,32nm,0.8s
BRG PKP **PKPbc** **05 50 39.4 -0.1**
comp=Z,9.2nm,1.5s
KECS **Kecovo** 148.06 336 *e*PKP **PKPbc** **05 48 24.4 -0.5**
KECS *e* 05 48 29.7
WTSB **Winterswijk** 148.15 354 *e*PKPbc **PKPbc** **05 48 25.0 0.0**
PVCC **Panska Ves** 148.16 344 ⇑ *e*PKP **PKPbc** **05 48 25.5 +0.4**
MCH1 **Michaelchurch** 148.17 5 *e*P **PKPbc** **05 48 23.9 -1.1**
CSS **Mathiatis** 148.52 304 *e*PKPbc **PKPbc** **05 48 25.9 -0.6**
PRA **Prague** 148.62 344 ⇑ *e*PKP **PKPbc** **05 48 26.7 +0.5**
ARR **Arges** 148.63 328 ⇑ *i* P **PKPbc** **05 48 27.5 +1.0**
VRAC **Vranov** 148.69 341 ⇓ *i* P **PKPbc** **05 48 26.7 +0.2**
VRAC **Vranov** 148.69 341 *e*PKP **PKPbc** **05 48 26.7 +0.2**
JAVC **Velka Javorina** 148.75 339 *e*PKP **PKPbc** **05 48 28.2 +1.5**
PSZ **Piszkesteto** 148.75 336 *e*PKPbc **PKPbc** **05 48 26.4 -0.3**
PSZ *e*PKPab **PKPab** **05 48 34.6 +1.7**
NKC **Novy Kostel** 148.94 347 ⇑ *e*PKP **PKPbc** **05 48 26.9 -0.2**
KRUC **Moravsky** 148.97 341 *e*PKP **PKPbc** **05 48 27.3 +0.2**
HUMR **Humele** 149.04 327 ⇓ *i* P **PKPbc** **05 48 27.4 -0.1**
SIRR **Siria** 149.35 332 ⇓ *i* P **PKPbc** **05 48 27.7 -0.5**
HGN **Heimansgroeve** 149.42 355 *e*PKPbc **PKPbc** **05 48 27.9 -0.2**
UCC **Uccle** 149.50 357 ⇑ PKP **PKPbc** **05 48 28.7 +0.3**
MEM **Membach** 149.57 355 ⇑ PKP **PKPbc** **05 48 29.0 +0.5**
KHC **Kasperske Hory** 149.70 344 *e*PKPdf **PKPdf** **05 48 23.5 0.0**
KHC *e*PKPbc **PKPbc** **05 48 29.1 +0.2**
KHC *e*PKPab **PKPab** **05 48 38.0 +1.3**
KHC **Kasperske Hory** 149.70 344 ⇑ *e*PKP **PKPbc** **05 48 29.1 +0.2**
KHC *e*PKPAB **PKPab** **05 48 37.7 +1.0**
GRFO **Grafenberg** 149.71 348 *e*PKPbc **PKPbc** **05 48 30.4 +1.5**
BCLA **Clavier** 149.82 355 ⇓ *e*PKPbc **PKPbc** **05 48 28.9 -0.2**
BCLA ⇑ *i* PKPab **PKPab** **05 48 36.2 -0.9**
SRE **Strehaia** 149.84 329 ⇓ *i* P **PKPbc** **05 48 29.9 +0.5**
BZS **Buzias** 149.88 331 ⇑ *i* P **PKPbc** **05 48 29.4 0.0**
GEC2 **GERESS Array S** 149.93 344 *e*PKPbc **PKPbc** **05 48 29.4 -0.2**
GERES **GERESS Array B** 149.93 344 PKPbc **PKPbc** **05 48 29.1 -0.5**
comp=Z,7.0nm,0.6s,baz=26,slow=2.5,SNR=49
GERES PKPab **PKPab** **05 48 38.1 +0.3**
comp=Z,2.6nm,0.5s,baz=25,slow=4.9,SNR=9.7
GERES *e*PKPab **pPKPab** **05 50 49.9 +2.6**
comp=Z,1.9nm,1.1s,baz=51,slow=0.9,SNR=3.4
GEA0 **GERESS Array S** 149.94 344 *e*PKPbc **PKPbc** **05 48 29.4 -0.2**
HERR **Herculane** 150.06 330 ⇑ *i* P **PKPbc** **05 48 29.4 -0.5**
CONA **Conrad Observa** 150.14 341 *i* PKPbc **PKPbc** **05 48 30.0 -0.1**
comp=Z,18nm,0.6s,SNR=15
DOU **Dourbes** 150.19 356 ⇑ PKPbc **PKPbc** **05 48 30.5 +0.5**
MDVR **Moldovita** 150.47 330 ⇑ *i* P **PKPbc** **05 48 30.3 -0.6**
WLF **Walferdange** 150.49 354 ⇓ PKPbc **PKPbc** **05 48 31.6 +0.9**
WLF ⇓ PKPab **PKPab** **05 48 40.4 +0.4**
MANT **Manisa** 150.53 314 *e*PKPbc **PKPbc** **05 48 31.6 +0.1**
MORH **M˝r˙igy, Hung** 150.64 336 *e*P **PKPbc** **05 48 30.4 -0.7**
MOA **Molln** 150.69 343 *i* PKPbc **PKPbc** **05 48 31.2 -0.1**
comp=Z,8.2nm,0.6s,SNR=5.5
CMLA **Cha da Macela** 150.72 48 *e*PKPbc **PKPbc** **05 48 31.5 -0.1**
ALN **Alexandroupoli** 150.81 320 *e*PKPbc **PKPbc** **05 48 30.5 -1.2**
ARSA **Arzberg** 150.85 340 *i* PKPbc **PKPbc** **05 48 31.0 -0.6**
comp=Z,7.2nm,0.8s
STU **Stuttgart** 150.96 350 *e*PKPbc **PKPbc** **05 48 31.9 +0.1**
FRGS **Fruska Gora** 151.03 333 *e*P **PKPbc** **05 48 31.9 -0.2**
VTS **Vitosha** 151.31 326 *e*PKPbc **PKPbc** **05 48 32.5 -0.5**
VTS **Vitosha** 151.31 326 ⇑ *i* P **PKPbc** **05 48 32.9 -0.1**
SOKA **Soboth** 151.51 340 *i* PKPbc **PKPbc** **05 48 32.5 -0.7**
comp=Z,12nm,0.9s,SNR=7.2
PERS **Pernice** 151.53 340 *i* PKPbc **PKPbc** **05 48 32.6 -0.6**
PERS *i* PKPab **PKPab** **05 48 44.5 0.0**
PERS **Pernice** 151.53 340 *i* PKPbc **PKPbc** **05 48 32.6 -0.6**
PERS *i* PKPab **PKPab** **05 48 44.5 0.0**
BFO **Black Forest** 151.53 351 *e*PKPbc **PKPbc** **05 48 33.0 -0.1**
KBA **Koelnbreinsper** 151.65 343 *i* PKPbc **PKPbc** **05 48 32.7 -0.9**
comp=Z,5.5nm,0.4s
DIVS **Divibare** 151.78 331 *e*PKPbc **PKPbc** **05 48 33.5 -0.4**
DIVS **Divibare** 151.78 331 *e*P **PKPbc** **05 48 33.4 -0.5**
ECH **Echery** 151.81 352 *e*PKPab **PKPab** **05 48 44.4 -1.2**
OBKA **Obir** 151.81 341 *i* PKPbc **PKPbc** **05 48 33.4 -0.5**
comp=Z,5.0nm,0.6s
WATA **Walderalm** 151.86 346 *i* PKPbc **PKPbc** **05 48 33.3 -0.8**
comp=Z,8.7nm,0.5s,SNR=7.2
RETA **Reutte** 151.90 347 *i* PKPbc **PKPbc** **05 48 33.9 -0.1**
comp=Z,7.0nm,0.5s
WTTA **Wattenberg** 151.91 345 *i* PKPbc **PKPbc** **05 48 33.7 -0.5**
comp=Z,13nm,0.6s
MOTA **Moosalm** 151.96 346 *i* PKPbc **PKPbc** **05 48 33.5 -0.7**
comp=Z,6.0nm,0.6s,SNR=5.0
MYKA **Terra Mystica** 151.97 342 *i* PKPbc **PKPbc** **05 48 33.3 -0.9**
comp=Z,8.5nm,0.5s,SNR=5.8
SQTA **Sankt Quirin** 152.05 346 *i* PKPbc **PKPbc** **05 48 34.3 -0.2**
comp=Z,11nm,0.7s,SNR=5.1
CRES **Cresnjev** 152.13 339 *e*P **PKPbc** **05 48 34.1 -0.4**
ABTA **Abfaltersbach** 152.18 344 *i* PKPbc **PKPbc** **05 48 34.0 -0.7**
comp=Z,18nm,0.6s,SNR=6.7
BBLS **Lazići** 152.23 332 *e*P **PKPbc** **05 48 34.8 -0.1**
LJU **Ljubljana** 152.24 341 *e*PKPdf **PKPdf** **05 48 27.5 +0.1**
LJU *i* PKPbc **PKPbc** **05 48 34.6 -0.1**
LJU *i* PKPab **PKPab** **05 48 47.1 -0.4**
LJU **Ljubljana** 152.24 341 *e*PKPdf **PKPdf** **05 48 27.5 +0.1**
LJU *i* PKPbc **PKPbc** **05 48 34.6 -0.1**
LJU *i* PKPab **PKPab** **05 48 47.1 -0.4**
LJU **Ljubljana** 152.24 341 *e*P **PKPbc** **05 48 34.4 -0.4**
HAPS **Han Pijesak,BI** 152.25 333 *e*P **PKPbc** **05 48 34.1 -0.9**
DAVA **Damuels** 152.27 348 *i* PKiKP **PKiKP** **05 48 35.1 0.0**
comp=Z,18nm,1.4s
FETA **Feichten** 152.35 347 *i* PKPbc **PKPbc** **05 48 35.1 0.0**
comp=Z,8.4nm,0.7s
BLY **Banja Luka** 152.43 336 *e*P **PKPab** **05 48 48.0 -0.3**
STIP **Stip** 152.49 325 *i* PKP **PKPbc** **05 48 34.7 -0.7**
VAY **Valandovo** 152.54 324 *i* PKP **PKPdf** **05 48 31.6 +3.6**
CEY **Cerknica** 152.54 340 *e*P **PKPbc** **05 48 35.0 -0.5**
SKO **Skopje** 152.68 327 *i* PKP **PKPbc** **05 48 35.8 0.0**
FUORN **Ofenpass-Fuorn** 152.83 347 *e*PKPdf **PKPdf** **05 48 29.8 +1.2**
FUORN *e*PKPbc **PKPbc** **05 48 36.4 0.0**
FUORN *e*PKPab **PKPab** **05 48 50.7 +0.4**
TUE **Stuetta** 153.16 348 *e*PKPbc **PKPbc** **05 48 37.3 +0.3**
TUE *e*PKPab **PKPab** **05 48 52.3 +0.7**
KRUS **Krusevo** 153.21 326 *i* PKP **PKPbc** **05 48 36.6 -0.6**
BRY **Bratogost** 153.38 332 *e*P **PKPbc** **05 48 36.2 -1.3**
LIT **Litokhoron** 153.41 322 *e*PKPab **PKPab** **05 48 52.6 -0.1**
PDG **Podgorica** 153.42 330 *e*P **PKPbc** **05 48 36.8 -0.6**
TTG **Podgorica** 153.42 330 *e*PKPbc **PKPbc** **05 48 36.8 -0.5**
TTG *e*PKPab **PKPab** **05 48 52.4 -0.2**
FNA **Florina** 153.56 325 *e*PKPdf **PKPdf** **05 48 31.0 +1.4**
FNA *e*PKPbc **PKPbc** **05 48 37.1 -0.8**
SENIN **Lac Senin/Sane** 153.61 351 *e*PKPbc **PKPbc** **05 48 38.2 +0.2**
SENIN *e*PKPab **PKPab** **05 48 53.6 0.0**
AGG **Agios Georgios** 154.21 321 *e*PKPbc **PKPbc** **05 48 38.5 -0.7**
IDI **Anoyia** 154.68 311 PKPbc **PKPbc** **05 48 40.3 -0.1**
comp=Z,7.3nm,0.7s,baz=341,slow=4.1,SNR=5.3
IDI PKPab **PKPab** **05 49 00.1 +1.7**
comp=Z,16nm,1.0s,baz=331,slow=10,SNR=7.4
BNI **Bardonecchia** 154.98 352 *e*PKPdif **PKPbc** **05 48 41.5 +0.7**
BNI *e*PKPab **PKPab** **05 48 60.0 +0.6**
VLC **Villacollemand** 155.13 345 *e*PKPab **PKPab** **05 49 00.8 +0.9**
ITM **Ithomi** 155.62 318 *e*PKPab **PKPab** **05 49 02.4 +0.1**
TIP **Timpagrande** 157.13 329 *e*PKPab **PKPab** **05 49 10.4 +1.6**
ES19 **SONSECA Array** 160.10 13 *e*PKPdf **PKPdf** **05 48 38.0 +0.3**
ES19 *e*PKPab **PKPab** **05 49 20.8 -0.8**
ESDC **Sonseca Array** 160.11 13 PKP **PKPdf** **05 48 38.5 +0.7**
comp=Z,0.2nm,0.4s,baz=297,slow=1.6,SNR=2.9
ESDC PKPab **PKPab** **05 49 21.4 -0.3**
comp=Z,2.1nm,0.8s,baz=348,slow=4.0,SNR=12
KEST **Kesra** 163.21 338 PKPab **PKPab** **05 49 35.4 -0.1**
comp=Z,3.0nm,0.5s,baz=11,slow=3.1,SNR=5.5
KEST **Kesra** 163.21 338 *e*PKPab **PKPab** **05 49 35.7 +0.2**
DBIC **Dimbokro** 165.04 154 PKPab **PKPab** **05 49 44.9 +0.9**
comp=Z,2.8nm,0.7s,baz=177,slow=6.2,SNR=4.8
TOA0 **Torodi Ar. Sit** 172.88 180 *e*PKPdf **PKPdf** **05 48 46.8 -1.2**
TOA0 *e*PKPab **PKPab** **05 50 18.7 +0.2**
TORD **Torodi Ar. Bea** 172.88 180 PKP **PKPdf** **05 48 45.5 -2.5**
comp=Z,2.1nm,1.2s,baz=190,slow=1.2,SNR=6.3
TORD PKPab **PKPab** **05 50 16.6 -1.8**
comp=Z,1.4nm,0.9s,baz=165,slow=6.2,SNR=6.2
TORD *p*PKPab **pPKPab** **05 52 26.8 +0.4**
comp=Z,2.2nm,1.1s,baz=180,slow=5.2,SNR=5.5
TORD PP **PP** **05 54 08.7 -0.7**
comp=Z,1.1nm,0.8s,baz=153,slow=4.6,SNR=5.2
TOA1 **Torodi Ar. Sit** 172.88 180 *e*PKPdf **PKPdf** **05 48 45.5 -2.5**
TOA1 *e*PKPab **PKPab** **05 50 16.6 -1.9**
TOA1 *ep*PKPab **pPKPab** **05 52 26.8 +0.4**
TOA1 *e*PP **PP** **05 54 08.7 -0.7**

ISCJB **17** *05:33:16.0±2.2, 22.6°6S±0.1°×147.9E±0.3, h10km, mb3.9/1, Error ellipse: s-maj=34.0km s-min=17.2km az=4.7*
IDC **17** *05:33:15.1±2.4, 22.5°2S×148.05E, h0km, mb4.1/1, mb1 3.8/5, mb1mx3.6/48, mbtmp3.7/5, ML3.5/4, Error ellipse: s-maj=52.0km s-min=35.2km az=97.0*
ISC 17 05:33:17.1±1.9, **22.5°S**±0.1°×**148.0E**±0.2, **h10**km, **n6, σ1§09/7, Queensland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**2.89**	**325**	Pn	**Pn**	**05 34 02.8**	**-0.5**
	11nm,0.3s,baz=132,slow=16,SNR=136						
CTA				Sn	**Sb**	**05 34 45.1**	**+0.8**
	16nm,0.3s,baz=64,slow=22,SNR=7.7						
STKA	**Stephens Creek**	**10.95**	**210**	Pn	**Pn**	**05 35 53.7**	**-0.2**
	0.3nm,0.3s,baz=20,slow=15,SNR=4.2						
WRA	**Warramunga Arr**	**12.99**	**279**	Pn	**Pn**	**05 36 20.4**	**-1.5**
	0.1nm,0.3s,baz=100,slow=12,SNR=7.7						
ASAR	**Alice Springs**	**13.03**	**262**	Pn	**Pn**	**05 36 23.6**	**+1.1**
	0.2nm,0.3s,baz=94,slow=14,SNR=9.8						
SONM	**Songino Array**	**79.35**	**333**	P	**P**	**05 45 23.7**	**+0.6**
	0.6nm,0.4s,baz=152,slow=4.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**146.68**	**260**	PKPbc	**PKPdf**	**05 52 58.1**	**-0.2**
	1.5nm,0.9s,baz=115,slow=3.9,SNR=6.0						

IDC 17 05:33:52.1±2.4, **12.38S**×**165.40E**, **h0**km, **mb4.1**/4, **mb1 4.4**/4, **mb1mx3.8**/59, **mbtmp4.1**/4, **Error ellipse: s-maj=100.2km s-min=32.3km az=138.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**30.72**	**252**	P	**P**	**05 40 08.4**	**-0.8**
	5.5nm,0.8s,baz=78,slow=7.7,SNR=7.2						
ASAR	**Alice Springs**	**31.91**	**245**	P	**P**	**05 40 21.1**	**+1.4**
	4.5nm,1.0s,baz=71,slow=8.3,SNR=4.8						
SONM	**Songino Array**	**79.54**	**324**	P	**P**	**05 46 01.0**	**-0.1**
	2.6nm,1.1s,baz=131,slow=4.4,SNR=6.3						
ILAR	**Eielson Array**	**84.88**	**19**	P	**P**	**05 46 29.6**	**+1.0**
	0.2nm,0.5s,baz=221,slow=5.4,SNR=3.1						
FINES	**FINESS Array B**	**122.88**	**338**	PKP	PKPdf	**05 52 49.2**	**-0.8**
	0.8nm,0.4s,baz=35,slow=3.4,SNR=6.7						
TORD	**Torodi Ar. Bea**	**164.09**	**275**	PKP	PKPdf	**05 53 57.0**	**-1.6**
	0.2nm,0.5s,baz=111,slow=1.7,SNR=3.0						

ISCJB **17** *05:40:37.9±0.5, 5.32S±0.05×147.01E±0.06, h195km, mb4.1/16, Error ellipse: s-maj=7.8km s-min=7.6km az=154.4*
IDC **17** *05:40:39.9±1.4, 5.49S×146.98E, h199km±12km, mb3.8/8, mb1 3.9/11, mb1mx3.5/56, mbtmp4.3/11, Error ellipse: s-maj=16.3km s-min=11.3km az=120.0*
NEIC **17** *05:40:41.3±0.7, 5.40S×146.99E, h211km±8km, mb4.5/16, Error ellipse: s-maj=10.2km s-min=8.2km az=122.0*
ISC 17 05:40:40.0±0.6, **5.45S**±0.06×**146.92E**±0.07, **h195**km, **n35, σ1§49/42, mb4.2/16, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**3.41**	**8**	*e*Pn	**Pn**	**05 41 37.7**	**+3.4**
PMG	**Port Moresby**	**3.94**	**177**	P	**Pn**	**05 41 41.1**	**+0.3**
	18nm,0.3s,baz=27,slow=11,SNR=59						
PMG				S	**Sn**	**05 42 26.7**	**-2.1**
	13nm,0.3s,baz=319,slow=6.9,SNR=3.0						
RABL	**Rabaul**	**5.37**	**77**	*e*Pn	**Pn**	**05 41 60.0**	**+0.9**
JAY	**Jayapura**	**6.85**	**295**	P	**Pn**	**05 42 17.9**	**-0.4**
	0.7nm,0.3s,baz=15,slow=20,SNR=2.7						
JAY				S	**Sn**	**05 43 32.7**	**-3.5**
	1.5nm,0.3s,baz=322,slow=13,SNR=1.9						
COEN	**Coen**	**9.23**	**203**	*e*Pn	**Pn**	**05 42 51.8**	**+2.5**
CTAO	**Charters Tower**	**14.57**	**182**	*e*Pn	**P**	**05 44 01.5**	**+3.1**
MTN	**Manton Dam**	**17.22**	**244**	*e*P	**P**	**05 44 28.1**	**+0.3**
	14nm,0.5s						
WRAB	**Tennant Creek**	**18.89**	**219**	*e*P	**P**	**05 44 47.3**	**+1.4**
	18nm,0.6s						
WC3	**Warramunga Arr**	**18.90**	**219**	*e*P	**P**	**05 44 47.1**	**+1.1**
	19nm,0.6s						
WB2	**Warramunga Arr**	**18.90**	**219**	*e*P	**P**	**05 44 47.0**	**+1.0**
	16nm,0.6s						
WB2				*e*PcP	**PcP**	**05 49 03.6**	**-0.1**
WR1	**Warramunga Arr**	**18.91**	**219**	*e*P	**P**	**05 44 47.0**	**+1.0**
	18nm,0.6s						
WR1				*e*S	**S**	**05 48 08.8**	**-1.8**
WR1				*e*PcP	**PcP**	**05 49 02.6**	**-1.1**
WRA	**Warramunga Arr**	**18.91**	**219**	P	**P**	**05 44 47.0**	**+1.0**
	3.2nm,0.3s,baz=40,slow=12,SNR=72						
WRA				S	**S**	**05 48 08.8**	**-1.8**
	0.1nm,0.3s,baz=42,slow=21,SNR=5.2						
WRA				PcP	**PcP**	**05 49 02.6**	**-1.1**
	baz=25,slow=1.6,SNR=4.1						
AS01	**Alice Springs**	**22.00**	**213**	*e*P	**P**	**05 45 20.7**	**+1.9**
AS31	**Alice Springs**	**22.03**	**213**	*e*P	**P**	**05 45 20.8**	**+1.8**
	5.2nm,0.4s						
ASAR	**Alice Springs**	**22.03**	**213**	P	**P**	**05 45 20.4**	**+1.3**
	8.7nm,0.6s,baz=45,slow=9.0,SNR=25						
ASAR				S	**S**	**05 49 07.7**	**-0.3**
	2.1nm,0.9s,baz=29,slow=18,SNR=8.1						
FITZ	**Fitzroy Crossi**	**24.29**	**237**	P	**P**	**05 45 40.2**	**+0.6**
	6.1nm,0.5s,baz=49,slow=9.3,SNR=26						
FITZ	**Fitzroy Crossi**	**24.29**	**237**	*e*P	**P**	**05 45 42.0**	**+2.3**
	8.1nm,0.6s						
DZM	**Mont Dzumac**	**25.10**	**133**	P	**P**	**05 45 45.6**	**-1.4**
	3.7nm,0.6s,baz=294,slow=12,SNR=5.7						
DZM	**Mont Dzumac**	**25.10**	**133**	*e*P	**P**	**05 45 46.0**	**-1.0**
	5.4nm,1.0s						
ARMA	**Armidale**	**25.23**	**170**	*e*P	**P**	**05 45 48.5**	**+0.3**
	10nm,0.9s						
STKA	**Stephens Creek**	**26.76**	**190**	P	P	05 46 11.6	+10
	2.9nm,0.6s,ba

WRA Warramunga Arr 56.41 187 P **P 05 50 29.9 -0.5**
0.5nm,0.7s,baz=2.1,slow=7.7,SNR=4.5

IDC 17 05:43:07.8±1.4,36˚.64N×143˚.68E,h0km,mb3.4/4, mb1 3.6/6,mb1mx3.4/70,mbtmp3.5/6,ML3.5/2,Error ellipse: s-maj=29.1km s-min=26.0km az=110.0
ISCJB 17 05:43:12.6±1.0,36˚.88N±0˚.07×143˚.48E±0˚.07,h33km, mb3.5/4,Error ellipse: s-maj=10.1km s-min=7.2km az=150.6
JMA 17 05:43:13.1±0.2,36˚.88N×143˚.44E,h46km,M4.1
ISC 17 05:43:13.1±1.2,36˚.86N±0˚.07×143˚.56E±0˚.08,h35km,n23, σ1§50/26,mb3.5/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.21**	**284**	P	**Pn**	**05 43 46.9**	**-0.3**
JFK				S	**Sn**	**05 44 12.0**	**-1.2**
JIKH	**Ishinomakikobu**	**2.21**	**312**	P	**Pn**	**05 43 47.1**	**0.0**
JIKH				S	**Sn**	**05 44 12.4**	**-0.8**
ONAJ	**Iwakimizuishiy**	**2.22**	**277**	P	**Pn**	**05 43 47.3**	**-0.2**
ONAJ				S	**Sn**	**05 44 12.5**	**-1.2**
JIO	**Ouri**	**2.37**	**313**	P	**Pn**	**05 43 49.6**	**+0.2**
JFT	**Otama**	**2.66**	**285**	P	**Pn**	**05 43 54.2**	**+0.8**
JFT				S	**Sn**	**05 44 24.1**	**-0.2**
JMK	**Ichinoseki**	**2.79**	**319**	P	**Pn**	**05 43 55.4**	**+0.2**
JOM	**Ohasama**	**3.16**	**326**	P	**Pn**	**05 44 00.7**	**+0.4**
JOM				S	**Sn**	**05 44 36.6**	**-0.2**
JYK	**Kaneyama**	**3.26**	**310**	P	**Pn**	**05 44 02.7**	**+1.0**
JAG	**Ashikaga**	**3.33**	**264**	P	**Pn**	**05 44 02.7**	**+0.1**
JAG				S	**Sn**	**05 44 39.5**	**-1.5**
JRY	**Ryogami san**	**3.85**	**259**	P	**Pn**	**05 44 09.6**	**-0.2**
MJAR	**Matsushiro Arr**	**4.31**	**267**	Pn	**Pn**	**05 44 17.2**	**+1.1**
	1.9nm,0.3s,baz=90,slow=14,SNR=7.6						
MJAR				S	**Sn**	**05 45 05.7**	**+0.5**
	1.4nm,0.3s,baz=321,slow=38,SNR=1.9						
MAT	**Matsushiro**	**4.31**	**267**	P	**Pn**	**05 44 16.8**	**+0.6**
MAT				eS	**Sn**	**05 45 01.5**	**-3.7**
ASAJ	**Asahikawa**	**7.29**	**355**	Pn	**Pn**	**05 44 57.1**	**+0.2**
	0.9nm,0.3s,baz=200,slow=15,SNR=3.1						
ASAJ				Sn	**Sn**	**05 46 14.1**	**-4.3**
	1.0nm,0.3s,baz=13,slow=26,SNR=1.7						
H11N2	**WAKE ISLAND Hy 26.60**	**124**		T	T	06 16 43.6	
	baz=312,slow=75,SNR=2.7						
H11N1	**WAKE ISLAND Hy 26.61**	**124**		T	T	06 16 43.8	
	baz=312,slow=75,SNR=5.8						
H11N3	**WAKE ISLAND Hy 26.62**	**124**		T	T	06 16 44.6	
	baz=312,slow=75,SNR=4.9						
H11S1	**WAKE ISLAND Hy 27.34**	**126**		T	T	06 17 34.6	
	baz=314,slow=75,SNR=5.6						
H11S3	**WAKE ISLAND Hy 27.34**	**126**		T	T	06 17 35.3	
	baz=314,slow=75,SNR=5.0						
H11S2	**WAKE ISLAND Hy 27.35**	**126**		T	T	06 17 35.8	
	baz=314,slow=75,SNR=4.5						
MKAR	**Makanchi Array**	**45.66**	**303**	P	**P**	**05 51 31.6**	**+1.4**
	0.3nm,0.8s,baz=79,slow=8.0,SNR=4.3						
KURBB	**Kurchatov Arra**	**47.46**	**308**	P	**P**	**05 51 45.9**	**+1.7**
	0.6nm,0.6s,baz=82,slow=7.7,SNR=5.1						
ILAR	**Eielson Array**	**48.72**	**32**	P	**P**	**05 51 55.0**	**+1.3**
	0.6nm,1.0s,baz=261,slow=6.4,SNR=6.5						
WRA	**Warramunga Arr**	**57.16**	**190**	P	**P**	**05 52 54.8**	**-1.6**
	0.3nm,0.7s,baz=8.8,slow=7.2,SNR=4.8						

TRN 17 05:44:38.8,10˚.66N×63˚.41W,h120km,MD3.6,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	**Pointe-a-Pierr**	**1.95**	**100**	*eP*	Pn	05 45 12.3	+0.6
TPP				*eS*	Sn	05 45 36.6	-0.2
TRN	**Trinidad (W)**	**1.97**	**90**	*eP*	Pn	05 45 12.0	+0.2
TRN				*eS*	Sn	05 45 35.9	-1.2
TBH	**Brigand Hill**	**2.31**	**94**	*eP*	Pn	05 45 15.8	-0.4
TBH				*eS*	Sn	05 45 43.9	-0.9
GRHS	**Sauteurs**	**2.32**	**48**	*eP*	Pn	05 45 15.7	-0.7
GRSS	**Sisters**	**2.40**	**47**	*eP*	Pn	05 45 17.2	0.0
TPR	**Prospect**	**2.63**	**78**	*eP*	Pn	05 45 20.2	-0.1
TPR				*eS*	Sn	05 45 50.3	-2.0
BOT	**Bacolet**	**2.69**	**79**	*eP*	Pn	05 45 21.6	+0.6
BOT				*eS*	Sn	05 45 52.0	-1.5
TOSP	**Speyside**	**2.89**	**77**	*eP*	Pn	05 45 24.0	+0.3
TOSP				*eS*	Sn	05 45 56.7	-1.5
FCV	**Fort Charlotte**	**3.26**	**40**	*eP*	Pn	05 45 28.8	+0.3
SVB	**Belmont**	**3.34**	**39**	*eP*	Pn	05 45 29.7	+0.1
SVB				*eS*	Sn	05 46 07.7	-1.3

IDC 17 05:51:22.9±5.1,36˚.43N×70˚.85E,h183km±48km,mb3.2/4, mb1 3.1/8,mb1mx2.9/62,mbtmp3.7/8,Error ellipse: s-maj=53.7km s-min=36.7km az=128.0
ISCJB 17 05:51:25.4±1.4,36˚.7N±0˚.1×70˚.7E±0˚.1,h188km,mb3.5/3, Error ellipse: s-maj=17.1km s-min=9.9km az=137.1
NNC 17 05:51:30.9±1.0,36˚.97N×70˚.97E,h218km±14km,mb2.4, mpv3.5,Error ellipse: s-maj=12.3km s-min=9.6km az=79.0
ISC 17 05:51:24.9±1.7,36˚.6N±0˚.1×70˚.8E±0˚.1,h188km,n15, σ1§43/21,mb3.8/3,4C-7D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**4.02**	**31**	⇓P	**Pn**	**05 52 28.8**	**+2.1**
	1.4nm,0.2s						
SFK				⇑S	**Sn**	**05 53 15.6**	**+0.3**
	8.7nm,0.4s						
MNAS	**Manas**	**6.03**	**12**	⇓P	**Pn**	**05 52 54.1**	**+1.6**
	1.5nm,0.3s						
MNAS				⇑S	**Sn**	**05 54 00.1**	**-1.6**
	16nm,0.8s						
KK31	**Karatay Array**	**6.51**	**358**	⇓P	**Pn**	**05 53 00.3**	**+1.8**
	1.0nm,0.3s,baz=174,slow=12,SNR=16						
KK31				⇑S	**Sn**	**05 54 10.9**	**-1.7**
	2.5nm,0.5s,baz=181,slow=17,SNR=11						
AAK	**Ala-Archa**	**6.68**	**24**	P	**Pn**	**05 53 02.2**	**+1.3**
	2.3nm,0.3s,baz=154,slow=4.3,SNR=24						
AAK				S	**Sn**	**05 54 15.4**	**-1.4**
	0.7nm,0.3s,baz=314,slow=20,SNR=11						
AAK	**Ala-Archa**	**6.68**	**24**	⇓P	**Pn**	**05 53 02.2**	**+1.3**
	3.5nm,0.4s						
AAK				S	**Sn**	**05 54 15.7**	**-1.2**
	4.1nm,0.6s						
TKM2	**Tokmak 2**	**7.32**	**29**	⇓P	**Pn**	**05 53 09.9**	**+0.5**
	2.4nm,0.6s						
TKM2				⇑S	**Sn**	**05 54 29.6**	**-2.5**
	4.6nm,0.8s						
MKAR	**Makanchi Array**	**13.31**	**36**	P	**Pn**	**05 54 27.4**	**+0.8**
	0.1nm,0.3s,baz=216,slow=12,SNR=5.3						
AB31	**Akbulak array**	**14.93**	**331**	⇓P	**P**	**05 54 48.9**	**+1.3**
	0.2nm,0.3s,baz=139,slow=12,SNR=7.2						
KURBB	**Kurchatov Arra**	**15.09**	**19**	P	**P**	**05 54 49.3**	**0.0**
	0.0nm,0.3s,baz=207,slow=10,SNR=3.2						
AKTO	**Aktyubinsk**	**16.62**	**330**	P	**P**	**05 55 07.2**	**+0.9**
	0.3nm,0.3s,baz=140,slow=9.1,SNR=4.1						
AKTO	**Aktyubinsk**	**16.62**	**330**	⇓P	**P**	**05 55 07.2**	**+0.9**
	1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**19.90**	**25**	P	**P**	**05 55 41.2**	**-0.5**
	0.8nm,0.3s,baz=214,slow=11,SNR=4.1						
FINES	**FINESS Array B**	**37.32**	**326**	P	**P**	**05 58 18.7**	**+0.1**
	3.0nm,1.1s,baz=111,slow=7.6,SNR=3.1						
ARCES	**ARCESS Array B**	**41.00**	**338**	P	**P**	**05 58 49.0**	**0.0**
	2.6nm,1.0s,baz=119,slow=9.8,SNR=6.3						
TORD	**Torodi Ar. Bea**	**65.56**	**268**	P	**P**	**06 01 46.9**	**-1.8**
	0.1nm,0.4s,baz=45,slow=8.1,SNR=2.6						

IDC 17 06:00:02.7±1.0,4˚.17S×133˚.39E,h0km,mb4.0/6, mb1 4.3/10,mb1mx4.0/41,mbtmp4.1/10,ML3.9/3,MS4.0/1, Ms1 4.0/1,ms1mx3.0/44,Error ellipse: s-maj=43.3km s-min=18.5km az=67.0
DJA 17 06:00:03.8±0.7,4˚.5±.5˚×13˚.4E±˚,h10km,M4.7/7,mb5.0/3, mB5.0/1,MLv4.6/7,Mw(mB)4.4/1
ISC 17 06:00:02.5±0.7,4˚.15S±0˚.06×133˚.74E±0˚.08,h10km,n19, σ3§12/19,mb4.0/6,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**0.49**	**355**	P	**Pg**	**06 00 10.6**	**-1.4**
FAKI	**Fak Fak**	**1.93**	**309**	P	**Pn**	**06 00 34.9**	**-0.5**
RKPI	**Ransiki, Papua**	**2.66**	**9**	P	**Pn**	**06 00 47.3**	**+1.8**
BNDI	**Bandanaira**	**3.85**	**264**	P	**Pn**	**06 01 04.8**	**+3.0**
SIJI	**Sorong**	**4.09**	**323**	**Pn**	**Pn**	**06 01 04.4**	**-0.8**
	1.9nm,0.3s,baz=164,slow=24,SNR=15						
SIJI				Sn	**Sn**	**06 01 49.0**	**-4.2**
	8.8nm,0.3s,baz=256,slow=22,SNR=9.2						
SWI	**Sorong**	**4.10**	**323**	P	**Pn**	**06 01 08.0**	**+2.7**
MSAI	**Masohi**	**4.87**	**279**	P	Pb	06 01 24.3	-3.7
SANI	**Sanana**	**8.02**	**285**	P	**Pn**	**06 02 02.7**	**+3.5**
PMG	**Port Moresby**	**14.30**	**112**	Pn	**P**	**06 03 31.5**	**-1.0**
	0.6nm,0.3s,baz=294,slow=12,SNR=3.6						
WRA	**Warramunga Arr**	**15.71**	**178**	Pn	**Pn**	**06 03 41.9**	**-2.2**
	0.7nm,0.3s,baz=357,slow=13,SNR=22						
WRA				Sn	Sn	06 06 29.0	-9.4
	0.7nm,0.3s,baz=359,slow=23,SNR=8.9						
FITZ	**Fitzroy Crossi**	**15.97**	**209**	Pn	**Pn**	**06 03 45.4**	**-2.0**
	0.8nm,0.3s,baz=32,slow=12,SNR=17						
FITZ				Sn	Sn	06 06 34.0	-11
	1.0nm,0.3s,baz=207,slow=17,SNR=17						
ASAR	**Alice Springs**	**19.40**	**180**	P	**Pn**	**06 04 31.7**	**+1.6**
	0.7nm,0.3s,baz=2.5,slow=12,SNR=64						
ASAR				S	**Sn**	**06 07 59.1**	**-8.8**
	0.2nm,0.3s,baz=2.1,slow=28,SNR=7.7						
STKA	**Stephens Creek**	**28.55**	**166**	P	**P**	**06 06 00.6**	**+1.9**
	1.9nm,0.9s,baz=337,slow=13,SNR=3.2						
CMAR	**Chiang Mai Arr**	**40.99**	**304**	P	**P**	**06 07 45.6**	**-0.5**
	1.5nm,0.3s,baz=122,slow=8.6,SNR=4.8						
RPZ	**Rata Peaks**	**51.34**	**146**	LR	LR	06 29 36.0	
	comp=Z,153nm,19.5s,baz=323,slow=34						
MKAR	**Makanchi Array**	**67.99**	**325**	P	**P**	**06 11 02.6**	**+0.6**
	0.7nm,0.7s,baz=115,slow=8.2,SNR=8.1						
KURBB	**Kurchatov Arra**	**72.12**	**327**	P	**P**	**06 11 27.6**	**+0.4**
	0.5nm,0.2s,baz=124,slow=4.7,SNR=3.1						
VNDA	**Vanda**	**74.84**	**174**	P	**P**	**06 11 44.3**	**+1.5**
	0.5nm,0.6s,baz=314,slow=6.2,SNR=4.2						
ILAR	**Eielson Array**	**89.20**	**25**	P	**P**	**06 13 00.9**	**+2.6**
	0.8nm,1.0s,baz=260,slow=5.4,SNR=3.0						

IDC 17 06:19:59.9±4.4,17˚.95S×173˚.01W,h0km,mb4.1/4, mb1 4.2/5,mb1mx3.8/31,mbtmp4.0/5,ML3.6/1,MS3.6/1, Ms1 3.6/1,ms1mx3.0/46,Error ellipse: s-maj=152.6km s-min=26.5km az=135.0
ISCJB 17 06:20:06.6±1.0,17˚.3S±0˚.1×173˚.6W±0˚.2,h39km,mb4.0/5, MS3.6/1,Error ellipse: s-maj=32.5km s-min=8.6km az=34.0
NEIC 17 06:20:08.8±0.8,17˚.48S×173˚.61W,h35km,mb4.1/2,Error ellipse: s-maj=26.5km s-min=11.4km az=125.0
ISC 17 06:20:08.5±1.3,17.4S±0˚.2×173.5W±0˚.3,h39km,n12, σ1§10/14,mb4.2/5,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.85**	**26**	Pn	**Pn**	**06 21 05.3**	**-0.1**
	3.9nm,0.3s,baz=102,slow=20,SNR=2.4						
AFI				Sn	**Sn**	**06 21 48.4**	**-1.1**
	4.8nm,0.3s,baz=32,slow=19,SNR=2.6						
AFI	**Afiamalu**	**3.85**	**26**	*e*Pn	**Pn**	**06 21 08.3**	**+2.9**
AFI				Sn	**Sn**	**06 21 48.4**	**-1.1**
HIZ	**Hauiti**	**23.37**	**203**	*e*P	**P**	**06 25 13.8**	**+0.2**
RPZ	**Rata Peaks**	**29.30**	**203**	*e*P	**P**	**06 26 06.9**	**-0.4**
CTA	**Charters Tower**	**38.12**	**259**	P	**P**	**06 27 24.4**	**+0.2**
	2.8nm,0.5s,baz=105,slow=11,SNR=4.0						
CTAO	**Charters Tower**	**38.12**	**259**	*e*P	**P**	**06 27 25.0**	**+0.8**
	3.5nm,0.6s						
WR1	**Warramunga Arr**	**49.30**	**258**	*e*P	**P**	**06 28 53.6**	**-0.5**
WRA	**Warramunga Arr**	**49.30**	**258**	P	**P**	**06 28 53.6**	**-0.5**
	1.6nm,0.7s,baz=95,slow=9.0,SNR=17						
WRA				LR	LR	06 47 47.4	
	comp=Z,69nm,21.9s,baz=310,slow=34						
AS01	**Alice Springs**	**49.37**	**254**	*e*P	**P**	**06 28 54.4**	**-0.2**
AS31	**Alice Springs**	**49.41**	**254**	*e*P	**P**	**06 28 54.9**	**0.0**
	1.0nm,0.8s						
ASAR	**Alice Springs**	**49.41**	**254**	P	**P**	**06 28 54.5**	**-0.5**
	3.2nm,0.6s,baz=90,slow=8.2,SNR=34						
ILAR	**Eielson Array**	**84.42**	**11**	P	**P**	**06 32 35.8**	**-0.7**
	0.2nm,0.6s,baz=198,slow=5.4,SNR=3.5						

IDC 17 06:32:01.9±1.6,18˚.41S×172˚.15W,h0km,mb4.1/6, mb1 4.2/8,mb1mx3.9/45,mbtmp4.2/8,ML3.6/2,Error ellipse: s-maj=35.0km s-min=28.8km az=151.0
ISCJB 17 06:32:03.5±0.7,18˚.32S±0˚.07×171˚.97W±0˚.10,h33km, mb4.2/9,Error ellipse: s-maj=13.9km s-min=9.9km az=20.4
NEIC 17 06:32:03.1±0.6,18˚.34S×172˚.07W,h10km,mb4.0/6,Error ellipse: s-maj=11.8km s-min=10.2km az=143.0
ISC 17 06:32:05.9±0.7,18˚.24S±0˚.07×172˚.0W±0˚.1,h35km,n20, σ1§60/24,mb4.2/9,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.32**	**3**	Pn	**Pn**	**06 33 11.4**	**+2.3**
	5.0nm,0.3s,baz=192,slow=16,SNR=6.1						
AFI				Sn	**Sn**	**06 33 54.9**	**-3.4**
	7.3nm,0.3s,baz=0.0,slow=20,SNR=3.5						
AFI	**Afiamalu**	**4.32**	**3**	*e*Pn	**Pn**	**06 33 11.2**	**+2.0**
AFI				*e*Sn	**Sn**	**06 33 58.5**	**+0.2**
RAR	**Rarotonga**	**11.91**	**106**	Pn	**Pn**	**06 34 52.6**	**-0.6**
	1.8nm,0.3s,baz=266,slow=8.2,SNR=11						
RAR	**Rarotonga**	**11.91**	**106**	*e*Pn	**Pn**	**06 34 52.9**	**-0.4**
RAO	**Raoul Island**	**12.21**	**205**	*e*Pn	**Pn**	**06 34 56.9**	**-0.5**
DZM	**Mont Dzumac**	**20.56**	**256**	P	**P**	**06 36 42.1**	**+0.3**
	3.9nm,0.6s,baz=84,slow=17,SNR=4.6						
DZM	**Mont Dzumac**	**20.56**	**256**	*e*P	**P**	**06 36 42.6**	**+0.8**
	4.7nm,0.7s						
URZ	**Urewera**	**22.08**	**203**	P	**P**	**06 36 57.2**	**-0.7**
	21nm,1.1s,baz=256,slow=14,SNR=3.2						
CTA	**Charters Tower**	**39.38**	**260**	P	**P**	**06 39 31.7**	**-0.8**
	3.0nm,0.9s,baz=91,slow=9.2,SNR=5.6						
CTAO	**Charters Tower**	**39.38**	**260**	*e*P	**P**	**06 39 32.4**	**0.0**
	6.0nm,1.1s						
STKA	**Stephens Creek**	**43.83**	**243**	P	**P**	**06 40 07.7**	**-1.1**
	1.1nm,0.5s,baz=110,slow=10,SNR=3.7						
STKA	**Stephens Creek**	**43.83**	**243**	*e*P	**P**	**06 40 10.2**	**+1.4**
	0.3nm,0.9s						
AS01	**Alice Springs**	**50.50**	**254**	*e*P	**P**	**06 41 01.3**	**+0.4**
WB2	**Warramunga Arr**	**50.52**	**259**	*e*P	**P**	**06 41 00.9**	**-0.2**
WRAB	**Tennant Creek**	**50.52**	**259**	*e*P	**P**	**06 41 01.1**	**0.0**
	2.2nm,0.9s						
WR1	**Warramunga Arr**	**50.53**	**259**	*e*P	**P**	**06 41 00.9**	**-0.2**
	4.1nm,1.0s						
WR1				*e*PcP	**PcP**	**06 42 21.9**	**+3.0**
WRA	**Warramunga Arr**	**50.53**	**259**	P	**P**	**06 41 00.9**	**-0.2**
	0.5nm,0.3s,baz=97,slow=7.5,SNR=42						
WRA				PcP	**PcP**	**06 42 21.9**	**+3.0**
	0.3nm,0.7s,baz=92,slow=3.7,SNR=2.8						
AS31	**Alice Springs**	**50.54**	**254**	*e*P	**P**	**06 41 02.3**	**+1.1**
	0.6nm,0.7s						
ASAR	**Alice Springs**	**50.54**	**254**	P	**P**	**06 41 01.0**	**-0.2**
	2.0nm,0.7s,baz=91,slow=8.1,SNR=34						
SARN	**Sarigan**	**54.13**	**307**	*e*P	**P**	**06 41 25.1**	**-2.8**
	61nm,1.1s						

MEX 17 06:47:35.8±0.4,13˚.37N×92˚.78W,h15km,MD4.2
IDC 17 06:47:38.2±0.7,13˚.97N×92˚.44W,h0km,mb4.2/14, mb1 4.4/16,mb1mx4.2/40,mbtmp4.1/16,ML3.7/2,MS3.9/10, Ms1 3.9/10,ms1mx3.5/52,Error ellipse: s-maj=34.7km s-min=11.7km az=56.0
NEIC 17 06:47:44.5±0.3,14˚.01N×92˚.44W,h35km,mb4.4/119, MD4.2(MEX),Error ellipse: s-maj=5.6km s-min=3.4km az=218.0
ISC 17 06:47:44.9±0.5,13˚.93N±0˚.06×92˚.63W±0˚.07,h46km,n258, σ1§62/252,mb4.4/107,MS4.0/8,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.04**	**20**	*e*P	**Pn**	**06 48 00.4**	**-2.6**
THIG				*e*S	**Sn**	**06 48 19.4**	**+3.0**
THIG		**1.04**	**20**	*e*P	**Pn**	**06 48 00.4**	**-2.6**
THIG				*e*S	**Sn**	**06 48 19.4**	**+3.0**
PCIG		**1.86**	**342**	*e*P	**Pn**	**06 48 10.2**	**-4.0**
PCIG		**1.86**	**342**	*e*P	**Pn**	**06 48 11.3**	**-3.0**
PCIG				*i* S	**Sn**	**06 48 38.0**	**+1.4**
APG	**El Apazote**	**2.35**	**63**	Pn	**Pn**	**06 48 20.3**	**-1.0**
	14nm,0.3s,baz=234,slow=11,SNR=188						
APG				Lg	Lg	06 48 55.0	
	24nm,0.3s,baz=305,slow=20,SNR=3.7						
APG				LR	LR	06 49 12.6	
	comp=Z,686nm,18.2s,baz=159,slow=43						
CCIG	**Comitan**	**2.39**	**11**	*e*Pn	**Pn**	**06 48 21.7**	**-0.1**
CCIG	**Comitan**	**2.39**	**11**	*e*P	**Pn**	**06 48 19.8**	**-2.0**
CCIG				*i* S	**Sn**	**06 48 53.9**	**+4.0**
TGIG		**2.87**	**351**	*e*P	**Pn**	**06 48 26.4**	**-1.9**
TGIG		**2.87**	**351**	*e*P	**Pn**	**06 48 26.4**	**-1.9**
TGIG				*e*S	**Sn**	**06 49 04.7**	**+3.0**
SNET	**Serv Nac Est T**	**3.31**	**94**	*e*Pn	**Pn**	**06 48 31.8**	**-2.5**
CMIG	**Matias Romero**	**3.82**	**326**	Pn	**Pn**	**06 48 38.3**	**-3.0**
	2.6nm,0.3s,baz=158,slow=13,SNR=37						
CMIG				LR	LR	06 49 25.7	
	comp=Z,203nm,20.6s,baz=152,slow=28						
CMIG				Lg	Lg	06 49 29.3	
	13nm,0.3s,baz=106,slow=15,SNR=7.3						
CSGN	**Cosiguina Volc**	**5.02**	**100**	*e*Pn	**Pn**	**06 48 56.4**	**-1.5**
TGUH	**Tegucigalpa,Un**	**5.20**	**88**	*e*Pn	**Pn**	**06 48 57.7**	**-2.4**
ESTN	**Estel**	**6.14**	**97**	*e*Pn	**Pn**	**06 49 10.8**	**-2.5**
TLIG	**Tiapa**	**6.76**	**303**	*e*Pn	**Pn**	**06 49 21.5**	**-0.3**
BOAB	**BOACO BROADBAN**	**6.94**	**101**	*e*Pn	**Pn**	**06 49 21.8**	**-2.3**
TEIG	**Tepich**	**7.52**	**33**	*e*Pn	**Pn**	**06 49 31.1**	**-0.9**
JTS	**JuntasAbangare**	**8.33**	**115**	Pn	**Pn**	**06 49 42.3**	**-0.9**
	0.3nm,0.3s,baz=7.5,slow=16,SNR=2.2						
JTS				Lg	Lg	06 51 53.6	
	0.2nm,0.3s,baz=342,slow=20,SNR=5.1						
MOIG	**Morelia**	**9.99**	**306**	*e*Pn	**Pn**	**06 50 07.0**	**+0.8**
ZAIG	**Zacatecas**	**12.89**	**314**	*e*Pn	**Pn**	**06 50 47.8**	**+1.9**
833A	**Chaparral WMA,**	**15.65**	**337**	*e*Pn	**P**	**06 51 25.9**	**+0.1**
	15nm,0.9s						
MOTC	**Monteria, Cord**	**17.40**	**105**	*e*P	**P**	**06 51 47.1**	**+1.8**
JCT	**Junction City**	**17.75**	**339**	*e*Pn	**P**	**06 51 49.4**	**+0.3**
	6.7nm,0.9s						
HPIG		**17.78**	**319**	*e*Pn	**P**	**06 51 49.9**	**+0.3**
	9.6nm,1.0s						
241A	**Mo Tay, Goldon**	**18.01**	**359**	*e*Pn	**P**	**06 51 52.6**	**+0.7**
	15nm,0.9s						
LTX	**Lajitas**	**18.43**	**328**	*e*P	**Pn**	**06 51 56.9**	**-0.2**
TXAR	**Lajitas Array**	**18.43**	**328**	P	**Pn**	**06 51 56.9**	**-0.2**
	0.1nm,0.3s,baz=149,slow=11,SNR=14						
TX31	**Lajitas Ar. Si**	**18.43**	**328**	*e*P	**Pn**	**06 51 57.0**	**0.0**
WHTX	**Lake Whitney,**	**18.52**	**347**	*e*P	**Pn**	**06 51 58.7**	**+0.7**
	8.4nm,1.0s						
ZARC	**Zaragoza, Cauc**	**18.59**	**108**	*e*P	**Pn**	**06 52 03.7**	**+4.6**
143A	**Socs Landing,**	**18.72**	**3**	*e*P	**P**	**06 51 59.9**	**+0.1**
	33nm,1.1s						
352A	**Blakely**	**18.85**	**21**	*e*P	**Pn**	**06 52 02.1**	**+0.2**
	37nm,1.1s						
YOTC	**Yotoco, Valle**	**18.86**	**120**	*e*P	Pn	06 52 10.4	+8.0
SMLC	**San Mart`n de**	**18.89**	**104**	*e*P	**Pn**	**06 52 05.4**	**+2.7**
GUYC	**Guyana, Colomb**	**19.06**	**115**	*e*P	**Pn**	**06 52 05.1**	**-0.1**
147A	**Livingston**	**19.08**	**11**	*e*P	**Pn**	**06 52 05.3**	**+0.5**
	18nm,1.1s						
Z41A	**Richland Creek**	**19.25**	**360**	*e*P	**P**	**06 52 04.2**	**-1.2**
	25nm,1.0s						
PTBC	**PUERTO BERRIO,**	**19.32**	**111**	*e*P	**P**	**06 52 06.0**	**-0.4**
POPC	**Popayan, Colom**	**19.40**	**124**	*e*P	**P**	**06 52 07.6**	**0.0**
Z45A	**Winona**	**19.54**	**7**	*e*P	**P**	**06 52 07.6**	**-1.1**
	22nm,1.0s						
150A	**Eclectic**	**19.55**	**17**	P	**Pn**	**06 52 09.9**	**-0.5**
	baz=199						
151A	**Opelika**	**19.68**	**19**	P	**P**	**06 52 09.8**	**-0.5**
	baz=201,SNR=5.0						
ABTX	**Abilene, Hawle**	**19.68**	**342**	*e*P	**P**	**06 52 10.2**	**-0.1**
	20nm,1.1s						
ABTX	**Abilene, Hawle**	**19.68**	**342**	P	**P**	**06 52 11.0**	**+0.7**
	baz=159,SNR=5.8						
LRAL	**Lakeview Retre**	**19.70**	**14**	*e*P	**P**	**06 52 09.6**	**-0.8**
	12nm,0.9s						
152A	**Waverly Hall**	**20.00**	**20**	*e*P	**P**	**06 52 12.8**	**-1.0**
	12nm,0.8s						
Y46A	**Houston**	**20.16**	**9**	P	**P**	**06 52 16.0**	**+0.6**
	baz=190						
ROSC	**El Rosal**	**20.18**	**115**	P	Pn	06 52 17.1	-1.3
	6.9nm,0.8s,baz=90,slow=16,SNR=8.4						
ROSC	**El Rosal**	**20.18**	**115**	*e*P	**P**	**06 52 15.7**	**-0.5**
	23nm,1.0s						
ROSC	**El Rosal**	**20.18**	**115**	*e*P	Pn	06 52 18.0	-0.4
Z50A	**Ashland**	**20.19**	**16**	*e*P	**P**	**06 52 15.0**	**-0.7**
	17nm,1.1s						
Z50A	**Ashland**	**20.19**	**16**	P	**P**	**06 52 15.5**	**-0.3**
	baz=199						
Y47A	**UCPARC, Winfie**	**20.36**	**11**	P	**P**	**06 52 17.1**	**-0.5**
	baz=193						
BARC	**Barichara**	**20.46**	**109**	*e*P	Pn	06 52 22.9	+1.3
MIAR	**Mount Ida**	**20.55**	**358**	*e*P	**P**	**06 52 18.8**	**-0.8**
	36nm,1.0s						
X43A	**Marvell**	**20.56**	**4**	*e*P	Pn	06 52 21.6	-0.8
	30nm,0.9s						
Y49A	**Blount Mountai**	**20.63**	**15**

CPCT	Cooper Cave 8.8nm,0.9s	22.64	17	*e*P	P	06 52 41.4	-0.7
T41A	Mountain View baz=182	23.03	2	P	P	06 52 44.4	-1.8
T42A	Van Buren 4.3nm,0.8s	23.05	3	*e*P	P	06 52 44.5	-1.7
T42A	Van Buren baz=183	23.05	3	P	P	06 52 44.4	-1.9
TKL	Tuckaleechee C 6.6nm,0.8s,baz=189,slow=10,SNR=6.6	23.06	19	P	P	06 52 44.2	-2.2
TKL	comp=Z,352nm,18.8s,baz=214,slow=39			LR	LR	07 02 34.7	
TKL	Tuckaleechee C 14nm,0.9s	23.06	19	*e*P	P	06 52 45.1	-1.3
121A	Cookes Peak, D baz=139,SNR=11	23.12	326	P	P	06 52 48.4	+1.1
319A	Douglas 11nm,0.9s	23.14	321	*e*P	P	06 52 48.3	+1.0
V53A	Saluda 6.3nm,0.9s	23.38	20	*e*P	P	06 52 48.9	-0.7
V53A	Saluda baz=204	23.38	20	P	P	06 52 49.0	-0.7
KMSC	Kings Mountain 19nm,1.1s	23.45	24	*e*P	P	06 52 48.6	-1.6
U50A	Jamestown baz=199	23.46	16	P	P	06 52 48.3	-2.0
T47A	Sharon Grove 22nm,1.1s	23.49	11	*e*P	P	06 52 48.7	-1.9
T47A	Sharon Grove baz=193	23.49	11	P	P	06 52 48.3	-2.3
S41A	Jillco Farms, baz=182	23.58	2	P	P	06 52 50.4	-1.0
U51A	La Follette baz=201,SNR=9.9	23.65	18	P	P	06 52 50.4	-1.8
BNM	Barren Site	23.80	330	*e*P	P	06 52 54.7	+0.9
S44A	Carbondale baz=188	23.86	7	P	P	06 52 52.7	-1.3
SIUC	Southern Illin 12nm,0.8s	23.89	7	*e*P	P	06 52 52.2	-2.0
T49A	Edmonton 9.9nm,1.1s	23.94	14	*e*P	P	06 52 53.0	-1.8
TZTN	Tazewell 10nm,1.0s	23.95	18	*e*P	P	06 52 53.5	-1.3
LENM	Lemitar	23.98	330	*e*P	P	06 52 56.3	+0.9
T50A	Nancy baz=198	24.03	15	P	P	06 52 53.8	-1.8
CCM	Cathedral Cave 12nm,1.1s	24.06	3	*e*P	P	06 52 54.0	-1.8
CCM	Cathedral Cave baz=183	24.06	3	P	P	06 52 53.5	-2.4
T51A	Gray baz=200	24.22	17	P	P	06 52 55.1	-2.3
LAZ	Ladron	24.25	330	*e*P	P	06 52 59.2	+1.3
R41A	Rosebud baz=182	24.30	2	P	P	06 52 55.5	-2.6
ANMO	Albuquerque 1.9nm,0.7s,baz=157,slow=15,SNR=10.0	24.37	332	P	P	06 52 60.0	+1.0
ANMO	Albuquerque 5.2nm,0.8s	24.37	332	*e*P	P	06 53 00.4	+1.4
TUC	Tucson 4.9nm,0.9s	24.70	321	*e*P	P	06 53 03.8	+1.9
WCI	Wyandotte Cave 13nm,0.8s	24.85	12	*e*P	P	06 53 00.8	-2.3
WCI	Wyandotte Cave baz=194	24.85	12	P	P	06 53 01.2	-1.8
R47A	Wooly Knot Far baz=194	24.87	11	P	P	06 53 02.1	-1.2
S51A	Beattyville 14nm,0.9s	24.95	17	*e*P	P	06 53 02.1	-1.9
S51A	Beattyville baz=201	24.95	17	P	P	06 53 01.5	-2.5
OLIL	Olney 22nm,0.9s	25.03	8	*e*P	P	06 53 03.5	-1.1
KSU1	Kansas State U 11nm,0.6s	25.32	353	*e*P	P	06 53 06.9	-0.4
KSU1	Kansas State U baz=170,SNR=5.1	25.32	353	P	P	06 53 06.9	-0.4
T25A	Trinidad 14nm,0.9s	25.40	338	*e*P	P	06 53 10.5	+2.2
T25A	Trinidad baz=152,SNR=9.2	25.40	338	P	P	06 53 09.5	+1.2
CBKS	Cedar Bluff 22nm,0.8s	25.57	347	*e*P	P	06 53 10.4	+0.7
SJG	San Juan comp=Z,237nm,18.2s,baz=272,slow=38	25.78	77	LR	LR	07 03 56.9	
Q51A	Peebles baz=200	26.31	16	P	P	06 53 14.5	-1.8
SDCO	Great Sand Dun 7.0nm,1.0s	26.34	337	*e*P	P	06 53 17.8	+0.8
SDCO	Great Sand Dun baz=150,SNR=11	26.34	337	P	P	06 53 18.1	+1.1
KSCO	Kaye Shedlock' 12nm,1.1s	26.50	342	*e*P	P	06 53 18.1	-0.1
X16A	Lo Mia Camp, P 3.5nm,0.9s	26.57	323	*e*P	P	06 53 20.2	+1.3
S22A	4UR Ranch, Cre 8.6nm,1.0s	26.88	335	*e*P	P	06 53 22.8	+1.0
S22A	4UR Ranch, Cre baz=148,SNR=13	26.88	335	P	P	06 53 23.2	+1.4
MVCO	Mesa Verde 20nm,0.9s	27.17	331	*e*P	P	06 53 25.8	+1.4
O52A	Adamsville 6.3nm,0.9s	27.75	18	*e*P	P	06 53 27.6	-1.7
PV01	Paradox Valley	27.95	332	*e*P	P	06 53 32.9	+1.6
PV13	Radium Mtn., P 22nm,1.1s	28.09	332	*e*P	P	06 53 33.5	+1.0
PV02	Paradox Valley 11nm,1.0s	28.09	332	*e*P	P	06 53 32.5	-0.1
PV03	Paradox Valley	28.18	332	*e*P	P	06 53 34.9	+1.6
PV18	Skein Mesa, Pa 24nm,1.2s	28.20	332	*e*P	P	06 53 35.3	+1.8
PV12	Saucer Basin, 32nm,1.0s	28.21	332	*e*P	P	06 53 35.1	+1.4
PV11	David Mesa, Pa 17nm,1.0s	28.23	332	*e*P	P	06 53 35.2	+1.4
PV17	East Wray Mesa 22nm,1.1s	28.25	332	*e*P	P	06 53 35.1	+1.1
PV16	Nyswonger Mesa 19nm,1.2s	28.26	332	*e*P	P	06 53 34.4	+0.4
PV19	Morning Glory 13nm,1.1s	28.29	332	*e*P	P	06 53 34.8	+0.5
PV14	Lion Creek, Pa 16nm,1.0s	28.36	332	*e*P	P	06 53 35.8	+0.9
PV22	Blue Mesa, Par 15nm,1.0s	28.38	333	*e*P	P	06 53 36.4	+1.3
PV23	Carpenter Ridg 24nm,1.0s	28.41	332	*e*P	P	06 53 36.8	+1.3
PV21	Cone Mtn., Par 7.6nm,1.1s	28.49	332	*e*P	P	06 53 37.7	+1.6
PV09	Paradox Valley	28.51	332	*e*P	P	06 53 38.0	+1.6
N54A	Moraine State 15nm,1.1s	29.11	20	*e*P	P	06 53 39.3	-2.0
SSPA	Standing Stone 14nm,1.1s	29.57	23	*e*P	P	06 53 43.4	-1.9
CCUT	Cedar City 4.4nm,1.1s	29.90	326	*e*P	P	06 53 50.0	+1.3
PSUT	Pine Spring 2.6nm,0.8s	30.88	326	*e*P	P	06 53 57.9	+0.6
MEDO	Medina baz=207	31.59	20	P	P	06 54 00.7	-2.4
BINY	Binghamton 9.5nm,0.9s	31.64	24	*e*P	P	06 54 02.0	-1.8
BWLO	Walkerton baz=201	31.65	16	P	P	06 54 00.9	-2.8
TCUT	Toone Canyon 23nm,1.0s	31.65	332	*e*P	P	06 54 05.6	+1.5
HWUT	Hardware Ranch 5.9nm,1.1s	32.12	333	*e*P	P	06 54 08.7	+0.6
CLWO	Collingwood baz=203	32.19	17	P	P	06 54 05.7	-2.7
PD31	Pinedale Array	32.24	336	*e*P	P	06 54 08.8	-0.3
PDAR	Pinedale Array 1.6nm,1.0s,baz=149,slow=6.9,SNR=7.7	32.24	336	P	P	06 54 08.9	-0.3
PDAR	Pinedale Array	32.24	336	*e*P	P	06 54 08.8	-0.4
HVU	Hansel Valley 8.2nm,1.0s	32.80	332	*e*P	P	06 54 15.5	+1.4
SADO	Sadowa	32.81	18	P	P	06 54 10.1	-3.9
SADO	Sadowa 5.7nm,1.1s	32.81	18	*e*P	P	06 54 10.8	-3.2
AHID	Auburn Hatcher 9.3nm,1.1s	32.86	335	*e*P	P	06 54 15.8	+1.2
KLBO	Killbear Provi baz=202	33.05	16	P	P	06 54 12.0	-3.9
DELO	Deloro Mine baz=207	33.07	20	P	P	06 54 12.0	-4.1
REDW	Red Top Meadow 21nm,1.0s	33.25	335	*e*P	P	06 54 18.8	+0.7
NV11	Mina Array Sit 0.5nm,1.1s	33.26	322	*e*P	P	06 54 20.0	+1.9
SNOW	Snow King Moun 28nm,1.0s	33.30	336	*e*P	P	06 54 19.2	+0.8
NV01	Mina Array Sit	33.35	322	*e*P	P	06 54 20.2	+1.3
NVAR	Mina Array Bea 3.5nm,0.8s,baz=141,slow=8.9,SNR=16	33.35	322	P	P	06 54 20.5	+1.6
NVAR	0.6nm,0.7s,baz=158,slow=2.8,SNR=3.1			PcP	PcP	06 56 59.9	-0.1
BUKO	Buck Lake baz=204	33.35	17	P	P	06 54 15.5	-3.1
LOHW	Long Hollow 8.6nm,1.0s	33.36	336	*e*P	P	06 54 19.7	+0.7
TPAW	Teton Pass 14nm,1.0s	33.40	335	*e*P	P	06 54 20.5	+1.2
MOOW	Moose Ponds 5.4nm,1.0s	33.53	336	*e*P	P	06 54 21.1	+0.6
FXWY	Fox Creek 4.4nm,1.0s	33.55	336	*e*P	P	06 54 21.2	+0.5
PLVO	Plevna 6.0nm,1.0s	33.71	20	*e*P	P	06 54 18.8	-2.9
PLVO	Plevna baz=208	33.71	20	P	P	06 54 18.5	-3.2
IMW	Indian Meadow 5.1nm,1.1s	33.73	336	*e*P	P	06 54 24.1	+1.8
ALGO	Algonquin Park baz=205	34.21	18	P	P	06 54 23.1	-2.9
YMR	Madison River 10nm,1.1s	34.39	337	*e*P	P	06 54 29.4	+1.5
YHH	Holmes Hill 3.0nm,1.0s	34.45	337	*e*P	P	06 54 29.5	+1.0
QLMT	Earthquake Lak	34.71	336	*e*P	P	06 54 32.3	+1.6
HLID	Hailey 3.6nm,0.9s	34.95	332	*e*P	P	06 54 34.0	+1.3
HLID	Hailey baz=141,SNR=9.0	34.95	332	P	P	06 54 34.2	+1.5
MCMT	McKenzie Canyo	35.27	335	*e*P	P	06 54 37.1	+1.5
PTGA	Pitinga 7.6nm,0.9s	35.48	112	*e*P	P	06 54 37.8	+0.4
DLMT	Dillon 18nm,1.0s	35.61	336	*e*P	P	06 54 39.9	+1.6
ULM	Lac du Bonnet 2.7nm,0.7s,baz=163,slow=11,SNR=3.2	36.32	356	P	P	06 54 41.8	-2.4
ULM	Lac du Bonnet 6.6nm,1.1s	36.32	356	*e*P	P	06 54 42.4	-1.8
J08A	Circle Bar Ran 8.1nm,0.8s	36.78	328	*e*P	P	06 54 49.3	+1.0
EGMT	Eagleton 12nm,1.1s	36.85	341	*e*P	P	06 54 49.9	+1.1
SAML	Samuel 2.7nm,0.9s	37.02	126	*e*P	P	06 54 51.2	+0.7
LSQQ	Lebel-sur-Quev baz=205	37.33	17	P	P	06 54 49.6	-3.1
MSO	Missoula baz=144	37.35	336	P	P	06 54 54.2	+1.1
F10A	Beach Ranch, E 14nm,0.8s	38.08	332	*e*P	P	06 54 59.9	+0.6
JTMT	Jette 6.5nm,1.0s	38.23	336	*e*P	P	06 55 01.0	+0.4
LPAZ	La Paz 1.9nm,0.7s,baz=284,slow=8.7,SNR=6.9	38.57	140	P	P	06 55 02.2	-2.0
LPAZ	La Paz	38.57	140	*e*P	P	06 55 03.5	-0.8
MNMC	Minye Minye 11nm,0.9s	39.92	145	*e*P	P	06 55 16.2	+1.0
FFC	Flin Flon 2.1nm,0.5s	41.36	352	*e*P	P	06 55 25.6	-0.7
SIV	San Ignacio 4.5nm,0.9s,baz=309,slow=7.8,SNR=21	43.09	133	P	P	06 55 39.3	-1.5
SCHQ	Schefferville comp=Z,366nm,21.8s,baz=134,slow=37	45.50	21	LR	LR	07 15 32.3	
BBB	Bella Bella comp=Z,119nm,18.1s,baz=102,slow=42	47.53	331	LR	LR	07 20 32.1	
YKA	Yellowknife Ar 7.1nm,0.7s,baz=135,slow=8.8,SNR=22	50.96	347	P	P	06 56 40.8	-0.7
YKB5	Yellowknife Ar	50.96	347	*e*P	P	06 56 42.0	+0.4
YKW3	Yellowknife Ar 14nm,0.9s	51.02	347	*e*P	P	06 56 42.2	+0.2
DLBC	Dease Lake 4.6nm,1.0s	52.47	336	*e*P	P	06 56 57.1	+4.1
CPUP	Villa Florida 2.0nm,0.9s,baz=332,slow=7.1,SNR=5.9	52.72	139	P	P	06 56 54.1	-1.2
CPUP	Villa Florida 2.3nm,1.1s	52.72	139	*e*P	P	06 56 56.6	+1.4
BDFB	Brasilia 3.6nm,1.0s,baz=318,slow=8.6,SNR=4.1	53.00	122	P	P	06 56 57.8	+0.2
BDFB	comp=Z,252nm,19.8s,baz=49,slow=34			LR	LR	07 17 49.2	
PLCA	Paso Flores 1.7nm,0.9s,baz=0.0,slow=7.1,SNR=4.2	58.11	160	P	P	06 57 33.4	-0.4
DAWY	Dawson 1.2nm,0.8s	59.52	338	*e*P	P	06 57 44.9	+1.6
INK	Inuvik 4.9nm,0.9s,baz=130,slow=7.0,SNR=13	60.34	344	P	P	06 57 48.8	+0.1
INK	Inuvik 7.3nm,0.9s	60.34	344	*e*P	P	06 57 48.9	+0.2
RES	Resolute Bay comp=Z,144nm,18.6s,baz=108,slow=38	60.76	359	LR	LR	07 26 02.5	
KLU	Klutina 13nm,1.1s	60.77	334	*e*P	P	06 57 55.4	+3.4
DOT	Dot Lake 6.3nm,1.0s	61.04	336	*e*P	P	06 57 56.4	+2.7
SCM	Sheep Creek Mo 13nm,1.1s	61.52	334	*e*P	P	06 58 00.1	+3.0
IL1	Eielson Array	62.67	337	*e*P	P	06 58 04.7	+0.1
ILAR	Eielson Array 2.6nm,0.8s,baz=115,slow=5.4,SNR=18	62.67	337	P	P	06 58 04.3	-0.2
ILB	Eielson Array	62.67	337	*e*P	P	06 58 05.1	+0.5
MDM	Murphy Dome 1.9nm,0.8s	63.26	337	*e*P	P	06 58 10.8	+2.3
PPLA	Purkeypile 9.1nm,1.2s	64.03	334	*e*P	P	06 58 16.2	+2.4
SVW2	Sparrevohn 8.3nm,1.0s	64.94	331	*e*P	P	06 58 21.8	+2.2
TOLK	Toolik Lake Re 3.9nm,1.0s	65.38	340	*e*P	P	06 58 22.9	+0.5
NOA	NORSAR Array B comp=Z,30nm,18.1s,baz=230,slow=35	84.50	28	LR	LR	07 37 14.5	
NRIK	Noril'sk comp=Z,224nm,18.5s,baz=244,slow=38	96.95	360	LR	LR	07 48 49.9	
WR1	Warramunga Arr	134.78	256	*e*PKPdf	PKPdf	07 06 59.2	-0.3
WRA	Warramunga Arr 0.4nm,0.7s,baz=87,slow=2.4,SNR=5.0	134.79	256	PKP	PKPdf	07 06 59.2	-0.3
ASAR	Alice Springs 0.3nm,0.8s,baz=117,slow=3.2,SNR=3.5	135.07	250	PKP	PKPdf	07 06 59.1	-0.9
CM31	Chiang Mai Arr	145.86	340	*e*PKPdf	PKPbc	07 07 20.0	-0.1
CMAR	Chiang Mai Arr 11nm,0.9s,baz=341,slow=3.9,SNR=22	145.86	340	PKPbc	PKPdf	07 07 19.7	+0.1
CM01	Chiang Mai Arr	145.89	340	*e*PKPdf	PKPdf	07 07 19.6	0.0

JMA 17 06:49:42.8±0.2, 25.18N×124.91E, h4km, M3.5, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKM	Ikemajima	0.40	130	P	Pg	06 49 50.8	+0.3
JIKM				S	Sg	06 49 56.5	+0.8
JIRB	Irabujima	0.42	146	P	Pg	06 49 51.1	+0.1
JIRB				S	Sg	06 49 56.8	+0.3
JMJ	Miyako jima 2	0.50	136	P	Pg	06 49 53.1	+0.6
JMJ				S	Sg	06 49 59.7	+0.7
JTJ	Tarama	0.57	199	P	Pg	06 49 54.2	+0.5
JTJ				S	Sb	06 50 02.6	-1.2
JOGS	Gusukube	0.61	133	P	Pg	06 49 55.0	+0.4
JOGS				S	Sg	06 50 03.5	+0.9
JISG	Ishigakijimahi	0.80	223	P	Pg	06 49 58.2	0.0
JISG				S	Sb	06 50 09.8	-0.7
JIJ	Ishigaki jima	1.07	221	P	Pg	06 50 02.7	-0.6
JIJ				S	Sg	06 50 17.4	+0.2
JKRS	Kuro-shima	1.25	221	P	Pg	06 50 05.9	-0.8
JKRS				S	Sb	06 50 23.7	+0.4
IRIF	Iriomote-Funau	1.36	232	P	Pn	06 50 07.6	-1.0
IRIF				S	Sg	06 50 26.6	0.0

JMA 17 06:52:20.3±0.3, 36.35N×142.32E, h26km, M3.1
ISCJB 17 06:52:21.7±1.1, 36.35N±0.05×142.19E±0.09, h19km, mb3.4/4, Error ellipse: s-maj=11.0km s-min=6.5km az=177.8
IDC 17 06:52:24.4±2.7, 36.51N×141.78E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.5/42, mbtmp3.5/5, ML3.0/1, Error ellipse: s-maj=77.0km s-min=25.9km az=56.0
ISC 17 06:52:24.0±1.3, 36.40N±0.06×142.07E±0.09, h19km, n15, σ1§43/19, mb3.4/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHYU	Hitachinakayam	1.20	268	P	Pn	06 52 44.8	-0.8
JHYU				*e*S	Sg	06 53 02.9	+0.2
JHO	Hitachi	1.22	280	P	Pn	06 52 45.0	-1.1
JFT	Otama	1.78	309	P	Pb	06 52 53.8	-2.2
JMM	Marumori	1.79	326	P	Pn	06 52 52.7	-1.1
JMM				*e*S	Sb	06 53 16.1	-1.9
BSO1	Boso 1	1.95	207	P	Pn	06 52 53.8	-1.8
BSO1				*e*S	Sn	06 53 18.2	-1.1
BSO3	Boso 3	2.03	219	P	Pn	06 52 55.3	-1.7
BSO3				*e*S	Sn	06 53 21.2	-0.5
JAG	Ashikaga	2.11	272	P	Pn	06 52 57.7	-0.5
JRY	Ryogami san	2.59	263	P	Pn	06 53 04.2	-0.6
JYN	Shimob	2.99	254	P	Pn	06 53 10.5	0.0
MJAR	Matsushiro Arr 2.2nm,0.3s,baz=70,slow=12,SNR=12	3.11	274	Pn	Pn	06 53 11.8	-0.2
MAT	Matsushiro	3.11	274	P	Pn	06 53 12.6	+0.5
MAT				*e*S	Sn	06 53 50.7	+2.0
SONM	Songino Array 0.9nm,0.9s,baz=108,slow=9.4,SNR=4.1	28.58	305	P	P	06 58 19.0	+0.2
MKAR	Makanchi Array 0.6nm,0.6s,baz=86,slow=9.9,SNR=7.2	44.90	303	P	P	07 00 39.1	+1.8
WRA	Warramunga Arr 0.3nm,1.0s,baz=1.5,slow=7.5,SNR=2.9	56.51	189	P	P	07 02 07.3	+2.4
ASAR	Alice Springs 0.1nm,0.5s,baz=12,slow=8.8,SNR=3.4	60.23	189	P	P	07 02 35.8	+4.9

ISCJB 17 07:00:57.1±0.9, 17.60S±0.06×70.10W±0.1, h147km±7km, mb3.7/2, Error ellipse: s-maj=21.6km s-min=7.2km az=19.4
GUC 17 07:00:57.8±0.5, 17.74S×70.39W, h147km±3km, ML3.8
IDC 17 07:01:02.4±4.4, 17.27S×69.60W, h173km±26km, mb3.6/2, mb1 3.8/2, mb1mx3.1/35, mbtmp4.1/2, Error ellipse: s-maj=79.5km s-min=45.0km az=6.0
ISC 17 07:00:57.3±1.2, 17.54S±0.08×70.1W±0.1, h138km±9km, n13, σ1§19/22, 2C-5D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB12	IPOC Station P	1.09	192	⇓*i*P	Pn	07 01 21.9	-0.1
PB12				*i* S	Sn	07 01 40.0	-0.7
PB12				IAML		07 01 42.1	
	comp=E,2μm,0.2s						
MNMC	Minye Minye	1.65	163	⇓*i*P	Pn	07 01 29.2	+1.2
MNMC				*i* S	Sn	07 01 53.0	+1.5
MNMC				IAML		07 01 59.2	
	comp=E,1μm,0.3s						
PSGC	Pisagua	2.04	181	⇓*i*P	Pn	07 01 32.3	-0.1
PSGC				*i* S	Sn	07 01 58.2	-1.1
PSGC				IAML		07 02 01.1	
	comp=N,469nm,0.5s						
PB11	IPOC Station P	2.25	169	⇓*i*P	Pn	07 01 35.5	+0.6
PB11				*i* S	Sn	07 02 04.6	+0.8
PB11				IAML		07 02 06.8	
	comp=N,617nm,0.3s						
LPAZ	La Paz	2.26	57	P	Pn	07 01 36.2	+0.7
	comp=N,15nm,0.3s,baz=331,slow=3.7,SNR=524						
LPAZ				S	Sn	07 02 03.3	-1.3
	baz=71,slow=24,SNR=1.9						
PB01	IPOC Station P	3.53	171	*e*P	Pn	07 01 51.4	+0.2
PB01				*i* S	Sn	07 02 30.9	-2.1
PB01				IAML		07 02 37.4	
	comp=N,186nm,0.2s						
PB02	IPOC Station P	3.76	177	⇑*i*P	Pn	07 01 54.9	+0.6
PB02				*i* S	Sn	07 02 37.7	-0.8
PB07	IPOC Station P	4.17	177	*e*P	Pn	07 02 00.0	+0.3
PB07				*i* S	Sn	07 02 47.6	-0.5
PB09	IPOC Station P	4.31	169	⇑*i*P	Pn	07 02 02.5	+1.0
PB03	IPOC Station P	4.50	176	⇓*i*P	Pn	07 02 04.5	+0.6
PB03				*i* S	Sn	07 02 54.5	-1.3
TORD	Torodi Ar. Bea comp=N,1.0nm,0.4s,baz=254,slow=5.3,SNR=14	77.13	72	P	P	07 12 34.4	-1.8
YKA	Yellowknife Ar comp=N,0.8nm,0.7s,baz=132,slow=5.1,SNR=5.3	87.10	341	P	P	07 13 27.7	+0.6
WRA	Warramunga Arr comp=N,0.1nm,0.3s,baz=137,slow=1.8,SNR=4.6	135.69	214	PKP	PKPdf	07 20 04.2	+1.9

IDC 17 07:03:32.4±1.8, 13.76N×92.19W, h0km, mb3.6/5, mb1 3.8/9, mb1mx3.6/47, mbtmp3.6/9, ML3.4/4, Error ellipse: s-maj=39.1km s-min=18.7km az=24.0
ISCJB 17 07:03:34.6±1.0, 13.58N±0.10×92.25W±0.07, h35km, mb3.6/5, Error ellipse: s-maj=14.5km s-min=8.3km az=23.1
ISC 17 07:03:37.1±1.1, 13.7N±0.1×92.21W±0.08, h35km, n10, σ1§75/12, mb3.6/5, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	El Apazote 17nm,0.3s,baz=225,slow=9.3,SNR=82	2.13	52	Pn	Pn	07 04 09.4	-1.0
APG				Sn	Sn	07 04 36.9	+1.1
	24nm,0.3s,baz=288,slow=20,SNR=8.8						
CMIG	Matias Romero 0.6nm,0.3s,baz=139,slow=9.0,SNR=8.1	4.24	323	Pn	Pn	07 04 36.5	-2.8
CMIG				Sn	Sn	07 05 30.3	+2.8
	3.3nm,0.3s,baz=213,slow=9.8,SNR=4.1						
CMIG				Lg	Lg	07 05 41.6	
	4.0nm,0.3s,baz=102,slow=21,SNR=4.1						
JTS	JuntasAbangare 1.1nm,0.3s,baz=32,slow=20,SNR=4.8	7.87	115	Pn	Pn	07 05 30.1	+0.9
JTS				Lg	Lg	07 07 35.7	
	0.2nm,0.3s,baz=295,slow=10,SNR=6.9						
TXAR	Lajitas Array 0.0nm,0.3s,baz=153,slow=11,SNR=5.4	18.83	327	P	P	07 07 55.3	+1.2
SDV	Santo Domingo 2.2nm,0.7s,baz=253,slow=7.1,SNR=4.0	21.69	100	P	P	07 08 24.5	-0.8
ANMO	Albuquerque 0.6nm,0.7s,baz=166,slow=6.6,SNR=3.9	24.76	331	P	P	07 08 56.2	+0.4
NVAR	Mina Array Bea 0.6nm,0.7s,baz=139,slow=9.6,SNR=5.1	33.77	322	P	P	07 10 17.8	+1.8
YKA	Yellowknife Ar 0.5nm,0.7s,baz=152,slow=7.2,SNR=2.6	51.26	347	P	P	07 12 35.7	-1.5
INK	Inuvik 0.8nm,0.6s,baz=127,slow=5.1,SNR=3.7	60.66	344	P	P	07 13 43.5	-0.9
CMAR	Chiang Mai Arr 0.7nm,0.3s,baz=353,slow=2.8,SNR=4.8	146.20	341	PKPbc	PKPdf	07 23 14.5	+0.7

ISK 17 07:21:47.4, 37.36N×37.18E, h10km, ML2.6/5
ISCJB 17 07:21:48.4±0.6, 37.31N±0.04×37.09E±0.05, h9km±6km, Error ellipse: s-maj=7.6km s-min=5.0km az=135.0
DDA 17 07:21:49.0, 37.31N×37.19E, h7km, Ml3.5
ISC 17 07:21:48.3±1.0, 37.34N±0.03×37.16E±0.04, h8km±9km, n14, σ0§78/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	Gaziantep	0.17	166	PG	Pg	07 21 52.1	+0.2
GAZ				SG	Sg	07 21 55.0	+0.6
KMRS	Kahramanmaras	0.26	308	PG	Pg	07 21 53.3	-0.3
KMRS				SG	Sg	07 21 57.1	-0.1
KUZU	Kuzuini	0.57	187	*i* P	Pg	07 21 59.6	+0.3
KUZU				*i* S	Sn	07 22 11.9	-0.5
ANDN	Andirin	0.69	290	*i* P	Pg	07 22 01.4	-0.2
ANDN				*i* S	Sb	07 22 14.1	+1.7
ATAB	Bozova	0.91	82	*i* P	Pn	07 22 06.7	-0.7
KOZT	Kozan	1.07	278	PN	Pg	07 22 08.6	-0.3
AKCD	Akcadag	1.13	32	*i* P	Pn	07 22 10.6	0.0
AKCD				*i* S	Sn	07 22 27.3	+1.1
TAHT	Tahtakopru-Hat	1.24	219	PN	Pn	07 22 11.0	-0.9
SURC	SANLIURFA_SURC	1.25	111	*i* P	Pb	07 22 11.6	-0.6
SURC				*i* S	Sn	07 22 29.8	+0.7
DARE	Darende-Malaty	1.25	12	PN	Pn	07 22 11.3	-0.9
YURE	YUREGIR	1.33	248	PN	Pn	07 22 13.4	+0.3
URFA	Urfa	1.33	85	PN	Pn	07 22 12.1	-1.1
HEKM	Malatya_Hekimh	1.66	22	*i* P	Pg	07 22 20.5	+0.3
BNN	Bunyan	1.83	326	PN	Pg	07 22 19.5	-0.7

**IDC 17 07:27:02.1±25.0, 23.77S×174.64W, h0km, mb4.3

ASAR	**Alice Springs**	**46.89**	**259**	P	P	07 35 34.0	-0.5
	2.7nm,0.9s,baz=100,slow=8.2,SNR=17							
WRA	**Warramunga Arr**	**47.30**	**264**	P	P	07 35 37.4	-0.5
	3.0nm,0.6s,baz=103,slow=8.0,SNR=42							

IDC 17 07:28:41.4±3.5, 28.87S×175.66W, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/30, mbtmp3.7/4, ML4.1/1, Error ellipse: s-maj=122.1km s-min=38.8km az=15.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.01**	**258**	Pn	Pn	07 29 16.6	+0.1
	76nm,0.3s,baz=93,slow=24,SNR=4.5						
RAO				Sn	Sn	07 29 36.9	-5.6
	391nm,0.3s,baz=45,slow=18,SNR=11						
STKA	**Stephens Creek**	**36.83**	**254**	P	P	07 35 50.7	-0.6
	0.8nm,0.5s,baz=136,slow=5.3,SNR=3.6						
ASAR	**Alice Springs**	**45.25**	**264**	P	P	07 37 01.1	+0.2
	0.3nm,0.8s,baz=101,slow=8.6,SNR=3.1						
WRA	**Warramunga Arr**	**46.11**	**269**	P	P	07 37 07.5	-0.2
	0.6nm,0.5s,baz=111,slow=7.3,SNR=7.6						
TORD	**Torodi Ar. Bea**	**164.17**	**171**	PKPab	PKPab	07 49 40.5	-0.3
	0.6nm,1.0s,baz=188,slow=2.9,SNR=3.3						

IDC 17 07:35:49.1±1.0, 38.12N×91.08E, h0km, mb3.5/6, mb1 3.7/9, mb1mx3.5/48, mbtmp3.6/9, ML3.8/2, Error ellipse: s-maj=46.9km s-min=17.6km az=55.0

ISC 17 07:35:54.3±1.1, 38.4N±0.1×91.1E±0.2, h35km, n10, σ1§15/10, mb3.5/5, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**10.64**	**325**	Pn	**Pn**	**07 38 24.6**	**+0.5**
	2.8nm,0.3s,baz=128,slow=14,SNR=103						
MKAR				Sn	**Sn**	**07 40 21.2**	**-0.7**
	1.2nm,0.3s,baz=137,slow=26,SNR=13						
SONM	**Songino Array**	**14.60**	**45**	Pn	**P**	**07 39 23.3**	**-1.0**
	baz=231,slow=14,SNR=2.7						
KURBB	**Kurchatov Arra**	**15.16**	**328**	Pn	**Pn**	**07 39 23.7**	**-1.9**
	0.1nm,0.3s,baz=134,slow=13,SNR=12						
ZALV	**Zalesovo Beam**	**16.17**	**347**	Pn	**Pn**	**07 39 39.4**	**+0.8**
	baz=171,slow=11,SNR=1.8						
BVAR	**Borovoye Array**	**20.50**	**322**	P	Pn	07 40 30.4	-0.9
	1.0nm,0.6s,baz=123,slow=11,SNR=6.2						
NOA	**NORSAR Array B**	**52.62**	**323**	P	**P**	**07 45 04.8**	**+0.3**
	0.6nm,0.8s,baz=77,slow=7.4,SNR=3.3						
ILAR	**Eielson Array**	**67.66**	**23**	P	**P**	**07 46 48.9**	**+1.6**
	0.3nm,0.7s,baz=299,slow=4.6,SNR=3.6						
WRA	**Warramunga Arr**	**70.77**	**137**	P	**P**	**07 47 06.4**	**-0.7**
	0.3nm,0.9s,baz=331,slow=6.3,SNR=2.8						
ASAR	**Alice Springs**	**73.61**	**140**	P	**P**	**07 47 23.8**	**-0.2**
	0.4nm,1.0s,baz=330,slow=5.4,SNR=3.9						
TORD	**Torodi Ar. Bea**	**81.53**	**280**	P	**P**	**07 48 08.5**	**0.0**
	0.4nm,0.7s,baz=63,slow=4.5,SNR=4.5						

IDC 17 07:39:21.8±0.8, 38.18N×91.10E, h0km, mb3.8/10, mb1 3.9/13, mb1mx3.7/39, mbtmp3.8/13, ML3.1/3, Error ellipse: s-maj=26.7km s-min=18.2km az=56.0

ISCJB 17 07:39:24.9±0.7, 38.21N±0.09×91.1E±0.1, h33km, mb3.8/9, Error ellipse: s-maj=18.8km s-min=9.6km az=146.4

BJI 17 07:39:28.0, 38.21N×91.10E, h19km, ML3.7/9, Ms3.4/1, Ms7 3.2/1

ISC 17 07:39:27.1±0.9, 38.2N±0.1×91.0E±0.1, h35km, n18, σ1§46/19, mb3.9/9, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**6.14**	**337**	Pn	**Pn**	**07 40 57.3**	**+1.9**
WMQ				Sn	**Sn**	**07 42 07.0**	**+2.6**
WMQ				smax	smax		
	comp=N,260nm,0.9s						
WMQ				smax	smax		
	comp=E,200nm,0.7s						
GTA	**Gaotai**	**6.96**	**77**	*e*Pn	Pn	07 41 13.5	+6.8
GTA				LR	LR		
	comp=N,150nm,6.2s						
GTA				LR	LR		
	comp=E,110nm,6.2s						
GTA				LR	LR		
	comp=Z,180nm,10.0s						
MKAR	**Makanchi Array**	**10.72**	**326**	Pn	**Pn**	**07 41 58.0**	**-0.1**
	1.8nm,0.3s,baz=138,slow=14,SNR=18						
MKAR				Sn	**Sn**	**07 43 53.9**	**-2.9**
	1.0nm,0.3s,baz=133,slow=27,SNR=12						
SONM	**Songino Array**	**14.76**	**44**	Pn	**Pn**	**07 42 52.7**	**-0.7**
	0.1nm,0.3s,baz=235,slow=15,SNR=3.2						
SONM				Lg	Lg	07 47 11.3	
	baz=243,slow=32,SNR=6.0						
KURBB	**Kurchatov Arra**	**15.26**	**328**	Pn	**Pn**	**07 42 56.8**	**-2.9**
	0.1nm,0.3s,baz=135,slow=13,SNR=8.5						
ZALV	**Zalesovo Beam**	**16.30**	**347**	Pn	**Pn**	**07 43 11.5**	**-1.7**
	0.1nm,0.3s,baz=166,slow=15,SNR=2.7						
BVAR	**Borovoye Array**	**20.57**	**323**	P	**P**	**07 44 03.6**	**+0.9**
	1.3nm,0.5s,baz=128,slow=9.7,SNR=8.9						
FINES	**FINESS Array B**	**45.53**	**322**	P	**P**	**07 47 42.5**	**-0.4**
	1.5nm,0.8s,baz=90,slow=7.8,SNR=4.3						
HFS	**Hagfors**	**51.70**	**322**	P	**P**	**07 48 31.2**	**+0.8**
	0.8nm,0.5s,baz=91,slow=10,SNR=3.6						
NB2	**NORSAR Subarra**	**52.70**	**323**	P	**P**	**07 48 38.0**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=76,slow=7.4						
NOA	**NORSAR Array B**	**52.70**	**323**	P	**P**	**07 48 38.0**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=77,slow=7.8,SNR=4.0						
ILAR	**Eielson Array**	**67.83**	**23**	P	**P**	**07 50 21.4**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=304,slow=5.0,SNR=9.5						
INK	**Inuvik**	**68.70**	**16**	P	**P**	**07 50 26.1**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=322,slow=4.1,SNR=3.5						
WRA	**Warramunga Arr**	**70.71**	**137**	P	**P**	**07 50 38.8**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=304,slow=6.8,SNR=6.3						
ASAR	**Alice Springs**	**73.54**	**139**	P	**P**	**07 50 57.1**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=326,slow=6.4,SNR=9.3						
YKA	**Yellowknife Ar**	**77.53**	**12**	P	**P**	**07 51 19.1**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=340,slow=5.6,SNR=3.1						
TORD	**Torodi Ar. Bea**	**81.48**	**280**	P	**P**	**07 51 41.3**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=53,slow=4.7,SNR=4.7						
CPUP	**Villa Florida**	**150.88**	**285**	PKPbc	**PKPbc**	**07 59 16.1**	**0.0**
	comp=Z,2.6nm,1.0s,baz=59,slow=3.0,SNR=5.3						

ISCJB 17 08:12:59.9±0.6, 35.23N±0.03×135.48E±0.04, h4km±5km, mb3.4/4, Error ellipse: s-maj=5.9km s-min=4.6km az=153.2

JMA 17 08:12:59.9, 35.27N×135.49E, h7km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs353.00000°, δ51.00000°, λ56.00000°. NP2: φs220.00000°, δ50.00000°, λ125.00000°. Principal axes: T Plg64.0000°, Azm198.0000°; N Plg26.0000°, Azm16.0000°; P Plg1.0000°, Azm106.0000°;

JMA Felt III J1.

NIED 17 08:13:00, 35.30N×135.50E, h8km, Mw3.6 Best double couple: Mo2.78000×1014 NP1:φs3.00000°, δ47.00000°, λ58.00000°. NP2:φs225.00000°, δ52.00000°, λ119.00000°.

IDC 17 08:13:03.6±1.9, 34.92N×135.72E, h53km±20km, mb3.2/4, mb1 3.5/10, mb1mx3.4/41, mbtmp3.6/10, ML3.5/5, Error ellipse: s-maj=20.6km s-min=19.3km az=66.0

ISC 17 08:12:58.2±1.3, 35.19N±0.05×135.56E±0.03, h6km±9km, n18, σ1§39/26, mb3.4/4, 2C-5D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWT	**Wachi**	**0.15**	**305**	↓P	**Pg**	**08 13 02.0**	**+0.7**
JWT				S	**Sg**	**08 13 03.1**	**-0.3**
JHE	**Heguri**	**0.55**	**169**	↑P	**Pn**	**08 13 12.1**	**-0.4**
JHE				S	**Sb**	**08 13 20.3**	**+2.0**
JKY	**Yasaka**	**0.57**	**320**	↓P	**Pg**	**08 13 09.4**	**+0.3**
JKY				S	**Sg**	**08 13 15.9**	**-0.7**
JKS	**Kasai**	**0.62**	**250**	↓P	**Pn**	**08 13 11.5**	**-2.0**
JKS				S	**Sb**	**08 13 19.2**	**-1.2**
JKSM	**Kasumi**	**0.83**	**299**	↓P	**Pg**	**08 13 14.0**	**-0.1**
JKSM				S	**Sg**	**08 13 24.4**	**-0.4**
TSUJ	**Tsu 2**	**0.86**	**124**	↓P	**Pn**	**08 13 17.7**	**+0.9**
TSUJ				S	**Sn**	**08 13 30.0**	**+0.4**
JAJ2	**Tsuna**	**0.95**	**216**	↑P	**Pn**	**08 13 18.4**	**+0.4**
JAJ2				S	**Sn**	**08 13 31.4**	**-0.5**
MAT	**Matsushiro**	**2.54**	**57**	P	**Pb**	**08 13 43.5**	**-0.6**
MAT				*e*S	**Sb**	**08 14 15.1**	**-0.5**
MJAR	**Matsushiro Arr**	**2.54**	**57**	P	**Pb**	**08 13 43.5**	**-0.6**
	6.5nm,0.3s,baz=247,slow=16,SNR=47						
MJAR				S	**Sg**	**08 14 20.3**	**+0.6**
	23nm,0.3s,baz=236,slow=33,SNR=20						
JNU	**Nakatsue**	**4.39**	**243**	P	**Pn**	**08 14 08.0**	**+2.5**
	2.4nm,0.3s,baz=34,slow=4.3,SNR=17						
JNU				S	**Sb**	**08 15 10.9**	**+1.8**
	1.9nm,0.3s,baz=72,slow=20,SNR=2.3						
KSRS	**Korea Array**	**6.56**	**292**	P	Pn	08 14 39.8	+4.7
	0.3nm,0.3s,baz=109,slow=14,SNR=3.5						
USRK	**Ussuriysk Ar.**	**9.40**	**344**	P	Pn	08 15 20.7	+6.6
	0.1nm,0.3s,baz=163,slow=34,SNR=3.0						
JCJ	**Chichijima**	**9.87**	**143**	P	**Pn**	**08 15 18.7**	**-1.9**
	1.4nm,0.3s,baz=287,slow=19,SNR=2.3						
KLR	**Kul'dur**	**14.30**	**350**	P	**P**	**08 16 29.0**	**+0.6**
	0.3nm,0.3s,baz=158,slow=19,SNR=9.1						
SONM	**Songino Array**	**25.06**	**309**	P	**P**	**08 18 25.7**	**+2.3**
	1.4nm,0.8s,baz=119,slow=8.4,SNR=6.6						
MKAR	**Makanchi Array**	**41.11**	**303**	P	**P**	**08 20 44.5**	**+1.7**
	0.7nm,0.9s,baz=79,slow=7.8,SNR=4.3						
ILAR	**Eielson Array**	**53.56**	**31**	P	**P**	**08 22 19.3**	**-0.2**
	0.2nm,0.4s,baz=263,slow=7.2,SNR=3.6						
ASAR	**Alice Springs**	**58.56**	**182**	P	**P**	**08 22 53.0**	**-2.6**
	0.1nm,0.4s,baz=1.1,slow=6.6,SNR=2.4						

ISK 17 08:16:36.7, 38.77N×43.19E, h9km, ML2.5/5

ISCJB 17 08:16:37.9±0.5, 38.80N±0.03×43.22E±0.05, h13km, Error ellipse: s-maj=5.4km s-min=4.6km az=166.3

DDA 17 08:16:38.0, 38.79N×43.24E, h7km, Ml2.8

ISC 17 08:16:37.8±0.9, 38.79N±0.03×43.24E±0.04, h13km, n14, σ0§84/17, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.22**	**148**	PG	**Pb**	**08 16 43.8**	**0.0**
VANB				SG	**Sb**	**08 16 47.9**	**+0.1**
TVAN	**Van**	**0.29**	**153**	*i* P	**Pg**	**08 16 43.8**	**-0.1**
TVAN				*i* S	**Sg**	**08 16 49.0**	**+1.0**
VMUR	**Van-Muradiye**	**0.33**	**52**	*i* P	**Pb**	**08 16 45.1**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.40**	**273**	*i* P	**Pg**	**08 16 46.5**	**+0.6**
GEVA	**Gevas**	**0.49**	**197**	*i* P	**Pg**	**08 16 46.9**	**-0.6**
CLDR	**Caldiran**	**0.64**	**56**	PG	**Pb**	**08 16 50.2**	**-0.7**
CLDR				SG	**Sb**	**08 17 00.1**	**+0.2**
CLDR	**Caldiran**	**0.64**	**56**	*i* P	**Pb**	**08 16 50.3**	**-0.7**
TUTA	**Tutak**	**0.70**	**332**	*i* P	**Pg**	**08 16 51.5**	**0.0**
AGRB	**Hanur-Agry**	**0.81**	**346**	PG	**Pg**	**08 16 52.8**	**-0.8**
GURO	**Guroymak-BITLI**	**0.97**	**256**	PG	**Pb**	**08 16 54.9**	**-1.7**
EKAR	**Karacoban**	**1.03**	**298**	*i* P	**Pn**	**08 16 59.8**	**+1.6**
EATA	**Eleskirt**	**1.22**	**332**	*i* P	**Pg**	**08 17 01.1**	**-0.3**
SRTM	**Siirt_Merkez**	**1.30**	**233**	*i* P	**Pn**	**08 17 02.5**	**+0.6**
CUKT	**Cukurca**	**1.56**	**169**	PN	**Pn**	**08 17 05.2**	**-0.2**

ISCJB 17 08:31:37.7±0.9, 35.42N±0.06×141.36E±0.09, h33km, mb3.6/8, Error ellipse: s-maj=11.3km s-min=7.4km az=159.8

JMA 17 08:31:37.7±0.2, 35.45N×141.28E, h29km±2km, M3.0

IDC 17 08:31:45.2±3.9, 35.11N×140.61E, h55km±35km, mb3.4/8, mb1 3.5/9, mb1mx3.4/32, mbtmp3.6/9, ML2.8/1, Error ellipse: s-maj=32.9km s-min=17.7km az=77.0

ISC 17 08:31:40.6±1.1, 35.44N±0.05×141.1E±0.1, h33km, n17, σ1§55/19, mb3.6/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.34**	**320**	P	**Pn**	**08 31 46.7**	**-2.5**
CHOJ				*e*S	**Sb**	**08 31 53.3**	**-1.1**
JIHU	**Itakohorinouch**	**0.71**	**317**	P	**Pn**	**08 31 52.9**	**-1.5**
KTR	**Katsuura**	**0.72**	**246**	P	**Pn**	**08 31 53.3**	**-1.2**
JCN	**Nagara**	**0.75**	**268**	P	**Pb**	**08 31 54.8**	**-0.5**
BSO4	**Boso 4**	**0.79**	**235**	P	**Pn**	**08 31 54.2**	**-1.1**
BSO1	**Boso 1**	**0.80**	**189**	P	**Pn**	**08 31 53.2**	**-1.8**
BSO3	**Boso 3**	**0.81**	**218**	P	**Pn**	**08 31 54.2**	**-1.3**
BSO3				S	**Sb**	**08 32 07.1**	**+0.4**
MJAR	**Matsushiro Arr**	**2.60**	**296**	P	**Pn**	**08 32 21.8**	**+1.3**
	2.4nm,0.3s,baz=101,slow=7.8,SNR=20						
MAT	**Matsushiro**	**2.61**	**296**	P	**Pn**	**08 32 21.4**	**+1.0**
MAT				*e*S	**Sb**	**08 32 55.5**	**-2.8**
SONM	**Songino Array**	**28.51**	**306**	P	**P**	**08 37 35.4**	**+2.5**
	0.2nm,0.6s,baz=68,slow=8.0,SNR=2.5						
ZALV	**Zalesovo Beam**	**42.83**	**314**	P	**P**	**08 39 36.2**	**+1.0**
	0.4nm,0.3s,baz=86,slow=8.8,SNR=3.2						
MKAR	**Makanchi Array**	**44.78**	**303**	P	**P**	**08 39 51.4**	**+0.3**
	0.3nm,0.7s,baz=91,slow=8.6,SNR=2.8						
ILAR	**Eielson Array**	**50.97**	**32**	P	P	08 40 44.7	+6.1
	0.4nm,1.0s,baz=267,slow=5.4,SNR=2.5						
FITZ	**Fitzroy Crossi**	**55.24**	**198**	P	**P**	**08 41 10.7**	**+0.2**
	3.3nm,1.1s,baz=354,slow=9.2,SNR=3.4						
WRA	**Warramunga Arr**	**55.45**	**188**	P	**P**	**08 41 10.5**	**-1.6**
	1.5nm,0.6s,baz=5.5,slow=8.2,SNR=43						
ASAR	**Alice Springs**	**59.18**	**188**	P	**P**	**08 41 37.6**	**-0.7**
	0.2nm,0.4s,baz=356,slow=5.9,SNR=2.8						
GEYT	**Ailbeck**	**64.41**	**300**	P	**P**	**08 42 14.0**	**+0.4**
	0.6nm,0.3s,baz=67,slow=4.8,SNR=2.1						

DJA 17 08:45:11.2±0.8, 7.S±18.×12.7E±., h143km±32km, M3.8/5, mb3.3/1, MLv4.0/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**3.84**	**229**	P	Pn	08 46 09.2	-0.2
SOEI				S	Sn	08 46 54.7	+0.2
SAUI	**Saumlaki**	**4.10**	**100**	P	Pn	08 46 12.5	-0.1
BATI	**Baumata**	**4.59**	**230**	P	Pn	08 46 19.1	0.0
BATI				S	Sn	08 47 12.5	+0.6
EDFI	**Ende, Flores**	**5.69**	**254**	P	Pn	08 46 33.6	-0.2

IDC 17 08:56:36.4±0.8, 56.24N×152.68W, h0km, mb3.7/15, mb1 3.9/17, mb1mx3.8/55, mbtmp3.7/17, ML3.7/2, MS3.1/1, Ms1 3.1/1, ms1mx2.6/56, Error ellipse: s-maj=18.6km s-min=12.9km az=45.0

ISCJB 17 08:56:38.1±0.4, 56.22N±0.03×152.52W±0.05, h33km, mb3.7/14, Error ellipse: s-maj=5.0km s-min=4.0km az=171.3

NEIC 17 08:56:38.3±0.0, 56.08N×152.66W, h24km, ML3.6(AEIC), After AEIC.

ISC 17 08:56:41.1±0.7, 56.22N±0.07×152.63W±0.06, h35km, n85, σ1§52/89, mb3.7/14, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SII	**Sitkinak Islan**	**0.93**	**292**	*e*Pn	**Pn**	**08 56 54.6**	**-3.1**
SII				*e*Sn	**Sn**	**08 57 08.4**	**-1.4**
OHAK	**Old Harbor**	**1.07**	**341**	*e*Pn	**Pn**	**08 56 57.9**	**-1.7**
KDAK	**Kodiak Island**	**1.57**	**1**	Pn	**Pn**	**08 57 05.4**	**-1.1**
	29nm,0.3s,baz=182,slow=5.9,SNR=950						
KDAK				Lg	Lg	08 57 25.2	
	54nm,0.3s,baz=180,slow=18,SNR=12						
CAHL	**Cahill**	**2.35**	**323**	P	**Pn**	**08 57 15.6**	**-1.6**
PLK4	**Peulik 4**	**2.49**	**306**	P	**Pn**	**08 57 17.3**	**-1.8**
FONW	**Fourpeaked Sta**	**2.72**	**346**	P	**Pn**	**08 57 21.5**	**-0.8**
ANNE	**Aniakchak Nort**	**3.08**	**285**	P	**Pn**	**08 57 24.8**	**-2.6**
ANNW	**Aniakchak Nort**	**3.18**	**286**	P	**Pn**	**08 57 26.1**	**-2.5**
AUW	**Augustine West**	**3.19**	**352**	P	**Pn**	**08 57 28.7**	**-0.1**
CHGN	**Chignik**	**3.23**	**274**	*e*Pn	**Pn**	**08 57 26.6**	**-2.7**
CNPM	**China Poot**	**3.40**	**12**	*e*Pn	**Pn**	**08 57 30.8**	**-0.9**
CNPM				*e*Sn	**Sn**	**08 58 10.6**	**-0.2**
HOM	**Homer**	**3.49**	**8**	*e*Pn	**Pn**	**08 57 32.5**	**-0.4**
HOM				*e*Sn	**Sn**	**08 58 14.8**	**+1.9**
BRLK	**Bradley Lake**	**3.68**	**14**	*e*Pn	**Pn**	**08 57 33.0**	**-2.4**
BRLK				*e*Sn	**Sn**	**08 58 16.3**	**-1.3**
ILS	**Iliamna Low So**	**3.76**	**357**	P	**Pn**	**08 57 36.4**	**-0.2**
ILW	**Iliamna West**	**3.87**	**356**	P	**Pn**	**08 57 38.2**	**0.0**
RED	**Redoubt Volcan**	**4.22**	**359**	P	**Pn**	**08 57 42.6**	**-0.3**
SEW	**Seward**	**4.25**	**22**	*e*Pn	**Pn**	**08 57 43.0**	**-0.2**
SEW				*e*Sn	**Sn**	**08 58 29.8**	**-1.7**
RDSO	**Redoubt South**	**4.25**	**359**	P	**Pn**	**08 57 43.0**	**-0.4**
RDSO				S	**Sn**	**08 58 32.6**	**+0.7**
RSO	**Redoubt South**	**4.26**	**359**	*e*Pn	**Pn**	**08 57 43.5**	**-0.1**
RSO				*e*Sn	**Sn**	**08 58 34.0**	**+1.9**
RDWB	**Redoubt West**	**4.29**	**359**	P	**Pn**	**08 57 43.5**	**-0.4**
RDJH	**Redoubt Jeurge**	**4.39**	**359**	P	**Pn**	**08 57 44.9**	**-0.4**
SDPT	**Sand Point**	**4.51**	**262**	*e*Pn	**Pn**	**08 57 44.8**	**-2.1**
SPCP	**Crater Peak Br**	**5.07**	**3**	P	**Pn**	**08 57 52.7**	**-2.0**
SVW2	**Sparrevohn**	**5.13**	**344**	*e*Pn	**Pn**	**08 57 54.7**	**-0.7**
PWL	**Port Wells**	**5.17**	**24**	P	**Pn**	**08 57 54.2**	**-1.7**
HIN	**Hinchinbrook I**	**5.29**	**35**	P	**Pn**	**08 57 55.2**	**-2.4**
SUA	**Susitna One**	**5.35**	**10**	*e*Pn	**Pn**	**08 57 57.4**	**-1.1**
FID	**Port Fidalgo**	**5.57**	**33**	*e*Pn	**Pn**	**08 57 59.1**	**-2.4**
KNK	**Knik Glacier**	**5.64**	**21**	P	**Pn**	**08 58 00.5**	**-1.9**
EYAK	**Cordova Ski Ar**	**5.65**	**37**	*e*Pn	**Pn**	**08 58 01.6**	**-0.9**
PMR	**Palmer**	**5.69**	**17**	*e*Pn	**Pn**	**08 58 03.4**	**+0.4**
RAGM	**Ragged Mountai**	**5.92**	**42**	*e*Pn	**Pn**	**08 58 05.0**	**-1.3**
DIV	**Divide**	**6.09**	**33**	*e*Pn	**Pn**	**08 58 07.1**	**-1.4**
SCM	**Sheep Creek Mo**	**6.26**	**24**	*e*Pn	**Pn**	**08 58 09.7**	**-1.3**
KLU	**Klutina**	**6.33**	**31**	*e*Pn	**Pn**	**08 58 10.7**	**-1.3**
BMRM	**Bremner River**	**6.35**	**38**	*e*Pn	**Pn**	**08 58 10.2**	**-1.9**
KHIT	**Khitrov Hills**	**6.51**	**45**	P	**Pn**	**08 58 12.4**	**-1.9**
KULT	**Kultieth River**	**6.61**	**48**	P	**Pn**	**08 58 14.2**	**-1.5**
PPLA	**Purkeypile**	**6.71**	**2**	*e*Pn	**Pn**	**08 58 16.1**	**-1.0**
BARK	**Barkley Ridge**	**6.79**	**48**	P	**Pn**	**08 58 16.3**	**-2.0**
TT01	**Tatalina**	**6.93**	**347**	P	**Pn**	**08 58 18.5**	**-1.5**
ISLE	**Juniper Island**	**6.97**	**47**	P	**Pn**	**08 58 18.5**	**-2.2**
BAGL	**Bagley Icefiel**	**7.01**	**48**	P	**Pn**	**08 58 19.7**	**-1.3**
CHX	**Chaix Hills**	**7.21**	**53**	P	**Pn**	**08 58 22.4**	**-1.5**
TRF	**Thorofare Moun**	**7.35**	**8**	*e*Pn	**Pn**	**08 58 26.4**	**+0.4**
TRF				*e*Sn	**Sn**	**08 59 48.4**	**+0.2**
DHY	**Denali Highway**	**7.38**	**19**	*e*Pn	**Pn**	**08 58 25.5**	**-0.8**
DHY				*e*Sn	**Sn**	**08 59 48.0**	**-0.8**
TABL	**Table Mountain**	**7.38**	**50**	P	**Pn**	**08 58 24.7**	**-1.7**
PCA	**Pinnacle**	**7.61**	**54**	*e*Pn	**Pn**	**08 58 28.4**	**-1.1**
PNL	**Peninsula**	**7.84**	**58**	P	**Pn**	**08 58 30.7**	**-1.9**
WRH	**Wood River Hil**	**8.58**	**13**	*e*Pn	**Pn**	**08 58 41.1**	**-1.5**
YUK7	**Dusty Glacier**	**8.75**	**54**	P	**Pn**	**08 58 43.8**	**-1.4**
CCB	**Clear Creek Bu**	**8.79**	**14**	*e*Pn	**Pn**	**08 58 45.6**	**+0.2**
IL1	**Eielson Array**	**9.04**	**16**	*e*Pn	**Pn**	**08 58 48.9**	**0.0**
ILAR	**Eielson Array**	**9.04**	**16**	Pn	**Pn**	**08 58 48.1**	**-0.8**
	0.3nm,0.3s,baz=204,slow=14,SNR=15						
ILAR				Sn	**Sn**	**09 00 24.5**	**-4.7**
	0.5nm,0.3s,baz=201,slow=20,SNR=5.7						
ILB	**Eielson Array**	**9.04**	**16**	*e*Pn	**Pn**	**08 58 48.9**	**0.0**
HYT	**Haines Junctio**	**9.15**	**53**	*e*Pn	**Pn**	**08 58 50.1**	**-0.5**
PLBC	**Pleasant Camp**	**9.26**	**63**	P	**Pn**	**08 58 50.4**	**-1.6**
SKAG	**Skagway**	**9.78**	**63**	*e*Pn	**Pn**	**08 58 58.9**	**-0.1**
IM3	**Indian Mountai**	**9.82**	**357**	*e*Pn	**Pn**	**08 58 58.0**	**-1.5**
JIS	**Juneau Island**	**10.10**	**71**	*e*Pn	**Pn**	**08 59 01.8**	**-1.7**
WHY	**Whitehorse**	**10.30**	**57**	*e*Pn	**Pn**	**08 59 05.7**	**-0.6**
DLBC	**Dease Lake**	**12.40**	**70**	Pn	**Pn**	**08 59 34.1**	**-0.9**
	0.2nm,0.3s,baz=307,slow=7.4,SNR=6.3						
DLBC				LR	LR	09 03 42.0	
	comp=Z,80nm,18.1s,baz=160,slow=34						
DLBC	**Dease Lake**	**12.40**	**70**	P	**Pn**	**08 59 30.3**	**-4.7**
INK	**Inuvik**	**14.94**	**28**	Pn	**Pn**	**09 00 10.9**	**+1.6**
	0.4nm,0.3s,baz=306,slow=27,SNR=33						
YKA	**Yellowknife Ar**	**20.13**	**56**	P	**P**	**09 01 12.1**	**+0.4**
	2.6nm,0.9s,baz=267,slow=11,SNR=5.1						
NEW	**Newport**	**22.94**	**95**	P	**P**	**09 01 42.5**	**+0.5**
	0.7nm,0.6s,baz=307,slow=20,SNR=2.2						
YBH	**Yreka Blue Hor**	**24.16**	**114**	P	**P**	**09 01 54.9**	**+1.1**
	1.6nm,0.9s,baz=85,slow=6.9,SNR=3.5						
NVAR	**Mina Array Bea**	**28.87**	**113**	P	**P**	**09 02 37.2**	**+0.8**
	0.7nm,0.6s,baz=296,slow=6.7,SNR=4.9						
PDAR	**Pinedale Array**	**30.50**	**98**	P	**P**	**09 02 50.9**	**0.0**
	0.4nm,0.6s,baz=308,slow=4.4,SNR=5.5						
TXAR	**Lajitas Array**	**43.57**	**107**	P	**P**	**09 04 41.9**	**+0.2**
	0.5nm,0.8s,baz=332,slow=4.8,SNR=4.6						
KLR	**Kul'dur**	**44.17**	**294**	P	**P**	**09 04 46.6**	**+0.6**
	0.7nm,0.5s,baz=18,slow=20,SNR=1.8						
SCHQ	**Schefferville**	**45.56**	**54**	P	**P**	**09 04 57.7**	**+0.6**
	3.3nm,0.8s,baz=270,slow=12,SNR=2.2						
H11N2	**WAKE ISLAND Hy**	**47.26**	**236**	T	T	09 55 52.4	
	baz=29,slow=76,SNR=88						
H11N3	**WAKE ISLAND Hy**	**47.27**	**236**	T	T	09 55 53.5	
	baz=29,slow=76,SNR=95						
H11N1	**WAKE ISLAND Hy**

125nm,1.5s
KHZ **Kahutara** 20.11 176 *e*P P 09 10 50.7 +0.3
198nm,1.3s
LTZ **Lake Taylor** 20.41 179 *e*P P 09 10 54.8 +1.0
162nm,0.9s
OXZ **Oxford** 20.95 179 *e*P P 09 10 59.5 0.0
308nm,1.4s
MGCD **Mangrove Creek** 21.09 235 P P 09 11 04.3 +3.3
baz=22,SNR=6.6
RMQ **Roma** 21.20 254 P P 09 11 05.0 +2.6
baz=22,SNR=46
FOZ **Fox Glacier** 21.21 184 *e*P P 09 11 03.7 +1.5
166nm,1.2s
RIV **Riverview** 21.33 233 P P 09 11 07.1 +3.5
baz=22,SNR=5.0
RPZ **Rata Peaks** 21.34 181 P P 09 11 04.3 +0.6
139nm,1.2s,baz=31,slow=3.6,SNR=11
RPZ **Rata Peaks** 21.34 181 *e*P P 09 11 04.7 +1.0
318nm,1.4s
LBZ **Lake Benmore** 22.04 183 *e*P P 09 11 12.7 +1.6
116nm,1.6s
ODZ **Otahua Downs** 22.68 182 *e*P P 09 11 17.5 +0.1
90nm,1.5s
MLZ **Mavora Lakes** 23.16 186 *e*P P 09 11 23.6 +1.5
105nm,1.2s
CNB **Canberra Magne** 23.32 231 P P 09 11 25.7 +1.9
baz=24,SNR=18
DCZ **Deep Cove** 23.37 188 *e*P P 09 11 25.5 +1.6
50nm,1.1s
TARA **Tarawa** 23.57 3 *e*P P 09 11 25.6 -0.4
277nm,1.5s
CAN **Canberra** 23.59 232 P P 09 11 28.0 +1.9
baz=24
CAN **Canberra** 23.59 232 *e*P P 09 11 27.8 +1.7
YNG **Young** 23.59 235 P P 09 11 28.2 +2.1
baz=24,SNR=6.8
WHZ **Wether Hill Ro** 23.70 186 *e*P P 09 11 27.8 +0.9
98nm,1.3s
CTA **Charters Tower** 23.72 271 P P 09 11 26.6 -0.9
12nm,0.4s,baz=88,slow=10,SNR=31
CTA S S 09 15 35.2 +1.7
2.4nm,0.7s,baz=160,slow=19,SNR=6.1
CTA **Charters Tower** 23.72 271 P P 09 11 28.7 +1.3
baz=24
CTAO **Charters Tower** 23.72 271 *e*P P 09 11 26.5 -0.9
91nm,1.4s
CTAO **Charters Tower** 23.72 271 *e*P P 09 11 26.5 -0.9
CTAO pmax pmax
comp=Z,91nm,1.4s
CMSA **Cobar Meteorol** 24.80 243 P P 09 11 38.3 +1.2
baz=25,SNR=35
QLP **Quilpie** 25.24 255 P P 09 11 41.7 +0.6
baz=26,SNR=22
KNTN **Kanton** 25.30 42 *e*P P 09 11 39.0 -2.6
comp=Z,375nm,1.5s
MTSU **Mount Surprise** 25.91 274 P P 09 11 48.4 +1.1
baz=26,SNR=139
RABL **Rabaul** 26.06 311 *e*P P 09 11 47.0 -1.6
comp=Z,35nm,0.6s
PMG **Port Moresby** 26.73 295 P P 09 11 54.2 -0.4
comp=Z,22nm,0.7s,baz=104,slow=4.5,SNR=7.7
PMG **Port Moresby** 26.73 295 *e*P P 09 11 54.8 +0.2
comp=Z,44nm,1.0s
PMG **Port Moresby** 26.73 295 *e*P P 09 11 55.4 +0.8
TOO **Toolangi** 27.13 230 P P 09 11 59.6 +1.6
baz=28,SNR=6.9
COEN **Coen** 28.22 282 P P 09 12 09.0 +1.1
baz=28,SNR=24
COEN **Coen** 28.22 282 *e*P P 09 12 08.7 +0.8
comp=Z,57nm,1.3s
STKA **Stephens Creek** 28.27 244 P P 09 12 09.2 +1.0
comp=Z,14nm,0.8s,baz=88,slow=10,SNR=37
STKA PcP PcP 09 15 19.3 +0.8
comp=Z,2.0nm,0.5s,baz=333,slow=5.5,SNR=4.2
STKA S S 09 16 45.3 -0.1
comp=Z,1.4nm,0.7s,baz=224,slow=15,SNR=3.0
STKA ScP SS 09 18 50.3 +0.4
comp=Z,6.1nm,0.9s,baz=29,slow=3.1,SNR=8.7
STKA LR LR 09 23 32.0
comp=Z,67nm,18.0s,baz=68,slow=36
STKA **Stephens Creek** 28.27 244 P P 09 12 09.5 +1.2
baz=29,SNR=6.9
STKA **Stephens Creek** 28.27 244 *e*P P 09 12 09.3 +1.0
comp=Z,3.2nm,0.8s
STKA PcP PcP 09 15 19.3 +0.8
STKA S S 09 16 45.3 -0.1
MOO **Moorlands** 28.59 220 P P 09 12 12.4 +1.5
baz=29,SNR=3.3
ARPS **Mount Arapiles** 29.48 234 P P 09 12 20.3 +1.4
baz=30,SNR=7.8
QIS **Mount Isa** 29.80 267 P P 09 12 22.0 +0.1
baz=30,SNR=4.6
HTT **Hallett** 30.81 242 P P 09 12 31.6 +0.9
baz=31,SNR=13
MANU **Manus Island** 30.99 307 *e*P P 09 12 32.6 +0.2
comp=Z,107nm,1.4s
BBOO **Buckleboo** 33.05 244 P P 09 12 50.8 +0.5
baz=34,SNR=13
BBOO **Buckleboo** 33.05 244 *e*P P 09 12 50.8 +0.5
comp=Z,45nm,0.9s
AS01 **Alice Springs** 34.62 260 *e*P P 09 13 03.3 -0.7
AS31 **Alice Springs** 34.66 260 *e*P P 09 13 04.1 -0.3
comp=Z,17nm,0.8s
ASAR **Alice Springs** 34.66 260 P P 09 13 04.0 -0.4
comp=Z,39nm,0.8s,baz=86,slow=9.1,SNR=361
ASAR PcP PcP 09 15 36.0 +0.1
comp=Z,0.9nm,0.6s,baz=106,slow=3.0,SNR=2.8
ASAR S S 09 18 23.7 -1.4
comp=Z,2.7nm,0.9s,baz=92,slow=15,SNR=9.4
ASAR ScP ScP 09 19 11.9 +2.1
comp=Z,2.7nm,0.7s,baz=105,slow=4.0,SNR=13
ASAR LR LR 09 26 32.1
comp=Z,69nm,18.9s,baz=102,slow=35
ASAR **Alice Springs** 34.66 260 P P 09 13 04.0 -0.4
ASAR 09 15 36.0
ASAR S S 09 18 23.7 -1.4
ASAR pmax pmax
comp=Z,39nm,0.8s
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR smax smax
comp=N,3.0nm,0.9s
ASAR pmax pmax
comp=N,3.0nm,0.7s
ASAR MLR MLR
comp=Z,69nm,18.9s
WB2 **Warramunga Arr** 34.76 267 *e*P P 09 13 04.3 -1.0
WB2 *e*S S 09 18 30.5 +3.7
WRAB **Tennant Creek** 34.77 267 *e*P P 09 13 04.0 -1.3
comp=Z,16nm,0.6s
WRAB *e*S S 09 18 29.3 +2.5
WRAB **Tennant Creek** 34.77 267 *e*P P 09 13 04.0 -1.3
WRAB *e*S S 09 18 29.3 +2.5
WRAB pmax pmax
comp=Z,16nm,0.6s
WRA **Warramunga Arr** 34.77 267 P P 09 13 04.2 -1.2
comp=Z,11nm,0.5s,baz=96,slow=8.5,SNR=220
WRA PP PP 09 14 27.7 +1.1
comp=Z,8.3nm,1.2s,baz=97,slow=11,SNR=6.1
WRA PcP PcP 09 15 36.5 +0.2
comp=Z,1.3nm,0.8s,baz=91,slow=2.6,SNR=2.7
WRA S S 09 18 24.4 -2.5
comp=Z,2.7nm,0.9s,baz=95,slow=14,SNR=9.3
WRA ScP ScP 09 19 12.9 +2.6
comp=Z,1.4nm,0.8s,baz=100,slow=3.2,SNR=3.9
WRA LR LR 09 26 16.5
comp=Z,108nm,20.7s,baz=120,slow=34
TBI **Tubuai** 35.84 99 *e*LR LR 09 23 04.5
comp=Z,266nm,36.5s
JAY **Jayapura** 35.87 299 LR LR 09 27 01.3
comp=Z,59nm,18.2s,slow=34
JAY **Jayapura** 35.87 299 P P 09 13 15.0 +0.2
comp=Z,679nm,1.0s,comp=Z,7µm
GENI **Genyem** 36.26 298 P P 09 13 19.2 +1.1
PPT2 **Papeete2** 36.73 90 *e*S S 09 19 03.7 +6.8
comp=Z,304nm,29.8s
PPT2 *e*LQ LQ 09 22 00.9
comp=Z,451nm,27.0s
PPT2 *e*LR LR 09 23 32.5
comp=Z,464nm,32.0s
PPT **Papeete** 36.74 90 LR LR 09 27 27.8
comp=Z,28nm,19.1s,baz=269,slow=34
KDU **Kakadu** 38.42 278 P P 09 13 35.9 -0.4
baz=39,SNR=13
MTN **Manton Dam** 39.60 277 P P 09 13 45.7 -0.4
baz=40,SNR=8.1
MTN **Manton Dam** 39.60 277 *e*P P 09 13 45.7 -0.4
comp=Z,35nm,0.7s

WRKA **Warakurna** 39.62 257 P P 09 13 46.2 -0.1
baz=40,SNR=87
FORT **Forrest** 39.65 248 P P 09 13 46.5 +0.2
baz=40,SNR=51
FORT **Forrest** 39.65 248 *e*P P 09 13 46.6 +0.2
comp=Z,102nm,0.6s
KNRA **Kununurra** 40.93 272 P P 09 13 56.7 -0.3
baz=41,SNR=9.5
FAKI **Fak Fak** 42.75 291 *e*P P 09 14 11.8 -0.2
comp=Z,92nm,1.4s
FAKI **Fak Fak** 42.75 291 P P 09 14 11.7 -0.2
FITZ **Fitzroy Crossi** 43.20 267 P P 09 14 16.1 +0.6
comp=Z,81nm,0.8s
FITZ S S 09 20 26.2 -7.1
comp=Z,1.7nm,0.9s,baz=137,slow=22,SNR=4.7
FITZ LR LR 09 31 48.9
comp=Z,93nm,19.6s,baz=100,slow=35
FITZ **Fitzroy Crossi** 43.20 267 P P 09 14 16.1 +0.6
baz=44,SNR=64
FITZ **Fitzroy Crossi** 43.20 267 *e*P P 09 14 16.2 +0.6
comp=Z,69nm,0.8s
FITZ S S 09 20 26.2 -7.1
SWI **Sorong** 44.65 293 P P 09 14 27.5 +0.4
KMBL **Kambalda** 44.95 247 P P 09 14 28.9 -0.5
baz=45,SNR=12
SOEI **Soe** 46.98 278 *e*P P 09 14 46.6 +1.0
comp=Z,44nm,1.0s
SOEI **Soe** 46.98 278 P P 09 14 47.0 +1.4
NLAI **Namlea** 47.10 287 P P 09 14 47.5 +1.1
BATI **Baumata** 47.37 277 LR LR 09 34 02.4
comp=Z,146nm,21.0s,baz=136,slow=35
BATI **Baumata** 47.37 277 P P 09 14 49.7 +1.2
MBWA **Marble Bar** 47.99 261 *e*P P 09 14 53.1 -0.1
comp=Z,39nm,0.8s
MEEK **Meekatharra** 48.13 254 P P 09 14 53.9 -0.4
baz=48,SNR=20
TAOE **Nuku Hiva Isla** 48.16 82 *e*LR LR 09 28 49.4
comp=Z,302nm,29.9s
KLBR **Kalberrin** 48.46 247 P P 09 14 56.4 -0.3
baz=49,SNR=27
SANI **Sanana** 48.64 288 P P 09 14 58.7 +0.5
NWAO **Narrogin (SRO)** 48.85 245 P P 09 14 59.8 +0.2
baz=49,SNR=15
NWAO **Narrogin (SRO)** 48.85 245 *e*P P 09 14 59.6 0.0
comp=Z,41nm,0.9s
NWAO *e*PcP PcP 09 16 24.7 +2.3
NWAO **Narrogin (SRO)** 48.85 245 *e*P P 09 14 59.6 0.0
NWAO *e* 09 16 24.7
NWAO pmax pmax
comp=Z,41nm,0.9s
RKGY **Rocky Gully** 49.02 243 P P 09 15 01.4 +0.5
baz=49
BLDU **Ballidu** 49.42 248 P P 09 15 03.7 -0.3
baz=50,SNR=16
EDFI **Ende, Flores** 49.71 278 P P 09 15 07.1 +0.6
MUN **Mundaring** 49.76 246 P P 09 15 06.6 0.0
baz=50,SNR=5.8
MORW **Morawa** 50.13 250 P P 09 15 09.4 0.0
baz=50,SNR=9.5
WBSI **Waikabubak, Su** 51.51 275 P P 09 15 20.8 +0.9
LUWI **Luwuk** 51.95 287 *e*P P 09 15 24.2 +1.1
LUWI **Luwuk** 51.95 287 P P 09 15 24.4 +1.3
BKSI **Bulukumba** 52.47 281 P P 09 15 27.3 +0.3
BNSI **Bone** 52.87 282 P P 09 15 30.7 +0.8
APSI **Ampana** 53.00 287 P P 09 15 32.4 +1.5
DAV **Davao City (W)** 53.70 298 LR LR 09 35 12.0
comp=Z,38nm,21.5s,baz=150,slow=32
TWSI **Taliwang, Sumb** 54.14 275 P P 09 15 39.6 +0.3
MPSI **Mapaga** 55.13 287 P P 09 15 46.5 +0.1
VNDA **Vanda** 55.45 183 P P 09 15 47.9 +0.1
comp=Z,9.9nm,0.9s,baz=1.4,slow=7.7,SNR=31
VNDA PcP PcP 09 16 44.5 -1.8
comp=Z,3.0nm,1.0s,baz=45,slow=2.9,SNR=1.8
VNDA ScP ScP 09 20 34.9 +1.2
comp=Z,0.8nm,0.8s,baz=334,slow=2.9,SNR=3.9
VNDA LR LR 09 36 32.5
comp=Z,89nm,19.7s,baz=20,slow=33
VNDA **Vanda** 55.45 183 *e*P P 09 15 47.9 +0.1
comp=Z,27nm,1.2s
VNDA PcP PcP 09 16 44.5 -1.8
SBA **Scott Base** 55.63 181 *e*P P 09 15 50.4 +1.4
comp=Z,145nm,0.9s
SBA **Scott Base** 55.63 181 *e*P P 09 15 50.4 +1.4
SBA pmax pmax
comp=Z,145nm,0.9s
CBIJ **Chichi jima** 56.77 328 P P 09 15 57.2 -0.5
JCJ **Chichijima** 56.77 328 P P 09 15 57.2 -0.5
comp=Z,49nm,0.5s,baz=288,slow=19,SNR=5.6
CASY **Casey** 58.22 205 *e*P P 09 16 07.4 0.0
comp=Z,51nm,1.0s
WOJI **Wonogiri, Jawa** 59.96 274 P P 09 16 21.2 +0.9
KPJI **Karang Pucung** 61.99 274 P P 09 16 36.1 +2.2
STKI **Sintang** 62.55 282 P P 09 16 39.3 +1.6
SBUM **Sibu** 62.92 285 *e*P P 09 16 41.4 +1.3
comp=Z,8.7nm,1.1s
SBUM **Sibu** 62.92 285 P P 09 16 41.0 +0.9
KSM **Kuching** 64.21 283 *e*P P 09 16 48.7 0.0
comp=Z,35nm,0.9s
KSM **Kuching** 64.21 283 P P 09 16 49.0 +0.4
MJAR **Matsushiro Arr** 66.50 331 P P 09 17 01.8 -1.1
comp=Z,14nm,1.1s,baz=172,slow=7.7,SNR=12
MAJO **Matsushiro** 66.50 331 *i* P P 09 17 01.8 -1.1
MAJO pmax pmax
comp=Z,5.0nm,0.4s
MAT **Matsushiro** 66.50 331 P P 09 17 01.4 -1.5
MAT *e*S S 09 25 24.6 -19
QSPA **South Pole Qui** 67.75 180 P P 09 17 10.4 -0.3
comp=Z,63nm,0.9s,baz=31,slow=2.4,SNR=95
QSPA **South Pole Qui** 67.75 180 *e*P P 09 17 10.3 -0.3
comp=Z,320nm,1.0s
MYKOM **Kota Tinggi** 70.19 281 P P 09 17 27.0 +0.6
KSRS **Korea Array** 72.28 325 P P 09 17 38.8 +0.4
comp=Z,14nm,0.9s,baz=147,slow=6.0,SNR=22
KS15 **Wonju Array Si** 72.29 325 *e*P P 09 17 39.6 +1.1
KSAR **Wonju Array Be** 72.29 325 P P 09 17 38.8 +0.3
KSAR **Wonju Array Be** 72.29 325 *e*P P 09 17 38.8 +0.3
KS01 **Wonju Array Si** 72.31 325 *e*P P 09 17 38.8 +0.2
KS01 *e*PcP PcP 09 17 49.8 -6.2
IPM **Ipoh** 73.87 282 *e*P P 09 17 48.1 -0.3
comp=Z,74nm,1.5s
NJ2 **Nanjing** 73.94 315 *e*P P 09 17 49.3 +1.0
NJ2 pmax pmax
comp=Z,15nm,0.5s
KULM **Kulim** 74.55 282 *e*P P 09 17 51.6 -0.6
comp=Z,45nm,1.4s
KULM **Kulim** 74.55 282 P P 09 17 52.0 -0.3
PSI **Prapat** 75.10 279 *e*P P 09 17 54.2 -1.4
comp=Z,17nm,1.1s
PSI **Prapat** 75.10 279 *e*P P 09 17 54.2 -1.4
PSI pmax pmax
comp=Z,17nm,1.1s
SKLT **Songkhla** 75.36 284 P P 09 17 58.4 +1.5
USRK **Ussuriysk Ar.** 75.47 332 P P 09 17 56.0 -0.9
comp=Z,4.6nm,0.9s,baz=159,slow=5.7,SNR=7.3
USRK LR LR 09 47 07.5
comp=Z,16nm,20.5s,baz=124,slow=32
PET **Petropavlovsk** 75.86 352 *e*P P 09 18 09.7 +11
PET *e*PP sP 09 18 39.1 -4.2
PET *e*S S 09 27 40.5 +10
PET pmax pmax
comp=Z,39nm,1.2s
WHN **Wuhan** 76.04 312 P P 09 18 01.3 +0.9
PETK **Petropavlovsk-** 76.07 351 P P 09 18 00.3 +0.2
comp=Z,9.1nm,0.9s,baz=143,slow=6.8,SNR=14
PETK LR LR 09 45 08.3
comp=Z,115nm,21.5s,baz=143,slow=30
MAW **Mawson** 76.42 202 P P 09 18 02.6 +0.6
comp=Z,12nm,0.8s,baz=115,slow=6.6,SNR=20
MAW LR LR 09 47 56.0
comp=Z,30nm,18.0s,baz=64,slow=33
MAW **Mawson** 76.42 202 P P 09 18 02.7 +0.7
baz=77,SNR=10
MAW **Mawson** 76.42 202 *e*P P 09 18 02.7 +0.7
comp=Z,4.2nm,0.9s
MAW **Mawson** 76.42 202 *e*P P 09 18 02.7 +0.7
MAW pmax pmax
comp=Z,4.0nm,0.9s
TRTT **Trang** 76.48 284 P P 09 18 04.9 +1.6
TIA **Tai'an** 77.70 318 P P 09 18 09.5 -0.1
TIA pmax pmax
comp=Z,51nm,1.0s
CN2 **Changchun** 78.22 328 *e*P P 09 18 12.1 -0.2
CN2 PcP PcP 09 18 24.3 +3.0
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
PHET **Kaeng Krachan** 78.71 289 P P 09 18 17.7 +2.1
PBKT **Sadao Pong** 79.19 293 *e*P P 09 18 19.9 +1.8
comp=Z,8.1nm,1.0s
PBKT **Sadao Pong** 79.19 293 P P 09 18 20.3 +2.1
ENH **Enshi** 79.32 309 *e*P P 09 18 18.3 -0.4
comp=Z,79nm,1.6s
GYA **Guiyang** 79.37 304 *e*P P 09 18 21.3 +2.1
GYA pP pP 09 18 51.8 +1.2
GYA sP sP 09 19 03.0 -0.8
GYA PP PP 09 21 24.4 +3.2
GYA S S 09 28 11.3 +1.2
GYA SKS SKSac 09 28 22.4 -1.9
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.9s
KLR **Kul'dur** 79.58 335 *i* P P 09 18 20.2 +0.6
SRDT **SRDT** 79.79 290 P P 09 18 24.2 +2.7
BJT **Baijiatuao** 80.69 320 *e*P P 09 18 26.0 +0.2
comp=Z,5.6nm,0.5s
BJT **Baijiatuao** 80.69 320 *e*P P 09 18 26.0 +0.2
BJT pmax pmax
comp=Z,6.0nm,0.5s
BJI **Beijing** 80.70 320⇑ *i*P P 09 18 26.3 +0.5
BJI sP sP 09 19 09.9 -0.6
BJI S S 09 28 25.9 +2.7
BJI pmax pmax
comp=Z,20nm,1.3s
UMPA **Umpang Tak** 80.83 292 P P 09 18 29.4 +2.3
CM01 **Chiang Mai Arr** 81.73 294 *e*P P 09 18 33.1 +1.3
KMI **Kunming** 81.76 301 P P 09 18 33.8 +1.7
KMI pmax pmax
comp=Z,21nm,1.1s
CMAR **Chiang Mai Arr** 81.76 294 P P 09 18 33.5 +1.5
comp=Z,4.6nm,0.8s,baz=134,slow=3.9,SNR=26
CMAR **Chiang Mai Arr** 81.76 294 *i* P P 09 18 33.7 +1.7
CMAR pmax pmax
comp=Z,9.0nm,1.1s
XAN **Xi'an** 81.80 312 P P 09 18 32.3 +0.4
XAN pP pP 09 18 59.3 -4.1
XAN sP sP 09 19 14.0 -2.6
XAN S S 09 28 33.3 -1.7
XAN pmax pmax
comp=Z,29nm,1.3s
XAN pmax pmax
comp=Z,140nm,4.3s
CMMT **Chiang Mai** 81.92 294 P P 09 18 34.5 +1.7
CHTO **Chiang Mai** 81.92 294 *e*P P 09 18 34.4 +1.6
comp=Z,30nm,1.4s
CHTO **Chiang Mai** 81.92 294 *e*P P 09 18 34.4 +1.6
CHTO pmax pmax
comp=Z,30nm,1.4s
CHTO **Chiang Mai** 81.92 294 P P 09 18 34.6 +1.8
comp=Z,63nm,0.9s
SYO **Syowa Base** 82.59 196⇑ *i*P P 09 18 34.0 -1.4
SYO **Syowa Base** 82.59 196⇓ *e*PcP PcP 09 18 38.6 -1.5
SYO **Syowa Base** 82.59 196⇓ *e*pP pP 09 19 06.8 -0.2
PMSA **Palmer Station** 83.27 159 P P 09 18 39.1 +0.1
comp=Z,16nm,0.9s,baz=155,slow=4.3,SNR=4.8
CD2 **Chengdu** 83.84 307 *e*P P 09 18 43.0 +0.5
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
HHC **Hu-ho-hao-te** 83.98 319 *e*P P 09 18 44.3 +1.3
HHC S S 09 28 57.9 +1.0
HHC SS SS 09 34 27.9 -0.6
HHC pmax pmax
comp=Z,38nm,1.1s
HHC pmax pmax
comp=Z,130nm,4.8s
HHC LR LR
comp=Z,200nm,11.2s
HHC LR LR
comp=Z,92nm,11.2s
HHC LR LR
comp=Z,130nm,10.4s
NVL **N'lazarevskaya** 86.08 187 *e*P P 09 18 52.0 -1.0
NVL *e*S S 09 29 09.3 -7.3
NVL pmax pmax
comp=Z,27nm,0.9s
SNAA **Sanae** 86.18 182 P P 09 18 52.0 -1.5
SNAA **Sanae** 86.18 182 *e*P P 09 18 51.9 -1.7
comp=Z,24nm,1.0s
SNAA **Sanae** 86.18 182 *e*P P 09 18 51.9 -1.7
SNAA pmax pmax
comp=Z,24nm,1.0s
SEY **Seymchan** 86.32 351 *i* P P 09 18 53.1 -0.9
LZH **Lanzhou** 86.41 311 *e*P P 09 18 57.4 +2.1
LZH pP pP 09 19 27.8 +0.6
LZH sP sP 09 19 39.1 -1.2
LZH PP PP 09 22 19.3 +0.6
LZH SKS SKSac 09 29 11.0 +0.5
LZH S S 09 29 24.0 +2.9
LZH sS sS 09 30 15.1 -1.0
LZH pmax pmax
comp=Z,46nm,1.2s
LZH pmax pmax
comp=Z,110nm,4.7s
VNA3 **Neumayer Olymp** 86.69 180 P P 09 18 54.6 -1.4
VNA2 **Neumayer--Watz** 87.01 180 P P 09 18 56.1 -1.4
baz=183,slow=4.6
O02D **Mt. Diablo Mer** 87.12 44 P P 09 19 00.0 +1.4
baz=238
VNA1 **Neumayer--Stat** 87.29 180 P P 09 18 57.5 -1.3
CMB **Columbia Colle** 87.59 47 *e*P P 09 19 04.5 +3.7
comp=Z,7.6nm,1.3s
N02D **Trinity Center** 87.60 44 P P 09 19 01.7 +0.9
baz=238
BFSC **Mount Baldy Ra** 87.62 52 P P 09 19 01.7 +0.5
baz=241
ORV **Oroville** 87.63 45 *e*P P 09 19 02.1 +1.1
comp=Z,8.2nm,1.4s
ORV **Oroville** 87.63 45 *e*P P 09 19 02.1 +1.1
ORV pmax pmax
comp=Z,8.0nm,1.4s
MURC **Murrieta** 87.65 52 P P 09 19 03.0 +1.8
baz=241
L02E **Cave Junction** 87.67 42 P P 09 19 02.7 +1.6
baz=237
EDW2 **Edwards Air Fo** 87.69 51 P P 09 19 02.1 +0.7
baz=241
M02C **Callahan** 87.73 43 P P 09 19 03.2 +1.7
baz=238
ISA **Isabella, Lake** 87.73 50 *e*P P 09 19 02.6 +1.0
comp=Z,4.1nm,0.7s
ISA **Isabella, Lake** 87.73 50 *e*P P 09 19 02.6 +1.0
ISA pmax pmax
comp=Z,4.0nm,0.7s
ISA **Isabella, Lake** 87.73 50 P P 09 19 02.4 +0.8
baz=240
O03E **Paynes Creek** 87.82 45 P P 09 19 03.4 +1.5
baz=238
MONP2 **Monument Peak** 87.89 53 P P 09 19 03.6 +1.0
baz=242
YBH **Yreka Blue Hor** 88.00 43 P P 09 19 03.9 +1.1
comp=Z,4.8nm,0.7s,baz=205,slow=2.9,SNR=23
YBH **Yreka Blue Hor** 88.00 43 *e*P P 09 19 04.4 +1.6
comp=Z,4.9nm,0.6s
YBH **Yreka Blue Hor** 88.00 43 *e*P P 09 19 04.4 +1.6
YBH pmax pmax
comp=Z,5.0nm,0.6s
PFO **Pinyon Flats O** 88.20 53 P P 09 19 04.7 +0.7
baz=242
CWC **Cottonwood Cre** 88.39 49 P P 09 19 05.4 +0.6
baz=241
L04D **Klamath Falls** 88.52 43 P P 09 19 05.9 +0.7
baz=238
BEKR **Beckworth** 88.55 46 *e*P P 09 19 06.6 +1.1
comp=Z,11nm,1.5s
M04C **Macdoel** 88.58 43 P P 09 19 06.8 +1.3
baz=238
PNTR **Pine Nut** 88.66 47 *e*P P 09 19 07.6 +1.5
comp=Z,7.6nm,0.9s
BELC **Belle Mtn. Jos** 88.72 52 P P 09 19 07.2 +0.8
baz=242
YERR **Yerington** 88.85 47 *e*P P 09 19 07.9 +0.9
comp=Z,8.7nm,1.3s
RYN **Ryan** 89.16 47 *e*P P 09 19 09.6 +1.2
comp=Z,4.4nm,0.7s
GRAC **Grapevine Rang** 89.16 49 P P 09 19 09.2 +0.9
baz=241
NV01 **Mina Array Sit** 89.21 48 *e*P P 09 19 09.2 +0.5
NVAR **Mina Array Bea** 89.21 48 P P 09 19 09.5 +0.8
comp=Z,5.9nm,0.7s,baz=226,slow=8.4,SNR=38

FURC Furnace Creek, 89.26 50 P **P** 09 19 09.7 +1.0
baz=241
NV11 Mina Array Sit 89.31 48 *e*P **P** 09 19 09.9 +0.8
comp=Z,0.4nm,0.6s
TUQ Turquoise Moun 89.45 51 P **P** 09 19 11.1 +1.3
baz=242
MOD Modoc Plateau 89.62 44 *e*P **P** 09 19 11.2 +0.8
comp=Z,3.2nm,0.6s
KVN Kaiserville 89.65 47 *e*P **P** 09 19 11.5 +0.8
comp=Z,6.8nm,0.7s
KVN Kaiserville 89.65 47 *e*P **P** 09 19 11.5 +0.8
KVN pmax pmax
comp=Z,7.0nm,0.7s
J05D Fort Rock, OR 89.75 42 P **P** 09 19 11.9 +0.9
baz=238
TPNV Topopah Spring 89.92 50 *e*P **P** 09 19 12.8 +0.8
comp=Z,5.3nm,0.7s
TPNV Topopah Spring 89.92 50 *e*P **P** 09 19 12.8 +0.8
TPNV pmax pmax
comp=Z,5.0nm,0.7s
TPNV Topopah Spring 89.92 50 P **P** 09 19 12.8 +0.8
baz=242
BILL Bilibino 90.17 358 *e*P **P** 09 19 11.6 -0.6
BILL *e* 09 22 48.9
BILL pmax pmax
comp=Z,13nm,1.4s
PDMCI Parker Dam,Lak 90.23 53 P **P** 09 19 13.1 -0.1
baz=243
I05D Terrebonne, OR 90.23 41 P **P** 09 19 14.2 +1.1
baz=238
ULN Ulaanbaatar 90.64 323 *e*P **P** 09 19 15.5 +0.5
comp=Z,14nm,1.1s
ULN Ulaanbaatar 90.64 323 *i* P **P** 09 19 15.6 +0.5
ULN pmax pmax
comp=Z,18nm,1.3s
GTA Gaotai 90.83 313 *e*P **P** 09 19 17.0 +0.9
GTA pP pP 09 19 46.3 -1.9
GTA sP sP 09 19 58.8 -2.4
GTA SKS **SKSac 09 29 33.6 -2.9**
GTA sS sS 09 30 53.0 -4.9
GTA pmax pmax
comp=Z,11nm,1.2s
GTA pmax pmax
comp=Z,60nm,10.0s
GTA LR LR
comp=Z,680nm,21.3s
GTA LR LR
comp=Z,410nm,21.6s
GTA LR LR
comp=Z,76nm,17.5s
WVOR Wild Horse Val 90.96 44 *e*P **P** 09 19 17.8 +1.2
comp=Z,3.4nm,0.7s
F05D White Salmon 90.97 40 P **P** 09 19 17.6 +1.2
baz=238
SONM Songino Array 90.99 322 P **P** 09 19 16.5 -0.1
comp=Z,8.4nm,1.0s,baz=141,slow=3.9,SNR=31
SONM LR LR 10 00 04.7
comp=Z,19nm,18.2s,baz=143,slow=35
SONM Songino Array 90.99 322 P **P** 09 19 16.5 -0.1
SONM pmax pmax
comp=Z,9.0nm,1.0s
SONM MLR MLR
comp=Z,19nm,18.2s
SONA1 Songino Array 91.00 322 *e*P **P** 09 19 16.5 -0.2
R11A Troy Canyon, C 91.05 49 *e*P **P** 09 19 17.9 +0.7
comp=Z,1.7nm,0.8s
R11A Troy Canyon, C 91.05 49 P **P** 09 19 17.6 +0.4
baz=242
J08A Circle Bar Ran 91.52 43 *e*P **P** 09 19 19.9 +0.7
comp=Z,3.7nm,0.7s
TUC Tucson 91.88 56 *e*P **P** 09 19 22.5 +1.5
comp=Z,2.1nm,1.1s
TUC Tucson 91.88 56 P **P** 09 19 22.2 +1.1
baz=245
LCMT Little Creek M 92.09 51 *e*P **P** 09 19 23.2 +1.2
comp=Z,3.9nm,1.0s
G08A Pilot Rock 92.18 41 *e*P **P** 09 19 23.1 +0.9
comp=Z,4.0nm,0.6s
CCUT Cedar City 92.25 50 *e*P **P** 09 19 24.3 +1.5
comp=Z,3.0nm,1.2s
KNB Kanab 92.40 51 *e*P **P** 09 19 24.9 +1.4
comp=Z,3.3nm,0.8s
ILAR Eielson Array 92.52 17 P **P** 09 19 21.5 -1.7
comp=Z,1.5nm,0.8s,baz=228,slow=5.0,SNR=16
ILAR LR LR 09 52 01.1
comp=Z,62nm,21.8s,baz=228,slow=30
BMO Blue Mountains 92.98 42 *e*P **P** 09 19 30.1 +4.2
comp=Z,5.9nm,1.6s
BMO Blue Mountains 92.98 42 *e*P **P** 09 19 30.1 +4.2
BMO pmax pmax
comp=Z,6.0nm,1.6s
PALK Pallekele 93.54 276 LR LR 09 58 42.6
comp=Z,35nm,21.4s,baz=104,slow=34
ZAK Zakamensk 94.07 323 *e*P **P** 09 19 30.7 -0.1
ZAK pmax pmax
comp=Z,6.0nm,1.5s
HLID Hailey 94.22 44 *e*P **P** 09 19 32.4 +0.7
comp=Z,1.7nm,0.8s
HLID Hailey 94.22 44 P **P** 09 19 32.5 +0.7
baz=243
PLCA Paso Flores 94.78 138 P **P** 09 19 33.4 -1.0
comp=Z,3.3nm,0.9s,baz=235,slow=4.7,SNR=6.7
PLCA LR LR 09 52 59.6
comp=Z,30nm,18.7s,baz=249,slow=30
PDAR Pinedale Array 97.10 47 P Pdif 09 19 45.2 +0.2
comp=Z,0.2nm,0.5s,baz=262,slow=1.8,SNR=2.9
INK Inuvik 98.77 18 Pdiff **P** 09 19 48.1 -3.3
comp=Z,0.7nm,1.0s,baz=315,slow=5.0,SNR=3.9
WMQ Urumqi 100.91 313 *e*P **Pdif** 09 20 03.4 +1.7
WMQ LR LR
comp=Z,170nm,16.9s
WMQ LR LR
comp=Z,190nm,17.9s
MKAR Makanchi Array 105.46 315 Pdiff **Pdif** 09 20 24.4 +2.6
comp=Z,0.6nm,0.6s,baz=78,slow=6.8,SNR=6.3
ZALV Zalesovo Beam 105.89 322 Pdiff **Pdif** 09 20 16.5 -7.0
comp=Z,0.4nm,0.6s,baz=207,slow=7.8,SNR=3.0
ZALV PKiKP PKiKP 09 24 19.2 -16
comp=Z,0.5nm,0.4s,baz=126,slow=7.3,SNR=3.2
ROSC El Rosal 114.09 95 Pdiff **Pdif** 09 20 58.5 -2.9
comp=Z,2.4nm,0.4s,baz=233,slow=21,SNR=3.3
BOSA Boshof 119.85 214 PKP **PKPdf** 09 25 02.1 -0.9
comp=Z,1.6nm,0.5s,baz=179,slow=2.5,SNR=5.5
GEYT Alibeck 121.52 302 PKhKP PKPpre 09 25 02.9
comp=Z,0.9nm,0.3s,baz=347,slow=6.1,SNR=3.7
ARCES ARCESS Array B 128.59 345 PKP **PKPdf** 09 25 17.8 -0.4
comp=Z,3.0nm,0.8s,baz=37,slow=1.8,SNR=4.2
KMBO Kilima Mbogo 129.77 248 SKP SKPbc 09 28 38.1 +4.6
comp=Z,7.0nm,1.0s,baz=359,slow=2.5,SNR=11
KMBO Kilima Mbogo 129.77 248 *i* PKIKP PKPpre 09 25 15.3
KMBO pmax pmax
comp=Z,1.0nm,0.3s
KBZ Khabaz 132.82 310 SKP **SKPbc** 09 28 45.2 +2.2
comp=Z,1.6nm,0.8s,baz=135,slow=0.7,SNR=4.3
OBN Obninsk 133.27 326 *e*PKIKP **PKPdf** 09 25 26.7 -0.7
OBN *e* 09 27 56.4
OBN pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 134.26 338 PKhKP PKPpre 09 25 23.3
comp=Z,2.0nm,0.8s,baz=221,slow=20,SNR=2.6
FINES PKP **PKPdf** 09 25 28.4 -0.6
comp=Z,3.0nm,1.0s,baz=203,slow=12,SNR=2.5
FINES SKPbc **SKPbc** 09 28 45.2 -2.0
comp=Z,2.6nm,0.8s,baz=97,slow=4.4,SNR=5.4
AKASG Malin Array Be 139.27 323 PKP **PKPdf** 09 25 37.6 -1.1
comp=Z,0.4nm,0.4s,baz=35,slow=3.4,SNR=2.5
AKASG SKPbc **SKPbc** 09 29 01.3 -1.2
comp=Z,0.6nm,0.4s,baz=54,slow=3.4,SNR=5.2
BRTR Keskin Array B 140.41 306 PKhKP PKPpre 09 25 38.3
comp=Z,0.3nm,0.4s,baz=123,slow=22,SNR=2.7
BRTR SKP 09 29 04.0
comp=Z,0.8nm,0.7s,baz=16,slow=10,SNR=3.7
VRI Vrincioaia 143.06 318 *i*P PKPbc 09 25 43.0 +0.1
VRI Vrincioaia 143.06 318 ⇓PKIKP PKPbc 09 25 43.0 +0.1
BURAR Bucovina Array 143.10 321 ⇑P PKPbc 09 25 42.9 -0.2
BURAR Bucovina Array 143.10 321 ⇑PKIKP PKPbc 09 25 42.9 -0.2
PLOR Plostina 143.11 318 ⇑P PKPbc 09 25 43.0 -0.1
PLOR Plostina 143.11 318 ⇑PKIKP PKPbc 09 25 43.1 0.0
MLR Muntele Rosu 143.72 318 ⇑P PKPbc 09 25 45.1 +0.2
MLR Muntele Rosu 143.72 318 ⇑PKIKP PKPbc 09 25 45.1 +0.2
ARCR ARCALIA 143.88 321 ⇑*i*P **PKPdf 09 25 46.3 -0.8**
UZH Uzhgorod 144.17 325 *e*PKHKP PKPpre 09 25 41.4
UZH *i* 09 25 46.7
UZH *e* 09 26 12.3
VOIR 144.30 318 ⇑*i*P PKPbc 09 25 46.9 +0.3
VOIR 144.30 318 ⇑PKIKP PKPbc 09 25 46.9 +0.3
TRPA Tarpa 144.33 324 ⇑*i*P PKPbc 09 25 47.0 +0.6

CJR Cluj-Napoca 144.52 321 ⇑*i*P **PKPdf 09 25 48.0 -0.3**
CJR Cluj-Napoca 144.52 321 ⇑PKIKP **PKPdf 09 25 48.0 -0.3**
ARR Arges 144.59 318 ⇓*i*P **PKPdf 09 25 48.4 -0.1**
DRGR 144.99 322 ⇓*i*P **PKPdf 09 25 49.1 0.0**
DRGR 144.99 322 ⇓PKIKP **PKPdf 09 25 49.1 0.0**
KECS Kecovo 145.21 326 *e*PKP2 **PKPbc 09 25 48.1 -1.2**
KECS Kecovo 145.21 326 *e*PKP **PKPbc 09 25 48.1 -1.2**
LANS Liptovska Anna 145.31 327 *e*PKIKP **PKPab 09 25 49.9 0.0**
LANS Liptovska Anna 145.31 327 *e*PKP **PKPab 09 25 49.9 0.0**
MORC Moravsky Berou 145.82 330 *e*PKP **PKPbc 09 25 51.3 +0.1**
SIRR Siria 145.88 322 ⇑*i*P **PKPab 09 25 52.2 +0.1**
DPC Dobruska-Polom 145.97 331 *e*PKP **PKPab 09 25 52.7 +0.4**
DPC Dobruska-Polom 145.97 331 *e*PKP2 **PKPab 09 25 52.7 +0.4**
VYHS Vyhne 146.05 327 *e*PKP2 **PKPbc 09 25 51.8 -0.1**
VYHS Vyhne 146.05 327 *e*PKP **PKPbc 09 25 51.8 -0.1**
BZS Buzias 146.27 321 ⇑*i*P **PKPab 09 25 53.8 +0.3**
BZS Buzias 146.27 321 ⇑PKP2 **PKPab 09 25 53.8 +0.3**
JAVC Velka Javorina 146.39 328 *e*PKP **PKPbc 09 25 53.2 +0.3**
BRG Berggiesshubel 146.59 334 *e*PKP **PKPbc 09 25 52.6 -0.6**
comp=Z,9.1nm,1.1s
BRG Berggiesshubel 146.59 334 *e*PKP2 **PKPbc 09 25 52.7 -0.6**
BRG pmax pmax
comp=Z,3.0nm,1.1s
VRAC Vranov 146.59 330 *e*PKP **PKPbc 09 25 53.8 +0.4**
CLL Collm 146.62 335 *e*PKPdf **PKPdf 09 25 52.0 +0.4**
CLL *e*PKPbc **PKPbc 09 25 54.0 +0.6**
comp=Z,5.0nm,0.6s
CLL Collm 146.62 335 *e*PKP2 **PKPdf 09 25 52.0 +0.4**
MDVR Moldovita 146.67 319 ⇑*i*P **PKPdf 09 25 52.4 +0.4**
VTS Vitosha 146.82 315 ⇑*i*P **PKPbc 09 25 54.9 +0.4**
VTS Vitosha 146.82 315 ⇑PKP2 **PKPbc 09 25 54.9 +0.4**
KRUC Moravsky 146.86 330 *e*PKP **PKPbc 09 25 53.3 -0.8**
MODS Modra-Piesok 146.91 328 *e*PKP2 **PKPbc 09 25 54.4 0.0**
MODS Modra-Piesok 146.91 328 *e*PKP **PKPbc 09 25 54.4 0.0**
CONA Conrad Observa 147.90 329 *e*PKPbc **PKPbc 09 25 57.0 -0.2**
comp=Z,7.7nm,1.2s
KHC Kasperske Hory 148.07 332 *e*PKP **PKPbc 09 25 57.2 -0.3**
KHC *ex* x 09 26 07.4
KHC Kasperske Hory 148.07 332 *e*PKP2 **PKPbc 09 25 57.2 -0.3**
GERES GERESS Array B 148.23 332 PKPbc **PKPbc 09 25 57.2 -0.8**
comp=Z,2.2nm,0.8s,baz=46,slow=3.9,SNR=17
IDI Anoyia 148.25 301 ⇑*i*P **PKPbc 09 25 59.2 +0.8**
ARSA Arzberg 148.54 328 *i* PKPbc **PKPbc 09 25 58.8 +0.1**
comp=Z,4.7nm,1.1s
MOA Molln 148.71 330 *e*PKPbc **PKPbc 09 25 58.4 -0.8**
comp=Z,9.6nm,1.8s
SOKA Soboth 149.18 328 *e*PKPbc **PKPbc 09 26 00.2 -0.3**
comp=Z,8.9nm,0.9s
BLY Banja Luka 149.32 323 ⇑*i*P **PKPbc 09 26 02.2 +1.4**
PDG Podgorica 149.43 317 ⇓*i*P **PKPbc 09 26 00.2 -0.9**
KBA Koelnbreinsper 149.71 330 *e*PKPbc **PKPbc 09 26 01.1 -0.8**
comp=Z,9.2nm,1.2s
MOZS Mozjanca 149.74 328 *i* PKPbc **PKPbc 09 26 01.7 -0.1**
MOZS *i* PKPab **PKPab 09 26 11.2 +3.7**
MOZS Mozjanca 149.74 328 *i* PKPbc **PKPbc 09 26 01.7 -0.1**
MOZS *i* PKPab **PKPab 09 26 11.2 +3.7**
VISS Visnje 149.88 327 *i* PKPbc **PKPbc 09 26 01.2 -0.9**
VISS *i* PKPab **PKPab 09 26 11.1 +3.1**
VISS Visnje 149.88 327 *i* PKPbc **PKPbc 09 26 01.2 -0.9**
VISS *i* PKPab **PKPab 09 26 11.1 +3.1**
MYKA Terra Mystica 149.89 329 *e*PKPbc **PKPbc 09 26 00.8 -1.4**
comp=Z,3.0nm,0.6s
ABTA Abfaltersbach 150.33 330 *i* PKPbc **PKPbc 09 26 02.5 -0.8**
comp=Z,12nm,1.3s
WTTA Wattenberg 150.34 332 *i* PKPbc **PKPbc 09 26 03.1 -0.2**
comp=Z,3.5nm,0.6s
SQTA Sankt Quirin 150.56 332 *e*PKPbc **PKPbc 09 26 03.6 -0.2**
comp=Z,4.7nm,0.9s
BFO Black Forest 150.81 337 *i* PKIKP **PKPab 09 26 12.1 +0.3**
FETA Feichten 150.92 333 *e*PKPbc **PKPbc 09 26 03.5 -1.2**
comp=Z,7.8nm,1.2s
DAVA Damuels 151.06 334 *i* PKPbc **PKPbc 09 26 04.8 -0.3**
comp=Z,8.1nm,1.4s
ESDC Sonseca Array 162.29 349 PKPab **PKPab 09 27 00.4 -0.9**
comp=Z,0.6nm,0.6s,baz=352,slow=4.3,SNR=2.9
TORD Torodi Ar. Bea 166.75 228 PKP **PKPdf 09 26 17.8 -0.4**
comp=Z,0.9nm,1.0s,baz=311,slow=2.9,SNR=3.3
TORD PKPab **PKPab 09 27 21.1 -0.5**
comp=Z,4.2nm,0.9s,baz=116,slow=3.6,SNR=13

*ISCJB **17** 09:09:32.9±0.3, 18.74S±0.02×68.93W±0.03, h106km±3km, mb4.7/135, Error ellipse: s-maj=5.6km s-min=3.8km az=156.8*
*GUC **17** 09:09:35.9±0.7, 18.90S×69.24W, h117km±4km, ML4.5*
*NEIC **17** 09:09:36.5±0.2, 18.89S×68.88W, mb4.7/118, ML4.5(GUC), Error ellipse: s-maj=6.1km s-min=3.8km az=81.0*
NEIC Felt at Arica, Chile.
*IDC **17** 09:09:36.9±0.4, 18.87S×68.91W, h127km±3km, mb4.2/23, mb1 4.3/28, mb1mx4.3/37, mbtmp4.7/28, MS3.2/4, Ms1 3.2/4, ms1mx2.9/26, Error ellipse: s-maj=11.0km s-min=7.0km az=93.0*
*BJI **17** 09:09:39.0, 18.90S×68.90W, h125km*
ISC 17 09:09:36.6±0.3, 18.83S±0.03×69.14W±0.04, h125km±2km, h125km:pP-P, n499, σ1°51/547, mb4.6/135, 5C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MNMC	**Minye Minye**	**0.52**	**235**	*e*Pn		**Pn**	**09 09 54.1**	**-1.4**
MNMC				*e*Sn		**Sn**	**09 10 06.8**	**-3.0**
MNMC	**Minye Minye**	**0.52**	**235**	*e*P		**Pn**	**09 09 54.0**	**-1.4**
MNMC				*i* S		**Sn**	**09 10 07.3**	**-2.6**
PB16	**IPOC Station P**	**0.60**	**325**	⇓*i*P		**Pn**	**09 09 56.0**	**-0.5**
PB16				*i* S		**Sn**	**09 10 10.7**	**-0.7**
PB11	**IPOC Station P**	**1.04**	**208**	*e*Pn		**Pn**	**09 09 58.0**	**-1.5**
PB11				*e*Sn		**Sn**	**09 10 14.3**	**-2.8**
PB11	**IPOC Station P**	**1.04**	**208**	⇑*i*P		**Pn**	**09 09 58.1**	**-1.5**
PB11				*i* S		**Sn**	**09 10 14.6**	**-2.5**
PB11				IAML			09 10 15.7	
	comp=E,16μm,0.2s							
PB12	**IPOC Station P**	**1.15**	**281**	*i* P		**Pn**	**09 09 58.9**	**-1.6**
PB12				*i* S		**Sn**	**09 10 16.3**	**-2.4**
PB12				IAML			09 10 19.6	
	comp=E,15μm,0.4s							
PSGC	**Pisagua**	**1.20**	**231**	*i* P		**Pn**	**09 09 59.1**	**-2.0**
PSGC				*i* S		**Sn**	**09 10 16.5**	**-3.3**
PSGC				IAML			09 10 22.9	
	comp=E,10μm,0.6s							
PB01	**IPOC Station P**	**2.22**	**188**	*e*Pn		**Pn**	**09 10 11.8**	**-1.4**
PB01				*e*Sn		**Sn**	**09 10 36.2**	**-5.0**
PB01	**IPOC Station P**	**2.22**	**188**	*i* P		**Pn**	**09 10 11.7**	**-1.4**
PB01				*i* S		**Sn**	**09 10 39.0**	**-2.2**
PB02	**IPOC Station P**	**2.57**	**196**	⇑*i*P		**Pn**	**09 10 16.2**	**-1.4**
PB02				*i* S		**Sn**	**09 10 48.5**	**-0.7**
PB02				IAML			09 10 55.1	
	comp=E,3μm,0.5s							
LPAZ	**La Paz**	**2.71**	**21**	P		**Pn**	**09 10 21.6**	**+1.7**
	comp=E,69nm,0.3s,baz=208,slow=3.2,SNR=2707							
LPAZ				S		**Sn**	**09 10 54.3**	**+1.2**
	comp=E,18nm,0.3s,baz=74,slow=20,SNR=4.3							
PB07	**IPOC Station P**	**2.96**	**194**	*e*P		**Pn**	**09 10 21.6**	**-1.1**
PB07				*i* S		**Sn**	**09 10 56.9**	**-1.3**
PB07				IAML			09 11 03.2	
	comp=E,2μm,0.3s							
PB03	**IPOC Station P**	**3.25**	**190**	⇑*i*P		**Pn**	**09 10 24.7**	**-1.7**
PB03				*i* S		Sn	09 10 55.1	-10
PB03				IAML			09 11 13.8	
	comp=E,727nm,0.4s							
PB04	**IPOC Station P**	**3.61**	**195**	*e*Pn		**Pn**	**09 10 29.7**	**-1.5**
LVC	**Limon Verde**	**3.76**	**177**	P		**Pn**	**09 10 33.6**	**+0.2**
	comp=E,21nm,0.3s,baz=357,slow=6.6,SNR=109							
LVC				S		**Sn**	**09 11 15.4**	**-2.0**
	comp=E,41nm,0.3s,baz=315,slow=23,SNR=12							
LVC				LR		LR	09 12 37.4	
	comp=E,235nm,19.4s,baz=331,slow=48							
LVC	**Limon Verde**	**3.76**	**177**	*e*Pn		**Pn**	**09 10 33.3**	**-0.1**
LVC				S		**Sn**	**09 11 15.4**	**-2.0**
YJA	**Yavi**	**4.76**	**135**	*e*P		**Pn**	**09 10 47.5**	**+0.8**
YJA				IAML			09 10 49.3	
	comp=Z,50nm,0.7s							
YJA				*e*S		**Sn**	**09 11 45.9**	**+4.7**
PB10	**IPOC Station P**	**4.84**	**196**	*e*Pn		**Pn**	**09 10 44.3**	**-3.1**
HJA	**Humahuaca**	**5.58**	**142**	*e*P		**Pn**	**09 10 57.9**	**+0.2**
HJA				IAML			09 11 01.0	
	comp=E,154nm,0.5s							
HJA				*e*S		**Sn**	**09 12 03.7**	**+2.9**
AZAP	**Zapla**	**6.57**	**145**	*e*P		**Pn**	**09 11 09.8**	**-1.2**
AZAP				IAML			09 11 11.8	
	comp=Z,42nm,0.4s							
AZAP				*e*S		**Sn**	**09 12 23.8**	**-0.9**

ALOL LOMAS DE OLMED 6.91 137 *e*P **Pn** 09 11 12.4 -2.8
FSA Cafayete 7.81 159 *e*P **Pn** 09 11 25.8 -1.8
SIV San Ignacio 8.21 71 P **Pn** 09 11 30.0 -2.9
comp=Z,59nm,0.3s,baz=271,slow=9.6,SNR=1022
SIV S **Sn** 09 13 00.5 -3.6
baz=300,slow=20,SNR=4.2
AHML Horco Molle 8.66 157 *e*P **Pn** 09 11 36.3 -2.6
GO03 Copiap 8.78 186 *e*Pn **Pn** 09 11 35.8 -4.8
CYA Choya 10.04 163 *e*P **Pn** 09 11 54.0 -3.6
NNA Nana 10.07 311 P **Pn** 09 11 56.1 -1.9
comp=Z,8.3nm,0.3s,baz=123,slow=10,SNR=12
NNA S **Sn** 09 13 43.6 -5.6
comp=Z,6.4nm,0.3s,baz=149,slow=5.9,SNR=4.6
NNA LR LR 09 16 55.3
comp=Z,67nm,19.4s,baz=143,slow=43
LCO Las Campanas 10.23 188 *e*Pn **Pn** 09 11 59.6 -0.7
ACLC CERRO LA CRUZ 10.73 170 *e*P **Pn** 09 12 02.9 -4.0
AROD Rodeo 11.29 181 *e*P **Pn** 09 12 11.6 -2.9
GO04 Tololo Observa 11.39 187 *e*Pn **Pn** 09 12 10.1 -5.7
SAML Samuel 11.40 31 *e*Pn **Pn** 09 12 12.9 -2.9
ACCO Cerro Coronel 11.70 180 *e*P **Pn** 09 12 16.8 -3.2
APLL PUNTA DE LOS L 11.75 169 *e*P **Pn** 09 12 16.2 -4.2
AMOG MOCHA 12.07 177 *e*P **Pn** 09 12 20.4 -4.1
CPUP Villa Florida 13.21 127 P **Pn** 09 12 36.5 -2.9
comp=Z,0.5nm,0.3s,baz=305,slow=12,SNR=23
CPUP LR LR 09 18 09.1
comp=Z,81nm,20.6s,baz=310,slow=39
AUSP Uspallata 13.34 181 *e*P **Pn** 09 12 36.9 -4.3
ASAL Salagasta 13.70 179 *e*P **Pn** 09 12 41.0 -4.8
ARCO CERRO ARCO 13.95 179 *e*P **Pn** 09 12 44.3 -4.7
ROC1 El Roble 14.18 186 *e*Pn **Pn** 09 12 51.9 -0.2
PEL Peldehue 14.32 185 *e*Pn **Pn** 09 12 51.8 -1.8
ATAH Atahualpa 14.71 321 P **P** 09 13 01.6 -0.2
comp=Z,0.6nm,0.3s,baz=77,slow=6.9,SNR=4.1
PTGA Pitinga 20.12 28 P **P** 09 13 58.5 -2.2
comp=Z,26nm,0.3s,baz=215,slow=18,SNR=48
PTGA S **S** 09 17 34.9 -5.2
comp=Z,5.8nm,0.7s,baz=156,slow=19,SNR=3.8
PTGA Pitinga 20.12 28 *e*P **P** 09 13 57.9 -2.8
comp=Z,34nm,0.4s
PTGA S **S** 09 17 34.9 -5.2
TRQA Tornquist 20.15 163 *e*P **P** 09 13 59.0 -2.0
comp=Z,34nm,0.6s
BDFB Brasilia 20.43 84 P **P** 09 14 01.6 -2.6
comp=Z,24nm,0.5s,baz=253,slow=8.3,SNR=25
BDFB Brasilia 20.43 84 *e*P **P** 09 14 01.6 -2.6
comp=Z,58nm,0.6s
GO06 Curarrehue 20.78 185 *e*P **P** 09 14 06.6 -1.2
comp=Z,35nm,1.0s
SPB Sao Paulo 20.78 107 *e*P **P** 09 14 05.8 -2.0
comp=Z,26nm,1.0s
OTAV Otavalo 21.04 333 *e*P **P** 09 14 11.7 +0.5
comp=Z,9.9nm,0.7s
FLOC Florencia 21.27 342 *e*P **P** 09 14 10.8 -2.4
CRUC La Cruz 21.68 338 *e*P **P** 09 14 20.8 +2.9
PLCA Paso Flores 21.86 183 *e*P **P** 09 14 18.4 -0.9
comp=Z,41nm,0.9s,baz=25,slow=12,SNR=55
PLCA Paso Flores 21.86 183 *e*P **P** 09 14 19.1 -0.2
comp=Z,60nm,0.9s
POPC Popayan, Colom 22.50 340 *e*P **P** 09 14 26.4 +0.2
CHIC Chingaza 23.75 349 *e*P **P** 09 14 39.1 +1.0
YOTC Yotoco, Valle 23.76 342 *e*P **P** 09 14 37.4 -0.4
ROSC El Rosal 24.07 347 P **P** 09 14 40.6 -0.3
comp=Z,2.0nm,0.4s,baz=137,slow=19,SNR=2.2
RREF El Recreo 24.36 345 *e*P **P** 09 14 44.9 +1.0
GO07 Milladeo Hill, 24.51 188 *e*P **P** 09 14 43.4 -0.7
comp=Z,25nm,0.6s
RUSC La Rusia 24.88 351 *e*P **P** 09 14 47.9 -0.4
TAMC Tame, Arauca 25.25 354 *e*P **P** 09 14 50.9 -0.3
BARC Barichara 25.58 351 *e*P **P** 09 14 53.3 -1.2
HELC Santa Helena 25.65 345 *e*P **P** 09 14 54.3 -0.9
PTBC PUERTO BERRIO, 25.75 348 *e*P **P** 09 14 53.3 -2.4
PAMC Pamplona, Colo 26.24 352 *e*P **P** 09 14 59.8 -0.9
DBBC Dabeiba 26.62 344 *i* Pg **P** 09 15 03.2 -0.4
ZARC Zaragoza, Cauc 26.76 347 *e*P **P** 09 15 02.8 -2.0
SDV Santo Domingo 27.58 357 P **P** 09 15 11.0 -1.3
comp=Z,7.7nm,0.6s,baz=202,slow=5.2,SNR=20
SDV Santo Domingo 27.58 357 *e*P **P** 09 15 11.1 -1.3
comp=Z,9.2nm,0.8s
SDV Santo Domingo 27.58 357 *e*P **P** 09 15 11.0 -1.3
SMLC San Mart`n de 27.89 350 *e*P **P** 09 15 12.7 -2.1
MOTC Monteria, Cord 28.18 346 *e*P **P** 09 15 15.9 -1.6
MDP Montagnes des 28.81 36 P **P** 09 15 20.9 -2.2
comp=Z,6.8nm,0.6s,baz=213,slow=9.6,SNR=7.4
PCRV Puerto La Cruz 29.17 9 P **P** 09 15 26.0 -0.3
comp=Z,6.9nm,0.4s,baz=180,slow=5.1,SNR=7.5
JTS JuntasAbangare 32.87 330 P **P** 09 16 01.7 +2.9
comp=Z,4.9nm,0.7s,baz=162,slow=20,SNR=2.0
RCBR Riachuelo 34.87 73 *e*P **P** 09 16 15.0 -1.2
comp=Z,14nm,0.9s
ICMP Isla Caja de M 36.58 4 *e*P **P** 09 16 29.6 -1.0
comp=Z,39nm,0.5s
CRPR Cabo Rojo, PR 36.66 3 *e*P **P** 09 16 29.2 -2.1
comp=Z,46nm,0.6s
OBIP Obispado Ponce 36.73 4 *e*P **P** 09 16 29.1 -2.7
comp=Z,22nm,0.6s
MPR Mayaguez 36.87 3 *e*P **P** 09 16 30.8 -2.3
comp=Z,16nm,0.6s
MTP Monte Pirata 36.87 6 *e*P **P** 09 16 30.3 -2.8
comp=Z,16nm,0.5s
HUMP Col San Antoni 36.89 5 *e*P **P** 09 16 30.4 -2.8
comp=Z,11nm,1.0s
BANI BANI 37.01 358 *e*P **P** 09 16 32.9 -1.5
CBYP Canovanas 37.02 5 *e*P **P** 09 16 31.8 -2.5
comp=Z,31nm,1.0s
AGP Aguadilla 37.06 3 *e*P **P** 09 16 34.6 -0.1
comp=Z,33nm,0.9s
CUPR Culebra, Puert 37.10 6 *e*P **P** 09 16 32.4 -2.6
comp=Z,12nm,0.8s
STVI Saint Thomas 37.18 7 *e*P **P** 09 16 34.0 -1.7
comp=Z,12nm,0.9s
RPN Rapa Nui 37.78 250 P **P** 09 16 42.4 +1.6
comp=Z,56nm,0.6s,baz=38,slow=19,SNR=2.9
APG El Apazote 39.64 327 P **P** 09 16 58.1 +1.5
comp=Z,20nm,0.7s,baz=211,slow=3.3,SNR=5.0
CMIG Matias Romero 43.76 323 P **P** 09 17 31.5 +1.6
comp=Z,6.0nm,0.7s,baz=132,slow=3.2,SNR=5.8
453A Whigham 51.51 343 *e*P **P** 09 18 30.7 +1.2
comp=Z,32nm,0.7s
453A Whigham 51.51 343 P **P** 09 18 30.9 +1.4
baz=161
452A Marianna 51.75 342 P **P** 09 18 31.9 +0.6
baz=160
257A Skidaway Islan 51.79 347 P **P** 09 18 29.1 -2.4
baz=165
353A Camilla 51.95 344 P **P** 09 18 33.0 +0.3
baz=162
352A Blakely 52.27 343 *e*P **P** 09 18 35.7 +0.6
comp=Z,28nm,0.8s
352A Blakely 52.27 343 P **P** 09 18 35.4 +0.3
baz=161
351A Pinckard 52.27 342 P **P** 09 18 35.7 +0.6
baz=160
253A Americus 52.60 344 P **P** 09 18 37.9 +0.4
baz=162
349A Repton 52.82 341 P **P** 09 18 39.9 +0.7
baz=158
251A Midway 52.98 343 P **P** 09 18 40.4 +0.1
baz=160
250A Grady 53.12 342 P **P** 09 18 41.7 +0.3
baz=159
347A Saraland 53.31 339 P **P** 09 18 43.4 +0.7
baz=157
151A Opelika 53.37 343 P **P** 09 18 43.3 +0.1
baz=161
249A Camden 53.38 341 P **P** 09 18 43.8 +0.5
baz=158
150A Eclectic 53.64 342 P **P** 09 18 45.2 0.0
baz=160
149A Jones 53.86 342 P **P** 09 18 46.5 -0.2
baz=159
247A Quitman 53.93 340 P **P** 09 18 47.4 +0.1
baz=157
Y54A Tignall 53.97 346 P **P** 09 18 48.3 +0.7
baz=164
Y53A Monroe 54.17 345 P **P** 09 18 48.8 -0.2
baz=163
Z50A Ashland 54.22 343 *e*P **P** 09 18 49.3 -0.1
comp=Z,14nm,0.6s
Z50A Ashland 54.22 343 P **P** 09 18 49.4 +0.1
baz=160,SNR=5.8
LRAL Lakeview Retre 54.33 342 P **P** 09 18 50.2 +0.1
baz=159
Z49A Columbiana 54.34 342 P **P** 09 18 50.1 -0.1
baz=159
245A Little AP, Sta 54.35 338 P **P** 09 18 50.6 +0.3

	baz=155						
Y51A	Rockmart	54.59	344	P	P	09 18 51.8	-0.3
	baz=161						
X53A	Estanollee	54.73	346	P	P	09 18 53.0	-0.1
	baz=163						
Z47A	Carrollton	54.81	341	P	P	09 18 53.3	-0.3
	baz=158						
Z48A	Northport	54.81	341	P	P	09 18 53.3	-0.3
	baz=158						
KMSC	Kings Mountain	54.91	348	P	P	09 18 55.0	+0.7
	baz=166						
Y49A	Blount Mountai	54.92	342	P	P	09 18 54.2	-0.3
	baz=160						
X52A	Dahlonega	54.96	345	P	P	09 18 54.8	+0.1
	baz=163						
Y48A	Jasper	55.20	342	P	P	09 18 55.8	-0.6
	baz=159						
833A	Chaparral WMA,	55.26	327	eP	P	09 18 58.1	+1.1
	comp=Z,15nm,0.6s						
833A	Chaparral WMA,	55.26	327	P	P	09 18 57.9	+0.9
	baz=144,SNR=7.3						
X50B	Fort Payne	55.28	343	P	P	09 18 57.1	+0.1
	baz=161						
W53A	Cullowhee	55.33	346	P	P	09 18 58.0	+0.4
	baz=164						
Y47A	UCPARC, Winfie	55.39	341	P	P	09 18 57.7	-0.1
	baz=158						
X49A	Woodville	55.51	343	P	P	09 18 58.3	-0.4
	baz=160						
X48A	Hartselle	55.66	342	eP	P	09 18 59.8	+0.1
	comp=Z,11nm,0.7s						
X48A	Hartselle	55.66	342	P	P	09 18 59.6	-0.1
	baz=159,SNR=6.2						
W51A	Cleveland	55.71	345	P	P	09 19 00.2	+0.2
	baz=162						
V53A	Saluda	55.73	347	P	P	09 19 00.8	+0.5
	baz=164						
W50A	Signal Mountai	55.89	344	P	P	09 19 01.4	+0.1
	baz=161						
Y45A	Yeager Farm, C	55.90	339	P	P	09 19 01.7	+0.3
	baz=156						
NATX	Nacogdoches	55.94	334	eP	P	09 19 02.2	+0.4
	comp=Z,13nm,0.8s						
NATX	Nacogdoches	55.94	334	P	P	09 19 03.5	+1.7
	baz=150						
X47A	Russelville	55.97	341	P	P	09 19 01.3	-0.6
	baz=158						
W49A	Belvidere	56.07	343	P	P	09 19 02.4	-0.2
	baz=160						
SWET	Sewanee	56.07	343	eP	P	09 19 01.8	-0.9
	comp=Z,13nm,0.6s						
V52A	Sevierville	56.08	346	P	P	09 19 02.6	-0.1
	baz=163						
V51A	Loudon	56.22	345	P	P	09 19 03.8	+0.1
	baz=162						
W48A	Pulaski	56.27	342	P	P	09 19 03.9	-0.2
	baz=159,SNR=5.2						
V50A	Pikevile	56.28	344	P	P	09 19 04.1	0.0
	baz=162,SNR=7.9						
U53A	Fall Branch	56.35	347	P	P	09 19 06.7	+2.1
	baz=164						
X45A	UM Field Stati	56.36	340	P	P	09 19 04.5	-0.2
	baz=157						
435B	Jarrell	56.41	331	eP	P	09 19 05.5	+0.4
	comp=Z,7.2nm,0.8s						
V49A	McMinnville	56.58	344	P	P	09 19 05.9	-0.4
	baz=161,SNR=5.9						
V48A	Smith Brothers	56.80	343	eP	P	09 19 06.9	-0.9
	comp=Z,11nm,0.8s						
V48A	Smith Brothers	56.80	343	P	P	09 19 07.9	+0.1
	baz=160						
U50A	Jamestown	56.92	345	P	P	09 19 08.5	-0.1
	baz=162,SNR=6.2						
X43A	Marvell	56.95	339	eP	P	09 19 08.6	-0.2
	comp=Z,19nm,0.5s						
X43A	Marvell	56.95	339	P	P	09 19 08.8	0.0
	baz=155						
W45A	Hickory Valley	56.97	340	P	P	09 19 08.6	-0.4
	baz=157						
T52A	Hallie	57.15	347	P	P	09 19 10.3	+0.1
	baz=164						
JCT	Junction City	57.22	328	eP	P	09 19 11.2	+0.3
	comp=Z,5.7nm,0.8s						
JCT	Junction City	57.22	328	P	P	09 19 11.6	+0.7
	baz=145						
U49A	Red Boiling Sp	57.25	344	P	P	09 19 10.6	-0.3
	baz=161						
WHTX	Lake Whitney,	57.36	331	eP	P	09 19 12.5	+0.7
	comp=Z,14nm,0.6s						
WHTX	Lake Whitney,	57.36	331	P	P	09 19 12.7	+0.8
	baz=148,SNR=8.1						
U48A	Cassie Pea, Po	57.45	343	P	P	09 19 11.9	-0.5
	baz=160						
WVT	Waverly	57.45	342	eP	P	09 19 11.4	-1.0
	comp=Z,12nm,0.7s						
WVT	Waverly	57.45	342	P	P	09 19 12.1	-0.3
	baz=159						
T50A	Nancy	57.49	345	P	P	09 19 12.5	-0.2
	baz=162						
U47A	Clarksville	57.59	343	P	P	09 19 12.9	-0.4
	baz=159,SNR=6.2						
S52A	Salyersville	57.72	347	P	P	09 19 14.2	0.0
	baz=164						
T49A	Edmonton	57.75	345	eP	P	09 19 14.0	-0.4
	comp=Z,16nm,0.9s						
T49A	Edmonton	57.75	345	P	P	09 19 14.2	-0.2
	baz=161,SNR=7.3						
U46A	Springville	57.77	342	P	P	09 19 14.0	-0.6
	baz=158,SNR=5.7						
S51A	Beattyville	57.80	346	eP	P	09 19 15.1	+0.3
	comp=Z,7.7nm,0.9s						
MIAR	Mount Ida	57.95	336	eP	P	09 19 16.1	+0.2
	comp=Z,4.5nm,0.6s						
MIAR				epP	pP	09 19 46.0	+0.2
MIAR				esP	sP	09 20 00.1	+0.6
MIAR				ePcP	PcP	09 20 07.6	+0.9
MIAR	Mount Ida	57.95	336	P	P	09 19 16.2	+0.2
	baz=152						
T48A	Bowling Green	57.97	344	P	P	09 19 15.7	-0.3
	baz=160						
S50A	Richmond	58.02	346	P	P	09 19 16.1	-0.2
	baz=163						
W41B	Gary Mavity, V	58.02	338	eP	P	09 19 16.2	0.0
	comp=Z,3.7nm,0.6s						
W41B	Gary Mavity, V	58.02	338	P	P	09 19 16.3	0.0
	baz=154						
T47A	Sharon Grove	58.05	343	eP	P	09 19 16.5	0.0
	comp=Z,15nm,0.8s						
T47A	Sharon Grove	58.05	343	P	P	09 19 16.3	-0.2
	baz=160,SNR=8.1						
T46A	Princeton	58.32	342	P	P	09 19 18.3	-0.1
	baz=159,SNR=6.1						
S49A	Springfield	58.33	345	P	P	09 19 17.5	-0.9
	baz=162						
TXAR	Lajitas Array	58.34	324	P	P	09 19 18.6	-0.2
	comp=Z,1.2nm,0.7s,baz=150,slow=9.0,SNR=11						
TX31	Lajitas Ar. Si	58.34	324	eP	P	09 19 19.1	+0.3
S48A	Wiedeman Farm,	58.40	344	P	P	09 19 18.5	-0.5
	baz=161,SNR=5.2						
R51A	Hillsboro	58.43	347	P	P	09 19 19.2	+0.1
	baz=164						
V41A	Mountainview	58.53	338	P	P	09 19 19.7	-0.3
	baz=154						
S47A	Hartford	58.56	344	P	P	09 19 19.5	-0.6
	baz=160						
R50A	Paris	58.58	346	P	P	09 19 20.1	0.0
	baz=163						
W39A	Magazine	58.60	336	eP	P	09 19 21.4	+1.0
	comp=Z,2.9nm,0.8s						
W39A	Magazine	58.60	336	P	P	09 19 21.5	+1.0
	baz=152						
X37A	Clayton	58.70	335	eP	P	09 19 21.9	+0.8
	comp=Z,9.2nm,1.0s						
U42A	Revenden	58.73	339	P	P	09 19 20.8	-0.4
	baz=155,SNR=5.3						
PBMO	Poplar Bluff	58.85	340	eP	P	09 19 21.9	-0.2
	comp=Z,12nm,0.5s						
T44A	Benton	58.87	341	P	P	09 19 22.2	0.0
	baz=157						
S46A	Don Dixon Farm	58.87	343	P	P	09 19 21.6	-0.6
	baz=159						
ABTX	Abilene, Hawle	58.90	330	eP	P	09 19 22.6	0.0
	comp=Z,10nm,0.8s						
ABTX				ePcP	sP	09 20 07.2	+1.0
ABTX	Abilene, Hawle	58.90	330	P	P	09 19 23.3	+0.7
	baz=146						
U41A	Viola	58.96	339	P	P	09 19 22.3	-0.5
	baz=154,SNR=6.2						
WCI	Wyandotte Cave	59.00	344	eP	P	09 19 22.4	-0.8
	comp=Z,8.2nm,0.8s						
WCI	Wyandotte Cave	59.00	344	P	P	09 19 22.3	-0.8
	baz=161						
Q50A	Georgetown	59.03	347	P	P	09 19 23.1	-0.2
	baz=163						
MCWV	Mont Chateau	59.04	350	P	P	09 19 25.3	+1.9
	baz=165						
Q51A	Peebles	59.07	347	P	P	09 19 26.0	+2.4
	baz=164						
T43A	Greenville	59.09	340	P	P	09 19 23.6	-0.1
	baz=156,SNR=7.6						
R47A	Wooly Knot Far	59.13	344	P	P	09 19 23.3	-0.7
	baz=161						
P53A	Whipple	59.13	349	eP	P	09 19 24.7	+0.7
	comp=Z,10nm,0.9s						
P53A	Whipple	59.13	349	P	P	09 19 24.9	+0.9
	baz=166						
U40A	Yellville	59.30	338	P	P	09 19 25.1	-0.1
	baz=154						
T42A	Van Buren	59.30	340	eP	P	09 19 24.7	-0.4
	comp=Z,4.7nm,0.6s						
T42A	Van Buren	59.30	340	P	P	09 19 25.0	-0.2
	baz=156						
S44A	Carbondale	59.33	342	P	P	09 19 26.1	+0.7
	baz=158						
SIUC	Sosern Illin	59.34	342	eP	P	09 19 25.5	+0.1
	comp=Z,16nm,0.7s						
SIUC				ePcP	sP	09 20 10.8	+1.8
Q49A	Aurora	59.40	346	P	P	09 19 25.5	-0.3
	baz=162						
P52A	Corning	59.41	348	P	P	09 19 26.2	+0.2
	baz=166						
O56A	Blue Knob Stat	59.45	352	P	P	09 19 27.0	+0.8
	baz=169						
S43A	Fulton Ridge,	59.47	341	P	P	09 19 26.1	-0.2
	baz=157,SNR=6.3						
Q48A	North Vernon	59.52	345	P	P	09 19 26.2	-0.5
	baz=162						
T41A	Mountain View	59.53	339	P	P	09 19 26.6	-0.2
	baz=155						
R45A	Skylar, Fairfi	59.60	343	P	P	09 19 26.8	-0.4
	baz=159						
Q47A	Bedord North L	59.70	344	P	P	09 19 27.3	-0.6
	baz=157						
SSPA	Standing Stone	59.72	352	eP	P	09 19 28.2	+0.2
	comp=Z,7.4nm,1.0s						
O52A	Adamsville	59.83	349	P	P	09 19 28.8	+0.1
	baz=166						
P49A	Miami Univ. Ec	59.86	346	P	P	09 19 28.1	-0.8
	baz=163						
S42A	Caledonia	59.88	340	P	P	09 19 28.4	-0.8
	baz=156						
FVM	French Village	59.95	341	eP	P	09 19 29.9	+0.2
	comp=Z,21nm,0.6s						
P48A	Milroy	59.95	345	P	P	09 19 27.9	-1.7
	baz=162						
TUL1	Leonard	60.01	335	P	P	09 19 29.4	-0.7
	baz=150						
S41A	Jillco Farms,	60.02	339	P	P	09 19 28.8	-1.3
	baz=155						
R43A	Red Bud	60.07	341	P	P	09 19 30.3	-0.2
	baz=157						
Q45A	Warren Harvey,	60.13	343	P	P	09 19 30.9	+0.2
	baz=159						
ACSO	Alum Creek Sta	60.16	348	P	P	09 19 30.6	-0.4
	baz=165						
P47A	Martinsville	60.19	345	P	P	09 19 30.8	-0.4
	baz=161						
O50A	Cable	60.21	347	P	P	09 19 30.2	-1.2
	baz=164						
WMOK	Wichita Mounta	60.27	332	eP	P	09 19 32.4	+0.4
WMOK				epP	pP	09 20 03.2	+1.3
WMOK				esP	PcP	09 20 17.3	+1.3
WMOK	Wichita Mounta	60.27	332	P	P	09 19 31.9	0.0
	baz=147						
CCM	Cathedral Cave	60.28	340	eP	P	09 19 31.9	0.0
	comp=Z,4.4nm,0.6s						
CCM	Cathedral Cave	60.28	340	P	P	09 19 31.6	-0.3
	baz=156						
R42A	Luebbering	60.34	340	P	P	09 19 32.2	-0.1
	baz=156,SNR=9.1						
BRYW	Bryant College	60.48	358	eP	P	09 19 33.5	+0.4
	comp=Z,23nm,0.8s						
R41A	Rosebud	60.55	340	P	P	09 19 33.5	-0.2
	baz=156,SNR=8.3						
P45A	Graceland, Par	60.60	344	eP	P	09 19 33.4	-0.6
	comp=Z,11nm,0.8s						
P45A	Graceland, Par	60.60	344	P	P	09 19 33.8	-0.2
	baz=160						
Q43A	New Douglas	60.61	342	P	P	09 19 34.1	0.0
	baz=157						
O48A	Fmland	60.65	346	P	P	09 19 34.5	+0.1
	baz=162						
N51A	Ashland	60.70	349	P	P	09 19 36.3	+1.6
	baz=165						
N50A	Nevada	60.71	348	P	P	09 19 37.3	+2.6
	baz=165						
M54A	Oil Creek Stat	60.82	351	P	P	09 19 36.8	+1.3
	baz=168						
Q42A	Golden Eagle	60.84	341	P	P	09 19 35.2	-0.5
	baz=156						
O47A	Sheridan	60.87	345	P	P	09 19 35.1	-0.7
	baz=161						
BINY	Binghamton	61.05	354	P	P	09 19 38.1	+1.1
	baz=172						
M51A	Elyria	61.07	349	P	P	09 19 37.4	+0.3
	baz=166						
N49A	Columbus Grove	61.07	347	eP	P	09 19 37.0	-0.1
	comp=Z,13nm,0.7s						
N49A	Columbus Grove	61.07	347	P	P	09 19 36.8	-0.3
	baz=164						
HRV	Adam Dziewonsk	61.07	358	P	P	09 19 38.0	+0.9
	baz=177						
MNTX	Cornudas Mount	61.09	325	eP	P	09 19 37.5	-0.1
MNTX	Cornudas Mount	61.09	325	P	P	09 19 37.4	-0.2
	baz=140,SNR=6.9						
Q41A	Truxton	61.09	340	P	P	09 19 37.4	0.0
	baz=156						
P43A	Skaggs, Pawnee	61.21	342	P	P	09 19 37.6	-0.5
	baz=158,SNR=8.5						
SFIN	Lafayette	61.23	344	P	P	09 19 37.4	-0.9
	baz=160						
O45A	Potomac	61.28	344	P	P	09 19 37.8	-0.8
	baz=160,SNR=8.6						
N47A	Urbana	61.37	346	P	P	09 19 38.4	-0.8
	baz=162						
O44A	Mansfield	61.38	343	P	P	09 19 38.4	-0.9
	baz=159						
P42A	Winchester	61.40	341	eP	P	09 19 38.9	-0.6
	comp=Z,8.6nm,0.7s						
P42A	Winchester	61.40	341	P	P	09 19 38.9	-0.6
	baz=157						
MSTX	Muleshoe	61.52	328	eP	P	09 19 41.0	+0.4
	comp=Z,12nm,0.9s						
MSTX				epP	pP	09 20 11.3	+0.7
MSTX	Muleshoe	61.52	328	P	P	09 19 40.9	+0.4
	baz=143,SNR=6.3						
M49A	Liberty Center	61.56	347	P	P	09 19 40.2	-0.2
	baz=164						
N46A	Monticello	61.63	345	P	P	09 19 40.0	-0.9
	baz=161						
P41A	Barry, Barry	61.70	341	P	P	09 19 40.9	-0.5
	baz=156						
N45A	Kentland	61.78	344	P	P	09 19 41.5	-0.5
	baz=160						
O42A	Bath	61.88	342	P	P	09 19 42.0	-0.6
	baz=157						
N44A	Piper City	61.90	344	P	P	09 19 42.1	-0.6
	baz=159						
HDIL	Hopedale	61.99	343	eP	P	09 19 42.8	-0.5
	comp=Z,16nm,0.6s						
HDIL				epP	pP	09 20 13.6	0.0
HDIL	Hopedale	61.99	343	P	P	09 19 43.0	-0.4
	baz=158						
O41A	Passleys Farm,	62.05	341	P	P	09 19 43.2	-0.6
	baz=156						
L48A	N Adams	62.10	347	P	P	09 19 43.7	-0.4
	baz=163						
MEDO	Medina	62.28	352	P	P	09 19 47.7	+2.4
	baz=170						
L47A	Sherwood	62.30	347	P	P	09 19 45.0	-0.4
	baz=163						
K50A	Casco	62.55	349	P	P	09 19 46.7	-0.4
	baz=165						
N41A	Harden Midland	62.58	342	P	P	09 19 47.3	0.0
	baz=157						
M43A	Waltham Townsh	62.72	343	P	P	09 19 47.6	-0.6
	baz=159						
ELFO	Elginfield	62.73	350	P	P	09 19 51.1	+2.9
	baz=167						
K48A	Perry	62.86	348	P	P	09 19 48.8	-0.4
	baz=164						
K47A	Vermontville	62.92	347	P	P	09 19 49.1	-0.4
	baz=163						
N40A	Mertquake, Sal	62.97	341	P	P	09 19 49.5	-0.3
	baz=156						
121A	Cookes Peak, D	63.05	324	P	P	09 19 49.9	-0.9
	baz=138						
319A	Douglas	63.06	322	eP	P	09 19 52.7	+1.8
	comp=Z,9.3nm,0.8s						
M41A	Milan	63.10	342	P	P	09 19 50.1	-0.6
	baz=157						
KSU1	Kansas State U	63.11	336	eP	P	09 19 51.2	+0.4
	comp=Z,9.7nm,0.9s						
KSU1	Kansas State U	63.11	336	P	P	09 19 50.9	+0.1
	baz=150						
PKRO	Pickering	63.15	352	P	P	09 19 51.6	+0.6
	baz=169						
J49A	Marlette	63.21	349	P	P	09 19 51.2	-0.2
	baz=165						
N39A	Derby Farms, D	63.25	340	eP	P	09 19 51.3	-0.4
	comp=Z,12nm,0.6s						
N39A	Derby Farms, D	63.25	340	P	P	09 19 51.3	-0.4
	baz=155,SNR=6.3						
J48A	Bridge Port	63.27	348	P	P	09 19 51.8	0.0
	baz=164						
L43A	Garden Prairie	63.35	344	P	P	09 19 52.1	-0.3
	baz=159						
M40A	Post Highland	63.42	341	P	P	09 19 52.4	-0.4
	baz=156,SNR=5.4						
J47A	Sunmer	63.42	347	P	P	09 19 52.6	-0.2
	baz=162						
DELO	Deloro Mine	63.52	353	P	P	09 19 53.5	+0.1
	baz=171						
BASO	Ashfield	63.58	350	P	P	09 19 53.5	-0.3
	baz=166						
BWLO	Walkerton	63.60	350	P	P	09 19 53.9	0.0
	baz=167						
M39A	Webster	63.69	341	P	P	09 19 54.1	-0.5
	baz=155						
L41A	Preston	63.74	342	P	P	09 19 54.3	-0.6
	baz=157						
LPM	Los Pinos Moun	63.77	326	eP	P	09 19 57.0	+1.5
PKME	Peaks-Kenny Pk	63.79	360	eP	P	09 19 55.2	+0.1
PKME	Peaks-Kenny Pk	63.79	360	P	P	09 19 56.1	+1.0
	baz=180						
LENM	Lemitar	63.84	325	eP	P	09 19 57.2	+1.2
H52A	Wyevale	63.92	351	P	P	09 19 56.9	+0.8
	baz=168						
K42A	Prairie Point,	64.07	344	P	P	09 19 56.9	-0.2
	baz=158						
BMRO	Meriville Lake	64.08	350	P	P	09 19 57.2	+0.2
	baz=167						
I47A	Gladwin	64.11	348	P	P	09 19 57.0	-0.3
	baz=164						
I48A	Sherman Twp	64.11	348	P	P	09 19 56.3	-1.0
	baz=164						
G55A	Calabogie	64.15	354	P	P	09 19 59.4	+1.9
	baz=172						
ANMO	Albuquerque	64.16	326	eP	P	09 19 59.1	+1.0
	comp=Z,1.2nm,0.8s						
ANMO	Albuquerque	64.16	326	⇑P	P	09 19 58.6	+0.5
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ANMO	Albuquerque	64.16	326	P	P	09 19 59.0	+0.9
	baz=140						
K41A	Shullsburg	64.17	343	P	P	09 19 57.7	-0.1
	baz=158						
L39A	Vinton	64.22	341	P	P	09 19 57.8	-0.3
	baz=156						
I46A	Reed City	64.23	347	P	P	09 19 57.2	-0.8
	baz=163						
SCIA	State Center	64.41	340	P	P	09 19 59.4	+0.1
	baz=154						
JFWS	Jewell Farm	64.44	343	eP	P	09 19 59.7	+0.2
	comp=Z,11nm,0.7s						
JFWS	Jewell Farm	64.44	343	P	P	09 19 59.5	+0.1
	baz=158,SNR=6.6						
K40A	Colesburg	64.50	342	P	P	09 19 59.6	-0.2
	baz=157,SNR=5.6						
BUKO	Buck Lake	64.64	352	P	P	09 20 01.2	+0.4
	baz=169						
K39A	Oelwein	64.72	342	P	P	09 20 01.3	0.0
	baz=156						
H46A	Fife Lake	64.75	347	P	P	09 20 01.0	-0.5
	baz=163,SNR=7.4						
I43A	Langenfeld Bro	64.80	345	P	P	09 20 01.7	-0.1
	baz=160						
J41A	Loganville	64.80	343	P	P	09 20 01.8	0.0
	baz=158						
I42A	Draeger Farm,	65.00	344	P	P	09 20 03.2	+0.2
	baz=159						
J40A	Soldiers Grove	65.03	343	P	P	09 20 03.2	-0.1
	baz=157						
J39A	Decorah	65.25	342	P	P	09 20 04.4	-0.3
	baz=156,SNR=7.9						
H43A	Windswept, Lux	65.26	345	P	P	09 20 04.5	-0.2
	baz=160						
E53A	Dumoine, Ponti	65.36	354	P	P	09 20 07.5	+2.2
	baz=171						
E54A	Lac Daplat, Po	65.36	354	P	P	09 20 07.1	+1.7
	baz=171						
G46A	Petoskey	65.43	348	P	P	09 20 06.1	+0.3
	baz=163						
I40A	Norwalk	65.45	343	P	P	09 20 05.6	-0.4
	baz=157						
H42A	Shiocton	65.48	345	P	P	09 20 06.0	-0.2
	baz=160						
214A	Organ Pipe Nat	65.58	320	P	P	09 20 08.9	+1.7
	baz=134,SNR=5.4						
I39A	Houston	65.67	342	eP	P	09 20 07.6	+0.2
	comp=Z,12nm,0.8s						
I39A	Houston	65.67	342	P	P	09 20 07.4	0.0
	baz=156,SNR=5.0						
BGNE	Belgrade	65.69	336	eP	P	09 20 08.6	+0.9
	comp=Z,43nm,0.8s						
BGNE	Belgrade	65.69	336	P	P	09 20 08.2	+0.5
	baz=150						
X18A	Snowflake	65.75	324	eP	P	09 20 09.9	+1.5
	comp=Z,4.7nm,0.9s						
SDCO	Great Sand Dun	65.86	329	eP	P	09 20 10.4	+1.3
	comp=Z,7.7nm,1.0s						
SDCO	Great Sand Dun	65.86	329	P	P	09 20 10.2	+1.1
	baz=142,SNR=10						
D54A	Lac Fusel, La	66.03	354	P	P	09 20 11.9	+2.3
	baz=172						
D53A	Lac Vacive, Po	66.06	354	P	P	09 20 12.0	+2.2
	baz=171						
H40A	Chili	66.06	344	P	P	09 20 10.0	+0.1
	baz=158,SNR=5.6						
G41A	Antigo	66.30	345	P	P	09 20 11.7	+0.2
	baz=159						
E46A	Sault Ste Mari	66.33	349	P	P	09 20 12.4	+0.9
	baz=164						
H39A	Augusta	66.36	343	P	P	09 20 11.8	0.0
	baz=157						
F43A	Flat Rock, Esc	66.40	346	P	P	09 20 11.8	-0.2
	baz=161						
S22A	4UR Ranch, Cre	66.51	328	eP	P	09 20 14.8	+1.4
	comp=Z,3.7nm,1.1s						
S22A	4UR Ranch, Cre	66.51	328	P	P	09 20 14.6	+1.3
	baz=141						
G40A	Rib Lake	66.61	344	P	P	09 20 13.3	-0.1
	baz=158						
H38A	Maiden Rock	66.64	342	P	P	09 20 13.8	+0.3
	baz=156						
F41A	Three Lakes	66.77	345	eP	P	09 20 14.8	+0.3
	comp=Z,7.4nm,0.8s						
F41A				epP	pP	09 20 45.6	+0.6
F41A	Three Lakes	66.77	345	P	P	09 20 14.7	+0.3
	baz=159						
G39A	Holcombe	66.89	343	P	P	09 20 15.4	+0.2
	baz=157						
MVCO	Mesa Verde	66.96	327	eP	P	09 20 17.7	+1.6
	comp=Z,4.9nm,0.8s						
MVCO	Mesa Verde	66.96	327	P	P	09 20 17.2	+1.1
	baz=139,SNR=5.4						
G38A	Ridgeland	66.97	343	P	P	09 20 15.5	-0.2
	baz=156						
ECSD	EROS Data Cent	67.17	339	P	P	09 20 18.2	+1.2
	baz=152						
F40A	Park Falls	67.20	344	P	P	09 20 17.4	+0.3
	baz=158,SNR=6.4						
WUAZ	Wupatki	67.26	324	eP	P	09 20 20.2	+2.3
	comp=Z,6.9nm,1.0s						

SPMN	Marine on St. comp=Z,5.8nm,0.5s	67.29	342	*e*P		P	09 20 17.4	-0.2
SPMN	Marine on St. baz=156	67.29	342	P		P	09 20 17.5	-0.2
F39A	Loretta baz=157	67.40	344	P		P	09 20 18.2	-0.2
ISCO	Idaho Springs comp=Z,5.2nm,1.0s	67.53	330	*e*P		P	09 20 21.3	+1.6
ISCO	Idaho Springs baz=142,SNR=5.0	67.53	330	P		P	09 20 21.1	+1.4
E40A	Wakefield baz=158	67.63	345	P		P	09 20 20.6	+0.8
SMCO	Snowmass comp=Z,4.5nm,0.7s	67.69	329	*e*P		P	09 20 22.4	+1.5
F37A	Hinrichs Farm, baz=156	67.70	342	P		P	09 20 21.7	+1.5
F38A	Pierce - Schro baz=156	67.70	343	P		P	09 20 20.4	+0.1
E39A	Mellen baz=158	67.73	344	P		P	09 20 20.8	+0.4
Y12C	Blythe comp=Z,5.0nm,0.9s	67.86	320	*e*P		P	09 20 23.1	+1.5
Y12C	Blythe baz=133	67.86	320	P		P	09 20 23.1	+1.5
LIC	Lamto comp=Z,66nm,0.7s	67.88	75	*e*P		P	09 20 20.7	-1.4
TIC	Toumodi	68.05	74	*e*P		P	09 20 21.8	-1.4
KIC	Kosan Boka comp=Z,107nm,0.6s	68.20	75	*e*P		P	09 20 23.0	-1.1
DBIC	Dimbokro comp=Z,50nm,0.6s,baz=223,slow=6.3,SNR=81	68.21	75	P		P	09 20 23.3	-0.9
N23A	Red Feather La comp=Z,6.3nm,1.0s	68.55	331	*e*P		P	09 20 27.6	+1.5
N23A	Red Feather La baz=142	68.55	331	P		P	09 20 27.5	+1.5
O20A	White River Ci baz=140	69.06	329	P		P	09 20 30.7	+1.6
KNB	Kanab comp=Z,15nm,1.0s	69.15	324	*e*P		P	09 20 32.2	+2.5
GMRC	Granite Mounta baz=133	69.25	320	P		P	09 20 32.4	+2.0
LCMT	Little Creek M comp=Z,6.3nm,1.0s	69.39	323	*e*P		P	09 20 33.5	+2.4
SRU	San Rafael Swe comp=Z,5.8nm,0.8s	69.44	327	*e*P		P	09 20 33.1	+1.6
P18A	Preston Nutter comp=Z,6.5nm,0.8s	69.68	327	*e*P		P	09 20 34.7	+1.6
P17A	Butcher Ranch, comp=Z,8.2nm,0.9s	69.82	327	*e*P		P	09 20 35.6	+1.8
CCUT	Cedar City comp=Z,8.2nm,0.9s	69.83	324	*e*P		P	09 20 36.9	+2.9
CCUT				*e*pP		pP	09 21 07.5	+2.7
TUQ	Turquoise Moun baz=133	69.86	321	P		P	09 20 36.0	+1.9
MSU	Marysvale	69.87	325	*e*P		P	09 20 36.2	+2.0
SHPR	Sheep Range comp=Z,5.4nm,1.0s	70.13	322	*e*P		P	09 20 38.2	+2.5
GSC	Goldstone, Bar baz=132	70.30	320	P		P	09 20 38.5	+1.8
RSSD	Black Hills baz=145	70.31	334	P		P	09 20 38.0	+1.3
MPU	Maple Canyon comp=Z,6.3nm,1.0s	70.68	327	*e*P		P	09 20 41.0	+2.0
EDW2	Edwards Air Fo baz=131	70.75	319	P		P	09 20 41.1	+1.7
PSUT	Pine Spring comp=Z,5.2nm,0.8s	70.81	324	*e*P		P	09 20 42.2	+2.4
NLU	North Lily Min comp=Z,5.7nm,1.1s	70.87	326	*e*P		P	09 20 42.3	+2.1
JLU	Jordanelle comp=Z,4.4nm,0.8s	71.02	327	*e*P		P	09 20 43.1	+2.0
TPNV	Topopah Spring comp=Z,11nm,1.1s	71.07	322	*e*P		P	09 20 44.2	+2.7
TPNV	Topopah Spring baz=133,SNR=5.2	71.07	322	P		P	09 20 43.9	+2.5
FURC	Furnace Creek, baz=132	71.11	321	P		P	09 20 43.7	+2.3
MPMC	Manual Prospec baz=132	71.22	320	P		P	09 20 43.0	+0.6
SCZ2	Santa Cruz Isl baz=129	71.22	317	P		P	09 20 44.5	+2.3
QSPA	South Pole Qui comp=Z,4.2nm,0.6s,baz=162,slow=1.7,SNR=8.8	71.34	180	P		P	09 20 43.6	+1.0
QSPA	South Pole Qui	71.34	180	*e*P		P	09 20 43.5	+0.8
DUG	Dugway, Tooele comp=Z,5.3nm,0.9s	71.43	326	*e*P		P	09 20 45.6	+2.1
DUG	Dugway, Tooele baz=136,SNR=5.8	71.43	326	P		P	09 20 45.4	+1.9
ISA	Isabella, Lake baz=131	71.56	319	P		P	09 20 46.4	+2.2
R11A	Troy Canyon, C comp=Z,2.3nm,0.8s	71.65	323	*e*P		P	09 20 47.1	+2.2
R11A	Troy Canyon, C baz=134,SNR=6.1	71.65	323	P		P	09 20 47.1	+2.2
BW06	Boulder Array comp=Z,3.6nm,1.0s	71.70	330	*e*P		P	09 20 47.2	+1.9
BW06	Boulder Array baz=140	71.70	330	P		P	09 20 47.1	+1.9
PD31	Pinedale Array	71.70	330	*e*P		P	09 20 47.2	+2.1
PDAR	Pinedale Array comp=Z,1.4nm,0.8s,baz=117,slow=6.3,SNR=9.6	71.70	330	P		P	09 20 46.0	+0.8
PDAR				pP		pP	09 21 17.3	+1.1
PDAR	Pinedale Array comp=Z,0.4nm,0.5s,baz=115,slow=7.1,SNR=3.2	71.70	330	*e*P		P	09 20 44.1	-1.1
PDAR				pP		pP	09 21 17.3	+1.1
HWUT	Hardware Ranch comp=Z,3.8nm,0.8s	71.82	328	*e*P		P	09 20 46.7	+0.9
CWC	Cottonwood Cre baz=131	71.83	320	P		P	09 20 47.7	+1.7
SPUT	South Promonto comp=Z,7.1nm,1.0s	72.05	327	*e*P		P	09 20 48.9	+1.7
VES	Vestal, Richgr baz=130	72.05	319	P		P	09 20 48.2	+1.1
BGU	Big Grassy Mou comp=Z,5.8nm,1.0s	72.07	326	*e*P		P	09 20 49.0	+1.6
BGU				*e*pP		pP	09 21 19.8	+1.5
HVU	Hansel Valley comp=Z,4.1nm,0.7s	72.56	327	*e*P		P	09 20 51.6	+1.4
ULM	Lac du Bonnet comp=Z,5.2nm,0.5s,baz=152,slow=6.8,SNR=15	72.72	342	P		P	09 20 50.4	-0.4
REDW	Red Top Meadow comp=Z,3.0nm,0.9s	72.78	329	*e*P		P	09 20 52.8	+1.2
LOHW	Long Hollow comp=Z,2.5nm,0.9s	72.84	330	*e*P		P	09 20 53.1	+1.1
TPAW	Teton Pass comp=Z,4.4nm,0.9s	72.92	329	*e*P		P	09 20 54.1	+1.7
MOOW	Moose Ponds comp=Z,2.0nm,0.8s	73.01	330	*e*P		P	09 20 54.4	+1.5
FXWY	Fox Creek comp=Z,3.2nm,1.0s	73.07	330	*e*P		P	09 20 54.8	+1.6
IMW	Indian Meadow comp=Z,3.5nm,0.8s	73.22	330	*e*P		P	09 20 56.0	+1.8
FLWY	Flagg Ranch comp=Z,9.8nm,0.8s	73.24	330	*e*P		P	09 20 56.0	+1.7
NV01	Mina Array Sit	73.27	322	*e*P		P	09 20 56.3	+1.7
NVAR	Mina Array Bea comp=Z,2.6nm,0.8s,baz=153,slow=6.6,SNR=8.4	73.27	322	P		P	09 20 56.5	+1.9
NVAR				pP		pP	09 21 27.4	+1.7
NVAR	comp=Z,2.2nm,1.0s,baz=150,slow=6.4,SNR=3.3			sP		sP	09 21 41.3	+2.2
LAO	comp=Z,4.4nm,0.9s,baz=149,slow=6.9,SNR=7.0 LASA Array baz=143	73.30	334	P		P	09 20 54.1	-0.3
RLMT	Red Lodge comp=Z,8.2nm,1.1s	73.38	332	*e*P		P	09 20 56.4	+1.3
RLMT	Red Lodge baz=140	73.38	332	P		P	09 20 56.7	+1.7
SCHQ	Schefferville comp=Z,5.4nm,0.8s,baz=180,slow=5.1,SNR=3.7	73.39	1	P		P	09 20 54.8	+0.2
H17A	Grant Village baz=139	73.42	330	P		P	09 20 57.9	+2.5
KVN	Kaiserville comp=Z,6.2nm,0.9s	73.57	322	*e*P		P	09 20 58.2	+1.9
YMR	Madison River comp=Z,9.9nm,1.1s	73.81	330	*e*P		P	09 21 00.1	+2.5
YHH	Holmes Hill comp=Z,9.2nm,1.0s	73.85	330	*e*P		P	09 21 00.9	+3.0
YHH				*e*pP		pP	09 21 32.0	+3.0
YHB	Horse Butte comp=Z,7.6nm,0.8s	73.98	330	*e*P		P	09 21 01.0	+2.4
GCMT	Greycliff	74.07	332	*e*P		P	09 21 00.6	+1.7
VCNR	Virginia City comp=Z,3.4nm,0.8s	74.63	322	*e*P		P	09 21 05.0	+2.6
HLID	Hailey comp=Z,7.7nm,0.9s	74.68	328	*e*P		P	09 21 03.6	+1.0
HLID				*e*pP		pP	09 21 34.9	+1.1
HLID				*e*sP		sP	09 21 49.7	+2.5
HLID	Hailey	74.68	328	P		P	09 21 04.3	+1.7
	baz=136,SNR=14							
BOZ	Bozeman (W) baz=138	74.82	331	P		P	09 21 05.1	+1.8
MCMT	McKenzie Canyo	74.83	329	*e*P		P	09 21 05.4	+1.9
EGMT	Eagleton baz=140	75.83	333	P		P	09 21 09.8	+0.9
ORV	Oroville comp=Z,8.7nm,1.0s	75.90	321	*e*P		P	09 21 11.8	+2.3
J08A	Circle Bar Ran comp=Z,3.3nm,0.7s	76.66	325	*e*P		P	09 21 15.8	+2.0
TOA0	Torodi Ar. Sit	76.68	71	*e*P		P	09 21 13.3	-1.1
TORD	Torodi Ar. Bea comp=Z,11nm,0.8s,baz=252,slow=5.6,SNR=66	76.68	71	P		P	09 21 12.6	-1.8
TORD				LR		LR	09 53 47.6	
MOD	comp=Z,30nm,18.1s,baz=295,slow=35 Modoc Plateau comp=Z,3.3nm,0.6s	76.71	323	*e*P		P	09 21 16.2	+2.1
MSO	Missoula baz=137	76.81	330	P		P	09 21 16.1	+1.5
BMO	Blue Mountains comp=Z,8.8nm,0.8s	77.07	327	*e*P		P	09 21 17.9	+1.9
N02D	Trinity Center baz=129	77.51	321	P		P	09 21 19.2	+0.6
M04C	Macdoel baz=129	77.51	322	P		P	09 21 19.8	+1.2
JTMT	Jette comp=Z,4.1nm,0.9s	77.64	331	*e*P		P	09 21 21.3	+2.1
F10A	Beach Ranch, E comp=Z,5.0nm,0.8s	77.80	328	*e*P		P	09 21 21.6	+1.5
YBH	Yreka Blue Hor comp=Z,1.7nm,0.8s,baz=117,slow=4.5,SNR=3.5	77.98	322	P		P	09 21 21.7	+0.5
J05D	Fort Rock, OR baz=130	78.13	324	P		P	09 21 23.5	+1.5
G08A	Pilot Rock	78.22	327	*e*P		P	09 21 23.5	+1.1
E09A	Wood Farm, Sta comp=Z,7.6nm,1.1s	78.64	328	*e*P		P	09 21 26.1	+1.5
I05D	Terrebonne, OR baz=130	78.87	325	P		P	09 21 27.1	+1.2
SYO	Syowa Base	79.06	160	*e*P		P	09 21 26.8	+0.2
HAWA	Hanford comp=Z,8.5nm,0.8s	79.26	327	*e*P		P	09 21 30.2	+2.3
HAWA				*e*pP		pP	09 22 01.6	+2.1
NEW	Newport baz=134	79.35	330	P		P	09 21 30.0	+1.5
VNDA	Vanda comp=Z,2.5nm,1.0s,baz=149,slow=3.4,SNR=6.2	79.42	190	P		P	09 21 30.2	+1.7
G05D	Wamic, OR baz=130	79.44	325	P		P	09 21 31.6	+2.6
C09A	Chrisman Ranch comp=Z,15nm,0.8s	79.58	329	*e*P		P	09 21 31.6	+1.9
C09A				*e*pP		pP	09 22 02.9	+1.7
H04D	Lebanon baz=129	79.76	324	P		P	09 21 31.6	+0.9
F05D	White Salmon baz=130	79.93	326	P		P	09 21 33.6	+2.0
B08A	Colville Reser comp=Z,4.6nm,0.9s	80.48	329	*e*P		P	09 21 35.9	+1.3
D05A	Enumclaw comp=Z,24nm,0.9s	81.06	327	*e*P		P	09 21 39.0	+1.4
B06A	Marblemount comp=Z,17nm,0.8s	81.66	328	*e*P		P	09 21 41.8	+1.1
B05A	Bryant baz=130	81.81	327	P		P	09 21 42.4	+0.9
ESDC	Sonseca Array comp=Z,1.2nm,0.6s,baz=242,slow=5.3,SNR=7.7	84.10	45	P		P	09 21 54.3	+0.7
ES19	SONSECA Array	84.16	45	*e*P		P	09 21 54.5	+0.6
BOSA	Boshof comp=Z,1.3nm,0.5s,baz=231,slow=6.5,SNR=3.3	84.89	118	P		P	09 21 58.2	+0.1
YKA	Yellowknife Ar comp=Z,6.5nm,0.7s,baz=130,slow=4.8,SNR=38	88.61	341	P		P	09 22 15.7	+0.7
YKA				pP		pP	09 22 47.7	+0.6
YKA	comp=Z,8.3nm,0.5s,baz=133,slow=4.8,SNR=13			sP		sP	09 23 01.8	+1.6
KEV	comp=Z,2.5nm,0.5s,baz=132,slow=4.8,SNR=3.1 Kevo	109.64	22	*e*PKPdf		PKiKP	09 27 52.8	+1.0
KEV				*e*PP		PP	09 28 21.6	-3.5
STKA	Stephens Creek comp=Z,0.8nm,0.4s,baz=154,slow=16,SNR=3.3	121.60	211	PKP		PKPdf	09 28 16.8	+0.7
GEYT	Alibeck comp=Z,0.8nm,0.3s,baz=256,slow=3.0,SNR=2.3	130.53	56	PKP		PKPdf	09 28 32.7	-0.2
AS01	Alice Springs	132.12	209	*e*PKPdf		PKPdf	09 28 36.1	-0.3
ASAR	Alice Springs comp=Z,1.5nm,0.8s,baz=135,slow=1.8,SNR=14	132.15	209	PKP		PKPdf	09 28 36.6	+0.2
ASAR				pPKP		pPKPdf	09 29 09.8	-0.2
WRA	comp=Z,1.7nm,0.9s,baz=155,slow=2.4,SNR=5.6 Warramunga Arr	135.11	212	PKP		PKPdf	09 28 42.0	-0.1
WRA	comp=Z,2.4nm,0.9s,baz=151,slow=1.6,SNR=8.1			pPKP		pPKPdf	09 29 16.6	+1.0
ZALV	comp=Z,2.2nm,0.8s,baz=140,slow=1.6,SNR=6.1 Zalesovo Beam	139.63	24	PKP		PKPdf	09 28 50.7	+1.4
KSH	comp=Z,1.1nm,0.5s,baz=330,slow=2.1,SNR=5.7 Kashi	143.55	48	*e*PKP		PKPdf	09 28 59.4	+2.5
KSH				PP		PP	09 32 15.5	+5.4
MKAR	Makanchi Array comp=Z,0.4nm,0.5s,baz=298,slow=2.6,SNR=5.1	143.58	34	PKP		PKPbc	09 28 55.5	+1.2
MKAR				pPKP		pPKPdf	09 29 30.4	+0.1
WMQ	comp=Z,1.1nm,0.8s,baz=270,slow=3.6,SNR=3.6 Urumqi	148.40	33	*e*PKPbc		PKPdf	09 29 05.0	0.0
USRK	Ussuriysk Ar. comp=Z,8.6nm,0.9s,baz=3.7,slow=1.4,SNR=15	149.13	330	PKPbc		PKPbc	09 29 09.8	-0.5
FAKI	Fak Fak	149.83	226	*e*PKPbc		PKPbc	09 29 14.1	+1.1
MJAR	Matsushiro Arr comp=Z,6.1nm,0.7s,baz=359,slow=0.8,SNR=2.6	150.19	312	PKPbc		PKPbc	09 29 11.5	-1.7
MAT	Matsushiro	150.19	312	*e*PKP		PKPdf	09 29 10.7	+2.7
SONM	Songino Array comp=Z,4.1nm,0.7s,baz=324,slow=1.1,SNR=16	150.84	6	PKPbc		PKPbc	09 29 15.7	+1.2
SONM				PKPab		PKPab	09 29 23.1	+1.1
SONM	comp=Z,1.5nm,0.7s,baz=340,slow=2.1,SNR=3.7			pPKPbc		pPKPbc	09 29 49.3	+1.4
SIJI	comp=Z,3.8nm,0.6s,baz=322,slow=1.7,SNR=5.5 Sorong	151.97	228	PKPbc		PKPbc	09 29 18.8	+0.8
NJ2	comp=Z,16nm,0.8s,baz=101,slow=10,SNR=5.4 Nanjing	165.00	333	*e*PKP		PKPdf	09 29 26.8	+0.5

LDG ***17*** *09:29:34.7±0.4,51.51N×6.49E,h1km,Ml2.9/10,Error ellipse: s-maj=7.0km s-min=4.1km az=171.0,Suspected Mining induced.*

ISC 17 09:29:33.2±0.8,51.48N±0.03×6.42E±0.02,h0km,n58, σ1s0.01/95,2D,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRHE	Rheinberg	0.10	71	Pg	Pg	09 29 35.0	-0.1
BRHE				Sg	Sg	09 29 36.2	-0.1
LAUG	Laupendahl	0.35	112	*i* Pg	Pg	09 29 40.3	+0.4
LAUG				*e*Sg	Sg	09 29 44.8	+0.3
HES	Velbert-Hesper	0.41	106	*e*Pg	Pg	09 29 40.5	-0.4
RWB	Wassenberg 255nm,0.3s	0.42	204	*e*Sg	Sb	09 29 49.8	-0.4
BUG	Bochum--Univer	0.53	94	*e*Pg	Pg	09 29 43.5	+0.2
BUG				Sg	Sg	09 29 50.6	+0.4
WTSB	Winterswijk	0.54	26	*e*P	Pg	09 29 43.8	+0.4
WTSB				*e*Sg	Sg	09 29 50.6	+0.1
WTSB	Winterswijk	0.54	26	*e*Pg	Pg	09 29 43.9	+0.4
PLH	Pulheim	0.54	152	*e*Pg	Pg	09 29 44.3	+0.8
PLH	560nm,0.5s			*e*Sg	Sg	09 29 51.5	+1.0
ENTS	Ennepetalsperr	0.67	111	*e*Pg	Pg	09 29 45.7	-0.2
ENTS				*e*Sg	Sg	09 29 53.8	-0.8
BNS	Bensberg	0.70	137	*e*Pg	Pb	09 29 47.9	-0.4
GSH	Grosshau 109nm,0.3s	0.75	182	*e*Pg	Pb	09 29 49.0	-0.1
GSH				*e*Sg	Sb	09 29 59.5	-0.3
HOBG	Hohbusch	0.76	131	*e*Pg	Pb	09 29 48.7	-0.6
HGN	Heimansgroeve 7.3nm,0.2s	0.78	203	*e*Pn	Pb	09 29 49.9	+0.3
HGN	65nm,0.2s			*e*Pg	Pn	09 29 51.4	-0.1
HGN				*e*Sn	Sb	09 30 01.4	+0.6
HGN				*e*Sg	Sn	09 30 03.5	-0.3
HGN	Heimansgroeve	0.78	203	*e*Pg	Pb	09 29 50.0	+0.3
HGN				*e*Sg	Sb	09 30 02.0	+1.3
DREG	Dreilaegerbach	0.83	188	*e*Pg	Pb	09 29 50.5	+0.1
BEBN	Eben Emael	0.83	215	⇓P	Pn	09 29 51.6	-0.5
BEBN	comp=E,17nm,0.0s			S	Sb	09 30 02.5	+0.3
KLL	Kalltalsperre	0.84	185	*e*Pg	Pb	09 29 50.6	0.0
WBS	Wahnbachtalspe comp=E,108nm,0.4s	0.87	141	*e*Sg	Sg	09 30 01.5	+0.5
MEM	Membach	0.91	197	P	Pb	09 29 51.9	0.0
MEM	comp=E,67nm,0.0s			S	Sb	09 30 05.6	+1.1
STB	Steinbach	0.93	163	*e*Pg	Pb	09 29 52.4	+0.3
TDN	Todenfeld	0.97	160	*e*Pg	Pb	09 29 52.4	-0.4
TDN	comp=E,175nm,0.4s			*e*Sg	Sb	09 30 05.2	-0.9
OLFT	Oleftalsperre	0.99	180	*e*Pg	Pb	09 29 53.4	+0.2
OLFT				*e*Sg	Sb	09 30 06.9	+0.1
BLCH	La Chartreuse	0.99	212	P	Pb	09 29 53.7	+0.6
BLCH	comp=E,42nm,0.0s			S	Sn	09 30 08.5	-0.5
AHRW	Bad Neuenahr-A	1.03	156	*e*Pg	Pn	09 29 54.5	-0.3
AHRW				*e*Sg	Sn	09 30 09.5	-0.4
BSTI	Sart Tilman	1.05	211	P	Pn	09 29 54.7	-0.1
BHOU	Houvegnez	1.16	193	P	Pn	09 29 56.7	0.0
BHOU	comp=E,4.8nm,0.0s			S	Sn	09 30 12.5	-0.7
IBBN	Ibbenburen	1.17	45	*e*Sg	Sg	09 30 10.5	-0.2
HILG	Hillesheim	1.20	172	*e*Pg	Pn	09 29 57.5	+0.2
BHE	Schloss Buerre	1.23	157	*e*Pg	Pb	09 29 57.1	-0.2
BHE	comp=E,35nm,0.2s			*e*Sg	Sb	09 30 13.4	-0.3
BCLA	Clavier	1.28	214	⇓P	Pn	09 29 58.7	+0.5
BCLA	comp=E,49nm,0.0s			S	Sn	09 30 17.1	+1.0
KOE	Koeppel	1.34	141	*e*Pg	Pn	09 29 59.2	0.0
RCHB	Rochefort	1.53	210	P	Pg	09 30 03.3	+0.8
RCHB	comp=E,21nm,0.0s			S	Sn	09 30 22.5	+0.3
BMRD	Maredsous	1.58	222	P	Pb	09 30 02.9	-0.3
BMRD	comp=E,18nm,0.0s			S	Sg	09 30 25.1	+1.3
GIVF	Givet	1.71	217	*e*Pg	Pg	09 30 06.0	0.0
GIVF	comp=E,28nm,0.2s			*e*Sg	Sg	09 30 28.1	-0.1
TNS	Taunus Mts	1.80	134	*e*Pg	Pb	09 30 07.3	+0.3
DOU	Dourbes	1.81	221	P	Pn	09 30 06.1	+0.5
DOU	comp=E,22nm,0.0s			S	Sn	09 30 29.0	-0.1
WLF	Walferdange	1.83	185	*e*Pg	Pg	09 30 09.1	+1.0
WLF				*e*Sg	Sg	09 30 31.9	+0.1
WLF	Walferdange	1.83	185	P	Pg	09 30 08.7	+0.6
WLF	comp=E,31nm,0.0s			S	Sg	09 30 31.9	+0.1
BAIF	Baives	2.00	225	*e*Pg	Pg	09 30 11.9	+0.4
BAIF	comp=E,15nm,0.3s			*e*Sg	Sg	09 30 37.3	-0.1
GTTG	Gvttingen	2.21	87	*e*Sg	Sn	09 30 40.0	+0.8
CLZ	Clausthal	2.49	80	*e*Pg	Pb	09 30 18.7	0.0
CLZ				*e*Sg	Sn	09 30 47.8	+1.8
CHRS	Christianenhau	2.75	86	*e*Sg	Sb	09 30 58.4	+1.0
PAGF	Fort de Pagny	2.96	189	*e*Pn	Pn	09 30 22.8	+1.3
PAGF	Fort de Pagny comp=E,11nm,0.5s	2.96	189	*e*Pg	Pg	09 30 29.7	-0.2
PAGF				*e*Sg	Sg	09 31 07.2	-1.2
MEZF	Maizieres J'vi	3.11	197	*e*Pn	Pn	09 30 24.1	+0.6
MEZF	Maizieres J'vi	3.11	197	*e*Pg	Pg	09 30 36.3	+3.5
MEZF	comp=E,10nm,0.4s			*e*Sg	Sg	09 31 14.0	+0.9
CDF	Champ du Feu	3.12	169	*e*Pn	Pn	09 30 23.6	-0.1
CDF	Champ du Feu	3.12	169	*e*Pg	Pg	09 30 33.6	+0.6
CDF	comp=E,7.5nm,0.5s			*e*Sg	Sg	09 31 12.9	-0.5
SFTF	Sexfontaines	3.40	196	*e*Pn	Pn	09 30 28.5	+1.1
SFTF	Sexfontaines	3.40	196	*e*Pg	Pg	09 30 38.1	-0.2
SFTF	comp=E,8.7nm,0.3s			*e*Sg	Sg	09 31 22.2	-0.2
HAU	Haudompre	3.48	181	*e*Pg	Pg	09 30 39.7	-0.1
HAU	comp=E,8.8nm,0.3s			*e*Sg	Sg	09 31 24.5	-0.4
HINF	Hinteralfeld comp=E,4.7nm,0.5s	3.68	175	*e*Sg	Sg	09 31 32.3	+1.0
LOR	Lormes	4.54	203	*e*Pn	Pn	09 30 43.0	-0.1
LOR	Lormes	4.54	203	*e*Pg	Pg	09 31 01.1	+1.0
LOR				*e*Sn	Sn	09 31 31.7	-4.8
LOR	comp=E,4.3nm,0.3s			*e*Sg	Sg	09 31 58.0	-0.9
SSF	Saint Saulge	4.82	204	*e*Pn	Pn	09 30 46.8	-0.1
SSF	comp=E,4.5nm,0.4s			*e*Sg	Sg	09 32 08.6	+0.7
CABF	La Chapelle	4.88	183	*e*Pn	Pn	09 30 47.4	-0.5
CABF	La Chapelle	4.88	183	*e*Pg	Pg	09 31 06.5	-0.2
GRR	Gorron	5.63	239	*e*Pn	Pn	09 30 58.0	0.0
GRR				*e*Sn	Sn	09 31 58.1	-5.2

MEX 17 09:20:35.5±0.6,14.47N×92.49W,h50km±12km,MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		0.49	27	*e*P	Pn	09 20 45.5	-1.1
THIG				*e*S	Sn	09 20 52.8	-1.8
PCIG		1.41	330	*e*P	Pn	09 20 57.6	-1.3
PCIG				*i* S	Sn	09 21 14.2	-2.1
CCIG	Comitan	1.83	11	*i* P	Pn	09 21 03.4	-1.4
CCIG				*i* S	Sn	09 21 25.0	-2.0
TGIG		2.37	345	*e*P	Pn	09 21 10.7	-1.0
TGIG				*i* S	Sn	09 21 38.7	-1.3

NIED ***17*** *09:26:00,36.70N×142.00E,h26km,Mw3.6 Best double couple: M0 3.26000×10^14 NP1:φ=221.00000°,δ=22.00000°, λ=104.00000°. NP2:φ=26.00000°,δ=68.00000°,λ=84.00000°.*

JMA 17 09:26:43.4±0.3,36.71N×142.05E,h37km,M3.6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	Iwakimizuishiy	1.08	292	P	Pn	09 27 02.2	+0.2
JFK	Kawauchi	1.15	305	P	Pn	09 27 03.1	+0.2
JHO	Hitachi	1.20	266	P	Pn	09 27 04.1	+0.6
JHO				S	Sn	09 27 19.6	+1.1
JHYU	Hitachinakayam	1.23	253	P	Pn	09 27 04.8	+0.7
JHYU				S	Sn	09 27 20.7	+1.2
JFFD	Fukushimafurud	1.25	288	P	Pn	09 27 04.6	+0.3
JMM	Marumori	1.53	319	P	Pn	09 27 09.0	+0.9
JFT	Otama	1.59	301	P	Pn	09 27 10.6	+1.6
JFT				S	Sn	09 27 30.7	+2.4
JIO	Ouri	1.83	342	P	Pn	09 27 13.5	+1.3
JIO				*e*S	Sn	09 27 36.5	+2.4
JOU	Okura	1.99	327	P	Pn	09 27 16.5	+2.1
JAG	Ashikaga	2.11	263	P	Pn	09 27 17.8	+1.7
JMK	Ichinoseki	2.33	344	P	Pn	09 27 21.0	+1.8
MAT	Matsushiro	3.10	268	P	Pn	09 27 32.9	+3.2
MAT				S	Sn	09 28 11.9	+6.5

ISCJB ***17*** *09:29:32.7±0.4,51.51N±0.02×6.43E±0.03,h0km,Error ellipse: s-maj=3.5km s-min=2.1km az=142.4*
BUG ***17*** *09:29:33.0±0.0,51.49N×6.45E,h1km,ML2.4*
GDNRW ***17*** *09:29:33.8±0.4,51.50N×6.55E,h1km,ML2.3*
BGR ***17*** *09:29:34.6±0.5,51.51N×6.59E,h1km,ML2.5/9,Error ellipse: s-maj=8.9km s-min=4.4km az=132.0*
BNS ***17*** *09:29:34.8±0.9,51.48N×6.53E,h1km,ML2.2*

ISCJB ***17*** *09:29:57.3±0.8,18.95S±0.09×169.4E±0.1,h250km, mb3.4/8,Error ellipse: s-maj=18.8km s-min=10.9km az=27.0*
IDC ***17*** *09:30:01.0±1.9,19.06S×169.09E,h274km±

0.8nm,0.8s,baz=220,slow=8.8,SNR=4.2
ILAR Eielson Array 89.97 17 P P 09 42 28.1 -0.9
0.5nm,1.0s,baz=231,slow=5.2,SNR=4.6
ARCES ARCESS Array B 124.83 345 PKP PKPdf 09 48 27.3 -0.5
3.0nm,0.9s,baz=35,slow=3.3,SNR=4.1
GERES GERESS Array B 144.28 332 PKP PKPab 09 49 04.0 +0.7
0.7nm,0.6s,baz=20,slow=4.3,SNR=5.9

*IDC **17** 09:35:58.0±1.3, 37.11N×21.16E, h0km, mb3.9/10, mb1 3.9/12, mb1mx3.7/44, mbtmp3.8/12, ML3.0/2, MS3.4/6, Ms1 3.4/6, ms1mx2.8/54, Error ellipse: s-maj=24.6km s-min=22.1km az=174.0*
*BEO **17** 09:35:59.3±1.2, 37.00N×20.84E, h5km, ML3.2/2*
*ISCJB **17** 09:36:00.4±0.7, 37.09N±0.03×20.75E±0.04, h21km±5km, mb3.8/10, MS3.4/5, Error ellipse: s-maj=6.1km s-min=3.8km az=137.3*
*THE **17** 09:36:00.7, 37.09N×20.86E, h0km±1km, ML3.1/7, Error ellipse: s-maj=1.7km s-min=0.5km az=221.0*
*ATH **17** 09:36:00.5, 37.11N×20.85E, h23km, ML3.2/10, Error ellipse: s-maj=2.2km s-min=1.0km az=57.0, ML Amplitudes are expressed in micrometres All distances are expressed in km*
ISC 17 09:36:01.2±1.3, 37.14N±0.03×20.89E±0.03, h14km±8km, n86, σ1s38/109, mb3.8/10, MS3.6/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MES3	**Kyparissia**	**0.63**	**80**	P	**Pg**	**09 36 13.5**	**-0.1**
MES3				S	**Sb**	**09 36 24.3**	**+1.6**
PYL	**PYLOS**	**0.72**	**109**	P	**Pg**	**09 36 15.0**	**-0.2**
PYL				S	**Sb**	**09 36 26.0**	**+0.7**
PYL				AML	AML	09 36 27.2	
	comp=E,3311μm,0.3s						
PYL				AML	AML	09 36 30.8	
	comp=N,3152μm,0.3s						
PYL	**PYLOS**	**0.72**	**109**	P	**Pg**	**09 36 14.9**	**-0.3**
PYL				S	**Sb**	**09 36 25.8**	**+0.5**
MES2	**Methoni**	**0.72**	**115**	P	**Pg**	**09 36 15.0**	**-0.3**
MES2				S	**Sb**	**09 36 26.5**	**+1.2**
AMT	**Artemida-Makis**	**0.76**	**59**	P	**Pg**	**09 36 16.0**	**0.0**
AMT				S	**Sb**	**09 36 27.9**	**+1.5**
AMT				AML	AML	09 36 31.0	
	comp=N,11804μm,0.4s						
AMT				AML	AML	09 36 32.1	
	comp=E,11351μm,0.6s						
AMT	**Artemida-Makis**	**0.76**	**59**	P	**Pg**	**09 36 16.0**	**0.0**
AMT				S	**Sb**	**09 36 28.2**	**+1.7**
VTN	**Vitineika**	**0.81**	**17**	P	**Pb**	**09 36 17.4**	**+0.3**
VTN				S	**Sg**	**09 36 28.3**	**+0.7**
VTN	**Vitineika**	**0.81**	**17**	P	**Pb**	**09 36 17.2**	**+0.1**
ITM	**Ithomi**	**0.83**	**87**	P	**Pg**	**09 36 16.7**	**-0.5**
ITM				S	**Sb**	**09 36 29.1**	**+0.8**
ITM				AML	AML	09 36 34.0	
	comp=N,2745μm,0.3s						
ITM				AML	AML	09 36 35.8	
	comp=E,2472μm,0.3s						
ITM	**Ithomi**	**0.83**	**87**	P	**Pg**	**09 36 16.8**	**-0.5**
ITM				S	**Sb**	**09 36 29.3**	**+0.9**
RLS	**Riolos of Patr**	**1.02**	**26**	P	**Pg**	**09 36 20.6**	**-0.5**
RLS				S	**Sn**	**09 36 36.4**	**+1.1**
RLS				AML	AML	09 36 39.2	
	comp=E,2464μm,0.3s						
RLS				AML	AML	09 36 40.8	
	comp=N,2252μm,0.7s						
RLS	**Riolos of Patr**	**1.02**	**26**	P	**Pg**	**09 36 20.5**	**-0.5**
RLS				S	**Sn**	**09 36 36.5**	**+1.2**
DRO	**Drossia**	**1.04**	**38**	P	**Pg**	**09 36 20.5**	**-0.8**
DRO				S	**Sb**	**09 36 35.8**	**+1.3**
DRO				AML	AML	09 36 46.5	
	comp=E,8576μm,0.5s						
DRO				AML	AML	09 36 47.4	
	comp=N,7458μm,0.4s						
DRO	**Drossia**	**1.04**	**38**	P	**Pg**	**09 36 20.7**	**-0.6**
VLS	**Valsamata**	**1.06**	**347**	P	**Pg**	**09 36 21.2**	**-0.6**
VLS				S	**Sb**	**09 36 36.5**	**+1.3**
VLS				AML	AML	09 36 38.6	
	comp=N,4022μm,0.2s						
VLS				AML	AML	09 36 38.7	
	comp=E,5788μm,0.1s						
VLS	**Valsamata**	**1.06**	**347**	P	**Pg**	**09 36 21.5**	**-0.2**
VLS				S	**Sn**	**09 36 37.8**	**+1.5**
TRIP	**Tripoli**	**1.17**	**70**	P	**Pg**	**09 36 23.4**	**-0.3**
TRIP				S	**Sg**	**09 36 39.3**	**+0.4**
TRIP	**Tripoli**	**1.17**	**70**	P	**Pg**	**09 36 23.5**	**-0.2**
VLX	**Vlachokerasia**	**1.21**	**79**	P	**Pb**	**09 36 24.4**	**+0.5**
VLX				S	**Sn**	**09 36 42.0**	**+2.0**
VLX				AML	AML	09 36 48.5	
	comp=E,2284μm,0.6s						
VLX				AML	AML	09 36 50.0	
	comp=N,1574μm,0.6s						
VLX	**Vlachokerasia**	**1.21**	**79**	P	**Pg**	**09 36 24.1**	**-0.4**
VLX				S	**Sn**	**09 36 42.9**	**+2.9**
DYR	**Agios Nikonas**	**1.21**	**108**	P	**Pg**	**09 36 23.4**	**-1.1**
DYR				S	**Sn**	**09 36 41.1**	**+1.1**
DYR				AML	AML	09 36 44.3	
	comp=E,808μm,0.5s						
DYR				AML	AML	09 36 45.2	
	comp=N,740μm,0.2s						
DYR	**Agios Nikonas**	**1.21**	**108**	P	**Pg**	**09 36 23.5**	**-1.1**
DYR				S	**Sn**	**09 36 42.0**	**+2.0**
FSK	**Fiskardo**	**1.34**	**349**	P	**Pb**	**09 36 26.4**	**+0.2**
FSK				S	**Sn**	**09 36 45.8**	**+2.6**
FSK	**Fiskardo**	**1.34**	**349**	P	**Pb**	**09 36 26.3**	**+0.2**
FSK				S	**Sn**	**09 36 47.0**	**+3.8**
KLV	**Kalavryta, Ach**	**1.35**	**48**	P	**Pn**	**09 36 25.7**	**0.0**
KLV				S	**Sn**	**09 36 45.3**	**+1.9**
KLV				AML	AML	09 36 55.7	
	comp=E,670μm,0.5s						
KLV				AML	AML	09 36 57.4	
	comp=N,1023μm,0.5s						
KLV	**Kalavryta, Ach**	**1.35**	**48**	P	**Pn**	**09 36 25.5**	**-0.1**
LAKA	**Lakka**	**1.40**	**38**	P	**Pn**	**09 36 26.8**	**+0.4**
LAKA	**Lakka**	**1.40**	**38**	P	**Pn**	**09 36 26.7**	**+0.4**
GUR	**Goura**	**1.40**	**55**	P	**Pn**	**09 36 27.0**	**+0.5**
GUR	**Goura**	**1.40**	**55**	P	**Pn**	**09 36 26.1**	**-0.3**
EFP	**Efpalio**	**1.52**	**32**	P	**Pn**	**09 36 29.2**	**+1.3**
TRIZ	**Trizonia**	**1.54**	**37**	P	**Pn**	**09 36 29.4**	**+1.2**
TRIZ	**Trizonia**	**1.54**	**37**	P	**Pn**	**09 36 29.4**	**+1.2**
PVO	**Paravola**	**1.56**	**19**	P	**Pb**	**09 36 29.9**	**+0.1**
SERG	**Sergoula**	**1.57**	**36**	P	**Pn**	**09 36 30.1**	**+1.4**
SERG	**Sergoula**	**1.57**	**36**	P	**Pn**	**09 36 29.9**	**+1.2**
KALE	**Kalithea**	**1.59**	**38**	P	**Pb**	**09 36 30.6**	**+0.2**
KALE				S	**Sb**	**09 36 51.9**	**+1.4**
KALE	**Kalithea**	**1.59**	**38**	P	**Pn**	**09 36 30.0**	**+1.0**
ANX	**Ano Chora**	**1.67**	**29**	P	**Pn**	**09 36 31.6**	**+1.6**
LOUT	**Loutraki**	**1.86**	**62**	P	**Pn**	**09 36 33.9**	**+1.3**
LOUT	**Loutraki**	**1.86**	**62**	P	**Pn**	**09 36 34.0**	**+1.3**
LTK	**Loutraki**	**1.87**	**61**	P	**Pn**	**09 36 33.8**	**+1.0**
LTK	**Loutraki**	**1.87**	**61**	P	**Pn**	**09 36 34.0**	**+1.2**
DID	**Didima**	**1.91**	**78**	P	**Pn**	**09 36 34.0**	**+0.8**
DID	**Didima**	**1.91**	**78**	P	**Pn**	**09 36 34.1**	**+0.8**
KTHR	**Kythira**	**1.91**	**117**	P	**Pb**	**09 36 35.0**	**-0.8**
KYTH	**Kithira**	**1.94**	**116**	P	**Pn**	**09 36 35.2**	**+1.4**
KYTH				S	**Sn**	**09 36 58.6**	**+0.7**
KYTH				AML	AML	09 37 10.7	
	comp=N,427μm,0.4s						
KYTH				AML	AML	09 37 11.2	
	comp=E,476μm,0.4s						
PROD	**Prodromos**	**1.95**	**54**	P	**Pn**	**09 36 34.8**	**+1.0**
VIL2	**Platees**	**2.17**	**60**	P	**Pn**	**09 36 37.5**	**+0.6**
ANKY	**Antikythira Is**	**2.32**	**122**	P	**Pn**	**09 36 40.8**	**+1.8**
VLY	**Voula,Athens**	**2.42**	**72**	P	**Pn**	**09 36 40.5**	**+0.2**
IGT	**Igoumenitsa**	**2.43**	**350**	*e*Pn	**Pn**	**09 36 42.3**	**+1.8**
IGT				*e*Sn	**Sb**	**09 37 14.0**	**-0.5**
THL	**Klokotos Trika**	**2.58**	**20**	P	**Pn**	**09 36 44.2**	**+1.7**
FYTO	**Fytoko, Volos**	**2.78**	**35**	P	**Pn**	**09 36 46.6**	**+1.3**
SERI	**Serifos**	**2.87**	**88**	P	**Pn**	**09 36 47.5**	**+0.9**
SERI				S	**Sn**	**09 37 21.6**	**+0.7**
FNA	**Florina**	**3.66**	**6**	*e*Pn	**Pn**	**09 36 58.9**	**+1.5**
FNA				*e*Sn	**Sn**	**09 37 42.1**	**+1.7**
FNA	**Florina**	**3.66**	**6**	P	**Pn**	**09 36 58.9**	**+1.5**
IDI	**Anoyia**	**3.72**	**119**	Pn	Pn	09 36 53.7	-4.6
	comp=E,0.6nm,0.3s,baz=297,slow=12,SNR=2.9						
IDI				Sn	Sn	09 37 33.0	-9.0
	comp=E,1.9nm,0.3s,baz=288,slow=20,SNR=2.9						
SRS	**Serrai**	**4.49**	**27**	*e*Pn	**Pn**	**09 37 09.9**	**+1.1**
VAE	**Valguarnera**	**5.18**	**276**	Pn	**Pn**	**09 37 18.9**	**+0.6**
	comp=E,4.7nm,0.3s,baz=8.8,slow=16,SNR=3.1						
VAE				Sn	**Sn**	**09 38 24.1**	**+6.3**
	comp=E,2.2nm,0.3s,baz=275,slow=11,SNR=3.1						
BARS	**Barje**	**5.71**	**7**	*e*Pn	**Pn**	**09 37 25.8**	**+0.2**
VTS	**Vitosha**	**5.73**	**17**	*e*Pn	**Pn**	**09 37 27.0**	**+1.0**
SELS	**Selova**	**6.08**	**2**	*e*Pn	**Pn**	**09 37 30.1**	**-0.5**
SJES	**Sjenica**	**6.16**	**354**	*e*Pn	**Pn**	**09 37 32.0**	**+0.2**
STON	**Ston**	**6.23**	**338**	*e*Pn	**Pn**	**09 37 31.8**	**-0.8**
STON				Sn	**Sn**	**09 38 39.2**	**-4.3**
ZAPS	**Zavoj**	**6.27**	**12**	*e*Pn	**Pn**	**09 37 34.2**	**+0.9**
IVAS	**Ivanjica**	**6.46**	**355**	*e*Pn	**Pn**	**09 37 35.4**	**-0.4**
BOVS	**Bovan**	**6.52**	**5**	*e*Pn	**Pn**	**09 37 36.9**	**+0.3**
GRUS	**Gruza**	**6.74**	**359**	*e*Pn	**Pn**	**09 37 39.4**	**-0.3**
DIVS	**Divibare**	**6.99**	**355**	*e*Pn	**Pn**	**09 37 43.2**	**+0.1**
KVAR	**Kislovodsk Arr**	**17.89**	**61**	LR	LR	09 48 03.5	
	comp=E,93nm,21.6s,baz=62,slow=41						
HFS	**Hagfors**	**23.47**	**351**	P	**P**	**09 41 09.1**	**-1.0**
	comp=E,1.7nm,0.6s,baz=158,slow=9.3,SNR=4.5						
EKA	**Eskdalemuir Ar**	**24.45**	**326**	P	**P**	**09 41 19.8**	**+0.5**
	comp=E,1.7nm,0.5s,baz=123,slow=8.0,SNR=7.7						
FINES	**FINESS Array B**	**24.55**	**6**	P	**P**	**09 41 18.6**	**-1.5**
	comp=E,2.8nm,0.8s,baz=198,slow=13,SNR=3.2						
NB2	**NORSAR Subarra**	**24.69**	**349**	P	**P**	**09 41 20.6**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=157,slow=10						
NOA	**NORSAR Array B**	**24.69**	**349**	P	**P**	**09 41 21.0**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=157,slow=9.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**29.42**	**221**	P	**P**	**09 42 04.8**	**+0.4**
	comp=Z,0.1nm,0.4s,baz=17,slow=10,SNR=2.5						
ATD	**Arta Tunnel**	**32.24**	**137**	LR	LR	09 55 08.1	
	comp=Z,15nm,20.4s,baz=30,slow=36						
ARCES	**ARCESS Array B**	**32.55**	**3**	P	**P**	**09 42 30.2**	**-1.3**
	comp=Z,1.8nm,0.6s,baz=186,slow=9.6,SNR=10						
SPITS	**Spitsbergen Ar**	**41.19**	**359**	P	**P**	**09 43 45.0**	**+0.2**
	comp=Z,12nm,1.1s,baz=157,slow=7.7,SNR=6.0						
MKAR	**Makanchi Array**	**45.60**	**58**	P	**P**	**09 44 17.1**	**-3.7**
	comp=Z,0.4nm,0.3s,baz=258,slow=7.2,SNR=3.2						
ZALV	**Zalesovo Beam**	**46.17**	**47**	P	**P**	**09 44 23.8**	**-1.4**
	comp=Z,1.1nm,0.3s,baz=282,slow=7.2,SNR=2.3						
ZALV				LR	LR	10 04 14.2	
	comp=Z,57nm,20.2s,baz=68,slow=37						
NRIK	**Noril'sk**	**47.59**	**26**	LR	LR	10 08 17.5	
	comp=Z,53nm,18.0s,baz=56,slow=41						
SCHQ	**Schefferville**	**59.42**	**318**	LR	LR	10 12 07.5	
	comp=Z,61nm,18.0s,baz=105,slow=36						
CMAR	**Chiang Mai Arr**	**69.74**	**82**	LR	LR	10 21 11.2	
	comp=Z,38nm,18.6s,baz=184,slow=39						
YKA	**Yellowknife Ar**	**74.47**	**340**	P	**P**	**09 47 38.6**	**0.0**
	comp=Z,0.7nm,0.8s,baz=49,slow=7.3,SNR=2.4						

*NIED **17** 09:51:00, 37.70N×142.50E, h14km, Mw3.8 Best double couple: M₀5.60000×10¹⁴ NP1:φs180.00000°,δ18.00000°, λ-123.00000°. NP2:φs34.00000°,δ74.00000°, λ-80.00000°.*
*JMA **17** 09:51:06.3±0.2, 37.66N×142.53E, h25km±3km, M4.1*
*ISCJB **17** 09:51:08.4±1.0, 37.75N±0.05×142.52E±0.07, h38km±8km, mb4.0/21, MS3.1/1, Error ellipse: s-maj=11.0km s-min=6.2km az=32.5*
*IDC **17** 09:51:11.2±2.3, 37.76N×142.45E, h46km±20km, mb3.7/21, mb1 3.8/25, mb1mx3.7/55, mbtmp4.0/25, ML3.4/4, MS2.9/5, Ms1 2.9/5, ms1mx2.6/43, Error ellipse: s-maj=18.9km s-min=13.7km az=121.0*
ISC 17 09:51:08.5±2.4, 37.77N±0.06×142.45E±0.07, h23km±15km, n47, σ1s23/50, mb4.0/21, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.94**	**305**	P	**Pb**	**09 51 25.6**	**-0.6**
JIKH				*e*S	**Sn**	**09 51 39.4**	**+0.3**
JIO	**Ouri**	**1.10**	**309**	P	**Pn**	**09 51 28.1**	**-0.4**
JKMT	**Kesennumamotoy**	**1.29**	**324**	P	**Pn**	**09 51 31.1**	**0.0**
JKMT				*e*S	**Sb**	**09 51 48.5**	**+0.2**
JFK	**Kawauchi**	**1.31**	**253**	P	**Pn**	**09 51 30.0**	**-1.5**
JFK				*e*S	**Sn**	**09 51 46.9**	**-1.4**
JMM	**Marumori**	**1.31**	**275**	P	**Pn**	**09 51 30.4**	**-1.0**
JMM				*e*S	**Sn**	**09 51 47.8**	**-0.4**
JMK	**Ichinoseki**	**1.52**	**321**	P	**Pn**	**09 51 34.6**	**+0.3**
JOU	**Okura**	**1.53**	**293**	P	**Pn**	**09 51 34.6**	**+0.2**
JFT	**Otama**	**1.69**	**262**	P	**Pn**	**09 51 36.5**	**-0.2**
JOM	**Ohasama**	**1.93**	**332**	P	**Pn**	**09 51 40.6**	**+0.7**
JYS	**Shirataka**	**1.94**	**284**	P	**Pn**	**09 51 40.9**	**+0.9**
JYS				*e*S	**Sb**	**09 52 05.5**	**-1.3**
JYK	**Kaneyama**	**2.00**	**306**	P	**Pn**	**09 51 41.7**	**+0.8**
JFY	**Yanaizu**	**2.21**	**261**	P	**Pn**	**09 51 44.2**	**+0.4**
JFY				*e*S	**Sn**	**09 52 10.9**	**+0.5**
JAG	**Ashikaga**	**2.74**	**242**	P	**Pn**	**09 51 51.6**	**+0.5**
MJAR	**Matsushiro Arr**	**3.60**	**251**	P	**Pn**	**09 52 05.0**	**+2.0**
	3.7nm,0.3s,baz=97,slow=6.7,SNR=28						
MJAR				LR	LR	09 53 40.3	
	comp=Z,156nm,19.1s,baz=60,slow=42						
MAT	**Matsushiro**	**3.60**	**251**	P	**Pn**	**09 52 05.9**	**+3.0**
MAT				*e*S	**Sn**	**09 52 47.8**	**+3.0**
ASAJ	**Asahikawa**	**6.34**	**1**	P	**Pn**	**09 52 41.5**	**+1.0**
	2.4nm,0.3s,baz=208,slow=11,SNR=23						
ASAJ				S	**Sn**	**09 53 52.6**	**+0.4**
	0.9nm,0.3s,baz=263,slow=15,SNR=2.3						
ASAJ				LR	LR	09 55 08.7	
	comp=Z,51nm,20.2s,baz=173,slow=37						
USRK	**Ussuriysk Ar.**	**10.18**	**312**	P	**Pn**	**09 53 36.2**	**+3.0**
	0.5nm,0.3s,baz=124,slow=14,SNR=6.5						
KSRS	**Korea Array**	**11.53**	**273**	P	Pn	09 53 57.9	+6.3
	0.1nm,0.3s,baz=80,slow=14,SNR=3.9						
KSRS				LR	LR	09 57 59.6	
	comp=Z,65nm,18.6s,baz=123,slow=35						
KLR	**Kul'dur**	**13.82**	**329**	P	**Pn**	**09 54 23.8**	**+0.9**
	0.1nm,0.3s,baz=151,slow=16,SNR=4.0						
KLR				LR	LR	09 59 46.3	
	comp=Z,72nm,18.4s,baz=142,slow=37						
MA2	**Magadan**	**22.47**	**11**	P	**P**	**09 56 06.2**	**+0.3**
	3.3nm,0.5s,baz=180,slow=20,SNR=3.9						
YAK	**Yakutsk**	**25.54**	**346**	P	**P**	**09 56 35.6**	**+0.4**
	9.9nm,0.4s,baz=327,slow=21,SNR=4.7						
SEY	**Seymchan**	**25.91**	**10**	P	**P**	**09 56 40.6**	**+2.0**
	2.7nm,0.6s,baz=195,slow=14,SNR=13						
H11N2	**WAKE ISLAND Hy**	**27.84**	**123**	T	T	10 25 58.9	
	baz=316,slow=75,SNR=204						
H11N1	**WAKE ISLAND Hy**	**27.85**	**123**	T	T	10 25 53.2	
	baz=316,slow=75,SNR=118						
H11N3	**WAKE ISLAND Hy**	**27.86**	**123**	T	T	10 25 53.2	
	baz=316,slow=75,SNR=161						
SONM	**Songino Array**	**28.07**	**303**	P	**P**	**09 56 59.9**	**+1.6**
	2.1nm,0.7s,baz=99,slow=8.1,SNR=13						
H11S1	**WAKE ISLAND Hy**	**28.59**	**125**	T	T	10 26 50.0	
	baz=318,slow=76,SNR=59						
H11S3	**WAKE ISLAND Hy**	**28.59**	**125**	T	T	10 26 53.4	
	baz=318,slow=76,SNR=51						
H11S2	**WAKE ISLAND Hy**	**28.61**	**125**	T	T	10 26 51.4	
	baz=318,slow=76,SNR=40						
TIXI	**Tiksi**	**34.66**	**352**	P	**P**	**09 57 53.9**	**-1.9**
	2.3nm,0.3s,baz=85,slow=1.8,SNR=8.2						
TIXI				LR	LR	10 12 35.9	
	comp=Z,30nm,18.9s,baz=230,slow=37						
ZALV	**Zalesovo Beam**	**42.03**	**312**	P	**P**	**09 58 56.5**	**-1.5**
	1.1nm,0.4s,baz=97,slow=6.1,SNR=5.1						
ZALV				PcP	**PcP**	**10 00 53.3**	**+0.7**
	0.7nm,0.5s,baz=113,slow=2.2,SNR=2.9						
CMAR	**Chiang Mai Arr**	**42.48**	**255**	P	**P**	**09 59 01.8**	**-0.2**
	1.8nm,0.3s,baz=52,slow=31,SNR=2.8						
MKAR	**Makanchi Array**	**44.43**	**302**	P	**P**	**09 59 18.4**	**+0.9**
	1.6nm,0.7s,baz=87,slow=9.8,SNR=7.0						
KDAK	**Kodiak Island**	**46.00**	**42**	P	**P**	**09 59 30.5**	**+0.8**
	8.1nm,0.9s,baz=228,slow=16,SNR=2.5						
KURBB	**Kurchatov Arra**	**46.20**	**309**	P	**P**	**09 59 32.0**	**+0.6**
	2.6nm,0.5s,baz=82,slow=7.9,SNR=18						
KURBB				PcP	**PcP**	**10 01 06.5**	**-0.3**
	0.4nm,0.5s,baz=88,slow=4.7,SNR=3.4						
ILAR	**Eielson Array**	**48.43**	**33**	P	**P**	**09 59 49.2**	**+0.6**
	0.4nm,0.6s,baz=268,slow=6.0,SNR=7.0						
BVAR	**Borovoye Array**	**50.69**	**312**	P	**P**	**10 00 06.6**	**+0.6**
	0.6nm,0.5s,baz=83,slow=4.9,SNR=3.0						
AAK	**Ala-Archa**	**50.87**	**298**	P	**P**	**10 00 05.7**	**-2.0**
	0.4nm,0.3s,baz=53,slow=5.0,SNR=1.7						
ARU	**Arti**	**56.36**	**318**	P	**P**	**10 00 46.5**	**-0.9**
WRA	**Warramunga Arr**	**57.91**	**189**	P	**P**	**10 00 57.7**	**-1.1**
	0.6nm,0.7s,baz=6.7,slow=7.3,SNR=7.0						
AKTO	**Aktyubinsk**	**58.80**	**312**	P	**P**	**10 01 05.1**	**+0.4**
	1.0nm,0.7s,baz=84,slow=10,SNR=3.7						
ASAR	**Alice Springs**	**61.63**	**189**	P	**P**	**10 01 24.1**	**-0.3**
	0.3nm,0.8s,baz=9.3,slow=5.9,SNR=3.6						
FINES	**FINESS Array B**	**68.55**	**332**	P	**P**	**10 02 09.0**	**+0.1**
	1.8nm,0.6s,baz=86,slow=7.8,SNR=6.8						
AKASG	**Malin Array Be**	**74.22**	**323**	P	**P**	**10 02 41.8**	**-1.5**
	0.7nm,0.4s,baz=47,slow=5.6,SNR=3.9						
PDAR	**Pinedale Array**	**76.56**	**46**	P	**P**	**10 02 57.3**	**+0.1**
	0.2nm,0.4s,baz=300,slow=2.7,SNR=3.1						
GERES	**GERESS Array B**	**82.52**	**329**	P	**P**	**10 03 29.2**	**-0.1**
	0.2nm,0.3s,baz=32,slow=5.8,SNR=3.2						
TXAR	**Lajitas Array**	**89.02**	**53**	P	**P**	**10 04 00.7**	**-1.3**
	0.2nm,0.6s,baz=331,slow=9.2,SNR=3.5						

*ISCJB **17** 09:54:37.6±0.6, 31.76S±0.02×69.07W±0.04, h123km±5km, Error ellipse: s-maj=5.1km s-min=4.1km az=171.9*
*SJA **17** 09:54:37.5±0.4, 31.77S×69.05W, h117km±1km, ML3.5, MW3.5*
*GUC **17** 09:54:37.7±0.7, 31.75S×69.45W, h157km±14km, ML3.5*
ISC 17 09:54:38.1±1.4, 31.75S±0.03×69.08W±0.04, h120km±8km, n26, σ0s80/46, 4C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**0.19**	**256**	*e*P	**Pn**	**09 54 54.9**	**-0.2**
RTLS				IAML		09 54 55.2	
	comp=Z,670nm,0.3s						
RTLS				*e*S	**Sn**	**09 55 08.2**	**+0.3**
RTCV	**Cerro Valdivia**	**0.47**	**104**	*e*P	**Pn**	**09 54 55.6**	**-0.4**
RTCV				*e*S	**Sn**	**09 55 08.8**	**-0.6**
AUSP	**Uspallata**	**0.54**	**209**	*e*P	**Pn**	**09 54 57.2**	**+0.5**
AUSP				*e*S	**Sn**	**09 55 11.0**	**+0.3**
RTLL	**Cerro Villicun**	**0.67**	**51**	*e*P	**Pn**	**09 54 57.1**	**-0.2**
RTLL				*e*S	**Sn**	**09 55 11.5**	**-0.2**
RTLL				IAML		09 55 12.4	
	comp=E,2μm,0.4s						
ASAL	**Salagasta**	**0.86**	**166**	*e*P	**Pn**	**09 54 58.7**	**-0.2**
ASAL				*e*S	**Sn**	**09 55 14.3**	**-0.5**
AMOG	**MOGNA**	**0.95**	**32**	*e*P	**Pn**	**09 54 59.8**	**0.0**
AMOG				*e*S	**Sn**	**09 55 16.1**	**0.0**
ARCO	**CERRO ARCO**	**1.09**	**173**	*e*P	**Pn**	**09 55 01.1**	**-0.2**
ARCO				*e*S	**Sn**	**09 55 18.4**	**-0.5**
ARCO				IAML		09 55 20.7	
	comp=Z,835nm,0.5s						
ACCO	**Cerro Coronel**	**1.16**	**1**	*e*P	**Pn**	**09 55 03.1**	**+0.9**
ACCO				*e*S	**Sn**	**09 55 21.6**	**+1.3**
AAGR	**Agrelo**	**1.35**	**171**	*e*P	**Pn**	**09 55 03.8**	**-0.1**
AAGR				*e*S	**Sn**	**09 55 23.3**	**-0.3**
ACDV	**Cuesta del Vie**	**1.58**	**359**	*e*P	**Pn**	**09 55 07.3**	**+0.6**
ACDV				*e*S	**Sn**	**09 55 29.1**	**+0.8**
AROD	**Rodeo**	**1.61**	**348**	*e*P	**Pn**	**09 55 08.2**	**+0.9**
ACAN	**Cantantal**	**1.69**	**108**	*e*P	**Pn**	**09 55 07.8**	**-0.1**
ACAN				*e*S	**Sn**	**09 55 30.0**	**-0.5**
CMCH	**Combarbala**	**1.74**	**289**	*e*P	**Pn**	**09 55 07.9**	**-0.6**
CMCH				*i* S	**Sn**	**09 55 30.8**	**-0.9**
CMCH				IAML		09 55 34.7	
	comp=N,812nm,0.6s						
AVIZ	**Vizcacheras**	**1.78**	**165**	*e*P	**Pn**	**09 55 09.1**	**+0.1**
AVIZ				*e*S	**Sn**	**09 55 32.2**	**-0.4**
FCH	**Farellones**	**1.88**	**213**	↑*i*P	**Pn**	**09 55 11.3**	**+0.9**
FCH				*i* S	**Sn**	**09 55 37.3**	**+2.3**
PEL	**Peldehue**	**1.94**	**224**	↑*i*P	**Pn**	**09 55 12.7**	**+1.8**
PEL				*i* S	**Sn**	**09 55 36.1**	**+0.1**
ROCH	**El Roble**	**2.04**	**233**	*e*P	**Pn**	**09 55 12.0**	**-0.3**
ROCH				*i* S	**Sn**	**09 55 37.8**	**-0.6**
ROCH				IAML		09 55 39.1	
	comp=E,266nm,0.5s						
GO04	**Tololo Observa**	**2.16**	**316**	↑*i*P	**Pn**	**09 55 13.9**	**+0.1**
GO04				*i* S	**Sn**	**09 55 40.6**	**-0.5**
AGUA	**GUANDACOL**	**2.31**	**13**	*e*P	**Pn**	**09 55 16.9**	**+1.2**
APLL	**PUNTA DE LOS L**	**2.57**	**59**	*e*P	**Pn**	**09 55 19.1**	**+0.1**
APLL				IAML		09 55 50.8	
	comp=Z,63nm,0.1s						
LSCH	**La Serena**	**2.62**	**314**	*e*P	**Pn**	**09 55 18.3**	**-1.1**
LSCH				*i* S	**Sn**	**09 55 48.9**	**-2.3**
LSCH				IAML		09 55 51.2	
	comp=E,146nm,0.3s						
MRA	**San Martin**	**2.93**	**104**	*e*P	**Pn**	**09 55 23.6**	**0.0**
MRA				*e*S	**Sn**	**09 55 58.0**	**-0.7**
MRA				IAML		09 55 59.5	
	comp=Z,128nm,0.3s						
ACLC	**CERRO LA CR

APYP	**Conner**	**1.36**	**104**	*e*P		**Pn**	**10 08 25.9**	**-1.7**
APYP				*e*S		**Sn**	**10 08 45.1**	**-0.4**
BOLP	**Bolinao**	**1.80**	**178**	*e*P		**Pn**	**10 08 32.6**	**-1.1**
BOLP				*e*S		**Sg**	**10 09 05.2**	**+4.3**
CVP	**Callao Caves**	**1.93**	**104**	⇓*i*P		**Pn**	**10 08 35.5**	**0.0**
CVP				*i* S		**Sb**	**10 09 02.9**	**+0.8**
SMPP	**San Manuel, Pa**	**2.18**	**159**	*e*P		**Pn**	**10 08 39.3**	**+0.4**
SMPP				*e*S		**Sn**	**10 09 06.7**	**+1.0**
CAUP	**Cauayan**	**2.25**	**123**	*e*P		**Pn**	**10 08 42.0**	**+2.2**
CAUP				*e*S		Sg	10 09 31.4	+16
PALP	**Palanan**	**2.70**	**114**	*e*P		**Pn**	**10 08 48.4**	**+2.5**
PALP				*e*S		**Sb**	**10 09 26.1**	**+2.1**
PCPH	**Palayan**	**2.87**	**155**⇑	*e*P		**Pb**	**10 08 51.9**	**-2.2**
BALP	**Baler**	**2.94**	**146**	*e*P		**Pn**	**10 08 52.5**	**+3.1**
BALP				*e*S		**Sb**	**10 09 30.3**	**-0.8**
TGY	**Tagaytay City**	**4.20**	**166**	P		**Pb**	**10 09 14.1**	**-2.6**
	78nm,0.3s,baz=356,slow=19,SNR=3.8							
JNU	**Nakatsue**	**17.86**	**32**	LR	LR		10 19 35.7	
	comp=Z,38nm,18.5s,baz=155,slow=39							
CMAR	**Chiang Mai Arr**	**19.86**	**274**	P		Pn	10 12 46.8	+11
	0.5nm,0.3s,baz=76,slow=7.5,SNR=3.9							
KSRS	**Korea Array**	**20.45**	**19**	P		**P**	**10 12 39.1**	**-1.0**
	1.7nm,0.7s,baz=197,slow=9.5,SNR=5.8							
KSRS				LR	LR		10 22 06.2	
	comp=Z,41nm,18.4s,baz=161,slow=41							
WRA	**Warramunga Arr**	**40.48**	**159**	P		**P**	**10 15 38.5**	**-3.1**
	0.5nm,0.6s,baz=343,slow=9.0,SNR=10							
WRA				PcP		**PcP**	**10 17 42.2**	**-2.1**
	0.1nm,0.5s,baz=335,slow=2.9,SNR=2.7							
MKAR	**Makanchi Array**	**41.99**	**321**	P		**P**	**10 15 57.2**	**+3.3**
	0.6nm,0.8s,baz=123,slow=4.5,SNR=4.0							
ASAR	**Alice Springs**	**43.81**	**161**	P		**P**	**10 16 06.5**	**-2.2**
	1.1nm,0.5s,baz=339,slow=6.7,SNR=44							
SDV	**Santo Domingo**	**151.17**	**22**	PKPbc		**PKPdf**	**10 27 54.1**	**+2.7**
	2.4nm,0.9s,baz=45,slow=4.3,SNR=3.9							

*IDC **17** 10:13:50.9±1.3, 13°.99N×92°.47W, h0km, mb3.8/7, mb1 4.1/10, mb1mx3.8/37, mbtmp3.8/10, ML3.5/3, MS3.3/6, Ms1 3.3/6, ms1mx2.9/36, Error ellipse: s-maj=25.4km s-min=16.1km az=3.0*
*ISCJB **17** 10:13:51.6±0.5, 13°.98N±0°.05×92°.52W±0°.04, h10km, mb4.1/22, MS3.3/5, Error ellipse: s-maj=7.8km s-min=5.4km az=17.8*
*NEIC **17** 10:13:57.1±0.7, 14°.10N×92°.40W, h35km, mb4.3/23, Error ellipse: s-maj=12.3km s-min=7.8km az=203.0*

ISC 17 10:13:50.9±0.9, 13°.93N±0°.07×92°.46W±0°.06, h10km, n57, σ2^{s}20/52, mb4.3/22, MS3.2/5, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.99**	**11**	P	**Pn**	**10 14 09.8**	**-1.0**
THIG				S	**Sb**	**10 14 21.4**	**-2.0**
IXG	**Ixpaco**	**1.96**	**83**	*e*P	**Pb**	**10 14 26.1**	**-0.7**
APG	**El Apazote**	**2.21**	**61**	Pn	**Pb**	**10 14 30.1**	**-0.9**
	14nm,0.3s,baz=178,slow=12,SNR=175						
APG				Lg	Lg	10 15 00.8	
	38nm,0.3s,baz=92,slow=16,SNR=6.4						
APG				LR	LR	10 15 05.8	
	comp=Z,210nm,20.6s,baz=278,slow=34						
CCIG	**Comitan**	**2.36**	**8**	*e*Pn	**Pb**	**10 14 32.8**	**-0.9**
CEVE	**Cerro Verde**	**2.76**	**92**	*e*P	**Pb**	**10 14 38.6**	**-1.8**
CEVE				*e*S	**Sb**	**10 15 12.2**	**-2.1**
SNET	**Serv Nac Est T**	**3.15**	**94**	*e*Pn	Pn	10 14 28.4	-12
SNET				*e*Lg	Lg	10 15 29.0	
CMIG	**Matias Romero**	**3.92**	**324**	Pn	**Pn**	**10 14 51.3**	**+0.2**
	1.2nm,0.3s,baz=135,slow=12,SNR=5.2						
CMIG				Sn	**Sn**	**10 15 33.0**	**-4.2**
	18nm,0.3s,baz=112,slow=19,SNR=7.0						
TLIG	**Tlapa**	**6.90**	**302**	*e*Pn	Pn	10 15 37.2	+4.9
TEIG	**Tepich**	**7.43**	**32**	*e*Pn	**Pn**	**10 15 41.0**	**+1.5**
TEIG				*e*Sn	**Sn**	**10 17 09.4**	**+5.5**
JTS	**JuntasAbangare**	**8.18**	**115**	Pn	Pn	10 15 55.8	+6.0
	0.2nm,0.3s,baz=3.3,slow=18,SNR=2.8						
JTS				Lg	Lg	10 18 01.1	
	0.2nm,0.3s,baz=169,slow=19,SNR=6.1						
KVTX	**Kingsville**	**14.47**	**340**	*e*Pn	**P**	**10 17 20.8**	**-1.8**
	19nm,0.6s						
JCT	**Junction City**	**17.81**	**339**	P	**P**	**10 18 02.4**	**+2.6**
	1.3nm,0.4s						
BRAL	**Brewton**	**17.87**	**15**	*e*P	**Pn**	**10 17 53.2**	**-6.4**
	28nm,0.6s						
656A	**Willston**	**17.91**	**29**	*e*P	**Pn**	**10 17 59.6**	**-0.5**
	206nm,1.5s						
240A	**Hunter Patters**	**18.07**	**356**	*e*P	**P**	**10 18 05.6**	**+3.1**
	23nm,0.8s						
TXAR	**Lajitas Array**	**18.52**	**328**	P	**Pn**	**10 18 09.6**	**+1.8**
	0.1nm,0.3s,baz=154,slow=12,SNR=11						
TX31	**Lajitas Ar. Si**	**18.52**	**328**	*e*P	**Pn**	**10 18 10.8**	**+3.1**
CCAR	**Cane Creek**	**19.91**	**2**	*e*P	**Pn**	**10 18 25.1**	**+0.8**
	15nm,0.5s						
MIAR	**Mount Ida**	**20.55**	**357**	*e*P	Pn	10 18 32.1	+0.2
	15nm,1.4s						
UALR	**University of**	**20.76**	**0**	*e*P	Pn	10 18 33.7	-0.6
	20nm,1.1s						
GDL2	**Guadalupe Moun**	**21.20**	**331**	*e*P	**P**	**10 18 38.9**	**+2.0**
MNTX	**Cornudas Mount**	**21.29**	**328**	*e*P	**P**	**10 18 39.2**	**+1.4**
	18nm,2.0s						
AMTX	**Amarillo**	**22.47**	**340**	*e*P	**P**	**10 18 50.8**	**+0.4**
	8.2nm,0.9s						
TKL	**Tuckaleechee C**	**23.01**	**18**	P	**P**	**10 18 56.1**	**+0.1**
	4.0nm,1.1s,baz=203,slow=12,SNR=3.4						
319A	**Douglas**	**23.24**	**321**	*e*P	**P**	**10 19 00.5**	**+1.9**
	11nm,1.5s						
SIUC	**Southern Illin**	**23.87**	**6**	*e*P	**P**	**10 19 03.4**	**-1.1**
	13nm,1.1s						
BNM	**Barren Site**	**23.88**	**330**	*e*P	**P**	**10 19 06.5**	**+1.6**
LPM	**Los Pinos Moun**	**24.01**	**330**	*e*P	**P**	**10 19 08.2**	**+2.0**
LENM	**Lemitar**	**24.06**	**329**	*e*P	**P**	**10 19 08.1**	**+1.4**
LAZ	**Ladron**	**24.33**	**329**	*e*P	**P**	**10 19 09.9**	**+0.7**
ANMO	**Albuquerque**	**24.45**	**331**	P	**P**	**10 19 11.2**	**+1.0**
	0.9nm,0.6s,baz=143,slow=12,SNR=8.3						
ANMO	**Albuquerque**	**24.45**	**331**	*e*P	**P**	**10 19 11.7**	**+1.5**
	2.2nm,0.9s						
WCI	**Wyandotte Cave**	**24.82**	**12**	*e*P	**P**	**10 19 11.6**	**-1.6**
	11nm,0.8s						
ATAH	**Atahualpa**	**25.15**	**145**	LR	LR	10 27 26.3	
	comp=Z,49nm,21.1s,baz=4.1,slow=32						
CBKS	**Cedar Bluff**	**25.61**	**347**	*e*P	**P**	**10 19 21.1**	**+0.6**
	8.9nm,0.6s						
SJG	**San Juan**	**25.62**	**77**	LR	LR	10 29 04.6	
	comp=Z,77nm,19.5s,baz=237,slow=36						
S22A	**4UR Ranch, Cre**	**26.95**	**334**	*e*P	**P**	**10 19 34.3**	**+1.4**
	13nm,2.0s						
MVCO	**Mesa Verde**	**27.25**	**331**	*e*P	**P**	**10 19 37.4**	**+1.9**
	5.7nm,0.9s						
PV13	**Radium Mtn., P**	**28.17**	**332**	*e*P	**P**	**10 19 44.9**	**+1.2**
	7.4nm,1.2s						
PV05	**Paradox Valley**	**28.23**	**331**	*e*P	**P**	**10 19 44.5**	**+0.2**
PV03	**Paradox Valley**	**28.26**	**332**	*e*P	**P**	**10 19 46.4**	**+1.9**
PV12	**Saucer Basin,**	**28.29**	**332**	*e*P	**P**	**10 19 46.1**	**+1.3**
	6.9nm,0.9s						
NNA	**Nana**	**30.04**	**148**	LR	LR	10 30 17.1	
	comp=Z,37nm,18.8s,baz=343,slow=33						
PDAR	**Pinedale Array**	**32.30**	**336**	P	**P**	**10 20 21.2**	**+0.9**
	0.3nm,0.6s,baz=135,slow=12,SNR=2.7						
REDW	**Red Top Meadow**	**33.32**	**335**	*e*P	**P**	**10 20 30.6**	**+1.4**
	6.8nm,0.9s						
SNOW	**Snow King Moun**	**33.37**	**335**	*e*P	**P**	**10 20 31.3**	**+1.7**
	8.0nm,0.8s						
NVAR	**Mina Array Bea**	**33.45**	**322**	P	**P**	**10 20 33.0**	**+2.6**
	1.7nm,0.7s,baz=124,slow=8.8,SNR=11						
NVAR				LR	LR	10 35 33.0	
	comp=Z,107nm,19.0s,baz=96,slow=39						
HLID	**Hailey**	**35.03**	**332**	*e*P	**P**	**10 20 46.2**	**+2.3**
	1.6nm,0.9s						
MCMT	**McKenzie Canyo**	**35.35**	**335**	*e*P	**P**	**10 20 49.2**	**+2.5**
J08A	**Circle Bar Ran**	**36.86**	**328**	*e*P	**P**	**10 21 01.6**	**+2.0**
	4.4nm,0.6s						
F10A	**Beach Ranch, E**	**38.16**	**332**	*e*P	**P**	**10 21 11.6**	**+1.1**
	5.7nm,0.8s						
SIV	**San Ignacio**	**42.97**	**133**	P	**P**	**10 21 52.3**	**+1.8**
	0.6nm,0.7s,baz=326,slow=11,SNR=5.0						
YKA	**Yellowknife Ar**	**51.00**	**347**	P	**P**	**10 22 52.2**	**-0.5**
	3.5nm,0.7s,baz=135,slow=9.2,SNR=8.9						
ILAR	**Eielson Array**	**62.73**	**337**	P	**P**	**10 24 16.8**	**+0.8**
	0.9nm,0.8s,baz=125,slow=5.1,SNR=8.5						
NRIK	**Noril'sk**	**96.95**	**360**	LR	LR	11 14 48.0	
	comp=Z,27nm,18.1s,baz=82,slow=38						
KSH	**Kashi**	**125.75**	**11**	*e*PKP	**PKPdf**	**10 32 48.3**	**-5.1**
CMAR	**Chiang Mai Arr**	**145.91**	**340**	PKPbc	**PKPab**	**10 33 32.1**	**+0.1**
	1.5nm,0.5s,baz=343,slow=3.6,SNR=9.6						

*DDA **17** 10:19:47.3, 37°.88N×38°.91E, h7km, Ml2.7*

ISC 17 10:19:47.0±1.2, 37°.87N±0°.03×38°.92E±0°.04, h12km±11km, n8, σ1^{s}03/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URFA	**Urfa**	**0.44**	**191**	PG	**Pg**	**10 19 55.2**	**-0.5**
URFA				SG	**Sg**	**10 20 02.7**	**+1.2**
AKCD	**Akcadag**	**0.90**	**298**	*i* P	**Pg**	**10 20 03.5**	**-0.8**
AKCD				*i* S	**Sb**	**10 20 17.8**	**+1.3**
DIYA	**Diyarbakir**	**0.95**	**87**	*i* P	**Pg**	**10 20 05.6**	**+0.3**
DIYA				*i* S	**Sn**	**10 20 20.3**	**+0.7**
SURC	**SANLIURFA_SURC**	**1.02**	**194**	*i* P	**Pg**	**10 20 06.6**	**-0.1**
SURC				*i* S	**Sn**	**10 20 22.0**	**+0.6**
PTK	**Pertek**	**1.08**	**20**	*e*PG	**Pg**	**10 20 07.6**	**-0.3**
PTK				*e*SG	**Sg**	**10 20 22.2**	**+0.2**
HEKM	**Malatya_Hekimh**	**1.26**	**323**	*i* P	**Pg**	**10 20 11.2**	**0.0**
MAZI	**Mazidag**	**1.28**	**108**	*e*PG	**Pn**	**10 20 08.6**	**-2.1**
HANI	**Diyarbakir_Han**	**1.28**	**65**	*i* P	**Pn**	**10 20 10.7**	**-0.1**

*ISK **17** 10:28:27.7, 37°.24N×28°.22E, h7km, ML2.5/9*
*ISCJB **17** 10:28:28.1±0.5, 37°.23N±0°.03×28°.22E±0°.04, h0km, Error ellipse: s-maj=5.3km s-min=3.8km az=27.5*
*DDA **17** 10:28:28.4, 37°.22N×28°.16E, h7km, Ml2.5, Suspected Mining explosion.*

ISC 17 10:28:27.2±0.9, 37°.27N±0°.04×28°.20E±0°.03, h0km, n16, σ0^{s}59/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLSB	**Milas**	**0.34**	**275**	PG	**Pg**	**10 28 34.9**	**+1.2**
MLSB				SG	**Sb**	**10 28 40.9**	**-1.2**
AYDN	**Tasoluk**	**0.47**	**327**	*i* P	**Pb**	**10 28 38.2**	**-0.2**
AYDN				*i* S	**Sb**	**10 28 45.6**	**-0.3**
TURN	**Turunc**	**0.51**	**141**	PG	**Pg**	**10 28 37.2**	**+0.2**
TURN				SG	**Sg**	**10 28 43.9**	**+0.3**
TURN	**Turunc**	**0.51**	**141**	*i* P	**Pg**	**10 28 37.2**	**+0.2**
DALY	**Dalyan (Mu˘la**	**0.58**	**141**	PG	**Pg**	**10 28 39.2**	**+0.9**
DALY	**Dalyan (Mu˘la**	**0.58**	**141**	*i* P	**Pb**	**10 28 40.0**	**-0.2**
TAVA	**DENIZLI_Tavas**	**0.60**	**71**	*i* P	**Pb**	**10 28 40.8**	**+0.1**
DATC	**Datca-Mugla**	**0.67**	**220**	PG	**Pg**	**10 28 40.8**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**0.72**	**340**	PG	**Pb**	**10 28 42.6**	**-0.2**
DAT	**Datca**	**0.73**	**223**	PG	**Pb**	**10 28 42.6**	**-0.3**
BODT	**Bodrum**	**0.74**	**254**	PG	**Pb**	**10 28 42.5**	**-0.5**
BODT				SG	**Sb**	**10 28 53.6**	**-0.1**
DNZL	**Cakiroluk**	**0.80**	**58**	*i* P	**Pn**	**10 28 45.2**	**-0.7**
FETY	**Fethiye**	**0.95**	**131**	PG	**Pg**	**10 28 45.9**	**+0.5**
NIS1	**Nisyros Isl.**	**1.05**	**231**	PG	**Pg**	**10 28 47.8**	**+0.4**
KULA	**Kula-Manisa**	**1.30**	**16**	PN	**Pn**	**10 28 52.7**	**0.0**
AKAS	**Kas**	**1.53**	**132**	PN	**Pn**	**10 28 56.1**	**+0.1**

*ATH **17** 10:33:40.4, 36°.34N×26°.53E, h108km±4km, ML2.6/4, Error ellipse: s-maj=4.9km s-min=1.7km az=42.0*
*ISK **17** 10:33:40.9, 36°.27N×26°.55E, h21km±2km, ML2.6/7*
*ISCJB **17** 10:33:41.1±0.8, 36°.36N±0°.04×26°.51E±0°.04, h97km±9km, Error ellipse: s-maj=7.1km s-min=5.5km az=152.6*

ISC 17 10:33:40.8±1.7, 36°.37N±0°.05×26°.54E±0°.04, h103km±14km, n25, σ1^{s}11/33, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANAF	**Anafi Island**	**0.62**	**269**	P	**Pn**	**10 33 58.6**	**+0.9**
AMGA	**Amorgos Island**	**0.69**	**312**	P	**Pn**	**10 33 59.3**	**+1.0**
AMGA				S	**Sn**	**10 34 12.6**	**+1.0**
AMGA				AML	AML	10 34 13.6	
	comp=N,469μm,0.4s						
AMGA				AML	AML	10 34 14.1	
	comp=E,265μm,0.6s						
THR8	**Santorini-Mono**	**0.85**	**273**	P	**Pn**	**10 34 00.3**	**+0.5**
SANT	**Santorini**	**0.87**	**270**	PG	**Pn**	**10 33 59.6**	**-0.5**
SANT				SG	**Sn**	**10 34 12.4**	**-2.2**
DAT	**Datca**	**0.91**	**67**	PG	**Pn**	**10 34 00.5**	**-0.1**
THR3	**Thira Island,**	**0.92**	**273**	P	**Pn**	**10 34 01.3**	**+0.8**
THR6	**Thira Island,**	**0.92**	**269**	P	**Pn**	**10 34 01.5**	**+1.0**
BODT	**Bodrum**	**0.93**	**42**	PG	**Pn**	**10 34 01.4**	**+0.8**
APE	**Apeiranthos**	**1.06**	**311**	PN	**Pn**	**10 34 01.3**	**-0.8**
APE				SN	**Sn**	**10 34 16.8**	**-1.5**
APE	**Apeiranthos**	**1.06**	**311**	P	**Pn**	**10 34 03.0**	**+0.9**
ZKR	**Zakros**	**1.28**	**192**	P	**Pn**	**10 34 05.3**	**+0.8**
ZKR				S	**Sn**	**10 34 22.9**	**+0.4**
ARG	**Arkhangelos**	**1.29**	**96**	PN	**Pn**	**10 34 03.5**	**-1.2**
ARG	**Arkhangelos**	**1.29**	**96**	P	**Pn**	**10 34 05.7**	**+1.0**
ARG				S	**Sn**	**10 34 23.2**	**+0.5**
NPS	**Neapolis**	**1.34**	**214**	P	**Pn**	**10 34 05.4**	**+0.1**
NPS				S	**Sn**	**10 34 23.1**	**-0.7**
NPS				AML	AML	10 34 23.4	
	comp=N,353μm,0.4s						
NPS				AML	AML	10 34 24.4	
	comp=E,531μm,0.3s						
LAST	**Lasithi**	**1.48**	**216**	P	**Pn**	**10 34 07.0**	**0.0**
LAST				S	**Sn**	**10 34 26.3**	**-0.6**
LAST				AML	AML	10 34 27.1	
	comp=N,194μm,0.4s						
LAST				AML	AML	10 34 27.4	
	comp=E,108μm,0.2s						
IDI	**Anoyia**	**1.72**	**231**	PN	**Pn**	**10 34 08.9**	**-1.1**
TURN	**Turunc**	**1.74**	**73**	PN	**Pn**	**10 34 06.8**	**-3.2**
DALY	**Dalyan (Mu˘la**	**1.76**	**75**	PN	**Pn**	**10 34 11.4**	**+1.1**
CHOS	**Chios island**	**2.05**	**349**	P	**Pn**	**10 34 14.8**	**+0.7**
FETY	**Fethiye**	**2.07**	**82**	PN	**Pn**	**10 34 15.6**	**+1.3**
VAM	**Vamos**	**2.13**	**244**	P	**Pn**	**10 34 15.5**	**+0.5**
IMMV	**Iera Moni Meta**	**2.26**	**247**	P	**Pn**	**10 34 18.1**	**+1.3**
AKAS	**Kas**	**2.48**	**92**	PN	**Pn**	**10 34 20.4**	**+0.6**
GVD	**Gavdhos**	**2.51**	**233**	P	**Pn**	**10 34 20.9**	**+0.8**
GVD				S	**Sn**	**10 34 50.0**	**-0.3**
GVD				AML	AML	10 34 53.2	
	comp=N,239μm,0.2s						
GVD				AML	AML	10 34 53.8	
	comp=E,210μm,0.3s						
VLI	**Velia**	**2.92**	**278**	P	**Pn**	**10 34 25.7**	**+0.2**

*KNET **17** 10:44:22.9±0.5, 42°.08N×75°.61E, h0km, ml1.8, Error ellipse: s-maj=3.3km s-min=2.1km az=158.0*
*KRNET **17** 10:44:23.0±0.1, 42°.05N×75°.64E, h17km, mb2.5*
*SOME **17** 10:44:25.1, 42°.15N×75°.62E, h10km*
*NNC **17** 10:44:27.2±1.9, 42°.22N×75°.51E, h0km, mpv2.8, Error ellipse: s-maj=15.4km s-min=11.4km az=134.0*

ISC 17 10:44:23.4±1.0, 42°.07N±0°.02×75°.63E±0°.02, h7km±9km, n50, σ0^{s}86/93, 31C-22D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZA	**Kyzart**	**0.29**	**273**	⇑*i* P	**Pg**	**10 44 30.0**	**+0.8**
	baz=76						
KZA				⇑*i* S	**Sg**	**10 44 33.4**	**+0.4**
	baz=76						
BOOM	**Boomskoye usch**	**0.48**	**28**	⇑*i* P	**Pg**	**10 44 32.7**	**-0.1**
	baz=26						
BOOM				⇑*i* S	**Sg**	**10 44 39.5**	**+0.4**
	baz=26						
ULHL	**Ulahol**	**0.49**	**68**	⇑P	**Pg**	**10 44 32.4**	**-0.5**
	4.3nm,0.1s,SNR=36						
ULHL				⇑S	**Sg**	**10 44 39.2**	**-0.1**
	18nm,0.2s						
ULHL	**Ulahol**	**0.49**	**68**	⇑*i* P	**Pg**	**10 44 32.3**	**-0.5**
	baz=66						
ULHL				⇑*i* S	**Sg**	**10 44 38.9**	**-0.3**
	baz=66						
NRN	**Naryn**	**0.69**	**156**	⇑*i* P	**Pg**	**10 44 35.8**	**-0.9**
	baz=59						
NRN				⇑*i* S	**Sg**	**10 44 44.6**	**-1.1**
	baz=59						
KBK	**Karagaybulak**	**0.78**	**320**	P	**Pg**	**10 44 38.5**	**+0.1**
	14nm,0.1s,SNR=11						
KBK				⇑S	**Sb**	**10 44 49.5**	**-0.8**
	39nm,0.2s						
KBK	**Karagaybulak**	**0.78**	**320**	⇑*i* P	**Pg**	**10 44 38.3**	**-0.1**
	baz=20						
KBK				⇑*i* S	**Sb**	**10 44 49.4**	**-1.0**
	baz=20						
UCH	**Uchtor**	**0.85**	**281**	⇓P	**Pg**	**10 44 39.1**	**-0.7**
	2.8nm,0.1s,SNR=7.1						
UCH				⇓S	**Sg**	**10 44 51.1**	**+0.3**
	16nm,0.4s						
UCH	**Uchtor**	**0.85**	**281**	⇓*i* P	**Pg**	**10 44 39.0**	**-0.7**
	baz=83						
UCH				⇓*i* S	**Sg**	**10 44 50.9**	**+0.1**
	baz=83						
TKM2	**Tokmak 2**	**0.86**	**358**	⇓P	**Pg**	**10 44 39.7**	**-0.2**
	3.0nm,0.2s						
TKM2				⇑S	**Sg**	**10 44 51.4**	**+0.4**
	20nm,0.1s						
TKM2	**Tokmak 2**	**0.86**	**358**	⇓P	**Pg**	**10 44 39.6**	**-0.2**
	3.8nm,0.2s,SNR=5.8						
TKM2				⇑S	**Sg**	**10 44 51.5**	**+0.4**
	72nm,0.2s						
TKM2	**Tokmak 2**	**0.86**	**358**	⇓*i* P	**Pg**	**10 44 39.4**	**-0.5**
	baz=58						
TKM2				⇓*i* S	**Sg**	**10 44 51.4**	**+0.4**
	baz=58						
ARLS	**Aral**	**1.00**	**259**	⇓*i* P	**Pg**	**10 44 41.4**	**-1.2**
	baz=60						
ARLS				⇓*i* S	**Sg**	**10 44 55.0**	**-0.6**
	baz=60						
KST	**Kastek**	**1.01**	**14**	*e*P	**Pg**	**10 44 42.9**	**+0.1**
	baz=13						
KST				*e*S	**Sg**	**10 44 55.6**	**-0.3**
	baz=13						
KST	**Kastek**	**1.01**	**14**	*e*P	**Pb**	**10 44 43.9**	**+0.5**
	2.5nm,0.1s						
KST				*e*S	**Sb**	**10 44 56.5**	**-0.3**
	17nm,0.2s						
AAK	**Ala-Archa**	**1.02**	**304**	⇓P	**Pg**	**10 44 42.5**	**-0.6**
	6.4nm,0.1s						
AAK				⇑S	**Sg**	**10 44 55.8**	**-0.4**
	9.2nm,0.2s						
AAK	**Ala-Archa**	**1.02**	**304**	⇓P	**Pg**	**10 44 42.4**	**-0.6**
	9.6nm,0.1s,SNR=31						
AAK				⇑S	**Sg**	**10 44 56.2**	**0.0**
	7.2nm,0.2s						
AAK	**Ala-Archa**	**1.02**	**304**	⇑*i* P	**Pg**	**10 44 42.2**	**-0.8**
	baz=5.0						
AAK				⇑*i* S	**Sg**	**10 44 55.6**	**-0.7**
	baz=5.0						
CHMS	**Chumysh**	**1.14**	**325**	⇓P	**Pg**	**10 44 44.6**	**-0.6**
	1.5nm,0.1s,SNR=5.8						
CHMS	**Chumysh**	**1.14**	**325**	⇓*i* P	**Pg**	**10 44 44.4**	**-0.9**
	baz=26						
CHMS				⇓*i* S	**Sg**	**10 44 59.8**	**-0.3**
	baz=26						
KDJ	**Kajisay**	**1.15**	**86**	⇑*i* P	**Pb**	**10 44 44.6**	**-1.2**
	baz=85						
KDJ				⇑*i* S	**Sg**	**10 45 00.2**	**-0.3**
	baz=85						
DGS	**Degeres**	**1.18**	**5**	*e*P	**Pb**	**10 44 45.9**	**-0.4**
	baz=4.0						
DGS				*e*S	**Sg**	**10 45 00.7**	**-0.7**
	baz=4.0						
DGS	**Degeres**	**1.18**	**5**	*e*P	**Pn**	**10 44 46.9**	**+0.3**
	2.2nm,0.1s						
DGS				*e*S	**Sb**	**10 45 01.7**	**-0.2**
	16nm,0.2s						
IZV	**Izvestkoviy**	**1.21**	**36**	*e*P	**Pb**	**10 44 46.4**	**-0.4**
	baz=36						
IZV				*e*S	**Sb**	**10 45 01.7**	**-1.1**
	baz=36						
IZV	**Izvestkoviy**	**1.21**	**36**	*e*P	**Pn**	**10 44 47.4**	**+0.4**
	1.8nm,0.1s						
IZV				*e*S	**Sb**	**10 45 02.7**	**-0.1**
	17nm,0.2s						
TNSS	**Tian-Shan**	**1.37**	**45**	*e*P	**Pn**	**10 44 49.5**	**0.0**
	baz=44						
TNSS				*e*S	**Sb**	**10 45 06.8**	**-0.9**
	baz=44						
TNSS	**Tian-Shan**	**1.37**	**45**	*e*P	**Pg**	**10 44 50.5**	**+0.7**
	3.1nm,0.1s						
TNSS				*e*S	**Sb**	**10 45 07.7**	**+0.1**
	8.4nm,0.2s						
AML	**Almayashu**	**1.45**	**273**	⇓P	**Pn**	**10 44 49.9**	**-0.6**
	1.5nm,0.2s,SNR=16						
AML	**Almayashu**	**1.45**	**273**	⇑*i* P	**Pn**	**10 44 49.8**	**-0.6**
	baz=74						
AML				⇑*i* S	**Sb**	**10 45 08.9**	**-0.8**
	baz=74						
USP	**Ospenovka**	**1.46**	**326**	⇑P	**Pn**	**10 44 50.5**	**+0.2**
	2.8nm,0.2s,SNR=8.7						
USP	**Ospenovka**	**1.46**	**326**	⇑*i* P	**Pn**	**10 44 50.3**	**-0.1**
	baz=26						
USP				⇑*i* S	**Sg**	**10 45 10.0**	**-0.5**
	baz=26						
EKS2	**Erkin-Say**	**1.50**	**294**	⇑P	**Pn**	**10 44 51.5**	**+0.6**
	5.6nm,0.1s,SNR=33						
EKS2	**Erkin-Say**	**1.50**	**294**	⇓*i* P	**Pn**	**10 44 51.2**	**+0.3**
	baz=95						
EKS2				⇓*i* S	**Sb**	**10 45 11.0**	**0.0**
	baz=95						
MDOK	**Medeo**	**1.52**	**43**	*e*P	**Pn**	**10 44 51.6**	**+0.4**
	2.2nm,0.2s						
MDOK				*e*S	**Sn**	**10 45 09.8**	**-1.5**
	3.5nm,0.2s						
KOTS	**Kotyrbulak**	**1.60**	**43**	*e*P	**P

	comp=N,430nm,0.8s						
GTA				smax	smax		
	comp=E,170nm,0.5s						
LZH	**Lanzhou**	**5.66**	**126**	Pg	**Pg**	**11 15 16.0**	**-1.1**
LZH				Sg	**Sg**	**11 16 31.0**	**+0.5**
LZH				smax	smax		
	comp=N,88nm,1.0s						
LZH				smax	smax		
	comp=E,66nm,1.1s						
LZH				LR	LR		
	comp=N,330nm,6.0s						
LZH				LR	LR		
	comp=E,330nm,7.6s						
LZH				LR	LR		
	comp=Z,340nm,8.1s						
WMQ	**Urumqi**	**8.93**	**302**	P	**Pn**	**11 15 38.8**	**+1.0**
WMQ				pP	Pg	11 15 41.3	-38
WMQ				sP		11 15 47.6	
WMQ				S	**Sn**	**11 17 19.0**	**+0.6**
SONM	**Songino Array**	**10.16**	**33**	Pn	**Pn**	**11 15 55.7**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=215,slow=15,SNR=12						
SONM				Sn	**Sn**	**11 17 50.1**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=216,slow=24,SNR=4.9						
SONM				Lg	Lg	11 18 51.3	
	comp=Z,0.5nm,0.3s,baz=204,slow=30,SNR=3.9						
MKAR	**Makanchi Array**	**13.65**	**307**	Pn	**Pn**	**11 16 39.9**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=113,slow=14,SNR=5.5						
MKAR				Sn	Sn	11 18 59.0	-15
	comp=Z,0.2nm,0.3s,baz=149,slow=24,SNR=2.9						
MKAR				Lg	Lg	11 20 33.5	
	comp=Z,0.1nm,0.3s,baz=108,slow=33,SNR=3.2						
ZALV	**Zalesovo Beam**	**17.01**	**332**	Pn	**P**	**11 17 28.6**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=144,slow=13,SNR=8.9						
ZALV				Lg	Lg	11 22 35.7	
	comp=Z,0.2nm,0.3s,baz=142,slow=33,SNR=2.8						
KURBB	**Kurchatov Arra**	**17.69**	**315**	P	**P**	**11 17 34.2**	**-1.7**
	baz=120,slow=12,SNR=12						
KURBB				Lg	Lg	11 22 56.3	
	comp=Z,0.0nm,0.3s,baz=117,slow=30,SNR=5.8						
CMAR	**Chiang Mai Arr**	**21.05**	**178**	P	**P**	**11 18 13.2**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=360,slow=9.4,SNR=5.9						
ARCES	**ARCESS Array B**	**47.56**	**333**	P	**P**	**11 22 03.4**	**-0.5**
	comp=Z,3.3nm,1.0s,baz=82,slow=7.4,SNR=2.6						
FINES	**FINESS Array B**	**47.90**	**322**	P	**P**	**11 22 05.9**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=76,slow=8.0,SNR=6.4						
NOA	**NORSAR Array B**	**54.97**	**324**	P	**P**	**11 22 58.6**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=72,slow=5.3,SNR=3.0						
WRA	**Warramunga Arr**	**68.16**	**143**	P	**P**	**11 24 31.1**	**+2.0**
	comp=Z,0.4nm,0.8s,baz=336,slow=6.0,SNR=3.8						
ASAR	**Alice Springs**	**71.20**	**146**	P	**P**	**11 24 50.9**	**+3.0**
	comp=Z,0.2nm,0.5s,baz=340,slow=6.3,SNR=5.9						

NNC 17 11:14:18.1±4.3, 37.64N×74.91E, h0km, mb3.8, mpv3.4, 4C-5D, Error ellipse: s-maj=38.2km s-min=30.1km az=55.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.61**	**336**	⇑Pn	Pn	11 15 00.9	-0.9
	26nm,0.3s						
SFK				⇑Sn	Sb	11 15 37.2	-1.4
	26nm,0.4s						
AAK	**Ala-Archa**	**5.00**	**356**	⇑Pg	Pb	11 15 47.8	+1.2
	5.6nm,0.6s						
AAK				⇓Lg	Lg	11 16 50.1	
	4.0nm,0.7s						
MNAS	**Manas**	**5.18**	**340**	⇓Pn	Pn	11 15 37.4	+0.4
	3.0nm,0.5s						
MNAS				⇑Sn	Sn	11 16 37.0	-0.5
	2.8nm,0.5s						
TKM2	**Tokmak 2**	**5.30**	**5**	⇓Pn	Pn	11 15 40.2	+1.6
	2.3nm,0.7s						
TKM2				⇓Sn	Sn	11 16 42.5	+2.0
	4.8nm,0.6s						
KK31	**Karatay Array**	**6.40**	**330**	Pn	Pn	11 15 53.2	-0.5
	0.2nm,0.2s,baz=146,slow=12,SNR=8.2						
KK31				⇓Sn	Sn	11 17 05.1	-2.4
	1.4nm,0.5s,baz=153,slow=22,SNR=4.5						
MK31	**Makanchi Array**	**10.65**	**29**	Pn	Pn	11 16 51.2	-0.7
	0.3nm,0.5s,baz=111,slow=14,SNR=7.0						

*IDC **17** 11:19:01.6±2.4, 36.40N×142.31E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/35, mbtmp3.7/5, ML2.6/1, Error ellipse: s-maj=71.2km s-min=26.7km az=63.0*
*JMA **17** 11:19:09.3±0.2, 37.64N×142.43E, h17km±3km, M3.8*
ISC 17 11:19:10.5±2.1, 37.65N±0.09×142.4E±0.1, h21km, n20, σ0.64/64, mb3.6/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.97**	**314**	*e*S	**Sn**	**11 19 41.5**	**-0.4**
JIO	**Ouri**	**1.13**	**316**	*e*S	**Sn**	**11 19 45.8**	**-0.2**
JFK	**Kawauchi**	**1.21**	**257**	P	**Pb**	**11 19 32.2**	**-0.5**
JFK				*e*S	**Sb**	**11 19 48.9**	**+1.0**
JMM	**Marumori**	**1.26**	**280**	P	**Pb**	**11 19 32.8**	**-0.7**
JMM				*e*S	**Sb**	**11 19 49.4**	**+0.2**
JKMT	**Kesennumamotoy**	**1.35**	**329**	*e*S	**Sb**	**11 19 52.3**	**+0.3**
JOU	**Okura**	**1.52**	**299**	*e*S	**Sb**	**11 19 57.5**	**+0.8**
JFT	**Otama**	**1.61**	**266**	P	**Pb**	**11 19 38.8**	**-0.7**
JFT				*e*S	**Sb**	**11 20 00.2**	**+0.8**
JFY	**Yanaizu**	**2.12**	**264**	*e*S	**Sb**	**11 20 13.9**	**-0.2**
MJAR	**Matsushiro Arr**	**3.50**	**253**	Pn	Pn	11 19 54.1	-10
	0.6nm,0.3s,baz=39,slow=12,SNR=11						
H11N2	**WAKE ISLAND Hy**	**27.83**	**123**	T	T	11 53 58.4	
	baz=313,slow=76						
H11N1	**WAKE ISLAND Hy**	**27.84**	**123**	T	T	11 53 58.5	
	baz=313						
H11N3	**WAKE ISLAND Hy**	**27.85**	**123**	T	T	11 53 59.2	
	baz=313,slow=76						
SONM	**Songino Array**	**28.08**	**303**	P	**P**	**11 25 01.1**	**+0.5**
	0.6nm,0.7s,baz=96,slow=8.4,SNR=3.7						
H11S1	**WAKE ISLAND Hy**	**28.58**	**125**	T	T	11 54 54.6	
	baz=317,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**28.58**	**125**	T	T	11 54 52.4	
	baz=317,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**28.59**	**125**	T	T	11 54 53.6	
	baz=317,slow=76,SNR=9.2						
ZALV	**Zalesovo Beam**	**42.06**	**312**	P	**P**	**11 27 01.1**	**+0.7**
	0.4nm,0.3s,baz=81,slow=6.2,SNR=2.4						
MKAR	**Makanchi Array**	**44.43**	**302**	P	**P**	**11 27 19.2**	**-0.6**
	0.5nm,0.7s,baz=100,slow=8.2,SNR=3.3						
KURBB	**Kurchatov Arra**	**46.22**	**308**	P	**P**	**11 27 33.7**	**-0.1**
	0.7nm,0.4s,baz=80,slow=8.2,SNR=3.8						
WRA	**Warramunga Arr**	**57.78**	**189**	P	P	11 28 45.7	-14
	0.4nm,0.6s,baz=6.4,slow=7.1,SNR=9.1						

*ISK **17** 11:34:41.0, 38.92N×37.83E, h11km±1km, ML2.0/5*
*ISCJB **17** 11:34:42.6±0.6, 38.84N±0.05×37.82E±0.06, h20km±6km, Error ellipse: s-maj=9.6km s-min=6.9km az=139.8*
*DDA **17** 11:34:42.9, 38.85N×37.89E, h18km, Ml2.6*
ISC 17 11:34:42.0±1.2, 38.84N±0.04×37.82E±0.04, h13km±9km, n12, σ0.79/79, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HEKM	**Malatya_Hekimh**	**0.12**	**70**	*i* P	**Pg**	**11 34 45.4**	**-0.1**
HEKM				*i* S	**Sb**	**11 34 49.6**	**+0.6**
DARE	**Darende-Malaty**	**0.37**	**224**	PG	**Pg**	**11 34 49.4**	**-0.1**
DARE				SG	**Sb**	**11 34 57.3**	**+1.1**
AKCD	**Akcadag**	**0.55**	**171**	*i* P	**Pb**	**11 34 53.7**	**+0.2**
KEMA	**Kemaliye**	**0.68**	**51**	*i* P	**Pg**	**11 34 54.7**	**-0.5**
ELZG	**Elazig**	**0.98**	**110**	*i* P	**Pg**	**11 35 01.2**	**+0.4**
CUZAR	**Zara_SIVAS**	**1.05**	**358**	*i* P	**Pg**	**11 35 03.8**	**+1.6**
PTK	**Pertek**	**1.23**	**87**	PN	**Pn**	**11 35 04.5**	**-0.5**
SVSK	**Karacayir**	**1.25**	**330**	PN	**Pn**	**11 35 04.3**	**-0.8**
SVSK				SN	**Sn**	**11 35 21.3**	**-0.5**
SUSE	**Susehri**	**1.40**	**12**	*i* P	**Pg**	**11 35 08.3**	**-0.6**
BNN	**Bunyan**	**1.54**	**271**	PN	**Pn**	**11 35 08.4**	**-0.8**
ERZN	**Erzincan**	**1.66**	**63**	PN	**Pn**	**11 35 10.5**	**-0.4**
KELT	**Kelkit**	**1.72**	**40**	*i* P	**Pb**	**11 35 13.8**	**+0.3**

*ISK **17** 11:45:17.9, 38.96N×30.03E, h9km±1km, ML1.9/6*
*ISCJB **17** 11:45:18.8±0.6, 38.99N±0.04×30.07E±0.04, h10km, Error ellipse: s-maj=6.5km s-min=4.5km az=28.6*
*DDA **17** 11:45:18.6, 39.01N×30.08E, h7km, Ml2.5*
ISC 17 11:45:18.5±0.9, 38.99N±0.04×30.06E±0.04, h10km, n11, σ0.80/15, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TVSB	**Tavsanli**	**0.65**	**315**	PG	**Pg**	**11 45 31.3**	**+0.1**
TVSB				SG	**Sg**	**11 45 40.5**	**+0.7**
KZIL	**AFYON_Kizioren**	**0.73**	**175**	*i* P	**Pg**	**11 45 31.7**	**-0.9**
BOLV	**Bolvadin**	**0.75**	**111**	*i* P	**Pg**	**11 45 32.6**	**-0.3**
BOLV				*i* S	**Sb**	**11 45 43.6**	**-0.4**
BORA	**Eskisehir**	**0.94**	**19**	*i* P	**Pg**	**11 45 36.6**	**0.0**
BORA				*i* S	**Sb**	**11 45 49.4**	**-0.2**
DEMI	**Demirci**	**1.05**	**273**	*i* P	**Pb**	**11 45 38.9**	**+0.1**
DEMI				*i* S	**Sn**	**11 45 53.9**	**-0.1**
BAGO	**Egridir - ISPA**	**1.15**	**150**	*i* P	**Pn**	**11 45 42.7**	**+2.0**
KULA	**Kula-Manisa**	**1.19**	**247**	PN	**Pb**	**11 45 40.4**	**-0.8**
CAVI	**Cavuskoy**	**1.23**	**352**	PN	**Pn**	**11 45 41.7**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.23**	**68**	PN	**Pg**	**11 45 42.6**	**+0.5**
KIZT	**Kizilcal**	**1.43**	**94**	PN	**Pn**	**11 45 44.3**	**-0.2**
ARMT	**Armutlu**	**1.83**	**330**	PN	**Pb**	**11 45 51.0**	**-1.0**

*IDC **17** 11:45:52.8±1.0, 33.00N×104.98E, h0km, mb3.7/8, mb1 3.7/10, mb1mx3.6/44, mbtmp3.6/10, ML2.9/2, MS3.6/1, Ms1 3.6/1, ms1mx2.4/51, Error ellipse: s-maj=33.3km s-min=18.1km az=51.0*
*ISCJB **17** 11:45:55.5±0.8, 33.01N±0.1×105.1E±0.1, h33km, mb3.7/8, MS3.5/1, Error ellipse: s-maj=20.9km s-min=13.9km az=137.3*
ISC 17 11:45:58.0±1.2, 33.1N±0.2×105.1E±0.2, h35km, n11, σ0.78/10, mb3.7/8, Gansu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**14.75**	**4**	Pn	**Pn**	**11 49 23.1**	**-0.9**
	0.0nm,0.3s,baz=180,slow=20,SNR=3.1						
KSRS	**Korea Array**	**19.16**	**70**	P	**P**	**11 50 18.2**	**-0.1**
	0.1nm,0.3s,baz=260,slow=15,SNR=3.0						
MKAR	**Makanchi Array**	**22.06**	**315**	P	**P**	**11 50 49.4**	**-0.3**
	0.4nm,0.6s,baz=112,slow=12,SNR=3.8						
ZALV	**Zalesovo Beam**	**25.31**	**331**	P	**P**	**11 51 21.5**	**+0.4**
	0.5nm,0.4s,baz=130,slow=16,SNR=4.0						
KLR	**Kul'dur**	**25.57**	**43**	P	**P**	**11 51 24.9**	**+1.3**
	1.2nm,0.6s,baz=258,slow=11,SNR=4.0						
KURBB	**Kurchatov Arra**	**26.17**	**320**	P	**P**	**11 51 30.0**	**+1.0**
	0.7nm,0.2s,baz=119,slow=10.0,SNR=2.3						
GUMO	**Guam**	**41.08**	**109**	LR	LR	12 11 00.9	
	comp=Z,77nm,21.6s,baz=195,slow=37						
ARCES	**ARCESS Array B**	**55.77**	**335**	P	**P**	**11 55 31.0**	**0.0**
	0.9nm,0.6s,baz=74,slow=9.5,SNR=4.9						
FINES	**FINESS Array B**	**56.36**	**325**	P	**P**	**11 55 35.5**	**+0.2**
	3.4nm,1.1s,baz=93,slow=9.7,SNR=3.4						
WRA	**Warramunga Arr**	**59.71**	**148**	P	**P**	**11 55 58.6**	**-0.6**
	0.5nm,0.8s,baz=339,slow=7.4,SNR=5.7						
ASAR	**Alice Springs**	**62.80**	**150**	P	**P**	**11 56 20.1**	**-0.1**
	0.3nm,0.7s,baz=337,slow=7.2,SNR=4.6						

IDC 17 11:50:36.7±2.0, 6.25N×92.82E, h0km, mb3.1/2, mb1 3.7/4, mb1mx3.4/45, mbtmp3.6/4, ML4.0/2, Error ellipse: s-maj=52.4km s-min=36.4km az=23.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**12.08**	**276**	Pn	Pn	11 53 30.1	-0.1
	1.9nm,0.3s,baz=115,slow=14,SNR=9.8						
PALK				Sn	Sn	11 55 34.1	-12
	0.6nm,0.3s,baz=297,slow=3.1,SNR=2.4						
CMAR	**Chiang Mai Arr**	**13.52**	**26**	Pn	Pn	11 53 50.0	+0.1
	0.2nm,0.3s,baz=221,slow=13,SNR=5.2						
CMAR				Sn	Sn	11 56 13.1	-7.9
	0.1nm,0.3s,baz=215,slow=23,SNR=3.2						
H08S3	**Diego Garcia H**	**24.53**	**236**	T	T	12 22 17.3	
	baz=54,slow=76,SNR=162						
H08S2	**Diego Garcia H**	**24.53**	**236**	T	T	12 22 11.8	
	baz=54,slow=76,SNR=32						
H08S1	**Diego Garcia H**	**24.55**	**236**	T	T	12 22 18.5	
	baz=54,slow=76,SNR=32						
WRA	**Warramunga Arr**	**48.43**	**124**	P	P	11 59 21.1	0.0
	0.1nm,0.5s,baz=303,slow=9.0,SNR=2.9						
ASAR	**Alice Springs**	**49.92**	**128**	P	P	11 59 32.4	-0.2
	0.1nm,0.4s,baz=305,slow=8.0,SNR=3.1						

MEX 17 11:55:40.9±0.5, 14.00N×92.55W, h16km±99km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.95**	**17**	*e*P	Pb	11 55 55.8	-3.2
THIG				*e*S	Sb	11 56 07.5	-3.8
PCIG		**1.82**	**339**	*e*P	Pn	11 56 08.1	-3.4
PCIG				*e*S	Sn	11 56 29.1	-5.2
CCIG	**Comitan**	**2.31**	**10**	*e*P	Pn	11 56 16.3	-2.2
CCIG				*i* S	Sn	11 56 42.2	-4.4
TGIG		**2.82**	**349**	*e*P	Pn	11 56 23.4	-2.0
TGIG				*e*S	Sn	11 56 55.2	-3.9

*DDA **17** 11:57:09.8, 38.66N×43.59E, h7km, Ml2.5*
ISC 17 11:57:06.4±3.6, 38.59N±0.09×43.9E±0.2, h5km±20km, n7, σ0.84/12, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TVAN	**Van**	**0.38**	**260**	*i* P	**Pg**	**11 57 13.7**	**-0.1**
TVAN				*i* S	**Sg**	**11 57 18.5**	**-0.4**
VANB	**Van**	**0.39**	**270**	*i* PG	**Pg**	**11 57 13.8**	**-0.1**
VANB				SG	**Sg**	**11 57 19.9**	**+0.8**
VMUR	**Van-Muradiye**	**0.47**	**328**	*i* P	**Pg**	**11 57 15.2**	**-0.2**
VMUR				*i* S	**Sg**	**11 57 21.2**	**-0.3**
CLDR	**Caldiran**	**0.55**	**2**	*e*PG	**Pn**	**11 57 22.4**	**+1.3**
CLDR				SG	**Sn**	**11 57 31.0**	**+0.3**
CLDR	**Caldiran**	**0.55**	**2**	*i* P	**Pn**	**11 57 21.1**	**0.0**
CLDR				*i* S	**Sn**	**11 57 29.2**	**-1.6**
GEVA	**Gevas**	**0.71**	**247**	*i* P	**Pg**	**11 57 19.4**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.93**	**284**	*i* P	**Pg**	**11 57 24.2**	**-0.1**

*IDC **17** 11:58:34.6±4.2, 30.68N×70.31E, h0km, mb3.4/5, mb1 3.6/7, mb1mx3.4/45, mbtmp3.6/7, ML3.8/2, MS3.3/3, Ms1 3.3/3, ms1mx2.6/49, Error ellipse: s-maj=125.5km s-min=23.4km az=88.0*
ISC 17 11:58:37.0±1.9, 30.8N±0.1×70.4E±0.2, h10km, n9, σ0.65/9, mb3.2/4, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NDI	**New Delhi**	**6.25**	**108**	*e*P	**Sb**	**12 01 41.0**	**+0.1**
AAK	**Ala-Archa**	**12.30**	**14**	Pn	**Pn**	**12 01 33.0**	**+0.7**
	0.9nm,0.3s,baz=164,slow=11,SNR=3.7						
AAK				Sn	**Sn**	**12 03 48.4**	**-1.1**
	0.1nm,0.3s,baz=194,slow=12,SNR=1.9						
AAK				LR	LR	12 06 13.5	
	comp=Z,58nm,18.8s,baz=186,slow=37						
MKAR	**Makanchi Array**	**18.46**	**26**	P	**P**	**12 02 52.9**	**0.0**
	0.1nm,0.3s,baz=211,slow=12,SNR=7.3						
MKAR				LR	LR	12 09 38.7	
	comp=Z,43nm,18.9s,baz=268,slow=36						
KURBB	**Kurchatov Arra**	**20.75**	**15**	P	**P**	**12 03 17.7**	**-0.1**
	1.0nm,0.7s,baz=208,slow=10,SNR=5.9						
ZALV	**Zalesovo Beam**	**25.40**	**20**	P	**P**	**12 04 04.7**	**+0.3**
	1.0nm,0.3s,baz=210,slow=9.1,SNR=5.8						
ASF	**Jabal al Asfar**	**28.57**	**282**	LR	LR	12 18 16.1	
	comp=Z,202nm,18.3s,baz=286,slow=42						
SONM	**Songino Array**	**32.28**	**48**	P	**P**	**12 05 06.5**	**+0.5**
	0.1nm,0.3s,baz=246,slow=12,SNR=2.0						
WRA	**Warramunga Arr**	**79.42**	**121**	P	**P**	**12 10 43.2**	**-0.6**
	0.2nm,0.6s,baz=321,slow=5.4,SNR=4.1						
ASAR	**Alice Springs**	**81.41**	**124**	P	**P**	**12 10 54.0**	**-0.5**
	0.1nm,0.5s,baz=299,slow=5.3,SNR=4.3						

*SOME **17** 12:09:23.5, 43.48N×82.53E, h10km*
*NNC **17** 12:09:30.1±3.7, 43.83N×82.10E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=42.4km s-min=16.3km az=137.0*
ISC 17 12:09:23.5±2.5, 43.5N±0.1×82.40E±0.09, h4km±15km, n13, σ1.74/24, 1C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.49**	**271**	*e*P	**Pg**	**12 09 53.8**	**+1.6**
	12nm,0.1s						
KTMS				*e*S	**Sg**	**12 10 15.4**	**+4.0**
	72nm,0.2s						
DJR	**Jarkent**	**2.08**	**296**	*e*P	**Pb**	**12 10 02.5**	**+0.5**
	3.2nm,0.1s						
DJR				*e*S	**Sg**	**12 10 30.9**	**+0.5**
	35nm,0.3s						

PDGK	**Podgornoye**	**2.12**	**268**	⇓Pn	**Pg**	**12 10 03.4**	**-0.9**
	1.1nm,0.3s						
PDGK				⇓Sn	**Sg**	**12 10 32.5**	**+0.7**
	6.7nm,0.3s						
SHLS	**Shalkode**	**2.17**	**263**	*e*P	**Pn**	**12 10 00.2**	**-0.4**
	10nm,0.2s						
SHLS				*e*S	**Sn**	**12 10 27.0**	**-1.0**
	161nm,0.5s						
KPKS	**Kokpek**	**2.71**	**272**	*e*P	**Pg**	**12 10 14.0**	**-1.4**
	3.0nm,0.2s						
KPKS				*e*S	**Sg**	**12 10 50.6**	**+0.1**
	17nm,0.2s						
SATY	**Saty**	**2.94**	**264**	*e*P	**Pg**	**12 10 18.6**	**-1.3**
	3.3nm,0.1s						
SATY				*e*S	**Sg**	**12 10 58.7**	**+0.6**
	16nm,0.2s						
MNBS	**Baschi**	**2.96**	**284**	*e*P	**Pb**	**12 10 18.0**	**+0.9**
	1.5nm,0.2s						
MNBS				*e*S	**Sg**	**12 10 57.4**	**-1.4**
	18nm,0.3s						
MK31	**Makanchi Array**	**3.34**	**359**	⇑Pg	**Pb**	**12 10 24.3**	**+0.8**
	0.3nm,0.3s,baz=177,slow=17,SNR=25						
MK31				⇓Lg	Lg	12 11 05.5	
	0.6nm,0.2s,baz=185,slow=27,SNR=8.8						
CHKK	**Chushkaly**	**3.95**	**278**	*e*P	**Pg**	**12 10 37.1**	**-2.1**
	1.9nm,0.1s						
CHKK				*e*S	**Sg**	**12 11 30.1**	**-0.2**
	8.6nm,0.4s						
IZV	**Izvestkoviy**	**4.25**	**266**	*e*P	**Pg**	**12 10 44.4**	**-0.5**
IZV				*e*S	**Sg**	**12 11 42.8**	**+2.8**
ZSN	**Zaisan**	**4.36**	**23**	*e*P	**Pb**	**12 10 40.4**	**-0.4**
	1.5nm,0.3s						
ZSN				*e*S	**Sb**	**12 11 35.8**	**+2.1**
	4.6nm,0.3s						
KUU	**Kurty**	**4.42**	**278**	*e*P	**Pg**	**12 10 45.5**	**-2.7**
	1.0nm,0.3s						
KUU				*e*S	**Sg**	**12 11 45.0**	**-0.5**
	5.6nm,0.3s						
TKM2	**Tokmak 2**	**5.00**	**266**	⇓Pg	**Pg**	**12 10 56.8**	**-2.6**
	0.4nm,0.5s						
TKM2				⇓Lg	Lg	12 12 02.7	
	1.6nm,0.6s						

PGC 17 12:12:00.1±4.8, 48.94N×128.93W, h10km, MLSn3.0/14, Mw3.6/14, 221km Wsw of Gold R., Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDB	**Eliza Dome**	**1.51**	**51**	Pn	Pn	12 12 22.0	-5.2
EDB				Sn	Sn	12 12 42.1	-4.8
PACB	**Port Alice, BC**	**1.77**	**31**	Pn	Pn	12 12 28.4	-2.4
PACB				Sn	Sn	12 12 49.1	-4.2
MAYB	**Maynard**	**1.86**	**37**	Pn	Pn	12 12 29.9	-2.3
MAYB				Sn	Sn	12 12 52.7	-3.1
WOSB	**Woss**	**1.97**	**50**	Pn	Pn	12 12 31.8	-1.8
TOFB	**Tofino**	**2.00**	**83**	Sn	Sn	12 12 54.5	-4.5
PHC	**Port Hardy**	**2.02**	**28**	Pn	Pn	12 12 32.4	-1.9
PHC				Sn	Sn	12 12 55.9	-3.7
TLCB	**Telegraph Cove**	**2.11**	**39**	Pn	Pn	12 12 34.2	-1.2
TLCB				Sn	Sn	12 12 58.3	-3.4
BTB	**Buttle Lake**	**2.30**	**75**	Pn	Pn	12 12 35.7	-2.5
BTB				Sn	Sn	12 13 03.2	-3.5
SPLB	**Strathcona Par**	**2.34**	**65**	Pn	Pn	12 12 36.7	-2.0
SPLB				Sn	Sn	12 13 04.7	-2.9
NCRB	**Newcastle Ridg**	**2.38**	**51**	Pn	Pn	12 12 38.2	-1.0
NCRB				Sn	Sn	12 13 05.8	-2.7
B928	**Bamfield**	**2.51**	**91**	Pn	Pn	12 12 37.5	-3.3
B928				Sn	Sn	12 13 05.8	-5.6
CBB	**Campbell River**	**2.57**	**63**	Pn	Pn	12 12 39.7	-2.1
CBB				Sn	Sn	12 13 10.1	-3.1
B927	**Port Alberni**	**2.72**	**82**	Sn	Sn	12 13 12.2	-4.6
MGB	**Mount Grey**	**2.79**	**87**	Pn	Pn	12 12 41.1	-3.9
YOUB	**Youbou, Lake C**	**3.08**	**89**	Pn	Pn	12 12 46.9	-1.9
YOUB				Sn	Sn	12 13 21.6	-4.2
NLLB	**Nanaimo Lost L**	**3.26**	**83**	Pn	Pn	12 12 48.0	-3.3
NLLB				Sn	Sn	12 13 28.1	-2.0
BBB	**Bella Bella**	**3.29**	**9**	Pn	Pn	12 12 50.8	-0.9
BBB				Sn	Sn	12 13 27.3	-3.6
SHB	**Sechelt**	**3.38**	**77**	Pn	Pn	12 12 51.0	-2.0

IDC 17 12:21:20.3±1.6, 20.72N×123.59E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/65, mbtmp3.7/6, Error ellipse: s-maj=52.5km s-min=23.9km az=68.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**23.33**	**269**	P	P	12 26 30.0	-0.3
	0.7nm,0.3s,baz=69,slow=8.4,SNR=5.7						
SONM	**Songino Array**	**30.41**	**337**	P	P	12 27 34.2	-0.2
	0.3nm,0.7s,baz=152,slow=9.7,SNR=2.4						
MKAR	**Makanchi Array**	**42.38**	**318**	P	P	12 29 16.6	+0.2
	1.3nm,0.7s,baz=104,slow=7.8,SNR=9.4						
ZALV	**Zalesovo Beam**	**44.35**	**328**	P	P	12 29 31.8	-0.3
	1.3nm,0.6s,baz=118,slow=7.8,SNR=6.2						
ASAR	**Alice Springs**	**45.24**	**167**	P	P	12 29 39.5	-0.1
	1.1nm,0.8s,baz=356,slow=9.5,SNR=2.4						
KURBB	**Kurchatov Arra**	**46.19**	**321**	P	P	12 29 46.8	0.0
	0.7nm,0.7s,baz=112,slow=7.5,SNR=5.0						

*IDC **17** 12:22:10.0±0.6, 4.87S×133.84E, h0km

WRA	**Warramunga Arr**	**14.86**	**179**	Pn	**Pn**	**12 25 40.4**	**-0.7**
	0.8nm,0.3s,baz=355,slow=13,SNR=49							
WRA				Sn	**Sn**	**12 28 21.1**	**-3.9**
	0.6nm,0.3s,baz=352,slow=23,SNR=4.2							
WC3	**Warramunga Arr**	**14.88**	**178**	*e*Pn	**Pn**	**12 25 40.1**	**-1.3**
	20nm,0.8s							
FITZ	**Fitzroy Crossi**	**15.35**	**211**	Pn	**Pn**	**12 25 45.9**	**-1.7**
	2.5nm,0.3s,baz=31,slow=9.1,SNR=68							
FITZ				Sn	Sn	12 28 29.2	-7.6	
	0.8nm,0.3s,baz=160,slow=13,SNR=6.9							
FITZ	**Fitzroy Crossi**	**15.35**	**211**	*e*Pn	**Pn**	**12 25 47.5**	**-0.1**
	8.4nm,0.8s							
FITZ				Sn	Sn	12 28 29.2	-7.6	
AS01	**Alice Springs**	**18.56**	**180**	*e*P	**P**	**12 26 28.9**	**+1.3**
AS31	**Alice Springs**	**18.56**	**180**	*e*P	**P**	**12 26 28.8**	**+1.1**
	6.6nm,0.7s							
ASAR	**Alice Springs**	**18.56**	**180**	P	**P**	**12 26 28.8**	**+1.1**
	1.2nm,0.3s,baz=6.8,slow=10.0,SNR=76							
ASAR				S	**Sn**	**12 29 47.9**	**-7.0**
	0.1nm,0.3s,baz=0.0,slow=26,SNR=3.7							
CTA	**Charters Tower**	**19.20**	**142**	P	**Pn**	**12 26 37.5**	**+1.8**
	0.2nm,0.3s,baz=326,slow=12,SNR=6.7							
CTAO	**Charters Tower**	**19.20**	**142**	*e*P	**Pn**	**12 26 36.6**	**+0.9**
	9.4nm,0.9s							
MBWA	**Marble Bar**	**21.18**	**219**	*e*P	**P**	**12 26 57.3**	**+1.2**
	19nm,1.0s							
MBWA				*e*S	**S**	**12 30 47.2**	**-3.2**
HNR	**Honiara**	**26.16**	**101**	LR	LR	12 39 26.0		
	comp=Z,75nm,19.8s,baz=324,slow=39							
FORT	**Forrest**	**26.24**	**192**	*e*P	**P**	**12 27 46.7**	**+1.1**
	22nm,0.6s							
LEM	**Lembang**	**26.25**	**265**	LR	LR	12 40 38.1		
	comp=Z,72nm,20.7s,baz=59,slow=42							
BBOO	**Buckleboo**	**27.74**	**176**	*e*P	**P**	**12 27 58.8**	**-0.4**
	12nm,1.0s							
DZM	**Mont Dzumac**	**35.73**	**121**	LR	LR	12 43 15.6		
	comp=Z,74nm,19.1s,baz=357,slow=35							
CHTO	**Chiang Mai**	**41.82**	**305**	*e*P	**P**	**12 30 00.9**	**+0.4**
	2.3nm,0.9s							
KSAR	**Wonju Array Be**	**42.60**	**353**	P	**P**	**12 30 07.0**	**+0.6**
KSRS	**Korea Array**	**42.60**	**353**	P	**P**	**12 30 07.0**	**+0.5**
	2.4nm,1.0s,baz=185,slow=10,SNR=5.0							
KSRS				LR	LR	12 48 32.6		
	comp=Z,15nm,19.0s,baz=105,slow=37							
KMI	**Kunming**	**42.62**	**316**	P	**P**	**12 30 07.8**	**+0.6**
KMI				pmax	pmax			
	comp=Z,10.0nm,0.6s							
XAN	**Xi'an**	**45.46**	**330**	P	**P**	**12 30 29.6**	**0.0**
XAN				pmax	pmax			
	comp=Z,8.0nm,1.4s							
XAN				pmax	pmax			
	comp=Z,120nm,4.3s							
BJI	**Beijing**	**47.71**	**342**	*e*P	**P**	**12 30 47.4**	**+0.3**
USRK	**Ussuriysk Ar.**	**49.00**	**358**	P	**P**	**12 30 57.4**	**+0.4**
	2.8nm,0.7s,baz=178,slow=8.9,SNR=6.7							
CN2	**Changchun**	**49.17**	**352**	*e*P	**P**	**12 30 58.9**	**+0.6**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
MDJ	**Mudanjiang**	**49.54**	**356**	P	**P**	**12 31 01.8**	**+0.7**
MDJ				pP	pP	12 31 08.3	-1.4	
MDJ				pmax	pmax			
	comp=Z,14nm,0.8s							
MDJ				pmax	pmax			
	comp=Z,360nm,3.9s							
HHC	**Hu-ho-hao-te**	**50.03**	**338**	*e*P	**P**	**12 31 04.6**	**-0.4**
HHC				pmax	pmax			
	comp=Z,12nm,1.0s							
HHC				pmax	pmax			
	comp=Z,210nm,4.4s							
KLR	**Kul'dur**	**54.04**	**358**	P	**P**	**12 31 35.0**	**+0.4**
	1.7nm,0.7s,baz=204,slow=4.1,SNR=6.1							
GTA	**Gaotai**	**54.26**	**328**	*e*P	**P**	**12 31 38.0**	**+1.4**
GTA				pP	pP	12 31 45.6	+0.4	
GTA				sP	sP	12 31 48.9	+0.4	
GTA				S	**S**	**12 39 15.8**	**+3.2**
GTA				sS	sS	12 39 28.9	+2.2	
GTA				pmax	pmax			
	comp=Z,11nm,0.9s							
GTA				pmax	pmax			
	comp=Z,81nm,8.2s							
GTA				LR	LR			
	comp=N,400nm,17.5s							
GTA				LR	LR			
	comp=E,220nm,14.4s							
SONM	**Songino Array**	**57.92**	**338**	P	**P**	**12 32 02.9**	**+0.4**
	1.2nm,0.9s,baz=153,slow=5.6,SNR=5.0							
SONA1	**Songino Array**	**57.92**	**338**	*e*P	**P**	**12 32 00.3**	**-2.4**
WMQ	**Urumqi**	**63.96**	**324**	P	**P**	**12 32 44.8**	**+1.1**
WMQ				pP	pP	12 32 49.3	-3.1	
WMQ				sP	sP	12 32 53.0	-2.8	
WMQ				pmax	pmax			
	comp=Z,51nm,0.9s							
WMQ				pmax	pmax			
	comp=Z,300nm,4.7s							
YAK	**Yakutsk**	**66.92**	**358**	P	**P**	**12 33 03.0**	**+0.8**
	16nm,0.7s,baz=167,slow=2.0,SNR=8.9							
YAK	**Yakutsk**	**66.92**	**358**	*e*P	**P**	**12 33 02.2**	**-0.1**
	25nm,0.8s							
MK01	**Makanchi Array**	**68.77**	**325**	*e*P	**P**	**12 33 15.4**	**+1.0**
MK31	**Makanchi Array**	**68.79**	**325**	*e*P	**P**	**12 33 15.7**	**+1.2**
MKAR	**Makanchi Array**	**68.79**	**325**	P	**P**	**12 33 15.4**	**+0.9**
	8.1nm,0.7s,baz=117,slow=8.2,SNR=55							
MKAR	**Makanchi Array**	**68.79**	**325**	*e*P	**P**	**12 33 15.7**	**+1.2**
	51nm,0.8s							
SEY	**Seymchan**	**69.18**	**9**	P	**P**	**12 33 17.3**	**+0.8**
	2.3nm,0.2s,baz=206,slow=11,SNR=5.1							
KSH	**Kashi**	**69.28**	**315**	P	**P**	**12 33 19.9**	**+2.1**
KSH				pP	pP	12 33 25.9	-0.7	
KSH				PP	**PP**	**12 35 54.9**	**+3.7**
KSH				S	**S**	**12 42 23.8**	**+1.1**
KSH				sS	pS	12 42 34.8	+1.2	
KSH				pmax	pmax			
	comp=Z,11nm,0.7s							
KSH				pmax	pmax			
	comp=Z,530nm,5.6s							
KSH				LR	LR			
	comp=N,320nm,8.5s							
KSH				LR	LR			
	comp=E,240nm,8.4s							
KSH				LR	LR			
	comp=Z,220nm,12.3s							
TKM2	**Tokmak 2**	**71.02**	**319**	P	**P**	**12 33 29.7**	**+1.2**
	SNR=6.0							
UCH	**Uchtor**	**71.44**	**318**	P	**P**	**12 33 33.5**	**+2.1**
	SNR=5.4							
ZAA0	**Zalesovo Array**	**71.61**	**332**	*e*P	**P**	**12 33 30.9**	**-0.6**
	3.4nm,0.9s							
ZALV	**Zalesovo Beam**	**71.61**	**332**	P	**P**	**12 33 31.4**	**-0.1**
	2.7nm,0.8s,baz=93,slow=3.3,SNR=7.8							
ZALV	**Zalesovo Beam**	**71.61**	**332**	*e*P	**P**	**12 33 30.6**	**-0.9**
AAK	**Ala-Archa**	**71.62**	**318**	P	**P**	**12 33 32.6**	**+0.5**
	2.2nm,0.8s,baz=179,slow=3.4,SNR=7.1							
AAK	**Ala-Archa**	**71.62**	**318**	*e*P	**P**	**12 33 31.8**	**-0.3**
	2.9nm,0.9s							
USP	**Ospenovka**	**71.89**	**319**	P	**P**	**12 33 35.1**	**+1.6**
	SNR=9.3							
AML	**Almayashu**	**71.95**	**317**	P	**P**	**12 33 36.4**	**+2.0**
	SNR=8.0							
EKS2	**Erkin-Say**	**72.11**	**318**	P	**P**	**12 33 37.0**	**+1.9**
	SNR=5.2							
KBL	**Kabul**	**72.55**	**308**	*e*P	**P**	**12 33 37.6**	**-0.2**
	3.7nm,0.6s							
KURK	**Kurchatov**	**72.93**	**327**	*e*P	**P**	**12 33 39.1**	**-0.4**
	7.0nm,1.0s							
KURBB	**Kurchatov Arra**	**72.93**	**327**	P	**P**	**12 33 40.1**	**+0.6**
	4.9nm,0.9s,baz=124,slow=4.9,SNR=32							
VNDA	**Vanda**	**73.98**	**174**	P	**P**	**12 33 47.5**	**+2.2**
	1.5nm,0.9s,baz=326,slow=6.4,SNR=9.5							
VNDA	**Vanda**	**73.98**	**174**	*e*P	**P**	**12 33 46.5**	**+1.2**
	3.2nm,1.1s							
KK31	**Karatay Array**	**74.49**	**317**	*e*P	**P**	**12 33 49.4**	**+0.5**
KKAR	**Karatay Array**	**74.49**	**317**	*e*P	**P**	**12 33 49.4**	**+0.5**
PPT	**Papeete**	**75.63**	**107**	LR	LR	13 02 48.1		
	comp=Z,16nm,20.8s,baz=101,slow=32							
TIXI	**Tiksi**	**76.57**	**358**	P	**P**	**12 34 00.5**	**+0.4**
	2.2nm,0.3s,baz=165,slow=5.4,SNR=12							
TIXI	**Tiksi**	**76.57**	**358**	*e*P	**P**	**12 33 59.3**	**-0.8**
	5.9nm,0.8s							
BVAR	**Borovoye Array**	**78.52**	**327**	P	**P**	**12 34 12.2**	**+0.7**
	4.6nm,0.8s,baz=130,slow=6.4,SNR=25							
BRVK	**Borovoye**	**78.59**	**327**	*e*P	**P**	**12 34 11.9**	**+0.1**
	5.7nm,0.8s							
NRIK	**Noril'sk**	**80.62**	**345**	P	**P**	**12 34 23.4**	**+0.9**
	1.5nm,0.4s,baz=137,slow=5.3,SNR=3.6							
GEYT	**Alibeck**	**81.96**	**309**	P	**P**	**12 34 31.4**	**+1.0**
	1.3nm,0.6s,baz=96,slow=7.4,SNR=4.7							
ABKAR	**Akbulak array**	**83.42**	**321**	*e*P	**P**	**12 34 36.9**	**-0.8**
AKTO	**Aktyubinsk**	**84.93**	**321**	P	**P**	**12 34 46.5**	**+1.2**
	1.6nm,0.8s,baz=128,slow=3.7,SNR=4.1							
QSPA	**South Pole Qui**	**84.97**	**180**	*e*P	**P**	**12 34 46.5**	**+1.1**
	15nm,0.8s							
ILAR	**Eielson Array**	**89.88**	**25**	P	**P**	**12 35 07.6**	**-1.4**
	1.3nm,1.1s,baz=267,slow=4.9,SNR=6.2							
154A	**Montrose**	**135.84**	**47**	*e*PKPpre	PKPpre	12 41 21.9		
CPUP	**Villa Florida**	**147.00**	**161**	PKPbc	**PKPab**	**12 41 55.5**	**+0.4**
	2.9nm,0.9s,baz=242,slow=2.5,SNR=6.0							
LPAZ	**La Paz**	**149.60**	**134**	PKPbc	**PKPab**	**12 42 04.4**	**-2.1**
	2.3nm,0.7s,baz=90,slow=3.4,SNR=4.8							

*ISK **17** 12:39:48.1,37.˝14N×28.˚41E,h24km,ML2.1/5*
*DDA **17** 12:39:48.8,37.˝17N×28.˚34E,h7km,Ml2.6,Suspected Mining explosion.*
*ISCJB **17** 12:39:49.1±0.6,37.˝19N±0.˝03×28.˚35E±0.˚04,h0km,Error ellipse: s-maj=5.2km s-min=4.3km az=139.1*
ISC 17 12:39:48.7±1.0,**37.˚15N**±0.˝03×**28.˚35E**±0.˚04,**h0**km,**n9,**
σ0.˚77/14,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TURN	**Turunc**	**0.35**	**144**	PG	**Pb**	**12 39 56.5**	**-1.2**
TURN				SG	**Sb**	**12 40 03.5**	**-0.2**
TURN	**Turunc**	**0.35**	**144**	*i* P	**Pb**	**12 39 56.7**	**-0.9**
DALY	**Dalyan (Mu˜la**	**0.41**	**144**	PG	**Pg**	**12 39 56.8**	**+0.2**
DALY				SG	**Sg**	**12 40 03.3**	**+1.3**
DALY	**Dalyan (Mu˜la**	**0.41**	**144**	*i* P	**Pg**	**12 39 57.5**	**+0.9**
TAVA	**DENİZLİ_Tavas**	**0.55**	**55**	*i* P	**Pg**	**12 39 59.4**	**+0.2**
TAVA				*i* S	**Sg**	**12 40 06.5**	**+0.3**
AYDN	**Tasoluk**	**0.63**	**324**	*i* P	**Pb**	**12 40 01.9**	**-0.7**
AYDN				*i* S	**Sg**	**12 40 09.7**	**+0.8**
DAT	**Datca**	**0.75**	**236**	PG	**Pg**	**12 40 03.1**	**+0.1**
DAT				SG	**Sb**	**12 40 15.5**	**0.0**
BODT	**Bodrum**	**0.84**	**264**	PG	**Pb**	**12 40 05.5**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**0.87**	**335**	PG	**Pg**	**12 40 05.7**	**+0.3**

*SAR **17** 13:28:52.3±0.4,44.˚63N×15.˚79E,h3km±2km,ML2.8/1*
*PRU **17** 13:28:53.9±0.0,44.˚81N×15.˚95E,h3km*
*BEO **17** 13:28:53.8±0.4,44.˚76N×15.˚86E,h2km±3km,ML2.6/9*
ISC 17 13:28:50.0±1.1,**44.˚66N**±0.˝02×**15.˚91E**±0.˚02,**h3**km±10km,
n51,σ1.˚32/93,2C-3D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UDBI	**Udbina**	**0.17**	**219**	*i* Pg	**Pg**	**13 28 54.0**	**+0.6**
UDBI				Sg	**Sg**	**13 28 56.4**	**+0.8**
NVLJ	**Novalja**	**0.75**	**263**	*e*Pg	**Pg**	**13 29 04.1**	**-0.3**
NVLJ				Sg	**Sg**	**13 29 14.5**	**+0.3**
BLY	**Banja Luka**	**0.91**	**84**	*e*Pg	**Pn**	**13 29 09.5**	**-0.2**
BLY				*e*Sg	**Sn**	**13 29 24.4**	**+1.0**
BLY	**Banja Luka**	**0.91**	**84**	*i* Pg	**Pn**	**13 29 09.5**	**-0.2**
BLY				*e*Sg	**Sn**	**13 29 23.6**	**+0.2**
BOJS	**Bojanci**	**0.96**	**331**	*e*Pg	**Pg**	**13 29 08.4**	**-0.1**
BOJS				*e*Sg	**Sb**	**13 29 22.0**	**-0.6**
BOJS	**Bojanci**	**0.96**	**331**	*i* Pg	**Pg**	**13 29 08.5**	**-0.1**
BOJS				*e*Sg	**Sg**	**13 29 20.3**	**-0.7**
	comp=Z,66nm,0.3s						
BOJS	**Bojanci**	**0.96**	**331**	*i* Pg	**Pg**	**13 29 08.5**	**-0.1**
BOJS				*e*Sg	**Sg**	**13 29 20.3**	**-0.7**
	comp=Z,66nm,0.3s						
OZLJ	**Ozalj**	**1.00**	**342**	*e*Pg	**Pg**	**13 29 09.5**	**+0.2**
ZAG	**Zagreb**	**1.17**	**3**	*i* Pg	**Pn**	**13 29 14.0**	**+0.7**
ZAG				*e*Sg	**Sn**	**13 29 30.5**	**+0.8**
CRES	**Cresnjev**	**1.21**	**345**	*e*Pg	**Pg**	**13 29 14.2**	**+0.9**
CRES				*e*Sg	**Sn**	**13 29 30.5**	**-0.3**
	comp=Z,66nm,0.4s						
CRES	**Cresnjev**	**1.21**	**345**	*e*Pg	**Pg**	**13 29 14.2**	**+0.9**
CRES				*e*Sg	**Sn**	**13 29 30.5**	**-0.3**
	comp=Z,66nm,0.4s						
CRES	**Cresnjev**	**1.21**	**345**	*i* Pg	**Pg**	**13 29 14.1**	**+0.9**
CRES				*e*Sg	**Sn**	**13 29 31.4**	**+0.6**
RIY	**Rijeka**	**1.21**	**304**	*e*Pg	**Pn**	**13 29 12.4**	**-1.5**
RIY				*e*Sg	**Sb**	**13 29 28.9**	**-0.8**
GCIS	**Gornji Cirnik**	**1.22**	**351**	*e*Pg	**Pg**	**13 29 13.5**	**0.0**
GCIS				*e*Sg	**Sn**	**13 29 31.4**	**+0.2**
	comp=Z,35nm,0.3s						
GCIS	**Gornji Cirnik**	**1.22**	**351**	*e*Pg	**Pg**	**13 29 13.5**	**0.0**
GCIS				*e*Sg	**Sn**	**13 29 31.4**	**+0.2**
	comp=Z,35nm,0.3s						
LEGS	**Legarje**	**1.35**	**342**	*i* Pg	**Pg**	**13 29 17.0**	**+1.0**
LEGS				*e*Sg	**Sg**	**13 29 33.7**	**+0.1**
LEGS	**Legarje**	**1.35**	**342**	*i* Pg	**Pg**	**13 29 17.0**	**+1.0**
LEGS				*e*Sg	**Sg**	**13 29 33.7**	**+0.1**
VISS	**Visnje**	**1.37**	**327**	*i* Pg	**Pn**	**13 29 15.6**	**-0.5**
VISS				*e*Sg	**Sg**	**13 29 34.5**	**+0.4**
	comp=Z,31nm,0.3s						
VISS	**Visnje**	**1.37**	**327**	*i* Pg	**Pn**	**13 29 15.6**	**-0.5**
VISS				*e*Sg	**Sg**	**13 29 34.5**	**+0.4**
	comp=Z,31nm,0.3s						
CEY	**Cerknica**	**1.51**	**316**	*e*Pg	**Pb**	**13 29 18.6**	**-0.1**
CEY				*e*Sg	**Sg**	**13 29 39.3**	**+0.8**
CEY	**Cerknica**	**1.51**	**316**	*i* Pg	**Pb**	**13 29 18.6**	**-0.1**
CEY				*e*Sg	**Sg**	**13 29 39.2**	**+0.8**
SKDS	**Skadanscina**	**1.61**	**304**	*e*Pg	**Pg**	**13 29 20.8**	**-0.1**
SKDS				*e*Sg	**Sg**	**13 29 42.6**	**+0.8**
SKDS	**Skadanscina**	**1.61**	**304**	*i* Pg	**Pg**	**13 29 20.8**	**-0.1**
SKDS				*e*Sg	**Sg**	**13 29 42.9**	**+1.1**
	comp=Z,88nm,0.4s						
SKDS	**Skadanscina**	**1.61**	**304**	*i* Pg	**Pg**	**13 29 20.8**	**-0.1**
SKDS				*e*Sg	**Sg**	**13 29 42.9**	**+1.1**
	comp=Z,88nm,0.4s						
LJU	**Ljubljana**	**1.69**	**325**	*e*Pn	**Pb**	**13 29 22.0**	**+0.1**
LJU				*e*Sg	**Sg**	**13 29 44.7**	**+0.3**
LJU	**Ljubljana**	**1.69**	**325**	*i* Pn	**Pb**	**13 29 21.9**	**+0.1**
LJU				*e*Sn	**Sg**	**13 29 44.0**	**-0.4**
OBKA	**Obir**	**2.08**	**333**	*e*Pn	**Pb**	**13 29 28.0**	**-0.5**
	comp=Z,9.1nm,0.3s						
OBKA				*e*Sn	**Sb**	**13 29 54.4**	**-0.5**
	comp=Z,59nm,0.6s						
SOKA	**Soboth**	**2.11**	**343**	*e*Pn	**Pb**	**13 29 27.6**	**-1.4**
	comp=Z,5.3nm,0.3s,SNR=17						
SOKA				Sn	**Sb**	**13 29 53.5**	**-2.1**
	comp=Z,3.8nm,0.3s						
STON	**Ston**	**2.21**	**144**	*e*Pn	**Pg**	**13 29 32.1**	**-0.2**
STON				*e*Sn	**Sg**	**13 30 02.5**	**+1.6**
STON	**Ston**	**2.21**	**144**	*e*Pn	**Pb**	**13 29 32.0**	**-0.2**
STON				*e*Sn	**Sb**	**13 29 57.7**	**+0.6**
HAPS	**Han Pijesak,Bl**	**2.25**	**104**	*e*Pn	**Pb**	**13 29 31.6**	**+0.2**
HAPS				*e*Sn	**Sg**	**13 30 00.9**	**-1.5**
MORH	**M˜‡r˜igy, Hung**	**2.47**	**50**	*e*Pn	**Pg**	**13 29 40.4**	**+3.0**
MORH				*e*Sn	**Sg**	**13 30 07.7**	**-1.7**
MORH	**M˜‡r˜igy, Hung**	**2.47**	**50**	*e*Sn	**Sb**	**13 30 06.5**	**+0.6**
MYKA	**Terra Mystica**	**2.53**	**322**	*e*Pn	**Pn**	**13 29 33.5**	**+1.4**
	comp=Z,2.4nm,0.2s						
BRY	**Bratogost**	**2.59**	**132**	*e*Pn	**Pb**	**13 29 35.9**	**-1.3**
BRY				*e*Sn	**Sb**	**13 30 08.0**	**-1.5**
ARSA	**Arzberg**	**2.60**	**354**	*e*Pn	**Pn**	**13 29 34.5**	**+1.4**
ARSA	**Arzberg**	**2.60**	**354**	Pn	**Pn**	**13 29 34.4**	**+1.4**
	comp=Z,1.0nm,0.2s						
TREB	**Trebinje**	**2.63**	**137**	*e*Pn	**Pb**	**13 29 38.5**	**+0.8**
TREB				*e*Sn	**Sg**	**13 30 12.5**	**-1.9**
TREB	**Trebinje**	**2.63**	**137**	*e*Pn	**Pb**	**13 29 36.9**	**-0.8**
TREB				*e*Sn	**Sb**	**13 30 09.3**	**-1.1**
BBLS	**Lazići**	**2.63**	**106**	*e*Pn	**Pb**	**13 29 36.5**	**-1.4**
BBLS				*e*Sn	**Sb**	**13 30 10.3**	**-0.3**
DIVS	**Divibare**	**2.98**	**99**	*e*Pn	**Pb**	**13 29 43.3**	**-0.5**
DIVS	**Divibare**	**2.98**	**99**	*e*Pn	**Pb**	**13 29 41.9**	**-1.9**
DIVS				*e*Sn	**Sb**	**13 30 18.1**	**-2.5**
KBA	**Koelnbreinsper**	**3.01**	**324**	Pn	**Pb**	**13 29 41.2**	**-3.2**
	comp=Z,2.1nm,0.3s						
KBA				*e*Sn	**Sb**	**13 30 18.3**	**-3.3**
	comp=Z,1.9nm,0.3s						
CONA	**Conrad Observa**	**3.27**	**359**	*i* Pn	**Pn**	**13 29 44.1**	**+1.8**
	comp=Z,4.1nm,0.3s						
CONA				*i* Sn	**Sn**	**13 30 21.5**	**-0.2**
	comp=Z,2.8nm,0.3s						
PDG	**Podgorica**	**3.30**	**131**	*e*Sn	**Sn**	**13 30 24.9**	**+2.7**
MOA	**Molln**	**3.39**	**341**	*e*Pn	**Pn**	**13 29 45.9**	**+2.1**
MOA				*e*Sn	**Sn**	**13 30 25.1**	**+0.5**
MOA	**Molln**	**3.39**	**341**	*i* Pn	**Pn**	**13 29 46.1**	**+2.3**
	comp=Z,3.5nm,0.3s,SNR=13						
MOA				*i* Sn	**Sn**	**13 30 25.5**	**+0.9**
	comp=Z,9.5nm,0.5s						
DRME	**Dracevica, Mon**	**3.43**	**135**	*e*Pn	**Pb**	**13 29 47.6**	**-3.9**
DRME				*e*Sn	**Sn**	**13 30 28.4**	**+2.8**
MOTA	**Moosalm**	**4.29**	**310**	*i* Pn	**Pn**	**13 29 59.2**	**+2.8**
	comp=Z,1.3nm,0.3s						
FETA	**Feichten**	**4.32**	**305**	*i* Pn	**Pn**	**13 29 59.7**	**+2.9**
	comp=Z,0.7nm,0.2s						
KHC	**Kasperske Hory**	**4.75**	**341**	*e*PN	**Pn**	**13 30 04.0**	**+1.4**
KHC				*e*SN	**Sn**	**13 30 56.4**	**-1.7**

UCR 17 13:32:01.8±1.7,**8.˚94N×82.˚86W,h9**km±4km,**MD3.8,1C-1D,**
Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EDSV	**San Vito**	**0.16**	**224**	*e*P	Pg	13 32 06.4	+1.0
EDSV				*e*S	Sg	13 32 10.6	+2.8
BRU2	**Volcan**	**0.22**	**131**	*i*P	Pg	13 32 06.5	+0.2
BRU2				*e*S	Sg	13 32 09.8	+0.4
EDBA	**Buenos Aires**	**0.47**	**299**	*e*P	Pb	13 32 12.2	-0.1
EDBA				*e*S	Sb	13 32 19.4	+0.1
DRK0	**Durika**	**0.50**	**310**	*i*P	Pg	13 32 11.3	-0.3
DRK0				*e*S	Sb	13 32 19.5	-0.9
PTJ1	**Puerto Jim˜ne**	**0.59**	**228**	*e*P	Pg	13 32 12.8	-0.5
PTJ1				*e*S	Sg	13 32 21.7	+0.6
EDLM	**Las Mercedes**	**0.80**	**295**	*e*P	Pg	13 32 16.9	-0.3
EDLM				*e*S	Sb	13 32 28.6	-0.2
URSC	**Urasca**	**1.27**	**315**	*e*P	Pn	13 32 24.7	-1.3
LCR2	**La Lucha 2**	**1.39**	**305**	*e*P	Pn	13 32 26.2	-1.3
LCR2				*e*S	Sb	13 32 45.4	-0.5
CVTR	**Volcan Turrial**	**1.40**	**321**	*e*P	Pn	13 32 27.3	-0.6
CVTR				*e*S	Sg	13 32 48.0	+1.2
HDC	**Heredia**	**1.63**	**311**	*e*P	Pn	13 32 30.5	-0.3
HDC				*e*S	Sn	13 32 52.1	+0.1
ARE1	**Arenal 1**	**2.38**	**310**	*e*P	Pn	13 32 41.1	+0.1
JTS	**JuntasAbangare**	**2.46**	**303**	*e*P	Pn	13 32 42.1	-0.1
JTS				*e*S	Sn	13 33 12.9	+0.4
PNME	**Penonome**	**2.54**	**100**	*e*S	Sn	13 33 15.6	+1.2
AZU	**Azuero**	**2.80**	**114**	*e*P	Pn	13 32 48.5	+1.7
AZU				*e*S	Sn	13 33 21.2	+0.5
PLVR	**Palo Verde**	**2.83**	**300**	*e*P	Pn	13 32 47.5	+0.1
BCIP	**Isla Barro Col**	**2.99**	**85**	*e*P	Pn	13 32 48.2	-1.3
BCIP				*e*S	Sn	13 33 23.2	-2.3

IDC 17 13:44:11.0±1.7,**24.˚72S×69.˚97E,h0**km,**mb3.8**/6,
mb1 4.0/6,**mb1mx3.6**/49,**mbtmp3.8**/6,**MS3.4**/8,**Ms1 3.4**/8,
ms1mx3.1/36,**Error ellipse: s-maj=54.1km**
s-min=28.2km az=77.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**17.14**	**8**	T	T	14 05 47.2	
	baz=190,slow=76,SNR=13						
H08S2	**Diego Garcia H**	**17.15**	**9**	T	T	14 05 47.7	
	baz=190,slow=76,SNR=11						
H08S3	**Diego Garcia H**	**17.16**	**8**	T	T	14 05 49.8	
	baz=190,slow=76,SNR=18						
MATP	**Matopo**	**38.42**	**268**	LR	LR	14 05 01.7	
	comp=Z,37nm,18.1s,baz=88,slow=32						
BOSA	**Boshof**	**39.97**	**254**	LR	LR	14 04 43.2	
	comp=Z,58nm,18.8s,baz=29,slow=31						
LBTB	**Lobatse**	**40.12**	**260**	LR	LR	14 05 16.4	
	comp=Z,47nm,19.4s,baz=95,slow=32						
LSZ	**Lusaka**	**40.23**	**275**	LR	LR	14 06 06.7	
	comp=Z,45nm,18.0s,baz=114,slow=33						
MAW	**Mawson**	**43.12**	**184**	LR	LR	14 07 57.7	
	comp=Z,48nm,18.1s,baz=77,slow=33						
SUR	**Sutherland**	**43.54**	**248**	LR	LR	14 08 54.9	
	comp=Z,73nm,18.8s,baz=144,slow=34						
CMAR	**Chiang Mai Arr**	**51.37**	**36**	P	P	13 53 18.5	+0.9
	0.2nm,0.3s,baz=211,slow=5.1,SNR=3.8						
CMAR				LR	LR	14 12 48.6	
	comp=Z,27nm,19.0s,baz=212,slow=33						
ASAR	**Alice Springs**	**57.84**	**103**	P	P	13 54 04.5	-0.3
	1.3nm,1.1s,baz=255,slow=5.7,SNR=4.9						
WRA	**Warramunga Arr**	**59.27**	**99**	P	P	13 54 14.4	-0.4
	2.0nm,1.0s,baz=255,slow=7.0

0.2nm,0.5s,baz=101,slow=7.5,SNR=3.0
FINES FINESS Array B 78.85 334 P **P** **14 04 52.4 -0.3**
0.7nm,0.7s,baz=73,slow=4.7,SNR=5.5
NOA NORSAR Array B 84.64 338 P **P** **14 05 22.1 -1.1**
0.2nm,0.3s,baz=43,slow=4.5,SNR=4.4

ISK ***17*** *14:10:07.9,40.°19N×31.°80E,h20km,ML2.8/5*
ISCJB ***17*** *14:10:09.1±0.5,40.°16N±0.°04×31.°74E±0.°05,h9km,Error ellipse: s-maj=5.7km s-min=5.0km az=38.9*
DDA ***17*** *14:10:09.7,40.°21N×31.°72E,h7km,Ml2.6*
ISC 17 14:10:09.1±0.9**, 40.°17N**±0.°04×**31.°73E**±0.°03**, h9**km**, n14,** σ1⅋**24**/17**, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MDUB	**Mudurnu**	**0.51**	**306**	PG		**Pg**	**14 10 18.9**	**-0.1**
MDUB				SG		**Sb**	**14 10 27.7**	**-0.1**
CMDR	**Camlidere-ANKA**	**0.65**	**60**	*i* P		**Pb**	**14 10 21.4**	**-1.4**
BTAS	**Taskesti**	**0.69**	**306**	*i* P		**Pb**	**14 10 23.5**	**+0.2**
BCAM	**Yenicaga**	**0.69**	**21**	*i* P		**Pb**	**14 10 22.5**	**-0.9**
SVRH	**Sivrihisar-ESK**	**0.74**	**193**	PG		**Pg**	**14 10 22.7**	**-0.7**
SVRH				SG		**Sb**	**14 10 34.9**	**+0.4**
LOD	**Lodumlu**	**0.84**	**109**	PG		**Pg**	**14 10 24.2**	**-1.1**
SAHE	**Sakarya_HENDEK**	**0.95**	**316**	*i* P		**Pn**	**14 10 29.6**	**+0.8**
GULT	**Gulveren**	**0.97**	**286**	PG		**Pb**	**14 10 27.4**	**-0.7**
BORA	**Eskisehir**	**1.02**	**254**	*i* P		**Pb**	**14 10 28.7**	**-0.4**
SPNC	**Sapanca-Adapaz**	**1.20**	**296**	PN		**Pb**	**14 10 31.0**	**-1.1**
KBUK	**KARABUK-Merkez**	**1.26**	**32**	*i* P		**Pg**	**14 10 34.4**	**+1.0**
ELDT	**Eldivan**	**1.33**	**76**	*i* P		**Pg**	**14 10 33.9**	**-0.8**
KKUL	**Konya-Kulu**	**1.35**	**137**	*i* P		**Pg**	**14 10 35.8**	**+0.7**
KKUL				*i* S		**Sg**	**14 10 55.9**	**+3.2**
CAVI	**Cavuskoy**	**1.45**	**272**	PN		**Pn**	**14 10 34.1**	**-1.4**

ISK ***17*** *14:13:05.6,37.°45N×28.°10E,h5km,ML2.2/10*
ISCJB ***17*** *14:13:06.3±0.4,37.°43N±0.°03×28.°09E±0.°04,h11km,Error ellipse: s-maj=5.2km s-min=3.8km az=151.1*
DDA ***17*** *14:13:06.3,37.°45N×28.°08E,h7km,Ml2.6*
ISC 17 14:13:06.2±0.9**, 37.°44N**±0.°03×**28.°10E**±0.°03**, h11**km**, n16,** σ0⅋**40**/20**, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AYDN	**Tasoluk**	**0.28**	**322**	*i* P		**Pg**	**14 13 12.0**	**0.0**
AYDN				*i* S		**Sg**	**14 13 15.9**	**+0.1**
MLSB	**Milas**	**0.29**	**241**	PG		**Pg**	**14 13 11.7**	**-0.4**
MLSB				SG		**Sg**	**14 13 16.8**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**0.54**	**342**	PG		**Pg**	**14 13 16.9**	**+0.3**
AYDB				SG		**Sg**	**14 13 23.5**	**-0.2**
TAVA	**DENIZLI_Tavas**	**0.65**	**87**	*i* P		**Pg**	**14 13 19.0**	**+0.2**
TURN	**Turunc**	**0.69**	**144**	PG		**Pg**	**14 13 18.9**	**-0.7**
TURN				SG		**Sg**	**14 13 29.0**	**+0.4**
TURN	**Turunc**	**0.69**	**144**	*i* P		**Pg**	**14 13 19.8**	**+0.2**
BODT	**Bodrum**	**0.73**	**239**	PG		**Pg**	**14 13 20.1**	**-0.2**
DALY	**Dalyan (Mu¨la**	**0.76**	**144**	PG		**Pg**	**14 13 20.9**	**0.0**
DNZL	**Cakiroluk**	**0.80**	**71**	*i* P		**Pn**	**14 13 23.2**	**-0.3**
DAT	**Datca**	**0.82**	**211**	PG		**Pg**	**14 13 22.6**	**+0.6**
DAT	**Datca**	**0.82**	**211**	*i* P		**Pn**	**14 13 23.6**	**+0.2**
MANT	**Manisa**	**1.11**	**19**	*i* P		**Pn**	**14 13 28.1**	**+0.2**
FETY	**Fethiye**	**1.12**	**135**	PN		**Pb**	**14 13 27.0**	**-0.6**
KULA	**Kula-Manisa**	**1.17**	**22**	PN		**Pb**	**14 13 28.5**	**+0.1**
URLA	**Izmir**	**1.50**	**308**	PN		**Pg**	**14 13 34.7**	**-0.3**
AKAS	**Kas**	**1.71**	**134**	PN		**Pb**	**14 13 37.9**	**+0.3**

IDC ***17*** *14:14:13.4±3.1,13.°70N×92.°74W,h0km,mb3.7/4,*
mb1 4.0/7,mb1mx3.7/44,mbtmp3.6/7,ML3.0/2,MS2.6/1,
Ms1 2.6/1,ms1mx2.3/34,Error ellipse: s-maj=62.7km
s-min=27.6km az=1.0
MEX ***17*** *14:14:16.2±0.5,13.°68N×92.°65W,h9km±134km,MD4.0*
NEIC ***17*** *14:14:16.6±0.0,13.°63N×92.°57W,h16km,MD4.2(MEX),*
After MEX.
ISC 17 14:14:19.6±1.4**, 13.°9N**±0.°1×**92.°74W**±0.°07**, h35**km**, n16,** σ1⅋**40**/22**, mb3.6/4, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THIG		**1.15**	**24**	*e*P		**Pn**	**14 14 40.4**	**+1.3**
THIG		**1.15**	**24**	*i* P		**Pn**	**14 14 36.6**	**-2.5**
THIG				*e*S		**Sn**	**14 14 51.9**	**-1.7**
PCIG		**1.90**	**346**	*e*P		**Pn**	**14 14 47.5**	**-1.9**
PCIG		**1.90**	**346**	*e*P		**Pn**	**14 14 47.9**	**-1.6**
PCIG				*e*S		**Sn**	**14 15 13.0**	**+0.9**
CCIG	**Comitan**	**2.48**	**14**	*e*P		**Pn**	**14 14 57.7**	**0.0**
CCIG	**Comitan**	**2.48**	**14**	*e*P		**Pn**	**14 14 56.3**	**-1.4**
CCIG				*i* S		**Sn**	**14 15 27.7**	**+0.8**
APG	**El Apazote**	**2.48**	**62**	Pn		**Pn**	**14 14 57.2**	**-0.6**
	5.3nm,0.3s,baz=82,slow=23,SNR=20							
APG				Sn		**Sn**	**14 15 29.1**	**+2.1**
	13nm,0.3s,baz=248,slow=5.8,SNR=5.0							
APG				LR		LR	14 16 01.5	
	comp=Z,106nm,19.2s,baz=277,slow=42							
TGIG		**2.93**	**353**	*e*P		**Pn**	**14 15 04.0**	**+0.3**
TGIG		**2.93**	**353**	*e*P		**Pn**	**14 15 03.8**	**+0.1**
TGIG				*i* S		**Sn**	**14 15 39.3**	**+1.6**
CMIG	**Matias Romero**	**3.82**	**328**	Pn		**Pn**	**14 15 15.5**	**-0.5**
	0.6nm,0.3s,baz=126,slow=10,SNR=8.0							
CMIG				Sn		**Sn**	**14 16 00.7**	**+0.9**
	3.0nm,0.3s,baz=97,slow=15,SNR=4.9							
TXAR	**Lajitas Array**	**18.43**	**328**	P		**Pn**	**14 18 33.8**	**+1.4**
	baz=148,slow=12,SNR=5.4							
PDAR	**Pinedale Array**	**32.26**	**336**	P		**P**	**14 20 43.6**	**-1.4**
	0.2nm,0.4s,baz=141,slow=7.1,SNR=3.1							
NVAR	**Mina Array Bea**	**33.34**	**322**	P		**P**	**14 20 56.4**	**+1.8**
	1.1nm,0.8s,baz=124,slow=9.0,SNR=4.5							
YKA	**Yellowknife Ar**	**51.00**	**347**	P		**P**	**14 23 17.7**	**0.0**
	2.2nm,0.7s,baz=153,slow=7.5,SNR=5.1							
ILAR	**Eielson Array**	**62.69**	**337**	P		**P**	**14 24 39.8**	**-0.8**
	0.3nm,0.8s,baz=108,slow=6.3,SNR=3.3							
CMAR	**Chiang Mai Arr**	**145.89**	**340**	PKPbc		**PKPbc**	**14 33 55.6**	**-0.6**
	0.6nm,0.3s,baz=342,slow=3.6,SNR=6.8							

PGC ***17*** *14:18:14.2±3.4,52.°16N×132.°32W,h29km,ML3.8/14,*
ML3.7/14, 125km Ssw of Sandspit, Bc Haida Gwaii Region
IDC ***17*** *14:18:16.6±2.1,52.°41N×131.°96W,h0km,mb3.3/1,*
mb1 3.8/6,mb1mx3.5/48,mbtmp3.5/6,ML3.2/4,MS2.9/3,
Ms1 2.9/3,ms1mx2.6/26,Error ellipse: s-maj=34.1km
s-min=7.8km az=53.0
ISC 17 14:18:14.4±1.8**, 52.°20N**±0.°05×**132.°26W**±0.°06**, h10**km±10km**, n38,** σ2⅋**38**/42**, Queen Charlotte Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.49**	**40**	P		**Pb**	**14 18 25.3**	**+0.2**
BNB				S		**Sg**	**14 18 31.5**	**+1.2**
HG3B	**Hotspring**	**0.62**	**53**	P		**Pg**	**14 18 27.3**	**+0.7**
HG3B				S		**Sg**	**14 18 33.7**	**-1.1**
HG4B	**Hotspring**	**0.66**	**82**	P		**Pg**	**14 18 27.5**	**+0.3**
HG4B				S		**Sg**	**14 18 33.7**	**-2.2**
HG1B	**Mitchell Dam**	**0.74**	**6**	P		**Pg**	**14 18 28.8**	**+0.1**
MOBC	**Moresby Island**	**0.96**	**11**	P		**Pb**	**14 18 32.6**	**-0.6**
MOBC				S		**Sb**	**14 18 44.4**	**-1.6**
DIB	**Dawson Inlet,**	**1.01**	**353**	P		**Pb**	**14 18 32.9**	**-1.1**
DIB				S		**Sb**	**14 18 43.2**	**-4.1**
H02S1	**DAWSON INLET T**	**1.01**	**353**	Pg		**Pb**	**14 18 32.6**	**-1.3**
H02S1				Lg		Lg	14 18 44.3	
H02N1	**VAN INLET T-PH**	**1.06**	**351**	Pg		**Pb**	**14 18 33.7**	**-1.3**
H02N1				Lg		Lg	14 18 46.4	
VIB	**Van Inlet**	**1.06**	**351**	P		**Pb**	**14 18 33.7**	**-1.3**
VIB				S		**Sb**	**14 18 46.4**	**-2.6**
BNAB	**Bonilla**	**1.62**	**37**	Pn		**Pn**	**14 18 42.5**	**-0.6**
MASB	**Masset**	**1.82**	**4**	Pn		**Pb**	**14 18 47.2**	**-0.6**
RUBB	**Prince Rupert**	**2.44**	**29**	Pn		**Pn**	**14 18 54.1**	**-0.2**
BBB	**Bella Bella**	**2.55**	**89**	Pn		**Pn**	**14 18 55.1**	**-0.7**
	4.7nm,0.3s,baz=268,slow=9.2,SNR=62							
BBB				Sn		**Sn**	**14 19 22.7**	**-4.1**
	30nm,0.3s,baz=26,slow=18,SNR=6.1							
BBB				LR		LR	14 19 34.0	
	comp=Z,87nm,19.4s,baz=343,slow=33							
BBB	**Bella Bella**	**2.55**	**89**	Pn		**Pn**	**14 18 54.8**	**-1.0**
PHC	**Port Hardy**	**3.37**	**114**	Pn		**Pn**	**14 19 05.5**	**-1.5**
PHC				Sn		**Sn**	**14 19 41.5**	**-5.5**
BCBC	**Bella Coola**	**3.38**	**85**	Pn		**Pn**	**14 19 07.2**	**0.0**
PACB	**Port Alice, BC**	**3.48**	**119**	Pn		**Pn**	**14 19 08.0**	**-0.5**
TLCB	**Telegraph Cove**	**3.78**	**114**	Pn		**Pn**	**14 19 09.5**	**-3.2**
TLCB				Sn		**Sn**	**14 19 52.8**	**-4.4**
WOSB	**Woss**	**4.12**	**117**	Pn		**Pn**	**14 19 17.1**	**-0.4**
NCRB	**Newcastle Ridg**	**4.29**	**112**	Pn		**Pn**	**14 19 19.7**	**-0.1**
CBB	**Campbell River**	**4.86**	**114**	Pn		**Pn**	**14 19 29.1**	**+1.6**
CBB				Sn		**Sn**	**14 20 19.8**	**-3.9**
UBRB	**Upper Baezaeko**	**5.04**	**79**	Pn		**Pn**	**14 19 31.1**	**+1.0**
FSB	**Fort Saint Jam**	**5.27**	**61**	Pn		**Pn**	**14 19 33.2**	**0.0**
FSB				Sn		**Sb**	**14 20 54.3**	**+4.4**
DLBC	**Dease Lake**	**6.38**	**11**	Pn		**Pn**	**14 19 50.8**	**+2.4**
	0.7nm,0.3s,baz=211,slow=13,SNR=8.9							
DLBC				Sn		**Sn**	**14 21 02.1**	**+0.9**
	0.5nm,0.3s,baz=280,slow=18,SNR=1.7							
DLBC				LR		LR	14 21 48.3	
	comp=Z,105nm,18.9s,baz=262,slow=34							
DLBC	**Dease Lake**	**6.38**	**11**	Pn		**Pn**	**14 19 49.8**	**+1.4**
FNBB	**Fort Nelson**	**8.50**	**34**	Pn		**Pn**	**14 20 16.5**	**-1.0**
WHY	**Whitehorse**	**8.60**	**351**	Pn		**Pn**	14 20 23.3	+4.4
YKA	**Yellowknife Ar**	**13.98**	**36**	Pn		**Pn**	**14 21 29.9**	**-2.4**
	0.1nm,0.3s,baz=226,slow=12,SNR=5.4							
NVAR	**Mina Array Bea**	**16.87**	**139**	Pn		**P**	**14 22 16.9**	**+4.1**
	0.1nm,0.3s,baz=332,slow=11,SNR=2.9							
PDAR	**Pinedale Array**	**17.95**	**113**	P		**P**	**14 22 27.7**	**+3.0**
	baz=296,slow=10,SNR=5.0							
ULM	**Lac du Bonnet**	**22.72**	**80**	LR		LR	14 31 38.3	
	comp=Z,71nm,19.5s,baz=56,slow=36							
TXAR	**Lajitas Array**	**31.13**	**126**	P		**P**	**14 24 36.9**	**+3.7**
	0.3nm,0.6s,baz=324,slow=6.2,SNR=3.9							
H11N2	**WAKE ISLAND Hy**	**56.84**	**259**	T		T	15 30 10.3	
	baz=39,slow=76,SNR=84							
H11N3	**WAKE ISLAND Hy**	**56.84**	**259**	T		T	15 30 10.0	
	baz=39,slow=76,SNR=80							
H11N1	**WAKE ISLAND Hy**	**56.86**	**259**	T		T	15 30 11.6	
	baz=39,slow=76,SNR=69							
H11S1	**WAKE ISLAND Hy**	**57.90**	**259**	T		T	15 31 29.9	
	baz=39,slow=74							
H11S2	**WAKE ISLAND Hy**	**57.91**	**259**	T		T	15 31 29.3	
	baz=39							
H11S3	**WAKE ISLAND Hy**	**57.91**	**259**	T		T	15 31 34.4	
	baz=39,slow=74							

GUC ***17*** *14:25:43.2±0.3,35.°95S×73.°76W,h37km±9km,ML4.0*
IDC ***17*** *14:25:43.3±1.8,35.°95S×73.°38W,h0km,mb3.8/4,*
mb1 4.0/6,mb1mx3.7/32,mbtmp3.8/6,ML3.6/2,MS3.3/6,
Ms1 3.3/6,ms1mx3.1/23,Error ellipse: s-maj=40.6km
s-min=20.9km az=76.0
ISCJB ***17*** *14:25:44.9±0.7,36.°00S±0.°03×73.°62W±0.°08,h33km,*
mb3.9/3,MS3.4/4, Error ellipse: s-maj=9.2km s-min=4.1km
az=13.9
SJA ***17*** *14:25:47.0±1.0,35.°82S×73.°81W,h33km,ML3.7,MW4.4*
ISC 17 14:25:46.8±1.1**, 36.°04S**±0.°04×**73.°6W**±0.°1**, h35**km**, n33,** σ1⅋**71**/40**, mb4.0/3, MS3.4/4, 1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.90**	**153**	*e*P		**Pn**	**14 26 01.0**	**-2.0**
CCSP				*i* S		**Sn**	**14 26 12.9**	**-1.9**
CCSP				IAML			14 26 18.1	
	comp=N,5μm,0.3s							
CCHI	**Chillan**	**1.36**	**115**	*e*P		**Pn**	**14 26 08.4**	**-0.9**
CCHI				*i* S		**Sn**	**14 26 27.5**	**+1.3**
CCHI				IAML			14 26 38.7	
	comp=N,4μm,0.7s							
GO05	**HualaæØ**	**1.71**	**54**	*e*P		**Pn**	**14 26 12.1**	**-2.1**
GO05				*i* S		**Sn**	**14 26 34.1**	**-0.8**
TMU	**Temuco**	**2.81**	**164**	*e*P		**Pn**	**14 26 28.6**	**-0.7**
LMEL	**Las Melosas**	**3.55**	**53**	*i* S		**Sn**	**14 27 18.9**	**-1.6**
FCH	**Farellones**	**3.85**	**46**	*e*P		**Pn**	**14 26 43.0**	**-0.8**
FCH				*i* S		**Sn**	**14 27 27.1**	**-0.9**
GO06	**Curarrehue**	**3.93**	**155**	*e*P		**Pn**	**14 26 43.9**	**-0.9**
AAGR	**Agrelo**	**4.92**	**55**	*i* P		**Pn**	**14 26 59.9**	**+1.5**
ARCO	**CERRO ARCO**	**5.01**	**52**	*e*P		**Pn**	**14 27 01.4**	**+1.7**
ARCO				IAML			14 27 07.0	
	comp=Z,32nm,0.7s							
AUSP	**Uspallata**	**5.17**	**44**	⇓*i* P		**Pn**	**14 27 02.6**	**+0.6**
ASAL	**Salagasta**	**5.24**	**50**	*i* P		**Pn**	**14 27 03.6**	**+0.9**
PLCA	**Paso Flores**	**5.27**	**154**	Pn		**Pn**	**14 27 03.3**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=344,slow=11,SNR=17							
PLCA				LR		LR	14 28 29.7	
	comp=Z,65nm,19.9s,baz=354,slow=32							
PLCA				Lg		Lg	14 28 30.9	
	comp=Z,1.4nm,0.3s,baz=97,slow=23,SNR=3.2							
CMCH	**Combarbala**	**5.32**	**25**	*e*P		**Pn**	**14 27 01.6**	**-2.2**
CMCH				*i* S		**Sn**	**14 28 00.3**	**-3.6**
RTLS	**Leoncito**	**5.54**	**42**	*i* P		**Pn**	**14 27 07.7**	**+0.5**
RTLS				IAML			14 27 08.5	
	comp=Z,59nm,0.5s							
RTLS				*e*S		**Sn**	**14 28 14.5**	**+4.8**
RTCV	**Cerro Valdivia**	**5.92**	**47**	*i* P		**Pn**	**14 27 12.3**	**+0.2**
RTCV				*e*S		**Sn**	**14 28 20.4**	**+1.6**
RTLL	**Cerro Villicun**	**6.35**	**44**	*i* P		**Pn**	**14 27 17.7**	**-0.3**
RTLL				*e*S		**Sn**	**14 28 29.7**	**+0.3**
ACAN	**Cantantal**	**6.51**	**57**	*i* P		**Pn**	**14 27 20.7**	**+0.4**
ACCO	**Cerro Coronel**	**6.63**	**36**	*i* P		**Pn**	**14 27 21.4**	**-0.7**
ACCO				*e*S		**Sn**	**14 28 38.2**	**+1.5**
AMOG	**MOGNA**	**6.64**	**42**	*i* P		**Pn**	**14 27 21.4**	**-0.6**
MRA	**San Martin**	**7.47**	**63**	*i* P		**Pn**	**14 27 33.7**	**+0.4**
AGUA	**GUANDACOL**	**7.83**	**35**	*i* P		**Pn**	**14 27 37.6**	**-0.7**
ACLC	**CERRO LA CRUZ**	**8.65**	**42**	*i* P		**Pn**	**14 27 46.6**	**-3.1**
TCA	**Tanti**	**8.86**	**61**	*i* P		**Pn**	**14 27 50.9**	**-1.5**
CPUP	**Villa Florida**	**16.94**	**60**	Pn		**Pn**	**14 29 37.5**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=225,slow=11,SNR=2.8							
CPUP				LR		LR	14 36 12.0	
	comp=Z,83nm,19.1s,baz=234,slow=38							
LPAZ	**La Paz**	**20.27**	**15**	P		**P**	**14 30 20.2**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=94,slow=8.6,SNR=4.9							
SIV	**San Ignacio**	**22.88**	**32**	P		**P**	**14 30 46.9**	**-0.6**
	comp=Z,6.0nm,0.9s,baz=234,slow=12,SNR=24							
SIV				LR		LR	14 41 20.9	
	comp=Z,119nm,20.7s,baz=246,slow=41							
ATAH	**Atahualpa**	**29.10**	**350**	LR		LR	14 42 10.5	
	comp=Z,54nm,18.1s,baz=323,slow=34							
BDFB	**Brasilia**	**30.55**	**55**	P		**P**	**14 31 57.4**	**+0.1**
	comp=Z,1.6nm,0.4s,baz=216,slow=8.7,SNR=3.2							
BDFB				LR		LR	14 45 35.5	
	comp=Z,129nm,19.0s,baz=192,slow=39							
VNA3	**Neumayer Olymp**	**47.98**	**157**	P		**P**	**14 34 23.0**	**+1.2**
VNA2	**Neumayer--Watz**	**48.66**	**156**	P		**P**	**14 34 28.3**	**+1.4**
	baz=288,slow=8.3							
SNAA	**Sanae**	**50.20**	**157**	P		**P**	**14 34 40.1**	**+1.3**
VNDA	**Vanda**	**61.85**	**192**	LR		LR	14 59 17.7	
	comp=Z,34nm,19.9s,baz=140,slow=32							
TXAR	**Lajitas Array**	**70.91**	**332**	P		**P**	**14 37 02.2**	**+1.8**
	comp=Z,0.3nm,0.5s,baz=151,slow=9.2,SNR=5.2							

ISCJB ***17*** *14:35:19.9±0.5,39.°66N±0.°04×28.°91E±0.°04,h8km,Error ellipse: s-maj=5.4km s-min=4.7km az=170.0*
ISK ***17*** *14:35:19.5,39.°62N×28.°89E,h13km,ML2.2/7*
DDA ***17*** *14:35:20.4,39.°62N×28.°89E,h7km,Ml2.5*
ISC 17 14:35:19.9±0.9**, 39.°62N**±0.°03×**28.°90E**±0.°04**, h8**km**, n12,** σ0⅋**52**/15**, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DURS	**Dursunbey**	**0.33**	**266**	*i* P		**Pg**	**14 35 26.3**	**-0.1**
DURS				*i* S		**Sg**	**14 35 31.2**	**+0.5**
TVSB	**Tavsanli**	**0.47**	**112**	PG		**Pg**	**14 35 29.4**	**+0.4**
TVSB				SG		**Sb**	**14 35 36.5**	**-1.1**
DEMI	**Demirci**	**0.60**	**194**	*i* P		**Pb**	**14 35 31.9**	**-0.8**
GDZ	**Gediz**	**0.70**	**140**	*i* P		**Pg**	**14 35 33.8**	**+0.4**
KCTX	**Karacabey (Bur**	**0.77**	**327**	PG		**Pg**	**14 35 34.8**	**+0.2**
CAVI	**Cavuskoy**	**0.93**	**51**	PG		**Pg**	**14 35 37.9**	**+0.2**
ARMT	**Armutlu**	**0.94**	**358**	PG		**Pg**	**14 35 38.0**	**0.0**
SBT5	**Esenkoy-Cinarc**	**1.01**	**359**	PG		**Pb**	**14 35 39.8**	**+0.3**
YLV	**Yalova**	**1.01**	**21**	PG		**Pg**	**14 35 39.4**	**+0.1**
AKHS	**Akhisar**	**1.12**	**229**	*i* P		**Pn**	**14 35 42.4**	**+0.5**
AKHS				*i* S		**Sn**	**14 35 58.1**	**+0.6**
KULA	**Kula-Manisa**	**1.12**	**190**	PN		**Pb**	**14 35 41.5**	**-0.1**
MRMT	**Marmara Adasi**	**1.40**	**315**	PN		**Pn**	**14 35 45.3**	**-0.5**

ISCJB ***17*** *14:35:31.5±0.7,37.°44N±0.°03×27.°88E±0.°06,h12km±8km,*
Error ellipse: s-maj=7.7km s-min=4.9km az=6.9
ISK ***17*** *14:35:31.5,37.°46N×27.°83E,h7km±5km,ML2.3/3*
DDA ***17*** *14:35:33.9,37.°69N×27.°77E,h14km,Ml2.8*
ISC 17 14:35:31.6±1.1**, 37.°45N**±0.°03×**27.°86E**±0.°05**, h15**km±8km**, n8,** σ0⅋**59**/13**, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.17**	**202**	PG		**Pg**	**14 35 35.5**	**-0.2**
MLSB				SG		**Sg**	**14 35 38.7**	**+0.2**
AYDN	**Tasoluk**	**0.21**	**5**	*i* P		**Pg**	**14 35 36.4**	**-0.1**
AYDN				*i* S		**Sg**	**14 35 39.9**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.50**	**3**	PG		**Pg**	**14 35 41.6**	**+0.1**
AYDB				SG		**Sg**	**14 35 48.6**	**+0.4**
BODT	**Bodrum**	**0.58**	**228**	PG		**Pg**	**14 35 43.0**	**-0.1**
BODT				SG		**Sb**	**14 35 51.9**	**+0.3**
DAT	**Datca**	**0.75**	**197**	PG		**Pg**	**14 35 46.5**	**+0.2**
TURN	**Turunc**	**0.83**	**134**	PG		**Pg**	**14 35 47.2**	**-0.5**
TURN				SG		**Sg**	**14 35 57.7**	**-0.9**
TAVA	**DENIZLI_Tavas**	**0.84**	**89**	*i* P		**Pn**	**14 35 49.5**	**+0.4**
DGB	**¨zmir**	**0.98**	**308**	*i* P		**Pg**	**14 35 49.3**	**-1.2**

IDC ***17*** *14:35:29.9±3.0,13.°21N×92.°25W,h0km,mb3.6/3,*
mb1 3.9/6,mb1mx3.6/46,mbtmp3.5/6,ML3.4/3,MS2.9/2,
Ms1 2.9/2,ms1mx2.5/28,Error ellipse: s-maj=54.8km
s-min=30.6km az=167.0
MEX ***17*** *14:35:33.3±0.3,13.°28N×92.°37W,h10km,MD3.9*
ISC 17 14:35:37.2±1.6**, 13.°5N**±0.°1×**92.°34W**±0.°08**, h35**km**, n12,** σ1⅋**67**/17**, mb3.8/3, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THIG		**1.40**	**3**	*e*P		**Pn**	**14 35 57.6**	**-2.6**
THIG				*i* S		**Sn**	**14 36 17.4**	**0.0**
PCIG		**2.35**	**339**	*e*P		**Pn**	**14 36 11.5**	**-1.8**
PCIG				*i* S		**Sn**	**14 36 41.6**	**+0.7**
APG	**El Apazote**	**2.35**	**50**	Pn		**Pn**	**14 36 12.5**	**-1.1**
	9.3nm,0.3s,baz=221,slow=7.1,SNR=63							
APG				Sn		**Sn**	**14 36 44.5**	**+3.0**
	23nm,0.3s,baz=69,slow=20,SNR=9.9							
APG				LR		LR	14 36 50.6	
	comp=Z,78nm,18.6s,baz=270,slow=32							
CCIG	**Comitan**	**2.77**	**4**	*e*P		**Pn**	**14 36 17.6**	**-1.6**
CCIG				*i* S		**Sn**	**14 36 53.2**	**+1.6**
TGIG		**3.34**	**347**	*e*P		**Pn**	**14 36 26.1**	**-0.9**
TGIG				*i* S		**Sn**	**14 37 07.2**	**+1.6**
CMIG	**Matias Romero**	**4.33**	**326**	Pn		**Pn**	**14 36 40.2**	**-0.3**
	2.2nm,0.3s,baz=148,slow=7.5,SNR=11							
CMIG				Sn		**Sn**	**14 37 31.8**	**+2.0**
	3.0nm,0.3s,baz=112,slow=14,SNR=4.8							
TXAR	**Lajitas Array**	**18.93**	**328**	P		**Pn**	**14 39 56.7**	**+0.5**
	0.0nm,0.3s,baz=143,slow=11,SNR=6.0							
PDAR	**Pinedale Array**	**32.73**	**336**	P		**P**	**14 42 05.8**	**-1.1**
	0.4nm,0.8s,baz=122,slow=9.7,SNR=3.4							
NVAR	**Mina Array Bea**	**33.85**	**322**	P		**P**	**14 42 18.6**	**+1.9**
	1.0nm,0.7s,baz=146,slow=7.2,SNR=5.1							
SCHQ	**Schefferville**	**45.80**	**20**	LR		LR	15 05 06.3	
	comp=Z,42nm,18.0s,baz=324,slow=39							
ILAR	**Eielson Array**	**63.16**	**337**	P		**P**	**14 46 00.9**	**-0.5**
	0.8nm,0.9s,baz=122,slow=4.1,SNR=6.4							
CMAR	**Chiang Mai Arr**	**146.35**	**340**	PKPbc		**PKPdf**	**14 55 13.7**	**-0.3**
	0.8nm,0.8s,baz=341,slow=3.4,SNR=6.7							

IDC ***17*** *14:51:53.7±1.6,0.°88S×133.°63E,h0km,mb3.6/2,*
mb1 3.9/6,mb1mx3.6/34,mbtmp3.8/6,ML3.7/3,Error
ellipse: s-maj=33.5km s-min=22.0km az=55.0
ISCJB ***17*** *14:51:58.7±1.6,1.°2S±0.°1×133.°56E±0.°10,h29km,mb3.7/2,*
Error ellipse: s-maj=20.9km s-min=8.8km az=34.0
ISC 17 14:51:58.7±1.4**, 1.°2S**±0.°1×**133.°6E**±0.°1**, h29**km**, n6,** σ2⅋**76**/8**, Irian Jaya region**

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

MAKU	**Maku**	**1.91**	**299**	*e*Pn	**Pn**	14 53 27.8	**0.0**
ZRD	**Zardab**	**1.93**	**19**	⇓P	**Pb**	14 53 29.9	**-0.2**
	SNR=6.2						
ZRD				⇓S	**Sg**	14 53 58.6	**+2.3**
HYR	**Heyderabad**	**2.00**	**310**	⇑P	**Pn**	14 53 29.7	**+0.8**
HYR				⇓S	**Sg**	14 53 57.9	**-0.6**
GANJ	**Ganja**	**2.23**	**350**	⇓P	**Pn**	14 53 32.9	**+1.0**
	SNR=7.0						
GANJ				⇑S	**Sb**	14 54 02.4	**-0.6**
ALIB	**Äli-Bayra**	**2.25**	**48**	⇑P	**Pb**	14 53 34.2	**-1.3**
	SNR=7.1						
ALIB				⇓S	**Sb**	14 54 04.3	**+0.7**
ZNJK	**Zanjan**	**2.30**	**140**	*e*Pn	**Pn**	14 53 32.9	**-0.3**
GDB	**GEDABAY**	**2.42**	**340**	⇑P	**Pb**	14 53 36.5	**-1.9**
GDB				⇓S	**Sb**	14 54 09.3	**+0.7**
GBS	**Qobustan**	**2.63**	**37**	⇓P	**Pn**	14 53 38.2	**+0.6**
	SNR=6.8						
GBS				⇑S	**Sb**	14 54 14.7	**-0.1**
PQL	**Pirkuli**	**2.69**	**30**	⇑P	**Pn**	14 53 38.5	**0.0**
	SNR=8.0						
PQL				⇑S	**Sb**	14 54 16.4	**-0.2**
SEKA	**Sheki**	**2.76**	**5**	⇓P	**Pn**	14 53 39.7	**+0.3**
	SNR=3.4						
SEKA				⇑S	**Sb**	14 54 17.5	**-1.0**
QZX	**Qazax, Azerbai**	**2.84**	**337**	⇑P	**Pn**	14 53 42.4	**+2.0**
	SNR=6.1						
QZX				⇓S	**Sb**	14 54 21.9	**+1.3**
XNQ	**Khinaliq**	**2.89**	**20**	⇓P	**Pn**	14 53 41.2	**-0.1**
	SNR=20						
XNQ				⇓S	**Sb**	14 54 21.0	**-1.3**
ATGJ	**Altiaghaj**	**2.89**	**33**	⇓P	**Pn**	14 53 42.9	**+1.7**
	SNR=5.9						
ATGJ				⇓S	**Sb**	14 54 21.8	**-0.5**
SIZA	**Siyzn**	**3.06**	**30**	⇑P	**Pn**	14 53 44.9	**+1.4**
	SNR=14						
SIZA				⇓S	**Sb**	14 54 27.1	**+0.2**
QSAR	**Qusar**	**3.24**	**19**	⇑P	**Pn**	14 53 45.2	**-0.8**
	SNR=8.2						
QSAR				⇑S	**Sb**	14 54 31.6	**-0.7**
HKZM	**Kohzaman**	**3.49**	**151**	*e*Pn	**Pn**	14 53 50.0	**+0.5**
HKZM				IAMB	IAmb	14 54 03.0	
	comp=E,0.0nm,0.4s						
HKZM				IAMB	IAmb	14 54 03.0	
	comp=Z,0.0nm,0.4s						
HKZM				IAMB	IAmb	14 54 57.2	
	comp=N,0.0nm,0.5s						
QABG	**Abgarm-Qazvin**	**3.51**	**141**	*e*Pn	**Pn**	14 53 50.3	**+0.5**
QABG				IAMB	IAmb	14 53 59.9	
	comp=Z,0.0nm,0.6s						
QABG				IAMB	IAmb	14 54 47.2	
	comp=E,0.0nm,0.2s						
QABG				IAMB	IAmb	14 54 47.9	
	comp=N,0.0nm,0.3s						
ILIN	**Lien**	**3.53**	**178**	*e*Pn	**Pn**	14 53 52.6	**+2.5**
QALM	**Alamut, Qazvin**	**3.64**	**123**	*e*Pn	**Pn**	14 53 52.7	**+1.1**
QALM				IAMB	IAmb	14 54 48.7	
	comp=N,0.0nm,1.2s						
QALM				IAMB	IAmb	14 54 51.2	
	comp=Z,0.0nm,0.5s						
QALM				IAMB	IAmb	14 54 52.2	
	comp=E,0.0nm,0.9s						
IDHR	**Dehrash**	**3.77**	**186**	*e*Pn	**Pn**	14 53 56.1	**+2.8**
IRAZ	**Razeghan**	**3.92**	**140**	*e*Pn	**Pn**	14 53 56.4	**+1.0**
IRAZ				IAMB	IAmb	14 54 06.8	
	comp=Z,993nm,0.4s						
IRAZ				IAMB	IAmb	14 55 04.9	
	comp=N,256nm,0.4s						
IRAZ				IAMB	IAmb	14 55 06.1	
	comp=E,952nm,0.6s						
IVIS	**Veis**	**3.92**	**180**	*e*Pn	**Pn**	14 53 58.5	**+3.1**
HAGD	**Aghdareh**	**4.07**	**152**	*e*Pn	**Pn**	14 53 58.1	**+0.6**
HAGD				IAMB	IAmb	14 54 13.4	
	comp=N,0.0nm,0.2s						
IMHD	**Mahdasht**	**4.12**	**131**	*e*Pn	**Pn**	14 54 00.1	**+2.0**
IMHD				IAMB	IAmb	14 55 05.9	
	comp=N,1μm,0.3s						
IMHD				IAMB	IAmb	14 55 07.5	
	comp=E,1μm,0.2s						
IMHD				IAMB	IAmb	14 55 08.4	
	comp=Z,402nm,0.3s						
HSAM	**Samen**	**4.47**	**161**	IAMB	IAmb	14 55 15.2	
HSAM				IAMB	IAmb	14 55 29.4	
	comp=E,0.0nm,0.4s						
ISHM	**Shahmirzad**	**5.79**	**115**	*e*Pn	**Pn**	14 54 23.5	**+2.3**
IKIA	**Kiasar**	**5.89**	**110**	*e*Pn	**Pn**	14 54 24.2	**+1.6**
IKIA				IAMB	IAmb	14 54 30.1	
	comp=Z,103nm,0.2s						
IKIA				IAMB	IAmb	14 55 42.6	
	comp=N,205nm,0.4s						
IKIA				IAMB	IAmb	14 55 45.9	
	comp=E,153nm,0.3s						
ISFR	**Sfrayin**	**8.94**	**96**	*e*Pn	**Pn**	14 55 06.5	**+2.0**

DJA 17 14:55:35.0±0.7, 0°S±5°×12°5E±°, h57km±22km, M3.5/6, MLv3.5/6, Southern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.12**	**315**	P	Pn	14 55 55.0	+0.5
KMSI				S	Sn	14 56 09.9	+1.0
LUWI	**Luwuk**	**2.16**	**248**	P	Pn	14 56 08.8	+0.2
LUWI				S	Sn	14 56 35.1	+0.9
SANI	**Sanana**	**2.19**	**146**	P	Pn	14 56 09.3	+0.3
SANI				S	Sn	14 56 34.6	-0.4
APSI	**Ampana**	**3.20**	**258**	P	Pn	14 56 23.7	+0.9

NIED ***17*** *15:03:00.34°.60N×140°.10E,h77km,Mw4.0 Best double couple: M0 1.24000×10^15 NP1:φs326.00000°, δ40.00000°, λ-11.00000°. NP2:φs65.00000°, δ83.00000°, λ-129.00000°.*

ISCJB ***17*** *15:03:56.8±0.4, 34°.51N±0°.03×140°.21E±0°.06, h86km±2km, mb4.0/19, Error ellipse: s-maj=7.8km s-min=5.3km az=163.2*

NEIC ***17*** *15:03:56.8±1.1, 34°.55N×140°.42E, h72km±9km, mb4.4/1, Error ellipse: s-maj=14.9km s-min=9.4km az=81.0*

NEIC Recorded [1 JMA] in Chiba and Kanagawa. Also recorded [1 JMA] on Miyake-jima.

JMA ***17*** *15:03:58.7±0.2, 34°.55N×140°.15E, h66km±3km, M3.9*

JMA Felt I J1.

IDC ***17*** *15:03:59.5±1.1, 34°.52N×140°.14E, h90km±8km, mb3.8/18, mb1 4.0/21, mb1mx3.8/37, mbtmp4.2/21, MS2.7/5, Ms1 2.7/5, ms1mx2.5/53, Error ellipse: s-maj=21.1km s-min=6.4km az=75.0*

ISC 17 15:03:57.5±0.8, 34°.52N±0°.04×140°.22E±0°.05, h75km±7km, n63, σ1@69/66, mb4.1/19, 7C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.37**	**41**	⇓P	**Pn**	15 04 10.4	**+1.0**
BSO4	**Boso 4**	**0.48**	**12**	⇑P	**Pn**	15 04 11.3	**+0.8**
BSO4				X		15 04 22.1	
TATJ	**Tateyama 2**	**0.58**	**332**	⇑P	**Pn**	15 04 12.3	**+0.8**
TATJ				S	**Sn**	15 04 22.1	**+0.3**
KTR	**Katsuura**	**0.63**	**7**	⇑P	**Pn**	15 04 12.5	**+0.5**
JKUC	**kamogawauchiur**	**0.64**	**359**	P	**Pn**	15 04 12.3	**+0.2**
BSO1	**Boso 1**	**0.64**	**78**	⇓P	**Pn**	15 04 12.9	**+1.3**
JIM2	**Oshima 3**	**0.68**	**287**	⇑P	**Pn**	15 04 12.5	**0.0**
JTHY	**Toshimahigashi**	**0.77**	**270**	P	**Pn**	15 04 14.1	**+0.6**
JMKN	**Mikurajimanish**	**0.81**	**220**	P	**Pn**	15 04 15.0	**+1.0**
KTJ3	**Kamata3**	**1.03**	**294**	⇑P	**Pn**	15 04 16.3	**-0.3**
KTJ3				S	**Sn**	15 04 29.7	**-1.2**
JIZS	**Izushimoda**	**1.12**	**280**	P	**Pn**	15 04 18.3	**+0.6**
JOD2	**Odawara 2**	**1.19**	**309**	⇑P	**Pn**	15 04 18.2	**-0.4**
JOD2				eS	**Sn**	15 04 33.2	**-1.2**
JHJ	**Hachijo jima 2**	**1.44**	**195**	P	**Pn**	15 04 23.9	**+2.0**
	2μm,0.3s,baz=58,slow=23,SNR=197						
JHJ				S	**Sn**	15 04 42.8	**+2.6**
	2μm,0.3s,baz=52,slow=19,SNR=67						
JHJ2	**Mitsune**	**1.44**	**193**	P	**Pn**	15 04 23.5	**+1.6**
JYN	**Shimob**	**1.68**	**306**	⇑P	**Pn**	15 04 25.6	**+0.5**
MJAR	**Matsushiro Arr**	**2.60**	**322**	P	**Pn**	15 04 38.4	**+1.1**
	79nm,0.3s,baz=157,slow=13,SNR=1284						
MJAR				S	**Sn**	15 05 09.3	**+1.4**
	70nm,0.3s,baz=359,slow=31,SNR=19						
MJAR				LR	LR	15 05 53.8	
	comp=Z,204nm,18.1s,baz=110,slow=45						
MAJO	**Matsushiro**	**2.60**	**322**	*e*Pn	**Pn**	15 04 38.8	**+1.5**
MAJO				*e*Sn	**Sn**	15 05 09.1	**+1.2**
MAT	**Matsushiro**	**2.60**	**322**	P	**Pn**	15 04 38.9	**+1.6**
MAT				S	**Sn**	15 05 09.0	**+1.1**
CBIJ	**Chichi jima**	**7.59**	**167**	P	**Pn**	15 05 43.5	**-1.9**
CBIJ				S	**Sn**	15 07 04.1	**-5.9**
JCJ	**Chichijima**	**7.59**	**167**	P	**Pn**	15 05 43.5	**-2.0**
	92nm,0.3s,baz=289,slow=23,SNR=44						
JCJ				S	**Sn**	15 07 04.1	**-5.9**
	14nm,0.3s,baz=270,slow=20,SNR=3.3						
JNU	**Nakatsue**	**7.89**	**262**	P	**Pn**	15 05 52.4	**+2.8**
	6.1nm,0.3s,baz=69,slow=3.2,SNR=68						
JNU				LR	LR	15 09 02.5	
	comp=Z,47nm,20.1s,baz=122,slow=39						
ASAJ	**Asahikawa**	**9.76**	**10**	P	Pn	15 06 11.4	-3.5
	0.9nm,0.3s,baz=200,slow=16,SNR=17						
ASAJ				S	**Sn**	15 08 05.6	**+2.9**
	0.8nm,0.3s,baz=68,slow=19,SNR=2.4						
ASAJ				LR	LR	15 10 53.7	
	comp=Z,41nm,19.9s,baz=110,slow=42						
KSRS	**Korea Array**	**10.38**	**290**	P	**Pn**	15 06 26.8	**+3.4**
	0.2nm,0.3s,baz=104,slow=14,SNR=8.3						
KSRS				LR	LR	15 10 18.3	
	comp=Z,25nm,19.7s,baz=91,slow=37						
KSAR	**Wonju Array Be**	**10.41**	**290**	P	**Pn**	15 06 26.8	**+3.0**
KLR	**Kul'dur**	**15.98**	**339**	P	**Pn**	15 07 34.7	**-2.8**
	0.5nm,0.3s,baz=195,slow=7.7,SNR=5.6						
PETK	**Petropavlovsk-**	**22.35**	**28**	LR	LR	15 18 01.6	
	comp=Z,22nm,18.6s,baz=250,slow=38						
H11N2	**WAKE ISLAND Hy**	**27.83**	**115**	T	T	15 38 56.1	
	baz=307,slow=75,SNR=170						
H11N1	**WAKE ISLAND Hy**	**27.84**	**115**	T	T	15 38 54.7	
	baz=307,slow=75,SNR=190						
H11N3	**WAKE ISLAND Hy**	**27.85**	**115**	T	T	15 38 55.0	
	baz=307,slow=75,SNR=170						
H11S3	**WAKE ISLAND Hy**	**28.44**	**117**	T	T	15 39 43.7	
	baz=311,slow=75,SNR=25						
H11S1	**WAKE ISLAND Hy**	**28.45**	**117**	T	T	15 39 52.3	
	baz=311,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy**	**28.46**	**117**	T	T	15 39 58.4	
	baz=311,slow=75,SNR=22						
SONM	**Songino Array**	**28.47**	**308**	P	**P**	15 09 45.9	**+0.4**
	1.3nm,0.4s,baz=101,slow=9.8,SNR=6.2						
TIXI	**Tiksi**	**37.67**	**354**	P	**P**	15 11 05.2	**+0.3**
	0.9nm,0.4s,baz=135,slow=3.7,SNR=6.3						
CMAR	**Chiang Mai Arr**	**39.95**	**257**	P	**P**	15 11 24.5	**-0.1**
	0.5nm,0.7s,baz=41,slow=8.7,SNR=5.2						
ZALV	**Zalesovo Beam**	**42.93**	**314**	P	**P**	15 11 48.8	**+0.2**
	2.1nm,0.4s,baz=95,slow=6.2,SNR=13						
ZALV				PcP	**PcP**	15 13 37.9	**0.0**
	0.7nm,0.4s,baz=70,slow=1.7,SNR=3.6						
MKAR	**Makanchi Array**	**44.67**	**304**	P	**P**	15 12 03.0	**+0.3**
	4.5nm,0.4s,baz=84,slow=9.6,SNR=79						
RAMN	**Ramite**	**46.25**	**276**	*e*P	**P**	15 12 14.1	**-1.6**
JIRN	**Jiri**	**46.31**	**277**	*e*P	**P**	15 12 15.4	**-0.9**
	14nm,0.4s						
GUN	**Gumba**	**46.47**	**277**	*e*P	**P**	15 12 16.8	**-0.7**
	14nm,0.9s						
KURK	**Kurchatov**	**46.75**	**310**	*e*P	**P**	15 12 17.7	**-1.3**
PKI	**Pulchoki**	**46.99**	**277**	*e*P	**P**	15 12 20.5	**-1.0**
PKIN	**Phulchoki**	**46.99**	**277**	*e*P	**P**	15 12 20.5	**-1.0**
KKN	**Kakani**	**47.01**	**278**	*e*P	**P**	15 12 20.3	**-1.3**
	12nm,0.9s						
DMN	**Daman**	**47.22**	**277**	*e*P	**P**	15 12 22.1	**-1.2**
DANN	**Dangsing**	**48.04**	**279**	*e*P	**P**	15 12 28.9	**-0.7**
	12nm,0.5s						
KOLN	**Koldanda**	**48.39**	**278**	*e*P	**P**	15 12 30.6	**-1.6**
PYUN	**Piuthan**	**48.76**	**279**	*e*P	**P**	15 12 34.1	**-1.0**
	12nm,0.7s						
ILAR	**Eielson Array**	**52.14**	**31**	P	**P**	15 13 00.8	**+1.0**
	0.9nm,1.1s,baz=269,slow=8.3,SNR=5.0						
WRAB	**Tennant Creek**	**54.44**	**187**	P	**P**	15 13 16.3	**-0.7**
	2.0nm,0.5s						
WRA	**Warramunga Arr**	**54.45**	**187**	P	**P**	15 13 17.3	**+0.2**
	7.2nm,0.7s,baz=3.9,slow=7.7,SNR=23						
INK	**Inuvik**	**57.06**	**26**	P	**P**	15 13 36.4	**+1.1**
	0.9nm,0.8s,baz=294,slow=8.3,SNR=3.8						
ASAR	**Alice Springs**	**58.18**	**187**	P	**P**	15 13 44.0	**+0.4**
	1.3nm,0.5s,baz=16,slow=9.8,SNR=11						
GEYT	**Ailbeck**	**64.21**	**300**	P	**P**	15 14 22.8	**-1.7**
	1.2nm,0.7s,baz=50,slow=7.9,SNR=5.0						
ARCES	**ARCESS Array B**	**66.00**	**340**	P	**P**	15 14 35.8	**+0.3**
	2.3nm,0.8s,baz=47,slow=6.8,SNR=6.5						
STKA	**Stephens Creek**	**66.06**	**179**	P	**P**	15 14 37.3	**+1.1**
	1.3nm,0.7s,baz=357,slow=10.0,SNR=3.2						
FINES	**FINESS Array B**	**70.58**	**332**	P	**P**	15 15 04.5	**+0.3**
	2.0nm,0.4s,baz=53,slow=6.3,SNR=22						
KBZ	**Khabaz**	**71.80**	**311**	P	**P**	15 15 12.6	**+0.8**
	4.0nm,0.8s,baz=83,slow=2.9,SNR=10						
AKASG	**Malin Array Be**	**75.68**	**322**	P	**P**	15 15 34.3	**-0.1**
	2.0nm,0.5s,baz=50,slow=6.4,SNR=8.6						
NB2	**NORSAR Subarra**	**76.12**	**337**	P	**P**	15 15 36.9	**+0.1**
	comp=Z,1.2nm,0.5s,baz=42,slow=5.9						
NOA	**NORSAR Array B**	**76.12**	**337**	P	**P**	15 15 36.5	**-0.3**
	comp=Z,0.2nm,0.4s,baz=59,slow=8.0,SNR=7.6						
BRTR	**Keskin Array B**	**79.78**	**311**	P	**P**	15 15 58.2	**+0.6**
	comp=Z,0.8nm,0.7s,baz=243,slow=1.4,SNR=3.6						
GERES	**GERESS Array B**	**84.32**	**328**	P	**P**	15 16 21.5	**+0.3**
	comp=Z,0.7nm,0.6s,baz=45,slow=4.5,SNR=6.5						

ISCJB ***17*** *15:06:32.5±1.0, 43°.97N±0°.07×145°.88E±0°.08, h144km±6km, Error ellipse: s-maj=12.6km s-min=6.6km az=143.4*

JMA ***17*** *15:06:32.9±0.3, 43°.95N×145°.87E, h148km±2km, M2.8*

SKHL ***17*** *15:06:32.0±1.1, 44°.17N×145°.77E, h149km±10km, mb4.4/5, msh5.0/5*

ISC 17 15:06:32.5±2.0, 43°.98N±0°.08×145°.89E±0°.06, h148km±12km, n18, σ0@49/30, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.06**	**337**	*i* P	**Pn**	15 06 52.0	**-0.2**
YUK				AMB	AMB	15 06 53.0	
	20nm,0.3s						
YUK				AMB	AMB	15 06 53.0	
	30nm,0.3s						
YUK				AMB	AMB	15 06 53.0	
	190nm,0.3s						
YUK				*i* S	**Sn**	15 07 07.0	**-0.3**
YUK				A	A	15 07 09.0	
	330nm,0.5s						
YUK				A	A	15 07 09.0	
	360nm,0.5s						
GRPR	**Tuman**	**0.09**	**276**	*e*P	**Pn**	15 06 52.0	**-0.2**
GRPR				AMB	AMB	15 06 54.0	
	40nm,0.2s						
GRPR				AMB	AMB	15 06 54.0	
	70nm,0.2s						
GRPR				*i* S	**Sn**	15 07 07.0	**-0.3**
GRPR				A	A	15 07 11.0	
	300nm,0.4s						
GRPR				A	A	15 07 11.0	
	390nm,0.4s						
LAGR	**Lagunnoye**	**0.10**	**313**	*e*P	**Pn**	15 06 52.0	**-0.2**
LAGR				AMB	AMB	15 06 53.0	
	80nm,0.2s						
LAGR				AMB	AMB	15 06 53.0	
	50nm,0.2s						
LAGR				AMB	AMB	15 06 53.0	
	120nm,0.2s						
LAGR				*i* S	**Sn**	15 07 08.0	**+0.6**
LAGR				A	A	15 07 11.0	
	360nm,0.4s						
LAGR				A	A	15 07 11.0	
	1μm,0.4s						
GLVR	**Golovnino**	**0.36**	**228**	*i* P	**Pn**	15 06 53.0	**+0.1**
GLVR				AMB	AMB	15 06 54.0	
	40nm,0.4s						
GLVR				AMB	AMB	15 06 54.0	
	250nm,0.4s						
GLVR				*e*S	**Sn**	15 07 09.0	**+0.6**
GLVR				A	A	15 07 10.0	
	120nm,0.5s						
GLVR				A	A	15 07 10.0	
	730nm,0.5s						
NEM2	**Nemuro 2**	**0.63**	**190**	P	**Pn**	15 06 54.3	**+0.1**
NEM2				*e*S	**Sn**	15 07 10.3	**-0.5**
SHO	**Shikotan**	**0.69**	**99**	*i* P	**Pn**	15 06 55.0	**+0.4**
SHO				AMB	AMB	15 06 55.0	
	30nm,0.4s						
SHO				AMB	AMB	15 06 55.0	
	70nm,0.4s						
SHO				AMB	AMB	15 06 55.0	
	170nm,0.4s						
SHO				*i* S	**Sn**	15 07 11.0	**-0.4**
SHO				A	A	15 07 12.0	
	338nm,0.5s						
SHO				A	A	15 07 12.0	
	463nm,0.5s						
JNK	**Nakash**	**0.94**	**245**	P	**Pn**	15 06 56.9	**+0.4**
JKHN	**Kushirohamanak**	**1.05**	**211**	P	**Pn**	15 06 57.8	**+0.4**
JKHN				*e*S	**Sn**	15 07 16.3	**-0.1**
JAK	**Akkeshi**	**1.32**	**222**	P	**Pn**	15 07 00.1	**+0.2**
JAK				*e*S	**Sn**	15 07 20.4	**-0.5**
JTKR	**Abashiri--Toko**	**1.43**	**270**	P	**Pn**	15 07 01.3	**+0.2**
JTKR				*e*S	**Sn**	15 07 23.0	**+0.1**
JAR	**Ashorobuto**	**1.69**	**247**	P	**Pn**	15 07 04.7	**+0.9**
JMP	**Maruseppu**	**1.83**	**272**	P	**Pn**	15 07 05.5	**+0.1**
JOB	**Onbets**	**1.85**	**235**	P	**Pn**	15 07 06.1	**+0.5**
JOB				*e*S	**Sn**	15 07 30.8	**-0.2**
KUR	**Kuril'sk**	**1.88**	**48**	*e*P	**Pn**	15 07 06.0	**0.0**
KUR				*e*S	**Sn**	15 07 32.0	**+0.2**
JKK2	**Kamakawa 2**	**2.27**	**268**	P	**Pn**	15 07 11.0	**+0.3**
JCH	**Churui**	**2.30**	**234**	P	**Pn**	15 07 11.1	**+0.1**
JCH				*e*S	**Sn**	15 07 39.1	**-1.5**
ASAJ	**Asahikawa**	**2.38**	**274**	P	**Pn**	15 07 12.5	**+0.6**
JSE	**Soyaes**	**2.56**	**294**	P	**Pn**	15 07 13.8	**-0.3**

ISK ***17*** *15:15:02.3, 37°.27N×28°.26E, h18km±8km, ML2.2/6*

DDA ***17*** *15:15:02.9, 37°.25N×28°.22E, h7km, Ml2.6, Suspected Mining explosion.*

ISCJB ***17*** *15:15:03.1±0.6, 37°.28N±0°.04×28°.26E±0°.05, h0km, Error ellipse: s-maj=6.9km s-min=3.9km az=135.5*

ISC 17 15:15:02.7±1.1, 37°.25N±0°.04×28°.24E±0°.04, h0km, n11, σ0@83/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.37**	**277**	PG	**Pg**	15 15 10.3	**+0.4**
MLSB				SG	**Sb**	15 15 17.3	**-1.3**
TURN	**Turunc**	**0.47**	**142**	PG	**Pg**	15 15 12.1	**+0.3**
TURN				SG	**Sb**	15 15 19.9	**-1.5**
TURN	**Turunc**	**0.47**	**142**	*i* P	**Pg**	15 15 12.4	**+0.7**
AYDN	**Tasoluk**	**0.50**	**325**	*i* P	**Pg**	15 15 13.0	**+0.7**
AYDN				*i* S	**Sg**	15 15 19.7	**+0.8**
DALY	**Dalyan (Mu¨la**	**0.54**	**142**	PG	**Pg**	15 15 13.9	**+0.8**
DALY				SG	**Sb**	15 15 22.4	**-1.0**
TAVA	**DENIZLI_Tavas**	**0.58**	**68**	*i* P	**Pg**	15 15 14.4	**+0.6**
DAT	**Datca**	**0.74**	**226**	PG	**Pb**	15 15 18.4	**-0.1**
DAT	**Datca**	**0.74**	**226**	*i* P	**Pb**	15 15 18.8	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**0.75**	**338**	PG	**Pg**	15 15 17.2	**+0.1**
BODT	**Bodrum**	**0.77**	**256**	PG	**Pg**	15 15 17.9	**+0.5**
MANT	**Manisa**	**1.27**	**11**	*i* P	**Pg**	15 15 27.1	**+0.1**

NIED ***17*** *15:24:00, 45°.40N×151°.50E, h8km, Mw4.4 Best double couple: M0 4.77000×10^15 NP1:φs187.00000°, δ11.00000°, λ49.00000°. NP2:φs48.00000°, δ82.00000°, λ97.00000°.*

ISCJB ***17*** *15:24:01.1±0.5, 45°.17N±0°.05×151°.57E±0°.06, h32km, mb3.8/16, MS3.6/13, Error ellipse: s-maj=9.0km s-min=3.4km az=146.6*

JMA ***17*** *15:24:02.3±0.5, 45°.45N×151°.53E, h30km, M4.8*

SKHL ***17*** *15:24:02.7±1.0, 45°.04N×151°.69E, h55km±4km, mb5.0/11, Ms3.8/4*

MOS ***17*** *15:24:02.6±1.1, 45°.36N×151°.49E, h43km, mb4.1/7, Error ellipse: s-maj=10.7km s-min=8.4km az=135.3*

IDC ***17*** *15:24:05.8±2.8, 45°.43N×151°.51E, h52km±24km, mb3.6/13, mb1 3.8/18, mb1mx3.6/54, mbtmp3.9/18, ML4.4/3, MS3.5/20, Ms1 3.5/20, ms1mx3.3/45, Error ellipse: s-maj=22.3km s-min=16.2km az=136.0*

ISC 17 15:24:02.2±0.7, 45°.09N±0°.08×151°.62E±0°.07, h32km, n109, σ1@76/113, mb3.9/16, MS3.6/13, 1C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.66**	**274**	*e*P	**Pn**	15 24 43.0	**+0.2**
KUR				AMB	AMB	15 24 44.0	
	90nm,0.3s						
KUR				AMB	AMB	15 24 44.0	
	220nm,0.3s						
KUR				*e*S	**Sn**	15 25 14.0	**+0.1**
KUR				A	A	15 25 20.0	
	2μm,0.6s						
KUR				A	A	15 25 20.0	
	840nm,0.6s						
KUR				AMS	AMS	15 26 01.0	
	2μm,13.0s						
KUR	**Kuril'sk**	**2.66**	**274**	*e*PN	**Pn**	15 24 43.9	**+1.1**
KUR				*e*S	**Sn**	15 25 14.5	**+0.6**
KUR				pmax	pmax		
	comp=Z,223nm,0.3s						
KUR				pmax	pmax		
	comp=N,92nm,0.1s						
KUR				smax	smax		
	comp=E,836nm,0.5s						
KUR				smax	smax		
	comp=N,1μm,0.6s						
KUR				MLR	MLR		
	comp=Z,2μm,13.0s						
SHO	**Shikotan**	**3.64**	**252**	*i* P	**Pn**	15 24 57.0	**+0.7**
SHO				AMB	AMB	15 25 00.0	
	comp=Z,40nm,0.2s						
SHO				AMB	AMB	15 25 00.0	
	comp=Z,100nm,0.2s						
SHO				AMB	AMB	15 25 00.0	
	comp=Z,80nm,0.2s						
SHO				*i* S	**Sn**	15 25 37.0	**-1.1**
SHO				A	A	15 25 42.0	
	comp=Z,350nm,0.2s						
SHO				A	A	15 25 42.0	
	comp=Z,110nm,0.2s						
SHO				AMS	AMS	15 26 26.0	
	comp=Z,400nm,15.0s						
SHO				AMS	AMS	15 26 26.0	
	comp=Z,500nm,15.0s						
SHO	**Shikotan**	**3.64**	**252**	*d* PN	**Pn**	15 24 57.4	**+1.1**
SHO				*i* S	**Sn**	15 25 37.5	**-0.6**
SHO				pmax	pmax		
	comp=Z,76nm,0.5s						
SHO				pmax	pmax		
	comp=N,38nm,0.2s						
SHO				pmax	pmax		
	comp=E,97nm,0.2s						
SHO	

comp=N,190nm,0.4s
LAGR AMB AMB 15 25 20.0
comp=N,210nm,0.4s
LAGR *e*S **Sn** **15 25 54.0 -0.2**
LAGR A A 15 26 07.0
comp=N,70nm,0.4s
LAGR A A 15 26 07.0
comp=N,190nm,0.4s
LAGR Lagunnoye 4.29 258 *d i* PN **Pn** **15 25 07.2 +1.9**
LAGR *e*S **Sn** **15 25 54.9 +0.7**
LAGR pmax pmax
comp=Z,214nm,0.4s
LAGR pmax pmax
comp=E,185nm,0.2s
LAGR pmax pmax
comp=N,172nm,0.4s
LAGR smax smax
comp=N,691nm,0.4s
LAGR smax smax
comp=E,1μm,0.9s
GRPR Tuman 4.32 257 *i* P **Pn** **15 25 07.0 +1.3**
GRPR AMB AMB 15 25 18.0
comp=E,80nm,0.3s
GRPR AMB AMB 15 25 18.0
comp=E,160nm,0.3s
GRPR AMB AMB 15 25 18.0
comp=E,250nm,0.3s
GRPR *e*S **Sn** **15 25 55.0 +0.1**
GRPR A A 15 26 10.0
comp=E,330nm,0.5s
GRPR A A 15 26 10.0
comp=E,424nm,0.5s
GRPR Tuman 4.32 257 *d i* PN **Pn** **15 25 07.4 +1.7**
GRPR *e*S **Sn** **15 25 55.4 +0.5**
GRPR pmax pmax
comp=N,77nm,0.3s
GRPR pmax pmax
comp=E,159nm,0.3s
GRPR pmax pmax
comp=Z,250nm,0.3s
GRPR smax smax
comp=N,334nm,0.5s
GRPR smax smax
comp=E,424nm,0.4s
NEM2 Nemuro 2 4.56 250 P **Pn** **15 25 09.3 +0.4**
NEM2 *e*S **Sn** **15 25 58.6 -2.2**
GLVR Golovnino 4.58 255 *i* P **Pn** **15 25 11.0 +1.9**
GLVR AMB AMB 15 25 14.0
comp=E,60nm,0.2s
GLVR AMB AMB 15 25 14.0
comp=E,180nm,0.2s
GLVR AMB AMB 15 25 14.0
comp=E,200nm,0.2s
GLVR *e*S **Sn** **15 26 01.0 -0.1**
GLVR A A 15 26 11.0
comp=E,70nm,0.3s
GLVR A A 15 26 11.0
comp=E,300nm,0.3s
GLVR Golovnino 4.58 255 *d i* PN **Pn** **15 25 11.0 +1.9**
GLVR pmax pmax
comp=N,62nm,0.2s
GLVR pmax pmax
comp=E,178nm,0.2s
GLVR pmax pmax
comp=Z,202nm,0.2s
JRA Rausu 4.79 258 P **Pn** **15 25 14.3 +2.3**
JRA *e*S **Sn** **15 26 09.1 +2.7**
JNK Nakash 5.17 255 P **Pn** **15 25 18.9 +1.5**
JNK *e*S **Sn** **15 26 16.4 +0.5**
JAK Akkeshi 5.41 250 P **Pn** **15 25 21.0 +0.4**
JAK *e*S **Sn** **15 26 20.3 -1.5**
JTKR Abashiri--Toko 5.63 261 P **Pn** **15 25 8.8 +2.3**
JAR Ashorobuto 5.92 255 P **Pn** **15 25 29.7 +2.1**
JAR *e*S **Sn** **15 26 36.3 +1.9**
JMP Maruseppu 6.00 262 P **Pn** **15 25 31.4 +2.6**
JOB Onbets 6.03 251 P **Pn** **15 25 30.3 +1.2**
JOB *e*S **Sn** **15 26 36.0 -0.9**
HRK Horoka 6.31 258 *e*P **Pn** **15 25 36.3 +3.3**
SKR Severo-Kuril's 6.36 27 *e*P **Pn** **15 25 34.5 +1.0**
SKR AMB AMB 15 25 36.7
comp=Z,70nm,0.7s
SKR AMB AMB 15 25 36.7
comp=Z,4μm,0.7s
SKR *e*S **Sn** **15 26 44.0 -1.0**
SKR A A 15 26 45.0
comp=Z,60nm,0.6s
SKR A A 15 26 45.0
comp=Z,80nm,0.6s
SKR AMS AMS 15 27 52.6
comp=Z,400nm,16.0s
SKR Severo-Kuril's 6.36 27 *e*PN **Pn** **15 25 33.2 -0.3**
SKR *e*S **Sn** **15 26 44.0 -1.0**
SKR pmax pmax
comp=Z,65nm,0.7s
SKR smax smax
comp=E,78nm,0.9s
SKR smax smax
comp=N,59nm,0.6s
SKR MLR MLR
comp=Z,400nm,16.0s
YSS Yuzh-Sakhalins 6.45 290 *e*P **Pn** **15 25 36.1 +1.3**
YSS AMB AMB 15 25 37.0
comp=Z,40nm,0.6s
YSS AMB AMB 15 25 37.0
comp=Z,4μm,0.6s
YSS AMS AMS 15 28 02.0
comp=Z,700nm,14.0s
YSS Yuzh-Sakhalins 6.45 290 *e*PN **Pn** **15 25 35.6 +0.8**
YSS MLR MLR
comp=Z,700nm,16.0s
YSS MLR MLR
comp=E,700nm,13.0s
JCH Churui 6.46 250 P **Pn** **15 25 35.7 +0.6**
JCH *e*S **Sn** **15 26 46.2 -1.5**
JKK2 Kamakawa 2 6.46 262 P **Pn** **15 25 37.6 +2.5**
JKA Kamikawa-asahi 6.51 265 *e*P **Pn** **15 25 38.9 +3.2**
ASAJ Asahikawa 6.51 265 P **Pn** **15 25 38.9 +3.2**
comp=E,5.4nm,0.3s,baz=81,slow=18,SNR=64
ASAJ LR LR 15 28 21.0
comp=E,566nm,18.8s,baz=83,slow=39
ASAJ Asahikawa 6.51 265 P **Pn** **15 25 39.0 +3.2**
MYR Moyori 6.66 248 *e*P **Pn** **15 25 39.3 +1.6**
JFR Furan 6.78 257 P **Pn** **15 25 42.5 +3.1**
JEM Erimo 6.87 246 P **Pn** **15 25 43.3 +2.6**
JAB Ashibetsu 6.93 260 P **Pn** **15 25 45.0 +3.6**
JNBK Urakawa-nobuka 7.01 249 P **Pn** **15 25 43.1 +0.5**
JNBK *e*S **Sn** **15 26 58.1 -3.1**
JBT2 Biratori 2 7.07 254 P **Pn** **15 25 44.6 +1.2**
UGL Uglegorsk 7.64 305 *e*P **Pn** **15 25 55.0 +3.8**
UGL AMB AMB 15 25 57.0
comp=E,60nm,1.0s
UGL AMB AMB 15 25 57.0
comp=E,4μm,1.0s
JNB Noboribetsu 8.09 255 P **Pn** **15 25 59.2 +1.8**
JNB *e*S **Sn** **15 27 26.1 -1.7**
TYV Tymovskoe 8.33 317 *e*P **Pn** **15 26 02.5 +1.9**
TYV AMB AMB 15 26 04.6
comp=E,30nm,1.0s
TYV AMB AMB 15 26 04.6
comp=E,4μm,1.0s
JKB Kayabe 8.34 251 P **Pn** **15 26 01.4 +0.7**
JKB *e*S **Sn** **15 27 28.9 -4.8**
JYM2 Yakumo 2 8.69 254 P **Pn** **15 26 06.8 +1.2**
JANG Nango 8.80 241 P **Pn** **15 26 06.0 -1.2**
JANG *e*S Sn 15 27 36.5 -8.7
JTH Tanohata 8.85 238 P **Pn** **15 26 07.2 -0.7**
JTH *e*S Sn 15 27 39.2 -7.3
JTM Tenmabayashi 8.85 245 P **Pn** **15 26 08.3 +0.5**
JTM *e*S **Sn** **15 27 40.8 -5.6**
JSR Shiriuchi 8.91 250 P **Pn** **15 26 09.0 +0.4**
PETK Petropavlovsk- **8.95 24** P **Pn** **15 26 08.1 -1.1**
comp=E,0.6nm,0.3s,baz=186,slow=11,SNR=13
OFUJ Ofunato 9.53 234 *e*S Sn 15 27 56.7 -6.3
JIO Ouri 10.14 233 *e*S Sn 15 28 10.5 -7.4
TEY Ternei 10.63 275 *e*P **Pn** **15 26 34.4 +2.3**
MJAR Matsushiro Arr 13.26 235 P **Pn** **15 27 09.0 +0.9**
comp=E,0.2nm,0.3s,baz=25,slow=15,SNR=4.0
MJAR LR LR 15 33 17.3
comp=E,83nm,20.6s,baz=45,slow=41
MJAR Matsushiro Arr 13.26 235 PN **Pn** **15 27 09.0 +0.9**
MJAR MLR MLR
comp=Z,83nm,20.7s
USRK Ussuriysk Ar. 14.01 273 P **Pn** **15 27 15.8 -2.5**
comp=Z,0.2nm,0.3s,baz=72,slow=13,SNR=3.0
USRK LR LR 15 32 41.1
comp=Z,196nm,19.2s,baz=63,slow=37
KLR Kul'dur 14.13 294 P **Pn** **15 27 20.3 +0.4**
comp=Z,0.1nm,0.3s,baz=126,slow=14,SNR=2.6
KLR LR LR 15 32 57.8
comp=Z,267nm,19.1s,baz=103,slow=38
KLR Kul'dur 14.13 294 *e*P **Pn** **15 27 17.0 -2.9**
KLR Kul'dur 14.13 294 *i* P **Pn** **15 27 17.0 -2.9**
MA2 Magadan 14.52 358 P **Pn** **15 27 24.1 -1.0**
comp=Z,0.6nm,0.3s,baz=177,slow=13,SNR=4.1
MA2 LR LR 15 32 33.3
comp=Z,101nm,18.9s,baz=184,slow=36
EKMR Ekimchan 14.57 310 *e*rx rx 15 27 35.0
EKMR AMB AMB 15 27 38.5
comp=Z,5.0nm,0.7s
EKMR AMB AMB 15 27 38.5
comp=Z,4μm,0.7s
BMKR Bomnak 17.47 312 *e*P **P** **15 28 03.4 -0.8**
BMKR AMB AMB 15 28 09.8
comp=Z,30nm,0.6s
ZEA Zeya 17.99 307 *e*P **Pn** **15 28 08.4 -1.1**
ZEA AMB AMB 15 28 12.8
comp=Z,20nm,1.0s
ZEA AMS AMS 15 35 37.0
comp=Z,400nm,15.0s
ZEA AMS AMS 15 35 37.0
comp=Z,4μm,15.0s
ZEA Zeya 17.99 307 *e*P **Pn** **15 28 08.4 -1.1**
ZEA pmax pmax
comp=Z,23nm,1.0s
ZEA MLR MLR
ZEA MLR MLR
comp=N,400nm,16.0s
KROS Kirovskiy 18.38 309 *e*P **P** **15 28 13.0 -1.1**
KSRS Korea Array 19.33 255 P **Pn** **15 28 27.1 +1.2**
comp=N,0.2nm,0.3s,baz=60,slow=10,SNR=4.9
KSRS LR LR 15 35 54.2
comp=N,103nm,18.6s,baz=56,slow=37
JNU Nakatsue 19.98 240 LR LR 15 38 09.5
comp=N,131nm,18.2s,baz=14,slow=42
H11N2 WAKE ISLAND Hy 28.29 148 T T 16 00 44.0
baz=337,slow=76,SNR=119
H11N1 WAKE ISLAND Hy 28.30 148 T T 16 00 49.0
baz=337,slow=76,SNR=104
H11N3 WAKE ISLAND Hy 28.31 148 T T 16 00 45.8
baz=337,slow=76,SNR=107
TIXI Tiksi 28.78 345 LR LR 15 41 17.0
comp=N,62nm,19.8s,baz=195,slow=36
H11S1 WAKE ISLAND Hy 29.34 150 T T 16 02 02.8
baz=338
H11S3 WAKE ISLAND Hy 29.35 150 T T 16 02 02.4
baz=338,slow=74
H11S2 WAKE ISLAND Hy 29.36 150 T T 16 02 02.7
baz=338,slow=74
SONM Songino Array 30.93 292 LR LR 15 43 41.4
comp=N,146nm,18.3s,baz=8.0,slow=38
GUMO Guam 31.92 192 LR LR 15 44 46.3
comp=N,48nm,18.9s,baz=86,slow=38
ILAR Eielson Array 38.50 37 P **P** **15 31 21.3 +0.4**
comp=N,0.4nm,0.7s,baz=268,slow=7.2,SNR=7.3
NRIK Noril'sk 39.66 330 LR LR 15 49 20.4
comp=N,72nm,18.1s,baz=238,slow=38
DGZ Jazzator, Alta 42.51 300 *i* P P 15 31 41.8 -13
DGZ pmax pmax
comp=Z,1.0nm,1.2s
ZALV Zalesovo Beam 42.75 307 LR LR 15 50 16.5
comp=Z,78nm,19.1s,baz=72,slow=37
INK Inuvik 43.61 31 P **P** **15 32 02.5 -0.4**
comp=Z,0.5nm,0.4s,baz=242,slow=11,SNR=4.3
INK LR LR 15 53 56.7
comp=Z,54nm,19.0s,baz=68,slow=41
MKAR Makanchi Array 46.79 298 P **P** **15 32 27.7 -0.8**
comp=Z,0.4nm,0.5s,baz=66,slow=6.2,SNR=12
MKAR PcP **PcP** **15 34 02.1 +0.8**
comp=Z,0.5nm,0.7s,baz=72,slow=2.2,SNR=5.6
MKAR LR LR 15 53 05.0
comp=Z,168nm,18.5s,baz=57,slow=37
KURK Kurchatov 47.42 304 *i* P P 15 32 18.2 -15
KURK pmax pmax
comp=Z,2.0nm,1.0s
CMAR Chiang Mai Arr 50.97 256 LR LR 15 56 14.7
comp=Z,36nm,18.9s,baz=60,slow=38
JIRN Jiri 54.04 275 *e*P **P** **15 33 25.2 +1.2**
comp=Z,14nm,0.5s
GUN Gumba 54.11 275 *e*P **P** **15 33 25.6 +1.2**
comp=Z,8.7nm,0.4s
RAMN Ramite 54.18 274 *e*P **P** **15 33 25.8 +0.9**
comp=Z,12nm,0.4s
KKN Kakani 54.60 275 *e*P **P** **15 33 29.4 +1.5**
PKI Pulchoki 54.65 275 *e*P **P** **15 33 29.4 +1.1**
PKIN Phulchoki 54.65 275 *e*P **P** **15 33 29.2 +0.9**
DMN Daman 54.84 275 *e*P **P** **15 33 30.9 +1.3**
comp=Z,4.7nm,0.4s
DANN Dangsing 55.34 277 *e*P **P** **15 33 34.1 +0.8**
KOLN Koldanda 55.80 277 *e*P **P** **15 33 37.3 +0.8**
PYUN Piuthan 56.03 277 *e*P **P** **15 33 39.3 +1.2**
FINES FINESS Array B 56.09 334 P **P** **15 34 37.9 -1.3**
comp=Z,0.7nm,0.4s,baz=49,slow=6.6,SNR=13
GEYT Alibeck 66.56 301 P **P** **15 34 49.3 +0.3**
comp=Z,0.9nm,0.5s,baz=20,slow=4.7,SNR=5.9
WRA Warramunga Arr 66.61 198 P **P** **15 34 51.8 +2.4**
comp=Z,0.3nm,0.5s,baz=14,slow=6.8,SNR=5.2
NB2 NORSAR Subarra 69.45 341 P **P** **15 35 06.3 -0.5**
comp=Z,0.6nm,0.3s,baz=29,slow=6.5
NOA NORSAR Array B 69.45 341 P **P** **15 35 05.8 -1.0**
comp=Z,1.0nm,0.5s,baz=29,slow=6.5,SNR=12
NOA LR LR 16 10 43.1
comp=Z,48nm,18.4s,baz=290,slow=40
ASAR Alice Springs 70.31 197 P **P** **15 35 16.4 +4.0**
comp=Z,0.5nm,0.8s,baz=353,slow=7.9,SNR=4.2
ASAR Alice Springs 70.31 197 *e*P **P** **15 35 14.5 +2.0**
KIV Kislovodsk 71.20 314 *e*P **P** **15 35 17.9 0.0**
KIV pmax pmax
comp=Z,12nm,1.1s
KBZ Khabaz 71.25 314 P **P** **15 35 18.5 +0.4**
comp=Z,6.4nm,1.0s,baz=201,slow=3.9,SNR=10
KBZ LR LR 16 10 35.5
comp=Z,117nm,18.1s,baz=37,slow=39
AKASG Malin Array Be 72.33 326 P **P** **15 35 23.4 -1.0**
comp=Z,1.2nm,0.3s,baz=39,slow=6.2,SNR=7.3
ANMO Albuquerque 73.60 57 LR LR 16 03 08.3
comp=Z,19nm,19.9s,baz=297,slow=32
SCHQ Schefferville 75.24 22 LR LR 16 11 34.4
comp=Z,14nm,20.0s,baz=326,slow=38
BRTR Keskin Array B 78.87 316 P **P** **15 36 02.0 -0.3**
comp=Z,1.5nm,1.1s,baz=54,slow=7.5,SNR=4.7
BRTR Keskin Array B 78.87 316 P **P** **15 36 02.0 -0.3**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 79.22 59 P **P** **15 36 04.7 +0.4**
comp=Z,0.2nm,0.6s,baz=300,slow=6.1,SNR=2.7
GERES GERESS Array B 79.47 333 P **P** **15 36 05.0 -0.4**
comp=Z,0.4nm,0.4s,baz=40,slow=6.9,SNR=5.6
GERES GERESS Array B 79.47 333 *e*P **P** **15 36 05.0 -0.4**
GERES GERESS Array B 79.47 333 P **P** **15 36 05.0 -0.4**
PPT Papeete 82.06 125 LR LR 16 12 21.1
comp=Z,57nm,18.4s,baz=340,slow=35

*ISCJB **17** 15:31:23.7±0.7,41.05N±0.03×44.07E±0.05,h7km±5km, Error ellipse: s-maj=6.9km s-min=3.8km az=40.3*
*DDA **17** 15:31:23.4,41.06N×44.04E,h7km,Ml2.7*
*TIF **17** 15:31:23.8,41.11N×44.06E,h17km±1km*

ISC 17 15:31:23.4±1.2,**41.08N**±0.04×**44.07E**±0.04,**h10**km±12km, **n14,σ0s42/24,Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KZRT	**Kazreti**	**0.40**	**38**	P		**Pb**	**15 31 32.6**	**+0.1**
KZRT				S		**Sb**	**15 31 38.1**	**-0.6**
BGD	**Bogdanovka**	**0.40**	**298**	P		**Pb**	**15 31 33.1**	**+0.3**
BGD				S		**Sb**	**15 31 38.8**	**-0.3**
TRLG	**Trialeti**	**0.46**	**3**	P		**Pb**	**15 31 33.4**	**-0.4**
TRLG				S		**Sb**	**15 31 39.9**	**-0.9**
EAK	**Akyaka**	**0.53**	**222**	*i* P		**Pg**	**15 31 33.8**	**+0.1**
EAK				*i* S		**Sg**	**15 31 40.2**	**-0.3**
AKH	**Akhalkalaki**	**0.55**	**308**	P		**Pg**	**15 31 34.4**	**+0.3**
AKH				S		**Sg**	**15 31 41.6**	**+0.2**
TBLG	**Delisi**	**0.82**	**37**	P		**Pg**	**15 31 39.1**	**-0.2**
TBLG				S		**Sb**	**15 31 51.8**	**+0.8**
DIGO	**Kars**	**0.85**	**219**	*i* P		**Pg**	**15 31 39.6**	**-0.1**
DIGO				*i* S		**Sg**	**15 31 50.7**	**-0.1**
EPOS	**Posof**	**1.10**	**293**	*i* P		**Pb**	**15 31 44.3**	**-0.3**
EPOS				*i* S		**Sb**	**15 31 58.2**	**-0.8**
DUS	**Dusheti**	**1.12**	**25**	P		**Pn**	**15 31 45.4**	**+0.2**
DUS				S		**Sn**	**15 32 00.9**	**+0.2**
GUDG	**Gudauri**	**1.42**	**12**	P		**Pb**	**15 31 50.2**	**+0.2**
ONI	**Oni**	**1.58**	**343**	P		**Pb**	**15 31 52.9**	**+0.2**
ONI				S		**Sg**	**15 32 14.2**	**-0.1**
ARTV	**Artvin**	**1.62**	**275**	*i* P		**Pb**	**15 31 53.4**	**-0.1**
DAGI	**Agillar**	**1.63**	**271**	*i* P		**Pb**	**15 31 53.9**	**+0.3**
DBAD	**Bademkaya**	**1.80**	**269**	*i* P		**Pb**	**15 31 56.7**	**+0.2**

MEX 17 15:36:46.8±0.7,**16.10N**×**98.38W**,**h7km**±3km,**MD3.8,Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PNIG	**Pinotepa**	**0.37**	**40**	*e*P		Pg	15 36 53.6	-0.5
PNIG				*i* S		Sg	15 36 59.2	+0.2
TLIG	**Tlapa**	**1.46**	**353**	*e*P		Pn	15 37 09.3	-4.5
TLIG				*e*S		Sn	15 37 28.6	-4.6
VHO	**Vista Hermosa**	**1.85**	**58**	*i* P		Pn	15 37 16.5	-2.6
VHO				*i* S		Sn	15 37 37.5	-5.3
CMIG	**Matias Romero**	**3.49**	**73**	*e*P		Pn	15 37 38.7	-2.8
CMIG				*i* S		Sn	15 38 19.4	-3.7

*IDC **17** 15:38:11.1±3.3,35.89N×69.54E,h79km±29km,mb3.5/8, mb1 3.9/13,mb1mx3.6/49,mbtmp4.1/13,Error ellipse: s-maj=24.8km s-min=15.5km az=176.0*
*ISCJB **17** 15:38:13.7±0.4,36.11N±0.03×69.55E±0.05,h112km, mb3.7/8,Error ellipse: s-maj=5.5km s-min=4.2km az=161.1*
*BJI **17** 15:38:13.8,36.21N×69.28E,h81km,mb4.3/3,Ms3.9/1, Ms7 3.7/1*
*NNC **17** 15:38:18.7±2.5,36.53N×69.31E,h118km±51km,mb3.9, mpv4.4,Error ellipse: s-maj=26.8km s-min=13.4km az=156.0*

ISC 17 15:38:14.5±0.6,**36.11N**±0.06×**69.51E**±0.05,**h112**km,**n56,σ1s69/66,mb3.6/8,9C-11D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
THW	**Thamme Wali**	**3.79**	**150**	P		**Pn**	**15 39 13.2**	**+2.1**
CHCP	**Chirah Chowk**	**3.94**	**127**	P		**Pn**	**15 39 16.2**	**+3.2**
SARP	**Sargodha**	**4.94**	**147**	P		**Pn**	**15 39 27.9**	**+1.5**
SFK	**Sufi-Kurgan**	**5.01**	**38**	⇑P		**Pn**	**15 39 29.5**	**+1.9**
	12nm,0.3s							
SFK				⇓S		**Sn**	**15 40 25.1**	**+0.6**
KSH	**Kashi**	**6.14**	**54**	P		**Pn**	**15 39 41.8**	**-1.0**
KSH				S		Sn	15 40 42.3	-9.4
KSH				smax		smax		
	comp=N,610nm,0.7s							
KSH				smax		smax		
	comp=E,350nm,0.6s							
MNAS	**Manas**	**6.78**	**19**	⇓P		**Pn**	**15 39 52.1**	**+0.7**
	20nm,0.4s							
MNAS				⇑S		**Sn**	**15 41 03.7**	**-3.3**
	43nm,0.6s							
AML	**Almayashu**	**6.83**	**27**	P		**Pn**	**15 39 53.1**	**+0.7**
	SNR=134							
KK31	**Karatay Array**	**7.02**	**6**	⇓P		**Pn**	**15 39 55.2**	**+0.6**
	14nm,0.3s,baz=179,slow=9.6,SNR=214							
KK31				⇓S		**Sn**	**15 41 08.3**	**-4.7**
	7.2nm,0.3s,baz=183,slow=22,SNR=9.0							
UCH	**Uchtor**	**7.24**	**31**	P		**Pn**	**15 39 58.7**	**+0.8**
	SNR=68							
EKS2	**Erkin-Say**	**7.33**	**25**	P		**Pn**	**15 39 59.8**	**+1.0**
	SNR=28							
KZA	**Kyzart**	**7.44**	**35**	P		**Pn**	**15 40 01.3**	**+0.6**
	SNR=13							
AAK	**Ala-Archa**	**7.57**	**29**	P		**Pn**	**15 40 03.2**	**+1.0**
	7.8nm,0.3s,baz=201,slow=9.7,SNR=83							
AAK				S		**Sn**	**15 41 25.3**	**-1.1**
	2.3nm,0.3s,baz=134,slow=23,SNR=10							
AAK	**Ala-Archa**	**7.57**	**29**	⇓P		**Pn**	**15 40 03.0**	**+0.8**
	12nm,0.5s							
AAK				⇑S		**Sn**	**15 41 25.5**	**-0.9**
	34nm,0.6s							
AAK	**Ala-Archa**	**7.57**	**29**	P		**Pn**	**15 40 03.3**	**+1.0**
	SNR=38							
KBK	**Karagaybulak**	**7.77**	**31**	P		**Pn**	**15 40 06.1**	**+1.2**
	SNR=22							
CHMS	**Chumysh**	**7.98**	**29**	P		**Pn**	**15 40 08.3**	**+0.7**
	SNR=24							
ULHL	**Ulahol**	**8.05**	**38**	P		**Pn**	**15 40 09.7**	**+1.0**
	SNR=9.9							
USP	**Ospenovka**	**8.11**	**27**	P		**Pn**	**15 40 09.7**	**+0.3**
	SNR=28							
TKM2	**Tokmak 2**	**8.26**	**33**	⇑P		**Pn**	**15 40 12.0**	**+0.4**
	6.9nm,0.5s							
TKM2				⇑S		**Sn**	**15 41 40.6**	**-2.8**
	13nm,0.7s							
TKM2	**Tokmak 2**	**8.26**	**33**	P		**Pn**	**15 40 12.2**	**+0.6**
	SNR=21							
GEYT	**Alibeck**	**9.29**	**285**	P		**Pn**	**15 40 24.5**	**-0.9**
	4.9nm,0.3s,baz=98,slow=12,SNR=84							
GEYT				S		**Sn**	**15 42 04.7**	**-3.4**
	1.7nm,0.3s,baz=170,slow=34,SNR=4.7							
GYA0B	**ALIBECK ARRAY**	**9.29**	**285**	⇑P		**Pn**	**15 40 25.4**	**0.0**
	6.1nm,0.3s							
GYA0B				⇑S		**Sn**	**15 42 04.4**	**-3.7**
	33nm,0.7s							
NDI	**New Delhi**	**9.86**	**137**	*e*P		**Pn**	**15 40 36.0**	**+2.9**
NDI				*e*S		**Sn**	**15 42 17.0**	**-5.0**
PDGK	**Podgornoye**	**10.53**	**44**	⇑P		**Pn**	**15 40 42.3**	**+0.1**
	3.5nm,0.8s							
PDGK				⇑S		**Sn**	**15 42 35.6**	**-2.6**
	13nm,1.2s							
OTUK	**Ortayu**	**12.30**	**9**	⇓P		**Pn**	**15 41 04.9**	**-0.8**
	8.1nm,0.6s							
OTUK				⇓S		Sn	15 43 12.7	-8.2
	5.6nm,0.6s							
PYUN	**Piuthan**	**13.93**	**121**	*e*P		**Pn**	**15 41 25.3**	**-1.9**
	35nm,0.3s							
DANN	**Dangsing**	**14.32**	**119**	*e*P		**Pn**	**15 41 31.1**	**-1.2**
	32nm,0.5s							
MK31	**Makanchi Array**	**14.32**	**38**	⇓P		**P**	**15 41 37.4**	**+1.8**
	0.3nm,0.8s,baz=212,slow=9.6,SNR=7.2							
MKAR	**Makanchi Array**	**14.32**	**38**	P		**Pn**	**15 41 32.5**	**+0.6**
	0.3nm,0.3s,baz=222,slow=10,SNR=17							
KOLN	**Koldanda**	**14.56**	**121**	*e*P		**Pn**	**15 41 33.9**	**-1.3**
	30nm,0.4s							
AB31	**Akbulak array**	**14.88**	**335**	⇓P		**Pn**	**15 41 37.9**	**-1.1**
	2.2nm,0.3s,baz=146,slow=13,SNR=189							
DMN	**Daman**	**15.71**	**118**	*e*P		**Pn**	**15 41 49.2**	**-0.6**
	53nm,0.6s							
KKN	**Kakani**	**15.73**	**117**	*e*P		**Pn**	**15 41 49.6**	**-0.4**
	32nm,0.5s							
KURBB	**Kurchatov Arra**	**15.90**	**21**	P		**Pn**	**15 41 49.9**	**-1.7**
	0.1nm,0.3s,baz=210,slow=10,SNR=6.8							
PKIN	**Phulchoki**	**15.94**	**118**	*e*P		**Pn**	**15 41 51.5**	**-1.2**
	16nm,0.2s							
PKI	**Pulchoki**	**15.95**	**118**	*e*P		**Pn**	**15 41 51.7**	**-1.2**
	34nm,0.6s							
GUN	**Gumba**	**16.10**	**116**	*e*P		**Pn**	**15 41 54.0**	**-0.7**
	20nm,0.3s							
JIRN	**Jiri**	**16.47**	**116**	*e*P		**Pn**	**15 41 59.2**	**0.0**
	86nm,0.3s							
AKTO	**Aktyubinsk**	**16.55**	**333**	P		**Pn**	**15 41 60.0**	**+0.3**
	1.8nm,0.3s,baz=143,slow=10,SNR=20							
AKTO	**Aktyubinsk**	**16.55**	**333**	⇓P		**Pn**	**15 42 00.1**	**+0.4**
	10nm,0.7s							
BVA0	**Borovoye Array**	**16.92**	**2**	⇓P		**Pn**	**15 42 04.8**	**+0.6**
	4.6nm,0.6s,baz=161,slow=13,SNR=73							
BVAR	**Borovoye Array**	**16.92**	**2**	P		**Pn**	**15 42 03.8**	**-0.4**
	3.0nm,0.3s,baz=173,slow=12,SNR=41							
RAMN	**Ramite**	**17.18**	**117**	*e*P		**Pn**	**15 42 07.5**	**-0.3**
	32nm,0.4s							
TAPN	**Taplejung**	**17.75**	**114**	*e*P		**Pn**	**15 42 15.1**	**+0.3**
ODAN	**Odare**	**17.80**	**116**	*e*P		**Pn**	**15 42 15.2**	**-0.1**
	18nm,0.4s							
GNI	**Garni**	**19.88**	**289**	P		**Pn**	**15 42 40.4**	**+0.8**
	0.7nm,0.3s,baz=310,slow=4.2,SNR=10							
ZALV	**Zalesovo Beam**	**20.78**	**26**	P		**P**	**15 42 48.4**	**+2.1**
	30nm,0.5s,baz=222,slow=11,SNR=132							
KBZ	**Khabaz**	**21.72**	**299**	P		**P**	**15 42 58.1**	**+1.7**
	3.5nm,0.9s,baz=107,slow=11,SNR=6.7							
FINES	**FINESS Array B**	**37.14**	**327**	P		**P**	**15 45 15.4**	**+1.5**
	2.0nm,0.7s,baz=116,slow=8.9,SNR=5.4							
ARCES	**ARCESS Array B**	**41.05**	**338**	P		**P**	**15 45 48.5**	**+2.1**
	6.3nm,1.1s,baz=104,slow=8.0,SNR=14							
NB2	**NORSAR Subarra**	**43.97**	**323**	P		**P**	**15 46 11.2**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=98,slow=7.9							
NOA	**NORSAR Array B**	**43.97**	**323**	P		**P**	**15 46 11.4**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=106,slow=7.2,SNR=4.3							
ESDC	**Sonseca Array**	**56.57**	**298**	P		**P**	**15 47 47.0**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=65,slow=7.7,SNR=4.9							
TORD	**Torodi Ar. Bea**	**64.50**	**268**	P		**P**	**15 48 38.8**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=67,slow=5.6,SNR=4.1							

WRA	**Warramunga Arr**	**82.82**	**121**	P	**P**	**15 50 26.2**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=322,slow=4.8,SNR=9.6						
ASAR	**Alice Springs**	**85.03**	**124**	P	**P**	**15 50 36.9**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=306,slow=4.7,SNR=5.4						

IDC ***17*** *15:40:13.7±2.6, 22.94N×11.85W, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.4/48, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=77.7km s-min=35.8km az=75.0*

ISC 17 15:40:15.1±2.3, 23.0N±0.2×11.9W±0.3, h10km, n11, σ0s66/9, mb3.7/3, Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTIG	**Tnine Tigouga,**	**8.11**	**21**	P	**Pn**	**15 42 12.2**	**-0.8**
TTIG	**Tnine Tigouga,**	**8.11**	**21**	S	Sb	15 44 15.4	+2.9
OUK	**Oukaimeden**	**8.91**	**23**	P	**Pn**	**15 42 24.0**	**-0.3**
OUK	**Oukaimeden**	**8.91**	**23**	S	Sn	15 44 33.4	+29
TORD	**Torodi Ar. Bea**	**16.19**	**125**	Pn	**Pn**	**15 44 02.2**	**-0.7**
	0.2nm,0.3s,baz=310,slow=9.2,SNR=5.2						
TORD				Sn	**Sn**	**15 47 03.1**	**+0.5**
	0.1nm,0.3s,baz=310,slow=22,SNR=3.2						
I48TN	**KESRA INFRASON**	**22.38**	**51**	*i*		17 56 50.0	
	baz=238,slow=324,SNR=0.5						
GERES	**GERESS Array B**	**32.78**	**32**	P	**P**	**15 46 48.8**	**+0.4**
	0.8nm,0.8s,baz=219,slow=9.6,SNR=5.2						
FINES	**FINESS Array B**	**46.37**	**24**	P	**P**	**15 48 41.8**	**+0.5**
	1.0nm,0.9s,baz=237,slow=8.7,SNR=4.6						
MKAR	**Makanchi Array**	**76.33**	**45**	P	**P**	**15 52 04.9**	**+0.5**
	0.3nm,0.5s,baz=306,slow=4.3,SNR=6.0						
WRA	**Warramunga Arr**	**148.45**	**91**	PKPbc	**PKPbc**	**16 00 02.2**	**-0.6**
	0.5nm,0.7s,baz=295,slow=2.2,SNR=6.2						
ASAR	**Alice Springs**	**148.62**	**98**	PKPbc	**PKPbc**	**16 00 02.8**	**-0.3**
	0.5nm,0.7s,baz=289,slow=1.8,SNR=9.1						

ISC 17 16:27:01.1±1.2, 45.00N±0.04×14.78E±0.06, h10km±13km, n7, σ0s52/12, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NVLJ	**Novalja**	**0.45**	**171**	*e*Pg	**Pg**	**16 27 09.4**	**-0.3**
NVLJ				Sg	**Sg**	**16 27 16.1**	**+0.5**
KNDS	**Knezji Dol**	**0.59**	**332**	*i* Pg	**Pg**	**16 27 12.2**	**-0.4**
KNDS				*i* Sg	**Sb**	**16 27 21.8**	**-0.3**
BOJS	**Bojanci**	**0.60**	**34**	*i* Pg	**Pg**	**16 27 12.4**	**-0.4**
BOJS				*i* Sg	**Sg**	**16 27 21.4**	**+0.7**
SKDS	**Skadanscina**	**0.77**	**316**	*i* Sg	**Sb**	**16 27 26.9**	**-0.1**
	comp=Z,1.0nm,0.1s						
OZLJ	**Ozalj**	**0.78**	**38**	Sg	**Sb**	**16 27 27.0**	**-0.4**
VISS	**Visnje**	**0.80**	**3**	*e*Pg	**Pg**	**16 27 16.2**	**-0.3**
VISS				*i* Sg	**Sg**	**16 27 27.6**	**+0.6**
JAVS	**Javornik**	**1.02**	**331**	*i* Pg	**Pg**	**16 27 20.4**	**-0.3**
JAVS				*i* Sg	**Sn**	**16 27 36.5**	**+0.5**

MEX 17 16:34:15.3±0.4, 18.03N×97.70W, h59km±3km, MD3.5, Central Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPIG	**Tehuac#an**	**0.51**	**40**	*e*P	Pn	16 34 26.2	-1.3
TPIG				*e*S	Sn	16 34 34.8	-1.4
TLIG	**Tlapa**	**0.94**	**241**	*i* P	Pn	16 34 31.2	-1.5
TLIG				*i* S	Sn	16 34 44.2	-1.4
VHO	**Vista Hermosa**	**1.33**	**136**	*i* P	Pn	16 34 36.3	-1.5
VHO				*i* S	Sn	16 34 53.1	-1.5
PPM	**Popocatepetl**	**1.35**	**320**	*e*P	Pn	16 34 37.8	-0.7
PPM				*e*S	Sn	16 34 54.1	-1.7

NIED ***17*** *16:37:00, 45.50N×151.60E, h38km, Mw4.5 Best double couple: M0≤5.33000×10^15 NP1:φs=143.00000°, δ37.00000°, λ-6.00000°. NP2:φs=238.00000°, δ86.00000°, λ-127.00000°.*

ISCJB ***17*** *16:37:36.6±0.9, 45.22N±0.03×151.49E±0.04, h30km±6km, mb4.5/81, MS3.9/22, Error ellipse: s-maj=6.2km s-min=3.2km az=146.5*

MOS ***17*** *16:37:37.8±0.9, 45.31N×151.54E, h41km, mb4.9/37, Error ellipse: s-maj=6.9km s-min=5.4km az=106.2*

JMA ***17*** *16:37:37.0±0.5, 45.50N×151.56E, h30km, M5.1*

SKHL ***17*** *16:37:38.6±0.6, 45.16N×151.62E, h56km±1km, mb5.1/1, Ms3.8/6*

BJI ***17*** *16:37:39.7, 45.29N×151.23E, h45km, mb4.8/53, mB4.9/34, Ms4.3/22, Ms7 4.1/19*

NEIC ***17*** *16:37:39.2±0.4, 45.33N×151.48E, h35km, mb4.9/12, Error ellipse: s-maj=9.8km s-min=5.0km az=143.0*

IDC ***17*** *16:37:41.1±2.1, 45.45N×151.42E, h46km±18km, mb4.1/27, mb1 4.2/34, mb1mx4.1/60, mbtmp4.3/34, ML3.7/6, MS3.6/22, Ms1 3.7/22, ms1mx3.4/44, Error ellipse: s-maj=15.4km s-min=10.8km az=144.0*

ISC 17 16:37:38.0±0.7, 45.20N±0.05×151.52E±0.05, h29km±4km, n292, σ1s58/325, mb4.6/81, MS3.9/22, 33C-13D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.58**	**272**	*i* P	**Pn**	**16 38 19.0**	**+1.3**
KUR				AMB	AMB	16 38 19.0	
	320nm,0.3s						
KUR				AMB	AMB	16 38 19.0	
	70nm,0.3s						
KUR				AMB	AMB	16 38 19.0	
	610nm,0.3s						
KUR				*i* S	**Sn**	**16 38 49.0**	**+0.9**
KUR				A	A	16 38 55.0	
	3μm,0.6s						
KUR				A	A	16 38 55.0	
	1μm,0.6s						
KUR				AMS	AMS	16 39 27.0	
	500nm,14.0s						
KUR				AMS	AMS	16 39 27.0	
	300nm,14.0s						
KUR				AMS	AMS	16 39 27.0	
	1μm,14.0s						
KUR	**Kuril'sk**	**2.58**	**272**	*d* iPN	**Pn**	**16 38 19.4**	**+1.7**
KUR				*i* S	**Sn**	**16 38 49.4**	**+1.3**
KUR				pmax	pmax		
	comp=Z,608nm,0.3s						
KUR				pmax	pmax		
	comp=N,205nm,0.1s						
KUR				pmax	pmax		
	comp=E,69nm,0.1s						
KUR				smax	smax		
	comp=E,1μm,0.5s						
KUR				smax	smax		
	comp=N,3μm,0.6s						
KUR				MLR	MLR		
	comp=Z,1μm,14.0s						
KUR				MLR	MLR		
	comp=E,307nm,12.0s						
KUR				MLR	MLR		
	comp=N,535nm,14.0s						
SHO	**Shikotan**	**3.61**	**250**	*e*P	**Pn**	**16 38 32.0**	**+0.1**
SHO				AMB	AMB	16 38 35.0	
	comp=N,50nm,0.4s						
SHO				AMB	AMB	16 38 35.0	
	comp=N,70nm,0.4s						
SHO				AMB	AMB	16 38 35.0	
	comp=N,200nm,0.4s						
SHO				*i* S	**Sn**	**16 39 12.0**	**-1.4**
SHO				A	A	16 39 16.0	
	comp=N,710nm,0.4s						
SHO				A	A	16 39 16.0	
	comp=N,590nm,0.4s						
SHO				AMS	AMS	16 40 01.0	
	comp=N,520nm,15.0s						
SHO				AMS	AMS	16 40 01.0	
	comp=N,560nm,15.0s						
SHO	**Shikotan**	**3.61**	**250**	*e*PN	**Pn**	**16 38 32.7**	**+0.8**
SHO				pmax	pmax		
	comp=Z,201nm,0.4s						
SHO				pmax	pmax		
	comp=N,52nm,0.2s						
SHO				pmax	pmax		
	comp=E,68nm,0.2s						
SHO				MLR	MLR		
	comp=N,521nm,15.0s						
SHO				MLR	MLR		
	comp=Z,562nm,15.0s						
YUK	**Yuzh-Kuril'sk**	**4.20**	**256**	*i* P	**Pn**	**16 38 41.5**	**+1.4**
YUK				AMB	AMB	16 38 42.0	
	comp=Z,50nm,0.2s						
YUK				AMB	AMB	16 38 42.0	
	comp=Z,90nm,0.2s						
YUK				AMB	AMB	16 38 42.0	
	comp=Z,670nm,0.2s						
YUK				*i* S	**Sn**	**16 39 29.0**	**+0.9**
YUK				A	A	16 39 43.0	
	comp=Z,1μm,0.4s						
YUK				A	A	16 39 43.0	
	comp=Z,270nm,0.4s						
YUK				AMS	AMS	16 40 18.0	
	comp=Z,300nm,15.0s						
YUK	**Yuzh-Kuril'sk**	**4.20**	**256**	*d* iPN	**Pn**	**16 38 41.4**	**+1.4**
YUK				*i* S	**Sn**	**16 39 29.2**	**+1.1**
YUK				pmax	pmax		
	comp=Z,669nm,0.2s						
YUK				pmax	pmax		
	comp=E,86nm,0.1s						
YUK				pmax	pmax		
	comp=N,52nm,0.2s						
YUK				smax	smax		
	comp=N,1μm,0.4s						
YUK				smax	smax		
	comp=E,274nm,0.2s						
YUK				MLR	MLR		
	comp=Z,288nm,15.0s						
LAGR	**Lagunnoye**	**4.25**	**256**	*e*P	**Pn**	**16 38 42.0**	**+1.3**
LAGR				AMB	AMB	16 38 46.0	
	comp=Z,180nm,0.3s						
LAGR				AMB	AMB	16 38 46.0	
	comp=Z,240nm,0.3s						
LAGR				AMB	AMB	16 38 46.0	
	comp=Z,360nm,0.3s						
LAGR				*i* S	**Sn**	**16 39 29.0**	**-0.3**
LAGR				A	A	16 39 42.0	
	comp=Z,910nm,0.4s						
LAGR				A	A	16 39 42.0	
	comp=Z,180nm,0.4s						
LAGR				AMS	AMS	16 39 55.0	
	comp=Z,2μm,13.0s						
LAGR				AMS	AMS	16 39 55.0	
	comp=Z,4μm,13.0s						
LAGR	**Lagunnoye**	**4.25**	**256**	*e*PN	**Pn**	**16 38 42.6**	**+1.9**
LAGR				pmax	pmax		
	comp=Z,362nm,0.3s						
LAGR				pmax	pmax		
	comp=N,182nm,0.2s						
LAGR				pmax	pmax		
	comp=E,242nm,0.2s						
LAGR				MLR	MLR		
	comp=E,2μm,13.0s						
LAGR				MLR	MLR		
	comp=Z,3μm,13.0s						
GRPR	**Tuman**	**4.28**	**256**	*e*P	**Pn**	**16 38 42.0**	**+0.9**
GRPR				AMB	AMB	16 38 53.0	
	comp=Z,60nm,0.3s						
GRPR				AMB	AMB	16 38 53.0	
	comp=Z,340nm,0.3s						
GRPR				AMB	AMB	16 38 53.0	
	comp=Z,520nm,0.3s						
GRPR				*e*S	**Sn**	**16 39 30.0**	**0.0**
GRPR				A	A	16 39 45.0	
	comp=Z,760nm,0.5s						
GRPR				A	A	16 39 45.0	
	comp=Z,1μm,0.5s						
GRPR	**Tuman**	**4.28**	**256**	*e*PN	**Pn**	**16 38 42.5**	**+1.4**
GRPR				pmax	pmax		
	comp=N,59nm,0.3s						
GRPR				pmax	pmax		
	comp=E,335nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,518nm,0.3s						
NEM2	**Nemuro 2**	**4.53**	**248**	P	**Pn**	**16 38 44.9**	**+0.3**
NEM2				*e*S	**Sn**	**16 39 34.8**	**-1.5**
GLVR	**Golovnino**	**4.54**	**253**	*i* P	**Pn**	**16 38 46.0**	**+1.4**
GLVR				AMB	AMB	16 38 46.0	
	comp=Z,70nm,0.2s						
GLVR				AMB	AMB	16 38 46.0	
	comp=Z,370nm,0.2s						
GLVR				*e*S	**Sn**	**16 39 37.0**	**+0.7**
GLVR				A	A	16 39 39.0	
	comp=Z,700nm,0.3s						
GLVR				A	A	16 39 39.0	
	comp=Z,100nm,0.3s						
GLVR	**Golovnino**	**4.54**	**253**	*c i*PN	**Pn**	**16 38 46.3**	**+1.7**
GLVR				pmax	pmax		
	comp=E,66nm,0.2s						
GLVR				pmax	pmax		
	comp=Z,367nm,0.2s						
JRA	**Rausu**	**4.74**	**257**	P	**Pn**	**16 38 49.5**	**+2.1**
JRA				*e*S	**Sn**	**16 39 43.6**	**+2.2**
JAK	**Akkeshi**	**5.38**	**248**	P	**Pn**	**16 38 56.5**	**+0.2**
JAK				*e*S	**Sn**	**16 39 55.6**	**-1.6**
JTKR	**Abashiri--Toko**	**5.57**	**260**	P	**Pn**	**16 39 01.1**	**+2.2**
JMP	**Maruseppu**	**5.95**	**261**	P	**Pn**	**16 39 06.8**	**+2.8**
JOB	**Onbets**	**5.99**	**250**	P	**Pn**	**16 39 05.7**	**+1.0**
JOB				*e*S	**Sn**	**16 40 12.3**	**0.0**
HRK	**Horoka**	**6.26**	**257**	*e*P	**Pn**	**16 39 10.8**	**+2.4**
SKR	**Severo-Kuril's**	**6.29**	**28**	*e*P	**Pn**	**16 39 09.3**	**+0.6**
SKR				AMB	AMB	16 39 10.2	
	comp=Z,150nm,0.6s						
SKR				AMB	AMB	16 39 10.2	
	comp=Z,5μm,0.6s						
SKR				*e*S	**Sn**	**16 40 17.4**	**-2.2**
SKR				A	A	16 40 30.8	
	comp=Z,260nm,0.7s						
SKR				A	A	16 40 30.8	
	comp=Z,160nm,0.7s						
SKR				AMS	AMS	16 41 34.9	
	comp=Z,500nm,18.0s						
SKR	**Severo-Kuril's**	**6.29**	**28**	*e*PN	**Pn**	**16 39 07.2**	**-1.5**
SKR				pmax	pmax		
	comp=Z,146nm,0.6s						
SKR				MLR	MLR		
	comp=Z,500nm,17.0s						
YSS	**Yuzh-Sakhalins**	**6.34**	**289**	*e*Pn	**Pn**	**16 39 11.7**	**+2.2**
YSS	**Yuzh-Sakhalins**	**6.34**	**289**	*e*P	**Pn**	**16 39 11.6**	**+2.2**
YSS				*e*S	**Sn**	**16 40 19.6**	**-1.2**
YSS				A	A	16 40 24.6	
	comp=Z,300nm,3.0s						
YSS				AMS	AMS	16 41 35.0	
	comp=Z,1μm,15.0s						
YSS	**Yuzh-Sakhalins**	**6.34**	**289**	*e*PN	**Pn**	**16 39 11.6**	**+2.2**
YSS				MLR	MLR		
	comp=Z,1μm,15.0s						
JKK2	**Kamakawa 2**	**6.41**	**261**	P	**Pn**	**16 39 13.0**	**+2.6**
JCH	**Churui**	**6.43**	**249**	P	**Pn**	**16 39 11.1**	**+0.4**
JCH				*e*S	**Sn**	**16 40 21.4**	**-1.7**
ASAJ	**Asahikawa**	**6.45**	**263**	P	**Pn**	**16 39 13.9**	**+2.9**
	comp=Z,12nm,0.3s,baz=58,slow=18,SNR=130						
ASAJ				LR	LR	16 41 55.7	
	comp=Z,689nm,18.4s,baz=83,slow=40						
ASAJ	**Asahikawa**	**6.45**	**263**	P	**Pn**	**16 39 13.7**	**+2.7**
MYR	**Moyori**	**6.63**	**247**	*e*P	**Pn**	**16 39 14.5**	**+1.1**
MYR				*e*S	**Sn**	**16 40 26.4**	**-1.6**
JWK2	**Keihoku**	**6.79**	**274**	P	Pn	16 39 20.5	+4.9
JEM	**Erimo**	**6.85**	**245**	P	**Pn**	**16 39 18.9**	**+2.5**
JEM				*e*S	**Sn**	**16 40 33.7**	**+0.3**
ERM	**Erimo**	**6.85**	**245**	*e*Pn	**Pn**	**16 39 19.4**	**+3.0**
ERM				*e*Sn	**Sn**	**16 40 29.4**	**-4.0**
ERM	**Erimo**	**6.85**	**245**	*e*PN	**Pn**	**16 39 19.4**	**+3.0**
JAB	**Ashibetsu**	**6.88**	**259**	P	**Pn**	**16 39 20.1**	**+3.3**
JNBK	**Urakawa-nobuka**	**6.99**	**248**	P	**Pn**	**16 39 18.5**	**+0.2**
JNBK				*e*S	**Sn**	**16 40 35.0**	**-1.7**
JHR	**Hokuryu**	**7.16**	**262**	P	**Pn**	**16 39 24.2**	**+3.6**
PAU	**Pauzhetka**	**7.19**	**27**	*e*P	**Pn**	**16 39 23.5**	**+2.4**
PAU				AMB	AMB	16 39 29.9	
	comp=Z,360nm,0.8s						
PAU				AMB	AMB	16 39 29.9	
	comp=Z,5μm,0.8s						
PAU				*e*S	**Sn**	**16 40 39.2**	**-2.5**
PAU				A	A	16 40 43.3	
	comp=Z,220nm,0.7s						
UGL	**Uglegorsk**	**7.52**	**304**	*i* P	**Pn**	**16 39 28.9**	**+3.3**
UGL				AMB	AMB	16 39 29.2	
	comp=Z,100nm,0.5s						
UGL				AMB	AMB	16 39 29.2	
	comp=Z,5μm,0.5s						
UGL				*e*S	**Sn**	**16 40 48.9**	**-0.9**
UGL				A	A	16 40 52.0	
	comp=Z,110nm,0.5s						
UGL	**Uglegorsk**	**7.52**	**304**	*i* PN	**Pn**	**16 39 28.9**	**+3.3**
UGL				pmax	pmax		
	comp=Z,104nm,0.5s						
TYV	**Tymovskoe**	**8.20**	**317**	*e*P	**Pn**	**16 39 36.8**	**+1.9**
TYV				AMB	AMB	16 39 37.2	
	comp=Z,30nm,0.7s						
TYV				AMB	AMB	16 39 37.2	
	comp=Z,4μm,0.7s						
TYV				AMB	AMB	16 39 39.1	
	comp=Z,100nm,2.0s						
TYV				AMB	AMB	16 39 39.1	
	comp=Z,5μm,2.0s						
TYV				*e*S	**Sn**	**16 41 06.4**	**-0.2**
TYV				A	A	16 41 08.6	
	comp=Z,20nm,1.0s						
TYV				AMS	AMS	16 42 49.7	
	comp=Z,1μm,13.0s						
TYV				AMS	AMS	16 42 49.7	
	comp=Z,700nm,13.0s						
TYV	**Tymovskoe**	**8.20**	**317**	*e*PN	**Pn**	**16 39 36.8**	**+1.9**
TYV				pmax	pmax		
	comp=Z,27nm,0.7s						
TYV				pmax	pmax		
	comp=Z,100nm,2.3s						
TYV				MLR	MLR		
	comp=E,1μm,13.0s						
TYV				MLR	MLR		
	comp=Z,700nm,13.0s						
JKB	**Kayabe**	**8.30**	**250**	P	**Pn**	**16 39 36.6**	**+0.2**
JKB				*e*S	**Sn**	**16 41 04.2**	**-4.9**
JANG	**Nango**	**8.79**	**240**	P	**Pn**	**16 39 41.3**	**-1.8**
JANG				*e*S	**Sn**	**16 41 14.2**	**-7.0**
JTM	**Tenmabayashi**	**8.84**	**244**	P	**Pn**	**16 39 43.5**	**-0.2**
JTM				*e*S	**Sn**	**16 41 15.6**	**-6.6**
JTH	**Tanohata**	**8.85**	**237**	P	**Pn**	**16 39 42.0**	**-1.9**
JTH				*e*S	Sn	16 41 14.6	-8.0
JSR	**Shiriuchi**	**8.88**	**249**	P	**Pn**	**16 39 44.4**	**+0.2**
PEA0B	**Petropavlovsk-**	**8.89**	**25**	*e*Pn	**Pn**	**16 39 43.0**	**-1.3**
PETK	**Petropavlovsk-**	**8.89**	**25**	P	**Pn**	**16 39 44.1**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=194,slow=11,SNR=16						
PETK	**Petropavlovsk-**	**8.89**	**25**	*e*Pn	**Pn**	**16 39 45.9**	**+1.6**
PETK	**Petropavlovsk-**	**8.89**	**25**	*e*PN	**Pn**	**16 39 45.9**	**+1.6**
PET	**Petropavlovsk**	**9.12**	**28**	*e*S	**Sn**	**16 41 25.5**	**-3.5**
PET				AMS	AMS	16 43 44.8	
	comp=Z,400nm,14.0s						
OFUJ	**Ofunato**	**9.53**	**234**	P	**Pn**	**16 39 52.2**	**-1.0**
JRG	**Rokugo**	**9.93**	**238**	P	**Pn**	**16 39 57.7**	**-0.9**
OKH	**Okha**	**10.05**	**329**	*e*P	**Pn**	**16 40 03.7**	**+3.5**
OKH				*e*S	**Sn**	**16 41 54.4**	**+2.6**
OKH				AMS	AMS	16 44 50.2	
	comp=Z,300nm,13.0s						
JIO	**Ouri**	**10.14**	**232**	P	**Pn**	**16 40 00.2**	**-1.4**
TEY	**Ternei**	**10.54**	**274**	*e*P	**Pn**	**16 40 10.5**	**+3.5**
TEY	**Ternei**	**10.54**	**274**	*e*PN	**Pn**	**16 40 10.5**	**+3.5**
NKL	**Nikolayevsk**	**10.65**	**322**	*e*P	**Pn**	**16 40 09.0**	**+0.6**
NKL				AMB	AMB	16 40 13.3	
	comp=Z,50nm,0.9s						
NKL				AMB	AMB	16 40 13.3	
	comp=Z,5μm,0.9s						
NKL				AMS	AMS	16 45 09.0	
	comp=Z,500nm,14.0s						
NKL				AMS	AMS	16 45 09.0	
	comp=Z,600nm,14.0s						
NKL	**Nikolayevsk**	**10.65**	**322**	*e*PN	**Pn**	**16 40 09.0**	**+0.6**
NKL				pmax	pmax		
	comp=Z,53nm,0.9s						
NKL				MLR	MLR		
	comp=E,500nm,14.0s						
NKL				MLR	MLR		
	comp=Z,600nm,14.0s						
JFY	**Yanaizu**	**11.80**	**233**	P	**Pn**	**16 40 24.2**	**-0.1**
MJAR	**Matsushiro Arr**	**13.26**	**234**	P	**Pn**	**16 40 43.5**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=63,slow=11,SNR=8.6						
MJAR				LR	LR	16 46 31.6	
	comp=Z,82nm,21.6s,baz=40,slow=40						
MJB9	**Matsu-Tunnel**	**13.26**	**234**	*e*Pn	**Pn**	**16 40 43.7**	**-0.6**
MAJO	**Matsushiro**	**13.26**	**234**	*e*Pn	**Pn**	**16 40 43.6**	**-0.6**
MAJO	**Matsushiro**	**13.26**	**234**	*e*P	**Pn**	**16 40 44.7**	**+0.4**
MAJO	**Matsushiro**	**13.26**	**234**	*i* PN	**Pn**	**16 40 44.7**	**+0.4**
MAJO				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MAT	**Matsushiro**	**13.26**	**234**	P	**Pn**	**16 40 43.2**	**-1.1**
USRK	**Ussuriysk Ar.**	**13.93**	**273**	P	**Pn**	**16 40 53.5**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=76,slow=13,SNR=12						
USRK				LR	LR	16 46 25.2	
	comp=Z,267nm,18.2s,baz=55,slow=38						
KLR	**Kul'dur**	**14.02**	**294**	P	**Pn**	**16 40 54.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=100,slow=6.1,SNR=2.3						
KLR				LR	LR	16 46 32.4	
	comp=Z,319nm,18.9s,baz=170,slow=38						
KLR	**Kul'dur**	**14.02**	**294**	*e*P	**Pn**	**16 40 55.1**	**+0.6**
KLR	**Kul'dur**	**14.02**	**294**	*e*P	**Pn**	**16 40 55.1**	**+0.6**
MA2	**Magadan**	**14.40**	**358**	P	**Pn**	**16 40 59.2**	**-0.4**
	comp=Z,1.5nm,0.3s,baz=200,slow=10,SNR=17						
MA2				LR	LR	16 46 54.3	
	comp=Z,193nm,18.2s,baz=175,slow=39						
MA2	**Magadan**	**14.40**	**358**	*e*Pn	**Pn**	**16 40 57.7**	**-2.0**
MA2	**Magadan**	**14.40**	**358**	*e*P	**Pn**	**16 40 58.6**	**-1.1**
MA2	**Magadan**	**14.40**	**358**	*i* P	**Pn**	**16 40 58.6**	**-1.1**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
EKMR	**Ekimchan**	**14.45**	**310**	*e*P	**Pn**	**16 41 02.2**	**+1.8**
EKMR				AMB	AMB	16 41 13.8	
	comp=Z,7.0nm,0.7s						
EKMR				AMB	AMB	16 41 13.8	
	comp=Z,4μm,0.7s						
MDJ	**Mudanjiang**	**15.54**	**276**	P	**Pn**	**16 41 14.8**	**-0.1**
MDJ				pP	pP	16 41 23.4	-3.3
MDJ				pmax	pmax		
	comp=Z,12nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,170nm,4.0s						
BMKR	**Bomnak**	**17.35**	**311**	*e*P	**Pn**	**16 41 37.2**	**-0.5**
BMKR				AMB	AMB	16 41 41.0	
	comp=Z,6.0nm,0.4s						
SEY	**Seymchan**	**17.77**	**1**	P	**Pn**	**16 41 41.9**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=204,slow=20,SNR=3.4						
ZEA	**Zeya**	**17.86**	**307**	*e*P	**Pn**	**16 41 43.6**	**-0.5**
ZEA				AMB	AMB	16 41 47.2	
	comp=Z,40nm,1.0s						
ZEA				AMS	AMS	16 49 21.0	
	comp=Z,400nm,16.0s						
ZEA				AMS	AMS	16 49 21.0	
	comp=Z,900nm,16.0s						
ZEA	**Zeya**	**17.86**	**307**	*e*P	**Pn**	**16 41 43.6**	**-0.5**
ZEA				pmax	pmax		
	comp=Z,36nm,1.2s						
ZEA				MLR	MLR		
	comp=Z,900nm,16.0s						
ZEA				MLR	MLR		
	comp=E,400nm,15.0s						
KROS	**Kirovskiy**	**18.25**	**309**	*e*P	**Pn**	**16 41 48.0**	**-0.9**
KROS				AMB	AMB	16 41 49.7	
	comp=E,7.0nm,0.4s						
CN2	**Changchun**	**18.62**	**275**	*e*P	**P**	**16 41 51.5**	**-1.6**
CN2				*e*S	**Sn**	**16 45 18.4**	**-2.4**
CN2				pmax	pmax		
	comp=E,20nm,0.8s						
CN2				pmax	pmax		
	comp=E,200nm,3.0s						
CN2				LR	LR		
	comp=E,300nm,15.0s						
CN2				LR	LR		
	comp=E,400nm,15.0s						
CN2				LR	LR		
	comp=E,390nm,14.0s						
KSRS	**Korea Array**	**19.29**	**255**	P	**Pn**	**16 42 02.5**	**+1.0**
	comp=E,0.6nm,0.3s,baz=62,slow=10,SNR=22						
KSRS				LR	LR	16 49 38.5	
	comp=E,141nm,18.6s,baz=60,slow=37						
KSAR	**Wonju Array Be**	**19.32**	**255**	P	**Pn**	**16 42 02.5**	**+0.6**
KSAR	**Wonju Array Be**	**19.32**	**255**	P	**Pn**	**16 42 02.5**	**+0.6**
JNU	**Nakatsue**	**19.98**	**240**	LR	LR	16 51 35.8	
	comp=E,141nm,18.8s,baz=18,slow=42						
BILL	**Bilibino**	**24.15**	**14**	*e*P	**P**	**16 42 50.9**	**-0.3**
BILL	**Bilibino**	**24.15**	**14**	*e*P	**P**	**16 42 50.9**	**-0.3**
BILL				*e*PPP

baz=334
NJ2 Nanjing 28.49 254 *e*P **P** **16 43 32.1 +1.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
TIXI Tiksi 28.66 345 P **P** **16 43 27.5 -4.2**
comp=Z,1.1nm,0.4s,baz=165,slow=7.1,SNR=4.0
TIXI LR LR 16 55 03.3
comp=Z,99nm,19.1s,baz=174,slow=37
TIXI Tiksi 28.66 345 *e*P **P** **16 43 30.3 -1.4**
TIXI Tiksi 28.66 345 *i* P **P** **16 43 30.3 -1.4**
TIXI pmax pmax
comp=Z,2.0nm,0.5s
HHC Hu-ho-hao-te 29.32 276 *e*P **P** **16 43 39.8 +1.8**
HHC S **S** **16 48 26.3 -3.2**
HHC pmax pmax
comp=Z,27nm,1.0s
HHC pmax pmax
comp=Z,75nm,4.0s
HHC LR LR
comp=Z,150nm,10.4s
HHC LR LR
comp=Z,270nm,9.5s
HHC LR LR
comp=Z,430nm,13.0s
H11S1 WAKE ISLAND Hy 29.47 150 T T 17 15 33.2
baz=338
H11S3 WAKE ISLAND Hy 29.48 150 T T 17 15 36.1
baz=339
H11S2 WAKE ISLAND Hy 29.49 150 T T 17 15 45.3
baz=338
SONM Songino Array 30.83 291 P **P** **16 43 51.4 0.0**
comp=Z,1.3nm,0.4s,baz=75,slow=8.7,SNR=4.5
SONM LR LR 16 57 16.3
comp=Z,180nm,18.5s,baz=21,slow=38
GUMO Guam 32.01 192 LR LR 16 59 18.4
comp=Z,38nm,18.4s,baz=44,slow=40
XAN Xi'an 34.29 266 P **P** **16 44 21.8 +0.1**
XAN pP sP 16 44 38.3 +4.7
XAN pmax pmax
comp=Z,10.0nm,1.2s
IM3 Indian Mountai 35.67 35 *e*P **P** **16 44 32.0 -1.2**
KDAK Kodiak Island 35.95 49 P **P** **16 44 34.5 -1.1**
comp=Z,10nm,0.8s,baz=243,slow=14,SNR=3.7
LZH Lanzhou 36.84 273 *e*P **P** **16 44 45.1 +1.4**
LZH pP sP 16 44 56.3 +0.6
LZH sP pP 16 45 01.3 +9.1
LZH PP **PP** **16 46 06.5 -1.2**
LZH S **S** **16 50 19.8 -6.5**
LZH pmax pmax
comp=Z,39nm,1.1s
LZH pmax pmax
comp=Z,140nm,4.3s
LZH LR LR
comp=Z,590nm,11.8s
LZH LR LR
comp=Z,760nm,13.2s
LZH LR LR
comp=Z,960nm,13.6s
GTA Gaotai 38.13 280 *e*P **P** **16 44 55.3 +0.8**
GTA pP sP 16 45 07.4 +0.8
GTA sP pP 16 45 12.9 +10
GTA S **S** **16 50 46.9 +1.1**
GTA sS ScP 16 51 07.5 +13
GTA pmax pmax
comp=Z,11nm,1.1s
GTA pmax pmax
comp=Z,96nm,8.2s
GTA LR LR
comp=Z,200nm,13.4s
GTA LR LR
comp=Z,180nm,13.4s
GTA LR LR
comp=Z,160nm,14.8s
IL1 Eielson Array 38.45 37 *e*P **P** **16 44 57.3 +0.5**
ILAR Eielson Array 38.45 37 P **P** **16 44 56.8 -0.1**
comp=Z,1.4nm,0.8s,baz=262,slow=7.3,SNR=16
ILAR LR LR 17 01 48.4
comp=Z,53nm,20.2s,baz=316,slow=38
NRIK Noril'sk 39.53 330 LR LR 17 02 44.9
comp=Z,68nm,19.6s,baz=26,slow=38
CD2 Chengdu 39.65 266 *e*P **P** **16 45 07.0 -0.2**
DGZ Jazzator, Alta 42.40 300⇓ *e*P **P** **16 45 29.8 0.0**
DGZ pmax pmax
comp=Z,1.0nm,0.7s
ZALV Zalesovo Beam 42.63 307 P **P** **16 45 30.9 -0.5**
comp=Z,0.8nm,0.3s,baz=98,slow=8.3,SNR=4.2
ZALV PcP **PcP** **16 47 23.2 +0.2**
comp=Z,2.5nm,0.6s,baz=77,slow=3.0,SNR=8.9
ZALV LR LR 17 03 59.2
comp=Z,90nm,18.8s,baz=66,slow=37
INK Inuvik 43.55 31 P **P** **16 45 38.6 0.0**
comp=Z,4.5nm,0.9s,baz=276,slow=6.6,SNR=12
INK Inuvik 43.55 31 *e*P **P** **16 45 38.7 0.0**
comp=Z,3.7nm,0.8s
KMI Kunming 43.87 260 P **P** **16 45 42.5 +0.5**
KMI pmax pmax
comp=Z,5.0nm,0.5s
WMQ Urumqi 44.46 292 *e*P **P** **16 45 47.4 +1.0**
WMQ sP sP 16 46 07.3 +8.8
WMQ pmax pmax
comp=Z,34nm,0.7s
WMQ pmax pmax
comp=Z,410nm,5.7s
WMQ LR LR
comp=Z,170nm,16.1s
WMQ LR LR
comp=Z,160nm,18.1s
MK31 Makanchi Array 46.67 298 *e*P **P** **16 46 02.7 -1.1**
MK31 Makanchi Array 46.67 298 *e*P **P** **16 46 02.7 -1.1**
MKAR Makanchi Array 46.67 298 P **P** **16 46 03.2 -0.6**
comp=Z,1.3nm,0.5s,baz=68,slow=7.6,SNR=28
MKAR PcP **PcP** **16 47 37.3 +0.2**
comp=Z,2.3nm,0.6s,baz=148,slow=0.7,SNR=7.6
MKAR LR LR 17 07 22.1
comp=Z,144nm,18.7s,baz=66,slow=38
MKAR Makanchi Array 46.67 298 *e*P **P** **16 46 03.9 +0.1**
MKAR Makanchi Array 46.67 298*ce*P **P** **16 46 03.9 +0.1**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MK01 Makanchi Array 46.68 298 *e*P **P** **16 46 02.7 -1.1**
KURK Kurchatov 47.30 304 *e*P **P** **16 46 07.0 -1.6**
KURK Kurchatov 47.30 304⇓ *i*P **P** **16 46 07.0 -1.6**
KURK pmax pmax
comp=Z,3.0nm,1.1s
CMMT Chiang Mai 50.67 257 P **P** **16 46 38.1 +3.3**
comp=Z,6.2nm,0.9s
CHTO Chiang Mai 50.68 257 P **P** **16 46 38.2 +3.4**
comp=Z,27nm,1.1s
CMAR Chiang Mai Arr 50.92 256 P **P** **16 46 37.7 +1.0**
comp=Z,1.4nm,0.7s,baz=38,slow=7.1,SNR=11
CMAR PcP **PcP** **16 47 54.8 +1.9**
comp=Z,1.0nm,0.8s,baz=9.4,slow=1.5,SNR=6.5
CMAR LR LR 17 09 57.0
comp=Z,70nm,18.0s,baz=46,slow=38
CMAR Chiang Mai Arr 50.92 256 *e*P **P** **16 46 37.6 +0.9**
CM01 Chiang Mai Arr 50.94 256 *e*P **P** **16 46 37.8 +1.0**
BRVK Borovoye 51.03 310⇑ *e*P **P** **16 46 36.4 -0.7**
BRVK pmax pmax
comp=Z,2.0nm,0.8s
KDJ Kajisay 52.07 295 *e*P **P** **16 46 44.5 -0.8**
comp=Z,10nm,0.6s
KDJ Kajisay 52.07 295 *e*P **P** **16 46 44.5 -0.8**
KDJ pmax pmax
comp=Z,10.0nm,0.6s
ULHL Ulahol 52.62 295 P **P** **16 46 50.0 +0.7**
SNR=6.3
RES Resolute Bay 52.65 18 P **P** **16 46 48.4 -0.5**
comp=Z,3.2nm,0.8s,baz=23,slow=3.3,SNR=7.1
TKM2 Tokmak 2 52.68 296 P **P** **16 46 49.7 -0.1**
SNR=5.9
YKA Yellowknife Ar 52.83 36 P **P** **16 46 51.1 +0.8**
comp=Z,0.6nm,0.5s,baz=298,slow=6.7,SNR=3.8
USP Osenovka 53.20 297 P **P** **16 46 54.0 +0.6**
SNR=6.3
KBK Karagaybulak 53.23 296 P **P** **16 46 54.5 +0.7**
SNR=7.2
AAK Ala-Archa 53.53 297 P **P** **16 46 56.4 +0.5**
SNR=5.1
AAK Ala-Archa 53.53 297 *e*P **P** **16 46 56.1 +0.1**
comp=Z,5.5nm,0.8s
AAK Ala-Archa 53.53 297 *e*P **P** **16 46 56.1 +0.1**
AAK Ala-Archa 53.53 297⇑ *e*P **P** **16 46 56.1 +0.1**
AAK pmax pmax
comp=Z,6.0nm,0.8s
SPITS Spitsbergen Ar 53.94 350 P **P** **16 46 57.0 -1.3**
comp=Z,8.1nm,0.9s,baz=66,slow=12,SNR=4.2

JIRN Jiri 53.96 275 *e*P **P** **16 47 00.5 +0.9**
comp=Z,42nm,0.5s
EKS2 Erkin-Say 53.97 297 P P **16 46 59.5 +0.3**
SNR=12
GUN Gumba 54.03 275 *e*P **P** **16 47 00.8 +0.8**
comp=Z,25nm,0.4s
RAMN Ramite 54.10 274 *e*P **P** **16 47 01.2 +0.7**
comp=Z,33nm,0.4s
KSH Kashi 54.22 293 P **P** **16 47 05.1 +4.1**
KSH pP sP 16 47 17.1 +3.8
KSH PcP **PcP** **16 48 08.1 +2.9**
KSH S **S** **16 54 36.8 +0.4**
KSH sS sS 16 54 56.8 +5.9
KSH SS **SS** **16 58 18.8 +0.8**
KSH pmax pmax
comp=Z,15nm,0.7s
KSH pmax pmax
comp=Z,120nm,4.3s
KSH LR LR
comp=Z,300nm,6.5s
KSH LR LR
comp=Z,270nm,9.1s
KSH LR LR
comp=Z,310nm,12.6s
AML Almayashu 54.30 296 P **P** **16 47 02.4 +0.6**
SNR=6.5
KKN Kakani 54.52 275 *e*P **P** **16 47 04.8 +1.3**
comp=Z,30nm,0.6s
PKI Pulchoki 54.56 275 *e*P **P** **16 47 04.4 +0.5**
comp=Z,12nm,0.6s
PKIN Phulchoki 54.57 275 *e*P **P** **16 47 04.4 +0.5**
comp=Z,13nm,0.5s
DMN Daman 54.75 275 *e*P **P** **16 47 06.2 +1.0**
comp=Z,18nm,0.5s
DANN Dangsing 55.25 277 *e*P **P** **16 47 10.0 +1.1**
comp=Z,62nm,0.7s
ARU Arti 55.40 318 *e*P **P** **16 47 08.4 -0.8**
ARU Arti 55.40 318*c i*P **P** **16 47 08.2 -1.0**
ARU 16 48 05.8
ARU 16 49 10.9
ARU S **S** **16 54 52.0 +0.4**
ARU SS **SS** **16 58 35.8 +0.1**
ARU pmax pmax
comp=Z,5.0nm,0.8s
KOLN Koldanda 55.72 276 *e*P **P** **16 47 13.0 +0.9**
PYUN Piuthan 55.94 277 *e*P **P** **16 47 14.5 +0.8**
comp=Z,42nm,0.9s
PRGR Permogore 58.07 327 *e*P **P** **16 47 26.0 -2.0**
PRGR pmax pmax
comp=Z,6.0nm,0.6s
DAG Danmarks Havn 58.14 357 *i* P **P** **16 47 27.1 -1.2**
comp=Z,5.6nm,0.9s
DAG Danmarks Havn 58.14 357 *i* P **P** **16 47 27.1 -1.2**
DAG pmax pmax
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 58.95 341 P **P** **16 47 33.0 -1.0**
comp=Z,2.2nm,0.8s,baz=34,slow=7.2,SNR=7.5
ARCES ARCESS Array B 58.95 341 P **P** **16 47 33.0 -1.0**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
KBL Kabul 61.60 292 *e*P **P** **16 47 52.5 -0.5**
comp=Z,16nm,0.7s
KBL Kabul 61.60 292 *e*P **P** **16 47 52.5 -0.5**
KBL pmax pmax
comp=Z,17nm,0.7s
SUMG Summit 62.32 3 *e*P **P** **16 47 57.4 0.0**
comp=Z,26nm,1.2s
SUMG Summit 62.32 3 *i* P **P** **16 47 57.4 0.0**
comp=Z,12nm,0.4s
SUMG Summit 62.32 3 *i* P **P** **16 47 57.4 0.0**
SUMG pmax pmax
comp=Z,12nm,0.4s
NVAR Mina Array Bea 64.15 61 P **P** **16 48 10.7 +0.7**
comp=Z,0.7nm,0.7s,baz=296,slow=6.8,SNR=3.7
FINES FINESS Array B 64.96 334 P **P** **16 48 12.6 -1.9**
comp=Z,8.6nm,0.7s,baz=38,slow=6.9,SNR=34
FINES FINESS Array B 64.96 334 *e*P **P** **16 48 13.1 -1.4**
FINES FINESS Array B 64.96 334 *i* P **P** **16 48 13.1 -1.4**
FINES pmax pmax
comp=Z,9.0nm,0.7s
OBN Obninsk 65.95 325 *e*P **P** **16 48 21.8 +0.8**
OBN Obninsk 65.95 325 *e*P **P** **16 48 21.8 +0.8**
OBN pmax pmax
comp=Z,5.0nm,0.9s
GEYT Alibeck 66.44 301 P **P** **16 48 25.1 +0.5**
comp=Z,4.8nm,0.7s,baz=63,slow=6.8,SNR=14
GYA0B ALIBECK ARRAY 66.44 301 *e*P **P** **16 48 25.1 +0.6**
comp=Z,10nm,0.8s
PDAR Pinedale Array 66.57 52 P **P** **16 48 26.2 +0.7**
comp=Z,0.2nm,0.6s,baz=320,slow=5.3,SNR=2.8
WRA Warramunga Arr 66.69 198 P **P** **16 48 27.8 +1.7**
comp=Z,2.1nm,0.7s,baz=14,slow=6.7,SNR=16
WRA Warramunga Arr 66.69 198 *i* P **P** **16 48 26.1 0.0**
WRA pmax pmax
comp=Z,2.0nm,0.7s
LPSR Galich'ya Gora 66.75 322 *e*P **P** **16 48 30.3 +4.2**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
FRB Frobisher Bay 66.87 18 P **P** **16 48 25.6 -1.1**
comp=Z,13nm,0.8s,baz=318,slow=11,SNR=3.2
VSR Storozhevoye 67.62 321 *e*P **P** **16 48 30.9 -0.8**
VSR pmax pmax
comp=Z,8.0nm,0.5s
ULM Lac du Bonnet 68.42 40 LR LR 17 19 18.0
comp=Z,26nm,19.5s,baz=335,slow=37
NB2 NORSAR Subarra 69.33 341 P **P** **16 48 40.8 -1.5**
comp=Z,3.0nm,0.5s,baz=28,slow=6.2
NOA NORSAR Array B 69.33 341 P **P** **16 48 41.4 -0.9**
comp=Z,6.4nm,0.7s,baz=29,slow=6.6,SNR=28
NOA LR LR 17 26 36.7
comp=Z,28nm,18.1s,baz=345,slow=42
HFS Hagfors 69.51 339 P **P** **16 48 42.3 -1.0**
comp=Z,11nm,0.5s,baz=57,slow=5.5,SNR=55
GOF Gofitskoye 70.11 314 *e*P **P** **16 48 46.1 -1.3**
AKT Akhty 70.12 309⇑ *i*P **P** **16 48 47.9 +0.3**
AKT *e* 16 49 06.7
AKT pmax pmax
comp=Z,22nm,0.6s
ASAR Alice Springs 70.39 197 P **P** **16 48 51.4 +2.2**
comp=Z,1.4nm,0.7s,baz=9.1,slow=5.4,SNR=18
NCK Nalchik 70.93 313⇓ *e*P **P** **16 48 52.0 -0.4**
NCK pmax pmax
comp=Z,17nm,1.0s
KIV Kislovodsk 71.07 314 *e*P **P** **16 48 53.5 +0.2**
comp=Z,23nm,0.8s
KIV Kislovodsk 71.07 314 *e*P **P** **16 48 53.7 +0.4**
KIV Kislovodsk 71.07 314 *e*P **P** **16 48 53.7 +0.4**
KIV pmax pmax
comp=Z,31nm,1.0s
KIV MLR MLR
comp=Z,146nm,18.0s
KBZ Khabaz 71.12 313 P **P** **16 48 54.0 +0.5**
comp=Z,22nm,0.8s,baz=64,slow=3.4,SNR=52
KBZ LR LR 17 24 01.9
comp=Z,134nm,18.4s,baz=42,slow=39
ZEI Tsey 71.27 312 *e*P **P** **16 48 53.6 -1.1**
ZEI pmax pmax
comp=Z,11nm,0.8s
NEY Neytrino 71.55 313⇑ *i*P **P** **16 48 56.8 +0.4**
NEY pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 72.20 326 P **P** **16 48 58.9 -1.0**
comp=Z,3.9nm,0.4s,baz=36,slow=6.2,SNR=20
AKASG LR LR 17 22 57.4
comp=Z,76nm,18.8s,baz=320,slow=38
KIEV Kiev 72.22 326 *e*P **P** **16 48 57.2 -2.7**
comp=Z,9.1nm,0.8s
KIEV Kiev 72.22 326 *e*P **P** **16 48 58.2 -1.7**
KIEV Kiev 72.22 326⇓ *e*P **P** **16 48 58.2 -1.7**
KIEV pmax pmax
comp=Z,10.0nm,0.8s
AK11 Malin Array Si 72.24 326 *e*P **P** **16 48 59.2 -0.9**
AKH Akhalkalaki 72.45 311⇓ *i*P **P** **16 49 02.7 +0.9**
GNI Garni 72.67 310*ce*P **P** **16 49 03.8 +0.7**
GNI pmax pmax
comp=Z,85nm,1.7s
LVV L'vov 74.92 328 *e*P **P** **16 49 15.5 -0.4**
SCHQ Schefferville 75.16 22 P **P** **16 49 17.4 +0.2**
comp=Z,3.3nm,0.7s,baz=275,slow=12,SNR=4.5
KWP Kalwaria Pacla 75.57 328 *e*P **P** **16 49 20.2 +0.6**
KWP Kalwaria Pacla 75.57 328 *e*P **P** **16 49 20.2 +0.6**
LEOM Leova 75.93 323⇑ *i*P **P** **16 49 21.4 -0.3**
OJC Ojcow 76.13 330 *e*P **P** **16 49 22.6 -0.2**
OJC Ojcow 76.13 330 *e*P **P** **16 49 22.6 -0.2**
comp=Z,14nm,0.8s
OJC Ojcow 76.13 330 *e*P **P** **16 49 22.6 -0.2**

BUR08 Bucovina Ar. S 76.24 326 *e*P **P** **16 49 23.4 -0.2**
BUR04 Bucovina Ar. S 76.25 326 *e*P **P** **16 49 23.4 -0.3**
BURAR Bucovina Array 76.25 326⇓ *i*P **P** **16 49 23.5 -0.2**
BIZ Bicaz 76.44 325⇑ *i*P **P** **16 49 24.6 -0.1**
NIE Niedzica 76.62 330 *e*P **P** **16 49 25.9 +0.3**
NIE Niedzica 76.62 330 *e*P **P** **16 49 26.0 +0.3**
TLCR 76.71 322⇑ *i*P **P** **16 49 25.9 -0.2**
KSP Ksiaz 76.78 333 *e*P **P** **16 49 26.2 -0.2**
KSP Ksiaz 76.78 333 *e*P **P** **16 49 26.2 -0.2**
TRPA Tarpa 76.87 328⇑ *i*P **P** **16 49 27.3 +0.3**
TRPA Tarpa 76.87 328⇓ *e*P **P** **16 49 27.1 +0.1**
PETR Petresti 76.96 324⇑ *i*P **P** **16 49 28.6 +1.1**
CFR Carcaliu 77.01 323⇑ *i*P **P** **16 49 27.6 -0.2**
VRI Vrincioaia 77.05 324⇓ *i*P **P** **16 49 29.7 +1.6**
LANS Liptovska Anna 77.14 330 *e*P **P** **16 49 29.4 +0.8**
LANS Liptovska Anna 77.14 330 *e*P **P** **16 49 29.4 +0.8**
UPC Upice 77.16 333 *e*P **P** **16 49 28.7 +0.1**
UPC Upice 77.16 333 *e*P **P** **16 49 28.7 +0.1**
DPC Dobruska-Polom 77.19 332 *e*P **P** **16 49 29.2 +0.3**
DPC *es*P **PcP** **16 49 45.2 +5.7**
DPC Dobruska-Polom 77.19 332 *e*P **P** **16 49 29.2 +0.3**
DPC *e* 16 49 45.2
MORC Moravsky Berou 77.28 331 *e*P **P** **16 49 29.4 0.0**
comp=Z,14nm,0.9s
MORC Moravsky Berou 77.28 331⇑ *i*P **P** **16 49 29.5 +0.1**
MORC Moravsky Berou 77.28 331 *e*P **P** **16 49 29.4 0.0**
MORC pmax pmax
comp=Z,14nm,0.9s
MORC Moravsky Berou 77.28 331 *e*P **P** **16 49 29.2 -0.2**
KECS Kecovo 77.34 329 *e*P **P** **16 49 28.7 -1.0**
KECS pmax pmax
comp=Z,10.0nm,0.9s
KECS Kecovo 77.34 329 *e*P **P** **16 49 28.7 -1.0**
CLL Collm 77.40 335⇑ *i*P **P** **16 49 29.0 -0.9**
comp=Z,16nm,1.0s
CLL *e*PcP **pP** **16 49 37.0 -2.1**
CLL *e*pP **sP** **16 49 40.0 -2.5**
CLL *es*P **PcP** **16 49 46.0 +5.7**
CLL *e*PP **PP** **16 52 23.0 -0.8**
CLL Collm 77.40 335⇑ *i*P **P** **16 49 29.0 -0.9**
CLL pmax pmax
comp=Z,16nm,1.0s
TIRR Tirgusor 77.46 322⇑ *i*P **P** **16 49 30.2 -0.2**
HARR Harsova 77.48 323⇑ *i*P **P** **16 49 30.4 -0.1**
BRG Berggiesshubel 77.50 334 *e*P **P** **16 49 29.8 -0.7**
comp=Z,4.7nm,1.0s
BRG Berggiesshubel 77.50 334 *e*P **P** **16 49 29.8 -0.7**
BRG pmax pmax
comp=Z,5.0nm,1.0s
TLB Topalu 77.52 322⇑ *i*P **P** **16 49 30.6 -0.1**
EKA Eskdalemuir Ar 77.57 346 P **P** **16 49 30.5 -0.3**
baz=19,slow=4.9
MLR Muntele Rosu 77.68 324 *e*P **P** **16 49 31.9 +0.1**
comp=Z,11nm,0.9s
MLR Muntele Rosu 77.68 324⇑ *i*P **P** **16 49 32.2 +0.4**
MLR Muntele Rosu 77.68 324 *e*P **P** **16 49 31.9 +0.1**
MLR pmax pmax
comp=Z,11nm,0.9s
ISR Istrita 77.73 324⇑ *i*P **P** **16 49 32.2 +0.2**
DRGR 77.91 327⇑ *i*P **P** **16 49 32.7 -0.3**
VYHS Vyhne 77.92 330 *e*P **P** **16 49 33.0 +0.1**
VYHS pmax pmax
comp=Z,5.0nm,1.1s
VYHS Vyhne 77.92 330 *e*P **P** **16 49 33.0 +0.1**
VRAC Vranov 78.00 332 P **P** **16 49 33.6 +0.3**
comp=Z,10nm,0.8s,baz=26,slow=5.0,SNR=13
VRAC Vranov 78.00 332⇑ *i*P **P** **16 49 33.6 +0.3**
VRAC Vranov 78.00 332 *e*P **P** **16 49 33.4 +0.1**
JAVC Velka Javorina 78.02 331 *e*P **P** **16 49 34.6 +1.1**
PSZ Piszkesteto 78.03 329⇓ *e*P **P** **16 49 34.1 +0.5**
VOIR 78.09 325⇑ *i*P **P** **16 49 34.5 +0.5**
KRUC Moravsky 78.28 332 *e*P **P** **16 49 34.6 -0.3**
MODS Modra-Piesok 78.57 331 *e*P **P** **16 49 36.1 -0.4**
MODS pmax pmax
comp=Z,14nm,1.1s
MODS Modra-Piesok 78.57 331 *e*P **P** **16 49 36.1 -0.4**
BRTR Keskin Array B 78.74 316 P **P** **16 49 37.2 -0.6**
comp=Z,3.2nm,0.9s,baz=68,slow=3.3,SNR=12
BRTR LR LR 17 29 26.8
comp=Z,45nm,18.1s,baz=316,slow=40
BRTR Keskin Array B 78.74 316*ce*P **P** **16 49 38.0 +0.2**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
SIRR Siria 78.75 327⇑ *i*P **P** **16 49 37.0 -0.6**
KHC Kasperske Hory 79.14 333 *e*P **P** **16 49 36.9 -2.7**
comp=Z,4.7nm,1.0s
KHC Kasperske Hory 79.14 333 *e*P **P** **16 49 39.8 +0.2**
KHC *es*P **sP** **16 49 56.0 +3.8**
KHC Kasperske Hory 79.14 333 *e*P **P** **16 49 39.8 +0.2**
KHC *e* 16 49 56.0
TXAR Lajitas Array 79.23 59 P **P** **16 49 41.2 +0.6**
comp=Z,0.3nm,0.5s,baz=299,slow=3.6,SNR=6.1
BZS Buzias 79.31 327⇑ *i*P **P** **16 49 40.0 -0.6**
GERES GERESS Array B 79.35 333 P **P** **16 49 39.9 -1.0**
comp=Z,1.5nm,0.5s,baz=36,slow=5.9,SNR=18
GERES LR LR 17 30 21.6
comp=Z,75nm,18.3s,baz=308,slow=40
CONA Conrad Observa 79.43 331 *e*P **P** **16 49 41.7 +0.3**
comp=Z,9.3nm,1.2s
MORH M˙r˙gy, Hung 79.93 329⇑ *e*P **P** **16 49 42.8 -1.1**
MEM Membach 79.99 339 ⇑P **P** **16 49 43.7 -0.5**
comp=Z,8.7nm,1.0s
MOA Molln 80.03 332 *i* P **P** **16 49 44.1 -0.4**
comp=Z,3.7nm,1.1s
BCLA Clavier 80.34 339 ⇓P **P** **16 49 46.0 -0.1**
SOKA Soboth 80.80 331 *i* P **P** **16 49 48.6 -0.2**
comp=Z,4.4nm,0.9s
KBA Koelnbreinsper 81.01 333 *i* P **P** **16 49 50.2 +0.2**
comp=Z,4.6nm,0.5s
VTS Vitosha 81.19 324⇑ *i*P **P** **16 49 51.0 0.0**
MYKA Terra Mystica 81.31 332 *i* P **P** **16 49 51.3 -0.1**
comp=Z,3.9nm,1.1s
WATA Walderalm 81.35 334 *e*P **P** **16 49 51.7 -0.1**
comp=Z,4.9nm,0.4s
WTTA Wattenberg 81.39 334 *i* P **P** **16 49 52.0 -0.1**
comp=Z,4.4nm,0.4s
MOTA Moosalm 81.49 334 *e*P **P** **16 49 52.6 +0.1**
comp=Z,3.4nm,0.6s
SQTA Sankt Quirin 81.57 334 *e*P **P** **16 49 53.3 +0.4**
comp=Z,6.7nm,1.3s
FETA Feichten 81.89 334 *e*P **P** **16 49 55.3 +0.7**
comp=Z,7.0nm,1.1s
PPT Papeete 82.18 124 LR LR 17 19 18.4
comp=Z,53nm,21.7s,baz=334,slow=30
DAVOX Davos/Dischmat 82.37 335 P **P** **16 49 57.4 +0.2**
comp=Z,3.6nm,0.6s,baz=358,slow=2.1,SNR=7.2
PLCA Paso Flores 149.15 97 PKPbc **PKPbc** **16 57 23.7 +0.5**
comp=Z,1.4nm,0.7s,baz=241,slow=2.3,SNR=5.9
CPUP Villa Florida 150.20 61 PKPbc **PKPbc** **16 57 26.3 +0.2**
comp=Z,0.8nm,0.7s,baz=263,slow=4.3,SNR=3.2
SNAA Sanae 150.75 196 PKP **PKPbc** **16 57 26.5 +0.4**
VNA2 Neumayer--Watz 152.22 195 PKP **PKPbc** **16 57 30.0 +0.6**
slow=0.6
VNA3 Neumayer Olymp 152.34 193 PKP **PKPbc** **16 57 30.2 +0.5**

IDC 17 16:37:57.6±54.0, **19.93S**×**175.62W**, **h0**km, **mb4.0**/3, **mb1 4.2**/3, **mb1mx3.7**/39, **mbtmp4.0**/3, **Error ellipse: s-maj=1001.0km s-min=161.6km az=83.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.05**	**244**	P	P	16 45 34.3	-0.4
	1.0nm,0.5s,baz=76,slow=8.3,SNR=7.1						
ASAR	**Alice Springs**	**46.83**	**256**	P	P	16 46 29.4	-0.1
	1.7nm,0.7s,baz=93,slow=8.2,SNR=19						
WRA	**Warramunga Arr**	**46.90**	**261**	P	P	16 46 30.2	+0.1
	0.7nm,0.3s,baz=96,slow=8.1,SNR=33						

IDC ***17*** *16:50:26.9±4.7, 36°.80S×178°.23E, h108km±37km, mb3.8/5, mb1 4.0/5, mb1mx3.6/33, mbtmp4.2/5, Error ellipse: s-maj=50.9km s-min=30.0km az=36.0*

ISCJB ***17*** *16:50:27.5±0.7, 36°.87S±0°.05×177°.98E±0°.07, h127km±4km, mb4.0/5, Error ellipse: s-maj=10.0km s-min=6.2km az=140.1*

WEL ***17*** *16:50:28.2±0.9, 37°.5±6°×17°.8E±°, h107km±10km*

ISC 17 16:50:30.1±0.9, **36.86S**±0°.06×**177.92E**±0°.06, **h110**km±7km, **n123,** σ1.5**76**/132, **mb4.0**/5, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.77**	**157**	P	**Pn**	**16 50 48.0**	**-1.0**

MXZ			S	Sn	16 51 02.7	-0.6
WIZ	**White Island**	**0.89 221**	P	Pn	16 50 48.7	-1.5
HAZ	**Te Kaha**	**0.90 187**	P	Pn	16 50 48.9	-1.4
HAZ			S	Sn	16 51 05.1	-0.4
PKGZ	**Pakihiroa**	**1.03 173**	P	Pn	16 50 51.4	-0.4
PKGZ			S	Sn	16 51 09.7	+1.6
WMGZ	**Waiomatatini S**	**1.03 158**	P	Pn	16 50 51.4	-0.2
WMGZ			S	Sn	16 51 08.7	+0.7
RUGZ	**Raukumara Rang**	**1.12 190**	P	Pn	16 50 51.5	-1.2
RUGZ			S	Sn	16 51 09.0	-0.8
PUZ	**Puketiti**	**1.24 168**	P	Pn	16 50 53.6	-0.4
WHRZ	**Whale Island**	**1.25 217**	P	Pn	16 50 53.5	-0.5
WHRZ			S	Sn	16 51 14.0	+1.9
TWRZ	**Tauwhareparae**	**1.32 178**	P	Pn	16 51 54.9	+0.1
MYRZ	**Mayor Island**	**1.41 252**	P	Pn	16 50 54.5	-1.4
OPRZ	**Ohinepanea**	**1.47 228**	P	Pn	16 50 55.3	-1.3
MARZ	**Manawahe**	**1.50 221**	P	Pn	16 50 55.9	-1.0
MWZ	**Matawai**	**1.50 192**	P	Pn	16 50 56.0	-1.1
MWZ			S	Sn	16 51 17.8	+0.3
URZ	**Urewera**	**1.54 205**	P	Pn	16 50 56.2	-1.2
	356nm,0.3s,baz=256,slow=3.8,SNR=2728					
URZ			S	Sn	16 51 18.4	+0.3
	400nm,0.3s,baz=296,slow=21,SNR=36					
EDRZ	**Edgecumbe**	**1.56 217**	P	Pn	16 50 56.8	-1.0
TKGZ	**Te Karaka**	**1.58 182**	P	Pn	16 50 57.2	-0.7
TGRZ	**Tauranga**	**1.58 236**	P	Pn	16 50 56.6	-1.3
CNGZ	**Carnagh Statio**	**1.64 172**	P	Pn	16 50 58.1	-0.5
LIRZ	**Lichensteins R**	**1.68 227**	P	Pn	16 50 58.4	-0.7
RAGZ	**Rawiri**	**1.68 194**	P	Pn	16 50 58.9	-0.3
RAGZ			S	Sn	16 51 22.0	+0.6
MKRZ	**Makatiti**	**1.72 222**	P	Pn	16 50 59.8	+0.1
OMRZ	**Omania**	**1.75 224**	P	Pn	16 50 59.2	-0.9
KARZ	**Kaharoa**	**1.77 229**	P	Pn	16 50 59.2	-1.1
KUZ	**Kuaotunu**	**1.77 273**	P	Pn	16 50 58.2	-2.0
TARZ	**Mount Tarawera**	**1.78 219**	P	Pn	16 51 00.1	-0.3
RIGZ	**Rimuhau**	**1.85 184**	P	Pn	16 51 00.0	-1.2
RIGZ			S	Sn	16 51 24.2	-0.8
RRRZ	**Republican Roa**	**1.85 217**	P	Pn	16 51 00.7	-0.6
MUGZ	**Murupara**	**1.86 209**	P	Pn	16 51 00.3	-1.0
MUGZ			S	Sn	16 51 26.2	+1.2
NGRZ	**Ngongotaha**	**1.86 228**	P	Pn	16 51 00.6	-0.8
KMRZ	**Kaimai**	**1.86 237**	P	Pn	16 51 00.1	-1.3
HLRZ	**Highlands Stat**	**1.87 221**	P	Pn	16 51 01.0	-0.4
UTU	**Utuhina**	**1.90 226**	P	Pn	16 51 01.8	-0.1
HSRZ	**Hossack Road**	**1.97 222**	P	Pn	16 51 02.6	-0.1
SNGZ	**Shannon Statio**	**1.97 193**	P	Pn	16 51 01.7	-1.1
HRRZ	**Handcock Road**	**2.01 220**	P	Pn	16 51 02.8	-0.5
PRRZ	**Plateau Road**	**2.04 216**	P	Pn	16 51 02.9	-0.6
PRGZ	**Paritu Road**	**2.06 181**	P	Pn	16 51 02.4	-1.5
GRRZ	**Galatos Road**	**2.07 224**	P	Pn	16 51 03.6	-0.4
GRZ	**Great Barrier**	**2.08 286**	P	Pn	16 51 02.1	-1.9
ALRZ	**Allen Road**	**2.11 216**	P	Pn	16 51 04.0	-0.5
TOZ	**Tahuroa Road**	**2.12 245**	P	Pn	16 51 03.4	-1.2
RAHZ	**Arahi**	**2.16 198**	P	Pn	16 51 04.0	-1.2
MTHZ	**Maungataniwha**	**2.17 203**	P	Pn	16 51 03.9	-1.4
KNZ	**Kokohu**	**2.17 185**	P	Pn	16 51 03.3	-2.0
KNZ			P	Pn	16 51 03.2	-2.0
WPRZ	**Whakapapatarin**	**2.17 220**	P	Pn	16 51 04.9	-0.3
MKAZ	**Moumakai**	**2.23 263**	P	Pn	16 51 04.4	-1.5
WHHZ	**Waihua**	**2.28 194**	P	Pn	16 51 05.4	-1.3
MHGZ	**Mahia Peninsul**	**2.29 180**	P	Pn	16 51 05.3	-1.5
MRHZ	**Matea Rd**	**2.30 211**	P	Pn	16 51 05.9	-1.2
KUTZ	**Kaahu Road**	**2.33 222**	P	Pn	16 51 06.9	-0.4
WHTZ	**Whakaora**	**2.38 220**	P	Pn	16 51 08.8	+0.8
TLZ	**Tolley Road**	**2.40 232**	P	Pn	16 51 07.4	-0.8
NMHZ	**Naumai**	**2.40 201**	P	Pn	16 51 07.3	-1.1
ETAZ	**East Tamaki Re**	**2.40 267**	P	Pn	16 51 07.0	-1.3
HATZ	**Hinemaiaia**	**2.49 215**	P	Pn	16 51 08.6	-0.9
ABAZ	**Army Bay**	**2.50 275**	P	Pn	16 51 07.6	-1.9
ARHZ	**Aropaoanui**	**2.51 197**	P	Pn	16 51 08.0	-1.7
WATZ	**Wairara**	**2.53 223**	P	Pn	16 51 10.2	+0.2
EPAZ	**Eden Park BICE**	**2.55 269**	P	Pn	16 51 09.2	-0.9
HBAZ	**Herne Bay Bore**	**2.56 269**	P	Pn	16 51 09.4	-0.9
BKZ	**Black Stump Fm**	**2.56 206**	P	Pn	16 51 09.2	-1.2
RATZ	**Rangitukua**	**2.63 220**	P	Pn	16 51 11.0	-0.3
RITZ	**Rihia Road**	**2.67 217**	P	Pn	16 51 11.6	-0.2
RVAZ	**Riverhead Bore**	**2.69 271**	P	Pn	16 51 10.9	-1.0
KATZ	**Kakaramea**	**2.75 219**	P	Pn	16 51 14.1	+1.1
MCHZ	**McNeill Hill**	**2.76 200**	P	Pn	16 51 12.0	-0.9
KWHZ	**Kaweka Forest**	**2.82 204**	P	Pn	16 51 11.7	-2.1
KRVZ	**Karewarewa**	**2.87 218**	P	Pn	16 51 13.8	-0.7
CKHZ	**Cape Kidnapper**	**2.87 193**	P	Pn	16 51 11.8	-2.6
WTVZ	**West Tongariro**	**2.91 219**	P	Pn	16 51 14.1	-1.0
HIZ	**Hauiti**	**2.94 235**	P	Pn	16 51 15.2	-0.2
NGZ	**Ngauruhoe**	**2.95 218**	P	Pn	16 51 15.2	-0.4
TWVZ	**Taurewa**	**2.96 221**	P	Pn	16 51 14.9	-0.7
TUVZ	**Tukino**	**3.00 216**	P	Pn	16 51 15.1	-1.1
COVZ	**Chateau Observ**	**3.00 218**	P	Pn	16 51 15.3	-0.9
BHHZ	**Black Hill Sta**	**3.01 209**	P	Pn	16 51 14.1	-2.1
WCZ	**Waipu Caves**	**3.03 287**	P	Pn	16 51 14.6	-1.9
FWVZ	**Far West T-bar**	**3.04 217**	P	Pn	16 51 15.7	-1.1
KRHZ	**Kereru**	**3.04 203**	P	Pn	16 51 13.7	-2.9
WHVZ	**Whangaehu Hut**	**3.04 217**	P	Pn	16 51 15.5	-1.4
KAHZ	**Kahuranaki**	**3.04 195**	P	Pn	16 51 14.1	-2.6
DRZ	**Dome Shelter**	**3.05 217**	P	Pn	16 51 17.5	+0.5
MOVZ	**Moawhango**	**3.07 213**	P	Pn	16 51 15.0	-2.1
TRVZ	**Turoa**	**3.07 217**	P	Pn	16 51 17.6	+0.3
PKVZ	**Pokaka**	**3.17 219**	P	Pn	16 51 17.2	-1.1
MTVZ	**Mangateitei**	**3.18 217**	P	Pn	16 51 17.0	-1.6
PXZ	**Pawanui**	**3.27 194**	P	Pn	16 51 16.2	-3.5
PNHZ	**Pukenui**	**3.34 203**	P	Pn	16 51 17.2	-3.4
VRZ	**Vera Road**	**3.37 227**	P	Pn	16 51 20.7	-0.3
WPHZ	**Waipukurau**	**3.41 200**	P	Pn	16 51 18.6	-2.9
TSZ	**Takapari Road**	**3.55 205**	P	Pn	16 51 19.9	-3.5
PRHZ	**Porangahau**	**3.55 196**	P	Pn	16 51 19.9	-3.5
DVHZ	**Dannevirke**	**3.70 201**	P	Pn	16 51 21.7	-3.7
WAZ	**Wanganui**	**3.70 218**	P	Pn	16 51 23.5	-2.0
LREZ	**Lake Rotokare**	**3.80 226**	P	Pn	16 51 26.6	-0.1
OUZ	**Omahuta**	**3.87 294**	P	Pn	16 51 26.1	-1.6
PKE	**Pukeiti**	**3.88 232**	P	Pn	16 51 28.9	+1.0
POWZ	**Post Office Ro**	**3.91 205**	P	Pn	16 51 24.6	-3.7
OHWZ	**Ohakea**	**3.92 211**	P	Pn	16 51 26.1	-2.2
KHEZ	**Kahui Hut**	**3.93 231**	P	Pn	16 51 30.0	+1.4
PRWZ	**Pori Road**	**3.99 202**	P	Pn	16 51 25.8	-3.6
NBEZ	**Newall Road No**	**4.00 232**	P	Pn	16 51 29.2	-0.2
NBEZ			P	Pn	16 51 29.3	-0.2
BFZ	**Birch Farm**	**4.04 198**	P	Pn	16 51 26.1	-3.9
TIWZ	**Tintock**	**4.22 202**	P	Pn	16 51 28.6	-3.9
CPWZ	**Castlepoint**	**4.26 198**	P	Pn	16 51 29.6	-3.4
HOWZ	**Holdsworth Sta**	**4.45 204**	P	Pn	16 51 30.5	-5.0
OGWZ	**Otaki Gorge**	**4.50 208**	P	Pn	16 51 31.6	-4.5
TMWZ	**Te Maipa**	**4.53 200**	P	Pn	16 51 31.6	-4.9
KIW	**Kapiti Island**	**4.64 210**	P	Pn	16 51 33.4	-4.6
RPZ	**Rata Peaks**	**8.62 215**	P	Pn	16 52 25.7	-6.3
	2.6nm,0.3s,baz=265,slow=0.8,SNR=8.4					
RPZ			S	Sn	16 53 55.7	-12
	6.1nm,0.3s,baz=338,slow=23,SNR=8.4					
STKA	**Stephens Creek**	**30.28 269**	P	**P**	**16 56 31.1**	**+0.3**
	1.7nm,0.7s,baz=117,slow=11,SNR=4.3					
CTA	**Charters Tower**	**32.27 292**	P	**P**	**16 56 47.8**	**-0.7**
	1.1nm,0.4s,baz=118,slow=10,SNR=4.1					
ASAR	**Alice Springs**	**39.90 277**	P	**P**	**16 57 51.6**	**-1.8**
	2.8nm,0.5s,baz=118,slow=7.9,SNR=124					
WRA	**Warramunga Arr**	**41.49 282**	P	**P**	**16 58 04.5**	**-2.0**
	3.0nm,0.5s,baz=120,slow=7.8,SNR=115					
SNAA	**Sanae**	**71.77 180**	P	**P**	**17 01 43.3**	**+3.2**
VNA3	**Neumayer Olymp**	**72.06 177**	P	**P**	**17 01 45.2**	**+3.4**
VNA2	**Neumayer--Watz**	**72.45 178**	P	**P**	**17 01 47.6**	**+3.6**
	baz=182,slow=5.6					
VNA1	**Neumayer--Stat**	**72.70 178**	P	**P**	**17 01 48.8**	**+3.3**
CMAR	**Chiang Mai Arr**	**92.43 291**	P	**P**	**17 03 28.4**	**-0.4**
	0.4nm,0.6s,baz=157,slow=4.2,SNR=3.5					
ARCES	**ARCESS Array B**	**144.01 344**	PKP	PKPab	17 09 47.8	-1.5
	2.8nm,0.8s,baz=299,slow=1.2,SNR=3.8					
FINES	**FINESS Array B**	**149.72 333**	PKPbc	**PKPdf**	**17 10 02.7**	**+1.4**
	3.5nm,0.9s,baz=230,slow=4.5,SNR=6.8					
BRTR	**Keskin Array B**	**151.94 287**	PKPbc	**PKPdf**	**17 10 08.2**	**+2.5**
	0.9nm,0.8s,baz=187,slow=6.0,SNR=4.7					
TORD	**Torodi Ar. Bea**	**156.15 189**	PKPbc	PKPbc	17 10 20.3	
	0.1nm,0.4s,baz=188,slow=4.3,SNR=3.9					
TORD			PKPab	**PKPab**	**17 10 37.6**	**-2.4**
	0.4nm,0.5s,baz=158,slow=3.9,SNR=4.1					

*IDC **17** 16:51:35.6±1.1, 13°.59N×119°.79E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/47, mbtmp3.7/5, Error ellipse: s-maj=21.2km s-min=13.6km az=152.0*
*MAN **17** 16:51:39.4, 13°.70N×119°.92E, h87km, mb4.1, ML2.8, MS2.5*
ISC 17 16:51:38.6±1.8, **13°.76N**±0°.03×**119°.80E**±0°.06, **h24**km±15km,
n17,σ1**§47**/28, **mb3.7**/4, **1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.16**	**73**	Pg		**Pb**	**16 52 00.1**	**+0.1**
	145nm,0.3s,baz=106,slow=12,SNR=13							
TGY				Lg		Lg	16 52 15.2	
	262nm,0.3s,baz=0.0,slow=20,SNR=12							
TGY	**Tagaytay City**	**1.16**	**73**	*i* P		**Pb**	**16 51 60.0**	**+0.1**
TGY				*i* S		**Sb**	**16 52 15.7**	**+1.1**
BUSP	**Coron**	**1.79**	**167**	*e*P		**Pn**	**16 52 08.7**	**+0.6**
BUSP				*e*S		**Sn**	**16 52 30.1**	**+0.1**
SJMP	**San Jose**	**1.82**	**135**	*e*P		**Pn**	**16 52 09.0**	**+0.6**
SJMP				*e*S		**Sn**	**16 52 30.1**	**-0.7**
SCZP	**Santa Cruz**	**2.01**	**3**	*e*P		**Pn**	**16 52 12.7**	**+1.6**
SCZP				*e*S		**Sn**	**16 52 33.8**	**-1.6**
POLP	**Polillo Island**	**2.29**	**65**	*e*P		**Pn**	**16 52 15.2**	**+0.3**
POLP				*e*S		**Sn**	**16 52 41.8**	**-0.5**
ENPP	**El Nido**	**2.56**	**188**	*e*P		**Pn**	**16 52 19.8**	**+1.1**
ENPP				*e*S		**Sn**	**16 52 48.9**	**-0.2**
BOLP	**Bolinao**	**2.61**	**2**	*e*P		**Pn**	**16 52 21.0**	**+1.7**
BOLP				*e*S		**Sn**	**16 52 47.7**	**-2.5**
BALP	**Baler**	**2.61**	**41**	*e*P		**Pn**	**16 52 20.2**	**+0.8**
BALP				*e*S		**Sn**	**16 52 50.4**	**0.0**
CUYO	**Cuyo Island**	**3.13**	**158**	*e*P		**Pn**	**16 52 26.8**	**+0.4**
CUYO				*e*S		**Sn**	**16 53 01.0**	**-2.1**
ABRA	**Dolores**	**3.97**	**13**	*e*P		**Pb**	**16 52 44.6**	**-3.2**
ABRA				*e*S		**Sn**	**16 53 22.9**	**-0.8**
APYP	**Conner**	**4.31**	**19**	*e*P		**Pn**	**16 52 45.0**	**+2.3**
APYP				*e*S		**Sn**	**16 53 31.7**	**-0.5**
CMAR	**Chiang Mai Arr**	**20.57**	**286**	P		**P**	**16 56 18.6**	**+2.7**
	0.4nm,0.6s,baz=93,slow=8.3,SNR=5.8							
BATI	**Baumata**	**24.12**	**171**	P		**P**	**16 56 52.6**	**-0.1**
	6.7nm,0.5s,baz=335,slow=3.4,SNR=5.1							
WRA	**Warramunga Arr**	**36.42**	**157**	P		**P**	**16 58 39.9**	**-1.7**
	0.8nm,0.5s,baz=337,slow=9.5,SNR=6.7							
ASAR	**Alice Springs**	**39.67**	**160**	P		**P**	**16 59 08.2**	**-0.9**
	0.4nm,0.5s,baz=341,slow=7.1,SNR=6.4							
MKAR	**Makanchi Array**	**45.47**	**324**	P		**P**	**16 59 56.4**	**+0.5**
	0.4nm,0.6s,baz=120,slow=8.8,SNR=2.5							

*SJA **17** 17:01:40.9±0.7, 32°.84S×72°.60W, h60km±9km, ML3.6, MW3.5*
*GUC **17** 17:01:48.8±0.3, 32°.61S×71°.64W, h27km±3km, ML3.5*
ISC 17 17:01:46.3±2.9, **32°.72S**±0°.05×**71°.9W**±0°.1, **h8**km±13km, **n22**, σ1**§94**/32, **2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.79**	**109**	*e*P		**Pg**	**17 02 02.3**	**+0.9**
ROCH				*i* S		**Sb**	**17 02 12.4**	**-1.0**
PEL	**Peldehue**	**1.10**	**113**	*e*P		**Pb**	**17 02 07.0**	**-0.7**
PEL				*i* S		**Sg**	**17 02 21.1**	**-0.8**
PEL				IAML			17 02 24.8	
	comp=E,3μm,0.2s							
CLCH	**Cerro Calan**	**1.33**	**121**	*e*P		**Pn**	**17 02 11.2**	**-0.1**
CLCH				*i* S		**Sn**	**17 02 28.4**	**-0.8**
CLCH				IAML			17 02 32.4	
	comp=N,2μm,0.5s							
FCH	**Farellones**	**1.48**	**115**	⇓*i* P		**Pn**	**17 02 13.4**	**-0.2**
FCH				*i* S		**Sn**	**17 02 32.4**	**-0.9**
FCH				IAML			17 02 33.3	
	comp=E,831nm,0.1s							
CMCH	**Combarbala**	**1.72**	**27**	*e*P		**Pn**	**17 02 16.4**	**-0.3**
CMCH				*i* S		**Sn**	**17 02 37.1**	**-1.8**
CMCH				IAML			17 02 43.7	
	comp=E,2μm,0.6s							
LMEL	**Las Melosas**	**1.81**	**129**	*e*P		**Pn**	**17 02 19.4**	**+1.4**
LMEL				*i* S		**Sb**	**17 02 42.9**	**+0.2**
LMEL				IAML			17 02 45.6	
	comp=N,1μm,0.3s							
AUSP	**Uspallata**	**2.18**	**78**	*e*P		**Pn**	**17 02 25.4**	**+2.3**
RTLS	**Leoncito**	**2.39**	**68**	*e*P		**Pn**	**17 02 28.4**	**+2.4**
RTLS				IAML			17 02 29.2	
	comp=Z,71nm,0.3s							
RTLS				*e*S		**Sg**	**17 03 04.3**	**+1.2**
ARCO	**CERRO ARCO**	**2.50**	**94**	*e*P		**Pn**	**17 02 30.5**	**+3.0**
ARCO				⇓*e*S		**Sg**	**17 03 05.8**	**-0.9**
ARCO				IAML			17 03 11.3	
	comp=Z,114nm,0.6s							
ASAL	**Salagasta**	**2.59**	**88**	*e*P		**Pn**	**17 02 31.1**	**+2.5**
ASAL				*e*S		**Sg**	**17 03 08.3**	**-1.2**
AAGR	**Agrelo**	**2.61**	**99**	*e*P		**Pn**	**17 02 31.2**	**+2.3**
AVIZ	**Vizcacheras**	**2.94**	**106**	*e*P		**Pn**	**17 02 35.4**	**+1.9**
RTCV	**Cerro Valdivia**	**2.97**	**74**	*e*P		**Pn**	**17 02 36.6**	**+2.7**
RTCV				*e*S		**Sg**	**17 03 17.6**	**-4.2**
ACCO	**Cerro Coronel**	**3.22**	**49**	*e*P		**Pn**	**17 02 39.8**	**+2.3**
RTLL	**Cerro Villicun**	**3.22**	**65**	*e*P		**Pn**	**17 02 39.7**	**+2.4**
RTLL				IAML			17 03 29.5	
	comp=E,375nm,0.5s							
AROD	**Rodeo**	**3.28**	**40**	*e*P		**Pn**	**17 02 39.9**	**+1.5**
AMOG	**MOGNA**	**3.40**	**59**	*e*P		**Pn**	**17 02 41.9**	**+2.1**
ACDV	**Cuesta del Vie**	**3.48**	**44**	*e*P		**Pn**	**17 02 42.4**	**+1.5**
ACAN	**Cantantal**	**4.00**	**85**	*e*P		**Pn**	**17 02 50.1**	**+2.1**
AGUA	**GUANDACOL**	**4.35**	**43**	*e*P		**Pn**	**17 02 54.3**	**+1.4**
APLL	**PUNTA DE LOS L**	**5.14**	**65**	*e*P		**Pn**	**17 03 05.4**	**+1.8**
APLL				IAML			17 04 15.7	
	comp=Z,16nm,0.4s							
MRA	**San Martin**	**5.23**	**88**	*e*P		**Pn**	**17 03 06.6**	**+1.7**
MRA				IAML			17 04 15.3	
	comp=Z,29nm,0.8s							

NNC 17 17:06:24.6±2.5, **36°.97N×70°.67E, h0**km, **mb4.0, mpv3.9, 3C-7D, Error ellipse: s-maj=24.5km s-min=16.2km az=142.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.77**	**35**	⇑P		Pn	17 07 23.9	-0.3
	13nm,0.3s							
SFK				⇑S		Sn	17 08 11.3	+2.0
	3.3nm,0.1s							
MNAS	**Manas**	**5.69**	**14**	⇓P		Pn	17 07 50.1	-0.4
MNAS				⇓S		Sn	17 08 58.1	+1.6
	3.5nm,0.6s							
KK31	**Karatay Array**	**6.13**	**359**	P		Pn	17 07 57.0	+0.7
	4.5nm,0.3s,baz=180,slow=13,SNR=20							
KK31				⇓S		Sn	17 09 09.0	+1.8
	1.1nm,0.5s,baz=178,slow=24,SNR=4.1							
AAK	**Ala-Archa**	**6.38**	**26**	⇓P		Pn	17 07 59.8	-0.2
AAK				⇓S		Sn	17 09 12.4	-1.2
	6.4nm,0.8s							
TKM2	**Tokmak 2**	**7.05**	**31**	⇓P		Pn	17 08 10.0	+0.8
	2.6nm,0.5s							
TKM2				⇓S		Sn	17 09 31.6	+1.5
	1.8nm,0.9s							
AB31	**Akbulak array**	**14.54**	**331**	⇑P		Pn	17 09 49.2	-2.4
	0.2nm,0.4s,baz=139,slow=13,SNR=4.6							

IDC 17 17:27:27.6±4.8, **29°.44N×141°.08E, h0**km, **mb3.3**/2, **mb1 3.5**/3, **mb1mx3.2**/44, **mbtmp3.2**/3, **ML3.0**/1, **Error ellipse: s-maj=294.0km s-min=33.6km az=81.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**7.49**	**342**	P	n	Pn	17 29 17.8	-0.2
	0.2nm,0.3s,baz=158,slow=10,SNR=5.9							
WRA	**Warramunga Arr**	**49.52**	**188**	P		P	17 36 20.1	0.0
	0.5nm,0.6s,baz=6.7,slow=7.7,SNR=8.6							
ASAR	**Alice Springs**	**53.24**	**188**	P		P	17 36 47.8	-0.2
	0.2nm,0.7s,baz=0.4,slow=5.7,SNR=4.9							

*ISCJB **17** 17:43:11.6±0.5, 49°.84N×0°.03×18°.48E±0°.03, h0km, Error ellipse: s-maj=4.4km s-min=2.7km az=24.7*
*IPEC **17** 17:43:13.3±0.2, 49°.82N×18°.56E, h0km±3km, ML2.0/3, Error ellipse: s-maj=1.7km s-min=1.1km az=164.0*
*PRU **17** 17:43:13.5±0.0, 49°.83N×18°.51E, h0km*
*VIE **17** 17:43:14.3±1.3, 49°.60N×18°.45E, h0km, mb2.0/2, ml2.6/3, Error ellipse: s-maj=8.6km s-min=3.9km az=68.0 30 km SSE of Ostrava Suspected Mining induced.*
ISC 17 17:43:12.0±0.8, **49°.83N**±0°.03×**18°.55E**±0°.03, **h0**km, **n27**, σ0**§80**/44, **Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.26**	**272**	*e*PG		**Pb**	**17 43 18.8**	**-0.8**
OKC				*e*SG		**Sb**	**17 43 22.5**	**-2.2**
	comp=Z,84nm,0.4s							
MORC	**Moravsky Berou**	**0.66**	**266**	*e*PG		**Pb**	**17 43 26.1**	**-0.3**
	baz=86							
MORC				*e*Sg		**Sg**	**17 43 34.0**	**+0.9**
	40nm,0.4s,baz=86							
OJC	**Ojcow**	**0.89**	**64**	*e*Pg		**Pb**	**17 43 30.3**	**-0.1**
OJC				*e*Sg		**Sb**	**17 43 42.8**	**0.0**
LANS	**Liptovska Anna**	**0.90**	**138**	*e*PG		**Pb**	**17 43 30.3**	**-0.3**
LANS	**Liptovska Anna**	**0.90**	**138**	*e*PG		**Pb**	**17 43 30.9**	**+0.3**
LANS				*e*SG		**Sb**	**17 43 43.5**	**+0.3**
LANS	**Liptovska Anna**	**0.90**	**138**	*e*SG		**Sb**	**17 43 44.1**	**+1.4**
JAVC	**Velka Javorina**	**1.13**	**211**	*e*PG		**Pn**	**17 43 35.1**	**0.0**
JAVC	**Velka Javorina**	**1.13**	**211**	*e*Pg		**Pn**	**17 43 35.1**	**0.0**
	baz=31							
KRLC	**Kraliky**	**1.17**	**283**	*e*PG		**Pg**	**17 43 34.2**	**-0.2**
KRLC				*e*SG		**Sg**	**17 43 49.8**	**+0.2**
	comp=Z,6.4nm,0.6s							
VYHS	**Vyhne**	**1.35**	**172**	*e*PN		**Pg**	**17 43 38.2**	**+0.4**
VYHS				*e*SN		**Sn**	**17 43 57.0**	**+0.3**
VYHS				*e*LG		Lg	17 44 04.0	
VYHS	**Vyhne**	**1.35**	**172**	*e*PN		**Pg**	**17 43 38.1**	**+0.3**
VYHS				*e*SN		**Sn**	**17 43 57.2**	**+0.5**
VYHS				*e*LG		Lg	17 43 59.6	
VRAC	**Vranov**	**1.38**	**249**	*e*PG		**Pb**	**17 43 38.9**	**+0.2**
VRAC				*e*SG		**Sg**	**17 43 56.4**	**+0.1**
VRAC	**Vranov**	**1.38**	**249**	*e*Pg		**Pb**	**17 43 38.9**	**+0.2**
	baz=68							
VRAC				*e*Sg		**Sg**	**17 43 56.3**	**0.0**
	16nm,0.3s,baz=68							
DPC	**Dobruska-Polom**	**1.53**	**291**	*e*PG		**Pb**	**17 43 40.9**	**-0.4**
DPC				*e*SG		**Sn**	**17 44 01.6**	**+0.4**
	comp=Z,9.9nm,0.4s							
KRUC	**Moravsky**	**1.60**	**242**	*e*PG		**Pb**	**17 43 42.4**	**-0.1**
KRUC				*e*SG		**Sg**	**17 44 03.5**	**-0.1**
KRUC	**Moravsky**	**1.60**	**242**	*e*Pg		**Pb**	**17 43 42.3**	**-0.2**
	baz=61							
KRUC				*e*Sg		**Sg**	**17 44 03.4**	**-0.1**
	16nm,0.2s,baz=61							
MODS	**Modra-Piesok**	**1.68**	**210**	*e*SN		**Sn**	**17 44 03.8**	**-1.1**
MODS				*e*LG		Lg	17 44 09.3	
KSP	**Ksiaz**	**1.77**	**306**	*e*Pg		**Pg**	**17 43 47.1**	**+1.2**
KSP				*e*Sg		**Sg**	**17 44 09.0**	**+0.2**
UPC	**Upice**	**1.77**	**294**	*e*PG		**Pg**	**17 43 45.7**	**-0.2**
UPC				*e*SG		**Sg**	**17 44 08.5**	**-0.3**
	comp=Z,8.2nm,0.4s							
KECS	**Kecovo**	**1.85**	**136**	*e*SN		**Sn**	**17 44 08.2**	**-0.9**
KECS				*e*LG		Lg	17 44 13.1	
KECS	**Kecovo**	**1.85**	**136**	*e*SN		**Sn**	**17 44 08.0**	**-1.1**
KECS				*e*LG		Lg	17 44 13.0	
CONA	**Conrad Observa**	**2.60**	**224**	*e*Pn		**Pn**	**17 43 55.5**	**+0.1**
	0.1nm,0.1s							
CONA				*e*Sn		**Sn**	**17 44 26.1**	**-1.7**
	1.3nm,0.2s							
PVCC	**Panska Ves**	**2.66**	**287**	*e*SG		**Sg**	**17 44 36.8**	**-0.5**
	comp=Z,10nm,0.7s							
BRG	**Berggiesshubel**	**3.13**	**291**	SG		**Sg**	**17 44 51.3**	**-1.3**
	4.0nm,0.5s							
KHC	**Kasperske Hory**	**3.32**	**260**	*e*SG		**Sg**	**17 44 56.3**	**-2.3**
	comp=Z,3.7nm,0.4s							
CLL	**Collm**	**3.84**	**295**	*e*Pg		**Pg**	**17 44 25.0**	**-0.

PMRV S Sn 18 08 00.0 +0.1
comp=N,20nm,0.2s
PCAS Casmilo, Conde 3.65 14 *e*Pn **Pn 18 07 24.1 +1.9**
PCAS *e*Sn **Sn 18 08 06.4 +0.7**
PCAS A A 18 08 08.5
comp=N,5.5nm,0.1s
ECAB El Cabril 3.72 64 P **Pn 18 07 25.4 +2.3**
comp=N,2.4nm,0.6s,SNR=17
ECAB S Sn 18 08 05.9 -1.4
comp=N,3.6nm,0.1s
PCBR Castelo Branco 3.74 27 *e*Pn **Pn 18 07 25.8 +2.4**
PCBR *e*Sn **Sn 18 08 07.3 -0.5**
PCBR A A 18 08 09.4
comp=N,8.6nm,0.4s
PCBR Castelo Branco 3.74 27 P **Pn 18 07 25.8 +2.4**
PCBR S Sn 18 08 07.3 -0.5
comp=N,4.3nm,0.4s
HORN Hornachuelos 3.75 68 P **Pn 18 07 22.7 -0.8**
HORN Hornachuelos 3.75 68 S **Sn 18 08 10.3 +2.1**
MTE Manteigas 4.22 22 *e*Pn **Pn 18 07 32.4 +2.4**
MTE *e*Sn **Sn 18 08 20.6 +0.8**
MTE A A 18 08 22.0
comp=N,8.6nm,0.2s
MTE Manteigas 4.22 22 P **Pn 18 07 32.4 +2.4**
MTE S Sn 18 08 20.6 +0.8
comp=N,4.3nm,0.2s
EADA Adamuz 4.37 66 P **Pn 18 07 34.0 +2.0**
comp=N,2.0nm,0.3s,SNR=16
EADA S Sn 18 08 20.9 -2.5
comp=N,3.3nm,0.1s
PVIS Viseu 4.42 18 *e*Pn **Pn 18 07 34.3 +1.5**
PVIS *e*Sn **Sn 18 08 24.1 -0.5**
PVIS A A 18 08 26.5
comp=N,5.6nm,0.1s
PVIS Viseu 4.42 18 P **Pn 18 07 34.3 +1.5**
PVIS S Sn 18 08 24.1 -0.5
comp=N,2.8nm,0.1s
EGOR Sierra Gorda, 4.48 81 P **Pn 18 07 36.3 +2.5**
comp=N,1.2nm,0.2s,SNR=7.9
EGOR S Sn 18 08 26.8 +0.4
comp=N,3.0nm,0.3s,SNR=7.9
EPLA Plasencia 4.52 37 P **Pn 18 07 35.8 +1.6**
comp=N,0.8nm,0.2s,SNR=7.9
EPLA S Sn 18 08 26.6 -0.7
comp=N,14nm,0.1s,SNR=21
ELGU Los Guajares, 4.85 84 P **Pn 18 07 41.1 +2.4**
comp=N,0.4nm,0.1s,SNR=7.9
ELGU S Sn 18 08 33.9 -1.5
comp=N,2.7nm,0.7s,SNR=7.9
PVRL Vila Real 4.99 17 *e*Sn **Sn 18 08 37.5 -1.3**
PVRL Vila Real 4.99 17 S **Sn 18 08 37.5 -1.3**
EQUE Quentar 5.03 80 P **Pn 18 07 43.9 +2.7**
comp=N,0.2nm,0.1s,SNR=7.9
EQUE S Sn 18 08 39.1 -0.6
comp=N,8.0nm,0.8s,SNR=7.9
POLO Lamas de Olo 5.07 16 *e*Pn **Pn 18 07 43.4 +1.7**
POLO *e*Sn **Sn 18 08 39.0 -1.7**
POLO A A 18 08 42.5
comp=N,2.0nm,0.4s
MVO Moncorvo 5.08 23 *e*Pn **Pn 18 07 43.7 +1.9**
MVO *e*Sn **Sn 18 08 39.6 -1.3**
MVO A A 18 08 43.7
comp=N,4.3nm,0.6s
MVO Moncorvo 5.08 23 P **Pn 18 07 43.4 +1.6**
comp=N,2.0nm,0.3s,SNR=5.9
MVO S Sn 18 08 38.4 -2.5
comp=N,5.6nm,0.6s,SNR=7.9
PAB San Pablo 5.17 52 P **Pn 18 07 45.0 +2.0**
comp=N,0.5nm,0.2s,SNR=7.9
PAB S Sn 18 08 41.5 -1.6
comp=N,3.3nm,0.3s,SNR=7.9
PCAB Cabril 5.34 13 *e*Pn **Pn 18 07 47.2 +1.7**
PCAB *e*Sn **Sn 18 08 45.9 -1.5**
PCAB Cabril 5.34 13 P **Pn 18 07 47.2 +1.7**
PCAB S Sn 18 08 45.9 -1.5
EQES Quesada 5.41 74 P **Pn 18 07 47.9 +1.4**
comp=N,0.3nm,0.1s,SNR=7.9
EQES S Sn 18 08 48.2 -1.0
comp=N,3.7nm,0.3s,SNR=10
EBER Berja 5.44 84 S **Sn 18 08 50.2 +0.1**
comp=N,5.5nm,0.8s,SNR=7.9
ESDC Sonseca Array 5.48 53 P **Pn 18 07 49.4 +2.0**
comp=N,1.0nm,0.1s,baz=238,slow=13,SNR=7.2
ESDC S Sn 18 08 49.4 -1.5
comp=N,1.6nm,0.5s,baz=240,slow=24,SNR=3.5
ELOB Lobios 5.49 12 P **Pn 18 07 48.6 +1.0**
comp=N,1.6nm,0.1s,SNR=7.9
ELOB S Sn 18 08 47.9 -3.2
comp=N,2.1nm,0.3s,SNR=7.9
OUK Oukaimeden 5.49 164 P Pn 18 07 39.5 -8.3
OUK Oukaimeden 5.49 164 S Sn 18 08 39.1 -12
MDT Midelt 5.55 130 P Pn 18 07 41.8 -6.5
MDT Midelt 5.55 130 S **Sn 18 08 44.9 -7.8**
PGAV Gavieira, Arco 5.55 11 *e*Pn **Pn 18 07 49.9 +1.5**
PGAV *e*Sn **Sn 18 08 51.1 -1.5**
PGAV A A 18 08 53.7
comp=N,4.8nm,0.4s
EZAM Zamans 5.68 7 P **Pn 18 07 51.0 +0.9**
comp=N,1.1nm,0.1s,SNR=7.9
EZAM S Sn 18 08 51.7 -4.0
comp=N,3.2nm,0.3s,SNR=7.9
PBRG Braganca 5.75 22 *e*Pn **Pn 18 07 53.3 +2.3**
PBRG *e*Sn **Sn 18 08 55.7 -1.7**
PBRG A A 18 08 58.5
comp=N,3.5nm,0.2s
PBRG Braganca 5.75 22 P **Pn 18 07 53.3 +2.3**
PBRG S Sn 18 08 55.7 -1.7
comp=N,1.8nm,0.2s
ECAL Calabor 5.88 22 P **Pn 18 07 54.1 +1.3**
comp=N,1.4nm,0.1s,SNR=7.9
ECAL S Sn 18 08 58.5 -2.1
comp=N,6.6nm,0.3s,SNR=7.9
SESP Santiago Espad 5.88 72 P **Pn 18 07 54.8 +1.8**
comp=N,0.8nm,0.1s,SNR=7.9
SESP S Sn 18 08 59.2 -1.7
comp=N,6.8nm,0.4s,SNR=7.9
TTIG Tnine Tigouga, 6.03 170 P Pn 18 07 46.6 -8.4
TTIG Tnine Tigouga, 6.03 170 S Sn 18 08 54.3 -10
EAGO Agolada(Pontev 6.40 10 P **Pn 18 08 00.8 +0.8**
comp=N,3.1nm,0.1s,SNR=7.9
EAGO S Sn 18 09 10.2 -3.2
comp=N,4.8nm,0.3s,SNR=7.9
ETOB Tobarra 6.78 69 P **Pn 18 08 06.2 +1.0**
comp=N,0.3nm,0.1s,SNR=7.9
ETOB S Sn 18 09 20.7 -2.1
comp=N,4.2nm,0.5s,SNR=7.9
EPON Pontenova 7.07 15 P **Pn 18 08 10.2 +1.0**
comp=N,0.2nm,0.1s,SNR=4.0
ECHE Chera 7.51 63 S **Sn 18 09 38.5 -2.2**
comp=N,2.7nm,0.5s,SNR=7.9
EMOS Mosqueruela 8.16 59 S **Sn 18 09 57.4 +0.4**
comp=N,2.1nm,0.8s,SNR=7.9
IELO Elcoad 9.05 43 P **Pn 18 08 39.1 +2.7**
comp=N,0.5nm,0.2s,SNR=7.9
IELO S Sn 18 10 16.9 -1.9
comp=N,4.8nm,0.5s,SNR=7.9
EALK Alkurruntz 9.16 41 S **Sn 18 10 16.3 -5.2**
comp=N,2.5nm,0.4s,SNR=7.9
EPOB Poblet 9.65 57 P **Pn 18 08 46.3 +1.7**
comp=N,0.4nm,0.2s,SNR=7.9

MOS ***17*** *18:12:18.9±1.1, 37°.06S×95°.19W, h10km, mb5.5/58, MS4.9/20, Error ellipse: s-maj=11.9km s-min=7.0km az=89.3*

IDC ***17*** *18:12:19.0±0.4, 37°.17S×95°.27W, h0km, mb5.0/24, mb1 5.1/25, mb1mx5.0/39, mbtmp5.0/25, ML4.2/1, MS4.8/27, Ms1 4.8/27, ms1mx4.7/30, Error ellipse: s-maj=14.0km s-min=11.7km az=112.0*

NEIC ***17*** *18:12:19.9±0.1, 37°.21S×95°.08W, h10km, mb5.4/293, MS4.9/88, Error ellipse: s-maj=3.9km s-min=3.5km az=90.0*

GCMT ***17*** *18:12:20.9±0.1, 37°.14S±0°.01×95°.24W±0°.01, h12km, MW5.4/131, Moment Tensor Solution. s97,c159; s131,c242; Duration: 1s2 Moment tensor: Scale 10¹⁷ Nm; Mrr-1.34±.02; Mθθ-0.20±.02; Mφφ1.54±.02; Mrθ0.27±.05; Mφθ-0.21±.02; Mφr-0.08±.04; Best double couple: M₀1.48500×10¹⁷ NP1:φs341.00000°, δ48.00000°, λ-106.00000°. NP2:φs185.00000°, δ44.00000°, λ-72.00000°. Principal axes: T 1.5700, Plg2.0000°, Azm83.0000°; N -0.1700, Plg12.0000°, Azm352.0000°; P -1.3990, Plg78.0000°, Azm183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***17*** *18:12:21.0, 37°.20S×95°.10W, h10km, mB5.2/16, Ms5.5/16, Ms7 5.3/16*

ISCJB ***17*** *18:12:29.0±1.4, 37°.15S±0°.03×94°.90W±0°.05, h93km±12km, mb5.2/420, Error ellipse: s-maj=6.2km s-min=5.1km az=7.5*

ISC 17 18:12:20.3±0.8, 37°.12S±0°.05×95°.23W±0°.05, h11km±4km, n1121, σ1904/1113, mb5.4/420, MS4.9/117, 2C-1D, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**15.54**	**306**	LR	LR	18 20 10.3	
	comp=Z,7μm,21.0s,baz=131,slow=30						
RPN	**Rapa Nui**	**15.54**	**306**	*e*Pn	**P**	**18 16 08.2**	**+4.4**
	610nm,1.6s						
RPN	**Rapa Nui**	**15.54**	**306**	*e*P	**P**	**18 16 08.2**	**+4.4**
RPN				pmax	pmax		
	comp=Z,610nm,1.6s						
GO07	**Milladeo Hill,**	**17.53**	**117**	*e*Pn	**P**	**18 16 25.9**	**+0.2**
	comp=Z,82nm,0.8s						
GO06	**Curarrehue**	**18.78**	**105**	*e*P	**Pn**	**18 16 41.6**	**+1.5**
	comp=Z,149nm,1.8s						
GO05	**Hualaa2**	**18.95**	**91**	*e*P	**Pn**	**18 16 43.0**	**+0.9**
	comp=Z,186nm,1.3s						
PLCA	**Paso Flores**	**19.52**	**108**	P	**Pn**	**18 16 49.5**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=290,slow=9.9,SNR=18						
PLCA				LR	LR	18 22 27.6	
	comp=Z,5μm,20.5s,baz=296,slow=31						
PLCA	**Paso Flores**	**19.52**	**108**	*e*P	**Pn**	**18 16 49.1**	**+0.2**
	comp=Z,60nm,1.1s						
PLCA	**Paso Flores**	**19.52**	**108**	*e*P	**Pn**	**18 16 49.1**	**+0.2**
PLCA				pmax	pmax		
	comp=Z,60nm,1.1s						
CHRN	**Cochrane**	**19.53**	**128**	*e*P	**P**	**18 16 47.6**	**0.0**
	comp=Z,8.5nm,0.8s						
ROC1	**El Roble**	**20.23**	**85**	*e*P	**P**	**18 16 53.9**	**-1.9**
	comp=Z,48nm,1.1s						
PEL	**Peldehue**	**20.44**	**86**	*e*P	Pn	18 16 58.9	-1.0
	comp=Z,348nm,1.8s						
PEL	**Peldehue**	**20.44**	**86**	*e*P	Pn	18 16 58.9	-1.1
PEL				pmax	pmax		
	comp=Z,348nm,1.8s						
GO04	**Tololo Observa**	**21.45**	**78**	*e*P	**P**	**18 17 09.1**	**+0.1**
	comp=Z,154nm,1.3s						
GO09	**Cerro Castillo**	**21.54**	**138**	*e*P	**P**	**18 17 11.7**	**+2.2**
	comp=Z,391nm,1.4s						
LCO	**Las Campanas**	**22.05**	**76**	*e*P	**P**	**18 17 16.7**	**+1.3**
	comp=Z,296nm,1.5s						
LCO				LR	LR		
	comp=Z,7μm,21.0s						
LCO	**Las Campanas**	**22.05**	**76**	*e*P	**P**	**18 17 16.7**	**+1.3**
LCO				pmax	pmax		
	comp=Z,296nm,1.5s						
LCO				MLR	MLR		
	comp=Z,7μm,21.0s						
GO03	**Copiap**	**23.10**	**73**	*e*P	**P**	**18 17 27.1**	**+0.9**
	comp=Z,66nm,1.3s						
GO10	**Punta Arenas**	**23.24**	**141**	*e*P	**P**	**18 17 28.6**	**+1.1**
	comp=Z,313nm,1.5s						
GO02	**Mina Guanaco**	**24.89**	**69**	*e*P	**P**	**18 17 42.6**	**-1.0**
	comp=Z,160nm,1.7s						
PB10	**IPOC Station P**	**25.16**	**64**	*e*P	**P**	**18 17 46.3**	**+0.6**
	comp=Z,50nm,1.1s						
PB04	**IPOC Station P**	**26.19**	**63**	*e*P	**P**	**18 17 55.9**	**+0.7**
	comp=Z,129nm,1.5s						
TRQA	**Tornquist**	**26.29**	**102**	*e*P	**P**	**18 17 56.0**	**+0.1**
	comp=Z,65nm,1.5s						
TRQA				LR	LR		
	comp=Z,7μm,19.0s						
TRQA	**Tornquist**	**26.29**	**102**	*e*P	**P**	**18 17 56.0**	**+0.1**
TRQA				pmax	pmax		
	comp=Z,65nm,1.5s						
TRQA				MLR	MLR		
	comp=Z,7μm,19.0s						
LVC	**Limon Verde**	**26.91**	**65**	P	**P**	**18 18 03.4**	**+1.5**
	comp=Z,35nm,0.9s,baz=238,slow=9.4,SNR=22						
LVC				PcP	**PcP**	**18 21 25.1**	**+1.0**
	comp=Z,7.6nm,0.9s,baz=328,slow=8.0,SNR=4.8						
LVC				LR	LR	18 25 59.8	
	comp=Z,4μm,18.6s,baz=232,slow=30						
LVC	**Limon Verde**	**26.91**	**65**	*e*P	**P**	**18 18 02.6**	**+0.7**
	comp=Z,48nm,1.0s						
LVC	**Limon Verde**	**26.91**	**65**	*e*P	**P**	**18 18 02.6**	**+0.7**
LVC				pmax	pmax		
	comp=Z,48nm,1.0s						
PB01	**IPOC Station P**	**27.49**	**61**	*e*P	**P**	**18 18 08.0**	**+1.1**
	comp=Z,33nm,1.3s						
PB11	**IPOC Station P**	**28.23**	**59**	*e*P	**P**	**18 18 13.4**	**-0.2**
	comp=Z,32nm,1.1s						
MNMC	**Minye Minye**	**28.71**	**58**	*e*P	**P**	**18 18 18.4**	**+0.5**
	comp=Z,35nm,0.9s						
MNMC				*e*PcP	**PcP**	**18 21 28.4**	**0.0**
EFI	**East Falkland**	**29.91**	**131**	*e*P	**P**	**18 18 30.4**	**+2.4**
	comp=Z,179nm,1.7s						
EFI				LR	LR		
	comp=Z,3μm,20.0s						
EFI	**East Falkland**	**29.91**	**131**	*e*P	**P**	**18 18 30.4**	**+2.4**
EFI				pmax	pmax		
	comp=Z,179nm,1.7s						
EFI				MLR	MLR		
	comp=Z,3μm,20.0s						
NNA	**Nana**	**29.98**	**38**	LR	LR	18 27 37.1	
	comp=Z,3μm,18.6s,baz=220,slow=31						
LPAZ	**La Paz**	**31.70**	**56**	P	**P**	**18 18 46.2**	**+1.5**
	comp=Z,46nm,0.9s,baz=213,slow=7.1,SNR=56						
LPAZ				PcP	**PcP**	**18 21 37.6**	**+1.0**
	comp=Z,3.3nm,0.8s,baz=172,slow=2.3,SNR=3.8						
LPAZ				LR	LR	18 29 23.2	
	comp=Z,1μm,18.0s,baz=226,slow=32						
LPAZ	**La Paz**	**31.70**	**56**	*e*P	**P**	**18 18 43.8**	**-0.9**
LPAZ				*e*PcP	**PcP**	**18 21 36.2**	**-0.3**
LPAZ	**La Paz**	**31.70**	**56**	*e*P	**P**	**18 18 43.8**	**-0.9**
LPAZ				*e*		18 21 36.3	
PTCN	**Pitcairn Islan**	**32.01**	**282**	*e*P	**P**	**18 18 49.6**	**+2.8**
	comp=Z,303nm,1.0s						
PTCN				LR	LR		
	comp=Z,5μm,21.0s						
ATAH	**Atahualpa**	**33.56**	**31**	P	**P**	**18 19 02.9**	**+2.0**
	comp=Z,28nm,1.0s,baz=226,slow=5.5,SNR=17						
ATAH				LR	LR	18 29 19.2	
	comp=Z,3μm,20.7s,baz=301,slow=30						
CPUP	**Villa Florida**	**33.78**	**82**	P	**P**	**18 19 01.9**	**-0.4**
	comp=Z,6.7nm,1.1s,baz=264,slow=9.1,SNR=8.3						
CPUP				PcP	**PcP**	**18 21 41.8**	**+0.3**
	comp=Z,3.5nm,0.9s,baz=188,slow=2.4,SNR=5.2						
CPUP				LR	LR	18 31 07.7	
	comp=Z,3μm,18.4s,baz=253,slow=33						
CPUP	**Villa Florida**	**33.78**	**82**	*e*P	**P**	**18 19 01.5**	**-0.8**
	comp=Z,29nm,1.4s						
CPUP				PcP	**PcP**	**18 21 41.8**	**+0.3**
CPUP	**Villa Florida**	**33.78**	**82**	*e*P	**P**	**18 19 01.5**	**-0.8**
CPUP						18 21 41.8	
CPUP				pmax	pmax		
	comp=Z,29nm,1.4s						
PAYG	**Puerto Ayora**	**36.55**	**8**	*e*P	**P**	**18 19 28.0**	**+1.7**
	comp=Z,59nm,1.0s						
PAYG				LR	LR		
	comp=Z,2μm,19.0s						
SIV	**San Ignacio**	**36.80**	**64**	P	**P**	**18 19 28.3**	**-0.1**
	comp=Z,15nm,1.1s,baz=243,slow=11,SNR=22						
SIV				PcP	**PcP**	**18 21 50.7**	**+0.2**
	comp=Z,9.2nm,1.0s,baz=266,slow=3.1,SNR=8.4						
SIV				LR	LR	18 32 53.5	
	comp=Z,2μm,18.3s,baz=206,slow=34						
RKT	**Rikitea**	**36.83**	**281**	*e*P	**P**	**18 19 27.8**	**-0.7**
	comp=Z,55nm,1.3s						
RKT				*e*S	**S**	**18 25 12.0**	**-0.8**
	comp=Z,371nm,28.2s						
RKT				*e*LQ	LQ	18 27 49.6	
	comp=Z,1μm,28.8s						
RKT				*e*LR	LR	18 29 22.0	
	comp=Z,4μm,27.5s,baz=124						
RKT	**Rikitea**	**36.83**	**281**	*e*T	T	18 58 02.6	
	comp=Z,1.1nm,0.2s						
OTAV	**Otavalo**	**40.29**	**27**	*e*P	**P**	**18 19 58.1**	**-0.1**
	comp=Z,65nm,1.5s						
OTAV				LR	LR		
	comp=Z,2μm,22.0s						
OTAV	**Otavalo**	**40.29**	**27**	*e*P	**P**	**18 19 59.3**	**+1.1**
OTAV	**Otavalo**	**40.29**	**27**	*e*P	**P**	**18 19 58.1**	**-0.1**
OTAV				pmax	pmax		
	comp=Z,65nm,1.5s						
OTAV				MLR	MLR		
	comp=Z,2μm,22.0s						
SAML	**Samuel**	**40.34**	**54**	*e*P	**P**	**18 19 57.5**	**-0.6**
	comp=Z,19nm,0.9s						
SAML				LR	LR		
	comp=Z,2μm,21.0s						
SAML	**Samuel**	**40.34**	**54**	*e*P	**P**	**18 19 57.5**	**-0.6**
SAML				pmax	pmax		
	comp=Z,19nm,0.9s						
SAML				MLR	MLR		
	comp=Z,2μm,21.0s						
GCUF	**Volcan Galeras**	**41.61**	**28**	*e*P	**P**	**18 20 10.7**	**+1.7**
CRUC	**La Cruz**	**42.07**	**28**	*e*P	**P**	**18 20 14.4**	**+1.7**
FLOC	**Florencia**	**42.58**	**30**	*e*P	**P**	**18 20 17.2**	**+0.7**
SOTA	**Rioblanco**	**42.72**	**28**	*e*P	**P**	**18 20 19.0**	**+0.9**
SPB	**Sao Paulo**	**42.97**	**86**	*e*P	**P**	**18 20 19.1**	**-0.5**
	comp=Z,63nm,1.4s						
PCON	**Cinco Dias**	**42.98**	**28**	*e*P	**P**	**18 20 22.0**	**+1.7**
POPC	**Popayan, Colom**	**43.07**	**28**	*e*P	**P**	**18 20 20.4**	**-0.2**
HOPE	**Hope Point**	**43.11**	**133**	*e*P	**P**	**18 20 21.2**	**+0.8**
	comp=Z,97nm,1.1s						
HOPE				LR	LR		
	comp=Z,958nm,21.0s						
MARP	**Paez Belalcaza**	**43.62**	**29**	*e*P	**P**	**18 20 25.6**	**+0.4**
YOTC	**Yotoco, Valle**	**44.52**	**27**	*e*P	**P**	**18 20 32.4**	**+0.2**
GUVC	**San Jose del G**	**44.71**	**33**	*e*P	**P**	**18 20 34.3**	**+0.7**
PRAC	**Prado**	**44.83**	**29**	*e*P	**P**	**18 20 35.4**	**+0.8**
ANIL	**Santa Ana**	**45.34**	**28**	*e*P	**P**	**18 20 39.5**	**+0.6**
PLMC	**San Jos¨ del**	**45.40**	**27**	*e*P	**P**	**18 20 39.0**	**-0.1**
TOLC	**Tolima**	**45.46**	**28**	*e*P	**P**	**18 20 39.6**	**-0.3**
VILC	**Villavicencio,**	**45.67**	**31**	*e*P	**P**	**18 20 42.5**	**+1.1**
RREF	**El Recreo**	**45.74**	**28**	*e*P	**P**	**18 20 44.3**	**+1.8**
GUYC	**Guyana, Colomb**	**46.02**	**28**	*e*P	**P**	**18 20 45.4**	**+0.9**
ROSC	**El Rosal**	**46.08**	**30**	P	**P**	**18 20 47.5**	**+2.6**
	comp=Z,43nm,1.1s,baz=167,slow=3.9,SNR=22						
ROSC				LR	LR	18 37 56.6	
	comp=Z,1μm,18.1s,baz=218,slow=33						
ROSC	**El Rosal**	**46.08**	**30**	*e*P	**P**	**18 20 45.5**	**+0.6**
	comp=Z,46nm,1.1s						
ROSC	**El Rosal**	**46.08**	**30**	*e*P	**P**	**18 20 47.5**	**+2.6**
CHIC	**Chingaza**	**46.12**	**30**	*e*P	**P**	**18 20 46.6**	**+1.4**
CTAB	**Cerro Tablazo,**	**46.28**	**30**	*e*P	**P**	**18 20 48.5**	**+1.9**
AZU	**Azuero**	**46.82**	**21**	*e*P	**P**	**18 20 51.1**	**+0.9**
BDFB	**Brasilia**	**46.84**	**76**	P	**P**	**18 20 50.9**	**+0.3**
	comp=Z,15nm,1.0s,baz=233,slow=7.5,SNR=6.6						
BDFB				PcP	**PcP**	**18 22 23.8**	**+0.2**
	comp=Z,6.8nm,0.8s,baz=330,slow=3.3,SNR=3.3						
BDFB				LR	LR	18 39 27.0	
	comp=Z,4μm,19.5s,baz=226,slow=35						
BDFB	**Brasilia**	**46.84**	**76**	*e*P	**P**	**18 20 50.5**	**-0.1**
	comp=Z,39nm,1.1s						
BDFB	**Brasilia**	**46.84**	**76**	*e*P	**P**	**18 20 50.5**	**-0.1**
BDFB				pmax	pmax		
	comp=Z,39nm,1.1s						
HELC	**Santa Helena**	**46.86**	**27**	*e*P	**P**	**18 20 51.3**	**+0.4**
DBBC	**Dabeiba**	**47.38**	**26**	*e*P	**P**	**18 20 54.7**	**0.0**
RUSC	**La Rusia**	**47.53**	**31**	*e*P	**P**	**18 20 56.6**	**+0.2**
PTBC	**PUERTO BERRIO,**	**47.58**	**29**	*e*P	**P**	**18 20 55.8**	**-0.5**
BARC	**Barichara**	**48.13**	**30**	*e*P	**P**	**18 20 59.8**	**-0.9**
JTS	**JuntasAbangare**	**48.14**	**14**	*e*P	**P**	**18 21 01.2**	**+0.7**
	comp=Z,37nm,1.1s						
JTS				LR	LR		
	comp=Z,1μm,19.0s						
JTS	**JuntasAbangare**	**48.14**	**14**	*e*P	**P**	**18 21 01.2**	**+0.7**
JTS				pmax	pmax		
	comp=Z,37nm,1.1s						
JTS				MLR	MLR		
	comp=Z,1μm,19.0s						
TBI	**Tubuai**	**48.23**	**271**	*e*P	**P**	**18 21 00.9**	**-0.3**
	comp=Z,115nm,1.2s						
TBI				*e*S	**S**	**18 27 58.0**	**-2.6**
	comp=Z,678nm,25.2s						
TBI				*e*LR	LR	18 34 37.4	
	comp=Z,4μm,31.0s,baz=118						
BCIP	**Isla Barro Col**	**48.26**	**21**	*e*P	**P**	**18 21 01.2**	**-0.2**
	comp=Z,57nm,1.0s						
BCIP				LR	LR		
	comp=Z,1μm,21.0s						
ZARC	**Zaragoza, Cauc**	**48.31**	**28**	*e*P	**P**	**18 21 01.9**	**+0.1**
BRRC	**Barranca, Sant**	**48.39**	**29**	*e*P	**P**	**18 21 01.6**	**-0.8**
GIRC	**Giron, Santand**	**48.57**	**30**	*e*P	**P**	**18 21 02.4**	**-1.6**
PTGA	**Pitinga**	**48.69**	**50**	P	**P**	**18 21 04.5**	**-0.3**
	comp=Z,12nm,0.8s,baz=212,slow=8.9,SNR=18						
PTGA				PcP	**PcP**	**18 22 30.4**	**+0.3**
	comp=Z,6.4nm,0.8s,baz=213,slow=4.4,SNR=3.2						
PTGA	**Pitinga**	**48.69**	**50**	*e*P	**P**	**18 21 04.1**	**-0.7**
	comp=Z,15nm,0.9s						
PTGA				PcP	**PcP**	**18 22 30.4**	**+0.3**
PTGA				LR	LR		
	comp=Z,16μm,21.0s						
PAMC	**Pamplona, Colo**	**49.00**	**30**	*e*P	**P**	**18 21 07.1**	**-0.6**
MOTC	**Monteria, Cord**	**49.21**	**26**	*e*P	**P**	**18 21 09.5**	**+0.8**
TAOE	**Nuku Hiva Isla**	**49.37**	**293**	*e*S	**S**	**18 28 15.4**	**-1.6**
	comp=Z,819nm,25.3s						
TAOE				*e*LR	LR	18 35 12.2	
	comp=Z,3μm,28.8s						
SMLC	**San Mart¨n de**	**49.80**	**28**	*e*P	**P**	**18 21 12.2**	**-1.0**
ESPN	**Las Esperanzas**	**50.12**	**14**	*e*P	**P**	**18 21 16.6**	**+1.0**
	comp=Z,66nm,1.1s						
BOAB	**BOACO BROADBAN**	**50.12**	**12**	*e*P	**P**	**18 21 16.3**	**+0.7**
BOAB				*e*PcP	**PcP**	**18 22 33.1**	**-2.0**
CSGN	**Cosiguina Volc**	**50.35**	**10**	*e*P	**P**	**18 21 18.7**	**+1.2**
	comp=Z,135nm,1.2s						
ESTN	**Estel**	**50.65**	**11**	*e*P	**P**	**18 21 20.8**	**+1.0**
	comp=Z,121nm,1.3s						
SNET	**Serv Nac Est T**	**50.85**	**8**	*e*P	**P**	**18 21 23.1**	**+1.8**
	comp=Z,223nm,0.3s						
CODC	**Agust¨n Codaz**	**51.08**	**28**	*e*P	**P**	**18 21 21.4**	**-1.5**
SDV	**Santo Domingo**	**51.25**	**32**	*e*P	**P**	**18 21 22.8**	**-1.6**
	comp=Z,40nm,1.4s						
SDV				LR	LR		
	comp=Z,2μm,22.0s						
SDV	**Santo Domingo**	**51.25**	**32**	*e*P	**P**	**18 21 23.0**	**-1.4**
PPTF	**Pamatai, Papee**	**51.32**	**277**	*e*P	**P**	**18 21 27.3**	**+2.4**
	comp=Z,185nm,1.6s						
PPT2	**Papeete2**	**51.33**	**277**	*e*P	**P**	**18 21 25.0**	**0.0**
	comp=Z,52nm,1.3s						
PPT2				*e*S	**S**	**18 28 41.5**	**-2.8**
	comp=Z,1μm,24.5s						
PPT2				*e*LR	LR	18 36 05.7	
	comp=Z,5μm,24.2s,baz=121						
PPT	**Papeete**	**51.34**	**277**	P	**P**	**18 21 24.5**	**-0.5**
	comp=Z,17nm,0.6s,baz=112,slow=19,SNR=2.2						
PPT				LR	LR	18 37 12.4	
	comp=Z,2μm,19.8s,baz=124,slow=29						
TGUH	**Tegucigalpa,Un**	**51.45**	**10**	*e*P	**P**	**18 21 26.6**	**+0.9**
	comp=Z,49nm,0.9s						
SMRC	**Santa Marta, M**	**51.93**	**27**	*e*P	**P**	**18 21 29.0**	**-0.2**
QSPA	**South Pole Qui**	**53.10**	**180**	P	**P**	**18 21 38.4**	**+0.8**
	comp=Z,18nm,0.9s,baz=130,slow=3.7,SNR=43						
QSPA				PcP	**PcP**	**18 22 47.8**	**+2.0**
	comp=Z,12nm,1.0s,baz=93,slow=8.6,SNR=3.4						
QSPA	**South Pole Qui**	**53.10**	**180**	*e*P	**P**	**18 21 37.9**	**+0.3**
	comp=Z,39nm,1.3s						
QSPA				*e*PcP	**PcP**	**18 22 47.3**	**+1.5**
QSPA				LR	LR		
	comp=Z,306nm,19.0s						
CCIG	**Comitan**	**53.20**	**4**	*e*P	**P**	**18 21 39.6**	**+0.8**
	comp=Z,62nm,1.3s						
URIC	**Uribia, Colomb**	**53.25**	**29**	*e*P	**P**	**18 21 38.2**	**-0.9**
VNA3	**Neumayer Olymp**	**53.94**	**156**	P	**P**	**18 21 43.3**	**-0.2**
TLIG	**Tlapa**	**54.48**	**356**	*e*P	**P**	**18 21 48.6**	**+0.5**
	comp=Z,49nm,1.2s						
VNA1	**Neumayer--Stat**	**54.50**	**156**	P

VNDA	Vanda	56.79	195	eP		P	18 22 04.5	+0.6	
VNDA	Vanda	56.79	195	eP		P	18 22 04.5	+0.6	
TEIG	Tepich	57.42	8	eP		P	18 22 08.6	-0.4	
	comp=Z,49nm,1.2s								
MTDJ	Mount Denham	57.52	20	eP		P	18 22 09.9	0.0	
	comp=Z,284nm,1.8s								
MTDJ				LR		LR			
	comp=Z,760nm,22.0s								
JRQG	Juriquilla Cam	57.73	354	eP		P	18 22 11.7	+0.3	
	comp=Z,144nm,1.2s								
MYIG	MÖrida	58.00	6	eP		P	18 22 12.8	-0.3	
	comp=Z,352nm,1.3s								
GRGR	Grenville	58.28	39	PFAKE			18 22 30.0	+15	
GRGR				LR		LR			
	comp=Z,1µm,20.0s								
LGNH	LÖogne	59.31	25	eP		P	18 22 21.7	-0.5	
	comp=Z,55nm,0.8s								
SVB	Belmont	59.45	39	eP		P	18 22 24.2	+0.9	
	comp=Z,44nm,1.0s								
GTBY	Guantanamo Bay	59.83	22	eP		P	18 22 25.9	+0.1	
	comp=Z,117nm,1.3s								
GTBY				LR		LR			
	comp=Z,371nm,19.0s								
ZAIG	Zacatecas	59.97	352	eP		P	18 22 28.4	+1.3	
	comp=Z,59nm,1.2s								
SDDR	Presa de Saban	60.20	26	eP		P	18 22 27.7	-0.8	
	comp=Z,34nm,1.2s								
SDDR				LR		LR			
	comp=Z,879nm,21.0s								
BBGH	Gun Hill	60.21	41	eP		P	18 22 29.5	+1.0	
	comp=Z,833nm,1.3s								
BBGH				LR		LR			
	comp=Z,2µm,20.0s								
SDD	Santo Domingo	60.22	28	eP		P	18 22 27.4	-1.1	
	comp=Z,243nm,1.4s								
NVL	N'lazarevskaya	60.71	159	eP		P	18 22 32.3	+1.0	
NVL				eS		S	18 30 53.5	+6.0	
NVL				pmax		pmax			
	comp=Z,43nm,1.0s								
CRPR	Cabo Rojo, PR	60.91	31	eP		P	18 22 31.8	-1.4	
	comp=Z,106nm,1.2s								
ICMP	Isla Caja de M	61.04	32	eP		P	18 22 33.2	-0.9	
	comp=Z,317nm,1.9s								
MPR	Mayaguez	61.08	31	eP		P	18 22 33.2	-1.2	
	comp=Z,48nm,1.1s								
OBIP	Obispado Ponce	61.15	31	eP		P	18 22 33.5	-1.4	
	comp=Z,84nm,1.3s								
SJG	San Juan	61.40	32	eP		P	18 22 35.0	-1.5	
	comp=Z,88nm,1.1s								
SJG				LR		LR			
	comp=Z,693nm,19.0s								
SJG	San Juan	61.40	32	eP		P	18 22 35.2	-1.4	
SJG	San Juan	61.40	32	eP		P	18 22 35.0	-1.5	
SJG				pmax		pmax			
	comp=Z,88nm,1.1s								
SJG				MLR		MLR			
	comp=Z,693nm,19.0s								
HUMP	Col San Antoni	61.55	32	eP		P	18 22 35.6	-1.9	
	comp=Z,82nm,1.7s								
MTP	Monte Pirata	61.64	32	eP		P	18 22 36.7	-1.5	
	comp=Z,28nm,1.0s								
CBYP	Canovanas	61.67	32	eP		P	18 22 36.9	-1.5	
	comp=Z,109nm,1.3s								
LNIG	Linares	61.82	356	eP		P	18 22 38.8	-0.4	
	comp=Z,29nm,1.3s								
CUPR	Culebra, Puert	61.94	33	eP		P	18 22 40.9	+0.7	
	comp=Z,29nm,1.3s								
SLBS	Sierra La Lagu	62.05	345	eP		P	18 22 41.4	+0.4	
	comp=Z,70nm,1.2s								
STVI	Saint Thomas	62.12	33	eP		P	18 22 40.8	-0.7	
	comp=Z,25nm,1.0s								
RCBR	Riachuelo	62.21	75	eP		P	18 22 39.4	-2.9	
	comp=Z,28nm,1.3s								
RCBR				LR		LR			
	comp=Z,34µm,22.0s								
RCBR	Riachuelo	62.21	75	eP		P	18 22 39.4	-2.9	
RCBR				pmax		pmax			
	comp=Z,28nm,1.3s								
RCBR				MLR		MLR			
	comp=Z,34µm,22.0s								
SEUS	St. Eustatius	62.25	35	eP		P	18 22 41.8	-0.4	
	comp=Z,132nm,0.9s								
LPIG	La Paz	62.53	344	P		P	18 22 44.6	+0.5	
	comp=Z,32nm,0.3s,baz=13,slow=6.7,SNR=6.3								
GRTK	Grand Turk	62.59	25	eP		P	18 22 44.0	-0.4	
	comp=Z,166nm,1.0s								
ANWB	Willy Bob	62.96	36	PFAKE			18 23 00.0	+13	
ANWB				LR		LR			
	comp=Z,735nm,20.0s								
061Z	Ochoppi	64.09	14	eP		P	18 22 54.5	+0.2	
	comp=Z,222nm,1.3s								
KVTX	Kingsville	64.38	357	eP		P	18 22 56.4	+0.3	
	comp=Z,165nm,1.5s								
HPIG		64.47	350	eP		P	18 22 57.0	-0.1	
	comp=Z,61nm,1.2s								
833A	Chaparral WMA,	65.22	356	eP		P	18 23 02.2	+0.6	
	comp=Z,43nm,1.1s								
060A	Indiantown	65.33	15	eP		P	18 23 01.5	-0.9	
	comp=Z,397nm,1.1s								
SRIG	Santa Rosalia	66.07	343	eP		P	18 23 08.0	+0.9	
	comp=Z,47nm,1.1s								
LTX	Lajitas	66.58	352	eP		P	18 23 11.7	+1.2	
LTX	Lajitas	66.58	352	eP		P	18 23 11.7	+1.2	
TX31	Lajitas Ar. Si	66.58	352	eP		P	18 23 11.2	+0.7	
TXAR	Lajitas Array	66.58	352	P		P	18 23 11.7	+1.2	
	comp=Z,21nm,1.0s,baz=171,slow=8.7,SNR=109								
TXAR				LR		LR	18 47 08.8		
	comp=Z,339nm,19.5s,baz=0.0,slow=31								
URZ	Urewera	66.66	239	LR		LR	18 44 49.2		
	comp=Z,2µm,21.7s,baz=182,slow=29								
HKT	Hockley	66.72	359	eP		P	18 23 11.9	+0.7	
	comp=Z,69nm,1.6s								
HKT	Hockley	66.72	359	eP		P	18 23 11.9	+0.7	
HKT				pmax		pmax			
	comp=Z,69nm,1.6s								
SNZO	South Karori	66.77	235	PFAKE			18 23 20.0	+8.3	
SNZO				LR		LR			
	comp=Z,1µm,20.0s								
JCT	Junction City	67.39	356	eP		P	18 23 16.0	+0.4	
	comp=Z,75nm,1.4s								
JCT	Junction City	67.39	356	eP		P	18 23 16.0	+0.4	
JCT				pmax		pmax			
	comp=Z,75nm,1.4s								
JCT	Junction City	67.39	356	P		P	18 23 16.6	+1.0	
	baz=176,SNR=12								
HSIG		67.43	345	eP		P	18 23 16.1	+0.3	
	comp=Z,47nm,1.5s								
435B	Jarrell	67.59	358	eP		P	18 23 16.9	+0.1	
	comp=Z,76nm,1.4s								
RAO	Raoul Island	67.60	250	LR		LR	18 48 58.2		
	comp=Z,315nm,19.1s,baz=156,slow=33								
RAO	Raoul Island	67.60	250	PFAKE			18 23 30.0	+13	
RAO				LR		LR			
	comp=Z,1µm,20.0s								
RPZ	Rata Peaks	67.90	231	P		P	18 23 19.1	+0.2	
	comp=Z,22nm,0.9s,baz=305,slow=1.7,SNR=3.7								
RPZ				LR		LR	18 46 38.1		
	comp=Z,663nm,19.3s,baz=104,slow=30								
LBZ	Lake Benmore	68.09	230	eP		P	18 23 21.0	+0.9	
	comp=Z,154nm,1.9s								
342A	Flagon Creek P	68.20	3	eP		P	18 23 21.7	+1.1	
	comp=Z,289nm,1.7s								
342A	Flagon Creek P	68.20	3	P		P	18 23 22.3	+1.8	
	baz=182								
452A	Marianna	68.27	9	P		P	18 23 22.1	+1.1	
	baz=188								
344A	Westbrook Farm	68.35	4	eP		P	18 23 21.7	+0.1	
	comp=Z,112nm,1.8s								
346A	Big Creek Wild	68.37	5	eP		P	18 23 22.2	+0.5	
	comp=Z,68nm,1.4s								
453A	Whigham	68.39	10	eP		P	18 23 20.9	-1.0	
	comp=Z,213nm,1.6s								
348A	Jackson	68.52	7	eP		P	18 23 22.6	-0.1	
	comp=Z,51nm,1.0s								
NATX	Nacogdoches	68.53	1	eP		P	18 23 23.6	+0.9	
	comp=Z,158nm,1.5s								
NATX				LR		LR			
	comp=Z,229nm,21.0s								
NATX	Nacogdoches	68.53	1	P		P	18 23 24.3	+1.6	
	baz=180								
WKZ	Wanaka	68.58	230	eP		P	18 23 24.9	+1.8	
	comp=Z,94nm,1.3s								
351A	Pinckard	68.64	9	P		P	18 23 24.8	+1.4	
	baz=188,SNR=5.6								
WHZ	Wether Hill Ro	68.67	228	eP		P	18 23 23.6	-0.1	
	comp=Z,141nm,1.8s								
WHTX	Lake Whitney,	68.79	358	eP		P	18 23 24.3	0.0	
	comp=Z,82nm,1.4s								
WHTX	Lake Whitney,	68.79	358	P		P	18 23 25.3	+1.0	
	baz=178								
240A	Hunter Patters	68.82	1	eP		P	18 23 23.9	-0.6	
	comp=Z,174nm,1.7s								
241A	Mo Tay, Goldon	68.82	2	eP		P	18 23 25.1	+0.6	
	comp=Z,92nm,1.4s								
MLZ	Mavora Lakes	68.84	229	eP		P	18 23 25.1	+0.3	
	comp=Z,117nm,1.8s								
353A	Camilla	68.89	10	P		P	18 23 26.1	+1.1	
	baz=189								
352A	Blakely	68.92	9	eP		P	18 23 25.1	-0.1	
	comp=Z,127nm,1.3s								
SYO	Syowa Base	69.05	164	eP		P	18 23 24.5	-1.1	
SYO	Syowa Base	69.05	164	ePcP		PcP	18 23 50.2	+0.6	
TIGA	Tifton	69.07	11	eP		P	18 23 26.2	+0.2	
	comp=Z,123nm,1.5s								
247A	Quitman	69.09	6	P		P	18 23 27.4	+1.2	
	baz=186								
MNTX	Cornudas Mount	69.12	351	eP		P	18 23 25.7	-0.7	
	comp=Z,22nm,1.2s								
MNTX				LR		LR			
	comp=Z,367nm,22.0s								
MNTX	Cornudas Mount	69.12	351	P		P	18 23 26.5	+0.1	
	baz=171,SNR=22								
VBMS	Vicksburg	69.12	4	eP		P	18 23 26.2	-0.2	
	comp=Z,29nm,0.8s								
250A	Grady	69.25	8	eP		P	18 23 27.0	-0.2	
	comp=Z,178nm,1.6s								
250A	Grady	69.25	8	P		P	18 23 27.9	+0.7	
	baz=188								
PYZ	Puysegur Point	69.27	227	eP		P	18 23 26.9	-0.5	
	comp=Z,130nm,1.2s								
EPT	El Paso	69.34	350	eP		P	18 23 28.5	+0.6	
	comp=Z,33nm,1.3s								
DCZ	Deep Cove	69.37	228	eP		P	18 23 28.2	+0.2	
	comp=Z,120nm,1.9s								
319A	Douglas	69.40	347	eP		P	18 23 29.3	+1.0	
	comp=Z,30nm,0.9s								
XMAS	Kiritimati	69.45	289	eP		P	18 23 28.6	-0.2	
	comp=Z,119nm,1.1s								
252A	Lumpkin	69.46	10	P		P	18 23 29.7	+1.3	
	baz=189								
251A	Midway	69.47	9	P		P	18 23 29.2	+0.7	
	baz=188,SNR=14								
GDL2	Guadalupe Moun	69.49	352	eP		P	18 23 28.9	+0.1	
ABTX	Abilene, Hawle	69.51	356	eP		P	18 23 29.0	+0.2	
	comp=Z,93nm,1.6s								
ABTX	Abilene, Hawle	69.51	356	P		P	18 23 29.3	+0.5	
	baz=176,SNR=9.6								
143A	Socs Landing,	69.56	3	eP		P	18 23 28.7	-0.3	
	comp=Z,306nm,1.8s								
253A	Americus	69.60	10	eP		P	18 23 28.6	-0.7	
	comp=Z,354nm,1.8s								
254A	Abbeville	69.61	11	P		P	18 23 30.9	+1.5	
	baz=190								
146A	Union	69.64	6	eP		P	18 23 29.7	+0.2	
	comp=Z,57nm,1.3s								
146A	Union	69.64	6	P		P	18 23 30.8	+1.2	
	baz=185								
255A	Hazlehurst	69.72	12	eP		P	18 23 30.1	+0.1	
	comp=Z,361nm,2.0s								
147A	Livingston	69.74	6	eP		P	18 23 31.0	+0.9	
	comp=Z,184nm,1.6s								
147A	Livingston	69.74	6	P		P	18 23 31.4	+1.2	
	baz=186								
148A	Greensboro	69.78	7	P		P	18 23 31.3	+0.9	
	baz=186								
150A	Eclectic	69.90	8	P		P	18 23 31.9	+0.8	
	baz=188,SNR=7.2								
151A	Opelika	69.91	9	P		P	18 23 31.8	+0.6	
	baz=188,SNR=5.8								
Z41A	Richland Creek	70.06	2	eP		P	18 23 32.9	+0.8	
	comp=Z,184nm,1.9s								
152A	Waverly Hall	70.12	9	eP		P	18 23 32.4	-0.2	
	comp=Z,94nm,1.4s								
Z46A	Louisville	70.20	6	P		P	18 23 34.1	+1.1	
	baz=185								
LRAL	Lakeview Retre	70.22	7	eP		P	18 23 33.2	+0.1	
	comp=Z,64nm,1.5s								
LRAL	Lakeview Retre	70.22	7	P		P	18 23 33.9	+0.8	
	baz=187,SNR=7.4								
121A	Cookes Peak, D	70.28	349	P		P	18 23 34.9	+1.1	
	baz=169,SNR=5.3								
154A	Monroe	70.29	11	eP		P	18 23 33.5	-0.1	
	comp=Z,132nm,1.2s								
Z45A	Winona	70.32	5	eP		P	18 23 33.7	-0.1	
	comp=Z,282nm,1.9s								
155A	Kite	70.40	11	P		P	18 23 34.7	+0.5	
	baz=191,SNR=6.0								
Z49A	Columbiana	70.42	8	P		P	18 23 34.9	+0.5	
	baz=187,SNR=14								
Z48A	Northport	70.50	7	P		P	18 23 35.4	+0.5	
	baz=186								
Z50A	Ashland	70.55	8	eP		P	18 23 35.3	+0.1	
	comp=Z,19nm,1.1s								
Z50A	Ashland	70.55	8	P		P	18 23 35.3	+0.1	
	baz=188								
TUC	Tucson	70.59	346	eP		P	18 23 36.3	+0.8	
	comp=Z,32nm,1.2s								
TUC	Tucson	70.59	346	eP		P	18 23 36.3	+0.8	
TUC				pmax		pmax			
	comp=Z,32nm,1.2s								
TUC	Tucson	70.59	346	P		P	18 23 36.9	+1.4	
	baz=167								
156A	Sylvania	70.59	12	P		P	18 23 36.1	+0.7	
	baz=191								
214A	Organ Pipe Nat	70.66	344	P		P	18 23 37.4	+1.5	
	baz=165,SNR=19								
Z52A	Williamson	70.67	10	P		P	18 23 36.5	+0.6	
	baz=189,SNR=10								
Y41A	Eaglette Beard	70.68	2	P		P	18 23 37.0	+1.0	
	baz=182								
CCAR	Cane Creek	70.75	3	eP		P	18 23 36.2	-0.1	
	comp=Z,141nm,1.5s								
Z53A	Monticello	70.88	10	P		P	18 23 38.0	+0.8	
	baz=190								
Y46A	Houston	70.89	6	P		P	18 23 37.7	+0.5	
	baz=185								
Z54A	Sparta	70.95	11	P		P	18 23 37.8	+0.3	
	baz=190								
GOGA	Godfrey	71.03	10	eP		P	18 23 38.2	+0.3	
	comp=Z,49nm,1.3s								
GOGA				LR		LR			
	comp=Z,524nm,21.0s								
GOGA	Godfrey	71.03	10	eP		P	18 23 38.3	+0.3	
GOGA				pmax		pmax			
	comp=Z,49nm,1.3s								
GOGA				MLR		MLR			
	comp=Z,524nm,21.0s								
GOGA	Godfrey	71.03	10	P		P	18 23 38.6	+0.6	
	baz=190,SNR=6.2								
MSTX	Muleshoe	71.08	353	eP		P	18 23 38.6	+0.1	
	comp=Z,90nm,1.1s								
MSTX	Muleshoe	71.08	353	P		P	18 23 39.2	+0.7	
	baz=174,SNR=21								
AFI	Afiamalu	71.09	267	LR		LR	18 48 35.1		
	comp=Z,494nm,18.7s,baz=141,slow=31								
Y49A	Blount Mountai	71.09	8	eP		P	18 23 38.0	-0.4	
	comp=Z,90nm,1.9s								
Y50A	Piedmont	71.20	8	P		P	18 23 39.4	+0.3	
	baz=188								
NHSC	New Hope	71.27	13	eP		P	18 23 39.8	+0.3	
	comp=Z,174nm,1.1s								
NHSC				LR		LR			
	comp=Z,884nm,19.0s								
Y51A	Rockmart	71.29	9	P		P	18 23 39.9	+0.2	
	baz=188,SNR=11								
MIAR	Mount Ida	71.32	1	eP		P	18 23 39.9	+0.1	
	comp=Z,38nm,1.3s								
MIAR	Mount Ida	71.32	1	eP		P	18 23 39.9	+0.1	
MIAR				pmax		pmax			
	comp=Z,38nm,1.3s								
MIAR	Mount Ida	71.32	1	P		P	18 23 40.3	+0.6	
	baz=181,SNR=10								
X37A	Clayton	71.35	360	eP		P	18 23 40.0	0.0	
	comp=Z,26nm,1.4s								
Y52A	Lilburn	71.39	10	eP		P	18 23 40.6	+0.4	
	comp=Z,74nm,1.4s								
Y52A	Lilburn	71.39	10	P		P	18 23 40.9	+0.7	
	baz=189,SNR=5.4								
X45A	UM Field Stati	71.39	5	P		P	18 23 40.4	+0.2	
	baz=185,SNR=5.5								
X43A	Marvell	71.39	4	eP		P	18 23 40.3	+0.1	
	comp=Z,219nm,1.9s								
Y53A	Monroe	71.44	10	P		P	18 23 40.9	+0.4	
	baz=190,SNR=6.0								
OXF	Oxford	71.48	5	eP		P	18 23 40.3	-0.4	
	comp=Z,82nm,1.5s								
OXF	Oxford	71.48	5	eP		P	18 23 40.3	-0.4	
OXF				pmax		pmax			
	comp=Z,82nm,1.5s								
WMOK	Wichita Mounta	71.57	357	eP		P	18 23 40.9	-0.5	
	comp=Z,12nm,1.1s								
WMOK				LR		LR			
	comp=Z,106nm,21.0s								
WMOK	Wichita Mounta	71.57	357	eP		P	18 23 40.9	-0.5	
WMOK				pmax		pmax			
	comp=Z,12nm,1.1s								
WMOK				MLR		MLR			
	comp=Z,106nm,21.0s								
WMOK	Wichita Mounta	71.57	357	P		P	18 23 41.3	-0.1	
	baz=177,SNR=8.8								
UALR	University of	71.58	3	eP		P	18 23 41.6	+0.3	
	comp=Z,64nm,1.6s								
Y54A	Tignall	71.58	11	P		P	18 23 41.9	+0.5	
	baz=190,SNR=11								
X47A	Russelville	71.61	6	P		P	18 23 41.3	-0.2	
	baz=186,SNR=7.2								
X48A	Hartselle	71.62	7	eP		P	18 23 41.4	-0.2	
	comp=Z,91nm,1.7s								
X48A	Hartselle	71.62	7	P		P	18 23 41.7	+0.1	
	baz=187								
113A	Mohawk Valley,	71.65	344	eP		P	18 23 43.1	+1.3	
	comp=Z,22nm,1.4s								
Y22D	IRIS PASSCAL I	71.67	350	eP		P	18 23 42.8	+0.7	
	comp=Z,54nm,1.2s								
BNM	Barren Site	71.70	350	eP		P	18 23 43.3	+0.8	
X49A	Woodville	71.75	8	P		P	18 23 42.3	-0.1	
	baz=187,SNR=5.6								
LENM	Lemitar	71.76	350	eP		P	18 23 43.8	+1.1	
X50B	Fort Payne	71.78	8	P		P	18 23 42.7	+0.1	
	baz=188								
LPM	Los Pinos Moun	71.86	350	eP		P	18 23 44.4	+1.0	
AMTX	Amarillo	71.89	354	eP		P	18 23 43.9	+0.6	
	comp=Z,86nm,1.3s								
W39A	Magazine	71.97	1	eP		P	18 23 43.8	+0.1	
	comp=Z,35nm,1.1s								
W39A	Magazine	71.97	1	P		P	18 23 44.2	+0.6	
	baz=181,SNR=10								
X51A	Calhoun	71.97	9	eP		P	18 23 43.5	-0.2	
	comp=Z,103nm,1.4s								
W41B	Gary Mavity, V	71.98	3	eP		P	18 23 43.5	-0.3	
	comp=Z,66nm,1.5s								
W41B	Gary Mavity, V	71.98	3	P		P	18 23 44.3	+0.6	
	baz=182,SNR=8.4								
HODGE	Hodges	72.01	11	eP		P	18 23 44.4	+0.4	
	comp=Z,32nm,1.1s								
LAZ	Ladron	72.02	350	eP		P	18 23 45.4	+1.1	
PLAL	Pickwick Lake	72.05	6	eP		P	18 23 43.2	-1.0	
	comp=Z,20nm,1.0s								
WHAR	Wooly Hollow	72.10	3	eP		P	18 23 44.8	+0.4	
	comp=Z,77nm,1.4s								
IKP	In-Ko-Pah, Jac	72.10	342	P		P	18 23 46.4	+1.7	
	baz=163								
X53A	Estanollee	72.12	10	P		P	18 23 45.1	+0.5	
	baz=190,SNR=6.9								
X52A	Dahlonega	72.14	10	P		P	18 23 45.4	+0.7	
	baz=189,SNR=7.8								
GLA	Glamis	72.17	343	eP		P	18 23 46.5	+1.5	
	comp=Z,30nm,1.3s								
GLA	Glamis	72.17	343	eP		P	18 23 46.5	+1.5	
GLA				pmax		pmax			
	comp=Z,30nm,1.3s								
GLA	Glamis	72.17	343	P		P	18 23 46.6	+1.6	
	baz=184								
JSC	Jenkinsville	72.22	12	eP		P	18 23 45.7	+0.5	
	comp=Z,114nm,1.4s								
JSC	Jenkinsville	72.22	12	eP		P	18 23 45.7	+0.5	
JSC				pmax		pmax			
	comp=Z,114nm,1.4s								
BAR	Barrett	72.27	341	eP		P	18 23 46.6	+0.9	
	comp=Z,18nm,1.3s								
SWSC	Sam W. Stewart	72.30	342	P		P	18 23 46.2	+0.4	
	baz=163								
W48A	Pulaski	72.31	7	P		P	18 23 45.8	0.0	
	baz=187								
W49A	Belvidere	72.36	8	P		P	18 23 46.0	0.0	
	baz=187,SNR=5.6								
MONP2	Monument Peak	72.41	341	P		P	18 23 48.0	+1.4	
	baz=162								
ANMO	Albuquerque	72.46	350	P		P	18 23 47.7	+0.8	
	comp=Z,15nm,1.1s,baz=162,slow=7.9,SNR=23								
ANMO				LR		LR	18 51 20.0		
	comp=Z,370nm,18.0s,baz=204,slow=32								
ANMO	Albuquerque	72.46	350	eP		P	18 23 47.7	+0.8	
	comp=Z,26nm,1.2s								
ANMO	Albuquerque	72.46	350	eP		P	18 23 47.7	+0.8	
ANMO				pmax		pmax			
	comp=Z,26nm,1.2s								
ANMO	Albuquerque	72.46	350	P		P	18 23 48.2	+1.3	
	baz=170								
SWET	Sewanee	72.49	8	eP		P	18 23 46.5	-0.4	
	comp=Z,90nm,1.6s								
W50A	Signal Mountai	72.55	9	eP		P	18 23 47.1	-0.1	
	comp=Z,44nm,1.4s								
W50A	Signal Mountai	72.55	9	P		P	18 23 47.6	+0.4	
	baz=188								
W51A	Cleveland	72.57	9	P		P	18 23 48.1	+0.8	
	baz=189								
CPE	Camp Elliot	72.58	341	eP		P	18 23 48.6	+1.2	
	comp=Z,34nm,1.4s								
X18A	Snowflake	72.59	347	eP		P	18 23 48.9	+1.2	
	comp=Z,40nm,1.3s								
V41A	Mountainview	72.60	3	P		P	18 23 47.6	+0.2	
	baz=182,SNR=7.1								
Y14A	Wickenburg	72.61	345	eP		P	18 23 48.9	+1.3	
	comp=Z,39nm,1.4s								
W52A	Murphy	72.61	10	eP		P	18 23 47.7	+0.1	
	comp=Z,67nm,1.4s								
W52A	Murphy	72.61	10	P		P	18 23 48.5	+0.9	
	baz=189,SNR=5.9								
V42A	Cord	72.65	3	P		P	18 23 47.6	-0.1	
	baz=183,SNR=8.9								
BG3	Lake Jocassee	72.66	11	eP		P	18 23 48.1	+0.3	
	comp=Z,108nm,1.3s								
PAULI	Pauline	72.66	12	eP		P	18 23 48.4	+0.5	
	comp=Z,110nm,1.4s								
TUL1	Leonard	72.67	360	eP		P	18 23 47.6	-0.2	
	comp=Z,27nm,1.0s								
TUL1	Leonard	72.67	360	P		P	18 23 48.2	+0.3	
	baz=179,SNR=6.2								
X16A	Lo Mia Camp, P	72.76	346	eP		P	18 23 49.6	+0.9	
	comp=Z,25nm,1.3s								
Y12C	Blythe	72.77	343	eP		P	18 23 49.9	+1.4	
	comp=Z,60nm,1.4s								
Y12C	Blythe	72.77	343	P		P	18 23 50.3

	baz=183,SNR=6.8										
TKL	**Tuckaleechee C**	73.19	10	P		P		18 23 50.8	-0.2		
	comp=Z,11nm,0.9s										
TKL	**Tuckaleechee C**	73.19	10	eP		P		18 23 50.7	-0.2		
	comp=Z,82nm,1.5s										
U42A	**Revenden**	73.20	3	P		P		18 23 51.2	+0.2		
	baz=183										
WVT	**Waverly**	73.21	6	eP		P		18 23 49.8	-1.2		
	comp=Z,41nm,1.5s										
WVT	**Waverly**	73.21	6	eP		P		18 23 49.8	-1.2		
WVT					pmax		pmax				
	comp=Z,41nm,1.5s										
WVT	**Waverly**	73.21	6	P		P		18 23 50.4	-0.6		
	baz=186										
PDMCI	**Parker Dam,Lak**	73.21	344	P		P		18 23 52.9	+1.8		
	baz=164										
U32A	**Winter Ranch,**	73.22	357	eP		P		18 23 51.6	+0.5		
	comp=Z,46nm,1.3s										
GLAT	**Glass**	73.23	5	eP		P		18 23 50.7	-0.5		
	comp=Z,111nm,0.9s										
V51A	**Loudon**	73.26	9	eP		P		18 23 51.3	-0.1		
	comp=Z,57nm,1.3s										
V51A	**Loudon**	73.26	9	P		P		18 23 51.7	+0.3		
	baz=189,SNR=6.2										
MURC	**Murrieta**	73.28	341	P		P		18 23 53.2	+1.6		
	baz=162										
IRM	**Iron Mountain**	73.30	343	P		P		18 23 52.9	+1.2		
	baz=164,SNR=9.0										
UTMT	**University of**	73.33	5	eP		P		18 23 52.1	+0.4		
	comp=Z,89nm,0.4s										
V53A	**Saluda**	73.34	11	eP		P		18 23 51.7	-0.2		
	comp=Z,90nm,1.4s										
V53A	**Saluda**	73.34	11	P		P		18 23 52.4	+0.5		
	baz=190,SNR=11										
BELC	**Belle Mtn. Jos**	73.36	342	P		P		18 23 54.0	+1.8		
	baz=163,SNR=6.1										
V52A	**Sevierville**	73.40	10	eP		P		18 23 52.1	-0.1		
	comp=Z,32nm,1.3s										
U47A	**Clarksville**	73.56	7	P		P		18 23 53.0	-0.1		
	baz=186,SNR=5.6										
SNCC	**San Nicolas Is**	73.59	339	eP		P		18 23 53.9	+0.5		
	comp=Z,165nm,1.2s										
PBMO	**Poplar Bluff**	73.67	4	eP		P		18 23 53.4	-0.3		
	comp=Z,18nm,1.0s										
CNNC	**Cliffs of the**	73.78	15	eP		P		18 23 53.5	-0.9		
CNNC					LR		LR				
	comp=Z,1µm,20.0s										
U49A	**Red Boiling Sp**	73.79	8	P		P		18 23 54.1	-0.4		
	baz=188,SNR=12										
U50A	**Jamestown**	73.80	9	P		P		18 23 54.7	+0.2		
	baz=188,SNR=11										
WUAZ	**Wupatki**	73.81	346	eP		P		18 23 55.3	+0.4		
	comp=Z,59nm,1.8s										
WUAZ	**Wupatki**	73.81	346	P		P		18 23 56.8	+2.0		
	baz=167,SNR=6.5										
T41A	**Mountain View**	73.87	3	P		P		18 23 55.4	+0.5		
	baz=183,SNR=10										
U51A	**La Follette**	73.87	9	P		P		18 23 55.4	+0.4		
	baz=189,SNR=5.5										
T42A	**Van Buren**	73.88	3	eP		P		18 23 54.7	-0.2		
	comp=Z,26nm,1.4s										
T42A	**Van Buren**	73.88	3	P		P		18 23 54.8	-0.2		
	baz=183,SNR=5.1										
W13A	**Hualapai Mount**	73.92	344	eP		P		18 23 56.2	+0.7		
	comp=Z,22nm,1.4s										
U52A	**Thorn Hill**	73.97	10	P		P		18 23 55.8	+0.2		
	baz=190,SNR=5.6										
BFSC	**Mount Baldy Ra**	74.01	341	P		P		18 23 57.2	+1.3		
	baz=162,SNR=9.7										
GMRC	**Granite Mounta**	74.03	343	P		P		18 23 57.4	+1.3		
	baz=163,SNR=9.5										
U53A	**Fall Branch**	74.05	11	P		P		18 23 56.3	+0.2		
	baz=190,SNR=6.9										
PASC	**Pasadena Art C**	74.08	340	eP		P		18 23 55.6	-0.6		
	comp=Z,63nm,1.8s										
TZTN	**Tazewell**	74.09	10	eP		P		18 23 56.2	-0.1		
	comp=Z,51nm,1.5s										
TZTN	**Tazewell**	74.09	10	P		P		18 23 56.6	+0.4		
	baz=190										
MWC	**Mount Wilson**	74.10	340	eP		P		18 23 56.1	-0.5		
	comp=Z,25nm,1.4s										
MWC	**Mount Wilson**	74.10	340	eP		P		18 23 56.1	-0.5		
MWC					pmax		pmax				
	comp=Z,25nm,1.4s										
T46A	**Princeton**	74.11	6	P		P		18 23 56.6	+0.3		
	baz=186,SNR=6.0										
T47A	**Sharon Grove**	74.12	7	eP		P		18 23 55.5	-0.9		
	comp=Z,58nm,1.4s										
T47A	**Sharon Grove**	74.12	7	P		P		18 23 56.3	-0.2		
	baz=187										
LDFC	**Landfair**	74.18	343	eP		P		18 23 58.1	+1.2		
	comp=Z,57nm,1.1s										
HEC	**Hector,Ludlow**	74.23	342	P		P		18 23 58.8	+1.6		
	baz=163										
MAW	**Mawson**	74.28	171	P		P		18 23 55.7	-1.3		
	comp=Z,10nm,1.0s,baz=229,slow=6.2,SNR=8.5										
MAW					LR		LR	18 54 29.0			
	comp=Z,143nm,19.5s,baz=232,slow=34										
MAW	**Mawson**	74.28	171	eP		P		18 23 56.0	-1.1		
	comp=Z,5.0nm,1.2s										
MAW	**Mawson**	74.28	171	eP		P		18 23 56.0	-1.1		
MAW					pmax		pmax				
	comp=Z,5.0nm,1.2s										
T48A	**Bowling Green**	74.31	7	P		P		18 23 57.3	-0.2		
	baz=187,SNR=16										
T25A	**Trinidad**	74.38	352	eP		P		18 23 59.2	+1.1		
	comp=Z,52nm,1.4s										
T25A	**Trinidad**	74.38	352	P		P		18 23 59.8	+1.6		
	baz=172,SNR=10										
T50A	**Nancy**	74.40	9	P		P		18 23 58.1	+0.1		
	baz=188,SNR=5.8										
T49A	**Edmonton**	74.40	8	eP		P		18 23 57.8	-0.3		
	comp=Z,31nm,1.4s										
S41A	**Jillco Farms,**	74.41	3	P		P		18 23 58.4	+0.3		
	baz=183,SNR=12										
T51A	**Gray**	74.46	9	P		P		18 23 58.5	+0.2		
	baz=189										
S43A	**Fulton Ridge,**	74.48	4	P		P		18 23 58.1	-0.3		
	baz=184,SNR=7.0										
S42A	**Caledonia**	74.63	4	P		P		18 23 59.3	-0.1		
	baz=184,SNR=13										
OSI	**Osito Audit: C**	74.65	340	eP		P		18 24 00.0	+0.4		
	comp=Z,27nm,1.1s										
S44A	**Carbondale**	74.65	5	P		P		18 23 59.6	+0.1		
	baz=185										
SIUC	**Southern Illin**	74.67	5	eP		P		18 23 58.8	-0.8		
	comp=Z,70nm,1.9s										
EDW2	**Edwards Air Fo**	74.70	341	P		P		18 24 00.2	+0.3		
	baz=161										
T52A	**Hallie**	74.72	10	P		P		18 24 00.2	+0.2		
	baz=190										
S47A	**Hartford**	74.75	7	P		P		18 24 00.1	+0.1		
	baz=187,SNR=5.7										
GSC	**Goldstone, Bar**	74.80	342	eP		P		18 24 01.7	+1.2		
	comp=Z,15nm,1.1s										
GSC	**Goldstone, Bar**	74.80	342	P		P		18 24 02.1	+1.6		
	baz=162,SNR=7.3										
FVM	**French Village**	74.87	4	eP		P		18 23 59.6	-1.1		
	comp=Z,40nm,1.4s										
FVM	**French Village**	74.87	4	eP		P		18 23 59.6	-1.1		
FVM					pmax		pmax				
	comp=Z,40nm,1.4s										
U15A	**North Rim**	74.87	346	eP		P		18 24 02.0	+0.8		
	comp=Z,18nm,1.1s										
S48A	**Wiedeman Farm,**	74.89	8	P		P		18 24 00.1	-0.8		
	baz=187,SNR=5.8										
CCM	**Cathedral Cave**	74.90	3	eP		P		18 24 00.2	-0.7		
	comp=Z,135nm,1.6s										
CCM	**Cathedral Cave**	74.90	3	eP		P		18 24 00.2	-0.7		
CCM					pmax		pmax				
	comp=Z,135nm,1.6s										
CCM	**Cathedral Cave**	74.90	3	P		P		18 24 00.9	+0.1		
	baz=183										
MVCO	**Mesa Verde**	74.98	349	eP		P		18 24 02.1	+0.4		
	comp=Z,47nm,1.2s										
MVCO					LR		LR				
	comp=Z,287nm,21.0s										
MVCO	**Mesa Verde**	74.98	349	P		P		18 24 02.6	+0.9		
	baz=169,SNR=20										
CASY	**Casey**	75.03	190	eP		P		18 24 01.2	-0.2		
	comp=Z,43nm,1.2s										
CASY					LR		LR				
	comp=Z,102nm,19.0s										
USIN	**University of**	75.04	6	eP		P		18 24 00.6	-1.2		
	comp=Z,41nm,1.2s										
SDCO	**Great Sand Dun**	75.10	352	eP		P		18 24 03.2	+0.7		
	comp=Z,18nm,1.2s										
SDCO					LR		LR				
	comp=Z,302nm,20.0s										
SDCO	**Great Sand Dun**	75.10	352	P		P		18 24 03.2	+0.7		
	baz=171,SNR=18										
S50A	**Richmond**	75.10	9	P		P		18 24 02.2	+0.1		
	baz=189,SNR=11										
R41A	**Rosebud**	75.13	3	P		P		18 24 02.2	-0.1		
	baz=183,SNR=24										
R42A	**Luebbering**	75.14	4	P		P		18 24 02.3	+0.1		
	baz=184,SNR=10										
S51A	**Beattyville**	75.17	10	eP		P		18 24 01.0	-1.4		
	comp=Z,27nm,1.0s										
R43A	**Red Bud**	75.19	4	P		P		18 24 02.7	+0.2		
	baz=184										
BLA	**Blacksburg**	75.22	12	eP		P		18 24 02.0	-0.9		
	comp=Z,70nm,1.6s										
BLA					LR		LR				
	comp=Z,637nm,20.0s										
BLA	**Blacksburg**	75.22	12	eP		P		18 24 02.0	-0.9		
BLA					pmax		pmax				
	comp=Z,70nm,1.6s										
BLA					MLR		MLR				
	comp=Z,637nm,20.0s										
S22A	**4UR Ranch, Cre**	75.27	351	eP		P		18 24 04.3	+0.9		
	comp=Z,43nm,1.3s										
S22A	**4UR Ranch, Cre**	75.27	351	P		P		18 24 05.1	+1.7		
	baz=170,SNR=31										
R45A	**Skylar, Fairfi**	75.32	6	P		P		18 24 03.0	-0.2		
	baz=186										
WCI	**Wyandotte Cave**	75.43	7	eP		P		18 24 02.8	-1.2		
	comp=Z,30nm,1.0s										
WCI	**Wyandotte Cave**	75.43	7	eP		P		18 24 02.8	-1.2		
WCI					pmax		pmax				
	comp=Z,30nm,1.0s										
WCI	**Wyandotte Cave**	75.43	7	P		P		18 24 03.2	-0.8		
	baz=187										
R47A	**Wooly Knot Far**	75.47	7	P		P		18 24 03.4	-0.8		
	baz=187,SNR=8.1										
SLM	**Saint Louis**	75.53	4	eP		P		18 24 04.3	-0.1		
	comp=Z,74nm,1.4s										
SLM	**Saint Louis**	75.53	4	eP		P		18 24 04.4	-0.1		
SLM					pmax		pmax				
	comp=Z,74nm,1.4s										
KNB	**Kanab**	75.55	346	eP		P		18 24 06.3	+1.4		
	comp=Z,32nm,1.3s										
SHPR	**Sheep Range**	75.55	344	eP		P		18 24 06.2	+1.3		
	comp=Z,32nm,1.3s										
ISA	**Isabella, Lake**	75.57	341	eP		P		18 24 05.8	+0.9		
	comp=Z,27nm,1.4s										
ISA	**Isabella, Lake**	75.57	341	P		P		18 24 06.4	+1.5		
	baz=161,SNR=7.1										
LCMT	**Little Creek M**	75.63	345	eP		P		18 24 05.4	+0.1		
	comp=Z,9.7nm,1.1s										
R48A	**Northridge Ran**	75.64	8	P		P		18 24 04.8	-0.4		
	baz=188										
CBKS	**Cedar Bluff**	75.68	356	eP		P		18 24 05.7	+0.3		
	comp=Z,84nm,1.4s										
CBKS	**Cedar Bluff**	75.68	356	eP		P		18 24 05.7	+0.3		
CBKS					pmax		pmax				
	comp=Z,84nm,1.4s										
MPMC	**Manual Prospec**	75.69	342	P		P		18 24 07.4	+1.7		
	baz=162,SNR=8.0										
R50A	**Paris**	75.70	9	P		P		18 24 05.5	-0.1		
	baz=189,SNR=8.8										
OLIL	**Olney**	75.77	6	eP		P		18 24 05.0	-0.8		
	comp=Z,71nm,1.5s										
Q42A	**Golden Eagle**	75.78	4	P		P		18 24 06.3	+0.3		
	baz=184,SNR=6.0										
Q41A	**Truxton**	75.79	3	P		P		18 24 06.4	+0.4		
	baz=183										
R51A	**Hillsboro**	75.82	9	P		P		18 24 06.6	+0.4		
	baz=189,SNR=7.9										
KSU1	**Kansas State U**	75.86	359	eP		P		18 24 06.9	+0.5		
	comp=Z,41nm,1.1s										
KSU1	**Kansas State U**	75.86	359	P		P		18 24 07.4	+1.0		
	baz=179										
PKCU	**Pink Cliffs**	75.86	346	eP		P		18 24 08.3	+1.5		
	comp=Z,59nm,1.4s										
Q43A	**New Douglas**	75.86	4	P		P		18 24 06.5	+0.1		
	baz=184,SNR=10										
Q44A	**Meyer Farm, Va**	75.87	5	P		P		18 24 06.3	-0.1		
	baz=185,SNR=8.5										
PV01	**Paradox Valley**	75.89	349	eP		P		18 24 07.9	+1.0		
PV05	**Paradox Valley**	75.92	349	eP		P		18 24 07.9	+0.9		
DAC	**Darwin (Calif)**	75.92	342	eP		P		18 24 08.2	+1.2		
	comp=Z,19nm,1.4s										
Q45A	**Warren Harvey,**	75.92	6	P		P		18 24 06.6	-0.1		
	baz=186,SNR=11										
PV13	**Radium Mtn., P**	75.95	349	eP		P		18 24 08.3	+1.0		
	comp=Z,41nm,1.3s										
PV02	**Paradox Valley**	75.99	349	eP		P		18 24 08.3	+0.9		
	comp=Z,53nm,1.2s										
PV03	**Paradox Valley**	76.05	349	eP		P		18 24 08.7	+0.9		
PV18	**Skein Mesa, Pa**	76.05	349	eP		P		18 24 08.7	+0.9		
	comp=Z,30nm,1.2s										
KSCO	**Kaye Shedlock'**	76.07	354	eP		P		18 24 09.1	+1.3		
	comp=Z,63nm,1.3s										
PV17	**East Wray Mesa**	76.09	349	eP		P		18 24 09.1	+1.0		
	comp=Z,19nm,0.6s										
PV11	**David Mesa, Pa**	76.10	349	eP		P		18 24 08.4	+0.4		
	comp=Z,58nm,0.2s										
PV12	**Saucer Basin,**	76.11	349	eP		P		18 24 09.4	+1.3		
	comp=Z,60nm,1.1s										
PV16	**Nyswonger Mesa**	76.12	349	eP		P		18 24 09.1	+0.9		
	comp=Z,38nm,1.4s										
PAGB	**Antelope Grade**	76.12	339	eP		P		18 24 09.0	+1.0		
	comp=Z,23nm,1.0s										
Q47A	**Bedord North L**	76.12	7	P		P		18 24 07.3	-0.6		
	baz=187										
PV19	**Morning Glory**	76.13	349	eP		P		18 24 09.2	+1.0		
	comp=Z,30nm,1.3s										
PV20	**West Nyswonger**	76.16	349	eP		P		18 24 08.9	+0.5		
	comp=Z,56nm,1.7s										
SZCU	**Shurtz Canyon**	76.16	345	eP		P		18 24 10.3	+1.9		
	comp=Z,20nm,1.1s										
CCUT	**Cedar City**	76.17	345	eP		P		18 24 09.9	+1.4		
	comp=Z,25nm,1.1s										
Q48A	**North Vernon**	76.18	8	P		P		18 24 07.9	-0.4		
	baz=188,SNR=8.2										
PV14	**Lion Creek, Pa**	76.19	349	eP		P		18 24 09.1	+0.4		
	comp=Z,36nm,1.1s										
PV10	**Paxton Valley**	76.20	349	eP		P		18 24 09.0	+0.3		
TPNV	**Topopah Spring**	76.23	343	eP		P		18 24 09.6	+0.8		
	comp=Z,21nm,1.0s										
TPNV	**Topopah Spring**	76.23	343	P		P		18 24 10.7	+1.9		
	baz=163,SNR=11										
Q24A	**Divide**	76.26	352	eP		P		18 24 10.2	+1.1		
	comp=Z,32nm,1.3s										
Q24A	**Divide**	76.26	352	P		P		18 24 10.9	+1.8		
	baz=172,SNR=7.0										
PV23	**Carpenter Ridg**	76.27	349	eP		P		18 24 10.1	+1.0		
	comp=Z,42nm,1.1s										
Q50A	**Georgetown**	76.30	9	P		P		18 24 08.9	0.0		
	baz=189,SNR=6.2										
PV22	**Blue Mesa, Par**	76.32	349	eP		P		18 24 10.1	+0.8		
	comp=Z,28nm,1.2s										
PV09	**Paradox Valley**	76.33	349	eP		P		18 24 10.4	+0.9		
BLO	**Bloomington**	76.34	7	eP		P		18 24 08.2	-0.9		
	comp=Z,85nm,1.6s										
BLO	**Bloomington**	76.34	7	eP		P		18 24 08.2	-0.9		
BLO					pmax		pmax				
	comp=Z,85nm,1.6s										
Q49A	**Aurora**	76.35	8	P		P		18 24 08.6	-0.6		
	baz=188										
PV21	**Cone Mtn., Par**	76.37	349	eP		P		18 24 10.4	+0.8		
	comp=Z,40nm,1.3s										
MTPU	**Mount Pierson**	76.42	346	eP		P		18 24 11.0	+0.9		
	comp=Z,33nm,1.5s										
P44A	**Sand Creek, Wi**	76.46	5	P		P		18 24 09.8	0.0		
	baz=185,SNR=5.5										
P42A	**Winchester**	76.47	4	eP		P		18 24 09.2	-0.6		
	comp=Z,50nm,1.1s										
P41A	**Barry, Barry**	76.52	3	P		P		18 24 10.3	+0.1		
	baz=183,SNR=5.4										
Q51A	**Peebles**	76.56	9	eP		P		18 24 09.9	-0.5		
	comp=Z,41nm,0.9s										
Q51A	**Peebles**	76.56	9	P		P		18 24 10.7	+0.3		
	baz=190,SNR=11										
P43A	**Skaggs, Pawnee**	76.57	5	P		P		18 24 10.6	+0.2		
	baz=184,SNR=7.5										
P45A	**Graceland, Par**	76.59	6	eP		P		18 24 09.2	-1.3		
	comp=Z,47nm,1.2s										
P45A	**Graceland, Par**	76.59	6	P		P		18 24 10.2	-0.3		
	baz=186,SNR=6.5										
Q52A	**Bidwell**	76.65	10	P		P		18 24 10.6	-0.2		
	baz=190,SNR=7.4										
SMCO	**Snowmass**	76.69	351	eP		P		18 24 12.8	+1.1		
	comp=Z,59nm,1.4s										
P48A	**Milroy**	76.74	8	P		P		18 24 10.5	-0.9		
	baz=188,SNR=5.2										
CBN	**Corbin Frederi**	76.75	14	PFAKE				18 24 20.0	+8.6		
CBN					LR		LR				
	comp=Z,634nm,19.0s										
MSU	**Marysvale**	76.87	346	eP		P		18 24 14.0	+1.5		
MSU	**Marysvale**	76.87	346	eP		P		18 24 14.0	+1.5		
P49A	**Miami Univ. Ec**	76.89	8	P		P		18 24 11.4	-0.9		
	baz=188,SNR=5.8										
O41A	**Passleys Farm,**	76.97	3	P		P		18 24 12.4	-0.2		
	baz=183,SNR=18										
TCRU	**Three Creeks R**	77.02	346	eP		P		18 24 14.7	+1.4		
	comp=Z,28nm,1.3s										
P51A	**Williamsport**	77.05	10	eP		P		18 24 12.7	-0.4		
	comp=Z,45nm,1.2s										
P50A	**Jamestown**	77.08	9	P		P		18 24 13.4	+0.1		
	baz=189,SNR=24										
ISCO	**Idaho Springs**	77.14	352	eP		P		18 24 15.0	+1.0		
	comp=Z,13nm,1.1s										
ISCO					LR		LR				
	comp=Z,243nm,20.0s										
ISCO	**Idaho Springs**	77.14	352	P		P		18 24 15.4	+1.4		
	baz=171,SNR=8.5										
SRU	**San Rafael Swe**	77.16	348	eP		P		18 24 14.3	+0.3		
	comp=Z,39nm,1.5s										
SRU	**San Rafael Swe**	77.16	348	eP		P		18 24 14.3	+0.3		
SRU					pmax		pmax				
	comp=Z,39nm,1.5s										
PSUT	**Pine Spring**	77.22	345	eP		P		18 24 15.3	+0.9		
	comp=Z,17nm,1.1s										
P53A	**Whipple**	77.29	11	eP		P		18 24 14.6	+0.1		
	comp=Z,75nm,1.4s										
P53A	**Whipple**	77.29	11	P		P		18 24 14.7	+0.1		
	baz=191,SNR=5.3										
P52A	**Corning**	77.33	10	P		P		18 24 14.9	+0.2		
	baz=190,SNR=9.6										
R11A	**Troy Canyon, C**	77.42	344	eP		P		18 24 16.5	+1.1		
	comp=Z,166nm,1.1s										
R11A	**Troy Canyon, C**	77.42	344	P		P		18 24 17.2	+1.7		
	baz=163,SNR=23										
SAO	**San Andreas Ge**	77.43	339	eP		P		18 24 15.2	-0.2		
	comp=Z,23nm,1.1s										
SAO	**San Andreas Ge**	77.43	339	eP		P		18 24 15.2	-0.2		
SAO					pmax		pmax				
	comp=Z,23nm,1.1s										
TMUT	**Trail Mountain**	77.46	347	eP		P		18 24 17.4	+1.6		
	comp=Z,25nm,1.1s										
SFIN	**Lafayette**	77.49	6	eP		P		18 24 14.8	-0.7		
	comp=Z,44nm,1.7s										
HDIL	**Hopedale**	77.50	5	eP		P		18 24 14.6	-1.0		
	comp=Z,108nm,1.8s										
HDIL					LR		LR				
	comp=Z,568nm,22.0s										
OMMB	**Old Mammoth Mi**	77.55	341	eP		P		18 24 15.2	-1.1		
	comp=Z,95nm,2.0s										
P17A	**Butcher Ranch,**	77.55	348	eP		P		18 24 16.9	+0.8		
	comp=Z,32nm,1.4s										
N41A	**Harden Midland**	77.56	3	eP		P		18 24 15.1	-0.8		
	comp=Z,24nm,1.1s										
O48A	**Farmland**	77.56	8	P		P		18 24 15.3	-0.7		
	baz=188,SNR=8.0										
O49A	**Covington**	77.58	9	eP		P		18 24 15.7	-0.4		
	comp=Z,57nm,1.0s										
O49A	**Covington**	77.58	9	P		P		18 24 15.8	-0.4		
	baz=189,SNR=10										
MDPB	**Devils Postpil**	77.58	341	eP		P		18 24 17.8	+1.2		
	comp=Z,28nm,1.7s										
P18A	**Preston Nutter**	77.62	348	eP		P		18 24 17.3	+0.6		
	comp=Z,35nm,1.4s										
O50A	**Cable**	77.63	9	P		P		18 24 16.1	-0.3		
	baz=189,SNR=7.3										
N39A	**Derby Farms, D**	77.67	2	eP		P		18 24 16.0	-0.5		
	comp=Z,74nm,1.1s										
N39A	**Derby Farms, D**	77.67	2	P		P		18 24 16.6	0.0		
	baz=182,SNR=14										
N40A	**Mertquake, Sal**	77.70	3	P		P		18 24 16.7	-0.1		
	baz=183,SNR=10.0										
MCWV	**Mont Chateau**	77.71	12	eP		P		18 24 16.1	-0.7		
	comp=Z,24nm,1.5s										
O51A	**Pataskala**	77.77	10	P		P		18 24 17.0	-0.1		
	baz=190,SNR=5.4										
ACSO	**Alum Creek Sta**	77.80	10	eP		P		18 24 16.9	-0.4		
	comp=Z,53nm,1.3s										
ACSO					LR		LR				
	comp=Z,531nm,20.0s										
ACSO	**Alum Creek Sta**	77.80	10	P		P		18 24 17.4	+0.1		
	baz=190,SNR=6.0										
O20A	**White River Ci**

comp=Z,274nm,19.0s
DUG **Dugway, Tooele** **78.62** **346** *eP* **P** **18 24 22.9 +0.8**
DUG pmax pmax
comp=Z,26nm,0.6s
DUG MLR MLR
comp=Z,274nm,19.0s
DUG **Dugway, Tooele** **78.62** **346** P **P** **18 24 23.2 +1.1**
baz=166,SNR=23
KVN **Kaiserville** **78.67** **342** *eP* **P** **18 24 23.4 +0.9**
comp=Z,17nm,1.0s
KVN **Kaiserville** **78.67** **342** *eP* **P** **18 24 23.4 +0.9**
KVN pmax pmax
comp=Z,17nm,1.0s
SCIA **State Center** **78.67** **2** *eP* **P** **18 24 22.5 +0.4**
comp=Z,54nm,1.1s
SCIA LR LR
comp=Z,308nm,21.0s
MVL **Millersville** **78.68** **15** *eP* **P** **18 24 21.4 -0.7**
comp=Z,34nm,1.3s
JLU **Jordanelle** **78.77** **347** *eP* **P** **18 24 23.7 +0.7**
comp=Z,19nm,0.8s
PSUB **Penn St. - Bra** **78.80** **15** *eP* **P** **18 24 21.9 -0.9**
comp=Z,39nm,1.2s
M48A **Edgerton** **78.82** **8** *eP* **P** **18 24 22.6 -0.4**
comp=Z,56nm,1.0s
M48A **Edgerton** **78.82** **8** P **P** **18 24 22.7 -0.2**
baz=188,SNR=6.0
PAGS **Pennsylvania G** **78.83** **14** *eP* **P** **18 24 21.7 -1.3**
comp=Z,26nm,1.3s
L40A **Anamosa** **78.89** **3** *eP* **P** **18 24 23.2 -0.1**
comp=Z,36nm,1.0s
L40A **Anamosa** **78.89** **3** P **P** **18 24 23.4 +0.1**
baz=183,SNR=9.9
M49A **Liberty Center** **78.90** **9** P **P** **18 24 23.2 -0.1**
baz=189,SNR=11
YERR **Yerington** **78.90** **341** *eP* **P** **18 24 24.6 +0.9**
comp=Z,30nm,1.2s
CTU **Camp Tracy** **78.91** **347** *eP* **P** **18 24 24.1 +0.4**
comp=Z,55nm,1.1s
L42A **Oliver, Polo** **78.91** **4** *eP* **P** **18 24 22.7 -0.7**
comp=Z,26nm,1.0s
L42A **Oliver, Polo** **78.91** **4** P **P** **18 24 23.3 -0.1**
baz=184
L39A **Vinton** **78.92** **2** P **P** **18 24 23.6 +0.1**
baz=182,SNR=8.9
L41A **Preston** **78.94** **4** P **P** **18 24 23.1 -0.4**
baz=184
M50A **Fremont** **78.94** **9** *eP* **P** **18 24 22.7 -0.9**
comp=Z,51nm,1.1s
M50A **Fremont** **78.94** **9** P **P** **18 24 23.6 0.0**
baz=190,SNR=5.8
N54A **Moraine State** **78.95** **12** *eP* **P** **18 24 23.4 -0.3**
comp=Z,72nm,1.4s
N54A **Moraine State** **78.95** **12** P **P** **18 24 23.7 0.0**
baz=192,SNR=5.8
M51A **Elyria** **78.99** **10** P **P** **18 24 23.8 0.0**
baz=190
SSPA **Standing Stone** **79.00** **13** *eP* **P** **18 24 23.1 -0.9**
comp=Z,46nm,1.5s
PNTR **Pine Nut** **79.09** **341** *eP* **P** **18 24 26.1 +1.3**
comp=Z,27nm,0.9s
L43A **Garden Prairie** **79.15** **5** P **P** **18 24 24.8 +0.1**
baz=185,SNR=8.9
L46A **Eue Claire** **79.18** **7** P **P** **18 24 25.0 +0.1**
baz=187
RWWY **Rawlins** **79.20** **351** *eP* **P** **18 24 26.4 +1.1**
comp=Z,39nm,1.1s
RUBR **Rubicon Trail** **79.20** **340** *eP* **P** **18 24 24.8 -0.6**
comp=Z,95nm,1.0s
L44A **Lake County Fo** **79.21** **6** P **P** **18 24 25.3 +0.3**
baz=186
L47A **Sherwood** **79.25** **8** P **P** **18 24 25.4 +0.1**
baz=188,SNR=6.2
TCUT **Toone Canyon** **79.26** **348** *eP* **P** **18 24 26.5 +0.8**
comp=Z,37nm,0.6s
VCNR **Virginia City** **79.30** **341** *eP* **P** **18 24 26.6 +0.7**
comp=Z,32nm,1.5s
L48A **N Adams** **79.31** **8** P **P** **18 24 25.4 -0.2**
baz=189,SNR=5.7
AFDM **Forest Hills D** **79.33** **340** *eP* **P** **18 24 27.0 +1.2**
comp=Z,56nm,1.8s
BGU **Big Grassy Mou** **79.37** **346** *eP* **P** **18 24 27.0 +0.8**
comp=Z,12nm,0.9s
LUPA **Lehigh Univers** **79.46** **15** *eP* **P** **18 24 26.1 -0.4**
comp=Z,1.0nm,0.9s
K41A **Shullsburg** **79.48** **4** P **P** **18 24 26.3 -0.2**
baz=184
K39A **Oelwein** **79.51** **3** P **P** **18 24 26.7 0.0**
baz=183
K40A **Colesburg** **79.53** **3** P **P** **18 24 26.8 0.0**
baz=183,SNR=7.9
M54A **Oil Creek Stat** **79.54** **12** *eP* **P** **18 24 26.2 -0.7**
comp=Z,30nm,1.1s
M54A **Oil Creek Stat** **79.54** **12** P **P** **18 24 26.4 -0.5**
baz=192
L49A **Milan** **79.55** **9** P **P** **18 24 27.2 +0.3**
baz=189,SNR=7.1
ALLY **Alegheny Colle** **79.60** **11** *eP* **P** **18 24 26.5 -0.7**
comp=Z,124nm,1.4s
PAHR **Pah Rah Range** **79.62** **341** *eP* **P** **18 24 28.7 +1.2**
comp=Z,16nm,1.2s
SPUT **South Promonto** **79.63** **347** *eP* **P** **18 24 28.0 +0.4**
comp=Z,28nm,1.3s
N59A **State Game Lan** **79.69** **15** *eP* **P** **18 24 27.1 -0.7**
comp=Z,62nm,1.8s
N59A **State Game Lan** **79.69** **15** P **P** **18 24 27.4 -0.3**
baz=196
K43A **Burlington** **79.70** **5** *eP* **P** **18 24 27.4 -0.3**
comp=Z,42nm,1.0s
K43A **Burlington** **79.70** **5** P **P** **18 24 27.9 +0.2**
baz=185
K42A **Prairie Point,** **79.71** **4** P **P** **18 24 28.0 +0.3**
baz=185,SNR=6.5
BRNJ **Basking Ridge** **79.72** **16** *eP* **P** **18 24 26.2 -1.6**
comp=Z,90nm,1.6s
GDXM **Geysers** **79.72** **338** *eP* **P** **18 24 28.3 +0.3**
comp=Z,61nm,1.9s
AAM **Ann Arbor** **79.75** **9** *eP* **P** **18 24 27.1 -0.9**
comp=Z,62nm,1.1s
AAM **Ann Arbor** **79.75** **9** *eP* **P** **18 24 27.1 -0.9**
AAM pmax pmax
comp=Z,62nm,1.1s
AAM **Ann Arbor** **79.75** **9** P **P** **18 24 28.0 0.0**
baz=189
HWUT **Hardware Ranch** **79.77** **348** *eP* **P** **18 24 28.3 0.0**
comp=Z,12nm,0.7s
HWUT LR LR
comp=Z,358nm,19.0s
BMN **Battle Mountai** **79.78** **343** *eP* **P** **18 24 29.0 +0.6**
comp=Z,33nm,1.3s
BMN **Battle Mountai** **79.78** **343** *eP* **P** **18 24 29.0 +0.6**
BMN pmax pmax
comp=Z,33nm,1.3s
JFWS **Jewell Farm** **79.79** **4** *eP* **P** **18 24 27.9 -0.3**
comp=Z,25nm,1.1s
JFWS LR LR
comp=Z,534nm,22.0s
JFWS **Jewell Farm** **79.79** **4** *eP* **P** **18 24 27.9 -0.3**
JFWS pmax pmax
comp=Z,25nm,1.1s
JFWS MLR MLR
comp=Z,534nm,22.0s
JFWS **Jewell Farm** **79.79** **4** P **P** **18 24 28.2 0.0**
baz=184,SNR=5.7
K46A **Dorr** **79.90** **7** P **P** **18 24 28.7 -0.1**
baz=188,SNR=6.1
K47A **Vermontville** **79.96** **8** P **P** **18 24 29.2 +0.1**
baz=188
BEKR **Beckworth** **80.02** **341** *eP* **P** **18 24 28.5 -1.3**
comp=Z,34nm,1.4s
ORV **Oroville** **80.04** **340** *eP* **P** **18 24 30.4 +0.7**
comp=Z,30nm,1.5s
K22A **Casper** **80.06** **352** *eP* **P** **18 24 30.3 +0.4**
comp=Z,128nm,1.5s
ERPA **Erie** **80.08** **11** *eP* **P** **18 24 27.9 -1.9**
comp=Z,79nm,1.5s
ODNJ **Ogdensburg** **80.09** **16** *eP* **P** **18 24 28.2 -1.7**
comp=Z,68nm,1.7s
J39A **Decorah** **80.14** **3** P **P** **18 24 29.9 -0.2**
baz=183
HVU **Hansel Valley** **80.15** **347** *eP* **P** **18 24 30.1 -0.3**
comp=Z,13nm,0.9s
HVU **Hansel Valley** **80.15** **347** *eP* **P** **18 24 30.1 -0.3**
HVU pmax pmax
comp=Z,13nm,0.9s
K48A **Perry** **80.19** **8** P **P** **18 24 30.3 -0.1**
baz=189,SNR=7.2
J41A **Loganville** **80.25** **4** P **P** **18 24 31.0 +0.3**
baz=184,SNR=8.2
J42A **Columbus** **80.26** **5** P **P** **18 24 30.8 +0.1**
baz=185
KSPA **Keystone Colle** **80.30** **15** *eP* **P** **18 24 30.1 -0.9**
comp=Z,57nm,1.6s
ECSD **EROS Data Cent** **80.49** **359** *eP* **P** **18 24 31.8 -0.2**
comp=Z,51nm,1.3s
ECSD LR LR
comp=Z,195nm,19.0s
ECSD **EROS Data Cent** **80.49** **359** P **P** **18 24 32.7 +0.7**
baz=179,SNR=20
BW06 **Boulder Array** **80.58** **349** *eP* **P** **18 24 32.7 0.0**
comp=Z,30nm,1.0s
BW06 **Boulder Array** **80.58** **349** P **P** **18 24 33.4 +0.6**
baz=168,SNR=23
PD31 **Pinedale Array** **80.58** **349** *eP* **P** **18 24 32.9 +0.1**
PDAR **Pinedale Array** **80.58** **349** P **P** **18 24 33.4 +0.6**
comp=Z,15nm,0.8s,baz=164,slow=5.9,SNR=98
PDAR **Pinedale Array** **80.58** **349** *eP* **P** **18 24 32.3 -0.4**
I39A **Houston** **80.67** **3** *eP* **P** **18 24 32.6 -0.3**
comp=Z,84nm,1.4s
I39A **Houston** **80.67** **3** P **P** **18 24 33.0 +0.1**
baz=183,SNR=10
YLE **Yale** **80.69** **17** *eP* **P** **18 24 31.6 -1.4**
comp=Z,124nm,1.3s
J48A **Bridge Port** **80.72** **8** P **P** **18 24 32.8 -0.4**
baz=189,SNR=5.6
KCPM **Cahto Peak** **80.76** **338** *eP* **P** **18 24 32.8 -0.9**
comp=Z,88nm,1.3s
O03E **Paynes Creek** **80.81** **340** P **P** **18 24 34.1 +0.2**
baz=159,SNR=6.3
AHID **Auburn Hatcher** **80.82** **348** *eP* **P** **18 24 33.8 -0.2**
comp=Z,38nm,1.5s
AHID LR LR
comp=Z,121nm,19.0s
I42A **Draeger Farm,** **80.84** **5** *eP* **P** **18 24 33.5 -0.3**
comp=Z,36nm,1.1s
I42A **Draeger Farm,** **80.84** **5** P **P** **18 24 34.0 +0.2**
baz=185
BINY **Binghamton** **80.88** **14** *eP* **P** **18 24 33.0 -1.1**
comp=Z,124nm,1.8s
BINY LR LR
comp=Z,533nm,19.0s
BINY **Binghamton** **80.88** **14** P **P** **18 24 34.0 -0.1**
baz=195
I43A **Arkdale** **80.89** **5** P **P** **18 24 34.2 +0.1**
baz=186
I41A **Arkdale** **80.95** **4** *eP* **P** **18 24 34.2 -0.2**
comp=Z,36nm,1.0s
I41A **Arkdale** **80.95** **4** P **P** **18 24 35.1 +0.7**
baz=184
O02D **Mt. Diablo Mer** **80.98** **339** P **P** **18 24 36.6 +1.8**
baz=158
MMNY **Mt. Morris Dam** **81.03** **13** *eP* **P** **18 24 34.4 -0.5**
comp=Z,43nm,1.3s
RSSD **Black Hills** **81.26** **354** *eP* **P** **18 24 37.1 +0.8**
comp=Z,41nm,1.1s
RSSD **Black Hills** **81.26** **354** P **P** **18 24 37.6 +1.3**
baz=173
WDC **Whiskeytown Da** **81.29** **339** *eP* **P** **18 24 36.5 +0.2**
comp=Z,19nm,1.0s
WDC **Whiskeytown Da** **81.29** **339** *eP* **P**
WDC pmax pmax **18 24 36.5 +0.2**
comp=Z,19nm,1.0s
KMRM **Mail Ridge** **81.29** **338** *eP* **P** **18 24 38.4 +1.9**
comp=Z,56nm,1.2s
REDW **Red Top Meadow** **81.36** **349** *eP* **P** **18 24 37.3 +0.4**
comp=Z,43nm,1.3s
FUNA **Funafuti** **81.40** **266** *eP* **P** **18 24 37.4 -0.2**
comp=Z,111nm,1.1s
FUNA LR LR
comp=Z,2µm,19.0s
SNOW **Snow King Moun** **81.44** **349** *eP* **P** **18 24 38.1 +0.8**
comp=Z,41nm,1.3s
H38A **Maiden Rock** **81.46** **2** P **P** **18 24 37.5 +0.4**
baz=182
H42A **Shiocton** **81.48** **5** *eP* **P** **18 24 36.1 -1.1**
comp=Z,131nm,0.2s
H40A **Chili** **81.48** **3** P **P** **18 24 37.6 +0.3**
baz=184,SNR=9.4
H43A **Windswept, Lux** **81.50** **5** *eP* **P** **18 24 37.1 -0.2**
comp=Z,36nm,1.0s
H43A **Windswept, Lux** **81.50** **5** P **P** **18 24 37.6 +0.3**
baz=186
TPAW **Teton Pass** **81.50** **348** *eP* **P** **18 24 38.5 +0.8**
comp=Z,44nm,1.0s
H39A **Augusta** **81.50** **3** P **P** **18 24 37.8 +0.4**
baz=183,SNR=6.9
H41A **Junction City** **81.52** **4** *eP* **P** **18 24 37.1 -0.3**
comp=Z,36nm,1.4s
H41A **Junction City** **81.52** **4** P **P** **18 24 37.5 +0.1**
baz=184,SNR=5.8
KHLH **Kahului Airpor** **81.55** **304** *eP* **P** **18 24 39.2 +1.1**
comp=Z,358nm,1.6s
LOHW **Long Hollow** **81.56** **349** *eP* **P** **18 24 38.4 +0.4**
comp=Z,16nm,1.0s
BRYW **Bryant College** **81.59** **18** *eP* **P** **18 24 37.2 -0.6**
comp=Z,135nm,1.8s
FXWY **Fox Creek** **81.66** **348** *eP* **P** **18 24 38.9 +0.4**
comp=Z,23nm,1.0s
N02D **Trinity Center** **81.70** **339** P **P** **18 24 40.1 +1.5**
baz=158,SNR=5.8
MOOW **Moose Ponds** **81.72** **349** *eP* **P** **18 24 39.2 +0.4**
comp=Z,8.8nm,0.9s
QUA2 **Belchertown** **81.74** **17** *eP* **P** **18 24 38.3 -0.3**
comp=Z,39nm,1.2s
IMW **Indian Meadow** **81.89** **349** *eP* **P** **18 24 40.6 +0.8**
comp=Z,26nm,1.1s
KHMM **Horse Mountain** **81.90** **339** *eP* **P** **18 24 41.3 +1.5**
comp=Z,41nm,1.2s
MOD **Modoc Plateau** **81.92** **341** *eP* **P** **18 24 40.7 +0.9**
comp=Z,22nm,1.0s
SPMN **Marine on St.** **82.00** **2** *eP* **P** **18 24 39.1 -0.8**
comp=Z,47nm,1.1s
WVOR **Wild Horse Val** **82.01** **343** *eP* **P** **18 24 41.7 +1.5**
comp=Z,24nm,0.9s
FLWY **Flagg Ranch** **82.04** **349** *eP* **P** **18 24 41.4 +1.0**
comp=Z,29nm,0.9s
G39A **Holcombe** **82.11** **3** P **P** **18 24 41.4 +0.8**
baz=183,SNR=5.9
M02C **Callahan** **82.13** **339** P **P** **18 24 42.2 +1.4**
baz=158,SNR=6.7
TAU **Tasmania Unive** **82.13** **221** *eP* **P** **18 24 40.0 -1.1**
comp=Z,34nm,1.3s
TAU LR LR
comp=Z,825nm,21.0s
GLMI **Grayling** **82.13** **8** *eP* **P** **18 24 40.7 0.0**
comp=Z,46nm,0.7s
G40A **Rib Lake** **82.14** **4** *eP* **P** **18 24 40.5 -0.2**
comp=Z,59nm,1.3s
G40A **Rib Lake** **82.14** **4** P **P** **18 24 41.5 +0.8**
baz=184,SNR=11
HRV **Adam Dziewonsk** **82.14** **17** *eP* **P** **18 24 39.5 -1.2**
comp=Z,38nm,1.1s
HRV **Adam Dziewonsk** **82.14** **17** *eP* **P** **18 24 39.5 -1.2**
HRV pmax pmax
comp=Z,38nm,1.1s
HLID **Hailey** **82.18** **346** *eP* **P** **18 24 41.7 +0.5**
comp=Z,31nm,1.0s
HLID LR LR
comp=Z,163nm,19.0s
HLID **Hailey** **82.18** **346** P **P** **18 24 42.4 +1.2**
baz=165,SNR=45
M04C **Macdoel** **82.21** **340** P **P** **18 24 42.8 +1.5**
baz=159,SNR=5.8
G42A **Mountain** **82.22** **5** *eP* **P** **18 24 40.6 -0.5**
comp=Z,30nm,1.5s
YPP **Pitchstone Pla** **82.24** **349** *eP* **P** **18 24 42.5 +0.9**
comp=Z,14nm,1.1s
G45A **Suttons Bay** **82.24** **7** P **P** **18 24 41.9 +0.7**
baz=188
G43A **Wallace** **82.28** **5** *eP* **P** **18 24 41.2 -0.2**
comp=Z,42nm,1.4s
CLWO **Collingwood** **82.31** **11** P **P** **18 24 41.2 -0.5**
baz=192
BMRO **Meriville Lake** **82.32** **10** P **P** **18 24 41.6 0.0**
baz=191
H17A **Grant Village** **82.32** **349** *eP* **P** **18 24 42.4 +0.4**
comp=Z,8.2nm,0.8s
YBH **Yreka Blue Hor** **82.40** **340** P **P** **18 24 43.4 +1.1**
comp=Z,6.6nm,0.9s,baz=132,slow=7.3,SNR=8.2
YBH **Yreka Blue Hor** **82.40** **340** *eP* **P** **18 24 42.6 +0.4**
comp=Z,36nm,1.6s
YBH **Yreka Blue Hor** **82.40** **340** *eP* **P**
YBH pmax pmax **18 24 42.7 +0.4**
comp=Z,36nm,1.6s
YFT **Old Faithful** **82.42** **349** *eP* **P** **18 24 44.2 +1.8**
comp=Z,41nm,1.5s
LKWY **Lake** **82.46** **349** *eP* **P** **18 24 43.1 +0.4**
comp=Z,16nm,0.8s
LKWY **Lake** **82.46** **349** *eP* **P** **18 24 43.1 +0.4**
LKWY pmax pmax
comp=Z,17nm,0.8s
ACCN **Adirondack Com** **82.49** **16** *eP* **P** **18 24 42.3 -0.3**
comp=Z,74nm,1.8s
KRMB **Red Mountain** **82.55** **339** *eP* **P** **18 24 43.8 +0.8**
G47A **Hillman** **82.56** **8** P **P** **18 24 43.1 +0.2**
baz=189
G46A **Petoskey** **82.59** **7** P **P** **18 24 43.5 +0.5**
baz=188
YMR **Madison River** **82.65** **349** *eP* **P** **18 24 45.0 +1.4**
comp=Z,41nm,1.5s
YNR **Norris Junctio** **82.65** **349** *eP* **P** **18 24 45.3 +1.6**
comp=Z,17nm,1.2s
F41A **Three Lakes** **82.67** **4** *eP* **P** **18 24 42.6 -0.9**
comp=Z,27nm,1.3s
F41A **Three Lakes** **82.67** **4** P **P** **18 24 44.1 +0.6**
baz=185
YHH **Holmes Hill** **82.75** **349** *eP* **P** **18 24 45.5 +1.3**
comp=Z,31nm,1.2s
F39A **Loretta** **82.75** **3** P **P** **18 24 44.4 +0.5**
baz=183,SNR=8.8
F38A **Pierce - Schro** **82.76** **2** P **P** **18 24 44.7 +0.8**
baz=183,SNR=6.1
YHB **Horse Butte** **82.77** **349** *eP* **P** **18 24 46.2 +1.9**
comp=Z,9.2nm,1.1s
F40A **Park Falls** **82.79** **4** P **P** **18 24 44.6 +0.5**
baz=184
SADO **Sadowa** **82.80** **11** LR LR 18 58 54.4
comp=Z,281nm,18.2s,baz=188,slow=34
SADO **Sadowa** **82.80** **11** *eP* **P** **18 24 42.1 -2.1**
comp=Z,26nm,1.3s
DELO **Deloro Mine** **82.81** **13** P **P** **18 24 43.8 -0.4**
baz=194
RLMT **Red Lodge** **82.84** **350** *eP* **P** **18 24 45.5 +0.8**
comp=Z,19nm,0.9s
RLMT **Red Lodge** **82.84** **350** P **P** **18 24 46.0 +1.4**
baz=169,SNR=18
J08A **Circle Bar Ran** **82.85** **343** *eP* **P** **18 24 45.6 +1.0**
comp=Z,85nm,1.6s
QLMT **Earthquake Lak** **82.88** **348** *eP* **P** **18 24 46.0 +1.1**
F43A **Flat Rock, Esc** **82.89** **6** P **P** **18 24 44.8 +0.3**
baz=186
NCB **Newcomb** **82.94** **15** *eP* **P** **18 24 43.4 -1.5**
comp=Z,12nm,1.0s
COWI **Conover** **83.03** **4** *eP* **P** **18 24 45.2 -0.1**
comp=Z,50nm,1.5s
COWI LR LR
comp=Z,466nm,19.0s
FFD **Franklin Falls** **83.03** **17** *eP* **P** **18 24 45.5 +0.1**
comp=Z,76nm,1.5s
L02E **Cave Junction** **83.05** **339** P **P** **18 24 46.5 +1.0**
baz=158
F46A **Macinaw City C** **83.06** **7** P **P** **18 24 45.9 +0.5**
baz=188
F44A **Big Bay de Noc** **83.10** **6** P **P** **18 24 46.1 +0.5**
baz=187
MCMT **McKenzie Canyo** **83.12** **347** *eP* **P** **18 24 47.7 +1.6**
KLBO **Killbear Provi** **83.21** **11** P **P** **18 24 44.5 -1.7**
baz=192,SNR=5.1
E39A **Mellen** **83.23** **3** P **P** **18 24 46.4 0.0**
baz=184
BANO **Bancroft** **83.25** **12** P **P** **18 24 45.8 -0.7**
baz=194
DZM **Mont Dzumac** **83.27** **248** LR LR 18 52 57.8
comp=Z,733nm,21.8s,baz=168,slow=29
DZM **Mont Dzumac** **83.27** **248** *eS* **S** **18 35 05.4 -2.9**
comp=Z,184nm,27.1s
DZM **Mont Dzumac** **83.27** **248** *eLQ* LQ 18 47 21.2
comp=Z,775nm,30.9s
DZM *eLR* LR 18 50 49.3
comp=Z,2µm,30.0s
E40A **Wakefield** **83.33** **4** P **P** **18 24 46.9 0.0**
baz=184,SNR=8.9
F48A **Evansville** **83.35** **9** P **P** **18 24 46.6 -0.3**
baz=190
F49A **Sandfield** **83.36** **9** P **P** **18 24 46.6 -0.4**
baz=190
E41A **Kenton** **83.40** **4** P **P** **18 24 47.3 +0.1**
baz=185
PLVO **Plevna** **83.42** **13** *eP* **P** **18 24 46.3 -1.0**
comp=Z,72nm,1.5s
PLVO **Plevna** **83.42** **13** P **P** **18 24 46.9 -0.4**
baz=194,SNR=7.3
BUKO **Buck Lake** **83.42** **11** P **P** **18 24 46.5 -0.8**
baz=192
E42A **Champion** **83.44** **5** P **P** **18 24 47.2 -0.2**
baz=186
E43A **Lone Tree Farm** **83.45** **6** *eP* **P** **18 24 47.4 0.0**
comp=Z,25nm,0.9s
E43A **Lone Tree Farm** **83.45** **6** P **P** **18 24 47.8 +0.4**
baz=186
J05D **Fort Rock, OR** **83.45** **341** P **P** **18 24 49.7 +1.9**
baz=159,SNR=15
LONY **Lake Ozonia** **83.48** **15** *eP* **P** **18 24 46.6 -1.1**
comp=Z,52nm,1.4s
LONY LR LR
comp=Z,548nm,19.0s
LONY **Lake Ozonia** **83.48** **15** P **P** **18 24 47.2 -0.5**
baz=196,SNR=8.9
GCMT **Greycliff** **83.56** **350** *eP* **P** **18 24 44.9 -3.3**
K02D **Willamette Mer** **83.56** **339** P **P** **18 24 49.8 +1.5**
baz=158
DLMT **Dillon** **83.59** **348** *eP* **P** **18 24 49.6 +1.2**
comp=Z,40nm,1.6s
E45A **Wooded Hills,** **83.59** **7** P **P** **18 24 48.8 +0.7**
baz=188
BOZ **Bozeman (W)** **83.66** **348** *eP* **P** **18 24 49.5 +0.8**
comp=Z,36nm,1.6s
BOZ **Bozeman (W)** **83.66** **348** *eP* **P** **18 24 49.6 +0.8**
BOZ pmax pmax
comp=Z,35nm,1.6s
BOZ **Bozeman (W)** **83.66** **348** P **P** **18 24 50.4 +1.7**
baz=167,SNR=8.0
E46A **Sault Ste Mari** **83.69** **8** P **P** **18 24 48.9 +0.2**
baz=189,SNR=9.8
LBNH **Lisbon** **83.69** **17** *eP* **P** **18 24 47.8 -1.0**
comp=Z,36nm,1.3s
LBNH **Lisbon** **83.69** **17** *eP* **P** **18 24 47.8 -1.0**
LBNH pmax pmax
comp=Z,36nm,1.3s
LBNH **Lisbon** **83.69** **17** P **P** **18 24 49.7 +0.9**
baz=198
I07A **Izee** **83.77** **343** *eP* **P** **18 24 51.2 +1.9**
comp=Z,41nm,1.1s
F51A **Arnstein** **83.82** **11** P **P** **18 24 48.6 -0.8**
baz=192
E47A **Iron Bridge** **83.89** **8** P **P** **18 24 49.7 0.0**
baz=189,SNR=5.5
FRNY **Flat Rock** **83.90** **15** *eP* **P** **18 24 48.9 -0.9**
comp=Z,45nm,1.6s
PEMO **Pembroke** **84.00** **13** P **P** **18 24 49.5 -0.8**
baz=194
BMO **Blue Mountains** **84.00** **344** *eP* **P** **18 24 50.2 -0.3**
comp=Z,62nm,1.9s
BMO **Blue Mountains** **84.00** **344** *eP* **P** **18 24 50.2 -0.3**
BMO pmax pmax
comp=Z,62nm,1.9s
LAO **LASA Array** **84.02** **352** *eP* **P** **18 24 51.3 +0.9**
comp=Z,46nm,1.0s
LAO **LASA Array** **84.02** **352** P **P** **18 24 51.8 +1.4**
baz=171,SNR=18
D41A **Chassel** **84.02** **5** *eP* **P** **18 24 50.3 0.0**
comp=Z,81nm,1.4s
D41A **Chassel** **84.02** **5** P **P** **18 24 51.0 +0.7**
baz=185
ALGO **Algonquin Park** **84.13** **12** P **P** **18 24 49.9 -1.0**
baz=194
E50A **Wahnapitae** **84.18** **10** P **P** **18 24 50.6 -0.5**
baz=191
ALFO **Alfred** **84.39** **14** P **P** **18 24 51.5 -0.8**
baz=196
D47A **Chapleau** **84.50** **8** P **P** **18 24 52.4 -0.5**
baz=190,SNR=10
WVL **Waterville** **84.54** **18** *eP* **P** **18 24 53.3 +0.3**
comp=Z,42nm,1.4s
E53A **Dumoine, Ponti** **84.61** **12** P **P** **18 24 52.8 -0.6**
baz=194,SNR=5.7
MDND **Maddock** **84.68** **357** *eP* **P** **18 24 53.6 -0.2**
comp=Z,117nm,1.1s
MDND **Maddock** **84.68** **357** P **P** **18 24 54.5 +0.7**
baz=176,SNR=14
E54A **Lac Daplat, Po** **84.75** **12** P **P** **18 24 53.3 -0.8**
baz=194,SNR=5.8
EYMN **Ely** **84.76** **3** *eP* **P** **18 24 52.6 -1.5**
comp=Z,19nm,1.2s

EYMN LR LR
comp=Z,303nm,21.0s
D48A Paudash Townsh 84.78 9 P **P 18 24 53.6 -0.6**
baz=191
HRY Holter Researc 84.78 349 *eP* **P 18 24 54.8 +0.5**
G08A Pilot Rock 84.79 343 *eP* **P 18 24 55.4 +0.9**
comp=Z,48nm,1.3s
H04A Detroit Lake 85.00 341 *eP* **P 18 24 54.6 -0.9**
comp=Z,31nm,1.1s
D51A Lot 18 Range I 85.03 11 P **P 18 24 55.0 -0.5**
baz=192
D50A G1974 Best Tow 85.04 10 P **P 18 24 54.7 -0.8**
baz=192,SNR=8.4
AGMN Agassiz Nation 85.05 360 *eP* **P 18 24 55.3 -0.2**
comp=Z,32nm,1.2s
F10A Beach Ranch, E 85.06 345 *eP* **P 18 24 56.0 +0.3**
comp=Z,19nm,0.9s
G06A Carlson Farm, 85.13 342 *eP* **P 18 24 55.1 -1.0**
comp=Z,46nm,1.4s
MSO Missoula 85.25 347 *eP* **P 18 24 58.2 +1.5**
comp=Z,27nm,1.4s
MSO Missoula 85.25 347 P **P 18 24 58.5 +1.8**
baz=165,SNR=7.7
D53A Lac Vacive, Po 85.28 12 P **P 18 24 56.2 -0.6**
baz=194,SNR=7.7
PKME Peaks-Kenny Pk 85.29 18 PFAKE 18 25 10.0 +13
PKME LR LR
comp=Z,258nm,20.0s
D54A Lac Fusel, La 85.53 13 P **P 18 24 56.9 -1.1**
baz=195
F07A Phinny Hill Vi 85.58 343 *eP* **P 18 24 59.4 +1.1**
comp=Z,36nm,1.1s
DGMT Dagmar 85.59 354 *eP* **P 18 24 58.7 +0.4**
comp=Z,213nm,2.0s
EGMT Eagleton 85.76 350 *eP* **P 18 25 00.2 +1.1**
comp=Z,33nm,1.1s
EGMT LR LR
comp=Z,284nm,19.0s
EGMT Eagleton 85.76 350 P **P 18 25 01.0 +1.9**
baz=168,SNR=10.0
E09A Wood Farm, Sta 85.77 344 *eP* **P 18 24 59.2 0.0**
comp=Z,19nm,1.4s
E08A Dider Farm, El 85.95 344 *eP* **P 18 25 00.9 +0.8**
comp=Z,36nm,1.1s
HAWA Hanford 85.96 343 *eP* **P 18 25 01.4 +1.2**
comp=Z,44nm,1.1s
E07A Sunnyside 86.19 343 *eP* **P 18 25 02.0 +0.7**
comp=Z,18nm,0.8s
JTMT Jette 86.19 347 *eP* **P 18 25 01.8 +0.4**
comp=Z,22nm,0.9s
VLDQ Val d'Or 86.33 12 *eP* **P 18 25 00.6 -1.3**
comp=Z,37nm,1.1s
D08A Wollman Farm, 86.45 344 *eP* **P 18 25 03.2 +0.7**
comp=Z,32nm,1.1s
LATQ La Tuque 86.50 15 P **P 18 25 01.6 -1.1**
baz=196
ULM Lac du Bonnet 87.00 360 P **P 18 25 05.0 -0.2**
comp=Z,25nm,1.1s,baz=193,slow=4.2,SNR=15
ULM LR LR 19 02 13.1
comp=Z,163nm,18.1s,baz=134,slow=34
ULM Lac du Bonnet 87.00 360 *eP* **P 18 25 04.2 -0.9**
comp=Z,57nm,1.3s
ULM Lac du Bonnet 87.00 360 *eP* **P 18 25 04.2 -0.9**
ULM pmax pmax
comp=Z,57nm,1.3s
C09A Chrisman Ranch 87.02 345 *eP* **P 18 25 06.2 +0.9**
comp=Z,61nm,0.4s
LTY Liberty 87.04 343 *eP* **P 18 25 06.3 +0.8**
comp=Z,13nm,1.0s
NEW Newport 87.22 346 P **P 18 25 07.3 +1.0**
comp=Z,15nm,1.1s,baz=158,slow=4.6,SNR=15
NEW Newport 87.22 346 *eP* **P 18 25 07.1 +0.8**
comp=Z,18nm,1.0s
NEW Newport 87.22 346 *eP* **P 18 25 07.1 +0.8**
NEW pmax pmax
comp=Z,18nm,1.0s
NEW Newport 87.22 346 P **P 18 25 07.6 +1.2**
baz=163,SNR=12
LSQQ Lebel-sur-Quev 87.32 12 P **P 18 25 05.8 -0.9**
baz=194
WALA Waterton Lakes 87.40 348 *eP* **P 18 25 07.1 -0.2**
comp=Z,13nm,1.1s
GBN Guysborough 87.60 23 *eP* **P 18 25 06.8 -1.3**
comp=Z,65nm,1.3s
B08A Colville Reser 87.77 344 *eP* **P 18 25 08.2 -0.7**
comp=Z,29nm,1.5s
MATQ Matagami 87.90 11 P **P 18 25 08.3 -1.1**
baz=194
BATG Bathurst New B 87.99 19 *eP* **P 18 25 09.4 -0.6**
comp=Z,39nm,1.2s
CHGQ Chibougamau 88.60 13 P **P 18 25 11.8 -1.0**
baz=196
SUR Sutherland 88.66 130 PFAKE 18 25 20.0 +5.9
SUR LR LR
comp=Z,670nm,19.0s
FFC Flin Flon 91.67 356 *eP* **P 18 25 26.4 -0.6**
comp=Z,43nm,1.4s
FFC Flin Flon 91.67 356 *eP* **P 18 25 26.4 -0.6**
FFC pmax pmax
comp=Z,43nm,1.4s
TARA Tarawa 92.29 270 PFAKE 18 25 40.0 +9.1
TARA LR LR
comp=Z,90nm,20.0s
STKA Stephens Creek 93.23 225 P **P 18 25 35.6 +0.6**
comp=Z,4.0nm,1.1s,baz=120,slow=5.6,SNR=5.5
STKA LR LR 19 00 41.4
comp=Z,250nm,20.6s,baz=156,slow=31
STKA Stephens Creek 93.23 225 *eP* **P 18 25 35.0 -0.1**
comp=Z,5.4nm,1.6s
STKA Stephens Creek 93.23 225 *eP* **P 18 25 35.0 -0.1**
STKA pmax pmax
comp=Z,5.0nm,1.6s
BOSA Boshof 94.03 131 LR LR 19 01 56.3
comp=Z,467nm,20.6s,baz=224,slow=32
DBIC Dimbokro 94.27 85 LR LR 19 02 31.2
comp=Z,998nm,21.9s,baz=208,slow=32
SCHQ Schefferville 94.78 16 LR LR 19 06 05.3
comp=Z,258nm,18.5s,baz=205,slow=34
TSUM Tsumeb 95.53 119 PFAKE 18 26 00.0 +14
TSUM LR LR
comp=Z,416nm,19.0s
HNR Honiara 95.97 254 PFAKE 18 26 00.0 +12
HNR LR LR
comp=Z,684nm,21.0s
LBTB Lobatse 96.83 128 *eP* **P 18 25 49.9 -1.9**
comp=Z,68nm,0.9s
LBTB Lobatse 96.83 128 *eP* **P 18 25 49.9 -1.9**
LBTB pmax pmax
comp=Z,69nm,0.9s
CTAO Charters Tower 98.83 237 PFAKE 18 26 10.0 +9.2
CTAO LR LR
comp=Z,797nm,21.0s
YKA Yellowknife Ar 100.50 351 P **Pdif 18 26 08.0 +1.1**
comp=Z,2.6nm,1.0s,baz=152,slow=4.0,SNR=3.8
TORD Torodi Ar. Bea 103.28 84 Pdiff **Pdif 18 26 21.3 +0.8**
comp=Z,0.5nm,1.0s,baz=224,slow=4.0,SNR=3.2
TORD PP **PKiKP 18 30 39.6 -0.2**
comp=Z,1.6nm,1.1s,baz=258,slow=7.4,SNR=3.8
TOA1 Torodi Ar. Sit 103.28 83 *e*Pdif **Pdif 18 26 21.3 +0.8**
TOA1 *e*PP **PKiKP 18 30 39.6 -0.2**
H01W1 Cape Leeuwin H 103.31 204 T T 20 22 36.3
baz=155,slow=75,SNR=36
H01W2 Cape Leeuwin H 103.32 204 T T 20 22 37.7
baz=155,slow=75,SNR=46
H01W3 Cape Leeuwin H 103.33 204 T T 20 22 33.8
baz=155,slow=75,SNR=48
ASAR Alice Springs 103.87 226 PKKPbc PKKPbc 18 42 12.7 +0.3
comp=Z,0.8nm,0.7s,baz=332,slow=2.7,SNR=9.9
ASAR PKKP **PKKPdf 18 42 20.1 0.0**
comp=Z,0.9nm,1.0s,baz=342,slow=2.3,SNR=5.0
NWAO Narrogin (SRO) 104.01 208 PFAKE 18 26 30.0 +6.4
NWAO LR LR
comp=Z,438nm,21.0s
LSZ Lusaka 105.52 123 PFAKE 18 31 00.0
LSZ LR LR
comp=Z,444nm,20.0s
PMG Port Moresby 105.54 245 PFAKE 18 31 00.0
PMG LR LR
comp=Z,373nm,20.0s
WR1 Warramunga Arr 106.49 228 *e*PKKPbc PKKPbc 18 42 03.9 -0.5
WRA Warramunga Arr 106.49 228 PKKPbc PKKPbc 18 42 03.9 -0.5
comp=Z,1.1nm,1.1s,baz=337,slow=3.0,SNR=5.4
WRAB Tennant Creek 106.50 228 PFAKE 18 31 00.0
WRAB LR LR
comp=Z,834nm,19.0s
WAKE Wake Island 107.69 281 PFAKE 18 31 00.0
WAKE LR LR
comp=Z,2µm,22.0s
INK Inuvik 108.94 346 PP PP 18 31 16.7 -0.1
comp=Z,3.0nm,1.1s,baz=112,slow=12,SNR=3.1
ILAR Eielson Array 109.30 339 PKiKP **PKiKP 18 30 50.3 +0.8**
comp=Z,1.6nm,1.1s,baz=188,slow=1.4,SNR=7.0
ILAR PP **PP 18 31 19.6 0.0**
comp=Z,1.8nm,1.1s,baz=152,slow=6.1,SNR=5.9
PAB San Pablo 112.99 57 PFAKE 18 31 10.0
PAB LR LR
comp=Z,792nm,19.0s
MBWA Marble Bar 113.31 216 PFAKE 18 31 10.0
MBWA LR LR
comp=Z,296nm,19.0s
ABPO Ambohimpanom 113.89 141 PFAKE 18 31 10.0
ABPO LR LR
comp=Z,225nm,21.0s
MBAR Mbarara 117.59 114 PFAKE 18 31 20.0 +13
MBAR LR LR
comp=Z,323nm,19.0s
KMBO Kilima Mbogo 121.87 120 PFAKE 18 31 30.0 +14
KMBO LR LR
comp=Z,339nm,21.0s
SENIN Lac Senin/Sane 123.61 54 *e*PKPdf **PKPdf 18 31 18.0 +0.2**
BFO Black Forest 124.93 52 *e*PKPdf **PKPdf 18 31 18.8 -1.2**
BFO LR LR
comp=Z,11nm,20.0s
DAVA Damuels 125.59 54 *e*PKPdf **PKPdf 18 31 21.0 -0.5**
comp=Z,11nm,1.4s
FUORN Ftenpass-Fuorn 125.63 55 *e*PKPdf **PKPdf 18 31 21.1 -0.6**
FETA Feichten 126.06 54 *e*PKiKP **PKiKP 18 31 22.7 -0.1**
comp=Z,14nm,1.1s
RETA Reutte 126.22 54 *e*PKPdf **PKPdf 18 31 22.8 +0.2**
comp=Z,17nm,1.2s
MOTA Moosalm 126.40 54 *e*PKPdf **PKPdf 18 31 23.0 0.0**
comp=Z,19nm,1.1s
SQTA Sankt Quirin 126.43 54 *e*PKiKP **PKiKP 18 31 23.3 -0.2**
comp=Z,19nm,1.2s
WATA Walderalm 126.71 54 *i* PKiKP **PKiKP 18 31 24.6 +0.6**
comp=Z,6.3nm,1.0s
WTTA Wattenberg 126.72 54 *i* PKiKP **PKiKP 18 31 25.2 +1.1**
comp=Z,15nm,1.6s
KAPI Kappang 126.89 226 PFAKE 18 31 40.0 +15
KAPI LR LR
comp=Z,303nm,20.0s
BILL Bilibino 126.96 332 *e*PKIKP **PKPdf 18 31 20.8 -2.4**
BILL pmax pmax
comp=Z,3.0nm,1.0s
ABTA Abfaltersbach 127.14 55 *e*PKPdf **PKPdf 18 31 24.2 -0.1**
comp=Z,13nm,1.2s
GRFO Grafenberg 127.15 51 *e*PKPdf **PKPdf 18 31 24.5 +0.3**
KBA Koelnbreinsper 127.78 55 *i* PKiKP **PKiKP 18 31 26.2 -0.1**
comp=Z,5.9nm,1.2s
PET Petropavlovsk 127.80 313 PFAKE 18 31 40.0 +15
PET LR LR
comp=Z,355nm,19.0s
NKC Novy Kostel 128.06 51 *e*PKP PKPdf 18 31 33.9 +8.0
NKC Novy Kostel 128.06 51 *e*PKIKP PKPdf 18 31 33.9 +8.0
PETK Petropavlovsk- 128.38 313 PKP **PKPdf 18 31 25.4 -1.1**
comp=Z,12nm,0.9s,baz=121,slow=7.1,SNR=8.4
PEA1 Petropavlovsk- 128.38 313 *e*PKPdf **PKPdf 18 31 25.4 -1.1**
GEA0 GERESS Array S 128.49 53 *e*PKPdf **PKPdf 18 31 25.6 -1.3**
GEC2 GERESS Array S 128.50 53 *e*PKPdf **PKPdf 18 31 26.0 -0.9**
GERES GERESS Array B 128.50 53 PKP **PKPdf 18 31 26.4 -0.5**
comp=Z,3.0nm,1.0s,baz=252,slow=1.3,SNR=11
MOA Molln 128.60 54 *e*PKiKP **PKiKP 18 31 27.7 0.0**
comp=Z,7.7nm,1.6s
CLL Collm 128.67 50 *e*PKPdf **PKPdf 18 31 26.9 -0.1**
CLL Collm 128.67 50 *i* PKPdf **PKPdf 18 31 27.0 0.0**
comp=Z,15nm,1.3s
CLL *i* 18 31 33.4
comp=Z,16nm,1.3s
CLL *e*(PP) 18 33 40.0
CLL *e*(SS) 18 51 24.0
CLL *e*SSS SSS 18 55 24.0
CLL *e*SSSS 18 59 06.0
CLL Lm MLR 19 22 00.0
comp=Z,300nm,18.7s
CLL Collm 128.67 50 *i* PKIKP **PKPdf 18 31 27.0 0.0**
CLL *i* 18 31 33.4
CLL pmax pmax
comp=Z,15nm,1.3s
CLL MLR MLR
comp=Z,300nm,18.7s
SOKA Soboth 128.78 56 *i* PKPdf **PKPdf 18 31 27.2 -0.3**
comp=Z,5.9nm,1.4s
BRG Berggiesshubel 129.14 50 *eP* **PKPdf 18 31 27.9 0.0**
comp=Z,16nm,1.6s
BRG Berggiesshubel 129.14 50 *e*PKIKP **PKPdf 18 31 27.9 0.0**
BRG pmax pmax
comp=Z,4.0nm,1.6s
NB2 NORSAR Subarra 129.43 37 PKPdf **PKPdf 18 31 27.5 -0.7**
comp=Z,13nm,1.4s,baz=270,slow=1.9
NB2 NORSAR Subarra 129.43 37 PKPdf **PKPdf 18 31 27.5 -0.7**
baz=270,slow=1.9
NB200 NORSAR Array S 129.43 37 *e*PKPdf **PKPdf 18 31 28.1 -0.1**
NOA NORSAR Array B 129.43 37 PKP **PKPdf 18 31 28.1 -0.1**
comp=Z,3.7nm,1.0s,baz=272,slow=2.1,SNR=4.8
CONA Conrad Observa 129.66 55 *e*PKPdf **PKPdf 18 31 28.3 -0.8**
comp=Z,4.6nm,1.2s
BLY Banja Luka 129.70 59 *e*PKPdf **PKPdf 18 31 28.7 -0.5**
KRUC Moravsky 130.27 53 *e*PKP **PKPdf 18 31 30.0 -0.1**
DPC Dobruska-Polom 130.51 52 *e*PKP **PKPdf 18 31 37.9 +7.3**
DPC Dobruska-Polom 130.51 52 *e*PKIKP **PKPdf 18 31 37.9 +7.3**
MODS Modra-Piesok 130.68 54 *e*PKIKP **PKPdf 18 31 29.7 -1.3**
MODS Modra-Piesok 130.68 54 *e*PKP **PKPdf 18 31 29.7 -1.3**
MORC Moravsky Berou 131.16 53 *e*PKPpre PKPpre 18 31 17.3
MORC *e*PKPdf **PKPdf 18 31 32.0 +0.1**
MORC Moravsky Berou 131.16 53 *e*PKHKP PKPpre 18 31 17.3
MORC *e* 18 31 32.0
MORC Moravsky Berou 131.16 53 *e*PKP **PKPdf 18 31 32.2 +0.3**
DIVS Divibare 131.46 60 *e*PKPdf **PKPdf 18 31 32.3 -0.4**
VYHS Vyhne 131.72 54 *e*PKIKP **PKPdf 18 31 33.6 +0.7**
VYHS *e* 18 31 40.6
VYHS Vyhne 131.72 54 *e*PKP **PKPdf 18 31 33.6 +0.7**
VYHS *e* 18 31 40.6
LANS Liptovska Anna 132.26 54 *e*PKIKP **PKPdf 18 31 36.1 +2.1**
LANS Liptovska Anna 132.26 54 *e*PKP **PKPdf 18 31 36.1 +2.1**
SEY Seymchan 132.35 325 PKP **PKPdf 18 31 34.1 +0.5**
comp=Z,7.4nm,0.8s,baz=103,slow=2.9,SNR=9.3
SEY Seymchan 132.35 325 *i* PKIKP **PKPdf 18 31 31.0 -2.6**
MA2 Magadan 133.06 320 PFAKE 18 31 50.0 +15
MA2 LR LR
comp=Z,242nm,20.0s
SUW Suwalki 135.20 47 *e*PKPdf **PKPdf 18 31 38.4 -0.8**
ERM Erimo 135.48 295 PFAKE 18 31 50.0 +10
ERM LR LR
comp=Z,244nm,20.0s
BUR08 Bucovina Ar. S 135.76 57 *e*PKPpre PKPpre 18 31 29.5
BUR08 *e*PKPdf **PKPdf 18 31 39.4 -1.2**
BUR04 Bucovina Ar. S 135.77 57 *e*PKPpre PKPpre 18 31 26.1
BUR04 *e*PKPdf **PKiKP 18 31 41.8 -0.5**
MLR Muntele Rosu 135.90 60 *e*PKPpre PKPpre 18 31 25.2
MLR *e*PKPdf **PKPdf 18 31 39.8 -1.2**
MLR Muntele Rosu 135.90 60 *e*PKHKP PKPpre 18 31 25.3
MLR *e* 18 31 39.8
FIA0 FINESS Array S 136.60 37 *e*PKPdf **PKPdf 18 31 42.4 +0.7**
FINES FINESS Array B 136.60 37 PKP **PKPdf 18 31 42.4 +0.8**
comp=Z,5.0nm,1.0s,baz=260,slow=3.5,SNR=4.8
YSS Yuzh-Sakhalins 136.73 302 PFAKE 18 31 50.0 +7.7
YSS LR LR
comp=Z,353nm,20.0s
VSU Vasula 137.19 41 *i* PKIKP **PKPdf 18 31 42.9 +0.1**
MAJO Matsushiro 137.71 286 PFAKE 18 32 00.0 +15
MAJO LR LR
comp=Z,808nm,21.0s
LVZ Lovozero 138.61 26 PFAKE 18 32 00.0 +15
LVZ LR LR
comp=Z,262nm,19.0s
LVZ Lovozero 138.61 26 *i* PKIKP **PKPdf 18 31 42.8 -2.4**
AK11 Malin Array Si 138.67 53 *e*PKPpre PKPpre 18 31 32.7
AK11 *e*PKPdf **PKPdf 18 31 45.8 0.0**
KIEV Kiev 138.70 53 *e*PKPpre PKPpre 18 31 36.6
KIEV *e*PKPdf **PKPdf 18 31 46.0 +0.2**
KIEV LR LR
comp=Z,428nm,20.0s
KIEV Kiev 138.70 53 *i* PKIKP **PKPdf 18 31 46.1 +0.3**
AKASG Malin Array Be 138.71 53 PKP **PKPdf 18 31 46.4 +0.5**
comp=Z,5.0nm,0.9s,baz=265,slow=2.7,SNR=9.2
AKBB Malin Array Si 138.71 53 *e*PKPdf **PKPdf 18 31 45.3 -0.5**
TIXI Tiksi 138.75 340 PKHKP PKPpre 18 31 36.8
comp=Z,1.5nm,0.6s,baz=69,slow=3.3,SNR=4.6
TIXI PKP **PKPdf 18 31 45.4 +0.1**
comp=Z,23nm,1.1s,baz=30,slow=1.7,SNR=20
TIXI Tiksi 138.75 340 *e*PKPpre PKPpre 18 31 36.6
TIXI *e*PKPdf **PKPdf 18 31 45.3 0.0**
TIXI LR LR
comp=Z,205nm,22.0s
TIXI Tiksi 138.75 340 *i* PKIKP **PKPdf 18 31 44.6 -0.7**
ANTO Ankara 139.69 70 PFAKE 18 32 00.0 +12
ANTO LR LR
comp=Z,313nm,21.0s
BR101 Keskin Array S 140.30 70 *e*PKPdf **PKPdf 18 31 48.0 -1.3**
BR131 Keskin Array S 140.30 70 *e*PKPdf **PKPdf 18 31 47.4 -2.0**
BRTR Keskin Array B 140.30 70 PKP **PKPdf 18 31 48.0 -1.3**
comp=Z,3.1nm,0.9s,baz=197,slow=2.6,SNR=6.9
GRNR Gornyy 141.18 307 *e*PKIKP **PKPdf 18 31 51.2 +0.8**
OBN Obninsk 142.93 45 *e*PKPpre PKPpre 18 31 48.4
OBN LR LR
comp=Z,340nm,22.0s
OBN Obninsk 142.93 45 *e*PKIKP PKPpre 18 31 49.1
OBN *i* 18 31 54.7
OBN pmax pmax
comp=Z,47nm,1.2s
OBN pmax pmax
comp=Z,39nm,1.1s
KLMR Klimovskoe 143.08 35 *e*PKIKP PKPab 18 31 49.3 +0.5
KLMR pmax pmax
comp=Z,41nm,1.3s
KLMR Klimovskoe 143.08 35 *e*PKPdf PKPab 18 31 49.4 +0.6
KLMR AMP 18 31 51.3
comp=Z,41nm,1.2s
MOS Moscow 143.42 44 *e*PKHKP PKPpre 18 31 48.4
MOS pmax pmax
comp=Z,46nm,1.4s
RAYN Ar Rayn 143.75 101 *e*PKPdf PKPbc 18 31 53.5 +0.1
RAYN LR LR
comp=Z,379nm,22.0s
RAYN Ar Rayn 143.75 101 *e*PKIKP PKPbc 18 31 53.5 +0.1
RAYN MLR MLR
comp=Z,379nm,22.0s
SUSE Susehri 143.83 70 *i* P PKPbc 18 31 53.8 +0.4
ANN Anapa 143.87 63 *i* PKIKP PKPab 18 31 52.5 +0.1
ANN pmax pmax
comp=Z,78nm,1.1s
KEMA Kemaliye 143.87 72 *i* P PKPbc 18 31 53.8 +0.4
USRK Ussuriysk Ar. 143.90 296 PKP PKPbc 18 31 53.4 +0.2
comp=Z,6.5nm,0.7s,baz=139,slow=3.0,SNR=11
ELZG Elazig 144.09 73 *i* P PKPbc 18 31 54.8 +0.6
KLR Kul'dur 144.22 305 PKP **PKPab 18 31 53.7 0.0**
comp=Z,6.6nm,0.9s,baz=70,slow=6.3,SNR=7.9
KLR Kul'dur 144.22 305 *i* PKIKP **PKPab 18 31 52.8 -0.8**
IPM Ipoh 144.26 209 *e*PKPdf **PKPab 18 31 54.6 -0.2**
KELT Kelkit 144.61 71 *i* P **PKPdf 18 31 57.0 0.0**
TNCL Tunceli-Merkez 144.64 73 *i* P **PKPdf 18 31 57.5 +0.5**
LPSR Galich'ya Gora 144.67 49 *e*PKIKP **PKPab 18 31 55.0 -0.2**
LPSR *i* 18 32 02.5
LPSR pmax pmax
comp=Z,180nm,1.0s
DIYA Diyarbakir 144.83 75 *i* P **PKPdf 18 31 57.4 +0.1**
EUZM Uzumlu 144.87 72 *i* P **PKPdf 18 31 58.2 +0.8**
VSR Storozhevoye 144.97 52 *e*PKIKP **PKPab 18 31 55.7 -0.6**
VSR *i* 18 32 03.1
VSR pmax pmax
comp=Z,180nm,1.1s
VORD Divnogorie 145.08 52 *e*PKIKP **PKPbc 18 31 56.2 -0.5**
VORD *i* 18 32 03.2
VORD pmax pmax
comp=Z,90nm,0.9s
KULM Kulim 145.15 208 *e*PKPbc **PKPbc 18 31 57.1 -0.9**
HANI Diyarbakir_Han 145.15 74 *i* P **PKPdf 18 31 58.1 +0.2**
MARD Mardin 145.21 76 *i* P **PKPdf 18 31 59.1 +1.0**
BAYB BAYBURT 145.39 71 *i* P **PKPab 18 31 59.1 +0.5**
PRGR Permogore 145.49 32 *e*PKIKP **PKPab 18 31 57.9 0.0**
PRGR pmax pmax
comp=Z,146nm,0.9s
KOPT Kop Dagi 145.53 71 *i* P **PKPab 18 32 00.6 +1.4**
MDJ Mudanjiang 145.64 297 *e*PKPdf **PKPdf 18 31 58.1 -0.3**
MDJ LR LR
comp=Z,556nm,22.0s
BTMN Batman 145.71 75 *i* P **PKPab 18 32 00.0 +0.4**
BNGL BINGOL 145.84 73 *i* P **PKPab 18 32 00.8 +0.5**
KSRS Korea Array 145.89 284 PKPbc **PKPbc 18 31 59.7 +0.1**
comp=Z,5.1nm,0.8s,baz=129,slow=3.1,SNR=11
KS15 Wonju Array Si 145.92 284 *e*PKPdf **PKPdf 18 31 59.0 0.0**
KSAR Wonju Array Be 145.92 284 PKPbc **PKPbc 18 31 59.7 -0.1**
KSAR Wonju Array Be 145.92 284 PKP2 **PKPbc 18 31 59.7 -0.1**
KS01 Wonju Array Si 145.92 284 *e*PKPdf **PKPab 18 31 58.6 -0.5**
VRTB Varto-Mus 146.11 73 *i* P **PKPab 18 32 01.5 +0.3**
SRTM Siirt_Merkez 146.24 75 *i* P **PKPbc 18 32 00.6 -0.4**
ZEA Zeya 146.47 313 *e*PKP2 **PKPbc 18 32 00.5 -0.4**
ZEA pmax pmax
comp=Z,50nm,1.2s
ZEA pmax pmax
comp=Z,500nm,11.0s
DBAD Bademkaya 146.58 70 *i* P **PKPab 18 32 02.4 -0.4**
EKAR Karacoban 146.59 73 *i* P **PKPab 18 32 03.0 -0.2**
HOMI Horasan 146.60 72 *i* P **PKPdf 18 32 00.8 +0.2**
DBOC Borcka 146.60 69 *i* P **PKPbc 18 32 01.8 0.0**
DDEM Demirkent 146.61 70 *i* P **PKPab 18 32 02.5 -0.4**
DAGI Agillar 146.75 70 *i* P **PKPab 18 32 03.1 -0.5**
ARTV Artvin 146.78 70 *i* P **PKPbc 18 32 02.6 +0.1**
EATA Eteskirt 147.02 72 *i* P **PKPbc 18 32 03.9 +0.6**
GEVA Gevas 147.18 75 *i* P **PKPbc 18 32 04.5 +0.8**
TUTA Tutak 147.19 73 *i* P **PKPbc 18 32 03.9 +0.2**
NEY Neytrino 147.56 66 *i* PKP2 **PKPbc 18 32 03.8 -0.8**
KIV Kislovodsk 147.57 65 *e*PKPbc **PKPbc 18 32 03.2 -1.3**
KIV LR LR
comp=Z,236nm,21.0s
KIV Kislovodsk 147.57 65 PKPdf **PKPbc 18 32 04.9 +0.4**
SNR=18
KIV Kislovodsk 147.57 65 P **PKPbc 18 32 04.9 +0.4**
SNR=18
KIV Kislovodsk 147.57 65 *i* PKP2 **PKPbc 18 32 04.2 -0.3**
KIV pmax pmax
comp=Z,54nm,1.0s
KIV MLR MLR
comp=Z,218nm,25.0s
NRIK Noril'sk 147.69 358 PKPbc **PKPbc 18 32 03.5 -0.4**
comp=Z,49nm,1.0s,baz=50,slow=1.5,SNR=21
KBZ Khabaz 147.71 65 PKPbc **PKPbc 18 32 04.3 -0.4**
comp=Z,29nm,1.0s,baz=258,slow=2.8,SNR=31
DIGO Kars 147.77 71 *i* P **PKPab 18 32 08.2 +0.4**
GOF Gofitskoye 147.86 62 *i* PKP2 **PKPbc 18 32 05.3 +0.2**
GOF pmax pmax
comp=Z,120nm,1.0s
DYDN Diyadin 147.88 73 *i* P **PKPbc 18 32 06.1 +0.5**
AKH Akhalkalaki 147.97 69 *e*PKPdf **PKPdf 18 32 02.8 +0.1**
AKH *e*PKPbc **PKPbc 18 32 05.8 0.0**
AKH Akhalkalaki 147.97 69 *e*PKIKP **PKPdf 18 32 02.8 +0.1**
AKH *e* 18 32 05.8
EAK Akyaka 147.98 71 *i* P **PKPdf 18 32 03.3 +0.6**
NCK Nalchik 148.21 65 *i* PKP2 **PKPbc 18 32 06.1 0.0**
ZEI Tsey 148.39 67 *i* PKIKP **PKPdf 18 32 02.6 -0.8**
ZEI pmax pmax
comp=Z,38nm,0.9s
CN2 Changchun 148.58 295 PKPbc **PKPbc 18 32 05.6 -1.4**
CN2 *e*PP **PP 18 35 44.0 +6.7**
CN2 LR LR
comp=Z,350nm,20.0s
CN2 LR LR
comp=Z,400nm,20.0s
CN2 LR LR
comp=Z,460nm,19.0s
GNI Garni 148.77 72 *e*PKPdf **PKPdf 18 32 04.2 +0.2**
GNI *e*PKPbc **sPKPdf 18 32 08.7 -0.3**
GNI LR LR
comp=Z,280nm,20.0s
GNI Garni 148.77 72 PKPdf **PKPbc 18 32 09.0 +1.1**
SNR=12
GNI Garni 148.77 72 P **PKPbc 18 32 09.0 +1.1**
SNR=12
GNI Garni 148.77 72 *i* PKP2 **PKPbc 18 32 06.8 -1.1**
TBLG Delisi 148.94 69 *e*PKPdf **PKPdf 18 32 03.6 -0.4**
TBLG *e*PKPbc **PKPbc 18 32 07.9 -0.2**
TBLG Delisi 148.94 69 *e*PKIKP **PKPdf 18 32 03.7 -0.4**
TBLG *e* 18 32 07.9
GROC Groznyy 149.80 66 *e*PKHKP PKPpre 18 32 07.6
GROC pmax pmax
comp=Z,112nm,1.6s
AKT Akhty 151.15 70 *e*PKIKP **PKPdf 18 32 08.0 +0.3**
AKT *i* 18 32 13.6
AKT pmax pmax
comp=Z,77nm,0.9s
NJ2 Nanjing 151.58 270 *e*PKPbc **PKPdf 18 32 09.4 +1.0**
QIZ Qiongzhong 151.60 237 PFAKE 18 32 20.0 -3.6
QIZ LR LR
comp=Z,299nm,19.0s
BOD Bodaibo 151.75 326 *e*PKIKP **PKPbc 18 32 12.2 -2.0**

BOD					pmax	pmax			
	comp=Z,57nm,1.0s								
HIA	**Hailar**	**152.02**	**307**	*e*PKPbc	**PKPbc**	**18 32 13.8**	**-1.4**		
HIA				LR	LR				
	comp=Z,491nm,21.0s								
ARU	**Arti**	**153.91**	**34**	*e*PKPdf	**PKPdf**	**18 32 10.8**	**-0.2**		
ARU				*e*PKPbc	**PKPbc**	**18 32 18.9**	**-0.1**		
ARU				*e*PKPab	**PKPab**	**18 32 33.2**	**+0.9**		
ARU				LR	LR				
	comp=Z,430nm,19.0s								
ARU	**Arti**	**153.91**	**34**	*i* PKIKP	**PKPdf**	**18 32 11.8**	**+0.8**		
SVE	**Sverdlovsk**	**154.55**	**32**	*e*PKP2	**PKPab**	**18 32 35.9**	**+0.9**		
SVE				pmax	pmax				
	comp=Z,27nm,1.3s								
BJT	**Baijiatuau**	**155.35**	**286**	PFAKE		18 32 20.0	+6.4		
BJT				LR	LR				
	comp=Z,353nm,20.0s								
CM01	**Chiang Mai Arr**	**157.59**	**218**	*e*PKPdf	**PKPdf**	**18 32 16.4**	**-0.8**		
CM01				*e*PKPab	**pPKPab**	**18 32 50.7**	**-2.0**		
CM31	**Chiang Mai Arr**	**157.62**	**218**	*e*PKPdf	**PKPdf**	**18 32 17.3**	**+0.1**		
CM31				*e*PKPab	**pPKPab**	**18 32 50.8**	**-2.0**		
CMAR	**Chiang Mai Arr**	**157.62**	**218**	PKP	**PKPdf**	**18 32 17.0**	**-0.2**		
	comp=Z,1.6nm,1.0s,baz=223,slow=1.3,SNR=9.0								
CMAR				PKPab	**PKPab**	**18 32 50.6**	**+1.4**		
	comp=Z,2.8nm,1.0s,baz=179,slow=3.4,SNR=7.3								
CMAR				PP	**PP**	**18 36 29.5**	**+1.8**		
	comp=Z,0.1nm,0.7s,baz=174,slow=5.1,SNR=4.2								
CHTO	**Chiang Mai**	**157.93**	**218**	*e*PKPdf	**PKPdf**	**18 32 15.4**	**-2.2**		
CHTO				*e*PKPab	**PKPab**	**18 32 51.8**	**+1.3**		
CHTO				LR	LR				
	comp=Z,167nm,20.0s								
CHTO	**Chiang Mai**	**157.93**	**218**	*e*PKIKP	**PKPdf**	**18 32 15.4**	**-2.2**		
CHTO				*e*		18 32 51.8			
CHTO				MLR	MLR				
	comp=Z,167nm,20.0s								
ABKAR	**Akbulak array**	**158.32**	**48**	*e*PKPdf	**PKPdf**	**18 32 16.8**	**-0.3**		
ENH	**Enshi**	**158.37**	**259**	*e*PKPdf	**PKPdf**	**18 32 17.2**	**-0.6**		
ENH				*e*PKPab	**PKPab**	**18 32 52.5**	**+0.2**		
ENH				LR	LR				
	comp=Z,410nm,21.0s								
GYA	**Guiyang**	**158.62**	**246**	PKP	**PKPdf**	**18 32 18.3**	**-0.1**		
GYA				PKPab	**pPKPab**	**18 32 56.5**	**-0.8**		
GYA				PKS	**PKSdf**	**18 35 51.0**	**-1.2**		
GYA				PP	**PP**	**18 36 38.9**	**+4.8**		
GYA				AMB	AMB				
	comp=Z,140nm,8.2s								
GEYT	**Alibeck**	**158.87**	**80**	PKP	**PKPdf**	**18 32 18.2**	**0.0**		
	comp=Z,4.6nm,1.0s,baz=252,slow=3.0,SNR=11								
GYA0B	**ALIBECK ARRAY**	**158.87**	**80**	*e*PKPdf	**PKPdf**	**18 32 17.4**	**-0.8**		
XAN	**Xi'an**	**160.13**	**268**	PKP	**PKPab**	**18 33 00.9**	**+1.0**		
XAN				pPKP	sPKPab	18 33 11.6	+6.7		
XAN				LR	LR				
	comp=E,320nm,26.0s								
XAN				LR	LR				
	comp=Z,360nm,24.9s								
TLY	**Talaya**	**160.25**	**323**	PFAKE		18 32 30.0	+11		
TLY				LR	LR				
	comp=Z,251nm,20.0s								
SONA1	**Songino Array**	**160.85**	**311**	*e*PKPdf	**PKPdf**	**18 32 19.1**	**-1.2**		
SONA1				*e*PKPab	**PKPab**	**18 33 01.8**	**-0.9**		
SONA0	**Songino Array**	**160.86**	**311**	*e*PKPdf	**PKPdf**	**18 32 19.6**	**-0.6**		
SONA0				*e*PKPab	**PKPab**	**18 33 02.3**	**-0.5**		
SONM	**Songino Array**	**160.86**	**311**	PKP	**PKPdf**	**18 32 19.6**	**-0.6**		
	comp=Z,3.4nm,1.0s,baz=202,slow=3.2,SNR=5.8								
SONM				PKPab	**PKPab**	**18 33 02.3**	**-0.5**		
	comp=Z,3.4nm,0.9s,baz=62,slow=3.5,SNR=6.1								
BRVK	**Borovoye**	**161.12**	**28**	*e*PKPdf	**PKPdf**	**18 32 19.1**	**-1.1**		
BRVK				*e*PKPab	**PKPab**	**18 33 03.5**	**0.0**		
BRVK				LR	LR				
	comp=Z,258nm,21.0s								
BRVK	**Borovoye**	**161.12**	**28**	*e*PKIKP	**PKPdf**	**18 32 19.1**	**-1.1**		
BRVK				*e*		18 33 03.5			
BRVK				MLR	MLR				
	comp=Z,258nm,21.0s								
ZAK	**Zakamensk**	**161.24**	**321**	*e*PKP2	**PKPab**	**18 33 04.3**	**0.0**		
ZAK				pmax	pmax				
	comp=Z,4.0nm,1.2s								
NVS	**Novosibirsk**	**162.25**	**3**	*e*PKIKP	**PKPdf**	**18 32 20.0**	**-1.2**		
CD2	**Chengdu**	**163.09**	**254**	PKP	**PKPdf**	**18 32 22.0**	**-1.0**		
CD2				pPKP	pPKPdf	18 32 25.6	-1.1		
CD2				PP	**PP**	**18 36 58.0**	**-0.2**		
CD2				SS	SS	18 57 24.8	+1.2		
CD2				AMB	AMB				
	comp=Z,140nm,5.0s								
CD2				LR	LR				
	comp=Z,500nm,22.4s								
CD2				LR	LR				
	comp=Z,390nm,22.4s								
ZAA1	**Zalesovo Array**	**163.17**	**360**	*e*PKPdf	**PKPdf**	**18 32 19.7**	**-2.5**		
ZAA1				*e*PKPab	**PKPab**	**18 33 11.8**	**-0.5**		
ZAA0	**Zalesovo Array**	**163.17**	**360**	*e*PKPdf	**PKPdf**	**18 32 19.7**	**-2.5**		
ZAA0				*e*PKPab	**PKPab**	**18 33 11.4**	**-0.9**		
ZALV	**Zalesovo Beam**	**163.17**	**360**	PKP	**PKPdf**	**18 32 19.7**	**-2.5**		
	comp=Z,6.7nm,1.0s,baz=217,slow=0.7,SNR=16								
ZALV				PKPab	**PKPab**	**18 33 11.8**	**-0.5**		
	comp=Z,7.8nm,1.0s,baz=350,slow=6.0,SNR=7.2								
ZALV	**Zalesovo Beam**	**163.17**	**360**	*e*PKPdf	**PKPdf**	**18 32 19.8**	**-2.4**		
ZALV				*e*PKPab	**PKPab**	**18 33 11.7**	**-0.7**		
LZH	**Lanzhou**	**164.64**	**272**	*e*PKP	**PKPdf**	**18 32 23.8**	**-0.6**		
LZH				SS	SS	18 57 43.0	+2.9		
LZH				AMB	AMB				
	comp=Z,320nm,7.6s								
LZH				LR	LR				
	comp=Z,330nm,13.6s								
LZH				LR	LR				
	comp=Z,320nm,14.6s								
LZH				LR	LR				
	comp=Z,500nm,17.4s								
KURK	**Kurchatov**	**165.72**	**16**	*e*PKPdf	**PKPdf**	**18 32 23.8**	**-0.7**		
KURK				*e*PKPab	**PKPab**	**18 33 22.5**	**-1.1**		
KURK				LR	LR				
	comp=Z,689nm,22.0s								
KURK	**Kurchatov**	**165.72**	**16**	PKPdf	**PKPdf**	**18 32 24.2**	**-0.4**		
	SNR=5.2								
KURK	**Kurchatov**	**165.72**	**16**	P	**PKPdf**	**18 32 24.2**	**-0.4**		
	SNR=5.2								
KURK	**Kurchatov**	**165.72**	**16**	*e*PKIKP	**PKPdf**	**18 32 23.8**	**-0.7**		
KURK				*e*		18 33 22.5			
KURK				MLR	MLR				
	comp=Z,689nm,22.0s								
SHL	**Shillong**	**166.98**	**210**	*e*PKPdf	**PKPdf**	**18 32 24.0**	**-2.6**		
SHL				*e*PKPab	**PKPab**	**18 33 29.2**	**-1.0**		
SHL	**Shillong**	**166.98**	**210**	*e*PKIKP	**PKPdf**	**18 32 24.0**	**-2.6**		
SHL				*e*		18 33 29.2			
KK31	**Karatay Array**	**167.56**	**57**	*e*PKPdf	**PKPdf**	**18 32 25.1**	**-1.2**		
KK31				*e*PKPab	**PKPab**	**18 33 31.7**	**-0.5**		
KK31	**Karatay Array**	**167.56**	**57**	*e*PKIKP	**PKPdf**	**18 32 25.1**	**-1.2**		
KK31				*e*		18 33 31.7			
KKAR	**Karatay Array**	**167.56**	**57**	*e*PKPdf	**PKPdf**	**18 32 25.3**	**-1.0**		
KKAR				*e*PKPab	**PKPab**	**18 33 32.0**	**-0.3**		
KKAR	**Karatay Array**	**167.56**	**57**	*e*PKIKP	**PKPdf**	**18 32 25.3**	**-1.0**		
KKAR				*e*		18 33 32.0			
GTA	**Gaotai**	**167.96**	**286**	*e*PKP	**PKPdf**	**18 32 25.8**	**-1.0**		
GTA				SKKS		18 44 09.9			
GTA				SS	**SS**	**18 58 12.0**	**-1.5**		
GTA				AMB	AMB				
	comp=Z,170nm,6.9s								
GTA				LR	LR				
	comp=Z,470nm,24.4s								
GTA				LR	LR				
	comp=Z,320nm,21.0s								
GTA				LR	LR				
	comp=Z,120nm,15.8s								
EKS2	**Erkin-Say**	**169.91**	**53**	P	**PKPab**	**18 33 44.1**	**+1.3**		
	SNR=7.9								
AML	**Almayashu**	**170.10**	**56**	P	**PKPab**	**18 33 44.9**	**+0.8**		
	SNR=18								
MK31	**Makanchi Array**	**170.16**	**10**	*e*PKPdf	**PKPdf**	**18 32 26.0**	**-1.9**		
MK31				*e*PKPab	**PKPab**	**18 33 42.6**	**-0.8**		
MK31	**Makanchi Array**	**170.16**	**10**	*e*PKIKP	**PKPdf**	**18 32 26.0**	**-1.9**		
MK31				*e*		18 33 42.6			
MK32	**Makanchi Array**	**170.16**	**10**	*e*PKPdf	**PKPdf**	**18 32 26.5**	**-1.4**		
MK32				*e*PKPab	**PKPab**	**18 33 44.0**	**+0.5**		
MK32				*e*PP	**PP**	**18 37 32.0**	**-1.1**		
MKAR	**Makanchi Array**	**170.16**	**10**	PKP	**PKPdf**	**18 32 26.5**	**-1.4**		
	comp=Z,5.9nm,1.0s,baz=209,slow=2.2,SNR=14								
MKAR				PKPab	**PKPab**	**18 33 44.0**	**+0.5**		
	comp=Z,4.4nm,0.9s,baz=34,slow=4.5,SNR=6.8								
MKAR				PP	**PP**	**18 37 32.0**	**-1.1**		
	comp=Z,2.6nm,1.1s,baz=3.8,slow=3.6,SNR=4.2								
MKAR	**Makanchi Array**	**170.16**	**10**	*e*PKPdf	**PKPdf**	**18 32 26.4**	**-1.4**		
MKAR				*e*PKPab	**PKPab**	**18 33 43.5**	**0.0**		
MKAR				PP	**PP**	**18 37 32.0**	**-1.1**		
MK01	**Makanchi Array**	**170.19**	**10**	*e*PKPdf	**PKPdf**	**18 32 25.6**	**-2.3**		
MK01				*e*PKPab	**PKPab**	**18 33 43.2**	**-0.4**		
FRU	**Bishkek**	**170.35**	**51**	*e*PKIKP	**PKPdf**	**18 32 32.0**	**+3.9**		
FRU				*e*		18 33 42.0			
AAK	**Ala-Archa**	**170.37**	**52**	P	**PKPab**	**18 33 46.3**	**+1.4**		
	SNR=6.6								
AAK	**Ala-Archa**	**170.37**	**52**	*e*PKPdf	**PKPdf**	**18 32 28.1**	**-0.2**		
AAK				*e*PKPab	**PKPab**	**18 33 45.5**	**+0.6**		
AAK				LR	LR				
	comp=Z,519nm,22.0s								
AAK	**Ala-Archa**	**170.37**	**52**	PKPdf	**PKPdf**	**18 32 29.2**	**+0.9**		
	SNR=5.4								
AAK	**Ala-Archa**	**170.37**	**52**	P	**PKPdf**	**18 32 29.2**	**+0.9**		
	SNR=5.4								
AAK	**Ala-Archa**	**170.37**	**52**	*e*PKIKP	**PKPdf**	**18 32 28.1**	**-0.2**		
AAK				MLR	MLR				
	comp=Z,519nm,22.0s								
UCH	**Uchtor**	**170.59**	**54**	P	**PKPab**	**18 33 47.9**	**+1.6**		
	SNR=16								
KBK	**Karagaybulak**	**170.65**	**51**	P	**PKPab**	**18 33 47.5**	**+1.4**		
	SNR=8.1								
LSA	**Lhasa**	**170.88**	**218**	*e*PKPdf	**PKPdf**	**18 32 28.4**	**-0.9**		
LSA				*e*PKPab	**PKPab**	**18 33 47.8**	**+0.1**		
LSA				LR	LR				
	comp=Z,214nm,21.0s								
LSA	**Lhasa**	**170.88**	**218**	*e*PKIKP	**PKPdf**	**18 32 28.5**	**-0.9**		
LSA				*e*		18 33 47.8			
LSA				MLR	MLR				
	comp=Z,214nm,21.0s								
NRN	**Naryn**	**171.95**	**55**	*e*PKPdf	**PKPdf**	**18 32 29.3**	**0.0**		
NRN				*e*PKPab	**PKPab**	**18 33 52.8**	**+0.6**		
NRN	**Naryn**	**171.95**	**55**	*e*PKIKP	**PKPdf**	**18 32 29.3**	**0.0**		
KSH	**Kashi**	**172.68**	**68**	*e*PKP	**PKPdf**	**18 32 30.3**	**+0.8**		
KSH				PP	**PP**	**18 37 48.1**	**+0.9**		
KSH				AMB	AMB				
	comp=Z,600nm,4.6s								
KSH				LR	LR				
	comp=Z,270nm,6.9s								
KSH				LR	LR				
	comp=Z,350nm,10.0s								
KSH				LR	LR				
	comp=Z,470nm,9.5s								
WMQ	**Urumqi**	**172.95**	**342**	*e*PKP	**PKPdf**	**18 32 30.3**	**+1.0**		
WMQ				LR	LR				
	comp=Z,1μm,24.5s								
WMQ				LR	LR				
	comp=Z,740nm,29.5s								
WMQ				LR	LR				
	comp=Z,950nm,28.1s								

IDC 17 18:16:22.9±4.6, 36.66S×94.31W, h0km, mb3.8/3, mb1 4.3/3, mb1mx3.8/38, mbtmp3.8/3, Error ellipse: s-maj=236.3km s-min=64.2km az=51.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**66.23**	**351**	P	P	18 27 13.1	+0.4
	0.7nm,0.8s,baz=171,slow=6.4,SNR=4.1						
NVAR	**Mina Array Bea**	**77.94**	**341**	P	P	18 28 22.8	0.0
	0.5nm,0.6s,baz=171,slow=6.4,SNR=3.0						
PDAR	**Pinedale Array**	**80.27**	**349**	P	P	18 28 35.1	-0.4
	0.8nm,0.6s,baz=153,slow=6.1,SNR=3.2						
TIXI	**Tiksi**	**138.56**	**341**	PKP	PKPdf	18 35 49.2	-0.2
	2.1nm,0.3s,baz=30,slow=0.2,SNR=8.8						
KBZ	**Khabaz**	**146.85**	**64**	PKPbc	PKPbc	18 36 06.2	-0.6
	3.5nm,1.0s,baz=212,slow=7.5,SNR=3.2						

*ISCJB **17** 18:20:35.3±0.3, 37.03S±0.05×95.25W±0.07, h10km, mb4.8/74, Error ellipse: s-maj=8.4km s-min=7.2km az=135.4*
*IDC **17** 18:20:35.3±0.6, 37.06S×95.23W, h0km, mb4.4/15, mb1 4.5/16, mb1mx4.3/35, mbtmp4.3/16, ML3.4/1, Error ellipse: s-maj=20.3km s-min=16.8km az=123.0*
*NEIC **17** 18:20:37.0±0.2, 37.02S×95.30W, h10km, mb4.9/60, Error ellipse: s-maj=7.4km s-min=6.0km az=61.0*

ISC 17 18:20:36.9±0.4, 37.04S±0.08×95.23W±0.09, h10km, n107, σ1s13/108, mb4.8/74, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**19.55**	**108**	P	**P**	**18 25 05.3**	**+0.6**
	0.0nm,0.3s,baz=318,slow=11,SNR=5.3						
PLCA	**Paso Flores**	**19.55**	**108**	*e*P	**P**	**18 25 04.9**	**+0.2**
	11nm,1.2s						
GO04	**Tololo Observa**	**21.44**	**79**	*e*P	**P**	**18 25 26.3**	**+0.9**
	39nm,1.4s						
GO09	**Cerro Castillo**	**21.61**	**138**	*e*P	**P**	**18 25 29.4**	**+2.6**
	269nm,1.8s						
LCO	**Las Campanas**	**22.03**	**76**	*e*P	**P**	**18 25 31.9**	**+0.1**
	32nm,1.2s						
GO02	**Mina Guanaco**	**24.86**	**69**	*e*P	**P**	**18 26 01.0**	**+1.0**
	38nm,1.7s						
PB10	**IPOC Station P**	**25.13**	**64**	*e*P	**P**	**18 26 04.3**	**+2.3**
	20nm,0.9s						
TRQA	**Tornquist**	**26.31**	**102**	*e*P	**P**	**18 26 12.5**	**-0.2**
	32nm,1.8s						
LVC	**Limon Verde**	**26.87**	**65**	P	**P**	**18 26 18.6**	**+0.3**
	6.2nm,0.8s,baz=236,slow=7.4,SNR=7.2						
LVC	**Limon Verde**	**26.87**	**65**	*e*P	**P**	**18 26 18.5**	**+0.2**
	12nm,1.1s						
MNMC	**Minye Minye**	**28.67**	**59**	*e*P	**P**	**18 26 34.2**	**-0.1**
	33nm,1.6s						
EFI	**East Falkland**	**29.96**	**131**	*e*P	**P**	**18 26 45.1**	**0.0**
	102nm,1.5s						
LPAZ	**La Paz**	**31.65**	**56**	P	**P**	**18 27 02.0**	**+1.0**
	6.0nm,0.9s,baz=203,slow=7.7,SNR=13						
LPAZ	**La Paz**	**31.65**	**56**	*e*P	**P**	**18 27 01.5**	**+0.4**
	7.0nm,0.9s						
PTCN	**Pitcairn Islan**	**31.99**	**282**	*e*P	**P**	**18 27 06.2**	**+2.9**
	267nm,0.7s						
PMSA	**Palmer Station**	**33.36**	**156**	*e*P	**P**	**18 27 16.6**	**+1.8**
	100nm,1.4s						
CPUP	**Villa Florida**	**33.78**	**83**	*e*P	**P**	**18 27 21.1**	**+2.2**
	11nm,1.5s						
SIV	**San Ignacio**	**36.77**	**64**	P	**P**	**18 27 43.9**	**-0.9**
	1.9nm,1.0s,baz=246,slow=11,SNR=4.2						
SIV				PcP	**PcP**	**18 30 05.8**	**-1.3**
	0.3nm,0.4s,baz=298,slow=3.0,SNR=7.9						
OTAV	**Otavalo**	**40.22**	**27**	*e*P	**P**	**18 28 13.6**	**-0.7**
	10nm,1.4s						
SAML	**Samuel**	**40.29**	**54**	*e*P	**P**	**18 28 13.7**	**-0.7**
	17nm,1.7s						
ROSC	**El Rosal**	**46.01**	**30**	P	**P**	**18 29 02.9**	**+1.9**
	2.5nm,0.3s,baz=206,slow=23,SNR=3.9						
ROSC	**El Rosal**	**46.01**	**30**	*e*P	**P**	**18 29 01.7**	**+0.7**
	5.8nm,0.8s						
BCIP	**Isla Barro Col**	**48.18**	**21**	*e*P	**P**	**18 29 18.2**	**+0.7**
	94nm,1.4s						
QSPA	**South Pole Qui**	**53.18**	**180**	P	**P**	**18 29 54.4**	**-0.5**
	1.1nm,0.6s,baz=288,slow=3.1,SNR=5.9						
QSPA	**South Pole Qui**	**53.18**	**180**	*e*P	**P**	**18 29 54.0**	**-0.9**
	16nm,1.6s						
VNA3	**Neumayer Olymp**	**54.02**	**157**	P	**P**	**18 29 57.0**	**-3.8**
VNA2	**Neumayer--Watz**	**54.80**	**156**	P	**P**	**18 30 04.0**	**-2.5**
	baz=274,slow=5.2						
SNAA	**Sanae**	**56.05**	**158**	P	**P**	**18 30 12.4**	**-3.2**
SNAA	**Sanae**	**56.05**	**158**	*e*P	**P**	**18 30 17.6**	**+2.0**
	8.9nm,1.3s						
VNDA	**Vanda**	**56.87**	**195**	P	**P**	**18 30 21.1**	**-0.1**
	0.9nm,1.0s,baz=1.3,slow=3.6,SNR=3.8						
VNDA	**Vanda**	**56.87**	**195**	*e*P	**P**	**18 30 20.7**	**-0.5**
TEIG	**Tepich**	**57.33**	**8**	*e*P	**P**	**18 30 23.8**	**-1.2**
	136nm,2.0s						
MDP	**Montagnes des**	**57.74**	**53**	P	**P**	**18 30 27.5**	**-0.6**
	5.5nm,0.9s,baz=232,slow=13,SNR=3.8						
ZAIG	**Zacatecas**	**59.89**	**352**	*e*P	**P**	**18 30 42.9**	**-0.3**
	10nm,1.2s						
SJG	**San Juan**	**61.33**	**32**	*e*P	**P**	**18 30 53.2**	**+0.5**
	24nm,1.1s						
MTP	**Monte Pirata**	**61.57**	**32**	*e*P	**P**	**18 30 53.9**	**-0.5**
	24nm,1.2s						
CBYP	**Canovanas**	**61.60**	**32**	*e*P	**P**	**18 30 54.8**	**+0.1**
	40nm,1.3s						
LNIG	**Linares**	**61.73**	**356**	*e*P	**P**	**18 30 56.9**	**+1.5**
	14nm,1.4s						
CUPR	**Culebra, Puert**	**61.88**	**33**	*e*P	**P**	**18 30 57.2**	**+0.8**
	31nm,1.0s						
SLBS	**Sierra La Lagu**	**61.97**	**345**	*e*P	**P**	**18 30 57.1**	**0.0**
	13nm,1.2s						
833A	**Chaparral WMA,**	**65.14**	**356**	*e*P	**P**	**18 31 17.9**	**+0.1**
	8.0nm,0.7s						
LTX	**Lajitas**	**66.50**	**352**	*e*P	**P**	**18 31 27.1**	**+0.4**
TXAR	**Lajitas Array**	**66.50**	**352**	P	**P**	**18 31 27.1**	**+0.4**
	2.6nm,0.8s,baz=172,slow=8.9,SNR=27						
HKT	**Hockley**	**66.64**	**359**	*e*P	**P**	**18 31 27.8**	**+0.4**
	10nm,1.4s						
435B	**Jarrell**	**67.50**	**358**	*e*P	**P**	**18 31 33.4**	**+0.4**
	8.8nm,0.9s						
RAO	**Raoul Island**	**67.63**	**250**	P	**P**	**18 31 34.3**	**+0.2**
	305nm,0.9s,baz=313,slow=21,SNR=2.6						
342A	**Flagon Creek P**	**68.11**	**3**	*e*P	**P**	**18 31 37.2**	**+0.4**
	26nm,1.1s						
LBZ	**Lake Benmore**	**68.15**	**230**	*e*P	**P**	**18 31 36.2**	**-0.9**
	92nm,1.7s						
NATX	**Nacogdoches**	**68.44**	**1**	*e*P	**P**	**18 31 39.4**	**+0.5**
	37nm,1.4s						
456A	**Hilliard**	**68.54**	**12**	*e*P	**P**	**18 31 41.4**	**+2.0**
	154nm,1.1s						
WHTX	**Lake Whitney,**	**68.70**	**358**	*e*P	**P**	**18 31 41.3**	**+0.8**
	10nm,1.1s						
FOZ	**Fox Glacier**	**68.81**	**231**	*e*P	**P**	**18 31 43.5**	**+2.3**
	171nm,1.7s						
MNTX	**Cornudas Mount**	**69.04**	**351**	*e*P	**P**	**18 31 41.5**	**-1.1**
	5.2nm,1.3s						
PYZ	**Puysegur Point**	**69.33**	**227**	*e*P	**P**	**18 31 44.3**	**-0.1**
	131nm,1.1s						
LRAL	**Lakeview Retre**	**70.14**	**7**	*e*P	**P**	**18 31 48.3**	**-1.0**
	25nm,1.5s						
TUC	**Tucson**	**70.50**	**346**	*e*P	**P**	**18 31 51.6**	**-0.1**
	10.0nm,1.4s						
MSTX	**Muleshoe**	**70.99**	**353**	*e*P	**P**	**18 31 54.3**	**-0.4**
	12nm,0.8s						
ANMO	**Albuquerque**	**72.38**	**350**	P	**P**	**18 32 03.0**	**-0.1**
	1.8nm,0.8s,baz=166,slow=7.7,SNR=5.0						
ANMO	**Albuquerque**	**72.38**	**350**	*e*P	**P**	**18 32 03.4**	**+0.4**
	12nm,0.7s						
X16A	**Lo Mia Camp, P**	**72.68**	**346**	*e*P	**P**	**18 32 05.0**	**+0.1**
	7.7nm,0.8s						
TKL	**Tuckaleechee C**	**73.11**	**10**	P	**P**	**18 32 05.8**	**-1.4**
	4.6nm,0.9s,baz=55,slow=3.5,SNR=3.8						
TKL	**Tuckaleechee C**	**73.11**	**10**	*e*P	**P**	**18 32 05.3**	**-1.9**
	82nm,2.0s						
MVCO	**Mesa Verde**	**74.89**	**349**	*e*P	**P**	**18 32 17.9**	**+0.1**
	280nm,1.6s						
S22A	**4UR Ranch, Cre**	**75.18**	**351**	*e*P	**P**	**18 32 19.9**	**+0.3**
	17nm,0.9s						
SHPR	**Sheep Range**	**75.47**	**344**	*e*P	**P**	**18 32 21.8**	**+0.7**
	11nm,1.5s						
CCUT	**Cedar City**	**76.09**	**345**	*e*P	**P**	**18 32 24.7**	**-0.1**
	7.4nm,1.3s						
PV14	**Lion Creek, Pa**	**76.11**	**349**	*e*P	**P**	**18 32 24.4**	**-0.5**
	25nm,1.2s						
PSUT	**Pine Spring**	**77.14**	**345**	*e*P	**P**	**18 32 31.0**	**+0.4**
	4.6nm,1.1s						
R11A	**Troy Canyon, C**	**77.33**	**344**	*e*P	**P**	**18 32 32.2**	**+0.6**
	9.4nm,1.5s						
NV01	**Mina Array Sit**	**78.06**	**342**	*e*P	**P**	**18 32 36.3**	**+0.5**
NVAR	**Mina Array Bea**	**78.06**	**342**	P	**P**	**18 32 36.9**	**+1.1**
	2.9nm,0.7s,baz=174,slow=7.2,SNR=12						
DUG	**Dugway, Tooele**	**78.54**	**346**	*e*P	**P**	**18 32 39.2**	**+0.9**
	8.4nm,1.3s						
HVU	**Hansel Valley**	**80.07**	**347**	*e*P	**P**	**18 32 46.2**	**-0.5**
	2.9nm,0.9s						
ECSD	**EROS Data Cent**	**80.41**	**359**	*e*P	**P**	**18 32 47.4**	**-0.8**
	32nm,1.8s						
BW06	**Boulder Array**	**80.50**	**349**	*e*P	**P**	**18 32 48.8**	**-0.3**
	4.5nm,0.8s						
PD31	**Pinedale Array**	**80.50**	**349**	*e*P	**P**	**18 32 49.3**	**+0.3**
PDAR	**Pinedale Array**	**80.50**	**349**	P	**P**	**18 32 49.1**	**+0.1**
	3.5nm,0.6s,baz=155,slow=5.9,SNR=36						
PDAR	**Pinedale Array**	**80.50**	**349**	*e*P	**P**	**18 32 48.9**	**-0.1**
I39A	**Houston**	**80.59**	**3**	*e*P	**P**	**18 32 47.8**	**-1.3**
	11nm,0.6s						
RSSD	**Black Hills**	**81.18**	**354**	*e*P	**P**	**18 32 53.0**	**+0.5**
	9.2nm,1.1s						
TPAW	**Teton Pass**	**81.42**	**348**	*e*P	**P**	**18 32 53.8**	**-0.2**
	6.8nm,0.8s						
LOHW	**Long Hollow**	**81.48**	**349**	*e*P	**P**	**18 32 54.4**	**+0.2**
	22nm,1.9s						
FXWY	**Fox Creek**	**81.57**	**348**	*e*P	**P**	**18 32 54.9**	**+0.2**
	3.7nm,0.8s						
MOOW	**Moose Ponds**	**81.64**	**349**	*e*P	**P**	**18 32 55.0**	**-0.1**
	1.8nm,0.8s						
FLWY	**Flagg Ranch**	**81.95**	**349**	*e*P	**P**	**18 32 56.6**	**-0.1**
	35nm,1.7s						
HLID	**Hailey**	**82.10**	**346**	*e*P	**P**	**18 32 57.6**	**+0.2**
	6.1nm,0

INK	**Inuvik**	**91.88**	**15**	P		**P**	**18 34 28.9**	**-0.2**
	1.5nm,1.0s,baz=211,slow=5.8,SNR=3.0								
BRTR	**Keskin Array B**	**145.22**	**315**	PKPbc	**PKPbc**		**18 40 56.0**	**-0.4**
	1.2nm,0.7s,baz=36,slow=2.3,SNR=5.1								
GERES	**GERESS Array B**	**147.85**	**346**	PKPbc	**PKPbc**		**18 41 02.5**	**-0.6**
	0.7nm,0.6s,baz=28,slow=3.5,SNR=7.2								

ISCJB ***17*** *18:24:40.9±0.7,28.°07S±0.°07×26.°78E±0.°09, h7km, Error ellipse: s-maj=14.6km s-min=6.4km az=40.6*
PRE ***17*** *18:24:42.8±1.3,28.°11S×26.°74E, h2km, ML2.5*
EAF ***17*** *18:24:46.0±0.9,27.°95S×26.°79E, h10km, MD4.0*
BUL ***17*** *18:24:46.0±1.1,28.°12S×26.°95E, h10km, MD4.0*

ISC 17 18:24:41.8±0.9,27.°91S±0.°07×26.°80E±0.°06, h7km, n11, σ2§51/22, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BOSA	**Boshof**	**1.53**	**243**	*i* P		**Pg**	**18 25 12.2**	**+1.1**
BOSA				*i* S		**Sg**	**18 25 31.8**	**+0.8**
BOSA	**Boshof**	**1.53**	**243**	*i* P		**Pg**	**18 25 12.2**	**+1.1**
BOSA				*i* S		**Sg**	**18 25 31.8**	**+0.8**
SLR	**Silverton**	**2.54**	**32**	*e*P		**Pb**	**18 25 28.1**	**+0.3**
SLR				*e*S		**Sg**	**18 26 02.4**	**-1.1**
SLR				AML		AML	18 26 13.2	
	comp=Z,50nm,0.3s							
HVD	**Gariep Dam**	**2.91**	**203**	*e*P		**Pn**	**18 25 28.6**	**-0.1**
HVD				*e*S		**Sn**	**18 26 01.6**	**-2.4**
HVD				AML		AML	18 26 18.0	
	comp=Z,25nm,0.9s							
PKA	**Prieska**	**3.96**	**243**	*e*P		**Pn**	**18 25 43.7**	**+0.7**
PKA				*e*S		**Sn**	**18 26 27.6**	**-2.1**
PKA				AML		AML	18 26 53.1	
	comp=Z,4.9nm,0.3s							
CNG	**Changalane**	**5.07**	**73**	*e*P		**Pn**	**18 25 59.8**	**+1.7**
CNG				*e*S		**Sn**	**18 26 55.5**	**-1.4**
CNG				AML		AML	18 27 30.8	
	comp=Z,20nm,0.4s							
CVNA	**Calvinia**	**7.08**	**238**	*e*P		**Pn**	**18 26 26.6**	**+0.7**
CVNA				*e*S		**Sn**	**18 27 40.8**	**-5.9**
CVNA				AML		AML	18 28 41.6	
	comp=Z,8.0nm,0.4s							
MATP	**Matopo**	**7.61**	**12**	*i* P		**Pn**	**18 26 36.6**	**+3.3**
MATP				*i* S		**Sn**	**18 27 58.6**	**-1.3**
MATP	**Matopo**	**7.61**	**12**	*i* P		**Pn**	**18 26 36.6**	**+3.3**
MATP				*i* S		**Sn**	**18 27 58.6**	**-1.3**
BLWY	**Bulawayo**	**7.91**	**12**	*i* P		**Pn**	**18 26 39.9**	**+2.4**
BLWY				*i* S		**Sn**	**18 28 03.7**	**-3.7**
BLWY	**Bulawayo**	**7.91**	**12**	*i* P		**Pn**	**18 26 39.9**	**+2.4**
BLWY				*i* S		**Sn**	**18 28 03.7**	**-3.7**

ISCJB ***17*** *18:38:46.3±0.7,36.°9S±0.°1×95.°04W±0.°10, h10km, mb4.5/24, Error ellipse: s-maj=18.8km s-min=10.1km az=15.5*
IDC ***17*** *18:38:46.2±1.2,36.°89S×95.°13W, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.0/33, mbtmp4.0/10, ML3.2/1, Error ellipse: s-maj=34.6km s-min=21.5km az=6.0*
NEIC ***17*** *18:38:48.3±0.5,36.°80S×95.°02W, h10km, mb4.7/17, Error ellipse: s-maj=14.4km s-min=8.0km az=196.0*

ISC 17 18:38:48.4±0.8,36.°9S±0.°2×95.°0W±0.°1, h10km, n37, σ1§07/37, mb4.7/24, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GO06	**Curarrehue**	**18.68**	**105**	*e*P		**P**	**18 43 05.4**	**-1.4**
	10nm,1.4s							
PLCA	**Paso Flores**	**19.43**	**109**	P		**P**	**18 43 15.5**	**+0.5**
	0.0nm,0.3s,baz=322,slow=2.7,SNR=4.0							
PLCA	**Paso Flores**	**19.43**	**109**	*e*P		**Pn**	**18 43 15.8**	**-0.3**
	16nm,1.5s							
LVC	**Limon Verde**	**26.65**	**65**	P		**P**	**18 44 29.0**	**+1.1**
	2.8nm,0.7s,baz=229,slow=10,SNR=3.1							
LVC	**Limon Verde**	**26.65**	**65**	*e*P		**P**	**18 44 27.4**	**-0.4**
	28nm,1.8s							
PB01	**IPOC Station P**	**27.23**	**62**	*e*P		**P**	**18 44 32.5**	**-0.3**
	48nm,1.9s							
LPAZ	**La Paz**	**31.42**	**56**	P		**P**	**18 45 11.4**	**+0.8**
	2.5nm,1.0s,baz=224,slow=9.2,SNR=6.7							
LPAZ	**La Paz**	**31.42**	**56**	*e*P		**P**	**18 45 09.4**	**-1.2**
PTCN	**Pitcairn Islan**	**32.13**	**281**	*e*P		**P**	**18 45 16.6**	**+0.6**
	220nm,0.8s							
SIV	**San Ignacio**	**36.55**	**64**	P		**P**	**18 45 54.3**	**-0.1**
	0.5nm,0.7s,baz=255,slow=8.9,SNR=3.7							
OTAV	**Otavalo**	**40.00**	**26**	*e*P		**P**	**18 46 24.7**	**+0.7**
	5.0nm,1.1s							
SAML	**Samuel**	**40.06**	**54**	*e*P		**P**	**18 46 23.1**	**-0.9**
	5.2nm,1.4s							
SPB	**Sao Paulo**	**42.78**	**86**	*e*P		**P**	**18 46 48.4**	**+2.1**
	86nm,2.0s							
ROSC	**El Rosal**	**45.79**	**29**	*e*P		**P**	**18 47 09.8**	**-1.0**
	5.0nm,0.4s							
BDFB	**Brasilia**	**46.61**	**76**	P		**P**	**18 47 16.3**	**-0.8**
	1.5nm,0.5s,baz=100,slow=27,SNR=2.8							
PTGA	**Pitinga**	**48.40**	**50**	*e*P		**P**	**18 47 30.4**	**-0.4**
	11nm,1.8s							
HPIG		**64.27**	**349**	*e*P		**P**	**18 49 21.5**	**-2.5**
	9.7nm,1.3s							
059A	**Moore Haven**	**64.84**	**14**	*e*P		**P**	**18 49 30.3**	**+2.8**
	126nm,1.2s							
LTX	**Lajitas**	**66.37**	**352**	*e*P		**P**	**18 49 37.2**	**-0.2**
TX31	**Lajitas Ar. Si**	**66.37**	**352**	*e*P		**P**	**18 49 36.6**	**-0.9**
TXAR	**Lajitas Array**	**66.37**	**352**	P		**P**	**18 49 37.2**	**-0.2**
	1.0nm,0.8s,baz=167,slow=7.1,SNR=12							
HKT	**Hockley**	**66.49**	**359**	*e*P		**P**	**18 49 38.2**	**+0.2**
	9.6nm,1.4s							
URZ	**Urewera**	**66.92**	**239**	P		**P**	**18 49 40.7**	**-0.3**
	22nm,1.1s,baz=23,slow=3.6,SNR=3.3							
JCT	**Junction City**	**67.16**	**356**	*e*P		**P**	**18 49 41.6**	**-0.8**
	29nm,1.9s							
ANMO	**Albuquerque**	**72.25**	**350**	P		**P**	**18 50 13.6**	**-0.3**
	0.7nm,0.7s,baz=221,slow=7.5,SNR=2.5							
ANMO	**Albuquerque**	**72.25**	**350**	*e*P		**P**	**18 50 13.0**	**-0.9**
	9.7nm,1.6s							
S22A	**4UR Ranch, Cre**	**75.06**	**350**	*e*P		**P**	**18 50 30.6**	**+0.1**
	22nm,1.8s							
CCUT	**Cedar City**	**75.99**	**345**	*e*P		**P**	**18 50 35.8**	**0.0**
	15nm,1.8s							
NV01	**Mina Array Sit**	**77.97**	**341**	*e*P		**P**	**18 50 46.3**	**-0.5**
NVAR	**Mina Array Bea**	**77.97**	**341**	P		**P**	**18 50 45.9**	**-0.9**
	0.7nm,0.6s,baz=167,slow=7.4,SNR=5.1							
PD31	**Pinedale Array**	**80.38**	**349**	*e*P		**P**	**18 50 58.3**	**-1.6**
PDAR	**Pinedale Array**	**80.38**	**349**	P		**P**	**18 50 58.8**	**-1.2**
	1.1nm,0.8s,baz=161,slow=6.5,SNR=9.4							
PDAR	**Pinedale Array**	**80.38**	**349**	*e*P		**P**	**18 50 58.2**	**-1.7**
TPAW	**Teton Pass**	**81.30**	**348**	*e*P		**P**	**18 51 04.3**	**-0.5**
	15nm,1.6s							
HLID	**Hailey**	**81.99**	**346**	*e*P		**P**	**18 51 08.0**	**-0.4**
	3.9nm,1.1s							
KBZ	**Khabaz**	**147.46**	**65**	PKPbc		**PKPdf**	**18 58 29.9**	**+0.2**
	0.9nm,0.7s,baz=217,slow=1.2,SNR=5.4							
NRN	**Naryn**	**171.68**	**54**	*e*PKPab		**PKPab**	**19 00 18.9**	**-0.3**

IDC ***17*** *18:41:07.5±1.6,1.°95N×121.°61E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.2/45, mbtmp3.3/4, Error ellipse: s-maj=148.7km s-min=23.7km az=64.0*
ISCJB ***17*** *18:41:10.1±1.1,2.°10N±0.°08×121.°61E±0.°09, h33km, mb3.0/3, Error ellipse: s-maj=13.4km s-min=10.1km az=148.4*
DJA ***17*** *18:41:10.5±1.0,2.°N±6.°×12.°1E±.°, h10km, M3.4/6, MLv3.4/6*

ISC 17 18:41:11.8±1.4,2.°1N±0.°1×121.°5E±0.°1, h35km, n9, σ2§21/12, mb3.0/3, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MRSI	**Marisa**	**1.66**	**165**	P		**Pn**	**18 41 37.9**	**-0.5**
MRSI				S		**Sn**	**18 41 56.5**	**-1.9**
MPSI	**Mapaga**	**2.38**	**223**	P		**Pn**	**18 41 46.5**	**-1.9**
KMSI	**Cibinong**	**2.88**	**121**	P		Pn	18 42 03.5	+8.3
KMSI				S		**Sn**	**18 42 26.4**	**-2.3**
APSI	**Ampana**	**2.98**	**178**	P		**Pn**	**18 41 58.5**	**+1.9**
APSI				S		**Sn**	**18 42 32.3**	**+1.1**
LUWI	**Luwuk**	**3.35**	**158**	P		**Pn**	**18 42 01.7**	**0.0**
LUWI				S		**Sn**	**18 42 44.5**	**+4.2**
FITZ	**Fitzroy Crossi**	**20.47**	**169**	P		**P**	**18 45 44.5**	**-2.1**
	1.5nm,0.9s,baz=0.7,slow=6.2,SNR=14							
WRA	**Warramunga Arr**	**25.25**	**151**	P		**P**	**18 46 34.7**	**-0.1**
	0.3nm,0.7s,baz=330,slow=10,SNR=3.9							
ASAR	**Alice Springs**	**28.30**	**155**	P		**P**	**18 47 01.5**	**-0.8**
	0.1nm,0.7s,baz=344,slow=14,SNR=4.3							
MKAR	**Makanchi Array**	**56.07**	**328**	P		**P**	**18 50 49.6**	**+2.1**
	0.6nm,0.8s,baz=132,slow=8.6,SNR=3.2							

IDC ***17*** *18:43:00.8±1.0,9.°06S×158.°49E, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.0/42, mbtmp4.1/7, ML3.9/1, MS4.3/1, Ms1 4.3/1, ms1mx2.9/30, Error ellipse: s-maj=28.7km s-min=16.8km az=173.0*
ISCJB ***17*** *18:43:02.9±0.5,8.°98S±0.°07×158.°43E±0.°05, h29km, mb4.6/19, MS4.4/1, Error ellipse: s-maj=9.7km s-min=6.8km az=4.2*
NEIC ***17*** *18:43:03.2±3.8,8.°99S×158.°50E, h18km±24km, mb4.8/18, Error ellipse: s-maj=9.2km s-min=8.1km az=160.0*

ISC 17 18:43:04.5±0.7,8.°99S±0.°10×158.°49E±0.°06, h29km, n43, σ1§39/39, mb4.7/19, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**1.51**	**107**	P		**Pn**	**18 43 29.2**	**-0.3**
	268nm,0.3s,baz=256,slow=6.2,SNR=52							
HNR				Sn		**Sb**	**18 43 48.7**	**-1.8**
	563nm,0.3s,baz=209,slow=18,SNR=11							
HNR				LR		LR	18 44 10.8	
	comp=Z,644nm,20.9s,baz=354,slow=47							
HNR	**Honiara**	**1.51**	**107**	*i* P		**Pn**	**18 43 29.0**	**-0.5**
HNR				*i* S		**Sb**	**18 43 53.5**	**+3.0**
HNR	**Honiara**	**1.51**	**107**	*e*Pn		**Pn**	**18 43 28.9**	**-0.5**
HNR				*e*Sn		**Sb**	**18 43 48.7**	**-1.8**
RABL	**Rabaul**	**7.88**	**307**	*e*Pn		**Pn**	**18 44 57.2**	**0.0**
PMG	**Port Moresby**	**11.19**	**267**	*e*Pn		**Pn**	**18 45 42.3**	**-0.3**
COEN	**Coen**	**15.80**	**250**	*e*Pn		**Pn**	**18 46 41.2**	**-3.8**
	13nm,0.8s							
CTA	**Charters Tower**	**16.18**	**226**	Pn		**P**	**18 46 50.6**	**-2.2**
	0.3nm,0.3s,baz=53,slow=15,SNR=4.6							
CTAO	**Charters Tower**	**16.18**	**226**	*e*Pn		**Pn**	**18 46 50.1**	**+0.3**
	29nm,1.7s							
TARA	**Tarawa**	**17.68**	**55**	*e*Pn		**Pn**	**18 47 07.6**	**-1.1**
	72nm,1.0s							
EIDS	**Eidsvold**	**17.75**	**202**	*e*Pn		**P**	**18 47 11.2**	**+1.0**
	17nm,1.4s							
ARMA	**Armidale**	**22.27**	**196**	*e*P		**P**	**18 48 00.4**	**+1.0**
	71nm,1.6s							
WRAB	**Tennant Creek**	**25.74**	**242**	*e*P		**P**	**18 48 31.9**	**-0.9**
	6.9nm,0.9s							
WB2	**Warramunga Arr**	**25.75**	**242**	*e*P		**P**	**18 48 30.8**	**-2.1**
WR1	**Warramunga Arr**	**25.76**	**242**	*e*P		**P**	**18 48 32.8**	**-0.1**
	15nm,1.5s							
WRA	**Warramunga Arr**	**25.76**	**242**	P		**P**	**18 48 32.8**	**-0.1**
	3.7nm,0.8s,baz=71,slow=9.8,SNR=28							
MTN	**Manton Dam**	**27.12**	**259**	*e*P		**P**	**18 48 46.0**	**+0.7**
	23nm,1.2s							
CAN	**Canberra**	**27.61**	**197**	*e*P		**P**	**18 48 50.2**	**+0.7**
	46nm,1.8s							
STKA	**Stephens Creek**	**27.66**	**212**	P		**P**	**18 48 51.0**	**+1.1**
	2.8nm,0.5s,baz=46,slow=14,SNR=14							
STKA	**Stephens Creek**	**27.66**	**212**	*e*P		**P**	**18 48 49.2**	**-0.7**
	3.6nm,1.6s							
AS31	**Alice Springs**	**27.67**	**235**	*e*P		**P**	**18 48 49.3**	**-0.9**
	0.8nm,0.8s							
ASAR	**Alice Springs**	**27.67**	**235**	P		**P**	**18 48 49.5**	**-0.8**
	2.5nm,0.9s,baz=64,slow=9.2,SNR=23							
H11S3	**WAKE ISLAND Hy**	**28.48**	**16**	T		T	19 17 53.2	
	baz=192,slow=74							
H11S2	**WAKE ISLAND Hy**	**28.48**	**17**	T		T	19 17 44.3	
	baz=192,slow=74							
H11S1	**WAKE ISLAND Hy**	**28.50**	**17**	T		T	19 17 33.2	
	baz=192							
H11N1	**WAKE ISLAND Hy**	**29.70**	**16**	T		T	19 19 22.2	
	baz=196,slow=76,SNR=18							
H11N3	**WAKE ISLAND Hy**	**29.71**	**16**	T		T	19 19 17.6	
	baz=196,slow=76,SNR=16							
H11N2	**WAKE ISLAND Hy**	**29.71**	**16**	T		T	19 19 23.5	
	baz=196,slow=76,SNR=18							
BBOO	**Buckleboo**	**31.50**	**218**	*e*P		**P**	**18 49 23.3**	**-0.6**
	16nm,0.8s							
FITZ	**Fitzroy Crossi**	**33.15**	**251**	P		**P**	**18 49 38.0**	**-0.5**
	1.9nm,0.5s,baz=72,slow=6.8,SNR=17							
FITZ	**Fitzroy Crossi**	**33.15**	**251**	*e*P		**P**	**18 49 37.5**	**-1.1**
	33nm,1.9s							
SOEI	**Soe**	**33.77**	**266**	*e*P		**P**	**18 49 45.3**	**+1.1**
	59nm,2.0s							
BKZ	**Black Stump Fm**	**34.11**	**155**	*e*P		**P**	**18 49 47.8**	**+1.1**
	51nm,1.5s							
TAU	**Tasmania Unive**	**35.18**	**194**	*e*P		**P**	**18 49 56.9**	**+1.0**
	74nm,1.7s							
FORT	**Forrest**	**35.70**	**228**	*e*P		**P**	**18 49 59.7**	**-0.8**
	20nm,0.9s							
FOZ	**Fox Glacier**	**35.81**	**166**	*e*P		**P**	**18 50 02.5**	**+1.3**
	172nm,1.9s							
LBZ	**Lake Benmore**	**36.70**	**166**	*e*P		**P**	**18 50 07.6**	**-1.3**
	72nm,1.5s							
PETK	**Petropavlovsk-**	**61.85**	**359**	LR		LR	19 17 17.2	
	comp=Z,266nm,21.4s,baz=133,slow=33							
CM01	**Chiang Mai Arr**	**64.73**	**295**	*e*P		**P**	**18 53 41.9**	**+1.2**
CM31	**Chiang Mai Arr**	**64.76**	**295**	*e*P		**P**	**18 53 43.0**	**+2.2**
CMAR	**Chiang Mai Arr**	**64.76**	**295**	P		**P**	**18 53 43.1**	**+2.4**
	0.8nm,1.1s,baz=111,slow=4.9,SNR=5.5							
IL1	**Eielson Array**	**83.98**	**21**	*e*P		**P**	**18 55 31.9**	**+0.3**
ILAR	**Eielson Array**	**83.98**	**21**	P		**P**	**18 55 32.4**	**+0.7**
	1.1nm,0.8s,baz=241,slow=6.1,SNR=8.2							
ILB	**Eielson Array**	**83.98**	**21**	*e*P		**P**	**18 55 31.5**	**-0.2**

ISCJB ***17*** *18:43:49.8±0.2,37.°05S±0.°04×95.°06W±0.°04, h10km, mb5.3/364, MS4.8/99, Error ellipse: s-maj=5.4km s-min=4.6km az=28.2*
IDC ***17*** *18:43:49.7±0.5,37.°19S×95.°28W, h0km, mb4.5/19, mb1 4.6/20, mb1mx4.5/35, mbtmp4.5/20, ML3.9/1, MS4.7/24, Ms1 4.6/24, ms1mx4.6/27, Error ellipse: s-maj=17.5km s-min=14.5km az=100.0*
MOS ***17*** *18:43:49.8±1.3,37.°09S×95.°20W, h10km, mb5.4/48, MS4.7/13, Error ellipse: s-maj=11.9km s-min=7.3km az=90.6*
BJI ***17*** *18:43:50.3,37.°23S×94.°81W, h10km, mB5.4/16, Ms5.5/14, Ms7 5.2/16*
NEIC ***17*** *18:43:50.6±0.1,37.°18S×95.°14W, h10km, mb5.4/295, MS4.8/72, Error ellipse: s-maj=4.6km s-min=3.8km az=220.0*
GCMT ***17*** *18:43:50.7±0.2,37.°17S±0.°01×95.°20W±0.°01, h12km, MW5.2/120, Moment Tensor Solution. s64,c82; s120,c199; Duration: 1s0 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.83±.01; Mθθ-0.04±.01; Mϕϕ0.87±.01; Mrθ0.29±.05; Mθϕ-0.22±.01; Mϕr-0.22±.04; Best double couple: M₀0.95100×10¹⁷ NP1:ϕ₁333.00000°, δ56.00000°, λ-108.00000°. NP2:ϕ₂182.00000°, δ38.00000°, λ-66.00000°. Principal axes: T 0.9650, Plg9.0000°, Azm75.0000°; N -0.0280, Plg15.0000°, Azm343.0000°; P -0.9360, Plg73.0000°, Azm196.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 18:43:51.2±0.3,37.°16S±0.°06×95.°05W±0.°05, h10km, n820, σ1§14/765, mb5.4/364, MS4.8/100, 9C-2D, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RPN	**Rapa Nui**	**15.68**	**306**	LR		LR	18 51 39.8	
	comp=Z,4µm,20.9s,baz=99,slow=30							
RPN	**Rapa Nui**	**15.68**	**306**	*e*Pn		**Pn**	**18 47 33.2**	**+1.1**
	565nm,1.5s							
RPN	**Rapa Nui**	**15.68**	**306**	*e*P		**Pn**	**18 47 33.3**	**+1.1**
RPN				pmax		pmax		
	comp=Z,565nm,1.5s							
GO07	**Millladeo Hill,**	**17.38**	**117**	*e*Pn		**P**	**18 47 57.2**	**+2.2**
	comp=Z,154nm,1.3s							
GO06	**Curarrehue**	**18.63**	**105**	*e*P		**Pn**	**18 48 11.0**	**+1.7**
	comp=Z,91nm,1.8s							
GO05	**HualaæØ**	**18.80**	**90**	*e*P		**Pn**	**18 48 12.5**	**+1.2**
	comp=Z,179nm,1.8s							
PLCA	**Paso Flores**	**19.37**	**108**	P		**Pn**	**18 48 20.1**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=297,slow=10,SNR=9.4							
PLCA				LR		LR	18 53 57.1	
	comp=Z,4µm,20.1s,baz=296,slow=31							
PLCA	**Paso Flores**	**19.37**	**108**	*e*P		**Pn**	**18 48 19.6**	**+1.5**
	comp=Z,44nm,1.4s							
PLCA	**Paso Flores**	**19.37**	**108**	*e*P		**Pn**	**18 48 19.6**	**+1.5**
PLCA				pmax		pmax		
	comp=Z,44nm,1.4s							
CHRN	**Cochrane**	**19.39**	**128**	*e*P		**P**	**18 48 14.6**	**-2.6**
	comp=Z,7.7nm,0.8s							
PEL	**Peldehue**	**20.30**	**86**	*e*P		Pn	18 48 29.1	-0.1
	comp=Z,175nm,1.8s							
PEL	**Peldehue**	**20.30**	**86**	*e*P		Pn	18 48 29.1	-0.1
PEL				pmax		pmax		
	comp=Z,175nm,1.8s							
GO04	**Tololo Observa**	**21.32**	**78**	*e*P		**P**	**18 48 39.5**	**+1.0**
	comp=Z,272nm,1.8s							
GO09	**Cerro Castillo**	**21.42**	**138**	*e*P		**P**	**18 48 41.3**	**+2.1**
	comp=Z,470nm,1.6s							
LCO	**Las Campanas**	**21.91**	**75**	*e*P		**P**	**18 48 46.2**	**+1.3**
	comp=Z,217nm,1.6s							
LCO				LR		LR		
	comp=Z,5µm,21.0s							
LCO	**Las Campanas**	**21.91**	**75**	*ce*P		**P**	**18 48 48.7**	**+3.8**
GO03	**Copiap**	**22.97**	**73**	*e*P		**P**	**18 48 57.5**	**+1.6**
	comp=Z,169nm,1.9s							
GO02	**Mina Guanaco**	**24.77**	**68**	*e*P		**P**	**18 49 14.0**	**+0.6**
	comp=Z,110nm,1.8s							
PB10	**IPOC Station P**	**25.05**	**64**	*e*P		**P**	**18 49 17.1**	**+1.5**
	comp=Z,57nm,1.3s							
PB04	**IPOC Station P**	**26.08**	**62**	*e*P		**P**	**18 49 24.8**	**-0.4**
	comp=Z,69nm,1.4s							
TRQA	**Tornquist**	**26.14**	**102**	*e*P		**P**	**18 49 26.5**	**+1.0**
	comp=Z,72nm,1.8s							
TRQA				LR		LR		
	comp=Z,5µm,19.0s							
TRQA	**Tornquist**	**26.14**	**102**	*ce*P		**P**	**18 49 31.2**	**+5.7**
TRQA				pmax		pmax		
	comp=Z,43nm,2.5s							
LVC	**Limon Verde**	**26.79**	**65**	P		**P**	**18 49 34.1**	**+2.3**
	comp=Z,4.1nm,0.8s,baz=223,slow=9.5,SNR=6.3							
LVC				LR		LR	18 57 29.6	
	comp=Z,3µm,18.6s,baz=224,slow=30							
LVC	**Limon Verde**	**26.79**	**65**	*e*P		**P**	**18 49 32.5**	**+0.7**
	comp=Z,86nm,1.8s							
LVC	**Limon Verde**	**26.79**	**65**	*ce*P		**P**	**18 49 34.8**	**+3.0**
LVC				pmax		pmax		
	comp=Z,28nm,1.7s							
PB01	**IPOC Station P**	**27.38**	**61**	*e*P		**P**	**18 49 38.3**	**+1.4**
	comp=Z,99nm,2.0s							
PB11	**IPOC Station P**	**28.13**	**59**	*e*P		**P**	**18 49 44.4**	**+0.8**
	comp=Z,32nm,1.3s							
MNMC	**Minye Minye**	**28.60**	**58**	*e*P		**P**	**18 49 48.9**	**+0.9**
	comp=Z,73nm,1.5s							
EFI	**East Falkland**	**29.77**	**131**	PFAKE			18 50 10.0	+12
EFI				LR		LR		
	comp=Z,3µm,20.0s							
NNA	**Nana**	**29.92**	**38**	LR		LR	18 58 57.9	
	comp=Z,2µm,18.1s,baz=218,slow=30							
LPAZ	**La Paz**	**31.59**	**56**	P		**P**	**18 50 16.9**	**+2.1**
	comp=Z,4.4nm,0.9s,baz=222,slow=7.4,SNR=18							
LPAZ				LR		LR	19 00 53.0	
	comp=Z,690nm,18.3s,baz=227,slow=32							
LPAZ	**La Paz**	**31.59**	**56**	*e*P		**P**	**18 50 16.3**	**+1.4**
LPAZ	**La Paz**	**31.59**	**56**	*e*P		**P**	**18 50 16.3**	**+1.4**
ATAH	**Atahualpa**	**33.51**	**31**	P		**P**	**18 50 33.5**	**+2.1**
	comp=Z,3.1nm,0.5s,baz=241,slow=5.8,SNR=9.2							
ATAH				LR		LR	19 00 49.4	
	comp=Z,2µm,20.7s,baz=221,slow=30							
CPUP	**Villa Florida**	**33.65**	**82**	P		**P**	**18 50 32.5**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=244,slow=13,SNR=5.1							
CPUP				LR		LR	19 02 37.4	
	comp=Z,2µm,18.4s,baz=252,slow=33							
CPUP	**Villa Florida**	**33.65**	**82**	*e*P		**P**	**18 50 32.2**	**+0.2**
	comp=Z,31nm,1.8s							
CPUP	**Villa Florida**	**33.65**	**82**	*e*P		**P**	**18 50 32.2**	**+0.2**
CPUP				pmax		pmax		
	comp=Z,31nm,1.8s							
PAYG	**Puerto Ayora**	**36.57**	**8**	PFAKE			18 51 10.0	+13
PAYG				LR		LR		
	comp=Z,2µm,19.0s							
RKT	**Rikitea**	**36.98**	**281**	*e*LQ		LQ	18 59 28.0	
	comp=Z,623nm,28.0s							
RKT				*e*LR		LR	19 01 04.9	
	comp=Z,3µm,28.0s,baz=124							
SAML	**Samuel**	**40.24**	**54**	*e*P		**P**	**18 51 28.5**	**+0.3**
	comp=Z,42nm,1.8s							
SAML				LR		LR		
	comp=Z,1µm,20.0s							
SAML	**Samuel**	**40.24**	**54**	*ce*P		**P**	**18 51 29.9**	**+1.7**
SAML				pmax		pmax		
	comp=Z,9.0nm,1.7s							
OTAV	**Otavalo**	**40.26**	**26**	*e*P		**P**	**18 51 29.2**	**+0.3**
	comp=Z,35nm,1.4s							
OTAV				LR		LR		
	comp=Z,971nm,22.0s							
OTAV	**Otavalo**	**40.26**	**26**	*ce*P		**P**	**18 51 30.6**	**+1.7**
OTAV				pmax		pmax		
	comp=Z,29nm,1.7s							
GCUF	**Volcan Galeras**	**41.57**	**27**	*e*P		**P**	**18 51 41.7**	**+1.9**
CRUC	**La Cruz**	**42.03**	**28**	*e*P		**P**	**18 51 44.3**	**+1.0**
FLOC	**Florencia**	**42.54**	**29**	*e*P		**P**	**18 51 46.3**	**-0.8**
SPB	**Sao Paulo**	**42.83**	**85**	*e*P		**P**	**18 51 50.4**	**+1.0**
	comp=Z,54nm,1.5s							
BETC	**Betania**	**43.63**	**29**	*e*P		**P**	**18 51 55.0**	**-1.0**
GUVC	**San J

CCIG Comitan 53.22 3 *e*P P 18 53 11.1 +1.1
comp=Z,22nm,0.6s
VNA3 Neumayer Olymp 53.85 156 P P 18 53 15.0 +1.1
CMIG Matias Romero 53.95 0 P P 18 53 15.6 +0.5
comp=Z,5.4nm,1.0s,baz=192,slow=9.1,SNR=3.1
VNA1 Neumayer--Stat 54.41 156 P P 18 53 18.9 +1.0
TLIG Tlapa 54.53 356 *e*P P 18 53 18.9 -0.5
comp=Z,51nm,1.5s
VNA2 Neumayer--Watz 54.64 156 P P 18 53 20.7 +1.1
baz=263,slow=7.2
SBA Scott Base 55.69 195 *e*P P 18 53 28.1 +1.0
comp=Z,26nm,1.4s
SBA LR LR
comp=Z,300nm,20.0s
SBA Scott Base 55.69 195 *e*P P 18 53 28.1 +1.0
SBA pmax pmax
comp=Z,26nm,1.4s
SBA MLR MLR
comp=Z,300nm,20.0s
SNAA Sanae 55.89 158 P P 18 53 29.2 +0.6
SNAA Sanae 55.89 158 *e*P P 18 53 28.1 -0.6
comp=Z,38nm,1.3s
SNAA Sanae 55.89 158 *ce*P P 18 53 29.3 +0.6
VNDA Vanda 56.80 195 P P 18 53 36.2 +1.2
comp=Z,3.6nm,1.1s,baz=113,slow=6.1,SNR=10
VNDA LR LR 19 12 57.4
comp=Z,300nm,19.5s,baz=109,slow=31
VNDA Vanda 56.80 195 *e*P P 18 53 35.9 +0.9
comp=Z,30nm,1.7s
VNDA Vanda 56.80 195 *e*P P 18 53 35.9 +0.9
VNDA pmax pmax
comp=Z,30nm,1.7s
MOIG Morelia 56.83 353 *e*P P 18 53 36.4 +0.3
comp=Z,181nm,0.2s
TEIG Tepich 57.43 8 *e*P P 18 53 40.4 +0.4
comp=Z,38nm,1.3s
MTDJ Mount Denham 57.51 20 PFAKE 18 53 50.0 +9.2
MTDJ LR LR
comp=Z,592nm,21.0s
RAR Rarotonga 57.68 267 LR LR 19 11 24.8
comp=Z,524nm,21.4s,baz=128,slow=29
RAR Rarotonga 57.68 267 *e*P P 18 53 45.6 +3.6
comp=Z,195nm,2.0s
RAR Rarotonga 57.68 267 *e*P P 18 53 45.6 +3.6
RAR pmax pmax
comp=Z,195nm,2.0s
JRQG Juriquilla Cam 57.77 354 *e*P P 18 53 43.8 +1.0
comp=Z,80nm,1.2s
GRGR Grenville 58.21 39 PFAKE 18 54 00.0 +14
GRGR LR LR
comp=Z,688nm,19.0s
LGNH LÖogne 59.28 25 *e*P P 18 53 53.8 +0.9
comp=Z,141nm,1.5s
GTBY Guantanamo Bay 59.81 22 *e*P P 18 53 55.3 -1.4
comp=Z,132nm,1.5s
ZAIG Zacatecas 60.02 352 *e*P P 18 53 58.9 +0.4
comp=Z,49nm,1.4s
BBGH Gun Hill 60.15 41 PFAKE 18 54 10.0 +11
BBGH LR LR
comp=Z,1µm,21.0s
SDDR Presa de Saban 60.17 26 PFAKE 18 54 10.0 +11
SDDR LR LR
comp=Z,564nm,21.0s
SDD Santo Domingo 60.18 28 *e*P P 18 53 59.3 +0.1
comp=Z,69nm,0.6s
NVL N'lazarevskaya 60.62 159 *e*P P 18 54 03.2 +1.5
NVL *e*S S 19 02 14.3 -3.2
NVL pmax pmax
comp=Z,16nm,1.0s
CRPR Cabo Rojo, PR 60.86 31 *e*P P 18 54 02.8 -1.1
comp=Z,197nm,1.8s
ICMP Isla Caja de M 60.99 31 *e*P P 18 54 04.4 -0.4
comp=Z,72nm,1.3s
OBIP Obispado Ponce 61.10 31 *e*P P 18 54 05.9 +0.4
comp=Z,32nm,1.3s
SJG San Juan 61.35 32 *e*P P 18 54 05.8 -1.4
comp=Z,70nm,1.4s
SJG LR LR
comp=Z,438nm,20.0s
SJG San Juan 61.35 32 *e*P P 18 54 05.8 -1.4
SJG pmax pmax
comp=Z,70nm,1.4s
SJG MLR MLR
comp=Z,438nm,20.0s
HUMP Col San Antoni 61.51 32 *e*P P 18 54 06.5 -1.8
comp=Z,72nm,1.6s
MTP Monte Pirata 61.59 32 *e*P P 18 54 08.2 -0.7
comp=Z,26nm,1.1s
CBYP Canovanas 61.62 32 *e*P P 18 54 07.8 -1.3
comp=Z,110nm,1.5s
LNIG Linares 61.86 355 *e*P P 18 54 11.2 +0.6
comp=Z,46nm,1.8s
RCBR Riachuelo 62.08 75 PFAKE 18 54 20.0 +7.6
RCBR LR LR
comp=Z,31µm,21.0s
SLBS Sierra La Lagu 62.12 345 *e*P P 18 54 11.0 -1.4
comp=Z,57nm,1.3s
LPIG La Paz 62.60 344 P P 18 54 15.9 +0.4
comp=Z,18nm,0.3s,baz=109,slow=8.5,SNR=3.9
ANWB Willy Bob 62.90 36 PFAKE 18 54 30.0 +12
ANWB LR LR
comp=Z,547nm,21.0s
HPIG 64.53 350 *e*P P 18 54 28.4 -0.1
comp=Z,71nm,1.5s
059A Moore Haven 65.11 14 *e*P P 18 54 31.6 -0.3
comp=Z,234nm,1.4s
833A Chaparral WMA, 65.26 356 *e*P P 18 54 32.5 -0.4
comp=Z,91nm,1.5s
SRIG Santa Rosalia 66.14 343 *e*P P 18 54 38.8 +0.2
comp=Z,36nm,0.9s
LTX Lajitas 66.64 352 *e*P P 18 54 42.4 +0.5
LTX Lajitas 66.64 352 *e*P P 18 54 42.4 +0.5
TX31 Lajitas Ar. Si 66.64 352 *e*P P 18 54 40.9 -1.0
TXAR Lajitas Array 66.64 352 P P 18 54 42.4 +0.5
comp=Z,4.2nm,0.8s,baz=171,slow=7.9,SNR=23
TXAR LR LR 19 18 28.5
comp=Z,217nm,19.9s,baz=0.0,slow=31
BKZ Black Stump Fm 66.73 238 *e*P P 18 54 44.5 +1.9
comp=Z,74nm,1.6s
HKT Hockley 66.76 359 *e*P P 18 54 42.6 +0.2
comp=Z,90nm,1.8s
HKT Hockley 66.76 359 *e*P P 18 54 42.6 +0.2
HKT pmax pmax
comp=Z,90nm,1.8s
URZ Urewera 66.76 239 LR LR 19 16 18.9
comp=Z,1µm,21.5s,baz=174,slow=29
SNZO South Karori 66.86 235 PFAKE 18 54 50.0 +6.7
SNZO LR LR
comp=Z,1µm,19.0s
541A Lake Charles 66.89 2 *e*P P 18 54 43.8 +0.5
comp=Z,152nm,0.6s
JCT Junction City 67.43 356 *e*P P 18 54 45.5 -1.3
comp=Z,104nm,1.7s
JCT LR LR
comp=Z,115nm,19.0s
JCT Junction City 67.43 356 *e*P P 18 54 45.6 -1.3
JCT pmax pmax
comp=Z,104nm,1.7s
JCT MLR MLR
comp=Z,115nm,19.0s
JCT Junction City 67.43 356 P P 18 54 47.2 +0.4
baz=176
658A Bunnell 67.48 13 *e*P P 18 54 45.6 -1.5
comp=Z,388nm,1.3s
HSIG 67.50 345 *e*P P 18 54 47.1 -0.2
comp=Z,47nm,1.5s
435B Jarrell 67.63 358 *e*P P 18 54 47.9 -0.1
comp=Z,120nm,1.8s
LTZ Lake Taylor 67.70 233 *e*P P 18 54 51.4 +2.7
comp=Z,154nm,1.9s
RAO Raoul Island 67.73 250 LR LR 19 16 44.1
comp=Z,347nm,21.3s,baz=126,slow=29
THZ Tophouse 67.81 234 *e*P P 18 54 49.9 +0.6
comp=Z,224nm,1.9s
447A Lucedale 67.86 6 *e*P P 18 54 51.8 +2.3
comp=Z,184nm,1.5s
RPZ Rata Peaks 67.99 231 LR LR 19 18 07.9
comp=Z,485nm,19.4s,baz=94,slow=30
LBZ Lake Benmore 68.19 230 *e*P P 18 54 52.3 +0.7
comp=Z,116nm,1.6s
342A Flagon Creek P 68.22 3 *e*P P 18 54 52.3 +0.5
comp=Z,234nm,1.8s
344A Westbrook Farm 68.37 4 *e*P P 18 54 52.6 -0.1
comp=Z,49nm,1.4s
BRAL Brewton 68.38 7 PFAKE 18 55 00.0 +7.3
BRAL LR LR
comp=Z,304nm,20.0s

453A Whigham 68.40 10 *e*P P 18 54 53.3 +0.4
comp=Z,322nm,1.9s
348A Jackson 68.54 7 *e*P P 18 54 53.3 -0.5
comp=Z,249nm,1.9s
NATX Nacogdoches 68.56 0 *e*P P 18 54 53.3 -0.6
comp=Z,159nm,1.6s
NATX LR LR
comp=Z,261nm,20.0s
WHTX Lake Whitney, 68.83 358 *e*P P 18 54 54.7 -0.8
comp=Z,166nm,1.8s
WHTX Lake Whitney, 68.83 358 P P 18 54 55.8 +0.3
baz=178
240A Hunter Patters 68.85 1 *e*P P 18 54 54.5 -1.1
comp=Z,187nm,1.9s
241A Mo Tay, Goldon 68.85 2 *e*P P 18 54 55.4 -0.3
comp=Z,197nm,1.8s
352A Blakely 68.93 9 *e*P P 18 54 56.1 -0.1
comp=Z,171nm,1.5s
SYO Syowa Base 68.98 164 ||*e*X P 18 54 55.7 -0.4
SYO Syowa Base 68.98 164 ||*p*P pP 18 54 57.8 -1.6
VBMS Vicksburg 69.15 4 *e*P P 18 54 54.6 -2.9
comp=Z,66nm,1.3s
MNTX Cornudas Mount 69.18 351 *e*P P 18 54 56.6 -1.1
comp=Z,20nm,1.4s
MNTX LR LR
comp=Z,329nm,21.0s
MNTX Cornudas Mount 69.18 351 P P 18 54 57.3 -0.4
baz=171
250A Grady 69.27 8 *e*P P 18 54 58.4 +0.1
comp=Z,160nm,1.8s
250A Grady 69.27 8 P P 18 54 58.5 +0.3
baz=188
EPT El Paso 69.40 350 *e*P P 18 54 58.9 -0.4
comp=Z,22nm,1.0s
319A Douglas 69.47 347 *e*P P 18 54 58.9 -0.8
comp=Z,52nm,1.4s
251A Miray 69.48 9 P P 18 54 59.5 0.0
baz=188
GDL2 Guadalupe Moun 69.55 352 *e*P P 18 54 59.4 -0.8
ABTX Abilene, Hawle 69.55 356 *e*P P 18 54 59.4 -0.7
comp=Z,50nm,1.4s
ABTX Abilene, Hawle 69.55 356 P P 18 54 59.8 -0.2
baz=176
143A Socs Landing, 69.58 3 *e*P P 18 54 59.6 -0.6
comp=Z,60nm,1.1s
253A Americus 69.61 10 *e*P P 18 54 59.5 -0.9
comp=Z,160nm,1.5s
146A Union 69.66 5 *e*P P 18 55 00.6 0.0
comp=Z,129nm,1.8s
149A Jones 69.82 7 P P 18 55 01.7 +0.1
baz=187
Z41A Richland Creek 70.08 2 *e*P P 18 55 03.0 -0.3
comp=Z,90nm,1.6s
152A Waverly Hall 70.13 9 *e*P P 18 55 03.0 -0.6
comp=Z,42nm,1.3s
LRAL Lakeview Retre 70.23 7 *e*P P 18 55 04.2 0.0
comp=Z,55nm,1.6s
LRAL Lakeview Retre 70.23 7 P P 18 55 04.0 -0.1
baz=187
Z45A Winona 70.34 5 *e*P P 18 55 04.8 0.0
comp=Z,85nm,1.4s
155A Kite 70.41 11 P P 18 55 05.2 0.0
baz=191
Z49A Columbiana 70.44 8 P P 18 55 05.6 +0.1
baz=187
Z50A Ashland 70.56 8 *e*P P 18 55 05.4 -0.9
comp=Z,32nm,1.5s
TUC Tucson 70.66 346 *e*P P 18 55 07.0 +0.1
comp=Z,43nm,1.4s
TUC LR LR
comp=Z,226nm,20.0s
TUC Tucson 70.66 346 *e*P P 18 55 07.0 +0.1
TUC pmax pmax
comp=Z,43nm,1.4s
TUC MLR MLR
comp=Z,226nm,20.0s
TUC Tucson 70.66 346 P P 18 55 07.6 +0.7
baz=167
Z52A Williamson 70.69 9 P P 18 55 07.3 +0.3
baz=189
Y41A Eaglette Beard 70.71 2 P P 18 55 07.4 +0.4
baz=182
214A Organ Pipe Nat 70.73 344 P P 18 55 08.2 +0.9
baz=165
CCAR Cane Creek 70.78 3 *e*P P 18 55 07.8 +0.3
comp=Z,198nm,1.8s
GOGA Godfrey 71.03 10 *e*P P 18 55 08.5 -0.6
comp=Z,35nm,1.3s
GOGA LR LR
comp=Z,377nm,19.0s
GOGA Godfrey 71.03 10 *e*P P 18 55 08.5 -0.6
GOGA pmax pmax
comp=Z,35nm,1.3s
GOGA MLR MLR
comp=Z,377nm,19.0s
Y49A Blount Mountai 71.11 8 *e*P P 18 55 08.3 -1.3
comp=Z,56nm,1.7s
MSTX Muleshoe 71.13 353 *e*P P 18 55 09.6 -0.2
comp=Z,89nm,1.4s
MSTX Muleshoe 71.13 353 P P 18 55 09.8 0.0
baz=174
CSU Charleston Sou 71.17 13 *e*P P 18 55 09.8 0.0
AFI Afiamalu 71.23 267 LR LR 19 17 50.5
comp=Z,624nm,22.0s,baz=115,slow=29
AFI Afiamalu 71.23 267 *e*P P 18 55 09.6 -1.3
AFI *e*PcP pP 18 55 11.4 -2.8
AFI Afiamalu 71.23 267 *e*P P 18 55 09.6 -1.3
AFI *e* 18 55 11.4
NHSC New Hope 71.27 13 PFAKE 18 55 20.0 +10
NHSC LR LR
comp=Z,601nm,19.0s
MIAR Mount Ida 71.35 1 *e*P P 18 55 10.3 -0.7
comp=Z,36nm,1.4s
MIAR Mount Ida 71.35 1 *e*P P 18 55 10.3 -0.7
MIAR pmax pmax
comp=Z,36nm,1.4s
MIAR Mount Ida 71.35 1 P P 18 55 11.0 +0.1
baz=181
X37A Clayton 71.38 360 *e*P P 18 55 10.1 -1.0
comp=Z,50nm,1.8s
Y52A Lilburn 71.40 10 *e*P P 18 55 10.7 -0.6
comp=Z,61nm,1.5s
Y52A Lilburn 71.40 10 P P 18 55 11.6 +0.3
baz=189
X43A Marvell 71.42 4 *e*P P 18 55 10.3 -1.0
comp=Z,176nm,1.9s
Y54A Tignall 71.59 11 P P 18 55 12.4 0.0
baz=190
UALR University of 71.61 2 *e*P P 18 55 11.6 -0.9
comp=Z,52nm,1.6s
WMOK Wichita Mounta 71.61 357 *e*P P 18 55 11.5 -1.1
comp=Z,53nm,2.0s
WMOK LR LR
comp=Z,144nm,19.0s
WMOK Wichita Mounta 71.61 357 *e*P P 18 55 11.5 -1.1
WMOK pmax pmax
comp=Z,53nm,2.0s
WMOK MLR MLR
comp=Z,144nm,19.0s
X48A Hartselle 71.63 7 *e*P P 18 55 12.0 -0.7
comp=Z,53nm,1.6s
X48A Hartselle 71.63 7 P P 18 55 12.2 -0.4
baz=187
113A Mohawk Valley, 71.73 343 *e*P P 18 55 13.6 +0.3
comp=Z,45nm,1.8s
BNM Barren Site 71.76 350 *e*P P 18 55 13.7 -0.1
X49A Woodville 71.77 8 P P 18 55 13.5 0.0
baz=187
LENM Lemitar 71.82 350 *e*P P 18 55 13.5 -0.6
LPM Los Pinos Moun 71.92 350 *e*P P 18 55 14.9 +0.2
AMTX Amarillo 71.94 354 *e*P P 18 55 14.0 -0.6
comp=Z,73nm,1.4s
AMTX Amarillo 71.94 354 P P 18 55 14.9 +0.3
baz=174
X51A Calhoun 71.99 9 *e*P P 18 55 14.8 0.0
comp=Z,68nm,1.4s
W39A Magazine 72.00 1 *e*P P 18 55 14.6 -0.2
comp=Z,73nm,1.6s
W39A Magazine 72.00 1 P P 18 55 14.9 +0.1
baz=181
W41B Gary Mavity, V 72.01 2 *e*P P 18 55 15.0 +0.1
comp=Z,106nm,1.8s
W41B Gary Mavity, V 72.01 2 P P 18 55 15.7 +0.8
baz=182
HODGE Hodges 72.02 11 *e*P P 18 55 14.7 -0.3
comp=Z,39nm,1.4s
PLAL Pickwick Lake 72.07 6 *e*P P 18 55 14.7 -0.5
comp=Z,53nm,1.9s

LAZ Ladron 72.08 350 *e*P P 18 55 15.1 -0.6
WHAR Wooly Hollow 72.13 2 *e*P P 18 55 15.8 +0.2
comp=Z,88nm,1.6s
X53A Estanollee 72.13 10 P P 18 55 15.8 +0.1
baz=190
X52A Dahlonega 72.15 10 P P 18 55 16.8 +1.0
baz=189
IKP In-Ko-Pah, Jac 72.18 341 P P 18 55 16.9 +0.8
baz=163
JSC Jenkinsville 72.22 12 *e*P P 18 55 16.4 +0.1
comp=Z,96nm,1.5s
GLA Glamis 72.25 343 *e*P P 18 55 14.9 -1.5
comp=Z,28nm,1.3s
GLA Glamis 72.25 343 P P 18 55 17.1 +0.6
baz=164
BAR Barrett 72.35 341 *e*P P 18 55 17.2 +0.1
comp=Z,40nm,1.7s
W49A Belvidere 72.37 8 P P 18 55 17.5 +0.4
baz=187
W47A Westpoint 72.37 6 P P 18 55 16.8 -0.3
baz=186
HBAR Harrisburg 72.46 4 *e*P P 18 55 16.6 -1.0
comp=Z,72nm,0.4s
MONP2 Monument Peak 72.49 341 P P 18 55 19.1 +1.0
baz=162
SWET Sewanee 72.50 8 *e*P P 18 55 17.4 -0.6
comp=Z,71nm,1.6s
ANMO Albuquerque 72.52 350 P P 18 55 18.1 0.0
comp=Z,4.3nm,0.9s,baz=162,slow=5.1,SNR=14
ANMO Albuquerque 72.52 350 *e*P P 18 55 17.5 -0.7
comp=Z,34nm,1.4s
ANMO LR LR
comp=Z,304nm,19.0s
ANMO Albuquerque 72.52 350 *ce*P P 18 55 19.3 +1.1
ANMO pmax pmax
comp=Z,23nm,1.7s
ANMO Albuquerque 72.52 350 P P 18 55 18.2 0.0
baz=171
W51A Cleveland 72.58 9 P P 18 55 18.9 +0.5
baz=189
V41A Mountainview 72.62 2 P P 18 55 18.9 +0.3
baz=182
W52A Murphy 72.62 10 *e*P P 18 55 18.2 -0.4
comp=Z,64nm,1.4s
X18A Snowflake 72.66 347 *e*P P 18 55 18.4 -0.7
comp=Z,74nm,1.7s
BG3 Lake Jocassee 72.66 10 *e*P P 18 55 18.8 0.0
comp=Z,95nm,1.5s
PAULI Pauline 72.66 11 *e*P P 18 55 19.1 +0.3
comp=Z,82nm,1.4s
CPE Camp Elliot 72.67 341 *e*P P 18 55 19.3 +0.4
comp=Z,39nm,1.4s
V42A Cord 72.67 3 P P 18 55 19.4 +0.5
baz=183
Y14A Wickenburg 72.69 344 *e*P P 18 55 19.1 0.0
comp=Z,43nm,1.4s
TUL1 Leonard 72.70 359 *e*P P 18 55 18.4 -0.7
comp=Z,22nm,1.1s
W53A Cullowhee 72.80 10 P P 18 55 20.5 +0.7
baz=190
X16A Lo Mia Camp, P 72.83 346 *e*P P 18 55 20.2 +0.2
comp=Z,32nm,1.4s
Y12C Blythe 72.84 343 *e*P P 18 55 20.8 +0.8
comp=Z,51nm,1.4s
Y12C Blythe 72.84 343 P P 18 55 21.0 +1.1
baz=164
CPCT Cooper Cave 72.90 9 *e*P P 18 55 19.9 -0.4
comp=Z,58nm,1.5s
GNAR Gosnell 72.90 4 *e*P P 18 55 19.8 -0.4
comp=Z,283nm,2.0s
V48A Smith Brothers 72.93 7 *e*P P 18 55 19.7 -0.7
comp=Z,47nm,1.5s
V48A Smith Brothers 72.93 7 P P 18 55 21.8 +1.4
baz=187
V50A Pikevile 73.05 8 P P 18 55 21.6 +0.5
baz=188
KMSC Kings Mountain 73.05 12 *e*P P 18 55 20.9 -0.2
comp=Z,49nm,1.4s
KMSC Kings Mountain 73.05 12 P P 18 55 21.3 +0.1
baz=191
HHAR Hobbs 73.08 1 *e*P P 18 55 21.0 -0.3
comp=Z,30nm,1.5s
U40A Yellville 73.17 2 P P 18 55 22.5 +0.6
baz=182
TPFO Pinon Flats 73.18 341 P P 18 55 23.0 +0.9
baz=162
XPFO Piæon Flat 73.18 341 *e*P P 18 55 22.5 +0.4
comp=Z,20nm,1.4s
PFO Pinyon Flats O 73.18 341 *e*P P 18 55 22.4 +0.2
comp=Z,19nm,1.4s
PFO LR LR
comp=Z,288nm,19.0s
PFO Pinyon Flats O 73.18 341 P P 18 55 23.4 +1.2
baz=162
U41A Viola 73.19 3 P P 18 55 22.8 +0.8
baz=183
W18A Petrified Fore 73.19 347 *e*P P 18 55 22.7 +0.5
comp=Z,21nm,0.8s
TKL Tuckaleechee C 73.20 10 P P 18 55 22.1 0.0
comp=Z,4.7nm,0.9s,baz=188,slow=4.2,SNR=4.5
TKL Tuckaleechee C 73.20 10 *e*P P 18 55 21.0 -1.0
comp=Z,106nm,1.9s
U42A Revenden 73.22 3 P P 18 55 24.0 +1.9
baz=183
WVT Waverly 73.23 6 *e*P P 18 55 13.5 -8.6
comp=Z,40nm,1.4s
WVT Waverly 73.23 6 *e*P P 18 55 13.5 -8.6
WVT pmax pmax
comp=Z,40nm,1.4s
WVT Waverly 73.23 6 P P 18 55 23.4 +1.2
baz=186
U32A Winter Ranch, 73.26 357 *e*P P 18 55 22.5 +0.1
comp=Z,62nm,1.4s
V51A Loudon 73.27 9 *e*P P 18 55 22.2 -0.2
comp=Z,127nm,1.8s
V51A Loudon 73.27 9 P P 18 55 23.4 +1.0
baz=189
V53A Saluda 73.34 10 *e*P P 18 55 22.5 -0.4
comp=Z,64nm,1.4s
V53A Saluda 73.34 10 P P 18 55 23.6 +0.7
baz=190
MURC Murrieta 73.36 341 P P 18 55 24.7 +1.7
baz=162
IRM Iron Mountain 73.38 343 P P 18 55 23.9 +0.8
baz=164,SNR=6.1
V52A Sevierville 73.41 10 *e*P P 18 55 24.0 +0.7
comp=Z,103nm,1.8s
PBMO Poplar Bluff 73.69 4 *e*P P 18 55 23.4 -1.5
comp=Z,42nm,1.7s
CNNC Cliffs of the 73.78 15 PFAKE 18 55 40.0 +15
CNNC LR LR
comp=Z,615nm,19.0s
U49A Red Boiling Sp 73.80 8 P P 18 55 25.6 0.0
baz=188
U50A Jamestown 73.81 9 P P 18 55 25.9 +0.3
baz=188
WUAZ Wupatki 73.88 346 *e*P P 18 55 27.0 +0.8
comp=Z,74nm,1.9s
WUAZ Wupatki 73.88 346 P P 18 55 27.2 +0.9
baz=167
T41A Mountain View 73.89 3 P P 18 55 26.6 +0.5
baz=183
T42A Van Buren 73.91 3 *e*P P 18 55 25.0 -1.1
comp=Z,49nm,1.8s
T42A Van Buren 73.91 3 P P 18 55 26.5 +0.4
baz=183
W13A Hualapai Mount 73.99 344 *e*P P 18 55 27.5 +0.6
comp=Z,22nm,1.4s
U53A Fall Branch 74.06 10 P P 18 55 27.8 +0.7
baz=190
GMRC Granite Mounta 74.10 342 P P 18 55 28.1 +0.6
baz=163
TZTN Tazewell 74.10 10 *e*P P 18 55 26.8 -0.5
comp=Z,43nm,1.5s
T46A Princeton 74.12 6 P P 18 55 28.2 +0.8
baz=186
T47A Sharon Grove 74.14 7 *e*P P 18 55 26.2 -1.2
comp=Z,61nm,1.6s
T47A Sharon Grove 74.14 7 P P 18 55 27.2 -0.3
baz=187
PASC Pasadena Art C 74.17 340 *e*P P 18 55 26.4 -1.3
comp=Z,16nm,1.1s
MWC Mount Wilson 74.18 340 *e*P P 18 55 25.8 -2.3
comp=Z,36nm,1.6s
MWC Mount Wilson 74.18 340 *e*P P 18 55 25.8 -2.3
MWC pmax pmax
comp=Z,36nm,1.6s
MAW Mawson 74.23 171 P P 18 55 27.6 -0.2

comp=Z,2.2nm,0.7s,baz=196,slow=12,SNR=3.4
MAW LR LR 19 27 46.7
comp=Z,81nm,18.0s,baz=238,slow=36
MAW Mawson 74.23 171 *eP* **P 18 55 27.4 -0.4**
comp=Z,13nm,2.0s
MAW Mawson 74.23 171 *eP* **P 18 55 27.4 -0.4**
MAW pmax pmax
comp=Z,13nm,2.0s
LDFC Landfair 74.25 343 *eP* **P 18 55 27.8 -0.5**
comp=Z,113nm,1.7s
T48A Bowling Green 74.33 7 P **P 18 55 28.4 -0.2**
baz=187
T50A Nancy 74.41 8 P **P 18 55 29.9 +0.8**
baz=188
T49A Edmonton 74.42 8 *eP* **P 18 55 28.1 -1.0**
comp=Z,48nm,1.8s
T25A Trinidad 74.43 352 *eP* **P 18 55 30.1 +0.6**
comp=Z,48nm,1.4s
T25A Trinidad 74.43 352 P **P 18 55 30.6 +1.1**
baz=172
S41A Jillco Farms, 74.44 3 P **P 18 55 29.4 +0.2**
baz=183
S42A Caledonia 74.66 3 P **P 18 55 29.6 -0.9**
baz=184
SIUC Southern Illin 74.70 5 *eP* **P 18 55 29.6 -1.1**
comp=Z,42nm,1.6s
OSI Osito Audit C 74.73 340 *eP* **P 18 55 30.2 -0.9**
comp=Z,20nm,1.1s
BBSR BB Station 74.75 26 *eP* **P 18 55 31.0 -0.2**
comp=Z,25nm,1.0s
S47A Hartford 74.76 7 P **P 18 55 31.3 +0.2**
baz=187
EDW2 Edwards Air Fo 74.78 341 P **P 18 55 31.9 +0.5**
baz=161
GSC Goldstone, Bar 74.88 342 *eP* **P 18 55 31.6 -0.3**
comp=Z,40nm,1.7s
GSC Goldstone, Bar 74.88 342 P **P 18 55 32.1 +0.2**
baz=162
FVM French Village 74.89 4 *eP* **P 18 55 30.6 -1.2**
comp=Z,83nm,1.9s
FVM French Village 74.89 4 *eP* **P 18 55 30.6 -1.2**
FVM pmax pmax
comp=Z,83nm,1.9s
CCM Cathedral Cave 74.92 3 *eP* **P 18 55 30.8 -1.2**
comp=Z,106nm,1.7s
CCM Cathedral Cave 74.92 3 *eP* **P 18 55 30.8 -1.2**
CCM pmax pmax
comp=Z,106nm,1.7s
CCM Cathedral Cave 74.92 3 P **P 18 55 31.6 -0.4**
baz=183
U15A North Rim 74.94 346 *eP* **P 18 55 32.2 -0.3**
comp=Z,33nm,1.5s
CASY Casey 75.02 190 PFAKE 18 55 40.0 +7.6
CASY LR LR
comp=Z,75nm,20.0s
MVCO Mesa Verde 75.04 349 *eP* **P 18 55 32.1 -0.9**
comp=Z,58nm,1.4s
MVCO LR LR
comp=Z,308nm,19.0s
MVCO Mesa Verde 75.04 349 P **P 18 55 33.2 +0.2**
baz=169
USIN University of 75.06 6 *eP* **P 18 55 32.4 -0.4**
comp=Z,36nm,0.3s
S50A Richmond 75.11 9 P **P 18 55 33.1 0.0**
baz=189
SDCO Great Sand Dun 75.16 351 *eP* **P 18 55 33.4 -0.3**
comp=Z,44nm,1.8s
SDCO LR LR
comp=Z,217nm,19.0s
SDCO Great Sand Dun 75.16 351 P **P 18 55 33.9 +0.2**
baz=172
R41A Rosebud 75.16 3 P **P 18 55 33.7 +0.3**
baz=183
S51A Beattyville 75.17 9 *eP* **P 18 55 32.5 -1.0**
comp=Z,53nm,0.8s
S22A 4UR Ranch, Cre 75.32 350 *eP* **P 18 55 34.5 -0.2**
comp=Z,44nm,1.5s
S22A 4UR Ranch, Cre 75.32 350 P **P 18 55 35.2 +0.4**
baz=170
R45A Skylar, Fairfi 75.34 5 P **P 18 55 34.4 0.0**
baz=186
WCI Wyandotte Cave 75.45 7 *eP* **P 18 55 34.5 -0.5**
comp=Z,14nm,0.9s
WCI Wyandotte Cave 75.45 7 *eP* **P 18 55 34.5 -0.5**
WCI pmax pmax
comp=Z,14nm,0.9s
R47A Wooly Knot Far 75.49 7 P **P 18 55 34.5 -0.7**
baz=187
SLM Saint Louis 75.55 4 *eP* **P 18 55 35.6 +0.1**
comp=Z,22nm,0.4s
SLM Saint Louis 75.55 4 *eP* **P 18 55 35.7 +0.1**
SLM pmax pmax
comp=Z,22nm,0.4s
KNB Kanab 75.62 345 *eP* **P 18 55 36.7 +0.4**
comp=Z,53nm,1.6s
SHPR Sheep Range 75.63 343 *eP* **P 18 55 36.5 +0.1**
comp=Z,74nm,1.8s
ISA Isabella, Lake 75.65 340 *eP* **P 18 55 36.6 +0.2**
comp=Z,39nm,1.7s
ISA Isabella, Lake 75.65 340 *eP* **P 18 55 36.6 +0.2**
ISA pmax pmax
comp=Z,39nm,1.7s
ISA Isabella, Lake 75.65 340 P **P 18 55 36.8 +0.4**
baz=161
LCMT Little Creek M 75.70 345 *eP* **P 18 55 36.3 -0.4**
comp=Z,10nm,1.4s
R50A Paris 75.72 9 P **P 18 55 36.6 0.0**
baz=189
CBKS Cedar Bluff 75.72 356 *eP* **P 18 55 36.8 +0.1**
comp=Z,30nm,1.1s
CBKS Cedar Bluff 75.72 356 *eP* **P 18 55 36.8 +0.1**
CBKS pmax pmax
comp=Z,30nm,1.1s
MPMC Manual Prospec 75.77 341 P **P 18 55 37.6 +0.4**
baz=162
OLIL Olney 75.79 6 *eP* **P 18 55 36.0 -0.9**
comp=Z,81nm,1.6s
Q44A Meyer Farm, Va 75.89 5 P **P 18 55 37.4 -0.1**
baz=185
KSU1 Kansas State U 75.90 359 *eP* **P 18 55 36.2 -1.4**
comp=Z,82nm,1.8s
PKCU Pink Cliffs 75.93 346 *eP* **P 18 55 37.9 -0.3**
comp=Z,98nm,1.8s
PV01 Paradox Valley 75.95 349 *eP* **P 18 55 36.8 -1.5**
PV05 Paradox Valley 75.98 349 *eP* **P 18 55 37.0 -1.5**
DAC Darwin (Calif) 76.00 341 *eP* **P 18 55 37.8 -0.7**
comp=Z,36nm,1.8s
DAC Darwin (Calif) 76.00 341 *eP* **P 18 55 37.8 -0.7**
DAC pmax pmax
comp=Z,35nm,1.8s
PV13 Radium Mtn., P 76.02 349 *eP* **P 18 55 39.1 +0.5**
comp=Z,40nm,1.4s
PV02 Paradox Valley 76.05 349 *eP* **P 18 55 38.0 -0.8**
comp=Z,50nm,1.4s
PV03 Paradox Valley 76.11 349 *eP* **P 18 55 38.7 -0.5**
PV18 Skein Mesa, Pa 76.11 349 *eP* **P 18 55 38.3 -0.9**
comp=Z,36nm,1.5s
KSCO Kaye Shedlock' 76.12 354 *eP* **P 18 55 38.5 -0.5**
comp=Z,74nm,1.6s
PV17 East Wray Mesa 76.16 349 *eP* **P 18 55 39.3 -0.1**
comp=Z,14nm,0.9s
PV11 David Mesa, Pa 76.16 349 *eP* **P 18 55 38.9 -0.5**
comp=Z,73nm,1.6s
PV12 Saucer Basin, 76.17 349 *eP* **P 18 55 38.7 -0.8**
comp=Z,52nm,1.3s
PV16 Nyswonger Mesa 76.18 349 *eP* **P 18 55 39.0 -0.5**
comp=Z,48nm,1.6s
PV19 Morning Glory 76.19 349 *eP* **P 18 55 38.6 -1.0**
comp=Z,32nm,1.4s
Q48A North Vernon 76.20 7 P **P 18 55 39.5 +0.2**
baz=188
PAGB Antelope Grade 76.20 339 *eP* **P 18 55 37.3 -2.1**
comp=Z,106nm,1.8s
PV20 West Nyswonger 76.22 349 *eP* **P 18 55 39.5 -0.3**
comp=Z,92nm,2.0s
SZCU Shurtz Canyon 76.23 345 *eP* **P 18 55 40.2 +0.4**
comp=Z,69nm,1.8s
CCUT Cedar City 76.24 345 *eP* **P 18 55 40.5 +0.6**
comp=Z,36nm,1.5s
PV14 Lion Creek, Pa 76.26 349 *eP* **P 18 55 39.8 -0.2**
comp=Z,42nm,0.9s
CWC Cottonwood Cre 76.28 341 *eP* **P 18 55 42.0 +1.9**
CWC Cottonwood Cre 76.28 341 P **P 18 55 41.2 +1.1**
baz=161
TPNV Topopah Spring 76.31 343 *eP* **P 18 55 40.6 +0.4**
comp=Z,35nm,1.4s
TPNV Topopah Spring 76.31 343 P **P 18 55 41.0 +0.8**
baz=163,SNR=7.1
Q50A Georgetown 76.31 9 P **P 18 55 40.5 +0.5**
baz=189
Q24A Divide 76.32 352 *eP* **P 18 55 40.4 0.0**
comp=Z,41nm,1.5s
Q24A Divide 76.32 352 P **P 18 55 41.9 +1.4**
baz=172
PV23 Carpenter Ridg 76.33 349 *eP* **P 18 55 39.7 -0.8**
BLO Bloomington 76.36 7 *eP* **P 18 55 38.7 -1.5**
comp=Z,34nm,1.4s
BLO Bloomington 76.36 7 *eP* **P 18 55 38.7 -1.5**
BLO pmax pmax
comp=Z,34nm,1.4s
PV22 Blue Mesa, Par 76.38 349 *eP* **P 18 55 40.2 -0.4**
comp=Z,32nm,1.4s
PV09 Paradox Valley 76.40 349 *eP* **P 18 55 39.9 -0.9**
PV21 Cone Mtn., Par 76.43 349 *eP* **P 18 55 41.1 +0.1**
comp=Z,34nm,1.4s
MTPU Mount Pierson 76.48 346 *eP* **P 18 55 41.8 +0.4**
comp=Z,52nm,1.9s
P42A Winchester 76.49 4 *eP* **P 18 55 39.6 -1.3**
comp=Z,19nm,0.8s
P41A Barry, Barry 76.55 3 P **P 18 55 42.2 +1.0**
baz=183
Q51A Peebles 76.57 9 *eP* **P 18 55 40.3 -1.1**
comp=Z,32nm,1.3s
Q51A Peebles 76.57 9 P **P 18 55 41.2 -0.3**
baz=190
P45A Graceland, Par 76.61 6 *eP* **P 18 55 41.4 -0.3**
comp=Z,42nm,1.4s
Q52A Bidwell 76.66 10 P **P 18 55 42.3 +0.4**
baz=190
CBN Corbin Frederi 76.75 14 *eP* **P 18 55 42.0 -0.4**
comp=Z,27nm,0.5s
CBN LR LR
comp=Z,567nm,21.0s
SMCO Snowmass 76.75 351 *eP* **P 18 55 41.9 -1.0**
comp=Z,25nm,1.3s
PMPB Monarch Peak 76.81 339 *eP* **P 18 55 42.0 -0.9**
comp=Z,89nm,1.5s
MSU Marysvale 76.94 346 *eP* **P 18 55 44.5 +0.7**
MSU Marysvale 76.94 346 *eP* **P 18 55 44.5 +0.7**
P51A Williamsport 77.06 9 *eP* **P 18 55 43.2 -0.9**
comp=Z,106nm,2.0s
TCRU Three Creeks R 77.08 346 *eP* **P 18 55 44.8 +0.1**
comp=Z,34nm,1.4s
P50A Jamestown 77.09 9 P **P 18 55 44.1 -0.2**
baz=189,SNR=7.2
ISCO Idaho Springs 77.20 352 *eP* **P 18 55 45.4 0.0**
comp=Z,22nm,1.6s
ISCO Idaho Springs 77.20 352 *eP* **P 18 55 45.4 0.0**
ISCO pmax pmax
comp=Z,22nm,1.6s
ISCO Idaho Springs 77.20 352 P **P 18 55 45.6 +0.3**
baz=172
SRU San Rafael Swe 77.22 348 *eP* **P 18 55 45.7 +0.3**
comp=Z,50nm,1.7s
SRU San Rafael Swe 77.22 348 *eP* **P 18 55 45.7 +0.3**
SRU pmax pmax
comp=Z,50nm,1.7s
PSUT Pine Spring 77.29 345 *eP* **P 18 55 45.6 -0.1**
comp=Z,10nm,1.1s
P53A Whipple 77.30 11 *eP* **P 18 55 45.2 -0.3**
comp=Z,76nm,1.4s
P52A Corning 77.33 10 P **P 18 55 45.9 +0.2**
baz=191
R11A Troy Canyon, C 77.49 344 *eP* **P 18 55 47.3 +0.5**
comp=Z,45nm,1.8s
R11A Troy Canyon, C 77.49 344 P **P 18 55 47.3 +0.5**
baz=164,SNR=6.9
HDIL Hopedale 77.52 4 *eP* **P 18 55 46.5 -0.2**
comp=Z,65nm,1.5s
HDIL LR LR
comp=Z,490nm,22.0s
TMUT Trail Mountain 77.52 347 *eP* **P 18 55 46.9 -0.2**
comp=Z,76nm,1.8s
O48A Farmland 77.57 8 P **P 18 55 46.6 -0.5**
baz=188
N41A Harden Midland 77.58 3 *eP* **P 18 55 46.7 -0.4**
comp=Z,18nm,1.0s
O49A Covington 77.60 8 *eP* **P 18 55 46.5 -0.7**
comp=Z,82nm,1.6s
O49A Covington 77.60 8 P **P 18 55 47.2 +0.1**
baz=189
P17A Butcher Ranch, 77.61 348 *eP* **P 18 55 47.3 -0.2**
comp=Z,15nm,1.2s
OMMB Old Mammoth Mi 77.63 341 *eP* **P 18 55 47.8 0.0**
comp=Z,10nm,1.3s
P18A Preston Nutter 77.68 348 *eP* **P 18 55 48.1 0.0**
comp=Z,62nm,1.8s
N39A Derby Farms, D 77.69 2 *eP* **P 18 55 45.8 -1.9**
comp=Z,88nm,1.5s
N39A Derby Farms, D 77.69 2 P **P 18 55 47.4 -0.3**
baz=182
N40A Mertquake, Sal 77.73 3 P **P 18 55 47.6 -0.3**
baz=183
ACSO Alum Creek Sta 77.81 9 *eP* **P 18 55 47.1 -1.2**
comp=Z,73nm,1.5s
ACSO LR LR
comp=Z,446nm,21.0s
ACSO Alum Creek Sta 77.81 9 P **P 18 55 49.0 +0.6**
baz=190
ASCN Ascension 77.85 91 *eP* **P 18 55 47.6 -1.7**
comp=Z,41nm,1.6s
O52A Adamsville 77.85 10 *eP* **P 18 55 47.6 -0.9**
comp=Z,95nm,1.5s
O52A Adamsville 77.85 10 P **P 18 55 49.1 +0.5**
baz=191
O20A White River Ci 77.87 350 *eP* **P 18 55 48.9 -0.1**
comp=Z,73nm,1.9s
O20A White River Ci 77.87 350 P **P 18 55 49.8 +0.9**
baz=169
OGNE Ogallah 77.99 355 *eP* **P 18 55 48.7 -0.7**
comp=Z,57nm,1.4s
SDMD Soldier's Deli 78.02 14 *eP* **P 18 55 48.6 -0.9**
comp=Z,31nm,1.5s
NV11 Mina Array Sit 78.18 342 *eP* **P 18 55 50.4 -0.3**
comp=Z,3.8nm,1.5s
N48A Decatur 78.18 8 P **P 18 55 50.4 0.0**
baz=188,SNR=7.1
NV01 Mina Array Sit 78.22 342 *eP* **P 18 55 50.4 -0.5**
NVAR Mina Array Bea 78.22 342 P **P 18 55 51.9 +1.0**
comp=Z,57nm,0.8s,baz=173,slow=5.7,SNR=19
BGNE Belgrade 78.24 358 *eP* **P 18 55 50.8 0.0**
comp=Z,167nm,1.6s
MPU Maple Canyon 78.30 347 *eP* **P 18 55 51.2 -0.1**
comp=Z,14nm,1.3s
N23A Red Feather La 78.32 352 *eP* **P 18 55 52.0 +0.5**
comp=Z,46nm,1.5s
N23A Red Feather La 78.32 352 P **P 18 55 52.1 +0.6**
baz=171
NLU Nn Lily Min 78.32 347 *eP* **P 18 55 52.0 +0.6**
comp=Z,48nm,1.7s
N49A Columbus Grove 78.34 8 *eP* **P 18 55 50.1 -1.2**
comp=Z,94nm,1.4s
N49A Columbus Grove 78.34 8 P **P 18 55 50.7 -0.6**
baz=189
CMB Columbia Colle 78.40 340 *eP* **P 18 55 51.1 -0.6**
comp=Z,39nm,1.8s
CMB Columbia Colle 78.40 340 *eP* **P 18 55 51.1 -0.6**
CMB pmax pmax
comp=Z,39nm,1.8s
RYN Ryan 78.46 341 *eP* **P 18 55 52.2 -0.1**
comp=Z,28nm,1.3s
O56A Blue Knob Stat 78.52 13 *eP* **P 18 55 51.6 -0.7**
comp=Z,90nm,1.6s
O56A Blue Knob Stat 78.52 13 P **P 18 55 53.1 +0.7**
baz=193
N51A Ashland 78.56 10 *eP* **P 18 55 50.9 -1.6**
comp=Z,128nm,1.8s
N51A Ashland 78.56 10 P **P 18 55 52.9 +0.4**
baz=190
WAKR Walker 78.58 341 *eP* **P 18 55 53.8 +0.8**
comp=Z,48nm,1.8s
M46A Old House Fiel 78.59 7 *eP* **P 18 55 52.0 -0.6**
comp=Z,37nm,0.3s
PHWY Pilot Hill 78.66 352 *eP* **P 18 55 53.1 -0.3**
comp=Z,11nm,0.8s
MVL Millersville 78.68 15 *eP* **P 18 55 52.4 -0.8**
comp=Z,63nm,1.7s
DUG Dugway, Tooele 78.69 346 *eP* **P 18 55 53.7 +0.3**
comp=Z,46nm,1.4s
DUG LR LR
comp=Z,268nm,20.0s
DUG Dugway, Tooele 78.69 346 P **P 18 55 54.3 +0.9**
baz=166,SNR=7.5
SCIA State Center 78.71 1 *eP* **P 18 55 52.4 -0.9**
comp=Z,145nm,1.8s
KVN Kaiserville 78.75 342 *eP* **P 18 55 53.0 -0.9**
comp=Z,38nm,1.5s
KVN Kaiserville 78.75 342 *eP* **P 18 55 53.0 -0.9**
KVN pmax pmax
comp=Z,38nm,1.5s
PSUB Penn St. - Bra 78.80 15 *eP* **P 18 55 52.8 -1.0**
comp=Z,60nm,1.7s
JLU Jordanelle 78.83 347 *eP* **P 18 55 53.9 -0.4**
comp=Z,64nm,2.0s
M48A Edgerton 78.83 8 *eP* **P 18 55 53.0 -1.0**
comp=Z,73nm,1.4s
L40A Anamosa 78.92 3 *eP* **P 18 55 53.2 -1.3**
comp=Z,41nm,1.5s
L42A Oliver, Polo 78.94 4 *eP* **P 18 55 53.0 -1.6**
comp=Z,55nm,1.6s
M50A Fremont 78.95 9 *eP* **P 18 55 53.5 -1.2**
comp=Z,77nm,1.6s
N54A Moraine State 78.96 12 *eP* **P 18 55 53.4 -1.3**
comp=Z,135nm,1.8s
N54A Moraine State 78.96 12 P **P 18 55 54.0 -0.7**
baz=192
CTU Camp Tracy 78.97 347 *eP* **P 18 55 54.6 -0.4**
comp=Z,28nm,1.8s
YERR Yerington 78.98 341 *eP* **P 18 55 55.7 +0.6**
comp=Z,42nm,1.4s
SSPA Standing Stone 79.00 13 *eP* **P 18 55 53.6 -1.3**
comp=Z,71nm,1.8s
SSPA Standing Stone 79.00 13 P **P 18 55 55.3 +0.4**
baz=194
PNTR Pine Nut 79.17 341 *eP* **P 18 55 55.0 -1.2**
comp=Z,22nm,1.1s
RWWY Rawlins 79.25 351 *eP* **P 18 55 56.9 +0.3**
comp=Z,51nm,1.4s
RUBR Rubicon Trail 79.28 340 *eP* **P 18 55 57.1 +0.3**
comp=Z,130nm,1.3s
TCUT Toone Canyon 79.33 347 *eP* **P 18 55 56.8 -0.3**
comp=Z,39nm,1.3s
VCNR Virginia City, 79.38 341 *eP* **P 18 55 57.5 +0.2**
comp=Z,39nm,1.6s
AFDM Forest Hills D 79.41 340 *eP* **P 18 55 57.2 0.0**
comp=Z,31nm,1.5s
BGU Big Grassy Mou 79.44 346 *eP* **P 18 55 56.9 -0.6**
comp=Z,21nm,1.5s
M54A Oil Creek Stat 79.54 12 P **P 18 55 58.2 +0.3**
baz=192
ALLY Allegheny Colle 79.61 11 *eP* **P 18 55 57.2 -1.0**
comp=Z,136nm,1.6s
PAHR Pah Rah Range 79.70 341 *eP* **P 18 55 59.2 +0.3**
comp=Z,44nm,1.6s
SPUT South Promonto 79.70 347 *eP* **P 18 55 58.3 -0.7**
comp=Z,26nm,1.5s
BRNJ Basking Ridge 79.71 16 *eP* **P 18 55 57.3 -1.5**
comp=Z,138nm,1.9s
K43A Burlington 79.72 5 *eP* **P 18 55 56.4 -2.4**
comp=Z,26nm,1.0s
AAM Ann Arbor 79.76 9 *eP* **P 18 55 57.5 -1.5**
comp=Z,125nm,1.6s
AAM Ann Arbor 79.76 9 *eP* **P 18 55 57.5 -1.5**
AAM pmax pmax
comp=Z,125nm,1.6s
PUH Pauahi 79.81 304 *eP* **P 18 56 00.1 +0.1**
comp=Z,614nm,1.9s
JFWS Jewell Farm 79.81 4 *eP* **P 18 55 58.2 -1.1**
comp=Z,104nm,1.9s
JFWS LR LR
comp=Z,349nm,20.0s
JFWS Jewell Farm 79.81 4 *eP* **P 18 55 58.2 -1.1**
JFWS pmax pmax
comp=Z,105nm,1.9s
JFWS MLR MLR
comp=Z,349nm,20.0s
HLP Hilina Pali 79.82 304 *eP* **P 18 55 58.6 -1.4**
comp=Z,431nm,1.5s
HWUT Hardware Ranch 79.83 347 *eP* **P 18 55 59.6 0.0**
comp=Z,25nm,1.6s
BMN Battle Mountai 79.85 343 *eP* **P 18 55 59.5 -0.3**
comp=Z,33nm,1.4s
K46A Dorr 79.91 7 P **P 18 55 59.7 -0.1**
baz=188
AIN Ainahou 79.97 304 *eP* **P 18 55 59.6 -1.4**
comp=Z,401nm,1.5s
KHU Kahuku 79.99 303 *eP* **P 18 55 59.3 -1.8**
KHU Kahuku 79.99 303 *eP* **P 18 55 59.3 -1.8**
ODNJ Ogdensburg 80.08 16 *eP* **P 18 55 59.6 -1.2**
comp=Z,49nm,1.5s
ERPA Erie 80.09 11 *eP* **P 18 55 59.9 -0.9**
comp=Z,75nm,1.7s
BEKR Beckworth 80.10 340 *eP* **P 18 56 01.6 +0.4**
comp=Z,64nm,1.8s
K22A Casper 80.12 351 *eP* **P 18 56 00.9 -0.3**
comp=Z,93nm,1.5s
K22A Casper 80.12 351 P **P 18 56 01.9 +0.7**
baz=171
ORV Oroville 80.12 340 *eP* **P 18 56 00.8 -0.2**
comp=Z,52nm,1.8s
ORV Oroville 80.12 340 *eP* **P 18 56 00.9 -0.2**
ORV pmax pmax
comp=Z,52nm,1.8s
PAL Palisades 80.16 16 *eP* **P 18 56 01.8 +0.6**
comp=Z,23nm,1.0s
HVU Hansel Valley 80.22 347 *eP* **P 18 56 01.6 -0.1**
comp=Z,16nm,1.2s
HVU Hansel Valley 80.22 347 *eP* **P 18 56 01.7 -0.1**
HVU pmax pmax
comp=Z,16nm,1.2s
J41A Loganville 80.28 4 P **P 18 56 01.9 +0.1**
baz=184
KHLU Kahalu'u 80.42 303 *eP* **P 18 56 02.1 -1.1**
comp=Z,466nm,2.0s
ECSD EROS Data Cent 80.53 359 *eP* **P 18 56 01.8 -1.4**
comp=Z,55nm,1.5s
ECSD LR LR
comp=Z,201nm,19.0s
ECSD EROS Data Cent 80.53 359 P **P 18 56 03.2 +0.1**
baz=179
BW06 Boulder Array 80.64 349 *eP* **P 18 56 03.6 -0.5**
comp=Z,28nm,1.3s
BW06 Boulder Array 80.64 349 P **P 18 56 04.0 0.0**
baz=168,SNR=13
PD31 Pinedale Array 80.64 349 *eP* **P 18 56 03.6 -0.5**
PDAR Pinedale Array 80.64 349 P **P 18 56 02.9 -1.2**
comp=Z,5.6nm,0.8s,baz=158,slow=5.6,SNR=27
PDAR Pinedale Array 80.64 349 *eP* **P 18 56 03.1 -1.0**
YLE Yale 80.68 17 *eP* **P 18 56 04.2 +0.2**
comp=Z,108nm,1.4s
I39A Houston 80.70 3 *eP* **P 18 56 02.5 -1.5**
comp=Z,91nm,1.7s
I39A Houston 80.70 3 P **P 18 56 04.2 +0.1**
baz=183
I40A Norwalk 80.77 3 P **P 18 56 04.3 -0.1**
baz=184
KCPM Cahto Peak 80.85 338 *eP* **P 18 56 05.0 -0.1**
comp=Z,86nm,1.6s
I42A Draeger Farm, 80.86 4 *eP* **P 18 56 03.1 -1.8**
comp=Z,36nm,1.4s
BINY Binghamton 80.87 14 *eP* **P 18 56 04.0 -1.1**
comp=Z,114nm,1.9s
BINY LR LR
comp=Z,361nm,20.0s
AHID Auburn Hatcher 80.88 348 *eP* **P 18 56 04.8 -0.6**
comp=Z,80nm,1.9s
O03E Paynes Creek 80.90 340 P **P 18 56 05.8 +0.4**
baz=159
I41A Arkdale 80.97 4 *eP* **P 18 56 04.7 -0.8**
comp=Z,46nm,1.4s
MMNY Mt. Morris Dam 81.03 13 *eP* **P 18 56 03.6 -2.2**
comp=Z,55nm,1.5s
RSSD Black Hills 81.31 353 *eP* **P 18 56 06.7 -0.9**
comp=Z,47nm,1.5s
RSSD Black Hills 81.31 353 *eP* **P 18 56 06.7 -0.9**
RSSD pmax pmax
comp=Z,47nm,1.5s
RSSD Black Hills 81.31 353 P **P 18 56 08.9 +1.3**
baz=173
WDC Whiskeytown Da 81.37 339 *eP* **P 18 56 07.3 -0.4**
comp=Z,30nm,1.4s
WDC *eP*cP **PcP 18 56 14.5 +0.7**
WDC Whiskeytown Da 81.37 339 *eP* **P 18 56 07.3 -0.4**
WDC *e* 18 56 14.5
WDC pmax pmax
comp=Z,31nm,1.4s
KMRM Mail Ridge 81.38 338 *eP* **P 18 56 06.8 -1.0**
comp=Z,66nm,1.4s
REDW Red Top Meadow 81.42 348 *eP* **P 18 56 08.2 -0.1**
comp=Z,53nm,1.4s
H42A Shiocton 81.50 5 *eP* **P 18 56 07.4 -0.9**
comp=Z,27nm,1.3s
SNOW Snow King Moun 81.50 349 *eP* **P 18 56 08.5 -0.2**
comp=Z,32nm,1.4s

H40A Chili 81.51 3 P P 18 56 09.6 +1.3
baz=184
H43A Windswept, Lux 81.52 5 eP P 18 56 07.4 -1.0
comp=Z,22nm,0.8s
H39A Augusta 81.53 3 P P 18 56 09.3 +0.8
baz=183
H41A Junction City 81.54 4 eP P 18 56 07.8 -0.8
comp=Z,30nm,1.6s
FUNA Funafuti 81.54 266 eP P 18 56 08.4 -1.0
comp=Z,376nm,1.8s
FUNA LR LR
comp=Z,4μm,19.0s
TPAW Teton Pass 81.56 348 eP P 18 56 07.7 -1.3
comp=Z,45nm,1.4s
LOHW Long Hollow 81.63 349 eP P 18 56 09.1 -0.2
comp=Z,55nm,1.8s
FXWY Fox Creek 81.72 348 eP P 18 56 09.6 -0.2
comp=Z,10.0nm,1.0s
MOOW Moose Ponds 81.78 349 eP P 18 56 09.9 -0.2
comp=Z,37nm,1.9s
H46A Fife Lake 81.81 7 P P 18 56 10.2 +0.3
baz=188
IMW Indian Meadow 81.96 348 eP P 18 56 11.3 +0.2
comp=Z,37nm,1.5s
KHMM Horse Mountain 81.99 338 eP P 18 56 11.0 -0.2
comp=Z,69nm,1.5s
MOD Modoc Plateau 82.00 341 eP P 18 56 11.1 -0.1
comp=Z,65nm,1.7s
SPMN Marine on St. 82.03 2 eP P 18 56 10.3 -0.7
comp=Z,56nm,1.6s
WVOR Wild Horse Val 82.08 343 eP P 18 56 11.5 -0.1
comp=Z,53nm,1.8s
FLWY Flagg Ranch 82.10 349 eP P 18 56 12.2 +0.4
comp=Z,104nm,1.8s
HRV Adam Dziewonsk 82.13 17 eP P 18 56 11.2 -0.5
comp=Z,81nm,1.7s
HRV Adam Dziewonsk 82.13 17 eP P 18 56 11.2 -0.5
HRV pmax pmax
comp=Z,81nm,1.7s
GLMI Grayling 82.15 7 PFAKE 18 56 20.0 +8.3
GLMI LR LR
comp=Z,320nm,19.0s
G40A Rib Lake 82.17 3 eP P 18 56 10.9 -0.9
comp=Z,47nm,1.5s
TAU Tasmania Unive 82.20 221 PFAKE 18 56 20.0 +7.6
TAU LR LR
comp=Z,681nm,19.0s
M02C Callahan 82.21 339 P P 18 56 13.0 +0.7
baz=158
HLID Hailey 82.25 346 eP P 18 56 13.1 +0.5
comp=Z,30nm,1.3s
HLID Hailey 82.25 346 P P 18 56 13.3 +0.7
baz=165,SNR=13
M04C Macdoel 82.29 340 P P 18 56 13.6 +0.8
baz=159
YPP Pitchstone Pla 82.30 349 eP P 18 56 13.1 +0.2
comp=Z,14nm,1.4s
G43A Wallace 82.31 5 eP P 18 56 11.9 -0.6
comp=Z,63nm,1.8s
H17A Grant Village 82.39 349 eP P 18 56 13.7 +0.3
comp=Z,14nm,1.4s
YFT Old Faithful 82.48 349 eP P 18 56 14.8 +1.0
comp=Z,47nm,1.7s
ACCN Adirondack Com 82.49 16 eP P 18 56 13.5 -0.1
comp=Z,37nm,1.5s
LKWY Lake 82.52 349 PFAKE 18 56 20.0 +6.0
LKWY LR LR
comp=Z,249nm,19.0s
KRMB Red Mountain 82.63 339 eP P 18 56 13.3 -1.2
F41A Three Lakes 82.69 4 eP P 18 56 15.0 +0.5
comp=Z,25nm,1.3s
YMR Madison River 82.71 349 eP P 18 56 15.8 +0.8
comp=Z,94nm,2.0s
YNR Norris Junctio 82.71 349 eP P 18 56 16.1 +1.1
comp=Z,24nm,1.5s
YHH Holmes Hill 82.81 349 eP P 18 56 16.0 +0.4
comp=Z,41nm,1.6s
YHB Horse Butte 82.83 348 eP P 18 56 16.4 +0.8
comp=Z,19nm,1.5s
RLMT Red Lodge 82.90 350 eP P 18 56 16.2 +0.3
comp=Z,28nm,1.3s
RLMT Red Lodge 82.90 350 P P 18 56 16.9 +1.0
baz=169,SNR=8.7
J08A Circle Bar Ran 82.92 343 eP P 18 56 16.3 +0.4
comp=Z,55nm,1.5s
NCB Newcomb 82.93 15 eP P 18 56 15.7 -0.2
comp=Z,85nm,2.0s
QLMT Earthquake Lak 82.94 348 eP P 18 56 16.6 +0.4
FFD Franklin Falls 83.02 17 eP P 18 56 17.5 +1.2
comp=Z,84nm,1.4s
HON Honolulu 83.03 303 eP P 18 56 16.6 -0.3
comp=Z,286nm,1.3s
HON Honolulu 83.03 303 eP P 18 56 16.6 -0.3
HON pmax pmax
comp=Z,286nm,1.3s
COWI Conover 83.05 4 eP P 18 56 16.9 +0.5
comp=Z,26nm,1.4s
F46A Macinaw City C 83.07 7 P P 18 56 17.5 +1.0
baz=188
KIP Kipapa 83.11 303 eP P 18 56 17.3 0.0
comp=Z,398nm,1.8s
KIP Kipapa 83.11 303 eP P 18 56 17.3 0.0
KIP pmax pmax
comp=Z,398nm,1.8s
MCMT McKenzie Canyo 83.18 347 eP P 18 56 18.2 +0.8
E39A Mellen 83.26 3 P P 18 56 18.5 +1.1
baz=184
DZM Mont Dzumac 83.39 247 eLR LR 19 22 32.8
comp=Z,1μm,23.6s
LONY Lake Ozonia 83.48 15 eP P 18 56 18.2 -0.5
comp=Z,50nm,1.5s
LONY LR LR
comp=Z,309nm,20.0s
LONY Lake Ozonia 83.48 15 P P 18 56 19.2 +0.5
baz=196
J05D Fort Rock, OR 83.53 341 P P 18 56 20.2 +1.1
baz=159
VT1 Waterbury 83.59 16 eP P 18 56 20.2 +1.0
comp=Z,12nm,0.6s
GCMT Greycliff 83.62 350 eP P 18 56 18.0 -1.5
DLMT Dillon 83.66 348 eP P 18 56 18.6 -1.1
comp=Z,49nm,1.8s
LBNH Lisbon 83.69 16 eP P 18 56 19.3 -0.5
comp=Z,42nm,1.5s
E46A Sault Ste Mari 83.70 7 P P 18 56 20.7 +0.9
baz=189
BOZ Bozeman (W) 83.72 348 eP P 18 56 18.5 -1.6
comp=Z,43nm,1.9s
BOZ Bozeman (W) 83.72 348 eP P 18 56 18.5 -1.6
BOZ pmax pmax
comp=Z,43nm,1.9s
I07A Izee 83.85 343 eP P 18 56 21.1 +0.4
comp=Z,32nm,1.3s
D41A Chassel 84.04 4 eP P 18 56 22.4 +1.0
comp=Z,72nm,1.4s
LAO LASA Array 84.07 352 eP P 18 56 22.2 +0.5
comp=Z,44nm,1.3s
LAO LASA Array 84.07 352 P P 18 56 22.7 +1.0
baz=171,SNR=6.7
BMO Blue Mountains 84.08 344 eP P 18 56 22.8 +1.0
comp=Z,32nm,1.6s
BMO Blue Mountains 84.08 344 eP P 18 56 22.8 +1.0
BMO pmax pmax
comp=Z,32nm,1.6s
ALFO Alfred 84.39 14 P P 18 56 27.2 +4.0
baz=196
D47A Chapleau 84.52 8 P P 18 56 24.6 +0.7
baz=190
E53A Dumoine, Ponti 84.61 12 P P 18 56 24.3 -0.1
baz=194
MOQ Mont Orford 84.63 16 eP P 18 56 24.4 -0.2
MDND Maddock 84.73 357 eP P 18 56 24.9 0.0
comp=Z,112nm,1.4s
E54A Lac Daplat, Po 84.75 12 P P 18 56 25.1 0.0
baz=194
EYMN Ely 84.79 2 PFAKE 18 56 40.0 +15
EYMN LR LR
comp=Z,268nm,20.0s
HRY Holter Researc 84.84 348 eP P 18 56 26.0 +0.3
G08A Pilot Rock 84.86 343 eP P 18 56 25.6 -0.3
comp=Z,68nm,1.6s
AGMN Agassiz Nation 85.08 359 eP P 18 56 26.6 -0.1
comp=Z,73nm,1.8s
H04A Detroit Lake 85.08 341 eP P 18 56 28.0 +1.2
comp=Z,72nm,1.8s
F10A Beach Ranch, E 85.13 345 eP P 18 56 26.1 -1.0
comp=Z,40nm,1.5s
G06A Carlson Farm, 85.21 342 eP P 18 56 25.9 -1.5
comp=Z,84nm,1.8s
EMMW East Machias 85.23 19 eP P 18 56 28.0 +0.6
comp=Z,70nm,1.5s
PKME Peaks-Kenny Pk 85.28 18 PFAKE 18 56 40.0 +12
PKME LR LR
comp=Z,268nm,20.0s
MSO Missoula 85.31 347 eP P 18 56 26.6 -1.4
comp=Z,26nm,1.6s
MSO Missoula 85.31 347 P P 18 56 28.7 +0.6
baz=165
DGMT Dagmar 85.64 354 eP P 18 56 27.8 -1.7
comp=Z,131nm,1.9s
F07A Phinny Hill Vi 85.66 343 eP P 18 56 28.7 -0.9
comp=Z,85nm,1.6s
GGN Saint George 85.77 20 eP P 18 56 29.7 -0.5
comp=Z,65nm,1.4s
EGMT Eagleton 85.81 350 eP P 18 56 30.3 -0.1
comp=Z,59nm,1.7s
EGMT Eagleton 85.81 350 P P 18 56 31.3 +0.8
baz=168
E09A Wood Farm, Sta 85.84 344 eP P 18 56 29.1 -1.4
comp=Z,52nm,1.8s
E08A Dider Farm, El 86.02 344 eP P 18 56 30.9 -0.5
comp=Z,52nm,1.5s
HAWA Hanford 86.03 343 eP P 18 56 31.7 +0.2
comp=Z,51nm,1.4s
HAL Halifax 86.25 22 eP P 18 56 31.1 -1.5
comp=Z,107nm,1.7s
HAL Halifax 86.25 22 eP P 18 56 31.1 -1.5
HAL pmax pmax
comp=Z,107nm,1.7s
JTMT Jette 86.26 347 eP P 18 56 32.2 -0.5
comp=Z,28nm,1.4s
E07A Sunnyside 86.27 343 eP P 18 56 31.7 -0.9
comp=Z,43nm,1.6s
VLDQ Val d'Or 86.33 12 eP P 18 56 31.0 -1.8
comp=Z,76nm,2.0s
D08A Wollman Farm, 86.53 344 eP P 18 56 33.4 -0.5
comp=Z,54nm,1.7s
ULM Lac du Bonnet 87.04 359 P P 18 56 35.4 -0.9
comp=Z,10nm,1.1s,baz=184,slow=1.3,SNR=5.1
ULM LR LR 19 33 53.7
comp=Z,174nm,19.3s,baz=136,slow=34
ULM Lac du Bonnet 87.04 359 eP P 18 56 34.9 -1.4
comp=Z,100nm,1.9s
ULM Lac du Bonnet 87.04 359 eP P 18 56 34.9 -1.4
ULM pmax pmax
comp=Z,100nm,1.9s
C09A Chrisman Ranch 87.09 345 eP P 18 56 36.7 +0.1
comp=Z,63nm,0.4s
NEW Newport 87.29 345 eP P 18 56 37.3 -0.4
comp=Z,17nm,1.3s
NEW Newport 87.29 345 eP P 18 56 37.3 -0.4
NEW pmax pmax
comp=Z,17nm,1.3s
NEW Newport 87.29 345 P P 18 56 38.6 +0.9
baz=163
D05A Enumclaw 87.37 342 eP P 18 56 36.8 -1.1
comp=Z,63nm,1.4s
WALA Waterton Lakes 87.46 348 eP P 18 56 37.2 -1.4
GBN Guysborough 87.58 23 eP P 18 56 37.0 -2.0
B08A Colville Reser 87.85 344 eP P 18 56 37.8 -2.5
comp=Z,30nm,1.7s
CHGQ Chibougamau 88.60 13 P P 18 56 47.2 +3.4
baz=196
FFC Flin Flon 91.71 356 ceP P 18 57 00.0 +1.8
FFC pmax pmax
comp=Z,77nm,2.5s
STKA Stephens Creek 93.31 225 P P 18 57 05.8 -0.6
comp=Z,1.1nm,0.8s,baz=154,slow=8.3,SNR=2.5
STKA LR LR 19 30 53.5
comp=Z,154nm,21.8s,baz=182,slow=30
STKA Stephens Creek 93.31 225 eP P 18 57 05.2 -1.3
comp=Z,4.2nm,1.7s
STKA Stephens Creek 93.31 225 eP P 18 57 05.2 -1.3
STKA pmax pmax
comp=Z,4.0nm,1.7s
BOSA Boshof 93.89 130 P P 18 57 08.2 -1.1
comp=Z,2.8nm,1.0s,baz=202,slow=11,SNR=2.3
BOSA LR LR 19 33 36.2
comp=Z,273nm,20.3s,baz=222,slow=32
DBIC Dimbokro 94.13 85 LR LR 19 33 49.9
comp=Z,655nm,21.8s,baz=204,slow=32
SCHQ Schefferville 94.77 16 LR LR 19 36 17.0
comp=Z,187nm,19.8s,baz=244,slow=33
TSUM Tsumeb 95.39 119 PFAKE 18 57 30.0 +14
TSUM LR LR
comp=Z,373nm,21.0s
HNR Honiara 96.10 253 PFAKE 18 57 30.0 +11
HNR LR LR
comp=Z,567nm,21.0s
CTAO Charters Tower 98.93 237 PFAKE 18 57 40.0 +7.8
CTAO LR LR
comp=Z,532nm,21.0s
TORD Torodi Ar. Bea 103.14 83 PP PP 19 02 11.2 +5.2
comp=Z,0.7nm,1.1s,baz=251,slow=4.5,SNR=4.5
TOA1 Torodi Ar. Sit 103.14 83 ePP PP 19 02 11.2 +5.2
H01W1 Cape Leeuwin H 103.34 204 T T 20 53 59.8
baz=155,slow=76,SNR=14
H01W2 Cape Leeuwin H 103.34 204 T T 20 53 58.2
baz=155,slow=76,SNR=15
H01W3 Cape Leeuwin H 103.36 204 T T 20 53 59.9
baz=155,slow=76,SNR=18
LSZ Lusaka 105.37 123 PFAKE 19 02 30.0
LSZ LR LR
comp=Z,360nm,21.0s
PMG Port Moresby 105.66 245 PFAKE 19 02 30.0
PMG LR LR
comp=Z,292nm,20.0s
WRAB Tennant Creek 106.58 228 PFAKE 19 02 30.0
WRAB LR LR
comp=Z,695nm,19.0s
H11S2 WAKE ISLAND Hyl 107.36 280 T T 20 58 00.0
baz=120
H11S1 WAKE ISLAND Hyl 107.37 280 T T 20 58 01.8
baz=120
H11S3 WAKE ISLAND Hyl 107.38 280 T T 20 58 01.5
baz=120
ILAR Eielson Array 109.38 339 PP PP 19 02 52.4 +1.2
comp=Z,1.5nm,1.2s,baz=183,slow=8.2,SNR=4.1
PAB San Pablo 112.89 57 PFAKE 19 02 40.0
PAB LR LR
comp=Z,478nm,19.0s
ABPO Ambohimpanom 113.77 141 PFAKE 19 02 40.0
ABPO LR LR
comp=Z,147nm,20.0s
MBAR Mbarara 117.44 114 PFAKE 19 02 50.0 +12
MBAR LR LR
comp=Z,669nm,20.0s
KMBO Kilima Mbogo 121.72 120 PFAKE 19 03 00.0 +14
KMBO LR LR
comp=Z,249nm,21.0s
DAVA Damuels 125.50 54 ePKPdf PKPdf 19 02 51.3 -1.0
comp=Z,13nm,1.6s
FETA Feichten 125.96 54 i PKiKP PKiKP 19 02 53.6 0.0
comp=Z,8.9nm,1.4s
RETA Reutte 126.13 54 i PKiKP PKiKP 19 02 54.5 +0.7
comp=Z,12nm,1.4s
MOTA Moosalm 126.30 54 i PKiKP PKiKP 19 02 54.5 +0.2
comp=Z,9.7nm,1.2s
SQTA Sankt Quirin 126.33 54 i PKiKP PKiKP 19 02 55.0 +0.7
comp=Z,16nm,1.5s
WTTA Wattenberg 126.62 54 i PKiKP PKiKP 19 02 55.6 +0.7
comp=Z,16nm,1.7s
KAPI Kappang 126.97 225 PFAKE 19 03 10.0 +14
KAPI LR LR
comp=Z,230nm,19.0s
ABTA Abfaltersbach 127.04 55 ePKiKP PKiKP 19 02 55.9 +0.3
comp=Z,9.6nm,1.4s
BILL Bilibino 127.06 332 ePKiKP PKPdf 19 02 56.4 +2.0
BILL e 19 04 56.7
BILL ePPP PPP 19 07 37.5
BILL pmax pmax
comp=Z,2.0nm,1.4s
KBA Koelnbreinsper 127.68 55 ePKPdf PKPdf 19 02 56.6 +0.1
comp=Z,6.1nm,1.6s
MYKA Terra Mystica 127.75 56 ePKiKP PKiKP 19 02 57.0 -0.1
comp=Z,6.5nm,1.2s
GEA0 GERESS Array S 128.40 53 ePKPdf PKPdf 19 02 56.2 -1.5
GEC2 GERESS Array S 128.40 53 ePKPdf PKPdf 19 02 56.8 -0.9
GEC2 GERESS Array S 128.40 53 ePKIKP PKPdf 19 02 56.8 -0.9
GERES GERESS Array B 128.40 53 PKP PKPdf 19 02 57.9 +0.2
comp=Z,1.2nm,1.0s,baz=194,slow=2.8,SNR=7.2
PETK Petropavlovsk- 128.51 313 PKP PKPdf 19 02 57.4 -0.2
comp=Z,2.5nm,0.9s,baz=88,slow=3.6,SNR=2.7
PEA1 Petropavlovsk- 128.51 313 ePKPdf PKPdf 19 02 57.4 -0.2
CLL Collm 128.58 50 i PKPdf PKPdf 19 02 57.8 0.0
comp=Z,23nm,1.6s
CLL i 19 03 03.7
CLL LmV 19 50 00.0
comp=Z,300nm,19.2s
CLL Collm 128.58 50 i PKIKP PKPdf 19 02 57.8 0.0
CLL i 19 03 03.7
CLL pmax pmax
comp=Z,23nm,1.6s
CLL MLR MLR
comp=Z,300nm,19.2s
SOKA Soboth 128.68 56 i PKPdf PKPdf 19 02 57.4 -0.9
comp=Z,7.8nm,1.7s
DIVS Divibare 131.35 60 ePKPdf PKPdf 19 03 05.8 +2.3
VYHS Vyhne 131.62 54 ePKIKP PKPdf 19 03 05.1 +1.4
VYHS Vyhne 131.62 54 ePKP PKPdf 19 03 05.1 +1.4
MA2 Magadan 133.18 320 PFAKE 19 03 20.0 +14
MA2 LR LR
comp=Z,197nm,21.0s
UZH Uzhgorod 133.90 55 ePKIKP PKPdf 19 03 06.7 -1.3
UZH i 19 03 09.5
ARA0 ARCESS Array S 134.90 25 ePKPdf PKPdf 19 03 09.9 +0.6
ARCES ARCESS Array B 134.90 25 PKP PKPdf 19 03 09.9 +0.6
comp=Z,6.1nm,1.1s,baz=342,slow=7.6,SNR=4.4
ERM Erimo 135.62 295 PFAKE 19 03 20.0 +8.6
ERM LR LR
comp=Z,244nm,20.0s
BUR08 Bucovina Ar. S 135.66 57 ePKPdf PKPdf 19 03 11.1 -0.4
BUR04 Bucovina Ar. S 135.66 57 ePKPdf PKPdf 19 03 08.8 -2.6
MLR Muntele Rosu 135.79 60 ePKPdf PKPdf 19 03 10.2 -1.6
MLR Muntele Rosu 135.79 60 ePKIKP PKPdf 19 03 10.2 -1.6
YSS Yuzh-Sakhalins 136.87 302 PFAKE 19 03 20.0 +6.5
YSS LR LR
comp=Z,209nm,20.0s
KIEV Kiev 138.60 53 PFAKE 19 03 30.0 +13
KIEV LR LR
comp=Z,348nm,21.0s
AKASG Malin Array Be 138.61 53 PKP PKPdf 19 03 14.6 -2.0
comp=Z,0.3nm,0.3s,baz=267,slow=1.6,SNR=4.6
AKBB Malin Array Si 138.61 53 ePKPdf PKPdf 19 03 14.1 -2.6
AKBB Malin Array Si 138.61 53 ePKIKP PKPdf 19 03 14.1 -2.6
TIXI Tiksi 138.83 341 PKP PKPdf 19 03 16.1 -0.4
comp=Z,3.2nm,0.8s,baz=35,slow=4.2,SNR=6.8
TIXI Tiksi 138.83 341 ePKPdf PKPdf 19 03 15.5 -1.0
TIXI LR LR
comp=Z,255nm,19.0s
TIXI Tiksi 138.83 341 i PKIKP PKPdf 19 03 15.8 -0.6
ANTO Ankara 139.57 70 PFAKE 19 03 30.0 +11
ANTO LR LR
comp=Z,227nm,19.0s
BR101 Keskin Array S 140.17 70 ePKPdf PKPdf 19 03 18.0 -2.1
BRTR Keskin Array B 140.17 70 PKP PKPdf 19 03 18.0 -2.1
comp=Z,0.5nm,0.7s,baz=222,slow=1.9,SNR=2.9
OBN Obninsk 142.85 45 PKhKP PKPpre 19 03 20.1
comp=Z,1.6nm,0.4s,baz=103,slow=5.8,SNR=6.4
OBN Obninsk 142.85 45 ePKPpre PKPpre 19 03 19.5
OBN LR LR
comp=Z,170nm,19.0s
OBN Obninsk 142.85 45 ePKIKP PKPpre 19 03 20.3
OBN pmax pmax
comp=Z,19nm,1.3s
KLMR Klimovskoe 143.02 35 ePKIKP PKPbc 19 03 21.9 +0.8
KLMR pmax pmax
comp=Z,44nm,1.5s
KLMR Klimovskoe 143.02 35 ePKPdf PKPbc 19 03 21.9 +0.8
KLMR AMP 19 03 29.3
comp=Z,44nm,1.4s
MOS Moscow 143.35 44 ePKHKP PKPpre 19 03 20.3
MOS pmax pmax
comp=Z,29nm,1.1s
RAYN Ar Rayn 143.60 101 ePKPpre PKPpre 19 03 22.4
RAYN LR LR
comp=Z,254nm,21.0s
RAYN Ar Rayn 143.60 101 ePKHKP PKPpre 19 03 22.4
RAYN MLR MLR
comp=Z,254nm,21.0s
ANN Anapa 143.75 63 i PKIKP PKPdf 19 03 29.5 +3.4
ANN pmax pmax
comp=Z,48nm,1.1s
USRK Ussuriysk Ar. 144.04 296 PKP PKPbc 19 03 24.4 -0.2
comp=Z,2.3nm,0.7s,baz=86,slow=4.5,SNR=5.3
IPM Ipoh 144.30 208 ePKPdf PKPab 19 03 24.7 -1.2
KLR Kul'dur 144.36 305 PKP PKPab 19 03 24.6 -0.5
comp=Z,0.5nm,0.3s,baz=159,slow=2.9,SNR=3.6
LPSR Galich'ya Gora 144.58 49 ePKIKP PKPab 19 03 25.6 -0.2
LPSR i 19 03 31.9
LPSR pmax pmax
comp=Z,80nm,1.0s
VSR Storozhevoye 144.88 52 ePKIKP PKPab 19 03 26.2 -0.8
VSR i 19 03 32.6
VSR pmax pmax
comp=Z,90nm,1.2s
VORD Divnogorie 144.99 52 ePKIKP PKPbc 19 03 26.5 -0.9
VORD i 19 03 32.8
VORD pmax pmax
comp=Z,50nm,1.1s
PRGR Permogore 145.44 32 i PKIKP PKPdf 19 03 28.4 -0.1
PRGR pmax pmax
comp=Z,93nm,1.1s
MDJ Mudanjiang 145.79 297 ePKPdf PKPdf 19 03 27.7 -1.9
MDJ LR LR
comp=Z,449nm,21.0s
KSRS Korea Array 146.04 284 PKPbc PKPdf 19 03 30.4 +0.1
comp=Z,1.8nm,0.9s,baz=126,slow=2.1,SNR=4.8
KS01 Wonju Array Si 146.07 284 ePKPdf PKPdf 19 03 27.1 -3.2
KS15 Wonju Array Si 146.07 284 ePKPdf PKPdf 19 03 29.8 -0.6
KSAR Wonju Array Be 146.07 284 PKPbc PKPdf 19 03 30.4 0.0
KSAR Wonju Array Be 146.07 284 PKP2 PKPdf 19 03 30.4 0.0
ZEA Zeya 146.60 313 ePKP2 PKPdf 19 03 30.4 -0.3
ZEA pmax pmax
comp=Z,110nm,1.8s
ZEA pmax pmax
comp=Z,500nm,4.0s
NEY Neytrino 147.44 66 i PKP2 PKPab 19 03 36.4 -0.9
KIV Kislovodsk 147.46 65 ePKPdf PKPdf 19 03 33.3 +0.7
KIV LR LR
comp=Z,236nm,21.0s
KIV Kislovodsk 147.46 65 i PKP2 PKPbc 19 03 34.2 -1.0
KIV pmax pmax
comp=Z,32nm,1.0s
KIV MLR MLR
comp=Z,210nm,25.0s
KVAR Kislovodsk Arr 147.46 65 PKPbc PKPbc 19 03 35.0 -0.2
comp=Z,2.5nm,0.6s,baz=93,slow=23,SNR=5.9
KBZ Khabaz 147.60 65 PKPbc PKPbc 19 03 34.2 -1.2
comp=Z,6.0nm,0.9s,baz=272,slow=6.0,SNR=16
NRIK Noril'sk 147.73 358 PKPbc PKPbc 19 03 35.0 +0.1
comp=Z,4.2nm,0.4s,baz=33,slow=1.1,SNR=14
GOF Gofitskoye 147.74 63 ePKP2 PKPbc 19 03 35.3 -0.5
GOF pmax pmax
comp=Z,60nm,1.0s
AKH Akhalkalaki 147.85 69 ePKPdf PKPdf 19 03 32.5 -1.0
AKH Akhalkalaki 147.85 69 ePKIKP PKPdf 19 03 32.5 -1.0
NCK Nalchik 148.09 65 i PKIKP PKPdf 19 03 34.5 +0.9
ZEI Tsey 148.27 67 i PKHKP PKPpre 19 03 32.1
ZEI pmax pmax
comp=Z,61nm,1.9s
GNI Garni 148.64 72 ePKPbc PKPbc 19 03 38.2 -0.3
GNI LR LR
comp=Z,327nm,22.0s
CN2 Changchun 148.73 295 PKPbc PKPbc 19 03 37.1 -1.3
CN2 ePP PP 19 07 13.6 +4.5
CN2 LR LR
comp=Z,250nm,18.0s
CN2 LR LR
comp=Z,330nm,18.0s
CN2 LR LR
comp=Z,280nm,19.0s
TBLG Delisi 148.81 69 ePKPdf PKPdf 19 03 36.1 +1.3
TBLG Delisi 148.81 69 ePKIKP PKPdf 19 03 36.1 +1.3
GROC Groznyy 149.68 66 ePKHKP PKPpre 19 03 39.5
GROC e 19 07 14.4
GROC pmax pmax
comp=Z,107nm,1.5s
AKT Akhty 151.03 70 ePKIKP PKPbc 19 03 44.7 +0.5
AKT i 19 03 51.2
AKT e 19 07 28.8
AKT pmax pmax
comp=Z,61nm,1.6s
NJ2 Nanjing 151.73 270 ePKPbc PKPdf 19 03 41.1 +1.5
BOD Bodaibo 151.86 327 ePKIKP PKPdf 19 03 41.1 +2.1
BOD pmax pmax
comp=Z,42nm,1.6s
HIA Hailar 152.16 307 PFAKE 19 03 50.0 +3.5
HIA LR LR
comp=Z,296nm,20.0s

ARU	**Arti**	**153.85**	**34**	PKP	**PKPdf**	**19 03 41.4**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=270,slow=3.0,SNR=7.8						
ARU				PKPab	**PKPab**	**19 04 04.6**	**+1.6**
	comp=Z,3.0nm,0.8s,baz=267,slow=2.7,SNR=5.1						
ARU	**Arti**	**153.85**	**34**	*e*PKPdf	**PKPdf**	**19 03 41.0**	**-1.0**
ARU				*e*PKPab	**PKPab**	**19 04 04.5**	**+1.4**
ARU				LR	LR		
	comp=Z,233nm,19.0s						
ARU	**Arti**	**153.85**	**34**	*i* PKIKP	**PKPdf**	**19 03 41.9**	**-0.1**
SVE	**Sverdlovsk**	**154.51**	**32**	*e*PKP2	**PKPab**	**19 04 06.5**	**+0.7**
SVE				pmax	pmax		
	comp=Z,31nm,1.8s						
BJI	**Beijing**	**155.49**	**286**	PKP	**PKPdf**	**19 03 48.9**	**+4.1**
BJI				LR	LR		
	comp=Z,250nm,19.0s						
BJI				LR	LR		
	comp=Z,430nm,32.0s						
BJT	**Baijiatuan**	**155.50**	**286**	PFAKE		19 04 00.0	-11
BJT				LR	LR		
	comp=Z,353nm,20.0s						
AKTO	**Aktyubinsk**	**156.61**	**47**	PKPab	**PKPab**	**19 04 15.6**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=24,slow=4.6,SNR=6.3						
CM01	**Chiang Mai Arr**	**157.65**	**217**	*e*PKPdf	**PKPdf**	**19 03 45.0**	**-3.2**
CM01				*e*PKPab	**PKPab**	**19 04 19.6**	**-0.7**
CM31	**Chiang Mai Arr**	**157.69**	**217**	*e*PKPdf	**PKPdf**	**19 03 46.4**	**-1.8**
CMAR	**Chiang Mai Arr**	**157.69**	**217**	PKP	**PKPdf**	**19 03 46.3**	**-2.0**
	comp=Z,0.5nm,0.9s,baz=234,slow=1.9,SNR=4.9						
CMAR				PKPab	**PKPab**	**19 04 20.9**	**+0.5**
	comp=Z,2.1nm,1.1s,baz=171,slow=3.8,SNR=9.1						
CHTO	**Chiang Mai**	**157.99**	**218**	*e*PKPdf	**PKPdf**	**19 03 46.5**	**-2.1**
CHTO				*e*PKPab	**PKPab**	**19 04 20.6**	**-1.2**
CHTO				LR	LR		
	comp=Z,157nm,20.0s						
CHTO	**Chiang Mai**	**157.99**	**218**	*e*PKIKP	**PKPdf**	**19 03 46.6**	**-2.1**
CHTO				*e*		19 04 20.6	
CHTO				MLR	MLR		
	comp=Z,157nm,20.0s						
ABKAR	**Akbulak array**	**158.24**	**48**	*e*PKPdf	**PKPdf**	**19 03 47.3**	**-0.7**
ENH	**Enshi**	**158.50**	**259**	PFAKE		19 04 00.0	+11
ENH				LR	LR		
	comp=Z,243nm,20.0s						
GEYT	**Alibeck**	**158.73**	**80**	PKP	**PKPdf**	**19 03 49.7**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=271,slow=8.3,SNR=6.8						
GYA	**Guiyang**	**158.74**	**246**	*e*PKP	**PKPdf**	**19 03 50.3**	**+0.8**
GYA				PKPab	**sPKPab**	**19 04 29.6**	**0.0**
GYA				PKS	**PKSdf**	**19 07 23.0**	**-0.3**
GYA				AMB	AMB		
	comp=Z,140nm,7.8s						
HHC	**Hu-ho-hao-te**	**159.02**	**288**	*e*PKP	**PKPdf**	**19 03 46.6**	**-2.8**
HHC				LR	LR		
	comp=Z,190nm,12.1s						
HHC				LR	LR		
	comp=Z,210nm,13.0s						
HHC				LR	LR		
	comp=Z,180nm,12.1s						
TLY	**Talaya**	**160.36**	**324**	PFAKE		19 04 00.0	+10
TLY				LR	LR		
	comp=Z,246nm,21.0s						
TLY	**Talaya**	**160.36**	**324**	*e*PKP2	PKPab	19 04 19.4	-12
TLY				pmax	pmax		
	comp=Z,9.0nm,1.4s						
SONA1	**Songino Array**	**160.98**	**311**	*e*PKPdf	**PKPdf**	**19 03 49.5**	**-1.9**
SONA1				*e*PKPab	**PKPab**	**19 04 33.1**	**-1.2**
SONA0	**Songino Array**	**160.99**	**311**	*e*PKPab	**PKPab**	**19 04 33.8**	**-0.5**
SONM	**Songino Array**	**160.99**	**311**	PKPab	**PKPab**	**19 04 33.8**	**-0.5**
	comp=Z,2.5nm,0.8s,baz=90,slow=3.0,SNR=4.9						
BRVK	**Borovoye**	**161.09**	**28**	*e*PKPdf	**PKPdf**	**19 03 51.0**	**-0.1**
BRVK				*e*PKPab	**PKPab**	**19 04 34.5**	**+0.2**
BRVK				LR	LR		
	comp=Z,205nm,21.0s						
BVAR	**Borovoye Array**	**161.15**	**28**	PKP	**PKPdf**	**19 03 50.3**	**-0.9**
	comp=Z,1.4nm,1.0s,baz=135,slow=0.4,SNR=5.5						
NVS	**Novosibirsk**	**162.27**	**3**	*e*PKP2	**PKPab**	**19 04 32.6**	**-6.8**
ZAA1	**Zalesovo Array**	**163.20**	**0**	*e*PKPdf	**PKPdf**	**19 03 51.8**	**-1.4**
ZAA1				*e*PKPab	**PKPab**	**19 04 44.0**	**+0.6**
ZAA0	**Zalesovo Array**	**163.21**	**0**	*e*PKPdf	**PKPdf**	**19 03 50.5**	**-2.7**
ZAA0				*e*PKPab	**PKPab**	**19 04 43.6**	**+0.1**
ZALV	**Zalesovo Beam**	**163.21**	**0**	PKP	**PKPdf**	**19 03 51.8**	**-1.5**
	comp=Z,1.5nm,0.9s,baz=333,slow=1.7,SNR=6.9						
ZALV				PKPab	**PKPab**	**19 04 44.0**	**+0.5**
	comp=Z,2.2nm,0.9s,baz=356,slow=6.5,SNR=4.4						
ZALV	**Zalesovo Beam**	**163.21**	**0**	*e*PKPdf	**PKPdf**	**19 03 50.0**	**-3.2**
ZALV				*e*PKPab	**PKPab**	**19 04 43.4**	**-0.1**
ZALV	**Zalesovo Beam**	**163.21**	**0**	*e*PKIKP	**PKPdf**	**19 03 50.0**	**-3.2**
ZALV				*e*		19 04 43.4	
CD2	**Chengdu**	**163.22**	**254**	PKP	**PKPdf**	**19 03 52.4**	**-1.7**
CD2				pPKP	pPKPdf	19 03 55.9	-1.6
CD2				SS	SS	19 28 55.6	-0.5
CD2				AMB	AMB		
	comp=Z,140nm,5.0s						
CD2				LR	LR		
	comp=Z,510nm,17.4s						
CD2				LR	LR		
	comp=Z,500nm,22.8s						
LZH	**Lanzhou**	**164.79**	**272**	PKP	**PKPdf**	**19 03 56.5**	**+1.0**
LZH				LR	LR		
	comp=Z,330nm,13.0s						
LZH				LR	LR		
	comp=Z,350nm,16.4s						
LZH				LR	LR		
	comp=Z,460nm,17.8s						
KURK	**Kurchatov**	**165.71**	**17**	*e*PKPdf	**PKPdf**	**19 03 54.1**	**-1.4**
KURK				*e*PKPab	**PKPab**	**19 04 53.8**	**-0.9**
KURK				LR	LR		
	comp=Z,492nm,22.0s						
KURK	**Kurchatov**	**165.71**	**17**	*e*PKIKP	**PKPdf**	**19 03 54.1**	**-1.4**
KURK				*e*		19 04 53.8	
KURK				MLR	MLR		
	comp=Z,492nm,22.0s						
GTA	**Gaotai**	**168.10**	**285**	*e*PKP	**PKPdf**	**19 03 56.3**	**-1.6**
GTA				PP	**PP**	**19 08 54.8**	**-0.6**
GTA				AMB	AMB		
	comp=Z,120nm,11.3s						
GTA				LR	LR		
	comp=Z,330nm,15.8s						
GTA				LR	LR		
	comp=Z,240nm,19.9s						
GTA				LR	LR		
	comp=Z,360nm,22.7s						
MK32	**Makanchi Array**	**170.17**	**11**	*e*PKPdf	**PKPdf**	**19 03 57.2**	**-1.6**
MK32				*e*PKPab	**PKPab**	**19 05 13.8**	**-0.8**
MKAR	**Makanchi Array**	**170.17**	**11**	PKP	**PKPdf**	**19 03 57.2**	**-1.6**
	comp=Z,0.8nm,1.0s,baz=353,slow=19,SNR=4.5						
MKAR				PKPab	**PKPab**	**19 05 13.8**	**-0.8**
	comp=Z,1.0nm,0.9s,baz=0.9,slow=7.6,SNR=2.6						
MK01	**Makanchi Array**	**170.19**	**11**	*e*PKPdf	**PKPdf**	**19 03 57.0**	**-1.9**
FRU	**Bishkek**	**170.25**	**51**	*e*PKIKP	**PKPdf**	**19 03 57.0**	**-2.0**
AAK	**Ala-Archa**	**170.28**	**53**	PKP	**PKPdf**	**19 03 59.5**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=185,slow=4.1,SNR=5.0						
AAK				PKPab	**pPKPab**	**19 05 17.4**	**-1.4**
	comp=Z,1.5nm,0.7s,baz=201,slow=4.3,SNR=5.9						
AAK	**Ala-Archa**	**170.28**	**53**	*e*PKPdf	**PKPdf**	**19 03 58.2**	**-1.0**
AAK				*e*PKPdf	**PKPdf**	**19 03 59.5**	**+0.3**
AAK				*e*PKPab	**PKPab**	**19 05 14.9**	**-0.6**
AAK				LR	LR		
	comp=Z,351nm,22.0s						
AAK	**Ala-Archa**	**170.28**	**53**	*e*PKIKP	**PKPdf**	**19 03 58.2**	**-1.0**
AAK				*e*		19 03 59.5	
AAK				*e*		19 05 14.9	
AAK				MLR	MLR		
	comp=Z,351nm,22.0s						
LSA	**Lhasa**	**170.94**	**217**	*e*PKPdf	**PKPdf**	**19 03 59.0**	**-1.4**
LSA				LR	LR		
	comp=Z,214nm,21.0s						
LSA	**Lhasa**	**170.94**	**217**	*e*PKIKP	**PKPdf**	**19 03 59.0**	**-1.4**
LSA				MLR	MLR		
	comp=Z,214nm,21.0s						
NRN	**Naryn**	**171.85**	**56**	*e*PKPdf	**PKPdf**	**19 04 00.3**	**0.0**
NRN				*e*PKPab	**PKPab**	**19 05 22.1**	**-0.6**
NRN	**Naryn**	**171.85**	**56**	*e*PKIKP	**PKPdf**	**19 04 00.3**	**0.0**
NRN				*e*		19 05 22.1	
KSH	**Kashi**	**172.56**	**69**	PKP	**PKPdf**	**19 04 00.8**	**+0.4**
KSH				AMB	AMB		
	comp=Z,250nm,4.2s						
KSH				LR	LR		
	comp=Z,220nm,9.1s						
KSH				LR	LR		
	comp=Z,400nm,10.3s						
KSH				LR	LR		
	comp=Z,410nm,14.5s						
WMQ	**Urumqi**	**173.02**	**343**	*e*PKP	**PKPdf**	**19 04 02.1**	**+1.7**
WMQ				LR	LR		
	comp=Z,460nm,22.3s						
WMQ				LR	LR		
	comp=Z,710nm,23.5s						

IDC 17 18:46:42.9±73.0, 19.54S×178.10W, h628km±430km, mb2.6/4, mb1 2.7/4, mb1mx2.6/41, mbtmp3.7/4, Error ellipse: s-maj=846.5km s-min=97.3km az=74.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.50**	**263**	P	P	18 52 33.3	+0.4
	0.6nm,0.3s,baz=94,slow=15,SNR=2.9						
STKA	**Stephens Creek**	**38.13**	**243**	P	P	18 53 10.5	-0.2
	0.8nm,0.6s,baz=83,slow=10,SNR=2.4						
WRA	**Warramunga Arr**	**44.65**	**261**	P	P	18 54 01.9	-0.1
	0.2nm,0.3s,baz=97,slow=7.3,SNR=15						
ASAR	**Alice Springs**	**44.66**	**256**	P	P	18 54 02.0	0.0
	0.5nm,0.6s,baz=85,slow=8.3,SNR=12						

MEX 17 18:52:19.6±0.5, 16.76N×99.68W, h11km±3km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACP2	**Acapulco**	**0.23**	**299**	*e*P	Pg	18 52 23.7	-0.8
ACP2				*e*S	Sg	18 52 27.6	-0.1
CAIG	**El Cayaco**	**0.63**	**297**	*e*P	Pg	18 52 30.3	-1.6
CAIG				*i* S	Sg	18 52 39.0	-1.2
MEIG	**Mezcala**	**1.16**	**3**	*i* P	Pb	18 52 37.6	-4.1
MEIG				*e*S	Sb	18 52 52.0	-4.7
TLIG	**Tlapa**	**1.33**	**53**	*e*P	Pn	18 52 41.0	-3.2
TLIG				*i* S	Sb	18 52 56.8	-4.9
PNIG	**Pinotepa**	**1.53**	**104**	*e*P	Pn	18 52 43.3	-3.6
PNIG				*i* S	Sn	18 53 01.5	-5.2
PLIG	**Platanillo**	**1.63**	**6**	*e*P	Pn	18 52 45.6	-2.8
PLIG				*i* S	Sn	18 53 05.0	-4.4
ARIG	**Puente Sto Nin**	**1.64**	**337**	*e*P	Pn	18 52 45.6	-2.8
ARIG				*i* S	Sn	18 53 05.0	-4.5

IDC 17 19:00:59.7±2.2, 43.62N×105.34W, h0km, mb4.4/1, mb1 4.1/3, mb1mx3.5/37, mbtmp4.0/3, ML3.3/2, Error ellipse: s-maj=59.2km s-min=9.2km az=151.0
ISCJB 17 19:01:00.2±0.5, 43.84N±0.04×105.22W±0.06, h0km, mb4.6/1, Error ellipse: s-maj=6.9km s-min=5.1km az=18.2
NEIC 17 19:01:01.2±0.8, 43.83N×105.29W, h0km, ML3.2, Error ellipse: s-maj=12.6km s-min=9.6km az=151.0, Suspected Mining explosion.
NEIC 54 km [33 miles] SSE of Gillette.
ANF 17 19:01:01.6±0.5, 43.80N×105.31W, ML3.6/14, Error ellipse: s-maj=6.9km s-min=5.6km az=127.0

ISC 17 19:01:00.6±0.9, 43.79N±0.04×105.25W±0.05, h0km, n30, σ1s52/32, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.93**	**69**	*e*Pg	**Pb**	**19 01 19.6**	**-0.2**
RSSD	**Black Hills**	**0.93**	**69**	P	**Pb**	**19 01 19.6**	**-0.2**
	baz=253						
K22A	**Casper**	**1.47**	**220**	P	**Pn**	**19 01 27.8**	**-0.7**
	baz=37						
K22A				S	**Sn**	**19 01 49.6**	**+1.0**
	baz=37						
N23A	**Red Feather La**	**2.94**	**190**	P	**Pn**	**19 01 50.4**	**+1.6**
	baz=9.2						
N23A				S	**Sn**	**19 02 27.3**	**+2.3**
	baz=9.2						
LAO	**LASA Array**	**2.98**	**347**	*e*Pn	**Pn**	**19 01 49.8**	**+0.7**
LAO	**LASA Array**	**2.98**	**347**	P	**Pn**	**19 01 49.5**	**+0.4**
	baz=167						
RLMT	**Red Lodge**	**3.17**	**296**	*e*Pn	**Pn**	**19 01 52.8**	**+0.9**
RLMT	**Red Lodge**	**3.17**	**296**	P	**Pn**	**19 01 52.6**	**+0.7**
	baz=113						
BW06	**Boulder Array**	**3.31**	**253**	*e*Pn	**Pn**	**19 01 54.9**	**+1.0**
BW06	**Boulder Array**	**3.31**	**253**	P	**Pn**	**19 01 54.8**	**+0.9**
	baz=70						
PDAR	**Pinedale Array**	**3.31**	**253**	Pn	**Pn**	**19 01 55.0**	**+1.1**
	3.4nm,0.3s,baz=72,slow=16,SNR=56						
PDAR				Lg	Lg	19 02 39.4	
	13nm,0.3s,baz=77,slow=28,SNR=5.1						
OGNE	**Ogallala**	**3.71**	**139**	*e*Pn	**Pn**	**19 02 00.4**	**+1.2**
OGNE	**Ogallala**	**3.71**	**139**	P	**Pn**	**19 02 01.2**	**+2.0**
	baz=321						
H17A	**Grant Village**	**3.89**	**281**	P	**Pn**	**19 02 03.3**	**+1.5**
	baz=97						
ISCO	**Idaho Springs**	**4.00**	**184**	*e*Pn	**Pn**	**19 02 04.6**	**+1.3**
O20A	**White River Ci**	**4.28**	**212**	P	**Pn**	**19 02 08.4**	**+1.2**
	baz=30						
O20A				S	**Sn**	**19 02 57.5**	**-0.4**
	baz=30						
AHID	**Auburn Hatcher**	**4.40**	**259**	*e*Pn	**Pn**	**19 02 10.9**	**+2.2**
DGMT	**Dagmar**	**4.74**	**8**	*e*Pn	**Pn**	**19 02 15.2**	**+1.9**
DGMT	**Dagmar**	**4.74**	**8**	P	**Pn**	**19 02 15.2**	**+1.9**
	baz=190						
Q24A	**Divide**	**4.82**	**179**	Pb	**Pb**	**19 02 27.1**	**+0.9**
	baz=359						
BOZ	**Bozeman (W)**	**4.90**	**294**	*e*Pn	Pn	19 02 10.9	-4.7
BOZ	**Bozeman (W)**	**4.90**	**294**	P	**Pn**	**19 02 13.2**	**-2.4**
	baz=110						
HWUT	**Hardware Ranch**	**5.14**	**247**	*e*Pn	**Pn**	**19 02 20.6**	**+1.6**
	16nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.16**	**157**	P	**Pn**	**19 02 19.8**	**+0.6**
	baz=338						
KSCO				Sb	**Sg**	**19 03 42.3**	**-4.1**
	baz=338						
EGMT	**Eagleton**	**5.28**	**325**	*e*Pn	**Pn**	**19 02 21.3**	**+0.6**
	15nm,0.6s						
EGMT	**Eagleton**	**5.28**	**325**	P	**Pn**	**19 02 21.4**	**+0.7**
	baz=142						
DUG	**Dugway, Tooele**	**6.68**	**240**	*e*Pn	**Pn**	**19 02 39.3**	**-0.8**
	2.5nm,0.4s						
I10CA	**LAC DU BONNET**	**8.98**	**41**	*i*		19 53 30.0	
	baz=223,slow=316,SNR=2.0						
ULM	**Lac du Bonnet**	**9.09**	**41**	Pn	**Pn**	**19 03 12.7**	**-0.3**
	0.7nm,0.3s,baz=235,slow=12,SNR=7.9						
ULM				Lg	Lg	19 05 44.5	
	0.2nm,0.3s,baz=150,slow=17,SNR=3.8						
ARCES	**ARCESS Array B**	**61.36**	**18**	P	**P**	**19 11 17.0**	**-0.7**
	5.2nm,1.1s,baz=344,slow=9.4,SNR=3.4						

ISCJB 17 19:27:57.6±0.8, 22.8N±0.2×96.1E±0.3, h10km, mb3.3/2, MS3.9/2, Error ellipse: s-maj=47.8km s-min=9.1km az=139.7
IDC 17 19:27:57.6±1.7, 22.82N×96.12E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.3/41, mbtmp3.4/3, ML3.5/1, MS3.9/2, Ms1 3.9/2, ms1mx3.1/33, Error ellipse: s-maj=40.1km s-min=19.8km az=62.0

ISC 17 19:27:59.8±1.1, 22.8N±0.2×96.1E±0.2, h10km, n14, σ1s49/12, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**4.72**	**307**	*e*P	**Pn**	**19 29 11.5**	**+0.3**
CHTO	**Chiang Mai**	**4.78**	**145**	P	**Pn**	**19 29 10.7**	**-1.2**
CMMT	**Chiang Mai**	**4.78**	**145**	P	**Pn**	**19 29 10.6**	**-1.3**
PAYA	**Payao**	**4.92**	**133**	P	**Pn**	**19 29 13.5**	**-0.3**
PAYA	**Payao**	**4.92**	**133**	P	**Sg**	**19 30 38.3**	**+0.5**
	0.1nm290nm37nm,0.8s						
CMAR	**Chiang Mai Arr**	**5.08**	**147**	Pn	**Pn**	**19 29 14.7**	**-1.3**
	0.5nm,0.3s,baz=322,slow=13,SNR=47						
CMAR				Pg	**Pb**	**19 29 31.6**	**+2.8**
	1.8nm,0.3s,baz=326,slow=17,SNR=44						
CMAR				Lg	Lg	19 30 40.7	
	2.8nm,0.3s,baz=313,slow=31,SNR=6.2						
LAMP	**Lampang**	**5.39**	**141**	P	Pb	19 29 40.0	+5.9
LAMP	**Lampang**	**5.39**	**141**	P	**Sg**	**19 30 50.8**	**-2.2**
NANT	**Nan**	**5.87**	**132**	P	**Pn**	**19 29 26.7**	**-0.2**
SUKH	**Sukhothai**	**6.25**	**147**	P	**Pn**	**19 29 32.2**	**+0.2**
MKAR	**Makanchi Array**	**26.41**	**338**	P	**P**	**19 33 36.3**	**-0.2**
	0.6nm,0.7s,baz=150,slow=11,SNR=4.3						
MJAR	**Matsushiro Arr**	**38.80**	**60**	LR	LR	19 51 13.3	
	comp=Z,284nm,21.7s,baz=105,slow=36						
JAY	**Jayapura**	**50.26**	**114**	LR	LR	19 57 48.5	
	comp=Z,92nm,20.4s,baz=252,slow=36						
WRA	**Warramunga Arr**	**56.56**	**136**	P	**P**	**19 37 41.5**	**-1.3**
	0.4nm,0.9s,baz=323,slow=7.2,SNR=3.0						

KRSC 17 19:40:40.8±1.9, 49.41N×157.09E, h40km±26km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.42**	**334**	*e*P	Pn	19 41 04.1	0.0
SKR				*e*S	Sn	19 41 20.5	-1.0
PAU	**Pauzhetka**	**2.07**	**355**	*e*P	Pn	19 41 15.2	+2.3
PAU				*e*S	Sn	19 41 40.6	+3.1
MTVR	**Mutnovka**	**3.15**	**12**	*e*P	Pn	19 41 32.3	+4.3
MTVR				*e*S	Sn	19 42 08.9	+4.5
RUS	**Russkaya**	**3.16**	**16**	*e*P	Pn	19 41 31.7	+3.8
RUS				*e*S	Sn	19 42 08.8	+4.5
KRMR	**Karymshinskiy**	**3.49**	**10**	*e*P	Pn	19 41 36.6	+4.2
KRMR				*e*S	Sn	19 42 17.5	+5.1
PET	**Petropavlovsk**	**3.75**	**15**	*e*P	Pn	19 41 40.5	+4.5
PET				*e*S	Sn	19 42 25.2	+6.3
DALK	**Dalny**	**3.77**	**15**	*e*P	Pn	19 41 40.6	+4.3
DALK				*e*S	Sn	19 42 25.1	+5.6
UGLR	**Uglovaya**	**3.96**	**15**	*e*P	Pn	19 41 44.0	+5.0
AVH	**Avacha**	**4.00**	**14**	*e*P	Pn	19 41 44.5	+5.0
SMAR	**Somma**	**4.00**	**15**	*e*P	Pn	19 41 45.5	+5.8
KOK	**Koryaka**	**4.01**	**13**	*e*P	Pn	19 41 44.9	+5.2
SDLR	**Sedlovina**	**4.03**	**15**	*e*P	Pn	19 41 44.1	+4.0
KRX	**Arik**	**4.07**	**13**	P	Pn	19 41 43.7	+3.1
SPN	**Mys Shipunski**	**4.13**	**25**	*e*P	Pn	19 41 45.9	+4.7
SPN				*e*S	Sn	19 42 33.3	+5.1
GNL	**Ganaly**	**4.33**	**7**	*e*P	Pn	19 41 48.4	+4.4
MKZ	**Mys Kozlova**	**5.90**	**27**	*e*P	Pn	19 42 09.2	+3.8
MKZ				*e*S	Sn	19 43 15.4	+3.7
KBTR	**Krutoberegovo**	**7.64**	**25**	*e*P	Pn	19 42 32.9	+3.5

IDC 17 19:53:01.5±7.2, 16.49S×168.02E, h170km±64km, mb3.4/4, mb1 3.5/5, mb1mx3.2/42, mbtmp3.9/5, Error ellipse: s-maj=64.3km s-min=37.7km az=2.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.75**	**195**	P	Pn	19 54 25.2	0.0
	0.6nm,0.3s,baz=172,slow=23,SNR=6.1						
DZM				S	Sn	19 55 31.4	+0.4
	0.9nm,0.3s,baz=339,slow=22,SNR=3.5						
CTA	**Charters Tower**	**20.97**	**257**	P	P	19 57 31.3	-0.2
	2.4nm,0.8s,baz=58,slow=19,SNR=2.6						
STKA	**Stephens Creek**	**28.46**	**233**	P	P	19 58 40.3	-0.4
	1.9nm,0.9s,baz=37,slow=5.1,SNR=3.5						
WRA	**Warramunga Arr**	**32.15**	**259**	P	P	19 59 13.4	+0.1
	0.2nm,0.3s,baz=78,slow=6.1,SNR=10						
ASAR	**Alice Springs**	**32.77**	**252**	P	P	19 59 18.9	+0.1
	2.5nm,0.4s,baz=79,slow=9.1,SNR=116						
ARCES	**ARCESS Array B**	**122.13**	**345**	PKP	PKPdf	20 11 35.1	-0.3
	2.4nm,1.1s,baz=46,slow=2.6,SNR=4.1						

UCR 17 20:00:10.6±1.8, 8.01N×82.75W, h2km±4km, MD4.3, ML3.9, MW4.4(UPA), 5C-6D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTJ1	**Puerto Jim˜ne**	**0.76**	**314**	↑*e*P	Pb	20 00 26.2	-0.3
PTJ1				*i* S	Sn	20 00 39.5	-0.9
BRU2	**Volcan**	**0.78**	**4**	↓*i*P	Pg	20 00 26.1	+0.5
BRU2				*i* S	Sb	20 00 39.3	+1.0
EDSV	**San Vito**	**0.84**	**345**	*e*P	Pg	20 00 26.4	-0.2
EDSV				*e*S	Sb	20 00 40.9	+1.2
EDPN	**Palmar Norte**	**1.18**	**324**	↑*e*P	Pg	20 00 32.5	-0.6
EDPN				*e*S	Sb	20 00 49.7	+0.3
DRK0	**Durika**	**1.34**	**339**	↓*i*P	Pg	20 00 35.1	-1.2
DRK0				*e*S	Sb	20 00 54.6	+0.3
EDLM	**Las Mercedes**	**1.51**	**327**	*e*P	Pn	20 00 37.8	-1.0
EDLM				*e*S	Sg	20 01 00.1	+0.9
LCR2	**La Lucha 2**	**2.12**	**324**	↓*e*P	Pn	20 00 46.9	-0.4
LCR2				*e*S	Sn	20 01 14.1	-0.3
CVTR	**Volcan Turrial**	**2.23**	**334**	↓*e*P	Pn	20 00 49.6	+0.5
CVTR				Sn	Sn	20 01 18.6	+1.1
HDC	**Heredia**	**2.40**	**326**	*e*P	Pn	20 00 51.8	+0.7
HDC				*e*S	Sn	20 01 22.2	+1.1
PNME	**Penonome**	**2.45**	**79**	↓*e*P	Pn	20 00 51.9	+0.3
PNME				*i* S	Sn	20 01 21.5	-0.7
AZU	**Azuero**	**2.46**	**95**	↑*e*P	Pn	20 00 51.0	-0.9
AZU				AMP		20 00 54.3	
	comp=Z,1μm,0.6s						
AZU				*i* S	Sn	20 01 24.3	+1.7
ZANG	**Zanguenga, Cho**	**3.01**	**72**	*e*P	Pn	20 01 00.1	+0.7
ZANG				*i* S	Sn	20 01 37.1	+1.1
BCIP	**Isla Barro Col**	**3.10**	**68**	↑*i*P	Pn	20 01 00.5	-0.2
	baz=248,slow=6.5						
BCIP				*i* S	Sn	20 01 39.9	+1.4
JTS	**JuntasAbangare**	**3.14**	**316**	↑*e*P	Pn	20 01 01.9	+0.6
JTS				*i* S	Sn	20 01 40.1	+0.7
FRIJ	**El Hiral**	**3.23**	**68**	↓*i*P	Pn	20 01 03.2	+0.8
UPA	**Univ. de Panam**	**3.33**	**73**	*e*P	Pn	20 01 04.0	+0.2
UPA				*e*S	Sn	20 01 44.7	+0.8
PLVR	**Palo Verde**	**3.46**	**312**	*e*P	Pn	20 01 05.4	-0.4
UPD2	**Meteti**	**4.72**	**83**	*e*P	Pn	20 01 23.8	+0.9
UPD2				*e*S	Sn	20 02 19.8	+1.5

UCR 17 20:03:24.2±2.1, 8.01N×82.74W, h1km±6km, MD4.2, ML3.8, 4C-4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTJ1	**Puerto Jim˜ne**	**0.76**	**313**	↑*i*P	Pb	20 03 40.0	-0.3
PTJ1				*i* S	Sb	20 03 51.8	+0.6
BRU2	**Volcan**	**0.78**	**4**	↓*i*P	Pg	20

ASAR	**Alice Springs**	**24.91**	**224**	P	**P**	**20 29 59.2**	**+1.8**
	2.5nm,0.8s,baz=58,slow=8.6,SNR=19						
FITZ	**Fitzroy Crossi**	**28.68**	**243**	P	**P**	**20 30 31.0**	**-0.4**
	2.3nm,0.6s,baz=49,slow=8.4,SNR=10						
FITZ	**Fitzroy Crossi**	**28.68**	**243**	*e*P	**P**	**20 30 30.7**	**-0.7**
	26nm,1.6s						
URZ	**Urewera**	**39.08**	**149**	LR	LR	20 47 12.3	
	comp=Z,61nm,21.3s,baz=3.0,slow=34						
SONM	**Songino Array**	**67.21**	**328**	LR	LR	21 05 15.8	
	comp=Z,21nm,18.7s,baz=337,slow=37						
ILAR	**Eielson Array**	**83.52**	**22**	P	**P**	**20 37 03.7**	**+2.3**
	0.6nm,0.8s,baz=247,slow=5.7,SNR=4.9						
RIDG	**Independ'e Rid**	**83.82**	**23**	*e*P	**P**	**20 37 00.1**	**-2.9**
	18nm,1.1s						
TORD	**Torodi Ar. Bea**	**150.29**	**286**	PKPbc	**PKPbc**	**20 44 26.1**	**+0.1**
	0.4nm,0.5s,baz=102,slow=3.2,SNR=8.7						
TOA1	**Torodi Ar. Sit**	**150.29**	**286**	*e*PKPbc	**PKPbc**	**20 44 26.1**	**+0.1**

IDC ***17*** *20:31:09.0±1.6, 41°.53N×49°.99E, h45km±19km, mb3.5/6, mb1 3.6/14, mb1mx3.4/49, mbtmp3.7/14, ML3.5/7, Error ellipse: s-maj=23.5km s-min=10.8km az=16.0*
NORS ***17*** *20:31:10.9±0.0, 41°.64N×49°.81E, h16km, MPVA4.7*
MOS ***17*** *20:31:10.0±0.0, 41°.70N×49°.87E, h10km, MPVA4.9*
AZER ***17*** *20:31:11.2±0.5, 41°.56N×49°.77E, h60km, ml3.4/26, Error ellipse: s-maj=1.5km s-min=0.8km az=25.0*
DRS ***17*** *20:31:12.7±0.0, 41°.85N×50°.02E, h20km*
ISC 17 20:31:08.3±1.2, 41°.65N±0°.02×50°.05E±0°.04, h16km±8km, n99, σ2s53/152, mb3.8/5, 41C-23D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIZA	**Siyzn**	**1.04**	**237**	↑P	**Pn**	**20 31 29.6**	**+1.4**
	SNR=20						
SIZA				↓S	**Sn**	**20 31 44.2**	**+1.7**
NDR	**Nardaran**	**1.07**	**182**	↑P	**Pb**	**20 31 30.7**	**+2.3**
	SNR=7.4						
NDR				↓S	**Sn**	**20 31 47.2**	**+4.1**
ATGJ	**Altiaghaj**	**1.15**	**227**	↓P	**Pg**	**20 31 31.0**	**+0.5**
	SNR=299						
ATGJ				↓S	**Sb**	**20 31 45.6**	**+1.1**
QUBA	**Quba, Azerbaij**	**1.20**	**256**	↑P	**Pn**	**20 31 32.3**	**+1.8**
	SNR=168						
QUBA				↓S	**Sn**	**20 31 48.1**	**+1.6**
GOBA	**Gobu**	**1.27**	**191**	↓P	**Pn**	**20 31 33.7**	**+2.3**
	SNR=8.2						
GOBA				↑S	**Sb**	**20 31 51.2**	**+3.3**
DRN	**Derbent**	**1.34**	**287**	↑*e*PG	**Pg**	**20 31 34.9**	**+0.9**
DRN				pmax	pmax		
	comp=Z,214nm,0.3s						
DRN	**Derbent**	**1.34**	**287**	*i* Pg	**Pg**	**20 31 34.3**	**+0.3**
DRN				*e*Sg	**Sn**	**20 31 51.5**	**+1.8**
QSAR	**Qusar**	**1.34**	**265**	↑P	**Pg**	**20 31 34.3**	**+0.1**
	SNR=344						
QSAR				↑S	**Sn**	**20 31 50.4**	**+0.4**
GBS	**Qobustan**	**1.39**	**217**	↑P	**Pn**	**20 31 35.0**	**+1.9**
	SNR=56						
GBS				↑S	**Sg**	**20 31 53.6**	**+0.3**
PQL	**Pirkuli**	**1.39**	**232**	↓P	**Pn**	**20 31 34.3**	**+1.1**
	SNR=16						
PQL				↑S	**Sb**	**20 31 51.4**	**-0.2**
KSMR	**Kasumkent**	**1.44**	**269**	*e*PG	**Pg**	**20 31 36.5**	**+0.5**
KSMR				*e*S	**Sg**	**20 32 00.0**	**+5.3**
KSMR				pmax	pmax		
	comp=Z,413nm,0.1s						
KSMR	**Kasumkent**	**1.44**	**269**	*e*Pg	**Pg**	**20 31 36.5**	**+0.5**
KSMR				*e*Sg	**Sg**	**20 32 00.0**	**+5.3**
XNQ	**Khinaliq**	**1.51**	**252**	↑P	**Pn**	**20 31 35.6**	**+0.7**
	SNR=44						
XNQ				↑S	**Sb**	**20 31 54.3**	**-0.7**
IML	**Ismayilli**	**1.65**	**239**	↑Pn	**Pn**	**20 31 36.8**	**+0.2**
IML				↓Sn	**Sn**	**20 31 56.8**	**-0.6**
AKT	**Akhty**	**1.75**	**265**	↑*e*PN	**Pg**	**20 31 41.3**	**-0.5**
AKT				pmax	pmax		
	comp=Z,445nm,0.3s						
AKT	**Akhty**	**1.75**	**265**	*i* Pg	**Pg**	**20 31 41.3**	**-0.5**
AKT				*e*Sg	**Sg**	**20 32 02.8**	**-1.8**
QBL	**Gabala**	**1.81**	**248**	↑Pn	**Pn**	**20 31 38.9**	**+0.1**
	SNR=34						
QBL				↓Sn	**Sn**	**20 32 00.6**	**-0.7**
ALIB	**Äli-Bayra**	**1.87**	**205**	↓Pn	**Pn**	**20 31 41.5**	**+2.0**
	SNR=6.7						
ALIB				↓Sg	**Sb**	**20 32 07.0**	**+2.0**
URKR	**Urkarakh**	**1.87**	**287**	*e*PN	**Pg**	**20 31 42.7**	**-1.5**
URKR	**Urkarakh**	**1.87**	**287**	*e*Pg	**Pg**	**20 31 42.8**	**-1.5**
URKR				*e*Sg	**Sg**	**20 32 05.8**	**-2.8**
SAAT	**Saatly**	**2.17**	**215**	↑Sn	**Sn**	**20 32 10.1**	**-0.2**
SEKA	**Sheki**	**2.19**	**259**	PN	**Pn**	**20 31 43.6**	**-0.4**
SEKA	**Sheki**	**2.19**	**259**	↑Pg	**Pn**	**20 31 45.5**	**+1.5**
	SNR=70						
SEKA				↑Sg	**Sn**	**20 32 11.4**	**+0.6**
KMKR	**Kumukh**	**2.25**	**283**	*i* PN	**Pb**	**20 31 49.0**	**+0.3**
KMKR				*e*S	**Sg**	**20 32 21.0**	**+0.3**
KMKR				pmax	pmax		
	comp=Z,94nm,0.2s						
KMKR	**Kumukh**	**2.25**	**283**	*i* Pg	**Pg**	**20 31 49.0**	**+0.3**
KMKR				*e*Sg	**Sg**	**20 32 21.0**	**+0.3**
ZRD	**Zardab**	**2.25**	**233**	↓Sn	**Sn**	**20 32 11.4**	**-0.9**
MAK	**Makhachkala**	**2.29**	**306**	I↑PN	**Pb**	**20 31 48.8**	**-0.5**
MAK				*e*		20 32 21.5	
MAK				pmax	pmax		
	comp=Z,78nm,0.3s						
MNGR	**Mingechevir, A**	**2.40**	**250**	PN	**Pn**	**20 31 48.0**	**+1.1**
MNGR	**Mingechevir, A**	**2.40**	**250**	↑Pn	**Pn**	**20 31 47.5**	**+0.6**
MNGR				↑Sn	**Sn**	**20 32 14.9**	**-1.0**
GNBR	**Gunib**	**2.41**	**289**	I↑*e*PN	**Pb**	**20 31 50.9**	**-0.4**
GNBR				*e*		20 32 24.6	
GNBR				pmax	pmax		
	comp=Z,141nm,0.7s						
GNBR				smax	smax		
	comp=N,532nm,0.4s						
GNBR	**Gunib**	**2.41**	**289**	*i* Pn	**Pb**	**20 31 50.8**	**-0.6**
GNBR				*e*Sn	**Sb**	**20 32 21.1**	**+0.3**
ARKR	**Arakani**	**2.46**	**294**	*e*PN	**Pn**	**20 31 50.0**	**+2.2**
ARKR				*e*S	**Sb**	**20 32 22.0**	**-0.2**
ARKR	**Arakani**	**2.46**	**294**	*e*Pn	**Pn**	**20 31 50.0**	**+2.2**
ARKR				*e*Sn	**Sb**	**20 32 22.0**	**-0.2**
BUJR	**Buynaksk**	**2.48**	**299**	*i* PN	**Pb**	**20 31 52.0**	**-0.4**
BUJR	**Buynaksk**	**2.48**	**299**	*i* Pn	**Pb**	**20 31 52.0**	**-0.4**
ZKTA	**Zakatala**	**2.56**	**271**	PN	**Pn**	**20 31 50.0**	**+0.8**
ZKTA	**Zakatala**	**2.56**	**271**	↑Pn	**Pn**	**20 31 50.8**	**+1.6**
	SNR=36						
BRDA	**Brd**	**2.58**	**238**	↑Pn	**Pn**	**20 31 49.8**	**+0.5**
BRDA				↓Sn	**Sn**	**20 32 18.9**	**-1.3**
KRNR	**Karanay**	**2.61**	**298**	*e*PN	**Pb**	**20 31 54.0**	**-0.7**
KRNR				*e*S	**Sg**	**20 32 28.5**	**-3.7**
KRNR				pmax	pmax		
	comp=Z,52nm,0.2s						
KRNR	**Karanay**	**2.61**	**298**	*e*Pn	**Pb**	**20 31 54.0**	**-0.7**
KRNR				*e*Sn	**Sg**	**20 32 28.5**	**-3.7**
XNZR	**Khunzakh**	**2.64**	**291**	I↑*e*PN	**Pb**	**20 31 54.5**	**-0.8**
XNZR				*e*		20 32 30.7	
XNZR	**Khunzakh**	**2.64**	**291**	*e*Pn	**Pb**	**20 31 54.3**	**-1.0**
XNZR				*e*Sn	**Sb**	**20 32 26.4**	**-1.1**
GLBA	**Clilabad**	**2.72**	**208**	↓Pn	**Pn**	**20 31 50.5**	**-0.8**
GLBA				↓Sn	**Sn**	**20 32 19.6**	**-4.2**
DBC	**Dubki**	**2.75**	**301**	*e*PN	**Pn**	**20 31 54.6**	**+2.8**
DBC				*e*S	**Sb**	**20 32 28.1**	**-2.4**
DBC	**Dubki**	**2.75**	**301**	*i* Pn	**Pb**	**20 31 54.8**	**-2.3**
DBC				*e*Sn	**Sb**	**20 32 28.7**	**-1.9**
GANJ	**Ganja**	**2.98**	**252**	PN	**Pn**	**20 31 54.5**	**-0.5**
GANJ	**Ganja**	**2.98**	**252**	↑Pn	**Pn**	**20 31 54.2**	**-0.8**
	SNR=26						
GANJ				↑Sn	**Sn**	**20 32 26.2**	**-4.3**
BTLR	**Botlikh**	**3.02**	**291**	I↑*e*PN	**Pb**	**20 31 58.8**	**-2.9**
BTLR				*e*		20 32 41.6	
BTLR				pmax	pmax		
	comp=Z,49nm,0.6s						
BTLR				smax	smax		
	comp=N,122nm,0.8s						
BTLR	**Botlikh**	**3.02**	**291**	*i* Pn	**Pb**	**20 31 59.0**	**-2.7**
BTLR				*e*Sn	**Sb**	**20 32 35.5**	**-2.8**
LKRN	**Lenkeran, Azer**	**3.09**	**199**	↓Pn	**Pn**	**20 31 55.1**	**-1.3**
LKRN				↑Sn	**Sn**	**20 32 28.7**	**-4.3**
DVE	**Vedeno**	**3.19**	**295**	*e*PN	**Pb**	**20 32 01.4**	**-3.2**
DVE				*e*S	**Sb**	**20 32 42.1**	**-1.0**
DVE	**Vedeno**	**3.19**	**295**	*e*Pn	**Pb**	**20 32 01.3**	**-3.2**
DVE				*e*Sn	**Sb**	**20 32 39.3**	**-3.9**
ASTR	**Astara**	**3.23**	**198**	↓Pn	**Pn**	**20 31 56.7**	**-1.6**
	SNR=9.0						
ASTR				↓Sn	**Sn**	**20 32 30.9**	**-5.6**
LRK	**Lerik**	**3.28**	**204**	↓Pn	**Pn**	**20 31 57.2**	**-1.9**
	SNR=33						
LRK				↓Sn	**Sn**	**20 32 33.6**	**-4.2**
GDB	**GEDABAY**	**3.37**	**255**	↓Pn	**Pn**	**20 31 59.4**	**-1.0**
	SNR=49						
GDB				↑Sn	**Sn**	**20 32 35.8**	**-4.3**
GROC	**Groznyy**	**3.51**	**298**	*e*PN	**Pb**	**20 32 06.6**	**-3.4**
GROC				*e*S	**Sb**	**20 32 48.5**	**-3.8**
GROC				pmax	pmax		
	comp=Z,41nm,0.5s						
GROC				smax	smax		
	comp=E,181nm,0.8s						
GROC				smax	smax		
	comp=E,85nm,0.6s						
GROC	**Groznyy**	**3.51**	**298**	*e*Pn	**Pn**	**20 32 06.0**	**+3.9**
GROC				*e*Sn	**Sb**	**20 32 47.8**	**-4.5**
QZX	**Qazax, Azerbai**	**3.57**	**262**	Pn	**Pn**	**20 32 02.5**	**-0.5**
	SNR=4.8						
QZX				↓Sn	**Sn**	**20 32 40.1**	**-4.7**
KMGR	**Komgaron**	**4.09**	**292**	I↑*e*PN	**Pn**	**20 32 14.3**	**+4.1**
KMGR	**Komgaron**	**4.09**	**292**	*e*Pn	**Pn**	**20 32 13.8**	**+3.6**
KMGR				*e*Sn	**Sn**	**20 33 01.9**	**+4.2**
ORD	**Ordubad**	**4.12**	**230**	I↑Pn	**Pn**	**20 32 10.7**	**0.0**
ORD				↓Sn	**Sn**	**20 32 54.3**	**-4.3**
VLKR	**Vladikavkaz**	**4.21**	**291**	*e*Pn	**Pn**	**20 32 15.7**	**+3.7**
VLKR				*e*Sn	**Sn**	**20 33 04.9**	**+4.1**
GNI	**Garni**	**4.29**	**251**	P	**Pn**	**20 32 15.0**	**+2.0**
	comp=E,0.8nm,0.3s,baz=329,slow=6.4,SNR=3.7						
GNI	**Garni**	**4.29**	**251**	*e*Pn	**Pn**	**20 32 17.0**	**+4.0**
GNI				pmax	pmax		
	comp=Z,33nm,1.7s						
BTKR	**Batakoyurt**	**4.42**	**295**	I↑*e*PN	Pn	20 32 19.3	+4.6
BTKR	**Batakoyurt**	**4.42**	**295**	*e*Pn	**Pn**	**20 32 18.2**	**+3.6**
BTKR				*e*Sn	**Sn**	**20 33 10.2**	**+4.4**
TRKR	**Terskaya**	**4.43**	**300**	*e*PN	**Pn**	**20 32 17.9**	**+3.1**
KORR	**Kora**	**4.66**	**290**	*e*Pn	**Pn**	**20 32 21.6**	**+3.7**
KORR				*e*Sn	**Sn**	**20 33 16.1**	**+4.5**
ZEI	**Tsey**	**4.70**	**286**	*e*PN	Pn	20 32 24.1	+5.4
ZEI	**Tsey**	**4.70**	**286**	*e*Pn	**Pn**	**20 32 22.3**	**+3.5**
ZEI				*e*Sn	**Sn**	**20 33 16.9**	**+3.9**
LSNR	**Lesken**	**4.88**	**292**	*e*PN	Pn	20 32 26.3	+5.3
LSNR	**Lesken**	**4.88**	**292**	*e*Pn	**Pn**	**20 32 24.7**	**+3.6**
LSNR				*e*Sn	**Sn**	**20 33 21.6**	**+4.4**
DIGR	**Digorskoe uzhe**	**4.96**	**287**	*e*PN	**Pn**	**20 32 24.5**	**+2.3**
DIGR	**Digorskoe uzhe**	**4.96**	**287**	*e*Pn	**Pn**	**20 32 25.5**	**+3.3**
DIGR				*e*Sn	**Sn**	**20 33 23.3**	**+4.0**
NCK	**Nalchik**	**5.11**	**293**	*i* PN	**Pn**	**20 32 27.5**	**+3.4**
NEY	**Neytrino**	**5.65**	**289**	*i* P	**Pn**	**20 32 33.1**	**+1.4**
NEY	**Neytrino**	**5.65**	**289**	*e*Pn	**Pn**	**20 32 35.4**	**+3.6**
NEY				*e*Sn	**Sn**	**20 33 40.4**	**+4.1**
KBZ	**Khabaz**	**5.66**	**294**	P	**Pn**	**20 32 31.7**	**0.0**
	comp=Z,0.9nm,0.3s,baz=135,slow=4.2,SNR=32						
KBZ				S	**Sn**	**20 33 35.2**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=241,slow=18,SNR=3.1						
KBZ	**Khabaz**	**5.66**	**294**	P	**Pn**	**20 32 31.7**	**0.0**
KBZ				S	**Sn**	**20 33 35.2**	**-1.1**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KBZ				smax	smax		
	comp=N,1.0nm,0.3s						
KVAR	**Kislovodsk Arr**	**5.88**	**296**	P	**Pn**	**20 32 34.9**	**+0.1**
	baz=296,slow=23,SNR=22						
KVAR				S	**Sn**	**20 33 40.9**	**-1.0**
	baz=205,slow=5.7,SNR=11						
KIV	**Kislovodsk**	**5.88**	**296**	*e*P	**Pn**	**20 32 35.0**	**+0.2**
KIV				*e*S	**Sn**	**20 33 40.3**	**-1.6**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GOF	**Gofitskoye**	**6.13**	**306**	*e*P	**Pn**	**20 32 39.5**	**+1.3**
GOF				*e*S	**Sn**	**20 33 47.8**	**-0.2**
GOF				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GOF				smax	smax		
	comp=N,20nm,0.5s						
GOF				smax	smax		
	comp=E,60nm,0.5s						
GEYT	**Alibeck**	**7.24**	**118**	P	Pn	20 32 52.2	-1.3
	comp=E,0.6nm,0.3s,baz=11,slow=18,SNR=16						
GEYT				S	Sn	20 34 11.9	-3.5
	comp=E,1.0nm,0.3s,baz=105,slow=29,SNR=4.0						
AB31	**Akbulak array**	**10.30**	**39**	Pn	**Pn**	**20 33 37.0**	**+1.8**
	comp=E,0.1nm,0.2s,baz=215,slow=12,SNR=13						
AB31				I↑Sn	**Sn**	**20 35 26.1**	**-4.2**
	comp=E,0.8nm,0.3s,baz=222,slow=23,SNR=4.9						
AKTO	**Aktyubinsk**	**10.38**	**29**	P	**Pn**	**20 33 37.0**	**+0.6**
	comp=E,0.4nm,0.3s,baz=190,slow=5.8,SNR=4.4						
AKTO				S	**Sn**	**20 35 30.3**	**-2.0**
	comp=E,0.9nm,0.3s,baz=331,slow=21,SNR=6.2						
AKTO	**Aktyubinsk**	**10.38**	**29**	I↑Pn	**Pn**	**20 33 34.6**	**-1.8**
	comp=E,1.0nm,0.7s						
AKTO				I↑Sn	Sn	20 35 26.4	-5.9
	comp=E,2.0nm,0.4s						
ARU	**Arti**	**15.79**	**18**	P	**Pn**	**20 34 48.0**	**-1.8**
	comp=E,0.0nm,0.3s,baz=289,slow=18,SNR=3.5						
ARU	**Arti**	**15.79**	**18**	P	**P**	**20 34 59.5**	**+5.9**
OBN	**Obninsk**	**16.13**	**331**	*e*P	**P**	**20 34 58.9**	**+1.6**
OBN				pmax	pmax		
	comp=Z,3.0nm,1.1s						
AKASG	**Malin Array Be**	**16.98**	**309**	P	**Pn**	**20 35 04.6**	**-0.3**
	comp=Z,3.5nm,0.3s,baz=110,slow=10,SNR=9.7						
BVAR	**Borovoye Array**	**17.80**	**43**	P	**Pn**	**20 35 15.5**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=241,slow=14,SNR=4.8						
MLR	**Muntele Rosu**	**17.86**	**291**	P	**Pn**	**20 35 15.1**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=10,slow=2.4,SNR=4.7						
IDI	**Anoyia**	**20.66**	**260**	P	**P**	**20 35 42.9**	**-4.4**
	comp=Z,12nm,1.0s,baz=27,slow=11,SNR=6.4						
MKAR	**Makanchi Array**	**23.57**	**66**	P	**P**	**20 36 17.6**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=262,slow=9.3,SNR=2.6						
FINES	**FINESS Array B**	**24.54**	**332**	P	**P**	**20 36 24.6**	**-2.3**
	comp=Z,1.1nm,0.3s,baz=137,slow=10,SNR=15						
HFS	**Hagfors**	**28.92**	**322**	P	**P**	**20 37 03.6**	**-2.7**
	comp=Z,1.1nm,0.6s,baz=123,slow=9.7,SNR=6.3						
NOA	**NORSAR Array B**	**30.40**	**323**	P	P	20 37 16.3	-3.1
	comp=Z,0.2nm,0.4s,baz=125,slow=9.2,SNR=3.4						
NOA	**NORSAR Array B**	**30.40**	**323**	P	**P**	**20 37 16.3**	**-3.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ARCES	**ARCESS Array B**	**30.73**	**343**	P	**P**	**20 37 21.2**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=150,slow=15,SNR=3.2						

IDC ***17*** *20:43:56.6±0.9, 13°.40N×91°.98W, h0km, mb4.0/10, mb1 4.3/13, mb1mx4.0/43, mbtmp4.0/13, ML3.9/3, MS3.4/2, Ms1 3.4/2, ms1mx2.8/29, Error ellipse: s-maj=28.6km s-min=15.3km az=51.0*
UCR ***17*** *20:43:59.5±1.3, 13°.48N×92°.09W, h30km, ML4.0, mb4.5(NEIC)*
NEIC ***17*** *20:44:01.6±2.5, 13°.64N×91°.81W, h28km±17km, mb4.5/68, MD4.2(MEX), Error ellipse: s-maj=10.5km s-min=6.2km az=218.0*
MEX ***17*** *20:44:02.1±0.5, 13°.68N×92°.32W, h7km±127km, MD4.2*
ISC 17 20:44:02.0±0.6, 13°.57N±0°.07×92°.08W±0°.06, h37km, n133, σ1s76/135, mb4.5/69, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.34**	**352**	*e*Sn	**Sn**	**20 44 36.8**	**-3.9**
THIG		**1.34**	**352**	*e*P	**Pn**	**20 44 21.3**	**-2.9**
THIG				*i* S	**Sn**	**20 44 37.6**	**-3.1**
IXG	**Ixpaco**	**1.69**	**69**	*e*P	**Pn**	**20 44 27.1**	**-2.0**
APG	**El Apazote**	**2.12**	**48**	Pn	**Pn**	**20 44 35.5**	**+0.4**
	45nm,0.3s,baz=221,slow=11,SNR=214						
APG				LR	LR	20 45 33.6	
	comp=Z,599nm,18.8s,baz=256,slow=45						
PCIG		**2.39**	**333**	*e*Pn	**Pn**	**20 44 36.0**	**-2.6**
PCIG		**2.39**	**333**	*e*P	**Pn**	**20 44 36.0**	**-2.6**
PCIG				*i* S	**Sn**	**20 45 01.9**	**-4.7**
RTR	**El Retiro**	**2.39**	**82**	*e*P	**Pn**	**20 44 38.2**	**-0.5**
CEVE	**Cerro Verde**	**2.40**	**84**	*e*P	**Pn**	**20 44 37.4**	**-1.6**
CEVE				IAML		20 45 28.9	
	comp=Z,1μm,0.4s						
SBLS	**San Blas**	**2.41**	**83**	*e*P	**Pn**	**20 44 37.4**	**-1.6**
SNJE	**San Jose**	**2.43**	**83**	*e*P	**Pn**	**20 44 37.3**	**-2.0**
CCIG	**Comitan**	**2.70**	**359**	*e*Pn	**Pn**	**20 44 45.1**	**+2.2**
CCIG	**Comitan**	**2.70**	**359**	*e*P	**Pn**	**20 44 41.3**	**-1.7**
CCIG				*e*S	**Sn**	**20 45 12.6**	**-1.9**
BOQS	**Boqueron**	**2.73**	**86**	*e*P	**Pn**	**20 44 42.5**	**-0.9**
MRL	**Marmol**	**2.75**	**57**	*e*P	**Pn**	**20 44 43.9**	**+0.1**
LFU	**La Fuente**	**2.89**	**86**	*e*P	**Pn**	**20 44 44.6**	**-1.0**
LFRS	**El Faro**	**2.94**	**89**	*e*P	**Pn**	**20 44 45.3**	**-0.9**
PAVA	**Las Pavas**	**3.06**	**87**	*e*P	**Pn**	**20 44 46.1**	**-1.8**
TGIG		**3.34**	**343**	*i* P	**Pn**	**20 44 50.8**	**-1.0**
TGIG				*e*S	**Sn**	**20 45 27.6**	**-2.6**
LCND	**La Ca˜–ada**	**4.09**	**93**	*e*P	**Pn**	**20 45 00.3**	**-1.7**
LCND				*e*S	**Sn**	**20 45 48.1**	**-0.4**

CMIG	**Matias Romero**	**4.42**	**323**	Pn	**Pn**	**20 45 05.9**	**-0.6**
	comp=Z,1.6nm,0.3s,baz=143,slow=9.8,SNR=14						
CSGN	**Cosiguina Volc**	**4.44**	**97**	*e*Pn	**Pn**	**20 45 05.2**	**-1.8**
CSGN	**Cosiguina Volc**	**4.44**	**97**	*e*P	**Pn**	**20 45 06.0**	**-0.9**
TGUH	**Tegucigalpa,Un**	**4.70**	**84**	*e*Pn	**Pn**	**20 45 10.2**	**-0.1**
ESTN	**Estel**	**5.58**	**94**	*e*Pn	**Pn**	**20 45 20.2**	**-2.4**
TLIG	**Tlapa**	**7.40**	**303**	*e*Pn	**Pn**	**20 45 48.8**	**+1.2**
TEIG	**Tepich**	**7.55**	**28**	*e*Pn	**Pn**	**20 45 50.2**	**+0.7**
JTS	**JuntasAbangare**	**7.70**	**114**	Pn	**Pn**	**20 45 52.5**	**+0.9**
	comp=Z,2.0nm,0.3s,baz=326,slow=17,SNR=5.6						
JTS	**JuntasAbangare**	**7.70**	**114**	*e*Pn	**Pn**	**20 45 51.3**	**-0.4**
LNIG	**Linares**	**13.24**	**329**	*e*Pn	**P**	**20 47 18.7**	**+1.9**
WHTX	**Lake Whitney,**	**18.98**	**346**	*e*P	**Pn**	**20 48 22.5**	**+1.2**
	comp=Z,21nm,1.4s						
LTX	**Lajitas**	**19.01**	**327**	*e*P	**Pn**	**20 48 23.5**	**+1.8**
TXAR	**Lajitas Array**	**19.01**	**327**	P	**Pn**	**20 48 23.5**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=150,slow=10,SNR=14						
TX31	**Lajitas Ar. Si**	**19.01**	**327**	*e*P	**Pn**	**20 48 23.4**	**+1.7**
ROSC	**El Rosal**	**19.55**	**115**	P	**Pn**	**20 48 30.8**	**+2.2**
	comp=Z,1.0nm,0.3s,baz=334,slow=6.2,SNR=8.7						
ROSC	**El Rosal**	**19.55**	**115**	*e*P	**Pn**	**20 48 29.7**	**+1.2**
	comp=Z,60nm,1.9s						
ABTX	**Abilene, Hawle**	**20.19**	**341**	*e*P	**P**	**20 48 34.8**	**+1.3**
	comp=Z,37nm,1.4s						
255A	**Hazlehurst**	**20.28**	**24**	*e*P	Pn	20 48 35.5	-1.1
	comp=Z,192nm,1.5s						
Z50A	**Ashland**	**20.38**	**15**	*e*P	Pn	20 48 36.5	-1.3
	comp=Z,25nm,1.3s						
X40A	**Basin Creek Fa**	**20.84**	**358**	*e*P	**P**	**20 48 41.5**	**+1.1**
	comp=Z,61nm,0.6s						
MIAR	**Mount Ida**	**20.93**	**357**	*e*P	**P**	**20 48 42.2**	**+0.8**
	comp=Z,15nm,1.1s						
X37A	**Clayton**	**21.14**	**352**	*e*P	**P**	**20 48 45.8**	**+2.1**
	comp=Z,12nm,0.8s						
X48A	**Hartselle**	**21.28**	**12**	*e*P	**P**	**20 48 44.8**	**-0.4**
	comp=Z,13nm,0.9s						
Y52A	**Lilburn**	**21.48**	**18**	*e*P	**P**	**20 48 47.0**	**-0.3**
	comp=Z,21nm,1.0s						
SDV	**Santo Domingo**	**21.54**	**100**	P	**P**	**20 48 46.1**	**-2.4**
	comp=Z,2.2nm,0.4s,baz=289,slow=7.2,SNR=4.4						
PLAL	**Pickwick Lake**	**21.62**	**9**	*e*P	**P**	**20 48 48.2**	**-0.7**
	comp=Z,8.6nm,0.8s						
GDL2	**Guadalupe Moun**	**21.69**	**331**	*e*P	**P**	**20 48 52.0**	**+2.2**
MNTX	**Cornudas Mount**	**21.78**	**328**	*e*P	**P**	**20 48 51.4**	**+0.7**
	comp=Z,11nm,0.8s						
WMOK	**Wichita Mounta**	**21.93**	**345**	*e*P	**P**	**20 48 51.6**	**-0.6**
	comp=Z,10nm,1.0s						
SWET	**Sewanee**	**22.26**	**13**	*e*P	**P**	**20 48 54.3**	**-1.4**
	comp=Z,21nm,1.1s						
MSTX	**Muleshoe**	**22.51**	**336**	*e*P	**P**	**20 48 58.6**	**0.0**
	comp=Z,20nm,1.0s						
V48A	**Smith Brothers**	**22.58**	**11**	*e*P	**P**	**20 48 57.6**	**-1.6**
	comp=Z,13nm,1.0s						
WVT	**Waverly**	**22.79**	**9**	*e*P	**P**	**20 48 59.6**	**-1.7**
	comp=Z,8.7nm,0.8s						
CPCT	**Cooper Cave**	**22.83**	**16**	*e*P	**P**	**20 49 01.5**	**-0.3**
	comp=Z,20nm,1.2s						
AMTX	**Amarillo**	**22.93**	**339**	*e*P	**P**	**20 49 02.7**	**-0.3**
	comp=Z,32nm,0.6s						
PBMO	**Poplar Bluff**	**23.16**	**3**	*e*P	**P**	**20 49 04.0**	**-1.1**
	comp=Z,12nm,0.7s						
**TK

B06A	**Marblemount**	**42.49**	**331**	*e*P		**P**	**20**	**51**	**54.4 +0.9**
	comp=Z,116nm,0.8s								
SCHQ	**Schefferville**	**45.65**	**20**	P		**P**	**20**	**52**	**17.0 -1.8**
	comp=Z,6.8nm,0.9s,baz=222,slow=8.3,SNR=5.2								
SCHQ	**Schefferville**	**45.65**	**20**	*e*P		**P**	**20**	**52**	**17.9 -0.9**
	comp=Z,46nm,1.4s								
YKA	**Yellowknife Ar**	**51.42**	**347**	P		**P**	**20**	**53**	**03.7 +0.7**
	comp=Z,3.4nm,0.5s,baz=152,slow=7.6,SNR=20								
CPUP	**Villa Florida**	**52.11**	**140**	P		**P**	**20**	**53**	**06.5 -2.2**
	comp=Z,0.8nm,0.5s,baz=283,slow=14,SNR=3.5								
INK	**Inuvik**	**60.82**	**344**	*e*P		**P**	**20**	**54**	**10.6 +0.5**
	comp=Z,4.7nm,0.8s								
IL1	**Eielson Array**	**63.20**	**337**	*e*P		**P**	**20**	**54**	**26.7 +0.6**
ILAR	**Eielson Array**	**63.20**	**337**	P		**P**	**20**	**54**	**26.9 +0.8**
	comp=Z,0.7nm,0.8s,baz=124,slow=5.0,SNR=7.2								
ILB	**Eielson Array**	**63.20**	**337**	*e*P		**P**	**20**	**54**	**26.6 +0.4**
RND	**Reindeer**	**63.38**	**335**	*e*P		**P**	**20**	**54**	**27.9 +0.4**
	comp=Z,26nm,1.2s								
MDM	**Murphy Dome**	**63.80**	**337**	*e*P		**P**	**20**	**54**	**31.5 +1.4**
	comp=Z,7.7nm,0.8s								
BPAW	**Bear Paw Mtn.**	**64.53**	**335**	*e*P		**P**	**20**	**54**	**36.5 +1.6**
	comp=Z,19nm,0.9s								
ESDC	**Sonseca Array**	**80.04**	**52**	P		**P**	**20**	**56**	**05.8 -2.3**
	comp=Z,0.2nm,0.5s,baz=295,slow=5.1,SNR=4.1								
CLL	**Collm**	**88.70**	**37**	*e*P		**P**	**20**	**56**	**53.0 +1.4**
KSH	**Kashi**	**126.03**	**11**	*e*PKP		**PKPdf**	**21**	**03**	**02.0 +1.2**
WR1	**Warramunga Arr**	**135.21**	**255**	*e*PKPdf		**PKPdf**	**21**	**03**	**18.8 +0.3**
WRA	**Warramunga Arr**	**135.21**	**255**	PKP		**PKPdf**	**21**	**03**	**18.8 +0.3**
	comp=Z,0.4nm,0.9s,baz=89,slow=2.2,SNR=4.1								
AS31	**Alice Springs**	**135.44**	**250**	*e*PKPdf		**PKPdf**	**21**	**03**	**18.9 0.0**
ASAR	**Alice Springs**	**135.44**	**250**	PKP		**PKPdf**	**21**	**03**	**18.5 -0.4**
	comp=Z,0.3nm,0.8s,baz=64,slow=2.2,SNR=3.0								
CM31	**Chiang Mai Arr**	**146.37**	**341**	*e*PKPdf		**PKPbc**	**21**	**03**	**41.2 +1.4**
CMAR	**Chiang Mai Arr**	**146.37**	**341**	PKPbc		**PKPdf**	**21**	**03**	**40.1 +1.5**
	comp=Z,1.3nm,0.6s,baz=346,slow=3.3,SNR=15								

IDC ***17*** *21:02:48.7±0.6,5.75S×151.77E,h0km,mb4.6/14, mb1 4.8/15,mb1mx4.5/46,mbtmp4.7/15,ML3.0/1,MS4.0/25, Ms1 4.1/25,ms1mx3.9/36,Error ellipse: s-maj=17.9km s-min=16.1km az=107.0*

ISCJB ***17*** *21:02:52.3±0.3,5.81S±0.03×151.74E±0.03,h36km, mb4.9/44,MS4.1/25,Error ellipse: s-maj=5.1km s-min=4.6km az=31.3*

NEIC ***17*** *21:02:53.8±0.3,5.81S×151.84E,h35km,mb4.9/18,Error ellipse: s-maj=6.8km s-min=5.6km az=119.0*

BJI ***17*** *21:02:54.4,6.04S×151.65E,h51km,mb4.7/21,mB5.0/14, Ms4.8/12,Ms7 4.6/6*

DJA ***17*** *21:03:05.7±0.6,6.S±3.×15.1E±.,h114km±5km,M4.8/57, mb4.8/57,mB5.4/6,MLv4.9/1,Mw(mB)4.8/6*

ISC 17 21:02:54.4±0.3,5.81S±0.05×151.80E±0.05,h36km,n144, σ1§63/143,mb5.0/44,MS4.2/27,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time			Res ISC
					Op		h	m	s	
RABL	**Rabaul**	**1.65**	**13**	*e*Pn		**Pn**	**21**	**03**	**21.2**	**+0.3**
MANU	**Manus Island**	**5.79**	**310**	*e*Pn		Pn	21	04	22.4	+4.6
PMG	**Port Moresby**	**5.82**	**232**	Pn		**Pn**	**21**	**04**	**18.1**	**0.0**
	24nm,0.3s,baz=44,slow=9.5,SNR=83									
PMG					Sn	**Sn**	**21**	**05**	**24.4**	**+0.7**
	13nm,0.3s,baz=12,slow=12,SNR=9.0									
PMG	**Port Moresby**	**5.82**	**232**	*e*Pn		**Pn**	**21**	**04**	**19.9**	**+1.7**
PMG					Sn	**Sn**	**21**	**05**	**24.4**	**+0.7**
HNR	**Honiara**	**8.84**	**114**	Pn		**Pn**	**21**	**05**	**02.4**	**+2.7**
	18nm,0.3s,baz=41,slow=2.6,SNR=6.3									
HNR					Sn	**Sn**	**21**	**06**	**40.1**	**+1.9**
	14nm,0.3s,baz=318,slow=11,SNR=3.1									
HNR					LR	LR	21	08	05.8	
	comp=Z,860nm,20.3s,baz=284,slow=36									
HNR	**Honiara**	**8.84**	**114**	*e*Pn		**Pn**	**21**	**04**	**59.6**	**-0.1**
HNR					Sn	**Sn**	**21**	**06**	**40.1**	**+1.9**
JAY	**Jayapura**	**11.54**	**286**	Pn		**Pn**	**21**	**05**	**39.5**	**+2.8**
	0.6nm,0.3s,baz=72,slow=21,SNR=2.7									
JAY					LR	LR	21	09	30.9	
	comp=Z,1μm,19.4s,baz=171,slow=35									
JAY	**Jayapura**	**11.54**	**286**	P		**Pn**	**21**	**05**	**40.2**	**+3.5**
MMPI	**Merauke**	**11.63**	**256**	P		**Pn**	**21**	**05**	**39.8**	**+1.9**
COEN	**Coen**	**11.73**	**226**	P		**Pn**	**21**	**05**	**40.6**	**+1.3**
	baz=12,SNR=7.5									
COEN	**Coen**	**11.73**	**226**	*e*Pn		**Pn**	**21**	**05**	**39.3**	**0.0**
GENI	**Genyem**	**12.03**	**285**	P		**Pn**	**21**	**05**	**46.9**	**+3.5**
MTSU	**Mount Surprise**	**14.26**	**210**	P		**Pn**	**21**	**06**	**16.1**	**+2.2**
	baz=14,SNR=16									
CTA	**Charters Tower**	**15.18**	**200**	Pn		**P**	**21**	**06**	**32.0**	**+1.2**
	0.2nm,0.3s,baz=31,slow=13,SNR=8.7									
CTA					LR	LR	21	12	04.9	
	comp=Z,759nm,19.3s,baz=42,slow=36									
CTAO	**Charters Tower**	**15.18**	**200**	*e*Pn		**Pn**	**21**	**06**	**25.7**	**-0.4**
	20nm,1.1s									
SRPI	**Serui, Papua**	**16.00**	**284**	P		**P**	**21**	**06**	**38.4**	**-1.6**
RKPI	**Ransiki, Papua**	**18.09**	**283**	P		**P**	**21**	**07**	**03.0**	**-0.1**
KMPI	**Kaimana, Papua**	**18.15**	**276**	P		**Pn**	**21**	**07**	**02.6**	**-1.2**
QIS	**Mount Isa**	**18.84**	**218**	P		**Pn**	**21**	**07**	**11.7**	**-0.4**
	baz=19,SNR=16									
EIDS	**Eidsvold**	**19.46**	**182**	P		**Pn**	**21**	**07**	**19.5**	**0.0**
	baz=20,SNR=5.0									
EIDS	**Eidsvold**	**19.46**	**182**	*e*P		**P**	**21**	**07**	**18.0**	**0.0**
	14nm,0.8s									
KDU	**Kakadu**	**20.25**	**249**	P		**P**	**21**	**07**	**26.0**	**-0.7**
	baz=20,SNR=16									
SAUI	**Saumlaki**	**20.46**	**263**	P		**P**	**21**	**07**	**27.0**	**-2.1**
GUMO	**Guam**	**20.47**	**340**	P		Pn	21	07	31.4	0.0
	175nm,1.0s,baz=186,slow=7.8,SNR=4.2									
GUMO					LR	LR	21	16	20.4	
	comp=Z,325nm,18.4s,baz=146,slow=40									
RMQ	**Roma**	**20.76**	**188**	P		Pn	21	07	34.0	-0.8
	baz=21,SNR=15									
SIJI	**Sorong**	**21.07**	**283**	P		**P**	**21**	**07**	**37.6**	**+1.9**
	20nm,1.0s,baz=47,slow=10,SNR=5.5									
SWI	**Sorong**	**21.08**	**283**	P		**P**	**21**	**07**	**35.5**	**-0.2**
DZM	**Mont Dzumac**	**21.49**	**140**	P		**P**	**21**	**07**	**40.6**	**+0.4**
	20nm,1.0s,baz=349,slow=8.0,SNR=13									
DZM					LR	LR	21	14	46.7	
	comp=Z,994nm,21.7s,baz=261,slow=33									
DZM	**Mont Dzumac**	**21.49**	**140**	*e*P		**P**	**21**	**07**	**40.4**	**+0.2**
	58nm,1.2s									
DZM				*e*S		**S**	**21**	**11**	**32.5**	**-4.3**
	157nm,23.4s									
DZM				*e*LR		LR	21	12	53.0	
	2μm,22.6s									
DZM	**Mont Dzumac**	**21.49**	**140**	*e*P		**P**	**21**	**07**	**39.4**	**-0.8**
	19nm,0.8s									
MTN	**Manton Dam**	**21.54**	**250**	P		**P**	**21**	**07**	**40.6**	**0.0**
	baz=22,SNR=28									
MTN	**Manton Dam**	**21.54**	**250**	*e*P		**P**	**21**	**07**	**40.7**	**0.0**
	58nm,1.0s									
QLP	**Quilpie**	**21.88**	**198**	P		**P**	**21**	**07**	**44.7**	**+0.5**
	baz=22,SNR=3.9									
WRAB	**Tennant Creek**	**22.01**	**229**	*e*P		**P**	**21**	**07**	**45.2**	**-0.5**
	75nm,0.9s									
WB2	**Warramunga Arr**	**22.02**	**229**	*e*P		**P**	**21**	**07**	**45.4**	**-0.4**
WRA	**Warramunga Arr**	**22.03**	**229**	P		**P**	**21**	**07**	**45.0**	**-1.0**
	46nm,0.8s,baz=55,slow=10,SNR=101									
WRA					PcP	**PcP**	**21**	**11**	**43.5**	**0.0**
	2.0nm,0.9s,baz=62,slow=1.7,SNR=4.5									
WRA					ScP	**ScP**	**21**	**15**	**21.9**	**+3.7**
	1.5nm,1.0s,baz=42,slow=2.5,SNR=5.3									
WRA					LR	LR	21	16	06.0	
	comp=Z,227nm,21.5s,baz=70,slow=36									
MSAI	**Masohi**	**22.92**	**275**	P		**P**	**21**	**07**	**54.0**	**-1.5**
AAI	**Ambon**	**23.61**	**274**	P		**P**	**21**	**08**	**01.1**	**-1.2**
ARMA	**Armidale**	**24.48**	**180**	P		**P**	**21**	**08**	**11.4**	**+1.1**
	baz=25,SNR=4.4									
ARMA	**Armidale**	**24.48**	**180**	*e*P		**P**	**21**	**08**	**10.5**	**+0.2**
	108nm,1.5s									
KNRA	**Kununurra**	**24.63**	**245**	P		**P**	**21**	**08**	**11.4**	**-0.3**
	baz=25,SNR=22									
AS01	**Alice Springs**	**24.70**	**222**	*e*P		**P**	**21**	**08**	**12.4**	**+0.1**
AS31	**Alice Springs**	**24.73**	**222**	*e*P		**P**	**21**	**08**	**12.3**	**-0.3**
	20nm,1.1s									
ASAR	**Alice Springs**	**24.73**	**222**	P		**P**	**21**	**08**	**12.2**	**-0.4**
	57nm,1.0s,baz=57,slow=8.8,SNR=142									
ASAR					ScP	**ScP**	**21**	**15**	**30.7**	**+5.3**
	1.1nm,0.9s,baz=39,slow=4.7,SNR=5.6									
ASAR					LR	LR	21	17	26.4	
	comp=Z,287nm,20.3s,baz=44,slow=35									
LBMI	**Labuha**	**24.79**	**281**	P		**P**	**21**	**08**	**12.5**	**-0.7**
SANI	**Sanana**	**25.01**	**277**	P		**P**	**21**	**08**	**23.2**	**-1.1**
CMSA	**Cobar Meteorol**	**26.22**	**192**	P		**P**	**21**	**08**	**27.3**	**+1.3**
	baz=26,SNR=11									
SOEI	**Soe**	**27.55**	**260**	*e*P		**P**	**21**	**08**	**38.2**	**0.0**
	32nm,0.8s									
SOEI	**Soe**	**27.55**	**260**	P		**P**	**21**	**08**	**37.1**	**-1.2**
STKA	**Stephens Creek**	**27.63**	**199**	P		**P**	**21**	**08**	**37.8**	**-0.8**
	4.4nm,0.7s,baz=356,slow=9.6,SNR=6.7									
STKA					LR	LR	21	20	06.6	
	comp=Z,363nm,18.0s,baz=21,slow=38									
STKA	**Stephens Creek**	**27.63**	**199**	*e*P		**P**	**21**	**08**	**38.2**	**-0.5**
	baz=28,SNR=5.7									
STKA	**Stephens Creek**	**27.63**	**199**	*e*P		**P**	**21**	**08**	**38.0**	**-0.7**
	3.3nm,1.2s									
BATI	**Baumata**	**28.19**	**259**	P		**P**	**21**	**08**	**43.9**	**0.0**
	33nm,0.8s,baz=180,slow=1.1,SNR=11									
BATI					LR	LR	21	22	33.2	
	comp=Z,520nm,18.1s,baz=120,slow=42									
BATI	**Baumata**	**28.19**	**259**	P		**P**	**21**	**08**	**42.7**	**-1.2**
FITZ	**Fitzroy Crossi**	**28.30**	**242**	P		**P**	**21**	**08**	**44.0**	**-0.7**
	30nm,0.8s,baz=54,slow=7.5,SNR=50									
FITZ					LR	LR	21	21	37.9	
	comp=Z,310nm,19.6s,baz=60,slow=40									
FITZ	**Fitzroy Crossi**	**28.30**	**242**	P		**P**	**21**	**08**	**44.0**	**-0.7**
	baz=28,SNR=56									
FITZ	**Fitzroy Crossi**	**28.30**	**242**	*e*P		**P**	**21**	**08**	**44.1**	**-0.7**
	44nm,1.0s									
KMSI	**Cibinong**	**28.49**	**282**	P		**P**	**21**	**08**	**45.8**	**-0.7**
BBSI	**Bau Bau**	**29.08**	**269**	P		**P**	**21**	**08**	**50.5**	**-1.3**
DAV	**Davao City (W)**	**29.12**	**296**	LR		LR	21	19	20.7	
	comp=Z,186nm,18.5s,baz=112,slow=34									
MMRI	**Maumere**	**29.45**	**263**	P		**P**	**21**	**08**	**53.8**	**-1.3**
WRKA	**Warakurna**	**29.54**	**227**	P		**P**	**21**	**08**	**54.9**	**-0.9**
	baz=30,SNR=16									
HTT	**Hallett**	**29.97**	**202**	P		**P**	**21**	**08**	**59.3**	**-0.2**
	baz=30,SNR=3.7									
EDFI	**Ende, Flores**	**30.00**	**263**	P		**P**	**21**	**08**	**57.1**	**-3.0**
MRSI	**Marisa**	**30.45**	**281**	P		**P**	**21**	**09**	**01.8**	**-2.2**
APSI	**Ampana**	**30.48**	**278**	P		**P**	**21**	**09**	**02.5**	**-1.7**
BBOO	**Buckleboo**	**30.60**	**207**	*e*P		**P**	**21**	**09**	**03.9**	**-1.2**
	15nm,1.0s									
BSSI	**Bau Bau, Buton**	**31.13**	**268**	P		**P**	**21**	**09**	**07.7**	**-2.3**
BKSI	**Bulukumba**	**31.52**	**269**	P		**P**	**21**	**09**	**11.0**	**-2.4**
SPSI	**Sidrap Palu**	**31.96**	**272**	P		**P**	**21**	**09**	**15.6**	**-1.6**
WBSI	**Waikabubak, Su**	**32.32**	**261**	P		**P**	**21**	**09**	**18.4**	**-2.1**
	82nm,0.8s,790nm									
MPSI	**Mapaga**	**32.43**	**280**	P		**P**	**21**	**09**	**20.6**	**-0.7**
FORT	**Forrest**	**33.38**	**219**	P		**P**	**21**	**09**	**28.9**	**-0.5**
	baz=34,SNR=14									
FORT	**Forrest**	**33.38**	**219**	*e*P		**P**	**21**	**09**	**28.9**	**-0.5**
	30nm,0.8s									
PLAI	**Plampang**	**33.87**	**263**	P		**P**	**21**	**09**	**30.3**	**-3.6**
	30nm,0.9s									
CBIJ	**Chichi jima**	**34.01**	**345**	*e*P		**P**	**21**	**09**	**33.9**	**-1.0**
	276nm,1.3s									
MBWA	**Marble Bar**	**34.60**	**241**	*e*P		**P**	**21**	**09**	**39.0**	**-1.3**
	29nm,0.9s									
TWSI	**Taliwang, Sumb**	**34.74**	**263**	P		**P**	**21**	**09**	**39.0**	**-2.5**
IGBI	**Denpasar**	**36.46**	**263**	P		**P**	**21**	**09**	**54.3**	**-2.0**
MEEK	**Meekatharra**	**37.80**	**233**	P		**P**	**21**	**10**	**06.8**	**-0.7**
	baz=38,SNR=26									
BLJI	**Banyuglugur**	**37.97**	**265**	P		**P**	**21**	**10**	**07.8**	**-1.3**
GMJI	**Gumukmas**	**38.13**	**264**	P		**P**	**21**	**10**	**08.2**	**-2.2**
URZ	**Urewera**	**39.64**	**148**	P		**P**	**21**	**10**	**23.0**	**+0.3**
	7.9nm,0.6s,baz=351,slow=3.7,SNR=3.8									
URZ					LR	LR	21	25	14.3	
	comp=Z,359nm,18.8s,baz=336,slow=34									
PWJI	**Pagerwojo**	**39.75**	**264**	P		**P**	**21**	**10**	**22.5**	**-1.5**
NGJI	**Ngawi**	**40.09**	**265**	P		**P**	**21**	**10**	**25.1**	**-1.7**
PCJI	**Pacitan**	**40.37**	**264**	P		**P**	**21**	**10**	**27.7**	**-1.5**
MORW	**Morawa**	**40.94**	**231**	P		**P**	**21**	**10**	**32.5**	**-1.2**
	baz=41,SNR=4.4									
UGM	**Wanagama**	**41.02**	**265**	P		**P**	**21**	**10**	**32.5**	**-2.0**
RPZ	**Rata Peaks**	**41.38**	**159**	LR		LR	21	25	49.8	
	comp=Z,548nm,20.7s,baz=326,slow=33									
MLZ	**Mavora Lakes**	**41.89**	**163**	*e*P		**P**	**21**	**10**	**41.1**	**-0.2**
	43nm,1.2s									
NACB	**Ninganchiao**	**41.89**	**317**	*e*P		**P**	**21**	**10**	**40.9**	**-0.6**
	31nm,1.2s									
KSM	**Kuching**	**42.06**	**279**	*e*P		**P**	**21**	**10**	**41.9**	**-1.1**
	2.5nm,0.7s									
TATO	**Taipei**	**42.50**	**317**	*e*P		**P**	**21**	**10**	**46.1**	**-0.3**
	156nm,1.4s									
KPJI	**Karang Pucung**	**42.60**	**266**	P		**P**	**21**	**10**	**46.6**	**-0.8**
CMJI	**Cimerak**	**43.07**	**265**	P		**P**	**21**	**10**	**49.7**	**-1.6**
CISI	**Cisompet, Garu**	**43.70**	**265**	*e*P		**P**	**21**	**10**	**54.7**	**-1.7**
	110nm,1.5s									
CISI	**Cisompet, Garu**	**43.70**	**265**	P		**P**	**21**	**10**	**54.6**	**-1.8**
MJAR	**Matsushiro Arr**	**44.01**	**344**	LR		LR	21	28	04.2	
	comp=Z,196nm,20.2s,baz=175,slow=34									
KSRS	**Korea Array**	**48.46**	**335**	LR		LR	21	30	27.2	
	comp=Z,920nm,21.4s,baz=158,slow=34									
NJ2	**Nanjing**	**49.01**	**322**	*e*P		**P**	**21**	**11**	**38.5**	**+0.7**
NJ2					pmax	pmax				
	comp=Z,6.0nm,0.5s									
RAR	**Rarotonga**	**49.30**	**113**	LR		LR	21	30	18.5	
	comp=Z,63nm,19.2s,baz=315,slow=33									
KMI	**Kunming**	**56.73**	**305**	P		**P**	**21**	**12**	**39.0**	**+3.8**
KMI					pmax	pmax				
	comp=Z,14nm,0.5s									
KMI					LR	LR				
	comp=N,83nm,4.6s									
KMI					LR	LR				
	comp=E,110nm,3.8s									
PAYA	**Payao**	**56.90**	**297**	P		P	21	12	40.6	+4.4
	3.3nm,0.8s									
CM01	**Chiang Mai Arr**	**57.38**	**296**	*e*P		**P**	**21**	**12**	**39.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**57.41**	**296**	P		**P**	**21**	**12**	**39.5**	**-0.3**
	0.7nm,0.6s,baz=128,slow=4.8,SNR=8.0									
CMAR					LR	LR	21	37	31.4	
	comp=Z,79nm,18.6s,baz=120,slow=36									
HLK	**Haleakala**	**57.43**	**61**	*e*P		**P**	**21**	**12**	**37.0**	**-3.2**
	159nm,1.1s									
KHU	**Kahuku**	**57.45**	**63**	*e*P		**P**	**21**	**12**	**38.6**	**-1.7**
	183nm,1.3s									
PPT2	**Papeete2**	**58.38**	**107**	*e*LR		LR	21	30	05.5	
	101nm,24.0s									
CD2	**Chengdu**	**58.64**	**312**	*e*P		**P**	**21**	**12**	**47.6**	**-0.7**
CD2					S	**S**	**21**	**20**	**49.8**	**-0.8**
CD2					pmax	pmax				
	comp=Z,10.0nm,0.5s									
CD2					pmax	pmax				
	comp=Z,120nm,5.0s									
CD2					LR	LR				
	comp=E,410nm,19.9s									
CD2					LR	LR				
	comp=Z,400nm,20.9s									
PETK	**Petropavlovsk-**	**58.91**	**4**	LR		LR	21	34	32.5	
	comp=Z,134nm,20.3s,baz=181,slow=32									
HHC	**Hu-ho-hao-te**	**59.29**	**325**	*e*P		P	21	12	57.3	+4.6
HHC					S	**S**	**21**	**20**	**56.1**	**-2.6**
HHC					SS	**SS**	**21**	**24**	**56.3**	**+2.3**
HHC					pmax	pmax				
	comp=Z,10.0nm,0.9s									
HHC					pmax	pmax				
	comp=Z,100nm,3.7s									
HHC					LR	LR				
	comp=N,250nm,10.4s									
HHC					LR	LR				
	comp=E,190nm,11.2s									
HHC					LR	LR				
	comp=Z,510nm,16.4s									
LZH	**Lanzhou**	**61.27**	**317**	*e*P		**P**	**21**	**13**	**09.8**	**+3.4**
LZH					pP	sP	21	13	26.6	+5.0
LZH					pmax	pmax				
	comp=Z,45nm,1.3s									
LZH					pmax	pmax				
	comp=Z,130nm,4.3s									
LZH					LR	LR				
	comp=N,280nm,11.9s									
LZH					LR	LR				
	comp=E,470nm,14.6s									
LZH					LR	LR				
	comp=Z,320nm,14.5s									
GTA	**Gaotai**	**65.72**	**318**	*e*P		**P**	**21**	**13**	**38.3**	**+2.5**
GTA					pP	sP	21	13	54.4	+3.4
GTA					sP	PcP	21	14	01.9	-5.0
GTA					pmax	pmax				
	comp=Z,1.0nm,0.6s									
GTA					LR	LR				
	comp=N,220nm,19.6s									
GTA					LR	LR				
	comp=E,130nm,14.1s									
SONM	**Songino Array**	**66.65**	**328**	P		**P**	**21**	**13**	**41.0**	**-0.5**
	1.4nm,0.7s,baz=128,slow=9.3,SNR=2.7									
SONM					LR	LR	21	42	52.7	
	comp=Z,190nm,19.6s,baz=164,slow=36									
VNDA	**Vanda**	**71.86**	**178**	P		**P**	**21**	**14**	**13.8**	**+0.7**
	5.4nm,0.9s,baz=328,slow=6.6,SNR=31									
VNDA	**Vanda**	**71.86**	**178**	*e*P		**P**	**21**	**14**	**13.7**	**+0.6**
	13nm,1.2s									
WMQ	**Urumqi**	**75.81**	**318**	*e*P		**P**	**21**	**14**	**38.3**	**+1.3**
WMQ					LR	LR				
	comp=E,230nm,15.5s									
WMQ					LR	LR				
	comp=Z,130nm,22.1s									
MKAR	**Makanchi Array**	**80.43**	**319**	LR		LR	21	50	40.0	
	comp=Z,104nm,19.7s,baz=88,slow=36									
ZALV	**Zalesovo Beam**	**81.44**	**327**	LR		LR	21	50	39.2	
	comp=Z,136nm,20.1s,baz=70,slow=35									
KSH	**Kashi**	**82.83**	**311**	P		**P**	**21**	**15**	**16.1**	**+0.7**
KSH					sP	sP	21	15	40.1	+9.2
KSH					S	**S**	**21**	**25**	**26.8**	**-4.8**
KSH					sS	sS	21	25	55.8	+5.5
KSH					SS	**SS**	**21**	**30**	**57.6**	**+2.5**
KSH					pmax	pmax				
	comp=Z,23nm,1.0s									
KSH					pmax	pmax				
	comp=Z,350nm,5.5s									
IL1	**Eielson Array**	**83.47**	**22**	*e*P		**P**	**21**	**15**	**16.6**	**-1.4**
ILAR	**Eielson Array**	**83.47**	**22**	P		**P**	**21**	**15**	**16.9**	**-1.1**
	2.5nm,0.7s,baz=247,slow=5.2,SNR=28									
ILAR					LR	LR	21	50	13.9	
	comp=Z,122nm,18.7s,baz=274,slow=34									
ILB	**Eielson Array**	**83.47**	**22**	*e*P		**P**	**21**	**15**	**17.1**	**-0.9**
KURK	**Kurchatov**	**83.95**	**322**	P		**P**	**21**	**15**	**22.2**	**+1.4**
KURBB	**Kurchatov Arra**	**83.98**	**322**	P		**P**	**21**	**15**	**22.2**	**+1.3**
	2.5nm,0.2s,baz=110,slow=4.5,SNR=5.0									
QSPA	**South Pole Qui**	**84.15**	**180**	*e*P		**P**	**21**	**15**	**21.4**	**-0.3**
	14nm,1.1s									
MAW	**Mawson**	**84.25**	**203**	P		**P**	**21**	**15**	**21.8**	**-0.2**
	2.9nm,0.7s,baz=81,slow=8.7,SNR=4.5									
MAW					LR	LR	21	51	46.1	
	comp=Z,109nm,18.6s,baz=62,slow=35									
TOLK	**Toolik Lake Re**	**84.48**	**18**	*e*P		**P**	**21**	**15**	**20.8**	**-2.4**
	12nm,0.4s									
NVAR	**Mina Array Bea**	**93.49**	**52**	P		**P**	**21**	**16**	**07.5**	**+0.5**
	1.7nm,0.8s,baz=253,slow=5.4,SNR=5.3									
NVAR					LR	LR	21	53	53.0	
	comp=Z,205nm,18.8s,baz=269,slow=33									
KVN	**Kaiserville**	**93.70**	**51**	*e*P		**P**	**21**	**16**	**08.5**	**+0.6**
	6.0nm,0.9s									
YKA	**Yellowknife Ar**	**96.78**	**28**	LR		LR	21	54	43.5	
	comp=Z,14nm,20.8s,baz=232,slow=32									
BRG	**Berggieshnubel**	**123.04**	**330**	*e*PKP		**PKPdf**	**21**	**21**	**45.7**	**-1.4**
	9.9nm,1.7s									
CLL	**Collm**	**123.24**	**330**	*e*PKPdf		**PKPdf**	**21**	**21**	**47.0**	**-0.4**
CLL					*ep*PKPdf	**pPKPdf**	**21**	**22**	**00.0**	**+0.8**
GERES	**GERESS Array B**	**124.38**	**328**	PKP		**PKPdf**	**21**	**21**	**49.3**	**-0.6**
	1.1nm,0.8s,baz=42,slow=2.2,SNR=11									
GEA0	**GERESS Array S**	**124.39**	**328**	*e*PKPdf		**PKPdf**	**21**	**21**	**49.0**	**-0.9**
LPAZ	**La Paz**	**134.81**	**120**	PKP		**PKPdf**	**21**	**22**	**12.0**	**+0.8**
	1.7nm,0.9s,baz=272,slow=3.6,SNR=5.5									
CPUP	**Villa Florida**	**137.36**	**140**	PKP

comp=N,32nm,1.1s
KUDL Kundal 9.62 148 *e*P **Pn 21 12 32.7 -1.3**
KUDL *e*S **S 21 14 15.2 -6.7**
GEYT Alibeck 10.17 282 P **Pn 21 12 39.2 -1.9**
comp=N,0.3nm,0.3s,baz=99,slow=9.6,SNR=6.3
GEYT S **S 21 14 30.4 -4.8**
comp=N,0.7nm,0.3s,baz=70,slow=13,SNR=4.0
OTUK Ortayu 11.82 5 ⇑P **Pn 21 13 00.8 -1.3**
comp=N,3.1nm,0.6s
BHJ Bhuj 13.21 184 *e*P **Pn 21 13 19.8 +0.1**
BHJ *ex* x 21 15 37.0
PYUN Piuthan 13.30 125 *e*P **Pn 21 13 20.5 -0.5**
comp=N,13nm,0.3s
MK31 Makanchi Array 13.44 36 P **Pn 21 13 22.6 +0.2**
comp=N,16nm,0.7s,baz=221,slow=14,SNR=61
MKAR Makanchi Array 13.44 36 P **Pn 21 13 22.8 +0.4**
comp=N,0.8nm,0.3s,baz=227,slow=18,SNR=30
DANN Dangsing 13.65 123 *e*P **Pn 21 13 25.6 +0.1**
comp=N,15nm,0.4s
KOLN Koldanda 13.92 125 *e*P **Pn 21 13 28.1 -0.7**
comp=N,4.8nm,0.3s
BHPL Bhopal 14.40 154 *e*P **P 21 13 37.2 +1.4**
BHPL *ex* x 21 16 06.0
AB31 Akbulak array 15.01 332 ⇑P **Pn 21 13 40.2 -1.5**
comp=N,2.0nm,0.4s,baz=146,slow=11,SNR=60
AB31 ⇓S **S 21 16 21.0 -6.9**
comp=N,4.9nm,0.7s,baz=153,slow=23,SNR=4.5
DMN Daman 15.04 122 *e*P **Pn 21 13 42.8 +0.3**
comp=N,13nm,0.5s
KKN Kakani 15.04 121 *e*P **Pn 21 13 42.8 +0.3**
comp=N,23nm,0.4s
KURBB Kurchatov Arra 15.22 19 P **Pn 21 13 44.1 -0.1**
comp=N,0.5nm,0.3s,baz=207,slow=9.9,SNR=11
PKIN Phulchoki 15.26 121 *e*P **Pn 21 13 45.3 +0.1**
comp=N,16nm,0.4s
PKI Pulchoki 15.27 121 *e*P **Pn 21 13 45.4 0.0**
comp=N,29nm,0.7s
GUN Gumba 15.39 119 *e*P **Pn 21 13 46.8 0.0**
comp=N,9.2nm,0.3s
JIRN Jiri 15.76 120 *e*P **Pn 21 13 52.1 +0.8**
comp=N,43nm,0.4s
RAMN Ramite 16.48 121 *e*P **Pn 21 14 00.4 +0.5**
comp=N,19nm,0.4s
BVA0 Borovoye Array 16.55 359 ⇓P **Pn 21 14 00.6 +0.3**
comp=N,4.0nm,0.5s,baz=155,slow=9.6,SNR=70
BVAR Borovoye Array 16.55 359 P **Pn 21 14 00.7 +0.4**
comp=N,2.6nm,0.3s,baz=160,slow=9.8,SNR=82
BVAR S **S 21 17 03.6 +1.8**
comp=N,0.4nm,0.3s,baz=159,slow=21,SNR=5.0
BRVK Borovoye 16.59 359 ⇑P **Pn 21 14 00.7 0.0**
comp=N,8.6nm,0.7s
AKTO Aktyubinsk 16.70 331 P **Pn 21 14 02.5 +0.5**
comp=N,1.7nm,0.3s,baz=140,slow=10,SNR=51
AKTO Aktyubinsk 16.70 331 ⇑P **Pn 21 14 01.9 -0.1**
comp=N,22nm,0.8s
AKTO ⇑S **S 21 17 07.1 +2.3**
comp=N,7.8nm,0.8s
WSAR Wadi Sarin 16.84 222 P **Pn 21 14 05.2 +1.3**
comp=N,0.7nm,0.3s,baz=68,slow=7.0,SNR=10
ODAN Odare 17.09 119 *e*P **Pn 21 14 08.3 +1.2**
comp=N,26nm,0.7s
ZALV Zalesovo Beam 20.03 25 P **P 21 14 37.8 +0.9**
comp=N,21nm,0.5s,baz=221,slow=12,SNR=101
SHL Shillong 21.09 115 *e*P **P 21 14 52.0 +3.5**
TEZP TEZPUR 21.17 111 *e*P **P 21 14 50.8 +1.6**
ZIRO ZIRO 21.49 108 *e*P **P 21 14 54.4 +1.6**
ARU Arti 21.59 341 P **P 21 14 55.1 +1.8**
comp=N,3.4nm,0.5s,baz=169,slow=4.2,SNR=13
MOKO MOKOCHONG 22.63 110 *e*P **P 21 15 06.5 +2.9**
KOHI KOHIMA 22.64 112 *ex* x 21 15 06.3
GTA Gaotai 23.07 74 *e*P **P 21 15 10.1 +2.6**
GTA pmax pmax
comp=N,7.0nm,0.8s
SAIH SAIHA 23.79 120 *e*P **P 21 15 18.1 +4.1**
SONM Songino Array 28.52 55 P **P 21 15 58.6 +2.3**
comp=N,1.7nm,0.8s,baz=264,slow=9.3,SNR=5.6
CMAR Chiang Mai Arr 30.63 118 P **P 21 16 17.3 +2.3**
comp=N,0.9nm,0.8s,baz=296,slow=8.7,SNR=7.3
BTO Baotou 30.82 70 *e*P **P 21 16 18.3 +1.7**
KLMR Klimovskoe 31.40 331 *e*P **P 21 16 21.5 +0.3**
KLMR AMP 21 16 27.7
comp=Z,10.0nm,1.4s
FINES FINESS Array B 37.39 326 P **P 21 17 13.8 +1.3**
comp=Z,2.6nm,0.6s,baz=113,slow=9.5,SNR=13
ARCES ARCESS Array B 41.09 338 P **P 21 17 44.9 +1.8**
comp=Z,2.4nm,0.7s,baz=106,slow=8.9,SNR=9.6
NB2 NORSAR Subarra 44.27 323 P **P 21 18 09.3 +0.5**
comp=Z,5.0nm,1.0s,baz=99,slow=7.9
NOA NORSAR Array B 44.27 323 P **P 21 18 08.9 +0.1**
comp=Z,0.6nm,0.4s,baz=98,slow=7.7,SNR=5.0
KMBO Kilima Mbogo 48.66 227 P **P 21 18 45.2 +1.6**
comp=Z,1.0nm,0.6s,baz=37,slow=14,SNR=5.2
TORD Torodi Ar. Bea 65.51 268 P **P 21 20 40.2 -1.3**
comp=Z,0.8nm,0.4s,baz=46,slow=6.0,SNR=29
ILAR Eielson Array 74.86 16 P **P 21 21 38.3 +0.9**
comp=Z,1.2nm,0.9s,baz=319,slow=4.4,SNR=8.7
FITZ Fitzroy Crossi 75.04 126 P **P 21 21 40.0 +0.9**
comp=Z,1.8nm,0.7s,baz=286,slow=7.4,SNR=2.2
YKA Yellowknife Ar 81.28 3 P **P 21 22 14.3 +1.6**
comp=Z,1.1nm,0.7s,baz=349,slow=5.3,SNR=4.3
WRA Warramunga Arr 82.16 122 P **P 21 22 17.9 -0.1**
comp=Z,2.2nm,0.8s,baz=328,slow=4.8,SNR=9.2
ASAR Alice Springs 84.41 125 P **P 21 22 29.2 -0.1**
comp=Z,1.2nm,0.6s,baz=305,slow=4.9,SNR=10
ULM Lac du Bonnet 92.84 351 P **P 21 23 10.6 +1.6**
comp=Z,0.9nm,0.3s,baz=295,slow=15,SNR=3.7

*IDC **17**21:11:55.9±0.6,5.°80S×151.°82E,h0km,mb4.3/17, mb1 4.5/18,mb1mx4.4/38,mbtmp4.3/18,ML2.5/1,MS4.0/8, Ms1 3.9/8,ms1mx3.6/37,Error ellipse: s-maj=18.8km s-min=14.5km az=104.0*
*ISCJB **17**21:11:59.7±0.3,5.°97S±0.°04×151.°92E±0.°05,h36km, mb4.8/44,MS4.0/8,Error ellipse: s-maj=7.5km s-min=4.7km az=21.8*
*NEIC **17**21:12:01.1±0.3,5.°94S×151.°95E,h35km,mb4.8/21,Error ellipse: s-maj=7.4km s-min=5.7km az=112.0*
*BJI **17**21:12:01.6,6.°33S×151.°40E,h40km,mb4.7/16,mB5.0/11, Ms4.8/6,Ms7 4.6/5*
ISC 17 21:12:01.6±0.4,5.°93S±0.°05×151.°97E±0.°06,h36km,n83, σ1°39/83,mb4.8/44,MS4.1/9,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.74**	**6**	*e*Pn	**Pn**	**21 12 28.1**	**-1.1**
RABL				*e*Sn	**Sn**	**21 12 51.3**	**+1.1**
PMG	**Port Moresby**	**5.89**	**234**	Pn	**Pn**	**21 13 25.8**	**-0.5**
	8.1nm,0.3s,baz=36,slow=9.7,SNR=34						
PMG				Sn	**Sn**	**21 14 34.0**	**+1.4**
	8.0nm,0.3s,baz=11,slow=21,SNR=7.5						
PMG				LR	LR	21 15 43.5	
	comp=Z,798nm,19.6s,baz=48,slow=39						
PMG	**Port Moresby**	**5.89**	**234**	*e*Pn	**Pn**	**21 13 27.5**	**+1.2**
PMG				Sn	**Sn**	**21 14 34.0**	**+1.4**
MANU	**Manus Island**	**6.00**	**310**	*e*Pn	**Pn**	**21 13 29.2**	**+1.3**
HNR	**Honiara**	**8.64**	**114**	Pn	Pn	21 14 10.7	+6.6
	11nm,0.3s,baz=229,slow=8.5,SNR=3.7						
HNR				LR	LR	21 17 12.5	
	comp=Z,677nm,19.7s,baz=290,slow=36						
JAY	**Jayapura**	**11.73**	**286**	Pn	**Pn**	**21 14 49.5**	**+2.9**
	0.4nm,0.3s,baz=16,slow=23,SNR=2.3						
COEN	**Coen**	**11.77**	**227**	*e*Pn	**Pn**	**21 14 44.9**	**-2.1**
CTA	**Charters Tower**	**15.13**	**201**	Pn	**P**	**21 15 39.3**	**+1.8**
	0.1nm,0.3s,baz=23,slow=13,SNR=4.5						
CTAO	**Charters Tower**	**15.13**	**201**	*e*Pn	**Pn**	**21 15 32.6**	**-0.2**
	15nm,1.3s						
EIDS	**Eidsvold**	**19.35**	**182**	*e*P	**Pn**	**21 16 23.4**	**-1.9**
	44nm,1.8s						
FAKI	**Fak Fak**	**19.89**	**278**	*e*P	**P**	**21 16 29.0**	**-1.1**
	30nm,1.3s						
GUMO	**Guam**	**20.63**	**340**	*e*P	Pn	21 16 38.2	-2.3
	499nm,1.4s						
SIJI	**Sorong**	**21.26**	**283**	P	**P**	**21 16 43.9**	**-1.1**
	5.7nm,0.8s,baz=245,slow=22,SNR=2.6						
DZM	**Mont Dzumac**	**21.29**	**140**	P	**P**	**21 16 48.0**	**+2.7**
	12nm,1.0s,baz=93,slow=15,SNR=5.1						
DZM				LR	LR	21 23 53.6	
	comp=Z,730nm,20.9s,baz=260,slow=33						
DZM	**Mont Dzumac**	**21.29**	**140**	*e*P	**P**	**21 16 45.8**	**+0.5**
	26nm,1.2s						
MTN	**Manton Dam**	**21.66**	**250**	*e*P	**P**	**21 16 48.9**	**-0.3**
	306nm,1.9s						
WRAB	**Tennant Creek**	**22.07**	**229**	*e*P	**P**	**21 16 52.2**	**-1.4**
	38nm,0.9s						
WB2	**Warramunga Arr**	**22.07**	**229**	*e*P	**P**	**21 16 52.4**	**-1.3**
WRA	**Warramunga Arr**	**22.08**	**229**	P	**P**	**21 16 52.0**	**-1.8**
	24nm,0.9s,baz=55,slow=10,SNR=58						
WRA				PcP	**PcP**	**21 20 50.5**	**-0.3**
	0.9nm,0.8s,baz=48,slow=2.3,SNR=4.1						
WRA				LR	LR	21 26 45.5	
	comp=Z,171nm,18.0s,baz=70,slow=40						
AS01	**Alice Springs**	**24.73**	**223**	*e*P	**P**	**21 17 18.8**	**-1.1**
AS31	**Alice Springs**	**24.76**	**223**	*e*P	**P**	**21 17 19.5**	**-0.6**
	9.5nm,1.0s						
ASAR	**Alice Springs**	**24.76**	**223**	P	**P**	**21 17 19.1**	**-1.0**
	27nm,0.9s,baz=57,slow=9.0,SNR=95						
ASAR				ScP	**ScP**	**21 24 36.5**	**+3.8**
	1.4nm,1.1s,baz=46,slow=4.5,SNR=4.7						
STKA	**Stephens Creek**	**27.58**	**199**	P	**P**	**21 17 45.7**	**+0.3**
	5.4nm,0.9s,baz=29,slow=11,SNR=6.9						
STKA				LR	LR	21 29 13.8	
	comp=Z,263nm,18.4s,baz=21,slow=38						
STKA	**Stephens Creek**	**27.58**	**199**	*e*P	**P**	**21 17 45.7**	**+0.3**
	3.3nm,1.3s						
SOEI	**Soe**	**27.70**	**260**	*e*P	**P**	**21 17 46.5**	**-0.3**
	42nm,1.0s						
BATI	**Baumata**	**28.34**	**260**	P	**P**	**21 17 51.1**	**-1.3**
	9.3nm,0.5s,baz=234,slow=0.2,SNR=5.2						
FITZ	**Fitzroy Crossi**	**28.40**	**242**	P	**P**	**21 17 50.5**	**-2.3**
	16nm,0.9s,baz=51,slow=9.0,SNR=30						
FITZ	**Fitzroy Crossi**	**28.40**	**242**	*e*P	**P**	**21 17 50.9**	**-2.0**
	22nm,0.7s						
DAV	**Davao City (W)**	**29.33**	**296**	LR	LR	21 28 20.3	
	comp=Z,138nm,18.4s,baz=110,slow=34						
LUWI	**Luwuk**	**29.54**	**278**	*e*P	**P**	**21 18 01.4**	**-1.6**
	37nm,0.7s						
FORT	**Forrest**	**33.40**	**219**	*e*P	**P**	**21 18 36.3**	**-0.5**
	22nm,0.8s						
CBIJ	**Chichi jima**	**34.17**	**344**	*e*P	**P**	**21 18 44.2**	**+0.7**
	952nm,1.8s						
MBWA	**Marble Bar**	**34.70**	**241**	*e*P	**P**	**21 18 49.5**	**+1.3**
	26nm,1.1s						
AFI	**Afiamalu**	**36.54**	**105**	*e*P	**P**	**21 19 04.0**	**-0.2**
	285nm,1.8s						
URZ	**Urewera**	**39.45**	**148**	LR	LR	21 34 11.7	
	comp=Z,285nm,18.7s,baz=344,slow=34						
RPZ	**Rata Peaks**	**41.21**	**159**	LR	LR	21 35 07.1	
	comp=Z,380nm,20.5s,baz=344,slow=34						
YOJ	**Yonaguni jima**	**41.33**	**318**	*e*P	**P**	**21 19 43.9**	**-0.2**
	645nm,1.8s						
WKZ	**Wakaya**	**41.51**	**162**	*e*P	**P**	**21 19 45.4**	**+0.1**
	162nm,1.8s						
NACB	**Ninganchiao**	**42.10**	**316**	*e*P	**P**	**21 19 50.0**	**-0.3**
	36nm,1.1s						
MJAR	**Matsushiro Arr**	**44.17**	**344**	P	**P**	**21 20 06.2**	**-0.7**
	1.6nm,0.7s,baz=172,slow=8.7,SNR=5.8						
KSRS	**Korea Array**	**48.64**	**334**	P	**P**	**21 20 41.8**	**-0.2**
	2.1nm,0.9s,baz=146,slow=7.5,SNR=4.4						
KSAR	**Wonju Array Be**	**48.65**	**334**	P	**P**	**21 20 41.8**	**-0.2**
KS01	**Wonju Array Si**	**48.67**	**334**	*e*P	**P**	**21 20 42.2**	**-0.1**
NJ2	**Nanjing**	**49.21**	**322**	*e*P	**P**	**21 20 48.9**	**+2.4**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
PSI	**Prapat**	**53.68**	**278**	*e*P	**P**	**21 21 17.9**	**-2.5**
	10nm,1.5s						
CN2	**Changchun**	**54.99**	**337**	*e*P	P	21 21 34.4	+5.1
OPA	**Opana**	**56.17**	**59**	*e*P	**P**	**21 21 36.2**	**-2.0**
	281nm,1.4s						
KMI	**Kunming**	**56.94**	**305**	P	**P**	**21 21 45.3**	**+1.4**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KMI				LR	LR		
	comp=N,180nm,5.0s						
KMI				LR	LR		
	comp=E,110nm,4.6s						
CM01	**Chiang Mai Arr**	**57.59**	**296**	*e*P	**P**	**21 21 47.0**	**-1.4**
CMAR	**Chiang Mai Arr**	**57.62**	**296**	P	**P**	**21 21 47.0**	**-1.5**
	0.6nm,0.7s,baz=102,slow=5.4,SNR=4.4						
BYL	**Byron's Ledge**	**57.72**	**63**	*e*P	**P**	**21 21 49.2**	**-0.1**
	353nm,1.0s						
CD2	**Chengdu**	**58.85**	**312**	*e*P	**P**	**21 21 56.8**	**-0.2**
CD2				S	**S**	**21 30 00.8**	**+0.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
CD2				LR	LR		
	comp=E,380nm,14.9s						
CD2				LR	LR		
	comp=Z,320nm,25.8s						
PETK	**Petropavlovsk-**	**59.01**	**4**	P	**P**	**21 21 59.3**	**+1.7**
	1.9nm,0.7s,baz=169,slow=7.1,SNR=2.8						
HHC	**Hu-ho-hao-te**	**59.49**	**325**	*e*P	**P**	**21 22 03.0**	**+1.7**
HHC				pmax	pmax		
	comp=Z,15nm,0.9s						
HHC				pmax	pmax		
	comp=Z,130nm,3.6s						
HHC				LR	LR		
	comp=N,230nm,11.2s						
HHC				LR	LR		
	comp=E,120nm,9.5s						
HHC				LR	LR		
	comp=Z,290nm,13.0s						
SMY	**Shemya**	**61.38**	**15**	*e*P	**P**	**21 22 13.8**	**0.0**
	378nm,1.5s						
LZH	**Lanzhou**	**61.47**	**317**	*e*P	P	21 22 19.1	+4.1
LZH				pP	sP	21 22 29.9	-0.2
LZH				sP	pP	21 22 35.4	+9.5
LZH				pmax	pmax		
	comp=Z,25nm,1.4s						
GTA	**Gaotai**	**65.93**	**318**	*e*P	P	21 22 47.5	+3.2
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	**Songino Array**	**66.84**	**328**	P	**P**	**21 22 49.2**	**-0.7**
	2.2nm,1.0s,baz=133,slow=4.4,SNR=6.0						
SONA1	**Songino Array**	**66.84**	**328**	*e*P	**P**	**21 22 48.5**	**-1.5**
VNDA	**Vanda**	**71.74**	**178**	P	**P**	**21 23 20.6**	**+1.0**
	3.5nm,0.9s,baz=326,slow=6.9,SNR=18						
VNDA	**Vanda**	**71.74**	**178**	*e*P	**P**	**21 23 20.6**	**+1.0**
	6.9nm,1.1s						
WMQ	**Urumqi**	**76.01**	**318**	*e*P	**P**	**21 23 47.0**	**+1.7**
WMQ				LR	LR		
	comp=E,120nm,14.7s						
WMQ				LR	LR		
	comp=Z,130nm,19.3s						
MKAR	**Makanchi Array**	**80.63**	**319**	P	**P**	**21 24 09.4**	**-1.3**
	0.6nm,0.8s,baz=100,slow=4.2,SNR=3.5						
ZALV	**Zalesovo Beam**	**81.63**	**327**	P	**P**	**21 24 13.1**	**-2.7**
	0.9nm,0.4s,baz=110,slow=6.7,SNR=3.8						
ZALV	**Zalesovo Beam**	**81.63**	**327**	*e*P	**P**	**21 24 16.3**	**+0.5**
BWN	**Browne**	**82.24**	**22**	*e*P	**P**	**21 24 20.4**	**+1.5**
	154nm,1.0s						
KSH	**Kashi**	**83.04**	**311**	*e*P	**P**	**21 24 26.0**	**+2.3**
IL1	**Eielson Array**	**83.51**	**22**	*e*P	**P**	**21 24 23.4**	**-2.0**
ILAR	**Eielson Array**	**83.51**	**22**	P	**P**	**21 24 23.9**	**-1.5**
	1.6nm,0.7s,baz=246,slow=5.5,SNR=18						
ILB	**Eielson Array**	**83.51**	**22**	*e*P	**P**	**21 24 24.2**	**-1.2**
RIDG	**Independ'e Rid**	**83.82**	**24**	*e*P	**P**	**21 24 27.6**	**+0.5**
	18nm,1.1s						
QSPA	**South Pole Qui**	**84.04**	**180**	*e*P	**P**	**21 24 28.5**	**+0.2**
	12nm,1.1s						
MAW	**Mawson**	**84.22**	**203**	P	**P**	**21 24 29.3**	**+0.3**
	2.2nm,0.8s,baz=339,slow=5.4,SNR=3.0						
AAK	**Ala-Archa**	**84.84**	**314**	*e*P	**P**	**21 24 33.5**	**+0.6**
	1.6nm,0.9s						
NVAR	**Mina Array Bea**	**93.43**	**52**	P	**P**	**21 25 15.2**	**+1.4**
	0.7nm,0.7s,baz=256,slow=5.9,SNR=3.4						
GERES	**GERESS Array B**	**124.57**	**328**	PKP	**PKPdf**	**21 30 55.6**	**-1.8**
	0.5nm,0.6s,baz=48,slow=2.0,SNR=6.5						
LPAZ	**La Paz**	**134.60**	**120**	PKP	**PKPdf**	**21 31 19.1**	**+1.1**
	0.7nm,0.6s,baz=322,slow=3.1,SNR=3.7						
CPUP	**Villa Florida**	**137.16**	**140**	PKP	**PKPdf**	**21 31 22.1**	**+0.4**
	0.9nm,0.6s,baz=163,slow=7.3,SNR=3.2						
SDV	**Santo Domingo**	**137.67**	**83**	PKP	**PKPdf**	**21 31 23.2**	**-0.1**
	0.9nm,0.3s,baz=328,slow=0.8,SNR=4.3						
PTGA	**Pitinga**	**147.44**	**101**	*e*PKPdf	**PKPdf**	**21 31 39.9**	**-0.4**
TOA0	**Torodi Ar. Sit**	**149.84**	**286**	*e*PKPdf	**PKPdf**	**21 31 44.0**	**-0.2**
TOA0				*e*PKPbc	**PKPbc**	**21 31 47.5**	**-1.5**
TOA0				*ep*PKPab	**pPKPbc**	**21 32 00.7**	**0.0**
TORD	**Torodi Ar. Bea**	**149.84**	**286**	PKPbc	**PKPbc**	**21 31 47.0**	**-2.0**
	6.2nm,1.0s,baz=64,slow=3.4,SNR=26						
BDFB	**Brasilia**	**150.83**	**138**	PKPbc	**PKPbc**	**21 31 51.6**	**+0.2**
	3.4nm,0.7s,baz=62,slow=1.7,SNR=4.0						

*UCR **17**21:19:21.7±0.7, 14.°03N×92.°63W,h15km,ML3.3, mb4.5(NEIC)*
*ISCJB **17**21:19:25.4±1.5, 13.°88N±0.°05×92.°33W±0.°05,h20km±10km, mb4.4/40,MS3.6/1,Error ellipse: s-maj=11.6km s-min=4.7km az=44.2*
*MEX **17**21:19:25.2±0.5, 13.°76N×92.°42W,h10km,MD3.8*
*NEIC **17**21:19:28.8±0.6, 13.°86N×92.°28W,h35km,mb4.5/36,Error ellipse: s-maj=11.9km s-min=5.7km az=210.0*
*IDC **17**21:19:28.2±5.0, 13.°80N×92.°38W,h33km±38km,mb3.8/7, mb1 4.1/11,mb1mx3.8/42,mbtmp4.0/11,ML3.9/4,MS3.4/3, Ms1 3.4/3,ms1mx2.8/35,Error ellipse: s-maj=36.4km s-min=15.2km az=39.0*
ISC 17 21:19:27.4±2.5,13.°90N±0.°07×92.°37W±0.°07,h27km±17km, n81,σ1°46/86,mb4.4/40,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.01**	**6**	*e*P	**Pn**	**21 19 43.6**	**-2.1**
THIG				*e*S	**Sn**	**21 19 57.9**	**-1.2**
THIG		**1.01**	**6**	*e*P	**Pn**	**21 19 43.6**	**-2.1**
THIG				*e*S	**Sn**	**21 19 57.9**	**-1.2**
PCIG		**1.98**	**335**	*e*P	**Pn**	**21 19 56.8**	**-2.2**
PCIG		**1.98**	**335**	*e*P	**Pn**	**21 19 56.8**	**-2.2**
PCIG				*i* S	**Sn**	**21 20 22.1**	**-0.9**
APG	**El Apazote**	**2.15**	**59**	Pn	**Pn**	**21 20 02.3**	**+0.7**
	65nm,0.3s,baz=241,slow=6.2,SNR=587						
APG				Sn	**Sb**	**21 20 31.2**	**-0.8**
	82nm,0.3s,baz=12,slow=18,SNR=8.0						
APG				LR	LR	21 21 08.9	
	comp=Z,550nm,18.8s,baz=288,slow=46						
CCIG	**Comitan**	**2.38**	**5**	*e*Pn	**Pn**	**21 20 06.9**	**+2.1**
CCIG	**Comitan**	**2.38**	**5**	*e*P	**Pn**	**21 20 02.9**	**-1.9**
CCIG				*i* S	**Sn**	**21 20 33.9**	**+0.7**
CEVE	**Cerro Verde**	**2.66**	**91**	*e*P	**Pn**	**21 20 08.6**	**-0.2**
CEVE				*e*S	**Sb**	**21 20 44.8**	**-2.1**
SBLS	**San Blas**	**2.67**	**91**	*e*P	**Pn**	**21 20 07.7**	**-1.0**
TGIG		**2.95**	**346**	*e*P	**Pn**	**21 20 11.9**	**-0.7**
TGIG		**2.95**	**346**	*e*P	**Pn**	**21 20 11.9**	**-0.7**
TGIG				*e*S	**Sn**	**21 20 46.8**	**-0.4**
MTO3	**Montecristo**	**2.96**	**80**	*e*P	**Pn**	**21 20 12.1**	**-0.7**
MTO3				IAML		21 20 41.2	
	comp=Z,95nm,0.8s						
SNET	**Serv Nac Est T**	**3.05**	**94**	*e*Pn	**Pn**	**21 20 12.3**	**-1.6**
PAVA	**Las Pavas**	**3.34**	**93**	*e*P	**Pn**	**21 20 16.7**	**-1.2**
PAVA				IAML		21 21 18.7	
	comp=Z,168nm,0.6s						
TECA	**Tecapa**	**3.78**	**96**	*e*P	**Pn**	**21 20 23.9**	**-0.1**
CMIG	**Matias Romero**	**4.00**	**323**	Pn	**Pn**	**21 20 26.2**	**-0.7**
	comp=Z,5.8nm,0.3s,baz=156,slow=11,SNR=21						
CMIG				Sn	**Sn**	**21 21 16.7**	**+3.9**
	comp=Z,16nm,0.3s,baz=60,slow=12,SNR=5.4						
CSGN	**Cosiguina Volc**	**4.77**	**101**	*e*Pn	**Pn**	**21 20 36.6**	**-1.0**
TGUH	**Tegucigalpa,Un**	**4.95**	**88**	*e*Pn	**Pn**	**21 20 39.3**	**-0.6**
TEIG	**Tepich**	**7.41**	**31**	*e*Pn	**Pn**	**21 21 14.0**	**+0.2**
MYIG	**MØrida**	**7.45**	**19**	*e*Pn	**Pn**	**21 21 16.1**	**+1.7**
JTS	**JuntasAbangare**	**8.09**	**116**	Pn	**Pn**	**21 21 23.8**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=9.5,slow=18,SNR=3.5						
JTS				Lg	Lg	21 23 27.6	
	comp=Z,0.4nm,0.3s,baz=199,slow=21,SNR=6.3						
JTS	**JuntasAbangare**	**8.09**	**116**	*e*Pn	**Pn**	**21 21 21.8**	**-1.4**
TX31	**Lajitas Ar. Si**	**18.59**	**328**	*e*P	**Pn**	**21 23 44.7**	**+1.7**
TXAR	**Lajitas Array**	**18.59**	**328**	P	**Pn**	**21 23 44.1**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=154,slow=12,SNR=9.4						
WHTX	**Lake Whitney,**	**18.60**	**346**	*e*P	**Pn**	**21 23 43.7**	**+0.7**
	comp=Z,6.5nm,0.6s						
LPIG	**La Paz**	**19.75**	**304**	LR	LR	21 30 12.0	
	comp=Z,53nm,18.2s,baz=236,slow=32						
ABTX	**Abilene, Hawle**	**19.79**	**342**	*e*P	**Pn**	**21 23 57.3**	**0.0**
	comp=Z,26nm,1.6s						
ROSC	**El Rosal**	**19.93**	**115**	P	**Pn**	**21 24 01.0**	**+1.4**
	comp=Z,1.1nm,0.3s,baz=260,slow=22,SNR=4.2						
MIAR	**Mount Ida**	**20.59**	**357**	*e*P	Pn	21 24 07.0	+0.4
	comp=Z,20nm,1.5s						
X37A	**Clayton**	**20.78**	**353**	*e*P	Pn	21 24 09.3	+0.4
	comp=Z,37nm,1.7s						
MNTX	**Cornudas Mount**	**21.36**	**328**	*e*P	**P**	**21 24 13.6**	**+0.9**
	comp=Z,2.4nm,0.9s						
WMOK	**Wichita Mounta**	**21.54**	**345**	*e*P	**P**	**21 24 15.8**	**+1.1**
	comp=Z,16nm,1.9s						
SDV	**Santo Domingo**	**21.87**	**101**	P	**P**	**21 24 20.6**	**+2.1**
	comp=Z,1.1nm,0.3s,baz=318,slow=9.4,SNR=2.7						
MSTX	**Muleshoe**	**22.10**	**336**	*e*P	**P**	**21 24 21.4**	**+0.7**
	comp=Z,11nm,1.1s						
AMTX	**Amarillo**	**22.52**	**340**	*e*P	**P**	**21 24 24.8**	**-0.5**
	comp=Z,13nm,0.9s						
CPCT	**Cooper Cave**	**22.59**	**17**	*e*P	**P**	**21 24 26.1**	**+0.2**
	comp=Z,59nm,2.0s						
V52A	**Sevierville**	**23.23**	**18**	*e*P	**P**	**21 24 34.1**	**+1.6**
	comp=Z,97nm,2.0s						
V53A	**Saluda**	**23.32**	**20**	*e*P	**P**	**21 24 35.1**	**+1.7**
	comp=Z,11nm,0.7s						
BNM	**Barren Site**	**23.95**	**330**	*e*P	**P**	**21 24 41.3**	**+1.6**
LPM	**Los Pinos Moun**	**24.08**	**330**	*e*P	**P**	**21 24 42.3**	**+1.4**
LENM	**Lemitar**	**24.13**	**329**	*e*P	**P**	**21 24 43.6**	**+2.2**
ANMO	**Albuquerque**	**24.52**	**331**	P	**P**	**21 24 46.7**	**+1.9**
	comp=Z,1.0nm,0.5s,baz=137,slow=12,SNR=3.1						
T25A	**Trinidad**	**25.52**	**337**	*e*P	**P**	**21 24 55.4**	**+1.5**
	comp=Z,6.8nm,1.0s						
BLA	**Blacksburg**	**25.55**	**23**	*e*P	**P**	**21 24 52.8**	**-1.2**
	comp=Z,53nm,1.4s						
X16A	**Lo Mia Camp, P**	**26.74**	**323**	*e*P	**P**	**21 25 07.0**	**+1.9**
	comp=Z,5.7nm,1.5s						
P51A	**Williamsport**	**26.77**	**16**

*ISCJB **17** 21:33:41.6±0.6,51°41'N±0'.03×16°.18E±0'.03, h0km, Error ellipse: s-maj=4.4km s-min=2.7km az=22.8*
*PRU **17** 21:33:44.2±0.0,51°.43N×16°.14E, h0km*
*VIE **17** 21:33:48.0±1.0,51°.10N×16°.10E, h0km, mb2.0/4, ml2.6/6, Error ellipse: s-maj=8.6km s-min=6.5km az=129.0 63 km W of Wroclaw Suspected Mining induced.*
*WAR **17** 21:33:49.0,51°.01N×15°.82E, h1km, Mw2.4*

ISC 17 21:33:42.5±0.9, 51°.50N±0'.04×16°.16E±0'.03, h0km, n27, σ1§18/56, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**173**	*i* Pg	**Pg**	**21 33 55.5**	**+0.4**
KSP				*e*Sg	**Sg**	**21 34 03.7**	**0.0**
KSP	**Ksiaz**	**0.66**	**173**	*i* Pg	**Pg**	**21 33 55.5**	**+0.4**
KSP				*e*Sg	**Sg**	**21 34 03.7**	**0.0**
UPC	**Upice**	**1.00**	**186**	*e*PG	**Pg**	**21 34 01.7**	**+0.2**
UPC				*e*SG	**Sg**	**21 34 14.3**	**-0.1**
	comp=Z,106nm,0.7s						
DPC	**Dobruska-Polom**	**1.15**	**175**	*e*PG	**Pg**	**21 34 04.5**	**0.0**
DPC				*e*SG	**Sg**	**21 34 19.4**	**-0.1**
	comp=Z,42nm,0.4s						
PVCC	**Panska Ves**	**1.40**	**227**	*e*PG	**Pg**	**21 34 09.6**	**+0.4**
PVCC				*e*SG	**Sb**	**21 34 27.8**	**0.0**
	comp=Z,98nm,0.3s						
KRLC	**Kraliky**	**1.48**	**164**	*e*SG	**Sg**	**21 34 28.8**	**-1.1**
	comp=Z,9.7nm,0.4s						
BRG	**Berggiesshubel**	**1.53**	**247**	PG	**Pn**	**21 34 11.9**	**+0.8**
BRG				SG	**Sn**	**21 34 32.7**	**+1.0**
	56nm,0.6s						
PRA	**Prague**	**1.80**	**218**	*e*PG	**Pn**	**21 34 15.3**	**+0.5**
PRA				*e*SG	**Sb**	**21 34 39.6**	**+0.2**
	comp=Z,31nm,0.5s						
MORC	**Moravsky Berou**	**1.93**	**152**	*e*PN	**Pn**	**21 34 16.4**	**-0.2**
MORC				*e*SG	**Sn**	**21 34 40.7**	**-0.9**
CLL	**Collm**	**1.99**	**266**	*e*Pn	**Pn**	**21 34 18.0**	**+0.7**
CLL				*e*Pg	**Pb**	**21 34 20.0**	**+0.5**
CLL				*e*Sg	**Sb**	**21 34 46.0**	**+1.2**
	comp=Z,20nm,0.4s						
OKC	**Ostrava-Krasne**	**2.09**	**142**	*e*PG	**Pb**	**21 34 21.7**	**+0.5**
OKC				*e*SG	**Sb**	**21 34 47.4**	**-0.2**
	comp=Z,18nm,0.5s						
VRAC	**Vranov**	**2.21**	**173**	*e*PN	**Pn**	**21 34 21.3**	**+0.9**
VRAC				*e*SG	**Sb**	**21 34 51.3**	**+0.1**
TREC	**Trest**	**2.25**	**191**	*e*PN	**Pn**	**21 34 21.3**	**+0.4**
TREC				*e*PG	**Pb**	**21 34 24.2**	**+0.3**
TREC				*e*SG	**Sb**	**21 34 52.8**	**+0.5**
	comp=Z,24nm,0.2s						
KRUC	**Moravsky**	**2.44**	**176**	*e*PN	**Pn**	**21 34 24.4**	**+0.8**
KRUC				*e*PG	**Pb**	**21 34 27.6**	**+0.4**
KRUC				*e*SG	**Sg**	**21 34 59.2**	**-1.7**
OJC	**Ojcow**	**2.63**	**118**	*e*Pg	**Pg**	**21 34 33.0**	**+0.1**
OJC				*e*SG	**Sg**	**21 35 07.8**	**+0.7**
OJC	**Ojcow**	**2.63**	**118**	*e*Pg	**Pg**	**21 34 33.0**	**+0.1**
OJC				*e*SG	**Sg**	**21 35 07.8**	**+0.7**
NKC	**Novy Kostel**	**2.67**	**243**	*e*PN	**Pn**	**21 34 27.4**	**+0.6**
NKC				*e*PG	**Pg**	**21 34 33.6**	**-0.1**
NKC				*e*SG	**Sg**	**21 35 07.8**	**-0.5**
	comp=Z,39nm,0.3s						
KHC	**Kasperske Hory**	**2.89**	**216**	*e*PN	**Pn**	**21 34 30.3**	**+0.5**
KHC				*e*PG	**Pb**	**21 34 36.3**	**+1.4**
KHC				*e*SN	**Sn**	**21 35 03.5**	**-1.8**
KHC				*e*SG	**Sg**	**21 35 13.1**	**-2.2**
	comp=Z,12nm,0.4s						
SMOL	**Smolenice**	**3.10**	**164**	*e*SG	**Sg**	**21 35 21.7**	**-0.2**
LANS	**Liptovska Anna**	**3.16**	**137**	*e*PG	**Pg**	**21 34 42.9**	**-0.2**
LANS				*e*SG	**Sg**	**21 35 22.9**	**-1.1**
MODS	**Modra-Piesok**	**3.21**	**167**	*e*PG	**Pg**	**21 34 43.1**	**-0.8**
MODS				*e*SG	**Sg**	**21 35 25.1**	**-0.4**
MODS				*e*LG	Lg	21 35 26.3	
VYHS	**Vyhne**	**3.47**	**149**	*e*PG	**Pg**	**21 34 49.0**	**+0.1**
VYHS				*e*SG	**Sg**	**21 35 33.0**	**-0.8**
CONA	**Conrad Observa**	**3.58**	**183**	*e*Pn	**Pn**	**21 34 40.1**	**+0.8**
	comp=Z,0.3nm,0.2s						
CONA				Sg	**Sg**	**21 35 34.3**	**-3.1**
	comp=Z,14nm,0.4s						
BSD	**Bornholm Skovb**	**3.70**	**349**	*i* P	**Pn**	**21 34 40.9**	**+0.1**
BSD				*i* S	**Sn**	**21 35 22.4**	**-2.7**
MOA	**Molln**	**3.85**	**199**	*i* Pn	**Pn**	**21 34 43.6**	**+0.6**
	comp=Z,0.6nm,0.2s						
MOA				*e*Sg	**Sb**	**21 35 41.7**	**+3.2**
	comp=Z,7.7nm,0.4s						
ARSA	**Arzberg**	**4.27**	**186**	Sg	**Sg**	**21 35 55.9**	**-3.7**
	comp=Z,6.8nm,0.6s						
KBA	**Koelnbreinsper**	**4.79**	**204**	Sg	**Sg**	**21 36 14.0**	**-2.3**
	comp=Z,7.4nm,0.5s						

IDC 17 21:48:56.9±1.9, 3°.20N×89°.81E, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.5/52, mbtmp3.8/5, ML3.8/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/34, Error ellipse: s-maj=49.7km s-min=28.1km az=51.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**9.93**	**294**	Pn	Pn	21 51 21.5	+0.4
CMAR	**Chiang Mai Arr**	**17.61**	**30**	P	P	21 53 05.6	+0.6
	0.2nm,0.3s,baz=231,slow=9.0,SNR=4.4						
H08S3	**Diego Garcia H**	**20.36**	**238**	T	T	22 14 19.8	
	baz=60,slow=75,SNR=31						
H08S2	**Diego Garcia H**	**20.36**	**238**	T	T	22 14 21.6	
	baz=60,slow=75,SNR=31						
H08S1	**Diego Garcia H**	**20.38**	**238**	T	T	22 14 21.7	
	baz=60,slow=75,SNR=10						
FITZ	**Fitzroy Crossi**	**41.16**	**122**	LR	LR	22 12 17.3	
	comp=Z,36nm,20.4s,baz=38,slow=34						
MKAR	**Makanchi Array**	**43.92**	**353**	P	P	21 57 05.2	-0.3
	0.2nm,0.3s,baz=167,slow=8.4,SNR=6.2						
H01W3	**Cape Leeuwin H**	**44.24**	**151**	T	T	22 43 35.5	
	baz=326,slow=74,SNR=5.1						
H01W2	**Cape Leeuwin H**	**44.25**	**151**	T	T	22 43 38.4	
	baz=326,slow=74,SNR=3.9						
H01W1	**Cape Leeuwin H**	**44.26**	**151**	T	T	22 43 36.3	
	baz=326,slow=74,SNR=4.9						
SONM	**Songino Array**	**46.71**	**15**	P	P	21 57 27.4	-0.4
	1.8nm,0.6s,baz=190,slow=9.2,SNR=7.0						
WRA	**Warramunga Arr**	**49.39**	**120**	P	P	21 57 48.7	-0.2
	0.8nm,0.6s,baz=298,slow=8.6,SNR=9.7						

*ISCJB **17** 21:53:36.0±0.7,5°.56S±0'.08×151°.67E±0'.09, h57km, mb4.3/17, MS2.9/1, Error ellipse: s-maj=14.4km s-min=9.5km az=31.0*
*NEIC **17** 21:53:35.2±0.6,5°.51S×151°.75E, h35km, mb4.2/9, Error ellipse: s-maj=13.7km s-min=9.8km az=100.0*
*IDC **17** 21:53:37.7±5.8,5°.60S×151°.71E, h55km±48km, mb3.9/7, mb1 4.1/8, mb1mx3.7/39, mbtmp4.2/8, ML2.1/1, MS3.2/5, Ms1 3.3/5, ms1mx2.9/27, Error ellipse: s-maj=38.9km s-min=30.0km az=111.0*

ISC 17 21:53:37.7±0.8, 5°.56S±0'.09×151°.7E±0'.1, h57km, n25, σ0§67/21, mb4.3/17, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.90**	**229**	P	**Pn**	**21 55 03.5**	**+0.9**
	2.9nm,0.3s,baz=37,slow=11,SNR=11						
PMG				S	**Sn**	**21 56 09.0**	**+0.1**
	2.1nm,0.3s,baz=158,slow=21,SNR=7.9						
HNR	**Honiara**	**9.03**	**116**	LR	LR	21 58 46.7	
	comp=Z,95nm,19.4s,baz=331,slow=34						
CTAO	**Charters Tower**	**15.38**	**200**	P	**Pn**	**21 57 11.2**	**0.0**
	1.0nm,0.3s						
GUMO	**Guam**	**20.20**	**340**	LR	LR	22 04 28.9	
	comp=Z,54nm,19.9s,baz=126,slow=32						
DZM	**Mont Dzumac**	**21.74**	**140**	LR	LR	22 06 00.8	
	comp=Z,86nm,18.9s,baz=342,slow=34						
WRAB	**Tennant Creek**	**22.11**	**228**	*e*P	**P**	**21 58 28.4**	**-0.1**
	9.7nm,0.8s						
WRA	**Warramunga Arr**	**22.12**	**228**	P	**P**	**21 58 27.6**	**-1.1**
	7.4nm,0.8s,baz=52,slow=9.9,SNR=36						
ASAR	**Alice Springs**	**24.85**	**222**	P	**P**	**21 58 55.1**	**0.0**
	4.3nm,0.6s,baz=57,slow=9.4,SNR=47						
STKA	**Stephens Creek**	**27.84**	**199**	P	**P**	**21 59 22.2**	**+0.4**
	0.6nm,0.3s,baz=356,slow=15,SNR=2.5						
BATI	**Baumata**	**28.14**	**259**	P	**P**	**21 59 25.9**	**+1.1**
	4.0nm,0.3s,baz=122,slow=5.7,SNR=2.6						
FITZ	**Fitzroy Crossi**	**28.33**	**242**	P	**P**	**21 59 26.0**	**-0.4**
	4.8nm,0.6s,baz=47,slow=8.8,SNR=14						
MBWA	**Marble Bar**	**34.64**	**240**	*e*P	**P**	**22 00 21.6**	**-0.2**
	14nm,0.9s						
RAO	**Raoul Island**	**37.14**	**133**	*e*P	**P**	**22 00 43.0**	**-0.1**
	75nm,0.3s						
TAU	**Tasmania Unive**	**37.39**	**185**	P	**P**	**22 00 45.1**	**+0.1**
	1.3nm,0.7s						
NWAO	**Narrogin (SRO)**	**42.08**	**225**	*e*P	**P**	**22 01 24.0**	**-0.1**
	6.2nm,0.8s						
MJAR	**Matsushiro Arr**	**43.75**	**344**	LR	LR	22 18 56.2	
	comp=Z,16nm,19.7s,baz=50,slow=35						
QIZ	**Qiongzhong**	**47.92**	**302**	P	**P**	**22 02 10.8**	**0.0**
	3.7nm,0.8s						
MDJ	**Mudanjiang**	**53.76**	**341**	P	**P**	**22 02 54.6**	**+0.4**
	0.7nm,0.4s						
ENH	**Enshi**	**53.88**	**314**	P	**P**	**22 02 55.5**	**+0.1**
	1.0nm,0.3s						
COCO	**West Island**	**54.53**	**259**	P	**P**	**22 02 58.3**	**-2.1**
	38nm,0.3s						
LSA	**Lhasa**	**67.77**	**305**	P	**P**	**22 04 30.8**	**+0.3**
	0.3nm,0.3s						
VNDA	**Vanda**	**72.11**	**178**	P	**P**	**22 04 55.7**	**+0.1**
	0.8nm,0.8s,baz=0.5,slow=4.3,SNR=4.6						
ILAR	**Eielson Array**	**83.28**	**22**	P	**P**	**22 05 57.9**	**0.0**
	0.6nm,0.7s,baz=255,slow=5.0,SNR=6.7						
NVAR	**Mina Array Bea**	**93.41**	**52**	LR	LR	22 45 13.1	
	comp=Z,40nm,18.1s,baz=115,slow=33						
TORD	**Torodi Ar. Bea**	**149.49**	**286**	PKPbc	**PKPbc**	**22 13 21.8**	**+0.1**
	0.8nm,0.3s,baz=89,slow=2.5,SNR=29						

*ISCJB **17** 22:17:22.6±0.7,45°.02N±0'.05×106°.72W±0'.05, h0km, Error ellipse: s-maj=7.4km s-min=5.6km az=4.6*
*NEIC **17** 22:17:23.8±0.7,45°.11N×106°.76W, h0km, ML2.7, Error ellipse: s-maj=11.4km s-min=8.8km az=149.0, Suspected Mining explosion.*
NEIC 38 km [24 miles] NNE of Sheridan.
*IDC **17** 22:17:24.1±1.1,44°.86N×106°.75W, h0km, mb1 3.4/2, mb1mx3.2/34, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=66.7km s-min=8.3km az=137.0*

ISC 17 22:17:22.4±0.9, 44°.87N±0'.06×106°.73W±0'.04, h0km, n9, σ1§52/15, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLMT	**Red Lodge**	**1.81**	**279**	*e*Pn	**Pn**	**22 17 54.5**	**-0.6**
RLMT				*e*Sn	**Sn**	**22 18 17.4**	**-1.5**
LAO	**LASA Array**	**1.85**	**11**	*e*Pn	**Pn**	**22 17 54.3**	**-1.2**
LAO				*e*Sn	**Sn**	**22 18 17.0**	**-2.6**
RSSD	**Black Hills**	**2.07**	**110**	*e*Pn	**Pb**	**22 18 00.5**	**-0.5**
RSSD				*e*Pg	**Pg**	**22 18 04.1**	**+2.1**
BW06	**Boulder Array**	**2.93**	**225**	*e*Pn	**Pb**	**22 18 14.5**	**-1.2**
PDAR	**Pinedale Array**	**2.93**	**225**	Pn	**Pb**	**22 18 15.1**	**-0.6**
	2.4nm,0.3s,baz=56,slow=17,SNR=39						
PDAR				Lg	Lg	22 18 55.0	
	4.2nm,0.3s,baz=45,slow=32,SNR=20						
BOZ	**Bozeman (W)**	**3.53**	**284**	*e*Pn	**Pn**	**22 18 18.2**	**-0.5**
BOZ				*e*Sn	**Sn**	**22 19 00.6**	**-0.7**
BOZ				*e*Sb	**Sb**	**22 19 10.4**	**+1.0**
EGMT	**Eagleton**	**3.78**	**328**	*e*Pn	**Pn**	**22 18 20.9**	**-1.1**
EGMT				*e*Pg	**Pg**	**22 18 36.9**	**+2.0**
EGMT				*e*Sn	**Sn**	**22 19 09.1**	**+1.9**
I10CA	**LAC DU BONNET**	**8.99**	**50**	*i*		23 09 25.0	
	baz=235,slow=315,SNR=4.1						
ULM	**Lac du Bonnet**	**9.10**	**50**	Pn	**Pn**	**22 19 34.3**	**-0.5**
	0.3nm,0.3s,baz=237,slow=12,SNR=12						
ULM				Lg	Lg	22 22 08.7	
	0.2nm,0.3s,baz=149,slow=8.9,SNR=1.9						

*MOS **17** 22:37:16.8±2.5,48°.31N×157°.41E, h40km, mb4.3/1, Error ellipse: s-maj=65.4km s-min=6.8km az=84.1*
*KRSC **17** 22:37:16.9±1.3,48°.31N×157°.41E, h40km±41km, ML4.1*
*IDC **17** 22:37:21.7±3.6,48°.60N×155°.49E, h54km±29km, mb3.4/6, mb1 3.7/8, mb1mx3.4/46, mbtmp3.7/8, ML3.0/2, MS3.1/7, Ms1 3.1/7, ms1mx2.8/31, Error ellipse: s-maj=50.6km s-min=22.2km az=145.0*

ISC 17 22:37:16.8±1.2, 48°.2N±0'.1×156°.4E±0'.1, h35km, n42, σ2§05/42, mb3.6/6, MS3.1/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**3.74**	**17**	*e*P	**Pn**	**22 38 12.7**	**+0.7**
KDTR				*e*S	**Sn**	**22 38 55.6**	**+0.9**
MTVR	**Mutnovka**	**4.40**	**15**	*e*P	**Pn**	**22 38 21.8**	**+0.6**
MTVR				*e*S	**Sn**	**22 39 11.6**	**+0.3**
MTVR	**Mutnovka**	**4.40**	**15**	PN	**Pn**	**22 38 21.8**	**+0.6**
MTVR				S	**Sn**	**22 39 11.6**	**+0.3**
RUS	**Russkaya**	**4.42**	**17**	*e*P	**Pn**	**22 38 22.0**	**+0.7**
RUS				*e*S	**Sn**	**22 39 11.3**	**-0.1**
RUS	**Russkaya**	**4.42**	**17**	PN	**Pn**	**22 38 22.0**	**+0.7**
RUS				S	**Sn**	**22 39 11.3**	**-0.1**
APC	**Apacha**	**4.72**	**6**	*e*P	**Pn**	**22 38 29.1**	**+3.7**
APC	**Apacha**	**4.72**	**6**	PN	**Pn**	**22 38 29.1**	**+3.7**
PETK	**Petropavlovsk-**	**4.95**	**9**	P	**Pn**	**22 38 30.1**	**+1.5**
	0.8nm,0.3s,baz=178,slow=13,SNR=13						
PETK				LR	LR	22 40 39.3	
	comp=Z,89nm,19.5s,baz=173,slow=42						
AVH	**Avacha**	**5.25**	**16**	P	**Pn**	**22 38 34.4**	**+1.6**
AVH	**Avacha**	**5.25**	**16**	PN	**Pn**	**22 38 34.4**	**+1.6**
KOK	**Koryaka**	**5.26**	**15**	P	**Pn**	**22 38 34.6**	**+1.7**
KOK	**Koryaka**	**5.26**	**15**	PN	**Pn**	**22 38 34.6**	**+1.7**
SMAR	**Somma**	**5.26**	**16**	*e*P	**Pn**	**22 38 34.2**	**+1.1**
SMAR	**Somma**	**5.26**	**16**	PN	**Pn**	**22 38 34.2**	**+1.1**
SDLR	**Sedlovina**	**5.29**	**17**	*e*P	**Pn**	**22 38 34.7**	**+1.3**
SDLR	**Sedlovina**	**5.29**	**17**	PN	**Pn**	**22 38 34.7**	**+1.3**
KRX	**Arik**	**5.33**	**15**	P	**Pn**	**22 38 35.1**	**+1.2**
KRX	**Arik**	**5.33**	**15**	PN	**Pn**	**22 38 35.1**	**+1.2**
SPN	**Mys Shipunski**	**5.39**	**24**	*e*P	**Pn**	**22 38 35.6**	**+0.9**
SPN				*e*S	**Sn**	**22 39 32.1**	**-3.3**
SPN	**Mys Shipunski**	**5.39**	**24**	PN	**Pn**	**22 38 35.6**	**+0.9**
SPN				S	**Sn**	**22 39 32.1**	**-3.3**
GNL	**Ganaly**	**5.55**	**10**	*e*P	**Pn**	**22 38 39.9**	**+2.9**
GNL	**Ganaly**	**5.55**	**10**	PN	**Pn**	**22 38 39.9**	**+2.9**
MKZ	**Mys Kozlova**	**7.16**	**26**	*e*P	**Pn**	**22 39 00.0**	**+1.1**
MKZ				*e*S	**Sn**	**22 40 15.0**	**-3.9**
MKZ	**Mys Kozlova**	**7.16**	**26**	PN	**Pn**	**22 39 00.0**	**+1.1**
MKZ				S	**Sn**	**22 40 15.0**	**-3.9**
KBTR	**Krutoberegovo**	**8.91**	**24**	P	**Pn**	**22 39 23.7**	**+0.9**
KBTR	**Krutoberegovo**	**8.91**	**24**	PN	**Pn**	**22 39 23.7**	**+0.9**
ASAJ	**Asahikawa**	**10.39**	**252**	P	**Pn**	**22 39 43.5**	**+0.2**
	0.3nm,0.3s,baz=75,slow=12,SNR=2.6						
MA2	**Magadan**	**11.82**	**346**	LR	LR	22 44 41.1	
	comp=Z,60nm,18.5s,baz=163,slow=39						
KSRS	**Korea Array**	**23.34**	**253**	P	**P**	**22 42 20.6**	**-1.1**
	1.7nm,0.8s,baz=52,slow=10,SNR=4.1						
KSRS				LR	LR	22 50 30.1	
	comp=Z,25nm,18.1s,baz=45,slow=34						
JCJ	**Chichijima**	**23.83**	**213**	LR	LR	22 50 53.0	
	comp=Z,117nm,21.2s,baz=108,slow=34						
H11N2	**WAKE ISLAND Hy**	**29.69**	**160**	T	T	23 15 20.3	
	baz=342						
H11N1	**WAKE ISLAND Hy**	**29.71**	**160**	T	T	23 15 21.4	
	baz=342,slow=74						
H11N3	**WAKE ISLAND Hy**	**29.71**	**160**	T	T	23 15 19.3	
	baz=342,slow=74						
H11S1	**WAKE ISLAND Hy**	**30.83**	**161**	T	T	23 16 43.1	
	baz=344,slow=76,SNR=35						
H11S3	**WAKE ISLAND Hy**	**30.84**	**161**	T	T	23 16 42.7	
	baz=344,slow=76,SNR=52						
H11S2	**WAKE ISLAND Hy**	**30.85**	**161**	T	T	23 16 48.6	
	baz=344,slow=76,SNR=35						
ZALV	**Zalesovo Beam**	**43.53**	**306**	LR	LR	23 05 39.7	
	comp=Z,25nm,19.2s,baz=68,slow=40						
MKAR	**Makanchi Array**	**48.20**	**298**	P	**P**	**22 45 50.0**	**-3.6**
	0.4nm,0.5s,baz=70,slow=8.2,SNR=5.1						
MKAR				LR	LR	23 07 46.1	
	comp=Z,30nm,19.7s,baz=335,slow=38						
CMAR	**Chiang Mai Arr**	**54.85**	**258**	P	**P**	**22 46 42.7**	**-0.9**
	0.5nm,0.3s,baz=32,slow=7.9,SNR=4.2						
CMAR				LR	LR	23 11 07.4	
	comp=Z,12nm,18.3s,baz=80,slow=37						
TXAR	**Lajitas Array**	**74.85**	**63**	P	**P**	**22 48 58.4**	**+4.5**
	0.2nm,0.6s,baz=289,slow=3.8,SNR=4.1						
GERES	**GERESS Array B**	**78.04**	**336**	P	**P**	**22 49 11.8**	**+0.3**
	0.3nm,0.6s,baz=34,slow=7.6,SNR=3.0						
BRTR	**Keskin Array B**	**78.77**	**319**	P	**P**	**22 49 15.8**	**0.0**
	1.3nm,0.9s,baz=46,slow=6.2,SNR=4.4						

*BJI **17** 22:42:41.5, 6°.92S×130°.46E, h107km, mb4.9/36, mB5.0/22*
*NEIC **17** 22:42:47.8±0.2, 6°.48S×130°.16E, mb4.9/38, Error ellipse: s-maj=6.3km s-min=4.4km az=73.0*
*ISCJB **17** 22:42:48.8±0.2, 6°.49S±0'.02×130°.21E±0'.03, h146km, mb4.8/65, Error ellipse: s-maj=4.1km s-min=3.4km az=159.1*
*IDC **17** 22:42:48.2±1.9, 6°.46S×130°.12E, h117km±18km, mb4.2/20, mb1 4.3/25, mb1mx4.2/38, mbtmp4.6/25, MS2.8/4,*
Ms1 2.8/4, ms1mx2.6/33, Error ellipse: s-maj=16.9km s-min=9.4km az=85.0
*DJA **17** 22:42:49.0±0.2, 6°.5S±2'×13°.0E±°, h127km±4km, M4.8/19, mb4.7/19, mB5.3/10, MLv4.9/15, Mw(mB)4.7/10*

ISC 17 22:42:50.2±0.3, 6°.45S±0'.04×130°.21E±0'.04, h146km, n149, σ2§13/161, mb4.8/65, 2C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.87**	**145**	*e*Pn	**Pn**	**22 43 21.7**	**-1.9**
SAUI	**Saumlaki**	**1.87**	**145**	P	**Pn**	**22 43 22.2**	**-1.4**
SAUI				S	**Sn**	**22 43 48.2**	**-1.0**
BNDI	**Bandanaira**	**1.94**	**351**	P	**Pn**	**22 43 23.3**	**-1.1**
BNDI				S	**Sn**	**22 43 55.5**	**+4.8**
MSAI	**Masohi**	**3.34**	**337**	P	**Pn**	**22 43 41.7**	**-0.1**
MSAI				S	**Sn**	**22 44 22.2**	**+0.4**
AAI	**Ambon**	**3.40**	**324**	P	**Pn**	**22 43 41.8**	**-0.8**
FAKI	**Fak Fak**	**4.05**	**30**	*e*Pn	**Pn**	**22 43 47.9**	**-3.2**
FAKI	**Fak Fak**	**4.05**	**30**	P	**Pn**	**22 43 48.7**	**-2.4**
FAKI				S	**Sn**	**22 44 33.9**	**-4.5**
KMPI	**Kaimana, Papua**	**4.45**	**52**	P	**Pn**	**22 43 54.9**	**-1.4**
KMPI				S	**Sn**	**22 44 44.2**	**-3.5**
NLAI	**Namlea**	**4.45**	**316**	P	**Pn**	**22 43 55.9**	**-0.4**
SIJI	**Sorong**	**5.64**	**11**	P	**Pn**	**22 44 09.7**	**-2.6**
	24nm,0.3s,baz=207,slow=14,SNR=110						
SIJI				S	**Sn**	**22 45 08.4**	**-7.8**
	58nm,0.3s,baz=93,slow=22,SNR=9.1						
SWI	**Sorong**	**5.65**	**11**	P	**Pn**	**22 44 10.5**	**-1.7**
SWI				S	**Sn**	**22 45 09.4**	**-6.9**
SANI	**Sanana**	**6.07**	**316**	P	**Pn**	**22 44 19.4**	**+1.5**
	30nm,0.7s,715nm0.1nm						
RKPI	**Ransiki, Papua**	**6.30**	**39**	P	**Pn**	**22 44 20.6**	**-0.4**
	303nm,0.6s,8µm4.1nm						
RKPI				S	**Sn**	**22 45 27.8**	**-4.2**
	303nm,0.6s,8µm4.1nm						
MTN	**Manton Dam**	**6.42**	**172**	*e*Pn	**Pn**	**22 44 19.9**	**-2.6**
SOEI	**Soe**	**6.74**	**240**	*e*Pn	**Pn**	**22 44 25.2**	**-1.7**
SOEI	**Soe**	**6.74**	**240**	P	**Pn**	**22 44 26.1**	**-0.9**
	89nm,0.7s,1µm1.4nm						
SOEI				S	**Sn**	**22 45 38.6**	**-4.1**
	89nm,0.7s,1µm1.4nm						
BATI	**Baumata**	**7.48**	**240**	P	**Pn**	**22 44 33.0**	**-3.7**
	29nm,0.3s,baz=98,slow=2.1,SNR=27						
BATI				S	**Sn**	**22 45 55.5**	**-4.8**
	26nm,0.3s,baz=254,slow=23,SNR=14						
BATI				LR	LR	22 47 01.9	
	comp=Z,106nm,19.2s,baz=122,slow=34						
BATI	**Baumata**	**7.48**	**240**	P	**Pn**	**22 44 35.9**	**-0.9**
	44nm,0.5s,853nm0.2nm						
BATI				S	**Sn**	**22 45 55.5**	**-4.8**
	44nm,0.5s,853nm0.2nm						
TNTI	**Ternate**	**7.71**	**338**	P	**Pn**	**22 44 39.7**	**-0.2**
MMRI	**Maumere**	**8.20**	**254**	P	**Pn**	**22 44 45.8**	**-0.6**
EDFI	**Ende, Flores**	**8.75**	**254**	P	**Pn**	**22 44 53.8**	**-0.1**
	11nm,0.6s						
LUWI	**Luwuk**	**9.16**	**306**	*e*Pn	Pn	22 44 52.1	-7.2
SMPI	**Sarmi**	**9.56**	**63**	P	**Pn**	**22 45 04.7**	**+0.1**
JAY	**Jayapura**	**11.16**	**70**	P	**Pn**	**22 45 24.8**	**-1.0**
	0.9nm,0.3s,baz=215,slow=14,SNR=4.0						
JAY				S	**Sn**	**22 47 25.5**	**-3.9**
	0.4nm,0.3s,baz=240,slow=20,SNR=2.1						
JAY	**Jayapura**	**11.16**	**70**	P	**Pn**	**22 45 22.6**	**-3.3**
WBSI	**Waikabubak, Su**	**11.17**	**253**	P	**Pn**	**22 45 24.3**	**-1.7**
	32nm,0.8s,985nm						
MPSI	**Mapaga**	**12.30**	**303**	P	**Pn**	**22 45 40.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**12.41**	**201**	P	Pn	22 45 36.1	-5.9
	6.0nm,0.3s,baz=27,slow=8.4,SNR=114						
FITZ				S	Sn	22 47 42.4	-17
	11nm,0.3s,baz=76,slow=16,SNR=14						
FITZ	**Fitzroy Crossi**	**12.41**	**201**	*e*Pn	Pn	22 45 37.6	-4.4
FITZ				S	Sn	22 47 42.4	-17
PLAI	**Plampang**	**12.55**	**258**	P	**Pn**	**22 45 41.4**	**-2.5**
	17nm,0.6s						
WRAB	**Tennant Creek**	**13.99**	**164**	*e*Pn	Pn	22 45 57.5	-4.8
WRA	**Warramunga Arr**	**14.00**	**164**	P	Pn	22 45 57.9	-4.5
	6.1nm,0.3s,baz=343,slow=13,SNR=204						
WRA				S	Sn	22 48 22.5	-15
	22nm,0.3s,baz=346,slow=22,SNR=11						
WRA				LR	LR	22 52 43.8	
	comp=Z,31nm,18.2s,baz=40,slow=42						
WB2	**Warramunga Arr**	**14.00**	**164**	*e*Pn	Pn	22 45 57.2	-5.

	comp=Z,9.0nm,0.5s								
KMI					pmax	pmax			
	comp=Z,54nm,4.0s								
ENH	**Enshi**	**41.57**	**333**	*e*P	**P**		**22 50 23.6**	**-0.1**	
	8.1nm,0.4s								
MJAR	**Matsushiro Arr**	**43.42**	**9**	P	**P**		**22 50 38.9**	**+0.3**	
	6.0nm,0.6s,baz=196,slow=10,SNR=28								
MAJO	**Matsushiro**	**43.42**	**9**	*e*P	**P**		**22 50 38.5**	**-0.1**	
	98nm,1.8s								
MAT	**Matsushiro**	**43.42**	**9**	P	**P**		**22 50 38.4**	**-0.1**	
MJB9	**Matsu-Tunnel**	**43.42**	**9**	*e*P	**P**		**22 50 38.2**	**-0.4**	
	104nm,1.9s								
KSAR	**Wonju Array Be**	**43.72**	**357**	P	**P**		**22 50 41.5**	**+0.6**	
KSRS	**Korea Array**	**43.73**	**357**	P	**P**		**22 50 41.5**	**+0.5**	
	2.4nm,0.6s,baz=172,slow=8.5,SNR=10								
KSRS				LR	LR		23 07 55.7		
	comp=Z,4.1nm,20.0s,baz=55,slow=34								
KS01	**Wonju Array Si**	**43.75**	**357**	*e*P	**P**		**22 50 41.6**	**+0.4**	
CD2	**Chengdu**	**44.95**	**327**	*e*P	**P**		**22 50 52.0**	**+1.1**	
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
CD2				pmax	pmax				
	comp=Z,120nm,5.0s								
XAN	**Xi'an**	**45.03**	**335**	P	**P**		**22 50 51.8**	**+0.3**	
XAN				pmax	pmax				
	comp=Z,7.0nm,0.6s								
BJT	**Baijiatuau**	**48.02**	**345**	*e*P	**P**		**22 51 14.7**	**+0.1**	
	12nm,0.6s								
BJI	**Beijing**	**48.04**	**345**	*e*P	**P**		**22 51 15.9**	**+1.2**	
BJI				pmax	pmax				
	comp=Z,10.0nm,0.7s								
LZH	**Lanzhou**	**49.02**	**332**	*e*P	**P**		**22 51 27.0**	**+4.4**	
LZH				pP	pP		22 51 52.0	-3.8	
LZH				sP	sP		22 52 03.8	-8.3	
LZH				pmax	pmax				
	comp=Z,28nm,1.2s								
LZH				pmax	pmax				
	comp=Z,170nm,4.1s								
HHC	**Hu-ho-hao-te**	**50.09**	**342**	*e*P	**P**		**22 51 33.3**	**+2.8**	
HHC				S	**S**		**22 58 31.4**	**+0.7**	
HHC				pmax	pmax				
	comp=Z,16nm,0.8s								
HHC				pmax	pmax				
	comp=Z,110nm,4.2s								
CN2	**Changchun**	**50.20**	**356**	*e*P	**P**		**22 51 31.8**	**+0.7**	
CN2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
USA0B	**Ussuriysk Arra**	**50.44**	**2**	*e*P	**P**		**22 51 33.6**	**+0.7**	
	52nm,2.0s								
USRK	**Ussuriysk Ar.**	**50.44**	**2**	P	**P**		**22 51 33.8**	**+0.9**	
	6.1nm,0.5s,baz=186,slow=7.4,SNR=19								
MDJ	**Mudanjiang**	**50.83**	**359**	P	**P**		**22 51 37.8**	**+2.0**	
MDJ				pmax	pmax				
	comp=Z,15nm,0.7s								
MDJ				pmax	pmax				
	comp=Z,100nm,5.0s								
WKZ	**Wanaka**	**50.99**	**145**	*e*P	**P**		**22 51 38.4**	**+1.3**	
	134nm,1.6s								
LSA	**Lhasa**	**51.95**	**316**	*e*P	**P**		**22 51 45.4**	**+0.4**	
	3.9nm,0.8s								
BKZ	**Black Stump Fm**	**52.84**	**135**	*e*P	**P**		**22 51 51.8**	**+0.8**	
	66nm,1.7s								
MCQ	**Macquarie Isla**	**53.21**	**159**	*e*P	**P**		**22 51 54.2**	**+0.9**	
	360nm,1.9s								
GTA	**Gaotai**	**53.59**	**331**	*e*P	**P**		**22 51 58.1**	**+1.6**	
GTA				pP	pP		22 52 25.1	-5.2	
GTA				sP	sP		22 52 37.9	-8.6	
GTA				pmax	pmax				
	comp=Z,4.0nm,0.6s								
RAMN	**Ramite**	**53.70**	**310**	*e*P	**P**		**22 51 58.6**	**+0.9**	
	16nm,0.6s								
JIRN	**Jiri**	**54.39**	**311**	*e*P	**P**		**22 52 03.3**	**+0.5**	
	7.6nm,0.2s								
GUN	**Gumba**	**54.75**	**311**	*e*P	**P**		**22 52 05.8**	**+0.4**	
	14nm,0.6s								
PKI	**Pulchoki**	**54.93**	**310**	*e*P	**P**		**22 52 06.8**	**+0.1**	
PKIN	**Phulchoki**	**54.94**	**310**	*e*P	**P**		**22 52 06.7**	**0.0**	
KKN	**Kakani**	**55.14**	**310**	*e*P	**P**		**22 52 08.5**	**+0.5**	
KOLN	**Koldanda**	**56.41**	**309**	*e*P	**P**		**22 52 17.5**	**+0.4**	
	2.7nm,0.3s								
PYUN	**Piuthan**	**57.05**	**309**	*e*P	**P**		**22 52 22.5**	**+0.9**	
SONM	**Songino Array**	**57.99**	**341**	P	**P**		**22 52 28.4**	**+0.8**	
	1.4nm,0.4s,baz=164,slow=7.0,SNR=7.9								
SONM				pP	**pP**		**22 52 57.0**	**-5.0**	
	1.1nm,0.8s,baz=149,slow=5.9,SNR=2.6								
SONA1	**Songino Array**	**58.00**	**341**	*e*P	**P**		**22 52 27.7**	**-0.1**	
WMQ	**Urumqi**	**63.05**	**327**	*e*P	**P**		**22 53 03.8**	**+1.8**	
WMQ				pmax	pmax				
	comp=Z,23nm,0.9s								
PETK	**Petropavlovsk-**	**63.74**	**18**	P	**P**		**22 53 08.7**	**+2.4**	
	8.1nm,0.6s,baz=176,slow=4.4,SNR=22								
PETK	**Petropavlovsk-**	**63.74**	**18**	*e*P	**P**		**22 53 07.2**	**+0.9**	
JOHN	**Johnston Islan**	**63.87**	**68**	*e*P	**P**		**22 53 08.1**	**+0.4**	
	336nm,1.1s								
KSH	**Kashi**	**67.76**	**317**	P	**P**		**22 53 34.4**	**+1.9**	
KSH				pP	pP		22 54 05.4	-2.4	
KSH				PP	**PP**		**22 56 07.1**	**+3.2**	
KSH				S	**S**		**23 02 18.4**	**-0.4**	
KSH				sS	SKiKP		23 03 11.4	-3.4	
KSH				pmax	pmax				
	comp=Z,9.0nm,0.5s								
KSH				pmax	pmax				
	comp=Z,190nm,5.6s								
KSH				LR	LR				
	comp=N,190nm,8.7s								
KSH				LR	LR				
	comp=E,250nm,7.7s								
KSH				LR	LR				
	comp=Z,220nm,11.7s								
MK01	**Makanchi Array**	**67.86**	**327**	*e*P	**P**		**22 53 34.5**	**+1.7**	
MK31	**Makanchi Array**	**67.88**	**327**	*e*P	**P**		**22 53 34.7**	**+1.7**	
MKAR	**Makanchi Array**	**67.88**	**327**	P	**P**		**22 53 34.1**	**+1.2**	
	8.7nm,0.5s,baz=115,slow=8.5,SNR=152								
MKAR	**Makanchi Array**	**67.88**	**327**	*e*P	**P**		**22 53 34.7**	**+1.7**	
	60nm,0.6s								
TKM2	**Tokmak 2**	**69.70**	**320**	P	**P**		**22 53 46.5**	**+1.9**	
	SNR=7.5								
UCH	**Uchtor**	**70.05**	**319**	P	**P**		**22 53 49.6**	**+2.6**	
	SNR=5.4								
AAK	**Ala-Archa**	**70.26**	**320**	P	**P**		**22 53 50.4**	**+2.4**	
	SNR=5.7								
AAK	**Ala-Archa**	**70.26**	**320**	*e*P	**P**		**22 53 50.3**	**+2.4**	
	4.1nm,0.8s								
AML	**Almayashu**	**70.53**	**319**	P	**P**		**22 53 52.2**	**+2.3**	
	SNR=6.8								
USP	**Ospenovka**	**70.56**	**320**	P	**P**		**22 53 51.8**	**+2.2**	
	SNR=5.4								
EKS2	**Erkin-Say**	**70.73**	**319**	P	**P**		**22 53 53.1**	**+2.3**	
	SNR=9.3								
ZAA0	**Zalesovo Array**	**71.19**	**334**	*e*P	**P**		**22 53 54.1**	**+1.1**	
	7.4nm,1.5s								
ZALV	**Zalesovo Beam**	**71.19**	**334**	P	**P**		**22 53 54.0**	**+0.9**	
	2.1nm,0.6s,baz=122,slow=4.8,SNR=9.3								
ZALV				pP	**pP**		**22 54 23.3**	**-5.3**	
	0.5nm,0.3s,baz=122,slow=5.6,SNR=1.8								
ZALV	**Zalesovo Beam**	**71.19**	**334**	*e*P	**P**		**22 53 53.6**	**+0.6**	
ZALV				pP	**pP**		**22 54 23.3**	**-5.3**	
SEY	**Seymchan**	**71.23**	**11**	P	**P**		**22 53 54.6**	**+1.6**	
	11nm,0.8s,baz=211,slow=4.9,SNR=29								
KURK	**Kurchatov**	**72.16**	**328**	*e*P	**P**		**22 54 00.7**	**+1.8**	
	6.3nm,1.0s								
VNDA	**Vanda**	**72.97**	**173**	P	**P**		**22 54 04.7**	**+1.4**	
	2.0nm,0.6s,baz=315,slow=7.0,SNR=18								
VNDA	**Vanda**	**72.97**	**173**	*e*P	**P**		**22 54 05.3**	**+2.0**	
	2.6nm,0.8s								
KK31	**Karatay Array**	**73.07**	**319**	*e*P	**P**		**22 54 06.1**	**+1.6**	
KKAR	**Karatay Array**	**73.07**	**319**	*e*P	**P**		**22 54 06.1**	**+1.6**	
MAW	**Mawson**	**75.54**	**201**	P	**P**		**22 54 19.6**	**+1.3**	
	2.1nm,0.6s,baz=90,slow=11,SNR=6.7								
TIXI	**Tiksi**	**77.94**	**360**	P	**P**		**22 54 32.8**	**+1.1**	
	3.3nm,0.5s,baz=161,slow=4.4,SNR=11								
TIXI	**Tiksi**	**77.94**	**360**	*e*P	**P**		**22 54 32.5**	**+0.8**	
	3.8nm,0.5s								
NRIK	**Noril'sk**	**81.08**	**346**	P	**P**		**22 54 49.6**	**+0.9**	
	2.4nm,0.7s,baz=13,slow=2.7,SNR=3.7								
ABKAR	**Akbulak array**	**82.21**	**322**	*e*P	**P**		**22 54 55.9**	**+0.9**	
SYO	**Syowa Base**	**84.25**	**201**↑	*e*P	**P**		**22 55 06.4**	**+1.3**	
SYO	**Syowa Base**	**84.25**	**201**↑	*e*PcP	**PcP**		**22 55 11.8**	**+3.2**	
SYO	**Syowa Base**	**84.25**	**201**↓	*e*pP	pP		22 55 32.0	-10	
KDAK	**Kodiak Island**	**88.64**	**32**	P	**P**		**22 55 28.1**	**+1.5**	
	15nm,1.0s,baz=180,slow=2.0,SNR=2.7								
ILAR	**Eielson Array**	**92.76**	**25**	P	**P**		**22 55 45.6**	**-0.1**	
	0.7nm,0.7s,baz=258,slow=4.7,SNR=7.8								
RIDG	**Independ'e Rid**	**93.50**	**26**	*e*P	**P**		**22 55 51.8**	**+2.6**	
	31nm,0.8s								
INK	**Inuvik**	**98.27**	**22**	P	**P**		**22 56 11.2**	**+0.5**	
	1.5nm,1.0s,baz=304,slow=3.6,SNR=3.8								
TORD	**Torodi Ar. Bea**	**128.91**	**282**	PKP	**PKPdf**		**23 01 41.1**	**-0.5**	
	0.6nm,1.1s,baz=61,slow=2.4,SNR=6.9								
CPUP	**Villa Florida**	**146.60**	**168**	PKPbc	**PKPbc**		**23 02 16.2**	**+0.8**	
	1.3nm,0.6s,baz=269,slow=4.9,SNR=3.6								
LPAZ	**La Paz**	**151.02**	**141**	PKPbc	**PKPbc**		**23 02 29.3**	**+1.6**	
	0.7nm,0.6s,baz=140,slow=1.5,SNR=2.7								
LPAZ	**La Paz**	**151.02**	**141**	*e*PKPbc	**PKPbc**		**23 02 30.1**	**+2.4**	
LPAZ				*e*PKPab	**PKPab**		**23 02 38.6**	**+3.0**	

ISCJB ***17*** *22:59:01.7±0.4, 18.4°S±0.1°×172.4°W±0.06, h41km, mb5.0/49, MS3.8/15, Error ellipse: s-maj=14.9km s-min=8.2km az=166.1*

IDC ***17*** *22:59:01.6±3.5, 18.51°S×172.46°W, h26km±22km, mb4.4/15, mb1 4.6/15, mb1mx4.4/32, mbtmp4.6/15, MS3.8/16, Ms1 3.8/16, ms1mx3.5/44, Error ellipse: s-maj=20.2km s-min=12.1km az=138.0*

BJI ***17*** *22:59:41.6, 18.80S×174.80W, h277km, mb4.5/11, mB4.8/4*

NEIC ***17*** *22:59:43.7±0.9, 18.74S×174.82W, h279km±10km, mb4.9/31, Error ellipse: s-maj=8.0km s-min=5.7km az=97.0*

ISC 17 22:59:03.7±0.5, 18.59S±0.10×172.31W±0.08, h41km, n109, σ1§73/78, mb5.1/49, MS3.9/15, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**4.69**	**6**	Pn		Pn	23 00 02.4	-10
	9.1nm,0.3s,baz=320,slow=4.0,SNR=11							
AFI				Sn		Sn	23 00 47.3	-18
	22nm,0.3s,baz=186,slow=18,SNR=4.2							
RAO	**Raoul Island**	**11.78**	**205**	*e*Pn		Pn	23 02 11.0	+22
RAR	**Rarotonga**	**12.07**	**105**	Pn		Pn	23 01 46.3	-7.0
	8.0nm,0.3s,baz=258,slow=8.4,SNR=31							
RAR				LR		LR	23 05 10.3	
	comp=Z,314nm,21.4s,baz=310,slow=30							
FUNA	**Funafuti**	**12.97**	**319**	*e*Pn		P	23 02 23.4	+8.1
DZM	**Mont Dzumac**	**20.22**	**257**	P		**P**	**23 03 34.1**	**-1.4**
	24nm,0.6s,baz=81,slow=19,SNR=32							
DZM				LR		LR	23 10 22.0	
	comp=Z,275nm,18.8s,baz=62,slow=34							
DZM	**Mont Dzumac**	**20.22**	**257**	*e*P		**P**	**23 03 36.0**	**+0.5**
	76nm,1.1s							
DZM				*e*LR		LR	23 08 21.6	
	365nm,24.0s							
DZM	**Mont Dzumac**	**20.22**	**257**	*e*P		**P**	**23 03 34.3**	**-1.2**
	31nm,0.7s							
PAE	**Paea**	**21.62**	**91**	*e*T		T	23 25 55.1	
	9.1nm,0.3s							
PPT2	**Papeete2**	**21.63**	**91**	*e*LR		LR	23 08 50.8	
	445nm,25.2s							
PPT2	**Papeete2**	**21.63**	**91**	*e*T		T	23 25 57.2	
	5.3nm,0.3s							
PPT	**Papeete**	**21.63**	**91**	LR		LR	23 09 43.4	
	comp=Z,188nm,20.6s,baz=205,slow=30							
URZ	**Urewera**	**21.66**	**203**	P		**P**	**23 03 49.7**	**-1.0**
	34nm,0.8s,baz=66,slow=3.6,SNR=5.9							
URZ				S		**S**	**23 07 49.7**	**+1.3**
	7.1nm,0.7s,baz=13,slow=15,SNR=2.6							
URZ	**Urewera**	**21.66**	**203**	*e*P		P	23 04 02.7	+12
	192nm,1.9s							
URZ				S		**S**	**23 07 49.7**	**+1.3**
TBI	**Tubuai**	**21.84**	**106**	*e*P		**P**	**23 03 51.2**	**-1.6**
	99nm,1.0s							
TBI				*e*LQ		LQ	23 08 03.6	
	427nm,26.0s							
TBI				*e*LR		LR	23 08 49.2	
	330nm,28.8s							
TBI	**Tubuai**	**21.84**	**106**	*e*T		T	23 26 10.8	
	3.6nm,0.3s							
TIAR	**Tiarei**	**21.85**	**91**	*e*P		**P**	**23 03 51.4**	**-1.6**
	15nm,1.1s							
TIAR	**Tiarei**	**21.85**	**91**	*e*T		T	23 26 13.2	
	3.6nm,0.4s							
TVO	**Taravao**	**21.92**	**92**	*e*P		**P**	**23 03 52.0**	**-1.8**
	24nm,1.2s							
BKZ	**Black Stump Fm**	**22.69**	**203**	*e*P		P	23 04 10.7	+8.9
	83nm,1.8s							
HIZ	**Hauiti**	**22.78**	**207**	*e*P		P	23 04 11.4	+8.7
	617nm,1.9s							
SNZO	**South Karori**	**25.22**	**203**	*e*P		P	23 04 36.0	+10
	158nm,1.3s							
THZ	**Tophouse**	**26.32**	**206**	*e*P		P	23 04 45.7	+10
	45nm,0.9s							
KHZ	**Kahutara**	**26.62**	**204**	*e*P		P	23 04 48.0	+10
	97nm,1.5s							
LTZ	**Lake Taylor**	**27.43**	**205**	*e*P		P	23 04 55.5	+10
	27nm,0.7s							
OXZ	**Oxford**	**27.98**	**205**	*e*P		P	23 05 00.1	+10
	53nm,0.8s							
MQZ	**McQueen's Vall**	**28.06**	**204**	*e*P		P	23 05 01.2	+10
	112nm,1.3s							
HNR	**Honiara**	**28.38**	**285**	LR		LR	23 14 59.3	
	comp=Z,100nm,18.0s,baz=122,slow=34							
RPZ	**Rata Peaks**	**28.70**	**206**	P		P	23 05 04.2	+7.3
	16nm,0.5s,baz=8.9,slow=8.6,SNR=20							
RPZ				LR		LR	23 15 33.0	
	comp=Z,71nm,21.6s,baz=54,slow=34							
RPZ	**Rata Peaks**	**28.70**	**206**	*e*P		P	23 05 06.1	+9.2
	151nm,1.7s							
LHI	**Lord Howe Isla**	**28.86**	**238**	*e*P		**P**	**23 04 59.2**	**+0.8**
	563nm,2.0s							
FOZ	**Fox Glacier**	**29.07**	**207**	*e*P		P	23 05 09.3	+9.1
	57nm,0.6s							
TAOE	**Nuku Hiva Isla**	**32.65**	**77**	*e*LR		LR	23 13 51.0	
	241nm,25.6s							
TAOE	**Nuku Hiva Isla**	**32.65**	**77**	*e*T		T	23 39 34.5	
	31nm,0.3s							
EIDS	**Eidsvold**	**34.53**	**252**	*e*P		**P**	**23 05 46.4**	**-2.0**
	24nm,1.4s							
ARMA	**Armidale**	**34.72**	**243**	*e*P		**P**	**23 05 49.6**	**-0.5**
	15nm,0.8s							
CTA	**Charters Tower**	**39.06**	**261**	P		**P**	**23 06 24.9**	**-2.1**
	25nm,0.7s,baz=93,slow=10,SNR=40							
CTAO	**Charters Tower**	**39.06**	**261**	*e*P		**P**	**23 06 24.9**	**-2.1**
	25nm,0.9s							
PMG	**Port Moresby**	**40.29**	**277**	P		**P**	**23 06 34.6**	**-2.7**
	13nm,0.9s,baz=84,slow=10,SNR=6.5							
TAU	**Tasmania Unive**	**41.77**	**226**	*e*P		**P**	**23 06 50.7**	**+1.6**
	92nm,1.9s							
H11S2	**WAKE ISLAND Hy**	**42.23**	**330**	T		T	23 52 20.2	
	baz=147,slow=76,SNR=20							
H11S3	**WAKE ISLAND Hy**	**42.24**	**330**	T		T	23 52 20.4	
	baz=147,slow=76,SNR=5.6							
H11S1	**WAKE ISLAND Hy**	**42.25**	**330**	T		T	23 52 21.3	
	baz=147,slow=76,SNR=8.8							
COEN	**Coen**	**42.90**	**269**	*e*P		**P**	**23 06 56.5**	**-2.2**
	14nm,0.8s							
STKA	**Stephens Creek**	**43.44**	**243**	P		**P**	**23 07 01.7**	**-1.2**
	14nm,1.0s,baz=87,slow=11,SNR=16							
STKA				LR		LR	23 23 27.4	
	comp=Z,97nm,19.1s,baz=29,slow=34							
STKA	**Stephens Creek**	**43.44**	**243**	*e*P		**P**	**23 07 02.4**	**-0.5**
	2.2nm,0.8s							
BBOO	**Buckleboo**	**48.19**	**242**	*e*P		**P**	**23 07 39.0**	**-1.3**
	25nm,1.4s							
AS01	**Alice Springs**	**50.15**	**254**	*e*P		**P**	**23 07 53.4**	**-2.1**
AS31	**Alice Springs**	**50.19**	**254**	*e*P		**P**	**23 07 54.0**	**-1.8**
	7.6nm,1.0s							
ASAR	**Alice Springs**	**50.19**	**254**	P		**P**	**23 07 54.8**	**-1.1**
	22nm,0.8s,baz=90,slow=7.7,SNR=256							
ASAR				PcP		**PcP**	**23 09 15.3**	**+0.6**
	1.4nm,0.8s,baz=101,slow=4.8,SNR=2.8							
ASAR				S		**S**	**23 15 04.7**	**-0.6**
	0.6nm,0.8s,baz=93,slow=16,SNR=5.5							
WB2	**Warramunga Arr**	**50.20**	**259**	*e*P		**P**	**23 07 53.6**	**-2.2**
WRAB	**Tennant Creek**	**50.20**	**259**	*e*P		**P**	**23 07 53.7**	**-2.1**
	24nm,0.8s							
WRA	**Warramunga Arr**	**50.21**	**259**	P		**P**	**23 07 53.7**	**-2.2**
	18nm,0.8s,baz=94,slow=7.1,SNR=160							
WRA				PcP		**PcP**	**23 09 15.5**	**+0.7**
	1.4nm,0.8s,baz=91,slow=3.8,SNR=2.8							
WRA				LR		LR	23 28 31.8	
	comp=Z,116nm,18.5s,baz=135,slow=35							
MTN	**Manton Dam**	**54.57**	**267**	*e*P		**P**	**23 08 27.0**	**-1.3**
	174nm,1.9s							
FORT	**Forrest**	**54.97**	**245**	*e*P		**P**	**23 08 30.2**	**-0.9**
	29nm,0.9s							
SOEI	**Soe**	**61.86**	**269**	*e*P		**P**	**23 09 19.6**	**+0.1**
	37nm,0.9s							
MBWA	**Marble Bar**	**63.52**	**255**	*e*P		**P**	**23 09 29.3**	**-1.0**
	52nm,1.7s							
NWAO	**Narrogin (SRO)**	**64.01**	**242**	*e*P		**P**	**23 09 34.2**	**+0.9**
	86nm,1.8s							
JAGI	**Jajag, Banyuwa**	**71.81**	**267**	*e*P		**P**	**23 10 22.1**	**-0.6**
	53nm,1.2s							
LPIG	**La Paz**	**73.85**	**57**	LR		LR	23 37 25.1	
	comp=Z,68nm,18.1s,baz=213,slow=31							
NVAR	**Mina Array Bea**	**76.02**	**41**	P		**P**	**23 10 46.9**	**-0.2**
	1.3nm,0.7s,baz=221,slow=8.1,SNR=5.6							
SBUM	**Sibu**	**77.04**	**277**	*e*P		**P**	**23 10 54.5**	**+1.4**
	8.7nm,1.4s							
KSM	**Kuching**	**78.52**	**275**	*e*P		**P**	**23 11 02.6**	**+1.2**
	36nm,0.9s							
TXAR	**Lajitas Array**	**81.54**	**55**	P		**P**	**23 11 17.6**	**+0.2**
	2.8nm,1.0s,baz=219,slow=7.0,SNR=15							
ANMO	**Albuquerque**	**82.06**	**49**	LR		LR	23 44 37.7	
	comp=Z,45nm,18.8s,baz=252,slow=33							
NJ2	**Nanjing**	**82.91**	**307**	*e*P		P	23 11 28.8	+4.4
NJ2				pmax	pmax			
	comp=Z,6.0nm,0.6s							
PDAR	**Pinedale Array**	**83.95**	**41**	P		**P**	**23 11 29.4**	**-0.5**
	2.4nm,0.8s,baz=216,slow=3.9,SNR=19							
PDAR				LR		LR	23 46 05.3	
	comp=Z,46nm,19.3s,baz=270,slow=34							
CMIG	**Matias Romero**	**83.98**	**70**	LR		LR	23 43 15.9	
	comp=Z,111nm,19.8s,baz=170,slow=32							
BPAW	**Bear Paw Mtn.**	**84.07**	**9**	*e*P		pP	23 11 45.2	+3.1
	20nm,0.8s							
MAW	**Mawson**	**85.11**	**198**	P		**P**	**23 11 35.7**	**+0.7**
	2.4nm,0.6s,baz=124,slow=8.2,SNR=4.7							
ILAR	**Eielson Array**	**85.37**	**11**	P		**P**	**23 11 34.2**	**-1.9**
	1.5nm,0.9s,baz=226,slow=5.2,SNR=8.9							
WHN	**Wuhan**	**85.74**	**304**	P		P	23 11 43.1	+4.3
PLCA	**Paso Flores**	**86.61**	**132**	P		**P**	**23 11 44.3**	**+1.1**
	1.6nm,0.9s,baz=253,slow=8.8,SNR=3.1							
APG	**El Apazote**	**87.22**	**73**	LR		LR	23 40 57.1	
	comp=Z,179nm,19.2s,baz=257,slow=29							
VNA3	**Neumayer Olymp**	**89.60**	**174**	P		**P**	**23 11 57.9**	**+1.2**
SNAA	**Sanae**	**89.68**	**177**	P		**P**	**23 11 56.3**	**-0.8**
PSI	**Prapat**	**89.72**	**273**	*e*P		**P**	**23 11 59.7**	**+1.2**
	15nm,1.3s							
VNA2	**Neumayer--Watz**	**90.10**	**175**	P		**P**	**23 12 00.1**	**+1.0**
	baz=196,slow=3.5							
VNA1	**Neumayer--Stat**	**90.30**	**175**	P		**P**	**23 12 01.0**	**+1.1**
GYA	**Guiyang**	**90.45**	**298**	P		**P**	**23 12 05.4**	**+3.8**
GYA				PP		**PP**	**23 15 40.0**	**+3.2**
GYA				SKS		SKS	23 22 03.5	
GYA				S		**SKSac**	**23 22 23.3**	**-6.9**
GYA				pmax	pmax			
	comp=Z,20nm,1.0s							
INK	**Inuvik**	**91.11**	**13**	P		**P**	**23 12 02.1**	**-1.3**
	2.2nm,1.0s,baz=211,slow=3.9,SNR=3.0							
ATAH	**Atahualpa**	**91.44**	**98**	LR		LR	23 46 56.0	
	comp=Z,54nm,18.2s,baz=242,slow=31							
HHC	**Hu-ho-hao-te**	**91.95**	**313**	*e*P		**P**	**23 12 11.8**	**+3.6**
HHC				S		**SKSac**	**23 22 40.3**	**+2.2**
HHC				pmax	pmax			
	comp=Z,12nm,1.0s							
HHC				pmax	pmax			
	comp=Z,110nm,3.5s							
KMI	**Kunming**	**93.33**	**295**	P		**P**	**23 12 17.4**	**+2.3**
KMI				pmax	pmax			
	comp=Z,8.0nm,0.5s							
CD2	**Chengdu**	**94.35**	**301**	*e*P		**P**	**23 12 23.0**	**+3.6**
CM01	**Chiang Mai Arr**	**94.57**	**288**	*e*P		**P**	**23 12 23.6**	**+3.0**
CMAR	**Chiang Mai Arr**	**94.59**	**288**	P		**P**	**23 12 21.8**	**+1.0**
	0.6nm,0.3s,baz=124,slow=5.9,SNR=7.0							
CMAR				LR		LR	23 55 44.8	
	comp=Z,8.1nm,18.0s,baz=90,slow=36							
ULM	**Lac du Bonnet**	**95.75**	**39**	LR		LR	23 51 08.2	
	comp=Z,59nm,18.9s,baz=344,slow=33							
TKL	**Tuckaleechee C**	**99.45**	**56**	LR		LR	23 53 41.8	
	comp=Z,59nm,19.9s,baz=272,slow=33							
MKAR	**Makanchi Array**	**113.79**	**314**	PKiKP		**PKiKP**	**23 17 37.1**	**-0.9**
	0.5nm,0.7s,baz=241,slow=2.2,SNR=5.1							
KSH	**Kashi**	**118.19**	**305**	PKP		PKPdf	23 17 55.5	+8.7
KMBO	**Kilima Mbogo**	**144.95**	**239**	PKP		**PKPdf**	**23 18 38.2**	**+0.4**
	4.6nm,0.8s,baz=70,slow=3.7,SNR=24							
CLL	**Collm**	**147.09**	**354**	*e*PKPbc		**PKPbc**	**23 18 42.0**	**-0.1**
	comp=Z,4.0nm,0.9s							
BRG	**Berggiesshubel**	**147.41**	**353**	*e*PKP		**PKPab**	**23 18 43.7**	**-1.3**
	comp=Z,4.3nm,0.8s							
DPC	**Dobruska-Polom**	**147.57**

0.4nm,0.3s,baz=107,slow=17,SNR=3.6
USRK Ussuriysk Ar. 11.01 319 Pn **Pn 23 28 26.5 +3.9**
0.1nm,0.3s,baz=152,slow=13,SNR=2.3
H11N2 WAKE ISLAND Hy 27.34 120 T T 00 00 18.4
baz=313,slow=75,SNR=19
H11N1 WAKE ISLAND Hy 27.35 120 T T 00 00 18.5
baz=313,slow=75,SNR=12
H11N3 WAKE ISLAND Hy 27.36 120 T T 00 00 17.4
baz=313,slow=75,SNR=13
H11S1 WAKE ISLAND Hy 28.04 123 T T 00 01 15.0
baz=315,slow=75,SNR=11
H11S3 WAKE ISLAND Hy 28.04 123 T T 00 01 06.7
baz=315,slow=75,SNR=11
H11S2 WAKE ISLAND Hy 28.06 123 T T 00 01 18.0
baz=315,slow=75,SNR=9.4
SONM Songino Array 28.61 305 P **P 23 31 41.4 +0.1**
0.9nm,0.5s,baz=91,slow=9.6,SNR=4.5
CMAR Chiang Mai Arr 41.79 257 P **P 23 33 35.1 +0.5**
0.3nm,0.3s,baz=41,slow=6.0,SNR=3.1
ZALV Zalesovo Beam 42.78 313 P **P 23 33 42.8 +0.5**
1.2nm,0.8s,baz=96,slow=9.1,SNR=3.8
MKAR Makanchi Array 44.94 303 P **P 23 34 00.2 +0.5**
1.0nm,0.7s,baz=95,slow=10,SNR=6.2
ILAR Eielson Array 49.87 32 P **P 23 34 37.5 -0.3**
0.1nm,0.4s,baz=240,slow=7.1,SNR=2.9
WRA Warramunga Arr 56.38 189 P **P 23 35 26.6 +0.4**
0.3nm,0.7s,baz=6.3,slow=7.4,SNR=5.1
ASAR Alice Springs 60.11 189 P **P 23 35 52.2 -0.1**
0.2nm,0.7s,baz=12,slow=5.7,SNR=2.6
GERES GERESS Array B 83.61 329 P **P 23 38 12.1 -1.1**
0.1nm,0.3s,baz=12,slow=5.0,SNR=2.4

*IDC **17** 23:39:10.2±1.3, 13.47N×91.56W, h0km, mb3.7/5, mb1 4.0/8, mb1mx3.7/36, mbtmp3.7/8, ML3.6/3, MS3.3/2, Ms1 3.3/2, ms1mx2.6/37, Error ellipse: s-maj=18.5km s-min=15.9km az=178.0*
*ISCJB **17** 23:39:11.7±0.9, 13.44N±0.09×91.64W±0.10, h28km, mb3.8/5, MS3.3/2, Error ellipse: s-maj=17.4km s-min=6.4km az=137.8*
*MEX **17** 23:39:14.0±0.8, 13.40N×91.66W, h16km±270km, MD4.0*
*NEIC **17** 23:39:14.0±0.0, 13.46N×91.66W, h8km, MD4.0(MEX), After MEX.*
ISC 17 23:39:14.1±1.2, 13.6N±0.1×91.57W±0.09, h28km, n20, σ1s14/24, mb3.8/5, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.49**	**333**	*eP*	**Pn**	**23 39 39.1**	**+0.1**
THIG				*eS*	**Sn**	**23 39 57.4**	**-0.2**
THIG		**1.49**	**333**	*eP*	**Pn**	**23 39 39.1**	**+0.1**
THIG				*eS*	**Sn**	**23 39 57.4**	**-0.2**
APG	**El Apazote**	**1.79**	**37**	Pg	**Pb**	**23 39 45.8**	**-0.5**
	47nm,0.3s,baz=214,slow=16,SNR=83						
APG				Lg	Lg	23 40 09.2	
	45nm,0.3s,baz=339,slow=15,SNR=7.4						
PCIG		**2.66**	**323**	*eP*	**Pn**	**23 39 54.1**	**-0.9**
PCIG		**2.66**	**323**	*eP*	**Pn**	**23 39 54.1**	**-0.9**
PCIG				*eS*	**Sn**	**23 40 26.0**	**-0.3**
CCIG	**Comitan**	**2.75**	**349**	*eP*	**Pb**	**23 39 59.8**	**-3.0**
CCIG	**Comitan**	**2.75**	**349**	*eP*	**Pn**	**23 39 57.4**	**+0.9**
CCIG				*i* S	**Sn**	**23 40 30.7**	**+1.7**
TGIG		**3.53**	**335**	*eP*	**Pn**	**23 40 08.5**	**+1.4**
TGIG		**3.53**	**335**	*i* P	**Pn**	**23 40 07.5**	**+0.4**
TGIG				*i* S	**Sn**	**23 40 48.6**	**+0.6**
CMIG	**Matias Romero**	**4.74**	**318**	Pn	**Pn**	**23 40 25.7**	**+2.0**
	1.7nm,0.3s,baz=144,slow=13,SNR=7.2						
CMIG				Sn	**Sn**	**23 41 19.1**	**+1.2**
	2.8nm,0.3s,baz=28,slow=10,SNR=3.2						
JTS	**JuntasAbangare**	**7.25**	**116**	Pn	**Pn**	**23 40 58.0**	**-0.2**
	1.0nm,0.3s,baz=338,slow=23,SNR=8.2						
JTS				Lg	Lg	23 42 58.0	
	0.2nm,0.3s,baz=223,slow=19,SNR=3.3						
TXAR	**Lajitas Array**	**19.29**	**326**	P	**Pn**	**23 43 38.9**	**+0.9**
	0.1nm,0.3s,baz=153,slow=13,SNR=9.3						
SDV	**Santo Domingo**	**21.05**	**101**	P	**P**	**23 43 55.0**	**-1.3**
	1.3nm,0.5s,baz=308,slow=12,SNR=3.9						
TKL	**Tuckaleechee C**	**23.09**	**16**	P	**P**	**23 44 17.2**	**-0.4**
	4.6nm,0.8s,baz=174,slow=12,SNR=7.6						
ANMO	**Albuquerque**	**25.18**	**330**	LR	LR	23 54 49.7	
	comp=Z,37nm,18.6s,baz=144,slow=37						
NVAR	**Mina Array Bea**	**34.27**	**321**	P	**P**	**23 45 59.3**	**+1.1**
	0.5nm,0.3s,baz=123,slow=9.8,SNR=3.9						
YKA	**Yellowknife Ar**	**51.54**	**347**	P	**P**	**23 48 16.7**	**-0.5**
	0.3nm,0.3s,baz=152,slow=7.6,SNR=4.4						
ILAR	**Eielson Array**	**63.40**	**337**	P	**P**	**23 49 41.5**	**+0.7**
	0.7nm,0.9s,baz=176,slow=5.2,SNR=7.2						
TORD	**Torodi Ar. Bea**	**90.07**	**77**	LR	LR	00 31 33.3	
	comp=Z,27nm,18.1s,baz=295,slow=35						
CMAR	**Chiang Mai Arr**	**146.53**	**342**	PKPbc	**PKPab**	**23 58 55.0**	**+0.3**
	1.3nm,0.4s,baz=348,slow=3.0,SNR=3.9						

*NEIC **17** 23:51:39.0±0.0, 37.59S×73.83W, h21km, mb4.0/7, ML4.2(GUC), After GUC.*
NEIC Felt [II] at Concepcion and Lebu.
GUC 17 23:51:39.7±0.7, 37.60S×73.82W, h22km±5km, ML4.2, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.94**	**37**	↓*iP*	Pb	23 51 55.7	-1.6
CCSP				*i* S	Sb	23 52 07.8	-1.6
CCSP				IAML		23 52 12.3	
	comp=N,10μm,0.6s						
TMU	**Temuco**	**1.49**	**140**	↓*iP*	Pn	23 52 05.0	-0.2
TMU				*i* S	Sn	23 52 23.9	-0.1
CCHI	**Chillan**	**1.71**	**55**	*eP*	Pn	23 52 07.9	-0.3
CCHI				*eS*	Sn	23 52 29.9	+0.4
CCHI				IAML		23 52 37.3	
	comp=N,5μm,0.5s						
GO06	**Curarrehue**	**2.71**	**138**	*eP*	Pn	23 52 22.5	+0.5
GO06				*eS*	Sn	23 52 57.0	+2.8
LCO	**Las Campanas**	**8.95**	**18**	*ePn*	Pn	23 53 46.2	-1.8
TRQA	**Tornquist**	**9.38**	**96**	Pn	Pn	23 53 53.1	-0.5
LVC	**Limon Verde**	**15.52**	**17**	Pn	Pn	23 55 16.3	-1.4
	comp=N,1.6nm,0.7s						
NNA	**Nana**	**25.64**	**353**	P	P	23 57 07.0	-1.0
	comp=N,6.9nm,0.4s						
SAML	**Samuel**	**30.10**	**21**	P	P	23 57 46.6	-1.2
	comp=N,0.3nm,0.4s						
SDV	**Santo Domingo**	**46.33**	**4**	P	P	00 00 03.5	-0.8
	comp=N,0.7nm,0.7s						
OXF	**Oxford**	**73.19**	**347**	P	P	00 03 08.3	-0.3
	comp=N,5.9nm,0.6s						
SUR	**Sutherland**	**74.37**	**119**	P	P	00 03 16.1	-0.1
	comp=N,15nm,1.1s						
ANMO	**Albuquerque**	**78.28**	**333**	P	P	00 03 37.7	-0.3
	comp=N,0.3nm,0.4s						

*IDC **17** 23:53:26.0±1.8, 22.74N×95.76E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.1/38, mbtmp3.3/3, ML3.8/1, Error ellipse: s-maj=40.0km s-min=18.4km az=65.0*
ISC 17 23:53:27.2±1.2, 22.7N±0.1×96.0E±0.1, h10km, n9, σ1s76/10, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAYA	**Payao**	**4.96**	**132**	P	**Pg**	**23 55 02.7**	**+0.4**
	11nm,0.9s						
CMAR	**Chiang Mai Arr**	**5.09**	**146**	Pn	**Pn**	**23 54 44.6**	**+1.0**
	0.8nm,0.3s,baz=322,slow=13,SNR=8.8						
CMAR				Pg	**Pg**	**23 55 02.6**	**-2.1**
	1.9nm,0.3s,baz=325,slow=17,SNR=21						
CMAR				Lg	Lg	23 56 09.9	
	1.5nm,0.3s,baz=318,slow=30,SNR=4.2						
LAMP	**Lampang**	**5.42**	**140**	P	**Pg**	**23 55 12.1**	**+1.0**
	5.3nm,0.9s						
LAMP	**Lampang**	**5.42**	**140**	P	**Sg**	**23 56 22.7**	**+1.3**
	218nm21nm,0.9s						
NANT	**Nan**	**5.92**	**131**	P	**Pg**	**23 55 17.4**	**-3.2**
	3.3nm,0.6s						
NANT	**Nan**	**5.92**	**131**	P	**Sg**	**23 56 37.0**	**-0.3**
POO	**Poona**	**21.10**	**263**	*ex*	**P**	**23 58 12.0**	**-0.1**
SONM	**Songino Array**	**26.40**	**16**	P	**P**	**23 59 05.4**	**+1.4**
	0.2nm,0.5s,baz=188,slow=9.9,SNR=2.2						
MKAR	**Makanchi Array**	**26.42**	**339**	P	**P**	**23 59 03.0**	**-1.1**
	0.4nm,0.8s,baz=142,slow=9.9,SNR=2.9						

*HEL **18** 00:26:07.9, 67.83N×20.19E, h0km, ML1.5, Explosion*
UPP 18 00:26:07.4±0.0, 67.84N×20.20E, h0km, ML1.7, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**24**	P	Pg	00 26 10.1	+0.3
KUA				S	Sg	00 26 12.1	+0.6
KUA	**Kurravaara**	**0.13**	**24**	*i* P	Pg	00 26 10.1	+0.3
KUA				*i* S	Sg	00 26 12.1	+0.6
RATU	**Laukkuluspa**	**0.23**	**267**	P	Pg	00 26 12.0	+0.2
RATU				S	Sg	00 26 15.3	+0.5
RATU	**Laukkuluspa**	**0.23**	**267**	*i* P	Pg	00 26 12.0	+0.2
RATU				*i* S	Sg	00 26 15.3	+0.5
NIKU	**Nikkaluokta**	**0.44**	**274**	P	Pg	00 26 15.9	+0.1
NIKU				S	Sg	00 26 22.2	+0.7
NIKU	**Nikkaluokta**	**0.44**	**274**	*i* P	Pg	00 26 15.9	+0.1
NIKU				*i* S	Sg	00 26 22.2	+0.7
LANU	**Lannavaara**	**0.71**	**72**	S	Sg	00 26 30.0	-0.1
LANU	**Lannavaara**	**0.71**	**72**	*eP*	Pg	00 26 20.6	-0.3
DUNU	**Dundret**	**0.73**	**169**	P	Pg	00 26 21.1	-0.4
DUNU	**Dundret**	**0.73**	**169**	*i* P	Pg	00 26 21.1	-0.4
MASU	**Masugnsbyn**	**0.79**	**118**	P	Pg	00 26 22.4	-0.1
MASU				S	Sg	00 26 33.1	+0.4
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	00 26 22.4	-0.1
MASU				*i* S	Sg	00 26 33.1	+0.4
SALU	**Saltoluokta**	**0.79**	**235**	P	Pg	00 26 22.5	-0.1
SALU	**Saltoluokta**	**0.79**	**235**	*i* P	Pg	00 26 22.5	-0.1
KIF	**Kilpisjarvi**	**1.19**	**11**	*eP*	Pg	00 26 30.2	0.0
KIF				*eS*	Sg	00 26 45.7	0.0
KIF				MSG		00 26 47.8	
	comp=Z,5.1nm,0.2s						
KIF	**Kilpisjarvi**	**1.19**	**11**	*eP*	Pn	00 26 31.7	+0.4
HEF	**Hetta**	**1.42**	**65**	*eP*	Pn	00 26 33.5	-0.9
HEF				MSG		00 26 49.8	
	comp=Z,3.7nm,0.2s						
HEF	**Hetta**	**1.42**	**65**	*eP*	Pn	00 26 33.8	-0.7
ERTU	**Ertsjaerv**	**1.51**	**148**	P	Pn	00 26 35.5	-0.1
ERTU	**Ertsjaerv**	**1.51**	**148**	*eP*	Pn	00 26 34.8	-0.8
HARU	**Harads**	**1.71**	**169**	P	Pb	00 26 39.2	-0.5
HARU	**Harads**	**1.71**	**169**	*eP*	Pb	00 26 39.2	-0.5
TOF	**Tornio**	**2.40**	**135**	*ePB*	Pn	00 26 49.3	+1.5
TOF				MSG		00 27 17.5	
	comp=Z,1.7nm,0.2s						
RNF	**Rovaniemi**	**2.58**	**116**	*ePB*	Pb	00 26 52.4	-2.0
RNF				*eSG*	Sb	00 27 27.0	+0.4

UPP 18 00:26:20.5±0.1, 67.84N×20.19E, h0km, ML2.1, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**25**	P	Pg	00 26 23.2	+0.2
KUA				S	Sg	00 26 25.1	+0.4
RATU	**Laukkuluspa**	**0.23**	**267**	P	Pg	00 26 25.0	+0.2
RATU				S	Sg	00 26 28.3	+0.5
NIKU	**Nikkaluokta**	**0.44**	**274**	P	Pg	00 26 28.9	0.0
NIKU				S	Sg	00 26 34.9	+0.3
MASU	**Masugnsbyn**	**0.79**	**118**	P	Pg	00 26 35.4	-0.2
SALU	**Saltoluokta**	**0.79**	**235**	P	Pg	00 26 35.4	-0.2
PAJU	**Pajala**	**1.39**	**125**	P	Pg	00 26 45.8	-1.3
PAJU				S	Sg	00 27 04.5	-0.6
ERTU	**Ertsjaerv**	**1.51**	**148**	P	Pn	00 26 48.0	-0.7
ERTU				S	Sg	00 27 08.8	0.0
HARU	**Harads**	**1.71**	**169**	P	Pn	00 26 51.4	-0.1

PGC 18 00:36:46.8±0.8, 49.09N×128.77W, h10km, MLSn3.1/22, Mw3.7/22, Mw3.7/22, 203km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDB	**Eliza Dome**	**1.33**	**53**	P	Pn	00 37 08.8	-2.6
EDB				S	Sb	00 37 24.7	-4.2
PACB	**Port Alice, BC**	**1.58**	**31**	Pn	Pn	00 37 12.4	-2.4
PACB				Sn	Sn	00 37 30.4	-4.9
WOSB	**Woss**	**1.78**	**52**	Pn	Pn	00 37 16.0	-1.8
WOSB				Sn	Sn	00 37 37.7	-2.8
PHC	**Port Hardy**	**1.83**	**28**	Pn	Pn	00 37 16.3	-2.0
PHC				Sn	Sn	00 37 37.5	-4.0
TOFB	**Tofino**	**1.88**	**87**	Pn	Pn	00 37 16.3	-2.6
TOFB				Sn	Sn	00 37 36.6	-6.1
GDR	**Gold River**	**1.91**	**68**	Pn	Pn	00 37 17.2	-2.2
TLCB	**Telegraph Cove**	**1.92**	**40**	Pn	Pn	00 37 17.7	-1.8
TLCB				Sn	Sn	00 37 40.5	-3.2
BTB	**Buttle Lake**	**2.16**	**79**	Pn	Pn	00 37 20.9	-2.0
BTB				Sn	Sn	00 37 45.6	-4.3
OZB	**Mount Ozzard**	**2.16**	**92**	Pn	Pn	00 37 19.9	-3.0
OZB				Sn	Sn	00 37 43.2	-6.5
SPLB	**Strathcona Par**	**2.18**	**67**	Pn	Pn	00 37 21.6	-1.5
SPLB				Sn	Sn	00 37 47.4	-2.8
NCRB	**Newcastle Ridg**	**2.19**	**52**	Pn	Pn	00 37 22.3	-1.1
NCRB				Sn	Sn	00 37 48.5	-2.2
MWAB	**Mount Washingt**	**2.35**	**73**	Pn	Pn	00 37 24.0	-1.6
MWAB				Sn	Sn	00 37 51.9	-2.7
CBB	**Campbell River**	**2.41**	**66**	Pn	Pn	00 37 24.8	-1.5
CBB				Sn	Sn	00 37 53.5	-2.2
B928	**Bamfield**	**2.41**	**95**	Pn	Pn	00 37 23.5	-2.7
B928				Sn	Sn	00 37 50.1	-5.6
MGB	**Mount Grey**	**2.68**	**90**	Pn	Pn	00 37 27.2	-2.7
MGB				Sn	Sn	00 37 57.0	-5.7
TXB	**Texada**	**2.89**	**76**	Pn	Pn	00 37 31.3	-1.6
PFB	**Port Renfrew**	**2.91**	**99**	Sn	Sn	00 38 02.6	-5.5
GHNB	**Nanoose**	**2.98**	**84**	Pn	Pn	00 37 33.1	-0.9
GHNB				Sn	Sn	00 38 06.7	-3.1
B926	**Mesachie Lake**	**3.07**	**93**	Pn	Pn	00 37 33.6	-1.7
B926				Sn	Sn	00 38 06.9	-5.1
BBB	**Bella Bella**	**3.12**	**7**	Pn	Pn	00 37 35.4	-0.6
BBB				Sn	Sn	00 38 09.7	-3.7
NLLB	**Nanaimo Lost L**	**3.14**	**86**	Pn	Pn	00 37 35.7	-0.5
NLLB				Sn	Sn	00 38 10.4	-3.4
SHB	**Sechelt**	**3.24**	**79**	Pn	Pn	00 37 36.2	-1.6
LZB	**Mount Lazard**	**3.30**	**97**	Pn	Pn	00 37 36.4	-2.1
LZB				Sn	Sn	00 38 12.2	-5.7
BPCB	**Bare Point**	**3.34**	**91**	Sn	Sn	00 38 14.6	-4.1
B009	**North Saanich**	**3.54**	**95**	Sn	Sn	00 38 18.9	-4.7
B010	**North Saanich**	**3.54**	**95**	Sn	Sn	00 38 18.8	-4.8
PGC	**Sidney**	**3.54**	**95**	Sn	Sn	00 38 19.3	-5.3
B011	**North Saanich**	**3.54**	**95**	Pn	Pn	00 37 42.6	+0.8
B011				Sn	Sn	00 38 18.8	-4.8
VGZ	**Gonzales**	**3.67**	**99**	Sn	Sn	00 38 21.7	-5.0
VDB	**Vedder Mountai**	**4.38**	**88**	Pn	Pn	00 37 52.8	-0.6
UBRB	**Upper Baezaeko**	**4.82**	**36**	Pn	Pn	00 38 00.2	+0.8
PNT	**Penticton**	**6.00**	**84**	Pn	Pn	00 38 14.0	-1.7

MEX 18 00:37:49.3±0.3, 18.27N×95.46W, h16km±999km, MD3.9, Veracruz

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**1.30**	**155**	*eP*	Pn	00 38 09.2	-3.6
CMIG				*eS*	Sb	00 38 24.4	-5.4
VHO	**Vista Hermosa**	**1.70**	**226**	*eP*	Pn	00 38 15.3	-3.2
VHO				*eS*	Sn	00 38 35.7	-4.4
TPIG	**Tehuac#an**	**1.81**	**275**	*eP*	Pn	00 38 16.9	-3.1
TPIG				*i* S	Sn	00 38 37.7	-5.0

MAN 18 00:41:00.5, 9.93N×123.83E, h3km, mb4.1, ML2.9, MS2.6, 1C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBP	**Tagbilaran**	**0.24**	**172**	*eP*	Pg	00 41 05.7	+0.6
TBP				*i* S	Sg	00 41 11.1	+2.9
LLP	**Lapu-Lapu**	**0.41**	**19**	↑*iP*	Pg	00 41 08.8	+0.5
LLP				*i* S	Sg	00 41 14.9	+1.2
SNPH	**Sibulan**	**0.82**	**225**	↓*iP*	Pg	00 41 16.5	+0.2
SNPH				*i* S	Sb	00 41 28.2	-0.9
MSLP	**Maasin**	**1.03**	**79**	*eP*	Pg	00 41 20.6	+0.3
MSLP				*eS*	Sn	00 41 36.5	-0.4

MEX 18 00:43:32.8±0.6, 17.44N×94.90W, h140km±5km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.35**	**177**	*i* P	Pn	00 43 51.3	-1.2
CMIG				*i* S	Sn	00 44 05.4	-1.9
VHO	**Vista Hermosa**	**1.79**	**258**	*eP*	Pn	00 44 04.3	-0.8
VHO				*i* S	Sn	00 44 27.2	-2.5
TGIG		**1.83**	**111**	*eP*	Pn	00 44 04.2	-1.1
TGIG				*eS*	Sn	00 44 27.8	-2.6
HUIG	**Huatulco**	**2.03**	**215**	*eP*	Pn	00 44 05.9	-1.8
HUIG				*i* S	Sn	00 44 32.2	-2.3
PCIG		**2.37**	**137**	*eP*	Pn	00 44 10.8	-1.0
PCIG				*eS*	Sn	00 44 39.9	-1.9

*ISCJB **18** 01:02:17.5±0.7, 38.26N±0.03×20.26E±0.03, h4km±4km, mb3.5/4, Error ellipse: s-maj=5.0km s-min=2.9km az=38.3*
*THE **18** 01:02:18.7, 38.24N×20.32E, h3km±1km, ML3.4/8, Error ellipse: s-maj=1.5km s-min=0.7km az=56.0*
*ATH **18** 01:02:18.4, 38.24N×20.35E, h11km±1km, ML3.2/15, Error ellipse: s-maj=1.8km s-min=0.8km az=64.0*
*IDC **18** 01:02:23.4±1.8, 38.42N×20.46E, h46km±27km, mb3.4/4, mb1 3.4/7, mb1mx3.1/52, mbtmp3.5/7, ML2.2/3, Error ellipse: s-maj=24.7km s-min=12.5km az=8.0*
ISC 18 01:02:19.5±0.9, 38.29N±0.02×20.41E±0.03, h12km±5km, n83, σ1s14/113, mb3.6/4, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.18**	**127**	P	**Pg**	**01 02 23.1**	**-0.5**
VLS				S	**Sg**	**01 02 26.1**	**-0.2**
VLS				AML	AML	01 02 26.3	
	comp=N,96150μm,0.2s						
VLS				AML	AML	01 02 26.8	
	comp=E,50940μm,0.2s						
VLS	**Valsamata**	**0.18**	**127**	P	**Pg**	**01 02 23.0**	**-0.5**
VLS				S	**Sg**	**01 02 26.2**	**-0.2**
FSK	**Fiskardo**	**0.21**	**35**	P	**Pg**	**01 02 24.3**	**+0.1**
FSK				S	**Sg**	**01 02 28.1**	**+0.8**
FSK	**Fiskardo**	**0.21**	**35**	P	**Pg**	**01 02 24.2**	**+0.1**
FSK				S	**Sg**	**01 02 28.4**	**+1.1**
MGNA	**Meganis,,,**	**0.48**	**39**	P	**Pg**	**01 02 28.7**	**-0.3**
MGNA				S	**Sg**	**01 02 36.6**	**+1.4**
MGNA				AML	AML	01 02 39.1	
	comp=N,3810μm,0.2s						
MGNA				AML	AML	01 02 41.1	
	comp=E,4031μm,0.4s						
VTN	**Vitineika**	**0.71**	**121**	P	**Pg**	**01 02 33.0**	**-0.4**
AXS	**Araxos**	**0.77**	**96**	P	**Pg**	**01 02 34.0**	**-0.4**
RLS	**Riolos of Patr**	**0.86**	**105**	P	**Pg**	**01 02 35.6**	**-0.6**
RLS				S	**Sb**	**01 02 48.3**	**+0.4**
RLS				AML	AML	01 02 53.2	
	comp=E,2622μm,0.3s						
RLS				AML	AML	01 02 57.8	
	comp=N,2375μm,0.3s						
RLS	**Riolos of Patr**	**0.86**	**105**	P	**Pg**	**01 02 35.6**	**-0.6**
RLS				S	**Sn**	**01 02 49.6**	**-0.3**
PVO	**Paravola**	**0.94**	**69**	P	**Pg**	**01 02 37.6**	**0.0**
PVO				S	**Sg**	**01 02 50.5**	**+0.6**
PVO				AML	AML	01 02 54.7	
	comp=E,5631μm,0.4s						
PVO				AML	AML	01 02 57.3	
	comp=N,4506μm,0.5s						
PVO	**Paravola**	**0.94**	**69**	P	**Pg**	**01 02 37.7**	**+0.1**
PVO				S	**Sn**	**01 02 52.7**	**+0.9**
DRO	**Drossia**	**1.08**	**108**	P	**Pb**	**01 02 39.4**	**-0.7**
DRO				S	**Sb**	**01 02 54.6**	**+0.5**
DRO				AML	AML	01 03 04.2	
	comp=E,6938μm,0.8s						
DRO				AML	AML	01 03 05.7	
	comp=N,4583μm,0.5s						
DRO	**Drossia**	**1.08**	**108**	P	**Pb**	**01 02 39.6**	**-0.5**
DRO				S	**Sn**	**01 02 56.5**	**+1.2**
UPR	**University Cam**	**1.08**	**90**	P	**Pg**	**01 02 40.6**	**+0.2**
UPR	**University Cam**	**1.08**	**90**	P	**Pg**	**01 02 40.7**	**+0.3**
EFP	**Efpalio**	**1.19**	**83**	P	**Pn**	**01 02 41.5**	**-0.4**
EFP				S	**Sn**	**01 02 59.0**	**+1.2**
EFP				AML	AML	01 03 06.1	
	comp=N,2743μm,0.5s						
EFP				AML	AML	01 03 06.6	
	comp=E,3888μm,0.4s						
EFP	**Efpalio**	**1.19**	**83**	P	**Pb**	**01 02 42.1**	**+0.2**
EFP				S	**Sn**	**01 03 00.6**	**+2.7**
ANX	**Ano Chora**	**1.23**	**75**	P	**Pn**	**01 02 42.4**	**-0.1**
ANX				S	**Sg**	**01 03 00.6**	**+1.5**
ANX				AML	AML	01 03 08.8	
	comp=E,4932μm,1.0s						
ANX				AML	AML	01 03 09.9	
	comp=N,5068μm,0.5s						
ANX	**Ano Chora**	**1.23**	**75**	P	**Pb**	**01 02 42.9**	**+0.2**
LAKA	**Lakka**	**1.24**	**92**	P	**Pn**	**01 02 42.3**	**-0.2**
LAKA				S	**Sg**	**01 03 00.3**	**+0.9**
LAKA	**Lakka**	**1.24**	**92**	P	**Pn**	**01 02 42.1**	**-0.5**
IGT	**Igoumenitsa**	**1.25**	**357**	P	**Pn**	**01 02 42.5**	**-0.2**
IGT	**Igoumenitsa**	**1.25**	**357**	P	**Pb**	**01 02 42.8**	**-0.2**
EVR	**Evrytania**	**1.27**	**60**	P	**Pn**	**01 02 43.2**	**+0.2**
EVR	**Evrytania**	**1.27**	**60**	P	**Pn**	**01 02 43.4**	**+0.3**
AMT	**Artemida-Makis**	**1.27**	**126**	P	**Pb**	**01 02 43.0**	**-0.4**
AMT				S	**Sg**	**01 03 00.2**	**-0.3**
AMT				AML	AML	01 03 17.9	
	comp=N,1914μm,0.7s						
AMT				AML	AML	01 03 19.3	
	comp=E,1853μm,0.6s						
AMT	**Artemida-Makis**	**1.27**	**126**	P	**Pg**	**01 02 43.4**	**-0.6**
AMT				S	**Sg**	**01 03 01.1**	**+0.6**
SERG	**Sergoula**	**1.30**	**84**	P	**Pn**	**01 02 43.3**	**0.0**
SERG				S	**Sg**	**01 03 02.9**	**+1.4**
SERG				AML	AML	01 03 10.2	
	comp=E,1723μm,0.3s						
SERG				AML	AML	01 03 13.4	
	comp=N,2185μm,0.4s						
SERG	**Sergoula**	**1.30**	**84**	P	**Pn**	**01 02 43.5**	**0.0**
SERG				S	**Sg**	**01 03 04.1**	**+2.6**
TRIZ	**Trizonia**	**1.31**	**86**	P	**Pn**	**01 02 43.5**	**-0.1**
SGD	**Sagiada**	**1.33**	**354**	P	**Pb**	**01 02 44.4**	**0.0**
ALIK	**Aliki, Aigiali**	**1.34**	**90**	P	**Pn**	**01 02 44.0**	**0.0**
KALE	**Kalithea**	**1.36**	**85**	P	**Pn**	**01 02 44.4**	**+0.1**
KALE				S	**Sg**	**01 03 04.9**	**+1.4**
KALE				AML	AML	01 03 11.3	
	comp=N,1840μm,0.4s						

NEO	**Neokhori**	**2.42**	**64**	P	**Pb**	**01 03 01.4**	**-1.6**
DION	**Dionisos Attik**	**2.79**	**93**	P	**Pn**	**01 03 05.5**	**+1.6**
BIA	**Bitola**	**2.82**	**14**	*e*Pn	**Pg**	**01 03 12.9**	**-0.7**
KRUS	**Krusevo**	**3.15**	**12**	*i* Pn	**Pn**	**01 03 08.9**	**0.0**
MASS	**Massafra**	**3.45**	**314**	*e*Pn	**Pn**	**01 03 13.8**	**+0.8**
FASA	**Fasano**	**3.46**	**318**	*e*Pn	**Pn**	**01 03 14.2**	**+1.1**
FASA				Sn	**Sb**	**01 04 02.3**	**-0.3**
STIP	**Stip**	**3.67**	**21**	*e*Pn	**Pn**	**01 03 15.3**	**-0.7**
SG1	**Sgolgore (BA)**	**3.85**	**313**	*e*Pn	**Pn**	**01 03 19.8**	**+1.3**
SG1				Sn	**Sn**	**01 04 03.1**	**-0.6**
DRME	**Dracevica, Mon**	**4.01**	**347**	*e*Pn	**Pn**	**01 03 19.7**	**-1.0**
PDG	**Podgorica**	**4.23**	**348**	*e*Pn	**Pn**	**01 03 23.0**	**-0.7**
HCY	**Herceg Novi**	**4.41**	**341**	*e*Pn	**Pn**	**01 03 24.2**	**-2.0**
IDI	**Anoyia**	**4.68**	**128**	P	**Pn**	**01 03 32.1**	**+2.2**
	comp=N,0.1nm,0.3s,baz=298,slow=17,SNR=1.3						
IDI				S	**Sn**	**01 04 26.0**	**+1.9**
	comp=N,1.5nm,0.3s,baz=303,slow=6.3,SNR=8.2						
TREB	**Trebinje**	**4.70**	**341**	*e*Pn	**Pn**	**01 03 28.4**	**-1.7**
VAE	**Valguarnera**	**4.81**	**262**	P	**Pn**	**01 03 35.0**	**+3.2**
	comp=N,0.3nm,0.3s,baz=252,slow=22,SNR=2.1						
VAE				S	**Sn**	**01 04 31.2**	**+3.7**
	comp=N,0.4nm,0.3s,baz=138,slow=22,SNR=2.0						
BRY	**Bratogost**	**4.83**	**343**	*e*Pn	**Pn**	**01 03 30.5**	**-1.6**
STON	**Ston**	**5.03**	**337**	*e*Pn	**Pn**	**01 03 33.6**	**-1.0**
STON				Sn	**Sn**	**01 04 29.5**	**-3.1**
STON	**Ston**	**5.03**	**337**	*e*Pn	**Pn**	**01 03 32.9**	**-1.7**
UPM	**Unac-Piva**	**5.04**	**347**	*e*Pn	**Pn**	**01 03 34.0**	**-1.1**
DIVS	**Divibare**	**5.82**	**357**	*e*Pn	**Pn**	**01 03 44.4**	**-1.2**
HAPS	**Han Pijesak,BI**	**5.90**	**350**	*e*Pn	**Pn**	**01 03 48.2**	**+1.4**
CRES	**Cresnjev**	**8.39**	**336**	*e*Pn	**Pn**	**01 04 19.1**	**-1.7**
CEY	**Cerknica**	**8.68**	**331**	*e*Pn	**Pn**	**01 04 23.5**	**-1.3**
BRTR	**Keskin Array B**	**10.40**	**78**	P	**Pn**	**01 04 50.6**	**+2.1**
	comp=N,0.0nm,0.3s,baz=254,slow=13,SNR=1.8						
FINES	**FINESS Array B**	**23.45**	**7**	P	**P**	**01 07 25.9**	**-2.5**
	comp=N,1.8nm,0.8s,baz=190,slow=13,SNR=5.4						
TORD	**Torodi Ar. Bea**	**30.06**	**219**	P	**P**	**01 08 29.9**	**+1.3**
	comp=N,0.3nm,0.6s,baz=38,slow=9.5,SNR=2.7						
MKAR	**Makanchi Array**	**45.32**	**58**	P	**P**	**01 10 36.0**	**-1.2**
	comp=N,0.3nm,0.5s,baz=279,slow=6.7,SNR=6.9						
ZALV	**Zalesovo Beam**	**45.69**	**48**	P	**P**	**01 10 38.4**	**-1.5**
	comp=N,1.1nm,0.5s,baz=274,slow=8.9,SNR=5.2						

IDC 18 01:38:22.4±5.2, 5°42S×150°01E, h119km±47km, mb3.3/4, mb1 3.5/5, mb1mx3.2/41, mbtmp3.7/5, Error ellipse: s-maj=100.7km s-min=34.4km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.87**	**215**	P	Pn	01 39 33.7	+0.1
	3.4nm,0.3s,baz=39,slow=4.9,SNR=3.8						
PMG				S	Sn	01 40 25.1	-3.9
	10nm,0.3s,baz=202,slow=23,SNR=13						
WRA	**Warramunga Arr**	**21.00**	**225**	P	P	01 42 56.3	-0.2
	1.5nm,0.6s,baz=51,slow=11,SNR=26						
WRA				pP	pP	01 43 15.4	-3.1
	0.5nm,0.4s,baz=50,slow=10,SNR=3.5						
ASAR	**Alice Springs**	**23.87**	**219**	P	P	01 43 25.1	0.0
	0.6nm,0.6s,baz=54,slow=8.7,SNR=15						
ASAR				pP	pP	01 43 49.7	+0.1
	0.4nm,0.6s,baz=50,slow=11,SNR=3.0						
FITZ	**Fitzroy Crossi**	**26.93**	**240**	P	P	01 43 53.0	+0.2
	1.8nm,0.8s,baz=62,slow=12,SNR=2.2						
ILAR	**Eielson Array**	**83.78**	**23**	P	P	01 50 38.1	0.0
	0.3nm,0.6s,baz=247,slow=4.6,SNR=2.3						

*ISK **18** 01:58:53.7, 37°.39N×38°.74E, h7km, ML2.5/6*
*ISCJB **18** 01:58:54.5±0.6, 37°.45N±0°.03×38°.71E±0°.03, h5km±5km, Error ellipse: s-maj=5.7km s-min=3.7km az=176.3*
*DDA **18** 01:58:54.1, 37°.46N×38°.74E, h7km, Ml2.7*
ISC 18 01:58:54.3±0.9, 37°.46N±0°.03×38°.73E±0°.02, h7km±7km, n21, σ0s75/32, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URFA	**Urfa**	**0.07**	**105**	PG	**Pg**	**01 58 56.2**	**-0.1**
URFA				SG	**Sg**	**01 58 57.9**	**+0.2**
ATAB	**Bozova**	**0.35**	**272**	*i* P	**Pg**	**01 59 01.1**	**0.0**
ATAB				*i* S	**Sg**	**01 59 06.4**	**+0.7**
SURC	**SANLIURFA_SURC**	**0.59**	**189**	*i* P	**Pb**	**01 59 06.1**	**-0.8**
SURC				*i* S	**Sb**	**01 59 14.6**	**-0.8**
AKCD	**Akcadag**	**1.05**	**323**	*i* P	**Pg**	**01 59 14.0**	**-0.5**
AKCD				*i* S	**Sn**	**01 59 30.4**	**-0.1**
ELZG	**Elazig**	**1.05**	**11**	*i* P	**Pg**	**01 59 14.1**	**-0.5**
ELZG				*i* S	**Sb**	**01 59 29.5**	**+0.5**
DIYA	**Diyarbakir**	**1.19**	**67**	*i* P	**Pn**	**01 59 18.0**	**+0.5**
DIYA				*i* S	**Sn**	**01 59 34.9**	**+1.0**
GAZ	**Gaziantep**	**1.25**	**257**	PN	**Pb**	**01 59 17.8**	**-0.3**
GAZ				SN	**Sn**	**01 59 35.4**	**+0.2**
MAZI	**Mazidag**	**1.36**	**90**	PN	**Pb**	**01 59 19.7**	**-0.5**
MAZI				SN	**Sn**	**01 59 38.7**	**+0.6**
DARE	**Darende-Malaty**	**1.48**	**319**	PN	**Pb**	**01 59 22.2**	**0.0**
PTK	**Pertek**	**1.52**	**20**	PN	**Pb**	**01 59 22.8**	**-0.1**
HEKM	**Malatya_Hekimh**	**1.54**	**337**	*i* P	**Pn**	**01 59 20.2**	**-2.1**
HANI	**Diyarbakir_Han**	**1.63**	**54**	*i* P	**Pn**	**01 59 22.4**	**-1.0**
HANI				*i* S	**Sg**	**01 59 46.8**	**+0.3**
MARD	**Mardin**	**1.64**	**94**	*i* P	**Pb**	**01 59 24.1**	**-0.7**
MARD				*i* S	**Sg**	**01 59 46.9**	**0.0**
KEMA	**Kemaliye**	**1.82**	**354**	*i* P	**Pn**	**01 59 25.1**	**-0.9**
KEMA				*i* S	**Sg**	**01 59 53.5**	**+0.8**
SVAN	**Silvan-Diyarba**	**2.07**	**70**	PN	**Pn**	**01 59 29.9**	**+0.4**
SVAN	**Silvan-Diyarba**	**2.07**	**70**	*i* P	**Pn**	**01 59 29.8**	**+0.4**
TAHT	**Tahtakopru-Hat**	**2.31**	**243**	PN	**Pn**	**01 59 32.8**	**+0.1**
KOZT	**Kozan**	**2.31**	**271**	PN	**Pn**	**01 59 33.4**	**+0.7**
SRTM	**Siirt_Merkez**	**2.58**	**77**	*i* P	**Pb**	**01 59 40.7**	**-0.3**
BNN	**Bunyan**	**2.67**	**302**	PN	**Pn**	**01 59 39.1**	**+1.4**
GURO	**Guroymak-BITLI**	**2.82**	**66**	PN	**Pn**	**01 59 40.9**	**+1.0**

*ISCJB **18** 02:05:14.2±0.4, 1°.54N±0°.05×125°.11E±0°.05, h154km, mb3.6/11, Error ellipse: s-maj=6.9km s-min=6.2km az=35.0*
*DJA **18** 02:05:15.1±0.4, 2°.N±4°.×12°.5E±°, h126km±5km, M4.8/15, mBS.3/6, mb4.7/4, MLv4.8/15, Mw(mB)4.8/6*
*IDC **18** 02:05:17.2±2.9, 1°.58N×125°.19E, h160km±28km, mb3.4/11, mb1 3.6/14, mb1mx3.5/40, mbtmp4.0/14, MS3.2/1, Ms1 3.4/1, ms1mx2.4/25, Error ellipse: s-maj=31.6km s-min=11.0km az=80.0*
ISC 18 02:05:15.8±0.6, 1°.54N±0°.06×125°.18E±0°.05, h154km, n27, σ2s07/33, mb3.8/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.53**	**231**	P	**Pn**	**02 05 43.5**	**-2.5**
KMSI				S	**Sn**	**02 06 06.0**	**-3.1**
SGSI	**Sangihe**	**2.16**	**9**	P	**Pn**	**02 05 51.8**	**-1.3**
TNTI	**Ternate**	**2.32**	**109**	P	**Pn**	**02 05 53.7**	**-1.2**
TNTI				S	**Sn**	**02 06 24.5**	**-0.5**
LBMI	**Labuha**	**3.17**	**133**	P	**Pn**	**02 06 05.0**	**-0.5**
MRSI	**Marisa**	**3.40**	**252**	P	**Pn**	**02 06 06.5**	**-1.9**
LUWI	**Luwuk**	**3.51**	**223**	P	**Pn**	**02 06 08.8**	**-1.1**
SANI	**Sanana**	**3.65**	**167**	P	**Pn**	**02 06 09.3**	**-2.4**
APSI	**Ampana**	**4.29**	**235**	P	**Pn**	**02 06 20.1**	**+0.2**
NLAI	**Namlea**	**5.12**	**158**	P	**Pn**	**02 06 30.1**	**-0.8**
MPSI	**Mapaga**	**5.41**	**257**	P	**Pn**	**02 06 32.1**	**-2.6**
	20nm,0.7s,340nm						
AAI	**Ambon**	**6.00**	**150**	P	**Pn**	**02 06 42.2**	**-0.4**
MSAI	**Masohi**	**6.13**	**142**	P	**Pn**	**02 06 44.5**	**+0.2**
SIJI	**Sorong**	**6.54**	**111**	P	**Pn**	**02 06 50.2**	**+0.5**
	1.8nm,0.3s,baz=356,slow=23,SNR=4.6						
SIJI				S	**Sn**	**02 07 55.4**	**-8.1**
	2.7nm,0.3s,baz=116,slow=21,SNR=8.7						
BATI	**Baumata**	**11.76**	**187**	P	**Pn**	**02 08 02.7**	**+3.8**
	3.1nm,0.3s,baz=249,slow=3.4,SNR=4.0						
FITZ	**Fitzroy Crossi**	**19.52**	**179**	P	**P**	**02 09 32.0**	**+0.7**
	1.1nm,0.3s,baz=15,slow=9.3,SNR=37						
WRA	**Warramunga Arr**	**23.16**	**158**	P	**P**	**02 10 10.2**	**+1.4**
	3.6nm,0.5s,baz=335,slow=10,SNR=74						
WRA				PcP	**PcP**	**02 13 53.5**	**+0.8**
	0.5nm,0.7s,baz=336,slow=1.8,SNR=4.5						
WRA				S	**S**	**02 14 08.1**	**-0.8**
	2.4nm,0.8s,baz=337,slow=16,SNR=7.6						
ASAR	**Alice Springs**	**26.45**	**162**	P	**P**	**02 10 40.0**	**+1.4**
	1.0nm,0.5s,baz=345,slow=7.9,SNR=29						
ASAR				PcP	**PcP**	**02 14 01.1**	**+1.1**
	1.1nm,0.6s,baz=344,slow=2.1,SNR=9.7						
ASAR				S	**S**	**02 15 01.7**	**+0.6**
	1.0nm,0.7s,baz=351,slow=22,SNR=6.5						
CMAR	**Chiang Mai Arr**	**30.74**	**305**	LR	LR	02 25 08.3	
	comp=Z,44nm,18.8s,baz=194,slow=39						
KSRS	**Korea Array**	**35.83**	**4**	P	**P**	**02 12 01.1**	**+0.6**
	0.7nm,0.4s,baz=184,slow=9.3,SNR=4.3						
STKA	**Stephens Creek**	**36.70**	**156**	P	**P**	**02 12 09.6**	**+1.6**
	1.2nm,0.4s,baz=322,slow=10,SNR=5.5						
MJAR	**Matsushiro Arr**	**36.86**	**18**	P	**P**	**02 12 09.5**	**+0.2**
	0.7nm,0.5s,baz=190,slow=9.5,SNR=4.9						
USRK	**Ussuriysk Ar.**	**42.91**	**7**	P	**P**	**02 12 60.0**	**+0.9**
	1.1nm,0.4s,baz=192,slow=8.6,SNR=5.0						
SONM	**Songino Array**	**48.90**	**343**	P	**P**	**02 13 46.9**	**+0.8**
	0.6nm,0.7s,baz=152,slow=6.8,SNR=7.1						
MKAR	**Makanchi Array**	**58.49**	**327**	P	**P**	**02 14 56.0**	**+0.2**
	0.8nm,0.3s,baz=122,slow=7.6,SNR=28						
ZALV	**Zalesovo Beam**	**61.85**	**334**	P	**P**	**02 15 18.4**	**-0.1**
	0.4nm,0.3s,baz=134,slow=12,SNR=3.0						
VNDA	**Vanda**	**81.47**	**172**	P	**P**	**02 17 14.8**	**-0.4**
	0.4nm,0.5s,baz=319,slow=8.5,SNR=5.1						
ILAR	**Eielson Array**	**87.74**	**25**	P	**P**	**02 17 46.8**	**-0.1**
	0.1nm,0.5s,baz=268,slow=6.1,SNR=3.0						

*NIED **18** 02:29:00, 38°.20N×141°.70E, h56km, Mw3.8 Best double couple: M₀5.41000×10¹⁴ NP1:φs139.00000°, δ35.00000°, λ34.00000°. NP2:φs20.00000°, δ72.00000°, λ120.00000°.*
*ISCJB **18** 02:29:26.1±0.7, 38°.15N±0°.04×141°.75E±0°.08, h56km±5km, mb3.5/6, Error ellipse: s-maj=11.2km s-min=5.2km az=17.1*
*JMA **18** 02:29:27.5±0.1, 38°.18N×141°.68E, h50km±1km, M3.7*
JMA Felt I J1.
*IDC **18** 02:29:27.6±2.9, 38°.19N×141°.81E, h57km±24km, mb3.3/6, mb1 3.5/10, mb1mx3.3/47, mbtmp3.7/10, ML3.2/4, Error ellipse: s-maj=40.1km s-min=16.9km az=81.0*
ISC 18 02:29:26.8±1.3, 38°.18N±0°.05×141°.78E±0°.10, h45km±9km, n32, σ1s60/41, mb3.6/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.28**	**298**	P	**Pn**	**02 29 36.1**	**+0.8**
JIKH				S	**Sn**	**02 29 41.8**	**+0.5**
JIO	**Ouri**	**0.43**	**309**	P	**Pn**	**02 29 37.5**	**+0.5**
JIO				S	**Sn**	**02 29 44.3**	**+0.1**
JKMT	**Kesennumamotoy**	**0.67**	**339**	P	**Pn**	**02 29 40.6**	**+0.6**
JKMT				*e*S	**Sn**	**02 29 49.9**	**+0.4**
JOFO	**Osakifurukawao**	**0.80**	**302**	P	**Pn**	**02 29 42.1**	**+0.4**
JOFO				*e*S	**Sn**	**02 29 52.9**	**+0.3**
JMM	**Marumori**	**0.84**	**248**	P	**Pn**	**02 29 41.7**	**-0.6**
JMM				*e*S	**Sn**	**02 29 52.0**	**-1.5**
JMK	**Ichinoseki**	**0.89**	**331**	P	**Pn**	**02 29 43.4**	**+0.5**
JMK				*e*S	**Sn**	**02 29 54.8**	**+0.2**
JOU	**Okura**	**0.90**	**282**	P	**Pn**	**02 29 43.0**	**-0.1**
JOU				S	**Sn**	**02 29 54.4**	**-0.5**
JFK	**Kawauchi**	**1.08**	**222**	P	**Pn**	**02 29 45.4**	**-0.2**
JFK				*e*S	**Sn**	**02 29 58.0**	**-1.5**
JFT	**Otama**	**1.32**	**240**	P	**Pn**	**02 29 48.9**	**+0.1**
JFT				*e*S	**Sn**	**02 30 04.4**	**-0.9**
JYK	**Kaneyama**	**1.33**	**304**	P	**Pn**	**02 29 49.2**	**+0.2**
JOM	**Ohasama**	**1.34**	**344**	P	**Pn**	**02 29 50.0**	**+0.8**
JOM				*e*S	**Sn**	**02 30 06.5**	**+0.6**
JYS	**Shirataka**	**1.35**	**272**	P	**Pn**	**02 29 49.2**	**0.0**
JYS				S	**Sn**	**02 30 05.5**	**-0.5**
JRG	**Rokugo**	**1.51**	**324**	P	**Pn**	**02 29 52.3**	**+0.9**
JYA	**Atsumi**	**1.67**	**285**	P	**Pn**	**02 29 53.7**	**0.0**
JFY	**Yanaizu**	**1.81**	**245**	P	**Pn**	**02 29 55.9**	**+0.3**
MJAR	**Matsushiro Arr**	**3.28**	**241**	P	**Pn**	**02 30 16.6**	**+0.8**
	1.8nm,0.3s,baz=16,slow=17,SNR=20						
MJAR				S	**Sn**	**02 31 00.2**	**+6.7**
	1.5nm,0.3s,baz=41,slow=22,SNR=4.2						
MAT	**Matsushiro**	**3.28**	**241**	P	**Pn**	**02 30 17.2**	**+1.4**
MAT				*e*S	**Sn**	**02 30 58.2**	**+4.6**
JHJ	**Hachijo jima 2**	**5.31**	**198**	P	**Pn**	**02 30 44.6**	**+1.0**
	7.7nm,0.3s,baz=55,slow=17,SNR=2.1						
JHJ				S	**Sn**	**02 31 41.2**	**-2.2**
	15nm,0.3s,baz=227,slow=19,SNR=2.2						
ASAJ	**Asahikawa**	**5.96**	**6**	P	**Pn**	**02 30 52.8**	**+0.3**
	0.7nm,0.3s,baz=56,slow=15,SNR=3.5						
ASAJ				S	**Sn**	**02 31 57.1**	**-2.4**
	0.2nm,0.3s,baz=61,slow=19,SNR=2.3						
USRK	**Ussuriysk Ar.**	**9.51**	**312**	P	**Pn**	**02 31 42.3**	**+1.1**
	0.4nm,0.3s,baz=104,slow=15,SNR=3.6						
SONM	**Songino Array**	**27.40**	**302**	P	**P**	**02 35 08.7**	**+0.6**
	0.3nm,0.5s,baz=90,slow=7.2,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**28.51**	**123**	T	T	03 05 31.3	
	baz=316,slow=75,SNR=78						
H11N1	**WAKE ISLAND Hy**	**28.52**	**123**	T	T	03 05 32.0	
	baz=316,slow=75,SNR=115						
H11N3	**WAKE ISLAND Hy**	**28.53**	**123**	T	T	03 05 32.7	
	baz=316,slow=75,SNR=111						
H11S1	**WAKE ISLAND Hy**	**29.26**	**125**	T	T	03 06 27.0	
	baz=317,slow=76,SNR=49						
H11S3	**WAKE ISLAND Hy**	**29.26**	**125**	T	T	03 06 24.1	
	baz=317,slow=76,SNR=77						
H11S2	**WAKE ISLAND Hy**	**29.28**	**125**	T	T	03 06 28.3	
	baz=317,slow=76,SNR=60						
ZALV	**Zalesovo Beam**	**41.37**	**311**	P	**P**	**02 37 07.0**	**-1.2**
	0.9nm,0.4s,baz=77,slow=6.9,SNR=4.2						
MKAR	**Makanchi Array**	**43.76**	**301**	P	**P**	**02 37 27.1**	**-0.7**
	0.4nm,0.5s,baz=90,slow=7.6,SNR=4.7						
WRA	**Warramunga Arr**	**58.24**	**188**	P	**P**	**02 39 16.0**	**-0.6**
	0.5nm,0.5s,baz=5.8,slow=7.2,SNR=25						
ASAR	**Alice Springs**	**61.96**	**188**	P	**P**	**02 39 41.8**	**-0.4**
	0.4nm,0.6s,baz=18,slow=6.7,SNR=5.7						
NOA	**NORSAR Array B**	**73.24**	**337**	P	**P**	**02 40 52.6**	**-0.3**
	0.3nm,0.6s,baz=49,slow=5.4,SNR=2.9						

*ISCJB **18** 02:34:49.5±0.5, 21°.58S±0°.03×68°.39W±0°.06, h108km±4km, mb4.0/20, Error ellipse: s-maj=9.6km s-min=4.7km az=179.3*
*GUC **18** 02:34:51.3±0.6, 21°.59S×68°.69W, h120km±4km, ML3.9*
*NEIC **18** 02:34:51.0±0.0, 21°.60S×68°.66W, h118km, mb4.1/16, ML3.9(GUC), After GUC.*
*IDC **18** 02:34:51.0±0.9, 21°.58S×68°.32W, h105km±10km, mb3.7/7, mb1 3.9/10, mb1mx3.7/26, mbtmp4.0/10, Error ellipse: s-maj=23.8km s-min=15.1km az=112.0*
ISC 18 02:34:50.2±0.8, 21°.59S±0°.04×68°.38W±0°.06, h103km±7km, n63, σ1s61/82, mb4.1/20, 9C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.82**	**255**	⇑*i* P	**Pn**	**02 35 10.6**	**+1.4**
PB09				*i* S	**Sn**	**02 35 24.7**	**+1.1**
LVC	**Limon Verde**	**1.13**	**206**	P	**Pn**	**02 35 14.2**	**+1.6**
	137nm,0.3s,baz=20,slow=8.9,SNR=1522						
LVC				S	**Sn**	**02 35 31.3**	**+1.8**
	178nm,0.3s,baz=166,slow=19,SNR=62						
LVC	**Limon Verde**	**1.13**	**206**	*e*Pn	**Pn**	**02 35 14.0**	**+1.4**
LVC				*e*Sn	**Sn**	**02 35 26.8**	**-2.7**
PB01	**IPOC Station P**	**1.17**	**298**	*e*Pn	**Pn**	**02 35 13.1**	**+0.4**
PB01				*e*Sn	**Sn**	**02 35 29.6**	**-0.2**
PB01	**IPOC Station P**	**1.17**	**298**	⇑*i* P	**Pn**	**02 35 13.2**	**+0.4**
PB01				*i* S	**Sn**	**02 35 29.5**	**-0.2**
PB01				IAML		02 35 31.0	
	comp=E,8μm,0.2s						
PB03	**IPOC Station P**	**1.35**	**250**	⇓*i* P	**Pn**	**02 35 15.2**	**+0.3**
PB03				*i* S	**Sn**	**02 35 32.9**	**-0.9**
PB03				IAML		02 35 33.7	
	comp=N,2μm,0.4s						
PB07	**IPOC Station P**	**1.41**	**264**	⇑*i* P	**Pn**	**02 35 15.8**	**+0.2**
PB07				*i* S	**Sn**	**02 35 34.0**	**-0.9**
PB07				IAML		02 35 35.2	
	comp=N,2μm,0.4s						
PB02	**IPOC Station P**	**1.44**	**280**	⇑*i* P	**Pn**	**02 35 15.9**	**+0.1**
PB02				*i* S	**Sn**	**02 35 34.3**	**-1.1**
PB02				IAML		02 35 36.2	
	comp=E,4μm,0.5s						
PB06	**IPOC Station P**	**1.56**	**225**	⇑*i* P	**Pn**	**02 35 18.3**	**+0.8**
PB06				*i* S	**Sn**	**02 35 38.5**	**+0.2**
PB06				IAML		02 35 39.7	
	comp=E,2μm,0.2s						
PB04	**IPOC Station P**	**1.80**	**245**	*e*Pn	**Pn**	**02 35 19.2**	**-1.3**
PB04				*e*Sn	**Sn**	**02 35 41.5**	**-2.1**
PB04	**IPOC Station P**	**1.80**	**245**	⇑*i* P	**Pn**	**02 35 20.3**	**-0.2**
PB04				*i* S	**Sn**	**02 35 42.1**	**-1.4**
PB04				IAML		02 35 47.4	
	comp=N,1μm,0.4s						
PB15	**IPOC Station P**	**1.90**	**212**	⇑*i* P	**Pn**	**02 35 22.9**	**+1.1**
PB15				*i* S	**Sn**	**02 35 47.0**	**+1.1**
PB05	**IPOC Station P**	**2.10**	**233**	⇑*i* P	**Pn**	**02 35 24.1**	**-0.2**
PB05				*i* S	**Sn**	**02 35 49.1**	**-1.3**
PB05				IAML		02 35 56.0	
	comp=N,594nm,0.4s						
PB11	**IPOC Station P**	**2.17**	**327**	*e*Pn	**Pn**	**02 35 26.2**	**+0.9**
PB11				*e*Sn	**Sn**	**02 35 51.9**	**-0.2**
PB11	**IPOC Station P**	**2.17**	**327**	⇑*i* P	**Pn**	**02 35 26.2**	**+0.9**
PB11				*i* S	**Sn**	**02 35 52.6**	**+0.5**
MNMC	**Minye Minye**	**2.70**	**335**	*e*Pn	**Pn**	**02 35 32.9**	**+0.7**
MNMC				*e*Sn	**Sn**	**02 36 00.9**	**-3.7**
PB10	**IPOC Station P**	**2.77**	**226**	*e*Pn	**Pn**	**02 35 33.9**	**+0.9**
PB10				*e*Sn	**Sn**	**02 35 60.0**	**-6.0**
PB12	**IPOC Station P**	**3.48**	**328**	⇓*i* P	**Pn**	**02 35 41.7**	**-0.8**
GO02	**Mina Guanaco**	**3.73**	**197**	*e*Pn	**Pn**	**02 35 45.8**	**-0.2**
LPAZ	**La Paz**	**5.28**	**3**	P	**Pn**	**02 36 09.4**	**+2.1**
	comp=N,5.8nm,0.3s,baz=170,slow=6.5,SNR=119						
LPAZ				S	**Sn**	**02 37 05.3**	**-1.9**
	baz=174,slow=9.2,SNR=1.4						
LPAZ	**La Paz**	**5.28**	**3**	*e*Pn	**Pn**	**02 36 10.6**	**+3.3**
GO03	**Copiap**	**6.21**	**195**	*e*Pn	**Pn**	**02 36 17.6**	**-1.7**
LCO	**Las Campanas**	**7.68**	**195**	*e*Pn	**Pn**	**02 36 35.3**	**-4.2**
GO04	**Tololo Observa**	**8.82**	**194**	*e*Pn	**Pn**	**02 36 51.5**	**-3.5**
SIV	**San Ignacio**	**8.88**	**52**	P	**Pn**	**02 36 55.7**	**-0.1**
	comp=N,1.6nm,0.3s,baz=256,slow=12,SNR=41						
SIV				S	**Sn**	**02 38 28.9**	**-5.2**
	baz=297,slow=22,SNR=6.7						
SAML	**Samuel**	**13.53**	**23**	*e*Pn	**Pn**	**02 37 57.4**	**-0.5**
TRQA	**Tornquist**	**17.32**	**163**	*e*P	**Pn**	**02 38 45.7**	**+0.3**
	comp=N,6.0nm,0.6s						
GO06	**Curarrehue**	**18.13**	**188**	*e*P	**Pn**	**02 38 55.2**	**-0.1**
	comp=N,23nm,1.2s						
PLCA	**Paso Flores**	**19.17**	**185**	P	**P**	**02 39 05.5**	**-0.1**
	comp=N,0.1nm,0.3s,baz=26,slow=13,SNR=5.2						
PLCA	**Paso Flores**	**19.17**	**185**	*e*P	**P**	**02 39 04.6**	**-1.1**
	comp=N,3.8nm,0.8s						
PTGA	**Pitinga**	**22.30**	**23**	P	**P**	**02 39 38.0**	**-1.2**
	comp=N,1.0nm,0.3s,baz=301,slow=19,SNR=3.0						
OTAV	**Otavalo**	**23.82**	**334**	*e*P	**P**	**02 39 54.4**	**+0.1**
	comp=N,1.0nm,0.4s						
HKT	**Hockley**	**57.65**	**332**	*e*P	**P**	**02 44 29.8**	**+0.1**
VNA3	**Neumayer Olymp**	**59.83**	**161**	P	**P**	**02 44 45.1**	**+0.7**
JCT	**Junction City**	**59.93**	**329**	*e*P	**P**	**02 44 46.6**	**+0.9**
VNA1	**Neumayer--Stat**	**60.04**	**161**	P	**P**	**02 44 47.8**	**+2.1**
VNA2	**Neumayer--Watz**	**60.41**	**161**	P	**P**	**02 44 49.8**	**+1.5**
	baz=282,slow=6.2						
TXAR	**Lajitas Array**	**60.98**	**325**	P	**P**	**02 44 53.6**	**+0.7**
	comp=N,0.5nm,0.5s,baz=155,slow=8.8,SNR=9.6						
WCI	**Wyandotte Cave**	**61.84**	**344**	*e*P	**P**	**02 44 57.2**	**-1.1**
SNAA	**Sanae**	**62.03**	**161**	P	**P**	**02 45 00.6**	**+1.2**
WMOK	**Wichita Mounta**	**63.02**	**332**	*e*P	**P**	**02 45 07.6**	**+1.3**
MNTX	**Cornudas Mount**	**63.75**	**325**	*e*P	**P**	**02 45 11.0**	**-0.1**
	comp=N,18nm,2.1s						
MSTX	**Muleshoe**	**64.23**	**329**	*e*P	**P**	**02 45 14.8**	**+0.4**
	comp=N,6.8nm,0.9s						
ANMO	**Albuquerque**	**66.84**	**327**	*e*P	**P**	**02 45 32.3**	**+1.0**
	comp=N,2.3nm,0.9s						
CBKS	**Cedar Bluff**	**66.89**	**334**	*e*P	**P**	**02 45 31.1**	**-0.2**
DBIC	**Dimbokro**	**68.29**	**73**	P	**P**	**02 45 40.8**	**+0.2**
	comp=N,2.1nm,0.7s,baz=209,slow=4.8,SNR=4.4						
SDCO	**Great Sand Dun**	**68.57**	**329**	*e*P	**P**	**02 45 43.2**	**+0.9**
	comp=N,6.4nm,1.1s			

Ms1 3.3/4, ms1mx2.8/37, Error ellipse: s-maj=33.5km s-min=15.0km az=75.0
ISCJB ***18*** *02:55:55.0±0.3, 3.45S×0.03×130.92E±0.03, h30km, mb4.1/11, MS3.4/3, Error ellipse: s-maj=5.0km s-min=4.3km az=24.7*
DJA ***18*** *02:55:58.0±0.3, 3.3°S±2.°×13.°1E±.°, h63km±14km, M4.6/6, mB5.0/3, mb4.6/4, MLv4.6/6, Mw(mB)4.3/3*
NEIC ***18*** *02:55:58.5±1.1, 3.47S×131.00E, h43km±11km, mb4.2/6, Error ellipse: s-maj=10.2km s-min=8.3km az=63.0*

ISC 18 02:55:56.6±0.5, 3.45S±0.04×130.93E±0.04, h30km, n53, σ2.937/58, mb4.2/11, MS3.5/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.42**	**68**	*e*Pn	**Pb**	**02 56 21.7**	**-0.7**
FAKI	**Fak Fak**	**1.42**	**68**	P	**Pb**	**02 56 21.8**	**-0.7**
FAKI				S	**Sb**	**02 56 39.6**	**-0.7**
BNDI	**Bandanaira**	**1.47**	**224**	P	**Pb**	**02 56 24.0**	**+0.7**
BNDI				S	**Sb**	**02 56 43.4**	**+1.7**
MSAI	**Masohi**	**2.00**	**273**	P	**Pn**	**02 56 29.3**	**+1.0**
SIJI	**Sorong**	**2.59**	**8**	Pn	**Pn**	**02 56 35.2**	**-1.3**
	23nm,0.3s,baz=47,slow=23,SNR=60						
SIJI				Sn	**Sn**	**02 57 04.8**	**-2.1**
	38nm,0.3s,baz=96,slow=23,SNR=14						
SWI	**Sorong**	**2.59**	**7**	P	**Pn**	**02 56 35.2**	**-1.3**
SWI				S	**Sn**	**02 57 04.3**	**-2.7**
AAI	**Ambon**	**2.74**	**265**	P	**Pn**	**02 56 40.3**	**+1.8**
KMPI	**Kaimana, Papua**	**2.78**	**94**	P	**Pn**	**02 56 40.9**	**+1.8**
RKPI	**Ransiki, Papua**	**3.78**	**59**	P	**Pn**	**02 56 53.2**	**+0.4**
RKPI				S	**Sn**	**02 57 36.4**	**+0.1**
NLAI	**Namlea**	**3.83**	**273**	P	**Pn**	**02 56 54.7**	**+1.2**
SAUI	**Saumlaki**	**4.52**	**175**	P	**Pn**	**02 57 07.1**	**+4.1**
SANI	**Sanana**	**5.13**	**286**	P	**Pn**	**02 57 10.0**	**-1.4**
	82nm,0.6s,968nm0.3nm						
SANI				S	**Sn**	**02 58 04.9**	**-4.7**
	82nm,0.6s,968nm0.3nm						
SMPI	**Sarmi**	**7.91**	**80**	P	**Pn**	**02 57 51.1**	**+1.5**
SOEI	**Soe**	**9.11**	**226**	*e*Pn	**Pn**	**02 58 08.4**	**+2.2**
MTN	**Manton Dam**	**9.33**	**179**	*e*Pn	**Pn**	**02 58 10.2**	**+1.1**
APSI	**Ampana**	**9.61**	**285**	P	**Pn**	**02 58 13.2**	**+0.3**
BATI	**Baumata**	**9.85**	**227**	Pn	**Pn**	**02 58 19.9**	**+3.6**
	3.0nm,0.3s,baz=261,slow=2.8,SNR=6.9						
DAV	**Davao City (W)**	**11.74**	**333**	LR	LR	03 03 09.2	
	comp=Z,74nm,21.1s,baz=340,slow=37						
FITZ	**Fitzroy Crossi**	**15.45**	**199**	Pn	**Pn**	**02 59 30.2**	**-2.3**
	0.2nm,0.3s,baz=21,slow=12,SNR=7.2						
FITZ				Sn	**Sn**	**03 02 14.5**	**-8.3**
	0.3nm,0.3s,baz=180,slow=17,SNR=3.0						
COEN	**Coen**	**15.97**	**132**	*e*Pn	**Pn**	**02 59 36.9**	**-2.4**
	6.0nm,0.6s						
WRAB	**Tennant Creek**	**16.72**	**169**	*e*Pn	**Pn**	**02 59 48.2**	**-0.5**
	17nm,0.9s						
WRAB				*e*Sn	**Sn**	**03 02 46.5**	**-7.2**
WRA	**Warramunga Arr**	**16.73**	**169**	Pn	**Pn**	**02 59 47.5**	**-1.3**
	0.4nm,0.3s,baz=348,slow=14,SNR=35						
WRA				Sn	Sn	03 02 43.2	-11
	0.5nm,0.3s,baz=0.1,slow=23,SNR=4.9						
WB2	**Warramunga Arr**	**16.73**	**169**	*e*Pn	**Pn**	**02 59 45.9**	**-3.0**
AS31	**Alice Springs**	**20.30**	**172**	*e*P	**P**	**03 00 31.6**	**+1.4**
	8.4nm,0.7s						
ASAR	**Alice Springs**	**20.30**	**172**	P	Pn	03 00 32.2	-0.1
	8.9nm,0.4s,baz=351,slow=10,SNR=208						
ASAR				S	**S**	**03 04 09.5**	**-6.9**
	1.0nm,0.6s,baz=84,slow=9.3,SNR=5.4						
AS01	**Alice Springs**	**20.30**	**172**	*e*P	**P**	**03 00 30.1**	**-0.2**
MBWA	**Marble Bar**	**20.70**	**211**	*e*P	**P**	**03 00 33.8**	**-0.7**
KSM	**Kuching**	**21.18**	**283**	*e*P	**P**	**03 00 41.5**	**+1.7**
	10nm,0.7s						
CTA	**Charters Tower**	**22.29**	**139**	P	**P**	**03 00 52.7**	**+1.1**
	4.2nm,0.7s,baz=333,slow=14,SNR=7.0						
CTAO	**Charters Tower**	**22.29**	**139**	*e*P	**P**	**03 00 53.3**	**+1.7**
LEM	**Lembang**	**23.45**	**261**	LR	LR	03 11 42.8	
	comp=Z,167nm,18.6s,baz=97,slow=40						
STKA	**Stephens Creek**	**33.00**	**169**	P	**P**	**03 02 04.2**	**+1.5**
	2.4nm,0.6s,baz=340,slow=9.4,SNR=6.5						
CMAR	**Chiang Mai Arr**	**38.29**	**306**	P	**P**	**03 03 15.4**	**+0.7**
	0.7nm,0.4s,baz=132,slow=8.4,SNR=5.7						
CHTO	**Chiang Mai**	**38.48**	**306**	*e*P	**P**	**03 03 17.5**	**+1.2**
	2.0nm,0.4s						
KSAR	**Wonju Array Be**	**40.78**	**356**	P	**P**	**03 03 36.0**	**+0.9**
KSRS	**Korea Array**	**40.79**	**356**	P	**P**	**03 03 36.0**	**+0.8**
	1.1nm,0.7s,baz=184,slow=9.5,SNR=4.5						
KSRS				LR	LR	03 19 57.4	
	comp=Z,32nm,20.1s,baz=154,slow=36						
HHC	**Hu-ho-hao-te**	**47.51**	**340**	*e*P	**P**	**03 04 30.6**	**+1.4**
HHC				pmax	pmax		
	comp=Z,23nm,1.0s						
HHC				pmax	pmax		
	comp=Z,150nm,5.3s						
RAMN	**Ramite**	**52.38**	**308**	*e*P	**P**	**03 05 06.8**	**+0.2**
	comp=Z,23nm,0.5s						
JIRN	**Jiri**	**53.03**	**309**	*e*P	**P**	**03 05 11.5**	**-0.1**
GUN	**Gumba**	**53.40**	**309**	*e*P	**P**	**03 05 13.6**	**-0.6**
PKI	**Pulchoki**	**53.60**	**308**	*e*P	**P**	**03 05 15.3**	**-0.5**
KOLN	**Koldanda**	**55.12**	**307**	*e*P	**P**	**03 05 26.0**	**-0.7**
	comp=Z,17nm,1.0s						
SONM	**Songino Array**	**55.41**	**340**	P	**P**	**03 05 29.3**	**+1.0**
	comp=Z,0.9nm,0.9s,baz=160,slow=8.4,SNR=5.7						
PYUN	**Piuthan**	**55.75**	**307**	*e*P	**P**	**03 05 29.9**	**-1.3**
	comp=Z,21nm,1.0s						
WMQ	**Urumqi**	**60.98**	**325**	*e*P	**P**	**03 06 08.8**	**+1.6**
MKAR	**Makanchi Array**	**65.81**	**326**	P	**P**	**03 06 39.9**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=128,slow=8.7,SNR=9.1						
ZALV	**Zalesovo Beam**	**66.85**	**333**	P	**P**	**03 06 57.5**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=127,slow=9.4,SNR=3.0						
KURK	**Kurchatov**	**70.01**	**328**	*e*P	**P**	**03 07 05.9**	**+0.5**
BRVK	**Borovoye**	**75.66**	**327**	*e*P	**P**	**03 07 39.3**	**+0.4**
MAW	**Mawson**	**78.57**	**201**	LR	LR	03 41 39.1	
	comp=Z,21nm,18.6s,baz=54,slow=35						
RAYN	**Ar Rayn**	**87.17**	**294**	*e*P	**P**	**03 08 41.3**	**+0.8**
	comp=Z,1.5nm,0.4s						
TORD	**Torodi Ar. Bea**	**128.94**	**284**	PKP	**PKPdf**	**03 15 03.0**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=111,slow=2.5,SNR=2.6						
LPAZ	**La Paz**	**152.80**	**137**	PKPbc	**PKPbc**	**03 15 53.3**	**+0.8**
	comp=Z,0.9nm,0.9s,baz=276,slow=9.0,SNR=3.7						

MEX 18 03:27:47.0±0.7, 16.51N×98.45W, h10km±5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.34**	**111**	*i* P	Pg	03 27 53.3	-0.4
PNIG				*i* S	Sg	03 27 58.4	+0.1
TLIG	**Tlapa**	**1.05**	**354**	*e*P	Pg	03 28 03.7	-3.6
TLIG				*e*S	Sg	03 28 16.5	-4.4
VHO	**Vista Hermosa**	**1.74**	**71**	*e*P	Pn	03 28 13.8	-3.6
VHO				*i* S	Sn	03 28 35.1	-4.7
MEIG	**Mezcala**	**1.79**	**322**	*e*P	Pn	03 28 15.4	-2.6
MEIG				*e*S	Sn	03 28 36.9	-4.0
HUIG	**Huatulco**	**2.37**	**108**	*e*P	Pn	03 28 23.1	-2.8
HUIG				*i* S	Sn	03 28 50.9	-4.2

IDC ***18*** *03:33:40.8±1.1, 13.°10N×51.°00E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.6/42, mbtmp3.8/6, ML4.3/1, MS3.0/2, Ms1 3.1/2, ms1mx2.6/31, Error ellipse: s-maj=46.9km s-min=23.4km az=172.0*

ISC 18 03:33:43.5±1.0, 13.4N±0.2×50.85E±0.08, h16km, n10, σ1.983/9, mb3.9/5, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDHA	**Al Bayda'**	**5.17**	**277**	*i* P	**Pn**	**03 35 01.3**	**+0.9**
BDHA				*e*		03 35 01.9	
	baz=110,slow=16						
BDHA				AML	AML	03 35 02.0	
	comp=E,56nm,0.2s						
BDHA				*i* S	**Sn**	**03 35 56.9**	**-3.0**
ATD	**Arta Tunnel**	**8.04**	**257**	Pn	**Pn**	**03 35 41.6**	**+1.9**
	comp=E,3.8nm,0.3s,baz=288,slow=20,SNR=4.7						
ATD				Sn	**Sn**	**03 37 09.9**	**-0.5**
	comp=E,2.0nm,0.3s,baz=241,slow=19,SNR=2.7						
ATD				LR	LR	03 38 03.8	
	comp=E,144nm,20.8s,baz=106,slow=32						
H08N2	**Diego Garcia H**	**28.01**	**133**	T	T	04 08 31.9	
	baz=313,slow=76,SNR=14						
H08N3	**Diego Garcia H**	**28.02**	**133**	T	T	04 08 29.6	
	baz=313,slow=76,SNR=12						
H08N1	**Diego Garcia H**	**28.04**	**133**	T	T	04 08 33.5	
	baz=313,slow=76,SNR=13						
MKAR	**Makanchi Array**	**42.45**	**32**	P	**P**	**03 41 38.7**	**+1.0**
	comp=E,0.5nm,0.9s,baz=226,slow=7.9,SNR=2.7						
CMAR	**Chiang Mai Arr**	**46.41**	**77**	P	**P**	**03 42 09.8**	**0.0**
	comp=E,0.8nm,0.4s,baz=276,slow=8.9,SNR=3.2						
CMAR				LR	LR	04 02 01.2	
	comp=E,11nm,18.3s,baz=295,slow=37						
TORD	**Torodi Ar. Bea**	**47.78**	**276**	P	**P**	**03 42 21.2**	**+0.7**
	comp=E,0.9nm,1.1s,baz=86,slow=8.2,SNR=4.4						
WRA	**Warramunga Arr**	**88.53**	**111**	P	**P**	**03 46 34.7**	**-1.3**
	comp=E,0.8nm,1.1s,baz=297,slow=4.0,SNR=3.5						
ASAR	**Alice Springs**	**89.09**	**114**	P	**P**	**03 46 36.7**	**-1.9**
	comp=E,0.7nm,1.0s,baz=298,slow=5.5,SNR=5.9						

IDC ***18*** *03:41:56.8±2.3, 18.°90S×169.°78E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/26, mbtmp4.0/6, ML4.2/1, MS3.4/3, Ms1 3.4/3, ms1mx2.9/22, Error ellipse: s-maj=79.2km s-min=27.7km az=136.0*
ISCJB ***18*** *03:41:59.9±2.0, 18.°7S±0.°2×169.°6E±0.°4, h33km, mb3.8/5, MS3.4/3, Error ellipse: s-maj=60.6km s-min=13.7km az=33.8*

ISC 18 03:42:01.8±2.1, 18.°8S±0.°3×169.°8E±0.°4, h35km, n8, σ1.995/8, mb3.9/5, MS3.4/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.50**	**224**	Pn	**Pn**	**03 43 06.1**	**-1.5**
	13nm,0.3s,baz=113,slow=14,SNR=93						
DZM				Sn	**Sn**	**03 44 01.1**	**+2.4**
	0.7nm,0.3s,baz=143,slow=20,SNR=1.6						
STKA	**Stephens Creek**	**28.51**	**237**	P	**P**	**03 47 53.0**	**-1.1**
	1.3nm,0.7s,baz=96,slow=12,SNR=3.9						
STKA				LR	LR	03 57 50.6	
	comp=Z,65nm,21.2s,baz=36,slow=34						
WRA	**Warramunga Arr**	**33.43**	**262**	P	**P**	**03 48 36.1**	**-1.5**
	0.2nm,0.5s,baz=96,slow=8.2,SNR=3.5						
WRA				PcP	**PcP**	**03 51 20.1**	**+1.5**
	0.3nm,0.8s,baz=90,slow=3.5,SNR=2.5						
ASAR	**Alice Springs**	**33.74**	**255**	P	**P**	**03 48 38.8**	**-1.5**
	2.3nm,0.8s,baz=85,slow=9.2,SNR=27						
FITZ	**Fitzroy Crossi**	**41.81**	**264**	P	**P**	**03 49 50.2**	**+1.7**
	3.6nm,0.9s,baz=102,slow=6.5,SNR=9.6						
VNDA	**Vanda**	**58.85**	**182**	LR	LR	04 11 50.5	
	comp=Z,29nm,20.1s,baz=338,slow=30						
ILAR	**Eielson Array**	**89.69**	**17**	P	**P**	**03 54 56.1**	**+0.3**
	0.5nm,0.8s,baz=228,slow=6.5,SNR=4.5						
PDAR	**Pinedale Array**	**95.95**	**47**	LR	LR	04 34 52.2	
	comp=Z,17nm,18.2s,baz=52,slow=33						

HLW ***18*** *03:54:01.1, 33.°88N×34.°79E, h10km±20km, Ml3.8*
ISCJB ***18*** *03:54:04.5±0.4, 33.°14N±0.°02×35.°44E±0.°04, h8km±3km, Error ellipse: s-maj=6.4km s-min=3.1km az=20.7*
GII ***18*** *03:54:04.3±0.0, 33.°10N×35.°46E, h3km, MD3.1/3*
GRAL ***18*** *03:54:05.5±0.2, 33.°12N×35.°44E, h0km±3km, MD3.4*
JSO ***18*** *03:54:11.3±4.3, 33.°N±30.°×3.°6E±1.°4, h7km±6km, M3.4/6, MLv3.4/6*

ISC 18 03:54:04.3±0.9, 33.°15N±0.°03×35.°46E±0.°04, h17km±6km, n32, σ1.906/44, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMA0B	**Mount Meron ar**	**0.14**	**200**	Pg	**Pg**	**03 54 07.4**	**-1.1**
HNTI	**Hanita**	**0.25**	**254**	Pg	**Pg**	**03 54 09.7**	**-0.3**
HNTI				Sg	**Sg**	**03 54 13.9**	**0.0**
NATI	**Neve Ativ**	**0.25**	**64**	Pg	**Pg**	**03 54 10.5**	**+0.5**
NATI				Sg	**Sg**	**03 54 15.1**	**+1.2**
BLGI	**Bet Lehem HaGe**	**0.47**	**209**	Pg	**Pg**	**03 54 13.4**	**-0.5**
BLGI				Sg	**Sg**	**03 54 20.1**	**-0.2**
DQRL	**Deir Qamar**	**0.56**	**9**	*e*P	**Pb**	**03 54 16.1**	**+0.3**
DQRL				*e*S	**Sb**	**03 54 24.0**	**+0.5**
OFRI	**'Ofer**	**0.67**	**217**	Pg	**Pg**	**03 54 16.9**	**-0.5**
OFRI				Sg	**Sg**	**03 54 26.5**	**+0.2**
MMLI	**Mount Malkishu**	**0.71**	**183**	Pg	**Pg**	**03 54 17.7**	**-0.6**
MMLI				Sg	**Sg**	**03 54 27.5**	**-0.3**
BEYL	**Beirut**	**0.72**	**2**	*e*P	**Pn**	**03 54 18.9**	**-0.7**
BHL	**Bhannes**	**0.77**	**12**	*e*P	**Pn**	**03 54 19.9**	**-0.6**
BHL				*e*S	**Sn**	**03 54 30.5**	**-1.1**
HMDT	**Nahal Hemdat**	**0.90**	**177**	Pg	**Pb**	**03 54 21.2**	**-0.2**
HMDT				Sg	**Sb**	**03 54 33.3**	**+0.3**
SLTI	**Sal'it**	**0.98**	**202**	Pg	**Pg**	**03 54 22.9**	**-0.4**
HWQ	**Hawqa**	**1.19**	**20**	*e*P	**Pn**	**03 54 27.6**	**+1.3**
ASF	**Jabal al Asfar**	**1.55**	**129**	P	**Pg**	**03 54 32.8**	**-1.4**
DSI	**Dead Sea**	**1.58**	**183**	Pn	**Pb**	**03 54 32.6**	**-0.4**
DSI				Sn	**Sb**	**03 54 53.7**	**+1.1**
WALJ	**Wala**	**1.61**	**169**	P	**Pb**	**03 54 33.3**	**-0.3**
AMAZ	**Amatzia**	**1.68**	**196**	Pn	**Pb**	**03 54 34.5**	**-0.2**
AMAZ				Sn	**Sb**	**03 54 57.4**	**+1.8**
YTIR	**Yattir**	**1.81**	**189**	Pn	**Pb**	**03 54 36.7**	**-0.3**
MZDA	**Masada**	**1.84**	**183**	Pn	**Pn**	**03 54 36.4**	**+1.4**
MZDA				Sn	**Sb**	**03 55 00.9**	**+0.8**
GHAJ	**Ghor Haditha**	**1.84**	**177**	Pn	**Pb**	**03 54 36.6**	**-0.9**
LISJ	**El Lisan**	**1.91**	**180**	P	**Pb**	**03 54 39.0**	**+0.5**
SWQJ	**Swaqa**	**1.97**	**165**	P	**Pn**	**03 54 36.8**	**-0.1**
JDRJ	**Daraweish**	**2.42**	**176**	P	**Pb**	**03 54 46.3**	**-1.2**
PRNI	**Paran**	**2.82**	**188**	Pn	**Pn**	**03 54 50.3**	**+1.7**
HSNJ	**Maan**	**2.89**	**176**	P	**Pg**	**03 54 58.9**	**-0.9**
MBRI	**Mt Berech**	**3.38**	**188**	Pn	**Pn**	**03 54 58.4**	**+2.1**
HNKL	**Nakhl**	**3.45**	**202**	S	**Sb**	**03 55 46.2**	**-0.4**
	baz=191						
HNKL				AMP		03 55 00.0	
	baz=191						
HBST	**Basata**	**3.97**	**189**	P	**Pb**	**03 55 11.4**	**-2.4**
	baz=181						
SUZ	**Suez**	**3.99**	**215**	P	**Pn**	**03 55 06.4**	**+1.7**
	baz=203						
KOT	**Kottamia**	**4.47**	**225**	P	**Pn**	**03 55 11.5**	**+0.2**
	baz=214						
KOT				AMP		03 56 00.0	
	baz=214						
KOT				S	**Sn**	**03 56 02.9**	**+0.1**
	baz=214						
ZAF	**Zafarana**	**4.59**	**214**	P	**Pn**	**03 55 15.5**	**+2.6**
	baz=204						
GLL	**Jalalah**	**4.80**	**223**	P	**Pn**	**03 55 16.4**	**+0.7**
	baz=213						
VYHS	**Vyhne**	**19.76**	**326**	*e*P	**P**	**03 58 33.0**	**-0.3**

MAN 18 04:21:18.6, 9.°02N×126.°24E, h3km, mb4.0, ML2.8, MS2.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.61**	**265**	*e*P	Pg	04 21 30.8	+0.4
BUTP				*e*S	Sb	04 21 41.6	+0.6
BIPH	**Bislig**	**0.84**	**172**	*i* P	Pg	04 21 34.1	-0.7
BIPH				*i* S	Sg	04 21 45.5	-0.1
BUKP	**Musuan**	**1.62**	**226**	*e*P	Pn	04 21 47.8	-0.5
BUKP				*e*S	Sb	04 22 10.0	-0.2
CGP	**Cagayan de Oro**	**1.63**	**250**	*e*S	Sn	04 22 07.3	-2.3

ISK ***18*** *04:22:04.8, 34.°41N×33.°30E, h21km, ML3.4/17*
ISCJB ***18*** *04:22:05.6±1.0, 34.°38N±0.°06×33.°34E±0.°06, h32km±5km, Error ellipse: s-maj=10.0km s-min=7.3km az=33.1*
NIC ***18*** *04:22:06.4±0.1, 34.°44N×33.°27E, h45km, ML3.0*
DDA ***18*** *04:22:15.3, 35.°25N×32.°56E, h5km, Ml3.2*

ISC 18 04:22:06.0±1.6, 34.°43N±0.°06×33.°28E±0.°05, h24km±13km, n32, σ1.917/41, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SZAC	**Souni**	**0.46**	**315**	P	**Pn**	**04 22 16.8**	**-0.3**
	baz=134						
SZAC				S	**Sn**	**04 22 24.8**	**+0.2**
CSS	**Mathiatis**	**0.54**	**5**	PG	**Pb**	**04 22 15.6**	**-1.2**
CSS				SG	**Sb**	**04 22 24.6**	**+0.4**
CSS	**Mathiatis**	**0.54**	**5**	P	**Pn**	**04 22 17.8**	**-0.3**
	baz=185						
CSS				S	**Sn**	**04 22 26.5**	**+0.1**
AKIN	**Ak¨–nc¨–lar- K**	**0.61**	**15**	PG	**Pb**	**04 22 18.4**	**+0.4**
MAMC	**Mammari**	**0.74**	**356**	P	**Pn**	**04 22 20.7**	**-0.3**
	baz=176						
LEF	**Lefka**	**0.76**	**335**	PG	**Pn**	**04 22 20.9**	**-0.3**
LEF				SG	**Sn**	**04 22 32.3**	**+0.4**
LFK	**Lefkose**	**0.88**	**14**	PG	**Pb**	**04 22 23.2**	**+0.6**
PPCY	**Paphos**	**0.89**	**301**	P	**Pb**	**04 22 22.7**	**-0.1**
	baz=119						
AKDN	**Akdeniz- K¨–br**	**0.91**	**344**	PG	**Pb**	**04 22 23.6**	**+0.6**
ALFC	**Alefka**	**0.92**	**323**	P	**Pn**	**04 22 22.8**	**-0.6**
	baz=142						
ALFC				S	**Sn**	**04 22 35.7**	**-0.1**
EREN	**Erenkoy**	**1.32**	**33**	PN	**Pn**	**04 22 28.9**	**0.0**
TEKE	**Tekeli-Mersin**	**1.72**	**356**	PN	**Pn**	**04 22 34.5**	**+0.1**
AKK2	**Akkuyu-Mersin**	**1.72**	**7**	PN	**Pn**	**04 22 34.2**	**-0.2**
AKKU	**Akkuyu-Mersin**	**1.74**	**7**	PN	**Pn**	**04 22 34.7**	**0.0**
GULN	**MERSIN_Gulnar**	**1.77**	**7**	*i* P	**Pn**	**04 22 35.0**	**0.0**
GULN				*i* S	**Sn**	**04 22 56.5**	**-0.2**
YESI	**Yesilovacik-Me**	**1.79**	**9**	PN	**Pn**	**04 22 35.5**	**+0.2**
TEPE	**Tepekoy-Mersin**	**1.80**	**7**	PN	**Pn**	**04 22 35.5**	**-0.1**
IKL	**Isikli**	**1.84**	**10**	PN	**Pn**	**04 22 35.9**	**-0.1**
BERE	**Bereket-Mersin**	**1.92**	**359**	PN	**Pn**	**04 22 37.3**	**+0.1**
GAZI	**Gazipasa**	**1.97**	**337**	*i* P	**Pn**	**04 22 34.1**	**-3.7**
GAZI				*i* S	**Sb**	**04 23 05.2**	**0.0**
TEVE	**Tevekalti-Mers**	**2.01**	**4**	PN	**Pn**	**04 22 38.5**	**0.0**
KEBE	**Keben-Mersin**	**2.05**	**10**	PN	**Pn**	**04 22 39.3**	**+0.3**
KIZK	**Mersin**	**2.17**	**19**	PN	**Pn**	**04 22 41.0**	**+0.5**
KIZK	**Mersin**	**2.17**	**19**	*i* S	**Sn**	**04 23 01.9**	**-4.7**
MERS	**Mersin**	**2.64**	**22**	PN	**Pn**	**04 22 46.6**	**-0.5**
MMLI	**Mount Malkishu**	**2.67**	**137**	PN	**Pn**	**04 22 47.6**	**+0.1**
KEPZ	**Antalya-Kepez**	**2.82**	**332**	*i* P	**Pn**	**04 22 50.4**	**+0.8**
KEPZ				*i* S	**Sn**	**04 23 24.7**	**+1.9**
KERG	**Konya-Eregli**	**3.06**	**13**	*i* P	**Pn**	**04 22 53.9**	**+0.9**
KERG				*i* S	**Sn**	**04 23 30.8**	**+1.9**
TAHT	**Tahtakopru-Hat**	**3.07**	**50**	PN	**Pn**	**04 22 52.7**	**-0.3**
GULE	**Gulek**	**3.10**	**23**	*i* P	**Pn**	**04 22 54.8**	**+1.2**
SUTC	**Sutluce-Ispart**	**3.56**	**329**	PN	**Pn**	**04 23 00.4**	**+0.6**
KOZT	**Kozan**	**3.68**	**33**	PN	**Pn**	**04 23 00.8**	**-0.6**

JMA ***18*** *04:31:57.3±0.1, 23.°82N×122.°82E, h51km±5km, M3.1*
TAP ***18*** *04:31:57.8, 23.°85N×122.°85E, h50km, ML3.7, D*

ISC 18 04:31:57.7±1.2, 23.80N±0.03×122.85E±0.02, h32km±11km, n93, σ1.904/145, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonaguni jima**	**0.65**	**8**	P	**Pb**	**04 32 10.4**	**-0.3**
JYNG				S	**Sb**	**04 32 20.0**	**+0.4**
YOJ	**Yonaguni jima**	**0.67**	**13**	*i* P	**Pb**	**04 32 10.8**	**-0.3**
	baz=12						
YOJ				*i* S	**Sb**	**04 32 20.5**	**+0.3**
	baz=12						
YOJ	**Yonaguni jima**	**0.67**	**13**	P	**Pb**	**04 32 10.8**	**-0.3**
YOJ				*e*S	**Sb**	**04 32 20.1**	**-0.1**
HATJ	**Hateruma jima**	**0.91**	**74**	P	**Pn**	**04 32 14.6**	**+0.3**
HATJ				*e*S	**Sb**	**04 32 26.9**	**0.0**
IRIF	**Iriomote-Funau**	**0.97**	**57**	P	**Pn**	**04 32 15.2**	**+0.1**
IRIF				S	**Sn**	**04 32 27.5**	**-0.2**
EOS1	**EOS1**	**0.99**	**319**	P	**Pn**	**04 32 15.8**	**+0.4**
	baz=324						
EOS1				S	**Sn**	**04 32 28.6**	**+0.4**
	baz=324						
JKRS	**Kuro-shima**	**1.15**	**68**	P	**Pn**	**04 32 18.0**	**+0.4**
JKRS				*e*S	**Sn**	**04 32 33.2**	**+1.0**
HWA	**Hwalien**	**1.15**	**279**	*e*P	**Pn**	**04 32 18.0**	**+0.4**
	baz=267						
HWA				*e*S	**Sn**	**04 32 31.6**	**-0.6**
	baz=267						
TWD	**Chiawan**	**1.18**	**284**	*e*P	**Pn**	**04 32 17.4**	**-0.6**
	baz=270						
TWD				*e*S	**Sn**	**04 32 31.0**	**-1.8**
	baz=270						
NANB	**Nanao**	**1.18**	**302**	*e*P	**Pn**	**04 32 18.0**	**0.0**
	baz=310						
NANB				*e*S	**Sn**	**04 32 32.6**	**-0.4**
	baz=310						
ENA	**Nanau**	**1.19**	**302**	P	**Pn**	**04 32 18.2**	**+0.1**
	baz=310						
ENA				*e*S	**Sn**	**04 32 33.3**	**+0.2**
	baz=310						
NACB	**Ninganchiao**	**1.20**	**288**	*e*P	**Pn**	**04 32 17.6**	**-0.7**
	baz=275						
NACB				*e*S	**Sn**	**04 32 32.4**	**-1.1**
	baz=275						
TWC	**Suao**	**1.21**	**312**	*e*P	**Pn**	**04 32 18.5**	**0.0**
	baz=309						
ESL	**Shilin**	**1.29**	**271**	P	**Pn**	**04 32 18.5**	**-1.1**
	baz=260						
EGFH	**Guangfu**	**1.31**	**264**	*e*P	**Pn**	**04 32 19.8**	**0.0**
	baz=261						
EGFH				*e*S	**Sn**	**04 32 35.5**	**-0.6**
	baz=261						
JIJ	**Ishigaki jima**	**1.31**	**65**	P	**Pn**	**04 32 19.6**	**-0.2**
JIJ				*e*S	**Sn**	**04 32 36.0**	**-0.2**
EGS		**1.33**	**321**	P	**P

TATO			eS		Sn	04 32 46.9	+1.0
	baz=326						
SSLB	**Suanglung**	**1.73**	**270**	*eP*	**Pn**	**04 32 25.9**	**+0.2**
	baz=259						
SSLB				eS	Sn	04 32 46.0	-0.7
	baz=259						
YM07	**YM07**	**1.76**	**321**	*eP*	**Pn**	**04 32 26.0**	**-0.1**
	baz=320						
YUS	**Yu-Shan**	**1.77**	**260**	*eP*	**Pn**	**04 32 26.8**	**+0.2**
	baz=257						
YUS				eS	Sn	04 32 47.0	-1.1
	baz=257						
YM01	**YM01**	**1.77**	**319**	*eP*	**Pn**	**04 32 27.3**	**+1.1**
	baz=318						
SMLT	**Sun Moon Lake**	**1.78**	**273**	P	**Pn**	**04 32 26.9**	**+0.5**
	baz=269						
SMLT				eS	Sn	04 32 48.0	-0.1
	baz=269						
YM11	**YM11**	**1.78**	**320**	*eP*	**Pn**	**04 32 26.9**	**+0.4**
	baz=319						
ELDTW	**Lidau**	**1.79**	**250**	P	**Pn**	**04 32 26.0**	**-0.5**
	baz=239						
YM05	**YM05**	**1.79**	**320**	*eP*	**Pn**	**04 32 26.6**	**+0.1**
	baz=319						
YM08	**YM08**	**1.79**	**321**	*eP*	**Pn**	**04 32 26.7**	**+0.2**
	baz=320						
YM04	**YM04**	**1.80**	**319**	*eP*	**Pn**	**04 32 26.4**	**-0.1**
	baz=320						
YM04				eS	Sn	04 32 47.8	-0.5
	baz=320						
TYC	**Yuchr**	**1.82**	**274**	*eP*	**Pn**	**04 32 27.4**	**+0.6**
	baz=271						
TWS1	**Kuangyinshan**	**1.83**	**315**	*eP*	**Pn**	**04 32 27.4**	**+0.4**
	baz=314						
LIOB	**Emei**	**1.87**	**297**	*eP*	**Pn**	**04 32 29.1**	**+1.6**
	baz=295						
NSTT	**Nanjuang**	**1.88**	**296**	*eP*	**Pn**	**04 32 29.1**	**+1.5**
	baz=293						
NSTT				eS	Sn	04 32 51.4	+1.2
	baz=293						
JTJ	**Tarama**	**1.89**	**63**	P	**Pn**	**04 32 27.9**	**+0.1**
JTJ				eS	Sn	04 32 50.6	+0.1
ALS	**Alishan**	**1.89**	**262**	*eP*	**Pn**	**04 32 29.1**	**+1.0**
	baz=258						
ALS				eS	Sn	04 32 51.3	+0.3
	baz=258						
TWGBT	**Beinan**	**1.90**	**239**	*eP*	**Pn**	**04 32 27.9**	**0.0**
	baz=230						
TWGBT				eS	Sn	04 32 49.8	-0.9
	baz=230						
TWG	**Pinlang**	**1.90**	**239**	*eP*	**Pn**	**04 32 27.9**	**-0.1**
	baz=230						
TWG				eS	Sn	04 32 49.7	-1.1
	baz=230						
WJS	**Zhushan**	**1.94**	**271**	*eP*	**Pn**	**04 32 30.8**	**+2.3**
	baz=264						
PCYT	**Pengchaiyu**	**1.95**	**339**	*eP*	**Pn**	**04 32 29.1**	**+0.5**
	baz=329						
TWQ1	**Liyutan**	**1.97**	**286**	*eP*	**Pn**	**04 32 31.4**	**+2.4**
	baz=283						
TWQ1				eS	Sn	04 32 54.8	+2.2
	baz=283						
WNT	**Mingjian**	**1.98**	**273**	*eP*	**Pn**	**04 32 30.2**	**+1.2**
	baz=270						
CHN5	**Tsauling**	**2.00**	**265**	*eP*	**Pn**	**04 32 30.9**	**+1.5**
	baz=262						
NSY	**Sanyi**	**2.00**	**288**	*eP*	**Pn**	**04 32 31.0**	**+1.7**
	baz=285						
NMLH	**Miaoli**	**2.01**	**292**	*eP*	**Pn**	**04 32 31.3**	**+1.8**
	baz=289						
TCU	**Taichung**	**2.01**	**280**	*eP*	**Pn**	**04 32 31.6**	**+2.1**
	baz=291						
STYT	**Tauyuan**	**2.02**	**252**	*eP*	**Pn**	**04 32 30.4**	**+0.7**
	baz=242						
STYT				eS	Sn	04 32 54.2	+0.4
	baz=242						
PTSB	**Yuanli**	**2.06**	**289**	*eS*	**Sn**	**04 32 56.5**	**+1.7**
	baz=285						
TPUB	**Ta-pu**	**2.10**	**257**	*eP*	**Pn**	**04 32 32.1**	**+1.5**
	baz=248						
TPUB				eS	Sn	04 32 57.5	+1.9
	baz=248						
WCHH	**Zhanghua**	**2.11**	**278**	*eP*	**Pn**	**04 32 32.9**	**+2.1**
	baz=289						
CHN4	**Tsaushan**	**2.12**	**258**	*eP*	**Pn**	**04 32 32.9**	**+2.0**
	baz=248						
CHN4				eS	Sn	04 32 57.6	+1.5
	baz=248						
WDLH	**Douliu**	**2.12**	**267**	*eP*	**Pn**	**04 32 33.9**	**+2.9**
	baz=265						
WTP	**Ta-pu**	**2.12**	**255**	*eP*	**Pn**	**04 32 32.8**	**+1.7**
	baz=253						
SLGT	**Liugui**	**2.18**	**249**	*eP*	**Pn**	**04 32 33.2**	**+1.4**
	baz=241						
CHN1	**Nanshi**	**2.21**	**254**	*eP*	**Pn**	**04 32 34.5**	**+2.3**
	baz=252						
TWK	**Hsinying**	**2.23**	**257**	*eP*	**Pn**	**04 32 34.3**	**+1.8**
	baz=254						
RLNB	**Erlin**	**2.28**	**273**	*eP*	**Pn**	**04 32 35.5**	**+2.4**
	baz=262						
EAST	**Anshuo**	**2.32**	**233**	*eP*	**Pn**	**04 32 34.0**	**+0.3**
	baz=239						
MASBT	**Mashibuluo**	**2.36**	**240**	*eP*	**Pn**	**04 32 35.0**	**+0.8**
	baz=233						
SCZT	**Fangliau**	**2.50**	**236**	*eP*	**Pn**	**04 32 37.7**	**+1.5**
	baz=234						
TSEB	**Hengchuen, Pin**	**2.61**	**224**	*eP*	**Pn**	**04 32 39.6**	**+1.9**
	baz=230						
PHUB	**P'eng-hu**	**3.02**	**265**	*eP*	**Pn**	**04 32 44.4**	**+1.1**
	baz=274						
PHUB				eS	Sn	04 33 18.3	0.0
	baz=274						
PNG	**Penghu**	**3.03**	**266**	*eP*	**Pn**	**04 32 44.5**	**+1.1**
	baz=275						
PNG				eS	Sn	04 33 19.3	+0.7
	baz=275						
VWUC	**VWUC**	**3.31**	**292**	*eP*	**Pn**	**04 32 47.0**	**-0.3**
	baz=289						
MATB	**Ma-tsu**	**3.52**	**312**	*eP*	**Pn**	**04 32 50.1**	**-0.1**
	baz=312						
PTMZ	**Houxiangcun**	**3.61**	**291**	*eP*	**Pn**	**04 32 51.2**	**-0.2**
	baz=287						
LYJJ	**Jianjiangzhen**	**3.91**	**315**	*eP*	**Pn**	**04 32 55.3**	**-0.3**
	baz=315						
XPSS	**Dashiqiu**	**3.93**	**323**	*eP*	**Pn**	**04 32 56.1**	**+0.2**
	baz=326						
XPSS				eS	Sn	04 33 38.8	-2.1
	baz=326						
KNM	**Kinmen**	**4.08**	**279**	*eP*	**Pn**	**04 33 00.3**	**+2.4**
	baz=276						
KNMB	**Chin-men Tao**	**4.12**	**280**	*eP*	**Pn**	**04 32 59.0**	**+0.5**
	baz=277						
MHZQ	**Yeshan**	**4.15**	**304**	*eP*	**Pn**	**04 32 58.3**	**-0.6**
	baz=304						
AXDP	**Jialang**	**4.58**	**285**	*eP*	**Pn**	**04 33 05.3**	**+0.6**
	baz=279						
AXDP				eS	Sn	04 33 54.7	-2.1
	baz=279						
ZPLA	**Ao Xicun**	**4.67**	**273**	*eP*	**Pn**	**04 33 06.7**	**+0.7**
	baz=277						

*ISCJB **18** 04:40:19.3±0.9, 6.9S±0.1×125.0E±0.2, h550km, mb3.6/3, Error ellipse: s-maj=28.0km s-min=12.3km az=168.4*
*IDC **18** 04:40:21.3±2.3, 7.2OS×124.6ZE, h561km±32km, mb3.1/3, mb1 3.1/6, mb1mx2.8/41, mbtmp4.0/6, Error ellipse: s-maj=101.5km s-min=17.3km az=58.0*

ISC 18 04:40:20.4±1.2, 7.0S±0.1×125.0E±0.3, h550km, n7, σ1§07/9, mb3.6/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**3.43**	**203**	P	**P**	**04 41 39.0**	**+0.8**
	93nm,0.3s,baz=98,slow=2.1,SNR=56						
BATI				S	S	04 42 40.8	-0.9
	4.4nm,0.3s,baz=270,slow=20,SNR=1.4						
FITZ	**Fitzroy Crossi**	**11.03**	**177**	P	**P**	**04 42 50.1**	**+1.2**
	0.4nm,0.3s,baz=9.9,slow=9.3,SNR=5.7						
FITZ				S	S	04 44 49.4	-1.7
	0.1nm,0.3s,baz=15,slow=20,SNR=1.7						
WRA	**Warramunga Arr**	**15.72**	**146**	P	**P**	**04 43 37.0**	**-0.3**
	1.2nm,0.3s,baz=315,slow=12,SNR=65						
ASAR	**Alice Springs**	**18.63**	**154**	P	**P**	**04 44 04.9**	**+0.8**
	0.8nm,0.3s,baz=326,slow=8.4,SNR=35						
STKA	**Stephens Creek**	**29.18**	**150**	P	**P**	**04 45 37.8**	**0.0**
	1.0nm,0.3s,baz=325,slow=9.5,SNR=4.7						
MKAR	**Makanchi Array**	**65.61**	**329**	P	**P**	**04 50 10.4**	**+0.1**
	0.5nm,0.5s,baz=135,slow=5.5,SNR=8.0						
ZALV	**Zalesovo Beam**	**69.49**	**336**	P	**P**	**04 50 33.1**	**-0.7**
	0.7nm,0.3s,baz=142,slow=3.3,SNR=3.3						

*ISCJB **18** 04:44:25.4±0.9, 57.73N±0.06×142.90W±0.08, h14km, Error ellipse: s-maj=9.1km s-min=6.0km az=0.1*
*NEIC **18** 04:44:29.0±0.0, 57.58N×142.83W, h10km, ML2.9(AEIC), After AEIC.*
*PGC **18** 04:44:38.2±3.1, 58.46N×141.68W, h1km, ML2.8/8, 155km Wsw of Yakutat, Ak Off Coast Of Southeastern Alaska*

ISC 18 04:44:23.4±1.7, 57.57N±0.08×142.78W±0.05, h14km, n55, σ1§72/72, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAIM	**Kayak Island**	**2.51**	**341**	P	**Pn**	**04 45 04.8**	**+1.1**
YKU2	**Yakutat**	**2.54**	**39**	P	**Pn**	**04 45 05.8**	**+1.7**
YKU2				S	**Sn**	**04 45 34.0**	**-0.8**
SUCK	**Suckling Hills**	**2.56**	**349**	P	**Pn**	**04 45 06.0**	**+1.6**
SUCK				S	**Sn**	**04 45 34.9**	**-0.5**
BGLC	**Bering Glacier**	**2.57**	**354**	P	**Pn**	**04 45 06.1**	**+1.6**
SNH	**Sunshine Point**	**2.62**	**359**	P	**Pn**	**04 45 06.6**	**+1.4**
SNH				S	**Sn**	**04 45 34.9**	**-1.9**
CHX	**Chaix Hills**	**2.65**	**18**	P	**Pn**	**04 45 07.5**	**+1.8**
MESA	**MESA**	**2.65**	**9**	P	**Pn**	**04 45 07.2**	**+1.4**
KULT	**Kultieth River**	**2.69**	**1**	P	**Pn**	**04 45 07.5**	**+1.3**
KULT				S	**Sn**	**04 45 36.8**	**-1.7**
GRIN	**Grindle Hills**	**2.73**	**354**	P	**Pn**	**04 45 08.4**	**+1.6**
NICHA	**Nichawak Mount**	**2.75**	**348**	P	**Pn**	**04 45 08.2**	**+1.3**
NICHA				S	**Sn**	**04 45 38.5**	**-1.4**
PNL	**Peninsula**	**2.75**	**39**	P	**Pn**	**04 45 08.3**	**+1.3**
PNL				S	**Sn**	**04 45 37.2**	**-2.9**
PNL	**Peninsula**	**2.75**	**39**	Pn	**Pn**	**04 45 08.1**	**+1.1**
PNL				Sg	**Sn**	**04 45 36.6**	**-3.5**
SAMH	**Samovar Hills**	**2.77**	**21**	P	**Pn**	**04 45 09.0**	**+1.7**
BARK	**Barkley Ridge**	**2.85**	**3**	P	**Pn**	**04 45 09.6**	**+1.2**
BARK				S	**Sn**	**04 45 40.0**	**-2.5**
PCA	**Pinnacle**	**2.85**	**26**	P	**Pn**	**04 45 09.9**	**+1.3**
PCA	**Pinnacle**	**2.85**	**26**	Pn	**Pn**	**04 45 09.8**	**+1.3**
PCA				Sg	**Sn**	**04 45 39.9**	**-2.7**
BERG	**Berg Lake**	**2.87**	**351**	P	**Pn**	**04 45 09.8**	**+1.1**
HMT	**Hamilton**	**2.88**	**345**	P	**Pn**	**04 45 09.8**	**+1.0**
WAX	**Waxell Ridge**	**2.89**	**359**	P	**Pn**	**04 45 10.0**	**+1.0**
KHIT	**Khitrov Hills**	**2.89**	**355**	P	**Pn**	**04 45 10.1**	**+1.1**
BAGL	**Bagley Icefiel**	**2.95**	**7**	P	**Pn**	**04 45 11.1**	**+1.4**
RAGM	**Ragged Mountai**	**2.99**	**342**	P	**Pn**	**04 45 11.2**	**+0.9**
TABL	**Table Mountain**	**3.00**	**16**	P	**Pn**	**04 45 12.3**	**+1.7**
ISLE	**Juniper Island**	**3.05**	**4**	P	**Pn**	**04 45 12.4**	**+1.2**
SGAM	**Sherman Glacie**	**3.20**	**338**	P	**Pn**	**04 45 14.4**	**+1.2**
EYAK	**Cordova Ski Ar**	**3.36**	**334**	P	**Pn**	**04 45 15.7**	**+0.4**
HIN	**Hinchinbrook I**	**3.43**	**327**	P	**Pn**	**04 45 17.1**	**+0.7**
FID	**Port Fidalgo**	**3.71**	**331**	P	**Pn**	**04 45 20.9**	**+0.7**
YUK7	**Dusty Glacier**	**3.82**	**37**	P	**Pn**	**04 45 24.0**	**+2.2**
YUK7	**Dusty Glacier**	**3.82**	**37**	Pn	**Pn**	**04 45 23.9**	**+2.0**
YUK7				Sg	**Sn**	**04 46 05.5**	**-1.1**
PLBC	**Pleasant Camp**	**3.86**	**58**	P	**Pn**	**04 45 24.0**	**+1.8**
PLBC	**Pleasant Camp**	**3.86**	**58**	Pn	**Pn**	**04 45 23.9**	**+1.6**
PLBC				Sg	**Sn**	**04 46 05.4**	**-1.9**
DIV	**Divide**	**3.88**	**338**	Pn	**Pn**	**04 45 22.5**	**-0.2**
DIV				Sg	**Sn**	**04 46 05.8**	**-2.2**
GLI	**Glacier Island**	**3.99**	**328**	P	**Pn**	**04 45 24.2**	**+0.2**
YUK6	**Outpost Mounta**	**4.07**	**32**	Pn	**Pn**	**04 45 27.6**	**+2.2**
YUK6				Sg	**Sn**	**04 46 12.2**	**-0.8**
HYT	**Haines Junctio**	**4.25**	**38**	Sg	**Sn**	**04 46 15.4**	**-1.6**
KLU	**Klutina**	**4.25**	**339**	P	**Pn**	**04 45 27.9**	**+0.3**
BESE	**Bessie Mountai**	**4.33**	**73**	Sg	**Sn**	**04 46 16.3**	**-2.7**
YUK4	**Talbot Arm**	**4.33**	**27**	Pn	**Pn**	**04 45 32.7**	**+3.8**
YUK2	**White River**	**4.34**	**12**	Pn	**Pn**	**04 45 31.3**	**+2.3**
YUK2				Sg	**Sn**	**04 46 19.4**	**0.0**
PWL	**Port Wells**	**4.36**	**321**	P	**Pn**	**04 45 29.1**	**0.0**
YUK5	**Granite Creek**	**4.37**	**33**	Pn	**Pn**	**04 45 32.1**	**+2.7**
YUK5				Sg	**Sn**	**04 46 18.3**	**-1.9**
YUK3	**Moose Creek**	**4.38**	**15**	Pn	**Pn**	**04 45 32.1**	**+2.5**
YUK1	**Sand Pete Hill**	**4.74**	**13**	Pn	**Pn**	**04 45 37.0**	**+2.6**
BRLK	**Bradley Lake**	**4.77**	**301**	P	**Pn**	**04 45 35.8**	**+1.0**
KNK	**Knik Glacier**	**4.82**	**326**	P	**Pn**	**04 45 36.6**	**+1.2**
CNPM	**China Poot**	**4.84**	**297**	P	**Pn**	**04 45 37.0**	**+1.2**
HARP	**HAARP**	**5.00**	**347**	Pn	**Pn**	**04 45 39.5**	**+1.6**
HARP				Sg	**Sn**	**04 46 34.7**	**-0.7**
WHY	**Whitehorse**	**5.12**	**49**	Pn	**Pn**	**04 45 41.6**	**+2.0**
WHY				Sg	**Sn**	**04 46 35.5**	**-2.9**
BCA3	**Beaver Creek A**	**5.54**	**5**	P	**Pn**	**04 45 47.5**	**+2.2**
NDB	**Naden**	**6.63**	**119**	Pn	**Pn**	**04 46 00.7**	**+0.4**
DAWY	**Dawson**	**6.72**	**13**	Pn	**Pn**	**04 46 03.6**	**+2.0**
VIB	**Van Inlet**	**7.26**	**122**	Pn	**Pn**	**04 46 09.4**	**+0.5**
DIB	**Dawson Inlet,**	**7.32**	**122**	Pn	**Pn**	**04 46 10.5**	**+0.9**
MOBC	**Moresby Island**	**7.59**	**121**	Pn	**Pn**	**04 46 14.4**	**+1.0**

DJA 18 04:59:32.5±0.4, 9.7S±6.1×117.8E±, h10km, M3.5/10, MLv3.5/10, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.10**	**64**	P	Pg	04 59 36.0	+1.0
TWSI	**Taliwang, Sumb**	**0.81**	**279**	P	Pg	04 59 47.2	-0.9
WBSI	**Waikabubak, Su**	**1.85**	**115**	P	Pn	05 00 04.1	-0.2
IGBI	**Denpasar**	**2.52**	**271**	P	Pn	05 00 13.5	0.0
IGBI				S	Sb	05 00 46.7	-2.1
JAGI	**Jajag, Banyuwa**	**3.52**	**276**	P	Pn	05 00 27.3	0.0
JAGI				S	Sn	05 01 10.0	+0.9
EDFI	**Ende, Flores**	**3.96**	**89**	P	Pn	05 00 33.3	-0.1
GMJI	**Gumukmas**	**4.24**	**278**	P	Pn	05 00 37.2	0.0
BKSI	**Bulukumba**	**4.27**	**35**	P	Pn	05 00 37.7	+0.1

*ISCJB **18** 04:59:41.3±0.7, 57.51N±0.05×142.76W±0.09, h14km, Error ellipse: s-maj=8.0km s-min=5.2km az=43.7*
*NEIC **18** 04:59:47.0±0.0, 57.54N×142.85W, h10km, ML2.7(AEIC), After AEIC.*
*PGC **18** 04:59:48.3±15.0, 57.81N×142.26W, h5km, ML3.0/4, 230km Wsw of Yakutat, Ak Gulf Of Alaska*

ISC 18 04:59:42.6±1.8, 57.59N±0.10×142.80W±0.06, h14km, n42, σ1§51/38, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YKU2	**Yakutat**	**2.54**	**39**	P	**Pn**	**05 00 24.4**	**+1.1**
YKU2				S	**Sn**	**05 00 52.5**	**-1.4**
SUCK	**Suckling Hills**	**2.55**	**349**	P	**Pn**	**05 00 24.4**	**+1.0**
SUCK				S	**Sn**	**05 00 53.0**	**-1.2**
BGLC	**Bering Glacier**	**2.56**	**355**	P	**Pn**	**05 00 24.8**	**+1.2**
SNH	**Sunshine Point**	**2.60**	**360**	P	**Pn**	**05 00 25.1**	**+0.8**
SNH				S	**Sn**	**05 00 54.0**	**-1.7**
MID	**Middleton Isla**	**2.62**	**316**	P	Pn	05 00 24.6	+0.2
CHX	**Chaix Hills**	**2.63**	**19**	P	**Pn**	**05 00 26.0**	**+1.2**
MESA	**MESA**	**2.64**	**9**	P	**Pn**	**05 00 25.8**	**+0.8**
KULT	**Kultieth River**	**2.67**	**1**	P	**Pn**	**05 00 26.0**	**+0.7**
GRIN	**Grindle Hills**	**2.72**	**355**	P	**Pn**	**05 00 27.0**	**+1.1**
NICHA	**Nichawak Mount**	**2.73**	**348**	P	**Pn**	**05 00 26.8**	**+0.8**
NICHA				S	**Sn**	**05 00 57.2**	**-1.5**
PNL	**Peninsula**	**2.75**	**39**	Pn	Pn	05 00 26.7	+0.5
PNL				Sn	Sn	05 00 55.9	-3.3
SAMH	**Samovar Hills**	**2.76**	**22**	P	**Pn**	**05 00 27.7**	**+1.1**
BARK	**Barkley Ridge**	**2.83**	**3**	P	Pn	05 00 28.1	+0.6
YAH	**Yahtse**	**2.84**	**11**	P	**Pn**	**05 00 28.7**	**+1.0**
PCA	**Pinnacle**	**2.84**	**27**	P	**Pn**	**05 00 28.5**	**+0.8**
PCA	**Pinnacle**	**2.84**	**27**	Pn	Pn	05 00 28.3	+0.6
BERG	**Berg Lake**	**2.85**	**351**	P	**Pn**	**05 00 28.5**	**+0.7**
HMT	**Hamilton**	**2.86**	**345**	P	**Pn**	**05 00 28.5**	**+0.6**
KHIT	**Khitrov Hills**	**2.88**	**356**	P	Pn	05 00 28.7	+0.6
BAGL	**Bagley Icefiel**	**2.94**	**7**	P	**Pn**	**05 00 29.7**	**+0.9**
RAGM	**Ragged Mountai**	**2.97**	**342**	P	Pn	05 00 29.8	+0.4
TABL	**Table Mountain**	**2.99**	**16**	P	**Pn**	**05 00 30.9**	**+1.1**
ISLE	**Juniper Island**	**3.04**	**4**	P	Pn	05 00 31.0	+0.7
SGAM	**Sherman Glacie**	**3.18**	**338**	P	**Pn**	**05 00 33.0**	**+0.8**
HIN	**Hinchinbrook I**	**3.41**	**327**	P	Pn	05 00 35.7	+0.4
HIN				S	**Sn**	**05 01 15.8**	**-1.8**
PLBC	**Pleasant Camp**	**3.86**	**58**	P	**Pn**	**05 00 42.5**	**+0.9**
PLBC	**Pleasant Camp**	**3.86**	**58**	Pn	**Pn**	**05 00 42.5**	**+0.9**
PLBC				Sn	**Sn**	**05 01 24.2**	**-2.5**
HYT	**Haines Junctio**	**4.24**	**38**	Pn	**Pn**	**05 00 48.1**	**+1.3**
YUK4	**Talbot Arm**	**4.33**	**28**	P	**Pn**	**05 00 51.7**	**+3.6**
YUK4	**Talbot Arm**	**4.33**	**28**	Pn	**Pn**	**05 00 51.8**	**+3.6**
YUK2	**White River**	**4.33**	**12**	Pn	**Pn**	**05 00 49.6**	**+1.5**
YUK3	**Moose Creek**	**4.37**	**15**	Pn	Pn	05 00 50.3	+1.6
YUK1	**Sand Pete Hill**	**4.72**	**13**	Pn	**Pn**	**05 00 55.7**	**+2.2**
BRLK	**Bradley Lake**	**4.75**	**301**	P	Pn	05 00 54.9	+1.1
CNPM	**China Poot**	**4.83**	**297**	P	**Pn**	**05 00 55.8**	**+1.0**
HARP	**HAARP**	**4.98**	**347**	Pn	**Pn**	**05 00 58.2**	**+1.3**
WHY	**Whitehorse**	**5.11**	**50**	Pn	**Pn**	**05 01 00.1**	**+1.2**
WHY				Sn	Sn	05 01 54.3	-3.4
NDB	**Naden**	**6.65**	**119**	Pn	**Pn**	**05 01 20.0**	**+0.2**
DAWY	**Dawson**	**6.71**	**13**	Pn	**Pn**	**05 01 22.2**	**+1.5**
VIB	**Van Inlet**	**7.28**	**122**	Pn	Pn	05 01 27.7	-0.8
DIB	**Dawson Inlet,**	**7.34**	**122**	Pn	Pn	05 01 28.6	-0.6
MOBC	**Moresby Island**	**7.61**	**121**	Pn	**Pn**	**05 01 32.9**	**-0.1**

KRSC 18 05:09:25.0±1.5, 49.29N×156.38E, h16km±19km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.41**	**353**	*eP*	Pn	05 09 50.1	+0.1
SKR				*eS*	Sn	05 10 07.6	-0.6
KDTR	**Khodutka, Kamc**	**2.75**	**22**	*eP*	Pn	05 10 10.6	+2.3
KDTR				*eS*	Sn	05 10 43.8	+2.6
MTVR	**Mutnovka**	**3.40**	**19**	*eP*	Pn	05 10 21.1	+3.7
MTVR				*eS*	Sn	05 11 01.2	+3.7
RUS	**Russkaya**	**3.43**	**22**	*eP*	Pn	05 10 21.0	+3.3
RUS				*eS*	Sn	05 11 02.0	+4.1
AVH	**Avacha**	**4.25**	**19**	P	Pn	05 10 32.1	+3.0
KOK	**Koryaka**	**4.25**	**19**	*eP*	Pn	05 10 33.3	+4.2
SMAR	**Somma**	**4.26**	**20**	P	Pb	05 10 34.9	-4.7
SDLR	**Sedlovina**	**4.29**	**20**	*eP*	Pn	05 10 33.5	+3.8
SPN	**Mys Shipunski**	**4.45**	**30**	*eP*	Pn	05 10 36.3	+4.6
SPN				*eS*	Sn	05 11 28.6	+5.4
GNL	**Ganaly**	**4.52**	**12**	*eP*	Pn	05 10 37.0	+4.2
KBTR	**Krutoberegovo**	**7.95**	**27**	*eP*	Pn	05 11 23.8	+4.0

IDC 18 05:15:00.9±4.2, 30.25S×138.53E, h0km, mb1 3.0/3, mb1mx3.0/37, mbtmp2.8/3, ML2.5/3, Error ellipse: s-maj=115.9km s-min=17.0km az=43.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.09**	**122**	Pn	Pn	05 15 51.5	+0.5
	0.2nm,0.3s,baz=302,slow=16,SNR=2.0						
STKA				Sn	Sn	05 16 29.3	+0.6
	1.4nm,0.3s,baz=220,slow=15,SNR=6.8						
STKA				Lg	Lg	05 16 38.9	
	1.7nm,0.3s,baz=40,slow=9.6,SNR=6.4						
ASAR	**Alice Springs**	**7.75**	**327**	Pn	Pn	05 16 54.1	-0.8
	0.1nm,0.3s,baz=146,slow=12,SNR=2.9						
ASAR				Sn	Sn	05 18 24.8	+1.3
	0.1nm,0.3s,baz=152,slow=22,SNR=4.6						
WRA	**Warramunga Arr**	**10.94**	**339**	Pn	Pn	05 17 39.4	+0.6
	0.0nm,0.3s,baz=154,slow=12,SNR=3.6						

*ISCJB **18** 05:17:31.8±1.2, 36.82N±0.04×141.39E±0.08, h18km±7km, mb3.5/5, Error ellipse: s-maj=10.5km s-min=6.3km az=20.3*
*JMA **18** 05:17:32.5±0.1, 36.84N×141.34E, h33km±1km, M3.6*
*IDC **18** 05:17:33.1±1.4, 37.18N×141.17E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.4/51, mbtmp3.5/6, ML3.5/1, Error ellipse: s-maj=28.0km s-min=25.7km az=126.0*

ISC 18 05:17:31.0±2.1, 36.82N±0.05×141.32E±0.09, h1km±13km, n22, σ0§66/24, mb3.6/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.50**	**304**	P	**Pb**	**05 17 43.0**	**+0.4**
ONAJ				S	**Sb**	**05 17 50.3**	**-0.1**
JHO	**Hitachi**	**0.64**	**251**	P	**Pb**	**05 17 45.2**	**+0.3**
JHO				S	**Sb**	**05 17 54.2**	**-0.1**
JFK	**Kawauchi**	**0.65**	**327**	P	**Pb**	**05 17 44.9**	**-0.2**
JFK				S	**Sb**	**05 17 53.7**	**-1.0**
JFFD	**Fukushimafurud**	**0.66**	**294**	P	**Pb**	**05 17 45.3**	**0.0**
JFFD				S	**Sb**	**05 17 54.4**	**-0.7**
JHYU	**Hitachinakayam**	**0.76**	**231**	P	**Pb**	**05 17 47.0**	**0.0**
JFT	**Otama**	**1.05**	**312**	P	**Pb**	**05 17 51.9**	**0.0**
JFT				S	**Sb**	**05 18 05.8**	**-0.3**
JYT	**Yasato**	**1.08**	**237**	P	**Pb**	**05 17 52.0**	**-0.5**
JYT				S	**Sb**	**05 18 06.0**	**-1.1**
JMM	**Marumori**	**1.12**	**338**	P	**Pg**	**05 17 52.4**	**-0.1**
JMM				S	**Sg**	**05 18 07.2**	**+0.2**
JSB	**Shiboa**	**1.13**	**278**	P	**Pn**	**05 17 53.8**	**-0.1**
MJAR	**Matsushiro Arr**	**2.52**	**265**	Pn	**Pn**	**05 18 13.6**	**+0.6**
	12nm,0.3s,baz=76,slow=14,SNR=42						
MJAR				Sn	**Sn**	**05 18 45.4**	**+1.1**
	5.5nm,0.3s,baz=38,slow=23,SNR=2.3						
MAT	**Matsushiro**	**2.52**	**265**	P	**Pn**	**05 18 13.9**	**+0.9**
MAT				S	**Sn**	**05 18 43.5**	**-0.8**
**H

MKAR				Sn	Sn	05 28 40.4	-8.6	
	0.2nm,0.3s,baz=125,slow=18,SNR=3.8							
KURBB	**Kurchatov Arra**	**17.37**	**326**	P	Pn	05 27 22.2	-1.9	
	0.1nm,0.3s,baz=136,slow=11,SNR=6.3							
BVAR	**Borovoye Array**	**22.77**	**322**	P	P	05 28 24.6	+0.3	
	0.3nm,0.3s,baz=116,slow=13,SNR=3.1							
FINES	**FINESS Array B**	**47.72**	**323**	P	P	05 31 58.5	-0.2	
	3.9nm,1.1s,baz=79,slow=7.2,SNR=6.1							
ARCES	**ARCESS Array B**	**48.22**	**334**	P	P	05 32 02.1	-0.4	
	2.0nm,0.8s,baz=90,slow=7.4,SNR=3.6							
WRA	**Warramunga Arr**	**68.44**	**139**	P	P	05 34 24.4	0.0	
	0.1nm,0.6s,baz=329,slow=6.0,SNR=2.7							
ASAR	**Alice Springs**	**71.31**	**141**	P	P	05 34 42.1	+0.1	
	0.2nm,0.3s,baz=319,slow=5.0,SNR=4.3							

JMA 18 05:52:03.2, 35.51N×138.95E, h20km±1km, M3.0, 2C-2D
Broadband fault plane solution: P waves. NP1:
ϕ_S43.00000°, δ82.00000°, λ97.00000°. **NP2:** ϕ_S178.00000°, δ11.00000°, λ46.00000°. **Principal axes:** T Plg52.0000°, Azm321.0000°; N Plg7.0000°, Azm222.0000°; P Plg37.0000°, Azm126.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOD2	**Odawara 2**	**0.27**	**155**	⇑P	Pb	05 52 09.1	-0.3
JOD2				S	Sb	05 52 13.5	-0.2
JYN	**Shimob**	**0.33**	**268**	⇓P	Pb	05 52 10.1	-0.4
JFNN	**Fujinakano**	**0.38**	**215**	P	Pb	05 52 11.0	-0.3
JFNN				S	Sb	05 52 17.2	+0.5
JRY	**Ryogami san**	**0.51**	**356**	⇓P	Pb	05 52 13.1	-0.4
JRY				S	Sb	05 52 20.0	-0.4
SHZ3	**Shizuoka 3**	**0.75**	**234**	P	Pb	05 52 17.5	-0.1
SHZ3				S	Sb	05 52 27.9	+0.5
JIZS	**Izushimoda**	**0.79**	**184**	⇑P	Pb	05 52 17.5	-0.9
JIZS				S	Sb	05 52 27.7	-0.9
MAT	**Matsushiro**	**1.19**	**330**	P	Pn	05 52 24.7	-0.1
MAT				S	Sb	05 52 40.2	0.0

*ISCJB **18** 06:02:19.5±0.4, 39.14N±0.03×29.09E±0.03, h10km±3km*
Error ellipse: s-maj=5.0km s-min=3.8km az=172.9
*ISK **18** 06:02:19.2, 39.17N×29.10E, h6km, ML2.4/10*
*DDA **18** 06:02:19.1, 39.14N×29.08E, h7km, Ml2.6*
ISC 18 06:02:19.6±0.9, 39.15N±0.03×29.07E±0.02, h13km±7km, n22, σ0.976/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMAA	**Simav-Kutahya**	**0.08**	**237**	PG	**Pg**	**06 02 22.2**	**-0.1**
SMAA				SG	**Sg**	**06 02 24.5**	**+0.1**
GEDZ	**Gediz**	**0.28**	**111**	PG	**Pg**	**06 02 25.2**	**-0.3**
GEDZ				SG	**Sg**	**06 02 29.5**	**0.0**
DEMI	**Demirci**	**0.29**	**250**	*i* P	**Pg**	**06 02 25.6**	**0.0**
DEMI				*i* S	**Sg**	**06 02 29.9**	**+0.2**
GDZ	**Gediz**	**0.33**	**100**	*i* P	**Pg**	**06 02 26.0**	**-0.2**
GDZ				*i* S	**Sg**	**06 02 30.6**	**-0.2**
TVSB	**Tavsanli**	**0.43**	**45**	PG	**Pg**	**06 02 27.5**	**-0.6**
TVSB				SG	**Sg**	**06 02 33.2**	**-0.7**
DURS	**Dursunbey**	**0.65**	**315**	*i* P	**Pb**	**06 02 32.6**	**-0.2**
DURS				*i* S	**Sg**	**06 02 41.1**	**+0.3**
KULA	**Kula-Manisa**	**0.70**	**207**	PG	**Pg**	**06 02 32.6**	**-0.7**
MANT	**Manisa**	**0.77**	**212**	*i* P	**Pg**	**06 02 33.9**	**-0.5**
KHAL	**Karahalli**	**0.84**	**157**	*i* P	**Pg**	**06 02 35.4**	**-0.5**
KHAL				*i* S	**Sg**	**06 02 46.4**	**-0.5**
AKHS	**Akhisar**	**1.01**	**255**	*i* P	**Pb**	**06 02 39.4**	**+0.4**
AKHS				*i* S	**Sg**	**06 02 49.2**	**-3.1**
BALB	**Balikesir**	**1.04**	**299**	PG	**Pn**	**06 02 40.1**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.07**	**283**	*i* P	**Pg**	**06 02 39.7**	**-0.6**
STEP				*i* S	**Sb**	**06 02 55.4**	**+1.4**
CAVI	**Cavuskoy**	**1.21**	**29**	PN	**Pb**	**06 02 42.2**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.23**	**353**	PN	**Pn**	**06 02 42.7**	**+0.2**
KCTX	**Karacabey (Bur**	**1.25**	**334**	PN	**Pg**	**06 02 43.2**	**-0.3**
GONE	**Gonen-Balikesi**	**1.40**	**311**	PN	**Pb**	**06 02 45.7**	**+0.2**
ARMT	**Armutlu**	**1.43**	**354**	PN	**Pb**	**06 02 45.9**	**-0.2**
YLV	**Yalova**	**1.44**	**9**	PN	**Pb**	**06 02 46.1**	**-0.2**
SBT5	**Esenkoy-Cinarc**	**1.49**	**354**	PN	**Pb**	**06 02 46.9**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**218**	PN	**Pb**	**06 02 47.7**	**+0.2**
GULT	**Gulveren**	**1.70**	**40**	PN	**Pn**	**06 02 49.6**	**+0.5**
BUY	**Buyukada**	**1.71**	**1**	PN	**Pn**	**06 02 49.8**	**+0.8**

*IDC **18** 06:26:13.0±0.9, 39.43N×73.82E, h0km, mb3.8/11,*
mb1 3.9/17, mb1mx3.7/55, mbtmp3.7/17, ML3.1/6, MS2.7/4,
Ms1 2.8/4, ms1mx2.5/37, Error ellipse: s-maj=17.7km
s-min=15.6km az=126.0
*BJI **18** 06:26:13.6, 39.71N×73.71E, h10km, ML3.8/5*
*SOME **18** 06:26:14.2, 39.60N×73.95E, h20km*
*KRNET **18** 06:26:14.6±0.1, 39.59N×73.87E, h11km, mb4.2*
*NNC **18** 06:26:15.3±0.7, 39.59N×73.79E, h0km, mb4.2, mpv4.0,*
Error ellipse: s-maj=8.7km s-min=3.4km az=49.0
*NEIC **18** 06:26:18.1±0.4, 39.39N×73.74E, h35km, mb4.0/4, Error*
ellipse: s-maj=7.6km s-min=6.8km az=203.0
ISC 18 06:26:12.6±1.4, 39.36N±0.04×73.85E±0.03, h1km±9km, n111, σ1.996/154, mb3.9/14, 35C-25D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.70**	**338**	⇓P	**Pg**	**06 26 24.5**	**-1.6**
	912nm,0.4s						
SFK				⇑S	**Sg**	**06 26 31.6**	**-3.7**
	1μm,0.2s						
SFK	**Sufi-Kurgan**	**0.70**	**338**	⇓*i*P	**Pg**	**06 26 24.5**	**-1.6**
	baz=27						
SFK				⇓*i*S	**Sg**	**06 26 31.7**	**-3.5**
	baz=27						
DRK	**Karamyk**	**1.59**	**275**	⇑*e*P	**Pg**	**06 26 44.8**	**+1.7**
	baz=67						
DRK				⇑*e*S	**Sg**	**06 27 06.5**	**+2.7**
	baz=67						
KSH	**Kashi**	**1.65**	**84**	Pg	**Pn**	**06 26 39.5**	**-3.4**
KSH				Sg	**Sn**	**06 26 58.0**	**-6.9**
KSH				smax	smax		
	comp=N,1μm,0.8s						
KSH				smax	smax		
	comp=E,1μm,0.8s						
ARSB	**Arslanbob**	**2.07**	**342**	⇑*i*P	**Pn**	**06 26 48.9**	**+0.2**
	baz=39						
ARSB				⇑*i*S	**Sb**	**06 27 14.7**	**-2.7**
	baz=39						
BTK	**Batken**	**2.44**	**287**	⇓*i*P	**Pb**	**06 26 57.2**	**-0.2**
	baz=82						
BTK				⇓*i*S	**Sb**	**06 27 27.8**	**-0.2**
	baz=82						
ARLS	**Aral**	**2.52**	**8**	⇑*e*P	**Pn**	**06 26 56.0**	**+1.1**
	baz=9.0						
ARLS				⇑*i*S	**Sn**	**06 27 25.9**	**-0.5**
	baz=9.0						
NRN	**Naryn**	**2.64**	**38**	*e*Pn	**Pn**	**06 26 58.2**	**+1.5**
NRN	**Naryn**	**2.64**	**38**	⇑*e*P	**Pn**	**06 26 57.7**	**+1.0**
	baz=41						
NRN				⇑*i*S	**Sn**	**06 27 29.2**	**-0.4**
	baz=41						
AML	**Almayashu**	**2.77**	**358**	P	**Pn**	**06 26 59.1**	**+0.6**
	SNR=64						
AML	**Almayashu**	**2.77**	**358**	⇑*i*P	**Pn**	**06 26 59.0**	**+0.5**
	baz=57						
AML				⇑*i*S	**Sn**	**06 27 32.3**	**-0.5**
	baz=57						
ARK	**Arkit**	**2.83**	**330**	⇓*i*P	**Pn**	**06 27 00.2**	**+1.1**
	baz=27						
ARK				⇓*i*S	**Sn**	**06 27 33.6**	**-0.3**
	baz=27						
UCH	**Uchtor**	**2.91**	**10**	P	**Pn**	**06 27 01.5**	**+1.0**
	SNR=268						
UCH	**Uchtor**	**2.91**	**10**	⇓*i*P	**Pn**	**06 27 01.3**	**+0.8**
	baz=10.0						
UCH				⇓*i*S	**Sn**	**06 27 35.2**	**-1.1**
	baz=10.0						
KZA	**Kyzart**	**2.91**	**21**	P	**Pn**	**06 27 02.4**	**+1.8**
	SNR=52						
KZA	**Kyzart**	**2.91**	**21**	⇑*i*P	**Pn**	**06 27 01.6**	**+1.1**
	baz=22						
KZA				⇑*i*S	**Sn**	**06 27 35.9**	**-0.5**
	baz=22						
MNAS	**Manas**	**3.28**	**342**	⇑Pn	**Pn**	**06 27 06.2**	**+0.8**
	37nm,0.5s						
MNAS				⇑Sn	**Sn**	**06 27 44.9**	**-0.3**
	230nm,0.7s						
MNAS	**Manas**	**3.28**	**342**	⇓*i*P	**Pn**	**06 27 06.4**	**+1.0**
	baz=41						
MNAS				⇓*i*S	**Sn**	**06 27 44.7**	**-0.5**
	baz=41						
EKS2	**Erkin-Say**	**3.30**	**359**	P	**Pn**	**06 27 06.8**	**+1.2**
	SNR=39						
EKS2	**Erkin-Say**	**3.30**	**359**	⇓*i*P	**Pn**	**06 27 06.5**	**+1.0**
	baz=59						
EKS2				⇓*i*S	**Sn**	**06 27 44.1**	**-1.4**
	baz=59						
AAK	**Ala-Archa**	**3.31**	**8**	Pn	**Pn**	**06 27 07.2**	**+1.5**
	9.0nm,0.3s,baz=164,slow=6.9,SNR=64						
AAK				Sn	**Sb**	**06 27 49.5**	**-3.5**
	29nm,0.3s,baz=356,slow=17,SNR=10						
AAK				LR	LR	06 27 55.4	
	comp=Z,17nm,18.4s,baz=302,slow=32						
AAK	**Ala-Archa**	**3.31**	**8**	P	**Pn**	**06 27 07.3**	**+1.5**
	SNR=38						
KBK	**Karagaybulak**	**3.39**	**14**	P	**Pn**	**06 27 08.8**	**+1.8**
	SNR=43						
KBK	**Karagaybulak**	**3.39**	**14**	⇑*i*P	**Pn**	**06 27 07.9**	**+1.0**
	baz=15						
KBK				⇑*i*S	**Sn**	**06 27 46.8**	**-1.2**
	baz=15						
ULHL	**Ulahol**	**3.40**	**31**	P	**Pn**	**06 27 09.0**	**+1.9**
	SNR=10						
ULHL	**Ulahol**	**3.40**	**31**	⇓*e*P	**Pn**	**06 27 08.4**	**+1.3**
	baz=33						
ULHL				⇓*i*S	**Sn**	**06 27 47.4**	**-0.9**
	baz=33						
MRKS	**Merke**	**3.41**	**352**	*e*P	**Pn**	**06 27 09.5**	**+2.3**
	86nm,0.4s						
MRKS				*e*S	**Sn**	**06 27 48.7**	**+0.4**
	146nm,0.6s						
FRU1	**Bishkek**	**3.49**	**9**	⇑*i*P	**Pn**	**06 27 09.4**	**+1.2**
	baz=10.0						
FRU1				⇑*i*S	**Sn**	**06 27 49.0**	**-1.3**
	baz=10.0						
CHMS	**Chumysh**	**3.69**	**10**	P	**Pn**	**06 27 12.3**	**+1.3**
	SNR=14						
CHMS	**Chumysh**	**3.69**	**10**	⇓*i*P	**Pn**	**06 27 11.7**	**+0.8**
	baz=11						
CHMS				⇓*i*S	**Sn**	**06 27 53.7**	**-1.5**
	baz=11						
KDJ	**Kajisay**	**3.75**	**41**	*e*Pn	**Pb**	**06 27 16.6**	**-3.1**
KDJ	**Kajisay**	**3.75**	**41**	⇑*e*P	**Pn**	**06 27 13.7**	**+1.9**
	baz=44						
KDJ				⇑*i*S	**Sn**	**06 27 56.3**	**-0.4**
	baz=44						
TKM2	**Tokmak 2**	**3.79**	**20**	⇓Pn	**Pn**	**06 27 13.5**	**+1.0**
	8.8nm,0.2s						
TKM2				⇓Pg	**Pb**	**06 27 22.4**	**+1.9**
	137nm,0.8s						
TKM2	**Tokmak 2**	**3.79**	**20**	P	**Pn**	**06 27 14.1**	**+1.6**
	SNR=23						
TKM2	**Tokmak 2**	**3.79**	**20**	⇑*i*P	**Pn**	**06 27 13.7**	**+1.3**
	baz=21						
TKM2				⇑*i*S	**Sn**	**06 27 56.3**	**-1.5**
	baz=21						
USP	**Ospenovka**	**3.93**	**7**	P	**Pn**	**06 27 15.6**	**+1.4**
	SNR=7.0						
USP	**Ospenovka**	**3.93**	**7**	⇑*i*P	**Pn**	**06 27 15.2**	**+1.0**
	baz=7.0						
USP				⇑*i*S	**Sn**	**06 27 59.4**	**-1.6**
	baz=7.0						
KST	**Kastek**	**4.01**	**23**	*e*P	**Pb**	**06 27 23.8**	**-0.3**
	52nm,0.6s						
KST				*e*S	**Sb**	**06 28 13.5**	**+0.3**
	159nm,0.8s						
IUG	**Iuzhnay**	**4.02**	**315**	*e*P	**Pb**	**06 27 24.9**	**+0.6**
	69nm,0.3s						
IUG				*e*S	**Sb**	**06 28 15.9**	**+2.4**
	279nm,0.6s						
DGS	**Degeres**	**4.14**	**20**	*e*P	**Pb**	**06 27 26.0**	**-0.4**
	47nm,0.5s						
DGS				*e*S	**Sb**	**06 28 17.7**	**+0.9**
	119nm,0.8s						
IZV	**Izvestkoviy**	**4.22**	**29**	*e*P	**Pb**	**06 27 28.8**	**+1.0**
	40nm,0.5s						
IZV				*e*S	**Sb**	**06 28 22.5**	**+3.2**
	151nm,0.7s						
MTBS	**Maitube**	**4.24**	**26**	*e*P	**Pb**	**06 27 28.4**	**+0.4**
	29nm,0.5s						
MTBS				*e*S	**Sb**	**06 28 21.4**	**+1.7**
	81nm,0.6s						
TNSS	**Tian-Shan**	**4.35**	**31**	*e*P	**Pb**	**06 27 30.4**	**+0.3**
	82nm,0.4s						
TNSS				*e*S	**Sb**	**06 28 25.3**	**+2.0**
	101nm,0.5s						
MDOK	**Medeo**	**4.50**	**31**	*e*P	**Pb**	**06 27 32.7**	**+0.2**
	62nm,0.5s						
MDOK				*e*S	**Sb**	**06 28 29.1**	**+1.8**
	111nm,0.8s						
KK31	**Karatay Array**	**4.51**	**327**	Pn	**Pn**	**06 27 23.4**	**+1.3**
	2.7nm,0.3s,baz=130,slow=13,SNR=164						
KK31				Pg	**Pb**	**06 27 33.6**	**+1.1**
	6.5nm,0.3s,baz=149,slow=18,SNR=30						
KK31				⇓Sn	**Sn**	**06 28 13.6**	**-1.5**
	14nm,0.3s,baz=151,slow=26,SNR=4.8						
KK31				⇑Lg	Lg	06 28 30.7	
	17nm,0.3s,baz=141,slow=26,SNR=4.7						
KK31	**Karatay Array**	**4.51**	**327**	*e*Pn	**Pn**	**06 27 24.1**	**+2.0**
KKAR	**Karatay Array**	**4.51**	**327**	*e*Pn	**Pn**	**06 27 24.0**	**+1.9**
KNDC	**Almaty**	**4.51**	**30**	⇑Pn	**Pn**	**06 27 22.2**	**0.0**
	20nm,0.5s						
KNDC				⇓Pg	**Pb**	**06 27 33.4**	**+0.7**
	61nm,0.6s						
KNDC				⇓Lg	Lg	06 28 30.1	
	767nm,1.5s						
KOTS	**Kotyrbulak**	**4.58**	**31**	*e*P	**Pb**	**06 27 34.6**	**+0.7**
	46nm,0.6s						
KOTS				*e*S	**Sb**	**06 28 32.9**	**+3.2**
	188nm,0.6s						
PRZ	**Przheval'sk**	**4.65**	**46**	*e*Pn	**Pn**	**06 27 27.3**	**+3.1**
PRZ	**Przheval'sk**	**4.65**	**46**	⇑*i*P	**Pn**	**06 27 26.3**	**+2.1**
	baz=49						
PRZ				⇑*i*S	**Sn**	**06 28 18.3**	**-0.6**
	baz=49						
BRLS	**Borolday**	**4.75**	**322**	*e*P	**Pb**	**06 27 37.3**	**+0.5**
	18nm,0.5s						
BRLS				*e*S	**Sb**	**06 28 37.3**	**+2.8**
	97nm,0.3s						
KTBS	**Karatobe**	**4.84**	**25**	*e*P	**Pb**	**06 27 37.6**	**-0.6**
	32nm,0.7s						
KTBS				*e*S	**Sb**	**06 28 38.5**	**+1.5**
	94nm,0.5s						
KUU	**Kurty**	**4.89**	**22**	*e*P	**Pb**	**06 27 39.5**	**+0.3**
	22nm,0.5s						
KUU				*e*S	**Sb**	**06 28 40.8**	**+2.2**
	104nm,0.9s						
SATY	**Saty**	**5.04**	**41**	*e*P	**Pb**	**06 27 42.5**	**+0.7**
	52nm,0.9s						
SATY				*e*S	**Sb**	**06 28 47.1**	**+4.2**
	122nm,1.3s						
CHKK	**Chushkaly**	**5.07**	**27**	*e*P	**Pb**	**06 27 42.3**	**+0.2**
	15nm,0.5s						
CHKK				*e*S	**Sb**	**06 28 46.0**	**+2.5**
	56nm,0.8s						
ZHN	**Zhinishke**	**5.14**	**41**	*e*P	**Pb**	**06 27 43.4**	**0.0**
	9.3nm,0.6s						
ZHN				*e*S	**Sb**	**06 28 48.4**	**+2.8**
	24nm,0.7s						
UZB	**Uzynbulak**	**5.43**	**44**	*e*P	**Pb**	**06 27 49.1**	**+0.7**
	22nm,0.6s						
UZB				*e*S	**Sb**	**06 28 58.2**	**+4.1**
	34nm,1.4s						
KPKS	**Kokpek**	**5.48**	**40**	*e*P	**Pb**	**06 27 50.7**	**+1.6**
	36nm,0.5s						
KPKS				*e*S	**Sb**	**06 28 59.8**	**+4.4**
	80nm,0.7s						
ARXS	**Arharly**	**5.68**	**30**	*e*P	**Pb**	**06 27 53.9**	**+1.2**
	22nm,0.7s						
ARXS				*e*S	**Sb**	**06 29 05.4**	**+4.1**
	64nm,0.8s						
CHCP	**Chirah Chowk**	**5.71**	**185**	P	Pb	06 27 49.2	-3.9
CEP	**Cherat**	**5.75**	**196**	P	Pb	06 27 48.8	-4.9
CEP				S	**Sb**	**06 28 58.0**	**-5.2**
PDGK	**Podgornoye**	**5.80**	**45**	⇓Pn	**Pn**	**06 27 41.6**	**+1.5**
	8.6nm,0.6s						
PDGK				⇑Pg	**Pb**	**06 27 57.5**	**+2.7**
	12nm,0.5s						
PDGK				⇑Lg	Lg	06 29 14.1	
	80nm,1.1s						
MNBS	**Baschi**	**5.81**	**34**	*e*P	**Pb**	**06 27 57.2**	**+2.3**
	30nm,0.7s						
MNBS				*e*S	**Sb**	**06 29 11.1**	**+6.0**
	60nm,0.8s						
THW	**Thamme Wali**	**6.77**	**195**	P	Pn	06 28 02.1	+8.9
OTUK	**Ortayu**	**8.95**	**353**	⇑Lg	Lg	06 30 53.2	
	42nm,1.1s						
MK32	**Makanchi Array**	**9.65**	**37**	*e*Pn	**Pn**	**06 28 33.6**	**+0.9**
MK32				*e*		06 31 13.2	
MKAR	**Makanchi Array**	**9.65**	**37**	Pn	**Pn**	**06 28 33.6**	**+0.9**
	0.1nm,0.3s,baz=209,slow=19,SNR=3.9						
MKAR				Lg	Lg	06 31 13.2	
	0.1nm,0.3s,baz=210,slow=28,SNR=2.7						
WMQ	**Urumqi**	**11.28**	**62**	*e*P	**Pn**	**06 28 54.9**	**-0.1**
KURBB	**Kurchatov Arra**	**11.73**	**15**	Pn	**Pn**	**06 29 00.1**	**-1.0**
	0.0nm,0.3s,baz=203,slow=11,SNR=3.2						
KURBB				Lg	Lg	06 32 17.4	
	0.1nm,0.3s,baz=204,slow=29,SNR=9.8						
KURK	**Kurchatov**	**11.84**	**15**	⇓Lg	Lg	06 32 25.7	
	16nm,1.0s						
KURK	**Kurchatov**	**11.84**	**15**	*e*Pn	**Pn**	**06 29 04.3**	**+1.7**
KURK				*e*		06 32 17.4	
GEYT	**Alibeck**	**12.39**	**268**	Pn	**Pn**	**06 29 10.1**	**-0.1**
	0.4nm,0.3s,baz=88,slow=20,SNR=3.8						
GEYT				Sn	**Sn**	**06 31 29.3**	**+0.4**
	0.2nm,0.3s,baz=81,slow=12,SNR=3.5						
BVA0	**Borovoye Array**	**13.87**	**351**	⇓Pn	**Pn**	**06 29 30.8**	**+0.5**
	2.4nm,0.6s,baz=169,slow=15,SNR=5.1						
BVAR	**Borovoye Array**	**13.87**	**351**	Pn	**Pn**	**06 29 27.6**	**-2.7**
	0.2nm,0.3s,baz=163,slow=15,SNR=5.5						
BRVK	**Borovoye**	**13.92**	**351**	*e*Pn	**Pn**	**06 29 29.9**	**-1.0**
AB31	**Akbulak array**	**14.01**	**319**	Pn	**Pn**	**06 29 32.0**	**-0.2**
	1.2nm,0.5s,baz=122,slow=14,SNR=15						
AB31				⇑Sn	**Sn**	**06 32 05.7**	**-2.7**
	1.1nm,0.5s,baz=128,slow=25,SNR=7.7						
ABKAR	**Akbulak array**	**14.01**	**319**	*e*Pn	**Pn**	**06 29 30.9**	**-1.3**
ABKAR				*e*Sn	**Sn**	**06 32 00.1**	**-8.2**
AKTO	**Aktyubinsk**	**15.72**	**320**	Pn	**Pn**	**06 29 52.4**	**-2.8**
	baz=118,slow=18						
AKTO	**Aktyubinsk**	**15.72**	**320**	⇑Pn	**Pn**	**06 29 55.4**	**+0.1**
	2.0nm,0.7s						
ZAA0	**Zalesovo Array**	**16.39**	**23**	*e*Pn	**Pn**	**06 30 04.0**	**+0.2**
	3.0nm,0.4s						
ZALV	**Zalesovo Beam**	**16.39**	**23**	Pn	**Pn**	**06 30 02.5**	**-1.2**
	0.3nm,0.3s,baz=231,slow=9.1,SNR=4.4						
ZALV	**Zalesovo Beam**	**16.39**	**23**	*e*Pn	**Pn**	**06 30 00.7**	**-3.0**
ZAA1	**Zalesovo Array**	**16.39**	**23**	*e*Pn	**Pn**	**06 30 02.5**	**-1.3**
LSA	**Lhasa**	**17.18**	**119**	*e*P	**P**	**06 30 16.2**	**0.0**
	2.8nm,0.3s						
GNI	**Garni**	**22.35**	**281**	LR	LR	06 41 16.2	
	comp=Z,23nm,18.0s,baz=20,slow=40						
SONA0	**Songino Array**	**24.89**	**59**	*e*P	**P**	**06 31 38.7**	**+1.6**
SONM	**Songino Array**	**24.89**	**59**	P	**P**	**06 31 38.7**	**+1.6**
	0.7nm,0.7s,baz=263,slow=12,SNR=3.9						
CMAR	**Chiang Mai Arr**	**30.10**	**127**	LR	LR	06 44 24.5	
	comp=Z,23nm,20.4s,baz=322,slow=36						
NRIK	**Noril'sk**	**30.92**	**9**	P	**P**	**06 32 30.9**	**+0.3**
	2.3nm,0.6s,baz=67,slow=2.4,SNR=4.8						
PBA	**Port Blair**	**32.29**	**144**	*e*P	P	06 32 45.2	+2.0
	84nm,1.2s						
AKASG	**Malin Array Be**	**33.03**	**305**	LR	LR	06 47 28.1	
	comp=Z,40nm,18.2s,baz=50,slow=39						
FIA0	**FINESS Array S**	**36.45**	**323**	*e*P	**P**	**06 33 18.6**	**-0.1**
FINES	**FINESS Array B**	**36.45**	**323**	P	**P**	**06 33 18.7**	**-0.1**
	5.5nm,1.1s,baz=108,slow=8.9,SNR=6.5						
ARA0	**ARCESS Array S**	**39.42**	**336**	*e*P	**P**	**06 33 43.6**	**-0.1**
ARCES	**ARCESS Array B**	**39.42**	**336**	P	**P**	**06 33 43.6**	**-0.1**
	3.0nm,1.0s,baz=115,slow=8.3,SNR=8.7						
GERES	**GERESS Array B**	**43.19**	**303**	P	**P**	**06 34 16.3**	**+1.2**
	0.4nm,0.6s,baz=82,slow=7.2,SNR=4.4						
NB2	**NORSAR Subarra**	**43.51**	**321**	P	**P**	**06 34 18.1**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=113,slow=7.9						
NB200	**NORSAR Array S**	**43.51**	**321**	*e*P	**P**	**06 34 17.8**	**+0.3**
NOA	**NORSAR Array B**	**43.51**	**321**	P	**P**	**06 34 17.8**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=108,slow=7.4,SNR=8.7						
TOA1	**Torodi Ar. Sit**	**68.03**	**269**	*e*P	**P**	**06 37 13.0**	**-1.0**
TORD	**Torodi Ar. Bea**	**68.03**	**269**	P	**P**	**06 37 13.0**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=49,slow=5.5,SNR=8.3						
ILAR	**Eielson Array**	**71.40**	**17**	P	**P**	**06 37 35.1**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=331,slow=7.3,SNR=3.5						
ILB	**Eielson Array**	**71.40**	**17**	*e*P	**P**	**06 37 33.9**	**-0.1**
YKA	**Yellowknife Ar**	**78.26**	**4**	P	**P**	**06 38 15.3**	**+1.5**
	comp=Z,0.8nm,0.7s,baz=349,slow=5.9,SNR=2.9						
YKB5	**Yellowknife Ar**	**78.26**	**4**	*e*P	**P**	**06 38 15.3**	**+1.5**
WR1	**Warramunga Arr**	**81.66**	**124**	*e*P	**P**	**06 38 32.7**	**0.0**
	comp=Z,0.0nm,1.8s						
WRA	**Warramunga Arr**	**81.66**	**124**	P	**P**	**06 38 32.7**	**0.0**
	comp=Z,0.3nm,0.5s,baz=330,slow=5.4,SNR=6.1						
WRAB	**Tennant Creek**	**81.66**	**124**	*e*P	**P**	**06 38 32.2**	**-0.5**
AS31	**Alice Springs**	**84.11**	**127**	*e*P	**P**	**06 38 45.9**	**+0.5**
	comp=Z,2.5nm,1.7s						
ASAR	**Alice Springs**	**84.11**	**127**	P	**P**	**06 38 45.9**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=312,slow=5.0,SNR=3.0						

MEX 18 06:33:02.0±0.5, 18.40N×102.31W, h66km±15km, MD3.8, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.99**	**264**	*e*P	Pn	06 33 18.4	-1.8
MMIG				*e*S	Sn	06 33 32.3	-1.5
ZIIG	**Zihuatanejo**	**1.12**	**135**	*e*P	Pn	06 33 20.7	-1.2
ZIIG				*i* S	Sn	06 33 34.5	-2.2
EZ5V		**1.63**	**311**	*e*

	baz=12							
YOJ	**Yonaguni jima**	**0.72**	**13**	P		**Pn**	**06 47 11.0**	**-0.1**
YOJ				S		**Sn**	**06 47 20.6**	**-0.7**
HATJ	**Hateruma jima**	**0.94**	**71**	P		**Pn**	**06 47 14.7**	**+0.6**
HATJ				*e*S		**Sn**	**06 47 27.2**	**+0.5**
IRIF	**Iriomote-Funau**	**1.00**	**55**	P		**Pb**	**06 47 15.4**	**+0.2**
IRIF				S		**Sn**	**06 47 28.4**	**+0.2**
EOS1	**EOS1**	**1.02**	**321**	P		**Pb**	**06 47 16.0**	**+0.5**
	baz=324							
EOS1				S		**Sb**	**06 47 28.7**	**+0.3**
	baz=324							
JKRS	**Kuro-shima**	**1.18**	**66**	P		**Pb**	**06 47 18.2**	**0.0**
JKRS				*e*S		**Sb**	**06 47 33.1**	**+0.1**
TWD	**Chiawan**	**1.18**	**286**	*e*P		**Pb**	**06 47 18.3**	**+0.1**
	baz=270							
TWD				*e*S		**Sn**	**06 47 31.2**	**-1.5**
	baz=270							
NANB	**Nanao**	**1.20**	**304**	*e*P		**Pn**	**06 47 18.1**	**+0.5**
	baz=310							
NANB				*e*S		**Sb**	**06 47 33.9**	**+0.3**
	baz=310							
ENA	**Nanau**	**1.20**	**304**	*e*P		**Pn**	**06 47 18.3**	**+0.6**
	baz=310							
ENA				*e*S		**Sn**	**06 47 33.6**	**+0.3**
	baz=310							
NACB	**Ninganchiao**	**1.21**	**290**	*e*P		**Pn**	**06 47 17.8**	**-0.1**
	baz=275							
NACB				*e*S		**Sn**	**06 47 32.8**	**-0.6**
	baz=275							
ESL	**Shilin**	**1.29**	**273**	*e*P		**Pn**	**06 47 18.7**	**-0.2**
	baz=260							
EGFH	**Guangfu**	**1.29**	**266**	*e*P		**Pb**	**06 47 20.4**	**+0.2**
	baz=262							
HGSD	**Ruisui**	**1.32**	**259**	*e*P		**Pn**	**06 47 19.5**	**+0.1**
	baz=254							
HGSD				*e*S		**Sn**	**06 47 35.1**	**-1.1**
	baz=254							
JIJ	**Ishigaki jima**	**1.34**	**63**	P		**Pn**	**06 47 19.8**	**+0.2**
JIJ				*e*S		**Sn**	**06 47 35.8**	**-0.8**
EHY	**Hungye**	**1.41**	**260**	*e*P		**Pn**	**06 47 21.3**	**+0.7**
	baz=255							
EHY				*e*S		**Sn**	**06 47 38.5**	**0.0**
	baz=255							
ILA	**Ilan**	**1.41**	**316**	*e*P		**Pn**	**06 47 21.4**	**+0.8**
	baz=312							
ENTT	**Nioudou**	**1.46**	**307**	*e*S		**Sn**	**06 47 39.6**	**+0.1**
	baz=305							
YULB	**Yu-li**	**1.46**	**256**	*e*P		**Pn**	**06 47 21.9**	**+0.6**
	baz=244							
YULB				*e*S		**Sn**	**06 47 40.1**	**+0.6**
	baz=244							
TWF1	**Yuli**	**1.47**	**254**	*e*P		**Pn**	**06 47 22.5**	**+1.1**
	baz=243							
WHF	**Hehuan Shan**	**1.49**	**285**	P		**Pn**	**06 47 22.4**	**+0.4**
	baz=271							
WHF				*e*S		**Sn**	**06 47 39.9**	**-1.1**
	baz=271							
NNS	**Nan Shan**	**1.50**	**297**	*e*P		**Pn**	**06 47 22.8**	**+0.8**
	baz=293							
NNS				*e*S		**Sn**	**06 47 40.7**	**-0.1**
	baz=293							
TIPB	**Shuangxi**	**1.52**	**323**	*e*P		**Pn**	**06 47 22.6**	**+0.4**
	baz=326							
FULB	**Fuli**	**1.52**	**249**	*e*P		**Pn**	**06 47 22.6**	**+0.4**
	baz=236							
FULB				*e*S		**Sn**	**06 47 40.4**	**-0.7**
	baz=236							
CHGB	**Renai**	**1.55**	**282**	*e*P		**Pn**	**06 47 23.5**	**+0.7**
	baz=267							
CHGB				*e*S		**Sn**	**06 47 41.7**	**-0.5**
	baz=267							
VWDT	**VWDT**	**1.55**	**270**	*e*P		**Pn**	**06 47 23.5**	**+0.9**
	baz=260							
JISG	**Ishigakijimahi**	**1.58**	**58**	P		**Pn**	**06 47 22.9**	**0.0**
JISG				S		**Sn**	**06 47 41.6**	**-1.0**
NWLT	**Wulai**	**1.58**	**310**	*e*P		**Pb**	**06 47 25.3**	**+0.1**
	baz=309							
NWLT				*e*S		**Sn**	**06 47 42.9**	**+0.1**
	baz=309							
TDCB	**Techi**	**1.61**	**288**	*e*P		**Pn**	**06 47 24.5**	**+1.0**
	baz=274							
TDCB				*e*S		**Sn**	**06 47 43.4**	**-0.2**
	baz=274							
YHNB	**Yeheng**	**1.61**	**305**	*e*P		**Pn**	**06 47 24.3**	**+0.8**
	baz=302							
YHNB				*e*S		**Sn**	**06 47 42.5**	**-1.0**
	baz=302							
SSLB	**Suanglung**	**1.72**	**271**	*e*P		**Pn**	**06 47 26.4**	**+1.4**
	baz=259							
SSLB				*e*S		**Sn**	**06 47 47.0**	**+0.8**
	baz=259							
YUS	**Yu-Shan**	**1.75**	**262**	*e*P		**Pn**	**06 47 26.9**	**+1.2**
	baz=258							
ELDTW	**Lidau**	**1.76**	**252**	*e*P		**Pn**	**06 47 26.2**	**+0.7**
	baz=239							
ELDTW				*e*S		**Sn**	**06 47 46.5**	**-0.7**
	baz=239							
SMLT	**Sun Moon Lake**	**1.78**	**274**	*e*P		**Pn**	**06 47 27.2**	**+1.5**
	baz=263							
YM07	**YM07**	**1.79**	**322**	*e*P		**Pn**	**06 47 26.4**	**+0.5**
	baz=320							
LIOB	**Emei**	**1.88**	**298**	*e*P		**Pb**	**06 47 29.5**	**-0.7**
	baz=296							
LIOB				*e*S		**Sn**	**06 47 51.7**	**+1.6**
	baz=296							
NSTT	**Nanjuang**	**1.89**	**298**	*e*P		**Pb**	**06 47 29.3**	**-1.0**
	baz=295							
NSTT				*e*S		**Sn**	**06 47 51.3**	**+1.1**
	baz=295							
CHN5	**Tsauling**	**1.98**	**266**	*e*P		**Pb**	**06 47 31.0**	**-1.0**
	baz=262							
TPUB	**Ta-pu**	**2.08**	**258**	*e*P		**Pb**	**06 47 32.2**	**-1.3**
	baz=249							
TPUB				*e*S		**Sb**	**06 47 57.6**	**-1.3**
	baz=249							
CHN4	**Tsaushan**	**2.10**	**259**	*e*P		**Pb**	**06 47 33.1**	**-0.7**
	baz=249							
CHN4				*e*S		**Sb**	**06 47 58.5**	**-1.1**
	baz=249							
SLGT	**Liugui**	**2.15**	**250**	*e*P		**Pn**	**06 47 32.7**	**+1.9**
	baz=241							
MASBT	**Mashibuluo**	**2.33**	**241**	*e*P		**Pn**	**06 47 35.3**	**+2.1**
	baz=233							

*ISCJB **18** 06:53:02.4±0.8, 40°64N±0°03×125°23W±0°05, h9km±4km, Error ellipse: s-maj=6.1km s-min=4.3km az=159.0*
*ANF **18** 06:53:03.1±1.4, 40°62N×125°22W, h10km, ML3.3/10, Error ellipse: s-maj=15.5km s-min=6.6km az=49.0*
*NCEDC **18** 06:53:05.3, 40°63N×125°16W, h9km, MW3.7(BRK)*
*NEIC **18** 06:53:05.3±0.0, 40°63N×125°16W, h9km, MW3.7(BRK), After NCEDC.*
NEIC Felt at Fort Bragg.

ISC 18 06:53:03.8±2.0, 40°64N±0°04×125°21W±0°07, h6km±11km, n53, σ1°12/68, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	**Jacoby Creek,**	**0.91**	**79**	*e*Pg	**Pg**	**06 53 21.1**	**-0.2**
JCC				*e*Sg	**Sb**	**06 53 34.0**	**-0.4**
KHMM	**Horse Mountain**	**1.14**	**78**	*e*Pg	**Pg**	**06 53 24.8**	**-0.9**
KHMM				*e*Sg	**Sg**	**06 53 40.8**	**+0.2**
KMRM	**Mad Ridge**	**1.22**	**110**	*e*Pg	**Pg**	**06 53 26.6**	**-0.6**
KMRM				*e*Sg	**Sb**	**06 53 43.6**	**+0.3**
KCPM	**Cahto Peak**	**1.57**	**127**	*e*Pn	**Pn**	**06 53 30.9**	**-1.5**
KCPM				*e*Sn	**Sn**	**06 53 51.6**	**-1.5**
KBO	**Bosley Butte**	**1.73**	**25**	*e*Pn	**Pn**	**06 53 32.6**	**-2.0**
O02D	**Mt. Diablo Mer**	**1.90**	**103**	P	**Pn**	**06 53 35.9**	**-1.0**
	baz=285,SNR=48						
O02D				S	**Sn**	**06 54 00.6**	**-0.7**
	baz=285						
N02D	**Trinity Center**	**1.93**	**79**	P	**Pn**	**06 53 35.6**	**-1.6**
	baz=262,SNR=22						
N02D				S	**Sn**	**06 54 02.1**	**+0.3**
	baz=262						
M02C	**Callahan**	**1.93**	**66**	P	**Pn**	**06 53 35.7**	**-1.6**
	baz=250,SNR=73						
M02C				S	**Sn**	**06 54 00.1**	**-1.9**
	baz=250						
L02E	**Cave Junction**	**1.94**	**38**	P	**Pn**	**06 53 35.5**	**-1.8**
	baz=222,SNR=93						
WDC	**Whiskeytown Da**	**2.03**	**91**	*e*Pn	**Pn**	**06 53 37.5**	**-1.0**
WDC				*e*Sn	**Sn**	**06 54 02.9**	**-1.4**
GHOM	**Hamilton Openi**	**2.05**	**141**	*e*Pn	**Pn**	**06 53 37.9**	**-1.0**
YBH	**Yreka Blue Hor**	**2.17**	**59**	*e*Pn	**Pn**	**06 53 39.4**	**-1.3**
YBH				*e*Sn	**Sn**	**06 54 06.6**	**-1.4**
KEBM	**Edson Butte**	**2.32**	**16**	*e*Pn	**Pn**	**06 53 40.5**	**-2.1**
HOPS	**Hopland Field**	**2.33**	**134**	*e*Pn	**Pn**	**06 53 41.8**	**-0.9**
K02D	**Willamette Mer**	**2.35**	**29**	P	**Pn**	**06 53 41.4**	**-1.8**
	baz=212,SNR=209						
GDXM	**Geysers**	**2.61**	**134**	*e*Pn	**Pn**	**06 53 47.2**	**+0.6**
O03E	**Paynes Creek**	**2.62**	**97**	P	**Pn**	**06 53 45.5**	**-1.3**
	baz=279,SNR=36						
O03E				S	**Sn**	**06 54 18.0**	**-1.0**
	baz=279						
L04D	**Klamath Falls**	**2.69**	**53**	P	**Pn**	**06 53 48.2**	**+0.4**
	baz=237,SNR=197						
L04D				S	**Sn**	**06 54 21.5**	**+0.7**
	baz=237						
J01E	**Myrtle Point**	**2.69**	**20**	P	**Pn**	**06 53 46.9**	**-0.7**
	baz=204						
M04C	**Macdoel**	**2.78**	**65**	P	**Pn**	**06 53 49.0**	**-0.1**
	baz=248,SNR=8.5						
M04C				S	**Sn**	**06 54 24.1**	**+1.0**
	baz=248						
LBCM	**Butte Creek Ri**	**2.94**	**85**	*e*Pn	**Pn**	**06 53 50.5**	**-0.6**
ORV	**Oroville**	**3.04**	**110**	*e*Pn	**Pn**	**06 53 51.5**	**-1.1**
ORV				*e*Sn	**Sn**	**06 54 27.3**	**-2.0**
MCCM	**Marconi Confer**	**3.08**	**143**	*e*Pn	**Pn**	**06 53 51.8**	**-1.2**
K04D	**Chiloquin, OR**	**3.26**	**51**	P	**Pn**	**06 53 55.2**	**-0.4**
	baz=235,SNR=7.2						
I03D	**Drain, OR**	**3.35**	**24**	P	**Pn**	**06 53 56.1**	**-0.6**
	baz=207,SNR=67						
AFDM	**Forest Hills D**	**3.67**	**116**	*e*Pn	**Pn**	**06 54 00.9**	**-0.3**
I04A	**Tendick Farm,**	**3.77**	**32**	P	**Pn**	**06 54 02.4**	**-0.1**
	baz=216						
BEKR	**Beckworth**	**3.79**	**100**	*e*Pn	**Pn**	**06 54 03.2**	**+0.3**
MOD	**Modoc Plateau**	**3.90**	**70**	*e*Pn	**Pn**	**06 54 04.9**	**+0.5**
J05D	**Fort Rock, OR**	**3.97**	**47**	P	**Pn**	**06 54 05.2**	**-0.2**
	baz=231						
J05D				S	**Sn**	**06 54 52.2**	**0.0**
	baz=231						
RUBR	**Rubicon Trail**	**4.20**	**111**	*e*Pn	**Pn**	**06 54 09.2**	**+0.6**
H04D	**Lebanon**	**4.28**	**24**	P	**Pn**	**06 54 09.8**	**+0.3**
	baz=208						
H04D				S	**Sn**	**06 54 57.7**	**-2.2**
	baz=208						
VCNR	**Virginia City**	**4.48**	**106**	*e*Pn	**Pn**	**06 54 12.0**	**-0.4**
CMB	**Columbia Colle**	**4.55**	**123**	*e*Pn	**Pn**	**06 54 13.6**	**+0.2**
PAHR	**Pah Rah Range**	**4.56**	**100**	*e*Pn	**Pn**	**06 54 13.3**	**-0.1**
PNTR	**Pine Nut**	**4.58**	**108**	*e*Pn	**Pn**	**06 54 14.3**	**+0.4**
H04A	**Detroit Lake**	**4.61**	**28**	*e*Pn	**Pn**	**06 54 14.3**	**+0.3**
SAO	**San Andreas Ge**	**4.86**	**142**	*e*Pn	**Pn**	**06 54 17.1**	**-0.4**
YERR	**Yerington**	**4.88**	**108**	*e*Pn	**Pn**	**06 54 18.3**	**+0.3**
WAKR	**Walker**	**4.94**	**114**	*e*Pn	**Pn**	**06 54 20.0**	**+1.2**
RYN	**Ryan**	**5.54**	**109**	*e*Pn	**Pn**	**06 54 27.4**	**+0.5**
PMPB	**Monarch Peak**	**5.61**	**141**	*e*Pn	**Pn**	**06 54 27.4**	**-0.5**
G06A	**Carlson Farm,**	**5.68**	**35**	*e*Pn	**Pn**	**06 54 29.8**	**+1.0**
KVN	**Kaiserville**	**5.70**	**104**	*e*Pn	**Pn**	**06 54 29.5**	**+0.3**
J08A	**Circle Bar Ran**	**5.70**	**59**	*e*Pn	**Pn**	**06 54 29.6**	**+0.5**
NV11	**Mina Array Sit**	**5.88**	**110**	*e*Pn	**Pn**	**06 54 32.2**	**+0.6**
E03A	**Lebam**	**6.02**	**11**	*e*Pn	**Pn**	**06 54 34.4**	**+1.1**
G08A	**Pilot Rock**	**6.52**	**43**	*e*Pn	**Pn**	**06 54 41.0**	**+0.6**
LON	**Longmire**	**6.58**	**21**	*e*Pn	**Pn**	**06 54 41.8**	**+0.6**
ISA	**Isabella, Lake**	**7.27**	**131**	*e*Pn	**Pn**	**06 54 50.9**	**+0.3**
LTY	**Liberty**	**7.38**	**25**	*e*Pn	**Pn**	**06 54 52.7**	**+0.6**
HLID	**Hailey**	**8.54**	**66**	*e*Pn	**Pn**	**06 55 10.8**	**+2.6**
BBB	**Bella Bella**	**11.72**	**351**	*e*Pn	**Pn**	**06 55 54.4**	**+3.0**

UCR 18 08:23:02.9±1.3, 11°33N×85°63W, h172km±4km, MD4.0, 6C-1D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUAI	**Buenos Aires**	**0.53**	**147**	*i* P	Pn	08 23 27.6	+0.6
GB1A	**Borinquen Arri**	**0.55**	**156**	*i* P	Pn	08 23 27.5	+0.3
GB1A				*i* S	Sn	08 23 47.3	+1.5
BUEV	**Buena Vista**	**0.57**	**157**	*i* P	Pn	08 23 27.4	+0.1
GBS3	**Finca Las Im¨¡**	**0.57**	**162**	*i* P	Pn	08 23 27.1	-0.1
GBS3				*i* S	Sn	08 23 46.0	+0.2
LAPC	**Finca la Perla**	**0.59**	**161**	*i* P	Pn	08 23 27.0	-0.2
GPS1	**Guardaparques**	**0.61**	**153**	*i* P	Pn	08 23 27.7	+0.2
GPS2	**Hotel Rinc¨‡n**	**0.63**	**154**	*i* P	Pn	08 23 27.8	+0.3
NY14	**Universidad de**	**0.68**	**172**	*i* P	Pn	08 23 27.8	+0.1
MESS	**Mesas**	**0.72**	**144**	*i* P	Pn	08 23 28.3	+0.3
MESS				⇑*e*P		08 23 28.4	
LIM1	**Limonal**	**0.72**	**149**	*i* P	Pn	08 23 28.3	+0.2
GUAB	**Guayabo de Bag**	**0.73**	**147**	*i* P	Pn	08 23 28.3	+0.3
HORNC	**Hornillas**	**0.75**	**144**	*i* P	Pn	08 23 28.5	+0.3
COLC	**Colonia**	**0.78**	**147**	*i* P	Pn	08 23 28.5	+0.2
CUI	**Cuipilapa**	**0.81**	**145**	*i* P	Pn	08 23 29.0	+0.5
PTEN	**Parque Tenorio**	**0.88**	**134**	*i* P	Pn	08 23 29.6	+0.6
ACAL	**Aguas Claras**	**0.90**	**140**	*i* P	Pn	08 23 29.6	+0.4
AMAS	**Alto Masis**	**0.95**	**139**	*i* P	Pn	08 23 29.9	+0.3
PLVR	**Palo Verde**	**1.01**	**164**	⇑*e*P	Pn	08 23 30.0	-0.1
PLVR				*e*S	Sn	08 23 51.5	+0.4
BOAB	**BOACO BROADBAN**	**1.12**	**358**	*e*P	Pn	08 23 31.3	+0.6
BOAB				*e*S	Sn	08 23 52.7	+0.3
VCR	**Vista de Mar**	**1.19**	**180**	⇑*i*P	Pn	08 23 31.5	-0.1
JTS	**JuntasAbangare**	**1.22**	**147**	⇑*e*P	Pn	08 23 31.8	0.0
ARE1	**Arenal 1**	**1.24**	**134**	⇑*i*P	Pn	08 23 32.6	+0.8
ARE1				*e*S	Sn	08 23 55.4	+1.2
CASO	**Castillo**	**1.25**	**135**	*i* P	Pn	08 23 32.5	+0.5
ESPN	**Las Esperanzas**	**1.56**	**56**	*e*P	Pn	08 23 35.2	+0.4
ESPN				*e*S	Sn	08 23 59.9	+0.5
CNGN	**Cerro Negro**	**1.57**	**318**	*e*P	Pn	08 23 34.4	-0.5
SRA1	**San Ram¨‡n**	**1.67**	**137**	*e*P	Pn	08 23 36.5	+0.4
ESTN	**Estel**	**1.91**	**338**	⇓*i*P	Pn	08 23 39.3	+0.7
CRIN	**San Cristobal**	**1.95**	**315**	*e*P	Pn	08 23 39.3	+0.4
CRIN				*e*S	Sn	08 24 09.2	+2.3
HDC	**Heredia**	**1.99**	**131**	*e*P	Pn	08 23 39.9	+0.4
LCR2	**La Lucha 2**	**2.24**	**134**	⇑*e*P	Pn	08 23 42.6	+0.2
URSC	**Urasca**	**2.35**	**129**	*e*P	Pn	08 23 45.1	+1.5
CSGN	**Cosiguina Volc**	**2.50**	**311**	*e*P	Pn	08 23 46.5	+1.3
EDLM	**Las Mercedes**	**2.86**	**135**	*e*P	Pn	08 23 50.4	+0.8
DRK0	**Durika**	**3.12**	**131**	*e*P	Pn	08 23 53.1	+0.3
DRK0				*e*S	Sn	08 24 30.0	-1.6
EDSV	**San Vito**	**3.61**	**133**	*e*P	Pn	08 24 00.1	+1.1

*WEL **18** 08:51:19.9±1.1, 30°S±3°×17°8W±1°6, h33km, ML5.4/3*
*ISCJB **18** 08:51:21.2±0.5, 30°53S±0°03×177°8W±0°1, h33km, mb4.5/16, Error ellipse: s-maj=14.9km s-min=3.1km az=13.1*
*NEIC **18** 08:51:23.6±0.4, 30°10S×177°59W, h35km, mb4.6/10, Error ellipse: s-maj=11.2km s-min=9.1km az=105.0*
*IDC **18** 08:51:24.8±2.1, 30°16S×177°71W, h42km±18km, mb4.1/8, mb1 4.2/8, mb1mx3.9/31, mbtmp4.3/8, MS3.3/8, Ms1 3.3/8, ms1mx3.1/32, Error ellipse: s-maj=27.7km s-min=16.7km az=92.0*

ISC 18 08:51:23.1±0.6, 30°36S±0°05×177°7W±0°1, h33km, n91, σ2°34/99, mb4.6/16, 1C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.12**	**349**	P	**Pn**	**08 51 41.1**	**-1.3**
GLKZ				S	**Sn**	**08 51 53.4**	**-3.2**
RAO	**Raoul Island**	**1.13**	**349**	P	**Pn**	**08 51 40.8**	**-1.7**
	668nm,0.3s,baz=130,slow=3.0,SNR=29						
RAO				LR	LR	08 51 41.3	
	comp=Z,2µm,20.9s,baz=8.5,slow=18						
RAO				S	**Sn**	**08 51 54.1**	**-2.8**
	6µm,0.3s,baz=108,slow=20,SNR=34						
RAO	**Raoul Island**	**1.13**	**349**	*e*Pn	**Pn**	**08 51 41.3**	**-1.2**
RAO				*e*Sn	**Sn**	**08 51 53.6**	**-3.3**
RAO				*e*Sn	**Sn**	**08 51 54.1**	**-2.8**
RIZ	**Raoul Island**	**1.13**	**348**	P	**Pn**	**08 51 41.4**	**-1.3**
RIZ				S	**Sn**	**08 51 54.6**	**-2.5**
MXZ	**Matakaoa Point**	**7.92**	**204**	P	Pn	08 53 10.5	-5.5
MXZ				S	**Sn**	**08 54 42.5**	**-1.9**
WMGZ	**Waiomatatini S**	**8.12**	**203**	P	**Pn**	**08 53 17.0**	**-1.7**
WMGZ				S	**Sn**	**08 54 48.7**	**-0.6**
HAZ	**Te Kaha**	**8.29**	**206**	P	**Pn**	**08 53 18.7**	**-2.2**
HAZ				S	**Sn**	**08 54 53.1**	**-0.2**
PKGZ	**Pakihiroa**	**8.30**	**204**	P	**Pn**	**08 53 18.4**	**-2.8**
PKGZ				S	**Sn**	**08 54 49.8**	**-3.9**
PUZ	**Puketiti**	**8.40**	**203**	P	**Pn**	**08 53 18.9**	**-3.7**
PUZ				S	**Sn**	**08 54 53.1**	**-3.1**
RUGZ	**Raukumara Rang**	**8.51**	**206**	P	**Pn**	**08 53 21.4**	**-2.8**
RUGZ				S	**Sn**	**08 54 55.7**	**-3.4**
TWGZ	**Tauwhareparae**	**8.59**	**204**	P	**Pn**	**08 53 23.0**	**-2.2**
TWGZ				S	**Sn**	**08 54 59.7**	**-1.2**
CNGZ	**Carnagh Statio**	**8.79**	**202**	P	**Pn**	**08 53 24.6**	**-3.3**
CNGZ				S	**Sn**	**08 55 04.0**	**-1.8**
OUZ	**Omahuta**	**8.81**	**234**	*e*Pn	Pn	08 53 35.4	+7.3
OUZ	**Omahuta**	**8.81**	**234**	P	Pn	08 53 35.2	+7.1
MWZ	**Matawai**	**8.89**	**205**	P	**Pn**	**08 53 26.6**	**-2.7**
MWZ				S	**Sn**	**08 55 05.6**	**-2.7**
URZ	**Urewera**	**8.98**	**207**	P	**Pn**	**08 53 26.9**	**-3.7**
	1.2nm,0.3s,baz=280,slow=3.2,SNR=12						
URZ				S	**Sn**	**08 55 09.1**	**-1.4**
	6.2nm,0.3s,baz=247,slow=24,SNR=14						
URZ	**Urewera**	**8.98**	**207**	*e*Pn	**Pn**	**08 53 29.1**	**-1.4**
URZ				*e*Sn	**Sn**	**08 55 09.1**	**-1.4**
URZ	**Urewera**	**8.98**	**207**	P	**Pn**	**08 53 27.2**	**-3.3**
URZ				S	**Sn**	**08 55 06.5**	**-4.0**
RAGZ	**Rawiri**	**9.07**	**205**	P	**Pn**	**08 53 29.9**	**-1.9**
RAGZ				S	**Sn**	**08 55 09.4**	**-3.4**
RIGZ	**Rimuhau**	**9.14**	**203**	P	**Pn**	**08 53 29.6**	**-3.1**
RIGZ				S	**Sn**	**08 55 11.5**	**-2.9**
SNGZ	**Shannon Statio**	**9.35**	**205**	P	**Pn**	**08 53 33.1**	**-2.5**
SNGZ				S	**Sn**	**08 55 16.8**	**-2.9**
NMHZ	**Naumai**	**9.83**	**206**	P	**Pn**	**08 53 39.1**	**-3.0**
NMHZ				S	**Sn**	**08 55 28.4**	**-3.0**
BKZ	**Black Stump Fm**	**10.01**	**207**	*e*Pn	**Pn**	**08 53 40.0**	**-4.6**
BKZ	**Black Stump Fm**	**10.01**	**207**	P	Pn	08 53 39.8	-4.8
BKZ				S	**Sn**	**08 55 30.7**	**-5.1**
KAHZ	**Kahuranaki**	**10.42**	**204**	P	**Pn**	**08 53 46.0**	**-4.2**
KAHZ				S	**Sn**	**08 55 41.2**	**-4.6**
THZ	**Tophouse**	**13.69**	**211**	*e*Pn	**Pn**	**08 54 33.0**	**-1.9**
LTZ	**Lake Taylor**	**14.79**	**210**	*e*Pn	**P**	**08 54 53.8**	**-1.6**
	76nm,1.4s						
RPZ	**Rata Peaks**	**16.07**	**211**	LR	LR	09 01 23.6	
	comp=Z,100nm,20.7s,baz=40,slow=37						
DZM	**Mont Dzumac**	**16.46**	**296**	P	**P**	**08 55 18.5**	**+4.3**
	0.6nm,0.3s,baz=117,slow=14,SNR=5.5						
DZM				LR	LR	09 00 11.8	
	comp=Z,213nm,19.9s,baz=100,slow=32						
DZM	**Mont Dzumac**	**16.46**	**296**	*e*P	**P**	**08 55 20.5**	**+6.3**
	28nm,0.9s						
DZM				*e*LR	LR	08 58 59.4	
	255nm,24.8s						
DZM	**Mont Dzumac**	**16.46**	**296**	*e*Pn	**Pn**	**08 55 09.3**	**-2.5**
	11nm,0.7s						
AFI	**Afiamalu**	**17.25**	**20**	LR	LR	09 00 25.3	
	comp=Z,88nm,21.6s,baz=182,slow=32						
MLZ	**Mavora Lakes**	**18.68**	**213**	*e*P	**Pn**	**08 55 40.3**	**+1.4**
	79nm,1.6s						
TBI	**Tubuai**	**26.07**	**81**	*e*LR	LR	09 03 20.7	
	206nm,28.2s						
TBI	**Tubuai**	**26.07**	**81**	*e*T	T	09 23 52.5	
	12nm,0.3s						
CAN	**Canberra**	**28.36**	**251**	*e*P	**P**	**08 57 17.4**	**+3.1**
	195nm,2.0s						
PAE	**Paea**	**28.51**	**70**	*e*T	T	09 26 40.4	
	4.4nm,0.3s						
PPT2	**Papeete2**	**28.55**	**70**	*e*LR	LR	09 04 33.0	
	155nm,25.5s						
PPT2	**Papeete2**	**28.55**	**70**	*e*T	T	09 26 42.8	
	3.3nm,0.3s						
PPT	**Papeete**	**28.56**	**70**	LR	LR	09 05 14.5	
	comp=Z,69nm,20.4s,baz=182,slow=29						
TVO	**Taravao**	**28.72**	**71**	*e*T	T	09 26 56.2	
	1.1nm,0.4s						
VAH	**Vaihoa**	**31.39**	**68**	*e*T	T	09 30 13.0	
	20nm,0.2s						
CTAO	**Charters Tower**	**34.08**	**279**	*e*P	**P**	**08 58 07.2**	**+2.5**
	17nm,0.8s						
STKA	**Stephens Creek**	**34.77**	**257**	P	**P**	**08 58 11.9**	**+1.4**
	12nm,0.6s,baz=92,slow=9.7,SNR=24						
STKA				LR	LR	09 11 39.2	
	comp=Z,58nm,18.9s,baz=26,slow=35						
STKA	**Stephens Creek**	**34.77**	**257**	*e*P	**P**	**08 58 13.0**	**+2.5**
	2.3nm,0.8s						
RKT	**Rikitea**	**38.63**	**90**	*e*T	T	09 39 46.1	
	1.1nm,0.3s						
BBOO	**Buckleboo**	**39.26**	**254**	*e*P	**P**	**08 58 50.1**	**+1.4**
	8.4nm,0.7s						
AS01	**Alice Springs**	**43.36**	**267**	*e*P	**P**	**08 59 23.1**	**+0.6**
AS31	**Alice Springs**	**43.40**	**267**	*e*P	**P**	**08 59 23.3**	**+0.5**
	1.4nm,0.4s						
ASAR	**Alice Springs**	**43.40**	**267**	P	**P**	**08 59 23.1**	**+0.2**
	2.4nm,0.5s,baz=103,slow=7.5,SNR=33						
WB2	**Warramunga Arr**	**44.37**	**272**	*e*P	**P**	**08 59 30.8**	**+0.1**
	9.4nm,0.6s						
WRAB	**Tennant Creek**	**44.38**	**272**	*e*P	**P**	**08 59 30.7**	**-0.1**
	9.1nm,0.8s						
WR1	**Warramunga Arr**	**44.38**	**272**	*e*P	**P**	**08 59 30.4**	**-0.3**
	10nm,0.6s						
WRA	**Warramunga Arr**	**44.38**	**272**	P	**P**	**08 59 30.

NY14				*i* S	**Sn**	**08 56 57.0**	**+0.4**
GBS3	**Finca Las Im˜¡**	**1.38**	**111**	*i* P	**Pn**	**08 56 39.2**	**-0.9**
LAPC	**Finca la Perla**	**1.40**	**111**	*i* P	**Pn**	**08 56 39.2**	**-1.2**
GB1A	**Borinquen Arri**	**1.42**	**108**	*i* P	**Pn**	**08 56 40.0**	**-0.8**
GPS3	**Bodega del ICE**	**1.47**	**110**	*i* P	**Pn**	**08 56 40.5**	**-0.9**
GPS1	**Guardaparques**	**1.48**	**109**	*i* P	**Pn**	**08 56 40.5**	**-1.1**
GPS2	**Hotel Rinc˜‡n**	**1.48**	**110**	*i* P	**Pn**	**08 56 40.8**	**-0.8**
BOAB	**BOACO BROADBAN**	**.59**	**43**	*e*Pn	**Pn**	**08 56 44.0**	**+0.9**
MESS	**Mesas**	**1.63**	**109**	*e*P	**Pn**	**08 56 43.7**	**0.0**
PLVR	**Palo Verde**	**1.67**	**123**	*e*P	**Pn**	**08 56 42.5**	**-1.8**
CUI	**Cuipilapa**	**1.69**	**111**	*i* P	**Pn**	**08 56 43.9**	**-0.5**
ESTN	**Estel**	**1.86**	**12**	*e*Pn	**Pn**	**08 56 47.9**	**+1.0**
ESTN	**Estel**	**1.86**	**12**	*e*P	**Pn**	**08 56 47.6**	**+0.8**
JTS	**JuntasAbangare**	**2.03**	**118**	Pn	**Pn**	**08 56 48.2**	**-0.9**
	8.7nm,0.3s,baz=20,slow=16,SNR=26						
JTS				Sn	**Sn**	**08 57 12.9**	**-0.4**
	66nm,0.3s,baz=314,slow=20,SNR=6.0						
JTS				LR	LR	08 57 19.1	
	comp=Z,122nm,20.3s,baz=7.5,slow=33						
JTS	**JuntasAbangare**	**2.03**	**118**	*e*Pn	**Pn**	**08 56 48.6**	**-0.5**
JTS	**JuntasAbangare**	**2.03**	**118**	*e*P	**Pn**	**08 56 48.4**	**-0.7**
ARE1	**Arenal 1**	**2.17**	**112**	*e*P	**Pn**	**08 56 50.6**	**-0.4**
SRA1	**San Ram˜‡n**	**2.54**	**117**	*e*P	**Pn**	**08 56 58.6**	**+2.5**
ESPN	**Las Esperanzas**	**2.58**	**69**	*e*Pn	**Pn**	**08 56 57.7**	**+1.0**
ESPN	**Las Esperanzas**	**2.58**	**69**	*e*P	**Pn**	**08 56 58.1**	**+1.3**
TGUH	**Tegucigalpa,Un**	**2.81**	**350**	*e*Pn	**Pn**	**08 57 01.3**	**+1.4**
HDC	**Heredia**	**2.90**	**116**	*e*Pn	**Pn**	**08 57 02.9**	**+1.8**
HDC	**Heredia**	**2.90**	**116**	*e*P	**Pn**	**08 57 03.3**	**+2.2**
LCR2	**La Lucha 2**	**3.11**	**119**	*e*P	**Pn**	**08 57 05.5**	**+1.3**
CVTR	**Volcan Turrial**	**3.21**	**113**	*e*P	**Pn**	**08 57 04.9**	**-0.7**
URSC	**Urasca**	**3.27**	**116**	*e*P	**Pn**	**08 57 07.3**	**+1.0**
SNET	**Serv Nac Est T**	**3.40**	**315**	*e*Pn	**Pn**	**08 57 08.9**	**+0.9**
SNET				*e*Sn	**Sn**	**08 57 47.1**	**-0.1**
DRK0	**Durika**	**4.00**	**120**	*e*P	**Pn**	**08 57 16.5**	**+0.2**
ICCO	**Coco Island**	**5.70**	**183**	*e*P	Pn	08 57 34.8	-4.7
CCIG	**Comitan**	**7.21**	**314**	*e*Pn	**Pn**	**08 58 03.2**	**+2.7**
TEIG	**Tepich**	**9.02**	**351**	*e*Pn	**Pn**	**08 58 25.6**	**+0.4**
CMIG	**Matias Romero**	**9.77**	**307**	Pn	**Pn**	**08 58 35.4**	**0.0**
	0.6nm,0.3s,baz=125,slow=11,SNR=9.0						
TLIG	**Tlapa**	**13.03**	**300**	*e*Pn	**Pn**	**08 59 20.6**	**+0.5**
ROSC	**El Rosal**	**13.88**	**116**	LR	LR	09 06 02.2	
	comp=Z,67nm,18.1s,baz=354,slow=43						
LNIG	**Linares**	**18.13**	**320**	*e*P	**P**	**09 00 27.2**	**+0.8**
	5.0nm,0.9s						
658A	**Bunnell**	**18.78**	**15**	*e*P	**P**	**09 00 33.8**	**+0.2**
	604nm,1.5s						
ATAH	**Atahualpa**	**20.09**	**155**	LR	LR	09 07 27.4	
	comp=Z,93nm,20.5s,baz=352,slow=34						
HKT	**Hockley**	**20.41**	**337**	*e*P	**P**	**09 00 51.5**	**0.0**
	14nm,1.5s						
833A	**Chaparral WMA,**	**20.68**	**327**	*e*P	**P**	**09 00 54.6**	**+0.2**
	13nm,1.4s						
Y49A	**Blount Mountai**	**22.48**	**1**	*e*P	**P**	**09 01 14.1**	**+0.3**
	70nm,1.9s						
LTX	**Lajitas**	**23.91**	**321**	*e*P	**P**	**09 01 28.2**	**+0.1**
LTX				*e*PcP	**PcP**	**09 05 13.1**	**+2.7**
TXAR	**Lajitas Array**	**23.91**	**321**	P	**P**	**09 01 28.2**	**+0.1**
	1.1nm,0.6s,baz=136,slow=10,SNR=21						
TXAR				PcP	**PcP**	**09 05 13.1**	**+2.7**
	0.4nm,0.8s,baz=157,slow=3.5,SNR=4.1						
TXAR				LR	LR	09 12 16.0	
	comp=Z,47nm,19.6s,baz=0.0,slow=40						
TX31	**Lajitas Ar. Si**	**23.91**	**321**	*e*P	**P**	**09 01 28.4**	**+0.2**
UALR	**University of**	**23.94**	**349**	*e*P	**P**	**09 01 27.9**	**-0.4**
	34nm,1.6s						
TKL	**Tuckaleechee C**	**24.43**	**6**	P	**P**	**09 01 33.6**	**+0.8**
	1.9nm,0.5s,baz=176,slow=10,SNR=5.8						
TKL	**Tuckaleechee C**	**24.43**	**6**	*e*P	**P**	**09 01 33.6**	**+0.8**
	46nm,1.6s						
V53A	**Saluda**	**24.55**	**8**	*e*P	**P**	**09 01 33.1**	**-0.8**
	17nm,1.3s						
WMOK	**Wichita Mounta**	**25.80**	**337**	*e*P	**P**	**09 01 45.9**	**+0.6**
	11nm,1.2s						
CLNB	**Carlsbad**	**26.18**	**326**	*e*P	**P**	**09 01 48.6**	**-0.2**
GDL2	**Guadalupe Moun**	**26.40**	**325**	*e*P	**P**	**09 01 48.7**	**-2.1**
PTGA	**Pitinga**	**29.18**	**112**	LR	LR	09 16 50.8	
	comp=Z,66nm,19.0s,baz=282,slow=42						
LPM	**Los Pinos Moun**	**29.23**	**325**	*e*P	**P**	**09 02 15.8**	**-0.5**
ANMO	**Albuquerque**	**29.60**	**326**	P	**P**	**09 02 21.8**	**+2.3**
	0.4nm,0.5s,baz=150,slow=16,SNR=2.5						
ANMO	**Albuquerque**	**29.60**	**326**	*e*P	**P**	**09 02 21.8**	**+2.3**
	3.7nm,1.6s						
N49A	**Columbus Grove**	**29.62**	**4**	*e*P	**P**	**09 02 18.6**	**-0.7**
	12nm,1.1s						
SAML	**Samuel**	**30.88**	**130**	*e*P	**P**	**09 02 29.8**	**-0.9**
	2.9nm,0.8s						
LPAZ	**La Paz**	**33.01**	**146**	LR	LR	09 16 20.3	
	comp=Z,33nm,18.3s,baz=34,slow=36						
PV03	**Paradox Valley**	**33.34**	**327**	*e*P	**P**	**09 02 52.6**	**+0.2**
HRV	**Adam Dziewonsk**	**33.83**	**20**	*e*P	**P**	**09 02 54.8**	**-1.5**
	49nm,1.5s						
PD31	**Pinedale Array**	**37.12**	**332**	*e*P	**P**	**09 03 24.3**	**-0.6**
PDAR	**Pinedale Array**	**37.12**	**332**	P	**P**	**09 03 24.3**	**-0.6**
	0.4nm,0.5s,baz=117,slow=10,SNR=6.1						
SIV	**San Ignacio**	**37.15**	**136**	P	**P**	**09 03 26.1**	**+0.9**
	1.1nm,0.7s,baz=326,slow=8.7,SNR=5.7						
REDW	**Red Top Meadow**	**38.19**	**331**	*e*P	**P**	**09 03 34.3**	**+0.4**
	3.7nm,0.8s						
NVAR	**Mina Array Bea**	**39.03**	**319**	PcP	**PcP**	**09 05 52.4**	**+1.6**
	0.8nm,0.5s,baz=137,slow=5.2,SNR=4.2						
ULM	**Lac du Bonnet**	**39.58**	**351**	P	**P**	**09 03 43.0**	**-2.2**
	2.1nm,0.5s,baz=144,slow=9.8,SNR=4.6						
RAGM	**Ragged Mountai**	**64.70**	**332**	*e*P	**P**	**09 06 50.7**	**-1.0**
	78nm,1.2s						
SPITS	**Spitsbergen Ar**	**81.72**	**12**	LR	LR	09 45 18.8	
	comp=Z,31nm,18.2s,baz=85,slow=36						
AS31	**Alice Springs**	**139.44**	**247**	*e*PKPdf	**PKPdf**	**09 15 42.1**	**+0.1**
ASAR	**Alice Springs**	**139.44**	**247**	PKP	**PKPdf**	**09 15 42.1**	**+0.1**
	0.4nm,0.9s,baz=73,slow=3.1,SNR=3.9						
WR1	**Warramunga Arr**	**139.57**	**253**	*e*PKPdf	**PKPdf**	**09 15 42.4**	**+0.2**
WRA	**Warramunga Arr**	**139.57**	**253**	PKP	**PKPdf**	**09 15 42.4**	**+0.2**
	0.1nm,0.3s,baz=90,slow=2.6,SNR=2.9						
CM31	**Chiang Mai Arr**	**149.93**	**349**	*e*PKPdf	**PKPdf**	**09 15 59.5**	**-0.6**
CM31				*e*PKPbc	**PKPbc**	**09 16 05.2**	**+0.2**
CMAR	**Chiang Mai Arr**	**149.93**	**349**	PKP	**PKPdf**	**09 15 59.5**	**-0.6**
	0.9nm,0.4s,baz=308,slow=4.4,SNR=4.8						
CMAR				PKPbc	**PKPbc**	**09 16 05.2**	**+0.2**
	0.8nm,0.4s,baz=342,slow=4.7,SNR=5.3						

IDC 18 09:26:06.7±1.2, 5°76S×154°50E, h87km±8km, mb3.6/4, mb1 3.9/6, mb1mx3.4/43, mbtmp4.1/6, MS3.0/2, Ms1 3.0/2, ms1mx2.5/25, Error ellipse: s-maj=32.7km s-min=18.8km az=146.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**6.52**	**124**	LR		LR	09 30 01.9	
	comp=Z,53nm,20.4s,baz=295,slow=36							
PMG	**Port Moresby**	**8.13**	**243**	P		Pn	09 28 03.4	+1.5
	5.8nm,0.3s,baz=47,slow=9.8,SNR=27							
PMG				S		Sn	09 29 34.0	+1.7
	6.4nm,0.3s,baz=133,slow=23,SNR=7.7							
DZM	**Mont Dzumac**	**19.91**	**146**	P		P	09 30 32.1	+0.5
	0.4nm,0.3s,baz=330,slow=20,SNR=6.0							
DZM				LR		LR	09 37 12.5	
	comp=Z,89nm,20.9s,baz=174,slow=33							
WRA	**Warramunga Arr**	**24.14**	**232**	P		P	09 31 14.7	-0.1
	1.4nm,0.6s,baz=57,slow=9.7,SNR=12							
WRA				pP		pP	09 31 35.6	+1.4
	1.4nm,0.7s,baz=56,slow=9.5,SNR=5.7							
ASAR	**Alice Springs**	**26.64**	**226**	P		P	09 31 36.5	-1.0
	0.5nm,0.5s,baz=56,slow=9.3,SNR=19							
ASAR				pP		pP	09 31 58.9	+1.6
	1.4nm,0.9s,baz=56,slow=10,SNR=6.9							
ASAR				PcP		PcP	09 34 59.9	+0.4
	0.9nm,0.8s,baz=67,slow=2.4,SNR=8.5							
STKA	**Stephens Creek**	**28.65**	**203**	P		P	09 31 53.3	-1.9
	1.4nm,0.6s,baz=40,slow=8.7,SNR=6.2							
NVAR	**Mina Array Bea**	**91.35**	**52**	P		P	09 39 04.8	+1.5
	1.4nm,0.8s,baz=250,slow=5.6,SNR=5.9							
TORD	**Torodi Ar. Bea**	**152.21**	**287**	PKPbc		PKPbc	09 45 53.1	-0.3
	0.4nm,0.6s,baz=57,slow=5.3,SNR=2.7							
TORD				pPKPbc		pPKPbc	09 46 15.6	-2.0
	0.4nm,0.6s,baz=68,slow=3.3,SNR=2.3							

NNC 18 09:41:53.7±4.1, 37°08N×70°58E, h0km, mb3.5, mpv3.1, 5C-2D, Error ellipse: s-maj=33.0km s-min=29.6km az=134.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
SFK	**Sufi-Kurgan**	**3.72**	**37**	⇑P		Pn	09 42 53.2	+0.5
	2.2nm,0.4s							
SFK				⇑S		Sn	09 43 39.5	+2.1
	5.6nm,0.5s							
MNAS	**Manas**	**5.61**	**15**	⇑P		Pn	09 43 18.9	+0.4
	1.4nm,0.7s							
MNAS				⇑S		Sn	09 44 25.6	+1.9
	4.1nm,0.4s							
KK31	**Karatay Array**	**6.02**	**360**	P		Pn	09 43 25.6	+1.5
	0.4nm,0.3s,baz=0.0,slow=0.1,SNR=5.5							
KK31				S		Sn	09 44 34.5	+0.8
	0.6nm,0.2s,baz=183,slow=21,SNR=8.8							
AAK	**Ala-Archa**	**6.32**	**27**	⇓P		Pn	09 43 27.5	-0.8
	2.3nm,1.0s							
AAK				⇓S		Sn	09 44 39.8	-1.5
	2.0nm,0.7s							
TKM2	**Tokmak 2**	**7.00**	**32**	⇑P		Pn	09 43 35.1	-2.5
	2.4nm,0.8s							

*ISCJB **18** 09:52:20.9±0.7, 11°.4S±0°.1×73°.46W±0°.06, h33km, mb3.4/3, MS3.2/1, Error ellipse: s-maj=14.9km s-min=7.7km az=5.6*
*IDC **18** 09:52:22.6±3.5, 11°.34S×73°.46W, h35km±34km, mb3.2/3, mb1 3.6/8, mb1mx3.5/30, mbtmp3.6/8, ML3.4/4, MS2.9/3, Ms1 2.9/3, ms1mx2.6/12, Error ellipse: s-maj=34.4km s-min=17.2km az=22.0*

ISC 18 09:52:22.6±0.8, 11°.4S±0°.1×73°.47W±0°.08, h35km, n10, σ1§53/10, mb3.5/3, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
NNA	**Nana**	**3.36**	**260**	Pn		**Pn**	**09 53 11.7**	**-0.9**
	21nm,0.3s,baz=94,slow=8.4,SNR=45							
NNA				Sn		**Sn**	**09 53 51.7**	**+0.4**
	42nm,0.3s,baz=333,slow=19,SNR=7.5							
ATAH	**Atahualpa**	**6.45**	**311**	Pn		**Pn**	**09 53 57.0**	**+1.6**
	1.1nm,0.3s,baz=112,slow=3.7,SNR=10							
ATAH				LR		LR	09 56 13.2	
	comp=Z,29nm,18.8s,baz=156,slow=36							
LPAZ	**La Paz**	**7.11**	**134**	Pn		**Pn**	**09 54 06.0**	**+1.3**
	0.1nm,0.3s,baz=306,slow=8.7,SNR=3.8							
LPAZ				Lg		Lg	09 56 02.3	
	1.3nm,0.3s,baz=191,slow=18,SNR=4.4							
SIV	**San Ignacio**	**12.88**	**112**	Pn		**Pn**	**09 55 22.6**	**-0.7**
	0.3nm,0.3s,baz=304,slow=12,SNR=5.4							
SIV				Lg		Lg	09 59 09.2	
	1.2nm,0.3s,baz=189,slow=22,SNR=4.8							
PTGA	**Pitinga**	**17.09**	**53**	P		**P**	**09 56 19.5**	**-0.8**
	baz=300,slow=20,SNR=4.1							
PTGA				LR		LR	10 03 33.7	
	comp=Z,59nm,21.0s,baz=230,slow=39							
CPUP	**Villa Florida**	**21.27**	**137**	P		**P**	**09 57 08.2**	**+2.3**
	1.5nm,0.8s,baz=294,slow=5.6,SNR=3.3							
MDP	**Montagnes des**	**26.42**	**53**	LR		LR	10 08 48.6	
	comp=Z,70nm,18.7s,baz=124,slow=37							
TXAR	**Lajitas Array**	**49.89**	**325**	P		**P**	**10 01 12.9**	**0.0**
	0.2nm,0.6s,baz=145,slow=7.2,SNR=4.3							
TORD	**Torodi Ar. Bea**	**78.45**	**74**	P		**P**	**10 04 19.7**	**-0.8**
	0.3nm,0.6s,baz=251,slow=3.6,SNR=3.0							
WRA	**Warramunga Arr**	**138.54**	**222**	PKP		**PKPdf**	**10 11 43.5**	**-2.0**
	0.5nm,0.6s,baz=137,slow=1.7,SNR=6.0							

*ISK **18** 10:00:45.5, 40°.95N×38°.01E, h7km, ML2.4/6*
*ISCJB **18** 10:00:46.8±0.7, 40°.95N±0°.07×38°.03E±0°.04, h8km±7km, Error ellipse: s-maj=11.6km s-min=4.7km az=173.8*
*DDA **18** 10:00:46.3, 40°.96N×38°.07E, h6km, Ml2.8*

ISC 18 10:00:46.2±1.1, 40°.98N±0°.06×38°.05E±0°.03, h15km±10km, n15, σ0§86/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
ORDU	**Ordu-Boztepe**	**0.15**	**276**	*i* P		**Pg**	**10 00 49.9**	**-0.1**
ORDU				*i* S		**Sg**	**10 00 52.9**	**+0.3**
ESPY	**Espiye-Giresun**	**0.52**	**96**	PG		**Pb**	**10 00 56.6**	**-0.4**
ESPY				SG		**Sb**	**10 01 04.5**	**+0.2**
SUSE	**Susehri**	**0.78**	**171**	*i* P		**Pb**	**10 01 00.8**	**-0.7**
SUSE				*i* S		**Sb**	**10 01 12.3**	**+0.4**
CUZAR	**Zara_SIVAS**	**1.11**	**191**	*i* P		**Pb**	**10 01 06.8**	**-0.3**
KELT	**Kelkit**	**1.24**	**132**	*i* P		**Pg**	**10 01 09.6**	**-0.4**
MACK	**Trabzon**	**1.30**	**91**	*i* P		**Pg**	**10 01 10.7**	**-0.6**
MACK				*i* S		**Sg**	**10 01 29.3**	**+1.1**
TOKT	**Tokat**	**1.32**	**241**	PN		**Pb**	**10 01 10.4**	**-0.3**
TOKT				SN		**Sg**	**10 01 28.5**	**-0.2**
SVSK	**Karacayir**	**1.33**	**218**	PN		**Pb**	**10 01 10.5**	**-0.3**
SVSK				SN		**Sg**	**10 01 28.7**	**-0.3**
REFA	**Refahiye_ERZ˜**	**1.67**	**161**	*i* P		Pn	10 01 08.8	-6.3
BAYT	**Ayd˜–ntepe-Bay**	**1.69**	**109**	PN		**Pb**	**10 01 16.6**	**-0.5**
CUKAN	**kangal_SIVAS**	**1.72**	**195**	*i* P		**Pg**	**10 01 17.8**	**-1.3**
KEMA	**Kemaliye**	**1.74**	**169**	*i* P		**Pg**	**10 01 18.5**	**-1.1**
KEMA				*i* S		**Sg**	**10 01 43.9**	**+1.8**
CHOM	**Cayeli-Rize**	**2.06**	**86**	PN		**Pb**	**10 01 21.9**	**-1.3**
KOPT	**Kop Dagi**	**2.10**	**116**	*i* P		**Pg**	**10 01 25.8**	**-0.6**
KOPT				*i* S		**Sg**	**10 01 53.3**	**-0.3**
PTK	**Pertek**	**2.32**	**153**	PN		**Pn**	**10 01 25.4**	**+1.3**

SVSA 18 10:06:22.2±0.2, 37°.74N×25°.05W, h5km±1km, MD3.7, ML2.0, Error ellipse: s-maj=2.8km s-min=0.6km az=46.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
BART	**Pico Bartolome**	**0.10**	**291**	*e*P		Pg	10 06 24.4	0.0
BART				*e*S		Sg	10 06 26.0	+0.1
BART				A		A	10 06 26.9	
	2µm,0.1s							
PCALD	**Caldeiras da R**	**0.35**	**279**	*e*S		Sg	10 06 33.3	-0.4
PCALD				A		A	10 06 34.3	
	39nm,0.1s							
CMLA	**Cha da Macela**	**0.38**	**274**	*e*S		Sg	10 06 34.2	-0.3
CMLA				A		A	10 06 36.9	
	48nm,0.2s							
GRON	**Grota Negra**	**0.39**	**274**	*e*S		Sg	10 06 30.9	-3.8
GRON				A		A	10 06 33.5	
	113nm,0.1s							
PDA	**Ponta Delgada**	**0.49**	**271**	*e*P		Pg	10 06 30.6	-1.0
PDA				*e*S		Sg	10 06 37.0	-0.9
PDA				A		A	10 06 38.5	
	38nm,0.1s							
PSET	**Sete Cidades**	**0.54**	**279**	*e*S		Sg	10 06 38.5	-1.1
PSET				A		A	10 06 41.0	
	49nm,0.2s							
PSMN	**Pico do Norte,**	**0.74**	**181**	*e*P		Pg	10 06 34.4	-1.9
PSMN				*e*S		Sg	10 06 43.4	-2.5
PSMN				A		A	10 06 46.0	
	10nm,0.2s							
PSMA	**Santa Maria**	**0.75**	**185**	*e*P		Pg	10 06 34.5	-2.0
PSMA				*e*S		Sg	10 06 43.6	-2.6
PSMA				A		A	10 06 45.8	
	12nm,0.2s							

*NEIC **18** 10:08:38.6±0.0, 16°.42N×98°.41W, h10km, MD4.0(MEX), After MEX.*

MEX 18 10:08:38.6±0.6, 16°.42N×98°.41W, h10km±3km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
PNIG	**Pinotepa**	**0.28**	**96**	*e*Pg		Pg	10 08 43.6	-0.6
PNIG				*e*Sg		Sg	10 08 47.9	0.0
PNIG	**Pinotepa**	**0.28**	**96**	*i* P		Pg	10 08 43.6	-0.6
PNIG				*i* S		Sg	10 08 47.9	0.0
TLIG	**Tlapa**	**1.15**	**353**	*e*Pg		Pb	10 08 57.0	-3.7
TLIG				*e*Sn		Sg	10 09 10.9	-4.7
TLIG	**Tlapa**	**1.15**	**353**	*e*P		Pb	10 08 57.0	-3.6
TLIG				*e*S		Sg	10 09 11.1	-4.5
VHO	**Vista Hermosa**	**1.73**	**68**	*e*Pn		Pn	10 09 05.9	-3.2
VHO	**Vista Hermosa**	**1.73**	**68**	*e*P		Pn	10 09 05.9	-3.2
VHO				*i* S		Sn	10 09 26.8	-4.6
CAIG	**El Cayaco**	**1.88**	**290**	*e*Pn		Pn	10 09 07.1	-3.8
CAIG	**El Cayaco**	**1.88**	**290**	*e*P		Pn	10 09 07.1	-3.8
CAIG				*e*S		Sn	10 09 30.1	-4.7
HUIG	**Huatulco**	**2.31**	**106**	*e*Pn		Pn	10 09 13.8	-2.9
HUIG	**Huatulco**	**2.31**	**106**	*e*P		Pn	10 09 13.8	-2.9
HUIG				*e*S		Sn	10 09 40.9	-4.4
UNM	**Universidad Na**	**2.98**	**346**	*e*Pn		Pn	10 09 26.9	+0.6
CMIG	**Matias Romero**	**3.44**	**78**	*e*Pn		Pn	10 09 29.2	-3.2
CMIG	**Matias Romero**	**3.44**	**78**	*e*P		Pn	10 09 29.2	-3.2
CMIG				*i* S		Sn	10 10 08.8	-4.5
JRQG	**Juriquilla Cam**	**4.68**	**336**	*e*Pg		Pb	10 10 03.8	+2.9
JTS	**JuntasAbangare**	**14.44**	**113**	*e*P		P	10 12 07.6	-2.6

*ISCJB **18** 10:22:10.8±0.3, 2°.64N±0°.04×127°.29E±0°.05, h100km, mb4.4/22, Error ellipse: s-maj=7.5km s-min=4.6km az=153.8*
*DJA **18** 10:22:10.3±0.7, 3°.N±5°.×12°.7E±°, h51km±45km, M4.4/8, mB4.5/1, mb4.3/4, MLv4.4/8, Mw(mB)3.7/1*
*IDC **18** 10:22:10.4±4.0, 2°.54N×127°.07E, h75km±39km, mb3.8/8, mb1 4.0/9, mb1mx3.6/43, mbtmp4.1/9, ML3.8/1, MS3.2/2, Ms1 3.2/2, ms1mx2.5/40, Error ellipse: s-maj=47.7km s-min=14.9km az=70.0*
*NEIC **18** 10:22:11.7±0.8, 2°.63N×127°.36E, h90km±7km, mb4.6/19, Error ellipse: s-maj=11.1km s-min=5.0km az=65.0*

ISC 18 10:22:12.0±0.5, 2°.71N±0°.06×127°.24E±0°.06, h100km, n50, σ1§48/52, mb4.6/22, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
TNTI	**Ternate**	**1.93**	**176**	*e*Pn		**Pn**	**10 22 42.6**	**-1.0**
TNTI				*e*Sn		**Sn**	**10 23 06.7**	**-1.0**
TNTI	**Ternate**	**1.93**	**176**	P		**Pn**	**10 22 42.2**	**-1.4**
TNTI				S		**Sn**	**10 23 05.3**	**-2.4**
SGSI	**Sangihe**	**1.96**	**300**	P		**Pn**	**10 22 41.1**	**-3.0**
SGSI				S		**Sn**	**10 23 04.5**	**-4.1**
KMSI	**Cibinong**	**3.88**	**237**	P		**Pn**	**10 23 09.2**	**-0.4**
DAV	**Davao City (W)**	**4.64**	**339**	*e*Pn		Pn	10 23 22.1	+2.3
SANI	**Sanana**	**4.89**	**195**	P		**Pn**	**10 23 21.5**	**-1.7**
SIJI	**Sorong**	**5.37**	**131**	P		**Pn**	**10 23 29.4**	**-0.4**
	3.3nm,0.3s,baz=330,slow=21,SNR=9.6							
SIJI				S		**Sn**	**10 24 29.6**	**-0.8**
	1.2nm,0.3s,baz=342,slow=23,SNR=9.0							
LUWI	**Luwuk**	**5.81**	**230**	*e*Pn		**Pn**	**10 23 36.6**	**+0.8**
LUWI				*e*Sn		**Sn**	**10 24 44.1**	**+3.0**
LUWI	**Luwuk**	**5.81**	**230**	P		**Pn**	**10 23 35.1**	**-0.6**
NLAI	**Namlea**	**5.91**	**181**	P		**Pn**	**10 23 35.7**	**-1.3**
FAKI	**Fak Fak**	**7.51**	**138**	*e*Pn		**Pn**	**10 23 57.2**	**-1.6**
KKM	**Kota Kinabalu**	**11.48**	**287**	*e*Pn		**Pn**	**10 24 53.6**	**+0.8**
SBUM	**Sibu**	**15.00**	**269**	*e*Pn		**P**	**10 25 39.6**	**-2.3**
	5.5nm,1.0s							
MTN	**Manton Dam**	**15.93**	**166**	*e*Pn		**Pn**	**10 25 47.8**	**-2.6**
	16nm,0.4s							
GUMO	**Guam**	**20.51**	**57**	LR		LR	10 34 26.2	
	comp=Z,55nm,18.2s,baz=83,slow=36							
FITZ	**Fitzroy Crossi**	**20.73**	**184**	P		**P**	**10 26 43.4**	**-1.3**
	4.1nm,0.6s,baz=13,slow=8.7,SNR=13							
FITZ	**Fitzroy Crossi**	**20.73**	**184**	*e*P		**P**	**10 26 43.5**	**-1.1**
	4.8nm,0.8s							
TPUB	**Ta-pu**	**21.45**	**343**	*e*P		**P**	**10 26 53.9**	**+1.6**
	16nm,0.9s							
PMG	**Port Moresby**	**23.21**	**121**	LR		LR	10 37 17.1	
	comp=Z,64nm,20.9s,baz=1.5,slow=39							
WRAB	**Tennant Creek**	**23.56**	**163**	*e*P		**P**	**10 27 12.8**	**-0.8**
	18nm,0.6s							
WR1	**Warramunga Arr**	**23.56**	**163**	*e*P		**P**	**10 27 12.6**	**-1.1**
	16nm,0.6s							
WR1				*e*PcP		**PcP**	**10 30 57.3**	**+1.0**
WRA	**Warramunga Arr**	**23.56**	**163**	P		**P**	**10 27 12.6**	**-1.1**
	13nm,0.5s,baz=341,slow=10,SNR=127							
WRA				PcP		**PcP**	**10 30 57.3**	**+1.0**
	0.3nm,0.4s,baz=333,slow=2.2,SNR=4.2							
WB2	**Warramunga Arr**	**23.57**	**163**	*e*P		**P**	**10 27 13.0**	**-0.7**
	18nm,0.6s							
WC3	**Warramunga Arr**	**23.59**	**163**	*e*P		**P**	**10 27 13.2**	**-0.7**
	20nm,0.6s							
MBWA	**Marble Bar**	**24.83**	**197**	*e*P		**P**	**10 27 25.0**	**-0.1**
	13nm,1.1s							
AS31	**Alice Springs**	**27.00**	**166**	*e*P	

CHOS					AML	AML	10 24 52.8	
	comp=E,206μm,0.2s							
URLA	**Izmir**	**1.20**	**173**		PN	**Pg**	**10 24 28.3**	**+0.1**
URLA	**Izmir**	**1.20**	**173**	*i*	P	**Pg**	**10 24 28.5**	**+0.2**
URLA				*i*	S	**Sn**	**10 24 45.8**	**+1.3**
ENEZ	**Enez**	**1.20**	**351**		PN	**Pg**	**10 24 28.5**	**+0.2**
AKHS	**Akhisar**	**1.28**	**121**	*i*	P	**Pg**	**10 24 29.8**	**0.0**
AKHS				*i*	S	**Sn**	**10 24 47.5**	**+1.0**
RKY	**Sarkoy-Tekirda**	**1.28**	**27**		PN	**Pb**	**10 24 29.3**	**-0.2**
KESN	**Edirne-Kesan**	**1.29**	**9**	*i*	P	**Pg**	**10 24 30.3**	**+0.3**
KESN				*i*	S	**Sn**	**10 24 47.4**	**0.0**
ALN	**Alexandroupoli**	**1.37**	**348**		PN	**Pn**	**10 24 30.4**	**-0.2**
ALN	**Alexandroupoli**	**1.37**	**348**		P	**Pb**	**10 24 31.1**	**0.0**
ALN					S	**Sg**	**10 24 50.1**	**+0.6**
ALN					AML	AML	10 24 51.1	
	comp=E,57μm,0.3s							
ALN					AML	AML	10 24 51.8	
	comp=N,77μm,0.4s							
SBT4	**Kumbag-Tekirda**	**1.54**	**34**		PN	**Pb**	**10 24 33.3**	**-0.5**
KCTX	**Karacabey (Bur**	**1.66**	**64**		PN	**Pb**	**10 24 35.3**	**-0.6**
THAS	**Thassos island**	**1.67**	**310**		P	**Pb**	**10 24 35.8**	**-0.4**
RDO	**Rodhopi**	**1.73**	**337**		P	**Pb**	**10 24 36.6**	**-0.5**
SMG	**Samos**	**1.87**	**170**		P	**Pb**	**10 24 38.6**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**1.98**	**144**		PN	**Pn**	**10 24 39.8**	**+0.8**
ARMT	**Armutlu**	**2.13**	**61**		PN	**Pn**	**10 24 42.3**	**+1.2**
AYDN	**Tasoluk**	**2.21**	**148**	*i*	P	**Pn**	**10 24 41.2**	**-0.9**
AYDN				*i*	S	**Sg**	**10 25 16.8**	**+0.6**
EDRB	**Edirne**	**2.31**	**6**		PN	**Pn**	**10 24 44.2**	**+0.8**

IDC ***18*** *10:44:03.0±0.8,34°.67S×108°.45W,h0km,mb3.9/8, mb1 4.2/8,mb1mx4.0/28,mbtmp3.9/8,MS4.1/15, Ms1 4.1/15,ms1mx3.9/23,Error ellipse: s-maj=26.3km s-min=22.6km az=45.0*

ISCJB ***18*** *10:44:03.7±0.7,34°.8S±0°.1×108°.3W±0°.1,h10km,mb4.2/13, MS4.1/14,Error ellipse: s-maj=18.5km s-min=15.4km az=148.5*

NEIC ***18*** *10:44:05.3±0.4,34°.79S×108°.40W,h10km,mb4.5/6,Error ellipse: s-maj=14.6km s-min=14.1km az=110.0*

GCMT ***18*** *10:44:07.3±0.3,34°.91S±0°.02×108°.65W±0°.02,h13km±1km, MW4.9/83,Moment Tensor Solution. s29,c32; s83,c108; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-0.53±.10; Mθθ-0.43±.09; Mφφ0.95±.09; Mrθ-1.06±.28; Mrφ-2.13±.08; Mθφ-0.79±.24; Best double couple: M◎2.63000×10^16^ NP1:φs5.00000°,δ69.00000°,λ-23.00000°. NP2: φs103.00000°,δ69.00000°,λ-158.00000°. Principal axes: T 2.5020, Plg0.0000°, Azm54.0000°; N 0.2550, Plg59.0000°, Azm145.0000°; P -2.7570, Plg31.0000°, Azm324.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 10:44:05.3±0.7,34°.8S±0°.2×108°.4W±0°.1,h10km,n52, σ1s13/25,mb4.2/13,MS4.1/14,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RPN	**Rapa Nui**	**7.64**	**353**	LR		LR	10 48 12.8	
	comp=Z,1μm,18.3s,baz=171,slow=33							
RKT	**Rikitea**	**25.94**	**289**	*e*T		T	11 15 57.4	
	4.1nm,0.2s							
PLCA	**Paso Flores**	**30.32**	**113**	P		**P**	**10 50 17.0**	**0.0**
	2.3nm,1.0s,baz=288,slow=7.9,SNR=4.8							
PLCA				LR		LR	10 59 22.5	
	comp=Z,162nm,19.8s,baz=296,slow=30							
PLCA	**Paso Flores**	**30.32**	**113**	*e*P		**P**	**10 50 17.3**	**+0.3**
	5.7nm,1.0s							
LVC	**Limon Verde**	**36.44**	**81**	P		**P**	**10 51 11.3**	**+0.5**
	1.8nm,0.7s,baz=193,slow=9.7,SNR=2.4							
TBI	**Tubuai**	**37.45**	**276**	*e*LQ		LQ	10 59 41.2	
	507nm,34.2s							
TBI				*e*LR		LR	11 01 18.6	
	506nm,25.0s,baz=117							
TBI	**Tubuai**	**37.45**	**276**	*e*T		T	11 30 10.1	
	3.1nm,0.4s							
TAOE	**Nuku Hiva Isla**	**38.88**	**304**	*e*LR		LR	11 02 04.0	
	281nm,29.5s							
TVO	**Taravao**	**40.07**	**284**	*e*T		T	11 33 34.5	
	1.7nm,0.3s							
TIAR	**Tiarei**	**40.26**	**284**	*e*T		T	11 33 49.5	
	8.7nm,0.3s							
LPAZ	**La Paz**	**40.36**	**73**	P		**P**	**10 51 43.1**	**-1.1**
	3.6nm,1.2s,baz=244,slow=6.1,SNR=8.1							
LPAZ				LR		LR	11 04 38.1	
	comp=Z,169nm,19.0s,baz=230,slow=31							
LPAZ	**La Paz**	**40.36**	**73**	*e*P		**P**	**10 51 44.5**	**+0.4**
PAE	**Paea**	**40.39**	**284**	*e*T		T	11 33 58.4	
	2.0nm,0.4s							
PPT2	**Papeete2**	**40.43**	**284**	*e*LQ		LQ	11 00 53.7	
	780nm,27.5s							
PPT2				*e*LR		LR	11 02 34.9	
	236nm,24.2s,baz=110							
PPT	**Papeete**	**40.44**	**284**	LR		LR	11 04 28.2	
	comp=Z,221nm,18.1s,baz=114,slow=30							
CPUP	**Villa Florida**	**44.35**	**94**	P		**P**	**10 52 14.7**	**-1.1**
	1.9nm,1.0s,baz=324,slow=1.6,SNR=3.2							
CPUP				LR		LR	11 08 14.4	
	comp=Z,160nm,18.2s,baz=248,slow=33							
CPUP	**Villa Florida**	**44.35**	**94**	*e*P		**P**	**10 52 15.6**	**-0.2**
	1.3nm,1.0s							
RAR	**Rarotonga**	**46.90**	**273**	LR		LR	11 07 02.8	
	comp=Z,152nm,21.9s,baz=112,slow=30							
ROSC	**El Rosal**	**50.77**	**46**	LR		LR	11 10 47.7	
	comp=Z,215nm,18.9s,baz=236,slow=32							
QSPA	**South Pole Qui**	**55.45**	**180**	P		**P**	**10 53 40.3**	**+0.4**
	1.2nm,0.9s,baz=143,slow=4.4,SNR=3.2							
VNDA	**Vanda**	**56.33**	**195**	LR		LR	11 12 26.5	
	comp=Z,115nm,21.1s,baz=97,slow=30							
BDFB	**Brasilia**	**57.00**	**87**	LR		LR	11 16 20.8	
	comp=Z,141nm,18.6s,baz=240,slow=34							
RPZ	**Rata Peaks**	**60.77**	**235**	LR		LR	11 13 13.4	
	comp=Z,193nm,18.9s,baz=136,slow=29							
WHZ	**Wether Hill Ro**	**62.02**	**232**	*e*P		**P**	**10 54 26.4**	**+0.7**
	23nm,1.2s							
TXAR	**Lajitas Array**	**63.89**	**5**	P		**P**	**10 54 37.3**	**-1.0**
	0.2nm,0.7s,baz=186,slow=7.3,SNR=3.1							
LTX	**Lajitas**	**63.89**	**5**	*e*P		**P**	**10 54 37.3**	**-1.0**
JCT	**Junction City**	**65.38**	**8**	*e*P		**P**	**10 54 49.5**	**+1.7**
	5.6nm,1.0s							
ABVI	**Anegada Island**	**67.67**	**45**	*e*P		**P**	**10 55 03.4**	**+0.7**
	53nm,0.8s							
LPM	**Los Pinos Moun**	**68.72**	**2**	*e*P		**P**	**10 55 10.0**	**+0.7**
SZCU	**Shurtz Canyon**	**72.11**	**356**	*e*P		**P**	**10 55 31.7**	**+1.8**
	3.8nm,0.7s							
NVAR	**Mina Array Bea**	**73.39**	**352**	P		**P**	**10 55 36.8**	**-0.7**
	1.2nm,0.5s,baz=167,slow=8.6,SNR=5.4							
NVAR				LR		LR	11 20 41.6	
	comp=Z,108nm,19.1s,baz=203,slow=30							
DZM	**Mont Dzumac**	**73.98**	**254**	*e*LR		LR	11 18 02.2	
	292nm,30.2s							
PDAR	**Pinedale Array**	**77.15**	**359**	P		**P**	**10 55 58.2**	**-0.9**
	1.3nm,0.9s,baz=182,slow=4.3,SNR=9.0							
PDAR	**Pinedale Array**	**77.15**	**359**	*e*P		**P**	**10 55 59.8**	**+0.7**
MAW	**Mawson**	**77.75**	**177**	LR		LR	11 27 05.2	
	comp=Z,55nm,19.2s,baz=235,slow=33							
HLID	**Hailey**	**78.14**	**356**	*e*P		**P**	**10 56 06.3**	**+1.8**
	4.1nm,1.1s							
STKA	**Stephens Creek**	**86.67**	**233**	LR		LR	11 29 09.2	
	comp=Z,155nm,19.7s,baz=180,slow=31							
H11S2	**WAKE ISLAND Hy**	**96.31**	**288**	T		T	12 44 15.8	
	baz=127,slow=75,SNR=6.4							
H11S1	**WAKE ISLAND Hy**	**96.33**	**288**	T		T	12 44 08.2	
	baz=127,slow=75,SNR=6.1							
H11S3	**WAKE ISLAND Hy**	**96.33**	**288**	T		T	12 44 09.5	
	baz=127,slow=75,SNR=4.2							
ASAR	**Alice Springs**	**97.18**	**235**	LR		LR	11 40 44.4	
	comp=Z,105nm,18.2s,baz=142,slow=35							
WRA	**Warramunga Arr**	**99.38**	**238**	LR		LR	11 39 05.1	
	comp=Z,175nm,18.1s,baz=135,slow=33							
H01W1	**Cape Leeuwin H**	**100.13**	**214**	T		T	12 49 59.6	
	baz=144,slow=76,SNR=7.9							
H01W2	**Cape Leeuwin H**	**100.13**	**214**	T		T	12 49 57.2	
	baz=144,slow=76,SNR=8.7							
H01W3	**Cape Leeuwin H**	**100.14**	**214**	T		T	12 50 00.2	
	baz=144,slow=76,SNR=11							
PBKT	**Sadao Pong**	**148.13**	**243**	*e*PKPbc		**PKPbc**	**11 03 51.9**	**+0.1**
CM01	**Chiang Mai Arr**	**150.79**	**243**	*e*PKPdf		pPKPdf	11 03 56.8	+0.6
CMAR	**Chiang Mai Arr**	**150.82**	**243**	PKPbc		**PKPbc**	**11 03 57.2**	**-1.2**
	2.1nm,0.8s,baz=174,slow=1.9,SNR=16							
CHTO	**Chiang Mai**	**151.04**	**244**	*e*PKPbc		**PKPbc**	**11 03 58.3**	**-0.7**
SONA1	**Songino Array**	**151.05**	**307**	*e*PKPbc		**PKPbc**	**11 03 57.6**	**-0.7**
SONA0	**Songino Array**	**151.06**	**307**	*e*PKPdf		**PKPbc**	**11 03 56.3**	**-2.0**
SONM	**Songino Array**	**151.06**	**307**	PKPbc		**PKPbc**	**11 03 56.3**	**-2.0**

2.0nm,1.1s,baz=99,slow=1.6,SNR=7.9

IDC 18 10:46:31.2±2.1,6°.90S×129°.02E,h0km,mb3.5/1, mb1 4.1/3,mb1mx3.5/36,mbtmp3.9/3,ML4.2/2,Error ellipse: s-maj=120.7km s-min=31.6km az=67.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**13.96**	**159**	Pn		Pn	10 49 49.6	-0.8
	1.3nm,0.3s,baz=338,slow=13,SNR=24							
WRA				Sn		Sn	10 52 13.1	-13
	1.4nm,0.3s,baz=333,slow=22,SNR=14							
ASAR	**Alice Springs**	**17.32**	**165**	P		Pn	10 50 35.2	+0.6
	0.7nm,0.3s,baz=338,slow=9.6,SNR=67							
ASAR				S		Sn	10 53 37.2	-11
	0.3nm,0.3s,baz=356,slow=29,SNR=5.6							
MKAR	**Makanchi Array**	**67.61**	**327**	P		P	10 57 29.9	0.0
	0.3nm,0.5s,baz=110,slow=7.8,SNR=5.7							

MEX 18 10:54:06.4±0.8,15°.09N×93°.50W,h59km±17km,MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCIG		**0.67**	**24**	*e*P		Pn	10 54 18.7	-1.5
PCIG				*e*S		Sn	10 54 28.5	-1.7
THIG		**1.21**	**98**	*e*P		Pn	10 54 25.9	-1.2
THIG				*e*S		Sn	10 54 40.0	-2.6
TGIG		**1.72**	**12**	*e*P		Pn	10 54 32.1	-1.9
TGIG				*i* S		Sn	10 54 53.3	-1.7
CCIG	**Comitan**	**1.77**	**48**	*e*P		Pn	10 54 32.8	-2.0
CCIG				*e*S		Sn	10 54 54.9	-1.5

ISCJB ***18*** *11:29:07.8±0.4,21°.85S±0°.04×68°.52W±0°.06,h135km±5km, mb4.2/4,Error ellipse: s-maj=8.6km s-min=5.9km az=171.1*

IDC ***18*** *11:29:08.0±0.8,21°.82S×68°.16W,h106km±10km,mb4.0/5, mb1 3.8/9,mb1mx3.6/34,mbtmp4.2/9,MS3.3/1,Ms1 3.3/1, ms1mx2.6/30,Error ellipse: s-maj=27.3km s-min=13.7km az=118.0*

GUC ***18*** *11:29:09.2±0.7,21°.84S×68°.58W,h123km±4km,ML3.8*

ISC 18 11:29:08.5±0.8,21°.83S±0°.04×68°.42W±0°.06,h122km±7km, n31,σ1s19/43,mb4.3/4,11C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB09	**IPOC Station P**	**0.76**	**272**	*i*P		**Pn**	**11 29 29.2**	**+0.4**
PB09				*i* S		**Sn**	**11 29 43.9**	**-0.1**
PB09				IAML			11 29 46.2	
	comp=N,2μm,0.5s							
LVC	**Limon Verde**	**0.90**	**210**	P		**Pn**	**11 29 30.6**	**+0.4**
	comp=N,662nm,0.3s,baz=25,slow=7.3,SNR=4190							
LVC				S		**Sn**	**11 29 46.0**	**-0.6**
	comp=N,196nm,0.3s,baz=237,slow=21,SNR=5.8							
LVC				LR		LR	11 30 04.7	
	comp=N,165nm,19.6s,baz=214,slow=54							
LVC	**Limon Verde**	**0.90**	**210**	*i*P		**Pn**	**11 29 30.5**	**+0.4**
LVC				*i* S		**Sn**	**11 29 46.9**	**+0.3**
PB03	**IPOC Station P**	**1.26**	**260**	*i*P		**Pn**	**11 29 33.5**	**0.0**
PB03				*i* S		**Sn**	**11 29 51.8**	**-0.7**
PB03				IAML			11 29 53.4	
	comp=E,2μm,0.5s							
PB01	**IPOC Station P**	**1.26**	**308**	*i*P		**Pn**	**11 29 33.6**	**0.0**
PB01				*i* S		**Sn**	**11 29 52.1**	**-0.4**
PB01				IAML			11 29 53.8	
	comp=N,2μm,0.4s							
PB07	**IPOC Station P**	**1.37**	**274**	*i*P		**Pn**	**11 29 34.6**	**-0.1**
PB07				*i* S		**Sn**	**11 29 53.9**	**-0.7**
PB07				IAML			11 29 55.6	
	comp=N,3μm,0.3s							
PB06	**IPOC Station P**	**1.38**	**230**	*i*P		**Pn**	**11 29 35.3**	**+0.4**
PB06				*i* S		**Sn**	**11 29 54.6**	**-0.3**
PB06				IAML			11 29 57.2	
	comp=E,1μm,0.5s							
PB02	**IPOC Station P**	**1.46**	**290**	*i*P		**Pn**	**11 29 35.7**	**0.0**
PB02				*i* S		**Sn**	**11 29 55.7**	**-0.7**
PB02				IAML			11 29 58.2	
	comp=N,3μm,0.2s							
PB04	**IPOC Station P**	**1.68**	**252**	*i*P		**Pn**	**11 29 38.3**	**-0.1**
PB04				*i* S		**Sn**	**11 29 59.8**	**-1.3**
PB04				IAML			11 30 08.1	
	comp=N,1μm,0.7s							
PB15	**IPOC Station P**	**1.68**	**215**	*i*P		**Pn**	**11 29 38.8**	**+0.4**
PB15				*i* S		**Sn**	**11 30 02.1**	**+0.9**
PB08	**IPOC Station P**	**1.81**	**338**	*i*P		**Pn**	**11 29 41.5**	**+1.3**
PB08				*i* S		**Sn**	**11 30 05.7**	**+1.4**
PB08				IAML			11 30 09.8	
	comp=E,658nm,0.2s							
PB05	**IPOC Station P**	**1.94**	**238**	*i*P		**Pn**	**11 29 41.2**	**-0.2**
PB05				*i* S		**Sn**	**11 30 05.7**	**-0.9**
PB05				IAML			11 30 15.4	
	comp=E,568nm,0.5s							
PB11	**IPOC Station P**	**2.36**	**330**	*i*P		**Pn**	**11 29 46.6**	**-0.1**
PB11				*i* S		**Sn**	**11 30 16.2**	**+0.2**
PB11				IAML			11 30 21.9	
	comp=N,792nm,0.4s							
YJA	**Yavi**	**2.72**	**98**	*i* P		**Pn**	**11 29 53.6**	**+2.0**
YJA				*i* S		Sn	11 30 46.1	+21
HJA	**Humahuaca**	**3.10**	**117**	*i* P		**Pn**	**11 29 59.2**	**+2.6**
AZAP	**Zapla**	**3.90**	**128**	*i* P		**Pn**	**11 30 08.8**	**+1.7**
AZAP				IAML			11 30 10.2	
	comp=Z,15nm,0.4s							
ALOL	**LOMAS DE OLMED**	**4.55**	**117**	*i* P		**Pn**	**11 30 14.7**	**-0.7**
LPAZ	**La Paz**	**5.52**	**3**	P		**Pn**	**11 30 30.0**	**+0.9**
	comp=Z,5.3nm,0.3s,baz=181,slow=4.7,SNR=65							
AHML	**Horco Molle**	**5.68**	**151**	*i* P		**Pn**	**11 30 30.1**	**-0.6**
SIV	**San Ignacio**	**9.06**	**51**	P		**Pn**	**11 31 13.5**	**-2.8**
	comp=Z,12nm,0.3s,baz=237,slow=11,SNR=233							
CPUP	**Villa Florida**	**11.08**	**116**	P		**Pn**	**11 31 41.2**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=321,slow=13,SNR=3.2							
PLCA	**Paso Flores**	**18.93**	**185**	P		**P**	**11 33 20.6**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=40,slow=10,SNR=9.2							
BDFB	**Brasilia**	**20.27**	**76**	P		**P**	**11 33 32.5**	**-2.2**
	comp=Z,2.6nm,0.4s,baz=234,slow=9.2,SNR=6.1							
PTGA	**Pitinga**	**22.53**	**23**	P		**P**	**11 33 56.5**	**-1.9**
	comp=Z,6.9nm,0.3s,baz=223,slow=19,SNR=32							
MDP	**Montagnes des**	**30.91**	**32**	LR		LR	11 49 05.8	
	comp=Z,56nm,18.7s,baz=162,slow=39							
SNAA	**Sanae**	**61.82**	**161**	P		**P**	**11 39 15.1**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=256,slow=8.9,SNR=11							
DBIC	**Dimbokro**	**68.39**	**73**	P		**P**	**11 39 57.8**	**+0.3**
	comp=Z,2.4nm,0.4s,baz=207,slow=6.5,SNR=5.1							
TORD	**Torodi Ar. Bea**	**77.04**	**70**	P		**P**	**11 40 47.8**	**-0.8**
	comp=Z,1.9nm,0.4s,baz=254,slow=5.5,SNR=39							
ASAR	**Alice Springs**	**129.83**	**207**	PKP		**PKPdf**	**11 48 05.3**	**+1.0**
	comp=Z,1.6nm,1.1s,baz=127,slow=1.6,SNR=9.5							
WRA	**Warramunga Arr**	**132.90**	**210**	PKP		**PKPdf**	**11 48 11.7**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=167,slow=1.6,SNR=5.3							
MKAR	**Makanchi Array**	**145.63**	**37**	PKPbc		**PKPab**	**11 48 34.9**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=298,slow=2.6,SNR=4.5							

PGC ***18*** *11:41:05.9±1.2,52°.27N×132°.34W,h24km,ML3.8/13, ML3.8/13,114km Ssw of Sandspit, Bc Haida Gwaii Region*

IDC ***18*** *11:41:12.6±1.9,52°.58N×131°.36W,h0km,mb3.6/1, mb1 3.9/5,mb1mx3.5/44,mbtmp3.5/5,ML3.3/5,MS3.2/5, Ms1 3.2/5,ms1mx2.8/38,Error ellipse: s-maj=26.1km s-min=10.4km az=57.0*

ISC 18 11:41:05.5±1.8,52°.29N±0°.05×132°.18W±0°.06,h8km±11km, n35,σ2s09/43,MS3.2/3,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BNB	**Barry Inlet**	**0.39**	**43**	P		**Pb**	**11 41 15.9**	**+1.2**
BNB				S		**Sb**	**11 41 21.8**	**+1.0**
HG3B	**Hotspring**	**0.54**	**57**	P		**Pn**	**11 41 18.1**	**-1.2**
HG4B	**Hotspring**	**0.60**	**89**	P		**Pb**	**11 41 19.0**	**+0.7**
HG4B				S		**Sn**	**11 41 27.0**	**-3.4**
HG1B	**Mitchell Dam**	**0.65**	**3**	P		**Pg**	**11 41 19.0**	**+1.1**
MOBC	**Moresby Island**	**0.86**	**9**	P		**Pg**	**11 41 22.9**	**+0.7**
MOBC				S		**Sb**	**11 41 34.1**	**-0.4**
DIB	**Dawson Inlet,**	**0.93**	**349**	P		**Pb**	**11 41 22.9**	**-0.9**
DIB				S		**Sb**	**11 41 34.1**	**-2.2**
VIB	**Van Inlet**	**0.99**	**347**	P		**Pb**	**11 41 23.8**	**-1.0**
VIB				S		**Sb**	**11 41 35.7**	**-2.4**
NDB	**Naden**	**1.73**	**345**	Pn		**Pn**	**11 41 34.7**	**-1.2**
NDB				Sn		**Sn**	**11 41 55.3**	**-2.8**
MASB	**Masset**	**1.73**	**3**	Pn		**Pn**	**11 41 35.1**	**-0.7**

RUBB	**Prince Rupert**	**2.34**	**29**	Pn		**Pn**	**11 41 44.0**	**-0.2**
BBB	**Bella Bella**	**2.50**	**91**	Pn		**Pn**	**11 41 46.6**	**+0.2**
	2.3nm,0.3s,baz=274,slow=6.6,SNR=40							
BBB				Sn		**Sn**	**11 42 15.2**	**-2.0**
	17nm,0.3s,baz=22,slow=23,SNR=7.8							
BBB	**Bella Bella**	**2.50**	**91**	Pn		**Pn**	**11 41 46.4**	**-0.1**
BBB				Sn		**Sn**	**11 42 14.7**	**-2.5**
BBB				Sg		**Sg**	**11 42 22.8**	**-3.1**
BCBC	**Bella Coola**	**3.33**	**86**	Pn		**Pn**	**11 41 59.4**	**+1.6**
PHC	**Port Hardy**	**3.37**	**116**	Pn		**Pn**	**11 41 57.5**	**-0.8**
PHC				Sn		**Sn**	**11 42 34.2**	**-4.1**
PACB	**Port Alice, BC**	**3.48**	**120**	Pn		**Pn**	**11 42 00.3**	**+0.5**
PACB				Sn		**Sn**	**11 42 38.0**	**-3.1**
TLCB	**Telegraph Cove**	**3.78**	**115**	Pn		**Pn**	**11 42 03.6**	**-0.3**
TLCB				Sn		**Sn**	**11 42 45.9**	**-2.6**
WOSB	**Woss**	**4.12**	**119**	Pn		**Pn**	**11 42 08.9**	**+0.1**
NCRB	**Newcastle Ridg**	**4.28**	**114**	Pn		**Pn**	**11 42 10.6**	**-0.4**
UBRB	**Upper Baezaeko**	**4.97**	**80**	Pn		**Pn**	**11 42 22.6**	**+2.1**
UBRB				Sg		**Sg**	**11 43 42.5**	**-2.6**
BTB	**Buttle Lake**	**5.08**	**121**	Pn		**Pn**	**11 42 23.6**	**+1.6**
FSB	**Fort Saint Jam**	**5.19**	**62**	Pn		**Pn**	**11 42 24.8**	**+1.4**
TXB	**Texada**	**5.54**	**115**	Pn		**Pn**	**11 42 30.5**	**+2.4**
DLBC	**Dease Lake**	**6.28**	**10**	Pn		**Pn**	**11 42 41.8**	**+3.4**
	1.1nm,0.3s,baz=183,slow=12,SNR=18							
DLBC				Sn		**Sn**	**11 43 51.0**	**+0.7**
	0.9nm,0.3s,baz=319,slow=20,SNR=2.7							
DLBC				Lg		Lg	11 44 22.2	
	0.2nm,0.3s,baz=290,slow=13,SNR=4.4							
DLBC				LR		LR	11 44 46.0	
	comp=Z,89nm,19.2s,baz=194,slow=36							
DLBC	**Dease Lake**	**6.28**	**10**	Pn		**Pn**	**11 42 41.0**	**+2.6**
BMBC	**Bull Mountain**	**7.00**	**54**	Pn		**Pn**	**11 42 48.5**	**+0.3**
FNBB	**Fort Nelson**	**8.40**	**34**	Pn		**Pn**	**11 43 08.9**	**+1.5**
WHY	**Whitehorse**	**8.52**	**351**	Pn		Pn	11 43 16.0	+6.9
YKA	**Yellowknife Ar**	**13.88**	**36**	Pn		**Pn**	**11 44 19.9**	**-2.4**
	0.1nm,0.3s,baz=227,slow=12,SNR=4.6							
ILAR	**Eielson Array**	**14.62**	**334**	Pn		**P**	**11 44 41.4**	**+2.5**
	0.1nm,0.3s,baz=154,slow=8.9,SNR=7.6							
INK	**Inuvik**	**16.08**	**358**	LR		LR	11 51 38.2	
	comp=Z,96nm,19.2s,baz=104,slow=40							
PDAR	**Pinedale Array**	**17.94**	**113**	P		**P**	**11 45 20.4**	**+4.5**
	0.1nm,0.3s,baz=295,slow=6.6,SNR=4.7							
ULM	**Lac du Bonnet**	**22.66**	**81**	LR		LR	11 55 14.2	
	comp=Z,86nm,19.7s,baz=312,slow=38							
TXAR	**Lajitas Array**	**31.14**	**126**	P		P	11 47 32.1	+7.5
	0.7nm,0.8s,baz=326,slow=7.4,SNR=8.7							
NOA	**NORSAR Array B**	**63.30**	**19**	LR		LR	12 17 23.3	
	comp=Z,24nm,18.9s,baz=0.0,slow=34							
CMAR	**Chiang Mai Arr**	**96.75**	**312**	LR		LR	12 39 52.5	
	comp=Z,8.0nm,19.2s,baz=5.0,slow=36							

SJA 18 11:42:36.3±0.6,20°.89S×67°.60W,h195km±12km,ML3.1, MW3.9,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YJA	**Yavi**	**2.33**	**124**	*i* P		Pn	11 43 19.9	+1.4
YJA				*i* S		Sn	11 43 51.7	+0.4
YJA				IAML			11 43 54.4	
	comp=Z,58nm,0.4s							
HJA	**Humahuaca**	**3.08**	**139**	*i* P		Pn	11 43 28.4	+1.4
HJA				*i* S		Sn	11 44 06.5	-0.3
AZAP	**Zapla**	**4.07**	**145**	*i* P		Pn	11 43 39.7	+0.7
AZAP				*i* S		Sn	11 44 27.3	-1.0
ALOL	**LOMAS DE OLMED**	**4.44**	**132**	*i* P		Pn	11 43 43.8	+0.2
ALOL				*i* S		Sn	11 44 34.7	-1.7
FSA	**Cafayete**	**5.41**	**164**	*i* P		Pn	11 43 57.1	+1.1
AHML	**Horco Molle**	**6.23**	**161**	*i* P		Pn	11 44 07.2	+0.7

ISCJB ***18*** *12:23:57.5±0.9,35°.96N±0°.04×69°.99E±0°.09,h124km, Error ellipse: s-maj=11.5km s-min=4.5km az=158.8*

NNC ***18*** *12:24:03.4±1.3,36°.46N×69°.54E,h70km±31km,mb3.6, mpv3.7,Error ellipse: s-maj=11.0km s-min=9.7km az=127.0*

**ISC 18 12:23:56.3±1.2,35°.88N±0°.07×69°.8E±0°.1,h124km,n29, σ2s

MCRA				S	Sn	12 29 46.6	+7.4	
GONZ	**Gonzanam˜¡**	**0.91**	**9**	P	Pn	12 29 29.0	+1.9	
GONZ				S	Sn	12 29 45.7	+5.2	
COHC	**Cochancay**	**2.67**	**6**	P	Pn	12 29 50.2	+0.4	
MILO	**Milagro-Astudi**	**2.84**	**360**	P	Pn	12 29 54.3	+2.1	
BMAS	**Trigal station**	**3.77**	**16**	P	Pn	12 30 05.8	+0.7	
ARRY	**Arrayan**	**3.77**	**17**	P	Pn	12 30 04.9	-0.3	
BPAT	**Tungurahua Vol**	**3.78**	**17**	P	Pn	12 30 04.1	-1.3	
BULB	**Ulba Tungurahu**	**3.85**	**17**	P	Pn	12 30 05.1	-1.1	
POND	**Pondoa**	**3.85**	**16**	P	Pn	12 30 07.6	+1.4	
PIS1	**Pisayambo**	**4.22**	**16**	P	Pn	12 30 09.8	-1.5	

NEIC ***18*** *12:46:44.9±0.0, 14°.19N×92°.63W, h96km, MD4.1(MEX), After MEX.*

MEX 18 12:46:45.1±0.7, 14°.19N×92°.59W, h96km±15km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.78**	**24**	*e*Pn	Pn	12 47 00.3	-2.6
THIG				*e*Sn	Sn	12 47 14.7	-1.5
THIG		**0.78**	**24**	*e*P	Pn	12 47 01.0	-1.9
THIG				*e*S	Sn	12 47 14.7	-1.5
PCIG		**1.62**	**338**	*e*Pn	Pn	12 47 12.3	-0.4
PCIG				*e*Sn	Sn	12 47 31.6	-2.0
PCIG		**1.62**	**338**	*e*P	Pn	12 47 12.2	-0.5
PCIG				*e*S	Sn	12 47 31.6	-2.0
CCIG	**Comitan**	**2.12**	**12**	*e*Pn	Pn	12 47 23.9	+4.6
CCIG				*e*S	Sn	12 47 44.2	-1.3
CCIG				*e*Sn	Sn	12 47 56.5	+11
CCIG	**Comitan**	**2.12**	**12**	*i* P	Pn	12 47 17.8	-1.6
CCIG				*i* S	Sn	12 47 44.3	-1.1
TGIG		**2.62**	**349**	*e*Pn	Pn	12 47 26.8	+1.0
TGIG				*e*Sn	Sn	12 47 55.4	-1.7
TGIG		**2.62**	**349**	*e*P	Pn	12 47 24.3	-1.5
TGIG				*e*S	Sn	12 47 55.4	-1.7
TEIG	**Tepich**	**7.28**	**34**	*e*Pn	Pn	12 48 33.8	+5.0
UNM	**Universidad Na**	**8.12**	**310**	*e*Pn	Pn	12 48 42.6	+2.1

IDC 18 12:50:50.3±3.0, 5°.20S×134°.08E, h0km, mb3.6/1, mb1 3.7/4, mb1mx3.4/40, mbtmp3.6/4, ML3.4/3, MS3.2/2, Ms1 3.2/2, ms1mx2.4/43, Error ellipse: s-maj=113.7km s-min=31.2km az=83.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.66**	**179**	Pn	Pn	12 54 19.3	+0.2
	0.1nm,0.3s,baz=0.4,slow=14,SNR=2.9						
DAV	**Davao City (W)**	**14.85**	**325**	LR	LR	13 00 03.5	
	comp=Z,45nm,19.2s,baz=336,slow=37						
FITZ	**Fitzroy Crossi**	**15.24**	**212**	Pn	Pn	12 54 24.9	-2.0
	0.3nm,0.3s,baz=38,slow=12,SNR=8.1						
ASAR	**Alice Springs**	**18.36**	**180**	P	P	12 55 07.2	+0.5
	0.1nm,0.3s,baz=5.4,slow=11,SNR=5.2						
ASAJ	**Asahikawa**	**49.69**	**8**	LR	LR	13 19 04.2	
	comp=Z,37nm,18.2s,baz=166,slow=34						
MKAR	**Makanchi Array**	**69.03**	**325**	P	P	13 01 57.9	+0.1
	0.3nm,0.4s,baz=120,slow=8.1,SNR=4.2						

IDC 18 12:59:40.3±1.2, 15°.05S×173°.06W, h63km±6km, mb3.7/5, mb1 3.9/5, mb1mx3.5/36, mbtmp4.0/5, MS3.3/3, Ms1 3.3/3, ms1mx2.7/42, Error ellipse: s-maj=50.7km s-min=21.0km az=127.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.68**	**48**	P	Pn	12 59 58.2	-9.4
	baz=207,slow=9.0						
AFI				S	Sn	13 00 12.7	-15
	baz=148,slow=19						
AFI				LR	LR	13 00 35.7	
	comp=Z,414nm,19.8s,baz=212,slow=33						
DZM	**Mont Dzumac**	**20.64**	**247**	LR	LR	13 10 42.7	
	comp=Z,102nm,19.2s,baz=49,slow=32						
URZ	**Urewera**	**24.70**	**199**	P	P	13 04 55.0	-0.5
	4.9nm,0.7s,baz=51,slow=13,SNR=3.2						
STKA	**Stephens Creek**	**44.50**	**240**	P	P	13 07 44.7	-1.0
	1.4nm,0.7s,baz=64,slow=8.2,SNR=3.2						
WRA	**Warramunga Arr**	**50.24**	**256**	P	P	13 08 29.9	-0.6
	0.8nm,0.5s,baz=92,slow=7.3,SNR=9.6						
WRA				PcP	PcP	13 09 50.1	+1.2
	0.4nm,0.6s,baz=91,slow=3.3,SNR=4.0						
ASAR	**Alice Springs**	**50.53**	**252**	P	P	13 08 31.8	-0.9
	3.2nm,0.7s,baz=88,slow=7.8,SNR=48						
ASAR				pP	pP	13 08 49.4	+0.3
	1.1nm,0.5s,baz=90,slow=7.6,SNR=3.9						
ASAR				PcP	PcP	13 09 51.5	+1.6
	0.6nm,0.7s,baz=99,slow=4.2,SNR=4.1						
ASAR				LR	LR	13 27 57.6	
	comp=Z,34nm,19.9s,baz=84,slow=34						
NVAR	**Mina Array Bea**	**73.85**	**42**	pP	pP	13 11 24.1	-1.8
	0.5nm,0.7s,baz=212,slow=8.1,SNR=3.3						
QSPA	**South Pole Qui**	**75.00**	**180**	LR	LR	13 43 00.5	
	comp=Z,11nm,18.7s,baz=83,slow=35						
ILAR	**Eielson Array**	**82.04**	**11**	P	P	13 11 52.5	-0.7
	0.3nm,0.7s,baz=232,slow=4.4,SNR=3.7						
ILAR				pP	pP	13 12 08.9	-1.9
	0.5nm,0.6s,baz=226,slow=6.0,SNR=3.8						
GERES	**GERESS Array B**	**145.84**	**352**	PKPbc	PKPdf	13 19 11.9	-0.1
	0.5nm,0.7s,baz=32,slow=3.8,SNR=5.8						
GERES				pPKPbc	pPKPdf	13 19 30.0	-0.5
	0.4nm,0.7s,baz=20,slow=4.3,SNR=2.9						
BRTR	**Keskin Array B**	**146.09**	**322**	PKPbc	PKPbc	13 19 13.6	-0.1
	0.9nm,0.6s,baz=111,slow=4.2,SNR=2.4						
BRTR				pPKPbc	pPKPab	13 19 32.6	+0.2
	0.8nm,0.3s,baz=153,slow=4.8,SNR=3.3						

JMA ***18*** *13:04:44.6±0.2, 24°.68N×122°.87E, h127km±2km, M1.9*
TAP ***18*** *13:04:44.7, 24°.76N×122°.79E, h133km, ML2.8, C*
ISCJB ***18*** *13:04:45.0±0.7, 24°.71N±0°.06×122°.86E±0°.02, h116km±6km, Error ellipse: s-maj=10.3km s-min=3.2km az=176.2*

ISC 18 13:04:44.8±1.8, 24°.72N±0°.09×122°.87E±0°.03, h123km±12km, n39, σ0s69/66, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.28**	**166**	P	Pn	**13 05 02.4**	**+0.4**
JYNG				*e*S	Sn	**13 05 15.6**	**+0.7**
EOS1	**EOS1**	**0.69**	**256**	P	Pn	**13 05 04.7**	**+0.3**
	baz=245						
EOS1				S	Sn	**13 05 19.6**	**+0.6**
	baz=245						
IRIF	**Iriomote-Funau**	**0.88**	**116**	P	Pn	**13 05 06.1**	**+0.2**
IRIF				*e*S	Sn	**13 05 21.5**	**-0.3**
TWC	**Suao**	**0.93**	**263**	*e*P	Pn	**13 05 06.3**	**-0.1**
	baz=256						
TWC				*e*S	Sn	**13 05 21.8**	**-1.0**
	baz=256						
NANB	**Nanao**	**1.06**	**254**	*e*P	Pn	**13 05 08.0**	**+0.3**
	baz=254						
NANB				*e*S	Sn	**13 05 24.6**	**-0.3**
	baz=254						
ENA	**Nanau**	**1.07**	**254**	*e*P	Pn	**13 05 08.0**	**+0.3**
	baz=254						
ENA				*e*S	Sn	**13 05 25.0**	**-0.1**
	baz=254						
HATJ	**Hateruma jima**	**1.08**	**128**	*e*S	Sn	**13 05 25.9**	**+0.6**
TWE	**Neicheng**	**1.09**	**270**	*e*P	Pn	**13 05 08.1**	**+0.2**
	baz=265						
SLBB	**Yuanshan**	**1.12**	**272**	*e*P	Pn	**13 05 08.6**	**+0.3**
	baz=270						
SLBB				*e*S	Sn	**13 05 25.6**	**-0.5**
	baz=270						
JKRS	**Kuro-shima**	**1.15**	**115**	P	Pn	**13 05 09.3**	**+0.8**
JKRS				S	Sn	**13 05 27.4**	**+0.9**
ENTT	**Nioudou**	**1.19**	**266**	*e*P	Pn	**13 05 09.6**	**+0.6**
	baz=270						
JIJ	**Ishigaki jima**	**1.22**	**107**	P	Pn	**13 05 09.5**	**+0.3**
JIJ				S	Sn	**13 05 27.0**	**-0.8**
NACB	**Ninganchiao**	**1.28**	**245**	*e*P	Pn	**13 05 09.6**	**-0.4**
	baz=243						
NACB				*e*S	Sn	**13 05 28.0**	**-1.1**
	baz=243						
JISG	**Ishigakijimahi**	**1.32**	**96**	P	Pn	**13 05 10.3**	**0.0**
JISG				S	Sn	**13 05 29.1**	**-0.7**
TWD	**Chiawan**	**1.32**	**241**	*e*S	Sn	**13 05 29.3**	**-0.6**
	baz=236						
YHNB	**Yeheng**	**1.36**	**268**	*e*P	Pn	**13 05 11.3**	**+0.4**
	baz=272						
YHNB				*e*S	Sn	**13 05 30.4**	**-0.3**
	baz=272						
NSK	**Sanguang**	**1.38**	**268**	*e*P	Pn	**13 05 11.3**	**+0.3**
	baz=271						
NSK				*e*S	Sn	**13 05 30.6**	**-0.4**
	baz=271						
NNSB	**Datong**	**1.38**	**258**	*e*P	Pn	**13 05 11.4**	**+0.2**
	baz=256						
NNSB				*e*S	Sn	**13 05 30.9**	**-0.4**
	baz=256						
NNS	**Nan Shan**	**1.39**	**259**	*e*S	Sn	**13 05 31.0**	**-0.4**
	baz=253						
WHF	**Hehuan Shan**	**1.57**	**249**	*e*P	Pn	**13 05 13.8**	**+0.1**
	baz=252						
WHF				*e*S	Sn	**13 05 34.7**	**-0.9**
	baz=252						
ESL	**Shilin**	**1.59**	**236**	*e*P	Pn	**13 05 13.1**	**-0.4**
	baz=230						
ESL				*e*S	Sn	**13 05 34.2**	**-1.2**
	baz=230						
TDCB	**Techi**	**1.63**	**254**	*e*P	Pn	**13 05 14.7**	**+0.6**
	baz=247						
TDCB				*e*S	Sn	**13 05 35.8**	**-0.5**
	baz=247						
JTJ	**Tarama**	**1.67**	**92**	P	Pn	**13 05 14.6**	**+0.2**
JTJ				S	Sn	**13 05 36.1**	**-0.8**
CHGB	**Renai**	**1.68**	**247**	*e*P	Pn	**13 05 14.9**	**+0.2**
	baz=241						
CHGB				*e*S	Sn	**13 05 37.0**	**-0.6**
	baz=241						
EGFH	**Guangfu**	**1.68**	**232**	*e*P	Pn	**13 05 14.2**	**-0.4**
	baz=230						
EGFH				*e*S	Sn	**13 05 36.8**	**-0.4**
	baz=230						
LIOB	**Emei**	**1.69**	**268**	*e*P	Pn	**13 05 14.9**	**+0.3**
	baz=267						
LIOB				*e*S	Sn	**13 05 36.4**	**-1.0**
	baz=267						
NSTT	**Nanjuang**	**1.70**	**267**	*e*S	Sn	**13 05 37.1**	**-0.5**
	baz=266						
HGSD	**Ruisui**	**1.80**	**227**	*e*P	Pn	**13 05 15.9**	**-0.1**
	baz=221						
VWDT	**VWDT**	**1.85**	**239**	*e*P	Pn	**13 05 17.0**	**+0.5**
	baz=238						
VWDT				*e*S	Sn	**13 05 40.0**	**-0.7**
	baz=238						
EHY	**Hungye**	**1.86**	**230**	*e*P	Pn	**13 05 16.3**	**-0.4**
	baz=236						
YULB	**Yu-li**	**1.95**	**228**	*e*P	Pn	**13 05 17.5**	**-0.4**
	baz=232						
YULB				*e*S	Sn	**13 05 41.1**	**-2.0**
	baz=232						
SSLB	**Suanglung**	**1.98**	**242**	*e*P	Pn	**13 05 18.9**	**+0.7**
	baz=240						
SSLB				*e*S	Sn	**13 05 43.6**	**-0.2**
	baz=240						
TWF1	**Yuli**	**1.98**	**227**	*e*P	Pn	**13 05 17.7**	**-0.5**
	baz=235						
TYC	**Yuchr**	**2.01**	**246**	*e*P	Pn	**13 05 19.8**	**+1.3**
	baz=243						
TYC				*e*S	Sn	**13 05 44.8**	**+0.6**
	baz=243						
FULB	**Fuli**	**2.09**	**224**	*e*P	Pn	**13 05 20.0**	**+0.4**
	baz=218						
JIRB	**Irabujima**	**2.10**	**87**	*e*S	Sn	**13 05 45.1**	**-1.1**
ELDTW	**Lidau**	**2.28**	**228**	*e*P	Pn	**13 05 21.7**	**-0.4**
	baz=224						
CHN5	**Tsauling**	**2.29**	**241**	*e*P	Pn	**13 05 23.2**	**+1.0**
	baz=232						
CHN5				*e*S	Sn	**13 05 51.7**	**+0.9**
	baz=232						
TPUB	**Ta-pu**	**2.49**	**236**	*e*P	Pn	**13 05 26.1**	**+1.5**
	baz=234						
TPUB				*e*S	Sn	**13 05 56.5**	**+1.3**
	baz=234						

NIED ***18*** *13:11:00, 38°.40N×142°.20E, h35km, Mw3.8 Best double couple: M0=4.83000×10^14 NP1:φs=308.00000°, δ=45.00000°, λ=-140.00000°. NP2:φs=187.00000°, δ=63.00000°, λ=-53.00000°.*
IDC ***18*** *13:11:36.6±0.9, 38°.34N×142°.23E, h0km, mb3.6/7, mb1 3.8/11, mb1mx3.6/55, mbtmp3.6/11, ML3.3/3, MS2.8/2, Ms1 2.8/2, ms1mx2.2/53, Error ellipse: s-maj=24.6km s-min=17.6km az=90.0*
ISCJB ***18*** *13:11:38.8±0.9, 38°.35N±0°.04×142°.21E±0°.06, h27km±5km, mb3.7/7, MS2.8/1, Error ellipse: s-maj=7.5km s-min=5.9km az=18.0*
JMA ***18*** *13:11:40.1±0.1, 38°.41N×142°.16E, h32km±1km, M4.1*
JMA Felt I J1.

ISC 18 13:11:38.9±2.0, 38°.37N±0°.05×142°.16E±0°.07, h16km±12km, n25, σ0s91/35, mb3.5/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.55**	**264**	P	Pn	**13 11 51.1**	**-1.0**
JIKH				S	Sb	**13 11 58.5**	**+0.7**
JIO	**Ouri**	**0.64**	**278**	P	Pn	**13 11 52.7**	**-0.7**
JIO				S	Sb	**13 12 01.1**	**+0.6**
JKMT	**Kesennumamotoy**	**0.69**	**310**	P	Pn	**13 11 53.3**	**-0.8**
JKMT				S	Sb	**13 12 02.3**	**+0.3**
OFUJ	**Ofunato**	**0.81**	**332**	P	Pg	**13 11 54.5**	**-0.1**
OFUJ				S	Sb	**13 12 04.7**	**-0.5**
JMK	**Ichinoseki**	**0.94**	**309**	P	Pg	**13 11 56.9**	**-0.2**
JMK				S	Sb	**13 12 09.1**	**+0.1**
JOU	**Okura**	**1.17**	**270**	P	Pb	**13 12 00.9**	**0.0**
JOU				S	Sb	**13 12 16.0**	**+0.1**
JMM	**Marumori**	**1.19**	**245**	P	Pn	**13 12 00.5**	**-0.4**
JMM				S	Sb	**13 12 15.4**	**-0.8**
JOM	**Ohasama**	**1.29**	**329**	P	Pn	**13 12 02.1**	**-0.2**
JOM				S	Sb	**13 12 18.0**	**-1.2**
JFK	**Kawauchi**	**1.43**	**226**	P	Pn	**13 12 03.6**	**-0.6**
JFK				S	Sn	**13 12 20.5**	**-2.2**
JYK	**Kaneyama**	**1.51**	**292**	P	Pn	**13 12 05.6**	**+0.2**
JYK				*e*S	Sb	**13 12 25.4**	**-0.1**
JRG	**Rokugo**	**1.57**	**311**	P	Pb	**13 12 06.9**	**-0.7**
JRG				S	Sb	**13 12 27.4**	**+0.2**
JYS	**Shirataka**	**1.65**	**265**	P	Pn	**13 12 07.9**	**+0.6**
JYS				S	Sn	**13 12 28.4**	**+0.2**
MJAR	**Matsushiro Arr**	**3.63**	**241**	Pn	Pn	**13 12 35.9**	**+1.3**
	1.2nm,0.3s,baz=279,slow=14,SNR=16						
JHJ	**Hachijo jima 2**	**5.58**	**201**	Pn	Pn	**13 13 02.5**	**+1.2**
	8.9nm,0.3s,baz=233,slow=20,SNR=3.6						
ASAJ	**Asahikawa**	**5.75**	**3**	Pn	Pn	**13 13 05.7**	**+2.1**
	0.6nm,0.3s,baz=222,slow=19,SNR=10						
USRK	**Ussuriysk Ar.**	**9.61**	**310**	Pn	Pn	**13 13 58.6**	**+2.0**
	0.1nm,0.3s,baz=128,slow=16,SNR=3.0						
KSRS	**Korea Array**	**11.29**	**270**	LR	LR	13 18 11.6	
	comp=Z,26nm,18.4s,baz=115,slow=35						
SONM	**Songino Array**	**27.56**	**302**	LR	LR	13 28 33.9	
	comp=Z,26nm,18.9s,baz=350,slow=37						
ZALV	**Zalesovo Beam**	**41.46**	**311**	P	P	**13 19 24.6**	**-0.1**
	0.4nm,0.4s,baz=114,slow=7.7,SNR=2.4						
MKAR	**Makanchi Array**	**43.92**	**301**	P	P	**13 19 45.5**	**+0.6**
	0.6nm,0.8s,baz=90,slow=9.6,SNR=3.6						
KURBB	**Kurchatov Arra**	**45.66**	**307**	P	P	**13 19 58.4**	**-0.2**
	1.0nm,0.5s,baz=82,slow=8.0,SNR=10						
ILAR	**Eielson Array**	**48.05**	**33**	P	P	**13 20 18.3**	**+1.1**
	0.3nm,0.8s,baz=260,slow=5.4,SNR=2.5						
WRA	**Warramunga Arr**	**58.47**	**189**	P	P	**13 21 33.9**	**-0.3**
	1.1nm,0.4s,baz=5.3,slow=7.2,SNR=9.8						
ASAR	**Alice Springs**	**62.19**	**189**	P	P	**13 21 59.7**	**0.0**
	1.1nm,0.7s,baz=2.9,slow=5.5,SNR=11						
TXAR	**Lajitas Array**	**88.84**	**53**	P	P	**13 24 31.9**	**-0.7**
	0.1nm,0.6s,baz=264,slow=3.6,SNR=2.5						

IDC 18 13:15:28.2±2.0, 5°.30S×151°.39E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.5/47, mbtmp3.7/5, ML1.8/1, Error ellipse: s-maj=108.2km s-min=24.1km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.85**	**226**	Pn	Pn	13 16 58.3	+2.0
	1.5nm,0.3s,baz=37,slow=7.5,SNR=8.4						
PMG				Sn	Sn	13 18 03.3	-0.8
	0.9nm,0.3s,baz=166,slow=22,SNR=3.1						
WRA	**Warramunga Arr**	**22.07**	**227**	P	P	13 20 24.7	-0.3
	0.6nm,0.5s,baz=54,slow=10,SNR=6.5						
ASAR	**Alice Springs**	**24.84**	**221**	P	P	13 20 52.4	-0.2
	1.3nm,0.7s,baz=55,slow=8.6,SNR=17						
FITZ	**Fitzroy Crossi**	**28.19**	**241**	P	P	13 21 22.6	-0.2
	1.1nm,0.5s,baz=49,slow=11,SNR=3.5						
ILAR	**Eielson Array**	**83.15**	**22**	P	P	13 27 55.6	-0.2
	0.3nm,0.8s,baz=254,slow=5.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**149.11**	**287**	PKPbc	PKPbc	13 35 19.4	-0.2
	0.2nm,0.3s,baz=94,slow=3.5,SNR=3.0						

ISCJB ***18*** *13:20:12.6±1.4, 21°.28N±0°.05×144°.7E±0°.1, h113km±13km, mb4.1/23, Error ellipse: s-maj=17.3km s-min=7.9km az=166.7*
NEIC ***18*** *13:20:12.6±0.3, 21°.31N×144°.74E, mb4.5/8, Error ellipse: s-maj=12.1km s-min=6.1km az=78.0*
IDC ***18*** *13:20:13.3±0.9, 21°.31N×144°.68E, h101km±8km, mb3.8/17, mb1 3.9/18, mb1mx3.7/59, mbtmp4.1/18, MS3.6/1, Ms1 3.6/1, ms1mx2.4/40, Error ellipse: s-maj=20.9km s-min=11.7km az=84.0*

ISC 18 13:20:13.0±0.8, 21°.31N±0°.09×144°.7E±0°.2, h100km±8km, h101km:pP-P, n42, σ0s90/48, mb4.2/23, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**4.70**	**168**	*e*Pn	Pn	**13 21 21.5**	**-0.1**
MJAR	**Matsushiro Arr**	**16.20**	**341**	P	P	**13 23 56.5**	**+0.5**
	0.2nm,0.3s,baz=158,slow=8.4,SNR=6.7						
MAJO	**Matsushiro**	**16.20**	**341**	*e*Pn	Pn	**13 23 54.7**	**-0.1**
MJB9	**Matsu-Tunnel**	**16.21**	**341**	*e*Pn	Pn	**13 23 54.6**	**-0.2**
	79nm,1.9s						
PATS	**Pohnpei**	**19.49**	**136**	*e*P	P	**13 24 33.3**	**+1.1**
	174nm,1.7s						
KSRS	**Korea Array**	**21.69**	**322**	P	P	**13 24 57.8**	**+2.0**
	3.3nm,0.7s,baz=146,slow=8.6,SNR=29						
KS15	**Wonju Array Si**	**21.71**	**321**	*e*P	P	**13 24 54.8**	**-1.1**
KSAR	**Wonju Array Be**	**21.71**	**321**	P	P	**13 24 57.8**	**+1.9**
USRK	**Ussuriysk Ar.**	**25.15**	**338**	P	P	**13 25 30.1**	**+1.4**
	1.0nm,0.5s,baz=153,slow=5.7,SNR=3.7						
KLR	**Kul'dur**	**29.71**	**343**	P	P	**13 26 10.3**	**+0.9**
	1.4nm,0.5s,baz=148,slow=7.2,SNR=5.1						
MTN	**Manton Dam**	**36.48**	**203**	*e*P	P	**13 27 06.9**	**-1.6**
	42nm,1.9s						
BATI	**Baumata**	**37.54**	**215**	LR	LR	13 41 12.3	
	comp=Z,88nm,20.5s,baz=326,slow=34						
SONA0	**Songino Array**	**40.55**	**320**	*e*P	P	**13 27 42.6**	**+0.1**
SONM	**Songino Array**	**40.55**	**320**	P	P	**13 27 42.6**	**+0.1**
	0.9nm,0.5s,baz=124,slow=6.8,SNR=7.6						
WB2	**Warramunga Arr**	**42.24**	**195**	*e*P	P	**13 27 55.4**	**-1.0**
	3.9nm,0.7s						
WR1	**Warramunga Arr**	**42.24**	**195**	*e*P	P	**13 27 57.2**	**+0.7**
	4.4nm,0.6s						
WR1				*e*pP	pP	**13 28 20.1**	**+0.2**
WRA	**Warramunga Arr**	**42.24**	**195**	P	P	**13 27 57.2**	**+0.7**
	2.6nm,0.5s,baz=16,slow=8.8,SNR=23						
WRA				pP	pP	**13 28 20.1**	**+0.2**
	1.6nm,0.6s,baz=14,slow=8.8,SNR=4.3						
FITZ	**Fitzroy Crossi**	**43.40**	**207**	P	P	**13 28 05.8**	**-0.1**
	2.5nm,0.6s,baz=27,slow=11,SNR=8.8						
FITZ	**Fitzroy Crossi**	**43.40**	**207**	*e*P	P	**13 28 05.7**	**-0.1**
	22nm,1.8s						
AS31	**Alice Springs**	**45.93**	**194**	*e*P	P	**13 28 25.7**	**-0.2**
	1.0nm,0.6s						
ASAR	**Alice Springs**	**45.93**	**194**	P	P	**13 28 26.1**	**+0.2**
	1.1nm,0.4s,baz=13,slow=6.9,SNR=49						
ASAR				pP	pP	**13 28 49.6**	**0.0**
	0.5nm,0.7s,baz=21,slow=11,SNR=2.0						
ZALV	**Zalesovo Beam**	**55.40**	**322**	P	P	**13 29 36.0**	**-0.6**
	2.2nm,0.5s,baz=111,slow=8.2,SNR=9.4						
ZALV	**Zalesovo Beam**	**55.40**	**322**	*e*P	P	**13 29 35.6**	**-1.1**
ZAA1	**Zalesovo Array**	**55.40**	**322**	*e*P	P	**13 29 36.0**	**-0.6**
MK32	**Makanchi Array**	**56.01**	**313**	*e*P	P	**13 29 41.3**	**+0.1**
MK32				*e*pP	pP	**13 30 05.3**	**-0.4**
MK32				*e*PcP	PcP	**13 30 38.3**	**-0.1**
MKAR	**Makanchi Array**	**56.01**	**313**	P	P	**13 29 41.3**	**+0.1**
	1.5nm,0.6s,baz=87,slow=9.4,SNR=12						
MKAR				pP	pP	**13 30 05.3**	**-0.4**
	1.3nm,0.7s,baz=93,slow=8.5,SNR=3.9						
MKAR				PcP	PcP	**13 30 38.3**	**-0.1**
	0.9nm,0.4s,baz=78,slow=3.9,SNR=9.3						
KURK	**Kurchatov**	**58.73**	**317**	*e*P	P	**13 30 00.5**	**+0.3**
KURBB	**Kurchatov Arra**	**58.78**	**317**	P	P	**13 30 00.5**	**-0.1**
	2.6nm,0.6s,baz=94,slow=7.5,SNR=21						
MDM	**Murphy Dome**	**61.20**	**27**	*e*P	P	**13 30 15.6**	**-1.3**
	172nm,2.0s						
ILAR	**Eielson Array**	**61.73**	**27**	P	P	**13 30 19.9**	**-0.6**
	0.6nm,0.8s,baz=262,slow=6.0,SNR=6.1						
ILB	**Eielson Array**	**61.73**	**27**	*e*P	P	**13 30 19.6**	**-0.9**
BVAR	**Borovoye Array**	**63.89**	**320**	P	P	**13 30 34.6**	**-0.4**
	3.1nm,0.5s,baz=91,slow=6.5,SNR=20						
BRVK	**Borovoye**	**63.96**	**320**	*e*P	P	**13 30 34.0**	**-1.4**
	4.6nm,1.1s						
YKA	**Yellowknife Ar**	**76.12**	**28**	P	P	**13 31 50.2**	**+0.7**
	1.3nm,0.7s,baz=285,slow=5.4,SNR=3.9						
ARA0	**ARCESS Array S**	**79.74**	**342**	*e*P	P	**13 32 10.1**	**+0.6**
ARCES	**ARCESS Array B**	**79.74**	**342**	P	P	**13 32 10.1**	**+0.6**
	1.0nm,0.6s,baz=68,slow=8.0,SNR=7.3						
NV01	**Mina Array Sit**	**82.25**	**52**	*e*P	P	**13 32 22.5**	**-1.2**
NVAR	**Mina Array Bea**	**82.25**	**52**	P	P	**13 32 25.2**	**+1.4**
	1.2nm,0.6s,baz=271,slow=5.9,SNR=8.2						
FIA0	**FINESS Array S**	**84.14**	**335**	*e*P	P	**13 32 31.7**	**-0.9**
FINES	**FINESS Array B**	**84.14**	**335**	P	P	**13 32 31.7**	**-0.9**
	2.8nm,0.5s,baz=64,slow=5.0,SNR=32						
PD31	**Pinedale Array**	**86.65**	**45**	*e*P	P	**13 32 43.9**	**-2.0**
PDAR	**Pinedale Array**	**86.65**	**45**	P	P	**13 32 46.3**	**+0.5**
	0.3nm,0.6s,baz=237,slow=40,SNR=3.4						

BJI ***18*** *13:25:19.5, 32°.41N×69°.06E, h35km, mb4.9/4, mB4.9/3, ML4.6/1*
NEIC ***18*** *13:25:25.9±4.1, 32°.96N×69°.75E, h35km, mb4.4/1, Error ellipse: s-maj=49.8km s-min=20.6km az=9.0*
IDC ***18*** *13:26:11.9±3.7, 36°.40N×70°.51E, h190km±36km, mb3.2/4, mb1 3.2/10, mb1mx3.0/47, mbtmp

	SNR=11							
AAK	**Ala-Archa**	**6.93**	**25**	*e*Pn		**Pn**	**13 27 52.0**	**+0.6**
KBK	**Karagaybulak**	**7.11**	**27**	P		**Pn**	**13 27 54.9**	**+1.2**
	SNR=9.2							
CHMS	**Chumysh**	**7.34**	**25**	P		**Pn**	**13 27 57.4**	**+0.9**
	SNR=7.2							
TKM2	**Tokmak 2**	**7.58**	**29**	⇓P		**Pn**	**13 28 00.7**	**+0.7**
	comp=E,14nm,0.5s							
TKM2	**Tokmak 2**	**7.58**	**29**	P		**Pn**	**13 28 01.0**	**+1.0**
	SNR=7.7							
SMLA	**Simla**	**7.61**	**132**	*e*P		**Pn**	**13 28 01.5**	**+1.3**
SMLA				*e*S		**S**	**13 29 24.7**	**-1.6**
SMLA				IAML			13 29 44.3	
	comp=N,12nm,0.2s							
SMLA				IAML			13 29 44.5	
	comp=E,16nm,0.1s							
KKR	**Kurukshetra**	**8.29**	**139**	*e*S		**S**	**13 29 39.6**	**-3.0**
BHGR	**Bahadurgarh**	**9.39**	**143**	*e*S		**S**	**13 30 03.5**	**-5.1**
KHET	**Khetri**	**9.42**	**150**	*e*P		**Pn**	**13 28 23.5**	**-0.2**
KHET				*e*S		**S**	**13 30 04.4**	**-5.0**
JOSI	**Joshimath**	**9.51**	**125**	*e*P		**Pn**	**13 28 27.7**	**+2.6**
JOSI				*e*S		**S**	**13 30 10.4**	**-1.6**
JOSI				IAML			13 30 12.3	
	comp=N,35nm,0.8s							
JOSI				IAML			13 30 14.2	
	comp=E,33nm,0.4s							
KUDL	**Kundal**	**9.64**	**147**	*e*P		**Pn**	**13 28 27.5**	**+0.9**
KUDL				*e*S		**S**	**13 30 08.5**	**-6.2**
SONA	**Sohna**	**9.82**	**144**	*e*S		**S**	**13 30 12.6**	**-6.4**
GEYT	**Alibeck**	**10.04**	**282**	P		**Pn**	**13 28 31.5**	**-0.2**
	comp=E,0.1nm,0.3s,baz=96,slow=15,SNR=2.4							
PYUN	**Piuthan**	**13.38**	**125**	*e*P		**Pn**	**13 29 15.6**	**+1.2**
	comp=E,8.6nm,0.4s							
MK01	**Makanchi Array**	**13.57**	**37**	*e*Pn		**P**	**13 29 18.7**	**0.0**
MK31	**Makanchi Array**	**13.58**	**37**	P		**P**	**13 29 21.1**	**+2.3**
	comp=E,1.8nm,0.6s,baz=215,slow=9.9,SNR=17							
MK31	**Makanchi Array**	**13.58**	**37**	*e*Pn		**P**	**13 29 18.4**	**-0.4**
MKAR	**Makanchi Array**	**13.58**	**37**	P		**P**	**13 29 17.9**	**-0.9**
	comp=E,0.4nm,0.3s,baz=217,slow=10,SNR=15							
MKAR	**Makanchi Array**	**13.58**	**37**	*e*Pn		**P**	**13 29 18.7**	**-0.1**
	comp=E,19nm,0.6s							
DANN	**Dangsing**	**13.74**	**122**	*e*P		**P**	**13 29 21.5**	**+0.5**
AB31	**Akbulak array**	**15.00**	**332**	P		**P**	**13 29 34.2**	**-0.2**
	comp=E,1.4nm,0.7s,baz=143,slow=13,SNR=18							
ABKAR	**Akbulak array**	**15.00**	**332**	*e*Pn		**Pn**	**13 29 32.0**	**-1.8**
WMQ	**Urumqi**	**15.05**	**55**	*e*P		**Pn**	**13 29 31.3**	**-3.3**
DMN	**Daman**	**15.13**	**121**	*e*P		**P**	**13 29 39.9**	**+3.5**
KKN	**Kakani**	**15.14**	**120**	*e*P		**P**	**13 29 39.6**	**+3.2**
	comp=E,9.9nm,0.5s							
KURBB	**Kurchatov Arra**	**15.33**	**20**	P		**Pn**	**13 29 37.4**	**-0.5**
	baz=210,slow=13,SNR=3.5							
PKIN	**Phulchoki**	**15.35**	**121**	*e*P		**P**	**13 29 42.4**	**+3.6**
PKI	**Pulchoki**	**15.36**	**121**	*e*P		**P**	**13 29 42.6**	**+3.6**
JIRN	**Jiri**	**15.85**	**119**	*e*P		**Pn**	**13 29 48.5**	**+3.7**
	comp=E,23nm,0.3s							
RAMN	**Ramite**	**16.57**	**120**	*e*P		**Pn**	**13 29 56.5**	**+3.2**
BVAR	**Borovoye Array**	**16.62**	**360**	P		**Pn**	**13 29 54.0**	**+0.6**
	comp=E,0.3nm,0.3s,baz=172,slow=10,SNR=8.8							
AKTO	**Aktyubinsk**	**16.69**	**331**	P		**Pn**	**13 29 54.9**	**+0.7**
	comp=E,0.4nm,0.3s,baz=140,slow=11,SNR=19							
AKTO	**Aktyubinsk**	**16.69**	**331**	P		**Pn**	**13 29 54.9**	**+0.7**
ZALV	**Zalesovo Beam**	**20.15**	**25**	P		**P**	**13 30 31.7**	**+1.2**
	comp=E,1.4nm,0.3s,baz=213,slow=11,SNR=10							
ZALV	**Zalesovo Beam**	**20.15**	**25**	*e*P		**P**	**13 30 32.1**	**+1.7**
OBN	**Obninsk**	**29.78**	**320**	LR		LR	13 47 45.8	
	comp=E,17nm,18.9s,baz=122,slow=44							
TORD	**Torodi Ar. Bea**	**65.36**	**268**	P		**P**	**13 36 33.5**	**+0.7**
	comp=E,0.2nm,0.5s,baz=38,slow=5.1,SNR=2.5							
WRA	**Warramunga Arr**	**82.25**	**122**	P		**P**	**13 38 12.2**	**+1.5**
	comp=E,0.5nm,0.7s,baz=335,slow=5.1,SNR=6.6							
ASAR	**Alice Springs**	**84.50**	**125**	P		**P**	**13 38 23.9**	**+1.8**
	comp=E,0.6nm,0.8s,baz=310,slow=4.8,SNR=11							

*DRS **18** 13:27:18.1±0.0, 43.˙84N×45.˚10E, h12km*
*NORS **18** 13:27:22.8±0.0, 43.˙79N×45.˙39E, h17km, MPVA4.0*
*MOS **18** 13:27:23.6±0.0, 43.˙75N×45.˙31E, h19km, MPVA4.1*
*ISCJB **18** 13:27:25.5±0.6, 43.˙83N±0.˙03×45.˙34E±0.˙02, h19km±4km, mb3.9/1, Error ellipse: s-maj=5.3km s-min=2.4km az=16.1*

ISC 18 13:27:25.2±1.1, **43.˙74N**±0.˙03×**45.˙32E**±0.˙02, **h12**km±8km, **n73**,σ1§**11**/134, **10C-4D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TRKR	**Terskaya**	**0.42**	**267**	*e*PG		**Pb**	**13 27 33.8**	**-0.8**
TRKR				*e*S		**Sb**	**13 27 41.9**	**+0.9**
TRKR	**Terskaya**	**0.42**	**267**	*e*Pg		**Pg**	**13 27 33.1**	**-0.6**
TRKR				*e*Sg		**Sb**	**13 27 40.8**	**-0.1**
GROC	**Groznyy**	**0.64**	**147**	*e*PG		**Pg**	**13 27 37.0**	**-0.7**
GROC				*e*			13 27 45.6	
GROC				pmax		pmax		
	comp=Z,50nm,0.4s							
GROC				smax		smax		
	comp=N,167nm,0.4s							
GROC				smax		smax		
	comp=E,164nm,0.5s							
GROC				smax		smax		
	comp=E,190nm,0.5s							
GROC	**Groznyy**	**0.64**	**147**	*e*Pg		**Pg**	**13 27 37.5**	**-0.3**
GROC				*e*Sg		**Sb**	**13 27 47.9**	**+0.7**
BTKR	**Batakoyurt**	**0.68**	**237**	*e*PG		**Pn**	**13 27 39.8**	**-0.8**
BTKR				*e*S		**Sn**	**13 27 50.5**	**-0.5**
BTKR	**Batakoyurt**	**0.68**	**237**	*e*Pg		**Pn**	**13 27 39.8**	**-0.8**
BTKR				*e*Sg		**Sn**	**13 27 50.5**	**-0.5**
PRTR	**Priterechnaya**	**0.75**	**271**	*e*PG		**Pb**	**13 27 39.9**	**-0.3**
PRTR				*e*S		**Sn**	**13 27 52.0**	**-0.9**
PRTR	**Priterechnaya**	**0.75**	**271**	*e*Pg		**Pb**	**13 27 39.9**	**-0.3**
PRTR				*e*Sg		**Sn**	**13 27 52.0**	**-0.9**
KMGR	**Komgaron**	**0.76**	**206**	*e*PG		**Pb**	**13 27 40.2**	**-0.2**
KMGR				*e*S		**Sn**	**13 27 52.8**	**-0.4**
KMGR	**Komgaron**	**0.76**	**206**	*e*Pg		**Pg**	**13 27 39.6**	**-0.4**
KMGR				*e*Sg		**Sb**	**13 27 50.9**	**+0.1**
VLKR	**Vladikavkaz**	**0.84**	**214**	⇑*e*PG		**Pn**	**13 27 43.8**	**+0.9**
ARNR	**Ardon**	**0.94**	**234**	*e*PG		**Pg**	**13 27 43.4**	**0.0**
ARNR				*e*S		**Sn**	**13 27 58.3**	**+0.7**
ARNR	**Ardon**	**0.94**	**234**	*e*Pg		**Pb**	**13 27 42.6**	**-0.8**
ARNR				*e*Sg		**Sg**	**13 27 56.0**	**+0.4**
DVE	**Vedeno**	**0.98**	**143**	*e*PG		**Pb**	**13 27 43.4**	**-0.8**
DVE				*e*S		**Sn**	**13 27 57.7**	**-1.0**
DVE	**Vedeno**	**0.98**	**143**	*e*Pg		**Pn**	**13 27 43.4**	**-0.8**
DVE				*e*Sg		**Sn**	**13 27 57.7**	**-1.0**
STDR	**Stavd-Durt**	**0.99**	**248**	*e*PG		**Pn**	**13 27 44.6**	**-0.2**
STDR				*e*S		**Sn**	**13 28 00.7**	**+2.0**
STDR	**Stavd-Durt**	**0.99**	**248**	*e*Pg		**Pg**	**13 27 44.1**	**-0.2**
STDR				*e*Sg		**Sn**	**13 28 00.3**	**+1.6**
KORR	**Kora**	**1.12**	**235**	*e*PG		**Pn**	**13 27 46.2**	**-0.6**
KORR				*e*S		**Sg**	**13 28 03.6**	**+2.1**
KORR	**Kora**	**1.12**	**235**	*e*Pg		**Pb**	**13 27 45.7**	**-0.9**
KORR				*e*Sg		**Sg**	**13 28 02.1**	**+0.6**
DLMR	**Dylym**	**1.17**	**125**	*e*PG		**Pn**	**13 27 46.0**	**-1.4**
DLMR				*e*S		**Sg**	**13 28 03.0**	**+0.1**
DLMR	**Dylym**	**1.17**	**125**	*e*Pg		**Pn**	**13 27 46.0**	**-1.4**
DLMR				*e*Sg		**Sg**	**13 28 03.0**	**+0.1**
LACR	**Lac**	**1.18**	**219**	⇓*i*PG		**Pn**	**13 27 46.6**	**-1.0**
LACR				*e*S		**Sg**	**13 28 04.3**	**+0.9**
LACR	**Lac**	**1.18**	**219**	*i* Pg		**Pn**	**13 27 46.6**	**-1.0**
LACR				*e*Sg		**Sg**	**13 28 04.3**	**+0.9**
LSNR	**Lesken**	**1.18**	**247**	⇑*i*PG		**Pb**	**13 27 47.4**	**-0.2**
LSNR				*e*S		**Sg**	**13 28 05.9**	**+2.6**
LSNR	**Lesken**	**1.18**	**247**	*i* Pg		**Pb**	**13 27 47.1**	**-0.5**
LSNR				*e*Sg		**Sg**	**13 28 05.4**	**+2.1**
BTLR	**Botlikh**	**1.27**	**148**	*e*PG		**Pn**	**13 27 48.2**	**-0.6**
BTLR				*e*S		**Sg**	**13 28 06.4**	**+0.4**
BTLR	**Botlikh**	**1.27**	**148**	*e*Pg		**Pn**	**13 27 48.2**	**-0.6**
BTLR				*e*Sg		**Sg**	**13 28 06.4**	**+0.4**
NCK	**Nalchik**	**1.27**	**259**	⇓*i*PG		**Pn**	**13 27 48.3**	**-0.5**
NCK	**Nalchik**	**1.27**	**259**	*e*Pg		**Pn**	**13 27 48.3**	**-0.5**
NCK				*e*Sg		**Sg**	**13 28 06.7**	**+0.3**
DBC	**Dubki**	**1.32**	**123**	⇑*i*PG		**Pn**	**13 27 48.4**	**-1.1**
DBC				*i* S		**Sg**	**13 28 08.6**	**+0.9**
DBC				pmax		pmax		
	comp=Z,88nm,0.2s							
DBC	**Dubki**	**1.32**	**123**	*i* Pg		**Pn**	**13 27 48.4**	**-1.1**
DBC				*i* Sg		**Sg**	**13 28 08.6**	**+0.9**
KBTC	**Kuba-Taba**	**1.39**	**274**	*e*PG		**Pn**	**13 27 49.8**	**-0.6**
KBTC				*e*S		**Sg**	**13 28 10.2**	**+0.4**
KBTC	**Kuba-Taba**	**1.39**	**274**	*e*Pg		**Pn**	**13 27 49.7**	**-0.7**
KBTC				*e*Sg		**Sg**	**13 28 09.4**	**-0.4**
ZEI	**Tsey**	**1.41**	**228**	*e*PG		**Pn**	**13 27 49.7**	**-1.1**
ZEI				*e*S		**Sb**	**13 28 09.2**	**-0.3**
ZEI	**Tsey**	**1.41**	**228**	*e*Pg		**Pn**	**13 27 48.9**	**-1.9**
ZEI				*e*Sg		**Sb**	**13 28 09.2**	**-0.3**
GUDG	**Gudauri**	**1.42**	**206**	P		**Pn**	**13 27 46.4**	**-4.6**
GUDG				S		**Sb**	**13 28 09.5**	**-0.4**
KRNR	**Karanay**	**1.48**	**128**	⇓*i*PG		**Pb**	**13 27 52.0**	**-0.7**
KRNR				*i* S		**Sg**	**13 28 13.0**	**+0.2**
KRNR	**Karanay**	**1.48**	**128**	*i* Pg		**Pb**	**13 27 52.0**	**-0.7**
KRNR				*i* Sg		**Sg**	**13 28 13.0**	**+0.2**
UNCR	**Uncukul**	**1.49**	**133**	⇑*i*PG		**Pn**	**13 27 51.5**	**-0.3**
UNCR				*i* S		**Sb**	**13 28 12.0**	**+0.3**
UNCR	**Uncukul**	**1.49**	**133**	*i* Pg		**Pn**	**13 27 51.5**	**-0.3**
UNCR				*i* Sg		**Sb**	**13 28 12.0**	**+0.3**
DIGR	**Digorskoe uzhe**	**1.52**	**237**	⇑*i*PG		**Pn**	**13 27 51.0**	**-1.4**
DIGR				*e*S		**Sb**	**13 28 12.5**	**-0.3**
DIGR	**Digorskoe uzhe**	**1.52**	**237**	*i* Pg		**Pn**	**13 27 51.0**	**-1.4**
DIGR				*e*Sg		**Sb**	**13 28 11.9**	**-0.9**
XNZR	**Khunzakh**	**1.57**	**139**	*e*PG		**Pb**	**13 27 53.6**	**-0.7**
XNZR				*e*S		**Sb**	**13 28 14.5**	**+0.3**
XNZR	**Khunzakh**	**1.57**	**139**	*e*Pg		**Pb**	**13 27 53.7**	**-0.7**
XNZR				*e*Sg		**Sb**	**13 28 14.5**	**+0.3**
BUJR	**Buynaksk**	**1.60**	**124**	PG		**Pg**	**13 27 55.0**	**-0.9**
BUJR				*e*S		**Sg**	**13 28 20.0**	**+3.4**
BUJR	**Buynaksk**	**1.60**	**124**	*e*Pg		**Pg**	**13 27 55.0**	**-0.9**
BUJR				*e*Sg		**Sg**	**13 28 20.0**	**+3.4**
PYA1	**Pyatigorsk**	**1.64**	**282**	⇑*e*PN		**Pn**	**13 27 53.6**	**-0.2**
PYA1	**Pyatigorsk**	**1.64**	**282**	*e*Pg		**Pn**	**13 27 53.7**	**-0.1**
PYA1				*e*Sg		**Sb**	**13 28 14.9**	**-1.1**
ARKR	**Arakani**	**1.68**	**132**	*e*PN		**Pb**	**13 27 56.0**	**0.0**
ARKR				*e*S		**Sg**	**13 28 19.0**	**-0.1**
ARKR	**Arakani**	**1.68**	**132**	*e*Pg		**Pb**	**13 27 56.0**	**0.0**
ARKR				*e*Sg		**Sg**	**13 28 19.0**	**-0.1**
MAK	**Makhachkala**	**1.78**	**115**	*e*PN		**Pn**	**13 27 55.8**	**+0.1**
MAK				pmax		pmax		
	comp=Z,90nm,0.3s							
MAK	**Makhachkala**	**1.78**	**115**	*e*Pg		**Pn**	**13 27 55.9**	**+0.2**
MAK				*e*Sg		**Sb**	**13 28 18.5**	**-1.4**
ONI	**Oni**	**1.79**	**230**	P		**Pn**	**13 27 55.3**	**-0.6**
ONI				S		**Sb**	**13 28 20.8**	**+0.5**
ONI	**Oni**	**1.79**	**230**	*e*PN		**Pn**	**13 27 55.3**	**-0.6**
ONI				*e*S		**Sb**	**13 28 20.7**	**+0.5**
ONI	**Oni**	**1.79**	**230**	*e*Pg		**Pn**	**13 27 55.3**	**-0.6**
ONI				*e*Sg		**Sb**	**13 28 20.8**	**+0.5**
KIV0	**Kislovodsk Arr**	**1.91**	**277**	*i* Pg		**Pn**	**13 27 56.7**	**-1.0**
KIV0				*e*Sg		**Sn**	**13 28 21.5**	**-0.1**
KIV	**Kislovodsk**	**1.92**	**277**	⇑*i*PN		**Pn**	**13 27 57.9**	**+0.2**
KIV				pmax		pmax		
	comp=Z,204nm,0.6s							
KIV	**Kislovodsk**	**1.92**	**277**	*e*Pg		**Pn**	**13 27 56.9**	**-0.9**
KIV				*e*Sg		**Sb**	**13 28 22.0**	**-2.0**
SHA1	**Shidzhatmaz**	**1.93**	**271**	*e*Pg		**Pn**	**13 27 56.8**	**-1.3**
SHA1				*e*Sg		**Sn**	**13 28 22.2**	**-0.1**
NEY	**Neytrino**	**1.95**	**256**	*e*PN		**Pn**	**13 27 58.6**	**+0.3**
NEY	**Neytrino**	**1.95**	**256**	*e*Pg		**Pn**	**13 27 58.6**	**+0.3**
NEY				*e*Sg		**Sb**	**13 28 23.7**	**-1.4**
LGD	**Lagodekhi**	**2.03**	**160**	P		**Pb**	**13 28 00.2**	**-1.7**
LGD				S		**Sb**	**13 28 26.9**	**-0.1**
LGD	**Lagodekhi**	**2.03**	**160**	*e*PN		**Pb**	**13 28 00.2**	**-1.7**
LGD	**Lagodekhi**	**2.03**	**160**	*e*Pg		**Pb**	**13 28 00.2**	**-1.7**
LGD				*e*Sg		**Sb**	**13 28 26.9**	**-0.1**
KMKR	**Kumukh**	**2.08**	**140**	*e*PN		**Pb**	**13 28 02.5**	**-0.4**
KMKR				*i* S		**Sb**	**13 28 30.0**	**+1.3**
KMKR	**Kumukh**	**2.08**	**140**	*e*Pg		**Pb**	**13 28 02.5**	**-0.4**
KMKR				*i* Sg		**Sb**	**13 28 30.0**	**+1.3**
GOF	**Gofitskoye**	**2.09**	**310**	*e*PN		**Pb**	**13 28 01.9**	**-1.2**
GOF				*e*S		**Sb**	**13 28 28.3**	**-0.7**
GOF				pmax		pmax		
	comp=Z,30nm,0.7s							
GOF				smax		smax		
	comp=N,130nm,0.6s							
GOF				smax		smax		
	comp=E,180nm,0.6s							
TRLG	**Trialeti**	**2.38**	**203**	P		**Pn**	**13 28 04.1**	**-0.1**
TRLG				S		**Sb**	**13 28 36.4**	**-1.0**
AKT	**Akhty**	**2.88**	**141**	⇓*i*PN		**Pn**	**13 28 11.8**	**+0.8**
AKT	**Akhty**	**2.88**	**141**	*e*Pn		**Pn**	**13 28 11.3**	**+0.3**
AKT				*e*Sn		**Sn**	**13 28 43.4**	**-2.1**
BRVK	**Borovoye**	**18.93**	**52**	⇑*e*P		**Pn**	**13 31 45.6**	**-0.7**
BRVK				pmax		pmax		
	comp=Z,3.0nm,1.9s							
AAK	**Ala-Archa**	**21.26**	**83**	⇑*e*P		**P**	**13 32 13.7**	**+2.4**
KURK	**Kurchatov**	**23.52**	**61**	⇑*e*P		**P**	**13 32 38.1**	**+3.3**
KURK				pmax		pmax		
	comp=Z,9.0nm,1.9s							

*BJI **18** 13:29:22.4, 38.˚58S×73.˚64W, h7km, mB5.2/1*
*ISCJB **18** 13:29:25.7±0.3, 38.˚16S±0.˚04×73.˚72W±0.˚07, h24km, mb4.5/30, MS3.7/7, Error ellipse: s-maj=8.6km s-min=5.4km az=164.1*
*IDC **18** 13:29:27.0±0.7, 38.˚25S×73.˚62W, h22km±3km, mb4.1/13, mb1 4.2/16, mb1mx4.1/27, mbtmp4.2/16, ML4.0/3, MS3.7/9, Ms1 3.6/9, ms1mx3.5/20, Error ellipse: s-maj=21.3km s-min=12.5km az=66.0*
*NEIC **18** 13:29:28.0±0.0, 38.˚29S×73.˚69W, h56km, mb4.7/23, ML4.1(GUC), After GUC.*
NEIC Felt [III] at Puerto Saavedra, Puren and Temuco; [II] at Carahue and Tirua.
*GUC **18** 13:29:28.9±0.4, 38.˚29S×73.˚70W, h56km±13km, ML4.1*

ISC 18 13:29:27.1±0.8, **38.˚23S**±0.˚05×**73.˚83W**±0.˚07, **h24**km±5km, **n92**,σ1§**14**/92, **mb4.6**/30, **MS3.8**/7, **1C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TMU	**Temuco**	**1.09**	**118**	⇓*i*P		**Pn**	**13 29 46.6**	**-0.3**
TMU				*i* S		**Sn**	**13 30 02.2**	**+1.1**
TMU				IAML			13 30 06.4	
	comp=N,5μm,0.5s							
CCHI	**Chillan**	**2.14**	**41**	⇓*i*P		**Pn**	**13 30 01.6**	**+0.3**
CCHI				*i* S		**Sb**	**13 30 35.2**	**+3.8**
CCHI				IAML			13 30 41.5	
	comp=E,6μm,0.6s							
GO06	**Curarrehue**	**2.29**	**127**	*e*Pn		**Pn**	**13 30 03.9**	**+0.4**
GO06	**Curarrehue**	**2.29**	**127**	⇑*i*P		**Pn**	**13 30 03.9**	**+0.4**
GO06				*i* S		**Sb**	**13 30 35.7**	**+0.1**
GO06				IAML			13 30 44.5	
	comp=N,1μm,0.6s							
GO05	**HualaaeØ**	**3.56**	**26**	*e*Pn		**Pn**	**13 30 19.1**	**-1.8**
PLCA	**Paso Flores**	**3.56**	**136**	Pn		**Pn**	**13 30 21.3**	**+0.3**
	comp=N,3.3nm,0.3s,baz=313,slow=8.5,SNR=138							
PLCA				Lg		Lg	13 31 15.0	
	comp=N,13nm,0.3s,baz=262,slow=20,SNR=6.4							
PLCA				LR		LR	13 32 03.7	
	comp=N,966nm,19.5s,baz=300,slow=46							
PLCA	**Paso Flores**	**3.56**	**136**	*e*Pn		**Pn**	**13 30 20.9**	**-0.1**
PLCA				Lg		Lg	13 31 15.0	
GO07	**Milladeo Hill,**	**4.88**	**179**	*e*Pn		**Pn**	**13 30 37.5**	**-1.4**
PEL	**Peldehue**	**5.68**	**28**	*e*Pn		**Pn**	**13 30 47.9**	**-2.2**
ROC1	**El Roble**	**5.72**	**24**	*e*Pn		**Pn**	**13 30 48.8**	**-2.0**
GO04	**Tololo Observa**	**8.42**	**18**	*e*Pn		**Pn**	**13 31 25.5**	**-2.3**
CHRN	**Cochrane**	**9.06**	**175**	*e*Pn		**Pn**	**13 31 36.8**	**+0.5**
TRQA	**Tornquist**	**9.34**	**93**	*e*Pn		**Pn**	**13 31 40.2**	**0.0**
LCO	**Las Campanas**	**9.56**	**17**	*e*Pn		**Pn**	**13 31 40.8**	**-2.6**
GO03	**Copiap**	**11.03**	**17**	*e*Pn		**Pn**	**13 32 00.3**	**-3.1**
LVC	**Limon Verde**	**16.13**	**17**	Pn		**Pn**	**13 33 12.9**	**+0.3**
	comp=N,0.2nm,0.3s,baz=265,slow=12,SNR=2.1							
LVC				LR		LR	13 38 59.5	
	comp=N,213nm,18.7s,baz=190,slow=36							
PB04	**IPOC Station P**	**16.16**	**12**	*e*Pn		**Pn**	**13 33 11.3**	**-1.5**
	comp=N,46nm,1.0s							
PB01	**IPOC Station P**	**17.53**	**14**	*e*Pn		**Pn**	**13 33 27.5**	**-2.5**
	comp=N,106nm,1.9s							
CPUP	**Villa Florida**	**18.28**	**54**	P		**P**	**13 33 37.9**	**-1.2**
	comp=N,0.2nm,0.3s,baz=235,slow=9.9,SNR=13							
CPUP	**Villa Florida**	**18.28**	**54**	*e*Pn		**P**	**13 33 37.1**	**-2.0**
	comp=N,7.5nm,1.1s							
PB11	**IPOC Station P**	**18.76**	**12**	*e*P		**Pn**	**13 33 45.3**	**+0.2**
	comp=N,68nm,0.9s							
MNMC	**Minye Minye**	**19.38**	**12**	*e*P		**P**	**13 33 51.6**	**+0.1**
	comp=N,46nm,0.7s							
LPAZ	**La Paz**	**22.43**	**14**	P		**P**	**13 34 25.9**	**+1.1**
	comp=N,8.5nm,0.9s,baz=175,slow=7.5,SNR=16							
LPAZ	**La Paz**	**22.43**	**14**	*e*P		**P**	**13 34 25.0**	**+0.1**
	comp=N,13nm,0.9s							
SIV	**San Ignacio**	**24.84**	**30**	P		**P**	**13 34 47.1**	**-0.6**
	comp=N,5.2nm,1.0s,baz=239,slow=10,SNR=16							
NNA	**Nana**	**26.27**	**353**	P		**P**	**13 35 01.6**	**+0.9**
	comp=N,2.7nm,0.3s,baz=176,slow=13,SNR=2.3							
PMSA	**Palmer Station**	**27.20**	**171**	LR		LR	13 45 02.8	
	comp=N,238nm,19.3s,baz=331,slow=34							
BDFB	**Brasília**	**31.99**	**52**	P		**P**	**13 35 50.3**	**-1.3**
	comp=N,0.8nm,0.3s,baz=227,slow=19,SNR=2.4							
BDFB				LR		LR	13 49 34.0	
	comp=N,219nm,18.5s,baz=201,slow=38							
OTAV	**Otavalo**	**38.51**	**353**	*e*P		**P**	**13 36 49.6**	**+1.5**
	comp=N,4.7nm,0.9s							
VNA3	**Neumayer Olymp**	**46.04**	**156**	P		**P**	**13 37 47.5**	**-0.9**
VNA2	**Neumayer--Watz**	**46.73**	**156**	P		**P**	**13 37 54.9**	**+1.2**
	baz=287,slow=8.0							
SDV	**Santo Domingo**	**46.97**	**4**	P		**P**	**13 37 55.0**	**-1.3**
	comp=N,3.4nm,0.7s,baz=259,slow=6.8,SNR=5.0							
SDV	**Santo Domingo**	**46.97**	**4**	*e*P		**P**	**13 37 55.7**	**-0.7**
	comp=N,5.8nm,0.8s							
SNAA	**Sanae**	**48.26**	**156**	P		**P**	**13 38 06.5**	**+0.8**
SNAA	**Sanae**	**48.26**	**156**	P		**P**	**13 38 05.4**	**-0.4**
	comp=N,6.8nm,1.1s,baz=268,slow=7.2,SNR=11							
SNAA	**Sanae**	**48.26**	**156**	*e*P		**P**	**13 38 05.9**	**+0.2**
	comp=N,7.4nm,1.0s							
QSPA	**South Pole Qui**	**52.01**	**180**	P		**P**	**13 38 34.3**	**0.0**
	comp=N,3.4nm,0.8s,baz=154,slow=1.0,SNR=10							
RKT	**Rikitea**	**53.80**	**268**	*e*T		T	14 36 26.4	
	comp=N,1.2nm,0.2s							
VNDA	**Vanda**	**59.67**	**192**	LR		LR	14 00 56.3	
	comp=N,36nm,21.8s,baz=233,slow=32							
TVO	**Taravao**	**67.92**	**264**	*e*T		T	14 54 09.0	
	comp=N,0.7nm,0.2s							
TIAR	**Tiarei**	**68.12**	**264**	*e*T		T	14 54 24.6	
	comp=N,3.2nm,0.3s							
PPT2	**Papeete2**	**68.28**	**264**	*e*LR		LR	14 01 07.6	
	comp=N,84nm,25.5s							
PPT	**Papeete**	**68.29**	**264**	LR		LR	14 04 33.0	
	comp=N,26nm,19.5s,baz=108,slow=31							
MAW	**Mawson**	**69.54**	**164**	LR		LR	14 10 02.8	
	comp=N,71nm,19.2s,baz=242,slow=35							
JCT	**Junction City**	**72.53**	**337**	*e*P		**P**	**13 40 52.6**	**+0.7**
	comp=N,12nm,1.0s							
TX31	**Lajitas Ar. Si**	**72.77**	**333**	*e*P		**P**	**13 40 54.1**	**+0.6**
TXAR	**Lajitas Array**	**72.77**	**333**	P		**P**	**13 40 54.6**	**+1.2**
	comp=N,1.4nm,0.8s,baz=158,slow=8.4,SNR=14							
TXAR				pP		**pP**	**13 41 01.3**	**+0.1**
	comp=N,3.1nm,0.8s,baz=151,slow=8.2,SNR=21							
V48A	**Smith Brothers**	**74.58**	**349**	*e*P		**P**	**13 41 03.4**	**-0.4**
	comp=N,17nm,1.0s							
TUL1	**Leonard**	**76.52**	**342**	*e*P		**P**	**13 41 14.2**	**-0.7**
	comp=N,13nm,0.9s							
AMTX	**Amarillo**	**77.19**	**337**	P		**P**	**13 41 19.6**	**+0.8**
	comp=N,12nm,1.1s							
LIC	**Lamto**	**77.48**	**72**	*e*P		**P**	**13 41 21.3**	**+0.4**
	comp=N,52nm,1.1s							
CCM

DZM	**Mont Dzumac**	**22.36**	**144**	*e*P	**P**	**13 52 55.0**	**+0.5**
	37nm,0.7s							
MTN	**Manton Dam**	**22.61**	**247**	*e*P	**P**	**13 52 56.3**	**-0.5**
	18nm,0.5s							
WRAB	**Tennant Creek**	**23.44**	**227**	*e*P	**P**	**13 53 04.3**	**-0.1**
	30nm,0.5s							
WB2	**Warramunga Arr**	**23.45**	**227**	*e*P	**P**	**13 53 04.3**	**-0.1**
WRA	**Warramunga Arr**	**23.46**	**227**	P	**P**	**13 53 04.7**	**+0.2**
	21nm,0.6s,baz=51,slow=9.7,SNR=226							
WRA				S	**S**	**13 57 03.2**	**-2.6**
	3.6nm,0.9s,baz=45,slow=16,SNR=11							
WRA				ScP	**ScP**	**14 00 09.5**	**+0.8**
	0.5nm,0.8s,baz=50,slow=2.9,SNR=5.0							
AS01	**Alice Springs**	**26.20**	**221**	*e*P	**P**	**13 53 29.5**	**+0.1**
AS31	**Alice Springs**	**26.23**	**221**	*e*P	**P**	**13 53 28.9**	**-0.7**
	2.2nm,1.1s							
ASAR	**Alice Springs**	**26.24**	**221**	P	**P**	**13 53 29.2**	**-0.4**
	1.5nm,0.3s,baz=54,slow=8.5,SNR=76							
ASAR				ScP	**ScP**	**14 00 17.3**	**+0.7**
	0.6nm,0.8s,baz=37,slow=3.0,SNR=5.0							
BATI	**Baumata**	**29.04**	**257**	P	**P**	**13 53 54.6**	**-0.1**
	9.3nm,0.4s,baz=86,slow=19,SNR=3.1							
FITZ	**Fitzroy Crossi**	**29.51**	**240**	P	**P**	**13 53 57.9**	**-0.9**
	17nm,0.5s,baz=73,slow=6.2,SNR=137							
FITZ	**Fitzroy Crossi**	**29.51**	**240**	*e*P	**P**	**13 53 57.8**	**-1.0**
	21nm,0.6s							
SBUM	**Sibu**	**40.64**	**279**	*e*P	**P**	**13 55 34.4**	**+0.3**
	3.7nm,0.9s							
URZ	**Urewera**	**40.67**	**150**	P	**P**	**13 55 35.3**	**+1.4**
	2.1nm,0.4s,baz=0.0,slow=20,SNR=3.9							
JNU	**Nakatsue**	**42.38**	**333**	P	**P**	**13 55 47.7**	**-0.3**
	12nm,0.8s,baz=126,slow=5.1,SNR=12							
KSRS	**Korea Array**	**47.32**	**333**	P	**P**	**13 56 27.1**	**+0.2**
	1.5nm,0.7s,baz=147,slow=8.0,SNR=5.4							
KSAR	**Wonju Array Be**	**47.33**	**333**	P	**P**	**13 56 27.1**	**+0.1**
KS01	**Wonju Array Si**	**47.35**	**333**	*e*P	**P**	**13 56 26.8**	**-0.4**
NJ2	**Nanjing**	**48.15**	**321**	*e*P	**P**	**13 56 32.0**	**-1.3**
NJ2				pmax	pmax			
	comp=Z,14nm,0.5s							
USRK	**Ussuriysk Ar.**	**51.60**	**341**	P	**P**	**13 56 59.2**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=174,slow=7.3,SNR=4.2							
XAN	**Xi'an**	**55.92**	**316**	P	**P**	**13 57 30.9**	**+0.1**
XAN				pP	pP	13 57 38.9	-30	
XAN				pmax	pmax			
	comp=Z,6.0nm,0.8s							
CM01	**Chiang Mai Arr**	**57.21**	**295**	*e*P	**P**	**13 57 40.9**	**+0.7**
CMAR	**Chiang Mai Arr**	**57.24**	**295**	P	**P**	**13 57 41.8**	**+1.4**
	comp=Z,3.8nm,0.7s,baz=119,slow=5.4,SNR=32							
HHC	**Hu-ho-hao-te**	**58.35**	**324**	*e*P	**P**	**13 57 50.6**	**+2.8**
HHC				pmax	pmax			
	comp=Z,9.0nm,1.0s							
HHC				pmax	pmax			
	comp=Z,190nm,6.4s							
GTA	**Gaotai**	**64.96**	**317**	*e*P	**P**	**13 58 33.3**	**+1.2**
GTA				pP	pP	13 59 11.8	+0.6	
GTA				sP	sP	13 59 28.4	-0.7	
GTA				pmax	pmax			
	comp=Z,3.0nm,0.7s							
GTA				LR	LR			
	comp=N,370nm,22.3s							
GTA				LR	LR			
	comp=E,190nm,16.5s							
GTA				LR	LR			
	comp=Z,57nm,16.5s							
SONM	**Songino Array**	**65.63**	**328**	P	**P**	**13 58 35.9**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=145,slow=5.4,SNR=3.6							
VNDA	**Vanda**	**73.37**	**178**	P	**P**	**13 59 23.3**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=315,slow=12,SNR=4.3							
WMQ	**Urumqi**	**75.04**	**317**	*e*P	**P**	**13 59 33.8**	**+0.4**
MK01	**Makanchi Array**	**79.61**	**319**	*e*P	**P**	**13 59 57.7**	**-1.0**
MKAR	**Makanchi Array**	**79.63**	**319**	P	**P**	**13 59 58.5**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=97,slow=12,SNR=6.3							
ZALV	**Zalesovo Beam**	**80.46**	**326**	P	**P**	**14 00 02.3**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=116,slow=5.5,SNR=4.1							
ILAR	**Eielson Array**	**81.85**	**22**	P	**P**	**14 00 08.9**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=250,slow=5.7,SNR=7.7							
AAK	**Ala-Archa**	**83.97**	**313**	*e*P	**P**	**14 00 21.7**	**-0.1**
	comp=Z,2.6nm,0.8s							
BRVK	**Borovoye**	**88.61**	**323**	*e*P	**P**	**14 00 41.7**	**-2.2**
	comp=Z,2.2nm,0.7s							
GERES	**GERESS Array B**	**123.36**	**328**	PKP	**PKPdf**	**14 06 47.3**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=76,slow=1.9,SNR=13							
TORD	**Torodi Ar. Bea**	**149.70**	**289**	PKPbc	**PKPbc**	**14 07 40.1**	**-0.9**
	comp=Z,5.1nm,0.8s,baz=58,slow=3.7,SNR=26							
BDFB	**Brasilia**	**151.76**	**135**	PKPbc	**PKPbc**	**14 07 45.0**	**-1.0**
	comp=Z,1.6nm,0.4s,baz=131,slow=0.7,SNR=4.2							

*SJA **18** 13:57:58.7±0.6,22°.31S×64°.12W,h627km±10km,ML3.2, MW2.6*
*ISCJB **18** 13:58:07.5±0.6,22°.20S±0°.07×63°.8W±0°.1,h550km, mb3.1/3,Error ellipse: s-maj=12.5km s-min=9.2km az=167.7*
*IDC **18** 13:58:07.4±1.0,22°.16S×63°.67W,h518km±12km,mb2.8/3, mb1 3.1/8,mb1mx3.0/27,mbtmp3.7/8,Error ellipse: s-maj=18.1km s-min=16.3km az=68.0*

ISC 18 13:58:09.1±0.8,22°.20S±0°.09×63°.9W±0°.1,h550km,n19, σ1§99/22,mb3.0/3,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
YJA	**Yavi**	**1.49**	**271**	*i* P		**P**	**13 59 16.4**	**-0.9**
YJA				IAML			13 59 16.8	
	comp=Z,9.8nm,0.4s							
YJA				*e*S		S	13 59 41.1	-32
ALOL	**LOMAS DE OLMED**	**1.61**	**182**	*i* P		**P**	**13 59 16.0**	**-1.2**
HJA	**Humahuaca**	**1.71**	**234**	*i* P		**P**	**13 59 17.2**	**-0.9**
AZAP	**Zapla**	**2.28**	**208**	*i* P		**P**	**13 59 18.8**	**-1.6**
SLA	**San Lorenzo**	**2.91**	**210**	*i* P		**P**	**13 59 22.4**	**-1.3**
SLA				*e*S		**S**	**14 00 23.6**	**-1.0**
FSA	**Cafayete**	**4.33**	**206**	*i* P		**P**	**13 59 31.7**	**-2.0**
LVC	**Limon Verde**	**4.65**	**264**	P		**P**	**13 59 34.8**	**-1.7**
	comp=Z,3.4nm,0.3s,baz=46,slow=2.2,SNR=20							
LVC				S		**S**	**14 00 43.9**	**-3.8**
	comp=Z,2.2nm,0.3s,baz=269,slow=21,SNR=24							
SIV	**San Ignacio**	**6.73**	**24**	P		**P**	**13 59 52.2**	**-2.5**
	comp=Z,1.5nm,0.3s,baz=232,slow=7.7,SNR=39							
LPAZ	**La Paz**	**7.11**	**325**	P		**P**	**13 59 59.0**	**+0.1**
	comp=Z,2.0nm,0.3s,baz=114,slow=4.7,SNR=52							
LPAZ				S		**S**	**14 01 25.6**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=263,slow=17,SNR=2.7							
CPUP	**Villa Florida**	**7.27**	**126**	P		**P**	**13 59 56.6**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=264,slow=6.1,SNR=3.4							
ASAL	**Salagasta**	**11.23**	**202**	*e*P		**P**	**14 00 40.3**	**+0.6**
PLCA	**Paso Flores**	**19.31**	**195**	P		**P**	**14 02 00.2**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=38,slow=11,SNR=7.7							
TXAR	**Lajitas Array**	**63.96**	**322**	P		**P**	**14 07 50.6**	**+1.6**
	comp=Z,0.2nm,0.7s,baz=108,slow=5.8,SNR=2.7							
TORD	**Torodi Ar. Bea**	**73.26**	**68**	P		**P**	**14 08 43.7**	**-1.5**
	comp=Z,1.5nm,0.5s,baz=248,slow=5.8,SNR=17							
PDAR	**Pinedale Array**	**77.12**	**327**	P		**P**	**14 09 08.8**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=107,slow=7.6,SNR=2.9							
NRIK	**Noril'sk**	**129.81**	**13**	PKP		**PKPdf**	**14 16 16.1**	**+0.6**
	comp=Z,1.1nm,0.4s,baz=76,slow=4.9,SNR=3.6							
ASAR	**Alice Springs**	**131.22**	**202**	PKP		**PKPdf**	**14 16 21.7**	**+2.0**
	comp=Z,0.3nm,1.1s,baz=102,slow=1.8,SNR=5.1							
WRA	**Warramunga Arr**	**134.48**	**204**	PKP		**PKPdf**	**14 16 27.7**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=161,slow=1.7,SNR=3.9							
MKAR	**Makanchi Array**	**143.33**	**40**	PKP		**PKPdf**	**14 16 41.1**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=343,slow=2.6,SNR=5.4							

UCR 18 14:16:10.6±2.3,8°.66N×83°.31W,h9km±6km,MD3.9,7D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
PTJ1	**Puerto Jim˜ne**	**0.12**	**176**	⇓*e*P		Pg	14 16 13.4	0.0
PTJ1				*e*S		Sg	14 16 16.4	+1.1
EDPN	**Palmar Norte**	**0.33**	**334**	⇓*i*P		Pg	14 16 17.2	0.0
EDPN				*e*S		Sb	14 16 23.2	-1.0
EDSV	**San Vito**	**0.37**	**65**	⇓*i*P		Pg	14 16 18.6	+0.6
EDSV				*e*S		Sb	14 16 25.8	+0.4
DRK0	**Durika**	**0.60**	**6**	⇓*e*P		Pg	14 16 22.1	-0.2
DRK0				*e*S		Sb	14 16 32.0	-0.2
BRU2	**Volcan**	**0.63**	**78**	⇓*i*P		Pg	14 16 22.4	-0.4
BRU2				*e*S		Sg	14 16 31.8	+0.7
EDLM	**Las Mercedes**	**0.67**	**336**	*e*P		Pg	14 16 23.8	+0.1
URSC	**Urasca**	**1.25**	**338**	⇓*e*P		Pn	14 16 32.5	-2.1
LCR2	**La Lucha 2**	**1.27**	**328**	⇓*e*P		Pn	14 16 32.8	-2.0
CVTR	**Volcan Turrial**	**1.42**	**342**	*e*P		Pn	14 16 36.0	-1.0
HDC	**Heredia**	**1.55**	**329**	*e*P		Pn	14 16 38.7	+0.2
HDC				*e*S		Sb	14 16 59.6	+0.2
ARE1	**Arenal 1**	**2.27**	**322**	*e*P		Pn	14 16 49.4	+1.1
PLVR	**Palo Verde**	**2.62**	**310**	*e*P		Pn	14 16 53.9	+0.6
AZU	**Azuero**	**3.13**	**106**	*e*P		Pn	14 17 01.4	+1.3
AZU				*e*S		Sn	14 17 37.8	+0.2
BCIP	**Isla Barro Col**	**3.47**	**81**	*e*P		Pn	14 17 04.2	-0.6
BCIP				*e*S		Sn	14 17 49.2	+3.1

*IDC **18** 14:26:35.8±0.7,56°.37S×27°.18W,h104km±6km,mb4.1/10, mb1 4.2/12,mb1mx4.0/25,mbtmp4.4/12,MS3.0/3, Ms1 3.0/3,ms1mx2.8/20,Error ellipse: s-maj=20.7km s-min=10.2km az=64.0*
*NEIC **18** 14:26:35.9±0.3,56°.45S×27°.13W,mb4.5/11,Error ellipse: s-maj=10.8km s-min=7.7km az=224.0*
*ISCJB **18** 14:26:36.7±1.7,56°.41S±0°.09×27°.3W±0°.2,h128km±16km, mb4.4/12,Error ellipse: s-maj=19.8km s-min=9.4km az=142.2*

ISC 18 14:26:36.1±0.7,56°.41S±0°.08×27°.18W±0°.10,h108km±6km, h108km:pP-P,n45,σ1§00/50,mb4.4/12,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
HOPE	**Hope Point**	**5.72**	**288**	*e*Pn		**Pn**	**14 28 00.0**	**+1.5**
VNA1	**Neumayer--Stat**	**16.46**	**158**	P		**P**	**14 30 23.3**	**+2.3**
VNA3	**Neumayer Olymp**	**16.65**	**160**	P		**P**	**14 30 23.4**	**+0.3**
VNA2	**Neumayer--Watz**	**16.86**	**157**	P		**P**	**14 30 25.8**	**+0.4**
	baz=316,slow=13							
SNAA	**Sanae**	**18.41**	**156**	P		**P**	**14 30 42.5**	**-0.1**
SNAA	**Sanae**	**18.41**	**156**	P		**P**	**14 30 42.4**	**-0.1**
	0.5nm,0.3s,baz=302,slow=9.5,SNR=54							
SNAA				S		**Sn**	**14 34 09.1**	**-0.5**
	0.0nm,0.3s,baz=335,slow=19,SNR=2.0							
SNAA				PcP		**PcP**	**14 35 07.8**	**-0.4**
	0.1nm,0.3s,baz=310,slow=2.8,SNR=5.1							
SNAA				LR		LR	14 37 30.5	
	comp=Z,17nm,18.0s,baz=359,slow=36							
SNAA	**Sanae**	**18.41**	**156**	*e*P		**P**	**14 30 42.2**	**-0.4**
	9.4nm,0.7s							
SNAA				S		**Sn**	**14 34 09.1**	**-0.5**
SNAA				*e*PcP		**PcP**	**14 35 09.2**	**+1.0**
EFI	**East Falkland**	**18.65**	**272**	*e*P		**P**	**14 30 45.7**	**+0.6**
	271nm,2.0s							
PMSA	**Palmer Station**	**19.67**	**230**	P		**Pn**	**14 30 57.8**	**-0.7**
	0.9nm,0.3s,baz=30,slow=8.1,SNR=3.7							
PMSA	**Palmer Station**	**19.67**	**230**	*e*P		**P**	**14 30 56.7**	**+0.6**
	59nm,1.1s							
PLCA	**Paso Flores**	**32.07**	**281**	P		**P**	**14 32 51.1**	**-1.5**
	1.4nm,0.9s,baz=133,slow=8.9,SNR=3.1							
PLCA	**Paso Flores**	**32.07**	**281**	*e*P		**P**	**14 32 50.5**	**-2.1**
	8.8nm,1.4s							
QSPA	**South Pole Qui**	**33.84**	**180**	P		**P**	**14 33 08.0**	**+0.2**
	7.1nm,0.7s,baz=214,slow=3.6,SNR=27							
QSPA				PcP		**PcP**	**14 35 43.7**	**-0.2**
	1.1nm,0.5s,baz=141,slow=3.5,SNR=3.9							
CPUP	**Villa Florida**	**37.05**	**312**	P		**P**	**14 33 35.4**	**0.0**
	3.6nm,0.6s,baz=146,slow=7.0,SNR=16							
CPUP	**Villa Florida**	**37.05**	**312**	*e*P		**P**	**14 33 35.2**	**-0.2**
	3.7nm,0.6s							
MAW	**Mawson**	**39.86**	**143**	P		**P**	**14 33 58.7**	**+0.2**
	2.5nm,0.6s,baz=275,slow=8.7,SNR=5.0							
MAW	**Mawson**	**39.86**	**143**	*e*P		**P**	**14 33 57.9**	**-0.5**
	19nm,2.0s							
BDFB	**Brasilia**	**43.68**	**330**	P		**P**	**14 34 28.6**	**-1.6**
	1.4nm,0.5s,baz=151,slow=11,SNR=3.2							
LVC	**Limon Verde**	**45.48**	**300**	*e*P		**P**	**14 34 44.9**	**+0.1**
	6.3nm,0.6s							
VNDA	**Vanda**	**46.22**	**183**	P		**P**	**14 34 50.1**	**+0.7**
	5.8nm,0.7s,baz=185,slow=6.7,SNR=22							
VNDA				LR		LR	14 51 25.6	
	comp=Z,25nm,22.0s,baz=276,slow=32							
VNDA	**Vanda**	**46.22**	**183**	*e*P		**P**	**14 34 50.0**	**+0.5**
	5.9nm,0.7s							
H10S2	**ASCENSION HYDR**	**48.34**	**17**	T		T	15 27 31.6	
	baz=189,slow=75,SNR=16							
H10S3	**ASCENSION HYDR**	**48.35**	**17**	T		T	15 27 31.0	
	baz=189,slow=75,SNR=12							
H10S1	**ASCENSION HYDR**	**48.36**	**17**	T		T	15 27 30.4	
	baz=189,slow=75							
H10N1	**ASCENSION HYDR**	**49.46**	**17**	T		T	15 28 54.9	
	baz=186							
H10N3	**ASCENSION HYDR**	**49.46**	**17**	T		T	15 28 54.9	
	baz=186,slow=74							
H10N2	**ASCENSION HYDR**	**49.48**	**17**	T		T	15 28 55.4	
	baz=186,slow=74							
LPAZ	**La Paz**	**50.59**	**305**	P		**P**	**14 35 25.3**	**+0.9**
	10nm,0.5s,baz=119,slow=5.2,SNR=25							
LPAZ				LR		LR	14 58 06.6	
	comp=Z,20nm,18.9s,baz=124,slow=37							
LPAZ	**La Paz**	**50.59**	**305**	*e*P		**P**	**14 35 24.8**	**+0.3**
	9.6nm,0.5s							
TOA0	**Torodi Ar. Sit**	**73.37**	**29**	*e*P		**P**	**14 37 57.2**	**+1.2**
TOA0				*e*pP		**pP**	**14 38 25.7**	**+2.6**
TORD	**Torodi Ar. Bea**	**73.37**	**29**	P		**P**	**14 37 56.2**	**+0.3**
	1.6nm,0.6s,baz=196,slow=6.8,SNR=11							
TORD				pP		**pP**	**14 38 22.5**	**-0.6**
	1.4nm,0.5s,baz=202,slow=6.4,SNR=4.8							
TOA1	**Torodi Ar. Sit**	**73.37**	**29**	*e*P		**P**	**14 37 56.2**	**+0.2**
TOA1				*e*pP		**pP**	**14 38 22.5**	**-0.7**
STKA	**Stephens Creek**	**91.55**	**170**	P		**P**	**14 39 29.8**	**-0.7**
	1.9nm,0.9s,baz=157,slow=6.3,SNR=4.2							
STKA	**Stephens Creek**	**91.55**	**170**	*e*P		**P**	**14 39 30.2**	**-0.2**
	1.7nm,1.8s							
ASAR	**Alice Springs**	**98.65**	**163**	P		**P**	**14 40 02.3**	**-0.7**
	1.1nm,0.8s,baz=192,slow=3.7,SNR=19							
AS31	**Alice Springs**	**98.65**	**163**	*e*P		**P**	**14 40 02.8**	**-0.2**
	0.8nm,1.0s							
AS01	**Alice Springs**	**98.66**	**163**	*e*P		**P**	**14 40 02.3**	**-0.7**
WR1	**Warramunga Arr**	**102.36**	**162**	*e*Pdif		**Pdif**	**14 40 18.8**	**-0.7**
WRA	**Warramunga Arr**	**102.36**	**162**	P		**Pdif**	**14 40 18.8**	**-0.7**
	0.5nm,0.8s,baz=194,slow=4.1,SNR=4.1							
FIA0	**FINESS Array S**	**124.70**	**28**	*e*PKPdf		**PKPdf**	**14 45 21.5**	**+0.1**
FINES	**FINESS Array B**	**124.70**	**28**	PKP		**PKPdf**	**14 45 21.5**	**+0.1**
	1.4nm,1.0s,baz=225,slow=3.7,SNR=3.9							
ILAR	**Eielson Array**	**150.35**	**311**	PKPbc		**PKPbc**	**14 46 13.7**	**+0.5**
	2.0nm,0.8s,baz=130,slow=1.7,SNR=20							
ILAR				pPKPbc		**pPKPbc**	**14 46 39.7**	**-2.6**
	3.1nm,0.8s,baz=132,slow=1.7,SNR=3.1							
ILB	**Eielson Array**	**150.35**	**311**	*e*PKPdf		**PKPdf**	**14 46 10.0**	**+2.2**
SONA0	**Songino Array**	**150.74**	**87**	*e*PKPbc		**PKPbc**	**14 46 14.5**	**-0.3**
SONA0				*e*pPKPdf		**pPKPbc**	**14 46 44.1**	**+0.2**
SONM	**Songino Array**	**150.74**	**87**	PKPbc		**PKPbc**	**14 46 14.5**	**-0.3**
	0.9nm,0.5s,baz=224,slow=2.4,SNR=6.1							
SONM				pPKPbc		**pPKPbc**	**14 46 44.1**	**+0.2**
	0.6nm,0.6s,baz=240,slow=3.4,SNR=2.6							

*YARS **18** 14:48:28.8±0.2,62°.43N±0°.01×140°.83E±0°.02,h15km±9km*
*NERS **18** 14:48:30.9,62°.29N×141°.13E,h28km*

ISC 18 14:48:25.6±0.7,62°.47N±0°.04×140°.97E±0°.03,h10km,n24, σ3§17/40,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
OKHR	**Okhotsk**	**3.32**	**159**	*e*Sg		**Sg**	**14 50 09.2**	**-2.8**
OKHR				Sgmax			14 50 15.2	
	200nm,0.3s							
SUUS	**Susuman**	**3.34**	**82**	*e*P		**Pb**	**14 49 22.6**	**-2.3**
SUUS				*e*Pg		**Pg**	**14 49 31.2**	**+1.6**
SUUS				Pgmax			14 49 32.6	
	10.0nm,0.2s							
SUUS				*e*Sg		**Sg**	**14 50 13.7**	**+0.9**
SUUS				Sgmax			14 50 15.3	
	90nm,0.4s							
SUUS	**Susuman**	**3.34**	**82**	*e*P		**Pb**	**14 49 22.6**	**-2.3**
SUUS				*e*P		**Pg**	**14 49 31.2**	**+1.6**
SUUS				Pmax			14 49 31.2	
	comp=Z,10.0nm,0.2s							
SUUS				*e*S		**Sg**	**14 50 13.7**	**+0.9**
SUUS				Smax			14 50 13.7	
	comp=N,90nm,0.4s							
USMR	**Ust'-Maya**	**3.71**	**239**	*e*P		**Pn**	**14 49 26.0**	**+3.1**
USMR				*e*P		**Pb**	**14 49 34.1**	**+2.9**
USMR				Pmax			14 49 34.1	
	comp=Z,13nm,0.6s							
USMR				*e*S		**Sg**	**14 50 22.0**	**-2.6**
USMR				Smax			14 50 22.0	
	comp=E,71nm,0.8s							
MOMR	**Moma**	**4.13**	**13**	*e*P		**Pn**	**14 49 33.1**	**+4.5**
MOMR				*e*P		**Pg**	**14 49 43.8**	**-0.8**
MOMR				Pmax			14 49 43.8	
	comp=Z,5.0nm,0.2s							
MOMR				*e*S		**Sn**	**14 50 20.0**	**+3.1**
MOMR				*e*S		**Sg**	**14 50 38.0**	**0.0**
MOMR				Smax			14 50 38.0	
	comp=E,35nm,0.5s							
SNGR	**Sinegor'e**	**4.43**	**91**	*e*		**Pg**	**14 49 55.1**	**+4.7**
SNGR				*e*Sg		**Sg**	**14 50 48.8**	**+1.1**
SNGR				Sgmax			14 50 54.9	
	comp=E,50nm,0.2s							
SNGR	**Sinegor'e**	**4.43**	**91**	*e*S		**Sg**	**14 50 48.8**	**+1.1**
SNGR				Smax			14 50 48.8	
	comp=E,50nm,0.2s							
SEY	**Seymchan**	**5.28**	**80**	*e*P		**Pn**	**14 49 48.9**	**+4.5**
SEY				Pmax			14 49 49.5	
	comp=E,30nm,0.3s							
SEY				*e*Sg		**Sg**	**14 51 16.0**	**+1.1**
SEY				Sgmax			14 51 19.4	
	comp=E,30nm,0.3s							
SEY	**Seymchan**	**5.28**	**80**	*e*P		**Pn**	**14 49 48.9**	**+4.5**
SEY				*e*S		**Sg**	**14 51 16.0**	**+1.1**
SEY				Smax			14 51 16.0	
	comp=N,30nm,0.3s							
MGD	**Magadan 1**	**5.30**	**113**	*e*P		**Pn**	**14 49 48.4**	**+3.6**
MGD				*e*Sg		**Sg**	**14 51 12.7**	**-3.0**
MGD				Sgmax			14 51 16.0	
	comp=N,30nm,0.4s							
MGD	**Magadan 1**	**5.30**	**113**	*e*P		**Pn**	**14 49 48.4**	**+3.6**
MGD				*e*S		**Sg**	**14 51 12.7**	**-3.0**
MGD				Smax			14 51 12.7	
	comp=N,30nm,0.4s							
MA2	**Magadan**	**5.58**	**117**	*e*P		**Pn**	**14 49 51.3**	**+2.7**
MA2				*e*Sg		**Sg**	**14 51 21.2**	**-3.4**
MA2				Sgmax			14 51 23.1	
	comp=N,10.0nm,0.3s							
MA2	**Magadan**	**5.58**	**117**	*e*P		**Pn**	**14 49 51.3**	**+2.7**
MA2				*e*S		**Sg**	**14 51 21.2**	**-3.4**
MA2				Smax			14 51 21.2	
	comp=N,10.0nm,0.3s							
TLAR	**Talaya**	**5.59**	**99**	*e*Sg		**Sg**	**14 51 23.6**	**-1.2**
TLAR				Sgmax			14 51 26.9	
	comp=N,20nm,0.2s							
TLAR	**Talaya**	**5.59**	**99**	*e*S		**Sg**	**14 51 23.6**	**-1.2**
TLAR				Smax			14 51 23.6	
	comp=E,20nm,0.2s							
BTGS	**Batagay**	**5.84**	**336**	*e*P		**Pn**	**14 49 56.3**	**+4.1**
BTGS				*e*P		Pb	14 50 14.1	+6.6
BTGS				*e*S		**Sg**	**14 51 30.5**	**-2.5**
BTGS				Smax			14 51 30.5	
	comp=E,12nm,0.3s							
CGD	**Chagda**	**6.31**	**238**	*e*P		**Pn**	**14 49 59.8**	**+1.1**
CGD				*e*P		Pb	14 50 20.9	+5.4
CGD				Pmax			14 50 20.9	
	comp=Z,3.0nm,0.9s							
CGD				*e*S		**Sn**	**14 51 09.6**	**-1.1**
CGD				*e*S		**Sg**	**14 51 41.6**	**-6.5**
CGD				Smax			14 51 41.6	
	comp=N,27nm,0.4s							
YBGR	**Belaya Gora**	**6.46**	**17**	*e*P		Pb	14 50 25.3	+7.4
YBGR				Pmax			14 50 25.3	
	comp=Z,1.0nm,0.4s							
YBGR				*e*S		**Sg**	**14 51 50.1**	**-2.5**
YBGR				Smax			14 51 50.1	
	comp=E,8.0nm,1.1s							
YVAM	**Verhnyaya Amga**	**7.29**	**253**	*e*P		**Pn**	**14 50 15.0**	**+2.9**
YVAM				*e*P		Pb	14 50 38.1	+6.0
YVAM				*e*S		**Sn**	**14 51 32.9**	**-1.9**
YVAM				*e*S		**Sg**	**14 52 12.2**	**-7.1**
ALDR	**Aldan**	**8.58**	**250**	*e*S		Sg	14 52 52.3	-8.4
ALDR				Smax			14 52 52.3	
	comp=N,13nm,0.6s							
CLNS	**Chul'man**	**9.88**	**242**	*e*S		Sn	14 53 31.2	+53
CLNS				Smax			14 53 31.2	
	comp=N,31nm,1.5s							
OLMR	**Olekminsk**	**10.03**	**267**	*e*S		Sn	14 53 36.4	+54
OLMR				Smax			14 53 36.4	
	comp=N,24nm,0.8s							
YKLR	**Yuktali**	**11.41**	**248**	*e*S			14 54 18.8	
YKLR				Smax			14 54 18.8	
	comp=N,15nm,1.2s							
KHN	**Khani**	**12.02**	**252**	*e*S			14 54 35.3	
KHN				Smax			14 54 35.3	
	comp=N,21nm,0.6s							

*ROM **18** 14:56:

MATE				AML	AML			
	comp=E,1535µm,0.8s							
MATE				AML	AML			
	comp=N,901µm,0.2s							
MATE				AML	AML			
	comp=E,1535µm,0.8s							
MATE				AML	AML			
	comp=N,901µm,0.2s							
LTRZ	**Laterza**	**1.07**	**193**	P	**Pn**	**14 56 52.0**	**-0.6**	
LTRZ				AML	AML			
	comp=E,932µm,0.4s							
LTRZ				AML	AML			
	comp=N,760µm,0.8s							
LTRZ				AML	AML			
	comp=E,932µm,0.4s							
LTRZ				AML	AML			
	comp=N,760µm,0.8s							
PALZ	**Palazzo San Ge**	**1.13**	**232**	P	**Pn**	**14 56 52.8**	**-0.6**	
PALZ				AML	AML			
	comp=E,678µm,0.6s							
PALZ				AML	AML			
	comp=N,738µm,0.9s							
PALZ				AML	AML			
	comp=E,678µm,0.6s							
PALZ				AML	AML			
	comp=N,738µm,0.9s							
PALZ				AML	AML			
	comp=E,678µm,0.6s							
PALZ				AML	AML			
	comp=N,738µm,0.9s							
TAR1	**Taranto**	**1.13**	**174**	*e*Pg	**Pg**	**14 56 53.7**	**-0.4**	
TAR1				Sg	**Sg**	**14 57 11.1**	**+2.3**	
MIGL	**Miglionico**	**1.17**	**207**	P	**Pb**	**14 56 53.9**	**-0.1**	
MIGL				AML	AML			
	comp=E,1440µm,0.5s							
MIGL				AML	AML			
	comp=N,1160µm,0.6s							
MIGL				AML	AML			
	comp=E,1440µm,0.5s							
MIGL				AML	AML			
	comp=N,1160µm,0.6s							
MIGL				AML	AML			
	comp=E,1440µm,0.5s							
MIGL				AML	AML			
	comp=N,1160µm,0.6s							
MESG	**Mesagne**	**1.19**	**153**	P	**Pg**	**14 56 55.2**	**0.0**	
ACER	**Acerenza**	**1.24**	**226**	P	**Pb**	**14 56 55.0**	**-0.3**	
ACER				AML	AML			
	comp=E,1260µm,0.4s							
ACER				AML	AML			
	comp=N,710µm,0.5s							
ACER				AML	AML			
	comp=E,1300µm,0.4s							
ACER				AML	AML			
	comp=N,747µm,0.5s							
ACER				AML	AML			
	comp=E,1300µm,0.4s							
ACER				AML	AML			
	comp=E,1260µm,0.4s							
ACER				AML	AML			
	comp=N,747µm,0.5s							
ACER				AML	AML			
	comp=N,710µm,0.5s							
HCY	**Herceg Novi**	**1.29**	**51**	*e*Pn	**Pg**	**14 56 57.1**	**-0.1**	
STON	**Ston**	**1.29**	**19**	*e*Pn	**Pg**	**14 56 57.2**	**0.0**	
STON				Sn	**Sg**	**14 57 15.7**	**+1.6**	
STON	**Ston**	**1.29**	**19**	P	**Pg**	**14 56 57.2**	**0.0**	
STON	**Ston**	**1.29**	**19**	*e*Pn	**Pg**	**14 56 56.2**	**-1.0**	
PTRP	**Pietrapertosa**	**1.39**	**216**	P	**Pg**	**14 56 58.2**	**-0.8**	
TREB	**Trebinje**	**1.40**	**40**	*e*Pg	**Pg**	**14 56 59.8**	**+0.5**	
TREB				*e*Sg	**Sg**	**14 57 19.1**	**+1.6**	
TREB	**Trebinje**	**1.40**	**40**	*e*Pn	**Pg**	**14 56 58.2**	**-1.1**	
PZUN	**Potenza**	**1.41**	**225**	AML	AML			
	comp=E,410µm,1.0s							
PZUN				AML	AML			
	comp=N,316µm,1.1s							
PZUN				AML	AML			
	comp=E,410µm,1.0s							
PZUN				AML	AML			
	comp=N,316µm,1.1s							
SGTA	**Sant Agata di**	**1.42**	**249**	P	**Pb**	**14 56 58.1**	**-0.4**	
SGTA				AML	AML			
	comp=E,284µm,0.3s							
SGTA				AML	AML			
	comp=N,237µm,0.6s							
SGTA				AML	AML			
	comp=N,237µm,0.6s							
SGTA				AML	AML			
	comp=E,284µm,0.3s							
MELA	**Melanico ??? S**	**1.50**	**273**	P	**Pn**	**14 56 57.9**	**-0.6**	
MELA				AML	AML			
	comp=E,896µm,0.3s							
MELA				AML	AML			
	comp=N,944µm,0.5s							
MELA				AML	AML			
	comp=E,926µm,0.3s							
MELA				AML	AML			
	comp=N,914µm,0.5s							
MELA				AML	AML			
	comp=N,914µm,0.5s							
MELA				AML	AML			
	comp=N,944µm,0.5s							
MELA				AML	AML			
	comp=E,926µm,0.3s							
MELA				AML	AML			
	comp=E,896µm,0.3s							
MOCO	**Biccari - m.te**	**1.51**	**260**	P	**Pb**	**14 56 59.7**	**-0.2**	
MOCO				AML	AML			
	comp=E,263µm,0.5s							
MOCO				AML	AML			
	comp=N,115µm,0.4s							
MOCO				AML	AML			
	comp=E,263µm,0.5s							
MOCO				AML	AML			
	comp=N,115µm,0.4s							
MRLC	**Muro Lucano**	**1.52**	**235**	P	**Pb**	**14 57 00.0**	**-0.2**	
MRLC				AML	AML			
	comp=E,242µm,0.5s							
MRLC				AML	AML			
	comp=N,266µm,0.5s							
MRLC				AML	AML			
	comp=E,242µm,0.5s							
MRLC				AML	AML			
	comp=N,266µm,0.5s							
SNAL	**S. Angelo Dei**	**1.62**	**244**	P	**Pb**	**14 57 01.1**	**-0.7**	
SNAL				AML	AML			
	comp=E,201µm,1.2s							
SNAL				AML	AML			
	comp=N,260µm,0.7s							
SNAL				AML	AML			
	comp=E,201µm,1.2s							
SNAL				AML	AML			
	comp=N,260µm,0.7s							
DRME	**Dracevica, Mon**	**1.63**	**70**	*e*Pn	**Pg**	**14 57 02.2**	**-1.3**	
BRY	**Bratogost**	**1.63**	**39**	*e*Pn	**Pg**	**14 57 02.3**	**-1.4**	
PDG	**Podgorica**	**1.77**	**63**	*e*Pg	**Pg**	**14 57 06.5**	**+0.3**	
PDG				*e*Sg	**Sg**	**14 57 29.5**	**+0.3**	
CDRU	**Civita di Ruta**	**1.80**	**231**	P	**Pn**	**14 57 02.2**	**-0.5**	
CDRU				AML	AML			
	comp=E,97µm,0.4s							
CDRU				AML	AML			
	comp=N,52µm,0.4s							
CDRU				AML	AML			
	comp=E,97µm,0.4s							
CDRU				AML	AML			
	comp=N,52µm,0.4s							
SALB	**San Lorenzo Be**	**1.87**	**199**	P	**Pn**	**14 57 03.6**	**-0.1**	
SALB				AML	AML			
	comp=E,113µm,1.1s							
SALB				AML	AML			
	comp=N,92µm,1.4s							
SALB				AML	AML			
	comp=E,130µm,0.9s							
SALB				AML	AML			
	comp=N,87µm,1.4s							
SALB				AML	AML			
	comp=E,130µm,0.9s							
SALB				AML	AML			
	comp=N,92µm,1.4s							
SALB				AML	AML			
	comp=E,113µm,1.1s							
SALB				AML	AML			
	comp=N,87µm,1.4s							
UPM	**Unac-Piva**	**2.04**	**40**	*e*Pn	**Pg**	**14 57 09.0**	**-2.4**	
BULG	**Bulgheria - Ca**	**2.06**	**221**	AML	AML			
	comp=N,199µm,0.9s							
BULG				AML	AML			
	comp=E,86µm,0.7s							
BULG				AML	AML			
	comp=E,86µm,0.7s							
BULG				AML	AML			
	comp=N,199µm,0.9s							
SJES	**Sjenica**	**2.65**	**52**	*e*Pn	**Pg**	**14 57 19.8**	**-3.3**	
SJES				*e*Sn	**Sb**	**14 57 52.2**	**+0.5**	
BBLS	**Lazići**	**2.78**	**36**	*e*Pn	**Pb**	**14 57 21.7**	**+0.1**	
BBLS				*e*Sn	**Sb**	**14 57 55.2**	**-0.2**	
BBLS	**Lazići**	**2.78**	**36**	*e*Pn	**Pg**	**14 57 25.3**	**-0.2**	
HAPS	**Han Pijesak,Bl**	**2.78**	**28**	*e*Pn	**Pb**	**14 57 19.2**	**-2.4**	
IVAS	**Ivanjica**	**2.95**	**48**	*e*Pn	**Pb**	**14 57 23.9**	**-0.6**	
UDBI	**Udbina**	**3.05**	**341**	*e*Pn	**Pn**	**14 57 21.5**	**+1.7**	
BLY	**Banja Luka**	**3.10**	**1**	*e*Pn	**Pg**	**14 57 31.3**	**-0.4**	
DIVS	**Divibare**	**3.23**	**40**	*e*Pn	**Pb**	**14 57 29.6**	**+0.4**	
FDMO	**Fiordimonte**	**3.30**	**296**	AML	AML			
	comp=N,34µm,1.5s							
FDMO				AML	AML			
	comp=E,27µm,1.6s							
FDMO				AML	AML			
	comp=N,34µm,1.5s							
FDMO				AML	AML			
	comp=E,27µm,1.6s							
SELS	**Selova**	**3.34**	**61**	*e*Pn	**Pb**	**14 57 28.5**	**-2.7**	
NVLJ	**Novalja**	**3.35**	**331**	*e*Pn	**Pn**	**14 57 24.6**	**+0.7**	
CRES	**Cresnjev**	**4.35**	**344**	*e*Pn	**Pn**	**14 57 39.6**	**+1.9**	
CEY	**Cerknica**	**4.53**	**335**	*e*Pn	**Pn**	**14 57 41.2**	**+1.0**	
ARSA	**Arzberg**	**5.72**	**349**	*e*Pn	**Pn**	**14 57 55.6**	**-0.9**	
	comp=E,0.4nm,0.2s							
MOA	**Molln**	**6.53**	**343**	*e*Pn	**Pn**	**14 58 08.5**	**+0.9**	
	comp=E,0.2nm,0.1s							

*ISCJB **18** 15:31:58.6±1.3, 4°.4S±0°.2×153°.1E±0°.1, h55km, mb3.5/5, Error ellipse: s-maj=27.7km s-min=14.4km az=146.6*
*IDC **18** 15:32:05.5±5.9, 4°.60S×153°.03E, h101km±49km, mb3.4/5, mb1 3.5/6, mb1mx3.2/35, mbtmp3.7/6, Error ellipse: s-maj=41.5km s-min=26.9km az=7.0*

ISC 18 15:32:00.0±1.4, 4°.3S±0°.2×153°.2E±0°.2, h55km, n7, σ1§41/8, mb3.7/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.81**	**229**	P		**Pn**	**15 33 51.9**	**+0.9**
	baz=12,slow=18,SNR=3.2							
PMG				S		**Sn**	**15 35 18.6**	**+0.5**
	1.0nm,0.3s,baz=10,slow=11,SNR=4.2							
DZM	**Mont Dzumac**	**21.84**	**145**	P		**P**	**15 36 48.5**	**+0.4**
	2.1nm,0.5s,baz=322,slow=19,SNR=5.4							
WRA	**Warramunga Arr**	**24.03**	**228**	P		**P**	**15 37 07.6**	**-2.5**
	0.8nm,0.4s,baz=53,slow=9.7,SNR=28							
ASAR	**Alice Springs**	**26.74**	**222**	P		**P**	**15 37 33.9**	**-0.9**
	0.1nm,0.3s,baz=55,slow=9.1,SNR=15							
FITZ	**Fitzroy Crossi**	**30.20**	**241**	P		**P**	**15 38 04.4**	**-1.1**
	0.7nm,0.4s,baz=54,slow=8.7,SNR=5.5							
BVAR	**Borovoye Array**	**89.08**	**323**	P		**P**	**15 44 50.1**	**+0.8**
	0.4nm,0.7s,baz=85,slow=3.0,SNR=3.3							
TORD	**Torodi Ar. Bea**	**150.50**	**289**	PKPbc		**PKPbc**	**15 51 46.3**	**-0.4**
	0.5nm,0.4s,baz=121,slow=5.6,SNR=4.8							

IDC 18 15:43:01.9±64.0, 13°.55S×166°.42E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/34, mbtmp3.7/3, Error ellipse: s-maj=1076.0km s-min=111.0km az=63.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.16**	**227**	P		P	15 49 05.1	+0.1
	1.1nm,0.4s,baz=49,slow=11,SNR=4.5							
WRA	**Warramunga Arr**	**31.33**	**254**	P		P	15 49 24.5	+0.1
	0.2nm,0.5s,baz=86,slow=9.7,SNR=4.4							
ASAR	**Alice Springs**	**32.34**	**247**	P		P	15 49 33.0	-0.3
	0.7nm,0.5s,baz=74,slow=9.4,SNR=36							

*ISK **18** 15:44:20.0, 39°.51N×39°.89E, h5km, ML4.0/17*
*DDA **18** 15:44:20.7, 39°.52N×39°.85E, h5km, Ml3.8*
*IDC **18** 15:44:24.4±1.2, 39°.74N×39°.46E, h0km, mb3.5/1, mb1 3.4/5, mb1mx3.2/41, mbtmp3.3/5, ML2.9/3, MS2.6/7, Ms1 2.7/7, ms1mx2.5/46, Error ellipse: s-maj=23.6km s-min=12.1km az=166.0*

ISC 18 15:44:21.6±1.0, 39°.52N±0°.02×39°.85E±0°.02, h5km±8km, n66, σ1§69/84, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ERZN	**Erzincan**	**0.12**	**306**	PG		**Pg**	**15 44 23.8**	**-0.4**
ERZN				SG		**Sg**	**15 44 26.3**	**+0.4**
EUZM	**Uzumlu**	**0.22**	**329**	*i* P		**Pg**	**15 44 25.8**	**-0.2**
EUZM				*i* S		**Sg**	**15 44 30.4**	**+1.4**
TNCL	**Tunceli-Merkez**	**0.47**	**211**	*i* P		**Pb**	**15 44 31.6**	**-0.9**
TNCL				*i* S		**Sb**	**15 44 39.2**	**-0.5**
YEDI	**Yedisu-Bingol**	**0.54**	**98**	PG		**Pg**	**15 44 31.2**	**-0.9**
KOPT	**Kop Dagi**	**0.71**	**45**	*i* P		**Pg**	**15 44 34.7**	**-0.6**
KOPT				*i* S		**Sn**	**15 44 48.0**	**-2.1**
PTK	**Pertek**	**0.72**	**210**	PG		**Pg**	**15 44 34.9**	**-0.5**
PTK				SG		**Sb**	**15 44 45.5**	**-1.5**
KELT	**Kelkit**	**0.78**	**324**	*i* P		**Pg**	**15 44 36.0**	**-0.6**
KELT				*i* S		**Sb**	**15 44 47.7**	**-1.1**
BGOL	**Bingol**	**0.83**	**129**	*i* P		**Pg**	**15 44 35.8**	**-1.7**
BGOL				*i* S		**Sb**	**15 44 50.0**	**-0.1**
BNGB	**Bing^¶l**	**0.83**	**129**	PG		**Pg**	**15 44 35.9**	**-1.7**
BNGB				SG		**Sb**	**15 44 48.5**	**-1.7**
REFA	**Refahiye_ERZ¯**	**0.85**	**262**	*i* P		**Pb**	**15 44 38.2**	**-0.7**
REFA				*i* S		**Sn**	**15 44 52.7**	**-0.6**
ECAT	**Cat-ERZURUM**	**0.88**	**84**	*i* P		**Pg**	**15 44 37.3**	**-1.1**
ECAT				*i* S		**Sb**	**15 44 51.2**	**-0.3**
BAYT	**Ayd¯–ntepe-Bay**	**0.90**	**14**	PG		**Pg**	**15 44 38.3**	**-0.7**
GUMT	**Gumushane**	**0.98**	**343**	PG		**Pg**	**15 44 39.8**	**-0.7**
ILIC	**ilic-Erzincan**	**0.99**	**267**	PG		**Pb**	**15 44 40.2**	**-1.2**
KEMA	**Kemaliye**	**1.08**	**257**	*i* P		**Pb**	**15 44 41.9**	**-0.9**
KEMA				*i* S		**Sn**	**15 44 57.4**	**-1.5**
BNGL	**BINGOL**	**1.16**	**119**	*i* P		**Pb**	**15 44 43.2**	**-1.0**
BNGL				*i* S		**Sn**	**15 45 01.9**	**+0.9**
VRTB	**Varto-Mus**	**1.30**	**105**	PN		**Pg**	**15 44 45.5**	**-1.0**
VRTB	**Varto-Mus**	**1.30**	**105**	*i* P		**Pg**	**15 44 45.5**	**-1.0**
VRTB				*i* S		**Sn**	**15 45 09.8**	**+5.5**
MACK	**Trabzon**	**1.43**	**358**	*i* P		**Pg**	**15 44 48.1**	**-0.8**
SUSE	**Susehri**	**1.44**	**299**	*i* P		**Pg**	**15 44 48.5**	**-0.8**
SUSE				*i* S		**Sg**	**15 45 10.0**	**+2.0**
KTUT	**Trabzon**	**1.47**	**358**	PN		**Pg**	**15 44 48.7**	**-1.1**
HEKM	**Malatya_Hekimh**	**1.60**	**247**	*i* P		**Pg**	**15 44 51.6**	**-0.7**
HEKM				*i* S		**Sg**	**15 45 16.2**	**+3.2**
DIYA	**Diyarbakir**	**1.60**	**172**	*i* P		**Pg**	**15 44 51.5**	**-0.9**
DIYA				*i* S		**Sg**	**15 45 15.4**	**+2.2**
ESPY	**Espiye-Giresun**	**1.64**	**329**	PN		**Pb**	**15 44 51.6**	**-0.8**
CUZAR	**Zara_SIVAS**	**1.65**	**284**	*i* P		**Pb**	**15 44 51.5**	**-1.1**
CUZAR				*i* S		**Sg**	**15 45 17.4**	**+2.9**
HOMI	**Horasan**	**1.67**	**71**	*i* P		**Pg**	**15 44 52.5**	**-1.1**
HOMI				*i* S		**Sg**	**15 45 15.5**	**+0.2**
CHAY	**Cayeli-Rize**	**1.71**	**23**	PN		**Pb**	**15 44 51.8**	**-1.7**
SVAN	**Silvan-Diyarba**	**1.72**	**142**	PN		**Pb**	**15 44 52.1**	**-1.7**
SVAN	**Silvan-Diyarba**	**1.72**	**142**	*i* P		**Pg**	**15 44 54.2**	**-0.5**
CHOM	**Cayeli-Rize**	**1.73**	**24**	PN		**Pn**	**15 44 52.1**	**-0.3**
EKAR	**Karacoban**	**1.74**	**98**	*i* P		**Pg**	**15 44 54.6**	**-0.3**
EKAR				*i* S		**Sg**	**15 45 23.6**	**+6.1**
CUKAN	**kangal_SIVAS**	**1.86**	**265**	*i* P		**Pb**	**15 44 55.1**	**-1.1**
CUKAN				*i* S		**Sg**	**15 45 21.2**	**0.0**
AKCD	**Akcadag**	**1.94**	**232**	*i* P		**Pb**	**15 44 55.8**	**-1.7**
GURO	**Guroymak-BITLI**	**1.96**	**119**	PN		**Pn**	**15 44 55.3**	**-0.3**
DDEM	**Demirkent**	**2.00**	**46**	*i* P		**Pb**	**15 44 58.0**	**-0.6**
DBAD	**Bademkaya**	**2.06**	**43**	*i* P		**Pb**	**15 44 58.8**	**-0.8**
DARE	**Darende-Malaty**	**2.07**	**244**	PN		**Pb**	**15 44 57.9**	**-1.8**
MAZI	**Mazidag**	**2.11**	**167**	PN		**Pn**	**15 44 57.9**	**+0.2**
ORDU	**Ordu-Boztepe**	**2.12**	**315**	*i* P		**Pb**	**15 45 00.2**	**-0.3**
ORDU				*i* S		**Sg**	**15 45 30.2**	**+0.4**
SCER	**sogukcermik**	**2.13**	**280**	*i* P		**Pb**	**15 44 59.4**	**-1.4**
CUGUR	**Gurin_S¯VAS**	**2.15**	**249**	*i* P		**Pg**	**15 45 01.7**	**-1.2**
URFA	**Urfa**	**2.22**	**202**	PN		**Pb**	**15 44 59.9**	**-2.5**
SVSK	**Karacayir**	**2.23**	**281**	PN		**Pb**	**15 45 00.3**	**-2.2**
DBOC	**Borcka**	**2.29**	**37**	*i* P		**Pb**	**15 45 01.4**	**-2.1**
TUTA	**Tutak**	**2.30**	**92**	*i* P		**Pb**	**15 45 02.8**	**-0.9**
TUTA				*i* S		**Sg**	**15 45 37.6**	**+2.1**
ARTV	**Artvin**	**2.30**	**43**	*i* P		**Pb**	**15 45 02.5**	**-1.3**
MARD	**Mardin**	**2.32**	**161**	*i* P		**Pb**	**15 45 02.7**	**-1.3**
BCA	**Borcka**	**2.35**	**35**	PN		**Pn**	**15 45 01.1**	**+0.1**
AGRB	**Hanur-Agry**	**2.43**	**88**	PN		**Pn**	**15 45 01.9**	**-0.3**
ERBA	**Erbaa**	**2.64**	**297**	*i* P		**Pg**	**15 45 10.7**	**-1.6**
ERBA				*i* S		**Sg**	**15 45 50.8**	**+4.3**
TOKT	**Tokat**	**2.67**	**289**	PN		**Pn**	**15 45 06.3**	**+1.0**
SIRT	**Sirnak**	**2.86**	**134**	PN		**Pn**	**15 45 08.3**	**+0.3**
KMRS	**Kahramanmaras**	**3.06**	**230**	PN		**Pn**	**15 45 11.9**	**+1.2**
GAZ	**Gaziantep**	**3.13**	**222**	PN		**Pn**	**15 45 12.9**	**+1.2**
BNN	**Bunyan**	**3.18**	**259**	PN		**Pn**	**15 45 13.7**	**+1.2**
YOZ	**Yozgat**	**3.50**	**273**	PN		**Pn**	**15 45 18.2**	**+1.3**
GNI	**Garni**	**3.82**	**79**	Pn		**Pg**	**15 45 31.6**	**-3.2**
	1.6nm,0.3s,baz=272,slow=7.0,SNR=6.3							
GNI				Lg		Lg	15 46 29.6	
	baz=338,slow=19,SNR=2.0							
GNI				LR		LR	15 46 44.7	
	comp=Z,36nm,21.0s,baz=270,slow=34							
KBZ	**Khabaz**	**4.79**	**28**	Pn		**Pn**	**15 45 37.6**	**+3.2**
	0.2nm,0.3s,baz=214,slow=9.9,SNR=6.9							
KBZ				LR		LR	15 47 30.7	
	comp=Z,80nm,20.2s,baz=232,slow=39							
BRTR	**Keskin Array B**	**4.80**	**274**	Pn		**Pn**	**15 45 35.5**	**+0.8**
	0.4nm,0.3s,baz=100,slow=14,SNR=12							
BRTR				Lg		Lg	15 46 55.4	
	0.4nm,0.3s,baz=103,slow=19,SNR=2.9							
MMAI	**Mount Meron Ar**	**7.41**	**210**	LR		LR	15 49 41.9	
	comp=Z,26nm,21.1s,baz=90,slow=42							
EIL	**Elat**	**10.62**	**204**	LR		LR	15 50 39.8	
	comp=Z,34nm,20.9s,baz=270,slow=35							
AKASG	**Malin Array Be**	**13.45**	**330**	Pn		**Pn**	**15 47 32.2**	**-0.8**
	0.2nm,0.3s,baz=134,slow=14,SNR=2.4							
AKTO	**Aktyubinsk**	**16.82**	**44**	LR		LR	15 56 31.3	
	comp=Z,25nm,19.2s,baz=197,slow=43							
FINES	**FINESS Array B**	**23.54**	**343**	LR		LR	16 00 12.3	
	comp=Z,34nm,18.6s,baz=244,slow=41							
TORD	**Torodi Ar. Bea**	**42.63**	**243**	P		**P**	**15 52 20.1**	**+1.0**
	0.5nm,0.7s,baz=43,slow=8.9,SNR=3.0							
CMAR	**Chiang Mai Arr**	**54.79**	**95**	LR		LR	16 20 18.9	
	comp=Z,11nm,19.7s,baz=195,slow=39							

IDC 18 15:48:23.8±8.4, 5°.87S×151°.47E, h83km±59km, mb3.2/3, mb1 3.4/4, mb1mx3.1/33, mbtmp3.5/4, ML1.4/1, Error ellipse: s-maj=101.0km s-min=54.8km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.53**	**230**	P		Pn	15 49 43.5	-0.2
	0.8nm,0.3s,baz=72,slow=9.6,SNR=5.1							
PMG				S		Sn	15 50 46.6	+0.6
	0.2nm,0.3s,baz=49,slow=20,SNR=1.8							
WRA	**Warramunga Arr**	**21.75**	**228**	P		P	15 53 08.9	+0.2
	1.3nm,0.9s,baz=53,slow=10.0,SNR=11							
ASAR	**Alice Springs**	**24.47**	**222**	P		P	15 53 35.5	+0.2
	0.6nm,0.8s,baz=58,slow=9.5,SNR=11							
FITZ	**Fitzroy Crossi**	**27.99**	**242**	P		P	15 54 06.9	-0.1
	1.3nm,0.9s,baz=50,slow=11,SNR=3.9							
TORD	**Torodi Ar. Bea**	**149.35**	**286**	PKPbc		PKPbc	16 08 03.6	-0.6
	0.6nm,1.0s,baz=325,slow=1.8,SNR=2.5							

*ISK **18** 15:52:25.9, 39°.50N×39°.86E, h7km, ML2.6/7*
*DDA **18** 15:52:26.9, 39°.54N×39°.87E, h14km, Ml2.6*

ISC 18 15:52:26.6±1.0, 39°.51N±0°.03×39°.87E±0°.03, h8km±9km, n23, σ0§81/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ERZN	**Erzincan**	**0.14**	**305**	PG		**Pg**	**15 52 29.5**	**-0.2**
ERZN				SG		**Sg**	**15 52 32.1**	**+0.2**
EUZM	**Uzumlu**	**0.24**	**326**	*i* P		**Pg**	**15 52 31.4**	**-0.1**
EUZM				*i* S		**Sg**	**15 52 36.0**	**+1.2**
TNCL	**Tunceli-Merkez**	**0.47**	**213**	*i* P		**Pb**	**15 52 36.8**	**-0.4**
TNCL				*i* S		**Sb**	**15 52 44.4**	**+0.2**
YEDI	**Yedisu-Bingol**	**0.53**	**97**	PG		**Pg**	**15 52 36.8**	**-0.1**
KOPT	**Kop Dagi**	**0.70**	**43**	*i* P		**Pb**	**15 52 40.7**	**-0.5**
PTK	**Pertek**	**0.72**	**211**	PG		**Pg**	**15 52 40.2**	**-0.3**
PTK				SG		**Sg**	**15 52 50.2**	**+0.3**
KELT	**Kelkit**	**0.80**	**324**	*i* P		**Pg**	**15 52 41.5**	**-0.4**
BGOL	**Bingol**	**0.81**	**130**	*i* P		**Pg**	**15 52 42.2**	**0.0**
BGOL				*i* S		**Sb**	**15 52 54.8**	**+0.7**
BNGB	**Bing^¶l**	**0.81**	**129**	PG		**Pg**	**15 52 41.4**	**-0.9**
BNGB				SG		**Sb**	**15 52 54.4**	**+0.2**
BAYT	**Ayd¯–ntepe-Bay**	**0.91**	**13**	PG		**Pg**	**15 52 43.8**	**-0.3**
ILIC	**ilic-Erzincan**	**1.01**	**267**	PG		**Pg**	**15 52 45.6**	**-0.4**
KEMA	**Kemaliye**	**1.09**	**258**	*i* P		**Pg**	**15 52 47.6**	**0.0**
BNGL	**BINGOL**	**1.14**	**119**	*i* P		**Pn**	**15 52 50.5**	**+1.5**
HANI	**Diyarbakir_Han**	**1.17**	**159**	*i* P		**Pn**	**15 52 50.6**	**+1.3**
SUSE	**Susehri**	**1.46**	**299**	*i* P		**Pg**	**15 52 54.9**	**+0.2**
KTUT	**Trabzon**	**1.48**	**357**	PN		**Pb**	**15 52 53.6**	**-0.7**
HEKM	**Malatya_Hekimh**	**1.61**	**248**	*i* P		**Pg**	**15 52 57.2**	**-0.3**
ESPY	**Espiye-Giresun**	**1.66**	**329**	PN		**Pn**	**15 52 56.2**	**+0.2**
CHOM	**Cayeli-Rize**	**1.73**	**23**	PN		**Pb**	**15 52 57.5**	**-1.1**
CUKAN	**kangal_SIVAS**	**1.87**	**265**	*i* P		**Pb**	**15 53 01.1**	**0.0**
AKCD	**Akcadag**	**1.94**	**232**	*i* P		**Pn**	**15 53 01.0**	**+1.1**
MARD	**Mardin**	**2.30**	**162**	*i* P		**Pn**	**15 53 03.3**	**-1.6**
MARD				*i* S		**Sg**	**15 53 40.8**	**+0.1**
CUALT	**Altinyayla-SIV**	**2.42**	**265**	*i* P		**Pb**	**15 53 08.7**	**-1.8**

KRSC 18 15:59:22.2±0.7, 50°.94N×159°.91E, h83km±13km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.44**	**308**	*e*P		Pn	15 59 48.4	+1.6
KDTR				*e*S		Sn	16 00 07.2	+1.8
RUS	**Russkaya**	**1.73**	**330**	*e*P		Pn	15 59 52.1	+1.6
RUS				*e*S		Sn	16 00 13.7	+1.7
MTVR	**Mutnovka**	**1.88**	**326**	*e*P		Pn	15 59 54.2	+1.5
MTVR				*e*S		Sn	16 00 17.7	+1.9
SPN	**Mys Shipunski**	**2.16**	**2**	*e*S		Sn	16 00 24.0	+1.8
DALK	**Dalny**	**2.21**	**342**	*e*P		Pn	15 59 59.4	+2.5
PET	**Petropavlovsk**	**2.22**	**340**	*e

	comp=E,72nm,18.7s							
WMQ				LR	LR			
	comp=Z,39nm,15.7s							
KURBB	**Kurchatov Arra**	**13.20**	**7**	P	**Pn**	**16 09 13.0**	**+0.1**	
	comp=Z,0.0nm,0.3s,baz=190,slow=12,SNR=3.5							
GEYT	**Alibeck**	**14.12**	**277**	P	**Pn**	**16 09 24.4**	**-0.6**	
	comp=Z,0.1nm,0.3s,baz=100,slow=11,SNR=3.1							
AKTO	**Aktyubinsk**	**18.17**	**321**	P	**P**	**16 10 14.4**	**+0.5**	
	comp=Z,0.4nm,0.3s,baz=112,slow=7.6,SNR=4.8							
FINES	**FINESS Array B**	**38.89**	**324**	P	**P**	**16 13 24.6**	**0.0**	
	comp=Z,2.4nm,0.3s,baz=115,slow=9.3,SNR=29							
ARCES	**ARCESS Array B**	**41.74**	**336**	P	**P**	**16 13 48.1**	**0.0**	
	comp=Z,2.1nm,1.0s,baz=102,slow=8.4,SNR=6.8							
NB2	**NORSAR Subarra**	**45.95**	**322**	P	**P**	**16 14 21.4**	**-0.5**	
	comp=Z,0.3nm,0.5s,baz=92,slow=7.9							
NOA	**NORSAR Array B**	**45.95**	**322**	P	**P**	**16 14 21.7**	**-0.2**	
	comp=Z,0.5nm,0.5s,baz=93,slow=8.2,SNR=3.0							
TORD	**Torodi Ar. Bea**	**69.68**	**271**	P	**P**	**16 17 07.0**	**-1.3**	
	comp=Z,0.2nm,0.5s,baz=63,slow=5.5,SNR=4.1							
YKA	**Yellowknife Ar**	**79.94**	**5**	P	**P**	**16 18 06.1**	**-0.6**	
	comp=Z,3.0nm,1.0s,baz=346,slow=5.9,SNR=3.7							
ASAR	**Alice Springs**	**81.70**	**128**	P	**P**	**16 18 15.9**	**-0.7**	
	comp=Z,0.3nm,0.7s,baz=313,slow=4.9,SNR=3.5							

IDC ***18*** *16:12:48.4±0.8,56°.92S×143°.45W,h0km,mb4.0/5, mb1 4.1/5,mb1mx3.9/33,mbtmp4.0/5,MS4.1/12, Ms1 4.1/12,ms1mx3.9/18,Error ellipse: s-maj=41.3km s-min=24.3km az=180.0*

GCMT ***18*** *16:12:51.7±0.2,56°.79S±0°.01×142°.10W±0°.02,h27km±1km, MW5.2/96,Moment Tensor Solution. s63,c87; s96,c151; Duration: 1ꜛ0 Moment tensor: Scale 10¹⁷Nm; Mrr~0.04±.02; Mθθ0.70±.02; Mϕϕ~0.66±.02; Mrθ0.12±.04; Mθϕ0.45±.01; Mϕr0.05±.03; Best double couple: M₀0.82300×10¹⁷ NP1:ϕ₁28.00000°,δ85.00000°, λ173.00000°. NP2:ϕ₂119.00000°,δ83.00000°,λ5.00000°. Principal axes: T 0.8500, Plg8.0000°, Azm343.0000°; N -0.0540, Plg82.0000°, Azm171.0000°; P -0.7960, Plg1.0000°, Azm74.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 16:12:49.1±1.0,57.2S±0.2×143.1W±0.2,h10km,n40, σ1ꜛ68/14,mb4.1/5,MS4.0/12,2C,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**27.57**	**203**	LR	LR	16 26 31.0	
	comp=Z,318nm,21.5s,baz=77,slow=30						
QSPA	**South Pole Qui**	**32.98**	**180**	P	**P**	**16 19 26.8**	**+2.9**
	5.1nm,1.1s,baz=74,slow=6.5,SNR=7.4						
TBI	**Tubuai**	**34.10**	**350**	*e*LR	LR	16 27 52.7	
	1μm,26.0s,baz=176						
TBI	**Tubuai**	**34.10**	**350**	*e*T	T	16 54 27.7	
	67nm,0.3s						
RKT	**Rikitea**	**34.53**	**13**	*e*LQ	LQ	16 26 37.0	
	1μm,30.8s						
RKT				*e*LR	LR	16 28 01.3	
	989nm,30.8s						
RKT	**Rikitea**	**34.53**	**13**	*e*T	T	16 54 51.9	
	6.5nm,0.3s						
TVO	**Taravao**	**39.59**	**351**	*e*T	T	17 01 18.6	
	1.2nm,0.3s						
PAE	**Paea**	**39.74**	**350**	*e*T	T	17 01 26.6	
	2.5nm,0.3s						
PPT2	**Papeete2**	**39.81**	**350**	*e*S	S	16 25 48.1	-39
	275nm,26.5s						
PPT2				*e*LR	LR	16 30 33.3	
	2μm,28.0s,baz=179						
PPT2	**Papeete2**	**39.81**	**350**	*e*T	T	17 01 35.1	
	5.4nm,0.3s						
PPT	**Papeete**	**39.84**	**350**	LR	LR	16 32 41.1	
	comp=Z,468nm,18.6s,baz=172,slow=30						
VAH	**Vaihoa**	**42.00**	**353**	*e*T	T	17 04 18.5	
	40nm,0.2s						
PMOR	**Pomariorio Ree**	**42.25**	**353**	*e*T	T	17 04 36.6	
	4.5nm,0.4s						
VNA3	**Neumayer Olymp**	**47.75**	**162**	P	**P**	**16 21 23.4**	**-2.3**
PLCA	**Paso Flores**	**48.00**	**103**	LR	LR	16 36 33.1	
	comp=Z,150nm,20.6s,baz=245,slow=30						
TAOE	**Nuku Hiva Isla**	**48.26**	**4**	*e*LR	LR	16 34 26.8	
	1μm,27.8s						
VNA2	**Neumayer--Watz**	**48.41**	**162**	P	**P**	**16 21 28.9**	**-1.8**
	baz=217,slow=6.4						
SNAA	**Sanae**	**48.47**	**164**	P	**P**	**16 21 28.7**	**-2.5**
VNA1	**Neumayer--Stat**	**48.50**	**162**	P	**P**	**16 21 29.5**	**-1.8**
DZM	**Mont Dzumac**	**50.57**	**292**	*e*LQ	LQ	16 33 32.2	
	958nm,25.5s						
DZM				*e*LR	LR	16 35 41.2	
	827nm,25.2s						
MAW	**Mawson**	**54.05**	**192**	LR	LR	16 42 35.1	
	comp=Z,182nm,21.3s,baz=172,slow=33						
SYO	**Syowa Base**	**54.11**	**181⇑**	*eP*	**P**	**16 22 13.4**	**0.0**
SYO	**Syowa Base**	**54.11**	**181⇑**	*eP*	P	16 22 21.0	+7.6
STKA	**Stephens Creek**	**56.05**	**263**	P	**P**	**16 22 28.1**	**+0.1**
	2.2nm,1.0s,baz=140,slow=7.9,SNR=2.9						
STKA				LR	LR	16 41 48.6	
	comp=Z,279nm,21.8s,baz=135,slow=31						
ASAR	**Alice Springs**	**66.68**	**262**	P	**P**	**16 23 39.5**	**-0.6**
	0.9nm,0.6s,baz=144,slow=6.7,SNR=12						
ASAR				LR	LR	16 48 51.5	
	comp=Z,196nm,21.3s,baz=147,slow=32						
H01W1	**Cape Leeuwin H**	**67.73**	**240**	T	T	17 39 06.3	
	baz=144,slow=76,SNR=64						
H01W2	**Cape Leeuwin H**	**67.74**	**240**	T	T	17 39 06.7	
	baz=144,slow=76,SNR=73						
H01W3	**Cape Leeuwin H**	**67.75**	**240**	T	T	17 39 14.7	
	baz=144,slow=76,SNR=60						
LPAZ	**La Paz**	**68.33**	**86**	P	**P**	**16 23 52.2**	**+0.9**
	0.8nm,0.6s,baz=199,slow=6.9,SNR=3.1						
WRA	**Warramunga Arr**	**69.46**	**265**	P	**P**	**16 23 56.8**	**-0.7**
	0.6nm,0.9s,baz=144,slow=5.6,SNR=8.1						
PMG	**Port Moresby**	**71.19**	**282**	LR	LR	16 52 00.1	
	comp=Z,188nm,20.1s,baz=152,slow=33						
BDFB	**Brasilia**	**79.75**	**103**	LR	LR	16 56 02.5	
	comp=Z,70nm,20.6s,baz=240,slow=32						
JAY	**Jayapura**	**80.41**	**280**	LR	LR	16 56 30.5	
	comp=Z,52nm,21.2s,baz=173,slow=33						
ROSC	**El Rosal**	**82.76**	**69**	LR	LR	16 55 16.7	
	comp=Z,60nm,18.5s,baz=127,slow=31						
TXAR	**Lajitas Array**	**92.38**	**34**	LR	LR	16 57 36.8	
	comp=Z,58nm,21.6s,baz=0.0,slow=29						
NVAR	**Mina Array Bea**	**97.52**	**19**	LR	LR	16 59 53.7	
	comp=Z,180nm,22.0s,baz=260,slow=29						
ILAR	**Eielson Array**	**121.65**	**358**	PKP	**PKPdf**	**16 31 41.8**	**+0.3**
	0.4nm,0.8s,baz=194,slow=3.4,SNR=3.5						
ESDC	**Sonseca Array**	**148.35**	**106**	PKPbc	**PKPab**	**16 32 37.3**	**-0.9**
	0.7nm,0.7s,baz=241,slow=3.2,SNR=4.6						
MKAR	**Makanchi Array**	**150.70**	**269**	PKPbc	**PKPbc**	**16 32 41.7**	**+1.2**
	0.9nm,0.7s,baz=237,slow=8.4,SNR=4.9						
ZALV	**Zalesovo Beam**	**153.14**	**284**	PKPab	**PKPab**	**16 32 57.1**	**-0.4**
	0.7nm,0.6s,baz=103,slow=3.1,SNR=3.7						

IDC ***18*** *16:15:13.2±3.1,57°.02S×143°.64W,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.8/32,mbtmp3.9/3,MS3.8/4,Ms1 3.8/4, ms1mx3.3/23,Error ellipse: s-maj=97.9km s-min=42.9km az=57.0*

ISC 18 16:15:11.5±2.8,56.8S±0.5×142.4W±0.5,h10km,n15, σ1ꜛ51/8,mb4.1/3,MS3.8/4,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**32.39**	**288**	LR	LR	16 31 31.5	
	comp=Z,451nm,19.8s,baz=192,slow=31						
QSPA	**South Pole Qui**	**33.32**	**180**	P	**P**	**16 21 50.8**	**+1.5**
	1.2nm,1.0s,baz=56,slow=3.4,SNR=3.8						
VNA3	**Neumayer Olymp**	**47.96**	**161**	P	**P**	**16 23 48.5**	**-1.1**
VNA2	**Neumayer--Watz**	**48.62**	**162**	P	**P**	**16 23 53.8**	**-1.0**
	baz=216,slow=6.2						
SNAA	**Sanae**	**48.70**	**164**	P	**P**	**16 23 54.1**	**-1.3**
LVC	**Limon Verde**	**62.40**	**89**	LR	LR	16 47 14.3	
	comp=Z,40nm,19.8s,baz=220,slow=30						
NNA	**Nana**	**66.76**	**76**	LR	LR	16 48 52.3	
	comp=Z,29nm,18.1s,baz=218,slow=30						
ASAR	**Alice Springs**	**67.10**	**262**	P	**P**	**16 26 04.6**	**-0.6**
	0.9nm,0.7s,baz=140,slow=6.3,SNR=7.1						
H01W1	**Cape Leeuwin H**	**68.23**	**239**	T	T	17 41 32.9	
	baz=144,slow=76,SNR=19						
H01W2	**Cape Leeuwin H**	**68.23**	**239**	T	T	17 41 35.1	
	baz=144,slow=76,SNR=21						
H01W3	**Cape Leeuwin H**	**68.25**	**239**	T	T	17 41 36.6	
	baz=144,slow=76,SNR=20						
WRA	**Warramunga Arr**	**69.86**	**264**	P	**P**	**16 26 21.0**	**-1.4**
	1.9nm,1.2s,baz=145,slow=5.6,SNR=4.6						
ATAH	**Atahualpa**	**70.01**	**72**	LR	LR	16 49 45.1	
	comp=Z,72nm,20.4s,baz=221,slow=29						
MKAR	**Makanchi Array**	**151.08**	**269**	PKPbc	**PKPbc**	**16 35 05.2**	**+1.4**
	0.7nm,0.7s,baz=113,slow=3.3,SNR=2.3						
ZALV	**Zalesovo Beam**	**153.43**	**284**	PKPab	**PKPab**	**16 35 22.0**	**+0.9**
	0.7nm,0.7s,baz=92,slow=7.8,SNR=2.0						

ISK ***18*** *16:31:30.9,39°.55N×39°.89E,h5km,ML3.7/14*
DDA ***18*** *16:31:31.4,39°.53N×39°.88E,h5km,Ml3.7*

ISC 18 16:31:32.0±1.0,39.53N±0.02×39.89E±0.02,h6km±11km, n47,σ0ꜛ90/55,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERZN	**Erzincan**	**0.14**	**294**	PG	**Pg**	**16 31 34.4**	**-0.5**
ERZN				SG	**Sg**	**16 31 36.7**	**-0.3**
EUZM	**Uzumlu**	**0.23**	**320**	*i* P	**Pg**	**16 31 36.5**	**-0.1**
EUZM				*i* S	**Sg**	**16 31 40.9**	**+1.2**
TNCL	**Tunceli-Merkez**	**0.49**	**213**	*i* P	**Pg**	**16 31 41.9**	**+0.4**
TNCL				*i* S	**Sb**	**16 31 49.4**	**-1.3**
YEDI	**Yedisu-Bingol**	**0.51**	**100**	PG	**Pg**	**16 31 41.8**	**-0.1**
YEDI				SG	**Sb**	**16 31 50.3**	**-1.0**
KOPT	**Kop Dagi**	**0.68**	**44**	*i* P	**Pb**	**16 31 46.0**	**-0.3**
PTK	**Pertek**	**0.75**	**212**	PG	**Pg**	**16 31 45.7**	**-0.6**
PTK				SG	**Sb**	**16 31 57.7**	**-0.3**
BGOL	**Bingol**	**0.81**	**132**	*i* P	**Pg**	**16 31 47.4**	**-0.1**
BNGB	**Bing¶l**	**0.81**	**131**	PG	**Pg**	**16 31 47.7**	**+0.1**
REFA	**Refahiye_ERZ~**	**0.88**	**262**	*i* P	**Pg**	**16 31 49.0**	**+0.1**
BAYT	**Ayd¯–ntepe-Bay**	**0.88**	**12**	PG	**Pg**	**16 31 48.6**	**-0.4**
GUMT	**Gumushane**	**0.98**	**341**	PG	**Pg**	**16 31 50.2**	**-0.6**
ILIC	**ilic-Erzincan**	**1.03**	**266**	PG	**Pb**	**16 31 51.8**	**-0.4**
KEMA	**Kemaliye**	**1.11**	**257**	*i* P	**Pg**	**16 31 52.5**	**-0.8**
KEMA				*i* S	**Sg**	**16 32 07.8**	**0.0**
HANI	**Diyarbakir_Han**	**1.18**	**160**	*i* P	**Pg**	**16 31 54.4**	**-0.2**
VRTB	**Varto-Mus**	**1.27**	**106**	PN	**Pg**	**16 31 56.3**	**0.0**
KTUT	**Trabzon**	**1.46**	**356**	PN	**Pb**	**16 31 59.1**	**-0.4**
HOMI	**Horasan**	**1.64**	**71**	*i* P	**Pg**	**16 32 03.6**	**+0.3**
HEKM	**Malatya_Hekimh**	**1.64**	**247**	*i* P	**Pb**	**16 32 01.7**	**-0.9**
HEKM				*i* S	**Sg**	**16 32 26.9**	**+2.4**
ESPY	**Espiye-Giresun**	**1.65**	**328**	PN	**Pn**	**16 32 01.8**	**+0.3**
CHOM	**Cayeli-Rize**	**1.70**	**23**	PN	**Pn**	**16 32 02.5**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.71**	**143**	PN	**Pb**	**16 32 03.3**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.71**	**143**	*i* P	**Pg**	**16 32 04.2**	**-0.6**
CUKAN	**kangal_SIVAS**	**1.89**	**264**	*i* P	**Pn**	**16 32 05.6**	**+0.6**
GURO	**Guroymak-BITLI**	**1.93**	**120**	PN	**Pn**	**16 32 06.3**	**+0.8**
AKCD	**Akcadag**	**1.97**	**232**	*i* P	**Pn**	**16 32 06.7**	**+0.6**
DDEM	**Demirkent**	**1.97**	**46**	*i* P	**Pg**	**16 32 09.0**	**-0.7**
DBAD	**Bademkaya**	**2.03**	**42**	*i* P	**Pg**	**16 32 10.0**	**-0.8**
EATA	**Eleskirt**	**2.03**	**80**	*i* P	**Pg**	**16 32 10.8**	**-0.1**
DARE	**Darende-Malaty**	**2.10**	**244**	PN	**Pb**	**16 32 08.9**	**-1.7**
MAZI	**Mazidag**	**2.11**	**168**	PN	**Pb**	**16 32 09.2**	**-1.5**
SENK	**Senkaya-Erzuru**	**2.15**	**61**	PN	**Pn**	**16 32 08.9**	**+0.3**
DAGI	**Agillar**	**2.19**	**44**	*i* P	**Pb**	**16 32 11.6**	**-0.4**
CUGUR	**Gurin_S¯VAS**	**2.19**	**249**	*i* P	**Pb**	**16 32 12.7**	**+0.6**
CUGUR				*i* S	**Sg**	**16 32 42.8**	**+0.4**
SRTM	**Siirt_Merkez**	**2.21**	**133**	*i* P	**Pb**	**16 32 12.8**	**+0.4**
URFA	**Urfa**	**2.25**	**202**	PN	**Pb**	**16 32 11.1**	**-1.9**
SVSK	**Karacayir**	**2.27**	**281**	PN	**Pn**	**16 32 10.9**	**+1.0**
MARD	**Mardin**	**2.32**	**162**	*i* P	**Pb**	**16 32 13.9**	**-0.4**
BCA	**Borcka**	**2.32**	**34**	PN	**Pn**	**16 32 11.4**	**+0.6**
AGRB	**Hanur-Agry**	**2.40**	**88**	PN	**Pn**	**16 32 12.7**	**+0.7**
CUALT	**Altinyayla-SIV**	**2.44**	**265**	*i* P	**Pb**	**16 32 14.9**	**-1.5**
ERBA	**Erbaa**	**2.67**	**297**	*i* P	**Pb**	**16 32 20.8**	**+0.6**
TOKT	**Tokat**	**2.69**	**288**	PN	**Pn**	**16 32 17.0**	**+1.1**
KMRS	**Kahramanmaras**	**3.10**	**230**	PN	**Pn**	**16 32 22.9**	**+1.5**
GAZ	**Gaziantep**	**3.16**	**223**	PN	**Pn**	**16 32 23.9**	**+1.6**
BNN	**Bunyan**	**3.22**	**259**	PN	**Pn**	**16 32 24.4**	**+1.2**
ANDN	**Andirin**	**3.39**	**236**	*i* P	**Pg**	**16 32 36.4**	**-0.6**
YOZ	**Yozgat**	**3.53**	**273**	PN	**Pn**	**16 32 28.9**	**+1.4**

NNC 18 16:38:55.2±3.2,36.84N×70.69E,h0km,mb3.5,mpv3.2, 6C-3D,Error ellipse: s-maj=29.5km s-min=23.3km az=133.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.86**	**34**	⇑P	Pn	16 39 56.5	+0.4
	0.9nm,0.2s						
SFK				⇓S	Sn	16 40 44.5	+2.2
	2.2nm,0.2s						
MNAS	**Manas**	**5.81**	**13**	⇑P	Pn	16 40 23.1	+0.3
	0.9nm,0.5s						
MNAS				⇓S	Sn	16 41 30.6	+0.4
	5.0nm,0.6s						
KK31	**Karatay Array**	**6.26**	**359**	⇓P	Pn	16 40 29.8	+1.0
	0.8nm,0.2s						
KK31				⇑S	Sn	16 41 42.6	+1.7
	0.1nm,0.2s						
AAK	**Ala-Archa**	**6.49**	**26**	⇑P	Pn	16 40 31.1	-0.9
	0.8nm,0.3s						
AAK				⇑S	Sn	16 41 46.3	-0.6
	2.6nm,0.6s						
TKM2	**Tokmak 2**	**7.15**	**30**	⇑P	Pn	16 40 39.3	-1.9
	0.6nm,0.3s						
AB31	**Akbulak array**	**14.66**	**331**	P	Pn	16 42 24.9	+1.1
	0.2nm,0.3s,baz=159,slow=11,SNR=5.0						

ISCJB ***18*** *16:41:19.9±0.5,5°.63N±0°.06×127°.50E±0°.08,h100km, mb3.8/10,Error ellipse: s-maj=13.6km s-min=5.3km az=149.1*

NEIC ***18*** *16:41:22.2±2.8,5°.51N×127°.18E,h105km±27km,mb4.6/7, Error ellipse: s-maj=24.8km s-min=7.5km az=78.0*

IDC ***18*** *16:41:27.3±4.6,5°.52N×127°.31E,h153km±49km,mb3.3/7, mb1 3.3/8,mb1mx3.1/46,mbtmp3.7/8,MS4.0/2,Ms1 4.0/2, ms1mx2.7/22,Error ellipse: s-maj=80.2km s-min=16.7km az=74.0*

ISC 18 16:41:21.8±0.7,5.59N±0.08×127.4E±0.1,h100km,n24, σ1ꜛ00/24,mb3.9/10,1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.73**	**287**	*eP*	**Pn**	**16 41 52.0**	**+1.1**
DDMP				*eS*	**Sn**	**16 42 13.0**	**-0.1**
MATI	**Mati**	**1.74**	**321**	*eP*	**Pn**	**16 41 52.3**	**+1.2**
MATI				*eS*	**Sn**	**16 42 13.4**	**0.0**
BIPH	**Bislig**	**2.76**	**339**	⇓*i*P	Pn	16 42 29.8	+25
BIPH				*i* S	**Sn**	**16 42 35.9**	**-1.3**
SIJI	**Sorong**	**7.50**	**149**	P	Pn	16 43 13.5	+4.9
	0.3nm,0.3s,baz=318,slow=21,SNR=6.2						
SIJI				S	**Sn**	**16 44 32.2**	**0.0**
	0.2nm,0.3s,baz=312,slow=16,SNR=3.1						
TWG	**Pinlang**	**18.18**	**341**	*eP*	**Pn**	**16 45 26.7**	**-1.0**
	189nm,1.5s						
JAGI	**Jajag, Banyuwa**	**19.21**	**223**	*eP*	**P**	**16 45 35.8**	**-2.3**
	65nm,1.4s						
YOJ	**Yonaguni jima**	**19.23**	**348**	*eP*	**Pn**	**16 45 39.5**	**-0.5**
	371nm,1.7s						
NACB	**Ninganchiao**	**19.29**	**344**	*eP*	**P**	**16 45 38.4**	**-0.5**
	23nm,1.0s						
FITZ	**Fitzroy Crossi**	**23.60**	**184**	P	**P**	**16 46 24.4**	**+0.6**
	0.7nm,0.6s,baz=359,slow=12,SNR=3.1						
FITZ	**Fitzroy Crossi**	**23.60**	**184**	*eP*	**P**	**16 46 23.6**	**-0.2**
	20nm,1.8s						
WRA	**Warramunga Arr**	**26.28**	**165**	P	**P**	**16 46 47.1**	**-0.9**
	0.3nm,0.3s,baz=343,slow=10,SNR=4.9						
WR1	**Warramunga Arr**	**26.28**	**165**	*eP*	**P**	**16 46 47.1**	**-0.9**
	18nm,1.9s						
AS31	**Alice Springs**	**29.77**	**168**	*eP*	**P**	**16 47 18.8**	**-0.3**
	1.6nm,1.4s						
ASAR	**Alice Springs**	**29.77**	**168**	P	**P**	**16 47 19.8**	**+0.7**
	0.2nm,0.3s,baz=339,slow=6.8,SNR=15						
PETK	**Petropavlovsk-**	**53.47**	**22**	LR	LR	17 13 52.0	
	comp=Z,167nm,20.6s,baz=166,slow=36						
MK32	**Makanchi Array**	**56.41**	**324**	*eP*	**P**	**16 50 53.5**	**+0.6**
MKAR	**Makanchi Array**	**56.41**	**324**	P	**P**	**16 50 53.5**	**+0.5**
	0.7nm,0.5s,baz=118,slow=7.1,SNR=11						
MA2	**Magadan**	**56.75**	**14**	LR	LR	17 16 32.2	
	comp=Z,107nm,18.8s,baz=104,slow=37						
ZALV	**Zalesovo Beam**	**59.24**	**332**	P	**P**	**16 51 12.2**	**-0.4**
	0.5nm,0.3s,baz=133,slow=4.9,SNR=3.2						
ZAA1	**Zalesovo Array**	**59.24**	**332**	*eP*	**P**	**16 51 12.2**	**-0.4**
BVAR	**Borovoye Array**	**66.13**	**326**	P	**P**	**16 51 58.9**	**+0.5**
	0.7nm,0.5s,baz=134,slow=8.5,SNR=7.8						
COLD	**Coldfoot**	**81.94**	**23**	*eP*	**P**	**16 53 31.8**	**+1.6**
	23nm,2.0s						
ARA0	**ARCESS Array S**	**88.93**	**340**	*eP*	**P**	**16 54 03.5**	**-1.3**
ARCES	**ARCESS Array B**	**88.93**	**340**	P	**P**	**16 54 03.5**	**-1.3**
	2.0nm,0.9s,baz=82,slow=6.5,SNR=2.8						

ISCJB ***18*** *16:44:42.7±0.7, 18°.5S±0°.2×178°.3W±0°.1,h600km,mb3.7/9, Error ellipse: s-maj=26.2km s-min=14.2km az=148.8*

IDC ***18*** *16:44:42.6±3.4, 18°.43S×178°.26W,h585km±41km, mb3.2/10,mb1 3.4/11,mb1mx3.2/37,mbtmp4.1/11,Error ellipse: s-maj=28.8km s-min=18.3km az=168.0*

ISC 18 16:44:43.6±0.8,18.4S±0.2×178.3W±0.2,h600km,n15, σ0ꜛ99/17,mb3.7/9,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.77**	**253**	P	**P**	**16 47 49.3**	**-0.5**
	0.2nm,0.3s,baz=120,slow=20,SNR=5.4						
URZ	**Urewera**	**20.16**	**191**	P	**P**	**16 48 37.3**	**-1.3**
	7.5nm,0.8s,baz=247,slow=3.0,SNR=3.1						
PMG	**Port Moresby**	**34.65**	**280**	P	**P**	**16 50 45.0**	**+0.1**
	7.9nm,0.8s,baz=178,slow=6.0,SNR=3.9						
STKA	**Stephens Creek**	**38.47**	**242**	P	**P**	**16 51 17.4**	**+1.5**
	1.0nm,0.5s,baz=92,slow=9.0,SNR=5.3						
WRA	**Warramunga Arr**	**44.64**	**260**	P	**P**	**16 52 03.8**	**-0.8**
	0.7nm,0.7s,baz=95,slow=7.2,SNR=22						
WRA				PcP	**PcP**	**16 53 34.3**	**+0.3**
	0.2nm,0.3s,baz=88,slow=3.8,SNR=6.1						
ASAR	**Alice Springs**	**44.75**	**255**	P	**P**	**16 52 05.7**	**+0.3**
	3.2nm,0.7s,baz=87,slow=8.8,SNR=70						
ASAR				PcP	**PcP**	**16 53 34.6**	**+0.3**
	0.4nm,0.5s,baz=102,slow=3.9,SNR=7.5						
NVAR	**Mina Array Bea**	**79.73**	**44**	P	**P**	**16 55 51.0**	**+0.3**
	1.0nm,0.7s,baz=221,slow=8.1,SNR=6.9						
TXAR	**Lajitas Array**	**86.19**	**58**	P	**P**	**16 56 24.6**	**+1.7**
	1.2nm,0.7s,baz=221,slow=6.0,SNR=16						
ILAR	**Eielson Array**	**86.37**	**13**	P	**P**	**16 56 21.1**	**-1.7**
	0.6nm,0.4s,baz=221,slow=4.6,SNR=11						
PDAR	**Pinedale Array**	**87.66**	**43**	P	**P**	**16 56 29.8**	**+0.1**
	0.8nm,0.6s,baz=222,slow=2.0,SNR=7.6						
CMAR	**Chiang Mai Arr**	**89.16**	**290**	P	**P**	**16 56 37.9**	**+1.0**
	0.4nm,0.3s,baz=102,slow=3.8,SNR=3.0						
MKAR	**Makanchi Array**	**109.57**	**314**	PKiKP	**PKiKP**	**17 02 06.2**	**-0.9**
	0.4nm,0.8s,baz=128,slow=2.4,SNR=3.1						
ARCES	**ARCESS Array B**	**126.85**	**350**	PKP	**PKPdf**	**17 02 38.8**	**-0.6**
	1.9nm,0.8s,baz=325,slow=1.5,SNR=5.8						
BRTR	**Keskin Array B**	**145.22**	**314**	PKPbc	**PKPbc**	**17 03 14.8**	**-0.7**
	1.0nm,0.9s,baz=151,slow=2.8,SNR=4.8						
GERES	**GERESS Array B**	**148.14**	**345**	PKPbc	**PKPbc**	**17 03 22.8**	**-0.1**
	1.1nm,0.6s,baz=26,slow=3.3,SNR=13						

IDC ***18*** *16:46:16.9±2.4, 19°.19N×95°.65E,h0km,mb3.8/6, mb1 3.9/6,mb1mx3.5/43,mbtmp3.8/6,ML2.9/1,MS3.1/1, Ms1 3.1/1,ms1mx2.5/39,Error ellipse: s-maj=61.9km s-min=15.6km az=24.0*

ISCJB ***18*** *16:46:17.6±1.5, 19°.3N±0°.2×95°.6E±0°.2,h13km,mb3.9/7, MS3.0/1,Error ellipse: s-maj=36.9km s-min=8.1km az=33.0*

NEIC ***18*** *16:46:19.1±3.9, 19°.24N×95°.65E,h12km±24km,mb4.6/1, Error ellipse: s-maj=24.2km s-min=7.5km az=216.0*

ISC 18 16:46:19.6±0.9,19.3N±0.1×95.8E±0.1,h13km,n25, σ0ꜛ88/25,mb4.1/7,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHTO	**Chiang Mai**	**3.05**	**99**	*e*Pn	**Pn**	**16 47 07.7**	**0.0**
CHTO	**Chiang Mai**	**3.05**	**99**	P	**Pb**	**16 47 12.7**	**-1.1**
CMMT	**Chiang Mai**	**3.06**	**99**	P	**Pb**	**16 47 12.4**	**-1.5**
CM31	**Chiang Mai Arr**	**3.13**	**105**	*e*Pn	**Pn**	**16 47 10.1**	**+1.3**
CMAR	**Chiang Mai Arr**	**3.13**	**105**	Pn	**Pn**	**16 47 09.1**	**+0.4**
	0.4nm,0.3s,baz=280,slow=14,SNR=17						
CMAR				Pg	**Pb**	**16 47 16.4**	**+1.2**
	3.2nm,0.3s,baz=280,slow=16,SNR=50						
CMAR				Lg	Lg	16 47 57.2	
	8.5nm,0.3s,baz=286,slow=27,SNR=7.7						
CM01	**Chiang Mai Arr**	**3.16**	**106**	*e*Pn	**Pn**	**16 47 10.3**	**+1.2**
PAYA	**Payao**	**3.88**	**89**	P	**Pb**	**16 47 27.1**	**-0.9**
SUKH	**Sukhothai**	**4.10**	**116**	P	**Pg**	**16 47 38.2**	**0.0**
UMPA	**Umpang Tak**	**4.28**	**136**	P	**Pg**	**16 47 41.8**	**+0.2**
UTHA	**Uthaitani**	**5.13**	**136**	P	**Pg**	**16 47 55.8**	**-2.1**
SRDT	**SRDT**	**5.89**	**146**	P	**

σ0960/16, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.57**	**324**	P	**Pn**	**17 04 19.8**	**+0.1**
SNSI				S	**Sb**	**17 04 26.9**	**+0.1**
GSI	**Gunungsitoli**	**1.11**	**125**	P	**Pn**	**17 04 26.8**	**-0.4**
GSI				S	**Sn**	**17 04 41.7**	**+0.1**
TPTI		**1.40**	**22**	P	**Pn**	**17 04 29.6**	**-1.6**
TPTI				S	**Sn**	**17 04 48.9**	**+0.1**
KCSI	**Kotacane, Aceh**	**1.92**	**35**	P	**Pn**	**17 04 38.6**	**+0.3**
PSI	**Prapat**	**2.41**	**69**	Pn	**Pn**	**17 04 45.3**	**+0.1**
	0.8nm,0.3s,baz=181,slow=7.6,SNR=3.0						
PSI				Sn	**Sb**	**17 05 20.4**	**+0.7**
	3.9nm,0.3s,baz=180,slow=6.9,SNR=3.6						
MNSI	**Mandailing Nat**	**3.13**	**111**	P	**Pn**	**17 04 54.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**16.56**	**8**	Pn	**P**	**17 07 59.4**	**-0.8**
	0.1nm,0.3s,baz=199,slow=12,SNR=13						
BRDH	**Bariadhala**	**21.18**	**347**	LR	LR	17 17 28.3	
	comp=Z,48nm,18.6s,baz=196,slow=38						
H08S2	**Diego Garcia H**	**25.93**	**248**	T	T	17 36 26.1	
	baz=69,slow=76,SNR=170						
H08S3	**Diego Garcia H**	**25.93**	**248**	T	T	17 36 26.1	
	baz=69,slow=76,SNR=78						
H08S1	**Diego Garcia H**	**25.94**	**248**	T	T	17 36 24.8	
	baz=69,slow=76,SNR=62						
H01W3	**Cape Leeuwin H**	**40.13**	**157**	T	T	17 54 09.9	
	baz=333,slow=76,SNR=3.7						
H01W2	**Cape Leeuwin H**	**40.15**	**157**	T	T	17 54 12.1	
	baz=333,slow=76,SNR=3.2						
H01W1	**Cape Leeuwin H**	**40.15**	**157**	T	T	17 54 15.0	
	baz=333,slow=76,SNR=3.0						
WRA	**Warramunga Arr**	**42.88**	**122**	P	**P**	**17 12 03.6**	**-0.2**
	0.4nm,0.7s,baz=301,slow=9.1,SNR=5.1						
ASAR	**Alice Springs**	**44.27**	**127**	P	**P**	**17 12 15.0**	**0.0**
	0.2nm,0.7s,baz=301,slow=7.4,SNR=3.0						
MKAR	**Makanchi Array**	**46.39**	**346**	P	**P**	**17 12 32.1**	**+0.7**
	0.5nm,0.4s,baz=157,slow=9.2,SNR=11						
MKAR				LR	LR	17 35 56.5	
	comp=Z,35nm,20.9s,baz=101,slow=41						
SONM	**Songino Array**	**46.48**	**9**	P	**P**	**17 12 32.5**	**+0.2**
	0.5nm,0.7s,baz=189,slow=8.2,SNR=4.4						
ZALV	**Zalesovo Beam**	**52.74**	**351**	P	**P**	**17 13 19.8**	**+0.2**
	1.6nm,0.5s,baz=179,slow=7.8,SNR=8.4						
NOA	**NORSAR Array B**	**86.10**	**331**	LR	LR	17 58 37.5	
	comp=Z,21nm,18.4s,baz=340,slow=38						

*PGC **18** 17:04:47.7±1.0,52°.44N×132°.36W,h35km,ML3.6/11, ML3.6/11,97km Ssw of Sandspit, Bc Haida Gwaii Region*
*IDC **18** 17:04:48.4±1.4,52°.57N×131°.94W,h0km,mb3.8/3, mb1 4.0/7,mb1mx3.6/37,mbtmp3.6/7,ML3.0/5,MS3.9/4, Ms1 3.9/4,ms1mx3.0/46,Error ellipse: s-maj=24.2km s-min=6.4km az=48.0*

ISC 18 17:04:46.1±1.9,52°.35N±0°.06×132°.49W±0°.06,h5km±10km, n31,σ2§10/35,mb3.7/3,MS3.9/4,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.50**	**63**	P	**Pb**	**17 04 56.9**	**-0.5**
BNB				S	**Sg**	**17 05 03.4**	**+1.1**
HG1B	**Mitchell Dam**	**0.63**	**20**	P	**Pg**	**17 04 58.7**	**+0.6**
HG1B				S	**Sg**	**17 05 06.7**	**+0.4**
HG3B	**Hotspring**	**0.68**	**70**	P	**Pg**	**17 04 59.5**	**+0.4**
HG3B				S	**Sg**	**17 05 08.0**	**+0.1**
HG4B	**Hotspring**	**0.79**	**93**	P	**Pg**	**17 05 00.8**	**-0.5**
HG4B				S	**Sg**	**17 05 09.9**	**-1.7**
DIB	**Dawson Inlet,**	**0.86**	**0**	P	**Pg**	**17 05 01.9**	**-0.6**
DIB				S	**Sg**	**17 05 12.0**	**-1.6**
H02S1	**DAWSON INLET T**	**0.86**	**0**	Pg	**Pg**	**17 05 02.1**	**-0.4**
H02S1				Lg	Lg	17 05 12.0	
	SNR=9001						
MOBC	**Moresby Island**	**0.86**	**21**	P	**Pg**	**17 05 02.3**	**-0.2**
MOBC				S	**Sg**	**17 05 12.9**	**-0.8**
H02N1	**VAN INLET T-PH**	**0.91**	**358**	Pg	**Pg**	**17 05 03.2**	**-0.2**
H02N1				Lg	Lg	17 05 13.9	
	SNR=4625						
VIB	**Van Inlet**	**0.91**	**358**	P	**Pg**	**17 05 02.9**	**-0.6**
NDB	**Naden**	**1.63**	**350**	Pn	**Pn**	**17 05 13.8**	**-1.7**
NDB				Sg	**Sn**	**17 05 32.7**	**-4.2**
RUBB	**Prince Rupert**	**2.39**	**33**	Pn	**Pn**	**17 05 24.5**	**-1.3**
RUBB				Sn	**Sn**	**17 05 51.3**	**-4.2**
BBB	**Bella Bella**	**2.69**	**92**	Pn	**Pn**	**17 05 28.6**	**-1.4**
	1.8nm,0.3s,baz=277,slow=7.9,SNR=12						
BBB				Sn	**Sn**	**17 05 57.5**	**-5.4**
	16nm,0.3s,baz=182,slow=20,SNR=8.2						
BBB	**Bella Bella**	**2.69**	**92**	Pn	**Pn**	**17 05 28.2**	**-1.8**
PHC	**Port Hardy**	**3.56**	**116**	Pn	**Pn**	**17 05 38.5**	**-3.3**
PACB	**Port Alice, BC**	**3.67**	**120**	Pn	**Pn**	**17 05 40.4**	**-3.0**
WOSB	**Woss**	**4.31**	**118**	Pn	**Pn**	**17 05 51.5**	**-0.9**
UBRB	**Upper Baezaeko**	**5.15**	**81**	Pn	**Pn**	**17 06 04.7**	**+0.8**
UBRB				Sg	**Sb**	**17 07 22.6**	**+3.8**
FSB	**Fort Saint Jam**	**5.32**	**63**	Pn	**Pn**	**17 06 05.8**	**-0.4**
FSB				Sg	**Sg**	**17 07 35.9**	**-1.1**
DLBC	**Dease Lake**	**6.26**	**12**	Pn	**Pn**	**17 06 20.9**	**+1.8**
	0.1nm,0.3s,baz=166,slow=19,SNR=2.0						
YKA	**Yellowknife Ar**	**13.95**	**36**	Pn	Pn	17 07 56.8	-7.3
	0.1nm,0.3s,baz=233,slow=15,SNR=2.8						
NVAR	**Mina Array Bea**	**17.07**	**139**	P	**P**	**17 08 49.2**	**+1.9**
	0.1nm,0.3s,baz=282,slow=8.2,SNR=4.4						
PDAR	**Pinedale Array**	**18.13**	**113**	P	**P**	**17 09 00.6**	**+1.5**
	0.0nm,0.3s,baz=318,slow=8.0,SNR=8.8						
TXAR	**Lajitas Array**	**31.33**	**126**	P	**P**	**17 11 09.9**	**+2.6**
	0.9nm,0.9s,baz=336,slow=6.3,SNR=8.1						
SPITS	**Spitsbergen Ar**	**48.35**	**8**	LR	LR	17 36 35.1	
	comp=Z,77nm,18.0s,baz=25,slow=40						
H11N2	**WAKE ISLAND Hy**	**56.73**	**259**	T	T	18 16 38.5	
	baz=39,slow=76,SNR=56						
H11N3	**WAKE ISLAND Hy**	**56.73**	**259**	T	T	18 16 40.2	
	baz=39,slow=76,SNR=40						
H11N1	**WAKE ISLAND Hy**	**56.75**	**259**	T	T	18 16 39.6	
	baz=39,slow=76,SNR=36						
NOA	**NORSAR Array B**	**63.30**	**19**	LR	LR	17 41 37.7	
	comp=Z,70nm,18.2s,baz=350,slow=35						
PCRV	**Puerto La Cruz**	**68.51**	**101**	LR	LR	17 46 51.5	
	comp=Z,109nm,20.3s,baz=202,slow=37						
AKASG	**Malin Array Be**	**76.17**	**12**	P	**P**	**17 16 35.7**	**+1.0**
	0.2nm,0.3s,baz=349,slow=5.3,SNR=2.1						
AKASG				LR	LR	17 52 53.4	
	comp=Z,64nm,18.1s,baz=0.0,slow=38						
LPAZ	**La Paz**	**88.00**	**120**	P	**P**	**17 17 38.4**	**+0.5**
	1.4nm,0.8s,baz=339,slow=7.0,SNR=4.5						

IDC 18 17:24:40.6±2.0,1°.65N×127°.30E,h0km,mb3.3/3, mb1 3.6/3,mb1mx3.2/42,mbtmp3.4/3,Error ellipse: s-maj=144.5km s-min=25.8km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.55**	**162**	P	P	17 29 42.9	+0.4
	0.5nm,0.4s,baz=342,slow=10,SNR=26						
ASAR	**Alice Springs**	**25.97**	**166**	P	P	17 30 14.6	-0.6
	0.2nm,0.4s,baz=346,slow=7.9,SNR=8.4						
MKAR	**Makanchi Array**	**59.58**	**326**	P	P	17 34 46.4	+0.2
	0.4nm,0.5s,baz=120,slow=8.2,SNR=5.2						

GUC 18 17:25:39.1±0.4,23°.95S×67°.23W,h208km±9km,ML3.7, 3C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.05**	**310**	*e*P	Pn	17 26 20.4	+1.3
LVC				*e*S	S	17 26 51.9	+2.1
PB15	**IPOC Station P**	**2.19**	**289**	*i* P	Pn	17 26 22.2	+1.8
PB15				*e*S	S	17 26 54.5	+2.3
GO02	**Mina Guanaco**	**2.47**	**240**	⇓*i* P	Pn	17 26 24.9	+1.4
GO02				*e*S	S	17 27 00.4	+2.8
PB06	**IPOC Station P**	**2.49**	**299**	⇑*i* P	Pn	17 26 25.2	+1.6
PB06				*e*S	S	17 26 59.8	+2.1
PB06				IAML		17 27 01.7	
	comp=E,249nm,0.1s						
PB09	**IPOC Station P**	**2.84**	**319**	⇑*i* P	Pn	17 26 29.2	+1.6
PB09				*e*S	S	17 27 07.3	+2.4
PB05	**IPOC Station P**	**2.94**	**291**	IAML		17 27 12.2	
	comp=E,63nm,0.6s						
PB03	**IPOC Station P**	**3.00**	**309**	⇑*i* P	Pn	17 26 30.5	+1.1
PB03				*i* S	S	17 27 09.4	+1.1
PB03				IAML		17 27 10.2	
	comp=E,87nm,0.2s						
PB10	**IPOC Station P**	**3.08**	**277**	*e*P	Pn	17 26 32.0	+1.9
PB10				*i* S	S	17 27 12.1	+2.5
PB07	**IPOC Station P**	**3.31**	**312**	*e*P	Pn	17 26 34.0	+1.0
PB07				*e*S	S	17 27 14.8	+0.1
PB01	**IPOC Station P**	**3.57**	**324**	*e*P	Pn	17 26 36.4	+0.3

*NEIC **18** 17:40:34.7±0.0,13°.89N×92°.43W,h34km,MD4.0(MEX), After MEX.*

MEX 18 17:40:34.0±0.5,13°.85N×92°.43W,h30km±16km,MD4.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.07**	**9**	*e*P	Pn	17 40 50.4	-2.5
THIG				*e*S	Sn	17 41 03.6	-3.2
THIG		**1.07**	**9**	*e*P	Pn	17 40 50.0	-2.9
THIG				*e*S	Sn	17 41 03.6	-3.2
PCIG		**2.00**	**338**	*e*P	Pn	17 41 04.0	-1.7
PCIG				*e*S	Sn	17 41 27.2	-2.6
PCIG		**2.00**	**338**	*e*P	Pn	17 41 04.0	-1.7
PCIG				*e*S	Sn	17 41 27.2	-2.6
CCIG	**Comitan**	**2.44**	**7**	*e*P	Pn	17 41 14.1	+2.1
CCIG				*e*S	Sn	17 41 38.2	-2.7
CCIG	**Comitan**	**2.44**	**7**	*e*P	Pn	17 41 09.6	-2.4
CCIG				*e*S	Sn	17 41 38.2	-2.7
TGIG		**2.99**	**347**	*e*P	Pn	17 41 17.5	-1.9
TGIG				*e*S	Sn	17 41 51.7	-2.6
TGIG		**2.99**	**347**	*e*P	Pn	17 41 17.5	-1.9
TGIG				*e*S	Sn	17 41 51.7	-2.6

*CNRM **18** 17:44:55.6,36°.61N×7°.22W,h22km,ML2.8*
*INMG **18** 17:44:56.9±1.4,36°.70N×7°.24W,h14km±5km,ML2.4,Error ellipse: s-maj=4.0km s-min=3.0km az=68.0*
*MDD **18** 17:44:57.8±0.7,36°.72N×7°.16W,h32km±20km,mbLg2.6/28, Error ellipse: s-maj=9.2km s-min=4.2km az=23.0,PRXIMO*
*IGIL **18** 17:44:57.6,36°.70N×7°.24W,h22km,ML2.5*

ISC 18 17:44:56.4±1.4,36°.75N±0°.04×7°.15W±0°.02,h34km±3km, n68,σ1§33/115,1D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVAQ	**Vaqueiros**	**0.79**	**325**	*e*P	**Pb**	**17 45 11.7**	**-0.2**
PVAQ				*e*S	**Sn**	**17 45 21.7**	**-0.1**
PVAQ				A	A	17 45 22.9	
	205nm,0.4s						
PVAQ	**Vaqueiros**	**0.79**	**325**	P	**Pb**	**17 45 12.1**	**+0.3**
PVAQ				S	**Sn**	**17 45 21.7**	**-0.1**
	205nm,0.4s						
PVAQ	**Vaqueiros**	**0.79**	**325**	P	**Pb**	**17 45 12.1**	**+0.3**
PVAQ	**Vaqueiros**	**0.79**	**325**	S	**Sb**	**17 45 22.9**	**+0.6**
EGRO	**El Granado**	**0.82**	**341**	⇓P	**Pb**	**17 45 12.3**	**-0.1**
	10nm,0.1s,SNR=18						
EGRO				S	**Sb**	**17 45 22.9**	**-0.3**
	145nm,0.1s,SNR=42						
EMIN	**Mina Concepcio**	**1.08**	**20**	P	**Pn**	**17 45 15.8**	**+0.6**
	5.3nm,0.1s,SNR=126						
EMIN				S	**Sb**	**17 45 30.2**	**-0.3**
	52nm,0.1s,SNR=12						
MORF	**Marmelete**	**1.32**	**295**	*e*P	**Pn**	**17 45 18.7**	**+0.3**
MORF				*e*S	**Sn**	**17 45 34.1**	**-0.9**
MORF				AML	AML	17 45 35.8	
	comp=N,94nm,0.0s						
MORF	**Marmelete**	**1.32**	**295**	*e*P	**Pn**	**17 45 18.8**	**+0.3**
MORF				*e*S	**Sn**	**17 45 34.9**	**-0.1**
MORF				A	A	17 45 42.2	
	comp=N,30nm,0.1s						
MORF	**Marmelete**	**1.32**	**295**	P	**Pn**	**17 45 18.8**	**+0.3**
MORF				S	**Sn**	**17 45 34.9**	**-0.1**
	comp=N,30nm,0.1s						
MESJ	**Messejana**	**1.38**	**322**	*e*P	**Pn**	**17 45 19.9**	**+0.7**
MESJ				*e*S	**Sn**	**17 45 36.3**	**0.0**
MESJ				AML	AML	17 45 40.4	
	comp=N,45nm,0.0s						
MESJ	**Messejana**	**1.38**	**322**	*e*P	**Pn**	**17 45 20.0**	**+0.7**
MESJ				*e*S	**Sb**	**17 45 37.8**	**-1.2**
MESJ				A	A	17 45 42.0	
	comp=N,52nm,0.2s						
MESJ	**Messejana**	**1.38**	**322**	P	**Pn**	**17 45 20.0**	**+0.7**
MESJ				S	**Sn**	**17 45 36.3**	**0.0**
	comp=N,45nm,0.0s						
PBEJ	**Beja**	**1.40**	**336**	*e*P	**Pb**	**17 45 20.9**	**-1.0**
PBEJ				S	**Sb**	**17 45 38.4**	**-1.0**
PBEJ				A	A	17 45 43.2	
	comp=N,28nm,0.3s						
PBEJ	**Beja**	**1.40**	**336**	P	**Pb**	**17 45 20.9**	**-1.0**
PBEJ				S	**Sb**	**17 45 38.4**	**-1.0**
	comp=N,14nm,0.3s						
PFVI	**Vila Bisbo**	**1.40**	**286**	*e*P	**Pn**	**17 45 19.8**	**+0.3**
PFVI				*e*S	**Sn**	**17 45 35.9**	**-0.8**
PFVI				A	A	17 45 37.0	
	comp=N,23nm,0.4s						
PFVI	**Vila Bisbo**	**1.40**	**286**	P	**Pn**	**17 45 20.0**	**+0.5**
	comp=N,3.5nm,0.1s,SNR=8.2						
PFVI				S	**Sn**	**17 45 35.9**	**-0.8**
	comp=N,39nm,0.1s,SNR=6.5						
PTEO	**Sao Teotonio**	**1.49**	**303**	*e*P	**Pn**	**17 45 21.6**	**+0.9**
PTEO				S	**Sn**	**17 45 39.0**	**+0.1**
PTEO				A	A	17 45 55.1	
	comp=N,29nm,0.5s						
PTEO	**Sao Teotonio**	**1.49**	**303**	P	**Pn**	**17 45 21.6**	**+0.9**
PTEO				S	**Sn**	**17 45 39.0**	**+0.1**
	comp=N,14nm,0.5s						
HORN	**Hornachuelos**	**1.86**	**53**	P	**Pn**	**17 45 27.6**	**+1.8**
HORN	**Hornachuelos**	**1.86**	**53**	S	**Sb**	**17 45 55.4**	**+2.7**
ECAB	**El Cabril**	**1.91**	**46**	P	**Pn**	**17 45 27.9**	**+1.4**
	comp=N,0.3nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**17 45 50.3**	**+1.0**
	comp=N,4.6nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.00**	**3**	P	**Pn**	**17 45 28.4**	**+0.6**
	comp=N,2.7nm,0.1s,SNR=19						
EBAD				S	**Sn**	**17 45 51.4**	**-0.3**
	comp=N,10nm,0.1s,SNR=7.7						
PESTR	**Estremoz**	**2.14**	**351**	*e*Pn	**Pn**	**17 45 30.3**	**+0.6**
PESTR				*e*Sn	**Sn**	**17 45 56.8**	**+1.7**
PESTR				A	A	17 46 10.0	
	comp=N,17nm,0.3s						
PESTR	**Estremoz**	**2.14**	**351**	P	**Pn**	**17 45 31.6**	**+1.9**
PESTR	**Estremoz**	**2.14**	**351**	S	**Sb**	**17 46 00.6**	**-0.1**
EGOR	**Sierra Gorda,**	**2.46**	**81**	P	**Pn**	**17 45 34.3**	**+0.1**
	comp=N,0.0nm,0.3s,SNR=7.9						
EGOR				S	**Sn**	**17 46 02.4**	**-0.8**
	comp=N,2.7nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**2.48**	**55**	P	**Pn**	**17 45 35.7**	**+1.3**
	comp=N,0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**17 46 03.0**	**-0.7**
	comp=N,5.2nm,0.1s,SNR=7.9						
PMST	**Lisbon--Monsan**	**2.56**	**321**	*e*Pn	**Pn**	**17 45 36.5**	**+1.1**
PMRV	**Marv??o**	**2.68**	**356**	*e*Pn	**Pn**	**17 45 38.8**	**+1.7**
PMRV				*e*Sn	**Sn**	**17 46 09.4**	**+1.0**
PMRV				A	A	17 46 25.9	
	comp=N,16nm,0.5s						
PMRV	**Marv??o**	**2.68**	**356**	P	**Pn**	**17 45 38.8**	**+1.7**
PMRV				S	**Sn**	**17 46 09.4**	**+1.0**
	comp=N,16nm,0.5s						
PMAFR	**Mafra**	**2.77**	**323**	*e*Pn	**Pn**	**17 45 39.6**	**+1.2**
PMAFR				*e*Sn	**Sn**	**17 46 11.0**	**+0.3**
PMAFR				A	A	17 46 26.1	
	comp=N,20nm,0.8s						
PMAFR	**Mafra**	**2.77**	**323**	P	**Pn**	**17 45 39.6**	**+1.2**
	comp=N,9.5nm,0.1s,SNR=9.5						
PMAFR				S	**Sn**	**17 46 10.8**	**+0.1**
	comp=N,20nm,0.1s,SNR=6.0						
ELGU	**Los Guajares,**	**2.83**	**87**	P	**Pn**	**17 45 42.1**	**+2.9**
	comp=N,0.1nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**17 46 09.8**	**-2.3**
	comp=N,3.3nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**3.00**	**80**	P	**Pn**	**17 45 44.3**	**+2.6**
	comp=N,0.2nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**17 46 16.1**	**-0.4**
	comp=N,1.2nm,0.2s,SNR=7.9						
PTOM	**Tomar**	**3.03**	**341**	*e*Pn	**Pn**	**17 45 43.2**	**+1.3**
PTOM				*e*Sn	**Sn**	**17 46 16.9**	**-0.1**
PTOM				A	A	17 46 18.2	
	comp=N,12nm,0.1s						
PTOM	**Tomar**	**3.03**	**341**	P	**Pn**	**17 45 43.2**	**+1.3**
PTOM				S	**Sn**	**17 46 16.9**	**-0.1**
	comp=N,5.8nm,0.1s						
PCBR	**Castelo Branco**	**3.09**	**355**	*e*Pn	**Pn**	**17 45 43.6**	**+0.8**
PCBR				*e*Sn	**Sn**	**17 46 18.5**	**-0.1**
PCBR				A	A	17 46 35.5	
	comp=N,7.0nm,0.4s						
PCBR	**Castelo Branco**	**3.09**	**355**	P	**Pn**	**17 45 43.6**	**+0.8**
PCBR				S	**Sn**	**17 46 18.5**	**-0.1**
	comp=N,3.5nm,0.4s						
EPLA	**Plasencia**	**3.41**	**14**	P	**Pn**	**17 45 49.5**	**+2.4**
	comp=N,0.9nm,0.1s,SNR=11						
EPLA				S	**Sn**	**17 46 24.9**	**-1.5**
	comp=N,2.7nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.42**	**71**	P	**Pn**	**17 45 47.3**	**0.0**
	comp=N,0.2nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**17 46 25.2**	**-1.5**
	comp=N,1.3nm,0.2s,SNR=7.9						
EBER	**Berja**	**3.42**	**86**	P	**Pn**	**17 45 49.1**	**+1.7**
	comp=N,0.2nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**17 46 24.6**	**-2.3**
	comp=N,1.3nm,0.3s,SNR=7.9						
PCAS	**Casmilo, Conde**	**3.46**	**343**	*e*Pn	**Pn**	**17 45 48.7**	**+0.8**
PCAS				*e*Sn	**Sn**	**17 46 27.7**	**0.0**
PCAS				A	A	17 46 50.9	
	comp=N,16nm,0.7s						
PAB	**San Pablo**	**3.56**	**37**	P	**Pn**	**17 45 50.4**	**+1.2**
	comp=N,0.0nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**17 46 26.9**	**-3.2**
	comp=N,1.0nm,0.3s,SNR=7.9						
MTE	**Manteigas**	**3.66**	**355**	*e*Sn	**Sn**	**17 46 31.7**	**-0.8**
MTE	**Manteigas**	**3.66**	**355**	S	**Sn**	**17 46 31.7**	**-0.8**
ESDC	**Sonseca Array**	**3.85**	**40**	P	**Pn**	**17 45 54.3**	**+1.1**
	comp=N,1.1nm,0.1s,baz=222,slow=13,SNR=7.9						
ESDC				S	**Sn**	**17 46 33.6**	**-3.6**
	baz=334,slow=31,SNR=7.9						
SESP	**Santiago Espad**	**3.91**	**68**	P	**Pn**	**17 45 54.2**	**+0.1**
	comp=N,0.7nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**17 46 38.0**	**-0.9**
	comp=N,9.7nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**3.91**	**68**	P	**Pn**	**17 45 56.6**	**+2.5**
SESP	**Santiago Espad**	**3.91**	**68**	S	**Sn**	**17 46 40.4**	**+1.5**
PVIS	**Viseu**	**4.00**	**352**	*e*Sn	**Sn**	**17 46 40.7**	**-0.3**
PVIS	**Viseu**	**4.00**	**352**	S	**Sn**	**17 46 40.7**	**-0.3**
MVO	**Moncorvo**	**4.41**	**1**	*e*Pn	**Pn**	**17 46 01.7**	**+0.8**
MVO				*e*Sn	**Sn**	**17 46 48.9**	**-2.2**
MVO				A	A	17 46 50.5	
	comp=N,6.2nm,0.4s						
MVO	**Moncorvo**	**4.41**	**1**	P	**Pn**	**17 46 01.6**	**+0.8**
	comp=N,1.2nm,0.1s,SNR=7.7						
MVO				S	**Sn**	**17 46 48.8**	**-2.2**
	comp=N,8.2nm,0.2s,SNR=7.9						
MDT	**Midelt**	**4.45**	**151**	P	**Pn**	**17 46 02.2**	**+0.7**
MDT	**Midelt**	**4.45**	**151**	S	**Sn**	**17 46 50.9**	**-1.2**
POLO	**Lamas de Olo**	**4.64**	**354**	*e*Pn	**Pn**	**17 46 04.6**	**+0.4**
POLO				*e*Sn	**Sn**	**17 46 56.0**	**-0.9**
POLO				A	A	17 46 56.6	
	comp=N,2.0nm,0.4s						
ETOB	**Tobarra**	**4.83**	**65**	P	**Pn**	**17 46 07.1**	**+0.4**
	comp=N,0.8nm,0.1s,SNR=14						
ETOB				S	**Sn**	**17 46 58.3**	**-3.1**
	comp=N,3.4nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**4.83**	**75**	S	**Sn**	**17 46 59.5**	**-2.0**
	comp=N,1.8nm,0.4s,SNR=7.9						
PCAB	**Cabril**	**5.00**	**352**	*e*Sn	**Sn**	**17 47 04.8**	**-0.8**
PCAB	**Cabril**	**5.00**	**352**	S	**Sn**	**17 47 04.8**	**-0.8**
PBRG	**Braganca**	**5.05**	**3**	*e*Pn	**Pn**	**17 46 10.5**	**+0.7**
PBRG				*e*Sn	**Sn**	**17 47 05.6**	**-1.4**
PBRG				A	A	17 47 46.2	
	comp=N,2.9nm,0.6s						
PBRG	**Braganca**	**5.05**	**3**	P	**Pn**	**17 46 10.5**	**+0.7**
PBRG				S	**Sn**	**17 47 05.6**	**-1.4**
	comp=N,1.4nm,0.6s						
ELOB	**Lobios**	**5.16**	**352**	P	**Pn**	**17 46 11.5**	**+0.3**
	comp=N,0.4nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**17 47 07.0**	**-2.6**
	comp=N,1.2nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.19**	**3**	P	**Pn**	**17 46 12.4**	**+0.7**
	comp=N,0.0nm,0.2s,SNR=6.2						
ECAL				S	**Sn**	**17 47 07.4**	**-3.0**
	comp=N,1.7nm,0.2s,SNR=7.9						
PGAV	**Gavieira, Arco**	**5.28**	**351**	*e*Pn	**Pn**	**17 46 13.6**	**+0.7**
PGAV				*e*Sn	**Sn**	**17 47 12.0**	**-0.5**
PGAV				A	A	17 47 51.2	
	comp=N,3.7nm,0.6s						
OUK	**Oukaimeden**	**5.56**	**186**	P	**Pn**	**17 46 18.2**	**+1.2**
OUK	**Oukaimeden**	**5.56**	**186**	S	**Sn**	**17 47 17.2**	**-2.7**
EAGO	**Agolada(Pontev**	**6.09**	**353**	S	**Sn**	**17 47 29.5**	**-2.8**
	comp=N,0.4nm,0.2s,SNR=7.9						

NEIC 18 17:47:10.5±0.0,57°.54N×142°.83W,h12km,ML3.5(AEIC), After AEIC.,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAIM	**Kayak Island**	**2.53**	**342**	P	Pn	17 47 46.7	-4.7
YKU2	**Yakutat**	**2.58**	**39**	P	Pn	17 47 47.5	-4.5
YKU2				S	Sn	17 48 16.0	-7.2
SUCK	**Suckling Hills**	**2.59**	**349**	P	Pn	17 47 47.9	-4.3
BGLC	**Bering Glacier**	**2.60**	**355**	P	Pn	17 47 48.0	-4.2
SNH	**Sunshine Point**	**2.65**	**360**	P	Pn	17 47 48.5	-4.5
SNH				S	Sn	17 48 17.2	-7.9
CHX	**Chaix Hills**

PB10				IAML		18 03 18.8	
	comp=E,49nm,0.2s						
PB04	**IPC Station P**	**3.06**	**300**	*i*P	Pn	18 02 35.0	+1.9
PB04				*i* S	S	18 03 16.5	+2.5
PB02	**IPC Station P**	**3.53**	**317**	*e*P	Pn	18 02 40.0	+1.6

*IDC **18** 18:24:10.0±0.8,51˚.74N×177˚.21E, h0km, mb3.9/17, mb1 4.0/18, mb1mx3.8/44, mbtmp3.9/18, ML4.0/1, Error ellipse: s-maj=23.9km s-min=14.7km az=170.0*
*ISCJB **18** 18:24:13.5±0.5,51˚.8N±0˚.1×176˚.96E±0˚.06, h30km, mb4.0/18, Error ellipse: s-maj=16.3km s-min=5.1km az=9.3*
*NEIC **18** 18:24:17.1±0.0,51˚.59N×177˚.27E, h45km, ML3.6(AEIC), After AEIC.*

ISC 18 18:24:14.8±0.7,**51˚.7N**±0˚.1×**177˚.15E**±0˚.06,**h30**km,**n46,** σ1$**45/43,mb3.9/18,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.87**	**76**	P	**Pn**	**18 24 33.1**	**+2.0**
LSNW	**Little Sitkin**	**0.88**	**75**	P	**Pn**	**18 24 33.1**	**+2.0**
LSPA	**Little Sitkin**	**0.91**	**76**	P	**Pn**	**18 24 33.6**	**+2.0**
AMKA	**Amchitka**	**1.39**	**104**	P	**Pn**	**18 24 39.2**	**+1.0**
AMKA				S	**Sn**	**18 24 55.1**	**-0.4**
CESW	**Semis' Southwe**	**1.50**	**83**	P	**Pn**	**18 24 41.3**	**+1.5**
CEAP	**Semis' Anvil P**	**1.52**	**79**	P	**Pn**	**18 24 41.9**	**+1.9**
CERAA	**Semis' Rag'd T**	**1.58**	**83**	P	**Pn**	**18 24 42.4**	**+1.6**
SMY	**Shemya**	**2.12**	**299**	P	**Pb**	**18 24 52.5**	**-0.1**
SMY				S	**Sb**	**18 25 18.8**	**+0.3**
GALAA	**Gareloi Lava P**	**2.53**	**88**	P	**Pn**	**18 24 56.1**	**+2.2**
GAEA	**Gareloi East**	**2.55**	**88**	P	**Pn**	**18 24 56.2**	**+2.1**
TASE	**Tanaga Southea**	**2.99**	**86**	P	**Pn**	**18 25 02.2**	**+2.1**
TAFP	**Tanaga Falls P**	**3.02**	**85**	P	**Pn**	**18 25 02.4**	**+1.8**
TAFP				S	**Sn**	**18 25 35.4**	**-0.4**
TAPA	**Tanaga Point A**	**3.13**	**87**	P	**Pn**	**18 25 04.1**	**+2.0**
KIMD	**Kanaga Island**	**3.49**	**88**	P	**Pn**	**18 25 08.8**	**+1.9**
KIKV	**Kanaga Island**	**3.52**	**86**	P	**Pn**	**18 25 09.3**	**+1.8**
ADK	**Adak**	**3.83**	**86**	P	**Pn**	**18 25 13.4**	**+1.8**
ADK				S	**Sn**	**18 25 55.0**	**-0.5**
ETKA	**Kagalaska Isla**	**4.00**	**86**	P	**Pn**	**18 25 16.2**	**+2.2**
GSTD	**Great Sitkin T**	**4.16**	**83**	P	**Pn**	**18 25 17.6**	**+1.2**
GSMY	**Great Sitkin M**	**4.22**	**83**	P	**Pn**	**18 25 18.6**	**+1.6**
ATKA	**Atka Island**	**5.37**	**82**	P	**Pn**	**18 25 35.3**	**+2.5**
KDAK	**Kodiak Island**	**18.37**	**59**	P	**P**	**18 28 24.5**	**-2.3**
	0.5nm,0.3s,baz=246,slow=1.9,SNR=7.8						
ILAR	**Eielson Array**	**22.58**	**41**	P	**P**	**18 29 11.2**	**-1.2**
	0.2nm,0.4s,baz=210,slow=10,SNR=3.2						
TIXI	**Tiksi**	**29.08**	**331**	P	P	18 30 18.3	+6.2
	2.0nm,0.3s,baz=303,slow=1.2,SNR=16						
H11N2	**WAKE ISLAND Hy**	**32.95**	**198**	T	T	19 05 55.5	
	baz=11,slow=76,SNR=66						
H11N3	**WAKE ISLAND Hy**	**32.96**	**198**	T	T	19 06 20.3	
	baz=11,slow=76,SNR=65						
H11N1	**WAKE ISLAND Hy**	**32.97**	**198**	T	T	19 06 02.3	
	baz=11,slow=76,SNR=75						
H11S1	**WAKE ISLAND Hy**	**34.18**	**198**	T	T	19 07 26.9	
	baz=11,slow=76,SNR=35						
H11S3	**WAKE ISLAND Hy**	**34.19**	**198**	T	T	19 07 29.3	
	baz=11,slow=76,SNR=21						
H11S2	**WAKE ISLAND Hy**	**34.19**	**198**	T	T	19 07 29.4	
	baz=11,slow=76,SNR=20						
YKA	**Yellowknife Ar**	**36.80**	**46**	P	**P**	**18 31 20.3**	**+0.8**
	1.2nm,0.8s,baz=282,slow=8.4,SNR=3.3						
SONM	**Songino Array**	**44.21**	**294**	P	**P**	**18 32 22.1**	**+1.1**
	1.1nm,0.5s,baz=64,slow=7.5,SNR=5.3						
NVAR	**Mina Array Bea**	**46.00**	**80**	P	**P**	**18 32 34.3**	**-1.1**
	0.3nm,0.4s,baz=296,slow=6.9,SNR=3.6						
PDAR	**Pinedale Array**	**48.58**	**70**	P	**P**	**18 32 55.4**	**-0.1**
	0.4nm,0.7s,baz=343,slow=4.6,SNR=3.7						
SPITS	**Spitsbergen Ar**	**49.81**	**355**	P	**P**	**18 33 03.5**	**-0.7**
	16nm,1.2s,baz=339,slow=3.6,SNR=4.5						
KURK	**Kurchatov**	**56.91**	**311**	P	**P**	**18 33 57.6**	**+1.0**
KURBB	**Kurchatov Arra**	**57.02**	**311**	P	**P**	**18 33 57.6**	**+0.2**
	1.9nm,0.7s,baz=44,slow=6.5,SNR=15						
MKAR	**Makanchi Array**	**57.80**	**306**	P	**P**	**18 34 02.2**	**-0.8**
	1.0nm,0.8s,baz=53,slow=6.8,SNR=6.4						
BVAR	**Borovoye Array**	**58.94**	**318**	P	**P**	**18 34 11.0**	**+0.1**
	2.2nm,0.6s,baz=54,slow=7.3,SNR=12						
TXAR	**Lajitas Array**	**61.08**	**78**	P	**P**	**18 34 25.4**	**-0.6**
	0.2nm,0.6s,baz=317,slow=6.1,SNR=5.3						
SCHQ	**Schefferville**	**61.24**	**36**	P	**P**	**18 34 26.6**	**+0.1**
	6.8nm,0.8s,baz=319,slow=9.3,SNR=3.3						
AKTO	**Aktyubinsk**	**65.89**	**322**	P	**P**	**18 34 57.5**	**+0.2**
	1.1nm,0.5s,baz=45,slow=4.7,SNR=6.1						
NOA	**NORSAR Array B**	**67.00**	**353**	P	**P**	**18 35 03.4**	**-1.0**
	0.5nm,0.5s,baz=13,slow=5.2,SNR=4.7						
HFS	**Hagfors**	**67.68**	**351**	P	**P**	**18 35 07.3**	**-1.3**
	4.0nm,1.0s,baz=25,slow=5.2,SNR=4.8						
CMAR	**Chiang Mai Arr**	**68.47**	**273**	P	**P**	**18 35 14.6**	**+0.5**
	0.5nm,0.5s,baz=26,slow=6.1,SNR=7.5						
WRA	**Warramunga Arr**	**80.59**	**220**	P	**P**	**18 36 24.0**	**-0.2**
	0.5nm,0.9s,baz=30,slow=5.6,SNR=6.4						
ASAR	**Alice Springs**	**84.11**	**219**	P	**P**	**18 36 42.5**	**-0.1**
	0.5nm,0.9s,baz=28,slow=5.9,SNR=4.4						

*ISK **18** 18:45:32.8, 38˚.88N×43˚.45E, h19km, ML2.0/5*
*ISCJB **18** 18:45:33.9±0.7, 38˚.90N±0˚.03×43˚.51E±0˚.05, h20km±6km, Error ellipse: s-maj=6.8km s-min=5.1km az=9.5*
*DDA **18** 18:45:33.9, 38˚.89N×43˚.43E, h7km, Ml2.8*

ISC 18 18:45:33.4±1.2,**38˚.90N**±0˚.03×**43˚.46E**±0˚.04,**h14**km±9km, **n11,**σ0$**81/20,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.13**	**44**	*i* P	**Pg**	**18 45 37.0**	**0.0**
VMUR				*i* S	**Sb**	**18 45 40.5**	**-0.2**
ERCV	**ERCIS-VAN**	**0.15**	**323**	PG	**Pg**	**18 45 37.5**	**+0.1**
ERCV				SG	**Sb**	**18 45 41.3**	**-0.1**
VANB	**Van**	**0.30**	**190**	PG	**Pb**	**18 45 40.9**	**+0.2**
VANB				SG	**Sb**	**18 45 47.2**	**+1.6**
TVAN	**Van**	**0.37**	**186**	*i* P	**Pg**	**18 45 40.9**	**0.0**
TVAN				*i* S	**Sb**	**18 45 47.6**	**+0.1**
CLDR	**Caldiran**	**0.44**	**55**	PG	**Pg**	**18 45 42.3**	**+0.2**
CLDR				SG	**Sb**	**18 45 49.3**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.58**	**262**	*i* P	**Pb**	**18 45 45.4**	**0.0**
ADCV				*i* S	**Sn**	**18 45 55.2**	**-1.7**
GEVA	**Gevas**	**0.66**	**208**	*i* P	**Pg**	**18 45 45.5**	**-0.8**
GEVA				*i* S	**Sb**	**18 45 56.0**	**+0.1**
TUTA	**Tutak**	**0.71**	**316**	*i* P	**Pg**	**18 45 47.4**	**+0.1**
TUTA				*i* S	**Sb**	**18 45 57.1**	**-0.3**
AGRB	**Hanur-Agry**	**0.77**	**332**	PG	**Pg**	**18 45 48.4**	**0.0**
EKAR	**Karacoban**	**1.14**	**289**	*i* P	**Pg**	**18 45 56.2**	**+0.8**
EKAR				*i* S	**Sn**	**18 46 12.5**	**+1.7**
GURO	**Guroymak-BITLI**	**1.17**	**253**	PN	**Pb**	**18 45 54.6**	**-0.8**

*IDC **18** 18:54:04.9±0.6,2˚.09S×135˚.08E, h0km, mb4.1/11, mb1 4.3/16, mb1mx4.1/31, mbtmp4.2/16, ML4.0/2, MS3.5/12, Ms1 3.5/12, ms1mx3.2/40, Error ellipse: s-maj=21.0km s-min=13.1km az=56.0*
*ISCJB **18** 18:54:07.4±0.3,2˚.12S±0˚.04×135˚.11E±0˚.02, h33km, mb4.1/14, MS3.5/7, Error ellipse: s-maj=5.4km s-min=3.5km az=1.4*
*DJA **18** 18:54:07.3±1.1,2˚.2S×4˚×13˚.5E±˚, h22km±11km, M4.8/24, mB5.2/9, mb4.9/24, MLv5.0/12, Mw(mB)4.6/9*
*NEIC **18** 18:54:09.9±0.4,2˚.18S×135˚.10E, h35km, mb4.4/8, Error ellipse: s-maj=9.0km s-min=6.6km az=70.0*

ISC 18 18:54:08.9±0.5,**2˚.15S**±0˚.05×**135˚.09E**±0˚.04,**h35**km,**n70,** σ2$**24/67,mb4.2/14,MS3.5/7,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**1.11**	**305**	P	**Pn**	**18 54 25.5**	**-2.5**
RKPI				S	**Sn**	**18 54 39.7**	**-2.4**
SRPI	**Serui, Papua**	**1.18**	**76**	P	**Pn**	**18 54 27.3**	**-1.6**
SRPI				S	**Sn**	**18 54 42.4**	**-1.4**
KMPI	**Kaimana, Papua**	**2.04**	**223**	P	**Pn**	**18 54 43.6**	**+2.9**
KMPI				S	Sn	18 54 51.0	-14
FAKI	**Fak Fak**	**2.94**	**255**	*e*Pn	**Pn**	**18 54 54.4**	**+1.3**
FAKI	**Fak Fak**	**2.94**	**255**	P	**Pn**	**18 54 53.5**	**+0.4**
FAKI				S	**Sn**	**18 55 28.7**	**+1.5**
SMPI	**Sarmi**	**3.62**	**88**	P	**Pn**	**18 55 02.4**	**-0.1**
SIJI	**Sorong**	**4.03**	**288**	Pn	**Pn**	**18 55 07.1**	**-1.0**
	96nm,0.3s,baz=81,slow=17,SNR=270						
SIJI				Sn	**Sn**	**18 55 51.3**	**-2.9**
	142nm,0.3s,baz=334,slow=22,SNR=17						
SIJI				LR	LR	18 56 46.3	
	comp=Z,941nm,18.4s,baz=54,slow=40						
SWI	**Sorong**	**4.04**	**288**	P	**Pn**	**18 55 07.8**	**-0.4**
GENI	**Genyem**	**5.09**	**95**	P	**Pn**	**18 55 24.3**	**+1.6**
	211nm,0.8s,2μm1.1nm						
JAY	**Jayapura**	**5.62**	**94**	Pn	**Pn**	**18 55 30.6**	**+0.6**
	2.0nm,0.3s,baz=219,slow=10,SNR=15						
JAY				Sn	**Sn**	**18 56 33.3**	**-0.2**
	3.2nm,0.3s,baz=270,slow=20,SNR=2.6						
JAY	**Jayapura**	**5.62**	**94**	P	**Pn**	**18 55 31.4**	**+1.3**
	423nm,1.0s,4μm						
BNDI	**Bandanaira**	**5.69**	**245**	P	**Pn**	**18 55 32.4**	**+1.5**
	247nm,0.6s,3μm						
MSAI	**Masohi**	**6.27**	**259**	P	**Pn**	**18 55 40.5**	**+1.6**
	46nm,0.5s,500nm						
SAUI	**Saumlaki**	**6.91**	**213**	P	Pn	18 55 52.2	+4.4
	111nm,0.7s						
AAI	**Ambon**	**7.05**	**257**	P	**Pn**	**18 55 51.3**	**+1.6**
	91nm,0.7s,1μm						
NLAI	**Namlea**	**8.05**	**262**	P	**Pn**	**18 56 04.5**	**+1.1**
	59nm,0.5s						
SANI	**Sanana**	**9.10**	**270**	P	**Pn**	**18 56 16.1**	**-1.6**
	36nm,0.7s						
MTN	**Manton Dam**	**11.32**	**200**	*e*Pn	**Pn**	**18 56 49.8**	**+1.6**
SOEI	**Soe**	**13.14**	**234**	P	**Pn**	**18 57 15.7**	**+2.4**
	88nm,0.9s						
MRSI	**Marisa**	**13.40**	**281**	P	**Pn**	**18 57 15.1**	**-1.6**
APSI	**Ampana**	**13.49**	**275**	P	P	18 57 30.3	+3.6
BATI	**Baumata**	**13.89**	**234**	Pn	**Pn**	**18 57 23.4**	**0.0**
	4.7nm,0.3s,baz=116,slow=1.1,SNR=18						
BATI				Sn	**Sn**	**18 59 53.4**	**-3.0**
	1.0nm,0.3s,baz=297,slow=18,SNR=2.0						
BATI				LR	LR	19 03 45.9	
	comp=Z,175nm,18.2s,baz=56,slow=42						
BATI	**Baumata**	**13.89**	**234**	P	**Pn**	**18 57 21.6**	**-1.8**
PMG	**Port Moresby**	**14.00**	**121**	Pn	**Pn**	**18 57 24.5**	**-0.3**
	0.2nm,0.3s,baz=281,slow=5.2,SNR=2.0						
PMG				LR	LR	19 04 36.2	
	comp=Z,318nm,18.1s,baz=271,slow=45						
COEN	**Coen**	**14.19**	**146**	*e*Pn	**Pn**	**18 57 26.2**	**-1.3**
MMRI	**Maumere**	**14.32**	**243**	P	**P**	**18 57 31.6**	**-4.3**
EDFI	**Ende, Flores**	**14.86**	**243**	P	**P**	**18 57 38.7**	**-3.3**
	59nm,1.3s,687nm						
BNSI	**Bone**	**15.12**	**261**	P	**P**	**18 57 48.9**	**+4.1**
SPSI	**Sidrap Palu**	**15.40**	**263**	P	**P**	**18 57 51.3**	**+3.4**
WRAB	**Tennant Creek**	**17.69**	**182**	*e*Pn	**Pn**	**18 58 11.7**	**-0.9**
	29nm,0.9s						
WB2	**Warramunga Arr**	**17.70**	**182**	*e*Pn	**Pn**	**18 58 11.8**	**-0.9**
WR1	**Warramunga Arr**	**17.70**	**182**	*e*Pn	**Pn**	**18 58 11.8**	**-0.9**
	24nm,0.8s						
WRA	**Warramunga Arr**	**17.70**	**182**	Pn	**Pn**	**18 58 11.8**	**-0.9**
	0.7nm,0.3s,baz=4.2,slow=13,SNR=35						
WRA				S	**Sn**	**19 01 20.8**	**-8.2**
	0.7nm,0.3s,baz=9.9,slow=22,SNR=5.3						
WRA				LR	LR	19 06 50.9	
	comp=Z,162nm,18.0s,baz=355,slow=43						
FITZ	**Fitzroy Crossi**	**18.36**	**210**	*e*P	**Pn**	**18 58 20.6**	**-0.2**
	20nm,1.0s						
GUMO	**Guam**	**18.40**	**32**	LR	LR	19 04 27.7	
	comp=Z,42nm,20.1s,baz=100,slow=34						
PLAI	**Plampang**	**18.46**	**248**	P	**Pn**	**18 58 24.4**	**+2.3**
	34nm,1.0s						
TWSI	**Taliwang, Sumb**	**19.26**	**249**	P	**P**	**18 58 29.7**	**-0.9**
SRBI	**Singaraja**	**20.65**	**253**	P	Pn	18 58 47.8	-0.3
CTA	**Charters Tower**	**20.90**	**149**	P	Pn	18 58 50.7	-0.3
	17nm,0.7s,baz=326,slow=11,SNR=14						
CTAO	**Charters Tower**	**20.90**	**149**	*e*P	Pn	18 58 50.8	-0.3
	19nm,0.7s						
AS01	**Alice Springs**	**21.41**	**183**	*e*P	**P**	**18 58 56.7**	**+2.8**
AS31	**Alice Springs**	**21.42**	**183**	*e*P	**P**	**18 58 56.6**	**+2.7**
	8.1nm,0.7s						
ASAR	**Alice Springs**	**21.42**	**183**	P	**P**	**18 58 55.8**	**+1.9**
	10nm,0.8s,baz=6.9,slow=11,SNR=90						
ASAR				S	**S**	**19 02 44.7**	**-5.2**
	1.0nm,0.7s,baz=344,slow=16,SNR=3.0						
ASAR				LR	LR	19 07 52.4	
	comp=Z,205nm,21.9s,baz=5.5,slow=38						
MBWA	**Marble Bar**	**24.10**	**217**	*e*P	**P**	**18 59 23.1**	**+1.7**
	55nm,1.1s						
HNR	**Honiara**	**25.75**	**107**	P	**P**	**18 59 37.6**	**+1.1**
	29nm,0.4s,baz=231,slow=7.5,SNR=6.2						
LEM	**Lembang**	**27.77**	**259**	LR	LR	19 13 17.8	
	comp=Z,138nm,19.2s,baz=139,slow=42						
JOW	**Kunigami**	**29.56**	**348**	LR	LR	19 12 10.3	
	comp=Z,53nm,19.5s,baz=116,slow=37						
STKA	**Stephens Creek**	**30.20**	**169**	P	**P**	**19 00 17.3**	**+1.2**
	5.6nm,0.6s,baz=344,slow=9.0,SNR=23						
STKA	**Stephens Creek**	**30.20**	**169**	*e*P	**P**	**19 00 17.8**	**+1.7**
	1.8nm,0.9s						
PDSI	**Padang**	**34.64**	**272**	P	P	19 01 05.0	+10
JNU	**Nadzwab**	**35.31**	**354**	P	**P**	**19 01 01.2**	**+0.5**
	5.5nm,1.0s,baz=104,slow=17,SNR=2.6						
PSI	**Prapat**	**36.49**	**278**	P	**P**	**19 01 12.3**	**+1.0**
	2.1nm,0.4s,baz=180,slow=11,SNR=3.0						
CMAR	**Chiang Mai Arr**	**41.04**	**301**	P	**P**	**19 01 49.1**	**-0.1**
	0.5nm,0.9s,baz=113,slow=6.1,SNR=4.5						
CMAR				LR	LR	19 20 53.5	
	comp=Z,24nm,18.1s,baz=156,slow=39						
CMMT	**Chiang Mai**	**41.20**	**302**	P	P	19 01 58.1	+7.6
AFI	**Afiamalu**	**53.77**	**106**	LR	LR	19 24 11.1	
	comp=Z,54nm,20.1s,baz=146,slow=34						
SONA0	**Songino Array**	**55.73**	**337**	*e*P	**P**	**19 03 42.6**	**+0.4**
SONM	**Songino Array**	**55.73**	**337**	P	**P**	**19 03 42.6**	**+0.4**
	0.2nm,0.4s,baz=163,slow=10,SNR=2.4						
SONM				LR	LR	19 27 03.5	
	comp=Z,43nm,20.4s,baz=159,slow=36						
MK01	**Makanchi Array**	**67.15**	**324**	*e*P	**P**	**19 05 00.1**	**+0.9**
MK32	**Makanchi Array**	**67.17**	**324**	*e*P	**P**	**19 05 00.1**	**+0.7**
MKAR	**Makanchi Array**	**67.17**	**324**	P	**P**	**19 05 00.1**	**+0.7**
	0.6nm,0.5s,baz=107,slow=9.0,SNR=7.2						
ZALV	**Zalesovo Beam**	**69.67**	**331**	P	**P**	**19 05 17.4**	**+2.6**
	0.8nm,0.6s,baz=93,slow=4.9,SNR=4.3						
ZAA1	**Zalesovo Array**	**69.67**	**331**	*e*P	**P**	**19 05 17.4**	**+2.6**
KURK	**Kurchatov**	**71.21**	**326**	*e*P	**P**	**19 05 26.1**	**+1.8**
	3.8nm,0.8s						
VNDA	**Vanda**	**76.67**	**174**	P	**P**	**19 05 57.4**	**+1.6**
	1.7nm,0.8s,baz=337,slow=4.9,SNR=7.7						
VNDA				LR	LR	19 39 47.0	
	comp=Z,56nm,18.2s,baz=344,slow=36						
ILAR	**Eielson Array**	**86.84**	**25**	P	**P**	**19 06 49.6**	**+0.1**
	0.5nm,0.8s,baz=254,slow=4.5,SNR=5.1						
TORD	**Torodi Ar. Bea**	**132.63**	**286**	PKP	**PKPdf**	**19 13 22.5**	**+1.5**
	0.2nm,0.7s,baz=101,slow=2.9,SNR=2.9						
TOA1	**Torodi Ar. Sit**	**132.63**	**286**	*e*PKPdf	**PKPdf**	**19 13 22.5**	**+1.5**
CPUP	**Villa Florida**	**149.25**	**158**	PKPbc	**PKPab**	**19 13 56.5**	**-2.6**
	2.1nm,0.7s,baz=204,slow=3.1,SNR=6.9						
LPAZ	**La Paz**	**150.64**	**129**	PKPbc	**PKPbc**	**19 14 00.7**	**+1.7**
	3.8nm,0.8s,baz=64,slow=3.4,SNR=15						
LPAZ	**La Paz**	**150.64**	**129**	*e*PKPbc	**PKPab**	**19 14 01.6**	**-4.2**

*ISK **18** 19:13:30.3, 39˚.48N×39˚.88E, h5km, ML3.5/13*
*DDA **18** 19:13:31.0, 39˚.53N×39˚.88E, h15km, Ml3.4*

ISC 18 19:13:31.8±1.1,**39˚.51N**±0˚.02×**39˚.87E**±0˚.02,**h1**km±10km, **n42,**σ1$**09/62,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERZN	**Erzincan**	**0.14**	**303**	PG	**Pg**	**19 13 34.2**	**-0.3**
ERZN				SG	**Sg**	**19 13 37.2**	**+0.8**
EUZM	**Uzumlu**	**0.24**	**325**	*i* P	**Pg**	**19 13 36.3**	**-0.1**
EUZM				*i* S	**Sg**	**19 13 40.3**	**+0.8**
TNCL	**Tunceli-Merkez**	**0.47**	**213**	*i* P	**Pg**	**19 13 41.6**	**+0.8**
TNCL				*i* S	**Sg**	**19 13 48.6**	**+1.7**
YEDI	**Yedisu-Bingol**	**0.52**	**98**	PG	**Pg**	**19 13 41.8**	**0.0**
KOPT	**Kop Dagi**	**0.70**	**43**	*i* P	**Pg**	**19 13 44.9**	**-0.3**
KOPT				*i* S	**Sb**	**19 13 57.2**	**0.0**
PTK	**Pertek**	**0.72**	**211**	PG	**Pg**	**19 13 44.4**	**-1.2**
PTK				SG	**Sg**	**19 13 55.7**	**+0.8**
KELT	**Kelkit**	**0.80**	**323**	*i* P	**Pg**	**19 13 46.3**	**-0.8**
KELT				*i* S	**Sg**	**19 13 57.7**	**+0.3**
BGOL	**Bingol**	**0.81**	**130**	*i* P	**Pg**	**19 13 45.8**	**-1.4**
BGOL				*i* S	**Sb**	**19 13 58.3**	**-1.8**
BNGB	**Bing¨¶l**	**0.81**	**129**	PG	**Pg**	**19 13 46.1**	**-1.2**
ECAT	**Cat-ERZURUM**	**0.86**	**83**	*i* P	**Pg**	**19 13 47.4**	**-0.8**
ECAT				*i* S	**Sb**	**19 14 01.2**	**-0.4**
REFA	**Refahiye_ERZ¨**	**0.87**	**263**	*i* P	**Pg**	**19 13 48.0**	**-0.4**
REFA				*i* S	**Sb**	**19 14 02.6**	**+0.8**
BAYT	**Ayd¨¬ntepe-Bay**	**0.91**	**13**	PG	**Pg**	**19 13 48.8**	**-0.4**
ILIC	**ilic-Erzincan**	**1.01**	**267**	PG	**Pg**	**19 13 51.1**	**-0.1**
KEMA	**Kemaliye**	**1.10**	**258**	*i* P	**Pg**	**19 13 51.4**	**-1.4**
KEMA				*i* S	**Sg**	**19 14 06.8**	**-0.2**
BNGL	**BINGOL**	**1.14**	**119**	*i* P	**Pg**	**19 13 53.0**	**-0.5**
BNGL				*i* S	**Sn**	**19 14 10.1**	**-1.2**
HANI	**Diyarbakir_Han**	**1.17**	**159**	*i* P	**Pg**	**19 13 53.7**	**-0.4**
HANI				*i* S	**Sn**	**19 14 12.4**	**+0.6**
VRTB	**Varto-Mus**	**1.27**	**105**	PN	**Pn**	**19 13 56.1**	**-0.7**
VRTB	**Varto-Mus**	**1.27**	**105**	*i* P	**Pg**	**19 13 55.6**	**-0.6**
VRTB				*i* S	**Sn**	**19 14 20.2**	**+5.6**
MACK	**Trabzon**	**1.44**	**357**	*i* P	**Pn**	**19 13 57.4**	**-1.6**
MACK				*i* S	**Sb**	**19 14 17.8**	**-0.3**
SUSE	**Susehri**	**1.46**	**299**	*i* P	**Pn**	**19 13 58.5**	**-1.0**
SUSE				*i* S	**Sg**	**19 14 19.0**	**+0.2**
KTUT	**Trabzon**	**1.48**	**357**	PN	**Pn**	**19 13 59.3**	**-0.2**
DIYA	**Diyarbakir**	**1.59**	**173**	*i* P	**Pb**	**19 14 01.5**	**-0.6**
DIYA				*i* S	**Sg**	**19 14 24.2**	**+1.2**
HEKM	**Malatya_Hekimh**	**1.62**	**248**	*i* P	**Pn**	**19 14 00.6**	**-1.0**
HEKM				*i* S	**Sg**	**19 14 25.2**	**+1.5**
ESPY	**Espiye-Giresun**	**1.66**	**328**	PN	**Pn**	**19 14 02.0**	**0.0**
CUZAR	**Zara_SIVAS**	**1.67**	**284**	*i* P	**Pn**	**19 14 01.8**	**-0.5**
CUZAR				*i* S	**Sb**	**19 14 25.5**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.71**	**142**	PN	**Pn**	**19 14 02.3**	**-0.3**
CHOM	**Cayeli-Rize**	**1.73**	**23**	PN	**Pn**	**19 14 02.9**	**0.0**
CUKAN	**kangal_SIVAS**	**1.88**	**265**	*i* P	**Pn**	**19 14 04.7**	**-0.4**
CUKAN				*i* S	**Sn**	**19 14 27.2**	**-2.3**
GURO	**Guroymak-BITLI**	**1.93**	**119**	PN	**Pn**	**19 14 05.7**	**-0.2**
AKCD	**Akcadag**	**1.95**	**232**	*i* P	**Pn**	**19 14 05.8**	**-0.3**
AKCD				*i* S	**Sg**	**19 14 34.6**	**+0.4**
DARE	**Darende-Malaty**	**2.08**	**244**	PN	**Pn**	**19 14 07.7**	**-0.2**
MAZI	**Mazidag**	**2.10**	**167**	PN	**Pn**	**19 14 07.8**	**-0.3**
SENK	**Senkaya-Erzuru**	**2.17**	**60**	PN	**Pn**	**19 14 09.4**	**+0.2**
URFA	**Urfa**	**2.22**	**202**	PN	**Pn**	**19 14 09.7**	**-0.1**
SVSK	**Karacayir**	**2.26**	**281**	PN	**Pn**	**19 14 10.7**	**+0.6**
BCA	**Borcka**	**2.35**	**34**	PN	**Pn**	**19 14 11.8**	**+0.3**
AGRB	**Hanur-Agry**	**2.41**	**87**	PN	**Pn**	**19 14 12.6**	**+0.1**
TOKT	**Tokat**	**2.69**	**289**	PN	**Pn**	**19 14 16.7**	**+0.6**
KMRS	**Kahramanmaras**	**3.07**	**230**	PN	**Pn**	**19 14 21.7**	**+0.3**
GAZ	**Gaziantep**	**3.13**	**223**	PN	**Pn**	**19 14 22.7**	**+0.4**
BNN	**Bunyan**	**3.20**	**259**	PN	**Pn**	**19 14 23.6**	**+0.3**
YOZ	**Yozgat**	**3.52**	**274**	PN	**Pn**	**19 14 28.5**	**+0.8**

*IDC **18** 19:18:17.8±1.2,52˚.47N×132˚.21W, h0km, mb3.7/5, mb1 3.8/8, mb1mx3.5/56, mbtmp3.6/8, ML3.2/3, MS3.1/10, Ms1 3.1/10, ms1mx2.9/50, Error ellipse: s-maj=21.6km s-min=7.6km az=59.0*
*ISCJB **18** 19:18:18.7±0.9,52˚.57N±0˚.09×132˚.2W±0˚.1, h10km, mb3.6/5, MS3.2/5, Error ellipse: s-maj=17.1km s-min=6.8km az=135.4*
*PGC **18** 19:18:18.1±17.0,52˚.42N×132˚.54W, h10km±413km, 104km southwest of Sandspit, Bc Haida Gwaii Region*

ISC 18 19:18:20.3±1.0,**52˚.6N**±0˚.1×**132˚.0W**±0˚.1,**h10**km,**n21,** σ1$**62/13,mb3.6/5,MS3.1/5,Queen Charlotte Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H02S1	**DAWSON INLET T**	**0.67**	**332**	Pg	**Pb**	**19 18 32.5**	**-1.5**
H02S1				Lg	Lg	19 18 42.7	
H02N1	**VAN INLET T-PH**	**0.73**	**331**	Pg	**Pg**	**19 18 33.2**	**-1

STKA	**Stephens Creek**	**25.81**	**189**	*e*P	**P**	**19 23 48.4**	**+0.2**
	1.8nm,1.0s							
CMAR	**Chiang Mai Arr**	**52.74**	**299**	P	**P**	**19 27 32.0**	**+0.7**
	0.8nm,0.5s,baz=125,slow=5.7,SNR=8.4							
KLR	**Kul'dur**	**56.74**	**349**	LR	LR	19 47 49.9		
	comp=Z,30nm,21.0s,baz=186,slow=31							
VNDA	**Vanda**	**71.65**	**176**	P	**P**	**19 29 37.0**	**+0.3**
	2.6nm,0.7s,baz=324,slow=7.2,SNR=14							
MK32	**Makanchi Array**	**77.26**	**321**	*e*P	**P**	**19 30 10.0**	**+0.3**
MKAR	**Makanchi Array**	**77.26**	**321**	P	**P**	**19 30 10.0**	**+0.3**
	0.6nm,0.7s,baz=42,slow=5.7,SNR=4.7							
MAW	**Mawson**	**81.68**	**203**	P	**P**	**19 30 32.5**	**-0.7**
	2.0nm,0.6s,baz=115,slow=8.7,SNR=4.7							
ILAR	**Eielson Array**	**86.06**	**23**	P	**P**	**19 30 53.5**	**-2.0**
	0.7nm,0.8s,baz=230,slow=5.0,SNR=4.2							
PLCA	**Paso Flores**	**122.27**	**147**	PKP	**PKPdf**	**19 37 10.8**	**+0.6**
	0.6nm,0.5s,baz=197,slow=2.7,SNR=2.8							
TORD	**Torodi Ar. Bea**	**144.44**	**284**	PKP	**PKPab**	**19 37 49.9**	**-0.6**
	1.2nm,0.4s,baz=56,slow=2.9,SNR=19							
DBIC	**Dimbokro**	**151.29**	**272**	PKPbc	**PKPbc**	**19 38 10.0**	**+0.6**
	3.3nm,0.5s,baz=43,slow=3.1,SNR=10							
BDFB	**Brasilia**	**154.02**	**147**	PKPbc	**PKPbc**	**19 38 15.2**	**-0.3**
	2.2nm,0.7s,baz=169,slow=1.1,SNR=4.1							

*ISK **18** 19:18:44.8, 37˚.31N×37˚.09E, h7km, ML3.8/17*
*ISCJB **18** 19:18:45.3±0.5, 37˚.30N±0˚.02×37˚.11E±0˚.02, h6km±4km, Error ellipse: s-maj=3.7km s-min=3.0km az=1.4*
*DDA **18** 19:18:45.1, 37˚.33N×37˚.13E, h28km, Ml4.0*

ISC 18 19:18:45.3±0.9, 37˚.31N±0˚.02×37˚.14E±0˚.02, h10km±7km, n43, σ0°98/66, 8C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.15**	**157**		PG	**Pg**	**19 18 48.9**	**+0.2**
GAZ					SG	**Sg**	**19 18 51.7**	**+0.7**
KMRS	**Kahramanmaras**	**0.27**	**316**		PG	**Pg**	**19 18 50.3**	**-0.6**
KMRS					SG	**Sg**	**19 18 54.3**	**-0.3**
KUZU	**Kuzuini**	**0.54**	**186**	⇓*i*P		**Pb**	**19 18 56.4**	**-0.4**
KUZU				*i*	S	**Sb**	**19 19 04.7**	**+0.1**
ANDN	**Andirin**	**0.69**	**293**	⇑*i*P		**Pg**	**19 18 58.4**	**-0.2**
ANDN				*i*	S	**Sg**	**19 19 08.0**	**+0.3**
ATAB	**Bozova**	**0.93**	**80**	⇑*i*P		**Pb**	**19 19 03.3**	**-0.3**
ATAB				*i*	S	**Sn**	**19 19 18.0**	**+0.1**
KOZT	**Kozan**	**1.06**	**280**	PG		**Pg**	**19 19 04.8**	**-0.9**
KOZT					SG	**Sg**	**19 19 19.4**	**0.0**
SAIM	**ADANA**	**1.07**	**309**	⇑*i*P		**Pg**	**19 19 05.2**	**-0.7**
SAIM				*i*	S	**Sb**	**19 19 20.5**	**+0.5**
AKCD	**Akcadag**	**1.17**	**32**	⇑*i*P		**Pb**	**19 19 07.0**	**-0.5**
AKCD				*i*	S	**Sn**	**19 19 23.0**	**-0.8**
TAHT	**Tahtakopru-Hat**	**1.21**	**220**	PN		**Pn**	**19 19 07.7**	**-0.4**
SURC	**SANLIURFA_SURC**	**1.25**	**110**	⇑*i*P		**Pg**	**19 19 09.0**	**-0.4**
SURC				*i*	S	**Sn**	**19 19 26.2**	**+0.4**
DARE	**Darende-Malaty**	**1.29**	**12**	PN		**Pg**	**19 19 09.9**	**-0.2**
DARE					SN	**Sg**	**19 19 28.0**	**+1.2**
YURE	**YUREGIR**	**1.30**	**249**	PN		**Pn**	**19 19 09.4**	**-0.1**
YURE	**YUREGIR**	**1.30**	**249**	⇑*i*P		**Pb**	**19 19 09.9**	**+0.2**
YURE				*i*	S	**Sb**	**19 19 22.7**	**-3.7**
URFA	**Urfa**	**1.35**	**84**	PN		**Pb**	**19 19 10.1**	**-0.5**
CUGUR	**Gurin_S˜VAS**	**1.42**	**4**	⇓*i*P		**Pb**	**19 19 12.0**	**+0.1**
CUGUR				*i*	S	**Sg**	**19 19 31.9**	**+1.0**
KRTD	**Karatas-Adana**	**1.55**	**243**	PN		**Pn**	**19 19 13.1**	**+0.2**
HEKM	**Malatya_Hekimh**	**1.70**	**22**	⇑*i*P		**Pn**	**19 19 15.1**	**0.0**
HEKM				*i*	S	**Sg**	**19 19 39.9**	**+0.1**
BNN	**Bunyan**	**1.85**	**327**	PN		**Pn**	**19 19 17.5**	**+0.4**
ELZG	**Elazig**	**1.88**	**50**	*e*P		**Pn**	**19 19 17.9**	**+0.3**
ELZG				*i*	S	**Sn**	**19 19 41.6**	**+0.1**
GULE	**Gulek**	**1.89**	**270**	⇑*i*P		**Pn**	**19 19 17.7**	**+0.1**
GULE				*i*	S	**Sn**	**19 19 42.7**	**+1.1**
CUALT	**Altinyayla-SIV**	**1.99**	**351**	⇓*i*P		**Pb**	**19 19 20.6**	**-1.0**
CUALT				*i*	S	**Sg**	**19 19 50.0**	**+0.8**
CUKAN	**kangal_SIVAS**	**2.02**	**7**	*i*P		**Pn**	**19 19 20.3**	**+0.8**
CUKAN				*i*	S	**Sg**	**19 19 52.0**	**+1.7**
MERS	**Mersin**	**2.14**	**259**	PN		**Pn**	**19 19 21.4**	**+0.3**
NIG	**Nigde**	**2.16**	**293**	PN		**Pn**	**19 19 21.7**	**+0.2**
CUSAR	**Sarkisla-SIVAS**	**2.22**	**342**	*i*P		**Pn**	**19 19 22.9**	**+0.6**
CUSAR				*i*	S	**Sg**	**19 19 56.9**	**+0.2**
KEMA	**Kemaliye**	**2.23**	**28**	*i*P		**Pn**	**19 19 22.6**	**+0.3**
KEMA				*i*	S	**Sg**	**19 19 55.5**	**-1.4**
AVNS	**Nevsehir-Avano**	**2.35**	**310**	*i*P		**Pn**	**19 19 25.1**	**+1.2**
AVNS				*i*	S	**Sb**	**19 19 57.1**	**+0.3**
PTK	**Pertek**	**2.38**	**48**	PN		**Pn**	**19 19 25.8**	**+1.3**
KERG	**Konya-Eregli**	**2.40**	**273**	⇓*i*P		**Pn**	**19 19 26.3**	**+1.6**
KERG				*i*	S	**Sn**	**19 19 56.0**	**+1.7**
ILIC	**ilic-Erzincan**	**2.42**	**27**	PN		**Pn**	**19 19 26.1**	**+1.2**
DIYA	**Diyarbakir**	**2.45**	**75**	*i*P		**Pn**	**19 19 25.6**	**+0.3**
DIYA				*i*	S	**Sg**	**19 20 03.4**	**-0.5**
KIZK	**Mersin**	**2.54**	**252**	PN		**Pn**	**19 19 27.1**	**+0.6**
SVSK	**Karacayir**	**2.61**	**358**	PN		**Pn**	**19 19 28.5**	**+1.1**
TNCL	**Tunceli-Merkez**	**2.61**	**46**	*i*P		**Pb**	**19 19 29.6**	**-2.6**
TNCL				*i*	S	**Sg**	**19 20 10.0**	**+0.8**
MAZI	**Mazidag**	**2.64**	**86**	PN		**Pn**	**19 19 29.6**	**+1.6**
YOZ	**Yozgat**	**2.73**	**329**	PN		**Pn**	**19 19 30.1**	**+0.8**
KEBE	**Keben-Mersin**	**2.88**	**254**	PN		**Pn**	**19 19 31.9**	**+0.7**
IKL	**Isikli**	**2.97**	**250**	PN		**Pn**	**19 19 33.3**	**+0.9**
EREN	**Erenkoy**	**2.98**	**234**	PN		**Pn**	**19 19 33.5**	**+1.0**
SULT	**Sultanhani-AKS**	**3.01**	**288**	PN		**Pn**	**19 19 33.8**	**+0.8**
ERZI	**Erzincan**	**3.05**	**41**	PN		**Pn**	**19 19 35.2**	**+1.6**
TEVE	**Tevekalti-Mers**	**3.09**	**255**	PN		**Pn**	**19 19 34.9**	**+0.8**
AKKU	**Akkuyu-Mersin**	**3.10**	**249**	PN		**Pn**	**19 19 35.2**	**+1.0**

*ISCJB **18** 19:22:20.5±0.9, 43˚.94N±0˚.07×146˚.23E±0˚.07, h99km±6km, Error ellipse: s-maj=12.2km s-min=6.3km az=151.1*
*JMA **18** 19:22:20.2±0.2, 43˚.97N×146˚.29E, h98km±2km, M3.1*
*SKHL **18** 19:22:20.4±0.7, 43˚.82N×146˚.27E, h98km±1km, mb4.3/6, msh5.4/6*

ISC 18 19:22:21.3±1.7, 43˚.96N±0˚.07×146˚.22E±0˚.06, h95km±9km, n16, σ0°39/27, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.27**	**287**	*e*P		**Pn**	**19 22 35.0**	**-0.1**
YUK					AMB	AMB	19 22 36.0	
	80nm,0.4s							
YUK					AMB	AMB	19 22 36.0	
	210nm,0.4s							
YUK					*e*S	**Sn**	**19 22 46.0**	**+0.6**
YUK					A	A	19 22 47.0	
	920nm,0.4s							
YUK					A	A	19 22 47.0	
	1µm,0.4s							
GRPR	**Tuman**	**0.32**	**276**	*e*P		**Pn**	**19 22 35.0**	**-0.4**
GRPR					AMB	AMB	19 22 35.0	
	90nm,0.4s							
GRPR					AMB	AMB	19 22 35.0	
	100nm,0.4s							
GRPR					*e*S	**Sn**	**19 22 46.0**	**+0.1**
GRPR					A	A	19 22 49.0	
	490nm,0.4s							
GRPR					A	A	19 22 49.0	
	800nm,0.4s							
LAGR	**Lagunnoye**	**0.33**	**287**	*e*P		**Pn**	**19 22 35.0**	**-0.4**
LAGR					AMB	AMB	19 22 35.0	
	200nm,0.6s							
LAGR					AMB	AMB	19 22 35.0	
	150nm,0.6s							
LAGR					AMB	AMB	19 22 35.0	
	330nm,0.6s							
LAGR					*e*S	**Sn**	**19 22 46.0**	**+0.1**
LAGR					A	A	19 22 57.0	
	1µm,0.5s							
LAGR					A	A	19 22 57.0	
	2µm,0.5s							
SHO	**Shikotan**	**0.45**	**101**	*i*P		**Pn**	**19 22 36.0**	**-0.2**
SHO					AMB	AMB	19 22 37.0	
	40nm,0.5s							
SHO					AMB	AMB	19 22 37.0	
	70nm,0.5s							
SHO					AMB	AMB	19 22 37.0	
	150nm,0.5s							
SHO				*i*	S	**Sn**	**19 22 46.9**	**-0.4**
SHO					A	A	19 22 48.0	
	1µm,0.3s							
SHO					A	A	19 22 48.0	
	750nm,0.3s							
GLVR	**Golovnino**	**0.55**	**247**	*e*P		**Pn**	**19 22 37.0**	**+0.1**
GLVR					AMB	AMB	19 22 38.0	
	100nm,0.6s							
GLVR					AMB	AMB	19 22 38.0	
	70nm,0.6s							
GLVR					AMB	AMB	19 22 38.0	
	260nm,0.6s							
GLVR					*e*S	**Sn**	**19 22 49.3**	**+0.7**
GLVR					A	A	19 22 55.0	
	2µm,0.4s							
GLVR					A	A	19 22 55.0	
	640nm,0.4s							
NEM2	**Nemuro 2**	**0.69**	**210**	P		**Pn**	**19 22 37.8**	**-0.3**
NEM2					*e*S	**Sn**	**19 22 50.8**	**+0.2**
JRA	**Rausu**	**0.79**	**269**	P		**Pn**	**19 22 38.8**	**-0.3**
JRA					*e*S	**Sn**	**19 22 52.8**	**+0.4**
JNK	**Nakash**	**1.15**	**252**	P		**Pn**	**19 22 42.8**	**-0.2**
JKHN	**Kushirohamanak**	**1.17**	**222**	P		**Pn**	**19 22 43.0**	**-0.2**
JAK	**Akkeshi**	**1.47**	**229**	P		**Pn**	**19 22 46.4**	**-0.5**
JAK					*e*S	**Sn**	**19 23 06.2**	**0.0**
JTKR	**Abashiri--Toko**	**1.67**	**271**	P		**Pn**	**19 22 48.8**	**-0.6**
KUR	**Kuril'sk**	**1.74**	**42**	*i*P		**Pn**	**19 22 50.0**	**-0.2**
KUR					AMB	AMB	19 22 51.9	
	20nm,0.3s							
KUR					AMB	AMB	19 22 51.9	
	80nm,0.3s							
KUR				*i*	S	**Sn**	**19 23 13.0**	**+0.8**
KUR					A	A	19 23 20.0	
	73nm,0.2s							
KUR					A	A	19 23 20.0	
	187nm,0.2s							
JAR	**Ashorobuto**	**1.90**	**250**	P		**Pn**	**19 22 52.7**	**+0.4**
JOB	**Onbets**	**2.03**	**240**	P		**Pn**	**19 22 54.3**	**+0.2**
JOB					*e*S	**Sn**	**19 23 19.3**	**+0.2**
JMP	**Maruseppu**	**2.06**	**272**	P		**Pn**	**19 22 54.1**	**-0.4**
JMP					*e*S	**Sn**	**19 23 19.7**	**-0.2**
JCH	**Churui**	**2.48**	**238**	P		**Pn**	**19 22 59.9**	**-0.1**

IDC 18 19:28:43.7±5.7, 16.77S×174.49W, h272km±35km, mb3.5/3, mb1 3.8/4, mb1mx3.2/3, mbtmp4.1/4, Error ellipse: s-maj=209.6km s-min=22.7km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.87**	**43**	P		Pn	19 29 48.1	+0.9
	5.4nm,0.3s,baz=83,slow=1.4,SNR=4.2							
AFI					S	S	19 30 37.8	0.0
	8.9nm,0.3s,baz=253,slow=18,SNR=5.1							
WRA	**Warramunga Arr**	**48.52**	**258**	P		P	19 36 59.6	-0.4
	0.4nm,0.4s,baz=97,slow=6.6,SNR=22							
ASAR	**Alice Springs**	**48.70**	**253**	P		P	19 37 01.4	+0.1
	8.1nm,0.5s,baz=88,slow=7.7,SNR=164							
NVAR	**Mina Array Bea**	**76.04**	**42**	P		P	19 40 01.8	+0.1
	0.7nm,0.7s,baz=216,slow=7.6,SNR=3.7							

*MAN **18** 19:34:22.3, 6˚.56N×123˚.66E, h1km, mb4.9, ML3.9, MS3.9*
*DJA **18** 19:34:26.7±0.9, 6˚.N±10˚×12˚.4E±1˚.0, h20km±7km, M4.7/9, mB5.2/6, mb4.7/9, MLv4.9/6, Mw(mB)4.6/6*
*IDC **18** 19:34:30.2±3.2, 6˚.54N×123˚.86E, h56km±32km, mb3.9/14, mb1 4.0/17, mb1mx3.8/54, mbtmp4.2/17, ML4.2/3, MS3.3/5, Ms1 3.3/5, ms1mx2.8/36, Error ellipse: s-maj=29.1km s-min=12.3km az=74.0*
*NEIC **18** 19:34:30.1±1.2, 6˚.53N×123˚.84E, h56km±13km, mb4.3/3, Error ellipse: s-maj=13.3km s-min=7.5km az=83.0*

ISC 18 19:34:23.1±1.3, 6˚.60N±0˚.04×123˚.67E±0˚.03, h2km±9km, n59, σ1°64/70, mb4.2/16, 4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.84**	**43**	⇓*i*P		**Pg**	**19 34 39.2**	**-0.1**
CTBH				*i*	S	**Sg**	**19 34 48.1**	**-2.0**
SKMP	**Bagumbayan, Su**	**0.87**	**95**	*e*P		**Pg**	**19 34 39.2**	**-0.7**
SKMP				*e*	S	**Sg**	**19 34 50.0**	**-1.3**
PAGZ	**Pagadian**	**1.27**	**347**	*e*P		**Pg**	**19 34 47.6**	**+0.2**
PAGZ				*e*	S	**Sn**	**19 35 06.3**	**+0.8**
GSPH	**General Santos**	**1.37**	**112**	⇓*i*P		**Pb**	**19 34 52.2**	**+2.6**
GSPH				*i*	S	**Sn**	**19 35 12.0**	**+3.8**
IPIL	**Ipil**	**1.60**	**317**	*e*P		**Pn**	**19 34 53.0**	**+0.6**
IPIL				*e*	S	**Sb**	**19 35 14.7**	**+0.6**
ZCP	**Zamboanga City**	**1.61**	**282**	⇓*i*P		**Pn**	**19 34 53.4**	**+0.8**
ZCP				*i*	S	**Sg**	**19 35 16.0**	**+1.0**
BUKP	**Musuan**	**1.88**	**47**	*e*P		**Pn**	**19 34 56.1**	**-0.1**
BUKP				*e*	S	**Sb**	**19 35 22.2**	**+0.2**
DAV	**Davao City (W)**	**1.96**	**76**	P		**Pn**	**19 34 57.9**	**+0.6**
	408nm,0.3s,baz=269,slow=2.5,SNR=68							
DAV					S	**Sb**	**19 35 24.7**	**+0.5**
	113nm,0.3s,baz=257,slow=21,SNR=10							
DAV					LR	LR	19 35 50.5	
	comp=Z,2µm,18.8s,baz=86,slow=45							
DAV	**Davao City (W)**	**1.96**	**76**	*e*Pn		**Pn**	**19 34 58.2**	**+1.0**
DAV				*e*	Sn	**Sn**	**19 35 19.8**	**-2.6**
DDMP	**Don Marcelino,**	**2.09**	**104**	*e*P		**Pn**	**19 34 59.4**	**+0.2**
DDMP				*e*	S	**Sb**	**19 35 28.5**	**+0.3**
CGP	**Cagayan de Oro**	**2.10**	**29**	⇓*e*P		**Pn**	**19 35 00.4**	**+1.1**
CGP				*e*	S	**Sg**	**19 35 31.6**	**+0.9**
MATI	**Mati**	**2.59**	**82**	*e*P		**Pn**	**19 35 04.6**	**-1.5**
MATI				*e*	S	**Sg**	**19 35 48.1**	**+1.6**
SNPH	**Sibulan**	**2.76**	**351**	*e*P		**Pb**	**19 35 11.7**	**-1.4**
BUTP	**Butuan**	**3.05**	**39**	*e*P		**Pb**	**19 35 17.9**	**-0.1**
BUTP				*e*	S	**Sg**	**19 36 06.3**	**+5.3**
MSLP	**Maasin**	**3.70**	**18**	*e*P		**Pb**	**19 35 18.7**	**-2.6**
MSLP				*e*	S	**Sb**	**19 36 15.3**	**+0.7**
KMSI	**Cibinong**	**6.00**	**177**	P		**Pn**	**19 35 53.4**	**+0.5**
	155nm,0.8s,2µm							
MRSI	**Marisa**	**6.32**	**196**	P		**Pn**	**19 35 57.4**	**0.0**
	18nm,0.5s,346nm							
TNTI	**Ternate**	**6.87**	**147**	*e*Pn		**Pn**	**19 36 05.4**	**+0.5**
TNTI	**Ternate**	**6.87**	**147**	P		**Pn**	**19 36 05.3**	**+0.5**
	24nm,1.1s							
LUWI	**Luwuk**	**7.64**	**187**	*e*Pn		**Pn**	**19 36 18.2**	**+2.7**
LUWI	**Luwuk**	**7.64**	**187**	P		**Pn**	**19 36 16.2**	**+0.7**
APSI	**Ampana**	**7.73**	**195**	P		**Pn**	**19 36 14.3**	**-2.4**
SANI	**Sanana**	**8.90**	**165**	P		**Pn**	**19 36 31.6**	**-1.2**
SIJI	**Sorong**	**10.61**	**134**	P		**Pn**	**19 36 55.5**	**-0.7**
	0.8nm,0.3s,baz=342,slow=22,SNR=4.7							
AAI	**Ambon**	**11.18**	**156**	P		**Pn**	**19 36 59.8**	**-4.2**
FAKI	**Fak Fak**	**12.76**	**138**	*e*Pn		**Pn**	**19 37 21.8**	**-3.9**
BATI	**Baumata**	**16.70**	**180**	P		**P**	**19 38 21.6**	**+0.8**
	1.5nm,0.3s,baz=108,slow=3.2,SNR=6.8							
GRJI	**Gresik**	**17.46**	**220**	pP		pP	19 38 33.1	+3.3
GENI	**Genyem**	**18.84**	**118**	P		**P**	**19 38 44.2**	**-0.2**
JAY	**Jayapura**	**19.27**	**118**	P		**P**	**19 38 48.5**	**-0.7**
	1.2nm,0.3s,baz=311,slow=4.7,SNR=15							
LEM	**Lembang**	**20.84**	**220**	LR		LR	19 46 47.4	
	comp=Z,52nm,20.6s,baz=51,slow=35							
GUMO	**Guam**	**21.98**	**70**	LR		LR	19 47 11.5	
	comp=Z,34nm,19.3s,baz=157,slow=35							
CMAR	**Chiang Mai Arr**	**26.81**	**298**	P		**P**	**19 40 09.1**	**+4.1**
	0.3nm,0.7s,baz=112,slow=7.8,SNR=4.4							
WR1	**Warramunga Arr**	**28.39**	**159**	*e*P		**P**	**19 40 17.9**	**-1.2**
	7.1nm,0.8s							
WRA	**Warramunga Arr**	**28.39**	**159**	P		**P**	**19 40 17.9**	**-1.2**
	3.6nm,0.8s,baz=336,slow=10.0,SNR=35							
WB2	**Warramunga Ar**	**28.40**	**158**	*e*P		**P**	**19 40 17.5**	**-1.6**
KSAR	**Wonju Array Be**	**30.94**	**7**	P		**P**	**19 40 42.3**	**+0.9**
KSRS	**Korea Array**	**30.95**	**7**	P		**P**	**19 40 42.3**	**+0.8**
	1.7nm,0.8s,baz=184,slow=10,SNR=6.1							
KSRS					LR	LR	19 53 45.1	
	comp=Z,38nm,20.2s,baz=190,slow=37							
ASAR	**Alice Springs**	**31.70**	**162**	P		**P**	**19 40 47.8**	**-0.6**
	1.5nm,0.7s,baz=341,slow=7.4,SNR=21							
MJAR	**Matsushiro Arr**	**32.63**	**22**	P		**P**	**19 40 58.3**	**+1.9**
	1.9nm,0.9s,baz=205,slow=13,SNR=4.0							
MAJO	**Matsushiro**	**32.63**	**22**	*e*P		**P**	**19 40 58.3**	**+1.9**
STKA	**Stephens Creek**	**41.91**	**157**	P		**P**	**19 42 15.2**	**+0.1**
	7.4nm,0.8s,baz=333,slow=7.5,SNR=15							
STKA	**Stephens Creek**	**41.91**	**157**	*e*P		**P**	**19 42 15.3**	**+0.1**
	2.4nm,0.9s							
SONA0	**Songino Array**	**43.65**	**343**	*e*P		**P**	**19 42 30.6**	**+1.4**
SONM	**Songino Array**	**43.65**	**343**	P		**P**	**19 42 30.6**	**+1.4**
	2.4nm,1.0s,baz=154,slow=11,SNR=11							
SONM					PcP	**PcP**	**19 44 15.8**	**-0.8**
	0.7nm,0.9s,baz=160,slow=4.6,SNR=3.5							
SONM					LR	LR	20 02 35.9	
	comp=Z,59nm,18.8s,baz=158,slow=38							
SONA1	**Songino Array**	**43.66**	**343**	*e*P		**P**	**19 42 30.2**	**+0.9**
MK32	**Makanchi Array**	**53.48**	**326**	*e*P		**P**	**19 43 45.8**	**+0.9**
MKAR	**Makanchi Array**	**53.48**	**326**	P		**P**	**19 43 45.8**	**+0.9**
	0.8nm,0.7s,baz=125,slow=9.0,SNR=5.3							
ZALV	**Zalesovo Beam**	**56.67**	**334**	P		**P**	**19 44 08.0**	**+0.2**
	1.2nm,0.6s,baz=134,slow=6.1,SNR=5.3							
ZALV	**Zalesovo Beam**	**56.67**	**334**	*e*P		**P**	**19 44 07.2**	**-0.5**
ZAA1	**Zalesovo Array**	**56.67**	**334**	*e*P		**P**	**19 44 08.0**	**+0.2**
KURBB	**Kurchatov Arra**	**57.69**	**328**	P		**P**	**19 44 16.0**	**+0.9**
	2.8nm,0.8s,baz=126,slow=5.9,SNR=15							
KURK	**Kurchatov**	**57.70**	**328**	*e*P		**P**	**19 44 14.9**	**-0.2**
	6.9nm,0.9s							
BVAR	**Borovoye Array**	**63.27**	**327**	P		**P**	**19 44 53.8**	**+0.6**
	4.2nm,1.0s,baz=137,slow=5.2,SNR=9.9							
NRIK	**Noril'sk**	**66.94**	**347**	P		**P**	**19 45 16.8**	**0.0**
	5.8nm,0.7s,baz=134,slow=7.3,SNR=6.3							
AFI	**Afiamalu**	**67.22**	**108**	LR		LR	20 10 23.2	
	comp=Z,49nm,19.6s,baz=164,slow=32							
AKTO	**Aktyubinsk**	**69.53**	**322**	P		**P**	**19 45 33.8**	**+0.5**
	1.5nm,0.6s,baz=100,slow=7.3,SNR=3.8							
KLMR	**Klimovskoe**	**81.42**	**330**	*e*P		**P**	**19 46 39.4**	**-2.0**
KLMR					AMP		19 46 42.1	
	comp=Z,15nm,1.4s							
KMBO	**Kilima Mbogo**	**86.57**	**268**	P		**P**	**19 47 07.5**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=45,slow=7.8,SNR=4.4							

*IDC **18** 19:34:34.5±0.9, 36˚.18N×71˚.42E, h0km, mb4.0/11, mb1 4.2/17, mb1mx3.9/53, mbtmp4.1/17, ML4.6/4, MS3.0/3, Ms1 3.0/3, ms1mx2.5/54, Error ellipse: s-maj=18.4km s-min=15.7km az=135.0*
*ISCJB **18** 19:34:46.3±0.3, 36˚.48N±0˚.02×71˚.72E±0˚.04, h114km, mb3.9/21, Error ellipse: s-maj=5.2km s-min=2.8km az=157.6*
*MOS **18** 19:34:46.4±1.7, 36˚.55N×71˚.52E, h102km, mb4.2/14, Error ellipse: s-maj=11.8km s-min=7.1km az=94.1*
*BJI **18** 19:34:46.3, 36˚.56N×71˚.52E, h88km, mb3.9/6, mB4.4/2*
*NNC **18** 19:34:47.8±1.7, 36˚.69N×70˚.98E, h112km±21km, mb3.7, mpv4.4, Error ellipse: s-maj=17.1km s-min=10.3km az=158.0*

ISC 18 19:34:47.8±0.5, 36˚.48N±0˚.04×71˚.64E±0˚.05, h114km, n88, σ2°20/102, mb4.0/21, 10C-14D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.66**	**175**	P		**Pn**	**19 35 30.2**	**+0.5**
CEP				S		**Sn**	**19 36 04.0**	**+2.2**
CHCP	**Chirah Chowk**	**3.12**	**154**	P		**Pn**	**19 35 37.4**	**+1.9**
THW	**Thamme Wali**	**3.68**	**179**	P		**Pn**	**19 35 43.0**	**0.0**
THW				S		**Sn**	**19 36 25.0**	**-0.7**
SFK	**Sufi-Kurgan**	**3.82**	**22**	⇓P		**Pn**	**19 35 45.8**	**+0.9**
	12nm,0.4s							
KSH	**Kashi**	**4.57**	**47**	P		**Pn**	**19 35 52.3**	**-2.7**
KSH				S		**Sn**	**19 36 39.1**	**-8.0**
KSH				smax	smax			
	comp=N,440nm,0.5s							
KSH				smax	smax			
	comp=E,380nm,0.4s							
SARP	**Sargodha**	**4.63**	**169**	P		**Pn**	**19 35 55.4**	**-0.3**
DHRM	**DHARAMSHALA**	**5.71**	**136**	*e*P		**Pn**	**19 36 11.2**	**+0.7**
DHRM				*e*S		**Sn**	**19 37 15.8**	**+0.8**
DHRM				IAML			19 37 18.5	
	comp=E,439nm,0.3s							
DHRM				IAML			19 37 18.5	
	comp=N,373nm,0.4s							
AML	**Almayashu**	**5.86**	**15**	P		**Pn**	**19 36 12.3**	**-0.3**
	SNR=68							
MNAS	**Manas**	**6.03**	**6**	⇓P		**Pn**	**19 36 13.4**	**-1.4**
	comp=N,32nm,0.5s							
UCH	**Uchtor**	**6.15**	**20**	P		**Pn**	**19 36 17.0**	**+0.3**
	SNR=19							
EKS2	**Erkin-Say**	**6.39**	**14**	P		**Pn**	**19 36 19.8**	**+0.3**
	SNR=63							
AAK	**Ala-Archa**	**6.53**	**19**	Pn		**Pn**	**19 36 21.9**	**+0.5**
	comp=N,17nm,0.3s,baz=171,slow=5.8,SNR=312							
AAK					Sn	**Sn**	**19 37 33.9**	**-0.6**
	comp=N,1.3nm,0.3s,baz=309,slow=16,SNR=5.5							
AAK	**Ala-Archa**	**6.53**	**19**	⇓P		**Pn**	**19 36 21.4**	**-0.1**
	comp=N,26nm,0.4s							
AAK					⇓S	**Sn**	**19 37 33.5**	**-1.0**
	comp=N,27nm,0.8s							
AAK	**Ala-Archa**	**6.53**	**19**	P		**Pn**	**19 36 21.1**	**-

	comp=Z,3.0nm,0.6s							
GTK	**Tadong**	**17.03**	**118**	*e*P		**P**	**19 38 40.8**	**+1.6**
AKTO	**Aktyubinsk**	**17.06**	**329**	P		**P**	**19 38 36.0**	**-3.1**
	comp=Z,3.1nm,0.3s,baz=147,slow=11,SNR=53							
AKTO	**Aktyubinsk**	**17.06**	**329**	⇓P		**P**	**19 38 36.9**	**-2.2**
	comp=Z,8.0nm,0.5s							
DGZ	**Jazzator, Alta**	**17.49**	**36**	⇓*e*P		**Pn**	**19 38 45.0**	**+0.5**
TAWA	**Tawang**	**19.27**	**112**	*e*P		**Pn**	**19 39 06.3**	**+0.2**
ZAA0	**Zalesovo Array**	**19.72**	**24**	⇓P		**P**	**19 39 08.0**	**-0.1**
	comp=Z,2.6nm,0.6s							
ZALV	**Zalesovo Beam**	**19.72**	**24**	P		**P**	**19 39 08.8**	**+0.7**
	comp=Z,3.1nm,0.3s,baz=213,slow=10,SNR=20							
TEZP	**TEZPUR**	**20.50**	**113**	*e*P		Pn	19 39 19.6	-0.4
GNI	**Garni**	**21.39**	**288**	P		**P**	**19 39 27.1**	**+0.7**
	comp=Z,6.0nm,0.6s,baz=193,slow=0.9,SNR=5.9							
GNI	**Garni**	**21.39**	**288**	*d* iP		**P**	**19 39 28.1**	**+1.6**
GNI				pmax	pmax			
	comp=Z,19nm,0.7s							
SVE	**Sverdlovsk**	**21.65**	**343**	*e*P		**P**	**19 39 26.2**	**-2.7**
ARU	**Arti**	**21.82**	**340**	P		**P**	**19 39 29.6**	**-1.0**
ARU				LR	LR		19 48 06.4	
	comp=Z,37nm,18.6s,baz=158,slow=37							
ARU	**Arti**	**21.82**	**340**	*c* iP		**P**	**19 39 30.5**	**-0.1**
ARU							19 39 53.8	
ARU				S		**S**	**19 43 25.4**	**+0.8**
ARU				SS		**SnSn**	**19 44 04.9**	**+3.8**
ARU				pmax	pmax			
	comp=Z,12nm,2.5s							
GTA	**Gaotai**	**22.37**	**74**	*e*P		**P**	**19 39 41.8**	**+5.1**
GTA				pmax	pmax			
	comp=Z,4.0nm,0.8s							
NCK	**Nalchik**	**22.53**	**297**	⇓*e*P		**P**	**19 39 38.3**	**+0.1**
NCK				pmax	pmax			
	comp=Z,4.0nm,0.4s							
KBZ	**Khabaz**	**23.07**	**297**	P		**P**	**19 39 41.0**	**-2.3**
	comp=Z,1.7nm,0.7s,baz=106,slow=7.4,SNR=4.8							
SAIH	**SAIHA**	**23.16**	**121**	*e*P		**P**	**19 39 46.1**	**+1.6**
KVAR	**Kislovodsk Arr**	**23.25**	**298**	LR		LR	19 50 50.7	
	comp=Z,54nm,19.0s,baz=78,slow=42							
KIV	**Kislovodsk**	**23.25**	**298**	*e*P		**P**	**19 39 46.5**	**+1.3**
KIV				*e*S		**S**	**19 43 50.4**	**+1.8**
KIV				pmax	pmax			
	comp=Z,6.0nm,1.0s							
KNGR	**Kungurtug, Tuv**	**23.32**	**45**	⇑*e*P		**P**	**19 39 49.2**	**+3.5**
ANN	**Anapa**	**27.10**	**299**	*e*P		**P**	**19 40 19.1**	**-0.6**
ANN				*e**PP		**pP**	**19 40 43.5**	**-1.0**
ANN				*e*S		**S**	**19 44 49.1**	**-0.3**
ANN				pmax	pmax			
	comp=Z,15nm,0.9s							
SONM	**Songino Array**	**27.92**	**55**	P		**P**	**19 40 28.4**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=266,slow=8.9,SNR=4.7							
BRTR	**Keskin Array B**	**29.93**	**288**	P		**P**	**19 40 44.9**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=105,slow=11,SNR=3.1							
OBN	**Obninsk**	**30.29**	**319**	⇑*e*P		**P**	**19 40 49.9**	**+2.0**
OBN				*e**PP		**pP**	**19 41 17.2**	**+4.3**
OBN				*i*			19 41 52.6	
OBN				pmax	pmax			
	comp=Z,4.0nm,0.8s							
AKASG	**Malin Array Be**	**33.36**	**309**	P		**P**	**19 41 15.1**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=79,slow=7.2,SNR=8.1							
KIEV	**Kiev**	**33.37**	**309**	⇓*i* P		**P**	**19 41 16.3**	**+1.3**
KIEV				pmax	pmax			
	comp=Z,3.0nm,0.7s							
FINES	**FINESS Array B**	**37.79**	**326**	P		**P**	**19 41 53.5**	**+0.9**
	comp=Z,3.4nm,0.4s,baz=116,slow=8.7,SNR=36							
ARCES	**ARCESS Array B**	**41.36**	**337**	P		**P**	**19 42 23.4**	**+1.3**
	comp=Z,1.3nm,0.4s,baz=119,slow=8.3,SNR=26							
BRG	**Berggiesshubel**	**43.04**	**308**	*e*(P)		**P**	**19 42 38.3**	**+2.3**
	comp=Z,7.0nm,1.2s							
BRG	**Berggiesshubel**	**43.04**	**308**	*e*P		**P**	**19 42 38.3**	**+2.3**
BRG				pmax	pmax			
	comp=Z,3.0nm,1.3s							
NB2	**NORSAR Subarra**	**44.70**	**323**	P		**P**	**19 42 49.5**	**+0.3**
	comp=Z,3.7nm,0.4s,baz=96,slow=8.6							
NOA	**NORSAR Array B**	**44.70**	**323**	P		**P**	**19 42 49.5**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=100,slow=7.8,SNR=27							
TIXI	**Tiksi**	**45.60**	**22**	⇑*e*P		**P**	**19 42 57.3**	**+1.3**
TIXI				pmax	pmax			
	comp=Z,3.0nm,1.0s							
TORD	**Torodi Ar. Bea**	**66.23**	**269**	P		**P**	**19 45 21.7**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=56,slow=5.8,SNR=20							
BOSA	**Boshof**	**78.07**	**221**	P		**P**	**19 46 34.5**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=56,slow=3.6,SNR=3.7							
WRA	**Warramunga Arr**	**81.54**	**122**	P		**P**	**19 46 54.7**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=326,slow=5.0,SNR=16							
WRA	**Warramunga Arr**	**81.54**	**122**	*i* P		**P**	**19 46 54.0**	**+1.1**
WRAB	**Tennant Creek**	**81.54**	**122**	⇑*i*P		**P**	**19 46 55.2**	**+2.3**
WRAB				pmax	pmax			
	comp=Z,11nm,2.4s							

IDC 18 19:41:49.2±1.5, 7.72N×92.08E, h0km, mb3.2/3, mb1 3.5/5, mb1mx3.3/51, mbtmp3.4/5, ML3.6/2, MS3.1/2, Ms1 3.1/2, ms1mx2.7/21, Error ellipse: s-maj=40.5km s-min=26.1km az=52.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.29**	**268**	Pn	Pn	19 44 32.6	+0.6
	0.6nm,0.3s,baz=115,slow=11,SNR=15						
PALK				Sn	Sn	19 46 24.0	-15
	0.4nm,0.3s,baz=115,slow=19,SNR=6.0						
CMAR	**Chiang Mai Arr**	**12.59**	**31**	Pn	Pn	19 44 50.5	+0.9
	0.1nm,0.3s,baz=228,slow=13,SNR=3.8						
H08S3	**Diego Garcia H**	**24.78**	**232**	T	T	20 13 21.2	
	baz=52,slow=75,SNR=22						
H08S2	**Diego Garcia H**	**24.79**	**232**	T	T	20 13 21.3	
	baz=52,slow=75,SNR=295						
H08S1	**Diego Garcia H**	**24.80**	**232**	T	T	20 13 19.0	
	baz=52,slow=75,SNR=67						
MKAR	**Makanchi Array**	**39.83**	**349**	P	P	19 49 23.8	-0.5
	0.3nm,0.7s,baz=168,slow=8.9,SNR=3.2						
MKAR				LR	LR	20 07 24.9	
	comp=Z,20nm,21.4s,baz=72,slow=39						
GEYT	**Alibeck**	**42.98**	**320**	LR	LR	20 09 15.4	
	comp=Z,26nm,18.5s,baz=85,slow=38						
WRA	**Warramunga Arr**	**49.85**	**124**	P	P	19 50 44.4	-0.2
	0.3nm,0.7s,baz=300,slow=9.5,SNR=5.4						
ASAR	**Alice Springs**	**51.40**	**129**	P	P	19 50 56.2	0.0
	0.1nm,0.3s,baz=299,slow=7.8,SNR=4.7						

*NEIC **18** 19:43:22.8±0.0, 13°.90N×92°.45W, h14km, MD4.0(MEX), After MEX.*

MEX 18 19:43:22.7±0.4, 13°.90N×92°.45W, h14km±81km, MD4.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.01**	**10**	*e*P	Pb	19 43 38.8	-3.3
THIG				*e*S	Sb	19 43 51.5	-3.9
THIG		**1.01**	**10**	*e*P	Pb	19 43 38.8	-3.3
THIG				*e*S	Sb	19 43 51.5	-3.9
PCIG		**1.94**	**338**	*e*P	Pn	19 43 51.8	-3.5
PCIG				*e*S	Sn	19 44 14.8	-4.7
PCIG		**1.94**	**338**	*e*P	Pn	19 43 51.8	-3.5
PCIG				*e*S	Sn	19 44 14.8	-4.7
CCIG	**Comitan**	**2.38**	**7**	*e*P	Pn	19 44 02.0	+0.4
CCIG				*e*S	Sn	19 44 26.7	-4.1
CCIG	**Comitan**	**2.38**	**7**	*e*P	Pn	19 43 59.0	-2.6
CCIG				*e*S	Sn	19 44 26.7	-4.1
TGIG		**2.93**	**347**	*e*P	Pn	19 44 06.8	-2.2
TGIG				*e*S	Sn	19 44 40.8	-3.3
TGIG		**2.93**	**347**	*e*P	Pn	19 44 06.8	-2.2
TGIG				*e*S	Sn	19 44 40.8	-3.3

*IDC **18** 19:48:18.5±1.0, 2°.28S×138°.98E, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.8/30, mbtmp3.8/7, ML3.8/2, MS3.4/3, Ms1 3.4/3, ms1mx2.8/35, Error ellipse: s-maj=25.2km s-min=22.6km az=49.0*

*ISCJB **18** 19:48:21.5±0.6, 2°.35S±0°.07×138°.98E±0°.05, h29km, mb3.8/5, MS3.3/2, Error ellipse: s-maj=10.1km s-min=6.6km az=25.7*

*DJA **18** 19:48:21.5±1.1, 2°S±18°×13°9E±°, h20km±5km, M4.4/5, mb4.7/4, MLv4.3/5*

ISC 18 19:48:22.8±0.8, 2°.3S±0°.1×139°.00E±0°.06, h29km, n18, σ1§21/18, mb3.9/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.40**	**312**	P	**Pb**	**19 48 30.0**	**-1.6**
SMPI				S	**Sn**	**19 48 38.1**	**-1.0**
GENI	**Genyem**	**1.21**	**106**	P	**Pn**	**19 48 44.0**	**+0.3**
JAY	**Jayapura**	**1.72**	**98**	Pn	**Pn**	**19 48 50.9**	**+0.1**
	17nm,0.3s,baz=232,slow=9.9,SNR=82						
JAY				LR	LR	19 49 51.8	
	comp=Z,537nm,21.4s,baz=155,slow=54						
JAY	**Jayapura**	**1.72**	**98**	P	**Pn**	**19 48 51.3**	**+0.5**
SRPI	**Serui, Papua**	**2.79**	**278**	P	**Pn**	**19 49 05.5**	**0.0**
SRPI				S	**Sn**	**19 49 39.4**	**+1.2**
FAKI	**Fak Fak**	**6.78**	**264**	P	**Pn**	**19 50 01.2**	**+0.8**
	47nm,0.6s,0.2nm						
SIJI	**Sorong**	**7.86**	**280**	Pn	**Pn**	**19 50 18.0**	**+2.8**
	1.1nm,0.3s,baz=40,slow=19,SNR=7.8						
PMG	**Port Moresby**	**10.78**	**132**	LR	LR	19 56 41.1	
	comp=Z,120nm,18.9s,baz=338,slow=47						
SANI	**Sanana**	**13.01**	**271**	P	**Pn**	**19 51 26.9**	**+1.1**
	16nm,0.7s						
SOEI	**Soe**	**16.43**	**242**	P	**P**	**19 52 14.6**	**+0.5**
BATI	**Baumata**	**17.16**	**242**	P	**Pn**	**19 52 19.2**	**-1.5**
	0.5nm,0.3s,baz=0.0,slow=0.0,SNR=2.1						
WRA	**Warramunga Arr**	**18.16**	**194**	P	**P**	**19 52 31.7**	**-1.4**
	0.3nm,0.3s,baz=18,slow=12,SNR=13						
ASAR	**Alice Springs**	**21.84**	**193**	P	**P**	**19 53 12.5**	**-0.7**
	0.7nm,0.6s,baz=22,slow=10.0,SNR=9.1						
ASAR				LR	LR	20 02 20.6	
	comp=Z,87nm,21.9s,baz=29,slow=39						
CMAR	**Chiang Mai Arr**	**44.47**	**299**	P	**P**	**19 56 32.8**	**+0.9**
	2.0nm,0.9s,baz=121,slow=5.9,SNR=16						
RAO	**Raoul Island**	**48.94**	**128**	LR	LR	20 14 37.2	
	comp=Z,61nm,21.3s,baz=332,slow=32						
MKAR	**Makanchi Array**	**69.61**	**322**	P	**P**	**19 59 30.1**	**+0.7**
	1.8nm,0.8s,baz=109,slow=8.4,SNR=10						
ZALV	**Zalesovo Beam**	**71.70**	**330**	P	**P**	**19 59 40.9**	**-1.1**
	0.6nm,0.5s,baz=108,slow=8.0,SNR=3.6						
ILAR	**Eielson Array**	**85.31**	**24**	P	**P**	**20 00 56.7**	**-0.1**
	0.7nm,0.8s,baz=255,slow=4.9,SNR=5.3						

*ISCJB **18** 19:48:48.8±0.4, 43°.85N±0°.03×105°.22W±0°.05, h0km, mb4.0/4, Error ellipse: s-maj=5.9km s-min=4.4km az=35.9*

*IDC **18** 19:48:49.3±1.9, 43°.75N×105°.34W, h0km, mb3.9/4, mb1 3.9/8, mb1mx3.6/46, mbtmp3.8/8, ML3.0/3, Error ellipse: s-maj=53.6km s-min=8.2km az=149.0*

*NEIC **18** 19:48:50.3±0.4, 43°.82N×105°.23W, h0km, ML3.5, Error ellipse: s-maj=6.3km s-min=5.0km az=146.0, Suspected Mining explosion.*

NEIC 57 km [35 miles] SSE of Gillette.

*ANF **18** 19:48:50.3±0.9, 43°.75N×105°.30W, ML3.7/11, Error ellipse: s-maj=12.3km s-min=4.3km az=131.0*

ISC 18 19:48:49.9±0.7, 43°.82N±0°.05×105°.27W±0°.05, h0km, n36, σ1§06/38, mb4.1/4, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.94**	**71**	*e*Pg	**Pg**	**19 49 07.9**	**0.0**
RSSD	**Black Hills**	**0.94**	**71**	P	**Pg**	**19 49 08.4**	**+0.5**
	baz=251						
K22A	**Casper**	**1.48**	**219**	P	**Pn**	**19 49 16.6**	**-1.4**
	baz=38						
K22A				S	**Sg**	**19 49 37.6**	**+0.2**
	baz=38						
LAO	**LASA Array**	**2.95**	**347**	*e*Pn	**Pn**	**19 49 38.6**	**+0.5**
LAO	**LASA Array**	**2.95**	**347**	P	**Pn**	**19 49 38.5**	**+0.5**
	baz=166						
N23A	**Red Feather La**	**2.96**	**190**	P	**Pn**	**19 49 39.0**	**+0.7**
	baz=10.0						
N23A				Sb	**Sb**	**19 50 21.4**	**+0.9**
	baz=10.0						
RLMT	**Red Lodge**	**3.14**	**296**	*e*Pn	**Pn**	**19 49 42.0**	**+1.2**
RLMT	**Red Lodge**	**3.14**	**296**	P	**Pn**	**19 49 41.8**	**+1.0**
	baz=113						
BW06	**Boulder Array**	**3.30**	**253**	*e*Pn	**Pn**	**19 49 43.9**	**+0.9**
BW06	**Boulder Array**	**3.30**	**253**	P	**Pn**	**19 49 44.4**	**+1.3**
	baz=70						
BW06				Sb	**Sb**	**19 50 31.2**	**+1.0**
	baz=70						
PDAR	**Pinedale Array**	**3.30**	**253**	Pn	**Pn**	**19 49 44.0**	**+1.0**
	6.4nm,0.3s,baz=72,slow=15,SNR=70						
PDAR				Lg	Lg	19 50 30.6	
	26nm,0.3s,baz=75,slow=35,SNR=10						
OGNE	**Ogallala**	**3.74**	**139**	*e*Pn	**Pn**	**19 49 50.2**	**+1.3**
OGNE	**Ogallala**	**3.74**	**139**	P	**Pn**	**19 49 50.2**	**+1.3**
	baz=322						
H17A	**Grant Village**	**3.86**	**280**	P	**Pn**	**19 49 52.7**	**+1.9**
	baz=97						
ISCO	**Idaho Springs**	**4.02**	**184**	*e*Pn	**Pn**	**19 49 53.2**	**+0.2**
ISCO	**Idaho Springs**	**4.02**	**184**	P	**Pn**	**19 49 53.2**	**+0.2**
	baz=3.9						
O20A	**White River Ci**	**4.29**	**212**	P	**Pn**	**19 49 57.4**	**+0.8**
	baz=30						
AHID	**Auburn Hatcher**	**4.38**	**258**	Pn	**Pn**	**19 50 00.1**	**+2.2**
DGMT	**Dagmar**	**4.71**	**9**	*e*Pn	**Pn**	**19 50 04.3**	**+2.0**
DGMT	**Dagmar**	**4.71**	**9**	P	**Pn**	**19 50 04.0**	**+1.8**
	baz=189						
BOZ	**Bozeman (W)**	**4.87**	**294**	*e*Pn	**Pn**	**19 50 04.7**	**+0.2**
HWUT	**Hardware Ranch**	**5.13**	**247**	*e*Pn	**Pn**	**19 50 08.8**	**+0.6**
	12nm,0.4s						
EGMT	**Eagleton**	**5.24**	**325**	*e*Pn	**Pn**	**19 50 10.2**	**+0.6**
	26nm,0.7s						
SDCO	**Great Sand Dun**	**6.07**	**182**	*e*Pn	**Pn**	**19 50 21.1**	**+0.1**
	2.7nm,0.6s						
ECSD	**EROS Data Cent**	**6.27**	**88**	*e*Pn	**Pn**	**19 50 24.2**	**+0.6**
	8.0nm,0.4s						
HLID	**Hailey**	**6.63**	**271**	*e*Pn	**Pn**	**19 50 29.3**	**+0.6**
	2.9nm,0.7s						
DUG	**Dugway, Tooele**	**6.68**	**240**	*e*Pn	**Pn**	**19 50 28.9**	**-0.5**
	3.3nm,0.6s						
I10CA	**LAC DU BONNET**	**8.98**	**41**	*i*		20 41 30.0	
	baz=223,slow=322,SNR=1.0						
ULM	**Lac du Bonnet**	**9.08**	**42**	Pn	**Pn**	**19 51 01.3**	**-0.8**
	1.3nm,0.3s,baz=232,slow=12,SNR=14						
ULM				Lg	Lg	19 53 30.2	
	0.7nm,0.3s,baz=135,slow=18,SNR=2.7						
WUAZ	**Wupatki**	**9.53**	**212**	Pn	**Pn**	**19 51 07.5**	**-0.9**
	5.0nm,0.6s						
NVAR	**Mina Array Bea**	**11.20**	**246**	Pn	**Pn**	**19 51 33.3**	**+1.9**
	0.2nm,0.3s,baz=49,slow=12,SNR=4.0						
YKA	**Yellowknife Ar**	**19.49**	**347**	P	**P**	**19 53 17.5**	**-0.7**
	0.1nm,0.3s,baz=152,slow=11,SNR=3.3						
ARCES	**ARCESS Array B**	**61.34**	**18**	P	**P**	**19 59 05.8**	**-1.1**
	1.1nm,0.6s,baz=1.8,slow=3.8,SNR=3.9						
ZALV	**Zalesovo Beam**	**82.23**	**354**	P	**P**	**20 01 12.1**	**-0.4**
	0.9nm,0.5s,baz=358,slow=4.3,SNR=4.6						
SONM	**Songino Array**	**84.56**	**339**	P	**P**	**20 01 25.0**	**+0.1**
	0.3nm,0.6s,baz=34,slow=5.4,SNR=3.3						
MKAR	**Makanchi Array**	**89.53**	**355**	P	**P**	**20 01 48.7**	**-0.2**
	0.7nm,0.7s,baz=0.0,slow=5.3,SNR=4.0						

*MAN **18** 20:01:22.6, 5°.82N×125°.90E, h135km, mb5.8, ML4.8, MS5.2*

*KLM **18** 20:01:24.0, 6°.14N×126°.10E, h106km, mb5.2*

*IDC **18** 20:01:25.0±0.6, 5°.95N×125°.71E, h116km±4km, mb4.7/39, mb1 4.8/41, mb1mx4.7/46, mbtmp5.1/41, MS3.4/14, Ms1 3.5/14, ms1mx3.2/35, Error ellipse: s-maj=11.4km s-min=6.7km az=76.0*

*GCMT **18** 20:01:25.5±0.2, 5°.94N±0°.02×126°.04E±0°.02, h112km±3km, MW4.9/84, Moment Tensor Solution. s25,c29; s84,c121; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.29±.09; Mθθ0.46±.10; Mϕϕ-2.75±.12; Mrθ-0.98±.07; Mθϕ0.10±.11; Mϕr1.60±.09; Best double couple: M◻3.16400×10^16 NP1:φs340.00000°, δ64.00000°, λ71.00000°. NP2: φs198.00000°, δ32.00000°, λ124.00000°. Principal axes: T 3.0740, Plg66.0000°, Azm216.0000°; N 0.1820, Plg17.0000°, Azm349.0000°; P -3.2530, Plg17.0000°, Azm84.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **18** 20:01:25.7±0.3, 6°N±2°×12°6E±°, h115km±2km, M5.1/108, mb5.4/108, mB5.5/72, MLv5.9/10, Mw(mB)5.0/72*

*ISCJB **18** 20:01:25.0±0.2, 6°.00N±0°.01×125°.89E±0°.02, h129km±2km, mb5.0/190, Error ellipse: s-maj=3.4km s-min=2.3km az=168.5*

*MOS **18** 20:01:26.2±1.2, 5°.97N×125°.73E, h143km, mb4.9/64, Error ellipse: s-maj=8.7km s-min=4.8km az=112.4*

*NEIC **18** 20:01:26.5±0.6, 5°.98N×125°.81E, h128km±6km, mb5.1/89, Error ellipse: s-maj=5.2km s-min=3.7km az=76.0*

NEIC Felt [II PIVS] at General Santos. Also felt at Davao.

ISC 18 20:01:25.8±0.4, 5°.97N±0°.03×125°.87E±0°.04, h125km±3km, n521, σ1§63/571, mb5.0/189, 31C-33D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.92**	**277**	⇓*i*P	**Pn**	**20 01 46.5**	**-1.1**
GSPH				*i* S	**Sn**	**20 02 02.0**	**-2.1**
MATI	**Mati**	**1.05**	**22**	*e*P	**Pn**	**20 01 47.5**	**-1.3**
MATI				*e*S	**Sn**	**20 02 04.0**	**-2.2**
DAV	**Davao City (W)**	**1.13**	**345**	P	**Pn**	**20 01 49.2**	**-0.4**
	907nm,0.3s,baz=246,slow=2.8,SNR=73						
DAV				S	**Sn**	**20 02 04.9**	**-2.8**
	4µm,0.3s,baz=196,slow=19,SNR=45						
DAV				LR	LR	20 02 19.9	
	comp=Z,2µm,18.8s,baz=162,slow=49						
DAV	**Davao City (W)**	**1.13**	**345**	*e*Pn	**Pn**	**20 01 49.2**	**-0.4**
DAV				*e*Sn	**Sn**	**20 02 05.2**	**-2.5**
SKMP	**Bagumbayan, Su**	**1.42**	**293**	*e*P	**Pn**	**20 01 51.4**	**-1.3**
SKMP				*e*S	**Sn**	**20 02 14.0**	**+0.8**
CTBH	**Cotabato--PC H**	**2.03**	**308**	⇓*e*P	**Pn**	**20 01 59.2**	**-0.8**
CTBH				*i* S	**Sn**	**20 02 22.8**	**-3.3**
BUKP	**Musuan**	**2.06**	**337**	*e*P	**Pn**	**20 02 00.5**	**+0.1**
BUKP				*e*S	**Sn**	**20 02 28.9**	**+2.2**
BIPH	**Bislig**	**2.26**	**13**	⇑*e*P	Pn	20 02 09.2	+6.5
BIPH				*e*S	**Sn**	**20 02 33.9**	**+2.8**
SGSI	**Sangihe**	**2.29**	**188**	P	**Pn**	**20 02 03.5**	**+0.3**
SGSI				S	**Sn**	**20 02 32.6**	**+0.7**
CGP	**Cagayan de Oro**	**2.73**	**335**	⇓*e*P	**Pn**	**20 02 09.3**	**+0.5**
PAGZ	**Pagadian**	**3.09**	**307**	*e*P	**Pn**	**20 02 12.2**	**-1.3**
DCPH	**Dipolog City**	**3.60**	**316**	⇓*e*P	**Pn**	**20 02 23.4**	**+3.3**
IPIL	**Ipil**	**3.74**	**299**	*e*P	**Pn**	**20 02 22.2**	**+0.2**
SCPH	**Surigao**	**3.81**	**354**	⇑*e*P	**Pn**	**20 02 22.7**	**-0.3**
ZCP	**Zamboanga City**	**3.89**	**284**	⇓*i* P	**Pn**	**20 02 24.0**	**+0.1**
ZCP				*i* S	**Sn**	**20 03 15.6**	**+6.6**
TBP	**Tagbilaran**	**4.20**	**332**	*e*P	**Pn**	**20 02 28.2**	**+0.1**
SNPH	**Sibulan**	**4.25**	**322**	*e*P	**Pn**	**20 02 30.5**	**+1.7**
MSLP	**Maasin**	**4.26**	**347**	*e*P	**Pn**	**20 02 28.1**	**-0.9**
MSLP				*e*S	**Sn**	**20 03 23.0**	**+5.1**
LLP	**Lapu-Lapu**	**4.71**	**337**	⇓*e*P	**Pn**	**20 02 35.8**	**+0.7**
LLP				*e*S	**Sn**	**20 03 32.7**	**+3.9**
OCLP	**Ormoc**	**5.20**	**346**	*e*P	**Pn**	**20 02 42.2**	**+0.6**
PLP	**Palo**	**5.24**	**350**	⇓*e*P	**Pn**	**20 02 42.3**	**+0.3**
TNTI	**Ternate**	**5.37**	**164**	*e*Pn	**Pn**	**20 02 43.0**	**-0.9**
TNTI	**Ternate**	**5.37**	**164**	P	**Pn**	**20 02 43.0**	**-0.9**
	532nm,0.5s,10µm4.5nm						
TNTI				S	**Sn**	**20 03 42.2**	**-2.6**
	532nm,0.5s,10µm4.5nm						
KMSI	**Cibinong**	**5.68**	**199**	P	**Pn**	**20 02 49.1**	**+1.1**
	2µm,0.7s,20µm13nm						
JAP	**San Jose, Anti**	**6.13**	**321**	⇓*e*P	**Pn**	**20 02 56.5**	**+2.4**
RCP	**Roxas**	**6.36**	**331**	⇓*e*P	**Pn**	**20 02 58.7**	**+1.6**
MRSI	**Marisa**	**6.71**	**216**	P	**Pn**	**20 03 03.5**	**+1.5**
	2µm,0.7s,20µm6.8nm						
LBMI	**Labuha**	**6.76**	**166**	P	**Pn**	**20 03 02.6**	**0.0**
	318nm,0.5s,9µm5.6nm						
CUYO	**Cuyo Island**	**6.82**	**316**	*e*P	**Pn**	**20 03 03.6**	**+0.2**
LUWI	**Luwuk**	**7.62**	**204**	*e*Pn	**Pn**	**20 03 16.9**	**+2.7**
LUWI	**Luwuk**	**7.62**	**204**	P	**Pn**	**20 03 16.9**	**+2.7**
	882nm,1.0s,12µm6.5nm						
SANI	**Sanana**	**7.96**	**179**	P	**Pn**	**20 03 14.8**	**-4.1**
	388nm,0.7s,14µm2.5nm						
SJMP	**San Jose**	**7.97**	**324**	*e*P	**Pn**	**20 03 20.6**	**+1.7**
APSI	**Ampana**	**8.03**	**212**	P	**Pn**	**20 03 23.4**	**+3.7**
	592nm,0.6s,8µm						
MPSI	**Mapaga**	**8.17**	**227**	P	**Pn**	**20 03 20.7**	**-0.9**
	76nm,0.5s,3µm						
BUSP	**Coron**	**8.20**	**317**	*e*P	**Pn**	**20 03 20.3**	**-1.7**
ENPP	**El Nido**	**8.22**	**310**	*e*P	**Pn**	**20 03 21.7**	**-0.6**
BATP	**Bataraza**	**8.48**	**290**	*e*P	Pn	20 03 20.1	-5.7
PALU	**Palau**	**8.66**	**80**	P	**Pn**	**20 03 25.4**	**-2.8**
	baz=8.6,SNR=25						
SWI	**Sorong**	**8.66**	**141**	P	**Pn**	**20 03 27.4**	**-0.9**
	151nm,0.8s,2µm						
SIJI	**Sorong**	**8.67**	**141**	P	**Pn**	**20 03 26.9**	**-1.5**
	34nm,0.3s,baz=328,slow=9.6,SNR=92						
SIJI				S	**Sn**	**20 04 59.8**	**-4.8**
	14nm,0.3s,baz=178,slow=20,SNR=9.4						
KDM	**Kudat**	**9.03**	**276**	P	**Pn**	**20 03 34.0**	**+0.8**
NLAI	**Namlea**	**9.23**	**172**	P	**Pn**	**20 03 33.4**	**-2.5**
	317nm,0.5s,21µm						
KKM	**Kota Kinabalu**	**9.60**	**271**	*e*Pn	**Pn**	**20 03 43.5**	**+2.5**
KKM	**Kota Kinabalu**	**9.60**	**271**	P	**Pn**	**20 03 42.0**	**+1.0**
MSAI	**Masohi**	**9.74**	**162**	P	**Pn**	**20 03 44.2**	**+1.4**
	33nm,0.6s,520nm						
AAI	**Ambon**	**9.87**	**166**	P	**Pn**	**20 03 43.3**	**-1.2**
	189nm,0.7s,4µm						
SGKI	**Sangatta, Kali**	**

TBJI **Tambak Boyo** 18.89 228 P P 20 05 36.4 -0.4
MTN **Manton Dam** 19.41 164 P P 20 05 42.7 +0.4
baz=20,SNR=117
MTN **Manton Dam** 19.41 164 eP P 20 05 43.0 +0.7
129nm,0.6s
NGJI **Ngawi** 19.55 228 P Pn 20 05 45.5 -0.9
KDU **Kakadu** 19.66 161 P P 20 05 45.6 +0.5
baz=20,SNR=318
PWJI **Pagerwojo** 19.74 225 P Pn 20 05 49.1 +0.4
111nm,0.8s
SMRI **Semarang** 20.10 230 P Pn 20 05 53.8 +0.9
202nm,1.0s
GUMO **Guam** 20.19 67 P P 20 05 50.9 +0.1
90nm,0.8s,baz=223,slow=6.4,SNR=4.3
GUMO LR LR 20 12 34.2
comp=Z,127nm,21.7s,baz=245,slow=33
WOJI **Wonogiri, Jawa** 20.25 228 P P 20 05 52.4 +0.9
QIZ **Qiongzhong** 20.30 311 P P 20 05 53.6 +1.6
QIZ sP **sP** 20 06 30.8 +0.2
QIZ S S 20 09 36.3 +3.4
QIZ pmax pmax
comp=Z,27nm,0.7s
PCJI **Pacitan** 20.31 226 P Pn 20 05 53.8 -1.5
UGM **Wanagama** 20.60 228 eP Pn 20 05 57.7 -1.1
102nm,0.7s
UGM **Wanagama** 20.60 228 P Pn 20 06 05.3 +6.6
JOW **Kunigami** 20.88 6 P P 20 05 58.8 +0.7
52nm,0.7s,baz=205,slow=8.2,SNR=13
JOW LR LR 20 12 41.2
comp=Z,113nm,19.9s,baz=88,slow=32
JOW **Kunigami** 20.88 6 eP P 20 05 59.8 +1.7
85nm,1.0s
PPBI **Pangkal Pinang** 21.29 248 P P 20 06 03.5 +0.8
KPJI **Karang Pucung** 21.45 232 P P 20 06 07.0 +2.7
155nm,0.8s,2µm
JCJI **Jatiwangi** 21.48 235 P P 20 06 04.4 -0.3
KNRA **Kununurra** 21.70 172 P P 20 06 06.9 0.0
baz=22,SNR=115
TPRI **Tanjung Pinang** 21.88 258 P P 20 06 10.8 +1.9
138nm,1.0s
CMJI **Cimerak** 22.10 232 P P 20 06 14.3 +3.1
83nm,0.7s
LEM **Lembang** 22.21 235 P P 20 06 14.1 +1.7
202nm,0.6s,baz=15,slow=9.9,SNR=66
LEM **Lembang** 22.21 235 P P 20 06 13.6 +1.2
MYKOM **Kota Tinggi** 22.35 260 eP P 20 06 14.8 +1.1
34nm,0.6s
MYKOM **Kota Tinggi** 22.35 260 P P 20 06 16.0 +2.3
CISI **Cisompet, Garu** 22.47 234 eP P 20 06 14.3 -0.6
195nm,1.1s
CISI **Cisompet, Garu** 22.47 234 P P 20 06 15.7 +0.8
147nm,0.7s,2µm
CBJI **Citeko** 22.62 237 P P 20 06 19.2 +2.9
403nm,0.8s,4µm
PMBI **Palembang** 22.84 248 P P 20 06 22.2 +3.7
422nm,1.0s
SBJI **Serang** 23.07 239 P P 20 06 23.0 +2.3
564nm,0.9s,4µm
SKJI **Sukabumi** 23.18 236 P P 20 06 25.5 +3.8
153nm,0.5s
BLSI **Bandar Lampung** 23.46 242 P P 20 06 26.6 +2.3
286nm,0.5s
KLI **Kotabumi** 23.57 243 P P 20 06 27.2 +1.9
288nm,0.8s,3µm
CGJI **Cibinong** 23.70 238 P P 20 06 27.5 +1.1
248nm,0.7s,2µm
FITZ **Fitzroy Crossi** 23.91 181 P P 20 06 28.7 +0.5
baz=24,SNR=398
FITZ **Fitzroy Crossi** 23.91 181 eP P 20 06 28.8 +0.6
65nm,0.6s
MDSI **Maura Dua** 24.02 245 P P 20 06 30.9 +1.6
76nm,1.1s,855nm
SKNT **Sakolnakorn** 24.04 299 P P 20 06 30.3 +0.8
15nm,0.8s
KASI **Kota Agung** 24.20 242 P P 20 06 33.7 +2.8
453nm,0.9s,3µm
LWLI **Liwa** 24.35 244 P P 20 06 34.6 +2.1
139nm,0.8s,5µm
SRAK **Srakaew** 24.77 291 P P 20 06 32.3 -3.8
89nm,0.6s,882nm
IPM **Ipoh** 24.78 268 eP P 20 06 37.0 +0.7
38nm,0.7s
KULM **Kulim** 25.10 270 eP P 20 06 39.5 +0.3
36nm,1.0s
KULM **Kulim** 25.10 270 P P 20 06 40.0 +0.8
SKLT **Songkhla** 25.11 274 P P 20 06 40.8 +1.6
110nm,0.8s,1µm
NONG **Nongkai** 25.23 300 P P 20 06 42.9 +2.7
0.4nm,0.8s
MASI **Maura Aman, Be** 25.27 250 P P 20 06 43.9 +3.2
194nm,0.7s
SDSI **Sungai Dareh** 25.34 255 P P 20 06 42.5 +1.1
141nm,0.9s,2µm
BKNI **Bangkinang** 25.40 258 P P 20 06 43.1 +1.2
247nm,0.8s,2µm
PATY **Pattaya** 25.59 287 P P 20 06 45.9 +2.3
7.9nm,0.7s
KRJI **Kerinci** 25.65 253 P P 20 06 45.9 +1.6
105nm,0.8s
TRTT **Trang** 26.05 276 P P 20 06 49.3 +1.6
11nm,1.0s,199nm
CBIJ **Chichi jima** 26.13 35 eP P 20 06 45.7 -2.6
115nm,0.6s
PMG **Port Moresby** 26.14 126 P P 20 06 48.5 -0.1
98nm,0.7s,baz=339,slow=5.1,SNR=47
COEN **Coen** 26.21 139 P P 20 06 49.5 +0.3
baz=26,SNR=120
COEN **Coen** 26.21 139 eP P 20 06 49.5 +0.3
104nm,0.8s
PDSI **Padang** 26.27 256 P P 20 06 49.6 -0.2
101nm,0.5s,1µm
PBKT **Sadao Pong** 26.56 295 eP P 20 06 53.0 +0.7
19nm,0.7s
PBKT **Sadao Pong** 26.56 295 P P 20 06 53.2 +1.0
27nm,0.6s,862nm
KRAB **Krabi** 26.56 276 P P 20 06 53.8 +1.5
30nm,0.7s,467nm
MNSI **Mandailing Nat** 26.73 260 P P 20 06 53.8 -0.1
58nm,0.7s,546nm
NJ2 **Nanjing** 26.77 347 eP P 20 06 54.5 +0.6
NJ2 pmax pmax
comp=Z,16nm,0.5s
PHET **Kaeng Krachan** 26.77 287 P P 20 06 55.8 +1.6
16nm,0.7s,136nm
PSI **Prapat** 27.04 264 P P 20 06 57.3 +0.5
23nm,0.6s,baz=1.9,slow=0.6,SNR=21
PSI PcP PcP 20 10 14.1 -1.1
5.7nm,0.5s,baz=178,slow=1.3,SNR=4.0
PSI **Prapat** 27.04 264 eP P 20 06 57.5 +0.6
36nm,0.8s
PSI PcP PcP 20 10 14.1 -1.1
WRAB **Tennant Creek** 27.06 162 eP P 20 06 56.6 -0.1
54nm,0.5s
WRAB **Tennant Creek** 27.06 162 *c i*P P 20 06 56.3 -0.4
WRAB pmax pmax
comp=Z,26nm,0.6s
WRA **Warramunga Arr** 27.06 162 P P 20 06 56.1 -0.6
comp=Z,17nm,0.3s,baz=334,slow=11,SNR=569
WRA PcP PcP 20 10 15.3 +0.4
comp=Z,9.6nm,0.6s,baz=342,slow=2.9,SNR=6.3
WRA S S 20 11 23.3 -2.4
comp=Z,12nm,1.3s,baz=328,slow=15,SNR=9.6
WRA P3KPbc 20 39 29.4
comp=Z,0.3nm,0.6s,baz=169,slow=3.8,SNR=4.7
WB2 **Warramunga Arr** 27.07 162 eP P 20 06 56.6 -0.2
PKDT **Phuket** 27.39 276 P P 20 07 01.0 +1.2
comp=Z,22nm,0.8s,comp=Z,323nm
GYA **Guiyang** 27.40 320 eP P 20 07 01.4 +1.5
GYA pmax pmax
comp=Z,10.0nm,1.0s
JNU **Nakatsue** 27.42 9 P P 20 07 00.2 +0.4
comp=Z,25nm,0.8s,baz=184,slow=7.9,SNR=15
JNU **Nakatsue** 27.42 9 eP P 20 06 58.8 -1.0
comp=Z,25nm,0.8s
SRDT **SRDT** 27.59 290 P P 20 07 03.2 +1.7
comp=Z,24nm,0.8s,comp=Z,530nm
UTHA **Uthaitani** 27.62 292 P P 20 07 03.4 +1.6
comp=Z,6.6nm,0.8s,comp=Z,66nm
MBWA **Marble Bar** 27.62 192 eP P 20 07 00.7 -1.0
comp=Z,48nm,0.7s
NANT **Nan** 27.64 300 P P 20 07 03.5 +1.6
comp=Z,3.9nm,0.8s
KCSI **Kotacane, Aceh** 28.10 266 P P 20 07 05.8 -0.3
comp=Z,73nm,0.8s,comp=Z,614nm
RABL **Rabaul** 28.13 110 eP P 20 07 07.7 +1.3
comp=Z,174nm,1.1s
PBSI **Pulau Batu** 28.18 259 P P 20 07 11.1 +4.3
comp=Z,73nm,0.5s
PAYA **Payao** 28.58 300 P P 20 07 12.5 +2.1
comp=Z,4.6nm,0.8s,comp=Z,61nm
GSI **Gunungsitoli** 28.60 262 eP P 20 07 10.1 -0.5
comp=Z,267nm,0.6s
GSI **Gunungsitoli** 28.60 262 P P 20 07 10.0 -0.5
comp=Z,352nm,0.7s,comp=Z,3µm
ENH **Enshi** 28.67 329 eP P 20 07 10.6 -0.5
comp=Z,22nm,1.0s
TPTI 28.71 266 P P 20 07 11.3 -0.3
comp=Z,11nm,0.5s
CMAR **Chiang Mai Arr** 29.04 298 P P 20 07 14.3 -0.1
comp=Z,3.8nm,0.8s,baz=121,slow=7.5,SNR=17
CMAR PcP PcP 20 10 20.4 +0.5
comp=Z,1.9nm,0.5s,baz=111,slow=1.2,SNR=11
CMAR ScP ScP 20 13 50.8 +0.7
comp=Z,2.6nm,0.7s,baz=132,slow=1.7,SNR=11
CMAR LR LR 20 21 10.9
comp=Z,86nm,18.6s,baz=102,slow=41
CMMT **Chiang Mai** 29.17 298 P P 20 07 17.6 +2.1
comp=Z,10nm,0.9s
CHTO **Chiang Mai** 29.17 298 eP P 20 07 16.0 +0.5
comp=Z,15nm,1.4s
CHTO **Chiang Mai** 29.17 298 eP P 20 07 16.0 +0.5
CHTO pmax pmax
comp=Z,15nm,1.4s
CHTO **Chiang Mai** 29.17 298 P P 20 07 17.7 +2.1
comp=Z,46nm,1.0s
KMI **Kunming** 29.21 313 P P 20 07 19.8 +3.7
KMI pP pP 20 07 46.9 +3.6
KMI sP sP 20 08 02.1 +4.4
KMI pmax pmax
comp=Z,11nm,0.5s
KMI pmax pmax
comp=Z,120nm,4.9s
KMI LR LR
comp=Z,140nm,6.5s
KMI LR LR
comp=Z,210nm,5.4s
KMI LR LR
comp=Z,120nm,5.9s
MLSI **Meulaboh, Aceh** 29.39 268 P P 20 07 17.5 -0.1
comp=Z,148nm,0.7s
QIS **Mount Isa** 29.62 153 P P 20 07 19.9 +0.5
baz=30,SNR=41
SNSI **Sinabang, Aceh** 29.67 264 P P 20 07 21.0 +1.0
comp=Z,91nm,0.8s
MTSU **Mount Surprise** 30.09 143 P P 20 07 24.7 +1.1
baz=30,SNR=43
TJN **Taejon** 30.30 2⇓ eP P 20 07 25.7 +0.5
AS31 **Alice Springs** 30.48 165 eP P 20 07 27.2 +0.1
comp=Z,34nm,0.3s
ASAR **Alice Springs** 30.48 165 P P 20 07 27.3 +0.2
comp=Z,47nm,0.5s,baz=345,slow=7.4,SNR=692
ASAR PcP PcP 20 10 23.9 +0.3
comp=Z,14nm,0.5s,baz=354,slow=2.2,SNR=14
ASAR S S 20 12 17.4 -1.9
comp=Z,5.1nm,0.8s,baz=350,slow=24,SNR=8.5
ASAR ScP ScP 20 13 54.9 +0.2
comp=Z,2.1nm,0.8s,baz=358,slow=3.4,SNR=4.6
ASAR P3KPbc 20 39 14.8
comp=Z,0.7nm,0.9s,baz=180,slow=3.8,SNR=5.4
AS01 **Alice Springs** 30.49 165 eP P 20 07 27.3 +0.1
GIRL **Giralia** 30.63 201 P P 20 07 29.3 +1.0
baz=31,SNR=14
WRKA **Warakurna** 30.91 176 P P 20 07 31.0 +0.2
baz=31,SNR=75
INU **Inuyama** 30.99 18 eP P 20 07 31.2 -0.2
comp=Z,42nm,0.7s
KS15 **Wonju Array Si** 31.38 3 eP P 20 07 36.4 +1.6
KSAR **Wonju Array Be** 31.38 3 P P 20 07 36.1 +1.4
KSAR PcP PcP 20 10 26.9 +1.3
KSAR ScP ScP 20 13 58.6 +1.4
KSAR **Wonju Array Be** 31.38 3 P P 20 07 36.2 +1.4
KSAR 20 10 26.9
KSRS **Korea Array** 31.40 3 P P 20 07 36.1 +1.3
comp=Z,9.1nm,0.5s,baz=187,slow=9.6,SNR=39
KSRS PcP PcP 20 10 26.9 +1.2
comp=Z,4.0nm,0.8s,baz=193,slow=2.2,SNR=7.8
KSRS ScP ScP 20 13 58.6 +1.3
comp=Z,2.8nm,0.7s,baz=179,slow=3.9,SNR=7.3
KSRS LR LR 20 21 02.5
comp=Z,64nm,20.5s,baz=180,slow=38
KSRS **Korea Array** 31.40 3 P P 20 07 36.2 +1.3
KSRS 20 10 26.9
KSRS pmax pmax
comp=Z,10.0nm,0.5s
KSRS pmax pmax
comp=Z,4.0nm,0.8s
KSRS pmax pmax
comp=N,3.0nm,0.7s
KSRS MLR MLR
comp=Z,64nm,20.5s
KS01 **Wonju Array Si** 31.42 3 eP P 20 07 35.8 +0.7
XAN **Xi'an** 32.04 333 P P 20 07 41.0 +0.3
XAN pmax pmax
comp=Z,7.0nm,0.8s
CD2 **Chengdu** 32.35 323 eP P 20 07 44.0 +0.6
CD2 pmax pmax
comp=Z,20nm,0.4s
CD2 pmax pmax
comp=Z,120nm,4.6s
MAJO **Matsushiro** 32.46 19 eP P 20 07 44.7 +0.3
comp=Z,11nm,0.8s
MAJO **Matsushiro** 32.46 19 *c*eP P 20 07 44.6 +0.3
MAJO pmax pmax
comp=Z,32nm,2.3s
MAT **Matsushiro** 32.46 19 P P 20 07 44.1 -0.2
MJAR **Matsushiro Arr** 32.46 19 P P 20 07 43.4 -1.0
comp=Z,6.5nm,0.7s,baz=201,slow=10,SNR=14
MJAR LR LR 20 19 22.7
comp=Z,51nm,20.7s,baz=205,slow=33
MJB9 **Matsu-Tunnel** 32.47 19 eP P 20 07 44.7 +0.3
comp=Z,11nm,0.8s
CTA **Charters Tower** 32.75 143 P P 20 07 48.6 +1.6
comp=Z,21nm,0.8s,baz=324,slow=10,SNR=32
CTA ScP ScP 20 14 03.5 +1.2
comp=Z,8.7nm,0.8s,baz=346,slow=2.5,SNR=7.9
CTA **Charters Tower** 32.75 143 P P 20 07 48.6 +1.6
baz=33
CTAO **Charters Tower** 32.75 143 eP P 20 07 48.6 +1.6
comp=Z,20nm,0.7s
CTAO **Charters Tower** 32.75 143 eP P 20 07 48.6 +1.6
CTAO pmax pmax
comp=Z,20nm,0.7s
MEEK **Meekatharra** 33.16 192 P P 20 07 50.3 -0.2
baz=33,SNR=122
BJT **Baijiatuau** 35.01 347 eP P 20 08 03.9 -2.4
comp=Z,20nm,0.8s
BJT *e*PcP PcP 20 10 36.3 +0.6
BJT **Baijiatuau** 35.01 347 eP P 20 08 03.9 -2.4
BJT *e* 20 10 36.3
BJT pmax pmax
comp=Z,20nm,0.8s
BJI **Beijing** 35.03 347⇓ eP P 20 08 09.6 +3.2
BJI pmax pmax
comp=Z,16nm,0.9s
SNY **Shenyang** 35.77 357 ⇓P P 20 08 14.1 +1.4
SNY pmax pmax
comp=Z,33nm,0.8s
MORW **Morawa** 36.09 195 P P 20 08 15.6 0.0
baz=36,SNR=27
LZH **Lanzhou** 36.15 329 eP P 20 08 19.6 +3.3
LZH pP pP 20 08 46.8 +2.8
LZH sP sP 20 09 02.0 +3.7
LZH PP **PnPn** 20 09 44.5 +2.5
LZH S S 20 13 51.3 +4.3
LZH sS sS 20 14 40.3 +5.1
LZH SS **SnSn** 20 16 16.3 -11
LZH pmax pmax
comp=Z,37nm,1.0s
LZH pmax pmax
comp=Z,160nm,4.1s
FORT **Forrest** 36.60 177 P P 20 08 20.5 +0.6
baz=37,SNR=103
FORT **Forrest** 36.60 177 eP P 20 08 20.5 +0.6
comp=Z,186nm,0.6s
MSHR **Mys Shultsa** 36.76 7 *c i*P P 20 08 22.9 +1.7
QLP **Quilpie** 36.93 152 P P 20 08 23.0 +0.2
baz=37,SNR=14
HHC **Hu-ho-hao-te** 37.02 342 eP P 20 08 24.6 +1.1
HHC PP **PnPn** 20 09 54.3 +2.0
HHC S S 20 13 56.5 -3.5
HHC pmax pmax
comp=Z,15nm,0.9s
HNR **Honiara** 37.25 114 P P 20 08 25.3 -0.4
comp=Z,35nm,0.3s,baz=2.6,slow=3.0,SNR=4.2
HNR pmax pmax
comp=Z,47nm,0.6s
KMBL **Kambalda** 37.32 186 P P 20 08 26.4 +0.4
baz=38,SNR=152
VLA **Vladivostok** 37.38 7⇓ eP P 20 08 28.1 +1.7
VLA pmax pmax
comp=Z,56nm,0.8s
BLDU **Ballidu** 37.42 193 P P 20 08 26.8 -0.1
baz=38,SNR=162
CN2 **Changchun** 37.68 360 eP P 20 08 28.6 -0.3
CN2 pmax pmax
comp=Z,10.0nm,0.5s
SHL **Shillong** 37.88 305 eP P 20 08 31.4 +0.3
comp=Z,45nm,0.7s
SHL **Shillong** 37.88 305 eP P 20 08 31.4 +0.3
SHL pmax pmax
comp=Z,45nm,0.7s
SHL **Shillong** 37.88 305 eP P 20 08 32.0 +0.9
KLBR **Kellerberrin** 38.14 191 P P 20 08 33.1 +0.1
baz=38,SNR=231
USA0B **Ussuriysk Arra** 38.46 7 eP P 20 08 37.0 +1.6
comp=Z,18nm,0.7s
USRK **Ussuriysk Ar.** 38.46 7 P P 20 08 36.5 +1.1
comp=Z,14nm,0.5s,baz=177,slow=8.0,SNR=34
USRK LR LR 20 24 53.8
comp=Z,39nm,20.4s,baz=119,slow=37
MDJ **Mudanjiang** 38.63 4 P P 20 08 38.3 +1.4
MDJ pP pP 20 09 06.0 +1.2
MDJ sP sP 20 09 21.0 +1.9
MDJ S **S** 20 14 28.3 +4.3
MDJ PcS **PcS** 20 14 35.3 -0.7
MDJ sS sS 20 15 17.8 +5.2
MDJ ScS **ScS** 20 18 32.6 -1.4
MDJ pmax pmax
comp=Z,59nm,0.7s
MDJ pmax pmax
comp=Z,830nm,5.0s
MDJ **Mudanjiang** 38.63 4 eP P 20 08 37.3 +0.4
comp=Z,36nm,0.8s
MUN **Mundaring** 38.84 193 P P 20 08 38.9 +0.1
baz=39,SNR=24
RMQ **Roma** 39.16 146 P P 20 08 42.1 +0.6
baz=39,SNR=3.8
NWAO **Narrogin (SRO)** 39.54 191 P P 20 08 45.2 +0.6
comp=Z,55nm,0.3s,baz=254,slow=7.4,SNR=88
NWAO **Narrogin (SRO)** 39.54 191 P P 20 08 45.2 +0.6
baz=40,SNR=86
NWAO **Narrogin (SRO)** 39.54 191 eP P 20 08 45.2 +0.6
comp=Z,107nm,0.9s
EIDS **Eidsvold** 39.64 143 P P 20 08 45.7 +0.3
baz=40,SNR=8.6
EIDS **Eidsvold** 39.64 143 eP P 20 08 45.8 +0.3
comp=Z,26nm,0.8s
BBOO **Buckleboo** 39.76 167 P P 20 08 47.4 +1.0
baz=40,SNR=931
BBOO **Buckleboo** 39.76 167 eP P 20 08 47.4 +1.0
comp=Z,315nm,0.6s
TEY **Ternei** 40.03 12⇓ eP P 20 08 50.3 +1.9
TEY pmax pmax
comp=N,40nm,0.7s
TEY pmax pmax
comp=Z,60nm,0.7s
LSA **Lhasa** 40.34 310 P P 20 08 53.4 +1.5
LSA pmax pmax
comp=Z,6.0nm,0.7s
LSA **Lhasa** 40.34 310 eP P 20 08 51.2 -0.6
comp=Z,6.4nm,0.6s
LSA *e*PcP PcP 20 10 53.0 0.0
LSA **Lhasa** 40.34 310 *i* P P 20 08 53.3 +1.5
SNR=7.5
LSA **Lhasa** 40.34 310 eP P 20 08 51.3 -0.6
LSA *e* 20 10 53.0
LSA pmax pmax
comp=Z,6.0nm,0.6s
STKA **Stephens Creek** 40.51 159 P P 20 08 53.7 +1.0
comp=Z,110nm,0.6s,baz=334,slow=8.6,SNR=249
STKA PcP PcP 20 10 53.0 +0.2
comp=Z,16nm,0.6s,baz=332,slow=5.4,SNR=3.1
STKA LR LR 20 26 45.8
comp=Z,44nm,18.6s,baz=333,slow=38
STKA **Stephens Creek** 40.51 159 P P 20 08 53.7 +1.0
baz=41,SNR=165
STKA **Stephens Creek** 40.51 159 eP P 20 08 53.6 +1.0
comp=Z,21nm,0.7s
STKA PcP PcP 20 10 53.0 +0.2
ASAJ **Asahikawa** 40.74 19 P P 20 08 56.4 +2.1
comp=Z,16nm,0.8s,baz=222,slow=7.9,SNR=13
GTA **Gaotai** 40.75 329 eP P 20 08 54.1 -0.6
GTA pP pP 20 09 22.0 -0.9
GTA sP sP 20 09 37.6 +0.5
GTA PcP PcP 20 10 54.0 +0.3
GTA ScP ScP 20 14 31.4 -0.5
GTA pmax pmax
comp=Z,2.0nm,0.7s
GTA LR LR
comp=Z,570nm,12.7s
GTA LR LR
comp=Z,500nm,12.0s
GTA LR LR
comp=Z,170nm,15.5s
HTT **Hallett** 41.09 163 P P 20 08 58.7 +1.3
baz=41,SNR=85
RKGY **Rocky Gully** 41.22 191 P P 20 09 00.0 +1.6
baz=41,SNR=180
H11S3 **WAKE ISLAND Hy** 41.68 69 T T 20 53 28.3
baz=245
H11S1 **WAKE ISLAND Hy** 41.70 69 T T 20 53 22.5
baz=245
H11S2 **WAKE ISLAND Hy** 41.70 69 T T 20 53 25.0
baz=245,SNR=21
CMSA **Cobar Meteorol** 41.82 154 P P 20 09 04.3 +0.9
baz=42,SNR=38
ODAN **Odare** 42.09 304 eP P 20 09 06.4 +0.4
comp=Z,46nm,0.6s
H11N1 **WAKE ISLAND Hy** 42.13 67 T T 20 54 04.4
baz=265,slow=75,SNR=13
H11N2 **WAKE ISLAND Hy** 42.14 67 T T 20 53 59.9
baz=265,slow=75,SNR=9.7
H11N3 **WAKE ISLAND Hy** 42.15 67 T T 20 54 02.8
baz=265,slow=75,SNR=9.2
RAMN **Ramite** 42.78 304 eP P 20 09 11.8 +0.2
comp=Z,45nm,0.5s
YSS **Yuzh-Sakhalins** 43.35 17⇓ eP P 20 09 17.1 +1.7
JIRN **Jiri** 43.39 304 eP P 20 09 16.5 -0.1
comp=Z,55nm,0.4s
KLR **Kul'dur** 43.40 6 P P 20 09 16.4 +0.5
comp=Z,16nm,0.5s,baz=200,slow=6.3,SNR=37
KLR PcP PcP 20 11 02.6 +0.6
comp=Z,4.8nm,0.8s,baz=262,slow=4.7,SNR=2.2
KLR **Kul'dur** 43.40 6 *d*eP P 20 09 16.9 +1.0
GUN **Gumba** 43.74 305 eP P 20 09 19.3 0.0
comp=Z,37nm,0.4s
ARMA **Armidale** 43.80 147 P P 20 09 21.0 +1.6
baz=44,SNR=21
ARMA **Armidale** 43.80 147 eP P 20 09 21.1 +1.6
comp=Z,30nm,0.9s
PKI **Pulchoki** 43.99 304 eP P 20 09 20.8 -0.6
PKIN **Phulchoki** 44.01 304 eP P 20 09 20.7 -0.7
KKN **Kakani** 44.18 304 eP P 20 09 22.4 -0.4
comp=Z,23nm,0.5s
DMN **Daman** 44.26 304 eP P 20 09 23.7 +0.3
GKN **Gorkha** 44.79 304 eP P 20 09 27.8 +0.3
SONM **Songino Array** 44.92 341 P P 20 09 27.9 -0.2
comp=Z,0.8nm,0.4s,baz=159,slow=8.5,SNR=13
SONM PcP PcP 20 11 07.6 +0.1
comp=Z,12nm,0.8s,baz=158,slow=2.7,SNR=13
SONM ScP ScP 20 14 49.2 +0.7
comp=Z,2.7nm,0.9s,baz=151,slow=4.0,SNR=7.4
SONM LR LR 20 31 42.7
comp=Z,59nm,18.1s,baz=190,slow=40
SONA1 **Songino Array** 44.92 341 eP P 20 09 29.2 +1.0
ARPS **Mount Arapiles** 45.07 162 P P 20 09 30.8 +1.6
baz=45,SNR=235
YNG **Young** 45.36 154 P P 20 09 33.4 +1.7
baz=46,SNR=10.0
GRNR **Gornyy** 45.52 9 eP P 20 09 34.2 +1.5
KOLN **Koldanda** 45.56 303 eP P 20 09 33.6 -0.1
comp=Z,63nm,0.3s
DANN **Dangsing** 45.64 304 eP P 20 09 34.1 -0.3
comp=Z,109nm,0.6s
PYUN **Piuthan** 46.18 304 eP P 20 09 38.5 -0.1
comp=Z,57nm,0.5s
CAN **Canberra** 46.49 154 P P 20 09 42.7 +2.2
baz=47
CAN **Canberra** 46.49 154 eP P 20 09 42.6 +2.1

comp=Z,45nm,0.7s
CAN Canberra 46.49 154 *e*P **P** **20 09 42.6 +2.1**
CAN pmax pmax
comp=Z,45nm,0.7s
CNB Canberra Magne 46.64 153 P **P** **20 09 43.6 +1.8**
baz=47,SNR=22
TOO Toolangi 47.02 159 P **P** **20 09 46.9 +2.3**
baz=47,SNR=25
HYB Hyderabad 47.58 288 *i* P **P** **20 09 50.0 +0.6**
ZEA Zeya 47.64 1 *e*P **P** **20 09 49.1 -0.1**
ZEA pmax pmax
comp=Z,22nm,0.9s
DZM Mont Dzumac 48.53 126 *e*P **P** **20 09 58.5 +1.8**
comp=Z,22nm,0.6s
TLY Talaya 49.15 342 *e*P P 20 10 09.4 +8.6
TLY pmax pmax
comp=Z,9.0nm,1.3s
WMQ Urumqi 50.41 325 *e*P **P** **20 10 13.4 +2.8**
WMQ pmax pmax
comp=Z,220nm,3.9s
MOO Moorlands 51.95 160 P **P** **20 10 23.9 +2.0**
baz=52,SNR=7.6
POO Poona 52.16 289 *e*P **P** **20 10 23.0 -1.0**
TAU Tasmania Unive 52.41 160 *e*P **P** **20 10 27.4 +2.2**
comp=Z,29nm,0.8s
TAU Tasmania Unive 52.41 160 *e*P **P** **20 10 27.4 +2.2**
TAU pmax pmax
comp=Z,29nm,0.8s
BOD Bodaibo 52.54 352 *e*P **P** **20 10 27.4 +1.3**
BOD pmax pmax
comp=Z,14nm,1.1s
PETK Petropavlovsk- 53.71 23 P **P** **20 10 36.8 +2.0**
comp=Z,18nm,0.6s,baz=183,slow=3.0,SNR=32
PETK LR LR 20 33 31.7
comp=Z,31nm,20.2s,baz=247,slow=36
DGZ Jazzator, Alta 54.24 330*c i*P **P** **20 10 38.7 -0.1**
DGZ pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 55.24 325 P **P** **20 10 45.9 -0.1**
comp=Z,8.5nm,0.4s,baz=119,slow=7.8,SNR=188
MKAR PcP **PcP** **20 11 45.1 -0.3**
comp=Z,15nm,0.8s,baz=117,slow=5.9,SNR=10
MKAR ScP **ScP** **20 15 32.3 -0.3**
comp=Z,1.3nm,0.8s,baz=117,slow=7.1,SNR=4.9
MKAR LR LR 20 36 26.5
comp=Z,56nm,18.7s,baz=83,slow=38
MKAR PKPPKP **P'P'df** **20 40 48.0 -3.4**
comp=Z,0.5nm,0.8s,baz=48,slow=2.1,SNR=3.8
MKAR Makanchi Array 55.24 325 *e*P **P** **20 10 45.4 -0.6**
comp=Z,66nm,0.5s
MKAR PcP **PcP** **20 11 45.1 -0.3**
MKAR ScP **ScP** **20 15 32.4 -0.3**
MKAR P'P' 20 40 48.0
MKAR Makanchi Array 55.24 325*ce*P **P** **20 10 45.4 -0.6**
MKAR pmax pmax
comp=Z,9.0nm,0.4s
PRZ Przheval'sk 55.47 319 *e*P **P** **20 10 49.2 +1.3**
comp=Z,21nm,0.6s
PRZ Przheval'sk 55.47 319 *e*P **P** **20 10 49.2 +1.3**
PRZ pmax pmax
comp=Z,21nm,0.6s
KSH Kashi 55.87 314 P **P** **20 10 50.9 +0.2**
KSH pP pP 20 11 21.5 +1.1
KSH PcP **PcP** **20 11 47.8 -0.3**
KSH S **S** **20 18 22.6 -6.1**
KSH pmax pmax
comp=Z,14nm,0.5s
KSH pmax pmax
comp=Z,460nm,5.6s
KSH LR LR
comp=Z,280nm,6.8s
KSH LR LR
comp=Z,410nm,8.5s
KSH LR LR
comp=Z,210nm,14.6s
KDJ Kajisay 56.12 318 *e*P **P** **20 10 54.1 +1.6**
comp=Z,11nm,0.6s
KDJ Kajisay 56.12 318 *e*P **P** **20 10 54.1 +1.6**
KDJ pmax pmax
comp=Z,11nm,0.6s
NRN Naryn 56.62 316 *e*P **P** **20 10 56.0 -0.3**
comp=Z,6.1nm,0.6s
NRN Naryn 56.62 316 *e*P **P** **20 10 56.0 -0.3**
NRN pmax pmax
comp=Z,6.0nm,0.6s
MA2 Magadan 56.77 15 P **P** **20 10 57.8 +1.3**
comp=Z,21nm,0.7s,baz=188,slow=8.1,SNR=6.7
MA2 Magadan 56.77 15⇓*e*P **P** **20 10 57.6 +1.1**
MA2 pmax pmax
comp=Z,78nm,1.9s
TKM2 Tokmak 2 57.51 318 P **P** **20 11 02.0 -0.4**
SNR=8.4
UCH Uchtor 57.96 317 P **P** **20 11 06.3 +0.5**
SNR=13
AAK Ala-Archa 58.14 317 P **P** **20 11 06.6 -0.1**
SNR=5.5
AAK Ala-Archa 58.14 317 *e*P **P** **20 11 06.7 +0.1**
comp=Z,3.3nm,0.6s
AAK Ala-Archa 58.14 317 *i* P **P** **20 11 06.5 -0.1**
SNR=8.9
AAK Ala-Archa 58.14 317*c i*P **P** **20 11 06.8 +0.1**
AAK pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 58.22 333 P **P** **20 11 05.0 -1.8**
comp=Z,1.9nm,0.4s,baz=126,slow=7.9,SNR=9.0
ZALV LR LR 20 39 52.8
comp=Z,22nm,18.2s,baz=70,slow=40
ZALV PKP2bc 20 40 55.5
comp=Z,2.0nm,0.8s,baz=310,slow=3.6,SNR=6.9
ZALV Zalesovo Beam 58.22 333 *i* P **P** **20 11 05.3 -1.5**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
USP Ospenovka 58.39 318 P **P** **20 11 08.1 -0.2**
SNR=13
AML Almayashu 58.48 316 P **P** **20 11 09.8 +0.4**
SNR=8.6
EKS2 Erkin-Say 58.63 317 P **P** **20 11 10.1 0.0**
SNR=14
KURK Kurchatov 59.40 327 *e*P **P** **20 11 13.9 -1.2**
KURK Kurchatov 59.40 327*ce*P **P** **20 11 14.1 -1.0**
KURK pmax pmax
comp=Z,8.0nm,0.5s
KBL Kabul 59.49 307 *e*P **P** **20 11 15.9 -0.4**
comp=Z,12nm,0.8s
KBL Kabul 59.49 307 *e*P **P** **20 11 15.9 -0.4**
KBL pmax pmax
comp=Z,12nm,0.8s
SEY Seymchan 60.07 14 P **P** **20 11 21.6 +2.3**
comp=Z,6.2nm,0.5s,baz=199,slow=6.0,SNR=24
SEY Seymchan 60.07 14⇓*e*P **P** **20 11 18.3 -1.1**
KKAR Karatay Array 61.02 316 *e*P **P** **20 11 25.8 -0.5**
KKAR Karatay Array 61.02 316 *e*P **P** **20 11 25.8 -0.5**
DCZ Deep Cove 63.09 149 *e*P **P** **20 11 41.5 +1.6**
comp=Z,32nm,0.8s
LBZ Lake Benmore 64.01 146 *e*P **P** **20 11 47.5 +1.5**
comp=Z,72nm,1.3s
BKZ Black Stump Fm 64.81 138 *e*P **P** **20 11 52.4 +1.0**
comp=Z,18nm,0.6s
BRVK Borovoye 65.06 327 *e*P **P** **20 11 51.6 -1.2**
comp=Z,8.2nm,0.6s
BRVK Borovoye 65.06 327*c i*P **P** **20 11 51.4 -1.3**
BRVK pmax pmax
comp=Z,8.0nm,0.7s
TIXI Tiksi 65.63 1 *e*P **P** **20 11 55.9 -0.2**
comp=Z,42nm,0.4s
TIXI Tiksi 65.63 1⇑*i*P **P** **20 11 55.9 -0.2**
TIXI pmax pmax
comp=Z,41nm,0.6s
ATKA Atka Island 67.17 35 *e*P **P** **20 12 07.4 +1.2**
comp=Z,85nm,0.6s
BILL Bilibino 67.63 15 *e*P **P** **20 12 09.1 +0.2**
comp=Z,4.0nm,0.5s
BILL Bilibino 67.63 15⇓*i*P **P** **20 12 09.7 +0.9**
BILL *e**PP **pP** **20 12 39.3 -0.3**
BILL *e* 20 14 35.7
BILL pmax pmax
comp=Z,5.0nm,0.7s
NRIK Noril'sk 68.06 346 P **P** **20 12 11.7 +0.2**
comp=Z,12nm,0.5s,baz=126,slow=5.7,SNR=24
NRIK LR LR 20 45 34.5
comp=Z,46nm,18.3s,baz=112,slow=39
GEYT Alibeck 68.83 308 P **P** **20 12 16.8 -0.3**
comp=Z,6.3nm,0.8s,baz=234,slow=6.8,SNR=24
GYA0B ALIBECK ARRAY 68.83 308 *e*P **P** **20 12 17.3 +0.3**
comp=Z,13nm,0.8s
UOSS Minazif 69.08 294 P **P** **20 12 16.9 -1.8**

HATD Hatta, Dubai 69.13 294 P **P** **20 12 18.1 -0.9**
MSFE Esma-Masafi 69.14 295 P **P** **20 12 19.3 +0.2**
ASHO Ashiyiah 69.19 294 P **P** **20 12 18.4 -1.0**
SHME Shamm 69.19 295 P **P** **20 12 19.0 -0.5**
ALNE Al Ain 69.44 293 *i* P **P** **20 12 20.2 -0.7**
SNR=8.5
ASUD Al Ashush, Dub 69.85 294 P **P** **20 12 23.0 -0.4**
ABKAR Akbulak array 69.89 320 *e*P **P** **20 12 21.9 -1.3**
SVE Sverdlovsk 71.62 328⇓*e*P **P** **20 12 32.1 -1.4**
SVE pmax pmax
comp=Z,16nm,0.7s
ARU Arti 72.60 328 *e*P **P** **20 12 38.2 -1.1**
comp=Z,16nm,0.6s
ARU Arti 72.60 328*ce*P **P** **20 12 38.1 -1.2**
ARU pmax pmax
comp=Z,15nm,0.7s
CASY Casey 72.92 186 *e*P **P** **20 12 41.8 +0.8**
ANM Nome 75.60 25 *e*P **P** **20 12 58.7 +2.1**
comp=Z,14nm,1.0s
ANM Nome 75.60 25 *e*P **P** **20 12 58.7 +2.1**
ANM pmax pmax
comp=Z,14nm,1.0s
AKT Akhty 77.19 311 *e*P **P** **20 13 05.2 -1.0**
AKT *e* 20 13 14.9
AKT pmax pmax
comp=Z,13nm,0.7s
RAYN Ar Rayn 78.82 293 *e*P **P** **20 13 14.2 -1.4**
comp=Z,9.2nm,0.6s
RAYN Ar Rayn 78.82 293 *i* P **P** **20 13 14.2 -1.4**
SNR=16
RAYN Ar Rayn 78.82 293 *e*P **P** **20 13 14.2 -1.4**
RAYN pmax pmax
comp=Z,9.0nm,0.6s
SVW2 Sparrevohn 79.27 29 *e*P **P** **20 13 19.3 +2.1**
comp=Z,12nm,0.7s
GNI Garni 79.40 310⇓*e*P **P** **20 13 18.7 +0.2**
GNI pmax pmax
comp=Z,48nm,1.9s
TBLG Delisi 79.44 311 *e*P **P** **20 13 18.3 -0.2**
comp=Z,17nm,0.6s
TBLG Delisi 79.44 311 *e*P **P** **20 13 18.3 -0.2**
TBLG pmax pmax
comp=Z,17nm,0.6s
ZEI Tsey 80.08 312 *e*P **P** **20 13 20.5 -1.7**
ZEI pmax pmax
comp=Z,12nm,0.8s
PRGR Permogore 80.14 331 *e*P **P** **20 13 19.9 -1.9**
PRGR pmax pmax
comp=Z,16nm,0.6s
NCK Nalchik 80.32 313⇑*e*P **P** **20 13 24.1 +0.9**
NCK pmax pmax
comp=Z,6.0nm,0.5s
AKH Akhalkalaki 80.37 311 *e*P **P** **20 13 23.8 +0.1**
comp=Z,11nm,0.7s
AKH Akhalkalaki 80.37 311 *e*P **P** **20 13 23.8 +0.1**
AKH pmax pmax
comp=Z,11nm,0.7s
KDAK Kodiak Island 80.47 32 P **P** **20 13 25.2 +1.6**
comp=Z,47nm,0.6s,baz=262,slow=5.9,SNR=47
IM3 Indian Mountai 80.66 24 *e*P **P** **20 13 26.1 +1.6**
KBZ Khabaz 80.83 313 P **P** **20 13 24.4 -1.4**
comp=Z,1.8nm,0.6s,baz=278,slow=6.1,SNR=7.0
NEY Neytrino 80.95 313⇓*e*P **P** **20 13 27.6 +0.8**
NEY pmax pmax
comp=Z,1.0nm,0.7s
KIV Kislovodsk 80.98 313 *e*P **P** **20 13 26.9 +0.1**
comp=Z,9.8nm,0.7s
KIV Kislovodsk 80.98 313 *i* P **P** **20 13 26.9 +0.1**
KIV pmax pmax
comp=Z,12nm,1.0s
PPLA Purkeypile 81.05 27 *e*P **P** **20 13 28.7 +1.8**
comp=Z,21nm,0.7s
CAST Castle Rocks 81.14 27 *e*P **P** **20 13 29.1 +1.9**
comp=Z,37nm,0.9s
CNPM China Poot 81.28 31 *e*P **P** **20 13 29.1 +1.1**
comp=Z,41nm,0.8s
BRLK Bradley Lake 81.47 31 *e*P **P** **20 13 29.9 +0.9**
comp=Z,52nm,0.6s
SUA Susitna One 81.63 29 *e*P **P** **20 13 30.9 +1.0**
comp=Z,55nm,0.8s
BPAW Bear Paw Mtn. 81.67 26 *e*P **P** **20 13 32.2 +2.3**
comp=Z,42nm,1.0s
VRH Novokhopyorsk 81.71 321 *e*P **P** **20 13 28.6 -1.8**
VRH pmax pmax
comp=Z,20nm,0.7s
MLY Manley 81.83 25 *e*P **P** **20 13 31.5 +0.7**
comp=Z,24nm,0.8s
TRF Thorofare Moun 81.94 27 *e*P **P** **20 13 32.8 +1.2**
comp=Z,29nm,0.9s
COLD Coldfoot 82.18 23 *e*P **P** **20 13 34.6 +2.1**
comp=Z,4.9nm,0.6s
SEW Seward 82.21 30 *e*P **P** **20 13 34.1 +1.4**
comp=Z,33nm,0.7s
PMR Palmer 82.41 29 *e*P **P** **20 13 34.9 +1.1**
comp=Z,29nm,0.8s
PMR Palmer 82.41 29 *e*P **P** **20 13 34.9 +1.1**
PMR pmax pmax
comp=Z,29nm,0.8s
TOLK Toolik Lake Re 82.49 22 *e*P **P** **20 13 36.1 +2.0**
comp=Z,17nm,0.6s
TOLK Toolik Lake Re 82.49 22 P **P** **20 13 36.2 +2.0**
baz=267
MCK McKinley 82.56 27 *e*P **P** **20 13 35.5 +0.9**
comp=Z,59nm,1.1s
MCK McKinley 82.56 27 *e*P **P** **20 13 35.5 +0.9**
MCK pmax pmax
comp=Z,59nm,1.1s
RND Reindeer 82.58 27 *e*P **P** **20 13 35.7 +0.9**
comp=Z,30nm,1.1s
RND Reindeer 82.58 27 *e*P **P** **20 13 35.7 +0.9**
RND pmax pmax
comp=Z,30nm,1.1s
SML Sawmill 82.79 29 *e*P **P** **20 13 37.3 +1.5**
comp=Z,44nm,0.9s
MDM Murphy Dome 82.89 25 *e*P **P** **20 13 37.4 +1.1**
comp=Z,11nm,0.9s
WRH Wood River Hil 82.95 26 *e*P **P** **20 13 37.6 +1.1**
comp=Z,23nm,0.9s
KLMR Klimovskoe 83.05 331 *e*P **P** **20 13 34.8 -2.3**
KLMR pmax pmax
comp=Z,18nm,0.7s
KLMR Klimovskoe 83.05 331 *e*P **P** **20 13 34.8 -2.3**
KLMR AMP 20 13 36.6
comp=Z,17nm,0.6s
KLMR Klimovskoe 83.05 331 *e*P **P** **20 13 34.9 -2.2**
KLMR AMP 20 13 36.3
comp=Z,18nm,0.7s
TCOL CIGO, UAF Yank 83.05 25 P **P** **20 13 38.2 +1.2**
baz=269
COLA College 83.06 25 *e*P **P** **20 13 36.6 -0.4**
comp=Z,9.7nm,0.8s
COLA College 83.06 25 *e*P **P** **20 13 36.6 -0.4**
COLA pmax pmax
comp=Z,10.0nm,0.8s
CCB Clear Creek Bu 83.07 26 *e*P **P** **20 13 37.9 +0.8**
comp=Z,19nm,1.0s
POKR Poker Plat Res 83.23 25 P **P** **20 13 40.6 +2.5**
baz=270
VORD Divnogorie 83.25 321 *e*P **P** **20 13 36.3 -2.0**
VORD pmax pmax
comp=Z,10.0nm,0.5s
DHY Denali Highway 83.25 27 *e*P **P** **20 13 40.3 +1.9**
VSR Storozhevoye 83.32 321*ce*P **P** **20 13 37.0 -1.7**
VSR pmax pmax
comp=Z,21nm,0.5s
GLI Glacier Island 83.39 29 *e*P **P** **20 13 40.4 +1.5**
comp=Z,43nm,0.7s
LPSR Galich'ya Gora 83.44 322 *e*P **P** **20 13 37.5 -1.8**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
HDA Harding Lake 83.44 26 *e*P **P** **20 13 39.3 +0.2**
comp=Z,22nm,0.7s
HDA Harding Lake 83.44 26 P **P** **20 13 39.7 +0.6**
baz=270
IL1 Eielson Array 83.47 26 *e*P **P** **20 13 37.7 -1.5**
ILAR Eielson Array 83.47 26 P **P** **20 13 38.9 -0.3**
comp=Z,5.5nm,0.6s,baz=250,slow=5.0,SNR=51
ILB Eielson Array 83.47 26 *e*P **P** **20 13 39.1 -0.1**
RIDG Independ'e Rid 84.38 27 *e*P **P** **20 13 45.8 +1.8**
comp=Z,20nm,0.7s
BMRM Bremner River 84.60 29 *e*P **P** **20 13 47.5 +2.4**
comp=Z,24nm,0.9s
ANN Anapa 84.73 314 *e*P **P** **20 13 42.7 -3.3**
ANN *e**PP **pP** **20 14 16.7 -1.2**
ANN *e* 20 17 00.0
ANN *e*S S 20 23 53.6 -10

ANN pmax pmax
comp=Z,49nm,1.0s
OBN Obninsk 84.75 325⇓*i*P **P** **20 13 45.0 -0.8**
OBN *e**PP **pP** **20 14 21.1 +3.3**
OBN *i* 20 17 01.9
OBN *e*PPP PPP 20 18 55.3
OBN pmax pmax
comp=Z,48nm,1.3s
LVZ Lovozero 84.97 338⇑*e*P **P** **20 13 46.6 -0.2**
LVZ pmax pmax
comp=Z,192nm,1.9s
MAW Mawson 85.55 200 P **P** **20 13 49.8 +0.3**
comp=Z,16nm,0.6s,baz=67,slow=5.1,SNR=29
MAW Mawson 85.55 200 P **P** **20 13 50.0 +0.5**
baz=86,SNR=12
MAW Mawson 85.55 200 *e*P **P** **20 13 49.7 +0.3**
comp=Z,3.9nm,0.7s
VNDA Vanda 85.74 173 P **P** **20 13 50.6 +0.3**
comp=Z,4.7nm,0.4s,baz=323,slow=6.3,SNR=36
VNDA Vanda 85.74 173 *e*P **P** **20 13 50.8 +0.5**
comp=Z,7.0nm,0.6s
VNDA Vanda 85.74 173 *e*P **P** **20 13 50.8 +0.5**
VNDA pmax pmax
comp=Z,7.0nm,0.6s
EGAK Eagle 85.92 25 *e*P **P** **20 13 52.8 +1.3**
comp=Z,4.7nm,0.8s
PPT Papeete 86.62 108 LR LR 20 46 46.2
comp=Z,20nm,19.5s,baz=26,slow=31
DAWY Dawson 86.76 26 *e*P **P** **20 13 55.7 0.0**
comp=Z,2.7nm,0.6s
EPYK Eagle Plains 87.55 24 P **P** **20 14 00.2 +0.8**
baz=279
BR131 Keskin Array S 87.94 310 *e*P **P** **20 14 00.1 -1.9**
BRTR Keskin Array B 87.94 310 P **P** **20 13 59.9 -2.1**
comp=Z,2.8nm,0.8s,baz=103,slow=4.7,SNR=14
ARCES ARCESS Array B 88.06 340 P **P** **20 14 00.9 -0.8**
comp=Z,8.5nm,0.5s,baz=78,slow=5.5,SNR=31
ARCES PKiKP **PKiKP** **20 19 02.8 -0.2**
comp=Z,0.8nm,0.5s,baz=98,slow=1.7,SNR=9.9
ARCES PKKPbc **PKKPbc** **20 31 46.2 -3.0**
comp=Z,1.3nm,0.4s,baz=247,slow=3.7,SNR=19
ARCES ARCESS Array B 88.06 340 P **P** **20 14 01.0 -0.8**
ARCES pmax pmax
comp=Z,9.0nm,0.5s
ARCES pmax pmax
comp=Z,1.0nm,0.5s
ARCES pmax pmax
comp=Z,1.0nm,0.4s
ARE0 ARCESS Array S 88.06 340 *e*P **P** **20 14 00.9 -0.8**
comp=Z,0.7nm,0.8s
ARE0 ARCESS Array S 88.06 340 *e*P **P** **20 14 00.7 -1.1**
SPA0 Spitsbergen Ar 88.13 349 *e*P **P** **20 14 01.5 -0.5**
INK Inuvik 88.41 21 P **P** **20 14 03.6 +0.3**
comp=Z,5.1nm,0.6s,baz=312,slow=3.4,SNR=6.7
HAMF Hammerfest 88.43 341 *e*P **P** **20 14 02.1 -1.4**
KBS Kingsbay 88.66 350 *e*P **P** **20 14 03.9 -0.5**
HSPB Hornsund (broa 88.72 348 *e*P **P** **20 14 04.7 0.0**
KMBO Kilima Mbogo 88.74 269 P **P** **20 14 04.5 -1.9**
comp=Z,2.3nm,0.8s,baz=27,slow=4.3,SNR=7.3
KMBO Kilima Mbogo 88.74 269 *e*P **P** **20 14 05.3 -1.1**
KMBO Kilima Mbogo 88.74 269 *i* P **P** **20 14 06.0 -0.4**
KMBO pmax pmax
comp=Z,2.0nm,0.8s
KTK1 Kautokeino 88.97 339 *e*P **P** **20 14 05.1 -0.9**
FINES FINESS Array B 89.47 332 P **P** **20 14 07.2 -1.3**
comp=Z,14nm,0.8s,baz=46,slow=5.1,SNR=41
FINES PKiKP **PKiKP** **20 19 05.1 -0.4**
comp=Z,1.1nm,0.5s,baz=151,slow=4.4,SNR=5.4
AKASG Malin Array Be 89.62 321 P **P** **20 14 07.6 -1.9**
comp=Z,3.9nm,0.8s,baz=75,slow=3.9,SNR=7.9
AKASG Malin Array Be 89.62 321 P **P** **20 14 07.6 -1.9**
AKASG pmax pmax
comp=Z,5.0nm,0.9s
KIEV Kiev 89.64 321⇑*i*P **P** **20 14 07.2 -2.3**
KIEV pmax pmax
comp=Z,7.0nm,1.1s
VSU Vasula 89.72 329⇓*i*P **P** **20 14 08.3 -1.4**
VSU pmax pmax
comp=Z,103nm,1.3s
TRO Tromso 90.27 340 *e*P **P** **20 14 10.3 -1.7**
ISP Isparta 90.59 308⇓*i*P **P** **20 14 11.9 -2.5**
ISP Isparta 90.59 308⇓P **P** **20 14 11.9 -2.5**
VRI Vrincioaia 92.09 316⇑*i*P **P** **20 14 20.5 -0.6**
VRI Vrincioaia 92.09 316⇑P **P** **20 14 20.5 -0.6**
STEI Steigen 92.11 339 *e*P **P** **20 14 19.0 -1.6**
PLOR Plostina 92.15 316⇓*i*P **P** **20 14 19.6 -1.8**
PLOR Plostina 92.15 316⇓P **P** **20 14 19.6 -1.8**
H02S1 DAWSON INLET T 92.20 36 T T 21 57 41.3
SNR=13
MLR Muntele Rosu 92.70 316⇓*i*P **P** **20 14 23.0 -1.1**
MLR Muntele Rosu 92.70 316⇓P **P** **20 14 23.0 -1.1**
BURAR Bucovina Array 92.77 318⇓*i*P **P** **20 14 23.3 -1.0**
BURAR Bucovina Array 92.77 318⇓P **P** **20 14 23.3 -1.0**
BUR08 Bucovina Ar. S 92.77 318 *e*P **P** **20 14 23.2 -1.1**
VOIR 93.33 316⇑*i*P **P** **20 14 23.8 -3.1**
VOIR 93.33 316⇑P **P** **20 14 23.8 -3.1**
ARR Arges 93.63 316⇓*i*P **P** **20 14 26.4 -1.9**
SYO Syowa Base 94.19 201⇓*e*P **P** **20 14 30.0 -0.1**
TRPA Tarpa 94.41 319⇓*i*P **P** **20 14 30.5 -1.2**
DRGR 94.62 318⇑*i*P **P** **20 14 31.0 -1.8**
DRGR 94.62 318⇑P **P** **20 14 31.0 -1.8**
NSS Namsos 94.65 337 *e*P **P** **20 14 30.7 -1.7**
DAG Danmarks Havn 94.94 352⇑*i*P **P** **20 14 32.8 -0.7**
DAG Danmarks Havn 94.94 352⇑P **P** **20 14 32.8 -0.7**
VTS Vitosha 95.24 314⇑*i*P **P** **20 14 32.4 -3.4**
VTS Vitosha 95.24 314⇑P **P** **20 14 32.4 -3.4**
SIRR Siria 95.45 318⇓*i*P **P** **20 14 34.4 -2.1**
BZS Buzias 95.64 317⇑*i*P **P** **20 14 35.8 -1.5**
BZS Buzias 95.64 317⇑P **P** **20 14 35.8 -1.5**
KECS Kecovo 95.65 320 *e*P **P** **20 14 34.9 -2.4**
KECS Kecovo 95.65 320 *e*P **P** **20 14 34.9 -2.4**
RES Resolute Bay 95.78 10 P **P** **20 14 36.4 -1.0**
comp=Z,3.1nm,0.8s,baz=301,slow=5.9,SNR=6.0
QSPA South Pole Qui 95.86 180 *e*P **P** **20 14 38.5 +0.5**
comp=Z,1.0nm,1.3s
NB2 NORSAR Subarra 96.41 334 P **P** **20 14 38.3 -2.3**
comp=Z,2.2nm,0.6s,baz=66,slow=4.8
NB2 NORSAR Subarra 96.41 334 P **P** **20 14 38.3 -2.3**
baz=66,slow=4.8
NOA NORSAR Array B 96.41 334 P **P** **20 14 38.8 -1.8**
comp=Z,3.8nm,0.7s,baz=66,slow=4.6,SNR=15
NOA LR LR 21 02 50.2
comp=Z,27nm,19.4s,baz=60,slow=38
YKA Yellowknife Ar 97.83 24 P **P** **20 14 46.2 -0.6**
comp=Z,1.7nm,0.7s,baz=300,slow=4.4,SNR=5.8
YKA PKKP **PKKPbc** **20 31 19.9 -3.8**
comp=Z,2.0nm,0.4s,baz=124,slow=3.5,SNR=24
BRG Berggiesshubel 98.94 323 *e*PKP **P** **20 14 51.1 -1.0**
comp=Z,3.7nm,0.8s
BRG Berggiesshubel 98.94 323 *e*P **P** **20 14 51.1 -1.0**
BRG pmax pmax
comp=Z,7.0nm,0.8s
CLL Collm 99.33 324 *e*P **Pdif** **20 14 51.0 -2.8**
GERES GERESS Array B 99.81 322 P **Pdif** **20 14 55.1 -1.1**
comp=Z,1.0nm,0.9s,baz=101,slow=4.2,SNR=7.5
GERES PKiKP **PKiKP** **20 19 24.1 +0.1**
comp=Z,0.5nm,0.5s,baz=48,slow=2.0,SNR=5.8
MOTA Moosalm 101.98 321 *e*PKiKP **PKiKP** **20 19 27.7 -0.3**
comp=Z,0.4nm,0.4s
BOSA Boshof 102.14 242 PKiKP **PKiKP** **20 19 27.7 -1.1**
comp=Z,2.7nm,1.1s,baz=172,slow=4.1,SNR=3.2
FETA Feichten 102.34 321 *e*PP PP 20 19 19.0 -2.1
comp=Z,0.1nm,0.2s
DAVA Damuels 102.77 321 *e*PKiKP **PKiKP** **20 19 29.3 -0.2**
comp=Z,1.9nm,0.6s
DAVOX Davos/Dischmat 102.97 321 PKiKP **PKiKP** **20 19 29.3 -0.6**
NVAR Mina Array Bea 106.05 47 PKKPab PKKPab 20 31 15.0 -0.9
comp=Z,1.0nm,0.6s,baz=126,slow=4.8,SNR=4.9
PDAR Pinedale Array 110.23 40 PKiKP **PKiKP** **20 19 43.3 -0.3**
comp=Z,0.2nm,0.4s,baz=222,slow=1.2,SNR=3.6
PDAR PKKPbc **PKKPbc** **20 30 42.2 -4.0**
comp=Z,0.8nm,0.7s,baz=112,slow=4.0,SNR=6.3
PDAR PKKPab **PKKPab** **20 30 54.4 -3.0**
comp=Z,0.9nm,0.6s,baz=117,slow=5.7,SNR=5.4
ULM Lac du Bonnet 113.41 28 PKiKP **PKiKP** **20 19 48.9 -0.2**
comp=Z,2.9nm,0.6s,baz=61,slow=1.9,SNR=6.3
ESDC Sonseca Array 115.22 319 PKP **PKPdf** **20 19 53.0 0.0**
comp=Z,0.5nm,0.5s,baz=26,slow=2.0,SNR=4.8
SCHQ Schefferville 118.50 8 PKP **PKPdf** **20 19 59.2 +0.5**
comp=Z,4.8nm,0.7s,baz=277,slow=3.1,SNR=10
MDT Midelt 119.21 313 PKP **PKPdf** **20 20 00.8 -0.1**
comp=Z,3.1nm,0.6s,baz=140,slow=2.2,SNR=4.6
TXAR Lajitas Array 120.89 51 PKP **PKPdf** **20 20 05.0 +0.8**
comp=Z,1.6nm,0.6s,baz=280,slow=0.5,SNR=29
TXAR PKKPab **PKKPbc** **20 30 07.2 -1.6**

comp=Z,0.6nm,0.7s,baz=125,slow=4.7,SNR=9.0
TXAR Lajitas Array 120.89 51 PKIKP **PKPdf** **20 20 05.0 +0.8**
TXAR pmax pmax
comp=Z,2.0nm,0.6s
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TORD Torodi Ar. Bea 121.39 289 PKP **PKPdf** **20 20 03.8 -1.6**
comp=Z,5.8nm,0.6s,baz=48,slow=2.1,SNR=92
TORD PKKPbc **PKKPbc** **20 30 06.5 +0.2**
comp=Z,1.3nm,0.8s,baz=292,slow=2.8,SNR=14
DBIC Dimbokro 129.25 284 PKP **PKPdf** **20 20 20.6 +0.2**
comp=Z,6.6nm,0.8s,baz=78,slow=2.8,SNR=15
PLCA Paso Flores 142.39 159 PKhKP PKPpre 20 20 40.5
comp=Z,5.6nm,0.6s,baz=276,slow=2.1,SNR=32
ROSC El Rosal 157.16 62 PKP **PKPdf** **20 21 08.3 -0.1**
comp=Z,6.8nm,0.7s,baz=73,slow=20,SNR=8.7
CPUP Villa Florida 159.52 172 PKP **PKPdf** **20 21 10.8 +0.5**
comp=Z,1.2nm,0.8s,baz=145,slow=4.9,SNR=3.0
CPUP PKPab **PKPab** **20 21 49.6 +0.9**
comp=Z,7.5nm,0.7s,baz=165,slow=4.2,SNR=16
LPAZ La Paz 162.87 128 PKP **PKPdf** **20 21 16.1 +1.1**
comp=Z,3.0nm,0.7s,baz=40,slow=3.0,SNR=14
LPAZ PKPab **PKPab** **20 22 05.4 +0.8**
comp=Z,4.1nm,0.8s,baz=233,slow=4.1,SNR=7.5
BDFB Brasilia 168.66 212 PKP **PKPdf** **20 21 18.9 -0.1**
comp=Z,1.6nm,0.5s,baz=220,slow=7.9,SNR=4.2
MDP Montagnes des 168.90 352 PKPab **PKPab** **20 22 30.5 +0.2**
comp=Z,9.4nm,0.5s,baz=2.9,slow=4.7,SNR=16

NIED ***18*** *20:01:00.37°.30N×141°.60E,h8km,Mw3.7 Best double couple: Mo3.98000×10¹⁴ NP1:φs189.00000°,δ44.00000°, λ-111.00000°. NP2:φs38.00000°,δ50.00000°, λ-71.00000°.*
IDC ***18*** *20:01:41.4±5.7,36°.53N×142°.15E,h60km±36km,mb3.4/4, mb1 3.6/6,mb1mx3.4/50,mbtmp3.7/6,ML2.6/2,MS2.6/1, Ms1 2.6/1,ms1mx2.2/25,Error ellipse: s-maj=90.7km s-min=27.8km az=166.0*
JMA ***18*** *20:01:43.0±0.1,37°.35N×141°.57E,h29km±2km,M4.2*
JMA Felt I J1.
ISC 18 20:01:39.0±2.0,**37°.32N**±0°.05×**141°.77E**±0°.08,**h1**km±10km, **n24,**σ1f**18**/28,**mb3.7**/4,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.71**	**274**	P			**Pg**	**20 01 53.9**	**+1.2**
JFK					*e*	S	**Sg**	**20 02 01.5**	**-0.5**
ONAJ	**Iwakimizuishiy**	**0.81**	**255**	P			**Pg**	**20 01 55.6**	**+1.1**
ONAJ					*e*	S	**Sg**	**20 02 05.0**	**+0.1**
JMM	**Marumori**	**0.95**	**305**	P			**Pg**	**20 01 57.8**	**+0.6**
JMM						S	**Sg**	**20 02 08.6**	**-0.9**
JFFD	**Fukushimafurud**	**0.99**	**257**	P			**Pg**	**20 01 58.5**	**+0.5**
JFFD					*e*	S	**Sg**	**20 02 09.5**	**-1.4**
JFT	**Otama**	**1.16**	**280**	P			**Pg**	**20 02 01.6**	**+0.4**
JFT						S	**Sg**	**20 02 14.9**	**-1.3**
JIO	**Ouri**	**1.18**	**344**	P			**Pb**	**20 02 02.5**	**+0.3**
JIO					*e*	S	**Sg**	**20 02 16.5**	**-0.5**
JHO	**Hitachi**	**1.19**	**234**	P			**Pg**	**20 02 01.6**	**-0.3**
JHO					*e*	S	**Sg**	**20 02 15.4**	**-2.0**
JOU	**Okura**	**1.36**	**320**	P			**Pn**	**20 02 05.4**	**+0.2**
JOU						S	**Sg**	**20 02 22.0**	**-0.8**
JYS	**Shirataka**	**1.62**	**304**	P			**Pn**	**20 02 09.3**	**+0.5**
JYS					*e*	S	**Sn**	**20 02 29.0**	**-1.3**
JFY	**Yanaizu**	**1.65**	**274**	P			**Pn**	**20 02 09.0**	**-0.1**
JFY					*e*	S	**Sn**	**20 02 28.9**	**-2.1**
MJAR	**Matsushiro Arr**	**2.96**	**256**	P			**Pn**	**20 02 28.4**	**+1.3**
	4.3nm,0.3s,baz=63,slow=13,SNR=42								
MJAR						S	**Sn**	**20 03 05.5**	**+2.2**
	8.0nm,0.3s,baz=93,slow=19,SNR=5.0								
MAT	**Matsushiro**	**2.96**	**256**	P			**Pn**	**20 02 28.5**	**+1.3**
MAT						S	**Sn**	**20 03 02.2**	**-1.1**
USRK	**Ussuriysk Ar.**	**10.11**	**316**	P			Pn	20 04 14.8	+10
	0.1nm,0.3s,baz=130,slow=13,SNR=4.7								
KSRS	**Korea Array**	**11.02**	**275**	LR			LR	20 08 05.3	
	comp=Z,31nm,18.8s,baz=155,slow=34								
SONM	**Songino Array**	**27.86**	**303**	P			**P**	**20 07 30.4**	**+0.2**
	0.7nm,0.7s,baz=95,slow=9.2,SNR=6.8								
H11N2	**WAKE ISLAND Hy**	**28.05**	**122**	T			T	20 37 13.2	
	baz=314,slow=75,SNR=28								
H11N1	**WAKE ISLAND Hy**	**28.06**	**122**	T			T	20 37 16.5	
	baz=314,slow=75,SNR=40								
H11N3	**WAKE ISLAND Hy**	**28.07**	**122**	T			T	20 37 04.3	
	baz=314,slow=75,SNR=23								
H11S1	**WAKE ISLAND Hy**	**28.78**	**124**	T			T	20 37 55.3	
	baz=315,slow=75,SNR=21								
H11S3	**WAKE ISLAND Hy**	**28.78**	**124**	T			T	20 37 55.9	
	baz=315,slow=75,SNR=22								
H11S2	**WAKE ISLAND Hy**	**28.80**	**124**	T			T	20 38 01.2	
	baz=315,slow=75,SNR=18								
ZALV	**Zalesovo Beam**	**41.93**	**312**	P			**P**	**20 09 32.2**	**+1.2**
	0.7nm,0.5s,baz=85,slow=6.7,SNR=4.8								
MKAR	**Makanchi Array**	**44.21**	**302**	P			**P**	**20 09 50.5**	**+0.8**
	1.1nm,0.7s,baz=89,slow=9.8,SNR=7.9								
ILAR	**Eielson Array**	**49.10**	**32**	P			**P**	**20 10 26.1**	**-1.6**
	0.8nm,1.1s,baz=260,slow=5.4,SNR=2.7								

DDA ***18*** *20:08:33.0,38°.93N×43°.52E,h15km,Ml2.9*
ISK ***18*** *20:08:32.9,38°.93N×43°.54E,h16km,ML2.1/6*
ISCJB ***18*** *20:08:33.5±0.6,38°.94N±0°.03×43°.55E±0°.04,h15km±4km, Error ellipse: s-maj=6.5km s-min=4.7km az=41.8*
ISC 18 20:08:32.7±1.0,**38°.91N**±0°.04×**43°.57E**±0°.04,**h15**km±6km, **n12,**σ0f**71**/21,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.08**	**359**	*i* P			**Pg**	**20 08 35.8**	**-0.2**
VMUR				*i* S			**Sg**	**20 08 38.4**	**+0.1**
ERCV	**ERCIS-VAN**	**0.21**	**301**	PG			**Pg**	**20 08 37.3**	**-0.4**
ERCV				SG			**Sg**	**20 08 41.3**	**+0.2**
VANB	**Van**	**0.35**	**205**	PG			**Pb**	**20 08 41.4**	**+0.8**
VANB				SG			**Sn**	**20 08 49.2**	**-0.8**
CLDR	**Caldiran**	**0.35**	**49**	Pn			**Pb**	**20 08 40.9**	**+0.1**
CLDR				SG			**Sb**	**20 08 46.7**	**+0.4**
CLDR	**Caldiran**	**0.35**	**49**	*i* P			**Pb**	**20 08 40.7**	**-0.1**
CLDR				*i* S			**Sb**	**20 08 46.9**	**+0.6**
TVAN	**Van**	**0.40**	**199**	*i* P			**Pb**	**20 08 41.3**	**-0.4**
TVAN				*i* S			**Sb**	**20 08 48.2**	**+0.6**
ADCV	**BITLIS_Adilcev**	**0.67**	**261**	*i* P			**Pg**	**20 08 45.1**	**-0.7**
ADCV				*i* S			**Sb**	**20 08 55.8**	**+0.5**
TUTA	**Tutak**	**0.77**	**310**	*i* P			**Pg**	**20 08 47.0**	**-0.7**
TUTA				*i* S			**Sg**	**20 08 58.0**	**+0.1**
AGRB	**Hanur-Agry**	**0.80**	**326**	PG			**Pb**	**20 08 48.4**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.19**	**25**	PN			**Pg**	**20 08 55.6**	**-0.1**
EKAR	**Karacoban**	**1.22**	**287**	*i* P			**Pn**	**20 08 55.1**	**-0.3**
EKAR				*i* S			**Sg**	**20 09 14.5**	**+2.2**
GURO	**Guroymak-BITLI**	**1.26**	**254**	PN			**Pn**	**20 08 55.6**	**-0.2**

SIK ***18*** *21:01:36.9±0.6,42°.17N±0°.04×20°.13E±0°.03,h0km, ML2.9, Error ellipse: s-maj=11.9km s-min=7.2km az=5.0*
ISCJB ***18*** *21:01:37.4±0.3,42°.21N±0°.01×20°.14E±0°.02,h5km±2km, Error ellipse: s-maj=2.6km s-min=2.1km az=43.4*
SAR ***18*** *21:01:37.2±0.7,42°.18N×20°.19E,h7km±3km,ML2.8/1*
PDG ***18*** *21:01:37.7±0.4,42°.19N×20°.13E,h12km,MD3.0/2, ML2.9/11,Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
TIR ***18*** *21:01:37.7,42°.19N×20°.08E,h8km,Md2.8/5*
SKO ***18*** *21:01:38.1,42°.20N×20°.12E,h17km*
THE ***18*** *21:01:38.1,42°.18N×20°.23E,h0km±5km,ML2.6/1,Error ellipse: s-maj=6.7km s-min=1.5km az=326.0*
BEO ***18*** *21:01:39.1±0.3,42°.22N×20°.08E,h12km±3km,ML2.3/12*
ISC 18 21:01:37.6±1.0,**42°.18N**±0°.02×**20°.14E**±0°.01,**h5**km±9km, **n87,**σ1f**45**/135,**14C-12D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BCI	**Bajram Curri**	**0.20**	**345**	*i* PG			**Pg**	**21 01 41.8**	**+0.3**
BCI				*i* SG			**Sg**	**21 01 45.2**	**+1.1**
PUK	**Puka**	**0.23**	**234**	*i* PG			**Pg**	**21 01 42.2**	**+0.2**
PUK				*i* SG			**Sg**	**21 01 46.0**	**+1.0**
PVY	**Plav**	**0.44**	**342**	⇑*i* P			**Pg**	**21 01 45.9**	**-0.2**
PVY				*e* Sg			**Sg**	**21 01 52.7**	**+0.8**
ZATK	**Zatriq**	**0.45**	**53**	⇓Pg			**Pg**	**21 01 46.1**	**-0.2**
ZATK				*i* Sg			**Sg**	**21 01 53.7**	**+1.5**
ZATK				*i* Sg			**Sb**	**21 02 00.9**	**+5.7**
PRZK	**Prizren**	**0.46**	**85**	⇓Pg			**Pg**	**21 01 46.5**	**0.0**
PRZK				*i* Sg			**Sg**	**21 01 47.0**	**-5.5**
PRZK				*i* Sg			**Sb**	**21 01 53.0**	**-2.4**
PRZK				*i* Sg			Sg	21 01 58.9	+6.4
PHP	**Peshkopia**	**0.54**	**155**	P			**Pg**	**21 01 47.2**	**-0.8**
PHP				S			**Sg**	**21 01 55.3**	**+0.3**
PHP	**Peshkopia**	**0.54**	**155**	*i* PG			**Pg**	**21 01 47.3**	**-0.7**
PHP				*i* SG			**Sb**	**21 01 57.7**	**0.0**
ULC	**Ulcinj**	**0.70**	**253**	⇑*i* Pg			**Pg**	**21 01 50.7**	**-0.3**
ULC				*e* Sg			**Sb**	**21 02 01.8**	**-0.4**
ULC	**Ulcinj**	**0.70**	**253**	⇓Pg			**Pg**	**21 01 51.1**	**+0.1**
PDG	**Podgorica**	**0.70**	**292**	*e* Pg			**Pg**	**21 01 50.4**	**-0.7**
PDG				*e* Sg			**Sb**	**21 02 01.3**	**-1.0**
PDG	**Podgorica**	**0.70**	**292**	⇑*i* Pg			**Pg**	**21 01 50.1**	**-1.0**
PDG				*e* Sg			**Sg**	**21 02 00.7**	**+0.5**
TTG	**Podgorica**	**0.70**	**292**	⇑*i* Pg			**Pg**	**21 01 50.1**	**-1.0**
TTG				*e* Sg			**Sb**	**21 02 01.5**	**-0.8**
DRME	**Dracevica, Mon**	**0.71**	**271**	⇓*i* Pg			**Pg**	**21 01 50.4**	**-0.8**
DRME				*e* Sg			**Sb**	**21 02 01.6**	**-0.9**
DRME	**Dracevica, Mon**	**0.71**	**271**	⇑*i* Pg			**Pg**	**21 01 50.4**	**-0.8**
DRME				*e* Sg			**Sb**	**21 02 01.6**	**-0.9**
BEY	**Berane**	**0.72**	**345**	⇓*i* Pg			**Pg**	**21 01 51.5**	**+0.1**
IVA	**Berane**	**0.72**	**345**	⇑*i* Pg			**Pg**	**21 01 51.0**	**-0.4**
IVA				*e* Sg			**Sb**	**21 02 01.9**	**-1.0**
KOME	**Kolasin**	**0.82**	**326**	⇓*i* Pg			**Pg**	**21 01 52.8**	**-0.5**
KOME				*e* Sg			**Sb**	**21 02 05.1**	**-0.6**
TIR	**Tirane**	**0.85**	**194**	*e* Pg			**Pb**	**21 01 54.6**	**-0.2**
TIR				*e* Sg			**Sn**	**21 02 08.2**	**-0.9**
TIR	**Tirane**	**0.85**	**194**	P			**Pg**	**21 01 54.1**	**+0.2**
TIR				S			**Sn**	**21 02 08.1**	**-1.0**
TIR	**Tirane**	**0.85**	**194**	*i* PG			**Pg**	**21 01 54.3**	**+0.3**
TIR				*i* SG			**Sn**	**21 02 07.7**	**-1.4**
SMRK	**Smrekonice**	**0.91**	**40**	⇓*i* Pg			**Pb**	**21 01 55.6**	**-0.3**
SMRK				*i* Sg			**Sg**	**21 02 02.1**	**-4.9**
SMRK				*i* Sg			**Sn**	**21 02 15.3**	**+4.6**
BUM	**Brajici-Budva**	**0.93**	**278**	⇓*i* Pg			**Pg**	**21 01 55.5**	**-0.2**
BUM				*e* Sg			**Sb**	**21 02 09.6**	**+0.6**
CEME	**Cevo**	**0.98**	**293**	⇑*i* Pg			**Pg**	**21 01 54.9**	**-1.5**
CEME				*e* Sg			**Sb**	**21 02 10.8**	**+0.5**
SKO	**Skopje**	**0.99**	**101**	*e* Pg			**Pg**	**21 01 56.5**	**-0.1**
SKO				*e* Sg			**Sn**	**21 02 13.0**	**+0.5**
SKO	**Skopje**	**0.99**	**101**	P			**Pg**	**21 01 56.0**	**-0.6**
SKO				S			**Sn**	**21 02 11.9**	**-0.6**
SKO	**Skopje**	**0.99**	**101**	*i* Pn			**Pg**	**21 01 56.3**	**-0.2**
NKME	**Niksic**	**1.06**	**304**	⇑*i* Pg			**Pg**	**21 01 56.9**	**-1.0**
NKME				*e* Sg			**Sn**	**21 02 13.5**	**-0.8**
NKY	**Niksic**	**1.06**	**307**	⇑*i* Pg			**Pg**	**21 01 56.9**	**-1.0**
NKY				*e* Sg			**Sn**	**21 02 13.3**	**-1.1**
SJES	**Sjenica**	**1.09**	**354**	*e* Pg			**Pg**	**21 01 57.9**	**-0.7**
SJES				*e* Sg			**Sg**	**21 02 13.0**	**+0.3**
KRUS	**Krusevo**	**1.16**	**134**	*i* Pg			**Pg**	**21 01 59.1**	**-0.6**
OHR	**Ohrid**	**1.17**	**155**	*i* Pn			**Pg**	**21 01 59.2**	**-0.9**
HCY	**Herceg Novi**	**1.25**	**283**	⇑*i* Pg			**Pn**	**21 02 00.5**	**-1.2**
HCY				*e* Sg			**Sn**	**21 02 20.2**	**+1.3**
HCY	**Herceg Novi**	**1.25**	**283**	*e* Pg			**Pn**	**21 02 00.1**	**-1.6**
HCY				*e* Sg			**Sn**	**21 02 18.2**	**-0.7**
SELS	**Selova**	**1.27**	**34**	*e* Pg			**Pn**	**21 02 01.5**	**-0.5**
PLE	**Pljevlja**	**1.28**	**335**	⇑*i* Pg			**Pn**	**21 02 00.8**	**-1.4**
PLE				*e* Sg			**Sn**	**21 02 20.4**	**+0.6**
UPM	**Unac-Piva**	**1.37**	**319**	⇓*i* Pg			**Pn**	**21 02 02.6**	**-1.0**
UPM				*e* Sg			**Sg**	**21 02 24.0**	**+2.3**
UPM	**Unac-Piva**	**1.37**	**319**	⇓P			**Pb**	**21 02 03.8**	**-0.1**
UPM	**Unac-Piva**	**1.37**	**319**	⇑*i* Pg			**Pn**	**21 02 02.6**	**-1.0**
UPM				*e* Sg			**Sn**	**21 02 21.6**	**-0.6**
BRY	**Bratogost**	**1.39**	**302**	⇓*i* Pg			**Pn**	**21 02 02.9**	**-0.8**
BRY				*e* Sg			**Sg**	**21 02 24.4**	**+2.2**
BRY	**Bratogost**	**1.39**	**302**	*e* Pg			**Pn**	**21 02 02.1**	**-1.6**
BRY				*e* Sg			**Sn**	**21 02 22.0**	**-0.5**
BARS	**Barje**	**1.40**	**62**	*e* Pg			**Pn**	**21 02 03.8**	**+0.1**
BARS				*e* Sg			**Sg**	**21 02 24.5**	**+2.1**
IVAS	**Ivanjica**	**1.40**	**0**	*e* Pg			**Pn**	**21 02 03.7**	**-0.2**
TREB	**Trebinje**	**1.43**	**293**	*e* Pg			**Pn**	**21 02 03.7**	**-0.5**
TREB	**Trebinje**	**1.43**	**293**	⇑*i* Pg			**Pn**	**21 02 03.1**	**-1.1**
TREB				*e* Sg			**Sg**	**21 02 24.2**	**+0.6**
STIP	**Stip**	**1.60**	**107**	*i* Pn			**Pg**	**21 02 08.5**	**+0.2**
KBN	**Korca**	**1.62**	**162**	*i* PN			**Pg**	**21 02 09.2**	**+0.5**
KBN				*i* SN			**Sg**	**21 02 31.7**	**+1.9**
FNA	**Florina**	**1.67**	**146**	P			**Pn**	**21 02 07.7**	**+0.1**
FNA				S			**Sb**	**21 02 30.8**	**+0.6**
GRUS	**Gruza**	**1.76**	**14**	*e* Pn			**Pn**	**21 02 08.6**	**-0.2**
BBLS	**Lazići**	**1.77**	**343**	*e* Pn			**Pn**	**21 02 09.3**	**+0.3**
BBLS	**Lazići**	**1.77**	**343**	*e* Pn			**Pn**	**21 02 09.0**	**0.0**
BBLS				*e* Sn			**Sn**	**21 02 31.7**	**-0.3**
BOVS	**Bovan**	**1.86**	**38**	*e* Pn			**Pn**	**21 02 10.0**	**-0.1**
NEST	**Nestorio**	**1.89**	**158**	P			**Pn**	**21 02 11.3**	**+0.7**
DIVS	**Divibare**	**1.93**	**357**	*e* Pn			**Pn**	**21 02 10.9**	**-0.2**
DIVS	**Divibare**	**1.93**	**357**	*e* Pn			**Pn**	**21 02 10.4**	**-0.7**
DIVS				*e* Sn			**Sn**	**21 02 34.7**	**-1.0**
STON	**Ston**	**1.93**	**292**	*e* Pn			**Pb**	**21 02 12.0**	**-1.3**
STON				Sn			**Sg**	**21 02 40.6**	**+0.9**
STON	**Ston**	**1.93**	**292**	*e* Pn			**Pn**	**21 02 11.2**	**+0.1**
STON				*e* Sn			**Sn**	**21 02 35.6**	**-0.1**
VAY	**Valandovo**	**2.01**	**114**	*e* Pn			**Pb**	**21 02 14.1**	**-0.5**
VAY	**Valandovo**	**2.01**	**114**	*i* Pn			**Pb**	**21 02 14.5**	**-0.1**
TRUS	**Trudelj**	**2.06**	**5**	*e* Pn			**Pn**	**21 02 12.7**	**-0.1**
GRG	**Griva**	**2.09**	**125**	P			**Pn**	**21 02 13.7**	**+0.4**
HAPS	**Han Pijesak,Bl**	**2.10**	**336**	*e* Pn			**Pn**	**21 02 13.5**	**0.0**
HAPS	**Han Pijesak,Bl**	**2.10**	**336**	⇑*i* Pn			**Pn**	**21 02 13.4**	**0.0**
HAPS				*e* Sn			**Sn**	**21 02 39.1**	**-0.9**
ZAPS	**Zavoj**	**2.14**	**58**	*e* Pn			**Pn**	**21 02 14.7**	**+0.7**
ZAGS	**Zajecar**	**2.25**	**42**	*e* Pn			**Pb**	**21 02 17.0**	**-1.6**
KNT	**Kendrikon**	**2.30**	**115**	P			**Pn**	**21 02 16.3**	**+0.1**
KUBS	**Kucevo**	**2.50**	**26**	*e* Pn			**Pn**	**21 02 18.6**	**-0.3**
FRGS	**Fruska Gora**	**2.99**	**356**	*e* Pn			**Pn**	**21 02 25.1**	**-0.6**
FRGS	**Fruska Gora**	**2.99**	**356**	*e* Pn			**Pn**	**21 02 24.7**	**-1.0**
FRGS				*e* Sn			**Sn**	**21 03 00.6**	**-1.3**
BLY	**Banja Luka**	**3.35**	**321**	*e* Pn			**Pn**	**21 02 31.0**	**+0.5**
BLY	**Banja Luka**	**3.35**	**321**	*e* Pn			**Pn**	**21 02 30.5**	**-0.1**
BZS	**Buzias**	**3.60**	**17**	*e* Pn			**Pn**	**21 02 34.1**	**+0.1**
UDBI	**Udbina**	**3.96**	**308**	*i* Pn			**Pn**	**21 02 42.2**	**+3.2**
MORH	**M¨‡r¨igy, Hung**	**4.18**	**346**	⇓*ex*			**Pn**	**21 02 41.7**	**-0.3**
MORH				*ex*			**Sn**	**21 03 32.8**	**+1.7**
MORH	**M¨‡r¨igy, Hung**	**4.18**	**346**	*e* Pn			**Pn**	**21 02 41.3**	**-0.7**
MORH				*e* Sn			**Sn**	**21 03 29.4**	**-1.7**
NVLJ	**Novalja**	**4.52**	**304**	*e* Pn			**Pn**	**21 02 48.1**	**+1.5**
CRES	**Cresnjev**	**4.97**	**319**	*e* Pn			**Pn**	**21 02 52.4**	**-0.5**
CEY	**Cerknica**	**5.45**	**313**	*e* Pn			**Pn**	**21 02 58.4**	**-1.0**
OBKA	**Obir**	**5.90**	**319**	*e* Pn			**Pn**	**21 03 08.4**	**+2.7**
	0.7nm,0.3s								
ARSA	**Arzberg**	**6.05**	**329**	*e* Pn			**Pn**	**21 03 11.3**	**+3.7**
	0.5nm,0.3s								
MYKA	**Terra Mystica**	**6.44**	**316**	*e* Pn			**Pn**	**21 03 15.8**	**+2.8**
	1.2nm,0.3s								
KBA	**Koelnbreinsper**	**6.89**	**318**	*e* Pn			**Pn**	**21 03 22.5**	**+3.1**
	0.9nm,0.3s								
MOA	**Molln**	**7.04**	**326**	*e* Pn			**Pn**	**21 03 23.2**	**+2.0**
	0.1nm,0.2s								
ABTA	**Abfaltersbach**	**7.12**	**313**	*e* Pn			**Pn**	**21 03 23.8**	**+1.5**
	1.1nm,0.3s								
WATA	**Walderalm**	**7.98**	**313**	*e* Pn			**Pn**	**21 03 37.4**	**+3.1**
	1.0nm,0.3s								
SQTA	**Sankt Quirin**	**8.12**	**311**	*e* Pn			**Pn**	**21 03 36.4**	**+0.2**
	0.6nm,0.2s								
MOTA	**Moosalm**	**8.25**	**312**	*e* Pn			**Pn**	**21 03 40.9**	**+3.0**
	0.3nm,0.2s								
FETA	**Feichten**	**8.28**	**309**	*e* Pn			**Pn**	**21 03 39.8**	**+1.4**
	0.3nm,0.3s								

JMA ***18*** *21:08:14.1±0.1,23°.45N×121°.46E,h46km±2km,M2.7*
ISCJB ***18*** *21:08:15.6±0.2,23°.48N±0°.02×121°.53E±0°.02,h35km, Error ellipse: s-maj=2.8km s-min=1.8km az=42.5*
TAP ***18*** *21:08:15.3,23°.47N×121°.45E,h44km,ML3.1,C*
ISC 18 21:08:15.8±1.2,**23°.47N**±0°.02×**121°.51E**±0°.03,**h35**km,**n66,** σ0f**96**/116,**3C-8D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.08**	**287**	*e* P			**Pn**	**21 08 22.9**	**+1.0**
	baz=287								
HGSD				*e* S			**Sn**	**21 08 28.6**	**+2.7**
	baz=287								
EHY	**Hungye**	**0.17**	**283**	⇓*i* P			**Pn**	**21 08 22.5**	**0.0**
	baz=285								
EHY				S			**Sn**	**21 08 27.1**	**+0.1**
	baz=285								
YULB	**Yu-li**	**0.21**	**249**	⇓*e* P			**Pn**	**21 08 22.7**	**-0.1**
	baz=246								
YULB				*e* S			**Sn**	**21 08 27.5**	**0.0**
	baz=246								
EGFH	**Guangfu**	**0.21**	**340**	P			**Pn**	**21 08 23.0**	**+0.2**
	baz=349								
EGFH				*e* S			**Sn**	**21 08 28.3**	**+0.7**
	baz=349								
TWF1	**Yuli**	**0.23**	**239**	⇓*i* P			**Pn**	**21 08 22.8**	**-0.1**
	baz=237								
TWF1				*e* S			**Sn**	**21 08 28.0**	**+0.2**
	baz=237								
FULB	**Fuli**	**0.33**	**216**	⇑*e* P			**Pn**	**21 08 24.4**	**+0.1**
	baz=216								
FULB				*e* S			**Sn**	**21 08 31.3**	**+1.3**
	baz=216								
ESL	**Shilin**	**0.35**	**349**	⇓*i* P			**Pn**	**21 08 23.9**	**-0.5**
	baz=360								
ESL				S			**Sn**	**21 08 30.0**	**-0.4**
	baz=360								
CHKT	**Chengkung**	**0.39**	**200**	⇑P			**Pn**	**21 08 24.9**	**-0.1**
	baz=181								
CHKT				S			**Sn**	**21 08 31.9**	**+0.7**
	baz=181								
VWDT	**VWDT**	**0.44**	**310**	⇓*e* P			**Pn**	**21 08 25.9**	**+0.2**
	baz=315								
VWDT				*e* S			**Sn**	**21 08 32.2**	**-0.3**
	baz=315								
YUS	**Yu-Shan**	**0.51**	**272**	P			**Pn**	**21 08 27.0**	**-0.1**
	baz=274								
YUS				S			**Sn**	**21 08 34.5**	**-0.4**
	baz=274								
HWA	**Hwalien**	**0.52**	**10**	*e* P			**Pn**	**21 08 26.9**	**+0.2**
	baz=7.0								
ELDTW	**Lidau**	**0.53**	**238**	P			**Pn**	**21 08 26.1**	**-0.9**
	baz=230								
ELDTW				S			**Sn**	**21 08 33.5**	**-1.3**
	baz=230								
SSLB	**Suanglung**	**0.60**	**302**	⇓*e* P			**Pn**	**21 08 27.5**	**-0.4**
	baz=304								
SSLB				*e* S			**Sn**	**21 08 35.6**	**-0.8**
	baz=304								
TWD	**Chiawan**	**0.61**	**8**	P			**Pn**	**21 08 27.4**	**-0.7**
	baz=6.0								
TWD				S			**Sn**	**21 08 35.6**	**-1.1**
	baz=6.0								
ALS	**Alishan**	**0.65**	**274**	P			**Pn**	**21 08 28.9**	**+0.1**
	baz=280								
ALS				*e* S			**Sn**	**21 08 38.0**	**0.0**
	baz=280								
CHGB	**Renai**	**0.66**	**333**	⇓*e* P			**Pn**	**21 08 28.8**	**-0.2**
	baz=344								
CHGB				*e* S			**Sn**	**21 08 37.7**	**-0.7**
	baz=344								
SMLT	**Sun Moon Lake**	**0.69**	**307**	P			**Pn**	**21 08 29.4**	**+0.1**
	baz=314								
SMLT				S			**Sn**	**21 08 38.4**	**-0.5**
	baz=314								
NACB	**Ninganchiao**	**0.71**	**6**	*e* P			**Pn**	**21 08 28.0**	**-1.4**
	baz=12								
NACB				*e* S			**Sn**	**21 08 37.0**	**-2.0**
	baz=12								
WHF	**Hehuan Shan**	**0.71**	**342**	P			**Pn**	**21 08 29.2**	**-0.6**
	baz=354								
WHF				S			**Sn**	**21 08 38.6**	**-1.2**
	baz=354								
TYC	**Yuchr**	**0.74**	**306**	⇓P			**Pn**	**21 08 30.0**	**+0.2**
	baz=313								
TYC				*e* S			**Sn**	**21 08 39.8**	**0.0**

NMLH	**Miaoli**	**1.25**	**329**	*e*P		**Pn**	**21 08 37.6**	**+0.8**
	baz=331							
LIOB	**Emei**	**1.26**	**339**	*e*P		**Pn**	**21 08 37.7**	**+0.8**
	baz=344							
LIOB				*e*S		**Sn**	**21 08 53.9**	**+1.3**
	baz=344							
TWE	**Neicheng**	**1.26**	**7**	*e*P		**Pn**	**21 08 36.5**	**-0.4**
	baz=12							
TWE				S		**Sn**	**21 08 50.6**	**-1.9**
	baz=12							
TWA	**Mucha**	**1.51**	**3**	*e*P		**Pn**	**21 08 40.7**	**+0.3**
	baz=18							
TWB1	**Santiao Chiao**	**1.59**	**16**	*e*P		**Pn**	**21 08 42.8**	**+1.2**
	baz=10.0							
NWF	**Wu-fen Shan**	**1.61**	**9**	*e*P		**Pn**	**21 08 42.1**	**+0.1**
	baz=12							
WFSB	**Wu-fen Shan**	**1.61**	**9**	*e*P		**Pn**	**21 08 42.1**	**+0.2**
	baz=12							
JYNG	**Yonagunijimaku**	**1.64**	**53**	P		**Pn**	**21 08 43.0**	**+0.8**
JYNG				*e*S		**Sn**	**21 09 04.2**	**+2.2**
YM05	**YM05**	**1.69**	**2**	*e*P		**Pn**	**21 08 42.7**	**-0.3**
	baz=19							
YOJ	**Yonaguni jima**	**1.69**	**54**	P		**Pn**	**21 08 43.8**	**+0.9**
YM07	**YM07**	**1.70**	**3**	*e*P		**Pn**	**21 08 42.6**	**-0.5**
	baz=19							
IRIF	**Iriomote-Funau**	**2.21**	**67**	P		**Pn**	**21 08 51.5**	**+1.5**
IRIF				S		**Sn**	**21 09 17.5**	**+1.4**
JKRS	**Kuro-shima**	**2.42**	**71**	P		**Pn**	**21 08 53.6**	**+0.8**
JKRS				*e*S		**Sn**	**21 09 21.9**	**+0.7**
JIJ	**Ishigaki jima**	**2.57**	**69**	P		**Pn**	**21 08 54.9**	**-0.1**
JIJ				S		**Sn**	**21 09 24.9**	**-0.2**
JISG	**Ishigakijimahi**	**2.79**	**66**	P		**Pn**	**21 08 58.0**	**-0.1**
JISG				*e*S		**Sn**	**21 09 29.2**	**-1.4**
JTJ	**Tarama**	**3.15**	**68**	S		**Sn**	**21 09 40.4**	**+1.2**

IDC ***18*** *21:16:53.5±4.8, 36°.21N×71°.30E, h62km±32km, mb3.6/5, mb1 3.7/11, mb1mx3.3/66, mbtmp3.8/11, ML3.8/5, MS2.7/1, Ms1 2.7/1, ms1mx2.2/37, Error ellipse: s-maj=59.7km s-min=25.8km az=146.0*

ISCJB ***18*** *21:16:55.0±0.6, 36°.35N±0°.04×71°.29E±0°.07, h100km, mb3.8/4, Error ellipse: s-maj=8.6km s-min=5.8km az=161.9*

NNC ***18*** *21:17:01.8±1.9, 36°.82N×71°.04E, h132km±36km, mb3.1, mpv3.8, Error ellipse: s-maj=20.7km s-min=15.5km az=86.0*

ISC 18 21:16:55.0±0.8, 36°.31N±0°.07×71°.28E±0°.06, h100km, n32, σ2§48/35, mb3.9/4, 5C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**4.09**	**25**	⇑P		**Pn**	**21 17 58.0**	**+2.4**
	3.8nm,0.3s							
SFK				⇓S		**Sn**	**21 18 43.2**	**+0.7**
	9.7nm,0.2s							
AML	**Almayashu**	**6.11**	**17**	P		**Pn**	**21 18 24.0**	**+1.0**
	SNR=55							
MNAS	**Manas**	**6.24**	**8**	⇓P		**Pn**	**21 18 25.2**	**+0.6**
	5.2nm,0.5s							
MNAS				⇑S		**Sn**	**21 19 30.9**	**-3.7**
	15nm,0.6s							
UCH	**Uchtor**	**6.42**	**22**	P		**Pn**	**21 18 28.7**	**+1.4**
	SNR=7.5							
EKS2	**Erkin-Say**	**6.63**	**16**	P		**Pn**	**21 18 31.1**	**+1.2**
	SNR=8.5							
AAK	**Ala-Archa**	**6.79**	**20**	P		**Pn**	**21 18 33.5**	**+1.4**
	3.3nm,0.3s,baz=175,slow=5.8,SNR=50							
AAK				S		**Sn**	**21 19 44.9**	**-3.1**
	1.1nm,0.3s,baz=327,slow=23,SNR=9.4							
AAK	**Ala-Archa**	**6.79**	**20**	⇑P		**Pn**	**21 18 33.3**	**+1.2**
	5.0nm,0.4s							
AAK				⇓S		**Sn**	**21 19 44.9**	**-3.1**
	9.4nm,0.8s							
AAK	**Ala-Archa**	**6.79**	**20**	P		**Pn**	**21 18 33.3**	**+1.2**
	SNR=13							
KK31	**Karatay Array**	**6.81**	**355**	⇓P		**Pn**	**21 18 32.3**	**0.0**
	5.3nm,0.5s,baz=0.0,slow=0.1,SNR=14							
KK31				⇑S		**Sn**	**21 19 43.1**	**-5.2**
	3.8nm,0.3s,baz=186,slow=31,SNR=4.2							
CHMS	**Chumysh**	**7.20**	**21**	P		**Pn**	**21 18 38.6**	**+1.1**
	SNR=8.2							
TKM2	**Tokmak 2**	**7.39**	**25**	⇑P		**Pn**	**21 18 41.4**	**+1.0**
	4.3nm,0.5s							
TKM2				⇓S		**Sn**	**21 20 01.6**	**-1.1**
	4.1nm,0.9s							
TKM2	**Tokmak 2**	**7.39**	**25**	P		**Pn**	**21 18 41.8**	**+1.4**
	SNR=5.2							
GEYT	**Alibeck**	**10.64**	**283**	P		**Pn**	**21 19 23.0**	**-1.3**
	0.4nm,0.3s,baz=93,slow=12,SNR=15							
GEYT				S		**Sn**	**21 21 14.6**	**-6.9**
	1.1nm,0.3s,baz=120,slow=22,SNR=13							
PYUN	**Piuthan**	**12.85**	**126**	*e*P		**Pn**	**21 19 54.9**	**+0.8**
	7.3nm,0.3s							
DANN	**Dangsing**	**13.19**	**123**	*e*P		P	21 19 59.6	-5.3
	5.9nm,0.3s							
MKAR	**Makanchi Array**	**13.31**	**35**	P		**Pn**	**21 20 00.1**	**+0.3**
	0.0nm,0.3s,baz=229,slow=13,SNR=3.2							
KOLN	**Koldanda**	**13.47**	**126**	*e*P		P	21 20 03.1	-4.8
	2.9nm,0.3s							
PKIN	**Phulchoki**	**14.80**	**122**	*e*P		**P**	**21 20 20.1**	**-2.6**
	12nm,0.5s							
PKI	**Pulchoki**	**14.81**	**122**	*e*P		**P**	**21 20 20.3**	**-2.6**
	15nm,0.6s							
KURBB	**Kurchatov Arra**	**15.23**	**18**	P		**P**	**21 20 27.6**	**+0.5**
	0.1nm,0.3s,baz=208,slow=10,SNR=5.7							
JIRN	**Jiri**	**15.29**	**120**	*e*P		**P**	**21 20 26.3**	**-2.1**
	10nm,0.3s							
AB31	**Akbulak array**	**15.36**	**331**	⇓P		**Pn**	**21 20 24.6**	**-1.4**
	1.1nm,0.6s							
BVAR	**Borovoye Array**	**16.73**	**358**	P		**Pn**	**21 20 42.8**	**-0.2**
	0.3nm,0.3s,baz=161,slow=9.6,SNR=7.5							
AKTO	**Aktyubinsk**	**17.06**	**330**	P		**P**	**21 20 48.2**	**+0.9**
	0.6nm,0.3s,baz=136,slow=15,SNR=9.8							
AKTO				LR		LR	21 28 19.9	
	comp=Z,21nm,18.3s,baz=12,slow=40							
AKTO	**Aktyubinsk**	**17.06**	**330**	⇓P		**P**	**21 20 48.0**	**+0.6**
	5.1nm,0.9s							
ZALV	**Zalesovo Beam**	**20.00**	**24**	P		Pn	21 21 20.4	-1.6
	2.8nm,0.3s,baz=214,slow=11,SNR=19							
FINES	**FINESS Array B**	**37.77**	**326**	P		**P**	**21 24 04.2**	**+3.3**
	1.6nm,0.4s,baz=118,slow=8.9,SNR=16							
ARCES	**ARCESS Array B**	**41.41**	**338**	P		**P**	**21 24 34.2**	**+3.2**
	2.6nm,0.9s,baz=114,slow=8.2,SNR=9.7							
NB2	**NORSAR Subarra**	**44.67**	**323**	P		**P**	**21 25 00.1**	**+2.6**
	comp=Z,0.5nm,0.4s,baz=96,slow=7.4							
NOA	**NORSAR Array B**	**44.67**	**323**	P		**P**	**21 25 00.5**	**+3.0**
	comp=Z,1.1nm,0.6s,baz=96,slow=7.7,SNR=4.6							
TORD	**Torodi Ar. Bea**	**65.94**	**269**	P		**P**	**21 27 33.5**	**+2.8**
	comp=Z,0.2nm,0.5s,baz=38,slow=5.9,SNR=5.5							
SIJI	**Sorong**	**66.72**	**110**	LR		LR	22 00 04.6	
	comp=Z,435nm,21.0s,baz=157,slow=39							

IDC 18 21:20:09.8±6.4, 17°.41S×176°.88W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.6/47, mbtmp4.0/2, Error ellipse: s-maj=320.2km s-min=51.7km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.15**	**259**	P		P	21 28 36.2	-0.3
	0.8nm,0.7s,baz=96,slow=7.0,SNR=16							
ASAR	**Alice Springs**	**46.33**	**254**	P		P	21 28 38.0	+0.1
	3.8nm,0.7s,baz=86,slow=8.8,SNR=38							
GERES	**GERESS Array B**	**147.48**	**347**	PKPbc		PKPbc	21 39 55.2	-0.8
	0.3nm,0.6s,baz=20,slow=4.3,SNR=4.5							

ISK ***18*** *21:28:14.8, 35°.17N×27°.67E, h4km, ML2.8/9*

ATH ***18*** *21:28:18.9, 35°.38N×27°.71E, h22km±2km, ML2.5/2, Error ellipse: s-maj=6.2km s-min=2.5km az=133.0*

ISCJB ***18*** *21:28:20.4±1.4, 35°.36N±0°.06×27°.78E±0°.05, h31km±13km, Error ellipse: s-maj=11.3km s-min=5.3km az=151.8*

DDA ***18*** *21:29:01.2, 35°.33N×28°.33E, h11km, Ml2.5*

ISC 18 21:28:19.7±1.6, 35°.29N±0°.07×27°.76E±0°.05, h30km±15km, n28, σ1§52/36, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**1.27**	**263**	P		**Pn**	**21 28 41.6**	**+0.2**
ZKR				S		**Sb**	**21 29 00.0**	**+1.0**
ZKR				AML	AML		21 29 08.2	
	comp=N,217μm,1.1s							
ZKR				AML	AML		21 29 10.0	
	comp=E,341μm,0.9s							
NIS1	**Nisyros Isl.**	**1.39**	**340**	PN		**Pn**	**21 28 42.9**	**-0.2**
NIS1	**Nisyros Isl.**	**1.39**	**340**	P		**Pb**	**21 28 44.2**	**-0.9**
DAT	**Datca**	**1.44**	**354**	PN		**Pn**	**21 28 44.0**	**+0.1**
DAT	**Datca**	**1.44**	**354**	*i* P		**Pn**	**21 28 43.8**	**-0.1**
DAT				*i* S		**Sb**	**21 29 03.6**	**-0.4**
DATC	**Datca-Mugla**	**1.47**	**357**	PN		**Pn**	**21 28 44.4**	**+0.3**
DATC				SN		**Sb**	**21 29 06.2**	**+1.6**
DALY	**Dalyan (Mu¨la**	**1.69**	**25**	PN		**Pn**	**21 28 47.9**	**+0.8**
DALY	**Dalyan (Mu¨la**	**1.69**	**25**	*i* P		**Pn**	**21 28 43.5**	**-3.6**
DALY				*i* S		**Sb**	**21 29 15.2**	**+4.2**
FETY	**Fethiye**	**1.72**	**38**	PN		**Pn**	**21 28 48.3**	**+0.7**
TURN	**Turunc**	**1.72**	**23**	PN		**Pn**	**21 28 45.6**	**-2.0**
TURN				SN		**Sn**	**21 29 08.0**	**-0.5**
TURN	**Turunc**	**1.72**	**23**	*i* P		**Pn**	**21 28 44.2**	**-3.4**
TURN				*i* S		**Sn**	**21 29 07.5**	**-1.0**
NPS	**Neapolis**	**1.75**	**270**	P		**Pb**	**21 28 49.8**	**-1.4**
NPS				S		**Sb**	**21 29 12.9**	**0.0**
NPS				AML	AML		21 29 22.5	
	comp=N,280μm,0.6s							
NPS				AML	AML		21 29 23.6	
	comp=E,319μm,0.7s							
AKAS	**Kas**	**1.77**	**57**	PN		**Pn**	**21 28 48.9**	**+0.5**
BODT	**Bodrum**	**1.81**	**349**	PN		**Pn**	**21 28 48.9**	**+0.1**
LAST	**Lasithi**	**1.87**	**267**	P		**Pn**	**21 28 51.0**	**+1.4**
ANAF	**Anafi Island**	**1.93**	**304**	P		**Pn**	**21 28 51.6**	**+1.1**
MLSB	**Milas**	**2.00**	**0**	PN		**Pn**	**21 28 52.0**	**+0.5**
AMGA	**Amorgos Island**	**2.16**	**316**	P		**Pn**	**21 28 53.8**	**+0.3**
SANT	**Santorini**	**2.16**	**301**	PN		**Pn**	**21 28 52.7**	**-0.9**
THR6	**Thira Island,**	**2.19**	**300**	P		**Pn**	**21 28 55.8**	**+1.7**
SAP1	**Santorini-Akro**	**2.20**	**300**	P		**Pn**	**21 28 55.5**	**+1.4**
ELL	**Elmali**	**2.27**	**50**	PN		**Pn**	**21 28 56.1**	**+0.8**
SIVA	**Sivas**	**2.43**	**264**	P		**Pb**	**21 29 00.9**	**-1.8**
IOSP	**Ios island**	**2.46**	**306**	P		**Pn**	**21 28 59.2**	**+1.5**
IOSP				S		**Sn**	**21 29 27.4**	**+0.6**
APE	**Apeiranthos**	**2.53**	**315**	PN		**Pn**	**21 28 58.4**	**-0.3**
APE	**Apeiranthos**	**2.53**	**315**	P		**Pn**	**21 28 59.1**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**2.65**	**2**	PN		**Pn**	**21 29 01.4**	**+0.9**
KORT	**Korkueli**	**2.71**	**50**	PN		**Pn**	**21 29 02.2**	**+1.0**

IDC ***18*** *21:36:56.6±2.1, 38°.19S×73°.67W, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/26, mbtmp3.4/4, ML3.7/1, MS3.5/2, Ms1 3.4/2, ms1mx2.8/14, Error ellipse: s-maj=67.2km s-min=19.0km az=25.0*

GUC ***18*** *21:36:58.1±0.6, 37°.99S×73°.80W, h16km±7km, ML3.7*

ISC 18 21:36:59.9±1.4, 38°.07S±0°.05×73°.7W±0°.1, h22km, n10, σ2§09/11, mb3.5/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TMU	**Temuco**	**1.08**	**128**	*i* P		**Pb**	**21 37 19.1**	**-0.9**
TMU				*e*S		**Sn**	**21 37 34.3**	**+0.2**
TMU				IAML			21 37 39.8	
	comp=N,2μm,0.5s							
CCHI	**Chillan**	**1.95**	**42**	*e*P		**Pb**	**21 37 33.8**	**-0.9**
CCHI				*i* S		**Sb**	**21 38 02.1**	**+3.5**
GO06	**Curarrehue**	**2.30**	**132**	*e*P		**Pn**	**21 37 37.3**	**+0.7**
GO06				*i* S		**Sb**	**21 38 07.8**	**-1.0**
GO06				IAML			21 38 16.1	
	comp=N,505nm,0.8s							
PLCA	**Paso Flores**	**3.60**	**139**	Pn		**Pn**	**21 37 54.2**	**-0.3**
	comp=N,1.4nm,0.3s,baz=323,slow=11,SNR=30							
PLCA				Lg		Lg	21 38 48.1	
	comp=N,7.9nm,0.3s,baz=21,slow=8.3,SNR=7.6							
CLCH	**Cerro Calan**	**5.32**	**30**	*e*P		**Pn**	**21 38 14.8**	**-3.3**
CPUP	**Villa Florida**	**18.10**	**54**	LR		LR	21 48 55.7	
	comp=N,110nm,20.0s,baz=222,slow=40							
LPAZ	**La Paz**	**22.25**	**14**	P		**P**	**21 41 58.3**	**+2.4**
	comp=N,2.0nm,0.9s,baz=236,slow=5.6,SNR=3.4							
TXAR	**Lajitas Array**	**72.68**	**333**	P		**P**	**21 48 27.2**	**+1.2**
	comp=N,0.2nm,0.6s,baz=147,slow=8.5,SNR=3.4							
RAR	**Rarotonga**	**74.26**	**255**	LR		LR	22 11 37.4	
	comp=N,35nm,21.3s,baz=146,slow=28							
TORD	**Torodi Ar. Bea**	**86.84**	**71**	P		**P**	**21 49 41.7**	**-1.2**
	comp=N,0.3nm,0.9s,baz=234,slow=4.9,SNR=3.1							

NIED ***18*** *21:37:00, 29°.80N×141°.90E, h56km, Mw4.3 Best double couple: M₀2.81000×10¹⁵ NP1:φ=129.00000°, δ59.00000°, λ147.00000°. NP2:φ=237.00000°, δ62.00000°, λ35.00000°.*

IDC ***18*** *21:37:27.9±0.5, 29°.59N×141°.33E, h0km, mb4.0/16, mb1 4.2/18, mb1mx4.0/48, mbtmp4.0/18, ML3.0/2, MS3.0/7, Ms1 3.1/7, ms1mx2.8/36, Error ellipse: s-maj=21.9km s-min=13.8km az=75.0*

JMA ***18*** *21:37:28.7±0.1, 29°.78N×141°.92E, h12km, M4.6*

ISCJB ***18*** *21:37:30.4±1.6, 29°.58N±0°.03×141°.25E±0°.08, h23km±11km, mb4.2/26, Error ellipse: s-maj=11.4km s-min=4.8km az=164.4*

NEIC ***18*** *21:37:33.6±0.9, 29°.53N×141°.29E, h38km±8km, mb4.6/12, Error ellipse: s-maj=9.1km s-min=6.5km az=81.0*

ISC 18 21:37:33.1±1.2, 29°.61N±0°.05×141°.4E±0°.1, h35km±5km, n80, σ1§53/89, mb4.3/26, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.60**	**165**	*e*Pn		**Pn**	**21 38 13.2**	**+0.5**
CBIJ				*e*Sn		**Sn**	**21 38 39.8**	**-3.3**
CBIJ	**Chichi jima**	**2.60**	**165**	P		**Pn**	**21 38 13.0**	**+0.3**
JHHJ	**Haha-jima-NKT**	**3.05**	**167**	P		**Pn**	**21 38 19.1**	**+0.2**
JHHJ				S		**Sn**	**21 38 56.8**	**+2.6**
JAOM	**Aogashimamukai**	**3.17**	**334**	S		**Sn**	**21 38 59.5**	**+2.2**
JHCJ	**Hachijojimakas**	**3.71**	**339**	P		**Pn**	**21 38 27.5**	**-0.5**
JHJ2	**Mitsune**	**3.74**	**339**	*e*Pn		**Pn**	**21 38 28.0**	**-0.4**
JHJ2				*e*Sn		**Sn**	**21 39 06.9**	**-4.4**
JHJ2	**Mitsune**	**3.74**	**339**	P		**Pn**	**21 38 28.0**	**-0.4**
JHJ	**Hachijo jima 2**	**3.76**	**339**	Pn		**Pn**	**21 38 28.0**	**-0.7**
	16nm,0.3s,baz=111,slow=22,SNR=7.4							
JHJ				Sn		**Sn**	**21 39 07.3**	**-4.4**
	49nm,0.3s,baz=105,slow=17,SNR=5.8							
JHJ				LR		LR	21 40 07.2	
	comp=Z,180nm,20.5s,baz=100,slow=42							
BSO1	**Boso 1**	**5.04**	**356**	P		**Pn**	**21 38 45.4**	**-0.3**
BSO1				S		**Sn**	**21 39 41.9**	**-0.6**
BSO3	**Boso 3**	**5.23**	**352**	P		**Pn**	**21 38 47.8**	**-0.8**
JRY	**Ryogami san**	**6.72**	**342**	P		**Pn**	**21 39 10.9**	**+1.5**
MJAR	**Matsushiro Arr**	**7.41**	**340**	Pn		**Pn**	**21 39 20.1**	**+1.2**
	3.0nm,0.3s,baz=164,slow=12,SNR=25							
MAJO	**Matsushiro**	**7.41**	**340**	*e*Pn		**Pn**	**21 39 20.5**	**+1.7**
MAJO				*e*Sn		**Sn**	**21 40 43.8**	**+2.0**
MAT	**Matsushiro**	**7.41**	**340**	P		**Pn**	**21 39 20.8**	**+1.9**
MAT				S		**Sn**	**21 40 42.6**	**+0.8**
MJB9	**Matsu-Tunnel**	**7.42**	**340**	*e*Pn		**Pn**	**21 39 20.4**	**+1.5**
MJB9				*e*Sn		**Sn**	**21 40 46.4**	**+4.5**
JFK	**Kawauchi**	**7.75**	**357**	P		**Pn**	**21 39 22.0**	**-1.4**
JNU	**Nakatsue**	**9.65**	**294**	LR		LR	21 43 17.8	
	comp=Z,78nm,21.2s,baz=110,slow=36							
JOW	**Kunigami**	**11.91**	**260**	LR		LR	21 44 32.8	
	comp=Z,46nm,19.5s,baz=83,slow=36							
ASAJ	**Asahikawa**	**14.51**	**3**	Pn		**Pn**	**21 40 52.3**	**-3.6**
	0.7nm,0.3s,baz=205,slow=13,SNR=5.3							
USRK	**Ussuriysk Ar.**	**16.37**	**335**	Pn		**Pn**	**21 41 19.6**	**-0.6**
	0.1nm,0.3s,baz=138,slow=6.7,SNR=3.8							
MDJ	**Mudanjiang**	**17.66**	**331**	*e*Pn		**P**	**21 41 37.9**	**+0.8**
	34nm,1.6s							
KLR	**Kul'dur**	**20.93**	**342**	P		**P**	**21 42 12.0**	**-0.7**
	0.8nm,0.5s,baz=163,slow=14,SNR=2.6							
KLR				LR		LR	21 50 48.9	
	comp=Z,27nm,18.8s,baz=149,slow=38							
H11N2	**WAKE ISLAND Hy**	**25.12**	**107**	T		T	22 08 57.6	
	baz=297,slow=75,SNR=16							
H11N1	**WAKE ISLAND Hy**	**25.12**	**107**	T		T	22 08 51.2	
	baz=297,slow=75,SNR=16							
H11N3	**WAKE ISLAND Hy**	**25.13**	**107**	T		T	22 09 00.8	
	baz=297,slow=75,SNR=9.1							
H11S3	**WAKE ISLAND Hy**	**25.54**	**110**	T		T	22 09 35.6	
	baz=302,slow=74,SNR=6.3							
H11S1	**WAKE ISLAND Hy**	**25.55**	**110**	T		T	22 09 43.3	
	baz=302,slow=74,SNR=5.4							
H11S2	**WAKE ISLAND Hy**	**25.56**	**110**	T		T	22 09 31.6	
	baz=302,slow=74,SNR=5.3							
SONA0	**Songino Array**	**32.45**	**314**	*e*P		**P**	**21 44 01.1**	**+0.9**
SONA0				*e*PcP		**PcP**	**21 46 47.0**	**+0.2**
SONM	**Songino Array**	**32.45**	**314**	P		**P**	**21 44 01.1**	**+0.9**
	0.2nm,0.4s,baz=122,slow=10,SNR=3.2							
SONM				PcP		**PcP**	**21 46 47.0**	**+0.2**
	0.2nm,0.4s,baz=139,slow=2.3,SNR=6.7							
FAKI	**Fak Fak**	**33.52**	**197**	*e*P		**P**	**21 44 07.2**	**-2.4**
	6.7nm,0.8s							
PBKT	**Sadao Pong**	**39.20**	**260**	*e*P		**P**	**21 44 58.8**	**+0.7**
	3.8nm,0.6s							
CHTO	**Chiang Mai**	**39.99**	**264**	*e*P		**P**	**21 45 04.9**	**+0.2**
	3.0nm,0.8s							
CM31	**Chiang Mai Arr**	**40.14**	**264**	*e*P		**P**	**21 45 05.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**40.14**	**264**	P		**P**	**21 45 05.8**	**-0.1**
	0.9nm,0.7s,baz=58,slow=6.4,SNR=9.0							
CMAR				LR		LR	22 02 19.8	
	comp=Z,35nm,18.1s,baz=149,slow=37							
CM01	**Chiang Mai Arr**	**40.14**	**264**	*e*P		**P**	**21 45 07.3**	**+1.3**
ZAA1	**Zalesovo Array**	**47.16**	**318**	*e*P		**P**	**21 46 02.1**	**+0.1**
ZAA1				*e*PcP		**PcP**	**21 47 33.1**	**-0.1**
ZALV	**Zalesovo Beam**	**47.16**	**318**	P		**P**	**21 46 02.1**	**+0.1**
	0.6nm,0.5s,baz=97,slow=8.2,SNR=2.8							
ZALV				PcP		**PcP**	**21 47 33.1**	**-0.1**
	1.1nm,0.6s,baz=107,slow=4.6,SNR=4.9							
ZALV				LR		LR	22 06 27.8	
	comp=Z,24nm,19.6s,baz=70,slow=37							
MK32	**Makanchi Array**	**48.37**	**308**	*e*P		**P**	**21 46 10.3**	**-1.3**
MKAR	**Makanchi Array**	**48.37**	**308**	P		**P**	**21 46 10.3**	**-1.3**
	0.5nm,0.8s,baz=82,slow=10,SNR=3.7							
CTA	**Charters Tower**	**49.63**	**174**	P		**P**	**21 46 20.8**	**-0.5**
	1.2nm,0.4s,baz=9.9,slow=11,SNR=4.3							
WB2	**Warramunga Arr**	**49.73**	**189**	*e*P		**P**	**21 46 19.1**	**-3.0**
WB2				*e*PcP		**PcP**	**21 47 42.2**	**-0.7**
WR1	**Warramunga Arr**	**49.74**	**189**	*e*P		**P**	**21 46 21.1**	**-1.0**
	20nm,1.8s							
WR1				*e*PcP		**PcP**	**21 47 43.8**	**+0.9**
WRA	**Warramunga Arr**	**49.74**	**189**	P		**P**	**21 46 21.1**	**-1.0**
	2.9nm,0.7s,baz=6.6,slow=7.7,SNR=14							
WRA				PcP		**PcP**	**21 47 43.8**	**+0.9**
	1.9nm,0.7s,baz=0.9,slow=3.7,SNR=6.1							
AS31	**Alice Springs**	**53.46**	**189**	*e*P		**P**	**21 46 49.2**	**-0.8**
AS31				*e*PcP		**PcP**	**21 47 57.9**	**+1.2**
ASAR	**Alice Springs**	**53.46**	**189**	P		**P**	**21 46 49.2**	**-0.8**
	0.8nm,0.4s,baz=3.8,slow=5.8,SNR=10.0							
ASAR				PcP		**PcP**	**21 47 57.9**	**+1.2**
	1.5nm,0.8s,baz=22,slow=3.3,SNR=5.7							
ILAR	**Eielson Array**	**55.85**	**29**	P		**P**	**21 47 06.3**	**-0.5**
	0.4nm,0.9s,baz=249,slow=6.6,SNR=3.0							
ILB	**Eielson Array**	**55.85**	**29**	*e*P		**P**	**21 47 06.3**	**-0.5**
KK31	**Karatay Array**	**57.08**	**304**	*e*P		**P**	**21 47 15.7**	**-0.3**
ABKAR	**Akbulak array**	**62.86**	**313**	*e*P		**P**	**21 47 55.4**	**-0.1**
ARA0	**ARCESS Array S**	**70.95**	**340**	*e*P		**P**	**21 48 46.5**	**-0.1**
ARCES	**ARCESS Array B**	**70.95**	**340**	P		**P**	**21 48 46.5**	**-0.1**
	3.3nm,0.9s,baz=69,slow=6.9,SNR=8.9							
FIA0	**FINESS Array S**	**75.39**	**333**	*e*P		**P**	**21 49 12.2**	**-0.7**
FINES	**FINESS Array B**	**75.39**	**333**	P		**P**	**21 49 12.2**	**-0.7**
	1.4nm,0.5s,baz=64,slow=4.4,SNR=11							
KBZ	**Khabaz**	**75.80**	**312**	*e*P		**P**	**21 49 15.1**	**-0.5**
	2.2nm,0.8s,baz=170,slow=1.7,SNR=5.5							
NV01	**Mina Array Sit**	**79.50**	**52**	*e*P		**P**	**21 49 38.0**	**+1.3**
NV01				*e*pP		**pP**	**21 49 48.0**	**+0.4**
NVAR	**Mina Array Bea**	**79.50**	**52**	P		**P**	**21 49 38.0**	**+1.3**
	1.1nm,0.5s,baz=292,slow=5.6,SNR=6.9							
NB2	**NORSAR Subarra**	**81.03**	**338**	P		**P**	**21 49 44.5**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=44,slow=5.3							
NB200	**NORSAR Array S**	**81.03**	**338**	*e*P		**P**	**21 49 44.4**	**+0.2**
NOA	**NORSAR Array B**	**81.03**	**338**	P		**P**	**21 49 44.4**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=36,slow=3.7,SNR=2.6							
NOA				LR		LR	22 29 47.2	
	comp=Z,20nm,18.5s,baz=330,slow=39							
IMW	**Indian Meadow**	**81.44**	**44**	*e*P		**P**	**21 49 48.1**	**+1.0**
	comp=Z,3.6nm,0.8s							
FXWY	**Fox Creek**	**81.53**	**44**	*e*P		**P**	**21 49 50.8**	**+3.3**
	comp=Z,3.9nm,1.0s							
TPAW	**Teton Pass**	**81.66**	**45**	*e*P		**P**	**21 49 50.0**	**+1.7**
	comp=Z,4.7nm,0.8s							
REDW	**Red Top Meadow**	**81.79**	**45**	*e*P		**P**	**21 49 47.0**	**-1.8**

4.6nm,0.8s
PPT Papeete 42.99 103 LR LR 21 59 55.1
comp=Z,25nm,19.1s,baz=182,slow=30
PPT2 Papeete2 42.99 103 *e*LR LR 21 58 47.3
128nm,28.2s
MCQ Macquarie Isla 43.33 186 *e*P **P 21 46 26.9 +1.2**
142nm,1.4s
TAOE Nuku Hiva Isla 52.64 92 *e*P **P 21 47 37.9 -0.6**
120nm,1.3s
MJAR Matsushiro Ar 54.63 332 P **P 21 47 51.1 -1.4**
1.3nm,0.7s,baz=176,slow=6.8,SNR=4.9
MAJO Matsushiro 54.63 332 *e*P **P 21 47 51.1 -1.4**
KSRS Korea Array 60.57 325 LR LR 22 10 59.1
comp=Z,14nm,21.9s,baz=154,slow=32
PETK Petropavlovsk- 64.74 354 LR LR 22 12 23.7
comp=Z,30nm,20.6s,baz=262,slow=31
VNDA Vanda 66.09 181 P **P 21 49 09.3 -1.0**
1.8nm,1.1s,baz=8.5,slow=4.5,SNR=3.8
CM01 Chiang Mai Arr 72.82 293 *e*P **P 21 49 53.2 +0.3**
CM31 Chiang Mai Arr 72.85 293 *e*P **P 21 49 54.0 +0.9**
CMAR Chiang Mai Arr 72.85 293 P **P 21 49 54.0 +0.9**
1.6nm,0.8s,baz=111,slow=4.2,SNR=10.0
CMAR LR LR 22 23 44.2
comp=Z,8.3nm,18.1s,baz=200,slow=37
QSPA South Pole Qui 78.55 180 P **P 21 50 24.5 -0.4**
5.4nm,0.8s,baz=8.1,slow=2.1,SNR=11
SONA0 Songino Array 79.37 324 *e*P **P 21 50 29.6 -0.1**
SONM Songino Array 79.37 324 P **P 21 50 29.6 -0.1**
0.7nm,0.8s,baz=148,slow=7.3,SNR=5.6
ILAR Eielson Array 83.71 18 P **P 21 50 53.0 +0.8**
0.7nm,0.7s,baz=246,slow=5.2,SNR=7.2
ILB Eielson Array 83.71 18 *e*P **P 21 50 53.0 +0.8**
BEKR Beckworth 84.76 48 *e*P **P 21 51 01.7 +3.4**
9.2nm,0.8s
NV01 Mina Array Sit 85.82 50 *e*P **P 21 51 05.8 +2.2**
NVAR Mina Array Bea 85.82 50 P **P 21 51 05.8 +2.2**
0.5nm,0.5s,baz=220,slow=5.4,SNR=3.2
MK32 Makanchi Array 94.25 317 *e*P **P 21 51 41.7 -1.2**
MKAR Makanchi Array 94.25 317 P **P 21 51 41.7 -1.2**
2.5nm,0.8s,baz=99,slow=6.3,SNR=14
ZALV Zalesovo Beam 94.26 324 P **P 21 51 40.2 -2.4**
0.9nm,0.6s,baz=108,slow=4.8,SNR=5.2
ZALV Zalesovo Beam 94.26 324 *e*P **P 21 51 41.2 -1.5**
ZAA1 Zalesovo Array 94.26 324 *e*P **P 21 51 40.2 -2.4**
ARA0 ARCESS Array S 116.89 346 *e*PKPdf **PKPdf 21 57 06.0 -1.7**
ARCES ARCESS Array B 116.89 346 PKP **PKPdf 21 57 06.0 -1.7**
2.2nm,0.9s,baz=56,slow=1.9,SNR=8.2

*ISCJB **18** 21:38:55.3±1.4,6˚.4S±0˚.1×146˚.3E±0˚.2, h110km, mb3.7/4, Error ellipse: s-maj=32.6km s-min=9.4km az=152.5*
*IDC **18** 21:38:55.9±2.6,6˚.31S×146˚.43E, h105km±19km, mb3.5/5, mb1 3.7/8, mb1mx3.4/41, mbtmp3.9/8, Error ellipse: s-maj=45.5km s-min=15.8km az=63.0*
ISC 18 21:38:56.6±1.6, 6˚.3S±0˚.2×146˚.4E±0˚.3, h110km, n10, σ0s85/11, mb3.7/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.15**	**165**	P	**Pn**	**21 39 44.9**	**+0.2**
	20nm,0.3s,baz=43,slow=5.6,SNR=28						
PMG				S	**Sn**	**21 40 21.2**	**-0.6**
	32nm,0.3s,baz=345,slow=5.2,SNR=3.9						
JAY	**Jayapura**	**6.79**	**304**	P	**Pn**	**21 40 33.7**	**-0.1**
	1.6nm,0.3s,baz=224,slow=11,SNR=6.8						
CTA	**Charters Tower**	**13.67**	**180**	P	**P**	**21 42 10.7**	**-0.3**
	3.1nm,0.3s,baz=358,slow=14,SNR=26						
WRA	**Warramunga Arr**	**17.86**	**220**	P	**P**	**21 42 56.5**	**-1.0**
	0.5nm,0.3s,baz=45,slow=12,SNR=25						
ASAR	**Alice Springs**	**20.98**	**214**	P	**P**	**21 43 31.2**	**-0.1**
	2.8nm,0.7s,baz=58,slow=8.6,SNR=32						
STKA	**Stephens Creek**	**25.80**	**189**	P	**P**	**21 44 18.7**	**+1.3**
	1.7nm,0.4s,baz=343,slow=13,SNR=4.6						
CMAR	**Chiang Mai Arr**	**52.84**	**299**	P	**P**	**21 48 02.5**	**+1.1**
	1.2nm,0.6s,baz=120,slow=5.7,SNR=12						
VNDA	**Vanda**	**71.62**	**176**	P	**P**	**21 50 05.9**	**+0.3**
	0.5nm,0.6s,baz=7.1,slow=3.8,SNR=3.4						
MKAR	**Makanchi Array**	**77.35**	**321**	P	**P**	**21 50 38.1**	**-1.3**
	0.5nm,0.8s,baz=125,slow=6.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**144.55**	**284**	PKP	**PKPab**	**21 58 19.9**	**0.0**
	1.5nm,0.9s,baz=46,slow=4.3,SNR=8.5						

MAN 18 21:47:42.9, 9˚.78N×121˚.92E, h27km, mb4.3, ML3.1, MS2.8, 1C-2D, Sulu Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**1.07**	**38**	*e*P	Pb	21 48 02.5	-0.3
GUIM				*e*S	Sb	21 48 16.3	0.0
SNPH	**Sibulan**	**1.37**	**108**	⇓*i*P	Pn	21 48 05.5	-0.9
SNPH				*i* S	Sn	21 48 19.5	-4.2
RCP	**Roxas**	**1.94**	**25**	⇓*e*P	Pb	21 48 19.8	+2.1
RCP				*e*S	Sb	21 48 45.7	+4.1
LLP	**Lapu-Lapu**	**2.09**	**75**	⇑*e*P	Pn	21 48 15.9	-0.3
LLP				*e*S	Sn	21 48 39.4	-1.8
PAGZ	**Pagadian**	**2.41**	**143**	*e*P	Pn	21 48 20.7	+0.1
PAGZ				*e*S	Sn	21 48 51.0	+1.9
MSLP	**Maasin**	**2.92**	**83**	*e*P	Pn	21 48 28.4	+0.8
MSLP				*e*S	Sn	21 49 03.2	+1.4

*ISCJB **18** 21:50:38.6±0.6,38˚.38N±0˚.03×42˚.03E±0˚.03, h1km±5km, Error ellipse: s-maj=5.1km s-min=3.6km az=38.6*
*DDA **18** 21:50:38.3,38˚.35N×42˚.04E, h7km, Ml2.6*
*ISK **18** 21:50:38.5,38˚.40N×42˚.01E, h5km, ML2.0/9*
ISC 18 21:50:38.4±1.1, 38˚.37N±0˚.02×42˚.03E±0˚.03, h6km±10km, n20, σ0s76/32, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GURO	**Guroymak-BITLI**	**0.18**	**1**	PG	**Pg**	**21 50 42.2**	**+0.2**
GURO				SG	**Sg**	**21 50 44.5**	**+0.1**
SRTM	**Siirt_Merkez**	**0.39**	**192**	*i* P	**Pg**	**21 50 45.6**	**-0.4**
SRTM				*i* S	**Sb**	**21 50 57.3**	**+3.1**
SVAN	**Silvan-Diyarba**	**0.69**	**251**	PG	**Pb**	**21 50 52.5**	**-0.4**
SVAN				SG	**Sb**	**21 51 02.3**	**-0.4**
SVAN	**Silvan-Diyarba**	**0.69**	**251**	*i* P	**Pg**	**21 50 52.1**	**+0.4**
SVAN				*i* S	**Sb**	**21 51 02.4**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.70**	**51**	*i* P	**Pg**	**21 50 51.9**	**0.0**
ADCV				*i* S	**Sb**	**21 51 02.6**	**-0.5**
BTMN	**Batman**	**0.77**	**231**	*i* P	**Pb**	**21 50 54.2**	**0.0**
BTMN				*i* S	**Sb**	**21 51 04.6**	**-0.4**
EKAR	**Karacoban**	**0.88**	**2**	*i* P	**Pg**	**21 50 56.6**	**+0.3**
EKAR				*i* S	**Sn**	**21 51 12.3**	**+1.3**
BNGL	**BINGOL**	**0.90**	**310**	*i* P	**Pg**	**21 50 55.5**	**-0.1**
BNGL				*i* S	**Sn**	**21 51 10.0**	**-1.3**
VRTB	**Varto-Mus**	**0.90**	**331**	PG	**Pg**	**21 50 55.7**	**-0.1**
SIRN	**S¨¬rnak**	**0.93**	**161**	*i* P	**Pg**	**21 50 55.4**	**-0.8**
SIRN				*i* S	**Sn**	**21 51 11.5**	**-0.4**
SIRT	**Sirnak**	**0.93**	**159**	PG	**Pb**	**21 50 57.1**	**+0.1**
TUTA	**Tutak**	**1.20**	**31**	*i* P	**Pg**	**21 51 01.2**	**-0.2**
TUTA				*i* S	**Sn**	**21 51 18.4**	**-0.2**
BNGB	**Bing¨¶l**	**1.22**	**301**	PN	**Pg**	**21 51 01.6**	**-0.3**
HANI	**Diyarbakir_Han**	**1.28**	**272**	*i* P	**Pn**	**21 51 02.3**	**-0.7**
HANI				*i* S	**Sn**	**21 51 20.6**	**0.0**
AGRB	**Hanur-Agry**	**1.42**	**32**	PN	**Pg**	**21 51 05.6**	**0.0**
MARD	**Mardin**	**1.45**	**223**	*i* P	**Pg**	**21 51 06.5**	**+0.4**
MARD				*i* S	**Sg**	**21 51 24.9**	**0.0**
MAZI	**Mazidag**	**1.55**	**234**	PN	**Pb**	**21 51 07.6**	**0.0**
YEDI	**Yedisu-Bingol**	**1.57**	**313**	PN	**Pn**	**21 51 07.4**	**+0.3**
CLDR	**Caldiran**	**1.67**	**62**	PN	**Pb**	**21 51 09.4**	**-0.3**
PTK	**Pertek**	**2.13**	**285**	PN	**Pn**	**21 51 15.1**	**+0.4**

IDC 18 22:10:17.6±2.0, 1˚.67N×89˚.49E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.3/38, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=52.6km s-min=26.6km az=58.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**10.37**	**303**	Pn	Pn	22 12 47.9	0.0
	0.3nm,0.3s,baz=112,slow=12,SNR=3.0						
PALK				Sn	Sn	22 14 33.4	-12
	0.2nm,0.3s,baz=118,slow=11,SNR=2.4						
CMAR	**Chiang Mai Arr**	**19.09**	**28**	P	Pn	22 14 43.0	+0.2
	baz=214,slow=9.4,SNR=2.1						
H08S2	**Diego Garcia H**	**19.32**	**241**	T	T	22 34 42.5	
	baz=61,slow=75,SNR=11						
H08S3	**Diego Garcia H**	**19.32**	**241**	T	T	22 34 42.5	
	baz=61,slow=75,SNR=17						
H08S1	**Diego Garcia H**	**19.33**	**241**	T	T	22 34 42.9	
	baz=61,slow=75,SNR=4.7						

SONM Songino Array 48.26 15 P P 22 18 60.0 -0.5
0.7nm,0.6s,baz=195,slow=8.3,SNR=5.6
WRA Warramunga Arr 48.94 118 P P 22 19 06.2 0.0
0.4nm,0.7s,baz=296,slow=8.7,SNR=5.7
ASAR Alice Springs 49.98 123 P P 22 19 13.7 -0.3
0.2nm,0.4s,baz=300,slow=7.4,SNR=3.2

*ISCJB **18** 22:12:48.0±1.5, 14˚.06N±0˚.05×92˚.35W±0˚.03, h28km±12km, mb4.3/35, MS3.4/9, Error ellipse: s-maj=8.4km s-min=4.2km az=24.2*
*MEX **18** 22:12:50.1±0.3, 13˚.99N×92˚.52W, h17km±13km, MD4.1*
*NEIC **18** 22:12:50.6±0.6, 13˚.98N×92˚.42W, h35km, mb4.4/32, MD4.0(MEX), Error ellipse: s-maj=11.2km s-min=6.4km az=29.0*
*IDC **18** 22:12:50.5±4.2, 14˚.20N×92˚.21W, h35km±30km, mb3.9/6, mb1 4.2/8, mb1mx3.7/35, mbtmp4.1/8, ML3.8/2, MS3.5/10, Ms1 3.5/10, ms1mx3.2/31, Error ellipse: s-maj=34.4km s-min=17.9km az=31.0*
ISC 18 22:12:48.4±0.9, 14˚.00N±0˚.05×92˚.41W±0˚.05, h26km±6km, n100, σ1s99/102, mb4.4/35, MS3.3/9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.92**	**9**	*e*Sn	**Sn**	**22 13 20.7**	**+2.6**
THIG		**0.92**	**9**	*i* P	**Pn**	**22 13 05.0**	**-0.7**
THIG				*e*S	**Sb**	**22 13 16.4**	**-1.1**
PCIG		**1.87**	**336**	*e*Pn	**Pn**	**22 13 17.6**	**-1.2**
PCIG		**1.87**	**336**	*e*P	**Pn**	**22 13 17.6**	**-1.2**
PCIG				*e*S	**Sn**	**22 13 39.1**	**-2.4**
APG	**El Apazote**	**2.14**	**62**	Pg	**Pn**	**22 13 23.6**	**+0.9**
	30nm,0.3s,baz=232,slow=6.3,SNR=90						
APG				Lg	Lg	22 13 52.5	
	43nm,0.3s,baz=297,slow=18,SNR=11						
APG				LR	LR	22 14 24.8	
	comp=Z,544nm,21.6s,baz=276,slow=51						
CCIG	**Comitan**	**2.29**	**7**	*e*Pn	**Pn**	**22 13 27.7**	**+2.9**
CCIG				*e*Sn	**Sn**	**22 13 48.1**	**-4.1**
RTR	**El Retiro**	**2.69**	**92**	*e*P	**Pn**	**22 13 28.5**	**-1.8**
CEVE	**Cerro Verde**	**2.71**	**93**	*e*P	**Pn**	**22 13 29.9**	**-0.7**
CEVE				*e*S	**Sn**	**22 14 03.4**	**+0.6**
CEVE				IAML		22 14 15.2	
	comp=Z,798nm,0.4s						
SBLS	**San Blas**	**2.71**	**93**	*e*P	**Pn**	**22 13 33.8**	**+3.1**
MRL	**Marmol**	**2.84**	**68**	*e*P	Pn	22 13 27.6	-4.8
TGIG		**2.85**	**346**	*e*Pn	**Pn**	**22 13 32.3**	**-0.1**
TGIG				*e*Sn	**Sn**	**22 14 05.1**	**-0.8**
TGIG		**2.85**	**346**	*e*P	**Pn**	**22 13 32.3**	**-0.1**
TGIG				*e*S	**Sn**	**22 14 05.1**	**-0.8**
MTO3	**Montecristo**	**2.99**	**82**	*e*P	**Pn**	**22 13 32.9**	**-1.5**
MTO3				*e*S	**Sn**	**22 14 07.1**	**-2.4**
BOQS	**Boqueron**	**3.06**	**94**	*e*P	**Pn**	**22 13 34.1**	**-1.3**
SNET	**Serv Nac Est T**	**3.11**	**95**	IAML		22 14 22.1	
	comp=Z,226nm,0.2s						
PAVA	**Las Pavas**	**3.39**	**94**	IAML		22 14 42.8	
	comp=Z,168nm,0.5s						
CMIG	**Matias Romero**	**3.89**	**323**	Pn	**Pn**	**22 13 45.8**	**-0.8**
	comp=Z,5.2nm,0.3s,baz=147,slow=11,SNR=22						
CMIG				Sn	**Sn**	**22 14 34.1**	**+2.5**
	comp=Z,36nm,0.3s,baz=102,slow=13,SNR=5.1						
CMIG				LR	LR	22 15 32.3	
	comp=Z,320nm,20.9s,baz=169,slow=42						
CMIG	**Matias Romero**	**3.89**	**323**	*e*Sn	**Sn**	**22 14 29.2**	**-2.3**
CMIG	**Matias Romero**	**3.89**	**323**	*e*P	**Pn**	**22 13 46.2**	**-0.4**
CMIG				*e*S	**Sn**	**22 14 29.2**	**-2.3**
HUIG	**Huatulco**	**3.98**	**297**	*e*Pn	**Pn**	**22 13 46.8**	**-1.1**
HUIG				*e*Sn	**Sn**	**22 14 31.1**	**-2.7**
HUIG	**Huatulco**	**3.98**	**297**	*e*P	**Pn**	**22 13 46.8**	**-1.1**
HUIG				*e*S	**Sn**	**22 14 31.1**	**-2.7**
LCND	**La Ca¨–ada**	**4.45**	**98**	IAML		22 14 50.5	
	comp=Z,72nm,0.5s						
CSGN	**Cosiguina Volc**	**4.83**	**102**	*e*Pn	**Pn**	**22 13 59.9**	**+0.2**
CSGN	**Cosiguina Volc**	**4.83**	**102**	*e*P	Pn	22 13 49.7	-10
TGUH	**Tegucigalpa,Un**	**4.99**	**89**	*e*Pn	**Pn**	**22 13 59.3**	**-2.4**
TGUH				*e*Sn	**Sn**	**22 14 57.8**	**-0.9**
TGUH	**Tegucigalpa,Un**	**4.99**	**89**	*e*P	**Pn**	**22 13 59.0**	**-2.8**
CRIN	**San Cristobal**	**5.38**	**103**	*e*P	Pn	22 13 54.1	-13
CRIN				IAML		22 14 28.1	
	comp=E,70nm,0.8s						
ESTN	**Estel**	**5.95**	**98**	*e*Pn	**Pn**	**22 14 16.7**	**+1.8**
MATN	**Matagalpa**	**6.40**	**99**	*e*P	Pn	22 14 11.1	-10
BOAB	**BOACO BROADBAN**	**6.75**	**102**	*e*Pn	Pn	22 14 33.0	+7.0
TLIG	**Tlapa**	**6.90**	**302**	*e*Pn	**Pn**	**22 14 28.6**	**+0.5**
TLIG				*e*Sn	**Sn**	**22 15 43.2**	**-2.8**
TEIG	**Tepich**	**7.35**	**32**	*e*Pn	**Pn**	**22 14 35.1**	**+0.9**
TEIG				*e*Sn	**Sn**	**22 15 58.2**	**+1.4**
MOIG	**Morelia**	**10.12**	**305**	*e*Pn	**Pn**	**22 15 10.2**	**-2.3**
MOIG				*e*Sn	**Sn**	**22 17 07.2**	**+1.8**
JRQG	**Juriquilla Cam**	**10.16**	**312**	*e*Pn	**Pn**	**22 15 14.1**	**+1.1**
ZAIG	**Zacatecas**	**12.99**	**314**	*e*Pn	Pn	22 15 48.0	-3.7
GTBY	**Guantanamo Bay**	**17.57**	**68**	*e*Pn	**P**	**22 16 53.3**	**+0.8**
	comp=E,30nm,1.1s						
JCT	**Junction City**	**17.76**	**339**	*e*Pn	**Pn**	**22 16 49.3**	**-4.8**
	comp=E,5.7nm,0.9s						
HPIG		**17.86**	**318**	*e*Pn	**P**	**22 16 57.9**	**+1.9**
	comp=E,13nm,1.4s						
LTX	**Lajitas**	**18.48**	**327**	*e*P	**Pn**	**22 17 04.8**	**+1.8**
TX31	**Lajitas Ar. Si**	**18.48**	**327**	*e*P	**Pn**	**22 17 04.8**	**+1.8**
TX31				*e*Sn	Sn	22 20 13.8	-15
TXAR	**Lajitas Array**	**18.48**	**327**	P	**Pn**	**22 17 04.8**	**+1.8**
	comp=E,0.1nm,0.3s,baz=156,slow=9.6,SNR=20						
ABTX	**Abilene, Hawle**	**19.68**	**342**	*e*P	**Pn**	**22 17 17.5**	**+0.2**
	comp=E,8.2nm,0.8s						
ROSC	**El Rosal**	**20.02**	**115**	*e*P	**P**	**22 17 20.6**	**+0.7**
ROSC				*e*Pn	**pP**	**22 17 28.1**	**+1.2**
MIAR	**Mount Ida**	**20.49**	**357**	*e*P	**P**	**22 17 25.2**	**+0.8**
	comp=E,11nm,1.2s						
MNTX	**Cornudas Mount**	**21.26**	**328**	*e*P	**P**	**22 17 33.8**	**+1.0**
	comp=E,7.2nm,1.1s						
MSTX	**Muleshoe**	**21.99**	**336**	*e*P	**P**	**22 17 41.2**	**+0.4**
	comp=E,13nm,1.0s						
AMTX	**Amarillo**	**22.42**	**340**	*e*P	**P**	**22 17 45.5**	**+0.1**
	comp=E,23nm,1.0s						
TKL	**Tuckaleechee C**	**22.93**	**18**	P	**P**	**22 17 49.6**	**-1.0**
	comp=E,1.3nm,0.4s,baz=177,slow=7.7,SNR=5.6						
TKL				LR	LR	22 26 35.7	
	comp=E,92nm,20.4s,baz=207,slow=36						
BNM	**Barren Site**	**23.84**	**330**	*e*P	**P**	**22 18 02.6**	**+2.7**
ANMO	**Albuquerque**	**24.41**	**331**	LR	LR	22 28 43.7	
	comp=E,36nm,19.5s,baz=214,slow=39						
ATAH	**Atoulpa**	**25.19**	**146**	LR	LR	22 26 35.4	
	comp=E,64nm,19.6s,baz=1.6,slow=33						
T25A	**Trinidad**	**25.41**	**337**	*e*P	**P**	**22 18 15.9**	**+1.7**
	comp=E,8.9nm,1.0s						
SJG	**San Juan**	**25.56**	**77**	LR	LR	22 29 09.8	
	comp=E,85nm,18.4s,baz=264,slow=39						
S22A	**4UR Ranch, Cre**	**26.91**	**334**	*e*P	**P**	**22 18 30.1**	**+2.2**
	comp=E,6.5nm,1.0s						
MVCO	**Mesa Verde**	**27.21**	**331**	*e*P	**P**	**22 18 32.8**	**+2.2**
	comp=E,7.5nm,1.1s						
PV13	**Radium Mtn., P**	**28.13**	**332**	*e*P	**P**	**22 18 41.2**	**+2.5**
	comp=E,10nm,1.1s						
PV03	**Paradox Valley**	**28.22**	**332**	*e*P	**P**	**22 18 41.2**	**+1.7**
PV18	**Skein Mesa, Pa**	**28.24**	**332**	*e*P	**P**	**22 18 42.0**	**+2.3**
	comp=E,12nm,1.2s						
PV11	**David Mesa, Pa**	**28.26**	**332**	*e*P	**P**	**22 18 43.0**	**+3.1**
	comp=E,14nm,1.1s						
PV16	**Nyswonger Mesa**	**28.29**	**332**	*e*P	**P**	**22 18 42.5**	**+2.4**
	comp=E,12nm,1.1s						
PV22	**Blue Mesa, Par**	**28.42**	**332**	*e*P	**P**	**22 18 43.6**	**+2.3**
	comp=E,13nm,1.3s						
PV21	**Cone Mtn., Par**	**28.52**	**332**	*e*P	**P**	**22 18 43.2**	**+0.9**
	comp=E,8.2nm,1.1s						
CCUT	**Cedar City**	**29.96**	**325**	*e*P	**P**	**22 18 58.0**	**+3.0**
	comp=E,4.8nm,1.2s						
RWWY	**Rawlins**	**30.44**	**338**	*e*P	**P**	**22 18 58.7**	**-0.6**
	comp=E,7.8nm,0.8s						
BW06	**Boulder Array**	**32.26**	**336**	*e*P	**P**	**22 19 12.0**	**-3.2**
	comp=E,4.1nm,0.9s						
PD31	**Pinedale Array**	**32.26**	**336**	*e*P	**P**	**22 19 11.4**	**-3.8**
PDAR	**Pinedale Array**	**32.26**	**336**	LR	LR	22 34 11.4	
	comp=E,53nm,18.4s,baz=160,slow=40						
PDAR	**Pinedale Array**	**32.26**	**336**	*e*P	**P**	**22 19 11.4**	**-3.8**
HVU	**Hansel Valley**	**32.84**	**331**	*e*P	**P**	**22 19 22.0**	**+1.8**
	comp=E,4.7nm,1.1s						
REDW	**Red Top Meadow**	**33.28**	**335**	*e*P	**P**	**22 19 25.3**	**+1.2**
	comp=E,15nm,1.1s						
SNOW	**Snow King Moun**	**33.32**	**335**	*e*P	**P**	**22 19 25.8**	**+1.3**
	comp=E,17nm,1.1s						
NV11	**Mina Array Sit**	**33.34**	**322**	*e*P	**P**	**22 19 26.6**	**+2.0**
	comp=E,0.6nm,1.4s						
NV11				*e*pP	**sP**	**22 19 35.2**	**-0.2**
LOHW	**Long Hollow**	**33.38**	**336**	*e*P	**P**	**22 19 23.6**	**-1.4**
	comp=E,4.7nm,0.8s						

NV01 Mina Array Sit 33.42 321 *e*P **P 22 19 27.3 +1.9**
NVAR Mina Array Bea 33.42 321 P **P 22 19 27.7 +2.2**
comp=E,2.9nm,0.9s,baz=142,slow=8.9,SNR=12
NVAR LR LR 22 35 11.8
comp=E,231nm,18.3s,baz=94,slow=40
TPAW Teton Pass 33.42 335 *e*P **P 22 19 26.9 +1.4**
comp=E,7.3nm,1.0s
MOOW Moose Ponds 33.55 336 *e*P **P 22 19 27.0 +0.5**
comp=E,6.0nm,1.1s
FXWY Fox Creek 33.58 335 *e*P **P 22 19 28.2 +1.4**
comp=E,2.6nm,1.0s
IMW Indian Meadow 33.76 336 *e*P **P 22 19 27.1 -1.2**
comp=E,2.7nm,0.6s
FLWY Flagg Ranch 33.82 336 *e*P **P 22 19 25.8 -3.0**
comp=E,6.3nm,0.8s
YMR Madison River 34.41 336 *e*P **P 22 19 30.8 -3.2**
comp=E,19nm,0.4s
HLID Hailey 34.99 332 *e*P **P 22 19 40.3 +1.4**
comp=E,6.5nm,1.4s
MCMT McKenzie Canyo 35.30 335 *e*P **P 22 19 43.8 +2.1**
DLMT Dillon 35.63 335 *e*P **P 22 19 46.0 +1.6**
comp=E,8.0nm,1.1s
ULM Lac du Bonnet 36.27 356 LR LR 22 35 40.7
comp=E,55nm,19.0s,baz=336,slow=38
J08A Circle Bar Ran 36.83 328 *e*P **P 22 19 56.5 +1.9**
comp=E,14nm,1.3s
SIV San Ignacio 42.98 133 P **P 22 20 47.0 +1.1**
comp=E,3.8nm,0.9s,baz=280,slow=12,SNR=5.1
YKA Yellowknife Ar 50.94 347 P **P 22 21 45.6 -1.8**
comp=E,1.9nm,0.5s,baz=152,slow=7.3,SNR=18
YKB5 Yellowknife Ar 50.94 347 *e*P **P 22 21 45.6 -1.8**
IL1 Eielson Array 62.69 337 *e*P **P 22 23 10.5 -0.2**
ILAR Eielson Array 62.69 337 P **P 22 23 10.3 -0.5**
comp=E,1.6nm,0.9s,baz=135,slow=4.4,SNR=11
ILAR LR LR 22 52 13.7
comp=E,58nm,18.9s,baz=160,slow=38
ILB Eielson Array 62.69 337 *e*P **P 22 23 10.3 -0.5**
ARA0 ARCESS Array S 86.27 18 *e*P **P 22 25 25.2 -2.4**
ARCES ARCESS Array B 86.27 18 P **P 22 25 25.2 -2.4**
comp=E,1.3nm,0.8s,baz=294,slow=6.8,SNR=3.9
NRIK Noril'sk 96.88 0 LR LR 23 14 19.8
comp=E,39nm,18.1s,baz=44,slow=38
KSH Kashi 125.68 11 *e*PKP **PKPdf 22 31 50.1 +1.8**
WR1 Warramunga Arr 135.00 256 *e*PKPdf **PKPdf 22 32 09.3 +3.0**
WRA Warramunga Arr 135.00 256 PKP **PKPdf 22 32 09.3 +3.0**
comp=E,0.2nm,0.7s,baz=91,slow=3.2,SNR=3.0
CM31 Chiang Mai Arr 145.86 341 *e*PKPdf **PKPdf 22 32 25.6 -0.3**
CMAR Chiang Mai Arr 145.86 341 PKPbc **PKPdf 22 32 25.6 -0.3**
comp=E,2.0nm,0.8s,baz=343,slow=4.2,SNR=13

*TAP **18** 22:12:48.6,22˚.87N×120˚.85E, h5km, ML3.5, C*
*ISCJB **18** 22:12:49.5±0.2,22˚.84N±0˚.01×120˚.86E±0˚.01, h5km±2km, Error ellipse: s-maj=2.2km s-min=2.0km az=168.5*
*JMA **18** 22:12:49.0±0.1,22˚.77N×121˚.31E, h0km, MS.3*
ISC 18 22:12:49.2±0.8, 22˚.85N±0˚.02×120˚.87E±0˚.02, h12km±6km, n107, σ0s69/149, 21C-11D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWG	**Pinlang**	**0.19**	**99**	⇑*i*P	**Pg**	**22 12 53.9**	**+0.5**
	baz=104						
TWG				*i* S	**Sg**	**22 12 57.0**	**+0.6**
	baz=104						
TWGBT	**Beinan**	**0.20**	**99**	⇑P	**Pg**	**22 12 53.9**	**+0.3**
	baz=104						
TWGBT				S	**Sg**	**22 12 56.9**	**+0.3**
	baz=104						
SSD	**Sandimen**	**0.24**	**244**	⇑*i*P	**Pg**	**22 12 53.4**	**-0.9**
	baz=243						
ECL	**Taimali**	**0.27**	**162**	⇓*i*P	**Pg**	**22 12 54.9**	**+0.2**
	baz=159						
ECL				S	**Sg**	**22 12 58.7**	**+0.3**
	baz=159						
TTN	**Taitung**	**0.28**	**110**	⇑*i*P	**Pb**	**22 12 56.3**	**+0.1**
	baz=113						
TTN				*e*S	**Sb**	**22 13 01.2**	**+0.4**
	baz=113						
MASBT	**Mashibuluo**	**0.32**	**222**	⇑P	**Pg**	**22 12 55.2**	**-0.6**
	baz=220						
MASBT				*e*S	**Sg**	**22 12 59.4**	**-0.6**
	baz=220						
STYT	**Tauyuan**	**0.33**	**342**	⇓*i*P	**Pg**	**22 12 55.2**	**-0.8**
	baz=347						
STYT				*i* S	**Sg**	**22 12 59.6**	**-0.7**
	baz=347						
SGST	**Jiashian**	**0.35**	**312**	⇓*i*P	**Pg**	**22 12 56.0**	**-0.2**
	baz=317						
SGST				*i* S	**Sg**	**22 13 00.6**	**-0.3**
	baz=317						
ELDTW	**Lidau**	**0.36**	**22**	⇑*i*P	**Pg**	**22 12 56.0**	**-0.6**
	baz=37						
ELDTW				*i* S	**Sg**	**22 13 01.0**	**-0.5**
	baz=37						
SGLT	**Jiouru**	**0.37**	**250**	⇑*i*P	**Pg**	**22 12 57.0**	**+0.4**
	baz=250						
TWM1	**Shoushan**	**0.41**	**266**	⇑*i*P	**Pb**	**22 12 58.1**	**-0.4**
	baz=254						
TWM

baz=330
CHY eS Sn 22 13 16.6 -0.7
baz=330
CHN5 Tsauling 0.76 347 ⇓P Pg 22 13 04.1 0.0
baz=358
CHN5 eS Sn 22 13 16.8 -0.7
baz=358
CHN2 Minshiung 0.77 332 eP Pb 22 13 04.6 +0.1
baz=334
CHN2 eS Sn 22 13 16.9 -0.6
baz=334
EHY Hungye 0.78 33⇑*i*P Pg 22 13 03.3 -1.0
baz=35
CHN8 Yiju 0.78 309 eP Pn 22 13 05.5 -0.5
baz=311
CHN8 eS Sn 22 13 17.7 0.0
baz=311
HGSD Ruisui 0.82 39 ⇑P Pg 22 13 05.2 +0.1
baz=32
HEN Hengchun 0.85 188 eP Pn 22 13 07.4 +0.3
baz=187
WGK Gukeng 0.88 342 eP Pn 22 13 07.6 +0.2
baz=345
WGK S Sn 22 13 20.3 +0.2
baz=345
WDLH Douliu 0.89 340 eP Pn 22 13 07.4 -0.1
baz=341
TWK1 Hengchun 0.90 184 eP Pn 22 13 07.9 +0.1
baz=183
TWKBT Hengchun 0.91 183 eP Pn 22 13 07.8 0.0
baz=183
VWDT VWDT 0.93 16 ⇑P Pb 22 13 06.0 -1.4
baz=10.0
SSLB Suanglung 0.94 5 ⇑P Pb 22 13 06.0 -1.5
baz=13
TSEB Hengchuen, Pin 0.95 178 eP Pn 22 13 09.0 +0.6
baz=180
EGFH Guangfu 0.96 32 eP Pb 22 13 07.0 -0.9
baz=33
WJS Zhushan 0.97 353 eP Pn 22 13 08.8 0.0
baz=353
WSF Szhu 0.98 323 eP Pn 22 13 09.0 +0.1
baz=326
WSF eS Sn 22 13 23.4 +0.7
baz=326
LAY Lan-yu 1.03 142 eP Pb 22 13 08.7 -0.3
baz=142
SMLT Sun Moon Lake 1.03 2 eP Pb 22 13 08.5 -0.6
baz=9.0
WNT Mingjian 1.04 351 eP Pb 22 13 09.4 +0.2
baz=337
TYC Yuchr 1.05 360 eP Pb 22 13 09.2 -0.1
baz=10.0
TYC eS Sn 22 13 25.4 +1.1
baz=10.0
ESL Shilin 1.09 28⇑eP Pb 22 13 08.8 -1.3
baz=45
RLNB Erlin 1.14 336 eP Pb 22 13 10.9 +0.1
baz=336
WDGT Dungji 1.18 290 eP Pn 22 13 11.4 -0.3
baz=289
WDGT eS Sb 22 13 26.4 -0.5
baz=289
CHGB Renai 1.24 13 eP Pn 22 13 12.4 -0.2
baz=14
WCHH Zhanghua 1.26 347 eP Pb 22 13 13.3 +0.4
baz=332
HWA Hwalien 1.31 31 eP Pb 22 13 14.2 +0.4
baz=44
WHF Hehuan Shan 1.34 16 ⇓P Pn 22 13 14.1 -0.1
baz=17
PHUB P'eng-hu 1.36 299 ⇑P Pn 22 13 13.7 -0.4
baz=298
PHUB eS Sn 22 13 31.2 -0.9
baz=298
VCHM Qimei 1.37 285 eP Pn 22 13 13.8 -0.4
baz=282
TWD Chiawan 1.40 29 eP Pn 22 13 14.7 +0.1
baz=44
PNG Penghu 1.40 301 eP Pn 22 13 14.3 -0.3
baz=300
PNG eS Sb 22 13 33.0 -0.2
baz=300
TDCB Techi 1.42 11 eP Pb 22 13 15.9 +0.1
baz=15
TWT Tachien 1.43 11 eP Pn 22 13 15.6 +0.5
baz=15
NACB Ninganchiao 1.48 27 eP Pn 22 13 15.8 +0.1
baz=43
TWQ1 Liyutan 1.49 357 eP Pb 22 13 17.6 +0.6
baz=6.0
TWQ1 S Sg 22 13 39.4 +2.0
baz=6.0
NSY Sanyi 1.56 356 eP Pg 22 13 19.6 +0.4
baz=5.0
NSY eS Sg 22 13 40.5 +0.9
baz=5.0
PTSB Yuanli 1.60 355 eP Pb 22 13 19.2 +0.5
baz=359
NNSB Datong 1.64 17 eP Pb 22 13 19.2 -0.3
baz=39
NNSB eS Sg 22 13 43.0 +0.9
baz=39
NNS Nan Shan 1.65 16 eP Pb 22 13 19.3 -0.4
baz=26
NNS eS Sg 22 13 43.5 +1.1
baz=26
NMLH Miaoli 1.68 358 eP Pb 22 13 20.2 +0.1
baz=3.0
ENA Nanau 1.76 27 eP Pb 22 13 21.4 -0.2
baz=42
NANB Nanao 1.77 27 eP Pb 22 13 21.2 -0.4
baz=42
NSTT Nanjuang 1.78 4 eP Pb 22 13 22.4 +0.6
baz=10.0
LIOB Emei 1.79 4 eP Pb 22 13 21.8 -0.3
baz=10.0
YHNB Yeheng 1.87 14 eP Pb 22 13 23.5 +0.1
baz=20
NSK Sanguang 1.87 14 eP Pb 22 13 23.6 +0.2
baz=20
ENTT Nioudou 1.89 20 eP Pb 22 13 23.8 0.0
baz=40
ENTT eS Sg 22 13 49.9 -0.3
baz=40
TWC Suao 1.97 27 eP Pb 22 13 25.0 -0.1
baz=36
TWC eS Sb 22 13 51.3 +1.7
baz=36
TWE Neicheng 2.00 21 eP Pb 22 13 25.9 +0.3
baz=37
WLTB Daxi 2.02 10 eP Pb 22 13 24.9 -1.1
baz=17
EOS1 EOS1 2.05 34 eP Pb 22 13 25.4 -1.0
baz=51
TATO Taipei 2.19 15 eP Pg 22 13 30.7 -0.6
baz=23
TATO eS Sg 22 13 59.9 +0.2
baz=23
TWA Mucha 2.22 17 eP Pb 22 13 30.4 +1.1
baz=36
YM04 YM04 2.37 15 eP Pn 22 13 30.0 +1.9
baz=7.0
YM01 YM01 2.38 16 eP Pb 22 13 32.4 +0.4
baz=6.0
YM10 YM10 2.38 15 eP Pb 22 13 32.2 +0.1
baz=5.0
YM05 YM05 2.39 15 eP Pb 22 13 32.3 0.0
baz=5.0
YM11 YM11 2.39 16 eP Pb 22 13 32.5 +0.2
baz=24
YM03 YM03 2.40 15 eP Pb 22 13 32.2 -0.2
baz=7.0
YM07 YM07 2.42 16 eP Pb 22 13 31.5 -1.2
baz=7.0
JYNG Yonaguni jima 2.48 50 P Pn 22 13 29.9 +0.3
VWUC VWUC 2.49 329 eP Pn 22 13 29.9 +0.2
baz=324
YOJ Yonaguni jima 2.54 50 eP Pn 22 13 30.4 +0.1
baz=63
PTMZ Houxiangcun 2.70 324 eP Pn 22 13 31.9 -0.6
baz=319
KNM Kinmen 2.72 305 eP Pn 22 13 34.4 +1.6
baz=299
IRIF Iriomote-Funau 3.02 60 P Pn 22 13 37.2 +0.4
IRIF eS Sn 22 14 10.6 -2.3
ZPLA Ao Xicun 3.06 291 eP Pn 22 13 37.3 -0.2
baz=287

JKRS Kuro-shima 3.20 64 P Pn 22 13 39.6 +0.2
AXDP Jialang 3.34 308 eP Pn 22 13 41.3 -0.1
baz=303
JIJ Ishigaki jima 3.36 63 eS Sn 22 14 20.2 -1.3
ZZJH Jiuhuzhen 3.38 299 eP Pn 22 13 42.7 +0.9
baz=294
MATB Ma-tsu 3.39 346 eP Pn 22 13 42.5 +0.5
baz=350
JISG Ishigakijimahi 3.60 61 P Pn 22 13 44.1 -0.8
JISG eS Sn 22 14 25.9 -1.4
MHZQ Yeshan 3.64 333 eP Pn 22 13 46.4 +0.9
baz=326
LYJJ Jianjiangzhen 3.82 345 eP Pn 22 13 48.7 +0.8
baz=341
JTJ Tarama 3.94 62 eS Sn 22 14 34.4 -1.4

IDC ***18*** *22:20:57.2±1.8, 9°.73N×126°.50E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/27, mbtmp3.6/4, Error ellipse: s-maj=181.4km s-min=23.1km az=69.0*
ISCJB ***18*** *22:21:00.4±1.9, 9°.51N±0°.04×126°.53E±0°.06, h15km±13km, mb3.5/4, Error ellipse: s-maj=10.0km s-min=6.0km az=164.4*
MAN ***18*** *22:21:00.5, 9°.54N×126°.43E, h1km, mb4.5, ML3.3, MS3.1*
ISC 18 22:21:00.6±1.6, 9°.50N±0°.04×126°.50E±0°.07, h15km±11km, n14, σ1§70/22, mb3.4/4, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.01**	**238**	*eP*	**Pb**	**22 21 19.0**	**-0.8**
BUTP				*eS*	**Sb**	**22 21 31.8**	**-1.2**
SCPH	**Surigao**	**1.03**	**286⇑**	*eP*	**Pb**	**22 21 19.4**	**-0.8**
SCPH				*eS*	**Sb**	**22 21 31.8**	**-1.7**
BIPH	**Bislig**	**1.32**	**186⇑**	*i*P	**Pg**	**22 21 26.2**	**+0.2**
BIPH				*i* S	**Sb**	**22 21 41.7**	**-0.1**
MSLP	**Maasin**	**1.73**	**291**	*eP*	**Pn**	**22 21 30.6**	**+0.4**
MSLP				*eS*	**Sn**	**22 21 53.3**	**+1.3**
BUKP	**Musuan**	**2.15**	**221**	*eP*	**Pn**	**22 21 36.3**	**+0.4**
BUKP				*eS*	**Sn**	**22 22 05.1**	**+2.8**
BESP	**Borongan**	**2.33**	**334**	*eP*	**Pn**	**22 21 40.0**	**+1.6**
BESP				*eS*	**Sg**	**22 22 15.8**	**+0.2**
LLP	**Lapu-Lapu**	**2.62**	**288**	*eP*	**Pn**	**22 21 43.4**	**+1.0**
LLP				*eS*	**Sn**	**22 22 16.3**	**+2.3**
DCPH	**Dipolog City**	**3.24**	**254⇑**	*eP*	**Pn**	**22 21 52.6**	**+1.7**
CNP	**Catarman**	**3.49**	**329**	*eP*	**Pn**	**22 21 56.4**	**+2.1**
CNP				*eS*	**Sn**	**22 22 37.2**	**+1.7**
RCP	**Roxas**	**4.22**	**299⇓**	*eP*	**Pn**	**22 22 07.0**	**+2.6**
WRA	**Warramunga Arr**	**30.26**	**165**	P	**P**	**22 27 12.1**	**+0.9**
	0.2nm,0.7s,baz=346,slow=9.4,SNR=3.7						
ASAR	**Alice Springs**	**33.75**	**168**	P	**P**	**22 27 42.7**	**+0.8**
	0.1nm,0.4s,baz=356,slow=7.3,SNR=3.5						
MKAR	**Makanchi Array**	**52.77**	**323**	P	**P**	**22 30 12.7**	**-2.5**
	0.5nm,0.6s,baz=124,slow=7.4,SNR=7.3						
ARCES	**ARCESS Array B**	**84.99**	**340**	P	**P**	**22 33 33.3**	**-1.8**
	1.3nm,0.6s,baz=78,slow=5.9,SNR=6.8						

IDC ***18*** *22:42:48.1±1.2, 8°.10N×127°.00E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/43, mbtmp3.5/4, Error ellipse: s-maj=31.7km s-min=20.5km az=83.0*
ISCJB ***18*** *22:42:51.7±1.1, 8°.1N±0°.1×127°.16E±0°.08, h46km, mb3.5/4, Error ellipse: s-maj=14.4km s-min=11.1km az=2.8*
ISC 18 22:42:54.3±1.3, 8°.0N±0°.1×127°.0E±0°.1, h46km, n6, σ1§51/9, mb3.5/4, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.69**	**286⇑**	*i*P	**Pn**	**22 43 07.2**	**-0.6**
BIPH				*i* S	**Sn**	**22 43 18.6**	**+1.1**
DAV	**Davao City (W)**	**1.70**	**238**	Pn	**Pn**	**22 43 19.3**	**-2.3**
	92nm,0.3s,baz=0.0,slow=2.0,SNR=5.0						
DAV				Sn	**Sn**	**22 43 43.8**	**+1.7**
	61nm,0.3s,baz=318,slow=8.2,SNR=5.7						
DAV				LR	LR	22 44 09.1	
	comp=Z,312nm,19.9s,baz=349,slow=46						
WRA	**Warramunga Arr**	**28.67**	**166**	P	**P**	**22 48 47.8**	**+0.8**
	0.4nm,0.6s,baz=351,slow=10.0,SNR=7.2						
ASAR	**Alice Springs**	**32.17**	**168**	P	**P**	**22 49 19.0**	**+1.0**
	0.1nm,0.4s,baz=348,slow=8.5,SNR=2.9						
MKAR	**Makanchi Array**	**54.29**	**323**	P	**P**	**22 52 15.7**	**-0.3**
	1.0nm,0.8s,baz=110,slow=7.5,SNR=5.6						
MKAR				PcP	**PcP**	**22 53 20.5**	**+0.9**
	0.9nm,0.8s,baz=121,slow=4.2,SNR=2.9						
ZALV	**Zalesovo Beam**	**56.98**	**332**	P	**P**	**22 52 33.8**	**-1.2**
	0.4nm,0.6s,baz=140,slow=7.5,SNR=2.5						

HEL ***18*** *23:13:48.1, 67°.19N×20°.83E, h0km, ML1.4, Explosion*
UPP 18 23:13:47.1±0.1, 67°.17N×20°.66E, h0km, ML1.8, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.06**	**214**	P	Pg	23 13 48.5	+0.3
DUNU	**Dundret**	**0.06**	**214**	*i* P	Pg	23 13 48.5	+0.3
MASU	**Masugnsbyn**	**0.59**	**61**	P	Pg	23 13 58.5	0.0
MASU	**Masugnsbyn**	**0.59**	**61**	*i* P	Pg	23 13 58.5	0.0
RATU	**Laukkuluspa**	**0.77**	**328**	P	Pg	23 14 01.4	-0.5
RATU				S	Sg	23 14 11.9	0.0
RATU	**Laukkuluspa**	**0.77**	**328**	*i* P	Pg	23 14 01.4	-0.5
RATU				*i* S	Sg	23 14 11.9	0.0
ERTU	**Ertsjaerv**	**0.87**	**135**	P	Pg	23 14 03.0	-0.7
ERTU	**Ertsjaerv**	**0.87**	**135**	*e*P	Pg	23 14 03.0	-0.7
NIKU	**Nikkaluokta**	**0.94**	**319**	P	Pg	23 14 05.1	0.0
NIKU	**Nikkaluokta**	**0.94**	**319**	*e*P	Pg	23 14 05.1	0.0
PAJU	**Pajala**	**0.97**	**98**	P	Pg	23 14 05.1	-0.6
PAJU	**Pajala**	**0.97**	**98**	*e*P	Pg	23 14 05.1	-0.6
HARU	**Harads**	**1.02**	**173**	P	Pg	23 14 05.7	-0.9
HARU				S	Sg	23 14 20.0	+0.2
HARU	**Harads**	**1.02**	**173**	*e*P	Pg	23 14 05.7	-0.9
HARU				*e*S	Sg	23 14 20.0	+0.2
LANU	**Lannavaara**	**1.02**	**29**	P	Pg	23 14 06.0	-0.6
LANU	**Lannavaara**	**1.02**	**29**	*e*P	Pg	23 14 06.0	-0.6
HEF	**Hetta**	**1.69**	**41**	*e*P	Pn	23 14 17.8	+0.1
HEF				MSG		23 14 36.8	
	comp=Z,2.4nm,0.2s						
HEF				*e*SG	Sn	23 14 40.0	0.0
HEF	**Hetta**	**1.69**	**41**	*e*P	Pn	23 14 18.0	+0.2
KALU	**Kalix**	**1.71**	**139**	P	Pn	23 14 18.2	+0.2
KALU	**Kalix**	**1.71**	**139**	*e*PN	Pn	23 14 18.3	+0.3
KALU				*e*SN	Sg	23 14 42.4	+0.7
TOF	**Tornio**	**1.83**	**125**	*e*PG	Pn	23 14 20.3	+0.7
	baz=315						
TOF				MSG		23 14 41.5	
	comp=Z,2.0nm,0.2s						
TOF				*e*SN	Sb	23 14 44.5	-0.2
KIF	**Kilpisjarvi**	**1.84**	**2**	*e*PG	Pb	23 14 21.4	-0.2
KIF				MSG		23 14 43.6	
	comp=Z,2.2nm,0.2s						
KIF				*e*SN	Sb	23 14 45.4	+0.3
KIF	**Kilpisjarvi**	**1.84**	**2**	*e*P	Pb	23 14 21.5	0.0
RNF	**Rovaniemi**	**2.19**	**102**	*e*PB	Pn	23 14 25.8	+1.2
SGF	**Sodankyl**	**2.29**	**80**	*e*PG	Pb	23 14 28.2	-1.0
SGF				*e*S	Sn	23 14 52.5	-2.4
ARE0	**ARCESS Array S**	**2.98**	**35**	*e*P	Pn	23 14 36.9	+1.4
	baz=214						

UPP 18 23:14:11.7±0.3, 67°.17N×20°.72E, h0km, ML2.0, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.08**	**229**	P	Pg	23 14 13.4	+0.2
	baz=44						
DUNU				S	Sg	23 14 14.6	+0.4
MASU	**Masugnsbyn**	**0.57**	**60**	S	Sg	23 14 30.3	+0.2

IDC 18 23:19:24.1±3.2, 15°.61S×176°.04E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/31, mbtmp3.9/4, MS3.3/12, Ms1 3.3/12, ms1mx3.2/30, Error ellipse: s-maj=145.6km s-min=32.8km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.12**	**233**	LR	LR	23 25 44.0	
	comp=Z,233nm,19.5s,baz=52,slow=34						
HNR	**Honiara**	**16.86**	**289**	LR	LR	23 29 46.1	
	comp=Z,118nm,18.5s,baz=124,slow=37						
RAR	**Rarotonga**	**23.60**	**107**	LR	LR	23 33 12.7	
	comp=Z,65nm,19.0s,baz=144,slow=35						
PMG	**Port Moresby**	**28.84**	**279**	LR	LR	23 34 29.3	
	comp=Z,57nm,18.3s,baz=176,slow=31						
PPT	**Papeete**	**32.99**	**98**	LR	LR	23 38 10.9	
	comp=Z,19nm,18.0s,baz=132,slow=34						

STKA Stephens Creek 35.26 236 P P 23 26 21.4 +0.8
3.2nm,0.9s,baz=48,slow=9.0,SNR=4.7
STKA LR LR 23 39 29.4
comp=Z,67nm,19.0s,baz=27,slow=34
WRA Warramunga Arr 39.87 257 P P 23 26 59.8 -0.1
1.8nm,0.8s,baz=90,slow=8.6,SNR=17
ASAR Alice Springs 40.37 252 P P 23 27 03.4 -0.6
1.5nm,0.8s,baz=82,slow=9.0,SNR=9.9
MJAR Matsushiro Arr 62.97 326 LR LR 23 53 56.7
comp=Z,16nm,20.9s,baz=210,slow=33
KSRS Korea Array 69.51 321 LR LR 23 56 48.5
comp=Z,11nm,21.4s,baz=170,slow=32
CMAR Chiang Mai Arr 83.10 291 LR LR 00 06 00.0
comp=Z,11nm,21.8s,baz=130,slow=34
ILAR Eielson Array 84.96 15 P P 23 32 01.2 +0.5
0.4nm,0.8s,baz=202,slow=5.2,SNR=4.1
SONM Songino Array 88.38 321 LR LR 00 05 46.2
comp=Z,34nm,21.3s,baz=3.5,slow=32
TXAR Lajitas Array 89.34 59 LR LR 00 07 23.6
comp=Z,24nm,18.0s,baz=0.0,slow=32
PLCA Paso Flores 96.73 135 LR LR 00 09 10.0
comp=Z,22nm,19.0s,baz=237,slow=31
GERES GERESS Array B 143.83 340 PKP PKPbc 23 38 58.9 -0.2
0.3nm,0.4s,baz=46,slow=4.2,SNR=4.5

ISK ***18*** *23:22:35.9, 37°.33N×37°.11E, h5km, ML2.6/6*
ISCJB ***18*** *23:22:36.2±0.6, 37°.30N±0°.03×37°.08E±0°.04, h3km±6km, Error ellipse: s-maj=6.2km s-min=4.3km az=40.2*
DDA ***18*** *23:22:36.4, 37°.34N×37°.07E, h20km, Ml2.8*
ISC 18 23:22:36.1±0.9, 37°.31N±0°.03×37°.14E±0°.03, h14km±7km, n20, σ1§03/33, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.14**	**158**	PG	**Pg**	**23 22 40.1**	**+0.2**
GAZ				SG	**Sg**	**23 22 42.9**	**+0.5**
KMRS	**Kahramanmaras**	**0.28**	**316**	PG	**Pg**	**23 22 41.2**	**-0.8**
KMRS				SG	**Sg**	**23 22 45.1**	**-0.9**
KUZU	**Kuzuini**	**0.53**	**186**	*i* P	**Pb**	**23 22 47.6**	**+0.3**
KUZU				*i* S	**Sn**	**23 22 58.0**	**-0.2**
ANDN	**Andirin**	**0.69**	**294**	*i* P	**Pg**	**23 22 49.0**	**-0.6**
ANDN				*i* S	**Sg**	**23 22 57.7**	**-1.1**
KOZT	**Kozan**	**1.06**	**280**	PG	**Pg**	**23 22 56.1**	**-0.5**
SAIM	**ADANA**	**1.08**	**309**	*i* P	**Pg**	**23 22 55.7**	**-1.2**
SAIM				*i* S	**Sn**	**23 23 11.0**	**-0.7**
AKCD	**Akcadag**	**1.17**	**32**	*i* P	**Pb**	**23 22 58.3**	**+0.2**
AKCD				*i* S	**Sn**	**23 23 14.5**	**+0.6**
TAHT	**Tahtakopru-Hat**	**1.21**	**220**	PN	**Pg**	**23 22 59.5**	**+0.2**
SURC	**SANLIURFA_SURC**	**1.25**	**109**	*i* P	**Pn**	**23 22 59.5**	**+0.3**
SURC				*i* S	**Sb**	**23 23 13.3**	**-2.1**
DARE	**Darende-Malaty**	**1.29**	**12**	PN	**Pb**	**23 23 00.4**	**+0.2**
YURE	**YUREGIR**	**1.30**	**249**	PN	**Pg**	**23 23 00.9**	**-0.2**
URFA	**Urfa**	**1.34**	**84**	PN	**Pg**	**23 23 02.1**	**+0.2**
CUGUR	**Gurin_S¨VAS**	**1.42**	**4**	*i* P	**Pg**	**23 23 03.2**	**-0.2**
CUGUR				*i* S	**Sg**	**23 23 23.4**	**+1.5**
HEKM	**Malatya_Hekimh**	**1.70**	**22**	*i* P	**Pn**	**23 23 06.4**	**+0.9**
HEKM				*i* S	**Sg**	**23 23 31.7**	**+0.9**
BNN	**Bunyan**	**1.85**	**327**	PN	**Pn**	**23 23 08.5**	**+0.9**
ELZG	**Elazig**	**1.88**	**50**	*i* P	**Pn**	**23 23 05.8**	**-2.1**
ELZG				*i* S	**Sg**	**23 23 37.3**	**+0.7**
CUKAN	**kangal_SIVAS**	**2.02**	**7**	*i* P	**Pn**	**23 23 11.4**	**+1.5**
CUKAN				*i* S	**Sb**	**23 23 37.7**	**-0.2**
MERS	**Mersin**	**2.14**	**259**	PN	**Pn**	**23 23 12.8**	**+1.3**
KEMA	**Kemaliye**	**2.23**	**28**	*i* P	**Pn**	**23 23 14.3**	**+1.6**
KEMA				*i* S	**Sb**	**23 23 43.9**	**+0.2**
HANI	**Diyarbakir_Han**	**2.80**	**66**	*i* P	**Pn**	**23 23 20.7**	**+0.1**
HANI				*i* S	**Sg**	**23 24 04.3**	**-1.9**

DJA 18 23:45:48.0±0.7, 0°.5S±2°.×12°.3E±°, h16km±7km, M4.0/11, mb4.3/3, mB5.5/1, MLv3.9/11, Mw(mB)5.0/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.83**	**317**	P	Pg	23 46 04.5	+0.3
MRSI				S	Sg	23 46 15.5	+0.4
LUWI	**Luwuk**	**0.94**	**164**	P	Pb	23 46 05.0	-1.0
LUWI				S	Sb	23 46 16.9	-1.4
APSI	**Ampana**	**1.16**	**228**	P	Pb	23 46 09.7	0.0
APSI				S	Sn	23 46 25.1	0.0
MPSI	**Mapaga**	**2.65**	**280**	P	Pn	23 46 29.0	-1.1
SANI	**Sanana**	**3.97**	**119**	P	Pn	23 46 47.5	-0.7
SPSI	**Sidrap Palu**	**4.69**	**216**	P	Pn	23 46 58.3	+0.1
BNSI	**Bone**	**4.87**	**209**	P	Pn	23 47 00.9	+0.2
NLAI	**Namlea**	**5.53**	**124**	P	Pn	23 47 10.9	+1.2
	37nm,0.7s,5µm0.2nm						
EDFI	**Ende, Flores**	**8.60**	**185**	P	Pn	23 47 51.5	-0.5

SKHL ***18*** *23:47:33.9±1.2, 43°.32N×147°.60E, h96km±3km, mb4.2/3, msh5.3/6*
JMA ***18*** *23:47:33.9±0.3, 43°.24N×147°.67E, h53km, M3.5*
ISC 18 23:47:34.4±2.4, 43°.3N±0°.1×147°.7E±0°.1, h67km±29km, n16, σ0§67/28, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.84**	**313**	*i* P	**Pn**	**23 47 50.9**	**+0.2**
SHO				AMB	AMB	23 47 51.0	
	140nm,0.2s						
SHO				AMB	AMB	23 47 51.0	
	40nm,0.2s						
SHO				*i* S	**Sn**	**23 48 03.0**	**+0.2**
SHO				A	A	23 48 03.0	
	1µm,0.5s						
SHO				A	A	23 48 03.0	
	250nm,0.5s						
NEM2	**Nemuro 2**	**1.41**	**273**	P	**Pn**	**23 47 57.7**	**-0.3**
NEM2				*e*S	**Sn**	**23 48 15.4**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**1.51**	**300**	*e*P	**Pn**	**23 47 58.9**	**-0.4**
YUK				*i* S	**Sn**	**23 48 18.7**	**+0.6**
YUK				A	A	23 48 23.0	
	480nm,0.3s						
YUK				A	A	23 48 23.0	
	250nm,0.3s						
GRPR	**Tuman**	**1.54**	**297**	*i* P	**Pn**	**23 47 59.0**	**-0.9**
GRPR				AMB	AMB	23 48 00.0	
	190nm,0.3s						
GRPR				AMB	AMB	23 48 00.0	
	40nm,0.3s						
GRPR				*i* S	**Sn**	**23 48 19.0**	**-0.1**
GRPR				A	A	23 48 19.0	
	880nm,0.4s						
GRPR				A	A	23 48 19.0	
	400nm,0.4s						
LAGR	**Lagunnoye**	**1.56**	**300**	*e*P	**Pn**	**23 48 00.0**	**-0.1**
LAGR				*e*S	**Sn**	**23 48 19.0**	**-0.5**
LAGR				A	A	23 48 21.0	
	590nm,0.3s						
LAGR				A	A	23 48 21.0	
	270nm,0.3s						
GLVR	**Golovnino**	**1.63**	**286**	*i* P	**Pn**	**23 48 01.0**	**+0.1**
GLVR				AMB	AMB	23 48 02.0	
	130nm,0.5s						
GLVR				AMB	AMB	23 48 02.0	
	4µm,0.5s						
GLVR				*e*S	**Sn**	**23 48 21.0**	**0.0**
GLVR				A	A	23 48 24.0	
	250nm,0.4s						
GLVR				A	A	23 48 24.0	
	520nm,0.4s						
JKHN	**Kushirohamanak**	**1.85**	**264**	P	**Pn**	**23 48 04.3**	**+0.4**
JKHN				*e*S	**Sn**	**23 48 26.6**	**+0.3**
KUR	**Kuril'sk**	**1.94**	**4**	*e*P	**Pn**	**23 48 05.3**	**+0.1**
KUR				*i* S	**Sn**	**23 48 28.1**	**-0.5**
KUR				A	A	23 48 30.0	
	240nm,0.3s						
KUR				A	A	23 48 30.0	
	160nm,0.3s						
JRA	**Rausu**	**1.96**	**290**	P	**Pn**	**23 48 06.1**	**+0.7**
JRA				*e*S	**Sn**	**23 48 29.9**	**+0.9**
JNK	**Nakash**	**2.17**	**279**	*e*S	**Sn**	**23 48 33.9**	**-0.2**
JAK	**Akkeshi**	**2.20**	**263**	P	**Pn**	**23 48 08.7**	**+0.1**
JAK				*e*S	**Sn**	**23 48 34.1**	**-0.7**
JOB	**Onbets**	**2.84**	**263**	P	**Pn**	**23 48 17.7**	**+0.4**
JAR	**Ashorobuto**	**2.85**	**271**	*e*S	**Sn**	**23 48 51.2**	**+0.5**
JCH	**Churui**	**3.24**	**259**	P	**Pn**	**23 48 23.2**	**+0.4**
JCH				*e*S	**Sn**	**23 48 59.5**	**-0.6**
JNBK	**Urakawa-nobuka**	**3.76**	**256**	P	**Pn**	**23 48 30.5**	**+0.6**
JKB	**Kayabe**	**5.10**	**256**	P	**Pn**	**23 48 49.1**	**+0.9**
JKB				*e*S	**Sn**	**23 49 43.6**	**-2.1**

IDC ***19*** *00:55:11.6±3.4, 13°.84N×92°.65W, h0km, mb3.6/3, mb1 3.8/6, mb1mx3.5/49, mbtmp3.4/6, ML3.4/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/29, Error ellipse: s-maj=73.2km s-min=32.2km az=11.0*

MEX ***18*** *23:55:16.5±0.5, 13°.90N×92°.63W, h12km±98km, MD4.1*

ISC 18 23:55:19.2±1.5, 14°.0N±0°.1×92°.61W±0°.09, h46km, n11, σ1s75/15, mb3.5/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.75**	**341**	*eP*	**Pn**	**23 55 45.0**	**-2.1**
PCIG				*eS*	**Sn**	**23 56 07.3**	**-1.0**
CCIG	**Comitan**	**2.27**	**12**	*eP*	**Pn**	**23 55 53.4**	**-1.0**
CCIG				*eS*	**Sn**	**23 56 21.6**	**+0.3**
APG	**El Apazote**	**2.29**	**65**	Pn	**Pn**	**23 55 53.9**	**-0.8**
	9.9nm,0.3s,baz=238,slow=8.4,SNR=23						
APG				Lg	Lg	23 56 23.6	
	21nm,0.3s,baz=336,slow=10.0,SNR=4.1						
APG				LR	LR	23 57 03.7	
	comp=Z,280nm,19.4s,baz=152,slow=46						
TGIG		**2.76**	**350**	*eP*	**Pn**	**23 56 00.4**	**-0.7**
TGIG				*eS*	**Sn**	**23 56 33.5**	**+0.2**
CMIG	**Matias Romero**	**3.74**	**324**	Pn	**Pn**	**23 56 12.5**	**-1.9**
	2.9nm,0.3s,baz=164,slow=11,SNR=16						
CMIG				Sn	**Sn**	**23 57 00.2**	**+3.0**
	7.4nm,0.3s,baz=45,slow=12,SNR=5.1						
TXAR	**Lajitas Array**	**18.34**	**328**	P	**Pn**	**23 59 30.6**	**+0.3**
	0.0nm,0.3s,baz=147,slow=8.4,SNR=2.3						
PDAR	**Pinedale Array**	**32.14**	**336**	P	**P**	**00 01 45.8**	**+3.3**
	0.2nm,0.5s,baz=155,slow=6.7,SNR=2.3						
NVAR	**Mina Array Bea**	**33.27**	**322**	P	**P**	**00 01 54.1**	**+1.6**
	0.2nm,0.4s,baz=131,slow=9.7,SNR=3.1						
YKA	**Yellowknife Ar**	**50.85**	**347**	P	**P**	**00 04 14.7**	**-0.3**
	1.1nm,0.5s,baz=135,slow=8.8,SNR=9.1						
ILAR	**Eielson Array**	**62.57**	**337**	P	**P**	**00 05 36.5**	**-1.7**
	0.4nm,0.5s,baz=125,slow=6.4,SNR=3.6						
CMAR	**Chiang Mai Arr**	**145.75**	**340**	PKPbc	**PKPbc**	**00 14 53.6**	**-0.5**
	0.5nm,0.4s,baz=347,slow=4.6,SNR=4.6						

ISCJB ***19*** *00:04:39.2±0.5, 75°.17N±0°.05×0°.9E±0°.2, h10km, mb3.8/4, Error ellipse: s-maj=8.8km s-min=6.3km az=138.4*

IDC ***19*** *00:04:41.1±1.1, 74°.95N×1°.06E, h0km, mb3.9/4, mb1 3.9/8, mb1mx3.5/50, mbtmp3.8/8, ML2.6/3, Error ellipse: s-maj=20.9km s-min=17.2km az=32.0*

BER ***19*** *00:04:43.4±1.9, 75°.31N×0°.19E, h10km, ML2.1*

ISC 19 00:04:42.3±0.8, 75°.18N±0°.07×1°.07E±0°.08, h10km, n19, σ2s16/21, mb3.8/4, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**4.48**	**28**	*eP*	**Pn**	**00 05 49.7**	**-0.3**
KBS				*eS*	**Sn**	**00 06 36.1**	**-6.0**
KBS				IAML		00 06 43.3	
	comp=Z,7.8nm,0.5s						
SPA0	**Spitsbergen Ar**	**4.63**	**42**	*eP*	**Pn**	**00 05 53.9**	**+1.7**
SPITS	**Spitsbergen Ar**	**4.63**	**42**	Pn	**Pn**	**00 05 52.2**	**0.0**
	baz=214,slow=13,SNR=22						
SPITS				Sn	**Sn**	**00 06 45.2**	**-0.7**
	baz=219,slow=27,SNR=1.5						
JNW	**Jan Mayen West**	**5.00**	**218**	*eP*	**Pn**	**00 05 55.9**	**-1.4**
JNE	**Jan Mayen East**	**5.02**	**218**	*eP*	**Pn**	**00 05 56.1**	**-1.4**
DAG	**Danmarks Havn**	**5.04**	**298**	*i P*	**Pn**	**00 05 55.2**	**-2.6**
DAG				*eS*	Sn	00 06 45.1	-11
JMIC	**Jan Mayen**	**5.05**	**218**	Pn	**Pn**	**00 05 56.1**	**-1.8**
	comp=Z,50nm,0.3s,baz=235,slow=6.9,SNR=6.1						
JMIC	**Jan Mayen**	**5.05**	**218**	*eP*	**Pn**	**00 05 56.4**	**-1.6**
JMI	**Jan Mayen**	**5.14**	**219**	*eP*	**Pn**	**00 05 57.8**	**-1.4**
TRO	**Tromso**	**7.73**	**127**	*eP*	**Pn**	**00 06 35.0**	**+0.4**
SCO	**Scoresbysund**	**8.22**	**247**	*i P*	**Pn**	**00 06 39.8**	**-1.7**
SCO				*i S*	Sn	00 08 01.8	-12
KIF	**Kilpisjarvi**	**8.63**	**126**	*eP*	**Pn**	**00 06 47.8**	**+0.9**
ARCES	**ARCESS Array B**	**9.25**	**115**	Pn	**Pn**	**00 06 55.3**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=319,slow=12,SNR=10						
NOA	**NORSAR Array B**	**14.66**	**160**	Pn	**Pn**	**00 08 07.7**	**-1.8**
	comp=Z,0.0nm,0.3s,baz=333,slow=12,SNR=3.1						
FINES	**FINESS Array B**	**16.36**	**134**	Pn	**Pn**	**00 08 30.5**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=316,slow=18,SNR=3.0						
RES	**Resolute Bay**	**22.41**	**316**	P	**P**	**00 09 43.1**	**+2.6**
	comp=Z,2.5nm,0.9s,baz=30,slow=11,SNR=3.0						
NRIK	**Noril'sk**	**24.63**	**58**	P	**P**	**00 10 04.9**	**+2.6**
	comp=Z,2.3nm,0.9s,baz=336,slow=10.0,SNR=5.2						
ILAR	**Eielson Array**	**38.78**	**339**	P	**P**	**00 12 08.6**	**+2.3**
	comp=Z,0.9nm,0.7s,baz=5.1,slow=7.4,SNR=12						
TXAR	**Lajitas Array**	**65.56**	**292**	P	**P**	**00 15 25.9**	**+0.1**
	comp=Z,3.8nm,1.3s,baz=42,slow=5.6,SNR=5.9						

IDC ***19*** *00:18:01.9±1.4, 13°.86N×92°.54W, h0km, mb3.9/6, mb1 4.1/9, mb1mx3.8/40, mbtmp3.8/9, ML3.4/3, MS2.5/2, Ms1 2.5/2, ms1mx2.3/27, Error ellipse: s-maj=27.3km s-min=16.4km az=5.0*

ISCJB ***19*** *00:18:05.9±0.7, 13°.88N±0°.09×92°.6W±0°.1, h46km, mb4.1/14, MS2.9/1, Error ellipse: s-maj=17.9km s-min=7.7km az=139.3*

NEIC ***19*** *00:18:05.3±3.4, 13°.86N×92°.55W, h24km±24km, mb4.2/9, Error ellipse: s-maj=15.8km s-min=7.4km az=49.0*

ISC 19 00:18:07.7±0.8, 13°.9N±0°.1×92°.6W±0°.1, h46km, n21, σ1s15/23, mb4.1/14, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**2.37**	**62**	Pn	**Pn**	**00 18 43.2**	**-1.1**
	5.6nm,0.3s,baz=216,slow=8.6,SNR=21						
APG				Lg	Lg	00 19 15.2	
	11nm,0.3s,baz=279,slow=17,SNR=6.3						
CMIG	**Matias Romero**	**3.86**	**326**	Pn	**Pn**	**00 19 02.9**	**-1.7**
	2.5nm,0.3s,baz=166,slow=14,SNR=14						
CMIG				Sn	**Sn**	**00 19 47.3**	**-1.5**
	2.2nm,0.3s,baz=109,slow=13,SNR=4.4						
CMIG				LR	LR	00 19 47.5	
	comp=Z,23nm,21.3s,baz=156,slow=27						
CMIG	**Matias Romero**	**3.86**	**326**	Pn	**Pn**	**00 19 02.9**	**-1.7**
CMIG				Sn	**Sn**	**00 19 47.3**	**-1.5**
TXAR	**Lajitas Array**	**18.47**	**328**	P	**Pn**	**00 22 21.4**	**+1.1**
	0.0nm,0.3s,baz=146,slow=8.7,SNR=9.9						
OTAV	**Otavalo**	**19.51**	**133**	P	**P**	**00 22 30.7**	**-1.1**
MIAR	**Mount Ida**	**20.59**	**358**	P	**P**	**00 22 42.4**	**-0.4**
	0.8nm,0.6s						
AMTX	**Amarillo**	**22.45**	**340**	*eP*	**P**	**00 23 03.6**	**+0.6**
	3.8nm,0.4s						
TKL	**Tuckaleechee C**	**23.10**	**19**	P	**P**	**00 23 08.4**	**-1.2**
	3.1nm,0.6s,baz=191,slow=14,SNR=6.3						
TKL				LR	LR	00 31 34.9	
	comp=Z,42nm,21.1s,baz=263,slow=35						
ANMO	**Albuquerque**	**24.41**	**332**	P	**P**	**00 23 23.0**	**+0.9**
	1.1nm,1.3s						
WCI	**Wyandotte Cave**	**24.89**	**12**	*eP*	**P**	**00 23 25.0**	**-1.2**
	24nm,0.6s						
PDAR	**Pinedale Array**	**32.28**	**336**	P	**P**	**00 24 32.8**	**+0.5**
	0.3nm,0.6s,baz=141,slow=8.8,SNR=4.0						
NVAR	**Mina Array Bea**	**33.38**	**322**	P	**P**	**00 24 44.0**	**+1.9**
	0.9nm,0.7s,baz=148,slow=7.5,SNR=6.0						
HLID	**Hailey**	**34.99**	**332**	P	**P**	**00 24 56.4**	**+0.6**
	1.3nm,1.0s						
PTGA	**Pitinga**	**35.46**	**112**	P	**P**	**00 24 59.6**	**-0.4**
	3.2nm,0.5s,baz=308,slow=9.4,SNR=17						
LVC	**Limon Verde**	**43.07**	**147**	P	**P**	**00 26 03.6**	**-0.2**
	2.9nm,1.0s						
YKA	**Yellowknife Ar**	**51.00**	**347**	P	**P**	**00 27 05.4**	**+0.7**
	2.2nm,0.8s,baz=143,slow=7.8,SNR=6.0						
TRQA	**Tornquist**	**59.12**	**152**	P	**P**	**00 28 02.9**	**-0.8**
	8.3nm,1.7s						
ILAR	**Eielson Array**	**62.71**	**337**	P	**P**	**00 28 28.6**	**+1.0**
	0.6nm,1.0s,baz=97,slow=6.5,SNR=4.4						
BORG	**Borgarnes**	**69.58**	**26**	P	**P**	**00 29 12.2**	**+0.6**
	16nm,0.9s						
ESK	**Eskdalemuir**	**78.39**	**36**	P	**P**	**00 30 04.5**	**+1.2**
	4.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**145.90**	**340**	PKPbc	**PKPdf**	**00 37 42.7**	**+0.3**
	0.4nm,0.3s,baz=347,slow=3.2,SNR=5.3						

IDC ***19*** *00:36:44.4±1.0, 4°.95S×133°.82E, h0km, mb4.1/5, mb1 4.2/9, mb1mx4.0/38, mbtmp4.1/9, ML4.0/5, MS3.0/3, Ms1 3.0/3, ms1mx2.5/31, Error ellipse: s-maj=37.9km s-min=20.3km az=61.0*

ISCJB ***19*** *00:36:45.8±0.4, 4°.93S±0°.04×133°.95E±0°.04, h28km, mb4.3/11, MS2.8/1, Error ellipse: s-maj=6.6km s-min=5.6km az=140.3*

NEIC ***19*** *00:36:45.7±0.4, 4°.99S×133°.82E, h10km, mb4.3/5, Error ellipse: s-maj=9.5km s-min=6.6km az=82.0*

DJA ***19*** *00:36:48.5±0.3, 5°.5S×4°×13°.4E±°, h79km±16km, M4.5/12, mb4.6/10, mB5.2/3, MLv4.5/12, Mw(mB)4.5/3*

ISC 19 00:36:47.5±0.5, 4°.92S±0°.05×133°.94E±0°.05, h28km, n34, σ2s46/38, mb4.2/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**1.27**	**350**	P	**Pn**	**00 37 07.7**	**-1.8**
FAKI	**Fak Fak**	**2.61**	**320**	P	**Pn**	**00 37 27.6**	**-0.2**
FAKI				S	**Sn**	**00 37 56.8**	**-1.8**
RKPI	**Ransiki, Papua**	**3.40**	**4**	P	**Pn**	**00 37 38.4**	**-0.3**
SAUI	**Saumlaki**	**4.01**	**221**	P	**Pn**	**00 37 50.3**	**+3.1**
BNDI	**Bandanaira**	**4.04**	**275**	P	**Pn**	**00 37 48.7**	**+1.2**
BNDI				S	**Sn**	**00 38 36.3**	**+2.4**
SIJI	**Sorong**	**4.83**	**326**	Pn	**Pn**	**00 37 57.7**	**-0.7**
	2.7nm,0.3s,baz=58,slow=23,SNR=26						
SIJI				Sn	**Sn**	**00 38 48.8**	**-4.7**
	3.5nm,0.3s,baz=97,slow=13,SNR=4.3						
SWI	**Sorong**	**4.84**	**326**	P	**Pn**	**00 37 58.4**	**-0.1**
SMPI	**Sarmi**	**5.58**	**59**	P	**Pn**	**00 38 09.1**	**+0.3**
AAI	**Ambon**	**5.86**	**282**	P	**Pn**	**00 38 13.9**	**+1.4**
AAI				S	**Sn**	**00 39 16.7**	**-2.1**
GENI	**Genyem**	**6.63**	**70**	P	Pn	00 38 16.6	-6.6
NLAI	**Namlea**	**7.02**	**284**	P	**Pn**	**00 38 30.3**	**+1.8**
	31nm,0.7s						
JAY	**Jayapura**	**7.16**	**71**	Pn	**Pn**	**00 38 31.9**	**+1.3**
	1.4nm,0.3s,baz=194,slow=9.0,SNR=4.4						
JAY				Sn	**Sn**	**00 39 48.1**	**-3.0**
	baz=142,slow=19,SNR=2.0						
JAY				LR	LR	00 41 35.6	
	comp=Z,121nm,19.1s,baz=173,slow=40						
JAY	**Jayapura**	**7.16**	**71**	P	**Pn**	**00 38 30.6**	**0.0**
SANI	**Sanana**	**8.43**	**290**	P	**Pn**	**00 38 47.2**	**-0.7**
	16nm,1.0s						
SANI				S	**Sn**	**00 40 15.2**	**-7.0**
	16nm,1.0s						
SOEI	**Soe**	**10.72**	**243**	P	**Pn**	**00 39 21.1**	**+1.6**
BATI	**Baumata**	**11.46**	**242**	LR	LR	00 44 51.9	
	comp=Z,99nm,21.1s,baz=54,slow=43						
WRAB	**Tennant Creek**	**14.93**	**178**	*e*Pn	**Pn**	**00 40 15.2**	**-1.6**
	12nm,0.7s						
WRA	**Warramunga Arr**	**14.94**	**179**	Pn	**Pn**	**00 40 14.8**	**-2.1**
	0.7nm,0.3s,baz=354,slow=13,SNR=19						
WRA				Sn	**Sn**	**00 42 53.1**	**-8.5**
	0.4nm,0.3s,baz=360,slow=24,SNR=4.0						
ASAR	**Alice Springs**	**18.64**	**180**	P	**Pn**	**00 41 03.1**	**-0.5**
	1.4nm,0.3s,baz=7.0,slow=10,SNR=56						
CTA	**Charters Tower**	**19.26**	**143**	P	**Pn**	**00 41 12.4**	**+1.3**
	0.3nm,0.3s,baz=327,slow=10,SNR=5.3						
CTAO	**Charters Tower**	**19.26**	**143**	*eP*	**P**	**00 41 11.1**	**+1.1**
	8.0nm,0.6s						
MBWA	**Marble Bar**	**21.23**	**219**	*eP*	**P**	**00 41 30.9**	**-0.5**
	32nm,1.0s						
GUMO	**Guam**	**21.35**	**30**	*eP*	**P**	**00 41 34.2**	**+1.5**
LEM	**Lembang**	**26.25**	**265**	LR	LR	00 53 52.0	
	comp=Z,26nm,20.4s,baz=74,slow=39						
COCO	**West Island**	**37.36**	**256**	P	**P**	**00 43 57.7**	**-0.3**
	114nm,0.5s						
TAU	**Tasmania Unive**	**39.65**	**165**	P	**P**	**00 44 18.0**	**+1.0**
	4.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**41.59**	**305**	P	**P**	**00 44 34.0**	**+0.6**
	0.8nm,0.3s,baz=129,slow=7.1,SNR=5.5						
GTA	**Gaotai**	**54.19**	**328**	*eP*	**P**	**00 46 12.1**	**+1.3**
GTA				pP	pP	00 46 16.4	-3.0
GTA				sP	sP	00 46 19.0	-3.7
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	**Songino Array**	**57.84**	**338**	P	**P**	**00 46 37.7**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=158,slow=8.5,SNR=3.8						
TLY	**Talaya**	**62.03**	**339**	P	**P**	**00 47 06.6**	**+1.3**
	comp=Z,0.6nm,0.5s						
CASY	**Casey**	**63.39**	**190**	P	**P**	**00 47 14.4**	**+0.2**
	comp=Z,4.3nm,0.8s						
MKAR	**Makanchi Array**	**68.72**	**325**	P	**P**	**00 47 50.2**	**+1.5**
	comp=Z,5.9nm,0.7s,baz=114,slow=8.1,SNR=62						
ZALV	**Zalesovo Beam**	**71.53**	**332**	P	**P**	**00 48 06.1**	**+0.3**
	comp=Z,2.1nm,0.9s,baz=100,slow=6.3,SNR=5.4						
GEYT	**Alibeck**	**81.90**	**309**	P	**P**	**00 49 06.0**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=57,slow=5.3,SNR=3.5						

MEX 19 00:39:07.1±0.6, 14°.05N×92°.55W, h10km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.90**	**18**	*eP*	Pg	00 39 21.5	-3.0
THIG				*eS*	Sg	00 39 33.4	-2.8
PCIG		**1.77**	**339**	*eP*	Pn	00 39 33.6	-4.3
PCIG				*eS*	Sn	00 39 56.1	-4.3
CCIG	**Comitan**	**2.26**	**10**	*i P*	Pn	00 39 41.9	-2.8
CCIG				*eP*	Pb	00 39 44.8	-3.3
CCIG				*eS*	Sn	00 40 08.2	-4.5
TGIG		**2.77**	**349**	*eP*	Pn	00 39 48.5	-3.1
TGIG				*eS*	Sn	00 40 21.6	-3.6

NIED ***19*** *01:07:00, 43°.10N×145°.80E, h68km, Mw3.9 Best double couple: M0=8.47000×10^14 NP1:φs=163.00000°, δ23.00000°, λ=-2.00000°. NP2:φs=255.00000°, δ89.00000°, λ=113.00000°.*

MOS ***19*** *01:07:53.7±0.9, 42°.98N×145°.94E, h72km, mb4.5/12, Error ellipse: s-maj=11.6km s-min=6.3km az=81.7*

MOS Felt (II) at Yuzhno-Kuril'sk, Malokuril'skoye.

ISCJB ***19*** *01:07:54.1±0.5, 43°.03N±0°.04×145°.90E±0°.04, h71km±3km, mb4.0/25, Error ellipse: s-maj=7.3km s-min=4.0km az=141.9*

IDC ***19*** *01:07:56.0±2.1, 43°.04N×145°.85E, h71km±18km, mb3.9/17, mb1 4.1/20, mb1mx3.9/35, mbtmp4.2/20, MS2.9/4, Ms1 2.9/4, ms1mx2.6/39, Error ellipse: s-maj=16.4km s-min=13.7km az=165.0*

NEIC ***19*** *01:07:55.5±0.6, 43°.03N×145°.91E, h67km±5km, mb4.3/2, Error ellipse: s-maj=8.1km s-min=5.2km az=136.0*

NEIC Recorded [2 JMA] in eastern Hokkaido.

SKHL ***19*** *01:07:55.7±0.7, 43°.10N×145°.79E, h81km±4km, mb5.1/8, msh6.1/6*

SKHL Felt (II) at Yushno-Kuril'sk, Lagunnoe, Malokuril'skoe. Felt (II) at Golovnino, Mendeleevo, Gorjachy Pljash.

JMA ***19*** *01:07:55.8±0.1, 43°.06N×145°.82E, h64km±1km, M4.1*

JMA Felt II J1.

ISC 19 01:07:55.3±0.8, 43°.08N±0°.05×145°.85E±0°.04, h61km±6km, n97, σ1s04/113, mb4.1/25, 9C-5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.30**	**345**	P	**Pn**	**01 08 06.5**	**+1.0**
NEM2				*eS*	**Sn**	**01 08 14.1**	**+1.2**
JKHN	**Kushirohamanak**	**0.50**	**271**	P	**Pn**	**01 08 08.4**	**+1.0**
JKHN				*eS*	**Sn**	**01 08 17.6**	**+1.5**
GLVR	**Golovnino**	**0.70**	**340**	*eP*	**Pn**	**01 08 10.0**	**+0.4**
GLVR				AMB	AMB	01 08 10.0	
	1μm,0.3s						
GLVR				AMB	AMB	01 08 10.0	
	370nm,0.3s						
GLVR				AMB	AMB	01 08 10.0	
	1μm,0.3s						
GLVR				*i* S	**Sn**	**01 08 21.0**	**+0.9**
GLVR				A	A	01 08 26.0	
	4μm,0.2s						
GLVR				A	A	01 08 26.0	
	2μm,0.2s						
GLVR	**Golovnino**	**0.70**	**340**	*e*PN	**Pn**	**01 08 10.7**	**+1.1**
GLVR				*i* S	**Sn**	**01 08 21.8**	**+1.7**
GLVR				pmax	pmax		
	comp=N,1μm,0.1s						
GLVR				pmax	pmax		
	comp=E,374nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,15μm,0.1s						
GLVR				smax	smax		
	comp=N,4μm,0.1s						
GLVR				smax	smax		
	comp=E,24μm,0.2s						
JAK	**Akkeshi**	**0.85**	**265**	P	**Pn**	**01 08 11.9**	**+0.5**
JAK				S	**Sn**	**01 08 23.6**	**+0.3**
GRPR	**Tuman**	**0.92**	**357**	*i* P	**Pn**	**01 08 12.0**	**-0.3**
GRPR				AMB	AMB	01 08 13.0	
	comp=E,560nm,0.2s						
GRPR				AMB	AMB	01 08 13.0	
	comp=E,570nm,0.2s						
GRPR				AMB	AMB	01 08 13.0	
	comp=E,400nm,0.2s						
GRPR				*i* S	**Sn**	**01 08 25.0**	**+0.1**
GRPR				A	A	01 08 26.0	
	comp=E,3μm,0.2s						
GRPR				A	A	01 08 26.0	
	comp=E,4μm,0.2s						
GRPR	**Tuman**	**0.92**	**357**	*c i*PN	**Pn**	**01 08 12.9**	**+0.6**
GRPR				*i* S	**Sn**	**01 08 25.2**	**+0.3**
GRPR				pmax	pmax		
	comp=N,555nm,0.2s						
GRPR				pmax	pmax		
	comp=E,566nm,0.2s						
GRPR				pmax	pmax		
	comp=Z,4μm,0.2s						
GRPR				smax	smax		
	comp=N,33nm,0.2s						
GRPR				smax	smax		
	comp=E,37nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.96**	**1**	*i* P	**Pn**	**01 08 13.6**	**+0.8**
YUK				AMB	AMB	01 08 14.0	
	comp=E,1μm,0.2s						
YUK				AMB	AMB	01 08 14.0	
	comp=E,880nm,0.2s						
YUK				AMB	AMB	01 08 14.0	
	comp=E,830nm,0.2s						
YUK				*i* S	**Sn**	**01 08 27.0**	**+1.2**
YUK				A	A	01 08 30.0	
	comp=E,2μm,0.1s						
YUK				A	A	01 08 30.0	
	comp=E,640nm,0.1s						
YUK	**Yuzh-Kuril'sk**	**0.96**	**1**	*c i*PN	**Pn**	**01 08 13.4**	**+0.6**
YUK				*i* S	**Sn**	**01 08 27.3**	**+1.5**
YUK				pmax	pmax		
	comp=N,1μm,0.2s						
YUK				pmax	pmax		
	comp=Z,8μm,0.2s						
YUK				pmax	pmax		
	comp=E,882nm,0.1s						
YUK				smax	smax		
	comp=N,16μm,0.2s						
YUK				smax	smax		
	comp=E,6μm,0.1s						
JNK	**Nakash**	**0.97**	**302**	P	**Pn**	**01 08 13.3**	**+0.3**
JNK				*e*S	**Sn**	**01 08 25.9**	**-0.1**
LAGR	**Lagunnoye**	**0.98**	**357**	*i* P	**Pn**	**01 08 13.0**	**-0.1**
LAGR				AMB	AMB	01 08 14.0	
	comp=E,2μm,0.5s						
LAGR				AMB	AMB	01 08 14.0	
	comp=E,5μm,0.5s						
LAGR				*i* S	**Sn**	**01 08 26.0**	**-0.3**
LAGR				A	A	01 08 28.0	
	comp=E,3μm,0.2s						
LAGR				A	A	01 08 28.0	
	comp=E,2μm,0.2s						
LAGR	**Lagunnoye**	**0.98**	**357**	*d i*PN	**Pn**	**01 08 13.8**	**+0.7**
LAGR				*i* S	**Sn**	**01 08 26.9**	**+0.6**
LAGR				pmax	pmax		
	comp=Z,2μm,0.1s						
LAGR				smax	smax		
	comp=N,34μm,0.2s						
LAGR				smax	smax		
	comp=E,23μm,0.2s						
JRA	**Rausu**	**1.01**	**329**	P	**Pn**	**01 08 14.5**	**+1.0**
JRA				*e*S	**Sn**	**01 08 28.2**	**+1.2**
SHO	**Shikotan**	**1.07**	**42**	*i* P	**Pn**	**01 08 15.0**	**+0.7**
SHO				AMB	AMB	01 08 15.0	
	comp=E,450nm,0.3s						
SHO				AMB	AMB	01 08 15.0	
	comp=E,5μm,0.3s						
SHO				*i* S	**Sn**	**01 08 28.8**	**+0.4**
SHO				A	A	01 08 29.0	
	comp=E,1μm,0.2s						
SHO				A	A	01 08 29.0	
	comp=E,930nm,0.2s						
SHO	**Shikotan**	**1.07**	**42**	*c i*PN	**Pn**	**01 08 15.3**	**+1.0**
SHO				*i* S	**Sn**	**01 08 28.7**	**+0.4**
SHO				pmax	pmax		
	comp=Z,446nm,0.1s						
SHO				smax	smax		
	comp=N,10μm,0.4s						
SHO				smax	smax		
	comp=E,9μm,0.2s						
JOB	**Onbets**	**1.49**	**264**	P	**Pn**	**01 08 20.3**	**+0.5**
JOB				S	**Sn**	**01 08 38.2**	**-0.1**
JAR	**Ashorobuto**	**1.54**	**279**	P	**Pn**	**01 08 21.2**	**+0.7**
JAR				S	**Sn**	**01 08 40.1**	**+0.6**
JTKR	**Abashiri--Toko**	**1.67**	**303**	P	**Pn**	**01 08 23.6**	**+1.3**
JTKR				*e*S	**Sn**	**01 08 44.5**	**+1.8**
ERM	**Erimo**	**2.25**	**243**	*e*Pn	**Pn**	**01 08 32.4**	**+2.2**
ERM				*e*Sn	**Sn**	**01 08 57.8**	**+0.9**
ERM	**Erimo**	**2.25**	**243**	*e*P	**Pn**	**01 08 32.4**	**+2.2**
ERM	**Erimo**	**2.25**	**243**	*e*PN	**Pn**	**01 08 32.4**	**+2.2**
ERM				*e*		01 08 57.8	
JKA	**Kamikawa-asahi**	**2.58**	**295**	*e*P	**Pn**	**01 08 36.9**	**+2.3**
ASAJ	**Asahikawa**	**2.58**	**295**	P	**Pn**	**01 08 36.9**	**+2.2**
	comp=E,39nm,0.3s,baz=108,slow=11,SNR=130						
ASAJ				S	**Sn**	**01 09 07.1**	**+2.2**
	comp=E,17nm,0.3s,baz=74,slow=32,SNR=5.9						
ASAJ				LR	LR	01 09 53.0	
	comp=E,134nm,19.1s,baz=152,slow=45						
KUR	**Kuril'sk**	**2.60**	**33**	*i* P	**Pn**	**01 08 36.6**	**+1.7**
KUR				AMB	AMB	01 08 37.0	
	comp=E,120nm,0.5s						
KUR				AMB	AMB	01 08 37.0	
	comp=E,80nm,0.5s						
KUR				AMB	AMB	01 08 37.0	
	comp=E,280nm,0.5s						
KUR				*i* S	**Sn**	**01 09 06.9**	**+1.6**
KUR				A	A	01 09 10.0	
	comp=E,510nm,0.3s						
KUR				A	A	01 09 10.0	
	comp=E,750nm,0.3s						
KUR	**Kuril'sk**	**2.60**	**33**	*d i*PN	**Pn**	**01 08 36.8**	**+1.9**
KUR				*i* S	**Sn**	**01 09 06.9**	**+1.6**
KUR				pmax	pmax		
	comp=Z,276nm,0.5s						
KUR				pmax	pmax		
	comp=N,116nm,0.2s						
KUR				pmax	pmax		
	comp=E,83nm,0.1s						
KUR				smax	smax		
	comp=E,555nm,0.5s						
KUR				smax	smax		
	comp=N,547nm,0.2s						
YSS	**Yuzh-Sakhalins**	**4.45**	**332**	*e*Pn	**Pn**	**01 09 02.4**	**+2.2**
YSS	**Yuzh-Sakhalins**	**4.45**

MA2				pmax	pmax			
	comp=Z,143nm,1.8s							
NACB	**Ninganchiao**	**27.47**	**234**	*eP*	**P**	**01 13 35.9**	**+0.2**
	comp=Z,144nm,0.9s							
SONA1	**Songino Array**	**27.86**	**294**	*eP*	**P**	**01 13 39.2**	**+0.1**
SONA0	**Songino Array**	**27.86**	**294**	*eP*	**P**	**01 13 39.5**	**+0.3**
SONM	**Songino Array**	**27.86**	**294**	P	**P**	**01 13 39.5**	**+0.3**
	comp=Z,4.3nm,0.7s,baz=88,slow=8.3,SNR=34							
H11N2	**WAKE ISLAND Hy**	**29.24**	**136**	T	T	01 44 52.9		
	baz=328,slow=76,SNR=863							
H11N1	**WAKE ISLAND Hy**	**29.25**	**136**	T	T	01 44 53.8		
	baz=328,slow=76,SNR=666							
H11N3	**WAKE ISLAND Hy**	**29.26**	**136**	T	T	01 44 52.3		
	baz=328,slow=76,SNR=527							
H11S1	**WAKE ISLAND Hy**	**30.18**	**138**	T	T	01 45 55.6		
	baz=329,slow=76,SNR=1026							
H11S3	**WAKE ISLAND Hy**	**30.18**	**138**	T	T	01 46 02.2		
	baz=329,slow=76,SNR=619							
H11S2	**WAKE ISLAND Hy**	**30.20**	**138**	T	T	01 46 03.2		
	baz=329,slow=76,SNR=582							
IM3	**Indian Mountai**	**39.73**	**34**	*eP*	**P**	**01 15 22.3**	**+0.8**
DGZ	**Jazzator, Alta**	**39.94**	**300**⇑	*eP*	**P**	**01 15 25.0**	**+1.4**
DGZ				pmax	pmax			
	comp=Z,1.0nm,1.0s							
KDAK	**Kodiak Island**	**40.40**	**47**	P	**P**	**01 15 26.2**	**-0.8**
	comp=Z,9.6nm,0.8s,baz=246,slow=6.7,SNR=4.4							
ZAA1	**Zalesovo Array**	**40.65**	**307**	*eP*	**P**	**01 15 27.9**	**-1.2**
ZALV	**Zalesovo Beam**	**40.65**	**307**	P	**P**	**01 15 27.9**	**-1.2**
	comp=Z,1.0nm,0.4s,baz=96,slow=8.4,SNR=6.3							
ZALV	**Zalesovo Beam**	**40.65**	**307**	*eP*	**P**	**01 15 29.6**	**+0.4**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ILAR	**Eielson Array**	**42.59**	**36**	P	**P**	**01 15 44.8**	**-0.2**
	comp=Z,1.8nm,0.5s,baz=276,slow=8.8,SNR=23							
ILAR	**Eielson Array**	**42.59**	**36**	*eP*	**P**	**01 15 45.1**	**+0.2**
ILAR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
ILB	**Eielson Array**	**42.59**	**36**	*eP*	**P**	**01 15 45.8**	**+0.9**
MK32	**Makanchi Array**	**44.06**	**298**	*eP*	**P**	**01 15 56.9**	**-0.1**
MKAR	**Makanchi Array**	**44.06**	**298**	*eP*	**P**	**01 15 56.9**	**-0.1**
	comp=Z,1.8nm,0.5s,baz=81,slow=9.8,SNR=24							
MKAR	**Makanchi Array**	**44.06**	**298**	*eP*	**P**	**01 15 57.1**	**+0.1**
MKAR	**Makanchi Array**	**44.06**	**298**	*eP*	**P**	**01 15 57.1**	**+0.1**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
KURK	**Kurchatov**	**45.12**	**304**	*eP*	**P**	**01 16 05.4**	**0.0**
KURK	**Kurchatov**	**45.12**	**304**	*eP*	**P**	**01 16 05.1**	**-0.3**
KURK	**Kurchatov**	**45.12**	**304**	*c iP*	**P**	**01 16 05.1**	**-0.3**
KURK				pmax	pmax			
	comp=Z,4.0nm,0.6s							
INK	**Inuvik**	**47.46**	**30**	P	**P**	**01 16 23.7**	**+0.2**
	comp=Z,1.9nm,0.4s,baz=286,slow=7.9,SNR=11							
BRVK	**Borovoye**	**49.24**	**309**	*eP*	**P**	**01 16 37.8**	**+0.4**
BRVK	**Borovoye**	**49.24**	**309**⇑	*eP*	**P**	**01 16 37.8**	**+0.4**
BRVK				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ARU	**Arti**	**54.19**	**317**⇓	*eP*	**P**	**01 17 13.6**	**-0.6**
ARU				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ABKAR	**Akbulak array**	**56.74**	**309**	*eP*	**P**	**01 17 32.8**	**+0.1**
YKA	**Yellowknife Ar**	**56.89**	**33**	P	**P**	**01 17 32.9**	**-0.5**
	comp=Z,1.0nm,0.9s,baz=304,slow=6.9,SNR=3.6							
YKB5	**Yellowknife Ar**	**56.89**	**33**	*eP*	**P**	**01 17 32.9**	**-0.5**
ARA0	**ARCESS Array S**	**59.54**	**339**	*eP*	**P**	**01 17 51.8**	**-0.1**
ARCES	**ARCESS Array B**	**59.54**	**339**	P	**P**	**01 17 51.8**	**-0.1**
	comp=Z,2.3nm,1.0s,baz=39,slow=7.8,SNR=8.3							
WRAB	**Tennant Creek**	**63.58**	**192**⇑	*eP*	**P**	**01 18 18.2**	**-1.4**
WRAB				pmax	pmax			
	comp=Z,2.0nm,0.9s							
WR1	**Warramunga Arr**	**63.59**	**192**	*eP*	**P**	**01 18 19.1**	**-0.6**
	comp=Z,2.1nm,1.1s							
WRA	**Warramunga Arr**	**63.59**	**192**	P	**P**	**01 18 19.1**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=13,slow=7.0,SNR=4.1							
FIA0	**FINESS Array S**	**65.04**	**333**	*eP*	**P**	**01 18 28.2**	**-0.5**
FIA0	**FINESS Array S**	**65.04**	**333**	*eP*	**P**	**01 18 28.2**	**-0.5**
FINES	**FINESS Array B**	**65.04**	**333**	P	**P**	**01 18 28.2**	**-0.5**
	comp=Z,6.4nm,0.4s,baz=46,slow=7.7,SNR=107							
FINES	**FINESS Array B**	**65.04**	**333**	*eP*	**P**	**01 18 28.1**	**-0.6**
ASAR	**Alice Springs**	**67.32**	**192**	P	**P**	**01 18 42.9**	**-0.8**
	comp=Z,5.4nm,0.3s,baz=7.5,slow=5.8,SNR=8.0							
AFI	**Afiamalu**	**68.71**	**135**	LR	LR	01 40 46.9		
	comp=Z,43nm,21.5s,baz=116,slow=29							
NVAR	**Mina Array Bea**	**68.74**	**57**	P	**P**	**01 18 53.5**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=297,slow=6.8,SNR=5.7							
KBZ	**Khabaz**	**69.53**	**311**	P	**P**	**01 18 58.1**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=27,slow=7.6,SNR=4.4							
KBZ	**Khabaz**	**69.53**	**311**	P	**P**	**01 18 58.1**	**+0.7**
KBZ				pmax	pmax			
	comp=Z,1.0nm,0.7s							
NB2	**NORSAR Subarra**	**69.88**	**338**	P	**P**	**01 18 58.8**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=33,slow=6.5							
NOA	**NORSAR Array B**	**69.88**	**338**	P	**P**	**01 18 58.7**	**-0.7**
	comp=Z,2.1nm,0.7s,baz=32,slow=6.6,SNR=16							
NOA	**NORSAR Array B**	**69.88**	**338**	*eP*	**P**	**01 18 59.0**	**-0.3**
NOA	**NORSAR Array B**	**69.88**	**338**	*eP*	**P**	**01 18 59.0**	**-0.3**
NOA				pmax	pmax			
	comp=Z,3.0nm,0.6s							
PDAR	**Pinedale Array**	**71.07**	**49**	P	**P**	**01 19 07.1**	**0.0**
	comp=Z,0.3nm,0.5s,baz=290,slow=1.6,SNR=5.2							
AKASG	**Malin Array Be**	**71.55**	**323**	P	**P**	**01 19 08.9**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=42,slow=6.5,SNR=4.8							
KIEV	**Kiev**	**71.57**	**323**	*eP*	**P**	**01 19 09.1**	**-0.6**
KIEV	**Kiev**	**71.57**	**323**⇓	*eP*	**P**	**01 19 09.1**	**-0.6**
KIEV				pmax	pmax			
	comp=Z,6.0nm,1.1s							
TXAR	**Lajitas Array**	**83.81**	**55**	P	**P**	**01 20 18.4**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=341,slow=4.8,SNR=3.1							

*NORS **19** 01:16:51.6±0.0, 42.˚56N×43.˚49E, h1km, MPVA3.0*
ISC 19 01:16:50.1±1.9, 42.˚5N±0.˚1×43.˚50E±0.˚06, h18km±6km, n7, σ0s54/14, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.06**	**330**	P	**Pg**	**01 16 53.8**	**+0.3**
ONI				S	**Sg**	**01 16 55.0**	**-0.8**
DIGR	**Digorskoe uzhe**	**0.37**	**10**	*i* Pg	**Pb**	**01 16 58.3**	**0.0**
DIGR				*e*Sg	**Sg**	**01 17 03.2**	**-0.1**
ZEI	**Tsey**	**0.39**	**50**	*i* Pg	**Pb**	**01 16 59.3**	**+0.6**
ZEI				*e*Sg	**Sb**	**01 17 04.3**	**-0.2**
LACR	**Lac**	**0.66**	**63**	*i* Pg	**Pn**	**01 17 04.1**	**-0.6**
LACR				*e*Sg	**Sg**	**01 17 12.7**	**+0.8**
KORR	**Kora**	**0.69**	**37**	*i* Pg	**Pn**	**01 17 05.0**	**-0.1**
KORR				*e*Sg	**Sn**	**01 17 15.0**	**-0.5**
LSNR	**Lesken**	**0.78**	**18**	*i* Pg	**Pn**	**01 17 06.6**	**+0.3**
LSNR				*e*Sg	**Sn**	**01 17 16.9**	**-0.7**
NEY	**Neytrino**	**0.91**	**322**	*e*Pg	**Pn**	**01 17 08.5**	**+0.3**
NEY				*e*Sg	**Sg**	**01 17 20.2**	**+0.2**

WEL 19 01:19:48.5, 41.˚5S±1.˚×17.˚7E±.˚, h28km±3km, ML3.7/13, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPWZ	**Castlepoint**	**0.27**	**278**	P	Pb	01 19 55.7	+0.4
CPWZ				S	Sn	01 20 01.1	-0.7
BFZ	**Birch Farm**	**0.35**	**318**	P	Pb	01 19 56.0	-0.5
BFZ				S	Sb	01 20 01.2	-0.8
ANWZ	**Angora Road**	**0.49**	**353**	P	Pb	01 19 58.9	+0.3
ANWZ				S	Sb	01 20 06.0	+0.5
TMWZ	**Te Maipa**	**0.53**	**252**	P	Pn	01 20 00.1	-0.1
TIWZ	**Tintock**	**0.54**	**288**	P	Pb	01 19 59.6	+0.2
PRWZ	**Pori Road**	**0.59**	**311**	P	Pb	01 20 00.4	+0.1
PRWZ				S	Sb	01 20 09.0	+0.6
PRHZ	**Porangahau**	**0.68**	**5**	P	Pb	01 20 02.0	+0.1
PRHZ				S	Sn	01 20 12.0	-0.1
DVHZ	**Dannevirke**	**0.71**	**335**	P	Pb	01 20 02.1	-0.3
HOWZ	**Holdsworth Sta**	**0.79**	**273**	P	Pb	01 20 03.3	-0.3
MRZ	**Mangatainoka R**	**0.79**	**291**	P	Pb	01 20 03.3	-0.4
MRZ				S	Sn	01 20 15.5	+0.7
TRWZ	**Traveller**	**0.80**	**235**	P	Pn	01 20 03.9	0.0
POWZ	**Post Office Ro**	**0.82**	**313**	P	Pb	01 20 03.8	-0.3
MTW	**Mount Morrison**	**0.82**	**255**	P	Pb	01 20 04.0	-0.3
WPHZ	**Waipukurau**	**0.89**	**354**	P	Pb	01 20 05.0	-0.1
PXZ	**Pawanui**	**0.94**	**14**	P	Pn	01 20 05.9	0.0
PAWZ	**Paruwai Farm**	**0.96**	**243**	P	Pn	01 20 05.9	-0.2
TSZ	**Takapari Road**	**1.00**	**333**	P	Pn	01 20 06.3	-0.3
OGWZ	**Otaki Gorge**	**1.06**	**277**	P	Pn	01 20 07.3	-0.2
PNHZ	**Pukenui**	**1.07**	**345**	P	Pn	01 20 07.5	-0.2
MSWZ	**Moikau Station**	**1.09**	**244**	P	Pn	01 20 07.5	-0.5
CAW	**Cannon Point**	**1.14**	**261**	P	Pn	01 20 08.4	-0.2
PLWZ	**Palliser**	**1.16**	**237**	P	Pn	01 20 08.3	-0.7
KAHZ	**Kahuranaki**	**1.18**	**12**	P	Pn	01 20 08.9	-0.3
KIW	**Kapiti Island**	**1.25**	**273**	P	Pn	01 20 10.2	+0.1
KRHZ	**Kereru**	**1.31**	**354**	P	Pn	01 20 11.1	+0.1
BHW	**Baring Head**	**1.35**	**250**	P	Pn	01 20 11.0	-0.5
BHHZ	**Black Hill Sta**	**1.50**	**345**	P	Pn	01 20 13.9	+0.2
KWHZ	**Kaweka Forest**	**1.52**	**356**	P	Pb	01 20 15.3	-0.8
MOVZ	**Moawhango**	**1.66**	**338**	P	Pn	01 20 16.5	+0.7
WAZ	**Wanganui**	**1.69**	**314**	P	Pb	01 20 18.0	-0.9
ARHZ	**Aropaoanui**	**1.72**	**12**	P	Pn	01 20 15.9	-0.6
ARHZ				P	Pb	01 20 16.4	-2.9
TCW	**Tory Channel**	**1.74**	**261**	P	Pn	01 20 16.6	-0.3
BKZ	**Black Stump Fm**	**1.78**	**358**	P	Pn	01 20 17.5	0.0
TUVZ	**Tukino**	**1.81**	**337**	P	Pn	01 20 19.3	+1.3
FWVZ	**Far West T-bar**	**1.86**	**335**	P	Pb	01 20 20.3	-1.6
PKVZ	**Pokaka**	**1.90**	**330**	P	Pn	01 20 20.6	+1.5
COVZ	**Chateau Observ**	**1.91**	**336**	P	Pb	01 20 21.1	-1.7
NGZ	**Ngauruhoe**	**1.92**	**337**	P	Pn	01 20 20.9	+1.5
WTVZ	**West Tongariro**	**1.97**	**338**	P	Pn	01 20 21.6	+1.4
DUWZ	**D'Urville Isla**	**2.00**	**273**	P	Pn	01 20 21.1	+0.6
TWVZ	**Taurewa**	**2.06**	**335**	P	Pn	01 20 22.4	+1.0
KHZ	**Kahutara**	**2.69**	**236**	P	Pn	01 20 28.9	-1.1
MWZ	**Matawai**	**2.72**	**16**	P	Pn	01 20 29.4	-1.0
QRZ	**Quartz Range**	**3.05**	**271**	P	Pn	01 20 35.6	+0.6

*IDC **19** 01:35:20.1±0.8, 24.˚32S×176.˚45W, h0km, mb4.3/11, mb1 4.5/11, mb1mx4.3/27, mbtmp4.3/11, MS3.4/8, Ms1 3.4/8, ms1mx3.1/24, Error ellipse: s-maj=33.4km s-min=19.9km az=153.0*
*NEIC **19** 01:35:25.5±0.3, 24.˚36S×176.˚49W, h35km, mb4.3/5, Error ellipse: s-maj=12.6km s-min=8.5km az=144.0*
ISC 19 01:35:25.2±0.5, 24.˚5S±0.˚1×176.˚2W±0.˚1, h35km, n62, σ1s54/51, mb4.4/14, MS3.3/7, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.31**	**23**	Pn	Pn	01 37 59.5	-5.0
	2.0nm,0.3s,baz=176,slow=16,SNR=2.2						
AFI				Sn	Sn	01 39 53.3	-16
	3.7nm,0.3s,baz=198,slow=20,SNR=2.5						
URZ	**Urewera**	**14.87**	**201**	Pn	**P**	**01 38 57.7**	**-0.4**
	1.2nm,0.3s,baz=3.2,slow=5.4,SNR=5.6						
URZ				Sn	Sn	01 41 25.8	-11
	0.4nm,0.3s,baz=144,slow=19,SNR=2.9						
RAR	**Rarotonga**	**15.51**	**81**	Pn	**Pn**	**01 38 58.6**	**-2.8**
	4.4nm,0.3s,baz=272,slow=7.1,SNR=20						
RAR				Sn	Sn	01 41 34.5	-18
	1.3nm,0.3s,baz=99,slow=18,SNR=4.2						
BKZ	**Black Stump Fm**	**15.89**	**201**	*e*Pn	**Pn**	**01 39 07.0**	**+0.8**
	8.8nm,1.1s						
DZM	**Mont Dzumac**	**16.10**	**275**	Pn	**P**	**01 39 13.9**	**+1.8**
	0.8nm,0.3s,baz=86,slow=18,SNR=9.4						
DZM				LR	LR	01 43 56.0	
	comp=Z,105nm,20.2s,baz=52,slow=32						
DZM	**Mont Dzumac**	**16.10**	**275**	*eP*	**P**	**01 39 15.0**	**+2.9**
	44nm,1.2s						
DZM				*e*LR	LR	01 42 58.2	
	270nm,27.4s						
KHZ	**Kahutara**	**19.80**	**203**	*eP*	**P**	**01 39 50.3**	**-2.2**
	40nm,1.2s						
RPZ	**Rata Peaks**	**21.85**	**205**	LR	LR	01 47 39.8	
	comp=Z,101nm,20.8s,baz=22,slow=34						
TBI	**Tubuai**	**24.48**	**93**	*e*LR	LR	01 46 41.7	
	220nm,27.0s						
TBI	**Tubuai**	**24.48**	**93**	*eT*	T	02 05 44.0	
	21nm,0.3s						
PAE	**Paea**	**25.74**	**80**	*eT*	T	02 07 19.0	
	17nm,0.3s						
PPT2	**Papeete2**	**25.77**	**80**	*e*LR	LR	01 47 15.2	
	163nm,25.2s						
PPT2	**Papeete2**	**25.77**	**80**	*eT*	T	02 07 21.8	
	9.1nm,0.3s						
PPT	**Papeete**	**25.78**	**80**	LR	LR	01 48 12.3	
	comp=Z,56nm,20.7s,baz=342,slow=30						
TVO	**Taravao**	**26.00**	**80**	*eT*	T	02 07 38.5	
	2.2nm,0.3s						
HNR	**Honiara**	**27.19**	**299**	LR	LR	01 50 21.1	
	comp=Z,67nm,18.1s,baz=360,slow=34						
VAH	**Vaihoa**	**28.38**	**76**	*eT*	T	02 10 36.2	
	7.5nm,0.2s						
CTA	**Charters Tower**	**34.92**	**270**	P	**P**	**01 42 12.9**	**-1.0**
	3.8nm,0.3s,baz=95,slow=12,SNR=10.0						
CTAO	**Charters Tower**	**34.92**	**270**	*eP*	**P**	**01 42 13.0**	**-0.8**
RKT	**Rikitea**	**37.67**	**97**	*eT*	T	02 22 12.8	
	7.2nm,0.3s						
STKA	**Stephens Creek**	**37.72**	**249**	P	**P**	**01 42 37.5**	**-0.2**
	1.2nm,0.5s,baz=94,slow=15,SNR=3.4						
STKA				LR	LR	01 56 10.1	
	comp=Z,84nm,19.1s,baz=29,slow=33						
AS01	**Alice Springs**	**45.30**	**260**	*eP*	**P**	**01 43 38.2**	**-1.7**
AS31	**Alice Springs**	**45.34**	**260**	*eP*	**P**	**01 43 38.9**	**-1.3**
	3.1nm,1.1s						
ASAR	**Alice Springs**	**45.34**	**260**	P	**P**	**01 43 38.1**	**-2.1**
	6.5nm,0.9s,baz=98,slow=8.2,SNR=39						
WB2	**Warramunga Arr**	**45.79**	**265**	*eP*	**P**	**01 43 41.3**	**-2.5**
WR1	**Warramunga Arr**	**45.80**	**265**	*eP*	**P**	**01 43 40.9**	**-3.0**
	3.4nm,0.6s						
WR1				*e*PcP	**PcP**	**01 45 20.1**	**-1.0**
WRA	**Warramunga Arr**	**45.80**	**265**	P	**P**	**01 43 40.9**	**-3.0**
	1.7nm,0.5s,baz=102,slow=8.0,SNR=34						
WRA				PcP	**PcP**	**01 45 20.1**	**-1.0**
	0.8nm,0.8s,baz=105,slow=3.2,SNR=4.0						
MAW	**Mawson**	**78.40**	**200**	P	**P**	**01 47 23.0**	**+1.2**
	4.3nm,0.8s,baz=111,slow=8.6,SNR=3.8						
MAW				LR	LR	02 20 17.1	
	comp=Z,12nm,18.7s,baz=77,slow=34						
PETK	**Petropavlovsk-**	**80.51**	**344**	P	**P**	**01 47 32.6**	**-0.7**
	4.9nm,0.8s,baz=149,slow=6.7,SNR=3.1						
PEA1	**Petropavlovsk-**	**80.52**	**344**	*eP*	**P**	**01 47 32.6**	**-0.7**
NV01	**Mina Array Sit**	**82.81**	**42**	*eP*	**P**	**01 47 46.9**	**+0.7**
NVAR	**Mina Array Bea**	**82.81**	**42**	P	**P**	**01 47 47.2**	**+1.0**
	1.2nm,0.8s,baz=220,slow=9.0,SNR=6.3						
USRK	**Ussuriysk Ar.**	**83.15**	**325**	P	**P**	**01 47 47.3**	**-0.1**
	4.4nm,0.9s,baz=95,slow=4.7,SNR=7.1						
SNAA	**Sanae**	**84.01**	**178**	P	**P**	**01 47 52.3**	**+0.7**
SNAA	**Sanae**	**84.01**	**178**	*eP*	**P**	**01 47 52.2**	**+0.5**
	2.8nm,0.9s						
VNA3	**Neumayer Olymp**	**84.08**	**176**	P	**P**	**01 47 52.1**	**+0.1**
VNA2	**Neumayer--Watz**	**84.54**	**176**	P	**P**	**01 47 55.2**	**+0.9**
	baz=192,slow=3.1						
PLCA	**Paso Flores**	**85.37**	**133**	LR	LR	02 16 36.4	
	comp=Z,24nm,20.0s,baz=231,slow=29						
LTX	**Lajitas**	**87.84**	**56**	*eP*	**P**	**01 48 12.4**	**+1.1**
TXAR	**Lajitas Array**	**87.84**	**56**	P	**P**	**01 48 12.4**	**+1.1**
	0.3nm,0.8s,baz=260,slow=5.0,SNR=4.0						
PDAR	**Pinedale Array**	**90.74**	**43**	P	**P**	**01 48 25.0**	**+0.2**
	0.9nm,0.9s,baz=228,slow=1.8,SNR=6.1						
IL1	**Eielson Array**	**91.82**	**12**	*eP*	**P**	**01 48 28.7**	**-0.3**
ILAR	**Eielson Array**	**91.82**	**12**	LR	LR	02 28 48.3	
	comp=Z,20nm,18.4s,baz=284,slow=35						
CM31	**Chiang Mai Arr**	**92.96**	**289**	*eP*	**P**	**01 48 36.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**92.96**	**289**	P	**P**	**01 48 36.1**	**+0.8**
	0.9nm,0.4s,baz=132,slow=3.7,SNR=7.8						
SPA0	**Spitsbergen Ar**	**125.90**	**357**	*e*PKPdf	**PKPdf**	**01 54 22.8**	**+0.3**
ARA0	**ARCESS Array S**	**133.10**	**350**	*e*PKPdf	**PKPdf**	**01 54 35.5**	**-0.9**
ARCES	**ARCESS Array B**	**133.10**	**350**	PKP	**PKPdf**	**01 54 35.5**	**-0.9**
	2.1nm,0.8s,baz=35,slow=3.3,SNR=5.6						
AKASG	**Malin Array Be**	**147.26**	**330**	PKPbc	**PKPdf**	**01 55 03.1**	**+0.8**
	1.6nm,0.4s,baz=40,slow=3.7,SNR=9.0						
AKBB	**Malin Array Si**	**147.26**	**330**	*e*PKPdf	**PKPdf**	**01 55 03.1**	**+0.8**
KIEV	**Kiev**	**147.27**	**330**	*e*PKPdf	**PKPdf**	**01 55 03.4**	**+1.1**
AK11	**Malin Array Si**	**147.30**	**330**	*e*PKPdf	**PKPdf**	**01 55 03.6**	**+1.2**
BR101	**Keskin Array S**	**150.65**	**308**	*e*PKPbc	**PKPbc**	**01 55 13.3**	**-0.6**
BRTR	**Keskin Array B**	**150.66**	**308**	PKPbc	**PKPbc**	**01 55 13.3**	**-0.6**
	1.9nm,0.9s,baz=132,slow=2.1,SNR=7.4						
BUR04	**Bucovina Ar. S**	**151.30**	**329**	*e*PKPbc	**PKPbc**	**01 55 15.2**	**+0.1**
CLL	**Collm**	**152.28**	**348**⇑	*i*PKPbc	**PKPbc**	**01 55 16.5**	**-0.5**
	comp=Z,5.0nm,0.7s						
CLL				*e*(PKPab)	**pPKPbc**	**01 55 29.0**	**+0.5**
DPC	**Dobruska-Polom**	**152.39**	**343**	*e*PKP	**PKPbc**	**01 55 16.9**	**-0.5**
KRLC	**Kraliky**	**152.51**	**342**	*e*PKP	**PKPbc**	**01 55 20.3**	**+2.6**
KHC	**Kasperske Hory**	**154.21**	**345**	*e*PKP	**PKPbc**	**01 55 26.4**	**+5.0**
GERES	**GERESS Array B**	**154.45**	**345**	PKPbc	**PKPbc**	**01 55 20.7**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=354,slow=4.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**168.57**	**170**	PKPab	**PKPab**	**01 56 39.3**	**+0.8**
	comp=Z,1.5nm,1.0s,baz=207,slow=2.8,SNR=4.4						
TOA1	**Torodi Ar. Sit**	**168.57**	**170**	*e*PKPab	**PKPab**	**01 56 39.3**	**+0.8**

*NIED **19** 01:37:00, 42.˚80N×144.˚00E, h101km, Mw4.0 Best double couple: M0 1.09000×10^15 NP1:φs113.00000°, δ26.00000°, λ-47.00000°. NP2:φs247.00000°, δ71.00000°, λ-109.00000°.*
*ISCJB **19** 01:37:33.6±0.3, 42.˚74N±0.˚03×144.˚00E±0.˚03, h104km±2km, mb4.1/27, Error ellipse: s-maj=5.5km s-min=3.3km az=158.3*
*MOS **19** 01:37:33.7±1.6, 42.˚74N×144.˚06E, h110km, mb4.4/14, Error ellipse: s-maj=10.5km s-min=6.8km az=81.7*
*IDC **19** 01:37:34.4±1.6, 42.˚79N×144.˚06E, h102km±11km, mb3.7/19, mb1 3.9/22, mb1mx3.7/44, mbtmp4.0/22, Error ellipse: s-maj=15.4km s-min=12.9km az=109.0*
*SKHL **19** 01:37:34.7±1.2, 42.˚72N×144.˚01E, h100km±9km, mb4.5/5, msh5.1/6*
*JMA **19** 01:37:34.4±0.1, 42.˚77N×143.˚94E, h103km±1km, M4.1 Broadband fault plane solution: P waves. NP1: φs251.00000°, δ74.00000°, λ-99.00000°. NP2: φs102.00000°, δ19.00000°, λ-60.00000°. Principal axes: T Plg28.0000°, Azm349.0000°; N Plg9.0000°, Azm254.0000°; P Plg60.0000°, Azm148.0000°;*
JMA Felt II J1.
ISC 19 01:37:34.2±0.6, 42.˚75N±0.˚04×144.˚01E±0.˚03, h98km±4km, n101, σ1s24/128, mb4.1/27, 7C-19D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOB	**Onbets**	**0.20**	**320**	⇓P	**Pn**	**01 37 49.2**	**+1.1**
JOB				S	**Sn**	**01 38 00.0**	**+1.5**
JCH	**Churui**	**0.50**	**254**	⇓P	**Pn**	**01 37 50.1**	**+0.4**
JCH				S	**Sn**	**01 38 01.3**	**0.0**
JAK	**Akkeshi**	**0.56**	**64**	⇓P	**Pn**	**01 37 51.1**	**+1.0**
JAK				S	**Sn**	**01 38 03.5**	**+1.4**
JAR	**Ashorobuto**	**0.57**	**342**	⇓P	**Pn**	**01 37 50.8**	**+0.5**
JAR				S	**Sn**	**01 38 03.1**	**+0.7**
JKHN	**Kushirohamanak**	**0.91**	**68**	P	**Pn**	**01 37 54.4**	**+1.0**
JKHN				S	**Sn**	**01 38 08.8**	**+0.9**
HRK	**Horoka**	**0.96**	**318**	*e*P	**Pn**	**01 37 54.4**	**+0.3**
HRK				*e*S	**Sn**	**01 38 09.2**	**+0.1**
JEM	**Erimo**	**0.97**	**221**	P	**Pn**	**01 37 54.5**	**+0.5**
JNK	**Nakash**	**0.98**	**32**	⇓P	**Pn**	**01 37 54.6**	**+0.4**
JNK				S	**Sn**	**01 38 09.5**	**+0.2**
JNBK	**Urakawa-nobuka**	**1.04**	**244**	⇓P	**Pn**	**01 37 55.1**	**+0.3**
JNBK				S	**Sn**	**01 38 10.0**	**-0.4**
JFR	**Furan**	**1.12**	**292**	⇓P	**Pn**	**01 37 55.6**	**-0.2**
JFR				S	**Sn**	**01 38 12.1**	**+0.1**
JBT2	**Biratori 2**	**1.21**	**272**	⇓P	**Pn**	**01 37 56.8**	**0.0**
JBT2				S	**Sn**	**01 38 14.1**	**+0.2**
JTKR	**Abashiri--Toko**	**1.22**	**357**	⇓P	**Pn**	**01 37 57.6**	**+0.7**
JTKR				S	**Sn**	**01 38 14.7**	**+0.6**
JMP	**Maruseppu**	**1.34**	**340**	⇓P	**Pn**	**01 37 58.6**	**+0.2**
JMP				S	**Sn**	**01 38 16.5**	**-0.2**
NEM2	**Nemuro 2**	**1.41**	**64**	P	**Pn**	**01 37 59.2**	**+0.1**
NEM2				S	**Sn**	**01 38 17.6**	**-0.5**
JRA	**Rausu**	**1.44**	**34**	P	**Pn**	**01 38 00.6**	**+1.1**
JRA				S	**Sn**	**01 38 20.4**	**+1.7**
JKK2	**Kamakawa 2**	**1.45**	**321**	⇓P	**Pn**	**01 38 00.1**	**+0.4**
JKK2				S	**Sn**	**01 38 19.0**	**-0.

KUR				smax	smax		
	comp=E,57nm,0.2s						
YSS	**Yuzh-Sakhalins**	**4.30**	**348**	*e*P	**Pn**	**01 38 37.7**	**+0.5**
YSS				AMB	AMB	01 38 38.2	
	comp=E,20nm,0.7s						
YSS				AMB	AMB	01 38 38.2	
	comp=E,4μm,0.7s						
YSS				*e*S	**Sn**	**01 39 26.4**	**+0.2**
YSS				A	A	01 39 27.7	
	comp=E,60nm,0.8s						
YSS				A	A	01 39 27.7	
	comp=E,130nm,0.8s						
YSS	**Yuzh-Sakhalins**	**4.30**	**348**∩	*e*PN	**Pn**	**01 38 37.7**	**+0.5**
YSS				*e*S	**Sn**	**01 39 26.4**	**+0.2**
YSS				pmax	pmax		
	comp=Z,70nm,0.7s						
YSS				smax	smax		
	comp=N,60nm,0.8s						
YSS				smax	smax		
	comp=E,130nm,0.8s						
MJA0	**Matsu Arr-Jizo**	**7.63**	**218**	*e*PN	**Pn**	**01 39 23.8**	**+1.2**
MJA0				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MAJO	**Matsushiro**	**7.64**	**218**	*e*P	**Pn**	**01 39 23.2**	**+0.4**
MAJO	**Matsushiro**	**7.64**	**218**∩	*e*PN	**Pn**	**01 39 23.2**	**+0.4**
MAT	**Matsushiro**	**7.64**	**218**	P	**Pn**	**01 39 22.4**	**-0.4**
MJAR	**Matsushiro Arr**	**7.64**	**218**	P	**Pn**	**01 39 23.0**	**+0.2**
	comp=Z,3.3nm,0.3s,baz=32,slow=12,SNR=19						
MJAR	**Matsushiro Arr**	**7.64**	**218**	*e*P	**Pn**	**01 39 23.8**	**+1.0**
USRK	**Ussuriysk Ar.**	**8.86**	**284**	P	**Pn**	**01 39 41.0**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=94,slow=13,SNR=3.4						
KLR	**Kul'dur**	**10.71**	**311**	P	**Pn**	**01 40 03.8**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=108,slow=16,SNR=4.0						
KLR	**Kul'dur**	**10.71**	**311**	*e*P	**Pn**	**01 40 05.6**	**+1.3**
KLR	**Kul'dur**	**10.71**	**311**∫∫	*e*PN	**Pn**	**01 40 05.6**	**+1.3**
EKMR	**Ekimchan**	**12.70**	**328**	*e*P	**Pn**	**01 40 33.4**	**+2.4**
PETK	**Petropavlovsk-**	**13.82**	**37**	P	**Pn**	**01 40 42.4**	**-3.2**
	comp=Z,0.7nm,0.3s,baz=216,slow=11,SNR=12						
BMKR	**Bomnak**	**15.56**	**326**	*e*P	**Pn**	**01 41 08.5**	**+0.7**
KROS	**Kirovskiy**	**16.19**	**322**	*e*P	**Pn**	**01 41 11.0**	**-4.6**
HIA	**Hailar**	**18.03**	**300**	*e*P	**P**	**01 41 37.2**	**-0.2**
HIA	**Hailar**	**18.03**	**300**∩	*e*P	**P**	**01 41 37.2**	**-0.2**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SEY	**Seymchan**	**20.81**	**11**	P	**P**	**01 42 04.9**	**-2.4**
	comp=Z,12nm,0.6s,baz=188,slow=8.3,SNR=20						
SONM	**Songino Array**	**26.76**	**294**	P	**P**	**01 43 05.2**	**+0.5**
	comp=Z,8.1nm,0.7s,baz=86,slow=8.6,SNR=44						
ZAK	**Zakamensk**	**28.73**	**300**	*e*P	**P**	**01 43 22.0**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**29.98**	**133**	T	T	02 15 13.8	
	baz=325,slow=75,SNR=122						
H11N1	**WAKE ISLAND Hy**	**29.99**	**133**	T	T	02 15 06.2	
	baz=325,slow=75,SNR=125						
H11N3	**WAKE ISLAND Hy**	**29.99**	**133**	T	T	02 15 15.1	
	baz=325,slow=75,SNR=122						
H11S1	**WAKE ISLAND Hy**	**30.88**	**134**	T	T	02 16 13.4	
	baz=327,slow=76,SNR=244						
H11S3	**WAKE ISLAND Hy**	**30.88**	**135**	T	T	02 16 22.2	
	baz=327,slow=76,SNR=203						
H11S2	**WAKE ISLAND Hy**	**30.89**	**135**	T	T	02 16 15.0	
	baz=327,slow=76,SNR=262						
DGZ	**Jazzator, Alta**	**38.94**	**300**∩	*e*P	**P**	**01 44 51.8**	**+1.3**
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZALV	**Zalesovo Beam**	**39.78**	**307**	P	**P**	**01 44 56.9**	**-0.2**
	comp=Z,4.7nm,0.6s,baz=83,slow=8.2,SNR=25						
ZALV	**Zalesovo Beam**	**39.78**	**307**	*e*P	**P**	**01 44 57.1**	**-0.1**
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MKAR	**Makanchi Array**	**43.01**	**298**	P	**P**	**01 45 23.0**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=81,slow=9.8,SNR=12						
MKAR	**Makanchi Array**	**43.01**	**298**	*e*P	**P**	**01 45 24.6**	**+0.8**
MKAR	**Makanchi Array**	**43.01**	**298**	*e*P	**P**	**01 45 24.6**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ILAR	**Eielson Array**	**43.64**	**35**	P	**P**	**01 45 28.1**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=257,slow=5.7,SNR=19						
ILAR	**Eielson Array**	**43.64**	**35**	*e*P	**P**	**01 45 28.6**	**+0.1**
ILAR	**Eielson Array**	**43.64**	**35**	*e*P	**P**	**01 45 28.6**	**+0.1**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**44.19**	**304**	*e*P	**P**	**01 45 34.2**	**+1.2**
KURK	**Kurchatov**	**44.19**	**304**	*d i*P	**P**	**01 45 34.2**	**+1.2**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BRVK	**Borovoye**	**48.41**	**309**	*e*P	**P**	**01 46 06.5**	**+0.5**
BRVK	**Borovoye**	**48.41**	**309**∩	*e*P	**P**	**01 46 06.5**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
INK	**Inuvik**	**48.41**	**30**	P	**P**	**01 46 05.4**	**-0.4**
	comp=Z,2.2nm,0.4s,baz=295,slow=5.4,SNR=20						
AAK	**Ala-Archa**	**49.71**	**295**	*e*P	**P**	**01 46 18.9**	**+2.6**
AAK	**Ala-Archa**	**49.71**	**295**∫∫	*e*P	**P**	**01 46 18.9**	**+2.6**
AAK				pmax	pmax		
	comp=Z,5.0nm,2.2s						
ARU	**Arti**	**53.50**	**316**	*c i*P	**P**	**01 46 43.1**	**-1.0**
ARU				*PP	**pP**	**01 47 06.2**	**-1.6**
ARU				S	**S**	**01 54 09.2**	**+0.1**
ARU				SS	**SKiKP**	**01 57 47.6**	**-1.5**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s						
LVZ	**Lovozero**	**57.75**	**335**∫∫	*e*P	**P**	**01 47 18.2**	**+3.8**
LVZ				pmax	pmax		
	comp=Z,142nm,1.6s						
YKA	**Yellowknife Ar**	**57.89**	**33**	P	**P**	**01 47 13.4**	**-2.0**
	comp=Z,0.3nm,0.5s,baz=306,slow=6.8,SNR=4.3						
ARCES	**ARCESS Array B**	**59.37**	**339**	P	**P**	**01 47 24.7**	**-0.9**
	comp=Z,2.9nm,0.9s,baz=60,slow=8.7,SNR=8.8						
ARCES	**ARCESS Array B**	**59.37**	**339**	*e*P	**P**	**01 47 25.0**	**-0.6**
ARCES	**ARCESS Array B**	**59.37**	**339**	*e*P	**P**	**01 47 25.0**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRA	**Warramunga Arr**	**63.01**	**190**	P	**P**	**01 47 50.0**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=6.9,slow=6.8,SNR=11						
FINES	**FINESS Array B**	**64.70**	**332**	P	**P**	**01 48 00.3**	**-1.0**
	comp=Z,2.6nm,0.4s,baz=44,slow=7.7,SNR=40						
SUMG	**Summit**	**64.96**	**1**	*i* P	**P**	**01 48 03.0**	**-0.3**
	comp=Z,18nm,0.8s						
SUMG	**Summit**	**64.96**	**1**	*i* P	**P**	**01 48 03.0**	**-0.3**
SUMG				pmax	pmax		
	comp=Z,18nm,0.8s						
ASAR	**Alice Springs**	**66.74**	**190**	P	**P**	**01 48 15.0**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=15,slow=6.3,SNR=6.2						
ASAR	**Alice Springs**	**66.74**	**190**	*e*P	**P**	**01 48 15.8**	**+1.0**
KIV	**Kislovodsk**	**68.69**	**311**	*e*P	**P**	**01 48 29.4**	**+2.3**
KIV	**Kislovodsk**	**68.69**	**311**	*e*P	**P**	**01 48 29.4**	**+2.3**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KBZ	**Khabaz**	**68.72**	**310**	P	**P**	**01 48 28.2**	**+1.2**
	comp=Z,2.5nm,0.8s,baz=27,slow=6.8,SNR=4.5						
KBZ	**Khabaz**	**68.72**	**310**	P	**P**	**01 48 28.3**	**+1.2**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NB2	**NORSAR Subarra**	**69.68**	**338**	P	**P**	**01 48 31.8**	**-1.0**
	comp=Z,3.1nm,0.8s,baz=34,slow=6.5						
NOA	**NORSAR Array B**	**69.68**	**338**	P	**P**	**01 48 31.9**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=34,slow=6.4,SNR=8.6						
NOA	**NORSAR Array B**	**69.68**	**338**	P	**P**	**01 48 32.0**	**-0.9**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NVAR	**Mina Array Bea**	**70.05**	**56**	P	**P**	**01 48 36.5**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=282,slow=4.2,SNR=3.6						
AKASG	**Malin Array Be**	**71.00**	**322**	P	**P**	**01 48 42.0**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=43,slow=6.3,SNR=5.1						
AKASG	**Malin Array Be**	**71.00**	**322**	*e*P	**P**	**01 48 43.7**	**+2.7**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
PDAR	**Pinedale Array**	**72.29**	**48**	P	**P**	**01 48 49.0**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=38,slow=0.1,SNR=5.3						
CLL	**Collm**	**77.11**	**331**	*e*P	**P**	**01 49 19.0**	**+2.5**
GERES	**GERESS Array B**	**78.87**	**329**	P	**P**	**01 49 25.3**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=39,slow=6.3,SNR=3.4						
TXAR	**Lajitas Array**	**85.10**	**54**	P	**P**	**01 49 59.6**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=299,slow=4.0,SNR=5.3						
ESDC	**Sonseca Array**	**92.97**	**336**	P	**P**	**01 50 37.5**	**+1.1**
	comp=Z,0.1nm,0.4s,baz=5.5,slow=4.7,SNR=2.9						
SIV	**San Ignacio**	**145.77**	**46**	PKPbc	**PKPbc**	**01 57 01.9**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=284,slow=4.2,SNR=8.3						

MEX 19 01:45:35.4±0.4, 15.71N×94.91W, h16km±4km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**1.37**	**1**	*e*P	Pn	01 45 56.2	-3.7
CMIG				*e*S	Sn	01 46 12.3	-5.4
PCIG		**1.63**	**90**	*e*P	Pn	01 45 59.8	-3.6
PCIG				*i* S	Sn	01 46 18.4	-5.7
TGIG		**2.02**	**58**	*e*P	Pn	01 46 05.7	-3.1
TGIG				*i* S	Sn	01 46 28.9	-4.9
CCIG	**Comitan**	**2.73**	**78**	*e*P	Pn	01 46 16.2	-2.5
CCIG				*i* S	Sn	01 46 46.8	-4.6

*ISCJB **19** 02:01:26.8±0.4, 24.87N±0.02×121.71E±0.02, h60km±3km, Error ellipse: s-maj=3.4km s-min=2.6km az=142.0*
*JMA **19** 02:01:26.6±0.1, 24.81N×121.70E, h58km±1km, M2.7*
*TAP **19** 02:01:26.9, 24.86N×121.68E, h57km, ML3.6, A*
ISC 19 02:01:27.3±1.3, 24.87N±0.03×121.70E±0.02, h58km±5km, n70, σ0.47/136, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILA	**Ilan**	**0.11**	**160**	*e*P	**Pn**	**02 01 36.2**	**+0.2**
	baz=144						
ILA				S	**Sn**	**02 01 42.9**	**+0.6**
	baz=144						
NTC	**Toucheng**	**0.12**	**99**	*e*P	**Pn**	**02 01 35.9**	**-0.2**
	baz=92						
NTC				*e*S	**Sn**	**02 01 42.4**	**+0.1**
	baz=92						
SLBB	**Yuanshan**	**0.13**	**208**	P	**Pn**	**02 01 36.0**	**-0.2**
	baz=201						
SLBB				S	**Sn**	**02 01 42.4**	**-0.2**
	baz=201						
TIPB	**Shuangxi**	**0.15**	**48**	P	**Pn**	**02 01 36.2**	**0.0**
	baz=49						
TIPB				*e*S	**Sn**	**02 01 42.7**	**0.0**
	baz=49						
TWA	**Mucha**	**0.15**	**314**	P	**Pn**	**02 01 36.2**	**-0.1**
	baz=325						
TWA				*e*S	**Sn**	**02 01 42.6**	**-0.1**
	baz=325						
TWE	**Neicheng**	**0.15**	**193**	P	**Pn**	**02 01 35.9**	**-0.3**
	baz=179						
TWE				*e*S	**Sn**	**02 01 42.5**	**-0.1**
	baz=179						
NWLT	**Wulai**	**0.21**	**243**	P	**Pn**	**02 01 36.2**	**-0.4**
	baz=242						
NWLT				*e*S	**Sn**	**02 01 42.5**	**-0.7**
	baz=242						
EGS		**0.21**	**97**	*i* P	**Pn**	**02 01 36.7**	**+0.2**
	baz=94						
EGS				S	**Sn**	**02 01 44.2**	**+1.1**
	baz=94						
NWF	**Wu-fen Shan**	**0.21**	**19**	P	**Pn**	**02 01 36.6**	**0.0**
	baz=23						
NWF				*e*S	**Sn**	**02 01 43.5**	**+0.2**
	baz=23						
WFSB	**Wu-fen Shan**	**0.21**	**19**	*e*P	**Pn**	**02 01 36.6**	**+0.1**
	baz=23						
WFSB				*e*S	**Sn**	**02 01 43.4**	**+0.2**
	baz=23						
TATO	**Taipei**	**0.22**	**298**	*e*P	**Pn**	**02 01 36.3**	**-0.3**
	baz=303						
TATO				*e*S	**Sn**	**02 01 43.0**	**-0.3**
	baz=303						
ENTT	**Nioudou**	**0.26**	**209**	P	**Pn**	**02 01 36.6**	**-0.2**
	baz=203						
ENTT				S	**Sn**	**02 01 43.6**	**-0.2**
	baz=203						
TWB1	**Santiao Chiao**	**0.29**	**62**	P	**Pn**	**02 01 37.1**	**0.0**
	baz=63						
TWB1				S	**Sn**	**02 01 44.3**	**+0.2**
	baz=63						
TWC	**Suao**	**0.29**	**153**	P	**Pn**	**02 01 37.1**	**+0.1**
	baz=147						
TWC				*e*S	**Sn**	**02 01 44.3**	**+0.2**
	baz=147						
YM01	**YM01**	**0.30**	**336**	*e*P	**Pn**	**02 01 38.1**	**+0.9**
	baz=340						
YM01				*e*S	**Sn**	**02 01 45.4**	**+1.0**
	baz=340						
YM10	**YM10**	**0.31**	**335**	P	**Pn**	**02 01 37.1**	**-0.2**
	baz=339						
YM10				*e*S	**Sn**	**02 01 44.6**	**+0.1**
	baz=339						
YM07	**YM07**	**0.31**	**346**	*e*P	**Pn**	**02 01 37.1**	**-0.2**
	baz=349						
YM07				*e*S	**Sn**	**02 01 44.7**	**+0.2**
	baz=349						
YM11	**YM11**	**0.32**	**338**	P	**Pn**	**02 01 37.2**	**-0.2**
	baz=342						
YM11				*e*S	**Sn**	**02 01 44.7**	**+0.1**
	baz=342						
YM05	**YM05**	**0.32**	**337**	P	**Pn**	**02 01 37.1**	**-0.3**
	baz=340						
YM05				*e*S	**Sn**	**02 01 44.8**	**+0.1**
	baz=340						
YM04	**YM04**	**0.32**	**331**	*e*P	**Pn**	**02 01 37.1**	**-0.2**
	baz=335						
YM04				*e*S	**Sn**	**02 01 44.8**	**+0.2**
	baz=335						
YM08	**YM08**	**0.33**	**342**	P	**Pn**	**02 01 37.1**	**-0.4**
	baz=345						
YM08				*e*S	**Sn**	**02 01 44.4**	**-0.4**
	baz=345						
YM03	**YM03**	**0.34**	**334**	P	**Pn**	**02 01 37.3**	**-0.3**
	baz=337						
YM03				*e*S	**Sn**	**02 01 45.1**	**+0.1**
	baz=337						
TWS1	**Kuangyinshan**	**0.35**	**311**	P	**Pn**	**02 01 37.5**	**-0.1**
	baz=315						
TWS1				S	**Sn**	**02 01 45.8**	**+0.8**
	baz=315						
YHNB	**Yeheng**	**0.36**	**236**	P	**Pn**	**02 01 37.2**	**-0.6**
	baz=235						
YHNB				*e*S	**Sn**	**02 01 44.3**	**-1.0**
	baz=235						
NSK	**Sanguang**	**0.37**	**238**	P	**Pn**	**02 01 37.3**	**-0.5**
	baz=236						
NSK				*e*S	**Sn**	**02 01 44.5**	**-0.9**
	baz=236						
NTST	**Danshui**	**0.37**	**322**	P	**Pn**	**02 01 37.8**	**0.0**
	baz=325						
NTST				*e*S	**Sn**	**02 01 45.6**	**+0.3**
	baz=325						
WLTB	**Daxi**	**0.41**	**267**	*e*P	**Pn**	**02 01 38.0**	**-0.1**
	baz=268						
WLTB				*e*S	**Sn**	**02 01 46.5**	**+0.5**
	baz=268						
TWY	**Chenhua**	**0.41**	**347**	P	**Pn**	**02 01 38.3**	**+0.1**
	baz=350						
TWY				*e*S	**Sn**	**02 01 46.3**	**+0.3**
	baz=350						
ENA	**Nanau**	**0.44**	**176**	P	**Pn**	**02 01 38.1**	**-0.3**
	baz=171						
ENA				*e*S	**Sn**	**02 01 46.8**	**+0.2**
	baz=171						
NANB	**Nanao**	**0.45**	**175**	P	**Pn**	**02 01 37.9**	**-0.6**
	baz=171						
NANB				*e*S	**Sn**	**02 01 46.7**	**+0.2**
	baz=171						
NCU	**National Centr**	**0.48**	**282**	P	**Pn**	**02 01 38.7**	**-0.1**
	baz=283						
NCU				S	**Sn**	**02 01 47.6**	**+0.4**
	baz=283						
NCUH	**Zhongli**	**0.48**	**282**	P	**Pn**	**02 01 38.7**	**-0.1**
	baz=283						
NCUH				S	**Sn**	**02 01 47.4**	**+0.2**
	baz=283						
EOS1	**EOS1**	**0.50**	**130**	*e*P	**Pn**	**02 01 39.2**	**+0.2**
	baz=127						
EOS1				*e*S	**Sn**	**02 01 49.2**	**+1.6**
	baz=127						
NNS	**Nan Shan**	**0.53**	**215**	P	**Pn**	**02 01 39.1**	**-0.4**
	baz=212						
NNS				*e*S	**Sn**	**02 01 47.8**	**-0.5**
	baz=212						
NNSB	**Datong**	**0.53**	**214**	P	**Pn**	**02 01 39.1**	**-0.4**
	baz=212						
NNSB				*e*S	**Sn**	**02 01 47.5**	**-0.9**
	baz=212						
SBCB	**Hsinchu**	**0.66**	**263**	P	**Pn**	**02 01 40.7**	**-0.2**
	baz=263						
SBCB				*e*S	**Sn**	**02 01 51.1**	**+0.3**
	baz=263						
LIOB	**Emei**	**0.67**	**250**	P	**Pn**	**02 01 40.6**	**-0.4**
	baz=250						
LIOB				*e*S	**Sn**	**02 01 50.3**	**-0.7**
	baz=250						
NSTT	**Nanjuang**	**0.68**	**250**	P	**Pn**	**02 01 40.7**	**-0.5**
	baz=249						
NSTT				S	**Sn**	**02 01 50.8**	**-0.5**
	baz=249						
NACB	**Ninganchiao**	**0.70**	**188**	*e*P	**Pn**	**02 01 41.4**	**0.0**
	baz=186						
NACB				*e*S	**Sn**	**02 01 52.2**	**+0.5**
	baz=186						
TWT	**Tachien**	**0.78**	**218**	P	**Pn**	**02 01 42.9**	**+0.3**
	baz=217						
TWT				*e*S	**Sn**	**02 01 54.1**	**+0.3**
	baz=217						
TDCB	**Techi**	**0.79**	**219**	P	**Pn**	**02 01 42.8**	**+0.1**
	baz=218						
TDCB				*e*S	**Sn**	**02 01 54.0**	**+0.1**
	baz=218						
TWD	**Chiawan**	**0.80**	**187**	*e*P	**Pn**	**02 01 42.6**	**0.0**
	baz=185						
TWD				*e*S	**Sn**	**02 01 54.4**	**+0.6**
	baz=185						
PCYT	**Pengchaiyu**	**0.82**	**24**	P	**Pn**	**02 01 42.8**	**-0.1**
	baz=25						
PCYT				*e*S	**Sn**	**02 01 55.5**	**+1.0**
	baz=25						
WHF	**Hehuan Shan**	**0.83**	**209**	*e*P	**Pn**	**02 01 43.2**	**-0.2**
	baz=207						
WHF				*e*S	**Sn**	**02 01 54.8**	**-0.4**
	baz=207						
NMLH	**Miaoli**	**0.90**	**248**	*e*S	**Sn**	**02 01 55.6**	**-0.5**
	baz=248						
CHGB	**Renai**	**0.94**	**211**	P	**Pn**	**02 01 44.9**	**+0.2**
	baz=210						
CHGB				*e*S	**Sn**	**02 01 57.5**	**+0.1**
	baz=210						
ENLB	**Shoufeng**	**0.97**	**186**	*e*P	**Pn**	**02 01 44.4**	**-0.4**
	baz=184						
ENLB				*e*S	**Sn**	**02 01 58.2**	**+0.4**
	baz=184						
NSY	**Sanyi**	**0.97**	**242**	P	**Pn**	**02 01 44.7**	**-0.2**
	baz=241						
NSY				S	**Sn**	**02 01 58.0**	**+0.2**
	baz=241						
TWQ1	**Liyutan**	**1.00**	**239**	P	**Pn**	**02 01 45.3**	**+0.1**
	baz=238						
TWQ1				S	**Sn**	**02 01 58.1**	**-0.3**
	baz=238						
ESL	**Shilin**	**1.08**	**193**	*e*P	**Pn**	**02 01 46.7**	**+0.3**
	baz=191						
ESL				*e*S	**Sn**	**02 02 01.1**	**+0.7**
	baz=191						
JYNG	**Yonagunijimaku**	**1.20**	**110**	P	**Pn**	**02 01 47.3**	**-0.6**
JYNG				S	**Sn**	**02 02 03.1**	**-0.2**
VWDT	**VWDT**	**1.23**	**205**	*e*P	**Pn**	**02 01 48.2**	**0.0**
	baz=204						
VWDT				*e*S	**Sn**	**02 02 04.4**	**+0.5**
	baz=204						
SMLT	**Sun Moon Lake**	**1.23**	**217**	*e*P	**Pn**	**02 01 48.6**	**+0.2**
	baz=215						
SMLT				*e*S	**Sn**	**02 02 04.4**	**+0.3**
	baz=215						
YOJ	**Yonaguni jima**	**1.26**	**109**	P	**Pn**	**02 01 48.1**	**-0.5**
YOJ				*e*S	**Sn**	**02 02 04.1**	**-0.5**
SSLB	**Suanglung**	**1.28**	**213**	P	**Pn**	**02 01 49.1**	**+0.1**
	baz=211						
SSLB				*e*S	**Sn**	**02 02 05.6**	**+0.4**
	baz=211						
HGSD	**Ruisui**	**1.40**	**191**	*e*P	**Pn**	**02 01 50.8**	**+0.2**
	baz=189						
HGSD				*e*S	**Sn**	**02 02 08.7**	**+0.7**
	baz=189						
EHY	**Hungye**	**1.40**	**194**	*e*P	**Pn**	**02 01 50.8**	**+0.1**
	baz=193						
EHY				*e*S	**Sn**	**02 02 09.7**	**+1.5**
	baz=193						
YULB	**Yu-li**	**1.52**	**194**	*e*P	**Pn**	**02 01 52.5**	**+0.3**
	baz=193						
YULB				S	**Sn**	**02 02 11.3**	**+0.3**
	baz=193						
YUS	**Yu-Shan**	**1.54**	**207**	*e*P	**Pn**	**02 01 53.2**	**+0.3**
	baz=205						
YUS				*e*S	**Sn**	**02 02 11.9**	**-0.2**
	baz=205						
TWF1	**Yuli**	**1.56**	**194**	*e*P	**Pn**	**02 01 53.5**	**+0.8**
	baz=192						
CHN5	**Tsauling**	**1.58**	**217**	*e*P	**Pn**	**02 01 52.7**	**-0.4**
	baz=216						
CHN5				*e*S	**Sn**	**02 02 12.6**	**+0.2**
	baz=216						
ALS	**Alishan**	**1.58**	**211**	*e*P	**Pn**	**02 01 53.0**	**-0.3**
	baz=210						
ALS				*e*S	**Sn**	**02 02 12.6**	**-0.3**
	baz=210						
FULB	**Fuli**	**1.71**	**193**	*e*P	**Pn**	**02 01 54.8**	**0.0**
	baz=192						
CHN4	**Tsaushan**	**1.82**	**214**	*e*P	**Pn**	**02 01 56.8**	**+0.5**
	baz=213						
CHN4				*e*S	**Sn**	**02 02 18.8**	**+0.5**
	baz=213						
TPUB	**Ta-pu**	**1.85**	**212**	*e*S	**Sn**	**02 02 19.4**	**+0.4**
	baz=211						
IRIF	**Iriomote-Funau**	**1.92**	**106**	P	**Pn**	**02 01 57.1**	**-0.5**
IRIF				S	**Sn**	**02 02 19.9**	**-0.7**
TWK	**Hsinying**	**1.95**	**215**	*e*P	**Pn**	**02 01 58.2**	**+0.1**
	baz=214						
TWK				*e*S	**Sn**	**02 02 21.4**	**0.0**
	baz=214						
JKRS	**Kuro-shima**	**2.19**	**106**	P	**Pn**	**02 02 01.0**	**-0.3**
JKRS				S	**Sn**	**02 02 26.9**	**-0.4**
JIJ	**Ishigaki jima**	**2.28**	**102**	P	**Pn**	**02 02 02.0**	**-0.5**
JIJ				*e*S	**Sn**	**02 02 27.9**	**-1.5**
JISG	**Ishigakijimahi**	**2.39**	**96**	P	**Pn**	**02 02 04.5**	**+0.5**
JISG				*e*S	**Sn**	**02 02 32.0**	**-0.1**

IDC 19 02:44:17.7±3.7, 8.70S×119.75E, h174km±48km, mb3.6/2, mb1 3.6/4, mb1mx3.1/49, mbtmp4.0/4, Error ellipse: s-maj=173.3km s-min=29.4km az=24.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**4.14**	**111**	P	Pn	02 45 20.2	-0.2
	3.6nm,0.3s,baz=271,slow=15,SNR=4.2						
BATI				S	Sn	02 46 10.1	+0.5
	6.3nm,0.3s,baz=170,slow=18,SNR=3.9						
WRA	**Warramunga Arr**	**18.00**	**130**	P	P	02 48 14.5	-0.9
	0.5nm,0.3s,baz=304,slow=12,SNR=34						
WRA				S	S	02 51 33.7	+0.6
	0.1nm,0.3s,baz=307,slow=22,SNR=4.7						
ASAR	**Alice Springs**	**20.13**	**139**	P	P	02 48 38.7	+0.3
	2.8nm,0.4s,baz=313,slow=9.3,SNR=33						
STKA	**Stephens Creek**	**30.72**	**142**	P	P	02 50 16.6	+0.2
	1.6nm,0.3s,baz=315,slow=10.0,SNR=10						

*IS

ZNGN					IAMB	IAmb	02 52 03.6		
	comp=E,0.0nm,1.0s								
ZNGN					IAMB	IAmb	02 52 04.0		
	comp=Z,0.0nm,0.8s								
ZNGN					IAMB	IAmb	02 52 06.1		
	comp=N,0.0nm,0.6s								
ROKH	**ROKH**	**1.14**	**4**	*e*Pg		**Pn**	**02 51 45.5**	**-0.4**	
ROKH					IAMB	IAmb	02 52 07.9		
	comp=N,0.0nm,0.8s								
ROKH					IAMB	IAmb	02 52 09.5		
	comp=Z,0.0nm,0.6s								
ROKH					IAMB	IAmb	02 52 12.8		
	comp=E,0.0nm,0.8s								
IRAM	**Ramesheh**	**1.38**	**64**	*e*Pg		**Pn**	**02 51 49.2**	**+0.1**	
IRAM					IAMB	IAmb	02 51 58.9		
	comp=Z,11μm,0.4s								
IRAM					IAMB	IAmb	02 51 58.9		
	comp=E,11μm,0.3s								
IRAM					IAMB	IAmb	02 52 18.4		
	comp=N,11μm,0.4s								
IPIR	**Pirpir**	**1.48**	**359**	*e*Pn		**Pn**	**02 51 51.9**	**+1.3**	
IPIR					IAMB	IAmb	02 52 19.2		
	comp=Z,10μm,0.5s								
IPIR					IAMB	IAmb	02 52 24.6		
	comp=E,12μm,0.8s								
IPIR					IAMB	IAmb	02 52 27.3		
	comp=N,10μm,0.6s								
IGAR	**Gharneh**	**1.52**	**38**	*e*Pn		**Pn**	**02 51 52.9**	**+1.8**	
IGAR					IAMB	IAmb	02 51 58.4		
	comp=Z,7μm,0.4s								
IGAR					IAMB	IAmb	02 52 00.9		
	comp=N,12μm,0.3s								
AHWZ	**Ahwaz**	**1.96**	**274**		IAMB	IAmb	02 52 29.9		
	comp=N,0.0nm,0.5s								
AHWZ				*e*Pg		**Pg**	**02 52 04.7**	**+2.8**	
AHWZ					IAMB	IAmb	02 52 33.8		
	comp=E,0.0nm,0.4s								
SHGR	**Shooshtar-Gavs**	**2.03**	**297**	*e*Pn		**Pb**	**02 52 01.4**	**+0.6**	
SHGR				*e*Sg		**Sg**	**02 52 30.3**	**+0.8**	
SHGR					IAML		02 52 46.4		
	comp=E,559nm,0.6s								
SHGR					IAML		02 52 50.7		
	comp=N,380nm,0.6s								
SHGR	**Shooshtar-Gavs**	**2.03**	**297**	*e*Pn		**Pb**	**02 52 01.4**	**+0.6**	
IZEF	**Zefreh**	**2.06**	**35**		IAMB	IAmb	02 52 09.3		
	comp=Z,3μm,0.4s								
IZEF				*e*Pn		**Pn**	**02 52 02.1**	**+3.5**	
IZEF					IAMB	IAmb	02 52 20.8		
	comp=N,2μm,0.4s								
IZEF					IAMB	IAmb	02 52 40.7		
	comp=E,2μm,0.8s								
SHI	**Shiraz**	**2.07**	**138**	*e*Pn		**Pb**	**02 52 02.6**	**+1.0**	
SHI					IAMB	IAmb	02 52 43.3		
	comp=N,6μm,0.4s								
SHI					IAMB	IAmb	02 52 46.0		
	comp=Z,3μm,0.6s								
IKLH	**Kolahrood**	**2.18**	**14**	*e*Pn		**Pn**	**02 52 03.2**	**+3.0**	
IKLH					IAMB	IAmb	02 52 44.8		
	comp=E,5μm,0.7s								
IKLH					IAMB	IAmb	02 52 53.5		
	comp=Z,3μm,0.6s								
IKLH					IAMB	IAmb	02 52 55.3		
	comp=N,4μm,0.5s								
IPAR	**Pars**	**2.27**	**126**		IAMB	IAmb	02 52 48.4		
	comp=Z,3μm,0.7s								
IPAR				*e*Pn		**Pn**	**02 52 05.1**	**+3.6**	
IPAR					IAMB	IAmb	02 52 54.5		
	comp=N,6μm,1.0s								
IPAR					IAMB	IAmb	02 53 05.3		
	comp=E,5μm,0.8s								
ISAD	**Sadrabad**	**2.45**	**73**		IAMB	IAmb	02 52 18.0		
	comp=Z,4μm,0.8s								
ISAD				*e*Pn		**Pn**	**02 52 07.8**	**+3.8**	
ISAD					IAMB	IAmb	02 52 48.1		
	comp=E,7μm,0.5s								
ISAD					IAMB	IAmb	02 52 52.5		
	comp=N,5μm,0.5s								
KHMZ	**Khomeyn**	**2.66**	**342**	*e*Pn		**Pn**	**02 52 10.7**	**+4.0**	
KHMZ	**Khomeyn**	**2.66**	**342**	*e*Pn		**Pn**	**02 52 10.7**	**+4.0**	
ANAR	**Anarak**	**3.09**	**49**	*e*Pn		**Pn**	**02 52 16.1**	**+3.5**	
ANAR					IAMB	IAmb	02 52 23.0		
	comp=N,0.0nm,0.8s								
ANAR					IAMB	IAmb	02 52 27.6		
	comp=E,0.0nm,0.5s								
ANAR					IAMB	IAmb	02 53 11.7		
	comp=Z,0.0nm,0.8s								
ICHK	**Chekchek**	**3.14**	**70**	*e*Pn		**Pn**	**02 52 16.8**	**+3.5**	
ICHK					IAMB	IAmb	02 52 23.2		
	comp=Z,2μm,0.6s								
ICHK					IAMB	IAmb	02 52 25.4		
	comp=N,2μm,0.5s								
IMEH	**Mehriz**	**3.15**	**86**	*e*Pn		**Pn**	**02 52 16.2**	**+2.6**	
IMEH					IAMB	IAmb	02 52 24.2		
	comp=Z,907nm,0.3s								
IMEH					IAMB	IAmb	02 53 18.8		
	comp=N,2μm,0.8s								
YZKH	**Yazd**	**3.33**	**68**	*e*Pn		**Pn**	**02 52 19.9**	**+4.0**	
YZKH	**Yazd**	**3.33**	**68**	*e*Pn		**Pn**	**02 52 19.9**	**+4.0**	
GHIR	**Ghir-Karzin**	**3.41**	**148**	*e*Pn		**Pn**	**02 52 20.1**	**+3.1**	
GHIR	**Ghir-Karzin**	**3.41**	**148**	*e*Pn		**Pn**	**02 52 20.1**	**+3.1**	
IVRN	**Varamin**	**3.84**	**10**	*e*Pn		**Pn**	**02 52 25.5**	**+2.7**	
IVRN					IAMB	IAmb	02 52 50.1		
	comp=Z,0.0nm,0.7s								
HAGD	**Aghdareh**	**3.91**	**338**	*e*Pn		**Pn**	**02 52 26.7**	**+2.7**	
KFJS		**3.98**	**222**	S		**Sn**	**02 53 09.2**	**-1.8**	
KFJS				P		**Pn**	**02 52 23.3**	**-1.3**	
IDMV	**Damavand**	**4.46**	**12**	*e*Pn		**Pn**	**02 52 34.5**	**+3.0**	
IDMV					IAMB	IAmb	02 52 45.0		
	comp=N,620nm,0.3s								
IDMV					IAMB	IAmb	02 52 56.3		
	comp=Z,350nm,0.4s								
IDMV					IAMB	IAmb	02 54 13.8		
	comp=E,516nm,0.7s								
QABG	**Abgarm-Qazvin**	**4.63**	**346**	*e*Pn		**Pn**	**02 52 37.6**	**+3.7**	
IFIR	**Firoozkooh**	**4.68**	**18**	*e*Pn		**Pn**	**02 52 37.9**	**+3.3**	
IFIR					IAMB	IAmb	02 52 43.4		
	comp=Z,378nm,0.2s								
IFIR					IAMB	IAmb	02 52 46.0		
	comp=E,459nm,0.2s								
IFIR					IAMB	IAmb	02 52 46.9		
	comp=N,321nm,0.3s								
IAFJ	**Afjeh**	**4.69**	**8**		IAMB	IAmb	02 53 02.7		
	comp=Z,470nm,0.5s								
IAFJ					IAMB	IAmb	02 54 19.2		
	comp=N,2μm,1.0s								
IVIS	**Veis**	**4.77**	**315**		IAMB	IAmb	02 53 51.9		
	comp=N,835nm,0.5s								
IVIS					IAMB	IAmb	02 53 52.0		
	comp=E,518nm,0.6s								
IVIS					IAMB	IAmb	02 53 58.6		
	comp=Z,494nm,0.7s								
KHGB	**Koh Gabri**	**4.84**	**98**		IAMB	IAmb	02 54 31.8		
	comp=Z,0.0nm,1.2s								
KHGB					IAMB	IAmb	02 54 35.0		
	comp=N,0.0nm,1.1s								
KHGB					IAMB	IAmb	02 54 35.4		
	comp=E,0.0nm,1.3s								
IANJ	**Anjilo**	**4.93**	**30**	*e*Pn		**Pn**	**02 52 41.2**	**+3.2**	
IANJ					IAMB	IAmb	02 52 43.9		
	comp=Z,501nm,0.3s								
ISHM	**Shahmirzad**	**5.00**	**23**	*e*Pn		**Pn**	**02 52 41.8**	**+2.9**	
ISHM					IAMB	IAmb	02 53 14.1		
	comp=Z,500nm,0.5s								
IALA	**Alasht**	**5.11**	**17**		IAMB	IAmb	02 52 53.3		
	comp=Z,672nm,0.3s								
IALA					IAMB	IAmb	02 52 57.2		
	comp=E,995nm,0.4s								
TPRV	**Parvadeh(Tabas**	**5.21**	**68**	*e*Pn		**Pn**	**02 52 45.1**	**+3.4**	
TPRV					IAMB	IAmb	02 54 26.0		
	comp=Z,0.0nm,1.3s								
QALM	**Alamut, Qazvin**	**5.22**	**357**	*e*Pn		**Pn**	**02 52 45.1**	**+3.1**	
QALM					IAMB	IAmb	02 54 32.7		
	comp=Z,0.0nm,1.7s								
NGRK	**Negar Kerman**	**5.24**	**106**	*e*Pn		**Pn**	**02 52 46.1**	**+3.7**	
NGRK					IAMB	IAmb	02 54 34.3		
	comp=Z,0.0nm,1.6s								
BOQSS		**5.49**	**195**	S		**Sn**	**02 53 48.0**	**-0.3**	
BOQSS				P		**Pn**	**02 52 47.5**	**+2.0**	
TNSJ	**Nastanj**	**5.52**	**59**	*e*Pn		**Pn**	**02 52 49.3**	**+3.3**	
TNSJ					IAMB	IAmb	02 53 01.2		
	comp=Z,0.0nm,0.5s								
TKDS	**Koohdasht(Taba**	**5.76**	**64**	*e*Pn		**Pn**	**02 52 52.6**	**+3.3**	
TKDS					IAMB	IAmb	02 55 37.7		
	comp=Z,0.0nm,2.8s								
TABS	**Tabas**	**5.77**	**63**	*e*Pn		**Pn**	**02 52 53.4**	**+4.0**	
TABS	**Tabas**	**5.77**	**63**	*e*Pn		**Pn**	**02 52 53.4**	**+4.0**	
SHME	**Shamm**		**6.88**	**137**	P		**Pn**	**02 53 05.5**	**+0.9**
SHME	**Shamm**		**6.88**	**137**	*e*Pn		**Pn**	**02 53 05.2**	**+0.6**
BANOM	**Banah**		**7.07**	**137**	*i* P		**Pn**	**02 53 07.7**	**+0.6**
	SNR=12								
BTHS			**7.13**	**181**	P		**Pn**	**02 53 08.1**	**+0.1**
MSFE	**Esma-Masafi**		**7.42**	**140**	*i* P		**Pn**	**02 53 11.8**	**-0.2**
	SNR=7.2								
MSFE	**Esma-Masafi**		**7.42**	**140**	*e*Pn		**Pn**	**02 53 12.5**	**+0.4**
MDH	**Madha**		**7.55**	**140**	*i* P		**Pn**	**02 53 14.4**	**+0.7**
	SNR=7.2								
MDH	**Madha**		**7.55**	**140**	*e*Pn		**Pn**	**02 53 14.6**	**+0.9**
ASUD	**Al Ashush, Dub**		**7.62**	**148**	P		**Pn**	**02 53 16.5**	**+1.8**
FAQ	**Al Faqa, Dubai**		**7.64**	**146**	P		**Pn**	**02 53 15.4**	**+0.4**
UOSS	**Minazif**		**7.78**	**142**	P		**Pn**	**02 53 16.3**	**-0.7**
UOSS	**Minazif**		**7.78**	**142**	*e*Pn		**Pn**	**02 53 18.5**	**+1.6**
HATD	**Hatta, Dubai**		**7.84**	**143**	P		**Pn**	**02 53 16.4**	**-1.4**
ASHO	**Ashiyiah**		**7.92**	**144**	P		**Pn**	**02 53 18.6**	**-0.3**
ASHO					S		**Sn**	**02 54 44.0**	**-4.2**
ASHO	**Ashiyiah**		**7.92**	**144**	*e*Pn		**Pn**	**02 53 19.9**	**+1.0**
GEYT	**Alibeck**		**8.95**	**39**	Pn		**Pn**	**02 53 35.3**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=234,slow=6.9,SNR=3.3								
RAYN	**Ar Rayn**		**9.04**	**214**	*i* P		**Pn**	**02 53 31.4**	**-3.0**
	SNR=12								
BRTR	**Keskin Array B**		**16.44**	**306**	Pn		**Pn**	**02 55 13.4**	**-1.1**
	comp=Z,0.0nm,0.3s,baz=122,slow=12,SNR=3.6								
IDI	**Anoyia**		**22.14**	**288**	P		**P**	**02 56 18.5**	**-0.8**
	comp=Z,5.8nm,0.9s,baz=80,slow=12,SNR=2.4								
MLR	**Muntele Rosu**		**24.11**	**313**	P		**P**	**02 56 39.0**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=174,slow=3.5,SNR=5.9								
AKASG	**Malin Array Be**		**25.30**	**327**	P		**P**	**02 56 49.6**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=128,slow=8.5,SNR=5.3								
KURBB	**Kurchatov Arra**		**28.22**	**39**	P		**P**	**02 57 17.2**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=240,slow=2.2,SNR=2.9								
MKAR	**Makanchi Array**		**28.68**	**48**	P		**P**	**02 57 22.2**	**+1.7**
	comp=Z,0.4nm,0.8s,baz=246,slow=9.1,SNR=2.6								
ZALV	**Zalesovo Beam**		**33.25**	**37**	P		**P**	**02 58 02.5**	**+1.8**
	comp=Z,0.8nm,0.5s,baz=263,slow=9.7,SNR=3.7								
WATA	**Walderalm**		**34.05**	**310**	*e*P		**P**	**02 58 06.8**	**-1.1**
	comp=Z,0.8nm,0.2s								
SQTA	**Sankt Quirin**		**34.27**	**309**	*e*P		**P**	**02 58 08.6**	**-1.1**
	comp=Z,5.5nm,0.5s								
FINES	**FINESS Array B**		**34.34**	**339**	P		**P**	**02 58 09.5**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=148,slow=11,SNR=6.4								
MOTA	**Moosalm**		**34.36**	**309**	*e*P		**P**	**02 58 09.2**	**-1.4**
	comp=Z,0.6nm,0.2s								
FETA	**Feichten**		**34.54**	**309**	*i* P		**P**	**02 58 11.2**	**-1.0**
	comp=Z,2.7nm,0.4s								
RETA	**Reutte**		**34.62**	**310**	*i* P		**P**	**02 58 11.3**	**-1.4**
	comp=Z,0.4nm,0.2s								
DAVA	**Damuels**		**35.16**	**309**	*e*P		**P**	**02 58 16.4**	**-1.2**
	comp=Z,14nm,0.5s								
ESDC	**Sonseca Array**		**44.92**	**297**	P		**P**	**02 59 37.8**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=76,slow=8.4,SNR=2.6								
TORD	**Torodi Ar. Bea**		**48.59**	**260**	P		**P**	**03 00 06.2**	**-1.2**
	comp=Z,2.9nm,0.9s,baz=47,slow=8.2,SNR=18								
ILAR	**Eielson Array**		**83.33**	**8**	P		**P**	**03 03 49.9**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=333,slow=4.6,SNR=4.0								
WRA	**Warramunga Arr**		**94.72**	**110**	P		**P**	**03 04 48.3**	**+3.0**
	comp=Z,0.2nm,0.7s,baz=317,slow=4.0,SNR=6.2								

*ISCJB **19** 03:16:21.7±0.6,6°.78S±0°.05×129°.84E±0°.07,h146km, mb3.4/1, Error ellipse: s-maj=10.1km s-min=6.4km az=20.9*
*IDC **19** 03:16:22.8±2.2,6°.70S×129°.69E,h143km±25km,mb3.3/1, mb1 3.6/5,mb1mx3.3/28,mbtmp4.1/5,Error ellipse: s-maj=28.8km s-min=19.5km az=117.0*
*DJA **19** 03:16:23.1±0.6,7°.S±4°×13°.0E±°,h201km±15km,M4.1/8, mb4.1/3,mB4.8/3,MLv4.1/8,Mw(mB)4.1/3*

ISC 19 03:16:21.9±0.9,**6°.76S**±0°.06×**129°.88E**±0°.09,**h146km,n11,** σ2ᵉ**30**/15,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SAUI	**Saumlaki**	**1.86**	**131**	P		Pn	03 17 02.3	+7.1
BNDI	**Bandanaira**	**2.23**	**1**	P		**Pn**	**03 17 02.4**	**+2.9**
MSAI	**Masohi**	**3.52**	**344**	P		**Pn**	**03 17 18.6**	**+2.7**
FAKI	**Fak Fak**	**4.49**	**32**	P		**Pn**	**03 17 29.8**	**+1.2**
FAKI				S		**Sn**	**03 18 19.1**	**-1.3**
SIJI	**Sorong**	**6.02**	**13**	P		**Pn**	**03 17 49.6**	**+0.7**
	3.7nm,0.3s,baz=149,slow=6.6,SNR=20							
SIJI				S		**Sn**	**03 18 52.2**	**-4.6**
	1.3nm,0.3s,baz=253,slow=19,SNR=2.8							
SOEI	**Soe**	**6.30**	**241**	P		**Pn**	**03 17 53.4**	**+0.7**
BATI	**Baumata**	**7.03**	**240**	P		**Pn**	**03 18 02.1**	**-0.3**
	17nm,0.3s,baz=37,slow=2.1,SNR=11							
BATI				S		**Sn**	**03 19 19.4**	**-1.8**
	5.0nm,0.3s,baz=289,slow=18,SNR=3.5							
BATI	**Baumata**	**7.03**	**240**	P		**Pn**	**03 18 03.4**	**+1.0**
WRA	**Warramunga Arr**	**13.80**	**162**	P		**Pn**	**03 19 32.2**	**+0.7**
	1.0nm,0.3s,baz=343,slow=13,SNR=14							
WRA				S		**Sn**	**03 22 01.5**	**-2.9**
	0.9nm,0.3s,baz=333,slow=22,SNR=6.7							
ASAR	**Alice Springs**	**17.25**	**167**	P		**Pn**	**03 20 16.9**	**+2.8**
	0.4nm,0.3s,baz=345,slow=9.2,SNR=19							
ASAR				S		**S**	**03 23 25.6**	**-0.1**
	0.2nm,0.3s,baz=357,slow=27,SNR=5.4							
MKAR	**Makanchi Array**	**67.96**	**327**	P		**P**	**03 27 05.3**	**+0.3**
	0.3nm,0.4s,baz=111,slow=7.1,SNR=6.2							

DJA 19 03:34:55.4±0.8,**6°.S**±12°.×**10°.3E**±°,**h64**km±78km,**M3.7**/5, **MLv3.7/5,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MNAI	**Manna**	**1.35**	**17**	P		Pn	03 35 18.2	0.0
KASI	**Kota Agung**	**1.92**	**86**	P		Pn	03 35 25.9	0.0
MDSI	**Maura Dua**	**1.98**	**54**	P		Pn	03 35 27.1	+0.4
MDSI				S		Sn	03 35 50.7	+0.2
CGJI	**Cibinong**	**3.25**	**107**	P		Pn	03 35 43.8	-0.1
PPSI	**Pulau Pagai**	**3.85**	**318**	P		Pn	03 35 51.9	-0.3

*MDD **19** 03:48:00.1±0.3,36°.50N×5°.52W,h2km±5km,mbLg1.9/17, Error ellipse: s-maj=4.4km s-min=3.4km az=71.0,PRXIMO*
*SFS **19** 03:48:00.0,36°.49N×5°.53W,ML1.9,JIMENA DE LA FTRA. (CADIZ)*
*CNRM **19** 03:48:02.0,36°.53N×5°.63W,h0km,ML3.0*

ISC 19 03:47:59.8±1.0,**36°.51N**±0°.04×**5°.51W**±0°.03,**h11**km±8km, **n32,**σ1ᵉ**31**/41,**2C,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EJIF	**Jimena Fronter**	**0.07**	**145**	⇑Pg		**Pg**	**03 48 01.3**	**-0.9**
	30nm,0.5s,SNR=18							
CEUT	**Ceuta**	**0.64**	**166**	P		**Pn**	**03 48 15.2**	**+0.5**
CEUT	**Ceuta**	**0.64**	**166**	S		**Sb**	**03 48 23.2**	**+1.4**
EMAL	**Malaga-Limoner**	**0.91**	**73**	*e*P		**Pb**	**03 48 16.8**	**-0.8**
EMAL				*i* S		**Sb**	**03 48 29.6**	**0.0**
EGOR	**Sierra Gorda,**	**1.28**	**61**	Pg		**Pn**	**03 48 24.4**	**+0.7**
	1.0nm,0.2s,SNR=7.9							
EGOR				Lg		Lg	03 48 42.5	
	4.3nm,0.3s,SNR=7.9							
HORN	**Hornachuelos**	**1.35**	**9**	P		**Pn**	**03 48 25.3**	**+0.6**
HORN	**Hornachuelos**	**1.35**	**9**	S		**Sg**	**03 48 44.8**	**+1.3**
ELGU	**Los Guajares,**	**1.56**	**76**	Pg		**Pn**	**03 48 28.9**	**+1.4**
	1.1nm,0.4s,SNR=7.9							
ELGU				Lg		Lg	03 48 50.5	
	6.3nm,0.3s,SNR=4.0							
EMIN	**Mina Concepcio**	**1.56**	**324**	Pg		**Pb**	**03 48 29.1**	**+0.4**
	0.8nm,0.3s,SNR=12							
EMIN				Lg		Lg	03 48 50.0	
	4.5nm,0.3s,SNR=11							
ECAB	**El Cabril**	**1.57**	**3**	⇑Pg		**Pn**	**03 48 28.1**	**+0.5**
	6.1nm,0.3s,SNR=18							
ECAB				Lg		Lg	03 48 49.8	
	20nm,0.4s,SNR=16							
EQUE	**Quentar**	**1.81**	**67**	Pg		**Pb**	**03 48 33.9**	**+1.0**
	3.0nm,0.3s,SNR=31							
EQUE				Lg		Lg	03 48 58.5	
	8.8nm,0.7s,SNR=5.0							
EADA	**Adamuz**	**1.82**	**24**	Pn		**Pn**	**03 48 30.7**	**-0.3**
	0.1nm,0.1s,SNR=7.9							
EADA				Pg		**Pb**	**03 48 32.7**	**-0.5**
	0.5nm,0.4s,SNR=17							
EADA				Lg		Lg	03 48 57.1	
	9.2nm,0.3s,SNR=10							
EGRO	**El Granado**	**1.88**	**304**	Pg		**Pb**	**03 48 35.2**	**+1.1**
	3.1nm,0.7s,SNR=7.9							
EGRO				Lg		Lg	03 48 57.6	
	4.1nm,0.3s,SNR=5.2							
PVAQ	**Vaqueiros**	**1.98**	**298**	*e*Pn		**Pn**	**03 48 33.0**	**-0.2**
PVAQ				*e*Sg		**Sg**	**03 49 02.5**	**-1.0**
PVAQ				A		A	03 49 09.9	
	5.7nm,0.9s							
PVAQ	**Vaqueiros**	**1.98**	**298**	Pn		**Pn**	**03 48 33.0**	**-0.2**
PVAQ				Lg		Lg	03 49 02.5	
	5.7nm,0.9s							
PVAQ	**Vaqueiros**	**1.98**	**298**	P		**Pb**	**03 48 36.9**	**+1.1**
PVAQ	**Vaqueiros**	**1.98**	**298**	S		**Sb**	**03 49 01.1**	**+0.6**
EBER	**Berja**	**2.15**	**79**	Pn		**Pn**	**03 48 37.0**	**+1.3**
	0.3nm,0.3s,SNR=8.7							
EBER				Lg		Lg	03 49 08.3	
	29nm,1.1s,SNR=4.0							
GORA	**Gorafe**	**2.21**	**63**	Pg		**Pb**	**03 48 40.1**	**+0.4**
	6.1nm,0.5s,SNR=7.9							
GORA				Lg		Lg	03 49 10.9	
	21nm,0.6s,SNR=7.9							
EQES	**Quesada**	**2.34**	**56**	Pn		**Pn**	**03 48 38.5**	**+0.1**
	0.7nm,0.8s,SNR=14							
EQES				Pg		**Pb**	**03 48 42.7**	**+0.6**
	0.5nm,0.3s,SNR=4.7							
EQES				Lg		Lg	03 49 15.6	
	6.1nm,0.7s,SNR=5.4							
MESJ	**Messejana**	**2.54**	**302**	*e*Pn		**Pn**	**03 48 41.2**	**+0.3**
MESJ	**Messejana**	**2.54**	**302**	Pn		**Pn**	**03 48 41.2**	**+0.3**
EBAD	**Badajoz**	**2.54**	**333**	Pg		**Pb**	**03 48 46.8**	**+1.4**
	0.2nm,0.6s,SNR=7.9							
EBAD				Lg		Lg	03 49 18.5	
	2.0nm,0.3s,SNR=5.2							
SESP	**Santiago Espad**	**2.86**	**55**	Pg		**Pb**	**03 48 52.5**	**+1.5**
	2.5nm,0.4s,SNR=7.9							
SESP				Lg		Lg	03 49 30.2	
	9.8nm,0.4s,SNR=7.9							
SESP	**Santiago Espad**	**2.86**	**55**	P		**Pb**	**03 48 52.3**	**+1.3**
SESP	**Santiago Espad**	**2.86**	**55**	S		**Sb**	**03 49 29.1**	**+3.0**
PAB	**San Pablo**	**3.17**	**17**	Pn		**Pn**	**03 48 50.1**	**+0.4**
	0.3nm,1.0s,SNR=4.0							
PAB				Pg		**Pb**	**03 48 58.2**	**+2.0**
	0.7nm,0.9s,SNR=4.0							
PAB				Sn		**Sn**	**03 49 26.6**	**-0.9**
	SNR=4.0							
PAB				Lg		Lg	03 49 40.4	
	5.0nm,0.6s,SNR=7.9							
PMRV	**Marv??o**	**3.27**	**334**	*e*Pn		**Pn**	**03 48 52.2**	**+1.2**
PMRV				*e*Sg		**Sg**	**03 49 44.4**	**-0.6**
PMRV				A		A	03 49 52.8	
	3.1nm,0.5s							
PMRV	**Marv??o**	**3.27**	**334**	Pn		**Pn**	**03 48 52.2**	**+1.2**
PMRV				Lg		Lg	03 49 44.4	
	3.1nm,0.5s							
ESDC	**Sonseca Array**	**3.39**	**21**	Sn		**Sn**	**03 49 29.9**	**-3.0**
	baz=209,slow=43,SNR=7.9							
ESDC				Lg		Lg	03 49 47.1	
	baz=198,slow=30,SNR=7.9							
EPLA	**Plasencia**	**3.58**	**353**	Pn		**Pn**	**03 48 55.7**	**+0.4**
	3.1nm,1.8s,SNR=7.9							
EPLA				Sn		**Sn**	**03 49 35.2**	**-2.4**
	0.4nm,1.0s,SNR=7.9							
EPLA				Lg		Lg	03 49 52.3	
	4.6nm,0.6s,SNR=6.2							
ETOB	**Tobarra**	**3.81**	**55**	Pn		**Pn**	**03 48 57.0**	**-1.4**
	0.2nm,0.2s,SNR=7.9							
ETOB				Sn		**Sn**	**03 49 40.5**	**-2.7**
	0.1nm,0.6s,SNR=7.9							
ETOB				Lg		Lg	03 50 02.0	
	1.4nm,0.5s,SNR=7.9							

MEX 19 03:55:37.5±0.5,**17°.90N**×**101°.68W,h15**km,**MD3.9,Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.36**	**146**	*e*P		Pg	03 55 43.7	-1.1
ZIIG				*e*S		Sg	03 55 49.2	-0.6
ARIG	**Puente Sto Nin**	**1.32**	**73**	*e*P		Pn	03 55 57.5	-3.9
ARIG				*e*S		Sb	03 56 13.0	-5.7
MEIG	**Mezcala**	**1.96**	**89**	*e*P		Pn	03 56 07.7	-2.6
MEIG				*e*S		Sn	03 56 30.0	-4.6
PLIG	**Platanillo**	**2.12**	**76**	*e*P		Pn	03 56 10.0	-2.5
PLIG				*e*S		Sn	03 56 34.2	-4.5
TLIG	**Tlapa**	**2.98**	**96**	*e*P		Pn	03 56 22.5	-2.0
TLIG				*i* S		Sn	03 56 56.4	-3.6

*IDC **19** 04:09:25.0±0.4,59°.31S×18°.05W,h0km,mb4.6/17, mb1 4.

comp=Z,1µm,19.4s,baz=164,slow=36
PLCA Paso Flores 37.19 277 *e*P **P 04 16 38.8 +0.6**
PLCA PcP **PcP 04 18 58.3 +0.4**
SUR Sutherland 37.51 61 P **P 04 16 39.4 -1.7**
comp=Z,26nm,1.2s,baz=256,slow=7.5,SNR=4.6
SUR PcP **PcP 04 18 58.0 -1.2**
comp=Z,9.9nm,1.1s,baz=231,slow=6.5,SNR=4.3
SUR Sutherland 37.51 61 *e*P **P 04 16 41.3 +0.2**
SUR PcP **PcP 04 18 58.0 -1.2**
SPB Sao Paulo 41.28 317 *e*P **P 04 17 13.9 +1.6**
comp=Z,20nm,0.8s
GO05 HualaæØ 42.28 281 *e*P **P 04 17 20.0 -0.6**
comp=Z,19nm,0.9s
CPUP Villa Florida 42.65 304 P **P 04 17 23.4 -0.2**
comp=Z,5.3nm,0.8s,baz=145,slow=8.2,SNR=12
CPUP PcP **PcP 04 19 15.2 -0.2**
comp=Z,1.6nm,0.8s,baz=135,slow=4.3,SNR=3.1
CPUP LR LR 04 35 19.2
comp=Z,666nm,19.4s,baz=154,slow=36
BOSA Boshof 42.71 63 P **P 04 17 21.8 -2.4**
comp=Z,7.5nm,0.9s,baz=224,slow=7.0,SNR=12
BOSA PcP **PcP 04 19 15.2 -0.6**
comp=Z,7.9nm,0.8s,baz=176,slow=5.7,SNR=6.9
BOSA LR LR 04 31 02.0
comp=Z,2µm,21.6s,baz=208,slow=30
SBA Scott Base 42.90 182 *e*P **P 04 17 26.9 +1.9**
comp=Z,71nm,1.5s
SBA Scott Base 42.90 182 *e*P **P 04 17 26.9 +1.9**
SBA pmax pmax
comp=Z,71nm,1.5s
VNDA Vanda 43.27 180 P **P 04 17 29.6 +1.6**
comp=Z,5.7nm,0.9s,baz=201,slow=9.0,SNR=14
VNDA LR LR 04 34 26.1
comp=Z,577nm,21.8s,baz=166,slow=35
ROC1 El Roble 43.45 284 *e*P **P 04 17 30.7 +0.4**
comp=Z,12nm,0.8s
LBTB Lobatse 45.96 61 *e*P **P 04 17 49.3 -0.9**
comp=Z,33nm,1.0s
LBTB Lobatse 45.96 61 *e*P **P 04 17 49.3 -0.9**
LBTB pmax pmax
comp=Z,33nm,1.0s
LCO Las Campanas 46.53 287 *e*P **P 04 17 55.5 +0.6**
comp=Z,24nm,0.8s
LCO Las Campanas 46.53 287 *e*P **P 04 17 55.5 +0.6**
LCO pmax pmax
comp=Z,24nm,0.8s
GO03 Copiap 47.48 289 *e*P **P 04 18 02.8 +0.7**
comp=Z,18nm,0.8s
TSUM Tsumeb 47.79 48 *e*P **P 04 18 03.8 -0.8**
comp=Z,19nm,1.4s
BDFB Brasilia 48.87 321 P **P 04 18 13.1 +0.2**
comp=Z,6.2nm,0.9s,baz=153,slow=3.2,SNR=9.4
BDFB LR LR 04 36 14.2
comp=Z,1µm,19.4s,baz=132,slow=33
GO02 Mina Guanaco 49.22 291 *e*P **P 04 18 17.3 +1.5**
comp=Z,18nm,0.8s
H10S2 ASCENSION HYDR 50.48 5 T T 05 12 50.5
baz=183,slow=75
H10S3 ASCENSION HYDR 50.48 5 T T 05 12 50.7
baz=183,slow=75
H10S1 ASCENSION HYDR 50.49 5 T T 05 12 51.4
baz=183,slow=75
LVC Limon Verde 51.07 293 *e*P **P 04 18 31.3 +1.3**
comp=Z,25nm,0.8s
LVC Limon Verde 51.07 293 *e*P **P 04 18 31.3 +1.3**
LVC pmax pmax
comp=Z,25nm,0.8s
PB10 IPOC Station P 51.08 291 *e*P **P 04 18 31.1 +1.6**
comp=Z,48nm,1.2s
H10N1 ASCENSION HYDR 51.59 5 T T 05 14 08.7
baz=186,slow=78
H10N3 ASCENSION HYDR 51.59 5 T T 05 14 13.1
baz=186,slow=78
H10N2 ASCENSION HYDR 51.60 5 T T 05 14 15.7
baz=186,slow=78
PB01 IPOC Station P 52.69 294 *e*P **P 04 18 42.5 +0.9**
comp=Z,22nm,0.8s
MNMC Minye Minye 54.39 295 *e*P **P 04 18 55.5 +1.1**
MNMC *ep*P **P 04 18 55.7 +1.3**
LSZ Lusaka 55.66 58 *e*P **P 04 19 02.4 -1.0**
comp=Z,40nm,1.3s
LSZ Lusaka 55.66 58 *e*P **P 04 19 02.4 -1.0**
LSZ pmax pmax
comp=Z,40nm,1.3s
LPAZ La Paz 56.20 298 P **P 04 19 08.3 +0.4**
comp=Z,5.8nm,0.9s,baz=148,slow=5.8,SNR=22
LPAZ LR LR 04 42 32.1
comp=Z,449nm,21.9s,baz=155,slow=35
LPAZ La Paz 56.20 298 P **P 04 19 08.3 +0.4**
LPAZ *ep*P **P 04 19 08.8 +0.9**
SAML Samuel 60.62 307 *e*P **P 04 19 37.4 -0.6**
SAML Samuel 60.62 307 *ce*P **P 04 19 38.1 +0.1**
SAML pmax pmax
comp=Z,2.0nm,0.6s
ABPO Ambohimpanom 61.42 79 *e*P **P 04 19 46.2 +2.6**
comp=Z,21nm,1.3s
ABPO Ambohimpanom 61.42 79 *e*P **P 04 19 46.2 +2.6**
ABPO pmax pmax
comp=Z,21nm,1.3s
NNA Nana 63.99 292 *ce*P **P 04 20 02.5 +1.8**
NNA pmax pmax
comp=Z,87nm,1.7s
LIC Lamto 66.34 14 *e*PKP1 **P 04 20 15.7 0.0**
comp=Z,83nm,1.3s
KIC Kosan Boka 66.51 15 *e*PKP1 **P 04 20 14.7 -2.1**
comp=Z,67nm,1.2s
TIC Toumodi 66.75 14 *e*PKP1 **P 04 20 15.0 -3.4**
DBIC Dimbokro 66.80 15 P **P 04 20 16.9 -1.7**
comp=Z,8.6nm,0.9s,baz=155,slow=8.1,SNR=8.5
DBIC LR LR 04 44 39.1
comp=Z,96nm,18.2s,baz=156,slow=32
PTGA Pitinga 66.89 314 *e*P **P 04 20 19.0 -0.3**
PTGA *ep*P **P 04 20 19.4 +0.1**
RPN Rapa Nui 67.54 255 LR LR 04 43 07.2
comp=Z,271nm,20.6s,baz=110,slow=30
MBAR Mbarara 69.92 54⇑ *e*P **P 04 20 40.0 +1.5**
KMBO Kilima Mbogo 72.23 60 P **P 04 20 52.0 -0.6**
comp=Z,2.1nm,0.8s,baz=202,slow=7.0,SNR=10
KMBO LR LR 04 48 38.6
comp=Z,689nm,21.4s,baz=177,slow=33
KMBO Kilima Mbogo 72.23 60 P **P 04 20 52.0 -0.6**
KMBO pmax pmax
comp=Z,2.0nm,0.8s
TOA0 Torodi Ar. Sit 74.16 20 *e*P **P 04 21 02.5 -1.1**
TORD Torodi Ar. Bea 74.16 20 P **P 04 21 00.6 -3.0**
comp=Z,12nm,1.1s,baz=204,slow=3.2,SNR=64
TORD LR LR 04 46 19.4
comp=Z,262nm,21.3s,baz=240,slow=30
OTAV Otavalo 75.47 296 *e*P **P 04 21 13.0 +1.2**
comp=Z,30nm,1.4s
OTAV Otavalo 75.47 296 *ce*P **P 04 21 14.2 +2.4**
OTAV pmax pmax
comp=Z,14nm,1.7s
POPC Popayan, Colom 76.71 299 *e*P **P 04 21 19.0 +0.4**
CHIC Chingaza 77.28 303 *e*P **P 04 21 21.5 -0.5**
ROSC El Rosal 77.73 302 P **P 04 21 24.1 -0.4**
comp=Z,4.0nm,0.6s,baz=168,slow=13,SNR=8.1
RUSC La Rusia 78.14 304 *e*P **P 04 21 26.4 -0.5**
NORC Norcasia 78.61 302 *e*P **P 04 21 27.4 -1.6**
PTBC PUERTO BERRIO, 79.31 303 *e*P **P 04 21 30.6 -2.1**
SDV Santo Domingo 79.83 307 *e*P **P 04 21 35.0 -0.7**
comp=Z,30nm,1.4s
ZARC Zaragoza, Cauc 80.33 303 *e*P **P 04 21 36.5 -1.8**
RKT Rikitea 82.82 236 *e*S **S 04 32 07.1 -2.5**
comp=Z,209nm,42.0s
RKT Rikitea 82.82 236 *e*LQ LQ 04 44 21.0
comp=Z,488nm,34.0s
RKT *e*LR LR 04 48 04.8
comp=Z,420nm,23.0s
TAM Tamanrasset 84.28 22 *e*P **P 04 21 59.7 +0.8**
comp=Z,21nm,1.3s
TAM Tamanrasset 84.28 22 *e*P **P 04 21 59.7 +0.8**
TAM pmax pmax
comp=Z,21nm,1.3s
STKA Stephens Creek 87.49 163 P **P 04 22 14.1 -0.6**
comp=Z,5.1nm,0.9s,baz=175,slow=5.4,SNR=8.4
STKA LR LR 04 57 47.6
comp=Z,264nm,21.4s,baz=199,slow=33
TBI Tubuai 88.27 224 *e*S **S 04 33 04.3 +1.1**
comp=Z,376nm,39.2s
TBI Tubuai 88.27 224 *e*LR LR 04 50 32.4
comp=Z,398nm,30.0s,baz=160
PPT2 Papeete2 93.60 226 *e*S **S 04 33 46.9 -5.3**
comp=Z,148nm,30.8s
PPT2 Papeete2 93.60 226 *e*LR LR 04 52 58.7
comp=Z,417nm,25.2s
PPT Papeete 93.62 226 LR LR 04 57 12.1
comp=Z,243nm,19.8s,baz=167,slow=31
ASAR Alice Springs 94.08 155 P **P 04 22 43.8 -1.8**
comp=Z,1.6nm,0.8s,baz=195,slow=4.1,SNR=18
ASAR PP **PP 04 26 30.7 -0.3**
comp=Z,2.2nm,1.1s,baz=198,slow=6.9,SNR=5.9
ASAR LR LR 05 02 27.1
comp=Z,309nm,18.9s,baz=198,slow=34
AS01 Alice Springs 94.09 155 *e*P **P 04 22 43.4 -2.3**
KEST Kesra 97.59 22 LR LR 05 02 22.1
comp=Z,239nm,19.9s,baz=84,slow=33
TAOE Nuku Hiva Isla 97.73 238 *e*SP SP 04 35 49.0 -1.4
comp=Z,105nm,27.0s
TAOE Nuku Hiva Isla 97.73 238 *e*LR LR 04 54 56.5
comp=Z,616nm,26.0s
WRA Warramunga Arr 97.77 154 P **P 04 23 01.1 -1.3**
comp=Z,1.1nm,0.9s,baz=200,slow=4.0,SNR=9.6
WRA LR LR 05 03 30.1
comp=Z,240nm,20.9s,baz=210,slow=33
WB2 Warramunga Ar 97.77 154 *e*P **P 04 23 01.9 -0.6**
BRTR Keskin Array B 107.75 40 PP PP 04 28 04.3 -11
comp=Z,1.6nm,1.1s,baz=202,slow=8.8,SNR=5.2
TXAR Lajitas Array 112.50 290 PKiKP **PKiKP 04 28 02.0 -1.0**
comp=Z,0.5nm,0.9s,baz=164,slow=4.7,SNR=4.4
CLL Collm 113.30 21 *e*PS PS 04 38 25.0 -4.8
CLL *e*PPS PPS 04 39 48.0
CLL *e*SS SS 04 44 48.0 +7.4
CLL *e* 04 45 42.0
CLL *e*PPPrev 04 46 30.0
CLL *e*SSS SSS 04 48 48.0
CLL *e* 04 50 42.0
CLL Lm MLR 05 27 00.0
comp=Z,100nm,18.5s
CLL Collm 113.30 21 *e*P **Pdif 04 24 14.0 +3.5**
NEY Neytrino 113.99 44⇓ *i*PKIKP **PKiKP 04 28 07.1 +1.6**
KIV Kislovodsk 114.59 44 *i* PKIKP PKPdf 04 28 07.9 +1.4
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,235nm,22.0s
KIEV Kiev 116.38 32⇑ *i*PKIKP **PKPdf 04 28 09.4 -0.2**
AKASG Malin Array Be 116.39 32 PKP **PKPdf 04 28 09.6 0.0**
comp=Z,0.1nm,0.3s,baz=229,slow=2.0,SNR=4.4
AKASG PP **PP 04 29 18.8 +1.8**
comp=Z,0.3nm,0.4s,baz=208,slow=7.8,SNR=4.4
ANMO Albuquerque 118.46 291⇑ *i*PKIKP **PKPdf 04 28 15.1 +0.7**
CMAR Chiang Mai Arr 119.52 104 PKP **PKPdf 04 28 14.8 -1.9**
comp=Z,1.8nm,0.3s,baz=222,slow=3.8,SNR=9.5
VSR Storozhevoye 119.73 38⇓ *i*PKIKP **PKPdf 04 28 17.9 +1.9**
NB2 NORSAR Subarra 122.34 17 PKPdf **PKPdf 04 28 19.6 -1.2**
comp=Z,6.5nm,1.2s,baz=202,slow=1.9
NOA NORSAR Array B 122.34 17 PKP **PKPdf 04 28 19.0 -1.8**
comp=Z,3.1nm,1.0s,baz=197,slow=1.6,SNR=4.4
RSSD Black Hills 124.67 299 *e*PKPdf **PKPdf 04 28 25.8 -0.3**
KSH Kashi 125.07 70 PKP **PKPdf 04 28 27.8 +0.9**
KSH PP **PP 04 30 20.3 +3.6**
KSH SS SS 04 47 11.8 -1.3
KSH AMB AMB
comp=Z,340nm,5.0s
KSH LR LR
comp=Z,260nm,8.6s
KSH LR LR
comp=Z,290nm,6.5s
KSH LR LR
comp=Z,580nm,21.2s
FINES FINESS Array B 125.37 24 PKP **PKPdf 04 28 24.9 -1.6**
comp=Z,5.8nm,1.0s,baz=147,slow=2.1,SNR=15
DUG Dugway, Tooele 125.68 290 *e*PKPdf **PKPdf 04 28 28.4 +0.3**
ULM Lac du Bonnet 126.05 309 PKP **PKPdf 04 28 26.7 -1.6**
comp=Z,3.8nm,0.7s,baz=255,slow=1.9,SNR=9.1
PDAR Pinedale Array 126.14 294 PKP **PKPdf 04 28 27.5 -1.5**
comp=Z,1.1nm,0.6s,baz=132,slow=5.0,SNR=12
AAK Ala-Archa 126.79 67 *e*PKPdf **PKPdf 04 28 30.0 -0.1**
AAK Ala-Archa 126.79 67 *e*PKIKP **PKPdf 04 28 30.0 -0.1**
NVAR Mina Array Bea 126.99 284 PKP **PKPdf 04 28 31.2 +0.4**
comp=Z,1.7nm,0.8s,baz=166,slow=2.8,SNR=10
FRU Bishkek 127.00 67 *e*PKIKP **PKPdf 04 28 30.5 +0.1**
KMI Kunming 127.01 104 PKP **PKPdf 04 28 33.4 +2.2**
KLMR Klimovskoe 128.08 32 *e*PKIKP **PKPdf 04 28 31.0 -0.7**
KLMR pmax pmax
comp=Z,34nm,1.3s
KLMR Klimovskoe 128.08 32 *e*PKPdf **PKPdf 04 28 31.1 -0.7**
KLMR AMP 04 28 35.8
comp=Z,34nm,1.3s
KLMR *e*PP **PP 04 30 29.6 -6.6**
GYA Guiyang 130.06 106 *e*Pdif **Pdif 04 25 28.3 +2.4**
GYA PKP **pPKPdf 04 28 39.6 -0.7**
GYA PP **PP 04 30 56.5 +7.0**
PRGR Permogore 130.42 34 *e*PKIKP **PKPdf 04 28 35.0 -1.2**
PRGR pmax pmax
comp=Z,20nm,1.4s
ARU Arti 130.59 45⇑ *e*PKIKP **PKPdf 04 28 37.6 +0.9**
CD2 Chengdu 132.28 100 PKP **PKPdf 04 28 41.0 +0.2**
CD2 PP **PP 04 31 04.1 +0.3**
CD2 AMB AMB
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,680nm,17.9s
CD2 LR LR
comp=Z,410nm,21.9s
ARCES ARCESS Array B 132.48 19 PKP **PKPdf 04 28 37.6 -2.4**
comp=Z,3.4nm,0.7s,baz=191,slow=0.9,SNR=9.4
BRVK Borovoye 132.70 55⇑ *e*PKIKP **PKPdf 04 28 40.1 -0.7**
MKAR Makanchi Array 133.59 69 PKP **PKPdf 04 28 43.0 +0.3**
comp=Z,3.9nm,1.0s,baz=259,slow=2.6,SNR=8.4
MKAR Makanchi Array 133.59 69 *c i*PKIKP **PKPdf 04 28 43.5 +0.8**
WMQ Urumqi 134.06 75 *e*PKP **PKPdf 04 28 46.5 +2.7**
WMQ LR LR
comp=Z,730nm,28.7s
WMQ LR LR
comp=Z,400nm,20.9s
WMQ LR LR
comp=Z,480nm,23.5s
KURK Kurchatov 134.67 63⇑ *e*PKIKP **PKPdf 04 28 44.1 -0.4**
LZH Lanzhou 136.43 96 PKP **PKPdf 04 28 46.8 -1.8**
GTA Gaotai 136.91 89 PKP **PKPdf 04 28 51.3 +2.0**
GTA LR LR
comp=Z,220nm,19.9s
GTA LR LR
comp=Z,300nm,18.9s
GTA LR LR
comp=Z,180nm,17.2s
XAN Xi'an 137.37 103 PKP **PKPdf 04 28 51.6 +1.4**
DGZ Jazzator, Alta 138.08 69⇑ *e*PKIKP **PKPdf 04 28 50.8 -0.3**
ZALV Zalesovo Beam 139.66 63 PKhKP PKPpre 04 28 43.1
comp=Z,0.4nm,0.3s,baz=263,slow=3.8,SNR=2.7
ZALV PKP **PKPdf 04 28 50.5 -3.2**
comp=Z,1.9nm,0.7s,baz=288,slow=1.4,SNR=5.6
NJ2 Nanjing 140.55 115 *e*PKP **PKPdf 04 28 58.6 +2.6**
YKA Yellowknife Ar 141.94 312 PKhKP PKPpre 04 28 48.7
comp=Z,0.7nm,0.8s,baz=356,slow=23,SNR=3.4
YKA PKP **PKPdf 04 28 56.6 -0.9**
comp=Z,3.1nm,0.7s,baz=128,slow=2.1,SNR=13
HVS Khovu-Aksy 142.04 72⇑ *e*PKIKP **PKPdf 04 28 58.5 +0.3**
HHC Hu-ho-hao-te 143.97 98 *e*PKP PKPab 04 28 58.5 -0.8
BJT Baijiatuan 145.65 104 *e*PKPdf **PKPdf 04 29 04.2 -0.5**
BJT Baijiatuan 145.65 104 *e*PKP2 **PKPdf 04 29 04.3 -0.5**
MOY Mondy 145.94 76 *e*PKP2 **PKPdf 04 29 05.6 +0.6**
MOY pmax pmax
comp=Z,72nm,2.3s
DLBC Dease Lake 146.15 299 PKPbc **PKPbc 04 29 06.0 -0.2**
comp=Z,8.2nm,0.7s,baz=48,slow=1.2,SNR=14
DLBC Dease Lake 146.15 299 *e*PKPbc **PKPbc 04 29 06.4 +0.2**
SONM Songino Array 146.24 85 PKPbc **PKPdf 04 29 04.7 -1.0**
comp=Z,24nm,1.0s,baz=224,slow=3.5,SNR=65
ZAK Zakamensk 146.29 79 *e*PKP2 **PKPdf 04 29 05.9 +0.2**
ZAK pmax pmax
comp=Z,22nm,1.4s
TLY Talaya 147.27 78 *e*PKPdf **PKPdf 04 29 07.2 0.0**
TLY *e*PKPbc **PKPbc 04 29 09.7 +0.2**
TLY Talaya 147.27 78 *de*PKP2 **PKPbc 04 29 09.4 -0.1**
NRIK Noril'sk 148.59 41 PKPbc **PKPbc 04 29 11.3 -1.2**
comp=Z,15nm,0.8s,baz=343,slow=0.7,SNR=15
KSAR Wonju Array Be 149.13 120 PKPbc **PKPbc 04 29 14.1 -0.8**
KSRS Korea Array 149.16 120 PKPbc **PKPbc 04 29 14.1 -0.8**
comp=Z,4.1nm,0.8s,baz=179,slow=2.4,SNR=7.3
INK Inuvik 151.52 315 PKPbc **PKPbc 04 29 18.4 -1.1**
comp=Z,17nm,0.7s,baz=58,slow=2.6,SNR=50
INK Inuvik 151.52 315 *e*PKPdf **PKPdf 04 29 12.5 -0.8**
INK PKPbc **PKPbc 04 29 18.4 -1.1**
INK *e*PKPbc **PKPbc 04 29 18.6 -0.9**
INK Inuvik 151.52 315 *e*PKIKP **PKPdf 04 29 12.5 -0.8**
INK *e* 04 29 18.6
MJAR Matsushiro Arr 152.49 136 PKPbc **PKPbc 04 29 21.9 -0.9**
comp=Z,4.0nm,0.8s,baz=206,slow=3.4,SNR=7.4
MAJO Matsushiro 152.49 136⇓ *i*PKIKP **PKPbc 04 29 25.2 +2.4**
MAT Matsushiro 152.49 136 PKP **PKPbc 04 29 23.3 +0.5**
DAWY Dawson 152.63 305 *e*PKPbc **PKPbc 04 29 21.2 -1.1**
CN2 Changchun 153.04 109 *e*PKPbc **PKPbc 04 29 22.8 -1.0**
HIA Hailar 153.97 94⇑ *i*PKIKP **PKPbc 04 29 25.7 0.0**
BOD Bodaibo 155.56 73 *e*PKIKP **PKPdf 04 29 24.9 +5.4**
BOD *e* 04 29 44.7
BOD pmax pmax
comp=Z,12nm,1.7s
BOD pmax pmax
comp=Z,14nm,1.3s
ILAR Eielson Array 155.96 305 PKP **PKPdf 04 29 15.2 -4.7**
comp=Z,0.6nm,0.8s,baz=207,slow=0.4,SNR=5.9
ILAR PKPbc **sPKPdf 04 29 28.1 +3.7**
comp=Z,2.0nm,0.8s,baz=112,slow=1.7,SNR=12
KLR Kul'dur 159.96 107⇓ *e*PKIKP **PKPdf 04 29 24.4 -0.8**

*ISCJB **19** 04:20:53.3±1.3, 29.°99S±0.°04×71.°51W±0.°09, h30km±6km, Error ellipse: s-maj=13.5km s-min=7.3km az=0.9*
*GUC **19** 04:20:53.7±0.4, 29.°93S×71.°24W, h42km±2km, ML2.8*
*SJA **19** 04:20:54.3±0.7, 30.°09S×71.°09W, h3km±9km, ML2.4, MW3.6*

ISC 19 04:20:52.8±2.1, **29.°98S**±0.°05×**71.°6W**±0.°1, **h32**km±9km, **n12, σ1s76/18, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.30**	**75**	*e*P		**Pb**		**04 21 00.7**	**+0.4**
LSCH				*e*S		**Sb**		**04 21 06.0**	**+0.4**
LSCH				IAML				04 21 06.6	
comp=E,808nm,0.2s									
GO04	**Tololo Observa**	**0.70**	**106**	*e*P		**Pb**		**04 21 05.0**	**-1.7**
GO04				*i* S		**Sb**		**04 21 14.2**	**-2.1**
GO04				IAML				04 21 15.0	
comp=E,4µm,0.2s									
LCO	**Las Campanas**	**1.23**	**38**	*e*P		**Pn**		**04 21 13.5**	**-0.6**
LCO				*e*S		**Sn**		**04 21 28.8**	**-1.0**
LCO				IAML				04 21 30.0	
comp=E,312nm,0.3s									
CMCH	**Combarbala**	**1.29**	**157**	*e*P		**Pn**		**04 21 14.1**	**-0.5**
CMCH				*e*S		**Sn**		**04 21 29.9**	**-0.9**
CMCH				IAML				04 21 31.4	
comp=E,289nm,0.3s									
AROD	**Rodeo**	**1.83**	**96**	*i* P		**Pn**		**04 21 22.6**	**+0.3**
AROD				*i* S		**Sn**		**04 21 42.6**	**-2.1**
ACCO	**Cerro Coronel**	**2.25**	**106**	*i* P		**Pn**		**04 21 29.9**	**+1.7**
GO03	**Copiap**	**2.66**	**27**	*e*P		**Pn**		**04 21 34.5**	**+1.0**
GO03				IAML				04 22 18.4	
comp=E,47nm,0.3s									
RTLS	**Leoncito**	**2.67**	**133**	*i* P		**Pn**		**04 21 36.1**	**+2.3**
RTLS				*i* S		**Sn**		**04 22 07.6**	**+2.4**
RTLS				IAML				04 22 15.9	
comp=Z,23nm,0.2s									
AGUA	**GUANDACOL**	**2.73**	**80**	*i* P		**Pn**		**04 21 36.4**	**+1.9**
AMOG	**MOGNA**	**2.83**	**110**	*i* P		**Pn**		**04 21 37.0**	**+1.2**
VCA	**Vinchina**	**3.19**	**68**	*i* P		**Pn**		**04 21 43.6**	**+2.7**
RTCV	**Cerro Valdivia**	**3.21**	**126**	*i* P		**Pn**		**04 21 42.6**	**+1.5**

*IDC **19** 04:21:58.2±1.8, 51.°83N×178.°59W, h0km, mb3.5/4, mb1 4.0/5, mb1mx3.6/40, mbtmp3.7/5, ML4.1/1, Error ellipse: s-maj=88.9km s-min=27.0km az=143.0*
*NEIC **19** 04:22:02.5±0.0, 51.°49N×178.°20W, h17km, ML3.8(AEIC), After AEIC.*

ISC 19 04:22:02.8±1.3, **51.°61N**±0.°10×**178.°25W**±0.°03, **h27**km±11km, **n36, σ0s75/36, mb3.8**/3, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TASE	**Tanaga Southea**	**0.26**	**31**	P		**Pn**		**04 22 11.0**	**+0.1**
TAFL	**Tanaga Flats**	**0.26**	**57**	P		**Pn**		**04 22 10.3**	**-0.6**
TAFL				S		**Sn**		**04 22 15.4**	**-0.6**
TAFP	**Tanaga Falls P**	**0.33**	**30**	P		**Pn**		**04 22 11.9**	**0.0**
TAPA	**Tanaga Point A**	**0.34**	**53**	P		**Pn**		**04 22 11.6**	**-0.4**
GAEA	**Gareloi East**	**0.35**	**299**	P		**Pn**		**04 22 12.2**	**+0.1**
GALAA	**Gareloi Lava P**	**0.36**	**295**	P		**Pn**		**04 22 12.2**	**0.0**
GANE	**Gareloi Northe**	**0.39**	**302**	P		**Pn**		**04 22 12.8**	**+0.2**
GANE				S		**Sn**		**04 22 20.1**	**+0.9**
KIMD	**Kanaga Island**	**0.65**	**76**	P		**Pb**		**04 22 15.2**	**-0.4**
KIKV	**Kanaga Island**	**0.72**	**68**	P		**Pb**		**04 22 16.7**	**0.0**
KICM	**Kanaga Island**	**0.72**	**65**	P		**Pb**		**04 22 17.1**	**+0.3**
KICM				S		**Sn**		**04 22 28.1**	**+0.7**
ADK	**Adak**	**1.01**	**74**	*e*Pn		**Pn**		**04 22 20.8**	**-0.4**
ADK				*e*S		**Sb**		**04 22 34.7**	**+0.2**
ADAG	**Mount Adagdak**	**1.09**	**70**	P		**Pn**		**04 22 22.7**	**+0.4**
ETKA	**Kagalaska Isla**	**1.17**	**77**	P		**Pn**		**04 22 23.2**	**-0.2**
CERAA	**Semis' Rag'd T**	**1.32**	**284**	P		**Pb**		**04 22 26.6**	**-0.2**
GSSP	**Great Sitkin S**	**1.37**	**69**	P		**Pn**		**04 22 27.0**	**+0.8**
GSTD	**Great Sitkin T**	**1.38**	**70**	P		**Pn**		**04 22 27.0**	**+0.6**
GSTD				S		**Sb**		**04 22 46.1**	**+1.0**
CESW	**Semis' Southwe**	**1.39**	**283**	P		**Pb**		**04 22 27.4**	**-0.7**
CEAP	**Semis' Anvil P**	**1.40**	**287**	P		**Pb**		**04 22 28.4**	**0.0**
GSMY	**Great Sitkin M**	**1.43**	**72**	P		**Pn**		**04 22 27.7**	**+0.8**
AMKA	**Amchitka**	**1.55**	**262**	P		**Pn**		**04 22 28.1**	**-0.5**
AMKA				S		**Sb**		**04 22 49.5**	**-0.4**
LSPA	**Little Sitkin**	**2.00**	**281**	P		**Pn**		**04 22 36.2**	**+1.3**
LSSA	**Little Sitkin**	**2.04**	**281**	P		**Pn**		**04 22 36.3**	**+1.0**
LSNW	**Little Sitkin**	**2.04**	**281**	P		**Pn**		**04 22 36.7**	**+1.3**
ATKA	**Atka Island**	**2.58**	**75**	P		**Pn**		**04 22 43.6**	**+0.9**
KOFP	**Korovin Flat P**	**2.65**	**74**	P		**Pn**		**04 22 45.3**	**+1.4**
KDAK	**Kodiak Island**	**16.01**	**57**	Pn		**Pn**		**04 25 44.9**	**-0.8**
0.7nm,0.3s,baz=280,slow=3.7,SNR=16									
ILAR	**Eielson Array**	**20.84**	**39**	P		**P**		**04 26 40.4**	**-1.8**
0.4nm,1.0s,baz=246,slow=11,SNR=3.2									
H11N2	**WAKE ISLAND Hy**	**33.89**	**206**	T		T		05 04 26.2	
baz=17,slow=76									
H11N3	**WAKE ISLAND Hy**	**33.90**	**206**	T		T		05 04 27.5	
baz=17,slow=76									
H11N1	**WAKE ISLAND Hy**	**33.91**	**206**	T		T		05 04 28.0	
baz=17,slow=76									
H11S1	**WAKE ISLAND Hy**	**35.11**	**205**	T		T		05 05 59.9	
baz=16,slow=76									
H11S2	**WAKE ISLAND Hy**	**35.12**	**205**	T		T		05 05 59.5	
baz=16,slow=76									
H11S3	**WAKE ISLAND Hy**	**35.12**	**205**	T		T		05 05 59.5	
baz=16,slow=76									
PDAR	**Pinedale Array**	**45.91**	**73**	P		**P**		**04 30 23.8**	**+0.6**
1.5nm,0.6s,baz=305,slow=3.4,SNR=14									
TXAR	**Lajitas Array**	**58.28**	**82**	P		**P**		**04 31 55.2**	**+0.1**
0.5nm,0.5s,baz=312,slow=5.5,SNR=6.1									
ASAR	**Alice Springs**	**85.89**	**223**	P		**P**		**04 34 40.0**	**-0.1**
0.3nm,0.5s,baz=22,slow=5.4,SNR=3.5									

*ISCJB **19** 04:33:34.9±0.6, 26.°72S±0.°09×178.°4W±0.°2, h300km, mb3.5/5, Error ellipse: s-maj=21.9km s-min=9.2km az=27.7*
*IDC **19** 04:33:35.5±4.3, 26.°80S×178.°50W, h283km, 46km, mb3.4/5, mb1 3.7/7, mb1mx3.5/20, mbtmp4.3/7, Error ellipse: s-maj=33.4km s-min=24.5km az=49.0*

ISC 19 04:33:35.6±0.8, **26.°7S**±0.°1×**178.°4W**±0.°2, **h300**km, **n11, σ1s88/11, mb3.5/5, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**12.16**	**197**	P		**Pn**		**04 36 17.4**	**-2.5**
6.1nm,0.3s,baz=25,slow=4.0,SNR=27									
URZ				S		S		04 38 21.0	-14
3.3nm,0.3s,baz=140,slow=16,SNR=13									
AFI	**Afiamalu**	**14.12**	**27**	P		**Pn**		**04 36 46.0**	**+2.1**
6.3nm,0.3s,baz=8,slow=5.1,SNR=5.9									
AFI				S		**S**		**04 39 15.1**	**-3.8**
2.6nm,0.3s,baz=25,slow=19,SNR=2.9									
DZM	**Mont Dzumac**	**14.60**	**285**	P		Pn		04 36 55.0	+5.5
0.5nm,0.3s,baz=118,slow=18,SNR=12									
STKA	**Stephens Creek**	**35.18**	**252**	P		**P**		**04 40 01.9**	**0.0**
0.6nm,0.2s,baz=92,slow=9.5,SNR=4.1									
ASAR	**Alice Springs**	**43.13**	**263**	P		**P**		**04 41 07.4**	**0.0**
1.1nm,0.5s,baz=99,slow=8.2,SNR=27									
WRA	**Warramunga Arr**	**43.77**	**268**	P		**P**		**04 41 12.6**	**+0.1**
1.4nm,0.6s,baz=108,slow=7.3,SNR=26									
VNDA	**Vanda**	**51.75**	**185**	P		**P**		**04 42 13.9**	**+1.4**
1.1nm,0.8s,baz=18,slow=8.9,SNR=3.6									
MAW	**Mawson**	**75.67**	**200**	P		**P**		**04 44 48.0**	**+0.2**
1.7nm,0.5s,baz=138,slow=13,SNR=4.8									
VNA3	**Neumayer Olymp**	**82.02**	**176**	P		**P**		**04 45 22.3**	**+0.2**
VNA2	**Neumayer--Watz**	**82.45**	**177**	P		**P**		**04 45 24.9**	**+0.5**

mb1 4.0/3, mb1mx3.6/23, mbtmp3.5/3, ML3.7/1, MS4.1/2, Ms1 4.1/2, ms1mx3.2/26, Error ellipse: s-maj=336.8km s-min=127.3km az=34.0, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**19.64**	**327**	P	P	05 01 07.7	-0.1
	0.1nm,0.3s,baz=151,slow=11,SNR=4.6						
TXAR				LR	LR	05 10 08.1	
	comp=Z,403nm,19.6s,baz=0.0,slow=41						
NVAR	**Mina Array Bea**	**34.59**	**322**	P	P	05 03 28.3	0.0
	1.1nm,0.8s,baz=135,slow=9.0,SNR=6.6						
DLBC	**Dease Lake**	**53.62**	**336**	LR	LR	05 31 01.6	
	comp=Z,220nm,19.6s,baz=86,slow=38						
ILAR	**Eielson Array**	**63.81**	**337**	P	P	05 07 11.1	0.0
	0.6nm,0.9s,baz=123,slow=4.6,SNR=4.8						

IDC 19 04:59:19.8±758.0, 51°.06N×130°.24E, h0km, Error ellipse: s-maj=287.3km s-min=136.1km az=161.0, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**6.96**	**170**	*i*		05 42 50.0	
	baz=350,slow=334,SNR=4.5						
I44RU	**PETROPAVLOVSK**	**16.97**	**72**	*i*		06 50 10.0	
	baz=275,slow=320,SNR=1.9						
I30JP	**ISUMI INFRASON**	**17.34**	**151**	*i*		06 44 20.0	
	baz=342,slow=323,SNR=0.5						

*ISK **19** 05:02:31.9, 39°.16N×29°.03E, h5km, ML2.2/11*
*DDA **19** 05:02:31.8, 39°.10N×29°.02E, h7km, Ml2.9*
*ISCJB **19** 05:02:32.0±0.4, 39°.11N±0°.03×29°.02E±0°.03, h10km±3km, Error ellipse: s-maj=4.8km s-min=4.0km az=157.3*
ISC 19 05:02:32.1±0.9, 39°.12N±0°.03×29°.02E±0°.02, h16km±6km, n23, σ0s80/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMAA	**Simav-Kutahya**	**0.04**	**237**	PG	**Pg**	**05 02 34.2**	**-0.9**
SIMA	**Simav-Kutahya**	**0.05**	**218**	PG	**Pg**	**05 02 36.5**	**+1.3**
DEMI	**Demirci**	**0.25**	**252**	*i* P	**Pg**	**05 02 37.3**	**-0.4**
DEMI				*i* S	**Sg**	**05 02 40.7**	**-0.8**
GEDZ	**Gediz**	**0.31**	**104**	PG	**Pg**	**05 02 38.8**	**0.0**
GDZ	**Gediz**	**0.36**	**95**	*i* P	**Pg**	**05 02 39.2**	**-0.4**
GDZ				*i* S	**Sg**	**05 02 44.4**	**-0.3**
TVSB	**Tavsanli**	**0.48**	**46**	PG	**Pg**	**05 02 40.9**	**-0.8**
TVSB				SG	**Sg**	**05 02 47.1**	**-1.1**
DURS	**Dursunbey**	**0.64**	**319**	*i* P	**Pg**	**05 02 44.4**	**-0.4**
DURS				*i* S	**Sb**	**05 02 54.8**	**+1.1**
KULA	**Kula-Manisa**	**0.67**	**205**	PG	**Pg**	**05 02 44.9**	**-0.3**
MANT	**Manisa**	**0.72**	**210**	*i* P	**Pg**	**05 02 45.9**	**-0.4**
MANT				*i* S	**Sg**	**05 02 53.6**	**-2.3**
KHAL	**Karahalli**	**0.83**	**154**	*i* P	**Pb**	**05 02 48.5**	**+0.2**
KHAL				*i* S	**Sg**	**05 02 58.9**	**-0.5**
ORLT	**Orhaneli**	**0.93**	**354**	PG	**Pg**	**05 02 49.4**	**-0.8**
AKHS	**Akhisar**	**0.97**	**256**	*i* P	**Pg**	**05 02 50.3**	**-0.6**
AKHS				*i* S	**Sg**	**05 03 02.7**	**-0.9**
BALB	**Balikesir**	**1.02**	**301**	PG	**Pb**	**05 02 52.0**	**+0.5**
STEP	**BALIKESIR_Sava**	**1.04**	**285**	*i* P	**Pg**	**05 02 51.5**	**-0.8**
STEP				*i* S	**Sg**	**05 03 05.8**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	PN	**Pg**	**05 02 55.6**	**-0.7**
KCTX	**Karacabey (Bur**	**1.25**	**336**	PN	**Pn**	**05 02 55.8**	**+0.8**
CAVI	**Cavuskoy**	**1.25**	**30**	PN	**Pn**	**05 02 55.9**	**+0.9**
GONE	**Gonen-Balikesi**	**1.39**	**312**	PN	**Pb**	**05 02 57.9**	**+0.3**
ARMT	**Armutlu**	**1.45**	**355**	PN	**Pb**	**05 02 58.9**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**217**	PN	**Pg**	**05 03 00.1**	**-0.3**
YLV	**Yalova**	**1.47**	**11**	PN	**Pb**	**05 02 59.3**	**+0.2**
SBT5	**Esenkoy-Cinarc**	**1.51**	**356**	PN	**Pb**	**05 02 59.9**	**+0.1**
GULT	**Gulveren**	**1.75**	**41**	PN	**Pb**	**05 03 03.5**	**-0.3**

MAN 19 05:08:56.0, 9°.70N×123°.07E, h24km, mb4.1, ML2.9, MS2.6, 2C-2D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.39**	**156**	⇓ *i* P	Pn	05 09 05.9	-0.3
SNPH				*i* S	Sn	05 09 14.2	+1.3
TBP	**Tagbilaran**	**0.78**	**91**	*e* P	Pb	05 09 07.2	-3.7
GUIM	**Jordan**	**1.03**	**333**	*e* P	Pn	05 09 13.5	-1.5
GUIM				*e* S	Sb	05 09 28.3	0.0
LLP	**Lapu-Lapu**	**1.07**	**55**	⇑ *i* P	Pn	05 09 12.1	-3.4
LLP				*i* S	Sb	05 09 24.1	-5.4
JAP	**San Jose, Anti**	**1.52**	**313**	⇑ *e* P	Pn	05 09 22.2	+0.6
MSLP	**Maasin**	**1.81**	**76**	*e* P	Pn	05 09 25.3	-0.4
MSLP				*e* S	Sn	05 09 49.3	+1.3
RCP	**Roxas**	**1.87**	**350**	⇓ *e* P	Pn	05 09 27.4	+0.9
RCP				*e* S	Sb	05 09 51.0	-1.5

*SJA **19** 05:27:37.7±0.4, 35°.19S×71°.82W, h33km, ML3.3, MW3.5*
*GUC **19** 05:27:52.9±0.5, 34°.57S×71°.28W, h66km±9km, ML3.3*
ISC 19 05:27:50.4±1.7, 34°.62S±0°.07×71°.16W±0°.06, h10km±11km, n17, σ2s02/31, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**HualaæØ**	**0.74**	**238**	⇑ *i* P	**Pn**	**05 28 07.5**	**+0.4**
GO05				*i* S	**Sn**	**05 28 18.3**	**-0.1**
GO05				IAML		05 28 20.9	
	comp=E,2μm,0.4s						
LMEL	**Las Melosas**	**1.10**	**46**	*e* P	**Pg**	**05 28 13.8**	**+2.1**
LMEL				*e* S	**Sn**	**05 28 29.3**	**+1.7**
LMEL				IAML		05 28 32.2	
	comp=N,1μm,0.2s						
ANTU	**Antumapu**	**1.14**	**23**	*e* P	**Pg**	**05 28 13.3**	**+1.0**
ANTU				*i* S	**Sn**	**05 28 28.8**	**+0.7**
ANTU				IAML		05 28 29.4	
	comp=E,2μm,0.6s						
CLCH	**Cerro Calan**	**1.32**	**23**	⇓ *i* P	**Pg**	**05 28 15.9**	**0.0**
CLCH				*i* S	**Sg**	**05 28 33.4**	**+0.3**
CLCH				IAML		05 28 36.0	
	comp=E,1μm,0.3s						
FCH	**Farellones**	**1.48**	**30**	*e* P	**Pb**	**05 28 18.2**	**0.0**
FCH				*e* S	**Sg**	**05 28 37.5**	**-0.5**
FCH				IAML		05 28 40.6	
	comp=N,833nm,0.3s						
PEL	**Peldehue**	**1.52**	**15**	*e* P	**Pb**	**05 28 18.3**	**-0.5**
PEL				*e* S	**Sb**	**05 28 37.9**	**-0.3**
PEL				IAML		05 28 40.6	
	comp=N,481nm,0.2s						
ROCH	**El Roble**	**1.65**	**4**	*e* P	**Pb**	**05 28 20.0**	**-1.0**
ROCH				*e* S	**Sb**	**05 28 40.7**	**-1.2**
ROCH				IAML		05 28 43.9	
	comp=N,558nm,0.4s						
AAGR	**Agrelo**	**2.47**	**52**	*e* P	**Pn**	**05 28 29.1**	**-1.8**
ASAL	**Salagasta**	**2.80**	**44**	*e* P	**Pn**	**05 28 34.2**	**-1.2**
ASAL				*i* P		05 28 34.8	
ASAL				*e* S	**Sb**	**05 29 16.3**	**+1.2**
AUSP	**Uspallata**	**2.81**	**32**	*e* P	**Pn**	**05 28 34.7**	**-1.0**
AUSP				*e* S	**Sb**	**05 29 16.8**	**+1.3**
AUSP				*i* S		05 29 17.1	
RTLS	**Leoncito**	**3.22**	**30**	*e* P	**Pn**	**05 28 40.5**	**-0.8**
RTLS				IAML		05 29 34.1	
	comp=Z,37nm,0.4s						
RTCV	**Cerro Valdivia**	**3.52**	**39**	*e* P	**Pn**	**05 28 44.1**	**-1.1**
RTCV				*e* S	**Sb**	**05 29 33.5**	**-2.2**
RTLL	**Cerro Villicun**	**3.98**	**35**	*e* P	**Pn**	**05 28 50.9**	**-0.7**
RTLL				*e* S	**Sb**	**05 29 44.9**	**-4.1**
ACAN	**Cantantal**	**4.06**	**56**	*e* P	**Pn**	**05 28 51.9**	**-0.8**
ACAN				*e* S	**Sb**	**05 29 46.5**	**-4.8**
AROD	**Rodeo**	**4.66**	**18**	*e* P	**Pn**	**05 29 00.0**	**-1.2**
AGUA	**GUANDACOL**	**5.60**	**25**	*e* P	**Pn**	**05 29 12.5**	**-1.4**
AGUA				*e* S	**Sn**	**05 30 22.2**	**+4.0**
APLL	**PUNTA DE LOS L**	**5.75**	**44**	*e* P	**Pn**	**05 29 14.9**	**-1.0**
APLL				*e* S	**Sn**	**05 30 26.6**	**+4.6**

IDC 19 05:42:34.6±1.9, 6°.08S×152°.20E, h0km, mb3.8/3, mb1 4.2/4, mb1mx3.7/39, mbtmp4.0/4, ML2.3/1, Error ellipse: s-maj=118.8km s-min=25.8km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.99**	**236**	Pn	Pn	05 44 06.2	+1.7
	5.2nm,0.3s,baz=63,slow=11,SNR=5.7						
PMG				Sn	Sn	05 45 10.1	-3.8
	2.2nm,0.3s,baz=112,slow=19,SNR=4.4						
WRA	**Warramunga Arr**	**22.16**	**230**	P	P	05 47 31.3	-1.1
	1.1nm,0.4s,baz=53,slow=9.6,SNR=24						
ASAR	**Alice Springs**	**24.81**	**223**	P	P	05 47 58.7	0.0
	2.5nm,0.6s,baz=58,slow=8.8,SNR=26						
ILAR	**Eielson Array**	**83.56**	**22**	P	P	05 55 04.3	-0.1
	0.9nm,0.8s,baz=259,slow=5.4,SNR=7.4						
TORD	**Torodi Ar. Bea**	**150.10**	**286**	PKPbc	PKPbc	06 02 28.5	0.0
	0.9nm,0.9s,baz=67,slow=2.3,SNR=5.8						

*IDC **19** 06:11:38.1±0.8, 51°.25N×177°.73W, h0km, mb3.5/7, mb1 3.9/8, mb1mx3.7/37, mbtmp3.6/8, ML3.6/1, MS3.1/2, Ms1 3.1/2, ms1mx2.5/40, Error ellipse: s-maj=39.1km s-min=18.8km az=162.0*
*ISCJB **19** 06:11:42.8±0.6, 51°.15N±0°.06×177°.64W±0°.06, h32km, mb3.6/6, MS3.1/2, Error ellipse: s-maj=8.1km s-min=4.8km az=166.6*
*NEIC **19** 06:11:44.3±0.0, 51°.26N×177°.67W, h26km, ML3.5(AEIC), After AEIC.*
ISC 19 06:11:43.4±0.8, 51°.25N±0°.08×177°.66W±0°.04, h32km, n40, σ1s25/35, mb3.6/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPA	**Tanaga Point A**	**0.57**	**350**	P	**Pb**	**06 11 55.8**	**+0.7**
KIMD	**Kanaga Island**	**0.57**	**27**	P	**Pb**	**06 11 55.8**	**+0.6**
TASE	**Tanaga Southea**	**0.63**	**338**	P	**Pn**	**06 11 56.9**	**+0.7**
TAFP	**Tanaga Falls P**	**0.68**	**343**	P	**Pn**	**06 11 57.2**	**+0.3**
TAFP				S	**Sn**	**06 12 07.1**	**+0.7**
KIKV	**Kanaga Island**	**0.70**	**26**	P	**Pn**	**06 11 57.7**	**+0.6**
KICM	**Kanaga Island**	**0.73**	**23**	P	**Pn**	**06 11 58.3**	**+0.8**
GAEA	**Gareloi East**	**0.86**	**308**	P	**Pb**	**06 12 00.1**	**+0.2**
GALAA	**Gareloi Lava P**	**0.86**	**307**	P	**Pb**	**06 12 00.1**	**+0.2**
ADK	**Adak**	**0.88**	**43**	P	**Pn**	**06 11 59.9**	**+0.4**
ADK				S	**Sn**	**06 12 11.9**	**+0.7**
GANE	**Gareloi Northe**	**0.90**	**310**	P	**Pb**	**06 12 00.1**	**+0.2**
ADAG	**Mount Adagdak**	**0.98**	**42**	P	**Pn**	**06 12 02.1**	**+1.1**
ETKA	**Kagalaska Isla**	**0.99**	**51**	P	**Pn**	**06 12 01.4**	**+0.2**
GSTD	**Great Sitkin T**	**1.24**	**49**	P	**Pn**	**06 12 05.7**	**+1.1**
GSTD				S	**Sn**	**06 12 21.7**	**+1.4**
GSSP	**Great Sitkin S**	**1.25**	**47**	P	**Pn**	**06 12 06.0**	**+1.3**
GSMY	**Great Sitkin M**	**1.27**	**51**	P	**Pn**	**06 12 06.1**	**+1.1**
CERAA	**Semis' Rag'd T**	**1.78**	**293**	P	**Pn**	**06 12 13.6**	**+1.6**
CESW	**Semis' Southwe**	**1.85**	**292**	P	**Pn**	**06 12 14.2**	**+1.3**
AMKA	**Amchitka**	**1.91**	**275**	P	**Pn**	**06 12 14.5**	**+0.8**
ATKA	**Atka Island**	**2.35**	**65**	P	**Pn**	**06 12 21.8**	**+2.0**
KOFP	**Korovin Flat P**	**2.44**	**64**	P	**Pn**	**06 12 23.4**	**+2.3**
LSPA	**Little Sitkin**	**2.45**	**288**	P	**Pn**	**06 12 23.5**	**+2.3**
LSNW	**Little Sitkin**	**2.49**	**288**	P	**Pn**	**06 12 23.6**	**+1.9**
KDAK	**Kodiak Island**	**15.90**	**56**	Pn	**Pn**	**06 15 22.1**	**-2.4**
	0.2nm,0.3s,baz=280,slow=19,SNR=9.3						
ILAR	**Eielson Array**	**20.90**	**38**	P	**P**	**06 16 21.0**	**-1.7**
	0.6nm,0.9s,baz=233,slow=9.1,SNR=3.3						
KLR	**Kul'dur**	**31.90**	**287**	LR	LR	06 31 30.0	
	comp=Z,21nm,20.1s,baz=30,slow=37						
H11N2	**WAKE ISLAND Hy**	**33.73**	**207**	T	T	06 54 25.4	
	baz=17,slow=76,SNR=65						
H11N3	**WAKE ISLAND Hy**	**33.74**	**207**	T	T	06 54 24.2	
	baz=17,slow=76,SNR=54						
H11N1	**WAKE ISLAND Hy**	**33.75**	**207**	T	T	06 54 25.9	
	baz=17,slow=76,SNR=36						
H11S1	**WAKE ISLAND Hy**	**34.95**	**207**	T	T	06 55 46.9	
	baz=20,SNR=59						
H11S2	**WAKE ISLAND Hy**	**34.96**	**207**	T	T	06 55 49.0	
	baz=20,slow=74,SNR=71						
H11S3	**WAKE ISLAND Hy**	**34.96**	**207**	T	T	06 55 47.8	
	baz=20,slow=74,SNR=42						
YBH	**Yreka Blue Hor**	**38.19**	**82**	LR	LR	06 31 53.6	
	comp=Z,47nm,19.2s,baz=342,slow=32						
NVAR	**Mina Array Bea**	**42.85**	**83**	P	**P**	**06 19 38.5**	**-0.1**
	0.4nm,0.5s,baz=289,slow=5.6,SNR=3.5						
PDAR	**Pinedale Array**	**45.66**	**73**	P	**P**	**06 20 01.4**	**+0.3**
	0.7nm,0.5s,baz=282,slow=4.1,SNR=9.7						
SONM	**Songino Array**	**47.34**	**297**	P	**P**	**06 20 14.5**	**+0.4**
	0.4nm,0.6s,baz=52,slow=9.3,SNR=2.7						
TXAR	**Lajitas Array**	**57.96**	**82**	P	**P**	**06 21 33.6**	**+0.8**
	0.5nm,0.6s,baz=299,slow=5.5,SNR=7.8						
WRA	**Warramunga Arr**	**82.42**	**225**	P	**P**	**06 24 00.5**	**-1.8**
	0.4nm,0.9s,baz=34,slow=6.0,SNR=3.5						
ASAR	**Alice Springs**	**85.88**	**223**	P	**P**	**06 24 20.0**	**+0.2**
	0.4nm,0.8s,baz=46,slow=5.3,SNR=4.5						
TORD	**Torodi Ar. Bea**	**115.87**	**1**	PKP	**PKPdf**	**06 30 21.2**	**-1.7**
	0.3nm,0.7s,baz=346,slow=4.5,SNR=2.6						
BOSA	**Boshof**	**151.59**	**314**	PKPbc	**PKPbc**	**06 31 34.1**	**-0.1**
	2.0nm,0.9s,baz=73,slow=2.6,SNR=3.5						

*IDC **19** 06:23:31.6±1.2, 56°.12N×162°.80E, h0km, mb3.4/6, mb1 3.6/7, mb1mx3.4/62, mbtmp3.4/7, ML2.8/1, MS2.9/2, Ms1 2.9/2, ms1mx2.4/40, Error ellipse: s-maj=33.7km s-min=22.2km az=147.0*
*KRSC **19** 06:23:31.2±1.1, 56°.06N×163°.13E, h6km±11km, ML4.3, FELT [III] at Krutoberegovo, Ust-Kamchatsk; [II] at cape Afrika.*
*MOS **19** 06:23:31.9±0.7, 56°.15N×163°.05E, h8km, mb4.2/1, Error ellipse: s-maj=8.2km s-min=6.7km az=135.7*
*ISCJB **19** 06:23:32.5±0.7, 56°.14N±0°.04×163°.12E±0°.05, h12km±4km, mb3.3/6, MS2.9/1, Error ellipse: s-maj=6.3km s-min=4.6km az=9.7*
ISC 19 06:23:33.0±1.1, 56°.29N±0°.04×163°.07E±0°.03, h13km±6km, n75, σ1s28/93, mb3.3/6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.16**	**239**	*e* P	**Pb**	**06 23 37.5**	**-0.4**
KBTR	**Krutoberegovo**	**0.16**	**239**	PN	**Pb**	**06 23 37.5**	**-0.4**
KBG	**Krutoberegovo**	**0.21**	**260**	*e* P	**Pb**	**06 23 38.4**	**-0.2**
KBG				*e* S	**Sb**	**06 23 42.4**	**0.0**
KBG	**Krutoberegovo**	**0.21**	**260**	PN	**Pb**	**06 23 38.4**	**-0.2**
KBG				S	**Sb**	**06 23 42.4**	**0.0**
SMKR	**Semkarok**	**0.94**	**289**	*e* P	**Pg**	**06 23 51.0**	**-0.1**
SMKR				*e* S	**Sn**	**06 24 06.5**	**+1.3**
SMKR	**Semkarok**	**0.94**	**289**	PN	**Pg**	**06 23 51.0**	**-0.1**
SMKR				S	**Sn**	**06 24 06.5**	**+1.3**
BDR	**Baidarnaya**	**1.07**	**286**	*e* P	**Pb**	**06 23 53.2**	**-0.2**
BDR	**Baidarnaya**	**1.07**	**286**	PN	**Pb**	**06 23 53.2**	**-0.2**
SRKR	**Sorokina**	**1.12**	**290**	*e* P	**Pn**	**06 23 54.1**	**-0.3**
SRKR				*e* S	**Sn**	**06 24 10.5**	**+0.9**
SRKR	**Sorokina**	**1.12**	**290**	PN	**Pn**	**06 23 54.1**	**-0.3**
SRKR				S	**Sn**	**06 24 10.5**	**+0.9**
ZLN	**Zelenaya**	**1.30**	**259**	*e* P	**Pn**	**06 23 55.6**	**-1.3**
ZLN				*e* S	**Sn**	**06 24 11.9**	**-0.2**
ZLN	**Zelenaya**	**1.30**	**259**	PN	**Pn**	**06 23 55.6**	**-1.3**
ZLN				S	**Sn**	**06 24 13.9**	**-0.2**
CIRR	**Tsirk**	**1.31**	**263**	*e* P	**Pn**	**06 23 55.8**	**-1.3**
CIRR	**Tsirk**	**1.31**	**263**	PN	**Pn**	**06 23 55.8**	**-1.3**
LGNR	**Loginova**	**1.35**	**262**	*e* S	**Sb**	**06 24 14.5**	**-1.0**
KLY	**Klyuchi**	**1.35**	**272**	*e* P	**Pn**	**06 23 54.9**	**-2.6**
KLY				*e* S	**Sn**	**06 24 11.3**	**-3.9**
KLY	**Klyuchi**	**1.35**	**272**	PN	**Pn**	**06 23 54.9**	**-2.6**
KLY				S	**Sn**	**06 24 11.3**	**-3.9**
BZGR	**Bezymyannyi-Gr**	**1.38**	**256**	*e* P	**Pn**	**06 23 56.5**	**-1.5**
BZGR	**Bezymyannyi-Gr**	**1.38**	**256**	PN	**Pn**	**06 23 56.5**	**-1.5**
KRSR	**Krestovskiy**	**1.40**	**268**	*e* P	**Pn**	**06 23 56.9**	**-1.4**
KRSR	**Krestovskiy**	**1.40**	**268**	PN	**Pn**	**06 23 56.9**	**-1.4**
BZWR	**Bezymyannyi-We**	**1.48**	**258**	*e* P	**Pn**	**06 23 58.1**	**-1.3**
BZWR	**Bezymyannyi-We**	**1.48**	**258**	PN	**Pn**	**06 23 58.1**	**-1.3**
BZMR	**Bezymyannaya**	**1.49**	**257**	*e* P	**Pn**	**06 23 58.2**	**-1.4**
BZMR	**Bezymyannaya**	**1.49**	**257**	PN	**Pn**	**06 23 58.2**	**-1.4**
KIRR	**Kirishev**	**1.56**	**259**	*e* P	**Pn**	**06 23 59.7**	**-0.9**
KIRR				*e* S	**Sg**	**06 24 22.7**	**-0.7**
KIRR	**Kirishev**	**1.56**	**259**	PN	**Pn**	**06 23 59.7**	**-0.9**
KIRR				S	**Sg**	**06 24 22.7**	**-0.7**
KPT	**Kopyto**	**1.63**	**260**	*e* P	**Pb**	**06 24 02.9**	**0.0**
KPT	**Kopyto**	**1.63**	**260**	PN	**Pb**	**06 24 02.9**	**0.0**
KMNR	**Kamenistaya**	**1.68**	**253**	*e* P	**Pn**	**06 24 01.6**	**-0.5**
KMNR				*e* S	**Sn**	**06 24 23.6**	**+0.1**
KMNR	**Kamenistaya**	**1.68**	**253**	PN	**Pn**	**06 24 01.6**	**-0.5**
KMNR				S	**Sn**	**06 24 23.6**	**+0.1**
KOZ	**Kozyrevsk**	**1.80**	**264**	*e* P	**Pn**	**06 24 04.2**	**+0.4**
KOZ				*e* S	**Sb**	**06 24 28.8**	**+0.5**
KOZ	**Kozyrevsk**	**1.80**	**264**	PN	**Pn**	**06 24 04.2**	**+0.4**
KOZ				S	**Sb**	**06 24 28.8**	**+0.5**
TUMD	**Tumrok D**	**1.86**	**235**	*e* P	**Pn**	**06 24 02.9**	**-1.7**
TUMD				*e* S	**Sn**	**06 24 26.4**	**-1.6**
TUMR	**Tumrok**	**1.94**	**240**	*e* P	**Pn**	**06 24 04.9**	**-0.8**
TUMR				*e* S	**Sn**	**06 24 29.5**	**-0.4**
TUMR	**Tumrok**	**1.94**	**240**	PN	**Pn**	**06 24 04.9**	**-0.8**
TUMR				S	**Sn**	**06 24 29.5**	**-0.4**
KZV	**Kizimen**	**1.97**	**234**	*e* P	**Pn**	**06 24 05.3**	**-0.8**
KZV	**Kizimen**	**1.97**	**234**	PN	**Pn**	**06 24 05.3**	**-0.8**
BKI	**Bering**	**1.97**	**122**	*e* P	**Pn**	**06 24 05.6**	**-0.4**
BKI				*e* S	**Sn**	**06 24 28.9**	**-1.6**
BKI	**Bering**	**1.97**	**122**	PN	**Pn**	**06 24 05.6**	**-0.4**
BKI				S	**Sn**	**06 24 28.9**	**-1.6**
ESO	**Esso**	**2.48**	**263**	*e* P	**Pn**	**06 24 13.1**	**+0.1**
ESO	**Esso**	**2.48**	**263**	PN	**Pn**	**06 24 13.1**	**+0.1**
OSSR	**Ossora**	**2.97**	**360**	*e* P	**Pb**	**06 24 23.8**	**-1.9**
OSSR	**Ossora**	**2.97**	**360**	PN	**Pb**	**06 24 23.8**	**-1.9**
NLC	**Nalytchevo**	**3.80**	**216**	*e* P	**Pn**	**06 24 30.0**	**-1.2**
NLC				*e* S	**Sn**	**06 25 14.0**	**-1.6**
NLC	**Nalytchevo**	**3.80**	**216**	PN	**Pn**	**06 24 30.0**	**-1.2**
NLC				S	**Sn**	**06 25 14.0**	**-1.6**
SMAR	**Somma**	**3.91**	**221**	*i* P	**Pn**	**06 24 33.0**	**0.0**
SMAR	**Somma**	**3.91**	**221**	PN	**Pn**	**06 24 33.0**	**0.0**
AVH	**Avacha**	**3.94**	**221**	*i* P	**Pn**	**06 24 34.0**	**+0.9**
AVH	**Avacha**	**3.94**	**221**	PN	**Pn**	**06 24 34.0**	**+0.9**
GNL	**Ganaly**	**3.94**	**231**	*e* P	**Pn**	**06 24 33.3**	**+0.1**
GNL	**Ganaly**	**3.94**	**231**	PN	**Pn**	**06 24 33.3**	**+0.1**
KOK	**Koryaka**	**3.95**	**222**	*e* P	**Pn**	**06 24 33.8**	**+0.4**
KOK	**Koryaka**	**3.95**	**222**	PN	**Pn**	**06 24 33.8**	**+0.4**
PET	**Petropavlovsk**	**4.16**	**220**	*e* P	**Pn**	**06 24 36.0**	**-0.1**
PET	**Petropavlovsk**	**4.16**	**220**	*e* PN	**Pn**	**06 24 35.7**	**-0.4**
PETK	**Petropavlovsk-**	**4.46**	**227**	Pn	**Pn**	**06 24 39.4**	**-0.9**
	2.5nm,0.3s,baz=64,slow=16,SNR=40						
PETK				Sn	**Sn**	**06 25 31.2**	**-0.8**
	1.3nm,0.3s,baz=40,slow=38,SNR=3.2						
RUS	**Russkaya**	**4.70**	**216**	*e* P	**Pn**	**06 24 45.6**	**+2.1**
RUS				*e* S	**Sn**	**06 25 37.9**	**+0.2**
RUS	**Russkaya**	**4.70**	**216**	PN	**Pn**	**06 24 45.6**	**+2.1**
RUS				S	**Sn**	**06 25 37.9**	**+0.2**
MTVR	**Mutnovka**	**4.77**	**219**	*e* P	**Pn**	**06 24 44.7**	**+0.1**
MTVR	**Mutnovka**	**4.77**	**219**	PN	**Pn**	**06 24 44.7**	**+0.1**
MA2	**Magadan**	**7.33**	**302**	LR	LR	06 28 48.4	
	comp=Z,72nm,18.5s,baz=112,slow=43						
TIXI	**Tiksi**	**21.02**	**330**	P	**P**	**06 28 18.6**	**+2.7**
	1.8nm,0.3s,baz=80,slow=1.2,SNR=4.2						
ILAR	**Eielson Array**	**25.38**	**50**	P	**P**	**06 29 02.3**	**+2.8**
	0.3nm,0.8s,baz=262,slow=7.6,SNR=2.9						
MJAR	**Matsushiro Arr**	**25.90**	**231**	LR	LR	06 40 19.2	
	comp=Z,32nm,18.6s,baz=200,slow=39						
SONM	**Songino Array**	**34.93**	**281**	P	**P**	**06 30 24.3**	**0.0**
	0.3nm,0.6s,baz=69,slow=7.9,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**36.62**	**174**	T	T	07 09 27.8	
	baz=357,slow=76,SNR=100						
H11N3	**WAKE ISLAND Hy**	**36.63**	**174**	T	T	07 09 27.3	
	baz=357,slow=76,SNR=42						
H11N1	**WAKE ISLAND Hy**	**36.63**	**174**	T	T	07 09 30.5	
	baz=357,slow=76,SNR=129						
H11S1	**WAKE ISLAND Hy**	**37.82**	**174**	T	T	07 10 55.1	
	baz=38,slow=75						
H11S3	**WAKE ISLAND Hy**	**37.83**	**174**	T	T	07 10 55.7	
	baz=38,slow=75						
H11S2	**WAKE ISLAND Hy**	**37.84**	**174**	T	T	07 10 56.2	
	baz=38,slow=75						
MKAR	**Makanchi Array**	**48.35**	**295**	P	**P**	**06 32 12.3**	**-1.7**
	0.2nm,0.5s,baz=62,slow=6.1,SNR=3.3						
TXAR	**Lajitas Array**	**67.86**	**70**	P	**P**	**06 34 33.6**	**+2.7**
	0.1nm,0.7s,baz=334,slow=6.5,SNR=2.9						
WRA	**Warramunga Arr**	**79.72**	**207**	P	**P**	**06 35 38.7**	**-1.6**
	0.3nm,0.9s,baz=18,slow=5.9,SNR=3.2						

*IDC **19** 06:25:17.7±0.7, 28°.61N×76°.87E, h0km, mb3.8/12, mb1 3.9/14, mb1mx3.7/57, mbtmp3.8/14, ML3.5/2, Error ellipse: s-maj=23.0km s-min=16.9km az=68.0*
*ISCJB **19** 06:25:21.5±0.4, 28°.67N±0°.03×76°.71E±0°.03, h42km±5km, mb3.7/12, Error ellipse: s-maj=5.4km s-min=3.9km az=21.3*
*NDI **19** 06:25:

TKM2				⇑S		Sn	06 31 19.5	+0.2	
	comp=N,1.0nm,0.8s								
KK31	**Karatay Array**	**15.24**	**343**	P		**Pn**	**06 28 51.4**	**-3.6**	
	comp=N,0.8nm,0.3s,baz=166,slow=12,SNR=30								
KK31				⇑S		Sn	06 31 32.1	-11	
	comp=N,3.4nm,0.6s,baz=170,slow=22,SNR=10								
MKAR	**Makanchi Array**	**18.64**	**12**	P		**P**	**06 29 35.8**	**-1.5**	
	comp=N,0.2nm,0.3s,baz=202,slow=12,SNR=7.0								
KURBB	**Kurchatov Arra**	**21.99**	**3**	P		**P**	**06 30 13.1**	**-0.4**	
	comp=N,1.0nm,0.4s,baz=193,slow=10,SNR=4.7								
CMAR	**Chiang Mai Arr**	**22.78**	**112**	P		**P**	**06 30 19.6**	**-2.7**	
	comp=N,1.1nm,0.3s,baz=298,slow=10.0,SNR=2.5								
ZALV	**Zalesovo Beam**	**25.97**	**11**	P		**P**	**06 30 52.2**	**+0.4**	
	comp=N,1.3nm,0.4s,baz=195,slow=8.8,SNR=7.1								
SONM	**Songino Array**	**29.93**	**42**	P		**P**	**06 31 27.9**	**+0.4**	
	comp=N,0.8nm,0.7s,baz=226,slow=8.0,SNR=5.0								
ARCES	**ARCESS Array B**	**50.17**	**339**	P		**P**	**06 34 14.8**	**+0.3**	
	comp=N,3.3nm,0.9s,baz=110,slow=7.5,SNR=12								
NOA	**NORSAR Array B**	**53.52**	**327**	P		**P**	**06 34 41.4**	**+1.8**	
	comp=N,0.5nm,0.7s,baz=92,slow=8.9,SNR=2.8								
TORD	**Torodi Ar. Bea**	**70.73**	**275**	P		**P**	**06 36 38.7**	**+2.9**	
	comp=N,0.4nm,0.5s,baz=26,slow=5.9,SNR=4.6								
WRA	**Warramunga Arr**	**73.73**	**124**	P		**P**	**06 36 54.1**	**+0.5**	
	comp=N,0.3nm,0.5s,baz=321,slow=5.8,SNR=14								
BOSA	**Boshof**	**75.23**	**225**	P		**P**	**06 37 02.5**	**+0.2**	
	comp=N,1.1nm,0.7s,baz=31,slow=7.4,SNR=2.8								
ASAR	**Alice Springs**	**75.79**	**127**	P		**P**	**06 37 03.3**	**-2.2**	
	comp=N,0.5nm,0.6s,baz=299,slow=6.5,SNR=6.9								
ILAR	**Eielson Array**	**80.91**	**17**	P		**P**	**06 37 33.4**	**+0.3**	
	comp=N,0.2nm,0.5s,baz=310,slow=5.8,SNR=4.0								
YKA	**Yellowknife Ar**	**88.72**	**5**	P		**P**	**06 38 12.0**	**-0.4**	
	comp=N,0.9nm,0.9s,baz=0.4,slow=4.9,SNR=2.9								

NIED ***19*** *06:36:00.24˝.20N×125˝.30E, h14km, Mw3.5 Best double couple: M₀2.09000×10¹⁴ NP1:φs11.00000°, δ41.00000°, λ142.00000°. NP2:φs132.00000°, δ66.00000°, λ56.00000°.*

JMA 19 06:36:23.2±0.1, 24˝.17N×125˝.34E, h50km, M3.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**0.59**	**6**	P	Pn	06 36 35.6	0.0
JOGS				S	Sn	06 36 45.0	+0.5
JMJ	**Miyako jima 2**	**0.64**	**356**	P	Pn	06 36 36.2	0.0
JMJ				S	Sn	06 36 46.2	+0.6
JIRB	**Irabujima**	**0.67**	**347**	P	Pn	06 36 36.4	-0.2
JIRB				S	Sn	06 36 46.1	-0.2
JTJ	**Tarama**	**0.75**	**309**	P	Pn	06 36 37.6	0.0
JTJ				S	Sn	06 36 47.8	-0.2
JIKM	**Ikemajima**	**0.76**	**354**	P	Pn	06 36 37.8	+0.1
JIKM				S	Sn	06 36 48.7	+0.5
JISG	**Ishigakijimahi**	**1.03**	**294**	P	Pn	06 36 41.6	+0.3
JISG				*eS*	Sn	06 36 54.6	0.0
JIJ	**Ishigaki jima**	**1.11**	**280**	P	Pn	06 36 42.7	+0.3
JIJ				*eS*	Sn	06 36 56.3	-0.3
JKRS	**Kuro-shima**	**1.22**	**273**	P	Pn	06 36 44.7	+0.9
JKRS				*eS*	Sn	06 36 59.3	+0.1
HATJ	**Hateruma jima**	**1.41**	**266**	P	Pn	06 36 46.8	+0.4
HATJ				S	Sn	06 37 03.2	-0.7
IRIF	**Iriomote-Funau**	**1.48**	**277**	P	Pn	06 36 48.0	+0.6
IRIF				*eS*	Sn	06 37 06.7	+1.1

IDC 19 06:37:10.1±8.2, 50˝.48N×130˝.30E, h0km, Error ellipse: s-maj=107.3km s-min=48.9km az=50.0, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KLR	**Kul'dur**	**1.57**	**143**	Pg	Pn	06 37 38.4	-0.8
	0.5nm,0.3s,baz=319,slow=20,SNR=8.7						
KLR				Lg	Lg	06 37 59.6	
	0.9nm,0.3s,baz=11,slow=5.0,SNR=10						
I45RU	**USSURIYSK INFR**	**6.39**	**169**	*i*		07 15 30.0	
	baz=350,slow=332,SNR=3.9						
I30JP	**ISUMI INFRASON**	**16.82**	**151**	*i*		08 18 10.0	
	baz=341,slow=326,SNR=0.5						
I44RU	**PETROPAVLOVSK**	**17.12**	**71**	*i*		08 23 10.0	
	baz=275,slow=324,SNR=0.6						

IDC ***19*** *06:37:58.3±1.1, 3˝.60N×126˝.54E, h0km, mb4.0/9, mb1 4.2/9, mb1mx3.8/49, mbtmp4.0/9, MS3.7/2, Ms1 3.7/2, ms1mx2.6/49, Error ellipse: s-maj=171.3km s-min=15.7km az=67.0*

ISCJB ***19*** *06:38:03.5±0.5, 3˝.5N±0˝.1×126˝.5E±0˝.3, h53km, mb4.1/11, MS3.7/2, Error ellipse: s-maj=48.8km s-min=7.7km az=155.6*

NEIC ***19*** *06:38:03.7±0.4, 3˝.44N×126˝.24E, h35km, mb4.5/3, Error ellipse: s-maj=38.4km s-min=6.4km az=65.0*

ISC 19 06:38:05.3±0.7, 3˝.5N±0˝.2×126˝.4E±0˝.4, h53km, n21, σ0s83/22, mb4.2/11, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**8.64**	**137**	*e*Pn	**Pn**	**06 40 07.6**	**-0.3**
MTN	**Manton Dam**	**16.87**	**164**	*e*Pn	**Pn**	**06 41 56.3**	**-1.5**
	4.9nm,0.6s						
GUMO	**Guam**	**20.88**	**60**	LR	LR	06 49 03.6	
	comp=Z,39nm,21.2s,baz=135,slow=32						
WRAB	**Tennant Creek**	**24.53**	**162**	*e*P	**P**	**06 43 20.5**	**+0.4**
	15nm,0.9s						
WR1	**Warramunga Arr**	**24.53**	**162**	*e*P	**P**	**06 43 20.4**	**+0.3**
	17nm,0.8s						
WR1				*e*PcP	**PcP**	**06 46 57.2**	**-0.3**
WRA	**Warramunga Arr**	**24.53**	**162**	P	**P**	**06 43 20.4**	**+0.3**
	8.6nm,0.7s,baz=343,slow=10,SNR=69						
WRA				PcP	**PcP**	**06 46 57.2**	**-0.3**
	0.2nm,0.5s,baz=315,slow=2.4,SNR=4.3						
WB2	**Warramunga Arr**	**24.54**	**162**	*e*P	**P**	**06 43 20.8**	**+0.6**
ASAR	**Alice Springs**	**27.94**	**165**	P	**P**	**06 43 51.5**	**+0.7**
	0.4nm,0.5s,baz=350,slow=7.7,SNR=11						
ASAR				PcP	**PcP**	**06 47 06.1**	**+0.8**
	0.3nm,0.7s,baz=349,slow=2.0,SNR=4.1						
STKA	**Stephens Creek**	**38.00**	**159**	P	**P**	**06 45 19.3**	**+1.0**
	3.5nm,0.6s,baz=336,slow=9.1,SNR=6.8						
SONA0	**Songino Array**	**47.45**	**342**	*e*P	**P**	**06 46 34.2**	**-0.6**
SONM	**Songino Array**	**47.45**	**342**	P	**P**	**06 46 34.3**	**-0.6**
	0.2nm,0.4s,baz=160,slow=8.0,SNR=2.2						
MK32	**Makanchi Array**	**57.57**	**326**	*e*P	**P**	**06 47 49.3**	**-0.3**
MKAR	**Makanchi Array**	**57.57**	**326**	P	**P**	**06 47 49.3**	**-0.3**
	1.0nm,0.5s,baz=116,slow=7.8,SNR=12						
ZALV	**Zalesovo Beam**	**60.67**	**333**	P	**P**	**06 48 12.7**	**+1.8**
	0.5nm,0.3s,baz=96,slow=11,SNR=3.8						
ZAA1	**Zalesovo Array**	**60.67**	**333**	*e*P	**P**	**06 48 12.7**	**+1.7**
KURBB	**Kurchatov Arra**	**61.77**	**328**	P	**P**	**06 48 18.4**	**0.0**
	0.9nm,0.5s,baz=131,slow=6.1,SNR=4.4						
KURK	**Kurchatov**	**61.77**	**328**	*e*P	**P**	**06 48 18.4**	**0.0**
BVAR	**Borovoye Array**	**67.35**	**327**	P	**P**	**06 48 55.1**	**+0.3**
	0.7nm,0.6s,baz=133,slow=8.1,SNR=3.0						
ARU	**Arti**	**74.97**	**328**	LR	LR	07 24 34.1	
	comp=Z,280nm,18.8s,baz=246,slow=37						
ARA0	**ARCESS Array S**	**90.58**	**340**	*e*P	**P**	**06 51 01.0**	**-0.5**
ARCES	**ARCESS Array B**	**90.58**	**340**	P	**P**	**06 51 01.0**	**-0.5**
	2.7nm,0.9s,baz=90,slow=8.1,SNR=2.8						

ISCJB ***19*** *06:46:13.6±0.8, 33˝.07N±0˝.07×131˝.23E±0˝.04, h12km, mb3.3/1, MS2.5/1, Error ellipse: s-maj=10.7km s-min=4.9km az=174.2*

JMA ***19*** *06:46:13.5, 33˝.10N×131˝.23E, h5km±1km, M3.3 Broadband fault plane solution: P waves. NP1: φs239.00000°, δ63.00000°, λ-131.00000°. NP2: φs121.00000°, δ48.00000°, λ-38.00000°. Principal axes: T Plg9.0000°, Azm357.0000°; N Plg36.0000°, Azm261.0000°; P Plg53.0000°, Azm99.0000°;*

JMA Felt II J1.

IDC ***19*** *06:46:14.5±2.6, 33˝.06N×131˝.20E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.2/50, mbtmp3.3/3, ML3.1/2, MS2.5/3, Ms1 2.6/3, ms1mx2.4/32 Error ellipse: s-maj=48.0km s-min=10.5km az=1.0*

ISC 19 06:46:15.2±1.2, 33˝.07N±0˝.08×131˝.23E±0˝.03, h12km, n9, σ2s05/12, 1C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.30**	**280**	Pg	**Pg**	**06 46 19.6**	**-1.8**
	235nm,0.3s,baz=78,slow=5.3,SNR=995						
JNU				Lg	Lg	06 46 23.7	
	329nm,0.3s,baz=146,slow=1.6,SNR=89						
JNU	**Nakatsue**	**0.30**	**280**	⇓P	**Pg**	**06 46 19.4**	**-1.9**
JNU				*eS*	**Sg**	**06 46 24.0**	**-1.4**
JBEP	**Beppuamama**	**0.31**	**30**	⇑P	**Pg**	**06 46 19.4**	**-2.1**
JBEP				*eS*	**Sg**	**06 46 23.8**	**-1.9**
JUS	**Usuki**	**0.44**	**90**	⇓P	**Pg**	**06 46 21.8**	**-2.1**
JUS				S	**Sg**	**06 46 28.3**	**-1.5**
JTA	**Tamana**	**0.59**	**260**	⇓P	**Pg**	**06 46 25.1**	**-1.7**
KSRS	**Korea Array**	**5.14**	**329**	Pn	**Pn**	**06 47 32.1**	**+0.1**
	0.3nm,0.3s,baz=147,slow=15,SNR=2.8						
KSRS				Pg	**Pb**	**06 47 46.8**	**+1.7**
	0.5nm,0.3s,baz=150,slow=17,SNR=3.8						
KSRS				Lg	Lg	06 48 50.5	
	0.4nm,0.3s,baz=154,slow=30,SNR=3.6						
KSRS				LR	LR	06 49 34.6	
	comp=Z,41nm,19.6s,baz=150,slow=39						
MJAR	**Matsushiro Arr**	**6.71**	**57**	Pn	**Pn**	**06 47 56.2**	**+2.6**
	0.7nm,0.3s,baz=247,slow=14,SNR=3.7						
MJAR				LR	LR	06 50 33.5	
	comp=Z,35nm,20.7s,baz=85,slow=38						
SONM	**Songino Array**	**23.83**	**316**	P	**P**	**06 51 29.5**	**+1.3**
	0.8nm,0.7s,baz=123,slow=9.7,SNR=6.3						
CMAR	**Chiang Mai Arr**	**32.36**	**251**	LR	LR	07 06 58.6	
	comp=Z,9.6nm,19.3s,baz=310,slow=38						

ISCJB ***19*** *06:50:01.6±0.6, 35˝.67N±0˝.04×72˝.89E±0˝.09, h10km, mb3.5/4, Error ellipse: s-maj=11.8km s-min=4.2km az=154.7*

IDC ***19*** *06:50:02.9±1.1, 35˝.78N×72˝.75E, h0km, mb3.7/5, mb1 3.8/9, mb1mx3.6/47, mbtmp3.7/9, ML3.1/4, MS2.6/1, Ms1 2.6/1, ms1mx2.2/57, Error ellipse: s-maj=28.8km s-min=21.8km az=80.0*

NNC ***19*** *06:50:16.0±4.8, 35˝.98N×72˝.35E, h91km±84km, mb3.2, mpv3.5, Error ellipse: s-maj=44.3km s-min=34.6km az=82.0*

ISC 19 06:50:03.6±0.8, 35˝.75N±0˝.06×72˝.78E±0˝.08, h10km, n29, σ2s47/33, mb3.7/4, 8C-4D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.29**	**7**	⇑Pn	**Pb**	**06 51 17.1**	**-2.3**
	9.3nm,0.6s						
SFK				⇑Sn	**Sb**	**06 52 07.2**	**-4.1**
	22nm,0.6s						
MNAS	**Manas**	**6.73**	**358**	⇓P	**Pn**	**06 51 46.2**	**+3.6**
	4.3nm,0.8s						
MNAS				⇑S	**Sn**	**06 53 00.8**	**+1.4**
	12nm,0.5s						
AAK	**Ala-Archa**	**7.00**	**10**	Pn	Pn	06 51 51.6	+5.2
	0.5nm,0.3s,baz=169,slow=16,SNR=5.5						
AAK				Sn	**Sn**	**06 53 08.2**	**+2.0**
	0.6nm,0.3s,baz=204,slow=13,SNR=3.5						
AAK				LR	LR	06 54 46.5	
	comp=Z,49nm,20.9s,baz=136,slow=41						
AAK	**Ala-Archa**	**7.00**	**10**	P	Pn	06 51 53.3	+6.8
	2.1nm,0.8s						
AAK				S	**Sn**	**06 53 09.2**	**+3.0**
	7.8nm,0.8s						
TKM2	**Tokmak 2**	**7.49**	**16**	⇑P	Pb	06 52 04.5	-9.2
	1.3nm,0.7s						
TKM2				⇓S	**Sn**	**06 53 22.1**	**+4.0**
	3.5nm,0.8s						
KK31	**Karatay Array**	**7.55**	**347**	⇑P	**Pn**	**06 51 57.3**	**+3.6**
	1.9nm,0.4s,baz=160,slow=11						
KK31				⇑S	**Sn**	**06 53 21.0**	**+1.6**
	6.4nm,0.5s,baz=169,slow=23						
PYUN	**Piuthan**	**11.54**	**129**	*e*P	**Pn**	**06 52 48.2**	**-0.5**
	15nm,0.3s						
DANN	**Dangsing**	**11.88**	**125**	*e*P	**Pn**	**06 52 53.4**	**0.0**
	16nm,0.4s						
GEYT	**Ailbeck**	**11.95**	**285**	Sn	**Sn**	**06 55 05.2**	**-2.2**
	0.1nm,0.3s,baz=48,slow=35,SNR=2.4						
KOLN	**Koldanda**	**12.16**	**128**	*e*P	**Pn**	**06 52 56.7**	**-0.5**
	13nm,0.4s						
MKAR	**Makanchi Array**	**13.14**	**30**	Pn	**Pn**	**06 53 12.4**	**+2.2**
	0.0nm,0.3s,baz=218,slow=10,SNR=3.9						
DMN	**Daman**	**13.26**	**124**	*e*P	**Pn**	**06 53 10.7**	**-1.5**
	18nm,0.5s						
KKN	**Kakani**	**13.26**	**123**	*e*P	**Pn**	**06 53 11.0**	**-1.2**
PKIN	**Phulchoki**	**13.48**	**124**	*e*P	**Pn**	**06 53 12.7**	**-2.5**
	7.1nm,0.3s						
GUN	**Gumba**	**13.60**	**121**	*e*P	**Pn**	**06 53 14.4**	**-2.5**
	8.1nm,0.4s						
JIRN	**Jiri**	**13.97**	**122**	*e*P	**Pn**	**06 53 19.7**	**-2.3**
	32nm,0.5s						
RAMN	**Ramite**	**14.70**	**123**	*e*P	**Pn**	**06 53 29.1**	**-2.8**
	10nm,0.4s						
TAPN	**Taplejung**	**15.22**	**119**	*e*P	**Pn**	**06 53 35.0**	**-4.0**
	10nm,0.5s						
ODAN	**Odare**	**15.30**	**121**	*e*P	**Pn**	**06 53 36.0**	**-3.9**
	5.9nm,0.4s						
KURBB	**Kurchatov Arra**	**15.44**	**14**	Pn	**P**	**06 53 43.9**	**-2.1**
	0.1nm,0.3s,baz=205,slow=10,SNR=4.4						
AB31	**Akbulak array**	**16.45**	**329**	⇓P	**P**	**06 53 58.9**	**+1.8**
	1.0nm,0.6s						
AB31				⇑S	**Sn**	**06 56 53.6**	**-3.4**
	2.1nm,0.9s						
BVAR	**Borovoye Array**	**17.35**	**355**	P	**Pn**	**06 54 05.0**	**-0.8**
	0.0nm,0.3s,baz=161,slow=9.2,SNR=2.9						
AKTO	**Aktyubinsk**	**18.16**	**328**	P	**Pn**	**06 54 14.8**	**-1.0**
	0.1nm,0.3s,baz=139,slow=13,SNR=1.8						
AKTO	**Aktyubinsk**	**18.16**	**328**	⇓P	**P**	**06 54 17.9**	**+1.8**
	5.0nm,0.9s						
AKTO				⇑S	**Sn**	**06 57 36.5**	**-1.8**
	4.7nm,1.4s						
ZALV	**Zalesovo Beam**	**20.05**	**21**	P	Pn	06 54 37.9	-0.5
	0.8nm,0.3s,baz=212,slow=10,SNR=6.5						
ARCES	**ARCESS Array B**	**42.39**	**337**	P	**P**	**06 57 57.9**	**+0.1**
	2.3nm,0.9s,baz=108,slow=7.8,SNR=5.3						
TORD	**Torodi Ar. Bea**	**67.15**	**270**	P	**P**	**07 00 59.3**	**+1.3**
	0.5nm,0.7s,baz=49,slow=5.2,SNR=2.8						
WRA	**Warramunga Arr**	**80.37**	**123**	P	**P**	**07 02 16.4**	**+0.9**
	0.4nm,0.7s,baz=323,slow=5.4,SNR=8.0						
ASAR	**Alice Springs**	**82.65**	**126**	P	**P**	**07 02 28.4**	**+0.9**
	0.1nm,0.4s,baz=308,slow=5.1,SNR=4.1						

ISCJB ***19*** *06:52:42.7±0.4, 32˝.21N±0˝.03×115˝.38W±0˝.03, h10km, Error ellipse: s-maj=4.2km s-min=3.1km az=161.9*

NEIC ***19*** *06:52:42.9±0.0, 32˝.30N×115˝.36W, h6km, ML3.0(PAS), ML3.0(ECX), ML3.0(ECX), After ECX.*

ECX ***19*** *06:52:42.9±0.8, 32˝.30N×115˝.36W, h6km, MD2.8, ML3.0*

PAS ***19*** *06:52:46.3±0.0, 32˝.31N×115˝.34W, h10km*

ISC 19 06:52:42.6±0.9, 32˝.23N±0˝.03×115˝.40W±0˝.02, h10km, n38, σ1s88/49, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.21**	**23**	*e*P	**Pg**	**06 52 44.5**	**-2.5**
CPBX				*eS*	**Sg**	**06 52 48.0**	**-2.0**
CPBX				IAML		06 52 53.6	
	comp=N,13μm,0.1s						
CPBX				*e*		06 52 53.6	
MBIG	**Mexicali**	**0.25**	**44**	*e*P	**Pg**	**06 52 46.5**	**-1.2**
DREC	**Desert Rsrch C**	**0.58**	**356**	*e*P	**Pg**	**06 52 52.4**	**-1.5**
WESC	**Westside Schoo**	**0.60**	**332**	*e*P	**Pg**	**06 52 53.1**	**-1.2**
RMX	**La Rumorosa**	**0.68**	**303**	*e*P	**Pg**	**06 52 54.0**	**-1.9**
RMX				*e*P	**Pb**	**06 52 54.5**	**-2.3**
IKP	**In-Ko-Pah, Jac**	**0.73**	**305**	*e*P	**Pg**	**06 52 55.7**	**-1.1**
ECBX	**El Chinero**	**0.81**	**158**	*e*P	**Pg**	**06 52 57.9**	**-0.4**
ECBX				IAML		06 53 16.9	
GLA	**Glamis**	**0.95**	**30**	*e*Pg	**Pn**	**06 53 01.7**	**-0.5**
GLA				*e*Sg	**Sn**	**06 53 13.7**	**-2.2**
ZAX	**El Zacaton**	**1.03**	**226**	*e*P	**Pg**	**06 53 01.7**	**-0.7**
CBX	**Cerro Bola**	**1.07**	**275**	*e*P	**Pg**	**06 53 02.5**	**-0.8**
MONP2	**Monument Peak**	**1.09**	**308**	*e*P	**Pg**	**06 53 02.1**	**-1.5**
BAR	**Barrett**	**1.17**	**293**	*e*P	**Pb**	**06 53 03.4**	**-1.5**
BAR	**Barrett**	**1.17**	**293**	*e*Pg	**Pg**	**06 53 07.2**	**+2.1**
BAR				*e*Sg	**Sn**	**06 53 23.2**	**+2.2**
ECNX	**Esteban Cantu**	**1.17**	**241**	*e*P	**Pn**	**06 53 04.1**	**-1.0**
SPIG	**San Pedro Mart**	**1.18**	**183**	*e*P	**Pn**	**06 53 04.5**	**-1.0**
SPX	**San Pedro Mart**	**1.18**	**183**	*e*P	**Pn**	**06 53 04.6**	**-1.0**
PBX	**Punta Banda**	**1.23**	**247**	*e*P	**Pn**	**06 53 04.8**	**-1.1**
EML	**El Monte Cty P**	**1.39**	**299**	*e*P	**Pn**	**06 53 06.9**	**-1.2**
SDRC	**San Diego Road**	**1.40**	**292**	*e*P	**Pn**	**06 53 07.0**	**-1.2**
113A	**Mohawk Valley,**	**1.48**	**68**	*e*Pn	**Pg**	**06 53 10.2**	**-1.0**
113A				*e*Sg	**Sg**	**06 53 31.1**	**+0.7**
CPE	**Camp Elliot**	**1.58**	**295**	*e*Pn	**Pg**	**06 53 13.4**	**+0.4**
CPE				*e*Sn	**Sg**	**06 53 35.0**	**+1.4**
CPE				*e*Sn	**Sb**	**06 53 35.1**	**+3.0**
XPFO	**Piæon Flat**	**1.64**	**328**	*e*Pn	**Pb**	**06 53 12.4**	**-0.7**
XPFO				*e*Sn	**Sg**	**06 53 35.9**	**+0.5**
PFO	**Pinyon Flats O**	**1.64**	**327**	*e*Pn	**Pn**	**06 53 12.0**	**+0.3**
PFO				*e*Sn	**Sg**	**06 53 36.0**	**+0.4**
Y12C	**Blythe**	**1.69**	**26**	*e*Pn	**Pg**	**06 53 14.4**	**-0.6**
Y12C				*e*Sn	**Sg**	**06 53 35.5**	**-1.4**
Y14A	**Wickenburg**	**2.64**	**49**	*e*Pn	**Pb**	**06 53 27.2**	**-2.8**
PASC	**Pasadena Art C**	**3.03**	**310**	*e*Pn	**Pn**	**06 53 33.6**	**+2.8**
W13A	**Hualapai Mount**	**3.13**	**23**	*e*Pn	**Pn**	**06 53 33.0**	**+0.7**
SNCC	**San Nicolas Is**	**3.62**	**287**	*e*Pn	**Pn**	**06 53 42.3**	**+3.5**
TUC	**Tucson**	**3.91**	**88**	*e*Pn	**Pn**	**06 53 46.0**	**+3.1**
TUC				*e*Pg	**Pg**	**06 53 58.6**	**+0.9**
X16A	**Lo Mia Camp, P**	**3.97**	**56**	*e*Pn	**Pn**	**06 53 46.2**	**+2.4**
WUAZ	**Wupatki**	**4.69**	**45**	*e*Pn	**Pn**	**06 53 57.1**	**+3.4**
U15A	**North Rim**	**4.92**	**31**	*e*Pn	**Pn**	**06 54 00.0**	**+3.1**
LCMT	**Little Creek M**	**5.09**	**20**	*e*Pn	**Pn**	**06 54 00.6**	**+1.4**
X18A	**Snowflake**	**5.11**	**62**	*e*Pn	**Pn**	**06 54 01.7**	**+2.3**
KNB	**Kanab**	**5.23**	**23**	*e*Pn	**Pn**	**06 54 04.0**	**+2.9**
W18A	**Petrified Fore**	**5.53**	**57**	*e*Pn	**Pn**	**06 54 08.5**	**+3.2**
MVCO	**Mesa Verde**	**7.55**	**47**	*e*Pn	**Pn**	**06 54 33.8**	**+0.8**
BNM	**Barren Site**	**7.60**	**73**	*e*Pn	**Pn**	**06 54 32.7**	**-1.0**

NEIC ***19*** *06:54:15.4±0.0, 13˝.99N×91˝.50W, h22km, MD4.0(MEX), After MEX.*

MEX 19 06:54:15.7±0.7, 14˝.01N×91˝.50W, h15km, MD4.0, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.16**	**320**	*e*Pn	Pn	06 54 34.2	-3.2
THIG				*e*Sn	Sb	06 54 48.4	-4.0
THIG		**1.16**	**320**	*e*P	Pn	06 54 34.1	-3.4
THIG				*e*S	Sb	06 54 48.4	-4.0
CCIG	**Comitan**	**2.34**	**345**	*e*Pn	Pn	06 54 50.2	-3.6
CCIG				*e*Sn	Sn	06 55 13.1	-9.4
CCIG				*e*S	Sb	06 55 19.9	-6.6
CCIG	**Comitan**	**2.34**	**345**	*e*P	Pn	06 54 50.4	-3.5
CCIG				*i* S	Sn	06 55 19.1	-3.4
PCIG		**2.37**	**316**	*e*Pn	Pn	06 54 50.8	-3.3
PCIG		**2.37**	**316**	*e*P	Pn	06 54 50.8	-3.3
PCIG				*i* S	Sn	06 55 18.0	-4.9
TGIG		**3.17**	**331**	*e*Pn	Pn	06 55 00.2	-4.9
TGIG				*e*Sn	Sn	06 55 38.8	-3.9
TGIG		**3.17**	**331**	*i* P	Pn	06 55 00.5	-4.6
TGIG				*e*S	Sn	06 55 38.8	-3.9
ESTN	**Estel**	**5.07**	**100**	*e*Pn	Pn	06 55 29.0	-2.2
ESTN				*e*Sn	Sn	06 56 33.4	+3.8
TEIG	**Tepich**	**6.90**	**26**	*e*Pn	Pn	06 55 51.6	-4.8
TEIG				*e*Sn	Sn	06 57 06.6	-8.2
ESPN	**Las Esperanzas**	**7.24**	**104**	*e*Pn	Pn	06 56 00.3	-0.8

IDC 19 06:59:51.8±5.0, 5˝.51S×132˝.42E, h0km, mb3.9/1, mb1 3.3/3, mb1mx3.2/35, mbtmp3.2/3, ML2.7/2, Error ellipse: s-maj=325.2km s-min=31.8km az=75.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.46**	**173**	Pn	Pn	07 03 18.7	+0.7
	0.1nm,0.3s,baz=352,slow=13,SNR=4.1						
WRA				Sn	Sn	07 05 57.4	-1.9
	0.0nm,0.3s,baz=355,slow=24,SNR=3.1						
ASAR	**Alice Springs**	**18.11**	**176**	P	Pn	07 04 04.5	-0.4
	0.0nm,0.3s,baz=357,slow=12,SNR=4.3						
MKAR	**Makanchi Array**	**68.34**	**325**	P	P	07 10 55.1	0.0
	1.0nm,0.9s,baz=141,slow=7.4,SNR=2.9						

ISK ***19*** *07:09:38.7, 40˝.11N×24˝.09E, h7km, ML3.8/6*

ISCJB ***19*** *07:09:39.7±0.5, 40˝.13N±0˝.01×24˝.10E±0˝.02, h6km±3km, mb3.5/6, MS2.9/3, Error ellipse: s-maj=2.3km s-min=2.1km az=176.3*

IDC ***19*** *07:09:39.8±1.1, 40˝.11N×24˝.06E, h0km, mb3.5/6, mb1 3.7/11, mb1mx3.5/39, mbtmp3.6/11, ML3.7/5, MS2.9/4, Ms1 2.9/4, ms1mx2.5/46, Error ellipse: s-maj=17.0km s-min=14.6km az=80.0*

ATH ***19*** *07:09:40.2, 40˝.12N×24˝.06E, h20km±2km, ML3.6/17, Error ellipse: s-maj=2.4km s-min=0.7km az=341.0*

THE ***19*** *07:09:40.9, 40˝.12N×24˝.08E, h5km, ML3.5/17, Error ellipse: s-maj=0.9km s-min=0.4km az=338.0*

BEO ***19*** *07:09:42.9±0.6, 40˝.14N×23˝.77E, h5km, ML3.2/2*

DDA ***19*** *07:09:50.8, 40˝.27N×23˝.89E, h11km, Ml3.7*

**

XOR	**Xorichti**	**1.01 223**	P	**Pb**	**07 10 00.4**	**-0.1**
XOR			S	**Sb**	**07 10 14.1**	**+0.2**
NEO	**Neokhori**	**1.04 220**	P	**Pg**	**07 10 00.2**	**-0.4**
NEO			S	**Sg**	**07 10 14.2**	**0.0**
NEO			AML	AML	07 10 16.2	
	comp=N,8538μm,0.5s					
NEO			AML	AML	07 10 18.8	
	comp=E,7228μm,0.4s					
NEO	**Neokhori**	**1.04 220**	P	**Pb**	**07 10 00.7**	**-0.2**
SKIA	**Skiathos**	**1.05 207**	P	**Pg**	**07 10 00.6**	**-0.3**
SKIA			S	**Sg**	**07 10 14.4**	**-0.2**
SKIA			AML	AML	07 10 18.0	
	comp=E,7960μm,0.4s					
SKIA			AML	AML	07 10 19.4	
	comp=N,7924μm,0.7s					
SKIA	**Skiathos**	**1.05 207**	P	**Pg**	**07 10 00.7**	**-0.3**
SKIA			S	**Sn**	**07 10 16.0**	**-0.6**
SRS	**Serrai**	**1.07 340** ⇑	*i* Pg	**Pg**	**07 10 01.0**	**-0.4**
SRS			*e* Sg	**Sg**	**07 10 14.7**	**-0.6**
SRS	**Serrai**	**1.07 340**	P	**Pg**	**07 10 00.9**	**-0.4**
SRS			S	**Sg**	**07 10 14.7**	**-0.6**
SRS			AML	AML	07 10 19.7	
	comp=E,3138μm,0.3s					
SRS			AML	AML	07 10 24.8	
	comp=N,2912μm,0.5s					
SRS	**Serrai**	**1.07 340**	P	**Pg**	**07 10 01.0**	**-0.4**
SRS			S	**Sb**	**07 10 15.8**	**+0.1**
FYTO	**Fytoko, Volos**	**1.12 232**	P	**Pg**	**07 10 02.0**	**-0.3**
FYTO			S	**Sg**	**07 10 16.3**	**-0.6**
FYTO			AML	AML	07 10 20.7	
	comp=N,5039μm,0.6s					
FYTO			AML	AML	07 10 21.2	
	comp=E,3827μm,0.5s					
FYTO	**Fytoko, Volos**	**1.12 232**	P	**Pg**	**07 10 02.2**	**-0.1**
SMTH	**Samothraki Isl**	**1.17 72**	P	**Pb**	**07 10 02.0**	**-1.2**
SMTH			AML	AML	07 10 20.8	
	comp=N,2572μm,0.4s					
SMTH			AML	AML	07 10 23.6	
	comp=E,1947μm,0.5s					
SMTH	**Samothraki Isl**	**1.17 72**	P	**Pb**	**07 10 01.9**	**-1.2**
SMTH			S	**Sn**	**07 10 19.2**	**-0.3**
LIT	**Litokhoron**	**1.22 270**	P	**Pb**	**07 10 03.4**	**-0.7**
LIT	**Litokhoron**	**1.22 270**	P	**Pb**	**07 10 03.5**	**-0.5**
LIT			S	**Sn**	**07 10 20.8**	**+0.1**
NVR	**Nevrokopi**	**1.25 353**	P	**Pn**	**07 10 03.6**	**-0.9**
NVR			S	**Sb**	**07 10 19.8**	**-1.0**
NVR	**Nevrokopi**	**1.25 353**	P	**Pn**	**07 10 03.9**	**-0.6**
NVR			S	**Sg**	**07 10 20.7**	**-0.3**
SKY	**Skiros Island**	**1.28 163**	P	**Pn**	**07 10 04.5**	**-0.4**
SKY			S	**Sn**	**07 10 22.4**	**+0.1**
SKY			AML	AML	07 10 25.9	
	comp=E,6980μm,0.4s					
SKY			AML	AML	07 10 27.4	
	comp=N,5208μm,0.6s					
SKY	**Skiros Island**	**1.28 163**	P	**Pn**	**07 10 04.7**	**-0.2**
KNT	**Kendrikon**	**1.38 320**	PN	**Pn**	**07 10 04.8**	**-1.5**
KNT	**Kendrikon**	**1.38 320**	P	**Pb**	**07 10 06.5**	**-0.4**
KNT			S	**Sb**	**07 10 24.2**	**-0.4**
KNT			AML	AML	07 10 28.6	
	comp=N,2456μm,0.4s					
KNT			AML	AML	07 10 29.7	
	comp=E,3814μm,0.9s					
KNT	**Kendrikon**	**1.38 320**	P	**Pb**	**07 10 06.4**	**-0.4**
KNT			S	**Sg**	**07 10 24.9**	**-0.3**
GADA	**Gvkgeada**	**1.40 86**	PN	**Pn**	**07 10 05.3**	**-1.2**
SMIA	**Simia**	**1.40 209**	P	**Pn**	**07 10 06.2**	**-0.4**
RDO	**Rodhopi**	**1.52 47**	PN	**Pn**	**07 10 06.7**	**-1.4**
RDO	**Rodhopi**	**1.52 47**	P	**Pn**	**07 10 07.2**	**-0.9**
GRG	**Griva**	**1.53 304**	PN	**Pn**	**07 10 07.9**	**-0.5**
GRG	**Griva**	**1.53 304**	P	**Pn**	**07 10 08.7**	**+0.3**
GRG	**Griva**	**1.53 304**	P	**Pn**	**07 10 08.7**	**+0.3**
GRG			S	**Sg**	**07 10 30.0**	**0.0**
SIGR	**SIGRI**	**1.64 123**	PN	**Pn**	**07 10 08.3**	**-1.5**
SIGR	**SIGRI**	**1.64 123**	P	**Pn**	**07 10 09.6**	**-0.2**
SIGR	**SIGRI**	**1.64 123**	P	**Pn**	**07 10 09.6**	**-0.2**
SIGR			S	**Sg**	**07 10 33.0**	**-0.4**
VAY	**Valandovo**	**1.67 317** ⇑	*i* Pg	**Pn**	**07 10 10.4**	**+0.2**
VAY			*e* Sg	**Sn**	**07 10 30.7**	**-1.0**
VAY	**Valandovo**	**1.67 317**	*i* Pn	**Pb**	**07 10 10.8**	**-0.9**
LKR	**Lokris**	**1.68 210**	P	**Pn**	**07 10 09.3**	**-1.1**
THL	**Klokotos Trika**	**1.68 252**	P	**Pn**	**07 10 10.2**	**-0.2**
THL	**Klokotos Trika**	**1.68 252**	P	**Pn**	**07 10 10.1**	**-0.2**
EREA	**Eretria**	**1.69 184**	P	**Pn**	**07 10 10.2**	**-0.4**
ALN	**Alexandroupoli**	**1.69 62**	PN	**Pn**	**07 10 08.4**	**-2.2**
ALN	**Alexandroupoli**	**1.69 62**	P	**Pn**	**07 10 09.5**	**-1.1**
ALN			S	**Sb**	**07 10 33.9**	**+0.4**
AGG	**Agios Georgios**	**1.73 232**	PN	**Pn**	**07 10 09.6**	**-1.5**
AGG	**Agios Georgios**	**1.73 232**	P	**Pn**	**07 10 10.8**	**-0.3**
KZN	**Kozani**	**1.78 277**	P	**Pn**	**07 10 12.2**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.86 235**	P	**Pn**	**07 10 13.0**	**+0.1**
PRK	**Paraskevi**	**1.90 116**	P	**Pn**	**07 10 13.4**	**0.0**
ERIK	**Erikli-Kesan**	**1.94 72**	PN	**Pn**	**07 10 12.8**	**-1.2**
VILL	**Villia**	**2.03 197**	P	**Pn**	**07 10 14.6**	**-0.7**
PTL	**Penteli**	**2.06 185**	P	**Pn**	**07 10 16.6**	**-0.1**
KESN	**Edirne-Kesan**	**2.11 69**	*i* P	**Pn**	**07 10 13.0**	**-3.6**
KESN			*i* S	**Sg**	**07 10 47.9**	**-0.7**
EVR	**Evrytania**	**2.12 237**	P	**Pn**	**07 10 16.7**	**+0.2**
STIP	**Stip**	**2.14 318**	*i* Pn	**Pn**	**07 10 16.0**	**-0.6**
AYVA	**Ayvalik**	**2.17 111**	*i* P	**Pn**	**07 10 16.6**	**-0.5**
AYVA			*i* S	**Sg**	**07 10 49.0**	**-1.4**
FNA	**Florina**	**2.17 289** ⇑	*i* Pg	**Pn**	**07 10 17.9**	**+0.7**
FNA			*e* Sg	**Sn**	**07 10 43.5**	**-0.7**
FNA	**Florina**	**2.17 289**	P	**Pn**	**07 10 17.9**	**+0.7**
ANX	**Ano Chora**	**2.26 229**	P	**Pn**	**07 10 18.6**	**+0.2**
VLY	**Voula,Athens**	**2.27 186**	P	**Pn**	**07 10 18.4**	**0.0**
KALE	**Kalithea**	**2.28 222**	P	**Pn**	**07 10 18.5**	**-0.2**
BIA	**Bitola**	**2.29 294**	*i* Pn	**Pb**	**07 10 22.1**	**-0.2**
LOUT	**Loutraki**	**2.29 202**	P	**Pn**	**07 10 18.3**	**-0.4**
CHOS	**Chios island**	**2.31 138**	P	**Pn**	**07 10 19.2**	**+0.2**
SERG	**Sergoula**	**2.31 223**	P	**Pn**	**07 10 19.3**	**+0.2**
TRIZ	**Trizonia**	**2.34 222**	P	**Pn**	**07 10 19.5**	**+0.1**
DKL	**Dikili**	**2.42 114**	PN	**Pn**	**07 10 19.9**	**-0.6**
RKY	**Sarkoy-Tekirda**	**2.44 75**	PN	**Pn**	**07 10 19.9**	**-0.9**
KRBG	**Karabiga-Canak**	**2.48 82**	PN	**Pn**	**07 10 20.5**	**-0.9**
KRUS	**Krusevo**	**2.49 301**	*i* Pn	**Pn**	**07 10 22.5**	**+0.8**
KLV	**Kalavryta, Ach**	**2.55 217**	P	**Pn**	**07 10 22.4**	**0.0**
GUR	**Goura**	**2.56 212**	P	**Pn**	**07 10 22.2**	**-0.3**
VTS	**Vitosha**	**2.56 345** ⇑	*i* Pn	**Pn**	**07 10 23.5**	**+0.8**
VTS			*e* Sn	**Sn**	**07 10 54.1**	**-0.1**
VTS	**Vitosha**	**2.56 345** ⇓	*i* P	**Pn**	**07 10 23.2**	**+0.5**
VTS	**Vitosha**	**2.56 345**	S	**Sn**	**07 10 54.0**	**-0.1**
URLA	**Izmir**	**2.62 131**	PN	**Pn**	**07 10 23.3**	**-0.1**
URLA	**Izmir**	**2.62 131**	*i* P	**Pn**	**07 10 22.0**	**-1.3**
EDRB	**Edirne**	**2.66 48**	PN	**Pn**	**07 10 23.2**	**-0.7**
DID	**Didima**	**2.68 194**	P	**Pn**	**07 10 23.7**	**-0.5**
OHR	**Ohrid**	**2.69 293**	*i* Pn	**Pn**	**07 10 25.5**	**+1.2**
SBT4	**Kumbag-Tekirda**	**2.73 74**	PN	**Pn**	**07 10 24.2**	**-0.5**
STEP	**BALIKESIR_Sava**	**2.90 103**	*i* P	**Pn**	**07 10 27.0**	**-0.2**
IGT	**Igoumenitsa**	**2.94 260**	*e* Pg	**Pb**	**07 10 32.0**	**-1.4**
BALB	**Balikesir**	**2.96 98**	PN	**Pn**	**07 10 27.3**	**-0.7**
DGB	**Izmir**	**3.00 132**	*i* P	**Pn**	**07 10 27.6**	**-0.9**
VLX	**Vlachokerasia**	**3.04 206**	P	**Pn**	**07 10 29.4**	**+0.2**
BARS	**Barje**	**3.19 329**	*e* Pn	**Pn**	**07 10 31.6**	**+0.4**
BARS	**Barje**	**3.19 329**	*e* Pn	Pg	07 10 46.7	+4.8
APE	**Apeiranthos**	**3.24 159**	PN	**Pn**	**07 10 30.7**	**-1.2**
APE	**Apeiranthos**	**3.24 159** ⇑	*i* P	**Pn**	**07 10 31.7**	**-0.2**
ZAPS	**Zavoj**	**3.34 342**	*e* Pn	**Pn**	**07 10 34.6**	**+1.3**
ITM	**Ithomi**	**3.38 211**	PN	**Pn**	**07 10 33.8**	**+0.1**
SELS	**Selova**	**3.82 325**	*e* Pn	**Pn**	**07 10 39.8**	**0.0**
AYDN	**Tasoluk**	**3.84 128**	*i* P	**Pn**	**07 10 40.6**	**+0.4**
AYDN			*i* S	**Sg**	**07 11 46.9**	**+2.7**
BOVS	**Bovan**	**3.94 334**	*e* Pn	**Pn**	**07 10 41.8**	**+0.3**
ZAGS	**Zajecar**	**3.95 340**	*e* Pn	**Pn**	**07 10 41.7**	**+0.2**
PDG	**Podgorica**	**4.31 304** ⇓	*i* P	**Pn**	**07 10 45.5**	**-1.0**
GRUS	**Gruza**	**4.53 328**	*e* Pn	**Pn**	**07 10 49.7**	**+0.1**
IVAS	**Ivanjica**	**4.54 321**	*e* Pn	**Pn**	**07 10 49.9**	**+0.2**
SRE	**Strehaia**	**4.59 352**	*i* P	**Pn**	**07 10 50.1**	**-0.4**
KUBS	**Kucevo**	**4.66 338**	*e* Pn	**Pn**	**07 10 52.0**	**+0.7**
SULR		**4.84 19**	*i* P	**Pn**	**07 10 54.4**	**+0.6**
IDI	**Anoyia**	**4.86 172**	Pn	**Pn**	**07 10 54.1**	**0.0**
	comp=E,0.5nm,0.3s,baz=335,slow=12,SNR=4.8					
IDI			LR	LR	07 12 57.2	
	comp=E,67nm,21.7s,baz=279,slow=41					
IDI	**Anoyia**	**4.86 172** ⇑	*i* P	**Pn**	**07 10 54.5**	**+0.4**
HERR	**Herculane**	**4.92 346** ⇑	*i* P	**Pn**	**07 10 54.2**	**-0.8**
TRUS	**Trudelj**	**4.93 328**	*e* Pn	**Pn**	**07 10 54.9**	**-0.2**
MDVR	**Moldovita**	**4.99 340** ⇓	*i* P	**Pn**	**07 10 55.7**	**-0.2**
MANR	**Mangalia**	**5.00 41** ⇓	*i* P	**Pn**	**07 10 57.5**	**+1.5**
DIVS	**Divibare**	**5.01 324**	*e* Pn	**Pn**	**07 10 56.6**	**+0.3**
BBLS	**Lazići**	**5.12 319**	*e* Pn	**Pn**	**07 10 58.4**	**+0.7**
MTUR	**Matau**	**5.17 8** ⇑	*i* P	**Pn**	**07 10 59.3**	**+0.9**
ARR	**Arges**	**5.27 4** ⇑	*i* P	**Pn**	**07 11 00.3**	**+0.5**
LOT	**Lotru**	**5.34 358** ⇓	*i* P	**Pn**	**07 11 00.8**	**0.0**
VOIR		**5.37 7** ⇓	*i* P	**Pn**	**07 11 01.8**	**+0.6**
HARR	**Harsova**	**5.39 31** ⇑	*i* P	**Pn**	**07 11 01.6**	**+0.2**
TIRR	**Tirgusor**	**5.41 35** ⇓	*i* P	**Pn**	**07 11 01.7**	**+0.2**
TIRR	**Tirgusor**	**5.41 35**	S	**Sn**	**07 12 05.6**	**+1.7**
MLR	**Muntele Rosu**	**5.55 14**	Pn	**Pn**	**07 11 03.5**	**-0.1**
	comp=E,2.1nm,0.3s,baz=168,slow=5.9,SNR=23					
MLR			Lg	Lg	07 12 38.3	
	baz=139,slow=20,SNR=1.6					
MLR	**Muntele Rosu**	**5.55 14** ⇑	*i* P	**Pn**	**07 11 04.8**	**+1.1**
MATE	**Matera**	**5.66 278** ⇑	*i* P	**Pn**	**07 11 04.2**	**-0.8**
TIP	**Timpagrande**	**5.73 263** ⇓	*i* P	**Pn**	**07 11 04.9**	**-1.2**
TIP	**Timpagrande**	**5.73 263**	S	**Sn**	**07 12 10.0**	**-2.0**
BZS	**Buzias**	**5.79 343** ⇑	*i* P	**Pn**	**07 11 06.4**	**-0.5**
BZS	**Buzias**	**5.79 343**	S	**Sn**	**07 12 12.9**	**-0.6**
CFR	**Carcaliu**	**5.88 29** ⇑	*i* P	**Pn**	**07 11 08.2**	**+0.1**
PLOR	**Plostina**	**6.04 17** ⇓	*i* P	**Pn**	**07 11 11.6**	**+1.3**
VRI	**Vrincioaia**	**6.07 18** ⇓	*i* P	**Pn**	**07 11 12.0**	**+1.2**
DRGR		**6.75 352** ⇓	*i* P	**Pn**	**07 11 21.0**	**+0.9**
BIZ	**Bicaz**	**6.98 11** ⇑	*i* P	**Pn**	**07 11 24.6**	**+1.4**
BRTR	**Keskin Array B**	**7.36 90**	Pn	**Pn**	**07 11 29.2**	**+0.6**
	comp=E,0.8nm,0.3s,baz=262,slow=11,SNR=14					
BURAR	**Bucovina Array**	**7.55 6** ⇓	*i* P	**Pn**	**07 11 32.2**	**+1.1**
VAE	**Valguarnera**	**7.99 254**	Pn	Pn	07 11 42.2	+5.0
	comp=E,2.4nm,0.3s,baz=118,slow=7.4,SNR=4.2					
AKASG	**Malin Array Be**	**11.19 17**	Pn	**Pn**	**07 12 20.5**	**-0.3**
	comp=E,1.2nm,0.3s,baz=200,slow=11,SNR=3.0					
GERES	**GERESS Array B**	**11.45 323**	Pn	**Pn**	**07 12 25.4**	**+1.0**
	comp=E,0.2nm,0.3s,baz=134,slow=14,SNR=2.1					
HFS	**Hagfors**	**21.07 345**	P	**P**	**07 14 25.5**	**+0.4**
	comp=E,2.2nm,0.9s,baz=186,slow=10,SNR=2.4					
HFS			LR	LR	07 22 24.3	
	comp=E,26nm,19.0s,baz=72,slow=36					
FINES	**FINESS Array B**	**21.40 3**	P	**P**	**07 14 30.5**	**+1.9**
	comp=E,2.1nm,0.9s,baz=194,slow=17,SNR=3.0					
FINES			LR	LR	07 22 22.3	
	comp=E,43nm,20.6s,baz=90,slow=36					
NOA	**NORSAR Array B**	**22.41 343**	P	**P**	**07 14 39.3**	**-0.2**
	comp=E,0.6nm,0.8s,baz=153,slow=4.9,SNR=2.6					
EKA	**Eskdalemuir Ar**	**23.61 319**	P	**P**	**07 14 50.7**	**-1.2**
	comp=E,0.6nm,0.4s,baz=116,slow=11,SNR=3.3					
TORD	**Torodi Ar. Bea**	**33.30 223**	P	**P**	**07 16 19.4**	**+0.6**
	comp=E,0.4nm,0.5s,baz=36,slow=9.5,SNR=4.9					
SPITS	**Spitsbergen Ar**	**38.31 357**	LR	LR	07 33 37.3	
	comp=E,36nm,19.0s,baz=75,slow=38					
MKAR	**Makanchi Array**	**41.94 61**	P	**P**	**07 17 33.1**	**+1.3**
	comp=E,1.2nm,0.6s,baz=268,slow=8.5,SNR=8.2					

*IDC **19** 07:13:05.9±1.4,21.77S×173.66W,h0km,mb3.7/3, mb1 1.1/4,mb1mx3.8/27,mbtmp3.8/4,ML3.0/1,Error ellipse: s-maj=86.7km s-min=24.5km az=160.0*

ISC 19 07:13:10.3±1.1,22.1S±0.5×173.5W±0.1,h35km,n6, σt1s19/7,mb3.8/3,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**12.78**	**89**	Pn	**Pn**	**Pn**	**07 16 09.3**	**-0.3**
	0.9nm,0.3s,baz=264,slow=10,SNR=5.5							
RAR				Sn	Sn	Sn	07 18 21.4	-9.3
	0.4nm,0.3s,baz=245,slow=18,SNR=2.4							
ASAR	**Alice Springs**	**48.27**	**257**	P	**P**	**P**	**07 21 48.0**	**-0.3**
	0.8nm,0.6s,baz=100,slow=8.0,SNR=9.5							
ASAR				PcP	**PcP**	**PcP**	**07 23 17.0**	**+2.0**
	0.3nm,0.7s,baz=105,slow=4.3,SNR=2.6							
WRA	**Warramunga Arr**	**48.56**	**262**	P	**P**	**P**	**07 21 49.6**	**-1.0**
	0.5nm,0.5s,baz=100,slow=8.3,SNR=20							
NVAR	**Mina Array Bea**	**79.37**	**41**	P	**P**	**P**	**07 25 13.5**	**+0.4**
	0.6nm,0.8s,baz=226,slow=8.6,SNR=3.0							
EKA	**Eskdalemuir Ar**	**146.02**	**10**	PKPbc	**PKPbc**	**PKPbc**	**07 32 45.7**	**-0.4**
	0.5nm,0.3s,baz=354,slow=6.4,SNR=3.4							
AKASG	**Malin Array Be**	**146.37**	**334**	PKPbc	**PKPbc**	**PKPbc**	**07 32 46.9**	**-0.4**
	0.6nm,0.4s,baz=40,slow=4.0,SNR=4.1							

MEX 19 07:20:41.6±0.7,17.96N×100.55W,h56km±12km,MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.38**	**31**	*e*P	Pn	Pn	07 20 50.5	-1.5
ARIG				*e*S	Sn	Sn	07 20 58.0	-1.6
MEIG	**Mezcala**	**0.89**	**92**	*e*P	Pn	Pn	07 20 56.0	-2.1
MEIG				*e*S	Sn	Sn	07 21 08.2	-2.1
ZIIG	**Zihuatanejo**	**0.94**	**248**	*e*P	Pn	Pn	07 20 56.5	-2.1
ZIIG				*e*S	Sn	Sn	07 21 09.6	-1.6
PLIG	**Platanillo**	**1.09**	**66**	*e*P	Pn	Pn	07 20 58.6	-2.2
PLIG				*e*S	Sn	Sn	07 21 12.8	-2.2

*ISCJB **19** 07:22:14.4±0.9,48.7N±0.2×28.1W±0.2,h10km,mb3.8/9, MS3.3/11,Error ellipse: s-maj=25.9km s-min=17.7km az=3.7*

*IDC **19** 07:22:15.0±1.1,48.66N×28.13W,h0km,mb3.7/9, mb1 3.9/9,mb1mx3.6/58,mbtmp3.7/9,MS3.3/12, Ms1 3.3/12,ms1mx3.1/43,Error ellipse: s-maj=35.0km s-min=21.6km az=180.0*

ISC 19 07:22:16.5±1.0,48.7N±0.2×28.1W±0.1,h10km,n19, σt0s92/10,mb3.9/9,MS3.2/11,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**19.45**	**109**	LR	LR	LR	07 32 48.5	
	comp=Z,57nm,18.5s,baz=0.0,slow=32							
NOA	**NORSAR Array B**	**25.36**	**46**	LR	LR	LR	07 36 29.9	
	comp=Z,48nm,18.4s,baz=275,slow=34							
DAVOX	**Davos/Dischmat**	**25.46**	**80**	LR	LR	LR	07 37 06.1	
	comp=Z,104nm,18.9s,slow=35							
GERES	**GERESS Array B**	**27.32**	**74**	LR	LR	LR	07 38 44.7	
	comp=Z,62nm,18.3s,baz=283,slow=36							
VRAC	**Vranov**	**29.02**	**72**	LR	LR	LR	07 39 29.8	
	comp=Z,59nm,18.1s,baz=288,slow=36							
KEST	**Kesra**	**30.30**	**101**	LR	LR	LR	07 38 38.9	
	comp=Z,41nm,19.1s,baz=294,slow=32							
FINES	**FINESS Array B**	**32.54**	**46**	LR	LR	LR	07 40 22.7	
	comp=Z,48nm,21.8s,baz=260,slow=33							
ARCES	**ARCESS Array B**	**32.95**	**31**	P	**P**	**P**	**07 28 49.4**	**-1.3**
	1.6nm,0.7s,baz=259,slow=9.6,SNR=2.0							
AKASG	**Malin Array Be**	**36.36**	**65**	P	**P**	**P**	**07 29 20.0**	**-0.4**
	1.1nm,0.4s,baz=285,slow=8.6,SNR=5.8							
TORD	**Torodi Ar. Bea**	**43.16**	**135**	P	**P**	**P**	**07 30 17.2**	**-0.1**
	0.5nm,0.8s,baz=343,slow=7.8,SNR=2.5							
TORD				LR	LR	LR	07 46 43.4	
	comp=Z,58nm,18.5s,baz=320,slow=34							
BRTR	**Keskin Array B**	**44.07**	**78**	LR	LR	LR	07 48 31.4	
	comp=Z,25nm,20.7s,baz=273,slow=36							
DBIC	**Dimbokro**	**46.27**	**147**	LR	LR	LR	07 46 52.8	
	comp=Z,26nm,18.7s,baz=342,slow=32							
PDAR	**Pinedale Array**	**54.60**	**297**	P	**P**	**P**	**07 31 45.0**	**-0.2**
	0.4nm,0.7s,baz=54,slow=7.5,SNR=4.5							
PDAR				LR	LR	LR	07 52 16.6	
	comp=Z,27nm,19.7s,baz=74,slow=33							
ILAR	**Eielson Array**	**57.33**	**333**	P	**P**	**P**	**07 32 05.0**	**+0.9**
	1.0nm,0.9s,baz=44,slow=5.1,SNR=8.1							
BVAR	**Borovoye Array**	**57.49**	**45**	P	**P**	**P**	**07 32 05.3**	**-0.1**
	0.8nm,0.7s,baz=318,slow=6.2,SNR=5.4							
TXAR	**Lajitas Array**	**59.38**	**281**	P	**P**	**P**	**07 32 18.4**	**-0.7**
	0.3nm,0.7s,baz=64,slow=8.0,SNR=6.6							
TXAR				LR	LR	LR	07 57 22.5	
	comp=Z,62nm,18.2s,baz=0.0,slow=36							
KURBB	**Kurchatov Arra**	**62.85**	**43**	P	**P**	**P**	**07 32 42.1**	**0.0**
	0.9nm,0.9s,baz=307,slow=7.1,SNR=5.1							
MKAR	**Makanchi Array**	**67.34**	**44**	P	**P**	**P**	**07 33 12.8**	**+1.4**
	1.2nm,0.7s,baz=320,slow=5.4,SNR=5.7							
ASAR	**Alice Springs**	**151.28**	**36**	PKPbc	**PKPbc**	**PKPbc**	**07 42 11.0**	**+0.8**
	2.0nm,0.7s,baz=348,slow=2.0,SNR=22							

*ISCJB **19** 07:31:18.8±0.2,36.57N±0.02×71.00E±0.03,h188km, mb4.0/34, Error ellipse: s-maj=3.5km s-min=2.5km az=148.9*

*IDC **19** 07:31:19.4±2.0,36.50N×71.17E,h192km±18km,mb3.8/23, mb1 3.9/30,mb1mx3.7/64,mbtmp4.3/30,MS3.2/1, Ms1 3.2/1,ms1mx2.2/55,Error ellipse: s-maj=12.4km s-min=10.5km az=161.0*

*BJI **19** 07:31:20.8,36.80N×70.90E,h208km,mb4.6/11,mB4.6/4*

*NEIC **19** 07:31:21.6±0.7,36.63N×71.11E,h211km±6km,mb4.2/9, Error ellipse: s-maj=10.8km s-min=6.3km az=135.0*

*MOS **19** 07:31:21.5±0.9,36.65N×71.16E,h223km,mb4.0/24,Error ellipse: s-maj=9.9km s-min=5.0km az=82.2*

*NNC **19** 07:31:24.4±2.7,36.92N×70.93E,h198km±24km,mb3.4, mpv4.5,Error ellipse: s-maj=24.3km s-min=17.0km az=171.0*

ISC 19 07:31:19.9±0.3,36.66N±0.04×71.06E±0.04,h188km,n161, σ2s07/189,mb4.1/34,19C-14D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.68**	**218**	*e*Pn	**Pn**	**Pn**	**07 32 09.9**	**+4.5**
KBL	**Kabul**	**2.68**	**218**	*e*PN	**Pn**	**Pn**	**07 32 09.9**	**+4.5**
CEP	**Cherat**	**2.92**	**166**	P	**Pn**	**Pn**	**07 32 12.3**	**+4.1**
CEP				S	**Sn**	**Sn**	**07 32 50.0**	**+4.3**
CHCP	**Chirah Chowk**	**3.50**	**148**	P	**Pn**	**Pn**	**07 32 19.1**	**+4.0**
SFK	**Sufi-Kurgan**	**3.86**	**29**	⇓P	**Pn**	**Pn**	**07 32 22.8**	**+3.0**
	40nm,0.5s							
SFK				⇓S	**Sn**	**Sn**	**07 33 07.9**	**+1.4**
	471nm,0.8s							
SFK	**Sufi-Kurgan**	**3.86**	**29**	*i* PN	**Pn**	**Pn**	**07 32 22.7**	**+3.0**
SFK				pmax	pmax			
	comp=Z,40nm,0.4s							
THW	**Thamme Wali**	**3.90**	**172**	P	**Pn**	**Pn**	**07 32 23.3**	**+3.2**
KSH	**Kashi**	**4.81**	**52**	P	**Pn**	**Pn**	**07 32 29.8**	**-1.9**
KSH				S	**Sn**	**Sn**	**07 33 19.8**	**-8.3**
KSH				smax	smax			
	comp=Z,820nm,0.5s							
KSH				smax	smax			
	comp=Z,790nm,0.6s							
TAS	**Tashkent**	**4.86**	**344**	⇑P	**Pn**	**Pn**	**07 32 35.6**	**+3.4**
	comp=Z,106nm,0.4s							
TAS				⇑S	**Sn**	**Sn**	**07 33 29.7**	**+0.5**
	comp=Z,2μm,0.6s							
TAS	**Tashkent**	**4.86**	**344**	PN	**Pn**	**Pn**	**07 32 35.6**	**+3.4**
TAS				pmax	pmax			
	comp=Z,107nm,0.4s							
SARP	**Sargodha**	**4.91**	**164**	P	**Pn**	**Pn**	**07 32 35.4**	**+2.4**
AML	**Almayashu**	**5.83**	**20**	P	**Pn**	**Pn**	**07 32 47.6**	**+2.5**
	SNR=75							
MNAS	**Manas**	**5.92**	**10**	⇑P	**Pn**	**Pn**	**07 32 49.0**	**+2.8**
	comp=Z,16nm,0.4s							
MNAS				⇑S	**Sn**	**Sn**	**07 33 53.9**	**-0.2**
	comp=Z,581nm,1.1s							
MNAS	**Manas**	**5.92**	**10**	*i* PN	**Pn**	**Pn**	**07 32 48.9**	**+2.8**
MNAS				pmax	pmax			
	comp=Z,16nm,0.4s							
NRN	**Naryn**	**6.12**	**37**	*e*Pn	**Pn**	**Pn**	**07 32 49.8**	**+0.9**
NRN	**Naryn**	**6.12**	**37**	*e*PN	**Pn**	**Pn**	**07 32 49.8**	**+0.9**
UCH	**Uchtor**	**6.17**	**25**	P	**Pn**	**Pn**	**07 32 52.2**	**+2.6**
	SNR=99							
DHRM	**DHARAMSHALA**	**6.17**	**134**	*e*P	**Pn**	**Pn**	**07 32 51.0**	**+1.5**
DHRM				*e*S	**Sn**	**Sn**	**07 33 59.2**	**-0.9**
EKS2	**Erkin-Say**	**6.35**	**18**	P	**Pn**	**Pn**	**07 32 54.2**	**+2.6**
	SNR=20							
KK31	**Karatay Array**	**6.45**	**356**	⇑P	**Pn**	**Pn**	**07 32 55.2**	**+2.3**
	comp=Z,8.4nm,0.3s,baz=176,slow=12,SNR=473							
KK31				⇓S	**Sn**	**Sn**	**07 34 03.4**	**-2.9**
	comp=Z,72nm,0.4s,baz=185,slow=23,SNR=27							
**K

	comp=N,52nm,0.5s									
JIRN	**Jiri**	**15.63**	**121**	*e*P		**P**	**07 34 50.9**	**0.0**
	comp=N,182nm,0.4s									
RAMN	**Ramite**	**16.36**	**122**	*e*P		**Pn**	**07 34 59.3**	**-0.1**
	comp=N,54nm,0.4s									
BVA0	**Borovoye Array**	**16.37**	**359**	⇑P		**Pn**	**07 35 00.7**	**+1.7**
	comp=N,1.7nm,0.6s,baz=166,slow=8.8,SNR=16									
BVA0				⇓S		**S**	**07 37 58.8**	**-0.8**
	comp=N,8.3nm,1.4s,baz=188,slow=27,SNR=5.6									
BVA0	**Borovoye Array**	**16.37**	**359**	*i* P		**Pn**	**07 35 00.7**	**+1.7**
BVA0				pmax	pmax					
	comp=Z,1.0nm,0.4s									
BVAR	**Borovoye Array**	**16.37**	**359**	P		**Pn**	**07 35 00.1**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=174,slow=13,SNR=15									
BRVK	**Borovoye**	**16.41**	**358**	⇓P		**Pn**	**07 34 59.7**	**+0.3**
	comp=Z,3.4nm,0.8s									
BRVK				⇓S		**S**	**07 37 59.1**	**-1.3**
	comp=Z,5.1nm,0.8s									
BRVK	**Borovoye**	**16.41**	**358**	*e*P		**P**	**07 34 57.1**	**-1.8**
	comp=Z,3.9nm,0.8s									
BRVK	**Borovoye**	**16.41**	**358**	*ce*P		**Pn**	**07 35 00.5**	**+1.0**
BRVK				pmax	pmax					
	comp=Z,1.0nm,0.6s									
AKTO	**Aktyubinsk**	**16.66**	**330**	P		**Pn**	**07 35 04.0**	**+1.4**
	comp=Z,3.4nm,0.3s,baz=138,slow=11,SNR=39									
AKTO				S		**S**	**07 38 03.1**	**-2.8**
	comp=Z,0.3nm,0.3s,baz=178,slow=8.6,SNR=3.4									
AKTO	**Aktyubinsk**	**16.66**	**330**	⇑P		**Pn**	**07 35 03.6**	**+1.0**
	comp=Z,18nm,0.8s									
AKTO				⇓S		**S**	**07 38 04.1**	**-1.8**
	comp=Z,9.5nm,0.9s									
TAPN	**Taplejung**	**16.88**	**119**	*e*P		**Pn**	**07 35 06.2**	**+0.5**
	comp=Z,40nm,0.4s									
NGP	**Nagpur**	**16.95**	**154**	*e*P		**P**	**07 35 05.2**	**0.0**
ODAN	**Odare**	**16.96**	**121**	*e*P		**Pn**	**07 35 06.9**	**+0.3**
	comp=Z,86nm,0.8s									
UOSS	**Minazif**	**17.27**	**232**	*e*P		**P**	**07 35 07.9**	**-0.7**
	comp=Z,6.3nm,0.9s									
GTK	**Tadong**	**17.53**	**117**	*e*P		**Pn**	**07 35 12.4**	**-0.9**
DGZ	**Jazzator, Alta**	**17.62**	**37**	*d* iP		**Pn**	**07 35 13.9**	**-0.2**
BOK	**Bokaro**	**18.10**	**131**	*e*P		**P**	**07 35 18.2**	**+0.6**
LSA	**Lhasa**	**18.18**	**107**	P		**Pn**	**07 35 22.1**	**+1.0**
LSA				pmax	pmax					
	comp=Z,12nm,0.6s									
ZAA0	**Zalesovo Array**	**19.75**	**25**	*e*P		**P**	**07 35 34.8**	**-0.4**
	comp=Z,4.8nm,0.6s									
ZALV	**Zalesovo Beam**	**19.75**	**25**	P		**P**	**07 35 35.6**	**+0.5**
	comp=Z,2.3nm,0.3s,baz=221,slow=12,SNR=17									
ZALV	**Zalesovo Beam**	**19.75**	**25**	*e*P		**P**	**07 35 34.7**	**-0.5**
ZAA1	**Zalesovo Array**	**19.75**	**25**	*e*P		**P**	**07 35 35.6**	**+0.4**
TURI	**Tura**	**19.84**	**119**	*e*P		**P**	**07 35 36.3**	**-0.1**
TEZP	**TEZPUR**	**21.00**	**112**	*e*P		**P**	**07 35 48.7**	**-0.1**
ZIRO	**ZIRO**	**21.31**	**109**	*e*P		**P**	**07 35 52.9**	**+0.7**
KBZ	**Khabaz**	**22.57**	**297**	P		**P**	**07 36 03.2**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=153,slow=9.0,SNR=2.4									
KIV	**Kislovodsk**	**22.76**	**297**	*e*P		**P**	**07 36 05.9**	**-0.2**
KIV				pmax	pmax					
	comp=Z,9.0nm,1.1s									
GTA	**Gaotai**	**22.77**	**74**	*e*P		**P**	**07 36 12.5**	**+6.2**
GTA				pP	pP		07 36 49.4	+9.2
GTA				sP	sP		07 37 16.8	+13
GTA				pmax	pmax					
	comp=Z,3.0nm,0.8s									
RAYN	**Ar Rayn**	**25.61**	**246**	*e*P		**P**	**07 36 32.8**	**+0.7**
	comp=Z,3.4nm,0.8s									
RAYN	**Ar Rayn**	**25.61**	**246**	*e*P		**P**	**07 36 32.8**	**+0.7**
RAYN				pmax	pmax					
	comp=Z,3.0nm,0.8s									
SONA0	**Songino Array**	**28.20**	**56**	*e*P		**P**	**07 36 53.8**	**-1.3**
SONM	**Songino Array**	**28.20**	**56**	P		**P**	**07 36 53.8**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=268,slow=9.6,SNR=6.1									
BR101	**Keskin Array S**	**29.43**	**287**	*e*P		**P**	**07 37 08.1**	**+2.1**
BRTR	**Keskin Array B**	**29.43**	**287**	P		**P**	**07 37 08.1**	**+2.1**
	comp=Z,1.2nm,0.6s,baz=98,slow=9.5,SNR=5.5									
BRTR	**Keskin Array B**	**29.43**	**287**	*ce*P		**P**	**07 37 09.0**	**+3.0**
BRTR				pmax	pmax					
	comp=Z,1.0nm,0.6s									
OBN	**Obninsk**	**29.85**	**319**	*de*P		**P**	**07 37 10.1**	**+0.8**
OBN				*e**PP		**pP**	**07 37 54.6**	**+6.7**
OBN				*e*			07 38 20.9	
OBN				*e*S		**S**	**07 41 49.9**	**-2.0**
OBN				pmax	pmax					
	comp=Z,6.0nm,0.9s									
PALK	**Pallekele**	**30.55**	**161**	*ce*P		**P**	**07 37 20.4**	**+4.5**
HHC	**Hu-ho-hao-te**	**31.66**	**70**	*e*P		**P**	**07 37 27.0**	**+1.4**
HHC				pmax	pmax					
	comp=Z,9.0nm,0.6s									
AKASG	**Malin Array Be**	**32.88**	**309**	P		**P**	**07 37 36.2**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=82,slow=7.8,SNR=3.9									
NRIK	**Noril'sk**	**33.96**	**10**	P		**P**	**07 37 45.2**	**+0.2**
	comp=Z,3.7nm,0.5s,baz=187,slow=6.0,SNR=6.7									
MLR	**Muntele Rosu**	**34.74**	**299**	P		**P**	**07 37 53.8**	**+1.6**
	comp=Z,3.5nm,0.8s,baz=159,slow=17,SNR=6.7									
FIA1	**FINESS Array S**	**37.38**	**326**	*e*P		**P**	**07 38 15.3**	**+1.2**
FIA0	**FINESS Array S**	**37.38**	**326**	*e*P		**P**	**07 38 15.4**	**+1.2**
FIA0	**FINESS Array S**	**37.38**	**326**	*e*P		**P**	**07 38 15.4**	**+1.2**
FINES	**FINESS Array B**	**37.38**	**326**	P		**P**	**07 38 15.4**	**+1.2**
	comp=Z,2.5nm,0.3s,baz=122,slow=9.6,SNR=21									
FINES	**FINESS Array B**	**37.38**	**326**	*ce*P		**P**	**07 38 15.3**	**+1.1**
FINES				pmax	pmax					
	comp=Z,3.0nm,0.3s									
ARA0	**ARCESS Array S**	**41.01**	**338**	*e*P		**P**	**07 38 45.5**	**+1.3**
ARCES	**ARCESS Array B**	**41.01**	**338**	P		**P**	**07 38 45.5**	**+1.3**
	comp=Z,4.6nm,0.6s,baz=116,slow=8.2,SNR=34									
GERES	**GERESS Array B**	**42.88**	**305**	P		**P**	**07 38 59.0**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=82,slow=8.0,SNR=3.3									
GERES	**GERESS Array B**	**42.88**	**305**	P		**P**	**07 38 59.0**	**-0.7**
NC405	**NORSAR Array S**	**44.05**	**323**	*e*P		**P**	**07 39 09.1**	**+0.4**
NC602	**NORSAR Array S**	**44.09**	**323**	*e*P		**P**	**07 39 09.2**	**+0.2**
NC303	**NORSAR Array S**	**44.22**	**323**	*e*P		**P**	**07 39 10.9**	**+0.8**
NB201	**NORSAR Array S**	**44.24**	**323**	*e*P		**P**	**07 39 10.9**	**+0.6**
NB2	**NORSAR Subarra**	**44.28**	**323**	P		**P**	**07 39 10.8**	**+0.2**
	comp=Z,2.5nm,0.4s,baz=98,slow=7.9									
NB200	**NORSAR Array S**	**44.28**	**323**	*e*P		**P**	**07 39 10.8**	**+0.2**
NOA	**NORSAR Array B**	**44.28**	**323**	P		**P**	**07 39 10.8**	**+0.2**
	comp=Z,3.0nm,0.5s,baz=104,slow=7.3,SNR=16									
NC204	**NORSAR Array S**	**44.52**	**323**	*e*P		**P**	**07 39 13.2**	**+0.6**
KLR	**Kul'dur**	**45.01**	**54**	*i* P		**P**	**07 39 15.1**	**-1.4**
TIXI	**Tiksi**	**45.61**	**22**	*ce*P		**P**	**07 39 20.0**	**-0.8**
TIXI				pmax	pmax					
	comp=Z,3.0nm,0.9s									
SPITS	**Spitsbergen Ar**	**47.35**	**347**	P		**P**	**07 39 36.0**	**+1.7**
	comp=Z,1.3nm,0.3s,baz=128,slow=9.6,SNR=12									
KMBO	**Kilima Mbogo**	**48.98**	**228**	*ce*P		**P**	**07 39 49.0**	**+1.2**
KMBO				pmax	pmax					
	comp=Z,1.0nm,0.3s									
JOW	**Kunigami**	**49.01**	**84**	LR		LR	08 02 06.5			
	comp=Z,26nm,20.8s,baz=328,slow=38									
EKA	**Eskdalemuir Ar**	**52.20**	**316**	P		**P**	**07 40 11.2**	**0.0**
	comp=Z,0.9nm,0.5s,baz=94,slow=7.2,SNR=3.4									
ESDC	**Sonseca Array**	**57.42**	**298**	P		**P**	**07 40 47.5**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=63,slow=7.4,SNR=3.1									
BILL	**Bilibino**	**58.44**	**26**	⇑*e*P		**P**	**07 40 54.7**	**-0.8**
BILL				*e**PP		**PcP**	**07 41 47.9**	**+3.9**
BILL				*e*			07 43 03.8	
BILL				*e*PPP		PPP	07 44 30.8	
BILL				pmax	pmax					
	comp=Z,2.0nm,1.0s									
TOA1	**Torodi Ar. Sit**	**65.77**	**269**	*e*P		**P**	**07 41 41.7**	**-3.4**
TOA0	**Torodi Ar. Sit**	**65.77**	**269**	*e*P		**P**	**07 41 43.7**	**-1.4**
	comp=Z,5.1nm,0.7s									
TORD	**Torodi Ar. Bea**	**65.77**	**269**	P		**P**	**07 41 41.7**	**-3.4**
	comp=Z,3.3nm,0.6s,baz=65,slow=5.2,SNR=18									
SFJD	**Kangerlussuaq**	**67.62**	**339**	P		**P**	**07 41 54.5**	**-1.4**
	comp=Z,11nm,0.9s,baz=101,slow=10,SNR=3.4									
MATP	**Matopo**	**69.56**	**223**	P		**P**	**07 42 07.4**	**-1.3**
	comp=Z,3.3nm,0.3s,baz=12,slow=6.5,SNR=12									
INK	**Inuvik**	**73.74**	**9**	P		**P**	**07 42 33.3**	**+0.5**
	comp=Z,8.7nm,0.5s,baz=331,slow=5.7,SNR=26									
INK	**Inuvik**	**73.74**	**9**	*e*P		**P**	**07 42 33.5**	**+0.7**
	comp=Z,8.8nm,0.5s									
INK	**Inuvik**	**73.74**	**9**	*e*P		**P**	**07 42 33.5**	**+0.7**
INK				pmax	pmax					
	comp=Z,9.0nm,0.5s									
ILAR	**Eielson Array**	**74.61**	**16**	P		**P**	**07 42 37.1**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=326,slow=4.5,SNR=18									
ILB	**Eielson Array**	**74.61**	**16**	*e*P		**P**	**07 42 37.2**	**-0.8**
DBIC	**Dimbokro**	**74.75**	**267**	P		**P**	**07 42 37.4**	**-2.1**
	comp=Z,6.1nm,1.1s,baz=22,slow=8.0,SNR=4.3									
DBIC	**Dimbokro**	**74.75**	**267**	*e*P		**P**	**07 42 37.5**	**-2.1**
	comp=Z,4.1nm,1.0s									
DBIC	**Dimbokro**	**74.75**	**267**	*e*P		**P**	**07 42 37.5**	**-2.1**
DBIC				pmax	pmax					
	comp=Z,4.0nm,1.0s									
LBTB	**Lobatse**	**74.83**	**222**	P		**P**	**07 42 39.6**	**-0.2**
	comp=Z,3.1nm,0.4s,baz=34,slow=7.2,SNR=7.5									
LBTB	**Lobatse**	**74.83**	**222**	*e*P		**P**	**07 42 39.9**	**+0.1**
	comp=Z,5.5nm,1.1s									
LBTB	**Lobatse**	**74.83**	**222**	*e*P		**P**	**07 42 39.9**	**+0.1**
LBTB				pmax	pmax					
	comp=Z,6.0nm,1.1s									
BOSA	**Boshof**	**77.90**	**220**	P		**P**	**07 42 56.1**	**-0.9**
	comp=Z,3.3nm,0.8s,baz=40,slow=4.0,SNR=8.2									
YKA	**Yellowknife Ar**	**81.08**	**3**	P		**P**	**07 43 13.5**	**-0.1**
	comp=Z,7.7nm,0.4s,baz=351,slow=5.4,SNR=43									
YKB5	**Yellowknife Ar**	**81.08**	**3**	*e*P		**P**	**07 43 13.8**	**+0.2**
WR1	**Warramunga Arr**	**82.03**	**122**	*e*P		**P**	**07 43 17.0**	**-2.3**
	comp=Z,3.2nm,0.6s									
WRA	**Warramunga Arr**	**82.03**	**122**	P		**P**	**07 43 17.0**	**-2.3**
	comp=Z,2.2nm,0.7s,baz=325,slow=5.0,SNR=19									
WRAB	**Tennant Creek**	**82.04**	**122**	*ce*P		**P**	**07 43 16.3**	**-3.0**
WRAB				pmax	pmax					
	comp=Z,3.0nm,0.9s									
ASAR	**Alice Springs**	**84.31**	**125**	P		**P**	**07 43 28.9**	**-1.9**
	comp=Z,2.7nm,0.7s,baz=318,slow=5.2,SNR=18									
ASAR	**Alice Springs**	**84.31**	**125**	P		**P**	**07 43 29.0**	**-1.9**
ASAR				pmax	pmax					
	comp=Z,3.0nm,0.7s									
PLCA	**Paso Flores**	**149.93**	**250**	PKPbc		**PKPbc**	**07 50 46.9**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=34,slow=1.6,SNR=10									
PLCA	**Paso Flores**	**149.93**	**250**	*e*PKPdf		**PKPdf**	**07 50 41.7**	**-1.0**
PLCA				*e*PKPbc		**PKPbc**	**07 50 47.1**	**-0.7**
PLCA				*e*PKPab		**PKPab**	**07 50 53.2**	**-0.9**
PLCA	**Paso Flores**	**149.93**	**250**	*e*PKIKP		**PKPdf**	**07 50 41.7**	**-1.0**
PLCA				*e*			07 50 53.3	

IDC 19 07:38:12.0±4.8, 9.24S×120.63E, h140km±79km, mb3.7/1, mb1 3.4/4, mb1mx3.1/42, mbtmp3.7/4, Error ellipse: s-maj=185.6km s-min=32.1km az=34.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.14**	**108**	P		Pn	07 39 01.7	+0.8
	3.1nm,0.3s,baz=276,slow=9.2,SNR=2.5							
BATI				S		Sn	07 39 38.7	+0.1
	15nm,0.3s,baz=217,slow=3.9,SNR=4.0							
WRA	**Warramunga Arr**	**16.99**	**130**	P		P	07 41 59.5	-1.5
	0.3nm,0.3s,baz=309,slow=12,SNR=16							
WRA				S		S	07 45 01.7	-9.4
	0.2nm,0.3s,baz=302,slow=25,SNR=6.5							
ASAR	**Alice Springs**	**19.15**	**140**	P		P	07 42 25.4	+0.7
	0.3nm,0.3s,baz=312,slow=9.6,SNR=15							
ASAR				S		S	07 45 55.5	+1.0
	0.0nm,0.3s,baz=310,slow=20,SNR=3.5							
STKA	**Stephens Creek**	**29.76**	**142**	P		P	07 44 05.0	-0.5
	0.8nm,0.3s,baz=314,slow=9.2,SNR=3.6							

*ISCJB **19** 07:39:20.3±0.7, 4.76S±0.10×68.66E±0.1, h10km, mb4.4/22, MS3.9/27, Error ellipse: s-maj=19.5km s-min=9.1km az=142.7*

*IDC **19** 07:39:20.7±0.9, 4.78S×68.58E, h0km, mb4.3/15, mb1 4.4/16, mb1mx4.1/49, mbtmp4.3/16, ML4.5/1, MS3.8/28, Ms1 3.8/28, ms1mx3.7/41, Error ellipse: s-maj=31.0km s-min=15.9km az=49.0*

*NEIC **19** 07:39:23.1±0.4, 4.70S×68.66E, h10km, mb4.8/7, Error ellipse: s-maj=13.9km s-min=7.7km az=52.0*

*GCMT **19** 07:39:25.1±0.3, 4.79S±0.02×68.65E±0.02, h15km±2km, MW4.8/78, Moment Tensor Solution. s20,c22; s78,c103; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.39±.12; Mθθ-1.98±.09; Mφφ2.38±.11; Mrθ-0.30±.21; Mrφ-0.14±.09; Mθφ-0.40±.20; Best double couple: M◎2.24100×10^16 NP1:φs43.00000°, δ88.00000°, λ-13.00000°. NP2: φs133.00000°, δ77.00000°, λ-178.00000°. Principal axes: T 2.4380, Plg8.0000°, Azm89.0000°; N -0.3870, Plg77.0000°, Azm214.0000°; P -2.0440, Plg11.0000°, Azm357.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 07:39:22.7±0.8, 4.7S±0.1×68.7E±0.1, h10km, n71, σ0.8s75/45, mb4.5/22, MS3.9/27, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**2.83**	**125**	T		T	07 42 56.0	
	baz=302,slow=74							
H08N3	**Diego Garcia H**	**2.83**	**125**	T		T	07 42 55.8	
	baz=302,slow=74,SNR=141							
H08N1	**Diego Garcia H**	**2.85**	**125**	T		T	07 42 54.9	
	baz=302,slow=74,SNR=158							
DGAR	**Diego Garcia**	**4.63**	**126**	*e*Pn		**Pn**	**07 40 32.0**	**-0.7**
H08S3	**Diego Garcia H**	**4.78**	**127**	T		T	07 45 19.3	
	baz=311,slow=75,SNR=216							
H08S1	**Diego Garcia H**	**4.78**	**128**	T		T	07 45 21.0	
	baz=311,slow=75,SNR=98							
H08S2	**Diego Garcia H**	**4.80**	**128**	T		T	07 45 22.1	
	baz=311,slow=75,SNR=222							
PALK	**Pallekele**	**16.92**	**45**	Pn		**P**	**07 43 21.2**	**-0.6**
	1.7nm,0.3s,baz=293,slow=5.8,SNR=6.8							
PALK				LR		LR	07 47 45.5	
	comp=Z,502nm,21.0s,baz=115,slow=30							
PALK	**Pallekele**	**16.92**	**45**	*e*Pn		**P**	**07 43 21.4**	**-0.4**
	5.6nm,0.6s							
WSAR	**Wadi Sarin**	**29.46**	**341**	LR		LR	07 54 30.1	
	comp=Z,376nm,21.8s,baz=166,slow=31							
PSI	**Prapat**	**31.15**	**77**	LR		LR	07 57 09.6	
	comp=Z,488nm,18.6s,baz=269,slow=34							
KMBO	**Kilima Mbogo**	**31.56**	**276**	LR		LR	07 55 56.8	
	comp=Z,272nm,21.7s,baz=94,slow=32							
CMAR	**Chiang Mai Arr**	**37.70**	**52**	P		**P**	**07 46 38.1**	**-0.6**
	1.1nm,0.4s,baz=244,slow=9.9,SNR=6.4							
CMAR				LR		LR	07 59 55.7	
	comp=Z,107nm,21.4s,baz=236,slow=33							
LEM	**Lembang**	**38.81**	**95**	LR		LR	08 00 20.1	
	comp=Z,258nm,20.5s,baz=234,slow=32							
GEYT	**Alibeck**	**43.54**	**348**	LR		LR	08 04 28.6	
	comp=Z,148nm,20.4s,baz=330,slow=35							
AAK	**Ala-Archa**	**47.42**	**6**	P		**P**	**07 47 58.5**	**+0.9**
	7.5nm,1.0s,baz=192,slow=9.9,SNR=13							
BOSA	**Boshof**	**47.50**	**235**	LR		LR	08 05 08.1	
	comp=Z,151nm,20.2s,baz=40,slow=33							
H01W3	**Cape Leeuwin H**	**51.61**	**132**	T		T	08 43 48.4	
	baz=296,slow=75,SNR=21							
H01W2	**Cape Leeuwin H**	**51.61**	**132**	T		T	08 43 48.1	
	baz=296,slow=75,SNR=26							
H01W1	**Cape Leeuwin H**	**51.63**	**132**	T		T	08 43 48.2	
	baz=296,slow=75,SNR=20							
GTA	**Gaotai**	**52.47**	**30**	*e*P		P	07 48 40.8	+4.8
GTA				pP		sP	07 48 45.0	+4.6
GTA				sP		pP	07 48 47.8	+8.6
GTA				pmax	pmax			
	comp=Z,5.0nm,0.9s							
MK01	**Makanchi Array**	**52.67**	**12**	*e*P		**P**	**07 48 37.3**	**+0.1**
MK31	**Makanchi Array**	**52.69**	**12**	*e*P		**P**	**07 48 37.4**	**+0.1**
MK32	**Makanchi Array**	**52.69**	**12**	*e*P		**P**	**07 48 37.3**	**-0.1**
MKAR	**Makanchi Array**	**52.69**	**12**	P		**P**	**07 48 37.3**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=195,slow=7.9,SNR=10							
MKAR				LR		LR	08 11 10.3	
	comp=Z,59nm,18.2s,baz=194,slow=36							
MKAR	**Makanchi Array**	**52.69**	**12**	*e*P		**P**	**07 48 37.7**	**+0.3**
	comp=Z,18nm,0.9s							
NWAO	**Narrogin (SRO)**	**53.22**	**128**	LR		LR	08 06 31.1	
	comp=Z,106nm,19.5s,baz=40,slow=31							
KBZ	**Khabaz**	**53.52**	**337**	P		**P**	**07 48 43.2**	**-0.3**
KBZ				comp=Z,11nm,0.9s,baz=155,slow=6.4,SNR=15				
				LR		LR	08 11 16.7	
	comp=Z,50nm,19.8s,baz=150,slow=36							
XAN	**Xi'an**	**54.12**	**41**	P		P	07 48 57.0	+8.8
XAN				pP		sP	07 49 04.0	+11
XAN				pmax	pmax			
	comp=Z,6.0nm,1.2s							
ABKAR	**Akbulak array**	**54.28**	**353**	*e*P		**P**	**07 48 49.2**	**+0.3**
BRTR	**Keskin Array B**	**54.72**	**327**	P		**P**	**07 48 52.1**	**-0.4**
	comp=Z,1.8nm,0.9s,baz=144,slow=11,SNR=7.1							
BRTR				LR		LR	08 12 21.6	
	comp=Z,83nm,18.2s,baz=117,slow=36							
BR101	**Keskin Array S**	**54.72**	**327**	*e*P		**P**	**07 48 52.1**	**-0.4**
KURK	**Kurchatov**	**55.87**	**8**	*e*P		**P**	**07 49 00.9**	**+0.4**
	comp=Z,10.0nm,0.9s							
ZAA0	**Zalesovo Array**	**60.00**	**11**	*e*P		**P**	**07 49 28.9**	**-0.5**
	comp=Z,5.2nm,0.8s							
ZALV	**Zalesovo Beam**	**60.00**	**11**	P		**P**	**07 49 29.2**	**-0.1**
	comp=Z,4.9nm,0.6s,baz=206,slow=7.6,SNR=21							
ZALV				LR		LR	08 14 08.7	
	comp=Z,61nm,20.0s,baz=252,slow=35							
ZAA1	**Zalesovo Array**	**60.00**	**11**	*e*P		**P**	**07 49 29.2**	**-0.2**
SONA0	**Songino Array**	**61.92**	**28**	*e*P		**P**	**07 49 42.9**	**+0.2**
SONM	**Songino Array**	**61.92**	**28**	P		**P**	**07 49 42.9**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=210,slow=4.6,SNR=2.8							
SONM				LR		LR	08 16 24.7	
	comp=Z,208nm,20.3s,baz=190,slow=36							
MAW	**Mawson**	**62.91**	**182**	LR		LR	08 10 07.5	
	comp=Z,102nm,21.7s,baz=56,slow=29							
AKASG	**Malin Array Be**	**64.75**	**333**	P		**P**	**07 50 00.1**	**-1.1**
	comp=Z,2.4nm,0.7s,baz=134,slow=5.7,SNR=5.5							
AKASG				LR		LR	08 19 11.5	
	comp=Z,38nm,20.5s,baz=70,slow=37							
ASAR	**Alice Springs**	**65.47**	**114**	P		**P**	**07 50 06.9**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=283,slow=6.2,SNR=22							
ASAR				LR		LR	08 15 32.6	
	comp=Z,111nm,20.8s,baz=278,slow=33							
WR1	**Warramunga Arr**	**65.56**	**110**	*e*P		**P**	**07 50 07.7**	**+0.5**
	comp=Z,5.7nm,0.8s							
WRA	**Warramunga Arr**	**65.56**	**110**	P		**P**	**07 50 07.7**	**+0.5**
	comp=Z,5.3nm,0.7s,baz=284,slow=6.2,SNR=45							
WRA				LR		LR	08 14 41.6	
	comp=Z,96nm,21.7s,baz=285,slow=32							
WRAB	**Tennant Creek**	**65.56**	**110**	*e*P		**P**	**07 50 07.9**	**+0.7**
	comp=Z,8.3nm,0.8s							
WB2	**Warramunga Arr**	**65.57**	**110**	*e*P		**P**	**07 50 07.6**	**+0.3**
BBOO	**Buckleboo**	**68.50**	**123**	*e*P		**P**	**07 50 26.6**	**+0.9**
	comp=Z,4.4nm,0.8s							
TORD	**Torodi Ar. Bea**	**68.81**	**286**	LR		LR	08 20 06.4	
	comp=Z,46nm,19.1s,baz=335,slow=36							
KSRS	**Korea Array**	**69.15**	**47**	LR		LR	08 22 39.4	
	comp=Z,80nm,18.1s,baz=253,slow=38							
STKA	**Stephens Creek**	**73.04**	**122**	P		**P**	**07 50 51.6**	**-1.7**
	comp=Z,1.3nm,0.7s,baz=299,slow=13,SNR=3.5							
STKA				LR		LR	08 20 40.3	
	comp=Z,117nm,19.3s,baz=224,slow=34							
FINES	**FINESS Array B**	**73.68**	**340**	LR		LR	08 22 40.1	
	comp=Z,50nm,21.2s,baz=157,slow=35							
DBIC	**Dimbokro**	**74.25**	**278**	LR		LR	08 22 36.5	
	comp=Z,63nm,20.6s,baz=82,slow=35							
USRK	**Ussuriysk Ar.**	**74.63**	**42**	LR		LR	08 27 47.5	
	comp=Z,29nm,18.2s,baz=211,slow=39							
NRIK	**Noril'sk**	**75.03**	**7**	P		**P**	**07 51 04.4**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=166,slow=8.3,SNR=3.1							
NRIK				LR		LR	08 26 19.0	
	comp=Z,62nm,18.1s,baz=182,slow=38							
MAJO	**Matsushiro**	**76.58**	**51**	*e*P		**P**	**07 51 13.8**	**0.0**
MJAR	**Matsushiro Ar**	**76.58**	**51**	P		**P**	**07 51 13.8**	**0.0**
	comp=Z,0.9nm,0.3s,baz=259,slow=6.5,SNR=3.3							
MJAR				LR		LR	08 26 34.5	
	comp=Z,41nm,18.6s,baz=245,slow=37							
CTA	**Charters Tower**	**76.75**	**109**	P		**P**	**07 51 15.8**	**+0.7**
	comp=Z,3.4nm,0.8s,baz=257,slow=9.7,SNR=4.4							
NOA	**NORSAR Array B**	**79.06**	**335**	LR		LR	08 26 36.0	
	comp=Z,33nm,20.3s,baz=110,slow=36							
ESDC	**Sonseca Array**	**79.76**	**312**	P		**P**	**07 51 30.7**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=83,slow=4.6,SNR=5.6							
PETK	**Petropavlovsk-**	**93.16**	**37**	LR		LR

ABKAR	**Akbulak array**	59.50	318	*e*P		P	08 04 29.0	0.0	
ARA0	**ARCESS Array S**	77.56	339	*e*P		P	08 06 20.9	+0.3	
ARCES	**ARCESS Array B**	77.56	339	P		P	08 06 20.9	+0.3	
	3.0nm,0.8s,baz=73,slow=7.0,SNR=17								
ARCES	**ARCESS Array B**	77.56	339	*e*P		P	08 06 21.1	+0.4	
ARE0	**ARCESS Array S**	77.56	339	*e*P		P	08 06 21.1	+0.4	
	0.7nm,1.1s								
FIA1	**FINESS Array S**	78.86	331	*e*P		P	08 06 28.4	+0.5	
FIA0	**FINESS Array S**	78.86	331	*e*P		P	08 06 27.9	+0.1	
FINES	**FINESS Array B**	78.86	331	P		P	08 06 27.9	+0.1	
	3.0nm,0.9s,baz=46,slow=8.2,SNR=6.2								
BUR04	**Bucovina Ar. S**	82.45	317	*e*P		P	08 06 47.9	+0.4	
BUR08	**Bucovina Ar. S**	82.46	317	*e*P		P	08 06 48.2	+0.8	
NC405	**NORSAR Array S**	85.56	333	*e*P		P	08 07 02.8	0.0	
NC303	**NORSAR Array S**	85.67	333	*e*P		P	08 07 03.2	-0.1	
NB2	**NORSAR Subarra**	85.81	333	P		P	08 07 03.2	-0.9	
	comp=Z,2.1nm,0.6s,baz=67,slow=4.8								
NB200	**NORSAR Array S**	85.81	333	*e*P		P	08 07 03.6	-0.5	
NOA	**NORSAR Array B**	85.81	333	P		P	08 07 03.6	-0.5	
	comp=Z,3.0nm,0.6s,baz=67,slow=4.8,SNR=11								
NC204	**NORSAR Array S**	85.91	333	*e*P		P	08 07 04.5	-0.1	

IDC ***19*** *08:15:30.2±0.9, 13.48N×92.03W×h0km, mb4.1/9, mb1 4.3/12,mb1mx4.0/40,mbtmp4.0/12,ML3.4/3,MS3.6/11, Ms1 3.6/11,ms1mx3.3/30,Error ellipse: s-maj=18.3km s-min=16.2km az=25.0*

MEX ***19*** *08:15:35.7±0.5, 13.62N×92.13W, h10km, MD4.2*

NEIC ***19*** *08:15:39.0±1.1, 13.84N×91.67W, h48km±7km, mb4.3/83, MD4.2(MEX), Error ellipse: s-maj=11.7km s-min=6.4km az=193.0*

ISC 19 08:15:35.7±0.8, 13.56N±0.10×92.04W±0.07, h38km±2km, n277, σ1=96/280, mb4.3/80, MS3.8/8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.35**	**351**	*e*Pn	**Pn**	**08 15 56.5**	**-1.6**
THIG				*e*Sn	**Sn**	**08 16 19.4**	**+4.5**
THIG		**1.35**	**351**	*e*P	**Pn**	**08 15 55.7**	**-2.4**
THIG				*i* S	**Sn**	**08 16 12.1**	**-2.8**
APG	**El Apazote**	**2.09**	**47**	Pn	**Pn**	**08 16 08.9**	**+0.4**
	14nm,0.3s,baz=79,slow=23,SNR=210						
APG				LR	LR	08 16 29.6	
	comp=Z,252nm,18.2s,baz=211,slow=28						
APG				Lg	Lg	08 16 39.0	
	24nm,0.3s,baz=281,slow=12,SNR=9.3						
PCIG		**2.42**	**332**	*e*Pn	**Pn**	**08 16 10.4**	**-2.3**
PCIG				*e*Sn	**Sn**	**08 16 38.4**	**-2.6**
PCIG		**2.42**	**332**	*e*P	**Pn**	**08 16 10.6**	**-2.1**
PCIG				*i* S	**Sn**	**08 16 38.5**	**-2.6**
CCIG	**Comitan**	**2.71**	**358**	*e*Pn	**Pn**	**08 16 18.3**	**+1.5**
CCIG	**Comitan**	**2.71**	**358**	*e*P	**Pn**	**08 16 16.4**	**-0.5**
CCIG				*e*S	**Sn**	**08 16 46.5**	**-1.9**
TGIG		**3.36**	**342**	*e*Pn	**Pn**	**08 16 25.6**	**-0.3**
TGIG				*e*Sn	**Sn**	**08 17 07.4**	**+2.8**
TGIG		**3.36**	**342**	*e*P	**Pn**	**08 16 25.6**	**-0.3**
TGIG				*e*S	**Sn**	**08 17 03.5**	**-1.0**
CMIG	**Matias Romero**	**4.46**	**322**	Pn	**Pn**	**08 16 39.2**	**-1.6**
	0.5nm,0.3s,baz=148,slow=12,SNR=11						
CMIG				Sn	**Sn**	**08 17 26.7**	**-4.7**
	4.6nm,0.3s,baz=110,slow=15,SNR=4.8						
CMIG				Lg	Lg	08 17 43.0	
	6.4nm,0.3s,baz=43,slow=19,SNR=4.4						
CMIG				LR	LR	08 18 26.8	
	comp=Z,302nm,21.7s,baz=150,slow=39						
ESTN	**Estel**	**5.53**	**94**	*e*Pn	**Pn**	**08 16 54.5**	**-1.2**
TEIG	**Tepich**	**7.54**	**28**	*e*Pn	**Pn**	**08 17 22.9**	**-0.2**
LNIG	**Linares**	**13.27**	**329**	*e*Pn	**Pn**	**08 18 46.3**	**+4.6**
LNIG				*e*Sn	**Sn**	**08 21 09.5**	**+1.5**
DWPF	**Disney Wildern**	**17.52**	**33**	*e*Pn	**Pn**	**08 19 34.9**	**-2.3**
	33nm,1.1s						
DWPF	**Disney Wildern**	**17.52**	**33**	P	**Pn**	**08 19 35.2**	**-2.0**
	baz=216						
450A	**Crestview**	**17.88**	**15**	P	**Pn**	**08 19 41.6**	**+0.1**
	baz=196						
451A	**Vernon**	**17.94**	**18**	P	**Pn**	**08 19 42.1**	**-0.1**
	baz=199						
JCT	**Junction City**	**18.30**	**338**	*e*Pn	**Pn**	**08 19 49.8**	**+3.1**
	6.3nm,0.8s						
241A	**Mo Tay, Goldon**	**18.39**	**358**	P	**Pn**	**08 19 48.6**	**+0.9**
	baz=176						
HPIG		**18.43**	**318**	*e*P	**Pn**	**08 19 53.1**	**+4.6**
	5.8nm,1.0s						
244A	**Avery, Jackson**	**18.43**	**4**	P	**Pn**	**08 19 49.2**	**+0.9**
	baz=183						
TXAR	**Lajitas Array**	**19.04**	**327**	P	**Pn**	**08 19 56.9**	**+1.1**
	0.1nm,0.3s,baz=155,slow=8.9,SNR=22						
TXAR				LR	LR	08 28 32.6	
	comp=Z,52nm,21.8s,baz=0.0,slow=41						
LTX	**Lajitas**	**19.04**	**327**	*e*P	**Pn**	**08 19 56.9**	**+1.1**
TX31	**Lajitas Ar. Si**	**19.04**	**327**	*e*P	**Pn**	**08 19 57.1**	**+1.3**
251A	**Midway**	**19.42**	**17**	P	**P**	**08 19 58.5**	**-0.3**
	baz=199						
ROSC	**El Rosal**	**19.50**	**115**	*e*P	**P**	**08 19 59.6**	**-0.7**
	3.2nm,0.9s						
Z41A	**Richland Creek**	**19.62**	**358**	*e*P	**P**	**08 20 00.9**	**0.0**
	17nm,0.8s						
Z41A	**Richland Creek**	**19.62**	**358**	P	**P**	**08 20 01.2**	**+0.3**
	baz=177						
Z42A	**Norrel Spur, H**	**19.62**	**0**	P	**P**	**08 20 00.3**	**-0.6**
	baz=179						
Z44A	**Pea Ridge, Bel**	**19.68**	**4**	P	**P**	**08 20 01.5**	**-0.1**
	baz=184						
150A	**Eclectic**	**19.74**	**15**	P	**P**	**08 20 00.7**	**-1.5**
	baz=197						
Z46A	**Louisville**	**19.74**	**8**	P	**P**	**08 20 02.3**	**-0.1**
	baz=188						
Z45A	**Winona**	**19.83**	**6**	*e*P	**P**	**08 20 00.6**	**-2.7**
	22nm,0.7s						
Z45A	**Winona**	**19.83**	**6**	P	**P**	**08 20 03.9**	**+0.6**
	baz=186						
151A	**Opelika**	**19.85**	**17**	P	**P**	**08 20 02.9**	**-0.6**
	baz=199						
Z47A	**Carrollton**	**19.88**	**10**	P	**P**	**08 20 03.8**	**0.0**
	baz=190						
LRAL	**Lakeview Retre**	**19.92**	**13**	P	**P**	**08 20 04.3**	**+0.1**
	baz=194						
152A	**Waverly Hall**	**20.16**	**18**	P	**P**	**08 20 06.0**	**-0.9**
	baz=200						
ABTX	**Abilene, Hawle**	**20.21**	**341**	*e*P	**P**	**08 20 08.3**	**+0.9**
	15nm,0.8s						
ABTX	**Abilene, Hawle**	**20.21**	**341**	P	**P**	**08 20 07.7**	**+0.2**
	baz=157,SNR=7.3						
Y41A	**Eaglette Beard**	**20.23**	**359**	P	**P**	**08 20 06.6**	**-1.0**
	baz=177						
CCAR	**Cane Creek**	**20.27**	**1**	*e*P	**P**	**08 20 08.0**	**+0.1**
	20nm,0.9s						
Y45A	**Yeager Farm, C**	**20.34**	**6**	P	**P**	**08 20 08.3**	**-0.5**
	baz=186						
Z50A	**Ashland**	**20.38**	**15**	P	**P**	**08 20 08.4**	**-0.9**
	baz=196						
153A	**Fort Valley**	**20.43**	**20**	P	**P**	**08 20 08.8**	**-0.9**
	baz=203						
Y46A	**Houston**	**20.43**	**8**	P	Pn	08 20 12.3	+0.2
	baz=188,SNR=7.2						
Y47A	**UCPARC, Winfie**	**20.60**	**10**	P	**P**	**08 20 11.4**	**-0.2**
	baz=191						
154A	**Montrose**	**20.64**	**22**	*e*P	**P**	**08 20 11.3**	**-0.8**
	36nm,0.8s						
154A	**Montrose**	**20.64**	**22**	P	**P**	**08 20 11.2**	**-0.8**
	baz=205						
Z52A	**Williamson**	**20.73**	**18**	P	**P**	**08 20 11.4**	**-1.7**
	baz=200						
Y48A	**Jasper**	**20.74**	**11**	P	**P**	**08 20 12.5**	**-0.6**
	baz=193						
MIAR	**Mount Ida**	**20.94**	**356**	*e*P	**P**	**08 20 14.7**	**-0.6**
	12nm,1.1s						
MIAR	**Mount Ida**	**20.94**	**356**	P	**P**	**08 20 14.4**	**-0.8**
	baz=175						
OXF	**Oxford**	**20.99**	**6**	*e*P	**P**	**08 20 15.0**	**-0.9**
	19nm,0.8s						
Z53A	**Monticello**	**21.09**	**20**	P	**P**	**08 20 15.3**	**-1.6**
	baz=203						
UALR	**University of**	**21.12**	**359**	*e*P	**P**	**08 20 16.1**	**-1.1**
	9.2nm,0.8s						
X46A	**Booneville**	**21.13**	**8**	P	**P**	**08 20 17.4**	**0.0**
	baz=188,SNR=7.6						
X37A	**Clayton**	**21.15**	**352**	*e*P	**P**	**08 20 18.2**	**+0.7**
	6.7nm,0.8s						
X47A	**Russelville**	**21.20**	**10**	P	**P**	**08 20 15.9**	**-2.2**
	baz=190						
Y51A	**Rockmart**	**21.21**	**16**	P	**P**	**08 20 15.3**	**-2.9**
	baz=198						
GOGA	**Godfrey**	**21.24**	**20**	*e*P	**P**	**08 20 16.0**	**-2.6**
	7.2nm,0.8s						
GOGA	**Godfrey**	**21.24**	**20**	P	**P**	**08 20 15.4**	**-3.1**
	baz=203						
X48A	**Hartselle**	**21.28**	**11**	*e*P	**P**	**08 20 19.1**	**+0.1**
	12nm,0.9s						
X48A	**Hartselle**	**21.28**	**11**	P	**P**	**08 20 17.8**	**-1.1**
	baz=193						
Z54A	**Sparta**	**21.30**	**22**	P	**P**	**08 20 16.7**	**-2.4**
	baz=205						
Y52A	**Lilburn**	**21.47**	**18**	P	**P**	**08 20 19.4**	**-1.6**
	baz=201						
X49A	**Woodville**	**21.49**	**13**	P	**P**	**08 20 19.2**	**-2.0**
	baz=194						
W41B	**Gary Mavity, V**	**21.52**	**360**	P	**P**	**08 20 21.3**	**-0.2**
	baz=178						
X50B	**Fort Payne**	**21.60**	**14**	P	**P**	**08 20 21.8**	**-0.5**
	baz=196						
W39A	**Magazine**	**21.60**	**356**	*e*P	**P**	**08 20 23.3**	**+1.0**
	4.6nm,0.9s						
W39A	**Magazine**	**21.60**	**356**	P	**P**	**08 20 21.6**	**-0.7**
	baz=174						
Y53A	**Monroe**	**21.61**	**19**	P	**P**	**08 20 20.3**	**-2.2**
	baz=202						
PLAL	**Pickwick Lake**	**21.62**	**9**	*e*P	**P**	**08 20 22.6**	**0.0**
	6.5nm,0.9s						
WHAR	**Wooly Hollow**	**21.63**	**359**	*e*P	**P**	**08 20 23.5**	**+0.8**
	2.9nm,0.9s						
W45A	**Hickory Valley**	**21.65**	**6**	P	**P**	**08 20 22.2**	**-0.7**
	baz=187						
GDL2	**Guadalupe Moun**	**21.72**	**331**	*e*P	**P**	**08 20 25.8**	**+2.0**
W46A	**Michie**	**21.73**	**8**	P	**P**	**08 20 21.9**	**-1.9**
	baz=189						
MNTX	**Cornudas Mount**	**21.81**	**328**	*e*P	**P**	**08 20 25.2**	**+0.5**
	7.3nm,0.8s						
MNTX	**Cornudas Mount**	**21.81**	**328**	P	**P**	**08 20 25.1**	**+0.4**
	baz=142,SNR=13						
WMOK	**Wichita Mounta**	**21.95**	**345**	*e*P	**P**	**08 20 25.7**	**-0.4**
	8.5nm,1.0s						
WMOK	**Wichita Mounta**	**21.95**	**345**	P	**P**	**08 20 25.4**	**-0.7**
	baz=161						
W47A	**Westpoint**	**21.96**	**10**	P	**P**	**08 20 23.6**	**-2.7**
	baz=191						
W48A	**Pulaski**	**21.97**	**11**	P	**P**	**08 20 24.4**	**-1.9**
	baz=192						
W49A	**Belvidere**	**22.09**	**13**	P	**P**	**08 20 25.8**	**-1.8**
	baz=194						
V42A	**Cord**	**22.16**	**1**	P	**P**	**08 20 27.4**	**-0.9**
	baz=181						
X52A	**Dahlonega**	**22.21**	**18**	P	**P**	**08 20 27.6**	**-1.3**
	baz=201						
SWET	**Sewanee**	**22.25**	**13**	*e*P	**P**	**08 20 28.5**	**-0.9**
	12nm,0.8s						
V45A	**Humboldt**	**22.25**	**7**	P	**P**	**08 20 28.4**	**-1.0**
	baz=187						
X53A	**Estanollee**	**22.30**	**19**	P	**P**	**08 20 27.9**	**-2.0**
	baz=202						
W50A	**Signal Mountai**	**22.38**	**15**	*e*P	**P**	**08 20 30.1**	**-0.7**
	10nm,1.0s						
V46A	**Holladay**	**22.42**	**8**	P	**P**	**08 20 28.4**	**-2.7**
	baz=189,SNR=12						
MSTX	**Muleshoe**	**22.54**	**336**	*e*P	**P**	**08 20 32.6**	**0.0**
	15nm,0.8s						
MSTX	**Muleshoe**	**22.54**	**336**	P	**P**	**08 20 31.5**	**-1.1**
	baz=151,SNR=12						
V47A	**Nunelly**	**22.54**	**10**	P	**P**	**08 20 30.1**	**-2.4**
	baz=191						
V48A	**Smith Brothers**	**22.58**	**11**	*e*P	**P**	**08 20 30.0**	**-2.9**
	15nm,0.8s						
V48A	**Smith Brothers**	**22.58**	**11**	P	**P**	**08 20 31.0**	**-1.8**
	baz=192,SNR=7.0						
U41A	**Viola**	**22.68**	**0**	P	**P**	**08 20 32.0**	**-1.9**
	baz=179						
U42A	**Revenden**	**22.70**	**2**	P	**P**	**08 20 32.1**	**-2.0**
	baz=181						
U40A	**Yellville**	**22.71**	**358**	P	**P**	**08 20 31.3**	**-2.9**
	baz=177						
U43A	**Rector**	**22.76**	**3**	P	**P**	**08 20 32.8**	**-1.9**
	baz=183						
WVT	**Waverly**	**22.79**	**9**	*e*P	**P**	**08 20 33.6**	**-1.4**
	12nm,0.8s						
WVT	**Waverly**	**22.79**	**9**	P	**P**	**08 20 33.3**	**-1.7**
	baz=190						
V49A	**McMinnville**	**22.79**	**13**	P	**P**	**08 20 33.1**	**-2.0**
	baz=195						
U44B	**Burton Farm, H**	**22.81**	**6**	P	**P**	**08 20 33.2**	**-2.0**
	baz=186						
CPCT	**Cooper Cave**	**22.82**	**16**	*e*P	**P**	**08 20 34.2**	**-1.2**
	11nm,0.8s						
U45A	**Rockin P Farm,**	**22.88**	**7**	P	**P**	**08 20 33.9**	**-2.1**
	baz=187						
V50A	**Pikeville**	**22.88**	**15**	P	**P**	**08 20 34.0**	**-2.1**
	baz=197						
U44A	**Portageville**	**22.94**	**5**	P	**P**	**08 20 34.4**	**-2.2**
	baz=185						
AMTX	**Amarillo**	**22.95**	**339**	*e*P	**P**	**08 20 36.9**	**0.0**
	29nm,0.6s						
AMTX	**Amarillo**	**22.95**	**339**	P	**P**	**08 20 36.2**	**-0.6**
	baz=154						
U46A	**Springville**	**22.96**	**8**	P	**P**	**08 20 33.9**	**-3.0**
	baz=189,SNR=9.3						
PBMO	**Poplar Bluff**	**23.16**	**3**	*e*P	**P**	**08 20 37.0**	**-1.9**
	13nm,0.8s						
U47A	**Clarksville**	**23.18**	**10**	P	**P**	**08 20 36.8**	**-2.2**
	baz=191						
TKL	**Tuckaleechee C**	**23.23**	**17**	P	**P**	**08 20 38.5**	**-1.0**
	11nm,0.9s,baz=185,slow=11,SNR=5.9						
TKL	**Tuckaleechee C**	**23.23**	**17**	*e*P	**P**	**08 20 37.6**	**-1.9**
	11nm,0.9s						
U48A	**Cassie Pea, Po**	**23.38**	**11**	P	**P**	**08 20 38.5**	**-2.4**
	baz=193						
T41A	**Mountain View**	**23.38**	**1**	P	**P**	**08 20 38.0**	**-3.0**
	baz=180						
T42A	**Van Buren**	**23.39**	**2**	*e*P	**P**	**08 20 39.7**	**-1.3**
	6.6nm,0.8s						
T42A	**Van Buren**	**23.39**	**2**	P	**P**	**08 20 38.2**	**-2.8**
	baz=181						
V52A	**Sevierville**	**23.45**	**17**	*e*P	**P**	**08 20 41.1**	**-0.6**
	11nm,1.1s						
V52A	**Sevierville**	**23.45**	**17**	P	**P**	**08 20 39.4**	**-2.3**
	baz=200						
T43A	**Greenville**	**23.48**	**4**	P	**P**	**08 20 39.6**	**-2.3**
	baz=183						
V53A	**Saluda**	**23.53**	**19**	*e*P	**P**	**08 20 41.8**	**-0.8**
	8.4nm,0.9s						
U49A	**Red Boiling Sp**	**23.53**	**13**	P	**P**	**08 20 40.1**	**-2.4**
	baz=195						
U50A	**Jamestown**	**23.65**	**15**	P	**P**	**08 20 41.8**	**-1.9**
	baz=197						
T46A	**Princeton**	**23.67**	**8**	P	**P**	**08 20 41.7**	**-2.1**
	baz=189,SNR=5.3						
T47A	**Sharon Grove**	**23.74**	**10**	*e*P	**P**	**08 20 43.3**	**-1.2**
	54nm,1.1s						
T47A	**Sharon Grove**	**23.74**	**10**	P	**P**	**08 20 42.3**	**-2.1**
	baz=191,SNR=12						
121A	**Cookes Peak, D**	**23.75**	**325**	P	**P**	**08 20 46.9**	**+2.1**
	baz=138,SNR=8.0						
319A	**Douglas**	**23.78**	**321**	*e*P	**P**	**08 20 47.0**	**+1.9**
	9.9nm,1.0s						
U51A	**La Follette**	**23.83**	**16**	P	**P**	**08 20 44.5**	**-0.8**
	baz=199						
S41A	**Jillco Farms,**	**23.93**	**1**	P	**P**	**08 20 44.5**	**-1.8**
	baz=180						
S43A	**Fulton Ridge,**	**23.97**	**4**	P	**P**	**08 20 44.4**	**-2.2**
	baz=184						
T48A	**Bowling Green**	**23.98**	**11**	P	**P**	**08 20 45.4**	**-1.3**
	baz=193						
U52A	**Thorn Hill**	**24.03**	**17**	P	**P**	**08 20 45.2**	**-2.0**
	baz=200						
TZTN	**Tazewell**	**24.12**	**17**	*e*P	**P**	**08 20 47.0**	**-1.0**
	7.7nm,0.9s						
S42A	**Caledonia**	**24.13**	**2**	P	**P**	**08 20 45.4**	**-2.7**
	baz=182						
T49A	**Edmonton**	**24.15**	**13**	*e*P	**P**	**08 20 46.7**	**-1.7**
	6.9nm,0.8s						
T49A	**Edmonton**	**24.15**	**13**	P	**P**	**08 20 46.2**	**-2.1**
	baz=195						
S44A	**Carbondale**	**24.16**	**5**	P	**P**	**08 20 46.1**	**-2.2**
	baz=186,SNR=5.8						
SIUC	**Southern Illin**	**24.18**	**5**	*e*P	**P**	**08 20 46.8**	**-1.8**
	26nm,0.9s						
S45A	**Carrier Mills**	**24.21**	**7**	P	**P**	**08 20 46.7**	**-2.1**
	baz=187						
T50A	**Nancy**	**24.23**	**14**	P	**P**	**08 20 46.2**	**-2.8**
	baz=196						
U53A	**Fall Branch**	**24.24**	**19**	P	**P**	**08 20 44.5**	**-4.6**
	baz=202						
S47A	**Hartford**	**24.37**	**10**	P	**P**	**08 20 48.2**	**-2.0**
	baz=191						
BNM	**Barren Site**	**24.40**	**330**	*e*P	**P**	**08 20 52.9**	**+2.0**
CCM	**Cathedral Cave**	**24.40**	**2**	*e*P	**P**	**08 20 48.7**	**-1.9**
	11nm,0.8s						
CCM	**Cathedral Cave**	**24.40**	**2**	P	**P**	**08 20 48.5**	**-2.1**
	baz=181						
LPM	**Los Pinos Moun**	**24.53**	**330**	*e*P	**P**	**08 20 54.1**	**+2.0**
S48A	**Wiedeman Farm,**	**24.58**	**11**	P	**P**	**08 20 49.7**	**-2.5**
	baz=193						
LENM	**Lemitar**	**24.58**	**329**	*e*P	**P**	**08 20 55.1**	**+2.6**
USIN	**University of**	**24.61**	**8**	*e*P	**P**	**08 20 51.3**	**-1.2**
	26nm,0.8s						
R41A	**Rosebud**	**24.64**	**1**	P	**P**	**08 20 50.1**	**-2.6**
	baz=181						
R42A	**Luebbering**	**24.64**	**2**	P	**P**	**08 20 50.1**	**-2.7**
	baz=182						
R43A	**Red Bud**	**24.68**	**4**	P	**P**	**08 20 51.7**	**-1.4**
	baz=184						
R44A	**Waltonville**	**24.73**	**6**	P	**P**	**08 20 51.1**	**-2.3**
	baz=186						
LAZ	**Ladron**	**24.86**	**329**	*e*P	**P**	**08 20 57.4**	**+2.4**
R45A	**Skylar, Fairfi**	**24.86**	**7**	P	**P**	**08 20 51.6**	**-3.0**
	baz=188						
S49A	**Springfield**	**24.86**	**13**	P	**P**	**08 20 52.2**	**-2.5**
	baz=195						
R46A	**Gibon Southern**	**24.88**	**8**	P	**P**	**08 20 53.2**	**-1.7**
	baz=190						
ANMO	**Albuquerque**	**24.96**	**331**	P	**P**	**08 20 56.5**	**+0.6**
	2.2nm,0.6s,baz=135,slow=10,SNR=10						
ANMO	**Albuquerque**	**24.96**	**331**	*e*P	**P**	**08 20 58.1**	**+2.1**
	3.0nm,0.7s						
ANMO	**Albuquerque**	**24.96**	**331**	P	**P**	**08 20 57.3**	**+1.4**
	baz=144						
S50A	**Richmond**	**24.96**	**14**	P	**P**	**08 20 52.8**	**-2.9**
	baz=197						
WCI	**Wyandotte Cave**	**25.09**	**11**	*e*P	**P**	**08 20 55.1**	**-1.8**
	15nm,0.7s						
WCI	**Wyandotte Cave**	**25.09**	**11**	P	**P**	**08 20 55.0**	**-1.8**
	baz=192						
R47A	**Wooly Knot Far**	**25.11**	**10**	P	**P**	**08 20 55.1**	**-1.9**
	baz=192						
S51A	**Beattyville**	**25.13**	**16**	P	**P**	**08 20 55.3**	**-1.9**
	baz=199						
Q41A	**Truxton**	**25.30**	**1**	P	**P**	**08 20 56.2**	**-2.5**
	baz=181						
OLIL	**Olney**	**25.31**	**7**	*e*P	**P**	**08 20 57.1**	**-1.7**
	28nm,0.8s						
R48A	**Northridge Ran**	**25.34**	**11**	P	**P**	**08 20 57.7**	**-1.3**
	baz=193						
TUC	**Tucson**	**25.35**	**321**	P	**P**	**08 21 02.4**	**+3.1**
	baz=132						
Q43A	**New Douglas**	**25.36**	**4**	P	**P**	**08 20 56.6**	**-2.7**
	baz=184						
R49A	**Shelbyville**	**25.37**	**13**	P	**P**	**08 20 56.0**	**-3.3**
	baz=195						
Q44A	**Meyer Farm, Va**	**25.38**	**6**	P	**P**	**08 20 57.7**	**-1.7**
	baz=186						
Q45A	**Warren Harvey,**	**25.46**	**7**	P	**P**	**08 20 58.9**	**-1.3**
	baz=188						
R50A	**Paris**	**25.55**	**14**	P	**P**	**08 20 59.0**	**-2.0**
	baz=197						
Q48A	**North Vernon**	**25.88**	**11**	P	**P**	**08 21 01.8**	**-2.1**
	baz=193						
T25A	**Trinidad**	**25.95**	**337**	*e*P	**P**	**08 21 07.5**	**+2.6**
	7.7nm,0.9s						
T25A	**Trinidad**	**25.95**	**337**	P	**P**	**08 21 05.9**	**+1.0**
	baz=151,SNR=7.7						
P42A	**Winchester**	**25.96**	**3**	P	**P**	**08 21 03.7**	**-1.0**
	baz=183						
P41A	**Barry, Barry**	**26.02**	**2**	P	**P**	**08 21 04.1**	**-1.2**
	baz=181						
P43A	**Skaggs, Pawnee**	**26.07**	**4**	P	**P**	**08 21 03.7**	**-1.9**
	baz=185						
P45A	**Graceland, Par**	**26.14**	**8**	*e*P	**P**	**08 21 05.4**	**-0.9**
	20nm,1.1s						
P45A	**Graceland, Par**	**26.14**	**8**	P	**P**	**08 21 05.0**	**-1.3**
	baz=189						
P46A	**Rosedale**	**26.30**	**8**	P	**P**	**08 21 05.8**	**-1.9**
	baz=190						
P48A	**Milroy**	**26.45**	**12**	P	**P**	**08 21 06.2**	**-2.9**
	baz=194						
Q51A	**Peebles**	**26.50**	**15**	P	**P**	**08 21 07.8**	**-1.8**
	baz=198						
O45A	**Potomac**	**26.85**	**7**	P	**P**	**08 21 10.6**	**-2.1**
	baz=189						
SFIN	**Lafayette**	**27.06**	**8**	P	**P**	**08 21 12.5**	**-2.1**
	baz=190						
O47A	**Sheridan**	**27.07**	**10**	P	**P**	**08 21 12.1**	**-2.5**
	baz=192						
X16A	**Lo Mia Camp, P**	**27.20**	**323**	*e*P	**P**	**08 21 18.9**	**+2.7**
	2.7nm,0.9s						
S22A	**4UR Ranch, Cre**	**27.45**	**334**	*e*P	**P**	**08 21 21.7**	**+3.1**
	5.2nm,1.0s						
S22A	**4UR Ranch, Cre**	**27.45**	**334**	P	**P**	**08 21 19.3**	**+0.8**
	baz=147,SNR=5.6						
M41A	**Milan**	**27.74**	**2**	P	**P**	**08 21 18.6**	**-2.0**
	baz=182						
O51A	**Pataskala**	**27.75**	**16**	P	**P**	**08 21 18.2**	**-2.6**
	baz=199						
MVCO	**Mesa Verde**	**27.76**	**331**	*e*P	**P**	**08 21 23.7**	**+2.5**
MVCO	**Mesa Verde**	**27.76**	**331**	P	**P**	**08 21 22.9**	**+1.6**
	baz=143,SNR=6.4						
N48A	**Decatur**	**27.88**	**11**	P	**P**	**08 21 19.0**	**-2.9**
	baz=194						
O52A	**Adamsville**	**27.93**	**17**	P	**P**	**08 21 20.3**	**-2.1**
	baz=201						
PV01	**Paradox Valley**	**28.54**	**332**	*e*P	**P**	**08 21 30.6**	**+2.4**
PV13	**Radium Mtn., P**	**28.68**	**332**	*e*P	**P**	**08 21 32.1**	**+2.7**
	8.3nm,0.9s						
PV03	**Paradox Valley**	**28.77**	**332**	*e*P	**P**	**08 21 32.1**	**+1.9**
PV18	**Skein Mesa, Pa**	**28.79**	**332**	*e*P	**P**	**08 21 32.1**	**+1.8**
	14nm,1.1s						
PV12	**Saucer Basin,**	**28.80**	**332**	*e*P	**P**	**08 21 32.4**	**+1.9**
	17nm,1.0s						
PV11	**

NV11	Mina Array Sit	33.90	322	*e*P	P	08 22 18.1	+2.8
	0.2nm,1.0s						
LOHW	Long Hollow	33.93	336	*e*P	P	08 22 17.2	+1.6
	2.8nm,0.8s						
NCB	Newcomb	33.93	23	*e*P	P	08 22 13.6	-1.7
	5.0nm,1.0s						
TPAW	Teton Pass	33.97	335	*e*P	P	08 22 17.7	+1.8
	8.3nm,1.1s						
NV01	Mina Array Sit	33.99	322	*e*P	P	08 22 18.0	+1.9
NVAR	Mina Array Bea	33.99	322	P	P	08 22 18.5	+2.4
	2.9nm,0.7s,baz=135,slow=8.4,SNR=18						
NVAR				PcP	PcP	08 24 54.9	+1.3
	0.3nm,0.6s,baz=167,slow=4.3,SNR=2.5						
E50A	Wahnapitae	34.11	14	P	P	08 22 14.1	-2.7
	baz=199						
FXWY	Fox Creek	34.12	335	*e*P	P	08 22 19.6	+2.4
	3.8nm,1.1s						
LONY	Lake Ozonia	34.35	22	*e*P	P	08 22 16.7	-2.2
	9.1nm,0.9s						
LONY	Lake Ozonia	34.35	22	P	P	08 22 17.1	-1.8
	baz=211						
RLMT	Red Lodge	34.70	338	P	P	08 22 22.2	0.0
	baz=149						
PTGA	Pitinga	34.81	112	P	P	08 22 24.5	+1.3
	1.1nm,0.4s,baz=315,slow=8.5,SNR=11						
PTGA	Pitinga	34.81	112	*e*P	P	08 22 24.7	+1.5
	3.0nm,0.8s						
LBNH	Lisbon	35.08	25	P	P	08 22 22.7	-2.5
	baz=215						
HLID	Hailey	35.54	332	*e*P	P	08 22 32.1	+2.7
	5.2nm,1.1s						
HLID	Hailey	35.54	332	P	P	08 22 30.9	+1.5
	baz=140,SNR=5.2						
MCMT	McKenzie Canyo	35.85	334	*e*P	P	08 22 35.0	+2.9
D54A	Lac Fusel, La	35.88	18	P	P	08 22 29.9	-2.1
	baz=206						
DLMT	Dillon	36.18	335	*e*P	P	08 22 36.7	+1.9
	4.4nm,0.9s						
ULM	Lac du Bonnet	36.72	356	P	P	08 22 37.6	-1.5
	2.4nm,0.7s,baz=144,slow=8.9,SNR=3.3						
ULM				LR	LR	08 39 12.8	
	comp=Z,63nm,18.4s,baz=34,slow=39						
PKME	Peaks-Kenny Pk	37.03	27	*e*P	P	08 22 40.4	-1.4
	9.3nm,0.8s						
PKME	Peaks-Kenny Pk	37.03	27	P	P	08 22 39.5	-2.3
	baz=218						
J08A	Circle Bar Ran	37.39	328	*e*P	P	08 22 47.0	+2.0
	9.4nm,0.8s						
O02D	Mt. Diablo Mer	37.81	320	P	P	08 22 49.5	+0.8
	baz=125						
MSO	Missoula	37.91	335	P	P	08 22 49.7	+0.3
	baz=143						
F10A	Beach Ranch, E	38.67	332	*e*P	P	08 22 57.2	+1.4
	7.6nm,0.8s						
PQI	Presque Isle	38.68	27	*e*P	P	08 22 54.1	-1.6
	9.2nm,1.1s						
SIV	San Ignacio	42.42	133	P	P	08 23 24.6	-2.5
	0.8nm,0.8s,baz=330,slow=7.0,SNR=6.6						
SCHQ	Schefferville	45.64	20	P	P	08 23 49.6	-2.8
	12nm,0.9s,baz=202,slow=6.2,SNR=5.7						
SCHQ				LR	LR	08 44 05.2	
	comp=Z,231nm,18.7s,baz=202,slow=38						
YKA	Yellowknife Ar	51.44	347	P	P	08 24 36.6	-0.2
	4.2nm,0.6s,baz=152,slow=7.5,SNR=17						
FRB	Frobisher Bay	52.74	13	LR	LR	08 48 40.6	
	comp=Z,78nm,18.6s,baz=206,slow=38						
SFJD	Kangerlussuaq	59.94	17	LR	LR	08 52 04.8	
	comp=Z,158nm,20.1s,baz=210,slow=37						
INK	Inuvik	60.84	344	*e*P	P	08 25 44.5	+0.7
	7.6nm,0.8s						
IL1	Eielson Array	63.23	337	*e*P	P	08 25 59.1	-0.8
ILAR	Eielson Array	63.23	337	P	P	08 26 00.8	+0.8
	1.0nm,0.8s,baz=118,slow=4.7,SNR=9.5						
MLY	Manley	64.82	336	*e*P	P	08 26 11.6	+1.1
	5.4nm,1.0s						
TOLK	Toolik Lake Re	65.92	340	P	P	08 26 18.9	+1.3
	baz=116						
NOA	NORSAR Array B	84.54	28	LR	LR	09 06 44.0	
	comp=Z,25nm,18.5s,baz=350,slow=36						
FINES	FINESS Array B	90.91	25	LR	LR	09 10 18.0	
	comp=Z,34nm,18.1s,baz=278,slow=36						
KEST	Kesra	91.18	53	LR	LR	09 03 02.8	
	comp=Z,34nm,20.2s,baz=326,slow=31						
NRIK	Noril'sk	97.31	0	LR	LR	09 17 13.2	
	comp=Z,75nm,18.3s,baz=60,slow=38						
KSH	Kashi	126.03	11	*e*PKP	PKPdf	08 34 36.5	+2.1
CMAR	Chiang Mai Arr	146.39	341	PKPbc	PKPdf	08 35 12.5	+0.2
	0.9nm,0.4s,baz=322,slow=3.8,SNR=6.4						

NEIC 19 08:15:52.0±0.0, 57.60N×142.82W, h10km, ML2.9(AEIC), After AEIC., Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAIM	Kayak Island	2.48	341	P	Pn	08 16 28.5	-3.8
SUCK	Suckling Hills	2.53	349	P	Pn	08 16 28.4	-4.6
SUCK				S	Sn	08 16 57.0	-6.9
BGLC	Bering Glacier	2.54	355	P	Pn	08 16 28.6	-4.6
SNH	Sunshine Point	2.59	360	P	Pn	08 16 29.0	-4.9
SNH				S	Sn	08 16 57.1	-8.3
CHX	Chaix Hills	2.62	19	P	Pn	08 16 29.8	-4.6
MESA	MESA	2.63	9	P	Pn	08 16 29.6	-4.9
NICHA	Nichawak Mount	2.71	348	P	Pn	08 16 30.6	-4.9
NICHA				S	Sn	08 17 01.0	-7.4
BARK	Barkley Ridge	2.82	3	P	Pn	08 16 32.0	-5.1
YAH	Yahtse	2.83	11	P	Pn	08 16 32.5	-4.9
HMT	Hamilton	2.84	345	P	Pn	08 16 32.4	-5.0
KHIT	Khitrov Hills	2.86	356	P	Pn	08 16 32.5	-5.2
KHIT				S	Sn	08 17 04.1	-8.1
BAGL	Bagley Icefiel	2.92	7	P	Pn	08 16 33.4	-5.1
TABL	Table Mountain	2.98	16	P	Pn	08 16 34.7	-4.7
ISLE	Juniper Island	3.02	4	P	Pn	08 16 34.8	-5.1
SGAM	Sherman Glacie	3.16	338	P	Pn	08 16 36.9	-4.8
EYAK	Cordova Ski Ar	3.32	334	P	Pn	08 16 38.4	-5.6
HIN	Hinchinbrook I	3.39	327	P	Pn	08 16 39.7	-5.3
BMRM	Bremner River	3.50	346	P	Pn	08 16 40.9	-5.6
FID	Port Fidalgo	3.68	331	P	Pn	08 16 43.5	-5.4
YUK7	Dusty Glacier	3.80	37	P	Pn	08 16 46.4	-4.3
PLBC	Pleasant Camp	3.86	58	P	Pn	08 16 46.5	-4.9
YUK6	Outpost Mounta	4.06	32	P	Pn	08 16 50.3	-4.0
HYT	Haines Junctio	4.23	38	P	Pn	08 16 51.8	-4.7
SEW	Seward	4.26	309	P	Pn	08 16 52.0	-4.9
YUK4	Talbot Arm	4.32	28	P	Pn	08 16 55.5	-2.3
BRLK	Bradley Lake	4.74	301	P	Pn	08 16 58.8	-4.6
KNK	Knik Glacier	4.78	325	P	Pn	08 16 58.8	-5.2
CNPM	China Poot	4.81	297	P	Pn	08 16 59.8	-4.7
SCM	Sheep Creek Mo	4.82	334	P	Pn	08 16 58.9	-5.7
WHY	Whitehorse	5.11	50	P	Pn	08 17 04.1	-4.4
OHAK	Old Harbor	5.67	271	P	Pn	08 17 12.0	-4.2
DAWY	Dawson	6.70	13	P	Pn	08 17 25.6	-4.7
SZCU	Shurtz Canyon	27.95	123	*e*P	P	08 21 47.4	+4.8
LCMT	Little Creek M	28.37	124	*e*P	P	08 21 47.3	+1.1

IDC 19 08:40:42.3±5.5, 56.38S×147.03W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.5/43, mbtmp3.8/2, MS3.4/7, Ms1 3.4/7, ms1mx3.3/23, Error ellipse: s-maj=889.7km s-min=104.4km az=171.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	27.50	202	LR	LR	08 54 00.3	
	comp=Z,86nm,18.4s,baz=214,slow=29						
RAR	Rarotonga	36.37	340	LR	LR	08 58 49.1	
	comp=Z,97nm,19.9s,baz=274,slow=30						
PPT	Papeete	38.79	356	LR	LR	08 59 27.6	
	comp=Z,79nm,20.2s,baz=206,slow=29						
RPN	Rapa Nui	39.72	59	LR	LR	08 59 27.6	
	comp=Z,21nm,21.8s,baz=269,slow=28						
PLCA	Paso Flores	50.29	106	LR	LR	09 06 01.7	
	comp=Z,55nm,18.2s,baz=214,slow=30						
STKA	Stephens Creek	53.99	265	LR	LR	09 08 46.8	
	comp=Z,39nm,19.4s,baz=202,slow=31						
ASAR	Alice Springs	64.63	265	P	P	08 51 21.6	0.0
	1.1nm,0.8s,baz=139,slow=6.5,SNR=9.2						
H01W1	Cape Leeuwin H	66.22	243	T	T	10 03 11.7	
	baz=138						
H01W2	Cape Leeuwin H	66.23	243	T	T	10 03 09.1	
	baz=138						
H01W3	Cape Leeuwin H	66.24	243	T	T	10 03 08.0	
	baz=138						
WRA	Warramunga Arr	67.36	268	P	P	08 51 39.2	0.0
	1.1nm,1.0s,baz=144,slow=5.6,SNR=7.7						
WRA				LR	LR	09 18 04.5	
	comp=Z,23nm,19.5s,baz=285,slow=33						
H10S3	ASCENSION HYDR	104.00	131	T	T	10 50 47.0	
	baz=206						
H10S2	ASCENSION HYDR	104.00	131	T	T	10 50 49.2	
	baz=206						
H10S1	ASCENSION HYDR	104.02	131	T	T	10 50 47.4	
	baz=206						
H10N3	ASCENSION HYDR	105.07	131	T	T	10 52 08.1	
	baz=202						
H10N1	ASCENSION HYDR	105.07	131	T	T	10 52 09.8	
	baz=202						
H10N2	ASCENSION HYDR	105.09	131	T	T	10 52 08.7	
	baz=202						
MKAR	Makanchi Array	148.53	274	PKPbc	PKPbc	09 00 29.5	-0.6
	1.2nm,0.8s,baz=134,slow=4.2,SNR=8.0						

IDC 19 08:41:39.5±3.0, 10.16N×126.01E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/42, mbtmp3.5/4, Error ellipse: s-maj=251.8km s-min=27.2km az=64.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	31.02	165	P	P	08 47 58.4	-0.6
	0.2nm,0.7s,baz=345,slow=9.3,SNR=3.7						
ASAR	Alice Springs	34.49	167	P	P	08 48 29.6	+0.2
	0.3nm,0.6s,baz=349,slow=7.1,SNR=5.6						
STKA	Stephens Creek	44.38	161	P	P	08 49 52.2	+0.4
	1.7nm,0.9s,baz=350,slow=12,SNR=3.2						
MKAR	Makanchi Array	51.96	323	P	P	08 50 50.3	-0.1
	0.4nm,0.6s,baz=116,slow=8.8,SNR=4.2						

*NEIC **19** 08:51:44.7±1.0, 17.60N×101.16W, h45km±6km, mb4.0/79, MD4.3(MEX), Error ellipse: s-maj=13.9km s-min=5.4km az=179.0*
NEIC Felt [IV] in Jose Azueta. Also felt at Ixtapa and Zihuatanejo.
*MEX **19** 08:51:46.7±0.8, 17.90N×101.35W, h10km±7km, MD4.0*
*IDC **19** 08:51:52.3±3.7, 18.11N×100.83W, h106km±32km, mb3.7/7, mb1 3.9/10, mb1mx3.6/42, mbtmp4.0/10, MS3.5/10, Ms1 3.5/10, ms1mx3.2/33, Error ellipse: s-maj=36.7km s-min=15.3km az=49.0*

ISC 19 08:51:44.8±0.7, 17.76N±0.05×101.36W±0.03, h44km±7km, n261, σ1°72/256, mb4.0/54, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.18	212	*e*Pg	Pn	08 51 52.2	-0.3
ZIIG				*e*Sg	Sn	08 51 57.8	+0.1
ZIIG	Zihuatanejo	0.18	212	*e*P	Pn	08 51 52.3	-0.2
ZIIG				*e*S	Sn	08 51 57.8	+0.1
ARIG	Puente Sto Nin	1.09	62	*e*P	Pn	08 52 03.3	-0.5
ARIG	Puente Sto Nin	1.09	62	*e*P	Pn	08 52 03.3	-0.5
ARIG				*i* S	Sn	08 52 16.2	-1.5
ACP2	Acapulco	1.67	122	*e*P	Pn	08 52 12.8	+1.2
ACP2				*e*S	Sn	08 52 34.2	+2.5
MEIG	Mezcala	1.67	84	*e*Pn	Pn	08 52 12.1	+0.4
MEIG				*e*Sn	Sn	08 52 28.1	-3.8
MEIG	Mezcala	1.67	84	*e*P	Pn	08 52 12.1	+0.4
MEIG				*i* S	Sn	08 52 32.2	+0.3
PLIG	Platanillo	1.88	70	*e*Pn	Pn	08 52 14.9	+0.3
PLIG				*e*		08 52 28.8	
PLIG	Platanillo	1.88	70	*e*P	Pn	08 52 15.0	+0.5
PLIG				*i* S	Sn	08 52 36.5	-0.6
MOIG	Morelia	1.91	5	*e*Pn	Pn	08 52 15.2	+0.1
MOIG				*e*Sn	Sn	08 52 41.5	+3.4
MOIG	Morelia	1.91	5	*e*P	Pn	08 52 15.1	-0.1
MOIG				*i* S	Sn	08 52 36.0	-2.2
MMIG	Aquila	1.96	286	*e*Pn	Pn	08 52 15.1	-0.4
MMIG				*e*Sn	Sn	08 52 34.5	-4.4
MMIG	Aquila	1.96	286	*e*P	Pn	08 52 15.6	+0.1
MMIG				*i* S	Sn	08 52 39.7	+0.8
UNM	Universidad Na	2.59	53	*e*Pn	Pn	08 52 25.1	+0.5
TLIG	Tlapa	2.67	94	*e*Pn	Pn	08 52 26.9	+1.4
TLIG				*e*Sn	Sn	08 53 00.9	+4.1
TLIG	Tlapa	2.67	94	*e*P	Pn	08 52 27.0	+1.4
TLIG				*i* S	Sn	08 52 59.2	+2.4
JRQG	Juriquilla Cam	3.05	16	*e*Pn	Pn	08 52 30.5	-0.3
ZAIG	Zacatecas	5.11	347	*e*Pn	Pn	08 53 00.3	+1.2
CMIG	Matias Romero	6.22	95	P	Pn	08 53 16.0	+1.8
	4.2nm,0.3s,baz=266,slow=11,SNR=52						
CMIG				S	Sn	08 54 20.4	-3.6
	4.3nm,0.3s,baz=272,slow=14,SNR=2.4						
CMIG				LR	LR	08 55 50.8	
	comp=Z,812nm,18.3s,baz=268,slow=41						
LNIG	Linares	7.32	14	*e*Pn	Pn	08 53 31.0	+1.8
H06S1	SOCORRO T	9.17	278	T	T	09 03 16.9	
	SNR=9.0						
HPIG		9.96	337	*e*Pn	Pn	08 54 08.5	+3.0
SLBS	Sierra La Lagu	9.96	308	*e*Pn	Pn	08 54 08.7	+3.3
KVTX	Kingsville	10.25	18	*e*Pn	Pn	08 54 13.2	+3.9
LPIG	La Paz	10.47	309	LR	LR	08 57 51.3	
	comp=Z,239nm,21.5s,baz=134,slow=34						
APG	El Apazote	10.80	103	LR	LR	08 58 36.2	
	comp=Z,326nm,20.0s,baz=241,slow=39						
TX31	Lajitas Ar. Si	11.71	350	*e*Pn	Pn	08 54 35.7	+6.3
TXAR	Lajitas Array	11.71	350	P	Pn	08 54 32.0	+2.6
	0.0nm,0.3s,baz=166,slow=15,SNR=13						
TXAR				LR	LR	08 59 25.4	
	comp=Z,197nm,19.7s,baz=0.0,slow=40						
HSIG		14.24	324	*e*Pn	P	08 55 07.8	-2.4
MNTX	Cornudas Mount	14.34	346	*e*P	P	08 55 11.7	+0.3
MNTX	Cornudas Mount	14.34	346	P	P	08 55 12.0	+0.7
	baz=164						
ABTX	Abilene, Hawle	14.88	6	*e*Pn	Pn	08 55 12.8	+0.5
ABTX	Abilene, Hawle	14.88	6	P	P	08 55 17.1	-0.2
	baz=186						
NATX	Nacogdoches	15.20	22	*e*Pn	P	08 55 18.7	-2.1
	10nm,0.7s						
NATX	Nacogdoches	15.20	22	P	P	08 55 19.7	-1.1
	baz=204						
121A	Cookes Peak, D	15.81	340	P	P	08 55 28.4	+0.6
	baz=157						
241A	Mo Tay, Goldon	16.12	27	*e*Pn	P	08 55 30.7	-0.3
	15nm,0.9s						
241A	Mo Tay, Goldon	16.12	27	P	P	08 55 29.7	-1.3
	baz=209						
MSTX	Muleshoe	16.19	356	P	Pn	08 55 29.6	+0.3
	baz=175						
344A	Westbrook Farm	16.69	33	*e*Pn	Pn	08 55 34.9	-0.7
	7.1nm,0.8s						
344A	Westbrook Farm	16.69	33	P	Pn	08 55 36.2	+0.6
	baz=217						
446A	Poplarville	16.95	38	P	P	08 55 39.5	-0.8
	baz=222						
AMTX	Amarillo	17.05	359	*e*Pn	P	08 55 41.3	-0.1
	9.9nm,1.1s						
AMTX	Amarillo	17.05	359	P	Pn	08 55 40.7	+0.5
	baz=178						
WMOK	Wichita Mounta	17.06	7	*e*Pn	Pn	08 55 40.3	+0.1
	2.1nm,0.9s						
WMOK	Wichita Mounta	17.06	7	P	P	08 55 41.1	-0.4
	baz=188						
LENM	Lemitar	17.09	344	*e*Pn	P	08 55 44.4	+2.4
Z41A	Richland Creek	17.24	25	*e*Pn	P	08 55 43.5	+0.1
	14nm,0.9s						
447A	Lucedale	17.37	39	*e*Pn	Pn	08 55 42.5	-1.5
143A	Socs Landing,	17.37	29	*e*Pn	P	08 55 44.7	-0.2
	30nm,1.1s						
ESPN	Las Esperanzas	17.38	106	*e*Pn	Pn	08 55 37.6	-6.7
	20nm,1.1s						
214A	Organ Pipe Nat	17.52	326	P	P	08 55 47.9	+1.3
	baz=141						
Z42A	Norrel Spur, H	17.61	27	P	P	08 55 48.6	+1.1
	baz=210						
ANMO	Albuquerque	17.70	346	P	P	08 55 49.5	+0.7
	0.1nm,0.3s,baz=155,slow=11,SNR=7.7						
ANMO				LR	LR	09 03 10.3	
	comp=Z,129nm,19.0s,baz=160,slow=39						
ANMO	Albuquerque	17.70	346	*e*Pn	P	08 55 51.1	+2.3
	3.6nm,1.1s						
ANMO	Albuquerque	17.70	346	P	P	08 55 50.5	+1.7
	baz=163						
W39A	Magazine	18.63	20	*e*P	P	08 55 59.0	+0.3
	19nm,1.1s						
W39A	Magazine	18.63	20	P	P	08 55 57.7	-1.0
	baz=202						
113A	Mohawk Valley,	18.66	326	*e*P	Pn	08 56 02.1	+2.4
TUL1	Leonard	18.74	14	*e*P	P	08 55 57.9	-2.0
	8.6nm,0.8s						
TUL1	Leonard	18.74	14	P	P	08 55 58.5	-1.5
	baz=196						
Z45A	Winona	18.75	32	*e*P	Pn	08 56 00.5	-0.3
	19nm,0.6s						
Z45A	Winona	18.75	32	P	P	08 55 58.8	-1.2
	baz=216						
X16A	Lo Mia Camp, P	18.87	333	*e*P	Pn	08 56 04.8	+2.3
	3.7nm,0.8s						
147A	Livingston	18.96	36	*e*P	Pn	08 56 03.7	+0.3
	12nm,0.6s						
Y44A	Strider, Charl	18.97	30	P	P	08 56 01.9	-0.6
	baz=214						
X43A	Marvell	19.13	27	*e*P	Pn	08 56 05.5	0.0
	48nm,0.8s						
X43A	Marvell	19.13	27	P	P	08 56 04.3	+0.1
	baz=211,SNR=6.7						
W41B	Gary Mavity, V	19.14	23	*e*P	P	08 56 04.4	0.0
	3.2nm,0.5s						
W41B	Gary Mavity, V	19.14	23	P	P	08 56 04.3	0.0
	baz=207						
Y14A	Wickenburg	19.19	329	*e*P	Pn	08 56 07.0	+0.8
	2.0nm,0.8s						
Y45A	Yeager Farm, C	19.22	31	P	P	08 56 04.6	-0.6
	baz=216,SNR=6.2						
WHAR	Wooly Hollow	19.23	23	*e*P	P	08 56 04.9	-0.5
	14nm,1.1s						
GLA	Glamis	19.45	324	*e*P	Pn	08 56 11.1	+1.8
	13nm,1.1s						
GLA	Glamis	19.45	324	P	Pn	08 56 09.8	+0.5
	baz=138						
Z47A	Carrollton	19.47	35	P	Pn	08 56 09.1	-0.4
	baz=220						
T25A	Trinidad	19.49	353	*e*P	Pn	08 56 10.5	+0.6
	7.2nm,0.9s						
T25A	Trinidad	19.49	353	P	Pn	08 56 09.9	0.0
	baz=171						
Y46A	Houston	19.58	33	P	P	08 56 08.2	-0.9
	baz=217,SNR=8.8						
HHAR	Hobbs	19.58	18	*e*P	P	08 56 08.5	-0.6
	8.7nm,0.9s						
V41A	Mountainview	19.72	23	P	P	08 56 09.6	-1.1
	baz=206,SNR=12						
X45A	UM Field Stati	19.74	31	P	P	08 56 09.7	-1.2
	baz=215						
149A	Jones	19.77	39	P	P	08 56 09.9	-1.3
	baz=224						
WUAZ	Wupatki	19.79	335	*e*P	Pn	08 56 14.9	+1.4
	7.3nm,0.8s						
WUAZ	Wupatki	19.79	335	P	Pn	08 56 14.1	+0.6
	baz=150,SNR=8.2						
Y12C	Blythe	19.82	326	*e*P	Pn	08 56 14.0	+0.5
	5.8nm,0.9s						
LRAL	Lakeview Retre	19.96	38	*e*P	P	08 56 12.4	-0.9
	5.8nm,0.9s						
LRAL	Lakeview Retre	19.96	38	P	P	08 56 12.7	-0.6
	baz=223						
U40A	Yellville	19.99	20	P	P	08 56 12.6	-1.1
	baz=204						
V42A	Cord	20.03	24	P	P	08 56 13.1	-1.0
	baz=208						
Y47A	UCPARC, Winfie	20.12	34	P	P	08 56 14.0	-1.1
	baz=220						
SDCO	Great Sand Dun	20.24	350	*e*P	Pn	08 56 18.0	-0.8
	7.7nm,1.0s						
SDCO	Great Sand Dun	20.24	350	P	P	08 56 17.5	+0.9
	baz=168,SNR=10						
X46A	Booneville	20.25	32	P	P	08 56 15.3	-1.1
	baz=217						
BC3	Big Chuckawall	20.25	324	P	Pn	08 56 18.6	-0.2
	baz=138,SNR=5.0						
U41A	Viola	20.31	22	P	P	08 56 16.4	-0.6
	baz=206						
MVCO	Mesa Verde	20.37	343	*e*P	Pn	08 56 19.6	-0.7
	7.0nm,0.8s						
MVCO	Mesa Verde	20.37	343	P	P	08 56 19.1	+1.1
	baz=160,SNR=5.6						
IRM	Iron Mountain	20.46	326	P	Pn	08 56 21.3	+0.1
	baz=139,SNR=8.7						
S22A	4UR Ranch, Cre	20.48	348	*e*P	Pn	08 56 21.4	-0.3
	6.6nm,0.8s						
S22A	4UR Ranch, Cre	20.48	348	P	Pn	08 56 20.9	-0.8
	baz=165,SNR=12						
W13A	Hualapai Mount	20.55	330	*e*P	Pn	08 56 22.2	-0.3
	3.6nm,0.9s						
U42A	Revenden	20.57	24	P	P	08 56 18.8	-1.1
	baz=208						
X47A	Russelville	20.59	33	P	P	08 56 17.9	-2.2
	baz=218						
XPFO	Piæon Flat	20.79	322	*e*P	Pn	08 56 25.1	-0.2
	4.7nm,0.8s						
PFO	Pinyon Flats O	20.79	322	*e*P	Pn	08 56 25.0	-0.3
	4.9nm,0.8s						
PFO	Pinyon Flats O	20.79	322	P	Pn	08 56 23.9	-1.4
	baz=136						
FRD	Ford Ranch, An	20.80	322	P	Pn	08 56 24.4	-0.9
	baz=135,SNR=6.2						
BELC	Belle Mtn. Jos	20.81	324	P	Pn	08 56 24.3	-1.2
	baz=137						
PLAL	Pickwick Lake	20.84	32	*e*P	P	08 56 21.1	-1.7
	9.0nm,1.0s						
U15A	North Rim	20.95	335	*e*P	Pn	08 56 27.6	+0.2
	3.3nm,1.1s						
X48A	Hartselle	20.97	35	*e*P	P	08 56 22.4	-1.9
	9.4nm,1.1s						
X48A	Hartselle	20.97	35	P	P	08 56 22.7	-1.5
	baz=220						
T41A	Mountain View	20.99	22	P	P	08 56 23.4	-1.0
	baz=206						
V45A	Humboldt	21.02	29	P	P	08 56 23.4	-1.3
	baz=214						
GMRC	Granite Mounta	21.21	326	P	P	08 56 28.4	+1.4
	baz=139						
T42A	Van Buren	21.22	23	P	P	08 56 25.9	-1.0
	baz=207						
MURC	Murrieta	21.22	321	P	P	08 56 28.2	+1.2
	baz=134,SNR=5.6						
W47A	Westpoint	21.29	32	P	P	08 56 26.4	-1.3
	baz=218						
PV13	Radium Mtn., P	21.34	344	*e*P	P	08 56 31.6	+3.1
	3.8nm,0.9s						
PV05	Paradox Valley	21.34	343	*e*P	P	08 56 31.3	+2.8
PV03	Paradox Valley	21.44	344	*e*P	P	08 56 31.6	+2.1
V46A	Holladay	21.47	31	P	P	08 56 27.7	-1.9
	baz=216						
060A	Indiantown	21.47	61	*e*P	P	08 56 30.9	+1.2
	157nm,1.1s						
S41A	Jillco Farms,	21.48	21	P	P	08 56 28.7	-1.0
	baz=205						
PV12	Sauc

	4.2nm,0.9s							
MTPU	**Mount Pierson**	22.32	337	*eP*	P	08 56 40.7	+1.6	
	5.8nm,0.9s							
CCUT	**Cedar City**	22.35	334	*eP*	P	08 56 41.9	+2.6	
	1.2nm,0.9s							
GOGA	**Godfrey**	22.38	42	*eP*	P	08 56 38.6	-0.7	
	9.5nm,1.1s							
GOGA	**Godfrey**	22.38	42	P	P	08 56 38.7	-0.7	
	baz=230							
W50A	**Signal Mountai**	22.48	36	*eP*	P	08 56 37.9	-2.7	
	12nm,1.1s							
V49A	**McMinnville**	22.57	34	P	P	08 56 38.6	-2.9	
	baz=221							
EDW2	**Edwards Air Fo**	22.59	322	P	P	08 56 42.5	+0.8	
	baz=135							
SRU	**San Rafael Swe**	22.72	341	*eP*	P	08 56 44.2	+1.0	
	3.4nm,0.7s							
W51A	**Cleveland**	22.77	37	P	P	08 56 43.3	-0.3	
	baz=224							
S45A	**Carrier Mills**	22.79	27	P	P	08 56 42.1	-1.7	
	baz=212							
U48A	**Cassie Pea, Po**	22.81	32	P	P	08 56 41.4	-2.5	
	baz=218							
LRMC	**Laurel Mtn Rad**	22.84	324	P	P	08 56 46.6	+2.2	
	baz=136,SNR=5.8							
T47A	**Sharon Grove**	22.91	30	*eP*	P	08 56 42.9	-2.0	
	9.8nm,1.0s							
T47A	**Sharon Grove**	22.91	30	P	P	08 56 42.8	-2.0	
	baz=216							
V50A	**Pikevile**	22.94	36	P	P	08 56 43.0	-2.4	
	baz=222							
R44A	**Waltonville**	23.07	25	P	P	08 56 45.6	-0.9	
	baz=210							
O20A	**White River Ci**	23.07	346	P	P	08 56 46.9	+0.1	
	baz=163							
TMUT	**Trail Mountain**	23.10	340	*eP*	P	08 56 49.6	+2.4	
	2.4nm,0.6s							
P18A	**Preston Nutter**	23.11	342	*eP*	P	08 56 48.3	+1.0	
	4.8nm,0.8s							
FURC	**Furnace Creek,**	23.12	327	P	P	08 56 48.3	+1.2	
	baz=140							
MPMC	**Manual Prospec**	23.15	325	P	P	08 56 48.9	+1.3	
	baz=138,SNR=6.6							
TPNV	**Topopah Spring**	23.18	328	*eP*	P	08 56 50.5	+2.6	
	9.2nm,1.1s							
TPNV	**Topopah Spring**	23.18	328	P	P	08 56 50.1	+2.2	
	baz=142							
X53A	**Estanollee**	23.19	41	P	P	08 56 46.6	-1.2	
	baz=228							
ARVC	**Arvin**	23.25	321	P	P	08 56 50.6	+2.2	
	baz=134							
T48A	**Bowling Green**	23.35	31	P	P	08 56 47.0	-2.3	
	baz=216							
N23A	**Red Feather La**	23.39	351	*eP*	P	08 56 51.1	+1.2	
	5.7nm,0.8s							
N23A	**Red Feather La**	23.39	351	P	P	08 56 50.3	+0.3	
	baz=169,SNR=5.9							
PSUT	**Pine Spring**	23.39	335	*eP*	P	08 56 52.4	+2.4	
	2.6nm,0.8s							
ISA	**Isabella, Lake**	23.42	323	*eP*	P	08 56 52.1	+2.1	
	9.5nm,1.0s							
ISA	**Isabella, Lake**	23.42	323	P	P	08 56 51.9	+1.8	
	baz=135,SNR=7.6							
USIN	**University of**	23.43	28	*eP*	P	08 56 49.1	-1.0	
	38nm,1.1s							
R45A	**Skylar, Fairfi**	23.44	27	P	P	08 56 48.5	-1.7	
	baz=212							
P41A	**Barry, Barry**	23.59	20	P	P	08 56 49.7	-1.9	
	baz=204							
U50A	**Jamestown**	23.63	35	P	P	08 56 49.8	-2.2	
	baz=222							
Q44A	**Meyer Farm, Va**	23.65	25	P	P	08 56 50.5	-1.6	
	baz=210							
TKL	**Tuckaleechee C**	23.69	38	P	P	08 56 49.9	-2.7	
	2.8nm,0.3s,baz=226,slow=7.7,SNR=14							
R46A	**Gibon Southern**	23.71	28	P	P	08 56 51.3	-1.4	
	baz=214							
W53A	**Cullowhee**	23.72	40	P	P	08 56 51.7	-1.3	
	baz=227							
BG3	**Lake Jocassee**	23.75	40	*eP*	P	08 56 52.4	-0.7	
	12nm,0.7s							
CWC	**Cottonwood Cre**	23.76	325	P	P	08 56 54.8	+1.4	
	baz=137							
VES	**Vestal, Richgr**	23.90	322	P	P	08 56 54.9	+0.4	
	baz=134							
V52A	**Sevierville**	23.92	38	*eP*	P	08 56 52.5	-2.3	
	12nm,1.1s							
R11A	**Troy Canyon, C**	23.98	332	*eP*	P	08 56 58.0	+2.5	
	1.8nm,0.7s							
R11A	**Troy Canyon, C**	23.98	332	P	P	08 56 56.7	+1.2	
	baz=145,SNR=5.4							
O41A	**Passleys Farm,**	24.05	20	P	P	08 56 54.4	-1.4	
	baz=204							
T50A	**Nancy**	24.08	34	P	P	08 56 54.1	-2.1	
	baz=221							
P43A	**Skaggs, Pawnee**	24.10	23	P	P	08 56 55.3	-1.0	
	baz=208							
R47A	**Wooly Knot Far**	24.23	29	P	P	08 56 56.2	-1.3	
	baz=216							
N39A	**Derby Farms, D**	24.27	17	*eP*	P	08 56 56.8	-1.1	
	26nm,1.1s							
N39A	**Derby Farms, D**	24.27	17	P	P	08 56 56.3	-1.5	
	baz=200,SNR=5.8							
V53A	**Saluda**	24.27	39	*eP*	P	08 56 57.1	-0.9	
	1.0nm,0.6s							
V53A	**Saluda**	24.27	39	P	P	08 56 56.9	-1.1	
	baz=227							
WCI	**Wyandotte Cave**	24.28	30	P	P	08 56 56.7	-1.3	
	baz=216							
P44A	**Sand Creek, Wi**	24.30	25	P	P	08 56 56.7	-1.4	
	baz=210							
TZTN	**Tazewell**	24.44	37	*eP*	P	08 56 57.9	-1.6	
	3.8nm,0.6s							
T51A	**Gray**	24.52	35	P	P	08 56 59.1	-1.1	
	baz=223							
P45A	**Graceland, Par**	24.70	26	P	P	08 57 01.1	-0.7	
	baz=212							
S50A	**Richmond**	24.80	33	P	P	08 57 02.2	-0.6	
	baz=221							
M39A	**Webster**	24.92	17	P	P	08 57 03.0	-0.7	
	baz=201							
O44A	**Mansfield**	24.95	24	P	P	08 57 03.2	-0.8	
	baz=210							
N42A	**Yates City**	24.97	21	P	P	08 57 03.0	-1.3	
	baz=206,SNR=6.2							
HDIL	**Hopedale**	24.99	22	P	P	08 57 03.1	-1.3	
	baz=208							
M40A	**Post Highland**	25.04	18	P	P	08 57 03.6	-1.2	
	baz=202							
Q48A	**North Vernon**	25.11	30	P	P	08 57 04.7	-0.8	
	baz=216							
OMMB	**Old Mammoth Mi**	25.11	325	*eP*	P	08 57 09.7	+3.7	
	5.3nm,0.9s							
MDPB	**Devils Postpil**	25.17	325	*eP*	P	08 57 08.8	+2.4	
	10.0nm,1.0s							
K22A	**Casper**	25.19	351	*eP*	P	08 57 09.0	+2.6	
	12nm,0.8s							
K22A	**Casper**	25.19	351	P	P	08 57 07.7	+1.2	
	baz=168							
S51A	**Beattyville**	25.21	35	*eP*	P	08 57 04.6	-1.8	
	12nm,1.1s							
S51A	**Beattyville**	25.21	35	P	P	08 57 05.5	-0.9	
	baz=222							
NV11	**Mina Array Sit**	25.29	328	*eP*	P	08 57 09.5	+2.2	
	0.6nm,1.0s							
M41A	**Milan**	25.30	19	P	P	08 57 07.0	-0.2	
	baz=204							
P47A	**Martinsville**	25.31	28	P	P	08 57 07.2	-0.1	
	baz=215							
O45A	**Potomac**	25.32	25	P	P	08 57 06.7	-0.7	
	baz=211							
HWUT	**Hardware Ranch**	25.32	342	*eP*	P	08 57 09.0	+1.3	
	4.1nm,0.9s							
NV01	**Mina Array Sit**	25.36	328	*eP*	P	08 57 09.5	+1.5	
NVAR	**Mina Array Bea**	25.36	328	P	P	08 57 10.2	+2.2	
	7.5nm,0.8s,baz=152,slow=10,SNR=40							
NVAR				LR	LR	09 06 51.4		
	comp=Z,117nm,19.9s,baz=100,slow=36							
L39A	**Vinton**	25.56	16	P	P	08 57 08.9	-0.7	
	baz=200							
RYN	**Ryan**	25.62	328	*eP*	P	08 57 13.2	+2.8	
	5.5nm,0.9s							
R51A	**Hillsboro**	25.70	34	P	P	08 57 09.8	-1.1	
	baz=221							
KVN	**Kaiserville**	25.73	329	*eP*	P	08 57 13.5	+2.1	
	6.3nm,1.0s							
BW06	**Boulder Array**	25.88	346	*eP*	P	08 57 14.9	+2.2	
	4.7nm,0.9s							
BW06	**Boulder Array**	25.88	346	P	P	08 57 13.4	+0.7	
	baz=162							
PD31	**Pinedale Array**	25.88	346	*eP*	P	08 57 15.3	+2.6	
PDAR	**Pinedale Array**	25.88	346	P	P	08 57 13.2	+0.4	
	3.5nm,0.9s,baz=158,slow=8.2,SNR=21							
PDAR				LR	LR	09 08 40.3		
	comp=Z,80nm,20.0s,baz=166,slow=39							
PDAR	**Pinedale Array**	25.88	346	*eP*	P	08 57 14.0	+1.2	
M43A	**Waltham Townsh**	25.88	22	P	P	08 57 12.1	-0.4	
	baz=207							
Q50A	**Georgetown**	25.90	32	P	P	08 57 10.8	-1.9	
	baz=220							
N45A	**Kentland**	25.91	25	P	P	08 57 12.6	-0.2	
	baz=211							
WAKR	**Walker**	26.00	326	*eP*	P	08 57 16.6	+2.7	
	4.0nm,1.1s							
K39A	**Oelwein**	26.14	16	P	P	08 57 14.8	0.0	
	baz=200							
ECSD	**EROS Data Cent**	26.20	8	*eP*	P	08 57 15.8	+0.4	
	3.4nm,1.0s							
ECSD	**EROS Data Cent**	26.20	8	P	P	08 57 15.1	-0.2	
	baz=190							
Q51A	**Peebles**	26.36	33	P	P	08 57 15.2	-1.7	
	baz=221							
P50A	**Jamestown**	26.57	31	P	P	08 57 17.7	-1.0	
	baz=219							
N47A	**Urbana**	26.70	27	P	P	08 57 19.1	-0.7	
	baz=214							
O49A	**Covington**	26.76	30	P	P	08 57 19.3	-1.1	
	baz=218							
SNOW	**Snow King Moun**	26.82	345	*eP*	P	08 57 22.6	+1.4	
	8.1nm,1.1s							
Q52A	**Bidwell**	26.88	34	P	P	08 57 20.5	-1.1	
	baz=223							
TPAW	**Teton Pass**	26.90	344	*eP*	P	08 57 26.4	+4.4	
	5.3nm,0.8s							
LOHW	**Long Hollow**	26.93	345	*eP*	P	08 57 23.8	+1.6	
	2.2nm,0.7s							
FXWY	**Fox Creek**	27.06	344	*eP*	P	08 57 24.4	+1.1	
	2.7nm,1.1s							
M54A	**Oil Creek Stat**	30.09	34	P	P	08 57 53.1	+2.9	
	baz=224							
ULM	**Lac du Bonnet**	32.71	7	P	P	08 58 09.7	-3.3	
	2.7nm,0.8s,baz=201,slow=6.6,SNR=3.7							
ULM				LR	LR	09 12 33.6		
	comp=Z,94nm,19.4s,baz=109,slow=38							
B05A	**Bryant**	34.80	336	P	P	08 58 34.5	+3.2	
	baz=144							
SCHQ	**Schefferville**	45.45	27	LR	LR	09 23 00.1		
	comp=Z,93nm,20.0s,baz=151,slow=42							
YKA	**Yellowknife Ar**	45.63	351	P	P	08 59 58.6	-2.0	
	0.6nm,0.6s,baz=157,slow=7.9,SNR=3.0							
LPAZ	**La Paz**	47.08	134	LR	LR	09 17 51.7		
	comp=Z,26nm,18.8s,baz=285,slow=33							
SIV	**San Ignacio**	51.97	128	P	P	09 00 49.8	-0.2	
	0.2nm,0.4s,baz=288,slow=9.0,SNR=3.1							
ILAR	**Eielson Array**	55.94	338	P	P	09 01 18.4	+0.2	
	1.2nm,0.9s,baz=151,slow=6.1,SNR=12							
TRF	**Thorofare Moun**	56.48	336	*eP*	P	09 01 23.8	+1.5	
	8.1nm,0.8s							
WRA	**Warramunga Arr**	127.44	258	PKP	PKPdf	09 10 46.3	+0.6	
	0.7nm,0.8s,baz=85,slow=2.5,SNR=9.5							
ASAR	**Alice Springs**	128.23	254	PKP	PKPdf	09 10 46.9	-0.2	
	0.5nm,0.8s,baz=91,slow=1.8,SNR=5.4							

NNC ***19*** *09:26:54.8±3.2,53°.46N×87°.55E,h0km,mb3.7,mpv3.4, Error ellipse: s-maj=25.7km s-min=14.5km az=63.0, Suspected Mining explosion.*

KRAR 19 09:26:50.0±0.2,53°.47N×87°.63E,M2.8,6C-5D,Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
ZAA0	**Zalesovo Array**	1.74	287	⇓Pn		Pg	09 27 24.9	+1.6
	8.0nm,0.5s							
ZAA0				⇑Sn		Sg	09 27 49.3	+3.5
	68nm,0.8s							
KURK	**Kurchatov**	6.20	247	⇓Pn		Pn	09 28 27.9	+5.2
	1.9nm,0.6s							
KURK				⇑Sn		Sn	09 29 38.9	+4.7
	2.9nm,0.6s							
KURK				⇓Lg		Lg	09 30 11.6	
	9.0nm,0.7s							
KURBB	**Kurchatov Arra**	6.30	247	⇑Pn		Pn	09 28 29.3	+5.3
	3.9nm,0.5s							
KURBB				⇓Sn		Sn	09 29 40.9	+4.3
	8.6nm,0.5s							
KURBB				⇑Lg		Lg	09 30 11.0	
	22nm,0.7s							
MK31	**Makanchi Array**	7.51	209	⇑Pn		Pn	09 28 46.1	+5.4
	1.1nm,0.8s,baz=27,slow=13							
MK31				⇑Sn		Sn	09 30 10.5	+3.9
	2.7nm,0.8s,baz=27,slow=24							
MK31				⇓Lg		Lg	09 30 52.3	
	4.9nm,0.7s,baz=19,slow=27							

MEX 19 09:31:27.1±0.9,16°.12N×97°.61W,h15km±13km,MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
VHO	**Vista Hermosa**	1.27	41	*e*P		Pn	09 31 47.3	-3.2
VHO				*e*S		Sb	09 32 02.4	-4.5
HUIG	**Huatulco**	1.48	103	*e*P		Pn	09 31 50.0	-3.3
HUIG				*i* S		Sn	09 32 07.6	-4.7
CMIG	**Matias Romero**	2.78	69	*e*P		Pn	09 32 08.0	-3.1
CMIG				*e*S		Sn	09 32 40.3	-4.2

NIED ***19*** *09:35:00,36°.90N×141°.40E,h5km,Mw3.5 Best double couple: M0 1.95000×10^14 NP1:φs16.00000°,δ30.00000°, λ-98.00000°. NP2:φs205.00000°,δ61.00000°, λ-85.00000°.*

ISCJB ***19*** *09:35:38.2±1.8,36°.88N±0°.04×141°.49E±0°.06, h12km±12km,mb3.4/5,Error ellipse: s-maj=8.2km s-min=5.7km az=155.6*

IDC ***19*** *09:35:38.1±1.0,36°.88N×141°.50E,h0km,mb3.4/5, mb1 3.6/7,mb1mx3.4/49,mbtmp3.4/7,ML3.2/2,MS2.5/2, Ms1 2.5/2,ms1mx2.2/55,Error ellipse: s-maj=23.5km s-min=20.1km az=102.0*

JMA ***19*** *09:35:40.3±0.1,36°.87N×141°.36E,h32km±1km,M3.6*

ISC 19 09:35:39.4±1.7,36°.90N±0°.04×141°.40E±0°.07,h9km±10km, n24,σ0°87/27,mb3.5/5,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
ONAJ	**Iwakimizuishiy**	0.53	293	P		Pb	09 35 50.4	-0.4
ONAJ				S		Sg	09 35 57.9	+1.4
JFK	**Kawauchi**	0.63	318	P		Pb	09 35 52.5	-0.1
JFK				S		Sg	09 36 01.2	+1.4
JFFD	**Fukushimafurud**	0.70	286	P		Pg	09 35 53.1	+0.2
JFFD				*e*S		Sg	09 36 02.2	+0.1
JHO	**Hitachi**	0.73	247	P		Pg	09 35 53.4	-0.1
JHO				*e*S		Sg	09 36 02.6	-0.4
JHYU	**Hitachinakayam**	0.86	230	P		Pg	09 35 55.2	-0.8
JFT	**Otama**	1.05	306	P		Pg	09 35 59.6	0.0
JFT				*e*S		Sg	09 36 13.2	-0.1
JMM	**Marumori**	1.08	333	P		Pg	09 35 59.8	-0.3
JMM				*e*S		Sg	09 36 13.8	-0.4
JFY	**Yanaizu**	1.45	291	P		Pn	09 36 05.6	-0.2
JFY				*e*S		Sn	09 36 23.9	-1.1
MJAR	**Matsushiro Arr**	2.59	263	Pn		Pn	09 36 21.7	+0.1
	3.2nm,0.3s,baz=85,slow=15,SNR=23							
MJAR				Sn		Sb	09 36 56.6	-1.4
	3.3nm,0.3s,baz=77,slow=15,SNR=5.6							
MJAR				LR		LR	09 37 45.5	
	comp=Z,70nm,18.6s,baz=125,slow=48							
MAT	**Matsushiro**	2.59	263	P		Pn	09 36 21.4	-0.2
MAT				*e*S		Sn	09 36 55.7	+2.5
JHJ	**Hachijo jima 2**	4.00	200	Pn		Pn	09 36 41.8	+0.9
	5.0nm,0.3s,baz=22,slow=19,SNR=5.1							
JHJ				Sn		Sn	09 37 28.4	+0.6
	13nm,0.3s,baz=245,slow=15,SNR=5.1							
KSRS	**Korea Array**	10.77	277	LR		LR	09 41 49.5	
	comp=Z,28nm,20.8s,baz=120,slow=34							
SONM	**Songino Array**	27.85	304	P		P	09 41 30.2	+0.8
	0.2nm,0.4s,baz=99,slow=8.9,SNR=2.1							
H11N2	**WAKE ISLAND Hy**	28.09	121	T		T	10 10 56.5	
	baz=313,slow=75,SNR=90							
H11N1	**WAKE ISLAND Hy**	28.09	121	T		T	10 10 58.4	
	baz=313,slow=75,SNR=80							
H11N3	**WAKE ISLAND Hy**	28.10	121	T		T	10 11 01.3	
	baz=313,slow=75,SNR=83							
H11S1	**WAKE ISLAND Hy**	28.79	123	T		T	10 11 49.3	
	baz=315,slow=76,SNR=59							
H11S3	**WAKE ISLAND Hy**	28.79	123	T		T	10 11 49.0	
	baz=315,slow=76,SNR=53							
H11S2	**WAKE ISLAND Hy**	28.81	123	T		T	10 11 50.5	
	baz=315,slow=76,SNR=41							
MKAR	**Makanchi Array**	44.18	302	P		P	09 43 48.8	+0.2
	0.6nm,0.7s,baz=78,slow=9.0,SNR=2.7							
ILAR	**Eielson Array**	49.61	32	P		P	09 44 30.8	+0.1
	0.5nm,0.9s,baz=267,slow=6.3,SNR=4.2							
WRA	**Warramunga Arr**	56.93	188	P		P	09 45 24.4	-0.6
	0.4nm,0.8s,baz=7.0,slow=7.3,SNR=4.2							
ASAR	**Alice Springs**	60.66	188	P		P	09 45 51.1	+0.2
	0.3nm,0.8s,baz=17,slow=6.8,SNR=3.3							
LPAZ	**La Paz**	146.77	60	PKPbc		PKPbc	09 55 22.2	-0.9
	0.3nm,0.4s,baz=326,slow=6.3,SNR=2.6							

BJI ***19*** *09:44:31.1,5°.70S×151°.60E,h10km,mb5.5/68,mB5.9/80, Ms5.9/93,Ms7 5.7/85*

ISCJB ***19*** *09:44:31.1±0.8,5°.72S±0°.02×151°.53E±0°.02,h2km±5km, mb5.7/367,MS5.9/699,Error ellipse: s-maj=3.3km s-min=2.6km az=3.7*

NEIC ***19*** *09:44:34.0±0.0,5°.83S×151°.91E,h25km Best double couple: NP1:φs42.00000°,δ63.00000°,λ-98.00000°. NP2:φs241.00000°,δ28.00000°,λ-73.00000°. Principal axes: T 1.2300, Plg17.0000°, Azm138.0000°; N -0.0800, Plg7.0000°, Azm46.0000°; P -1.1500, Plg70.0000°, Azm292.0000°;*

NEIC ***19*** *09:44:34.1±0.1,5°.71S×151°.60E,h13km,mb5.9/239, ME5.5,MS5.9/300,MW5.9,MWW6.0 Error ellipse: s-maj=2.8km s-min=2.5km az=121.0,Moment Tensor Solution. s55 Moment tensor: Scale 10^17Nm; Mrr-5.84; Mθθ4.17; Mφφ1.67; Mrθ-1.61; Mφθ3.23; Mφr-4.29; Best double couple: M0 7.70000×10^17 NP1:φs36.00000°, δ64.00000°,λ-109.00000°. NP2:φs254.00000°, δ32.00000°,λ-56.00000°. Principal axes: T 7.5100, Plg17.0000°, Azm140.0000°; N 0.2700, Plg120.0000°, Azm45.0000°; P -7.7900, Plg66.0000°, Azm272.0000°; Broadband fault plane solution: P waves. NP1: φs225.00000°,δ15.00000°,λ-90.00000°. NP2:φs45.00000°, δ75.00000°,λ-90.00000°. Principal axes: T Plg30.0000°, Azm135.0000°; N Plg0.0000°, Azm0.0000°; P Plg60.0000°, Azm315.0000°; Depth from synthetics of broadband displacement seismograms. Apparent Stress 0.08 MPa. Energy computed from BB mechanism.*

NEIC Felt at Kimbe.

MOS ***19*** *09:44:36.4±1.1,5°.65S×151°.52E,h35km,mb6.0/67, MS5.8/67 Error ellipse: s-maj=7.1km s-min=5.2km az=89.3*

IDC ***19*** *09:44:37.2±1.4,5°.70S×151°.65E,h33km±10km,mb5.2/44, mb1 5.3/47,mb1mx5.3/50,mbtmp5.4/47,ML3.9/2,MS5.5/43, Ms1 5.5/43,ms1mx5.4/58,Error ellipse: s-maj=9.3km s-min=7.9km az=105.0*

GCMT ***19*** *09:44:39.1±0.1,5°.90S×151°.79E,h20km,MW6.0/146, Moment Tensor Solution. s146,c310; s140,c453; Duration: 2s4 Moment tensor: Scale 1018Nm; Mrr-0.92±.01; Mθθ0.58±.01; Mφφ0.34±.01; Mrθ-0.34±.01; Mθφ0.54±.01; Mφr-0.60±.01; Best double couple: M0 1.19600×1018 NP1:φs38.00000°,δ63.00000°, λ-103.00000°. NP2:φs245.00000°,δ30.00000°, λ-67.00000°. Principal axes: T 1.2180, Plg17.0000°, Azm138.0000°; N -0.0440, Plg11.0000°, Azm44.0000°; P -1.1750, Plg69.0000°, Azm283.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

DJA ***19*** *09:44:39.2±0.4,6°S±2°×15°1E±°,h51km±3km,M6.0/120, mb5.8/120,mB6.3/103,MLv6.6/1,Mw(mB)6.0/103, Mwp5.9/20*

ISC 19 09:44:35.5±0.4,5°.75S±0°.03×151°.64E±0°.03,h23km±2km, h23km:pP-P,n1857,σ1°55/1649,mb5.8/344,MS5.9/707, 45C-52D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
RABL	**Rabaul**	1.64	19	*e*Pn		Pb	09 45 04.1	-0.9
RABL				*e*Sn		Sb	09 45 26.5	+1.2
MANU	**Manus Island**	5.63	311	*e*Pn		Pn	09 45 58.6	+0.6
PMG	**Port Moresby**	5.74	230	Pn		Pn	09 46 02.1	+2.8
	95nm,0.3s,baz=40,slow=6.2,SNR=176							
PMG				Sn		Sn	09 47 08.9	+4.5
	241nm,0.3s,baz=29,slow=12,SNR=11							
PMG				LR		LR	09 48 22.8	
	comp=Z,43μm,19.2s,baz=62,slow=39							
HNR	**Honiara**	9.01	114	Pn		Pn	09 46 44.4	+0.1
	66nm,0.3s,baz=266,slow=1.7,SNR=59							
HNR				LR		LR	09 50 00.5	
	comp=Z,27μm,18.5s,baz=284,slow=36							
HNR	**Honiara**	9.01	114	*e*P		Pn	09 46 45.0	+0.7
HNR				*e*S		Sn	09 48 23.0	-2.1
JAY	**Jayapura**	11.37	286	Pn		Pn	09 47 21.6	+4.9
	1.2nm,0.3s,baz=104,slow=5.9,SNR=37							
JAY				Sn		Sn	09 49 20.0	-3.2
	0.6nm,0.3s,baz=101,slow=20,SNR=0.8							
JAY				LR		LR	09 51 20.4	
	comp=Z,69μm,18.1s,baz=98,slow=36							
JAY	**Jayapura**	11.37	286	P		Pn	09 47 17.9	+1.2
MMPI	**Merauke**	11.49	256	P		Pn	09 47 19.6	+1.3
COEN	**Coen**	11.66	225	P		Pn	09 47 22.7	+2.1
	baz=12,SNR=64							
COEN	**Coen**	11.66	225	*e*Pn		Pn	09 47 23.1	+2.4
GENI	**Genyem**	11.86	285	P		Pn	09 47 25.8	+2.4
SMPI	**Sarmi**	13.43	286	P		Pn	09 47 47.2	+2.4
	390nm,1.3s,26μm							
PATS	**Pohnpei**	14.17	28	P		Pn	09 47 58.4	+3.5
	baz=14,SNR=9.7							
PATS	**Pohnpei**	14.17	28	*e*Pn		Pn	09 47 57.5	+2.6
MTSU	**Mount Surprise**	14.23	210	P		Pn	09 47 58.4	+2.6
	baz=14,SNR=38							
CTA	**Charters Tower**	15.18	200	Pn		Pn	09 48 10.0	+1.4
	0.6nm,0.3s,baz=28,slow=15,SNR=11							
CTA				Sn		S	09 51 06.6	-6.3
	0.6nm,0.3s,baz=31,slow=16,SNR=1.3							
CTA				LR		LR	09 53 36.1	
	comp=Z,33μm,18.0s,baz=21,slow=35							
CTAO	**Charters Tower**	15.18	200	*e*Pn		Pn	09 48 09.5	+0.9
	181nm,1.0s							
CTAO	**Charters Tower**	15.18	200	*e*P		Pn	09 48 09.5	+0.9
CTAO				pmax		pmax		
	comp=Z,181nm,1.0s							
SRPI	**Serui, Papua**	15.84	283	P		Pn	09 48 16.4	-0.8
BAKI	**Biak**	16.15	286	P		Pn	09 48 20.6	-0.6
RKPI	**Ransiki, Papua**	17.93	283	P		Pn	09 48 42.8	-0.7
KMPI	**Kaimana, Papua**	18.00	276	P		Pn	09 48 42.2	-2.1
QIS	**Mount

SIJI	**Sorong**	**20.91 283**	P	Pn	09 49 18.6	-0.5			
	comp=Z,108nm,0.8s,baz=271,slow=5.8,SNR=24								
SIJI			ScP	**ScP**	**09 56 59.0**	**-1.0**			
	comp=Z,4.6nm,0.5s,baz=190,slow=11,SNR=2.8								
SWI	**Sorong**	**20.91 283**	P	**P**	**09 49 15.0**	**-1.6**			
	comp=Z,201nm,0.8s,comp=Z,5µm								
MTN	**Manton Dam**	**21.42 249**	P	**P**	**09 49 24.1**	**+2.0**			
	baz=22,SNR=8.9								
MTN	**Manton Dam**	**21.42 249**	*e*P	**P**	**09 49 23.1**	**+1.0**			
	comp=Z,1µm,1.1s								
MTN			LR	LR					
	comp=Z,41µm,18.0s								
KWAJ	**Kwajalein Atol**	**21.51 48**	*e*P	**P**	**09 49 22.8**	**-0.2**			
	comp=Z,2µm,1.9s								
KWAJ			LR	LR					
	comp=Z,32µm,18.0s								
KWAJ	**Kwajalein Atol**	**21.51 48**	*e*P	**P**	**09 49 22.8**	**-0.2**			
KWAJ			pmax	pmax					
	comp=Z,2µm,1.9s								
KWAJ			MLR	MLR					
	comp=Z,32µm,18.0s								
DZM	**Mont Dzumac**	**21.64 140**	P	**P**	**09 49 24.4**	**0.0**			
	comp=Z,79nm,0.6s,baz=329,slow=8.2,SNR=64								
DZM			LR	LR	09 56 41.1				
	comp=Z,27µm,21.4s,baz=316,slow=33								
DZM	**Mont Dzumac**	**21.64 140**	*e*P	**P**	**09 49 24.0**	**-0.4**			
	comp=Z,995nm,1.4s								
DZM			*e*S	**S**	**09 53 14.8**	**-8.4**			
	comp=Z,13µm,23.4s								
DZM			*e*LR	LR	09 54 28.5				
	comp=Z,53µm,25.9s								
DZM	**Mont Dzumac**	**21.64 140**	*e*P	**P**	**09 49 24.1**	**-0.4**			
	comp=Z,579nm,1.3s								
BNDI	**Bandanaira**	**21.68 272**	P	**P**	**09 49 22.7**	**-2.2**			
QLP	**Quilpie**	**21.89 198**	P	**P**	**09 49 28.3**	**+1.3**			
	baz=22,SNR=133								
WC3	**Warramunga Arr**	**21.94 228**	PFAKE		09 49 40.0	+12			
WC3			LR	LR					
	comp=Z,18µm,18.0s								
WRAB	**Tennant Creek**	**21.94 228**	*e*P	**P**	**09 49 28.2**	**+0.6**			
	comp=Z,514nm,0.8s								
WRAB			LR	LR					
	comp=Z,17µm,19.0s								
WRAB	**Tennant Creek**	**21.94 228**	*de*P	**P**	**09 49 28.2**	**+0.6**			
WRAB			pmax	pmax					
	comp=Z,498nm,0.9s								
WB2	**Warramunga Arr**	**21.94 228**	*e*P	**P**	**09 49 26.8**	**-0.9**			
WB2			*e*P	**P**	**09 49 28.3**	**+0.6**			
WB2			LR	LR					
	comp=Z,19µm,18.0s								
WR1	**Warramunga Arr**	**21.95 228**	*e*P	**P**	**09 49 28.6**	**+0.8**			
	comp=Z,536nm,0.9s								
WR1			*e*S	**S**	**09 53 30.0**	**+0.7**			
WRA	**Warramunga Arr**	**21.95 228**	P	**P**	**09 49 28.6**	**+0.8**			
	comp=Z,566nm,0.9s,baz=52,slow=9.8,SNR=173								
WRA			S	**S**	**09 53 30.0**	**+0.7**			
	comp=Z,83nm,1.2s,baz=44,slow=16,SNR=7.2								
WRA			ScP	**ScP**	**09 57 02.9**	**+0.4**			
	comp=Z,10nm,1.0s,baz=48,slow=2.9,SNR=4.1								
WRA			LR	LR	09 58 39.3				
	comp=Z,18µm,18.3s,baz=65,slow=38								
WC4	**Warramunga Arr**	**21.96 228**	PFAKE		09 49 40.0	+12			
WC4			LR	LR					
	comp=Z,19µm,18.0s								
TARA	**Tarawa**	**22.40 72**	*e*P	**P**	**09 49 33.2**	**+0.6**			
	comp=Z,662nm,1.1s								
ANA2	**Anatahan**	**22.72 345**	*e*P	**P**	**09 49 35.6**	**-0.4**			
	comp=Z,624nm,0.6s								
ANA2			*e*P	**pP**	**09 49 41.0**	**-1.4**			
MSAI	**Masohi**	**22.76 275**	P	**P**	**09 49 33.8**	**-2.7**			
	comp=Z,44nm,1.5s,comp=Z,2µm								
SARN	**Sarigan**	**23.05 346**	*e*P	**P**	**09 49 38.7**	**-0.7**			
	comp=Z,428nm,0.9s								
AAI	**Ambon**	**23.45 274**	P	**P**	**09 49 40.3**	**-3.3**			
	comp=Z,239nm,1.4s,comp=Z,6µm								
KNRA	**Kununurra**	**24.52 244**	P	**P**	**09 49 54.7**	**+1.2**			
	baz=25,SNR=12								
ARMA	**Armidale**	**24.54 180**	P	**P**	**09 49 54.6**	**+0.9**			
	baz=25,SNR=28								
ARMA	**Armidale**	**24.54 180**	*e*P	**P**	**09 49 54.0**	**+0.3**			
	comp=Z,339nm,1.3s								
ARMA			LR	LR					
	comp=Z,19µm,19.0s								
NLAI	**Namlea**	**24.59 275**	P	**P**	**09 49 52.8**	**-1.4**			
LBMI	**Labuha**	**24.62 281**	P	**P**	**09 49 53.4**	**-1.1**			
AS01	**Alice Springs**	**24.64 222**	*e*P	**P**	**09 49 55.5**	**+0.8**			
AS31	**Alice Springs**	**24.67 222**	*e*P	**P**	**09 49 55.7**	**+0.8**			
	comp=Z,159nm,0.9s								
ASAR	**Alice Springs**	**24.67 222**	P	**P**	**09 49 55.8**	**+0.8**			
	comp=Z,450nm,0.9s,baz=58,slow=9.1,SNR=422								
ASAR			PcP	**PcP**	**09 53 32.8**	**+0.7**			
	comp=Z,23nm,1.0s,baz=36,slow=3.7,SNR=5.7								
ASAR			S	**S**	**09 54 18.1**	**+2.7**			
	comp=Z,7.1nm,0.7s,baz=39,slow=23,SNR=3.0								
ASAR			ScP	**ScP**	**09 57 07.3**	**-2.4**			
	comp=Z,5.7nm,1.1s,baz=36,slow=3.4,SNR=3.2								
TNTI	**Ternate**	**25.09 284**	*e*P	**P**	**09 49 58.9**	**+0.2**			
	comp=Z,647nm,1.7s								
TNTI	**Ternate**	**25.09 284**	P	**P**	**09 49 56.2**	**-2.5**			
SANI	**Sanana**	**25.85 277**	P	**P**	**09 50 03.8**	**-1.8**			
CMSA	**Cobar Meteorol**	**26.25 192**	P	**P**	**09 50 08.6**	**-0.4**			
	baz=26,SNR=211								
LHI	**Lord Howe Isla**	**26.56 166**	*e*P	**P**	**09 50 13.2**	**+1.3**			
	comp=Z,492nm,1.4s								
MGCD	**Mangrove Creek**	**27.32 181**	P	**P**	**09 50 19.9**	**+1.2**			
	baz=27,SNR=11								
SOEI	**Soe**	**27.41 260**	*e*P	**P**	**09 50 21.2**	**+1.4**			
	comp=Z,2µm,1.2s								
SOEI	**Soe**	**27.41 260**	P	**P**	**09 50 19.6**	**-0.2**			
FUNA	**Funafuti**	**27.48 97**	*e*P	**P**	**09 50 20.4**	**+0.1**			
	comp=Z,906nm,1.3s								
STKA	**Stephens Creek**	**27.64 199**	P	**P**	**09 50 21.8**	**+0.3**			
	comp=Z,32nm,0.8s,baz=9.8,slow=9.2,SNR=42								
STKA			S	**S**	**09 54 57.8**	**-4.4**			
	comp=Z,19nm,1.2s,baz=350,slow=16,SNR=1.2								
STKA			ScP	**ScP**	**09 57 15.7**	**-2.6**			
	comp=Z,5.3nm,0.9s,baz=40,slow=12,SNR=5.4								
STKA			LR	LR	10 01 48.4				
	comp=Z,16µm,18.0s,baz=4.2,slow=37								
STKA	**Stephens Creek**	**27.64 199**	P	**P**	**09 50 21.0**	**-0.5**			
	baz=28,SNR=29								
STKA	**Stephens Creek**	**27.64 199**	*e*P	**P**	**09 50 21.0**	**-0.5**			
	comp=Z,46nm,1.2s								
STKA			S	**S**	**09 54 57.8**	**-4.4**			
STKA			ScP	**ScP**	**09 57 15.7**	**-2.6**			
STKA	**Stephens Creek**	**27.64 199**	*e*P	**P**	**09 50 21.0**	**-0.5**			
STKA			S	**S**	**09 54 57.8**	**-4.4**			
STKA			pmax	pmax					
	comp=Z,46nm,1.2s								
SGSI	**Sangihe**	**27.71 289**	P	**P**	**09 50 21.0**	**-1.4**			
BATI	**Baumata**	**28.05 259**	P	**P**	**09 50 27.5**	**+2.1**			
	comp=Z,380nm,1.0s,baz=150,slow=1.7,SNR=75								
BATI			S	S	09 55 23.4	+14			
	comp=Z,39nm,0.8s,baz=283,slow=17,SNR=1.5								
BATI			LR	LR	10 04 21.2				
	comp=Z,43µm,18.4s,baz=110,slow=42								
BATI	**Baumata**	**28.05 259**	P	**P**	**09 50 26.7**	**+1.2**			
	comp=Z,531nm,1.4s,comp=Z,7µmcomp=Z,9µm								
FITZ	**Fitzroy Crossi**	**28.19 242**	P	**P**	**09 50 27.3**	**+0.6**			
	baz=28,SNR=161								
FITZ	**Fitzroy Crossi**	**28.19 242**	*e*P	**P**	**09 50 27.3**	**+0.6**			
	comp=Z,1µm,1.5s								
MATI	**Mati**	**28.30 296**	*e*P	**P**	**09 50 26.5**	**-1.1**			
YNG	**Young**	**28.56 186**	P	**P**	**09 50 31.6**	**+1.8**			
	baz=29,SNR=6.8								
BBSI	**Bau Bau**	**28.93 269**	P	**P**	**09 50 37.0**	**+3.7**			
	comp=Z,2nm,1.1s,comp=Z,1µm								
WAKE	**Wake Island**	**28.94 30**	PFAKE		09 50 50.0	+17			
WAKE			LR	LR					
	comp=Z,18µm,21.0s								
DAV	**Davao City (W)**	**28.96 296**	P	**P**	**09 50 34.2**	**+0.7**			
	comp=Z,302nm,0.4s,baz=66,slow=3.9,SNR=5.1								
DAV			S	S	09 55 35.4	+12			
	comp=Z,160nm,0.4s,baz=18,slow=13,SNR=1.6								
DAV			LR	LR	09 59 30.5				
	comp=Z,9µm,21.0s,baz=103,slow=31								
DAV	**Davao City (W)**	**28.96 296**	‖*i*P	**P**	**09 50 33.1**	**-0.4**			
DAV	**Davao City (W)**	**28.96 296**	*e*P	**P**	**09 50 33.6**	**+0.1**			
	comp=Z,325nm,0.4s								
DAV			S	S	09 55 35.4	+12			
KDI	**Kendari**	**28.97 272**	P	**P**	**09 50 36.2**	**+2.6**			
	comp=Z,62nm,0.8s,comp=Z,2µm								
LUWI	**Luwuk**	**29.19 278**	*e*P	**P**	**09 50 35.6**	**+0.1**			
	comp=Z,170nm,0.9s								
MMRI	**Maumere**	**29.31 263**	*e*P	**P**	**09 50 36.4**	**-0.2**			
	comp=Z,878nm,1.2s								
MMRI	**Maumere**	**29.31 263**	P	**P**	**09 50 35.1**	**-1.5**			

WRKA	**Warakurna**	**29.47 227**	P	**P**	**09 50 38.2**	**+0.2**			
	baz=30,SNR=66								
CNB	**Canberra Magne**	**29.49 184**	P	**P**	**09 50 39.7**	**+1.5**			
	baz=30,SNR=4.5								
CAN	**Canberra**	**29.53 184**	*e*P	**P**	**09 50 39.1**	**+0.8**			
CAN	comp=Z,132nm,1.6s		LR	LR					
	comp=Z,11µm,19.0s								
CAN	**Canberra**	**29.53 184**	*e*P	**P**	**09 50 39.1**	**+0.8**			
CAN	comp=Z,132nm,1.6s		pmax	pmax					
CAN			MLR	MLR					
	comp=Z,11µm,19.0s								
SKMP	**Bagumbayan, Su**	**29.67 294**	*e*P	**P**	**09 50 39.0**	**-0.8**			
BUKP	**Musuan**	**29.77 297**	*e*P	**P**	**09 50 41.5**	**+0.7**			
BUTP	**Butuan**	**29.78 299**	*e*P	**P**	**09 50 41.5**	**+0.8**			
EDFI	**Ende, Flores**	**29.85 262**	P	**P**	**09 50 40.1**	**-1.5**			
	comp=Z,437nm,1.5s,comp=Z,7µm								
HTT	**Hallett**	**29.97 202**	P	**P**	**09 50 42.8**	**+0.4**			
	baz=30,SNR=47								
MRSI	**Marisa**	**30.29 281**	P	**P**	**09 50 42.4**	**-3.0**			
	comp=Z,33nm,1.0s,comp=Z,732nmcomp=Z,7µm								
APSI	**Ampana**	**30.32 278**	P	**P**	**09 50 43.7**	**-1.9**			
	comp=Z,119nm,1.1s,comp=Z,2µm								
BBOO	**Buckleboo**	**30.59 206**	P	**P**	**09 50 48.0**	**+0.2**			
	baz=31,SNR=25								
BBOO	**Buckleboo**	**30.59 206**	*e*P	**P**	**09 50 47.6**	**-0.2**			
BBOO	comp=Z,228nm,1.1s		LR	LR					
	comp=Z,20µm,18.0s								
MSLP	**Maasin**	**31.00 301**	*e*P	**P**	**09 50 51.6**	**+0.1**			
BASI	**Baing, Sumba**	**31.07 260**	P	**P**	**09 50 52.8**	**+0.6**			
	comp=Z,3µm,1.6s,comp=Z,35µm								
PAGZ	**Pagadian**	**31.26 295**	*e*P	**P**	**09 50 54.9**	**+1.1**			
WSI	**Waingapu**	**31.29 261**	P	**P**	**09 50 54.0**	**-0.2**			
	comp=Z,3µm,1.6s,comp=Z,48µm								
BKSI	**Bulukumba**	**31.37 269**	P	**P**	**09 50 53.4**	**-1.5**			
	comp=Z,44nm,1.4s,comp=Z,924nmcomp=Z,7µm								
BNSI	**Bone**	**31.44 271**	P	**P**	**09 50 54.0**	**-1.5**			
OCLP	**Ormoc**	**31.66 302**	*e*P	**P**	**09 50 57.7**	**+0.2**			
SPSI	**Sidrap Palu**	**31.80 272**	P	**P**	**09 50 57.5**	**-1.2**			
	comp=Z,46nm,1.2s,comp=Z,1µm								
IPIL	**Ipil**	**31.96 295**	*e*P	**P**	**09 51 01.1**	**+1.1**			
PCI	**Palu**	**32.10 277**	P	**P**	**09 51 00.0**	**-1.4**			
	comp=Z,250nm,0.9s,comp=Z,3µm								
ARPS	**Mount Arapiles**	**32.15 195**	P	**P**	**09 51 01.8**	**+0.4**			
	baz=32,SNR=49								
TOO	**Toolangi**	**32.16 189**	P	**P**	**09 51 03.0**	**+1.4**			
	baz=32,SNR=7.2								
WBSI	**Waikabubak, Su**	**32.18 261**	P	**P**	**09 51 01.4**	**-0.7**			
	comp=Z,986nm,1.2s,comp=Z,13µm								
MPSI	**Mapaga**	**32.26 280**	P	**P**	**09 51 01.8**	**-0.9**			
	comp=Z,40nm,0.9s,comp=Z,2µmcomp=Z,5µm								
GUIM	**Jordan**	**33.19 299**	*e*P	**P**	**09 51 08.3**	**-2.5**			
FORT	**Forrest**	**33.33 219**	P	**P**	**09 51 11.8**	**0.0**			
	baz=33,SNR=31								
FORT	**Forrest**	**33.33 219**	*e*P	**P**	**09 51 12.0**	**+0.2**			
FORT	comp=Z,274nm,0.8s		LR	LR					
	comp=Z,19µm,20.0s								
PVCP	**Virac**	**33.38 305**	*e*P	**P**	**09 51 13.0**	**+0.5**			
RCP	**Roxas**	**33.50 301**	‖*e*P	**P**	**09 51 14.0**	**+0.5**			
PLAI	**Plampang**	**33.72 263**	P	**P**	**09 51 12.8**	**-2.7**			
CBIJ	**Chichi jima**	**33.91 345**	*e*P	**P**	**09 51 18.1**	**+1.2**			
	comp=Z,144nm,0.8s								
CBIJ			LR	LR					
	comp=Z,8µm,21.0s								
MBWA	**Marble Bar**	**34.50 241**	*e*P	**P**	**09 51 22.5**	**+0.3**			
	comp=Z,339nm,0.8s								
MBWA			LR	LR					
	comp=Z,12µm,18.0s								
MBWA	**Marble Bar**	**34.50 241**	P	**P**	**09 51 23.0**	**+0.9**			
	SNR=25								
OTRP	**Odiongan**	**34.51 302**	*e*P	**P**	**09 51 22.2**	**0.0**			
TWSI	**Taliwang, Sumb**	**34.60 263**	P	**P**	**09 51 21.0**	**-2.1**			
	comp=Z,200nm,1.3s,comp=Z,3µm								
CUYO	**Cuyo Island**	**34.66 298**	*e*P	**P**	**09 51 22.9**	**-0.7**			
SMKI	**Samarinda**	**34.77 277**	P	**P**	**09 51 26.2**	**+1.6**			
BKB	**Balikpapan**	**34.95 276**	P	**P**	**09 51 29.1**	**+2.9**			
BOAC	**Boac**	**35.21 303**	*e*P	**P**	**09 51 29.6**	**+1.3**			
SJMP	**San Jose**	**35.33 301**	*e*P	**P**	**09 51 30.9**	**+1.5**			
OUZ	**Omahuta**	**35.63 148**	*e*P	**P**	**09 51 32.5**	**+0.7**			
	comp=Z,174nm,1.1s								
OUZ			LR	LR					
	comp=Z,17µm,18.0s								
POLP	**Polilio Island**	**35.80 305**	*e*P	**P**	**09 51 34.1**	**+0.8**			
BUSP	**Coron**	**35.90 299**	*e*P	**P**	**09 51 35.3**	**+1.0**			
ENPP	**El Nido**	**36.22 298**	*e*P	**P**	**09 51 37.7**	**+0.7**			
TGY	**Tagaytay City**	**36.30 303**	P	**P**	**09 51 39.5**	**+1.7**			
	comp=Z,380nm,0.8s,baz=128,slow=3.4,SNR=18								
TGY			PcP	**PcP**	**09 54 03.0**	**+0.5**			
	comp=Z,206nm,0.4s,baz=126,slow=22,SNR=3.5								
TGY			S	**S**	**09 57 19.1**	**+1.5**			
	comp=Z,170nm,0.4s,baz=10,slow=19,SNR=1.6								
TGY			LR	LR	10 06 26.3				
	comp=Z,6µm,19.1s,baz=128,slow=36								
IGBI	**Denpasar**	**36.32 263**	P	**P**	**09 51 36.1**	**-1.8**			
	comp=Z,813nm,1.2s,comp=Z,18µm								
BALP	**Baler**	**36.64 306**	*e*P	**P**	**09 51 40.9**	**+0.4**			
BATP	**Bataraza**	**36.70 293**	*e*P	**P**	**09 51 41.1**	**-0.1**			
PALP	**Palanan**	**36.71 309**	*e*P	**P**	**09 51 42.3**	**+1.2**			
MOO	**Moorlands**	**36.75 186**	P	**P**	**09 51 43.2**	**+2.1**			
	baz=37,SNR=10								
AFI	**Afiamalu**	**36.90 105**	P	**P**	**09 51 44.5**	**+1.6**			
	comp=Z,23nm,0.7s,baz=211,slow=8.3,SNR=3.8								
AFI			S	**S**	**09 57 30.4**	**+3.5**			
	comp=Z,40nm,1.0s,baz=167,slow=22,SNR=1.8								
AFI	**Afiamalu**	**36.90 105**	*e*P	**P**	**09 51 43.2**	**+0.3**			
AFI			*ep*P	**P**	**09 51 44.2**	**+1.2**			
AFI			S	**S**	**09 57 30.4**	**+3.5**			
AFI			LR	LR					
	comp=Z,7µm,19.0s								
AFI	**Afiamalu**	**36.90 105**	*e*P	**P**	**09 51 43.2**	**+0.3**			
AFI			S	**S**	**09 57 30.4**	**+3.5**			
AFI			MLR	MLR					
	comp=Z,7µm,19.0s								
KDM	**Kudat**	**36.94 289**	P	**P**	**09 51 44.0**	**+0.8**			
KDM	**Kudat**	**36.94 289**	P	**P**	**09 51 44.0**	**+0.8**			
MTKI	**Muara Teweh, K**	**36.98 276**	P	**P**	**09 51 42.2**	**-1.4**			
RAO	**Raoul Island**	**37.05 133**	LR	LR	10 04 26.0				
	comp=Z,7µm,20.2s,baz=304,slow=32								
CAUP	**Cauayan**	**37.11 308**	*e*P	**P**	**09 51 44.9**	**+0.3**			
TAU	**Tasmania Unive**	**37.20 185**	*e*P	**P**	**09 51 45.8**	**+0.8**			
	comp=Z,178nm,1.4s								
TAU			LR	LR					
	comp=Z,10µm,18.0s								
TAU	**Tasmania Unive**	**37.20 185**	*e*P	**P**	**09 51 45.8**	**+0.8**			
TAU			pmax	pmax					
	comp=Z,178nm,1.4s								
TAU			MLR	MLR					
	comp=Z,10µm,18.0s								
KKM	**Kota Kinabalu**	**37.25 288**	P	**P**	**09 51 48.0**	**+2.0**			
JAGI	**Jajag, Banyuwa**	**37.29 264**	*e*P	**P**	**09 51 45.0**	**-1.2**			
	comp=Z,2µm,1.6s								
JAGI			LR	LR					
	comp=Z,10µm,21.0s								
JAGI	**Jajag, Banyuwa**	**37.29 264**	P	**P**	**09 51 43.8**	**-2.4**			
SMPP	**San Manuel, Pa**	**37.58 306**	*e*P	**P**	**09 51 48.7**	**+0.1**			
SGCP	**Mt. Cagua**	**37.69 310**	*e*P	**P**	**09 51 49.8**	**+0.3**			
MEEK	**Meekatharra**	**37.71 233**	P	**P**	**09 51 50.3**	**+0.6**			
	baz=38,SNR=83								
KMBL	**Kambalda**	**37.77 224**	P	**P**	**09 51 50.1**	**+0.1**			
	baz=38,SNR=44								
BLJI	**Banyuglugur**	**37.83 265**	P	**P**	**09 51 49.0**	**-1.7**			
	comp=Z,156nm,1.7s,comp=Z,3µm								
GMJI	**Gumukmas**	**37.98 264**	P	**P**	**09 51 49.7**	**-2.3**			
	comp=Z,157nm,1.3s,comp=Z,3µm								
SCZP	**Santa Cruz**	**38.01 305**	*e*P	**P**	**09 51 51.4**	**-0.8**			
APYP	**Conner**	**38.09 309**	*e*P	**P**	**09 51 53.0**	**+0.2**			
BOLP	**Bolinao**	**38.33 306**	*e*P	**P**	**09 51 52.9**	**-1.9**			
ABRA	**Dolores**	**38.38 308**	*e*P	**P**	**09 51 55.1**	**-0.2**			
HIZ	**Hauiti**	**38.82 150**	*e*P	**P**	**09 51 59.5**	**+0.7**			
	comp=Z,159nm,1.1s								
HIZ			LR	LR					
	comp=Z,6µm,19.0s								
GRJI	**Gresik**	**38.93 266**	P	**P**	**09 51 59.8**	**-0.2**			
	comp=Z,100nm,1.0s,comp=Z,1µm								
BBP	**Basco**	**39.09 313**	*e*P	**P**	**09 51 59.0**	**-2.2**			
JOW	**Kunigami**	**39.51 326**	LR	LR	10 05 42.2				
	comp=Z,9µm,21.3s,baz=157,slow=32								
JOW	**Kunigami**	**39.51 326**	*e*P	**P**	**09 52 05.7**	**+1.0**			
	comp=Z,335nm,1.2s								
TBJI	**Tambak Boyo**	**39.56 266**	P	**P**	**09 52 04.5**	**-0.8**			
	comp=Z,186nm,1.0s,comp=Z,2µm								
PWJI	**Pagerwojo**	**39.60 264**	P	**P**	**09 52 04.7**	**-0.9**			
	comp=Z,340nm,1.0s,comp=Z,5µm								

URZ	**Urewera**	**39.77 148**	P	**P**	**09 52 07.1**	**+0.4**			
	comp=Z,46nm,0.7s,baz=346,slow=6.3,SNR=39								
URZ			S	**S**	**09 58 04.2**	**-5.4**			
	comp=Z,6.7nm,1.0s,baz=285,slow=18,SNR=1.5								
URZ			LR	LR	10 07 30.4				
	comp=Z,8µm,18.6s,baz=313,slow=34								
URZ	**Urewera**	**39.77 148**	*e*P	**P**	**09 52 07.0**	**+0.4**			
	comp=Z,101nm,1.0s								
URZ			*e*S	**S**	**09 58 04.2**	**-5.4**			
GIRL	**Giralia**	**39.80 241**	P	**P**	**09 52 07.9**	**+0.8**			
	baz=40,SNR=5.3								
MXZ	**Matakaoa Point**	**39.91 146**	PFAKE		09 52 20.0	+12			
MXZ			LR	LR					
	comp=Z,12µm,18.0s								
NGJI	**Ngawi**	**39.94 265**	P	**P**	**09 52 08.0**	**-0.4**			
	comp=Z,253nm,1.6s,comp=Z,4µm								
PBKI	**Pangkalan Bun**	**39.97 273**	P	**P**	**09 52 10.6**	**+1.9**			
BKZ	**Black Stump Fm**	**40.13 150**	*e*P	**P**	**09 52 10.2**	**+0.4**			
	comp=Z,279nm,1.7s								
BKZ			LR	LR					
	comp=Z,10µm,18.0s								
SBUM	**Sibu**	**40.20 281**	*e*P	**P**	**09 52 11.2**	**+0.5**			
	comp=Z,30nm,1.2s								
SBUM			LR	LR					
	comp=Z,2µm,20.0s								
SBUM	**Sibu**	**40.20 281**	P	**P**	**09 52 12.0**	**+1.3**			
PCJI	**Pacitan**	**40.23 264**	P	**P**	**09 52 10.5**	**-0.3**			
	comp=Z,522nm,0.7s,comp=Z,10µm								
JHJ	**Hachijo jima 2**	**40.26 345**	LR	LR	10 10 03.0				
	comp=Z,3µm,18.2s,baz=184,slow=38								
WOJI	**Wonogiri, Jawa**	**40.47 265**	P	**P**	**09 52 12.1**	**-0.8**			
	comp=Z,230nm,1.5s,comp=Z,5µm								
STKI	**Sintang**	**40.51 277**	P	**P**	**09 52 14.3**	**+1.1**			
	comp=Z,50nm,1.1s,comp=Z,19µm								
THZ	**Tophouse**	**40.55 155**	*e*P	**P**	**09 52 14.1**	**+0.8**			
	comp=Z,135nm,1.3s								
THZ			LR	LR					
	comp=Z,8µm,20.0s								
KLBR	**Kellerberrin**	**40.82 227**	P	**P**	**09 52 15.3**	**-0.2**			
	baz=41,SNR=44								
MORW	**Morawa**	**40.85 231**	P	**P**	**09 52 16.0**	**+0.2**			
	baz=41,SNR=26								
UGM	**Wanagama**	**40.87 265**	*e*P	**P**	**09 52 16.7**	**+0.5**			
	comp=Z,1µm,1.7s								
UGM			LR	LR					
	comp=Z,5µm,20.0s								
UGM	**Wanagama**	**40.87 265**	P	**P**	**09 52 16.5**	**+0.3**			
FOZ	**Fox Glacier**	**40.90 160**	*e*P	**P**	**09 52 16.9**	**+1.0**			
	comp=Z,54nm,1.1s								
FOZ			LR	LR					
	comp=Z,10µm,19.0s								
SMRI	**Semarang**	**40.95 266**	*e*P	**P**	**09 52 17.1**	**+0.2**			
	comp=Z,578nm,1.5s								
SMRI	**Semarang**	**40.95 266**	P	**P**	**09 52 17.5**	**+0.6**			
SNZO	**South Karori**	**40.96 153**	PFAKE		09 52 30.0	+14			
SNZO			LR	LR					
	comp=Z,11µm,19.0s								
YOJ	**Yonaguni jima**	**40.98 318**	*e*P	**P**	**09 52 17.2**	**+0.3**			
	comp=Z,805nm,1.5s								
YOJ			LR	LR					
	comp=Z,10µm,20.0s								
YOJ	**Yonaguni jima**	**40.98 318**	*e*P	**P**	**09 52 17.2**	**+0.3**			
YOJ			pmax	pmax					
	comp=Z,805nm,1.5s								
YOJ			MLR	MLR					
	comp=Z,10µm,20.0s								
BLDU	**Ballidu**	**41.09 229**	P	**P**	**09 52 17.5**	**-0.3**			
	baz=41,SNR=21								
LTZ	**Lake Taylor**	**41.15 157**	*e*P	**P**	**09 52 17.9**	**-0.2**			
	comp=Z,194nm,1.3s								
LTZ			LR	LR					
	comp=Z,13µ

WHZ				LR	LR				
	comp=Z,4μm,20.0s								
KPJI	**Karang Pucung**	**42.45**	**265**	P	**P**	**09 52 28.5**	**-0.6**		
	comp=Z,418nm,1.2s,comp=Z,6μm								
KPJI				pP	**sP**	**09 52 40.1**	**+1.2**		
	comp=Z,418nm,1.2s,comp=Z,6μm								
ODZ	**Otahua Downs**	**42.51**	**160**	PFAKE		09 52 40.0	+11		
ODZ				LR	LR				
	comp=Z,10μm,19.0s								
CMJI	**Cimerak**	**42.92**	**265**	P	**P**	**09 52 31.9**	**-1.1**		
	comp=Z,442nm,0.8s,comp=Z,7μm								
RKGY	**Rocky Gully**	**43.00**	**223**	P	**P**	**09 52 34.1**	**+0.8**		
	baz=43,SNR=4.6								
JCJI	**Jatiwangi**	**43.12**	**267**	P	**P**	**09 52 33.8**	**-0.7**		
INU	**Inuyama**	**43.14**	**342**	*e*P	**P**	**09 52 31.8**	**-2.5**		
	comp=Z,73nm,1.0s								
JNU	**Nakatsue**	**43.40**	**334**	P	**P**	**09 52 36.6**	**+0.1**		
	comp=Z,60nm,0.8s,baz=104,slow=2.0,SNR=11								
JNU				PP	**PcP**	**09 54 23.5**	**-1.3**		
	comp=Z,108nm,1.2s,baz=308,slow=2.2,SNR=3.8								
JNU				S	**S**	**09 59 07.5**	**+4.1**		
	comp=Z,8.1nm,1.1s,baz=231,slow=18,SNR=1.1								
JNU				LR	LR	10 11 00.1			
	comp=Z,4μm,18.1s,baz=137,slow=36								
JNU	**Nakatsue**	**43.40**	**334**	*e*P	**P**	**09 52 36.5**	**0.0**		
	comp=Z,80nm,0.9s								
JNU				*e*PP	**PcP**	**09 54 23.5**	**-1.3**		
JNU				S	**S**	**09 59 07.5**	**+4.1**		
CISI	**Cisompet, Garu**	**43.55**	**265**	*e*P	**P**	**09 52 37.8**	**-0.4**		
	comp=Z,3μm,1.7s								
CISI				*e*S	**S**	**09 59 07.6**	**+1.2**		
CISI				LR	LR				
	comp=Z,11μm,21.0s								
CISI	**Cisompet, Garu**	**43.55**	**265**	P	**P**	**09 52 36.5**	**-1.6**		
LEM	**Lembang**	**43.76**	**266**	P	**P**	**09 52 40.6**	**+0.7**		
	comp=Z,108nm,0.6s,baz=71,slow=7.1,SNR=14								
LEM				S	**S**	**09 59 13.7**	**+4.1**		
	comp=Z,15nm,0.4s,baz=331,slow=22,SNR=1.5								
LEM				LR	LR	10 15 31.2			
	comp=Z,6μm,18.7s,baz=85,slow=42								
LEM	**Lembang**	**43.76**	**266**	P	**P**	**09 52 39.1**	**-0.8**		
MJAR	**Matsushiro Arr**	**43.91**	**344**	P	**P**	**09 52 38.0**	**-2.6**		
	comp=Z,10nm,1.1s,baz=168,slow=9.2,SNR=13								
MJAR				PcP	**PcP**	**09 54 26.2**	**-0.3**		
	comp=Z,15nm,1.0s,baz=186,slow=3.4,SNR=8.3								
MJAR				ScP	**ScP**	**09 58 15.6**	**-1.4**		
	comp=Z,4.5nm,0.9s,baz=181,slow=4.9,SNR=5.5								
MJAR				S	**S**	**09 59 14.7**	**+3.8**		
	comp=Z,0.4nm,0.4s,baz=173,slow=3.1,SNR=0.9								
MJAR				LR	LR	10 09 43.3			
	comp=Z,5μm,19.6s,baz=175,slow=34								
MAJO	**Matsushiro**	**43.91**	**344**	*e*P	**P**	**09 52 38.4**	**-2.2**		
	comp=Z,35nm,0.8s								
MAJO				*e*PcP	**PcP**	**09 54 26.2**	**-0.3**		
MAJO				*e*S	**S**	**09 59 14.7**	**+3.8**		
MAJO	**Matsushiro**	**43.91**	**344**	*e*P	**P**	**09 52 38.4**	**-2.2**		
MAJO				*e*		09 54 26.2			
MAJO				*e*S	**S**	**09 59 14.7**	**+3.8**		
MAJO				pmax	pmax				
	comp=Z,35nm,0.8s								
MAT	**Matsushiro**	**43.91**	**344**	P	**P**	**09 52 37.5**	**-3.1**		
MAT				S	**S**	**09 59 16.2**	**+5.3**		
MJB9	**Matsu-Tunnel**	**43.92**	**344**	*e*P	**P**	**09 52 38.4**	**-2.2**		
	comp=Z,35nm,0.8s								
MJB9				LR	LR				
	comp=Z,6μm,18.0s								
QZH	**Quanzhou**	**44.33**	**315**	⇓*i*P	**P**	**09 52 45.0**	**+1.0**		
QZH				PP	**PcP**	**09 54 27.9**	**-0.2**		
QZH				S	**S**	**09 59 16.3**	**-0.8**		
QZH				SS	**SS**	**10 02 28.5**	**-7.8**		
QZH				pmax	pmax				
	comp=Z,140nm,1.3s								
QZH				pmax	pmax				
	comp=Z,2μm,6.9s								
QZH				LR	LR				
	comp=Z,5μm,18.5s								
QZH				LR	LR				
	comp=Z,4μm,19.4s								
QZH				LR	LR				
	comp=Z,6μm,17.5s								
JOHN	**Johnston Islan**	**44.42**	**59**	PFAKE		09 53 00.0	+15		
JOHN				LR	LR				
	comp=Z,11μm,21.0s								
SKJI	**Sukabumi**	**44.81**	**266**	P	**P**	**09 52 47.1**	**-1.0**		
MIDW	**Midway**	**45.09**	**40**	PFAKE		09 53 00.0	+10		
MIDW				LR	LR				
	comp=Z,7μm,18.0s								
PPBI	**Pangkal Pinang**	**45.52**	**273**	P	**P**	**09 52 53.4**	**-0.4**		
CGJI	**Cibinong**	**45.68**	**266**	P	**P**	**09 52 53.0**	**-2.0**		
	comp=Z,326nm,1.2s,comp=Z,4μm								
XMIS	**Christmas Isla**	**45.74**	**261**	PFAKE		09 53 10.0	+14		
XMIS				LR	LR				
	comp=Z,4μm,21.0s								
HKC	**Hong Kong Obse**	**46.07**	**309**	⇑P	**P**	**09 53 00.0**	**+2.1**		
BLSI	**Bandar Lampung**	**46.17**	**268**	P	**P**	**09 52 58.4**	**-0.5**		
MCO	**Taipa Grande**	**46.45**	**308**	P	**P**	**09 53 03.0**	**+2.0**		
KLI	**Kotabumi**	**46.58**	**269**	P	**P**	**09 53 01.9**	**-0.3**		
	comp=Z,83nm,0.8s								
SSE	**Sheshan**	**46.79**	**323**	P	**P**	**09 53 04.9**	**+1.4**		
SSE				S	**S**	**09 59 56.8**	**+4.2**		
SSE				pmax	pmax				
	comp=Z,48nm,1.1s								
SSE				pmax	pmax				
	comp=Z,860nm,7.8s								
SSE				LR	LR				
	comp=Z,3μm,19.0s								
KASI	**Kota Agung**	**46.91**	**268**	P	**P**	**09 53 03.5**	**-1.2**		
GZH	**Guangzhou**	**47.13**	**309**	P	**P**	**09 53 06.6**	**+0.3**		
GZH				PP	**PP**	**09 54 56.6**	**-0.8**		
GZH				S	**S**	**09 59 58.8**	**+1.1**		
GZH				pmax	pmax				
	comp=Z,2μm,4.4s								
GZH				LR	LR				
	comp=Z,5μm,18.8s								
GZH				LR	LR				
	comp=Z,5μm,18.4s								
LWLI	**Liwa**	**47.37**	**268**	P	**P**	**09 53 06.8**	**-1.6**		
	comp=Z,100nm,0.8s								
TPRI	**Tanjung Pinang**	**47.51**	**277**	P	**P**	**09 53 09.8**	**+0.4**		
TJN	**Taejon**	**47.69**	**333**	*de*P	**P**	**09 53 10.0**	**-0.3**		
QIZ	**Qiongzhong**	**47.97**	**302**	P	**P**	**09 53 13.8**	**+0.9**		
QIZ				pmax	pmax				
	comp=Z,64nm,1.5s								
QIZ				LR	LR				
	comp=Z,3μm,19.6s								
QIZ				LR	LR				
	comp=Z,5μm,16.7s								
QIZ				LR	LR				
	comp=Z,7μm,18.6s								
QIZ	**Qiongzhong**	**47.97**	**302**	*e*P	**P**	**09 53 14.5**	**+1.6**		
	comp=Z,111nm,1.2s								
ERM	**Erimo**	**48.16**	**352**	PFAKE		09 53 30.0	+16		
ERM				LR	LR				
	comp=Z,8μm,20.0s								
MYKOM	**Kota Tinggi**	**48.31**	**278**	*e*P	**P**	**09 53 16.0**	**+0.4**		
	comp=Z,191nm,1.6s								
MYKOM	**Kota Tinggi**	**48.31**	**278**	P	**P**	**09 53 16.0**	**+0.4**		
KSRS	**Korea Array**	**48.34**	**335**	P	**P**	**09 53 15.2**	**-0.2**		
	comp=Z,15nm,0.8s,baz=151,slow=8.0,SNR=20								
KSRS				PcP	**PcP**	**09 54 42.7**	**+0.8**		
	comp=Z,10nm,1.1s,baz=150,slow=3.7,SNR=3.1								
KSRS				ScP	**ScP**	**09 58 36.1**	**+0.7**		
	comp=Z,4.3nm,0.9s,baz=139,slow=5.2,SNR=4.3								
KSRS				S	**S**	**10 00 19.2**	**+4.8**		
	comp=Z,1.1nm,0.8s,baz=247,slow=40,SNR=1.4								
KS15	**Wonju Array Si**	**48.35**	**335**	*e*P	**P**	**09 53 15.2**	**-0.2**		
KSAR	**Wonju Array Be**	**48.35**	**335**	P	**P**	**09 53 15.2**	**-0.3**		
KSAR				PcP	**PcP**	**09 54 42.7**	**+0.7**		
KSAR				ScP	**ScP**	**09 58 36.1**	**+0.6**		
KSAR				S	**S**	**10 00 19.2**	**+4.7**		
KSAR	**Wonju Array Be**	**48.35**	**335**	P	**P**	**09 53 15.2**	**-0.3**		
KSAR						09 54 42.7			
KSAR				S	**S**	**10 00 19.2**	**+4.7**		
KS01	**Wonju Array Si**	**48.37**	**335**	*e*P	**P**	**09 53 15.2**	**-0.4**		
MNAI	**Manna**	**48.50**	**269**	PFAKE		09 53 30.0	+13		
MNAI				LR	LR				
	comp=Z,6μm,20.0s								
NJ2	**Nanjing**	**48.87**	**322**	*e*P	**P**	**09 53 20.8**	**+1.2**		
NJ2				pP	**pP**	**09 53 25.4**	**-1.3**		
NJ2				sP	**sP**	**09 53 27.4**	**-2.1**		
NJ2				ScP	**ScP**	**09 58 39.8**	**+2.0**		
NJ2				S	**S**	**10 00 24.4**	**+2.4**		
NJ2				pmax	pmax				
	comp=Z,62nm,1.5s								
NJ2				pmax	pmax				
	comp=Z,2μm,7.6s								
NJ2				LR	LR				
	comp=Z,8μm,24.2s								
NJ2				LR	LR				
	comp=Z,7μm,24.9s								
NJ2				LR	LR				
	comp=Z,9μm,25.0s								
MCQ	**Macquarie Isla**	**48.96**	**174**	P	**P**	**09 53 22.1**	**+2.2**		
	baz=49,SNR=6.5								
MCQ	**Macquarie Isla**	**48.96**	**174**	*e*P	**P**	**09 53 21.1**	**+1.3**		
	comp=Z,296nm,1.2s								
MCQ				LR	LR				
	comp=Z,4μm,18.0s								
MCQ	**Macquarie Isla**	**48.96**	**174**	*e*P	**P**	**09 53 21.2**	**+1.3**		
MCQ				pmax	pmax				
	comp=Z,296nm,1.2s								
MCQ				MLR	MLR				
	comp=Z,4μm,18.0s								
RAR	**Rarotonga**	**49.46**	**113**	P	**P**	**09 53 25.8**	**+1.5**		
	comp=Z,36nm,1.0s,baz=220,slow=10,SNR=5.3								
RAR				S	**S**	**10 00 35.4**	**+4.7**		
	comp=Z,9.6nm,0.8s,baz=128,slow=9.2,SNR=1.7								
RAR				LR	LR	10 12 18.2			
	comp=Z,2μm,20.5s,baz=276,slow=34								
RAR	**Rarotonga**	**49.46**	**113**	*e*P	**P**	**09 53 25.6**	**+1.3**		
	comp=Z,154nm,1.0s								
RAR				S	**S**	**10 00 35.5**	**+4.7**		
RAR	**Rarotonga**	**49.46**	**113**	*e*P	**P**	**09 53 25.6**	**+1.3**		
RAR				S	**S**	**10 00 35.5**	**+4.7**		
RAR				pmax	pmax				
	comp=Z,153nm,1.0s								
RGRI	**Rengat**	**49.51**	**274**	P	**P**	**09 53 25.3**	**+0.5**		
KRJI	**Kerinci**	**50.18**	**272**	P	**P**	**09 53 27.3**	**-2.7**		
ASAJ	**Asahikawa**	**50.30**	**352**	P	**P**	**09 53 31.5**	**+1.2**		
	comp=Z,8.7nm,0.9s,baz=196,slow=7.4,SNR=3.1								
ASAJ				LR	LR	10 12 45.0			
	comp=Z,4μm,21.8s,baz=189,slow=34								
ASAJ	**Asahikawa**	**50.30**	**352**	*e*P	**P**	**09 53 29.5**	**-0.8**		
	comp=Z,106nm,1.2s								
SDSI	**Sungai Dareh**	**50.34**	**274**	P	**P**	**09 53 29.3**	**-1.8**		
WHN	**Wuhan**	**50.76**	**318**	⇑P	**P**	**09 53 35.6**	**+1.6**		
WHN				S	S	10 00 36.9	-12		
WHN				LR	LR				
	comp=Z,18μm,27.0s								
WHN				LR	LR				
	comp=Z,7μm,16.1s								
WHN				LR	LR				
	comp=Z,14μm,19.9s								
KUR	**Kuril'sk**	**50.87**	**357**	P	**P**	**09 53 37.4**	**+2.9**		
KUR				S	**S**	**10 00 49.9**	**+0.4**		
KUR				MLR	MLR				
	comp=Z,6μm,17.0s								
BKNI	**Bangkinang**	**50.88**	**275**	P	**P**	**09 53 34.2**	**-1.0**		
PDSI	**Padang**	**51.30**	**273**	P	**P**	**09 53 35.6**	**-2.8**		
PPI	**Padang Panjang**	**51.41**	**274**	P	**P**	**09 53 37.4**	**-1.8**		
XMAS	**Kiritimati**	**51.43**	**83**	*e*P	**P**	**09 53 39.4**	**+0.1**		
	comp=Z,444nm,1.5s								
XMAS				LR	LR				
	comp=Z,10μm,20.0s								
IPM	**Ipoh**	**51.56**	**280**	*e*P	**P**	**09 53 39.0**	**-1.3**		
IPM				*e*PcP	**PcP**	**09 54 55.0**	**+0.7**		
IPM				LR	LR				
	comp=Z,5μm,22.0s								
KULM	**Kulim**	**52.08**	**281**	*e*P	**P**	**09 53 43.1**	**-1.1**		
	comp=Z,94nm,1.3s								
KULM				LR	LR				
	comp=Z,4μm,22.0s								
KULM	**Kulim**	**52.08**	**281**	P	**P**	**09 53 44.0**	**-0.2**		
SKNT	**Sakolnakorn**	**52.23**	**297**	P	**P**	**09 53 46.1**	**+0.8**		
	comp=Z,24nm,0.7s,comp=Z,982nm								
MNSI	**Mandailing Nat**	**52.39**	**275**	P	**P**	**09 53 45.4**	**-1.1**		
DL2	**Dalian**	**52.41**	**330**	⇓*i*P	**P**	**09 53 46.3**	**+0.1**		
DL2				S	**S**	**10 01 15.6**	**+4.6**		
DL2				pmax	pmax				
	comp=Z,77nm,1.4s								
DL2				pmax	pmax				
	comp=Z,2μm,9.1s								
DL2				LR	LR				
	comp=Z,4μm,17.2s								
DL2				LR	LR				
	comp=Z,5μm,16.8s								
DL2				LR	LR				
	comp=Z,6μm,19.7s								
SKLT	**Songkhla**	**52.50**	**284**	P	**P**	**09 53 48.2**	**+0.9**		
	comp=Z,38nm,1.5s,comp=Z,2μm								
USA0B	**Ussuriysk Arra**	**52.78**	**342**	*e*P	**P**	**09 53 48.4**	**-0.4**		
	comp=Z,296nm,2.0s								
USRK	**Ussuriysk Ar.**	**52.78**	**342**	P	**P**	**09 53 48.3**	**-0.6**		
	comp=Z,6.5nm,0.8s,baz=167,slow=7.3,SNR=14								
USRK				ScP	**ScP**	**09 58 52.7**	**-1.7**		
	comp=Z,7.8nm,1.1s,baz=151,slow=3.3,SNR=2.8								
USRK				S	**S**	**10 01 09.0**	**-6.9**		
	comp=Z,0.5nm,0.6s,baz=146,slow=26,SNR=2.8								
TIA	**Tai'an**	**52.81**	**325**	P	**P**	**09 53 48.8**	**-0.4**		
TIA				pmax	pmax				
	comp=Z,1μm,7.9s								
TIA				LR	LR				
	comp=Z,3μm,17.2s								
TIA				LR	LR				
	comp=Z,5μm,18.1s								
TIA				LR	LR				
	comp=Z,8μm,18.4s								
SRAK	**Srakaew**	**52.98**	**292**	P	**P**	**09 53 54.7**	**+3.8**		
	comp=Z,53nm,1.5s,comp=Z,810nm								
YSS	**Yuzh-Sakhalins**	**53.06**	**352**	PFAKE		09 54 00.0	+9.1		
YSS				LR	LR				
	comp=Z,3μm,22.0s								
YSS	**Yuzh-Sakhalins**	**53.06**	**352**	⇓*e*P	**P**	**09 53 52.4**	**+1.5**		
YSS				*e*		09 55 05.0			
YSS				*e*PPP	PPP	09 57 00.0			
YSS				*e*S	**S**	**10 01 23.2**	**+3.6**		
YSS				*e*PS	**PKiKP**	**10 01 40.0**	**+2.9**		
YSS				*e*SS	**SS**	**10 04 59.0**	**-0.4**		
YSS				*e*SSS	SSS	10 06 38.0			
YSS				pmax	pmax				
	comp=Z,20nm,1.2s								
YSS				pmax	pmax				
	comp=Z,900nm,6.9s								
PSI	**Prapat**	**53.33**	**278**	P	**P**	**09 53 52.2**	**-1.4**		
	comp=Z,26nm,1.0s,baz=180,slow=4.3,SNR=20								
PSI				PcP	**PcP**	**09 54 59.9**	**-1.2**		
	comp=Z,59nm,1.2s,baz=180,slow=6.1,SNR=4.3								
PSI				S	**S**	**10 01 21.6**	**-3.0**		
	comp=Z,2.9nm,0.8s,baz=180,slow=20,SNR=1.8								
PSI				LR	LR	10 22 07.0			
	comp=Z,5μm,18.2s,baz=91,slow=42								
PSI	**Prapat**	**53.33**	**278**	*e*P	**P**	**09 53 52.2**	**-1.4**		
	comp=Z,97nm,1.4s								
PSI				*e*PcP	**PcP**	**09 54 59.9**	**-1.2**		
PSI				S	**S**	**10 01 21.6**	**-3.0**		
PSI	**Prapat**	**53.33**	**278**	*e*P	**P**	**09 53 52.2**	**-1.4**		
PSI				*e*		09 54 59.9			
PSI				S	**S**	**10 01 21.7**	**-3.0**		
PSI				pmax	pmax				
	comp=Z,97nm,1.4s								
NONG	**Nongkai**	**53.37**	**297**	P	**P**	**09 53 54.6**	**+0.9**		
	comp=Z,1.4nm,0.8s,comp=Z,77nm								
TRTT	**Trang**	**53.55**	**284**	P	**P**	**09 53 55.4**	**+0.4**		
	comp=Z,10nm,1.0s,comp=Z,520nm								
CHAI	**Chaiyaphum**	**53.65**	**294**	P	**P**	**09 53 57.0**	**+1.3**		
	comp=Z,16nm,0.7s,comp=Z,137nm								
SNY	**Shenyang**	**53.84**	**334**	⇑P	**P**	**09 53 55.1**	**-1.5**		
SNY				S	**S**	**10 01 23.3**	**-7.0**		
SNY				pmax	pmax				
	comp=Z,27nm,0.8s								
SNY				pmax	pmax				
	comp=Z,2μm,7.7s								
SNY				LR	LR				
	comp=Z,2μm,16.1s								
SNY				LR	LR				
	comp=Z,5μm,20.4s								
SNY				LR	LR				
	comp=Z,7μm,20.1s								
MDJ	**Mudanjiang**	**53.92**	**341**	P	**P**	**09 53 56.9**	**-0.3**		
MDJ				pP	pP	09 53 59.8	-4.6		
MDJ				sP	sP	09 54 01.4	-5.7		
MDJ				sS	sS	10 01 44.3	+1.2		
MDJ				pmax	pmax				
	comp=Z,1μm,11.0s								
MDJ				LR	LR				
	comp=Z,3μm,18.7s								
MDJ				LR	LR				
	comp=Z,3μm,16.7s								
MDJ				LR	LR				
	comp=Z,7μm,24.7s								
MDJ	**Mudanjiang**	**53.92**	**341**	*e*P	**P**	**09 53 56.1**	**-1.1**		
	comp=Z,153nm,1.8s								
MDJ				*e*S	**S**	**10 01 36.5**	**+5.2**		
ENH	**Enshi**	**53.97**	**314**	*e*P	**P**	**09 53 58.2**	**+0.3**		
	comp=Z,531nm,1.8s								
ENH				LR	LR				
	comp=Z,6μm,19.0s								
GYA	**Guiyang**	**54.06**	**309**	⇓*i*P	**P**	**09 53 59.8**	**+1.0**		
GYA				PP	**PP**	**09 56 04.0**	**+3.5**		
GYA				ScP	**ScP**	**09 59 02.4**	**+1.8**		
GYA				S	**S**	**10 01 38.8**	**+4.6**		
GYA				SS	**SS**	**10 05 17.3**	**+1.2**		
GYA				pmax	pmax				
	comp=Z,50nm,1.0s								
GYA				pmax	pmax				
	comp=Z,2μm,9.3s								
GYA				LR	LR				
	comp=Z,3μm,18.2s								
GYA				LR	LR				
	comp=Z,4μm,18.2s								
GYA				LR	LR				
	comp=Z,7μm,18.8s								
COCO	**West Island**	**54.44**	**259**	*e*P	**P**	**09 54 01.1**	**-0.5**		
	comp=Z,565nm,1.2s								
COCO				LR	LR				
	comp=Z,5μm,21.0s								
COCO	**West Island**	**54.44**	**259**	*i* P	**P**	**09 54 04.2**	**+2.7**		
GSI	**Gunungsitoli**	**54.44**	**276**	*e*P	**P**	**09 54 00.2**	**-1.4**		
	comp=Z,114nm,1.1s								
GSI				LR	LR				
	comp=Z,6μm,22.0s								
GSI	**Gunungsitoli**	**54.44**	**276**	P	**P**	**09 54 00.0**	**-1.6**		
KCSI	**Kotacane, Aceh**	**54.58**	**278**	P	**P**	**09 54 00.4**	**-2.2**		
CN2	**Changchun**	**54.70**	**337**	*e*P	**P**	**09 54 01.8**	**-1.1**		
CN2				*es*P	sP	09 54 16.5	+3.6		
CN2				PcP	**PcP**	**09 55 04.9**	**-0.6**		
CN2				*e*PP	**PP**	**09 56 05.8**	**0.0**		
CN2				ScP	**ScP**	**09 59 02.8**	**0.0**		
CN2				*e*S	**S**	**10 01 39.5**	**-2.5**		
CN2				SS	**SS**	**10 05 23.5**	**-1.9**		
CN2				pmax	pmax				
	comp=Z,200nm,8.0s								
CN2				LR	LR				
	comp=Z,5μm,18.0s								
CN2				LR	LR				
	comp=Z,5μm,18.0s								
CN2				LR	LR				
	comp=Z,5μm,19.0s								
PBKT	**Sadao Pong**	**54.79**	**295**	P	**P**	**09 54 05.3**	**+1.3**		
	comp=Z,52nm,2.5s,comp=Z,2μm								
PKDT	**Phuket**	**54.87**	**284**	P	**P**	**09 54 05.0**	**+0.3**		
	comp=Z,16nm,0.7s								
PHET	**Kaeng Krachan**	**54.90**	**290**	P	**P**	**09 54 07.2**	**+2.4**		
	comp=Z,7.8nm,0.9s								
KEKH	**Kekaha**	**55.03**	**58**	PFAKE		09 54 20.0	+14		
KEKH				LR	LR				
	comp=Z,11μm,19.0s								
TPTI		**55.12**	**278**	P	**P**	**09 54 04.2**	**-2.3**		
	comp=Z,25nm,1.1s,comp=Z,914nm								
UTTA	**Uttaradit**	**55.56**	**296**	P	**P**	**09 54 11.0**	**+1.4**		
	comp=Z,12nm,0.9s,comp=Z,142nm								
LHMI	**Lhok Sumawe**	**55.69**	**280**	PFAKE		09 54 20.0	+9.4		
LHMI				LR	LR				
	comp=Z,5μm,21.0s								
LHMI	**Lhok Sumawe**	**55.69**	**280**	P	**P**	**09 54 09.8**	**-0.8**		
SRDT	**SRDT**	**55.78**	**292**	P	**P**	**09 54 12.5**	**+1.3**		
	comp=Z,39nm,1.3s,comp=Z,2μm								
NANT	**Nan**	**55.80**	**297**	P	**P**	**09 54 12.2**	**+0.9**		
	comp=Z,22nm,0.6s,comp=Z,489nm								
UTHA	**Uthaitani**	**55.85**	**293**	P	**P**	**09 54 12.8**	**+1.1**		
	comp=Z,9.4nm,1.5s,comp=Z,131nm								
BJT	**Baijiatuau**	**56.05**	**328**	*e*P	**P**	**09 54 12.8**	**+0.1**		
	comp=Z,117nm,1.4s								
BJT				LR	LR				
	comp=Z,12μm,18.0s								
BJT	**Baijiatuau**	**56.05**	**328**	*e*P	**P**	**09 54 12.8**	**+0.1**		
BJT				pmax	pmax				
	comp=Z,117nm,1.4s								
BJT				MLR	MLR				
	comp=Z,12μm,18.0s								
MLSI	**Meulaboh, Aceh**	**56.05**	**279**	P	**P**	**09 54 11.6**	**-1.6**		
BJI	**Beijing**	**56.06**	**328**	⇓*i*P	**P**	**09 54 12.3**	**-0.4**		
BJI				S	**S**	**10 02 06.9**	**+6.7**		
BJI				LR	LR				
	comp=Z,5μm,17.7s								
BJI				LR	LR				
	comp=Z,4μm,17.8s								
KIP	**Kipapa**	**56.26**	**60**	PFAKE		09 54 30.0	+15		
KIP				LR	LR				
	comp=Z,9μm,19.0s								
SUKH	**Sukhothai**	**56.30**	**295**	P	**P**	**09 54 16.6**	**+1.7**		
	comp=Z,11nm,1.0s								
OPA	**Opana**	**56.36**	**59**	PFAKE		09 54 30.0	+15		
OPA				LR	LR				
	comp=Z,10μm,18.0s								
XAN	**Xi'an**	**56.52**	**318**	P	**P**	**09 54 16.1**	**-0.2**		
XAN				pP	sP	09 54 25.3	-1.0		
XAN				S	**S**	**10 02 12.1**	**+5.3**		
XAN				pmax	pmax				
	comp=Z,46nm,1.3s								
XAN				pmax	pmax				
	comp=Z,2μm,7.7s								
XAN				LR	LR				
	comp=Z,2μm,24.9s								
XAN				LR	LR				
	comp=Z,4μm,15.4s								
XAN				LR	LR				
	comp=Z,5μm,17.3s								
KMI	**Kunming**	**56.57**	**305**	P	**P**	**09 54 18.3**	**+1.3**		
KMI				pP	pP	09 54 22.6	-1.6		
KMI				sP	sP	09 54 24.0	-3.0		
KMI				S	**S**	**10 02 09.8**	**+1.8**		
KMI				sS	pS	10 02 16.3	-0.4		
KMI				pmax	pmax				
	comp=Z,88nm,1.2s								
KMI				pmax	pmax				
	comp=Z,2μm,6.0s								
KMI				LR	LR				
	comp=Z,3μm,17.3s								
KMI				LR	LR				
	comp=Z,4μm,20.6s								
KMI				LR	LR				
	comp=Z,6μm,21.0s								
TIY	**Taiyuan**	**56.58**	**323**	*e*P	**P**	**09 54 17.4**	**+0.8**		
TIY				PP	**PP**	**09 56 27.6**	**+4.8**		
TIY				S	**S**	**10 02 14.

comp=Z,4µm,18.0s
CHTO Chiang Mai 57.37 297 *e*P **P 09 54 22.8 +0.3**
CHTO pmax pmax
comp=Z,114nm,1.4s
CHTO MLR MLR
comp=Z,4µm,18.0s
CHTO Chiang Mai 57.37 297 P **P 09 54 23.1 +0.6**
comp=Z,233nm,1.9s,comp=Z,7µm
KHLU Kahalu'u 57.43 63 PFAKE 09 54 40.0 +17
KHLU LR LR
comp=Z,6µm,19.0s
KHLH Kahului Airpor 57.43 61 PFAKE 09 54 40.0 +17
KHLH LR LR
comp=Z,9µm,19.0s
KLR Kul'dur 57.44 345 LR LR 10 15 45.1
comp=Z,3µm,21.7s,baz=160,slow=32
KLR Kul'dur 57.44 345 *i* P **P 09 54 19.7 -2.7**
HUH Hualalai 57.51 62 PFAKE 09 54 40.0 +16
HUH LR LR
comp=Z,6µm,20.0s
HLK Haleakala 57.53 61 PFAKE 09 54 40.0 +16
HLK LR LR
comp=Z,10µm,20.0s
MWH Moku'aweowe 57.65 63 PFAKE 09 54 40.0 +15
MWH LR LR
comp=Z,7µm,18.0s
MLOA Mauna Loa Obse 57.69 63 PFAKE 09 54 40.0 +15
MLOA LR LR
comp=Z,7µm,19.0s
HPAH Hawaii Prepara 57.76 62 PFAKE 09 54 40.0 +15
HPAH LR LR
comp=Z,9µm,19.0s
HMH Humu'ula Sheep 57.80 63 PFAKE 09 54 40.0 +14
HMH LR LR
comp=Z,8µm,19.0s
POHA Pohakuloa 57.80 62 PFAKE 09 54 40.0 +14
POHA LR LR
comp=Z,7µm,20.0s
GRNR Gornyy 57.81 349 *e*P **P 09 54 23.2 -1.8**
MLH Mauna Loa 57.84 63 PFAKE 09 54 40.0 +14
MLH LR LR
comp=Z,7µm,19.0s
SDHHI Sand Hill 57.89 63 PFAKE 09 54 40.0 +14
SDHHI LR LR
comp=Z,6µm,18.0s
WRMHI West Rim 57.89 63 PFAKE 09 54 40.0 +14
WRMHI LR LR
comp=Z,6µm,20.0s
UWE Uwekahuna 57.90 63 PFAKE 09 54 40.0 +14
UWE LR LR
comp=Z,6µm,20.0s
OBL Observatory Le 57.91 63 PFAKE 09 54 40.0 +14
OBL LR LR
comp=Z,7µm,18.0s
RIM Rim 57.91 63 PFAKE 09 54 40.0 +14
RIM LR LR
comp=Z,7µm,18.0s
UWB Uwekahuna B 57.92 63 PFAKE 09 54 40.0 +14
UWB LR LR
comp=Z,8µm,19.0s
KKO Keanakako'i 57.92 63 PFAKE 09 54 40.0 +14
KKO LR LR
comp=Z,6µm,18.0s
SBLHI Steaming Bluff 57.92 63 PFAKE 09 54 40.0 +13
SBLHI LR LR
comp=Z,7µm,18.0s
BYL Byron's Ledge 57.93 63 PFAKE 09 54 40.0 +13
BYL LR LR
comp=Z,5µm,20.0s
HATHI Halema'uma'u T 57.93 63 PFAKE 09 54 40.0 +13
HATHI LR LR
comp=Z,8µm,20.0s
PUH Pauahi 57.95 63 PFAKE 09 54 40.0 +13
PUH LR LR
comp=Z,6µm,19.0s
JCUZ Jacuzzi 58.06 63 PFAKE 09 54 40.0 +13
JCUZ LR LR
comp=Z,6µm,22.0s
CD2 Chengdu 58.49 312 ⇓P **P 09 54 30.8 +0.6**
CD2 pP pP 09 54 33.9 -3.5
CD2 sP sP 09 54 35.3 -4.9
CD2 PP **PP 09 56 40.3 +0.4**
CD2 S **S 10 02 31.8 -0.9**
CD2 sS pS 10 02 40.8 -0.7
CD2 SS **SS 10 06 29.3 +3.7**
CD2 pmax pmax
comp=Z,110nm,0.8s
CD2 pmax pmax
comp=Z,3µm,6.6s
CD2 LR LR
comp=Z,6µm,19.9s
CD2 LR LR
comp=Z,6µm,22.8s
CD2 LR LR
comp=Z,7µm,22.4s
PPT Papeete 58.55 107 P **P 09 54 34.5 +3.7**
comp=Z,72nm,1.1s,baz=350,slow=13,SNR=3.6
PPT S **S 10 02 42.0 +8.2**
comp=Z,18nm,0.9s,baz=20,slow=18,SNR=1.3
PPT LR LR 10 18 18.6
comp=Z,2µm,18.3s,baz=270,slow=34
PPT PKPPKP **P'P'df 10 24 07.9 -3.3**
comp=Z,18nm,0.9s,baz=78,slow=20,SNR=1.8
PPT2 Papeete2 58.55 107 *e*P **P 09 54 32.2 +1.3**
comp=Z,217nm,1.5s
PPT2 *e*S **S 10 02 31.5 -2.4**
comp=Z,7µm,25.5s
PPT2 *e*SS **SS 10 06 24.7 -2.2**
comp=Z,2µm,28.5s
PPT2 *e*LQ LQ 10 09 05.4
comp=Z,7µm,27.8s
PPT2 *e*LR LR 10 11 33.7
comp=Z,2µm,21.5s
PAE Paea 58.55 107 *e*P **P 09 54 31.9 +1.1**
comp=Z,38nm,1.4s
TIAR Tiarei 58.77 107 *e*P **P 09 54 33.5 +1.2**
comp=Z,152nm,1.3s
PET Petropavlovsk 58.85 5 *e*P P 09 54 23.7 -8.5
PET *e*S S 10 02 26.4 -10
PET *e*SS **SS 10 06 23.1 -7.3**
PET pmax pmax
comp=Z,2µm,16.9s
PET pmax pmax
comp=Z,1µm,8.3s
PET MLR MLR
comp=Z,4µm,18.0s
PET MLR MLR
comp=Z,4µm,20.0s
PETK Petropavlovsk- 58.86 4 P **P 09 54 32.3 0.0**
comp=Z,15nm,0.8s,baz=160,slow=7.6,SNR=20
PETK S S 10 02 49.5 +13
comp=Z,3.7nm,0.9s,baz=202,slow=7.4,SNR=1.8
PETK Petropavlovsk- 58.86 4 *e*P **P 09 54 32.9 +0.6**
PETK S S 10 02 49.5 +13
PETK Petropavlovsk- 58.86 4 *e*P **P 09 54 32.9 +0.6**
PETK S S 10 02 49.6 +13
PEA1 Petropavlovsk- 58.87 4 *e*P **P 09 54 32.3 0.0**
PEA1 *e*S S 10 02 49.5 +13
TVO Taravao 58.87 107 *e*P **P 09 54 34.5 +1.4**
comp=Z,126nm,1.4s
HHC Hu-ho-hao-te 59.16 325 *e*P **P 09 54 34.8 +0.1**
HHC PP **PP 09 56 48.5 +2.8**
HHC S **S 10 02 41.0 -0.1**
HHC sS pS 10 02 50.4 +0.5
HHC pmax pmax
comp=Z,67nm,1.1s
HHC pmax pmax
comp=Z,2µm,7.8s
HHC LR LR
comp=Z,7µm,18.2s
HHC LR LR
comp=Z,6µm,18.1s
HHC LR LR
comp=Z,10µm,17.3s
TBI Tubuai 59.23 114 *e*P **P 09 54 36.2 +0.8**
comp=Z,283nm,1.3s
TBI *e*S **S 10 02 39.9 -2.5**
comp=Z,8µm,28.5s
TBI *e*SS **SS 10 06 36.2 -1.0**
comp=Z,3µm,25.5s
TBI *e*LQ LQ 10 09 23.9
comp=Z,7µm,37.5s
TBI *e*LR LR 10 11 52.7
comp=Z,10µm,36.5s
BTO Baotou 59.88 324 *e*P **P 09 54 40.8 +1.1**
BTO S **S 10 02 45.6 -4.9**

PMOR Pomariorio Ree 60.03 104 *e*P **P 09 54 42.2 +1.2**
comp=Z,818nm,1.2s
VAH Vaihoa 60.29 104 *e*P **P 09 54 43.8 +0.9**
comp=Z,340nm,1.3s
LZH Lanzhou 61.12 317 *e*P **P 09 54 49.0 +0.7**
LZH pP pP 09 54 53.6 -2.0
LZH sP sP 09 54 56.8 -1.6
LZH PP **PP 09 57 02.4 -0.8**
LZH S **S 10 03 07.0 +0.4**
LZH sS sS 10 03 18.8 +0.2
LZH pmax pmax
comp=Z,110nm,1.0s
LZH pmax pmax
comp=Z,1µm,4.3s
LZH LR LR
comp=Z,4µm,13.0s
LZH LR LR
comp=Z,4µm,13.6s
LZH LR LR
comp=Z,6µm,14.1s
SMY Shemya 61.30 15 PFAKE 09 55 00.0 +11
SMY LR LR
comp=Z,7µm,20.0s
HIA Hailar 61.44 337 *e*P **P 09 54 49.8 -0.3**
comp=Z,235nm,1.8s
HIA LR LR
comp=Z,4µm,18.0s
HIA Hailar 61.44 337 *e*P **P 09 54 49.8 -0.3**
HIA pmax pmax
comp=Z,235nm,1.8s
HIA MLR MLR
comp=Z,4µm,18.0s
ZEA Zeya 62.73 344 *e*P **P 09 54 57.7 -0.9**
ZEA *e* 10 03 57.0
ZEA pmax pmax
comp=Z,110nm,1.4s
ZEA pmax pmax
comp=Z,1µm,8.0s
ZEA MLR MLR
comp=N,4µm,18.0s
ZEA MLR MLR
comp=E,2µm,18.0s
ZEA MLR MLR
comp=Z,5µm,18.0s
LKP Lekhapani 63.12 304 *e*P **P 09 55 01.4 -0.4**
KIWB Kanaga Island 63.27 21 *e*P **P 09 55 03.0 +0.8**
ADK Adak 63.47 21 *e*P **P 09 55 03.7 +0.2**
comp=Z,400nm,2.0s
ADK LR LR
comp=Z,6µm,22.0s
ADK Adak 63.47 21 *e*P **P 09 55 03.7 +0.2**
ADK pmax pmax
comp=Z,400nm,2.0s
ADK MLR MLR
comp=Z,6µm,22.0s
IMP Imphal 63.79 301 *e*P **P 09 55 05.4 -0.9**
IMP IAMs_20 IAMs_20 10 20 47.8
comp=Z,5µm,21.5s
SAIH SAIHA 63.84 298 *e*P **P 09 55 06.4 -0.4**
MOKO MOKOCHONG 63.84 303 *e*P **P 09 55 06.2 -0.5**
MOKO IAmb IAmb 09 55 07.3
comp=Z,101nm,1.1s
KOHI KOHIMA 63.97 302 *e*P **P 09 55 04.2 -3.4**
KOHI IAmb IAmb 09 55 09.9
comp=Z,2µm,3.0s
JORH JORHAT 64.22 303⇓*e*P **P 09 55 08.4 -0.6**
ATKA Atka Island 64.64 22 PFAKE 09 55 20.0 +8.8
ATKA LR LR
comp=Z,6µm,20.0s
SILR SILCHAR 64.75 301 *e*P **P 09 55 12.2 -0.3**
ITAN ITANAGAR 64.80 303 *e*P **P 09 55 12.4 -0.4**
ITAN IAmb IAmb 09 55 15.2
ZIRO ZIRO 64.83 304 *e*P **P 09 55 13.2 0.0**
BRDH Bariadhala 65.08 298 P **P 09 55 14.9 +0.2**
comp=Z,93nm,0.3s,baz=94,slow=8.2,SNR=8.8
MA2 Magadan 65.12 360 P **P 09 55 15.4 +1.1**
comp=Z,50nm,0.9s,baz=166,slow=9.5,SNR=7.6
MA2 LR LR 10 24 01.4
comp=Z,3µm,19.0s,baz=180,slow=36
MA2 Magadan 65.12 360 *i* P **P 09 55 16.8 +2.5**
MA2 pmax pmax
comp=Z,46nm,0.9s
TEZP TEZPUR 65.39 303 *e*P **P 09 55 15.6 -1.0**
TEZP IAmb IAmb 09 55 18.0
BELO BELONIA 65.43 299 *e*P **P 09 55 17.6 +0.7**
BELO IAMs_20 IAMs_20 10 22 58.8
comp=Z,14µm,11.6s
GTA Gaotai 65.58 318 ⇓P **P 09 55 18.1 +0.3**
GTA pP pP 09 55 23.8 -1.3
GTA sP sP 09 55 26.6 -1.2
GTA S **S 10 04 03.3 +1.2**
GTA sS pS 10 04 09.8 -1.3
GTA SS **SS 10 08 17.5 +1.1**
GTA pmax pmax
comp=Z,1µm,8.3s
GTA LR LR
comp=Z,3µm,18.2s
GTA LR LR
comp=Z,3µm,18.9s
GTA LR LR
comp=Z,4µm,18.9s
AGT Agartala 65.80 299 *ex* **P 09 55 15.7 -3.6**
AGT IAmb IAmb 09 55 16.7
comp=Z,83nm,0.5s
SHL Shillong 65.80 301 *e*P **P 09 55 19.4 -0.1**
comp=Z,505nm,1.7s
SHL Shillong 65.80 301 *e*P **P 09 55 19.4 -0.1**
SHL pmax pmax
comp=Z,505nm,1.7s
SHL Shillong 65.80 301 *e*P **P 09 55 18.4 -1.1**
SHL IAmb IAmb 09 55 18.5
comp=Z,6µm,4.3s
SHL *ex* x 10 04 14.0
CIT Chita 66.07 335 *e*P **P 09 55 20.5 -0.1**
CIT *e* 09 55 32.5
CIT *e* 09 55 57.9
CIT pmax pmax
comp=Z,139nm,1.4s
GUWA GUWAHATI 66.17 302 *e*P **P 09 55 20.9 -0.8**
TAWA Tawang 66.50 303⇓*e*P **P 09 55 23.4 -0.9**
TAWA IAmb IAmb 09 55 28.9
comp=Z,33µm,7.1s
SONA0 Songino Array 66.52 329 *e*P **P 09 55 23.9 +0.2**
SONA0 *e*S **S 10 04 09.8 -3.5**
SONM Songino Array 66.52 329 P **P 09 55 23.9 +0.2**
comp=Z,86nm,1.3s,baz=142,slow=3.5,SNR=123
SONM S **S 10 04 09.8 -3.5**
comp=Z,0.2nm,0.3s,baz=126,slow=7.3,SNR=1.9
SONM PKP2ab 10 24 02.5
comp=Z,4.1nm,1.2s,baz=256,slow=1.9,SNR=7.6
SONM LR LR 10 24 13.9
comp=Z,4µm,19.5s,baz=128,slow=36
SONA1 Songino Array 66.52 329 *e*P **P 09 55 23.5 -0.2**
CASY Casey 66.77 197 *e*P **P 09 55 25.5 +0.7**
comp=Z,134nm,1.2s
CASY LR LR
comp=Z,8µm,18.0s
TURI Tura 67.12 301 *e*P **P 09 55 26.9 -0.9**
TURI IAmb IAmb 09 55 29.2
comp=Z,190nm,1.2s
NIKH Nikolski High 67.36 25 PFAKE 09 55 40.0 +11
NIKH LR LR
comp=Z,7µm,20.0s
LSA Lhasa 67.83 305 P **P 09 55 33.4 +0.6**
LSA pP **pP 09 55 38.8 -1.3**
LSA S **S 10 04 25.5 -4.9**
LSA SS **SS 10 08 54.0 +1.6**
LSA pmax pmax
comp=Z,38nm,1.1s
LSA pmax pmax
comp=Z,560nm,6.7s
LSA LR LR
comp=Z,880nm,17.3s
LSA LR LR
comp=Z,620nm,15.7s
LSA LR LR
comp=Z,2µm,18.9s
LSA Lhasa 67.83 305 *e*P **P 09 55 32.8 0.0**
comp=Z,191nm,1.6s
LSA Lhasa 67.83 305 *i* P **P 09 55 33.3 +0.5**
SNR=19
LSA Lhasa 67.83 305 *e*P **P 09 55 32.8 0.0**
LSA pmax pmax
comp=Z,191nm,1.6s
SEY Seymchan 68.49 0 P **P 09 55 35.5 -0.1**
comp=Z,7.1nm,0.8s,baz=191,slow=7.9
SEY Seymchan 68.49 0*c**e*P **P 09 55 37.2 +1.6**
UNV Unalaska Valle 68.97 25 PFAKE 09 55 50.0 +11
UNV LR LR
comp=Z,9µm,20.0s
GTK Tadong 69.15 302 *e*P **P 09 55 40.1 -0.6**
GTK IAmb IAmb 09 55 42.4
BWNR Bhubaneshwar 69.63 294 *e*P **P 09 55 41.8 -1.8**
YAK Yakutsk 69.68 349 LR LR 10 25 58.5
comp=Z,2µm,19.8s,baz=104,slow=36
YAK Yakutsk 69.68 349 *e*P **P 09 55 42.0 -1.0**
comp=Z,122nm,1.2s
YAK Yakutsk 69.68 349*d**i*P **P 09 55 41.7 -1.3**
YAK *e**PP **sP 09 55 53.0 -0.1**
YAK *e* 09 56 04.4
YAK *e*S **S 10 04 48.2 -1.9**
YAK *e**SS **sS 10 05 07.8 +5.5**
YAK *e* 10 05 41.8
YAK pmax pmax
comp=Z,63nm,1.1s
YAK pmax pmax
comp=N,21nm,1.2s
YAK pmax pmax
comp=E,13nm,1.0s
YAK pmax pmax
comp=Z,1µm,4.3s
YAK pmax pmax
comp=E,587nm,4.0s
YAK pmax pmax
comp=N,806nm,3.8s
YAK smax smax
comp=N,671nm,3.5s
YAK smax smax
comp=E,288nm,4.2s
YAK MLR MLR
comp=Z,3µm,20.0s
YAK MLR MLR
comp=N,3µm,16.0s
YAK MLR MLR
comp=E,850nm,17.0s
ZAK Zakamensk 69.71 329 *e*P **P 09 55 42.7 -0.9**
ZAK pmax pmax
comp=Z,114nm,1.4s
TAPN Taplejung 69.91 302 *e*P **P 09 55 45.7 +0.1**
comp=Z,293nm,1.4s
ODAN Odare 70.04 301 *e*P **P 09 55 46.2 -0.1**
comp=Z,156nm,0.8s
BOD Bodaibo 70.27 340⇑*i*P **P 09 55 45.1 -1.6**
BOD *e* 09 55 59.1
BOD pmax pmax
comp=Z,65nm,1.4s
TLY Talaya 70.33 331 P **P 09 55 47.2 -0.1**
comp=Z,21nm,1.1s,baz=146,slow=8.1,SNR=31
TLY Talaya 70.33 331 *e*P **P 09 55 47.2 -0.1**
TLY *e*P **pP 09 55 47.3 -7.3**
TLY LR LR
comp=Z,4µm,19.0s
TLY Talaya 70.33 331*d**e*P **P 09 55 47.2 -0.1**
TLY pmax pmax
comp=Z,64nm,1.3s
IRK Irkutsk 70.38 331 *e*P **P 09 55 46.7 -0.8**
IRK pmax pmax
comp=Z,164nm,1.7s
BOK Bokaro 70.47 298 *e*P **P 09 55 47.8 -0.9**
RAMN Ramite 70.74 301 *e*P **P 09 55 50.3 -0.3**
JIRN Jiri 71.29 302 *e*P **P 09 55 54.0 -0.1**
comp=Z,807nm,1.8s
GUN Gumba 71.63 302 *e*P **P 09 55 56.0 -0.1**
comp=Z,709nm,1.5s
MOY Mondy 71.64 330 *e*P **P 09 55 55.5 +0.2**
MOY pmax pmax
comp=Z,37nm,1.4s
VNDA Vanda 71.93 178 P **P 09 55 57.2 +0.7**
comp=Z,43nm,1.0s,baz=331,slow=6.7,SNR=96
VNDA LR LR 10 25 44.8
comp=Z,3µm,18.7s,baz=358,slow=34
VNDA Vanda 71.93 178 *e*P **P 09 55 57.6 +1.0**
comp=Z,90nm,1.3s
VNDA Vanda 71.93 178 *e*P **P 09 55 57.6 +1.0**
VNDA pmax pmax
comp=Z,90nm,1.3s
PKI Pulchoki 71.93 301 *e*P **P 09 55 57.3 -0.6**
comp=Z,354nm,1.5s
PKIN Phulchoki 71.94 301 *e*P **P 09 55 57.2 -0.7**
comp=Z,311nm,1.5s
PALK Pallekele 71.95 280 P **P 09 55 59.2 +1.3**
comp=Z,6.4nm,0.6s,baz=115,slow=6.6,SNR=5.3
PALK Pallekele 71.95 280 *e*P **P 09 55 59.0 +1.1**
comp=Z,61nm,1.3s
PALK LR LR
comp=Z,14µm,19.0s
PALK Pallekele 71.95 280 P **P 09 55 57.8 -0.1**
PALK Pallekele 71.95 280*c**e*P **P 09 55 57.9 0.0**
KKN Kakani 72.10 301 *e*P **P 09 55 58.5 -0.3**
DMN Daman 72.20 301 *e*P **P 09 55 59.4 0.0**
comp=Z,451nm,1.3s
RKT Rikitea 72.50 112 *e*P **P 09 56 01.8 +0.9**
comp=Z,83nm,1.2s
RKT *e*S **S 10 05 22.9 -1.4**
comp=Z,2µm,28.2s
RKT *e*SS **SS 10 10 00.4 -3.0**
comp=Z,1µm,33.2s
RKT *e*LQ LQ 10 15 00.2
comp=Z,3µm,36.8s
RKT *e*LR LR 10 18 01.1
comp=Z,5µm,32.2s
SBA Scott Base 72.50 177 *e*P **P 09 56 01.2 +1.3**
comp=Z,497nm,2.0s
SBA Scott Base 72.50 177 *e*P **P 09 56 01.2 +1.3**
SBA pmax pmax
comp=Z,497nm,2.0s
MIR Mirnyy 72.63 201⇑*i*P **P 09 56 01.0 +0.1**
MIR *e* 09 56 12.0
MIR *e* 09 58 40.0
MIR *e*PPP PPP 10 00 30.0
MIR *e*S **S 10 05 26.0 +1.7**
MIR *e*PS PnS 10 06 12.0 +15
MIR *e*SS **SS 10 10 04.0 +0.4**
MIR *e*SSS SSS 10 13 20.0
MIR pmax pmax
comp=Z,396nm,1.2s
MIR pmax pmax
comp=Z,3µm,6.0s
MIR MLR MLR
comp=N,3µm,17.0s
MIR MLR MLR
comp=E,3µm,17.0s
MIR MLR MLR
comp=Z,7µm,17.0s
GKN Gorkha 72.71 302 *e*P **P 09 56 01.9 -0.4**
KOLN Koldanda 73.53 301 *e*P **P 09 56 06.7 -0.5**
comp=Z,216nm,1.0s
DANN Dangsing 73.55 302 *e*P **P 09 56 06.7 -0.8**
comp=Z,113nm,0.8s
PYUN Piuthan 74.14 301 *e*P **P 09 56 10.0 -0.8**
comp=Z,149nm,0.8s
BILL Bilibino 74.34 6*c**i*P **P 09 56 12.1 +1.2**
BILL *e* 09 58 52.7
BILL *i* S **SKiKP 10 05 39.0 +2.4**
BILL pmax pmax
comp=Z,60nm,1.3s
BILL MLR MLR
comp=Z,3µm,19.0s
WMQ Urumqi 75.66 318 P **P 09 56 19.3 +0.2**
WMQ sP sP 09 56 29.6 +0.3
WMQ S **S 10 06 00.6 +1.3**
WMQ sS sS 10 06 11.8 +0.2
WMQ SS **SS 10 10 52.5 +1.3**
WMQ pmax pmax
comp=Z,120nm,1.7s
WMQ pmax pmax
comp=Z,3µm,6.3s
WMQ LR LR
comp=Z,6µm,16.1s
WMQ LR LR
comp=Z,4µm,18.3s
WMQ LR LR
comp=Z,3µm,24.7s
HYB Hyderabad 75.72 290⇓*i*P **P 09 56 19.0 -0.9**
HYB *e*S **S 10 06 04.0 +3.2**
HYB Hyderabad 75.72 290 *e*P **P 09 56 16.7 -3.2**
HYB IAmb IAmb 09 56 21.6
comp=Z,153nm,1.4s
NGP Nagpur 75.98 293 *e*P **P 09 56 20.2 -1.1**
NGP IAmb IAmb 09 56 22.2
comp=Z,62nm,0.4s

OHAK Old Harbor 76.92 27 *e*P P 09 56 27.2 +1.4
comp=Z,359nm,1.7s
OHAK LR LR
comp=Z,5µm,22.0s
ANM Nome 77.03 18 *e*P P 09 56 26.8 +0.5
comp=Z,170nm,1.6s
ANM LR LR
comp=Z,6µm,20.0s
ANM Nome 77.03 18 *e*P P 09 56 26.8 +0.5
ANM pmax pmax
comp=Z,170nm,1.6s
ANM MLR MLR
comp=Z,6µm,20.0s
KDAK Kodiak Island 77.54 27 P P 09 56 30.2 +0.9
comp=Z,74nm,1.3s,baz=165,slow=1.4,SNR=5.2
KDAK LR LR 10 24 37.5
comp=Z,4µm,21.7s,baz=235,slow=31
BHPL Bhopal 77.88 295 *e*P P 09 56 30.9 -1.1
BHPL IAmb IAmb 09 56 32.1
comp=Z,154nm,1.6s
DGZ Jazzator, Alta 78.15 323 *d* iP P 09 56 32.5 -0.6
DGZ pmax pmax
comp=Z,33nm,1.2s
SVW2 Sparrevohn 78.15 23 *e*P P 09 56 33.9 +1.2
comp=Z,98nm,1.0s
DGAR Diego Garcia 78.59 264 *e*P P 09 56 36.5 +0.4
comp=Z,1µm,1.8s
DGAR LR LR
comp=Z,3µm,21.0s
DGAR Diego Garcia 78.59 264 *d* iP P 09 56 36.9 +0.8
TIXI Tiksi 78.69 353 P P 09 56 35.5 +0.1
comp=Z,16nm,0.9s,baz=156,slow=7.1
TIXI LR LR 10 35 08.6
comp=Z,2µm,18.0s,baz=165,slow=39
TIXI Tiksi 78.69 353 *d* iP P 09 56 32.9 -2.5
TIXI pmax pmax
comp=Z,9.0nm,1.1s
ZSN Zaisan 78.86 321 ⇓ *i* P P 09 56 36.6 -0.3
comp=Z,33nm,2.6s
DDI Dehra Dun 78.86 302 *e*P P 09 56 36.9 -0.5
DDI IAmb IAmb 09 56 38.7
comp=Z,44nm,0.6s
RSO Redoubt South 78.93 25 *e*P P 09 56 37.6 +0.3
CNPM China Poot 79.07 26 *e*P P 09 56 38.5 +0.7
comp=Z,313nm,0.9s
CNPM LR LR
comp=Z,7µm,20.0s
HMDM Hanimaadhoo 79.28 278 *e*P P 09 56 39.2 -0.6
comp=Z,386nm,1.6s
BRLK Bradley Lake 79.35 26 *e*P P 09 56 39.4 +0.1
comp=Z,156nm,1.3s
BRLK LR LR
comp=Z,6µm,19.0s
MNCI Minicoy 79.59 279 *e*P P 09 56 40.5 -1.1
SMLA Simla 79.79 303 *e*P P 09 56 41.4 -0.9
SMLA IAMs_20 IAMs_20 10 31 40.8
comp=Z,2µm,18.8s
H08N1 Diego Garcia H 80.09 265 P P 09 56 42.9 -1.1
baz=150,slow=3.1,SNR=16
H08N2 Diego Garcia H 80.11 265 P P 09 56 44.0 0.0
baz=150,slow=3.1,SNR=6.7
H08N3 Diego Garcia H 80.12 265 P P 09 56 42.8 -1.3
baz=150,slow=3.1,SNR=5.0
SEW Seward 80.14 26 *e*P P 09 56 43.7 +0.2
comp=Z,201nm,1.1s
SEW LR LR
comp=Z,7µm,20.0s
RDOG Red Dog Mine 80.21 16 *e*P P 09 56 43.6 -0.2
comp=Z,161nm,1.5s
RDOG LR LR
comp=Z,5µm,20.0s
SKT Skwentna 80.25 24 PFAKE 09 57 00.0 +16
SKT LR LR
comp=Z,8µm,20.0s
MK31 Makanchi Array 80.28 319 *e*P P 09 56 44.4 -0.3
MK31 Makanchi Array 80.28 319 *e*P P 09 56 44.4 -0.3
MK32 Makanchi Array 80.28 319 *e*P P 09 56 44.2 -0.5
MKAR Makanchi Array 80.28 319 P P 09 56 44.2 -0.5
comp=Z,12nm,0.8s,baz=101,slow=6.4,SNR=73
MKAR PKKPbc **PKKPbc** 10 15 26.7 -2.8
comp=Z,1.9nm,1.0s,baz=286,slow=2.1,SNR=7.1
MKAR LR LR 10 32 21.3
comp=Z,2µm,19.7s,baz=92,slow=36
MKAR Makanchi Array 80.28 319 *e*P P 09 56 44.4 -0.3
comp=Z,134nm,0.9s
MKAR PKKPbc **PKKPbc** 10 15 26.8 -2.8
MKAR Makanchi Array 80.28 319 *e*P P 09 56 44.4 -0.3
MKAR 10 15 26.8
MKAR pmax pmax
comp=Z,134nm,0.9s
SUA Susitna One 80.30 24 *e*P P 09 56 43.8 -0.7
comp=Z,71nm,1.0s
POO Poona 80.32 290 *e*P P 09 56 44.6 -0.8
POO IAmb IAmb 09 56 45.7
comp=Z,132nm,1.4s
PPLA Purkeypile 80.49 23 *e*P P 09 56 46.2 +0.6
comp=Z,221nm,1.6s
PPLA LR LR
comp=Z,8µm,21.0s
DHRM DHARAMSHALA 80.76 304 *e*P P 09 56 47.1 -0.8
CAST Castle Rocks 80.82 22 *e*P P 09 56 44.8 -2.3
comp=Z,62nm,1.0s
CAST LR LR
comp=Z,8µm,21.0s
PMR Palmer 81.03 25 *e*P P 09 56 48.3 0.0
comp=Z,89nm,1.1s
PMR LR LR
comp=Z,4µm,19.0s
PMR Palmer 81.03 25 *e*P P 09 56 48.3 0.0
PMR pmax pmax
comp=Z,89nm,1.1s
PMR MLR MLR
comp=Z,4µm,19.0s
SHLS Shalkode 81.08 315 ⇓ *i* P P 09 56 47.5 -1.7
comp=Z,43nm,1.4s
SHLS LR LR 10 32 49.4
comp=Z,554nm,16.2s
PDGK Podgornoye 81.11 315 P P 09 56 48.3 -1.0
PDGK pmax pmax
comp=Z,36nm,0.9s
GHO Glory Hole Cre 81.20 24 PFAKE 09 57 00.0 +11
GHO LR LR
comp=Z,4µm,20.0s
ZAA0 Zalesovo Array 81.30 327 *e*P P 09 56 48.4 -1.5
comp=Z,48nm,0.9s
ZAA0 LR LR
comp=Z,4µm,20.0s
ZALV Zalesovo Beam 81.30 327 P P 09 56 48.4 -1.5
comp=Z,17nm,0.6s,baz=111,slow=6.5,SNR=45
ZALV LR LR 10 32 19.2
comp=Z,4µm,20.1s,baz=91,slow=35
ZALV Zalesovo Beam 81.30 327 *e*P P 09 56 48.3 -1.6
ZALV Zalesovo Beam 81.30 327 *e*P P 09 56 48.3 -1.6
ZAA1 Zalesovo Array 81.31 327 *e*P P 09 56 48.4 -1.5
BOM Bombay 81.34 290 *ex* P 09 56 40.1 -11
UZB Uzynbulak 81.39 315 ⇓ *i* P P 09 56 50.5 -0.3
comp=Z,37nm,1.4s
UZB *e*S **S** 10 07 00.1 -0.9
UZB LR LR 10 33 26.8
comp=Z,257nm,17.2s
SML Sawmill 81.46 25 *e*P P 09 56 50.0 -0.7
comp=Z,145nm,1.0s
SML LR LR
comp=Z,4µm,20.0s
SML Sawmill 81.46 25 *e*P P 09 56 50.0 -0.7
SML pmax pmax
comp=Z,145nm,1.0s
SML MLR MLR
comp=Z,4µm,20.0s
TRF Thorofare Moun 81.52 23 *e*P P 09 56 50.0 -1.1
comp=Z,46nm,1.0s
TRF LR LR
comp=Z,7µm,20.0s
GLI Glacier Island 81.54 26 *e*P P 09 56 50.9 -0.1
comp=Z,268nm,1.4s
GLI LR LR
comp=Z,4µm,20.0s
BPAW Bear Paw Mtn. 81.60 22 *e*P P 09 56 50.6 -0.7
comp=Z,234nm,1.9s
BPAW LR LR
comp=Z,6µm,21.0s
PRZ Przheval'sk 81.65 314 *e*P P 09 56 50.9 -1.4
comp=Z,138nm,1.3s
PRZ Przheval'sk 81.65 314 *e*P P 09 56 50.9 -1.4
PRZ pmax pmax
comp=Z,138nm,1.3s
IM3 Indian Mountai 81.66 20 *e*P P 09 56 50.5 -1.0

KPKS Kokpek 81.72 315 ⇓ *i* P P 09 56 52.3 -0.2
comp=Z,22nm,1.3s
KPKS *e*S **S** 10 07 03.4 -0.8
KPKS LR LR 10 34 28.9
comp=Z,812nm,18.3s
FID Port Fidalgo 81.75 26 *e*P P 09 56 51.8 -0.4
comp=Z,282nm,1.4s
FID LR LR
comp=Z,4µm,22.0s
SCM Sheep Creek Mo 81.89 25 *e*P P 09 56 53.1 +0.1
comp=Z,532nm,1.9s
SCM LR LR
comp=Z,5µm,20.0s
SCM Sheep Creek Mo 81.89 25 *e*P P 09 56 53.1 +0.1
SCM pmax pmax
comp=Z,532nm,1.9s
SCM MLR MLR
comp=Z,5µm,20.0s
EYAK Cordova Ski Ar 81.97 26 *e*P P 09 56 53.4 +0.1
comp=Z,242nm,1.5s
EYAK LR LR
comp=Z,6µm,20.0s
RND Reindeer 82.05 23 *e*P P 09 56 53.2 -0.6
comp=Z,84nm,0.9s
RND LR LR
comp=Z,7µm,20.0s
RND Reindeer 82.05 23 *e*P P 09 56 53.2 -0.6
RND pmax pmax
comp=Z,84nm,0.9s
RND MLR MLR
comp=Z,7µm,20.0s
MCK McKinley 82.18 23 *e*P P 09 56 53.5 -0.9
comp=Z,445nm,1.5s
MCK LR LR
comp=Z,9µm,21.0s
MCK McKinley 82.18 23 *e*P P 09 56 53.5 -0.9
MCK pmax pmax
comp=Z,445nm,1.5s
MCK MLR MLR
comp=Z,9µm,21.0s
MLY Manley 82.18 21 *e*P P 09 56 54.2 -0.2
comp=Z,187nm,1.6s
MLY LR LR
comp=Z,3µm,19.0s
BWN Browne 82.20 22 PFAKE 09 57 10.0 +16
BWN LR LR
comp=Z,6µm,20.0s
DIV Divide 82.23 26 *e*P P 09 56 54.6 -0.1
comp=Z,285nm,1.4s
KLU Klutina 82.33 25 *e*P P 09 56 55.5 +0.3
comp=Z,56nm,1.2s
TDK Taldyqorghan 82.33 317 *e*P P 09 56 55.6 +0.1
comp=Z,38nm,1.1s
TDK *e*S **S** 10 07 09.9 -0.4
TDK LR LR 10 35 59.1
comp=Z,945nm,17.3s
RAGM Ragged Mountai 82.38 27 *e*P P 09 56 55.6 +0.1
comp=Z,360nm,1.4s
RAGM LR LR
comp=Z,5µm,21.0s
KDJ Kajisay 82.43 314 *e*P P 09 56 57.6 +1.2
comp=Z,78nm,1.0s
KDJ Kajisay 82.43 314 *e*P P 09 56 57.6 +1.2
KDJ pmax pmax
comp=Z,79nm,1.0s
DHY Denali Highway 82.47 24 *e*P P 09 56 55.4 -0.7
comp=Z,112nm,1.1s
DHY *e*S **S** 10 07 13.9 +2.6
DHY LR LR
comp=Z,6µm,19.0s
NVS Novosibirsk 82.50 327 ⇓ *i* P P 09 56 55.8 -0.4
NVS *i* S **S** 10 07 12.5 +1.1
NVS pmax pmax
comp=Z,94nm,1.6s
NVS pmax pmax
comp=N,28nm,1.5s
NVS pmax pmax
comp=E,55nm,1.5s
NVS smax smax
comp=N,25nm,2.2s
NVS smax smax
comp=E,53nm,2.2s
BMRM Bremner River 82.66 26 *e*P P 09 56 56.9 -0.1
comp=E,306nm,1.4s
BMRM LR LR
comp=Z,5µm,20.0s
KSH Kashi 82.68 311 P P 09 56 59.1 +1.4
KSH pP pP 09 57 04.0 -1.2
KSH PP **PP** 10 00 12.8 +5.1
KSH S **S** 10 07 14.8 +0.5
KSH sS SKKSac 10 07 22.4 +0.6
KSH SS **SS** 10 12 41.6 +4.8
KSH pmax pmax
comp=Z,170nm,1.8s
KSH pmax pmax
comp=Z,4µm,8.3s
KSH LR LR
comp=Z,4µm,17.6s
KSH LR LR
comp=Z,4µm,14.9s
KSH LR LR
comp=Z,7µm,21.5s
MDOK Medeo 82.79 315 *i* P P 09 56 58.2 0.0
comp=Z,422nm,1.1s
MDOK *i* S **S** 10 07 15.0 -0.3
MDOK LR LR 10 34 36.5
comp=Z,1µm,17.3s
WRH Wood River Hil 82.87 22 *e*P P 09 56 57.5 -0.4
comp=Z,137nm,1.3s
WRH LR LR
comp=Z,5µm,20.0s
AAA Alma-Ata 82.89 315 *e*P P 09 56 58.4 -0.2
AAA *e*S **S** 10 07 15.7 -0.5
AAA pmax pmax
comp=Z,1µm,8.0s
AAA smax smax
comp=E,3µm,14.8s
AAA MLR MLR
comp=Z,2µm,18.0s
MDM Murphy Dome 83.06 22 *e*P P 09 56 57.7 -1.3
comp=Z,116nm,1.4s
MDM LR LR
comp=Z,3µm,20.0s
HARP HAARP 83.06 25 *e*P P 09 56 58.2 -0.8
comp=Z,407nm,1.9s
HARP LR LR
comp=Z,6µm,22.0s
CCB Clear Creek Bu 83.07 22 PFAKE 09 57 10.0 +11
CCB LR LR
comp=Z,5µm,21.0s
NRN Naryn 83.11 313 *e*P P 09 56 59.9 -0.2
comp=Z,131nm,2.0s
TCOL CIGO, UAF Yank 83.16 22 P P 09 56 57.8 -1.6
baz=241
COLA College 83.16 22 *e*P P 09 56 59.0 -0.4
comp=Z,82nm,0.8s
COLA LR LR
comp=Z,4µm,21.0s
COLA College 83.16 22 *e*P P 09 56 59.0 -0.4
COLA pmax pmax
comp=Z,82nm,0.8s
COLA MLR MLR
comp=Z,4µm,21.0s
PAX Paxson 83.19 24 *e*P P 09 56 59.1 -0.6
comp=Z,122nm,1.6s
PAX Paxson 83.19 24 *e*P P 09 56 59.1 -0.6
PAX pmax pmax
comp=Z,122nm,1.6s
HDA Harding Lake 83.28 23 *e*P P 09 56 59.5 -0.5
comp=Z,186nm,1.8s
HDA LR LR
comp=Z,7µm,20.0s
HDA Harding Lake 83.28 23 P P 09 56 58.6 -1.4
baz=242
TGL Tana Glacier 83.36 27 *e*P P 09 57 01.4 +0.7
comp=Z,215nm,1.4s
TGL LR LR
comp=Z,3µm,20.0s
POKR Poker Plat Res 83.43 22 P P 09 56 59.1 -1.7
baz=241
KUU Kurty 83.47 315 ⇓ *i* P P 09 57 01.1 -0.4
comp=Z,98nm,1.1s
KUU *i* S **S** 10 07 20.8 -1.2
KUU LR LR 10 34 14.9
comp=Z,1µm,17.2s
ILAR Eielson Array 83.47 22 P P 09 56 59.5 -1.6
comp=Z,26nm,0.8s,baz=248,slow=4.4,SNR=137

ILAR PKKPbc **PKKPbc** 10 15 19.8 -3.1
comp=Z,0.5nm,0.6s,baz=16,slow=1.5,SNR=6.1
ILAR PKPPKP **P'P'df** 10 23 26.4 +2.5
comp=Z,0.8nm,0.9s,baz=2.6,slow=2.8,SNR=4.0
ILAR LR LR 10 30 00.8
comp=Z,5µm,20.9s,baz=255,slow=33
ILB Eielson Array 83.47 22 *e*P P 09 56 59.3 -1.8
COLD Coldfoot 83.53 19 *e*P P 09 57 02.5 +1.2
comp=Z,26nm,1.0s
COLD LR LR
comp=Z,5µm,20.0s
TKM2 Tokmak 2 83.76 314 P P 09 57 03.0 -0.2
SNR=46
RIDG Independ'e Rid 83.79 24 *e*P P 09 57 03.1 +0.4
comp=Z,210nm,1.4s
RIDG LR LR
comp=Z,4µm,20.0s
KURK Kurchatov 83.81 322 *e*P P 09 57 02.2 -0.8
comp=Z,149nm,1.3s
KURK *e*P P 09 57 02.4 -0.7
KURK LR LR
comp=Z,3µm,19.0s
KURK Kurchatov 83.81 322 *de*P P 09 57 01.8 -1.2
KURK pmax pmax
comp=Z,97nm,1.1s
KZA Kyzart 83.81 313 P P 09 57 04.7 +0.9
SNR=42
KURBB Kurchatov Arra 83.83 322 P P 09 57 02.4 -0.8
comp=Z,45nm,1.1s,baz=108,slow=4.1,SNR=83
DOT Dot Lake 84.06 24 PFAKE 09 57 20.0 +16
DOT LR LR
comp=Z,3µm,19.0s
KBK Karagaybulak 84.16 314 P P 09 57 05.4 +0.1
SNR=23
QSPA South Pole Qui 84.21 180 *e*P P 09 57 05.1 0.0
comp=Z,109nm,0.9s
QSPA LR LR
comp=Z,2µm,18.0s
SCRK Sand Creek 84.23 24 *e*P P 09 57 05.5 +0.3
comp=Z,186nm,1.8s
SCRK LR LR
comp=Z,4µm,21.0s
MAW Mawson 84.25 203 P P 09 57 05.7 +0.7
comp=Z,69nm,1.1s,baz=79,slow=7.6,SNR=25
MAW LR LR 10 32 56.2
comp=Z,2µm,18.9s,baz=82,slow=34
MAW Mawson 84.25 203 P P 09 57 05.6 +0.6
baz=84,SNR=12
MAW Mawson 84.25 203 *e*P P 09 57 05.8 +0.8
comp=Z,78nm,1.8s
MAW Mawson 84.25 203 *e*P P 09 57 05.8 +0.8
MAW pmax pmax
comp=Z,78nm,1.8s
PCA Pinnacle 84.27 28 PFAKE 09 57 20.0 +15
PCA LR LR
comp=Z,4µm,19.0s
UCH Uchtor 84.38 313 P P 09 57 07.3 +0.6
SNR=48
CHMS Chumysh 84.38 314 P P 09 57 05.8 -0.5
SNR=33
FRU1 Bishkek 84.42 314 *e*P P 09 57 06.0 -0.5
comp=Z,125nm,1.4s
FRU1 Bishkek 84.42 314 *e*P P 09 57 06.0 -0.5
FRU1 pmax pmax
comp=Z,125nm,1.4s
FRU Bishkek 84.44 314 ⇓ *i* P P 09 57 06.0 -0.5
FRU *e* 09 57 16.0
FRU *e*S **S** 10 07 28.0 -3.8
FRU pmax pmax
comp=Z,195nm,2.1s
FRU smax smax
comp=E,4µm,13.0s
FRU MLR MLR
comp=E,1µm,20.0s
TOLK Toolik Lake Re 84.48 18 PFAKE 09 57 20.0 +14
TOLK LR LR
comp=Z,6µm,21.0s
TOLK Toolik Lake Re 84.48 18 P P 09 57 06.0 -0.1
baz=239
AAK Ala-Archa 84.48 314 P P 09 57 07.0 +0.1
comp=Z,48nm,1.1s,baz=102,slow=5.1,SNR=41
AAK LR LR 10 34 08.1
comp=Z,3µm,21.7s,baz=100,slow=35
AAK Ala-Archa 84.48 314 P P 09 57 07.0 +0.1
SNR=27
AAK Ala-Archa 84.48 314 *e*P P 09 57 06.9 -0.1
comp=Z,78nm,1.2s
AAK *e*P P 09 57 07.0 +0.1
AAK Ala-Archa 84.48 314 P P 09 57 06.8 -0.1
SNR=30
AAK Ala-Archa 84.48 314 *i* P P 09 57 06.7 -0.2
SNR=42
AAK Ala-Archa 84.48 314 *d* iP P 09 57 06.8 -0.1
AAK pmax pmax
comp=Z,76nm,1.2s
SGDS Sogindy 84.57 315 ⇓ *i* P P 09 57 06.9 -0.3
comp=Z,25nm,1.1s
SGDS *i* S **S** 10 07 29.4 -3.8
USP Ospenovka 84.62 314 P P 09 57 07.4 -0.1
SNR=44
SFK Sufi-Kurgan 84.64 311 *i* P P 09 57 07.7 -0.2
SFK pmax pmax
comp=Z,127nm,1.2s
DHAK Deception Hill 84.88 29 PFAKE 09 57 20.0 +12
DHAK LR LR
comp=Z,4µm,20.0s
FYU Fort Yukon 84.92 21 *e*P P 09 57 08.4 +0.1
comp=Z,183nm,1.4s
FYU LR LR
comp=Z,3µm,20.0s
BHJ Bhuj 84.92 294 *e*P P 09 57 06.4 -2.9
BHJ IAMs_20 IAMs_20 10 35 37.3
comp=Z,2µm,15.5s
AML Almayashu 84.95 313 P P 09 57 10.1 +0.5
SNR=78
EKS2 Erkin-Say 85.00 314 P P 09 57 09.7 +0.2
SNR=56
EGAK Eagle 85.69 23 *e*P P 09 57 12.3 +0.1
comp=Z,178nm,1.3s
EGAK LR LR
comp=Z,5µm,21.0s
HYT Haines Junctio 85.81 28 *e*P P 09 57 14.4 +1.3
comp=Z,297nm,1.2s
MNAS Manas 85.89 313 *i* P P 09 57 13.5 -0.4
MNAS pmax pmax
comp=Z,143nm,1.1s
DAWY Dawson 86.12 24 *e*P P 09 57 15.6 +1.1
comp=Z,218nm,1.4s
DAWY LR LR
comp=Z,8µm,21.0s
BESE Bessie Mountai 86.38 30 *e*P P 09 57 17.3 +1.4
comp=Z,356nm,1.3s
SKAG Skagway 86.41 29 *e*P P 09 57 17.2 +1.3
comp=Z,266nm,1.4s
SKAG LR LR
comp=Z,6µm,20.0s
CRAG Craig 86.42 33 PFAKE 09 57 30.0 +14
CRAG LR LR
comp=Z,7µm,19.0s
NRIK Noril'sk 86.49 341 P P 09 57 15.0 -1.1
comp=Z,29nm,0.9s,baz=125,slow=4.7,SNR=23
NRIK LR LR 10 37 59.1
comp=Z,3µm,18.1s,baz=114,slow=37
JIS Juneau Island 86.53 31 PFAKE 09 57 30.0 +14
JIS LR LR
comp=Z,8µm,20.0s
WHY Whitehorse 86.98 28 *e*P P 09 57 20.0 +1.1
comp=Z,375nm,1.6s
WHY LR LR
comp=Z,3µm,21.0s
WRAK Wrangell Islan 87.08 33 *e*P P 09 57 20.7 +1.5
comp=Z,447nm,1.4s
WRAK LR LR
comp=Z,6µm,20.0s
KBL Kabul 87.16 305 PFAKE 09 57 30.0 +10
KBL LR LR
comp=Z,1µm,21.0s
BRZS Berezniki 87.31 321 ⇓ *i* P P 09 57 19.2 -1.4
comp=Z,20nm,1.2s
BRZS LR LR 10 36 14.4
comp=Z,823nm,16.8s
KK31 Karatay Array 87.44 314 *e*P P 09 57 20.9 -0.5
KK31 Karatay Array 87.44 314 *e*P P 09 57 20.9 -0.5
KKAR Karatay Array 87.44 314 *e*P P 09 57 20.9 -0.5
KKAR Karatay Array 87.44 314 *e*P P 09 57 20.9 -0.5
IUG Iuzhnay 87.63 313 ⇓ *i* P P 09 57 22.2 -0.2
comp=Z,31nm,1.8s

IUG *i* S **SKSac** **10 07 49.0 -0.3**
EPYK Eagle Plains 87.98 23 P **P** **09 57 23.8 +0.3**
baz=251
BBB Bella Bella 88.55 37 P **P** **09 57 26.1 -0.2**
comp=Z,56nm,1.1s,baz=221,slow=8.1,SNR=3.7
BBB LR LR 10 32 24.0
comp=Z,5μm,19.4s,baz=260,slow=32
BBB Bella Bella 88.55 37 *e*P **P** **09 57 26.1 -0.2**
comp=Z,204nm,0.6s
DLBC Dease Lake 88.79 31 P **P** **09 57 28.0 +0.5**
comp=Z,184nm,1.3s,baz=258,slow=3.5,SNR=32
DLBC LR LR 10 30 50.6
comp=Z,9μm,20.3s,baz=260,slow=31
DLBC Dease Lake 88.79 31 *e*P **P** **09 57 28.4 +1.0**
comp=Z,331nm,1.4s
BVAR Borovoye Array 89.31 323 P **P** **09 57 28.3 -1.6**
comp=Z,24nm,1.0s,baz=122,slow=4.2,SNR=42
BVAR LR LR 10 39 39.4
comp=Z,1μm,18.8s,baz=94,slow=37
BRVK Borovoye 89.38 323 PFAKE 09 57 40.0 +10
BRVK LR LR
comp=Z,2μm,18.0s
BRVK Borovoye 89.38 323 *d i*P **P** **09 57 28.4 -1.8**
BRVK pmax pmax
comp=Z,58nm,1.4s
JCC Jacoby Creek, 89.44 49 PFAKE 09 57 40.0 +9.2
JCC LR LR
comp=Z,8μm,21.0s
KMRM Mail Ridge 89.60 50 PFAKE 09 57 40.0 +8.3
KMRM LR LR
comp=Z,11μm,18.0s
KCPM Cahto Peak 89.62 50 PFAKE 09 57 40.0 +8.1
KCPM LR LR
comp=Z,10μm,20.0s
KHMM Horse Mountain 89.67 49 PFAKE 09 57 40.0 +7.9
KHMM LR LR
comp=Z,8μm,20.0s
INK Inuvik 89.75 21 P **P** **09 57 31.4 -0.3**
comp=Z,122nm,1.2s,baz=246,slow=5.9,SNR=66
INK PKKP **PKKPdf** **10 15 02.4 -0.9**
comp=Z,4.0nm,0.9s,baz=61,slow=0.6,SNR=8.0
INK LR LR 10 33 43.4
comp=Z,1μm,20.2s,baz=242,slow=33
INK Inuvik 89.75 21 *e*P **P** **09 57 30.9 -0.7**
comp=Z,162nm,1.3s
INK PKKP **PKKPdf** **10 15 02.4 -0.9**
INK Inuvik 89.75 21 *e*P **P** **09 57 30.9 -0.7**
INK pmax pmax
comp=Z,162nm,1.3s
J01E Myrtle Point 89.84 47 P **P** **09 57 33.1 +0.4**
baz=262
HOPS Hopland Field 89.92 51 PFAKE 09 57 40.0 +6.8
HOPS LR LR
comp=Z,10μm,18.0s
L02E Cave Junction 89.94 48 P **P** **09 57 34.0 +0.8**
baz=262
MCCM Marconi Confer 89.97 52 PFAKE 09 57 40.0 +6.7
MCCM LR LR
comp=Z,10μm,20.0s
K02D Willamette Mer 89.97 47 P **P** **09 57 34.0 +0.6**
baz=262
GDXM Geysers 90.12 51 PFAKE 09 57 50.0 +16
GDXM LR LR
comp=Z,15μm,18.0s
O02D Mt. Diablo Mer 90.29 50 P **P** **09 57 35.8 +0.9**
baz=263
I03D Drain, OR 90.33 46 P **P** **09 57 35.5 +0.5**
baz=262
M02C Callahan 90.40 49 P **P** **09 57 36.2 +0.8**
baz=263,SNR=8.7
N02D Trinity Center 90.46 49 P **P** **09 57 36.4 +0.7**
baz=263,SNR=7.6
HUMO Hull Mountain 90.47 47 *e*P **P** **09 57 36.5 +0.8**
HUMO LR LR
comp=Z,447nm,1.9s
comp=Z,6μm,19.0s
COR Corvallis 90.48 45 PFAKE 09 57 50.0 +14
COR LR LR
comp=Z,8μm,19.0s
WDC Whiskeytown Da 90.53 49 *e*P **P** **09 57 36.8 +0.9**
comp=Z,165nm,1.7s
WDC LR LR
comp=Z,9μm,20.0s
WDC Whiskeytown Da 90.53 49 *e*P **P** **09 57 36.8 +0.9**
WDC pmax pmax
comp=Z,165nm,1.7s
WDC MLR MLR
comp=Z,9μm,20.0s
YBH Yreka Blue Hor 90.55 48 P **P** **09 57 36.9 +0.8**
comp=Z,25nm,1.1s,baz=52,slow=2.7,SNR=14
YBH Yreka Blue Hor 90.55 48 *e*P **P** **09 57 37.1 +1.0**
comp=Z,202nm,1.7s
YBH LR LR
comp=Z,8μm,20.0s
YBH Yreka Blue Hor 90.55 48 *e*P **P** **09 57 37.1 +1.0**
YBH pmax pmax
comp=Z,202nm,1.7s
YBH MLR MLR
comp=Z,8μm,20.0s
E03A Lebam 90.56 43 PFAKE 09 57 50.0 +14
E03A LR LR
comp=Z,8μm,18.0s
H04D Lebanon 90.87 46 P **P** **09 57 38.2 +0.7**
baz=263
F04D Rainier, OR 90.88 44 P **P** **09 57 37.2 -0.2**
baz=263
L04D Klamath Falls 90.91 48 P **P** **09 57 37.9 +0.1**
baz=263,SNR=7.2
PGC Sidney 90.92 41 *e*P **P** **09 57 38.0 +0.5**
PGC LR LR
comp=Z,6μm,21.0s
SAO San Andreas Ge 90.93 53 PFAKE 09 57 50.0 +12
SAO LR LR
comp=Z,6μm,20.0s
D03D Eldon 91.01 42 P **P** **09 57 37.7 -0.3**
baz=263
I04A Tendick Farm, 91.02 46 P **P** **09 57 38.5 +0.2**
baz=263,SNR=6.3
O03E Paynes Creek 91.06 50 P **P** **09 57 38.5 0.0**
baz=263,SNR=11
J04D Umpqua Nationa 91.17 47 P **P** **09 57 39.9 +0.8**
baz=263
D04E Lakebay 91.18 43 P **P** **09 57 39.3 +0.5**
baz=263
M04C Macdoel 91.20 48 P **P** **09 57 39.9 +0.7**
baz=264,SNR=6.4
ORV Oroville 91.20 51 *e*P **P** **09 57 39.8 +0.7**
comp=Z,90nm,1.5s
ORV LR LR
comp=Z,5μm,20.0s
ORV Oroville 91.20 51 *e*P **P** **09 57 39.8 +0.7**
ORV pmax pmax
comp=Z,90nm,1.5s
ORV MLR MLR
comp=Z,5μm,20.0s
E04D Cinebar 91.24 44 P **P** **09 57 39.8 +0.7**
baz=263
H04A Detroit Lake 91.28 45 *e*P **P** **09 57 39.9 +0.4**
comp=Z,271nm,1.6s
H04A LR LR
comp=Z,7μm,18.0s
K04D Chiloquin, OR 91.36 47 P **P** **09 57 40.3 +0.4**
baz=264
PMPB Monarch Peak 91.39 54 PFAKE 09 57 50.0 +10
PMPB LR LR
comp=Z,5μm,18.0s
A04D Lummi Island 91.41 41 P **P** **09 57 39.5 -0.3**
baz=263
AFDM Forest Hills D 91.55 51 *e*P **P** **09 57 41.7 +1.0**
comp=Z,78nm,1.4s
AFDM LR LR
comp=Z,7μm,20.0s
B05A Bryant 91.76 42 P **P** **09 57 41.9 +0.4**
baz=263
LON Longmire 91.78 43 *e*P **P** **09 57 42.7 +1.0**
comp=Z,76nm,1.4s
LON LR LR
comp=Z,6μm,18.0s
LON Longmire 91.78 43 *e*P **P** **09 57 42.7 +1.0**
LON pmax pmax
comp=Z,77nm,1.4s
LON MLR MLR
comp=Z,6μm,18.0s
PAGB Antelope Grade 91.79 54 *e*P **P** **09 57 42.6 +0.7**
comp=Z,265nm,1.9s
PAGB LR LR
comp=Z,6μm,19.0s

J05D Fort Rock, OR 91.81 47 P **P** **09 57 42.8 +0.7**
baz=264,SNR=18
I05D Terrebonne, OR 91.85 46 P **P** **09 57 42.6 +0.5**
baz=264
CMB Columbia Colle 91.91 52 *e*P **P** **09 57 43.4 +0.9**
comp=Z,102nm,1.6s
CMB LR LR
comp=Z,9μm,19.0s
CMB Columbia Colle 91.91 52 *e*P **P** **09 57 43.4 +0.9**
CMB pmax pmax
comp=Z,102nm,1.6s
CMB MLR MLR
comp=Z,9μm,19.0s
F05D White Salmon 91.93 44 P **P** **09 57 43.1 +0.7**
baz=264
SMMC Simmler 91.95 55 P **P** **09 57 43.8 +1.1**
baz=264
G05D Wamic, OR 91.96 45 P **P** **09 57 43.0 +0.5**
baz=264
PKM Mcpherson Peak 92.06 55 P **P** **09 57 44.2 +0.8**
baz=264
BEKR Beckworth 92.11 50 *e*P **P** **09 57 43.8 +0.3**
comp=Z,199nm,1.8s
BEKR LR LR
comp=Z,8μm,20.0s
SCZ2 Santa Cruz Isl 92.12 56 P **P** **09 57 44.5 +1.0**
baz=265
SNCC San Nicolas Is 92.14 57 PFAKE 09 57 50.0 +6.4
SNCC LR LR
comp=Z,6μm,20.0s
SNCC San Nicolas Is 92.14 57 P **P** **09 57 43.4 -0.2**
baz=265
RUBR Rubicon Trail 92.19 51 PFAKE 09 58 00.0 +16
RUBR LR LR
comp=Z,7μm,20.0s
B06A Marblemount 92.20 42 *e*P **P** **09 57 44.0 +0.6**
comp=Z,60nm,1.4s
B06A LR LR
comp=Z,4μm,20.0s
MOD Modoc Plateau 92.35 48 *e*P **P** **09 57 45.1 +0.5**
comp=Z,77nm,1.1s
MOD LR LR
comp=Z,9μm,20.0s
SYO Syowa Base 92.39 200 *e*P **P** **09 57 43.4 -0.6**
SYO Syowa Base 92.39 200 *e*P **P** **09 57 45.9 +1.9**
SYO Syowa Base 92.39 200 *i*P P 09 57 51.0 +7.0
G06A Carlson Farm, 92.44 45 PFAKE 09 58 00.0 +15
G06A LR LR
comp=Z,8μm,18.0s
C06D Leavenworth 92.53 42 P **P** **09 57 44.8 -0.2**
baz=264
BLG Laguna Peak, P 92.60 56 P **P** **09 57 46.3 +0.6**
baz=265
VCNR Virginia City 92.60 51 *e*P **P** **09 57 47.1 +1.3**
comp=Z,43nm,1.1s
VCNR LR LR
comp=Z,7μm,20.0s
LTY Liberty 92.61 43 *e*P **P** **09 57 45.9 +0.3**
comp=Z,167nm,1.9s
LTY LR LR
comp=Z,4μm,20.0s
PNTR Pine Nut 92.62 51 *e*P **P** **09 57 47.3 +1.3**
comp=Z,162nm,1.6s
PNTR LR LR
comp=Z,7μm,20.0s
WAKR Walker 92.70 52 *e*P **P** **09 57 47.6 +1.3**
comp=Z,96nm,1.5s
WAKR LR LR
comp=Z,9μm,20.0s
VES Vestal, Richgr 92.74 54 P **P** **09 57 46.1 -0.2**
baz=265,SNR=6.3
PAHR Pah Rah Range 92.84 51 *e*P **P** **09 57 47.9 +1.0**
comp=Z,94nm,1.6s
PAHR LR LR
comp=Z,7μm,20.0s
ARVC Arvin 92.89 55 P **P** **09 57 47.8 +0.8**
baz=265,SNR=6.1
YERR Yerington 92.89 51 *e*P **P** **09 57 48.4 +1.2**
comp=Z,65nm,1.2s
YERR LR LR
comp=Z,7μm,20.0s
MDPB Devils Postpil 92.90 53 PFAKE 09 58 00.0 +13
MDPB LR LR
comp=Z,7μm,19.0s
OSI Osito Audit: C 92.93 56 PFAKE 09 58 00.0 +13
OSI LR LR
comp=Z,5μm,20.0s
OSI Osito Audit: C 92.93 56 P **P** **09 57 48.3 +1.0**
baz=265
SCI2 San Clemente I 92.94 57 P **P** **09 57 48.1 +0.8**
baz=265
F07A Phinny Hill Vi 93.00 44 *e*P **P** **09 57 49.0 +1.7**
comp=Z,290nm,1.9s
F07A LR LR
comp=Z,8μm,18.0s
CIS Catalina Islan 93.08 57 P **P** **09 57 48.8 +0.8**
baz=265
MLAC Mammoth, Mammo 93.09 53 P **P** **09 57 48.7 +0.5**
baz=265,SNR=6.0
E07A Sunnyside 93.10 44 *e*P **P** **09 57 48.6 +0.9**
comp=Z,111nm,1.4s
E07A LR LR
comp=Z,6μm,18.0s
I07A Izee 93.14 46 *e*P **P** **09 57 49.1 +1.0**
comp=Z,63nm,1.2s
I07A LR LR
comp=Z,4μm,20.0s
DECC Green Verdugo 93.22 56 P **P** **09 57 49.1 +0.5**
baz=265
ISA Isabella, Lake 93.22 55 *e*P **P** **09 57 48.4 -0.2**
comp=Z,65nm,1.5s
ISA LR LR
comp=Z,5μm,18.0s
ISA Isabella, Lake 93.22 55 *e*P **P** **09 57 48.4 -0.2**
ISA pmax pmax
comp=Z,65nm,1.5s
ISA MLR MLR
comp=Z,5μm,18.0s
ISA Isabella, Lake 93.22 55 P **P** **09 57 49.0 +0.4**
baz=265,SNR=9.9
HAWA Hanford 93.31 44 *e*P **P** **09 57 49.5 +0.8**
comp=Z,135nm,1.4s
HAWA LR LR
comp=Z,7μm,18.0s
PASC Pasadena Art C 93.34 56 *e*P **P** **09 57 50.4 +1.3**
comp=Z,105nm,1.3s
PASC LR LR
comp=Z,4μm,18.0s
RYN Ryan 93.42 52 *e*P **P** **09 57 50.2 +0.6**
comp=Z,116nm,1.5s
RYN LR LR
comp=Z,8μm,20.0s
MWC Mount Wilson 93.44 56 *e*P **P** **09 57 50.7 +0.9**
comp=Z,118nm,1.1s
MWC LR LR
comp=Z,5μm,18.0s
MWC Mount Wilson 93.44 56 *e*P **P** **09 57 50.7 +0.9**
MWC pmax pmax
comp=Z,118nm,1.1s
MWC MLR MLR
comp=Z,5μm,18.0s
TIN Timemaha, Big 93.53 53 P **P** **09 57 50.8 +0.8**
baz=266
EDW2 Edwards Air Fo 93.55 55 P **P** **09 57 51.2 +1.0**
baz=266,SNR=16
NV01 Mina Array Sit 93.58 52 *e*P **P** **09 57 50.8 +0.4**
NVAR Mina Array Bea 93.58 52 P **P** **09 57 51.3 +0.9**
comp=Z,16nm,0.9s,baz=257,slow=5.8,SNR=72
NVAR PKKPbc **PKKPbc** **10 15 04.2 +7.1**
comp=Z,1.1nm,0.8s,baz=123,slow=3.3,SNR=4.8
NVAR LR LR 10 35 10.3
comp=Z,7μm,19.0s,baz=269,slow=32
CWC Cottonwood Cre 93.60 54 P **P** **09 57 51.0 +0.6**
baz=266
B08A Colville Reser 93.61 42 *e*P **P** **09 57 50.3 +0.2**
comp=Z,73nm,1.4s
B08A LR LR
comp=Z,6μm,18.0s
G08A Pilot Rock 93.62 45 *e*P **P** **09 57 50.9 +0.6**
comp=Z,184nm,1.6s
G08A LR LR
comp=Z,9μm,18.0s
WVOR Wild Horse Val 93.63 48 *e*P **P** **09 57 51.4 +1.0**
comp=Z,175nm,1.5s
WVOR LR LR
comp=Z,7μm,21.0s
WVOR Wild Horse Val 93.63 48 *e*P **P** **09 57 51.4 +1.0**
WVOR pmax pmax
comp=Z,175nm,1.5s
WVOR MLR MLR
comp=Z,7μm,21.0s
E08A Dider Farm, El 93.65 44 *e*P **P** **09 57 50.7 +0.5**
comp=Z,116nm,1.4s
E08A LR LR
comp=Z,7μm,18.0s
NV11 Mina Array Sit 93.69 52 *e*P **P** **09 57 51.4 +0.5**
comp=Z,4.4nm,1.0s
NV11 LR LR
comp=Z,700nm,19.0s
BFSC Mount Baldy Ra 93.78 56 P **P** **09 57 52.3 +1.0**
baz=266,SNR=11
KVN Kaiserville 93.78 51 *e*P **P** **09 57 52.0 +0.7**
comp=Z,50nm,1.2s
KVN LR LR
comp=Z,7μm,19.0s
KVN Kaiserville 93.78 51 *e*P **P** **09 57 52.0 +0.7**
KVN pmax pmax
comp=Z,50nm,1.2s
KVN MLR MLR
comp=Z,7μm,19.0s
J08A Circle Bar Ran 93.82 47 *e*P **P** **09 57 52.0 +0.8**
comp=Z,42nm,1.0s
J08A LR LR
comp=Z,6μm,19.0s
LRMC Laurel Mtn Rad 93.85 55 P **P** **09 57 52.5 +0.9**
baz=266,SNR=6.9
DAC Darwin (Calif) 93.98 54 *e*P **P** **09 57 53.0 +0.7**
comp=Z,122nm,1.4s
DAC LR LR
comp=Z,5μm,19.0s
DAC Darwin (Calif) 93.98 54 *e*P **P** **09 57 53.0 +0.7**
DAC pmax pmax
comp=Z,122nm,1.4s
DAC MLR MLR
comp=Z,5μm,19.0s
MPMC Manual Prospec 94.05 54 P **P** **09 57 53.4 +0.9**
baz=266,SNR=20
MURC Murrieta 94.11 57 P **P** **09 57 53.2 +0.4**
baz=266
109C Camp Elliot, M 94.14 57 P **P** **09 57 53.8 +1.0**
baz=266
CPE Camp Elliot 94.14 57 *e*P **P** **09 57 53.1 +0.3**
comp=Z,164nm,1.7s
CPE LR LR
comp=Z,5μm,19.0s
GRAC Grapevine Rang 94.21 53 P **P** **09 57 54.0 +0.8**
baz=266,SNR=11
C09A Chrisman Ranch 94.28 43 *e*P **P** **09 57 53.3 +0.2**
comp=Z,109nm,1.6s
C09A LR LR
comp=Z,4μm,21.0s
E09A Wood Farm, Sta 94.28 44 *e*P **P** **09 57 53.3 +0.2**
comp=Z,111nm,1.3s
E09A LR LR
comp=Z,8μm,18.0s
RRX Edison Barstow 94.37 56 P **P** **09 57 54.2 +0.4**
baz=266
BBRC Big Bear Solar 94.39 56 P **P** **09 57 54.8 +0.5**
baz=266
BAR Barrett 94.49 58 *e*P **P** **09 57 54.0 -0.5**
comp=Z,69nm,1.7s
BAR LR LR
comp=Z,4μm,20.0s
GSC Goldstone, Bar 94.55 55 *e*P **P** **09 57 55.5 +0.7**
comp=Z,39nm,1.1s
GSC LR LR
comp=Z,5μm,20.0s
GSC Goldstone, Bar 94.55 55 *e*P **P** **09 57 55.5 +0.7**
GSC pmax pmax
comp=Z,39nm,1.1s
GSC MLR MLR
comp=Z,5μm,20.0s
GSC Goldstone, Bar 94.55 55 P **P** **09 57 55.4 +0.6**
baz=266,SNR=13
BMN Battle Mountai 94.56 50 PFAKE 09 58 10.0 +15
BMN LR LR
comp=Z,7μm,20.0s
FURC Furnace Creek, 94.58 54 P **P** **09 57 55.5 +0.8**
baz=266,SNR=21
FRD Ford Ranch, An 94.60 57 P **P** **09 57 56.0 +1.0**
baz=266,SNR=6.2
MONP2 Monument Peak 94.71 58 P **P** **09 57 56.9 +1.2**
baz=266,SNR=5.1
PFO Pinyon Flats O 94.73 57 *e*P **P** **09 57 56.4 +0.8**
comp=Z,32nm,1.1s
PFO LR LR
comp=Z,6μm,20.0s
PFO Pinyon Flats O 94.73 57 P **P** **09 57 56.5 +0.8**
baz=266,SNR=7.5
XPFO Piæon Flat 94.73 57 PFAKE 09 58 10.0 +14
XPFO LR LR
comp=Z,6μm,18.0s
BMO Blue Mountains 94.76 46 *e*P **P** **09 57 55.9 +0.4**
comp=Z,142nm,1.6s
BMO LR LR
comp=Z,5μm,21.0s
BMO Blue Mountains 94.76 46 *e*P **P** **09 57 55.9 +0.4**
BMO pmax pmax
comp=Z,142nm,1.6s
BMO MLR MLR
comp=Z,5μm,21.0s
F10A Beach Ranch, E 94.88 44 *e*P **P** **09 57 55.9 -0.1**
comp=Z,188nm,1.8s
F10A LR LR
comp=Z,6μm,18.0s
HEC Hector,Ludlow 94.91 56 P **P** **09 57 57.2 +0.8**
baz=266,SNR=12
IKP In-Ko-Pah, Jac 94.96 58 P **P** **09 57 58.0 +1.3**
baz=266
WSAR Wadi Sarin 95.00 293 P **P** **09 57 56.7 -0.3**
comp=Z,6.0nm,0.8s,baz=143,slow=5.3
NEW Newport 95.07 42 P **P** **09 57 56.8 0.0**
comp=Z,26nm,1.1s,baz=249,slow=4.1,SNR=20
NEW Newport 95.07 42 *e*P **P** **09 57 56.4 -0.4**
comp=Z,55nm,1.3s
NEW LR LR
comp=Z,6μm,19.0s
NEW Newport 95.07 42 *e*P **P** **09 57 56.4 -0.4**
NEW pmax pmax
comp=Z,55nm,1.3s
NEW MLR MLR
comp=Z,6μm,19.0s
NEW Newport 95.07 42 P **P** **09 57 56.6 -0.2**
baz=267
TPNV Topopah Spring 95.10 53 *e*P **P** **09 57 58.2 +0.8**
comp=Z,104nm,1.3s
TPNV LR LR
comp=Z,3μm,19.0s
TPNV Topopah Spring 95.10 53 *e*P **P** **09 57 58.2 +0.8**
TPNV pmax pmax
comp=Z,104nm,1.3s
TPNV MLR MLR
comp=Z,3μm,19.0s
TPNV Topopah Spring 95.10 53 P **P** **09 57 58.2 +0.8**
baz=267,SNR=19
BELC Belle Mtn. Jos 95.13 56 P **P** **09 57 58.2 +0.6**
baz=267,SNR=18
SWSC Sam W. Stewart 95.24 58 P **P** **09 57 59.2 +1.3**
baz=267,SNR=5.1
TUQ Turquoise Moun 95.28 55 P **P** **09 57 58.6 +0.4**
baz=267
SVE Sverdlovsk 95.32 326 *e*P **P** **09 57 56.4 -1.2**
SVE *e* 10 01 44.2
SVE *e*S **SKSac** **10 08 29.3 -2.8**
SVE *e*SS **SS** **10 15 38.6 -0.7**
SVE pmax pmax
comp=Z,18nm,1.2s
SVE MLR MLR
comp=E,5μm,20.0s
SVE MLR MLR
comp=N,2μm,20.0s
SVE MLR MLR
comp=Z,6μm,19.0s
AB31 Akbulak array 95.42 319 *i*P **P** **09 57 55.5 -2.8**
AB31 pmax pmax
comp=Z,3.0nm,0.6s
ABKAR Akbulak array 95.42 319 *e*P **P** **09 57 55.8 -2.5**
GMRC Granite Mounta 95.46 56 P **P** **09 57 59.5 +0.5**
baz=267,SNR=12
BC3 Big Chuckawall 95.57 57 P **P** **09 58 00.6 +1.1**
baz=267,SNR=13
R11A Troy Canyon, C 95.70 52 *e*P **P** **09 58 01.1 +1.0**
comp=Z,61nm,1.4s
R11A LR LR
comp=Z,7μm,20.0s
R11A Troy Canyon, C 95.70 52 P **P** **09 58 00.4 +0.3**

baz=267
IRM Iron Mountain 95.85 56 P P 09 58 01.8 +1.2
baz=267,SNR=13
LDFC Landfair 95.93 55 eP P 09 58 02.8 +1.7
comp=Z,242nm,1.5s
LDFC LR LR
comp=Z,4µm,21.0s
SHPR Sheep Range 95.95 54 eP P 09 58 02.5 +1.2
comp=Z,109nm,1.6s
SHPR LR LR
comp=Z,6µm,18.0s
GLA Glamis 96.06 57 eP P 09 58 02.9 +1.3
comp=Z,62nm,1.4s
GLA LR LR
comp=Z,4µm,20.0s
GLA Glamis 96.06 57 P P 09 58 03.0 +1.3
baz=267
ELK Elko 96.08 50 PFAKE 09 58 10.0 +8.2
ELK LR LR
comp=Z,8µm,20.0s
GEYT Alibeck 96.28 307 P P 09 58 01.3 -1.2
comp=Z,1.7nm,0.7s,baz=97,slow=12,SNR=6.9
NEE2 Needles Airpor 96.31 56 P P 09 58 03.6 +0.9
baz=267
Y12C Blythe 96.35 57 eP P 09 58 04.6 +1.7
comp=Z,49nm,1.4s
Y12C LR LR
comp=Z,3µm,18.0s
Y12C Blythe 96.35 57 P P 09 58 03.7 +0.9
baz=267,SNR=5.8
ARU Arti 96.46 326 eP P 09 58 01.4 -1.5
comp=Z,31nm,1.3s
ARU LR LR
comp=Z,6µm,20.0s
ARU Arti 96.46 326 d iP P 09 58 00.9 -1.9
ARU 10 01 53.5
ARU S SKSac **10 08 35.4 -2.7**
ARU SS SS **10 16 00.4 +5.0**
ARU pmax pmax
comp=Z,25nm,1.2s
ARU MLR MLR
comp=Z,7µm,24.0s
PDMCI Parker Dam,Lak 96.69 56 P P 09 58 05.1 +0.7
baz=268
AKTO Aktyubinsk 96.71 320 P P 09 58 01.8 -2.3
comp=Z,14nm,1.3s,baz=45,slow=8.2,SNR=9.1
AKTO LR LR 10 43 10.3
comp=Z,2µm,18.3s,baz=88,slow=36
HLID Hailey 96.79 47 eP P 09 58 04.9 0.0
comp=Z,33nm,1.1s
HLID LR LR
comp=Z,4µm,18.0s
HLID Hailey 96.79 47 P P 09 58 05.0 +0.1
baz=269
YKW3 Yellowknife Ar 96.80 28 eP P 09 58 03.7 -0.5
comp=Z,122nm,1.6s
YKW3 LR LR
comp=Z,4µm,20.0s
YKA Yellowknife Ar 96.80 28 P P 09 58 04.0 -0.2
comp=Z,7.4nm,0.8s,baz=273,slow=4.6,SNR=23
YKA PKKP **PKKPbc 10 14 48.6 -0.4**
comp=Z,1.7nm,0.9s,baz=90,slow=2.9,SNR=4.1
YKA LR LR 10 38 07.9
comp=Z,465nm,20.1s,baz=278,slow=33
YKB5 Yellowknife Ar 96.80 28 eP P 09 58 04.1 -0.1
W13A Hualapai Mount 96.93 55 eP P 09 58 06.8 +1.0
comp=Z,42nm,1.3s
W13A LR LR
comp=Z,4µm,20.0s
113A Mohawk Valley, 96.94 58 eP P 09 58 07.4 +1.8
comp=Z,31nm,1.6s
113A LR LR
comp=Z,4µm,19.0s
JTMT Jette 96.96 43 eP P 09 58 06.1 +0.6
comp=Z,54nm,1.7s
JTMT LR LR
comp=Z,5µm,18.0s
PSUT Pine Spring 97.07 52 eP Pdif 09 58 07.5 +1.1
comp=Z,58nm,1.4s
PSUT LR LR
comp=Z,6µm,20.0s
MSO Missoula 97.18 44 PFAKE 09 58 20.0 +13
MSO LR LR
comp=Z,6µm,18.0s
MSO Missoula 97.18 44 P Pdif 09 58 06.7 +0.1
baz=269
WALA Waterton Lakes 97.22 41 PFAKE 09 58 20.0 +13
WALA LR LR
comp=Z,5µm,19.0s
MDH Madha 97.25 295 P P 09 58 04.5 -2.7
BANOM Banah 97.28 295 P P 09 58 05.6 -1.7
UOSS Minazif 97.32 294 PFAKE 09 58 20.0 +12
UOSS LR LR
comp=Z,800nm,21.0s
UOSS Minazif 97.32 294 P P 09 58 05.7 -1.7
UOSS Minazif 97.32 294 i P P 09 58 05.8 -1.7
SNR=5.2
HATD Hatta, Dubai 97.38 294 i P P 09 58 06.7 -1.0
SNR=5.5
MSFE Esma-Masafi 97.38 295 i P P 09 58 07.7 0.0
SNR=8.7
CCUT Cedar City 97.43 53 eP Pdif 09 58 09.7 +1.6
comp=Z,57nm,1.4s
CCUT LR LR
comp=Z,6µm,20.0s
ASHO Ashiyiah 97.44 294 P P 09 58 06.2 -1.8
ASHO Ashiyiah 97.44 294 P P 09 58 06.4 -1.7
LCMT Little Creek M 97.51 54 eP Pdif 09 58 09.8 +1.4
comp=Z,57nm,1.5s
LCMT LR LR
comp=Z,3µm,18.0s
Y14A Wickenburg 97.62 57 PFAKE 09 58 20.0 +11
Y14A LR LR
comp=Z,3µm,18.0s
SZCU Shurtz Canyon 97.65 53 eP Pdif 09 58 10.4 +1.4
comp=Z,69nm,1.5s
SZCU LR LR
comp=Z,6µm,19.0s
ALNE Al Ain 97.68 293 i P P 09 58 08.4 -0.8
SNR=5.3
214A Organ Pipe Nat 97.71 59 P Pdif 09 58 09.4 +0.2
baz=268
BGU Big Grassy Mou 97.76 50 eP Pdif 09 58 09.9 +0.5
comp=Z,32nm,1.6s
BGU LR LR
comp=Z,4µm,20.0s
NAZ Nazwa, Dubai 97.81 294 P P 09 58 07.7 -2.0
KNB Kanab 97.85 54 eP Pdif 09 58 11.5 +1.6
comp=Z,101nm,1.4s
KNB LR LR
comp=Z,4µm,19.0s
FAQ Al Faqa, Dubai 97.86 294 P P 09 58 08.2 -1.8
DUG Dugway, Tooele 97.91 50 eP Pdif 09 58 10.7 +0.6
comp=Z,18nm,1.4s
DUG LR LR
comp=Z,5µm,20.0s
DUG Dugway, Tooele 97.91 50 eP Pdif 09 58 10.7 +0.6
DUG pmax pmax
comp=Z,18nm,1.4s
DUG MLR MLR
comp=Z,5µm,20.0s
DUG Dugway, Tooele 97.91 50 P Pdif 09 58 10.4 +0.3
baz=269
MCMT McKenzie Canyo 97.93 46 eP Pdif 09 58 10.3 +0.1
HVU Hansel Valley 97.96 49 eP Pdif 09 58 11.0 +0.8
comp=Z,36nm,1.1s
HVU LR LR
comp=Z,7µm,18.0s
HVU Hansel Valley 97.96 49 eP Pdif 09 58 11.0 +0.7
HVU pmax pmax
comp=Z,36nm,1.1s
HVU MLR MLR
comp=Z,7µm,18.0s
SRIG Santa Rosalia 98.04 63 PFAKE 09 58 20.0 +9.3
SRIG LR LR
comp=Z,5µm,19.0s
ASUD Al Ashush, Dub 98.09 294 P P 09 58 09.3 -1.6
DLMT Dillon 98.11 45 eP Pdif 09 58 11.1 +0.2
comp=Z,27nm,1.4s
DLMT LR LR
comp=Z,4µm,19.0s
TCRU Three Creeks R 98.17 52 PFAKE 09 58 20.0 +8.6
TCRU LR LR
comp=Z,8µm,19.0s
SPUT South Promonto 98.20 49 eP Pdif 09 58 12.0 +0.6
comp=Z,26nm,1.1s
SPUT LR LR
comp=Z,5µm,18.0s
U15A North Rim 98.26 54 eP Pdif 09 58 13.6 +1.7
comp=Z,55nm,1.4s
U15A LR LR
comp=Z,5µm,19.0s
PKCU Pink Cliffs 98.26 53 eP Pdif 09 58 14.2 +2.3
comp=Z,134nm,1.6s
PKCU LR LR
comp=Z,5µm,20.0s
MTPU Mount Pierson 98.37 53 eP Pdif 09 58 14.0 +1.6
comp=Z,67nm,1.5s
MTPU LR LR
comp=Z,6µm,20.0s
MSU Marysvale 98.39 52 eP Pdif 09 58 13.5 +1.2
MSU Marysvale 98.39 52 eP Pdif 09 58 13.5 +1.2
NLU North Lily Min 98.48 51 eP Pdif 09 58 13.5 +0.8
comp=Z,15nm,1.2s
NLU LR LR
comp=Z,6µm,20.0s
CTU Camp Tracy 98.73 50 PFAKE 09 58 30.0 +16
CTU LR LR
comp=Z,4µm,20.0s
BOZ Bozeman (W) 98.79 45 eP Pdif 09 58 14.2 +0.4
comp=Z,10nm,0.8s
BOZ LR LR
comp=Z,4µm,20.0s
BOZ Bozeman (W) 98.79 45 eP Pdif 09 58 14.2 +0.4
BOZ pmax pmax
comp=Z,10.0nm,0.8s
BOZ MLR MLR
comp=Z,4µm,20.0s
BOZ Bozeman (W) 98.79 45 P P 09 58 13.4 -0.4
baz=271
MPU Maple Canyon 98.82 51 PFAKE 09 58 30.0 +16
MPU LR LR
comp=Z,6µm,20.0s
HWUT Hardware Ranch 98.87 49 eP Pdif 09 58 14.4 +0.1
comp=Z,11nm,1.0s
HWUT LR LR
comp=Z,6µm,18.0s
X16A Lo Mia Camp, P 98.92 56 eP Pdif 09 58 15.8 +1.0
comp=Z,32nm,1.9s
X16A LR LR
comp=Z,4µm,18.0s
QLMT Earthquake Lak 98.94 46 eP P 09 58 14.6 0.0
JLU Jordanelle 98.96 50 eP Pdif 09 58 15.1 +0.3
comp=Z,37nm,1.6s
JLU LR LR
comp=Z,5µm,19.0s
TCUT Toone Canyon 98.99 49 PFAKE 09 58 30.0 +15
TCUT LR LR
comp=Z,5µm,19.0s
WUAZ Wupatki 98.99 55 eP Pdif 09 58 17.0 +2.0
comp=Z,94nm,1.9s
WUAZ LR LR
comp=Z,4µm,21.0s
WUAZ Wupatki 98.99 55 P Pdif 09 58 15.5 +0.5
baz=269
NVL N'lazarevskaya 99.09 193 i iP Pdif 09 58 14.8 +0.4
NVL *i* S **SKSac 10 08 52.0 +0.9**
NVL pmax pmax
comp=Z,19nm,1.0s
NVL MLR MLR
comp=Z,3µm,18.0s
YHB Horse Butte 99.11 46 eP Pdif 09 58 15.6 +0.2
comp=Z,20nm,1.2s
YHB LR LR
comp=Z,8µm,19.0s
TMUT Trail Mountain 99.14 51 eP Pdif 09 58 16.9 +1.1
comp=Z,25nm,1.0s
TMUT LR LR
comp=Z,5µm,20.0s
AHID Auburn Hatcher 99.20 48 eP Pdif 09 58 16.2 +0.4
comp=Z,22nm,1.4s
AHID LR LR
comp=Z,8µm,18.0s
HSIG 99.23 62 PFAKE 09 58 30.0 +14
HSIG LR LR
comp=Z,6µm,20.0s
FXWY Fox Creek 99.25 47 eP Pdif 09 58 16.4 +0.3
comp=Z,10nm,1.0s
YMR Madison River 99.27 46 PFAKE 09 58 30.0 +14
YMR LR LR
comp=Z,8µm,19.0s
TPAW Teton Pass 99.30 47 eP Pdif 09 58 17.0 +0.7
comp=Z,18nm,1.1s
TPAW LR LR
comp=Z,6µm,21.0s
IMW Indian Meadow 99.31 47 eP Pdif 09 58 17.0 +0.6
comp=Z,76nm,2.0s
IMW LR LR
comp=Z,3µm,18.0s
YHH Holmes Hill 99.35 46 PFAKE 09 58 30.0 +13
YHH LR LR
comp=Z,8µm,19.0s
YFT Old Faithful 99.37 46 eP Pdif 09 58 18.1 +1.5
comp=Z,21nm,1.1s
YFT LR LR
comp=Z,14µm,18.0s
REDW Red Top Meadow 99.38 47 eP Pdif 09 58 17.1 +0.5
comp=Z,32nm,1.4s
REDW LR LR
comp=Z,7µm,21.0s
YPP Pitchstone Pla 99.40 46 PFAKE 09 58 30.0 +13
YPP LR LR
comp=Z,9µm,18.0s
TUC Tucson 99.44 58 eP Pdif 09 58 17.3 +0.3
comp=Z,12nm,1.4s
TUC LR LR
comp=Z,5µm,19.0s
TUC Tucson 99.44 58 eP Pdif 09 58 17.3 +0.3
TUC pmax pmax
comp=Z,12nm,1.4s
TUC MLR MLR
comp=Z,5µm,19.0s
TUC Tucson 99.44 58 P Pdif 09 58 18.1 +1.2
baz=269
SNOW Snow King Moun 99.45 47 eP Pdif 09 58 17.7 +0.7
comp=Z,33nm,1.5s
SNOW LR LR
comp=Z,7µm,21.0s
MOOW Moose Ponds 99.45 47 eP Pdif 09 58 17.5 +0.6
comp=Z,9.0nm,1.0s
MOOW LR LR
comp=Z,4µm,21.0s
FLWY Flagg Ranch 99.47 46 eP Pdif 09 58 17.9 +0.9
comp=Z,32nm,1.4s
FLWY LR LR
comp=Z,4µm,18.0s
YNR Norris Junctio 99.48 46 eP Pdif 09 58 18.1 +1.1
comp=Z,53nm,1.4s
YNR LR LR
comp=Z,8µm,18.0s
P17A Butcher Ranch, 99.51 51 eP Pdif 09 58 18.2 +1.0
comp=Z,18nm,1.1s
P17A LR LR
comp=Z,5µm,20.0s
LOHW Long Hollow 99.55 47 eP Pdif 09 58 17.9 +0.5
comp=Z,12nm,1.2s
LOHW LR LR
comp=Z,6µm,21.0s
H17A Grant Village 99.56 46 eP Pdif 09 58 18.1 +0.7
comp=Z,32nm,1.4s
H17A LR LR
comp=Z,13µm,18.0s
H17A Grant Village 99.56 46 P Pdif 09 58 18.3 +0.9
baz=271
SRU San Rafael Swe 99.68 51 ePdif Pdif 09 58 18.8 +0.8
comp=Z,55nm,1.8s
SRU LR LR
comp=Z,5µm,20.0s
SRU San Rafael Swe 99.68 51 eP Pdif 09 58 18.8 +0.8
SRU pmax pmax
comp=Z,55nm,1.8s
SRU MLR MLR
comp=Z,5µm,20.0s
LKWY Lake 99.68 46 PFAKE 09 58 30.0 +12
LKWY LR LR
comp=Z,10µm,18.0s
P18A Preston Nutter 99.89 51 PFAKE 09 58 30.0 +11
P18A LR LR
comp=Z,6µm,21.0s
SLBS Sierra La Lagu 99.98 67 PFAKE 09 58 30.0 +10
SLBS LR LR
comp=Z,5µm,19.0s
EGMT Eagleton 100.01 42 ePdif Pdif 09 58 19.6 +0.5
EGMT LR LR
comp=Z,4µm,18.0s
EGMT Eagleton 100.01 42 P Pdif 09 58 18.9 -0.2
baz=273
X18A Snowflake 100.16 56 PFAKE 09 58 30.0 +10
X18A LR LR
comp=Z,3µm,18.0s
W18A Petrified Fore 100.33 55 PFAKE 09 58 30.0 +9.0
W18A LR LR
comp=Z,3µm,20.0s
W18A Petrified Fore 100.33 55 P Pdif 09 58 19.8 -1.2
baz=270
BW06 Boulder Array 100.34 48 PFAKE 09 58 30.0 +9.1
BW06 LR LR
comp=Z,9µm,18.0s
BW06 Boulder Array 100.34 48 P Pdif 09 58 20.5 -0.4
baz=272
PD31 Pinedale Array 100.34 48 ePdif Pdif 09 58 20.6 -0.3
PDAR Pinedale Array 100.34 48 Pdiff Pdif 09 58 20.4 -0.5
comp=Z,3.9nm,0.9s,baz=249,slow=2.5,SNR=24
PDAR PP **PP 10 02 26.6 -0.7**
comp=Z,3.3nm,0.9s,baz=258,slow=4.4,SNR=7.3
RLMT Red Lodge 100.47 45 PFAKE 09 58 30.0 +8.6
RLMT LR LR
comp=Z,4µm,18.0s
RLMT Red Lodge 100.47 45 P Pdif 09 58 21.4 +0.1
baz=272
319A Douglas 100.71 59 PFAKE 09 58 30.0 +7.3
319A LR LR
comp=Z,5µm,19.0s
PV05 Paradox Valley 100.81 52 ePdif Pdif 09 58 23.9 +0.8
PV14 Lion Creek, Pa 100.86 52 ePdif Pdif 09 58 24.1 +0.7
PV14 LR LR
comp=Z,11µm,20.0s
PV23 Carpenter Ridg 100.87 52 ePdif Pdif 09 58 23.9 +0.5
PV19 Morning Glory 100.89 52 ePdif Pdif 09 58 24.6 +1.1
PV19 LR LR
comp=Z,9µm,20.0s
PV21 Cone Mtn., Par 100.90 52 ePdif Pdif 09 58 24.2 +0.7
PV21 LR LR
comp=Z,9µm,20.0s
PV20 West Nyswonger 100.91 52 ePdif Pdif 09 58 23.1 -0.4
PV20 LR LR
comp=Z,9µm,20.0s
PV17 East Wray Mesa 100.91 52 ePdif Pdif 09 58 23.6 +0.1
SNAA Sanae 100.93 188 Pdiff Pdif 09 58 22.9 +0.2
SNAA Sanae 100.93 188 P PKKPbc 10 14 34.5 -3.1
SNAA Sanae 100.93 188 ePdif Pdif 09 58 23.1 +0.3
SNAA LR LR
comp=Z,5µm,20.0s
SNAA Sanae 100.93 188 eP Pdif 09 58 23.1 +0.3
SNAA MLR MLR
comp=Z,5µm,20.0s
PV16 Nyswonger Mesa 100.95 52 ePdif Pdif 09 58 24.0 +0.3
PV16 LR LR
comp=Z,9µm,20.0s
PV18 Skein Mesa, Pa 100.95 52 PFAKE 09 58 40.0 +16
PV18 LR LR
comp=Z,9µm,20.0s
PV11 David Mesa, Pa 100.98 52 ePdif Pdif 09 58 24.9 +1.1
PV11 LR LR
comp=Z,11µm,20.0s
PV03 Paradox Valley 101.00 52 ePdif Pdif 09 58 24.8 +0.8
PV13 Radium Mtn., P 101.03 52 ePdif Pdif 09 58 24.3 +0.2
PV13 LR LR
comp=Z,8µm,20.0s
PV12 Saucer Basin, 101.04 52 ePdif Pdif 09 58 25.2 +1.1
PV12 LR LR
comp=Z,12µm,20.0s
PV01 Paradox Valley 101.22 52 ePdif Pdif 09 58 25.8 +0.9
MVCO Mesa Verde 101.30 53 ePdif Pdif 09 58 27.0 +1.7
MVCO LR LR
comp=Z,3µm,19.0s
MVCO Mesa Verde 101.30 53 P Pdif 09 58 25.9 +0.6
baz=271
O20A White River Ci 101.42 50 ePdif Pdif 09 58 27.1 +1.3
O20A LR LR
comp=Z,6µm,20.0s
O20A White River Ci 101.42 50 P Pdif 09 58 25.4 -0.4
baz=272
RES Resolute Bay 101.61 14 ePdif Pdif 09 58 25.3 -0.2
RES Resolute Bay 101.61 14 eP Pdif 09 58 25.3 -0.2
ABPO Ambohimpanom 101.66 249 PFAKE 09 58 40.0 +13
ABPO LR LR
comp=Z,3µm,18.0s
121A Cookes Peak, D 101.98 58 P Pdif 09 58 28.6 +0.3
baz=271
RWWY Rawlins 102.13 49 PFAKE 09 58 40.0 +11
RWWY LR LR
comp=Z,4µm,18.0s
VNA3 Neumayer Olymp 102.16 186 Pdiff Pdif 09 58 28.2 +0.1
VNA3 Neumayer Olymp 102.16 186 P PKKPbc 10 14 30.5 -3.4
VNA2 Neumayer--Watz 102.21 187 Pdiff Pdif 09 58 29.0 +0.6
baz=167,slow=3.6
VNA2 Neumayer--Watz 102.21 187 P PKKPbc 10 14 30.1 -3.7
baz=308,slow=3.8
SMCO Snowmass 102.44 51 ePdif Pdif 09 58 31.6 +1.0
SMCO LR LR
comp=Z,4µm,20.0s
LAO LASA Array 102.49 44 ePdif Pdif 09 58 31.3 +1.2
LAO LR LR
comp=Z,6µm,18.0s
LAO LASA Array 102.49 44 P Pdif 09 58 30.6 +0.5
baz=275
VNA1 Neumayer--Stat 102.57 187 P PKKPbc 10 14 29.8 -2.9
K22A Casper 102.58 48 ePdif Pdif 09 58 31.2 +0.4
K22A LR LR
comp=Z,6µm,18.0s
K22A Casper 102.58 48 P Pdif 09 58 30.5 -0.3
baz=274
S22A 4UR Ranch, Cre 102.61 53 ePdif Pdif 09 58 32.9 +1.7
S22A LR LR
comp=Z,5µm,20.0s
S22A 4UR Ranch, Cre 102.61 53 P Pdif 09 58 32.1 +0.8
baz=273
PRGR Permogore 102.62 332 eP Pdif 09 58 28.0 -2.3
PRGR pmax pmax
comp=Z,12nm,0.9s
ANMO Albuquerque 103.03 56 Pdiff Pdif 09 58 33.4 +0.4
comp=Z,0.8nm,0.8s,baz=255,slow=4.1,SNR=2.0
ANMO Albuquerque 103.03 56 ePdif Pdif 09 58 38.0 +5.0
ANMO LR LR
comp=Z,2µm,20.0s
N23A Red Feather La 103.13 49 ePdif Pdif 09 58 34.3 +0.9
N23A LR LR
comp=Z,3µm,19.0s
N23A Red Feather La 103.13 49 P Pdif 09 58 34.2 +0.8
baz=274
ISCO Idaho Springs 103.45 51 PFAKE 09 58 50.0 +15
ISCO LR LR
comp=Z,5µm,20.0s
ISCO Idaho Springs 103.45 51 P Pdif 09 58 34.9 0.0
baz=274
PHWY Pilot Hill 103.47 49 PFAKE 09 58 50.0 +15
PHWY LR LR
comp=Z,3µm,18.0s
SDCO Great Sand Dun 103.67 53 ePdif Pdif 09 58 37.1 +1.2
SDCO LR LR
comp=Z,4µm,19.0s
SDCO Great Sand Dun 103.67 53 P Pdif 09 58 35.9 0.0
baz=273
DGMT Dagmar 103.67 42 ePdif Pdif 09 58 36.8 +1.4
DGMT LR LR
comp=Z,5µm,18.0s
DGMT Dagmar 103.67 42 P Pdif 09 58 35.4 +0.1
baz=277
Q24A Divide 103.86 51 PFAKE 09 58 50.0 +13
Q24A LR LR
comp=Z,6µm,20.0s
HPIG 103.89 64 PFAKE 09 58 50.0 +13
HPIG LR LR
comp=Z,5µm,18.0s
MNTX Cornudas Mount 104.04 59 PFAKE 09 58 50.0 +13
MNTX LR LR
comp=Z,5µm,19.0s
MNTX Cornudas Mount 104.04 59 P Pdif 09 58 38.8 +1.5
baz=272
FFC Flin Flon 104.12 35 ePdif Pdif 09 58 37.8 +0.7
FFC LR LR
comp=Z,3µm,20.0s
FFC Flin Flon 104.12 35 eP Pdif 09 58 37.8 +0.7
FFC MLR MLR
comp=Z,3µm,20.0s
RSSD Black Hills 104.26 46 ePdif Pdif 09 58 38.0 -0.3
RSSD LR LR
comp=Z,5µm,19.0s
RSSD Black Hills 104.26 46 P Pdif 09 58 38.4 +0.1

baz=276
T25A Trinidad 104.57 53 PFAKE 09 58 50.0 +10
T25A LR LR
comp=Z,6μm,19.0s
T25A Trinidad 104.57 53 P **Pdif 09 58 40.4 +0.6**
baz=274
LTX Lajitas 105.60 61 *e*Pdif **Pdif 09 58 45.3 +0.9**
LTX Lajitas 105.60 61 *e*P **Pdif 09 58 45.3 +0.9**
TXAR Lajitas Array 105.60 61 Pdiff **Pdif 09 58 45.3 +0.9**
comp=Z,0.2nm,0.9s,baz=225,slow=2.4,SNR=3.2
TXAR pPKiKP **PP 10 03 09.2 +2.3**
comp=Z,1.2nm,0.9s,baz=186,slow=1.8,SNR=5.6
TXAR PKKPbc **PKKPbc 10 14 24.3 +1.8**
comp=Z,0.7nm,0.7s,baz=101,slow=4.7,SNR=6.2
TXAR PKKPab **PKKPdf 10 14 36.2 +2.5**
comp=Z,1.1nm,0.8s,baz=106,slow=5.1,SNR=3.4
KLMR Klimovskoe 105.68 332 *e*P **Pdif 09 58 41.1 -2.8**
KLMR pmax pmax
comp=Z,11nm,1.3s
KLMR Klimovskoe 105.68 332 *e*Pdif **Pdif 09 58 41.1 -2.8**
KLMR AMP 09 58 42.7
comp=Z,11nm,1.2s
APA Apatity 105.82 339 ⇓*i*P **Pdif 09 58 44.6 +0.2**
APA pmax pmax
comp=Z,9.0nm,1.0s
KSCO Kaye Shedlock' 105.82 51 PFAKE 10 03 10.0
KSCO LR LR
comp=Z,6μm,20.0s
TULEG Thule 105.91 9 PFAKE 10 03 10.0
TULEG LR LR
comp=Z,2μm,19.0s
OGNE Ogallala 106.08 49 PFAKE 10 03 10.0
OGNE LR LR
comp=Z,3μm,19.0s
MSTX Muleshoe 106.12 56 PFAKE 10 03 10.0
MSTX LR LR
comp=Z,2μm,18.0s
MSTX Muleshoe 106.12 56 P **PKiKP 10 02 58.0 -0.6**
baz=274
ZAIG Zacatecas 106.75 68 PFAKE 10 03 10.0
ZAIG LR LR
comp=Z,2μm,18.0s
MDND Maddock 106.81 42 PFAKE 10 03 10.0
MDND LR LR
comp=Z,4μm,18.0s
AMTX Amarillo 106.95 55 PFAKE 10 03 10.0
AMTX LR LR
comp=Z,2μm,18.0s
AMTX Amarillo 106.95 55 P **PKiKP 10 02 60.0 -0.1**
baz=275
RAYN Ar Rayn 107.06 293 PFAKE 10 03 10.0
RAYN LR LR
comp=Z,2μm,19.0s
FCC Fort Churchill 107.35 30 PFAKE 10 03 10.0
FCC LR LR
comp=Z,8μm,19.0s
ARA0 ARCESS Array S 107.43 343 *e*PKiKP **PKiKP 10 03 00.0 +0.1**
ARCES ARCESS Array B 107.43 343 PKiKP **PKiKP 10 03 00.0 +0.1**
comp=Z,3.9nm,0.8s,baz=64,slow=2.1,SNR=13
KBZ Khabaz 107.48 314 PP PP 10 03 20.1 0.0
comp=Z,3.6nm,0.9s,baz=96,slow=8.1,SNR=3.6
KIV Kislovodsk 107.59 314 *i* P **Pdif 09 58 51.3 -1.7**
KIV *e* 10 03 18.2
KIV *e* 10 09 31.3
KIV *e*PS **PS 10 12 39.7 -4.0**
KIV *e*SS SS 10 18 27.6 -2.8
KIV pmax pmax
comp=Z,10.0nm,0.9s
MOIG Morelia 108.07 71 PFAKE 10 03 10.0
MOIG LR LR
comp=Z,2μm,20.0s
CBKS Cedar Bluff 108.08 51 PFAKE 10 03 10.0
CBKS LR LR
comp=Z,7μm,20.0s
MOS Moscow 108.13 327 *e*P **Pdif 09 58 52.4 -2.5**
MOS MLR MLR
comp=Z,4μm,20.0s
ULM Lac du Bonnet 108.70 39 Pdiff **Pdif 09 58 54.4 -3.2**
comp=Z,1.9nm,0.9s,baz=304,slow=3.6,SNR=3.5
ULM PKKPab **PKKPab 10 14 24.5 -0.1**
comp=Z,3.2nm,0.9s,baz=64,slow=12,SNR=3.0
ULM Lac du Bonnet 108.70 39 Pdif **Pdif 09 58 54.4 -3.2**
ULM PKKPab **PKKPab 10 14 24.5 -0.1**
ULM LR LR
comp=Z,3μm,19.0s
ULM Lac du Bonnet 108.70 39 P **Pdif 09 58 54.4 -3.2**
ULM MLR MLR
comp=Z,3μm,19.0s
JRQG Juriquilla Cam 108.75 70 PFAKE 10 03 20.0
JRQG LR LR
comp=Z,6μm,20.0s
DAG Danmarks Havn 108.83 358 *i* P **PP 10 03 26.4 -2.4**
ABTX Abilene, Hawle 108.84 58 PFAKE 10 03 20.0
ABTX LR LR
comp=Z,3μm,18.0s
ABTX Abilene, Hawle 108.84 58 P **PKiKP 10 03 03.2 -0.4**
baz=275
JCT Junction City 108.88 60 PFAKE 10 03 20.0
JCT LR LR
comp=Z,7μm,20.0s
JCT Junction City 108.88 60 P **PKiKP 10 03 03.9 +0.2**
baz=275
OBN Obninsk 108.89 327 PFAKE 10 03 10.0
OBN LR LR
comp=Z,4μm,19.0s
BGNE Belgrade 108.92 48 PFAKE 10 03 20.0
BGNE LR LR
comp=Z,3μm,18.0s
BGNE Belgrade 108.92 48 P **PKiKP 10 03 03.9 +0.4**
baz=279
U32A Winter Ranch, 108.96 54 PFAKE 10 03 20.0
U32A LR LR
comp=Z,5μm,19.0s
AGMN Agassiz Nation 109.17 41 PFAKE 10 03 20.0
AGMN LR LR
comp=Z,3μm,21.0s
WMOK Wichita Mounta 109.33 55 PFAKE 10 03 20.0
WMOK LR LR
comp=Z,2μm,19.0s
WMOK Wichita Mounta 109.33 55 P **PKiKP 10 03 05.0 +0.5**
baz=277
833A Chaparral WMA, 109.40 62 PFAKE 10 03 20.0
833A LR LR
comp=Z,4μm,19.0s
ATD Arta Tunnel 109.51 280 PFAKE 10 03 20.0
ATD LR LR
comp=Z,1μm,22.0s
LNIG Linares 109.53 66 PFAKE 10 03 20.0
LNIG LR LR
comp=Z,4μm,20.0s
ECSD EROS Data Cent 109.62 46 *e*Pdif **Pdif 09 59 02.5 +0.6**
ECSD LR LR
comp=Z,5μm,21.0s
ECSD EROS Data Cent 109.62 46 P **PKiKP 10 03 04.6 -0.1**
baz=281
UNM Universidad Na 109.97 72 PFAKE 10 03 20.0
UNM LR LR
comp=Z,3μm,20.0s
KSU1 Kansas State U 110.45 50 PFAKE 10 03 20.0
KSU1 LR LR
comp=Z,7μm,19.0s
KSU1 Kansas State U 110.45 50 P **PKiKP 10 03 06.8 +0.3**
baz=280
TLIG Tlapa 110.57 73 PFAKE 10 03 20.0
TLIG LR LR
comp=Z,3μm,18.0s
WHTX Lake Whitney, 110.74 58 PFAKE 10 03 20.0
WHTX LR LR
comp=Z,4μm,19.0s
435B Jarrell 110.76 59 PFAKE 10 03 20.0
435B LR LR
comp=Z,6μm,18.0s
KVTX Kingsville 110.78 63 PFAKE 10 03 20.0
KVTX LR LR
comp=Z,4μm,18.0s
ANN Anapa 111.12 316 *i* PKIKP **PKiKP 10 03 07.6 +0.1**
ANN *e* 10 03 43.9
ANN *e* 10 09 46.3
ANN *e*SP SP 10 13 16.5 +1.7
ANN pmax pmax
comp=Z,75nm,1.1s
FIA0 FINESS Array S 111.43 335 *e*Pdif **Pdif 09 59 07.4 -2.0**
FIA0 *e*PKiKP **PKiKP 10 03 07.5 -0.1**
FINES FINESS Array B 111.43 335 Pdiff **Pdif 09 59 07.4 -2.0**
comp=Z,2.1nm,0.8s,baz=59,slow=3.6,SNR=4.1
FINES PKiKP **PKiKP 10 03 07.5 -0.1**
comp=Z,4.1nm,0.9s,baz=60,slow=3.4,SNR=4.5
TUL1 Leonard 111.60 54 PFAKE 10 03 20.0
TUL1 LR LR
comp=Z,4μm,18.0s
TUL1 Leonard 111.60 54 P **PKiKP 10 03 08.1 -0.6**
baz=279
F37A Hinrichs Farm, 111.94 43 P **PKiKP 10 03 09.1 +0.1**
baz=285
SPMN Marine on St. 111.95 43 PFAKE 10 03 20.0
SPMN LR LR
comp=Z,5μm,18.0s
EYMN Ely 112.09 40 PFAKE 10 03 20.0
EYMN LR LR
comp=Z,4μm,20.0s
X37A Clayton 112.14 55 PFAKE 10 03 20.0
X37A LR LR
comp=Z,3μm,18.0s
HKT Hockley 112.35 60 PFAKE 10 03 20.0
HKT LR LR
comp=Z,9μm,20.0s
E38A The Farm, Brul 112.43 42 PFAKE 10 03 20.0
E38A LR LR
comp=Z,5μm,18.0s
E38A The Farm, Brul 112.43 42 P **PKiKP 10 03 09.6 -0.3**
baz=286
SCIA State Center 112.45 47 PFAKE 10 03 20.0
SCIA LR LR
comp=Z,5μm,18.0s
HHAR Hobbs 113.02 53 PFAKE 10 03 20.0
HHAR LR LR
comp=Z,3μm,18.0s
F39A Loretta 113.04 42 P **PKiKP 10 03 10.0 -1.1**
baz=286
G39A Holcombe 113.05 43 P **PKiKP 10 03 09.9 -1.2**
baz=286
NATX Nacogdoches 113.13 58 PFAKE 10 03 20.0
NATX LR LR
comp=Z,2μm,21.0s
NATX Nacogdoches 113.13 58 P **PKiKP 10 03 10.7 -1.0**
baz=276
H39A Augusta 113.13 44 P **PKiKP 10 03 10.5 -0.8**
baz=286
I39A Houston 113.19 45 PFAKE 10 03 20.0
I39A LR LR
comp=Z,5μm,20.0s
I39A Houston 113.19 45 P **PKiKP 10 03 11.1 -0.4**
baz=285
J39A Decorah 113.19 45 P **PKiKP 10 03 11.7 +0.2**
baz=285
N39A Derby Farms, D 113.20 48 PFAKE 10 03 20.0
N39A LR LR
comp=Z,6μm,18.0s
N39A Derby Farms, D 113.20 48 P **PKiKP 10 03 10.6 -1.0**
baz=283
L39A Vinton 113.28 47 P **PKiKP 10 03 11.5 -0.2**
baz=284
W39A Magazine 113.33 54 PFAKE 10 03 20.0
W39A LR LR
comp=Z,4μm,18.0s
SIM Simferopol' 113.37 317 P **Pdif 09 59 20.3 +1.8**
SIM *e* 10 04 03.0
SIM *e* 10 09 54.0
SIM *e*PS **PS 10 13 36.0 -2.9**
SIM *e*PPS PPS 10 14 52.0
SIM pmax pmax
comp=Z,30nm,8.0s
SIM pmax pmax
comp=Z,240nm,9.5s
FURI Furi 113.51 277 PFAKE 10 03 30.0
FURI LR LR
comp=Z,2μm,20.0s
E40A Wakefield 113.57 42 P **PKiKP 10 03 11.8 -0.4**
baz=288
F40A Park Falls 113.58 42 P **PKiKP 10 03 11.2 -0.9**
baz=287
MIAR Mount Ida 113.61 55 PFAKE 10 03 20.0
MIAR LR LR
comp=Z,4μm,19.0s
G40A Rib Lake 113.71 43 PFAKE 10 03 20.0
G40A LR LR
comp=Z,6μm,18.0s
K40A Colesburg 113.75 46 P **PKiKP 10 03 11.8 -0.8**
baz=285
M40A Post Highland 113.81 47 P **PKiKP 10 03 12.6 -0.1**
baz=284
240A Hunter Patters 113.85 58 PFAKE 10 03 20.0
240A LR LR
comp=Z,4μm,19.0s
L40A Anamosa 113.86 46 PFAKE 10 03 20.0
L40A LR LR
comp=Z,4μm,18.0s
L40A Anamosa 113.86 46 P **PKiKP 10 03 12.6 -0.2**
baz=285
U40A Yellville 113.87 53 P **PKiKP 10 03 12.6 -0.4**
baz=281
KMBO Kilima Mbogo 114.13 266 PKP PKPdf 10 03 14.6 +0.1
comp=Z,0.9nm,0.3s,baz=89,slow=2.4,SNR=4.9
KMBO Kilima Mbogo 114.13 266 PKP PKPdf 10 03 14.6 +0.1
KMBO LR LR
comp=Z,2μm,18.0s
KMBO Kilima Mbogo 114.13 266 *i* PKIKP PKPdf 10 03 15.5 +1.1
KMBO pmax pmax
comp=Z,1.0nm,0.3s
COWI Conover 114.17 42 PFAKE 10 03 30.0 +17
COWI LR LR
comp=Z,4μm,21.0s
X40A Basin Creek Fa 114.22 55 PFAKE 10 03 30.0 +16
X40A LR LR
comp=Z,5μm,19.0s
D41A Chassel 114.25 41 PFAKE 10 03 30.0 +17
D41A LR LR
comp=Z,2μm,20.0s
D41A Chassel 114.25 41 P PKPdf 10 03 12.5 -0.9
baz=289
H41A Junction City 114.27 43 PFAKE 10 03 30.0 +16
H41A LR LR
comp=Z,4μm,18.0s
I41A Arkdale 114.28 44 PFAKE 10 03 30.0 +16
I41A LR LR
comp=Z,7μm,21.0s
F41A Three Lakes 114.31 42 PFAKE 10 03 30.0 +16
F41A LR LR
comp=Z,6μm,18.0s
F41A Three Lakes 114.31 42 P PKPdf 10 03 13.2 -0.4
baz=288
JFWS Jewell Farm 114.33 45 PFAKE 10 03 30.0 +16
JFWS LR LR
comp=Z,5μm,21.0s
K41A Shullsburg 114.37 46 P PKPdf 10 03 13.0 -0.8
baz=286
J41A Loganville 114.37 45 P PKPdf 10 03 12.1 -1.7
baz=286
N41A Harden Midland 114.46 48 PFAKE 10 03 30.0 +16
N41A LR LR
comp=Z,6μm,18.0s
N41A Harden Midland 114.46 48 P PKPdf 10 03 13.1 -0.9
baz=284
Z41A Richland Creek 114.46 56 PFAKE 10 03 30.0 +16
Z41A LR LR
comp=Z,3μm,20.0s
X41A Kaden, Bauxite 114.48 55 P PKPdf 10 03 13.7 -0.5
baz=280
Y41A Eaglette Beard 114.51 55 P PKPdf 10 03 13.0 -1.2
baz=280
WHAR Wooly Hollow 114.52 54 PFAKE 10 03 30.0 +16
WHAR LR LR
comp=Z,3μm,20.0s
241A Mo Tay, Goldon 114.56 57 PFAKE 10 03 30.0 +16
241A LR LR
comp=Z,4μm,18.0s
241A Mo Tay, Goldon 114.56 57 P PKPdf 10 03 12.5 -1.9
baz=279
NAI Nairobi 114.56 266 PFAKE 10 03 30.0 +15
NAI LR LR
comp=Z,2μm,20.0s
UALR University of 114.57 54 PFAKE 10 03 30.0 +16
UALR LR LR
comp=Z,5μm,18.0s
W41B Gary Mavity, V 114.57 54 PFAKE 10 03 30.0 +16
W41B LR LR
comp=Z,3μm,19.0s
W41B Gary Mavity, V 114.57 54 P PKPdf 10 03 13.3 -1.1
baz=281
O41A Passleys Farm, 114.58 48 P PKPdf 10 03 12.7 -1.6
baz=284
AKASG Malin Array Be 114.58 324 PKP PKPdf 10 03 13.2 -0.6
comp=Z,1.4nm,0.4s,baz=62,slow=2.5,SNR=3.5
AKASG PKKP **PKKPdf 10 14 12.4 -4.7**
comp=Z,0.5nm,0.4s,baz=255,slow=2.9,SNR=4.7
AKBB Malin Array Si 114.58 324 PFAKE 10 03 30.0 +16
AKBB LR LR
comp=Z,2μm,22.0s
Q41A Truxton 114.59 50 P PKPdf 10 03 13.9 -0.4
baz=283
T41A Mountain View 114.59 52 P PKPdf 10 03 13.4 -0.9
baz=282
KIEV Kiev 114.60 324 PFAKE 10 03 30.0 +16
KIEV LR LR
comp=Z,2μm,21.0s
KIEV Kiev 114.60 324 *i* PKIKP PKPdf 10 03 11.7 -2.2
U41A Viola 114.61 53 P PKPdf 10 03 13.7 -0.7
baz=282
541A Lake Charles 114.62 60 PFAKE 10 03 30.0 +15
541A LR LR
comp=Z,7μm,18.0s
R41A Rosebud 114.62 50 P PKPdf 10 03 13.8 -0.6
baz=283
CCM Cathedral Cave 114.78 51 PFAKE 10 03 30.0 +15
CCM LR LR
comp=Z,5μm,20.0s
G42A Mountain 114.91 42 PFAKE 10 03 30.0 +15
G42A LR LR
comp=Z,7μm,18.0s
I42A Draeger Farm, 114.99 44 PFAKE 10 03 30.0 +15
I42A LR LR
comp=Z,7μm,21.0s
I42A Draeger Farm, 114.99 44 P PKPdf 10 03 14.1 -0.9
baz=287
L42A Oliver, Polo 114.99 46 PFAKE 10 03 30.0 +15
L42A LR LR
comp=Z,4μm,18.0s
L42A Oliver, Polo 114.99 46 P PKPdf 10 03 14.7 -0.2
baz=286
N42A Yates City 115.03 47 P **PKPdf 10 03 14.3 -0.8**
baz=285
BR101 Keskin Array S 115.07 311 *e*PKiKP **PKiKP 10 03 14.5 -0.9**
BRTR Keskin Array B 115.07 311 PKP **PKPdf 10 03 14.5 -0.9**
comp=Z,5.8nm,1.0s,baz=134,slow=3.6,SNR=20
BRTR PKKPbc **PKKPbc 10 13 52.7 +0.5**
comp=Z,1.5nm,0.9s,baz=212,slow=4.4,SNR=4.5
H42A Shiocton 115.07 43 PFAKE 10 03 30.0 +15
H42A LR LR
comp=Z,5μm,18.0s
R42A Luebbering 115.08 50 P **PKPdf 10 03 14.8 -0.5**
baz=283
P42A Winchester 115.11 49 PFAKE 10 03 30.0 +15
P42A LR LR
comp=Z,2μm,19.0s
P42A Winchester 115.11 49 P **PKPdf 10 03 14.9 -0.4**
baz=284
T42A Van Buren 115.12 52 PFAKE 10 03 30.0 +15
T42A LR LR
comp=Z,5μm,20.0s
T42A Van Buren 115.12 52 P **PKPdf 10 03 14.0 -1.3**
baz=282
V42A Cord 115.14 53 P **PKPdf 10 03 15.0 -0.4**
baz=282
U42A Revenden 115.15 53 P **PKPdf 10 03 15.2 -0.3**
baz=282
342A Flagon Creek P 115.16 58 PFAKE 10 03 30.0 +14
342A LR LR
comp=Z,3μm,18.0s
Z42A Norrel Spur, H 115.16 56 P **PKPdf 10 03 15.3 -0.2**
baz=280
S42A Caledonia 115.19 51 P **PKPdf 10 03 14.6 -0.9**
baz=283
CCAR Cane Creek 115.19 55 PFAKE 10 03 30.0 +14
CCAR LR LR
comp=Z,4μm,20.0s
Y42A Garnett, Star 115.19 55 P **PKPdf 10 03 13.7 -1.9**
baz=281
G43A Wallace 115.41 42 PFAKE 10 03 30.0 +14
G43A LR LR
comp=Z,7μm,18.0s
SLM Saint Louis 115.42 50 PFAKE 10 03 30.0 +14
SLM LR LR
comp=Z,6μm,19.0s
FVM French Village 115.43 51 PFAKE 10 03 30.0 +14
FVM LR LR
comp=Z,5μm,20.0s
E43A Lone Tree Farm 115.49 41 PFAKE 10 03 30.0 +14
E43A LR LR
comp=Z,4μm,19.0s
H43A Windswept, Lux 115.60 43 PFAKE 10 03 30.0 +14
H43A LR LR
comp=Z,5μm,18.0s
HDIL Hopedale 115.65 48 PFAKE 10 03 30.0 +14
HDIL LR LR
comp=Z,5μm,18.0s
HDIL Hopedale 115.65 48 P **PKPdf 10 03 15.7 -0.6**
baz=285
ANTO Ankara 115.66 312 *e*PKPdf **PKPdf 10 03 16.2 -0.2**
ANTO LR LR
comp=Z,1μm,20.0s
ANTO Ankara 115.66 312 ⇑*i*P **PKPdf 10 03 16.6 +0.2**
ANTO Ankara 115.66 312 ⇑PKIKP **PKPdf 10 03 16.6 +0.2**
PBMO Poplar Bluff 115.69 52 PFAKE 10 03 30.0 +14
PBMO LR LR
comp=Z,4μm,20.0s
143A Socs Landing, 115.71 57 PFAKE 10 03 30.0 +13
143A LR LR
comp=Z,4μm,18.0s
143A Socs Landing, 115.71 57 P **PKPdf 10 03 16.1 -0.5**
baz=280
P43A Skaggs, Pawnee 115.71 49 P **PKPdf 10 03 16.0 -0.4**
baz=285
T43A Greenville 115.74 52 P **PKPdf 10 03 15.2 -1.3**
baz=283
K43A Burlington 115.74 45 PFAKE 10 03 30.0 +14
K43A LR LR
comp=Z,4μm,20.0s
543A St. Martinvill 115.75 59 PFAKE 10 03 30.0 +13
543A LR LR
comp=Z,5μm,19.0s
HBAR Harrisburg 115.77 53 PFAKE 10 03 30.0 +13
HBAR LR LR
comp=Z,3μm,19.0s
X43A Marvell 115.80 54 PFAKE 10 03 30.0 +13
X43A LR LR
comp=Z,3μm,18.0s
EIL Elat 115.98 300 PKKPab PKKPab 10 13 49.5 -3.4
comp=Z,3.4nm,0.7s,baz=203,slow=7.7,SNR=3.0
E44A Grand Marais A 116.11 40 PFAKE 10 03 30.0 +13
E44A LR LR
comp=Z,3μm,18.0s
GNAR Gosnell 116.19 53 PFAKE 10 03 30.0 +13
GNAR LR LR
comp=Z,4μm,20.0s
KIS Kishinev 116.22 320 *e*PKP **PKPdf 10 03 24.0 +6.8**
KIS Kishinev 116.22 320 *e*PP PP 10 04 20.0 -2.4
KIS *e*SKKS 10 11 18.0
KIS Kishinev 116.22 320 *e*PPS PPS 10 13 54.0
KIS LRM MLR 10 54 58.0
comp=Z,2μm,20.0s
KIS Kishinev 116.22 320 *e*PKIKP **PKPdf 10 03 24.0 +6.8**
KIS *e* 10 04 20.0
KIS *e*PPS PPS 10 13 54.0
KIS MLR MLR
comp=N,1μm,19.0s
KIS MLR MLR
comp=Z,3μm,19.0s
KIS MLR MLR
comp=E,2μm,20.0s
KIS MLR MLR
comp=Z,2μm,20.0s
PARMO Parma 116.25 52 PFAKE 10 03 30.0 +12
PARMO LR LR
comp=Z,4μm,19.0s
M44A Midewin, Midew 116.33 46 PFAKE 10 03 30.0 +12
M44A LR LR
comp=Z,4μm,18.0s
M44A Midewin, Midew 116.33 46 P **PKPdf 10 03 17.7 +0.2**
baz=287
PVMO Portageville 116.35 52 PFAKE 10 03 30.0 +12
PVMO LR LR
comp=Z,4μm,19.0s
O44A Mansfield 116.36 48 P **PKPdf 10 03 17.1 -0.5**
baz=286
Z44A Pea Ridge, Bel 116.41 56 P **PKPdf 10 03 18.0 +0.1**
baz=281
SIUC Southern Illin 116.42 51 PFAKE 10 03 30.0 +12

SIUC LR LR
comp=Z,4µm,19.0s
244A Avery, Jackson 116.43 57 P **PKPdf** 10 03 17.9 -0.1
baz=280
N44A Piper City 116.43 47 P **PKPdf** 10 03 18.1 +0.4
baz=286
P44A Sand Creek, Wi 116.43 49 P **PKPdf** 10 03 17.7 -0.1
baz=285
MET Memphis--Engin 116.44 54 PFAKE 10 03 30.0 +12
MET LR LR
comp=Z,3µm,18.0s
Y44A Strider, Charl 116.46 55 P **PKPdf** 10 03 17.8 -0.2
baz=282
SUW Suwalki 116.46 329 *e*PKP **PKPdf** 10 03 17.7 +0.3
SUW Suwalki 116.46 329 PFAKE 10 03 30.0 +13
SUW LR LR
comp=Z,4µm,21.0s
SUW Suwalki 116.46 329 *e*PKIKP **PKPdf** 10 03 17.7 +0.3
344A Westbrook Farm 116.49 58 PFAKE 10 03 30.0 +12
344A LR LR
comp=Z,4µm,18.0s
VBMS Vicksburg 116.53 57 PFAKE 10 03 30.0 +12
VBMS LR LR
comp=Z,3µm,18.0s
GLAT Glass 116.70 52 PFAKE 10 03 30.0 +12
GLAT LR LR
comp=Z,4µm,18.0s
CCIG Comitan 116.74 75 PFAKE 10 03 30.0 +11
CCIG LR LR
comp=Z,2µm,19.0s
HALT Halls 116.74 53 PFAKE 10 03 30.0 +11
HALT LR LR
comp=Z,4µm,20.0s
M45A Boilermakers S 116.90 46 P **PKPdf** 10 03 18.9 +0.2
baz=287
S45A Carrier Mills 116.92 51 P **PKPdf** 10 03 18.3 -0.5
baz=284
Q45A Warren Harvey, 116.93 49 P **PKPdf** 10 03 18.8 0.0
baz=285
545A Edgard 116.93 59 PFAKE 10 03 30.0 +11
545A LR LR
comp=Z,10µm,18.0s
145A Houston Renfro 116.95 56 P **PKPdf** 10 03 18.4 -0.6
baz=281
R45A Skylar, Fairfi 116.99 50 P **PKPdf** 10 03 18.7 -0.3
baz=285
OXF Oxford 116.99 54 PFAKE 10 03 30.0 +11
OXF LR LR
comp=Z,3µm,18.0s
Z45A Winona 117.00 55 PFAKE 10 03 30.0 +11
Z45A LR LR
comp=Z,4µm,20.0s
Z45A Winona 117.00 55 P **PKPdf** 10 03 19.2 +0.2
baz=282
OLIL Olney 117.02 49 PFAKE 10 03 30.0 +11
OLIL LR LR
comp=Z,4µm,19.0s
Y45A Yeager Farm, C 117.02 55 P **PKPdf** 10 03 19.1 0.0
baz=282
X45A UM Field Stati 117.03 54 P **PKPdf** 10 03 19.2 +0.1
baz=282
T45A Paducah 117.03 51 PFAKE 10 03 30.0 +11
T45A LR LR
comp=Z,5µm,18.0s
W45A Hickory Valley 117.03 53 P **PKPdf** 10 03 18.5 -0.6
baz=283
P45A Graceland, Par 117.07 48 PFAKE 10 03 30.0 +11
P45A LR LR
comp=Z,5µm,18.0s
P45A Graceland, Par 117.07 48 P **PKPdf** 10 03 18.7 -0.3
baz=286
V45A Humboldt 117.08 53 P **PKPdf** 10 03 19.2 0.0
baz=283
SFIN Lafayette 117.31 47 PFAKE 10 03 30.0 +11
SFIN LR LR
comp=Z,4µm,18.0s
SFIN Lafayette 117.31 47 P **PKPdf** 10 03 19.6 +0.1
baz=287
TIRR Tirgusor 117.38 318 *e*PKPdf **PKPdf** 10 03 19.4 0.0
TIRR LR LR
comp=Z,2µm,19.0s
NB2 NORSAR Subarra1 17.40 340 PKPdf **PKPdf** 10 03 18.5 -0.6
comp=Z,15nm,1.4s,baz=44,slow=1.9
NB2 NORSAR Subarra1 17.40 340 PKPdf **PKPdf** 10 03 18.5 -0.6
baz=44,slow=1.9
NB200 NORSAR Array S 117.40 340 *e*PKPdf **PKPdf** 10 03 18.3 -0.8
NOA NORSAR Array B 117.40 340 PKP **PKPdf** 10 03 18.3 -0.8
comp=Z,9.8nm,1.1s,baz=46,slow=2.0,SNR=8.0
J46A Howard City 117.41 44 P **PKPdf** 10 03 19.1 -0.5
baz=290
N46A Monticello 117.42 47 P **PKPdf** 10 03 19.2 -0.4
baz=288
M46A Old House Fiel 117.54 46 PFAKE 10 03 30.0 +10
M46A LR LR
comp=Z,4µm,20.0s
M46A Old House Fiel 117.54 46 P **PKPdf** 10 03 19.8 -0.1
baz=288
USIN University of 117.55 50 PFAKE 10 03 30.0 +10
USIN LR LR
comp=Z,6µm,19.0s
NBO00 NORSAR Array S 117.56 340 *e*PKPdf **PKPdf** 10 03 19.3 -0.1
346A Big Creek Wild 117.57 58 PFAKE 10 03 30.0 +10
346A LR LR
comp=Z,3µm,19.0s
GLMI Grayling 117.60 42 PFAKE 10 03 30.0 +10
GLMI LR LR
comp=Z,5µm,18.0s
T46A Princeton 117.61 51 P **PKPdf** 10 03 20.0 -0.2
baz=285
Z46A Louisville 117.65 56 P **PKPdf** 10 03 19.8 -0.5
baz=282
146A Union 117.67 56 PFAKE 10 03 30.0 +10
146A LR LR
comp=Z,3µm,18.0s
146A Union 117.67 56 P **PKPdf** 10 03 19.7 -0.7
baz=282
D47A Chapleau 117.73 39 P **PKPdf** 10 03 19.4 -0.7
baz=294
V46A Holladay 117.73 53 P **PKPdf** 10 03 19.6 -0.9
baz=284
PAYG Puerto Ayora 117.84 94 PFAKE 10 03 30.0 +8.7
PAYG LR LR
comp=Z,2µm,18.0s
WVT Waverly 117.88 52 PFAKE 10 03 30.0 +9.3
WVT LR LR
comp=Z,4µm,19.0s
WVT Waverly 117.88 52 P **PKPdf** 10 03 19.8 -0.9
baz=284
H47A Mio 117.95 42 P **PKPdf** 10 03 20.6 0.0
baz=291
BIZ Bicaz 117.96 321 ⇑*i*P **PKPdf** 10 03 21.0 +0.5
PLAL Pickwick Lake 117.96 53 PFAKE 10 03 30.0 +9.1
PLAL LR LR
comp=Z,4µm,19.0s
G47A Hillman 117.97 41 P **PKPdf** 10 03 20.2 -0.4
baz=292
VRI Vrincioaia 117.98 320 ⇓*i*P **PKPdf** 10 03 20.7 +0.1
VRI Vrincioaia 117.98 320 ⇓PKIKP **PKPdf** 10 03 20.7 +0.1
J47A Sunmer 118.02 44 P **PKPdf** 10 03 20.1 -0.7
baz=290
O47A Sheridan 118.02 47 P **PKPdf** 10 03 20.1 -0.8
baz=288
M47A Cromwell 118.08 46 P **PKPdf** 10 03 20.6 -0.3
baz=289
BLO Bloomington 118.08 48 PFAKE 10 03 30.0 +9.0
BLO LR LR
comp=Z,6µm,19.0s
K47A Vermontville 118.09 44 P **PKPdf** 10 03 20.2 -0.7
baz=290
BOSA Boshof 118.13 233 PKP **PKPdf** 10 03 21.5 -0.1
comp=Z,3.0nm,0.7s,baz=132,slow=2.6,SNR=3.4
BOSA PKKPbc **PKKPbc** 10 13 41.4 +0.3
comp=Z,2.8nm,0.9s,baz=320,slow=3.7,SNR=3.5
247A Quitman 118.16 57 P **PKPdf** 10 03 21.0 -0.3
baz=282
N47A Urbana 118.17 46 P **PKPdf** 10 03 20.1 -1.0
baz=288
P47A Martinsville 118.17 48 P **PKPdf** 10 03 20.8 -0.4
baz=287
L47A Sherwood 118.17 45 P **PKPdf** 10 03 20.9 -0.2
baz=289
V47A Nunnelly 118.20 52 P **PKPdf** 10 03 20.3 -1.0
baz=284
Q47A Bedord North L 118.22 49 P **PKPdf** 10 03 20.7 -0.6
baz=287
U47A Clarksville 118.23 52 P **PKPdf** 10 03 20.8 -0.5
baz=285
baz=284
449A Pace 119.58 58 P **PKPdf** 10 03 23.4 -0.7
baz=282
SWET Sewanee 119.61 53 PFAKE 10 03 40.0 +16
SWET LR LR
comp=Z,4µm,20.0s
Z49A Columbiana 119.62 55 P **PKPdf** 10 03 23.3 -0.9
baz=284
BRAL Brewton 119.64 57 PFAKE 10 03 40.0 +16
BRAL LR LR
comp=Z,2µm,20.0s
PLCA Paso Flores 119.70 144 PKP **PKPdf** 10 03 24.3 0.0
comp=Z,5.1nm,0.9s,baz=256,slow=2.7,SNR=11
PLCA PKKPbc **PKKPbc** 10 13 34.6 -1.1
comp=Z,3.4nm,1.1s,baz=83,slow=7.5,SNR=3.6
PLCA Paso Flores 119.70 144 *e*PKPdf **PKPdf** 10 03 24.7 +0.5
PLCA PKKPbc **PKKPbc** 10 13 34.6 -1.1
D50A G1974 Best Tow 119.71 38 P **PKPdf** 10 03 23.3 -0.6
baz=296
HOPE Hope Point 119.80 175 PFAKE 10 03 40.0 +16
HOPE LR LR
comp=Z,4µm,19.0s
SUR Sutherland 119.83 228 PKKPbc PKKPbc 10 13 35.1 -0.1
comp=Z,5.1nm,0.9s,baz=252,slow=8.5,SNR=3.8
SUR Sutherland 119.83 228 *e*PKPdf **PKPdf** 10 03 23.9 -1.0
SUR PKKPbc **PKKPbc** 10 13 35.1 -0.1
SUR LR LR
comp=Z,4µm,19.0s
M50A Fremont 119.89 45 PFAKE 10 03 40.0 +16
M50A LR LR
comp=Z,5µm,18.0s
M50A Fremont 119.89 45 P **PKPdf** 10 03 24.4 0.0
baz=291
O50A Cable 119.91 47 P **PKPdf** 10 03 23.9 -0.6
baz=290
P50A Jamestown 119.95 47 P **PKPdf** 10 03 24.2 -0.4
baz=289
T50A Nancy 119.97 50 P **PKPdf** 10 03 24.1 -0.6
baz=287
R50A Paris 119.98 49 P **PKPdf** 10 03 23.6 -1.1
baz=288
X50B Fort Payne 120.03 53 P **PKPdf** 10 03 23.7 -1.2
baz=285
D51A Lot 18 Range I 120.03 38 P **PKPdf** 10 03 24.2 -0.3
baz=297
N50A Nevada 120.03 46 P **PKPdf** 10 03 24.7 -0.1
baz=290
W50A Signal Mountai 120.10 53 *e*PKPdf **PKPdf** 10 03 23.9 -1.2
W50A LR LR
comp=Z,5µm,19.0s
W50A Signal Mountai 120.10 53 P **PKPdf** 10 03 24.5 -0.6
baz=286
Z50A Ashland 120.10 55 *e*PKPdf **PKPdf** 10 03 24.4 -0.7
Z50A LR LR
comp=Z,2µm,20.0s
Z50A Ashland 120.10 55 P **PKPdf** 10 03 23.9 -1.2
baz=284
S50A Richmond 120.11 50 P **PKPdf** 10 03 23.3 -1.6
baz=288
250A Grady 120.11 56 PFAKE 10 03 40.0 +15
250A LR LR
comp=Z,4µm,18.0s
250A Grady 120.11 56 P **PKPdf** 10 03 24.6 -0.6
baz=283
DRGR 120.13 322 ⇑*i*P **PKPdf** 10 03 24.7 -0.1
DRGR 120.13 322 ⇑PKIKP **PKPdf** 10 03 24.7 -0.1
U50A Jamestown 120.14 51 P **PKPdf** 10 03 24.7 -0.4
baz=287
V50A Pikeville 120.14 52 P **PKPdf** 10 03 24.9 -0.2
baz=286
BWLO Walkerton 120.17 42 P **PKPdf** 10 03 24.0 -0.9
baz=294
TEIG Tepich 120.17 70 PFAKE 10 03 40.0 +14
TEIG LR LR
comp=Z,2µm,21.0s
150A Eclectic 120.17 56 P **PKPdf** 10 03 25.0 -0.2
baz=284
OJC Ojcow 120.18 326 *e*PKP **PKPdf** 10 03 24.7 0.0
OJC Ojcow 120.18 326 *e*PKPdf **PKPdf** 10 03 24.2 -0.5
OJC Ojcow 120.18 326 *e*PKIKP **PKPdf** 10 03 24.7 0.0
350A Dozier 120.18 57 P **PKPdf** 10 03 25.4 +0.2
baz=283
E51A G1948 Merrick 120.20 38 P **PKPdf** 10 03 25.0 +0.1
baz=296
F51A Arnstein 120.21 39 P **PKPdf** 10 03 24.7 -0.1
baz=296
LSZ Lusaka 120.22 249 PKP **PKPdf** 10 03 25.8 -0.1
comp=Z,2.8nm,0.4s,baz=84,slow=3.2,SNR=8.7
LSZ PP **PP** 10 04 57.9 +6.6
comp=Z,1.9nm,0.5s,baz=110,slow=6.9,SNR=3.5
LSZ PKKPbc **PKKPbc** 10 13 34.0 +0.8
comp=Z,1.1nm,0.4s,baz=339,slow=8.6,SNR=3.8
LSZ Lusaka 120.22 249 *e*PKPdf **PKPdf** 10 03 25.2 -0.7
LSZ *e*pPKPdf **PKiKP** 10 03 25.6 -0.4
LSZ PP **PP** 10 04 57.9 +6.6
LSZ PKKPbc **PKKPbc** 10 13 34.0 +0.8
LSZ LR LR
comp=Z,2µm,20.0s
LSZ Lusaka 120.22 249 *e*PKIKP **PKPdf** 10 03 25.2 -0.7
LSZ 10 04 57.9
LSZ MLR MLR
comp=Z,2µm,20.0s
KLBO Killbear Provi 120.26 40 P **PKPdf** 10 03 24.5 -0.5
baz=295
ALN Alexandroupoli 120.26 314 *e*PKPdf **PKPdf** 10 03 24.6 -0.5
ALN Alexandroupoli 120.26 314 *e*PKIKP **PKPdf** 10 03 24.6 -0.5
NIE Niedzica 120.31 325 *e*PKP **PKPdf** 10 03 25.4 +0.4
NIE Niedzica 120.31 325 *e*PKIKP **PKPdf** 10 03 25.5 +0.4
ACSO Alum Creek Sta 120.34 46 *e*PKPdf **PKPdf** 10 03 25.1 -0.2
ACSO LR LR
comp=Z,2µm,18.0s
ACSO Alum Creek Sta 120.34 46 P **PKPdf** 10 03 25.1 -0.2
baz=290
ELFO Elginfield 120.42 43 P **PKPdf** 10 03 24.3 -1.1
baz=293
Q51A Peebles 120.47 48 PFAKE 10 03 40.0 +14
Q51A LR LR
comp=Z,6µm,18.0s
Q51A Peebles 120.47 48 P **PKPdf** 10 03 25.1 -0.6
baz=289
LSQQ Lebel-sur-Quev 120.51 35 P **PKPdf** 10 03 25.0 -0.4
baz=300
M51A Elyria 120.52 45 P **PKPdf** 10 03 25.4 -0.3
baz=291
N51A Ashland 120.53 45 *e*PKPdf **PKPdf** 10 03 25.6 -0.1
N51A LR LR
comp=Z,4µm,18.0s
N51A Ashland 120.53 45 P **PKPdf** 10 03 25.7 0.0
baz=291
P51A Williamsport 120.53 47 PFAKE 10 03 40.0 +14
P51A LR LR
comp=Z,4µm,18.0s
P51A Williamsport 120.53 47 P **PKPdf** 10 03 25.2 -0.5
baz=290
BODT Bodrum 120.57 310 *e*PKPdf **PKPdf** 10 03 24.8 -1.1
BODT Bodrum 120.57 310 P **PKPdf** 10 03 24.8 -1.1
X51A Calhoun 120.63 53 PFAKE 10 03 40.0 +14
X51A LR LR
comp=Z,3µm,20.0s
O51A Pataskala 120.64 46 P **PKPdf** 10 03 25.0 -0.9
baz=290
CPCT Cooper Cave 120.66 52 PFAKE 10 03 40.0 +14
CPCT LR LR
comp=Z,3µm,19.0s
MBAR Mbarara 120.66 266 PFAKE 10 03 40.0 +13
MBAR LR LR
comp=Z,2µm,20.0s
KECS Kecovo 120.67 324 *e*PKIKP **PKPdf** 10 03 25.5 -0.2
KECS Kecovo 120.67 324 *e*PKP **PKPdf** 10 03 25.5 -0.2
T51A Gray 120.67 50 P **PKPdf** 10 03 25.2 -0.8
baz=288
V51A Loudon 120.69 52 PFAKE 10 03 40.0 +14
V51A LR LR
comp=Z,3µm,18.0s
VLDQ Val d'Or 120.70 36 *e*PKPdf **PKPdf** 10 03 25.1 -0.6
S51A Beattyville 120.73 49 *e*PKPdf **PKPdf** 10 03 25.4 -0.8
S51A LR LR
comp=Z,4µm,19.0s
S51A Beattyville 120.73 49 P **PKPdf** 10 03 25.0 -1.1
baz=288
151A Opelika 120.76 56 P **PKPdf** 10 03 26.1 -0.3
baz=284
U51A La Follette 120.78 51 P **PKPdf** 10 03 25.6 -0.7
baz=287
251A Midway 120.80 56 P **PKPdf** 10 03 25.7 -0.7
baz=284

BUR08 Bucovina Ar. S 118.23 322 *e*PKPdf **PKPdf** 10 03 21.5 +0.3
T47A Sharon Grove 118.23 51 *e*PKPdf **PKPdf** 10 03 21.1 -0.3
T47A LR LR
comp=Z,4µm,22.0s
T47A Sharon Grove 118.23 51 P **PKPdf** 10 03 21.0 -0.3
baz=285
BURAR Bucovina Array 118.23 322 ⇓*i*P **PKPdf** 10 03 22.2 +1.0
BURAR Bucovina Array 118.23 322 ⇓PKIKP **PKPdf** 10 03 22.2 +1.0
BUR04 Bucovina Ar. S 118.23 322 *e*PKPdf **PKPdf** 10 03 21.1 0.0
X47A Russelville 118.24 54 P **PKPdf** 10 03 21.3 -0.2
baz=283
W47A Westpoint 118.28 53 P **PKPdf** 10 03 20.1 -1.5
baz=284
147A Livingston 118.31 56 PFAKE 10 03 30.0 +8.4
147A LR LR
comp=Z,3µm,18.0s
147A Livingston 118.31 56 P **PKPdf** 10 03 21.1 -0.5
baz=282
R47A Wooly Knot Far 118.32 49 P **PKPdf** 10 03 20.8 -0.7
baz=286
347A Saraland 118.34 57 P **PKPdf** 10 03 21.6 -0.1
baz=281
447A Lucedale 118.36 58 PFAKE 10 03 30.0 +8.2
447A LR LR
comp=Z,3µm,18.0s
447A Lucedale 118.36 58 P **PKPdf** 10 03 21.3 -0.4
baz=281
Y47A UCPARC, Winfie 118.39 55 P **PKPdf** 10 03 21.1 -0.6
baz=283
MATP Matopo 118.40 243 PKP **PKPdf** 10 03 21.7 -0.6
comp=Z,2.7nm,0.4s
MATP PP PP 10 04 49.5 +11
comp=Z,2.0nm,0.7s,baz=96,slow=8.3,SNR=4.1
D48A Paudash Townsh 118.50 39 P **PKPdf** 10 03 20.4 -1.2
baz=295
WCI Wyandotte Cave 118.52 49 PFAKE 10 03 30.0 +8.1
WCI LR LR
comp=Z,4µm,19.0s
WCI Wyandotte Cave 118.52 49 P **PKPdf** 10 03 21.1 -0.7
baz=286
E48A Lockeyer 118.56 39 P **PKPdf** 10 03 20.8 -0.9
baz=294
MLR Muntele Rosu 118.63 319 *e*PKPdf **PKPdf** 10 03 21.3 -0.7
MLR LR LR
comp=Z,3µm,20.0s
MLR Muntele Rosu 118.63 319 ⇑*i*P **PKPdf** 10 03 21.8 -0.3
MLR Muntele Rosu 118.63 319 ⇑PKIKP **PKPdf** 10 03 21.8 -0.3
K48A Perry 118.65 44 P **PKPdf** 10 03 21.2 -0.8
baz=290
N48A Decatur 118.66 46 P **PKPdf** 10 03 21.9 -0.1
baz=289
M48A Edgerton 118.68 45 PFAKE 10 03 30.0 +7.9
M48A LR LR
comp=Z,4µm,20.0s
M48A Edgerton 118.68 45 P **PKPdf** 10 03 21.6 -0.4
baz=289
L48A N Adams 118.73 45 P **PKPdf** 10 03 22.0 -0.2
baz=290
Q48A North Vernon 118.74 49 P **PKPdf** 10 03 22.3 0.0
baz=287
MYIG MØrida 118.74 69 PFAKE 10 03 30.0 +7.3
MYIG LR LR
comp=Z,2µm,21.0s
T48A Bowling Green 118.75 51 P **PKPdf** 10 03 21.9 -0.4
baz=286
O48A Farmland 118.76 47 P **PKPdf** 10 03 21.9 -0.4
baz=288
V48A Smith Brothers 118.77 52 PFAKE 10 03 30.0 +7.5
V48A LR LR
comp=Z,5µm,19.0s
V48A Smith Brothers 118.77 52 P **PKPdf** 10 03 22.1 -0.4
baz=285
U48A Cassie Pea, Po 118.79 51 P **PKPdf** 10 03 22.0 -0.5
baz=285
P48A Milroy 118.81 48 P **PKPdf** 10 03 22.0 -0.4
baz=288
KWP Kalwaria Pacla 118.83 325 *e*PKP **PKPdf** 10 03 17.6 -4.5
KWP Kalwaria Pacla 118.83 325 PFAKE 10 03 30.0 +7.9
KWP LR LR
comp=Z,3µm,22.0s
KWP Kalwaria Pacla 118.83 325 *e*PKIKP **PKPdf** 10 03 17.6 -4.5
W48A Pulaski 118.83 53 P **PKPdf** 10 03 22.0 -0.6
baz=284
S48A Wiedeman Farm, 118.86 50 P **PKPdf** 10 03 21.3 -1.2
baz=286
248A Dixon Mills 118.87 57 P **PKPdf** 10 03 22.7 0.0
baz=282
348A Jackson 118.87 57 PFAKE 10 03 30.0 +7.3
348A LR LR
comp=Z,2µm,20.0s
148A Greensboro 118.89 56 P **PKPdf** 10 03 22.9 +0.1
baz=283
X48A Hartselle 118.91 54 PFAKE 10 03 30.0 +7.3
X48A LR LR
comp=Z,3µm,19.0s
X48A Hartselle 118.91 54 P **PKPdf** 10 03 21.8 -0.9
baz=284
KONO Kongsberg 118.96 339 PFAKE 10 03 30.0 +7.9
KONO LR LR
comp=Z,3µm,20.0s
L49A Milan 119.14 45 P **PKPdf** 10 03 22.7 -0.2
baz=290
AAM Ann Arbor 119.15 44 PFAKE 10 03 30.0 +7.1
AAM LR LR
comp=Z,5µm,21.0s
AAM Ann Arbor 119.15 44 P **PKPdf** 10 03 22.1 -0.8
baz=291
M49A Liberty Center 119.21 45 P **PKPdf** 10 03 22.7 -0.4
baz=290
VOIR 119.23 320 ⇑*i*P **PKPdf** 10 03 24.3 +1.2
VOIR 119.23 320 ⇑PKIKP **PKPdf** 10 03 24.3 +1.2
N49A Columbus Grove 119.25 46 *e*PKPdf **PKPdf** 10 03 23.0 -0.2
N49A LR LR
comp=Z,4µm,18.0s
N49A Columbus Grove 119.25 46 P **PKPdf** 10 03 23.5 +0.3
baz=290
LRAL Lakeview Retre 119.28 55 PFAKE 10 03 40.0 +17
LRAL LR LR
comp=Z,3µm,20.0s
LRAL Lakeview Retre 119.28 55 P **PKPdf** 10 03 22.9 -0.5
baz=283
LBTB Lobatse 119.30 237 PKKPbc PKKPbc 10 13 37.2 +0.4
comp=Z,5.5nm,1.1s,baz=332,slow=6.2,SNR=3.8
LBTB Lobatse 119.30 237 *e*PKPdf **PKPdf** 10 03 23.9 0.0
LBTB PKKPbc **PKKPbc** 10 13 37.2 +0.4
LBTB Lobatse 119.30 237 *e*PKIKP **PKPdf** 10 03 23.9 0.0
P49A Miami Univ. Ec 119.30 48 P **PKPdf** 10 03 22.6 -0.7
baz=288
R49A Shelbyville 119.34 49 P **PKPdf** 10 03 22.7 -0.7
baz=287
W49A Belvidere 119.37 53 P **PKPdf** 10 03 23.1 -0.5
baz=285
O49A Covington 119.38 47 *e*PKPdf **PKPdf** 10 03 23.7 +0.2
O49A LR LR
comp=Z,3µm,19.0s
O49A Covington 119.38 47 P **PKPdf** 10 03 23.1 -0.4
baz=289
U49A Red Boiling Sp 119.38 51 P **PKPdf** 10 03 23.1 -0.5
baz=286
S49A Springfield 119.40 50 P **PKPdf** 10 03 23.3 -0.3
baz=287
249A Camden 119.41 57 P **PKPdf** 10 03 24.1 +0.3
baz=282
T49A Edmonton 119.41 50 PFAKE 10 03 40.0 +16
T49A LR LR
comp=Z,6µm,20.0s
T49A Edmonton 119.41 50 P **PKPdf** 10 03 23.4 -0.2
baz=286
X49A Woodville 119.47 54 P **PKPdf** 10 03 23.7 -0.1
baz=284
E50A Wahnapitae 119.48 39 P **PKPdf** 10 03 22.9 -0.6
baz=295
349A Repton 119.48 57 P **PKPdf** 10 03 22.4 -1.5
baz=282
V49A McMinnville 119.49 52 P **PKPdf** 10 03 22.7 -1.1
baz=285
ARR Arges 119.53 320 ⇑*i*P **PKPdf** 10 03 24.2 +0.5
UZH Uzhgorod 119.54 324 *e*PKIKP **PKPdf** 10 03 22.5 -1.0
UZH *e* 10 03 36.7
UZH *e* 10 14 39.4
149A Jones 119.54 56 P **PKPdf** 10 03 23.1 -0.9
baz=283
Y49A Blount Mountai 119.56 54 PFAKE 10 03 40.0 +16
Y49A LR LR
comp=Z,5µm,18.0s
Y49A Blount Mountai 119.56 54 P **PKPdf** 10 03 23.6 -0.4

451A	**Vernon**	**120.85**	**58**	PFAKE			10 03 40.0	+13	
451A				LR	LR				
	comp=Z,3µm,20.0s								
LANS	**Liptovska Anna**	**120.91**	**325**	*e*PKIKP	**PKPdf**		**10 03 27.2**	**+1.0**	
LANS	**Liptovska Anna**	**120.91**	**325**	*e*PKP	**PKPdf**		**10 03 27.2**	**+1.0**	
RGN	**Rugen**	**120.92**	**333**	PFAKE			10 03 40.0	+14	
RGN				LR	LR				
	comp=Z,4µm,20.0s								
D53A	**Lac Vacive, Po**	**121.05**	**37**	P	**PKPdf**		**10 03 26.3**	**-0.1**	
	baz=298								
TZTN	**Tazewell**	**121.10**	**51**	PFAKE			10 03 40.0	+13	
TZTN				LR	LR				
	comp=Z,4µm,20.0s								
TZTN	**Tazewell**	**121.10**	**51**	P	**PKPdf**		**10 03 26.8**	**-0.1**	
	baz=288								
HERR	**Herculane**	**121.16**	**320**	⇑*i*P	**PKPdf**		**10 03 26.5**	**-0.2**	
TKL	**Tuckaleechee C**	**121.18**	**52**	PFAKE			10 03 40.0	+13	
TKL				LR	LR				
	comp=Z,3µm,18.0s								
O52A	**Adamsville**	**121.20**	**46**	PFAKE			10 03 40.0	+13	
O52A				LR	LR				
	comp=Z,3µm,20.0s								
O52A	**Adamsville**	**121.20**	**46**	P	**PKPdf**		**10 03 26.5**	**-0.5**	
	baz=291								
R52A	**Catlettsburg**	**121.22**	**48**	P	**PKPdf**		**10 03 26.7**	**-0.4**	
	baz=289								
W52A	**Murphy**	**121.22**	**52**	*e*PKPdf	**PKPdf**		**10 03 27.0**	**-0.2**	
W52A				LR	LR				
	comp=Z,5µm,19.0s								
W52A	**Murphy**	**121.22**	**52**	P	**PKPdf**		**10 03 26.5**	**-0.7**	
	baz=286								
152A	**Waverly Hall**	**121.23**	**55**	PFAKE			10 03 40.0	+13	
152A				LR	LR				
	comp=Z,3µm,22.0s								
152A	**Waverly Hall**	**121.23**	**55**	P	**PKPdf**		**10 03 26.9**	**-0.4**	
	baz=284								
CSGN	**Cosiguina Volc**	**121.26**	**78**	PFAKE			10 03 40.0	+12	
CSGN				LR	LR				
	comp=Z,2µm,19.0s								
V52A	**Sevierville**	**121.27**	**51**	PFAKE			10 03 40.0	+13	
V52A				LR	LR				
	comp=Z,3µm,18.0s								
V52A	**Sevierville**	**121.27**	**51**	P	**PKPdf**		**10 03 26.5**	**-0.7**	
	baz=287								
U52A	**Thorn Hill**	**121.28**	**51**	P	**PKPdf**		**10 03 26.6**	**-0.7**	
	baz=288								
OKC	**Ostrava-Krasne**	**121.29**	**327**	*e*PP	PP		10 05 00.7	+3.5	
OKC				*e*PS	**PS**		**10 14 47.2**	**-3.1**	
OKC				AMS	AMS		10 56 10.0		
	comp=Z,2µm,21.5s								
PSZ	**Piszkesteto**	**121.29**	**324**	*e*PKPdf	**PKPdf**		**10 03 27.0**	**0.0**	
PSZ				LR	LR				
	comp=Z,2µm,20.0s								
PSZ	**Piszkesteto**	**121.29**	**324**	⇑*i*P	**PKPdf**		**10 03 27.0**	**0.0**	
PSZ	**Piszkesteto**	**121.29**	**324**	⇓*e*PKPdf	**PKPdf**		**10 03 26.6**	**-0.4**	
PSZ	**Piszkesteto**	**121.29**	**324**	⇑PKIKP	**PKPdf**		**10 03 27.0**	**0.0**	
Q52A	**Bidwell**	**121.29**	**47**	P	**PKPdf**		**10 03 26.1**	**-1.1**	
	baz=290								
BZS	**Buzias**	**121.33**	**321**	⇑*i*P	**PKPdf**		**10 03 27.1**	**0.0**	
BZS	**Buzias**	**121.33**	**321**	⇑PKIKP	**PKPdf**		**10 03 27.1**	**0.0**	
352A	**Blakely**	**121.34**	**57**	PFAKE			10 03 40.0	+13	
352A				LR	LR				
	comp=Z,3µm,20.0s								
Z52A	**Williamson**	**121.34**	**55**	P	**PKPdf**		**10 03 27.3**	**-0.2**	
	baz=285								
T52A	**Hallie**	**121.36**	**50**	P	**PKPdf**		**10 03 27.0**	**-0.4**	
	baz=288								
252A	**Lumpkin**	**121.38**	**56**	P	**PKPdf**		**10 03 27.0**	**-0.6**	
	baz=284								
X52A	**Dahlonega**	**121.39**	**53**	P	**PKPdf**		**10 03 27.3**	**-0.3**	
	baz=286								
E53A	**Dumoine, Ponti**	**121.40**	**38**	P	**PKPdf**		**10 03 26.6**	**-0.6**	
	baz=298								
Y52A	**Lilburn**	**121.45**	**54**	*e*PKPdf	**PKPdf**		**10 03 27.5**	**-0.1**	
Y52A				LR	LR				
	comp=Z,5µm,19.0s								
Y52A	**Lilburn**	**121.45**	**54**	P	**PKPdf**		**10 03 26.7**	**-0.9**	
	baz=286								
TGUH	**Tegucigalpa,Un**	**121.51**	**77**	PFAKE			10 03 40.0	+12	
TGUH				LR	LR				
	comp=Z,2µm,20.0s								
CHGQ	**Chibougamau**	**121.52**	**33**	P	**PKPdf**		**10 03 26.3**	**-1.0**	
	baz=303								
VTS	**Vitosha**	**121.59**	**317**	*e*PKPdf	**PKPdf**		**10 03 27.4**	**-0.5**	
VTS				*e*PKPdf	**PKPdf**		**10 03 27.5**	**-0.3**	
VTS				LR	LR				
	comp=Z,2µm,21.0s								
VTS	**Vitosha**	**121.59**	**317**	⇓*i*P	**PKPdf**		**10 03 27.6**	**-0.3**	
VTS	**Vitosha**	**121.59**	**317**	P	**PKPdf**		**10 03 27.5**	**-0.3**	
VTS	**Vitosha**	**121.59**	**317**	⇓PKIKP	**PKPdf**		**10 03 27.6**	**-0.3**	
VYHS	**Vyhne**	**121.61**	**325**	*e*PKIKP	**PKPdf**		**10 03 27.5**	**0.0**	
VYHS				*e*			10 05 01.1		
VYHS	**Vyhne**	**121.61**	**325**	*e*PKP	**PKPdf**		**10 03 27.5**	**0.0**	
VYHS				*e*PP	**PP**		**10 05 01.1**	**+1.6**	
D54A	**Lac Fusel, La**	**121.64**	**37**	P	**PKPdf**		**10 03 26.5**	**-1.1**	
	baz=299								
MORC	**Moravsky Berou**	**121.65**	**327**	*e*PKPdf	**PKPdf**		**10 03 28.0**	**+0.4**	
MORC				LR	LR				
	comp=Z,3µm,20.0s								
MORC	**Moravsky Berou**	**121.65**	**327**	⇑*i*P	**PKPdf**		**10 03 28.0**	**+0.4**	
MORC	**Moravsky Berou**	**121.65**	**327**	⇑PKIKP	**PKPdf**		**10 03 28.0**	**+0.4**	
MORC	**Moravsky Berou**	**121.65**	**327**	*e*PKP	**PKPdf**		**10 03 28.0**	**+0.4**	
E54A	**Lac Daplat, Po**	**121.67**	**38**	P	**PKPdf**		**10 03 26.5**	**-1.1**	
	baz=298								
KSP	**Ksiaz**	**121.72**	**328**	*e*PKP	**PKPdf**		**10 03 28.0**	**+0.3**	
KSP	**Ksiaz**	**121.72**	**328**	*e*PKIKP	**PKPdf**		**10 03 28.0**	**+0.3**	
AMGA	**Amorgos Island**	**121.72**	**310**	P	**PKPdf**		**10 03 26.5**	**-1.6**	
ERPA	**Erie**	**121.74**	**43**	PFAKE			10 03 40.0	+12	
ERPA				LR	LR				
	comp=Z,6µm,21.0s								
P53A	**Whipple**	**121.75**	**47**	*e*PKPdf	**PKPdf**		**10 03 27.0**	**-1.0**	
P53A				LR	LR				
	comp=Z,3µm,18.0s								
P53A	**Whipple**	**121.75**	**47**	P	**PKPdf**		**10 03 27.9**	**-0.1**	
	baz=291								
W53A	**Cullowhee**	**121.80**	**52**	P	**PKPdf**		**10 03 28.6**	**+0.2**	
	baz=287								
Y53A	**Monroe**	**121.84**	**54**	P	**PKPdf**		**10 03 28.5**	**+0.1**	
	baz=286								
253A	**Americus**	**121.86**	**56**	PFAKE			10 03 40.0	+12	
253A				LR	LR				
	comp=Z,3µm,21.0s								
253A	**Americus**	**121.86**	**56**	P	**PKPdf**		**10 03 28.3**	**-0.2**	
	baz=284								
BANO	**Bancroft**	**121.86**	**39**	P	**PKPdf**		**10 03 27.9**	**-0.2**	
	baz=297								
X53A	**Estanollee**	**121.88**	**53**	P	**PKPdf**		**10 03 27.6**	**-0.9**	
	baz=287								
KRLC	**Kraliky**	**121.89**	**327**	*e*PKP	**PKPdf**		**10 03 26.4**	**-1.7**	
KRLC	**Kraliky**	**121.89**	**327**	*e*PKIKP	**PKPdf**		**10 03 26.4**	**-1.7**	
U53A	**Fall Branch**	**121.90**	**50**	P	**PKPdf**		**10 03 28.9**	**+0.4**	
	baz=288								
V53A	**Saluda**	**121.93**	**51**	PFAKE			10 03 40.0	+11	
V53A				LR	LR				
	comp=Z,3µm,21.0s								
V53A	**Saluda**	**121.93**	**51**	P	**PKPdf**		**10 03 28.5**	**-0.1**	
	baz=288								
DPC	**Dobruska-Polom**	**121.98**	**328**	*e*PKP	**PKPdf**		**10 03 29.1**	**+0.9**	
DPC				*e*PP	**PP**		**10 05 03.0**	**+1.0**	
DPC				*e*PS	**PS**		**10 14 55.2**	**-1.4**	
DPC				*e*SS	SS		10 21 44.6	+6.0	
DPC				AMS	AMS		10 57 00.0		
	comp=Z,3µm,23.2s								
DPC	**Dobruska-Polom**	**121.98**	**328**	*e*PKIKP	**PKPdf**		**10 03 29.1**	**+0.9**	
DPC				*e*			10 05 03.0		
DPC				*e*PS	**PS**		**10 14 55.2**	**-1.4**	
DPC				MLR	MLR				
	comp=Z,3µm,23.2s								
PEMO	**Pembroke**	**121.99**	**39**	P	**PKPdf**		**10 03 27.5**	**-0.8**	
	baz=298								
453A	**Whigham**	**121.99**	**57**	PFAKE			10 03 40.0	+11	
453A				LR	LR				
	comp=Z,4µm,19.0s								
Z53A	**Monticello**	**122.00**	**54**	P	**PKPdf**		**10 03 28.6**	**-0.1**	
	baz=286								
BG3	**Lake Jocassee**	**122.03**	**52**	PFAKE			10 03 40.0	+11	
BG3				LR	LR				
	comp=Z,5µm,19.0s								
GOGA	**Godfrey**	**122.05**	**54**	PFAKE			10 03 40.0	+11	
GOGA				LR	LR				
	comp=Z,4µm,20.0s								
GOGA	**Godfrey**	**122.05**	**54**	P	**PKPdf**		**10 03 28.7**	**-0.1**	
	baz=286								
UPC	**Upice**	**122.06**	**328**	*e*PP	PP		10 05 03.3	+0.8	
UPC				*e*PS	**PS**		**10 14 52.0**	**-5.1**	
UPC				*e*SS	SS		10 21 48.7	+9.3	
UPC				AMS	AMS		10 57 00.0		
	comp=Z,4µm,20.4s								
JAVC	**Velka Javorina**	**122.07**	**326**	*e*PKP	**PKPdf**		**10 03 29.8**	**+1.3**	
SCHQ	**Schefferville**	**122.14**	**25**	PKP	**PKPdf**		**10 03 28.1**	**-0.2**	
	comp=Z,8.3nm,1.1s,baz=162,slow=2.2,SNR=2.5								
N54A	**Moraine State**	**122.19**	**45**	PFAKE			10 03 40.0	+11	
N54A				LR	LR				
	comp=Z,6µm,18.0s								
N54A	**Moraine State**	**122.19**	**45**	P	**PKPdf**		**10 03 28.5**	**-0.4**	
	baz=293								
SANT	**Santorini**	**122.20**	**310**	*e*PKPdf	**PKPdf**		**10 03 28.1**	**-1.0**	
M54A	**Oil Creek Stat**	**122.20**	**44**	*e*PKPdf	**PKPdf**		**10 03 28.6**	**-0.3**	
M54A				LR	LR				
	comp=Z,6µm,20.0s								
M54A	**Oil Creek Stat**	**122.20**	**44**	P	**PKPdf**		**10 03 28.4**	**-0.5**	
	baz=294								
IOSP	**Ios island**	**122.22**	**310**	P	**PKPdf**		**10 03 27.6**	**-1.4**	
GO05	**HualaæØ**	**122.34**	**138**	PFAKE			10 03 40.0	+11	
GO05				LR	LR				
	comp=Z,1µm,20.0s								
MEDO	**Medina**	**122.34**	**42**	P	**PKPdf**		**10 03 30.0**	**+0.9**	
	baz=296								
KNT	**Kendrikon**	**122.38**	**316**	P	**PKPdf**		**10 03 28.2**	**-1.0**	
KNT	**Kendrikon**	**122.38**	**316**	P	**PKPdf**		**10 03 28.2**	**-1.0**	
KNT	**Kendrikon**	**122.38**	**316**	PKIKP	**PKPdf**		**10 03 28.2**	**-1.0**	
PLVO	**Plevna**	**122.39**	**39**	*e*PKPdf	**PKPdf**		**10 03 29.5**	**+0.3**	
PLVO	**Plevna**	**122.39**	**39**	P	**PKPdf**		**10 03 28.9**	**-0.2**	
	baz=298								
ESTN	**Estel**	**122.41**	**78**	PFAKE			10 03 40.0	+10	
ESTN				LR	LR				
	comp=Z,2µm,22.0s								
VRAC	**Vranov**	**122.42**	**327**	*e*PKP	**PKPdf**		**10 03 29.2**	**+0.1**	
AOS	**Alonnisos**	**122.43**	**313**	P	**PKPdf**		**10 03 27.2**	**-2.2**	
AOS	**Alonnisos**	**122.43**	**313**	P	**PKPdf**		**10 03 27.2**	**-2.2**	
TIGA	**Tifton**	**122.46**	**56**	PFAKE			10 03 40.0	+10	
TIGA				LR	LR				
	comp=Z,3µm,20.0s								
TIGA	**Tifton**	**122.46**	**56**	P	**PKPdf**		**10 03 29.3**	**-0.3**	
	baz=284								
VAY	**Valandovo**	**122.54**	**316**	*i* P	**PKPdf**		**10 03 28.6**	**-0.9**	
Y54A	**Tignall**	**122.55**	**53**	P	**PKPdf**		**10 03 29.8**	**+0.1**	
	baz=287								
MODS	**Modra-Piesok**	**122.55**	**326**	*e*PKIKP	**PKPdf**		**10 03 28.8**	**-0.6**	
MODS	**Modra-Piesok**	**122.55**	**326**	*e*PKP	**PKPdf**		**10 03 28.8**	**-0.6**	
154A	**Montrose**	**122.56**	**55**	PFAKE			10 03 40.0	+10	
154A				LR	LR				
	comp=Z,4µm,20.0s								
LAST	**Lasithi**	**122.56**	**308**	*e*PKPdf	**PKPdf**		**10 03 29.6**	**-0.3**	
LAST	**Lasithi**	**122.56**	**308**	P	**PKPdf**		**10 03 29.6**	**-0.3**	
KRUC	**Moravsky**	**122.67**	**327**	*e*PKP	**PKPdf**		**10 03 29.7**	**+0.2**	
FRGS	**Fruska Gora**	**122.68**	**321**	⇑*i*P	**PKPdf**		**10 03 29.5**	**-0.2**	
HODGE	**Hodges**	**122.79**	**53**	PFAKE			10 03 40.0	+10	
HODGE				LR	LR				
	comp=Z,3µm,19.0s								
MCWV	**Mont Chateau**	**122.79**	**46**	PFAKE			10 03 40.0	+10	
MCWV				LR	LR				
	comp=Z,2µm,19.0s								
PVCC	**Panska Ves**	**122.80**	**329**	*e*PP	PP		10 05 09.4	+2.0	
PVCC				*e*PS	**PS**		**10 14 57.4**	**-6.2**	
PVCC				*e*SS	SS		10 22 39.7	+51	
PVCC				AMS	AMS		10 59 00.0		
	comp=Z,3µm,20.8s								
MORH	**M¯‡r¡gy, Hung**	**122.88**	**323**	⇓*e*PKPdf	**PKPdf**		**10 03 29.6**	**-0.4**	
MORH	**M¯‡r¡gy, Hung**	**122.88**	**323**	⇑*i*P	**PKPdf**		**10 03 29.7**	**-0.3**	
MMNY	**Mt. Morris Dam**	**122.89**	**42**	PFAKE			10 03 40.0	+10	
MMNY				LR	LR				
	comp=Z,5µm,18.0s								
BRG	**Berggiesshubel**	**122.91**	**329**	*i* PKP	**PKPdf**		**10 03 29.8**	**-0.1**	
	comp=Z,49nm,1.2s								
BRG				*e*			10 03 40.9		
	comp=Z,35nm,1.1s								
BRG				PP	**PP**		**10 05 09.0**	**+0.8**	
BRG				PS	**PS**		**10 15 01.0**	**-3.6**	
BRG				SS	SS		10 22 12.0	+22	
	comp=Z,3µm,18.3s								
	comp=N,2µm,18.3s								
	comp=E,2µm,18.3s								
BRG	**Berggiesshubel**	**122.91**	**329**	*i* PKIKP	**PKPdf**		**10 03 29.8**	**-0.1**	
BRG				*e*			10 03 40.9		
BRG							10 05 09.0		
BRG				PS	**PS**		**10 15 01.0**	**-3.6**	
BRG				SS	SS		10 22 12.0	+22	
BRG				pmax	pmax				
	comp=Z,5.0nm,1.2s								
BRG				MLR	MLR				
	comp=N,3µm,18.3s								
BRG				MLR	MLR				
	comp=E,2µm,18.3s								
BRG				MLR	MLR				
	comp=Z,49µm,18.3s								
PAULI	**Pauline**	**122.96**	**52**	PFAKE			10 03 40.0	+9.5	
PAULI				LR	LR				
	comp=Z,3µm,20.0s								
TIH	**Tihany**	**122.97**	**324**	⇓*e*PKPdf	**PKPdf**		**10 03 29.9**	**-0.3**	
IDI	**Anoyia**	**122.98**	**309**	PKKPbc	PKKPbc		10 13 23.3	+0.2	
	comp=Z,9.4nm,0.7s,baz=281,slow=16,SNR=4.7								
IDI	**Anoyia**	**122.98**	**309**	*e*PKPdf	**PKPdf**		**10 03 30.3**	**-0.4**	
IDI				PKKPbc	**PKKPbc**		**10 13 23.2**	**+0.2**	
IDI	**Anoyia**	**122.98**	**309**	⇓*i*P	**PKPdf**		**10 03 30.6**	**0.0**	
TREC	**Trest**	**123.03**	**327**	AMS	AMS		10 57 10.0		
	comp=Z,3µm,24.5s								
SKO	**Skopje**	**123.04**	**317**	*i* P	**PKPdf**		**10 03 30.1**	**-0.3**	
DIVS	**Divibare**	**123.06**	**320**	*e*PKPdf	**PKPdf**		**10 03 29.9**	**-0.7**	
DIVS				LR	LR				
	comp=Z,1µm,19.0s								
DIVS	**Divibare**	**123.06**	**320**	⇑*i*P	**PKPdf**		**10 03 30.8**	**+0.3**	
155A	**Kite**	**123.07**	**55**	P	**PKPdf**		**10 03 31.0**	**+0.3**	
	baz=286								
LIT	**Litokhoron**	**123.08**	**315**	*e*PKPdf	**PKPdf**		**10 03 29.3**	**-1.3**	
LIT				*e*PKPdf	**PKiKP**		**10 03 29.8**	**-1.1**	
LIT	**Litokhoron**	**123.08**	**315**	P	**PKPdf**		**10 03 29.3**	**-1.3**	
LIT	**Litokhoron**	**123.08**	**315**	*e*PKIKP	**PKPdf**		**10 03 29.3**	**-1.3**	
CLL	**Collm**	**123.11**	**330**	*e*PKPdf	**PKPdf**		**10 03 30.5**	**+0.2**	
CLL				LR	LR				
	comp=Z,3µm,19.0s								
CLL	**Collm**	**123.11**	**330**	⇓*i*PKPdf	**PKPdf**		**10 03 29.9**	**-0.4**	
	comp=Z,32nm,1.0s								
CLL				*e*sPKPdf	**pPKPdf**		**10 03 36.0**	**-2.0**	
CLL				*i*			10 03 43.1		
CLL				*e*PP	**PP**		**10 05 08.0**	**-1.5**	
CLL				*e*			10 06 45.0		
CLL				*e*PPP	PPP		10 07 42.0		
CLL				*e*			10 09 24.0		
CLL				*e*SKSac	**SKSac**		**10 10 30.0**	**-0.3**	
CLL				*e*SKKSac	**SKKSac**		**10 12 06.0**	**-1.6**	
CLL				*e*			10 14 38.0		
CLL				*e*PS	**PS**		**10 15 03.0**	**-3.4**	
CLL				*e*PPS	PPS		10 16 29.0		
CLL				*e*			10 17 12.0		
CLL				*e*SS	**SS**		**10 21 42.0**	**-11**	
CLL				*e*SSS	SSS		10 26 12.0		
CLL				*e*			10 27 54.0		
CLL				*e*SSSS			10 30 24.0		
CLL				LmH			10 59 00.0		
	comp=N,2µm,20.1s								
CLL				LmH			10 59 00.0		
	comp=E,1µm,20.0s								
CLL				LmV			11 00 00.0		
	comp=N,2µm,20.3s								
CLL				LmV			11 00 00.0		
	comp=E,2µm,20.1s								
CLL				LmV			11 00 00.0		
	comp=Z,3µm,18.7s								
CLL	**Collm**	**123.11**	**330**	⇓*i*PKIKP	**PKPdf**		**10 03 29.9**	**-0.4**	
CLL				*i*			10 03 39.4		
CLL				*i*			10 03 43.1		
CLL				*e*			10 05 08.0		
CLL				pmax	pmax				
	comp=Z,32nm,1.0s								
CLL				MLR	MLR				
	comp=Z,3µm,18.7s								
PRA	**Prague**	**123.14**	**328**	*e*PS	PS		10 15 02.1	-4.6	
PRA				AMS	AMS		10 59 10.0		
	comp=Z,3µm,20.8s								
KMSC	**Kings Mountain**	**123.24**	**51**	PFAKE			10 03 40.0	+8.9	
KMSC				LR	LR				
	comp=Z,5µm,21.0s								
KMSC	**Kings Mountain**	**123.24**	**51**	P	**PKPdf**		**10 03 30.6**	**-0.5**	
	baz=288								
255A	**Hazlehurst**	**123.25**	**55**	PFAKE			10 03 40.0	+8.9	
255A				LR	LR				
	comp=Z,3µm,18.0s								
BLA	**Blacksburg**	**123.26**	**49**	PFAKE			10 03 40.0	+8.9	
BLA				LR	LR				
	comp=Z,5µm,20.0s								
BLA	**Blacksburg**	**123.26**	**49**	P	**PKPdf**		**10 03 30.6**	**-0.5**	
	baz=290								
LKR	**Lokris**	**123.26**	**313**	P	**PKPdf**		**10 03 29.1**	**-1.9**	
LKR	**Lokris**	**123.26**	**313**	P	**PKPdf**		**10 03 29.1**	**-1.9**	
555A	**McAlpin**	**123.30**	**58**	PFAKE			10 03 40.0	+8.7	
555A				LR	LR				
	comp=Z,3µm,20.0s								
SOP	**Sopron**	**123.33**	**325**	⇓*e*PKPdf	**PKPdf**		**10 03 30.9**	**+0.1**	
KRUS	**Krusevo**	**123.43**	**317**	*i* P	**PKPdf**		**10 03 30.6**	**-0.7**	
ALFO	**Alfred**	**123.46**	**38**	P	**PKPdf**		**10 03 31.0**	**-0.1**	
	baz=300								
O56A	**Blue Knob Stat**	**123.46**	**45**	PFAKE			10 03 40.0	+8.6	
O56A				LR	LR				
	comp=Z,5µm,18.0s								
DID	**Didima**	**123.50**	**312**	P	**PKPdf**		**10 03 29.7**	**-1.8**	
DID	**Didima**	**123.50**	**312**	P	**PKPdf**		**10 03 29.7**	**-1.8**	
BIA	**Bitola**	**123.52**	**316**	*i* P	**PKPdf**		**10 03 31.2**	**-0.2**	
BBLS	**Lazići**	**123.54**	**320**	⇑*i*P	**PKPdf**		**10 03 31.9**	**+0.4**	
JSC	**Jenkinsville**	**123.56**	**52**	PFAKE			10 03 40.0	+8.3	
JSC				LR	LR				
	comp=Z,4µm,19.0s								
FNA	**Florina**	**123.58**	**316**	*e*PKPdf	**PKPdf**		**10 03 30.5**	**-1.1**	
FNA				LR	LR				
	comp=Z,1µm,21.0s								
FNA	**Florina**	**123.58**	**316**	P	**PKPdf**		**10 03 30.5**	**-1.1**	
CONA	**Conrad Observa**	**123.59**	**326**	*i* PKiKP	**PKPdf**		**10 03 31.6**	**+0.1**	
	comp=Z,33nm,1.6s,SNR=6.2								
AGG	**Agios Georgios**	**123.61**	**314**	*e*PKPdf	**PKPdf**		**10 03 30.3**	**-1.4**	
AGG				*e*PKPdf	**PKiKP**		**10 03 30.9**	**-1.0**	
AGG	**Agios Georgios**	**123.61**	**314**	P	**PKPdf**		**10 03 30.3**	**-1.4**	
AGG	**Agios Georgios**	**123.61**	**314**	*e*PKIKP	**PKPdf**		**10 03 30.3**	**-1.4**	
IMMV	**Iera Moni Meta**	**123.63**	**309**	P	**PKPdf**		**10 03 31.4**	**-0.4**	
HAPS	**Han Pijesak,Bl**	**123.72**	**320**	*e*P	**PKPdf**		**10 03 30.8**	**-1.1**	
MAKR	**Makrakomi, Fth**	**123.75**	**314**	*e*PKPdf	**PKPdf**		**10 03 31.4**	**-0.6**	
MAKR	**Makrakomi, Fth**	**123.75**	**314**	P	**PKPdf**		**10 03 31.4**	**-0.6**	
SSPA	**Standing Stone**	**123.79**	**44**	*e*PKPdf	**PKPdf**		**10 03 31.8**	**-0.1**	
SSPA				LR	LR				
	comp=Z,6µm,18.0s								
SSPA	**Standing Stone**	**123.79**	**44**	P	**PKPdf**		**10 03 31.2**	**-0.8**	
	baz=295								
PHP	**Peshkopia**	**123.84**	**317**	*e*PKPdf	**PKPdf**		**10 03 31.3**	**-0.8**	
PHP	**Peshkopia**	**123.84**	**317**	P	**PKPdf**		**10 03 31.3**	**-0.8**	
PHP	**Peshkopia**	**123.84**	**317**	*e*PKIKP	**PKPdf**		**10 03 31.3**	**-0.8**	
OHR	**Ohrid**	**123.84**	**317**	*i* P	**PKPdf**		**10 03 31.6**	**-0.5**	
656A	**Willston**	**123.84**	**58**	PFAKE			10 03 40.0	+7.7	
656A				LR	LR				
	comp=Z,4µm,19.0s								
GUR	**Goura**	**124.00**	**312**	*e*PKPdf	**PKPdf**		**10 03 31.6**	**-1.0**	
GUR	**Goura**	**124.00**	**312**	P	**PKPdf**		**10 03 31.6**	**-1.0**	
NKC	**Novy Kostel**	**124.06**	**330**	*e*PKP	**PKPdf**		**10 03 32.8**	**+0.6**	
NKC				*e*PP	**PP**		**10 05 17.1**	**+1.2**	
NKC				*e*PS	**PS**		**10 15 17.7**	**+2.9**	
NKC				*e*x	x		10 22 31.4		
NKC				AMS	AMS		10 58 20.0		
	comp=Z,4µm,18.9s								
NKC	**Novy Kostel**	**124.06**	**330**	*e*PKIKP	**PKPdf**		**10 03 32.8**	**+0.6**	
NKC				*e*			10 05 17.1		
NKC				*e*PS	**PS**		**10 15 17.7**	**+2.9**	
NKC				*e*SS	SS		10 22 31.4	+27	
NKC				MLR	MLR				
	comp=Z,4µm,18.9s								
ANX	**Ano Chora**	**124.06**	**313**	P	**PKPdf**		**10 03 32.6**	**-0.1**	
KLV	**Kalavryta, Ach**	**124.11**	**313**	P	**PKPdf**		**10 03 31.8**	**-0.9**	
KLV	**Kalavryta, Ach**	**124.11**	**313**	P	**PKPdf**		**10 03 31.8**	**-0.9**	
KHC	**Kasperske Hory**	**124.14**	**328**	*e*PKPdf	**PKPdf**		**10 03 32.7**	**+0.3**	
KHC				LR	LR				
	comp=Z,1µm,20.0s								
KHC	**Kasperske Hory**	**124.14**	**328**	*e*PKP	**PKPdf**		**10 03 32.7**	**+0.3**	
KHC				*e*x	x		10 03 44.5		
KHC				*e*PP	**PP**		**10 05 15.3**	**-1.3**	
KHC				*e*PS	**PS**		**10 15 12.0**	**-3.7**	
KHC				*e*SS	SS		10 22 15.1	+9.2	
KHC				AMS	AMS		10 57 40.0		
	comp=Z,3µm,21.7s								
KHC	**

CRES	**Cresnjev**	**124.97**	**324**	⇑*iP*		**PKPdf**	**10 03 34.1**	**0.0**		
GRFO	**Grafenberg**	**125.01**	**330**	PFAKE			10 03 50.0	+16		
GRFO				LR	LR					
	comp=Z,2µm,21.0s									
SDMD	**Soldier's Deli**	**125.03**	**45**	PFAKE			10 03 50.0	+16		
SDMD				LR	LR					
	comp=Z,2µm,18.0s									
DWPF	**Disney Wildern**	**125.08**	**60**	PFAKE			10 03 50.0	+15		
DWPF				LR	LR					
	comp=Z,4µm,20.0s									
N59A	**State Game Lan**	**125.12**	**43**	*e*PKPdf		**PKPdf**	**10 03 35.2**	**+0.6**		
N59A				LR	LR					
	comp=Z,6µm,18.0s									
N59A	**State Game Lan**	**125.12**	**43**	P		**PKPdf**	**10 03 33.9**	**-0.6**		
	baz=297									
MVL	**Millersville**	**125.12**	**44**	*e*PKPdf		**PKPdf**	**10 03 35.3**	**+0.8**		
OBKA	**Obir**	**125.12**	**325**	*i* PKPdf		**PKPdf**	**10 03 33.9**	**-0.5**		
	comp=Z,35nm,1.4s									
CBN	**Corbin Frederi**	**125.13**	**47**	PFAKE			10 03 50.0	+15		
CBN				LR	LR					
	comp=Z,5µm,20.0s									
MOQ	**Mont Orford**	**125.21**	**37**	*e*PKPdf		**PKPdf**	**10 03 34.9**	**+0.3**		
BOJS	**Bojanci**	**125.27**	**324**	*e*PKPdf		**PKPdf**	**10 03 34.7**	**+0.1**		
BOJS	**Bojanci**	**125.27**	**324**	*e*PKPdf		**PKPdf**	**10 03 34.7**	**+0.1**		
ACCN	**Adirondack Com**	**125.33**	**39**	PFAKE			10 03 50.0	+15		
ACCN				LR	LR					
	comp=Z,3µm,18.0s									
VISS	**Visnje**	**125.35**	**324**	*e*PKPdf		**PKPdf**	**10 03 34.6**	**-0.1**		
VISS	**Visnje**	**125.35**	**324**	*e*PKPdf		**PKPdf**	**10 03 34.6**	**-0.1**		
LJU	**Ljubljana**	**125.40**	**324**	*e*PKPdf		**PKPdf**	**10 03 35.0**	**+0.2**		
LJU	**Ljubljana**	**125.40**	**324**	*e*PKPdf		**PKPdf**	**10 03 35.0**	**+0.2**		
LJU	**Ljubljana**	**125.40**	**324**	⇑*iP*		**PKPdf**	**10 03 35.1**	**+0.2**		
KBA	**Koelnbreinsper**	**125.48**	**326**	*i* PKPdf		**PKPdf**	**10 03 34.4**	**-0.8**		
	comp=Z,30nm,1.2s,SNR=5.7									
LUPA	**Lehigh Univers**	**125.53**	**43**	PFAKE			10 03 50.0	+15		
LUPA				LR	LR					
	comp=Z,500nm,18.0s									
WTSB	**Winterswijk**	**125.56**	**334**	*e*PKPdf		**PKPdf**	**10 03 35.5**	**+0.5**		
MYKA	**Terra Mystica**	**125.57**	**325**	*i* PKPdf		**PKPdf**	**10 03 34.4**	**-0.8**		
	comp=Z,26nm,1.4s									
CEY	**Cerknica**	**125.63**	**324**	⇑*iP*		**PKPdf**	**10 03 34.4**	**-0.9**		
TRY	**Troy**	**125.66**	**40**	*e*PKPdf		**PKPdf**	**10 03 35.9**	**+0.4**		
PSUB	**Penn St. - Bra**	**125.77**	**44**	PFAKE			10 03 50.0	+14		
PSUB				LR	LR					
	comp=Z,5µm,18.0s									
ODNJ	**Ogdensburg**	**125.83**	**42**	PFAKE			10 03 50.0	+14		
ODNJ				LR	LR					
	comp=Z,6µm,22.0s									
CNNC	**Cliffs of the**	**125.86**	**50**	PFAKE			10 03 50.0	+14		
CNNC				LR	LR					
	comp=Z,4µm,18.0s									
GO04	**Tololo Observa**	**125.88**	**134**	*e*PKPdf		**PKPdf**	**10 03 36.4**	**-0.2**		
LBNH	**Lisbon**	**125.98**	**38**	PFAKE			10 03 50.0	+14		
LBNH				LR	LR					
	comp=Z,4µm,20.0s									
LBNH	**Lisbon**	**125.98**	**38**	P		**PKPdf**	**10 03 35.4**	**-0.6**		
	baz=302									
TRI	**Trieste**	**126.03**	**324**	PFAKE			10 03 50.0	+14		
TRI				LR	LR					
	comp=Z,3µm,20.0s									
HNH	**Hanover**	**126.04**	**38**	*e*PKPdf		**PKPdf**	**10 03 36.7**	**+0.5**		
BRNJ	**Basking Ridge**	**126.04**	**43**	PFAKE			10 03 50.0	+14		
BRNJ				LR	LR					
	comp=Z,6µm,21.0s									
061Z	**Ochoppi**	**126.04**	**62**	PFAKE			10 03 50.0	+13		
061Z				LR	LR					
	comp=Z,3µm,19.0s									
ABTA	**Abfaltersbach**	**126.14**	**326**	*i* PKPdf		**PKPdf**	**10 03 35.9**	**-0.5**		
	comp=Z,54nm,1.2s,SNR=7.4									
060A	**Indiantown**	**126.26**	**61**	PFAKE			10 03 50.0	+13		
060A				LR	LR					
	comp=Z,3µm,20.0s									
WATA	**Walderalm**	**126.29**	**327**	*i* PKiKP		**PKPdf**	**10 03 36.8**	**0.0**		
	comp=Z,41nm,1.1s									
WTTA	**Wattenberg**	**126.31**	**327**	*i* PKiKP		**PKPdf**	**10 03 36.9**	**+0.1**		
	comp=Z,75nm,1.3s,SNR=14									
PAL	**Palisades**	**126.33**	**42**	PFAKE			10 03 50.0	+13		
PAL				LR	LR					
	comp=Z,5µm,22.0s									
TRQA	**Tornquist**	**126.37**	**147**	*e*PKPdf		**PKPdf**	**10 03 37.6**	**+0.5**		
TRQA				LR	LR					
	comp=Z,2µm,19.0s									
TRQA	**Tornquist**	**126.37**	**147**	*e*PKIKP		**PKPdf**	**10 03 37.6**	**+0.5**		
TRQA				MLR	MLR					
	comp=Z,2µm,19.0s									
CPNY	**Central Park**	**126.40**	**42**	PFAKE			10 03 50.0	+13		
CPNY				LR	LR					
	comp=Z,6µm,21.0s									
MOTA	**Moosalm**	**126.54**	**327**	*i* PKiKP		**PKPdf**	**10 03 37.1**	**-0.1**		
	comp=Z,44nm,1.0s,SNR=9.2									
SQTA	**Sankt Quirin**	**126.56**	**327**	*i* PKiKP		**PKPdf**	**10 03 37.2**	**-0.1**		
	comp=Z,54nm,1.2s,SNR=8.3									
LCO	**Las Campanas**	**126.59**	**133**	*e*PKPdf		**PKPdf**	**10 03 38.7**	**+0.6**		
STU	**Stuttgart**	**126.62**	**330**	PFAKE			10 03 50.0	+13		
STU				LR	LR					
	comp=Z,3µm,20.0s									
RETA	**Reutte**	**126.64**	**328**	*i* PKiKP		**PKPdf**	**10 03 37.2**	**-0.1**		
	comp=Z,31nm,1.4s									
HGN	**Heimansgroeve**	**126.80**	**333**	*e*PKPdf		**PKPdf**	**10 03 37.3**	**0.0**		
MATE	**Matera**	**126.82**	**318**	⇑*iP*		**PKPdf**	**10 03 37.3**	**-0.4**		
YLE	**Yale**	**126.83**	**41**	PFAKE			10 03 50.0	+12		
YLE				LR	LR					
	comp=Z,5µm,18.0s									
PQI	**Presque Isle**	**126.85**	**33**	*e*PKPdf		**PKPdf**	**10 03 37.7**	**+0.1**		
MEM	**Membach**	**126.87**	**333**	⇑PKiKP		**PKiKP**	**10 03 38.0**	**0.0**		
FETA	**Feichten**	**126.94**	**327**	*i* PKiKP		**PKiKP**	**10 03 38.4**	**-0.1**		
	comp=Z,56nm,1.1s,SNR=16									
PKME	**Peaks-Kenny Pk**	**126.97**	**35**	*e*PKPdf		**PKPdf**	**10 03 37.5**	**-0.4**		
PKME				LR	LR					
	comp=Z,3µm,21.0s									
PKME	**Peaks-Kenny Pk**	**126.97**	**35**	P		**PKPdf**	**10 03 37.0**	**-0.9**		
	baz=306									
HRV	**Adam Dziewonsk**	**127.11**	**39**	PFAKE			10 03 50.0	+12		
HRV				LR	LR					
	comp=Z,3µm,20.0s									
HRV	**Adam Dziewonsk**	**127.11**	**39**	P		**PKPdf**	**10 03 37.6**	**-0.7**		
	baz=302									
DAVA	**Damuels**	**127.23**	**328**	*i* PKPdf		**PKPdf**	**10 03 38.0**	**-0.6**		
	comp=Z,27nm,1.0s,SNR=7.1									
BCLA	**Clavier**	**127.32**	**334**	⇑PKiKP		**PKiKP**	**10 03 38.8**	**-0.1**		
BFO	**Black Forest**	**127.34**	**330**	*e*PKPdf		**PKPdf**	**10 03 38.5**	**-0.1**		
BFO				LR	LR					
	comp=Z,3µm,21.0s									
BFO	**Black Forest**	**127.34**	**330**	*i* PKiKP		**PKPdf**	**10 03 38.9**	**+0.3**		
FUORN	**Ofenpass-Fuorn**	**127.44**	**327**	*e*PKPdf		**PKPdf**	**10 03 39.5**	**+0.4**		
FUORN				LR	LR					
	comp=Z,4µm,20.0s									
UCC	**Uccle**	**127.46**	**334**	PFAKE			10 03 50.0	+11		
UCC				LR	LR					
	comp=Z,4µm,20.0s									
UCC	**Uccle**	**127.46**	**334**	⇑PKiKP		**PKiKP**	**10 03 39.1**	**0.0**		
TIP	**Timpagrande**	**127.47**	**316**	*e*PKPdf		**PKPdf**	**10 03 38.6**	**-0.5**		
TIP				*e*PKPdf		**PKiKP**	**10 03 39.1**	**-0.6**		
TIP				LR	LR					
	comp=Z,2µm,20.0s									
TIP	**Timpagrande**	**127.47**	**316**	⇓*iP*		**PKPdf**	**10 03 40.0**	**+0.9**		
TIP	**Timpagrande**	**127.47**	**316**	P		**PKPdf**	**10 03 38.6**	**-0.5**		
WLF	**Walferdange**	**127.48**	**332**	*e*PKPdf		**PKPdf**	**10 03 39.3**	**+0.6**		
WLF				LR	LR					
	comp=Z,5µm,20.0s									
WLF	**Walferdange**	**127.48**	**332**	⇓PKiKP		**PKiKP**	**10 03 39.9**	**+0.6**		
BATG	**Bathurst New B**	**127.52**	**32**	*e*PKPdf		**PKPdf**	**10 03 39.5**	**+0.7**		
GO03	**Copiap**	**127.71**	**132**	*e*PKPdf		**PKPdf**	**10 03 39.7**	**-0.3**		
GO03				LR	LR					
	comp=Z,1µm,19.0s									
CUC	**Castrocucco**	**127.73**	**317**	PFAKE			10 03 50.0	+10		
CUC				LR	LR					
	comp=Z,2µm,21.0s									
DOU	**Dourbes**	**127.87**	**334**	⇑PKiKP		**PKiKP**	**10 03 40.0**	**0.0**		
ECH	**Echery**	**128.00**	**330**	*e*PKPdf		**PKPdf**	**10 03 38.7**	**-1.1**		
ECH				LR	LR					
	comp=Z,2µm,20.0s									
ECH	**Echery**	**128.00**	**330**	*e*PKIKP		**PKPdf**	**10 03 38.7**	**-1.1**		
ECH				MLR	MLR					
	comp=Z,2µm,20.0s									
TUE	**Stuetta**	**128.03**	**328**	*e*PKPdf		**PKPdf**	**10 03 40.2**	**0.0**		
TUE				LR	LR					
	comp=Z,5µm,21.0s									
TSUM	**Tsumeb**	**128.41**	**240**	PKP		**PKPdf**	**10 03 41.9**	**+0.3**		
	comp=Z,16nm,1.2s,baz=11,slow=2.7,SNR=7.8									
TSUM	**Tsumeb**	**128.41**	**240**	*e*PKPdf		**PKPdf**	**10 03 41.4**	**-0.2**		
TSUM				*e*PKPdf		**PKPdf**	**10 03 41.9**	**+0.3**		
TSUM				LR	LR					
	comp=Z,2µm,18.0s									
GGN	**Saint George**	**128.45**	**34**	*e*PKPdf		**PKPdf**	**10 03 40.6**	**0.0**		
NNA	**Nana**	**128.67**	**110**	*e*PKPdf		**PKPdf**	**10 03 42.7**	**+0.7**		
NNA				LR	LR					
	comp=Z,1µm,18.0s									
NNA	**Nana**	**128.67**	**110**	*e*PKIKP		**PKPdf**	**10 03 42.7**	**+0.7**		
NNA				MLR	MLR					
	comp=Z,1µm,18.0s									
BCIP	**Isla Barro Col**	**128.88**	**83**	PFAKE			10 03 50.0	+7.6		
BCIP				LR	LR					
	comp=Z,2µm,18.0s									
VLC	**Villacollemand**	**128.88**	**325**	PFAKE			10 03 50.0	+8.4		
VLC				LR	LR					
	comp=Z,3µm,21.0s									
LMN	**Caledonia Moun**	**129.10**	**32**	PFAKE			10 03 50.0	+8.1		
LMN				LR	LR					
	comp=Z,4µm,20.0s									
SENIN	**Lac Senin/Sane**	**129.18**	**329**	*e*PKPdf		**PKPdf**	**10 03 42.5**	**+0.2**		
SENIN				LR	LR					
	comp=Z,2µm,20.0s									
GO02	**Mina Guanaco**	**129.50**	**129**	*e*PKPdf		**PKPdf**	**10 03 44.5**	**+0.7**		
GO02				LR	LR					
	comp=Z,1µm,21.0s									
OTAV	**Otavalo**	**129.70**	**94**	*e*PKPdf		**PKPdf**	**10 03 45.9**	**+1.3**		
OTAV				LR	LR					
	comp=Z,1µm,19.0s									
BNI	**Bardonecchia**	**130.37**	**328**	*e*PKPdf		**PKPdf**	**10 03 44.9**	**+0.3**		
BNI				LR	LR					
	comp=Z,4µm,20.0s									
BNI	**Bardonecchia**	**130.37**	**328**	*e*PKIKP		**PKPdf**	**10 03 44.9**	**+0.3**		
BNI				MLR	MLR					
	comp=Z,4µm,20.0s									
CMBC	**Cumbal**	**130.41**	**94**	*e*P		**PKPdf**	**10 03 47.6**	**+1.7**		
MTDJ	**Mount Denham**	**130.48**	**71**	PFAKE			10 04 00.0	+15		
MTDJ				LR	LR					
	comp=Z,1µm,18.0s									
PB04	**IPOC Station P**	**130.49**	**126**	*e*PKPdf		**PKPdf**	**10 03 45.9**	**+0.4**		
PB04				LR	LR					
	comp=Z,2µm,22.0s									
HAL	**Halifax**	**130.54**	**33**	*e*PKPdf		**PKPdf**	**10 03 45.6**	**+0.9**		
HAL				LR	LR					
	comp=Z,4µm,20.0s									
HAL	**Halifax**	**130.54**	**33**	*e*PKIKP		**PKPdf**	**10 03 45.6**	**+0.9**		
HAL				MLR	MLR					
	comp=Z,4µm,20.0s									
CLTB	**Caltabellotta**	**130.68**	**316**	*e*PKPdf		**PKPdf**	**10 03 45.7**	**+0.4**		
GBN	**Guysborough**	**131.11**	**31**	*e*PKPdf		**PKPdf**	**10 03 47.0**	**+1.3**		
SSB	**Saint Sauveur**	**131.33**	**329**	*e*PKPdf		**PKPdf**	**10 03 46.0**	**-0.3**		
SSB				LR	LR					
	comp=Z,2µm,21.0s									
SSB	**Saint Sauveur**	**131.33**	**329**	*e*PKIKP		**PKPdf**	**10 03 46.0**	**-0.3**		
SSB				MLR	MLR					
	comp=Z,2µm,21.0s									
LVC	**Limon Verde**	**131.34**	**127**	*e*PKPdf		**PKPdf**	**10 03 47.8**	**+0.5**		
LVC				LR	LR					
	comp=Z,2µm,22.0s									
LVC	**Limon Verde**	**131.34**	**127**	*e*PKIKP		**PKPdf**	**10 03 47.8**	**+0.5**		
LVC				MLR	MLR					
	comp=Z,2µm,22.0s									
CRUC	**La Cruz**	**131.35**	**93**	*e*P		**PKPdf**	**10 03 48.6**	**+1.0**		
PB01	**IPOC Station P**	**131.65**	**125**	*e*PKPdf		**PKPdf**	**10 03 48.2**	**+0.6**		
PB01				LR	LR					
	comp=Z,1µm,21.0s									
POPC	**Popayan, Colom**	**131.72**	**92**	*e*P		**PKPdf**	**10 03 47.4**	**-0.8**		
PB11	**IPOC Station P**	**132.12**	**123**	PFAKE			10 04 00.0	+11		
PB11				LR	LR					
	comp=Z,900nm,18.0s									
PLMC	**San Jos˜ del**	**132.29**	**89**	*e*P		**PKPdf**	**10 03 52.1**	**+3.1**		
MNMC	**Minye Minye**	**132.46**	**122**	PFAKE			10 04 00.0	+11		
MNMC				LR	LR					
	comp=Z,2µm,21.0s									
GTBY	**Guantanamo Bay**	**132.47**	**68**	PFAKE			10 04 00.0	+11		
GTBY				LR	LR					
	comp=Z,1µm,18.0s									
GO01	**Chusmiza**	**132.54**	**123**	PFAKE			10 04 00.0	+10		
GO01				LR	LR					
	comp=Z,1µm,20.0s									
FLOC	**Florencia**	**132.64**	**93**	*e*P		**PKPdf**	**10 03 49.9**	**+0.2**		
MOTC	**Monteria, Cord**	**133.00**	**83**	*e*P		**PKPdf**	**10 03 49.4**	**-0.9**		
HELC	**Santa Helena**	**133.10**	**87**	⇓*e*P		**PKPdf**	**10 03 50.7**	**-0.1**		
ANIL	**Santa Ana**	**133.14**	**89**	*e*P		**PKPdf**	**10 03 50.9**	**+0.1**		
GUYC	**Guyana, Colomb**	**133.19**	**88**	*e*P		**PKPdf**	**10 03 52.5**	**+1.4**		
RREF	**El Recreo**	**133.22**	**89**	*e*P		**PKPdf**	**10 03 52.0**	**+0.6**		
PRAC	**Prado**	**133.60**	**90**	*e*P		**PKPdf**	**10 03 51.1**	**-0.4**		
ZARC	**Zaragoza, Cauc**	**133.79**	**85**	*e*P		**PKPdf**	**10 03 51.1**	**-0.7**		
PTBC	**PUERTO BERRIO**	**134.17**	**86**	⇓*e*P		**PKPdf**	**10 03 51.1**	**-1.4**		
ROSC	**El Rosal**	**134.24**	**89**	PKP		**PKPdf**	**10 03 53.6**	**+0.6**		
	comp=Z,16nm,0.6s,baz=11,slow=1.1,SNR=12									
ROSC	**El Rosal**	**134.24**	**89**	*e*PKPdf		**PKPdf**	**10 03 52.6**	**-0.5**		
ROSC				LR	LR					
	comp=Z,900nm,18.0s									
ROSC	**El Rosal**	**134.24**	**89**	*e*P		**PKPdf**	**10 03 53.3**	**+0.3**		
KEST	**Kesra**	**134.30**	**316**	PKP		**PKPdf**	**10 03 52.5**	**+0.3**		
	comp=Z,29nm,1.0s,baz=301,slow=3.2,SNR=12									
KEST				SKPbc		**SKPbc**	**10 07 18.4**	**-2.2**		
	comp=Z,14nm,1.0s,baz=206,slow=0.4,SNR=4.5									
KEST	**Kesra**	**134.30**	**316**	*e*PKPdf		**PKPdf**	**10 03 52.9**	**+0.7**		
KEST				SKPbc		**SKPbc**	**10 07 18.4**	**-2.2**		
SJAC	**San Juan de Ar**	**134.49**	**91**	*e*P		**PKPdf**	**10 03 56.1**	**+2.9**		
SMLC	**San Mart`n de**	**134.58**	**83**	*e*P		**PKPdf**	**10 03 53.7**	**+0.5**		
CHIC	**Chingaza**	**134.81**	**89**	*e*P		**PKPdf**	**10 03 49.8**	**-4.4**		
VILC	**Villavicencio,**	**134.81**	**90**	*e*P		**PKPdf**	**10 03 54.3**	**+0.4**		
BRRC	**Barranca, Sant**	**134.93**	**86**	*e*P		**PKPdf**	**10 03 52.6**	**-1.3**		
LPAZ	**La Paz**	**134.97**	**120**	PKhKP		PKPpre	10 03 40.5			
	comp=Z,1.5nm,0.8s,baz=238,slow=4.7,SNR=5.5									
LPAZ				PKP		**PKPdf**	**10 03 53.5**	**-1.1**		
	comp=Z,14nm,0.8s,baz=263,slow=1.7,SNR=22									
LPAZ				SKPab		**SKPab**	**10 07 26.6**	**-1.2**		
	comp=Z,5.3nm,1.1s,baz=334,slow=25,SNR=6.7									
LPAZ	**La Paz**	**134.97**	**120**	*e*PKPpre		**PKPdf**	**10 03 53.4**	**-1.2**		
LPAZ				*e*PKPdf		**PKPdf**	**10 03 53.5**	**-1.1**		
LPAZ				SKPab		**SKPab**	**10 07 26.6**	**-1.2**		
LPAZ	**La Paz**	**134.97**	**120**	*e*PKIKP		**PKPdf**	**10 03 53.4**	**-1.2**		
MAHO	**Mahon**	**135.10**	**324**	*e*PKP		PKPpre	10 03 46.8			
MAHO	**Mahon**	**135.10**	**324**	*i* PKS		**SKPab**	**10 07 25.1**	**-1.7**		
CMAH	**Djebel Manchou**	**135.12**	**318**	P		**PKPdf**	**10 03 52.0**	**-1.7**		
CODC	**Agust`›n Codaz**	**135.17**	**82**	*e*P		**PKPdf**	**10 03 54.1**	**-0.1**		
ABSA	**Djebel Ababsia**	**135.28**	**318**	P		**PKPdf**	**10 03 54.5**	**+0.5**		
OCAC	**Ocana**	**135.32**	**84**	*e*P		**PKPdf**	**10 03 54.6**	**-0.2**		
CAEH	**'Ain El Ouahch**	**135.40**	**319**	P		**PKPdf**	**10 03 52.2**	**-1.9**		
GIRC	**Giron, Santand**	**135.44**	**86**	*e*P		**PKPdf**	**10 03 55.5**	**+0.5**		
RUSC	**La Rusia**	**135.52**	**87**	*e*P		**PKPdf**	**10 03 51.0**	**-4.6**		
CKFL	**Kef-Lekhel**	**135.71**	**318**	P		**PKPdf**	**10 03 53.6**	**-1.3**		
GRTK	**Grand Turk**	**135.76**	**65**	PFAKE			10 04 10.0	+15		
GRTK				LR	LR					
	comp=Z,2µm,19.0s									
CTEI	**Djebel Teioual**	**136.11**	**318**	P		**PKPdf**	**10 03 55.7**	**+0.1**		
DFRA	**Djebel Bou Aff**	**136.18**	**319**	P		**PKPdf**	**10 03 56.3**	**+0.6**		
SDDR	**Presa de Saban**	**136.19**	**69**	PFAKE			10 04 10.0	+14		
SDDR				LR	LR					
	comp=Z,2µm,19.0s									
SET	**Setif**	**136.69**	**319**	P		**PKPdf**	**10 03 58.0**	**+1.3**		
TAMC	**Tame, Arauca**	**136.82**	**87**	*e*P		**PKPdf**	**10 03 56.4**	**-1.0**		
CPUP	**Villa Florida**	**137.50**	**140**	PKP		**PKPdf**	**10 03 58.4**	**+0.1**		
	comp=Z,15nm,1.0s,baz=253,slow=3.6,SNR=13									
CPUP	**Villa Florida**	**137.50**	**140**	*e*PKPdf		**PKPdf**	**10 03 57.0**	**-1.3**		
CPUP	**Villa Florida**	**137.50**	**140**	*e*PKIKP		**PKPdf**	**10 03 57.0**	**-1.3**		
SDD	**Santo Domingo**	**137.57**	**69**	PFAKE			10 04 10.0	+11		
SDD				LR	LR					
	comp=Z,1µm,18.0s									
SDV	**Santo Domingo**	**137.97**	**83**	*e*PKPdf		**PKPdf**	**10 03 58.9**	**-0.8**		
SDV				LR	LR					
	comp=Z,900nm,19.0s									
UCM	**Universidad Co**	**138.86**	**330**	*e*PKP		PKPpre	10 03 54.4			
UCM	**Universidad Co**	**138.86**	**330**	*i* PP		PP	10 06 59.4	+8.0		
PBRG	**Braganca**	**139.26**	**335**	*e*PKPdf		**PKPdf**	**10 03 58.9**	**-2.3**		
ES19	**SONSECA Array**	**139.65**	**330**	*e*PKPdf		**PKPdf**	**10 03 58.4**	**-3.5**		
CART	**Cartagena**	**139.69**	**326**	PFAKE			10 04 10.0	+8.0		
CART				LR	LR					
	comp=Z,2µm,20.0s									
CART	**Cartagena**	**139.69**	**326**	*i* PKP		PKPpre	10 03 53.8			
CART	**Cartagena**	**139.69**	**326**	*i* PKS		**SKPab**	**10 07 43.4**	**-3.6**		
ESDC	**Sonseca Array**	**139.70**	**330**	PKhKP		PKPpre	10 03 56.9			
	comp=Z,0.5nm,0.4s,baz=22,slow=2.3,SNR=5.5									
ESDC				PP		**PP**	**10 06 56.8**	**+0.2**		
	comp=Z,2.4nm,0.7s,baz=36,slow=6.7,SNR=8.6									
ESDC				SKPbc		**SKPbc**	**10 07 35.8**	**-0.7**		
	comp=Z,1.1nm,0.4s,baz=17,slow=3.6,SNR=6.6									
ESLA	**Sonseca Array**	**139.70**	**330**	PFAKE			10 04 10.0	+8.0		
ESLA				LR	LR					
	comp=Z,2µm,20.0s									
PGAV	**Gavieira, Arco**	**139.75**	**337**	*e*PKPdf		**PKPdf**	**10 04 04.6**	**+2.5**		
PCAB	**Cabril**	**139.87**	**336**	*e*PKPdf		**PKPdf**	**10 04 04.0**	**+1.7**		
MVO	**Moncorvo**	**139.91**	**335**	*e*PKPdf		**PKPdf**	**10 04 04.9**	**+2.5**		
PAB	**San Pablo**	**139.99**	**331**	*e*PKPdf		**PKPdf**	**10 04 03.1**	**+0.5**		
PAB				LR	LR					
	comp=Z,2µm,20.0s									
PAB	**San Pablo**	**139.99**	**331**	*e*PKIKP		**PKPdf**	**10 04 03.1**	**+0.5**		
PAB				MLR	MLR					
	comp=Z,2µm,20.0s									
MPR	**Mayaguez**	**140.20**	**68**	*e*PKPdf		**PKPdf**	**10 04 03.7**	**+0.3**		
MPR				LR	LR					
	comp=Z,1µm,20.0s									
CRPR	**Cabo Rojo, PR**	**140.27**	**69**	*e*PKPdf		**PKPdf**	**10 04 03.4**	**-0.1**		
CRPR				LR	LR					
	comp=Z,2µm,20.0s									
OBIP	**Obispado Ponce**	**140.73**	**69**	*e*PKPdf		**PKPdf**	**10 04 03.3**	**-1.0**		
MTE	**Manteigas**	**140.77**	**335**	*e*PKPdf		**PKPdf**	**10 04 05.1**	**+1.1**		
MTE	**Manteigas**	**140.77**	**335**	*e*PKPdf		**PKPdf**	**10 04 03.8**	**-0.1**		
MTE				LR	LR					
	comp=Z,2µm,19.0s									
ICMP	**Isla Caja de M**	**140.84**	**69**	*e*PKPdf		**PKPdf**	**10 04 04.3**	**-0.2**		
SJG	**San Juan**	**141.13**	**68**	*e*PKPdf		**PKPdf**	**10 04 05.0**	**-0.1**		
SJG				LR	LR					
	comp=Z,1µm,20.0s									
SJG	**San Juan**	**141.13**	**68**	*e*P		**PKPdf**	**10 04 05.1**	**-0.1**		
SJG	**San Juan**	**141.13**	**68**	*e*PKIKP		**PKPdf**	**10 04 05.0**	**-0.1**		
SJG				MLR	MLR					
	comp=Z,1µm,20.0s									
PCBR	**Castelo Branco**	**141.20**	**334**	*e*PKPdf		**PKPdf**	**10 03 59.8**	**-4.8**		
CBYP	**Canovanas**	**141.37**	**68**	PFAKE			10 04 20.0	+14		
CBYP				LR	LR					
	comp=Z,2µm,19.0s									
HUMP	**Col San Antoni**	**141.41**	**68**	*e*PKPpre		PKPpre	10 04 00.5			
HUMP				LR	LR					
	comp=Z,2µm,20.0s									
PCAS	**Casmilo, Conde**	**141.46**	**335**	*e*PKPdf		**PKPdf**	**10 04 07.2**	**+2.1**		
PMRV	**Marv??o**	**141.50**	**334**	*e*PKPdf		**PKPdf**	**10 04 01.6**	**-3.6**		
MTP	**Monte Pirata**	**141.69**	**68**	*e*PKPdf		**PKPdf**	**10 04 04.4**	**-1.7**		
CUPR	**Culebra, Puert**	**141.89**	**68**	PFAKE			10 04 20.0	+14		
CUPR				LR	LR					
	comp=Z,1µm,20.0s									
PESTR	**Estremoz**	**142.05**	**333**

TOC7	**Torodi Ar. Sit**	**149.49 286**	PFAKE		10 04 30.0	+1.1
TOC7			LR	LR		
	comp=Z,1μm,20.0s					
TOC5	**Torodi Ar. Sit**	**149.50 286**	PFAKE		10 04 30.0	+1.0
TOC5			LR	LR		
	comp=Z,2μm,20.0s					
BDFB	**Brasilia**	**151.18 138**	PKP	**PKPdf**	**10 04 22.6**	**+0.3**
	comp=Z,14nm,1.0s,baz=59,slow=0.3,SNR=13					
BDFB			PKPbc	**PKPbc**	**10 04 28.1**	**0.0**
	comp=Z,51nm,1.0s,baz=21,slow=1.3,SNR=27					
BDFB			PKPab	**pPKPbc**	**10 04 36.5**	**+0.6**
	comp=Z,44nm,0.8s,baz=245,slow=2.3,SNR=11					
BDFB	**Brasilia**	**151.18 138**	*e*PKPdf	**PKPdf**	**10 04 22.6**	**+0.3**
BDFB			*e*PKPdf	**PKPdf**	**10 04 22.8**	**+0.5**
BDFB			*e*PKPbc	**PKPbc**	**10 04 28.1**	**0.0**
BDFB			*e*PKPab	**pPKPbc**	**10 04 36.5**	**+0.6**
BDFB			LR	LR		
	comp=Z,4μm,18.0s					
BDFB	**Brasilia**	**151.18 138**	*e*PKIKP	**PKPdf**	**10 04 22.6**	**+0.3**
BDFB			*e*		10 04 22.8	
BDFB			*e*		10 04 28.1	
BDFB			*e*		10 04 36.5	
BDFB			MLR	MLR		
	comp=Z,4μm,18.0s					
KOWA	**Kowa**	**154.53 292**	PFAKE		10 04 40.0	+4.5
KOWA			LR	LR		
	comp=Z,2μm,19.0s					
KIC	**Kosan Boka**	**156.51 273**	*e*PKP1	**PKPdf**	**10 04 28.4**	**-1.4**
	comp=Z,389nm,1.4s					
DBIC	**Dimbokro**	**156.62 273**	PKP	**PKPdf**	**10 04 29.6**	**-0.3**
	comp=Z,18nm,1.1s,baz=40,slow=1.9,SNR=5.9					
DBIC			PKPab	**PKPab**	**10 04 59.5**	**+0.5**
	comp=Z,61nm,1.2s,baz=99,slow=4.5,SNR=7.9					
TIC	**Toumodi**	**156.78 273**	*e*PKP1	**PKPdf**	**10 04 29.1**	**-1.1**
LIC	**Lamto**	**156.79 272**	*e*PKP1	**PKPdf**	**10 04 29.2**	**-0.9**
	comp=Z,253nm,1.3s					

*NEIC **19** 09:48:31.5±0.3,5.69S×151.84E,h10km,mb4.8/12, Error ellipse: s-maj=8.5km s-min=6.1km az=112.0*
*ISCJB **19** 09:48:34.7±0.4,5.70S±0.05×151.74E±0.06,h45km, mb4.6/31, Error ellipse: s-maj=9.7km s-min=6.2km az=29.9*
*IDC **19** 09:48:36.0±3.8,5.70S×151.79E,h40km±33km,mb4.4/24, mb1 4.6/26,mb1mx4.4/55,mbtmp4.7/26,ML3.5/2, Error ellipse: s-maj=18.9km s-min=14.7km az=74.0*

ISC 19 09:48:36.4±0.5,5.69S±0.07×151.78E±0.08,h45km,n60, σ1s13/57,mb4.6/30,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.54**	**14**	*e*Pn	**Pn**	09 48 53.0	-8.4
MANU	**Manus Island**	**5.70**	**309**	*e*Pn	**Pn**	**09 49 57.8**	**-0.8**
PMG	**Port Moresby**	**5.88**	**231**	P	**Pn**	**09 50 00.9**	**-0.1**
	24nm,0.3s,baz=47,slow=12,SNR=5.0						
PMG				S	**Sn**	**09 51 08.2**	**+1.0**
	9.9nm,0.3s,baz=330,slow=21,SNR=2.3						
CTA	**Charters Tower**	**15.28**	**200**	P	**Pn**	**09 52 10.2**	**+1.0**
	0.5nm,0.3s,baz=27,slow=18,SNR=2.1						
SAUI	**Saumlaki**	**20.46**	**262**	*e*P	Pn	09 53 12.2	-0.7
	506nm,1.1s						
SIJI	**Sorong**	**21.03**	**282**	P	**P**	**09 53 16.1**	**-0.4**
	21nm,1.0s,baz=257,slow=16,SNR=2.4						
MTN	**Manton Dam**	**21.57**	**249**	*e*P	**P**	**09 53 18.8**	**-3.5**
	14nm,0.6s						
DZM	**Mont Dzumac**	**21.59**	**140**	P	**P**	**09 53 22.7**	**+0.1**
	17nm,0.8s,baz=333,slow=16,SNR=5.4						
DZM	**Mont Dzumac**	**21.59**	**140**	*e*P	**P**	**09 53 22.7**	**+0.1**
	28nm,1.0s						
WRAB	**Tennant Creek**	**22.08**	**229**	*e*P	**P**	**09 53 24.9**	**-2.9**
	127nm,0.9s						
WB2	**Warramunga Arr**	**22.09**	**229**	*e*P	**P**	**09 53 26.6**	**-1.3**
WR1	**Warramunga Arr**	**22.09**	**229**	*e*P	**P**	**09 53 27.2**	**-0.8**
	173nm,1.1s						
WRA	**Warramunga Arr**	**22.09**	**229**	P	**P**	**09 53 27.2**	**-0.8**
	78nm,0.8s,baz=53,slow=9.9,SNR=13						
AS31	**Alice Springs**	**24.81**	**222**	*e*P	**P**	**09 53 53.0**	**-1.4**
	13nm,0.6s						
ASAR	**Alice Springs**	**24.81**	**222**	P	**P**	**09 53 54.7**	**+0.2**
	69nm,0.9s,baz=59,slow=9.1,SNR=8.2						
SOEI	**Soe**	**27.55**	**260**	*e*P	**P**	**09 54 19.6**	**+0.1**
	99nm,1.0s						
BATI	**Baumata**	**28.19**	**259**	P	**P**	**09 54 24.5**	**-0.6**
	53nm,0.7s,baz=90,slow=20,SNR=3.7						
URZ	**Urewera**	**39.75**	**148**	P	**P**	**09 56 03.0**	**-1.7**
	8.7nm,0.8s,baz=328,slow=9.5,SNR=2.9						
JNU	**Nakatsue**	**43.40**	**334**	P	**P**	**09 56 35.0**	**+0.3**
	12nm,1.0s,baz=152,slow=11,SNR=2.4						
MJAR	**Matsushiro Arr**	**43.89**	**344**	P	**P**	**09 56 39.0**	**+0.4**
	2.5nm,0.8s,baz=171,slow=8.5,SNR=3.1						
MAJO	**Matsushiro**	**43.90**	**344**	*e*P	**P**	**09 56 39.0**	**+0.3**
LEM	**Lembang**	**43.90**	**266**	P	**P**	**09 56 39.8**	**+0.5**
	28nm,0.6s,baz=307,slow=23,SNR=2.6						
KSRS	**Korea Array**	**48.35**	**334**	P	**P**	**09 57 13.8**	**+0.2**
	1.4nm,0.8s,baz=154,slow=7.8,SNR=2.5						
KSAR	**Wonju Array Be**	**48.35**	**334**	P	**P**	**09 57 13.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**57.34**	**296**	P	**P**	**09 58 21.2**	**+0.7**
	2.6nm,0.8s,baz=120,slow=5.6,SNR=2.7						
KLR	**Kul'dur**	**57.42**	**345**	P	**P**	**09 58 20.4**	**0.0**
	3.7nm,0.8s,baz=143,slow=5.1,SNR=3.1						
PETK	**Petropavlovsk-**	**58.79**	**4**	P	**P**	**09 58 30.0**	**+0.1**
	3.2nm,0.8s,baz=181,slow=8.6,SNR=2.8						
PEA1	**Petropavlovsk-**	**58.80**	**4**	*e*P	**P**	**09 58 30.0**	**+0.1**
SONA0	**Songino Array**	**66.54**	**328**	*e*P	**P**	**09 59 22.8**	**+1.0**
SONM	**Songino Array**	**66.54**	**328**	P	**P**	**09 59 22.8**	**+1.0**
	5.2nm,1.1s,baz=139,slow=4.6,SNR=3.4						
VNDA	**Vanda**	**71.98**	**178**	P	**P**	**09 59 55.5**	**+0.6**
	5.1nm,0.8s,baz=324,slow=7.1,SNR=5.1						
ZALV	**Zalesovo Beam**	**81.33**	**327**	P	**P**	**10 00 47.1**	**-0.9**
	3.1nm,0.6s,baz=116,slow=6.4,SNR=3.6						
ZAA1	**Zalesovo Array**	**81.33**	**327**	*e*P	**P**	**10 00 47.1**	**-1.0**
ILAR	**Eielson Array**	**83.36**	**22**	P	**P**	**10 00 58.5**	**0.0**
	4.5nm,0.6s,baz=246,slow=5.4,SNR=7.9						
ILB	**Eielson Array**	**83.36**	**22**	*e*P	**P**	**10 00 58.7**	**+0.3**
KURK	**Kurchatov**	**83.84**	**322**	*e*P	**P**	**10 01 01.6**	**+0.4**
KURBB	**Kurchatov Arra**	**83.87**	**322**	P	**P**	**10 01 01.6**	**+0.3**
	0.8nm,0.3s,baz=115,slow=3.9,SNR=4.5						
MAW	**Mawson**	**84.36**	**203**	P	**P**	**10 01 03.5**	**0.0**
	2.6nm,0.7s,baz=95,slow=12,SNR=3.9						
MAW	**Mawson**	**84.36**	**203**	*e*P	**P**	**10 01 03.5**	**0.0**
	0.9nm,1.1s						
AAK	**Ala-Archa**	**84.54**	**314**	P	**P**	**10 01 05.3**	**+0.2**
	2.3nm,0.6s,baz=121,slow=4.3,SNR=4.1						
BVAR	**Borovoye Array**	**89.34**	**323**	P	**P**	**10 01 27.5**	**-0.5**
	2.4nm,0.7s,baz=107,slow=6.9,SNR=3.2						
INK	**Inuvik**	**89.65**	**21**	P	**P**	**10 01 28.5**	**-0.5**
	6.4nm,1.2s,baz=259,slow=10,SNR=2.8						
INK	**Inuvik**	**89.65**	**21**	*e*P	**P**	**10 01 28.5**	**-0.5**
	4.5nm,1.1s						
NV01	**Mina Array Sit**	**93.43**	**52**	*e*P	**P**	**10 01 46.4**	**-1.2**
NVAR	**Mina Array Bea**	**93.43**	**52**	P	**P**	**10 01 48.5**	**+0.9**
	2.6nm,0.8s,baz=251,slow=7.6,SNR=6.3						
YKA	**Yellowknife Ar**	**96.69**	**28**	P	**P**	**10 02 02.1**	**+0.5**
	1.2nm,0.9s,baz=268,slow=6.2,SNR=2.9						
Y14A	**Wickenburg**	**97.47**	**57**	*e*P	P	10 02 00.6	-5.4
	0.8nm,0.8s						
JLU	**Jordanelle**	**98.81**	**50**	*e*P	P	10 02 06.6	-5.5
AHID	**Auburn Hatcher**	**99.06**	**48**	*e*P	**Pdif**	**10 02 08.8**	**-4.3**
	4.1nm,0.9s						
MOOW	**Moose Ponds**	**99.31**	**47**	*e*P	**Pdif**	**10 02 14.3**	**+0.1**
	0.4nm,0.7s						
ANMO	**Albuquerque**	**102.88**	**56**	P	**Pdif**	**10 02 29.2**	**-1.0**
	0.6nm,0.7s,baz=269,slow=9.4,SNR=2.4						
T42A	**Van Buren**	**114.98**	**52**	*e*Pdif	**Pdif**	**10 03 25.9**	**+2.2**
EIL	**Elat**	**116.06**	**300**	PKP	**PKPdf**	**10 07 15.0**	**-0.2**
	4.5nm,0.9s,baz=108,slow=16,SNR=3.4						
GERES	**GERESS Array B**	**124.27**	**328**	PKP	**PKPdf**	**10 07 31.1**	**+0.5**
	2.2nm,0.7s,baz=66,slow=1.6,SNR=5.3						
DAVOX	**Davos/Dischmat**	**127.57**	**329**	PKP	**PKPdf**	**10 07 38.1**	**+1.1**
	4.1nm,0.7s,baz=331,slow=10,SNR=3.1						
LPAZ	**La Paz**	**134.88**	**120**	PKP	**PKPdf**	**10 07 53.3**	**+1.1**
	4.1nm,0.8s,baz=209,slow=3.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**149.60**	**286**	PKPbc	**PKPbc**	**10 08 21.8**	**-0.3**
	5.4nm,0.6s,baz=69,slow=2.3,SNR=6.3						
TOA1	**Torodi Ar. Sit**	**149.60**	**286**	*e*PKPbc	**PKPbc**	**10 08 21.8**	**-0.3**
BDFB	**Brasilia**	**151.13**	**137**	PKPbc	**PKPbc**	**10 08 26.1**	**+0.3**
	4.0nm,0.6s,baz=194,slow=7.2,SNR=2.1						
DBIC	**Dimbokro**	**156.75**	**274**	PKPab	**PKPab**	**10 08 56.5**	**-1.0**
	5.2nm,0.7s,baz=68,slow=4.5,SNR=4.8						

IDC 19 09:50:58.2±7.0,6.14S×151.97E,h80km±57km,mb3.8/3, mb1 4.1/4,mb1mx3.5/55,mbtmp4.2/4, Error ellipse: s-maj=97.9km s-min=38.9km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.77**	**235**	P	Pn	09 52 21.4	+0.1
	baz=68,slow=5.4,SNR=0.6						
PMG				S	Sn	09 53 27.2	+1.1
	3.5nm,0.3s,baz=109,slow=23,SNR=1.7						
WRA	**Warramunga Arr**	**21.95**	**230**	P	P	09 55 45.1	-0.4
	5.0nm,0.7s,baz=55,slow=10,SNR=1.6						
ASAR	**Alice Springs**	**24.61**	**223**	P	P	09 56 11.0	-0.2
	6.1nm,1.0s,baz=58,slow=9.5,SNR=1.5						
ILAR	**Eielson Array**	**83.70**	**22**	P	P	10 03 17.7	-0.2
	0.9nm,0.6s,baz=251,slow=5.0,SNR=2.9						
TORD	**Torodi Ar. Bea**	**149.90**	**286**	PKPbc	PKPbc	10 10 40.4	+0.1
	1.3nm,0.7s,baz=98,slow=3.5,SNR=4.4						

*IDC **19** 09:53:31.2±1.2,5.47S×151.66E,h0km,mb3.8/4, mb1 4.2/5,mb1mx3.8/55,mbtmp4.0/5,ML2.2/1, Error ellipse: s-maj=37.5km s-min=26.3km az=130.0*
*ISCJB **19** 09:53:37.5±1.3,5.75S±0.2×151.6E±0.1,h57km,mb3.8/4, Error ellipse: s-maj=32.7km s-min=12.9km az=146.7*

ISC 19 09:53:38.8±1.3,5.6S±0.2×151.6E±0.2,h57km,n6,σ0s38/7, mb3.8/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.81**	**230**	Pn	**Pn**	**09 55 02.3**	**-0.1**
	3.7nm,0.3s,baz=40,slow=17,SNR=2.4						
PMG				Sn	**Sn**	**09 56 07.6**	**-0.1**
	2.5nm,0.3s,baz=94,slow=9.9,SNR=1.6						
DZM	**Mont Dzumac**	**21.72**	**140**	P	**P**	**09 58 25.5**	**+0.1**
	0.9nm,0.5s,baz=317,slow=19,SNR=4.1						
WRA	**Warramunga Arr**	**22.03**	**228**	P	**P**	**09 58 29.3**	**+0.6**
	4.8nm,0.6s,baz=53,slow=10,SNR=5.9						
ASAR	**Alice Springs**	**24.75**	**222**	P	**P**	**09 58 54.9**	**-0.4**
	2.5nm,0.6s,baz=56,slow=8.7,SNR=4.2						
ILAR	**Eielson Array**	**83.37**	**22**	P	**P**	**10 05 59.4**	**-0.1**
	0.4nm,0.6s,baz=242,slow=5.7,SNR=3.2						
TORD	**Torodi Ar. Bea**	**149.45**	**286**	PKPbc	**PKPbc**	**10 13 22.9**	**+0.2**
	1.2nm,0.8s,baz=70,slow=1.6,SNR=3.2						

IDC 19 09:54:40.7±2.0,5.25S×151.60E,h0km,mb4.3/3, mb1 4.6/4,mb1mx3.9/54,mbtmp4.4/4,ML2.4/1, Error ellipse: s-maj=126.7km s-min=24.1km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.04**	**227**	Pn	Pn	09 56 12.8	+1.6
	6.2nm,0.3s,baz=340,slow=19,SNR=4.6						
PMG				Sn	Sn	09 57 20.9	-0.3
	1.9nm,0.3s,baz=331,slow=23,SNR=2.0						
WRA	**Warramunga Arr**	**22.26**	**227**	P	P	09 59 40.0	+0.5
	12nm,0.8s,baz=52,slow=9.8,SNR=11						
ASAR	**Alice Springs**	**25.02**	**221**	P	P	10 00 06.2	-0.4
	10nm,0.8s,baz=56,slow=9.1,SNR=12						
ILAR	**Eielson Array**	**83.03**	**22**	P	P	10 07 08.2	+0.5
	1.3nm,0.9s,baz=255,slow=4.9,SNR=5.7						
TORD	**Torodi Ar. Bea**	**149.30**	**287**	PKPbc	PKPbc	10 14 31.3	-1.3
	4.2nm,1.0s,baz=85,slow=2.9,SNR=8.2						

IDC 19 09:55:39.9±2.3,5.69S×152.09E,h0km,mb3.8/3, mb1 4.1/3,mb1mx3.6/56,mbtmp3.8/3, Error ellipse: s-maj=137.9km s-min=32.9km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.33**	**229**	P	P	10 00 39.8	+0.3
	2.3nm,0.8s,baz=55,slow=10,SNR=1.5						
ASAR	**Alice Springs**	**25.02**	**223**	P	P	10 01 05.9	0.0
	2.0nm,0.7s,baz=56,slow=9.4,SNR=1.0						
ILAR	**Eielson Array**	**83.25**	**22**	P	P	10 08 08.7	+0.7
	0.4nm,0.5s,baz=248,slow=4.8,SNR=1.8						
TORD	**Torodi Ar. Bea**	**149.89**	**286**	PKPbc	PKPbc	10 15 32.3	-1.1
	1.3nm,1.0s,baz=72,slow=2.6,SNR=2.7						

*IDC **19** 09:56:50.2±0.8,5.77S×151.78E,h0km,mb4.2/13, mb1 4.4/14,mb1mx4.1/55,mbtmp4.3/14,ML2.0/1, Error ellipse: s-maj=26.5km s-min=16.7km az=106.0*
*NEIC **19** 09:56:52.1±0.5,5.87S×151.74E,h10km,mb4.4/3, Error ellipse: s-maj=14.5km s-min=8.1km az=113.0*
*ISCJB **19** 09:56:54.4±0.5,5.88S±0.05×151.71E±0.09,h36km, mb4.2/16, Error ellipse: s-maj=13.4km s-min=6.1km az=24.2*

ISC 19 09:56:55.9±0.6,5.88S±0.07×151.79E±0.10,h36km,n31, σ1s32/34,mb4.2/16,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.71**	**12**	*e*Pn	**Pn**	**09 57 23.8**	**+0.6**
RABL				*e*Sn	**Sn**	**09 57 45.4**	**+1.5**
PMG	**Port Moresby**	**5.78**	**232**	Pn	**Pn**	**09 58 18.3**	**-0.9**
	2.6nm,0.3s,baz=45,slow=11,SNR=2.1						
PMG				Sn	**Sn**	**09 59 27.8**	**+3.6**
	7.7nm,0.3s,baz=350,slow=20,SNR=3.0						
PMG	**Port Moresby**	**5.78**	**232**	*e*Pn	**Pn**	**09 58 18.3**	**-0.9**
PMG				*e*		09 58 19.0	
PMG				*e*Sn	**Sn**	**09 59 27.8**	**+3.6**
MANU	**Manus Island**	**5.83**	**311**	*e*Pn	**Pn**	**09 58 19.3**	**-0.6**
PATS	**Pohnpei**	**14.21**	**27**	*e*Pn	**Pn**	**10 00 16.6**	**+2.0**
DZM	**Mont Dzumac**	**21.45**	**140**	P	**P**	**10 01 43.2**	**+1.9**
	4.9nm,0.9s,baz=187,slow=23,SNR=7.6						
WR1	**Warramunga Arr**	**21.98**	**229**	*e*P	**P**	**10 01 47.3**	**+0.3**
	17nm,1.0s						
WRA	**Warramunga Arr**	**21.99**	**229**	P	**P**	**10 01 47.3**	**+0.3**
	13nm,0.5s,baz=53,slow=10,SNR=17						
AS01	**Alice Springs**	**24.65**	**222**	*e*P	**P**	**10 02 12.4**	**-1.0**
AS31	**Alice Springs**	**24.68**	**222**	*e*P	**P**	**10 02 14.4**	**+0.7**
	4.0nm,1.0s						
ASAR	**Alice Springs**	**24.68**	**222**	P	**P**	**10 02 14.4**	**+0.6**
	10nm,0.8s,baz=54,slow=9.4,SNR=12						
STKA	**Stephens Creek**	**27.57**	**199**	P	**P**	**10 02 38.6**	**-1.0**
	2.1nm,0.7s,baz=28,slow=14,SNR=2.7						
FITZ	**Fitzroy Crossi**	**28.27**	**242**	*e*P	**P**	**10 02 45.5**	**-0.5**
	11nm,0.6s						
PETK	**Petropavlovsk-**	**58.97**	**4**	P	**P**	**10 06 51.2**	**-0.5**
	7.1nm,1.0s,baz=165,slow=7.4,SNR=2.9						
PEA1	**Petropavlovsk-**	**58.98**	**4**	*e*P	**P**	**10 06 51.2**	**-0.5**
SONA0	**Songino Array**	**66.70**	**329**	*e*P	**P**	**10 07 43.7**	**+0.3**
SONM	**Songino Array**	**66.70**	**329**	P	**P**	**10 07 43.7**	**+0.3**
	1.1nm,0.4s,baz=142,slow=5.9,SNR=3.3						
VNDA	**Vanda**	**71.80**	**178**	P	**P**	**10 08 14.6**	**+0.3**
	1.4nm,0.6s,baz=329,slow=5.8,SNR=5.8						
VNDA	**Vanda**	**71.80**	**178**	*e*P	**P**	**10 08 13.0**	**-1.3**
MK32	**Makanchi Array**	**80.48**	**319**	*e*P	**P**	**10 09 02.9**	**-1.4**
MKAR	**Makanchi Array**	**80.48**	**319**	P	**P**	**10 09 02.9**	**-1.4**
	0.9nm,1.1s,baz=115,slow=6.5,SNR=2.3						
ZALV	**Zalesovo Beam**	**81.49**	**327**	P	**P**	**10 09 09.0**	**-0.4**
	1.5nm,0.5s,baz=112,slow=7.4,SNR=4.6						
ZAA1	**Zalesovo Array**	**81.49**	**327**	*e*P	**P**	**10 09 08.9**	**-0.5**
ILAR	**Eielson Array**	**83.53**	**22**	P	**P**	**10 09 19.0**	**-0.9**
	0.7nm,0.6s,baz=249,slow=5.1,SNR=6.2						
KURK	**Kurchatov**	**84.00**	**322**	*e*P	**P**	**10 09 23.0**	**+0.5**
KURBB	**Kurchatov Arra**	**84.02**	**322**	P	**P**	**10 09 23.0**	**+0.3**
	1.2nm,0.2s,baz=120,slow=4.1,SNR=3.5						
MAW	**Mawson**	**84.20**	**203**	P	**P**	**10 09 23.2**	**0.0**
	2.8nm,0.9s,baz=98,slow=7.1,SNR=2.7						
NVAR	**Mina Array Bea**	**93.53**	**52**	P	**P**	**10 10 07.8**	**-0.8**
	0.4nm,0.7s,baz=233,slow=4.2,SNR=4.2						
TOA0	**Torodi Ar. Sit**	**149.66**	**286**	*e*PKPbc	**PKPbc**	**10 16 41.6**	**-1.2**
TORD	**Torodi Ar. Bea**	**149.66**	**286**	PKPbc	**PKPbc**	**10 16 41.7**	**-1.2**
	1.1nm,0.4s,baz=70,slow=2.4,SNR=7.4						
TOA1	**Torodi Ar. Sit**	**149.66**	**286**	*e*PKPbc	**PKPbc**	**10 16 41.7**	**-1.2**

*IDC **19** 09:59:54.4±1.3,5.50S×151.66E,h0km,mb3.7/4, mb1 4.0/5,mb1mx3.7/53,mbtmp3.8/5,ML1.9/1, Error ellipse: s-maj=37.5km s-min=27.1km az=133.0*
*ISCJB **19** 10:00:00.5±1.3,5.75S±0.2×151.6E±0.1,h57km,mb3.7/4, Error ellipse: s-maj=32.8km s-min=12.9km az=146.5*

ISC 19 10:00:01.9±1.3,5.7S±0.2×151.6E±0.2,h57km,n6,σ0s58/7, mb3.6/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.76**	**230**	Pn	**Pn**	**10 01 24.9**	**0.0**
	1.9nm,0.3s,baz=31,slow=5.9,SNR=2.2						
PMG				Sn	**Sn**	**10 02 29.2**	**-0.4**
	0.9nm,0.3s,baz=60,slow=13,SNR=2.3						
DZM	**Mont Dzumac**	**21.73**	**140**	P	**P**	**10 04 48.6**	**-0.1**
	3.0nm,1.1s,baz=319,slow=20,SNR=2.6						
WRA	**Warramunga Arr**	**21.97**	**228**	P	**P**	**10 04 51.1**	**-0.2**
	2.1nm,0.6s,baz=54,slow=10,SNR=6.4						
ASAR	**Alice Springs**	**24.70**	**222**	P	**P**	**10 05 18.7**	**+0.7**
	1.5nm,0.8s,baz=53,slow=8.9,SNR=4.1						
ILAR	**Eielson Array**	**83.41**	**22**	P	**P**	**10 12 22.4**	**-0.5**
	0.5nm,0.6s,baz=254,slow=5.2,SNR=4.9						
TORD	**Torodi Ar. Bea**	**149.41**	**286**	PKPbc	**PKPbc**	**10 19 46.4**	**+0.7**
	0.5nm,0.4s,baz=93,slow=2.9,SNR=4.4						

*ISCJB **19** 10:00:52.3±0.8,37.27N±0.04×142.56E±0.08,h74km±8km, mb3.7/8, Error ellipse: s-maj=10.4km s-min=5.7km az=16.4*
*IDC **19** 10:00:53.0±2.4,37.19N×142.67E,h70km±22km,mb3.6/8, mb1 3.9/13,mb1mx3.6/71,mbtmp4.0/13, Error ellipse: s-maj=24.0km s-min=15.3km az=94.0*
*JMA **19** 10:00:54.3±0.1,37.30N×142.43E,h73km±4km,M4.2*
JMA Felt I J1.

ISC 19 10:00:51.7±2.0,37.24N±0.06×142.7E±0.1,h56km±18km, n30,σ1s36/47,mb3.8/8,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**1.46**	**318**	P	**Pn**	**10 01 16.6**	**+0.9**
JIKH				S	**Sn**	**10 01 32.7**	**-1.1**
JFK	**Kawauchi**	**1.47**	**276**	P	**Pn**	**10 01 16.3**	**+0.3**
JFK				S	**Sn**	**10 01 32.1**	**-2.1**
ONAJ	**Iwakimizuishiy**	**1.54**	**265**	P	**Pn**	**10 01 17.3**	**+0.4**
ONAJ				S	**Sn**	**10 01 33.8**	**-2.0**
JIO	**Ouri**	**1.62**	**319**	P	**Pn**	**10 01 19.0**	**+1.0**
JIO				S	**Sn**	**10 01 36.5**	**-1.3**
JMM	**Marumori**	**1.65**	**293**	P	**Pn**	**10 01 18.9**	**+0.6**
JMM				S	**Sn**	**10 01 37.1**	**-1.3**
JFT	**Otama**	**1.91**	**279**	P	**Pn**	**10 01 22.9**	**+0.9**
JFT				S	**Sn**	**10 01 43.9**	**-1.0**
JOU	**Okura**	**1.97**	**305**	P	**Pn**	**10 01 23.4**	**+0.6**
JOU				*e*S	**Sn**	**10 01 45.0**	**-1.4**
JMK	**Ichinoseki**	**2.08**	**326**	P	**Pn**	**10 01 25.2**	**+1.0**
JMK				*e*S	**Sn**	**10 01 47.3**	**-1.6**
JYS	**Shirataka**	**2.32**	**296**	P	**Pn**	**10 01 28.3**	**+0.8**
JYS				*e*S	**Sn**	**10 01 54.1**	**-0.7**
JOM	**Ohasama**	**2.50**	**334**	P	**Pn**	**10 01 30.9**	**+1.0**
JOM				S	**Sn**	**10 01 58.4**	**-0.7**
JYK	**Kaneyama**	**2.50**	**313**	P	**Pn**	**10 01 30.8**	**+0.8**
JYK				S	**Sn**	**10 01 58.0**	**-1.3**
JAG	**Ashikaga**	**2.74**	**254**	P	**Pn**	**10 01 33.7**	**+0.5**
JAG				S	**Sn**	**10 02 03.2**	**-1.9**
JNS	**Sasagawa**	**2.76**	**283**	P	**Pn**	**10 01 34.2**	**+0.7**
BSO1	**Boso 1**	**2.94**	**209**	P	**Pn**	**10 01 37.5**	**+2.0**
JANG	**Nango**	**3.27**	**344**	P	**Pn**	**10 01 41.0**	**+0.5**
JANG				S	**Sn**	**10 02 15.8**	**-2.3**
MJAR	**Matsushiro Arr**	**3.68**	**260**	P	**Pn**	**10 01 46.8**	**+0.7**
	2.4nm,0.3s,baz=68,slow=13,SNR=19						
MJAR				S	**Sn**	**10 02 32.0**	**+3.8**
	6.0nm,0.3s,baz=288,slow=35,SNR=3.1						
MAT	**Matsushiro**	**3.68**	**260**	P	**Pn**	**10 01 47.5**	**+1.4**
MAT				*e*S	**Sn**	**10 02 26.8**	**-1.4**
JHJ	**Hachijo jima 2**	**4.76**	**211**	P	**Pn**	**10 02 01.5**	**+0.6**
	41nm,0.3s,baz=78,slow=22,SNR=43						
JHJ				S	**Sn**	**10 02 52.1**	**-2.7**
	38nm,0.3s,baz=72,slow=23,SNR=6.7						
ASAJ	**Asahikawa**	**6.87**	**359**	P	**Pn**	**10 02 30.8**	**+1.0**
	22nm,0.3s,baz=216,slow=10,SNR=146						
ASAJ				S	**Sn**	**10 03 45.5**	**-1.0**
	8.0nm,0.3s,baz=42,slow=24,SNR=8.0						
USRK	**Ussuriysk Ar.**	**10.70**	**314**	P	**Pn**	**10 03 23.4**	**+1.3**
	0.4nm,0.3s,baz=126,slow=12,SNR=8.1						
KSRS	**Korea Array**	**11.78**	**276**	P	**Pn**	**10 03 38.4**	**+1.5**
	0.1nm,

335nm,1.4s,baz=144,slow=8.7,SNR=2.4
SIJI Sorong 21.19 283 P **P** **10 13 02.7 +0.3**
3.0nm,0.4s,baz=96,slow=19,SNR=2.3
DZM Mont Dzumac 21.39 140 P **P** **10 13 05.3 +0.7**
7.8nm,0.7s,baz=322,slow=18,SNR=4.0
DZM Mont Dzumac 21.39 140 *e*P **P** **10 13 05.3 +0.7**
10nm,0.8s
MTN Manton Dam 21.63 250 *e*P **P** **10 13 06.5 -0.7**
19nm,1.0s
WRAB Tennant Creek 22.07 229 *e*P **P** **10 13 11.8 -0.1**
22nm,0.8s
WB2 Warramunga Arr 22.08 229 *e*P **P** **10 13 11.3 -0.6**
WB2 *e*P **P** **10 13 12.0 0.0**
WR1 Warramunga Arr 22.09 229 *e*P **P** **10 13 11.7 -0.4**
22nm,0.9s
WRA Warramunga Arr 22.09 229 P **P** **10 13 11.7 -0.4**
22nm,0.9s,baz=54,slow=10.0,SNR=5.4
AS01 Alice Springs 24.75 222 *e*P **P** **10 13 38.5 +0.3**
AS31 Alice Springs 24.78 223 *e*P **P** **10 13 39.2 +0.7**
5.5nm,0.9s
ASAR Alice Springs 24.78 223 P **P** **10 13 39.0 +0.5**
9.1nm,0.7s,baz=58,slow=9.3,SNR=7.7
STKA Stephens Creek 27.63 199 P **P** **10 14 04.5 +0.3**
2.6nm,0.8s,baz=358,slow=11,SNR=5.7
STKA Stephens Creek 27.63 199 *e*P **P** **10 14 03.4 -0.8**
1.2nm,1.0s
FITZ Fitzroy Crossi 28.38 242 *e*P **P** **10 14 07.2 -3.8**
15nm,0.8s
JNU Nakatsue 43.60 334 PcP **PcP** **10 18 07.1 -0.8**
5.1nm,0.8s,baz=177,slow=19,SNR=2.3
ASAJ Asahikawa 50.44 351 PcP **PcP** **10 18 29.5 -2.4**
3.8nm,0.7s,baz=164,slow=15,SNR=2.7
PETK Petropavlovsk- 58.94 4 P **P** **10 18 14.2 -1.2**
4.3nm,0.9s,baz=166,slow=6.1,SNR=3.0
PEA1 Petropavlovsk- 58.95 4 *e*P **P** **10 18 14.2 -1.2**
SONA0 Songino Array 66.74 328 *e*P **P** **10 19 08.7 +1.1**
SONM Songino Array 66.74 328 P **P** **10 19 08.7 +1.1**
1.0nm,0.5s,baz=156,slow=5.6,SNR=5.1
VNDA Vanda 71.82 178 P **P** **10 19 38.5 +0.1**
2.2nm,0.7s,baz=354,slow=8.0,SNR=9.7
VNDA Vanda 71.82 178 *e*P **P** **10 19 36.6 -1.8**
PALK Pallekele 72.23 280 P **P** **10 19 42.3 +0.2**
1.5nm,0.3s,baz=114,slow=12,SNR=1.8
CHGN Chignik 74.05 26 *e*P **P** **10 19 51.1 -0.7**
136nm,0.9s
KDAK Kodiak Island 77.51 27 P **P** **10 20 11.5 -0.1**
16nm,1.0s,baz=232,slow=17,SNR=2.2
MLY Manley 82.18 21 *e*P **P** **10 20 38.6 +1.7**
1.9nm,0.6s
ILAR Eielson Array 83.46 22 P **P** **10 20 43.3 -0.2**
1.6nm,0.6s,baz=247,slow=5.2,SNR=21
ILB Eielson Array 83.46 22 *e*P **P** **10 20 43.1 -0.3**
QSPA South Pole Qui 84.11 180 *e*P **P** **10 20 47.0 0.0**
4.7nm,0.8s
BVAR Borovoye Array 89.55 323 P **P** **10 21 14.3 +0.8**
3.7nm,0.8s,baz=100,slow=6.0,SNR=5.2
INK Inuvik 89.75 21 P **P** **10 21 13.2 -0.8**
0.9nm,0.9s,baz=225,slow=1.4,SNR=2.3
SYO Syowa Base 92.39 199|| *e*pP **P** **10 21 26.2 -0.2**
NV01 Mina Array Sit 93.43 52 *e*P **P** **10 21 30.7 -1.5**
NVAR Mina Array Bea 93.43 52 P **P** **10 21 30.7 -1.5**
0.2nm,0.5s,baz=255,slow=6.0,SNR=2.0
PDAR Pinedale Array 100.21 48 P **Pdif** **10 22 01.5 -1.3**
0.2nm,0.7s,baz=246,slow=1.8,SNR=2.4
GERES GERESS Array B 124.47 328 PKP **PKPdf** **10 27 14.2 -1.4**
0.5nm,0.4s,baz=74,slow=3.6,SNR=2.6
LPAZ La Paz 134.59 120 PKP **PKPdf** **10 27 36.1 -0.3**
0.6nm,0.7s,baz=243,slow=6.8,SNR=3.6
TOA0 Torodi Ar. Sit 149.76 286 *e*PKPbc **PKPbc** **10 28 05.9 -1.2**
TOA0 *e*PKPbc **PKiKP** **10 28 07.9 -0.2**
TORD Torodi Ar. Bea 149.76 286 PKPbc **PKPbc** **10 28 06.6 -0.4**
0.8nm,0.3s,baz=68,slow=2.6,SNR=16
TOA1 Torodi Ar. Sit 149.77 286 *e*PKPbc **PKPbc** **10 28 06.7 -0.4**
BDFB Brasilia 150.93 138 PKPbc **PKPbc** **10 28 10.6 +0.6**
2.0nm,0.4s,baz=228,slow=2.6,SNR=3.0

IDC ***19*** *10:09:41.0±0.4, 9.°58S×108.°41E, h0km, mb4.6/35, mb1 4.6/36, mb1mx4.5/58, mbtmp4.6/36, ML4.5/1, MS4.7/3, Ms1 4.7/3, ms1mx3.8/58, Error ellipse: s-maj=13.3km s-min=11.2km az=76.0*

DJA ***19*** *10:09:42.2±0.6, 10.°S±6.°×10.°8E±.°, h10km, M5.2/24, mb5.1/19, mB5.6/2, MLv5.2/24, Mw(mB)5.1/2*

NEIC ***19*** *10:09:42.2±0.2, 9.°67S×108.°26E, h10km, mb4.9/37, Error ellipse: s-maj=5.4km s-min=4.0km az=220.0*

ISCJB ***19*** *10:09:43.2±0.2, 9.°71S±0.°03×108.°22E±0.°02, h28km, mb4.7/80, Error ellipse: s-maj=4.8km s-min=3.2km az=23.7*

KLM ***19*** *10:09:44.0, 9.°58S×108.°19E, h10km, mb4.7*

BJI ***19*** *10:09:46.0, 9.°50S×108.°20E, h35km, mb4.9/47, mB5.5/18, Ms5.3/19, Ms7 5.0/19*

ISC 19 10:09:44.8±0.3, 9.°67S±0.°04×108.°17E±0.°04, h28km, n215, σ1°81/225, mb4.8/80, 1D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**1.89**	**8**	**P**		**Pn**	**10 10 14.9**	**-0.4**
CISI	**Cisompet, Garu**	**2.13**	**350**	*e*Pn		**Pn**	**10 10 18.4**	**-0.3**
CISI				*e*Sn		**Sn**	**10 10 45.1**	**+1.0**
CISI	**Cisompet, Garu**	**2.13**	**350**	P		**Pn**	**10 10 17.8**	**-0.8**
KPJI	**Karang Pucung**	**2.44**	**18**	P		**Pn**	**10 10 23.9**	**+1.1**
CNJI	**Cibinong**	**2.56**	**336**	P		**Pn**	**10 10 24.0**	**-0.5**
XMIS	**Christmas Isla**	**2.61**	**252**	*e*Pn		**Pn**	**10 10 21.9**	**-3.3**
XMIS				*e*Sn		**Sn**	**10 10 49.2**	**-6.9**
LEM	**Lembang**	**2.88**	**349**	Pn		**Pn**	**10 10 30.9**	**+1.8**
30nm,0.3s,baz=149,slow=7.7,SNR=40								
LEM				Sn		**Sb**	**10 11 08.8**	**-1.6**
31nm,0.3s,baz=328,slow=24,SNR=5.4								
LEM	**Lembang**	**2.88**	**349**	P		**Pn**	**10 10 30.4**	**+1.4**
UGM	**Wanagama**	**2.90**	**53**	*e*Pn		**Pn**	**10 10 29.4**	**+0.2**
UGM				*e*Sn		**Sn**	**10 11 01.2**	**-2.1**
UGM	**Wanagama**	**2.90**	**53**	P		**Pn**	**10 10 29.6**	**+0.3**
SKJI	**Sukabumi**	**3.09**	**329**	P		**Pn**	**10 10 31.9**	**+0.1**
WOJI	**Wonogiri, Jawa**	**3.27**	**56**	P		**Pn**	**10 10 34.7**	**+0.4**
PCJI	**Pacitan**	**3.31**	**64**	P		**Pn**	**10 10 34.5**	**-0.3**
SMRI	**Semarang**	**3.44**	**41**	*e*Pn		**Pn**	**10 10 36.5**	**-0.1**
SMRI				*e*Sn		**Sn**	**10 11 07.6**	**-8.8**
SMRI	**Semarang**	**3.44**	**41**	P		**Pn**	**10 10 38.5**	**+1.9**
CGJI	**Cibinong**	**3.90**	**321**	P		**Pn**	**10 10 42.8**	**-0.2**
PWJI	**Pagerwojo**	**3.94**	**66**	P		**Pn**	**10 10 44.4**	**+0.9**
NGJI	**Ngawi**	**3.97**	**55**	P		**Pn**	**10 10 47.4**	**+3.4**
SBJI	**Serang**	**4.06**	**330**	P		**Pn**	**10 10 47.1**	**+1.9**
GRJI	**Gresik**	**5.06**	**58**	P		**Pn**	**10 11 00.6**	**+1.7**
GMJI	**Gumukmas**	**5.39**	**76**	P		**Pn**	**10 11 04.2**	**+0.8**
KASI	**Kota Agung**	**5.50**	**318**	P		**Pb**	**10 11 18.3**	**-1.9**
BLJI	**Banyuglugur**	**5.69**	**71**	P		**Pn**	**10 11 09.0**	**+1.4**
266nm,0.8s,1.4nm								
KLI	**Kotabumi**	**5.80**	**325**	P		Pn	10 11 16.6	+7.6
JAGI	**Jajag, Banyuwa**	**6.02**	**79**	*e*Pn		**Pn**	**10 11 12.5**	**+0.3**
JAGI				*e*Sn		**Sn**	**10 12 14.9**	**-5.3**
JAGI	**Jajag, Banyuwa**	**6.02**	**79**	P		**Pn**	**10 11 12.5**	**+0.3**
LWLI	**Liwa**	**6.16**	**318**	P		Pn	10 11 20.5	+6.3
MDSI	**Maura Dua**	**6.50**	**322**	P		**Pn**	**10 11 20.2**	**+1.5**
33nm,0.7s,0.2nm								
IGBI	**Denpasar**	**6.93**	**84**	P		**Pn**	**10 11 26.7**	**+2.0**
DNP	**Denpasar**	**7.02**	**83**	P		**Pn**	**10 11 29.5**	**+3.7**
515nm,0.6s,3.9nm								
SRBI	**Singaraja**	**7.13**	**78**	P		**Pn**	**10 11 28.9**	**+1.5**
MNAI	**Manna**	**7.39**	**315**	*e*Pn		**Pn**	**10 11 30.3**	**-0.6**
MNAI				*e*Sn		**Sn**	**10 12 49.4**	**-4.5**
MNAI	**Manna**	**7.39**	**315**	P		**Pn**	**10 11 30.3**	**-0.6**
PPBI	**Pangkal Pinang**	**7.73**	**345**	P		**Pn**	**10 11 38.4**	**+2.8**
40nm,1.4s,13μm0.4nm								
TWSI	**Taliwang, Sumb**	**8.65**	**85**	P		**Pn**	**10 11 47.9**	**-0.3**
MASI	**Maura Aman, Be**	**8.76**	**317**	P		**Pn**	**10 11 53.5**	**+3.7**
206nm,0.9s,1.5nm								
PLAI	**Plampang**	**9.52**	**86**	P		**Pn**	**10 12 00.3**	**+0.2**
245nm,0.9s								
STKI	**Sintang**	**10.21**	**19**	P		Pn	10 12 14.7	+5.0
KSM	**Kuching**	**11.27**	**11**	*e*Pn		**Pn**	**10 12 23.5**	**-0.7**
BKSI	**Bulukumba**	**12.61**	**71**	P		**Pn**	**10 12 46.9**	**+4.4**
19nm,0.8s								
SBUM	**Sibu**	**12.69**	**19**	*e*Pn		**Pn**	**10 12 44.2**	**+0.5**
SPSI	**Sidrap Palu**	**12.83**	**65**	P		**Pn**	**10 12 48.2**	**+2.7**
24nm,1.3s								
BNSI	**Bone**	**12.94**	**67**	P		Pn	10 12 52.1	+5.0
74nm,1.9s								
EDFI	**Ende, Flores**	**13.38**	**87**	P		**Pn**	**10 12 50.1**	**-3.0**
27nm,0.7s								
MNSI	**Mandailing Nat**	**13.46**	**320**	P		**P**	**10 13 01.1**	**-2.0**
MMRI	**Maumere**	**13.92**	**87**	*e*Pn		**Pn**	**10 12 58.0**	**-2.5**
MMRI				*e*Sn		Sn	10 15 24.4	-10
GSI	**Gunungsitoli**	**15.17**	**315**	*e*Pn		**Pn**	**10 13 13.7**	**-3.6**
32nm,0.8s								
BATI	**Baumata**	**15.27**	**93**	Pn		**Pn**	**10 13 15.0**	**-3.7**
2.2nm,0.3s,baz=166,slow=10,SNR=4.4								
BATI				Sn		**Sn**	**10 16 08.8**	**+1.7**
4.6nm,0.3s,baz=332,slow=22,SNR=1.6								
BATI	**Baumata**	**15.27**	**93**	P		**P**	**10 13 26.5**	**+3.2**
MPSI	**Mapaga**	**15.33**	**50**	P		**P**	**10 13 22.0**	**-1.9**
PSI	**Prapat**	**15.44**	**323**	*e*Pn		**Pn**	**10 13 19.4**	**-1.5**
7.9nm,0.8s								
IPM	**Ipoh**	**15.76**	**333**	*e*Pn		**Pn**	**10 13 25.0**	**0.0**
21nm,1.0s								
SOEI	**Soe**	**15.87**	**92**	*e*Pn		**Pn**	**10 13 24.8**	**-1.7**
99nm,1.0s								
MBWA	**Marble Bar**	**15.95**	**137**	Pn		**Pn**	**10 13 24.9**	**-2.5**
110nm,1.3s								
KULM	**Kulim**	**16.64**	**333**	*e*Pn		**Pn**	**10 13 32.8**	**-3.4**
13nm,1.0s								
KULM	**Kulim**	**16.64**	**333**	P		**Pn**	**10 13 37.0**	**+0.7**
LUWI	**Luwuk**	**16.86**	**60**	*e*Pn		**Pn**	**10 13 36.9**	**-2.1**
41nm,0.9s								
KKM	**Kota Kinabalu**	**17.54**	**27**	P		**P**	**10 13 49.0**	**+0.4**
KDM	**Kudat**	**18.60**	**28**	P		**Pn**	**10 14 01.0**	**+0.6**
TRTT	**Trang**	**19.33**	**334**	P		**P**	**10 14 08.2**	**+0.1**
6.8nm,1.0s								
PKDT	**Phuket**	**20.01**	**330**	P		Pn	10 14 21.1	+3.7
20nm,0.9s								
TNTI	**Ternate**	**21.74**	**63**	*e*P		**P**	**10 14 33.3**	**-1.0**
151nm,1.3s								
MTN	**Manton Dam**	**22.73**	**100**	*e*P		**P**	**10 14 44.6**	**-0.4**
21nm,1.0s								
PHET	**Kaeng Krachan**	**23.98**	**339**	P		**P**	**10 14 58.9**	**+1.7**
13nm,1.0s,236nm								
DAV	**Davao City (W)**	**24.02**	**47**	P		**P**	**10 14 55.8**	**-1.8**
156nm,0.3s,baz=218,slow=20,SNR=1.5								
SRAK	**Srakaew**	**24.30**	**345**	P		**P**	**10 15 00.0**	**-0.1**
36nm,1.0s,708nm								
SIJI	**Sorong**	**24.58**	**71**	P		**P**	**10 14 59.8**	**-3.0**
9.2nm,0.7s,baz=277,slow=17,SNR=3.5								
NWAO	**Narrogin (SRO)**	**24.61**	**161**	P		**P**	**10 15 02.6**	**-0.3**
22nm,1.0s,baz=198,slow=8.7,SNR=5.1								
NWAO	**Narrogin (SRO)**	**24.61**	**161**	*e*P		**P**	**10 15 02.6**	**-0.3**
NWAO				*e*P		**P**	**10 15 03.3**	**+0.4**
FAKI	**Fak Fak**	**24.84**	**76**	*e*P		**P**	**10 15 04.1**	**-1.0**
45nm,1.2s								
SRDT	**SRDT**	**25.49**	**339**	P		**P**	**10 15 13.3**	**+2.3**
18nm,1.1s								
CHAI	**Chaiyaphum**	**26.13**	**346**	P		**P**	**10 15 18.3**	**+1.5**
20nm,0.9s,228nm								
TGY	**Tagaytay City**	**26.80**	**28**	LR		LR	10 25 53.2	
comp=Z,1μm,18.6s,baz=220,slow=36								
PBKT	**Sadao Pong**	**27.03**	**345**	*e*P		**P**	**10 15 25.8**	**+1.0**
PBKT	**Sadao Pong**	**27.03**	**345**	P		**P**	**10 15 25.8**	**+1.0**
34nm,0.8s								
WR1	**Warramunga Arr**	**27.24**	**115**	*e*P		**P**	**10 15 26.6**	**-0.3**
6.2nm,0.9s								
WR1				*e*PcP		**PcP**	**10 18 47.7**	**+1.1**
WRA	**Warramunga Arr**	**27.24**	**115**	P		**P**	**10 15 26.6**	**-0.3**
4.7nm,0.8s,baz=286,slow=11,SNR=6.1								
WRA				PcP		**PcP**	**10 18 47.7**	**+1.1**
0.5nm,0.7s,baz=301,slow=2.0,SNR=2.9								
WRAB	**Tennant Creek**	**27.25**	**115**	*e*P		**P**	**10 15 27.6**	**+0.7**
4.7nm,0.8s								
WB2	**Warramunga Arr**	**27.25**	**115**	*e*P		**P**	**10 15 27.0**	**+0.1**
6.5nm,0.8s								
WB2				*e*P		**P**	**10 15 27.1**	**+0.2**
ASAR	**Alice Springs**	**28.24**	**123**	P		**P**	**10 15 35.3**	**-0.4**
3.5nm,0.8s,baz=301,slow=9.1,SNR=9.3								
ASAR				PcP		**PcP**	**10 18 49.5**	**+0.5**
0.8nm,0.7s,baz=295,slow=2.1,SNR=4.6								
UTTA	**Uttaradit**	**28.26**	**345**	P		**P**	**10 15 37.3**	**+1.5**
10nm,0.9s,96nm								
SUKH	**Sukhothai**	**28.27**	**343**	P		**P**	**10 15 37.2**	**+1.3**
16nm,0.8s								
LAMP	**Lampang**	**29.25**	**343**	P		**P**	**10 15 46.4**	**+1.7**
27nm,0.9s,345nm								
CM01	**Chiang Mai Arr**	**29.35**	**342**	*e*P		**P**	**10 15 45.6**	**0.0**
CM31	**Chiang Mai Arr**	**29.39**	**342**	*e*P		**P**	**10 15 46.7**	**+0.7**
CMAR	**Chiang Mai Arr**	**29.39**	**342**	P		**P**	**10 15 46.6**	**+0.6**
20nm,0.9s,baz=177,slow=8.6,SNR=101								
CHTO	**Chiang Mai**	**29.73**	**342**	*e*P		**P**	**10 15 48.9**	**0.0**
35nm,0.9s								
CHTO	**Chiang Mai**	**29.73**	**342**	P		**P**	**10 15 49.8**	**+0.9**
190nm,1.1s								
BBOO	**Buckleboo**	**34.52**	**136**	*e*P		**P**	**10 16 29.9**	**-1.1**
12nm,0.9s								
KMI	**Kunming**	**34.98**	**351**	P		**P**	**10 16 38.3**	**+3.2**
KMI				pmax		pmax		
comp=Z,16nm,0.7s								
KMI				LR		LR		
comp=N,2μm,16.1s								
KMI				LR		LR		
comp=E,2μm,15.4s								
KMI				LR		LR		
comp=Z,1μm,14.1s								
H08S2	**Diego Garcia H**	**35.32**	**270**	T		T	10 54 04.4	
baz=96								
H08S3	**Diego Garcia H**	**35.33**	**270**	T		T	10 54 08.1	
baz=96								
H08S1	**Diego Garcia H**	**35.34**	**270**	T		T	10 54 07.1	
baz=96								
SSLB	**Suanglung**	**35.52**	**20**	*e*P		**P**	**10 16 39.0**	**-0.5**
64nm,1.0s								
GYA	**Guiyang**	**35.94**	**358**	*e*P		**P**	**10 16 46.0**	**+2.8**
GYA				pmax		pmax		
comp=Z,10.0nm,0.8s								
STKA	**Stephens Creek**	**38.02**	**130**	P		**P**	**10 17 00.1**	**-0.7**
14nm,0.8s,baz=306,slow=9.4,SNR=22								
STKA	**Stephens Creek**	**38.02**	**130**	*e*P		**P**	**10 17 00.1**	**-0.7**
3.4nm,0.9s								
CTA	**Charters Tower**	**38.15**	**110**	P		**P**	**10 17 04.8**	**+2.7**
2.9nm,0.7s,baz=288,slow=6.4,SNR=3.3								
SHL	**Shillong**	**38.45**	**336**	*e*P		**P**	**10 17 04.6**	**0.0**
50nm,1.2s								
ENH	**Enshi**	**39.73**	**2**	*e*P		**P**	**10 17 14.9**	**-0.2**
22nm,0.9s								
HYB	**Hyderabad**	**39.76**	**312**	*i* P		**P**	**10 17 17.0**	**+1.4**
CD2	**Chengdu**	**40.57**	**354**	*e*P		**P**	**10 17 23.5**	**+1.4**
JOW	**Kunigami**	**41.20**	**28**	*e*P		**P**	**10 17 25.4**	**-1.9**
48nm,1.1s								
ODAN	**Odare**	**41.54**	**331**	*e*P		**P**	**10 17 31.4**	**+1.1**
65nm,0.9s								
RAMN	**Ramite**	**41.99**	**331**	*e*P		**P**	**10 17 35.4**	**+1.3**
77nm,1.2s								
LSA	**Lhasa**	**42.44**	**338**	*e*P		**P**	**10 17 37.7**	**-0.2**
23nm,1.1s								
NJ2	**Nanjing**	**42.72**	**13**	*e*P		**P**	**10 17 40.8**	**+1.2**
NJ2				pmax		pmax		
comp=Z,38nm,1.0s								
JIRN	**Jiri**	**42.78**	**331**	*e*P		**P**	**10 17 41.9**	**+1.2**
136nm,0.9s								
PKI	**Pulchoki**	**43.09**	**330**	*e*P		**P**	**10 17 43.8**	**+0.7**
49nm,1.1s								
PKIN	**Phulchoki**	**43.10**	**330**	*e*P		**P**	**10 17 43.8**	**+0.7**
GUN	**Gumba**	**43.14**	**331**	*e*P		**P**	**10 17 44.7**	**+1.2**
87nm,0.9s								
DMN	**Daman**	**43.27**	**330**	*e*P		**P**	**10 17 45.5**	**+1.0**
72nm,1.0s								
KKN	**Kakani**	**43.34**	**330**	*e*P		**P**	**10 17 45.8**	**+0.9**
101nm,1.1s								
KOLN	**Koldanda**	**44.17**	**328**	*e*P		**P**	**10 17 52.6**	**+0.9**
40nm,0.9s								
DANN	**Dangsing**	**44.56**	**329**	*e*P		**P**	**10 17 55.7**	**+0.8**
39nm,0.8s								
PYUN	**Piuthan**	**44.76**	**328**	*e*P		**P**	**10 17 57.3**	**+0.9**
70nm,1.3s								
LZH	**Lanzhou**	**45.69**	**355**	*e*P		**P**	**10 18 05.6**	**+2.0**
LZH				pP		sP	10 18 15.5	+0.1
LZH				sP		pP	10 18 20.3	+8.3
LZH				pmax		pmax		
comp=Z,60nm,1.3s								
LZH				LR		LR		
comp=N,920nm,11.9s								
LZH				LR		LR		
comp=E,1μm,13.6s								
LZH				LR		LR		
comp=Z,880nm,13.4s								
TIA	**Tai'an**	**46.41**	**10**	P		**P**	**10 18 08.8**	**-0.2**
TIA				pmax		pmax		
comp=Z,17nm,0.9s								
JNU	**Nakatsue**	**47.73**	**26**	P		**P**	**10 18 17.9**	**-1.6**
11nm,1.0s,baz=197,slow=11,SNR=2.6								
JNU				LR		LR	10 39 40.9	
comp=Z,691nm,18.7s,baz=175,slow=38								
GTA	**Gaotai**	**49.44**	**351**	P		**P**	**10 18 34.0**	**+1.4**
GTA				pP		sP	10 18 44.8	+0.3
GTA				sP		pP	10 18 48.5	+7.4
GTA				pmax		pmax		
comp=Z,11nm,1.4s								
GTA				LR		LR		
comp=N,810nm,17.9s								
GTA				LR		LR		
comp=E,1μm,15.8s								
GTA				LR		LR		
comp=Z,2μm,17.2s								
BJI	**Beijing**	**50.01**	**8**	P		**P**	**10 18 37.6**	**+0.9**
BJI				pP		**sP**	**10 18 47.8**	**-0.8**
BJI				pmax		pmax		
comp=Z,13nm,1.6s								
HHC	**Hu-ho-hao-te**	**50.36**	**3**	*e*P		**P**	**10 18 43.8**	**+4.3**
HHC				pmax		pmax		
comp=Z,9.0nm,0.5s								
KSAR	**Wonju Array Be**	**50.37**	**20**	P		**P**	**10 18 37.8**	**-1.8**
KSRS	**Korea Array**	**50.40**	**20**	P		**P**	**10 18 37.8**	**-1.9**
3.6nm,0.9s,baz=198,slow=8.6,SNR=5.9								
MAJO	**Matsushiro**	**53.95**	**30**	*e*P		**P**	**10 19 04.2**	**-2.0**
MAT	**Matsushiro**	**53.95**	**30**	P		**P**	**10 19 04.1**	**-2.1**
MJAR	**Matsushiro Arr**	**53.95**	**30**	P		**P**	**10 19 04.2**	**-2.0**
9.8nm,1.0s,baz=209,slow=8.4,SNR=15								
CN2	**Changchun**	**55.48**	**15**	*e*P		**P**	**10 19 17.8**	**+0.6**
CN2				pmax		pmax		
comp=Z,10.0nm,1.1s								
WMQ	**Urumqi**	**56.40**	**342**	P		**P**	**10 19 25.6**	**+1.8**
WMQ				pP		pP	10 19 32.8	+0.4
WMQ				pmax		pmax		
comp=Z,54nm,1.5s								
WMQ				pmax		pmax		
comp=Z,69nm,4.3s								
WMQ				LR		LR		
comp=N,1μm,19.7s								
WMQ				LR		LR		
comp=E,860nm,22.1s								
WMQ				LR		LR		
comp=Z,1μm,22.1s								
SONA0	**Songino Array**	**57.27**	**359**	*e*P		**P**	**10 19 30.3**	**+0.3**
SONM	**Songino Array**	**57.27**	**359**	P		**P**	**10 19 30.3**	**+0.3**
4.0nm,0.9s,baz=173,slow=8.0,SNR=15								
KSH	**Kashi**	**57.34**	**331**	*e*P		**P**	**10 19 34.1**	**+3.4**
KSH				PP		**PP**	**10 21 43.0**	**+4.7**
KSH				S		**S**	**10 27 16.8**	**-8.8**
KSH				pmax		pmax		
comp=Z,590nm,10.2s								
KSH				LR		LR		
comp=N,2μm,13.2s								
KSH				LR		LR		
comp=E,1μm,11.1s								
KSH				LR		LR		
comp=Z,3μm,16.9s								
USRK	**Ussurisyk Ar.**	**57.80**	**20**	P		**P**	**10 19 33.1**	**-0.5**
8.1nm,0.9s,baz=204,slow=5.8,SNR=7.7								
PRZ	**Przheval'sk**	**58.61**	**335**	*e*P		**P**	**10 19 40.3**	**+0.7**
43nm,1.4s								
NRN	**Naryn**	**58.83**	**332**	*e*P		**P**	**10 19 41.2**	**-0.1**
13nm,1.3s								
KDJ	**Kajisay**	**58.85**	**333**	*e*P		**P**	**10 19 42.0**	**+0.7**
22nm,1.2s								
OPO	**Ambohidratompo**	**59.57**	**254**	P		**P**	**10 19 48.6**	**+1.8**
2.0nm,0.3s,baz=345,slow=3.2,SNR=6.2								
AAK	**Ala-Archa**	**60.47**	**332**	*e*P		**P**	**10 19 52.4**	**0.0**
8.9nm,1.3s								
MK01	**Makanchi Array**	**60.75**	**340**	*e*P		**P**	**10 19 54.3**	**+0.3**
MK31	**Makanchi Array**	**60.77**	**340**	*e*P		**P**	**10 19 54.2**	**0.0**
MK32	**Makanchi Array**	**60.77**	**340**	*e*P		**P**	**10 19 55.0**	**+0.8**
MKAR	**Makanchi Array**	**60.77**	**340**	P		**P**	**10 19 55.0**	**+0.8**
16nm,0.9s,baz=140,slow=7.7,SNR=63								
MKAR	**Makanchi Array**	**60.77**	**340**	*e*P		**P**	**10 19 53.7**	**-0.5**
71nm,0.9s								
UOSS	**Minazif**	**61.22**	**305**	*e*P		**P**	**10 19 57.1**	**-0.5**
8.7nm,0.9s								
KLR	**Kul'dur**	**62.20**	**17**	P		**P**	**10 20 02.7**	**-1.0**
14nm,1.0s,baz=245,slow=4.9,SNR=17								
KK31	**Karatay Array**	**62.74**	**330**	*e*P		**P**	**10 20 07.4**	**-0.1**
KKAR	**Karatay Array**	**62.74**	**330**	*e*P		**P**	**10 20 07.1**	**-0.4**
YSS	**Yuzh-Sakhalins**	**64.24**	**26**	*e*P		**P**	**10 20 17.1**	**-0.2**
42nm,1.1s								
MAW	**Mawson**	**65.17**	**197**	P		**P**	**10 20 24.3**	**+1.2**
7.5nm,0.9s,baz=15,slow=2.8,SNR=5.8								
KURK	**Kurchatov**	**65.39**	**340**	*e*P		**P**	**10 20 25.1**	**+0.5**
17nm,1.0s								
ZAA0	**Zalesovo Array**	**66.39**	**345**	*e*P		**P**	**10 20 31.2**	**+0.1**
20nm,1.3s								
ZALV	**Zalesovo Beam**	**66.39**	**345**	P		**P**	**10 20 31.2**	**+0.1**
3.8nm,0.7s,baz=131,slow=4.1,SNR=13								
ZALV	**Zalesovo Beam**	**66.39**	**345**	*e*P		**P**	**10 20 30.4**	**-0.7**
ZAA1	**Zalesovo Array**	**66.39**	**345**	*e*P		**P**	**10 20 31.2**	**+0.1**
GEYT	**Alibeck**	**66.52**	**319**	P		**P**	**10 20 32.6**	**+0.3**
2.2nm,0.7s,baz=158,slow=4.8,SNR=6.1								
GYA0B	**ALIBECK ARRAY**	**66.52**	**319**	*e*P		**P**

OLIL	Olney	147.59	24	ePKPbc	PKPbc	10 29 26.2	-0.8
T42A	Van Buren	147.66	30	ePKPbc	PKPbc	10 29 27.6	+0.4
ACSO	Alum Creek Sta	147.99	16	ePKPdf	PKPdf	10 29 25.8	+0.9
PBMO	Poplar Bluff	148.18	29	ePKPdf	PKPdf	10 29 26.4	+1.0
MIAR	Mount Ida	148.22	36	ePKPdf	PKPdf	10 29 27.0	+1.5
WCI	Wyandotte Cave	148.73	22	ePKPdf	PKPdf	10 29 25.0	-1.2
Q51A	Peebles	149.00	18	ePKPdf	PKPdf	10 29 25.5	-1.2
P53A	Whipple	149.10	14	ePKPdf	PKPdf	10 29 28.0	+1.3
LNIG	Linares	149.66	57	ePKPdf	PKPdf	10 29 26.4	-1.7
WVT	Waverly	149.91	26	ePKPbc	PKPbc	10 29 33.9	+0.9
PB11	IPOC Station P	150.68	184	ePKPdf	PKPdf	10 29 29.7	-0.3
PLAL	Pickwick Lake	150.75	28	ePKPdf	PKPdf	10 29 28.3	-1.2
MNMC	Minye Minye	151.30	184	ePKPdf	PKPdf	10 29 30.1	-1.1
LPAZ	La Paz	153.95	188	PKPbc	PKPbc	10 29 45.3	+1.8
	comp=Z,0.8nm,0.7s,baz=153,slow=2.3,SNR=3.1						
LPAZ	La Paz	153.95	188	ePKPdf	PKPdf	10 29 33.7	-1.9
LPAZ				e		10 29 34.5	
LPAZ				ePKPab	PKPab	10 29 57.6	+1.0

IDC ***19*** *10:15:52.1±0.5,5°.71S×151°.58E,h0km,mb4.5/17, mb1 4.7/20,mb1mx4.5/47,mbtmp4.6/20,ML3.8/3,MS4.6/1, Ms1 4.6/1,ms1mx3.6/41,Error ellipse: s-maj=17.7km s-min=14.7km az=116.0*

NEIC ***19*** *10:15:53.9±0.7,5°.79S×151°.63E,h11km±4km,mb5.1/33, Error ellipse: s-maj=5.9km s-min=3.8km az=130.0*

BJI ***19*** *10:15:54.7,5°.77S×151°.52E,h13km,mb4.9/15,mB5.5/6, Ms5.4/5,Ms7 5.1/5*

ISCJB ***19*** *10:15:57.0±0.2,5°.86S±0°.03×151°.54E±0°.03,h41km, mb4.8/53,Error ellipse: s-maj=5.6km s-min=3.7km az=39.8*

DJA ***19*** *10:16:14.3±2.0,7°.5±11°×15°1E±1°.5,h129km±11km, M5.1/13,mb5.0/13,MLv5.1/1*

ISC 19 10:15:58.6±0.3,5°.82S±0°.05×151°.61E±0°.05,h41km,n133,
σ1§68/143,mb4.9/53,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	Rabaul	1.71	19	ePn	Pn	10 16 25.4	-0.6
RABL				eSn	Sn	10 16 48.9	+2.2
MANU	Manus Island	5.66	311	ePn	Pn	10 17 21.5	+1.3
PMG	Port Moresby	5.67	231	Pn	Pn	10 17 20.6	+0.2
	41nm,0.3s,baz=53,slow=5.2,SNR=95						
PMG				Sn	Sn	10 18 24.7	+0.3
	10nm,0.3s,baz=16,slow=13,SNR=1.7						
PMG	Port Moresby	5.67	231	ePn	Pn	10 17 19.2	-1.2
PMG				eSn	Sn	10 18 25.6	+1.2
HNR	Honiara	9.01	114	Pn	Pn	10 18 05.6	-0.6
	6.1nm,0.3s,baz=1.8,slow=0.7,SNR=7.5						
HNR				Sn	Sn	10 19 51.4	+4.9
	2.9nm,0.3s,baz=237,slow=7.6,SNR=2.6						
HNR	Honiara	9.01	114	P	Pn	10 18 07.0	+0.7
HNR	Honiara	9.01	114	ePn	Pn	10 18 03.7	-2.6
HNR				ePn	Pn	10 18 05.7	-0.6
HNR				eSn	Sn	10 19 51.4	+4.9
JAY	Jayapura	11.36	286	P	Pn	10 18 49.2	+11
	264nm,1.2s						
COEN	Coen	11.59	225	P	Pn	10 18 42.7	+1.1
	baz=12,SNR=7.4						
COEN	Coen	11.59	225	ePn	Pn	10 18 40.4	-1.3
CTA	Charters Tower	15.11	200	Pn	Pn	10 19 27.7	-1.7
	0.2nm,0.3s,baz=27,slow=13,SNR=3.0						
CTAO	Charters Tower	15.11	200	ePn	Pn	10 19 27.3	-2.1
	20nm,0.9s						
QIS	Mount Isa	18.72	217	P	Pn	10 20 14.4	-0.3
	baz=19,SNR=35						
EIDS	Eidsvold	19.45	181	P	P	10 20 22.1	+0.3
	baz=19,SNR=6.2						
EIDS	Eidsvold	19.45	181	eP	P	10 20 21.2	-0.7
	16nm,0.8s						
FAKI	Fak Fak	19.52	278	eP	P	10 20 23.0	+0.3
	14nm,0.8s						
KDU	Kakadu	20.07	249	P	P	10 20 29.1	+0.3
	baz=20,SNR=16						
SAUI	Saumlaki	20.28	263	eP	P	10 20 30.7	-0.3
	127nm,0.7s						
SAUI	Saumlaki	20.28	263	P	Pn	10 20 33.7	+0.5
RMQ	Roma	20.73	187	P	Pn	10 20 37.2	-1.2
	baz=21,SNR=24						
SIJI	Sorong	20.89	283	P	P	10 20 35.9	-1.7
	10nm,0.8s,baz=131,slow=22,SNR=3.0						
MTN	Manton Dam	21.37	249	P	P	10 20 43.5	+0.8
	baz=21,SNR=6.4						
MTN	Manton Dam	21.37	249	eP	P	10 20 42.8	+0.1
	76nm,0.8s						
DZM	Mont Dzumac	21.61	140	P	P	10 20 44.9	-0.5
	4.5nm,0.6s,baz=321,slow=8.9,SNR=7.4						
QLP	Quilpie	21.82	198	P	P	10 20 47.8	+0.4
	baz=22,SNR=29						
WC3	Warramunga Arr	21.87	228	eP	P	10 20 47.4	-0.8
	55nm,0.9s						
WRAB	Tennant Creek	21.87	229	eP	P	10 20 47.2	-1.0
	57nm,0.8s						
WB2	Warramunga Arr	21.88	229	eP	P	10 20 46.4	-1.8
WB2				eP	P	10 20 47.5	-0.8
WR1	Warramunga Arr	21.89	229	eP	P	10 20 47.8	-0.5
	53nm,0.8s						
WR1				eS	S	10 24 46.6	-1.5
WRA	Warramunga Arr	21.89	229	P	P	10 20 47.8	-0.5
	38nm,0.7s,baz=53,slow=10.0,SNR=69						
WRA				S	S	10 24 46.6	-1.5
	3.1nm,1.1s,baz=54,slow=17,SNR=5.5						
WRA				ScP	ScP	10 28 24.9	+3.8
	1.0nm,0.7s,baz=46,slow=2.9,SNR=6.3						
TARA	Tarawa	22.45	72	eP	P	10 20 52.2	-2.1
	120nm,1.1s						
KNRA	Kununurra	24.46	245	P	P	10 21 14.2	+0.2
	baz=24,SNR=13						
ARMA	Armidale	24.47	180	eP	P	10 21 13.2	-0.9
	40nm,1.4s						
AS01	Alice Springs	24.57	222	eP	P	10 21 13.9	-1.0
AS31	Alice Springs	24.60	222	eP	P	10 21 14.8	-0.5
	17nm,0.7s						
ASAR	Alice Springs	24.60	222	P	P	10 21 15.4	+0.1
	40nm,0.7s,baz=53,slow=9.2,SNR=168						
ASAR				S	S	10 25 43.5	+10
	1.2nm,1.1s,baz=40,slow=13,SNR=2.7						
ASAR				ScP	ScP	10 28 31.7	+3.5
	1.3nm,0.8s,baz=44,slow=3.2,SNR=6.2						
TNTI	Ternate	25.07	284	eP	P	10 21 18.7	-0.9
	19nm,0.9s						
CMSA	Cobar Meteorol	26.18	192	P	P	10 21 28.8	-0.7
	baz=26,SNR=22						
SOEI	Soe	27.36	260	eP	P	10 21 40.8	+0.3
	101nm,1.1s						
STKA	Stephens Creek	27.57	199	P	P	10 21 40.8	-1.2
	7.4nm,0.7s,baz=25,slow=13,SNR=12						
STKA	Stephens Creek	27.57	199	P	P	10 21 41.4	-0.6
	baz=28,SNR=6.7						
STKA	Stephens Creek	27.57	199	eP	P	10 21 40.9	-1.0
	2.5nm,0.8s						
BATI	Baumata	28.01	259	P	P	10 21 44.2	-1.9
	15nm,0.4s,baz=94,slow=19,SNR=2.8						
FITZ	Fitzroy Crossi	28.13	242	P	P	10 21 47.1	-0.1
	baz=28,SNR=62						
FITZ	Fitzroy Crossi	28.13	242	eP	P	10 21 46.8	-0.4
	39nm,0.6s						
MMRI	Maumere	29.27	263	eP	P	10 21 56.8	-0.5
	64nm,1.0s						
WRKA	Warakurna	29.40	227	P	P	10 21 58.2	-0.2
	baz=29,SNR=16						
EDFI	Ende, Flores	29.82	263	P	P	10 22 00.9	-1.3
HTT	Hallett	29.90	202	P	P	10 22 02.4	-0.3
	baz=30,SNR=4.1						
BBOO	Buckleboo	30.52	206	P	P	10 22 07.4	-0.7
	baz=30,SNR=6.9						
BBOO	Buckleboo	30.52	206	eP	P	10 22 07.0	-1.1
	17nm,0.9s						
ARPS	Mount Arapiles	32.08	195	P	P	10 22 21.8	0.0
	baz=32,SNR=5.7						
WBSI	Waikabubak, Su	32.14	261	P	P	10 22 22.3	-0.4
FORT	Forrest	33.26	219	P	P	10 22 32.0	-0.2
	baz=33,SNR=9.6						
FORT	Forrest	33.26	219	eP	P	10 22 31.5	-0.7
	51nm,0.8s						
PLAI	Plampang	33.68	263	P	P	10 22 34.6	-1.5
MBWA	Marble Bar	34.44	241	eP	P	10 22 42.4	-0.2
	35nm,0.7s						
JAGI	Jajag, Banyuwa	37.25	264	eP	P	10 23 05.0	-1.8
	40nm,0.9s						
MEEK	Meekatharra	37.65	233	P	P	10 23 10.0	-0.1
	baz=38,SNR=12						
KMBL	Kambalda	37.70	224	P	P	10 23 10.1	-0.4
	baz=38						
KLBR	Kellerberrin	40.75	227	P	P	10 23 35.3	-0.6
	baz=41,SNR=7.5						
MORW	Morawa	40.79	231	P	P	10 23 36.3	+0.1
	baz=41						
BLDU	Ballidu	41.02	229	P	P	10 23 37.7	-0.4
	baz=41,SNR=5.3						
MUN	Mundaring	42.08	227	P	P	10 23 46.8	0.0
	baz=42						
CISI	Cisompet, Garu	43.52	265	eP	P	10 23 57.6	-1.2
	323nm,1.7s						
LEM	Lembang	43.73	266	P	P	10 23 59.5	-1.1
	25nm,0.7s,baz=10,slow=8.2,SNR=5.8						
MJAR	Matsushiro Arr	43.97	344	LR	LR	10 42 03.0	
	comp=Z,603nm,18.2s,baz=220,slow=36						
NJ2	Nanjing	48.90	322	eP	P	10 24 38.8	-1.9
NJ2				pmax	pmax		
	comp=Z,18nm,0.5s						
GYA	Guiyang	54.08	309	eP	P	10 25 22.3	+2.6
GYA				PP	PP	10 27 25.4	+3.7
GYA				S	S	10 32 58.0	+4.3
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,110nm,5.4s						
KMI	Kunming	56.58	305	P	P	10 25 40.4	+2.5
KMI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,830nm,11.8s						
KMI				LR	LR		
	comp=N,2μm,16.1s						
KMI				LR	LR		
	comp=E,2μm,15.4s						
KMI				LR	LR		
	comp=Z,1μm,14.1s						
CMAR	Chiang Mai Arr	57.25	296	P	P	10 25 41.1	-1.4
	1.1nm,0.5s,baz=121,slow=4.3,SNR=3.9						
KLR	Kul'dur	57.49	345	P	P	10 25 39.5	-4.1
	1.8nm,0.6s,baz=168,slow=8.5,SNR=3.6						
CD2	Chengdu	58.51	312	eP	P	10 25 52.0	+0.8
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PETK	Petropavlovsk-	58.93	4	P	P	10 25 51.1	-2.5
	11nm,1.1s,baz=167,slow=6.5,SNR=4.0						
PEA1	Petropavlovsk-	58.93	4	eP	P	10 25 51.1	-2.5
HHC	Hu-ho-hao-te	59.19	325	eP	P	10 25 58.4	+2.6
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
LZH	Lanzhou	61.14	317	eP	P	10 26 15.3	+6.0
LZH				pP	pP	10 26 19.5	-1.8
LZH				sP	sP	10 26 22.1	-3.9
LZH				pmax	pmax		
	comp=Z,35nm,1.1s						
GTA	Gaotai	65.61	318	eP	P	10 26 48.5	+10
GTA				pP	sP	10 26 55.8	+0.2
GTA				sP	pP	10 26 59.9	+9.1
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SONA0	Songino Array	66.56	329	eP	P	10 26 44.2	-0.5
SONM	Songino Array	66.56	329	P	P	10 26 44.2	-0.5
	comp=Z,1.1nm,0.6s,baz=145,slow=4.5,SNR=4.4						
SONA1	Songino Array	66.56	329	eP	P	10 26 44.8	0.0
VNDA	Vanda	71.86	178	P	P	10 27 17.1	+0.2
	comp=Z,3.5nm,0.7s,baz=329,slow=6.8,SNR=15						
WMQ	Urumqi	75.69	318	eP	P	10 27 41.6	+1.6
CNPM	China Poot	79.14	26	eP	P	10 27 58.8	0.0
	comp=Z,289nm,2.0s						
MK01	Makanchi Array	80.30	319	eP	P	10 28 04.9	-0.6
MK32	Makanchi Array	80.31	319	eP	P	10 28 05.2	-0.4
MKAR	Makanchi Array	80.31	319	P	P	10 28 05.2	-0.4
	comp=Z,0.7nm,0.8s,baz=87,slow=7.7,SNR=3.9						
TRF	Thorofare Moun	81.59	23	eP	P	10 28 11.6	-0.5
	comp=Z,52nm,1.9s						
IM3	Indian Mountai	81.73	20	eP	P	10 28 12.8	+0.1
RND	Reindeer	82.12	23	eP	P	10 28 14.2	-0.7
	comp=Z,9.5nm,0.9s						
MCK	McKinley	82.25	23	eP	P	10 28 15.2	-0.3
	comp=Z,11nm,0.9s						
MLY	Manley	82.25	21	eP	P	10 28 15.3	-0.1
	comp=Z,7.4nm,0.8s						
DHY	Denali Highway	82.54	24	eP	P	10 28 17.1	-0.1
	comp=Z,12nm,1.1s						
KSH	Kashi	82.70	311	eP	P	10 28 19.9	+1.4
KSH				PP	PP	10 31 33.0	+4.2
KSH				S	S	10 38 36.4	+2.9
KSH				pmax	pmax		
	comp=Z,880nm,11.1s						
KSH				LR	LR		
	comp=Z,2μm,16.8s						
TCOL	CIGO, UAF Yank	83.23	22	P	P	10 28 19.7	-0.7
	baz=241						
COLA	College	83.23	22	eP	P	10 28 19.5	-1.0
	comp=Z,11nm,0.7s						
HDA	Harding Lake	83.35	23	P	P	10 28 20.8	-0.3
	baz=242						
POKR	Poker Flat Res	83.50	22	P	P	10 28 21.6	-0.3
	baz=241						
IL1	Eielson Array	83.54	22	eP	P	10 28 20.4	-1.7
ILAR	Eielson Array	83.54	22	P	P	10 28 20.7	-1.4
	comp=Z,4.6nm,0.7s,baz=248,slow=5.5,SNR=38						
ILB	Eielson Array	83.54	22	eP	P	10 28 20.4	-1.7
DOT	Dot Lake	84.13	24	eP	P	10 28 24.8	-0.3
	comp=Z,8.6nm,1.0s						
QSPA	South Pole Qui	84.15	180	eP	P	10 28 25.4	0.0
	comp=Z,14nm,0.9s						
MAW	Mawson	84.18	203	P	P	10 28 25.4	+0.1
	comp=Z,2.1nm,0.7s,baz=122,slow=13,SNR=4.7						
MAW	Mawson	84.18	203	eP	P	10 28 24.9	-0.4
	comp=Z,8.2nm,1.6s						
TOLK	Toolik Lake Re	84.55	18	P	P	10 28 27.8	+0.7
	baz=239						
EGAK	Eagle	85.76	23	eP	P	10 28 33.9	+0.6
	comp=Z,6.1nm,0.9s						
HYT	Haines Junctio	85.88	28	eP	P	10 28 33.9	-0.2
WHY	Whitehorse	87.05	28	eP	P	10 28 40.3	+0.5
	comp=Z,58nm,1.8s						
EPYK	Eagle Plains	88.05	23	P	P	10 28 45.1	+0.7
	baz=251						
INK	Inuvik	89.83	21	P	P	10 28 52.3	-0.3
	comp=Z,1.8nm,0.8s,baz=300,slow=4.7,SNR=5.4						
NV01	Mina Array Sit	93.64	52	eP	P	10 29 09.8	-1.5
NVAR	Mina Array Bea	93.64	52	P	P	10 29 11.1	-0.2
	comp=Z,1.1nm,0.7s,baz=249,slow=6.9,SNR=9.2						
NV11	Mina Array Sit	93.76	52	eP	P	10 29 12.2	+0.4
	comp=Z,0.7nm,1.0s						
DAC	Darwin (Calif)	94.04	54	eP	P	10 29 12.7	-0.5
	comp=Z,8.8nm,1.0s						
MPMC	Manual Prospec	94.11	54	P	P	10 29 15.5	+2.0
	baz=266						
GRAC	Grapevine Rang	94.28	53	P	P	10 29 15.5	+1.4
	baz=266						
FURC	Furnace Creek,	94.64	54	P	P	10 29 16.7	+1.1
	baz=266						
MONP2	Monument Peak	94.77	58	P	P	10 29 17.7	+1.1
	baz=266						
TPNV	Topopah Spring	95.17	53	P	P	10 29 19.1	+0.8
	baz=267						
HLID	Hailey	96.85	47	P	P	10 29 27.9	+2.1
	baz=268						
YKA	Yellowknife Ar	96.87	28	P	P	10 29 25.0	-0.2
	comp=Z,1.3nm,0.8s,baz=272,slow=4.9,SNR=3.7						
PD31	Pinedale Array	100.41	48	ePdif	Pdif	10 29 40.7	-1.2
PDAR	Pinedale Array	100.41	48	P	Pdif	10 29 41.7	-0.1
	comp=Z,0.3nm,0.7s,baz=248,slow=1.0,SNR=3.3						
GERES	GERESS Array B	124.29	328	PKP	PKPdf	10 34 53.4	0.0
	comp=Z,1.1nm,0.6s,baz=27,slow=1.1,SNR=6.2						
LPAZ	La Paz	134.96	120	PKP	PKPdf	10 35 14.5	-0.7
	comp=Z,0.6nm,0.6s,baz=225,slow=10.0,SNR=3.5						
CPUP	Villa Florida	137.47	140	PKP	PKPdf	10 35 19.3	+0.5
	comp=Z,0.6nm,0.5s,baz=163,slow=4.4,SNR=2.0						
PTGA	Pitinga	147.81	101	ePKPdf	PKPbc	10 35 39.9	-0.5
TOA0	Torodi Ar. Sit	149.47	286	ePKPdf	PKPbc	10 35 42.5	-2.0
TOA0				ePKPbc	PKiKP	10 35 44.1	-1.5
TORD	Torodi Ar. Bea	149.47	286	PKPbc	PKPbc	10 35 43.4	-1.1
	comp=Z,7.6nm,0.9s,baz=72,slow=2.5,SNR=25						
TOA1	Torodi Ar. Sit	149.47	286	epPKPdf	PKPbc	10 35 43.4	-1.1
BDFB	Brasilia	151.15	138	PKPbc	PKPbc	10 35 48.7	+0.1
	comp=Z,2.0nm,0.5s,baz=109,slow=6.3,SNR=3.9						
DBIC	Dimbokro	156.59	273	PKPab	PKPab	10 36 18.6	-0.9
	comp=Z,6.5nm,0.8s,baz=69,slow=1.2,SNR=4.6						

IDC 19 10:20:41.0±4.0,5°.89S×151°.34E,h0km,mb3.3/2, mb1 3.6/2,mb1mx3.3/42,mbtmp3.3/2,Error ellipse: s-maj=155.2km s-min=56.6km az=119.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	21.64	228	P	P	10 25 33.2	+0.1
	0.8nm,0.6s,baz=53,slow=10.0,SNR=2.1						
ASAR	Alice Springs	24.37	222	P	P	10 26 01.2	+0.2
	0.4nm,0.6s,baz=59,slow=9.6,SNR=2.0						
TORD	Torodi Ar. Bea	149.23	286	PKPbc	PKPbc	10 40 31.9	-0.8
	0.6nm,0.7s,baz=82,slow=3.1,SNR=1.8						

ISCJB ***19*** *10:23:21.9±0.5,37°.21N±0°.03×28°.18E±0°.04,h0km,Error ellipse: s-maj=5.6km s-min=4.2km az=39.6*

ISK ***19*** *10:23:21.7,37°.22N×28°.17E,h8km,ML2.5/7*

DDA ***19*** *10:23:22.5,37°.24N×28°.21E,h7km,Ml2.6,Suspected Mining explosion.*

ISC 19 10:23:21.8±0.9,37°.29N±0°.04×28°.20E±0°.03,h0km,n16,
σ1§52/23,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSB	Milas	0.34	271	PG	Pg	10 23 28.7	+0.5
AYDN	Tasoluk	0.45	326	i P	Pb	10 23 32.2	-0.4
AYDN				i S	Sb	10 23 39.9	-0.1
TURN	Turunc	0.53	142	PG	Pg	10 23 31.0	-0.9
TURN				SG	Sg	10 23 37.8	-1.0
TRN	Turunc	0.53	142	i P	Pg	10 23 31.0	-0.9
TURN				i S	Sg	10 23 38.5	-0.3
MRSB	Marmaris-Mugla	0.57	180	PG	Pg	10 23 31.9	-0.9
DALY	Dalyan (Mu¨la	0.60	142	PG	Pg	10 23 32.9	-0.3
DALY	Dalyan (Mu¨la	0.60	142	i P	Pg	10 23 33.0	-0.3
DALY				i S	Sb	10 23 44.5	+0.4
TAVA	DENIZLI_Tavas	0.60	73	i P	Pb	10 23 34.3	-0.9
TAVA				i S	Sb	10 23 42.8	-1.4
AYDB	Zeytinkoy-Aydi	0.70	340	PG	Pb	10 23 36.6	-0.4
BODT	Bodrum	0.74	252	PG	Pg	10 23 35.6	-0.5
DAT	Datca	0.75	222	PG	Pg	10 23 35.2	-1.0
DAT	Datca	0.75	222	i P	Pb	10 23 36.7	-1.1
DAT				i S	Sb	10 23 49.7	+1.1
FETY	Fethiye	0.96	132	PG	Pg	10 23 40.2	-0.1
NIS1	Nisyros Isl.	1.07	230	PG	Pg	10 23 41.4	-0.9
AKAS	Kas	1.55	133	PN	Pn	10 23 49.9	-0.9
AKAS	Kas	1.55	133	i P	Pg	10 23 51.9	+0.4
AKAS				i S	Sn	10 24 17.4	+5.8

ISCJB ***19*** *10:24:12.7±1.2,5°.93S±0°.09×153°.1E±0°.1,h10km,mb4.0/8, Error ellipse: s-maj=19.4km s-min=13.2km az=170.6*

NEIC ***19*** *10:24:12.8±1.0,5°.89S×153°.23E,h10km,mb4.3/5,Error ellipse: s-maj=16.0km s-min=13.1km az=49.0*

IDC ***19*** *10:24:21.0±1.9,5°.78S×151°.98E,h0km,mb4.0/3, mb1 4.3/4,mb1mx3.7/45,mbtmp4.1/4,ML2.2/1,Error ellipse: s-maj=109.4km s-min=26.0km az=128.0*

ISC 19 10:24:13.0±1.0,5°.95S±0°.07×153°.1E±0°.1,h10km,n17,
σ1§40/18,mb4.2/8,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	Rabaul	2.00	331	ePn	Pn	10 24 47.3	+0.4
RABL				eSn	Sg	10 25 17.2	-0.2
PMG	Port Moresby	6.84	240	Pn	Pn	10 25 53.0	-0.5
	4.3nm,0.3s,baz=47,slow=10,SNR=9.5						
PMG				Sn	Sn	10 26 59.1	-12
	3.7nm,0.3s,baz=334,slow=14,SNR=3.8						
PMG	Port Moresby	6.84	240	ePn	Pn	10 25 53.1	-0.4
PMG				eSn	Sn	10 26 57.8	-14
MANU	Manus Island	6.94	304	ePn	Pn	10 25 54.5	-0.3
HNR	Honiara	7.58	118	P	Pn	10 26 05.0	+1.3
HNR	Honiara	7.58	118	ePn	Pn	10 26 01.8	-1.9
WRAB	Tennant Creek	22.94	231	eP	P	10 29 18.6	+1.0
	7.6nm,0.8s						
WB2	Warramunga Arr	22.95	231	eP	P	10 29 18.1	+0.4
	6.4nm,0.8s						
WB2				eP	P	10 29 18.2	+0.5
WR1	Warramunga Arr	22.96	231	eP	P	10 29 18.4	+0.6
	12nm,1.1s						
WRA	Warramunga Arr	22.96	231	P	P	10 29 18.4	+0.6
	7.9nm,0.9s,baz=55,slow=10,SNR=23						
AS01	Alice Springs	25.51	224	eP	P	10 29 44.4	+2.5
AS31	Alice Springs	25.54	224	eP	P	10 29 43.5	+1.3
	1.6nm,0.8s						
ASAR	Alice Springs	25.55	224	P	P	10 29 45.5	+3.3
	4.4nm,0.8s,baz=55,slow=9.5,SNR=24						
FITZ	Fitzroy Crossi	29.42	243	eP	P	10 30 17.5	+0.5
	4.1nm,0.6s						
ILAR	Eielson Array	83.10	22	P	P	10 36 50.0	+11
	0.5nm,0.7s,baz=247,slow=4.4,SNR=6.1						
TORD	Torodi Ar. Bea	150.97	286	PKPbc	PKPab	10 44 13.5	-1.1
	0.6nm,0.6s,baz=66,slow=3.6,SNR=5.0						
TOA1	Torodi Ar. Sit	150.97	286	ePKPbc	PKPab	10 44 13.5	-1.1

IDC 19 10:26:42.4±3.0,56°.61S×148°.54E,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.7/32,mbtmp3.6/3,Error ellipse: s-maj=289.3km s-min=26.6km az=76.0,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	Vanda	21.51	172	P	P	10 31 32.4	0.0
	1.2nm,0.8s,baz=342,slow=8.1,SNR=2.3						
H01W1	Cape Leeuwin H	31.84	298	T	T	11 06 19.4	
	baz=144,slow=75,SNR=30						
H01W2	Cape Leeuwin H	31.84	298	T	T	11 06 21.1	
	baz=144,slow=75,SNR=29						
H01W3	Cape Leeuwin H	31.85	298	T	T	11 06 20.6	
	baz=144,slow=75,SNR=30						
ASAR	Alice Springs	34.61	336	P	P	10 33 33.1	+0.1
	0.5nm,0.7s,baz=161,slow=9.8,SNR=6.1						
WRA	Warramunga Arr	38.12	338	P	P	10 34 02.8	-0.2
	0.7nm,0.5s,baz=166,slow=7.6,SNR=18						
H08S2	Diego Garcia H	75.98	277	T	T	12 01 16.7	
	baz=147,slow=76,SNR=16						
H08S1	Diego Garcia H	75.99	277	T	T	12 01 19.0	
	baz=147,slow=76,SNR=6.1						
H08S3	Di

BKI			*e*S	Sn	10 31 21.6	+0.1
SMKR	**Semkarok**	**2.87 357**	*e*P	Pn	10 30 53.0	+4.6
KDTR	**Khodutka, Kamc**	**2.95 231**	P	Pn	10 30 53.8	+4.5
KDTR			S	Sn	10 31 27.0	+3.6
SRKR	**Sorokina**	**2.96 354**	*e*P	Pn	10 30 54.0	+4.4

IDC ***19*** *10:31:40.9±1.2,5.˙59S×151.˙69E, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.0/47, mbtmp4.2/7, ML2.4/1, MS3.8/1, Ms1 3.8/1, ms1mx3.1/31, Error ellipse: s-maj=43.1km s-min=20.4km az=121.0*

NEIC ***19*** *10:31:41.7±0.9, 6.˙07S×152.˙28E, h10km, mb4.2/6, Error ellipse: s-maj=22.2km s-min=10.2km az=110.0*

ISC 19 10:31:47.0±0.9, 5.˙8S±0.˙1×151.˙7E±0.˙2, h35km, n23, σ1θ65/29, mb4.2/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.62**	**16**	*e*Pn		**Pn**	**10 32 13.9**	**+0.8**
RABL				*e*Sn		**Sn**	**10 32 37.5**	**+4.7**
MANU	**Manus Island**	**5.70**	**310**	*e*Pn		Pn	10 33 16.5	+7.3
PMG	**Port Moresby**	**5.79**	**231**	Pn		**Pn**	**10 33 11.6**	**+1.1**
	6.7nm,0.3s,baz=44,slow=8.5,SNR=20							
PMG				Sn		**Sn**	**10 34 18.0**	**+2.2**
	7.5nm,0.3s,baz=107,slow=22,SNR=9.1							
PMG	**Port Moresby**	**5.79**	**231**	*e*Pn		**Pn**	**10 33 12.9**	**+2.4**
PMG				*e*Sn		**Sn**	**10 34 18.1**	**+2.2**
COEN	**Coen**	**11.71**	**225**	*e*Pn		**Pn**	**10 34 32.9**	**+1.2**
GUMO	**Guam**	**20.39**	**341**	LR		LR	10 43 33.4	
	comp=Z,237nm,19.1s,baz=192,slow=35							
SIJI	**Sorong**	**20.98**	**283**	P		**P**	**10 36 24.7**	**-2.8**
	4.3nm,0.6s,baz=107,slow=19,SNR=2.0							
MTN	**Manton Dam**	**21.49**	**249**	*e*P		**P**	**10 36 33.4**	**+0.5**
	8.7nm,0.8s							
WRAB	**Tennant Creek**	**21.99**	**229**	*e*P		**P**	**10 36 38.3**	**0.0**
	11nm,0.8s							
WB2	**Warramunga Arr**	**22.00**	**229**	*e*P		**P**	**10 36 37.4**	**-1.0**
WB2				*e*P		**P**	**10 36 38.4**	**0.0**
WR1	**Warramunga Arr**	**22.01**	**229**	*e*P		**P**	**10 36 38.4**	**-0.1**
	15nm,1.0s							
WR1				*e*PcP		**PcP**	**10 40 35.3**	**-0.9**
WRA	**Warramunga Arr**	**22.01**	**229**	P		**P**	**10 36 38.4**	**-0.1**
	7.0nm,0.6s,baz=54,slow=10,SNR=41							
WRA				PcP		**PcP**	**10 40 35.3**	**-0.9**
	0.4nm,0.7s,baz=37,slow=1.8,SNR=3.0							
WRA				ScP		**ScP**	**10 44 13.6**	**+2.5**
	0.5nm,1.0s,baz=57,slow=3.4,SNR=5.1							
AS01	**Alice Springs**	**24.69**	**222**	*e*P		**P**	**10 37 04.5**	**-0.5**
AS31	**Alice Springs**	**24.72**	**222**	*e*P		**P**	**10 37 05.4**	**+0.1**
	2.5nm,0.9s							
ASAR	**Alice Springs**	**24.72**	**222**	P		**P**	**10 37 05.0**	**-0.3**
	5.3nm,0.7s,baz=52,slow=9.9,SNR=54							
ASAR				ScP		**ScP**	**10 44 20.0**	**+1.7**
	0.3nm,0.7s,baz=55,slow=3.5,SNR=2.6							
STKA	**Stephens Creek**	**27.66**	**199**	P		**P**	**10 37 31.7**	**0.0**
	2.6nm,0.9s,baz=18,slow=9.6,SNR=4.4							
STKA	**Stephens Creek**	**27.66**	**199**	*e*P		**P**	**10 37 30.9**	**-0.8**
	1.2nm,1.0s							
FITZ	**Fitzroy Crossi**	**28.26**	**242**	*e*P		**P**	**10 37 36.9**	**-0.3**
	8.8nm,0.7s							
SONA0	**Songino Array**	**66.56**	**329**	*e*P		**P**	**10 42 31.8**	**-1.9**
SONM	**Songino Array**	**66.56**	**329**	P		**P**	**10 42 31.8**	**-1.9**
	0.3nm,0.5s,baz=138,slow=7.4,SNR=2.3							
ILAR	**Eielson Array**	**83.45**	**22**	P		**P**	**10 44 09.9**	**-0.8**
	1.3nm,0.7s,baz=246,slow=4.9,SNR=13							
TORD	**Torodi Ar. Bea**	**149.56**	**286**	PKPbc		**PKPbc**	**10 51 33.3**	**-0.5**
	1.7nm,0.9s,baz=53,slow=3.3,SNR=6.3							
TOA1	**Torodi Ar. Sit**	**149.56**	**286**	*e*PKPbc		**PKPbc**	**10 51 33.3**	**-0.5**

IDC ***19*** *10:41:16.6±0.7, 42.˙92N×71.˙58E, h0km, mb3.9/14, mb1 4.1/20, mb1mx3.9/55, mbtmp4.0/20, ML4.1/7, MS4.7/1, Ms1 4.7/1, ms1mx3.5/57, Error ellipse: s-maj=14.2km s-min=9.4km az=5.0*

MOS ***19*** *10:41:17.4±1.2, 43.˙08N×71.˙45E, h15km, mb4.4/15, Error ellipse: s-maj=7.4km s-min=5.9km az=102.7*

MOS Felt (IV-V) at Taraz.

KRNET ***19*** *10:41:17.4±0.1, 42.˙98N×71.˙59E, h13km, mb4.9*

ISCJB ***19*** *10:41:17.4±0.5, 43.˙06N±0.˙02×71.˙42E±0.˙03, h14km±3km, mb4.0/22, MS4.6/2, Error ellipse: s-maj=4.2km s-min=2.6km az=30.9*

NNC ***19*** *10:41:17.4±0.4, 42.˙89N×71.˙54E, h0km±5km, mb4.8, mpv4.6, Error ellipse: s-maj=5.4km s-min=1.9km az=23.0*

SOME ***19*** *10:41:18.3, 43.˙05N×71.˙58E, h0km, MS3.5*

BJI ***19*** *10:41:18.7, 43.˙25N×71.˙58E, h11km, mb4.5/4, ML4.3/4*

ISC 19 10:41:18.7±0.8, 42.˙96N±0.˙03×71.˙50E±0.˙02, h11km±5km, n133, σ2θ43/201, mb4.1/22, 58C-23D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZA	**Taraz**	**0.14**	**242**	*e*P		**Pg**	**10 41 21.7**	**-0.4**
	baz=45							
DZA				*e*S		**Sg**	**10 41 24.3**	**-0.1**
	baz=45							
DZA	**Taraz**	**0.14**	**242**	*e*P		**Pg**	**10 41 21.7**	**-0.4**
	9μm,0.3s							
DZA				*e*S		**Sg**	**10 41 24.3**	**-0.1**
	87μm,0.4s							
KK31	**Karatay Array**	**0.74**	**282**	⇑P		**Pg**	**10 41 32.3**	**-0.7**
	189nm,0.4s,baz=101,slow=17,SNR=5543							
KK31				⇓S		**Sb**	**10 41 44.0**	**+0.4**
	598nm,0.3s,baz=108,slow=32							
KK31	**Karatay Array**	**0.74**	**282**	PG		**Pg**	**10 41 32.3**	**-0.7**
KK31				S		**Sb**	**10 41 43.8**	**+0.2**
KK31				pmax		pmax		
	comp=Z,189nm,0.4s							
KK31				smax		smax		
	comp=N,598nm,0.4s							
MNAS	**Manas**	**0.88**	**122**	⇑P		**Pb**	**10 41 33.1**	**-3.0**
	comp=N,318nm,0.4s							
MNAS				⇑S		**Sg**	**10 41 44.3**	**-2.9**
	comp=N,4μm,0.3s							
MNAS	**Manas**	**0.88**	**122**	⇑*i*P		**Pb**	**10 41 33.1**	**-3.0**
	baz=25							
MNAS				⇑*i*S		**Sg**	**10 41 44.3**	**-2.9**
	baz=25							
MNAS	**Manas**	**0.88**	**122**	*i* PG		**Pb**	**10 41 33.0**	**-3.0**
MNAS				pmax		pmax		
	comp=Z,318nm,0.3s							
ARK	**Arkit**	**1.21**	**163**	⇑*i*P		**Pn**	**10 41 41.1**	**-0.6**
	baz=66							
ARK				⇑*i*S		**Sb**	**10 41 57.8**	**+0.5**
	baz=66							
BRLS	**Borolday**	**1.22**	**274**	*e*P		**Pg**	**10 41 43.7**	**+1.5**
	baz=63							
BRLS				*e*S		**Sg**	**10 42 01.8**	**+3.8**
	baz=63							
BRLS	**Borolday**	**1.22**	**274**	*e*P		**Pg**	**10 41 43.7**	**+1.5**
	comp=Z,1.0nm,0.3s							
BRLS				*e*S		**Sg**	**10 42 01.8**	**+3.8**
	comp=Z,180nm,0.3s							
MRKS	**Merke**	**1.29**	**99**	⇑*i*P		**Pn**	**10 41 40.5**	**-2.3**
	baz=0.0							
MRKS				⇑*e*S		**Sb**	**10 41 56.9**	**-2.8**
	baz=0.0							
MRKS	**Merke**	**1.29**	**99**	⇑*i*P		**Pn**	**10 41 40.5**	**-2.3**
	comp=Z,766nm,0.5s							
MRKS				*e*S		**Sb**	**10 41 56.9**	**-2.8**
	comp=Z,4μm,0.4s							
IUG	**Iuzhnay**	**1.35**	**234**	*e*P		**Pb**	**10 41 44.9**	**+0.8**
	baz=35							
IUG				*e*S		**Sg**	**10 42 03.6**	**+1.3**
	baz=35							
IUG	**Iuzhnay**	**1.35**	**234**	*e*P		**Pb**	**10 41 44.9**	**+0.8**
	comp=Z,1μm,0.3s							
IUG				*e*S		**Sg**	**10 42 03.5**	**+1.3**
	comp=Z,12μm,0.4s							
CHM	**Chimkent**	**1.53**	**246**	⇑*i*P		**Pg**	**10 41 50.1**	**+1.9**
	comp=Z,3μm,0.3s							
CHM				⇑*i*S		**Sg**	**10 42 12.3**	**+4.2**
	comp=Z,12μm,0.4s							
EKS2	**Erkin-Say**	**1.71**	**99**	P		**Pn**	**10 41 48.0**	**-0.5**
	SNR=1048							
EKS2	**Erkin-Say**	**1.71**	**99**	⇑*i*P		**Pn**	**10 41 48.1**	**-0.4**
	baz=0.0							
EKS2				⇑*i*S		**Sn**	**10 42 10.3**	**0.0**
	baz=0.0							
AML	**Almayashu**	**1.82**	**116**	P		**Pn**	**10 41 50.2**	**-0.1**
	SNR=821							
AML	**Almayashu**	**1.82**	**116**	⇑*i*P		**Pn**	**10 41 50.2**	**-0.1**
	baz=18							
AML				⇑*i*S		**Sn**	**10 42 13.6**	**0.0**
	baz=18							
ARSB	**Arslanbob**	**1.97**	**145**	⇑*i*P		**Pn**	**10 41 53.3**	**+1.1**
	baz=47							
ARSB				⇑*i*S		**Sn**	**10 42 19.2**	**+2.3**
	baz=47							
USP	**Ospenovka**	**2.22**	**81**	P		**Pn**	**10 41 55.5**	**0.0**
	SNR=1148							
USP	**Ospenovka**	**2.22**	**81**	⇑*i*P		**Pn**	**10 41 56.1**	**+0.6**
	baz=81							
USP				⇑*i*S		**Sn**	**10 42 24.1**	**+1.1**
	baz=81							
AAK	**Ala-Archa**	**2.23**	**97**	Pn		**Pn**	**10 41 57.1**	**+1.3**
	comp=Z,577nm,0.3s,baz=254,slow=6.0,SNR=1812							
AAK				Sn		**Sb**	**10 42 27.4**	**+0.7**
	comp=Z,185nm,0.3s,baz=36,slow=19,SNR=16							
AAK	**Ala-Archa**	**2.23**	**97**	⇑Pn		**Pn**	**10 41 57.4**	**+1.6**
	comp=Z,1μm,0.5s							
AAK				⇓Lg		Lg	10 42 27.8	
	comp=Z,851nm,0.6s							
AAK	**Ala-Archa**	**2.23**	**97**	P		**Pn**	**10 41 56.7**	**+0.9**
	SNR=2472							
AAK	**Ala-Archa**	**2.23**	**97**	⇑*i*P		**Pn**	**10 41 56.5**	**+0.7**
	baz=98							
AAK				⇑*i*S		**Sn**	**10 42 24.6**	**+1.2**
	baz=98							
AAK	**Ala-Archa**	**2.23**	**97**	*c i*PN		**Pn**	**10 41 56.5**	**+0.7**
AAK				*e*S		**Sb**	**10 42 27.1**	**+0.3**
FRU	**Bishkek**	**2.30**	**92**	⇑*i*PN		**Pn**	**10 41 56.0**	**-0.6**
FRU				*e*S		**Sn**	**10 42 25.0**	**+0.2**
FRU				pmax		pmax		
	comp=Z,74nm,1.0s							
FRU				smax		smax		
	comp=N,1μm,1.0s							
FRU1	**Bishkek**	**2.31**	**93**	⇑*i*P		**Pn**	**10 41 57.4**	**+0.6**
	baz=93							
FRU1				⇑*i*S		**Sn**	**10 42 26.5**	**+1.3**
	baz=93							
UCH	**Uchtor**	**2.34**	**107**	P		**Pn**	**10 41 59.4**	**+1.8**
	SNR=1417							
UCH	**Uchtor**	**2.34**	**107**	⇓*e*P		**Pn**	**10 41 59.1**	**+1.5**
	baz=8.0							
UCH				⇓*i*S		**Sn**	**10 42 28.0**	**+1.4**
	baz=8.0							
ARLS	**Aral**	**2.36**	**117**	⇓*i*P		**Pn**	**10 41 59.2**	**+1.6**
	baz=18							
ARLS				⇓*i*S		**Sn**	**10 42 28.2**	**+1.6**
	baz=18							
CHMS	**Chumysh**	**2.39**	**88**	P		**Pn**	**10 41 58.4**	**+0.5**
	SNR=520							
CHMS	**Chumysh**	**2.39**	**88**	⇑*i*P		**Pn**	**10 41 58.3**	**+0.5**
	baz=88							
CHMS				⇑*i*S		**Sn**	**10 42 27.9**	**+0.8**
	baz=88							
KBK	**Karagaybulak**	**2.56**	**96**	P		**Pn**	**10 42 01.3**	**+1.1**
	SNR=424							
KBK	**Karagaybulak**	**2.56**	**96**	⇑*i*P		**Pn**	**10 42 01.4**	**+1.1**
	baz=96							
KBK				⇑*i*S		**Sn**	**10 42 32.8**	**+1.3**
	baz=96							
KZA	**Kyzart**	**2.91**	**106**	P		**Pn**	**10 42 08.2**	**+2.9**
	SNR=1188							
KZA	**Kyzart**	**2.91**	**106**	⇑*e*P		**Pn**	**10 42 06.7**	**+1.4**
	baz=7.0							
KZA				⇑*i*S		**Sn**	**10 42 41.4**	**+0.9**
	baz=7.0							
TKM2	**Tokmak 2**	**3.01**	**89**	⇑Pn		**Pn**	**10 42 07.3**	**+0.7**
	comp=N,208nm,0.4s							
TKM2				⇑Lg		Lg	10 42 49.7	
	comp=N,402nm,0.5s							
TKM2	**Tokmak 2**	**3.01**	**89**	P		**Pn**	**10 42 07.0**	**+0.4**
	SNR=338							
TKM2	**Tokmak 2**	**3.01**	**89**	⇑*i*P		**Pn**	**10 42 06.8**	**+0.3**
	baz=90							
TKM2				⇑*i*S		**Sn**	**10 42 43.8**	**+1.1**
	baz=90							
KST	**Kastek**	**3.28**	**87**	*e*P		**Pb**	**10 42 16.4**	**-0.6**
	comp=N,1μm,0.5s							
KST				*e*S		**Sb**	**10 42 58.4**	**+1.5**
	comp=N,1μm,0.6s							
SFK	**Sufi-Kurgan**	**3.31**	**152**	⇓Pn		**Pn**	**10 42 10.1**	**-0.5**
	comp=N,26nm,0.6s							
SFK				⇑Pg		**Pb**	**10 42 18.8**	**+1.3**
	comp=N,108nm,0.7s							
SFK				⇑Lg		Lg	10 43 00.3	
	comp=N,647nm,0.7s							
SFK	**Sufi-Kurgan**	**3.31**	**152**	⇑*e*P		**Pn**	**10 42 11.9**	**+1.3**
	baz=53							
SFK				⇑*i*S		**Sn**	**10 42 51.6**	**+1.6**
	baz=53							
SFK	**Sufi-Kurgan**	**3.31**	**152**	PN		**Pn**	**10 42 12.7**	**+2.1**
SFK							10 42 18.8	
SFK				pmax		pmax		
	comp=Z,26nm,0.6s							
SFK				pmax		pmax		
	comp=Z,108nm,0.7s							
BOOM	**Boomskoye usch**	**3.31**	**97**	⇓*i*P		**Pn**	**10 42 11.5**	**+0.9**
	baz=97							
BOOM				⇓*i*S		**Sn**	**10 42 50.7**	**+0.7**
	baz=97							
ULHL	**Ulahol**	**3.58**	**100**	P		**Pn**	**10 42 16.5**	**+2.2**
	SNR=18							
ULHL	**Ulahol**	**3.58**	**100**	⇑*e*P		**Pn**	**10 42 15.3**	**+1.0**
	baz=0.0							
ULHL				⇑*i*S		**Sn**	**10 42 57.2**	**+0.6**
	baz=0.0							
MTBS	**Maitube**	**3.62**	**86**	⇓*i*P		**Pb**	**10 42 24.4**	**+1.6**
MTBS				⇑*i*S		**Sg**	**10 43 12.1**	**-2.9**
KUU	**Kurty**	**3.65**	**73**	*e*P		**Pb**	**10 42 22.8**	**-0.5**
	comp=Z,385nm,0.5s							
KUU				*e*S		**Sb**	**10 43 09.7**	**+2.2**
	comp=Z,2μm,0.6s							
IZV	**Izvestkoviy**	**3.76**	**87**	*e*P		**Pb**	**10 42 26.0**	**+0.9**
	comp=Z,657nm,0.5s							
IZV				*e*S		**Sb**	**10 43 14.5**	**+3.8**
	comp=Z,1μm,0.5s							
KTBS	**Karatobe**	**3.86**	**77**	*e*P		**Pb**	**10 42 28.0**	**+1.2**
	comp=Z,329nm,0.6s							
KTBS				*e*S		**Sb**	**10 43 17.4**	**+3.8**
	comp=Z,652nm,0.6s							
AAA	**Alma-Ata**	**3.98**	**85**	*e*PN		**Pb**	**10 42 30.2**	**+1.3**
AAA				*e*S		**Sb**	**10 43 20.5**	**+3.5**
AAA				pmax		pmax		
	comp=Z,432nm,0.5s							
AAA				smax		smax		
	comp=E,967nm,0.7s							
AAA	**Alma-Ata**	**3.98**	**85**	*e*P		**Pb**	**10 42 30.0**	**+1.1**
	comp=E,442nm,0.6s							
AAA				*e*S		**Sb**	**10 43 20.4**	**+3.5**
	comp=E,924nm,0.7s							
TNSS	**Tian-Shan**	**4.00**	**87**	*e*P		**Pb**	**10 42 30.0**	**+0.5**
	comp=E,527nm,0.5s							
TNSS				*e*S		**Sb**	**10 43 21.3**	**+3.3**
	comp=E,973nm,0.5s							
KNDC	**Almaty**	**4.02**	**84**	⇑Pg		**Pb**	**10 42 30.4**	**+0.9**
	comp=E,291nm,0.4s							
KNDC				⇓Lg		Lg	10 43 24.5	
	comp=E,2μm,0.9s							
MDOK	**Medeo**	**4.08**	**85**	*e*P		**Pb**	**10 42 30.4**	**-0.1**
	comp=E,332nm,0.7s							
MDOK				*e*S		**Sb**	**10 43 23.6**	**+3.7**
	comp=E,587nm,0.7s							
CHKK	**Chushkaly**	**4.10**	**75**	⇑*i*P		**Pb**	**10 42 31.4**	**+0.5**
	comp=E,398nm,0.7s							
CHKK				*e*S		**Sb**	**10 43 24.1**	**+3.6**
	comp=E,2μm,0.5s							
KOTS	**Kotyrbulak**	**4.12**	**84**	*e*P		**Pb**	**10 42 33.3**	**+1.9**
	comp=E,300nm,0.4s							
KOTS				*e*S		**Sb**	**10 43 26.4**	**+5.1**
	comp=E,1μm,0.4s							
KDJ	**Kajisay**	**4.28**	**99**	⇑*e*P		**Pn**	**10 42 24.9**	**+0.9**
	baz=0.0							
KDJ				⇑*e*S		**Sn**	**10 43 14.2**	**+0.2**
	baz=0.0							
ARXS	**Arharly**	**4.77**	**73**	*e*P		**Pb**	**10 42 43.3**	**+1.0**
	comp=E,158nm,0.6s							
ARXS				*e*S		**Sb**	**10 43 44.5**	**+4.8**
	comp=E,756nm,0.8s							
KSH	**Kashi**	**4.82**	**134**	Pg		**Pb**	**10 42 47.9**	**+4.7**
KSH				Sn		**Sn**	**10 43 32.8**	**+5.7**
KSH				smax		smax		
	comp=E,570nm,0.9s							
KSH				smax		smax		
	comp=E,620nm,1.0s							
KURS	**Kuram**	**4.91**	**82**	*e*P		**Pb**	**10 42 45.5**	**+0.8**
	comp=E,119nm,0.6s							
KURS				*e*S		**Sb**	**10 43 48.8**	**+5.1**
	comp=E,248nm,0.9s							
SATY	**Saty**	**5.07**	**86**	*e*P		**Pg**	**10 42 56.6**	**+0.8**
	comp=E,127nm,0.5s							
SATY				*e*S		**Sg**	**10 44 06.3**	**+4.8**
	comp=E,398nm,0.7s							
ZHN	**Zhinishke**	**5.09**	**85**	*e*P		**Pb**	**10 42 49.6**	**+1.8**
	comp=E,61nm,0.5s							
ZHN				*e*S		**Sb**	**10 43 55.5**	**+6.5**
	comp=E,79nm,0.2s							
KPKS	**Kokpek**	**5.28**	**82**	*e*P		**Pb**	**10 42 52.6**	**+1.6**
	comp=E,154nm,0.5s							
KPKS				*e*S		**Sb**	**10 43 60.0**	**+5.5**
	comp=E,652nm,1.0s							
OTUK	**Ortayu**	**5.32**	**6**	⇑Pn		**Pn**	**10 42 38.6**	**+0.4**
	comp=E,42nm,0.6s							
OTUK				⇑Pg		**Pg**	**10 42 58.2**	**-2.4**
	comp=E,64nm,0.6s							
OTUK				⇑Lg		Lg	10 44 11.0	
	comp=E,776nm,1.1s							
OTUK	**Ortayu**	**5.32**	**6**	PN		**Pn**	**10 42 38.5**	**+0.4**
OTUK				pmax		pmax		
	comp=Z,42nm,0.6s							
OTUK				pmax		pmax		
	comp=Z,65nm,0.6s							
TDK	**Taldyqorghan**	**5.39**	**65**	*e*P		**Pb**	**10 42 54.0**	**+1.1**
	comp=Z,434nm,0.7s							
TDK				*e*S		**Sb**	**10 44 02.9**	**+5.4**
	comp=Z,2μm,1.0s							
UZB	**Uzynbulak**	**5.52**	**85**	*e*P		**Pb**	**10 42 57.4**	**+2.2**
	comp=Z,65nm,0.4s							
UZB				*e*S		**Sb**	**10 44 08.0**	**+6.6**
	comp=Z,182nm,0.6s							
SHLS	**Shalkode**	**5.84**	**85**	*e*P		**Pg**	**10 43 09.8**	**-0.8**
	comp=Z,195nm,1.0s							
SHLS				*e*S		**Sg**	**10 44 29.5**	**+3.3**
	comp=Z,386nm,0.5s							
PDGK	**Podgornoye**	**5.86**	**84**	⇓Pn		**Pn**	**10 42 47.8**	**+2.1**
PDGK				⇑Pg		**Pb**	**10 43 02.3**	**+1.3**
	comp=Z,72nm,0.6s							
PDGK				⇓Lg		Lg	10 44 22.9	
	comp=Z,413nm,0.8s							
PDGK	**Podgornoye**	**5.86**	**84**	PN		**Pn**	**10 42 47.7**	**+2.1**
PDGK							10 43 02.2	
PDGK				pmax		pmax		
	comp=Z,73nm,0.6s							
KAPS	**Kapalarasan**	**6.12**	**65**	*e*P		**Pb**	**10 43 08.2**	**+2.9**
	comp=Z,59nm,0.5s							
KAPS				*e*S		**Sb**	**10 44 26.8**	**+8.2**
	comp=Z,496nm,0.6s							
DJR	**Jarkent**	**6.17**	**74**	*e*P		**Pb**	**10 43 09.2**	**+2.9**
	comp=Z,112nm,0.8s							
DJR				*e*S		**Sb**	**10 44 28.2**	**+8.1**
	comp=Z,148nm,0.5s							
MK31	**Makanchi Array**	**8.57**	**60**	⇓Pn		**Pn**	**10 43 23.4**	**+0.6**
	comp=Z,3.8nm,0.3s,baz=237,slow=12,SNR=336							
MK31				⇓Sn		**Sn**	**10 44 59.8**	**+0.5**
	comp=Z,34nm,0.6s,baz=254,slow=23,SNR=11							
MK31				⇓Lg		Lg	10 45 48.0	
	comp=Z,119nm,0.8s,baz=249,slow=26,SNR=6.7							
MK31	**Makanchi Array**	**8.57**	**60**	P		**Pn**	**10 43 23.3**	**+0.6**
MK31				pmax		pmax		
	comp=Z,8.0nm,0.4s							
MKAR	**Makanchi Array**	**8.57**	**60**	Pn		**Pn**	**10 43 22.2**	**-0.5**
	comp=Z,10nm,0.3s,baz=235,slow=13,SNR=249							
MKAR				Sn		**Sn**	**10 44 57.6**	**-1.8**
	comp=Z,4.8nm,0.3s,baz=246,slow=21,SNR=6.6							
MKAR				Lg		Lg	10 45 44.0	
	comp=Z,6.0nm,0.3s,baz=253,slow=26,SNR=3.8							
KURBB	**Kurchatov Arra**	**9.06**	**30**	Pn		**Pn**	**10 43 27.3**	**-2.0**
	comp=Z,0.9nm,0.3s,baz=221,slow=13,SNR=26							
KURBB				Sn		**Sn**	**10 45 07.4**	**-3.7**
	comp=Z,1.4nm,0.3s,baz=204,slow=29,SNR=10.0							
KURBB				Lg		Lg	10 46 00.5	
	comp=Z,2.5nm,0.3s,baz=215,slow=30,SNR=9.4							
KURBB	**Kurchatov Arra**	**9.06**	**30**	⇑Pn		**Pn**	**10 43 27.6**	**-1.7**
	comp=Z,9.0nm,0.6s							
KURK	**Kurchatov**	**9.16**	**30**	⇓Pn		**Pn**	**10 43 30.3**	**-0.5**
	comp=Z,1.8nm,0.4s							
KURK	**Kurchatov**	**9.16**	**30**	*i* P		**Pn**	**10 43 29.6**	**-1.2**
BVA0	**Borovoye Array**	**10.10**	**356**	⇓Pn		**Pn**	**10 43 42.8**	**-0.8**
	comp=Z,8.7nm,0.8s							
BVA0				⇓Sn		**Sn**	**10 45 38.4**	**+1.6**
	comp=Z,24nm,0.6s,baz=173,slow=23,SNR=9.3							
BVA0	**Borovoye Array**	**10.10**	**356**	P		**Pn**	**10 43 42.8**	**-0.8**
BVA0				pmax		pmax		
	comp=Z,8.0nm,0.6s							
BVAR	**Borovoye Array**	**10.10**	**356**	Pn		**Pn**	**10 43 42.5**	**-1.1**
	comp=Z,1.6nm,0.3s,baz=164,slow=12,SNR=21							
BVAR				Sn		**Sn**	**10 45 33.8**	**-3.1**
	comp=Z,6.2nm,0.3s,baz=165,slow=23,SNR=9.2							
BVAR				Lg		Lg	10 46 31.9	
	baz=172,slow=23,SNR=2.7							
BRVK	**Borovoye**	**10.14**	**356**	⇑Pn		**Pn**	**10 43 43.6**	**-0.5**
	comp=Z,7.0nm,0.6s							
BRVK				⇑Sn		**Sn**	**10 45 37.6**	**-0.2**
	comp=Z,18nm,0.6s							
BRVK	**Borovoye**	**10.14**	**356**	*i* P		**Pn**	**10 43 43.4**	**-0.7**
AB31	**Akbulak array**	**10.19**	**312**	⇑Pn		**Pn**	**10 43 43.0**	**-1.9**
	comp=Z,5.9nm,0.5s							
AB31				⇑Sn		**Sn**	**10 45 46.7**	**+7.6**
	comp=Z,40nm,1.1s							
AB31	**Akbulak array**	**10.19**	**312**	P		**Pn**	**10 43 42.9**	**-1.9**
AB31							10 45 31.7	
AB31				pmax		pmax		
	comp=Z,6.0nm,0.5s							
AB31				smax		smax		
	comp=N,40nm,1.1s							
GEYT	**Alibeck**	**11.36**	**248**	Pn		**Pn**	**10 43 58.8**	**-2.1**
	comp=N,0.6nm,0.3s,baz=58,slow=14,S

ZAK **Zakamensk** **22.91** **60** *e*P **P** **10 46 23.7 +1.2**
ZAK pmax pmax
comp=Z,3.0nm,1.4s

VORD **Divnogorie** **23.25** **301** *e*P **P** **10 46 22.8 -3.0**
VORD pmax pmax
comp=Z,10.0nm,0.4s

VSR **Storozhevoye** **23.36** **302** *e*P **P** **10 46 23.0 -3.9**
VSR pmax pmax
comp=Z,4.0nm,0.4s

LPSR **Galich'ya Gora** **23.73** **305** *e*P **P** **10 46 27.2 -3.4**
LPSR pmax pmax
comp=Z,20nm,0.7s

SONM **Songino Array** **24.85** **67** P **P** **10 46 40.5 -0.6**
comp=Z,0.4nm,0.4s,baz=277,slow=8.1,SNR=3.0

OBN **Obninsk** **25.64** **311** *ce* **P** **10 46 47.2 -0.8**
OBN *e* 10 47 22.9
OBN pmax pmax
comp=Z,8.0nm,0.5s
OBN MLR MLR
comp=Z,1μm,18.0s

BRTR **Keskin Array B** **28.45** **276** P **P** **10 47 14.2 +0.6**
comp=Z,0.7nm,0.7s,baz=88,slow=10,SNR=5.0

AKASG **Malin Array Be** **29.60** **300** P **P** **10 47 24.0 +0.5**
comp=Z,1.2nm,0.6s,baz=76,slow=8.4,SNR=4.0

KIEV **Kiev** **29.61** **300** *i* P **P** **10 47 22.8 -0.9**
KIEV pmax pmax
comp=Z,2.0nm,0.7s

FINES **FINESS Array B** **32.53** **320** P **P** **10 47 49.8 +0.5**
comp=Z,3.3nm,0.9s,baz=102,slow=13,SNR=2.9

ARCES **ARCESS Array B** **35.41** **334** P **P** **10 48 14.5 +0.3**
comp=Z,2.3nm,0.8s,baz=100,slow=8.6,SNR=5.0

YAK **Yakutsk** **38.62** **40** P **P** **10 48 40.7 -0.8**
comp=Z,10.0nm,0.4s,baz=74,slow=2.1,SNR=4.1

NB2 **NORSAR Subarra** **39.62** **318** P **P** **10 48 50.5 +0.6**
comp=Z,2.2nm,0.8s,baz=91,slow=8.6

NOA **NORSAR Array B** **39.62** **318** P **P** **10 48 50.6 +0.6**
comp=Z,1.4nm,0.8s,baz=91,slow=8.4,SNR=5.6

TIXI **Tiksi** **39.70** **25** P **P** **10 48 50.3 -0.1**
comp=Z,1.8nm,0.3s,baz=306,slow=1.1,SNR=5.9

GERES **GERESS Array B** **39.80** **299** P **P** **10 48 51.8 0.0**
comp=Z,0.4nm,0.5s,baz=88,slow=6.0,SNR=3.2

TGY **Tagaytay City** **51.13** **109** LR LR 11 14 51.7
comp=Z,672nm,19.6s,baz=112,slow=40

INK **Inuvik** **67.48** **10** P **P** **10 52 14.2 +0.2**
comp=Z,0.9nm,0.7s,baz=1.2,slow=7.3,SNR=7.1

ILAR **Eielson Array** **68.48** **17** P **P** **10 52 20.4 0.0**
comp=Z,0.5nm,0.7s,baz=323,slow=5.8,SNR=2.9

YKA **Yellowknife Ar** **74.79** **3** P **P** **10 52 58.6 +0.3**
comp=Z,1.4nm,0.8s,baz=351,slow=6.2,SNR=5.2

BOSA **Boshof** **82.94** **220** P **P** **10 53 43.2 -0.4**
comp=Z,1.9nm,1.0s,baz=32,slow=13,SNR=2.4

ASAR **Alice Springs** **87.67** **126** P **P** **10 54 07.5 +0.2**
comp=Z,0.3nm,0.6s,baz=320,slow=4.8,SNR=5.6

IDC 19 10:43:35.0±3.1, 5.37S×152.30E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/31, mbtmp3.5/3, ML1.5/1, Error ellipse: s-maj=129.3km s-min=42.4km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.49**	**231**	Pn	Pn	10 45 13.0	+1.2
	0.7nm,0.3s,baz=42,slow=14,SNR=1.9						
PMG				Sn	Sn	10 46 20.8	-5.9
	1.0nm,0.3s,baz=127,slow=20,SNR=2.0						
WRA	**Warramunga Arr**	**22.70**	**229**	P	P	10 48 37.7	-0.8
	1.2nm,0.8s,baz=54,slow=10,SNR=12						
ASAR	**Alice Springs**	**25.40**	**222**	P	P	10 49 04.4	0.0
	0.8nm,0.8s,baz=55,slow=9.4,SNR=9.3						
TORD	**Torodi Ar. Bea**	**150.00**	**287**	PKPbc	PKPbc	11 03 28.5	-0.2
	0.2nm,0.4s,baz=79,slow=2.9,SNR=2.8						

MAN 19 10:44:09.5, 14.86N×121.79E, h1km, mb4.7, ML3.6, MS3.6, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POLP	**Polilio Island**	**0.20**	**132**	*e*P	Pg	10 44 12.9	-0.3
POLP				*e*S	Sg	10 44 16.2	+0.4
BALP	**Baler**	**0.90**	**347**	*e*P	Pg	10 44 26.8	0.0
BALP				*e*S	Sn	10 44 43.3	+0.4
PCPH	**Palayan**	**0.97**	**316**	*e*P	Pg	10 44 27.6	-0.4
PCPH				*e*S	Sb	10 44 42.8	+0.5
GQP	**Guinayangan**	**1.14**	**146**↓	*e*P	Pg	10 44 29.1	-2.3
GQP				*i* S	Sg	10 44 44.2	-2.0
BOAC	**Boac**	**1.39**	**178**	*e*P	Pn	10 44 35.2	-0.9
BOAC				*e*S	Sn	10 44 56.2	+1.1
CAUP	**Cauayan**	**2.07**	**1**	*e*P	Pn	10 44 45.1	-0.3
CAUP				*e*S	Sb	10 45 13.2	-1.0
PVCP	**Virac**	**2.62**	**118**	*e*P	Pn	10 44 54.1	+1.2
APYP	**Conner**	**3.03**	**350**	*e*P	Pn	10 44 59.8	+1.1
APYP				*e*S	Sn	10 45 37.4	+1.8

BEO 19 10:52:09.0±1.3, 45.22N×19.80E, h0km, ML2.0/4, Mining explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRGS	**Fruska Gora**	**0.07**	**171**	*e*Pg	Pg	10 52 09.1	-1.2
FRGS				*e*Sg	Sg	10 52 10.3	-0.8
TEKS	**Tekeris**	**0.70**	**196**	*e*Pg	Pg	10 52 22.2	-0.2
TEKS				*e*Sg	Sg	10 52 31.3	-0.2
DIVS	**Divibare**	**1.13**	**173**	*e*Pg	Pg	10 52 29.0	-1.7
DIVS				*e*Sg	Sg	10 52 45.5	+0.1
GRUS	**Gruza**	**1.49**	**153**	*e*Pg	Pn	10 52 36.1	-0.9
GRUS				*e*Sg	Sg	10 52 56.5	-0.3

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*NNC **19** 10:54:24.9±1.0, 43.00N×71.58E, h0km, mb2.9, mpv2.3, Error ellipse: s-maj=14.3km s-min=4.4km az=22.0*
*SOME **19** 10:54:25.7, 43.07N×71.57E, h5km*
*KRNET **19** 10:54:26.4±0.1, 42.87N×71.60E, h10km, mb2.8*
ISC 19 10:54:24.9±1.1, 43.01N±0.04×71.62E±0.02, h7km±10km, n27, σ0.99/51, 28C-9D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZA	**Taraz**	**0.25**	**241**	*e*P	**Pg**	**10 54 30.0**	**+0.2**
	baz=76						
DZA				*e*S	**Sg**	**10 54 33.0**	**-0.1**
	baz=76						
DZA	**Taraz**	**0.25**	**241**	*e*P	**Pg**	**10 54 30.0**	**+0.2**
	112nm,0.1s						
DZA				*e*S	**Sg**	**10 54 33.0**	**-0.1**
	285nm,0.1s						
KK31	**Karatay Array**	**0.82**	**277**	↓P	**Pb**	**10 54 40.5**	**-1.0**
	1.0nm,0.3s,baz=103,slow=17,SNR=181						
KK31				↑S	**Sg**	**10 54 51.0**	**-0.3**
	3.3nm,0.3s,baz=92,slow=31,SNR=21						
MNAS	**Manas**	**0.83**	**129**	↑P	**Pg**	**10 54 41.1**	**+0.2**
	0.9nm,0.3s						
MNAS				↑S	**Sg**	**10 54 52.8**	**+1.0**
	5.4nm,0.3s						
MNAS	**Manas**	**0.83**	**129**	↑*i*P	**Pg**	**10 54 41.5**	**+0.6**
	baz=19						
MNAS				↑*i*S	**Sg**	**10 54 52.3**	**+0.6**
	baz=19						
MRKS	**Merke**	**1.21**	**102**	*e*P	**Pg**	**10 54 49.1**	**+1.0**
	baz=95						
MRKS				*e*S	**Sn**	**10 55 06.4**	**+1.4**
	baz=95						
MRKS	**Merke**	**1.21**	**102**	*e*P	**Pg**	**10 54 49.1**	**+1.0**
	5.9nm,0.1s						
MRKS				*e*S	**Sn**	**10 55 06.4**	**+1.4**
	29nm,0.2s						
ARK	**Arkit**	**1.24**	**168**	↑*i*P	**Pn**	**10 54 48.1**	**-0.7**
	baz=65						
ARK				↑*i*S	**Sb**	**10 55 03.4**	**-1.5**
	baz=65						
BRLS	**Borolday**	**1.31**	**271**	*e*P	**Pg**	**10 54 51.5**	**+1.4**
	0.5nm,0.2s						
BRLS				*e*S	**Sg**	**10 55 09.8**	**+2.7**
	12nm,0.3s						
IUG	**luzhnay**	**1.46**	**234**	*e*P	**Pg**	**10 54 52.8**	**-0.1**
	baz=39						
IUG				*e*S	**Sg**	**10 55 12.0**	**+0.2**
	baz=39						
IUG	**luzhnay**	**1.46**	**234**	*e*P	**Pg**	**10 54 52.8**	**-0.1**
	14nm,0.4s						
IUG				*e*S	**Sg**	**10 55 12.0**	**+0.2**
	44nm,0.4s						
EKS2	**Erkin-Say**	**1.62**	**102**	↑*i*P	**Pg**	**10 54 57.2**	**+1.2**
	baz=97						
EKS2				↑*i*S	**Sg**	**10 55 19.0**	**+2.0**
	baz=97						
AML	**Almayashu**	**1.76**	**119**	↑*i*P	**Pg**	**10 54 59.0**	**+0.3**
	baz=15						
AML				↑*i*S	**Sg**	**10 55 21.7**	**+0.1**
	baz=15						
ARSB	**Arslanbob**	**1.96**	**149**	↑*i*P	**Pb**	**10 55 00.9**	**-0.2**
	baz=46						
ARSB				↑*i*S	**Sb**	**10 55 26.4**	**+0.5**
	baz=46						
USP	**Ospenovka**	**2.12**	**82**	↑*i*P	**Pg**	**10 55 05.5**	**0.0**
	baz=78						
USP				↑*i*S	**Sg**	**10 55 33.9**	**+0.9**
	baz=78						
AAK	**Ala-Archa**	**2.14**	**99**	↑Pn	**Pg**	**10 55 06.0**	**0.0**
	2.2nm,0.4s						
AAK				↑Lg	Lg	10 55 34.1	
	3.0nm,0.3s						
AAK	**Ala-Archa**	**2.14**	**99**	↑*i*P	**Pg**	**10 55 05.5**	**-0.5**
	baz=95						
AAK				↑*i*S	**Sg**	**10 55 33.8**	**0.0**
	baz=95						
UCH	**Uchtor**	**2.27**	**109**	↓*i*P	**Pb**	**10 55 07.2**	**+0.7**
	baz=6.0						
UCH				↓*i*S	**Sb**	**10 55 36.1**	**+1.1**
	baz=6.0						
CHMS	**Chumysh**	**2.29**	**89**	↓*i*P	**Pg**	**10 55 07.9**	**-1.0**
	baz=86						
CHMS				↓*i*S	**Sg**	**10 55 37.5**	**-1.1**
	baz=86						
ARLS	**Aral**	**2.31**	**119**	↓*i*P	**Pb**	**10 55 07.2**	**+0.3**
	baz=15						
ARLS				↓*i*S	**Sb**	**10 55 36.2**	**+0.5**
	baz=15						
KBK	**Karagaybulak**	**2.47**	**97**	↑*i*P	**Pb**	**10 55 10.0**	**+0.3**
	baz=94						
KBK				↑*i*S	**Sb**	**10 55 41.5**	**+1.1**
	baz=94						
KZA	**Kyzart**	**2.84**	**108**	↑*i*P	**Pb**	**10 55 14.9**	**-1.2**
	baz=5.0						
KZA				↑*i*S	**Sb**	**10 55 49.9**	**-1.3**
	baz=5.0						
TKM2	**Tokmak 2**	**2.92**	**90**	↑Pn	**Pb**	**10 55 16.9**	**-0.5**
	1.2nm,0.7s						
TKM2				↓Lg	Lg	10 55 59.4	
	2.8nm,0.6s						
TKM2	**Tokmak 2**	**2.92**	**90**	↑*i*P	**Pb**	**10 55 16.7**	**-0.7**
	baz=88						
TKM2				↑*i*S	**Sb**	**10 55 52.9**	**-0.4**
	baz=88						
KST	**Kastek**	**3.18**	**88**	*e*P	**Pg**	**10 55 24.5**	**-1.3**
	1.4nm,0.3s						
KST				*e*S	**Sg**	**10 56 07.4**	**+0.3**
	5.4nm,0.7s						
SFK	**Sufi-Kurgan**	**3.31**	**154**	↑Pg	**Pg**	**10 55 26.7**	**-1.6**
	0.7nm,0.4s						
SFK				↓Lg	Lg	10 56 10.6	
	1.3nm,0.4s						
KUU	**Kurty**	**3.54**	**74**	*e*P	**Pg**	**10 55 30.9**	**-1.9**
	1.4nm,0.4s						
KUU				↑*i*S	**Sg**	**10 56 18.1**	**-0.6**
	7.5nm,0.6s						

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*BJI **19** 10:55:03.0, 6.07S×152.23E, h10km, mb4.7/32, mB5.2/25, Ms5.1/16, Ms7 4.8/16*
*NEIC **19** 10:55:09.0±0.7, 5.79S×151.66E, h15km±4km, mb5.3/46, Error ellipse: s-maj=4.9km s-min=3.7km az=109.0*
*ISCJB **19** 10:55:11.5±0.2, 5.80S±0.03×151.55E±0.03, h41km, mb4.9/80, MS4.7/35, Error ellipse: s-maj=5.0km s-min=3.3km az=27.6*
*MOS **19** 10:55:11.0±1.0, 5.77S×151.59E, h40km, mb5.3/14, Error ellipse: s-maj=9.3km s-min=7.7km az=81.7*
*IDC **19** 10:55:14.2±1.7, 5.80S×151.60E, h52km±14km, mb4.4/28, mb1 4.5/32, mb1mx4.5/44, mbtmp4.7/32, ML3.2/3, MS4.5/28, Ms1 4.5/28, ms1mx4.4/45, Error ellipse: s-maj=13.2km s-min=9.8km az=88.0*
*GCMT **19** 10:55:15.0±0.4, 5.82S±0.04×151.92E±0.03, h20km±2km, MW5.2/55, Moment Tensor Solution. s23,c32; s55,c80; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr4.82±.57; Mθθ-2.29±.31; Mφφ-2.53±.33; Mrθ4.53±.65; Mrφ-1.81±.17; Mθφ3.90±.63; Best double couple: M₀7.49400×10^16 NP1:φ₁48.00000°, δ71.00000°, λ93.00000°. NP2:φ₂220.00000°, δ19.00000°, λ82.00000°. Principal axes: T 7.8050, Plg63.0000°, Azm322.0000°; N -0.6230, Plg2.0000°, Azm227.0000°; P -7.1820, Plg26.0000°, Azm136.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **19** 10:55:24.7±0.5, 6.52S×15.1E±, h104km±4km, M5.3/19, mb5.2/19, mB5.6/6, MLv5.4/1, Mw(mB)5.1/6*
ISC 19 10:55:12.9±0.3, 5.82S±0.04×151.72E±0.05, h41km, n263, σ1.59/266, mb5.0/80, MS4.7/36, 1C-4D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.67**	**15**	*e*Pn	**Pn**	**10 55 39.5**	**-0.3**
RABL				*e*Sn	**Sn**	**10 55 59.6**	**-0.4**
MANU	**Manus Island**	**5.73**	**311**	*e*Pn	**Pn**	**10 56 35.4**	**-0.2**
PMG	**Port Moresby**	**5.76**	**231**	P	**Pn**	**10 56 36.1**	**+0.1**
	28nm,0.3s,baz=46,slow=8.7,SNR=174						
PMG				S	**Sn**	**10 57 41.2**	**+0.4**
	38nm,0.3s,baz=342,slow=19,SNR=6.5						
PMG				LR	LR	10 58 16.4	
	comp=Z,1μm,19.4s,baz=44,slow=32						
PMG	**Port Moresby**	**5.76**	**231**	*e*Pn	**Pn**	**10 56 36.0**	**+0.1**
PMG				*e*Sn	**Sn**	**10 57 39.5**	**-1.2**
PMG	**Port Moresby**	**5.76**	**231**	*e*P	**Pn**	**10 56 36.0**	**+0.1**
PMG				*e*		10 57 39.5	
HNR	**Honiara**	**8.91**	**114**	P	**Pn**	**10 57 20.2**	**+1.0**
	10.0nm,0.3s,baz=210,slow=5.1,SNR=6.0						
HNR				LR	LR	11 00 24.7	
	comp=Z,3μm,20.9s,baz=280,slow=34						
HNR	**Honiara**	**8.91**	**114**	P	**Pn**	**10 57 21.0**	**+1.7**
HNR	**Honiara**	**8.91**	**114**	*e*Pn	**Pn**	**10 57 19.5**	**+0.3**
HNR				*e*Pn	Pn	10 57 20.2	+1.0
HNR	**Honiara**	**8.91**	**114**	*e*P	**Pn**	**10 57 19.5**	**+0.3**
JAY	**Jayapura**	**11.46**	**286**	P	**Pn**	**10 57 52.6**	**-1.6**
	0.2nm,0.3s,baz=102,slow=20,SNR=1.9						
JAY				LR	LR	11 01 47.1	
	comp=Z,4μm,19.0s,baz=114,slow=35						
COEN	**Coen**	**11.67**	**225**	P	**Pn**	**10 57 57.2**	**+0.2**
	baz=12,SNR=12						
COEN	**Coen**	**11.67**	**225**	*e*Pn	**Pn**	**10 57 56.5**	**-0.5**
GENI	**Genyem**	**11.95**	**285**	P	Pn	10 58 05.9	+5.0
	76nm,0.9s,2μm						
SMPI	**Sarmi**	**13.52**	**286**	P	**P**	**10 58 26.8**	**-3.8**
PATS	**Pohnpei**	**14.19**	**28**	*e*Pn	**Pn**	**10 58 31.3**	**-0.1**
MTSU	**Mount Surprise**	**14.22**	**210**	P	**Pn**	**10 58 31.2**	**-0.6**
	baz=14,SNR=7.7						
CTA	**Charters Tower**	**15.15**	**200**	P	**Pn**	**10 58 43.5**	**-0.7**
	0.1nm,0.3s,baz=17,slow=14,SNR=3.8						
CTA				S	**Sn**	**11 01 38.1**	**+7.2**
	0.1nm,0.3s,baz=82,slow=23,SNR=0.9						
CTA				LR	LR	11 04 31.6	
	comp=Z,3μm,18.3s,baz=22,slow=37						
CTAO	**Charters Tower**	**15.15**	**200**	*e*Pn	**Pn**	**10 58 43.1**	**-1.1**
	191nm,1.8s						
CTAO	**Charters Tower**	**15.15**	**200**	*e*P	**Pn**	**10 58 43.1**	**-1.1**
CTAO				pmax	pmax		
	comp=Z,191nm,1.8s						
QIS	**Mount Isa**	**18.79**	**218**	P	**P**	**10 59 29.4**	**+0.4**
	baz=19,SNR=51						
EIDS	**Eidsvold**	**19.45**	**182**	P	**P**	**10 59 37.0**	**+0.8**
	baz=20,SNR=12						
EIDS	**Eidsvold**	**19.45**	**182**	*e*P	**P**	**10 59 35.9**	**-0.3**
	comp=Z,36nm,0.9s						
FAKI	**Fak Fak**	**19.62**	**278**	*e*P	**P**	**10 59 36.5**	**-1.7**
	comp=Z,29nm,1.0s						
KDU	**Kakadu**	**20.17**	**249**	P	**P**	**10 59 43.5**	**-0.6**
	baz=20,SNR=42						
SAUI	**Saumlaki**	**20.38**	**263**	*e*P	**P**	**10 59 45.0**	**-1.5**
	comp=Z,112nm,0.7s						
GUMO	**Guam**	**20.44**	**341**	P	**P**	**10 59 47.8**	**+0.8**
	comp=Z,79nm,0.8s,baz=162,slow=20,SNR=2.7						
GUMO				LR	LR	11 06 08.0	
	comp=Z,920nm,21.2s,baz=132,slow=32						
GUMO	**Guam**	**20.44**	**341**	*e*P	**P**	**10 59 46.2**	**-0.7**
	comp=Z,519nm,1.2s						
GUMO				*e*P	Pn	10 59 47.9	-1.5
GUMO	**Guam**	**20.44**	**341**	*e*P	**P**	**10 59 46.3**	**-0.7**
GUMO				pmax	pmax		
	comp=Z,519nm,1.2s						
RMQ	**Roma**	**20.75**	**188**	P	**P**	**10 59 51.6**	**+1.3**
	baz=21,SNR=54						
SIJI	**Sorong**	**20.99**	**283**	P	**P**	**10 59 52.8**	**-0.3**
	comp=Z,12nm,0.5s,baz=103,slow=14,SNR=3.6						
MTN	**Manton Dam**	**21.47**	**250**	P	**P**	**10 59 57.8**	**-0.3**
	baz=22,SNR=28						
MTN	**Manton Dam**	**21.47**	**250**	*e*P	**P**	**10 59 57.5**	**-0.6**
	comp=Z,233nm,1.4s						
DZM	**Mont Dzumac**	**21.54**	**140**	P	**P**	**10 59 59.3**	**+0.4**
	comp=Z,33nm,1.1s,baz=274,slow=13,SNR=25						
DZM				LR	LR	11 07 05.3	
	comp=Z,4μm,21.1s,baz=305,slow=33						
DZM	**Mont Dzumac**	**21.54**	**140**	*e*P	**P**	**10 59 57.9**	**-1.0**
	comp=Z,121nm,1.4s						
DZM				*e*LR	LR	11 05 15.7	
	comp=Z,5μm,22.6s						
DZM	**Mont Dzumac**	**21.54**	**140**	*e*P	**P**	**10 59 58.1**	**-0.9**
	comp=Z,56nm,1.2s						
PALU	**Palau**	**21.61**	**307**	P	**P**	**11 00 00.1**	**+0.5**
	baz=22,SNR=3.6						
QLP	**Quilpie**	**21.85**	**198**	P	**P**	**11 00 02.6**	**+0.5**
	baz=22,SNR=64						
WRAB	**Tennant Creek**	**21.95**	**229**	*e*P	**P**	**11 00 02.2**	**-1.1**
	comp=Z,132nm,1.1s						
WRAB	**Tennant Creek**	**21.95**	**229**	*d* iP	**P**	**11 00 02.3**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,92nm,1.1s						
WB2	**Warramunga Arr**	**21.96**	**229**	*e*P	**P**	**11 00 01.5**	**-1.9**
WB2				*e*P	**P**	**11 00 02.3**	**-1.0**
WR1	**Warramunga Arr**	**21.97**	**229**	*e*P	**P**	**11 00 02.5**	**-0.9**
	comp=Z,111nm,1.0s						
WR1				*e*S	**S**	**11 04 00.7**	**-3.2**
WRA	**Warramunga Arr**	**21.97**	**229**	P	**P**	**11 00 02.5**	**-0.9**
	comp=Z,79nm,0.9s,baz=52,slow=10.0,SNR=80						
WRA				S	**S**	**11 04 00.7**	**-3.2**
	comp=Z,22nm,1.1s,baz=55,slow=18,SNR=13						
WRA				LR	LR	11 10 02.9	
	comp=Z,1μm,18.2s,baz=50,slow=41						
SARN	**Sarigan**	**23.13**	**345**	*e*P	**P**	**11 00 14.3**	**-1.4**
	comp=Z,101nm,1.0s						
ARMA	**Armidale**	**24.48**	**180**	P	**P**	**11 00 28.6**	**+0.3**
	baz=25,SNR=3.8						
ARMA	**Armidale**	**24.48**	**180**	*e*P	**P**	**11 00 28.0**	**-0.4**
	comp=Z,156nm,1.5s						
KNRA	**Kununurra**	**24.56**	**245**	P	**P**	**11 00 29.2**	**+0.1**
	baz=25,SNR=15						
AS01	**Alice Springs**	**24.64**	**222**	*e*P	**P**	**11 00 29.0**	**-0.9**
AS31	**Alice Springs**	**24.68**	**222**	*e*P	**P**	**11 00 29.7**	**-0.5**
	comp=Z,27nm,1.0s						
ASAR	**Alice Springs**	**24.68**	**222**	P	**P**	**11 00 30.3**	**+0.1**
	comp=Z,128nm,1.1s,baz=56,slow=4.7,SNR=173						
ASAR				PcP	**PcP**	**11 04 07.6**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=48,slow=1.4,SNR=2.6						
ASAR				S	**S**	**11 04 56.0**	**+6.6**
	comp=Z,3.8nm,1.1s,baz=35,slow=19,SNR=3.4						
ASAR				LR	LR	11 11 39.6	
	comp=Z,1μm,18.6s,baz=41,slow=40						
TNTI	**Ternate**	**25.18**	**284**	*e*P	**P**	**11 00 33.8**	**-1.0**
	comp=Z,25nm,1.0s						
SANI	**Sanana**	**25.93**	**277**	P	**P**	**11 00 43.9**	**+2.2**
CMSA	**Cobar Meteorol**	**26.21**	**192**	P	**P**	**11 00 43.4**	**-0.6**
	baz=26,SNR=7.8						
SOEI	**Soe**	**27.47**	**260**	*e*P	**P**	**11 00 54.2**	**-1.4**
	comp=Z,116nm,1.0s						
SOEI	**Soe**	**27.47**	**260**	P	**P**	**11 00 54.3**	**-1.4**
	comp=Z,77nm,1.1s,comp=Z,2μm						
SOEI				pP	**sP**	**11 01 16.2**	**+4.4**
	comp=Z,77nm,1.1s,comp=Z,2μm						
STKA	**Stephens Creek**	**27.60**	**199**	P	**P**	**11 00 55.5**	**-1.0**
	comp=Z,14nm,0.9s,baz=14,slow=11,SNR=15						
STKA				LR	LR	11 12 24.2	
	comp=Z,1μm,18.6s,baz=20,slow=37						
STKA	**Stephens Creek**	**27.60**	**199**	P	**P**	**11 00 57.3**	**+0.7**
	baz=28,SNR=9.5						
STKA	**Stephens Creek**	**27.60**	**199**	*e*P	**P**	**11 00 55.2**	**-1.3**
	comp=Z,7.0nm,1.0s						
STKA	**Stephens Creek**	**27.60**	**199**	*e*P	**P**	**11 00 55.2**	**-1.3**
STKA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BATI	**Baumata**	**28.11**	**259**	P	**P**	**11 00 59.8**	**-1.5**
	comp=Z,42nm,0.8s,baz=73,slow=9.4,SNR=6.3						
BATI	**Baumata**	**28.11**	**259**	P	**P**	**11 01 03.1**	**+1.8**
	comp=Z,39nm,0.9s						
FITZ	**Fitzroy Crossi**	**28.23**	**242**	P	**P**	**11 01 01.8**	**-0.4**
	baz=28,SNR=88						
FITZ	**Fitzroy Crossi**	**28.23**	**242**	*e*P	**P**	**11 01 01.2**	**-1.1**
	comp=Z,46nm,0.8s						
DAV	**Davao City (W)**	**29.05**	**296**	LR	LR	11 12 11.8	
	comp=Z,955nm,18.1s,baz=108,slow=35						
MMRI	**Maumere**	**29.37**	**263**	*e*P	**P**	**11 01 09.7**	**-2.8**
	comp=Z,64nm,0.6s						
MMRI	**Maumere**	**29.37**	**263**	P	**P**	**11 01 12.4**	**-0.1**
	comp=Z,92nm,0.9s						
WRKA	**Warakurna**	**29.48**	**227**	P	**P**	**11 01 12.7**	**-0.7**
	baz=30,SNR=12						
EDFI	**Ende, Flores**	**29.92**	**263**	P	**P**	**11 01 15.8**	**-1.7**
HTT	**Hallett**	**29.94**	**202**	P	**P**	**11 01 17.1**	**-0.3**
	baz=30,SNR=7.0						
BBOO	**Buckleboo**	**30.57**	**207**	P	**P**	**11 01 22.3**	**-0.6**
	baz=31,SNR=5.1						
BBOO	**Buckleboo**	**30.57**	**207**	*e*P	**P**	**11 01 22.0**	**-0.8**
	comp=Z,84nm,1.5s						
ARPS	**Mount Arapiles**	**32.11**	**195**	P	**P**	**11 01 36.5**	**+0.1**
	baz=32,SNR=11						
WBSI	**Waikabubak, Su**	**32.25**	**261**	P	**P**	**11 01 40.2**	**+2.3**
MPSI	**Mapaga**	**32.35**	**280**	P	**P**	**11 01 37.4**	**-1.4**
FORT	**Forrest**	**33.33**	**219**	P	**P**	**11 01 46.6**	**-0.5**
	baz=33,SNR=14						
FORT	**Forrest**	**33.33**	**219**	*e*P	**P**	**11 01 46.2**	**-0.8**
	comp=Z,52nm,0.6s						
PLAI	**Plampang**	**33.79**	**263**	P	**P**	**11 01 49.8**	**-1.5**
MBWA	**Marble Bar**	**34.53**	**241**	*e*P	**P**	**11 01 57.1**	**-0.6**
	comp=Z,50nm,0.6s						
OUZ	**Omahuta**	**35.54**	**148**	*e*P	**P**	**11 02 07.1**	**+0.9**
	comp=Z,71nm,1.3s						
IGBI	**Denpasar**	**36.38**	**263**	P	**P**	**11 02 12.8**	**-0.9**
AFI	**Afiamalu**	**36.81**	**105**	LR	LR	11 15 49.2	
	comp=Z,649nm,19.0s,baz=298,slow=33						
JAGI	**Jajag, Banyuwa**	**37.36**	**264**	*e*P	**P**	**11 02 21.1**	**-0.9**
	comp=Z,61nm,1.0s						
MEEK	**Meekatharra**	**37.73**	**233**	P	**P**	**11 02 24.7**	**-0.3**
	baz=38,SNR=39						
JOW	**Kunigami**	**39.60**	**326**	LR	LR	11 16 18.7	
	comp=Z,1μm,20.5s,baz=130,slow=32						
URZ	**

MJAR					PcP	**PcP**	**11 05 01.3**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=159,slow=3.0,SNR=2.7									
MJAR					LR	LR	11 20 32.1			
	comp=Z,587nm,20.0s,baz=215,slow=35									
MAJO	**Matsushiro**	**43.99**	**344**	*e*P		**P**	**11 03 17.0**	**+0.6**		
MAJO				*e*PcP		**PcP**	**11 05 01.3**	**-0.4**		
MAJO	**Matsushiro**	**43.99**	**344**	*e*P		**P**	**11 03 17.0**	**+0.6**		
MAJO				*e*			11 05 01.3			
QIZ	**Qiongzhong**	**48.07**	**302**	P		**P**	**11 03 50.4**	**+1.6**		
QIZ				pmax	pmax					
	comp=Z,27nm,1.8s									
QIZ				LR	LR					
	comp=Z,450nm,13.3s									
QIZ				LR	LR					
	comp=Z,610nm,17.2s									
QIZ				LR	LR					
	comp=Z,710nm,21.1s									
KSRS	**Korea Array**	**48.43**	**335**	P		**P**	**11 03 50.3**	**-0.9**		
	comp=Z,1.0nm,0.7s,baz=143,slow=7.5,SNR=4.1									
KSRS				LR		LR	11 25 16.8			
	comp=Z,205nm,18.0s,baz=162,slow=37									
KS15	**Wonju Array Si**	**48.44**	**335**	*e*P		**P**	**11 03 50.3**	**-1.0**		
KSAR	**Wonju Array Be**	**48.44**	**335**	P		**P**	**11 03 50.3**	**-1.0**		
KSAR	**Wonju Array Be**	**48.44**	**335**	P		**P**	**11 03 50.3**	**-1.0**		
NJ2	**Nanjing**	**48.97**	**322**	*e*P		**P**	**11 03 54.6**	**-0.9**		
NJ2				S		**S**	**11 11 01.3**	**+4.3**		
NJ2				pmax	pmax					
	comp=Z,16nm,0.5s									
NJ2				LR	LR					
	comp=Z,990nm,16.0s									
NJ2				LR	LR					
	comp=Z,1μm,19.0s									
NJ2				LR	LR					
	comp=Z,1μm,16.0s									
ASAJ	**Asahikawa**	**50.38**	**351**	LR		LR	11 26 04.6			
	comp=Z,523nm,18.4s,baz=194,slow=37									
SKNT	**Sakolnakorn**	**52.33**	**297**	P		P	11 04 26.2	+5.1		
USRK	**Ussuriysk Ar.**	**52.87**	**342**	P		**P**	**11 04 23.8**	**-0.8**		
	comp=Z,1.9nm,0.7s,baz=156,slow=5.6,SNR=4.5									
USRK				LR		LR	11 26 50.7			
	comp=Z,547nm,18.0s,baz=149,slow=36									
PSI	**Prapat**	**53.41**	**278**	*e*P		**P**	**11 04 27.6**	**-1.8**		
	comp=Z,8.6nm,1.1s									
PSI	**Prapat**	**53.41**	**278**	*e*P		**P**	**11 04 27.6**	**-1.8**		
PSI				pmax	pmax					
	comp=Z,9.0nm,1.1s									
NONG	**Nongkai**	**53.47**	**297**	P		P	11 04 38.1	+8.6		
	comp=Z,0.1nm,1.4s									
GYA	**Guiyang**	**54.16**	**308**	*e*P		**P**	**11 04 37.6**	**+3.0**		
GYA				PP		**PP**	**11 06 40.3**	**+3.6**		
GYA				S		**S**	**11 12 13.0**	**+3.9**		
GYA				SS		**SS**	**11 15 54.8**	**+3.3**		
GYA				pmax	pmax					
	comp=Z,10.0nm,1.0s									
GYA				pmax	pmax					
	comp=Z,110nm,5.8s									
NANT	**Nan**	**55.90**	**297**	P		**P**	**11 04 49.3**	**+2.2**		
	comp=Z,4.2nm,0.6s									
XAN	**Xi'an**	**56.62**	**318**	P		**P**	**11 04 50.8**	**-1.3**		
XAN				pP		pP	11 04 56.3	-7.7		
XAN				pmax	pmax					
	comp=Z,5.0nm,0.6s									
KMI	**Kunming**	**56.67**	**305**	P		**P**	**11 04 55.3**	**+2.5**		
KMI				pmax	pmax					
	comp=Z,270nm,11.0s									
KMI				LR	LR					
	comp=Z,430nm,14.1s									
KMI				LR	LR					
	comp=Z,480nm,17.4s									
KMI				LR	LR					
	comp=Z,680nm,17.7s									
CMAR	**Chiang Mai Arr**	**57.34**	**296**	P		**P**	**11 04 56.7**	**-0.7**		
	comp=Z,1.1nm,0.4s,baz=114,slow=5.7,SNR=8.4									
CMAR				LR		LR	11 29 29.0			
	comp=Z,238nm,19.0s,baz=110,slow=36									
CMMT	**Chiang Mai**	**57.46**	**297**	P		P	11 05 10.1	+12		
CHTO	**Chiang Mai**	**57.46**	**297**	P		P	11 05 10.1	+12		
KLR	**Kul'dur**	**57.52**	**345**	LR		LR	11 29 17.0			
	comp=Z,424nm,18.8s,baz=164,slow=36									
KLR	**Kul'dur**	**57.52**	**345**	*i* P		**P**	**11 04 56.0**	**-2.1**		
CD2	**Chengdu**	**58.59**	**312**	*e*P		**P**	**11 05 06.0**	**0.0**		
CD2				S		**S**	**11 13 11.4**	**+4.0**		
CD2				pmax	pmax					
	comp=Z,10.0nm,0.5s									
CD2				pmax	pmax					
	comp=Z,120nm,5.0s									
CD2				LR	LR					
	comp=Z,720nm,20.4s									
CD2				LR	LR					
	comp=Z,1μm,19.4s									
CD2				LR	LR					
	comp=Z,840nm,17.9s									
PETK	**Petropavlovsk-**	**58.92**	**4**	P		**P**	**11 05 07.8**	**0.0**		
	comp=Z,3.9nm,0.6s,baz=169,slow=7.9,SNR=5.6									
PETK				LR		LR	11 32 14.6			
	comp=Z,406nm,18.2s,baz=180,slow=38									
PEA1	**Petropavlovsk-**	**58.92**	**4**	*e*P		**P**	**11 05 07.8**	**0.0**		
TBI	**Tubuai**	**59.13**	**114**	*e*LR		LR	11 22 40.6			
	comp=Z,496nm,35.2s									
HHC	**Hu-ho-hao-te**	**59.25**	**325**	*e*P		**P**	**11 05 12.1**	**+1.6**		
HHC				S		**S**	**11 13 19.0**	**+3.2**		
HHC				SS		**SS**	**11 17 14.8**	**+3.7**		
HHC				pmax	pmax					
	comp=Z,23nm,0.8s									
HHC				pmax	pmax					
	comp=Z,420nm,6.1s									
HHC				LR	LR					
	comp=Z,1μm,15.6s									
HHC				LR	LR					
	comp=Z,730nm,14.7s									
HHC				LR	LR					
	comp=Z,1μm,16.4s									
LZH	**Lanzhou**	**61.21**	**317**	*e*P		P	11 05 32.8	+8.7		
LZH				pP		sP	11 05 38.9	-1.9		
LZH				sP		pP	11 05 43.1	+7.0		
LZH				S		**S**	**11 13 35.0**	**-6.3**		
LZH				sS		pS	11 13 46.9	-8.7		
LZH	**Lanzhou**	**61.21**	**317**	SS		SS	11 17 46.4	+4.2		
LZH				pmax	pmax					
	comp=Z,46nm,1.2s									
LZH				pmax	pmax					
	comp=Z,450nm,4.3s									
LZH				LR	LR					
	comp=N,600nm,11.4s									
LZH				LR	LR					
	comp=E,850nm,13.0s									
LZH				LR	LR					
	comp=Z,830nm,14.6s									
GTA	**Gaotai**	**65.67**	**318**	*e*P		P	11 06 02.8	+9.3		
GTA				pP		pP	11 06 07.4	+1.8		
GTA				sP		sP	11 06 09.8	-0.5		
GTA				pmax	pmax					
	comp=Z,5.0nm,1.2s									
GTA				LR	LR					
	comp=N,380nm,15.1s									
GTA				LR	LR					
	comp=E,470nm,17.2s									
GTA				LR	LR					
	comp=Z,560nm,17.2s									
SHL	**Shillong**	**65.90**	**301**	*e*P		**P**	**11 05 52.6**	**-2.6**		
	comp=Z,52nm,1.4s									
SHL	**Shillong**	**65.90**	**301**	*e*P		**P**	**11 05 52.6**	**-2.6**		
SHL				pmax	pmax					
	comp=Z,52nm,1.4s									
SONA0	**Songino Array**	**66.61**	**329**	*e*P		**P**	**11 05 59.0**	**-0.3**		
SONM	**Songino Array**	**66.61**	**329**	P		**P**	**11 05 59.0**	**-0.3**		
	comp=Z,3.1nm,0.6s,baz=150,slow=6.1,SNR=16									
SONM				LR		LR	11 35 10.3			
	comp=Z,566nm,19.8s,baz=162,slow=36									
SONA1	**Songino Array**	**66.61**	**329**	*e*P		**P**	**11 05 58.5**	**-0.9**		
SEY	**Seymchan**	**68.56**	**0**	P		**P**	**11 06 11.6**	**+0.5**		
	comp=Z,2.8nm,0.6s,baz=190,slow=3.8,SNR=5.5									
SEY	**Seymchan**	**68.56**	**0**	*i* P		**P**	**11 06 14.2**	**+3.1**		
ZAK	**Zakamensk**	**69.80**	**329**	*e*P		**P**	**11 06 17.5**	**-1.7**		
ZAK				pmax	pmax					
	comp=Z,11nm,1.1s									
ODAN	**Odare**	**70.13**	**301**	*e*P		**P**	**11 06 21.1**	**-0.8**		
	comp=Z,21nm,0.6s									
TLY	**Talaya**	**70.42**	**331**	*e*P		**P**	**11 06 25.8**	**+2.9**		
TLY				pmax	pmax					
	comp=Z,8.0nm,1.0s									
TLY				MLR	MLR					
	comp=Z,207nm,16.0s									
RAMN	**Ramite**	**70.83**	**301**	*e*P		**P**	**11 06 25.8**	**-0.4**		
	comp=Z,11nm,0.6s									
JIRN	**Jiri**	**71.39**	**302**	*e*P		**P**	**11 06 28.9**	**-0.8**		
	comp=Z,14nm,0.6s									
GUN	**Gumba**	**71.73**	**302**	*e*P		**P**	**11 06 31.0**	**-0.7**		
	comp=Z,23nm,0.6s									
VNDA	**Vanda**	**71.86**	**178**	P		**P**	**11 06 31.8**	**+0.5**		
	comp=Z,6.1nm,0.9s,baz=337,slow=7.0,SNR=23									
VNDA				LR		LR	11 35 23.4			
	comp=Z,284nm,18.5s,baz=306,slow=34									
VNDA	**Vanda**	**71.86**	**178**	*e*P		**P**	**11 06 31.5**	**+0.3**		
VNDA				*e*PcP		**P**	**11 06 31.7**	**+0.5**		
VNDA	**Vanda**	**71.86**	**178**	*e*P		**P**	**11 06 31.5**	**+0.3**		
KKN	**Kakani**	**72.20**	**301**	*e*P		**P**	**11 06 33.3**	**-1.1**		
DMN	**Daman**	**72.30**	**301**	*e*P		**P**	**11 06 34.3**	**-0.7**		
RKT	**Rikitea**	**72.40**	**112**	*e*LR		LR	11 28 50.3			
	comp=Z,499nm,33.8s									
KOLN	**Koldanda**	**73.62**	**301**	*e*P		**P**	**11 06 41.5**	**-1.3**		
	comp=Z,21nm,0.7s									
DANN	**Dangsing**	**73.65**	**302**	*e*P		**P**	**11 06 41.3**	**-1.7**		
	comp=Z,13nm,0.6s									
PYUN	**Piuthan**	**74.23**	**301**	*e*P		**P**	**11 06 44.6**	**-1.8**		
	comp=Z,55nm,1.1s									
BILL	**Bilibino**	**74.40**	**6**	*e*P		**P**	**11 06 46.3**	**+0.1**		
BILL				*e*			11 09 31.2			
BILL				*e*PPP		PPP	11 11 14.6			
BILL				pmax	pmax					
	comp=Z,2.0nm,0.9s									
BILL				MLR		MLR				
	comp=Z,479nm,18.0s									
WMQ	**Urumqi**	**75.76**	**318**	*e*P		**P**	**11 06 56.4**	**+1.7**		
WMQ				LR		LR				
	comp=Z,420nm,20.9s									
DGZ	**Jazzator, Alta**	**78.24**	**323**	*i* P		**P**	**11 07 07.2**	**-1.4**		
DGZ				pmax	pmax					
	comp=Z,3.0nm,1.0s									
TIXI	**Tiksi**	**78.76**	**353**	*e*P		**P**	**11 07 10.7**	**-0.1**		
TIXI				pmax	pmax					
	comp=Z,2.0nm,0.9s									
CNPM	**China Poot**	**79.09**	**26**	*e*P		**P**	**11 07 12.9**	**0.0**		
	comp=Z,137nm,1.4s									
MK01	**Makanchi Array**	**80.37**	**319**	*e*P		**P**	**11 07 18.7**	**-1.4**		
MK31	**Makanchi Array**	**80.38**	**319**	*e*P		**P**	**11 07 19.7**	**-0.5**		
MK31	**Makanchi Array**	**80.38**	**319**	*e*P		**P**	**11 07 19.7**	**-0.5**		
MK32	**Makanchi Array**	**80.38**	**319**	*e*P		**P**	**11 07 18.7**	**-1.5**		
MKAR	**Makanchi Array**	**80.38**	**319**	P		**P**	**11 07 18.7**	**-1.5**		
	comp=Z,0.8nm,0.5s,baz=100,slow=7.3,SNR=8.8									
MKAR	**Makanchi Array**	**80.38**	**319**	*e*P		**P**	**11 07 19.8**	**-0.4**		
	comp=Z,36nm,1.2s									
MKAR	**Makanchi Array**	**80.38**	**319**	*e*P		**P**	**11 07 19.8**	**-0.4**		
MKAR				pmax	pmax					
	comp=Z,36nm,1.2s									
ZAA0	**Zalesovo Array**	**81.40**	**327**	*e*P		**P**	**11 07 24.3**	**-1.1**		
	comp=Z,13nm,0.3s									
ZALV	**Zalesovo Beam**	**81.40**	**327**	P		**P**	**11 07 24.0**	**-1.4**		
	comp=Z,4.5nm,0.5s,baz=112,slow=5.2,SNR=15									
ZALV	**Zalesovo Beam**	**81.40**	**327**	*e*P		**P**	**11 07 23.8**	**-1.6**		
ZALV	**Zalesovo Beam**	**81.40**	**327**	*e*P		**P**	**11 07 23.8**	**-1.6**		
ZAA1	**Zalesovo Array**	**81.40**	**327**	*e*P		**P**	**11 07 24.0**	**-1.4**		
IM3	**Indian Mountai**	**81.69**	**20**	*e*P		**P**	**11 07 27.3**	**+0.6**		
RND	**Reindeer**	**82.08**	**23**	*e*P		**P**	**11 07 28.6**	**-0.3**		
	comp=Z,18nm,1.0s									
RND	**Reindeer**	**82.08**	**23**	*e*P		**P**	**11 07 28.6**	**-0.3**		
RND				pmax	pmax					
	comp=Z,18nm,1.0s									
MCK	**McKinley**	**82.21**	**23**	*e*P		**P**	**11 07 29.5**	**0.0**		
	comp=Z,26nm,1.0s									
MCK	**McKinley**	**82.21**	**23**	*e*P		**P**	**11 07 29.5**	**0.0**		
MCK				pmax	pmax					
	comp=Z,26nm,1.0s									
MLY	**Manley**	**82.21**	**21**	*e*P		**P**	**11 07 29.8**	**+0.2**		
	comp=Z,9.1nm,0.6s									
DHY	**Denali Highway**	**82.50**	**24**	*e*P		**P**	**11 07 31.1**	**-0.1**		
	comp=Z,76nm,2.0s									
KSH	**Kashi**	**82.78**	**311**	*e*P		**P**	**11 07 34.1**	**+1.0**		
KSH				S		**S**	**11 17 50.3**	**+1.7**		
KSH				SS		**SS**	**11 23 17.5**	**+5.6**		
KSH				pmax	pmax					
	comp=Z,610nm,5.8s									
KSH				LR		LR				
	comp=Z,790nm,18.0s									
WRH	**Wood River Hil**	**82.90**	**22**	*e*P		**P**	**11 07 32.3**	**-0.8**		
	comp=Z,22nm,1.3s									
CCB	**Clear Creek Bu**	**83.09**	**22**	*e*P		**P**	**11 07 33.6**	**-0.4**		
	comp=Z,10nm,1.0s									
TCOL	**CIGO, UAF Yank**	**83.18**	**22**	P		**P**	**11 07 34.5**	**0.0**		
	baz=241									
HDA	**Harding Lake**	**83.30**	**23**	*e*P		**P**	**11 07 35.2**	**0.0**		
	comp=Z,6.8nm,0.8s									
HDA	**Harding Lake**	**83.30**	**23**	P		**P**	**11 07 35.1**	**0.0**		
	baz=242									
POKR	**Poker Flat Res**	**83.46**	**22**	P		**P**	**11 07 36.1**	**+0.1**		
	baz=241									
IL1	**Eielson Array**	**83.50**	**22**	*e*P		**P**	**11 07 34.6**	**-1.5**		
ILAR	**Eielson Array**	**83.50**	**22**	P		**P**	**11 07 35.2**	**-1.0**		
	comp=Z,5.6nm,0.6s,baz=247,slow=5.2,SNR=63									
ILB	**Eielson Array**	**83.50**	**22**	*e*P		**P**	**11 07 34.6**	**-1.6**		
KURK	**Kurchatov**	**83.90**	**322**	*e*P		**P**	**11 07 37.8**	**-0.7**		
	comp=Z,16nm,1.2s									
KURK	**Kurchatov**	**83.90**	**322**	*e*P		**P**	**11 07 37.8**	**-0.7**		
KURK				pmax	pmax					
	comp=Z,16nm,1.2s									
QSPA	**South Pole Qui**	**84.15**	**180**	*e*P		**P**	**11 07 39.7**	**+0.1**		
	comp=Z,35nm,0.9s									
MAW	**Mawson**	**84.22**	**203**	P		**P**	**11 07 40.1**	**+0.2**		
	comp=Z,4.3nm,0.7s,baz=95,slow=5.2,SNR=7.2									
MAW				LR		LR	11 43 05.2			
	comp=Z,418nm,19.7s,baz=352,slow=34									
TOLK	**Toolik Lake Re**	**84.51**	**18**	P		**P**	**11 07 41.4**	**+0.1**		
	baz=239									
AAK	**Ala-Archa**	**84.58**	**314**	*d*	*i* P	**P**	**11 07 41.7**	**-0.7**		
AAK				pmax	pmax					
	comp=Z,3.0nm,0.9s									
EGAK	**Eagle**	**85.71**	**23**	*e*P		**P**	**11 07 48.0**	**+0.7**		
	comp=Z,57nm,1.9s									
NRIK	**Noril'sk**	**86.57**	**341**	P		**P**	**11 07 50.8**	**-0.6**		
	comp=Z,3.0nm,0.6s,baz=121,slow=4.9,SNR=4.2									
EPYK	**Eagle Plains**	**88.01**	**22**	P		**P**	**11 07 58.2**	**-0.3**		
	baz=251									
BVAR	**Borovoye Array**	**89.40**	**323**	LR		LR	11 50 17.1			
	comp=Z,375nm,18.6s,baz=79,slow=37									
BRVK	**Borovoye**	**89.47**	**323**	*i* P		**P**	**11 08 03.9**	**-1.7**		
BRVK				pmax	pmax					
	comp=Z,5.0nm,1.3s									
INK	**Inuvik**	**89.78**	**21**	P		**P**	**11 08 06.7**	**0.0**		
	comp=Z,5.6nm,1.1s,baz=250,slow=3.8,SNR=7.2									
INK	**Inuvik**	**89.78**	**21**	*e*P		**P**	**11 08 06.9**	**+0.2**		
	comp=Z,26nm,1.4s									
INK	**Inuvik**	**89.78**	**21**	*e*P		**P**	**11 08 06.9**	**+0.2**		
INK				pmax	pmax					
	comp=Z,26nm,1.4s									
J05D	**Fort Rock, OR**	**91.80**	**47**	P		**P**	**11 08 19.4**	**+2.5**		
	baz=264									
SYO	**Syowa Base**	**92.36**	**200**	*e*SP		P	11 08 25.0	+6.3		
EDW2	**Edwards Air Fo**	**93.52**	**55**	P		**P**	**11 08 26.7**	**+1.7**		
	baz=265									
NV01	**Mina Array Sit**	**93.56**	**52**	*e*P		**P**	**11 08 26.8**	**+1.6**		
NVAR	**Mina Array Bea**	**93.56**	**52**	P		**P**	**11 08 25.9**	**+0.7**		
	comp=Z,1.8nm,0.7s,baz=249,slow=6.9,SNR=13									
CWC	**Cottonwood Cre**	**93.58**	**54**	P		**P**	**11 08 28.2**	**+2.9**		
	baz=266									
DAC	**Darwin (Calif)**	**93.95**	**54**	*e*P		**P**	**11 08 27.5**	**+0.4**		
	comp=Z,11nm,1.3s									
DAC	**Darwin (Calif)**	**93.95**	**54**	*e*P		**P**	**11 08 27.5**	**+0.4**		
DAC				pmax	pmax					
	comp=Z,11nm,1.3s									
MPMC	**Manual Prospec**	**94.02**	**54**	P		**P**	**11 08 29.6**	**+2.2**		
	baz=266									
GSC	**Goldstone, Bar**	**94.53**	**55**	P		**P**	**11 08 32.5**	**+2.9**		
	baz=266									
FURC	**Furnace Creek,**	**94.56**	**54**	P		**P**	**11 08 31.3**	**+1.7**		
	baz=266									
HEC	**Hector,Ludlow**	**94.88**	**56**	P		**P**	**11 08 33.5**	**+2.3**		
	baz=266									
TPNV	**Topopah Spring**	**95.08**	**53**	*e*P		**P**	**11 08 31.0**	**-1.2**		
	comp=Z,22nm,1.7s									
TPNV	**Topopah Spring**	**95.08**	**53**	*e*P		**P**	**11 08 31.0**	**-1.2**		
TPNV				pmax	pmax					
	comp=Z,22nm,1.7s									
TPNV	**Topopah Spring**	**95.08**	**53**	P		**P**	**11 08 34.0**	**+1.8**		
	baz=267									
TUQ	**Turquoise Moun**	**95.25**	**55**	P		**P**	**11 08 35.0**	**+2.0**		
	baz=267									
GMRC	**Granite Mounta**	**95.43**	**56**	P		**P**	**11 08 36.0**	**+2.2**		
	baz=267									
R11A	**Troy Canyon, C**	**95.68**	**52**	P		**P**	**11 08 37.4**	**+2.5**		
	baz=267									
IRM	**Iron Mountain**	**95.82**	**56**	P		**P**	**11 08 38.1**	**+2.6**		
	baz=267									
Y12C	**Blythe**	**96.32**	**57**	P		**P**	**11 08 39.9**	**+2.2**		
	baz=267									
ARU	**Arti**	**96.55**	**326**	*d*	*i* P	**P**	**11 08 37.5**	**-0.7**		
ARU							11 12 32.3			
ARU				SS		SS	11 26 31.5	+1.2		
ARU				pmax	pmax					
	comp=Z,8.0nm,2.5s									
ARU				MLR		MLR				
	comp=Z,858nm,23.0s									
HLID	**Hailey**	**96.77**	**47**	P		**P**	**11 08 41.1**	**+1.4**		
	baz=268									
YKA	**Yellowknife Ar**	**96.82**	**28**	P		**P**	**11 08 39.3**	**0.0**		
	comp=Z,2.0nm,0.9s,baz=267,slow=4.9,SNR=3.4									
PD31	**Pinedale Array**	**100.33**	**48**	*e*Pdif		**Pdif**	**11 08 56.0**	**+0.3**		
PDAR	**Pinedale Array**	**100.33**	**48**	P		**Pdif**	**11 08 56.0**	**+0.3**		
	comp=Z,0.5nm,0.7s,baz=237,slow=2.2,SNR=6.8									
PDAR	**Pinedale Array**	**100.33**	**48**	*e*Pdif		**Pdif**	**11 08 55.8**	**+0.1**		
FIA0	**FINESS Array S**	**111.52**	**335**	*e*PKiKP		**PKiKP**	**11 13 42.2**	**-0.4**		
FIA0	**FINESS Array S**	**111.52**	**335**	*e*PKiKP		**PKiKP**	**11 13 42.2**	**-0.4**		
FINES	**FINESS Array B**	**111.52**	**335**	PKiKP		**PKiKP**	**11 13 42.2**	**-0.4**		
	comp=Z,4.6nm,1.0s,baz=72,slow=4.5,SNR=3.2									
AKASG	**Malin Array Be**	**114.68**	**324**	PKP		PKPdf	11 13 48.4	-0.6		
	comp=Z,1.1nm,0.5s,baz=61,slow=2.7,SNR=3.4									
KIEV	**Kiev**	**114.69**	**324**	*i* PKiKP		PKPdf	11 13 47.7	-1.2		
BR101	**Keskin Array S**	**115.16**	**311**	*e*PKiKP		**PKiKP**	**11 13 49.0**	**-1.4**		
BRTR	**Keskin Array B**	**115.16**	**311**	PKP		**PKPdf**	**11 13 49.0**	**-1.4**		
	comp=Z,0.6nm,0.6s,baz=65,slow=0.5,SNR=3.8									
NB2	**NORSAR Subarra**	**117.49**	**340**	PKPdf		**PKPdf**	**11 13 52.8**	**-1.3**		
	comp=Z,7.9nm,1.7s,baz=44,slow=1.9									
NB200	**NORSAR Array S**	**117.49**	**340**	*e*PKPdf		**PKPdf**	**11 13 53.1**	**-1.1**		
NOA	**NORSAR Array B**	**117.49**	**340**	PKP		**PKPdf**	**11 13 53.1**	**-1.1**		
	comp=Z,0.6nm,0.6s,baz=49,slow=1.9,SNR=2.8									
BOSA	**Boshof**	**118.16**	**233**	PKhKP		PKPpre	11 13 44.1			
	comp=Z,4.6nm,0.9s,baz=138,slow=21,SNR=12									
PLCA	**Paso Flores**	**119.61**	**144**	PKP		**PKPdf**	**11 13 58.5**	**-0.4**		
	comp=Z,0.6nm,0.7s,baz=318,slow=1.8,SNR=3.1									
OJC	**Ojcow**	**120.27**	**326**	*e*PKiKP		PKPdf	11 14 09.5	+10		
OJC				*e*			11 14 15.9			
FNA	**Florina**	**123.68**	**316**	*e*PKPdf		**PKPdf**	**11 14 06.2**	**-0.5**		
FNA	**Florina**	**123.68**	**316**	*e*PKiKP		**PKPdf**	**11 14 06.2**	**-0.5**		
GERES	**GERESS Array B**	**124.34**	**328**	PKP		**PKPdf**	**11 14 07.8**	**+0.1**		
	comp=Z,2.4nm,0.6s,baz=50,slow=2.1,SNR=10									
GEA0	**GERESS Array S**	**124.34**	**328**	*e*PKPdf		**PKPdf**	**11 14 07.6**	**-0.1**		
WATA	**Walderalm**	**126.39**	**327**	*e*PKPdf		**PKPdf**	**11 14 09.8**	**-1.9**		
	comp=Z,2.1nm,0.4s									
WTTA	**Wattenberg**	**126.40**	**327**	*e*PKPdf		**PKPdf**	**11 14 10.0**	**-1.8**		
	comp=Z,1.1nm,0.2s									
MOTA	**Moosalm**	**126.63**	**327**	*e*PKiKP		**PKiKP**	**11 14 12.6**	**-0.1**		
	comp=Z,1.0nm,0.4s									
SQTA	**Sankt Quirin**	**126.66**	**327**	*e*PKiKP		**PKiKP**	**11 14 12.7**	**0.0**		
	comp=Z,1.8nm,0.3s									
FETA	**Feichten**	**127.03**	**327**	*e*PKiKP		**PKPdf**	**11 14 13.3**	**+0.2**		
	comp=Z,2.2nm,0.7s									
TUE	**Stuetta**	**128.12**	**328**	*e*PKPdf		**PKPdf**	**11 14 15.8**	**+0.7**		
LPAZ	**La Paz**	**134.87**	**120**	PKP		**PKPdf**	**11 14 29.4**	**+0.2**		
	comp=Z,1.2nm,0.8s,baz=186,slow=2.5,SNR=4.3									
LPAZ				SKP			11 17 58.8			
	comp=Z,1.4nm,1.0s,baz=252,slow=3.2,SNR=4.0									
LPAZ	**La Paz**	**134.87**	**120**	*e*PKPpre		PKPpre	11 14 27.5			
LPAZ				*e*PKPdf		**PKiKP**	**11 14 30.9**	**+0.1**		
LPAZ				SKP			11 17 58.8			
LPAZ	**La Paz**	**134.87**	**120**	*e*PKiKP		**PKPdf**	**11 14 27.5**	**-1.8**		
CPUP	**Punta Florida**	**137.41**	**140**	SKP		**SKPbc**	**11 18 03.1**	**-0.3**		
	comp=Z,1.2nm,0.3s,baz=270,slow=5.1,SNR=3.3									
PTGA	**Pitinga**	**147.71**	**101**	*e*PKPdf		**PKPdf**	**11 14 52.5**	**+0.9**		
TOA0	**Torodi Ar. Sit**	**149.57**	**286**	*e*PKPdf		**PKPdf**	**11 14 56.9**	**+2.4**		
TOA0				*ep*PKPdf		**PKPbc**

MKAR	**Makanchi Array**	**80.34**	**319**	P		**P**	**11 15 00.1**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=103,slow=2.6,SNR=4.0							
ZALV	**Zalesovo Beam**	**81.34**	**327**	P		**P**	**11 15 04.7**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=103,slow=6.2,SNR=2.7							
ZAA1	**Zalesovo Array**	**81.34**	**327**	*eP*		**P**	**11 15 04.7**	**-0.6**
KSH	**Kashi**	**82.75**	**311**	*eP*		**P**	**11 15 16.1**	**+2.9**
ILAR	**Eielson Array**	**83.40**	**22**	P		**P**	**11 15 15.3**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=252,slow=5.0,SNR=13							
ILB	**Eielson Array**	**83.40**	**22**	*eP*		**P**	**11 15 15.3**	**-0.5**
NV01	**Mina Array Sit**	**93.46**	**52**	*eP*		**P**	**11 16 05.5**	**+0.6**
NVAR	**Mina Array Bea**	**93.46**	**52**	P		**P**	**11 16 05.9**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=257,slow=16,SNR=3.5							
YKA	**Yellowknife Ar**	**96.72**	**28**	P		**P**	**11 16 19.9**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=271,slow=4.3,SNR=3.3							
TOA0	**Torodi Ar. Sit**	**149.59**	**286**	*e*PKPdf		**PKPdf**	**11 22 36.3**	**+1.7**
TORD	**Torodi Ar. Bea**	**149.59**	**286**	PKPbc		**PKPbc**	**11 22 37.3**	**-2.0**
	comp=Z,5.8nm,1.0s,baz=87,slow=3.0,SNR=19							
TOA1	**Torodi Ar. Sit**	**149.59**	**286**	*e*PKPdf		**PKPbc**	**11 22 37.3**	**-2.0**
BDFB	**Brasilia**	**151.12**	**138**	PKPbc		**PKPbc**	**11 22 43.0**	**0.0**
	comp=Z,1.1nm,0.3s,baz=243,slow=6.8,SNR=2.4							
DBIC	**Dimbokro**	**156.74**	**274**	PKPab		**PKPab**	**11 23 14.5**	**0.0**
	comp=Z,1.9nm,0.6s,baz=98,slow=7.1,SNR=3.1							

***IDC 19** 11:07:14.9±2.0,* **6°12S×152°23E, h0**km**, mb3.7/3, mb1 4.0/4, mb1mx3.6/43, mbtmp3.8/4, ML1.8/1, Error ellipse: s-maj=119.7km s-min=25.8km az=132.0, New Britain region*

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.99**	**237**	Pn		Pn	11 08 46.1	+1.3
	1.5nm,0.3s,baz=58,slow=9.5,SNR=3.2							
PMG				Sn		Sn	11 09 53.5	-0.8
	1.9nm,0.3s,baz=259,slow=18,SNR=3.2							
WRA	**Warramunga Arr**	**22.16**	**230**	P		P	11 12 13.4	+0.8
	1.6nm,0.5s,baz=53,slow=10.0,SNR=8.2							
ASAR	**Alice Springs**	**24.80**	**223**	P		P	11 12 38.2	-0.7
	0.9nm,0.7s,baz=60,slow=9.4,SNR=6.3							
ILAR	**Eielson Array**	**83.59**	**22**	P		P	11 19 45.0	+0.1
	0.7nm,0.8s,baz=236,slow=4.8,SNR=4.2							
TORD	**Torodi Ar. Bea**	**150.15**	**286**	PKPbc		PKPbc	11 27 08.3	-0.6
	0.2nm,0.4s,baz=98,slow=3.5,SNR=4.0							

***IDC 19** 11:10:23.8±2.0,* **0°98N×126°30E, h0**km**, mb3.4/3, mb1 3.7/3, mb1mx3.4/46, mbtmp3.5/3, Error ellipse: s-maj=185.9km s-min=24.9km az=65.0, Northern Molucca Sea*

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.24**	**160**	P		P	11 15 21.4	-0.9
	0.3nm,0.3s,baz=338,slow=11,SNR=11							
ASAR	**Alice Springs**	**25.59**	**164**	P		P	11 15 55.7	+0.8
	0.5nm,0.5s,baz=345,slow=11,SNR=7.1							
MKAR	**Makanchi Array**	**59.57**	**326**	P		P	11 20 29.2	-0.1
	0.2nm,0.4s,baz=132,slow=7.0,SNR=4.4							

***IDC 19** 11:13:12.7±9.0,* **5°92S×151°57E, h92**km**±62**km**, mb3.5/2, mb1 3.7/3, mb1mx3.2/45, mbtmp3.9/3, ML1.7/1, Error ellipse: s-maj=115.0km s-min=57.1km az=123.0, New Britain region*

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.58**	**231**	P		Pn	11 14 32.6	-0.7
	1.5nm,0.3s,baz=42,slow=14,SNR=8.9							
PMG				S		Sn	11 15 37.4	+1.4
	0.9nm,0.3s,baz=279,slow=7.0,SNR=2.1							
WRA	**Warramunga Arr**	**21.79**	**229**	P		P	11 17 57.0	-0.4
	3.1nm,0.9s,baz=54,slow=9.9,SNR=19							
ASAR	**Alice Springs**	**24.50**	**222**	P		P	11 18 23.7	+0.1
	2.4nm,0.8s,baz=53,slow=9.1,SNR=16							
TORD	**Torodi Ar. Bea**	**149.46**	**286**	PKPbc		PKPbc	11 32 52.1	-0.2
	1.1nm,0.9s,baz=89,slow=2.6,SNR=5.4							

*ISCJB **19** 11:13:53.1±1.1,51°25N±0°06×178°11W±0°04, h0**km**±6**km**, mb3.7/9, Error ellipse: s-maj=10.2km s-min=3.6km az=171.8*
*IDC **19** 11:13:54.0±0.7,51°43N×178°32W, h0**km**, mb3.7/9, mb1 4.0/11, mb1mx3.7/53, mbtmp3.8/11, ML3.3/2, Error ellipse: s-maj=35.6km s-min=16.9km az=156.0*
*NEIC **19** 11:13:56.3±0.0,51°48N×178°11W, h10**km**, ML4.0(AEIC), After AEIC.*

ISC 19 11:13:53.6±1.6, 51°34N±0°07×178°17W±0°03, h1km**±10**km**, n45, σ0°88/49, mb3.7/9, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TAFL	**Tanaga Flats**	**0.45**	**22**	P		**Pb**	**11 14 03.9**	**-0.5**
TAFL				S		**Sg**	**11 14 09.1**	**+0.9**
TASE	**Tanaga Southea**	**0.51**	**9**	P		**Pb**	**11 14 04.7**	**-0.6**
TAPA	**Tanaga Point A**	**0.53**	**25**	P		**Pb**	**11 14 05.1**	**-0.6**
GALAA	**Gareloi Lava P**	**0.57**	**319**	P		**Pb**	**11 14 06.9**	**+0.5**
GAEA	**Gareloi East**	**0.57**	**321**	P		**Pb**	**11 14 06.9**	**+0.4**
TAFP	**Tanaga Falls P**	**0.58**	**12**	P		**Pb**	**11 14 05.6**	**-0.9**
GANE	**Gareloi Northe**	**0.61**	**322**	P		**Pb**	**11 14 07.3**	**+0.2**
GANE				S		**Sb**	**11 14 15.7**	**-0.6**
KIMD	**Kanaga Island**	**0.72**	**54**	P		**Pb**	**11 14 08.6**	**-0.3**
KIMD				S		**Sg**	**11 14 17.6**	**+0.8**
KIKV	**Kanaga Island**	**0.83**	**49**	P		**Pb**	**11 14 10.2**	**-0.6**
KICM	**Kanaga Island**	**0.84**	**46**	P		**Pb**	**11 14 10.6**	**-0.4**
ADK	**Adak**	**1.08**	**59**	P		**Pg**	**11 14 13.7**	**-0.4**
ADK				S		**Sb**	**11 14 30.1**	**+0.6**
ADAG	**Mount Adagdak**	**1.17**	**56**	P		**Pg**	**11 14 16.1**	**+0.2**
ETKA	**Kagalaska Isla**	**1.22**	**64**	P		**Pg**	**11 14 16.7**	**-0.2**
ETKA				S		**Sn**	**11 14 34.7**	**-0.2**
GSTD	**Great Sitkin T**	**1.45**	**59**	P		**Pn**	**11 14 20.7**	**-0.3**
GSTD				S		**Sn**	**11 14 40.8**	**+0.1**
GSSP	**Great Sitkin S**	**1.45**	**58**	P		**Pn**	**11 14 20.8**	**-0.2**
CERAA	**Semis' Rag'd T**	**1.46**	**294**	P		**Pg**	**11 14 21.8**	**+0.4**
GSMY	**Great Sitkin M**	**1.49**	**61**	P		**Pn**	**11 14 21.2**	**-0.3**
CESW	**Semis' Southwe**	**1.52**	**293**	P		**Pg**	**11 14 22.9**	**+0.2**
CEAP	**Semis' Anvil P**	**1.55**	**296**	P		**Pg**	**11 14 23.6**	**+0.3**
AMKA	**Amchitka**	**1.59**	**272**	P		**Pn**	**11 14 23.5**	**+0.7**
AMKA				S		**Sg**	**11 14 45.2**	**+0.7**
LSPA	**Little Sitkin**	**2.12**	**288**	P		**Pb**	**11 14 31.8**	**-1.0**
LSPA				S		**Sb**	**11 14 60.0**	**+0.3**
LSNW	**Little Sitkin**	**2.16**	**288**	P		**Pb**	**11 14 32.2**	**-1.2**
ATKA	**Atka Island**	**2.62**	**69**	P		**Pn**	**11 14 37.6**	**+0.7**
ATKA				S		**Sn**	**11 15 09.4**	**+0.1**
KOFP	**Korovin Flat P**	**2.70**	**68**	P		**Pn**	**11 14 39.8**	**+1.7**
KOSE	**Korovin Southe**	**2.75**	**67**	P		**Pn**	**11 14 39.9**	**+1.1**
NIKH	**Nikolski High**	**5.96**	**70**	P		**Pn**	**11 15 23.0**	**+0.1**
PETK	**Petropavlovsk-**	**14.88**	**286**	Pn		**Pn**	**11 17 22.9**	**-2.0**
	0.1nm,0.3s,baz=92,slow=20,SNR=2.4							
KDAK	**Kodiak Island**	**16.12**	**56**	Pn		**Pn**	**11 17 38.7**	**-2.4**
	0.7nm,0.3s,baz=70,slow=2.2,SNR=11							
ILAR	**Eielson Array**	**21.03**	**38**	P		**P**	**11 18 39.4**	**+1.0**
	0.5nm,0.7s,baz=243,slow=10.0,SNR=3.4							
ILAR				PcP		**PcP**	**11 22 44.4**	**-0.6**
	0.2nm,0.6s,baz=265,slow=2.8,SNR=4.2							
INK	**Inuvik**	**27.27**	**35**	P		**P**	**11 19 40.2**	**+1.3**
	1.6nm,1.1s,baz=261,slow=7.7,SNR=2.6							
KLR	**Kul'dur**	**31.57**	**286**	P		**P**	**11 20 16.8**	**-0.6**
	1.4nm,0.6s,baz=63,slow=7.7,SNR=4.5							
H11N2	**WAKE ISLAND Hy**	**33.66**	**206**	T		T	11 56 18.9	
	baz=17,slow=76,SNR=721							
H11N3	**WAKE ISLAND Hy**	**33.67**	**206**	T		T	11 56 19.7	
	baz=17,slow=76,SNR=1036							
H11N1	**WAKE ISLAND Hy**	**33.68**	**206**	T		T	11 56 19.2	
	baz=17,slow=76,SNR=690							
H11S1	**WAKE ISLAND Hy**	**34.88**	**206**	T		T	11 57 50.9	
	baz=17,slow=76,SNR=2570							
H11S2	**WAKE ISLAND Hy**	**34.90**	**206**	T		T	11 57 49.9	
	baz=17,slow=76,SNR=1160							
H11S3	**WAKE ISLAND Hy**	**34.90**	**206**	T		T	11 57 51.5	
	baz=17,slow=76,SNR=1029							
NVAR	**Mina Array Bea**	**43.16**	**83**	P		**P**	**11 21 57.4**	**+1.5**
	0.6nm,0.7s,baz=294,slow=15,SNR=4.4							
PDAR	**Pinedale Array**	**45.94**	**73**	P		**P**	**11 22 19.4**	**+1.2**
	1.2nm,0.7s,baz=309,slow=3.1,SNR=11							
TXAR	**Lajitas Array**	**58.27**	**82**	P		**P**	**11 23 50.5**	**+0.6**
	0.3nm,0.6s,baz=309,slow=4.3,SNR=5.5							
WRA	**Warramunga Arr**	**82.26**	**224**	P		**P**	**11 26 16.6**	**+0.1**
	0.3nm,0.6s,baz=34,slow=6.2,SNR=4.0							
ASAR	**Alice Springs**	**85.72**	**223**	P		**P**	**11 26 35.6**	**+1.5**
	0.6nm,0.7s,baz=26,slow=5.7,SNR=7.2							
STKA	**Stephens Creek**	**90.11**	**213**	P		**P**	**11 26 53.6**	**-1.3**
	1.5nm,0.7s,baz=43,slow=10.0,SNR=3.8							
MAW	**Mawson**	**146.69**	**218**	PKPbc		**PKPab**	**11 33 37.2**	**+0.4**
	3.3nm,0.8s,baz=114,slow=3.2,SNR=4.8							
BOSA	**Boshof**	**151.29**	**313**	PKPbc		**PKPbc**	**11 33 48.6**	**-0.1**
	1.1nm,0.7s,baz=27,slow=2.3,SNR=4.3							

*ISCJB **19** 11:18:48.2±0.5,35°30N±0°07×136°83E±0°07, h323**km**±4**km**, mb3.3/4, Error ellipse: s-maj=12.3km s-min=8.1km az=147.3*
*JMA **19** 11:18:48.7±0.2,35°42N×136°72E, h322**km**±2**km**, M2.7*
*IDC **19** 11:18:49.1±0.8,35°24N×136°92E, h316**km**±9**km**, mb3.1/4, mb1 3.2/7, mb1mx2.9/53, mbtmp3.8/7, Error ellipse: s-maj=24.6km s-min=15.7km az=101.0*

ISC 19 11:18:48.8±0.8, 35°34N±0°08×136°78E±0°07, h317km**±6**km**, n24, σ0°878/32, mb3.4/4, Western Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JYTA	**Yamagatataniai**	**0.25**	**353**	P		**Pn**	**11 19 29.4**	**+0.5**
JYTA				S		**S**	**11 20 01.0**	**+0.1**
JIE	**Ise**	**0.95**	**183**	P		**Pn**	**11 19 31.8**	**+0.9**
JKG	**Kaga**	**1.00**	**339**	P		**Pn**	**11 19 31.1**	**+0.1**
JKG				*e*S		**S**	**11 20 04.2**	**-0.4**
JWT	**Wachi**	**1.12**	**267**	P		**Pn**	**11 19 32.1**	**+0.5**
JWT				*e*S		**S**	**11 20 04.7**	**-1.1**
JYN	**Shimob**	**1.45**	**83**	P		**Pn**	**11 19 34.1**	**+0.6**
JWY	**Kouya**	**1.48**	**221**	P		**Pn**	**11 19 34.4**	**+0.6**
JWY				*e*S		**S**	**11 20 09.0**	**-0.6**
MAT	**Matsushiro**	**1.67**	**44**	P		**Pn**	**11 19 35.1**	**+0.4**
MAT				S		**S**	**11 20 11.5**	**+0.1**
MAT	**Matsushiro**	**1.67**	**44**	P		**Pn**	**11 19 35.1**	**+0.4**
MAT				*e*S		**S**	**11 20 11.7**	**+0.3**
MJAR	**Matsushiro Arr**	**1.67**	**44**	P		**Pn**	**11 19 35.2**	**+0.5**
	5.5nm,0.3s,baz=225,slow=8.1,SNR=57							
MJAR				S		**S**	**11 20 11.9**	**+0.4**
	baz=214,slow=22,SNR=3.8							
JTNC	**Tanabenakahech**	**1.80**	**213**	P		**Pn**	**11 19 36.3**	**+0.5**
JRY	**Ryogami san**	**1.86**	**68**	P		**Pn**	**11 19 36.8**	**+0.7**
JRY				*e*S		**S**	**11 20 14.6**	**+0.8**
JOD2	**Odawara 2**	**1.89**	**92**	P		**Pn**	**11 19 37.5**	**+1.1**
JSZ	**Suzu**	**2.15**	**13**	P		**Pn**	**11 19 38.5**	**+0.3**
JAG	**Ashikaga**	**2.43**	**63**	P		**Pn**	**11 19 39.9**	**-0.6**
JAI	**Aioi**	**2.46**	**232**	P		**Pn**	**11 19 41.3**	**+0.4**
JHS	**Saijyo**	**3.02**	**265**	P		**Pn**	**11 19 46.3**	**+0.3**
BSO1	**Boso 1**	**3.52**	**100**	*e*S		**S**	**11 20 37.5**	**-2.2**
JNU	**Nakatsue**	**5.36**	**247**	P		**Pn**	**11 20 12.2**	**+1.0**
	1.7nm,0.3s,baz=116,slow=1.2,SNR=15							
USRK	**Ussuriysk Ar.**	**9.58**	**339**	P		**P**	**11 21 03.6**	**-1.2**
	0.3nm,0.3s,baz=170,slow=17,SNR=3.1							
ASAJ	**Asahikawa**	**9.84**	**25**	P		**Pn**	**11 21 04.0**	**-0.7**
	0.9nm,0.3s,baz=228,slow=6.1,SNR=8.0							
WRA	**Warramunga Arr**	**55.03**	**183**	P		**P**	**11 27 47.9**	**-0.4**
	0.7nm,0.3s,baz=0.0,slow=7.6,SNR=46							
INK	**Inuvik**	**57.58**	**26**	P		**P**	**11 28 06.4**	**+0.9**
	0.8nm,0.8s,baz=290,slow=4.7,SNR=4.5							
ASAR	**Alice Springs**	**58.75**	**183**	P		**P**	**11 28 14.1**	**-0.1**
	0.3nm,0.7s,baz=5.3,slow=12,SNR=4.5							
FINES	**FINESS Array B**	**68.52**	**331**	P		**P**	**11 29 17.8**	**+0.7**
	1.5nm,0.8s,baz=46,slow=6.0,SNR=2.7							

***IDC 19** 11:19:35.3±7.2,* **5°70S×151°78E, h56**km**±59**km**, mb3.3/3, mb1 3.7/4, mb1mx3.3/38, mbtmp3.6/4, ML1.7/1, Error ellipse: s-maj=110.4km s-min=37.1km az=127.0, New Britain region*

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.88**	**231**	P		Pn	11 20 59.7	-0.1
	1.2nm,0.3s,baz=55,slow=11,SNR=3.8							
PMG				S		Sn	11 22 06.9	+1.0
	1.0nm,0.3s,baz=21,slow=18,SNR=3.9							
WRA	**Warramunga Arr**	**22.09**	**229**	P		P	11 24 25.8	-0.1
	1.2nm,0.6s,baz=54,slow=10,SNR=12							
ASAR	**Alice Springs**	**24.81**	**222**	P		P	11 24 52.5	+0.2
	1.2nm,0.7s,baz=59,slow=9.2,SNR=11							
ILAR	**Eielson Array**	**83.37**	**22**	P		P	11 31 56.2	+0.2
	0.3nm,0.6s,baz=258,slow=4.5,SNR=3.3							
TORD	**Torodi Ar. Bea**	**149.60**	**286**	PKPbc		PKPbc	11 39 18.7	-0.9
	0.2nm,0.3s,baz=96,slow=1.9,SNR=2.9							

MEX 19 11:30:20.5±0.7, 20°21N×96°42W, h5km**, MD3.9, Veracruz**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TPIG	**Tehuac#an**	**2.00**	**207**	*e*P		Pn	11 30 51.4	-3.7
TPIG				*e*S		Sn	11 31 15.1	-5.4
PPM	**Popocatepetl**	**2.38**	**242**	*e*P		Pn	11 30 56.8	-3.8
PPM				*e*S		Sn	11 31 26.1	-4.2
DEIG	**Demacu**	**2.46**	**272**	*e*P		Pn	11 30 58.0	-3.5
DEIG				*e*S		Sn	11 31 28.4	-3.7
PLIG	**Platanillo**	**3.43**	**239**	*e*P		Pn	11 31 12.3	-2.4
PLIG				*e*S		Sn	11 31 52.8	-3.1

*BJI **19** 11:51:15.7,5°89S×152°08E, h13**km**, mb4.7/17, mB5.1/8*
*NEIC **19** 11:51:17.9±0.7,5°82S×151°89E, h10**km**±4**km**, mb4.8/18, Error ellipse: s-maj=6.1km s-min=5.0km az=131.0*
*ISCJB **19** 11:51:20.2±0.3,5°78S±0°04×151°85E±0°05, h36**km**, mb4.6/37, Error ellipse: s-maj=7.9km s-min=5.1km az=30.7*
*IDC **19** 11:51:26.2±2.6,5°75S×151°65E, h69**km**±23**km**, mb4.0/17, mb1 4.1/19, mb1mx4.0/41, mbtmp4.3/19, Error ellipse: s-maj=17.6km s-min=12.7km az=123.0*

ISC 19 11:51:22.1±0.4, 5°80S±0°05×151°86E±0°06, h36km**, n80, σ1°59/90, mb4.6/37, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**1.62**	**11**	*e*Pn		**Pn**	**11 51 48.7**	**+0.5**
RABL				*e*Sn		**Sn**	**11 52 12.8**	**+4.9**
MANU	**Manus Island**	**5.83**	**310**	*e*Pn		**Pn**	**11 52 46.9**	**+0.9**
PMG	**Port Moresby**	**5.88**	**232**	P		**Pn**	**11 52 48.8**	**+2.1**
	12nm,0.3s,baz=40,slow=9.8,SNR=38							
PMG				S		**Sn**	**11 53 54.1**	**+1.2**
	9.7nm,0.3s,baz=122,slow=17,SNR=4.5							
PMG	**Port Moresby**	**5.88**	**232**	*e*Pn		**Pn**	**11 52 46.6**	**-0.1**
PMG				*e*Sn		**Sn**	**11 53 52.8**	**0.0**
HNR	**Honiara**	**8.79**	**115**	*e*Pn		**Pn**	**11 53 24.9**	**-1.8**
COEN	**Coen**	**11.78**	**226**	P		**Pn**	**11 54 09.5**	**+1.8**
	baz=12,SNR=6.5							
PATS	**Pohnpei**	**14.11**	**27**	*e*Pn		**Pn**	**11 54 38.2**	**-1.3**
MTSU	**Mount Surprise**	**14.30**	**210**	P		**Pn**	**11 54 44.3**	**+2.2**
	baz=14,SNR=7.9							
CTA	**Charters Tower**	**15.21**	**200**	P		**Pn**	**11 54 56.3**	**+1.9**
	0.3nm,0.3s,baz=45,slow=14,SNR=2.2							
QIS	**Mount Isa**	**18.89**	**218**	P		**Pn**	**11 55 40.1**	**-0.3**
	baz=19,SNR=5.5							
EIDS	**Eidsvold**	**19.48**	**182**	P		**Pn**	**11 55 50.6**	**+3.2**
	baz=20							
EIDS	**Eidsvold**	**19.48**	**182**	*e*P		**P**	**11 55 44.7**	**-1.2**
	6.8nm,0.9s							
FAKI	**Fak Fak**	**19.76**	**277**	*e*P		**P**	**11 55 48.9**	**-0.3**
	8.8nm,0.9s							
KDU	**Kakadu**	**20.31**	**249**	P		**P**	**11 55 54.7**	**-0.4**
	baz=20,SNR=28							
RMQ	**Roma**	**20.78**	**188**	P		Pn	11 56 03.4	+0.6
	baz=21,SNR=4.9							
SIJI	**Sorong**	**21.13**	**283**	P		**P**	**11 56 03.4**	**-0.7**
	11nm,0.6s,baz=66,slow=6.9,SNR=5.9							
DZM	**Mont Dzumac**	**21.46**	**140**	P		**P**	**11 56 11.2**	**+3.6**
	2.5nm,0.7s,baz=339,slow=17,SNR=4.7							
DZM	**Mont Dzumac**	**21.46**	**140**	*e*P		**P**	**11 56 05.5**	**-2.1**
	5.2nm,0.8s							
DZM				P		**P**	**11 56 11.2**	**+3.6**
MTN	**Manton Dam**	**21.61**	**250**	P		**P**	**11 56 08.4**	**-0.7**
	baz=22,SNR=25							
MTN	**Manton Dam**	**21.61**	**250**	*e*P		**P**	**11 56 08.1**	**-1.1**
	28nm,0.5s							
WRAB	**Tennant Creek**	**22.07**	**229**	*e*P		**P**	**11 56 13.2**	**-1.0**
	32nm,0.8s							
WB2	**Warramunga Arr**	**22.08**	**229**	*e*P		**P**	**11 56 12.1**	**-2.1**
WB2				*e*P		**P**	**11 56 12.8**	**-1.4**
WR1	**Warramunga Arr**	**22.09**	**229**	*e*P		**P**	**11 56 14.2**	**0.0**
	30nm,0.9s							
WR1				*e*S		**S**	**12 00 14.0**	**-1.9**
WRA	**Warramunga Arr**	**22.09**	**229**	P		**P**	**11 56 14.2**	**0.0**
	31nm,0.8s,baz=54,slow=9.9,SNR=80							
WRA				S		**S**	**12 00 14.0**	**-1.9**
	1.9nm,1.1s,baz=57,slow=18,SNR=4.8							
KNRA	**Kununurra**	**24.70**	**245**	P		**P**	**11 56 40.0**	**-0.1**
	baz=25,SNR=21							
AS01	**Alice Springs**	**24.75**	**222**	*e*P		**P**	**11 56 40.2**	**-0.4**
AS31	**Alice Springs**	**24.78**	**222**	*e*P		**P**	**11 56 41.0**	**+0.2**
	6.8nm,0.6s							
AS31				*e*S		**S**	**12 01 06.2**	**+5.1**
ASAR	**Alice Springs**	**24.79**	**222**	P		**P**	**11 56 41.0**	**+0.2**
	20nm,0.8s,baz=57,slow=9.0,SNR=150							
ASAR				S		**S**	**12 01 06.2**	**+5.1**
	0.4nm,0.9s,baz=39,slow=19,SNR=2.3							
TNTI	**Ternate**	**25.31**	**284**	*e*P		**P**	**11 56 45.9**	**+0.3**
	13nm,1.0s							
FUNA	**Funafuti**	**27.25**	**97**	*e*P		**P**	**11 57 01.7**	**-1.5**
	86nm,1.1s							
SOEI	**Soe**	**27.61**	**260**	*e*P		**P**	**11 57 06.4**	**-0.2**
	22nm,0.8s							
STKA	**Stephens Creek**	**27.67**	**199**	P		**P**	**11 57 07.2**	**+0.5**
	3.8nm,0.9s,baz=0.8,slow=15,SNR=3.4							
STKA	**Stephens Creek**	**27.67**	**199**	*e*P		**P**	**11 57 06.5**	**-0.2**
	1.6nm,1.1s							
BATI	**Baumata**	**28.25**	**259**	P		**P**	**11 57 11.9**	**-0.3**
	14nm,0.4s,baz=136,slow=6.6,SNR=4.1							
FITZ	**Fitzroy Crossi**	**28.36**	**242**	P		**P**	**11 57 12.6**	**-0.5**
	baz=28,SNR=88							
FITZ	**Fitzroy Crossi**	**28.36**	**242**	*e*P		**P**	**11 57 12.5**	**-0.5**
	32nm,0.7s							
MMRI	**Maumere**	**29.52**	**263**	*e*P		**P**	**11 57 22.8**	**-0.6**
	34nm,0.6s							
WRKA	**Warakurna**	**29.60**	**227**	P		**P**	**11 57 23.7**	**-0.3**
	baz=30,SNR=14							
FORT	**Forrest**	**33.43**	**219**	*e*P		**P**	**11 57 57.2**	**-0.4**
	23nm,0.8s							
MBWA	**Marble Bar**	**34.67**	**241**	*e*P		**P**	**11 58 08.2**	**-0.2**
	27nm,0.6s							
MEEK	**Meekatharra**	**37.86**	**233**	P		**P**	**11 58 35.6**	**-0.1**
	baz=38,SNR=6.8							
CISI	**Cisompet, Garu**	**43.77**	**265**	*e*P		**P**	**11 59 23.1**	**-1.6**
	51nm,0.9s							
NJ2	**Nanjing**	**49.04**	**322**	*e*P		**P**	**12 00 04.9**	**-0.8**
NJ2				pmax	pmax			
	comp=Z,12nm,0.5s							
RAR	**Rarotonga**	**49.24**	**113**	*e*P		**P**	**12 00 06.8**	**-0.7**
	3.7nm,0.6s							
KMI	**Kunming**	**56.78**	**305**	P		**P**	**12 01 05.6**	**+2.4**
KMI				pmax	pmax			
	comp=Z,8.0nm,0.6s							
KMI				pmax	pmax			
	comp=Z,130nm,5.2s							
CM01	**Chiang Mai Arr**	**57.43**	**296**	*e*P		**P**	**12 01 07.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**57.46**	**296**	P		**P**	**12 01 08.1**	**+0.1**
	0.8nm,0.4s,baz=128,slow=6.1,SNR=8.4							
KLR	**Kul'dur**	**57.54**	**345**	P		**P**	**12 01 08.1**	**+0.2**
	1.3nm,0.8s,baz=215,slow=3.8,SNR=3.2							
CD2	**Chengdu**	**58.68**	**312**	*e*P		**P**	**12 01 17.0**	**+0.7**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**59.32**	**325**	*e*P		**P**	**12 01 23.3**	**+2.7**
HHC				pmax	pmax			
	comp=Z,11nm,0.8s							
HHC				pmax	pmax			
	comp=Z,150nm,5.0s							
LZH	**Lanzhou**	**61.30**	**317**	*e*P		**P**	**12 01 35.8**	**+1.5**
LZH				pP	pP		12 01 43.1	-2.2
LZH				sP	sP		12 01 46.8	-2.7
LZH				pmax	pmax			
	comp=Z,26nm,1.0s							
SONA0	**Songino Array**	**66.67**	**328**	*e*P		**P**	**12 02 09.2**	**-0.2**
SONM	**Songino Array**	**66.67**	**328**	P		**P**	**12 02 09.2**	**-0.2**
	0.8nm,0.6s,baz=139,slow=4.3,SNR=5.6							
SONA1	**Songino Array**	**66.68**	**328**	*e*P		**P**	**12 02 08.7**	**-0.8**
SEY	**Seymchan**	**68.54**	**0**	P		**P**	**12 02 21.2**	**+0.6**
	3.9nm,0.9s,baz=133,slow=8.7,SNR=3.1							

YUK					AMB	AMB	12 00 10.7	
	comp=E,60nm,0.4s							
YUK					AMB	AMB	12 00 10.7	
	comp=E,4μm,0.4s							
YUK				*i* S		**Sn**	**12 00 37.1**	**+0.6**
YUK				A		A	12 00 41.0	
	comp=E,310nm,0.4s							
YUK				A		A	12 00 41.0	
	comp=E,319nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**2.43**	**267**	*e*PN		**Pb**	**12 00 10.1**	**-0.6**
YUK				*i* S		**Sn**	**12 00 37.1**	**+0.6**
YUK				pmax		pmax		
	comp=Z,90nm,0.2s							
YUK				smax		smax		
	comp=E,312nm,0.5s							
YUK				smax		smax		
	comp=N,310nm,0.3s							
LAGR	**Lagunnoye**	**2.48**	**267**	*e*P		**Pn**	**12 00 10.0**	**+2.6**
LAGR				AMB		AMB	12 00 15.0	
	comp=N,40nm,0.3s							
LAGR				AMB		AMB	12 00 15.0	
	comp=N,60nm,0.3s							
LAGR				*i* S		**Sn**	**12 00 39.1**	**+1.4**
LAGR				A		A	12 00 40.0	
	comp=N,430nm,0.4s							
LAGR				A		A	12 00 40.0	
	comp=N,189nm,0.4s							
LAGR	**Lagunnoye**	**2.48**	**267**	*e*PN		**Pb**	**12 00 10.3**	**-1.3**
LAGR				*i* S		**Sn**	**12 00 39.1**	**+1.4**
LAGR				pmax		pmax		
	comp=N,43nm,0.2s							
LAGR				pmax		pmax		
	comp=Z,113nm,0.2s							
LAGR				smax		smax		
	comp=E,175nm,0.1s							
LAGR				smax		smax		
	comp=N,434nm,0.2s							
GRPR	**Tuman**	**2.50**	**266**	*e*P		**Pn**	**12 00 10.0**	**+2.4**
GRPR				AMB		AMB	12 00 17.0	
	comp=N,30nm,0.3s							
GRPR				AMB		AMB	12 00 17.0	
	comp=N,20nm,0.3s							
GRPR				AMB		AMB	12 00 17.0	
	comp=N,50nm,0.3s							
GRPR				*i* S		**Sn**	**12 00 38.0**	**-0.2**
GRPR				A		A	12 00 44.0	
	comp=N,150nm,0.3s							
GRPR				A		A	12 00 44.0	
	comp=N,229nm,0.3s							
GRPR	**Tuman**	**2.50**	**266**	*e*PN		**Pb**	**12 00 10.7**	**-1.2**
GRPR				*i* S		**Sn**	**12 00 38.7**	**+0.5**
GRPR				pmax		pmax		
	comp=Z,47nm,0.1s							
GRPR				pmax		pmax		
	comp=E,17nm,0.0s							
GRPR				pmax		pmax		
	comp=N,34nm,0.1s							
GRPR				smax		smax		
	comp=N,150nm,0.5s							
GRPR				smax		smax		
	comp=E,223nm,0.5s							
NEM2	**Nemuro 2**	**2.67**	**252**	P		**Pn**	**12 00 12.2**	**+2.3**
NEM2				*e*S		**Sn**	**12 00 42.6**	**+0.3**
GLVR	**Golovnino**	**2.72**	**261**	*e*P		**Pb**	**12 00 14.0**	**-1.6**
GLVR				AMB		AMB	12 00 17.0	
	comp=E,50nm,0.3s							
GLVR				AMB		AMB	12 00 17.0	
	comp=E,4μm,0.3s							
GLVR				*e*S		**Sn**	**12 00 44.0**	**+0.4**
GLVR				A		A	12 00 51.0	
	comp=E,380nm,0.3s							
GLVR				A		A	12 00 51.0	
	comp=E,139nm,0.3s							
GLVR	**Golovnino**	**2.72**	**261**	*e*PN		**Pb**	**12 00 14.3**	**-1.3**
GLVR				*e*S		**Sn**	**12 00 44.4**	**+0.8**
GLVR				pmax		pmax		
	comp=Z,52nm,0.1s							
GLVR				smax		smax		
	comp=N,380nm,0.3s							
GLVR				smax		smax		
	comp=E,127nm,0.2s							
JRA	**Rausu**	**2.97**	**266**	P		**Pn**	**12 00 17.7**	**+3.6**
JNK	**Nakash**	**3.32**	**260**	P		**Pn**	**12 00 21.6**	**+2.7**
JAK	**Akkeshi**	**3.51**	**251**	P		**Pn**	**12 00 24.1**	**+2.6**
JAK				*e*S		**Sn**	**12 01 03.2**	**0.0**
JTKR	**Abashiri--Toko**	**3.84**	**268**	P		**Pn**	**12 00 30.7**	**+4.7**
JAR	**Ashorobuto**	**4.06**	**259**	P		**Pn**	**12 00 32.6**	**+3.5**
JAR				*e*S		**Sn**	**12 01 18.3**	**+1.6**
JOB	**Onbets**	**4.14**	**253**	P		**Pn**	**12 00 33.2**	**+3.1**
JOB				*e*S		**Sn**	**12 01 20.0**	**+1.5**
JMP	**Maruseppu**	**4.23**	**269**	P		**Pn**	**12 00 36.0**	**+4.6**
JCH	**Churui**	**4.57**	**251**	P		**Pn**	**12 00 38.7**	**+2.7**
JCH				*e*S		**Sn**	**12 01 29.7**	**+0.5**
MYR	**Moyori**	**4.75**	**248**	*e*P		**Pn**	**12 00 42.0**	**+3.4**
MYR				*e*S		**Sn**	**12 01 34.5**	**+0.8**
JNBK	**Urakawa-nobuka**	**5.12**	**250**	*e*S		**Sn**	**12 01 42.7**	**0.0**
YSS	**Yuzh-Sakhalins**	**5.29**	**303**	*e*P		**Pn**	**12 00 48.3**	**+2.3**
YSS				AMB		AMB	12 00 48.8	
	comp=E,20nm,0.7s							
YSS				AMB		AMB	12 00 48.8	
	comp=E,10.0nm,0.7s							
YSS	**Yuzh-Sakhalins**	**5.29**	**303**⍰	*e*PN		**Pn**	**12 00 48.0**	**+2.0**
YSS				pmax		pmax		
	comp=Z,30nm,0.3s							
YSS				pmax		pmax		
	comp=N,10.0nm,0.4s							
YSS				pmax		pmax		
	comp=E,20nm,0.7s							
JNB	**Noboribetsu**	**6.22**	**256**	P		**Pn**	**12 01 02.0**	**+3.2**
JNB				*e*S		**Sn**	**12 02 10.2**	**+0.2**
JKB	**Kayabe**	**6.44**	**252**	P		**Pn**	**12 01 04.3**	**+2.5**
JKB				*e*S		**Sn**	**12 02 12.8**	**-2.6**
JANG	**Nango**	**6.89**	**239**	*e*S		**Sn**	**12 02 22.1**	**-4.4**
JTM	**Tenmabayashi**	**6.94**	**243**	*e*S		**Sn**	**12 02 24.4**	**-3.2**
JTH	**Tanohata**	**6.96**	**234**	*e*S		**Sn**	**12 02 24.2**	**-3.8**
SKR	**Severo-Kuril's**	**7.96**	**33**	*e*P		Pn	12 01 32.1	+10
SKR	**Severo-Kuril's**	**7.96**	**33**	*i* PN		Pn	12 01 32.1	+10
JRG	**Rokugo**	**8.03**	**236**	*e*S		**Sn**	**12 02 51.0**	**-3.5**
JIO	**Ouri**	**8.27**	**228**	*e*S		**Sn**	**12 02 55.4**	**-4.9**
BILL	**Bilibino**	**25.50**	**15**	*e*P		**P**	**12 04 58.3**	**+3.3**
BILL	**Bilibino**	**25.50**	**15**	*e*P		**P**	**12 04 58.3**	**+3.3**
BILL				*e*			12 05 38.4	
BILL				*e*S		**S**	**12 09 22.2**	**+0.2**
BILL				pmax		pmax		
	comp=Z,2.0nm,1.1s							
BILL				MLR		MLR		
	comp=Z,232nm,22.0s							
AAK	**Ala-Archa**	**52.49**	**296**	*e*P		**P**	**12 08 37.7**	**-2.5**
AAK				pmax		pmax		
	comp=Z,1.0nm,1.0s							

WEL 19 12:02:48.1±0.6, 45°S±3°×16°8E±°, h5km, ML3.9/13, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.47**	**39**	P	Pg	12 02 57.6	+0.5
MSZ				S	Sg	12 03 04.1	+0.8
DCZ	**Deep Cove**	**0.49**	**210**	P	Pb	12 02 58.5	-0.8
DCZ				S	Sb	12 03 05.5	-1.3
MLZ	**Mavora Lakes**	**0.54**	**127**	P	Pb	12 02 59.9	-0.2
MLZ				S	Sb	12 03 07.7	-0.6
WHZ	**Wether Hill Ro**	**0.91**	**160**	P	Pg	12 03 05.9	+0.4
WHZ				S	Sb	12 03 18.5	-0.3
WKZ	**Wanaka**	**1.09**	**79**	P	Pb	12 03 09.3	-0.2
WKZ				S	Sg	12 03 23.3	0.0
PYZ	**Puysegur Point**	**1.27**	**207**	P	Pg	12 03 09.8	-2.7
EAZ	**Earnscleugh**	**1.29**	**99**	P	Pn	12 03 12.4	-0.3
EAZ				P	Pn	12 03 12.4	-0.4
EAZ				S	Sg	12 03 28.4	-1.2
JCZ	**Jackson Bay**	**1.33**	**44**	P	Pn	12 03 12.3	-1.1
TUZ	**Tuapeka**	**1.75**	**122**	P	Pn	12 03 19.1	0.0
TUZ				S	Sn	12 03 42.1	+0.3
APZ	**The Paps**	**1.83**	**170**	P	Pn	12 03 19.9	-0.3
APZ				S	Sn	12 03 43.9	+0.2
SYZ	**Scrubby Hill**	**1.89**	**143**	P	Pn	12 03 20.9	-0.1
SYZ				S	Sn	12 03 45.0	-0.1
LBZ	**Lake Benmore**	**2.02**	**72**	P	Pn	12 03 22.8	0.0
ODZ	**Otahua Downs**	**2.23**	**91**	P	Pn	12 03 25.4	-0.2
FOZ	**Fox Glacier**	**2.24**	**49**	P	Pn	12 03 25.9	+0.1
HHSZ	**Highcliff Hill**	**2.33**	**112**	P	Pn	12 03 27.5	+0.4
RPZ	**Rata Peaks**	**2.87**	**64**	P	Pn	12 03 34.6	+0.1
WVZ	**Waitaha Valley**	**3.04**	**51**	P	Pn	12 03 37.3	+0.5
INZ	**Inchbonnie**	**3.67**	**52**	P	Pn	12 03 45.6	+0.2
MQZ	**McQueen's Vall**	**3.92**	**72**	P	Pn	12 03 48.4	-0.6
AKCZ	**Akaroa Harbour**	**4.04**	**75**	P	Pn	12 03 50.1	-0.5
LTZ	**Lake Taylor**	**4.12**	**58**	P	Pn	12 03 51.2	-0.5
OKCZ	**Okains Bay**	**4.19**	**74**	P	Pn	12 03 52.5	-0.1
DSZ	**Denniston Nort**	**4.54**	**45**	P	Pn	12 03 58.3	+0.7
THZ	**Tophouse**	**5.12**	**52**	P	Pn	12 04 06.8	+1.3
QRZ	**Quartz Range**	**5.59**	**43**	P	Pn	12 04 12.0	0.0
NNZ	**Nelson**	**5.75**	**50**	P	Pn	12 04 15.1	+1.1

GUC 19 12:13:41.7±0.6, 32°69S×71°74W, h11km±3km, ML3.7, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.68**	**115**	*i*P	Pb	12 13 55.8	0.0
ROCH				*e*S	Sb	12 14 06.2	+0.9
ROCH				IAML		12 14 08.3	
	comp=N,6μm,0.3s						
PEL	**Peldehue**	**1.00**	**117**	*i*P	Pg	12 14 00.7	-0.3
PEL				*e*S	Sn	12 14 15.4	-0.6
PEL				IAML		12 14 16.4	
	comp=E,5μm,0.3s						
CLCH	**Cerro Calan**	**1.24**	**125**	*e*P	Pn	12 14 04.5	-0.5
CLCH				*e*S	Sn	12 14 21.9	+0.1
CLCH				IAML		12 14 23.0	
	comp=N,2μm,0.6s						
ANTU	**Antumapu**	**1.28**	**134**	*e*P	Pn	12 14 05.4	-0.3
ANTU				*e*S	Sn	12 14 22.8	-0.1
FCH	**Farellones**	**1.38**	**118**	*i*P	Pn	12 14 07.0	-0.2
FCH				*e*S	Sg	12 14 26.5	+0.4
FCH				IAML		12 14 27.9	
	comp=E,1μm,0.3s						
CMCH	**Combarbala**	**1.63**	**23**	*e*P	Pn	12 14 10.8	+0.3
CMCH				IAML		12 14 38.1	
	comp=E,2μm,0.5s						
LMEL	**Las Melosas**	**1.73**	**132**	*e*P	Pn	12 14 12.6	+0.6
LMEL				*e*S	Sb	12 14 36.0	+0.5
LMEL				IAML		12 14 38.0	
	comp=N,1μm,0.3s						

*ATH **19** 12:16:43.8, 36°07N×29°12E, h46km±9km, ML3.1/6, Error ellipse: s-maj=10.2km s-min=1.0km az=91.0*
*ISK **19** 12:16:43.2, 36°02N×28°98E, h12km, ML3.5/11*
*DDA **19** 12:16:44.6, 36°12N×29°02E, h23km, Ml3.5*
*THE **19** 12:16:45.6, 36°11N×29°06E, h17km±2km, ML2.8/5, Error ellipse: s-maj=3.0km s-min=0.4km az=61.0*

ISC 19 12:16:45.5±1.0, 36°08N±0°04×29°09E±0°03, h32km±9km, n51, σ1s02/81, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**0.41**	**80**	P	**Pb**	**12 16 54.2**	**-0.5**
KSL				S	**Sb**	**12 17 01.2**	**+0.3**
KSL				AML	AML	12 17 02.3	
	comp=N,4738μm,0.6s						
KSL				AML	AML	12 17 04.8	
	comp=E,9424μm,0.5s						
KSL	**Kastellorizon**	**0.41**	**80**	P	**Pb**	**12 16 54.2**	**-0.5**
KSL				S	**Sb**	**12 17 01.3**	**+0.3**
AKAS	**Kas**	**0.45**	**70**	PG	**Pb**	**12 16 54.5**	**-0.9**
AKAS				SG	**Sn**	**12 17 02.3**	**-0.6**
AKAS	**Kas**	**0.45**	**70**	*i* P	**Pb**	**12 16 54.5**	**-0.9**
AKAS				*i* S	**Sn**	**12 17 03.5**	**+0.6**
FETY	**Fethiye**	**0.56**	**360**	PG	**Pn**	**12 16 55.6**	**-1.7**
FETY				SG	**Sb**	**12 17 04.5**	**-0.4**
FETY	**Fethiye**	**0.56**	**360**	P	**Pn**	**12 16 55.6**	**-1.7**
FETY				S	**Sb**	**12 17 04.5**	**-0.4**
DALY	**Dalyan (Mu¨la**	**0.82**	**335**	PG	**Pn**	**12 16 59.4**	**-1.4**
DALY				SG	**Sn**	**12 17 11.8**	**0.0**
DALY	**Dalyan (Mu¨la**	**0.82**	**335**	*i* P	**Pn**	**12 16 59.4**	**-1.4**
DALY				*i* S	**Sn**	**12 17 11.8**	**0.0**
TURN	**Turunc**	**0.88**	**334**	PG	**Pb**	**12 17 02.3**	**-0.1**
TURN	**Turunc**	**0.88**	**334**	*i* P	**Pb**	**12 17 02.5**	**+0.1**
TURN				*i* S	**Sb**	**12 17 16.9**	**+3.0**
ELL	**Elmali**	**0.94**	**45**	PG	**Pb**	**12 17 03.4**	**-0.1**
ELL				SG	**Sb**	**12 17 18.6**	**+2.9**
GOLH	**Golhisar**	**1.22**	**18**	*i* P	**Pb**	**12 17 26.4**	**+2.8**
GOLH				*i* S	**Sb**	**12 17 27.5**	**-0.6**
DATC	**Datca-Mugla**	**1.34**	**301**	PN	**Pn**	**12 17 07.8**	**-0.1**
KORT	**Korkueli**	**1.37**	**48**	PN	**Pb**	**12 17 09.9**	**-0.9**
KORT	**Korkueli**	**1.37**	**48**	*i* P	**Pb**	**12 17 09.8**	**-0.9**
KORT				*i* S	**Sb**	**12 17 29.9**	**+1.9**
DAT	**Datca**	**1.38**	**299**	PN	**Pn**	**12 17 08.2**	**-0.5**
DAT	**Datca**	**1.38**	**299**	*i* P	**Pn**	**12 17 08.8**	**+0.2**
DAT				*i* S	**Sn**	**12 17 27.7**	**+1.8**
TAVA	**DENIZLI_Tavas**	**1.39**	**354**	*i* P	**Pb**	**12 17 09.9**	**-1.1**
TAVA				*i* S	**Sb**	**12 17 28.4**	**0.0**
MLSB	**Milas**	**1.61**	**319**	PN	**Pn**	**12 17 12.5**	**+0.8**
DNZL	**Cakiroluk**	**1.61**	**359**	*i* P	**Pb**	**12 17 14.5**	**-0.3**
DNZL				*i* S	**Sb**	**12 17 34.9**	**+0.1**
NIS1	**Nisyros Isl.**	**1.63**	**289**	PN	**Pn**	**12 17 11.5**	**-0.5**
NIS1	**Nisyros Isl.**	**1.63**	**289**	P	**Pn**	**12 17 11.3**	**-0.7**
NIS1				S	**Sn**	**12 17 32.6**	**+0.7**
NIS1				AML	AML	12 17 43.4	
	comp=N,1946μm,0.9s						
NIS1				AML	AML	12 17 45.8	
	comp=E,2062μm,1.1s						
NIS1	**Nisyros Isl.**	**1.63**	**289**	P	**Pn**	**12 17 11.4**	**-0.5**
NIS1				S	**Sn**	**12 17 31.9**	**0.0**
BODT	**Bodrum**	**1.73**	**305**	PN	**Pn**	**12 17 13.2**	**-0.3**
BODT	**Bodrum**	**1.73**	**305**	P	**Pn**	**12 17 13.1**	**-0.4**
BODT				S	**Sn**	**12 17 33.6**	**-0.9**
BRDR	**BURDUR-Merkez**	**1.79**	**26**	*i* P	**Pb**	**12 17 17.6**	**-0.3**
BRDR				*i* S	**Sb**	**12 17 41.9**	**+2.0**
AYDN	**Tasoluk**	**1.85**	**329**	*i* P	**Pn**	**12 17 16.4**	**+1.2**
AYDN				*i* S	**Sb**	**12 17 41.2**	**-0.4**
SUTC	**Sutluce-Ispart**	**2.08**	**47**	PN	**Pb**	**12 17 20.5**	**-2.1**
AYDB	**Zeytinkoy-Aydi**	**2.10**	**333**	PN	**Pn**	**12 17 19.6**	**+1.1**
KEPZ	**Antalya-Kepez**	**2.19**	**67**	*i* P	**Pn**	**12 17 21.1**	**+1.3**
KEPZ				*i* S	**Sb**	**12 17 49.5**	**-1.8**
SMG	**Samos**	**2.43**	**313**	P	**Pn**	**12 17 22.7**	**-0.3**
SMG				S	**Sn**	**12 17 51.2**	**-0.4**
SMG				AML	AML	12 18 02.0	
	comp=N,213μm,0.3s						
SMG				AML	AML	12 18 04.5	
	comp=E,206μm,0.4s						
SMG	**Samos**	**2.43**	**313**	P	**Pn**	**12 17 22.7**	**-0.3**
SMG				S	**Sn**	**12 17 50.5**	**-1.1**
KULA	**Kula-Manisa**	**2.46**	**352**	PN	**Pn**	**12 17 24.9**	**+1.5**
ZKR	**Zakros**	**2.53**	**248**	P	**Pn**	**12 17 24.7**	**+0.4**
ZKR				S	**Sn**	**12 17 53.5**	**-0.5**
ZKR				AML	AML	12 18 17.4	
	comp=E,216μm,0.8s						
ZKR				AML	AML	12 18 21.8	
	comp=N,102μm,0.8s						
ZKR	**Zakros**	**2.53**	**248**	P	**Pn**	**12 17 24.9**	**+0.5**
ZKR				S	**Sn**	**12 17 53.8**	**-0.3**
STIA	**Sitia Lasithi**	**2.59**	**251**	P	**Pn**	**12 17 26.4**	**+1.2**
AMGA	**Amorgos Island**	**2.68**	**287**	P	**Pn**	**12 17 26.7**	**+0.3**
ANAF	**Anafi Island**	**2.69**	**277**	P	**Pn**	**12 17 26.3**	**-0.3**
ANAF				S	**Sn**	**12 17 57.5**	**-0.7**
ANAF				AML	AML	12 18 17.4	
	comp=E,486μm,0.5s						
ANAF				AML	AML	12 18 17.6	
	comp=N,400μm,0.5s						
ANAF	**Anafi Island**	**2.69**	**277**	P	**Pn**	**12 17 26.2**	**-0.5**
ANAF				S	**Sn**	**12 17 57.7**	**-0.5**
NPS	**Neapolis**	**2.94**	**255**	P	**Pn**	**12 17 30.1**	**0.0**
NPS				S	**Sn**	**12 18 03.5**	**-0.9**
NPS				AML	AML	12 18 18.2	
	comp=E,232μm,0.8s						
NPS				AML	AML	12 18 23.7	
	comp=N,143μm,0.6s						
NPS	**Neapolis**	**2.94**	**255**	P	**Pn**	**12 17 29.8**	**-0.3**
THR3	**Thira Island,**	**3.00**	**277**	P	**Pn**	**12 17 30.7**	**-0.1**
LAST	**Lasithi**	**3.08**	**254**	P	**Pn**	**12 17 32.0**	**0.0**
IOSP	**Ios island**	**3.13**	**283**	P	**Pn**	**12 17 32.9**	**+0.2**
CHOS	**Chios island**	**3.34**	**315**	P	**Pn**	**12 17 35.9**	**+0.3**
CHOS				S	**Sn**	**12 18 13.1**	**-1.1**
CHOS	**Chios island**	**3.34**	**315**	P	**Pn**	**12 17 35.6**	**0.0**
CHOS				S	**Sn**	**12 18 13.7**	**-0.5**
IDI	**Anoyia**	**3.51**	**258**	P	**Pn**	**12 17 37.4**	**-0.4**
VAM	**Vamos**	**4.03**	**262**	P	**Pn**	**12 17 46.1**	**+1.0**
SIGR	**SIGRI**	**4.04**	**322**	P	**Pn**	**12 17 45.6**	**+0.5**
IMMV	**Iera Moni Meta**	**4.20**	**263**	P	**Pn**	**12 17 47.7**	**+0.4**
GVD	**Gavdhos**	**4.26**	**255**	P	**Pn**	**12 17 49.2**	**+0.9**

IDC 19 12:19:10.5±6.2, 5°63S×151°40E, h86km±50km, mb3.4/3, mb1 3.7/4, mb1mx3.2/25, mbtmp3.8/4, ML1.9/1, Error ellipse: s-maj=119.4km s-min=37.1km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.64**	**228**	P	Pn	12 20 31.6	-0.3
	2.1nm,0.3s,baz=58,slow=9.0,SNR=7.4						
WRA	**Warramunga Arr**	**21.86**	**228**	P	P	12 23 56.8	+0.4
	3.0nm,0.7s,baz=54,slow=10,SNR=17						
ASAR	**Alice Springs**	**24.61**	**221**	P	P	12 24 22.6	-0.3
	1.2nm,0.8s,baz=55,slow=9.5,SNR=14						
ILAR	**Eielson Array**	**83.45**	**22**	P	P	12 31 28.0	-0.3
	0.6nm,1.0s,baz=256,slow=3.6,SNR=3.1						
TORD	**Torodi Ar. Bea**	**149.22**	**286**	PKPbc	PKPbc	12 38 50.2	-0.1
	0.3nm,0.6s,baz=97,slow=3.4,SNR=3.0						

*ISCJB **19** 12:45:07.5±0.5, 10°99S±0°06×164°97E±0°06, h31km, mb4.2/22, MS3.8/6, Error ellipse: s-maj=9.7km s-min=7.7km az=39.2*
*NEIC **19** 12:45:10.1±1.1, 10°92S×164°99E, h37km±9km, mb4.3/11, Error ellipse: s-maj=9.1km s-min=6.9km az=64.0*
*IDC **19** 12:45:10.3±4.3, 10°91S×165°03E, h38km±35km, mb4.0/13, mb1 4.2/15, mb1mx4.1/33, mbtmp4.2/15, ML4.3/2, MS3.8/7, Ms1 3.8/7, ms1mx3.4/27, Error ellipse: s-maj=22.7km s-min=20.1km az=61.0*

ISC 19 12:45:09.2±0.6, 10°90S±0°09×165°04E±0°08, h31km, n47, σ0s95/47, mb4.2/22, MS3.8/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.22**	**286**	Pn	**Pn**	**12 46 25.9**	**+0.6**
	15nm,0.3s,baz=187,slow=7.2,SNR=12						
HNR				Sn	**Sn**	**12 47 26.3**	**+1.8**
	14nm,0.3s,baz=180,slow=22,SNR=2.4						
HNR				LR	LR	12 48 35.4	
	comp=Z,791nm,18.9s,baz=116,slow=39						
HNR	**Honiara**	**5.22**	**286**	*e*P	**Pn**	**12 46 25.0**	**-0.2**
HNR				*e*S	**Sn**	**12 47 24.0**	**-0.5**
HNR	**Honiara**	**5.22**	**286**	*e*Pn	**Pn**	**12 46 25.1**	**-0.2**
HNR				*e*Pn	**Pn**	**12 46 25.9**	**+0.6**
HNR				*e*Sn	**Sn**	**12 47 24.3**	**-0.1**
HNR				*e*Sn	**Sn**	**12 47 26.3**	**+1.8**
DZM	**Mont Dzumac**	**11.19**	**173**	Pn	**Pn**	**12 47 48.0**	**+0.8**
	1.8nm,0.3s,baz=344,slow=12,SNR=30						
RABL	**Rabaul**	**14.39**	**297**	*e*Pn	**Pn**	**12 48 30.6**	**-0.5**
EIDS	**Eidsvold**	**19.55**	**221**	*e*P	**P**	**12 49 34.3**	**-0.2**
	12nm,1.0s						
MANU	**Manus Island**	**19.63**	**295**	*e*P	**P**	**12 49 34.8**	**-0.6**
CTA	**Charters Tower**	**20.26**	**241**	P	**P**	**12 49 43.2**	**+0.9**
	26nm,0.9s,baz=67,slow=12,SNR=21						
CTAO	**Charters Tower**	**20.26**	**241**	*e*P	**P**	**12 49 42.6**	**+0.3**
	47nm,1.0s						
COEN	**Coen**	**21.57**	**260**	*e*P	**P**	**12 49 56.4**	**-0.1**
	7.7nm,1.0s						
AFI	**Afiamalu**	**22.84**	**100**	LR	LR	12 57 12.1	
	comp=Z,196nm,19.8s,baz=160,slow=32						
H11S2	**WAKE ISLAND Hy**	**29.25**	**3**	T	T	13 21 46.4	
	baz=184,slow=76,SNR=37						
H11S3	**WAKE ISLAND Hy**	**29.25**	**3**	T	T	13 21 49.6	
	baz=184,slow=76,SNR=31						
H11S1	**WAKE ISLAND Hy**	**29.27**	**3**	T	T	13 21 44.1	
	baz=184,slow=76,SNR=20						
URZ	**Urewera**	**29.31**	**160**	P	**P**	**12 51 10.0**	**+0.9**
	4.6nm,0.7s,baz=207,slow=1.4,SNR=2.7						
BKZ	**Black Stump Fm**	**29.94**	**162**	*e*P	**P**	**12 51 13.7**	**-1.0**
	13nm,1.1s						
STKA	**Stephens Creek**	**30.08**	**222**	P	**P**	**12 51 16.4**	**+0.5**
	1.6nm,0.8s,baz=40,slow=16,SNR=3.0						
STKA				LR	LR	13 02 44.9	
	comp=Z,443nm,18.3s,baz=26,slow=35						
STKA	**Stephens Creek**	**30.08**	**222**	*e*P	**P**	**12 51 16.4**	**+0.5**
	0.7nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**30.47**	**3**	T	T	13 23 19.1	
	baz=182,slow=76,SNR=25						
H11N3	**WAKE ISLAND Hy**	**30.48**	**3**	T	T	13 23 20.3	
	baz=182,slow=76,SNR=11						
H11N2	**WAKE ISLAND Hy**	**30.49**	**3**	T	T	13 23 18.6	
	baz=182,slow=76,SNR=12						
WC3	**Warramunga Arr**	**30.86**	**249**	*e*P	**P**	**12 51 22.6**	**-0.4**
	6.2nm,1.1s						
WRAB	**Tennant Creek**	**30.87**	**249**	*e*P	**P**	**12 51 23.3**	**+0.2**
	4.5nm,1.1s						
WB2	**Warramunga Arr**	**30.87**	**249**	*e*P	**P**	**12 51 22.0**	**-1.1**
WB2				*e*P	**P**	**12 51 22.7**	**-0.5**
WR1	**Warramunga Arr**	**30.89**	**249**	*e*P	**P**	**12 51 23.1**	**-0.2**
	4.4nm,1.0s						
WR1				*e*PcP	**PcP**	**12 54 20.8**	**+1.1**
WRA	**Warramunga Arr**	**30.89**	**249**	P	**P**	**12 51 23.1**	**-0.2**
	1.9nm,0.8s,baz=80,slow=9.0,SNR=11						
WRA				PcP	**PcP**	**12 54 20.8**	**+1.1**
	0.5nm,0.9s,baz=62,slow=3.4,SNR=4.0						
WRA				LR	LR	13 01 45.2	
	comp=Z,268nm,22.0s,baz=210,slow=32						
AS01	**Alice Springs**	**32.20**	**243**	*e*P	**P**	**12 51 34.2**	**-0.6**
AS31	**Alice Springs**	**32.24**	**243**	*e*P	**P**	**12 51 34.1**	**-1.1**
	1.8nm,1.1s						
ASAR	**Alice Springs**	**32.24**	**243**	P	**P**	**12 51 34.4**	**-0.8**
	2.4nm,0.9s,baz=64,slow=10,SNR=38						
ASAR				PcP	**PcP**	**12 54 24.2**	**+0.8**
	0.4nm,0.9s,baz=91,slow=2.3,SNR=3.0						
ASAR				LR	LR	13 05 35.0	
	comp=Z,214nm,18.1s,baz=58,slow=38						
BBOO	**Buckleboo**	**34.43**	**226**	*e*P	**P**	**12 51 51.9**	**-

Error ellipse: s-maj=12.0km s-min=3.5km az=21.0
*KRNET **19** 12:57:52.4±0.1, 42°.93N×71°.58E, h17km, mb2.4*
*SOME **19** 12:57:52.8, 42°.98N×71°.55E, h15km*
ISC 19 12:57:52.5±1.1, 42°.94N±0°.04×71°.60E±0°.02, h7km±15km, **n21,σ1°08/40, 20C-9D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**0.80**	**124**	⇑P	**Pg**	**12 58 07.5**	**-0.5**
	0.4nm,0.4s						
MNAS				⇓S	**Sg**	**12 58 18.9**	**+0.5**
	2.5nm,0.3s						
MNAS	**Manas**	**0.80**	**124**	⇓*i*P	**Pg**	**12 58 07.5**	**-0.5**
	baz=22						
MNAS				⇓*i*S	**Sg**	**12 58 18.2**	**-0.2**
	baz=22						
KK31	**Karatay Array**	**0.81**	**282**	P	**Pg**	**12 58 06.8**	**-1.4**
	0.3nm,0.3s,baz=101,slow=17,SNR=72						
KK31				⇓S	**Sg**	**12 58 16.5**	**-2.3**
	1.3nm,0.3s,baz=110,slow=31,SNR=16						
ARK	**Arkit**	**1.17**	**167**	⇓*i*P	**Pg**	**12 58 15.3**	**+0.4**
	baz=65						
ARK				⇓*i*S	**Sg**	**12 58 31.5**	**+1.4**
	baz=65						
MRKS	**Merke**	**1.21**	**99**	*e*P	**Pg**	**12 58 16.1**	**+0.3**
	baz=98						
MRKS				*e*S	**Sg**	**12 58 32.5**	**+1.0**
	baz=98						
MRKS	**Merke**	**1.21**	**99**	*e*P	**Pg**	**12 58 16.1**	**+0.3**
	2.9nm,0.1s						
MRKS				*e*S	**Sg**	**12 58 32.5**	**+1.0**
	17nm,0.3s						
BRLS	**Borolday**	**1.30**	**275**	*e*P	**Pg**	**12 58 18.6**	**+1.2**
	baz=65						
BRLS				*e*S	**Sg**	**12 58 36.8**	**+2.6**
	baz=65						
BRLS	**Borolday**	**1.30**	**275**	*e*P	**Pg**	**12 58 18.6**	**+1.2**
	0.9nm,0.7s						
BRLS				*e*S	**Sg**	**12 58 36.9**	**+2.6**
	7.3nm,0.2s						
IUG	**luzhnay**	**1.40**	**236**	*e*P	**Pg**	**12 58 18.8**	**-0.6**
	baz=36						
IUG				*e*S	**Sg**	**12 58 37.1**	**-0.5**
	baz=36						
IUG	**luzhnay**	**1.40**	**236**	*e*P	**Pg**	**12 58 18.8**	**-0.6**
	8.7nm,0.3s						
IUG				*e*S	**Sg**	**12 58 37.1**	**-0.5**
	24nm,0.3s						
EKS2	**Erkin-Say**	**1.63**	**99**	⇓*i*P	**Pb**	**12 58 23.1**	**+0.2**
	baz=98						
EKS2				⇓*i*S	**Sg**	**12 58 45.8**	**+1.0**
	baz=98						
AML	**Almayashu**	**1.75**	**117**	⇑*i*P	**Pb**	**12 58 24.8**	**-0.3**
	baz=16						
AML				⇑*i*S	**Sb**	**12 58 47.8**	**+0.4**
	baz=16						
ARSB	**Arslanbob**	**1.91**	**147**	⇑*e*P	**Pb**	**12 58 27.3**	**-0.5**
	baz=46						
ARSB				⇑*e*S	**Sb**	**12 58 52.5**	**+0.6**
	baz=46						
USP	**Ospenovka**	**2.15**	**80**	⇑*i*P	**Pb**	**12 58 31.8**	**0.0**
	baz=80						
USP				⇑*i*S	**Sg**	**12 59 00.7**	**-0.9**
	baz=80						
AAK	**Ala-Archa**	**2.15**	**97**	⇓Pn	**Pb**	**12 58 31.6**	**-0.3**
	2.9nm,0.5s						
AAK				⇑Lg	Lg	12 59 02.8	
	0.9nm,0.5s						
AAK	**Ala-Archa**	**2.15**	**97**	⇑*i*P	**Pb**	**12 58 31.7**	**-0.2**
	baz=97						
AAK				⇑*i*S	**Sb**	**12 58 59.9**	**+1.0**
	baz=97						
UCH	**Uchtor**	**2.27**	**107**	⇑*i*P	**Pb**	**12 58 33.0**	**-1.0**
	baz=7.0						
UCH				⇑*i*S	**Sb**	**12 59 02.0**	**-0.4**
	baz=7.0						
ARLS	**Aral**	**2.29**	**117**	⇑*i*P	**Pb**	**12 58 33.3**	**-0.9**
	baz=16						
ARLS				⇑*i*S	**Sb**	**12 59 02.7**	**0.0**
	baz=16						
CHMS	**Chumysh**	**2.31**	**87**	⇑*i*P	**Pb**	**12 58 33.8**	**-0.8**
	baz=87						
CHMS				⇑*i*S	**Sb**	**12 59 04.1**	**+0.7**
	baz=87						
KBK	**Karagaybulak**	**2.48**	**95**	⇑*i*P	**Pb**	**12 58 35.9**	**-1.6**
	baz=95						
KBK				⇑*i*S	**Sb**	**12 59 08.2**	**-0.2**
	baz=95						
TKM2	**Tokmak 2**	**2.94**	**89**	⇑Pg	**Pb**	**12 58 43.8**	**-1.6**
	0.8nm,0.7s						
TKM2				⇑Lg	Lg	12 59 24.6	
	1.1nm,0.5s						

*DDA **19** 13:06:54.7, 40°.31N×40°.23E, h8km, Ml3.1, Suspected Mining explosion.*
*ISCJB **19** 13:06:55.0±0.4, 40°.30N±0°.03×40°.20E±0°.03, h0km, Error ellipse: s-maj=3.8km s-min=3.0km az=164.5*
*ISK **19** 13:06:55.2, 40°.32N×40°.20E, h6km, ML2.7/6*
ISC 19 13:06:54.9±0.8, 40°.33N±0°.03×40°.23E±0°.03, h0km, n19,
σ0°62/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYB	**BAYBURT**	**0.08**	**161**	*i*P	**Pg**	**13 06 56.5**	**+0.2**
BAYB				*i*S	**Sg**	**13 06 58.1**	**+0.8**
BAYT	**Ayd¨–ntepe-Bay**	**0.09**	**315**	PG	**Pg**	**13 06 57.9**	**+1.3**
GUMT	**Gumushane**	**0.58**	**283**	PG	**Pg**	**13 07 06.7**	**+0.6**
MACK	**Trabzon**	**0.70**	**331**	*i*P	**Pb**	**13 07 09.5**	**-0.6**
MACK				*i*S	**Sb**	**13 07 20.0**	**-0.3**
KTUT	**Trabzon**	**0.74**	**332**	PG	**Pb**	**13 07 10.4**	**-0.3**
KTUT				SG	**Sb**	**13 07 20.7**	**-0.7**
KELT	**Kelkit**	**0.76**	**257**	*i*P	**Pg**	**13 07 09.8**	**+0.3**
KELT				*i*S	**Sg**	**13 07 19.6**	**+0.2**
ERZN	**Erzincan**	**0.84**	**208**	PG	**Pg**	**13 07 10.8**	**-0.1**
CHAY	**Cayeli-Rize**	**0.85**	**27**	PG	**Pb**	**13 07 12.3**	**-0.1**
CHOM	**Cayeli-Rize**	**0.87**	**28**	PG	**Pb**	**13 07 12.5**	**-0.4**
CHOM				SG	**Sb**	**13 07 25.4**	**+0.4**
ECAT	**Cat-ERZURUM**	**0.92**	**141**	*i*P	**Pg**	**13 07 12.9**	**+0.3**
ECAT				*i*S	**Sn**	**13 07 30.3**	**+0.9**
ESPY	**Espiye-Giresun**	**1.28**	**298**	PN	**Pn**	**13 07 19.8**	**-0.3**
DDEM	**Demirkent**	**1.29**	**64**	*i*P	**Pg**	**13 07 19.1**	**-0.5**
DDEM				*i*S	**Sn**	**13 07 38.6**	**+0.3**
DBAD	**Bademkaya**	**1.31**	**58**	*i*P	**Pg**	**13 07 19.9**	**-0.1**
DBAD				*i*S	**Sb**	**13 07 38.0**	**0.0**
DAGI	**Agillar**	**1.49**	**59**	*i*P	**Pn**	**13 07 23.1**	**+0.1**
DAGI				*i*S	**Sn**	**13 07 43.0**	**-0.1**
DBOC	**Borcka**	**1.49**	**47**	*i*P	**Pg**	**13 07 23.3**	**-0.2**
DBOC				*i*S	**Sn**	**13 07 44.0**	**+0.8**
BCA	**Borcka**	**1.54**	**43**	PN	**Pb**	**13 07 23.9**	**-0.4**
ARTV	**Artvin**	**1.55**	**56**	*i*P	**Pb**	**13 07 24.3**	**-0.3**
ARTV				*i*S	**Sn**	**13 07 46.3**	**+1.4**
SUSE	**Susehri**	**1.55**	**266**	*i*P	**Pn**	**13 07 23.7**	**-0.2**
SUSE				*i*S	**Sg**	**13 07 43.3**	**-1.4**
PTK	**Pertek**	**1.57**	**204**	PN	**Pb**	**13 07 24.6**	**-0.4**

*NEIC **19** 13:36:38.9±0.7, 5.°80S×151.°80E, h10km, mb4.5/3, Error ellipse: s-maj=17.0km s-min=12.6km az=127.0*
*ISCJB **19** 13:36:42.2±0.6, 5.°85S±0.°09×151.°72E±0.°09, h45km, mb4.2/16, MS3.9/25, Error ellipse: s-maj=15.4km s-min=8.9km az=44.1*
*IDC **19** 13:36:44.9±3.0, 5.°86S×151.°72E, h56km±26km, mb3.9/12, mb1 4.1/13, mb1mx3.9/32, mbtmp4.2/13, ML2.5/1, MS3.9/28, Ms1 3.9/28, ms1mx3.8/43, Error ellipse: s-maj=20.5km s-min=14.3km az=131.0*
ISC 19 13:36:43.9±0.7, 5°.8S±0°.1×151°.8E±0°.1, h45km, **n41,**
σ1°18/26, mb4.1/16, MS3.9/25, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.79**	**232**	P	**Pn**	**13 38 08.4**	**+1.1**
	8.3nm,0.3s,baz=39,slow=8.9,SNR=37						
PMG				S	**Sn**	**13 39 12.5**	**0.0**
	6.0nm,0.3s,baz=43,slow=18,SNR=3.1						
PMG				LR	LR	13 40 13.6	
	comp=Z,481nm,20.3s,baz=48,slow=36						
PMG	**Port Moresby**	**5.79**	**232**	*e*Pn	**Pn**	**13 38 08.1**	**+0.8**
PMG				S	**Sn**	**13 39 12.5**	**0.0**
HNR	**Honiara**	**8.87**	**114**	LR	LR	13 41 56.5	
	comp=Z,682nm,21.2s,baz=285,slow=35						
JAY	**Jayapura**	**11.51**	**286**	LR	LR	13 43 16.8	
	comp=Z,845nm,19.3s,baz=140,slow=34						
CTA	**Charters Tower**	**15.16**	**200**	P	**P**	**13 40 20.6**	**+1.0**
	0.2nm,0.3s,baz=39,slow=13,SNR=4.4						
GUMO	**Guam**	**20.46**	**340**	LR	LR	13 49 50.6	
	comp=Z,197nm,18.8s,baz=120,slow=38						
SIJI	**Sorong**	**21.04**	**283**	LR	LR	13 50 32.7	
	comp=Z,153nm,19.9s,slow=39						
DZM	**Mont Dzumac**	**21.50**	**140**	P	**P**	**13 41 29.7**	**+0.4**
	4.8nm,0.6s,baz=332,slow=12,SNR=12						
DZM				LR	LR	13 48 36.6	
	comp=Z,743nm,21.7s,baz=304,slow=33						
MTN	**Manton Dam**	**21.51**	**250**	*e*P	**P**	**13 41 28.5**	**-0.8**
	20nm,0.9s						
WRAB	**Tennant Creek**	**21.99**	**229**	*e*P	**P**	**13 41 32.6**	**-1.7**
	16nm,0.6s						
WB2	**Warramunga Arr**	**21.99**	**229**	*e*P	**P**	**13 41 32.5**	**-1.8**
WRA	**Warramunga Arr**	**22.00**	**229**	P	**P**	**13 41 33.6**	**-0.9**
	14nm,0.7s,baz=53,slow=10.0,SNR=64						
WRA				S	**S**	**13 45 34.2**	**-0.7**
	2.2nm,1.0s,baz=56,slow=19,SNR=4.4						
WRA				LR	LR	13 51 34.7	
	comp=Z,300nm,18.2s,baz=90,slow=41						
AS01	**Alice Springs**	**24.67**	**222**	*e*P	**P**	**13 42 01.0**	**+0.2**
AS31	**Alice Springs**	**24.70**	**222**	*e*P	**P**	**13 42 00.7**	**-0.4**
	3.9nm,0.6s						
ASAR	**Alice Springs**	**24.70**	**222**	P	**P**	**13 42 00.4**	**-0.7**
	7.9nm,0.8s,baz=59,slow=9.2,SNR=94						
ASAR				LR	LR	13 53 11.3	
	comp=Z,316nm,18.1s,baz=38,slow=40						
SOEI	**Soe**	**27.52**	**260**	*e*P	**P**	**13 42 29.2**	**+2.5**
	34nm,1.0s						
STKA	**Stephens Creek**	**27.61**	**199**	P	**P**	**13 42 24.9**	**-2.4**
	2.4nm,0.8s,baz=17,slow=15,SNR=4.5						
STKA				LR	LR	13 53 56.8	
	comp=Z,210nm,18.1s,baz=16,slow=37						
BATI	**Baumata**	**28.16**	**259**	P	**P**	**13 42 32.3**	**0.0**
	9.0nm,0.5s,baz=108,slow=6.4,SNR=2.9						
FITZ	**Fitzroy Crossi**	**28.27**	**242**	*e*P	**P**	**13 42 32.1**	**-1.1**
DAV	**Davao City (W)**	**29.10**	**296**	LR	LR	13 53 42.4	
	comp=Z,182nm,18.1s,baz=74,slow=35						
RPZ	**Rata Peaks**	**41.38**	**159**	LR	LR	14 00 00.3	
	comp=Z,397nm,20.3s,baz=308,slow=34						
NWAO	**Narrogin (SRO)**	**41.94**	**226**	LR	LR	14 02 06.8	
	comp=Z,178nm,19.9s,baz=263,slow=36						
JNU	**Nakatsue**	**43.51**	**334**	LR	LR	14 02 57.8	
	comp=Z,80nm,18.2s,baz=114,slow=36						
MJAR	**Matsushiro Arr**	**44.01**	**344**	LR	LR	14 01 50.7	
	comp=Z,141nm,20.2s,baz=190,slow=34						
KSRS	**Korea Array**	**48.46**	**335**	LR	LR	14 04 14.0	
	comp=Z,45nm,21.8s,baz=166,slow=34						
ASAJ	**Asahikawa**	**50.39**	**351**	LR	LR	14 08 57.9	
	comp=Z,114nm,18.4s,baz=166,slow=38						
USRK	**Ussuriysk Ar.**	**52.89**	**342**	LR	LR	14 08 19.8	
	comp=Z,104nm,18.0s,baz=168,slow=36						
CMAR	**Chiang Mai Arr**	**57.39**	**296**	P	**P**	**13 46 29.4**	**+1.2**
	0.3nm,0.3s,baz=111,slow=4.9,SNR=3.5						
CMAR				LR	LR	14 11 18.1	
	comp=Z,41nm,19.1s,baz=134,slow=36						
KLR	**Kul'dur**	**57.54**	**345**	LR	LR	14 07 53.6	
	comp=Z,128nm,21.9s,baz=148,slow=32						
PETK	**Petropavlovsk**	**58.92**	**4**	LR	LR	14 07 35.6	
	comp=Z,85nm,20.1s,baz=195,slow=31						
SONM	**Songino Array**	**66.64**	**329**	P	**P**	**13 47 29.9**	**-0.2**
	0.4nm,0.5s,baz=152,slow=8.0,SNR=4.0						
SONM				LR	LR	14 16 40.1	
	comp=Z,122nm,19.7s,baz=166,slow=36						
YAK	**Yakutsk**	**69.77**	**349**	LR	LR	14 17 36.1	
	comp=Z,56nm,18.9s,baz=91,slow=35						
VNDA	**Vanda**	**71.86**	**178**	P	**P**	**13 48 02.3**	**+0.6**
	1.9nm,0.8s,baz=348,slow=3.5,SNR=6.5						
MKAR	**Makanchi Array**	**80.42**	**319**	P	**P**	**13 48 51.1**	**+0.2**
	0.6nm,0.8s,baz=108,slow=4.7,SNR=5.0						
MKAR				LR	LR	14 24 27.1	
	comp=Z,66nm,19.9s,baz=91,slow=36						
ZALV	**Zalesovo Beam**	**81.43**	**327**	P	**P**	**13 48 54.7**	**-1.4**
	0.5nm,0.3s,baz=125,slow=4.9,SNR=3.4						
ZALV				LR	LR	14 24 25.8	
	comp=Z,87nm,20.2s,baz=70,slow=35						
ILAR	**Eielson Array**	**83.49**	**22**	P	**P**	**13 49 05.5**	**-1.1**
	1.8nm,0.7s,baz=247,slow=5.3,SNR=22						
MAW	**Mawson**	**84.24**	**203**	LR	LR	14 22 37.1	
	comp=Z,121nm,21.5s,baz=58,slow=33						
AAK	**Ala-Archa**	**84.62**	**314**	LR	LR	14 27 52.7	
	comp=Z,62nm,19.7s,baz=84,slow=36						
NRIK	**Noril'sk**	**86.59**	**341**	LR	LR	14 29 58.2	
	comp=Z,59nm,18.3s,baz=50,slow=37						
NVAR	**Mina Array Bea**	**93.52**	**52**	P	**P**	**13 49 56.8**	**+1.2**
	0.6nm,0.7s,baz=250,slow=7.6,SNR=4.4						
NVAR				LR	LR	14 26 32.4	
	comp=Z,102nm,19.7s,baz=270,slow=32						
TORD	**Torodi Ar. Bea**	**149.62**	**286**	PKPbc	**PKPbc**	**13 56 28.8**	**-0.9**
	2.9nm,0.9s,baz=116,slow=3.4,SNR=9.8						

*ISN **19** 13:41:22.7±0.3, 37°.42N×42°.38E, h0km, ML2.5*
ISK 19 13:41:36.1, 37°.41N×42°.34E, h5km, **ML2.5/4, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRT	**Sirnak**	**0.13**	**41**	PG	**Pg**	13 41 38.5	-0.2
CUKT	**Cukurca**	**1.03**	**98**	PG	**Pn**	13 41 57.3	0.0
GURO	**Guroymak-BITLI**	**1.17**	**348**	PN	**Pn**	13 41 59.5	+0.2
GURO				SN	**Sn**	13 42 17.6	+1.9
SVAN	**Silvan-Diyarba**	**1.17**	**310**	PN	**Pn**	13 41 59.6	+0.4
MAZI	**Mazidag**	**1.50**	**273**	PN	**Pg**	13 42 05.3	+0.3

WEL 19 13:56:02.1, 40°.5S±0°.8×177°.5E±°, h28km±2km, **ML4.0**/24,
Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.34**	**168**	P	**Pb**	13 56 10.4	+0.5
KIW				S	**Sb**	13 56 16.1	+0.8
OGWZ	**Otaki Gorge**	**0.39**	**137**	P	**Pb**	13 56 11.1	+0.3
OGWZ				S	**Sb**	13 56 17.3	+0.7
OHWZ	**Ohakea**	**0.50**	**50**	P	**Pb**	13 56 12.4	0.0
OHWZ				S	**Sn**	13 56 20.4	-0.6
MRZ	**Mangatainoka R**	**0.59**	**103**	P	**Pb**	13 56 13.9	-0.1
CAW	**Cannon Point**	**0.61**	**162**	P	**Pb**	13 56 14.3	+0.1
CAW				S	**Sb**	13 56 22.7	+0.2
HOWZ	**Holdsworth Sta**	**0.64**	**125**	P	**Pb**	13 56 14.8	0.0
HOWZ				S	**Sb**	13 56 23.8	+0.3
DUWZ	**D'Urville Isla**	**0.74**	**248**	P	**Pb**	13 56 16.0	-0.3
POWZ	**Post Office Ro**	**0.74**	**80**	P	**Pb**	13 56 16.0	-0.4
WAZ	**Wanganui**	**0.78**	**9**	P	**Pb**	13 56 16.8	-0.3
TCW	**Tory Channel**	**0.80**	**211**	P	**Pb**	13 56 16.9	-0.5
MTW	**Mount Morrison**	**0.81**	**141**	P	**Pb**	13 56 17.6	0.0
TIWZ	**Tintock**	**0.85**	**107**	P	**Pn**	13 56 17.9	-0.2
PRWZ	**Pori Road**	**0.88**	**92**	P	**Pn**	13 56 18.6	+0.1
BHW	**Baring Head**	**0.88**	**177**	P	**Pn**	13 56 18.4	-0.2
MSWZ	**Moikau Station**	**0.94**	**160**	P	**Pb**	13 56 19.8	-0.1
PAWZ	**Paruwai Farm**	**0.97**	**152**	P	**Pn**	13 56 19.9	0.0
TSZ	**Takapari Road**	**0.99**	**62**	P	**Pn**	13 56 19.8	-0.3
TMWZ	**Te Maipa**	**1.00**	**126**	P	**Pn**	13 56 20.2	0.0
DVHZ	**Dannevirke**	**1.05**	**78**	P	**Pn**	13 56 20.6	-0.3
TRWZ	**Traveller**	**1.09**	**143**	P	**Pb**	13 56 22.2	-0.1
PLWZ	**Palliser**	**1.09**	**163**	P	**Pn**	13 56 21.4	0.0
BFZ	**Birch Farm**	**1.10**	**98**	P	**Pn**	13 56 20.8	-0.7
LREZ	**Lake Rotokare**	**1.11**	**343**	P	**Pn**	13 56 22.0	+0.3
LREZ				P	**Pn**	13 56 22.0	+0.2
CPWZ	**Castlepoint**	**1.12**	**110**	P	**Pn**	13 56 21.7	-0.1
TUWZ	**Tuamarina**	**1.12**	**216**	P	**Pn**	13 56 21.8	0.0
PNHZ	**Pukenui**	**1.22**	**60**	P	**Pn**	13 56 23.1	-0.2
MTVZ	**Mangateitei**	**1.25**	**24**	P	**Pn**	13 56 23.3	-0.4
ANWZ	**Angora Road**	**1.26**	**87**	P	**Pn**	13 56 23.3	-0.6
NNZ	**Nelson**	**1.29**	**237**	P	**Pn**	13 56 24.2	0.0
PREZ	**Palmer Road**	**1.29**	**337**	P	**Pb**	13 56 25.0	-0.7
CMWZ	**Cape Campbell**	**1.30**	**200**	P	**Pb**	13 56 25.8	-0.1
PKVZ	**Pokaka**	**1.30**	**18**	P	**Pn**	13 56 23.8	-0.7
WPHZ	**Waipukurau**	**1.32**	**70**	P	**Pn**	13 56 24.7	0.0
NMEZ	**Namu Road**	**1.33**	**327**	P	**Pb**	13 56 25.6	-0.7
MOVZ	**Moawhango**	**1.33**	**33**	P	**Pn**	13 56 24.0	-0.8
TRVZ	**Turoa**	**1.35**	**25**	P	**Pn**	13 56 24.8	-0.4
DRZ	**Dome Shelter**	**1.38**	**25**	P	**Pn**	13 56 25.9	+0.3
WHVZ	**Whangaehu Hut**	**1.38**	**26**	P	**Pn**	13 56 25.3	-0.4
KHEZ	**Kahui Hut**	**1.38**	**333**	P	**Pn**	13 56 26.2	+0.7
BSWZ	**Blackbirch Sta**	**1.38**	**211**	P	**Pn**	13 56 26.2	+0.7
FWVZ	**Far West T-bar**	**1.39**	**24**	P	**Pn**	13 56 25.2	-0.6
VRZ	**Vera Road**	**1.40**	**358**	P	**Pn**	13 56 25.7	0.0
BHHZ	**Black Hill Sta**	**1.41**	**43**	P	**Pn**	13 56 25.4	-0.5
PRHZ	**Porangahau**	**1.41**	**80**	P	**Pn**	13 56 25.2	-0.6
TUVZ	**Tukino**	**1.41**	**27**	P	**Pn**	13 56 25.9	-0.1
DREZ	**Durham Road**	**1.42**	**340**	P	**Pn**	13 56 26.8	+0.8
COVZ	**Chateau Observ**	**1.44**	**23**	P	**Pn**	13 56 25.9	-0.4
NBEZ	**Newall Road No**	**1.46**	**330**	P	**Pb**	13 56 27.5	-1.0
NGZ	**Ngauruhoe**	**1.48**	**24**	P	**Pn**	13 56 26.7	-0.2
PKE	**Pukeiti**	**1.48**	**334**	P	**Pb**	13 56 27.9	-1.0
KRHZ	**Kereru**	**1.48**	**54**	P	**Pn**	13 56 26.8	-0.1
WTVZ	**West Tongariro**	**1.53**	**23**	P	**Pn**	13 56 27.2	-0.4
TWVZ	**Taurewa**	**1.53**	**18**	P	**Pn**	13 56 26.9	-0.8
KRVZ	**Karewarewa**	**1.57**	**24**	P	**Pn**	13 56 27.7	-0.4
PXZ	**Pawanui**	**1.64**	**73**	P	**Pn**	13 56 28.4	-0.6
KWHZ	**Kaweka Forest**	**1.65**	**49**	P	**Pn**	13 56 29.3	0.0
KATZ	**Kakaramea**	**1.69**	**24**	P	**Pn**	13 56 30.2	+0.4
KAHZ	**Kahuranaki**	**1.74**	**66**	P	**Pn**	13 56 30.1	-0.3
RITZ	**Rihia Road**	**1.75**	**28**	P	**Pn**	13 56 31.5	+1.1
QRZ	**Quartz Range**	**1.77**	**260**	P	**Pn**	13 56 30.8	0.0
MCHZ	**McNeill Hill**	**1.80**	**54**	P	**Pn**	13 56 31.4	+0.1
RATZ	**Rangitukua**	**1.82**	**24**	P	**Pn**	13 56 32.2	+0.7
BKZ	**Black Stump Fm**	**1.87**	**44**	P	**Pn**	13 56 32.0	-0.2
THZ	**Tophouse**	**1.90**	**229**	P	**Pn**	13 56 33.5	+0.8
HATZ	**Hinemaiaia**	**1.91**	**31**	P	**Pn**	13 56 33.1	+0.3
WATZ	**Wairara**	**1.95**	**21**	P	**Pn**	13 56 34.3	+1.0
HIZ	**Hauiti**	**2.01**	**1**	P	**Pn**	13 56 34.1	-0.1
WHTZ	**Whakaora**	**2.06**	**26**	P	**Pn**	13 56 35.9	+1.1
MRHZ	**Matea Rd**	**2.10**	**37**	P	**Pn**	13 56 34.8	-0.5
NMHZ	**Naumai**	**2.10**	**48**	P	**Pn**	13 56 35.1	-0.2
ARHZ	**Aropaoanui**	**2.10**	**54**	P	**Pn**	13 56 34.9	-0.4
KHZ	**Kahutara**	**2.12**	**207**	P	**Pn**	13 56 35.6	+0.1
KUTZ	**Kaahu Road**	**2.18**	**21**	P	**Pn**	13 56 38.0	+1.6
WPRZ	**Whakapapatarin**	**2.26**	**28**	P	**Pn**	13 56 37.7	+0.2
TLZ	**Tolley Road**	**2.27**	**14**	P	**Pn**	13 56 37.0	-0.7
MTHZ	**Maungataniwha**	**2.29**	**44**	P	**Pn**	13 56 37.3	-0.7
ALRZ	**Allen Road**	**2.29**	**31**	P	**Pn**	13 56 37.9	-0.1
PRRZ	**Plateau Road**	**2.37**	**31**	P	**Pn**	13 56 38.7	-0.3
HRRZ	**Handcock Road**	**2.42**	**28**	P	**Pn**	13 56 40.1	+0.3
HSRZ	**Hossack Road**	**2.48**	**27**	P	**Pn**	13 56 42.4	+1.9
RTZ	**Ruatahuna**	**2.54**	**42**	P	**Pn**	13 56 40.2	-1.2
RRRZ	**Republican Roa**	**2.55**	**32**	P	**Pn**	13 56 42.6	+1.1
DSZ	**Denniston Nort**	**2.58**	**241**	P	**Pn**	13 56 42.9	+0.9
SNGZ	**Shannon Statio**	**2.61**	**49**	P	**Pn**	13 56 41.5	-0.9
TARZ	**Mount Tarawera**	**2.64**	**30**	P	**Pn**	13 56 43.8	+1.0
MHGZ	**Mahia Peninsul**	**2.75**	**61**	P	**Pn**	13 56 43.0	-1.3
TOZ	**Tahuroa Road**	**2.84**	**11**	P	**Pn**	13 56 45.1	-0.5
PRGZ	**Paritu Road**	**2.86**	**57**	P	**Pn**	13 56 44.0	-1.8
RAGZ	**Rawiri**	**2.86**	**45**	P	**Pn**	13 56 44.1	-1.7
URZ	**Urewera**	**2.88**	**39**	P	**Pn**	13 56 44.3	-1.8
RIGZ	**Rimuhau**	**2.91**	**52**	P	**Pn**	13 56 44.7	-1.8
MARZ	**Manawahe**	**2.92**	**30**	P	**Pn**	13 56 45.9	-0.7
LTZ	**Lake Taylor**	**2.95**	**219**	P	**Pn**	13 56 46.9	-0.2
OPRZ	**Ohinepanea**	**3.00**	**27**	P	**Pn**	13 56 47.2	-0.5
TGRZ	**Tauranga**	**3.01**	**22**	P	**Pn**	13 56 48.3	+0.4
MWZ	**Matawai**	**3.03**	**45**	P	**Pn**	13 56 46.3	-1.9
AMCZ	**Amberley**	**3.10**	**211**	P	**Pn**	13 56 47.9	-1.1
TKGZ	**Te Karaka**	**3.14**	**49**	P	**Pn**	13 56 47.8	-1.8
TKGZ				P	**Pn**	13 56 47.9	-9.3
INZ	**Inchbonnie**	**3.35**	**228**	P	**Pn**	13 56 52.1	-0.4
RUGZ	**Raukumara Rang**	**3.39**	**42**	P	**Pn**	13 56 51.8	-1.3
TWGZ	**Tauwhareparae**	**3.39**	**47**	P	**Pn**	13 56 51.6	-1.5
KBAZ	**Karaka Road Bo**	**3.43**	**1**	P	**Pn**	13 56 55.3	+1.7
MKAZ	**Moumakai**	**3.43**	**5**	P	**Pn**	13 56 53.4	-0.2
OKCZ	**Okains Bay**	**3.45**	**202**	P	**Pn**	13 56 52.3	-1.6
CRLZ	**Canterbury Las**	**3.46**	**208**	P	**Pn**	13 56 51.5	-2.4
AWAZ	**Awhitu Peninsu**	**3.46**	**358**	P	**Pn**	13 56 55.3	+1.2
OXZ	**Oxford**	**3.48**	**216**	P	**Pn**	13 56 52.6	-1.7
MQZ	**McQueen's Vall**	**3.56**	**206**	P	**Pn**	13 56 53.0	-2.4
ETAZ	**East Tama

	comp=N,0.1nm,0.3s,baz=231,slow=19,SNR=2.1							
CPUP					LR	LR	14 18 59.4	
	comp=N,93nm,18.4s,baz=215,slow=40							
CPUP	**Villa Florida**	**14.93**	**63**	*e*Pn	**Pn**	**14 12 29.0**	**-2.6**	
MNMC	**Minye Minye**	**14.95**	**10**	*e*Pn	**Pn**	**14 12 31.5**	**-0.8**	
	comp=N,24nm,1.7s							
LPAZ	**La Paz**	**17.98**	**13**	P	**P**	**14 13 12.7**	**+1.2**	
	comp=N,0.1nm,0.3s,baz=186,slow=10,SNR=7.1							
LPAZ	**La Paz**	**17.98**	**13**	*e*Pn	**Pn**	**14 13 08.5**	**-2.6**	
	comp=N,1,9nm,0.8s							
SIV	**San Ignacio**	**20.51**	**32**	P	**P**	**14 13 38.4**	**-0.2**	
	comp=N,1,3nm,0.7s,baz=221,slow=12,SNR=10.0							
SNAA	**Sanae**	**51.67**	**158**	P	**P**	**14 18 07.4**	**+0.8**	
	comp=N,1,1nm,0.6s,baz=247,slow=6.2,SNR=6.9							
SNAA	**Sanae**	**51.67**	**158**	*e*P	**P**	**14 18 07.2**	**+0.7**	
	comp=N,6.1nm,1.3s							
QSPA	**South Pole Qui**	**56.27**	**180**	P	**P**	**14 18 41.0**	**+0.6**	
	comp=N,1.5nm,0.9s,baz=196,slow=2.7,SNR=3.1							
LTX	**Lajitas**	**69.64**	**331**	*e*P	**P**	**14 20 10.5**	**+0.9**	
TXAR	**Lajitas Array**	**69.64**	**331**	P	**P**	**14 20 10.5**	**+0.9**	
	comp=N,0.2nm,0.5s,baz=157,slow=9.6,SNR=3.1							
MAW	**Mawson**	**73.25**	**164**	P	**P**	**14 20 31.3**	**+0.5**	
	comp=N,1.6nm,0.5s,baz=236,slow=7.3,SNR=3.1							
MAW	**Mawson**	**73.25**	**164**	*e*P	**P**	**14 20 30.0**	**-0.8**	
	comp=N,11nm,1.8s							
PDAR	**Pinedale Array**	**83.67**	**333**	P	**P**	**14 21 30.2**	**+1.4**	
	comp=N,0.2nm,0.4s,baz=122,slow=9.6,SNR=2.2							
TORD	**Torodi Ar. Bea**	**84.31**	**70**	P	**P**	**14 21 33.1**	**+0.8**	
	comp=N,0.4nm,0.4s,baz=270,slow=5.5,SNR=5.0							
TOA1	**Torodi Ar. Sit**	**84.31**	**70**	*e*P	**P**	**14 21 33.1**	**+0.8**	
WR1	**Warramunga Arr**	**120.73**	**209**	*e*PKPdf	**PKPdf**	**14 27 52.0**	**-0.6**	
WRA	**Warramunga Arr**	**120.73**	**209**	PKP	**PKPdf**	**14 27 52.0**	**-0.6**	
	comp=N,0.2nm,0.4s,baz=158,slow=1.7,SNR=10							
BVAR	**Borovoye Array**	**147.34**	**43**	PKPbc	**PKPbc**	**14 28 44.3**	**+1.1**	
	comp=N,1.0nm,0.5s,baz=284,slow=1.5,SNR=8.3							
ZAA1	**Zalesovo Array**	**154.26**	**32**	*e*PKPbc	**PKPbc**	**14 29 00.0**	**+0.5**	
ZALV	**Zalesovo Beam**	**154.26**	**32**	PKPbc	**PKPbc**	**14 29 00.0**	**+0.5**	
	comp=N,1.7nm,0.6s,baz=331,slow=3.0,SNR=5.6							
MK32	**Makanchi Array**	**156.83**	**49**	*e*PKPab	**PKPab**	**14 29 25.2**	**+0.3**	
MKAR	**Makanchi Array**	**156.83**	**49**	PKPab	**PKPab**	**14 29 25.2**	**+0.3**	
	comp=N,0.2nm,0.5s,baz=294,slow=2.5,SNR=4.0							

*DSN **19** 14:10:29.6±7.8, 37.°70N×44.°73E, h15km, mb4.9/12, Error ellipse: s-maj=90.9km s-min=15.9km az=153.0*
*ISN **19** 14:11:16.0±1.3, 33.°81N×46.°88E, h0km±11km, ML3.6*
*ISCJB **19** 14:11:19.3±1.5, 33.°77N±0.°04×46.°48E±0.°06, h15km±13km, mb3.7/6, MS3.9/1, Error ellipse: s-maj=8.9km s-min=5.7km az=166.2*
*TEH **19** 14:11:20.8, 33.°88N×46.°70E, h4km, ML3.7*
*IDC **19** 14:11:22.9±4.7, 33.°49N×46.°41E, h41km±47km, mb3.5/6, mb1 3.8/9, mb1mx3.5/42, mbtmp3.9/9, ML3.7/3, MS3.9/1, Ms1 3.9/1, ms1mx2.4/43, Error ellipse: s-maj=34.7km s-min=24.1km az=28.0*
*THR **19** 14:11:24.8±0.4, 34.°07N×46.°77E, h36km±3km, ML3.7*
*OMAN **19** 14:11:32.2±1.5, 33.°35N×47.°48E, h4km, Error ellipse: s-maj=36.9km s-min=13.4km az=49.0*

ISC 19 14:11:21.3±1.5, 33.°90N±0.°04×46.°69E±0.°06, h12km±9km, n75, σ1°73/73, mb3.8/6, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IVIS	**Veis**	**0.64**	**12**	*e*Pg	**Pg**		**Pg**	**14 11 32.9**	**-1.0**
IVIS						IAMB	IAmb	14 11 41.5	
	comp=N,50μm,0.5s								
IVIS						IAMB	IAmb	14 11 42.1	
	comp=E,30μm,0.2s								
IVIS						IAMB	IAmb	14 11 51.9	
	comp=Z,35μm,0.6s								
IKOM	**Komasi**	**0.73**	**67**	*e*Pg	**Pg**		**Pg**	**14 11 35.1**	**-0.5**
IKOM				*e*Sg			**Sg**	**14 11 45.0**	**-0.2**
IKOM						IAMB	IAmb	14 11 45.8	
	comp=N,0.0nm,0.4s								
IKOM						IAMB	IAmb	14 11 47.3	
	comp=E,0.0nm,0.2s								
IKOM						IAMB	IAmb	14 11 48.9	
	comp=Z,0.0nm,0.4s								
IKFM	**Kafar-mosalman**	**1.03**	**111**	*e*Pg	**Pb**		**Pb**	**14 11 41.4**	**+0.3**
IKFM				*e*Sg			**Sn**	**14 11 56.3**	**+0.4**
IKFM						IAMB	IAmb	14 11 57.5	
	comp=E,0.0nm,0.2s								
IKFM						IAMB	IAmb	14 11 57.7	
	comp=Z,0.0nm,0.3s								
IKFM						IAMB	IAmb	14 11 58.7	
	comp=N,0.0nm,0.1s								
ILIN	**Lien**	**1.04**	**12**	*e*Pg	**Pg**		**Pg**	**14 11 40.2**	**-1.3**
ILIN						IAMB	IAmb	14 11 57.3	
	comp=Z,14μm,0.4s								
IBZA	**Bozab**	**1.12**	**59**	*e*Pg	**Pg**		**Pg**	**14 11 41.5**	**-1.5**
IBZA						IAMB	IAmb	14 12 05.3	
	comp=N,0.0nm,0.4s								
IBZA						IAMB	IAmb	14 12 05.4	
	comp=E,0.0nm,0.4s								
IBZA						IAMB	IAmb	14 12 06.2	
	comp=Z,0.0nm,0.3s								
SNGE	**Sanandaj**	**1.31**	**24**	*e*Pg	**Pg**		**Pg**	**14 11 45.9**	**-0.6**
SNGE				*e*Sg			**Sb**	**14 12 01.2**	**-1.7**
SNGE						IAML		14 12 08.6	
	comp=N,914nm,0.4s								
SNGE						IAML		14 12 09.5	
	comp=E,2μm,0.6s								
SNGE	**Sanandaj**	**1.31**	**24**	*e*Pg	**Pg**		**Pg**	**14 11 45.9**	**-0.6**
HSAM	**Samen**	**1.62**	**78**	*e*Pn	**Pn**		**Pn**	**14 11 50.5**	**+0.6**
HKZM	**Kohzaman**	**2.35**	**50**	*e*Pn	**Pb**		**Pb**	**14 12 03.4**	**-0.3**
SHGR	**Shooshtar-Gavs**	**2.51**	**135**	*e*Pn	**Pb**		**Pb**	**14 12 06.1**	**-0.3**
SHGR				*e*Sg			**Sg**	**14 12 44.4**	**+2.3**
SHGR						IAML		14 12 57.4	
	comp=N,323nm,0.4s								
SHGR						IAML		14 13 03.8	
	comp=E,315nm,0.6s								
SHGR	**Shooshtar-Gavs**	**2.51**	**135**	*e*Pn	**Pb**		**Pb**	**14 12 06.1**	**-0.3**
KHMZ	**Khomeyn**	**2.72**	**92**	*e*Pn	**Pn**		**Pn**	**14 12 07.8**	**+2.7**
KHMZ				*e*Sg			**Sg**	**14 12 47.0**	**-1.9**
KHMZ	**Khomeyn**	**2.72**	**92**	*e*Pn	**Pn**		**Pn**	**14 12 07.8**	**+2.7**
QABG	**Abgarm-Qazvin**	**2.99**	**52**		IAMB	IAmb	14 13 02.6		
	comp=E,0.0nm,0.8s								
QABG						IAMB	IAmb	14 13 06.7	
	comp=Z,0.0nm,1.0s								
IRAZ	**Razeghan**	**3.06**	**60**	*e*Pn	**Pn**		**Pn**	**14 12 12.3**	**+2.5**
IPIR	**Pirpir**	**3.72**	**108**		IAMB	IAmb	14 13 28.5		
	comp=N,3μm,0.8s								
IPIR						IAMB	IAmb	14 13 32.5	
	comp=E,2μm,0.6s								
IPIR						IAMB	IAmb	14 13 33.8	
	comp=Z,1μm,0.6s								
IBST	**Bostanabad**	**3.80**	**2**		IAMB	IAmb	14 13 26.4		
	comp=Z,448nm,0.6s								
IBST						IAMB	IAmb	14 13 30.9	
	comp=N,441nm,0.7s								
IBST						IAMB	IAmb	14 13 31.0	
	comp=E,499nm,1.0s								
IGZV	**Ghazvin**	**3.81**	**48**	*e*Pn	**Pn**		**Pn**	**14 12 21.8**	**+1.7**
IGZV						IAMB	IAmb	14 12 43.0	
	comp=Z,2μm,0.6s								
IGZV						IAMB	IAmb	14 13 29.5	
	comp=N,2μm,0.7s								
IGZV						IAMB	IAmb	14 13 33.5	
	comp=E,3μm,0.8s								
IAZR	**Azarshahr**	**3.82**	**351**		IAMB	IAmb	14 13 34.7		
	comp=E,7μm,0.6s								
IAZR						IAMB	IAmb	14 13 36.4	
	comp=Z,3μm,1.0s								
IAZR						IAMB	IAmb	14 13 37.0	
	comp=N,7μm,0.7s								
ZNGN	**Zangian**	**3.92**	**116**	*e*Pn	**Pn**		**Pn**	**14 12 23.4**	**+1.8**
ZNGN						IAMB	IAmb	14 13 27.5	
	comp=Z,0.0nm,0.4s								
ZNGN						IAMB	IAmb	14 13 39.3	
	comp=N,0.0nm,0.5s								
ZNGN						IAMB	IAmb	14 13 40.3	
	comp=E,0.0nm,0.8s								
ROKH	**ROKH**	**3.96**	**112**	*e*Pn	**Pn**		**Pn**	**14 12 24.2**	**+2.1**
ROKH						IAMB	IAmb	14 13 57.3	
	comp=N,0.0nm,1.2s								
ROKH						IAMB	IAmb	14 13 59.0	
	comp=Z,0.0nm,1.2s								
ROKH						IAMB	IAmb	14 14 00.7	
	comp=E,0.0nm,1.3s								
ISRB	**Sarab**	**4.00**	**11**	*e*Pn	**Pn**		**Pn**	**14 12 24.7**	**+2.0**
ISRB						IAMB	IAmb	14 12 39.5	
	comp=Z,800nm,0.6s								
ISRB						IAMB	IAmb	14 12 45.1	
	comp=N,1μm,0.5s								
ISRB						IAMB	IAmb	14 13 47.0	
	comp=E,2μm,0.8s								
QALM	**Alamut, Qazvin**	**4.11**	**51**	*e*Pn	**Pn**		**Pn**	**14 12 26.6**	**+2.4**
QALM						IAMB	IAmb	14 13 37.3	
	comp=Z,0.0nm,0.8s								
QALM						IAMB	IAmb	14 13 40.0	
	comp=N,0.0nm,0.8s								
QALM						IAMB	IAmb	14 13 48.8	
	comp=E,0.0nm,0.9s								
IKLH	**Kolahrood**	**4.12**	**97**	*e*Pn	**Pn**		**Pn**	**14 12 27.0**	**+2.7**
IKLH						IAMB	IAmb	14 13 44.0	
	comp=N,2μm,0.6s								
IKLH						IAMB	IAmb	14 13 48.8	
	comp=E,2μm,0.9s								
IKLH						IAMB	IAmb	14 13 49.0	
	comp=Z,2μm,0.8s								
IVRN	**Varamin**	**4.30**	**74**	*e*Pn	**Pn**		**Pn**	**14 12 28.8**	**+2.1**
IVRN						IAMB	IAmb	14 12 48.5	
	comp=Z,0.0nm,0.6s								
IVRN						IAMB	IAmb	14 13 56.3	
	comp=E,0.0nm,0.7s								
IVRN						IAMB	IAmb	14 14 13.0	
	comp=N,0.0nm,0.4s								
IBRJ	**Brojen**	**4.32**	**116**		IAMB	IAmb	14 13 27.9		
	comp=Z,442nm,0.3s								
IBRJ						IAMB	IAmb	14 14 01.0	
	comp=N,791nm,0.7s								
ISHB	**Shabestar**	**4.46**	**349**		IAMB	IAmb	14 12 58.5		
	comp=Z,585nm,0.6s								
ISHB						IAMB	IAmb	14 13 49.6	
	comp=N,3μm,0.8s								
ISHB						IAMB	IAmb	14 13 58.1	
	comp=E,2μm,0.6s								
KRSH	**Karshahi**	**4.53**	**88**	*e*Pn	**Pn**		**Pn**	**14 12 31.9**	**+2.1**
KRSH						IAMB	IAmb	14 13 55.4	
	comp=E,0.0nm,0.9s								
KRSH						IAMB	IAmb	14 13 58.8	
	comp=Z,0.0nm,0.7s								
KRSH						IAMB	IAmb	14 14 02.6	
	comp=N,0.0nm,0.7s								
IAFJ	**Afjeh**	**4.57**	**63**	*e*Pn	**Pn**		**Pn**	**14 12 32.2**	**+1.7**
IAFJ						IAMB	IAmb	14 13 56.3	
	comp=N,2μm,0.6s								
IAFJ						IAMB	IAmb	14 14 06.0	
	comp=Z,832nm,0.7s								
IDMV	**Damavand**	**4.71**	**68**	*e*Pn	**Pn**		**Pn**	**14 12 34.4**	**+2.0**
IDMV						IAMB	IAmb	14 13 32.0	
	comp=Z,787nm,0.5s								
IDMV						IAMB	IAmb	14 13 32.1	
	comp=E,2μm,0.4s								
IDMV						IAMB	IAmb	14 13 56.3	
	comp=N,829nm,0.6s								
IZEF	**Zefreh**	**4.82**	**100**	*e*Pn	**Pn**		**Pn**	**14 12 36.5**	**+2.5**
IZEF						IAMB	IAmb	14 13 56.9	
	comp=E,425nm,0.8s								
IZEF						IAMB	IAmb	14 14 03.9	
	comp=Z,440nm,0.6s								
IZEF						IAMB	IAmb	14 14 07.8	
	comp=N,414nm,0.8s								
IRAM	**Ramesheh**	**5.22**	**112**	*e*Pn	**Pn**		**Pn**	**14 12 40.8**	**+1.4**
IRAM						IAMB	IAmb	14 13 45.2	
	comp=E,358nm,0.5s								
IRAM						IAMB	IAmb	14 13 49.0	
	comp=Z,242nm,0.4s								
IRAM						IAMB	IAmb	14 13 55.4	
	comp=N,370nm,0.4s								
IALA	**Alasht**	**5.47**	**65**		IAMB	IAmb	14 13 24.6		
	comp=Z,457nm,0.6s								
ISHM	**Shahmirzad**	**5.75**	**69**		IAMB	IAmb	14 13 22.4		
	comp=Z,590nm,0.5s								
ANAR	**Anarak**	**5.92**	**95**	*e*Pn	**Pn**		**Pn**	**14 12 50.8**	**+1.9**
ANAR						IAMB	IAmb	14 14 52.7	
	comp=N,0.0nm,1.0s								
ANAR						IAMB	IAmb	14 14 54.8	
	comp=E,0.0nm,0.9s								
ANAR						IAMB	IAmb	14 14 59.9	
	comp=Z,0.0nm,1.2s								
IPAR	**Pars**	**6.75**	**125**	*e*Pn	**Pn**		**Pn**	**14 13 02.1**	**+1.6**
IPAR						IAMB	IAmb	14 14 24.6	
	comp=N,272nm,0.3s								
IPAR						IAMB	IAmb	14 14 27.6	
	comp=E,213nm,0.4s								
IPAR						IAMB	IAmb	14 14 34.7	
	comp=Z,134nm,0.4s								
ISRV	**Sarvestan**	**7.08**	**128**	*e*Pn	**Pn**		**Pn**	**14 13 07.6**	**+2.5**
ISRV						IAMB	IAmb	14 14 37.9	
	comp=Z,261nm,0.4s								
ISRV						IAMB	IAmb	14 14 52.2	
	comp=N,636nm,0.6s								
RAYN	**Ar Rayn** SNR=5.7	**10.39**	**186**	*i* P		**Pn**		**14 13 50.9**	**+0.7**
SHME	**Shamm**	**11.32**	**131**	P		**Pn**		**14 14 03.4**	**+0.5**
SHME	**Shamm**	**11.32**	**131**	*e*Pn		**Pn**		**14 14 03.4**	**+0.5**
BANOM	**Banah**	**11.51**	**131**	P		**Pn**		**14 14 05.6**	**0.0**
BANOM	**Banah** SNR=17	**11.51**	**131**	*i* P		**Pn**		**14 14 05.7**	**+0.2**
AJN	**Ajban**	**11.78**	**140**	P		**Pn**		**14 14 11.0**	**+1.7**
NAZ	**Nazwa, Dubai** SNR=12	**11.82**	**136**	P		**Pn**		**14 14 11.0**	**+1.3**
NAZ	**Nazwa, Dubai** SNR=12	**11.82**	**136**	*i* P		**Pn**		**14 14 11.0**	**+1.3**
NAZ	**Nazwa, Dubai**	**11.82**	**136**	*e*Pn		**Pn**		**14 14 10.9**	**+1.1**
MSFE	**Esma-Masafi**	**11.83**	**133**	P		**Pn**		**14 14 10.6**	**+0.6**
MSFE	**Esma-Masafi**	**11.83**	**133**	*e*Pn		**Pn**		**14 14 10.4**	**+0.4**
ASUD	**Al Ashush, Dub** SNR=7.1	**11.92**	**139**	*i* P		**Pn**		**14 14 12.5**	**+1.4**
ASUD	**Al Ashush, Dub**	**11.92**	**139**	*e*Pn		**Pn**		**14 14 12.6**	**+1.5**
FAQ	**Al Faqa, Dubai**	**11.97**	**137**	P		**Pn**		**14 14 13.2**	**+1.4**
FAQ	**Al Faqa, Dubai**	**11.97**	**137**	*e*Pn		**Pn**		**14 14 12.9**	**+1.1**
UOSS	**Minazif**	**12.17**	**135**	P		**Pn**		**14 14 15.3**	**+0.7**
UOSS				S		Sn		14 16 20.7	-9.5
UOSS	**Minazif** SNR=10	**12.17**	**135**	*i* P		**Pn**		**14 14 14.9**	**+0.4**
UOSS	**Minazif**	**12.17**	**135**	*e*Pn		**Pn**		**14 14 14.9**	**+0.3**
HATD	**Hatta, Dubai** SNR=5.4	**12.22**	**135**	P		**Pn**		**14 14 15.5**	**+0.3**
HATD				S		**Sn**		**14 16 25.6**	**-5.8**
HATD	**Hatta, Dubai**	**12.22**	**135**	P		**Pn**		**14 14 15.7**	**+0.5**
HATD	**Hatta, Dubai**	**12.22**	**135**	*e*Pn		**Pn**		**14 14 15.7**	**+0.5**
ASHO	**Ashiyiah** SNR=9.3	**12.28**	**136**	P		**Pn**		**14 14 16.3**	**+0.1**
ASHO	**Ashiyiah** SNR=21	**12.28**	**136**	*i* P		**Pn**		**14 14 16.3**	**+0.2**
ASHO	**Ashiyiah**	**12.28**	**136**	*e*Pn		**Pn**		**14 14 16.2**	**+0.1**
MZR	**Muzera** SNR=22	**12.38**	**149**	*i* P		**Pn**		**14 14 18.9**	**+1.4**
ALNE	**Al Ain** SNR=7.7	**12.60**	**139**	*i* P		**Pn**		**14 14 21.0**	**+0.5**
ALNE	**Al Ain**	**12.60**	**139**	*e*Pn		**Pn**		**14 14 21.4**	**+0.9**
BSY	**Bisya**	**14.45**	**138**	P		**Pn**		**14 14 45.3**	**-0.5**
WSAR	**Wadi Sarin**	**14.91**	**132**	P		**Pn**		**14 14 50.2**	**-1.8**
	comp=N,2.3nm,0.3s,baz=320,slow=8.1,SNR=21								
IDI	**Anoyia**	**18.00**	**281**	P		**Pn**		**14 15 28.4**	**-3.1**
	comp=N,0.2nm,0.3s,baz=5.2,slow=11,SNR=1.9								
AKTO	**Aktyubinsk**	**18.50**	**23**	P		**Pn**		**14 15 41.7**	**+4.3**
	comp=N,0.1nm,0.3s,baz=214,slow=11,SNR=2.5								
AKASG	**Malin Array Be**	**21.10**	**328**	P		**P**		**14 16 05.5**	**0.0**
	comp=N,0.6nm,0.4s,baz=135,slow=10,SNR=3.9								
BVAR	**Borovoye Array**	**25.52**	**34**	P		**P**		**14 16 51.0**	**+1.5**
	comp=N,0.9nm,0.7s,baz=248,slow=7.8,SNR=7.0								
MKAR	**Makanchi Array**	**29.77**	**54**	P		**P**		**14 17 29.4**	**+1.6**
	comp=N,2.0nm,0.7s,baz=250,slow=8.1,SNR=20								
ZALV	**Zalesovo Beam**	**33.44**	**41**	P		**P**		**14 18 01.4**	**+1.6**
	comp=N,1.0nm,0.5s,baz=251,slow=7.5,SNR=4.2								
CMAR	**Chiang Mai Arr**	**48.85**	**95**	P		**P**		**14 20 06.1**	**-0.8**
	comp=N,0.6nm,0.4s,baz=290,slow=8.2,SNR=6.4								
CMAR				PcP		**PcP**		**14 21 28.8**	**-2.8**
	comp=N,0.3nm,0.3s,baz=284,slow=3.6,SNR=4.6								
PSI	**Prapat**	**57.60**	**111**	LR		LR		14 48 00.5	
	comp=N,95nm,18.6s,baz=270,slow=38								
ILAR	**Eielson Array**	**81.08**	**6**	P		**P**		**14 23 36.3**	**+0.3**
	comp=N,0.3nm,0.6s,baz=311,slow=4.3,SNR=3.6								
JARK						*e*S		**Sn**	**14 12 55.0**	**+0.2**
JOT	**Ohata**	**0.80**	**266**	⇓P		**Pn**		**14 12 45.8**	**0.0**
JOT						*e*S		**Sn**	**14 12 57.3**	**+0.3**
JKB	**Kayabe**	**0.93**	**299**	⇓P		**Pn**		**14 12 47.0**	**-0.4**
JKB						*e*S		**Sn**	**14 12 59.5**	**-0.3**
JNBK	**Urakawa-nobuka**	**0.97**	**29**	P		**Pn**		**14 12 47.4**	**-0.5**
JNBK						*e*S		**Sn**	**14 13 00.7**	**-0.1**
JEM	**Erimo**	**0.97**	**53**	P		**Pn**		**14 12 47.5**	**-0.4**
JTM	**Tenmabayashi**	**1.02**	**231**	⇓P		**Pn**		**14 12 48.9**	**+0.3**
JTM						*e*S		**Sn**	**14 13 02.5**	**+0.5**
JANG	**Nango**	**1.16**	**203**	⇑P		**Pn**		**14 12 50.3**	**-0.1**
JANG						*e*S		**Sn**	**14 13 04.7**	**-0.5**
JIAM	**Iburiatsuma**	**1.19**	**353**	P		**Pn**		**14 12 51.7**	**+0.8**
JIAM						*e*S		**Sn**	**14 13 08.3**	**+2.2**
JSR	**Shiriuchi**	**1.28**	**275**	P		**Pn**		**14 12 52.3**	**+0.3**
JSR						*e*S		**Sn**	**14 13 09.0**	**+0.9**
JNB	**Noboribetsu**	**1.31**	**322**	P		**Pn**		**14 12 51.8**	**-0.6**
JNB						*e*S		**Sn**	**14 13 08.2**	**-0.7**
JBT2	**Biratori 2**	**1.35**	**8**	P		**Pn**		**14 12 53.3**	**+0.2**
JBT2						*e*S		**Sn**	**14 13 10.5**	**+0.5**
JYM2	**Yakumo 2**	**1.47**	**298**	⇓P		**Pn**		**14 12 55.1**	**+0.5**
JEW	**Eniwo**	**1.49**	**341**	⇓P		**Pn**		**14 12 55.2**	**+0.3**
JEW						*e*S		**Sn**	**14 13 14.0**	**+0.8**
JCH	**Churui**	**1.50**	**38**	P		**Pn**		**14 12 55.5**	**+0.5**
JAH	**Hinai**	**1.68**	**222**	P		**Pn**		**14 12 58.4**	**+1.0**
JFR	**Furan**	**1.76**	**11**	P		**Pn**		**14 12 59.0**	**+0.4**
JOM	**Ohasama**	**2.06**	**198**	P		**Pn**		**14 13 02.6**	**-0.1**
JOSM	**Okushiri--Mats**	**2.08**	**289**	P		**Pn**		**14 13 02.5**	**-0.4**
JOSM						*e*S		**Sn**	**14 13 27.4**	**-0.2**
ASAJ	**Asahikawa** 2.1nm,0.3s,baz=194,slow=18,SNR=36	**2.70**	**7**	P		**Pn**		**14 13 11.7**	**+0.3**
ASAJ						S		**Sn**	**14 13 45.0**	**+2.0**
	2.3nm,0.3s,baz=241,slow=31,SNR=12								
MJAR	**Matsushiro Arr**	**5.76**	**213**	P		**Pn**		**14 13 55.8**	**+2.5**
	0.3nm,0.3s,baz=18,slow=14,SNR=4.7								
KSRS	**Korea Array**	**11.67**	**255**	P		Pn		14 15 20.1	+5.9
	0.4nm,0.3s,baz=63,slow=14,SNR=6.8								
KSRS						LR	LR	14 18 53.4	
	comp=Z,26nm,21.1s,baz=130,slow=32								
SONM	**Songino Array** 0.4nm,0.8s,baz=81,slow=8.1,SNR=4.0	**26.04**	**296**	P		**P**		**14 17 58.6**	**+0.2**
H11N2	**WAKE ISLAND Hy** baz=321	**30.20**	**128**	T		T		14 51 01.5	
H11N1	**WAKE ISLAND Hy** baz=321	**30.21**	**128**	T		T		14 51 05.2	
H11N3	**WAKE ISLAND Hy** baz=321	**30.21**	**128**	T		T		14 51 04.2	
H11S1	**WAKE ISLAND Hy** baz=324	**31.04**	**130**	T		T		14 52 03.0	
H11S3	**WAKE ISLAND Hy** baz=324	**31.04**	**130**	T		T		14 52 08.4	
H11S2	**WAKE ISLAND Hy** baz=324	**31.06**	**130**	T		T		14 52 09.8	
ZALV	**Zalesovo Beam** 0.9nm,0.6s,baz=91,slow=7.2,SNR=3.4	**39.47**	**309**	P		**P**		**14 19 54.5**	**-0.6**
MKAR	**Makanchi Array** 0.7nm,0.6s,baz=91,slow=8.0,SNR=5.9	**42.38**	**298**	P		**P**		**14 20 18.7**	**-0.5**
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=48,slow=7.4,SNR=8.2	**43.28**	**251**	P		**P**		**14 20 27.6**	**+0.8**
BVAR	**Borovoye Array** 0.5nm,0.5s,baz=85,slow=8.6,SNR=4.9	**48.10**	**310**	P		**P**		**14 21 04.3**	**0.0**
WRA	**Warramunga Arr** 0.4nm,0.4s,baz=7.8,slow=7.7,SNR=16	**61.49**	**188**	P		**P**		**14 22 40.2**	**-1.2**
ASAR	**Alice Springs** 0.4nm,0.9s,baz=8.8,slow=8.5,SNR=5.8	**65.22**	**188**	P		**P**		**14 23 05.7**	**-0.3**
AKASG	**Malin Array Be** 0.6nm,0.4s,baz=41,slow=6.4,SNR=3.1	**71.17**	**322**	P		**P**		**14 23 42.3**	**-0.7**

*ISCJB **19** 14:12:29.7±0.4, 41.°043N±0.°03×142.°11E±0.°05, h66km±4km, mb3.5/8, Error ellipse: s-maj=7.0km s-min=4.1km az=25.8*
*JMA **19** 14:12:30.1±0.1, 41.°44N×142.°12E, h60km±2km, M3.3*
*IDC **19** 14:12:32.1±1.8, 41.°47N×142.°37E, h82km±17km, mb3.4/8, mb1 3.5/11, mb1mx3.3/45, mbtmp3.7/11, MS2.5/1, Ms1 2.5/1, ms1mx2.2/34, Error ellipse: s-maj=27.7km s-min=13.4km az=94.0*

ISC 19 14:12:30.5±1.0, 41.°44N±0.°03×142.°11E±0.°05, h55km±9km, n36, σ0°81/42, mb3.7/8, 1C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAHD	**Aomorihigashid**	**0.61**	**254**	⇓P		**Pn**		**14 12 43.5**	**+0.2**
JARK	**Aomorirokkasho**	**0.71**	**233**	P		**Pn**		**14 12 44.4**	**-0.1**

*ISCJB **19** 14:32:07.8±0.5, 6.°66S±0.°05×71.°01E±0.°06, h10km, mb4.1/11, MS3.3/4, Error ellipse: s-maj=9.5km s-min=4.5km az=143.4*
*IDC **19** 14:32:08.3±0.8, 6.°71S×71.°00E, h0km, mb3.9/9,

GAZ				SG	Sg	14 44 57.9	+0.3	
KMRS	Kahramanmaras	0.26	318	PG	Pg	14 44 56.4	-0.6	
KMRS				SG	Sg	14 45 00.8	+0.2	
KUZU	Kuzuini	0.54	184	*i* P	Pb	14 45 02.7	-0.3	
KUZU				*i* S	Sb	14 45 10.6	-0.2	
ANDN	Andirin	0.68	294	*i* P	Pg	14 45 04.3	-0.3	
ANDN				*i* S	Sg	14 45 13.8	+0.3	
ATAB	Bozova	0.95	80	*i* P	Pg	14 45 09.3	-0.5	
ATAB				*i* S	Sb	14 45 22.3	-0.2	
KOZT	Kozan	1.05	280	PG	Pg	14 45 11.8	+0.1	
KOZT				SG	Sn	14 45 27.3	+0.5	
SAIM	ADANA	1.06	309	*i* P	Pg	14 45 11.7	-0.3	
SAIM				*i* S	Sn	14 45 27.2	-0.1	
AKCD	Akcadag	1.17	33	*i* P	Pn	14 45 13.8	-0.2	
AKCD				*i* S	Sn	14 45 30.1	+0.1	
TAHT	Tahtakopru-Hat	1.20	219	PN	Pg	14 45 14.6	+0.1	
SURC	SANLIURFA_SURC	1.27	109	*i* P	Pn	14 45 15.1	-0.1	
SURC				*i* S	Sg	14 45 32.7	+0.4	
DARE	Darende-Malaty	1.29	13	PN	Pn	14 45 15.3	-0.3	
URFA	Urfa	1.36	84	PN	Pn	14 45 16.3	-0.2	
HEKM	Malatya_Hekimh	1.70	23	*i* P	Pb	14 45 23.2	+0.3	
HEKM				*i* S	Sg	14 45 47.5	+1.2	
KEMA	Kemaliye	2.23	28	*i* P	Pg	14 45 40.9	+6.5	
KEMA				*i* S	Sg	14 46 03.6	+0.3	

IDC ***19*** *14:46:26.6±1.4, 10°.73S×113°.77E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.8/37, mbtmp3.9/10, Error ellipse: s-maj=58.5km s-min=16.6km az=50.0*

ISCJB ***19*** *14:46:27.4±0.4, 10°.88S±0°.04×113°.66E±0°.03, h25km, mb3.9/12, Error ellipse: s-maj=6.0km s-min=4.7km az=13.0*

NEIC ***19*** *14:46:28.4±3.2, 10°.88S×113°.63E, h16km±22km, mb4.1/5, Error ellipse: s-maj=13.1km s-min=6.1km az=220.0*

DJA ***19*** *14:46:30.2±1.1, 11°.5±6°×11°.4E±°, h34km±26km, M4.3/21, mb4.5/7, mB5.0/4, MLv4.3/21, Mw(mB)4.3/4*

ISC 19 14:46:29.1±0.7, 10°.89S±0°.08×113°.76E±0°.06, h25km, n63, σ1°38/62, mb4.0/12, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.44**	**9**	*e*Pn	**Pn**	**14 47 07.2**	**-0.2**
JAGI	**Jajag, Banyuwa**	**2.44**	**9**	P	**Pn**	**14 47 07.1**	**-0.3**
JAGI				S	**Sn**	**14 47 36.3**	**-0.1**
IGBI	**Denpasar**	**2.47**	**34**	P	**Pn**	**14 47 08.4**	**+0.6**
GMJI	**Gumukmas**	**2.62**	**353**	P	**Pn**	**14 47 08.9**	**-1.0**
GMJI				S	**Sn**	**14 47 40.5**	**-0.4**
DNP	**Denpasar**	**2.62**	**33**	P	**Pn**	**14 47 10.0**	**+0.1**
DNP				S	**Sn**	**14 47 41.6**	**+0.7**
BLJI	**Banyuglugur**	**3.13**	**357**	P	**Pn**	**14 47 16.6**	**-0.3**
SRBI	**Singaraja**	**3.13**	**27**	P	**Pn**	**14 47 17.7**	**+0.8**
PWJI	**Pagerwojo**	**3.44**	**326**	P	**Pn**	**14 47 18.4**	**-2.8**
PCJI	**Pacitan**	**3.70**	**316**	P	**Pn**	**14 47 23.9**	**-0.8**
TWSI	**Taliwang, Sumb**	**3.75**	**55**	P	**Pn**	**14 47 26.3**	**+0.9**
KMMI	**Kalianget**	**3.82**	**3**	P	**Pn**	**14 47 26.5**	**+0.1**
WOJI	**Wonogiri, Jawa**	**4.13**	**317**	P	**Pn**	**14 47 29.8**	**-0.9**
GRJI	**Gresik**	**4.15**	**342**	P	**Pn**	**14 47 30.1**	**-0.8**
NGJI	**Ngawi**	**4.17**	**327**	P	**Pn**	**14 47 30.3**	**-1.0**
UGM	**Wanagama**	**4.36**	**313**	*e*Pn	**Pn**	**14 47 33.3**	**-0.5**
UGM	**Wanagama**	**4.36**	**313**	P	**Pn**	**14 47 33.1**	**-0.7**
PLAI	**Plampang**	**4.46**	**63**	P	**Pn**	**14 47 35.7**	**+0.6**
WBSI	**Waikabubak, Su** 23nm,0.6s,0.2nm	**5.68**	**78**	P	**Pn**	**14 47 52.7**	**+0.7**
KPJI	**Karang Pucung**	**5.94**	**306**	P	**Pn**	**14 47 55.5**	**0.0**
CMJI	**Cimerak**	**6.09**	**300**	P	**Pn**	**14 47 56.7**	**-0.8**
CISI	**Cisompet, Garu**	**6.74**	**299**	*e*Pn	**Pn**	**14 48 05.0**	**-1.6**
CISI	**Cisompet, Garu** 37nm,0.7s,2μm	**6.74**	**299**	P	**Pn**	**14 48 06.0**	**-0.6**
CNJI	**Cibinong**	**7.46**	**298**	P	**Pn**	**14 48 15.0**	**-1.4**
XMIS	**Christmas Isla**	**7.98**	**272**	*e*Pn	**Pn**	**14 48 20.9**	**-2.7**
EDFI	**Ende, Flores**	**8.10**	**75**	P	**Pn**	**14 48 26.8**	**+1.5**
BKSI	**Bulukumba**	**8.38**	**49**	P	**Pn**	**14 48 30.5**	**+1.4**
BNSI	**Bone**	**9.01**	**45**	P	**Pn**	**14 48 37.2**	**-0.4**
CGJI	**Cibinong**	**9.04**	**297**	P	**Pn**	**14 48 37.6**	**-0.5**
BATI	**Baumata** 2.0nm,0.3s,baz=330,slow=20,SNR=3.2	**9.76**	**87**	Sn	**Sn**	**14 50 30.6**	**-6.3**
MBWA	**Marble Bar**	**11.71**	**151**	*e*Pn	Pn	14 49 10.3	-4.3
FITZ	**Fitzroy Crossi**	**13.54**	**123**	*e*Pn	**Pn**	**14 49 38.4**	**-1.3**
IPM	**Ipoh** 10nm,1.1s	**19.85**	**320**	*e*P	**Pn**	**14 50 58.9**	**-1.3**
FAKI	**Fak Fak** 9.9nm,0.9s	**19.97**	**68**	*e*P	**P**	**14 50 58.4**	**-1.4**
WR1	**Warramunga Arr** 16nm,1.8s	**21.76**	**117**	*e*P	**P**	**14 51 22.0**	**+2.9**
WRA	**Warramunga Arr** 1.8nm,0.6s,baz=290,slow=11,SNR=12	**21.76**	**117**	P	**P**	**14 51 22.0**	**+2.9**
ASAR	**Alice Springs** 0.9nm,0.5s,baz=299,slow=8.6,SNR=18	**23.01**	**126**	P	**P**	**14 51 34.1**	**+1.7**
AS31	**Alice Springs** 3.3nm,1.6s	**23.01**	**126**	*e*P	**P**	**14 51 33.5**	**+1.1**
CM01	**Chiang Mai Arr**	**32.59**	**333**	*e*P	**P**	**14 52 59.4**	**+0.6**
CMAR	**Chiang Mai Arr** 0.9nm,0.7s,baz=168,slow=8.1,SNR=9.5	**32.62**	**333**	P	**P**	**14 53 00.2**	**+1.1**
STKA	**Stephens Creek** 1.2nm,0.7s,baz=322,slow=9.5,SNR=6.6	**33.11**	**133**	P	**P**	**14 53 05.0**	**+1.7**
STKA	**Stephens Creek** 3.8nm,1.5s	**33.11**	**133**	*e*P	**P**	**14 53 04.2**	**+0.9**
H08S2	**Diego Garcia H** baz=98,slow=74	**40.84**	**271**	T	T	15 37 47.3	
H08S3	**Diego Garcia H** baz=98,slow=74	**40.85**	**271**	T	T	15 37 54.7	
H08S1	**Diego Carcia H** baz=98	**40.85**	**271**	T	T	15 37 45.9	
JIRN	**Jiri** 12nm,0.6s	**46.72**	**326**	*e*P	**P**	**14 54 57.0**	**+0.3**
GUN	**Gumba** 12nm,0.5s	**47.09**	**326**	*e*P	**P**	**14 54 59.8**	**+0.2**
PKI	**Pulchoki**	**47.09**	**325**	*e*P	**P**	**14 54 59.1**	**-0.5**
PKIN	**Phulchoki**	**47.10**	**325**	*e*P	**P**	**14 54 59.2**	**-0.4**
DMN	**Daman**	**47.29**	**325**	*e*P	**P**	**14 55 00.8**	**-0.2**
KOLN	**Koldanda** 6.9nm,0.5s	**48.28**	**323**	*e*P	**P**	**14 55 08.5**	**-0.2**
DANN	**Dangsing** 12nm,0.7s	**48.62**	**324**	*e*P	**P**	**14 55 11.3**	**-0.1**
PYUN	**Piuthan**	**48.88**	**323**	*e*P	**P**	**14 55 11.7**	**-1.6**
KSAR	**Wonju Array Be**	**49.87**	**15**	P	**P**	**14 55 21.0**	**+0.6**
KSRS	**Korea Array** 1.1nm,0.7s,baz=199,slow=6.3,SNR=3.5	**49.89**	**15**	P	**P**	**14 55 21.0**	**+0.4**
USRK	**Ussuriysk Ar.** 1.2nm,0.7s,baz=182,slow=9.3,SNR=4.2	**57.28**	**16**	P	**P**	**14 56 14.3**	**-0.3**
SONA0	**Songino Array**	**58.83**	**354**	*e*P	**P**	**14 56 25.8**	**+0.2**
SONM	**Songino Array** 1.1nm,0.6s,baz=175,slow=8.5,SNR=6.3	**58.83**	**354**	P	**P**	**14 56 25.8**	**+0.2**
MK32	**Makanchi Array**	**63.95**	**336**	*e*P	**P**	**14 57 00.3**	**+0.2**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=146,slow=7.3,SNR=9.0	**63.95**	**336**	P	**P**	**14 57 00.3**	**+0.2**
ZALV	**Zalesovo Beam** 1.6nm,0.4s,baz=168,slow=3.7,SNR=8.1	**69.11**	**342**	P	**P**	**14 57 32.6**	**-0.3**
ZAA1	**Zalesovo Array**	**69.11**	**342**	*e*P	**P**	**14 57 32.6**	**-0.3**
GEYT	**Alibeck** 0.8nm,0.6s,baz=123,slow=5.3,SNR=2.9	**71.13**	**316**	P	**P**	**14 57 47.2**	**+1.5**
ABKAR	**Akbulak array**	**76.23**	**327**	*e*P	**P**	**14 58 15.7**	**+0.3**

NNC ***19*** *14:50:14.5±0.4, 42°.89N×71°.52E, h0km, mb2.8, mpv2.0, Error ellipse: s-maj=12.2km s-min=2.0km az=21.0*

ISCJB ***19*** *14:50:15.9±0.6, 42°.99N±0°.05×71°.49E±0°.04, h10km, Error ellipse: s-maj=7.5km s-min=4.4km az=8.6*

KRNET ***19*** *14:50:15.6±0.1, 42°.95N×71°.63E, h18km, mb2.2*

ISC 19 14:50:15.2±0.9, 42°.94N±0°.06×71°.56E±0°.04, h10km, n15, σ1°16/28, 15C-15D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array** 0.4nm,0.4s,baz=104,slow=17,SNR=70	**0.78**	**283**	⇑P	**Pg**	**14 50 29.4**	**-0.9**
KK31				⇑S	**Sg**	**14 50 40.3**	**-0.2**
MNAS	**Manas** 2.3nm,0.3s,baz=100,slow=31,SNR=21	**0.83**	**122**	⇓P	**Pg**	**14 50 30.7**	**-0.6**
MNAS				⇑S	**Sg**	**14 50 41.8**	**-0.3**
MNAS	**Manas** 2.5nm,0.3s	**0.83**	**122**	⇓*i*P	**Pg**	**14 50 30.6**	**-0.6**
MNAS				⇓*i*S	**Sg**	**14 50 41.8**	**-0.3**
ARK	**Arkit** baz=25	**1.18**	**165**	⇓*i*P	**Pn**	**14 50 38.9**	**+1.0**
ARK				⇓*i*S	**Sn**	**14 50 55.5**	**+1.5**
EKS2	**Erkin-Say** baz=67	**1.66**	**99**	⇑*i*P	**Pb**	**14 50 45.7**	**-0.2**
EKS2				⇑*i*S	**Sg**	**14 51 08.0**	**-0.5**
AML	**Almayashu** baz=0.0	**1.77**	**116**	⇑*i*P	**Pb**	**14 50 47.6**	**-0.5**
AML				⇑*i*S	**Sg**	**14 51 11.0**	**-1.3**
ARSB	**Arslanbob** baz=18	**1.93**	**146**	⇑*i*P	**Pb**	**14 50 50.6**	**0.0**
ARSB				⇑*e*S	**Sg**	**14 51 16.1**	**-1.1**
USP	**Ospenovka** baz=48	**2.18**	**80**	⇓*i*P	**Pb**	**14 50 54.0**	**-0.8**
USP				⇓*i*S	**Sb**	**14 51 22.1**	**+0.2**
AAK	**Ala-Archa** baz=81	**2.18**	**97**	⇓Pn	**Pb**	**14 50 54.6**	**-0.3**
AAK				⇑Lg	Lg	14 51 24.6	
AAK	**Ala-Archa** baz=98	**2.18**	**97**	⇓*i*P	**Pb**	**14 50 54.0**	**-0.9**
AAK				⇓*i*S	**Sb**	**14 51 22.0**	**-0.1**
UCH	**Uchtor** baz=8.0	**2.30**	**107**	⇓*i*P	**Pb**	**14 50 55.6**	**-1.4**
UCH				⇓*i*S	**Sb**	**14 51 25.0**	**-0.6**
ARLS	**Aral** baz=18	**2.31**	**117**	⇑*i*P	**Pb**	**14 50 56.0**	**-1.1**
ARLS				⇑*i*S	**Sb**	**14 51 25.6**	**-0.2**
KBK	**Karagaybulak** baz=96	**2.51**	**95**	⇑*i*P	**Pb**	**14 50 58.5**	**-2.0**
KBK				⇑*i*S	**Sb**	**14 51 29.9**	**-1.6**
TKM2	**Tokmak 2** 0.7nm,0.6s	**2.97**	**89**	⇑Pn	**Pn**	**14 51 03.4**	**+0.9**
TKM2				⇓Lg	Lg	14 51 48.4	
TKM2	**Tokmak 2** 1.2nm,0.6s	**2.97**	**89**	⇓*i*P	**Pn**	**14 51 04.8**	**+2.2**
TKM2				⇓*i*S	**Sn**	**14 51 41.0**	**+2.7**

DJA ***19*** *14:51:21.4±1.8, 4°.5±5°×14°.1E±1°.4, h35km±15km, M4.6/6, mB4.8/1, mb4.6/6, MLv4.6/5, Mw(mB)4.0/1*

IDC ***19*** *14:51:24.6±2.7, 3°.43S×140°.21E, h24km±22km, mb3.6/3, mb1 4.0/7, mb1mx3.7/29, mbtmp4.0/7, ML4.0/3, MS3.4/9, Ms1 3.4/9, ms1mx3.1/33, Error ellipse: s-maj=27.4km s-min=17.8km az=98.0*

ISCJB ***19*** *14:51:26.6±0.5, 3°.54S±0°.04×140°.45E±0°.05, h39km, mb3.4/2, MS3.5/5, Error ellipse: s-maj=7.9km s-min=6.1km az=155.8*

ISC 19 14:51:27.2±0.7, 3°.57S±0°.06×140°.41E±0°.07, h39km, n21, σ3°26/21, MS3.4/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.00**	**346**	P	**Pn**	**14 51 44.7**	**0.0**
JAY	**Jayapura** 24nm,0.3s,baz=203,slow=11,SNR=100	**1.09**	**16**	Pg	**Pn**	**14 51 43.5**	**-2.4**
JAY				Lg	Lg	14 51 58.0	
JAY	**Jayapura** 98nm,0.3s,baz=122,slow=19,SNR=22	**1.09**	**16**	P	**Pn**	**14 51 44.1**	**-1.9**
JAY				S	**Sn**	**14 51 58.0**	**-1.8**
SMPI	**Sarmi**	**2.31**	**313**	P	**Pn**	**14 52 06.6**	**+3.9**
BAKI	**Biak** 68nm,1.1s	**4.90**	**299**	P	**Pn**	**14 52 42.3**	**+4.0**
RKPI	**Ransiki, Papua** 30nm,0.7s	**6.55**	**288**	P	**Pn**	**14 53 05.0**	**+4.0**
FAKI	**Fak Fak** 23nm,0.8s	**8.17**	**274**	P	**Pn**	**14 53 27.2**	**+3.9**
PMG	**Port Moresby** 0.5nm,0.3s,baz=338,slow=19,SNR=3.3	**8.87**	**131**	Pn	**Pn**	**14 53 35.5**	**+2.7**
PMG				Sn	**Sn**	**14 55 16.1**	**+4.6**
PMG	0.3nm,0.3s,baz=307,slow=20,SNR=2.4			LR	LR	14 58 37.6	
SIJI	comp=Z,169nm,18.1s,baz=310,slow=48 **Sorong** 4.1nm,0.3s,baz=28,slow=22,SNR=10.0	**9.52**	**286**	Pn	**Pn**	**14 53 44.4**	**+2.6**
SIJI				LR	LR	14 57 37.0	
SOEI	comp=Z,114nm,20.1s,baz=38,slow=40 **Soe**	**17.16**	**248**	P	**P**	**14 55 24.8**	**-0.8**
WRA	**Warramunga Arr** 0.9nm,0.3s,baz=24,slow=12,SNR=31	**17.32**	**200**	P	**Pn**	**14 55 25.3**	**-0.8**
WRA				S	**Sn**	**14 58 30.1**	**-7.8**
WRA	0.2nm,0.3s,baz=10,slow=23,SNR=4.1			Lg	Lg	15 00 35.5	
WRA	0.1nm,0.3s,baz=17,slow=26,SNR=4.7			LR	LR	15 02 35.6	
CTA	comp=Z,108nm,18.8s,baz=270,slow=39 **Charters Tower** 0.1nm,0.3s,baz=326,slow=15,SNR=2.3	**17.38**	**161**	P	**P**	**14 55 28.6**	**+0.7**
GUMO	**Guam** comp=Z,54nm,20.4s,baz=188,slow=36	**17.61**	**14**	LR	LR	15 01 50.0	
BATI	**Baumata** 1.3nm,0.3s,baz=66,slow=12,SNR=1.9	**17.87**	**248**	P	**Pn**	**14 55 30.4**	**-2.6**
MRSI	**Marisa**	**18.89**	**282**	P	**Pn**	**14 55 46.8**	**+1.5**
ASAR	**Alice Springs** 12nm,0.8s,baz=26,slow=8.6,SNR=49	**20.95**	**197**	P	**P**	**14 56 06.7**	**-0.2**
ASAR	2.1nm,0.9s,baz=17,slow=26,SNR=6.2			S	**S**	**14 59 56.3**	**-2.0**
ASAR	comp=Z,95nm,19.6s,baz=339,slow=36			LR	LR	15 04 03.5	
STKA	**Stephens Creek** comp=Z,86nm,20.1s,baz=25,slow=39	**28.18**	**178**	LR	LR	15 10 01.2	
RPZ	**Rata Peaks** comp=Z,219nm,18.6s,baz=12,slow=34	**48.30**	**150**	LR	LR	15 19 04.4	
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=126,slow=4.2,SNR=1.9	**71.50**	**322**	P	**P**	**15 02 41.5**	**-2.5**
MKAR				LR	LR	15 34 12.0	
WSAR	comp=Z,21nm,20.1s,baz=267,slow=36 **Wadi Sarin** comp=Z,21nm,21.8s,baz=198,slow=37	**83.85**	**294**	LR	LR	15 42 50.8	
ILAR	**Eielson Array** 0.4nm,0.7s,baz=257,slow=5.3,SNR=3.9	**85.91**	**24**	P	**P**	**15 04 02.4**	**-0.4**

IDC 19 15:00:02.0±6.2, 5°.45S×151°.25E, h75km±50km, mb3.4/3, mb1 3.7/4, mb1mx3.2/33, mbtmp3.8/4, ML1.7/1, Error ellipse: s-maj=121.4km s-min=34.9km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 1.5nm,0.3s,baz=44,slow=9.9,SNR=9.0	**5.65**	**226**	P	Pn	15 01 24.7	+1.1
PMG				S	Sn	15 02 26.8	-0.3
WRA	**Warramunga Arr** 1.0nm,0.3s,baz=56,slow=15,SNR=3.8 3.2nm,0.8s,baz=53,slow=10.0,SNR=13	**21.87**	**227**	P	P	15 04 48.9	0.0
ASAR	**Alice Springs** 1.1nm,0.6s,baz=53,slow=9.7,SNR=10	**24.64**	**221**	P	P	15 05 16.1	+0.3
ILAR	**Eielson Array** 0.3nm,0.7s,baz=259,slow=5.0,SNR=4.3	**83.34**	**22**	P	P	15 12 19.8	-0.7
TORD	**Torodi Ar. Bea** 0.2nm,0.4s,baz=92,slow=3.1,SNR=3.7	**149.03**	**286**	PKPbc	PKPbc	15 19 42.6	0.0

IDC ***19*** *15:00:45.7±0.7, 17°.64S×173°.07W, h0km, mb4.2/13, mb1 4.4/14, mb1mx4.2/34, mbtmp4.2/14, ML3.2/1, MS3.9/20, Ms1 3.9/20, ms1mx3.7/40, Error ellipse: s-maj=28.6km s-min=17.1km az=153.0*

NEIC ***19*** *15:00:46.8±0.4, 17°.59S×173°.15W, h10km, mb4.6/7, Error ellipse: s-maj=16.4km s-min=10.7km az=147.0*

WEL ***19*** *15:01:01.7±1.1, 18°.5±16°×17°.4W±5°.4, h33km*

ISC 19 15:00:48.9±0.5, 17°.33S±0°.08×173°.1W±0°.1, h28km, n78, σ2°78/70, mb4.5/17, MS3.9/18, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 6.1nm,0.3s,baz=215,slow=3.6,SNR=17	**3.62**	**20**	Pn	**Pn**	**15 01 39.3**	**-3.9**
AFI	24nm,0.3s,baz=27,slow=24,SNR=9.7			Sn	**Sn**	**15 02 19.8**	**-5.2**
AFI	23nm,0.3s,baz=261,slow=17,SNR=5.6			T	T	15 05 40.1	
AFI	**Afiamalu**	**3.62**	**20**	*e*Pn	**Pn**	**15 01 40.1**	**-3.1**
AFI				Sn	**Sn**	**15 02 19.8**	**-5.2**
AFI				TT		15 05 40.1	
GLKZ	**Green Lake**	**12.69**	**200**	S	Sn	15 05 56.1	-12
RAR	**Rarotonga** 3.3nm,0.3s,baz=251,slow=12,SNR=8.7	**13.12**	**109**	Pn	Pn	15 03 44.9	-8.6
RAR	comp=Z,247nm,18.2s,baz=288,slow=33			LR	LR	15 07 54.0	
RAR	**Rarotonga**	**13.12**	**109**	*e*Pn	Pn	15 03 44.1	-9.4
DZM	**Mont Dzumac** 0.1nm,0.3s,baz=94,slow=19,SNR=3.9	**19.86**	**253**	P	**Pn**	**15 05 19.1**	**-0.7**
DZM	comp=Z,391nm,18.9s,baz=79,slow=34			LR	LR	15 11 49.4	
DZM	**Mont Dzumac** 359nm,24.0s	**19.86**	**253**	*e*LR	LR	15 09 39.8	
DZM	**Mont Dzumac** 8.3nm,1.0s	**19.86**	**253**	*e*P	**Pn**	**15 05 20.5**	**+0.7**
GRZ	**Great Barrier**	**21.42**	**206**	P	**P**	**15 05 34.3**	**-0.4**
OUZ	**Omahuta**	**21.42**	**211**	P	**P**	**15 05 33.5**	**-1.2**
WCZ	**Waipu Caves**	**21.65**	**209**	P	**P**	**15 05 37.2**	**0.0**
KUZ	**Kuaotunu**	**21.74**	**205**	P	**P**	**15 05 39.0**	**+0.9**
WMGZ	**Waiomatatini S**	**21.75**	**198**	P	**P**	**15 05 40.3**	**+2.2**
HAZ	**Te Kaha**	**21.89**	**200**	P	**P**	**15 05 40.2**	**+0.6**
HAZ				S	**S**	**15 09 30.1**	**-10**
PKGZ	**Pakihiroa**	**21.91**	**199**	P	**P**	**15 05 44.3**	**+4.3**
PKGZ				S	S	15 09 30.1	-11
PUZ	**Puketiti**	**22.03**	**199**	P	**P**	**15 05 43.2**	**+2.0**
TWGZ	**Tauwhareparae**	**22.21**	**199**	P	**P**	**15 05 46.5**	**+3.3**
PPT2	**Papeete2** 372nm,25.2s	**22.40**	**94**	*e*LR	LR	15 10 56.0	
PPT	**Papeete** comp=Z,168nm,18.3s,baz=256,slow=32	**22.40**	**94**	LR	LR	15 12 49.7	
MWZ	**Matawai**	**22.50**	**200**	P	**P**	**15 05 46.7**	**+0.4**
MWZ				S	**S**	**15 09 44.8**	**-6.7**
URZ	**Urewera** 14nm,0.5s,baz=27,slow=4.5,SNR=10.0	**22.56**	**201**	P	**P**	**15 05 45.7**	**-1.3**
URZ	4.8nm,0.8s,baz=341,slow=18,SNR=3.1			S	**S**	**15 09 45.9**	**-6.7**
URZ	**Urewera** 108nm,1.8s	**22.56**	**201**	*e*P	**P**	**15 05 45.6**	**-1.3**
URZ				*e*S	**S**	**15 09 45.9**	**-6.7**
URZ	**Urewera**	**22.56**	**201**	P	**P**	**15 05 46.3**	**-0.6**
RAGZ	**Rawiri**	**22.68**	**200**	P	**P**	**15 05 49.2**	**+0.9**
TOZ	**Tahuroa Road**	**22.68**	**204**	P	**P**	**15 05 48.9**	**+0.7**
RIGZ	**Rimuhau**	**22.76**	**199**	P	**P**	**15 05 52.3**	**+3.2**
TBI	**Tubuai** 446nm,28.8s	**22.91**	**109**	*e*LR	LR	15 11 13.5	
RTZ	**Ruatahuna**	**22.93**	**200**	P	**P**	**15 05 51.1**	**+0.2**
SNGZ	**Shannon Statio**	**22.96**	**200**	P	**P**	**15 05 55.1**	**+3.9**
RAHZ	**Arahi**	**23.17**	**200**	P	**P**	**15 05 55.6**	**+2.4**
MTHZ	**Maungataniwha**	**23.19**	**200**	P	**P**	**15 05 54.1**	**+0.6**
MTHZ				S	**S**	**15 10 01.1**	**-2.4**
BKZ	**Black Stump Fm** 34nm,1.3s	**23.59**	**201**	*e*P	**P**	**15 05 55.5**	**-2.0**
BKZ	**Black Stump Fm**	**23.59**	**201**	P	**P**	**15 05 56.0**	**-1.4**
HIZ	**Hauiti**	**23.61**	**204**	P	**P**	**15 05 59.0**	**+1.5**
PXZ	**Pawanui**	**24.25**	**199**	P	**P**	**15 06 05.2**	**+1.6**
BFZ	**Birch Farm**	**25.04**	**199**	P	**P**	**15 06 11.1**	**+0.3**
MRZ	**Mangatainoka R**	**25.24**	**201**	P	**P**	**15 06 13.9**	**+1.4**
MRZ				S	**S**	**15 10 37.1**	**+0.7**
HNR	**Honiara** comp=Z,447nm,18.4s,baz=130,slow=33	**27.38**	**283**	LR	LR	15 15 54.9	
RPZ	**Rata Peaks** 6.7nm,0.8s,baz=351,slow=6.7,SNR=2.9	**29.54**	**204**	P	**P**	**15 06 54.6**	**+3.5**
RKT	**Rikitea** 266nm,26.8s	**36.12**	**106**	*e*LR	LR	15 17 11.7	
CTA	**Charters Tower** 1.7nm,0.6s,baz=82,slow=11,SNR=4.6	**38.57**	**259**	P	**P**	**15 08 08.8**	**-0.9**
CTA	comp=Z,267nm,18.1s,baz=42,slow=36			LR	LR	15 23 47.0	
STKA	**Stephens Creek** 2.2nm,0.9s,baz=33,slow=12,SNR=4.3	**43.39**	**242**	P	**P**	**15 08 47.8**	**-1.5**
STKA	comp=Z,135nm,18.0s,baz=41,slow=34			LR	LR	15 25 10.7	
STKA	**Stephens Creek** 3.6nm,1.5s	**43.39**	**242**	*e*P	P	15 08 44.0	-5.2
WB2	**Warramunga Arr**	**49.74**	**258**	*e*P	**P**	**15 09 37.5**	**-1.7**
WRAB	**Tennant Creek** 11nm,1.4s	**49.74**	**258**	*e*P	**P**	**15 09 37.3**	**-1.9**
WR1	**Warramunga Arr**	**49.75**	**258**	*e*P	**P**	**15 09 38.3**	**-1.0**
WRA	**Warramunga Arr** 3.6nm,0.8s,baz=96,slow=8.3,SNR=25	**49.75**	**258**	P	**P**	**15 09 38.3**	**-1.0**
WRA	comp=Z,176nm,19.2s,baz=105,slow=35			LR	LR	15 29 40.1	
AS01	**Alice Springs**	**49.81**	**253**	*e*P	**P**	**15 09 38.2**	**-1.5**
AS31	**Alice Springs** 3.8nm,0.7s	**49.85**	**253**	*e*P	**P**	**15 09 39.2**	**-0.8**
ASAR	**Alice Springs** 14nm,0.9s,baz=88,slow=8.3,SNR=134	**49.85**	**253**	P	**P**	**15 09 39.5**	**-0.6**
GUMO	**Guam** comp=Z,106nm,18.8s,baz=128,slow=33	**51.66**	**304**	LR	LR	15 29 34.3	
SIJI	**Sorong** 7.1nm,0.8s,baz=73,slow=10.0,SNR=4.3	**57.11**	**280**	P	**P**	**15 10 34.9**	**+1.4**
SIJI				LR	LR	15 34 42.0	
MJAR	comp=Z,80nm,18.1s,baz=90,slow=36 **Matsushiro Arr** comp=Z,69nm,21.9s,baz=160,slow=31	**70.62**	**320**	LR	LR	15 37 40.5	
NV01	**Mina Array Sit**	**75.54**	**41**	*e*P	**P**	**15 12 32.0**	**+0.7**
NVAR	**Mina Array Bea** 0.7nm,0.7s,baz=229,slow=10,SNR=3.5	**75.54**	**41**	P	**P**	**15 12 33.4**	**+2.1**
NVAR	comp=Z,60nm,20.5s,baz=270,slow=32			LR	LR	15 40 54.6	
KSRS	**Korea Array** 2.6nm,1.0s,baz=134,slow=5.4,SNR=4.4	**77.76**	**316**	P	**P**	**15 12 47.2**	**+3.7**
KSRS	comp=Z,38nm,18.2s,baz=121,slow=34			LR	LR	15 45 08.4	
KSAR	**Wonju Array Be**	**77.78**	**316**	P	**P**	**15 12 47.2**	**+3.6**
USRK	**Ussuriysk Ar.** comp=Z,96nm,19.2s,baz=109,slow=31	**79.11**	**323**	LR	LR	15 42 13.9	
LTX	**Lajitas**	**81.41**	**56**	*e*P	**P**	**15 13 05.8**	**+2.1**
TXAR	**Lajitas Array** 0.8nm,1.0s,baz=213,slow=9.0,SNR=5.6	**81.41**	**56**	P	**P**	**15 13 05.8**	**+2.1**
DLBC	**Dease Lake** comp=Z,54nm,18.1s,baz=130,slow=34	**83.37**	**21**	LR	LR	15 48 22.2	
PDAR	**Pinedale Array** 0.3nm,0.6s,baz=182,slow=3.5,SNR=3.3	**83.48**	**42**	P	**P**	**15 13 16.5**	**+2.1**
PDAR	comp=Z,48nm,20.1s,baz=299,slow=32			LR	LR	15 45 16.1	
ILAR	**Eielson Array** 0.4nm,0.7s,baz=213,slow=6.3,SNR=3.9	**84.26**	**11**	P	**P**	**15 13 18.5**	**+0.9**
ILAR	comp=Z,38nm,18.7s,baz=334,slow=33

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.50**	**263**	P	**Pb**	**15 21 06.1**	**+0.1**
OFUJ				S	**Sb**	**15 21 14.0**	**+0.8**
MIYJ	**Miyakonagasawa**	**0.57**	**319**	P	**Pb**	**15 21 06.8**	**-0.5**
MIYJ				*e*S	**Sb**	**15 21 15.1**	**-0.1**
JKMT	**Kesennumamotoy**	**0.73**	**243**	P	**Pb**	**15 21 09.1**	**-0.7**
JKMT				S	**Sb**	**15 21 19.2**	**-0.3**
JOM	**Ohasama**	**0.85**	**293**	P	**Pn**	**15 21 11.5**	**-0.1**
JOM				*e*S	**Sb**	**15 21 23.3**	**+0.3**
JTH	**Tanohata**	**0.86**	**337**	P	**Pn**	**15 21 10.8**	**-1.0**
JTH				*e*S	**Sb**	**15 21 22.1**	**-1.2**
JMK	**Ichinoseki**	**0.87**	**258**	P	**Pn**	**15 21 11.5**	**-0.3**
JMK				*e*S	**Sb**	**15 21 23.4**	**0.0**
JIO	**Ouri**	**1.02**	**228**	P	**Pn**	**15 21 12.8**	**-1.1**
JIO				S	**Sn**	**15 21 25.5**	**-1.6**
JKZ	**Kuzumaki**	**1.13**	**318**	P	**Pn**	**15 21 15.6**	**+0.1**
JKZ				S	**Sn**	**15 21 30.4**	**+0.4**
JANG	**Nango**	**1.37**	**334**	P	**Pn**	**15 21 18.7**	**0.0**
JOU	**Okura**	**1.50**	**239**	P	**Pn**	**15 21 20.7**	**+0.1**
MJAR	**Matsushiro Arr** 1.5nm,0.3s,baz=37,slow=12,SNR=17	**4.16**	**233**	P	**Pn**	**15 21 59.0**	**+2.0**
MAT	**Matsushiro**	**4.16**	**233**	P	**Pn**	**15 22 00.1**	**+3.0**
MAT				*e*S	**Sn**	**15 22 49.7**	**+5.0**
ASAJ	**Asahikawa** 0.3nm,0.3s,baz=45,slow=19,SNR=4.1	**4.97**	**2**	P	**Pn**	**15 22 10.0**	**+1.8**
ASAJ				S	**Sn**	**15 23 08.6**	**+3.9**
H11N2	**WAKE ISLAND Hy 28.70** baz=318,slow=75,SNR=47	**125**		T	T	15 57 11.0	
H11N1	**WAKE ISLAND Hy 28.71** baz=318,slow=75,SNR=44	**125**		T	T	15 57 11.7	
H11N3	**WAKE ISLAND Hy 28.72** baz=318,slow=75,SNR=38	**125**		T	T	15 57 20.9	
H11S1	**WAKE ISLAND Hy 29.49** baz=319,slow=76,SNR=12	**127**		T	T	15 58 10.4	
H11S3	**WAKE ISLAND Hy 29.50** baz=319,slow=76,SNR=12	**127**		T	T	15 58 12.0	
H11S2	**WAKE ISLAND Hy 29.51** baz=319,slow=76,SNR=11	**127**		T	T	15 58 12.5	
ZALV	**Zalesovo Beam** 0.6nm,0.4s,baz=79,slow=9.4,SNR=3.6	**41.05**	**311**	P	**P**	**15 28 35.1**	**-1.0**
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=79,slow=9.2,SNR=5.2	**43.63**	**300**	P	**P**	**15 28 56.1**	**-1.1**
KURBB	**Kurchatov Arra** 1.4nm,0.7s,baz=80,slow=8.3,SNR=5.4	**45.29**	**306**	P	**P**	**15 29 09.9**	**-0.4**
ILAR	**Eielson Array** 0.2nm,0.5s,baz=263,slow=7.2,SNR=4.5	**47.34**	**33**	P	**P**	**15 29 26.8**	**+0.5**
WRA	**Warramunga Arr** 0.5nm,0.5s,baz=6.6,slow=7.2,SNR=15	**59.25**	**189**	P	**P**	**15 30 52.5**	**-1.8**
ASAR	**Alice Springs** 0.3nm,0.8s,baz=5.6,slow=4.7,SNR=4.9	**62.98**	**189**	P	**P**	**15 31 18.1**	**-1.4**

SOME ***19*** *15:28:33.7, 40.72N×74.22E, h5km, MS3.3*
IDC ***19*** *15:28:33.7±0.9, 40.78N×74.03E, h0km, mb3.7/11, mb1 3.8/15, mb1mx3.7/57, mbtmp3.7/15, ML3.3/4, Error ellipse: s-maj=16.9km s-min=11.7km az=116.0*
NNC ***19*** *15:28:35.5±0.5, 40.83N×74.11E, h0km, mb4.4, mpv4.2, Error ellipse: s-maj=7.3km s-min=3.0km az=109.0*
KRNET ***19*** *15:28:35.6±0.1, 40.86N×74.14E, h14km, mb4.4*
MOS ***19*** *15:28:36.9±1.3, 40.74N×73.93E, h27km, mb4.0/8, Error ellipse: s-maj=12.9km s-min=6.5km az=86.7*
BJI ***19*** *15:28:36.2, 40.94N×74.08E, h11km, mb4.1/2, ML3.7/7*

ISC 19 15:28:34.3±1.1, 40.89N±0.02×74.21E±0.02, h0km±8km, n118, σ1.69/169, mb3.7/14, 47C-29D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral** baz=8.0	**0.97**	**5**	⇓*i*P	**Pb**	**15 28 54.1**	**-0.1**
ARLS				⇓*i*S	**Sb**	**15 29 08.5**	**+0.8**
ARSB	**Arslanbob** baz=98	**1.02**	**296**	⇑*e*P	**Pg**	**15 28 53.9**	**0.0**
ARSB				⇑*i*S	**Sg**	**15 29 08.0**	**+0.8**
SFK	**Sufi-Kurgan** 248nm,0.4s	**1.03**	**212**	⇑P	**Pg**	**15 28 53.5**	**-0.5**
SFK				⇑S	**Sg**	**15 29 06.6**	**-0.7**
SFK	**Sufi-Kurgan** 517nm,0.3s baz=10.0	**1.03**	**212**	⇑*i*P	**Pg**	**15 28 53.5**	**-0.5**
SFK				⇑*i*S	**Sg**	**15 29 07.5**	**+0.2**
SFK	**Sufi-Kurgan** baz=10.0	**1.03**	**212**	*i* PG	**Pg**	**15 28 53.4**	**-0.5**
SFK				pmax	pmax		
AML	**Almayashu** SNR=1439	**1.30**	**343**	P	**Pg**	**15 28 59.8**	**+0.6**
AML	**Almayashu** baz=45	**1.30**	**343**	⇓*i*P	**Pg**	**15 28 59.8**	**+0.6**
AML				⇓*i*S	**Sb**	**15 29 18.2**	**+0.9**
UCH	**Uchtor** SNR=1387	**1.36**	**10**	P	**Pb**	**15 29 01.5**	**+0.6**
UCH	**Uchtor** baz=11	**1.36**	**10**	⇓*i*P	**Pb**	**15 29 01.6**	**+0.7**
UCH				⇓*i*S	**Sn**	**15 29 20.4**	**+0.5**
KZA	**Kyzart** SNR=104	**1.42**	**33**	P	**Pb**	**15 29 03.0**	**+1.0**
KZA	**Kyzart** baz=34	**1.42**	**33**	⇓*e*P	**Pb**	**15 29 02.9**	**+1.0**
KZA				⇓*i*S	**Sn**	**15 29 22.6**	**+1.2**
NRN	**Naryn** baz=67	**1.46**	**68**	⇓*i*P	**Pb**	**15 29 03.3**	**+0.8**
NRN				⇓*i*S	**Sn**	**15 29 23.3**	**+1.1**
AAK	**Ala-Archa** comp=Z,110nm,0.3s,baz=158,slow=9.0,SNR=667	**1.76**	**7**	Pn	**Pg**	**15 29 08.7**	**+0.6**
AAK				Lg	Lg	15 29 32.3	
AAK	**Ala-Archa** comp=Z,208nm,0.5s	**1.76**	**7**	⇑P	**Pg**	**15 29 08.6**	**+0.6**
AAK				S	**Sg**	**15 29 32.3**	**+1.3**
AAK	**Ala-Archa** comp=Z,278nm,0.6s SNR=224	**1.76**	**7**	P	**Pg**	**15 29 08.7**	**+0.6**
AAK	**Ala-Archa** baz=8.0	**1.76**	**7**	⇑*i*P	**Pg**	**15 29 08.6**	**+0.6**
AAK				⇑*i*S	**Sg**	**15 29 32.2**	**+1.3**
EKS2	**Erkin-Say** SNR=171	**1.80**	**350**	P	**Pb**	**15 29 09.0**	**+0.8**
EKS2	**Erkin-Say** baz=51	**1.80**	**350**	⇓*i*P	**Pb**	**15 29 09.0**	**+0.8**
EKS2				⇓*i*S	**Sg**	**15 29 33.3**	**+1.1**
KBK	**Karagaybulak** SNR=818	**1.85**	**17**	P	**Pg**	**15 29 10.7**	**+0.8**
KBK	**Karagaybulak** baz=18	**1.85**	**17**	⇓*i*P	**Pg**	**15 29 10.6**	**+0.8**
KBK				⇓*i*S	**Sg**	**15 29 35.3**	**+1.5**
ARK	**Arkit** baz=0.0	**1.92**	**299**	⇑*i*P	**Pn**	**15 29 09.4**	**+1.1**
ARK				⇑*i*S	**Sn**	**15 29 34.2**	**+1.0**
KSH	**Kashi**	**1.93**	**135**	Pn	**Pg**	**15 29 13.8**	**+2.6**
KSH				Sn	**Sg**	**15 29 41.5**	**+5.3**
KSH	comp=Z,970nm,0.5s			smax	smax		
KSH	comp=Z,1μm,0.4s			smax	smax		
FRU1	**Bishkek** baz=10.0	**1.94**	**9**	⇑*e*P	**Pb**	**15 29 11.1**	**+0.4**
FRU1				⇑*i*S	**Sg**	**15 29 36.9**	**+0.1**
FRU	**Bishkek**	**1.97**	**9**	⇓*i*PN	**Pg**	**15 29 12.0**	**0.0**
FRU				*i* S	**Sg**	**15 29 40.0**	**+2.5**
FRU	comp=Z,490nm,1.3s			pmax	pmax		
FRU	comp=N,2μm,0.9s			smax	smax		
MRKS	**Merke** comp=N,3μm,0.3s	**1.99**	**339**	*e*P	**Pg**	**15 29 13.2**	**+0.7**
MRKS	comp=N,659nm,0.4s			⇑*i*S	**Sg**	**15 29 40.0**	**+1.5**
ULHL	**Ulahol** SNR=20	**2.04**	**48**	P	**Pg**	**15 29 14.3**	**+0.9**
ULHL	**Ulahol** baz=48	**2.04**	**48**	⇑*i*P	**Pg**	**15 29 13.0**	**-0.5**
ULHL	baz=48			⇑*i*S	**Sg**	**15 29 39.7**	**-0.2**
MNAS	**Manas** comp=N,165nm,0.5s	**2.04**	**322**	⇑Pn	**Pb**	**15 29 12.3**	**-0.2**
MNAS	comp=N,563nm,0.7s			⇑Sn	**Sb**	**15 29 39.6**	**+1.1**
MNAS	**Manas** baz=24	**2.04**	**322**	⇑*i*P	**Pn**	**15 29 11.4**	**+1.3**
MNAS	baz=24			⇑*i*S	**Sn**	**15 29 38.6**	**+2.2**
MNAS	**Manas**	**2.04**	**322**	*i* PN	**Pb**	**15 29 12.2**	**-0.2**
MNAS	comp=Z,165nm,0.5s			pmax	pmax		
BOOM	**Boomskoye usch** baz=39	**2.06**	**38**	⇑*i*P	**Pg**	**15 29 13.2**	**-0.6**
BOOM	baz=39			⇑*i*S	**Sg**	**15 29 40.2**	**-0.3**
CHMS	**Chumysh** SNR=221	**2.15**	**11**	P	**Pg**	**15 29 15.8**	**+0.3**
CHMS	**Chumysh** baz=12	**2.15**	**11**	⇑*i*P	**Pg**	**15 29 15.7**	**+0.3**
CHMS	baz=12			⇑*i*S	**Sg**	**15 29 42.9**	**-0.4**
TKM2	**Tokmak 2** comp=Z,90nm,0.5s	**2.28**	**27**	⇑Pn	**Pg**	**15 29 18.0**	**-0.1**
TKM2	comp=Z,461nm,0.5s			⇑Lg	Lg	15 29 49.0	
TKM2	**Tokmak 2** SNR=230	**2.28**	**27**	P	**Pg**	**15 29 17.9**	**-0.1**
TKM2	**Tokmak 2** baz=27	**2.28**	**27**	⇑*i*P	**Pb**	**15 29 16.0**	**-0.5**
TKM2	baz=27			⇑*i*S	**Sb**	**15 29 45.6**	**+0.3**
TKM2	**Tokmak 2**	**2.28**	**27**	*i* PN	**Pg**	**15 29 17.9**	**-0.1**
TKM2	comp=Z,90nm,0.4s			pmax	pmax		
USP	**Ospenovka** SNR=763	**2.39**	**5**	P	**Pb**	**15 29 18.6**	**+0.4**
USP	**Ospenovka** baz=6.0	**2.39**	**5**	⇑*i*P	**Pb**	**15 29 17.3**	**-0.9**
USP	baz=6.0			⇑*i*S	**Sb**	**15 29 47.4**	**-0.8**
KST	**Kastek** comp=Z,178nm,0.6s	**2.52**	**31**	*e*P	**Pg**	**15 29 22.0**	**-0.6**
KST	comp=Z,560nm,0.5s			*e*S	**Sg**	**15 29 54.5**	**-0.8**
KDJ	**Kajisay** baz=60	**2.55**	**60**	⇑*i*P	**Pb**	**15 29 20.1**	**-1.0**
KDJ	baz=60			⇑*i*S	**Sb**	**15 29 53.3**	**+0.2**
BTK	**Batken** baz=54	**2.71**	**253**	⇑*e*P	**Pn**	**15 29 20.7**	**+1.4**
BTK	baz=54			⇑*i*S	**Sn**	**15 29 54.2**	**+1.4**
MTBS	**Maitube** comp=Z,158nm,0.3s	**2.79**	**36**	*e*P	**Pg**	**15 29 26.1**	**-1.6**
MTBS	comp=Z,259nm,0.5s			*e*S	**Sg**	**15 30 01.9**	**-1.9**
IZV	**Izvestkoviy** comp=Z,132nm,0.7s	**2.80**	**39**	*e*P	**Pg**	**15 29 28.4**	**+0.4**
IZV	comp=Z,348nm,0.6s			*e*S	**Sg**	**15 30 05.0**	**+0.8**
DZA	**Taraz** comp=Z,333nm,0.4s	**2.94**	**314**	*e*P	**Pb**	**15 29 27.9**	**+0.4**
DZA	comp=Z,704nm,0.5s			*e*S	**Sb**	**15 30 04.1**	**+0.1**
TNSS	**Tian-Shan** comp=Z,160nm,0.4s	**2.96**	**43**	*e*P	**Pg**	**15 29 31.5**	**+0.4**
TNSS	comp=Z,522nm,0.6s			⇑*i*S	**Sg**	**15 30 11.1**	**+1.5**
AAA	**Alma-Ata**	**3.07**	**40**	*e*PN	**Pg**	**15 29 34.1**	**+0.9**
AAA				*e*S	**Sg**	**15 30 14.8**	**+1.8**
AAA	comp=Z,126nm,0.3s			pmax	pmax		
AAA	comp=N,721nm,0.5s			smax	smax		
AAA	**Alma-Ata** comp=N,130nm,0.3s	**3.07**	**40**	*e*P	**Pg**	**15 29 33.5**	**+0.3**
AAA	comp=N,752nm,0.7s			*e*S	**Sg**	**15 30 14.9**	**+1.8**
KNDC	**Almaty** comp=N,77nm,0.4s	**3.10**	**41**	⇓Pg	**Pg**	**15 29 32.9**	**-0.9**
KNDC	comp=N,773nm,0.5s			⇓Lg	Lg	15 30 15.6	
MDOK	**Medeo** comp=N,59nm,0.6s	**3.10**	**42**	*e*P	**Pg**	**15 29 33.5**	**-0.3**
MDOK	comp=N,230nm,0.5s			*e*S	**Sg**	**15 30 13.6**	**-0.5**
IUG	**Iuzhnay**	**3.38**	**293**	*e*P	**Pb**	**15 29 37.0**	**+1.9**
IUG				*e*S	**Sb**	**15 30 20.4**	**+3.7**
KUU	**Kurty** comp=N,70nm,0.4s	**3.39**	**27**	*e*P	**Pg**	**15 29 38.2**	**-1.1**
KUU	comp=N,378nm,0.7s			*e*S	**Sg**	**15 30 22.5**	**-0.8**
PRZ	**Przheval'sk** baz=62	**3.52**	**62**	⇑*i*P	**Pb**	**15 29 33.4**	**-4.2**
PRZ	baz=62			⇑*i*S	**Sn**	**15 30 15.3**	**+2.4**
KK31	**Karatay Array** comp=N,1.2nm,0.2s,baz=132,slow=11,SNR=226	**3.53**	**310**	Pn	**Pn**	**15 29 31.7**	**+1.2**
KK31				⇓Pg	**Pb**	**15 29 38.6**	**+0.9**
KK31	comp=N,16nm,0.3s,baz=127,slow=15,SNR=46			⇓Lg	Lg	15 30 24.8	
KK31	comp=N,233nm,0.7s,baz=128,slow=27,SNR=10 **Karatay Array**	**3.53**	**310**	PN	**Pn**	**15 29 31.6**	**+1.2**
KK31						15 29 38.5	
KK31	comp=Z,1.0nm,0.3s			pmax	pmax		
KK31	comp=Z,16nm,0.3s			pmax	pmax		
CHKK	**Chushkaly** comp=Z,43nm,0.5s	**3.61**	**34**	⇓*i*P	**Pg**	**15 29 42.6**	**-0.9**
CHKK	comp=Z,238nm,0.3s			*e*S	**Sg**	**15 30 29.8**	**-0.4**
CHM	**Chimkent** comp=Z,256nm,0.4s	**3.74**	**294**	*e*P	**Pg**	**15 29 44.6**	**-1.4**
CHM	comp=Z,831nm,0.5s			*e*S	**Sg**	**15 30 32.9**	**-1.4**
TAS	**Tashkent** comp=Z,122nm,0.5s	**3.74**	**278**	⇓Pn	**Pn**	**15 29 31.4**	**-2.0**
TAS	comp=Z,1μm,0.6s			⇓Lg	Lg	15 30 31.9	
SATY	**Saty** comp=Z,75nm,0.4s	**3.81**	**54**	*e*P	**Pg**	**15 29 47.4**	**+0.1**
SATY	comp=Z,170nm,0.4s			*e*S	**Sg**	**15 30 37.3**	**+0.6**
ZHN	**Zhinishke** comp=Z,32nm,0.9s	**3.89**	**53**	*e*P	**Pg**	**15 29 48.2**	**-0.6**
ZHN	comp=Z,154nm,0.4s			*e*S	**Sg**	**15 30 38.5**	**-0.6**
BRLS	**Borolday** comp=Z,11nm,0.8s	**3.90**	**305**	*e*P	**Pb**	**15 29 45.2**	**+1.3**
BRLS	comp=Z,126nm,0.7s			*e*S	**Sb**	**15 30 32.9**	**+1.3**
KURS	**Kuram** comp=Z,16nm,0.4s	**3.93**	**47**	*e*P	**Pg**	**15 29 49.4**	**-0.2**
KURS	comp=Z,66nm,0.5s			*e*S	**Sg**	**15 30 39.8**	**-0.6**
KPKS	**Kokpek** comp=Z,51nm,0.4s	**4.21**	**51**	*e*P	**Pg**	**15 29 55.0**	**0.0**
KPKS	comp=Z,152nm,0.5s			*e*S	**Sg**	**15 30 49.2**	**-0.2**
UZB	**Uzynbulak** comp=Z,20nm,0.3s	**4.24**	**56**	*e*P	**Pg**	**15 29 54.8**	**-0.8**
UZB	comp=Z,82nm,0.5s			*e*S	**Sg**	**15 30 50.1**	**-0.4**
SHLS	**Shalkode** comp=Z,64nm,1.1s	**4.52**	**58**	*e*P	**Pg**	**15 30 04.1**	**+3.1**
SHLS	comp=Z,173nm,1.5s			*e*S	**Sg**	**15 31 05.0**	**+5.4**
PDGK	**Podgornoye** comp=Z,24nm,0.5s	**4.62**	**56**	⇑Pg	**Pg**	**15 30 03.4**	**+0.4**
PDGK	comp=Z,115nm,1.0s			⇑Lg	Lg	15 31 01.7	
PDGK	**Podgornoye** baz=56	**4.62**	**56**	⇓*e*P	**Pn**	**15 29 48.6**	**+3.0**
PDGK	baz=56			⇓*i*S	**Sn**	**15 30 41.7**	**+1.7**
PDGK	**Podgornoye**	**4.62**	**56**	PN	**Pg**	**15 30 01.0**	**-1.9**
TDK	**Taldyqorghan** comp=Z,70nm,0.8s	**5.14**	**35**	*e*P	**Pg**	**15 30 11.6**	**-1.1**
TDK	comp=Z,189nm,1.3s			*e*S	**Sg**	**15 31 18.1**	**-1.2**
KTMS	**Ketmen** comp=Z,1.5nm,0.1s	**5.23**	**59**	*e*P	**Pg**	**15 30 12.6**	**-2.0**
KTMS	comp=Z,42nm,0.8s			*e*S	**Sg**	**15 31 20.5**	**-1.9**
DJR	**Jarkent**	**5.37**	**48**	*e*P	**Pg**	**15 30 14.8**	**-2.4**
DJR	comp=Z,7.5nm,0.7s			*e*S	**Sg**	**15 31 23.7**	**-3.0**
KAPS	**Kapalarasan** comp=Z,9.1nm,0.7s	**5.79**	**39**	*e*P	**Pg**	**15 30 22.1**	**-3.1**
KAPS	comp=Z,23nm,0.8s			*e*S	**Sg**	**15 31 36.2**	**-4.0**
CHCP	**Chirah Chowk**	**7.26**	**186**	P	Pn	15 30 26.2	+4.6
CEP	**Cherat**	**7.29**	**195**	P	Pn	15 30 26.6	+4.5
CEP				S	**Sn**	**15 31 47.0**	**+1.4**
OTUK	**Ortayu** comp=Z,5.7nm,0.8s	**7.47**	**350**	⇓Pn	**Pn**	**15 30 26.3**	**+1.7**
OTUK	comp=Z,6.5nm,0.6s			⇓Pg	**Pg**	**15 30 53.3**	**-4.1**
OTUK	comp=Z,70nm,0.8s			⇑Lg	Lg	15 32 30.5	
OTUK	**Ortayu**	**7.47**	**350**	P	**Pn**	**15 30 26.3**	**+1.7**
OTUK	comp=Z,6.0nm,0.8s			pmax	pmax		
OTUK	comp=Z,7.0nm,0.6s			pmax	pmax		
MKAR	**Makanchi Array** comp=Z,0.1nm,0.3s,baz=229,slow=13,SNR=5.7	**8.30**	**42**	Pn	**Pn**	**15 30 39.0**	**+3.1**
MKAR	comp=Z,0.7nm,0.3s,baz=227,slow=28,SNR=5.9			Lg	Lg	15 33 00.1	
MKAR	**Makanchi Array**	**8.30**	**42**	P	**Pn**	**15 30 39.0**	**+3.1**
MK31	**Makanchi Array** comp=Z,2.6nm,0.5s,baz=226,slow=14,SNR=16	**8.30**	**42**	⇓Pn	**Pn**	**15 30 39.1**	**+3.1**
MK31				⇑Lg	Lg	15 32 58.6	
MK31	**Makanchi Array** comp=Z,4.0nm,0.6s,baz=229,slow=29,SNR=4.8	**8.30**	**42**	*e*P	Pb	15 30 51.2	-7.7
MK31	comp=Z,3.0nm,0.5s			pmax	pmax		
KURBB	**Kurchatov Arra** comp=Z,0.1nm,0.3s,baz=213,slow=7.7,SNR=7.9	**10.19**	**16**	Pn	**Pn**	**15 31 03.2**	**+1.5**
KURBB	comp=Z,0.2nm,0.3s,baz=203,slow=28,SNR=4.6			Lg	Lg	15 33 53.0	
KURBB	**Kurchatov Arra** comp=Z,1.4nm,0.5s	**10.19**	**16**	⇑Pn	**Pn**	**15 31 02.8**	**+1.1**
KURBB	comp=Z,36nm,0.7s			⇓Lg	Lg	15 33 58.7	
KURK	**Kurchatov** comp=Z,0.9nm,0.6s	**10.30**	**16**	⇑Pn	**Pn**	**15 31 03.4**	**+0.2**
KURK	comp=Z,30nm,1.1s			⇑Lg	Lg	15 34 04.6	
KURK	**Kurchatov**	**10.30**	**16**	*i* P	**Pn**	**15 31 07.3**	**+4.1**
BVA0	**Borovoye Array** comp=Z,7.1nm,1.1s,baz=159,slow=11,SNR=16	**12.41**	**349**	⇑Pn	**Pn**	**15 31 31.8**	**-0.4**
BVA0	comp=Z,24nm,1.1s			⇓Lg	Lg	15 35 12.0	
BVA0	**Borovoye Array**	**12.41**	**349**	*i* P	**Pn**	**15 31 31.6**	**-0.6**
BVA0	comp=Z,7.0nm,1.1s			pmax	pmax		
BVAR	**Borovoye Array** comp=Z,0.6nm,0.3s,baz=158,slow=13,SNR=15	**12.41**	**349**	Pn	**Pn**	**15 31 32.0**	**-0.2**
BVAR	comp=Z,0.3nm,0.3s,baz=168,slow=27,SNR=3.9			Lg	Lg	15 35 01.4	
BVAR	**Borovoye Array**	**12.41**	**349**	P	**Pn**	**15 31 32.0**	**-0.2**
BVAR	comp=Z,1.0nm,0.3s			pmax	pmax		
BRVK	**Borovoye** comp=Z,5.1nm,0.9s	**12.46**	**349**	⇑Pn	**Pn**	**15 31 31.2**	**-1.6**
BRVK	comp=Z,12nm,1.1s			⇑Lg	Lg	15 35 09.6	
BRVK	**Borovoye**	**12.46**	**349**	*i* P	**Pn**	**15 31 36.8**	**+4.0**
GEYT	**Alibeck** comp=Z,0.2nm,0.3s,baz=83,slow=12,SNR=3.6	**12.79**	**262**	Pn	**Pn**	**15 31 34.0**	**-3.4**
PYUN	**Piuthan** comp=Z,8.8nm,0.4s	**14.66**	**148**	*e*P	**Pn**	**15 32 01.3**	**-1.8**
DANN	**Dangsing**	**14.76**	**145**	*e*P	**Pn**	**15 32 03.9**	**-0.7**
AKTO	**Aktyubinsk** comp=Z,0.2nm,0.3s,baz=124,slow=16,SNR=4.7	**14.78**	**316**	Pn	**Pn**	**15 32 06.4**	**+1.9**
ZALV	**Zalesovo Beam** comp=Z,0.2nm,0.3s,baz=222,slow=15,SNR=5.7	**14.88**	**25**	Pn	**P**	**15 32 10.8**	**-1.0**
NVS	**Novosibirsk**	**15.20**	**20**	*e*P	**P**	**15 32 16.5**	**+1.2**
NVS				*e*		15 35 12.6	
KOLN	**Koldanda**	**15.20**	**147**	*e*P	**Pn**	**15 32 08.7**	**-1.7**
KKN	**Kakani**	**15.93**	**142**	*e*P	**Pn**	**15 32 17.6**	**-2.4**
PKIN	**Phulchoki**	**16.16**	**142**	*e*P	**Pn**	**15 32 21.7**	**-1.4**
PKI	**Pulchoki**	**16.18**	**142**	*e*P	**Pn**	**15 32 21.4**	**-1.9**
JIRN	**Jiri** comp=Z,11nm,0.5s	**16.48**	**140**	*e*P	**Pn**	**15 32 25.0**	**-2.2**
RAMN	**Ramite** comp=Z,12nm,0.7s	**17.27**	**140**	*e*P	**Pn**	**15 32 34.5**	**-2.6**
KNGR	**Kungurtug, Tuv**	**18.88**	**51**	*i* P	**Pn**	**15 33 01.5**	**+4.9**
ZAK	**Zakamensk**	**22.31**	**55**	*e*P	**P**	**15 33 31.2**	**-2.1**
ZAK	comp=Z,3.0nm,1.0s			pmax	pmax		
KIV	**Kislovodsk** comp=Z,5.0nm,1.0s	**23.40**	**288**	*e*P	**P**	**15 33 43.6**	**-1.2**
KIV				pmax	pmax		
SONM	**Songino Array** comp=Z,0.6nm,0.8s,baz=264,slow=10.0,SNR=3.3	**23.91**	**62**	P	**P**	**15 33 51.4**	**+1.6**
ULN	**Ulaanbaatar** comp=Z,1.0nm,0.9s	**24.36**	**62**	*i* P	**P**	**15 33 58.0**	**+4.0**
ULN				pmax	pmax		
BRTR	**Keskin Array B** comp=Z,0.5nm,0.7s,baz=88,slow=5.0,SNR=3.0	**30.77**	**281**	P	**P**	**15 34 49.7**	**-1.8**
FINES	**FINESS Array B** comp=Z,1.5nm,0.9s,baz=114,slow=13,SNR=4.0	**35.41**	**322**	P	**P**	**15 35 31.8**	**+0.2**
ARCES	**ARCESS Array B** comp=Z,3.8nm,0.9s,baz=109,slow=9.6,SNR=4.6	**38.15**	**335**	P	**P**	**15 35 54.9**	**0.0**
NOA	**NORSAR Array B** comp=Z,0.9nm,0.8s,baz=90,slow=7.9,SNR=2.7	**42.51**	**320**	P	**P**	**15 36 30.2**	**-0.9**
GERES	**GERESS Array B** comp=Z,0.3nm,0.5s,baz=80,slow=8.1,SNR=3.2	**42.60**	**302**	P	**P**	**15 36 31.6**	**-0.4**
ESDC	**Sonseca Array** comp=Z,0.2nm,0.3s,baz=52,slow=6.5,SNR=3.1	**57.68**	**297**	P	**P**	**15 38 25.1**	**-1.4**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.5s,baz=51,slow=5.6,SNR=5.3	**68.33**	**269**	P	**P**	**15 39 35.5**	**-2.1**
INK	**Inuvik** comp=Z,0.4nm,0.4s,baz=284,slow=8.3,SNR=3.0	**69.16**	**11**	P	**P**	**15 39 42.7**	**+0.8**
WRA	**Warramunga Arr** comp=Z,0.5nm,0.8s,baz=328,slow=5.1,SNR=5.9	**82.29**	**125**	P	**P**	**15 40 57.0**	**-0.8**
ASAR	**Alice Springs** comp=Z,0.7nm,0.8s,baz=322,slow=6.3,SNR=6.6	**84.81**	**127**	P	**P**	**15 41 09.9**	**-0.7**
ASAR	**Alice Springs** comp=Z,1.0nm,0.8s	**84.81**	**127**	P	**P**	**15 41 10.0**	**-0.7**
ASAR				pmax	pmax		

IDC 19 15:28:43.6±1.9, 6.03S×152.35E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.6/41, mbtmp3.9/4, ML1.7/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/33, Error ellipse: s-maj=117.8km s-min=25.4km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 1.0nm,0.3s,baz=48,slow=9.9,SNR=8.1	**6.14**	**237**	Pn	Pn	15 30 17.7	+2.0
PMG	0.6nm,0.3s,baz=124,slow=18,SNR=2.7			Sn	Sn	15 31 24.2	-2.5
WRA	**Warramunga Arr** 3.4nm,0.8s,baz=56,slow=10,SNR=27	**22.31**	**230**	P	P	15 33 41.8	-1.2
ASAR	**Alice Springs** 2.9nm,0.9s,baz=56,slow=9.0,SNR=28	**24.95**	**223**	P	P	15 34 09.6	+0.7
NWAO	**Narrogin (SRO)** comp=Z,36nm,19.2s,baz=299,slow=35	**42.21**	**226**	LR	LR	15 53 29.9	
ILAR	**Eielson Array** 0.3nm,0.5s,baz=242,slow=5.0,SNR=3.1	**83.46**	**22**	P	P	15 41 13.6	+0.7
TORD	**Torodi Ar. Bea** 0.3nm,0.5s,baz=62,slow=2.0,SNR=3.1	**150.24**	**286**	PKPbc	PKPbc	15 48 36.3	-1.6

IDC 19 15:38:32.7±1.9, 5.93S×152.20E, h0km, mb3.7/3, mb1 4.1/4, mb1mx3.6/37, mbtmp3.9/4, ML2.2/1, Error ellipse: s-maj=110.5km s-min=25.9km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 3.9nm,0.3s,baz=68,slow=11,SNR=21	**6.07**	**235**	Pn	Pn	15 40 05.8	+2.0
PMG	1.9nm,0.3s,baz=32,slow=3.6,SNR=4.2			Sn	Sn	15 41 10.2	-3.9
WRA	**Warramunga Arr** 2.7nm,0.5s,baz=55,slow=10,SNR=40	**22.26**	**230**	P	P	15 43 30.6	-0.9
ASAR	**Alice Springs** 0.8nm,0.4s,baz=58,slow=9.3,SNR=26	**24.92**	**223**	P	P	15 43 58.0	+0.2
ILAR	**Eielson Array** 0.5nm,0.8s,baz=248,slow=5.5,SNR=6.0	**83.42**	**22

mb1 3.9/4,mb1mx3.5/36,mbtmp3.7/4,ML2.0/1,Error ellipse: s-maj=135.2km s-min=26.4km az=127.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.94**	**228**	Pn	Pn	15 40 57.9	+0.7
	2.5nm,0.3s,baz=45,slow=7.1,SNR=3.0						
PMG				Sn	Sn	15 42 03.4	-2.6
	1.9nm,0.3s,baz=234,slow=17,SNR=2.5						
WRA	**Warramunga Arr**	**22.16**	**228**	P	P	15 44 26.1	+0.5
	1.7nm,0.5s,baz=54,slow=10,SNR=4.6						
ASAR	**Alice Springs**	**24.90**	**222**	P	P	15 44 52.1	-0.7
	1.1nm,0.7s,baz=57,slow=9.5,SNR=4.1						
ILAR	**Eielson Array**	**83.20**	**22**	P	P	15 51 56.1	+0.2
	0.2nm,0.6s,baz=251,slow=5.4,SNR=2.9						
TORD	**Torodi Ar. Bea**	**149.42**	**287**	PKPbc	PKPbc	15 59 19.5	-0.7
	0.2nm,0.4s,baz=87,slow=2.6,SNR=2.2						

*IDC **19** 15:47:01.4±1.7, 10.61S×113.81E, h0km, mb3.7/7, mb1 3.9/9, mb1mx3.8/30, mbtmp3.8/9, ML3.9/2, MS2.7/1, Ms1 2.7/1, ms1mx2.3/40, Error ellipse: s-maj=51.1km s-min=18.4km az=41.0*

*ISCJB **19** 15:47:02.0±1.0, 11.05S×113.70E±0.05, h33km, mb3.7/7, Error ellipse: s-maj=14.8km s-min=7.0km az=8.5*

*DJA **19** 15:47:02.2±0.8, 11.5S×114.4E±, h10km, M4.2/13, mb4.5/5, mB5.0/2, MLv4.1/13, Mw(mB)4.3/2*

ISC 19 15:47:05.4±1.0, 10.8S±0.1×113.78E±0.07, h35km, n28, σ1s33/25, mb3.8/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.34**	**9**	P	Pn	15 47 41.3	0.0
IGBI	**Denpasar**	**2.38**	**35**	P	Pn	15 47 41.6	-0.3
GMJI	**Gumukmas**	**2.52**	**352**	P	Pn	15 47 44.2	+0.3
DNP	**Denpasar**	**2.53**	**34**	P	Pn	15 47 44.9	+0.9
BLJI	**Banyuglugur**	**3.03**	**357**	P	Pn	15 47 52.8	+1.9
SRBI	**Singaraja**	**3.04**	**28**	P	Pn	15 47 52.5	+1.5
PWJI	**Pagerwojo**	**3.37**	**325**	P	Pn	15 47 54.8	-0.8
PCJI	**Pacitan**	**3.64**	**315**	P	Pn	15 47 59.1	-0.2
TWSI	**Taliwang, Sumb**	**3.68**	**57**	P	Pn	15 48 00.7	+0.9
PLAI	**Plampang**	**4.39**	**64**	P	Pn	15 48 10.1	+0.4
KPJI	**Karang Pucung**	**5.89**	**305**	P	Pn	15 48 31.4	+1.1
CISI	**Cisompet, Garu**	**6.71**	**298**	P	Pn	15 48 39.5	-2.0
LEM	**Lembang**	**7.25**	**302**	LR	LR	15 52 20.1	
	comp=Z,59nm,18.4s,baz=159,slow=44						
EDFI	**Ende, Flores**	**8.06**	**76**	P	Pn	15 49 01.7	+1.6
CGJI	**Cibinong**	**9.01**	**297**	P	Pn	15 49 11.5	-1.5
BATI	**Baumata**	**9.74**	**87**	Pn	Pn	15 49 23.7	+0.6
	1.7nm,0.3s,baz=287,slow=11,SNR=3.1						
BATI				Sn	Sn	15 51 08.1	-3.2
	1.1nm,0.3s,baz=345,slow=19,SNR=3.0						
LUWI	**Luwuk**	**13.18**	**43**	P	Pn	15 50 11.0	+0.9
SIJI	**Sorong**	**19.98**	**62**	P	P	15 51 34.2	-0.7
	0.2nm,0.5s,baz=121,slow=18,SNR=2.4						
WRA	**Warramunga Arr**	**21.79**	**117**	P	P	15 51 56.8	+2.3
	1.0nm,0.5s,baz=290,slow=11,SNR=15						
ASAR	**Alice Springs**	**23.05**	**126**	P	P	15 52 08.6	+0.7
	0.7nm,0.6s,baz=301,slow=9.3,SNR=16						
CMAR	**Chiang Mai Arr**	**32.54**	**333**	P	P	15 53 34.4	+1.0
	0.7nm,0.8s,baz=153,slow=7.9,SNR=6.2						
H08S2	**Diego Garcia H**	**40.85**	**271**	T	T	16 37 56.6	
	baz=104,slow=74						
H08S3	**Diego Garcia H**	**40.86**	**271**	T	T	16 37 57.8	
	baz=104,slow=74						
H08S1	**Diego Garcia H**	**40.87**	**271**	T	T	16 38 07.5	
	baz=104						
USRK	**Ussuriysk Ar.**	**57.18**	**16**	P	P	15 56 47.9	-0.8
	1.7nm,0.7s,baz=187,slow=9.1,SNR=4.4						
SONM	**Songino Array**	**58.73**	**354**	P	P	15 56 59.7	-0.1
	0.6nm,0.5s,baz=174,slow=8.3,SNR=5.6						
MKAR	**Makanchi Array**	**63.87**	**336**	P	P	15 57 34.8	+0.3
	0.3nm,0.3s,baz=148,slow=7.2,SNR=8.9						
ZALV	**Zalesovo Beam**	**69.02**	**342**	P	P	15 58 07.2	0.0
	1.0nm,0.5s,baz=162,slow=4.5,SNR=5.5						

*IDC **19** 16:11:46.8±0.9, 17.51S×173.15W, h0km, mb4.0/10, mb1 4.3/10, mb1mx4.0/46, mbtmp4.0/10, MS3.6/6, Ms1 3.6/6, ms1mx3.3/33, Error ellipse: s-maj=39.3km s-min=18.5km az=147.0*

*NEIC **19** 16:11:48.2±0.5, 17.47S×173.18W, h10km, mb4.5/2, Error ellipse: s-maj=18.4km s-min=9.3km az=133.0*

*ISCJB **19** 16:11:49.3±0.6, 17.4S±0.1×173.3W±0.1, h28km, mb4.1/13, MS3.9/5, Error ellipse: s-maj=21.3km s-min=11.5km az=139.3*

ISC 19 16:11:50.9±0.8, 17.4S±0.2×173.2W±0.2, h28km, n33, σ1s03/24, mb4.2/13, MS3.7/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.72**	**21**	Pn	Pn	16 12 41.7	-5.0
	8.8nm,0.3s,baz=268,slow=2.4,SNR=9.0						
AFI				Sn	Sn	16 13 22.0	-7.7
	23nm,0.3s,baz=183,slow=22,SNR=8.0						
AFI	**Afiamalu**	**3.72**	**21**	*e*Pn	**Pn**	**16 12 44.8**	**-1.8**
AFI				eSn	Sn	16 13 19.9	-10
RAR	**Rarotonga**	**13.20**	**109**	Pn	Pn	16 14 45.1	-11
	1.1nm,0.3s,baz=240,slow=8.1,SNR=3.3						
RAR				LR	LR	16 18 56.0	
	comp=Z,173nm,18.1s,baz=271,slow=33						
DZM	**Mont Dzumac**	**19.74**	**253**	LR	LR	16 22 59.8	
	comp=Z,261nm,18.5s,baz=56,slow=34						
DZM	**Mont Dzumac**	**19.74**	**253**	eLR	LR	16 21 09.1	
	252nm,23.9s						
URZ	**Urewera**	**22.46**	**200**	P	**P**	**16 16 46.9**	**-0.8**
	3.9nm,0.5s,baz=19,slow=2.9,SNR=8.9						
PPT2	**Papeete2**	**22.50**	**94**	eLR	LR	16 21 56.6	
	192nm,25.2s						
PPT	**Papeete**	**22.50**	**94**	LR	LR	16 22 49.1	
	comp=Z,78nm,20.3s,baz=266,slow=30						
TBI	**Tubuai**	**22.98**	**109**	eLR	LR	16 22 06.5	
	251nm,27.5s						
BKZ	**Black Stump Fm**	**23.48**	**200**	*e*P	**P**	**16 16 57.0**	**-1.3**
	60nm,1.7s						
HNR	**Honiara**	**27.30**	**283**	P	**P**	**16 17 34.2**	**+0.8**
	5.2nm,0.3s,baz=175,slow=12,SNR=5.0						
HNR				LR	LR	16 27 04.6	
	comp=Z,239nm,18.0s,baz=139,slow=34						
CTA	**Charters Tower**	**38.45**	**259**	P	**P**	**16 19 10.2**	**-0.4**
	1.9nm,0.9s,baz=85,slow=15,SNR=3.9						
JAY	**Jayapura**	**47.62**	**283**	LR	LR	16 39 10.6	
	comp=Z,72nm,18.6s,baz=195,slow=34						
WR1	**Warramunga Arr**	**49.63**	**258**	*e*P	**P**	**16 20 39.2**	**-1.1**
	26nm,1.8s						
WRA	**Warramunga Arr**	**49.63**	**258**	P	**P**	**16 20 39.2**	**-1.1**
	1.7nm,0.7s,baz=96,slow=8.3,SNR=27						
AS01	**Alice Springs**	**49.69**	**253**	*e*P	**P**	**16 20 39.7**	**-1.1**
AS31	**Alice Springs**	**49.73**	**253**	*e*P	**P**	**16 20 40.1**	**-1.0**
	2.0nm,0.8s						
ASAR	**Alice Springs**	**49.73**	**253**	P	**P**	**16 20 40.1**	**-0.9**
	7.6nm,0.7s,baz=89,slow=8.5,SNR=107						
ASAR				PcP	**PcP**	**16 22 02.9**	**+0.9**
	1.0nm,0.8s,baz=98,slow=5.0,SNR=4.2						
MJAR	**Matsushiro Arr**	**70.61**	**320**	LR	LR	16 48 30.2	
	comp=Z,25nm,21.9s,baz=225,slow=31						
NVAR	**Mina Array Bea**	**75.67**	**42**	P	**P**	**16 23 34.3**	**+0.3**
	0.1nm,0.4s,baz=214,slow=7.7,SNR=2.7						
LTX	**Lajitas**	**81.54**	**56**	*e*P	**P**	**16 24 07.0**	**+0.7**
TXAR	**Lajitas Array**	**81.54**	**56**	P	**P**	**16 24 07.0**	**+0.7**
	0.7nm,1.0s,baz=218,slow=5.9,SNR=4.3						
PDAR	**Pinedale Array**	**83.61**	**42**	P	**P**	**16 24 16.9**	**-0.1**
	0.2nm,0.4s,baz=293,slow=5.6,SNR=2.3						
ILAR	**Eielson Array**	**84.36**	**11**	P	**P**	**16 24 20.2**	**+0.2**
	0.4nm,0.7s,baz=236,slow=5.5,SNR=4.5						
CM01	**Chiang Mai Arr**	**93.42**	**288**	*e*P	**P**	**16 25 05.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**93.45**	**288**	P	**P**	**16 25 06.7**	**+2.3**
	0.5nm,0.3s,baz=124,slow=2.0,SNR=8.0						
LPAZ	**La Paz**	**98.92**	**110**	LR	LR	16 58 52.1	
	comp=Z,1μm,21.4s,baz=163,slow=29						
BVAR	**Borovoye Array**	**119.58**	**322**	PKP	**PKPdf**	**16 30 38.9**	**+0.9**
	0.4nm,0.7s,baz=106,slow=5.1,SNR=3.0						
KMBO	**Kilima Mbogo**	**144.82**	**241**	PKP	**PKPdf**	**16 31 26.4**	**-0.2**
	2.0nm,0.8s,baz=54,slow=2.7,SNR=6.7						
CLL	**Collm**	**145.82**	**353**	*e*PKPbc	**PKPab**	**16 31 28.0**	**+0.3**
BR101	**Keskin Array S**	**147.83**	**319**	*e*PKPbc	**PKPab**	**16 31 35.7**	**-0.5**
BRTR	**Keskin Array B**	**147.83**	**319**	PKPbc	**PKPab**	**16 31 35.7**	**-0.5**
	1.6nm,1.0s,baz=127,slow=4.7,SNR=2.3						
GERES	**GERESS Array B**	**148.14**	**351**	PKPbc	**PKPbc**	**16 31 35.1**	**+1.0**
	0.4nm,0.5s,baz=356,slow=3.1,SNR=3.7						

*SJA **19** 16:18:38.0±0.5, 33.90S×72.77W, h23km±54km, ML3.6, MW3.6*

*GUC **19** 16:18:39.5±0.5, 33.98S×72.35W, h35km±3km, ML3.5*

ISC 19 16:18:41.3±1.9, 34.13S±0.06×72.2W±0.1, h15km±12km, n17, σ1s80/25, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**HualaæØ**	**0.91**	**167**	*e*P	**Pg**	**16 18 58.8**	**0.0**
GO05				*e*S	**Sn**	**16 19 13.2**	**+0.8**
ANTU	**Antumapu**	**1.40**	**67**	*e*P	**Pn**	**16 19 05.6**	**-0.7**
ANTU				*e*S	**Sn**	**16 19 24.9**	**+0.3**
ROC1	**El Roble**	**1.50**	**41**	*e*P	**Pb**	**16 19 09.3**	**+0.3**
ROC1				*e*S	**Sg**	**16 19 31.8**	**+2.0**
ROCH	**El Roble**	**1.51**	**41**	*e*P	**Pn**	**16 19 05.6**	**-2.3**
ROCH				IAML		16 19 33.6	
	comp=N,1μm,0.5s						
CLCH	**Cerro Calan**	**1.55**	**62**	*e*P	**Pn**	**16 19 07.4**	**-1.0**
CLCH				*e*S	**Sn**	**16 19 28.6**	**+0.4**
CLCH				IAML		16 19 36.5	
	comp=E,956nm,0.3s						
PEL	**Peldehue**	**1.58**	**52**	*e*P	**Pg**	**16 19 11.6**	**-0.1**
PEL	**Peldehue**	**1.58**	**52**	*e*P	**Pn**	**16 19 07.5**	**-1.3**
PEL				*e*S	**Sn**	**16 19 28.9**	**-0.2**
PEL				IAML		16 19 36.8	
	comp=N,1μm,0.2s						
LMEL	**Las Melosas**	**1.66**	**81**	*e*P	**Pn**	**16 19 10.3**	**+0.3**
LMEL				*e*S	**Sb**	**16 19 33.7**	**+1.1**
LMEL				IAML		16 19 37.4	
	comp=N,826nm,0.3s						
FCH	**Farellones**	**1.76**	**64**	*e*P	**Pn**	**16 19 10.7**	**-0.9**
FCH				*e*S	**Sn**	**16 19 34.7**	**+0.8**
FCH				IAML		16 19 41.6	
	comp=E,789nm,0.2s						
AAGR	**Agrelo**	**2.98**	**71**	*e*P	**Pb**	**16 19 32.7**	**-1.5**
ARCO	**CERRO ARCO**	**3.00**	**66**	*e*P	**Pb**	**16 19 32.5**	**-2.0**
ARCO				IAML		16 19 38.5	
	comp=Z,230nm,0.4s						
AUSP	**Uspallata**	**3.01**	**52**	*e*P	**Pb**	**16 19 32.0**	**-2.8**
ASAL	**Salagasta**	**3.19**	**62**	*e*P	**Pb**	**16 19 34.9**	**-2.8**
ASAL				*e*S	**Sb**	**16 20 17.3**	**+0.9**
RTLS	**Leoncito**	**3.35**	**47**	*e*P	**Pn**	**16 19 36.4**	**+2.9**
RTLS				*e*S	**Sb**	**16 20 19.6**	**-1.7**
RTLS				IAML		16 20 33.9	
	comp=Z,61nm,0.4s						
RTCV	**Cerro Valdivia**	**3.80**	**55**	*e*P	**Pn**	**16 19 42.5**	**+3.2**
RTLL	**Cerro Villicun**	**4.18**	**49**	*e*P	**Pn**	**16 19 47.4**	**+2.8**
ACAN	**Cantantal**	**4.57**	**68**	*e*P	Pn	16 19 54.8	+4.9

*NIED **19** 16:22:00, 37.60N×138.60E, h8km, Mw3.5 Best double couple: M0 2.11000×10^14 NP1:φs219.00000°, δ34.00000°, λ90.00000°. NP2:φs38.00000°, δ56.00000°, λ90.00000°.*

*IDC **19** 16:22:46.5±1.5, 37.57N×138.68E, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.3/61, mbtmp3.7/3, ML3.3/1, MS2.9/2, Ms1 2.9/2, ms1mx2.3/47, Error ellipse: s-maj=22.6km s-min=13.8km az=110.0*

*ISCJB **19** 16:22:47.9±0.5, 37.61N±0.04×138.58E±0.04, h22km±6km, mb3.8/2, MS3.1/1, Error ellipse: s-maj=6.2km s-min=5.7km az=139.2*

*JMA **19** 16:22:48.2, 37.62N×138.58E, h17km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs340.00000°, δ63.00000°, λ-59.00000°. NP2: φs106.00000°, δ40.00000°, λ-136.00000°. Principal axes: T Plg13.0000°, Azm48.0000°; N Plg28.0000°, Azm145.0000°; P Plg59.0000°, Azm295.0000°;*

JMA Felt II J1.

ISC 19 16:22:48.3±0.9, 37.58N±0.04×138.59E±0.04, h15km±6km, n12, σ0s99/18, 3C-3D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.10**	**117**	⇓P	**Pg**	**16 22 51.7**	**0.0**
JIZZ				S	**Sg**	**16 22 54.7**	**+0.8**
JHK	**Hiroka**	**0.47**	**134**	⇓P	**Pb**	**16 22 57.6**	**-0.7**
JHK				S	**Sb**	**16 23 04.6**	**-0.5**
JSD	**Sado**	**0.53**	**330**	⇓P	**Pg**	**16 22 57.8**	**-1.0**
JSD				S	**Sg**	**16 23 04.7**	**-1.2**
JJN	**Nakama**	**0.59**	**216**	⇑P	**Pb**	**16 22 59.9**	**-0.4**
JJN				S	**Sb**	**16 23 09.0**	**+0.7**
JNS	**Sasagawa**	**0.62**	**67**	⇑P	**Pb**	**16 23 00.1**	**-0.8**
JNS				S	**Sb**	**16 23 09.1**	**-0.3**
JFY	**Yanaizu**	**0.90**	**101**	⇑P	**Pb**	**16 23 05.2**	**-0.5**
JFY				S	**Sb**	**16 23 17.3**	**-0.2**
MAT	**Matsushiro**	**1.08**	**197**	P	**Pg**	**16 23 07.9**	**-1.3**
MAT				S	**Sg**	**16 23 22.5**	**-0.8**
MJAR	**Matsushiro Arr**	**1.08**	**197**	Pg	**Pg**	**16 23 08.0**	**-1.3**
	67nm,0.3s,baz=11,slow=16,SNR=508						
MJAR				Lg	Lg	16 23 22.9	
	110nm,0.3s,baz=18,slow=28,SNR=37						
KSRS	**Korea Array**	**8.48**	**272**	Pn	**Pn**	**16 24 52.5**	**+1.9**
	0.4nm,0.3s,baz=85,slow=14,SNR=4.9						
KSRS				LR	LR	16 27 45.2	
	comp=Z,28nm,18.1s,baz=25,slow=35						
GUMO	**Guam**	**24.54**	**165**	LR	LR	16 37 41.8	
	comp=Z,61nm,19.2s,baz=134,slow=36						
ILAR	**Eielson Array**	**50.24**	**32**	P	**P**	**16 31 44.1**	**+0.8**
	0.6nm,0.8s,baz=281,slow=9.1,SNR=4.0						
WRA	**Warramunga Arr**	**57.35**	**185**	P	**P**	**16 32 35.8**	**-0.1**
	0.7nm,0.5s,baz=0.6,slow=7.6,SNR=19						

*ISK **19** 16:29:41.9, 40.82N×34.04E, h5km, ML2.3/8*

*DDA **19** 16:29:42.8, 40.86N×33.96E, h7km, Ml2.6*

*ISCJB **19** 16:29:43.1±0.6, 40.87N±0.03×33.99E±0.04, h5km±6km, Error ellipse: s-maj=5.6km s-min=4.9km az=32.4*

ISC 19 16:29:42.5±1.3, 40.83N±0.04×33.98E±0.03, h4km±13km, n14, σ0s67/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOS	**Tosya**	**0.21**	**8**	PG	**Pg**	**16 29 46.9**	**+0.2**
ILGA	**Ilgaz**	**0.30**	**318**	*i* P	**Pg**	**16 29 48.9**	**+0.4**
ILGA				*i* S	**Sg**	**16 29 52.2**	**-0.3**
CANT	**Cankiri**	**0.35**	**232**	PG	**Pb**	**16 29 50.7**	**-0.6**
CANT				SG	**Sb**	**16 29 56.9**	**-0.3**
ELDT	**Eldivan**	**0.54**	**232**	*i* P	**Pb**	**16 29 54.0**	**-0.6**
ELDT				*i* S	**Sb**	**16 30 03.6**	**+0.8**
CTAK	**Corum_Osmancik**	**0.64**	**106**	*i* P	**Pb**	**16 29 56.2**	**-0.2**
CTAK				*i* S	**Sb**	**16 30 06.8**	**+1.1**
CORM	**Corum**	**0.81**	**142**	PG	**Pg**	**16 29 58.2**	**+0.1**
CORM				SG	**Sb**	**16 30 10.1**	**-0.5**
COAL	**Corum-Alaca**	**0.95**	**126**	*i* P	**Pb**	**16 30 01.8**	**+0.1**
COAL				*i* S	**Sn**	**16 30 15.8**	**-1.0**
BZK	**Bozkurt**	**1.13**	**1**	PN	**Pn**	**16 30 05.1**	**0.0**
CDAG	**Cicekdag**	**1.24**	**166**	*i* P	**Pg**	**16 30 06.3**	**0.0**
CDAG				*i* S	**Sn**	**16 30 25.1**	**+1.3**
DIKM	**Dikmen**	**1.27**	**49**	PN	**Pn**	**16 30 06.7**	**-0.2**
ANTO	**Ankara**	**1.32**	**224**	PN	**Pg**	**16 30 08.5**	**+0.7**
AFSR	**Afˇar-Bala (A**	**1.54**	**207**	PN	**Pb**	**16 30 11.9**	**+0.2**
YOZ	**Yozgat**	**1.57**	**139**	PN	**Pb**	**16 30 11.6**	**-0.5**
KULU	**Kulu**	**1.93**	**203**	PN	**Pb**	**16 30 17.5**	**-0.8**

*GUC **19** 16:34:24.4±0.6, 17.92S×70.71W, h32km±4km, ML4.3*

*ISCJB **19** 16:34:25.3±0.6, 17.75S±0.04×70.49W±0.05, h63km±6km, mb4.5/23, Error ellipse: s-maj=9.1km s-min=6.0km az=150.3*

*NEIC **19** 16:34:26.4±0.3, 17.84S×70.42W, mb4.6/6, ML4.2(GUC), Error ellipse: s-maj=8.8km s-min=4.9km az=79.0*

NEIC Felt at Ilabaya. Felt [III] at Alcerreca and [II] at Arica, Poconchile and Putre, Chile.

*IDC **19** 16:34:27.1±0.5, 17.74S×70.29W, h57km±3km, mb4.0/13, mb1 4.2/18, mb1mx4.1/33, mbtmp4.3/18, MS3.3/3, Ms1 3.3/3, ms1mx2.9/34, Error ellipse: s-maj=17.5km s-min=13.7km az=46.0*

ISC 19 16:34:26.7±0.5, 17.75S±0.04×70.41W±0.06, h58km±4km, n78, σ1s43/91, mb4.5/23, 1C-10D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**0.86**	**175**	⇓*i* P	**Pn**	**16 34 41.9**	**-1.1**
PB12				*i* S	**Sn**	**16 34 52.7**	**-2.2**
PB12				IAML		16 34 54.3	
	comp=N,11μm,0.4s						
PB16	**IPOC Station P**	**1.04**	**124**	⇓*i* P	**Pn**	**16 34 47.0**	**+1.2**
PB16				*i* S	**Sn**	**16 35 01.5**	**+1.8**
PB16				IAML		16 35 03.5	
	comp=E,10μm,0.6s						
MNMC	**Minye Minye**	**1.57**	**151**	*e*Pn	**Pn**	**16 34 52.5**	**-0.2**
MNMC	**Minye Minye**	**1.57**	**151**	⇓*i* P	**Pn**	**16 34 52.6**	**0.0**
MNMC				*i* S	**Sn**	**16 35 13.6**	**+1.5**
PSGC	**Pisagua**	**1.85**	**171**	⇓*i* P	**Pn**	**16 34 55.1**	**-1.2**
PSGC				*i* S	**Sn**	**16 35 17.6**	**-1.1**
PSGC				IAML		16 35 22.9	
	comp=E,2μm,0.2s						
PB11	**IPOC Station P**	**2.12**	**160**	*e*Pn	**Pn**	**16 34 58.8**	**-1.1**
PB11	**IPOC Station P**	**2.12**	**160**	⇓*i* P	**Pn**	**16 34 58.9**	**-1.1**
PB11				*i* S	**Sn**	**16 35 26.2**	**+0.9**
PB11				IAML		16 35 29.5	
	comp=N,3μm,0.4s						
GO01	**Chusmiza**	**2.23**	**149**	⇓*i* P	**Pn**	**16 35 02.6**	**+0.8**
GO01				IAML		16 35 36.4	
	comp=E,4μm,0.3s						
LPAZ	**La Paz**	**2.63**	**57**	P	Pn	16 35 13.0	+5.7
	comp=E,14nm,0.3s,baz=236,slow=8.1,SNR=294						
LPAZ				S	**Sn**	**16 35 32.1**	**-6.2**
	comp=E,13nm,0.3s,baz=247,slow=12,SNR=6.6						
LPAZ				LR	LR	16 36 05.2	
	comp=E,120nm,18.1s,baz=244,slow=39						
LPAZ	**La Paz**	**2.63**	**57**	*e*P	Pn	16 35 12.9	+5.6
PB08	**IPOC Station P**	**2.66**	**154**	⇓*i* P	**Pn**	**16 35 07.8**	**+0.3**
PB08				*i* S	**Sn**	**16 35 41.2**	**+2.4**
PB08				IAML		16 35 48.2	
	comp=N,3μm,0.4s						
PB01	**IPOC Station P**	**3.39**	**165**	*e*Pn	**Pn**	**16 35 16.3**	**-0.9**
PB01	**IPOC Station P**	**3.39**	**165**	⇓*i* P	**Pn**	**16 35 16.6**	**-0.7**
PB02	**IPOC Station P**	**3.58**	**172**	*e*P	**Pn**	**16 35 18.9**	**-1.1**
PB03	**IPOC Station P**	**4.32**	**172**	⇓*i* P	**Pn**	**16 35 28.9**	**-1.1**
PB04	**IPOC Station P**	**4.56**	**177**	*e*Pn	**Pn**	**16 35 31.2**	**-2.3**
PB04	**IPOC Station P**	**4.56**	**177**	⇓*i* P	**Pn**	**16 35 31.5**	**-1.9**
LVC	**Limon Verde**	**5.03**	**164**	P	**Pn**	**16 35 40.3**	**+0.2**
	comp=N,16nm,0.3s,baz=2.4,slow=7.8,SNR=201						
LVC				S	**Sn**	**16 36 34.0**	**-3.1**
	comp=N,19nm,0.3s,baz=327,slow=15,SNR=7.3						
LVC	**Limon Verde**	**5.03**	**164**	*e*Pn	**Pn**	**16 35 39.8**	**-0.3**
LVC				S	**Sn**	**16 36 34.0**	**-3.1**
PB10	**IPOC Station P**	**5.73**	**181**	*e*Pn	**Pn**	**16 35 46.4**	**-2.9**
GO02	**Mina Guanaco**	**7.41**	**174**	*e*Pn	**Pn**	**16 36 09.6**	**-3.0**
NNA	**Nana**	**8.45**	**312**	P	**Pn**	**16 36 27.8**	**+1.1**
	comp=N,2.6nm,0.3s,baz=135,slow=13,SNR=3.7						
NNA				S	**Sn**	**16 38 01.2**	**+0.5**
	baz=236,slow=15,SNR=1.6						
NNA	**Nana**	**8.45**	**312**	*e*Pn	**Pn**	**16 36 27.2**	**+0.6**
NNA				S	**Sn**	**16 38 01.2**	**+0.5**
SIV	**San Ignacio**	**9.11**	**80**	P	**Pn**	**16 36 36.2**	**+0.6**
	comp=N,3.7nm,0.3s,baz=272,slow=14,SNR=66						
GO03	**Copiap**	**9.80**	**179**	*e*Pn	**Pn**	**16 36 41.5**	**-3.5**
LCO	**Las Campanas**	**11.21**	**181**	*e*Pn	**Pn**	**16 37 00.3**	**-4.2**
SAML	**Samuel**	**11.22**	**40**	*e*Pn	**Pn**	**16 37 04.9**	**+0.4**
GO04	**Tololo Observa**	**12.37**	**182**	*e*Pn	Pn	16 37 15.3	-5.0
CPUP	**Villa Florida**	**14.82**	**127**	P	**Pn**	**16 37 53.6**	**+0.6**
	comp=N,0.2nm,0.3s,baz=204,slow=20,SNR=2.8						
PTGA	**Pitinga**	**19.79**	**32**	P	**P**	**16 38 53.2**	**+0.7**
	comp=N,5.1nm,0.3s,baz=207,slow=12,SNR=46						
PTGA	**Pitinga**	**19.79**	**32**	*e*P	**P**	**16 38 52.5**	**0.0**
	comp=N,20nm,0.4s						
TRQA	**Tornquist**	**21.54**	**162**	*e*P	**P**	**16 39 11.0**	**-0.2**
	comp=N,17nm,1.3s						
BDFB	**Brasilia**	**21.56**	**88**	P	**P**	**16 39 10.8**	**-0.9**
	comp=N,2.2nm,0.5s,baz=305,slow=14,SNR=3.1						
PLCA	**Paso Flores**	**22.90**	**180**	P	**P**	**16 39 26.3**	**+0.5**
	comp=N,3.5nm,1.0s,baz=12,slow=10,SNR=8.0						
MDP	**Montagnes des**	**28.70**	**39**	P	**P**	**16 40 18.5**	**-0.1**
	comp=N,4.0nm,0.7s,baz=208,slow=11,SNR=4.2						
T49A	**Edmonton**	**56.40**	**346**	*e*P	**P**	**16 44 02.3**	**0.0**
	comp=N,1nm,0.7s						
TXAR	**Lajitas Array**	**56.76**	**325**	P	**P**	**16 44 05.8**	**+0.7**
	comp=N,0.4nm,0.6s,baz=151,slow=10,SNR=6.2						
TXAR				pP	**pP**	**16 44 19.7**	**-0.8**
	comp=N,0.7nm,0.6s,baz=142,slow=8.2,SNR=7.9						
TXAR				sP	**sP**	**16 44 28.2**	**+1.2**
	comp=N,0.7nm,0.6s,baz=152,slow=8.0,SNR=5.6						
SIUC	**Southern Illin**	**57.94**	**342**	*e*P	**P**	**16 44 12.9**	**-0.2**
	comp=N,22nm,0.8s						
FVM	**French Village**	**58.55**	**342**	*e*P	**P**	**16 44 16.7**	**-0.6**
	comp=N,11nm,0.6s						
VNA3	**Neumayer Olymp**	**64.06**	**162**	P	**P**	**16 44 53.0**	**-1.3**
SDCO	**Great Sand Dun**	**64.32**	**330**	*e*P	**P**	**16 44 57.6**	**+1.0**
	comp=N,13nm,1.8s						
VNA2	**Neumayer--Watz**	**64.64**	**161**	P	**P**	**16 44 58.5**	**+0.5**
	baz=280,slow=8.9						
**

az=34.8

DJA ***19*** *16:36:52.8±2.4, 11˚S±14˚×11˚4E±˚, h28km±37km, M3.9/8, mb4.3/1, MLv3.6/8*

IDC ***19*** *16:37:26.5±2.9, 13˚16S×116˚40E, h0km, mb3.8/1, mb1 3.3/3, mb1mx3.2/28, mbtmp3.2/3, ML2.9/2, Error ellipse: s-maj=111.9km s-min=32.3km az=45.0*

ISC 19 16:36:52.8±1.6, 10.8S±0.2×113.72E±0.09, h35km, n8, σ0.92/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**2.35**	**10**	P	**Pn**	**16 37 28.5**	**-0.5**
SRBI	**Singaraja**	**3.07**	**29**	P	**Pn**	**16 37 39.7**	**+0.9**
PWJI	**Pagerwojo**	**3.34**	**325**	P	**Pn**	**16 37 41.6**	**-1.0**
TWSI	**Taliwang, Sumb**	**3.73**	**57**	P	**Pn**	**16 37 47.8**	**-0.1**
UGM	**Wanagama**	**4.26**	**312**	P	**Pn**	**16 37 55.7**	**+0.4**
PLAI	**Plampang**	**4.45**	**64**	P	**Pn**	**16 37 56.9**	**-0.9**
WRA	**Warramunga Arr**	**21.84**	**117**	P	**P**	**16 41 43.5**	**+1.1**
	0.1nm,0.3s,baz=289,slow=12,SNR=4.5						
ASAR	**Alice Springs**	**23.10**	**126**	P	**P**	**16 41 55.4**	**-0.4**
	0.0nm,0.3s,baz=302,slow=9.3,SNR=5.6						

ISCJB ***19*** *16:45:47.2±1.1, 33.92S±0.02×72.44W±0.03, h1km±6km, mb5.1/135, MS4.5/13, Error ellipse: s-maj=4.1km s-min=4.1km az=153.2*

IDC ***19*** *16:45:48.9±0.5, 33.97S×72.09W, h0km, mb4.6/14, mb1 4.7/17, mb1mx4.6/25, mbtmp4.6/17, ML4.4/3, MS4.4/14, Ms1 4.4/14, ms1mx4.2/26, Error ellipse: s-maj=22.3km s-min=14.9km az=89.0*

SJA ***19*** *16:45:49.5±0.5, 33.64S×72.92W, h54km±7km, ML5.0, MW4.5*

NEIC ***19*** *16:45:50.4±0.4, 33.93S×72.17W, h11km±2km, mb5.1/125, MW4.9(GUC), Error ellipse: s-maj=5.0km s-min=2.9km az=82.0*

NEIC Felt [IV] at Navidad and Pichilemu; [III] at Las Cabras, Linares, Litueche, Paredones, Talca, Valparaiso and Vina del Mar; [II] at Colbun, Iloca, Maule, Parral, Rancagua, Rio Claro, San Antonio, San Clemente, Villa Alegre and Villa Alemana. Also felt at Las Condes, Puente Alto, Renca, San Bernardo and Santiago.

GUC ***19*** *16:45:50.1±0.6, 33.96S×72.44W, h33km±3km, ML4.8, MW4.9*

MOS ***19*** *16:45:52.8±1.2, 33.94S×72.12W, h33km, mb5.2/34, Error ellipse: s-maj=12.7km s-min=6.8km az=94.4*

GCMT ***19*** *16:45:53.4±0.3, 33.92S±0.02×72.42W±0.02, h21km±1km, MW5.1/74, Moment Tensor Solution. s39,c47; s74,c103; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.82±.20; Mθθ-0.05±.13; Mϕϕ-3.77±.15; Mrθ-0.47±.22; Mϕθ0.17±.09; Mϕr-3.69±.27; Best double couple: Ms5.31700×10¹⁶ NP1:ϕs184.00000°, δ67.00000°, λ95.00000°. NP2: ϕs351.00000°, δ23.00000°, λ78.00000°. Principal axes: T 5.3650, Plg67.0000°, Azm104.0000°; N -0.1000, Plg5.0000°, Azm2.0000°; P -5.2680, Plg22.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 16:45:51.6±0.6, 33.93S±0.03×72.31W±0.05, h23km±4km, h24km:pP-P, n636, σ1.9/36/595, mb5.1/135, MS4.6/13, 17C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO05	**HualaæØ**	**1.12**	**164**	*e*Pg	**Pb**	**16 46 10.7**	**-1.7**
GO05	**HualaæØ**	**1.12**	**164**	*e*P	**Pn**	**16 46 10.4**	**-1.6**
GO05				*e*S	**Sb**	**16 46 25.1**	**-1.6**
GO05				IAML		16 46 27.0	
	comp=E,42μm,0.6s						
ROC1	**El Roble**	**1.44**	**49**	*e*Pn	**Pb**	**16 46 17.3**	**-0.5**
ROC1	**El Roble**	**1.44**	**49**	*e*P	**Pb**	**16 46 19.2**	**+1.3**
ROC1				*e*S	**Sb**	**16 46 41.1**	**+5.3**
ANTU	**Antumapu**	**1.44**	**76**	*e*P	**Pb**	**16 46 17.0**	**-0.8**
ANTU				*e*S	**Sb**	**16 46 37.0**	**+1.3**
ANTU				IAML		16 46 41.2	
	comp=E,24μm,0.4s						
ROCH	**El Roble**	**1.44**	**49**	*e*P	**Pb**	**16 46 17.1**	**-0.9**
ROCH				*e*S	**Sb**	**16 46 37.7**	**+1.8**
PEL	**Peldehue**	**1.56**	**60**	*e*Pn	**Pb**	**16 46 19.3**	**-0.6**
PEL	**Peldehue**	**1.56**	**60**	*e*P	**Pb**	**16 46 22.1**	**+2.2**
PEL				*e*S	**Sb**	**16 46 45.8**	**+6.5**
PEL	**Peldehue**	**1.56**	**60**	*e*P	**Pb**	**16 46 19.1**	**-0.8**
PEL				*e*S	**Sb**	**16 46 40.8**	**+1.5**
PEL	**Peldehue**	**1.56**	**60**	*e*P	**Pb**	**16 46 19.3**	**-0.6**
CLCH	**Cerro Calan**	**1.57**	**71**	*e*P	**Pb**	**16 46 18.9**	**-1.1**
CLCH				*e*S	**Sb**	**16 46 41.2**	**+1.8**
CLCH				IAML		16 46 53.4	
	comp=E,19μm,0.6s						
LMEL	**Las Melosas**	**1.75**	**88**	*e*P	**Pn**	**16 46 21.7**	**+1.0**
LMEL				*e*S	**Sb**	**16 46 46.4**	**+1.7**
LMEL				IAML		16 46 52.8	
	comp=N,12μm,0.5s						
FCH	**Farellones**	**1.78**	**71**	*e*P	**Pn**	**16 46 22.0**	**+0.7**
AUSP	**Uspallata**	**2.98**	**56**	*e*P	**Pb**	**16 46 41.8**	**-2.4**
AUSP				*e*S	**Sb**	**16 47 19.8**	**-0.5**
ARCO	**CERRO ARCO**	**3.02**	**70**	*e*P	**Pb**	**16 46 43.1**	**-1.8**
AAGR	**Agrelo**	**3.02**	**75**	*e*P	**Pb**	**16 46 43.4**	**-1.5**
ASAL	**Salagasta**	**3.20**	**66**	*e*P	**Pb**	**16 46 45.2**	**-2.6**
RFA	**San Rafael**	**3.29**	**106**	*e*P	**Pb**	**16 46 49.1**	**-0.2**
RFA				*e*S	**Sb**	**16 47 33.5**	**+4.6**
RTLS	**Leoncito**	**3.30**	**51**	*e*P	Pb	16 46 45.6	-4.1
RTLS				IAML		16 46 54.8	
	comp=Z,1μm,0.4s						
RTCV	**Cerro Valdivia**	**3.78**	**58**	*e*P	**Pn**	**16 46 52.1**	**+3.7**
GO04	**Tololo Observa**	**3.95**	**19**	*e*Pn	**Pn**	**16 46 51.4**	**+0.3**
GO04	**Tololo Observa**	**3.95**	**19**	*e*P	**Pn**	**16 46 51.5**	**+0.4**
AMOG	**MOGNA**	**4.39**	**48**	*e*P	**Pn**	**16 46 59.6**	**+2.7**
ACAN	**Cantantal**	**4.60**	**70**	*e*P	Pn	16 47 04.7	+4.9
LCO	**Las Campanas**	**5.09**	**16**	*e*Pn	**Pn**	**16 47 06.2**	**-0.5**
LCO	**Las Campanas**	**5.09**	**16**	*e*P	**Pn**	**16 47 06.2**	**-0.5**
GO06	**Curarrehue**	**5.69**	**173**	*e*Pn	**Pn**	**16 47 15.0**	**+0.2**
MRA	**San Martin**	**5.72**	**77**	*e*P	Pn	16 47 20.2	+4.9
GO03	**Copiap**	**6.56**	**16**	*e*Pn	**Pn**	**16 47 26.0**	**-0.7**
PLCA	**Paso Flores**	**6.94**	**169**	Pn	**Pn**	**16 47 31.9**	**0.0**
	comp=Z,1.1nm,0.3s,baz=358,slow=12,SNR=32						
PLCA				Lg	Lg	16 49 14.3	
	baz=289,slow=18,SNR=1.8						
PLCA				LR	LR	16 50 07.9	
	comp=Z,1μm,18.6s,baz=12,slow=38						
GO07	**Milladeo Hill,**	**9.24**	**186**	*e*Pn	**Pn**	**16 48 04.5**	**+1.1**
TRQA	**Tornquist**	**9.33**	**119**	*e*Pn	**Pn**	**16 48 05.5**	**+1.0**
TRQA	**Tornquist**	**9.33**	**119**	*e*P	**Pn**	**16 48 05.6**	**+1.0**
PB10	**IPOC Station P**	**10.49**	**9**	*e*Pn	**Pn**	**16 48 18.8**	**-1.8**
LVC	**Limon Verde**	**11.66**	**16**	Pn	Pn	16 48 32.5	-4.5
	comp=Z,1.3nm,0.3s,baz=195,slow=10,SNR=2.4						
LVC				Sn	**Sn**	**16 50 38.5**	**-8.2**
	comp=Z,1.3nm,0.3s,baz=253,slow=14,SNR=2.6						
LVC				Lg	Lg	16 51 19.4	
	comp=Z,1.6nm,0.3s,baz=3.5,slow=19,SNR=11						
LVC				LR	LR	16 53 12.1	
	comp=Z,2μm,19.8s,baz=212,slow=38						
LVC	**Limon Verde**	**11.66**	**16**	*e*Pn	**Pn**	**16 48 33.3**	**-3.7**
LVC				Sn	**Sn**	**16 50 38.5**	**-8.2**
LVC				Lg	Lg	16 51 19.4	
LVC	**Limon Verde**	**11.66**	**16**	*e*P	**Pn**	**16 48 33.3**	**-3.7**
PB04	**IPOC Station P**	**11.70**	**10**	*e*Pn	**Pn**	**16 48 37.7**	**+0.3**
PB01	**IPOC Station P**	**13.07**	**12**	*e*Pn	**Pn**	**16 48 56.6**	**+0.5**
CHRN	**Cochrane**	**13.31**	**181**	*e*Pn	**Pn**	**16 48 58.1**	**-1.0**
PB11	**IPOC Station P**	**14.30**	**10**	*e*Pn	**Pn**	**16 49 11.8**	**-1.1**
MNMC	**Minye Minye**	**14.93**	**10**	*e*Pn	**Pn**	**16 49 20.8**	**-0.8**
CPUP	**Villa Florida**	**15.00**	**64**	Pn	**Pn**	**16 49 20.7**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=226,slow=13,SNR=6.3						
CPUP				Sn	**Sn**	**16 52 11.0**	**+3.5**
	comp=Z,0.4nm,0.3s,baz=258,slow=9.3,SNR=1.8						
CPUP				Lg	Lg	16 53 01.4	
	comp=Z,0.3nm,0.3s,baz=128,slow=20,SNR=2.9						
CPUP				LR	LR	16 55 59.1	
	comp=Z,2μm,18.9s,baz=242,slow=41						
LPAZ	**La Paz**	**17.96**	**13**	P	**P**	**16 50 02.2**	**+1.3**
	comp=Z,1.6nm,0.3s,baz=190,slow=6.5,SNR=104						
LPAZ	**La Paz**	**17.96**	**13**	*e*Pn	**P**	**16 50 00.8**	**-0.1**
	comp=Z,44nm,0.8s						
LPAZ	**La Paz**	**17.96**	**13**	*e*P	**P**	**16 50 00.8**	**-0.1**
LPAZ				pmax	pmax		
	comp=Z,45nm,0.8s						
EFI	**East Falkland**	**20.52**	**154**	*e*P	Pn	16 50 27.2	-3.1
	comp=Z,49nm,0.9s						
EFI	**East Falkland**	**20.52**	**154**	*e*P	Pn	16 50 27.2	-3.1
EFI				pmax	pmax		
	comp=Z,49nm,0.9s						
SIV	**San Ignacio**	**20.53**	**32**	P	Pn	16 50 28.8	-1.9
	comp=Z,26nm,0.7s,baz=220,slow=9.2,SNR=149						
NNA	**Nana**	**22.23**	**348**	P	**P**	**16 50 49.2**	**+2.5**
	comp=Z,11nm,0.6s,baz=182,slow=7.3,SNR=6.2						
NNA	**Nana**	**22.23**	**348**	*e*P	**P**	**16 50 45.8**	**-0.9**
	comp=Z,47nm,1.0s						
NNA	**Nana**	**22.23**	**348**	*ce*P	**P**	**16 50 49.8**	**+3.1**
NNA				pmax	pmax		
	comp=Z,38nm,0.8s						
SPB	**Sao Paulo**	**24.06**	**71**	*e*P	**P**	**16 51 03.4**	**-1.8**
	comp=Z,125nm,1.0s						
SAML	**Samuel**	**26.24**	**21**	*e*P	**P**	**16 51 24.5**	**-0.5**
	comp=Z,57nm,1.3s						
SAML	**Samuel**	**26.24**	**21**	*ce*P	**P**	**16 51 26.1**	**+1.1**
SAML				pmax	pmax		
	comp=Z,13nm,0.8s						
ATAH	**Atahualpa**	**27.25**	**347**	P	**P**	**16 51 37.1**	**+2.6**
	comp=Z,1.7nm,0.5s,baz=63,slow=18,SNR=1.7						
BDFB	**Brasilia**	**28.48**	**56**	P	**P**	**16 51 45.1**	**-0.1**
	comp=Z,16nm,0.7s,baz=228,slow=7.9,SNR=23						
BDFB				LR	LR	17 04 02.5	
	comp=Z,1μm,19.4s,baz=230,slow=39						
BDFB	**Brasilia**	**28.48**	**56**	*e*P	**P**	**16 51 44.3**	**-0.9**
	comp=Z,52nm,1.0s						
BDFB	**Brasilia**	**28.48**	**56**	*e*P	**P**	**16 51 44.3**	**-0.9**
BDFB				pmax	pmax		
	comp=Z,52nm,1.0s						
HOPE	**Hope Point**	**32.29**	**140**	*e*P	**P**	**16 52 16.9**	**-1.5**
OTAV	**Otavalo**	**34.47**	**349**	*e*P	**P**	**16 52 40.3**	**+2.0**
	comp=Z,33nm,1.5s						
OTAV	**Otavalo**	**34.47**	**349**	*ce*P	P	16 52 42.3	+4.0
OTAV				pmax	pmax		
	comp=Z,9.0nm,1.7s						
PTGA	**Pitinga**	**34.99**	**22**	*e*P	**P**	**16 52 42.3**	**0.0**
	comp=Z,29nm,1.0s						
SDV	**Santo Domingo**	**42.60**	**2**	*e*P	**P**	**16 53 45.6**	**-0.7**
	comp=Z,36nm,1.4s						
VNA3	**Neumayer Olymp**	**49.51**	**158**	P	**P**	**16 54 40.9**	**+1.0**
VNA1	**Neumayer--Stat**	**49.83**	**157**	P	**P**	**16 54 44.1**	**+1.8**
VNA2	**Neumayer--Watz**	**50.17**	**157**	P	**P**	**16 54 46.0**	**+1.1**
	baz=290,slow=9.4						
SNAA	**Sanae**	**51.74**	**158**	P	**P**	**16 54 57.6**	**+0.9**
SNAA	**Sanae**	**51.74**	**158**	*e*P	**P**	**16 54 57.5**	**+0.7**
	comp=Z,36nm,1.0s						
SNAA	**Sanae**	**51.74**	**158**	*c i*P	**P**	**16 54 56.7**	**-0.1**
ICMP	**Isla Caja de M**	**51.82**	**7**	*e*P	**P**	**16 54 57.9**	**+0.1**
	comp=Z,56nm,0.9s						
CRPR	**Cabo Rojo, PR**	**51.88**	**6**	*e*P	**P**	**16 54 58.3**	**+0.1**
	comp=Z,116nm,1.0s						
OBIP	**Obispado Ponce**	**51.96**	**7**	*e*P	**P**	**16 54 58.8**	**-0.1**
	comp=Z,36nm,0.8s						
SJG	**San Juan**	**52.08**	**7**	*e*P	**P**	**16 54 59.6**	**-0.1**
	comp=Z,70nm,1.4s						
SJG	**San Juan**	**52.08**	**7**	*e*P	**P**	**16 54 59.6**	**-0.1**
SJG				pmax	pmax		
	comp=Z,70nm,1.4s						
MPR	**Mayaguez**	**52.08**	**6**	*e*P	**P**	**16 55 00.3**	**+0.6**
	comp=Z,61nm,1.3s						
CBYP	**Canovanas**	**52.27**	**8**	*e*P	**P**	**16 55 00.6**	**-0.7**
	comp=Z,46nm,1.0s						
SDDR	**Presa de Saban**	**52.62**	**1**	*e*P	**P**	**16 55 04.6**	**+0.7**
	comp=Z,10nm,0.8s						
GTBY	**Guantanamo Bay**	**53.62**	**357**	*e*P	**P**	**16 55 11.9**	**+0.9**
	comp=Z,60nm,1.2s						
RKT	**Rikitea**	**55.36**	**264**	*e*S	S	17 03 10.9	+3.8
	comp=Z,190nm,26.5s						
RKT				*e*LR	LR	17 11 38.2	
	comp=Z,355nm,26.8s						
TEIG	**Tepich**	**55.96**	**342**	*e*P	**P**	**16 55 29.2**	**+1.2**
	comp=Z,50nm,0.9s						
QSPA	**South Pole Qui**	**56.31**	**180**	LR	LR	17 19 10.3	
	comp=Z,122nm,19.6s,baz=160,slow=36						
QSPA	**South Pole Qui**	**56.31**	**180**	*e*P	**P**	**16 55 31.4**	**+1.1**
	comp=Z,24nm,1.0s						
NVL	**N'lazarevskaya**	**56.48**	**157**	*e*P	**P**	**16 55 29.5**	**-1.7**
NVL				*e*S	**S**	**17 03 24.5**	**+3.9**
NVL				pmax	pmax		
	comp=Z,16nm,0.8s						
757A	**Oxford**	**63.21**	**350**	P	**P**	**16 56 18.4**	**+0.5**
	baz=171						
656A	**Willston**	**63.69**	**350**	P	**P**	**16 56 22.0**	**+0.9**
	baz=170						
657A	**Interlachen**	**63.81**	**351**	P	**P**	**16 56 22.6**	**+0.8**
	baz=171						
LNIG	**Linares**	**63.94**	**333**	*e*P	**P**	**16 56 24.0**	**+1.1**
	comp=Z,11nm,1.3s						
VNDA	**Vanda**	**64.13**	**191**	P	P	16 56 25.7	+2.2
	comp=Z,1.7nm,0.7s,baz=131,slow=7.4,SNR=9.1						
VNDA	**Vanda**	**64.13**	**191**	*e*P	P	16 56 25.3	+1.8
	comp=Z,40nm,1.8s						
VNDA	**Vanda**	**64.13**	**191**	*e*P	P	16 56 25.3	+1.8
VNDA				pmax	pmax		
	comp=Z,40nm,1.8s						
555A	**McAlpin**	**64.49**	**350**	P	**P**	**16 56 27.0**	**+0.7**
	baz=170						
453A	**Whigham**	**65.42**	**349**	P	**P**	**16 56 33.0**	**+0.7**
	baz=169						
TIGA	**Tifton**	**65.88**	**349**	P	**P**	**16 56 36.3**	**+1.0**
	baz=170						
353A	**Camilla**	**65.89**	**349**	P	**P**	**16 56 36.4**	**+1.1**
	baz=169						
SYO	**Syowa Base**	**66.02**	**159**	*e*P	**P**	**16 56 35.8**	**0.0**
SYO	**Syowa Base**	**66.02**	**159**	*e*pP	**P**	**16 56 37.4**	**+1.6**
352A	**Blakely**	**66.14**	**348**	P	**P**	**16 56 38.0**	**+1.1**
	baz=168						
254A	**Abbeville**	**66.33**	**350**	P	**P**	**16 56 39.3**	**+1.1**
	baz=170						
349A	**Repton**	**66.43**	**346**	P	**P**	**16 56 40.0**	**+1.2**
	baz=166						
251A	**Midway**	**66.82**	**348**	P	**P**	**16 56 41.7**	**+0.4**
	baz=168						
154A	**Montrose**	**66.96**	**350**	P	**P**	**16 56 43.5**	**+1.3**
	baz=170						
833A	**Chaparral WMA,**	**67.02**	**334**	P	**P**	**16 56 43.8**	**+1.1**
	baz=156						
TBI	**Tubuai**	**67.12**	**257**	*e*S	S	17 05 40.7	+4.1
	comp=Z,396nm,25.2s						
TBI	**Tubuai**	**67.12**	**257**	*e*LR	LR	17 17 14.9	
	comp=Z,662nm,27.5s,baz=118						
TBI	**Tubuai**	**67.12**	**257**	*e*T	T	18 09 51.0	
	comp=Z,4.0nm,0.3s						
151A	**Opelika**	**67.23**	**348**	P	**P**	**16 56 44.2**	**+0.3**
	baz=168						
152A	**Waverly Hall**	**67.26**	**349**	*e*P	**P**	**16 56 44.2**	**+0.1**
	comp=Z,29nm,1.3s						
152A	**Waverly Hall**	**67.26**	**349**	P	**P**	**16 56 44.4**	**+0.3**
	baz=169						
HKT	**Hockley**	**67.31**	**338**	*e*P	P	16 56 46.8	+2.3
HKT	**Hockley**	**67.31**	**338**	*e*P	P	16 56 46.8	+2.4
150A	**Eclectic**	**67.43**	**347**	P	**P**	**16 56 45.9**	**+0.7**
	baz=168						
Z54A	**Sparta**	**67.54**	**350**	P	**P**	**16 56 46.0**	**+0.1**
	baz=170						
149A	**Jones**	**67.56**	**347**	P	**P**	**16 56 46.5**	**+0.5**
	baz=167						
342A	**Flagon Creek P**	**67.64**	**342**	P	**P**	**16 56 46.8**	**+0.3**
	baz=162						
Z53A	**Monticello**	**67.69**	**350**	P	**P**	**16 56 47.2**	**+0.4**
	baz=170						
Z52A	**Williamson**	**67.72**	**349**	P	**P**	**16 56 47.5**	**+0.4**
	baz=169						
148A	**Greensboro**	**67.76**	**346**	P	**P**	**16 56 47.0**	**-0.2**
	baz=166						
GOGA	**Godfrey**	**67.80**	**350**	P	**P**	**16 56 47.2**	**-0.3**
	baz=170						
244A	**Avery, Jackson**	**67.86**	**343**	P	**P**	**16 56 48.9**	**+1.0**
	baz=164						
Z51A	**Franklin**	**67.97**	**348**	P	**P**	**16 56 49.3**	**+0.7**
	baz=168						
LRAL	**Lakeview Retre**	**68.03**	**347**	P	**P**	**16 56 49.8**	**+0.9**
	baz=167						
Z50A	**Ashland**	**68.04**	**348**	*e*P	**P**	**16 56 49.5**	**+0.4**
	comp=Z,48nm,1.3s						
Z50A	**Ashland**	**68.04**	**348**	P	**P**	**16 56 49.8**	**+0.8**
	baz=168						
146A	**Union**	**68.06**	**345**	*e*P	**P**	**16 56 49.2**	**0.0**
	comp=Z,75nm,1.1s						
146A	**Union**	**68.06**	**345**	P	**P**	**16 56 49.8**	**+0.6**
	baz=165						
LPIG	**La Paz**	**68.09**	**323**	LR	LR	17 21 18.7	
	comp=Z,21nm,18.1s,baz=206,slow=31						
Z49A	**Columbiana**	**68.09**	**347**	P	**P**	**16 56 49.9**	**+0.5**
	baz=167						
Y54A	**Tignall**	**68.13**	**351**	P	**P**	**16 56 50.3**	**+0.7**
	baz=171						
145A	**Houston Renfro**	**68.22**	**344**	P	**P**	**16 56 50.9**	**+0.7**
	baz=164						
Y53A	**Monroe**	**68.25**	**350**	P	**P**	**16 56 51.0**	**+0.6**
	baz=170						
HPIG		**68.30**	**328**	*e*P	**P**	**16 56 51.8**	**+0.7**
	comp=Z,24nm,1.2s						
Y52A	**Lilburn**	**68.33**	**349**	P	**P**	**16 56 52.0**	**+1.2**
	baz=169						
Z47A	**Carrollton**	**68.40**	**346**	P	**P**	**16 56 52.5**	**+1.3**
	baz=166						
241A	**Mo Tay, Goldon**	**68.41**	**341**	P	**P**	**16 56 52.5**	**+1.1**
	baz=162						
Y51A	**Rockmart**	**68.52**	**349**	P	**P**	**16 56 52.7**	**+0.6**
	baz=169						
Z46A	**Louisville**	**68.57**	**345**	P	**P**	**16 56 53.8**	**+1.4**
	baz=165						
Y50A	**Piedmont**	**68.63**	**348**	P	**P**	**16 56 53.8**	**+1.1**
	baz=168						
NATX	**Nacogdoches**	**68.65**	**340**	*e*P	**P**	**16 56 54.3**	**+1.4**
	comp=Z,41nm,0.8s						
NATX	**Nacogdoches**	**68.65**	**340**	P	**P**	**16 56 53.9**	**+1.1**
	baz=160						
240A	**Hunter Patters**	**68.66**	**341**	P	**P**	**16 56 54.1**	**+1.2**
	baz=161						
143A	**Socs Landing,**	**68.67**	**343**	P	**P**	**16 56 54.4**	**+1.4**
	baz=163						
Y49A	**Blount Mountai**	**68.72**	**347**	P	**P**	**16 56 54.6**	**+1.3**
	baz=167						
X53A	**Estanollee**	**68.85**	**350**	P	**P**	**16 56 55.2**	**+1.1**
	baz=170						
Y48A	**Jasper**	**68.91**	**347**	P	**P**	**16 56 56.1**	**+1.6**
	baz=167						
PAULI	**Pauline**	**68.97**	**352**	*e*P	**P**	**16 56 56.1**	**+1.3**
	comp=Z,21nm,0.9s						
X52A	**Dahlonega**	**69.03**	**350**	P	**P**	**16 56 56.8**	**+1.5**
	baz=170,SNR=5.9						
Y47A	**UCPARC, Winfie**	**69.03**	**346**	P	**P**	**16 56 56.4**	**+1.2**
	baz=166,SNR=7.8						
Z43A	**Armstrong Fami**	**69.11**	**343**	P	**P**	**16 56 57.0**	**+1.3**
	baz=163						
JCT	**Junction City**	**69.12**	**335**	*e*P	**P**	**16 56 56.7**	**+0.8**
	comp=Z,38nm,1.0s						
JCT	**Junction City**	**69.12**	**335**	*e*P	**P**	**16 56 56.7**	**+0.8**
JCT				pmax	pmax		
	comp=Z,38nm,1.0s						
JCT	**Junction City**	**69.12**	**335**	P	**P**	**16 56 57.3**	**+1.4**
	baz=156						
X51A	**Calhoun**	**69.14**	**349**	*e*P	**P**	**16 56 57.0**	**+1.1**
	comp=Z,63nm,1.0s						
X51A	**Calhoun**	**69.14**	**349**	P	**P**	**16 56 56.8**	**+1.0**
	baz=169						
X50B	**Fort Payne**	**69.17**	**348**	P	**P**	**16 56 56.8**	**+0.7**
	baz=168						
Y46A	**Houston**	**69.22**	**345**	P	**P**	**16 56 57.4**	**+1.0**
	baz=165						
KMSC	**Kings Mountain**	**69.23**	**352**	P	**P**	**16 56 56.8**	**+0.4**
	baz=168						
X49A	**Woodville**	**69.34**	**348**	P	**P**	**16 56 57.7**	**+0.6**
	baz=168						
Y45A	**Yeager Farm, C**	**69.35**	**345**	P	**P**	**16 56 58.1**	**+0.9**
	baz=165						
X48A	**Hartselle**	**69.41**	**347**	*e*P	**P**	**16 56 58.2**	**+0.7**
	comp=Z,45nm,1.1s						
X48A	**Hartselle**	**69.41**	**347**	P	**P**	**16 56 58.9**	**+1.4**
	baz=167						
W53A	**Cullowhee**	**69.48**	**351**	P	**P**	**16 56 59.4**	**+1.2**
	baz=170						
W52A	**Murphy**	**69.52**	**350**	P	**P**	**16 56 59.2**	**+0.9**
	baz=170						
TXAR	**Lajitas Array**	**69.56**	**331**	P	P	16 57 00.6	+1.9
	comp=Z,3.7nm,0.7s,baz=155,slow=8.4,SNR=28						
TXAR				LR	LR	17 23 13.4	
	comp=Z,319nm,18.3s,baz=0.0,slow=32						
TX31	**Lajitas Ar. Si**	**69.56**	**331**	*e*P	**P**	**16 57 00.1**	**+1.4**
X47A	**Russelville**	**69.63**	**346**	P	**P**	**16 56 59.6**	**+0.8**
	baz=166						
W51A	**Cleveland**	**69.71**	**349**	P	**P**	**16 57 00.3**	**+0.9**
	baz=169						
WHTX	**Lake Whitney,**	**69.72**	**337**	*e*P	**P**	**16 57 00.9**	**+1.5**
	comp=Z,38nm,1.0s						
WHTX	**Lake Whitney,**	**69.72**	**337**	P	**P**	**16 57 00.6**	**+1.1**
	baz=158						
W50A	**Signal Mountai**	**69.84**	**349**	*e*P	**P**	**16 57 00.9**	**+0.7**
	comp=Z,34nm,0.9s						
W50A	**Signal Mountai**	**69.84**	**349**	P	**P**	**16 57 01.3**	**+1.1**
	baz=168,SNR=7.0						
X45A	**UM Field Stati**	**69.86**	**345**	P	**P**	**16 57 01.2**	**+0.9**
	baz=165						
W49A	**Belvidere**	**69.92**	**348**	P	**P**	**16 57 01.7**	**+1.0**
	baz=168						
V53A	**Saluda**	**69.93**	**351**	*e*P	**P**	**16 57 01.1**	**+0.3**
	comp=Z,38nm,1.3s						
V53A	**Saluda**	**69.93**	**351**	P	**P**	**16 57 01.7**	**+0.9**
	baz=171						
OXF	**Oxford**	**69.94**	**345**	*e*P	**P**	**16 57 01.2**	**+0.4**
	comp=Z,80nm,1.0s						
OXF	**Oxford**	**69.94**	**345**	*e*P	**P**	**16 57 01.2**	**+0.4**
OXF				pmax	pmax		
	comp=Z,80nm,1.0s						
OXF	**Oxford**	**69.94**	**345**	P	**P**	**16 57 01.6**	**+0.8**
	baz=165						
CPCT	**Cooper Cave**	**69.96**	**349**	*e*P	**P**	**16 57 01.7**	**+0.8**
	comp=Z,26nm,1.1s						
SWET	**Sewanee**	**69.96**	**348**	*e*P	**P**	**16 57 01.9**	**+0.9**
	comp=Z,38nm,0.9s						
PPT2	**Papeete2**	**70.03**	**262**	*e*S	**S**	**17 06 15.3**	**+3.8**
	comp=Z,211nm,22.

U49A **Red Boiling Sp** 71.20 349 P P 16 57 09.1 +0.7
baz=168
W41B **Gary Mavity, V** 71.23 343 eP P 16 57 09.1 +0.5
comp=Z,13nm,0.8s
W41B **Gary Mavity, V** 71.23 343 P P 16 57 09.6 +1.0
baz=162
U48A **Cassie Pea, Po** 71.32 348 P P 16 57 10.1 +0.9
baz=168
WHAR **Wooly Hollow** 71.35 343 eP P 16 57 09.8 +0.4
comp=Z,32nm,1.2s
T51A **Gray** 71.36 350 P P 16 57 10.1 +0.7
baz=170
U47A **Clarksville** 71.39 347 P P 16 57 10.4 +0.8
baz=167,SNR=11
U46A **Springville** 71.48 347 P P 16 57 11.2 +1.1
baz=166
T50A **Nancy** 71.54 349 P P 16 57 11.4 +0.9
baz=169
U45A **Rockin P Farm,** 71.58 346 P P 16 57 11.9 +1.1
baz=166
V42A **Cord** 71.63 344 P P 16 57 11.8 +0.7
baz=163
W39A **Magazine** 71.64 342 eP P 16 57 12.2 +1.1
comp=Z,46nm,1.0s
W39A **Magazine** 71.64 342 P P 16 57 12.6 +1.5
baz=161,SNR=9.7
R58B **Mineral** 71.71 355 P P 16 57 12.8 +1.3
baz=175
T49A **Edmonton** 71.73 349 eP P 16 57 12.1 +0.5
comp=Z,45nm,1.5s
T49A **Edmonton** 71.73 349 P P 16 57 12.4 +0.8
baz=168
V41A **Mountainview** 71.79 343 P P 16 57 12.8 +0.7
baz=163,SNR=7.0
T48A **Bowling Green** 71.88 348 P P 16 57 13.2 +0.7
baz=168
T47A **Sharon Grove** 71.89 348 eP P 16 57 13.2 +0.7
comp=Z,34nm,1.0s
T47A **Sharon Grove** 71.89 348 P P 16 57 13.3 +0.7
baz=167
S51A **Beattyville** 71.97 351 P P 16 57 13.8 +0.7
baz=170
T46A **Princeton** 72.08 347 P P 16 57 14.5 +0.8
baz=166,SNR=5.5
U42A **Revenden** 72.12 344 P P 16 57 14.7 +0.7
baz=164
S50A **Richmond** 72.12 350 P P 16 57 14.6 +0.6
baz=169
U41A **Viola** 72.27 343 P P 16 57 15.6 +0.7
baz=163
MNTX **Cornudas Mount** 72.34 331 eP P 16 57 16.4 +1.0
comp=Z,7.7nm,0.9s
MNTX **Cornudas Mount** 72.34 331 P P 16 57 16.1 +0.6
baz=152,SNR=8.8
PBMO **Poplar Bluff** 72.34 345 eP P 16 57 16.2 +0.9
comp=Z,35nm,1.1s
S48A **Wiedeman Farm,** 72.36 349 P P 16 57 15.4 0.0
baz=168
S49A **Springfield** 72.36 349 P P 16 57 15.9 +0.5
baz=169
S47A **Hartford** 72.44 348 P P 16 57 16.6 +0.8
baz=167
T44A **Benton** 72.46 346 P P 16 57 16.6 +0.6
baz=165
U40A **Yellville** 72.50 343 P P 16 57 17.2 +0.9
baz=162,SNR=7.1
R51A **Hillsboro** 72.62 351 P P 16 57 17.7 +0.8
baz=170
WMOK **Wichita Mounta** 72.67 337 eP P 16 57 18.5 +1.1
comp=Z,20nm,1.4s
WMOK **Wichita Mounta** 72.67 337 eP P 16 57 18.5 +1.1
WMOK pmax pmax
comp=Z,20nm,1.4s
WMOK **Wichita Mounta** 72.67 337 P P 16 57 17.9 +0.6
baz=157
S46A **Don Dixon Farm** 72.68 347 P P 16 57 17.6 +0.3
baz=167
R50A **Paris** 72.71 350 P P 16 57 17.8 +0.3
baz=170
HHAR **Hobbs** 72.71 342 eP P 16 57 18.4 +0.9
comp=Z,22nm,1.2s
T42A **Van Buren** 72.73 344 eP P 16 57 17.7 0.0
comp=Z,16nm,1.0s
T42A **Van Buren** 72.73 344 P P 16 57 18.3 +0.6
baz=164
S45A **Carrier Mills** 72.83 347 P P 16 57 18.5 +0.3
baz=166
R49A **Shelbyville** 72.84 349 P P 16 57 18.9 +0.7
baz=169
TUL1 **Leonard** 72.86 340 P P 16 57 19.4 +0.9
baz=160
T41A **Mountain View** 72.90 344 P P 16 57 19.3 +0.7
baz=163,SNR=5.4
WCI **Wyandotte Cave** 72.96 349 P P 16 57 18.9 0.0
baz=168
S44A **Carbondale** 72.98 346 P P 16 57 19.5 +0.4
baz=165
S43A **Fulton Ridge,** 73.03 345 P P 16 57 19.9 +0.5
baz=165,SNR=7.9
R48A **Northridge Ran** 73.06 349 P P 16 57 19.9 +0.4
baz=168
R47A **Wooly Knot Far** 73.06 348 P P 16 57 20.0 +0.5
baz=168
Q52A **Bidwell** 73.11 352 P P 16 57 20.3 +0.5
baz=171
R46A **Gibon Southern** 73.15 348 P P 16 57 20.2 +0.1
baz=167
Q50A **Georgetown** 73.21 350 P P 16 57 20.7 +0.3
baz=170
Q51A **Peebles** 73.30 351 eP P 16 57 21.6 +0.6
comp=Z,49nm,1.3s
Q51A **Peebles** 73.30 351 P P 16 57 21.9 +0.9
baz=170
MAW **Mawson** 73.31 164 P P 16 57 21.9 +1.1
comp=Z,18nm,0.6s,baz=204,slow=6.4,SNR=41
MAW LR LR 17 31 52.4
comp=Z,416nm,18.3s,baz=232,slow=38
MAW **Mawson** 73.31 164 eP P 16 57 21.6 +0.8
comp=Z,4.0nm,0.7s
MAW **Mawson** 73.31 164 eP P 16 57 21.6 +0.8
MAW pmax pmax
comp=Z,4.0nm,0.7s
MSTX **Muleshoe** 73.34 334 eP P 16 57 22.5 +1.0
comp=Z,16nm,0.8s
MSTX **Muleshoe** 73.34 334 P P 16 57 22.6 +1.1
baz=154
R45A **Skylar, Fairfi** 73.37 347 P P 16 57 22.7 +1.3
baz=166
S42A **Caledonia** 73.38 345 P P 16 57 22.2 +0.8
baz=164
S41A **Jillco Farms,** 73.42 344 P P 16 57 22.4 +0.7
baz=163,SNR=8.9
R44A **Waltonville** 73.48 346 P P 16 57 22.9 +0.9
baz=165
Q49A **Aurora** 73.50 350 P P 16 57 22.7 +0.6
baz=169
FVM **French Village** 73.50 345 eP P 16 57 22.9 +0.7
comp=Z,28nm,1.0s
FVM **French Village** 73.50 345 eP P 16 57 22.9 +0.7
FVM pmax pmax
comp=Z,28nm,1.0s
P53A **Whipple** 73.53 353 P P 16 57 23.0 +0.7
baz=172
Q48A **North Vernon** 73.55 349 P P 16 57 23.0 +0.6
baz=168
R43A **Red Bud** 73.68 346 P P 16 57 24.0 +0.8
baz=165
P51A **Williamsport** 73.72 351 eP P 16 57 24.2 +0.9
comp=Z,30nm,1.0s
P51A **Williamsport** 73.72 351 P P 16 57 24.0 +0.6
baz=171
319A **Douglas** 73.72 328 eP P 16 57 25.6 +1.9
comp=Z,22nm,1.1s
CCM **Cathedral Cave** 73.75 345 eP P 16 57 24.1 +0.5
comp=Z,33nm,0.9s
CCM **Cathedral Cave** 73.75 345 eP P 16 57 24.1 +0.5
CCM pmax pmax
comp=Z,33nm,0.9s
CCM **Cathedral Cave** 73.75 345 P P 16 57 24.8 +1.2
baz=164
P52A **Corning** 73.76 352 P P 16 57 24.2 +0.6
baz=171
AMTX **Amarillo** 73.78 335 eP P 16 57 24.9 +0.9
comp=Z,27nm,1.1s
AMTX **Amarillo** 73.78 335 P P 16 57 25.5 +1.6
baz=155
R42A **Luebbering** 73.87 345 P P 16 57 25.4 +1.1
baz=164

Q45A **Warren Harvey,** 73.93 347 P P 16 57 25.3 +0.7
baz=166
P50A **Jamestown** 73.94 351 P P 16 57 25.3 +0.7
baz=170
P49A **Miami Univ. Ec** 73.99 350 P P 16 57 25.5 +0.5
baz=169
R41A **Rosebud** 74.01 344 P P 16 57 25.6 +0.5
baz=164,SNR=7.0
P48A **Milroy** 74.02 349 P P 16 57 25.2 0.0
baz=169
O56A **Blue Knob Stat** 74.05 355 P P 16 57 26.3 +0.9
baz=174
121A **Cookes Peak, D** 74.06 329 P P 16 57 27.0 +1.2
baz=150
Q44A **Meyer Farm, Va** 74.10 347 P P 16 57 26.5 +0.9
baz=166
P47A **Martinsville** 74.18 349 P P 16 57 27.0 +0.9
baz=168
O52A **Adamsville** 74.20 352 P P 16 57 26.9 +0.7
baz=172
Q43A **New Douglas** 74.27 346 P P 16 57 27.3 +0.7
baz=165
O51A **Pataskala** 74.32 352 P P 16 57 27.6 +0.8
baz=171
SSPA **Standing Stone** 74.37 356 P P 16 57 28.0 +0.9
baz=175
Q42A **Golden Eagle** 74.42 345 P P 16 57 28.5 +1.0
baz=164
O50A **Cable** 74.44 351 P P 16 57 28.0 +0.4
baz=170
ACSO **Alum Creek Sta** 74.45 352 eP P 16 57 27.4 -0.2
comp=Z,33nm,0.9s
ACSO **Alum Creek Sta** 74.45 352 P P 16 57 28.1 +0.5
baz=171
P46A **Rosedale** 74.47 348 P P 16 57 28.0 +0.2
baz=167
P45A **Graceland, Par** 74.47 348 P P 16 57 28.4 +0.6
baz=167
O49A **Covington** 74.58 350 eP P 16 57 28.4 0.0
comp=Z,32nm,1.1s
O49A **Covington** 74.58 350 P P 16 57 28.6 +0.2
baz=170
Q41A **Truxton** 74.61 345 P P 16 57 29.3 +0.7
baz=164,SNR=6.2
N54A **Moraine State** 74.86 354 P P 16 57 30.8 +0.7
baz=173
O47A **Sheridan** 74.90 349 P P 16 57 30.1 -0.2
baz=168
P43A **Skaggs, Pawnee** 74.91 346 P P 16 57 30.9 +0.6
baz=165
LIC **Lamto** 74.96 72 eP P 16 57 31.7 +0.4
comp=Z,107nm,1.9s
BNM **Barren Site** 74.98 331 ePcP PcP 16 57 45.0 +0.1
N50A **Nevada** 75.00 351 P P 16 57 31.2 +0.4
baz=171
P42A **Winchester** 75.03 346 P P 16 57 31.9 +0.9
baz=164
N51A **Ashland** 75.05 352 P P 16 57 31.7 +0.6
baz=171
SUR **Sutherland** 75.06 119 eP P 16 57 33.2 +1.3
comp=Z,26nm,1.0s
TUC **Tucson** 75.19 327 eP P 16 57 34.1 +1.9
comp=Z,13nm,1.4s
TUC **Tucson** 75.19 327 eP P 16 57 34.1 +1.9
TUC pmax pmax
comp=Z,13nm,1.4s
TUC **Tucson** 75.19 327 P P 16 57 32.1 -0.1
baz=148
SFIN **Lafayette** 75.19 348 P P 16 57 32.3 +0.4
baz=167
O44A **Mansfield** 75.21 347 P P 16 57 33.0 +1.0
baz=166
TIC **Toumodi** 75.22 71 eP P 16 57 32.9 +0.1
P41A **Barry, Barry** 75.26 345 P P 16 57 33.3 +0.9
baz=164
KIC **Kosan Boka** 75.27 72 eP P 16 57 33.7 +0.6
comp=Z,45nm,0.9s
N49A **Columbus Grove** 75.28 351 eP P 16 57 32.8 +0.4
comp=Z,29nm,0.9s
N49A **Columbus Grove** 75.28 351 P P 16 57 33.0 +0.6
baz=170
N48A **Decatur** 75.34 350 P P 16 57 33.0 +0.2
baz=169
DBIC **Dimbokro** 75.36 71 P P 16 57 34.2 +0.7
comp=Z,15nm,0.8s,baz=212,slow=4.5,SNR=15
DBIC LR LR 17 29 12.0
comp=Z,240nm,18.9s,baz=212,slow=35
M51A **Elyria** 75.44 352 P P 16 57 33.9 +0.5
baz=171
N47A **Urbana** 75.45 350 P P 16 57 33.5 0.0
baz=168
O42A **Bath** 75.56 346 P P 16 57 34.9 +0.9
baz=165
M50A **Fremont** 75.61 352 P P 16 57 35.1 +0.8
baz=171
ANMO **Albuquerque** 75.61 332 LR LR 17 26 32.1
comp=Z,283nm,19.6s,baz=156,slow=32
ANMO **Albuquerque** 75.61 332 eP P 16 57 37.7 +3.0
comp=Z,11nm,1.3s
ANMO **Albuquerque** 75.61 332 ceP P 16 57 37.7 +2.9
ANMO pmax pmax
comp=Z,6.0nm,1.3s
ANMO **Albuquerque** 75.61 332 P P 16 57 36.0 +1.3
baz=151
N46A **Monticello** 75.63 349 P P 16 57 35.3 +0.9
baz=168
O41A **Passleys Farm,** 75.65 345 P P 16 57 35.4 +0.8
baz=164
HDIL **Hopedale** 75.75 347 P P 16 57 35.9 +0.7
baz=165
N44A **Piper City** 75.77 348 P P 16 57 36.0 +0.8
baz=166
M49A **Liberty Center** 75.80 351 P P 16 57 36.0 +0.6
baz=170
214A **Organ Pipe Nat** 75.83 325 P P 16 57 36.7 +0.8
baz=146
BINY **Binghamton** 75.83 357 P P 16 57 36.5 +0.9
baz=177
M48A **Edgerton** 75.91 350 eP P 16 57 36.4 +0.3
comp=Z,60nm,1.4s
M48A **Edgerton** 75.91 350 P P 16 57 36.6 +0.6
baz=169
HRV **Adam Dziewonsk** 76.07 1 P P 16 57 36.9 0.0
baz=180
M46A **Old House Fiel** 76.07 349 P P 16 57 36.7 -0.3
baz=168
N41A **Harden Midland** 76.21 346 eP P 16 57 38.8 +1.0
comp=Z,45nm,1.2s
N41A **Harden Midland** 76.21 346 P P 16 57 38.0 +0.3
baz=164
L48A **N Adams** 76.32 351 P P 16 57 38.3 -0.1
baz=170
M44A **Midewin, Midew** 76.33 348 eP P 16 57 38.7 +0.3
comp=Z,45nm,1.0s
M44A **Midewin, Midew** 76.33 348 P P 16 57 38.7 +0.3
baz=166
L47A **Sherwood** 76.46 350 P P 16 57 39.5 +0.3
baz=169
N40A **Mertquake, Sal** 76.53 345 P P 16 57 40.0 +0.4
baz=164
M43A **Waltham Townsh** 76.54 347 P P 16 57 40.1 +0.5
baz=166
N39A **Derby Farms, D** 76.73 344 eP P 16 57 41.9 +1.2
comp=Z,34nm,1.0s
N39A **Derby Farms, D** 76.73 344 P P 16 57 41.8 +1.2
baz=163
T25A **Trinidad** 76.77 334 eP P 16 57 42.1 +0.8
comp=Z,30nm,1.2s
T25A **Trinidad** 76.77 334 P P 16 57 43.2 +1.9
baz=153,SNR=7.2
M41A **Milan** 76.79 346 P P 16 57 42.1 +1.1
baz=164
K50A **Casco** 76.91 352 P P 16 57 42.3 +0.6
baz=171
W18A **Petrified Fore** 77.11 329 P P 16 57 44.4 +1.1
baz=149
K47A **Vermontville** 77.11 350 P P 16 57 43.5 +0.7
baz=169
K48A **Perry** 77.12 351 P P 16 57 43.6 +0.8
baz=170
L42A **Oliver, Polo** 77.22 347 P P 16 57 44.3 +0.8
baz=165
L43A **Garden Prairie** 77.23 348 P P 16 57 44.7 +1.2
baz=166
X16A **Lo Mia Camp, P** 77.25 328 eP P 16 57 44.0 -0.1
comp=Z,12nm,1.0s
L41A **Preston** 77.45 346 P P 16 57 45.7 +0.9
baz=164

J48A **Bridge Port** 77.57 351 P P 16 57 45.8 +0.5
baz=170
L40A **Anamosa** 77.59 346 eP P 16 57 45.6 +0.2
comp=Z,41nm,1.0s
L40A **Anamosa** 77.59 346 P P 16 57 46.0 +0.5
baz=164
SDCO **Great Sand Dun** 77.71 334 eP P 16 57 47.0 +0.4
comp=Z,5.5nm,1.0s
SDCO **Great Sand Dun** 77.71 334 P P 16 57 48.3 +1.7
baz=152
LBNH **Lisbon** 77.80 0 P P 16 57 48.4 +1.8
baz=180
K42A **Prairie Point,** 77.92 347 P P 16 57 48.0 +0.7
baz=166
K41A **Shullsburg** 77.93 347 P P 16 57 48.3 +0.9
baz=165
BWLO **Walkerton** 78.09 354 P P 16 57 48.9 +0.7
baz=172
Y12C **Blythe** 78.12 325 P P 16 57 50.5 +1.8
baz=145
WUAZ **Wupatki** 78.15 328 eP P 16 57 48.6 -0.4
comp=Z,14nm,1.2s
WUAZ **Wupatki** 78.15 328 P P 16 57 50.8 +1.8
baz=148
K40A **Colesburg** 78.18 346 P P 16 57 48.9 +0.1
baz=164
LONY **Lake Ozonia** 78.20 358 P P 16 57 49.9 +1.0
baz=178
S22A **4UR Ranch, Cre** 78.21 333 esP sP 16 57 55.8 -4.0
S22A **4UR Ranch, Cre** 78.21 333 P P 16 57 49.8 +0.4
baz=151
JFWS **Jewell Farm** 78.22 347 P P 16 57 49.8 +0.8
baz=165
J43A **Natural Harves** 78.33 348 P P 16 57 51.1 +1.5
baz=166
CLWO **Collingwood** 78.34 354 P P 16 57 50.6 +0.9
baz=173
K39A **Oelwein** 78.34 345 P P 16 57 50.8 +1.1
baz=163
I47A **Gladwin** 78.37 351 P P 16 57 51.0 +1.2
baz=170
EMMW **East Machias** 78.39 4 eP P 16 57 51.2 +1.4
comp=Z,27nm,0.8s
MVCO **Mesa Verde** 78.39 331 eP P 16 57 51.7 +1.3
comp=Z,7.6nm,1.0s
MVCO **Mesa Verde** 78.39 331 P P 16 57 51.5 +1.1
baz=150
J42A **Columbus** 78.40 348 P P 16 57 50.8 +0.9
baz=166
FRNY **Flat Rock** 78.40 359 eP P 16 57 51.2 +1.3
comp=Z,12nm,0.8s
I48A **Sherman Twp** 78.43 352 P P 16 57 51.5 +1.3
baz=170
BMRO **Meriville Lake** 78.57 354 P P 16 57 52.1 +1.2
baz=172
HAL **Halifax** 78.59 6 eP P 16 57 52.6 +1.6
HAL **Halifax** 78.59 6 eP P 16 57 52.6 +1.6
J41A **Loganville** 78.61 347 P P 16 57 53.0 +1.9
baz=165
Q24A **Divide** 78.66 334 eP P 16 57 53.3 +1.4
comp=Z,13nm,1.1s
Q24A **Divide** 78.66 334 P P 16 57 53.9 +1.9
baz=153
IRM **Iron Mountain** 78.75 325 P P 16 57 53.9 +1.7
baz=145
J40A **Soldiers Grove** 78.78 346 P P 16 57 53.0 +0.9
baz=164
GGN **Saint George** 78.83 4 eP P 16 57 54.0 +1.8
PKME **Peaks-Kenny Pk** 78.87 2 P P 16 57 53.8 +1.3
baz=182
I42A **Draeger Farm,** 78.91 348 eP P 16 57 53.2 +0.4
comp=Z,32nm,1.2s
FRD **Ford Ranch, An** 78.92 324 P P 16 57 53.9 +0.7
baz=144
W13A **Hualapai Mount** 78.93 326 eP P 16 57 54.5 +1.1
comp=Z,10.0nm,1.3s
XPFO **Piæon Flat** 78.94 324 eP P 16 57 54.9 +1.5
comp=Z,12nm,1.1s
XPFO ePcP sP 16 58 03.7 -0.1
PFO **Pinyon Flats O** 78.94 324 eP P 16 57 55.0 +1.6
comp=Z,12nm,1.1s
PFO ePcP sP 16 58 03.7 -0.1
PFO **Pinyon Flats O** 78.94 324 eP P 16 57 55.0 +1.6
PFO e 16 58 03.7
PFO pmax pmax
comp=Z,12nm,1.1s
PFO **Pinyon Flats O** 78.94 324 P P 16 57 54.9 +1.6
baz=144
BELC **Belle Mtn. Jos** 79.03 324 P P 16 57 55.6 +1.7
baz=144
H45A **Beulah** 79.17 350 P P 16 57 56.5 +2.4
baz=168
ALFO **Alfred** 79.22 358 P P 16 57 56.0 +1.6
baz=178
I40A **Norwalk** 79.23 347 P P 16 57 56.1 +1.6
baz=164
KLBO **Killbear Provi** 79.24 354 P P 16 57 54.2 -0.3
baz=173
BUKO **Buck Lake** 79.26 355 P P 16 57 56.0 +1.3
baz=174
U15A **North Rim** 79.32 328 eP P 16 57 57.3 +1.7
comp=Z,9.8nm,1.1s
PEMO **Pembroke** 79.36 356 P P 16 57 56.1 +0.9
baz=176
I39A **Houston** 79.37 346 eP P 16 57 55.8 +0.5
comp=Z,23nm,0.8s
I39A **Houston** 79.37 346 P P 16 57 56.4 +1.1
baz=164
OGNE **Ogallala** 79.38 338 eP P 16 57 54.0 -1.6
comp=Z,42nm,0.6s
GMRC **Granite Mounta** 79.51 325 P P 16 57 58.2 +1.7
baz=144
SMCO **Snowmass** 79.51 333 eP P 16 57 58.5 +1.7
comp=Z,24nm,1.5s
ISCO **Idaho Springs** 79.56 335 P P 16 57 58.6 +1.7
baz=152
ALGO **Algonquin Park** 79.68 356 P P 16 57 58.0 +1.1
baz=175
LMN **Caledonia Moun** 79.70 5 eP P 16 57 58.6 +1.6
comp=Z,20nm,0.8s
CIS **Catalina Islan** 79.76 322 P P 16 57 59.6 +1.9
baz=142
HEC **Hector,Ludlow** 79.87 324 P P 16 58 00.1 +1.8
baz=144
G43A **Wallace** 80.04 349 P P 16 57 59.8 +0.9
baz=167
KNB **Kanab** 80.04 328 eP P 16 58 02.3 +3.0
comp=Z,15nm,1.1s
KNB **Kanab** 80.04 328 eP P 16 58 02.3 +2.9
KNB pmax pmax
comp=Z,15nm,1.1s
E53A **Dumoine, Ponti** 80.08 356 P P 16 58 00.6 +1.5
baz=175
E54A **Lac Daplat, Po** 80.11 357 P P 16 58 00.6 +1.4
baz=176
G42A **Mountain** 80.14 349 P P 16 58 01.0 +1.6
baz=166
TUQ **Turquoise Moun** 80.16 325 P P 16 58 01.6 +1.6
baz=144
SNCC **San Nicolas Is** 80.21 321 P P 16 58 00.9 +0.8
baz=142
LCMT **Little Creek M** 80.22 328 eP P 16 58 02.0 +1.8
comp=Z,9.5nm,1.4s
H38A **Maiden Rock** 80.31 346 P P 16 58 02.0 +1.7
baz=163
E51A **G1948 Merrick** 80.35 355 P P 16 58 01.4 +0.9
baz=174
DECC **Green Verdugo** 80.39 323 P P 16 58 02.4 +1.3
baz=143
ECSD **EROS Data Cent** 80.41 342 eP P 16 58 01.7 +0.7
comp=Z,22nm,0.9s
ECSD **EROS Data Cent** 80.41 342 P P 16 58 02.1 +1.1
baz=160
GSC **Goldstone, Bar** 80.47 324 P P 16 58 03.4 +1.8
baz=144
E48A **Lockeyer** 80.53 353 P P 16 58 02.4 +0.9
baz=172
F44A **Big Bay de Noc** 80.55 350 P P 16 58 03.0 +1.4
baz=168
MTPU **Mount Pierson** 80.62 329 eP P 16 58 05.5 +2.8
comp=Z,13nm,1.6s
N23A **Red Feather La** 80.65 335 P P 16 58 04.2 +1.6
baz=152
E46A **Sault Ste Mari** 80.65 352 P P 16 58 03.5 +1.3
baz=170
SHPR **Sheep Range** 80.67 326 eP P 16 58 05.8 +3.1
comp=Z,12nm,1.3s
G39A **Holcombe** 80.68 347 P P 16 58 03.7 +1.4

baz=164
EDW2 **Edwards Air Fo** 80.72 323 P P 16 58 04.5 +1.6
baz=143
CCUT **Cedar City** 80.72 328 eP P 16 58 02.6 -0.5
comp=Z,10nm,1.2s
D53A **Lac Vacive, Po** 80.78 356 P P 16 58 04.0 +1.2
baz=175
D54A **Lac Fusel, La** 80.80 357 P P 16 58 03.5 +0.6
baz=176
O20A **White River Ci** 80.83 333 P P 16 58 05.3 +1.8
baz=150
SRU **San Rafael Swe** 80.84 331 eP P 16 58 03.6 0.0
comp=Z,5.2nm,0.8s
SRU **San Rafael Swe** 80.84 331 eP P 16 58 03.6 0.0
SRU pmax pmax
comp=Z,5.0nm,0.8s
D51A **Lot 18 Range I** 80.90 355 P P 16 58 04.6 +1.1
baz=174
LATQ **La Tuque** 80.94 360 P P 16 58 04.8 +1.2
baz=180
D50A **G1974 Best Tow** 81.01 355 P P 16 58 05.0 +1.0
baz=174
MSU **Marysvale** 81.02 329 eP P 16 58 05.5 +0.9
MSU **Marysvale** 81.02 329 eP P 16 58 05.5 +0.9
E43A **Lone Tree Farm** 81.03 350 P P 16 58 05.1 +0.9
baz=168
LRMC **Laurel Mtn Rad** 81.04 324 P P 16 58 05.8 +1.1
baz=143
P18A **Preston Nutter** 81.17 331 eP P 16 58 06.4 +0.9
comp=Z,16nm,1.2s
D48A **Paudash Townsh** 81.18 353 P P 16 58 05.5 +0.5
baz=172
D47A **Chapleau** 81.20 353 P P 16 58 05.4 +0.4
baz=171
F39A **Loretta** 81.24 347 P P 16 58 06.1 +0.8
baz=164
F38A **Pierce - Schro** 81.46 346 P P 16 58 07.2 +0.7
baz=164
TPNV **Topopah Spring** 81.54 326 eP P 16 58 10.3 +3.0
comp=Z,11nm,1.3s
TPNV **Topopah Spring** 81.54 326 P P 16 58 09.3 +2.0
baz=144
E40A **Wakefield** 81.56 348 P P 16 58 08.8 +1.8
baz=165
ISA **Isabella, Lake** 81.58 324 eP P 16 58 08.8 +1.3
comp=Z,11nm,1.3s
ISA **Isabella, Lake** 81.58 324 eP P 16 58 08.8 +1.3
ISA pmax pmax
comp=Z,11nm,1.3s
ISA **Isabella, Lake** 81.58 324 P P 16 58 09.6 +2.1
baz=143
E39A **Mellen** 81.61 347 P P 16 58 08.4 +1.1
baz=165
DAC **Darwin (Calif)** 81.64 325 eP P 16 58 08.9 +1.0
comp=Z,11nm,1.1s
DAC **Darwin (Calif)** 81.64 325 eP P 16 58 08.9 +1.0
DAC pmax pmax
comp=Z,11nm,1.1s
PSUT **Pine Spring** 81.76 328 eP P 16 58 08.2 -0.3
comp=Z,5.9nm,1.1s
VLDQ **Val d'Or** 81.80 357 eP P 16 58 09.2 +1.0
comp=Z,16nm,1.0s
D41A **Chassel** 81.94 349 eP P 16 58 09.3 +0.4
comp=Z,44nm,1.0s
D41A **Chassel** 81.94 349 P P 16 58 10.9 +1.9
baz=166
CWC **Cottonwood Cre** 82.00 324 P P 16 58 11.1 +1.3
baz=143
E38A **The Farm, Brul** 82.02 347 eP P 16 58 09.9 +0.5
comp=Z,17nm,1.1s
E38A **The Farm, Brul** 82.02 347 P P 16 58 10.8 +1.4
baz=164
R11A **Troy Canyon, C** 82.38 327 eP P 16 58 13.5 +1.8
comp=Z,13nm,1.4s
R11A **Troy Canyon, C** 82.38 327 P P 16 58 13.6 +1.9
baz=145
K22A **Casper** 82.40 335 P P 16 58 13.5 +1.8
baz=152
LBTB **Lobatse** 82.54 115 eP P 16 58 13.0 0.0
comp=Z,18nm,0.9s
LBTB **Lobatse** 82.54 115 eP P 16 58 13.0 0.0
LBTB pmax pmax
comp=Z,18nm,0.9s
DUG **Dugway, Tooele** 82.70 330 eP P 16 58 14.9 +1.6
comp=Z,2nm,1.1s
DUG **Dugway, Tooele** 82.70 330 eP P 16 58 14.9 +1.6
DUG pmax pmax
comp=Z,12nm,1.1s
DUG **Dugway, Tooele** 82.70 330 P P 16 58 15.2 +1.9
baz=147
LSQQ **Lebel-sur-Quev** 82.72 357 P P 16 58 14.3 +1.3
baz=176
RSSD **Black Hills** 82.88 338 eP P 16 58 15.9 +1.6
comp=Z,6.5nm,0.9s
RSSD **Black Hills** 82.88 338 eP P 16 58 15.9 +1.6
RSSD pmax pmax
comp=Z,6.0nm,0.9s
RSSD **Black Hills** 82.88 338 P P 16 58 15.8 +1.6
baz=154
HWUT **Hardware Ranch** 83.38 331 eP P 16 58 18.2 +1.3
comp=Z,5.6nm,0.8s
SPUT **South Promonto** 83.48 331 eP P 16 58 18.7 +1.3
comp=Z,16nm,1.4s
CHGQ **Chibougamau** 83.49 359 P P 16 58 17.9 +1.0
baz=178
RPZ **Rata Peaks** 83.56 221 LR LR 17 28 04.0
comp=Z,341nm,18.6s,baz=128,slow=30
BW06 **Boulder Array** 83.60 333 eP P 16 58 19.2 +1.2
comp=Z,9.4nm,1.4s
BW06 **Boulder Array** 83.60 333 P P 16 58 19.3 +1.2
baz=150
PDAR **Pinedale Array** 83.60 333 P P 16 58 19.4 +1.3
comp=Z,0.6nm,0.7s,baz=134,slow=6.4,SNR=4.8
PDAR **Pinedale Array** 83.60 333 eP P 16 58 18.9 +0.9
NV01 **Mina Array Sit** 83.70 325 eP P 16 58 19.4 +0.8
NVAR **Mina Array Bea** 83.70 325 P P 16 58 20.8 +2.2
comp=Z,1.4nm,0.7s,baz=151,slow=5.5,SNR=8.5
HVU **Hansel Valley** 84.01 331 eP P 16 58 21.0 +0.9
comp=Z,8.8nm,0.9s
HVU **Hansel Valley** 84.01 331 eP P 16 58 21.0 +0.9
HVU pmax pmax
comp=Z,9.0nm,0.9s
KVN **Kaiserville** 84.10 326 eP P 16 58 23.2 +2.6
comp=Z,4.0nm,0.9s
KVN **Kaiserville** 84.10 326 eP P 16 58 23.2 +2.6
KVN pmax pmax
comp=Z,4.0nm,0.9s
TOA0 **Torodi Ar. Sit** 84.39 70 eP P 16 58 22.6 +0.1
TORD **Torodi Ar. Bea** 84.39 70 P P 16 58 21.4 -1.0
comp=Z,16nm,0.8s,baz=220,slow=2.4,SNR=77
TORD LR LR 17 35 23.7
comp=Z,246nm,18.4s,baz=280,slow=35
AGMN **Agassiz Nation** 84.53 344 P P 16 58 23.0 +0.8
baz=160
TPAW **Teton Pass** 84.74 333 eP P 16 58 23.8 0.0
comp=Z,8.1nm,1.0s
MDND **Maddock** 85.00 342 P P 16 58 26.5 +1.8
baz=157
IMW **Indian Meadow** 85.08 333 eP P 16 58 26.6 +0.9
comp=Z,3.8nm,0.9s
FLWY **Flagg Ranch** 85.15 333 eP P 16 58 25.8 -0.1
comp=Z,8.2nm,0.8s
RLMT **Red Lodge** 85.53 335 eP P 16 58 28.7 +1.1
comp=Z,8.1nm,1.0s
RLMT **Red Lodge** 85.53 335 P P 16 58 29.1 +1.4
baz=150
YMR **Madison River** 85.75 333 eP P 16 58 29.8 +0.9
comp=Z,12nm,0.9s
YHH **Holmes Hill** 85.81 334 eP P 16 58 30.8 +1.6
comp=Z,11nm,0.9s
LAO **LASA Array** 85.87 337 P P 16 58 30.7 +1.6
comp=Z,17nm,1.0s
LAO **LASA Array** 85.87 337 P P 16 58 31.0 +1.8
baz=152
ORV **Oroville** 86.12 324 eP P 16 58 31.9 +1.4
comp=Z,14nm,1.1s
ORV **Oroville** 86.12 324 eP P 16 58 31.9 +1.4
ORV pmax pmax
comp=Z,14nm,1.1s
HLID **Hailey** 86.16 331 eP P 16 58 31.6 +0.7
comp=Z,13nm,1.4s
HLID **Hailey** 86.16 331 P P 16 58 32.3 +1.4
baz=146
ULM **Lac du Bonnet** 86.37 345 P P 16 58 32.4 +1.0
comp=Z,3.3nm,0.8s,baz=167,slow=6.9,SNR=4.0
MCMT **McKenzie Canyo** 86.60 332 eP P 16 58 34.8 +1.7
O03E **Paynes Creek** 86.84 324 P P 16 58 35.7 +1.6
baz=141

DGMT **Dagmar** 86.84 339 eP P 16 58 35.0 +1.2
comp=Z,34nm,0.8s
DGMT **Dagmar** 86.84 339 P P 16 58 35.8 +2.0
baz=154
J08A **Circle Bar Ran** 87.71 328 eP P 16 58 40.7 +2.4
comp=Z,21nm,0.9s
M04C **Macdoel** 88.00 325 P P 16 58 41.6 +1.9
baz=141
M02C **Callahan** 88.19 324 P P 16 58 42.9 +2.3
baz=140
YBH **Yreka Blue Hor** 88.38 325 LR LR 17 31 43.2
comp=Z,84nm,19.5s,baz=154,slow=31
SCHQ **Schefferville** 88.52 3 P P 16 58 42.3 +0.6
comp=Z,3.5nm,0.7s,baz=220,slow=16,SNR=5.3
L04D **Klamath Falls** 88.56 325 P P 16 58 44.7 +2.3
baz=140
TAM **Tamanrasset** 92.99 65 eP P 16 59 03.7 +0.2
comp=Z,4.2nm,0.8s
TAM **Tamanrasset** 92.99 65 eP P 16 59 03.7 +0.2
TAM pmax pmax
comp=Z,4.0nm,0.8s
ESDC **Sonseca Array** 96.69 46 P P 16 59 20.6 +0.7
comp=Z,0.2nm,0.3s,baz=256,slow=5.3,SNR=3.2
ESDC LR LR 17 42 17.0
comp=Z,164nm,19.1s,baz=265,slow=35
DZM **Mont Dzumac** 101.10 234 eSP SP 17 12 42.2 -6.1
comp=Z,77nm,26.6s
DZM eSS SS 17 18 24.6 +8.0
comp=Z,61nm,24.1s
DZM **Mont Dzumac** 101.10 234 eLR LR 17 32 54.0
comp=Z,661nm,27.8s
GERES **GERESS Array B** 112.26 45 PKiKP PKiKP 17 04 25.1 0.0
comp=Z,0.9nm,0.6s,baz=141,slow=0.9,SNR=8.7
CLL **Collm** 112.94 43 ePS PS 17 14 57.0 +6.7
CLL e 17 15 24.0
CLL ePPS PPS 17 16 06.0
CLL eSS SS 17 21 00.0 +2.4
CLL LmH 17 47 00.0
comp=Z,200nm,21.6s
TOLK **Toolik Lake Re** 116.73 336 P PKPdf 17 04 33.9 +0.9
baz=115
ASAR **Alice Springs** 117.53 207 PKP PKPdf 17 04 35.8 -0.3
comp=Z,0.8nm,0.7s,baz=130,slow=1.7,SNR=15
BUR04 **Bucovina Ar. S** 118.86 50 ePKPdf PKPdf 17 04 38.4 +0.6
WB2 **Warramunga Arr** 120.71 209 ePKPdf PKPdf 17 04 41.8 -0.4
WRA **Warramunga Arr** 120.72 209 PKP PKPdf 17 04 42.1 -0.1
comp=Z,1.8nm,0.5s,baz=156,slow=1.6,SNR=63
BR131 **Keskin Array S** 121.99 61 ePKPdf PKPdf 17 04 44.4 +0.3
BRTR **Keskin Array B** 121.99 61 PKP PKPdf 17 04 44.9 +0.7
comp=Z,2.9nm,0.7s,baz=191,slow=3.2,SNR=20
AK11 **Malin Array Si** 122.26 48 ePKPdf PKPdf 17 04 43.6 -0.4
KIEV **Kiev** 122.29 47 ePKPdf PKPdf 17 04 44.1 0.0
KIEV **Kiev** 122.29 47 *c i*PKIKP PKPdf 17 04 43.2 -0.9
KIEV pmax pmax
comp=Z,9.0nm,1.3s
AKASG **Malin Array Be** 122.31 47 PKP PKPdf 17 04 44.1 0.0
comp=Z,4.5nm,0.7s,baz=260,slow=2.6,SNR=19
AKASG **Malin Array Be** 122.31 47 *c i*PKIKP PKPdf 17 04 44.0 -0.2
FINES **FINESS Array B** 123.06 35 PKP PKPdf 17 04 46.1 +0.9
comp=Z,4.6nm,1.0s,baz=116,slow=3.2,SNR=3.8
ARCES **ARCESS Array B** 124.04 25 PKP PKPdf 17 04 46.5 -0.5
comp=Z,1.3nm,0.6s,baz=270,slow=3.6,SNR=7.0
H11S2 **WAKE ISLAND Hyd** 125.55 269 T T 19 23 54.7
baz=118,slow=74,SNR=6.0
H11S1 **WAKE ISLAND Hyd** 125.56 269 T T 19 24 03.8
baz=118,slow=74,SNR=3.3
H11S3 **WAKE ISLAND Hyd** 125.57 269 T T 19 23 43.0
baz=118,slow=74,SNR=5.4
OBN **Obninsk** 127.53 43 *i*PKIKP PKPdf 17 04 54.7 +0.7
OBN *e* 17 06 57.3
OBN *e* 17 11 59.8
OBN pmax pmax
comp=Z,10.0nm,1.3s
VSR **Storozhevoye** 128.56 48 ePKIKP PKPdf 17 04 56.8 +0.7
VSR pmax pmax
comp=Z,10.0nm,1.2s
LPSR **Galich'ya Gora** 128.60 47 ePKIKP PKPdf 17 04 56.1 0.0
LPSR pmax pmax
comp=Z,20nm,1.1s
KLMR **Klimovskoe** 129.47 36 ePKIKP PKPdf 17 04 58.3 +0.7
KLMR pmax pmax
comp=Z,35nm,1.3s
KLMR **Klimovskoe** 129.47 36 ePKPdf PKPdf 17 04 58.4 +0.8
KLMR AMP 17 05 10.1
comp=Z,35nm,1.3s
NEY **Neytrino** 129.52 59 *c i*PKIKP PKPdf 17 04 58.8 +0.3
KIV **Kislovodsk** 129.64 58 ePKIKP PKPdf 17 04 58.8 +0.2
KIV pmax pmax
comp=Z,12nm,1.1s
KBZ **Khabaz** 129.74 59 PKP PKPdf 17 05 00.3 +1.7
comp=Z,3.6nm,1.0s,baz=111,slow=10,SNR=3.6
VRH **Novokhopyorsk** 130.15 49 ePKIKP PKPdf 17 04 59.8 +0.7
VRH pmax pmax
comp=Z,10.0nm,1.2s
GNI **Garni** 130.28 63 *i* PKIKP PKPdf 17 04 57.3 -2.7
BILL **Bilibino** 132.67 334 *ce*PKIKP PKPdf 17 05 04.4 +0.9
BILL *e* 17 07 30.7
BILL ePPP PPP 17 10 21.0
BILL *e* 17 12 15.0
BILL eSS SS 17 25 15.6 +8.4
BILL pmax pmax
comp=Z,2.0nm,1.1s
BILL MLR MLR
comp=Z,280nm,18.0s
ARU **Arti** 139.83 41 *c i*PKIKP PKPdf 17 05 17.8 +0.7
GEYT **Alibeck** 140.03 70 PKP PKPdf 17 05 19.0 +0.8
comp=Z,1.6nm,0.6s,baz=72,slow=4.8,SNR=4.4
GYA0B **ALIBECK ARRAY** 140.03 70 ePKPdf PKPdf 17 05 18.3 +0.2
TIXI **Tiksi** 140.58 350 ePKPpre PKPpre 17 05 11.1
TIXI **Tiksi** 140.58 350 *i* PKIKP PKPdf 17 05 16.4 -1.6
TIXI pmax pmax
comp=Z,4.0nm,1.0s
AB31 **Akbulak array** 141.81 52 PKHKP PKPpre 17 05 16.1
AB31 pmax pmax
comp=Z,8.0nm,0.9s
ABKAR **Akbulak array** 141.81 52 ePKPpre PKPpre 17 05 15.1
GSI **Gunungsitoli** 146.19 162 ePKPdf PKPab 17 05 31.3 0.0
BRVK **Borovoye** 147.31 43 ePKPdf PKPab 17 05 31.3 -3.3
BRVK ePKPbc PKiKP 17 05 34.1 -0.8
BRVK **Borovoye** 147.31 43 *i* PKIKP PKPbc 17 05 30.7 -2.0
BVA0 **Borovoye Array** 147.38 43 *i* PKP2 PKPab 17 05 31.9 -2.9
BVA0 pmax pmax
comp=Z,17nm,0.7s
KSM **Kuching** 147.62 185 ePKPbc PKPab 17 05 35.1 -1.7
SBUM **Sibu** 148.40 189 epPKPdf PKPab 17 05 37.2 -2.7
YAK **Yakutsk** 148.59 340 PKPbc PKPab 17 05 36.5 -2.9
comp=Z,24nm,0.8s,baz=293,slow=0.8,SNR=8.6
YAK **Yakutsk** 148.59 340 ePKPbc PKPab 17 05 36.3 -3.0
YAK **Yakutsk** 148.59 340 ePKP2 PKPab 17 05 35.8 -3.5
YAK pmax pmax
comp=Z,24nm,0.8s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=Z,43nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.0s
HYB **Hyderabad** 149.16 115 *i* PKP PKPab 17 05 39.5 -3.5
HYB *e* 17 05 44.0
KK31 **Karatay Array** 149.70 61 ePKPdf PKPbc 17 05 34.8 -4.5
KK31 ePKPbc PKPab 17 05 39.9 -4.8
KKAR **Karatay Array** 149.70 61 ePKPdf PKPbc 17 05 34.9 -4.4
KKAR ePKPbc PKiKP 17 05 39.6 -0.6
IPM **Ipoh** 150.05 167 ePKPbc PKPab 17 05 40.9 -5.8
OTUK **Ortayu** 150.05 51 PKP2 PKPab 17 05 41.5 -4.4
OTUK pmax pmax
comp=Z,25nm,0.7s
AAK **Ala-Archa** 152.66 62 ePKPdf PKPdf 17 05 39.7 +0.4
AAK ePKPbc pPKPdf 17 05 47.7 +0.5
AAK **Ala-Archa** 152.66 62 ePKIKP PKPdf 17 05 39.7 +0.4
AAK *e* 17 05 47.7
FRU1 **Bishkek** 152.74 61 ePKPbc PKPbc 17 05 47.1 +0.7
KURK **Kurchatov** 152.98 43 ePKPbc PKPbc 17 05 47.1 +0.6
KURK **Kurchatov** 152.98 43 PKIKP PKPbc 17 05 47.1 +0.6
KURK pmax pmax
comp=Z,11nm,0.7s
NVS **Novosibirsk** 153.00 32 *i*PKIKP PKPbc 17 05 47.9 +1.5
NVS pmax pmax
comp=Z,11nm,1.5s
NVS pmax pmax
comp=N,6.0nm,1.3s
NVS pmax pmax
comp=E,13nm,1.6s

NRN **Naryn** 153.92 64 ePKPbc PKPbc 17 05 50.0 +0.6
KSH **Kashi** 154.05 68 PKPbc PKPbc 17 05 50.1 +0.7
KSH PP PP 17 09 49.8 +12
KSH SKS SKSdf 17 12 55.0 +8.2
ZAA0 **Zalesovo Array** 154.28 32 ePKPdf PKPdf 17 05 41.2 +0.2
ZAA0 ePKPbc pPKPdf 17 05 50.2 +1.3
ZALV **Zalesovo Beam** 154.28 32 PKP PKPdf 17 05 41.6 +0.6
comp=E,3.7nm,0.8s,baz=279,slow=2.5,SNR=19
ZALV PKPbc pPKPdf 17 05 50.2 +1.3
comp=E,19nm,0.6s,baz=303,slow=3.2,SNR=56
ZALV **Zalesovo Beam** 154.28 32 ePKPdf PKPdf 17 05 40.9 -0.1
ZALV ePKPbc pPKPdf 17 05 50.0 +1.1
ZALV **Zalesovo Beam** 154.28 32 ePKIKP PKPdf 17 05 40.9 -0.1
ZALV *e* 17 05 50.0
BOD **Bodaibo** 155.72 352 ePKP2 PKPab 17 06 08.5 -0.8
BOD pmax pmax
comp=Z,19nm,1.1s
MK31 **Makanchi Array** 156.88 49 ePKPdf PKPdf 17 05 44.7 -0.1
MK31 ePKPab PKPab 17 06 15.1 +0.3
MK31 **Makanchi Array** 156.88 49 ePKIKP PKPdf 17 05 44.7 -0.1
MKAR **Makanchi Array** 156.88 49 PKP PKPdf 17 05 45.5 +0.7
comp=Z,1.5nm,0.8s,baz=339,slow=1.1,SNR=14
MKAR PKPab PKPab 17 06 15.6 +0.8
comp=Z,5.3nm,0.6s,baz=283,slow=3.4,SNR=20
MKAR PP PP 17 09 51.6 -1.8
comp=Z,0.7nm,0.8s,baz=318,slow=3.4,SNR=3.9
MKAR **Makanchi Array** 156.88 49 ePKPdf PKPdf 17 05 44.6 -0.2
MKAR ePKPab PKPab 17 06 15.2 +0.4
MKAR PP PP 17 09 51.6 -1.8
MKAR **Makanchi Array** 156.88 49 ePKIKP PKPdf 17 05 44.6 -0.2
MKAR 17 09 51.6
MK01 **Makanchi Array** 156.90 49 ePKPdf PKPdf 17 05 44.4 -0.4
MK01 ePKPab PKPab 17 06 15.2 +0.4
WMQ **Urumqi** 161.60 52 ePKP PKPdf 17 05 50.8 +0.4
CM01 **Chiang Mai Arr** 162.70 151 ePKPdf PKPdf 17 05 52.5 +0.3
CMAR **Chiang Mai Arr** 162.72 151 PKP PKPdf 17 05 53.0 +0.8
comp=Z,1.7nm,0.8s,baz=255,slow=2.7,SNR=14
CMAR PKPab PKPab 17 06 40.7 -0.1
comp=Z,0.7nm,0.9s,baz=210,slow=5.2,SNR=4.6
SONA1 **Songino Array** 166.06 4 ePKPab PKPab 17 06 56.1 +1.2
SONM **Songino Array** 166.07 4 PKP PKPdf 17 05 54.6 +0.1
comp=Z,0.5nm,0.7s,baz=338,slow=1.6,SNR=4.0
SONM PKPab PKPab 17 06 56.6 +1.7
comp=Z,2.6nm,0.9s,baz=336,slow=5.8,SNR=9.8
SONM PP PP 17 10 50.2 +8.5
comp=Z,1.9nm,1.1s,baz=5.7,slow=5.8,SNR=6.2
KMI **Kunming** 170.23 153 PKP PKPdf 17 05 57.8 -0.3
NJ2 **Nanjing** 170.44 262 ePKP PKPdf 17 05 57.3 -0.4
GTA **Gaotai** 171.63 47 PKP PKPdf 17 05 59.3 +1.0
GTA sPKP 17 06 07.3
GTA PKPab PKPab 17 07 21.3 +1.4
GTA PP PP 17 11 12.9 +2.1
GTA SS SS 17 32 22.1 +5.2
GTA AMB AMB
comp=Z,160nm,5.5s
GTA LR LR
comp=Z,410nm,19.6s
GTA LR LR
comp=Z,360nm,22.3s
GTA LR LR
comp=Z,460nm,21.0s
HHC **Hu-ho-hao-te** 172.44 337 ePKP PKPdf 17 05 55.6 -3.0
GYA **Guiyang** 172.50 173 ePKP PKPdf 17 05 58.8 -0.3
GYA PKPab PKPab 17 07 25.0 +1.2
GYA PKS PKSdf 17 09 29.8 -1.8
GYA PP PP 17 11 17.3 +3.2
GYA AMB AMB
comp=Z,130nm,8.2s
CD2 **Chengdu** 175.51 131 PKP PKPdf 17 06 00.0 +0.1
LZH **Lanzhou** 176.17 55 ePKP PKPdf 17 05 56.4 -3.7
LZH pPKP pPKPdf 17 06 07.9 -0.1
LZH LR LR
comp=Z,170nm,11.4s
LZH LR LR
comp=Z,210nm,13.0s
LZH LR LR
comp=Z,230nm,14.6s
XAN **Xi'an** 178.97 277 PKP PKPdf 17 05 58.3 -2.1
XAN pPKP pPKPdf 17 06 06.1 -2.2

ISCJB ***19*** *17:09:00.0±1.1, 17°.1S±0°.4×179°.3W±0°.3, h533km, mb3.3/8, Error ellipse: s-maj=61.5km s-min=14.6km az=147.5*
IDC ***19*** *17:09:01.0±5.3, 17°.14S×179°.24W, h536km±63km, mb3.0/8, mb1 3.2/9, mb1mx3.0/46, mbtmp3.8/9, Error ellipse: s-maj=64.4km s-min=24.3km az=151.0*

ISC 19 17:09:00.6±1.3, 17°.1S±0°.4×179°.2W±0°.3, h533km, n11, σ0s56/11, mb3.2/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC h m s	ISC
DZM	**Mont Dzumac**	14.37	248	P		P 17 12 04.0	+0.2
	0.3nm,0.3s,baz=94,slow=19,SNR=8.8						
STKA	**Stephens Creek**	38.33	240	P		P 17 15 36.1	+0.2
	1.5nm,0.4s,baz=85,slow=8.1,SNR=11						
WRA	**Warramunga Arr**	44.01	259	P		P 17 16 20.6	-0.5
	0.2nm,0.3s,baz=94,slow=7.9,SNR=29						
ASAR	**Alice Springs**	44.26	254	P		P 17 16 23.1	+0.1
	2.8nm,0.5s,baz=89,slow=7.8,SNR=130						
NVAR	**Mina Array Bea**	79.41	44	P		P 17 20 12.1	+0.3
	0.3nm,0.6s,baz=229,slow=11,SNR=2.8						
SEY	**Seymchan**	82.85	347	P		P 17 20 29.2	+0.6
	0.8nm,0.3s,baz=233,slow=10,SNR=4.3						
ILAR	**Eielson Array**	85.31	13	P		P 17 20 40.6	-0.1
	0.6nm,1.0s,baz=224,slow=6.0,SNR=3.5						
TXAR	**Lajitas Array**	86.24	58	P		P 17 20 46.6	+0.4
	0.1nm,0.5s,baz=201,slow=4.7,SNR=2.8						
PDAR	**Pinedale Array**	87.33	44	P		P 17 20 50.6	-0.5
	0.3nm,0.6s,baz=242,slow=3.2,SNR=3.4						
BRTR	**Keskin Array B**	143.69	315	PKP		PKPdf 17 27 34.2	-1.1
	0.5nm,0.8s,baz=96,slow=1.4,SNR=3.0						
GERES	**GERESS Array B**	146.66	344	PKPbc		PKPbc 17 27 42.4	-0.3
	0.2nm,0.3s,baz=17,slow=4.1,SNR=4.0						

ISCJB ***19*** *17:10:10.3±0.5, 57°.4S±0°.1×147°.6W±0°.1, h10km, mb4.8/18, MS4.2/11, Error ellipse: s-maj=16.9km s-min=10.2km az=24.4*
IDC ***19*** *17:10:11.0±0.6, 57°.31S×147°.70W, h0km, mb4.4/9, mb1 4.5/9, mb1mx4.3/25, mbtmp4.4/9, MS4.1/11, Ms1 4.1/11, ms1mx3.9/20, Error ellipse: s-maj=29.1km s-min=17.6km az=12.0*
NEIC ***19*** *17:10:12.3±0.3, 57°.35S×147°.52W, h10km, mb5.0/14, Error ellipse: s-maj=13.5km s-min=8.3km az=196.0*
GCMT ***19*** *17:10:17.3±0.3, 57°.80S±0°.02×147°.47W±0°.03, h24km±1km, MW5.1/67, Moment Tensor Solution. s35,c37; s67,c92; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.78±.25; Mθθ-0.26±.23; Mϕϕ-0.52±.17; Mrθ 1.77±.34; Mrϕ4.26±.14; Mθϕ 1.30±.28; Best double couple: M=4.83400×10^16 NP1:ϕs94.00000°, δ74.00000°, λ23.00000°. NP2: ϕs357.00000°, δ68.00000°, λ162.00000°. Principal axes: T 4.9970, Plg27.0000°, Azm317.0000°; N -0.3260, Plg62.0000°, Azm128.0000°; P -4.6710, Plg3.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 17:10:12.2±0.5, 57°.4S±0°.1×147°.5W±0°.1, h10km, n81, σ0s94/57, mb4.8/18, MS4.2/11, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC h m s	ISC
VNDA	**Vanda**	26.49	202	P		P 17 15 49.5	+0.4
	4.4nm,1.2s,baz=76,slow=8.0,SNR=2.6						
VNDA				LR		LR 17 23 48.4	
	comp=Z,150nm,18.9s,baz=71,slow=31						
VNDA	**Vanda**	26.49	202	eP		P 17 15 49.7	+0.6
QSPA	**South Pole Qui**	32.80	180	P		P 17 16 45.6	+0.2
	7.9nm,0.8s,baz=79,slow=2.5,SNR=25						
QSPA	**South Pole Qui**	32.80	180	eP		P 17 16 45.8	+0.5
	65nm,1.9s						
TBI	**Tubuai**	33.99	357	eLQ		LQ 17 24 20.2	
	440nm,30.0s						
TBI				eLR		LR 17 25 45.5	
	391nm,26.0s						
TBI	**Tubuai**	33.99	357	eT		T 17 52 56.4	
	21nm,0.3s						
RKT	**Rikitea**	35.39	20	eLQ		LQ 17 24 58.2	
	616nm,29.0s						
RKT				eLR		LR 17 26 27.1	
	645nm,28.5s						
RKT	**Rikitea**	35.39	20	eT		T 17 54 38.5	
	5.9nm,0.2s						

TVO	**Taravao**	**39.52 357**	*e*T	T	17 59 51.4	
	6.4nm,0.4s					
PPT2	**Papeete2**	**39.73 357**	*e*LQ	LQ	17 26 42.5	
	795nm,39.0s					
PPT2			*e*LR	LR	17 28 24.1	
	264nm,25.2s					
TIAR	**Tiarei**	**39.75 357**	*e*T	T	18 00 02.9	
	4.7nm,0.3s					
VAH	**Vaihoa**	**42.03 360**	*e*T	T	18 02 58.9	
	50nm,0.2s					
AFI	**Afiamalu**	**47.11 327**	LR	LR	17 33 16.4	
	comp=Z,216nm,20.8s,baz=131,slow=30					
AFI	**Afiamalu**	**47.11 327**	*e*P	**P**	**17 18 43.2 -1.1**	
	148nm,1.4s					
VNA3	**Neumayer Olymp**	**48.31 163**	P	**P**	**17 18 51.6 -1.4**	
DZM	**Mont Dzumac**	**48.47 297**	P	**P**	**17 18 54.4 -0.5**	
	8.5nm,1.0s,baz=99,slow=9.9,SNR=7.0					
DZM			LR	LR	17 36 25.3	
	comp=Z,239nm,18.7s,baz=154,slow=32					
DZM	**Mont Dzumac**	**48.47 297**	*e*LR	LR	17 32 33.9	
	661nm,27.8s					
DZM	**Mont Dzumac**	**48.47 297**	*e*P	**P**	**17 18 57.4 +2.5**	
	20nm,1.2s					
SNAA	**Sanae**	**48.91 166**	P	**P**	**17 18 56.3 -1.4**	
SNAA	**Sanae**	**48.91 166**	*e*P	**P**	**17 18 55.7 -2.0**	
	18nm,1.3s					
VNA2	**Neumayer--Watz**	**48.94 164**	P	**P**	**17 18 56.8 -1.1**	
	baz=205,slow=6.8					
VNA1	**Neumayer--Stat**	**49.05 163**	P	**P**	**17 18 57.8 -0.9**	
PLCA	**Paso Flores**	**50.27 106**	P	**P**	**17 19 09.8 +1.3**	
	2.0nm,1.0s,baz=18,slow=3.2,SNR=2.8					
PLCA			LR	LR	17 35 23.4	
	comp=Z,207nm,18.5s,baz=242,slow=30					
STKA	**Stephens Creek**	**53.66 266**	P	**P**	**17 19 33.6 -0.1**	
	5.1nm,1.0s,baz=124,slow=8.3,SNR=5.7					
STKA			LR	LR	17 39 19.8	
	comp=Z,288nm,20.2s,baz=144,slow=33					
TRQA	**Tornquist**	**56.69 110**	*e*P	**P**	**17 19 56.3 +0.7**	
	16nm,1.4s					
HNR	**Honiara**	**62.47 298**	LR	LR	17 43 27.2	
	comp=Z,108nm,19.9s,baz=164,slow=32					
AS01	**Alice Springs**	**64.26 266**	*e*P	**P**	**17 20 47.0 -0.5**	
AS31	**Alice Springs**	**64.29 266**	*e*P	**P**	**17 20 47.7 0.0**	
	11nm,1.7s					
ASAR	**Alice Springs**	**64.29 266**	P	**P**	**17 20 47.3 -0.4**	
	6.1nm,0.9s,baz=144,slow=6.8,SNR=51					
LVC	**Limon Verde**	**65.16 93**	*e*P	**P**	**17 20 53.9 +0.2**	
	46nm,0.8s					
H01W1	**Cape Leeuwin H**	**65.54 243**	T	T	18 32 42.6	
	baz=144,slow=76,SNR=34					
H01W2	**Cape Leeuwin H**	**65.55 243**	T	T	18 32 40.3	
	baz=144,slow=76,SNR=33					
H01W3	**Cape Leeuwin H**	**65.56 243**	T	T	18 32 45.7	
	baz=144,slow=76,SNR=30					
WB2	**Warramunga Arr**	**67.06 269**	*e*P	**P**	**17 21 05.8 +0.3**	
	19nm,1.3s					
WR1	**Warramunga Arr**	**67.06 269**	*e*P	**P**	**17 21 05.3 -0.2**	
	14nm,1.2s					
WRA	**Warramunga Arr**	**67.06 269**	P	**P**	**17 21 05.3 -0.2**	
	7.2nm,1.0s,baz=148,slow=5.6,SNR=33					
WRAB	**Tennant Creek**	**67.07 269**	*e*P	**P**	**17 21 05.8 +0.3**	
	13nm,1.0s					
CPUP	**Villa Florida**	**68.34 105**	P	**P**	**17 21 13.8 +0.2**	
	3.9nm,0.9s,baz=213,slow=7.3,SNR=3.4					
CPUP			LR	LR	17 47 11.7	
	comp=Z,129nm,18.7s,baz=216,slow=32					
CPUP	**Villa Florida**	**68.34 105**	*e*P	**P**	**17 21 12.5 -1.1**	
	19nm,1.3s					
LPAZ	**La Paz**	**70.72 90**	P	**P**	**17 21 30.2 +1.1**	
	2.8nm,0.8s,baz=250,slow=0.4,SNR=6.0					
LPAZ	**La Paz**	**70.72 90**	*e*P	**P**	**17 21 28.0 -1.1**	
	9.5nm,1.3s					
FITZ	**Fitzroy Crossi**	**73.27 263**	*e*P	**P**	**17 21 44.5 +0.9**	
	10nm,1.3s					
BDFB	**Brasilia**	**82.02 106**	LR	LR	17 55 08.0	
	comp=Z,215nm,20.2s,baz=190,slow=33					
ROSC	**El Rosal**	**85.08 73**	LR	LR	17 54 39.4	
	comp=Z,109nm,18.2s,baz=280,slow=31					
TXAR	**Lajitas Array**	**93.91 37**	LR	LR	17 56 36.6	
	comp=Z,89nm,20.4s,baz=0.0,slow=30					
NVAR	**Mina Array Bea**	**98.54 23**	LR	LR	17 58 25.5	
	comp=Z,72nm,20.4s,baz=259,slow=29					
H10S3	**ASCENSION HYDR**	**103.55 132**	T	T	19 20 19.9	
	baz=204,slow=74,SNR=138					
H10S2	**ASCENSION HYDR**	**103.56 132**	T	T	19 20 19.2	
	baz=204,slow=74,SNR=127					
H10S1	**ASCENSION HYDR**	**103.57 132**	T	T	19 20 20.4	
	baz=204,slow=74,SNR=132					
H10N3	**ASCENSION HYDR**	**104.63 132**	T	T	19 21 36.9	
	baz=203,slow=75,SNR=154					
H10N1	**ASCENSION HYDR**	**104.63 132**	T	T	19 21 43.7	
	baz=203,slow=75,SNR=118					
H10N2	**ASCENSION HYDR**	**104.64 132**	T	T	19 21 44.0	
	baz=203,slow=75,SNR=104					
IL1	**Eielson Array**	**121.80 0**	*e*PKPdf	**PKPdf**	**17 29 04.8 0.0**	
ILAR	**Eielson Array**	**121.80 0**	PKP	**PKPdf**	**17 29 04.9 +0.1**	
	2.1nm,0.9s,baz=242,slow=2.1,SNR=12					
ILB	**Eielson Array**	**121.80 0**	*e*PKPdf	**PKPdf**	**17 29 04.9 +0.1**	
RAYN	**Ar Rayn**	**144.91 201**	*e*PKPdf	**PKPab**	**17 29 48.4 0.0**	
KBL	**Kabul**	**146.48 243**	*e*PKPdf	**PKPbc**	**17 29 53.7 +0.4**	
NRN	**Naryn**	**148.16 259**	*e*PKPbc	**PKPbc**	**17 29 58.4 +0.5**	
MK01	**Makanchi Array**	**148.29 272**	*e*PKPbc	**PKPbc**	**17 29 57.3 -0.3**	
MK31	**Makanchi Array**	**148.31 272**	*e*PKPbc	**PKPbc**	**17 29 57.7 +0.1**	
MK32	**Makanchi Array**	**148.31 272**	*e*PKPbc	**PKPbc**	**17 29 57.3 -0.4**	
MKAR	**Makanchi Array**	**148.31 272**	PKPbc	**PKPbc**	**17 29 57.3 -0.4**	
	7.6nm,0.9s,baz=116,slow=4.4,SNR=34					
MKAR	**Makanchi Array**	**148.31 272**	*e*PKPbc	**PKPbc**	**17 29 57.7 +0.1**	
AAK	**Ala-Archa**	**149.81 259**	PKPbc	**PKPbc**	**17 30 01.4 -0.3**	
	1.6nm,0.6s,baz=156,slow=7.3,SNR=3.4					
ESDC	**Sonseca Array**	**150.56 111**	PKPbc	**PKPbc**	**17 30 03.9 +0.4**	
	3.7nm,0.8s,baz=233,slow=1.5,SNR=21					
ESLA	**Sonseca Array**	**150.56 111**	*e*PKPdf	**PKPdf**	**17 29 54.9 -3.2**	
ES19	**SONSECA Array**	**150.62 111**	*e*PKPbc	**PKPbc**	**17 30 04.4 +0.8**	
ZAA0	**Zalesovo Array**	**150.88 286**	*e*PKPbc	**PKPbc**	**17 30 03.2 -0.4**	
ZALV	**Zalesovo Beam**	**150.88 286**	PKPbc	**PKPbc**	**17 30 03.3 -0.4**	
	0.3nm,0.3s,baz=120,slow=5.8,SNR=4.1					
ZALV	**Zalesovo Beam**	**150.88 286**	*e*PKPbc	**PKPbc**	**17 30 02.7 -1.0**	
ZAA1	**Zalesovo Array**	**150.88 286**	*e*PKPbc	**PKPbc**	**17 30 03.2 -0.4**	
KK31	**Karatay Array**	**152.24 256**	*e*PKPdf	**PKPdf**	**17 30 01.9 +1.5**	
KKAR	**Karatay Array**	**152.24 256**	*e*PKPdf	**PKPdf**	**17 30 01.8 +1.3**	
KURK	**Kurchatov**	**152.56 276**	*e*PKPbc	**PKPbc**	**17 30 07.4 -0.1**	
GEYT	**Alibeck**	**154.27 232**	PKPab	**PKPab**	**17 30 24.9 -0.9**	
	3.1nm,1.1s,baz=110,slow=6.6,SNR=3.9					
ABKAR	**Akbulak array**	**161.80 255**	*e*PKPab	**PKPab**	**17 30 58.0 -0.1**	
BR101	**Keskin Array S**	**162.35 183**	*e*PKPdf	**PKPdf**	**17 30 13.1 -0.4**	
BRTR	**Keskin Array B**	**162.35 183**	PKP	**PKPdf**	**17 30 13.1 -0.4**	
	0.9nm,1.0s,baz=184,slow=2.0,SNR=4.5					
GERES	**GERESS Array B**	**165.91 119**	PKP	**PKPdf**	**17 30 17.2 +0.9**	
	0.2nm,0.6s,baz=180,slow=1.7,SNR=3.3					
BUR04	**Bucovina Ar. S**	**169.30 153**	*e*PKPab	**PKPab**	**17 31 31.8 +0.5**	
AKASG	**Malin Array Be**	**173.07 163**	PKPab	**PKPab**	**17 31 49.3 +1.6**	
	1.3nm,0.8s,baz=202,slow=4.9,SNR=7.6					

IDC ***19*** *17:25:48.0±0.5,23.01N×95.92E,h0km,mb4.3/19, mb1 4.5/20,mb1mx4.3/50,mbtmp4.4/20,ML5.2/1,MS3.8/11, Ms1 3.8/11,ms1mx3.6/38,Error ellipse: s-maj=19.3km s-min=10.3km az=57.0*

ISCJB ***19*** *17:25:50.9±0.1,22.91N±0.02×95.81E±0.02,h32km, mb4.7/61,MS4.0/15,Error ellipse: s-maj=3.2km s-min=2.2km az=135.9*

BJI ***19*** *17:25:52.7,23.13N×95.91E,h26km,mb4.7/47,mB4.8/32, ML5.1/5,Ms4.7/54,Ms7 4.4/46*

NDI ***19*** *17:25:52.9±3.5,22.94N×95.93E,h33km±44km,ML5.0, mb4.9(NEIC)*

GCMT ***19*** *17:25:52.0±0.4,22.94N±0.02×96.10E±0.02,h20km±1km, MW4.8/74,Moment Tensor Solution. s15,c18; s74,c101; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr0.00±.10; Mθθ0.09±.08; Mφφ-0.09±.08; Mrθ0.64±.19; Mφθ1.92±.10; Mφr0.23±.17; Best double couple: M◎2.03600×10^16^ NP1:ϕs0.00000°,δ72.00000°,λ174.00000°. Principal axes: T 2.1060, Plg17.0000°, Azm318.0000°; N -0.1390, Plg71.0000°, Azm109.0000°; P -1.9660, Plg9.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***19*** *17:25:53.0±1.9,22.99N×95.96E,h31km±14km,mb4.9/38 Error ellipse: s-maj=7.8km s-min=4.8km az=56.0*

NEIC Felt [III] at Mandalay. Also felt at Keng Tung and Lashio.

ISC 19 17:25:53.5±0.3,22.99N±0.03×95.84E±0.03,h32km,n205,
s221/236,mb4.8/62,MS4.0/16,7C-5D,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
SAIH	**SAIHA**	**2.68**	**260**	*e*P	**Pn**	**17 26 36.8**	**+2.3**
SAIH				*e*S	**Sn**	**17 27 03.7**	**-2.3**
SAIH				IAML		17 27 19.8	
	comp=N,2μm,0.7s						
SAIH				IAML		17 27 20.7	
	comp=E,2μm,0.4s						
AZL	**Aizawl**	**2.99**	**285**	*e*P	**Pn**	**17 26 41.1**	**+2.3**
KOHI	**KOHIMA**	**3.14**	**330**	*e*P	**Pn**	**17 26 42.3**	**+1.4**
KOHI				*e*S	**Sn**	**17 27 17.7**	**+0.2**
SILR	**SILCHAR**	**3.30**	**303**	*e*P	**Pn**	**17 26 45.1**	**+2.1**
MOKO	**MOKOCHONG**	**3.52**	**340**	*e*P	**Pn**	**17 26 47.4**	**+1.1**
BRDH	**Bariadhala**	**3.88**	**266**	Pn	**Pn**	**17 26 55.3**	**+4.3**
	comp=E,55nm,0.3s,baz=130,slow=8.8,SNR=4.7						
BRDH				Sn	**Sn**	**17 27 40.4**	**+4.8**
	comp=E,49nm,0.3s,baz=98,slow=12,SNR=3.9						
BRDH				Lg	Lg	17 27 49.7	
	comp=E,147nm,0.3s,baz=240,slow=21,SNR=6.6						
BRDH				LR	LR	17 28 16.1	
	comp=E,896nm,18.1s,baz=236,slow=37						
JORH	**JORHAT**	**4.00**	**339**	*e*P	**Pn**	**17 26 54.1**	**+1.5**
JORH				*e*S	**Sn**	**17 27 36.5**	**-2.0**
BELO	**BELONIA**	**4.05**	**274**	*e*P	**Pn**	**17 26 55.8**	**+2.5**
BELO				*e*S	**Sn**	**17 27 39.3**	**-0.3**
BELO				IAML		17 27 47.4	
	comp=E,37μm,0.4s						
BELO				IAML		17 27 48.1	
	comp=N,39μm,0.5s						
AGT	**Agartala**	**4.30**	**283**	*e*P	**Pn**	**17 26 58.6**	**+1.8**
AGT				*e*S	**Sn**	**17 27 43.5**	**-2.4**
LKP	**Lekhapani**	**4.32**	**0**	*e*P	**Pn**	**17 26 58.0**	**+0.9**
LKP				*e*S	**Sn**	**17 27 43.7**	**-2.6**
SHL	**Shillong**	**4.42**	**306**	*e*P	**Pn**	**17 26 58.2**	**-0.4**
SHL				*i* PN	**Pn**	**17 26 59.0**	**+0.3**
SHL				*e*SN	**Sn**	**17 27 49.5**	**+0.3**
TEZP	**TEZPUR**	**4.54**	**323**	*e*P	**Pn**	**17 26 59.6**	**-0.5**
ITAN	**ITANAGAR**	**4.56**	**336**	*e*P	**Pn**	**17 27 00.4**	**+0.1**
ITAN				*ex*	**Sb**	**17 28 13.1**	**+5.8**
ZIRO	**ZIRO**	**4.86**	**339**	*e*P	**Pn**	**17 27 04.3**	**-0.3**
CRAI	**Chiangrai**	**5.04**	**122**	P	**Sb**	**17 28 26.2**	**+5.0**
	comp=N,0.9nmcomp=N,0.1nm,0.7s						
CRAI	**Chiangrai**	**5.04**	**122**	P	**Pb**	**17 27 23.9**	**+2.9**
CHTO	**Chiang Mai**	**5.07**	**145**	*e*Pn	**Pn**	**17 27 04.4**	**-3.0**
CHTO	**Chiang Mai**	**5.07**	**145**	P	**Pn**	**17 27 04.0**	**-3.4**
CMMT	**Chiang Mai**	**5.08**	**144**	P	**Pn**	**17 27 04.0**	**-3.5**
PAYA	**Payao**	**5.22**	**133**	P	**Sb**	**17 28 33.6**	**+7.3**
	comp=N,11μmcomp=N,2μm,0.8s						
PAYA	**Payao**	**5.22**	**133**	P	**Pn**	**17 27 06.1**	**-3.3**
CM31	**Chiang Mai Arr**	**5.37**	**147**	*e*Pn	**Pn**	**17 27 08.8**	**-2.7**
CMAR	**Chiang Mai Arr**	**5.37**	**147**	Pn	**Pn**	**17 27 09.1**	**-2.4**
	comp=N,21nm,0.3s,baz=323,slow=13,SNR=1137						
CMAR				Pg	**Pb**	**17 27 26.1**	**-0.6**
	comp=N,61nm,0.3s,baz=322,slow=17,SNR=42						
CMAR				Sn	**Sn**	**17 28 12.2**	**0.0**
	comp=N,24nm,0.3s,baz=331,slow=16,SNR=4.5						
CMAR				Lg	Lg	17 28 34.3	
	comp=N,90nm,0.3s,baz=325,slow=30,SNR=9.7						
CMAR				LR	LR	17 29 33.4	
	comp=N,2μm,19.3s,baz=34,slow=42						
CM01	**Chiang Mai Arr**	**5.41**	**147**	*e*Pn	**Pn**	**17 27 08.6**	**-3.4**
LAMP	**Lampang**	**5.69**	**141**	P	**Sb**	**17 28 44.1**	**+4.2**
	comp=N,8μmcomp=N,1μm,1.0s						
LAMP	**Lampang**	**5.69**	**141**	P	**Pn**	**17 27 12.6**	**-3.3**
TAWA	**Tawang**	**5.82**	**323**	*e*P	**Pn**	**17 27 17.3**	**-0.7**
NANT	**Nan**	**6.17**	**132**	P	Pn	17 27 16.7	-5.8
SUKH	**Sukhothai**	**6.54**	**146**	P	**Pn**	**17 27 24.8**	**-2.7**
KMI	**Kunming**	**6.66**	**70**	Pn	**Pn**	**17 27 28.5**	**-0.9**
KMI				Pg	**Pb**	**17 27 52.3**	**+3.6**
KMI				Sn	**Sn**	**17 28 40.0**	**-4.3**
KMI				Sg	Sb	17 29 17.8	+10
KMI				smax	smax		
	comp=N,1μm,1.1s						
KMI				smax	smax		
	comp=N,710nm,1.3s						
KMI				LR	LR		
	comp=N,13μm,8.6s						
KMI				LR	LR		
	comp=N,6μm,6.1s						
KMI				LR	LR		
	comp=N,2μm,11.2s						
UTTA	**Uttaradit**	**6.84**	**139**	P	**Pn**	**17 27 28.2**	**-3.5**
UMPA	**Umpang Tak**	**7.33**	**157**	P	**Pn**	**17 27 39.4**	**+1.0**
GTK	**Tadong**	**7.84**	**305**	*e*P	**Pn**	**17 27 43.4**	**-2.1**
GTK				*e*S	**Sn**	**17 29 08.2**	**-5.1**
LSA	**Lhasa**	**7.89**	**329**	Pn	**Pn**	**17 27 48.3**	**+1.8**
LSA	**Lhasa**	**7.89**	**329**	*e*Pn	**Pn**	**17 27 48.0**	**+1.5**
PBKT	**Sadao Pong**	**8.01**	**142**	P	**Pn**	**17 27 45.0**	**-2.8**
UTHA	**Uthaitani**	**8.14**	**155**	P	**Pn**	**17 27 47.7**	**-1.9**
	comp=N,60nm,0.7s,comp=N,2μmcomp=N,1.6nm						
NONG	**Nongkai**	**8.42**	**124**	P	**Pn**	**17 27 52.7**	**-0.7**
	comp=N,0.9nm,0.7s,comp=N,172nmcomp=N,0.1nm						
ODAN	**Odare**	**8.58**	**298**	*e*Pn	**Pn**	**17 27 55.8**	**0.0**
ODAN				*e*Sn	**Sn**	**17 29 30.7**	**-0.9**
	comp=N,283nm,0.5s						
CHAI	**Chaiyaphum**	**9.13**	**139**	P	**Pn**	**17 28 01.7**	**-1.5**
	comp=N,14nm,0.7s,comp=N,259nmcomp=N,0.1nm						
SRDT	**SRDT**	**9.14**	**160**	P	Pn	17 28 10.0	+6.7
RAMN	**Ramite**	**9.26**	**297**	*e*Pn	**Pn**	**17 28 05.2**	**+0.1**
RAMN				*e*Sn	**Sn**	**17 29 45.2**	**-3.1**
	comp=N,201nm,0.6s						
BWNR	**Bhubaneshwar**	**9.71**	**256**	*e*P	**Pn**	**17 28 09.8**	**-1.2**
SKNT	**Sakolnakorn**	**9.72**	**127**	P	**Pn**	**17 28 09.7**	**-1.5**
	comp=N,17nm,0.9s,comp=N,458nmcomp=N,0.1nm						
JIRN	**Jiri**	**9.88**	**300**	*e*Pn	**Pn**	**17 28 14.3**	**+0.5**
JIRN				*e*Sn	**Sn**	**17 30 01.8**	**-2.1**
GUN	**Gumba**	**10.24**	**301**	*e*Pn	**Pn**	**17 28 18.3**	**-0.4**
GUN				*e*Sn	**Sn**	**17 30 11.3**	**-1.3**
	comp=N,228nm,0.6s						
GYA	**Guiyang**	**10.43**	**68**	P	**Pn**	**17 28 21.3**	**+0.3**
GYA				sP		17 28 35.8	
GYA				S	**Sn**	**17 30 15.8**	**-1.0**
GYA				SS	**SnSn**	**17 30 30.4**	**+1.7**
GYA				pmax	pmax		
	comp=N,20nm,0.8s						
GYA				pmax	pmax		
	comp=N,120nm,4.6s						
GYA				LR	LR		
	comp=N,4μm,9.6s						
GYA				LR	LR		
	comp=N,2μm,8.9s						
GYA				LR	LR		
	comp=N,1μm,9.9s						
PKI	**Pulchoki**	**10.48**	**298**	*e*Pn	**Pn**	**17 28 21.1**	**-0.8**
PKIN	**Phulchoki**	**10.49**	**298**	*e*Pn	**Pn**	**17 28 21.7**	**-0.3**
CD2	**Chengdu**	**10.58**	**40**	P	**Pn**	**17 28 24.8**	**+1.7**
CD2				S	**Sn**	**17 30 21.4**	**+0.9**
CD2				pmax	pmax		
	comp=N,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=N,120nm,4.6s						
CD2				LR	LR		
	comp=N,4μm,9.9s						
CD2				LR	LR		
	comp=N,3μm,10.1s						
CD2				LR	LR		
	comp=N,5μm,10.3s						
KKN	**Kakani**	**10.67**	**299**	*e*Pn	**Pn**	**17 28 24.1**	**-0.3**
SRAK	**Srakaew**	**10.70**	**146**	P	**Pn**	**17 28 28.9**	**+4.3**
DMN	**Daman**	**10.74**	**298**	*e*Pn	**Pn**	**17 28 24.7**	**-0.7**
PATY	**Pattaya**	**11.10**	**154**	P	Pn	17 28 36.5	+6.4
GKN	**Gorkha**	**11.28**	**299**	*e*Pn	**Pn**	**17 28 31.9**	**-0.8**
PBA	**Port Blair**	**11.65**	**195**	*e*Pn	Pn	17 28 37.1	-0.6
CHBT	**CHBT**	**11.91**	**148**	P	**Pn**	**17 28 37.9**	**-3.3**
	comp=N,60nm,1.3s,comp=N,0.4nm						
KOLN	**Koldanda**	**12.04**	**296**	*e*Pn	**Pn**	**17 28 40.6**	**-2.6**
KOLN				*e*Sn	**Sn**	**17 30 51.7**	**-4.8**
	comp=N,100nm,0.6s						
DANN	**Dangsing**	**12.12**	**299**	*e*Pn	**Pn**	**17 28 42.6**	**-1.8**
DANN				*e*Sn	**Sn**	**17 30 54.9**	**-3.8**
	comp=N,177nm,0.7s						
PYUN	**Piuthan**	**12.66**	**296**	*e*Pn	**Pn**	**17 28 48.9**	**-2.7**
QIZ	**Qiongzhong**	**13.66**	**104**	P	**Pn**	**17 29 04.0**	**-1.1**
QIZ				S	**Sn**	**17 31 32.3**	**-3.5**
QIZ				LR	LR		
	comp=N,3μm,13.7s						
QIZ				LR	LR		
	comp=N,2μm,13.7s						
QIZ				LR	LR		
	comp=N,740nm,8.8s						
ENH	**Enshi**	**14.19**	**56**	*e*Pn	**Pn**	**17 29 10.1**	**-2.2**
LZH	**Lanzhou**	**14.78**	**26**	*e*P	**Pn**	**17 29 20.3**	**-0.2**
LZH				pP	P	17 29 27.1	+1.0
LZH				sP		17 29 31.5	
LZH				S	**Sn**	**17 32 06.4**	**+3.1**
LZH				sS	S	17 32 17.3	-3.8
LZH				pmax	pmax		
	comp=N,98nm,1.3s						
LZH				pmax	pmax		
	comp=N,360nm,4.9s						
LZH				LR	LR		
	comp=N,2μm,10.2s						
LZH				LR	LR		
	comp=N,4μm,12.8s						
LZH				LR	LR		
	comp=N,3μm,12.8s						
KRAB	**Krabi**	**15.04**	**167**	P	**P**	**17 29 32.4**	**+3.5**
PKDT	**Phuket**	**15.21**	**171**	P	**P**	**17 29 32.0**	**+1.3**
	comp=N,14nm,1.2s						
TRTT	**Trang**	**15.52**	**166**	P	**P**	**17 29 34.8**	**+0.6**
	comp=N,18nm,0.9s,comp=N,219nm						
NGP	**Nagpur**	**15.67**	**266**	*e*P	**Pn**	**17 29 32.2**	**0.0**
XAN	**Xi'an**	**15.90**	**43**	P	**Pn**	**17 29 33.3**	**-1.7**
XAN				pP	P	17 29 40.8	+2.4
XAN				pmax	pmax		
	comp=N,6.0nm,0.9s						
XAN				pmax	pmax		
	comp=N,140nm,3.6s						
XAN				LR	LR		
	comp=N,2μm,11.3s						
XAN				LR	LR		
	comp=N,1μm,11.5s						
XAN				LR	LR		
	comp=N,1μm,13.9s						
GTA	**Gaotai**	**16.71**	**11**	*e*P	**Pn**	**17 29 46.1**	**+0.7**
GTA				pP	pP	17 29 55.8	-0.1
GTA				sP	sP	17 29 59.4	-0.6
GTA				S	**Sn**	**17 32 49.0**	**-1.1**
GTA				sS	S	17 33 04.4	+4.0
GTA				SS	**SnSn**	**17 33 12.0**	**+8.3**
GTA				pmax	pmax		
	comp=N,140nm,5.1s						
GTA				LR	LR		
	comp=N,2μm,11.3s						
GTA				LR	LR		
	comp=N,3μm,15.5s						
GTA				LR	LR		
	comp=N,2μm,11.7s						
HYB	**Hyderabad**	**17.14**	**254**	*i* P	**P**	**17 29 54.0**	**+1.8**
HYB				*e*S	**Sn**	**17 33 03.0**	**+2.4**
LHMI	**Lhok Sumawe**	**17.69**	**176**	*e*Pn	**P**	**17 29 58.2**	**-0.1**
	comp=N,84nm,0.9s						
LHMI	**Lhok Sumawe**	**17.69**	**176**	P	P	17 30 10.5	+12
KULM	**Kulim**	**18.20**	**164**	*e*P	**P**	**17 30 04.2**	**+0.2**
	comp=N,17nm,1.0s						
KULM	**Kulim**	**18.20**	**164**	P	**P**	**17 30 04.0**	**+0.1**
MLSI	**Meulaboh, Aceh**	**18.62**	**178**	P	**P**	**17 30 07.9**	**-0.7**
IPM	**Ipoh**	**19.08**	**164**	*e*P	**P**	**17 30 12.7**	**-0.8**
	comp=N,30nm,1.1s						
KCSI	**Kotacane, Aceh**	**19.45**	**174**	P	**P**	**17 30 16.4**	**-1.2**
TSI	**Tuntungan**	**19.56**	**172**	P	**Pn**	**17 30 19.2**	**-1.0**
PSI	**Prapat**	**20.30**	**171**	P	**P**	**17 30 27.4**	**+0.5**
	comp=N,6.2nm,0.5s,baz=360,slow=8.6,SNR=8.0						
PSI				Lg	Lg	17 36 35.1	
	comp=N,2.0nm,0.4s,baz=180,slow=19,SNR=3.0						
TIY	**Taiyuan**	**20.45**	**40**	*e*P	Pn	17 30 31.5	+0.7
TIY				S	**S**	**17 34 15.5**	**-0.4**
TIY				pmax	pmax		
	comp=N,230nm,6.3s						
TIY				LR	LR		
	comp=N,620nm,9.1s						
TIY				LR	LR		
	comp=N,440nm,7.7s						
TIY				LR	LR		
	comp=N,430nm,9.3s						
POO	**Poona**	**21.03**	**262**	i *i*P	P	17 30 25.0	-10
	comp=N,114nm,1.2s						
POO				*e*S	**S**	**17 34 22.0**	**-5.5**
POO				*e*LQ	LQ	17 34 31.0	
POO				*i* SS	**SnSn**	**17 34 59.0**	**+9.5**
POO				*e*SSS	SSS	17 35 13.0	
POO				*i* LR	LR	17 35 42.0	
BTO	**Baotou**	**21.25**	**31**	*e*P	**P**	**17 30 39.5**	**+2.4**
PALK	**Pallekele**	**21.36**	**225**	P	**P**	**17 30 38.7**	**+0.3**
	comp=N,23nm,0.9s,baz=114,slow=4.0,SNR=11						
PALK	**Pallekele**	**21.36**	**225**	*e*P	**P**	**17 30 39.5**	**+1.1**
	comp=N,57nm,1.3s						
GSI	**Gunungsitoli**	**21.63**	**175**	*e*P	**P**	**17 30 38.8**	**-2.4**
	comp=N,31nm,0.6s						
GSI	**Gunungsitoli**	**21.63**	**175**	P	**P**	**17 30 36.9**	**-4.3**
WMQ	**Urumqi**	**21.83**	**344**	P	**P**	**17 30 43.4**	**+0.1**
WMQ				pP	pP	17 30 51.3	-0.6
WMQ				sP	sP	17 31 01.3	+5.3
WMQ				S	**S**	**17 34 43.5**	**+0.5**
WMQ				pmax	pmax		
	comp=N,71nm,1.3s						
WMQ				pmax	pmax		
	comp=N,520nm,3.6s						
WMQ				LR	LR		
	comp=N,3μm,29.9s						
WMQ				LR	LR		
	comp=N,2μm,24.1s						
HHC	**Hu-ho-hao-te**	**22.19**	**33**	*e*P	**P**	**17 30 50.8**	**+3.6**
HHC				S	**S**	**17 34 48.1**	**-1.7**
HHC				pmax	p

KBL **Kabul** **26.07 302** *eP* **P** **17 31 25.7 +1.2**
comp=N,130nm,1.8s
MK01 **Makanchi Array** **26.12 339** *eP* **P** **17 31 24.0 -0.5**
MK31 **Makanchi Array** **26.14 339** *eP* **P** **17 31 24.7 -0.1**
MKAR **Makanchi Array** **26.14 339** P **P** **17 31 24.3 -0.4**
comp=N,25nm,1.0s,baz=150,slow=7.9,SNR=21
MKAR LR LR 17 42 49.9
comp=N,98nm,18.5s,baz=160,slow=39
MKAR **Makanchi Array** **26.14 339** *eP* **P** **17 31 24.7 -0.1**
comp=N,102nm,0.6s
UCH **Uchtor** **26.15 322** P **P** **17 31 26.4 +1.0**
SNR=7.5
SONM **Songino Array** **26.19 16** P **P** **17 31 24.6 -0.7**
comp=N,3.2nm,0.9s,baz=201,slow=10,SNR=14
SONM LR LR 17 43 44.8
comp=N,236nm,20.5s,baz=198,slow=41
KBK **Karagaybulak** **26.19 323** P **P** **17 31 27.0 +1.5**
SNR=11
SONA1 **Songino Array** **26.20 16** *eP* **P** **17 31 24.7 -0.7**
ULN **Ulaanbaatar** **26.39 17** *eP* **P** **17 31 26.9 -0.3**
comp=N,35nm,2.0s
AAK **Ala-Archa** **26.43 323** P **P** **17 31 28.3 +0.7**
comp=N,23nm,0.9s,baz=129,slow=6.3,SNR=22
AAK **Ala-Archa** **26.43 323** P **P** **17 31 29.1 +1.5**
SNR=13
AAK **Ala-Archa** **26.43 323** *eP* **P** **17 31 28.9 +1.3**
comp=N,29nm,0.9s
CHMS **Chumysh** **26.53 324** P **P** **17 31 28.9 +0.5**
SNR=6.8
AML **Almayashu** **26.56 321** P **P** **17 31 29.6 +0.6**
SNR=11
USP **Ospenovka** **26.84 324** P **P** **17 31 32.0 +0.8**
SNR=5.8
EKS2 **Erkin-Say** **26.85 322** P **P** **17 31 32.6 +1.3**
SNR=7.0
DL2 **Dalian** **27.09 48** *eP* **P** **17 31 35.5 +2.1**
DL2 S **S** **17 36 12.5 +3.1**
DL2 pmax pmax
comp=N,27nm,1.0s
DL2 LR LR
comp=N,550nm,13.0s
DL2 LR LR
comp=N,720nm,10.2s
DL2 LR LR
comp=N,590nm,15.0s
MDSI **Maura Dua** **28.50 162** P **P** **17 31 42.8 -3.3**
KK31 **Karatay Array** **29.02 320** *eP* **P** **17 31 50.7 +0.1**
KKAR **Karatay Array** **29.02 320** *eP* **P** **17 31 50.7 +0.1**
JOW **Kunigami** **29.62 76** LR LR 17 45 03.9
comp=N,147nm,21.2s,baz=270,slow=39
KURK **Kurchatov** **30.75 338** *eP* **P** **17 32 05.3 -0.5**
comp=N,5.5nm,0.8s
KSRS **Korea Array** **31.07 55** LR LR 17 46 38.6
comp=N,155nm,19.7s,baz=230,slow=40
CN2 **Changchun** **32.01 42** *eP* **P** **17 32 14.8 -2.1**
CN2 pmax pmax
comp=N,10.0nm,0.6s
CN2 LR LR
comp=N,420nm,10.0s
CN2 LR LR
comp=N,410nm,10.0s
CN2 LR LR
comp=N,560nm,11.0s
ZAA0 **Zalesovo Array** **32.01 348** *eP* **P** **17 32 16.1 -0.7**
comp=N,5.0nm,0.9s
ZALV **Zalesovo Beam** **32.01 348** P **P** **17 32 16.1 -0.8**
comp=N,2.5nm,0.6s,baz=170,slow=9.0,SNR=8.6
ZALV LR LR 17 46 40.5
comp=N,114nm,19.2s,baz=246,slow=39
ZALV **Zalesovo Beam** **32.01 348** *eP* **P** **17 32 15.4 -1.4**
KPJI **Karang Pucung** **32.75 155** P **P** **17 32 24.2 +0.5**
APSI **Ampana** **34.58 130** P P 17 32 49.5 +10
LUWI **Luwuk** **35.47 129** *eP* **P** **17 32 47.2 -0.2**
comp=N,41nm,1.0s
GEYT **Alibeck** **35.50 304** P **P** **17 32 46.9 -0.5**
comp=N,4.9nm,1.0s,baz=109,slow=13,SNR=12
GYA0B **ALIBECK ARRAY** **35.50 304** *eP* **P** **17 32 49.1 +1.7**
comp=N,16nm,1.0s
SPSI **Sidrap Palu** **35.55 136** P **P** **17 32 48.6 +0.6**
USRK **Ussuriysk Ar.** **36.39 46** LR LR 17 48 38.1
comp=N,184nm,19.0s,baz=210,slow=38
BKSI **Bulukumba** **36.81 137** P **P** **17 32 59.7 +0.9**
INU **Inuyama** **37.75 62** *eP* **P** **17 33 04.9 -1.7**
comp=N,160nm,1.4s
ABKAR **Akbulak array** **38.51 322** *eP* **P** **17 33 12.5 -0.3**
MJB9 **Matsu-Tunnel** **38.87 60** *eP* **P** **17 33 17.8 +1.7**
comp=N,24nm,1.0s
MAJO **Matsushiro** **38.87 60** *eP* **P** **17 33 17.8 +1.7**
comp=N,22nm,1.0s
MAT **Matsushiro** **38.87 60** P **P** **17 33 17.1 +1.0**
MJAR **Matsushiro Arr** **38.88 60** P **P** **17 33 15.4 -0.7**
comp=N,18nm,1.0s,baz=268,slow=10,SNR=18
MJAR LR LR 17 50 17.7
comp=N,269nm,18.3s,baz=275,slow=38
WBSI **Waikabubak, Su** **39.80 142** P **P** **17 33 23.3 -0.6**
WSI **Waingapu** **40.34 141** P **P** **17 33 29.6 +1.2**
comp=N,119nm,0.7s,comp=N,5µm
EDFI **Ende, Flores** **40.44 138** P **P** **17 33 28.4 -1.0**
BATI **Baumata** **42.79 137** P **P** **17 33 46.0 -2.5**
SOEI **Soe** **42.83 136** *eP* **P** **17 33 46.4 -2.6**
comp=N,77nm,0.9s
SOEI **Soe** **42.83 136** P **P** **17 33 49.2 +0.3**
comp=N,96nm,1.0s
ARU **Arti** **43.09 330** *eP* **P** **17 33 50.1 -0.3**
ASAJ **Asahikawa** **43.60 50** P **P** **17 33 57.7 +2.9**
comp=N,11nm,1.0s,baz=239,slow=3.5,SNR=4.1
RAYN **Ar Rayn** **46.05 281** *eP* **P** **17 34 15.2 +0.5**
comp=N,6.8nm,1.0s
AKH **Akhalkalaki** **47.20 306** *eP* **P** **17 34 25.4 +1.8**
comp=N,16nm,0.8s
AKH **Akhalkalaki** **47.20 306** ⇓*iP* **P** **17 34 25.2 +1.6**
KIV **Kislovodsk** **48.11 309** *eP* **P** **17 34 30.6 +0.1**
comp=N,16nm,1.0s
FITZ **Fitzroy Crossi** **50.16 142** *eP* **P** **17 34 44.8 -1.4**
comp=N,13nm,1.1s
TIXI **Tiksi** **52.19 13** *eP* **P** **17 34 59.1 -1.7**
comp=N,5.8nm,0.6s
EIL **Elat** **54.45 291** P **P** **17 35 17.9 -0.2**
comp=N,5.7nm,0.9s,baz=14,slow=8.3
BRTR **Keskin Array B** **54.64 303** P **P** **17 35 19.2 -0.4**
comp=N,0.8nm,0.7s,baz=126,slow=9.1,SNR=5.4
WRA **Warramunga Arr** **56.86 136** P **P** **17 35 33.7 -1.7**
comp=N,15nm,1.1s,baz=324,slow=7.3,SNR=30
WRAB **Tennant Creek** **56.86 136** *eP* **P** **17 35 36.7 +1.3**
comp=N,11nm,0.9s
WB2 **Warramunga Arr** **56.86 136** *eP* **P** **17 35 36.5 +1.0**
comp=N,9.4nm,0.8s
AKASG **Malin Array Be** **57.84 316** P **P** **17 35 39.9 -2.0**
comp=N,1.2nm,0.6s,baz=80,slow=6.6,SNR=8.4
CFR **Carcaliu** **58.54 310** ⇑*iP* **P** **17 35 46.9 -0.1**
AS31 **Alice Springs** **59.33 139** *eP* **P** **17 35 53.2 +0.5**
comp=N,1.6nm,0.8s
ASAR **Alice Springs** **59.33 139** P **P** **17 35 51.8 -0.9**
comp=N,3.4nm,0.6s,baz=322,slow=7.1,SNR=25
ASAR LR LR 18 04 19.8
comp=N,97nm,20.4s,baz=321,slow=39
AS01 **Alice Springs** **59.35 139** *eP* **P** **17 35 52.3 -0.6**
VRI **Vrincioaia** **59.51 311** ⇓*iP* **P** **17 35 53.4 -0.3**
PLOR **Plostina** **59.56 311** ⇑*iP* **P** **17 35 53.5 -0.6**
ISR **Istrita** **59.67 310** ⇑*iP* **P** **17 35 55.0 +0.1**
BIZ **Bicaz** **59.89 312** ⇓*iP* **P** **17 35 55.3 -1.1**
MLR **Muntele Rosu** **60.07 310** *eP* **P** **17 35 56.2 -1.5**
comp=N,12nm,0.7s
MLR **Muntele Rosu** **60.07 310** ⇑*iP* **P** **17 35 57.4 -0.4**
FINES **FINESS Array B** **60.41 329** P **P** **17 35 58.4 -1.2**
comp=N,1.4nm,0.7s,baz=97,slow=8.3,SNR=4.2
DOPR **Dopca** **60.43 311** ⇓*iP* **P** **17 35 59.5 -0.6**
BURAR **Bucovina Array** **60.47 313** ⇑*iP* **P** **17 35 59.6 -0.8**
VOIR **60.70 310** ⇑*iP* **P** **17 36 00.4 -1.6**
ARCES **ARCESS Array B** **61.79 338** P **P** **17 36 08.7 -0.2**
comp=N,4.7nm,0.8s,baz=8.5,slow=9.1,SNR=4.4
DRGR **62.23 312** ⇓*iP* **P** **17 36 10.2 -2.1**
NB2 **NORSAR Subarra** **67.58 328** P **P** **17 36 44.6 -2.2**
comp=Z,5.6nm,1.4s,baz=84,slow=6.2
NOA **NORSAR Array B** **67.58 328** P **P** **17 36 45.1 -1.7**
comp=Z,0.8nm,0.6s,baz=82,slow=6.3,SNR=3.4
GERES **GERESS Array B** **67.98 315** P **P** **17 36 48.3 -1.3**
comp=Z,0.5nm,0.6s,baz=54,slow=6.8,SNR=4.6
CLL **Collm** **68.01 318** *e*(P) **P** **17 36 53.0 +3.4**
STKA **Stephens Creek** **69.95 140** P **P** **17 37 01.4 -0.5**
comp=Z,2.2nm,0.7s,baz=326,slow=6.2,SNR=5.7
STKA LR LR 18 15 27.5
comp=Z,67nm,18.2s,baz=225,slow=43
IM3 **Indian Mountai** **77.12 23** *eP* **P** **17 37 41.9 -1.7**
TOLK **Toolik Lake Re** **77.24 20** *eP* **P** **17 37 43.8 -0.5**
comp=Z,5.2nm,0.8s

MLY **Manley** **78.69 23** *eP* **P** **17 37 52.2 -0.2**
comp=Z,9.5nm,1.1s
BWN **Browne** **79.60 24** *eP* **P** **17 37 58.2 +0.9**
comp=Z,482nm,1.3s
MDM **Murphy Dome** **79.63 23** *eP* **P** **17 37 56.7 -0.8**
comp=Z,13nm,1.0s
SUMG **Summit** **79.83 347** *eP* **P** **17 37 57.7 -1.2**
comp=Z,24nm,1.0s
IL1 **Eielson Array** **80.22 23** *eP* **P** **17 37 58.0 -2.6**
ILAR **Eielson Array** **80.22 23** P **P** **17 37 59.5 -1.1**
comp=Z,2.2nm,0.9s,baz=292,slow=5.3,SNR=12
INK **Inuvik** **82.10 17** *eP* **P** **17 38 09.7 -0.9**
comp=Z,6.9nm,0.9s
EGAK **Eagle** **82.19 21** *eP* **P** **17 38 10.7 -0.4**
comp=Z,13nm,0.9s
DAWY **Dawson** **83.24 21** *eP* **P** **17 38 15.8 -0.8**
comp=Z,25nm,1.8s
TORD **Torodi Ar. Bea** **88.69 284** P **P** **17 38 47.1 +2.7**
comp=Z,0.5nm,0.9s,baz=15,slow=6.0,SNR=2.5
TORD PP **PP** **17 42 12.2 -1.1**
comp=Z,0.5nm,0.9s,baz=46,slow=6.8,SNR=2.9
TXAR **Lajitas Array** **124.69 21** PKP **PKPdf** **17 44 49.7 -1.0**
comp=Z,0.4nm,0.7s,baz=213,slow=4.2,SNR=3.7
BDFB **Brasilia** **145.18 276** PKPbc **PKPdf** **17 45 29.2 +0.4**
comp=Z,2.0nm,0.4s,baz=120,slow=4.9,SNR=2.3
SDV **Santo Domingo** **145.66 336** *e*PKPdf **PKPdf** **17 45 28.8 -1.1**
PTGA **Pitinga** **147.71 310** *e*PKPbc **PKPbc** **17 45 35.5 -0.4**
ROSC **Ei Rosal** **150.71 340** PKPbc **PKPbc** **17 45 43.4 -0.5**
comp=Z,5.3nm,0.5s,baz=108,slow=17,SNR=3.7
OTAV **Otavalo** **156.25 346** *e*PKPab **PKPab** **17 46 12.7 -1.5**

*ATH **19** 17:38:38.9,40.81N×21.32E, h32km±3km, ML2.0/4, Error ellipse: s-maj=4.5km s-min=1.3km az=170.0*
*SKO **19** 17:38:39.7,40.79N×21.39E, h12km, M2.0, ML2.4*
*ISCJB **19** 17:38:40.1±0.4,40.78N±0.03×21.40E±0.04, h11km±4km, Error ellipse: s-maj=5.0km s-min=4.0km az=28.5*
*THE **19** 17:38:40.6,40.79N×21.40E, h6km±1km, ML2.0/3, Error ellipse: s-maj=1.1km s-min=0.5km az=310.0*
ISC 19 17:38:40.4±0.9, **40.76N**±0.02×**21.38E**±0.02, **h6**km±6km, **n26**, σ1=**08**/44, **Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FNA	**Florina**	**0.02**	**353**	P		**Pg**	**17 38 41.7**	**+0.1**
FNA				S		**Sg**	**17 38 42.7**	**+0.3**
BIA	**Bitola**	**0.26**	**351**	P		**Pg**	**17 38 44.9**	**-0.6**
BIA				S		**Sg**	**17 38 48.9**	**-0.1**
BIA	**Bitola**	**0.26**	**351**	*e*Pg		**Pg**	**17 38 44.6**	**-0.9**
BIA				*i* Sg		**Sg**	**17 38 49.6**	**+0.5**
BIA	**Bitola**	**0.26**	**351**	*e*Pg		**Pg**	**17 38 44.6**	**-0.9**
BIA				*i* Sg		**Sg**	**17 38 49.6**	**+0.5**
NEST	**Nestorio**	**0.43**	**216**	P		**Pg**	**17 38 49.2**	**+0.6**
NEST				S		**Sb**	**17 38 56.4**	**-0.7**
NEST	**Nestorio**	**0.43**	**216**	P		**Pg**	**17 38 49.2**	**+0.6**
NEST				S		**Sb**	**17 38 56.6**	**-0.5**
KBN	**Korca**	**0.47**	**253**	P		**Pg**	**17 38 50.2**	**+0.8**
KBN				S		**Sb**	**17 38 57.5**	**-0.9**
KZN	**Kozani**	**0.54**	**146**	P		**Pg**	**17 38 51.2**	**+0.4**
KZN				S		**Sb**	**17 39 01.3**	**+0.8**
KZN	**Kozani**	**0.54**	**146**	P		**Pg**	**17 38 51.2**	**+0.4**
KZN				S		**Sb**	**17 38 59.3**	**-1.1**
OHR	**Ohrid**	**0.56**	**309**	*e*Pg		**Pg**	**17 38 50.9**	**-0.3**
OHR				*i* Sg		**Sb**	**17 39 00.4**	**-0.7**
OHR				*e*Lg	Lg		17 39 00.8	
	comp=E,290nm,0.4s							
OHR				*e*Lg	Lg		17 39 01.2	
	comp=N,151nm,0.4s							
OHR	**Ohrid**	**0.56**	**309**	*e*Pg		**Pg**	**17 38 50.9**	**-0.3**
OHR				*i* Sg		**Sb**	**17 39 00.4**	**-0.7**
OHR				*e*Lg	Lg		17 39 00.8	
	comp=E,290nm,0.4s							
OHR				*e*Lg	Lg		17 39 01.2	
	comp=N,151nm,0.4s							
PENT	**Pentalofos**	**0.59**	**198**	P		**Pg**	**17 38 51.9**	**+0.1**
PENT	**Pentalofos**	**0.59**	**198**	P		**Pg**	**17 38 52.0**	**+0.2**
KRUS	**Krusevo**	**0.62**	**351**	*i* Pg		**Pg**	**17 38 51.5**	**-0.8**
KRUS				*i* Sg		**Sg**	**17 39 00.6**	**+0.3**
KRUS	**Krusevo**	**0.62**	**351**	*i* Pg		**Pg**	**17 38 51.5**	**-0.8**
KRUS				*i* Sg		**Sg**	**17 39 00.6**	**+0.3**
GRG	**Griva**	**0.80**	**75**	P		**Pg**	**17 38 55.3**	**-0.3**
GRG				AML	AML		17 39 14.1	
	comp=N,167µm,0.6s							
GRG				AML	AML		17 39 14.6	
	comp=E,154µm,0.4s							
GRG	**Griva**	**0.80**	**75**	P		**Pg**	**17 38 55.4**	**-0.3**
GRG				S		**Sb**	**17 39 06.9**	**-0.9**
VAY	**Valandovo**	**1.06**	**58**	*i* Pg		**Pg**	**17 38 60.0**	**-0.7**
VAY				*i* Sg		**Sb**	**17 39 14.6**	**-0.7**
VAY				*e*Lg	Lg		17 39 19.2	
	comp=E,79nm,0.9s							
VAY				*e*Lg	Lg		17 39 20.1	
	comp=N,37nm,0.6s							
VAY	**Valandovo**	**1.06**	**58**	*i* Pg		**Pg**	**17 38 60.0**	**-0.7**
VAY				*i* Sg		**Sb**	**17 39 14.6**	**-0.7**
VAY				*e*Lg	Lg		17 39 19.2	
	comp=E,79nm,0.9s							
VAY				*e*Lg	Lg		17 39 20.1	
	comp=N,37nm,0.6s							
LIT	**Litokhoron**	**1.07**	**127**	P		**Pg**	**17 39 00.6**	**-0.3**
LIT				AML	AML		17 39 20.5	
	comp=E,324µm,0.5s							
LIT				AML	AML		17 39 22.2	
	comp=N,416µm,0.3s							
STIP	**Stip**	**1.11**	**33**	*i* Pg		**Pn**	**17 39 03.6**	**+1.0**
STIP				*i* Sg		**Sn**	**17 39 21.2**	**+2.9**
STIP	**Stip**	**1.11**	**33**	*i* Pg		**Pn**	**17 39 03.6**	**+1.0**
STIP				*i* Sg		**Sn**	**17 39 21.2**	**+2.9**
KNT	**Kendrikon**	**1.22**	**70**	P		**Pg**	**17 39 02.5**	**-1.2**
KNT				AML	AML		17 39 25.9	
	comp=E,48µm,0.4s							
KNT				AML	AML		17 39 26.6	
	comp=N,82µm,0.6s							
THL	**Klokotos Trika**	**1.29**	**158**	P		**Pn**	**17 39 02.9**	**-2.1**
THL				AML	AML		17 39 28.7	
	comp=N,143µm,0.9s							
THL				AML	AML		17 39 31.5	
	comp=E,112µm,0.6s							
IGT	**Igoumenitsa**	**1.47**	**214**	P		**Pn**	**17 39 05.2**	**-2.2**
AGG	**Agios Georgios**	**1.88**	**157**	P		**Pn**	**17 39 11.6**	**-1.6**

MAN 19 17:40:15.9,10.51N×126.98E, h32km, mb4.6, ML3.4, MS3.3, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SCPH	**Surigao**	**1.64**	**244**	⇓*eP*		Pn	17 40 43.1	+0.6
SCPH				*e*S		Sn	17 41 02.4	-0.2
BESP	**Borongan**	**1.86**	**306**	*e*P		Pn	17 40 46.1	+0.5
BESP				*e*S		Sn	17 41 03.8	-4.3
BUTP	**Butuan**	**2.04**	**221**	*e*P		Pn	17 40 42.2	-5.8
BUTP				*e*S		Sb	17 41 15.3	-1.9
MSLP	**Maasin**	**2.12**	**260**	*e*P		Pn	17 40 49.9	+0.7
MSLP				*e*S		Sn	17 41 15.7	+1.2
OCLP	**Ormoc**	**2.39**	**283**	*e*P		Pn	17 40 51.9	-1.1
CGP	**Cagayan de Oro**	**3.04**	**228**	⇑*eP*		Pb	17 41 20.6	+11
CGP				*e*S		Sn	17 41 38.6	+1.4

*TIR **19** 17:41:47.5,41.86N×19.31E, h8km, Md3.2/3*
*ISCJB **19** 17:41:48.8±0.4,41.88N±0.02×19.38E±0.03, h10km±2km, Error ellipse: s-maj=4.1km s-min=2.7km az=39.9*
*PDG **19** 17:41:48.9±0.1,41.87N×19.36E, h13km±1km, MD2.7/1, ML2.6/9, Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*
*SAR **19** 17:41:48.3±0.8,41.86N×19.52E, h6km±3km, ML2.7/8*
*BEO **19** 17:41:50.4±0.4,41.91N×19.44E, h1km±2km, ML2.3/10*
ISC 19 17:41:48.4±1.0, **41.86N**±0.03×**19.44E**±0.02, **h9**km±8km, **n58**, σ0=**97**/98, **13C-11D, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ULC	**Ulcinj**	**0.18**	**305**	⇑*eP*		**Pg**	**17 41 52.0**	**-0.2**
ULC				*e*Sg		**Sg**	**17 41 54.5**	**-0.3**
DRME	**Dracevica, Mon**	**0.38**	**330**	⇓*iP*		**Pg**	**17 41 55.8**	**0.0**
DRME				*e*Sg		**Sg**	**17 42 01.4**	**+0.6**
DRME	**Dracevica, Mon**	**0.38**	**330**	⇑*iPg*		**Pg**	**17 41 55.8**	**0.0**
DRME				*e*Sg		**Sg**	**17 42 01.7**	**+0.9**
PUK	**Puka**	**0.38**	**62**	*i* PG		**Pb**	**17 41 56.7**	**-0.7**
PUK				*i* SG		**Sb**	**17 42 03.7**	**+0.3**
PDG	**Podgorica**	**0.58**	**346**	*e*Pg		**Pg**	**17 41 59.6**	**-0.1**
PDG				*e*Sg		**Sg**	**17 42 07.6**	**+0.2**
PDG	**Podgorica**	**0.58**	**346**	⇑*iP*		**Pg**	**17 41 59.3**	**-0.4**
PDG	**Podgorica**	**0.58**	**346**	S		**Sg**	**17 42 08.1**	**+0.7**
PDG	**Podgorica**	**0.58**	**346**	⇑*iPg*		**Pg**	**17 41 59.4**	**-0.3**
PDG				*e*Sg		**Sg**	**17 42 08.1**	**+0.7**
TTG	**Podgorica**	**0.58**	**346**	⇑*iPg*		**Pg**	**17 41 59.6**	**-0.1**
TTG				*e*Sg		**Sb**	**17 42 08.9**	**-0.3**
BUM	**Brajici-Budva**	**0.60**	**317**	⇑*iPg*		**Pg**	**17 41 59.7**	**-0.3**
BUM				*e*Sg		**Sg**	**17 42 08.6**	**+0.7**
TIR	**Tirane**	**0.60**	**148**	*e*Pg		**Pb**	**17 42 01.7**	**+0.6**
TIR				*e*Sg		**Sn**	**17 42 11.5**	**-1.5**
TIR	**Tirane**	**0.60**	**148**	⇓*iP*		**Pb**	**17 42 01.5**	**+0.4**
TIR	**Tirane**	**0.60**	**148**	S		**Sn**	**17 42 11.5**	**-1.5**
BCI	**Bajram Curri**	**0.69**	**43**	*i* PG		**Pb**	**17 42 02.2**	**-0.4**
BCI				*i* SG		**Sb**	**17 42 13.4**	**+1.2**
PHP	**Peshkopia**	**0.77**	**103**	*i* PG		**Pb**	**17 42 04.1**	**+0.2**
PHP				*i* SG		**Sn**	**17 42 17.1**	**0.0**
CEME	**Cevo**	**0.79**	**331**	⇑*iPg*		**Pg**	**17 42 02.8**	**-0.8**
CEME				*e*Sg		**Sb**	**17 42 14.8**	**-0.3**
PVY	**Plav**	**0.83**	**28**	⇓*iPg*		**Pb**	**17 42 04.7**	**-0.3**
PVY				*e*Sg		**Sn**	**17 42 18.1**	**-0.6**
HCY	**Herceg Novi**	**0.92**	**310**	⇑*iPg*		**Pg**	**17 42 04.9**	**-1.1**
HCY				*e*Sg		**Sb**	**17 42 18.8**	**+0.1**
HCY	**Herceg Novi**	**0.92**	**310**	*e*Pg		**Pg**	**17 42 05.4**	**-0.6**
HCY				*e*Sg		**Sb**	**17 42 18.9**	**+0.2**
NKME	**Niksic**	**0.97**	**338**	⇑*iPg*		**Pg**	**17 42 06.6**	**-0.5**
NKME				*e*Sg		**Sb**	**17 42 21.3**	**+0.8**
KOME	**Kolasin**	**0.99**	**3**	⇓*iPg*		**Pg**	**17 42 07.5**	**+0.1**
KOME				*e*Sg		**Sn**	**17 42 23.1**	**+0.4**
NKY	**Niksic**	**1.01**	**341**	⇑*iPg*		**Pg**	**17 42 07.3**	**-0.5**
NKY				*e*Sg		**Sn**	**17 42 22.9**	**-0.2**
IVA	**Berane**	**1.06**	**18**	⇓*iPg*		**Pb**	**17 42 09.1**	**+0.1**
IVA				*e*Sg		**Sn**	**17 42 25.8**	**+1.4**
TREB	**Trebinje**	**1.18**	**317**	*e*Pn		**Pn**	**17 42 12.6**	**+1.6**
TREB				*e*Sg		**Sn**	**17 42 27.0**	**-0.2**
TREB	**Trebinje**	**1.18**	**317**	*e*Pg		**Pb**	**17 42 09.8**	**-1.1**
TREB				*e*Sg		**Sn**	**17 42 27.0**	**-0.2**
BRY	**Bratogost**	**1.24**	**328**	⇓*iPg*		**Pn**	**17 42 10.9**	**-1.1**
BRY				*e*Sg		**Sn**	**17 42 30.1**	**+1.3**
BRY	**Bratogost**	**1.24**	**328**	*e*Pg		**Pn**	**17 42 10.9**	**-1.1**
BRY				*e*Sg		**Sb**	**17 42 27.8**	**-0.3**
UPM	**Unac-Piva**	**1.40**	**344**	⇑*iPg*		**Pb**	**17 42 14.6**	**-0.2**
UPM				*e*Sg		**Sg**	**17 42 36.4**	**+3.0**
UPM	**Unac-Piva**	**1.40**	**344**	*e*Pg		**Pn**	**17 42 13.7**	**-0.5**
UPM				*e*Sg		**Sg**	**17 42 33.3**	**-0.1**
SJES	**Sjenica**	**1.45**	**16**	*e*Pg		**Pb**	**17 42 15.4**	**-0.3**
SJES				*e*Sg		**Sg**	**17 42 35.5**	**+0.3**
PLE	**Pljevlja**	**1.47**	**359**	⇓*iPg*		**Pb**	**17 42 16.2**	**+0.3**
PLE				*e*Sg		**Sg**	**17 42 38.6**	**+3.0**
STON	**Ston**	**1.64**	**309**	*i* Pn		**Pn**	**17 42 16.4**	**-0.9**
STON				Sn		**Sb**	**17 42 39.1**	**-0.4**
IVAS	**Ivanjica**	**1.79**	**17**	*e*Pn		**Pb**	**17 42 21.4**	**0.0**
IVAS				*e*Sg		**Sg**	**17 42 46.0**	**0.0**
SELS	**Selova**	**1.84**	**42**	*e*Pn		**Pb**	**17 42 22.0**	**-0.2**
BARS	**Barje**	**2.00**	**61**	*e*Pn		**Pb**	**17 42 24.4**	**-0.6**
BARS				*e*Sg		**Sg**	**17 42 53.5**	**+0.8**
BBLS	**Lazići**	**2.00**	**359**	*e*Pn		**Pb**	**17 42 25.2**	**+0.2**
BBLS				*e*Sg		**Sg**	**17 42 53.0**	**+0.2**
BBLS	**Lazići**	**2.00**	**359**	*e*Pn		**Pn**	**17 42 22.3**	**-0.2**
BBLS				*e*Sn		**Sn**	**17 42 47.8**	**+0.1**
GRUS	**Gruza**	**2.23**	**24**	*e*Pn		**Pb**	**17 42 28.1**	**-0.8**
GRUS				*e*Sn		**Sb**	**17 42 55.1**	**-1.5**
HAPS	**Han Pijesak,Bl**	**2.25**	**351**	*e*Pn		**Pn**	**17 42 26.0**	**+0.1**
HAPS				*e*Sn		**Sn**	**17 42 54.1**	**+0.2**
DIVS	**Divibare**	**2.27**	**10**	*e*Pn		**Pb**	**17 42 28.5**	**-1.1**
DIVS				*e*Sg		**Sg**	**17 43 00.3**	**-1.1**
DIVS	**Divibare**	**2.27**	**10**	*e*Pn		**Pn**	**17 42 25.8**	**-0.4**
DIVS				*e*Sn		**Sn**	**17 42 54.2**	**-0.1**
BOVS	**Bovan**	**2.43**	**42**	*e*Pn		**Pb**	**17 42 31.6**	**-0.7**
TRUS	**Trudelj**	**2.46**	**16**	*e*Pn		**Pb**	**17 42 31.3**	**-1.5**
TRUS				*e*Sn		**Sb**	**17 43 02.0**	**-1.3**
ZAPS	**Zavoj**	**2.75**	**58**	*e*Pn		**Pb**	**17 42 35.3**	**-2.4**
ZAPS				*e*Sg		**Sg**	**17 43 16.1**	**-0.6**
VTS	**Vitosha**	**2.89**	**74**	⇓*iP*		**Pn**	**17 42 37.0**	**+2.3**
VTS	**Vitosha**	**2.89**	**74**	S		**Sb**	**17 43 14.1**	**-1.6**
KUBS	**Kucevo**	**3.03**	**32**	*e*Pn		**Pn**	**17 42 38.1**	**+1.6**
FRGS	**Fruska Gora**	**3.31**	**5**	*e*Pn		**Pn**	**17 42 41.1**	**+0.8**
FRGS				*e*Sn		**Sn**	**17 43 19.1**	**-0.6**
HERR	**Herculane**	**3.72**	**35**	⇓*iP*		**Pn**	**17 42 45.6**	**-0.3**
UDBI	**Udbina**	**3.79**	**316**	*e*Pn		**Pn**	**17 42 49.6**	**+2.7**
BZS	**Buzias**	**4.07**	**22**	*e*Pn		**Pn**	**17 42 52.9**	**+2.1**
BZS	**Buzias**	**4.07**	**22**	⇑*iP*		**Pn**	**17 42 51.5**	**+0.7**
BZS	**Buzias**	**4.07**	**22**	S		**Sn**	**17 43 39.7**	**+1.2**
MORH	**M¨‡r¡gy, Hung**	**4.39**	**353**	*e*Pn		**Pn**	**17 42 54.7**	**-0.5**
MORH				*e*Sn		**Sn**	**17 43 45.9**	**-0.5**
SIRR	**Siria**	**4.69**	**19**	⇑*iP*		**Pn**	**17 42 59.3**	**0.0**
SIRR	**Siria**	**4.69**	**19**	S		**Sn**	**17 43 54.1**	**+0.4**
VOIR		**5.42**	**47**	⇓*iP*		**Pn**	**17 43 10.7**	**+1.4**
MLR	**Muntele Rosu**	**5.95**	**50**	⇓*iP*		**Pn**	**17 43 17.5**	**+0.8**

*SKO **19** 17:41:48.0,40.75N×21.47E, h15km, M1.3, ML1.7*
ISC 19 17:41:49.8±2.9, **40.8N**±0.2×**21.28E**±0.09, **h6**km, **n4**, σ1=**49**/8, **1C, Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BIA	**Bitola**	**0.24**	**8**	*i* Pg		**Pb**	**17 41 55.0**	**+0.4**
BIA				*i* Sg		**Sb**	**17 41 58.7**	**+0.9**
OHR	**Ohrid**	**0.49**	**312**	*e*Pg		**Pb**	**17 42 00.6**	**-0.4**
OHR				*i* Sg		**Sb**	**17 42 09.7**	**+1.3**
OHR				*e*Lg	Lg		17 42 09.9	
	comp=N,18nm,0.4s							
OHR				*e*Lg	Lg		17 42 10.0	
	comp=E,30nm,0.3s							
KRUS	**Krusevo**	**0.59**	**358**	⇑*iPg*		**Pb**	**17 42 00.6**	**-2.0**
KRUS				*i* Sg		**Sb**	**17 42 09.7**	**-1.5**

comp=N,1µm,0.7s
BHJ IAML 17 57 24.7
comp=E,1µm,1.2s
DHRM DHARAMSHALA 7.68 74 *e*P **Pn** **17 55 58.4 -1.1**
DHRM *e*S **Sn** **17 57 20.0 -6.4**
SMLA Simla 8.28 83 *e*P **Pn** **17 56 06.4 -1.1**
SMLA *e*S **Sn** **17 57 34.5 -6.4**
NDI New Delhi 8.58 99 *e*P **Pn** **17 56 11.0 -0.7**
NDI *e*S **Sn** **17 57 41.0 -7.2**
DDI Dehra Dun 9.06 88 *e*P **Pn** **17 56 16.2 -2.1**
DDI *e*S **Sn** **17 57 52.5 -7.5**
DDI IAML 17 59 20.0
comp=N,2µm,1.1s
SFK Sufi-Kurgan 10.71 25 ⇓P **Pn** **17 56 40.0 -1.1**
comp=N,110nm,0.8s
SFK ⇑S **Sn** **17 58 35.5 -5.3**
comp=N,130nm,1.1s
SFK Sufi-Kurgan 10.71 25 *i* P **Pn** **17 56 40.0 -1.1**
SFK pmax pmax
comp=Z,110nm,0.8s
WSAR Wadi Sarin 10.73 230 Pn **Pn** **17 56 37.3 -3.8**
comp=Z,4.1nm,0.3s,baz=78,slow=6.5,SNR=32
WSAR Sn Sn 17 58 29.0 -12
comp=Z,4.8nm,0.3s,baz=222,slow=21,SNR=10
WSAR LR LR 18 02 25.7
comp=Z,6µm,18.6s,baz=66,slow=47
WSAR Wadi Sarin 10.73 230 P **Pn** **17 56 37.4 -3.8**
GEYT Alibeck 10.82 316 Pn **Pn** **17 56 41.3 -1.0**
comp=Z,0.3nm,0.3s,baz=138,slow=13,SNR=11
GEYT LR LR 18 00 40.9
comp=Z,10µm,19.1s,baz=285,slow=37
GYA0B ALIBECK ARRAY 10.82 316 ⇓P **Pn** **17 56 42.2 -0.2**
comp=Z,24nm,0.9s
GYA0B ALIBECK ARRAY 10.82 316 *e*Pn **Pn** **17 56 43.1 +0.7**
BIDO Bidbid 10.88 233 P **Pn** **17 56 42.3 -0.9**
BANOM Banah 10.91 248 P **Pn** **17 56 47.8 +4.1**
SNR=9.2
BANOM Banah 10.91 248 *i* P **Pn** **17 56 39.8 -3.9**
SNR=30
WBK Wadi Bani Khal 10.95 227 P **Pn** **17 56 40.6 -3.6**
SNR=15
SHME Shamm 10.98 249 *i* P **Pn** **17 56 41.7 -3.0**
SNR=14
MDH Madha 11.21 246 *i* P **Pn** **17 56 43.3 -4.4**
SNR=15
SMDO Samad 11.24 231 P **Pn** **17 56 47.6 -0.6**
SNR=9.0
MSFE Esma-Masafi 11.29 246 *i* P **Pn** **17 56 46.5 -2.3**
SNR=25
BHPL Bhopal 11.34 127 *e*P **Pn** **17 56 46.3 -3.3**
BHPL *e*S Sn 17 58 46.7 -9.4
KSH Kashi 11.38 35 P Pn 17 56 43.3 -6.7
KSH pP 17 56 46.4
KSH PP **PnPn** **17 56 53.8 -4.1**
KSH S Sn 17 58 42.4 -15
KSH SS **SnSn** **17 58 58.3 -11**
KSH LR LR
comp=Z,38µm,8.8s
KSH LR LR
comp=Z,49µm,8.0s
KSH LR LR
comp=Z,47µm,10.1s
HOQ Hoqain 11.41 236 P **Pn** **17 56 46.1 -4.4**
SNR=14
UOSS Minazif 11.46 244 *e*Pn **Pn** **17 56 47.7 -3.5**
UOSS Minazif 11.46 244 P **Pn** **17 56 47.4 -3.8**
UOSS Minazif 11.46 244 P **Pn** **17 56 47.2 -4.0**
HATD Hatta, Dubai 11.58 244 P **Pn** **17 56 50.2 -2.6**
HATD Hatta, Dubai 11.58 244 P **Pn** **17 56 49.4 -3.4**
JMDO Jabal Madar 11.68 229 P **Pn** **17 56 53.4 -0.7**
SNR=16
ASHO Ashiyiah 11.71 243 P **Pn** **17 56 52.6 -2.0**
SNR=14
ASHO Ashiyiah 11.71 243 *i* P **Pn** **17 56 51.4 -3.2**
SNR=22
IUG Iuzhnay 11.85 9⇑*i*P **Pn** **17 56 54.3 -2.3**
comp=Z,37nm,1.3s
IUG *e*S **Sn** **17 59 06.6 -2.0**
IUG LR LR 18 01 34.3
comp=Z,2µm,9.3s
NAZ Nazwa, Dubai 11.86 246 P **Pn** **17 56 55.2 -1.5**
SNR=22
NAZ Nazwa, Dubai 11.86 246 P **Pn** **17 56 54.7 -1.9**
BSY Bisya 12.03 233 P **Pn** **17 56 57.5 -1.4**
SNR=23
FAQ Al Faqa, Dubai 12.04 245 P **Pn** **17 56 58.1 -1.0**
SNR=16
FAQ Al Faqa, Dubai 12.04 245 *i* P **Pn** **17 56 55.8 -3.3**
SNR=23
ARQ Araqi 12.13 237 P **Pn** **17 56 59.9 -0.4**
SNR=31
ALNE Al Ain 12.28 242 P **Pn** **17 56 58.9 -3.5**
ASUD Al Ashush, Dub 12.30 245 *i* P Pn 17 56 57.7 -5.0
SNR=22
AJN Ajban 12.61 245 P **Pn** **17 57 04.5 -2.3**
MNAS Manas 12.66 17 ⇑P **Pn** **17 57 05.9 -1.7**
comp=Z,187nm,1.2s
MNAS ⇓S **Sn** **17 59 24.1 -4.3**
comp=Z,71nm,1.2s
MNAS Manas 12.66 17 *i* P **Pn** **17 57 05.9 -1.7**
MNAS pmax pmax
comp=Z,187nm,1.1s
AML Almayashu 12.67 21 P **Pn** **17 57 04.9 -3.0**
SNR=60
KK31 Karatay Array 12.86 10 P **Pn** **17 57 06.6 -3.6**
comp=Z,6.7nm,0.4s,baz=183,slow=13,SNR=132
KK31 ⇑S **Sn** **17 59 30.3 -2.8**
comp=Z,33nm,1.1s,baz=329,slow=42,SNR=3.2
KK31 Karatay Array 12.86 10 *e*Pn **Pn** **17 57 07.0 -3.2**
KK31 Karatay Array 12.86 10 *e*P **Pn** **17 57 07.0 -3.2**
KKAR Karatay Array 12.86 10 *e*Pn **Pn** **17 57 07.0 -3.2**
KKAR Karatay Array 12.86 10 *e*P **Pn** **17 57 07.0 -3.2**
NRN Naryn 12.91 30 *e*Pn **Pn** **17 57 07.5 -3.8**
NRN Naryn 12.91 30 *e*P **Pn** **17 57 07.5 -3.8**
UCH Uchtor 13.02 23 P **Pn** **17 57 10.8 -2.0**
SNR=33
POO Poona 13.15 153 *e*P **Pn** **17 57 12.7 -1.7**
POO *e*S Sn 17 59 28.9 -12
KZA Kyzart 13.16 26 P **Pn** **17 57 14.0 -0.7**
SNR=6.6
EKS2 Erkin-Say 13.18 20 P **Pn** **17 57 12.5 -2.1**
SNR=36
AAK Ala-Archa 13.38 23 Pn **Pn** **17 57 15.4 -2.0**
comp=Z,2.2nm,0.3s,baz=186,slow=6.5,SNR=28
AAK LR LR 18 02 39.9
comp=Z,2µm,21.6s,baz=202,slow=39
AAK Ala-Archa 13.38 23 ⇓P **Pn** **17 57 15.0 -2.4**
comp=Z,123nm,1.3s
AAK S **Sn** **17 59 43.4 -2.6**
comp=Z,89nm,1.1s
AAK Ala-Archa 13.38 23 P **Pn** **17 57 15.5 -2.0**
SNR=24
AAK Ala-Archa 13.38 23 *e*Pn **Pn** **17 57 15.3 -2.1**
AAK Ala-Archa 13.38 23 P **Pn** **17 57 15.2 -2.2**
SNR=16
AAK Ala-Archa 13.38 23 *i* P **Pn** **17 57 15.4 -2.0**
SNR=36
AAK Ala-Archa 13.38 23*ce*P **Pn** **17 57 16.5 -1.0**
AAK pmax pmax
comp=Z,292nm,1.7s
KBK Karagaybulak 13.55 24 P **Pn** **17 57 17.8 -2.0**
SNR=20
FRU1 Bishkek 13.58 23 *e*Pn **Pn** **17 57 18.6 -1.5**
FRU1 Bishkek 13.58 23 *e*P **Pn** **17 57 18.6 -1.5**
FRU Bishkek 13.60 23 *e*P **Pn** **17 57 18.0 -2.3**
FRU *i*S **Sn** **17 59 50.0 -1.1**
FRU MLR MLR
comp=E,18µm,8.0s
PYUN Piuthan 13.66 96 *e*P Pn 17 57 16.5 -4.9
comp=E,386nm,0.8s
CHMS Chumysh 13.79 23 P **Pn** **17 57 20.2 -2.7**
SNR=34
NGP Nagpur 13.86 129 *ex* **Pn** **17 57 19.6 -4.4**
NGP *ex* **Sn** **17 59 50.6 -7.1**
USP Ospenovka 13.95 21 P **Pn** **17 57 21.8 -3.3**
SNR=17
TKM2 Tokmak 2 14.02 25 ⇑P **Pn** **17 57 22.6 -3.6**
comp=E,145nm,1.2s
TKM2 ⇑S **Sn** **18 00 00.6 -1.0**
comp=E,61nm,1.4s
TKM2 Tokmak 2 14.02 25 P **Pn** **17 57 23.7 -2.5**
SNR=26
KOLN Koldanda 14.26 97 *e*P **Pn** **17 57 24.9 -4.8**
comp=E,1µm,1.2s
DANN Dangsing 14.27 94 *e*P Pn 17 57 24.6 -5.2
comp=E,435nm,0.7s

LATR Latur 14.49 144 *ex* **Sn** **18 00 20.1 +7.1**
MZR Muzera 14.60 243 P **Pn** **17 57 31.7 -2.4**
AAA Alma-Ata 14.77 28 *e*P **Pn** **17 57 38.6 +2.3**
AAA *e*S **Sn** **18 00 22.7 +3.0**
AAA pmax pmax
comp=Z,500nm,2.5s
AAA smax smax
comp=E,1µm,7.6s
AAA MLR MLR
comp=Z,7µm,7.0s
MDOK Medeo 14.78 28 *i* P **Pn** **17 57 34.9 -1.7**
comp=Z,607nm,2.2s
MDOK LR LR 18 02 35.3
comp=Z,4µm,12.2s
GKN Gorkha 15.10 95 *e*P **Pn** **17 57 35.1 -5.8**
KUU Kurty 15.13 25 *e*P **Pn** **17 57 39.0 -2.1**
comp=Z,95nm,2.6s
KUU LR LR 18 03 09.3
comp=Z,3µm,8.7s
DMN Daman 15.60 96 *e*P **Pn** **17 57 41.9 -5.7**
comp=Z,985nm,1.4s
UZB Uzynbulak 15.63 33 *e*P **Pn** **17 57 46.7 -1.1**
comp=Z,2.4nm,0.5s
UZB LR LR 18 03 11.9
comp=Z,785nm,9.0s
KKN Kakani 15.70 95 *e*P **Pn** **17 57 43.0 -5.9**
PKIN Phulchoki 15.85 96 *e*P **Pn** **17 57 45.4 -5.5**
comp=Z,376nm,1.0s
PKI Pulchoki 15.87 96 *e*P **Pn** **17 57 45.1 -6.0**
comp=Z,499nm,0.9s
PDGK Podgornoye 15.99 33 ⇓P **P** **17 57 54.1 -1.9**
comp=Z,83nm,1.1s
PDGK Podgornoye 15.99 33 P **P** **17 57 54.1 -1.9**
PDGK pmax pmax
comp=Z,83nm,1.1s
GUN Gumba 16.19 94 *e*P **Pn** **17 57 49.2 -6.1**
comp=Z,2µm,0.9s
HYB Hyderabad 16.38 140 *i* P **Pn** **17 57 55.0 -2.5**
HYB *e*S **Sn** **18 00 53.0 -6.0**
HYB Hyderabad 16.38 140 *ex* **Pn** **17 57 54.2 -3.3**
JIRN Jiri 16.52 95 *e*P **Pn** **17 57 54.1 -5.4**
comp=Z,5µm,1.6s
TDK Taldyqorghan 16.85 27 *e*P **Pn** **17 58 01.8 -1.6**
comp=Z,26nm,1.8s
RAMN Ramite 17.05 97 *e*P **Pn** **17 58 00.8 -5.4**
comp=Z,854nm,1.0s
BOK Bokaro 17.59 108 *ex* **Pn** **17 58 08.5 -4.1**
BOK IAmb IAmb 17 58 16.6
comp=Z,246nm,1.0s
RBK Rabkut 17.73 226 P **P** **17 58 15.2 0.0**
SNR=6.3
ODAN Odare 17.75 97 *e*P **Pn** **17 58 10.3 -4.6**
comp=Z,3µm,1.6s
OTUK Ortayu 18.16 10 ⇑P **Pn** **17 58 17.1 -2.4**
comp=Z,30nm,0.9s
OTUK Ortayu 18.16 10 P **Pn** **17 58 17.0 -2.4**
OTUK pmax pmax
comp=Z,30nm,0.9s
GTK Tadong 18.68 94 *ex* **P** **17 58 22.6 -3.2**
GTK IAmb IAmb 17 58 28.1
comp=Z,163nm,1.1s
VIS Vishakhapatnam 19.13 128 *i* P **P** **17 58 29.7 -0.9**
VIS *i* x **Sn** **18 01 58.7 -7.0**
BWNR Bhubaneshwar 19.30 117 *ex* **P** **17 58 29.3 -3.1**
BWNR IAmb IAmb 17 58 33.3
comp=Z,114nm,0.9s
AKT Akhty 19.43 310⇑*i*P **Pn** **17 58 35.9 +0.8**
AKT pmax pmax
comp=Z,17nm,1.2s
AB31 Akbulak array 19.67 345 ⇑P **P** **17 58 35.1 -1.1**
comp=Z,108nm,1.0s
AB31 Akbulak array 19.67 345 P **P** **17 58 35.1 -1.1**
AB31 pmax pmax
comp=Z,108nm,1.0s
ABKAR Akbulak array 19.67 345 *e*P **P** **17 58 35.4 -0.9**
BRZS Berezniki 19.90 10 *e*P **P** **17 58 37.1 -1.7**
comp=Z,23nm,1.6s
MK01 Makanchi Array 19.91 31 *e*P **P** **17 58 35.9 -3.0**
MK31 Makanchi Array 19.92 31 ⇑P **P** **17 58 36.6 -2.5**
comp=Z,48nm,0.9s,baz=76,slow=9.2,SNR=4.0
MK31 Makanchi Array 19.92 31 *e*P **P** **17 58 36.6 -2.5**
MK31 Makanchi Array 19.92 31 *i* P **P** **17 58 36.5 -2.5**
MK31 pmax pmax
comp=Z,48nm,0.9s
MKAR Makanchi Array 19.92 31 P **P** **17 58 37.5 -1.6**
comp=Z,1.5nm,0.3s,baz=208,slow=9.7,SNR=40
MKAR LR LR 18 07 28.4
comp=Z,7µm,20.1s,baz=219,slow=40
MKAR Makanchi Array 19.92 31 *e*P **P** **17 58 36.6 -2.6**
comp=Z,201nm,0.6s
MKAR Makanchi Array 19.92 31*ce*P **P** **17 58 36.5 -2.6**
LSA Lhasa 20.42 86 P **P** **17 58 45.9 +0.7**
WMQ Urumqi 20.81 45 P Pn 17 58 50.9 -0.4
WMQ sP sP 17 59 00.8 +5.8
WMQ PcP **PcP** **18 02 59.1 +1.7**
WMQ PcS **PcS** **18 06 42.1 +6.9**
WMQ pmax pmax
comp=Z,180nm,2.1s
WMQ pmax pmax
comp=Z,2µm,3.6s
WMQ LR LR
comp=Z,23µm,23.9s
WMQ LR LR
comp=Z,14µm,26.5s
WMQ LR LR
comp=Z,10µm,25.3s
RAYN Ar Rayn 20.82 256 *e*P **P** **17 58 45.7 -3.4**
comp=Z,57nm,0.8s
RAYN Ar Rayn 20.82 256 *i* P **P** **17 58 45.8 -3.3**
SNR=42
RAYN Ar Rayn 20.82 256 *e*P **P** **17 58 45.7 -3.3**
RAYN pmax pmax
comp=Z,57nm,0.8s
GNI Garni 20.95 304 P **P** **17 58 50.4 -0.1**
comp=Z,26nm,1.0s,baz=35,slow=5.3,SNR=7.0
GNI LR LR 18 07 38.4
comp=Z,4µm,18.5s,baz=108,slow=39
GNI Garni 20.95 304 P **P** **17 58 48.7 -1.8**
GNI Garni 20.95 304 *i* P Pn 17 58 52.4 -0.7
AKTO Aktyubinsk 21.23 343 P **P** **17 58 51.7 -1.4**
comp=Z,35nm,0.8s,baz=168,slow=9.3,SNR=28
AKTO Aktyubinsk 21.23 343 ⇓P **P** **17 58 52.6 -0.6**
comp=Z,284nm,1.1s
AKTO Aktyubinsk 21.23 343 P **P** **17 58 51.7 -1.4**
AKTO pmax pmax
comp=Z,42nm,1.0s
TAWA Tawang 21.43 92 *e*P **P** **17 58 56.9 +1.0**
TAWA *e*S **S** **18 02 56.9 +3.3**
GROC Groznyy 21.52 312 *e*P **P** **17 58 55.6 -0.8**
GROC *e* 17 59 16.9
GROC *e*S **S** **18 02 56.8 +2.3**
GROC pmax pmax
comp=Z,177nm,0.9s
TBLG Delisi 21.56 308 *e*P **P** **17 58 56.7 -0.1**
comp=Z,212nm,1.4s
TBLG *e*S **S** **18 02 59.1 +3.8**
TBLG Delisi 21.56 308 *e*P **P** **17 58 56.7 -0.1**
TBLG *e*S **S** **18 02 59.1 +3.8**
TBLG pmax pmax
comp=Z,212nm,1.4s
KURBB Kurchatov Arra 21.77 19 P **P** **17 58 56.7 -2.3**
comp=Z,13nm,0.9s,baz=209,slow=8.8,SNR=39
KURK Kurchatov 21.88 19 ⇑P **P** **17 58 59.1 -1.1**
comp=Z,135nm,1.2s
KURK Kurchatov 21.88 19 *e*P **P** **17 58 57.8 -2.4**
comp=Z,139nm,1.1s
KURK Kurchatov 21.88 19 P **P** **17 58 58.7 -1.5**
SNR=45
KURK Kurchatov 21.88 19*ce*P **P** **17 58 59.1 -1.1**
KURK pmax pmax
comp=Z,206nm,1.3s

SHL Shillong 21.99 97 *e*P **P** **17 59 01.3 -0.5**
comp=Z,826nm,1.4s
SHL *e*S **S** **18 03 04.0 -0.3**
SHL Shillong 21.99 97 *e*P **P** **17 59 01.3 -0.5**
SHL *e*S **S** **18 03 04.0 -0.3**
SHL pmax pmax
comp=Z,826nm,1.4s
SHL Shillong 21.99 97 *e*P **P** **17 59 00.7 -1.1**
AGT Agartala 22.03 102 *e*P **P** **17 59 02.2 +0.1**
AKH Akhalkalaki 22.29 306 *e*P **P** **17 59 07.4 +2.5**
comp=Z,140nm,1.5s
AKH *e*PcP PcP 18 03 09.0 +8.5
AKH *e*S **S** **18 03 14.0 +4.2**
AKH Akhalkalaki 22.29 306⇑*i*P **P** **17 59 06.2 +1.3**
BELO BELONIA 22.45 103 *e*P **P** **17 59 07.8 +1.3**
BELO IAmb IAmb 17 59 09.4
comp=Z,9µm,3.1s
TEZP TEZPUR 22.47 94 *e*P **P** **17 59 05.6 -1.1**
ZEI Tsey 22.56 310 *e*P **P** **17 59 07.6 -0.2**
ZEI pmax pmax
comp=Z,75nm,1.7s
MNCI Minicoy 22.63 166 *e*P **P** **17 59 10.7 +2.2**
comp=Z,180nm,1.3s
BVA0 Borovoye Array 22.66 4 P **P** **17 59 06.4 -2.2**
comp=Z,137nm,1.2s,baz=176,slow=8.5,SNR=218
BVA0 Borovoye Array 22.66 4 *i* P **P** **17 59 06.4 -2.2**
BVA0 pmax pmax
comp=Z,137nm,1.3s
BRVK Borovoye 22.69 4 *e*P **P** **17 59 07.1 -1.7**
comp=Z,339nm,1.5s
BRVK Borovoye 22.69 4 P **P** **17 59 07.3 -1.5**
SNR=89
BRVK Borovoye 22.69 4 *e*P **P** **17 59 07.1 -1.7**
BRVK pmax pmax
comp=Z,339nm,1.5s
BRDH Bariadhala 22.85 104 P **P** **17 59 11.9 +1.2**
comp=Z,128nm,0.5s,baz=52,slow=3.3,SNR=29
BRDH LR LR 18 09 27.1
comp=Z,6µm,20.0s,baz=308,slow=40
SILR SILCHAR 23.03 98 *e*P **P** **17 59 13.0 +0.3**
NCK Nalchik 23.07 311*ce*P **P** **17 59 12.3 -0.7**
NCK pmax pmax
comp=Z,42nm,1.0s
ITAN ITANAGAR 23.13 92 *e*P **P** **17 59 14.8 +1.0**
ZIRO ZIRO 23.15 91 *e*P **P** **17 59 14.1 0.0**
NEY Neytrino 23.54 310*ce*P **P** **17 59 18.9 +1.1**
NEY pmax pmax
comp=Z,9.0nm,1.0s
KBZ Khabaz 23.63 311 P **P** **17 59 16.7 -1.8**
comp=Z,19nm,0.9s,baz=129,slow=9.3,SNR=16
JORH JORHAT 23.69 92 *e*P **P** **17 59 19.8 +0.5**
KOHI KOHIMA 23.86 95 *ex* **P** **17 59 21.7 +0.7**
KVAR Kislovodsk Arr 23.86 311 P **P** **17 59 21.4 +0.6**
comp=Z,5.3nm,0.7s,baz=87,slow=19,SNR=14
KIV Kislovodsk 23.87 311 *e*P **P** **17 59 19.1 -1.7**
comp=Z,71nm,1.1s
KIV Kislovodsk 23.87 311 *i* P **P** **17 59 19.2 -1.7**
SNR=20
KIV Kislovodsk 23.87 311 *e*P **P** **17 59 21.1 +0.2**
KIV *e*S **S** **18 03 37.7 +1.2**
KIV pmax pmax
comp=Z,60nm,1.1s
KIV MLR MLR
comp=Z,1µm,14.0s
MOKO MOKOCHONG 24.04 93 *e*P **P** **17 59 23.7 +1.0**
SAIH SAIHA 24.05 103 *e*P **P** **17 59 23.0 +0.1**
GOF Gofitskoye 24.15 314⇑*i*P **P** **17 59 24.0 +0.6**
GOF pmax pmax
comp=Z,90nm,1.5s
DGZ Jazzator, Alta 24.39 32*c i*P **P** **17 59 27.1 +1.4**
DGZ pmax pmax
comp=Z,30nm,1.2s
LKP Lekhapani 24.92 90 *e*P **P** **17 59 30.9 +0.3**
PALK Pallekele 26.13 149 P **P** **17 59 41.9 +0.3**
comp=Z,28nm,1.0s,baz=296,slow=10,SNR=13
PALK LR LR 18 11 52.5
comp=Z,7µm,18.5s,baz=285,slow=41
PALK Pallekele 26.13 149 *e*P **P** **17 59 43.6 +2.0**
comp=Z,82nm,1.4s
PALK Pallekele 26.13 149 *i* P **P** **17 59 40.5 -1.1**
SNR=8.7
ASF Jabal al Asfar 26.23 282 P **P** **17 59 41.8 -0.7**
comp=Z,6.1nm,0.9s,baz=48,slow=4.2,SNR=20
DAMY Dhamar 26.52 239 *e*P **P** **17 59 48.0 +2.4**
comp=Z,166nm,1.1s
ZAA0 Zalesovo Array 26.60 23 ⇑P **P** **17 59 45.2 -0.3**
comp=Z,30nm,0.7s
ZAA0 Zalesovo Array 26.60 23 *e*P **P** **17 59 45.3 -0.2**
comp=Z,101nm,1.4s
ZALV Zalesovo Beam 26.60 23 P **P** **17 59 44.4 -1.2**
comp=Z,28nm,0.6s,baz=223,slow=11,SNR=40
ZALV LR LR 18 10 17.5
comp=Z,669nm,18.9s,baz=234,slow=37
ZALV Zalesovo Beam 26.60 23 *e*P **P** **17 59 45.0 -0.6**
ZALV Zalesovo Beam 26.60 23 *e*P **P** **17 59 45.0 -0.6**
ARU Arti 26.75 349 LR LR 18 11 55.5
comp=Z,5µm,18.1s,baz=158,slow=40
ARU Arti 26.75 349 P P 18 00 00.8 +14
SVE Sverdlovsk 26.83 352⇓*e*P **P** **17 59 49.2 +1.7**
SVE *e*S **S** **18 04 27.7 +4.6**
SVE pmax pmax
comp=Z,77nm,1.5s
SVE MLR MLR
comp=Z,5µm,11.0s
NVS Novosibirsk 26.85 20⇓*i*P **P** **17 59 49.6 +1.9**
NVS pmax pmax
comp=N,51nm,1.7s
NVS pmax pmax
comp=E,25nm,1.7s
NVS pmax pmax
comp=Z,70nm,1.7s
MMAI Mount Meron Ar 27.43 284 P **P** **17 59 54.2 +0.9**
comp=Z,4.5nm,0.9s,baz=106,slow=11,SNR=5.0
MMAI PcP **PcP** **18 03 10.9 -1.0**
comp=Z,0.3nm,0.4s,baz=318,slow=1.9,SNR=2.3
ANN Anapa 27.66 310 *e*P **P** **17 59 53.7 -1.4**
ANN *e* 18 00 41.0
ANN *e*S **S** **18 04 36.6 +0.1**
ANN *e*SS **SnSn** **18 05 53.0 +4.8**
ANN pmax pmax
comp=Z,54nm,1.1s
ANN MLR MLR
comp=Z,3µm,19.0s
GTA Gaotai 27.79 62 ⇑P **P** **17 59 58.1 +1.5**
GTA pP sP 18 00 02.4 -0.6
GTA sP pP 18 00 04.8 +3.7
GTA PcP **PcP** **18 03 13.0 +0.3**
GTA S **S** **18 04 41.8 +2.8**
GTA ScP **ScP** **18 06 53.8 +0.8**
GTA PcS **PcS** **18 06 55.9 +1.1**
GTA ScS **ScS** **18 10 45.0 -0.2**
GTA pmax pmax
comp=Z,28nm,1.7s
GTA pmax pmax
comp=Z,210nm,5.0s
GTA LR LR
comp=Z,6µm,15.1s
GTA LR LR
comp=Z,3µm,12.4s
GTA LR LR
comp=Z,3µm,12.4s
EIL Elat 28.20 277 P **P** **17 59 59.2 -0.9**
comp=Z,12nm,1.0s,baz=86,slow=5.1,SNR=3.2
EIL LR LR 18 13 16.1
comp=Z,5µm,19.4s,baz=90,slow=41
VRH Novokhopyorsk 28.26 325 *e*P **P** **18 00 00.5 +0.1**
VRH pmax pmax
comp=Z,20nm,1.2s
VRH MLR MLR
comp=Z,3µm,15.0s
HVS Khovu-Aksy 28.36 36 *i* P **P** **18 00 03.9 +2.4**
HVS pmax pmax
comp=Z,28nm,1.1s
CSS Mathiatis 29.08 288 *e*P **P** **18 00 08.5 +0.6**
comp=Z,33nm,1.4s
BR131 Keskin Array S 29.13 298 *e*P **P** **18 00 08.0 -0.5**
BRTR Keskin Array B 29.13 298 P **P** **18 00 07.1 -1.4**
comp=Z,1.8nm,0.7s,baz=119,slow=9.2,SNR=9.7
BRTR LR LR 18 13 31.0
comp=Z,2µm,18.0s,baz=98,slow=40
VORD Divnogorie 29.37 322 *e*P **P** **18 00 10.3 0.0**
VORD pmax pmax
comp=Z,20nm,1.3s
VSR Storozhevoye 29.58 323 *e*P **P** **18 00 11.8 -0.3**
VSR pmax pmax
comp=Z,20nm,1.4s

ATD	**Arta Tunnel**	**29.66**	**236**	LR	LR	18 13 35.7			
	comp=Z,2µm,20.9s,baz=54,slow=39								
PBA	**Port Blair**	**29.90**	**123**	*e*P	P	18 00 17.7	+2.4		
	comp=Z,98nm,0.9s								
SIM	**Simferopol'**	**29.94**	**308**	*e*P	**P**	**18 00 17.1**	**+1.7**		
SIM				*e*S	**S**	**18 05 13.5**	**+1.2**		
SIM				pmax	pmax				
	comp=Z,63nm,1.1s								
KNGR	**Kungurtug, Tuv**	**30.08**	**39**	*i* P	**P**	**18 00 17.3**	**+0.6**		
LPSR	**Galich'ya Gora**	**30.49**	**325**	*e*P	**P**	**18 00 20.8**	**+0.7**		
LPSR				pmax	pmax				
	comp=Z,40nm,1.0s								
CHTO	**Chiang Mai**	**30.68**	**105**	*e*P	**P**	**18 00 20.9**	**-1.3**		
	comp=Z,75nm,1.0s								
CHTO	**Chiang Mai**	**30.68**	**105**	P	**P**	**18 00 21.1**	**-1.1**		
	SNR=60								
CHTO	**Chiang Mai**	**30.68**	**105**	*e*P	**P**	**18 00 20.9**	**-1.3**		
CHTO				pmax	pmax				
	comp=Z,75nm,1.0s								
CHTO	**Chiang Mai**	**30.68**	**105**	P	**P**	**18 00 21.3**	**-0.9**		
	comp=Z,421nm,1.6s,comp=Z,5µm								
CMMT	**Chiang Mai**	**30.68**	**105**	P	**P**	**18 00 21.2**	**-1.0**		
	comp=Z,93nm,1.5s,comp=Z,1µm								
LZH	**Lanzhou**	**30.73**	**70**	*e*P	**P**	**18 00 24.6**	**+1.9**		
LZH				pP	sP	18 00 29.8	+0.7		
LZH				sP	pP	18 00 33.3	+6.0		
LZH				S	**S**	**18 05 28.3**	**+3.0**		
LZH				sS	sS	18 05 36.6	+3.8		
LZH				SS	**SnSn**	**18 07 04.4**	**+1.0**		
LZH				pmax	pmax				
	comp=Z,91nm,1.1s								
LZH				pmax	pmax				
	comp=Z,520nm,4.8s								
LZH				LR	LR				
	comp=Z,5µm,13.6s								
LZH				LR	LR				
	comp=Z,5µm,13.6s								
LZH				LR	LR				
	comp=Z,5µm,15.2s								
CM31	**Chiang Mai Arr**	**30.84**	**105**	P	**P**	**18 00 23.1**	**-0.6**		
	SNR=39								
CMAR	**Chiang Mai Arr**	**30.84**	**105**	P	**P**	**18 00 22.9**	**-0.7**		
	comp=Z,15nm,0.9s,baz=293,slow=7.6,SNR=113								
CMAR				PcP	**PcP**	**18 03 20.9**	**+0.2**		
	comp=Z,6.0nm,0.8s,baz=288,slow=4.2,SNR=11								
CMAR				LR	LR	18 16 49.5			
	comp=Z,4µm,18.3s,baz=284,slow=44								
CM01	**Chiang Mai Arr**	**30.87**	**106**	*e*P	**P**	**18 00 22.1**	**-1.8**		
CD2	**Chengdu**	**31.04**	**80**	P	**P**	**18 00 26.4**	**+1.0**		
CD2				pP	sP	18 00 30.8	-1.0		
CD2				sP	pP	18 00 32.6	+2.6		
CD2				S	**S**	**18 05 31.8**	**+1.7**		
CD2				sS	sS	18 05 39.3	+1.7		
CD2				pmax	pmax				
	comp=Z,50nm,0.5s								
CD2				pmax	pmax				
	comp=Z,220nm,5.4s								
CD2				LR	LR				
	comp=Z,8µm,13.5s								
CD2				LR	LR				
	comp=Z,7µm,16.3s								
CD2				LR	LR				
	comp=Z,9µm,16.9s								
PAYA	**Payao**	**31.20**	**103**	P	**P**	**18 00 28.5**	**+1.7**		
	comp=Z,13nm,1.1s,comp=Z,173nm								
LAMP	**Lampang**	**31.39**	**105**	P	**P**	**18 00 29.5**	**+1.0**		
	comp=Z,13nm,1.1s,comp=Z,117nm								
KMI	**Kunming**	**31.48**	**91**	P	**P**	**18 00 31.0**	**+1.5**		
KMI				pP	sP	18 00 35.8	-0.1		
KMI				sP	pP	18 00 39.3	+5.2		
KMI				PP	**PnPn**	**18 01 35.3**	**+2.8**		
KMI				S	**S**	**18 05 39.5**	**+2.2**		
KMI				sS	sS	18 05 46.5	+1.6		
KMI				pmax	pmax				
	comp=Z,85nm,1.2s								
KMI				pmax	pmax				
	comp=Z,460nm,4.4s								
KMI				LR	LR				
	comp=Z,2µm,15.1s								
KMI				LR	LR				
	comp=Z,3µm,14.9s								
KMI				LR	LR				
	comp=Z,3µm,14.6s								
SUKH	**Sukhothai**	**31.89**	**106**	P	**P**	**18 00 34.6**	**+1.7**		
	comp=Z,5.5nm,1.1s								
UMPA	**Umpang Tak**	**31.91**	**109**	P	**P**	**18 00 36.4**	**+3.3**		
	comp=Z,5.3nm,1.8s								
MOY	**Mondy**	**32.51**	**40**	*e*P	**P**	**18 00 40.6**	**+2.5**		
MOY				pmax	pmax				
	comp=Z,36nm,1.8s								
UTTA	**Uttaradit**	**32.53**	**105**	P	**P**	**18 00 39.4**	**+0.9**		
	comp=Z,19nm,1.2s,comp=Z,178nm								
UTHA	**Uthaitani**	**32.73**	**110**	P	**P**	**18 00 41.7**	**+1.5**		
	comp=Z,5.4nm,1.2s,comp=Z,91nm								
MOS	**Moscow**	**32.97**	**329**	*e*P	**P**	**18 00 42.1**	**+0.2**		
MOS				*e*		18 00 50.9			
MOS				*e*		18 01 54.0			
MOS				*e*S	**S**	**18 06 02.4**	**+2.9**		
MOS				pmax	pmax				
	comp=Z,41nm,0.8s								
MOS				MLR	MLR				
	comp=Z,2µm,17.0s								
MOS				MLR	MLR				
	comp=N,8µm,16.0s								
OBN	**Obninsk**	**33.08**	**327**	LR	LR	18 16 31.3			
	comp=N,540nm,19.6s,baz=151,slow=41								
OBN	**Obninsk**	**33.08**	**327**	*e*P	**P**	**18 00 43.4**	**+0.5**		
	comp=N,81nm,1.3s								
OBN	**Obninsk**	**33.08**	**327⇑**	*e*P	**P**	**18 00 42.2**	**-0.7**		
OBN				*e*		18 01 50.7			
OBN				*e*S	**S**	**18 05 53.2**	**-8.0**		
OBN				pmax	pmax				
	comp=Z,86nm,1.7s								
SRDT	**SRDT**	**33.12**	**112**	P	**P**	**18 00 44.9**	**+1.2**		
	comp=Z,33nm,1.4s,comp=Z,797nm								
ZAK	**Zakamensk**	**33.26**	**43**	*e*P	**P**	**18 00 43.3**	**-1.4**		
ZAK				pmax	pmax				
	comp=Z,15nm,1.3s								
PBKT	**Sadao Pong**	**33.45**	**107**	P	**P**	**18 00 47.3**	**+0.7**		
	comp=Z,48nm,1.2s,comp=Z,783nm								
TLY	**Talaya**	**34.00**	**41**	LR	LR	18 17 31.4			
	comp=Z,5µm,18.6s,baz=240,slow=41								
TLY	**Talaya**	**34.00**	**41**	*e*P	**P**	**18 00 53.8**	**+2.8**		
TLY				*e*S	**S**	**18 06 13.0**	**-2.6**		
TLY				pmax	pmax				
	comp=Z,18nm,1.5s								
TLY				MLR	MLR				
	comp=Z,4µm,16.0s								
KIS	**Kishinev**	**34.06**	**310**	*e*P	**P**	**18 00 50.0**	**-1.5**		
KIS				*e*S	**S**	**18 06 12.0**	**-4.5**		
KIS				*e*LQ	LQ	18 12 20.0			
KIS				LRM	MLR	18 23 10.0			
	comp=Z,2µm,16.0s								
KIS	**Kishinev**	**34.06**	**310**	LRM	MLR	18 01 12.0			
	comp=Z,300nm,16.0s								
KIS	**Kishinev**	**34.06**	**310**	*e*P	**P**	**18 00 50.0**	**-1.5**		
KIS				*e*S	**S**	**18 06 12.0**	**-4.5**		
KIS				*e*		18 08 30.0			
CFR	**Carcaliu**	**34.09**	**307⇓**	*i*P	**P**	**18 00 51.0**	**-0.9**		
SONM	**Songino Array**	**34.33**	**49**	P	**P**	**18 00 54.4**	**+0.3**		
	comp=Z,4.6nm,0.8s,baz=237,slow=8.7,SNR=18								
SONM				PcP	**PcP**	**18 03 31.2**	**+1.2**		
	comp=Z,1.8nm,0.9s,baz=257,slow=5.8,SNR=2.4								
SONM				LR	LR	18 17 49.6			
	comp=Z,4µm,18.2s,baz=248,slow=42								
SONA1	**Songino Array**	**34.34**	**48**	*e*P	**P**	**18 00 55.1**	**+1.0**		
PHET	**Kaeng Krachan**	**34.35**	**113**	P	**P**	**18 00 56.1**	**+1.7**		
	comp=Z,9.5nm,1.1s,comp=Z,100nm								
PRGR	**Permogore**	**34.37**	**342**	*e*P	**P**	**18 00 54.1**	**+0.1**		
PRGR				pmax	pmax				
	comp=Z,62nm,1.2s								
GYA	**Guiyang**	**34.48**	**87⇓**	*i*P	**P**	**18 00 56.4**	**+0.8**		
GYA				PP	**PP**	**18 02 14.0**	**+0.2**		
GYA				PcP	**PcP**	**18 03 33.3**	**+2.6**		
GYA				S	**S**	**18 06 25.8**	**+2.0**		
GYA				pmax	pmax				
	comp=Z,70nm,1.0s								
GYA				pmax	pmax				
	comp=Z,140nm,5.9s								
GYA				LR	LR				
	comp=Z,3µm,18.6s								
GYA				LR	LR				
	comp=Z,3µm,18.2s								
GYA				LR	LR				
	comp=Z,2µm,18.8s								
NONG	**Nongkai**	**34.55**	**103**	P	**P**	**18 00 55.9**	**-0.2**		
	comp=Z,2.0nm,1.4s,comp=Z,111nm								
CHAI	**Chaiyaphum**	**34.63**	**107**	P	**P**	**18 00 57.9**	**+1.1**		
	comp=Z,12nm,1.0s,comp=Z,117nm								
ULN	**Ulaanbaatar**	**34.76**	**49**	*e*P	**P**	**18 00 58.5**	**+0.7**		
	comp=Z,13nm,1.3s								
ULN	**Ulaanbaatar**	**34.76**	**49**	*ce*P	**P**	**18 00 59.5**	**+1.6**		
ULN				pmax	pmax				
	comp=Z,11nm,2.5s								
IAS	**Iasi**	**34.94**	**310⇑**	*i*P	**P**	**18 00 59.3**	**+0.2**		
AKASG	**Malin Array Be**	**34.94**	**316**	P	**P**	**18 00 57.5**	**-1.6**		
	comp=Z,8.0nm,0.8s,baz=97,slow=7.5,SNR=24								
AKASG				LR	LR	18 17 55.0			
	comp=Z,2µm,19.5s,baz=95,slow=41								
AKASG	**Malin Array Be**	**34.94**	**316**	*ce*P	**P**	**18 00 59.5**	**+0.4**		
KIEV	**Kiev**	**34.95**	**316**	*e*P	**P**	**18 00 57.5**	**-1.6**		
	comp=Z,27nm,1.0s								
KIEV	**Kiev**	**34.95**	**316**	*i* P	**P**	**18 00 56.8**	**-2.4**		
	SNR=10.0								
KIEV	**Kiev**	**34.95**	**316**	*e*P	**P**	**18 00 57.6**	**-1.6**		
KIEV				pmax	pmax				
	comp=Z,27nm,1.0s								
ODBI	**Odobesti**	**34.96**	**307⇓**	*i*P	**P**	**18 00 58.5**	**-0.8**		
AK11	**Malin Array Si**	**34.97**	**316**	*e*P	**P**	**18 00 57.2**	**-2.1**		
XAN	**Xi'an**	**34.99**	**73**	P	**P**	**18 01 00.8**	**+0.9**		
XAN				S	**S**	**18 06 33.6**	**+2.2**		
XAN				pmax	pmax				
	comp=Z,47nm,1.2s								
XAN				pmax	pmax				
	comp=Z,200nm,3.5s								
XAN				LR	LR				
	comp=Z,1µm,14.0s								
XAN				LR	LR				
	comp=Z,5µm,18.7s								
XAN				LR	LR				
	comp=Z,5µm,21.1s								
VRI	**Vrincioaia**	**35.20**	**308⇑**	*i*P	**P**	**18 01 01.4**	**-0.1**		
PLOR	**Plostina**	**35.25**	**308⇑**	*i*P	**P**	**18 01 01.1**	**-0.9**		
KLMR	**Klimovskoe**	**35.64**	**337**	*e*P	**P**	**18 01 03.9**	**-1.1**		
KLMR				pmax	pmax				
	comp=Z,56nm,1.4s								
KLMR	**Klimovskoe**	**35.64**	**337**	*e*P	**P**	**18 01 03.9**	**-1.1**		
KLMR				AMP		18 01 16.2			
	comp=Z,56nm,1.4s								
MLR	**Muntele Rosu**	**35.67**	**307**	*e*P	**P**	**18 01 05.4**	**-0.3**		
	comp=Z,75nm,1.1s								
MLR	**Muntele Rosu**	**35.67**	**307⇑**	*i*P	**P**	**18 01 05.7**	**0.0**		
MLR	**Muntele Rosu**	**35.67**	**307**	*e*P	**P**	**18 01 05.4**	**-0.3**		
MLR				pmax	pmax				
	comp=Z,75nm,1.1s								
SRAK	**Srakaew**	**35.67**	**110**	P	P	18 01 13.0	+7.2		
BTO	**Baotou**	**35.71**	**62**	*e*P	**P**	**18 01 05.3**	**-0.7**		
SKNT	**Sakolnakorn**	**35.76**	**104**	P	**P**	**18 01 07.1**	**+0.5**		
	comp=Z,26nm,1.5s,comp=Z,490nm								
BIZ	**Bicaz**	**35.85**	**309⇓**	*i*P	**P**	**18 01 06.3**	**-0.7**		
PRAR	**RASCA**	**35.86**	**310⇓**	*i*P	**P**	**18 01 05.8**	**-1.3**		
IDI	**Anoyia**	**35.97**	**289**	*e*P	**P**	**18 01 07.4**	**-0.9**		
	comp=Z,64nm,1.6s								
IDI	**Anoyia**	**35.97**	**289⇑**	*i*P	**P**	**18 01 05.6**	**-2.7**		
DOPR	**Dopca**	**36.14**	**307⇑**	*i*P	**P**	**18 01 08.8**	**-0.8**		
HUMR	**Humele**	**36.19**	**305⇓**	*i*P	**P**	**18 01 09.4**	**-0.6**		
VOIR		**36.28**	**306⇑**	*i*P	**P**	**18 01 09.2**	**-1.6**		
PKDT	**Phuket**	**36.49**	**122**	P	**P**	**18 01 14.5**	**+1.7**		
	comp=Z,41nm,1.1s,comp=Z,555nm								
ARR	**Arges**	**36.56**	**306⇓**	*i*P	**P**	**18 01 12.7**	**-0.5**		
BURAR	**Bucovina Array**	**36.58**	**310⇓**	*i*P	**P**	**18 01 12.1**	**-1.3**		
BUR04	**Bucovina Ar. S**	**36.59**	**310**	*e*P	**P**	**18 01 11.7**	**-1.8**		
BUR08	**Bucovina Ar. S**	**36.60**	**310**	*e*P	**P**	**18 01 10.8**	**-2.7**		
HHC	**Hu-ho-hao-te**	**36.89**	**61**	*e*P	**P**	**18 01 17.5**	**+1.4**		
HHC				PP	**PnPn**	**18 02 42.8**	**+2.6**		
HHC				S	**S**	**18 07 02.0**	**+1.5**		
HHC				pmax	pmax				
	comp=Z,29nm,0.7s								
HHC				pmax	pmax				
	comp=Z,400nm,5.3s								
HHC				LR	LR				
	comp=Z,1µm,14.7s								
HHC				LR	LR				
	comp=Z,1µm,14.7s								
HHC				LR	LR				
	comp=Z,1µm,15.6s								
ARCR	**ARCALIA**	**37.05**	**309⇑**	*i*P	**P**	**18 01 17.0**	**-0.3**		
MICGM	**Minsk**	**37.15**	**322**	*e*P	P	18 01 10.0	-8.0		
MICGM				*e*LR	LR	18 16 20.0			
MICGM				LRM	MLR	18 18 54.0			
	comp=Z,3.6nm,14.0s								
MICGM				LRM	MLR	18 19 10.0			
	comp=E,3.4nm,14.0s								
MICGM				LRM	MLR	18 19 18.0			
	comp=N,5.2nm,14.0s								
LOT	**Lotru**	**37.17**	**306⇑**	*i*P	**P**	**18 01 16.6**	**-1.9**		
VTS	**Vitosha**	**37.27**	**301**	*e*P	**P**	**18 01 18.8**	**-0.6**		
	comp=N,34nm,1.5s								
VTS	**Vitosha**	**37.27**	**301⇓**	*i*P	**P**	**18 01 17.1**	**-2.2**		
VTS	**Vitosha**	**37.27**	**301**	*e*P	**P**	**18 01 18.8**	**-0.6**		
VTS				pmax	pmax				
	comp=Z,34nm,1.5s								
CJR	**Cluj-Napoca**	**37.49**	**308⇓**	*i*P	**P**	**18 01 19.5**	**-1.6**		
TRTT	**Trang**	**37.53**	**120**	P	**P**	**18 01 22.7**	**+1.0**		
	comp=Z,21nm,1.4s,comp=Z,327nm								
TIY	**Taiyuan**	**37.58**	**67**	*e*P	P	18 01 27.5	+5.5		
TIY				PP	**PnPn**	**18 02 48.6**	**0.0**		
TIY				pmax	pmax				
	comp=Z,20nm,0.7s								
TIY				pmax	pmax				
	comp=Z,200nm,4.4s								
TIY				LR	LR				
	comp=Z,970nm,8.3s								
TIY				LR	LR				
	comp=Z,3µm,16.0s								
TIY				LR	LR				
	comp=Z,4µm,15.5s								
MLSI	**Meulaboh, Aceh**	**37.65**	**128**	P	**P**	**18 01 22.4**	**-0.2**		
	comp=Z,108nm,0.9s								
BMR	**Baia Mare**	**37.73**	**310⇓**	*i*P	**P**	**18 01 22.9**	**-0.2**		
LVV	**L'vov**	**37.86**	**313**	*e*P	**P**	**18 01 25.1**	**+1.0**		
LVV				*e*		18 02 55.7			
LVV				*e*S	**S**	**18 07 13.8**	**-0.9**		
LVV				pmax	pmax				
	comp=Z,70nm,1.9s								
HERR	**Herculane**	**38.05**	**305⇓**	*i*P	**P**	**18 01 25.0**	**-0.8**		
IDID	**Didziasalis**	**38.08**	**323**	*e*P	**P**	**18 01 26.4**	**+0.5**		
IDID				IAmb	IAmb	18 01 27.9			
	comp=Z,17nm,1.2s								
DRGR		**38.11**	**308⇓**	*i*P	**P**	**18 01 25.3**	**-1.0**		
IIGN	**Ignalina**	**38.37**	**323**	*e*P	**P**	**18 01 28.7**	**+0.4**		
IIGN				IAmb	IAmb	18 01 32.5			
	comp=Z,11nm,1.0s								
TRPA	**Tarpa**	**38.45**	**310⇑**	*i*P	**P**	**18 01 28.5**	**-0.6**		
TRPA	**Tarpa**	**38.45**	**310⇓**	*e*P	**P**	**18 01 32.6**	**+3.5**		
ISAL	**Salakas**	**38.51**	**323**	*e*P	**P**	**18 01 29.8**	**+0.4**		
ISAL				IAmb	IAmb	18 01 32.8			
	comp=Z,10nm,1.1s								
IZAR	**Zarasai**	**38.51**	**323**	*e*P	**P**	**18 01 30.0**	**+0.5**		
IZAR				IAmb	IAmb	18 01 33.8			
	comp=Z,7.9nm,0.6s								
MDVR	**Moldovita**	**38.54**	**305⇑**	*i*P	**P**	**18 01 29.0**	**-0.9**		
FNA	**Florina**	**38.56**	**298**	*e*P	**P**	**18 01 31.7**	**+1.5**		
	comp=Z,15nm,0.9s								
FNA	**Florina**	**38.56**	**298**	*e*P	**P**	**18 01 31.7**	**+1.5**		
FNA				pmax	pmax				
	comp=Z,15nm,0.9s								
KWP	**Kalwaria Pacla**	**38.65**	**313**	*e*P	**P**	**18 01 30.7**	**0.0**		
KWP	**Kalwaria Pacla**	**38.65**	**313**	*e*P	**P**	**18 01 30.7**	**0.0**		
SKLT	**Songkhla**	**38.66**	**120**	P	**P**	**18 01 32.9**	**+1.7**		
	comp=Z,45nm,1.2s,comp=Z,594nm								
BZS	**Buzias**	**38.70**	**306⇓**	*i*P	**P**	**18 01 30.1**	**-1.1**		
UZH	**Uzhgorod**	**38.71**	**311**	*e*P	**P**	**18 01 30.5**	**-0.7**		
UZH				*i*		18 01 41.0			
UZH				*e*S	**S**	**18 07 23.5**	**-4.1**		
UZH				MLR	MLR				
	comp=Z,60nm,17.0s								
SIRR	**Siria**	**38.75**	**307⇑**	*i*P	**P**	**18 01 30.8**	**-0.8**		
SNSI	**Sinabang, Aceh**	**38.96**	**130**	P	**P**	**18 01 35.2**	**+1.5**		
	comp=Z,190nm,1.1s								
VSU	**Vasula**	**39.44**	**327**	*ce*P	**P**	**18 01 37.4**	**+0.2**		
VSU				pmax	pmax				
	comp=Z,65nm,0.9s								
SUW	**Suwalki**	**39.54**	**320**	*e*P	**P**	**18 01 39.3**	**+1.2**		
	comp=Z,36nm,1.0s								
SUW	**Suwalki**	**39.54**	**320**	*e*P	**P**	**18 01 39.3**	**+1.2**		
SUW				pmax	pmax				
	comp=Z,36nm,1.0s								
DIVS	**Divibare**	**39.71**	**304**	*e*P	**P**	**18 01 40.5**	**+0.7**		
	comp=Z,49nm,1.5s								
QIZ	**Qiongzhong**	**39.83**	**97**	P	**P**	**18 01 42.4**	**+1.4**		
QIZ				S	**S**	**18 07 46.8**	**+1.7**		
QIZ				pmax	pmax				
	comp=Z,27nm,1.3s								
QIZ				LR	LR				
	comp=Z,1µm,14.2s								
QIZ				LR	LR				
	comp=Z,940nm,13.7s								
QIZ				LR	LR				
	comp=Z,1µm,12.8s								
KECS	**Kecovo**	**39.86**	**311**	*e*P	**P**	**18 01 41.8**	**+0.9**		
KECS				pmax	pmax				
	comp=Z,26nm,1.2s								
KECS	**Kecovo**	**39.86**	**311**	*e*P	**P**	**18 01 41.8**	**+0.9**		
KULM	**Kulim**	**39.93**	**122**	P	**P**	**18 01 42.0**	**+0.2**		
WHN	**Wuhan**	**40.08**	**78⇑**	P	**P**	**18 01 44.3**	**+1.4**		
WHN				S	**S**	**18 07 47.3**	**-1.3**		
WHN				LR	LR				
	comp=Z,7µm,13.9s								
WHN				LR	LR				
	comp=Z,1µm,10.3s								
WHN				LR	LR				
	comp=Z,8µm,18.4s								
NIE	**Niedzica**	**40.14**	**312**	*e*P	**P**	**18 01 43.4**	**+0.1**		
NIE	**Niedzica**	**40.14**	**312**	*e*P	**P**	**18 01 43.4**	**+0.1**		
PSZ	**Piszkesteto**	**40.17**	**310**	*e*P	**P**	**18 01 42.7**	**-0.8**		
	comp=Z,121nm,1.3s								
PSZ	**Piszkesteto**	**40.17**	**310⇓**	*i*P	**P**	**18 01 42.5**	**-1.1**		
PSZ	**Piszkesteto**	**40.17**	**310⇓**	*e*P	**P**	**18 01 44.5**	**+0.9**		
PSZ	**Piszkesteto**	**40.17**	**310**	*e*P	**P**	**18 01 42.7**	**-0.8**		
PSZ				pmax	pmax				
	comp=Z,121nm,1.3s								
PDG	**Podgorica**	**40.18**	**301⇓**	*i*P	**P**	**18 01 42.0**	**-1.6**		
BJI	**Beijing**	**40.41**	**63⇑**	*i*P	**P**	**18 01 47.4**	**+1.9**		
BJI				S	**S**	**18 08 00.6**	**+7.3**		
BJI				pmax	pmax				
	comp=Z,17nm,0.8s								
BJI				LR	LR				
	comp=Z,2µm,14.9s								
PSI	**Prapat**	**40.43**	**127**	P	**P**	**18 01 46.1**	**0.0**		
	comp=Z,14nm,1.0s,baz=359,slow=3.8,SNR=6.8								
PSI				PcP	**PcP**	**18 03 50.1**	**+1.1**		
	comp=Z,8.2nm,0.7s,baz=359,slow=1.7,SNR=6.8								
PSI				LR	LR	18 20 05.2			
	comp=Z,2µm,20.1s,baz=270,slow=38								
NRIK	**Noril'sk**	**40.60**	**11**	P	**P**	**18 01 45.8**	**-0.9**		
	comp=Z,15nm,0.9s,baz=206,slow=5.7,SNR=12								
NRIK				LR	LR	18 18 46.8			
	comp=Z,2µm,18.1s,baz=205,slow=36								
OJC	**Ojcow**	**40.61**	**313**	*e*P	**P**	**18 01 49.2**	**+2.1**		
OJC	**Ojcow**	**40.61**	**313**	*e*P	**P**	**18 01 49.2**	**+2.1**		
GSI	**Gunungsitoli**	**40.61**	**130**	*e*P	**P**	**18 01 47.4**	**-0.1**		
	comp=Z,266nm,1.7s								
GSI	**Gunungsitoli**	**40.61**	**130**	P	**P**	**18 01 48.7**	**+1.3**		
	comp=Z,98nm,1.3s								
LANS	**Liptovska Anna**	**40.64**	**311**	*e*P	**P**	**18 01 49.4**	**+2.0**		
LANS	**Liptovska Anna**	**40.64**	**311**	*e*P	**P**	**18 01 49.3**	**+1.9**		
MORH	**M‡r¨igy, Hung**	**40.82**	**307⇑**	*e*P	**P**	**18 01 50.6**	**+1.7**		
VYHS	**Vyhne**	**40.95**	**310**	*e*P	**P**	**18 01 50.9**	**+1.0**		
VYHS				pmax	pmax				
	comp=Z,18nm,1.5s								
VYHS	**Vyhne**	**40.95**	**310**	*e*P	**P**	**18 01 50.9**	**+1.0**		
FIA1	**FINESS Array S**	**41.16**	**331**	*e*P	**P**	**18 01 49.6**	**-1.8**		
FINES	**FINESS Array B**	**41.16**	**331**	P	**P**	**18 01 49.9**	**-1.5**		
	comp=Z,19nm,0.9s,baz=111,slow=10,SNR=16								
FINES				LR	LR	18 21 11.4			
	comp=Z,4µm,19.5s,baz=118,slow=40								
FINES	**FINESS Array B**	**41.16**	**331**	*ce*P	**P**	**18 01 51.7**	**+0.3**		
TIA	**Tai'an**	**41.44**	**68**	P	**P**	**18 01 55.4**	**+1.3**		
TIA				S	**S**	**18 08 14.9**	**+6.1**		
TIA				pmax	pmax				
	comp=Z,46nm,1.0s								
TIA				pmax	pmax				
	comp=Z,250nm,2.8s								
TIA				LR	LR				
	comp=Z,1µm,12.2s								
TIA				LR	LR				
	comp=Z,2µm,20.6s								
TIA				LR	LR				
	comp=Z,3µm,21.2s								
OKC	**Ostrava-Krasne**	**41.59**	**312**	*e*P	**P**	**18 01 57.7**	**+2.5**		
OKC				AMS	AMS	18 24 00.0			
	comp=Z,1µm,16.1s								
OKC	**Ostrava-Krasne**	**41.59**	**312**	*e*P	**P**	**18 01 57.7**	**+2.5**		
OKC				MLR	MLR				
	comp=Z,1µm,16.1s								
BLY	**Banja Luka**	**41.75**	**304**	*e*P	**P**	**18 01 58.5**	**+2.0**		
	comp=Z,136nm,1.7s								
BLY	**Banja Luka**	**41.75**	**304⇓**	*i*P	**P**	**18 01 53.5**	**-3.0**		
JAVC	**Velka Javorina**	**41.77**	**311**	*e*P	**P**	**18 01 59.0**	**+2.3**		
BOD	**Bodaibo**	**41.90**	**35**	*e*P	**P**	**18 01 57.0**	**-0.5**		
BOD				pmax	pmax				
	comp=Z,39nm,1.5s								
MODS	**Modra-Piesok**	**41.97**	**310**	*e*P	**P**	**18 01 59.0**	**+0.7**		
MODS				pmax	pmax				
	comp=Z,57nm,1.2s								
MODS	**Modra-Piesok**	**41.97**	**310**	*e*P	**P**	**18 01 59.0**	**+0.7**		
MODS				*e*L	L	18 22 32.6			
MORC	**Moravsky Berou**	**41.97**	**312**	*e*P	**P**	**18 01 58.6**	**+0.3**		
	comp=Z,25nm,1.3s								
MORC	**

PPI Padang Panjang 43.80 128 P **P** **18 02 13.5 +0.1**
comp=Z,30nm,1.1s
MOA Molln 43.93 309 *e*P **P** **18 02 13.1 -1.1**
comp=Z,29nm,1.0s,SNR=6.0
PVCC Panska Ves 43.97 313 AMS AMS 18 25 30.0
comp=Z,2µm,12.5s
PDSI Padang 44.18 129 P **P** **18 02 16.0 -0.5**
comp=Z,51nm,1.1s
MYKA Terra Mystica 44.30 307 *e*P **P** **18 02 16.4 -0.8**
comp=Z,21nm,1.0s
GEA0 GERESS Array S 44.37 310 *e*P **P** **18 02 18.6 +0.8**
GEC2 GERESS Array S 44.37 310 *e*P **P** **18 02 19.1 +1.3**
comp=Z,17nm,1.1s
GEC2 GERESS Array S 44.37 310 *e*P **P** **18 02 19.1 +1.3**
GEC2 pmax pmax
comp=Z,17nm,1.1s
GERES GERESS Array B 44.37 310 P **P** **18 02 16.7 -1.1**
comp=Z,6.1nm,0.9s,baz=99,slow=6.3,SNR=25
GERES LR LR 18 22 58.8
comp=Z,827nm,20.3s,baz=82,slow=39
BRG Berggiesshubel 44.40 313 *i* P **P** **18 02 19.7 +1.8**
comp=Z,188nm,2.5s
BRG *e* 18 02 28.8
comp=Z,176nm,2.3s
comp=Z,2µm,12.2s
comp=N,1µm,13.8s
comp=E,2µm,13.8s
BRG Berggiesshubel 44.40 313 *i* P **P** **18 02 19.7 +1.8**
BRG *e* 18 02 28.8
BRG pmax pmax
comp=Z,6.0nm,2.5s
BRG pmax pmax
comp=Z,188nm,2.3s
BRG MLR MLR
comp=Z,176µm,12.2s
BRG MLR MLR
comp=N,2µm,13.8s
BRG MLR MLR
comp=E,1µm,13.8s
KHC Kasperske Hory 44.47 311 *e*P **P** **18 02 19.9 +1.3**
comp=E,5.1nm,1.2s
KHC Kasperske Hory 44.47 311 *e*P **P** **18 02 16.0 -2.6**
KHC *ex* x 18 02 27.0
KHC AMS AMS 18 26 00.0
comp=E,2µm,13.3s
KHC Kasperske Hory 44.47 311 *e*P **P** **18 02 16.0 -2.6**
KHC *e* 18 02 27.0
KHC MLR MLR
comp=Z,2µm,13.3s
KBA Koelnbreinsper 44.52 308 *e*P **P** **18 02 18.1 -1.0**
comp=Z,48nm,1.2s,SNR=5.4
MYKOM Kota Tinggi 44.64 123 P **P** **18 02 21.0 +0.8**
DL2 Dalian 44.70 64 P **P** **18 02 22.0 +1.6**
DL2 S **S** **18 08 57.3 +0.8**
DL2 SS **SS** **18 12 08.4 -8.4**
DL2 pmax pmax
comp=Z,32nm,0.7s
DL2 LR LR
comp=Z,2µm,14.1s
DL2 LR LR
comp=Z,2µm,18.0s
DL2 LR LR
comp=Z,2µm,19.0s
SDSI Sungai Dareh 44.85 128 P **P** **18 02 21.2 -0.6**
comp=Z,37nm,0.8s,comp=Z,2µm
CLL Collm 45.04 314 *e*P **P** **18 02 24.4 +1.5**
comp=Z,20nm,1.3s
CLL Collm 45.04 314 *e*P **P** **18 02 24.0 +1.1**
comp=Z,11nm,1.0s
CLL *e* 18 02 36.0
CLL *e*PP **PP** **18 04 08.0 -0.1**
CLL *e*S **S** **18 09 05.0 +3.9**
CLL *e*SS **ScS** **18 12 18.0 -1.5**
CLL *e* 18 14 00.0
CLL Lm MLR 18 23 00.0
comp=N,3µm,19.0s
CLL Lm MLR 18 23 00.0
comp=E,1µm,21.0s
CLL Lm MLR 18 23 00.0
comp=Z,2µm,20.1s
CLL Collm 45.04 314 *e*P **P** **18 02 24.0 +1.1**
CLL *e* 18 02 36.0
CLL *e*S **S** **18 08 57.0 -4.1**
CLL pmax pmax
comp=Z,11nm,1.0s
CLL MLR MLR
comp=Z,2µm,20.1s
RGRI Rengat 45.05 126 P **P** **18 02 23.7 +0.2**
comp=Z,72nm,0.4s,comp=Z,47µm
ABTA Abfaltersbach 45.08 307 *e*P **P** **18 02 22.1 -1.4**
comp=Z,43nm,1.2s,SNR=7.0
QZH Quanzhou 45.20 84 *e*P **P** **18 02 28.3 +3.7**
QZH S **S** **18 09 11.1 +7.0**
QZH LR LR
comp=Z,2µm,12.8s
QZH LR LR
comp=Z,2µm,12.9s
QZH LR LR
comp=Z,3µm,13.7s
NKC Novy Kostel 45.29 312 AMS AMS 18 26 30.0
comp=Z,2µm,12.5s
SSE Sheshan 45.69 75 P **P** **18 02 30.0 +1.6**
SSE S **S** **18 09 12.8 +1.8**
SSE pmax pmax
comp=Z,49nm,1.1s
SSE LR LR
comp=Z,1µm,15.9s
SSE LR LR
comp=Z,2µm,14.9s
WTTA Wattenberg 45.69 308 *e*P **P** **18 02 26.5 -1.9**
comp=Z,41nm,1.3s
KRJI Kerinci 45.72 129 P **P** **18 02 29.7 +0.8**
comp=Z,66nm,1.0s
TPRI Tanjung Pinang 45.72 123 P **P** **18 02 29.4 +0.6**
comp=Z,78nm,1.2s,comp=Z,925nmcomp=Z,17µm
WATA Walderalm 45.73 308 *i* P **P** **18 02 27.8 -0.9**
comp=Z,7.8nm,0.6s
ARCES ARCESS Array B 45.78 341 P **P** **18 02 27.5 -1.1**
comp=Z,22nm,0.9s,baz=129,slow=6.2,SNR=15
ARCES LR LR 18 23 49.6
comp=Z,95nm,19.1s,baz=128,slow=39
ARCES ARCESS Array B 45.78 341 *e*P **P** **18 02 27.0 -1.6**
ARCES ARCESS Array B 45.78 341 *e*P **P** **18 02 27.0 -1.6**
SNY Shenyang 45.91 60 ⇑P P 18 02 39.3 +9.3
SNY S **S** **18 09 18.8 +4.9**
SNY pmax pmax
comp=Z,35nm,1.9s
SNY pmax pmax
comp=Z,390nm,3.3s
SNY LR LR
comp=N,2µm,13.1s
SNY LR LR
comp=E,4µm,14.5s
SNY LR LR
comp=Z,5µm,14.5s
SQTA Sankt Quirin 45.98 308 *e*P **P** **18 02 29.9 -0.7**
comp=Z,37nm,1.6s
MOTA Moosalm 46.05 308 *e*P **P** **18 02 30.3 -1.0**
comp=Z,14nm,0.9s,SNR=7.7
FETA Feichten 46.31 308 *e*P **P** **18 02 32.7 -0.6**
comp=Z,46nm,1.2s,SNR=6.6
FUORN Ofenpass-Fuorn 46.63 307 *e*P **P** **18 02 35.5 -0.4**
comp=Z,31nm,1.1s
MBAR Mbarara 46.69 235 *e*S S 18 09 36.9 +11
MBAR Mbarara 46.69 235 *e*S **S** 18 09 36.9 +11
DAVA Damuels 46.88 308 *e*P **P** **18 02 35.8 -2.0**
comp=Z,54nm,1.1s,SNR=7.0
MASI Maura Aman, Be 47.01 129 P **P** **18 02 39.2 +0.2**
comp=Z,163nm,1.3s
CN2 Changchun 47.14 57 *e*P **P** **18 02 40.3 +0.7**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,2µm,14.0s
CN2 LR LR
comp=Z,2µm,14.0s
CN2 LR LR
comp=Z,3µm,16.0s
TUE Stuetta 47.26 307 *e*P **P** **18 02 39.7 -1.1**
comp=Z,98nm,1.8s
SSLB Suanglung 47.62 84 *e*P **P** **18 02 46.6 +2.9**
comp=Z,55nm,1.2s
NB2 NORSAR Subarra 47.69 327 P **P** **18 02 40.8 -2.9**
comp=Z,2.4nm,0.7s,baz=106,slow=7.9
NOA NORSAR Array B 47.69 327 P **P** **18 02 42.2 -1.5**
comp=Z,10nm,1.0s,baz=106,slow=7.6,SNR=8.6
NOA LR LR 18 25 21.8
comp=Z,3µm,18.5s,baz=110,slow=39
NOA NORSAR Array B 47.69 327 P **P** **18 02 42.2 -1.5**
NOA pmax pmax
comp=Z,9.0nm,1.0s
NOA MLR MLR
comp=Z,3µm,18.5s
BFO Black Forest 47.92 309*ce*P **P** **18 02 46.8 +1.1**
BFO pmax pmax
comp=Z,2.0nm,1.0s
ZEA Zeya 48.36 43 *e*P **P** **18 02 49.9 +1.0**
ZEA pmax pmax
comp=Z,17nm,1.0s
ZEA MLR MLR
comp=Z,4µm,16.0s
ZEA MLR MLR
comp=E,3µm,15.0s
KEST Kesra 48.47 292 P **P** **18 02 48.9 -1.3**
comp=E,27nm,1.1s,baz=33,slow=2.5,SNR=8.7
KEST LR LR 18 27 22.3
comp=E,691nm,18.3s,baz=14,slow=41
KEST Kesra 48.47 292 *e*P **P** **18 02 52.1 +1.9**
comp=E,45nm,1.4s
SENIN Lac Senin/Sane 48.68 307 *e*P **P** **18 02 50.9 -0.9**
comp=E,35nm,1.3s
ECH Echery 48.71 309 *e*P **P** **18 02 52.6 +0.9**
comp=E,35nm,1.4s
ECH Echery 48.71 309 *e*P **P** **18 02 52.6 +0.9**
ECH pmax pmax
comp=Z,35nm,1.4s
PPBI Pangkal Pinang 49.01 124 P **P** **18 02 54.7 +0.3**
comp=Z,22nm,1.5s,comp=Z,367nm
BNI Bardonecchia 49.21 305 *e*P **P** **18 02 53.8 -2.0**
comp=Z,26nm,1.1s
BNI Bardonecchia 49.21 305 *e*P **P** **18 02 53.8 -2.0**
BNI pmax pmax
comp=Z,26nm,1.1s
MDSI Maura Dua 49.30 128 P **P** **18 02 54.2 -2.4**
comp=Z,10nm,1.4s
WLF Walferdange 49.34 311 ⇑P **P** **18 02 58.0 +1.5**
comp=Z,28nm,2.1s
MEM Membach 49.42 312 ⇓P **P** **18 02 58.1 +1.0**
comp=Z,15nm,1.2s
LWLI Liwa 49.61 129 P **P** **18 02 57.7 -1.4**
comp=Z,20nm,0.8s
KSM Kuching 49.68 117 P **P** **18 03 00.0 +0.4**
KS15 Wonju Array Si 49.79 65 *e*P **P** **18 03 00.9 +0.8**
KSAR Wonju Array Be 49.79 65 P **P** **18 02 59.5 -0.6**
KSAR Wonju Array Be 49.79 65 P **P** **18 02 59.5 -0.6**
KS01 Wonju Array Si 49.79 65 *e*P **P** **18 02 59.7 -0.4**
KSRS Korea Array 49.82 65 P **P** **18 02 59.5 -0.8**
comp=Z,12nm,0.9s,baz=273,slow=7.0,SNR=23
KSRS LR LR 18 26 53.1
comp=Z,2µm,19.9s,baz=282,slow=40
KSRS Korea Array 49.82 65 P **P** **18 02 59.5 -0.8**
KSRS pmax pmax
comp=Z,12nm,0.9s
KSRS MLR MLR
comp=Z,2µm,19.9s
BCLA Clavier 49.87 312 ⇑P **P** **18 03 00.2 -0.3**
DOU Dourbes 50.33 312 ⇓P **P** **18 03 03.7 -0.3**
comp=Z,14nm,1.2s
SNF Seneffe 50.52 312 ⇑P **P** **18 03 04.7 -0.8**
SBUM Sibu 50.56 115 P **P** **18 03 07.0 +0.8**
YAK Yakutsk 50.58 33 *e*P **P** **18 03 04.0 -1.8**
comp=Z,398nm,1.9s
YAK Yakutsk 50.58 33 *e*P **P** **18 03 05.5 -0.2**
YAK pmax pmax
comp=Z,44nm,0.8s
YAK pmax pmax
comp=E,12nm,0.9s
YAK pmax pmax
comp=N,3.0nm,0.9s
SSB Saint Sauveur 50.69 306 *e*P **P** **18 03 06.7 -0.2**
comp=N,42nm,1.1s
SSB Saint Sauveur 50.69 306 *e*P **P** **18 03 06.7 -0.2**
SSB pmax pmax
comp=Z,42nm,1.1s
KLR Kul'dur 51.15 49*ce*P **P** **18 03 11.0 +0.7**
STKI Sintang 51.48 118 P **P** **18 03 14.2 +1.1**
STKI Sintang 51.48 118 P **P** **18 03 14.3 +1.2**
comp=Z,88nm,1.1s,comp=Z,1µm
KKM Kota Kinabalu 51.66 108 P **P** **18 03 15.0 +0.3**
KDM Kudat 51.69 107 P **P** **18 03 15.0 +0.3**
USRK Ussuriysk Ar. 51.80 56 P **P** **18 03 14.9 -0.3**
comp=Z,5.8nm,0.9s,baz=291,slow=7.5,SNR=8.9
USRK LR LR 18 28 00.5
comp=Z,1µm,19.5s,baz=270,slow=39
CGJI Cibinong 51.88 129 P **P** **18 03 14.5 -1.6**
comp=Z,67nm,0.8s
TIXI Tiksi 52.45 21 *e*P **P** **18 03 18.1 -1.5**
comp=Z,111nm,1.7s
TIXI Tiksi 52.45 21*ce*P **P** **18 03 17.7 -1.9**
TIXI pmax pmax
comp=Z,19nm,1.1s
JOW Kunigami 52.85 78 *e*P **P** **18 03 24.3 +1.1**
comp=Z,66nm,0.8s
JNU Nakatsue 53.15 70 LR LR 18 28 48.4
comp=Z,2µm,20.5s,baz=294,slow=39
JNU Nakatsue 53.15 70 *e*P **P** **18 03 27.4 +2.0**
comp=Z,136nm,1.6s
LEM Lembang 53.34 127 LR LR 18 27 45.4
comp=Z,1µm,19.9s,baz=290,slow=38
GRNR Gornyy 54.04 47 *e*P **P** **18 03 32.8 +1.2**
GRNR pmax pmax
comp=Z,13nm,1.0s
KBKI Kotabaru 57.22 117 P **P** **18 03 56.8 +1.9**
comp=Z,8.4nm,1.3s,comp=Z,128nm
INU Inuyama 57.44 65 *e*P **P** **18 03 57.2 +1.0**
comp=Z,145nm,1.3s
ES19 SONSECA Array 57.83 300 *e*P **P** **18 03 56.5 -2.6**
ESDC Sonseca Array 57.88 300 P **P** **18 03 56.8 -2.7**
comp=Z,4.3nm,0.5s,baz=68,slow=8.0,SNR=20
ESLA Sonseca Array 57.88 300 *e*P **P** **18 03 58.7 -0.7**
comp=Z,30nm,1.1s
MPSI Mapaga 57.94 111 P **P** **18 04 01.5 +1.5**
comp=Z,33nm,1.2s,comp=Z,373nm
MAJO Matsushiro 58.03 64 *i* P **P** **18 04 00.8 +0.3**
MAJO pmax pmax
comp=Z,11nm,1.1s
MAT Matsushiro 58.03 64 P **P** **18 03 59.7 -0.8**
MAT *e*S **S** **18 12 06.0 +5.3**
MJAR Matsushiro Arr 58.03 64 P **P** **18 04 00.1 -0.4**
comp=Z,13nm,1.2s,baz=282,slow=12,SNR=7.6
MJAR LR LR 18 32 30.5
comp=Z,665nm,18.7s,baz=290,slow=40
PAB San Pablo 58.20 300 *e*P **P** **18 04 00.5 -1.2**
comp=Z,43nm,1.3s
PAB San Pablo 58.20 300 *e*P **P** **18 04 00.5 -1.2**
PAB pmax pmax
comp=Z,43nm,1.3s
YSS Yuzh-Sakhalins 58.77 51 *e*P **P** **18 04 06.2 +0.8**
comp=Z,29nm,0.9s
YSS Yuzh-Sakhalins 58.77 51⇑*e*P **P** **18 04 05.7 +0.3**
YSS *e* 18 04 11.8
YSS pmax pmax
comp=N,10.0nm,0.8s
YSS pmax pmax
comp=Z,20nm,0.8s
YSS pmax pmax
comp=E,10.0nm,0.9s
YSS MLR MLR
comp=Z,3µm,14.0s
YSS MLR MLR
comp=N,2µm,15.0s
YSS MLR MLR
comp=E,2µm,15.0s
DAV Davao City (W) 58.95 101 LR LR 18 33 10.6
comp=E,898nm,20.4s,baz=288,slow=40
LSZ Lusaka 59.19 225 *e*P **P** **18 04 09.6 +0.9**
comp=E,62nm,1.9s
LSZ Lusaka 59.19 225 *e*P **P** **18 04 09.6 +0.9**
LSZ pmax pmax
comp=Z,62nm,1.9s
MRSI Marisa 59.52 109 P **P** **18 04 11.6 +0.6**
comp=Z,32nm,1.2s,comp=Z,464nm
MVO Moncorvo 59.76 303 *e*P **P** **18 04 12.9 +0.5**
comp=Z,45nm,1.6s
MVO Moncorvo 59.76 303 *e*LQ LQ 18 21 06.4
DAG Danmarks Havn 59.76 345 *i* P **P** **18 04 12.3 +0.5**
comp=Z,34nm,1.2s
DAG Danmarks Havn 59.76 345 *i* P **P** **18 04 12.3 +0.5**
DAG pmax pmax
comp=Z,53nm,1.2s
APSI Ampana 60.09 111 P **P** **18 04 15.4 +0.5**
comp=Z,56nm,1.2s,comp=Z,613nm
MTE Manteigas 60.34 302 *e*P **P** **18 04 18.4 +1.9**
comp=Z,89nm,1.4s
MTE Manteigas 60.34 302 *e*LQ LQ 18 22 11.8
MTE *e*LR LR 18 28 15.6
comp=Z,403nm,18.0s
MTE Manteigas 60.34 302 *e*P **P** **18 04 17.4 +0.9**
comp=Z,46nm,1.1s
PGAV Gavieira, Arco 60.44 304 *e*P **P** **18 04 19.0 +1.9**
comp=Z,104nm,1.7s
PGAV Gavieira, Arco 60.44 304 *e*LR LR 18 28 16.7
comp=Z,417nm,20.0s
PCBR Castelo Branco 60.45 301 *e*P **P** **18 04 16.9 -0.2**
comp=Z,80nm,1.4s
PMRV Marv??o 60.50 301 *e*P **P** **18 04 19.8 +2.3**
comp=Z,60nm,1.3s
PVIS Viseu 60.51 302 *e*P **P** **18 04 19.2 +1.6**
comp=Z,72nm,1.7s
PESTR Estremoz 60.81 300 *e*P **P** **18 04 20.4 +0.7**
comp=Z,63nm,1.5s
PESTR Estremoz 60.81 300 *e*P **P** **18 04 20.3 +0.7**
comp=Z,23nm,1.2s
SEY Seymchan 61.06 31 *i* P **P** **18 04 21.5 +0.7**
KMSI Cibinong 61.13 108 P **P** **18 04 29.4 +7.4**
PTOM Tomar 61.20 301 *e*P **P** **18 04 24.4 +2.2**
comp=Z,138nm,1.4s
PBEJ Beja 61.27 299 *e*P **P** **18 04 25.1 +2.4**
comp=Z,52nm,1.6s
PVAQ Vaqueiros 61.34 299 *e*P **P** **18 04 23.1 -0.1**
comp=Z,76nm,1.4s
PVAQ Vaqueiros 61.34 299 *e*LQ LQ 18 22 29.4
PVAQ *e*LR LR 18 25 22.5
comp=Z,370nm,18.0s
BKSI Bulukumba 61.54 116 P **P** **18 04 24.9 +0.1**
comp=Z,12nm,1.3s
MESJ Messejana 61.59 299 *e*P **P** **18 04 25.5 +0.6**
MESJ AMb AMB 18 04 29.4
comp=Z,34nm,1.1s
MESJ Messejana 61.59 299 *e*P **P** **18 04 25.3 +0.4**
comp=Z,40nm,1.4s
YUK Yuzh-Kuril'sk 61.60 53 P P 18 04 16.3 -8.5
YUK S **S** **18 12 44.2 -2.2**
YUK MLR MLR
comp=N,786nm,15.0s
YUK MLR MLR
comp=E,94nm,15.0s
YUK MLR MLR
comp=Z,1µm,15.0s
PMAFR Mafra 62.05 301 *e*P **P** **18 04 31.1 +3.1**
comp=Z,165nm,1.7s
PTEO Sao Teotonio 62.06 299 *e*P **P** **18 04 29.9 +1.8**
comp=Z,72nm,1.8s
MORF Marmelete 62.08 299 *e*P **P** **18 04 28.8 +0.5**
MORF AMb AMB 18 04 32.2
comp=Z,58nm,1.6s
MORF Marmelete 62.08 299 *e*P **P** **18 04 31.2 +2.9**
comp=Z,34nm,1.2s
PFVI Vila Bisbo 62.27 299 *e*P **P** **18 04 31.4 +1.9**
comp=Z,102nm,1.3s
TOA0 Torodi Ar. Sit 62.76 270 *e*P **P** **18 04 30.0 -3.0**
comp=Z,37nm,0.9s
TOA0 Torodi Ar. Sit 62.76 270 P **P** **18 04 29.9 -3.1**
SNR=8.7
TORD Torodi Ar. Bea 62.76 270 P **P** **18 04 29.2 -3.8**
comp=Z,28nm,0.8s,baz=57,slow=4.6,SNR=40
TORD LR LR 18 34 29.0
comp=Z,2µm,20.3s,baz=20,slow=39
WBSI Waikabubak, Su 63.73 120 P **P** **18 04 38.3 -1.2**
comp=Z,60nm,1.3s
TNTI Ternate 63.82 106 *e*P **P** **18 04 39.9 -0.1**
comp=Z,67nm,1.2s
TNTI Ternate 63.82 106 P **P** **18 04 40.6 +0.6**
comp=Z,56nm,1.3s,comp=Z,792nm
SANI Sanana 64.27 109 P **P** **18 04 42.4 -0.6**
comp=Z,22nm,1.2s,comp=Z,507nm
MMRI Maumere 65.25 117 *e*P **P** **18 04 45.8 -3.5**
comp=Z,45nm,1.1s
MMRI Maumere 65.25 117 P **P** **18 04 48.4 -0.9**
comp=Z,37nm,0.9s,comp=Z,2µm
BILL Bilibino 65.30 24*de*P **P** **18 04 50.6 +1.7**
BILL *e* 18 07 11.8
BILL *e*S S 18 13 21.6 -10
BILL pmax pmax
comp=Z,9.0nm,1.3s
BILL MLR MLR
comp=Z,1µm,19.0s
NLAI Namlea 65.86 109 P **P** **18 04 53.2 -0.1**
SUMG Summit 65.87 342 *e*P **P** **18 04 51.6 -1.4**
comp=Z,25nm,0.8s
SUMG Summit 65.87 342 *i* P **P** **18 04 52.6 -0.4**
comp=Z,72nm,0.9s
SUMG Summit 65.87 342 *e*P **P** **18 04 51.6 -1.4**
SUMG pmax pmax
comp=Z,25nm,0.8s
PETK Petropavlovsk- 66.36 41 P **P** **18 04 54.9 -1.1**
comp=Z,3.5nm,0.6s,baz=278,slow=3.7,SNR=6.7
PETK LR LR 18 37 42.8
comp=Z,2µm,19.4s,baz=287,slow=40
BATI Baumata 67.32 118 P **P** **18 05 00.9 -1.8**
comp=Z,18nm,0.7s,baz=89,slow=7.0,SNR=7.5
BATI Baumata 67.32 118 P **P** **18 05 00.7 -2.0**
MSAI Masohi 67.41 108 P **P** **18 05 04.0 +0.7**
SOEI Soe 67.50 117 *e*P **P** **18 05 02.0 -1.9**
comp=Z,126nm,1.1s
SOEI Soe 67.50 117 P **P** **18 05 01.4 -2.5**
SIJI Sorong 67.97 105 P **P** **18 05 06.3 -0.5**
comp=Z,24nm,0.9s,baz=318,slow=7.6,SNR=15
LBTB Lobatse 68.25 221 *e*P **P** **18 05 09.4 +1.0**
comp=Z,24nm,1.0s
LBTB Lobatse 68.25 221 *e*P **P** **18 05 09.4 +1.0**
LBTB pmax pmax
comp=Z,24nm,1.0s
BNDI Bandanaira 68.88 109 P **P** **18 05 11.1 -1.4**
FAKI Fak Fak 69.91 106 *e*P **P** **18 05 19.1 +0.2**
comp=Z,30nm,0.9s
FAKI Fak Fak 69.91 106 P **P** **18 05 19.3 +0.4**
DBIC Dimbokro 71.51 267 P **P** **18 05 27.6 -1.0**
comp=Z,34nm,1.1s,baz=53,slow=7.5,SNR=12
DBIC LR LR 18 39 30.3
comp=Z,2µm,18.9s,baz=39,slow=38
KIC Kosan Boka 71.56 267 *e*P **P** **18 05 26.3 -2.7**
comp=Z,92nm,1.1s
TIC Toumodi 71.66 267 *e*P **P** **18 05 28.4 -1.2**
LIC Lamto 71.88 267 *e*P **P** **18 05 30.1 -0.8**
comp=Z,132nm,1.3s
SAUI Saumlaki 72.00 111 *e*P **P** **18 05 33.5 +2.0**
comp=Z,283nm,0.8s
SAUI Saumlaki 72.00 111 P **P** **18 05 33.6 +2.1**
comp=Z,372nm,1.1s,comp=Z,3µm
FITZ Fitzroy Crossi 73.81 123 *e*P **P** **18 05 42.7 +0.6**
comp=Z,14nm,0.9s
MTN Manton Dam 74.71 115 *e*P **P** **18 05 48.1 +0.7**
comp=Z,10.0nm,0.8s
SMPI Sarmi 74.83 102 P **P** **18 05 49.0 +0.8**
RDOG Red Dog Mine 74.90 17 *e*P **P** **18 05 51.7 +3.9**
comp=Z,14nm,1.0s
GENI Genyem 76.38 101 P **P** **18 05 57.8 +0.6**
JAY Jayapura 76.80 101 P **P** **18 05 59.1 -0.4**
comp=Z,14nm,0.9s,baz=132,slow=0.8,SNR=5.0
TOLK Toolik Lake Re 77.48 13 *e*P **P** **18 06 04.7 +2.1**
comp=Z,41nm,1.2s
COLD Coldfoot 78.55 14 *e*P **P** **18 06 10.8 +2.4**
comp=Z,31nm,1.4s
NWAO Narrogin (SRO) 78.61 139 P **P** **18 06 08.0 -1.1**
comp=Z,25nm,0.9s,baz=228,slow=5.9,SNR=7.4
NWAO Narrogin (SRO) 78.61 139 *e*P **P** **18 06 08.7 -0.4**
comp=Z,28nm,0.9s
IM3 Indian Mountai 78.79 16 *e*P **P** **18 06 11.0 +1.2**
FYU Fort Yukon 80.12 13 *e*P **P** **18 06 20.3 +3.4**
comp=Z,137nm,1.7s
MLY Manley 80.28 15 *e*P **P** **18 06 19.6 +1.6**
comp=Z,64nm,1.9s
INK Inuvik 80.31 8 *e*P **P** **18 06 18.2 +0.3**
comp=Z,55nm,1.1s
INK Inuvik 80.31 8 *e*P **P** **18 06 18.2 +0.3**
INK pmax pmax
comp=Z,55nm,1.1s
MDM Murphy Dome 80.91 15 *e*P **P** **18 06 23.4 +2.1**
comp=Z,60nm,1.6s
CAST Castle Rocks 81.31 17 *e*P **P** **18 06 25.4 +1.9**
comp=Z,107nm,1.7s
IL1 Eielson Array 81.36 14 *e*P **P** **18 06 24.4 +0.7**
ILAR Eielson Array 81.36 14 P **P** **18 06 22.8 -0.8**
comp=Z,3.5nm,0.9s,baz=326,slow=4.2,SNR=6.6
ILAR PP **PP** **18 09 29.4 +0.6**
comp=Z,2.5nm,1.1s,baz=321,slow=7.6,SNR=3.9
ILAR LR LR 18 50 10.9
comp=Z,621nm,18.0s,baz=324,slow=41

WRA	**Warramunga Arr**	**81.40**	**119**	P	**P**	**18 06 24.2**	**-0.3**
	comp=Z,12nm,0.7s,baz=320,slow=4.8,SNR=85							
WRA				LR	LR	18 46 27.3		
	comp=Z,366nm,19.2s,baz=275,slow=39							
WRAB	**Tennant Creek**	**81.40**	**119**	*eP*	**P**	**18 06 24.4**	**-0.2**
	comp=Z,27nm,0.9s							
WRAB	**Tennant Creek**	**81.40**	**119**	*i P*	**P**	**18 06 23.9**	**-0.6**
WRAB				pmax	pmax			
	comp=Z,22nm,1.0s							
WB2	**Warramunga Arr**	**81.41**	**119**	*eP*	**P**	**18 06 23.9**	**-0.7**
RND	**Reindeer**	**82.11**	**16**	*eP*	**P**	**18 06 29.0**	**+1.3**
	comp=Z,19nm,1.0s							
RND	**Reindeer**	**82.11**	**16**	*eP*	**P**	**18 06 29.0**	**+1.3**
RND				pmax	pmax			
	comp=Z,19nm,1.0s							
EGAK	**Eagle**	**82.48**	**12**	*eP*	**P**	**18 06 32.1**	**+2.6**
	comp=Z,47nm,1.4s							
SCRK	**Sand Creek**	**82.66**	**13**	*eP*	**P**	**18 06 31.2**	**+0.5**
	comp=Z,22nm,1.0s							
DHY	**Denali Highway**	**82.73**	**15**	*eP*	**P**	**18 06 31.4**	**+0.3**
	comp=Z,72nm,1.9s							
PAX	**Paxson**	**83.25**	**15**	*eP*	**P**	**18 06 35.8**	**+2.1**
	comp=Z,12nm,0.9s							
AS31	**Alice Springs**	**83.30**	**122**	*eP*	**P**	**18 06 34.1**	**-0.3**
	comp=Z,6.0nm,0.8s							
ASAR	**Alice Springs**	**83.30**	**122**	P	**P**	**18 06 34.1**	**-0.4**
	comp=Z,17nm,0.7s,baz=310,slow=4.3,SNR=104							
ASAR				LR	LR	18 44 38.8		
	comp=Z,316nm,21.6s,baz=302,slow=36							
ASAR	**Alice Springs**	**83.30**	**122**	P	**P**	**18 06 34.1**	**-0.4**
ASAR				pmax	pmax			
	comp=Z,18nm,0.7s							
ASAR				MLR	MLR			
	comp=Z,316nm,21.6s							
AS01	**Alice Springs**	**83.33**	**122**	*eP*	**P**	**18 06 32.7**	**-1.9**
DAWY	**Dawson**	**83.44**	**12**	*eP*	**P**	**18 06 36.6**	**+2.0**
	comp=Z,35nm,1.1s							
HARP	**HAARP**	**83.81**	**15**	*eP*	P	18 06 41.5	+5.0	
	comp=Z,137nm,1.5s							
COEN	**Coen**	**84.97**	**109**	*eP*	**P**	**18 06 44.0**	**+1.0**
	comp=Z,22nm,1.1s							
PMG	**Port Moresby**	**85.86**	**103**	*eP*	**P**	**18 06 49.1**	**+1.5**
	comp=Z,21nm,0.9s							
PMG	**Port Moresby**	**85.86**	**103**	*eP*	**P**	**18 06 49.1**	**+1.5**
PMG				pmax	pmax			
	comp=Z,21nm,0.9s							
SCHQ	**Schefferville**	**86.47**	**336**	LR	LR	18 46 15.7		
	comp=Z,763nm,21.3s,baz=90,slow=36							
HYT	**Haines Junctio**	**86.78**	**12**	*eP*	**P**	**18 06 54.5**	**+2.9**
	comp=Z,43nm,1.7s							
YKW3	**Yellowknife Ar**	**87.31**	**1**	*eP*	**P**	**18 06 56.0**	**+2.2**
	comp=Z,50nm,1.2s							
YKA	**Yellowknife Ar**	**87.38**	**1**	P	**P**	**18 06 53.2**	**-1.0**
	comp=Z,15nm,0.9s,baz=350,slow=4.7,SNR=18							
YKB5	**Yellowknife Ar**	**87.38**	**1**	*eP*	**P**	**18 06 54.4**	**+0.2**
DLBC	**Dease Lake**	**90.25**	**9**	*eP*	P	18 07 12.9	+5.0	
	comp=Z,60nm,1.5s							
CTAO	**Charters Tower**	**90.73**	**113**	*eP*	**P**	**18 07 11.6**	**+0.9**
	comp=Z,10nm,1.0s							
CTAO	**Charters Tower**	**90.73**	**113**	*eP*	**P**	**18 07 11.6**	**+0.9**
CTAO				pmax	pmax			
	comp=Z,10.0nm,1.0s							
STKA	**Stephens Creek**	**93.59**	**125**	P	**P**	**18 07 23.7**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=319,slow=9.3,SNR=4.0							
STKA				LR	LR	18 54 20.3		
	comp=Z,844nm,18.7s,baz=293,slow=39							
FFC	**Flin Flon**	**94.71**	**354**	*ceP*	**P**	**18 07 33.1**	**+4.6**
FFC				pmax	pmax			
	comp=Z,28nm,1.0s							
MAW	**Mawson**	**97.80**	**182**	LR	LR	18 45 19.0		
	comp=Z,623nm,20.6s,baz=40,slow=31							
ULM	**Lac du Bonnet**	**98.34**	**349**	LR	LR	18 56 44.0		
	comp=Z,691nm,19.0s,baz=12,slow=38							
SYO	**Syowa Base**	**101.27**	**190**	*ePdiff*	*pPdiff*	18 08 05.4	+3.1	
PDAR	**Pinedale Array**	**107.11**	**358**	PKiKP	**PKiKP**	**18 12 34.3**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=42,slow=2.9,SNR=4.2							
DZM	**Mont Dzumac**	**108.17**	**105**	*eLR*	LR	18 44 12.6		
	comp=Z,468nm,25.7s							
NVAR	**Mina Array Bea**	**111.27**	**5**	PKiKP	**PKiKP**	**18 12 43.1**	**+1.3**
	comp=Z,1.5nm,0.8s,baz=260,slow=1.3,SNR=6.4							
SNAA	**Sanae**	**112.74**	**199**	PKP	**PKiKP**	**18 12 43.7**	**+0.6**
VNA2	**Neumayer--Watz**	**113.73**	**200**	PKP	**PKiKP**	**18 12 46.0**	**+1.1**
	slow=3.6							
VNA3	**Neumayer Olymp**	**114.53**	**200**	PKP	PKPdf	18 12 47.1	+0.6	
MNTX	**Cornudas Mount**	**117.84**	**353**	*ePKPdf*	**PKPdf**	**18 12 55.9**	**+1.6**
TX31	**Lajitas Ar. Si**	**119.98**	**351**	*ePKPdf*	**PKPdf**	**18 12 57.1**	**-1.4**
TXAR	**Lajitas Array**	**119.98**	**351**	PKP	**PKPdf**	**18 12 57.5**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=180,slow=0.6,SNR=9.8							
VNDA	**Vanda**	**120.40**	**165**	PKP	**PKPdf**	**18 12 57.6**	**0.0**
	comp=Z,0.6nm,0.8s,baz=90,slow=4.0,SNR=3.4							
HPIG		**122.59**	**353**	*ePKPdf*	**PKPdf**	**18 13 05.5**	**+1.8**
SAML	**Samuel**	**129.42**	**284**	*ePKPdf*	**PKPdf**	**18 13 18.5**	**+1.7**
SAML	**Samuel**	**129.42**	**284**	*ePKIKP*	**PKPdf**	**18 13 18.5**	**+1.7**
CPUP	**Villa Florida**	**131.75**	**261**	PKP	**PKPdf**	**18 13 21.2**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=243,slow=1.6,SNR=4.4							
LPAZ	**La Paz**	**137.24**	**279**	PKP	**PKPdf**	**18 13 32.7**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=180,slow=2.0,SNR=3.9							
TRQA	**Tornquist**	**138.04**	**246**	*ePKPdf*	**PKPdf**	**18 13 35.7**	**+3.4**
TRQA	**Tornquist**	**138.04**	**246**	*ePKIKP*	**PKPdf**	**18 13 35.7**	**+3.4**
PPT2	**Papeete2**	**143.90**	**78**	*eLR*	LR	19 00 43.0		
	comp=Z,547nm,22.5s							
PLCA	**Paso Flores**	**144.72**	**241**	PKP	PKPbc	18 13 43.4	+0.2	
	comp=Z,11nm,1.1s,baz=165,slow=3.4,SNR=8.6							
PLCA	**Paso Flores**	**144.72**	**241**	*ePKPdf*	**PKPdf**	**18 13 43.7**	**-0.5**
GO06	**Curarrehue**	**145.48**	**243**	*ePKPdf*	**PKPab**	**18 13 46.0**	**+0.1**
GO05	**HualaæØ**	**145.79**	**251**	*ePKPdf*	**PKPab**	**18 13 47.0**	**-0.1**
TBI	**Tubuai**	**146.34**	**87**	*eSS*	SS	18 36 15.0	+6.3
	comp=Z,300nm,38.8s							
TBI	**Tubuai**	**146.34**	**87**	*eLR*	LR	19 02 03.5		
	comp=Z,342nm,28.8s							

DJA ***19*** *17:54:36.7±2.5,4°N±13°×12°8E±°, h32km±38km, M4.4/9, mB4.9/5, mb4.4/9, MLv4.4/9, Mw(mB)4.2/5*
IDC ***19*** *17:55:05.0±8.7, 2°.21N×128°.00E, h250km±88km, mb3.5/5, mb1 3.6/6, mb1mx3.2/36, mbtmp4.1/6, Error ellipse: s-maj=57.4km s-min=21.7km az=61.0*
ISC 19 17:54:33.6±2.9, 4°.0N±0°.3×128°.0E±0°.1, h71km, n15, σ1§87/13, mb4.2/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.47**	**263**	P	**Pn**	**17 55 13.3**	**+1.7**
SGSI				S	**Sn**	**17 55 40.6**	**-0.2**
TNTI	**Ternate**	**3.26**	**191**	P	**Pn**	**17 55 23.0**	**+0.6**
KMSI	**Cibinong**	**5.25**	**230**	P	**Pn**	**17 55 50.2**	**+0.7**
SANI	**Sanana**	**6.32**	**198**	P	**Pn**	**17 56 01.3**	**-3.0**
MRSI	**Marisa**	**6.97**	**240**	P	**Pn**	**17 56 15.1**	**+1.9**
AAI	**Ambon**	**7.63**	**178**	P	Pn	17 56 26.3	+4.1
	12nm,1.2s						
APSI	**Ampana**	**7.99**	**233**	P	Pn	17 56 30.5	+3.4
BNDI	**Bandanaira**	**8.67**	**167**	P	**Pn**	**17 56 40.5**	**+4.1**
	29nm,1.4s						
MPSI	**Mapaga**	**8.86**	**246**	P	**Pn**	**17 56 39.6**	**+0.7**
BATI	**Baumata**	**14.75**	**197**	P	**P**	**17 58 01.6**	**-1.3**
	baz=45,slow=7.1						
WRA	**Warramunga Arr**	**24.59**	**166**	P	**P**	**17 59 47.0**	**-0.2**
	2.5nm,0.4s,baz=345,slow=11,SNR=73						
ASAR	**Alice Springs**	**28.09**	**168**	P	**P**	**18 00 18.4**	**-0.4**
	0.3nm,0.5s,baz=350,slow=7.7,SNR=9.1						
STKA	**Stephens Creek**	**37.95**	**161**	P	**P**	**18 01 44.8**	**+0.3**
	2.2nm,0.6s,baz=348,slow=9.1,SNR=8.6						
NWAO	**Narrogin (SRO)**	**38.11**	**195**	P	**P**	**18 01 45.7**	**0.0**
	6.9nm,0.8s,baz=27,slow=11,SNR=2.6						
KURBB	**Kurchatov Arra**	**62.20**	**327**	P	P	18 05 09.9	+22
	2.1nm,0.9s,baz=124,slow=6.8,SNR=2.6						

ISCJB ***19*** *17:55:43.3±0.6, 22°.01S±0°.03×68°.75W±0°.09, h124km±6km, mb3.9/2, Error ellipse: s-maj=13.7km s-min=5.4km az=2.5*
GUC ***19*** *17:55:43.6±0.7, 22°.00S×68°.69W, h109km±4km, ML3.7*
IDC ***19*** *17:55:43.4±0.8, 22°.08S×68°.35W, h98km±12km, mb3.7/2, mb1 3.6/4, mb1mx3.3/24, mbtmp3.9/4, Error ellipse: s-maj=48.4km s-min=19.7km az=114.0*
ISC 19 17:55:43.8±0.9, 21°.99S±0°.04×68°.67W±0°.08, h112km±7km, n21, σ1§06/36, 11C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.57**	**289**	*i P*	**Pn**	**17 56 01.8**	**+0.2**
PB09				*eS*	**Sn**	**17 56 15.2**	**+0.2**
PB09				IAML		17 56 17.7	
	comp=E,2μm,0.3s						
LVC	**Limon Verde**	**0.66**	**200**	P	**Pn**	**17 56 02.2**	**-0.3**
	comp=E,139nm,0.3s,baz=28,slow=7.6,SNR=1562						
LVC				S	**Sn**	**17 56 16.0**	**-0.6**
	comp=E,168nm,0.3s,baz=73,slow=19,SNR=75						
LVC	**Limon Verde**	**0.66**	**200**	*i P*	**Pn**	**17 56 02.3**	**-0.3**
LVC				*eS*	**Sn**	**17 56 15.8**	**-0.8**
PB03	**IPOC Station P**	**1.01**	**266**	*i P*	**Pn**	**17 56 05.3**	**-0.2**
PB03				*i S*	**Sn**	**17 56 21.8**	**0.0**
PB03				IAML		17 56 24.0	
	comp=E,2μm,0.4s						
PB06	**IPOC Station P**	**1.10**	**229**	*i P*	**Pn**	**17 56 06.5**	**0.0**
PB06				*eS*	**Sn**	**17 56 23.7**	**+0.2**
PB06				IAML		17 56 25.2	
	comp=E,2μm,0.4s						
PB07	**IPOC Station P**	**1.16**	**283**	*i P*	**Pn**	**17 56 07.2**	**+0.1**
PB07				*i S*	**Sn**	**17 56 24.8**	**+0.1**
PB07				IAML		17 56 26.4	
	comp=E,3μm,0.2s						
PB01	**IPOC Station P**	**1.21**	**321**	*i P*	**Pn**	**17 56 07.7**	**+0.1**
PB01				*eS*	**Sn**	**17 56 25.9**	**+0.4**
PB01				IAML		17 56 26.6	
	comp=N,2μm,0.3s						
PB02	**IPOC Station P**	**1.32**	**300**	*i P*	**Pn**	**17 56 08.7**	**-0.1**
PB02				*i S*	**Sn**	**17 56 27.5**	**-0.3**
PB02				IAML		17 56 28.7	
	comp=N,2μm,0.4s						
PB04	**IPOC Station P**	**1.42**	**256**	*i P*	**Pn**	**17 56 09.7**	**-0.2**
PB04				*eS*	**Sn**	**17 56 30.0**	**+0.2**
PB04				IAML		17 56 33.6	
	comp=E,1μm,0.2s						
PB15	**IPOC Station P**	**1.42**	**211**	*i P*	**Pn**	**17 56 10.1**	**0.0**
PB15				*eS*	**Sn**	**17 56 30.7**	**+0.6**
PB05	**IPOC Station P**	**1.66**	**238**	*i P*	**Pn**	**17 56 12.4**	**-0.4**
PB05				*i S*	**Sn**	**17 56 34.8**	**-0.1**
PB05				IAML		17 56 41.4	
	comp=N,839nm,0.4s						
PB08	**IPOC Station P**	**1.89**	**346**	*i P*	**Pn**	**17 56 16.9**	**+0.9**
PB08				*i S*	**Sn**	**17 56 41.7**	**+1.3**
PB08				IAML		17 56 44.3	
	comp=N,375nm,0.2s						
GO01	**Chusmiza**	**2.36**	**348**	*i P*	**Pn**	**17 56 22.4**	**+0.4**
GO01				*i S*	**Sn**	**17 56 53.0**	**+1.9**
GO01				IAML		17 56 55.0	
	comp=N,365nm,0.2s						
PB11	**IPOC Station P**	**2.40**	**337**	*eP*	**Pn**	**17 56 21.8**	**-0.4**
PB11				*i S*	**Sn**	**17 56 51.6**	**0.0**
PSGC	**Pisagua**	**2.74**	**330**	*eP*	**Pn**	**17 56 25.0**	**-1.6**
PSGC				*i S*	**Sn**	**17 56 57.0**	**-2.5**
PSGC				IAML		17 56 59.2	
	comp=N,222nm,0.4s						
LPAZ	**La Paz**	**5.69**	**5**	P	**Pn**	**17 57 08.5**	**+1.8**
	comp=N,0.6nm,0.3s,baz=177,slow=6.8,SNR=11						
SIV	**San Ignacio**	**9.34**	**52**	P	**Pn**	**17 57 51.6**	**-3.9**
	comp=N,1.2nm,0.3s,baz=246,slow=14,SNR=41						
SNAA	**Sanae**	**61.75**	**161**	P	**P**	**18 05 50.3**	**+0.1**
	comp=N,1.1nm,0.6s,baz=287,slow=14,SNR=5.9						
TORD	**Torodi Ar. Bea**	**77.31**	**70**	P	**P**	**18 07 26.4**	**-0.1**
	comp=N,0.6nm,0.4s,baz=256,slow=5.6,SNR=12						
WRA	**Warramunga Arr**	**132.65**	**210**	PKP	**PKPdf**	**18 14 46.7**	**+0.5**
	comp=N,0.4nm,1.1s,baz=163,slow=1.6,SNR=4.8						
MKAR	**Makanchi Array**	**145.89**	**36**	PKPbc	**PKPdf**	**18 15 09.9**	**+0.5**
	comp=N,0.3nm,0.6s,baz=274,slow=3.8,SNR=3.2						

ISCJB ***19*** *17:58:07.2±0.3, 30°.48N±0°.04×67°.57E±0°.04, h14km, mb4.5/54, MS4.8/2, Error ellipse: s-maj=6.0km s-min=4.4km az=176.8*
IDC ***19*** *17:58:07.4±0.5, 30°.58N×67°.65E, h0km, mb4.3/27, mb1 4.4/30, mb1mx4.4/43, mbtmp4.3/30, ML4.2/3, MS4.8/2, Ms1 4.8/2, ms1mx3.8/49, Error ellipse: s-maj=14.3km s-min=11.1km az=11.0*
NEIC ***19*** *17:58:08.8±3.4, 30°.49N×67°.57E, h12km±21km, mb4.8/24, Error ellipse: s-maj=8.1km s-min=5.0km az=191.0*
ISC 19 17:58:08.9±0.4, 30°.48N±0°.06×67°.53E±0°.06, h14km, n136, σ1§41/135, mb4.7/54, 8C-15D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**4.25**	**17**	*ePn*	**Pn**	**17 59 15.9**	**+2.6**
WSAR	**Wadi Sarin**	**10.72**	**230**	Pn	**Pn**	**18 00 39.1**	**-3.0**
	2.1nm,0.3s,baz=48,slow=10.0,SNR=11						
WSAR				Sn	Sn	18 02 31.3	-11
	1.9nm,0.3s,baz=279,slow=17,SNR=6.0						
GEYT	**Alibeck**	**10.76**	**316**	Pn	**Pn**	**18 00 43.4**	**+0.9**
	0.3nm,0.3s,baz=146,slow=13,SNR=3.7						
BANOM	**Banah**	**10.89**	**248**	*i P*	**Pn**	**18 00 42.8**	**-1.6**
	SNR=38						
SHME	**Shamm**	**10.96**	**249**	*i P*	**Pn**	**18 00 44.2**	**-1.2**
	SNR=14						
MDH	**Madha**	**11.19**	**245**	*i P*	**Pn**	**18 00 45.5**	**-3.0**
	SNR=6.4						
MSFE	**Esma-Masafi**	**11.27**	**246**	P	**Pn**	**18 00 46.8**	**-2.8**
UOSS	**Minazif**	**11.45**	**244**	*ePn*	**Pn**	**18 00 49.1**	**-2.9**
UOSS	**Minazif**	**11.45**	**244**	P	**Pn**	**18 00 49.0**	**-2.9**
HATD	**Hatta, Dubai**	**11.56**	**244**	P	**Pn**	**18 00 50.4**	**-3.1**
ASHO	**Ashiyiah**	**11.69**	**243**	*i P*	**Pn**	**18 00 53.3**	**-2.1**
	SNR=11						
FAQ	**Al Faqa, Dubai**	**12.02**	**245**	P	**Pn**	**18 00 58.9**	**-0.9**
ASUD	**Al Ashush, Dub**	**12.29**	**245**	P	**Pn**	**18 01 02.8**	**-0.7**
KK31	**Karatay Array**	**12.82**	**10**	*ePn*	**Pn**	**18 01 10.2**	**-0.5**
KKAR	**Karatay Array**	**12.82**	**10**	*ePn*	**Pn**	**18 01 10.4**	**-0.3**
NRN	**Naryn**	**12.89**	**30**	*ePn*	**Pn**	**18 01 11.4**	**-0.6**
AAK	**Ala-Archa**	**13.35**	**23**	Pn	**Pn**	**18 01 17.9**	**-0.2**
	5.3nm,0.3s,baz=169,slow=5.9,SNR=16						
AAK				Sn	**Sn**	**18 03 44.9**	**-1.5**
	0.2nm,0.3s,baz=143,slow=20,SNR=4.4						
AAK	**Ala-Archa**	**13.35**	**23**	*ePn*	**Pn**	**18 01 17.2**	**-0.9**
AAK				*eSn*	**Sn**	**18 03 44.9**	**-1.5**
FRU1	**Bishkek**	**13.55**	**23**	*ePn*	**Pn**	**18 01 19.9**	**-0.8**
ABKAR	**Akbulak array**	**19.61**	**345**	*eP*	**Pn**	**18 02 37.5**	**-0.6**
MK01	**Makanchi Array**	**19.89**	**31**	*eP*	**P**	**18 02 38.0**	**-1.7**
MK31	**Makanchi Array**	**19.90**	**31**	*eP*	**P**	**18 02 39.4**	**-0.5**
MK32	**Makanchi Array**	**19.90**	**31**	*eP*	**P**	**18 02 39.2**	**-0.8**
MKAR	**Makanchi Array**	**19.90**	**31**	P	**P**	**18 02 39.2**	**-0.8**
	1.1nm,0.3s,baz=213,slow=10,SNR=14						
MKAR	**Makanchi Array**	**19.90**	**31**	*eP*	**P**	**18 02 39.3**	**-0.7**
	161nm,0.6s						
LSA	**Lhasa**	**20.45**	**86**	*eP*	Pn	18 02 47.7	-1.0
	68nm,1.3s						
RAYN	**Ar Rayn**	**20.79**	**256**	*eP*	**P**	**18 02 46.9**	**-2.9**
	80nm,1.5s						
RAYN	**Ar Rayn**	**20.79**	**256**	P	**P**	**18 02 48.2**	**-1.6**
GNI	**Garni**	**20.90**	**304**	P	**P**	**18 02 52.1**	**+1.1**
	12nm,1.0s,baz=172,slow=11,SNR=2.7						
TBLG	**Delisi**	**21.50**	**308**	*eP*	**P**	**18 02 58.2**	**+1.0**
	40nm,0.8s						
KURBB	**Kurchatov Arra**	**21.74**	**19**	P	**P**	**18 02 59.0**	**-0.7**
	17nm,1.0s,baz=211,slow=9.0,SNR=12						
KURK	**Kurchatov**	**21.85**	**19**	*eP*	**P**	**18 02 59.0**	**-1.8**
SHL	**Shillong**	**22.03**	**97**	*eP*	**P**	**18 03 01.3**	**-2.0**
	281nm,1.8s						
AKH	**Akhalkalaki**	**22.23**	**306**	*eP*	**P**	**18 03 04.1**	**-1.2**
	35nm,1.2s						
AKH	**Akhalkalaki**	**22.23**	**306**	*i P*	**P**	**18 03 08.3**	**+3.0**
BRVK	**Borovoye**	**22.65**	**4**	*eP*	**P**	**18 03 09.9**	**+0.5**
	44nm,1.0s						
KBZ	**Khabaz**	**23.57**	**311**	P	**P**	**18 03 19.9**	**+0.9**
	6.8nm,0.9s,baz=112,slow=6.5,SNR=3.6						
KIV	**Kislovodsk**	**23.81**	**311**	*eP*	**P**	**18 03 22.3**	**+0.9**
	46nm,1.3s						
ASF	**Jabal al Asfar**	**26.18**	**282**	P	**P**	**18 03 45.4**	**+2.2**
	16nm,1.1s,baz=74,slow=6.5,SNR=6.5						
PALK	**Pallekele**	**26.19**	**149**	P	**P**	**18 03 44.1**	**+0.9**
	6.4nm,0.9s,baz=297,slow=12,SNR=5.0						
DAMY	**Dhamar**	**26.51**	**238**	*eP*	**P**	**18 03 47.6**	**+1.1**
	58nm,1.2s						
ZAA0	**Zalesovo Array**	**26.58**	**23**	*eP*	**P**	**18 03 48.8**	**+2.4**
	21nm,0.8s						
ZALV	**Zalesovo Beam**	**26.58**	**23**	P	**P**	**18 03 46.5**	**+0.2**
	11nm,0.4s,baz=225,slow=11,SNR=30						
ZALV	**Zalesovo Beam**	**26.58**	**23**	*eP*	**P**	**18 03 48.3**	**+1.9**
ZAA1	**Zalesovo Array**	**26.58**	**23**	*eP*	**P**	**18 03 46.5**	**+0.2**
MMAI	**Mount Meron Ar**	**27.38**	**284**	P	**P**	**18 03 55.2**	**+1.3**
	0.4nm,0.3s,baz=86,slow=11,SNR=2.2						
EIL	**Eilat**	**28.15**	**277**	P	**P**	**18 04 03.8**	**+3.0**
	8.7nm,1.0s,baz=73,slow=9.3,SNR=3.6						
BR101	**Keskin Array S**	**29.08**	**298**	*eP*	**P**	**18 04 09.7**	**+0.6**
BRTR	**Keskin Array B**	**29.08**	**298**	P	**P**	**18 04 09.7**	**+0.6**
	1.4nm,0.7s,baz=115,slow=10.0,SNR=3.0						
CHTO	**Chiang Mai**	**30.72**	**105**	*eP*	**P**	**18 04 23.8**	**+0.1**
	10.0nm,1.0s						
CM31	**Chiang Mai Arr**	**30.89**	**105**	*eP*	**P**	**18 04 25.2**	**0.0**
CMAR	**Chiang Mai Arr**	**30.89**	**105**	P	**P**	**18 04 25.2**	**0.0**
	2.9nm,0.8s,baz=298,slow=8.8,SNR=4.2						
CMAR				PcP	**PcP**	**18 07 22.7**	**+0.9**
	0.9nm,0.7s,baz=289,slow=4.4,SNR=4.2						

PBKT	**Sadao Pong**	**33.50**	**107**	*eP*	**P**	**18 04 49.1**	**+1.0**
CFR	**Carcaliu**	**34.04**	**307**	*i P*	**P**	**18 04 54.2**	**+1.8**
LEOM	**Leova**	**34.25**	**309**	*i P*	**P**	**18 04 54.6**	**+0.4**
SONA0	**Songino Array**	**34.33**	**49**	*eP*	**P**	**18 04 55.5**	**+0.4**
SONM	**Songino Array**	**34.33**	**49**	P	**P**	**18 04 55.5**	**+0.4**
	1.5nm,0.9s,baz=249,slow=9.1,SNR=3.3							
AKASG	**Malin Array Be**	**34.88**	**316**	P	**P**	**18 04 59.3**	**-0.3**
	4.3nm,0.8s,baz=97,slow=6.5,SNR=7.0							
AKBB	**Malin Array Si**	**34.88**	**316**	*eP*	**P**	**18 05 02.0**	**+2.3**
	15nm,1.2s							
KIEV	**Kiev**	**34.89**	**316**	*eP*	**P**	**18 05 02.0**	**+2.3**
	14nm,1.2s							
VRI	**Vrincioaia**	**35.15**	**308**	*i P*	**P**	**18 05 03.4**	**+1.3**
PLOR	**Plostina**	**35.20**	**307**	*i P*	**P**	**18 05 03.7**	**+1.2**
MLR	**Muntele Rosu**	**35.61**	**307**	*eP*	**P**	**18 05 07.4**	**+1.2**
	34nm,1.3s							
MLR	**Muntele Rosu**	**35.61**	**307**	*i P*	**P**	**18 05 07.6**	**+1.4**
BIZ	**Bicaz**	**35.79**	**309**	*i P*	**P**	**18 05 08.2**	**+0.6**
PRAR	**RASCA**	**35.80**	**310**	*i P*	**P**	**18 05 07.8**	**+0.1**
DOPR	**Dopca**	**36.08**	**307**	*i P*	**P**	**18 05 10.4**	**+0.3**
VOIR		**36.23**	**306**	*i P*	**P**	**18 05 12.3**	**+0.9**
ARR	**Arges**	**36.50**	**306**	*i P*	**P**	**18 05 14.6**	**+0.8**
BURAR	**Bucovina Array**	**36.52**	**310**	*i P*	**P**	**18 05 14.2**	**+0.2**
BUR04	**Bucovina Ar. S**	**36.53**	**310**	*eP*	**P**	**18 05 14.4**	**+0.4**
BUR08	**Bucovina Ar. S**	**36.54**	**310**	*eP*	**P**	**18 05 14.6**	**+0.4**
ARCR	**ARCALIA**	**36.99**	**309**	*i P*	**P**	**18 05 19.3**	**+1.5**
LOT	**Lotru**	**37.12**	**306**	*i P*	**P**	**18 05 19.4**	**+0.3**
VTS	**Vitosha**	**37.21**	**301**	*i P*	**P**	**18 05 20.4**	**+0.5**
CJR	**Cluj-Napoca**	**37.43**	**308**	*i P*	**P**	**18 05 23.0**	**+1.3**
DRGR		**38.05**	**308**	*i P*	**P**	**18 05 27.4**	**+0.5**
TRPA	**Tarpa**	**38.40**	**310**	*i P*	**P**	**18 05 30.4**	**+0.8**
BZS	**Buzias**	**38.64**	**306**	*i P*	**P**	**18 05 32.4**	**+0.6**
SIRR	**Siria**	**38.69**	**307**	*i P*	**P**	**18 05 33.4**	**+1.2**
PSZ	**Piszkesteto**	**40.11**	**310**	*eP*	**P**	**18 05 45.1**	**+1.0**
	16nm,1.0s							
PSZ	**Piszkesteto**	**40.11**	**310**	*i P*	**P**	**18 05 44.6**	**+0.5**
NRIK	**Noril'sk**	**40.56**	**11**	P	**P**	**18 05 47.2**	**-0.2**
	1.9nm,0.4s,baz=196,slow=4.1,SNR=2.7							
VYHS	**Vyhne**	**40.89**	**310**	*eP*	**P**	**18 05 51.7**	**+1.2**
FIA0	**FINESS Array S**	**41.10**	**331**	*eP*	**P**	**18 05 52.4**	**+0.5**
FINES	**FINESS Array B**	**41.10**	**331**	P	**P**	**18 05 52.4**	**+0.5**
	2.5nm,0.5s,baz=118,slow=8.3,SNR=11							
BLY	**Banja Luka**	**41.70**	**304**	*i P*	**P**	**18 05 58.0**	**+0.9**
MORC	**Moravsky Berou**	**41.91**	**312**	*i P*	**P**	**18 05 58.2**	**-0.7**
KMBO	**Kilima Mbogo**	**42.65**	**228**	P	**P**	**18 06 08.8**	**+3.4**
	4.1nm,0.8s,baz=38,slow=12,SNR=7.0							
KMBO	**Kilima Mbogo**	**42.65**	**228**	*eP*	**P**	**18 06 06.8**	**+1.4**
	4.0nm,0.9s							
CUC	**Castrocucco**	**42.77**	**297**	*eP*	**P**	**18 06 05.6**	**-0.4**
	18nm,0.8s

SONM	**Songino Array**	**58.70**	**354**	P		**P**	**18 10 41.1**	**-0.6**
	0.5nm,0.6s,baz=171,slow=7.2,SNR=3.6							
MKAR	**Makanchi Array**	**63.80**	**337**	P		**P**	**18 11 15.7**	**-0.4**
	0.2nm,0.3s,baz=150,slow=6.8,SNR=6.0							
ZALV	**Zalesovo Beam**	**68.96**	**342**	P		**P**	**18 11 48.4**	**-0.6**
	0.8nm,0.5s,baz=152,slow=5.8,SNR=3.9							

*ATH **19** 18:01:31.1, 35°.22N×27°.28E, h9km±3km, ML2.5/4, Error ellipse: s-maj=8.8km s-min=2.6km az=300.0*
*DDA **19** 18:01:31.3, 36°.64N×25°.91E, h8km, Ml2.7*
*THE **19** 18:01:34.0, 35°.10N×27°.07E, h0km±3km, ML2.5/4, Error ellipse: s-maj=9.0km s-min=1.3km az=136.0*
*ISCJB **19** 18:01:35.4±1.1, 35°.21N±0°.08×27°.10E±0°.05, h21km±10km, Error ellipse: s-maj=14.7km s-min=5.2km az=158.7*
*ISK **19** 18:01:37.1, 35°.39N×26°.94E, h26km, ML2.6/5*

ISC 19 18:01:34.2±1.2, 35°.32N±0°.05×27°.10E±0°.03, h15km±10km, n30, σ1°49/43, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.75**	**254**	P	**Pg**	**18 01 47.5**	**-1.3**
ZKR				S	**Sb**	**18 02 00.2**	**+1.1**
ZKR				AML	AML	18 02 03.4	
	comp=N,395μm,0.4s						
ZKR				AML	AML	18 02 05.0	
	comp=E,817μm,0.5s						
ZKR	**Zakros**	**0.75**	**254**	P	**Pg**	**18 01 47.5**	**-1.3**
ZKR				S	**Sb**	**18 01 59.1**	**0.0**
STIA	**Sitia Lasithi**	**0.84**	**262**	P	**Pg**	**18 01 49.6**	**-0.8**
STIA				S	**Sb**	**18 02 02.4**	**+1.0**
NPS	**Neapolis**	**1.22**	**268**	P	**Pg**	**18 01 57.0**	**-0.6**
NPS				AML	AML	18 02 20.4	
	comp=N,253μm,0.3s						
NPS				AML	AML	18 02 22.7	
	comp=E,374μm,0.5s						
NPS	**Neapolis**	**1.22**	**268**	P	**Pg**	**18 01 57.1**	**-0.6**
NPS				S	**Sn**	**18 02 14.5**	**+1.6**
NIS1	**Nisyros Isl.**	**1.28**	**3**	PN	**Pg**	**18 01 59.2**	**+0.4**
LAST	**Lasithi**	**1.34**	**264**	P	**Pn**	**18 01 58.6**	**+0.2**
LAST				S	**Sg**	**18 02 18.8**	**+1.4**
LAST				AML	AML	18 02 24.8	
	comp=E,124μm,0.4s						
LAST				AML	AML	18 02 29.7	
	comp=N,191μm,0.7s						
LAST	**Lasithi**	**1.34**	**264**	P	**Pn**	**18 01 58.5**	**+0.2**
LAST				S	**Sg**	**18 02 16.5**	**-0.9**
DAT	**Datca**	**1.46**	**15**	PN	**Pg**	**18 02 01.9**	**-0.3**
DAT	**Datca**	**1.46**	**15**	*i* P	**Pg**	**18 02 01.9**	**-0.3**
DAT				*i* S	**Sg**	**18 02 23.9**	**+2.8**
ANAF	**Anafi Island**	**1.49**	**314**	P	**Pg**	**18 02 02.8**	**-0.1**
ANAF				AML	AML	18 02 26.1	
	comp=E,575μm,0.4s						
ANAF				AML	AML	18 02 28.8	
	comp=N,661μm,0.3s						
ANAF	**Anafi Island**	**1.49**	**314**	P	**Pg**	**18 02 02.3**	**-0.6**
ANAF				S	**Sg**	**18 02 25.0**	**+2.7**
SANT	**Santorini**	**1.70**	**309**	PN	**Pn**	**18 02 03.4**	**+0.1**
SANT	**Santorini**	**1.70**	**309**	P	**Pg**	**18 02 04.9**	**-1.9**
BODT	**Bodrum**	**1.74**	**5**	PN	**Pg**	**18 02 05.9**	**-1.8**
AMGA	**Amorgos Island**	**1.80**	**327**	P	**Pb**	**18 02 06.3**	**-0.5**
AMGA	**Amorgos Island**	**1.80**	**327**	P	**Pb**	**18 02 06.3**	**-0.5**
IDI	**Anoyia**	**1.81**	**270**	PN	**Pn**	**18 02 05.8**	**+0.9**
IDI				SN	**Sn**	**18 02 26.3**	**-1.3**
SIVA	**Sivas**	**1.90**	**261**	P	**Pb**	**18 02 08.6**	**0.0**
DALY	**Dalyan (Mu˘la**	**1.95**	**40**	PN	**Pb**	**18 02 09.9**	**+0.5**
DALY	**Dalyan (Mu˘la**	**1.95**	**40**	*i* P	**Pg**	**18 02 11.2**	**-0.4**
DALY				*i* S	**Sg**	**18 02 41.5**	**+4.5**
TURN	**Turunc**	**1.97**	**38**	PN	**Pn**	**18 02 06.5**	**-0.4**
TURN	**Turunc**	**1.97**	**38**	*i* P	**Pn**	**18 02 06.5**	**-0.4**
TURN				*i* S	**Sb**	**18 02 32.7**	**-1.3**
FETY	**Fethiye**	**2.07**	**50**	PN	**Pb**	**18 02 11.8**	**+0.3**
APE	**Apeiranthos**	**2.16**	**324**	PN	**Pn**	**18 02 10.5**	**+0.9**
APE	**Apeiranthos**	**2.16**	**324**	P	**Pb**	**18 02 11.3**	**-1.7**
AKAS	**Kas**	**2.23**	**65**	PN	**Pb**	**18 02 14.6**	**+0.4**
TAVA	**DENIZLI_Tavas**	**2.59**	**34**	*i* P	**Pn**	**18 02 17.6**	**+1.9**
TAVA				*i* S	**Sg**	**18 02 54.6**	**-2.8**
AYDB	**Zeytinkoy-Aydi**	**2.69**	**13**	PN	**Pb**	**18 02 19.8**	**-2.4**
GOLH	**Golhisar**	**2.76**	**45**	*i* P	**Pb**	**18 02 21.3**	**-1.9**
GOLH				*i* S	**Sg**	**18 03 01.8**	**-1.0**

*ISCJB **19** 18:11:51.1±1.2, 36°.55N±0°.04×70°.7E±0°.2, h204km, mb2.9/2, Error ellipse: s-maj=18.9km s-min=5.4km az=173.3*
*NNC **19** 18:11:57.0±2.3, 36°.89N×70°.52E, h171km±42km, mb2.7, mpv3.6, Error ellipse: s-maj=22.7km s-min=18.3km az=53.0*
*IDC **19** 18:11:56.8±10.0, 36°.61N×71°.53E, h230km±222km, mb2.9/2, mb1 3.0/4, mb1mx2.7/50, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=460.7km s-min=93.2km az=121.0*

ISC 19 18:11:51.5±1.6, 36°.56N±0°.08×70°.6E±0°.2, h204km, n17, σ1°35/23, 5C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.12**	**32**	⇓P	**Pn**	**18 12 56.6**	**+1.6**
	7.4nm,0.4s						
SFK				⇑S	**S**	**18 13 44.0**	**-0.6**
	28nm,0.5s						
MNAS	**Manas**	**6.09**	**13**	⇑P	**Pn**	**18 13 22.7**	**+2.7**
	1.1nm,0.3s						
MNAS				⇑S	**S**	**18 14 27.8**	**-2.1**
	31nm,0.7s						
KK31	**Karatay Array**	**6.53**	**359**	⇑P	**Pn**	**18 13 27.4**	**+1.8**
	1.6nm,0.6s,baz=181,slow=12,SNR=46						
KK31				⇓S	**S**	**18 14 37.3**	**-2.8**
	5.5nm,0.5s,baz=181,slow=22,SNR=16						
AAK	**Ala-Archa**	**6.76**	**25**	P	**Pn**	**18 13 30.4**	**+1.7**
	1.4nm,0.3s,baz=198,slow=9.6,SNR=20						
AAK				S	**S**	**18 14 44.6**	**-1.0**
	0.6nm,0.3s,baz=317,slow=23,SNR=11						
AAK	**Ala-Archa**	**6.76**	**25**	⇑P	**Pn**	**18 13 30.1**	**+1.5**
	3.0nm,0.5s						
AAK				⇓S	**S**	**18 14 44.3**	**-1.4**
	11nm,0.7s						
TKM2	**Tokmak 2**	**7.41**	**30**	⇓P	**Pn**	**18 13 38.0**	**+0.8**
	6.7nm,0.7s						
TKM2				⇓S	**S**	**18 15 01.9**	**+0.8**
	6.4nm,1.1s						
MKAR	**Makanchi Array**	**13.41**	**37**	P	**Pn**	**18 14 53.9**	**0.0**
	0.1nm,0.3s,baz=220,slow=12,SNR=5.7						
PYUN	**Piuthan**	**13.42**	**125**	*e*P	**Pn**	**18 14 54.4**	**+0.1**
	4.4nm,0.3s						
DANN	**Dangsing**	**13.77**	**123**	*e*P	**Pn**	**18 14 58.4**	**-0.3**
	7.8nm,0.5s						
KOLN	**Koldanda**	**14.04**	**125**	*e*P	**P**	**18 15 03.6**	**-0.1**
KKN	**Kakani**	**15.16**	**121**	*e*P	**Pn**	**18 15 15.7**	**0.0**
	5.4nm,0.5s						
PKIN	**Phulchoki**	**15.38**	**121**	*e*P	**Pn**	**18 15 18.3**	**-0.1**
	6.0nm,0.5s						
PKI	**Pulchoki**	**15.39**	**121**	*e*P	**Pn**	**18 15 18.3**	**-0.3**
	3.4nm,0.3s						
GUN	**Gumba**	**15.50**	**119**	*e*P	**Pn**	**18 15 19.1**	**-0.9**
JIRN	**Jiri**	**15.87**	**120**	*e*P	**P**	**18 15 24.1**	**-0.1**
	15nm,0.5s						
WRA	**Warramunga Arr**	**82.27**	**122**	P	**P**	**18 23 49.7**	**-0.6**
	0.1nm,0.4s,baz=326,slow=4.9,SNR=4.6						
ASAR	**Alice Springs**	**84.53**	**125**	P	**P**	**18 24 01.2**	**-0.5**
	0.2nm,0.6s,baz=303,slow=5.3,SNR=5.0						

DJA 19 18:17:54.2±1.4, 4°S±8°×13°4E±°, h17km±13km, M3.8/6, mb4.0/4, mB5.1/1, MLv3.6/6, Mw(mB)4.4/1, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.92**	**319**	P	Pn	18 18 25.8	-0.3
FAKI				S	Sn	18 18 50.4	+0.5
RKPI	**Ransiki, Papua**	**2.92**	**13**	S	Sn	18 19 15.2	+0.7
BNDI	**Bandanaira**	**3.61**	**267**	P	Pn	18 18 49.4	0.0
BNDI				S	Sn	18 19 32.7	+1.1
MSAI	**Masohi**	**4.69**	**282**	P	Pn	18 19 03.0	-1.3
AAI	**Ambon**	**5.36**	**277**	P	Pn	18 19 13.9	+0.5
TNTI	**Ternate**	**7.99**	**310**	P	Pn	18 19 49.2	-0.5

IDC 19 18:19:52.1±2.0, 1°.75N×126°.12E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/36, mbtmp3.2/3, MS3.9/1, Ms1 4.1/1, ms1mx3.2/20, Error ellipse: s-maj=184.9km s-min=25.0km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.02**	**160**	P	P	18 24 58.8	-0.1
	0.3nm,0.4s,baz=338,slow=11,SNR=8.3						
ASAR	**Alice Springs**	**26.38**	**164**	P	P	18 25 30.4	+0.1
	0.2nm,0.8s,baz=347,slow=12,SNR=5.0						
CMAR	**Chiang Mai Arr**	**31.40**	**304**	LR	LR	18 39 23.0	
	comp=Z,218nm,20.3s,baz=108,slow=37						
MKAR	**Makanchi Array**	**58.84**	**326**	P	P	18 29 52.5	-0.1
	0.4nm,0.8s,baz=111,slow=7.6,SNR=3.3						

*ISCJB **19** 18:39:05.1±1.0, 24°.6N±0°.2×94°.9E±0°.2, h10km, mb3.2/3, MS3.7/1, Error ellipse: s-maj=41.6km s-min=13.7km az=44.4*
*IDC **19** 18:39:06.5±2.3, 25°.15N×95°.90E, h0km, mb3.2/3, mb1 3.3/4, mb1mx3.1/37, mbtmp3.1/4, ML3.3/1, MS3.8/1, Ms1 3.8/1, ms1mx3.1/17, Error ellipse: s-maj=212.4km s-min=25.2km az=61.0*

ISC 19 18:39:06.8±1.3, 24°.7N±0°.3×94°.9E±0°.2, h10km, n6, σ1°04/5, mb3.4/3, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**2.85**	**289**	*e*P	**Pn**	**18 39 52.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**7.26**	**148**	Pn	**Pn**	**18 40 53.7**	**+0.7**
	0.1nm,0.3s,baz=315,slow=13,SNR=4.1						
MKAR	**Makanchi Array**	**24.25**	**339**	P	**P**	**18 44 24.6**	**+0.6**
	0.3nm,0.6s,baz=142,slow=9.9,SNR=3.9						
LEM	**Lembang**	**33.69**	**157**	LR	LR	19 00 27.9	
	comp=Z,141nm,19.4s,baz=128,slow=38						
WRA	**Warramunga Arr**	**58.67**	**136**	P	**P**	**18 49 03.7**	**-1.1**
	0.3nm,0.8s,baz=325,slow=7.4,SNR=3.8						
ASAR	**Alice Springs**	**61.17**	**139**	P	**P**	**18 49 21.5**	**-0.4**
	0.3nm,0.9s,baz=316,slow=6.4,SNR=3.7						

*SJA **19** 18:52:15.8±0.5, 24°.04S×66°.80W, h211km±6km, ML2.9, MW2.9*
*ISCJB **19** 18:52:16.0±0.5, 24°.05S±0°.04×66°.77W±0°.04, h211km±5km, mb3.5/2, Error ellipse: s-maj=7.9km s-min=4.4km az=135.2*
*IDC **19** 18:52:16.7±1.3, 23°.95S×66°.58W, h195km±14km, mb3.4/2, mb1 3.3/7, mb1mx3.1/25, mbtmp3.8/7, Error ellipse: s-maj=20.5km s-min=19.1km az=164.0*
*GUC **19** 18:52:17.6±0.5, 23°.98S×67°.30W, h244km±9km, ML4.2*

ISC 19 18:52:16.9±0.8, 24°.01S±0°.05×66°.74W±0°.06, h204km±8km, n27, σ1°00/41, 4C-2D, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.33**	**122**	*e*P	**Pn**	**18 52 50.0**	**+0.3**
SLA				IAML		18 52 51.0	
	comp=Z,172nm,0.7s						
SLA				*e*S	**S**	**18 53 15.3**	**+0.3**
HJA	**Humahuaca**	**1.46**	**57**	*e*P	**Pn**	**18 52 51.7**	**+0.6**
AZAP	**Zapla**	**1.54**	**98**	*e*P	**Pn**	**18 52 52.1**	**+0.4**
YJA	**Yavi**	**2.15**	**32**	*e*P	**Pn**	**18 52 59.2**	**+1.4**
YJA				IAML		18 52 59.7	
	comp=Z,29nm,0.9s						
FSA	**Cafayete**	**2.20**	**162**	*e*P	**Pn**	**18 52 57.9**	**-0.1**
FSA				IAML		18 52 58.6	
	comp=Z,26nm,0.4s						
FSA				*e*S	**S**	**18 53 29.2**	**-0.5**
LVC	**Limon Verde**	**2.43**	**305**	P	**Pn**	**18 53 01.4**	**+0.7**
	comp=Z,48nm,0.3s,baz=135,slow=14,SNR=137						
LVC				S	**S**	**18 53 35.1**	**+0.9**
	comp=Z,17nm,0.3s,baz=100,slow=4.1,SNR=3.2						
LVC	**Limon Verde**	**2.43**	**305**	*e*P	**Pn**	**18 53 01.5**	**+0.7**
LVC				*e*S	**S**	**18 53 35.2**	**+1.0**
ALOL	**LOMAS DE OLMED**	**2.53**	**86**	*e*P	**Pn**	**18 53 01.8**	**+0.4**
PB15	**IPOC Station P**	**2.63**	**287**	⇓*e*P	**Pn**	**18 53 03.0**	**+0.3**
PB15				*i* S	**S**	**18 53 37.4**	**-0.4**
GO02	**Mina Guanaco**	**2.83**	**246**	⇑*e*P	**Pn**	**18 53 05.5**	**+0.4**
GO02				*e*S	**S**	**18 53 42.2**	**0.0**
GO02				IAML		18 53 42.9	
	comp=N,517nm,0.1s						
PB06	**IPOC Station P**	**2.91**	**296**	*e*P	**Pn**	**18 53 06.2**	**+0.4**
PB06				*e*S	**S**	**18 53 42.7**	**-0.8**
PB06				IAML		18 53 45.5	
	comp=N,521nm,0.4s						
AHML	**Horco Molle**	**3.04**	**156**	*e*P	**Pn**	**18 53 07.1**	**-0.2**
AHML				*e*S	**S**	**18 53 45.0**	**-1.1**
PB09	**IPOC Station P**	**3.19**	**313**	⇑*e*P	**Pn**	**18 53 10.1**	**+0.9**
PB09				*e*S	**S**	**18 53 49.9**	**+0.4**
PB09				IAML		18 53 52.2	
	comp=N,170nm,0.2s						
PB05	**IPOC Station P**	**3.38**	**289**	*e*P	**Pn**	**18 53 11.2**	**-0.2**
PB05				*e*S	**S**	**18 53 50.9**	**-2.6**
PB05				IAML		18 53 55.7	
	comp=N,198nm,0.4s						
PB03	**IPOC Station P**	**3.39**	**305**	⇑*i*P	**Pn**	**18 53 11.7**	**+0.1**
PB03				*e*S	**S**	**18 53 51.9**	**-1.9**
PB03				IAML		18 53 53.1	
	comp=E,422nm,0.2s						
PB07	**IPOC Station P**	**3.69**	**307**	⇑*e*P	**Pn**	**18 53 15.1**	**-0.1**
PB07				*e*S	**S**	**18 53 57.7**	**-2.6**
PB07				IAML		18 54 00.8	
	comp=N,261nm,0.3s						
CYA	**Choya**	**4.49**	**169**	*e*P	**Pn**	**18 53 24.4**	**-0.5**
GO01	**Chusmiza**	**4.89**	**332**	⇓*e*P	**Pn**	**18 53 31.2**	**+0.8**
GO01				*e*S	**S**	**18 54 27.9**	**-0.1**
LPAZ	**La Paz**	**7.79**	**350**	P	**Pn**	**18 54 08.2**	**+0.1**
	comp=N,2.4nm,0.3s,baz=172,slow=9.2,SNR=70						
LPAZ				S	**S**	**18 55 36.0**	**-0.6**
	comp=N,0.1nm,0.3s,baz=223,slow=19,SNR=2.0						
CPUP	**Villa Florida**	**8.83**	**107**	P	**Pn**	**18 54 19.0**	**-2.0**
	comp=N,0.1nm,0.3s,baz=266,slow=15,SNR=2.1						
SIV	**San Ignacio**	**9.59**	**35**	P	**Pn**	**18 54 29.2**	**-1.8**
	comp=N,0.4nm,0.3s,baz=213,slow=17,SNR=10						
SIV				S	S	18 56 08.9	-10
	comp=N,0.1nm,0.3s,baz=342,slow=19,SNR=2.4						
PLCA	**Paso Flores**	**16.98**	**190**	P	**Pn**	**18 56 03.5**	**+0.9**
	comp=N,0.1nm,0.3s,baz=356,slow=13,SNR=3.4						
DBIC	**Dimbokro**	**67.58**	**71**	P	**P**	**19 02 51.7**	**-0.2**
	comp=N,1.5nm,0.7s,baz=236,slow=7.3,SNR=2.7						
TORD	**Torodi Ar. Bea**	**76.35**	**69**	P	**P**	**19 03 43.8**	**-0.2**
	comp=N,0.3nm,0.4s,baz=264,slow=6.4,SNR=6.1						
ASAR	**Alice Springs**	**128.54**	**204**	PKP	**PKPdf**	**19 11 00.8**	**+0.5**
	comp=N,0.1nm,0.3s,baz=132,slow=2.1,SNR=2.5						
WRA	**Warramunga Arr**	**131.72**	**207**	PKP	**PKPdf**	**19 11 07.4**	**+1.1**
	comp=N,0.2nm,0.5s,baz=153,slow=2.0,SNR=4.9						
MKAR	**Makanchi Array**	**146.38**	**40**	PKPbc	**PKPbc**	**19 11 33.8**	**+0.1**
	comp=N,0.2nm,0.4s,baz=304,slow=2.4,SNR=4.8						

DJA 19 18:52:21.7±0.7, 1°S±4°×12°0E±°, h16km±8km, M3.4/9, MLv3.4/9, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCI	**Palu**	**0.35**	**340**	P	Pb	18 52 30.2	+0.5
MPSI	**Mapaga**	**1.57**	**358**	P	Pn	18 52 49.1	+0.2
APSI	**Ampana**	**1.72**	**79**	P	Pn	18 52 50.6	-0.4
MRSI	**Marisa**	**2.61**	**49**	P	Pn	18 53 00.9	-2.4
SPSI	**Sidrap Palu**	**2.71**	**184**	P	Pn	18 53 03.7	-1.0
LUWI	**Luwuk**	**2.82**	**86**	P	Pn	18 53 05.7	-0.4
BNSI	**Bone**	**3.14**	**177**	P	Pn	18 53 12.0	+1.4
BKSI	**Bulukumba**	**4.06**	**178**	P	Pb	18 53 33.5	+0.7

NEIC 19 18:57:00.3±0.0, 52°.24N×171°.19W, h28km, ML3.1(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**1.60**	**62**	*e*Pn	Pn	18 57 26.7	0.0
NIKH				*e*Sn	Sn	18 57 46.6	+0.1
KOFP	**Korovin Flat P**	**1.79**	**272**	*e*Pn	Pn	18 57 30.2	+0.8
ATKA	**Atka Island**	**1.85**	**270**	*e*Pn	Pn	18 57 29.9	-0.2
ATKA				*e*Sn	Sn	18 57 53.9	+1.3
OKAK	**Okmok**	**2.17**	**51**	*e*Pn	Pn	18 57 33.7	-0.9
OKNC	**Okmok New Cone**	**2.22**	**56**	*e*Pn	Pn	18 57 37.3	+2.0
GSMY	**Great Sitkin M**	**3.01**	**268**	*e*Pn	Pn	18 57 46.2	+0.2
GSTD	**Great Sitkin T**	**3.06**	**268**	*e*Pn	Pn	18 57 48.0	+1.2
MSW	**Makushin Switc**	**3.14**	**56**	*e*Pn	Pn	18 57 49.2	+1.3
MSW				*e*Sn	Sn	18 58 27.7	+3.2
UNV	**Unalaska Valle**	**3.25**	**59**	*e*Pg	Pb	18 57 56.6	-0.6
UNV				*e*Sn	Sn	18 58 27.1	-0.1
ADK	**Adak**	**3.41**	**266**	*e*Pn	Pn	18 57 52.0	+0.4
TIXI	**Tiksi**	**32.27**	**329**	*e*S	S	19 08 32.6	-4.6
HVU	**Hansel Valley**	**40.15**	**81**	*e*sP	sP	19 04 51.0	+5.4
SPUT	**South Promonto**	**40.62**	**82**	*e*P	P	19 04 41.0	+3.2
	11nm,0.7s						
DUG	**Dugway, Tooele**	**41.07**	**83**	*e*P	P	19 04 37.6	-3.8
	36nm,0.6s						
TCUT	**Toone Canyon**	**41.37**	**81**	*e*P	P	19 04 42.6	-1.4
	50nm,0.5s						
MSU	**Marysvale**	**42.49**	**85**	*e*P	P	19 04 52.4	-0.7
TMUT	**Trail Mountain**	**42.59**	**83**	*e*P	P	19 04 53.5	-0.6
	12nm,0.8s						
MTPU	**Mount Pierson**	**42.78**	**85**	*es*P	sP	19 05 12.2	+4.7
SRU	**San Rafael Swe**	**43.13**	**83**	*e*P	P	19 05 00.0	+1.8
	7.8nm,0.8s						
SPMN	**Marine on St.**	**49.80**	**65**	*es*P	sP	19 06 05.1	+2.9
COWI	**Conover**	**51.28**	**62**	*e*P	P	19 05 59.8	-1.6
	24nm,0.9s						
G43A	**Wallace**	**52.60**	**62**	*e*P	P	19 06 07.8	-3.5
	21nm,0.9s						

*ISCJB **19** 18:58:07.9±0.4, 0°.90N±0°.06×120°.85E±0°.08, h500km, mb3.5/11, Error ellipse: s-maj=11.8km s-min=6.2km az=153.0*
*DJA **19** 18:58:09.6±1.1, 1°N±10°×12°1E±°, h514km±9km, M3.6/12, mb3.9/5, MLv3.5/12*
*IDC **19** 18:58:10.8±1.9, 0°.61N×120°.96E, h555km±30km, mb3.0/11, mb1 3.2/14, mb1mx3.0/32, mbtmp4.1/14, Error ellipse: s-maj=20.5km s-min=11.5km az=70.0*

ISC 19 18:58:08.0±0.6, 0°.76N±0°.08×120°.9E±0°.1, h500km, n34, σ1°60/35, mb3.5/11, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**1.06**	**105**	P	**P**	**18 59 12.1**	**+2.6**
MPSI	**Mapaga**	**1.10**	**248**	P	**P**	**18 59 13.4**	**+3.8**
APSI	**Ampana**	**1.81**	**156**	P	**P**	**18 59 15.2**	**+3.0**
PCI	**Palu**	**1.97**	**213**	P	**P**	**18 59 15.2**	**+2.2**
LUWI	**Luwuk**	**2.58**	**134**	P	**P**	**18 59 18.6**	**+2.3**
SPSI	**Sidrap Palu**	**4.83**	**194**	P	**P**	**18 59 35.2**	**+1.7**
KDI	**Kendari**	**4.98**	**160**	P	**P**	**18 59 36.8**	**+1.9**
SANI	**Sanana**	**5.79**	**119**	P	**P**	**18 59 44.1**	**+1.8**
BKSI	**Bulukumba**	**6.09**	**187**	P	**P**	**18 59 46.5**	**+1.3**
	7.4nm,0.6s,0.0nm						
SIJI	**Sorong**	**10.47**	**99**	P	**P**	**19 00 33.2**	**+2.7**
	0.8nm,0.3s,baz=280,slow=11,SNR=5.3						
BATI	**Baumata**	**11.23**	**166**	P	**P**	**19 00 39.8**	**+1.3**
	1.5nm,0.3s,baz=45,slow=4.3,SNR=2.9						
BATI				S	**S**	**19 02 42.4**	**0.0**
	1.2nm,0.3s,baz=13,slow=23,SNR=6.9						
LEM	**Lembang**	**15.26**	**240**	P	**P**	**19 01 22.9**	**+1.8**
	2.2nm,0.3s,baz=357,slow=14,SNR=7.2						
WRA	**Warramunga Arr**	**24.42**	**148**	P	**P**	**19 02 44.8**	**-1.6**
	0.5nm,0.5s,baz=335,slow=9.4,SNR=17						
ASAR	**Alice Springs**	**27.36**	**153**	P	**P**	**19 03 11.2**	**-1.3**
	0.4nm,0.6s,baz=341,slow=14,SNR=14						
CMAR	**Chiang Mai Arr**	**27.84**	**310**	P	**P**	**19 03 17.3**	**+0.6**
	0.7nm,0.5s,baz=143,slow=7.7,SNR=10						
KSRS	**Korea Array**	**37.09**	**9**	P	**P**	**19 04 35.7**	**+0.6**
	1.1nm,0.8s,baz=187,slow=8.7,SNR=4.8						
STKA	**Stephens Creek**	**37.91**	**151**	P	**P**	**19 04 39.7**	**-2.2**
	1.0nm,0.7s,baz=333,slow=8.9,SNR=4.4						
MJAR	**Matashiro Arr**	**39.05**	**22**	P	**P**	**19 04 50.7**	**-0.5**
	2.0nm,0.4s,baz=196,slow=9.1,SNR=11						
ODAN	**Odare**	**41.36**	**312**	*e*P	**P**	**19 05 10.4**	**+0.2**
RAMN	**Ramite**	**42.00**	**311**	*e*P	**P**	**19 05 15.4**	**+0.1**
	8.5nm,0.5s						
JIRN	**Jiri**	**42.69**	**312**	*e*P	**P**	**19 05 20.5**	**-0.4**
	13nm,0.3s						
GUN	**Gumba**	**43.06**	**312**	*e*P	**P**	**19 05 23.3**	**-0.4**
	14nm,0.4s						
PKI	**Pulchoki**	**43.23**	**311**	*e*P	**P**	**19 05 24.1**	**-1.0**
PKIN	**Phulchoki**	**43.24**	**311**	*e*P	**P**	**19 05 24.3**	**-0.8**
KKN	**Kakani**	**43.44**	**311**	*e*P	**P**	**19 05 25.9**	**-0.7**
DMN	**Daman**	**43.48**	**311**	*e*P	**P**	**19 05 26.3**	**-0.6**
USRK	**Ussuriysk Ar.**	**44.37**	**11**	P	**P**	**19 05 33.3**	**+0.2**
	3.7nm,0.5s,baz=192,slow=6.5,SNR=13						
KOLN	**Koldanda**	**44.70**	**310**	*e*P	**P**	**19 05 35.8**	**-0.6**
	6.1nm,0.5s						
DANN	**Dangsing**	**44.88**	**311**	*e*P	**P**	**19 05 37.1**	**-0.7**
	14nm,0.5s						
PYUN	**Piuthan**	**45.34**	**310**	*e*P	**P**	**19 05 40.8**	**-0.4**
SONM	**Songino Array**	**48.56**	**347**	P	**P**	**19 06 05.1**	**0.0**
	1.9nm,0.6s,baz=162,slow=8.8,SNR=12						
MKAR	**Makanchi Array**	**56.89**	**329**	P	**P**	**19 07 04.3**	**-0.5**
	1.1nm,0.5s,baz=126,slow=8.2,SNR=25						
ZALV	**Zalesovo Beam**	**60.78**	**336**	P	**P**	**19 07 29.2**	**-1.6**
	0.6nm,0.5s,baz=135,slow=5.9,SNR=5.2						
ARCES	**ARCESS Array B**	**91.20**	**340**	P	**P**	**19 10 17.8**	**-1.1**
	3.9nm,0.9s,baz=70,slow=4.0,SNR=4.1						

**IDC 19 19:13:23.9±2.1, 2°.93N×125°.22E, h0km, mb3.2/3, mb1 3.4/3,

MRSI	**Marisa**	**8.12 294**	P	**Pn**	**19 51 47.5**	**-0.6**
SOEI	**Soe**	**8.56 216**	P	**Pn**	**19 51 55.2**	**+1.0**
BATI	**Baumata**	**9.28 217**	P	Pn	19 52 11.8	+7.8
	0.4nm,0.3s,baz=38,slow=3.5,SNR=4.1					
BATI			LR	LR	19 56 07.0	
	comp=Z,137nm,19.4s,baz=42,slow=39					
BKSI	**Bulukumba**	**9.56 255**	P	**Pn**	**19 52 11.1**	**+3.3**
SPSI	**Sidrap Palu**	**9.66 263**	P	**Pn**	**19 52 11.7**	**+2.5**
MPSI	**Mapaga**	**9.98 288**	P	**Pn**	**19 52 14.7**	**+1.1**
WRA	**Warramunga Arr**	**17.71 164**	P	**Pn**	**19 53 55.8**	**-0.7**
	0.7nm,0.3s,baz=352,slow=12,SNR=40					
WRA			S	**Sn**	**19 57 13.4**	**+0.3**
	0.2nm,0.3s,baz=338,slow=15,SNR=4.0					
ASAR	**Alice Springs**	**21.18 168**	P	**P**	**19 54 35.7**	**+0.3**
	6.7nm,0.6s,baz=348,slow=11,SNR=104					
ASAR			S	**S**	**19 58 26.8**	**-2.9**
	1.4nm,0.8s,baz=351,slow=23,SNR=4.3					
LEM	**Lembang**	**22.04 259**	LR	LR	20 05 05.1	
	comp=Z,118nm,18.2s,baz=132,slow=41					
JOW	**Kunigami**	**29.50 358**	LR	LR	20 05 55.5	
	comp=Z,32nm,19.9s,baz=94,slow=32					
CMAR	**Chiang Mai Arr**	**36.67 306**	P	**P**	**19 56 57.5**	**+0.8**
	0.3nm,0.6s,baz=134,slow=7.7,SNR=3.4					
MJAR	**Matsushiro Arr**	**40.01 11**	P	**P**	**19 57 23.5**	**-1.0**
	0.7nm,0.4s,baz=188,slow=9.2,SNR=2.8					
PALK	**Pallekele**	**49.59 282**	LR	LR	20 20 50.0	
	comp=Z,36nm,18.6s,baz=116,slow=37					
MKAR	**Makanchi Array**	**64.42 326**	P	**P**	**20 00 24.4**	**-1.3**
	0.9nm,0.8s,baz=127,slow=9.3,SNR=5.4					
ZALV	**Zalesovo Beam**	**67.58 333**	P	**P**	**20 00 45.1**	**-0.8**
	0.5nm,0.5s,baz=117,slow=8.3,SNR=3.0					

IDC 19 20:03:09.3±3.3, 5°29S×151°75E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/44, mbtmp3.4/3, ML1.6/1, Error ellipse: s-maj=136.8km s-min=42.6km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.12**	**228**	Pn	Pn	20 04 42.1	+1.0
	1.0nm,0.3s,baz=45,slow=4.3,SNR=4.7						
PMG				Sn	Sn	20 05 49.5	-2.4
	1.5nm,0.3s,baz=336,slow=22,SNR=7.1						
WRA	**Warramunga Arr**	**22.34**	**228**	P	P	20 08 08.7	-0.3
	0.5nm,0.6s,baz=54,slow=10,SNR=9.9						
ASAR	**Alice Springs**	**25.09**	**222**	P	P	20 08 35.6	-0.3
	0.6nm,0.8s,baz=55,slow=8.6,SNR=7.0						
TORD	**Torodi Ar. Bea**	**149.45**	**287**	PKPbc	PKPbc	20 23 01.3	-0.3
	0.3nm,0.8s,baz=60,slow=4.3,SNR=3.4						

IDC 19 20:04:04.0±1.1, 13°.72N×92°.08W, h0km, mb3.9/6, mb1 4.1/9, mb1mx3.8/45, mbtmp3.9/9, ML3.8/3, MS3.3/4, Ms1 3.3/4, ms1mx2.8/37, Error ellipse: s-maj=19.6km s-min=14.5km az=17.0

ISCJB 19 20:04:06.6±1.4, 13°.89N±0°.07×92°.07W±0°.04, h20km±10km, mb4.0/9, MS3.2/4, Error ellipse: s-maj=12.2km s-min=4.5km az=27.8

NEIC 19 20:04:07.6±6.0, 13°.78N×92°.13W, h20km±38km, mb4.2/4, MD4.1(MEX), Error ellipse: s-maj=24.8km s-min=10.1km az=210.0

UCR 19 20:04:08.8±1.3, 14°.14N×91°.93W, h16km±999km, ML3.7, mb4.2(NEIC)

MEX 19 20:04:10.3±0.4, 13°.92N×92°.44W, h16km±108km, MD4.1

ISC 19 20:04:06.6±2.3, 14°01N±0°.08×92°02W±0°.06, h10km±14km**, n41, σ1°02/46, mb4.0/9, MS3.2/4, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.92**	**345**	*e*Pg	**Pn**	**20 04 25.8**	**+0.2**
THIG		**0.92**	**345**	*e*P	**Pn**	**20 04 25.8**	**+0.2**
THIG				*e*S	**Sn**	**20 04 37.9**	**-1.1**
IXG	**Ixpaco**	**1.53**	**84**	*e*P	**Pn**	**20 04 33.6**	**-0.5**
IXG				*e*S	**Sn**	**20 04 54.0**	**-0.2**
APG	**El Apazote**	**1.80**	**57**	Pn	**Pg**	**20 04 41.1**	**-0.1**
	48nm,0.3s,baz=231,slow=14,SNR=112			Lg	Lg	20 05 08.0	
APG							
	95nm,0.3s,baz=302,slow=14,SNR=21						
PCIG		**2.04**	**326**	*e*Pn	**Pn**	**20 04 39.8**	**-1.3**
PCIG				*e*Sn	**Sn**	**20 05 01.3**	**-5.3**
PCIG		**2.04**	**326**	*e*P	**Pn**	**20 04 39.8**	**-1.3**
PCIG				*e*S	**Sn**	**20 05 01.3**	**-5.3**
CCIG	**Comitan**	**2.26**	**357**	*e*Pn	**Pb**	**20 04 47.9**	**+0.2**
CCIG				*e*S	**Sb**	**20 05 13.8**	**-2.0**
CCIG	**Comitan**	**2.26**	**357**	*e*P	**Pb**	**20 04 46.0**	**-1.6**
CCIG				*e*S	**Sb**	**20 05 13.8**	**-2.0**
RTR	**El Retiro**	**2.31**	**92**	*e*P	**Pn**	**20 04 45.4**	**+0.5**
RTR				*e*S	**Sn**	**20 05 13.3**	**-0.2**
CEVE	**Cerro Verde**	**2.34**	**94**	*e*P	**Pn**	**20 04 46.0**	**+0.7**
CEVE				IAML		20 05 18.4	
	comp=Z,2μm,0.4s						
SBLS	**San Blas**	**2.34**	**94**	*e*P	**Pn**	**20 04 45.3**	**0.0**
MTO3	**Montecristo**	**2.61**	**81**	*e*P	**Pn**	**20 04 49.1**	**+0.1**
BOQS	**Boqueron**	**2.68**	**96**	*e*P	**Pn**	**20 04 50.9**	**+0.9**
BOQS				*e*S	**Sn**	**20 05 22.5**	**-0.2**
LFU	**La Fuente**	**2.84**	**95**	*e*P	**Pn**	**20 04 52.3**	**+0.2**
LFRS	**El Faro**	**2.90**	**97**	*e*P	**Pn**	**20 04 52.9**	**-0.1**
PAVA	**Las Pavas**	**3.01**	**95**	*e*P	**Pn**	**20 04 53.9**	**-0.6**
PAVA				IAML		20 05 40.4	
	comp=Z,153nm,0.3s						
TECA	**Tecapa**	**3.46**	**98**	*e*P	**Pn**	**20 05 01.8**	**+1.1**
CMIG	**Matias Romero**	**4.12**	**318**	Pn	**Pn**	**20 05 09.6**	**-0.1**
	comp=Z,2.3nm,0.3s,baz=158,slow=13,SNR=17						
CMIG				Sn	**Sn**	**20 06 03.5**	**+5.5**
	comp=Z,13nm,0.3s,baz=53,slow=22,SNR=5.2						
CMIG				Lg	Lg	20 06 19.0	
	comp=Z,36nm,0.3s,baz=58,slow=19,SNR=6.9						
CSGN	**Cosiguina Volc**	**4.46**	**103**	*e*Pn	**Pn**	**20 05 17.2**	**+2.8**
TEIG	**Tepich**	**7.14**	**30**	*e*Pn	**Pn**	**20 05 55.1**	**+3.9**
TLIG	**Tlapa**	**7.22**	**300**	*e*Pn	**Pn**	**20 05 53.8**	**+1.4**
LTX	**Lajitas**	**18.68**	**327**	*e*P	**Pn**	**20 08 27.7**	**+2.3**
TXAR	**Lajitas Array**	**18.68**	**327**	P	**Pn**	**20 08 27.7**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=152,slow=13,SNR=14						
TX31	**Lajitas Ar. Si**	**18.68**	**327**	*e*P	**Pn**	**20 08 26.1**	**+0.6**
MNTX	**Cornudas Mount**	**21.45**	**327**	*e*P	**P**	**20 08 56.7**	**+1.6**
	comp=Z,4.4nm,0.8s						
SDV	**Santo Domingo**	**21.57**	**101**	P	**P**	**20 08 56.1**	**-0.6**
	comp=Z,5.3nm,0.6s,baz=302,slow=9.5,SNR=2.9						
AMTX	**Amarillo**	**22.54**	**339**	*e*P	**P**	**20 09 08.4**	**+1.5**
	comp=Z,8.8nm,0.5s						
TKL	**Tuckaleechee C**	**22.80**	**18**	LR	LR	20 18 57.4	
	comp=Z,97nm,18.5s,baz=215,slow=39						
BNM	**Barren Site**	**24.02**	**329**	*e*P	**P**	**20 09 21.6**	**-0.5**
ANMO	**Albuquerque**	**24.58**	**331**	P	**P**	**20 09 28.3**	**+1.2**
	comp=Z,2.4nm,0.7s,baz=151,slow=13,SNR=7.2						
ANMO	**Albuquerque**	**24.58**	**331**	*e*P	**P**	**20 09 28.2**	**+1.1**
	comp=Z,2.3nm,0.6s						
ATAH	**Atahualpa**	**24.98**	**146**	LR	LR	20 16 37.0	
	comp=Z,32nm,21.7s,baz=244,slow=30						
SJG	**San Juan**	**25.18**	**77**	LR	LR	20 20 37.4	
	comp=Z,51nm,18.7s,baz=206,slow=39						
NV01	**Mina Array Sit**	**33.65**	**321**	*e*P	**P**	**20 10 49.2**	**+1.4**
NVAR	**Mina Array Bea**	**33.65**	**321**	P	**P**	**20 10 49.2**	**+1.4**
	comp=Z,1.1nm,0.6s,baz=135,slow=10,SNR=8.1						
J08A	**Circle Bar Ran**	**37.02**	**327**	*e*P	**P**	**20 11 18.6**	**+1.9**
	comp=Z,6.4nm,0.8s						
SIV	**San Ignacio**	**42.71**	**133**	P	**P**	**20 12 00.8**	**-3.4**
	comp=Z,0.3nm,0.3s,baz=306,slow=8.9,SNR=5.1						
SCHQ	**Schefferville**	**45.22**	**20**	LR	LR	20 32 17.9	
	comp=Z,66nm,19.9s,baz=312,slow=37						
YKA	**Yellowknife Ar**	**51.01**	**347**	P	**P**	**20 13 07.8**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=150,slow=7.1,SNR=7.1						
ILAR	**Eielson Array**	**62.82**	**337**	P	**P**	**20 14 33.8**	**+1.6**
	comp=Z,0.9nm,1.0s,baz=109,slow=5.3,SNR=5.5						
CMAR	**Chiang Mai Arr**	**145.98**	**341**	PKPbc	**PKPdf**	**20 23 46.5**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=341,slow=3.6,SNR=11						

IDC 19 20:12:24.4±3.4, 18°.95N×146°.40E, h223km±34km, mb2.7/5, mb1 3.0/6, mb1mx2.8/44, mbtmp3.4/6, Error ellipse: s-maj=37.9km s-min=17.8km az=94.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.53**	**196**	P	Pn	20 13 46.2	+0.1
	2.8nm,0.3s,baz=0.0,slow=11,SNR=1.6						
GUMO				S	S	20 14 45.4	-5.5
	2.6nm,0.3s,baz=38,slow=5.3,SNR=1.4						
WRA	**Warramunga Arr**	**40.42**	**198**	P	P	20 19 41.0	-0.2
	0.4nm,0.6s,baz=23,slow=8.6,SNR=24						
SONM	**Songino Array**	**43.37**	**321**	P	P	20 20 04.5	-0.4
	0.2nm,0.5s,baz=132,slow=6.2,SNR=2.1						
ASAR	**Alice Springs**	**44.07**	**197**	P	P	20 20 10.6	-0.1
	0.2nm,0.7s,baz=2.0,slow=6.1,SNR=4.1						
MKAR	**Makanchi Array**	**58.77**	**314**	P	P	20 21 59.4	+0.1
	0.3nm,0.5s,baz=102,slow=6.6,SNR=6.1						
ILAR	**Eielson Array**	**63.13**	**26**	P	P	20 22 28.2	0.0
	0.2nm,0.6s,baz=269,slow=5.3,SNR=2.6						
FINES	**FINESS Array B**	**86.94**	**335**	P	P	20 24 43.9	0.0
	3.8nm,0.9s,baz=67,slow=4.0,SNR=5.5						

IDC 19 20:26:16.9±3.0, 5°37S×151°53E, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.6/31, mbtmp3.9/3, ML2.0/1, Error ellipse: s-maj=120.4km s-min=38.8km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.91**	**227**	Pn	Pn	20 27 46.1	+0.3
	2.7nm,0.3s,baz=42,slow=13,SNR=7.8						
PMG				Sn	Sn	20 28 55.7	+1.5
	1.2nm,0.3s,baz=320,slow=19,SNR=3.4						
WRA	**Warramunga Arr**	**22.13**	**228**	P	P	20 31 14.2	-0.1
	2.3nm,0.5s,baz=53,slow=10,SNR=33						
ASAR	**Alice Springs**	**24.89**	**221**	P	P	20 31 41.6	-0.1
	1.4nm,0.6s,baz=56,slow=9.2,SNR=23						
TORD	**Torodi Ar. Bea**	**149.27**	**287**	PKPbc	PKPbc	20 46 08.4	-0.4
	0.6nm,1.0s,baz=74,slow=2.6,SNR=4.6						

ISCJB 19 20:28:15.4±1.2, 36°.75N±0°.04×141°.50E±0°.07, h24km±6km, mb3.3/2, Error ellipse: s-maj=10.2km s-min=6.3km az=17.6

JMA 19 20:28:16.4±0.1, 36°.75N×141°.41E, h45km±2km, M3.0

IDC 19 20:28:16.3±2.7, 36°.42N×141°.31E, h0km, mb3.3/2, mb1 3.3/3, mb1mx3.1/39, mbtmp3.1/3, ML2.6/1, Error ellipse: s-maj=51.3km s-min=31.6km az=46.0

ISC 19 20:28:15.3±1.9, 36°78N±0°.05×141°47E±0°.08, h9km±10km**, n21, σ1°08/24, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.62**	**301**	P	**Pb**	**20 28 28.5**	**0.0**
ONAJ				S	**Sb**	**20 28 37.4**	**0.0**
JHO	**Hitachi**	**0.74**	**257**	P	**Pg**	**20 28 29.8**	**+0.2**
JFK	**Kawauchi**	**0.75**	**321**	P	**Pb**	**20 28 30.5**	**-0.2**
JFK				S	**Sb**	**20 28 40.6**	**-0.5**
JFFD	**Fukushimafurud**	**0.79**	**293**	P	**Pg**	**20 28 30.7**	**+0.2**
JFFD				*e*S	**Sg**	**20 28 40.9**	**+0.1**
JHYU	**Hitachinakayam**	**0.83**	**238**	P	**Pg**	**20 28 31.2**	**-0.2**
JHYU				S	**Sg**	**20 28 42.1**	**-0.1**
JFT	**Otama**	**1.17**	**309**	P	**Pb**	**20 28 37.5**	**-0.2**
JFT				S	**Sb**	**20 28 52.4**	**-0.5**
JMM	**Marumori**	**1.21**	**334**	P	**Pn**	**20 28 37.8**	**-0.7**
JFY	**Yanaizu**	**1.54**	**294**	S	**Sn**	**20 29 02.9**	**-0.4**
JAG	**Ashikaga**	**1.66**	**258**	P	**Pn**	**20 28 43.5**	**-1.2**
JIO	**Ouri**	**1.67**	**357**	P	**Pn**	**20 28 44.1**	**-0.7**
JIO				S	**Sn**	**20 29 04.1**	**-2.3**
JOU	**Okura**	**1.71**	**338**	P	**Pn**	**20 28 45.6**	**+0.3**
JOU				S	**Sn**	**20 29 07.0**	**-0.3**
MJAR	**Matsushiro Arr**	**2.63**	**266**	Pn	**Pn**	**20 28 58.1**	**+0.1**
	1.2nm,0.3s,baz=90,slow=14,SNR=9.9						
MJAR				Sn	**Sn**	**20 29 28.6**	**-1.6**
	1.1nm,0.3s,baz=89,slow=23,SNR=4.2						
MAT	**Matsushiro**	**2.63**	**266**	P	**Pn**	**20 28 58.0**	**-0.1**
MAT				*e*S	**Sn**	**20 29 29.3**	**-0.9**
H11N2	**WAKE ISLAND Hy**	**27.98**	**120**	T	T	21 03 19.2	
	baz=313,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**27.99**	**120**	T	T	21 03 17.5	
	baz=313,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**28.00**	**120**	T	T	21 03 22.1	
	baz=313,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**28.69**	**123**	T	T	21 04 12.4	
	baz=315,slow=76,SNR=9.2						
H11S2	**WAKE ISLAND Hy**	**28.69**	**123**	T	T	21 04 12.5	
	baz=315,slow=76,SNR=8.7						
H11S2	**WAKE ISLAND Hy**	**28.70**	**123**	T	T	21 04 16.7	
	baz=315,slow=76,SNR=6.4						
MKAR	**Makanchi Array**	**44.29**	**302**	P	**P**	**20 36 28.6**	**+3.2**
	0.7nm,0.9s,baz=88,slow=7.2,SNR=2.8						
WRA	**Warramunga Arr**	**56.82**	**188**	P	**P**	**20 37 59.4**	**-0.7**
	0.1nm,0.4s,baz=5.4,slow=7.4,SNR=3.3						

MEX 19 20:34:24.0±0.5, 14°.93N×93°.78W, h80km±29km**, MD4.0, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.94**	**35**	*e*P	Pn	20 34 40.9	-1.6
PCIG				*e*S	Sn	20 34 54.7	-1.5
CCIG	**Comitan**	**2.08**	**49**	*e*P	Pn	20 34 55.5	-1.7
CCIG				*i* S	Sn	20 35 20.9	-1.5

IDC 19 20:43:52.1±1.1, 34°.02N×25°.19E, h0km, mb3.5/5, mb1 3.6/8, mb1mx3.5/36, mbtmp3.5/8, ML3.7/3, Error ellipse: s-maj=20.3km s-min=18.0km az=179.0

ATH 19 20:43:54.9, 34°.04N×25°.13E, h36km±6km, ML2.9/8, Error ellipse: s-maj=8.3km s-min=2.9km az=16.0

ISCJB 19 20:43:55.5±0.4, 34°.01N±0°.03×25°.22E±0°.04, h42km±8km, mb4.5, Error ellipse: s-maj=6.1km s-min=4.4km az=158.9

HLW 19 20:43:56.3, 34°.11N×25°.41E, h29km±25km, Md3.7, Ml3.6

ISK 19 20:43:57.3, 34°.30N×25°.25E, h31km±1km, ML3.0/9

THE 19 20:43:57.0, 34°.14N×25°.07E, h10km±2km, ML2.7/5, Error ellipse: s-maj=2.5km s-min=0.9km az=182.0

ISC 19 20:43:56.0±1.3, 34°09N±0°.04×25°20E±0°.04, h30km±10km**, n46, σ1°53/61, mb3.4/5, Crete**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.98**	**341**	P	**Pn**	**20 44 14.1**	**+0.3**
SIVA				S	**Sn**	**20 44 28.0**	**+1.2**
SIVA				AML	AML	20 44 37.2	
	comp=E,5756μm,0.8s						
SIVA				AML	AML	20 44 38.6	
	comp=N,3123μm,0.6s						
SIVA	**Sivas**	**0.98**	**341**	P	**Pb**	**20 44 13.5**	**-1.0**
SIVA				S	**Sn**	**20 44 27.6**	**+0.9**
TMBK	**Timbaki Herakl**	**1.05**	**340**	P	**Pb**	**20 44 15.0**	**-0.5**
LAST	**Lasithi**	**1.10**	**12**	P	**Pb**	**20 44 16.1**	**-0.3**
LAST				AML	AML	20 44 42.6	
	comp=E,714μm,0.6s						
LAST				AML	AML	20 44 44.7	
	comp=N,725μm,0.7s						
LAST	**Lasithi**	**1.10**	**12**	P	**Pb**	**20 44 16.6**	**+0.2**
LAST				S	**Sn**	**20 44 32.0**	**+2.4**
GVD	**Gavdhos**	**1.19**	**309**	P	**Pb**	**20 44 16.9**	**-1.0**
GVD				S	**Sn**	**20 44 33.0**	**+1.2**
GVD				AML	AML	20 44 51.0	
	comp=N,1359μm,0.4s						
GVD				AML	AML	20 44 54.7	
	comp=E,1257μm,0.6s						
GVD	**Gavdhos**	**1.19**	**309**	P	**Pb**	**20 44 16.9**	**-1.0**
GVD				S	**Sn**	**20 44 32.4**	**+0.6**
GVDS	**Gavdos**	**1.19**	**310**	P	**Pb**	**20 44 17.1**	**-0.9**
GVDS				S	**Sb**	**20 44 31.7**	**-1.3**
NPS	**Neapolis**	**1.22**	**16**	P	**Pb**	**20 44 18.6**	**+0.1**
NPS				AML	AML	20 44 42.8	
	comp=E,514μm,1.0s						
NPS				AML	AML	20 44 51.8	
	comp=N,611μm,0.8s						
NPS	**Neapolis**	**1.22**	**16**	P	**Pb**	**20 44 18.6**	**+0.1**
NPS				S	**Sn**	**20 44 35.1**	**+2.5**
IDI	**Anoyia**	**1.23**	**348**	PG	**Pn**	**20 44 16.4**	**-0.8**
IDI	**Anoyia**	**1.23**	**348**	Pn	**Pb**	**20 44 17.9**	**-0.8**
	comp=N,7.6nm,0.3s,baz=166,slow=22,SNR=53						
IDI				Sn	**Sn**	**20 44 35.3**	**+2.4**
	comp=N,11nm,0.3s,baz=127,slow=21,SNR=8.1						
IDI				LR	LR	20 45 08.6	
	comp=N,55nm,19.6s,baz=260,slow=59						
IDI	**Anoyia**	**1.23**	**348**	P	**Pn**	**20 44 17.0**	**-0.2**
IDI				AML	AML	20 44 47.1	
	comp=E,485μm,0.5s						
IDI				AML	AML	20 44 51.8	
	comp=N,355μm,0.4s						
IDI	**Anoyia**	**1.23**	**348**	P	**Pn**	**20 44 16.4**	**-0.8**
ZKR	**Zakros**	**1.32**	**39**	P	**Pb**	**20 44 19.9**	**-0.3**
ZKR				AML	AML	20 44 50.8	
	comp=E,639μm,0.8s						
ZKR				AML	AML	20 45 02.0	
	comp=N,180μm,1.0s						
ZKR	**Zakros**	**1.32**	**39**	P	**Pb**	**20 44 20.4**	**+0.2**
ZKR				S	**Sb**	**20 44 39.3**	**+2.5**
STIA	**Sitia Lasithi**	**1.33**	**33**	P	**Pb**	**20 44 20.9**	**+0.5**
VAM	**Vamos**	**1.56**	**328**	P	**Pn**	**20 44 22.1**	**+0.4**
VAM				AML	AML	20 44 52.2	
	comp=E,649μm,0.6s						
VAM				AML	AML	20 45 11.2	
	comp=N,507μm,0.7s						
VAM	**Vamos**	**1.56**	**328**	P	**Pn**	**20 44 22.0**	**+0.4**
VAM				S	**Sn**	**20 44 41.7**	**+0.8**
IMMV	**Iera Moni Meta**	**1.70**	**324**	P	**Pn**	**20 44 24.1**	**+0.5**
IMMV				AML	AML	20 45 07.7	
	comp=E,586μm,0.9s						
IMMV				AML	AML	20 45 12.0	
	comp=N,517μm,0.5s						
IMMV	**Iera Moni Meta**	**1.70**	**324**	P	**Pn**	**20 44 24.3**	**+0.6**
SANT	**Santorini**	**2.29**	**5**	PN	**Pn**	**20 44 30.9**	**-0.9**
SLUM	**Salum**	**2.59**	**180**	P	**Pn**	**20 44 37.4**	**+1.5**
	baz=184						
SLUM				AMP		20 45 00.0	
	baz=184						
SLUM				S	**Sn**	**20 45 06.9**	**+0.5**
	baz=184						
APE	**Apeiranthos**	**2.99**	**5**	PN	**Pn**	**20 44 40.4**	**-1.0**
APE				SN	**Sn**	**20 45 12.5**	**-3.8**
VLI	**Veliai**	**3.21**	**325**	P	**Pn**	**20 44 44.5**	**+0.1**
DAT	**Datca**	**3.27**	**36**	PN	**Pn**	**20 44 44.9**	**-0.5**
BODT	**Bodrum**	**3.43**	**29**	PN	**Pn**	**20 44 47.5**	**0.0**
DALY	**Dalyan (Mu˘la**	**3.92**	**45**	PN	**Pn**	**20 44 54.6**	**+0.5**
TURN	**Turunc**	**3.93**	**44**	PN	**Pn**	**20 44 50.6**	**-3.7**
FETY	**Fethiye**	**4.06**	**50**	PN	**Pn**	**20 44 56.9**	**+0.7**
ITM	**Ithomi**	**4.08**	**320**	PN	**Pn**	**20 44 56.9**	**+0.5**
AKAS	**Kas**	**4.19**	**58**	PN	**Pn**	**20 44 58.9**	**+0.8**
ELL	**Elmali**	**4.67**	**54**	PN	**Pn**	**20 45 05.9**	**+1.3**
SWA2		**4.83**	**177**	P	**Pn**	**20 45 07.7**	**+0.9**
	baz=179						
SWA2				AMP		20 45 00.0	
	baz=179						
SWA2				S	**Sn**	**20 45 59.9**	**-1.8**
	baz=179						
KORT	**Korkueli**	**5.11**	**54**	PN	**Pn**	**20 45 11.9**	**+1.3**
GLL	**Jalalah**	**7.13**	**127**	P	**Pn**	**20 45 38.6**	**+0.3**
	baz=128						
HFRF	**Wahat Farafira**	**7.42**	**158**	P	**Pn**	**20 45 42.2**	**0.0**
	baz=159						
HFRF				AMP		20 47 00.0	
	baz=159						
MMAI	**Mount Meron Ar**	**8.58**	**94**	Pn	**Pn**	**20 45 58.5**	**+0.2**
	comp=N,1.0nm,0.3s,baz=268,slow=13,SNR=5.3						
MMAI				Sn	**Sn**	**20 47 30.2**	**-3.9**
	comp=N,2.6nm,0.3s,baz=268,slow=21,SNR=6.6						
HDK1	**Dakhla**	**9.26**	**156**	P	**Pn**	**20 46 08.5**	**+0.9**
	baz=156						
EIL	**Elat**	**9.38**	**115**	Pn	**Pn**	**20 46 08.9**	**-0.3**
	comp=N,1.1nm,0.3s,baz=251,slow=5.5,SNR=13						
EIL				Sn	**Sn**	**20 47 47.8**	**-5.9**
	comp=N,0.5nm,0.3s,baz=204,slow=20,SNR=5.3						
GERES	**GERESS Array B**	**17.05**	**333**	P	**P**	**20 47 53.2**	**-0.5**
	comp=N,0.1nm,0.3s,baz=147,slow=12,SNR=6.3						
ESDC	**Sonseca Array**	**23.93**	**292**	P	**P**	**20 49 08.0**	**+0.5**
	comp=N,0.3nm,0.5s,baz=96,slow=8.3,SNR=3.4						
AKTO	**Aktyubinsk**	**28.96**	**46**	P	**P**	**20 49 53.7**	**+1.0**
	comp=N,1.2nm,0.7s,baz=304,slow=9.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**29.84**	**231**	P	**P**	**20 50 00.5**	**-0.3**
	comp=N,0.4nm,0.4s,baz=34,slow=8.5,SNR=18						
MKAR	**Makanchi Array**	**44.34**	**56**	P	**P**	**20 52 04.0**	**+0.6**
	comp=N,0.3nm,0.5s,baz=271,slow=6.1,SNR=7.0						
SONM	**Songino Array**	**60.14**	**50**	P	**P**	**20 54 01.9**	**+1.0**
	comp=N,0.2nm,0.7s,baz=275,slow=5.2,SNR=2.0						

IDC 19 20:57:53.7±1.4, 34°.03N×25°.23E, h0km, mb3.4/2, mb1 3.6/5, mb1mx3.3/35, mbtmp3.5/5, ML3.7/3, Error ellipse: s-maj=25.3km s-min=20.5km az=67.0

ISCJB 19 20:57:55.4±0.9, 33°.96N±0°.03×25°.20E±0°.06, h19km±9km, mb3.2/2, Error ellipse: s-maj=7.9km s-min=5.1km az=175.7

HLW 19 20:57:56.7, 34°.13N×25°.40E, h21km±26km, Ml3.4

ATH 19 20:57:56.0, 34°.06N×25°.11E, h28km±6km, ML2.8/5, Error ellipse: s-maj=10.7km s-min=2.8km az=353.0

THE 19 20:57:57.3, 34°.10N×25°.12E, h2km±1km, ML2.6/4, Error ellipse: s-maj=2.1km s-min=0.7km az=187.0

ISC 19 20:57:57.4±1.4, 34°06N±0°.04×25°22E±0°.04, h28km±12km**, n29, σ1°29/42, Crete**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**1.01**	**341**	P	**Pb**	**20 58 15.0**	**-1.3**
SIVA				S	**Sn**	**20 58 29.7**	**+0.8**
SIVA				AML	AML	20 58 37.8	
	comp=E,4804μm,0.7s						
SIVA				AML	AML	20 58 39.9	
	comp=N,2960μm,0.6s						
SIVA	**Sivas**	**1.01**	**341**	P	**Pb**	**20 58 15.0**	**-1.3**
SIVA				S	**Sn**	**20 58 29.8**	**+0.8**
TMBK	**Timbaki Herakl**	**1.07**	**340

TORD	**Torodi Ar. Bea**	**29.83**	**231**	P		**P**	**21 04 02.4**	**+0.1**
	comp=N,0.2nm,0.4s,baz=28,slow=8.9,SNR=7.3							
MKAR	**Makanchi Array**	**44.35**	**56**	P		**P**	**21 06 05.4**	**+0.3**
	comp=N,0.3nm,0.6s,baz=280,slow=7.4,SNR=5.2							

IDC 19 20:58:16.1±9.1, 5.86S×151.65E, h85km±64km, mb3.4/2, mb1 3.6/3, mb1mx3.2/34, mbtmp3.8/3, ML1.7/1, Error ellipse: s-maj=104.0km s-min=58.5km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.67**	**231**	P		Pn	20 59 37.5	-0.4
	1.4nm,0.3s,baz=54,slow=7.3,SNR=6.1							
PMG				S		Sn	21 00 42.9	+1.1
	0.5nm,0.3s,baz=287,slow=20,SNR=2.5							
WRA	**Warramunga Arr**	**21.89**	**229**	P		P	21 03 01.7	-0.6
	2.3nm,0.8s,baz=55,slow=10,SNR=20							
ASAR	**Alice Springs**	**24.60**	**222**	P		P	21 03 29.0	+0.5
	1.8nm,0.9s,baz=53,slow=9.4,SNR=14							
TORD	**Torodi Ar. Bea**	**149.52**	**286**	PKPbc		PKPbc	21 17 56.2	-0.6
	0.3nm,0.5s,baz=85,slow=3.3,SNR=3.2							

*SJA **19** 21:14:33.2±0.4, 34.02S×73.21W, h41km±5km, ML3.5, MW3.4*
*GUC **19** 21:14:39.6±0.6, 33.98S×72.37W, h25km±22km, ML3.3*
ISC 19 21:14:41.1±2.5, 34.09S±0.06×72.6W±0.1, h35km, n20, σ2.9 66/30, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO05	**HualaæØ**	**1.06**	**150**	*i* P		**Pn**	**21 14 59.1**	**-0.5**
GO05				*e*S		**Sn**	**21 15 13.2**	**+0.1**
GO05				IAML			21 15 15.1	
	comp=N,1μm,0.3s							
ANTU	**Antumapu**	**1.69**	**73**	*e*P		**Pn**	**21 15 05.8**	**-2.4**
ANTU				*e*S		**Sn**	**21 15 25.2**	**-3.5**
ROCH	**El Roble**	**1.71**	**50**	*i* P		**Pn**	**21 15 05.8**	**-2.8**
ROCH				*i* S		**Sn**	**21 15 26.4**	**-3.0**
ROCH				IAML			21 15 39.9	
	comp=N,482nm,0.5s							
CLCH	**Cerro Calan**	**1.83**	**68⇑**	*i*P		**Pn**	**21 15 07.8**	**-2.3**
CLCH				*e*S		**Sn**	**21 15 29.4**	**-2.7**
CLCH				IAML			21 15 42.6	
	comp=E,560nm,0.5s							
PEL	**Peldehue**	**1.83**	**60⇑**	*i*P		**Pn**	**21 15 07.7**	**-2.5**
PEL				*e*S		**Sn**	**21 15 29.2**	**-3.0**
PEL				IAML			21 15 40.5	
	comp=E,774nm,0.5s							
LMEL	**Las Melosas**	**1.98**	**84**	*e*P		**Pn**	**21 15 10.7**	**-1.6**
LMEL				*e*S		**Sn**	**21 15 34.2**	**-1.8**
LMEL				IAML			21 15 35.1	
	comp=N,505nm,0.2s							
FCH	**Farellones**	**2.04**	**69**	*i* P		**Pn**	**21 15 10.8**	**-2.5**
FCH				*e*S		**Sn**	**21 15 34.7**	**-3.1**
FCH				IAML			21 15 43.1	
	comp=E,422nm,0.3s							
AUSP	**Uspallata**	**3.25**	**56**	*e*P		**Pn**	**21 15 30.8**	**+0.9**
AUSP				*e*S		**Sn**	**21 16 13.2**	**+5.7**
AAGR	**Agrelo**	**3.28**	**73**	*e*P		**Pn**	**21 15 31.4**	**+1.3**
ARCO	**CERRO ARCO**	**3.28**	**69**	*e*P		**Pn**	**21 15 31.6**	**+1.4**
ARCO				IAML			21 15 38.7	
	comp=Z,154nm,0.3s							
ASAL	**Salagasta**	**3.46**	**66**	*e*P		**Pn**	**21 15 33.8**	**+1.2**
ASAL				*e*S		**Sn**	**21 16 18.8**	**+6.3**
RTLS	**Leoncito**	**3.57**	**51**	*e*P		**Pn**	**21 15 34.9**	**+0.6**
RTLS				IAML			21 15 40.8	
	comp=Z,35nm,0.6s							
RTCV	**Cerro Valdivia**	**4.05**	**58**	*e*P		**Pn**	**21 15 41.6**	**+1.0**
RTLL	**Cerro Villicun**	**4.41**	**53**	*e*P		**Pn**	**21 15 46.3**	**+0.7**
RTLL				*e*S		**Sn**	**21 16 40.1**	**+4.3**
ACCO	**Cerro Coronel**	**4.58**	**41**	*e*P		**Pn**	**21 15 48.0**	**-0.2**
AMOG	**MOGNA**	**4.66**	**49**	*e*P		**Pn**	**21 15 48.9**	**-0.2**
ACAN	**Cantantal**	**4.86**	**70**	*e*P		**Pn**	**21 15 53.2**	**+1.4**
AGUA	**GUANDACOL**	**5.75**	**38**	*e*P		**Pn**	**21 16 03.1**	**-1.0**
MRA	**San Martin**	**5.98**	**76**	*e*P		**Pn**	**21 16 08.9**	**+1.7**
TCA	**Tanti**	**7.26**	**70**	*e*P		**Pn**	**21 16 26.1**	**+1.3**

ATH 19 21:50:37.0, 39.01N×23.46E, h16km±4km, ML1.4/6, Error ellipse: s-maj=4.2km s-min=1.0km az=328.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKIA	**Skiathos**	**0.16**	**3**	P		Pb	21 50 41.4	-0.2
SKIA				S		Sg	21 50 43.7	-0.2
SKIA				AML	AML	21 50 44.2	
	comp=E,904μm,0.3s							
SKIA				AML	AML	21 50 44.5	
	comp=N,492μm,0.2s							
SMIA	**Simia**	**0.23**	**236**	P		Pg	21 50 42.5	+0.3
SMIA				S		Sb	21 50 46.3	-0.5
SMIA				AML	AML	21 50 47.5		
	comp=N,851μm,0.3s							
SMIA				AML	AML	21 50 48.4		
	comp=E,545μm,0.4s							
NEO	**Neokhori**	**0.35**	**329**	P		Pg	21 50 44.5	+0.3
NEO				S		Sg	21 50 48.9	-0.3
NEO				AML	AML	21 50 49.7		
	comp=N,342μm,0.2s							
NEO				AML	AML	21 50 49.9		
	comp=E,360μm,0.2s							
AOS	**Alonnisos**	**0.37**	**64**	P		Pg	21 50 44.5	0.0
AOS				S		Sg	21 50 49.4	-0.3
AOS				AML	AML	21 50 50.1		
	comp=N,104μm,0.2s							
AOS				AML	AML	21 50 50.3		
	comp=E,141μm,0.3s							
XOR	**Xorichti**	**0.41**	**330**	P		Pg	21 50 45.3	-0.1
XOR				S		Sg	21 50 51.0	-0.1
XOR				AML	AML	21 50 51.9		
	comp=E,71μm,0.2s							
XOR				AML	AML	21 50 52.4		
	comp=N,128μm,0.3s							
LKR	**Lokris**	**0.51**	**225**	P		Pg	21 50 46.6	-0.5
LKR				S		Sg	21 50 53.7	-0.2
LKR				AML	AML	21 50 54.9		
	comp=E,88μm,0.2s							
LKR				AML	AML	21 50 55.9		
	comp=N,75μm,0.2s							
EREA	**Eretria**	**0.70**	**148**	P		Pg	21 50 50.1	-0.5
VIL2	**Platees**	**0.81**	**191**	P		Pg	21 50 53.2	+0.4
SKY	**Skiros Island**	**0.86**	**98**	P		Pg	21 50 54.1	+0.3
DION	**Dionisos Attik**	**1.00**	**158**	P		Pg	21 50 56.4	0.0

*IDC **19** 21:51:20.1±1.4, 15.29N×146.80E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/46, mbtmp3.6/7, ML3.7/1, MS2.8/1, Ms1 2.8/1, ms1mx2.2/44, Error ellipse: s-maj=38.5km s-min=22.4km az=108.0*
*ISCJB **19** 21:51:23.5±1.3, 15.3N±0.1×146.7E±0.2, h35km, mb3.6/6, MS2.6/1, Error ellipse: s-maj=28.0km s-min=10.2km az=29.8*
ISC 19 21:51:25.5±1.4, 15.3N±0.1×146.7E±0.2, h35km, n16, σ0.9 66/16, mb3.7/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.43**	**227**	Pn		**Pn**	**21 52 04.3**	**+1.5**
	15nm,0.3s,baz=63,slow=11,SNR=4.9							
GUMO				Sn		**Sn**	**21 52 30.0**	**-1.3**
	82nm,0.3s,baz=174,slow=19,SNR=13							
JOW	**Kunigami**	**20.66**	**307**	LR		LR	22 02 42.6	
	comp=Z,26nm,18.5s,baz=77,slow=33							
WRA	**Warramunga Arr**	**37.03**	**200**	P		**P**	**21 58 31.6**	**-0.6**
	0.3nm,0.6s,baz=26,slow=8.8,SNR=9.7							
CMAR	**Chiang Mai Arr**	**45.71**	**281**	P		**P**	**21 59 44.1**	**+0.5**
	0.7nm,0.6s,baz=76,slow=5.7,SNR=7.4							
SONM	**Songino Array**	**46.43**	**323**	P		**P**	**21 59 48.6**	**-0.4**
	0.5nm,0.5s,baz=134,slow=8.1,SNR=4.8							
RAMN	**Ramite**	**56.81**	**292**	*e*P		**P**	**22 01 06.7**	**-0.4**
JIRN	**Jiri**	**57.16**	**293**	*e*P		**P**	**22 01 09.6**	**-0.1**
	9.6nm,0.5s							
GUN	**Gumba**	**57.43**	**294**	*e*P		**P**	**22 01 11.5**	**-0.1**
PKI	**Pulchoki**	**57.86**	**293**	*e*P		**P**	**22 01 14.3**	**-0.3**
	2.7nm,0.4s							
KKN	**Kakani**	**57.97**	**293**	*e*P		**P**	**22 01 14.8**	**-0.4**
DMN	**Daman**	**58.12**	**293**	*e*P		**P**	**22 01 16.0**	**-0.4**
	4.9nm,0.6s							
DANN	**Dangsing**	**59.30**	**294**	*e*P		**P**	**22 01 24.4**	**-0.1**
	12nm,0.6s							

PYUN	**Piuthan**	**59.98**	**294**	*e*P		**P**	**22 01 29.2**	**0.0**
ZALV	**Zalesovo Beam**	**61.32**	**324**	P		**P**	**22 01 37.1**	**-0.4**
	0.3nm,0.4s,baz=116,slow=6.7,SNR=2.6							
MKAR	**Makanchi Array**	**61.54**	**315**	P		**P**	**22 01 39.6**	**+0.4**
	0.8nm,0.6s,baz=91,slow=8.3,SNR=12							
ILAR	**Eielson Array**	**66.31**	**25**	P		**P**	**22 02 10.4**	**+0.1**
	0.1nm,0.4s,baz=254,slow=5.8,SNR=3.4							

MEX 19 22:00:17.1±0.6, 16.31N×97.79W, h5km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.33**	**284**	*e*P		Pg	22 00 23.4	-0.1
PNIG				*e*S		Sg	22 00 27.6	-0.3
VHO	**Vista Hermosa**	**1.27**	**53**	*e*P		Pg	22 00 38.1	-3.3
VHO				*e*S		Sg	22 00 54.0	-3.9

*JMA **19** 22:01:50.7±0.1, 23.95N×121.84E, h24km±3km, M3.1*
*ISCJB **19** 22:01:51.3±0.2, 23.98N±0.01×121.87E±0.02, h25km±2km, Error ellipse: s-maj=2.8km s-min=1.8km az=138.3*
*TAP **19** 22:01:51.7, 24.01N×121.79E, h31km, ML3.5, B*
ISC 19 22:01:51.5±0.9, 23.98N±0.02×121.83E±0.02, h27km±6km, n108, σ0.975/160, 20C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.20**	**269⇓**	*i*P		**Pn**	**22 01 58.2**	**-0.5**
	baz=257							
HWA				*e*S		**Sb**	**22 02 02.8**	**+1.2**
	baz=257							
TWD	**Chiawan**	**0.23**	**295⇓**	*i*P		**Pb**	**22 01 57.9**	**0.0**
	baz=291							
TWD				S		**Sb**	**22 02 02.3**	**+0.1**
	baz=291							
NACB	**Ninganchiao**	**0.29**	**312**	⇓P		**Pb**	**22 01 58.4**	**-0.2**
	baz=311							
NACB				S		**Sb**	**22 02 03.2**	**-0.1**
	baz=311							
ESL	**Shilin**	**0.40**	**245⇓**	*i*P		**Pb**	**22 02 00.2**	**0.0**
	baz=248							
ESL				*e*S		**Sn**	**22 02 06.9**	**-1.2**
	baz=248							
NANB	**Nanao**	**0.45**	**351**	⇑P		**Pb**	**22 02 00.9**	**-0.2**
	baz=347							
NANB				S		**Sb**	**22 02 07.3**	**-0.2**
	baz=347							
ENA	**Nanau**	**0.45**	**350⇑**	*i*P		**Pb**	**22 02 00.9**	**-0.2**
	baz=347							
ENA				S		**Sb**	**22 02 07.5**	**-0.1**
	baz=347							
EGFH	**Guangfu**	**0.48**	**230**	*e*P		**Pn**	**22 02 01.7**	**-0.9**
	baz=220							
EGFH				*e*S		**Sn**	**22 02 09.9**	**-0.2**
	baz=220							
WHF	**Hehuan Shan**	**0.54**	**288⇓**	*i*P		**Pb**	**22 02 02.3**	**-0.5**
	baz=277							
WHF				S		**Sb**	**22 02 10.1**	**-0.4**
	baz=277							
CHGB	**Renai**	**0.60**	**278**	⇓P		**Pb**	**22 02 03.5**	**-0.2**
	baz=267							
CHGB				S		**Sb**	**22 02 11.6**	**-0.4**
	baz=267							
NNSB	**Datong**	**0.60**	**318**	*e*P		**Pb**	**22 02 03.1**	**-0.5**
	baz=318							
NNSB				S		**Sb**	**22 02 11.6**	**-0.3**
	baz=318							
HGSD	**Ruisui**	**0.61**	**217**	⇑P		**Pn**	**22 02 03.7**	**-0.7**
	baz=214							
HGSD				*e*S		**Sn**	**22 02 14.9**	**+1.6**
	baz=214							
NNS	**Nan Shan**	**0.62**	**318**	P		**Pb**	**22 02 03.4**	**-0.5**
	baz=318							
NNS				S		**Sb**	**22 02 12.1**	**-0.2**
	baz=318							
TWC	**Suao**	**0.63**	**2⇑**	*i*P		**Pb**	**22 02 03.9**	**-0.1**
	baz=358							
TWC				S		**Sn**	**22 02 13.0**	**-0.8**
	baz=358							
EOS1	**EOS1**	**0.63**	**26**	*e*P		**Pn**	**22 02 04.8**	**+0.2**
	baz=43							
EHY	**Hungye**	**0.66**	**224**	⇑P		**Pb**	**22 02 04.0**	**-0.5**
	baz=230							
EHY				*e*S		**Sn**	**22 02 13.5**	**-1.1**
	baz=230							
VWDT	**VWDT**	**0.67**	**250**	P		**Pn**	**22 02 04.8**	**-0.3**
	baz=238							
VWDT				*e*S		**Sb**	**22 02 12.8**	**-0.7**
	baz=238							
TDCB	**Techi**	**0.67**	**294**	⇓P		**Pb**	**22 02 04.5**	**-0.2**
	baz=292							
TDCB				S		**Sb**	**22 02 12.8**	**-1.0**
	baz=292							
ENTT	**Nioudou**	**0.70**	**340**	P		**Pb**	**22 02 04.7**	**-0.5**
	baz=342							
ENTT				S		**Sb**	**22 02 14.4**	**-0.1**
	baz=342							
TWE	**Neicheng**	**0.75**	**349⇑**	*i*P		**Pb**	**22 02 05.7**	**-0.3**
	baz=345							
TWE				*e*S		**Sb**	**22 02 15.2**	**-0.8**
	baz=345							
YULB	**Yu-li**	**0.76**	**220**	⇑P		**Pb**	**22 02 05.5**	**-0.8**
	baz=226							
TWF1	**Yuli**	**0.79**	**218⇑**	*i*P		**Pb**	**22 02 06.0**	**-0.7**
	baz=225							
YHNB	**Yeheng**	**0.80**	**329**	⇑P		**Pb**	**22 02 06.3**	**-0.7**
	baz=318							
YHNB				*e*S		**Sb**	**22 02 16.2**	**-1.2**
	baz=318							
NSK	**Sanguang**	**0.81**	**328**	*e*P		**Pb**	**22 02 06.5**	**-0.7**
	baz=329							
SSLB	**Suanglung**	**0.82**	**257**	⇑P		**Pn**	**22 02 06.8**	**-0.5**
	baz=260							
SSLB				*e*S		**Sb**	**22 02 16.9**	**-1.1**
	baz=260							
SMLT	**Sun Moon Lake**	**0.85**	**264⇑**	*i*P		**Pn**	**22 02 07.6**	**-0.3**
	baz=261							
SMLT				S		**Sb**	**22 02 18.6**	**-0.3**
	baz=261							
EGS		**0.87**	**6**	*e*P		**Pb**	**22 02 08.4**	**+0.4**
	baz=8.0							
EGS				*e*S		**Sn**	**22 02 19.8**	**+0.1**
	baz=8.0							
NTC	**Toucheng**	**0.87**	**0**	*e*P		**Pb**	**22 02 08.0**	**-0.1**
	baz=2.0							
TYC	**Yuchr**	**0.89**	**265⇑**	*i*P		**Pb**	**22 02 07.9**	**-0.5**
	baz=262							
FULB	**Fuli**	**0.92**	**212**	*e*P		**Pn**	**22 02 08.1**	**-0.6**
	baz=223							
FULB				*e*S		**Sn**	**22 02 21.7**	**+0.7**
	baz=223							
YUS	**Yu-Shan**	**0.94**	**239**	⇑P		**Pb**	**22 02 09.3**	**-0.3**
	baz=227							
CHKT	**Chengkung**	**0.97**	**206**	*e*P		**Pn**	**22 02 07.7**	**-1.7**
	baz=190							
LIOB	**Emei**	**0.99**	**312**	⇑P		**Pb**	**22 02 10.4**	**+0.3**
	baz=317							
NSTT	**Nanjuang**	**0.99**	**311**	*e*P		**Pb**	**22 02 10.0**	**-0.2**
	baz=318							
WJS	**Zhushan**	**1.02**	**261**	*e*P		**Pb**	**22 02 11.0**	**+0.5**
	baz=258							
TWA	**Mucha**	**1.02**	**348**	*e*P		**Pb**	**22 02 10.4**	**-0.2**
	baz=349							
TWQ1	**Liyutan**	**1.03**	**291**	⇑P		**Pb**	**22 02 11.1**	**+0.4**
	baz=290							
TWQ1				*e*S		**Sb**	**22 02 25.0**	**+1.1**
	baz=290							
TWB1	**Santiao Chiao**	**1.03**	**8**	*e*P		**Pb**	**22 02 10.6**	**-0.2**
	baz=9.0							
TWB1				*e*S		**Sb**	**22 02 24.0**	**-0.1**
	baz=9.0							
TATO	**Taipei**	**1.04**	**343**	*e*P		**Pb**	**22 02 10.4**	**-0.5**
	baz=343							
TATO				*e*S		**Sn**	**22 02 23.0**	**-0.9**
	baz=343							
WNT	**Mingjian**	**1.05**	**265**	*e*P		**Pb**	**22 02 11.4**	**+0.3**
	baz=262							
TCU	**Taichung**	**1.06**	**279**	*e*P		**Pb**	**22 02 12.2**	**+0.9**
	baz=277							
NSY	**Sanyi**	**1.06**	**294**	P		**Pb**	**22 02 11.8**	**+0.5**
	baz=293							
NSY				S		**Sb**	**22 02 26.4**	**+1.4**
	baz=293							
ELDTW	**Lidau**	**1.08**	**223**	⇑P		**Pn**	**22 02 10.1**	**-0.9**
	baz=211							
NWF	**Wu-fen Shan**	**1.09**	**358**	*e*P		**Pb**	**22 02 11.8**	**0.0**
	baz=346							
WFSB	**Wu-fen Shan**	**1.09**	**358**	*e*P		**Pb**	**22 02 11.7**	**0.0**
	baz=345							
WFSB				*e*S		**Sb**	**22 02 26.2**	**+0.7**
	baz=345							
TAP1	**Taipei**	**1.09**	**345**	*e*P		**Pn**	**22 02 09.4**	**-1.5**
	baz=345							
NMLH	**Miaoli**	**1.09**	**301**	*e*P		**Pb**	**22 02 12.0**	**+0.1**
	baz=299							
NMLH				*e*S		**Sb**	**22 02 27.5**	**+1.8**
	baz=299							
SBCB	**Hsinchu**	**1.11**	**317**	*e*P		**Pb**	**22 02 12.4**	**+0.2**
	baz=326							
CHN5	**Tsauling**	**1.12**	**250⇑**	*i*P		**Pb**	**22 02 12.4**	**+0.1**
	baz=248							
CHN5				*e*S		**Sb**	**22 02 28.0**	**+1.4**
	baz=248							
JYNG	**Yonagunijimaku**	**1.12**	**65**	P		**Pn**	**22 02 11.5**	**0.0**
JYNG				*e*S		**Sn**	**22 02 26.1**	**+0.1**
PTSB	**Yuanli**	**1.12**	**295**	*e*P		**Pb**	**22 02 12.5**	**+0.1**
	baz=293							
PTSB				*e*S		**Sb**	**22 02 27.5**	**+0.9**
	baz=293							
NCU	**National Centr**	**1.14**	**330**	*e*P		**Pb**	**22 02 12.4**	**-0.3**
	baz=329							
WCHH	**Zhanghua**	**1.16**	**275**	*e*P		**Pb**	**22 02 13.4**	**+0.4**
	baz=273							
WCHH				*e*S		**Sb**	**22 02 29.6**	**+1.9**
	baz=273							
TWS1	**Kuangyinshan**	**1.18**	**342**	*e*P		**Pb**	**22 02 12.4**	**-0.8**
	baz=342							
YOJ	**Yonaguni jima**	**1.18**	**66**	⇓P		**Pn**	**22 02 12.4**	**+0.2**
	baz=70							
YOJ				*e*S		**Sn**	**22 02 27.1**	**-0.3**
	baz=70							
YOJ	**Yonaguni jima**	**1.18**	**66**	P		**Pn**	**22 02 12.5**	**+0.2**
YOJ				*e*S		**Sn**	**22 02 27.6**	**+0.1**
YM01	**YM01**	**1.18**	**349**	*e*P		**Pb**	**22 02 13.4**	**0.0**
	baz=334							
YM10	**YM10**	**1.19**	**348**	*e*P		**Pb**	**22 02 12.8**	**-0.8**
	baz=334							
YM04	**YM04**	**1.20**	**347**	*e*P		**Pn**	**22 02 12.5**	**0.0**
	baz=347							
YM05	**YM05**	**1.20**	**349**	*e*P		**Pn**	**22 02 12.6**	**0.0**
	baz=334							
YM11	**YM11**	**1.20**	**349**	*e*P		**Pb**	**22 02 13.1**	**-0.7**
	baz=334							
YM07	**YM07**	**1.20**	**351**	*e*P		**Pn**	**22 02 12.8**	**+0.1**
	baz=336							
WDLH	**Douliu**	**1.21**	**256**	*e*P		**Pb**	**22 02 13.8**	**-0.1**
	baz=253							
YM03	**YM03**	**1.22**	**348**	*e*P		**Pb**	**22 02 13.3**	**-0.8**
	baz=349							
YM08	**YM08**	**1.22**	**350**	*e*P		**Pn**	**22 02 12.5**	**-0.4**
	baz=334							
STYT	**Tauyuan**	**1.27**	**231⇓**	*e*P		**Pb**	**22 02 14.3**	**-0.7**
	baz=218							
TPUB	**Ta-pu**	**1.29**	**239**	⇑P		**Pb**	**22 02 14.9**	**-0.2**
	baz=237							
TPUB				*e*S		**Sb**	**22 02 32.4**	**+1.1**
	baz=237							
CHN4	**Tsaushan**	**1.29**	**241**	P		**Pb**	**22 02 15.2**	**0.0**
	baz=232							
CHN4				*e*S		**Sb**	**22 02 33.2**	**+1.8**
	baz=232							
TWY	**Chenhua**	**1.31**	**351**	*e*P		**Pb**	**22 02 15.1**	**-0.4**
	baz=336							
CHN2	**Minshiung**	**1.32**	**250**	*e*P		**Pb**	**22 02 15.6**	**0.0**
	baz=248							
WTP	**Ta-pu**	**1.33**	**237⇑**	*e*P		**Pb**	**22 02 15.5**	**-0.4**
	baz=235							
WTP				*e*S		**Sb**	**22 02 34.5**	**+1.9**
	baz=235							
RLNB	**Erlin**	**1.34**	**266**	*e*P		**Pb**	**22 02 15.9**	**-0.2**
	baz=264							
TWGBT	**Beinan**	**1.34**	**211**	*e*P		**Pn**	**22 02 13.6**	**-1.0**
	baz=197							
TWG	**Pinlang**	**1.35**	**211**	*e*P		**Pn**	**22 02 13.4**	**-1.1**
	baz=209							
TWG				*e*S		**Sn**	**22 02 31.4**	**-0.2**
	baz=209							
TWK	**Hsinying**	**1.42**	**240**	*e*P		**Pb**	**22 02 16.8**	**-0.6**
	baz=238							
TWK				*e*S		**Sb**	**22 02 35.7**	**+0.6**
	baz=238							
WTCT	**Ta-ch'eng**	**1.42**	**266**	*e*P		**Pb**	**22 02 17.1**	**-0.3**
	baz=263							
SGST	**Jiashian**	**1.45**	**232**	*e*P		**Pb**	**22 02 17.8**	**-0.1**
	baz=230							
SGST				*e*S		**Sb**	**22 02 38.0**	**+2.1**
	baz=230							
WLGB	**Puzi**	**1.48**	**251**	*e*P		**Pb**	**22 02 18.0**	**-0.5**
	baz=248							
WSF	**Szhu**	**1.51**	**257**	*e*P		**Pb**	**22 02 18.1**	**-0.8**
	baz=256							
WSF				*e*S		**Sb**	**22 02 38.5**	**+1.0**
	baz=256							
ECL	**Taimali**	**1.59**	**210**	*e*P		**Pn**	**22 02 17.1**	**-0.9**
	baz=198							
CHN8	**Yiju**	**1.61**	**247**	*e*P		**Pb**	**22 02 19.4**	**-1.2**
	baz=246							
CHN8				*e*S		**Sb**	**22 02 41.1**	**+0.6**
	baz=246							
SSD	**Sandimen**	**1.65**	**222**	*e*P		**Pb**	**22 02 20.3**	**-0.9**
	baz=219							
PCYT	**Pengchaiyu**	**1.66**	**8**	*e*P		**Pn**	**22 02 19.8**	**+1.0**
	baz=8.0							
MASBT	**Mashibuluo**	**1.75**	**219**	*e*P		**Pn**	**22 02 20.7**	**+0.6**
	baz=216							
IRIF	**Iriomote-Funau**	**1.77**	**78**	P		**Pn**	**22 02 20.8**	**+0.4**
IRIF				S		**Sn**	**22 02 42.2**	**+0.1**
HATJ	**Hateruma jima**	**1.81**	**87**	P		**Pn**	**22 02 21.5**	**+0.6**
HATJ				*e*S		**Sn**	**22 02 43.0**	**0.0**
EAST	**Anshuo**	**1.83**	**210**	*e*P		**Pn**	**22 02 22.0**	**+0.8**
	baz=199							
SCZT	**Fangliau**	**1.95**	**215**	*e*P		**Pb**	**22 02 24.4**	**-2.0**
	baz=200							
LAY	**Lan-yu**	**1.95**	**188**	*e*P		**Pn**	**22 02 21.5**	**-1.4**
	baz=185							
JKRS	**Kuro-shima**	**2.01**	**82**	P		**Pn**	**22 02 24.9**	**+1.2**
JKRS				*e*S		**Sn**	**22 02 48.5**	**+0.6**
WDGT	**Dungji**	**2.11**	**251**	*e*P		**Pn**	**22 02 25.4**	**+0.3**
	baz=248							
PHUB	**P'eng-hu**	**2.12**	**258**	*e*P		**Pn**	**22 02 25.6**	**+0.4**
	baz=257							
PHUB				*e*S		**Sn**	**22 02 51.1**	**+0.6**
	baz=257							
PNG	**Penghu**	**2.12**	**259**	*e*P		**Pn**	**22 02 25.9**	**+0.7**
	baz=257							
JIJ	**Ishigaki jima**	**2.15**	**79**	P		**Pn**	**22 02 25.8**	**+0.2**
JIJ				S		**Sn**	**22 02 50.4**	**-1.0**
TWKBT	**Hengchun**	**2.23**	**205**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**23.32**	**5**	P	P	22 08 33.9	-1.3
	7.1nm,0.6s,baz=214,slow=11,SNR=3.3						
WRA	**Warramunga Arr**	**24.68**	**161**	P	P	22 08 47.6	0.0
	3.0nm,0.4s,baz=340,slow=10,SNR=56						
WRA				S	S	22 12 46.8	-1.3
	0.2nm,0.5s,baz=332,slow=22,SNR=5.1						
ASAR	**Alice Springs**	**28.07**	**164**	P	P	22 09 17.9	+0.1
	0.6nm,0.4s,baz=342,slow=7.2,SNR=13						
KSRS	**Korea Array**	**33.85**	**3**	P	P	22 10 08.2	+0.2
	1.2nm,0.4s,baz=183,slow=9.5,SNR=4.8						
STKA	**Stephens Creek**	**38.17**	**158**	P	P	22 10 45.4	+0.7
	1.1nm,0.3s,baz=9.1,slow=8.5,SNR=3.7						
SONM	**Songino Array**	**47.30**	**342**	P	P	22 11 55.8	-1.6
	0.6nm,0.8s,baz=142,slow=7.4,SNR=3.7						
SONM				PcP	PcP	22 13 26.1	+2.6
	0.3nm,0.7s,baz=164,slow=2.7,SNR=2.5						
MKAR	**Makanchi Array**	**57.34**	**326**	P	P	22 13 09.3	-1.5
	0.4nm,0.4s,baz=121,slow=7.4,SNR=11						
MKAR				PcP	PcP	22 14 03.1	+1.8
	1.6nm,0.7s,baz=149,slow=3.1,SNR=9.5						
ARCES	**ARCESS Array B**	**90.42**	**340**	P	P	22 16 22.0	+1.0
	4.9nm,1.0s,baz=93,slow=5.9,SNR=3.0						
FINES	**FINESS Array B**	**91.70**	**332**	P	P	22 16 27.1	+0.1
	3.6nm,1.0s,baz=54,slow=7.1,SNR=3.7						

IDC ***19*** *22:14:02.2±1.8,5.°81S×152.°06E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.7/50, mbtmp3.8/6, ML2.3/1, Error ellipse: s-maj=67.5km s-min=20.9km az=122.0*

ISCJB ***19*** *22:14:07.0±1.6,5.°8S±0.°3×151.°9E±0.°3, h36km, mb3.6/5, Error ellipse: s-maj=55.4km s-min=11.7km az=39.9*

ISC 19 22:14:07.7±1.9,5.°9S±0.°3×152.°1E±0.°3, h36km, n7, σ0s89/8, mb3.8/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.00**	**234**	Pn	**Pn**	**22 15 34.5**	**+0.6**
	4.3nm,0.3s,baz=47,slow=13,SNR=16						
PMG				Sn	**Sn**	**22 16 41.1**	**-0.3**
	3.7nm,0.3s,baz=339,slow=20,SNR=3.9						
WRA	**Warramunga Arr**	**22.19**	**229**	P	**P**	**22 19 00.5**	**-0.6**
	4.1nm,0.7s,baz=54,slow=10.0,SNR=41						
ASAR	**Alice Springs**	**24.87**	**223**	P	**P**	**22 19 27.6**	**+0.3**
	2.7nm,0.7s,baz=57,slow=9.1,SNR=29						
SONM	**Songino Array**	**66.81**	**328**	P	**P**	**22 24 55.4**	**-0.5**
	0.2nm,0.5s,baz=136,slow=5.2,SNR=1.7						
MKAR	**Makanchi Array**	**80.62**	**319**	P	**P**	**22 26 17.6**	**+0.8**
	0.1nm,0.5s,baz=99,slow=7.1,SNR=2.9						
ILAR	**Eielson Array**	**83.47**	**22**	P	**P**	**22 26 31.3**	**+0.3**
	0.5nm,0.6s,baz=254,slow=5.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**149.90**	**286**	PKPbc	**PKPbc**	**22 33 53.8**	**-1.4**
	0.6nm,0.6s,baz=93,slow=2.6,SNR=13						

ISCJB ***19*** *22:19:27.5±0.5,42.°32N±0.°06×137.°20E±0.°06, h289km, mb3.5/6, Error ellipse: s-maj=7.8km s-min=6.6km az=179.3*

JMA ***19*** *22:19:28.3±0.3,42.°27N×137.°36E, h306km, M3.5*

IDC ***19*** *22:19:28.6±1.2,42.°35N×137.°20E, h296km±12km, mb3.2/6, mb1 3.3/11, mb1mx3.0/75, mbtmp3.8/11, Error ellipse: s-maj=19.2km s-min=12.4km az=85.0*

ISC 19 22:19:27.8±0.7,42.°31N±0.°07×137.°35E±0.°07, h289km, n28, σ1s83/32, mb3.3/6, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**1.59**	**97**	P	**Pn**	**22 20 12.4**	**+1.9**
JHST	**Hiyamasetana**	**1.88**	**86**	P	**Pn**	**22 20 14.8**	**+2.3**
JSH	**Shimam**	**2.02**	**80**	P	**Pn**	**22 20 15.9**	**+2.2**
JSK	**Shakotan**	**2.52**	**65**	P	**Pn**	**22 20 20.1**	**+2.0**
JKB	**Kayabe**	**2.77**	**98**	P	**Pn**	**22 20 22.6**	**+2.1**
JOT	**Ohata**	**2.91**	**107**	P	**Pn**	**22 20 23.8**	**+1.9**
JHR	**Hokuryu**	**3.51**	**64**	P	**Pn**	**22 20 30.5**	**+2.5**
JANG	**Nango**	**3.68**	**120**	*e*S	**S**	**22 21 19.3**	**-0.4**
JFR	**Furan**	**3.96**	**76**	P	**Pn**	**22 20 34.3**	**+1.4**
JNBK	**Urakawa-nobuka**	**4.01**	**89**	P	**Pn**	**22 20 34.7**	**+1.2**
JYK	**Kaneyama**	**4.09**	**145**	P	**Pn**	**22 20 35.8**	**+1.3**
ASAJ	**Asahikawa**	**4.24**	**63**	P	**Pn**	**22 20 37.9**	**+1.9**
	14nm,0.3s,baz=242,slow=7.8,SNR=12						
USRK	**Ussuriysk Ar.**	**4.35**	**298**	P	**Pn**	**22 20 37.6**	**+0.3**
	1.4nm,0.3s,baz=98,slow=12,SNR=18						
JWK2	**Keihoku**	**4.46**	**46**	P	**Pn**	**22 20 41.3**	**+2.9**
JCH	**Churui**	**4.46**	**84**	P	**Pn**	**22 20 39.4**	**+0.9**
JCH				*e*S	**S**	**22 21 33.3**	**-1.9**
JMK	**Ichinoseki**	**4.46**	**137**	P	**Pn**	**22 20 39.0**	**+0.3**
JTKR	**Abashiri--Toko**	**5.08**	**69**	P	**Pn**	**22 20 47.2**	**+1.5**
JTKR				*e*S	**S**	**22 21 50.1**	**+1.9**
MJAR	**Matsushiro Arr**	**5.80**	**173**	P	**Pn**	**22 20 56.5**	**+2.1**
	1.2nm,0.3s,baz=355,slow=11,SNR=9.3						
NEM2	**Nemuro 2**	**6.26**	**77**	P	**Pn**	**22 20 59.7**	**-0.1**
NEM2				*e*S	**S**	**22 22 08.6**	**-5.4**
JRY	**Ryogami san**	**6.40**	**169**	P	**Pn**	**22 21 02.0**	**+0.3**
KLR	**Kul'dur**	**7.95**	**332**	P	**Pn**	**22 21 20.1**	**-0.3**
	0.5nm,0.3s,baz=158,slow=12,SNR=8.5						
KSRS	**Korea Array**	**8.72**	**239**	P	**Pn**	**22 21 30.1**	**0.0**
	0.4nm,0.3s,baz=61,slow=13,SNR=5.4						
TIXI	**Tiksi**	**29.71**	**355**	P	**P**	**22 25 05.9**	**-1.1**
	1.2nm,0.3s,baz=146,slow=5.7,SNR=5.6						
ZALV	**Zalesovo Beam**	**36.13**	**307**	P	**P**	**22 26 01.9**	**-0.6**
	0.5nm,0.5s,baz=113,slow=6.6,SNR=3.1						
ILAR	**Eielson Array**	**46.83**	**35**	P	**P**	**22 27 29.4**	**+0.7**
	0.9nm,0.7s,baz=289,slow=8.9,SNR=9.5						
WRA	**Warramunga Arr**	**62.00**	**183**	P	**P**	**22 29 17.6**	**-0.1**
	0.2nm,0.4s,baz=360,slow=7.1,SNR=19						
WRA				PcP	**PcP**	**22 29 54.9**	**-0.3**
	0.1nm,0.5s,baz=359,slow=5.0,SNR=3.2						
FINES	**FINESS Array B**	**62.69**	**330**	P	**P**	**22 29 21.3**	**-0.4**
	4.7nm,1.0s,baz=47,slow=6.3,SNR=4.3						
ASAR	**Alice Springs**	**65.72**	**183**	P	**P**	**22 29 43.0**	**+1.2**
	0.2nm,0.5s,baz=1.6,slow=5.7,SNR=3.6						

IDC 19 22:19:58.2±8.5,15.°75S×172.°09W, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.5/52, mbtmp3.4/3, Error ellipse: s-maj=373.7km s-min=35.6km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**51.00**	**257**	P	P	22 29 02.3	0.0
	0.1nm,0.3s,baz=92,slow=8.2,SNR=6.5						
ASAR	**Alice Springs**	**51.21**	**252**	P	P	22 29 03.7	-0.2
	1.2nm,0.7s,baz=90,slow=8.2,SNR=13						
ILAR	**Eielson Array**	**82.55**	**11**	P	P	22 32 22.5	0.0
	0.3nm,0.9s,baz=191,slow=4.1,SNR=2.9						

IDC ***19*** *22:23:40.3±1.5,22.°82N×95.°95E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.3/72, mbtmp3.6/4, ML3.9/1, MS3.7/3, Ms1 3.7/3, ms1mx2.8/60, Error ellipse: s-maj=38.8km s-min=18.0km az=66.0*

ISC 19 22:23:42.6±1.5,22.°6N±0.°3×95.°7E±0.°3, h10km, n13, σ2s09/9, mb3.5/3, MS3.8/3, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMMT	**Chiang Mai**	**4.88**	**140**	P	**Pn**	**22 24 55.3**	**-0.8**
PAYA	**Payao**	**5.10**	**129**	P	**Pn**	**22 24 59.8**	**+0.7**
PAYA	**Payao**	**5.10**	**129**	P	**Sg**	**22 26 24.7**	**-1.7**
CMAR	**Chiang Mai Arr**	**5.16**	**143**	Pn	**Pn**	**22 24 57.8**	**-2.1**
	1.0nm,0.3s,baz=322,slow=13,SNR=9.9						
CMAR				Pg	**Pb**	**22 25 16.2**	**+3.3**
	2.5nm,0.3s,baz=328,slow=19,SNR=6.7						
CMAR				Lg	Lg	22 26 24.2	
	3.3nm,0.3s,baz=320,slow=31,SNR=7.3						
CMAR				LR	LR	22 27 24.4	
	comp=Z,50nm,18.1s,baz=333,slow=43						
LAMP	**Lampang**	**5.52**	**137**	P	**Sg**	**22 26 37.7**	**-2.2**
NANT	**Nan**	**6.06**	**128**	P	Pb	22 25 23.2	-5.1
UTTA	**Uttaradit**	**6.68**	**136**	P	**Pn**	**22 25 21.8**	**+1.0**
MKAR	**Makanchi Array**	**26.43**	**339**	P	**P**	**22 29 18.6**	**-0.9**
	0.7nm,0.8s,baz=148,slow=10,SNR=7.2						
KBZ	**Khabaz**	**48.03**	**309**	LR	LR	22 56 24.2	
	comp=Z,134nm,19.3s,baz=126,slow=41						
KVAR	**Kislovodsk Arr**	**48.21**	**309**	LR	LR	22 58 43.9	
	comp=Z,40nm,21.1s,baz=96,slow=44						
PETK	**Petropavlovsk-**	**55.52**	**40**	P	P	22 33 13.6	-4.1
	1.8nm,0.7s,baz=260,slow=8.6,SNR=2.7						
WRA	**Warramunga Arr**	**56.71**	**135**	P	**P**	**22 33 25.9**	**-0.7**
	0.5nm,0.9s,baz=323,slow=7.9,SNR=4.1						
KEST	**Kesra**	**74.29**	**302**	LR	LR	23 14 29.9	
	comp=Z,48nm,18.1s,baz=276,slow=41						

NEIC ***19*** *22:24:48.7±0.0, 17.°77N×93.°23W, h10km, MD4.3(MEX), After MEX.*

MEX 19 22:24:48.6±0.5,17.°62N×93.°28W, h5km, MD4.3, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.62**	**251**	*e*P	Pn	22 25 14.5	-3.4
CMIG				*e*S	Sn	22 25 34.1	-5.1
CMIG	**Matias Romero**	**1.62**	**251**	*e*P	Pn	22 25 14.2	-3.7
CMIG				*e*S	Sn	22 25 34.0	-5.2
HUIG	**Huatulco**	**3.28**	**236**	*e*P	Pn	22 25 37.1	-3.6
HUIG				*e*S	Sn	22 26 18.7	-1.4
HUIG	**Huatulco**	**3.28**	**236**	*e*P	Pn	22 25 37.1	-3.6
HUIG				*i* S	Sn	22 26 17.0	-3.1
VHO	**Vista Hermosa**	**3.35**	**261**	*e*P	Pn	22 25 40.7	-1.1
VHO				*e*S	Sn	22 26 16.6	-5.5
VHO	**Vista Hermosa**	**3.35**	**261**	*e*P	Pn	22 25 39.0	-2.8
VHO				*e*S	Sn	22 26 18.3	-3.7
PNIG	**Pinotepa**	**4.80**	**256**	*e*P	Pn	22 25 57.4	-4.3
PNIG				*e*S	Sn	22 26 53.8	-3.9
PNIG	**Pinotepa**	**4.80**	**256**	*e*P	Pn	22 25 58.0	-3.6
PNIG				*e*S	Sn	22 26 53.8	-3.9
TEIG	**Tepich**	**5.39**	**61**	Pn	Pn	22 26 13.0	+3.3
TEIG				Sn	Sn	22 27 12.8	+0.5

TEH ***19*** *22:29:12.0,31.°21N×50.°93E, h5km, ML3.2*

IDC ***19*** *22:29:12.1±15.0,31.°26N×50.°29E, h0km, mb3.9/4, mb1 3.9/4, mb1mx3.4/60, mbtmp3.9/4, MS4.1/2, Ms1 4.1/2, ms1mx2.6/45, Error ellipse: s-maj=337.0km s-min=38.9km az=112.0*

ISC 19 22:29:11.9±0.9,31.°17N±0.°06×50.°87E±0.°04, h10km, n37, σ2s23/35, mb4.3/8,2C, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLNJ	**Kolanjah**	**0.64**	**105**	*e*Pg	**Pg**	**22 29 23.4**	**-1.0**
KLNJ				*e*Sg	**Sg**	**22 29 33.6**	**+0.8**
KLNJ				IAMB	IAmb	22 29 34.9	
	comp=E,0.0nm,0.2s						
KLNJ				IAMB	IAmb	22 29 36.3	
	comp=Z,0.0nm,0.2s						
KLNJ				IAMB	IAmb	22 29 38.1	
	comp=N,0.0nm,0.2s						
IBRJ	**Brojen**	**0.81**	**24**	*e*Pg	**Pg**	**22 29 26.3**	**-1.2**
IBRJ				*e*Sg	**Sg**	**22 29 38.9**	**+0.8**
IBRJ				IAMB	IAmb	22 29 43.1	
	comp=N,7μm,0.5s						
IBRJ				IAMB	IAmb	22 29 43.9	
	comp=E,8μm,0.4s						
IBRJ				IAMB	IAmb	22 29 46.0	
	comp=Z,5μm,0.4s						
ZNGN	**Zangian**	**0.94**	**359**	*e*Pg	**Pg**	**22 29 29.8**	**-0.4**
ZNGN				IAMB	IAmb	22 29 51.8	
	comp=E,0.0nm,0.6s						
ZNGN				IAMB	IAmb	22 29 55.7	
	comp=Z,0.0nm,0.5s						
ZNGN				IAMB	IAmb	22 29 56.0	
	comp=N,0.0nm,0.3s						
ROKH	**ROKH**	**1.18**	**7**	*e*Pg	**Pb**	**22 29 33.8**	**-0.8**
ROKH				IAMB	IAmb	22 29 57.9	
	comp=N,0.0nm,0.3s						
ROKH				IAMB	IAmb	22 29 58.1	
	comp=Z,0.0nm,0.4s						
ROKH				IAMB	IAmb	22 29 58.7	
	comp=E,0.0nm,0.5s						
IRAM	**Ramesheh**	**1.44**	**63**	*e*Pg	**Pn**	**22 29 37.7**	**-0.5**
IRAM				IAMB	IAmb	22 29 43.4	
	comp=N,3μm,0.3s						
IRAM				IAMB	IAmb	22 29 44.0	
	comp=E,3μm,0.2s						
IRAM				IAMB	IAmb	22 30 01.9	
	comp=Z,3μm,0.3s						
IPIR	**Pirpir**	**1.51**	**1**	*e*Pn	**Pn**	**22 29 41.1**	**+1.8**
IPIR				IAMB	IAmb	22 30 06.8	
	comp=Z,5μm,0.6s						
IPIR				IAMB	IAmb	22 30 07.4	
	comp=N,4μm,0.4s						
IPIR				IAMB	IAmb	22 30 11.0	
	comp=E,3μm,0.5s						
IGAR	**Gharneh**	**1.58**	**39**	*e*Pn	**Pn**	**22 29 41.2**	**+1.0**
IGAR				IAMB	IAmb	22 29 44.5	
	comp=Z,3μm,0.2s						
IGAR				IAMB	IAmb	22 29 44.8	
	comp=N,5μm,0.2s						
AHWZ	**Ahwaz**	**1.92**	**275**	IAMB	IAmb	22 30 14.0	
	comp=Z,0.0nm,0.1s						
AHWZ				IAMB	IAmb	22 30 14.1	
	comp=E,0.0nm,0.1s						
AHWZ				IAMB	IAmb	22 30 19.0	
	comp=N,0.0nm,0.2s						
SHGR	**Shooshtar-Gavs**	**2.00**	**298**	*e*Pn	**Pn**	**22 29 49.4**	**+3.6**
IZEF	**Zefreh**	**2.12**	**35**	*e*Pn	**Pn**	**22 29 49.7**	**+2.0**
IZEF				IAMB	IAmb	22 29 59.3	
	comp=Z,733nm,0.5s						
IZEF				IAMB	IAmb	22 30 26.1	
	comp=N,458nm,0.3s						
IZEF				IAMB	IAmb	22 30 33.5	
	comp=E,706nm,0.5s						
IKLH	**Kolahrood**	**2.22**	**15**	*e*Pn	**Pn**	**22 29 52.8**	**+3.7**
IKLH				IAMB	IAmb	22 30 30.3	
	comp=E,1μm,0.6s						
IKLH				IAMB	IAmb	22 30 31.3	
	comp=N,2μm,0.3s						
IKLH				IAMB	IAmb	22 30 37.2	
	comp=Z,935nm,0.4s						
ISAD	**Sadrabad**	**2.51**	**72**	*e*Pn	**Pn**	**22 29 56.3**	**+3.2**
ISAD				IAMB	IAmb	22 30 03.1	
	comp=Z,1μm,0.3s						
ISAD				IAMB	IAmb	22 30 34.0	
	comp=E,1μm,0.4s						
ISAD				IAMB	IAmb	22 30 38.8	
	comp=N,1μm,0.4s						
KHMZ	**Khomeyn**	**2.67**	**343**	*e*Pn	**Pn**	**22 29 57.7**	**+2.4**
KRSH	**Karshahi**	**2.99**	**21**	*e*Pn	**Pn**	**22 30 02.3**	**+2.8**
KRSH				IAMB	IAmb	22 30 44.7	
	comp=Z,0.0nm,0.3s						
KRSH				IAMB	IAmb	22 30 57.5	
	comp=E,0.0nm,0.6s						
KRSH				IAMB	IAmb	22 30 58.6	
	comp=N,0.0nm,0.7s						
ANAR	**Anarak**	**3.15**	**50**	IAMB	IAmb	22 30 11.6	
	comp=N,0.0nm,0.6s						
ANAR				*e*Pn	**Pn**	**22 30 04.4**	**+2.7**
ANAR				IAMB	IAmb	22 30 14.8	
	comp=E,0.0nm,0.4s						
ANAR				IAMB	IAmb	22 30 17.8	
	comp=Z,0.0nm,0.3s						
ICHK	**Chekchek**	**3.20**	**70**	IAMB	IAmb	22 30 13.3	
	comp=Z,467nm,0.2s						
ICHK				*e*Pn	**Pn**	**22 30 05.6**	**+3.1**
ICHK				IAMB	IAmb	22 30 47.0	
	comp=E,473nm,0.3s						
ICHK				IAMB	IAmb	22 30 48.4	
	comp=N,423nm,0.4s						
IMEH	**Mehriz**	**3.21**	**85**	IAMB	IAmb	22 30 11.0	
	comp=Z,279nm,0.2s						
IMEH				*e*Pn	**Pn**	**22 30 05.8**	**+3.2**
IMEH				IAMB	IAmb	22 31 02.1	
	comp=N,372nm,0.6s						
YZKH	**Yazd**	**3.39**	**68**	*e*Pn	**Pn**	**22 30 08.5**	**+3.5**
IKFM	**Kafar-mosalman**	**3.47**	**313**	*e*Pn	**Pn**	**22 30 08.8**	**+2.8**
IKFM				IAMB	IAmb	22 31 21.3	
	comp=E,0.0nm,0.6s						
IKFM				IAMB	IAmb	22 31 22.2	
	comp=Z,0.0nm,1.0s						
IKFM				IAMB	IAmb	22 31 35.3	
	comp=N,0.0nm,1.0s						
HAGD	**Aghdareh**	**3.92**	**339**	*e*Pn	**Pn**	**22 30 15.1**	**+2.7**
IKOM	**Komasi**	**4.12**	**317**	*e*Pn	**Pn**	**22 30 17.3**	**+2.1**
IKOM				IAMB	IAmb	22 31 41.9	
	comp=N,0.0nm,0.5s						
IKOM				IAMB	IAmb	22 31 42.3	
	comp=E,0.0nm,1.0s						
IDMV	**Damavand**	**4.50**	**12**	IAMB	IAmb	22 30 25.5	
	comp=Z,161nm,0.1s						
IDMV				IAMB	IAmb	22 30 26.3	
	comp=E,129nm,0.2s						
IDMV				IAMB	IAmb	22 30 27.3	
	comp=N,220nm,0.2s						
IVIS	**Veis**	**4.76**	**316**	*e*Pn	**Pn**	**22 30 24.7**	**+0.9**
IVIS				IAMB	IAmb	22 31 26.5	
	comp=E,148nm,0.3s						
IVIS				IAMB	IAmb	22 31 27.4	
	comp=N,254nm,0.4s						
IVIS				IAMB	IAmb	22 31 32.2	
	comp=Z,116nm,0.4s						
IANJ	**Anjilo**	**4.98**	**30**	*e*Pn	**Pn**	**22 30 29.3**	**+2.3**
IALA	**Alasht**	**5.16**	**18**	*e*Pn	**Pn**	**22 30 33.4**	**+3.9**
IALA				IAMB	IAmb	22 30 37.1	
	comp=Z,186nm,0.2s						
IALA				IAMB	IAmb	22 30 37.8	
	comp=E,288nm,0.3s						
TKDS	**Koohdasht(Taba**	**5.82**	**64**	*e*Pn	**Pn**	**22 30 40.8**	**+2.4**
VOIR		**24.63**	**313**	⇑*i*P	**P**	**22 34 33.2**	**+0.6**
AKASG	**Malin Array Be**	**25.29**	**327**	P	**P**	**22 34 36.8**	**-1.6**
	comp=E,0.4nm,0.3s,baz=134,slow=9.0,SNR=3.9						
BURAR	**Bucovina Array**	**25.57**	**317**	⇑*i*P	**P**	**22 34 40.1**	**-1.0**
SQTA	**Sankt Quirin**	**34.25**	**309**	P	**P**	**22 35 57.0**	**-1.0**
	comp=E,5.1nm,0.3s						
MOTA	**Moosalm**	**34.34**	**310**	P	**P**	**22 35 57.6**	**-1.3**
	comp=E,2.0nm,0.3s						
FINES	**FINESS Array B**	**34.35**	**339**	P	**P**	**22 35 57.7**	**-0.9**
	comp=E,3.7nm,0.9s,baz=154,slow=7.6,SNR=6.0						
FETA	**Feichten**	**34.52**	**309**	P	**P**	**22 35 59.7**	**-0.8**
	comp=E,0.7nm,0.2s						
DAVA	**Damuels**	**35.14**	**309**	P	**P**	**22 36 04.8**	**-1.1**
	comp=E,7.6nm,0.3s						
HFS	**Hagfors**	**38.03**	**331**	P	**P**	**22 36 29.4**	**-0.7**
	comp=E,4.8nm,1.1s,baz=125,slow=9.3,SNR=3.4						
HFS				LR	LR	22 52 07.3	
	comp=E,354nm,20.5s,baz=276,slow=36						
TORD	**Torodi Ar. Bea**	**48.53**	**260**	P	P	22 37 53.4	-2.1
	comp=E,0.2nm,0.3s,baz=57,slow=7.9,SNR=11						
JNU	**Nanatsue**	**66.11**	**65**	LR	LR	23 12 42.9	
	comp=E,110nm,18.1s,baz=282,slow=39						

IDC ***19*** *22:37:59.6±0.7,30.°40N×67.°50E, h0km, mb4.0/28, mb1 4.1/32, mb1mx4.0/61, mbtmp4.0/32, ML4.1/3, MS3.9/18, Ms1 3.9/18, ms1mx3.6/48, Error ellipse: s-maj=15.9km s-min=11.3km az=9.0*

ISCJB ***19*** *22:38:00.7±0.3,30.°41N±0.°03×67.°61E±0.°03, h14km, mb4.2/57, MS3.9/20, Error ellipse: s-maj=4.9km s-min=3.5km az=30.0*

NNC ***19*** *22:38:00.3±5.5,30.°31N×67.°88E, h0km, mb4.3, Error ellipse: s-maj=79.3km s-min=50.7km az=133.0*

NEIC ***19*** *22:38:01.3±2.4,30.°40N×67.°46E, h9km±15km, mb4.5/14, Error ellipse: s-maj=6.3km s-min=4.7km az=176.0*

NEIC Felt in the Quetta area.

BJI ***19*** *22:38:01.5,30.°50N×67.°71E, h6km, mb4.5/39, mB4.9/24, Ms4.6/21, Ms7 4.4/19*

MOS ***19*** *22:38:03.8±1.1,30.°50N×67.°59E, h33km, mb4.4/31, Error ellipse: s-maj=8.6km s-min=5.7km az=85.7*

ISC 19 22:38:02.3±0.4,30.°31N±0.°05×67.°60E±0.°04, h14km, n170, σ2s31/168, mb4.3/58, MS4.0/23, 24C-12D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**4.39**	**16**	*e*Pn	**Pn**	**22 39 09.6**	**+0.9**
KBL	**Kabul**	**4.39**	**16**	*e*P	**Pn**	**22 39 09.6**	**+0.9**
BHJ	**Bhuj**	**7.27**	**165**	*e*P	**Pn**	**22 39 49.5**	**+1.5**
DHRM	**DHARAMSHALA**	**7.70**	**73**	*e*P	**Pn**	**22 39 55.8**	**+1.7**
DHRM				*e*S	**Sn**	**22 41 19.8**	**-1.4**
DHRM				IAML		22 42 14.0	
	comp=E,54nm,0.2s						
DHRM				IAML		22 42 16.4	
	comp=N,48nm,0.0s						
SMLA	**Simla**	**8.28**	**82**	*e*P	**Pn**	**22 40 02.6**	**+0.7**
SMLA				*e*S	**Sn**	**22 41 31.6**	**-3.6**
SMLA				IAML		22 42 23.6	
	comp=N,38nm,0.0s						
SMLA				IAML		22 42 24.2	
	comp=E,36nm,0.5s						
NDI	**New Delhi**	**8.54**	**99**	*e*P	**Pn**	**22 40 06.0**	**+0.5**
NDI				*e*S	**Sn**	**22 41 37.0**	**-4.7**
DDI	**Dehra Dun**	**9.04**	**87**	*e*P	**Pn**	**22 40 14.9**	**+2.4**
DDI				*e*S	**Sn**	**22 41 49.8**	**-4.3**
DDI				IAML		22 42 35.9	
	comp=N,38nm,0.4s						
DDI				IAML		22 42 36.2	
	comp=E,31nm,0.3s						
WSAR	**Wadi Sarin**	**10.66**	**231**	Pn	**Pn**	**22 40 33.3**	**-1.4**
	comp=E,0.7nm,0.3s,baz=86,slow=6.2,SNR=9.8						
WSAR				Sn	**Sn**	**22 42 28.1**	**-5.9**
	comp=E,0.8nm,0.3s,baz=286,slow=18,SNR=4.9						
WSAR				LR	LR	22 45 39.9	
	comp=E,294nm,22.0s,baz=70,slow=43						
SFK	**Sufi-Kurgan**	**10.81**	**25**	⇓P	**Pn**	**22 40 37.1**	**+0.2**
	comp=E,27nm,1.2s						
SFK				⇓S	**Sn**	**22 42 37.9**	**0.0**
	comp=E,11nm,0.9s						
GEYT	**Alibeck**	**10.92**	**317**	Pn	**Pn**	**22 40 36.6**	**-1.6**
	baz=111,slow=7.9,SNR=2.1						
GYA0B	**ALIBECK ARRAY**	**10.92**	**317**	*e*Pn	**Pn**	**22 40 42.3**	**+4.1**
BHPL	**Bhopal**	**11.25**	**126**	*e*P	**Pn**	**22 40 45.3**	**+2.5**
KSH	**Kashi**	**11.46**	**35**	P	**Pn**	**22 40 42.0**	**-3.7**
KSH				pP		22 40 45.1	
KSH				PP	**PnPn**	**22 40 51.0**	**-2.5**
KSH				S	Sn	22 42 42.4	-11
KSH				SS	**SnSn**	**22 42 56.5**	**-9.2**
KSH				pmax	pmax		
	comp=E,69nm,0.6s						
KSH				pmax	pmax		
	comp=E,500nm,3.7s						
KSH				LR	LR		
	comp=E,3μm,7.8s						
KSH				LR	LR		
	comp=E,3μm,9.4s						
KSH				LR	LR		
	comp=E,3μm,10.1s						
MNAS	**Manas**	**12.77**	**17**	⇑P	**Pn**	**22 41 02.3**	**-1.3**
	comp=E,32nm,0.9s						
MNAS				⇑S	**Sn**	**22 43 23.9**	**-1.7**

MK31	**Makanchi Array**	**20.01**	**31**	*eP*	**P**	**22 42 33.6**	**-1.0**
MK31	**Makanchi Array**	**20.01**	**31**	*eP*	**P**	**22 42 33.6**	**-1.0**
MKAR	**Makanchi Array**	**20.01**	**31**	P	**P**	**22 42 33.1**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=204,slow=11,SNR=24						
MKAR				LR	LR	22 51 23.3	
	comp=Z,599nm,20.5s,baz=218,slow=40						
MKAR	**Makanchi Array**	**20.01**	**31**	*eP*	**P**	**22 42 33.6**	**-1.0**
	comp=Z,41nm,0.6s						
LSA	**Lhasa**	**20.40**	**86**	P	Pn	22 42 41.6	+0.1
LSA				pmax	pmax		
	comp=Z,17nm,1.2s						
LSA	**Lhasa**	**20.40**	**86**	*eP*	Pn	22 42 41.2	-0.3
	comp=Z,16nm,0.8s						
LSA	**Lhasa**	**20.40**	**86**	*eP*	Pn	22 42 41.2	-0.3
LSA				pmax	pmax		
	comp=Z,16nm,0.8s						
RAYN	**Ar Rayn**	**20.81**	**256**	*eP*	**P**	**22 42 42.7**	**-0.7**
	comp=Z,11nm,0.8s						
WMQ	**Urumqi**	**20.88**	**44**	P	Pn	22 42 45.9	-0.6
WMQ				sP	sP	22 42 56.9	+7.1
WMQ				PP	**PnPn**	**22 43 01.1**	**-1.4**
WMQ				pmax	pmax		
	comp=Z,62nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,660nm,3.9s						
WMQ				LR	LR		
	comp=Z,2μm,25.3s						
WMQ				LR	LR		
	comp=Z,800nm,30.9s						
WMQ				LR	LR		
	comp=Z,760nm,19.5s						
GNI	**Garni**	**21.04**	**304**	P	**P**	**22 42 42.6**	**-3.3**
	comp=Z,1.9nm,0.5s,baz=165,slow=20,SNR=1.8						
AKTO	**Aktyubinsk**	**21.35**	**343**	P	**P**	**22 42 46.0**	**-2.9**
	comp=Z,1.6nm,0.6s,baz=148,slow=12,SNR=5.6						
AKTO	**Aktyubinsk**	**21.35**	**343**	⇓P	**P**	**22 42 51.1**	**+2.1**
	comp=Z,18nm,1.2s						
TAWA	**Tawang**	**21.40**	**91**	*eP*	**P**	**22 42 50.3**	**+0.2**
GROC	**Groznyy**	**21.62**	**313**	*eP*	**P**	**22 42 55.4**	**+3.5**
GROC				*e*		22 43 15.9	
GROC				*eS*	Sn	22 46 56.3	-3.4
GROC				pmax	pmax		
	comp=Z,53nm,1.4s						
TBLG	**Delisi**	**21.65**	**308**	*eP*	**P**	**22 42 56.2**	**+3.9**
	comp=Z,21nm,1.0s						
KURBB	**Kurchatov Arra**	**21.88**	**19**	P	**P**	**22 42 52.5**	**-2.1**
	comp=Z,2.0nm,0.6s,baz=211,slow=8.8,SNR=17						
SHL	**Shillong**	**21.95**	**96**	*eP*	**P**	**22 42 57.5**	**+1.7**
	comp=Z,42nm,1.0s						
SHL	**Shillong**	**21.95**	**96**	*eP*	**P**	**22 42 57.5**	**+1.7**
SHL				pmax	pmax		
	comp=Z,42nm,1.0s						
SHL	**Shillong**	**21.95**	**96**	*eP*	**P**	**22 42 57.5**	**+1.7**
KURK	**Kurchatov**	**21.99**	**19**	⇑P	**P**	**22 42 55.9**	**+0.1**
	comp=Z,23nm,1.2s						
KURK	**Kurchatov**	**21.99**	**19**	*eP*	**P**	**22 42 55.9**	**+0.1**
	comp=Z,18nm,1.0s						
KURK	**Kurchatov**	**21.99**	**19**	*ceP*	**P**	**22 42 56.4**	**+0.6**
KURK				pmax	pmax		
	comp=Z,27nm,1.3s						
AKH	**Akhalkalaki**	**22.38**	**306**	*eP*	P	22 43 09.5	+9.2
AKH	**Akhalkalaki**	**22.38**	**306**	⇓P	P	22 43 09.4	+9.1
TEZP	**TEZPUR**	**22.45**	**93**	*eP*	**P**	**22 43 03.9**	**+3.0**
ZEI	**Tsey**	**22.66**	**310**	*eP*	**P**	**22 43 05.4**	**+2.1**
ZEI				pmax	pmax		
	comp=Z,12nm,1.2s						
BVAR	**Borovoye Array**	**22.79**	**4**	P	**P**	**22 43 02.6**	**-1.7**
	comp=Z,3.9nm,0.6s,baz=179,slow=9.8,SNR=17						
BVAR				LR	LR	22 53 30.1	
	comp=Z,370nm,21.8s,baz=190,slow=41						
BRVK	**Borovoye**	**22.81**	**4**	*eP*	**P**	**22 43 02.8**	**-1.8**
	comp=Z,12nm,0.9s						
BRVK	**Borovoye**	**22.81**	**4**	*ceP*	**P**	**22 43 02.4**	**-2.1**
BRVK				pmax	pmax		
	comp=Z,19nm,1.3s						
ZIRO	**ZIRO**	**23.13**	**90**	*eP*	**P**	**22 43 10.5**	**+2.2**
NCK	**Nalchik**	**23.17**	**311**	*iP*	**P**	**22 43 13.7**	**+5.3**
NCK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
NEY	**Neytrino**	**23.64**	**310**	*iP*	**P**	**22 43 19.6**	**+6.4**
NEY				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KBZ	**Khabaz**	**23.73**	**311**	P	**P**	**22 43 13.7**	**-0.2**
	comp=Z,1.6nm,1.0s,baz=110,slow=7.6,SNR=2.1						
KIV	**Kislovodsk**	**23.97**	**312**	*eP*	**P**	**22 43 22.9**	**+6.6**
	comp=Z,8.4nm,1.0s						
KIV	**Kislovodsk**	**23.97**	**312**	*eP*	**P**	**22 43 22.9**	**+6.6**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SAIH	**SAIHA**	**24.00**	**103**	*eP*	**P**	**22 43 17.9**	**+1.1**
DGZ	**Jazzator, Alta**	**24.48**	**32**	*iP*	**P**	**22 43 20.7**	**-0.3**
DGZ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PALK	**Pallekele**	**26.01**	**149**	LR	LR	22 53 41.9	
	comp=Z,473nm,19.3s,baz=295,slow=36						
ASF	**Jabal al Asfar**	**26.27**	**282**	P	**P**	**22 43 35.4**	**-1.9**
	comp=Z,0.9nm,0.7s,baz=156,slow=16,SNR=1.6						
ZAA0	**Zalesovo Array**	**26.71**	**23**	*eP*	**P**	**22 43 40.4**	**-0.5**
	comp=Z,9.7nm,0.8s						
ZALV	**Zalesovo Beam**	**26.71**	**23**	P	**P**	**22 43 40.0**	**-0.9**
	comp=Z,7.3nm,0.6s,baz=224,slow=10,SNR=18						
ZALV				LR	LR	22 56 19.0	
	comp=Z,61nm,18.9s,baz=250,slow=41						
ZALV	**Zalesovo Beam**	**26.71**	**23**	*eP*	**P**	**22 43 40.3**	**-0.6**
ARU	**Arti**	**26.87**	**349**	LR	LR	22 55 40.6	
	comp=Z,230nm,19.6s,baz=141,slow=40						
ARU	**Arti**	**26.87**	**349**	*ciP*	**P**	**22 43 43.6**	**+1.2**
ARU						22 44 19.6	
ARU				S	**S**	**22 48 17.3**	**-1.1**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.4s						
NVS	**Novosibirsk**	**26.96**	**20**	*eP*	**P**	**22 43 46.1**	**+3.0**
NVS				pmax	pmax		
	comp=Z,23nm,2.2s						
NVS				pmax	pmax		
	comp=N,23nm,2.4s						
NVS				pmax	pmax		
	comp=E,29nm,2.2s						
MMAI	**Mount Meron Ar**	**27.48**	**284**	LR	LR	22 56 35.2	
	comp=E,379nm,19.1s,baz=5.0,slow=41						
GTA	**Gaotai**	**27.83**	**62**	P	**P**	**22 43 53.8**	**+2.4**
GTA				pP	sP	22 43 58.0	+0.6
GTA				sP	pP	22 44 00.8	+5.2
GTA				S	**S**	**22 48 37.3**	**+3.1**
GTA				sS	sS	22 48 42.8	+1.6
GTA				pmax	pmax		
	comp=E,5.0nm,1.2s						
GTA				pmax	pmax		
	comp=E,38nm,4.4s						
GTA				LR	LR		
	comp=E,490nm,15.5s						
GTA				LR	LR		
	comp=E,240nm,12.4s						
GTA				LR	LR		
	comp=E,270nm,12.0s						
EIL	**Elat**	**28.23**	**277**	LR	LR	22 57 09.7	
	comp=E,386nm,19.1s,baz=80,slow=41						
VRH	**Novokhopyorsk**	**28.38**	**325**	*eP*	**P**	**22 44 00.3**	**+4.4**
VRH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BRTR	**Keskin Array B**	**29.21**	**298**	P	**P**	**22 44 02.6**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=72,slow=9.3,SNR=2.5						
VSR	**Storozhevoye**	**29.69**	**323**	*eP*	P	22 44 13.2	+5.6
VSR				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KNGR	**Kungurtug, Tuv**	**30.16**	**39**	*iP*	**P**	**22 44 11.2**	**-0.7**
CHTO	**Chiang Mai**	**30.62**	**105**	*eP*	**P**	**22 44 17.2**	**+1.0**
	comp=Z,8.4nm,1.1s						
CHTO	**Chiang Mai**	**30.62**	**105**	*eP*	**P**	**22 44 17.2**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.1s						
CHTO	**Chiang Mai**	**30.62**	**105**	P	**P**	**22 44 18.6**	**+2.4**
	comp=Z,40nm,1.8s						
CMMT	**Chiang Mai**	**30.63**	**105**	P	**P**	**22 44 18.5**	**+2.3**
	comp=Z,8.6nm,1.7s						
LZH	**Lanzhou**	**30.75**	**70**	*eP*	**P**	**22 44 20.0**	**+2.6**
LZH				pP	sP	22 44 25.0	+1.6
LZH				sP	pP	22 44 27.9	+6.3
LZH				*e*PP	**PnPn**	**22 45 20.9**	**+3.7**
LZH				pmax	pmax		
	comp=Z,22nm,1.2s						
LZH				pmax	pmax		
	comp=Z,270nm,4.9s						
LZH				LR	LR		
	comp=Z,470nm,10.3s						
LZH				LR	LR		
	comp=Z,560nm,10.3s						
LZH				LR	LR		
	comp=Z,490nm,9.8s						
CMAR	**Chiang Mai Arr**	**30.79**	**105**	P	**P**	**22 44 18.8**	**+1.1**
	comp=Z,0.7nm,0.4s,baz=302,slow=8.4,SNR=9.9						
CM01	**Chiang Mai Arr**	**30.82**	**105**	*eP*	**P**	**22 44 19.6**	**+1.7**
CD2	**Chengdu**	**31.04**	**80**	*eP*	**P**	**22 44 20.0**	**+0.1**
KMI	**Kunming**	**31.46**	**91**	P	**P**	**22 44 26.0**	**+2.3**
KMI				pmax	pmax		
	comp=Z,16nm,0.9s						
KMI				pmax	pmax		
	comp=Z,140nm,4.7s						
OBN	**Obninsk**	**33.20**	**327**	⇑*eP*	P	22 44 43.7	+5.3
OBN				*e*		22 45 46.8	
OBN				*eS*	**S**	**22 50 03.1**	**+5.6**
OBN				*eSS*	**SS**	**22 52 24.7**	**+4.1**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SONM	**Songino Array**	**34.39**	**48**	P	**P**	**22 44 49.3**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=247,slow=9.8,SNR=5.1						
SONM				LR	LR	23 01 45.1	
	comp=Z,303nm,19.1s,baz=221,slow=41						
NONG	**Nongkai**	**34.50**	**102**	P	**P**	**22 44 52.8**	**+2.7**
XAN	**Xi'an**	**35.01**	**73**	P	**P**	**22 44 56.0**	**+1.6**
XAN				pP	sP	22 45 04.4	+3.9
XAN				pmax	pmax		
	comp=Z,9.0nm,1.1s						
XAN				LR	LR		
	comp=Z,190nm,5.9s						
XAN				LR	LR		
	comp=Z,380nm,12.8s						
XAN				LR	LR		
	comp=Z,370nm,20.1s						
AKASG	**Malin Array Be**	**35.05**	**317**	P	**P**	**22 44 53.4**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=99,slow=7.5,SNR=3.1						
KIEV	**Kiev**	**35.05**	**317**	*iP*	**P**	**22 44 58.4**	**+3.9**
KIEV				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PLOR	**Plostina**	**35.34**	**308**	⇑*iP*	**P**	**22 44 57.8**	**+0.6**
PLOR	**Plostina**	**35.34**	**308**	⇑P	**P**	**22 44 57.8**	**+0.6**
MLR	**Muntele Rosu**	**35.76**	**307**	P	**P**	**22 44 59.6**	**-1.3**
	comp=Z,1.3nm,0.9s,baz=63,slow=2.3						
MLR	**Muntele Rosu**	**35.76**	**307**	⇑P	**P**	**22 44 59.9**	**-1.0**
BIZ	**Bicaz**	**35.94**	**309**	⇓P	**P**	**22 45 03.8**	**+1.5**
DOPR	**Dopca**	**36.23**	**308**	⇓P	**P**	**22 45 05.3**	**+0.5**
VOIR		**36.37**	**307**	⇑P	**P**	**22 45 06.0**	**-0.1**
VOIR		**36.37**	**307**	⇑P	**P**	**22 45 06.0**	**-0.1**
ARR	**Arges**	**36.65**	**306**	⇑P	**P**	**22 45 05.9**	**-2.5**
BURAR	**Bucovina Array**	**36.68**	**310**	⇑*iP*	**P**	**22 45 10.8**	**+2.1**
BURAR	**Bucovina Array**	**36.68**	**310**	⇑P	**P**	**22 45 10.8**	**+2.1**
BUR04	**Bucovina Ar. S**	**36.68**	**310**	*eP*	P	22 45 14.6	+5.9
HHC	**Hu-ho-hao-te**	**36.93**	**61**	*eP*	**P**	**22 45 10.3**	**-0.6**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,180nm,4.6s						
DRGR		**38.20**	**308**	⇓*iP*	**P**	**22 45 20.9**	**-0.6**
DRGR		**38.20**	**308**	⇓P	**P**	**22 45 20.9**	**-0.6**
TRPA	**Tarpa**	**38.55**	**310**	⇓*iP*	**P**	**22 45 24.4**	**+0.1**
BZS	**Buzias**	**38.79**	**306**	⇑*iP*	**P**	**22 45 24.8**	**-1.6**
BZS	**Buzias**	**38.79**	**306**	⇑P	**P**	**22 45 24.8**	**-1.6**
UZH	**Uzhgorod**	**38.81**	**311**	*eP*	**P**	**22 45 28.2**	**+1.7**
UZH				*i*		22 45 35.0	
PSZ	**Piszkesteto**	**40.27**	**310**	*eP*	P	22 45 45.3	+6.6
	comp=Z,12nm,1.1s						
PSZ	**Piszkesteto**	**40.27**	**310**	⇑*iP*	**P**	**22 45 38.8**	**0.0**
PSZ	**Piszkesteto**	**40.27**	**310**	⇑P	**P**	**22 45 38.8**	**0.0**
NRIK	**Noril'sk**	**40.71**	**11**	P	**P**	**22 45 41.5**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=214,slow=7.3,SNR=2.2						
NRIK				LR	LR	23 02 41.4	
	comp=Z,182nm,18.3s,baz=208,slow=36						
VYHS	**Vyhne**	**41.05**	**310**	*eP*	P	22 45 54.6	+9.4
VYHS	**Vyhne**	**41.05**	**310**	*eP*	P	22 45 54.6	+9.4
FINES	**FINESS Array B**	**41.28**	**331**	P	**P**	**22 45 46.3**	**-0.5**
	comp=Z,2.9nm,0.8s,baz=137,slow=9.8,SNR=8.5						
KMBO	**Kilima Mbogo**	**42.58**	**228**	LR	LR	23 03 26.4	
	comp=Z,34nm,21.6s,baz=96,slow=36						
VRAC	**Vranov**	**42.62**	**311**	LR	LR	23 07 14.1	
	comp=Z,79nm,19.9s,baz=102,slow=41						
HIA	**Hailar**	**43.36**	**49**	*iP*	**P**	**22 46 03.5**	**-0.5**
HIA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NJ2	**Nanjing**	**43.55**	**74**	*eP*	**P**	**22 46 06.8**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
GERES	**GERESS Array B**	**44.47**	**310**	P	**P**	**22 46 11.5**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=152,slow=4.4,SNR=2.7						
ARCES	**ARCESS Array B**	**45.91**	**341**	P	**P**	**22 46 22.6**	**-1.5**
	comp=Z,4.9nm,0.9s,baz=106,slow=3.9,SNR=7.9						
ARCES				LR	LR	23 06 18.6	
	comp=Z,6.4nm,20.7s,baz=232,slow=37						
HFS	**Hagfors**	**46.39**	**326**	P	**P**	**22 46 27.2**	**-0.7**
	comp=Z,2.6nm,0.8s,baz=125,slow=9.5,SNR=3.5						
NOA	**NORSAR Array B**	**47.80**	**327**	P	**P**	**22 46 37.4**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=105,slow=7.9,SNR=2.7						
NOA				LR	LR	23 09 16.2	
	comp=Z,176nm,18.6s,baz=105,slow=39						
KEST	**Kesra**	**48.53**	**293**	P	**P**	**22 46 43.4**	**-1.7**
	comp=Z,2.2nm,0.9s,baz=108,slow=1.9,SNR=3.5						
TJN	**Taejon**	**49.61**	**66**	*ceP*	**P**	**22 46 53.5**	**+0.3**
KSAR	**Wonju Array Be**	**49.82**	**65**	P	**P**	**22 46 54.3**	**-0.5**
KSAR	**Wonju Array Be**	**49.82**	**65**	P	**P**	**22 46 54.3**	**-0.5**
KSRS	**Korea Array**	**49.85**	**65**	P	**P**	**22 46 54.3**	**-0.7**
	comp=Z,2.3nm,0.8s,baz=261,slow=8.1,SNR=6.0						
YAK	**Yakutsk**	**50.67**	**33**	LR	LR	23 10 09.8	
	comp=Z,226nm,18.9s,baz=268,slow=38						
KLR	**Kul'dur**	**51.22**	**49**	P	**P**	**22 47 05.0**	**-0.1**
	comp=Z,3.0nm,0.9s,baz=285,slow=12,SNR=2.8						
TIXI	**Tiksi**	**52.55**	**20**	*eP*	**P**	**22 47 15.1**	**+0.3**
	comp=Z,8.0nm,1.1s						
TIXI	**Tiksi**	**52.55**	**20**	*ceP*	**P**	**22 47 14.6**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
JOW	**Kunigami**	**52.85**	**78**	P	**P**	**22 47 17.8**	**+0.1**
	comp=Z,8.3nm,0.5s,baz=269,slow=9.9,SNR=3.6						
ES19	**SONSECA Array**	**57.91**	**300**	*eP*	P	22 48 01.3	+7.3
ESDC	**Sonseca Array**	**57.97**	**300**	P	**P**	**22 47 53.3**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=71,slow=6.7,SNR=9.1						
TORD	**Torodi Ar. Bea**	**62.78**	**270**	P	**P**	**22 48 25.6**	**-2.0**
	comp=Z,0.8nm,0.5s,baz=59,slow=4.5,SNR=16						
BILL	**Bilibino**	**65.40**	**24**	⇑*eP*	**P**	**22 48 44.3**	**+0.3**
BILL				*e*		22 51 04.1	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,108nm,16.0s						
PETK	**Petropavlovsk-**	**66.44**	**41**	LR	LR	23 21 07.9	
	comp=Z,151nm,19.3s,baz=260,slow=39						
INK	**Inuvik**	**80.43**	**8**	*eP*	**P**	**22 50 13.8**	**+0.8**
	comp=Z,6.9nm,1.0s						
INK	**Inuvik**	**80.43**	**8**	*eP*	**P**	**22 50 13.8**	**+0.8**
INK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
WRA	**Warramunga Arr**	**81.32**	**119**	P	**P**	**22 50 18.7**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=322,slow=4.9,SNR=17						
IL1	**Eielson Array**	**81.47**	**14**	*eP*	**P**	**22 50 18.3**	**-0.4**
ILAR	**Eielson Array**	**81.47**	**14**	P	**P**	**22 50 17.1**	**-1.6**
	comp=Z,2.8nm,1.2s,baz=301,slow=2.7,SNR=8.0						
ILAR				LR	LR	23 34 14.9	
	comp=Z,64nm,18.0s,baz=309,slow=42						
ASAR	**Alice Springs**	**83.21**	**122**	P	**P**	**22 50 28.9**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=305,slow=5.1,SNR=11						
ASAR				LR	LR	23 28 44.6	
	comp=Z,39nm,21.7s,baz=281,slow=36						
AS01	**Alice Springs**	**83.25**	**122**	*eP*	**P**	**22 50 29.0**	**+0.4**
DAWY	**Dawson**	**83.56**	**12**	*eP*	**P**	**22 50 30.6**	**+0.9**
	comp=Z,5.2nm,1.0s						
YKA	**Yellowknife Ar**	**87.50**	**1**	P	**P**	**22 50 48.9**	**-0.4**
	comp=Z,3.3nm,0.8s,baz=350,slow=5.3,SNR=8.6						
MAW	**Mawson**	**97.68**	**182**	LR	LR	23 28 21.0	
	comp=Z,47nm,20.0s,baz=56,slow=31						

JMA 19 22:52:03.9±0.2, 38.00N×144.47E, h41km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**2.39**	**278**	P	Pn	22 52 41.7	+1.2
JIKH				*eS*	Sn	22 53 09.5	+1.0
OFUJ	**Ofunato**	**2.45**	**297**	P	Pn	22 52 42.7	+1.4
OFUJ				*eS*	Sn	22 53 11.5	+1.5
JKMT	**Kesennumamotoy**	**2.49**	**290**	P	Pn	22 52 43.2	+1.3
JIO	**Ouri**	**2.50**	**281**	P	Pn	22 52 43.4	+1.4
JIO				*eS*	Sn	22 53 12.5	+1.2
JMK	**Ichinoseki**	**2.72**	**291**	P	Pn	22 52 46.9	+1.8
JMK				*eS*	Sn	22 53 19.3	+2.5
JOM	**Ohasama**	**2.89**	**302**	P	Pn	22 52 49.1	+1.7
JOM				*eS*	Sn	22 53 23.4	+2.5
JANG	**Nango**	**3.30**	**317**	P	Pn	22 52 54.0	+1.0
JANG				*eS*	Sn	22 53 32.2	+1.2
JFT	**Otama**	**3.31**	**263**	P	Pn	22 52 55.5	+2.3
JFT				S	Sn	22 53 33.4	+2.1
JYK	**Kaneyama**	**3.35**	**287**	P	Pn	22 52 56.3	+2.5
JOT	**Ohata**	**4.29**	**323**	P	Pn	22 53 09.2	+2.6
JCH	**Churui**	**4.69**	**350**	P	Pn	22 53 12.5	+0.4
JCH				S	Sn	22 54 03.5	-1.6
JRY	**Ryogami san**	**4.88**	**248**	P	Pn	22 53 15.7	+1.0
JRY				S	Sn	22 54 08.7	-1.2
NEM2	**Nemuro 2**	**5.45**	**10**	P	Pn	22 53 20.2	-2.3
NEM2				S	Sn	22 54 18.0	-5.8
JTKR	**Abashiri--Toko**	**5.98**	**356**	P	Pn	22 53 30.0	+0.2
JTKR				S	Sn	22 54 33.5	-3.5

*IDC **19** 22:54:56.7±5.2, 11.40N×83.88W, h0km, mb3.5/2, mb1 4.0/3, mb1mx3.5/40, mbtmp3.7/3, ML4.1/1, Error ellipse: s-maj=147.7km s-min=69.3km az=20.0*
*ISCJB **19** 22:55:23.9±0.7, 11.34N±0.07×85.76W±0.08, h177km±6km, mb3.2/2, Error ellipse: s-maj=16.8km s-min=5.3km az=138.9*
*UCR **19** 22:55:24.1±1.7, 11.35N×85.77W, h173km±7km, MD3.8, ML3.6*

ISC 19 22:55:24.4±1.1, 11.2N±0.2×85.9W±0.2, h175km±8km, n39, σ0.960/39, 4C-1D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CONN	**Concepcion**	**0.44**	**38**	*eP*	**Pn**	**22 55 47.6**	**-0.8**
GBS3	**Finca Las Im˜¡**	**0.61**	**134**	*iP*	**Pn**	**22 55 48.9**	**-0.2**
GBS3				*iS*	**Sn**	**22 56 07.7**	**-0.5**
GB1A	**Boringuen Arri**	**0.63**	**128**	*iP*	**Pn**	**22 55 49.4**	**0.0**
BUEV	**Buena Vista**	**0.64**	**130**	*iP*	**Pn**	**22 55 49.2**	**-0.1**
LAPC	**Finca la Perla**	**0.64**	**134**	*iP*	**Pn**	**22 55 48.9**	**-0.4**
BUAI	**Buenos Aires**	**0.65**	**121**	*iP*	**Pn**	**22 55 49.4**	**0.0**
GPS1	**Guardaparques**	**0.69**	**129**	*iP*	**Pn**	**22 55 49.5**	**-0.2**
GPS3	**Bodega del ICE**	**0.70**	**131**	*iP*	**Pn**	**22 55 49.5**	**-0.2**
GPS3				*iS*	**Sn**	**22 56 09.9**	**+0.8**
GPS2	**Hotel Rinc˜‡n**	**0.71**	**130**	*iP*	**Pn**	**22 55 49.5**	**-0.2**
LIM1	**Limonal**	**0.82**	**129**	*iP*	**Pn**	**22 55 50.2**	**-0.2**
GUAB	**Guayabo de Bag**	**0.83**	**127**	*iP*	**Pn**	**22 55 50.5**	**0.0**
MESS	**Mesas**	**0.84**	**124**	⇑*eP*	**Pn**	**22 55 50.4**	**-0.2**
MESS				*iP*		22 55 50.5	
HORNC	**Hornillas**	**0.87**	**125**	*iP*	**Pn**	**22 55 50.3**	**-0.4**
HORNC				*iS*	**Sn**	**22 56 11.3**	**+0.3**
COLC	**Colonia**	**0.88**	**128**	*iP*	**Pn**	**22 55 50.5**	**-0.2**
CUI	**Cuipilapa**	**0.91**	**127**	*iP*	**Pn**	**22 55 51.1**	**+0.1**
PTEN	**Parque Tenorio**	**1.02**	**119**	*iP*	**Pn**	**22 55 51.8**	**-0.1**
ACAL	**Aguas Claras**	**1.03**	**124**	*iP*	**Pn**	**22 55 52.1**	**+0.2**
ACON	**Acoyapa**	**1.03**	**43**	*eP*	Pn	22 55 50.0	-1.8
AMAS	**Alto Masis**	**1.07**	**124**	*iP*	**Pn**	**22 55 52.7**	**-0.2**
AMAS				*iS*	**Sn**	**22 56 13.8**	**0.0**
VCR	**Vista de Mar**	**1.11**	**166**	⇑*iP*	Pn	22 55 53.4	+0.8
VCR				*eS*	Sn	22 56 15.3	+0.9
COPN	**Copaltepe**	**1.18**	**325**	*eP*	**Pn**	**22 55 52.6**	**-0.4**
BOAB	**BOACO BROADBAN**	**1.25**	**11**	*eP*	Pn	22 55 51.8	-1.8
MOMN	**Momotombo**	**1.34**	**332**	*eP*	**Pn**	**22 55 53.9**	**-0.7**
MOMN				*eS*	**Sn**	**22 56 17.8**	**0.0**
ARE1	**Arenal 1**	**1.38**	**123**	⇑*iP*	**Pn**	**22 55 55.0**	**+0.1**
CASO	**Castillo**	**1.38**	**124**	*iP*	**Pn**	**22 55 54.6**	**-0.3**
FORC	**Fortuna**	**1.42**	**121**	*iP*	**Pn**	**22 55 55.2**	**0.0**
MATN	**Matagalpa**	**1.71**	**359**	*eP*	Pn	22 55 56.2	-1.9
SRA1	**San Ram˜‡n**	**1.79**	**129**	*eP*	**Pn**	**22 55 59.2**	**+0.1**
ESPN	**Las Esperanzas**	**1.85**	**58**	*eP*	Pn	22 55 56.8	-2.6
ESPN				⇓*iP*		22 55 56.9	
CRIN	**San Cristobal**	**1.86**	**323**	*eP*	**Pn**	**22 55 59.0**	**-0.7**
CRIN				*eS*	**Sn**	**22 56 29.0**	**+2.0**
LCR2	**La Lucha 2**	**2.37**	**128**	⇑*eP*	**Pn**	**22 56 05.5**	**0.0**
CSGN	**Cosiguina Volc**	**2.39**	**317**	*eP*	**Pn**	**22 56 06.2**	**+0.6**
CSGN				*eS*	**Sn**	**22 56 38.1**	**+0.5**
LCND	**La Ca˜–ada**	**2.85**	**317**	*eS*	**Sn**	**22 56 47.4**	**+0.1**
LCND				IAML		22 56 53.1	
	comp=Z,90nm,0.2s						
DRK0	**Durika**	**3.25**	**126**	*eP*	**Pn**	**22 56 16.3**	**+0.1**
PACA	**Pacayal**	**3.26**	**314**	IAML		22 57 01.7	
	comp=Z,887nm,0.3s						
CMIG	**Matias Romero**	**10.49**	**305**	Pn	**Pn**	**22 57 49.8**	**-0.

TAVA	**DENIZLI_Tavas**	**2.40**	**22**	*i* P		**Pn**	**22 57 36.0**	**-0.1**
TAVA				*i* S		**Sg**	**22 58 14.4**	**-0.1**
AYDN	**Tasoluk**	**2.42**	**2**	*i* P		**Pn**	**22 57 36.4**	**0.0**
GOLH	**Golhisar**	**2.46**	**35**	*i* P		**Pn**	**22 57 37.6**	**+0.7**
SMG	**Samos**	**2.58**	**343**	P		**Pn**	**22 57 38.5**	**-0.1**
SMG				S		**Sb**	**22 58 12.8**	**-2.1**
APE	**Apeiranthos**	**2.59**	**316**	PN		**Pn**	**22 57 37.9**	**-0.7**
APE	**Apeiranthos**	**2.59**	**316**	*i* P		**Pn**	**22 57 38.8**	**+0.2**
APE	**Apeiranthos**	**2.59**	**316**	S		**Sn**	**22 58 10.5**	**+0.6**
DNZL	**Cakiroluk**	**2.65**	**22**	*i* P		**Pn**	**22 57 41.3**	**+1.7**
DNZL				*i* S		**Sg**	**22 58 23.0**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**2.71**	**2**	PN		**Pn**	**22 57 40.3**	**0.0**
KORT	**Korkueli**	**2.72**	**49**	PN		**Pn**	**22 57 41.9**	**+1.4**
KORT	**Korkueli**	**2.72**	**49**	*i* P		**Pn**	**22 57 41.3**	**+0.8**
KORT				*i* S		**Sb**	**22 58 17.7**	**-1.1**
ANTB	**Antalya**	**2.85**	**54**	PN		**Pn**	**22 57 43.9**	**+1.7**
URLA	**Izmir**	**3.26**	**343**	PN		**Pn**	**22 57 48.2**	**+0.3**
KULA	**Kula-Manisa**	**3.34**	**12**	PN		**Pn**	**22 57 49.4**	**+0.3**
KHAL	**Karahalli**	**3.41**	**23**	*i* P		**Pn**	**22 57 49.1**	**-0.9**
SUTC	**Sutluce-Ispart**	**3.42**	**48**	PN		**Pn**	**22 57 51.9**	**+1.8**
CHOS	**Chios island**	**3.44**	**337**	PN		**Pn**	**22 57 50.4**	**0.0**
KEPZ	**Antalya-Kepez**	**3.50**	**61**	*i* P		**Pn**	**22 57 51.5**	**+0.3**
KEPZ				*i* S		**Sn**	**22 58 35.0**	**+2.5**
KZIL	**AFYON_Kizioren**	**3.56**	**31**	*i* P		**Pn**	**22 57 53.6**	**+1.6**
BAGO	**Egridir - ISPA**	**3.66**	**40**	*i* P		**Pn**	**22 57 55.6**	**+2.3**
GAZI	**Gazipasa**	**3.81**	**74**	PN		**Pn**	**22 57 57.8**	**+2.4**
GAZI	**Gazipasa**	**3.81**	**74**	*i* P		**Pn**	**22 57 57.3**	**+1.8**
GAZI				*i* S		**Sn**	**22 58 41.7**	**+1.7**
DKL	**Dikili**	**3.89**	**350**	PN		**Pn**	**22 57 57.2**	**+0.7**
DOGA	**KONYA_Doganhis**	**4.23**	**46**	*i* P		**Pn**	**22 58 03.2**	**+1.9**
DOGA				*i* S		**Sn**	**22 58 54.5**	**+4.0**
TVSB	**Tavsanli**	**4.41**	**17**	PN		**Pn**	**22 58 04.8**	**+1.1**
KONT	**Konya--Tatoy**	**4.56**	**52**	*i* P		**Pn**	**22 58 07.4**	**+1.6**
KONT				*i* S		**Sb**	**22 59 07.7**	**-4.1**
GULN	**MERSIN_Gulnar**	**4.77**	**77**	*i* P		**Pn**	**22 58 07.2**	**-1.4**
GULN				*i* S		**Sn**	**22 59 06.9**	**+3.2**
KERG	**Konya-Eregli**	**5.55**	**65**	*i* P		**Pn**	**22 58 16.8**	**-2.7**
KERG				*i* S		**Sn**	**22 59 24.1**	**+1.0**
GULE	**Gulek**	**6.00**	**68**	*i* P		**Pn**	**22 58 27.3**	**+1.6**
BRTR	**Keskin Array B**	**6.45**	**44**	Pn		**Pn**	**22 58 31.6**	**-0.3**
	0.2nm,0.3s,baz=218,slow=15,SNR=13							
BRTR				Sn		**Sn**	**22 59 47.1**	**+1.8**
	0.2nm,0.3s,baz=208,slow=27,SNR=6.4							
MMAI	**Mount Meron Ar**	**6.69**	**107**	Pn		**Pn**	**22 58 33.3**	**-1.7**
	1.7nm,0.3s,baz=298,slow=12,SNR=16							
MMAI				Sn		**Sn**	**22 59 50.4**	**-0.6**
	2.2nm,0.3s,baz=292,slow=26,SNR=4.5							
VTS	**Vitosha**	**8.17**	**335**	*iP*		**Pn**	**22 58 56.3**	**+1.0**
ASF	**Jabal al Asfar**	**8.18**	**109**	Pn		**Pn**	**22 58 52.9**	**-2.6**
	0.1nm,0.3s,baz=269,slow=10,SNR=1.9							
ASF				Sn		**Sn**	**23 00 27.7**	**0.0**
	0.1nm,0.3s,baz=162,slow=16,SNR=2.1							
EIL	**Elat**	**8.21**	**131**	Pn		**Pn**	**22 58 52.8**	**-3.1**
	0.4nm,0.3s,baz=286,slow=10,SNR=4.0							
EIL				Sn		**Sn**	**23 00 28.0**	**-0.3**
	0.5nm,0.3s,baz=288,slow=20,SNR=3.8							
MLR	**Muntele Rosu**	**10.34**	**353**	Pn		**Pn**	**22 59 25.1**	**0.0**
	0.1nm,0.3s,baz=207,slow=9.0,SNR=2.7							
MLR	**Muntele Rosu**	**10.34**	**353**	*iP*		**Pn**	**22 59 25.4**	**+0.3**
VOIR		**10.40**	**349**	*iP*		**Pn**	**22 59 26.2**	**+0.3**
PLOR	**Plostina**	**10.64**	**356**	*iP*		**Pn**	**22 59 29.1**	**0.0**
VRI	**Vrincioaia**	**10.65**	**356**	*iP*		**Pn**	**22 59 29.6**	**+0.4**
VAE	**Valguarnera**	**11.02**	**286**	Pn		**Pn**	**22 59 34.1**	**-0.3**
	0.2nm,0.3s,baz=90,slow=18,SNR=2.2							
BZS	**Buzias**	**11.38**	**338**	*iP*		**Pn**	**22 59 38.8**	**-0.4**
BIZ	**Bicaz**	**11.76**	**358**	*iP*		**Pn**	**22 59 44.0**	**-0.4**
AKASG	**Malin Array Be**	**15.49**	**3**	Pn		**Pn**	**23 00 35.9**	**+0.8**
	0.6nm,0.3s,baz=198,slow=12,SNR=1.7							
KBA	**Koelnbreinsper**	**16.04**	**322**	*eP*		**P**	**23 00 51.3**	**+5.6**
	11nm,1.0s							
GERES	**GERESS Array B**	**17.12**	**327**	P		**Pn**	**23 00 54.8**	**-1.2**
	0.1nm,0.3s,baz=125,slow=12,SNR=4.8							
KHC	**Kasperske Hory**	**17.39**	**327**	*eP*		**Pn**	**23 00 59.0**	**-0.2**
KHC				*ex*		x	23 01 05.0	
FETA	**Feichten**	**17.39**	**318**	*eP*		**P**	**23 01 02.7**	**+2.0**
	8.7nm,0.9s							
CLL	**Collm**	**19.28**	**331**	*e*(P)		**Pn**	**23 01 25.0**	**+2.7**
CLL				Lm	MLR	MLR	23 07 00.0	
	comp=N,200nm,19.5s							
CLL				Lm	MLR	MLR	23 07 00.0	
	comp=E,100nm,21.0s							
OBN	**Obninsk**	**20.79**	**14**	LR		LR	23 10 49.4	
	comp=E,13nm,20.4s,baz=176,slow=40							
ESDC	**Sonseca Array**	**25.52**	**289**	P		**P**	**23 02 24.7**	**-0.5**
	comp=E,1.0nm,0.6s,baz=37,slow=9.3,SNR=8.9							
TORD	**Torodi Ar. Bea**	**32.23**	**233**	P		**P**	**23 03 24.3**	**-0.8**
	comp=E,1.0nm,0.6s,baz=37,slow=9.3,SNR=8.9							
ARCES	**ARCESS Array B**	**34.38**	**359**	P		**P**	**23 03 42.4**	**-0.9**
	comp=E,4.6nm,1.1s,baz=172,slow=7.3,SNR=2.1							
AAK	**Ala-Archa**	**36.69**	**64**	P		**P**	**23 04 03.6**	**-0.1**
	comp=E,0.4nm,0.3s,baz=263,slow=8.1,SNR=1.7							
KURBB	**Kurchatov Arra**	**39.40**	**51**	P		**P**	**23 04 25.4**	**-0.8**
	comp=E,0.4nm,0.4s,baz=275,slow=8.8,SNR=3.7							
DBIC	**Dimbokro**	**41.33**	**234**	P		**P**	**23 04 41.7**	**-0.8**
	comp=E,1.5nm,0.8s,baz=45,slow=7.1,SNR=2.2							
MKAR	**Makanchi Array**	**41.93**	**57**	P		**P**	**23 04 45.9**	**-1.4**
	comp=E,0.4nm,0.6s,baz=276,slow=7.7,SNR=5.6							
SONM	**Songino Array**	**57.76**	**51**	P		**P**	**23 06 48.0**	**+0.3**
	comp=E,0.5nm,0.7s,baz=288,slow=8.9,SNR=4.3							
BDFB	**Brasilia**	**87.74**	**249**	LR		LR	23 50 02.9	
	comp=E,44nm,18.0s,baz=184,slow=36							

*IDC **19** 23:07:34.8±1.2, 43.01N×147.10E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.6/54, mbtmp3.9/7, Error ellipse: s-maj=33.5km s-min=27.0km az=99.0*
*MOS **19** 23:07:38.7±0.9, 42.96N×147.01E, h46km, mb4.1/7, Error ellipse: s-maj=24.6km s-min=10.6km az=111.1*
*ISCJB **19** 23:07:41.7±1.1, 43.20N±0.07×146.93E±0.08, h55km±8km, mb3.8/7, Error ellipse: s-maj=13.7km s-min=6.6km az=140.1*
*SKHL **19** 23:07:41.0±0.4, 43.08N×146.97E, h45km±5km, mb4.2/5*
*JMA **19** 23:07:42.1±0.3, 43.21N×146.91E, h49km±5km, M3.2*

ISC 19 23:07:42.1±1.7, **43.19N**±0.09×**146.95E**±0.07, **h48**km±14km, **n33,σ0.86/42, mb3.8/7, 1C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.68**	**353**	*iP*	**Pn**	**23 07 55.0**	**-0.5**
SHO					AMB	AMB	23 07 56.0	
	240nm,0.4s							
SHO					AMB	AMB	23 07 56.0	
	70nm,0.4s							
SHO					AMB	AMB	23 07 56.0	
	440nm,0.4s							
SHO				*i* S		**Sn**	**23 08 05.0**	**-0.2**
SHO					A	A	23 08 05.0	
	400nm,0.4s							
SHO					A	A	23 08 05.0	
	2µm,0.4s							
SHO	**Shikotan**	**0.68**	**353**	*c* iPN		**Pn**	**23 07 55.6**	**+0.1**
SHO				*i* S		**Sn**	**23 08 05.3**	**+0.1**
SHO					pmax	pmax		
	comp=Z,437nm,0.4s							
SHO					pmax	pmax		
	comp=E,67nm,0.2s							
SHO					pmax	pmax		
	comp=N,238nm,0.4s							
SHO					smax	smax		
	comp=E,2µm,0.4s							
SHO					smax	smax		
	comp=N,4µm,0.5s							
NEM2	**Nemuro 2**	**0.90**	**282**	P		**Pn**	**23 07 58.1**	**-0.2**
NEM2				*eS*		**Sn**	**23 08 09.8**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**1.15**	**317**	*i* P		**Pn**	**23 08 01.0**	**-0.8**
YUK					AMB	AMB	23 08 04.0	
	comp=N,220nm,0.3s							
YUK					AMB	AMB	23 08 04.0	
	comp=N,90nm,0.3s							
YUK					AMB	AMB	23 08 04.0	
	comp=N,50nm,0.3s							
YUK				*i* S		**Sn**	**23 08 16.0**	**-0.5**
YUK					A	A	23 08 17.0	
	comp=N,230nm,0.3s							
YUK					A	A	23 08 17.0	
	comp=N,268nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.15**	**317**	*d* iPN		**Pn**	**23 08 01.9**	**+0.1**
YUK				*i* S		**Sn**	**23 08 16.4**	**-0.1**
YUK					pmax	pmax		
	comp=N,218nm,0.2s							
YUK					pmax	pmax		
	comp=Z,508nm,0.2s							
YUK					pmax	pmax		
	comp=E,91nm,0.1s							
YUK					smax	smax		
	comp=N,2µm,0.5s							
YUK					smax	smax		
	comp=E,3µm,0.5s							
GRPR	**Tuman**	**1.17**	**314**	*eP*		**Pn**	**23 08 01.0**	**-1.1**
GRPR					AMB	AMB	23 08 02.0	
	comp=E,60nm,0.3s							
GRPR					AMB	AMB	23 08 02.0	
	comp=E,120nm,0.3s							
GRPR					AMB	AMB	23 08 02.0	
	comp=E,50nm,0.3s							
GRPR					*eS*	**Sn**	**23 08 16.0**	**-0.9**
GRPR					A	A	23 08 18.0	
	comp=E,160nm,0.5s							
GRPR					A	A	23 08 18.0	
	comp=E,998nm,0.5s							
GRPR	**Tuman**	**1.17**	**314**	PN		**Pn**	**23 08 01.8**	**-0.3**
GRPR				*eS*		**Sn**	**23 08 16.2**	**-0.7**
GRPR					pmax	pmax		
	comp=Z,360nm,0.3s							
GRPR					pmax	pmax		
	comp=N,64nm,0.2s							
GRPR					pmax	pmax		
	comp=E,116nm,0.3s							
GRPR					smax	smax		
	comp=E,991nm,0.2s							
GRPR					smax	smax		
	comp=N,2µm,0.5s							
GLVR	**Golovnino**	**1.17**	**298**	*eP*		**Pn**	**23 08 02.0**	**-0.1**
GLVR					AMB	AMB	23 08 05.0	
	comp=N,40nm,0.2s							
GLVR					AMB	AMB	23 08 05.0	
	comp=N,4µm,0.2s							
GLVR					*eS*	**Sn**	**23 08 18.0**	**+1.0**
GLVR					A	A	23 08 18.0	
	comp=N,790nm,0.3s							
GLVR					A	A	23 08 18.0	
	comp=N,349nm,0.3s							
GLVR	**Golovnino**	**1.17**	**298**	*e*PN		**Pn**	**23 08 02.7**	**+0.6**
GLVR				*eS*		**Sn**	**23 08 18.2**	**+1.2**
GLVR					pmax	pmax		
	comp=Z,156nm,0.2s							
GLVR					smax	smax		
	comp=N,786nm,0.3s							
GLVR					smax	smax		
	comp=E,338nm,0.3s							
LAGR	**Lagunnoye**	**1.21**	**316**	*eP*		**Pn**	**23 08 02.0**	**-0.6**
LAGR					AMB	AMB	23 08 04.0	
	comp=E,60nm,0.3s							
LAGR					AMB	AMB	23 08 04.0	
	comp=E,80nm,0.3s							
LAGR					*eS*	**Sn**	**23 08 18.0**	**+0.3**
LAGR					A	A	23 08 18.0	
	comp=E,340nm,0.3s							
LAGR					A	A	23 08 18.0	
	comp=E,118nm,0.3s							
LAGR	**Lagunnoye**	**1.21**	**316**	*e*PN		**Pn**	**23 08 02.8**	**+0.2**
LAGR				*eS*		**Sn**	**23 08 18.1**	**+0.3**
LAGR					pmax	pmax		
	comp=E,60nm,0.1s							
LAGR					pmax	pmax		
	comp=Z,178nm,0.1s							
LAGR					smax	smax		
	comp=N,3µm,0.5s							
LAGR					smax	smax		
	comp=E,1µm,0.4s							
JAK	**Akkeshi**	**1.66**	**264**	P		**Pn**	**23 08 09.1**	**+0.4**
JAK				*eS*		**Sn**	**23 08 28.9**	**0.0**
JNK	**Nakash**	**1.67**	**284**	P		**Pn**	**23 08 08.1**	**-0.1**
JNK				*eS*		**Sn**	**23 08 28.8**	**-0.4**
KUR	**Kuril'sk**	**2.15**	**18**	*eP*		**Pn**	**23 08 16.0**	**+0.6**
KUR				*eS*		**Sn**	**23 08 41.0**	**+0.2**
KUR					A	A	23 08 43.0	
	comp=E,40nm,0.3s							
KUR					A	A	23 08 43.0	
	comp=E,98nm,0.3s							
KUR	**Kuril'sk**	**2.15**	**18**	PN		**Pn**	**23 08 16.0**	**+0.6**
KUR				*eS*		**Sn**	**23 08 41.6**	**+0.8**
KUR					smax	smax		
	comp=N,43nm,0.3s							
KUR					smax	smax		
	comp=E,94nm,0.3s							
JOB	**Onbets**	**2.30**	**264**	P		**Pn**	**23 08 18.4**	**+0.9**
JAR	**Ashorobuto**	**2.32**	**274**	P		**Pn**	**23 08 18.8**	**+0.9**
JTKR	**Abashiri--Toko**	**2.34**	**290**	P		**Pn**	**23 08 19.1**	**+1.0**
JCH	**Churui**	**2.70**	**259**	P		**Pn**	**23 08 24.3**	**+1.3**
SONM	**Songino Array**	**28.55**	**294**	P		**P**	**23 13 34.8**	**+1.4**
	comp=E,0.9nm,0.7s,baz=82,slow=8.5,SNR=6.3							
H11N2	**WAKE ISLAND Hy**	**28.78**	**138**	T		T	23 44 19.8	
	baz=329,slow=75							
H11N1	**WAKE ISLAND Hy**	**28.79**	**138**	T		T	23 44 22.8	
	baz=329,slow=75							
H11N3	**WAKE ISLAND Hy**	**28.80**	**138**	T		T	23 44 21.3	
	baz=329,slow=75							
H11S1	**WAKE ISLAND Hy**	**29.73**	**140**	T		T	23 45 30.4	
	baz=330,slow=76							
H11S3	**WAKE ISLAND Hy**	**29.74**	**140**	T		T	23 45 34.6	
	baz=330,slow=76							
H11S2	**WAKE ISLAND Hy**	**29.75**	**140**	T		T	23 45 32.8	
	baz=330,slow=76							
ILAR	**Eielson Array**	**42.02**	**36**	P		**P**	**23 15 29.1**	**+0.7**
	comp=E,0.5nm,0.9s,baz=270,slow=6.9,SNR=3.8							
MKAR	**Makanchi Array**	**44.72**	**298**	P		**P**	**23 15 51.5**	**+1.1**
	comp=E,1.0nm,0.6s,baz=83,slow=9.1,SNR=10							
WRA	**Warramunga Arr**	**63.88**	**193**	P		**P**	**23 18 08.1**	**-1.7**
	comp=E,0.6nm,0.9s,baz=13,slow=6.7,SNR=4.3							
FINES	**FINESS Array B**	**65.30**	**333**	P		**P**	**23 18 18.3**	**-0.4**
	comp=E,2.8nm,0.8s,baz=60,slow=8.2,SNR=7.0							
PALK	**Pallekele**	**67.79**	**259**	*i* P		**P**	**23 18 32.6**	**-2.6**
NOA	**NORSAR Array B**	**70.07**	**339**	P		**P**	**23 18 49.3**	**+0.6**
	comp=E,0.6nm,0.6s,baz=32,slow=6.3,SNR=3.0							
HFS	**Hagfors**	**70.15**	**337**	P		**P**	**23 18 49.7**	**+0.6**
	comp=E,3.0nm,0.9s,baz=38,slow=7.5,SNR=5.2							

*HEL **19** 23:08:14.3, 67.27N×21.54E, h0km, ML1.5, Explosion*

UPP 19 23:08:08.5±0.1, **67.19N×20.68E, h0km, ML2.0, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.08**	**212**	P	Pg	23 08 10.3	+0.2
DUNU	**Dundret**	**0.08**	**212**	*i* P	Pg	23 08 10.3	+0.2
RATU	**Laukkuluspa**	**0.76**	**327**	P	Pg	23 08 22.7	-0.3
RATU				S	Sg	23 08 33.0	+0.1
RATU	**Laukkuluspa**	**0.76**	**327**	*i* P	Pg	23 08 22.7	-0.3
RATU				*i* S	Sg	23 08 33.0	+0.1
ERTU	**Ertsjaerv**	**0.87**	**136**	P	Pg	23 08 24.6	-0.6
ERTU				S	Sg	23 08 36.3	-0.2
ERTU	**Ertsjaerv**	**0.87**	**136**	*i* P	Pg	23 08 24.6	-0.6
ERTU				*i* S	Sg	23 08 36.3	-0.2
PAJU	**Pajala**	**0.97**	**99**	P	Pg	23 08 26.6	-0.4
PAJU	**Pajala**	**0.97**	**99**	*eP*	Pg	23 08 26.6	-0.4
LANU	**Lannavaara**	**1.00**	**30**	P	Pg	23 08 27.1	-0.5
LANU				S	Sg	23 08 40.4	-0.1
LANU	**Lannavaara**	**1.00**	**30**	*eP*	Pg	23 08 27.1	-0.5
LANU				*eS*	Sg	23 08 40.4	-0.1
HEF	**Hetta**	**1.67**	**41**	*e*PG	Pn	23 08 39.2	+0.3
	baz=219						
HEF				MSG		23 08 56.3	
	comp=Z,2.5nm,0.2s						
HEF				*eS*	Sn	23 09 00.2	-0.6
KALU	**Kalix**	**1.71**	**140**	*e*SN	Sg	23 09 03.5	+0.1
TOF	**Tornio**	**1.83**	**126**	MSG		23 09 03.0	
	comp=Z,6.1nm,0.2s						
TOF				*e*SN	Sb	23 09 06.3	+0.1
RNF	**Rovaniemi**	**2.18**	**103**	*e*PB	Pb	23 08 47.7	-1.1
	baz=291						
SGF	**Sodankyl**	**2.28**	**81**	*e*PB	Pb	23 08 49.2	-1.2
	baz=266						
ARE0	**ARCESS Array S**	**2.96**	**35**	*e*PB	Pb	23 08 59.4	-2.5
	baz=212						
ARE0				*e*SB	Sb	23 09 36.7	-1.8
VRF	**Varrio**	**3.48**	**77**	*e*PG	Pb	23 09 11.9	+1.0
VRF				MSG		23 09 46.5	
	comp=Z,0.7nm,0.2s						

UPP 19 23:08:23.5±0.2, **67.14N×20.70E, h0km, ML2.0, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.05**	**253**	P	Pg	23 08 24.7	+0.2
	baz=118						
ERTU	**Ertsjaerv**	**0.83**	**134**	P	Pg	23 08 39.0	-0.3
PAJU	**Pajala**	**0.95**	**96**	P	Pg	23 08 41.2	-0.5
KALU	**Kalix**	**1.67**	**139**	P	Pn	23 08 54.1	+0.3
SJUU	**Sjulsmark**	**1.68**	**167**	P	Pn	23 08 54.1	+0.2
SJUU				S	Sg	23 09 17.4	+0.1

*DDA **19** 23:11:49.5, 35.95N×29.07E, h20km, Ml3.5*
*ISCJB **19** 23:11:50.0±0.7, 35.97N±0.03×29.04E±0.03, h6km±5km, Error ellipse: s-maj=5.0km s-min=3.7km az=169.2*
*ISK **19** 23:11:50.5, 36.03N×29.03E, h17km, ML3.2/23*
*ATH **19** 23:11:51.0, 36.09N×29.18E, h56km±12km, ML3.2/1, Error ellipse: s-maj=14.6km s-min=1.3km az=94.0*
*THE **19** 23:11:51.5, 36.08N×29.02E, h0km, ML2.8/3, Error ellipse: s-maj=1.0km s-min=0.5km az=185.0*

ISC 19 23:11:52.4±1.4, **36.10N**±0.04×**29.06E**±0.02, **h18**km±4km, **n62,σ0.94/77, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**0.43**	**83**	P	**Pb**	**23 12 01.2**	**-0.2**
KSL				S	**Sb**	**23 12 08.8**	**+1.2**
KSL				AML	AML	23 12 11.2	
	comp=N,3095µm,0.3s						
KSL				AML	AML	23 12 12.1	
	comp=E,8789µm,0.4s						
KSL	**Kastellorizon**	**0.43**	**83**	P	**Pb**	**23 12 01.4**	**0.0**
KSL				S	**Sn**	**23 12 09.3**	**-1.7**
AKAS	**Kas**	**0.46**	**73**	PG	**Pb**	**23 12 01.6**	**-0.5**
AKAS	**Kas**	**0.46**	**73**	*i* P	**Pb**	**23 12 01.7**	**-0.4**
AKAS				*i* S	**Sn**	**23 12 11.1**	**-0.9**
FETY	**Fethiye**	**0.53**	**2**	PG	**Pb**	**23 12 02.9**	**-0.3**
FETY				SG	**Sn**	**23 12 12.0**	**-1.7**
FETY	**Fethiye**	**0.53**	**2**	P	**Pb**	**23 12 02.9**	**-0.3**
FETY				S	**Sn**	**23 12 12.5**	**-1.2**
DALY	**Dalyan (Mu¨la**	**0.79**	**335**	PG	**Pb**	**23 12 06.9**	**-0.6**
DALY	**Dalyan (Mu¨la**	**0.79**	**335**	*i* P	**Pb**	**23 12 06.9**	**-0.6**
DALY				*i* S	**Sn**	**23 12 20.2**	**+0.4**
TURN	**Turunc**	**0.85**	**335**	PG	**Pn**	**23 12 09.9**	**+0.4**
TURN	**Turunc**	**0.85**	**335**	*i* P	**Pn**	**23 12 10.2**	**+0.7**
TURN				*i* S	**Sn**	**23 12 25.1**	**+3.6**
MRSB	**Marmaris-Mugla**	**0.93**	**312**	PG	**Pb**	**23 12 09.7**	**-0.3**
ELL	**Elmali**	**0.94**	**46**	PG	**Pg**	**23 12 10.4**	**-0.4**
GOLH	**Golhisar**	**1.20**	**19**	*i* P	**Pg**	**23 12 14.9**	**-0.8**
GOLH				*i* S	**Sg**	**23 12 34.4**	**+2.9**
DATC	**Datca-Mugla**	**1.31**	**301**	PN	**Pn**	**23 12 15.0**	**-0.7**
KEMT	**Kemer-ANTALYA**	**1.31**	**67**	PN	**Pn**	**23 12 15.3**	**-0.4**
DAT	**Datca**	**1.35**	**298**	PN	**Pn**	**23 12 15.6**	**-0.8**
DAT	**Datca**	**1.35**	**298**	*i* P	**Pn**	**23 12 15.9**	**-0.5**
DAT				*i* S	**Sg**	**23 12 36.8**	**+0.7**
TAVA	**DENIZLI_Tavas**	**1.37**	**355**	*i* P	**Pb**	**23 12 16.9**	**-0.6**
TAVA				*i* S	**Sg**	**23 12 36.2**	**-0.4**
KORT	**Korkueli**	**1.37**	**49**	PN	**Pn**	**23 12 16.7**	**-0.1**
KORT	**Korkueli**	**1.37**	**49**	*i* P	**Pb**	**23 12 17.1**	**-0.6**
KORT				*i* S	**Sg**	**23 12 40.2**	**+3.4**
ANTB	**Antalya**	**1.51**	**58**	PN	**Pn**	**23 12 18.1**	**-0.4**
MLSB	**Milas**	**1.58**	**319**	PN	**Pn**	**23 12 19.0**	**-0.5**
DNZL	**Cakiroluk**	**1.58**	**360**	*i* P	**Pg**	**23 12 21.9**	**-1.1**
DNZL				*i* S	**Sg**	**23 12 43.7**	**0.0**
NIS1	**Nisyros Isl.**	**1.60**	**289**	PN	**Pn**	**23 12 18.9**	**-0.9**
NIS1	**Nisyros Isl.**	**1.60**	**289**	P	**Pn**	**23 12 19.4**	**-0.4**
NIS1	**Nisyros Isl.**	**1.60**	**289**	P	**Pn**	**23 12 19.6**	**-0.2**
NIS1				S	**Sn**	**23 12 40.2**	**+0.2**
NISR	**Nisiros**	**1.64**	**289**	P	**Pn**	**23 12 20.2**	**-0.1**
NISR	**Nisiros**	**1.64**	**289**	P	**Pn**	**23 12 19.6**	**-0.7**
DENT	**Denizli**	**1.65**	**359**	PN	**Pn**	**23 12 20.3**	**-0.2**
BODT	**Bodrum**	**1.70**	**305**	PN	**Pn**	**23 12 20.6**	**-0.7**
BODT	**Bodrum**	**1.70**	**305**	P	**Pn**	**23 12 20.5**	**-0.7**
BRDR	**BURDUR-Merkez**	**1.78**	**26**	*i* P	**Pn**	**23 12 23.1**	**+0.7**
BRDR				*i* S	**Sg**	**23 12 50.5**	**+0.6**
AYDN	**Tasoluk**	**1.82**	**329**	*i* P	**Pn**	**23 12 24.3**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**2.07**	**333**	PN	**Pn**	**23 12 26.1**	**-0.2**
SUTC	**Sutluce-Ispart**	**2.08**	**48**	PN	**Pn**	**23 12 26.3**	**-0.1**
KEPZ	**Antalya-Kepez**	**2.20**	**68**	*i* P	**Pn**	**23 12 28.1**	**0.0**
BAGO	**Egridir - ISPA**	**2.34**	**36**	*i* P	**Pb**	**23 12 32.1**	**-1.9**
SMG	**Samos**	**2.40**	**313**	P	**Pn**	**23 12 30.3**	**-0.5**
SMG	**Samos**	**2.40**	**313**	P	**Pn**	**23 12 30.1**	**-0.7**
KULA	**Kula-Manisa**	**2.43**	**353**	PN	**Pn**	**23 12 31.5**	**+0.2**
ZKR	**Zakros**	**2.52**	**248**	P	**Pn**	**23 12 32.3**	**-0.1**
ZKR	**Zakros**	**2.52**	**248**	P	**Pn**	**23 12 32.1**	**-0.3**
ZKR				S	**Sn**	**23 13 03.2**	**+0.6**
GAZI	**Gazipasa**	**2.64**	**86**	PN	**Pn**	**23 12 33.8**	**-0.3**
ANAF	**Anafi Island**	**2.67**	**276**	P	**Pn**	**23 12 34.2**	**-0.3**
NPS	**Neapolis**	**2

$M_{\theta 0}$2.42±.18; $M_{\theta 0}$-2.39±.14; $M_{\theta 0}$0.25±.24; $M_{\theta 0}$3.72±.11; $M_{\theta 0}$0.60±.22; Best double couple: M_{θ}4.47700×10^{16} NP1:θ_{θ}16.00000°,δ89.00000°,λ172.00000°. NP2: ϕ_{θ}107.00000°,δ82.00000°,λ1.00000°. Principal axes: T 4.5020, Plg6.0000°, Azm331.0000°; N -0.0440, Plg82.0000°, Azm191.0000°; P -4.4530, Plg5.0000°, Azm62.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 19 23:59:13.9±0.5, 53.9S±0.1×134.5W±0.1, h10km, n67, σ1§58/43, mb4.6/25, MS4.3/14, 1D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**30.70**	**359**	*e*LR	LR	00 13 24.5	
	684nm,26.8s						
RKT	**Rikitea**	**30.70**	**359**	*e*T	T	00 37 20.8	
	10nm,0.2s						
VNDA	**Vanda**	**32.47**	**201**	P	**P**	**00 05 46.6**	**+2.8**
	0.6nm,0.8s,baz=91,slow=6.1,SNR=2.4						
VNDA				LR	LR	00 15 20.5	
	comp=Z,206nm,21.6s,baz=81,slow=30						
TBI	**Tubuai**	**32.49**	**334**	*e*LR	LR	00 14 01.6	
	1μm,28.2s,baz=161						
TBI	**Tubuai**	**32.49**	**334**	*e*T	T	00 39 40.7	
	91nm,0.9s						
QSPA	**South Pole Qui**	**36.30**	**180**	P	**P**	**00 06 18.9**	**+1.5**
	2.8nm,0.8s,baz=59,slow=4.0,SNR=6.0						
QSPA	**South Pole Qui**	**36.30**	**180**	*e*P	**P**	**00 06 18.6**	**+1.2**
PPT2	**Papeete2**	**38.04**	**336**	*e*LR	LR	00 16 47.5	
	1μm,25.5s,baz=169						
PPT	**Papeete**	**38.06**	**336**	LR	LR	00 18 22.6	
	comp=Z,371nm,18.6s,baz=158,slow=30						
VAH	**Vaihoa**	**39.89**	**340**	*e*T	T	00 48 54.5	
	20nm,0.2s						
PLCA	**Paso Flores**	**43.85**	**100**	P	**P**	**00 07 19.1**	**-1.0**
	2.4nm,0.9s,baz=234,slow=9.2,SNR=4.4						
PLCA				LR	LR	00 21 26.0	
	comp=Z,208nm,18.8s,baz=254,slow=30						
TAOE	**Nuku Hiva Isla**	**45.11**	**352**	*e*LR	LR	00 19 59.7	
	635nm,26.5s						
VNA3	**Neumayer Olymp**	**49.24**	**159**	P	**P**	**00 08 01.1**	**-0.9**
VNA2	**Neumayer--Watz**	**49.95**	**160**	P	**P**	**00 08 05.6**	**-1.8**
	baz=215,slow=8.3						
VNA1	**Neumayer--Stat**	**49.99**	**159**	P	**P**	**00 08 06.5**	**-1.1**
SNAA	**Sanae**	**50.23**	**162**	P	**P**	**00 08 05.7**	**-3.8**
DZM	**Mont Dzumac**	**54.28**	**282**	*e*LR	LR	00 24 03.0	
	384nm,27.8s						
SYO	**Syowa Base**	**57.36**	**177‖**	*e*P	**P**	**00 09 03.4**	**+1.9**
MAW	**Mawson**	**58.15**	**188**	P	**P**	**00 09 08.0**	**+0.9**
	5.5nm,1.0s,baz=172,slow=12,SNR=5.0						
PB01	**IPOC Station P**	**58.60**	**83**	*e*P	**P**	**00 09 11.4**	**+0.3**
	9.4nm,0.9s						
PB11	**IPOC Station P**	**59.49**	**82**	*e*P	**P**	**00 09 16.9**	**-0.4**
	10nm,0.8s						
STKA	**Stephens Creek**	**61.49**	**254**	P	**P**	**00 09 30.8**	**+0.1**
	1.5nm,0.5s,baz=112,slow=5.4,SNR=3.3						
STKA				LR	LR	00 31 53.6	
	comp=Z,181nm,19.2s,baz=178,slow=32						
CPUP	**Villa Florida**	**61.76**	**97**	P	**P**	**00 09 31.9**	**-0.6**
	4.9nm,0.9s,baz=248,slow=6.2,SNR=8.5						
CPUP				LR	LR	00 31 49.6	
	comp=Z,330nm,20.4s,baz=222,slow=32						
LPAZ	**La Paz**	**63.11**	**81**	P	**P**	**00 09 41.3**	**-1.1**
	2.3nm,0.8s,baz=193,slow=1.8,SNR=7.6						
LPAZ				LR	LR	00 30 38.5	
	comp=Z,145nm,19.9s,baz=220,slow=30						
CTA	**Charters Tower**	**67.71**	**266**	P	**P**	**00 10 09.2**	**-2.2**
	2.6nm,0.6s,baz=147,slow=7.0,SNR=5.9						
SAML	**Samuel**	**71.84**	**80**	*e*P	**P**	**00 10 35.6**	**-1.3**
	3.1nm,0.9s						
AS01	**Alice Springs**	**72.11**	**254**	*e*P	**P**	**00 10 36.9**	**-1.6**
ASAR	**Alice Springs**	**72.13**	**254**	P	**P**	**00 10 37.5**	**-1.2**
	3.8nm,0.9s,baz=136,slow=5.7,SNR=22						
ASAR				LR	LR	00 39 06.5	
	comp=Z,185nm,18.1s,baz=152,slow=33						
AS31	**Alice Springs**	**72.13**	**254**	*e*P	**P**	**00 10 37.5**	**-1.2**
	2.4nm,1.1s						
H01W1	**Cape Leeuwin H**	**73.63**	**233**	T	T	01 32 03.5	
	baz=144,slow=76,SNR=30						
H01W2	**Cape Leeuwin H**	**73.63**	**233**	T	T	01 32 12.6	
	baz=144,slow=76,SNR=6.9						
H01W3	**Cape Leeuwin H**	**73.64**	**233**	T	T	01 32 04.7	
	baz=144,slow=76,SNR=24						
NWAO	**Narrogin (SRO)**	**73.73**	**236**	LR	LR	00 36 15.1	
	comp=Z,249nm,21.2s,baz=206,slow=30						
WR1	**Warramunga Arr**	**74.80**	**257**	*e*P	**P**	**00 10 53.0**	**-1.3**
	6.3nm,1.1s						
WRA	**Warramunga Arr**	**74.80**	**257**	P	**P**	**00 10 53.0**	**-1.3**
	2.0nm,0.6s,baz=143,slow=5.2,SNR=26						
WRA				LR	LR	00 40 48.5	
	comp=Z,182nm,19.4s,baz=140,slow=33						
BDFB	**Brasilia**	**75.49**	**97**	P	**P**	**00 10 57.5**	**-0.9**
	3.6nm,0.9s,baz=194,slow=8.0,SNR=5.2						
BDFB				LR	LR	00 41 00.8	
	comp=Z,205nm,19.4s,baz=172,slow=33						
PMG	**Port Moresby**	**75.57**	**274**	LR	LR	00 40 15.7	
	comp=Z,106nm,18.1s,baz=166,slow=33						
ROSC	**El Rosal**	**76.96**	**63**	LR	LR	00 38 29.6	
	comp=Z,153nm,20.5s,baz=226,slow=31						
ROSC	**El Rosal**	**76.96**	**63**	*e*P	**P**	**00 11 09.1**	**+2.0**
	5.5nm,0.8s						
PTGA	**Pitinga**	**80.34**	**78**	*e*P	**P**	**00 11 24.9**	**-0.4**
	3.7nm,0.9s						
LNIG	**Linares**	**84.10**	**32**	*e*P	**P**	**00 11 44.8**	**+0.2**
	5.3nm,1.0s						
LTX	**Lajitas**	**87.07**	**27**	*e*P	**P**	**00 11 59.1**	**-0.3**
TXAR	**Lajitas Array**	**87.07**	**27**	P	**P**	**00 11 59.1**	**-0.3**
	0.9nm,0.9s,baz=196,slow=7.8,SNR=6.9						
H11S2	**WAKE ISLAND Hy**	**87.85**	**306**	T	T	01 49 28.1	
	baz=144,slow=76,SNR=30						
H11S3	**WAKE ISLAND Hy**	**87.86**	**306**	T	T	01 49 11.2	
	baz=144,slow=76,SNR=27						
H11S1	**WAKE ISLAND Hy**	**87.87**	**306**	T	T	01 49 09.6	
	baz=144,slow=76,SNR=29						
GLA	**Glamis**	**88.23**	**16**	*e*P	**P**	**00 12 08.8**	**+4.0**
	7.8nm,0.9s						
H11N3	**WAKE ISLAND Hy**	**88.81**	**306**	T	T	01 50 22.6	
	baz=158,slow=80,SNR=8.7						
H11N1	**WAKE ISLAND Hy**	**88.81**	**306**	T	T	01 50 15.6	
	baz=158,slow=80,SNR=6.5						
H11N2	**WAKE ISLAND Hy**	**88.82**	**306**	T	T	01 50 19.5	
	baz=158,slow=80,SNR=6.7						
MNTX	**Cornudas Mount**	**88.88**	**25**	*e*P	**P**	**00 12 09.6**	**+1.7**
	3.9nm,1.1s						
ABTX	**Abilene, Hawle**	**91.28**	**29**	*e*P	**P**	**00 12 21.2**	**+2.1**
	5.8nm,0.9s						
ANMO	**Albuquerque**	**91.73**	**23**	*e*P	**P**	**00 12 23.2**	**+1.8**
	3.8nm,1.0s						
U15A	**North Rim**	**91.96**	**18**	*e*P	**P**	**00 12 24.8**	**+2.3**
	3.4nm,0.9s						
YBH	**Yreka Blue Hor**	**95.77**	**9**	LR	LR	00 44 48.6	
	comp=Z,225nm,18.3s,baz=24,slow=29						
BOSA	**Boshof**	**96.01**	**162**	LR	LR	00 52 26.8	
	comp=Z,133nm,18.9s,baz=208,slow=33						
ILAR	**Eielson Array**	**118.69**	**354**	PKP	**PKPdf**	**00 18 00.0**	**-0.6**
	1.1nm,1.1s,baz=225,slow=1.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**126.78**	**123**	PKP	**PKPdf**	**00 18 16.3**	**-1.4**
	0.6nm,0.7s,baz=223,slow=1.3,SNR=7.3						
TOA1	**Torodi Ar. Sit**	**126.78**	**123**	*e*PKPdf	**PKPdf**	**00 18 16.3**	**-1.4**
SONA0	**Songino Array**	**142.12**	**286**	*e*PKPpre	PKPpre	00 18 40.3	
SONM	**Songino Array**	**142.12**	**286**	PKhKP	PKPpre	00 18 40.3	
	0.4nm,0.5s,baz=159,slow=0.2,SNR=3.3						
MK32	**Makanchi Array**	**155.67**	**268**	*e*PKPab	**PKPab**	**00 19 32.3**	**-1.2**
MKAR	**Makanchi Array**	**155.67**	**268**	PKPab	**PKPab**	**00 19 32.3**	**-1.2**
	1.2nm,0.7s,baz=95,slow=5.2,SNR=8.2						
ZAA0	**Zalesovo Array**	**157.02**	**286**	*e*PKPab	**PKPab**	**00 19 39.5**	**+0.5**
ZALV	**Zalesovo Beam**	**157.02**	**286**	PKPab	**PKPab**	**00 19 38.8**	**-0.1**
	2.2nm,0.8s,baz=116,slow=3.4,SNR=6.0						
ZALV	**Zalesovo Beam**	**157.02**	**286**	*e*PKPdf	**PKPdf**	**00 19 10.0**	**+1.5**
ZALV				PKPab	**PKPab**	**00 19 38.8**	**-0.1**
ZAA1	**Zalesovo Array**	**157.02**	**286**	*e*PKPab	**PKPab**	**00 19 38.8**	**-0.1**

*ISCJB **20** 00:19:41.5±0.9, 22.8N±0.1×79.9W±0.1, h10km, mb3.6/5, MS3.7/3, Error ellipse: s-maj=18.2km s-min=14.7km az=155.4*
*IDC **20** 00:19:41.3±1.4, 22.69N×79.88W, h0km, mb3.6/5, mb1 4.1/8, mb1mx3.8/34, mbtmp3.9/8, ML3.3/3, MS3.7/3, Ms1 3.8/3, ms1mx2.8/37, Error ellipse: s-maj=34.2km s-min=28.4km az=81.0*
ISC 20 00:19:42.2±1.1, 22.7N±0.1×79.8W±0.2, h10km, n12, σ1§32/10, mb3.7/5, MS3.9/3, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKL	**Tuckaleechee C**	**13.34**	**346**	Pn	**Pn**	**00 22 49.0**	**-2.5**
	0.3nm,0.3s,baz=156,slow=10.0,SNR=3.1						
TKL				Sn	Sn	00 25 08.3	-12
	0.1nm,0.3s,baz=283,slow=16,SNR=1.9						
CMIG	**Matias Romero**	**15.22**	**251**	Pn	**Pn**	**00 23 16.6**	**-0.6**
	0.1nm,0.3s,baz=66,slow=12,SNR=2.0						
SDV	**Santo Domingo**	**16.35**	**146**	Pn	**P**	**00 23 34.3**	**-0.8**
	0.8nm,0.3s,baz=326,slow=15,SNR=8.8						
SADO	**Sadowa**	**22.00**	**1**	P	**P**	**00 24 37.8**	**+1.4**
	4.3nm,0.8s,baz=186,slow=12,SNR=3.7						
TXAR	**Lajitas Array**	**22.38**	**292**	P	**P**	**00 24 41.9**	**+1.0**
	0.8nm,0.8s,baz=119,slow=10,SNR=6.9						
LPIG	**La Paz**	**27.97**	**279**	LR	LR	00 38 41.4	
	comp=Z,68nm,18.7s,baz=171,slow=41						
PDAR	**Pinedale Array**	**31.75**	**316**	P	**P**	**00 26 07.3**	**+0.5**
	0.2nm,0.5s,baz=128,slow=12,SNR=2.4						
ILAR	**Eielson Array**	**59.91**	**333**	P	**P**	**00 29 49.0**	**+0.9**
	0.4nm,0.7s,baz=107,slow=4.8,SNR=4.8						
ILAR				LR	LR	00 58 05.7	
	comp=Z,125nm,19.1s,baz=177,slow=38						
DBIC	**Dimbokro**	**73.62**	**90**	LR	LR	00 59 46.1	
	comp=Z,55nm,19.0s,baz=194,slow=33						
ARCES	**ARCESS Array B**	**74.12**	**21**	P	**P**	**00 31 19.1**	**+0.7**
	4.0nm,0.9s,baz=306,slow=5.2,SNR=3.8						
WRA	**Warramunga Arr**	**148.09**	**268**	PKPbc	**PKPbc**	**00 39 28.6**	**-0.2**
	0.5nm,0.6s,baz=76,slow=3.3,SNR=6.4						
ASAR	**Alice Springs**	**149.01**	**262**	PKPbc	**PKPbc**	**00 39 30.7**	**-0.6**
	0.6nm,0.7s,baz=83,slow=2.9,SNR=3.3						

MEX 20 00:35:26.0±0.7, 16.31N×98.50W, h5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.37**	**77**	*e*P	Pg	00 35 32.5	-0.7
PNIG				*e*S	Sg	00 35 37.6	-0.4
TLIG	**Tlapa**	**1.25**	**357**	*e*P	Pg	00 35 45.9	-4.2
TLIG				*e*S	Sg	00 36 01.9	-4.3
HUIG	**Huatulco**	**2.36**	**103**	*e*P	Pn	00 36 02.9	-2.6
HUIG				*e*S	Sn	00 36 31.5	-3.4
CMIG	**Matias Romero**	**3.56**	**77**	*e*P	Pn	00 36 19.6	-2.3
CMIG				*e*S	Sn	00 37 01.4	-2.9

*ISK **20** 00:55:39.8, 37.42N×38.95E, h5km, ML2.5/5*
*ISCJB **20** 00:55:40.6±0.9, 37.46N±0.04×38.93E±0.03, h1km±7km, Error ellipse: s-maj=7.4km s-min=4.0km az=171.2*
*DDA **20** 00:55:40.3, 37.49N×38.91E, h7km, Ml2.4*
ISC 20 00:55:40.8±1.0, 37.49N±0.04×38.92E±0.02, h4km±9km, n19, σ0§61/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.09**	**241**	PG	**Pg**	**00 55 42.5**	**-0.2**
URFA				SG	**Sg**	**00 55 44.5**	**+0.4**
SURC	**SANLIURFA_SURC**	**0.65**	**202**	*i* P	**Pg**	**00 55 53.1**	**-0.2**
DIYA	**Diyarbakir**	**1.05**	**65**	*i* P	**Pn**	**00 56 02.2**	**-0.1**
DIYA				*i* S	**Sn**	**00 56 17.9**	**+0.6**
AKCD	**Akcadag**	**1.13**	**316**	*i* P	**Pg**	**00 56 01.5**	**-1.0**
AKCD				*i* S	**Sb**	**00 56 17.7**	**-0.4**
MAZI	**Mazidag**	**1.21**	**91**	PN	**Pg**	**00 56 03.2**	**-0.8**
MAZI				SN	**Sb**	**00 56 20.3**	**-0.1**
GAZ	**Gaziantep**	**1.40**	**258**	PN	**Pg**	**00 56 06.8**	**-0.3**
GAZ				SN	**Sn**	**00 56 26.4**	**+0.3**
PTK	**Pertek**	**1.45**	**15**	PN	**Pg**	**00 56 08.5**	**-0.1**
MARD	**Mardin**	**1.49**	**96**	*i* P	**Pb**	**00 56 08.6**	**-0.4**
MARD				*i* S	**Sg**	**00 56 29.9**	**+1.3**
HANI	**Diyarbakir_Han**	**1.49**	**51**	*i* P	**Pn**	**00 56 07.7**	**-0.7**
HANI				*i* S	**Sg**	**00 56 29.7**	**+1.0**
DARE	**Darende-Malaty**	**1.57**	**314**	PN	**Pb**	**00 56 09.9**	**-0.5**
KMRS	**Kahramanmaras**	**1.61**	**271**	PN	**Pn**	**00 56 09.9**	**-0.1**
KUZU	**Kuzuini**	**1.64**	**245**	*i* P	**Pg**	**00 56 12.2**	**0.0**
KUZU				*i* S	**Sg**	**00 56 33.7**	**+0.3**
KEMA	**Kemaliye**	**1.81**	**349**	*i* P	**Pn**	**00 56 13.4**	**+0.6**
KEMA				*i* S	**Sg**	**00 56 40.0**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.92**	**69**	PN	**Pn**	**00 56 13.9**	**-0.4**
BNGB	**Bing¶‖**	**2.04**	**42**	PN	**Pn**	**00 56 16.3**	**+0.3**
TAHT	**Tahtakopru-Hat**	**2.46**	**244**	PN	**Pn**	**00 56 21.5**	**-0.1**
KOZT	**Kozan**	**2.46**	**271**	PN	**Pn**	**00 56 22.7**	**+1.0**
GURO	**Guroymak-BITLI**	**2.68**	**66**	PN	**Pn**	**00 56 24.9**	**+0.1**
SIRT	**Sirnak**	**2.80**	**89**	PN	**Pn**	**00 56 26.5**	**+0.1**

*UCR **20** 00:59:13.2±0.8, 14.13N×92.35W, h35km±547km, ML3.9, mb4.5(NEIC)*
*MEX **20** 00:59:16.9±0.3, 13.63N×92.16W, h14km±22km, MD4.4*
*NEIC **20** 00:59:19.0±0.3, 13.82N×91.77W, h35km, mb4.5/120, MD4.4(MEX), Error ellipse: s-maj=7.3km s-min=4.2km az=31.0*
*ISCJB **20** 00:59:22.4±0.5, 13.99N±0.03×91.63W±0.03, h84km±4km, mb4.4/114, Error ellipse: s-maj=5.9km s-min=3.9km az=43.6*
*IDC **20** 00:59:23.6±2.7, 13.97N×91.59W, h82km±21km, mb3.9/15, mb1 4.2/16, mb1mx3.9/40, mbtmp4.2/16, MS3.9/21, Ms1 3.9/21, ms1mx3.7/38, Error ellipse: s-maj=30.6km s-min=12.6km az=51.0*
ISC 20 00:59:18.0±1.2, 13.71N±0.06×92.13W±0.04, h41km±10km, n439, σ1§94/430, mb4.5/116, MS3.9/20, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**1.69**	**74**	*e*P	**Pn**	**00 59 42.4**	**-2.8**
APG	**El Apazote**	**2.07**	**51**	P	**Pn**	**00 59 49.8**	**-0.6**
	121nm,0.3s,baz=226,slow=11,SNR=144						
APG				S	**Sn**	**01 00 16.6**	**+1.5**
	209nm,0.3s,baz=288,slow=5.6,SNR=16						
PCIG		**2.25**	**332**	*e*P	**Pn**	**00 59 51.5**	**-1.2**
PCIG				*e*S	**Sn**	**01 00 18.0**	**-1.2**
PCIG		**2.25**	**332**	*e*P	**Pn**	**00 59 51.5**	**-1.2**
PCIG				*e*S	**Sn**	**01 00 18.0**	**-1.2**
RTR	**El Retiro**	**2.42**	**85**	*e*P	**Pn**	**00 59 53.8**	**-1.5**
CEVE	**Cerro Verde**	**2.44**	**87**	*e*P	**Pn**	**00 59 54.8**	**-0.8**
CEVE				*e*S	**Sn**	**01 00 26.8**	**+2.5**
CCIG	**Comitan**	**2.56**	**360**	*e*Pn	**Pn**	**00 59 57.9**	**+0.7**
CCIG				*e*S	**Sn**	**01 00 27.1**	**-0.1**
CCIG	**Comitan**	**2.56**	**360**	*e*P	**Pn**	**00 59 58.1**	**+0.9**
CCIG				*e*S	**Sn**	**01 00 27.1**	**-0.1**
BOQS	**Boqueron**	**2.77**	**89**	*e*P	**Pn**	**00 59 59.3**	**-0.9**
MTO3	**Montecristo**	**2.77**	**75**	*e*P	**Pn**	**00 59 58.1**	**-2.0**
UEES	**San Salvador**	**2.81**	**89**	IAML		01 00 40.0	
	comp=Z,824nm,0.5s						
SNET	**Serv Nac Est T**	**2.82**	**90**	*e*S	**Sn**	**01 00 36.2**	**+2.8**
SNET				IAML		01 00 40.2	
	comp=Z,769nm,0.3s						
LFRS	**El Faro**	**2.98**	**91**	*e*P	**Pn**	**01 00 01.9**	**-1.1**
LBRS	**Las Brisas**	**3.00**	**89**	*e*P	**Pn**	**01 00 02.0**	**-1.1**
PAVA	**Las Pavas**	**3.10**	**90**	*e*P	**Pn**	**01 00 03.0**	**-1.6**
PAVA				IAML		01 00 53.1	
	comp=Z,404nm,0.4s						
PACA	**Pacayal**	**3.71**	**93**	*e*P	**Pn**	**01 00 12.6**	**-0.3**
LCND	**La Ca¯–ada**	**4.14**	**95**	IAML		01 01 15.8	
	comp=Z,293nm,0.4s						
CMIG	**Matias Romero**	**4.29**	**322**	P	**Pn**	**01 00 21.0**	**+0.3**
	comp=Z,6.7nm,0.3s,baz=150,slow=11,SNR=39						
CMIG				S	**Sn**	**01 01 08.9**	**-0.6**
	comp=Z,30nm,0.3s,baz=103,slow=16,SNR=5.7						
HUIG	**Huatulco**	**4.36**	**299**	*e*P	**Pn**	**01 00 20.1**	**-1.6**
HUIG				*e*S	**Sn**	**01 01 07.9**	**-3.4**
HUIG	**Huatulco**	**4.36**	**299**	*e*P	**Pn**	**01 00 20.1**	**-1.6**
HUIG				*e*S	**Sn**	**01 01 10.3**	**-1.0**
CSGN	**Cosiguina Volc**	**4.51**	**99**	*e*Pn	**Pn**	**01 00 20.5**	**-3.4**
CSGN	**Cosiguina Volc**	**4.51**	**99**	*e*P	**Pn**	**01 00 23.6**	**-0.3**
CSGN				*e*S	**Sn**	**01 01 18.2**	**+3.0**
TGUH	**Tegucigalpa,Un**	**4.73**	**85**	*e*Pn	**Pn**	**01 00 26.1**	**-0.8**
ESTN	**Estel**	**5.64**	**95**	*e*Pn	**Pn**	**01 00 37.2**	**-2.2**
BOAB	**BOACO BROADBAN**	**6.42**	**100**	*e*Pn	**Pn**	**01 00 49.2**	**-0.9**
TLIG	**Tlapa**	**7.29**	**303**	*e*Pn	**Pn**	**01 01 05.1**	**+3.0**
TEIG	**Tepich**	**7.46**	**29**	*e*Pn	**Pn**	**01 01 03.5**	**-0.8**
LNIG	**Linares**	**13.10**	**329**	*e*Pn	**Pn**	**01 02 23.5**	**+1.8**
833A	**Chaparral WMA,**	**16.04**	**336**	*e*Pn	**Pn**	**01 03 01.0**	**+0.3**
	comp=Z,19nm,1.0s						
833A	**Chaparral WMA,**	**16.04**	**336**	P	**Pn**	**01 03 01.8**	**+1.2**
	baz=152						
058A	**Arcadia**	**16.42**	**34**	P	**Pn**	**01 03 02.7**	**-2.8**
	baz=217						
HKT	**Hockley**	**16.52**	**349**	*e*Pn	**Pn**	**01 03 07.4**	**+0.7**
	comp=Z,7.5nm,1.1s						
447A	**Lucedale**	**17.31**	**10**	P	**Pn**	**01 03 16.9**	**+0.4**
	baz=190						
DWPF	**Disney Wildern**	**17.45**	**33**	Pn	**Pn**	**01 03 17.0**	**-1.4**
342A	**Flagon Creek P**	**17.59**	**359**	P	**P**	**01 03 20.7**	**0.0**
	baz=178						
448A	**Bay Minette**	**17.59**	**12**	P	**P**	**01 03 20.6**	**0.0**
	baz=193						
345A	**Thompson Farm,**	**17.62**	**6**	P	**Pn**	**01 03 20.9**	**+0.4**
	baz=186						
344A	**Westbrook Farm**	**17.71**	**4**	P	**P**	**01 03 22.2**	**+0.2**
	baz=183						
655A	**Horseshoe Beac**	**17.75**	**26**	P	**Pn**	**01 03 20.9**	**-1.1**
	baz=208						
346A	**Big Creek Wild**	**17.77**	**7**	P	**P**	**01 03 23.3**	**+0.7**
	baz=187						
553A	**Crawfordville**	**17.88**	**22**	P	**Pn**	**01 03 23.9**	**+0.3**
	baz=204						
656A	**Williston**	**17.94**	**28**	P	**Pn**	**01 03 23.0**	**-1.5**
	baz=211						
ZARC	**Zaragoza, Cauc**	**18.06**	**108**	*e*P	**Pn**	**01 03 25.2**	**-0.8**
243A	**Waterproof**	**18.10**	**2**	P	**P**	**01 03 27.1**	**+0.8**
	baz=181						
NATX	**Nacogdoches**	**18.12**	**353**	*e*Pn	**P**	**01 03 27.0**	**+0.5**
NATX	**Nacogdoches**	**18.12**	**353**	P	**P**	**01 03 27.1**	**+0.5**
	baz=171						
349A	**Repton**	**18.14**	**14**	P	**Pn**	**01 03 27.5**	**+0.7**
	baz=194						
HPIG		**18.26**	**318**	*e*P	**Pn**	**01 03 31.0**	**+2.4**
	comp=Z,5.5nm,0.8s						
244A	**Avery, Jackson**	**18.30**	**4**	P	**P**	**01 03 28.5**	**0.0**
	baz=183						
555A	**McAlpin**	**18.40**	**26**	P	**P**	**01 03 28.5**	**-1.2**
	baz=208						
453A	**Whigham**	**18.52**	**22**	*e*Pn	**P**	**01 03 29.3**	**-1.7**
	comp=Z,95nm,1.1s						
453A	**Whigham**	**18.52**	**22**	P	**P**	**01 03 30.8**	**-0.2**
	baz=204						
556A	**Lake Butler**	**18.54**	**27**	P	**Pn**	**01 03 32.4**	**+0.7**
	baz=210						
247A	**Quitman**	**18.54**	**9**	P	**P**	**01 03 31.5**	**+0.3**
	baz=190						
248A	**Dixon Mills**	**18.74**	**12**	P	**P**	**01 03 33.3**	**0.0**
	baz=192						
249A	**Camden**	**18.75**	**13**	P	**P**	**01 03 34.0**	**+0.4**
	baz=194						
PTBC	**PUERTO BERRIO,**	**18.79**	**111**	*e*P	**P**	**01 03 34.5**	**+0.3**
WHTX	**Lake Whitney,**	**18.84**	**346**	*e*P	**Pn**	**01 03 35.2**	**-0.1**
	comp=Z,13nm,0.9s						
WHTX	**Lake Whitney,**	**18.84**	**346**	P	**Pn**	**01 03 35.6**	**+0.3**
	baz=163						
TXAR	**Lajitas Array**	**18.87**	**327**	P	**Pn**	**01 03 37.5**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=156,slow=9.0,SNR=83						
TXAR				LR	LR	01 11 55.0	
	comp=Z,110nm,18.7s,baz=0.0,slow=40						
TX31	**Lajitas Ar. Si**	**18.87**	**327**	*e*P	**Pn**	**01 03 37.7**	**+1.9**
POPC	**Popayan, Colom**	**18.88**	**125**	*e*P	**Pn**	**01 03 38.3**	**+2.2**
352A	**Blakely**	**18.89**	**19**	P	**P**	**01 03 35.5**	**+0.5**
	baz=201						
250A	**Grady**	**18.96**	**15**	P	**Pn**	**01 03 36.7**	**-0.1**
	baz=197						
353A	**Camilla**	**19.00**	**21**	P	**Pn**	**01 03 37.1**	**-0.2**
	baz=203						
146A	**Union**	**19.05**	**8**	P	**P**	**01 03 37.0**	**+0.3**
	baz=188						
SOTA	**Rioblanco**	**19.18**	**126**	*e*P	**Pn**	**01 03 40.8**	**+0.8**
147A	**Livingston**	**19.21**	**10**	*e*P	**P**	**01 03 36.6**	**-1.8**
	comp=Z,17nm,0.9s						
147A	**Livingston**	**19.21**	**10**	P	**P**	**01 03 38.0**	**-0.5**
	baz=190						
251A	**Midway**	**19.31**	**17**	P	**P**	**01 03 39.1**	**-0.5**
	baz=199						
TIGA	**Tifton**	**19.31**	**23**	P	**P**	**01 03 39.7**	**0.0**
	baz=205						
252A	**Lumpkin**	**19.42**	**19**	P	**P**	**01 03 41.1**	**+0.2**
	baz=201						
149A	**Jones**	**19.43**	**14**	P	**P**	**01 03 41.4**	**+0.5**
	baz=195						
Z41A	**Richland Creek**	**19.47**	**358**	*e*P	**P**	**01 03 41.4**	**0.0**
	comp=Z,25nm,1.0s						
Z41A	**Richland Creek**	**19.47**	**358**	P	**Pn**	**01 03 42.4**	**-0.5**
	baz=177						
Z42A	**Norrel Spur, H**	**19.48**	**0**	P	**P**	**01 03 40.8**	**-0.7**
	baz=180						
Z46A	**Louisville**	**19.61**	**8**	P	**P**	**01 03 42.5**	**-0.4**
	baz=188						
150A	**Eclectic**	**19.62**	**16**	P	**P**	**01 03 43.6**	**

Y51A	Rockmart baz=198	21.10	17	P		P	01 03 58.2	-0.9
GOGA	Godfrey comp=Z,3.2nm,0.4s	21.14	20	eP		P	01 03 57.9	-1.6
GOGA	Godfrey baz=203	21.14	20	P		P	01 03 58.3	-1.2
X48A	Hartselle comp=Z,26nm,1.1s	21.16	12	eP		P	01 04 01.1	+1.4
X48A	Hartselle baz=193	21.16	12	P		P	01 03 59.3	-0.4
Z54A	Sparta baz=205	21.20	22	P		P	01 03 59.6	-0.5
Y52A	Lilburn baz=201	21.36	19	P		P	01 04 01.4	-0.5
X49A	Woodville baz=195	21.37	13	P		P	01 04 01.7	-0.2
W41B	Gary Mavity, V baz=179	21.37	360	P		P	01 04 03.0	+1.0
W39A	Magazine baz=175	21.45	356	P		P	01 04 02.6	-0.2
X50B	Fort Payne baz=196	21.48	15	P		P	01 04 03.0	-0.1
Y53A	Monroe baz=202	21.51	20	P		P	01 04 01.7	-1.7
GDL2	Guadalupe Moun	21.55	331	eP		P	01 04 06.2	+2.3
W46A	Michie baz=189	21.60	8	P		P	01 04 02.8	-1.6
SDV	Santo Domingo comp=Z,1.3nm,0.3s,baz=291,slow=8.6,SNR=2.0	21.61	101	P		P	01 04 02.8	-2.2
SDV	Santo Domingo comp=Z,3.6nm,0.6s	21.61	101	eP		P	01 04 02.4	-2.6
MNTX	Cornudas Mount comp=Z,24nm,0.9s	21.64	328	eP		P	01 04 06.2	+1.2
MNTX	Cornudas Mount baz=142,SNR=42	21.64	328	P		P	01 04 06.0	+1.1
WMOK	Wichita Mounta comp=Z,16nm,1.1s	21.79	345	eP		P	01 04 06.2	-0.3
WMOK	Wichita Mounta baz=161,SNR=15	21.79	345	P		P	01 04 05.6	-0.9
X51A	Calhoun baz=198	21.79	16	P		P	01 04 05.4	-1.0
W47A	Westpoint baz=191	21.84	10	P		P	01 04 05.8	-1.1
W48A	Pulaski baz=193	21.85	12	P		P	01 04 06.2	-0.9
W49A	Belvidere baz=194	21.97	13	P		P	01 04 07.1	-1.2
V41A	Mountainview baz=179	21.98	360	P		P	01 04 07.6	-0.9
V42A	Cord baz=181	22.01	2	P		P	01 04 06.8	-2.0
X52A	Dahlonega baz=201	22.10	18	P		P	01 04 07.7	-2.1
V45A	Humboldt baz=187	22.12	7	P		P	01 04 08.7	-1.3
V46A	Holladay baz=189	22.29	9	P		P	01 04 09.5	-2.3
TUL1	Leonard baz=170	22.35	352	P		P	01 04 12.0	-0.5
MSTX	Muleshoe comp=Z,17nm,0.8s	22.37	336	eP		P	01 04 12.9	+0.1
MSTX	Muleshoe baz=151,SNR=13	22.37	336	P		P	01 04 12.3	-0.5
W51A	Cleveland baz=198	22.37	16	P		P	01 04 09.9	-2.8
V47A	Nunnelly baz=191	22.41	10	P		P	01 04 11.9	-1.2
V48A	Smith Brothers comp=Z,7.8nm,0.8s	22.45	11	eP		P	01 04 13.3	-0.2
V48A	Smith Brothers baz=193	22.45	11	P		P	01 04 12.7	-0.8
U40A	Yellville baz=177	22.56	358	P		P	01 04 13.3	-1.4
U42A	Revenden baz=181	22.56	2	P		P	01 04 12.4	-2.3
U43A	Rector baz=184	22.62	4	P		P	01 04 14.1	-1.2
WVT	Waverly comp=Z,6.8nm,1.0s	22.66	9	eP		P	01 04 13.6	-2.2
WVT	Waverly baz=190	22.66	9	P		P	01 04 13.9	-1.9
V49A	McMinnville baz=195	22.67	13	P		P	01 04 14.4	-1.4
U44B	Burton Farm, H baz=186	22.67	6	P		P	01 04 14.6	-1.3
CPCT	Cooper Cave comp=Z,16nm,1.1s	22.71	16	eP		P	01 04 15.4	-0.9
U45A	Rockin P Farm, baz=188	22.75	7	P		P	01 04 15.1	-1.5
V50A	Pikevile baz=197	22.77	15	P		P	01 04 15.5	-1.4
AMTX	Amarillo comp=Z,32nm,0.6s	22.78	339	eP		P	01 04 17.4	+0.2
AMTX	Amarillo baz=155	22.78	339	P		P	01 04 17.2	+0.1
U46A	Springville baz=189	22.83	8	P		P	01 04 15.7	-1.9
PARMO	Parma comp=Z,50nm,0.9s	22.96	5	eP		P	01 04 18.2	-0.7
PBMO	Poplar Bluff comp=Z,13nm,0.9s	23.02	3	eP		P	01 04 18.1	-1.4
U47A	Clarksville baz=191	23.05	10	P		P	01 04 18.5	-1.2
V51A	Loudon baz=199	23.09	16	P		P	01 04 18.5	-1.6
TKL	Tuckaleechee C comp=Z,9.7nm,1.0s,baz=194,slow=16,SNR=4.1	23.11	18	P		P	01 04 19.0	-1.5
TKL				LR		LR	01 14 34.8	
TKL	comp=Z,379nm,18.5s,baz=202,slow=40 Tuckaleechee C comp=Z,7.7nm,1.1s	23.11	18	eP		P	01 04 20.1	-0.4
T41A	Mountain View baz=180	23.24	1	P		P	01 04 19.9	-1.8
T42A	Van Buren baz=182	23.24	2	P		P	01 04 19.9	-1.8
U48A	Cassie Pea, Po baz=193	23.25	11	P		P	01 04 20.2	-1.7
T43A	Greenville baz=184	23.34	4	P		P	01 04 21.0	-1.6
V52A	Sevierville baz=200	23.34	18	P		P	01 04 21.4	-1.3
T44A	Benton baz=185	23.39	5	P		P	01 04 21.0	-2.1
U49A	Red Boiling Sp baz=195,SNR=6.1	23.41	13	P		P	01 04 21.8	-1.6
V53A	Saluda baz=202	23.42	19	P		P	01 04 21.9	-1.6
KMSC	Kings Mountain baz=206	23.46	23	P		P	01 04 23.6	-0.3
U50A	Jamestown baz=197	23.54	15	P		P	01 04 22.6	-2.0
T46A	Princeton baz=190	23.54	9	P		P	01 04 22.6	-2.0
121A	Cookes Peak, D baz=138,SNR=17	23.57	325	P		P	01 04 27.5	+2.3
319A	Douglas comp=Z,27nm,1.0s	23.61	321	eP		P	01 04 28.6	+3.1
T47A	Sharon Grove comp=Z,9.1nm,0.7s	23.61	10	eP		P	01 04 23.5	-1.8
T47A	Sharon Grove baz=191,SNR=7.4	23.61	10	P		P	01 04 23.2	-2.1
U51A	La Follette baz=199	23.72	16	P		P	01 04 24.3	-2.0
S41A	Jillco Farms, baz=180	23.79	1	P		P	01 04 25.0	-1.9
S43A	Fulton Ridge, baz=184	23.84	4	P		P	01 04 24.4	-3.0
T48A	Bowling Green baz=193	23.86	11	P		P	01 04 25.7	-1.9
S42A	Caledonia baz=182	23.99	3	P		P	01 04 26.2	-2.7
TZTN	Tazewell comp=Z,1.5nm,0.6s	24.01	17	eP		P	01 04 27.7	-1.2
TZTN	Tazewell baz=200	24.01	17	P		P	01 04 26.6	-2.4
S44A	Carbondale baz=186,SNR=8.7	24.02	6	P		P	01 04 26.6	-2.4
T49A	Edmonton baz=195	24.04	13	P		P	01 04 26.8	-2.4
SIUC	Southern Illin comp=Z,44nm,1.0s	24.05	6	eP		P	01 04 27.7	-1.6
S45A	Carrier Mills baz=188	24.08	7	P		P	01 04 27.2	-2.4
T50A	Nancy baz=197	24.11	14	P		P	01 04 27.1	-2.8
U53A	Fall Branch baz=202	24.14	19	P		P	01 04 26.5	-3.7
BNM	Barren Site	24.23	330	eP		P	01 04 33.8	+2.5
S47A	Hartford baz=192	24.25	10	P		P	01 04 28.0	-3.2
CCM	Cathedral Cave comp=Z,14nm,1.0s	24.26	2	eP		P	01 04 28.8	-2.4
CCM	Cathedral Cave baz=181	24.26	2	P		P	01 04 28.7	-2.6
T51A	Gray baz=199	24.29	16	P		P	01 04 28.9	-2.6
LPM	Los Pinos Moun	24.36	330	eP		P	01 04 35.1	+2.7
LENM	Lemitar	24.41	329	eP		P	01 04 35.8	+2.9
R41A	Rosebud baz=181	24.50	1	P		P	01 04 31.0	-2.4
R42A	Luebbering baz=182	24.50	3	P		P	01 04 31.0	-2.5
R43A	Red Bud baz=184	24.55	4	P		P	01 04 32.3	-1.5
LAZ	Ladron	24.68	329	eP		P	01 04 38.5	+3.1
T52A	Hallie baz=201	24.70	18	P		P	01 04 33.6	-1.6
R45A	Skylar, Fairfi baz=188	24.72	7	P		P	01 04 33.5	-1.9
S49A	Springfield baz=195	24.74	13	P		P	01 04 34.2	-1.4
R46A	Gibon Southern baz=190	24.75	9	P		P	01 04 34.4	-1.3
ANMO	Albuquerque comp=Z,8.0nm,0.8s,baz=148,slow=11,SNR=26	24.79	331	P		P	01 04 38.0	+1.7
ANMO	Albuquerque comp=Z,9.3nm,0.9s	24.79	331	eP		P	01 04 38.1	+1.7
ANMO	Albuquerque baz=144	24.79	331	P		P	01 04 37.9	+1.5
ATAH	Atahualpa comp=Z,250nm,18.9s,baz=333,slow=33	24.80	146	LR		LR	01 13 04.7	
WCI	Wyandotte Cave comp=Z,16nm,0.9s	24.97	11	eP		P	01 04 36.2	-1.5
WCI	Wyandotte Cave baz=193	24.97	11	P		P	01 04 35.7	-1.9
R47A	Wooly Knot Far baz=192	24.99	10	P		P	01 04 36.3	-1.6
S51A	Beattyville baz=199	25.02	16	P		P	01 04 36.6	-1.6
Q42A	Golden Eagle baz=183	25.14	3	P		P	01 04 38.2	-1.1
Q41A	Truxton baz=181	25.16	2	P		P	01 04 37.8	-1.6
TUC	Tucson comp=Z,5.6nm,1.1s	25.18	320	eP		P	01 04 42.4	+2.7
TUC	Tucson baz=132	25.18	320	P		P	01 04 41.8	+2.0
OLIL	Olney comp=Z,21nm,1.0s	25.18	7	eP		P	01 04 37.7	-1.9
R48A	Northridge Ran baz=194	25.21	12	P		P	01 04 38.6	-1.3
Q43A	New Douglas baz=185	25.23	4	P		P	01 04 37.8	-2.2
Q44A	Meyer Farm, Va baz=186	25.25	6	P		P	01 04 39.0	-1.1
Q45A	Warren Harvey, baz=188	25.33	7	P		P	01 04 38.9	-2.1
SJG	San Juan comp=Z,198nm,19.5s,baz=290,slow=39	25.36	77	LR		LR	01 15 34.2	
R50A	Paris baz=197	25.44	14	P		P	01 04 40.2	-1.7
KSU1	Kansas State U baz=199	25.60	352	P		P	01 04 43.2	-0.2
Q47A	Bedord North L baz=192	25.63	10	P		P	01 04 42.4	-1.3
Q48A	North Vernon baz=194	25.75	12	P		P	01 04 43.2	-1.5
T25A	Trinidad comp=Z,9.7nm,1.0s	25.78	337	eP		P	01 04 47.4	+2.0
T25A	Trinidad baz=151,SNR=6.5	25.78	337	P		P	01 04 46.6	+1.2
P44A	Sand Creek, Wi baz=187	25.84	6	P		P	01 04 44.8	-0.8
P45A	Graceland, Par comp=Z,9.8nm,0.8s	26.01	8	eP		P	01 04 46.5	-0.7
P45A	Graceland, Par baz=189	26.01	8	P		P	01 04 45.3	-1.8
P46A	Rosedale baz=190	26.17	9	P		P	01 04 46.7	-1.9
P47A	Martinsville baz=192	26.19	10	P		P	01 04 46.5	-2.3
214A	Organ Pipe Nat baz=128	26.24	317	P		P	01 04 51.2	+1.8
Q51A	Peebles baz=199	26.39	16	P		P	01 04 48.7	-1.9
W18A	Petrified Fore comp=Z,9.3nm,1.1s	26.59	326	eP		P	01 04 57.2	+4.6
W18A	Petrified Fore baz=138	26.59	326	P		P	01 04 54.7	+2.1
Q52A	Bidwell baz=201	26.62	17	P		P	01 04 51.1	-1.6
SDCO	Great Sand Dun comp=Z,4.1nm,1.1s	26.74	336	eP		P	01 04 56.0	+1.9
SDCO	Great Sand Dun baz=149	26.74	336	P		P	01 04 55.1	+1.0
P50A	Jamestown baz=197	26.82	14	P		P	01 04 52.3	-2.2
P51A	Williamsport baz=199	26.89	16	P		P	01 04 53.7	-1.4
SFIN	Lafayette baz=190	26.93	9	P		P	01 04 53.2	-2.2
O47A	Sheridan baz=192	26.94	10	P		P	01 04 53.5	-2.0
X16A	Lo Mia Camp, P comp=Z,6.3nm,0.9s	27.03	323	eP		P	01 04 59.7	+3.0
N44A	Piper City baz=188	27.21	7	P		P	01 04 55.4	-2.5
S22A	4UR Ranch, Cre comp=Z,11nm,1.1s	27.28	334	eP		P	01 05 01.2	+2.2
S22A	4UR Ranch, Cre baz=147,SNR=9.6	27.28	334	P		P	01 05 00.2	+1.2
N46A	Monticello baz=191	27.49	9	P		P	01 04 58.6	-1.8
MVCO	Mesa Verde comp=Z,25nm,1.0s	27.59	331	eP		P	01 05 03.9	+2.2
MVCO	Mesa Verde baz=143,SNR=22	27.59	331	P		P	01 05 03.6	+1.9
ACSO	Alum Creek Sta baz=199	27.62	15	P		P	01 04 59.7	-1.9
Y14A	Wickenburg	27.65	320	eP		P	01 05 04.8	+2.8
M43A	Waltham Townsh baz=186	27.76	5	P		P	01 05 01.8	-1.1
WUAZ	Wupatki comp=Z,13nm,1.1s	27.78	325	eP		P	01 05 06.4	+3.0
WUAZ	Wupatki baz=136,SNR=8.1	27.78	325	P		P	01 05 05.8	+2.4
O52A	Adamsville baz=201	27.82	17	P		P	01 05 02.3	-1.1
N50A	Nevada baz=198	28.08	15	P		P	01 05 04.4	-1.4
L39A	Vinton baz=180	28.31	0	P		P	01 05 06.6	-1.2
PV01	Paradox Valley	28.37	332	eP		P	01 05 12.2	+3.5
PV13	Radium Mtn., P comp=Z,31nm,1.2s	28.51	332	eP		P	01 05 12.6	+2.7
PV02	Paradox Valley comp=Z,23nm,1.2s	28.51	332	eP		P	01 05 12.8	+2.9
ISCO	Idaho Springs baz=151	28.57	338	P		P	01 05 12.1	+1.6
PV05	Paradox Valley	28.57	331	eP		P	01 05 12.9	+2.5
PDMCI	Parker Dam,Lak baz=130	28.60	320	P		P	01 05 13.1	+2.7
PV03	Paradox Valley	28.60	332	eP		P	01 05 13.2	+2.6
PV18	Skein Mesa, Pa comp=Z,21nm,1.1s	28.62	332	eP		P	01 05 13.5	+2.7
PV12	Saucer Basin, comp=Z,31nm,1.2s	28.63	332	eP		P	01 05 13.8	+2.9
PV11	David Mesa, Pa comp=Z,25nm,1.1s	28.64	332	eP		P	01 05 13.7	+2.7
PV17	East Wray Mesa comp=Z,27nm,1.1s	28.67	332	eP		P	01 05 13.9	+2.6
PV16	Nyswonger Mesa comp=Z,23nm,1.1s	28.68	332	eP		P	01 05 13.9	+2.6
PV19	Morning Glory comp=Z,18nm,1.1s	28.70	332	eP		P	01 05 14.7	+3.1
PV14	Lion Creek, Pa comp=Z,23nm,1.1s	28.77	332	eP		P	01 05 14.8	+2.6
PV10	Paradox Valley	28.78	332	eP		P	01 05 14.1	+1.8
PV22	Blue Mesa, Par comp=Z,10nm,1.0s	28.80	332	eP		P	01 05 14.9	+2.5
PV23	Carpenter Ridg comp=Z,15nm,1.0s	28.83	332	eP		P	01 05 15.4	+2.6
L48A	N Adams baz=195	28.92	12	P		P	01 05 12.6	-0.6
PV09	Paradox Valley	28.93	332	eP		P	01 05 16.3	+2.7
U15A	North Rim	28.95	325	eP		P	01 05 16.3	+2.4
W13A	Hualapai Mount comp=Z,3.9nm,1.0s	28.96	321	eP		P	01 05 17.2	+3.3
BC3	Big Chuckawall baz=127,SNR=6.0	29.04	317	P		P	01 05 17.2	+2.7
IRM	Iron Mountain baz=128	29.14	318	P		P	01 05 17.8	+2.5
KNB	Kanab comp=Z,9.5nm,1.0s	29.67	325	eP		P	01 05 23.5	+3.4
NNA	Nana comp=Z,136nm,20.1s,baz=299,slow=32	29.69	149	LR		LR	01 14 59.8	
PKCU	Pink Cliffs comp=Z,8.1nm,1.2s	29.70	326	eP		P	01 05 24.3	+3.8
LDFC	Landfair comp=Z,8.0nm,0.9s	29.71	320	eP		P	01 05 24.5	+4.1
O20A	White River Ci baz=147	29.89	335	P		P	01 05 23.3	+1.3
LCMT	Little Creek M comp=Z,5.4nm,1.1s	29.90	325	eP		P	01 05 25.4	+3.2
SRU	San Rafael Swe comp=Z,10.0nm,1.2s	30.07	331	eP		P	01 05 26.2	+2.6
MTPU	Mount Pierson comp=Z,6.5nm,1.2s	30.08	327	eP		P	01 05 27.4	+3.5
SZCU	Shurtz Canyon comp=Z,11nm,1.0s	30.23	326	eP		P	01 05 28.6	+3.4
HEC	Hector,Ludlow baz=127	30.33	318	P		P	01 05 28.9	+3.0
P18A	Preston Nutter comp=Z,4.1nm,1.0s	30.35	332	eP		P	01 05 29.1	+2.9
CCUT	Cedar City comp=Z,12nm,1.0s	30.35	325	eP		P	01 05 29.9	+3.7
P17A	Butcher Ranch, comp=Z,12nm,1.0s	30.46	331	eP		P	01 05 29.7	+2.6
TMUT	Trail Mountain comp=Z,10nm,1.1s	30.54	330	eP		P	01 05 30.6	+2.7
SHPR	Sheep Range comp=Z,4.7nm,1.1s	30.67	322	eP		P	01 05 32.3	+3.3
MPU	Maple Canyon comp=Z,8.3nm,1.1s	31.31	330	eP		P	01 05 37.3	+2.7
PSUT	Pine Spring comp=Z,6.3nm,0.9s	31.33	326	eP		P	01 05 38.3	+3.5
K22A	Casper baz=152	31.41	339	P		P	01 05 36.4	+1.0
NLU	North Lily Min comp=Z,4.1nm,1.1s	31.47	330	eP		P	01 05 39.1	+3.0
G39A	Holcombe baz=181	31.48	1	P		P	01 05 35.5	-0.3
ACTO	Acton baz=202	31.55	17	P		P	01 05 34.4	-2.0
LRMC	Laurel Mtn Rad baz=126	31.60	318	P		P	01 05 39.5	+2.3
TPNV	Topopah Spring comp=Z,3.3nm,0.9s	31.62	321	eP		P	01 05 41.0	+3.6
TPNV	Topopah Spring baz=130	31.62	321	P		P	01 05 40.2	+2.9
JLU	Jordanelle comp=Z,2.3nm,0.8s	31.68	331	eP		P	01 05 41.0	+3.1
BWLO	Walkerton baz=200	31.73	15	P		P	01 05 35.9	-2.1
MPMC	Manual Prospec baz=127	31.83	319	P		P	01 05 41.6	+2.4
CTU	Camp Tracy comp=Z,13nm,1.1s	31.89	331	eP		P	01 05 42.5	+2.8
RSSD	Black Hills baz=157	31.98	344	P		P	01 05 41.4	+1.0
DUG	Dugway, Tooele comp=Z,3.6nm,1.1s	32.02	329	eP		P	01 05 43.2	+2.4
DUG	Dugway, Tooele baz=139	32.02	329	P		P	01 05 42.7	+2.0
TCUT	Toone Canyon comp=Z,32nm,1.1s	32.07	332	eP		P	01 05 44.2	+2.8
BMRO	Merivile Lake baz=200	32.16	15	P		P	01 05 39.5	-2.2
R11A	Troy Canyon, C comp=Z,3.2nm,1.0s	32.16	324	eP		P	01 05 45.5	+3.4
R11A	Troy Canyon, C baz=133,SNR=6.9	32.16	324	P		P	01 05 44.9	+2.7
DRWO	Darlington Wes baz=204	32.18	18	P		P	01 05 40.1	-1.8
CLWO	Collingwood baz=201	32.26	16	P		P	01 05 40.2	-2.5
WLVO	Wesleyville baz=205	32.33	19	P		P	01 05 41.2	-2.0
GRAC	Grapevine Rang baz=129	32.34	320	P		P	01 05 45.9	+2.5
HWUT	Hardware Ranch comp=Z,9.6nm,1.0s	32.53	332	eP		P	01 05 46.5	+1.1
HWUT				eP	cP	PcP	01 08 30.8	-0.5
H52A	Wyevale baz=202	32.55	16	P		P	01 05 43.0	-2.1
PDAR	Pinedale Array comp=Z,0.4nm,0.5s,baz=121,slow=8.5,SNR=4.5	32.63	336	P		P	01 05 47.0	+0.7
PDAR				LR		LR	01 20 58.9	
BGU	comp=Z,148nm,18.6s,baz=152,slow=40 Big Grassy Mou comp=Z,7.5nm,1.1s	32.69	330	eP		P	01 05 49.3	+2.7
SPUT	South Promonto comp=Z,10nm,1.1s	32.70	331	eP		P	01 05 49.5	+2.7
E41A	Kenton baz=185	32.76	4	P		P	01 05 44.2	-2.8
E38A	The Farm, Brul baz=180	32.80	1	P		P	01 05 44.9	-2.4
DELO	Deloro Mine baz=206	33.11	19	P		P	01 05 46.3	-3.7
KLBO	Killbear Provi baz=201	33.13	15	P		P	01 05 46.7	-3.5
HVU	Hansel Valley comp=Z,17nm,1.1s	33.23	331	eP		P	01 05 53.9	+2.6
BUKO	Buck Lake baz=202	33.42	16	P		P	01 05 49.8	-3.0
REDW	Red Top Meadow comp=Z,11nm,0.9s	33.65	335	eP		P	01 05 57.0	+1.9
SNOW	Snow King Moun comp=Z,11nm,0.8s	33.70	335	eP		P	01 05 57.6	+2.0
NV11	Mina Array Sit comp=Z,0.9nm,1.0s	33.73	322	eP		P	01 05 59.2	+3.4
LOHW	Long Hollow comp=Z,2.3nm,0.9s	33.76	336	eP		P	01 05 57.6	+1.6
TPAW	Teton Pass comp=Z,12nm,1.1s	33.80	335	eP		P	01 05 58.3	+1.9
MDPB	Devils Postpil comp=Z,7.7nm,1.2s	33.80	320	eP		P	01 06 00.4	+3.9
NV01	Mina Array Sit	33.82	322	eP		P	01 05 59.5	+2.9
NVAR	Mina Array Bea comp=Z,8.2nm,0.9s,baz=140,slow=9.0,SNR=38	33.82	322	P		P	01 05 60.0	+3.3
NVAR				PcP		PcP	01 08 37.3	+2.3
NVAR	comp=Z,1.2nm,0.9s,baz=148,slow=8.6,SNR=3.6 			LR		LR	01 21 55.8	
MOOW	comp=Z,345nm,19.1s,baz=112,slow=40 Moose Ponds comp=Z,5.1nm,1.1s	33.93	336	eP		P	01 05 59.1	+1.6
FXWY	Fox Creek comp=Z,2.6nm,1.1s	33.95	335	eP		P	01 05 59.4	+1.7
RYN	Ryan comp=Z,6.2nm,1.2s	34.08	322	eP		P	01 06 02.7	+4.0
KVN	Kaiserville comp=Z,9.1nm,1.0s	34.10	323	eP		P	01 06 02.3	+3.3
LONY	Lake Ozonia baz=211	34.25	22	P		P	01 05 57.4	-2.6
PEMO	Pembroke baz=206	34.27	19	P		P	01 05 57.9	-2.2
ALGO	Algonquin Park baz=204	34.27	18	P		P	01 05 56.2	-4.0
E51A	G1948 Merrick baz=202	34.41	16	P		P	01 05 59.5	-1.9
ORIO	Orleans, Innes baz=209	34.63	21	P		P	01 06 01.3	-2.0
YERR	Yerington comp=Z,1.1nm,0.8s	34.74	321	eP		P	01 06 08.1	+3.6
E53A	Dumoine, Ponti baz=205	34.77	18	P		P	01 06 01.5	-2.9
D50A	G1974 Best Tow baz=201	34.91	15	P		P	01 06 02.7	-2.9
PTGA	Pitinga comp=Z,9.3nm,1.1s	34.95	112	eP		P	01 06 07.3	+0.9
E54A	Lac Daplat, Po baz=205	34.96	18	P		P	01 06 03.8	-2.4
ALFO	Alfred baz=210	35.01	21	P		P	01 06 04.5	-2.0
PNTR	Pine Nut comp=Z,12nm,1.0s	35.02	321	eP		P	01 06 11.7	+4.7
HLID	Hailey comp=Z,11nm,1.1s	35.37	332	eP		P	01 06 11.8	+1.9
HLID	Hailey baz=140,SNR=12	35.37	332	P		P	01 06 11.6	+1.7
MCMT	McKenzie Canyo	35.68	334	eP		P	01 06 15.2	+2.5
D54A	Lac Fusel, La baz=206	35.77	18	P		P	01 06 10.8	-2.3

BEKR	**Beckworth**	**35.96**	**322**	*e*P	**P**	**01 06 18.9**	**+3.8**
	comp=Z,5.6nm,0.9s						
DLMT	**Dillon**	**36.01**	**335**	*e*P	**P**	**01 06 18.2**	**+2.9**
	comp=Z,6.1nm,1.1s						
SAML	**Samuel**	**36.50**	**126**	*e*P	**P**	**01 06 17.9**	**-1.8**
	comp=Z,6.4nm,1.4s						
ULM	**Lac du Bonnet**	**36.57**	**356**	LR	LR	01 25 38.7	
	comp=Z,110nm,18.1s,baz=199,slow=43						
J08A	**Circle Bar Ran**	**37.22**	**328**	*e*P	**P**	**01 06 28.1**	**+2.5**
	comp=Z,26nm,1.1s						
LATQ	**La Tuque**	**37.26**	**22**	P	**P**	**01 06 23.4**	**-2.4**
	baz=212						
LSQQ	**Lebel-sur-Quev**	**37.40**	**16**	P	**P**	**01 06 24.2**	**-2.7**
	baz=204						
BMO	**Blue Mountains**	**37.71**	**330**	*e*P	**P**	**01 06 31.0**	**+1.3**
	comp=Z,9.2nm,1.1s						
MSO	**Missoula**	**37.74**	**335**	*e*P	**P**	**01 06 31.9**	**+1.9**
	comp=Z,2.9nm,1.0s						
MSO	**Missoula**	**37.74**	**335**	P	**P**	**01 06 31.0**	**+0.9**
	baz=143						
MATQ	**Matagami**	**37.86**	**15**	P	**P**	**01 06 27.9**	**-2.9**
	baz=203						
LPAZ	**La Paz**	**38.09**	**141**	P	**P**	**01 06 33.7**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=335,slow=11,SNR=3.8						
LPAZ				LR	LR	01 21 06.9	
	comp=Z,95nm,19.4s,baz=252,slow=34						
F10A	**Beach Ranch, E**	**38.50**	**332**	*e*P	**P**	**01 06 37.9**	**+1.5**
	comp=Z,18nm,0.9s						
G05D	**Wamic, OR**	**39.99**	**328**	P	**P**	**01 06 50.5**	**+1.7**
	baz=132						
NEW	**Newport**	**40.20**	**334**	P	**P**	**01 06 52.1**	**+1.6**
	baz=140						
C09A	**Chrisman Ranch**	**40.35**	**333**	*e*P	**P**	**01 06 53.6**	**+2.0**
	comp=Z,12nm,0.9s						
LTY	**Liberty**	**41.06**	**330**	*e*P	**P**	**01 06 59.4**	**+1.8**
	comp=Z,1.0nm,0.9s						
LON	**Longmire**	**41.27**	**329**	*e*P	**P**	**01 07 02.3**	**+2.9**
	comp=Z,13nm,0.9s						
B05A	**Bryant**	**42.46**	**330**	P	**P**	**01 07 10.3**	**+1.4**
	baz=134						
SIV	**San Ignacio**	**42.59**	**133**	P	**P**	**01 07 10.0**	**-0.4**
	comp=Z,3.1nm,0.9s,baz=312,slow=10,SNR=14						
RPN	**Rapa Nui**	**43.89**	**202**	LR	LR	01 20 53.6	
	comp=Z,126nm,21.8s,baz=38,slow=29						
SCHQ	**Schefferville**	**45.54**	**20**	P	**P**	**01 07 30.6**	**-2.9**
	comp=Z,16nm,0.9s,baz=209,slow=4.3,SNR=5.5						
SCHQ				LR	LR	01 27 33.6	
	comp=Z,461nm,20.0s,baz=233,slow=38						
SCHQ	**Schefferville**	**45.54**	**20**	*e*P	**P**	**01 07 31.3**	**-2.2**
	comp=Z,18nm,0.9s						
YKA	**Yellowknife Ar**	**51.28**	**347**	P	**P**	**01 08 17.0**	**-0.6**
	comp=Z,4.1nm,0.9s,baz=152,slow=7.6,SNR=8.3						
YKA				PcP	**PcP**	**01 09 33.5**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=154,slow=5.2,SNR=4.7						
CPUP	**Villa Florida**	**52.24**	**140**	P	**P**	**01 08 24.0**	**-1.3**
	comp=Z,3.2nm,1.1s,baz=336,slow=10.0,SNR=3.2						
DLBC	**Dease Lake**	**52.87**	**336**	*e*P	**P**	**01 08 32.4**	**+2.8**
	comp=Z,5.5nm,1.0s						
RKT	**Rikitea**	**55.66**	**229**	*e*T	T	02 08 51.7	
	comp=Z,3.3nm,0.3s						
EPYK	**Eagle Plains**	**60.36**	**341**	P	**P**	**01 09 23.4**	**+0.7**
	baz=128						
INK	**Inuvik**	**60.68**	**344**	*e*P	**P**	**01 09 25.6**	**+0.9**
	comp=Z,5.3nm,0.8s						
EGAK	**Eagle**	**60.93**	**338**	*e*P	**P**	**01 09 26.8**	**+0.3**
	comp=Z,9.6nm,1.1s						
DOT	**Dot Lake**	**61.43**	**336**	*e*P	**P**	**01 09 32.4**	**+2.4**
	comp=Z,9.9nm,1.2s						
RIDG	**Independ'e Rid**	**61.78**	**336**	*e*P	**P**	**01 09 34.9**	**+2.6**
	comp=Z,12nm,1.2s						
HDA	**Harding Lake**	**62.91**	**337**	*e*P	**P**	**01 09 41.4**	**+1.6**
	comp=Z,4.3nm,1.0s						
HDA	**Harding Lake**	**62.91**	**337**	P	**P**	**01 09 40.9**	**+1.1**
	baz=116						
IL1	**Eielson Array**	**63.06**	**337**	*e*P	**P**	**01 09 41.3**	**+0.6**
ILAR	**Eielson Array**	**63.06**	**337**	P	**P**	**01 09 41.6**	**+0.8**
	comp=Z,9.7nm,1.1s,baz=125,slow=4.4,SNR=38						
ILAR				LR	LR	01 39 16.2	
	comp=Z,122nm,18.9s,baz=141,slow=38						
ILB	**Eielson Array**	**63.06**	**337**	*e*P	**P**	**01 09 42.0**	**+1.2**
RND	**Reindeer**	**63.24**	**335**	*e*P	**P**	**01 09 43.9**	**+1.8**
	comp=Z,16nm,1.1s						
POKR	**Poker Flat Res**	**63.42**	**337**	P	**P**	**01 09 44.1**	**+0.9**
	baz=116						
PPT	**Papeete**	**64.64**	**243**	LR	LR	01 30 28.2	
	comp=Z,86nm,19.9s,baz=356,slow=29						
MLY	**Manley**	**64.65**	**336**	*e*P	**P**	**01 09 53.0**	**+1.7**
	comp=Z,12nm,1.0s						
PPT2	**Papeete2**	**64.65**	**243**	*e*LR	LR	01 29 04.0	
	comp=Z,130nm,25.8s						
COLD	**Coldfoot**	**65.36**	**339**	*e*P	**P**	**01 09 58.1**	**+2.3**
	comp=Z,10nm,1.2s						
TOLK	**Toolik Lake Re**	**65.75**	**340**	*e*P	**P**	**01 09 60.0**	**+1.6**
	comp=Z,12nm,1.0s						
TOLK	**Toolik Lake Re**	**65.75**	**340**	P	**P**	**01 09 59.7**	**+1.3**
	baz=116,SNR=6.3						
ESDC	**Sonseca Array**	**80.00**	**52**	P	**P**	**01 11 19.7**	**-3.7**
	comp=Z,0.3nm,0.6s,baz=289,slow=3.9,SNR=3.3						
BILL	**Bilibino**	**81.68**	**338**	*e*P	**P**	**01 11 33.0**	**+1.3**
	comp=Z,38nm,1.4s						
NOA	**NORSAR Array B**	**84.46**	**28**	P	**P**	**01 11 45.5**	**-0.8**
	comp=Z,1.6nm,1.0s,baz=290,slow=5.1,SNR=2.7						
NOA				LR	LR	01 47 42.1	
	comp=Z,58nm,21.5s,baz=260,slow=34						
DBIC	**Dimbokro**	**85.81**	**84**	P	**P**	**01 11 53.0**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=263,slow=8.1,SNR=2.3						
HFS	**Hagfors**	**85.92**	**29**	LR	LR	01 51 16.2	
	comp=Z,57nm,18.1s,baz=284,slow=36						
ARCES	**ARCESS Array B**	**86.45**	**18**	P	**P**	**01 11 55.1**	**-0.9**
	comp=Z,4.4nm,0.9s,baz=329,slow=3.2,SNR=3.9						
DAVOX	**Davos/Dischmat**	**88.16**	**42**	LR	LR	01 49 33.6	
	comp=Z,39nm,18.0s,slow=34						
GERES	**GERESS Array B**	**89.91**	**39**	LR	LR	01 48 47.4	
	comp=Z,43nm,20.3s,baz=330,slow=33						
TIXI	**Tiksi**	**90.52**	**348**	*e*P	**P**	**01 12 15.6**	**+0.4**
	comp=Z,4.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**90.57**	**76**	LR	LR	01 53 32.6	
	comp=Z,23nm,18.0s,baz=345,slow=36						
VRAC	**Vranov**	**91.50**	**38**	LR	LR	01 48 18.9	
	comp=Z,45nm,20.5s,baz=340,slow=32						
NRIK	**Noril'sk**	**97.17**	**0**	LR	LR	02 00 33.0	
	comp=Z,121nm,18.6s,baz=28,slow=38						
SONM	**Songino Array**	**116.54**	**346**	PKP	**PKPdf**	**01 17 58.9**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=46,slow=4.2,SNR=2.3						
MKAR	**Makanchi Array**	**119.57**	**4**	PKP	**PKPdf**	**01 18 03.4**	**-0.2**
	comp=Z,0.8nm,0.9s,baz=5.7,slow=2.9,SNR=4.4						
KSH	**Kashi**	**125.90**	**11**	*e*PKP	**PKPdf**	**01 18 18.5**	**+2.4**
LZH	**Lanzhou**	**128.22**	**344**	*e*PKP	**PKPdf**	**01 18 21.6**	**+0.9**
LZH				sPKP		01 18 37.6	
WRA	**Warramunga Arr**	**135.20**	**255**	PKP	**PKPdf**	**01 18 35.3**	**+1.3**
	comp=Z,0.8nm,0.9s,baz=74,slow=1.6,SNR=5.4						
CHTO	**Chiang Mai**	**145.89**	**341**	*e*PKPdf	**PKPbc**	**01 18 54.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**146.22**	**341**	PKPbc	**PKPbc**	**01 18 55.2**	**+0.3**
	comp=Z,11nm,1.0s,baz=340,slow=3.9,SNR=40						

ISCJB ***20*** *01:09:48.1±0.3,21.83S±0.02×70.25W±0.05, h72km±3km, mb4.5/34, Error ellipse: s-maj=8.1km s-min=3.6km az=3.0*
NEIC ***20*** *01:09:48.0±0.0,21.84S×70.18W, h67km, mb4.6/27, MW4.3,ML4.5(GUC), Moment Tensor Solution. s17 Moment tensor: Scale 10¹⁵Nm; Mrr=0.05; Mθθ=0.07; Mϕϕ=0.12; Mrθ=0.26; Mrϕ=0.45; Mθϕ=3.43; Best double couple: M=3.50000×10¹⁵ NP1:ϕ=4.00000°, δ89.00000°, λ-97.00000°. NP2:ϕ=267.00000°, δ7.00000°, λ-7.00000°. Principal axes: T 3.5400, Plg44.0000°, Azm101.0000°; N -0.1300, Plg7.0000°, Azm4.0000°; P -3.4000, Plg45.0000°, Azm267.0000°; After GUC.*
NEIC Felt [IV] at Tocopilla.
GUC ***20*** *01:09:48.6±0.7,21.84S×70.18W, h67km±3km, ML4.4*
IDC ***20*** *01:09:51.9±1.2,21.77S×69.92W, h97km±11km, mb3.7/9, mb1 3.9/14, mb1mx3.8/28, mbtmp4.1/14, MS3.1/1, Ms1 3.1/1, ms1mx2.7/19, Error ellipse: s-maj=21.6km s-min=14.7km az=55.0*

ISC 20 01:09:47.9±0.6, 21.83S±0.03×70.29W±0.05, h60km±6km, n84, σ1°89/100, mb4.5/34, 1C-6D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB07	**IPOC Station P**	**0.39**	**74**	⫴*i*P	**Pn**	**01 10 00.0**	**+1.1**
PB07				*i* S	**Sn**	**01 10 08.1**	**+1.1**
PB07				IAML		01 10 10.6	
	comp=N,23μm,0.4s						
PB04	**IPOC Station P**	**0.52**	**166**	*e*Pn	**Pn**	**01 10 01.8**	**+1.5**
PB04				*e*Sn	**Sn**	**01 10 11.7**	**+2.4**
PB04	**IPOC Station P**	**0.52**	**166**	⫴*i*P	**Pn**	**01 10 01.8**	**+1.5**
PB04				*e*S	**Sn**	**01 10 11.4**	**+2.2**
PB04				IAML		01 10 12.5	
	comp=E,56μm,0.5s						
PB03	**IPOC Station P**	**0.54**	**114**	⫴*i*P	**Pn**	**01 10 01.6**	**+1.1**
PB03				*i* S	**Sn**	**01 10 10.5**	**+0.9**
PB03				IAML		01 10 12.8	
	comp=N,31μm,0.3s						
PB02	**IPOC Station P**	**0.63**	**36**	⫴*i*P	**Pn**	**01 10 02.1**	**+0.7**
PB02				*i* S	**Sn**	**01 10 11.7**	**+0.4**
PB02				IAML		01 10 16.6	
	comp=E,21μm,0.3s						
PB09	**IPOC Station P**	**0.97**	**88**	*e*P	**Pn**	**01 10 07.2**	**+1.5**
PB09				*e*S	**Sn**	**01 10 20.6**	**+1.6**
PB09				IAML		01 10 21.2	
	comp=E,42μm,0.3s						
PB05	**IPOC Station P**	**1.02**	**176**	⫴*i*P	**Pn**	**01 10 07.5**	**+1.2**
PB05				*i* S	**Sn**	**01 10 21.5**	**+1.5**
PB05				IAML		01 10 21.9	
	comp=E,11μm,0.4s						
PB01	**IPOC Station P**	**1.08**	**44**	*e*Pn	**Pn**	**01 10 07.9**	**+0.7**
PB01				*e*Sn	**Sn**	**01 10 22.0**	**+0.7**
PB01	**IPOC Station P**	**1.08**	**44**	*i* P	**Pn**	**01 10 07.8**	**+0.7**
PB01				*i* S	**Sn**	**01 10 22.0**	**+0.7**
PB01				IAML		01 10 22.6	
	comp=E,23μm,0.3s						
PB06	**IPOC Station P**	**1.09**	**143**	*e*P	**Pn**	**01 10 08.2**	**+0.9**
PB06				*i* S	**Sn**	**01 10 22.8**	**+1.0**
PB06				IAML		01 10 25.4	
	comp=E,8μm,0.3s						
LVC	**Limon Verde**	**1.49**	**122**	P	**Pn**	**01 10 14.6**	**+1.8**
	comp=E,245nm,0.3s,baz=306,slow=11,SNR=909						
LVC				S	**Sn**	**01 10 33.2**	**+1.6**
	comp=E,3μm,0.3s,baz=85,slow=18,SNR=72						
LVC				LR	LR	01 10 51.7	
	comp=E,748nm,21.4s,baz=290,slow=48						
LVC	**Limon Verde**	**1.49**	**122**	*e*Pn	**Pn**	**01 10 14.9**	**+2.0**
LVC				*e*Sn	**Sn**	**01 10 33.6**	**+2.1**
LVC	**Limon Verde**	**1.49**	**122**	*i* P	**Pn**	**01 10 14.8**	**+2.0**
LVC				*i* S	**Sn**	**01 10 33.7**	**+2.1**
PB15	**IPOC Station P**	**1.56**	**151**	*e*P	**Pn**	**01 10 14.6**	**+1.0**
PB15				*e*S	**Sn**	**01 10 34.1**	**+1.1**
PB10	**IPOC Station P**	**1.69**	**188**	*e*Pn	**Pn**	**01 10 15.9**	**+0.7**
PB10				*e*Sn	**Sn**	**01 10 35.8**	**0.0**
PB10	**IPOC Station P**	**1.69**	**188**	*e*P	**Pn**	**01 10 15.8**	**+0.6**
PB11	**IPOC Station P**	**2.14**	**16**	*e*Pn	**Pn**	**01 10 21.5**	**+0.1**
PB11				*e*Sn	**Sn**	**01 10 38.9**	**-8.2**
GO01	**Chusmiza**	**2.38**	**26**	*e*Pn	**Pn**	**01 10 25.9**	**+0.9**
GO01				*e*Sn	**Sn**	**01 11 12.1**	**-3.5**
LPAZ	**La Paz**	**5.88**	**21**	P	**Pn**	**01 11 16.2**	**+3.2**
	comp=E,1.3nm,0.3s,baz=192,slow=8.9,SNR=39						
LPAZ	**La Paz**	**5.88**	**21**	*e*Pn	**Pn**	**01 11 15.8**	**+2.8**
LCO	**Las Campanas**	**7.16**	**183**	*e*Pn	**Pn**	**01 11 28.3**	**-1.9**
LCO				*e*Sn	**Sn**	**01 12 45.8**	**-4.4**
GO04	**Tololo Observa**	**8.32**	**183**	*e*Pn	**Pn**	**01 11 43.6**	**-2.5**
GO04				*e*Sn	**Sn**	**01 13 15.2**	**-3.5**
SIV	**San Ignacio**	**10.47**	**58**	P	**Pn**	**01 12 13.3**	**-2.2**
	comp=E,2.5nm,0.3s,baz=254,slow=10,SNR=80						
ROC1	**El Roble**	**11.12**	**183**	*e*Pn	**Pn**	**01 12 23.9**	**-0.4**
ROC1				*e*Sn	**Sn**	**01 14 25.0**	**-2.2**
NNA	**Nana**	**11.62**	**326**	P	**Pn**	**01 12 35.0**	**+3.8**
	comp=E,0.3nm,0.3s,baz=121,slow=18,SNR=2.5						
NNA				S	**Sn**	**01 14 36.1**	**-3.3**
	comp=E,1.7nm,0.3s,baz=100,slow=17,SNR=3.0						
CPUP	**Villa Florida**	**12.65**	**113**	P	**Pn**	**01 12 43.5**	**-1.6**
	comp=E,0.1nm,0.3s,baz=285,slow=11,SNR=11						
CPUP				LR	LR	01 17 44.1	
	comp=E,91nm,19.1s,baz=282,slow=38						
CPUP	**Villa Florida**	**12.65**	**113**	*e*Pn	**Pn**	**01 12 43.9**	**-1.2**
SAML	**Samuel**	**14.52**	**29**	Pn	**Pn**	**01 13 09.1**	**-1.1**
	comp=E,2.1nm,0.7s						
TRQA	**Tornquist**	**17.68**	**158**	*e*Pn	**Pn**	**01 13 48.2**	**-1.8**
	comp=E,15nm,0.8s						
GO06	**Curarrehue**	**17.73**	**183**	*e*Pn	**P**	**01 13 51.0**	**+0.2**
	comp=E,11nm,1.1s						
PLCA	**Paso Flores**	**18.84**	**181**	P	**Pn**	**01 14 04.8**	**+0.7**
	comp=E,0.3nm,0.3s,baz=15,slow=11,SNR=8.6						
PLCA	**Paso Flores**	**18.84**	**181**	*e*P	**Pn**	**01 14 04.1**	**0.0**
	comp=E,6.0nm,0.8s						
SPB	**Sao Paulo**	**21.15**	**99**	*e*P	**P**	**01 14 29.1**	**+1.0**
	comp=E,19nm,0.9s						
BDFB	**Brasilia**	**21.96**	**78**	P	**P**	**01 14 35.7**	**-1.2**
	comp=E,5.5nm,0.4s,baz=242,slow=11,SNR=5.9						
BDFB	**Brasilia**	**21.96**	**78**	*e*P	**P**	**01 14 37.8**	**+0.8**
	comp=E,11nm,0.6s						
PTGA	**Pitinga**	**23.26**	**27**	P	**P**	**01 14 50.0**	**-0.4**
	comp=E,1.2nm,0.3s,baz=299,slow=19,SNR=4.5						
CHRN	**Cochrane**	**25.43**	**184**	*e*P	**P**	**01 15 10.8**	**+1.0**
	comp=E,4.8nm,1.0s						
GO09	**Cerro Castillo**	**29.43**	**183**	*e*P	**P**	**01 15 45.2**	**-0.4**
	comp=E,116nm,1.8s						
CRPR	**Cabo Rojo, PR**	**39.72**	**5**	*e*P	**P**	**01 17 16.6**	**+2.0**
	comp=E,41nm,1.5s						
MTP	**Monte Pirata**	**39.95**	**7**	*e*P	**P**	**01 17 17.8**	**+1.2**
	comp=E,15nm,1.0s						
CBYP	**Canovanas**	**40.09**	**7**	*e*P	**P**	**01 17 15.6**	**-2.2**
	comp=E,25nm,1.3s						
MTDJ	**Mount Denham**	**40.44**	**349**	*e*P	**P**	**01 17 21.3**	**+0.6**
	comp=E,183nm,1.6s						
HOPE	**Hope Point**	**41.22**	**150**	*e*P	**P**	**01 17 28.1**	**+1.5**
	comp=E,118nm,1.4s						
TEIG	**Tepich**	**45.35**	**336**	*e*P	**P**	**01 18 00.1**	**-0.1**
	comp=E,61nm,1.6s						
060A	**Indiantown**	**49.55**	**348**	*e*P	**P**	**01 18 33.3**	**+0.6**
	comp=E,319nm,1.4s						
WLAR	**White Oak Lake**	**59.34**	**338**	*e*P	**P**	**01 19 44.8**	**+1.1**
	comp=E,17nm,0.9s						
VNA3	**Neumayer Olymp**	**60.18**	**161**	P	**P**	**01 19 50.1**	**+1.0**
TX31	**Lajitas Ar. Si**	**60.18**	**326**	*e*P	**P**	**01 19 50.7**	**+0.9**
TXAR	**Lajitas Array**	**60.18**	**326**	P	**P**	**01 19 49.2**	**-0.6**
	comp=E,0.7nm,1.0s,baz=147,slow=7.4,SNR=5.5						
VNA1	**Neumayer--Stat**	**60.40**	**160**	P	P	01 19 44.0	-6.6
VNA2	**Neumayer--Watz**	**60.77**	**160**	P	**P**	**01 19 54.2**	**+1.1**
	baz=310,slow=7.1						
SNAA	**Sanae**	**62.39**	**161**	P	**P**	**01 20 05.1**	**+1.0**
SNAA	**Sanae**	**62.39**	**161**	*e*P	**P**	**01 20 05.4**	**+1.3**
	comp=E,17nm,1.8s						
FVM	**French Village**	**62.44**	**342**	*e*P	**P**	**01 20 05.3**	**+0.6**
	comp=E,38nm,2.0s						
MNTX	**Cornudas Mount**	**62.96**	**327**	*e*P	**P**	**01 20 09.1**	**+0.7**
	comp=E,14nm,1.9s						
ANMO	**Albuquerque**	**66.09**	**328**	*e*P	**P**	**01 20 29.8**	**+0.9**
	comp=E,3.5nm,1.4s						
SDCO	**Great Sand Dun**	**67.89**	**330**	*e*P	**P**	**01 20 41.8**	**+1.3**
	comp=E,4.4nm,1.1s						
WUAZ	**Wupatki**	**69.06**	**325**	*e*P	**P**	**01 20 49.0**	**+1.4**
	comp=E,3.4nm,0.8s						
DBIC	**Dimbokro**	**70.06**	**74**	P	**P**	**01 20 49.9**	**-4.1**
	comp=E,2.9nm,0.9s,baz=236,slow=13,SNR=2.8						
W13A	**Hualapai Mount**	**70.12**	**323**	*e*P	**P**	**01 20 56.0**	**+1.8**
	comp=E,1.7nm,0.8s						
KNB	**Kanab**	**70.95**	**325**	*e*P	**P**	**01 21 01.1**	**+1.9**
	comp=E,8.2nm,1.2s						
SRU	**San Rafael Swe**	**71.37**	**328**	*e*P	**P**	**01 21 03.6**	**+2.0**
	comp=E,4.4nm,0.8s						
CCUT	**Cedar City**	**71.64**	**325**	*e*P	**P**	**01 21 06.1**	**+2.7**
	comp=E,5.8nm,0.8s						
P17A	**Butcher Ranch,**	**71.75**	**328**	*e*P	**P**	**01 21 05.9**	**+2.0**
	comp=E,14nm,1.6s						
PSUT	**Pine Spring**	**72.63**	**326**	*e*P	**P**	**01 21 10.8**	**+1.5**
	comp=E,14nm,1.9s						
PDAR	**Pinedale Array**	**73.77**	**331**	P	**P**	**01 21 16.8**	**+0.8**
	comp=E,0.3nm,0.6s,baz=128,slow=7.3,SNR=4.1						
HWUT	**Hardware Ranch**	**73.80**	**329**	*e*P	**P**	**01 21 17.6**	**+1.5**
	comp=E,3.8nm,0.4s						
NVAR	**Mina Array Bea**	**74.97**	**323**	P	**P**	**01 21 24.8**	**+1.8**
	comp=E,1.2nm,0.8s,baz=149,slow=7.2,SNR=6.8						
SYO	**Syowa Base**	**76.64**	**160**	⫴*e*P	**P**	**01 21 32.8**	**+1.0**
SYO	**Syowa Base**	**76.64**	**160**	⫴*e*pP	pP	01 21 49.4	+0.9
TOA0	**Torodi Ar. Sit**	**78.67**	**71**	*e*P	**P**	**01 21 42.0**	**-2.1**
TORD	**Torodi Ar. Bea**	**78.67**	**71**	P	**P**	**01 21 41.8**	**-2.3**
	comp=E,1.9nm,0.5s,baz=246,slow=5.3,SNR=29						
TSUM	**Tsumeb**	**81.17**	**107**	*e*P	**P**	**01 21 59.0**	**+1.2**
	comp=E,5.1nm,0.8s						
BOSA	**Boshof**	**84.42**	**118**	P	**P**	**01 22 14.2**	**-0.2**
	comp=E,4.1nm,0.9s,baz=244,slow=3.8,SNR=3.9						
YKA	**Yellowknife Ar**	**91.08**	**341**	P	**P**	**01 22 45.8**	**+0.5**
	comp=E,0.7nm,0.8s,baz=145,slow=4.9,SNR=2.6						
H11S2	**WAKE ISLAND Hyl**	**26.65**	**277**	T	T	03 48 18.9	
	baz=105,slow=75,SNR=179						
H11S1	**WAKE ISLAND Hyl**	**26.66**	**277**	T	T	03 48 33.0	
	baz=105,slow=75,SNR=131						
H11S3	**WAKE ISLAND Hyl**	**26.67**	**277**	T	T	03 48 36.2	
	baz=105,slow=75,SNR=148						
H11N3	**WAKE ISLAND Hyl**	**26.74**	**279**	T	T	03 48 26.7	
	baz=104,slow=75,SNR=161						
H11N2	**WAKE ISLAND Hyl**	**26.76**	**279**	T	T	03 48 24.9	
	baz=104,slow=75,SNR=182						
H11N1	**WAKE ISLAND Hyl**	**26.76**	**279**	T	T	03 48 27.9	
	baz=104,slow=75,SNR=115						

JMA 20 01:13:35.9±0.1, 38.10N×142.97E, h15km±2km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**1.20**	**281**	P	Pn	01 13 57.9	-0.3
JIKH				*e*S	Sb	01 14 13.4	-0.3
JIO	**Ouri**	**1.32**	**286**	P	Pn	01 13 59.8	0.0
JIO				*e*S	Sn	01 14 17.0	-0.2
JKMT	**Kesennumamotoy**	**1.37**	**302**	P	Pn	01 14 00.5	0.0
JKMT				*e*S	Sn	01 14 18.3	-0.1
OFUJ	**Ofunato**	**1.41**	**314**	P	Pn	01 14 01.1	0.0
JMK	**Ichinoseki**	**1.61**	**302**	P	Pn	01 14 03.8	0.0
JMK				*e*S	Sb	01 14 25.1	-0.5
JMM	**Marumori**	**1.74**	**263**	P	Pn	01 14 05.7	+0.2
JMM				S	Sn	01 14 27.3	-0.1
JFK	**Kawauchi**	**1.82**	**247**	P	Pn	01 14 06.9	+0.3
JFK				*e*S	Sn	01 14 29.0	-0.4
JOU	**Okura**	**1.83**	**279**	P	Pb	01 14 08.1	-1.1
JOU				*e*S	Sn	01 14 30.8	+0.9
JOM	**Ohasama**	**1.90**	**317**	P	Pn	01 14 08.9	+1.2
JOM				S	Sb	01 14 33.0	-0.7
JFT	**Otama**	**2.17**	**255**	P	Pn	01 14 12.3	+0.9
JRG	**Rokugo**	**2.24**	**306**	P	Pb	01 14 14.3	-1.7
JRG				*e*S	Sn	01 14 41.6	+1.8

ISCJB ***20*** *01:37:24.3±1.0,46.9N±0.2×152.4E±0.2, h67km, mb3.5/10, Error ellipse: s-maj=25.3km s-min=17.3km az=141.5*
IDC ***20*** *01:37:27.4±5.0,46.88N×152.49E, h80km±44km, mb3.4/10, mb1 3.5/11, mb1mx3.3/59, mbtmp3.7/11, ML2.1/1, Error ellipse: s-maj=29.5km s-min=28.8km az=3.0*

ISC 20 01:37:26.0±1.1, 46.8N±0.2×152.4E±0.2, h67km, n17, σ0°47/11, mb3.5/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**7.15**	**26**	P	**Pn**	**01 39 08.5**	**+0.7**
	0.2nm,0.3s,baz=180,slow=17,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**29.50**	**151**	T	T	02 14 41.9	
	baz=340,slow=76,SNR=264						
H11N1	**WAKE ISLAND Hy**	**29.52**	**151**	T	T	02 14 31.3	
	baz=340,slow=76,SNR=172						
H11N3	**WAKE ISLAND Hy**	**29.52**	**151**	T	T	02 14 49.2	
	baz=340,slow=76,SNR=158						
H11S1	**WAKE ISLAND Hy**	**30.59**	**153**	T	T	02 15 58.4	
	baz=341,slow=76,SNR=262						
H11S3	**WAKE ISLAND Hy**	**30.59**	**153**	T	T	02 15 50.9	
	baz=341,slow=76,SNR=261						
H11S2	**WAKE ISLAND Hy**	**30.60**	**153**	T	T	02 16 03.2	
	baz=341,slow=76,SNR=265						
ILAR	**Eielson Array**	**36.78**	**39**	P	**P**	**01 44 25.9**	**-0.8**
	0.3nm,0.8s,baz=269,slow=9.8,SNR=3.0						
MKAR	**Makanchi Array**	**46.49**	**297**	P	**P**	**01 45 45.9**	**-0.3**
	0.3nm,0.6s,baz=65,slow=5.0,SNR=2.9						
KURBB	**Kurchatov Arra**	**47.02**	**303**	P	**P**	**01 45 50.5**	**+0.2**
	0.3nm,0.4s,baz=66,slow=8.7,SNR=3.4						
FINES	**FINESS Array B**	**63.77**	**334**	P	**P**	**01 47 50.3**	**0.0**
	1.2nm,0.5s,baz=32,slow=7.5,SNR=9.5						
NOA	**NORSAR Array B**	**68.00**	**341**	P	**P**	**01 48 17.5**	**-0.1**
	0.9nm,0.7s,baz=24,slow=6.6,SNR=3.3						
HFS	**Hagfors**	**68.22**	**339**

STON	**Ston**	**2.24**	**302**	*e*Pn		**Pg**	**02 12 34.8**	**-0.5**

IDC 20 02:16:19.2±6.5, 5°11'S×11°30'W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/41, mbtmp3.8/4, MS3.2/6, Ms1 3.2/6, ms1mx3.0/31, Error ellipse: s-maj=200.6km s-min=106.7km az=143.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBIC	**Dimbokro**	**13.35**	**29**	LR	LR	02 23 40.2	
	comp=Z,85nm,20.2s,baz=176,slow=33						
TORD	**Torodi Ar. Bea**	**22.26**	**35**	P	P	02 21 17.9	-0.1
	3.8nm,0.9s,baz=225,slow=9.6,SNR=18						
TORD				LR	LR	02 29 09.4	
	comp=Z,70nm,19.3s,baz=270,slow=35						
BDFB	**Brasilia**	**37.54**	**251**	LR	LR	02 36 19.7	
	comp=Z,47nm,21.4s,baz=295,slow=32						
KMBO	**Kilima Mbogo**	**48.62**	**87**	LR	LR	02 43 55.8	
	comp=Z,60nm,19.2s,baz=97,slow=34						
LPAZ	**La Paz**	**56.77**	**254**	LR	LR	02 49 03.1	
	comp=Z,16nm,21.3s,baz=81,slow=35						
GERES	**GERESS Array B**	**57.99**	**19**	P	P	02 26 14.2	+0.3
	0.9nm,0.7s,baz=195,slow=7.1,SNR=7.9						
BRTR	**Keskin Array B**	**60.82**	**39**	P	P	02 26 33.9	+0.3
	0.7nm,0.7s,baz=218,slow=5.5,SNR=5.3						
PLCA	**Paso Flores**	**63.61**	**227**	LR	LR	02 51 08.9	
	comp=Z,12nm,18.1s,baz=149,slow=33						
AKASG	**Malin Array Be**	**65.59**	**27**	P	P	02 27 04.1	-0.7
	0.8nm,0.6s,baz=224,slow=6.4,SNR=4.2						

DDA 20 02:16:45.8, 37.°30N×37.°13E, h7km, Ml2.6
ISK 20 02:16:45.5, 37.°33N×37.°14E, h10km, ML2.0/2
ISCJB 20 02:16:46.3±0.6, 37.°32N±0.°04×37.°12E±0.°05, h5km±7km, Error ellipse: s-maj=7.6km s-min=4.1km az=136.4

ISC 20 02:16:46.0±0.9, 37°31'N±0.°04×37°14'E±0.°03, h11km±7km, n13, σ0°38/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.15**	**157**	PG	**Pg**	**02 16 49.5**	**-0.1**
GAZ				SG	**Sg**	**02 16 52.5**	**+0.4**
KMRS	**Kahramanmaras**	**0.27**	**316**	PG	**Pg**	**02 16 51.3**	**-0.3**
KMRS				SG	**Sg**	**02 16 55.4**	**+0.2**
KUZU	**Kuzuini**	**0.54**	**185**	*i* P	**Pb**	**02 16 57.5**	**-0.1**
KUZU				*i* S	**Sb**	**02 17 05.2**	**-0.2**
ANDN	**Andirin**	**0.68**	**293**	*i* P	**Pg**	**02 16 59.0**	**-0.3**
ANDN				*i* S	**Sg**	**02 17 08.6**	**+0.3**
ATAB	**Bozova**	**0.94**	**80**	*i* P	**Pb**	**02 17 04.1**	**-0.2**
ELBS	**KAHRAMANMARAS**	**1.01**	**360**	*i* P	**Pn**	**02 17 07.1**	**+0.8**
KOZT	**Kozan**	**1.05**	**279**	PG	**Pb**	**02 17 06.1**	**-0.2**
SAIM	**ADANA**	**1.07**	**309**	*i* P	**Pb**	**02 17 06.5**	**-0.1**
SAIM				*i* S	**Sn**	**02 17 21.8**	**-0.2**
AKCD	**Akcadag**	**1.16**	**32**	*i* P	**Pn**	**02 17 08.3**	**-0.1**
AKCD				*i* S	**Sn**	**02 17 24.9**	**+0.5**
TAHT	**Tahtakopru-Hat**	**1.21**	**219**	PN	**Pg**	**02 17 09.1**	**-0.1**
SURC	**SANLIURFA_SURC**	**1.26**	**110**	*i* P	**Pg**	**02 17 09.8**	**-0.4**
SURC				*i* S	**Sn**	**02 17 27.3**	**+0.7**
DARE	**Darende-Malaty**	**1.28**	**12**	PN	**Pn**	**02 17 09.9**	**-0.2**
URFA	**Urfa**	**1.35**	**84**	PN	**Pn**	**02 17 10.8**	**-0.1**

IDC 20 02:20:30.3±3.8, 37.°03N×72.°06E, h179km±26km, mb3.4/7, mb1 3.5/13, mb1mx3.2/51, mbtmp4.0/13, Error ellipse: s-maj=43.9km s-min=18.5km az=148.0
NNC 20 02:20:34.4±3.2, 37.°71N×71.°28E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=25.4km s-min=17.7km az=170.0

ISC 20 02:20:34.5±1.2, 37.°4N±0.°1×71.°78E±0.°08, h200km, n28, σ2°03/36, mb3.6/7, 9C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.95**	**27**	⇓P	**Pn**	**02 21 22.5**	**-1.1**
	28nm,0.4s						
SFK				⇓S	**Sn**	**02 21 59.0**	**-3.3**
	158nm,0.4s						
AML	**Almayashu**	**4.96**	**17**	P	**Pn**	**02 21 47.8**	**-0.9**
	SNR=96						
MNAS	**Manas**	**5.12**	**6**	⇑P	**Pn**	**02 21 50.1**	**-0.4**
	50nm,0.3s						
MNAS				⇑S	**Sn**	**02 22 46.7**	**-3.9**
	84nm,0.8s						
UCH	**Uchtor**	**5.27**	**23**	P	**Pn**	**02 21 51.9**	**-0.8**
	SNR=15						
EKS2	**Erkin-Say**	**5.49**	**16**	P	**Pn**	**02 21 54.6**	**-0.6**
	SNR=49						
AAK	**Ala-Archa**	**5.64**	**21**	P	**Pn**	**02 21 56.3**	**-0.9**
	6.6nm,0.3s,baz=164,slow=5.4,SNR=78						
AAK				S	**Sn**	**02 22 59.0**	**-3.5**
	2.3nm,0.3s,baz=119,slow=6.9,SNR=4.1						
AAK	**Ala-Archa**	**5.64**	**21**	⇑P	**Pn**	**02 21 56.5**	**-0.7**
	12nm,0.4s						
AAK				⇑S	**Sn**	**02 23 01.4**	**-1.1**
	49nm,0.6s						
AAK	**Ala-Archa**	**5.64**	**21**	P	**Pn**	**02 21 56.8**	**-0.4**
	SNR=11						
KK31	**Karatay Array**	**5.79**	**351**	⇑P	**Pn**	**02 21 58.5**	**-0.5**
	3.3nm,0.2s,baz=182,slow=14						
KK31				⇓S	Sn	02 23 01.6	-4.3
	31nm,0.4s,baz=172,slow=23						
CHMS	**Chumysh**	**6.05**	**21**	P	**Pn**	**02 22 01.7**	**-0.6**
	SNR=5.9						
TKM2	**Tokmak 2**	**6.25**	**27**	⇑P	**Pn**	**02 22 04.0**	**-1.1**
	4.7nm,0.7s						
TKM2				⇓S	**Sn**	**02 23 18.7**	**+1.9**
	24nm,1.2s						
GEYT	**Alibeck**	**10.85**	**277**	P	**Pn**	**02 23 03.4**	**-1.2**
	0.3nm,0.3s,baz=95,slow=15,SNR=6.2						
GEYT				S	**Sn**	**02 25 00.6**	**-5.1**
	0.5nm,0.3s,baz=99,slow=18,SNR=4.5						
MKAR	**Makanchi Array**	**12.21**	**36**	P	**Pn**	**02 23 19.9**	**-2.0**
	0.0nm,0.3s,baz=224,slow=10,SNR=2.6						
KURBB	**Kurchatov Arra**	**14.08**	**18**	P	**P**	**02 23 47.0**	**0.0**
	0.1nm,0.3s,baz=204,slow=11,SNR=9.5						
AB31	**Akbulak array**	**14.64**	**328**	⇑P	**P**	**02 23 54.0**	**+0.8**
	0.6nm,0.3s,baz=142,slow=12,SNR=36						
AB31				⇑S	**S**	**02 26 34.1**	**-0.4**
	2.2nm,0.5s,baz=155,slow=21,SNR=9.9						
BVAR	**Borovoye Array**	**15.67**	**357**	P	**Pn**	**02 24 06.0**	**+1.4**
	0.3nm,0.3s,baz=168,slow=11,SNR=5.7						
AKTO	**Aktyubinsk**	**16.33**	**327**	P	**Pn**	**02 24 13.8**	**+1.0**
	1.5nm,0.3s,baz=137,slow=8.6,SNR=23						
AKTO	**Aktyubinsk**	**16.35**	**327**	⇓P	**Pn**	**02 24 17.2**	**+4.5**
	2.8nm,0.4s						
AKTO				⇑S	**S**	**02 27 17.5**	**+4.7**
	3.2nm,0.7s						
ZALV	**Zalesovo Beam**	**18.85**	**24**	P	**P**	**02 24 39.0**	**-0.3**
	1.8nm,0.3s,baz=222,slow=12,SNR=20						
ARU	**Arti**	**21.01**	**339**	P	**P**	**02 25 03.3**	**+1.0**
BRTR	**Keskin Array B**	**29.77**	**286**	P	**P**	**02 26 24.2**	**+1.7**
	0.6nm,0.5s,baz=102,slow=7.7,SNR=7.9						
FINES	**FINESS Array B**	**37.10**	**325**	P	**P**	**02 27 26.2**	**+0.9**
	6.2nm,1.1s,baz=145,slow=8.5,SNR=3.6						
ARCES	**ARCESS Array B**	**40.57**	**337**	P	**P**	**02 27 55.0**	**+1.1**
	4.9nm,0.9s,baz=116,slow=8.4,SNR=12						
NB2	**NORSAR Subarra**	**44.05**	**322**	P	**P**	**02 28 22.6**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**44.05**	**322**	P	**P**	**02 28 22.5**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=105,slow=6.9,SNR=4.0						
ESDC	**Sonseca Array**	**57.60**	**298**	P	**P**	**02 30 04.5**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=49,slow=8.1,SNR=4.1						
TORD	**Torodi Ar. Bea**	**66.36**	**269**	P	**P**	**02 31 00.9**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=55,slow=5.8,SNR=7.2						
YKA	**Yellowknife Ar**	**80.33**	**3**	P	**P**	**02 32 22.9**	**0.0**
	comp=Z,1.4nm,1.0s,baz=354,slow=5.5,SNR=2.7						

ISCJB 20 02:24:21.8±0.2, 38.°45N±0.°02×106.°29E±0.°03, h10km, mb4.4/64, MS3.9/28, Error ellipse: s-maj=3.4km s-min=2.8km az=26.8
IDC 20 02:24:21.8±0.5, 38.°42N×106.°24E, h0km, mb4.1/28, mb1 4.3/32, mb1mx4.2/52, mbtmp4.2/32, ML3.7/4, MS3.9/24, Ms1 3.9/24, ms1mx3.7/41, Error ellipse: s-maj=14.5km s-min=11.1km az=43.0
MOS 20 02:24:24.6±0.9, 38.°47N×106.°37E, h31km, mb4.7/38, Error ellipse: s-maj=8.2km s-min=5.1km az=109.8
NEIC 20 02:24:25.9±1.2, 38.°48N×106.°27E, h23km±9km, mb4.6/26, ML4.8(BJI), Error ellipse: s-maj=4.3km s-min=3.5km az=220.0
NEIC Felt [IV] at Yinchuan. Also felt at Dawukou.
BJI 20 02:24:25.3, 38.°43N×106.°34E, h21km, mb4.5/31, mB4.9/27, ML4.8/26, Ms4.6/47, Ms7 4.4/34

ISC 20 02:24:24.2±0.3, 38.°48N±0.°03×106.°30E±0.°03, h10km, n210, σ1°96/241, mb4.5/64, MS3.9/29, 7C-5D, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LZH	**Lanzhou**	**3.08**	**220**	*e*Pn	**Pn**	**02 25 13.5**	**+0.3**
LZH				Pg	**Pb**	**02 25 17.4**	**-1.9**
LZH				Sn	**Sn**	**02 25 54.0**	**+3.8**
LZH				Sg	**Sb**	**02 25 57.4**	**+0.4**
LZH				smax	smax		
	comp=N,8μm,1.1s						
LZH				smax	smax		
	comp=E,6μm,0.9s						
LZH				LR	LR		
	comp=N,11μm,4.3s						
LZH				LR	LR		
	comp=E,12μm,4.5s						
LZH				LR	LR		
	comp=Z,14μm,5.2s						
LZH	**Lanzhou**	**3.08**	**220**	*e*Pn	**Pn**	**02 25 13.5**	**+0.3**
LZH				Pg	**Pb**	**02 25 17.4**	**-1.9**
LZH				Sn	**Sn**	**02 25 54.0**	**+3.8**
LZH				Sg	**Sb**	**02 25 57.4**	**+0.4**
LZH	**Lanzhou**	**3.08**	**220**	*e*P	**Pn**	**02 25 13.5**	**+0.3**
LZH						02 25 54.0	
BTO	**Baotou**	**3.58**	**52**	*e*Pn	**Pn**	**02 25 20.1**	**+0.2**
BTO				*e*Pg	**Pb**	**02 25 28.3**	**+0.6**
BTO				Sg	**Sb**	**02 26 14.8**	**+3.5**
BTO	**Baotou**	**3.58**	**52**	*e*Pn	**Pn**	**02 25 20.1**	**+0.2**
BTO				*e*Pg	**Pb**	**02 25 28.3**	**+0.6**
BTO				Sg	**Sb**	**02 26 14.8**	**+3.5**
HHC	**Hu-ho-hao-te**	**4.71**	**58**	*e*Pn	**Pn**	**02 25 35.9**	**+0.5**
HHC				Pg	**Pb**	**02 25 47.6**	**+0.7**
HHC				Sn	**Sn**	**02 26 30.5**	**+0.4**
HHC				smax	smax		
	comp=N,2μm,0.5s						
HHC				smax	smax		
	comp=E,2μm,0.5s						
HHC	**Hu-ho-hao-te**	**4.71**	**58**	*e*Pn	**Pn**	**02 25 35.9**	**+0.5**
HHC				Pg	**Pb**	**02 25 47.6**	**+0.7**
HHC				Sn	**Sn**	**02 26 30.5**	**+0.4**
TIY	**Taiyuan**	**4.90**	**97**	Pn	**Pn**	**02 25 38.5**	**+0.5**
TIY				Pg	**Pb**	**02 25 52.3**	**+2.1**
TIY				Sn	**Sn**	**02 26 32.6**	**-2.3**
TIY				Sg	**Sb**	**02 26 32.6**	**-2.3**
TIY				smax	smax		
	comp=N,5μm,0.9s						
TIY				smax	smax		
	comp=E,3μm,0.6s						
TIY	**Taiyuan**	**4.90**	**97**	Pn	**Pn**	**02 25 38.5**	**+0.5**
TIY				Pg	**Pb**	**02 25 52.3**	**+2.1**
TIY				Sn	**Sn**	**02 26 32.6**	**-2.3**
TIY				Sg	**Sb**	**02 26 50.1**	**+0.9**
XAN	**Xi'an**	**4.91**	**154**	Pn	**Pn**	**02 25 37.0**	**-1.1**
XAN				Pg	**Pg**	**02 25 56.8**	**-1.5**
XAN				Sn	**Sn**	**02 26 32.9**	**-2.1**
XAN				Sg	**Sb**	**02 26 54.4**	**+5.0**
XAN				smax	smax		
	comp=N,640nm,1.2s						
XAN				smax	smax		
	comp=E,370nm,1.0s						
XAN				LR	LR		
	comp=N,3μm,8.2s						
XAN				LR	LR		
	comp=E,2μm,7.7s						
XAN				LR	LR		
	comp=Z,3μm,8.6s						
XAN	**Xi'an**	**4.91**	**154**	Pn	**Pn**	**02 25 37.0**	**-1.1**
XAN				Pg	**Pg**	**02 25 56.8**	**-1.5**
XAN				Sn	**Sn**	**02 26 32.9**	**-2.1**
XAN				Sg	**Sb**	**02 26 54.4**	**+5.0**
XAN	**Xi'an**	**4.91**	**154**	P	**Pn**	**02 25 37.0**	**-1.1**
XAN						02 26 32.9	
GTA	**Gaotai**	**5.14**	**282**	Pn	**Pn**	**02 25 41.0**	**-0.4**
GTA				Pg	**Pb**	**02 25 57.3**	**+3.0**
GTA				Sn	**Sn**	**02 26 39.3**	**-1.5**
GTA				Sg	**Sb**	**02 27 03.9**	**+7.8**
GTA				smax	smax		
	comp=N,1μm,0.9s						
GTA				smax	smax		
	comp=E,950nm,0.8s						
GTA				LR	LR		
	comp=N,7μm,10.8s						
GTA	**Gaotai**	**5.14**	**282**	Pn	**Pn**	**02 25 41.0**	**-0.4**
GTA				Pg	**Pb**	**02 25 57.3**	**+3.0**
GTA				Sn	**Sn**	**02 26 39.3**	**-1.5**
GTA				Sg	**Sb**	**02 27 03.9**	**+7.8**
BJT	**Baijiatuan**	**7.81**	**76**	*e*Pn	**Pn**	**02 26 18.9**	**+0.9**
BJT				*e*Sn	**Sn**	**02 27 44.4**	**-2.1**
BJT	**Baijiatuan**	**7.81**	**76**	*e*P	**Pn**	**02 26 18.9**	**+0.9**
BJT				*e*		02 27 44.4	
BJI	**Beijing**	**7.82**	**75**	Pg	**Pb**	**02 26 42.3**	**+2.4**
BJI				Sg	**Sb**	**02 28 21.3**	**+8.2**
BJI				smax	smax		
	comp=E,320nm,0.7s						
CD2	**Chengdu**	**7.83**	**196**	Pn	**Pn**	**02 26 19.8**	**+1.5**
CD2				Sn	**Sn**	**02 27 42.9**	**-4.1**
CD2				Sg	**Sg**	**02 28 26.8**	**-8.7**
CD2				smax	smax		
	comp=N,930nm,1.3s						
CD2				smax	smax		
	comp=E,580nm,1.4s						
CD2				LR	LR		
	comp=N,3μm,8.2s						
CD2				LR	LR		
	comp=Z,3μm,11.4s						
ENH	**Enshi**	**8.60**	**161**	*e*Pn	**Pn**	**02 26 27.7**	**-1.1**
ENH				*e*Sn	**Sn**	**02 28 06.5**	**+0.6**
TIA	**Tai'an**	**8.91**	**101**	P	**Pn**	**02 26 34.0**	**+0.9**
TIA				pmax	pmax		
	comp=Z,4.0nm,0.4s						
TIA				LR	LR		
	comp=E,1μm,10.9s						
TIA				LR	LR		
	comp=Z,810nm,8.5s						
SONA0	**Songino Array**	**9.36**	**0**	*e*Pn	**Pn**	**02 26 39.8**	**+0.6**
SONA0				*e*Sn	**Sn**	**02 28 22.2**	**-2.3**
SONM	**Songino Array**	**9.36**	**0**	Pn	**Pn**	**02 26 39.8**	**+0.6**
	3.1nm,0.3s,baz=186,slow=15,SNR=49						
SONM				Sn	**Sn**	**02 28 22.2**	**-2.3**
	6.6nm,0.3s,baz=178,slow=26,SNR=5.7						
SONM				Lg	Lg	02 29 15.8	
	11nm,0.3s,baz=190,slow=28,SNR=6.9						
SONA1	**Songino Array**	**9.37**	**0**	*e*Pn	**Pn**	**02 26 40.3**	**+0.9**
ULN	**Ulaanbaatar**	**9.40**	**3**	*e*Pn	**Pn**	**02 26 41.0**	**+1.1**
ULN				*e*Sn	**Sn**	**02 28 23.7**	**-2.0**
ULN	**Ulaanbaatar**	**9.40**	**3**	*ce*P	**Pn**	**02 26 40.6**	**+0.7**
ULN				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WHN	**Wuhan**	**10.33**	**138**	⇓P	**Pn**	**02 26 51.8**	**-0.6**
WHN				S	**Sn**	**02 28 43.4**	**-4.8**
WHN				LR	LR		
	comp=Z,3μm,7.6s						
WHN				LR	LR		
	comp=Z,3μm,14.8s						
GYA	**Guiyang**	**11.99**	**178**	P	Pn	02 27 20.8	+5.5
GYA				pP		02 27 28.0	
GYA				S	**Sn**	**02 29 37.4**	**+8.3**
GYA				sS		02 29 47.3	
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.6s						
GYA				LR	LR		
	comp=Z,450nm,7.7s						
GYA				LR	LR		
	comp=Z,1μm,11.1s						
GYA				LR	LR		
	comp=Z,460nm,5.9s						
NJ2	**Nanjing**	**12.09**	**118**	*e*P	**Pn**	**02 27 19.5**	**+2.9**
NJ2				pmax	pmax		
	comp=Z,15nm,1.2s						
ZAK	**Zakamensk**	**12.10**	**351**	*e*P	**Pn**	**02 27 17.0**	**+0.3**
ZAK				*e*		02 29 26.0	
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.4s						
ZAK				pmax	pmax		
	comp=Z,25nm,1.0s						
TLY	**Talaya**	**13.34**	**353**	Pn	**Pn**	**02 27 34.0**	**+0.4**
	comp=Z,0.0nm,0.3s,baz=191,slow=10,SNR=4.6						
TLY				Lg	Lg	02 31 22.5	
	comp=Z,0.0nm,0.3s,baz=172,slow=12,SNR=5.4						
TLY	**Talaya**	**13.34**	**353**	*e*Pn	**Pn**	**02 27 33.9**	**+0.4**
TLY	**Talaya**	**13.34**	**353**	*e*P	**Pn**	**02 27 35.1**	**+1.6**
TLY				pmax	pmax		
	comp=Z,9.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,778nm,10.0s						
KNGR	**Kungurtug, Tuv**	**13.63**	**336**	*e*P	**Pn**	**02 27 38.2**	**+0.5**
SNY	**Shenyang**	**13.64**	**70**	⇓P	**Pn**	**02 27 37.6**	**0.0**
SNY				S	**Sn**	**02 30 05.9**	**-3.2**
SNY				pmax	pmax		
	comp=Z,14nm,0.7s						
SNY				pmax	pmax		
	comp=Z,330nm,5.4s						
SNY				LR	LR		
	comp=Z,750nm,11.4s						
SNY				LR	LR		
	comp=Z,700nm,7.5s						
SNY				LR	LR		
	comp=Z,1μm,9.2s						
KMI	**Kunming**	**13.65**	**194**	P	**P**	**02 27 44.8**	**-2.3**
KMI				S	**Sn**	**02 30 16.8**	**+6.9**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KMI				LR	LR		
	comp=Z,810nm,10.3s						
KMI				LR	LR		
	comp=Z,730nm,12.8s						
MOY	**Mondy**	**13.71**	**346**	*e*P	P	02 27 54.9	+7.4
HIA	**Hailar**	**14.48**	**38**	*i* P	**Pn**	**02 27 48.5**	**-0.7**
HIA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WMQ	**Urumqi**	**14.99**	**297**	*e*P	**Pn**	**02 27 55.3**	**-0.8**
WMQ				pP	P	02 28 02.8	+1.1
WMQ				sP		02 28 07.8	
WMQ				pmax	pmax		
	comp=Z,100nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,260nm,5.1s						
WMQ				LR	LR		
	comp=Z,1μm,17.9s						
WMQ				LR	LR		
	comp=Z,920nm,17.1s						
LSA	**Lhasa**	**15.28**	**240**	*e*Pn	**P**	**02 28 05.9**	**+0.4**
	comp=Z,13nm,0.8s						
LSA	**Lhasa**	**15.28**	**240**	*e*P	**P**	**02 28 05.9**	**+0.4**
LSA				pmax	pmax		
	comp=Z,13nm,0.8s						
HVS	**Khovu-Aksy**	**15.47**	**329**	*i* P	**Pn**	**02 28 03.7**	**+1.3**
HVS				pmax	pmax		
	comp=Z,81nm,0.9s						
KS15	**Wonju Array Si**	**17.06**	**87**	*e*Pn	**Pn**	**02 28 21.5**	**-1.3**
KSAR	**Wonju Array Be**	**17.06**	**87**	P	**Pn**	**02 28 21.5**	**-1.3**
KSAR	**Wonju Array Be**	**17.06**	**87**	P	**Pn**	**02 28 21.5**	**-1.3**
KSRS	**Korea Array**	**17.09**	**87**	P	**Pn**	**02 28 21.5**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=278,slow=11,SNR=4.1						
KSRS				LR	LR	02 35 35.2	
	comp=Z,245nm,19.3s,baz=280,slow=39						
DGZ	**Jazzator, Alta**	**17.54**	**316**	*d* P	**Pn**	**02 28 31.1**	**+2.2**
DGZ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SHL	**Shillong**	**17.72**	**228**	*ex*	**P**	**02 28 31.0**	**-1.1**
TAPN	**Taplejung**	**19.11**	**240**	*e*P	**P**	**02 28 48.0**	**+0.4**
	comp=Z,46nm,0.9s						
NACB	**Ninganchiao**	**19.30**	**133**	*e*P	**P**	**02 28 49.8**	**+0.4**
	comp=Z,27nm,1.0s						
MK01	**Makanchi Array**	**19.45**	**303**	*e*P	**P**	**02 28 50.3**	**-0.7**
MK31	**Makanchi Array**	**19.46**	**303**	*e*P	**P**	**02 28 50.9**	**-0.2**
MK31	**Makanchi Array**	**19.46**	**303**	*e*P	**P**	**02 28 50.9**	**-0.2**
MK32	**Makanchi Array**	**19.46**	**303**	*e*P	**P**	**02 28 50.3**	**-0.8**
MKAR	**Makanchi Array**	**19.46**	**303**	P	**P**	**02 28 50.3**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=102,slow=12,SNR=21						
MKAR				LR	LR	02 36 04.6	
	comp=Z,204nm,18.4s,baz=104,slow=36						
MKAR	**Makanchi Array**	**19.46**	**303**	*e*P	**P**	**02 28 50.9**	**-0.2**
	comp=Z,39nm,0.8s						
MKAR	**Makanchi Array**	**19.46**	**303**	*e*P	**P**	**02 28 50.9**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,39nm,0.8s						
QIZ	**Qiongzhong**	**19.62**	**170**	P	**Pn**	**02 28 57.8**	**+3.6**
QIZ				LR	LR		
	comp=Z,540nm,16.1s						
QIZ				LR	LR		
	comp=Z,1μm,14.5s						
QIZ				LR	LR		
	comp=Z,570nm,11.8s						
ODAN	**Odare**	**19.64**	**239**	*e*P	**P**	**02 28 53.1**	**-0.3**
YULB	**Yu-li**	**19.75**	**135**	*e*P	**Pn**	**02 28 56.0**	**+0.2**
	comp=Z,19nm,1.0s						
PAYA	**Payao**	**19.85**	**198**	P	**Pn**	**02 29 00.3**	**+3.3**
	comp=Z,7.2nm,0.8s						
JIRN	**Jiri**	**19.96**	**243**	*e*P	**P**	**02 28 56.5**	**-0.5**
	comp=Z,57nm,0.6s						
GUN	**Gumba**	**20.03**	**244**	*e*P	**P**	**02 28 57.2**	**-0.5**
	comp=Z,112nm,0.7s						
USRK	**Ussuriysk Ar.**	**20.08**	**65**	P	**P**	**02 28 57.8**	**0.0**
	comp=Z,1.8nm,0.5s,baz=267,slow=7.1,SNR=4.2						
USRK				Lg	Lg	02 34 55.7	
	comp=Z,2.8nm,0.8s,baz=283,slow=26,SNR=4.0						
USRK				LR	LR	02 36 17.7	
	comp=Z,207nm,18.8s,baz=257,slow=36						
RAMN	**Ramite**	**20.12**	**241**	*e*P	**P**	**02 28 57.4**	**-1.2**
	comp=Z,18nm,0.6s						
BRDH	**Bariadhala**	**20.13**	**223**	LR	LR	02 37 29.0	
	comp=Z,375nm,18.5s,baz=50,slow=39						
PKI	**Pulchoki**	**20.57**	**244**	*e*P	**P**	**02 29 02.5**	**-1.0**
	comp=Z,32nm,0.7s						
PKIN	**Phulchoki**	**20.57**	**244**	*e*P	**P**	**02 29 02.5**	**-1.0**
	comp=Z,21nm,0.7s						
CHTO	**Chiang Mai**	**20.61**	**200**	*e*P	**P**	**02 29 04.7**	**+1.0**
	comp=Z,11nm,1.0s						
CHTO	**Chiang Mai**	**20.61**	**200**	*e*P	**P**	**02 29 04.7**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,11nm,1.0s						
CHTO	**Chiang Mai**	**20.61**	**200**	P	Pn	02 29 09.9	+4.0
	comp=Z,47nm,1.2s						
CMMT	**Chiang Mai**	**20.61**	**200**	P	Pn	02 29 09.8	+3.9
	comp=Z,10nm,1.2s,comp=Z,507nm						
JNU	**Nakatsue**	**20.62**	**98**	P	**P**	**02 29 03.6**	**-0.1**
	comp=Z,6.3nm,0.6s,baz=270,slow=5.1,SNR=2.2						
JNU	**Nakatsue**	**20.62**	**98**	*e*P	**P**	**02 29 03.6**	**-0.1**
	comp=Z,30nm,1.4s						
DMN	**Daman**	**20.76**	**245**	*e*P	**P**	**02 29 04.6**	**-0.9**
	comp=Z,53nm,0.8s						
CM31	**Chiang Mai Arr**	**20.95**	**200**	*e*P	**P**	**02 29 06.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**20.95**	**200**	P	**P**	**02 29 06.8**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=7.7,slow=8.8,SNR=11	

comp=Z,3.5nm,0.8s
KOLN Koldanda 21.75 247 *e*P P **02 29 14.7 -1.4**
comp=Z,47nm,0.9s
JOW Kunigami 21.79 116 *e*P P **02 29 17.0 +0.7**
comp=Z,12nm,0.7s
PYUN Piuthan 22.00 249 *e*P P **02 29 17.8 -1.1**
comp=Z,229nm,0.8s
NVS Novosibirsk 22.61 324 *e*P P **02 29 25.3 +0.5**
NVS *e* 02 29 58.9
NVS pmax pmax
comp=Z,15nm,1.1s
CHAI Chaiyaphum 22.80 191 P P 02 29 35.4 +8.2
comp=Z,5.2nm,0.9s
KURK Kurchatov 23.05 311 *e*P P **02 29 29.3 -0.3**
KURK Kurchatov 23.05 311 *ce*P P **02 29 29.1 -0.4**
KURK pmax pmax
comp=Z,30nm,1.3s
KURBB Kurchatov Arra 23.07 311 P P **02 29 28.6 -1.1**
comp=Z,9.9nm,0.8s,baz=111,slow=11,SNR=31
KURBB Lg Lg 02 36 31.0
comp=Z,2.0nm,1.1s,baz=108,slow=28,SNR=4.4
KSH Kashi 23.54 282 *e*P P **02 29 39.1 +4.3**
KSH S **S** **02 33 48.8 -0.1**
KSH pmax pmax
comp=Z,320nm,4.7s
KSH LR LR
comp=Z,1μm,8.9s
KSH LR LR
comp=Z,1μm,11.4s
KSH LR LR
comp=Z,930nm,13.7s
AAK Ala-Archa 24.44 290 P P **02 29 41.8 -1.4**
comp=Z,2.5nm,0.6s,baz=191,slow=0.3,SNR=3.9
AAK LR LR 02 40 06.3
comp=Z,258nm,19.2s,baz=72,slow=39
MJAR Matsushiro Arr 25.32 84 LR LR 02 39 04.8
comp=Z,133nm,20.8s,baz=260,slow=35
NIL Nilore 27.06 270 *e*P P **02 30 07.5 +0.6**
comp=Z,8.7nm,0.7s
NIL Nilore 27.06 270 *e*P P **02 30 07.5 +0.6**
NIL pmax pmax
comp=Z,9.0nm,0.7s
KK31 Karatay Array 27.35 291 *e*P P **02 30 10.6 +1.2**
KK31 Karatay Array 27.35 291 *e*P P **02 30 10.6 +1.2**
KKAR Karatay Array 27.35 291 *e*P P **02 30 10.6 +1.2**
KKAR Karatay Array 27.35 291 *e*P P **02 30 10.6 +1.2**
YAK Yakutsk 27.61 24 LR LR 02 41 27.9
comp=Z,178nm,18.9s,baz=273,slow=37
YAK Yakutsk 27.61 24 *i*P P **02 30 09.9 -1.6**
YAK pmax pmax
comp=Z,8.0nm,0.8s
BVAR Borovoye Array 28.62 312 P P **02 30 20.5 -0.1**
comp=Z,4.0nm,0.7s,baz=112,slow=9.8,SNR=15
BVAR LR LR 02 42 33.4
comp=Z,208nm,18.6s,baz=112,slow=38
BRVK Borovoye 28.69 312 *e*P P **02 30 21.6 +0.4**
comp=Z,4.3nm,0.6s
BRVK Borovoye 28.69 312 *ce*P P **02 30 20.2 -1.0**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
CBIJ Chichi jima 32.05 100 *e*P P **02 30 52.9 +1.7**
comp=Z,123nm,1.2s
NRIK Noril'sk 32.53 348 LR LR 02 45 15.4
comp=Z,291nm,18.4s,baz=191,slow=38
ABKAR Akbulak array 34.61 303 *e*P P **02 31 12.6 -0.6**
MA2 Magadan 35.07 38 LR LR 02 47 18.7
comp=Z,249nm,18.2s,baz=289,slow=39
TIXI Tiksi 35.19 12 *i*P P **02 31 17.4 -0.6**
TIXI pmax pmax
comp=Z,2.0nm,0.9s
AKTO Aktyubinsk 35.87 305 P P **02 31 22.2 -1.9**
comp=Z,1.3nm,0.8s,baz=94,slow=12,SNR=3.9
ARU Arti 36.05 316 P P **02 31 24.3 -1.3**
ARU Arti 36.05 316 *e*P P **02 31 25.8 +0.2**
comp=Z,9.4nm,0.7s
ARU Arti 36.05 316 *d i*P P **02 31 25.5 -0.1**
ARU 02 32 48.0
ARU S **S** **02 37 03.6 -0.8**
ARU SS **SnSn** **02 39 29.1 +0.3**
ARU pmax pmax
comp=Z,7.0nm,0.5s
ARU MLR MLR
comp=Z,206nm,16.0s
PSI Prapat 36.14 193 P P **02 31 25.4 -1.4**
comp=Z,7.6nm,0.6s,baz=0.1,slow=7.6,SNR=7.1
PSI Prapat 36.14 193 *e*P P **02 31 29.2 +2.4**
comp=Z,9.9nm,0.8s
GEYT Alibeck 37.52 285 P P **02 31 38.1 -0.2**
comp=Z,1.2nm,0.8s,baz=83,slow=12,SNR=3.2
GEYT LR LR 02 49 48.0
comp=Z,134nm,19.1s,baz=5.0,slow=41
PEA1 Petropavlovsk- 37.86 50 *e*P P **02 31 40.4 -0.6**
PETK Petropavlovsk- 37.86 50 P P **02 31 40.4 -0.6**
comp=Z,3.9nm,0.8s,baz=251,slow=4.4,SNR=2.6
PETK LR LR 02 49 06.3
comp=Z,218nm,18.1s,baz=241,slow=39
PETK Petropavlovsk- 37.86 50 *e*P P **02 31 41.3 +0.3**
PRGR Permogore 43.28 323 *e*P P **02 32 24.0 -1.7**
PRGR pmax pmax
comp=Z,14nm,0.9s
BILL Bilibino 43.79 28 *e*P P **02 32 29.7 0.0**
BILL pmax pmax
comp=Z,3.0nm,0.9s
VRH Novokhopyorsk 46.08 308 *e*P P **02 32 47.3 -0.9**
VRH pmax pmax
comp=Z,20nm,1.1s
KLMR Klimovskoe 46.23 321 *e*P P **02 32 48.7 -0.5**
KLMR pmax pmax
comp=Z,26nm,1.5s
KLMR Klimovskoe 46.23 321 *e*P P **02 32 48.7 -0.5**
KLMR AMP 02 32 56.0
comp=Z,26nm,1.5s
ZEI Tsey 46.60 296 *e*P P **02 32 51.6 -1.0**
ZEI pmax pmax
comp=Z,5.0nm,1.1s
KBZ Khabaz 47.03 298 P P **02 32 54.1 -1.6**
comp=Z,1.1nm,0.8s,baz=169,slow=10,SNR=2.6
KBZ LR LR 02 55 03.9
comp=Z,173nm,21.3s,baz=74,slow=39
KIV Kislovodsk 47.12 298 *e*P P **02 32 56.0 -0.5**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,147nm,16.0s
LPSR Galich'ya Gora 47.53 310 *e*P P **02 32 58.5 -1.0**
LPSR pmax pmax
comp=Z,10.0nm,1.1s
VORD Divnogorie 47.63 308 *e*P P **02 32 59.6 -0.7**
VORD pmax pmax
comp=Z,4.0nm,0.6s
VSR Storozhevoye 47.66 308 *e*P P **02 32 59.2 -1.3**
VSR pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 48.44 314 *e*P P **02 33 05.2 -1.3**
OBN *eS* **S** **02 40 03.4 -3.6**
OBN pmax pmax
comp=Z,38nm,2.5s
OBN MLR MLR
comp=Z,76nm,16.0s
ARA0 ARCESS Array S 51.38 334 *e*P P **02 33 28.1 -0.5**
ARCES ARCESS Array B 51.38 334 P P **02 33 28.1 -0.5**
comp=Z,4.7nm,0.9s,baz=72,slow=8.9,SNR=3.5
ARCES ARCESS Array B 51.38 334 P P **02 33 28.1 -0.5**
ARCES pmax pmax
comp=Z,6.0nm,1.0s
FIA0 FINESS Array S 52.59 323 *e*P P **02 33 36.2 -1.5**
FIA0 FINESS Array S 52.59 323 *e*P P **02 33 36.2 -1.5**
FINES FINESS Array B 52.59 323 P P **02 33 36.2 -1.5**
comp=Z,1.3nm,0.4s,baz=82,slow=4.0,SNR=8.4
AKASG Malin Array Be 53.85 310 P P **02 33 46.4 -0.8**
comp=Z,0.3nm,0.3s,baz=61,slow=7.7,SNR=4.0
AKASG Malin Array Be 53.85 310 P P **02 33 46.4 -0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKBB Malin Array Si 53.85 310 *e*P P **02 33 46.4 -0.8**
comp=Z,6.1nm,1.2s
AKBB Malin Array Si 53.85 310 *e*P P **02 33 46.4 -0.8**
AKBB pmax pmax
comp=Z,6.0nm,1.2s
BR101 Keskin Array S 54.91 296 *e*P P **02 33 54.5 -0.7**
BRTR Keskin Array B 54.91 296 P P **02 33 54.5 -0.7**
comp=Z,0.9nm,0.8s,baz=83,slow=3.8,SNR=6.2
BRTR LR LR 02 59 48.1
comp=Z,47nm,19.0s,baz=60,slow=39
BRTR Keskin Array B 54.91 296 *ce*P P **02 33 56.0 +0.7**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BUR04 Bucovina Ar. S 57.41 308 *e*P P **02 34 11.7 -1.3**
KWP Kalwaria Pacla 58.15 310 *e*P P **02 34 18.5 +0.5**
comp=Z,114nm,1.0s
KWP Kalwaria Pacla 58.15 310 *e*P P **02 34 18.5 +0.5**
KWP pmax pmax
comp=Z,115nm,1.0s
UZH Uzhgorod 58.80 310 *e*P P **02 34 27.3 +4.8**
UZH *e* 02 34 34.1
FITZ Fitzroy Crossi 59.13 158 *e*P P **02 34 27.3 +2.3**
comp=Z,4.5nm,0.8s
IM3 Indian Mountai 59.35 28 *e*P P **02 34 26.7 +0.6**
NB201 NORSAR Array S 59.47 326 *e*P P **02 34 26.2 -0.8**
NB2 NORSAR Subarra 59.51 326 P P **02 34 26.2 -1.1**
comp=Z,0.8nm,0.5s,baz=78,slow=6.9
NB200 NORSAR Array S 59.51 326 *e*P P **02 34 26.6 -0.7**
NOA NORSAR Array B 59.51 326 P P **02 34 26.6 -0.7**
comp=Z,1.8nm,0.7s,baz=64,slow=6.8,SNR=5.5
NOA LR LR 03 02 11.1
comp=Z,183nm,19.0s,baz=80,slow=38
TOLK Toolik Lake Re 59.58 24 *e*P P **02 34 28.4 +0.7**
comp=Z,10nm,1.3s
OJC Ojcow 59.62 312 *e*P P **02 34 28.4 +0.1**
comp=Z,9.4nm,1.1s
OJC Ojcow 59.62 312 *e*P P **02 34 28.4 +0.1**
OJC pmax pmax
comp=Z,9.0nm,1.1s
COLD Coldfoot 60.04 26 *e*P P **02 34 31.6 +0.8**
comp=Z,2.2nm,0.8s
VTS Vitosha 60.82 303 *e*P P **02 34 37.1 +0.4**
comp=Z,4.9nm,0.9s
VTS Vitosha 60.82 303 *e*P P **02 34 37.1 +0.4**
VTS pmax pmax
comp=Z,5.0nm,0.9s
VYHS Vyhne 60.94 311 *e*P P **02 34 38.0 +0.7**
VYHS Vyhne 60.94 311 *e*P P **02 34 38.0 +0.7**
DPC Dobruska-Polom 61.58 313 *e*P P **02 34 42.0 +0.4**
DPC Dobruska-Polom 61.58 313 *e*P P **02 34 42.0 +0.4**
COLA College 62.05 28 *e*P P **02 34 44.1 -0.3**
comp=Z,8.5nm,1.0s
COLA College 62.05 28 *e*P P **02 34 44.1 -0.3**
COLA pmax pmax
comp=Z,8.0nm,1.0s
IL1 Eielson Array 62.45 28 *e*P P **02 34 46.2 -1.0**
ILAR Eielson Array 62.45 28 P P **02 34 46.6 -0.6**
comp=Z,2.3nm,0.8s,baz=280,slow=5.7,SNR=22
ILAR LR LR 03 02 52.4
comp=Z,91nm,18.5s,baz=318,slow=37
ILB Eielson Array 62.45 28 *e*P P **02 34 46.6 -0.6**
SUA Susitna One 62.68 32 *e*P P **02 34 48.4 -0.5**
comp=Z,19nm,0.8s
CLL Collm 63.00 315 *e*P P **02 34 51.0 0.0**
comp=Z,4.0nm,0.9s
CLL Lm MLR 03 04 00.0
comp=Z,100nm,21.8s
CLL Collm 63.00 315 *e*P P **02 34 51.0 0.0**
CLL pmax pmax
comp=Z,4.0nm,0.9s
IDI Anoyia 63.11 295 *e*P P **02 34 50.9 -1.3**
comp=Z,18nm,1.2s
KHC Kasperske Hory 63.72 313 *e*P P 02 34 45.3 -11
KHC Kasperske Hory 63.72 313 *e*P P 02 34 45.3 -11
KDAK Kodiak Island 63.76 36 P P **02 34 53.7 -2.2**
comp=Z,10nm,0.8s,baz=280,slow=6.1,SNR=3.7
RIDG Independ'e Rid 63.77 28 *e*P P **02 34 55.3 -0.7**
comp=Z,13nm,0.9s
WRAB Tennant Creek 63.79 150 *e*P P **02 34 56.8 +0.3**
comp=Z,5.5nm,0.8s
WRAB Tennant Creek 63.79 150 *ce*P P **02 34 57.5 +1.0**
WRAB pmax pmax
comp=Z,26nm,2.5s
GERES GERESS Array B 63.79 313 P P **02 34 54.1 -2.4**
comp=Z,0.3nm,0.5s,baz=71,slow=7.4,SNR=4.9
GERES LR LR 03 03 56.2
comp=Z,62nm,18.5s,baz=90,slow=37
WR1 Warramunga Arr 63.79 150 *e*P P **02 34 54.8 -1.8**
comp=Z,5.1nm,0.8s
WRA Warramunga Arr 63.79 150 P P **02 34 54.8 -1.8**
comp=Z,3.5nm,0.7s,baz=345,slow=7.0,SNR=30
WRA Warramunga Arr 63.79 150 *ce*P P **02 34 55.5 -1.1**
WRA pmax pmax
comp=Z,4.0nm,0.7s
GEA0 GERESS Array S 63.79 313 *e*P P **02 34 55.8 -0.6**
WB2 Warramunga Arr 63.80 150 *e*P P **02 34 55.4 -1.2**
INK Inuvik 64.63 21 LR LR 03 06 42.4
comp=Z,74nm,19.0s,baz=318,slow=39
INK Inuvik 64.63 21 *e*P P **02 35 01.4 -0.1**
comp=Z,3.9nm,0.9s
INK Inuvik 64.63 21 *e*P P **02 35 01.4 -0.1**
INK pmax pmax
comp=Z,4.0nm,0.9s
AS31 Alice Springs 67.02 153 *e*P P **02 35 16.1 -1.4**
comp=Z,9.9nm,0.7s
ASAR Alice Springs 67.02 153 P P **02 35 16.1 -1.4**
comp=Z,2.6nm,0.7s,baz=340,slow=6.7,SNR=12
AS01 Alice Springs 67.03 152 *e*P P **02 35 18.5 +0.9**
YKA Yellowknife Ar 74.14 18 P P **02 36 00.3 -0.1**
comp=Z,1.7nm,0.6s,baz=327,slow=5.2,SNR=12
YKB5 Yellowknife Ar 74.14 18 *e*P P **02 36 00.3 -0.1**
STKA Stephens Creek 77.33 150 P P **02 36 19.1 +0.2**
comp=Z,2.6nm,0.7s,baz=330,slow=6.5,SNR=4.9
STKA LR LR 03 14 21.3
comp=Z,34nm,18.3s,baz=13,slow=39
STKA Stephens Creek 77.33 150 *e*P P **02 36 19.1 +0.2**
comp=Z,0.2nm,0.6s
ESDC Sonseca Array 79.38 313 P P **02 36 30.1 -0.4**
comp=Z,0.3nm,0.6s,baz=26,slow=5.7,SNR=2.8
ULM Lac du Bonnet 89.52 14 LR LR 03 22 35.6
comp=Z,38nm,18.1s,baz=6.5,slow=39
PD31 Pinedale Array 92.83 26 *e*P P **02 37 35.4 -2.0**
PDAR Pinedale Array 92.83 26 P P **02 37 37.6 +0.2**
comp=Z,0.4nm,0.7s,baz=328,slow=3.2,SNR=3.0
PDAR LR LR 03 24 01.9
comp=Z,68nm,18.3s,baz=354,slow=38
TORD Torodi Ar. Bea 93.02 289 LR LR 03 24 10.1
comp=Z,28nm,20.4s,baz=95,slow=39
NVAR Mina Array Bea 93.18 34 P P **02 37 40.4 +1.3**
comp=Z,0.4nm,0.6s,baz=299,slow=4.0,SNR=3.2
BDFB Brasilia 147.94 308 PKPbc **PKPdf** **02 44 10.0 +2.7**
comp=Z,1.2nm,0.5s,baz=91,slow=4.8,SNR=2.5
BDFB Brasilia 147.94 308 PKP2 **PKPdf** **02 44 10.0 +2.7**
BDFB pmax pmax
comp=Z,1.0nm,0.5s

IDC 20 03:10:32.0±1.7, 5.59S×152.15E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/36, mbtmp3.9/5, ML1.9/1, Error ellipse: s-maj=128.7km s-min=22.4km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.23**	**232**	Pn	Pn	03 12 07.1	+1.8
	1.9nm,0.3s,baz=12,slow=12,SNR=4.8						
PMG				Sn	Sn	03 13 11.4	-5.9
	0.8nm,0.3s,baz=78,slow=14,SNR=4.6						
WRA	**Warramunga Arr**	**22.43**	**229**	P	P	03 15 31.3	-1.5
	2.4nm,0.8s,baz=53,slow=9.9,SNR=28						
ASAR	**Alice Springs**	**25.13**	**223**	P	P	03 15 59.6	+0.6
	2.2nm,0.8s,baz=57,slow=8.8,SNR=20						
ILAR	**Eielson Array**	**83.13**	**22**	P	P	03 23 00.3	+0.6
	0.3nm,0.6s,baz=246,slow=4.4,SNR=2.9						
YKA	**Yellowknife Ar**	**96.43**	**28**	P	P	03 24 02.3	-0.6
	0.4nm,0.6s,baz=260,slow=7.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**149.92**	**287**	PKPbc	PKPbc	03 30 24.6	-0.8
	0.3nm,0.4s,baz=106,slow=3.1,SNR=8.0						

*NEIC **20** 03:14:34.2±0.0, 16.74N×99.66W, h3km, MD4.0(MEX), After MEX.*

MEX 20 03:14:33.6±0.6, 16.69N×99.67W, h5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEIG	**Mezcala**	**1.23**	**2**	*e*P	Pg	03 14 52.8	-4.4
MEIG				*e*S	Sg	03 15 07.8	-5.4
MEIG	**Mezcala**	**1.23**	**2**	*e*P	Pg	03 14 52.9	-4.3
MEIG				*e*S	Sg	03 15 09.2	-3.9
TLIG	**Tlapa**	**1.36**	**50**	*e*P	Pn	03 14 55.9	-3.6
TLIG				*e*S	Sg	03 15 13.1	-4.4
TLIG	**Tlapa**	**1.36**	**50**	*e*P	Pn	03 14 55.9	-3.6
TLIG				*e*S	Sg	03 15 13.1	-4.4
PLIG	**Platanillo**	**1.70**	**5**	*e*P	Pn	03 15 00.8	-3.2
PLIG				*e*S	Sn	03 15 21.7	-4.5
PLIG	**Platanillo**	**1.70**	**5**	*e*P	Pn	03 15 00.8	-3.2
ARIG	**Puente Sto Nin**	**1.71**	**338**	*e*P	Pn	03 15 00.7	-3.4
ARIG				*e*S	Sn	03 15 22.4	-4.0
ARIG	**Puente Sto Nin**	**1.71**	**338**	*e*P	Pn	03 15 00.7	-3.4
ARIG				*e*S	Sn	03 15 22.4	-4.0
ZIIG	**Zihuatanejo**	**1.95**	**298**	*e*P	Pn	03 15 03.7	-3.6
ZIIG				*e*S	Sn	03 15 32.6	+0.4
ZIIG	**Zihuatanejo**	**1.95**	**298**	*e*P	Pn	03 15 03.7	-3.6
ZIIG				*i* S	Sn	03 15 27.9	-4.2

*ISCJB **20** 03:33:43.0±1.2, 16.24N±0.05×96.91W±0.03, h7km±8km, mb4.3/26, Error ellipse: s-maj=9.3km s-min=4.1km az=15.9*
*IDC **20** 03:33:44.3±3.9, 16.34N×96.97W, h0km, mb3.5/4, mb1 3.9/6, mb1mx3.6/44, mbtmp3.5/6, ML3.1/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/29, Error ellipse: s-maj=67.9km s-min=15.4km az=179.0*
*MEX **20** 03:33:46.9±0.5, 16.06N×97.00W, h37km±9km, MD4.2*
*NEIC **20** 03:33:47.7±0.0, 16.11N×97.02W, h27km, mb4.3/33, MD4.2(MEX), After MEX.*
NEIC Felt at Oaxaca, San Francisco Lachigolo and San Luis Beltran.

ISC 20 03:33:42.2±2.3, 16.10N±0.05×97.01W±0.03, h1km±15km, n68, σ1.87/85, mb4.3/27, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.93**	**111**	*e*Pn	**Pb**	**03 34 02.0**	**+0.9**
HUIG				*e*Sn	**Sb**	**03 34 13.0**	**-1.0**
HUIG	**Huatulco**	**0.93**	**111**	*e*P	**Pb**	**03 34 02.0**	**+0.9**
HUIG				*e*S	**Sb**	**03 34 13.0**	**-1.0**
VHO	**Vista Hermosa**	**1.00**	**15**	*e*Pn	**Pb**	**03 34 03.0**	**+0.4**
VHO				*e*Sn	**Sb**	**03 34 15.8**	**-0.6**
VHO	**Vista Hermosa**	**1.00**	**15**	*e*P	**Pb**	**03 34 03.0**	**+0.4**
VHO				*e*S	**Sb**	**03 34 15.8**	**-0.6**
PNIG	**Pinotepa**	**1.11**	**285**	*e*Pn	**Pb**	**03 34 04.3**	**-0.1**
PNIG				*e*Sn	**Sb**	**03 34 14.0**	**-5.5**
PNIG	**Pinotepa**	**1.11**	**285**	*e*P	**Pb**	**03 34 04.3**	**-0.1**
PNIG				*i* S	**Sb**	**03 34 18.4**	**-1.0**
TLIG	**Tlapa**	**2.09**	**315**	*e*Pn	**Pn**	**03 34 20.2**	**+1.7**
TLIG				*e*Sn	**Sn**	**03 34 44.3**	**-0.9**
TLIG				*e*S	**Sb**	**03 34 47.3**	**-0.2**
TLIG	**Tlapa**	**2.09**	**315**	*e*P	**Pn**	**03 34 18.8**	**+0.3**
TLIG				*i* S	**Sn**	**03 34 43.9**	**-1.4**
CMIG	**Matias Romero**	**2.26**	**64**	Pn	**Pn**	**03 34 20.0**	**-0.8**
	6.2nm,0.3s,baz=251,slow=15,SNR=49						
CMIG				Pg	**Pb**	**03 34 24.3**	**+0.3**
	23nm,0.3s,baz=246,slow=15,SNR=59						
CMIG				Sn	**Sn**	**03 34 44.5**	**-4.9**
	37nm,0.3s,baz=261,slow=9.9,SNR=7.1						
CMIG				Lg	Lg	03 34 53.0	
	133nm,0.3s,baz=193,slow=19,SNR=12						
CMIG	**Matias Romero**	**2.26**	**64**	*e*Pn	**Pn**	**03 34 21.8**	**+1.0**
CMIG				*e*Sn	**Sn**	**03 34 49.6**	**+0.2**
CMIG	**Matias Romero**	**2.26**	**64**	*e*P	**Pn**	**03 34 21.0**	**+0.1**
CMIG				*e*S	**Sn**	**03 34 47.9**	**-1.6**
MEIG	**Mezcala**	**3.09**	**306**	*e*Pn	**Pn**	**03 34 34.5**	**+2.2**
MEIG				*e*Sn	**Sn**	**03 35 07.1**	**-2.9**
MEIG	**Mezcala**	**3.09**	**306**	*i* P	**Pn**	**03 34 32.4**	**+0.1**
MEIG				*i* S	**Sn**	**03 35 08.2**	**-1.7**
UNM	**Universidad Na**	**3.82**	**328**	*e*Pn	**Pn**	**03 34 43.9**	**+1.3**
UNM				*e*Sn	**Sn**	**03 35 26.5**	**-1.8**
ARIG	**Puente Sto Nin**	**3.86**	**305**	*e*P	**Pn**	**03 34 44.3**	**+1.5**
ARIG	**Puente Sto Nin**	**3.86**	**305**	*e*P	**Pn**	**03 34 43.7**	**+0.9**
ARIG				*e*S	**Sn**	**03 35 26.7**	**-2.2**
CCIG	**Comitan**	**4.68**	**87**	*e*Pn	**Pn**	**03 34 56.6**	**+2.3**
CCIG				*e*Sn	**Sn**	**03 35 49.8**	**+0.4**
MOIG	**Morelia**	**5.34**	**312**	*e*Pn	**Pn**	**03 35 05.2**	**+1.8**
JRQG	**Juriquilla Cam**	**5.62**	**325**	*e*Pn	**Pn**	**03 35 09.9**	**+2.6**
TEIG	**Tepich**	**9.26**	**62**	*e*Pn	**Pn**	**03 35 56.4**	**-0.6**
TEIG				*e*Sn	**Sn**	**03 37 36.2**	**-5.7**
HKT	**Hockley**	**13.83**	**4**	*e*Pn	**Pn**	**03 36 56.3**	**-3.1**
TX31	**Lajitas Ar. Si**	**14.53**	**336**	*e*Pn	**Pn**	**03 37 08.6**	**-0.6**
TXAR	**Lajitas Array**	**14.53**	**336**	Pn	**Pn**	**03 37 10.4**	**+1.2**
	0.0nm,0.3s,baz=153,slow=14,SNR=3.1						
TXAR				LR	LR	03 43 13.8	
	comp=Z,109nm,19.3s,baz=0.0,slow=40						
ABTX	**Abilene, Hawle**	**16.63**	**352**	*e*Pn	**Pn**	**03 37 38.5**	**+1.8**
	37nm,1.8s						
PAYG	**Puerto Ayora**	**17.94**	**158**	*e*P	P	03 38 04.2	+10
	145nm,1.8s						
146A	**Union**	**17.98**	**22**	*e*Sn	**Sn**	**03 41 17.4**	**+2.7**
X37A	**Clayton**	**18.47**	**4**	*e*P	**P**	**03 37 58.8**	**-0.8**
	19nm,1.4s						
MSTX	**Muleshoe**	**18.54**	**345**	*e*P	**P**	**03 38 00.9**	**+0.5**
	33nm,1.7s						
MIAR	**Mount Ida**	**18.63**	**9**	*e*P	**P**	**03 38 01.6**	**+0.3**
	14nm,0.8s						
W41B	**Gary Mavity, V**	**19.47**	**12**	*e*P	**Pn**	**03 38 11.9**	**+0.3**
	31nm,1.8s						
Z50A	**Ashland**	**19.80**	**28**	*e*P	**P**	**03 38 12.7**	**-1.6**
	33nm,1.7s						
BNM	**Barren Site**	**19.95**	**336**	*e*P	**Pn**	**03 38 18.3**	**+0.6**
Y49A	**Blount Mountai**	**20.10**	**26**	*e*P	**P**	**03 38 16.9**	**-0.5**
	26nm,1.4s						
LENM	**Lemitar**	**20.10**	**335**	*e*P	Pn	03 38 20.0	+0.6
X48A	**Hartselle**	**20.35**	**24**	*e*P	**P**	**03 38 19.4**	**-0.8**
	11nm,0.9s						
LAZ	**Ladron**	**20.38**	**335**	*e*P	**P**	**03 38 21.4**	**+0.7**
ANMO	**Albuquerque**	**20.59**	**337**	P	**P**	**03 38 22.6**	**-0.5**
	0.6nm,0.7s,baz=127,slow=11,SNR=2.6						
ANMO	**Albuquerque**	**20.59**	**337**	*e*P	Pn	03 38 25.3	+0.1
	9.9nm,1.8s						
GOGA	**Godfrey**	**21.14**	**33**	*e*P	**P**	**03 38 26.0**	**-2.7**
	45nm,1.7s						
Y52A	**Lilburn**	**21.19**	**31**	*e*P	**P**	**03 38 27.0**	**-2.2**
	36nm,1.5s						
PBMO	**Poplar Bluff**	**21.41**	**15**	*e*P	**P**	**03 38 32.4**	**+0.8**
	8.7nm,0.9s						
SWET	**Sewanee**	**21.47**	**25**	*e*P	**P**	**03 38 30.5**	**-1.8**
	16nm,0.7s						
WVT	**Waverly**	**21.56**	**21**	*e*P	**P**	**03 38 31.8**	**-1.4**
	32nm,1.7s						
V48A	**Smith Brothers**	**21.57**	**23**	*e*P	**P**	**03 38 31.2**	**-2.2**
	12nm,1.0s						
W50A	**Signal Mountai**	**21.71**	**27**	*e*P	**P**	**03 38 33.0**	**-2.0**
	11nm,0.8s						
CPCT	**Cooper Cave**	**22.27**	**28**	*e*P	**P**	**03 38 38.5**	**-2.4**
	68nm,1.9s						
T47A	**Sharon Grove**	**22.59**	**21**	*e*P	**P**	**03 38 43.2**	**-1.0**
	10nm,1.0s						
TKL	**Tuckaleechee C**	**22.78**	**29**	P	**P**	**03 38 45.1**	**-1.3**
	5.6nm,1.1s,baz=194,slow=12,SNR=2.8						
SDCO	**Great Sand Dun**	**22.83**	**342**	*e*P	**P**	**03 38 48.1**	**+1.0**
	12nm,1.8s						
WUAZ	**Wupatki**	**23.21**	**329**	*e*P	**P**	**03 38 53.9**	**+2.9**
	8.1nm,1.3s						
MVCO	**Mesa Verde**	**23.36**	**336**	*e*P	**P**	**03 38 54.8**	**+2.2**
	7.9nm,1.2s						
PV01	**Paradox Valley**	**24.20**	**337**	*e*P	**P**	**03 39 02.8**	**+2.1**
U15A	**North Rim**	**24.39**	**329**	*e*P	**P**	**03 39 05.7**	**+3.2**
	7.7nm,1.4s						
PV03	**Paradox Valley**	**24.41**	**337**	*e*P	**P**	**03 39 04.9**	**+2.3**
PV12	**Saucer Basin,**	**24.45**	**337**	*e*P	**P**	**03 39 05.2**	**+2.3**
	9.8nm,1.3s						
PV20	**West Nyswonger**	**24.53**	**337**	*e*P	**P**	**03 39 05.2**	**+1.5**
	13nm,1.5s						
PV14	**Lion Creek, Pa**	**24.58**	**337**	*e*P	**P**	**03 39 06.0**	**+1.8**
	5.5nm,1.0s						
PV22	**Blue Mesa, Par**	**24.63**	**337**	*e*P	**P**	**03 39 06.6**	**+1.9**
	8.7nm,1.3s						
PV23	**Carpenter Ridg**	**24.64**	**337**	*e*P	**P**	**03 39 06.7**	**+1.9**
	4.9nm,0.9s						
O49A	**Covington**	**26.42**	**22**	*e*P	**P**	**03 39 18.6**	**-1.9**
	13nm,0.9s						
NV01	**Mina Array Sit**	**29.07**	**324**	*e*P	**P**	**03 39 46.9**	**+2.3**
NVAR	**Mina Array Bea**	**29.07**	**324**	P	**P**	**03 39 47.2**	**+2.6**
	0.3nm,0.4s,baz=154,slow=11,SNR=5.4						
CBYP	**Canovanas**	**29.82**	**81**	*e*P	**P**	**03 39 52.0**	**+0.8**
	19nm,1.0s						
G43A	**Wallace**	**30.11**	**13**	*e*P	**P**	**03 39 52.4**	**-1.0**
	14nm,1.1s						
E43A	**Lone Tree Farm**	**31.32**	**13**	*e*P	**P**	**03 40 03.5**	**-0.7**
	35nm,1.6s						
PAL	**Palisades**	**31.86**	**34**	*e*P	**P**	**03 40 08.1**	**-0.8**
	94nm,1.8s						
F10A	**Beach Ranch, E**	**34.25**	**335**	*e*P	**P**	**03 40 31.6**	**+1.7**
	14nm,1.5s						
F10A				*e*S	**S**	**03 45 58.9**	**+1.1**
ILAR	**Eielson Array**	**59.04**	**338**	P	**P**	**03 43 43.9**	**+0.3**
	0.9nm,1.0s,baz=134,slow=5.1,SNR=6.1						

*IDC **20** 03:35:48.2±1.3, 17.88S×178.06W, h562km±16km, mb3.6/11, mb1 3.6/13, mb1mx3.4/46, mbtmp4.5/13, Error ellipse: s-maj=15.2km s-min=12.6km az=154.0*
*ISCJB **20** 03:35:49.6±0.5, 17.85S±0.1×178.18W±0.09, h590km, mb4.0/12, Error ellipse: s-maj=16.8km s-min=9.3km az=158.1*

ISC 20 03:35:50.3±0.6, 18.0S±0.1×178.10W±0.09, h590km, n39, σ1§59/45, mb4.2/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.31**	**57**	P	**P**	03 37 38.6	-4.4
	2.4nm,0.3s,baz=270,slow=5.1,SNR=2.6						
AFI				S	**S**	**03 39 10.7**	**-4.4**
	1.2nm,0.3s,baz=235,slow=16,SNR=2.0						
DZM	**Mont Dzumac**	**15.08**	**252**	P	**P**	**03 38 58.8**	**-0.8**
	0.6nm,0.3s,baz=78,slow=21,SNR=8.2						
URZ	**Urewera**	**20.62**	**191**	P	**P**	**03 39 48.3**	**-1.5**
	3.4nm,0.5s,baz=293,slow=2.0,SNR=5.9						
URZ				S	**S**	**03 42 56.6**	**-6.6**
	4.9nm,0.9s,baz=41,slow=20,SNR=2.1						
PMG	**Port Moresby**	**34.77**	**280**	P	**P**	**03 41 53.3**	**+0.3**
	14nm,0.4s,baz=98,slow=4.7,SNR=9.1						
STKA	**Stephens Creek**	**38.84**	**241**	P	**P**	**03 42 27.1**	**+0.9**
	11nm,0.7s,baz=92,slow=9.4,SNR=13						
JAY	**Jayapura**	**43.22**	**286**	P	**P**	**03 43 01.1**	**+0.1**
	28nm,0.7s,baz=175,slow=6.0,SNR=7.3						
WRA	**Warramunga Arr**	**44.91**	**260**	P	**P**	**03 43 13.3**	**-0.6**
	8.0nm,0.5s,baz=95,slow=7.2,SNR=342						
WRA				PcP	**PcP**	**03 44 42.4**	**-0.1**
	1.2nm,0.4s,baz=89,slow=3.6,SNR=6.7						
WRA				S	**S**	**03 49 07.3**	**-2.7**
	0.3nm,0.9s,baz=94,slow=13,SNR=3.1						
ASAR	**Alice Springs**	**45.05**	**254**	P	**P**	**03 43 15.2**	**+0.2**
	43nm,0.6s,baz=87,slow=8.6,SNR=493						
ASAR				PcP	**PcP**	**03 44 43.1**	**+0.1**
	3.5nm,0.6s,baz=101,slow=3.8,SNR=8.6						
ASAR				S	**S**	**03 49 10.2**	**-1.9**
	0.8nm,0.7s,baz=84,slow=14,SNR=7.9						
VNDA	**Vanda**	**60.38**	**185**	P	**P**	**03 45 05.2**	**+2.2**
	0.4nm,0.6s,baz=347,slow=5.8,SNR=9.2						
QSPA	**South Pole Qui**	**72.06**	**180**	P	**P**	**03 46 17.3**	**+1.9**
	3.4nm,0.7s,baz=344,slow=1.1,SNR=6.4						
NVAR	**Mina Array Bea**	**79.28**	**44**	P	**P**	**03 46 56.1**	**+0.2**
	0.3nm,0.6s,baz=257,slow=8.0,SNR=3.0						
MAW	**Mawson**	**83.87**	**200**	P	**P**	**03 47 19.5**	**+1.0**
	2.8nm,0.8s,baz=96,slow=5.2,SNR=4.0						
TXAR	**Lajitas Array**	**85.80**	**58**	P	**P**	**03 47 29.6**	**+0.9**
	0.2nm,0.7s,baz=215,slow=3.0,SNR=2.3						
CMAR	**Chiang Mai Arr**	**89.19**	**290**	P	**P**	**03 47 45.5**	**+0.9**
	1.1nm,0.3s,baz=88,slow=2.3,SNR=7.9						
SNAA	**Sanae**	**90.50**	**179**	P	**P**	**03 47 50.5**	**+0.7**
SNAA	**Sanae**	**90.50**	**179**	P	**P**	**03 47 50.3**	**+0.5**
	1.7nm,0.7s,baz=194,slow=12						
VNA3	**Neumayer Olymp**	**90.63**	**176**	P	**P**	**03 47 51.4**	**+1.1**
VNA2	**Neumayer--Watz**	**91.07**	**177**	P	**P**	**03 47 53.8**	**+1.5**
	baz=197,slow=3.0						
VNA1	**Neumayer--Stat**	**91.30**	**177**	P	**P**	**03 47 55.2**	**+1.9**
MKAR	**Makanchi Array**	**109.41**	**314**	PKiKP	**PKiKP**	**03 53 13.3**	**-1.1**
	0.3nm,0.5s,baz=57,slow=1.6,SNR=6.7						
ARCES	**ARCESS Array B**	**126.46**	**350**	PKP	**PKPdf**	**03 53 45.6**	**-0.8**
	6.9nm,1.1s,baz=89,slow=3.8,SNR=5.2						
BRTR	**Keskin Array B**	**145.06**	**315**	PKPbc	**PKPdf**	**03 54 22.1**	**+0.4**
	2.3nm,0.6s,baz=128,slow=4.4,SNR=17						
CLL	**Collm**	**145.62**	**348**	*i* (PKPbc)	**PKPbc**	**03 54 23.7**	**+0.1**
	comp=Z,5.0nm,0.8s						
BRG	**Berggiesshubel**	**145.82**	**346**	*e*PKP	**PKPbc**	**03 54 24.8**	**+0.6**
	comp=Z,6.9nm,0.9s						
BRG				*e*		04 28 17.3	
	comp=Z,6.8nm,1.2s						
LANS	**Liptovska Anna**	**145.83**	**339**	*e*PKP	**PKPbc**	**03 54 25.7**	**+1.3**
KECS	**Kecovo**	**146.04**	**338**	*e*PKP	**PKPbc**	**03 54 24.4**	**-0.6**
VYHS	**Vyhne**	**146.61**	**339**	*e*PKP	**PKPbc**	**03 54 27.2**	**+0.7**
GERES	**GERESS Array B**	**147.78**	**345**	PKPbc	**PKPbc**	**03 54 29.4**	**-0.3**
	comp=Z,2.1nm,0.5s,baz=21,slow=3.2,SNR=18						
CONA	**Conrad Observa**	**148.04**	**342**	*i* PKiKP	**PKPbc**	**03 54 31.0**	**+0.6**
	comp=Z,2.3nm,0.5s						
ARSA	**Arzberg**	**148.75**	**342**	*i* PKPbc	**PKPbc**	**03 54 31.1**	**-1.0**
	comp=Z,1.9nm,0.6s						
SOKA	**Soboth**	**149.41**	**342**	*i* PKPbc	**PKPbc**	**03 54 33.4**	**-0.4**
	comp=Z,3.9nm,0.9s						
KBA	**Koelnbreinsper**	**149.51**	**345**	*i* PKPbc	**PKPbc**	**03 54 33.6**	**-0.5**
	comp=Z,2.7nm,0.5s						
RETA	**Reutte**	**149.71**	**348**	*i* PKiKP	**PKPbc**	**03 54 34.4**	**0.0**
	comp=Z,1.5nm,0.5s						
MOTA	**Moosalm**	**149.77**	**348**	*i* PKiKP	**PKPbc**	**03 54 34.9**	**+0.3**
	comp=Z,1.4nm,0.5s						
MYKA	**Terra Mystica**	**149.84**	**344**	*i* PKPbc	**PKPbc**	**03 54 34.2**	**-0.5**
	comp=Z,3.2nm,0.5s						
SQTA	**Sankt Quirin**	**149.87**	**347**	*i* PKiKP	**PKPbc**	**03 54 34.9**	**+0.1**
	comp=Z,3.8nm,0.6s						
ABTA	**Abfaltersbach**	**150.02**	**345**	*i* PKPbc	**PKPbc**	**03 54 34.7**	**-0.4**
	comp=Z,3.9nm,0.5s						
DAVA	**Damuels**	**150.06**	**349**	*i* PKiKP	**PKPbc**	**03 54 36.0**	**+0.7**
	comp=Z,3.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**175.17**	**178**	PKP	**PKPdf**	**03 54 53.3**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=52,slow=2.4,SNR=3.5						
TORD				PKPab	**PKPab**	**03 56 34.1**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=234,slow=3.9,SNR=3.3						

*IDC **20** 03:54:49.1±2.0, 9.93S×119.46E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.3/38, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=83.8km s-min=26.0km az=42.0*
*ISCJB **20** 03:54:58.5±0.5, 9.63S±0.06×120.19E±0.03, h85km±5km, mb3.3/1, Error ellipse: s-maj=10.0km s-min=5.0km az=12.8*
*DJA **20** 03:55:00.9±0.3, 10°S±3°×12°0E±°, h48km±6km, M4.1/12, mb4.9/1, MLv3.8/12*

ISC 20 03:54:58.9±0.9, 9.60S±0.06×120.20E±0.04, h79km±7km, n15, σ2§20/24, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**0.12**	**127**	P	**Pn**	**03 55 10.6**	**+0.3**
WSI				S	**Sn**	**03 55 17.5**	**-1.2**
BASI	**Baing, Sumba**	**0.72**	**149**	P	**Pn**	**03 55 17.0**	**+2.3**
BASI				S	**Sn**	**03 55 27.2**	**+0.8**
WBSI	**Waikabubak, Su**	**0.80**	**267**	P	**Pn**	**03 55 15.8**	**+0.2**
WBSI				S	**Sn**	**03 55 28.0**	**-0.1**
EDFI	**Ende, Flores**	**1.69**	**60**	P	**Pn**	**03 55 27.2**	**+0.4**
EDFI				S	**Sn**	**03 55 45.2**	**-2.8**
MMRI	**Maumere**	**2.23**	**65**	P	**Pn**	**03 55 35.4**	**+1.6**
MMRI				S	**Sn**	**03 56 01.4**	**+0.9**
PLAI	**Plampang**	**2.51**	**288**	P	**Pn**	**03 55 38.4**	**+0.8**
PLAI				S	**Sn**	**03 56 07.4**	**0.0**
TWSI	**Taliwang, Sumb**	**3.39**	**284**	P	**Pn**	**03 55 51.4**	**+1.9**
TWSI				S	**Sn**	**03 56 29.2**	**+0.6**
BATI	**Baumata**	**3.46**	**100**	Pn	**Pn**	**03 55 54.2**	**+3.6**
	6.8nm,0.3s,baz=285,slow=20,SNR=4.2						
BATI				Sn	**Sn**	**03 56 29.6**	**-0.9**
	10nm,0.3s,baz=290,slow=15,SNR=5.5						
BATI	**Baumata**	**3.46**	**100**	P	**Pn**	**03 55 52.8**	**+2.2**
SOEI	**Soe**	**4.01**	**93**	P	**Pn**	**03 56 00.8**	**+2.7**
BKSI	**Bulukumba**	**4.25**	**359**	P	**Pn**	**03 56 03.0**	**+1.8**
IGBI	**Denpasar**	**5.05**	**278**	P	**Pn**	**03 56 13.3**	**+1.2**
WRA	**Warramunga Arr**	**17.09**	**129**	P	**P**	**03 58 53.6**	**+0.2**
	0.2nm,0.3s,baz=299,slow=13,SNR=12						
WRA				S	Sn	04 01 51.1	-11
	0.4nm,0.3s,baz=304,slow=21,SNR=8.1						
ASAR	**Alice Springs**	**19.16**	**139**	P	**Pn**	**03 59 17.5**	**-0.3**
	0.0nm,0.3s,baz=316,slow=9.1,SNR=3.7						
ASAR				S	**S**	**04 02 42.9**	**-6.5**
	baz=309,slow=21,SNR=3.2						
MKAR	**Makanchi Array**	**65.53**	**332**	P	**P**	**04 05 34.2**	**+0.2**
	0.2nm,0.4s,baz=154,slow=7.0,SNR=3.4						

*MOS **20** 04:16:22.9±1.6, 49.60N×157.05E, h16km±24km, mb4.4/1, Error ellipse: s-maj=49.1km s-min=7.9km az=84.5*

KRSC 20 04:16:22.9±1.1, 49.60N×157.06E, h16km±24km, ML4.3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.24**	**331**	*e*P	Pn	04 16 44.9	-0.7
SKR				*e*S	Sb	04 17 00.7	-1.0
SKR	**Severo-Kuril's**	**1.24**	**331**	*e*PN	Pn	04 16 45.1	-0.5
SKR				*e*S	Sb	04 17 00.6	-1.1
SKR				pmax	pmax		
	comp=Z,62nm,0.3s						
SKR				smax	smax		
	comp=E,808nm,0.2s						
SKR				smax	smax		
	comp=N,1µm,0.4s						
PAU	**Pauzhetka**	**1.88**	**355**	*e*P	Pb	04 16 56.2	-0.6
PAU				*e*S	Sb	04 17 20.0	0.0
PAU	**Pauzhetka**	**1.88**	**355**	PN	Pb	04 16 56.2	-0.6
PAU				S	Sb	04 17 20.0	0.0
KDTR	**Khodutka, Kamc**	**2.31**	**16**	*e*P	Pb	04 17 02.5	-1.6
KDTR				*e*S	Sb	04 17 31.4	-1.0
MTVR	**Mutnovka**	**2.97**	**13**	*e*P	Pn	04 17 12.4	+2.8
MTVR				*e*S	Sb	04 17 49.2	-2.5
MTVR	**Mutnovka**	**2.97**	**13**	PN	Pn	04 17 12.4	+2.8
MTVR				S	Sb	04 17 49.2	-2.5
RUS	**Russkaya**	**2.98**	**17**	*e*P	Pn	04 17 11.6	+2.0
RUS				*e*S	Sn	04 17 47.8	+2.8
RUS	**Russkaya**	**2.98**	**17**	PN	Pn	04 17 11.6	+2.0
RUS				S	Sn	04 17 47.8	+2.8
GRL	**Gorelyy**	**3.02**	**12**	*e*P	Pn	04 17 12.6	+2.3
GRL				*e*S	Sn	04 17 49.3	+3.1
GRL	**Gorelyy**	**3.02**	**12**	PN	Pn	04 17 12.6	+2.3
GRL				S	Sn	04 17 49.3	+3.1
DALK	**Dalny**	**3.60**	**17**	*e*P	Pn	04 17 21.2	+3.2
DALK				*e*S	Sn	04 18 04.0	+3.9
DALK	**Dalny**	**3.60**	**17**	PN	Pn	04 17 21.2	+3.2
DALK				S	Sn	04 18 04.0	+3.9
AVH	**Avacha**	**3.82**	**15**	*e*P	Pn	04 17 24.9	+3.8
AVH	**Avacha**	**3.82**	**15**	PN	Pn	04 17 24.9	+3.8
KOK	**Koryaka**	**3.83**	**14**	*i* P	Pn	04 17 25.6	+4.3
KOK	**Koryaka**	**3.83**	**14**	PN	Pn	04 17 25.6	+4.3
SMAR	**Somma**	**3.83**	**16**	*e*P	Pn	04 17 25.4	+4.0
SMAR	**Somma**	**3.83**	**16**	PN	Pn	04 17 25.4	+4.0
SDLR	**Sedlovina**	**3.86**	**17**	*e*P	Pn	04 17 24.5	+2.8
SDLR				*e*S	Sn	04 18 10.8	+4.1
SDLR	**Sedlovina**	**3.86**	**17**	PN	Pn	04 17 24.5	+2.8
SDLR				S	Sn	04 18 10.8	+4.1
SPN	**Mys Shipunski**	**3.97**	**27**	S	Sn	04 18 13.2	+4.0
GNL	**Ganaly**	**4.14**	**7**	*e*P	Pn	04 17 29.1	+3.5
GNL	**Ganaly**	**4.14**	**7**	PN	Pn	04 17 29.1	+3.5

*OTT **20** 04:16:30.6±0.6, 48.85N×128.97W, h10km, ML3.5/7, 203km southwest from Port Alice, Bc Juan De Fuca-Explorer Seismic Zone.*
*IDC **20** 04:16:30.5±0.9, 48.89N×128.88W, h0km, mb3.9/11, mb1 4.1/19, mb1mx4.0/40, mbtmp3.9/19, ML3.6/7, MS3.3/10, Ms1 3.3/10, ms1mx3.0/48, Error ellipse: s-maj=20.9km s-min=9.9km az=61.0*
*ISCJB **20** 04:16:31.6±1.5, 48.98N±0.04×128.75W±0.05, h15km±12km, mb3.8/11, MS3.2/6, Error ellipse: s-maj=6.3km s-min=5.6km az=140.0*

ISC 20 04:16:34.0±2.2, 49.00N±0.08×128.66W±0.09, h19km±10km, n44, σ1§12/49, mb4.0/11, MS3.2/6, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDB	**Eliza Dome**	**1.33**	**49**	PN	**Pn**	**04 16 56.5**	**-1.0**
EDB				SN	**Sn**	**04 17 14.6**	**-0.1**
EDB				Trac		04 17 15.2	
	comp=Z,350nm,0.7s						
PACB	**Port Alice, BC**	**1.62**	**27**	PN	**Pn**	**04 17 00.1**	**-1.4**
PACB				SN	**Sn**	**04 17 21.4**	**-0.4**
WOSB	**Woss**	**1.79**	**49**	PN	**Pn**	**04 17 03.7**	**-0.2**
WOSB				SN	**Sb**	**04 17 28.0**	**-0.2**
WOSB				Trac		04 17 29.6	
	comp=Z,106nm,0.2s						
TOFB	**Tofino**	**1.82**	**84**	PN	**Pn**	**04 17 03.0**	**-1.1**
TOFB				SN	**Sn**	**04 17 26.4**	**-0.3**
TOFB				Trac		04 17 28.4	
	comp=Z,135nm,0.2s						
PHC	**Port Hardy**	**1.88**	**25**	PN	**Pn**	**04 17 04.2**	**-0.9**
PHC				SN	**Sn**	**04 17 28.1**	**-0.1**
PHC				Trac		04 17 30.0	
	comp=Z,316nm,0.6s						
GDR	**Gold River**	**1.89**	**65**	PN	**Pn**	**04 17 04.6**	**-0.5**
TLCB	**Telegraph Cove**	**1.95**	**37**	PN	**Pn**	**04 17 05.6**	**-0.4**
TLCB				SN	**Sn**	**04 17 30.8**	**+0.9**
OZB	**Mount Ozzard**	**2.09**	**90**	PN	**Pn**	**04 17 06.5**	**-1.5**
OZB				SN	**Sn**	**04 17 31.9**	**-1.5**
BTB	**Buttle Lake**	**2.11**	**76**	PN	**Pn**	**04 17 07.7**	**-0.7**
BTB				SN	**Sn**	**04 17 35.7**	**+1.5**
BTB				Trac		04 17 37.0	
	comp=Z,291nm,0.3s						
SPLB	**Strathcona Par**	**2.16**	**65**	PN	**Pn**	**04 17 09.0**	**+0.1**
SPLB				SN	**Sn**	**04 17 38.4**	**+1.7**
NCRB	**Newcastle Ridg**	**2.20**	**49**	PN	**Pn**	**04 17 09.9**	**+0.4**
NCRB				Trac		04 17 39.5	
	comp=Z,391nm,0.5s						
CBB	**Campbell River**	**2.38**	**63**	PN	**Pn**	**04 17 12.2**	**+0.2**
CBB				SN	**Sb**	**04 17 43.5**	**-1.7**
PFB	**Port Renfrew**	**2.83**	**97**	SN	**Sn**	**04 17 50.0**	**-1.6**
TXB	**Texada**	**2.85**	**74**	PN	**Pn**	**04 17 18.6**	**+0.2**
TXB				Trac		04 17 56.3	
	comp=Z,97nm,0.6s						
BBB	**Bella Bella**	**3.20**	**6**	Pn	**Pn**	**04 17 22.6**	**-0.7**
	126nm,0.3s,baz=202,slow=9.2,SNR=378						
BBB				Sn	**Sn**	**04 17 59.0**	**-1.9**
	71nm,0.3s,baz=274,slow=23,SNR=5.4						
BBB	**Bella Bella**	**3.20**	**6**	PN	**Pn**	**04 17 22.6**	**-0.7**
PA02	**PA02 Ocean**	**3.46**	**94**	PN	**Pn**	**04 17 25.8**	**-1.0**
PA02				SN	**Sn**	**04 18 07.4**	**+0.2**
NEW	**Newport**	**7.68**	**91**	Pn	**Pn**	**04 18 24.2**	**-0.6**
	0.5nm,0.3s,baz=294,slow=12,SNR=6.3						
YBH	**Yreka Blue Hor**	**8.39**	**148**	Pn	**Pn**	**04 18 35.9**	**+1.3**
	0.2nm,0.3s,baz=306,slow=3.8,SNR=5.1						
DLBC	**Dease Lake**	**9.49**	**356**	Pn	**Pn**	**04 18 52.2**	**+2.7**
	0.5nm,0.3s,baz=145,slow=13,SNR=3.9						
DLBC				Sn	**Sn**	**04 20 35.9**	**+0.3**
	0.1nm,0.3s,baz=355,slow=23,SNR=2.2						
DLBC				LR	LR	04 22 05.6	
	comp=Z,80nm,20.6s,baz=350,slow=35						
NVAR	**Mina Array Bea**	**12.94**	**141**	Pn	**Pn**	**04 19 38.0**	**+1.0**
	0.1nm,0.3s,baz=323,slow=12,SNR=7.0						
NVAR				LR	LR	04 24 19.2	
	comp=Z,74nm,21.8s,baz=268,slow=36						
PDAR	**Pinedale Array**	**14.68**	**108**	Pn	**P**	**04 20 04.3**	**-2.5**
	0.2nm,0.3s,baz=305,slow=8.7,SNR=5.9						
PDAR				LR	LR	04 26 08.7	
	comp=Z,177nm,20.0s,baz=304,slow=39						
YKA	**Yellowknife Ar**	**15.61**	**25**	Pn	**Pn**	**04 20 12.2**	**-0.4**
	0.1nm,0.3s,baz=217,slow=12,SNR=5.4						
KDAK	**Kodiak Island**	**16.68**	**311**	LR	LR	04 25 19.3	
	comp=Z,96nm,21.4s,baz=128,slow=32						
ILAR	**Eielson Array**	**18.55**	**335**	P	**Pn**	**04 20 49.5**	**-0.1**
	0.0nm,0.3s,baz=144,slow=11,SNR=12						
ULM	**Lac du Bonnet**	**21.19**	**74**	P	**P**	**04 21 20.6**	**+2.5**
	16nm,0.9s,baz=282,slow=11,SNR=11						
ULM				LR	LR	04 29 22.4	
	comp=Z,130nm,19.6s,baz=271,slow=36						
ANMO	**Albuquerque**	**21.57**	**122**	P	**P**	**04 21 23.5**	**+1.0**
	0.9nm,0.9s,baz=301,slow=12,SNR=3.2						
ANMO				LR	LR	04 30 53.3	
	comp=Z,77nm,19.0s,baz=304,slow=40						
TXAR	**Lajitas Array**	**27.38**	**127**	P	**P**	**04 22 19.5**	**+1.3**
	0.4nm,0.8s,baz=308,slow=7.8,SNR=3.9						
TXAR				PcP	**PcP**	**04 25 36.9**	**+0.1**
	0.3nm,0.7s,baz=225,slow=1.1,SNR=3.7						
TXAR				LR	LR	04 34 23.4	
	comp=Z,52nm,19.0s,baz=0.0,slow=39						
RES	**Resolute Bay**	**29.43**	**17**	P	**P**	**04 22 36.3**	**+0.6**
	1.1nm,0.7s,baz=249,slow=9.6,SNR=4.4						
RES				LR	LR	04 34 56.4	
	comp=Z,79nm,19.0s,baz=80,slow=37						
SCHQ	**Schefferville**	**37.47**	**57**	LR	LR	04 39 59.8	
	comp=Z,108nm,20.0s,baz=336,slow=37						
H11N2	**WAKE ISLAND Hy 58.65**	**264**		T	T	05 29 49.8	
	baz=44,slow=75,SNR=53						
H11N3	**WAKE ISLAND Hy 58.66**	**264**		T	T	05 29 46.6	
	baz=44,slow=75,SNR=46						
H11N1	**WAKE ISLAND Hy 58.67**	**264**		T	T	05 29 49.4	
	baz=44,slow=75,SNR=46						
H11S1	**WAKE ISLAND Hy 59.66**	**263**		T	T	05 31 05.3	
	baz=44,slow=74,SNR=18						
H11S2	**WAKE ISLAND Hy 59.67**	**263**		T	T	05 31 08.2	
	baz=44,slow=74,SNR=26						
H11S3	**WAKE ISLAND Hy 59.68**	**263**		T	T	05 31 10.2	
	baz=44,slow=74,SNR=15						
NOA	**NORSAR Array B**	**65.65**	**20**	LR	LR	04 53 27.0	
	comp=Z,9.1nm,21.4s,baz=300,slow=34						
FINES	**FINESS Array B**	**68.05**	**13**	P	**P**	**04 27 31.6**	**0.0**
	1.4nm,0.7s,baz=346,slow=2.9,SNR=3.8						
SONM	**Songino Array**	**72.42**	**325**	P	**P**	**04 27 58.3**	**-0.5**
	0.8nm,0.9s,baz=42,slow=7.0,SNR=4.1						
ZALV	**Zalesovo Beam**	**73.60**	**340**	P	**P**	**04 28 05.0**	**-0.5**
	1.5nm,0.5s,baz=25,slow=6.3,SNR=6.5						
GERES	**GERESS Array B**	**77.26**	**24**	P	**P**	**04 28 27.4**	**+0.7**
	0.9nm,0.8s,baz=344,slow=4.4,SNR=7.7						
ESDC	**Sonseca Array**	**79.09**	**40**	P	**P**	**04 28 37.1**	**+0.1**
	1.2nm,0.7s,baz=318,slow=5.1,SNR=8.5						
MKAR	**Makanchi Array**	**80.86**	**339**	P	**P**	**04 28 45.9**	**-0.5**
	1.8nm,0.7s,baz=13,slow=4.4,SNR=13						
LPAZ	**La Paz**	**84.18**	**123**	P	**P**	**04 29 04.0**	**-0.7**
	0.4nm,0.3s,baz=352,slow=6.9,SNR=3.1						

*GCMT **20** 04:51:20.0±0.4, 11.07S±0.05×13.00W±0.03, h18km±1km, MW4.8/60, Moment Tensor Solution. s21,c22; s60,c81; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.86±.16; $M_{\theta\theta}$0.27±.11; $M_{\phi\phi}$1.59±.11; $M_{r\theta}$1.18±.28; $M_{\phi\theta}$0.07±.07; $M_{\phi r}$0.35±.22; Best double couple: $M_0$2.03200×10^{16} NP1:ϕ_s209.00000°, δ58.00000°, λ-64.00000°. NP2: ϕ_s346.00000°, δ41.00000°, λ-125.00000°. Principal axes: T 1.6580, Plg9.0000°, Azm281.0000°; N 0.7510, Plg22.0000°, Azm14.0000°; P -2.4050, Plg66.0000°, Azm170.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 20 04:51:14.1±4.5, 12.06S×13.15W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/37, mbtmp4.0/4, MS3.7/17, Ms1 3.7/17, ms1mx3.6/27 Error ellipse: s-maj=215.4km s-min=23.9km az=142.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10S2	**ASCENSION HYDR**	**3.41**	**334**	T	T	04 54 58.5	
	baz=147,slow=75,SNR=572						
H10S3	**ASCENSION HYDR**	**3.42**	**334**	T	T	04 54 59.5	
	baz=147,slow=75,SNR=461						
H10S1	**ASCENSION HYDR**	**3.43**	**334**	T	T	04 54 58.5	
	baz=147,slow=75,SNR=364						
DBIC	**Dimbokro**	**20.35**	**24**	LR	LR	05 01 38.8	
	comp=Z,157nm,19.3s,baz=184,slow=31						
TORD	**Torodi Ar. Bea**	**29.05**	**31**	P	P	04 57 14.9	-1.3
	2.2nm,0.9s,baz=202,slow=9.0,SNR=9.1						
TORD				LR	LR	05 07 11.8	
	comp=Z,168nm,18.5s,baz=245,slow=33						
BDFB	**Brasilia**	**34.01**	**260**	P	P	04 58 00.4	+0.2
	2.9nm,1.1s,baz=66,slow=12,SNR=2.9						
BDFB				LR	LR	05 09 26.5	
	comp=Z,236nm,20.5s,baz=84,slow=32						
BOSA	**Boshof**	**39.39**	**121**	LR	LR	05 12 52.0	
	comp=Z,146nm,18.7s,baz=272,slow=33						
CPUP	**Villa Florida**	**43.85**	**245**	P	P	04 59 21.6	-0.8
	4.0nm,1.2s,baz=98,slow=12,SNR=3.4						
CPUP				LR	LR	05 15 11.0	
	comp=Z,176nm,20.2s,baz=90,slow=33						
KEST	**Kesra**	**52.07**	**23**	LR	LR	05 20 57.1	
	comp=Z,90nm,21.1s,baz=238,slow=34						
ESDC	**Sonseca Array**	**52.17**	**9**	LR	LR	05 22 38.2	
	comp=Z,75nm,18.1s,baz=90,slow=36						
LPAZ	**La Paz**	**53.35**	**259**	LR	LR	05 22 18.8	
	comp=Z,90nm,19.7s,baz=92,slow=35						
H05S1	**Guadeloupe/Mar**	**54.08**	**298**	T	T	05 58 45.5	
	SNR=8.8						
H05N1	**Guadeloupe/Mar**	**55.13**	**300**	T	T	06 00 00.2	
PLCA	**Paso Flores**	**57.63**	**229**	LR	LR	05 22 19.8	
	comp=Z,64nm,21.4s,baz=113,slow=32						
ROSC	**El Rosal**	**63.09**	**282**	LR	LR	05 28 56.8	
	comp=Z,91nm,18.1s,baz=96,slow=36						
GERES	**GERESS Array B**	**65.12**	**19**	LR	LR	05 29 56.3	
	comp=Z,76nm,19.4s,baz=214,slow=36						
BRTR	**Keskin Array B**	**67.39**	**38**	LR	LR	05 32 44.9	
	comp=Z,26nm,19.5s,baz=263,slow=37						
AKASG	**Malin Array Be**	**72.58**	**27**	P	P	05 02 44.2	+1.2
	0.9nm,0.6s,baz=218,slow=5.8,SNR=3.2						
MAW	**Mawson**	**73.60**	**157**	LR	LR	05 28 04.2	
	comp=Z,50nm,19.4s,baz=240,slow=30						
KBZ	**Khabaz**	**75.34**	**38**	LR	LR	05 37 07.7	
	comp=Z,26nm,18.9s,baz=232,slow=37						
NOA	**NORSAR Array B**	**75.38**	**12**	LR	LR	05 37 44.2	
	comp=Z,26nm,18.7s,baz=205,slow=37						
OBN	**Obninsk**	**78.84**	**27**	LR	LR	05 37 32.7	
	comp=Z,14nm,21.8s,baz=181,slow=35						
VNDA	**Vanda**	**90.54**	**179**	LR	LR	05 41 34.8	
	comp=Z,46nm,20.5s,baz=188,slow=33

comp=Z,80nm,19.1s,baz=55,slow=41
EIL Elat 28.12 277 LR LR 05 12 22.0
comp=Z,89nm,18.6s,baz=77,slow=40
BRTR Keskin Array B 29.11 298 LR LR 05 13 27.6
comp=Z,30nm,20.7s,baz=84,slow=41
CM31 Chiang Mai Arr 30.89 105 *eP* **P 04 59 53.2 +2.0**
CMAR Chiang Mai Arr 30.89 105 P **P 04 59 53.2 +2.0**
0.6nm,0.3s,baz=297,slow=6.9,SNR=3.0
CMAR LR LR 05 15 38.3
comp=Z,53nm,18.3s,baz=292,slow=43
SONA0 Songino Array 34.48 48 *eP* **P 05 00 24.5 +2.0**
SONM Songino Array 34.48 48 P **P 05 00 24.5 +2.0**
0.3nm,0.6s,baz=280,slow=8.6,SNR=3.1
BUR04 Bucovina Ar. S 36.60 310 *eP* **P 05 00 39.8 -0.9**
KWP Kalwaria Pacla 38.67 313 *eP* **P 05 00 56.4 -1.7**
86nm,1.2s
FIA0 FINESS Array S 41.23 331 *eP* **P 05 01 20.5 +1.4**
FINES FINESS Array B 41.23 331 P **P 05 01 20.5 +1.4**
4.2nm,0.9s,baz=124,slow=9.8,SNR=3.2
NOA NORSAR Array B 47.75 327 LR LR 05 24 39.9
comp=Z,46nm,18.3s,baz=205,slow=39
KS15 Wonju Array Si 49.92 65 *eP* **P 05 02 29.1 +0.9**
KSAR Wonju Array Be 49.92 65 P **P 05 02 29.1 +0.9**
KSRS Korea Array 49.95 65 P **P 05 02 29.1 +0.7**
1.0nm,0.5s,baz=207,slow=41,SNR=2.5
KSRS LR LR 05 26 22.2
comp=Z,40nm,18.8s,baz=100,slow=39
YAK Yakutsk 50.74 33 LR LR 05 26 04.3
comp=Z,62nm,18.1s,baz=274,slow=38
ESDC Sonseca Array 57.87 300 P **P 05 03 26.8 +0.4**
0.7nm,0.7s,baz=64,slow=5.9,SNR=3.5
TOA1 Torodi Ar. Sit 62.67 270 *eP* **P 05 03 59.0 -0.5**
TORD Torodi Ar. Bea 62.67 270 P **P 05 03 59.0 -0.5**
0.4nm,0.7s,baz=56,slow=5.9,SNR=4.0
TORD LR LR 05 33 34.9
comp=Z,66nm,18.6s,baz=150,slow=38
INK Inuvik 80.45 8 P **P 05 05 47.6 +1.8**
1.7nm,0.8s,baz=11,slow=2.7,SNR=6.8
INK Inuvik 80.45 8 *eP* **P 05 05 47.6 +1.8**
6.8nm,1.4s
WR1 Warramunga Arr 81.41 119 *eP* **P 05 05 52.2 +0.5**
2.2nm,1.0s
WRA Warramunga Arr 81.41 119 P **P 05 05 52.2 +0.5**
0.5nm,0.8s,baz=321,slow=4.8,SNR=6.6
AS31 Alice Springs 83.30 122 *eP* **P 05 06 02.7 +1.1**
1.0nm,1.0s
ASAR Alice Springs 83.30 122 P **P 05 06 02.7 +1.1**
0.6nm,0.7s,baz=306,slow=5.8,SNR=7.3
YKA Yellowknife Ar 87.51 1 P **P 05 06 23.1 +1.2**
1.4nm,0.7s,baz=345,slow=5.1,SNR=5.0
YKB5 Yellowknife Ar 87.51 1 *eP* **P 05 06 23.1 +1.2**

IDC 20 05:01:31.4±2.9, 3°.46N×92°.54E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.5/46, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=79.7km s-min=28.7km az=50.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.41**	**96**	Pn	Pn	05 03 08.6	+1.4
	2.1nm,0.3s,baz=0.0,slow=6.4,SNR=5.8						
PSI				Sn	Sn	05 04 12.1	-9.1
	1.6nm,0.3s,baz=0.1,slow=22,SNR=2.9						
PALK	**Pallekele**	**12.38**	**288**	Sn	Sn	05 06 39.5	-8.3
	0.6nm,0.3s,baz=296,slow=4.1,SNR=3.1						
CMAR	**Chiang Mai Arr**	**16.17**	**22**	Pn	Pn	05 05 18.7	-1.5
	baz=211,slow=10,SNR=3.1						
H08S2	**Diego Garcia H**	**22.84**	**241**	T	T	05 32 01.6	
	baz=64,slow=74,SNR=5.4						
H08S3	**Diego Garcia H**	**22.84**	**241**	T	T	05 32 03.5	
	baz=64,slow=74,SNR=16						
H08S1	**Diego Carcia H**	**22.86**	**241**	T	T	05 32 01.8	
	baz=64						
MKAR	**Makanchi Array**	**44.07**	**350**	P	P	05 09 41.3	+0.2
	0.6nm,0.6s,baz=175,slow=8.3,SNR=5.1						
WRA	**Warramunga Arr**	**47.18**	**121**	P	P	05 10 05.5	-0.7
	0.3nm,0.5s,baz=301,slow=8.6,SNR=2.8						
ZALV	**Zalesovo Beam**	**50.72**	**354**	P	P	05 10 32.8	0.0
	0.7nm,0.4s,baz=180,slow=7.9,SNR=3.7						

IDC 20 05:14:58.0±2.9, 30°.21S×138°.51E, h0km, mb1 3.2/3, mb1mx3.1/30, mbtmp2.9/3, ML3.0/3, Error ellipse: s-maj=68.1km s-min=15.0km az=45.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.12**	**123**	Pn	Pn	05 15 48.0	-0.5
	0.7nm,0.3s,baz=300,slow=12,SNR=6.9						
STKA				Pg	Pg	05 15 56.4	-1.5
	3.4nm,0.3s,baz=302,slow=13,SNR=26						
STKA				Sn	Sn	05 16 25.8	-0.8
	3.4nm,0.3s,baz=237,slow=24,SNR=3.6						
STKA				Lg	Lg	05 16 36.6	
	5.6nm,0.3s,baz=194,slow=22,SNR=5.5						
ASAR	**Alice Springs**	**7.71**	**327**	Pn	Pn	05 16 51.9	+0.4
	0.3nm,0.3s,baz=152,slow=11,SNR=8.0						
ASAR				Sn	Sn	05 18 20.4	+0.8
	0.4nm,0.3s,baz=152,slow=22,SNR=6.1						
WRA	**Warramunga Arr**	**10.90**	**339**	Pn	Pn	05 17 35.3	0.0
	0.2nm,0.3s,baz=154,slow=13,SNR=18						
WRA				Sn	Sn	05 19 37.8	-0.3
	0.1nm,0.3s,baz=160,slow=24,SNR=4.5						

ROM 20 05:25:13.2±0.6, 35°.20N±0°.04×12°.74E±0°.03, h10km, ML3.5/3, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDD	**Wied Dalam**	**1.58**	**66**	P	Pn	05 25 41.8	+0.5
WDD				S	Sb	05 26 02.8	+0.1
HVZN	**Vizzini**	**2.54**	**38**	P	Pn	05 25 54.0	-0.5
HVZN				S	Sn	05 26 25.8	+0.3
CRJA	**Costa Raja**	**2.60**	**5**	P	Pn	05 25 55.7	+0.4
ALJA	**Alia**	**2.67**	**17**	P	Pn	05 25 58.1	+1.8
ALJA				AML	AML		
	comp=E,426μm,0.9s						
ALJA				AML	AML		
	comp=N,300μm,1.0s						
ALJA				AML	AML		
	comp=E,426μm,0.9s						
ALJA				AML	AML		
	comp=N,300μm,1.0s						
CORL	**Corleone**	**2.73**	**9**	P	Pn	05 25 57.8	+0.7
CORL				S	Sn	05 26 30.8	+0.7
CORL				AML	AML		
	comp=E,583μm,1.0s						
CORL				AML	AML		
	comp=N,538μm,1.1s						
CORL				AML	AML		
	comp=N,538μm,1.1s						
CORL				AML	AML		
	comp=E,583μm,1.0s						
SOLUN	**Solunto**	**2.95**	**12**	P	Pn	05 26 00.7	+0.5
SOLUN				S	Sn	05 26 34.9	-0.8
SOLUN				AML	AML		
	comp=E,250μm,1.3s						
SOLUN				AML	AML		
	comp=N,190μm,0.3s						
SOLUN				AML	AML		
	comp=E,250μm,1.3s						
SOLUN				AML	AML		
	comp=N,190μm,0.3s						
MPG	**Monte Pellegri**	**3.00**	**9**	P	Pn	05 26 01.6	+0.8

IDC 20 05:51:33.4±2.8, 54°.26N×35°.53W, h0km, mb3.6/5, mb1 3.6/5, mb1mx3.3/64, mbtmp3.6/5, MS3.1/1, Ms1 3.1/1, ms1mx2.6/22, Error ellipse: s-maj=82.8km s-min=31.2km az=66.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**25.74**	**112**	P	P	05 57 07.0	+1.6
	0.6nm,0.8s,baz=317,slow=9.8,SNR=3.7						
SPITS	**Spitsbergen Ar**	**29.89**	**19**	LR	LR	06 06 41.0	
	comp=Z,35nm,18.2s,baz=15,slow=30						
TORD	**Torodi Ar. Bea**	**50.35**	**130**	P	P	06 00 30.2	-1.8
	0.8nm,0.9s,baz=324,slow=7.1,SNR=4.6						
KURBB	**Kurchatov Arra**	**61.84**	**41**	P	P	06 01 53.3	-0.5
	0.2nm,0.3s,baz=321,slow=7.2,SNR=4.4						
MKAR	**Makanchi Array**	**66.41**	**42**	P	P	06 02 23.5	-0.4
	0.5nm,0.8s,baz=350,slow=4.4,SNR=3.9						
SONM	**Songino Array**	**73.31**	**26**	P	P	06 03 06.7	+0.2
	0.6nm,0.9s,baz=343,slow=7.7,SNR=3.0						
ASAR	**Alice Springs**	**148.44**	**19**	PKPbc	PKPbc	06 11 21.9	+0.2
	0.7nm,0.7s,baz=349,slow=2.5,SNR=9.1						

*ISCJB **20** 05:52:08.9±0.4, 54°.28N±0°.09×35°.14W±0°.09, h10km, mb4.0/18, Error ellipse: s-maj=12.4km s-min=7.6km az=6.7*
*IDC **20** 05:52:09.7±0.6, 54°.35N×35°.14W, h0km, mb3.9/15, mb1 4.1/17, mb1mx3.9/65, mbtmp3.9/17, ML3.3/2, MS3.3/1, Ms1 3.2/1, ms1mx2.5/25, Error ellipse: s-maj=21.1km s-min=13.0km az=6.0*
*NEIC **20** 05:52:10.7±0.4, 54°.29N×35°.13W, h10km, mb4.3/6, Error ellipse: s-maj=12.1km s-min=7.0km az=187.0*
ISC 20 05:52:10.8±0.6, 54°.4N±0°.1×35°.1W±0°.08, h10km, n39, σ1s04/43, mb4.0/18, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**18.31**	**284**	P	P	05 56 23.9	-0.9
	0.4nm,0.3s,baz=110,slow=12,SNR=4.8						
SCHQ				LR	LR	06 01 53.0	
	comp=Z,101nm,22.0s,baz=73,slow=32						
SCHQ	**Schefferville**	**18.31**	**284**	*e*Pn	P	05 56 23.9	-0.9
	12nm,1.0s						
EKA	**Eskdalemuir Ar**	**18.34**	**74**	P	P	05 56 25.6	+0.5
	baz=286,slow=10,SNR=3.8						
SUMG	**Summit**	**18.36**	**357**	*e*P	P	05 56 25.6	+0.1
	12nm,0.9s						
BATG	**Bathurst New B**	**20.67**	**263**	*e*P	Pn	05 56 50.3	-2.6
	22nm,1.2s						
ESDC	**Sonseca Array**	**25.55**	**112**	P	P	05 57 39.7	+0.2
	0.5nm,0.6s,baz=316,slow=7.6,SNR=4.6						
GERES	**GERESS Array B**	**30.31**	**80**	P	P	05 58 22.2	0.0
	0.2nm,0.3s,baz=302,slow=9.2,SNR=2.9						
AKASG	**Malin Array Be**	**38.10**	**68**	P	P	05 59 26.9	-2.5
	0.5nm,0.6s,baz=299,slow=8.4,SNR=4.5						
YKA	**Yellowknife Ar**	**39.87**	**315**	P	P	05 59 43.5	-0.5
	1.3nm,0.7s,baz=65,slow=8.5,SNR=4.9						
INK	**Inuvik**	**43.88**	**328**	P	P	06 00 16.2	-0.6
	1.3nm,1.0s,baz=90,slow=2.0,SNR=2.7						
INK	**Inuvik**	**43.88**	**328**	*e*P	P	06 00 16.2	-0.6
	1.6nm,1.1s						
BR101	**Keskin Array S**	**47.18**	**79**	*e*P	P	06 00 45.6	+2.2
BR131	**Keskin Array S**	**47.18**	**79**	*e*P	P	06 00 43.4	-0.1
BRTR	**Keskin Array B**	**47.18**	**79**	P	P	06 00 45.6	+2.2
	2.7nm,0.8s,baz=299,slow=5.4,SNR=8.1						
PDAR	**Pinedale Array**	**48.39**	**288**	P	P	06 00 51.6	-1.4
	0.7nm,0.7s,baz=59,slow=6.8,SNR=4.5						
AMTX	**Amarillo**	**49.24**	**275**	*e*P	P	06 00 59.4	+0.1
	11nm,0.8s						
TOA1	**Torodi Ar. Sit**	**50.21**	**131**	*e*P	P	06 01 05.6	-1.2
TOA1				*e*PcP	PcP	06 02 25.9	+0.1
TOA0	**Torodi Ar. Sit**	**50.22**	**131**	*e*P	P	06 01 05.9	-0.9
TORD	**Torodi Ar. Bea**	**50.22**	**131**	P	P	06 01 05.6	-1.3
	2.7nm,0.9s,baz=326,slow=7.9,SNR=11						
TORD				PcP	PcP	06 02 25.9	0.0
	0.8nm,0.9s,baz=305,slow=6.0,SNR=3.1						
ILAR	**Eielson Array**	**50.26**	**329**	P	P	06 01 07.2	+0.6
	0.5nm,0.8s,baz=39,slow=6.2,SNR=6.7						
ILAR				PcP	PcP	06 02 25.6	+0.2
	0.5nm,0.8s,baz=14,slow=4.0,SNR=3.6						
ILB	**Eielson Array**	**50.26**	**329**	*e*PcP	PcP	06 02 25.6	+0.2
IM3	**Indian Mountai**	**51.33**	**333**	*e*P	P	06 01 15.6	+1.0
AKTO	**Aktyubinsk**	**52.93**	**53**	P	P	06 01 28.1	+1.3
	1.7nm,0.6s,baz=306,slow=4.6,SNR=5.5						
SKT	**Skwentna**	**53.73**	**328**	*e*P	P	06 01 32.5	0.0
	22nm,0.7s						
LTX	**Lajitas**	**54.41**	**272**	*e*P	P	06 01 38.8	+0.8
LTX				*e*PcP	PcP	06 02 41.9	+0.2
TXAR	**Lajitas Array**	**54.41**	**272**	P	P	06 01 38.8	+0.8
	0.4nm,0.8s,baz=76,slow=6.6,SNR=4.9						
TXAR				PcP	PcP	06 02 41.9	+0.2
	0.5nm,0.9s,baz=63,slow=2.4,SNR=2.6						
NVAR	**Mina Array Bea**	**56.20**	**290**	P	P	06 01 52.2	+1.2
	0.2nm,0.5s,baz=60,slow=5.3,SNR=3.2						
BVAR	**Borovoye Array**	**56.52**	**44**	P	P	06 01 53.9	+1.1
	3.4nm,1.1s,baz=294,slow=7.5,SNR=6.3						
ROSC	**El Rosal**	**58.67**	**228**	P	P	06 02 10.5	+1.8
	8.6nm,0.7s,baz=98,slow=9.7,SNR=8.8						
ROSC	**El Rosal**	**58.67**	**228**	*e*P	P	06 02 09.3	+0.6
	7.2nm,0.7s						
KURK	**Kurchatov**	**61.58**	**41**	*e*P	P	06 02 28.5	+0.7
KURBB	**Kurchatov Arra**	**61.61**	**42**	P	P	06 02 28.5	+0.4
	2.3nm,0.9s,baz=322,slow=7.2,SNR=12						
SONA1	**Songino Array**	**73.11**	**26**	*e*P	P	06 03 40.8	-0.3
SONA0	**Songino Array**	**73.12**	**26**	*e*P	P	06 03 41.6	+0.4
SONM	**Songino Array**	**73.12**	**26**	P	P	06 03 41.6	+0.4
	1.7nm,0.9s,baz=321,slow=5.9,SNR=7.7						
WRA	**Warramunga Arr**	**144.72**	**17**	PKP	PKPdf	06 11 45.8	-1.8
	0.6nm,0.7s,baz=341,slow=3.6,SNR=6.8						
WR1	**Warramunga Arr**	**144.72**	**17**	*e*PKPdf	PKPdf	06 11 45.8	-1.8
AS31	**Alice Springs**	**148.27**	**19**	*e*PKPbc	PKPbc	06 11 56.2	-0.7
ASAR	**Alice Springs**	**148.27**	**19**	PKPbc	PKPbc	06 11 56.9	-0.1
	3.3nm,0.7s,baz=346,slow=2.0,SNR=24						

*ISK **20** 06:03:02.9, 39°.11N×29°.19E, h5km, ML2.3/6*
*ISCJB **20** 06:03:03.5±0.5, 39°.09N±0°.03×29°.16E±0°.04, h9km±4km, Error ellipse: s-maj=5.3km s-min=4.4km az=153.2*
*DDA **20** 06:03:03.5, 39°.08N×29°.14E, h7km, Ml2.5*
ISC 20 06:03:03.5±0.9, 39°.10N±0°.03×29°.16E±0°.03, h12km±8km, n15, σ0s51/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMAA	**Simav-Kutahya**	**0.14**	**272**	PG	Pg	06 03 06.7	-0.2
SMAA				SG	Sg	06 03 09.4	+0.1
GDZ	**Gediz**	**0.25**	**92**	*i* P	Pg	06 03 09.0	+0.2
GDZ				*i* S	Sg	06 03 13.1	+0.6
DEMI	**Demirci**	**0.35**	**261**	*i* P	Pg	06 03 10.2	-0.3
DEMI				*i* S	Sg	06 03 15.0	-0.2
TVSB	**Tavsanli**	**0.42**	**34**	PG	Pg	06 03 11.7	-0.3
TVSB				SG	Sg	06 03 17.0	-0.7
KULA	**Kula-Manisa**	**0.70**	**214**	PG	Pg	06 03 17.2	+0.1
DURS	**Dursunbey**	**0.73**	**314**	*i* P	Pg	06 03 17.5	-0.2
DURS				*i* S	Sb	06 03 28.8	+0.5
MANT	**Manisa**	**0.77**	**218**	*i* P	Pg	06 03 18.0	-0.4
MANT				*i* S	Sg	06 03 27.8	-0.6
KHAL	**Karahalli**	**0.77**	**160**	*i* P	Pb	06 03 18.7	-0.3
KHAL				*i* S	Sb	06 03 29.1	-0.4
BALB	**Balikesir**	**1.13**	**299**	PN	Pn	06 03 25.6	+0.4
CAVI	**Cavuskoy**	**1.22**	**25**	PN	Pg	06 03 25.9	-1.2
MDNY	**Mudanya-Bursa**	**1.29**	**351**	PN	Pg	06 03 28.1	-0.2
KCTX	**Karacabey (Bur**	**1.32**	**332**	PN	Pg	06 03 28.8	-0.1
YLV	**Yalova**	**1.48**	**6**	PN	Pb	06 03 30.9	-0.1
SBT5	**Esenkoy-Cinarc**	**1.55**	**352**	PN	Pn	06 03 31.6	+0.7
GULT	**Gulveren**	**1.70**	**38**	PN	Pn	06 03 33.7	+0.6

*IDC **20** 06:04:11.9±6.3, 1°.73N×17°.43W, h0km, mb3.7/1, mb1 4.0/2, mb1mx3.5/41, mbtmp4.0/2, ML4.2/1, Error ellipse: s-maj=296.8km s-min=52.3km az=138.0*
ISC 20 06:04:16.6±3.2, 0°.9N±0°.8×16°.7W±0°.5, h10km, n12, σ2s63/7, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.97**	**166**	T	T	06 15 10.2	
	baz=340,slow=74,SNR=80						
H10N3	**ASCENSION HYDR**	**8.98**	**166**	T	T	06 15 10.3	
	baz=340,slow=74,SNR=94						
H10N1	**ASCENSION HYDR**	**8.99**	**166**	T	T	06 15 10.2	
	baz=340,slow=74,SNR=122						
H10S1	**ASCENSION HYDR**	**10.01**	**168**	T	T	06 16 30.2	
	baz=343,slow=74,SNR=54						
H10S3	**ASCENSION HYDR**	**10.02**	**168**	T	T	06 16 30.5	
	baz=343,slow=74,SNR=50						
H10S2	**ASCENSION HYDR**	**10.03**	**168**	T	T	06 16 29.5	
	baz=343,slow=74,SNR=48						
LIC	**Lamto**	**12.79**	**65**	*e*P	Pn	06 07 21.8	+3.1
	75nm,1.5s						
TIC	**Toumodi**	**12.97**	**64**	*e*P	Pn	06 07 23.5	+2.3
KIC	**Kosan Boka**	**13.10**	**65**	*e*P	Pn	06 07 24.4	+1.4
	53nm,1.4s						
DBIC	**Dimbokro**	**13.12**	**64**	Pn	Pn	06 07 24.6	+1.3
	1.3nm,0.3s,baz=240,slow=16,SNR=16						
DBIC				Sn	Sn	06 09 47.3	-2.2
	0.5nm,0.3s,baz=164,slow=10,SNR=2.2						
TORD	**Torodi Ar. Bea**	**21.90**	**56**	P	P	06 09 08.6	-1.6
	3.0nm,0.9s,baz=235,slow=10,SNR=13						
TORD				S	Sn	06 13 18.8	-3.5
	0.3nm,0.5s,baz=238,slow=22,SNR=3.6						
WRA	**Warramunga Arr**	**145.94**	**126**	PKPbc	PKPab	06 23 56.8	-1.2
	0.3nm,0.8s,baz=232,slow=2.5,SNR=3.0						

NNC 20 06:05:37.2±1.8, 37°.17N×70°.77E, h0km, mb3.5, mpv3.1, 3C-2D, Error ellipse: s-maj=13.7km s-min=11.9km az=173.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.56**	**36**	⇓Pn	Pn	06 06 33.7	-0.2
	2.2nm,0.6s						
SFK				⇓Sn	Sn	06 07 17.9	+1.2
	7.5nm,0.5s						
MNAS	**Manas**	**5.47**	**14**	⇑Pn	Pn	06 07 00.8	+0.6
	1.6nm,0.6s						
MNAS				⇑Sn	Sn	06 08 05.1	+1.2
	14nm,0.7s						
KK31	**Karatay Array**	**5.93**	**358**	Pn	Pn	06 07 06.4	+0.1
	1.1nm,0.4s,baz=180,slow=13,SNR=25						
KK31				⇑Sn	Sn	06 08 16.1	+1.2
	1.2nm,0.3s,baz=183,slow=22,SNR=6.8						

*IDC **20** 06:19:38.0±2.8, 14°.09N×92°.48W, h0km, mb3.6/2, mb1 3.9/6, mb1mx3.5/36, mbtmp3.5/6, ML3.2/4, Error ellipse: s-maj=53.6km s-min=21.4km az=19.0*
*ISCJB **20** 06:19:40.8±1.1, 14°.08N±0°.07×92°.49W±0°.07, h46km, mb3.5/2, Error ellipse: s-maj=11.8km s-min=8.2km az=37.9*
*MEX **20** 06:19:41.1±0.5, 14°.05N×92°.50W, h72km±23km, MD3.9*
ISC 20 06:19:44.1±1.5, 14°.2N±0°.1×92°.47W±0°.07, h46km, n9, σ1s98/14, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.72**	**16**	*e*P	Pn	06 19 56.2	-1.8
THIG				*e*S	Sn	06 20 09.5	+1.6
PCIG		**1.65**	**334**	*e*P	Pn	06 20 08.8	-1.9
PCIG				*i* S	Sn	06 20 29.5	-1.2
CCIG	**Comitan**	**2.08**	**9**	*e*P	Pn	06 20 14.9	-1.9
CCIG				*i* S	Sn	06 20 40.8	-0.7
APG	**El Apazote**	**2.09**	**68**	Pn	Pn	06 20 15.7	-1.3
	5.1nm,0.3s,baz=257,slow=9.0,SNR=12						
APG				Sn	Sn	06 20 44.6	+2.8
	18nm,0.3s,baz=94,slow=13,SNR=7.3						
CMIG	**Matias Romero**	**3.69**	**321**	Pn	Pn	06 20 37.4	-1.3
	1.8nm,0.3s,baz=147,slow=13,SNR=22						
CMIG				Sn	Sn	06 21 22.3	+1.3
	3.3nm,0.3s,baz=132,slow=16,SNR=2.3						
CMIG				Lg	Lg	06 21 34.8	
	5.9nm,0.3s,baz=32,slow=15,SNR=5.9						
JTS	**JuntasAbangare**	**8.31**	**117**	Pn	Pn	06 21 39.2	-3.0
	0.3nm,0.3s,baz=344,slow=21,SNR=2.1						
TXAR	**Lajitas Array**	**18.27**	**327**	P	Pn	06 23 56.2	+1.8
	0.0nm,0.3s,baz=142,slow=11,SNR=3.6						
NVAR	**Mina Array Bea**	**33.22**	**321**	P	P	06 26 18.8	+1.7
	0.3nm,0.6s,baz=123,slow=8.8,SNR=2.8						
YKA	**Yellowknife Ar**	**50.72**	**347**	P	P	06 28 38.7	-0.3
	0.5nm,0.5s,baz=151,slow=7.0,SNR=5.7						

IDC 20 06:35:08.7±6.3, 27°.44S×141°.30E, h0km, mb1 3.1/3, mb1mx3.1/30, mbtmp2.9/3, ML2.6/3, Error ellipse: s-maj=142.3km s-min=25.4km az=65.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**4.43**	**177**	Pn	Pn	06 36 17.7	+0.5
	0.1nm,0.3s,baz=350,slow=11,SNR=1.7						
STKA				Pg	Pb	06 36 28.7	+1.3
	0.1nm,0.3s,baz=349,slow=16,SNR=3.9						
STKA				Sn	Sn	06 37 01.2	-8.2
	0.3nm,0.3s,baz=336,slow=20,SNR=4.1						
STKA				Lg	Lg	06 37 22.6	
	0.4nm,0.3s,baz=271,slow=23,SNR=3.5						
ASAR	**Alice Springs**	**7.66**	**298**	Pn	Pn	06 37 01.4	-0.4
	0.2nm,0.3s,baz=117,slow=13,SNR=6.8						
ASAR				Sn	Sn	06 38 22.6	-6.8
	0.1nm,0.3s,baz=123,slow=23,SNR=3.0						
WRA	**Warramunga Arr**	**9.82**	**318**	Pn	Pn	06 37 31.6	+0.3
	0.1nm,0.3s,baz=140,slow=13,SNR=9.3						
WRA				Sn	Sn	06 39 17.8	-4.5
	0.1nm,0.3s,baz=140,slow=23,SNR=4.2						

NNC 20 06:40:35.3±3.0, 53°.58N×87°.89E, h0km, mb3.5, mpv3.2, 9C-2D, Error ellipse: s-maj=23.3km s-min=13.9km az=60.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.86**	**283**	⇑Pg	Pn	06 41 08.5	+0.1
	3.4nm,0.6s						
ZAA0				⇑Lg	Lg	06 41 35.1	
	16nm,0.4s						
KURK	**Kurchatov**	**6.38**	**247**	⇑Pn	Pn	06 42 11.6	+1.2
	3.3nm,1.2s						
KURK				⇑Sn	Sn	06 43 25.7	+1.7
	2.0nm,0.8s						
KURK				⇑Lg	Lg	06 44 00.4	
	3.9nm,0.8s						
KURBB	**Kurchatov Arra**	**6.48**	**247**	⇑Pn	Pn	06 42 13.0	+1.2
	1.3nm,0.4s						
KURBB				⇑Sn	Sn	06 43 25.8	-0.6
	4.5nm,0.6s						
KURBB				⇑Lg	Lg	06 44 01.4	
	6.0nm,0.6s						
MK31	**Makanchi Array**	**7.68**	**210**	⇓Pn	Pn	06 42 30.3	+1.9
	2.1nm,1.1s,baz=27,slow=13,SNR=5.4						
MK31				⇑Sn	Sn	06 43 56.2	+0.1
	1.4nm,0.7s						
MK31				⇓Lg	Lg	06 44 39.3	
	3.3nm,1.1s,baz=28,slow=27						

IDC 20 06:45:39.7±2.6, 6°.81S×151°.60E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.4/35, mbtmp3.6/3, ML1.5/1, Error ellipse: s-maj=102.4km s-min=37.3km az=134.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.10**	**239**	Pn	Pn	06 46 57.9	+0.4
	1.1nm,0.3s,baz=336,slow=18,SNR=1.8						
PMG				Sn	Sn	06 48 00.6	+3.4
	1.7nm,0.3s,baz=116,slow=22,SNR=1.5						
WRA	**Warramunga Arr**	**21.24**	**230**	P	P	06 50 27.0	-0.7
	1.0nm,0.5s,baz=56,slow=10,SNR=15						
ASAR	**Alice Springs**	**23.88**	**224**	P	P	06 50 55.0	-0.3
	0.9nm,0.6s,baz=54,slow=9.2,SNR=12						
TORD	**Torodi Ar. Bea**	**149.72**

VANB	**Van**	**1.47**	**25**	PN	**Pn**	**07 19 48.7**	**-1.2**
VANB				SN	**Sn**	**07 20 07.5**	**-1.7**
ADCV	**BITLIS_Adilcev**	**1.54**	**4**	*i* P	**Pg**	**07 19 53.2**	**+0.1**
ADCV				*i* S	**Sg**	**07 20 13.9**	**+0.8**
MAZI	**Mazidag**	**1.72**	**277**	PN	**Pn**	**07 19 53.7**	**+0.3**
MAZI				SN	**Sb**	**07 20 16.2**	**-0.6**
BNGL	**BINGOL**	**2.04**	**326**	*i* P	**Pn**	**07 19 58.7**	**+0.9**
BNGL				*i* S	**Sb**	**07 20 27.2**	**+1.3**
DIYA	**Diyarbakir**	**2.07**	**289**	*i* P	**Pn**	**07 19 59.3**	**+1.1**
DIYA				*i* S	**Sb**	**07 20 27.2**	**+0.3**
HANI	**Diyarbakir_Han**	**2.08**	**304**	*i* P	**Pn**	**07 19 57.5**	**-0.9**
HANI				*i* S	**Sb**	**07 20 27.4**	**+0.2**
BNGB	**Bingˆ¶l**	**2.29**	**319**	PN	**Pn**	**07 20 01.6**	**+0.3**
BNGB				SN	**Sn**	**07 20 30.1**	**+0.5**
BGOL	**Bingol**	**2.29**	**319**	*i* P	**Pn**	**07 20 01.1**	**-0.1**
BGOL				*i* S	**Sb**	**07 20 31.9**	**-1.4**
AGRB	**Hanur-Agry**	**2.33**	**8**	PN	**Pn**	**07 20 01.8**	**0.0**
PTK	**Pertek**	**3.01**	**304**	PN	**Pn**	**07 20 10.9**	**-0.2**
URFA	**Urfa**	**3.01**	**275**	PN	**Pn**	**07 20 12.2**	**+1.1**

*ISK **20** 07:45:37.9, 39˚.09N×40˚.30E, h9km±1km, ML2.3/2*
*ISCJB **20** 07:45:38.9±0.6, 39˚.12N±0˚.05×40˚.32E±0˚.04, h8km±12km, Error ellipse: s-maj=8.7km s-min=5.2km az=19.2*
*DDA **20** 07:45:39.6, 38˚.96N×40˚.35E, h7km, Ml2.5*

ISC 20 07:45:38.0±1.5, 39˚.1N±0˚.1×40˚.33E±0˚.03, h19km±6km, n8, σ0^{s}44/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGOL	**Bingol**	**0.29**	**115**	*i* P	**Pg**	**07 45 44.5**	**0.0**
BGOL				*i* S	**Sg**	**07 45 49.2**	**+0.2**
BNGB	**Bingˆ¶l**	**0.30**	**114**	PG	**Pg**	**07 45 44.6**	**0.0**
BNGB				SG	**Sg**	**07 45 49.4**	**+0.3**
YEDI	**Yedisu-Bingol**	**0.36**	**27**	PG	**Pb**	**07 45 46.0**	**-0.1**
YEDI				SG	**Sb**	**07 45 52.0**	**+0.5**
TNCL	**Tunceli-Merkez**	**0.61**	**270**	*i* P	**Pn**	**07 45 52.1**	**+0.2**
TNCL				*i* S	**Sn**	**07 46 00.6**	**-0.7**
BNGL	**BINGOL**	**0.66**	**104**	*i* P	**Pn**	**07 45 52.2**	**-0.4**
BNGL				*i* S	**Sn**	**07 46 02.4**	**-0.1**
ERZN	**Erzincan**	**0.67**	**315**	PG	**Pb**	**07 45 51.2**	**0.0**
PTK	**Pertek**	**0.77**	**253**	PG	**Pg**	**07 45 52.6**	**-0.5**
ELZG	**Elazig**	**1.22**	**240**	*i* P	**Pn**	**07 46 00.5**	**+0.2**
ELZG				*i* S	**Sg**	**07 46 18.4**	**+0.8**

BJI 20 08:14:02.6, 41˚.45N×115˚.23E, h8km, ML3.5/7, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJI	**Beijing**	**1.58**	**153**	Pg	Pn	08 14 29.9	-1.0
BJI				Sg	Sn	08 14 51.5	0.0
BJI				smax	smax		
	comp=N,320nm,0.7s						
BJI				smax	smax		
	comp=E,290nm,0.7s						
BTO	**Baotou**	**4.03**	**260**	*e*Pg	Pb	08 15 13.5	-0.4
BTO				Sg	Sb	08 16 04.3	+1.5
GTA	**Gaotai**	**11.93**	**265**	*e*P	Pn	08 16 51.4	-1.6
WMQ	**Urumqi**	**20.36**	**286**	*e*P	Pn	08 18 40.6	-1.0

*IDC **20** 08:19:45.0±7.5, 27˚.03N×144˚.30E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/44, mbtmp3.6/4, ML4.2/1, Error ellipse: s-maj=286.2km s-min=25.6km az=74.0*
*ISCJB **20** 08:19:47.8±1.0, 27˚.12N±0˚.07×143˚.99E±0˚.09, h33km, mb3.6/3, Error ellipse: s-maj=12.6km s-min=8.6km az=38.6*
*JMA **20** 08:19:48.7±0.1, 27˚.11N×143˚.92E, h63km, M3.9*

ISC 20 08:19:50.9±1.5, 27˚.0N±0˚.1×143˚.9E±0˚.1, h35km, n13, σ0^{s}91/12, mb3.5/3, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.51**	**273**	P	**Pn**	**08 20 14.6**	**-0.8**
CBIJ				*e*S	**Sn**	**08 20 33.6**	**-0.3**
JHHJ	**Haha-jima-NKT**	**1.57**	**255**	P	**Pn**	**08 20 15.6**	**-0.7**
JHHJ				*e*S	**Sn**	**08 20 36.1**	**+0.7**
BSO3	**Boso 3**	**8.26**	**340**	P	**Pn**	**08 21 47.4**	**-0.6**
JHU	**Hanno**	**9.62**	**337**	P	**Pn**	**08 22 06.9**	**0.0**
JRY	**Ryogami san**	**9.90**	**336**	P	**Pn**	**08 22 10.9**	**+0.1**
JAG	**Ashikaga**	**10.09**	**339**	P	**Pn**	**08 22 12.3**	**-1.0**
MJAR	**Matsushiro Arr**	**10.63**	**334**	Pn	**Pn**	**08 22 19.8**	**-0.9**
	2.0nm,0.3s,baz=167,slow=12,SNR=14						
H11S3	**WAKE ISLAND Hy**	**22.66**	**107**	T	T	08 48 06.7	
	baz=292						
H11S1	**WAKE ISLAND Hy**	**22.66**	**107**	T	T	08 48 09.6	
	baz=292						
H11S2	**WAKE ISLAND Hy**	**22.68**	**107**	T	T	08 48 06.0	
	baz=292						
WRA	**Warramunga Arr**	**47.61**	**192**	P	**P**	**08 28 23.6**	**+0.1**
	1.1nm,0.6s,baz=13,slow=8.4,SNR=15						
ASAR	**Alice Springs**	**51.32**	**192**	P	**P**	**08 28 51.0**	**-0.8**
	0.2nm,0.5s,baz=4.5,slow=5.3,SNR=5.2						
MKAR	**Makanchi Array**	**51.67**	**310**	P	**P**	**08 28 56.1**	**+1.7**
	0.2nm,0.3s,baz=87,slow=9.4,SNR=4.3						

IDC 20 08:26:05.2±4.1, 14˚.53N×91˚.01W, h0km, mb3.7/2, mb1 4.1/3, mb1mx3.6/29, mbtmp3.6/3, ML3.7/1, Error ellipse: s-maj=153.8km s-min=66.4km az=41.0, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**18.81**	**324**	P	Pn	08 30 27.4	+0.4
	0.1nm,0.3s,baz=141,slow=8.1,SNR=8.6						
H06E1	**SOCORRO T-PHAS**	**19.54**	**285**	T	T	08 49 42.3	
	SNR=20						
NVAR	**Mina Array Bea**	**33.88**	**320**	P	P	08 32 49.5	-0.5
	0.6nm,0.6s,baz=125,slow=9.1,SNR=7.5						
YKA	**Yellowknife Ar**	**50.74**	**346**	P	P	08 35 06.3	-0.3
	0.7nm,0.6s,baz=150,slow=7.2,SNR=3.7						
CMAR	**Chiang Mai Arr**	**145.78**	**343**	PKPbc	PKPdf	08 45 46.5	-0.3
	1.0nm,0.3s,baz=344,slow=4.3,SNR=8.1						

IDC 20 08:28:31.1±3.2, 55˚.40N×86˚.27E, h0km, mb1 3.0/2, mb1mx2.9/50, mbtmp3.0/2, ML2.9/2, Error ellipse: s-maj=28.4km s-min=18.9km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.68**	**211**	*i*		08 38 40.0	
	baz=28,slow=329,SNR=1.8						
ZALV	**Zalesovo Beam**	**1.69**	**211**	Pg	Pn	08 29 00.6	-1.2
	4.6nm,0.3s,baz=34,slow=16,SNR=29						
ZALV				Lg	Lg	08 29 24.9	
	2.8nm,0.3s,baz=32,slow=28,SNR=10						
MKAR	**Makanchi Array**	**8.98**	**198**	Pn	Pn	08 30 42.8	+0.8
	0.0nm,0.3s,baz=18,slow=11,SNR=1.4						
BVAR	**Borovoye Array**	**9.61**	**262**	Pn	Pn	08 30 49.3	-1.2
	0.3nm,0.3s,baz=66,slow=14,SNR=4.2						

DJA 20 08:39:04.8±0.6, 1˚N±3˚×12˚1E±˚, h65km±8km, M3.7/7, MLv3.7/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.64**	**101**	P	Pn	08 39 19.1	+0.4
MRSI				S	Sn	08 39 31.0	+2.1
MPSI	**Mapaga**	**1.44**	**260**	P	Pn	08 39 29.0	+0.2
MPSI				S	Sn	08 39 48.3	+1.5
APSI	**Ampana**	**1.54**	**167**	P	Pn	08 39 29.4	-0.8
APSI				S	Sn	08 39 51.0	+1.8
LUWI	**Luwuk**	**2.19**	**138**	P	Pn	08 39 38.5	-0.4
LUWI				S	Sn	08 40 04.6	-0.4
KMSI	**Cibinong**	**2.67**	**91**	P	Pn	08 39 44.8	-0.7
KMSI				S	Sn	08 40 18.7	+2.0

*SJA **20** 08:49:49.0±1.1, 32˚.02S×72˚.58W, h53km±28km, ML3.2, MW3.5*
*GUC **20** 08:49:50.7±0.4, 31˚.81S×72˚.11W, h60km±11km, ML3.0*

ISC 20 08:49:46.4±4.1, 31˚.80S±0˚.06×72˚.4W±0˚.1, h7km±29km, n17, σ1^{s}82/22, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.37**	**63**	*i* P	**Pn**	**08 50 11.9**	**-0.1**
CMCH				*i* S	**Sb**	**08 50 28.1**	**-2.0**
ROC1	**El Roble**	**1.67**	**135**	*e*P	**Pn**	**08 50 16.6**	**+0.3**
ROC1				*e*S	**Sn**	**08 50 37.9**	**-0.2**
ROCH	**El Roble**	**1.67**	**135**	IAML		08 50 41.1	
	comp=N,292nm,0.4s						
PEL	**Peldehue**	**1.99**	**133**	*i* P	**Pn**	**08 50 20.9**	**+0.4**
PEL				*i* S	**Sn**	**08 50 43.9**	**-1.7**
PEL				IAML		08 50 52.2	
	comp=E,258nm,0.3s						
GO04	**Tololo Observa**	**2.14**	**41**	*e*P	**Pn**	**08 50 24.1**	**+1.3**
LSCH	**La Serena**	**2.14**	**29**	IAML		08 51 05.3	
	comp=N,82nm,0.5s						
CLCH	**Cerro Calan**	**2.25**	**135**	*e*P	**Pn**	**08 50 25.1**	**+1.0**
CLCH				IAML		08 51 03.0	
	comp=E,327nm,0.5s						
FCH	**Farellones**	**2.36**	**131**	*i* P	**Pn**	**08 50 26.5**	**+0.7**
FCH				*i* S	**Sn**	**08 50 54.1**	**-1.1**
FCH				IAML		08 51 01.8	
	comp=E,123nm,0.4s						
RTLS	**Leoncito**	**2.66**	**91**	*e*P	**Pb**	**08 50 34.4**	**-0.2**
RTLS				*e*S	**Sb**	**08 51 07.6**	**0.0**
RTLS				IAML		08 51 11.2	
	comp=Z,81nm,0.7s						
AROD	**Rodeo**	**3.01**	**58**	*e*S	**Sb**	**08 51 18.3**	**+0.6**
ACCO	**Cerro Coronel**	**3.12**	**68**	*e*P	**Pb**	**08 50 41.7**	**-0.7**
ACCO				*e*S	**Sb**	**08 51 20.9**	**0.0**
ARCO	**CERRO ARCO**	**3.13**	**110**	*e*P	**Pn**	**08 50 39.8**	**+3.5**
LCO	**Las Campanas**	**3.15**	**29**	*e*P	**Pn**	**08 50 38.8**	**+2.0**
LCO				IAML		08 51 32.5	
	comp=E,50nm,0.6s						
ACDV	**Cuesta del Vie**	**3.27**	**61**	*e*P	**Pb**	**08 50 43.2**	**-1.7**
ACDV				*e*S	**Sb**	**08 51 24.9**	**0.0**
AAGR	**Agrelo**	**3.30**	**114**	*e*P	**Pn**	**08 50 42.0**	**+3.4**
AMOG	**MOGNA**	**3.47**	**77**	*e*P	**Pb**	**08 50 46.4**	**-1.8**
ACAN	**Cantantal**	**4.47**	**97**	*e*P	**Pn**	**08 50 58.2**	**+3.6**

*ISCJB **20** 09:04:35.2±0.7, 5˚.68S±0˚.10×151˚.6E±0˚.1, h57km, mb4.0/9, MS3.1/5, Error ellipse: s-maj=18.4km s-min=9.7km az=41.8*
*IDC **20** 09:04:37.1±4.2, 5˚.69S×151˚.57E, h61km±37km, mb3.7/8, mb1 4.0/10, mb1mx3.7/38, mbtmp4.1/10, ML3.1/2, MS3.1/7, Ms1 3.1/7, ms1mx2.9/34, Error ellipse: s-maj=24.7km s-min=22.0km az=78.0*

ISC 20 09:04:36.7±0.8, 5.7S±0˚.1×151˚.6E±0˚.1, h57km, n17, σ0^{s}79/14, mb3.9/9, MS3.0/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.75**	**230**	P	**Pn**	**09 05 59.8**	**+0.3**
	8.3nm,0.3s,baz=38,slow=9.1,SNR=24						
PMG				S	**Sn**	**09 07 04.8**	**+0.6**
	6.0nm,0.3s,baz=338,slow=18,SNR=7.2						
PMG				LR	LR	09 07 53.8	
	comp=Z,56nm,19.7s,baz=39,slow=34						
HNR	**Honiara**	**9.09**	**115**	LR	LR	09 09 37.7	
	comp=Z,181nm,20.5s,baz=282,slow=33						
CTA	**Charters Tower**	**15.24**	**199**	P	**Pn**	**09 08 08.6**	**0.0**
	0.3nm,0.3s,baz=13,slow=13,SNR=2.0						
DZM	**Mont Dzumac**	**21.73**	**140**	P	**P**	**09 09 23.8**	**+0.2**
	2.8nm,0.5s,baz=35,slow=21,SNR=8.5						
DZM				LR	LR	09 17 11.1	
	comp=Z,132nm,19.1s,baz=274,slow=35						
WRA	**Warramunga Arr**	**21.97**	**228**	P	**P**	**09 09 25.3**	**-0.8**
	2.8nm,0.6s,baz=55,slow=10,SNR=33						
WRA				LR	LR	09 18 41.2	
	comp=Z,97nm,18.3s,baz=15,slow=38						
ASAR	**Alice Springs**	**24.70**	**222**	P	**P**	**09 09 52.8**	**+0.1**
	4.7nm,0.7s,baz=54,slow=9.2,SNR=60						
STKA	**Stephens Creek**	**27.70**	**199**	P	**P**	**09 10 18.9**	**-0.7**
	2.1nm,0.7s,baz=16,slow=14,SNR=6.1						
MJAR	**Matsushiro Arr**	**43.82**	**344**	LR	LR	09 29 52.0	
	comp=Z,17nm,19.9s,baz=200,slow=35						
KSRS	**Korea Array**	**48.24**	**335**	LR	LR	09 32 24.1	
	comp=Z,16nm,19.3s,baz=150,slow=34						
CMAR	**Chiang Mai Arr**	**57.16**	**296**	LR	LR	09 39 04.1	
	comp=Z,7.8nm,18.6s,baz=295,slow=36						
SONM	**Songino Array**	**66.42**	**329**	P	**P**	**09 15 20.5**	**+0.3**
	0.7nm,0.6s,baz=150,slow=5.2,SNR=6.4						
VNDA	**Vanda**	**72.01**	**178**	P	**P**	**09 15 53.8**	**-0.3**
	0.6nm,0.6s,baz=336,slow=5.7,SNR=6.5						
ZALV	**Zalesovo Beam**	**81.20**	**327**	P	**P**	**09 16 46.2**	**-0.1**
	0.6nm,0.3s,baz=123,slow=6.7,SNR=4.4						
ILAR	**Eielson Array**	**83.42**	**22**	P	**P**	**09 16 56.5**	**-1.2**
	2.0nm,0.6s,baz=251,slow=5.4,SNR=41						
NVAR	**Mina Array Bea**	**93.57**	**52**	P	**P**	**09 17 48.8**	**+1.6**
	0.5nm,0.6s,baz=253,slow=5.6,SNR=4.3						
GERES	**GERESS Array B**	**124.15**	**328**	PKP	**PKPdf**	**09 23 29.7**	**+0.5**
	0.9nm,0.5s,baz=46,slow=2.8,SNR=6.6						
TORD	**Torodi Ar. Bea**	**149.41**	**286**	PKPbc	**PKPbc**	**09 24 19.6**	**-0.9**
	2.4nm,0.6s,baz=89,slow=3.3,SNR=18						

*NEIC **20** 09:09:25.9±0.3, 5˚.67S×151˚.60E, h10km, mb4.2/9, Error ellipse: s-maj=12.9km s-min=6.9km az=118.0*
*IDC **20** 09:09:27.4±4.5, 5.70S×151˚.68E, h21km±27km, mb4.0/10, mb1 4.2/12, mb1mx4.0/38, mbtmp4.1/12, ML3.2/2, Error ellipse: s-maj=23.3km s-min=17.7km az=105.0*
*ISCJB **20** 09:09:30.2±0.4, 5˚.73S±0˚.06×151˚.55E±0˚.08, h57km, mb4.1/17, Error ellipse: s-maj=13.0km s-min=6.2km az=34.3*

ISC 20 09:09:31.7±0.6, 5.72S±0˚.08×151˚.6E±0˚.1, h57km, n37, σ1^{s}17/39, mb4.1/17, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.62**	**20**	*e*Pn	**Pn**	**09 09 56.8**	**-1.1**
PMG	**Port Moresby**	**5.73**	**230**	Pn	**Pn**	**09 10 53.8**	**-0.4**
	12nm,0.3s,baz=48,slow=10,SNR=20						
PMG				Sn	**Sn**	**09 11 58.9**	**+0.2**
	1.5nm,0.3s,baz=132,slow=18,SNR=3.1						
CTA	**Charters Tower**	**15.20**	**200**	Pn	**Pn**	**09 13 02.5**	**-0.4**
	0.2nm,0.3s,baz=26,slow=15,SNR=2.8						
MTN	**Manton Dam**	**21.40**	**249**	*e*P	**P**	**09 14 13.0**	**-1.8**
	5.9nm,0.7s						
DZM	**Mont Dzumac**	**21.68**	**140**	P	**P**	**09 14 16.6**	**-1.3**
	3.0nm,0.6s,baz=185,slow=18,SNR=8.5						
DZM	**Mont Dzumac**	**21.68**	**140**	*e*P	**P**	**09 14 17.1**	**-0.9**
	1.4nm,0.6s						
WRAB	**Tennant Creek**	**21.93**	**228**	*e*P	**P**	**09 14 19.9**	**-0.6**
	11nm,0.6s						
WB2	**Warramunga Arr**	**21.94**	**228**	*e*P	**P**	**09 14 20.3**	**-0.3**
WR1	**Warramunga Arr**	**21.95**	**228**	*e*P	**P**	**09 14 20.4**	**-0.4**
	11nm,0.6s						
WRA	**Warramunga Arr**	**21.95**	**228**	P	**P**	**09 14 20.4**	**-0.4**
	8.6nm,0.6s,baz=53,slow=10,SNR=49						
WRA				ScP	**ScP**	**09 21 54.6**	**+3.9**
	0.6nm,0.9s,baz=52,slow=3.0,SNR=4.5						
AS01	**Alice Springs**	**24.64**	**222**	*e*P	**P**	**09 14 47.0**	**-0.1**
AS31	**Alice Springs**	**24.67**	**222**	*e*P	**P**	**09 14 48.6**	**+1.2**
	2.7nm,0.8s						
ASAR	**Alice Springs**	**24.67**	**222**	P	**P**	**09 14 47.4**	**-0.1**
	5.8nm,0.6s,baz=56,slow=9.2,SNR=67						
STKA	**Stephens Creek**	**27.66**	**199**	P	**P**	**09 15 13.2**	**-1.0**
	1.7nm,0.6s,baz=6.2,slow=12,SNR=3.9						
STKA	**Stephens Creek**	**27.66**	**199**	*e*P	**P**	**09 15 13.6**	**-0.7**
	0.4nm,0.8s						
URZ	**Urewera**	**39.82**	**148**	P	**P**	**09 16 59.0**	**-0.5**
	1.7nm,0.5s,baz=0.0,slow=3.0,SNR=4.1						
SONA0	**Songino Array**	**66.48**	**329**	*e*P	**P**	**09 20 15.1**	**-0.4**
SONM	**Songino Array**	**66.48**	**329**	P	**P**	**09 20 15.1**	**-0.4**
	0.5nm,0.5s,baz=148,slow=4.4,SNR=5.0						
VNDA	**Vanda**	**71.96**	**178**	P	**P**	**09 20 49.3**	**+0.6**
	0.8nm,0.5s,baz=334,slow=7.8,SNR=11						
CNPM	**China Poot**	**79.06**	**26**	*e*P	**P**	**09 21 30.5**	**+0.8**
MK01	**Makanchi Array**	**80.22**	**319**	*e*P	**P**	**09 21 35.9**	**-0.4**
MK32	**Makanchi Array**	**80.24**	**319**	*e*P	**P**	**09 21 37.9**	**+1.5**
MKAR	**Makanchi Array**	**80.24**	**319**	P	**P**	**09 21 37.9**	**+1.5**
	0.3nm,0.5s,baz=100,slow=6.1,SNR=4.4						
ZAA0	**Zalesovo Array**	**81.26**	**327**	*e*P	**P**	**09 21 39.4**	**-2.2**
	5.8nm,0.8s						
ZALV	**Zalesovo Beam**	**81.26**	**327**	*e*P	**P**	**09 21 39.9**	**-1.7**
BPAW	**Bear Paw Mtn.**	**81.58**	**22**	*e*P	**P**	**09 21 43.1**	**0.0**
	4.3nm,0.6s						
IM3	**Indian Mountai**	**81.65**	**20**	*e*P	**P**	**09 21 43.8**	**+0.4**
CCB	**Clear Creek Bu**	**83.05**	**22**	*e*P	**P**	**09 21 50.4**	**-0.3**
ILAR	**Eielson Array**	**83.46**	**22**	P	**P**	**09 21 52.0**	**-0.8**
	2.0nm,0.6s,baz=247,slow=5.2,SNR=45						
QSPA	**South Pole Qui**	**84.24**	**180**	*e*P	**P**	**09 21 57.3**	**+0.2**
TOLK	**Toolik Lake Re**	**84.46**	**18**	*e*P	**P**	**09 21 58.9**	**+1.0**
EGAK	**Eagle**	**85.67**	**23**	*e*P	**P**	**09 22 04.1**	**+0.1**
	1.0nm,0.8s						
NV01	**Mina Array Sit**	**93.59**	**52**	*e*P	**P**	**09 22 44.0**	**+1.7**
NVAR	**Mina Array Bea**	**93.59**	**52**	P	**P**	**09 22 44.0**	**+1.7**
	0.5nm,0.6s,baz=260,slow=6.0,SNR=3.7						
GERES	**GERESS Array B**	**124.20**	**328**	PKP	**PKPdf**	**09 28 24.6**	**+0.4**
	0.5nm,0.5s,baz=35,slow=3.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**149.44**	**286**	PKPbc	**PKPbc**	**09 29 16.1**	**+0.6**
	1.0nm,0.5s,baz=53,slow=2.4,SNR=10						
TOA1	**Torodi Ar. Sit**	**149.44**	**286**	*e*PKPbc	**PKPbc**	**09 29 16.1**	**+0.6**

*NEIC **20** 09:09:48.6±0.0, 19˚.10N×68˚.39W, h186km±2km, MD3.8(RSPR), After RSPR.*

RSPR 20 09:09:48.6, 19˚.10N×68˚.39W, h186km±2km, MD3.8/9, 12C-8D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**1.12**	**129**	*e*P	Pn	09 10 17.7	-0.3
IDE	**Isla Desecheo**	**1.12**	**129**	*e*P	Pn	09 10 17.7	-0.3
IDE				*e*S	Sn	09 10 40.9	+0.2
AGPR	**Aguadilla, PR**	**1.37**	**117**	*e*P	Pn	09 10 20.2	+0.2
AGPR	**Aguadilla, PR**	**1.37**	**117**	*e*P	Pn	09 10 20.2	+0.2
AGPR				*e*S	Sn	09 10 44.6	+0.4
CRPR	**Cabo Rojo, PR**	**1.64**	**132**	*e*P	Pn	09 10 22.1	-0.3
CRPR	**Cabo Rojo, PR**	**1.64**	**132**	*e*P	Pn	09 10 22.1	-0.3
CRPR				*e*S	Sn	09 10 49.2	+0.6
GBPR	**Guanica, Bosqu**	**1.82**	**128**	*e*S	Sn	09 10 52.3	+0.3
EMPR	**Esperanza - Ma**	**1.87**	**109**	*e*P	Pn	09 10 25.6	+0.7
EMPR	**Esperanza - Ma**	**1.87**	**109**	*e*P	Pn	09 10 25.6	+0.7
EMPR				*e*S	Sn	09 10 53.7	+0.9
OBIP	**Obispado Ponce**	**2.00**	**122**	*e*P	Pn	09 10 26.7	+0.6
OBIP	**Obispado Ponce**	**2.00**	**122**	*e*P	Pn	09 10 26.7	+0.6
OBIP				*e*S	Sn	09 10 55.8	+0.6
CELP	**Cerrillos**	**2.00**	**120**	*e*P	Pn	09 10 26.5	+0.3
CELP				*e*S	Sn	09 10 56.1	+0.7
CELP	**Cerrillos**	**2.00**	**120**	*e*P	Pn	09 10 26.5	+0.3
CBYP	**Canovanas**	**2.54**	**109**	*e*P	Pn	09 10 32.6	+0.4
CBYP	**Canovanas**	**2.54**	**109**	*e*P	Pn	09 10 32.6	+0.4
CBYP				*e*S	Sn	09 11 06.9	+0.7
HUMP	**Col San Antoni**	**2.59**	**111**	*i* P	Pn	09 10 33.1	+0.3
HUMP	**Col San Antoni**	**2.59**	**111**	*i* P	Sn	09 10 33.1	+0.3
HUMP				*e*S	Sn	09 11 07.9	+0.7
SDDR	**Presa de Saban**	**2.74**	**268**	*e*Pn	Sn	09 10 28.0	-6.6
SDDR				*e*Sn	Sn	09 11 01.8	-8.5
CUPR	**Culebra, Puert**	**3.05**	**105**	*e*P	Pn	09 10 39.2	+1.0
CUPR	**Culebra, Puert**	**3.05**	**105**	*e*P	Pn	09 10 39.2	+1.0
CUPR				*e*S	Sn	09 11 17.6	+0.8
STVI	**Saint Thomas**	**3.34**	**102**	*e*P	Pn	09 10 42.8	+1.0
STVI	**Saint Thomas**	**3.34**	**102**	*e*P	Pn	09 10 42.8	+1.0
STVI				*e*S	Sn	09 11 24.8	+1.5
TBVI	**Tortola**	**3.64**	**100**	*e*S	Sn	09 11 32.9	+3.0
CDVI	**St. Croix**	**3.70**	**111**	*e*S	Sn	09 11 33.2	+2.1

*ISCJB **20** 09:16:41.2±0.5, 39˚.68N±0˚.03×29˚.45E±0˚.05, h0km, Error ellipse: s-maj=5.4km s-min=3.7km az=18.2*
*DDA **20** 09:16:41.2, 39˚.66N×29˚.41E, h7km, Ml2.6, Suspected Mining explosion.*
*ISK **20** 09:16:41.2, 39˚.65N×29˚.42E, h6km, ML2.2/9, Suspected Mining explosion.*

ISC 20 09:16:41.1±0.9, 39˚.69N±0˚.04×29˚.42E±0˚.04, h0km, n17, σ0^{s}43/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.24**	**172**	PG	**Pg**	**09 16 45.7**	**0.0**
GDZ	**Gediz**	**0.60**	**175**	*i* P	**Pg**	**09 16 52.4**	**-0.2**
GDZ				*i* S	**Sg**	**09 17 01.4**	**+1.0**
CAVI	**Cavuskoy**	**0.61**	**32**	PG	**Pb**	**09 16 54.1**	**-0.5**
DURS	**Dursunbey**	**0.73**	**263**	*i* P	**Pg**	**09 16 54.6**	**-0.5**
DURS				*i* S	**Sb**	**09 17 07.0**	**-0.4**
MDNY	**Mudanya-Bursa**	**0.79**	**329**	PG	**Pb**	**09 16 57.8**	**+0.1**
DEMI	**Demirci**	**0.84**	**220**	*i* P	**Pb**	**09 16 58.0**	**-0.6**
DEMI				*i* S	**Sb**	**09 17 11.3**	**+0.8**
YLV	**Yalova**	**0.88**	**358**	PG	**Pb**	**09 16 59.1**	**-0.1**
ARMT	**Armutlu**	**0.97**	**334**	PG	**Pb**	**09 17 01.0**	**+0.2**
SBT5	**Esenkoy-Cinarc**	**1.03**	**337**	PG	**Pb**	**09 17 02.1**	**+0.3**
GULT	**Gulveren**	**1.12**	**48**	PN	**Pn**	**09 17 03.8**	**-0.3**
BUY	**Buyukada**	**1.18**	**349**	PN	**Pn**	**09 17 04.9**	**-3.0**
STEP	**BALIKESIR_Sava**	**1.35**	**257**	*i* P	**Pg**	**09 17 06.7**	**-0.2**
STEP				*i* S	**Sn**	**09 17 25.9**	**+0.1**
MANT	**Manisa**	**1.37**	**209**	*i* P	**Pg**	**09 17 07.0**	**-0.4**
MANT				*i* S	**Sg**	**09 17 25.4**	**+0.3**
GONE	**Gonen-Balikesi**	**1.38**	**286**	PN	**Pb**	**09 17 07.8**	**+0.1**
KAVV	**Kandilli-Istan**	**1.40**	**349**

	4μm,0.3s					
YUK				*e*S	**Sn**	**09 30 22.0 +0.2**
YUK				A	A	09 30 26.0
	60nm,0.2s					
YUK				A	A	09 30 26.0
	129nm,0.2s					
LAGR	**Lagunnoye**	**3.41**	**271**	*e*S	**Sn**	**09 30 23.0 -0.1**
GRPR	**Tuman**	**3.42**	**270**	*e*S	**Sn**	**09 30 24.0 +0.5**
NEM2	**Nemuro 2**	**3.53**	**260**	P	**Pn**	**09 29 46.0 +0.2**
NEM2				*e*S	**Sn**	**09 30 25.0 -1.3**
GLVR	**Golovnino**	**3.63**	**266**	*e*S	**Sn**	**09 30 30.0 +1.5**
JRA	**Rausu**	**3.89**	**270**	P	**Pn**	**09 29 52.6 +1.9**
JNK	**Nakash**	**4.22**	**265**	P	**Pn**	**09 29 56.0 +0.8**
JNK				*e*S	**Sn**	**09 30 42.7 -0.6**
JAK	**Akkeshi**	**4.37**	**257**	P	**Pn**	**09 29 57.8 +0.6**
JTKR	**Abashiri--Toko**	**4.76**	**271**	P	**Pn**	**09 30 04.4 +1.8**
JAR	**Ashorobuto**	**4.95**	**263**	P	**Pn**	**09 30 06.8 +1.5**
JAR				*e*S	**Sn**	**09 31 02.2 +0.9**
JOB	**Onbets**	**5.00**	**259**	P	**Pn**	**09 30 07.1 +1.2**
JOB				*e*S	**Sn**	**09 31 02.0 -0.4**
JMP	**Maruseppu**	**5.16**	**272**	P	**Pn**	**09 30 10.3 +2.2**
JCH	**Churui**	**5.42**	**257**	P	**Pn**	**09 30 12.3 +0.6**
JCH				*e*S	**Sn**	**09 31 11.6 -1.1**
MYR	**Moyori**	**5.58**	**254**	*e*P	**Pn**	**09 30 15.7 +1.8**
JNBK	**Urakawa-nobuka**	**5.96**	**255**	P	**Pn**	**09 30 19.9 +0.9**
JKB	**Kayabe**	**7.29**	**256**	*e*S	**Sn**	**09 31 55.7 -3.0**
JANG	**Nango**	**7.64**	**244**	*e*S	**Sn**	**09 32 03.2 -4.1**

IDC 20 09:31:16.0±2.8, 5.96S×151.22E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.2/28, mbtmpg3.3/3, ML1.4/1, Error ellipse: s-maj=115.4km s-min=37.1km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.29**	**229**	Pn	Pn	09 32 36.0	-0.3
	0.8nm,0.3s,baz=47,slow=19,SNR=2.2						
PMG				Sn	Sn	09 33 41.0	+3.0
	0.9nm,0.3s,baz=286,slow=18,SNR=2.4						
WRA	**Warramunga Arr**	**21.51**	**228**	P	P	09 36 06.9	+0.2
	0.5nm,0.5s,baz=54,slow=10,SNR=14						
ASAR	**Alice Springs**	**24.24**	**222**	P	P	09 36 34.5	-0.4
	0.9nm,0.9s,baz=58,slow=9.2,SNR=10						
TORD	**Torodi Ar. Bea**	**149.14**	**286**	PKPbc	PKPbc	09 51 07.1	-0.4
	0.2nm,0.6s,baz=64,slow=3.4,SNR=2.5						

*NEIC **20** 09:40:06.4±0.0, 18°.11N×100°.47W, h50km, MD4.1(MEX), After MEX.*

MEX 20 09:40:06.5±0.5, 18°.19N×100°.53W, h52km±3km, MD4.1, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.20**	**62**	*e*P	Pn	09 40 13.3	-1.8
ARIG				*e*S	Sn	09 40 19.0	-2.2
ARIG	**Puente Sto Nin**	**0.20**	**62**	*e*P	Pn	09 40 13.3	-1.8
ARIG				*e*S	Sn	09 40 19.5	-1.6
MEIG	**Mezcala**	**0.90**	**107**	*e*Pn	Pn	09 40 21.6	-1.5
MEIG				*e*Sn	Sn	09 40 33.7	-1.5
MEIG	**Mezcala**	**0.90**	**107**	*e*P	Pn	09 40 21.7	-1.4
MEIG				*e*S	Sn	09 40 33.3	-2.0
PLIG	**Platanillo**	**1.00**	**78**	*e*Pn	Pn	09 40 22.8	-1.5
PLIG				*e*Sn	Sn	09 40 31.6	-5.9
PLIG	**Platanillo**	**1.00**	**78**	*e*P	Pn	09 40 22.9	-1.5
PLIG				*i* S	Sn	09 40 35.5	-1.9
ZIIG	**Zihuatanejo**	**1.06**	**237**	*e*Pn	Pn	09 40 23.5	-1.6
ZIIG				*e*Sn	Sn	09 40 36.9	-1.9
ZIIG	**Zihuatanejo**	**1.06**	**237**	*e*P	Pn	09 40 23.5	-1.6
ZIIG				*e*S	Sn	09 40 36.9	-1.9
MOIG	**Morelia**	**1.61**	**337**	*e*Pn	Pn	09 40 33.1	+0.4
MOIG				*e*Sn	Sn	09 40 53.4	+0.9
TLIG	**Tlapa**	**1.97**	**108**	*e*Pn	Pn	09 40 37.2	-0.4
TLIG				*e*Sn	Sn	09 40 53.6	-7.6
TLIG	**Tlapa**	**1.97**	**108**	*e*P	Pn	09 40 36.1	-1.5
TLIG				*i* S	Sn	09 40 58.6	-2.6
PPM	**Popocatepetl**	**2.00**	**64**	*e*Pn	Pn	09 40 36.6	-1.8
PPM				*e*Sn	Sn	09 40 55.4	-7.2
PPM	**Popocatepetl**	**2.00**	**64**	*e*P	Pn	09 40 36.6	-1.8
PPM				*i* S	Sn	09 41 01.4	-1.2
PNIG	**Pinotepa**	**2.91**	**128**	*e*Pn	Pn	09 40 50.8	+0.5
PNIG				*e*Sn	Sn	09 41 19.9	-4.2
PNIG	**Pinotepa**	**2.91**	**128**	*i* P	Pn	09 40 49.3	-1.0
PNIG				*e*S	Sn	09 41 21.7	-2.4

*ISCJB **20** 09:41:00.3±0.5, 50°.28N±0°.03×18°.71E±0°.03, h0km, Error ellipse: s-maj=4.7km s-min=2.5km az=9.2*
*WAR **20** 09:41:01.9, 50°.27N×18°.82E, h1km, Mw2.8*
*IPEC **20** 09:41:01.3±0.2, 50°.29N×18°.78E, h1km±1km, ML2.1/3, Error ellipse: s-maj=2.5km s-min=0.8km az=167.0*
*PRU **20** 09:41:01.9±0.0, 50°.25N×18°.75E, h0km*

ISC 20 09:41:01.4±0.9, 50°.25N±0°.04×18°.75E±0°.02, h0km, n22, σ0s51/43, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.16**	**76**	*e*Pg	**Pg**	**09 41 04.3**	**-0.1**
CHZP				*e*Sg	**Sg**	**09 41 07.1**	**+0.5**
CHZP	**Chorzow**	**0.16**	**76**	*e*Pg	**Pg**	**09 41 04.3**	**-0.1**
CHZP				*e*Sg	**Sg**	**09 41 07.1**	**+0.5**
OKC	**Ostrava-Krasne**	**0.57**	**223**	*e*PG	**Pb**	**09 41 13.6**	**-0.6**
OKC				*e*SG	**Sg**	**09 41 20.5**	**+0.9**
	comp=Z,40nm,0.5s						
OJC	**Ojcow**	**0.68**	**92**	*e*Pg	**Pg**	**09 41 13.9**	**-0.4**
OJC				*e*Sg	**Sg**	**09 41 23.5**	**+0.4**
OJC	**Ojcow**	**0.68**	**92**	*e*Pg	**Pg**	**09 41 13.9**	**-0.4**
OJC				*e*Sg	**Sg**	**09 41 23.5**	**+0.4**
MORC	**Moravsky Berou**	**0.91**	**239**	*e*PG	**Pg**	**09 41 19.4**	**+0.6**
MORC				*e*SG	**Sg**	**09 41 30.9**	**+0.3**
MORC	**Moravsky Berou**	**0.91**	**239**	*e*Pg	**Pg**	**09 41 19.4**	**+0.6**
	baz=57						
MORC				*e*Sg	**Sg**	**09 41 30.8**	**+0.2**
	20nm,0.3s,baz=57						
LANS	**Liptovska Anna**	**1.20**	**157**	*e*PG	**Pb**	**09 41 24.8**	**-0.2**
LANS				*e*SG	**Sb**	**09 41 40.9**	**-0.1**
KRLC	**Kraliky**	**1.28**	**263**	*e*PG	**Pg**	**09 41 25.3**	**-0.5**
KRLC				*e*SG	**Sg**	**09 41 42.4**	**0.0**
	comp=Z,7.2nm,0.3s						
NIE	**Niedzica**	**1.31**	**129**	*e*Pg	**Pg**	**09 41 26.5**	**+0.1**
NIE				*e*Sg	**Sb**	**09 41 44.2**	**+0.1**
NIE	**Niedzica**	**1.31**	**129**	*e*Pg	**Pg**	**09 41 26.5**	**+0.1**
NIE				*e*Sg	**Sb**	**09 41 44.2**	**+0.1**
DPC	**Dobruska-Polom**	**1.56**	**275**	*e*PG	**Pg**	**09 41 30.2**	**-0.2**
DPC				*e*SG	**Sg**	**09 41 51.7**	**+0.3**
	comp=Z,22nm,0.4s						
KSP	**Ksiaz**	**1.67**	**292**	*i* Pg	**Pg**	**09 41 33.6**	**+0.1**
KSP				*e*Sg	**Sg**	**09 41 55.9**	**+0.8**
KSP	**Ksiaz**	**1.67**	**292**	*i* Pg	**Pg**	**09 41 33.6**	**+0.1**
KSP				*e*Sg	**Sg**	**09 41 55.9**	**+0.8**
VRAC	**Vranov**	**1.69**	**237**	*e*PN	**Pn**	**09 41 32.5**	**+0.4**
VRAC				*e*SG	**Sb**	**09 41 55.3**	**+0.2**
VRAC	**Vranov**	**1.69**	**237**	*e*Pn	**Pn**	**09 41 32.5**	**+0.4**
	baz=54						
VRAC				*e*Sg	**Sb**	**09 41 55.2**	**+0.2**
	21nm,0.3s,baz=54						
VYHS	**Vyhne**	**1.76**	**178**	*e*PN	**Pn**	**09 41 33.0**	**-0.1**
VYHS				*e*SN	**Sn**	**09 41 56.1**	**-0.1**
VYHS				eLG	Lg	09 42 10.1	
UPC	**Upice**	**1.77**	**279**	*e*PG	**Pn**	**09 41 33.8**	**+0.5**
UPC				*e*SG	**Sg**	**09 41 58.7**	**+0.5**
KRUC	**Moravsky**	**1.94**	**233**	*e*PN	**Pn**	**09 41 36.0**	**+0.4**
KRUC				*e*SG	**Sg**	**09 42 03.4**	**-0.2**
KRUC	**Moravsky**	**1.94**	**233**	*e*Pn	**Pn**	**09 41 35.9**	**+0.4**
	baz=51						
KRUC				*e*Sg	**Sg**	**09 42 03.3**	**-0.3**
	15nm,0.3s,baz=51						
KHC	**Kasperske Hory**	**3.54**	**254**	*e*SG	**Sg**	**09 42 53.5**	**-1.5**
CLL	**Collm**	**3.80**	**288**	*e*Pg	**Pg**	**09 42 13.0**	**-1.1**
CLL				*e*Sg	**Sg**	**09 43 04.0**	**+0.7**

*ISCJB **20** 09:54:24.4±0.6, 71°.86N±0°.04×0°.8W±0°.2, h10km, mb3.6/10, MS3.2/12, Error ellipse: s-maj=9.1km s-min=5.8km az=160.7*
*IDC **20** 09:54:25.5±0.8, 71°.75N×1°.89W, h0km, mb3.6/10, mb1 3.9/13, mb1mx3.6/76, mbtmpg3.7/13, ML3.5/3, MS3.3/16, Ms1 3.3/16, ms1mx3.0/58, Error ellipse: s-maj=24.3km s-min=15.7km az=57.0*

*NAO **20** 09:54:27.0±3.7, 71°.81N×0°.45W, ML3.8*
*BER **20** 09:54:31.2±3.9, 71°.81N×0°.45W, h15km±258km, ML3.8(NAO)*

ISC 20 09:54:26.9±0.7, 71°.86N±0°.08×1°.2W±0°.1, h10km, n55, σ1s40/44, mb3.6/10, MS3.2/12, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**2.50**	**253**	LR	LR	09 55 26.2	
	comp=Z,129nm,18.9s,baz=276,slow=27						
LOF	**Lofoten**	**6.29**	**119**	*e*P	**Pn**	**09 55 58.8**	**-0.7**
HSPB	**Hornsund (broa**	**6.82**	**33**	Pn	**Pn**	**09 56 05.9**	**-0.9**
HSP	**Hornsund**	**6.83**	**33**	Pn	**Pn**	**09 56 05.9**	**-1.0**
STEI	**Steigen**	**6.89**	**117**	*e*P	**Pn**	**09 56 06.3**	**-1.5**
TRO	**Tromso**	**7.01**	**99**	*e*P	**Pn**	**09 56 07.2**	**-2.2**
BRBA	**Barentsburg A**	**7.37**	**26**	Pn	**Pn**	**09 56 14.3**	**0.0**
BRBA	**Barentsburg A**	**7.37**	**26**	Pn	**Pn**	**09 56 14.3**	**0.0**
KONS	**Konsvik**	**7.40**	**130**	*e*P	**Pn**	**09 56 12.9**	**-1.9**
SPA0	**Spitsbergen Ar**	**7.76**	**27**	Pn	**Pn**	**09 56 19.9**	**+0.2**
	baz=217,slow=14						
SPA0	**Spitsbergen Ar**	**7.76**	**27**	Pn	**Pn**	**09 56 19.9**	**+0.2**
	baz=217,slow=14						
SPITS	**Spitsbergen Ar**	**7.76**	**27**	Pn	**Pn**	**09 56 19.9**	**+0.2**
	baz=210,slow=14,SNR=170						
KBS	**Kingsbay**	**7.80**	**19**	Pn	**Pn**	**09 56 20.8**	**+0.5**
KBS	**Kingsbay**	**7.80**	**19**	*e*P	**Pn**	**09 56 20.1**	**-0.2**
KIF	**Kilpisjarvi**	**7.90**	**101**	*e*P	**Pn**	**09 56 19.9**	**-1.7**
MOR8	**Moi Rana**	**7.99**	**128**	*e*P	**Pn**	**09 56 21.9**	**-1.0**
KTK1	**Kautokeino**	**8.65**	**97**	*e*P	**Pn**	**09 56 30.4**	**-1.5**
NSS	**Namsos**	**8.82**	**140**	*e*P	**Pn**	**09 56 34.0**	**-0.3**
HEF	**Hetta**	**9.10**	**100**	*e*P	**Pn**	**09 56 36.3**	**-1.9**
ARA0	**ARCESS Array S**	**9.10**	**92**	Pn	**Pn**	**09 56 36.0**	**-2.1**
	baz=305,slow=12						
ARA0	**ARCESS Array S**	**9.10**	**92**	Pn	**Pn**	**09 56 36.0**	**-2.1**
	baz=305,slow=12						
ARCES	**ARCESS Array B**	**9.10**	**92**	Pn	**Pn**	**09 56 36.1**	**-2.1**
	0.5nm,0.3s,baz=294,slow=12,SNR=21						
AKN	**Aaknes**	**10.23**	**158**	Pn	**Pn**	**09 56 53.0**	**-0.6**
AKN	**Aaknes**	**10.23**	**158**	Pn	**Pn**	**09 56 53.0**	**-0.6**
NOD	**Norderasen**	**10.39**	**136**	*e*P	**Pn**	**09 56 56.1**	**+0.4**
NB2	**NORSAR Subarra**	**11.91**	**149**	Pn	**Pn**	**09 57 16.2**	**-0.4**
	baz=329,slow=14						
NB2	**NORSAR Subarra**	**11.91**	**149**	Pn	**Pn**	**09 57 16.2**	**-0.4**
	baz=329,slow=14						
NOA	**NORSAR Array B**	**11.91**	**149**	Pn	**Pn**	**09 57 15.6**	**-0.9**
	0.1nm,0.3s,baz=332,slow=14,SNR=5.1						
NOA				LR	LR	10 01 39.9	
	comp=Z,125nm,19.7s,baz=340,slow=36						
NRA0	**NORESS Array S**	**12.25**	**149**	Pn	**Pn**	**09 57 19.8**	**-1.4**
	baz=331,slow=11						
NRA0	**NORESS Array S**	**12.25**	**149**	Pn	**Pn**	**09 57 19.8**	**-1.4**
	baz=331,slow=11						
HFS	**Hagfors**	**13.18**	**146**	Pn	**Pn**	**09 57 32.8**	**-1.1**
	1.2nm,0.3s,baz=340,slow=13,SNR=24						
HFS				LR	LR	10 02 28.8	
	comp=Z,157nm,18.1s,baz=339,slow=37						
FIA0	**FINESS Array S**	**14.85**	**121**	Pn	**Pn**	**09 57 54.6**	**-1.9**
	baz=340,slow=12						
FIA0	**FINESS Array S**	**14.85**	**121**	Pn	**Pn**	**09 57 54.6**	**-1.9**
	baz=340,slow=12						
FINES	**FINESS Array B**	**14.85**	**121**	Pn	**Pn**	**09 57 54.5**	**-2.1**
	0.3nm,0.3s,baz=335,slow=17,SNR=6.8						
FINES				LR	LR	10 03 07.1	
	comp=Z,133nm,19.3s,baz=336,slow=35						
KLMR	**Klimovskoe**	**19.21**	**104**	*e*Pn	**P**	**09 58 48.6**	**-2.0**
KLMR				AMP		09 58 50.8	
	comp=Z,14nm,1.1s						
VRAC	**Vranov**	**24.05**	**151**	LR	LR	10 09 03.0	
	comp=Z,64nm,19.2s,baz=349,slow=36						
GERES	**GERESS Array B**	**24.09**	**155**	LR	LR	10 08 18.6	
	comp=Z,62nm,19.9s,baz=346,slow=35						
RES	**Resolute Bay**	**24.47**	**320**	LR	LR	10 09 03.8	
	comp=Z,126nm,19.0s,baz=358,slow=36						
AKASG	**Malin Array Be**	**25.23**	**131**	P	**P**	**09 59 52.4**	**-0.1**
	comp=Z,0.3nm,0.2s,baz=334,slow=10,SNR=4.1						
AKASG				LR	LR	10 09 00.3	
	comp=Z,58nm,21.9s,baz=315,slow=35						
FRB	**Frobisher Bay**	**25.27**	**286**	LR	LR	10 09 08.4	
	comp=Z,78nm,21.0s,baz=88,slow=35						
DAVOX	**Davos/Dischmat**	**25.70**	**162**	LR	LR	10 10 48.9	
	comp=Z,36nm,18.0s,baz=31,slow=38						
MLR	**Muntele Rosu**	**29.42**	**139**	LR	LR	10 12 15.0	
	comp=Z,106nm,19.2s,baz=32,slow=36						
ESDC	**Sonseca Array**	**32.30**	**184**	P	**P**	**10 00 55.9**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=0.5,slow=8.3,SNR=4.3						
KBZ	**Khabaz**	**35.20**	**119**	P	**P**	**10 01 23.0**	**+2.3**
	comp=Z,3.0nm,0.9s,baz=354,slow=10,SNR=3.2						
KBZ				LR	LR	10 15 47.8	
	comp=Z,54nm,19.0s,baz=328,slow=36						
INK	**Inuvik**	**36.56**	**333**	P	**P**	**10 01 31.5**	**-0.5**
	comp=Z,1.7nm,1.0s,baz=342,slow=6.4,SNR=3.4						
BRTR	**Keskin Array B**	**36.61**	**132**	LR	LR	10 16 59.3	
	comp=Z,20nm,18.9s,baz=338,slow=37						
KURBB	**Kurchatov Arra**	**39.86**	**78**	P	**P**	**10 02 02.2**	**+2.1**
	comp=Z,1.3nm,0.9s,baz=335,slow=6.3,SNR=2.0						
ILAR	**Eielson Array**	**41.65**	**339**	P	**P**	**10 02 15.6**	**+0.9**
	comp=Z,0.4nm,0.9s,baz=3.6,slow=6.1,SNR=5.2						
MKAR	**Makanchi Array**	**44.41**	**77**	P	**P**	**10 02 40.0**	**+2.7**
	comp=Z,0.7nm,0.6s,baz=343,slow=9.2,SNR=2.3						
ULM	**Lac du Bonnet**	**44.62**	**294**	LR	LR	10 22 20.9	
	comp=Z,23nm,18.3s,baz=37,slow=38						
KDAK	**Kodiak Island**	**49.10**	**340**	LR	LR	10 28 09.7	
	comp=Z,41nm,18.1s,baz=301,slow=41						
NEW	**Newport**	**52.04**	**310**	LR	LR	10 27 22.3	
	comp=Z,63nm,18.2s,baz=292,slow=38						
TORD	**Torodi Ar. Bea**	**58.71**	**177**	P	**P**	**10 04 24.6**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=351,slow=7.7,SNR=3.6						
NVAR	**Mina Array Bea**	**61.59**	**307**	P	**P**	**10 04 43.4**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=3.3,slow=6.3,SNR=2.6						
TXAR	**Lajitas Array**	**66.18**	**291**	P	**P**	**10 05 13.0**	**-1.4**
	comp=Z,0.3nm,0.9s,baz=359,slow=5.4,SNR=3.2						

IDC 20 09:56:44.5±2.0, 6.07S×152.13E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/49, mbtmpg3.6/4, ML1.7/1, Error ellipse: s-maj=111.8km s-min=26.9km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.93**	**236**	Pn	Pn	09 58 12.3	-1.4
	1.2nm,0.3s,baz=313,slow=18,SNR=2.8						
PMG				Sn	Sn	09 59 19.1	-3.4
	1.0nm,0.3s,baz=288,slow=20,SNR=2.1						
WRA	**Warramunga Arr**	**22.11**	**230**	P	P	10 01 41.4	-0.3
	1.3nm,0.5s,baz=55,slow=10,SNR=21						
ASAR	**Alice Springs**	**24.77**	**223**	P	P	10 02 08.0	-0.2
	0.6nm,0.6s,baz=59,slow=9.1,SNR=15						
ILAR	**Eielson Array**	**83.58**	**22**	P	P	10 09 12.8	-1.5
	0.2nm,0.6s,baz=248,slow=4.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**150.03**	**286**	PKPbc	PKPbc	10 16 39.9	+1.7
	0.2nm,0.5s,baz=100,slow=3.5,SNR=2.7						

*NNC **20** 09:56:55.8±2.3, 53°.50N×87°.65E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=19.7km s-min=13.2km az=66.0, Suspected Mining explosion.*

KRAR 20 09:56:55.0±0.1, 53°.58N×87°.74E, M2.4, 7C-3D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.77**	**283**	⇓Pn	Pn	09 57 26.6	-0.3
	14nm,0.4s						
ZAA0				⇑Lg	Lg	09 57 52.2	
	20nm,0.4s						
KURK	**Kurchatov**	**6.30**	**247**	⇑Pn	Pn	09 58 29.8	+0.7
	3.5nm,0.9s						
KURK				⇓Lg	Lg	10 00 11.4	
	8.5nm,0.6s						
KURBB	**Kurchatov Arra**	**6.40**	**246**	⇑Pn	Pn	09 58 31.4	+0.9
	4.2nm,0.4s						
KURBB				⇑Sn	Sn	09 59 42.7	-1.5
	8.8nm,0.7s						
KURBB				⇑Lg	Lg	10 00 15.7	
	19nm,0.7s						
MK31	**Makanchi Array**	**7.64**	**209**	⇓Pn	Pn	09 58 49.0	+1.5
	1.0nm,0.4s,baz=30,slow=13,SNR=55						
MK31				⇑Sn	Sn	10 00 13.5	-1.2
	3.1nm,0.8s,baz=33,slow=28,SNR=4.8						
MK31				⇑Lg	Lg	10 00 54.5	
	2.4nm,0.5s,baz=27,slow=29,SNR=4.6						

SJA 20 10:04:36.5±0.4, 24.27S×64.59W, h27km±2km, ML3.2, MW3.6, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZAP	**Zapla**	**0.44**	**276**	*e*P	Pb	10 04 46.5	+0.6
AZAP				*e*S	Sn	10 04 54.5	0.0
AZAP				IAML		10 05 06.5	
	comp=Z,1μm,0.3s						
SLA	**San Lorenzo**	**0.95**	**242**	*e*S	Sn	10 05 09.0	+2.1
HJA	**Humahuaca**	**1.30**	**324**	*e*P	Pb	10 05 01.6	+1.1
HJA				*e*S	Sb	10 05 20.3	+3.4
HJA				IAML		10 05 29.6	
	comp=Z,663nm,0.3s						
YJA	**Yavi**	**2.25**	**338**	*e*P	Pb	10 05 15.4	-1.3
YJA				*e*S	Sb	10 05 44.4	+0.1
AHML	**Horco Molle**	**2.59**	**195**	*e*P	Pn	10 05 19.4	+2.7

*ISN **20** 10:05:02.0±0.5, 34°.12N×46°.90E, h5km±3km, ML3.3*

TEH 20 10:05:05.1, 34°.13N×46°.94E, h10km, ML3.3, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVIS	**Veis**	**0.40**	**349**	*e*Pg	Pg	10 05 12.7	-0.3
IVIS				IAMB	IAmb	10 05 21.5	
	comp=E,58μm,0.4s						
IVIS				IAMB	IAmb	10 05 22.7	
	comp=Z,32μm,0.2s						
IVIS				IAMB	IAmb	10 05 22.7	
	comp=N,54μm,0.3s						
IKOM	**Komasi**	**0.47**	**85**	*e*Pg	Pg	10 05 14.8	+0.4
IKOM				IAMB	IAmb	10 05 25.1	
	comp=N,0.0nm,0.7s						
IKOM				IAMB	IAmb	10 05 26.7	
	comp=E,0.0nm,0.4s						
IKOM				IAMB	IAmb	10 05 30.0	
	comp=Z,0.0nm,0.6s						
ILIN	**Lien**	**0.78**	**1**	*e*Pg	Pg	10 05 20.2	-0.1
ILIN				IAMB	IAmb	10 05 44.8	
	comp=Z,14μm,0.4s						
IBZA	**Bozab**	**0.83**	**66**	*e*Pg	Pb	10 05 21.8	0.0
IBZA				IAMB	IAmb	10 05 46.0	
	comp=Z,0.0nm,0.4s						
HSAM	**Samen**	**1.38**	**86**	*e*Pg	Pg	10 05 31.4	-0.2
HAGD	**Aghdareh**	**1.94**	**69**	*e*Pg	Pb	10 05 41.0	+0.3
HKZM	**Kohzaman**	**2.04**	**52**	*e*Pg	Pb	10 05 43.0	+0.6
KHMZ	**Khomeyn**	**2.54**	**98**	*e*Pn	Pn	10 05 48.3	+1.7
SHGR	**Shooshtar-Gavs**	**2.55**	**142**	*e*Pn	Pn	10 05 48.5	+2.0
ASAO	**Ashtian**	**2.58**	**80**	*e*Pn	Pb	10 05 50.0	-1.7
IRAZ	**Razeghan**	**2.77**	**62**	*e*Pn	Pb	10 05 52.6	-2.2
IRAZ				IAMB	IAmb	10 06 49.8	
	comp=N,2μm,0.5s						
IRAZ				IAMB	IAmb	10 06 50.1	
	comp=Z,2μm,0.3s						
IRAZ				IAMB	IAmb	10 06 52.8	
	comp=E,3μm,0.4s						
IGZV	**Ghazvin**	**3.50**	**49**	IAMB	IAmb	10 06 19.3	
	comp=Z,607nm,0.6s						
IGZV				*e*Pn	Pn	10 06 02.6	+2.8
IGZV				IAMB	IAmb	10 07 13.2	
	comp=E,1μm,0.7s						
IGZV				IAMB	IAmb	10 07 15.8	
	comp=N,1μm,0.7s						
IPIR	**Pirpir**	**3.60**	**113**	*e*Pn	Pn	10 06 02.4	+1.1
IPIR				IAMB	IAmb	10 07 06.9	
	comp=E,810nm,0.7s						
IPIR				IAMB	IAmb	10 07 09.8	
	comp=N,618nm,0.6s						
IPIR				IAMB	IAmb	10 07 12.2	
	comp=Z,392nm,0.4s						
QALM	**Alamut, Qazvin**	**3.80**	**52**	IAMB	IAmb	10 06 29.0	
	comp=Z,0.0nm,0.8s						
QALM				*e*Pn	Pn	10 06 06.1	+2.2
CHTH	**Charan**	**3.86**	**62**	*e*Pn	Pn	10 06 07.5	+2.7
IKLH	**Kolahrood**	**3.95**	**101**	*e*Pn	Pn	10 06 08.0	+2.0
IKLH				IAMB	IAmb	10 07 25.6	
	comp=Z,431nm,0.7s						
IKLH				IAMB	IAmb	10 07 28.4	
	comp=N,630nm,1.0s						
IKLH				IAMB	IAmb	10 07 44.8	
	comp=E,600nm,0.8s						
GRMI	**Germi**	**4.73**	**9**	*e*Pn	Pn	10 06 19.1	+2.5
KLNJ	**Kolanjah**	**5.01**	**127**	IAMB	IAmb	10 07 23.9	
	comp=N,0.0nm,0.0s						
KLNJ				IAMB	IAmb	10 08 08.2	
	comp=E,0.0nm,0.8s						

IDC 20 10:07:11.6±1.7, 2.30N×122.78E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/52, mbtmpg3.4/3, Error ellipse: s-maj=200.3km s-min=26.0km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.84**	**153**	P	P	10 12 35.1	-0.7
	0.5nm,0.3s,baz=330,slow=11,SNR=35						
ASAR	**Alice Springs**	**27.99**	**158**	P	P	10 13 05.1	+0.8
	0.2nm,0.4s,baz=341,slow=6.8,SNR=7.3						
MKAR	**Makanchi Array**	**56.56**	**328**	P	P	10 16 56.0	0.0

s-min=3.2km az=10.9

MOS ***20*** *10:15:04.9±1.3, 33°.23N×141°.76E, h23km, mb4.9/48, MS4.4/21, Error ellipse: s-maj=8.4km s-min=4.9km az=112.1*

NEIC ***20*** *10:15:05.7±2.4, 33°.26N×141°.71E, h17km±14km, mb4.7/85, Error ellipse: s-maj=5.2km s-min=3.4km az=124.0*

GCMT ***20*** *10:15:06.7±0.2, 33°.33N±0°.02×141°.91E±0°.01, h12km, MW5.0/104, Moment Tensor Solution. s40,c44; s104,c169; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.48±.08; Mθθ-0.11±.08; Mϕϕ-3.37±.07; Mrθ-0.09±.29; Mθϕ-1.02±.07; Mϕr1.82±.24; Best double couple: Mo4.01200×10¹⁶ NP1:ϕs7.00000°, δ58.00000°, λ81.00000°. NP2:ϕs205.00000°, δ33.00000°, λ105.00000°. Principal axes: T 3.9620, Plg75.0000°, Azm251.0000°; N 0.1020, Plg8.0000°, Azm12.0000°; P -4.0610, Plg13.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

JMA ***20*** *10:15:07.1±0.2, 33°.40N×141°.67E, h64km, M5.2*

IDC ***20*** *10:15:08.5±2.0, 33°.26N×141°.75E, h39km±18km, mb4.2/34, mb1 4.3/40, mb1mx4.3/57, mbtmp4.4/40, ML3.6/4, MS4.5/37, Ms1 4.5/37, ms1mx4.4/55, Error ellipse: s-maj=12.0km s-min=9.6km az=96.0*

ISC 20 10:15:06.4±0.6, 33°.27N±0°.03×141°.84E±0°.04, h23km±4km, n368, σ1§86/399, mb4.7/159, MS4.7/48, 26C-7D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BSO1	**Boso 1**	**1.55**	**333**	P		**Pn**	**10 15 30.9**	**-1.2**
BSO1				*e*S		**Sn**	**10 15 47.5**	**-3.8**
JHJ2	**Mitsune**	**1.71**	**265**	*e*Pn		**Pn**	**10 15 34.0**	**-0.7**
JHJ2				*e*Sn		**Sn**	**10 15 52.3**	**-3.5**
JHJ2	**Mitsune**	**1.71**	**265**	⇑P		**Pn**	**10 15 33.9**	**-0.7**
JHCJ	**Hachijojimakas**	**1.73**	**264**	P		**Pn**	**10 15 33.8**	**-1.2**
JHJ	**Hachijo jima 2**	**1.73**	**266**	Pn		**Pn**	**10 15 33.5**	**-1.5**
	484nm,0.3s,baz=107,slow=8.2,SNR=96							
JHJ				Sn		**Sn**	**10 15 56.4**	**-0.1**
	1μm,0.3s,baz=88,slow=23,SNR=11							
BSO3	**Boso 3**	**1.88**	**324**	P		**Pn**	**10 15 35.5**	**-1.4**
JAOM	**Aogashimamukai**	**1.93**	**246**	P		**Pn**	**10 15 37.0**	**-0.7**
JMKN	**Mikurajimanish**	**1.98**	**289**	P		**Pn**	**10 15 37.2**	**-1.2**
JMKN				*e*S		**Sn**	**10 15 58.6**	**-3.9**
JIM2	**Oshima 3**	**2.47**	**306**	P		**Pn**	**10 15 43.1**	**-2.1**
JIM2				*e*S		**Sn**	**10 16 09.5**	**-5.1**
JIZS	**Izushimoda**	**2.85**	**301**	⇑P		**Pn**	**10 15 49.2**	**-1.3**
JIZS				*e*S		**Sn**	**10 16 20.8**	**-3.3**
JOD2	**Odawara 2**	**3.02**	**312**	⇑P		**Pn**	**10 15 50.7**	**-2.1**
JOD2				*e*S		**Sn**	**10 16 23.8**	**-4.5**
TK02	**Tokai 2**	**3.47**	**282**	P		**Pn**	**10 15 58.1**	**-0.7**
JYN	**Shimob**	**3.52**	**310**	P		**Pn**	**10 15 58.6**	**-1.1**
JRY	**Ryogami san**	**3.66**	**319**	P		**Pn**	**10 15 59.8**	**-1.8**
JAG	**Ashikaga**	**3.71**	**329**	⇑P		**Pn**	**10 16 00.8**	**-1.4**
JAG				*e*S		**Sn**	**10 16 40.5**	**-4.7**
MJAR	**Matsushiro Arr**	**4.42**	**319**	Pn		**Pn**	**10 16 10.8**	**-1.3**
	7.9nm,0.3s,baz=162,slow=13,SNR=64							
MJAR				Sn		**Sn**	**10 17 03.1**	**+0.3**
	15nm,0.3s,baz=162,slow=14,SNR=10							
MJAR				LR		LR	10 18 17.4	
	comp=Z,4μm,19.3s,baz=125,slow=44							
MAJO	**Matsushiro**	**4.42**	**319**	*e*Pn		**Pn**	**10 16 11.9**	**-0.2**
MAJO				*e*Sn		**Sn**	**10 17 03.1**	**+0.2**
MAJO	**Matsushiro**	**4.42**	**319**	⇑*e*P		**Pn**	**10 16 11.9**	**-0.2**
MAJO				pmax	pmax			
	comp=Z,90nm,1.7s							
MAT	**Matsushiro**	**4.42**	**319**	P		**Pn**	**10 16 11.7**	**-0.4**
MAT				S		**Sn**	**10 17 01.8**	**-1.1**
INU	**Inuyama**	**4.50**	**299**	*e*Pn		**Pn**	**10 16 13.2**	**+0.1**
CBIJ	**Chichi jima**	**6.16**	**177**	*e*Pn		**Pn**	**10 16 33.8**	**-2.2**
CBIJ				*e*Sn		**Sn**	**10 17 42.1**	**-3.6**
JCJ	**Chichijima**	**6.16**	**177**	Pn		**Pn**	**10 16 35.0**	**-0.9**
	comp=Z,71nm,0.3s,baz=53,slow=10,SNR=54							
JCJ				Sn		**Sn**	**10 17 42.2**	**-3.5**
	comp=Z,52nm,0.3s,baz=80,slow=22,SNR=3.5							
ERM	**Erimo**	**8.79**	**6**	*e*Pn		**Pn**	**10 17 08.3**	**-3.6**
ERM	**Erimo**	**8.79**	**6**	*e*P		**Pn**	**10 17 08.3**	**-3.6**
JNU	**Nakatsue**	**9.19**	**272**	Pn		**Pn**	**10 17 19.1**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=79,slow=6.4,SNR=10.0							
JNU	**Nakatsue**	**9.19**	**272**	*e*Pn		**Pn**	**10 17 14.8**	**-2.7**
GLVR	**Golovnino**	**10.84**	**14**	*e*P		**Pn**	**10 17 36.9**	**-3.1**
GLVR				pmax	pmax			
	comp=E,65nm,0.7s							
GLVR				pmax	pmax			
	comp=Z,222nm,0.7s							
ASAJ	**Asahikawa**	**10.84**	**3**	Pn		**Pn**	**10 17 36.0**	**-4.1**
	comp=Z,2.2nm,0.3s,baz=215,slow=14,SNR=18							
ASAJ				Sn		**Sn**	**10 19 33.7**	**-7.0**
	comp=Z,1.9nm,0.3s,baz=90,slow=28,SNR=4.3							
ASAJ	**Asahikawa**	**10.84**	**3**	*e*Pn		**Pn**	**10 17 36.1**	**-4.1**
ASAJ				*e*Sn		**Sn**	**10 19 38.3**	**-2.4**
ASAJ	**Asahikawa**	**10.84**	**3**	P		**Pn**	**10 17 36.0**	**-4.1**
ASAJ				pmax	pmax			
	comp=Z,2.0nm,0.3s							
GRPR	**Tuman**	**11.13**	**15**	*e*P		Pn	10 17 39.2	-4.9
GRPR				pmax	pmax			
	comp=Z,112nm,0.5s							
GRPR				pmax	pmax			
	comp=N,32nm,0.3s							
GRPR				pmax	pmax			
	comp=E,39nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**11.19**	**15**	*e*P		**Pn**	**10 17 41.1**	**-3.8**
YUK				pmax	pmax			
	comp=Z,84nm,0.2s							
YUK				pmax	pmax			
	comp=N,16nm,0.1s							
YUK				pmax	pmax			
	comp=E,56nm,0.3s							
YUK				MLR	MLR			
	comp=Z,691nm,10.0s							
SHO	**Shikotan**	**11.28**	**19**	*e*P		**Pn**	**10 17 41.6**	**-4.4**
SHO				pmax	pmax			
	comp=Z,42nm,0.6s							
SHO				pmax	pmax			
	comp=E,25nm,0.3s							
SHO				pmax	pmax			
	comp=N,24nm,0.5s							
SHO				MLR	MLR			
	comp=Z,2μm,14.0s							
SHO				MLR	MLR			
	comp=N,1μm,12.0s							
KSRS	**Korea Array**	**12.10**	**294**	Pn		**Pn**	**10 17 59.5**	**+2.2**
	comp=N,0.4nm,0.3s,baz=106,slow=14,SNR=11							
KSRS				LR		LR	10 22 09.3	
	comp=N,3μm,20.3s,baz=95,slow=35							
KSRS	**Korea Array**	**12.10**	**294**	P		**Pn**	**10 17 59.5**	**+2.2**
KSRS				MLR	MLR			
	comp=Z,3μm,20.3s							
KS01	**Wonju Array Si**	**12.13**	**294**	*e*Pn		**Pn**	**10 17 55.0**	**-2.8**
TJN	**Taejon**	**12.29**	**289**	⇑*e*P		**Pn**	**10 18 01.1**	**+1.1**
MSHR	**Mys Shultsa**	**12.54**	**321**	⇓*e*P		**Pn**	**10 18 04.0**	**+0.7**
VLA	**Vladivostok**	**12.56**	**324**	⇑*i*P		**Pn**	**10 18 06.0**	**+2.4**
KUR	**Kuril'sk**	**12.82**	**20**	*e*P		Pn	10 18 02.1	-5.0
KUR				pmax	pmax			
	comp=Z,43nm,0.6s							
KUR				pmax	pmax			
	comp=N,22nm,0.4s							
KUR				pmax	pmax			
	comp=E,9.0nm,0.2s							
KUR				MLR	MLR			
	comp=Z,1μm,8.0s							
KUR				MLR	MLR			
	comp=E,1μm,13.0s							
USRK	**Ussuriysk Ar.**	**13.34**	**328**	Pn		**Pn**	**10 18 15.9**	**+1.7**
	comp=E,0.2nm,0.3s,baz=139,slow=13,SNR=6.9							
JOW	**Kunigami**	**13.38**	**245**	Pn		**Pn**	**10 18 16.0**	**+1.1**
	comp=E,0.3nm,0.3s,baz=106,slow=12,SNR=3.9							
JOW				LR		LR	10 23 18.3	
	comp=E,2μm,18.7s,baz=83,slow=37							
YSS	**Yuzh-Sakhalins**	**13.68**	**3**	*e*Pn		**Pn**	**10 18 17.6**	**-1.3**
YSS	**Yuzh-Sakhalins**	**13.68**	**3**	*e*P		**Pn**	**10 18 14.3**	**-4.6**
YSS				pmax	pmax			
	comp=Z,10.0nm,0.9s							
YSS				MLR	MLR			
	comp=Z,2μm,16.0s							
YSS				MLR	MLR			
	comp=N,2μm,15.0s							
UGL	**Uglegorsk**	**15.79**	**1**	P		**P**	**10 18 51.2**	**+0.4**
UGL				S		**S**	**10 21 49.9**	**-5.7**
UGL				pmax	pmax			
	comp=Z,67nm,0.9s							
UGL				smax	smax			
	comp=N,1μm,5.0s							
UGL				smax	smax			
	comp=E,1μm,7.0s							
UGL				MLR	MLR			
	comp=N,3μm,14.0s							
UGL				MLR	MLR			
	comp=Z,4μm,16.0s							
CN2	**Changchun**	**16.55**	**314**	*e*P		**P**	**10 18 59.4**	**+0.1**
CN2				*e*SP		pP	10 19 06.4	+0.6
CN2				*e*S		**Sn**	**10 22 01.9**	**+1.9**
CN2				pmax	pmax			
	comp=Z,10.0nm,1.2s							
CN2				LR	LR			
	comp=Z,2μm,12.0s							
CN2				LR	LR			
	comp=Z,3μm,12.0s							
CN2				LR	LR			
	comp=Z,2μm,15.0s							
DL2	**Dalian**	**17.27**	**295**	⇑*i*P		**Pn**	**10 19 04.6**	**-1.3**
DL2				S		**Sn**	**10 22 20.9**	**+3.6**
DL2				pmax	pmax			
	comp=Z,33nm,1.0s							
DL2				pmax	pmax			
	comp=Z,930nm,7.2s							
DL2				LR	LR			
	comp=Z,4μm,13.9s							
DL2				LR	LR			
	comp=Z,2μm,16.3s							
DL2				LR	LR			
	comp=Z,5μm,15.2s							
TYV	**Tymovskoe**	**17.59**	**2**	*e*P		**P**	**10 19 12.6**	**+1.9**
TYV				*e*S		**S**	**10 22 32.2**	**-0.1**
TYV				pmax	pmax			
	comp=Z,500nm,3.8s							
TYV				pmax	pmax			
	comp=Z,26nm,1.0s							
TYV				smax	smax			
	comp=N,15nm,1.3s							
TYV				smax	smax			
	comp=N,2μm,5.5s							
TYV				MLR	MLR			
	comp=E,4μm,16.0s							
TYV				MLR	MLR			
	comp=Z,4μm,16.0s							
SSE	**Sheshan**	**17.62**	**269**	P		**Pn**	**10 19 06.9**	**-3.4**
SSE				pmax	pmax			
	comp=Z,300nm,10.0s							
SSE				LR	LR			
	comp=Z,1μm,13.6s							
SSE				LR	LR			
	comp=Z,1μm,12.7s							
SSE				LR	LR			
	comp=Z,2μm,13.2s							
KLR	**Kul'dur**	**17.63**	**338**	LR		LR	10 25 38.6	
	comp=Z,1μm,19.7s,baz=150,slow=36							
KLR	**Kul'dur**	**17.63**	**338**	⇑*i*P		**P**	**10 19 12.5**	**+1.3**
GRNR	**Gornyy**	**17.93**	**349**	*e*P		**P**	**10 19 16.2**	**+1.7**
GRNR				pmax	pmax			
	comp=Z,260nm,2.0s							
YOJ	**Yonaguni jima**	**18.66**	**247**	*e*P		**P**	**10 19 22.1**	**-0.6**
	comp=Z,80nm,1.0s							
YOJ	**Yonaguni jima**	**18.66**	**247**	*e*P		**P**	**10 19 22.1**	**-0.6**
YOJ				pmax	pmax			
	comp=Z,81nm,1.0s							
NJ2	**Nanjing**	**19.39**	**273**	*e*P		**P**	**10 19 30.3**	**-0.4**
NJ2				S		**Sn**	**10 23 08.4**	**-0.3**
NJ2				pmax	pmax			
	comp=Z,9.0nm,0.5s							
NJ2				LR	LR			
	comp=Z,3μm,15.2s							
NJ2				LR	LR			
	comp=Z,3μm,15.7s							
NJ2				LR	LR			
	comp=Z,3μm,14.1s							
YHNB	**Yeheng**	**19.83**	**250**	*e*P		**P**	**10 19 34.4**	**-1.1**
	comp=Z,20nm,0.9s							
YULB	**Yu-li**	**20.56**	**247**	*e*P		**P**	**10 19 42.7**	**-0.8**
	comp=Z,17nm,0.9s							
SSLB	**Suanglung**	**20.61**	**248**	*e*P		**P**	**10 19 42.8**	**-1.3**
	comp=Z,13nm,0.8s							
TPUB	**Ta-pu**	**21.12**	**247**	*e*P		**P**	**10 19 48.0**	**-1.6**
	comp=Z,30nm,1.0s							
BJI	**Beijing**	**21.63**	**296**	P		**P**	**10 19 53.3**	**-1.5**
BJI				S		**S**	**10 23 44.3**	**-8.9**
BJI				LR	LR			
	comp=Z,1μm,14.7s							
BJI				LR	LR			
	comp=Z,2μm,15.7s							
BJI				LR	LR			
	comp=Z,910nm,16.3s							
QZH	**Quanzhou**	**21.91**	**254**	P		**P**	**10 19 57.5**	**-0.5**
QZH				S		**S**	**10 23 56.0**	**-3.0**
QZH				SS		**SnSn**	**10 24 28.1**	**+3.3**
QZH				LR	LR			
	comp=Z,1μm,14.3s							
QZH				LR	LR			
	comp=Z,1μm,16.1s							
QZH				LR	LR			
	comp=Z,2μm,14.3s							
PETK	**Petropavlovsk-**	**22.85**	**25**	P		**P**	**10 20 09.7**	**+1.9**
	comp=Z,5.3nm,0.9s,baz=207,slow=9.0,SNR=3.0							
PETK				LR		LR	10 30 50.8	
	comp=Z,909nm,19.1s,baz=206,slow=41							
PEA1	**Petropavlovsk-**	**22.86**	**25**	*e*P		**P**	**10 20 09.7**	**+1.8**
HIA	**Hailar**	**22.92**	**321**	⇓*i*P		**P**	**10 20 06.2**	**-2.4**
HIA				pmax	pmax			
	comp=Z,48nm,1.9s							
ZEA	**Zeya**	**22.95**	**337**	*e*P		**P**	**10 20 08.6**	**-0.2**
ZEA				*e*S		**S**	**10 24 14.0**	**-3.4**
ZEA				pmax	pmax			
	comp=Z,1μm,4.0s							
ZEA				pmax	pmax			
	comp=N,510nm,1.8s							
ZEA				pmax	pmax			
	comp=E,160nm,1.8s							
ZEA				pmax	pmax			
	comp=Z,880nm,1.8s							
ZEA				smax	smax			
	comp=E,800nm,10.0s							
ZEA				smax	smax			
	comp=N,1μm,11.0s							
ZEA				MLR	MLR			
	comp=N,2μm,16.0s							
ZEA				MLR	MLR			
	comp=Z,2μm,16.0s							
WHN	**Wuhan**	**23.47**	**271**	⇑P		**P**	**10 20 11.3**	**-3.0**
WHN				S		**S**	**10 24 18.8**	**-7.7**
WHN				LR	LR			
	comp=Z,5μm,12.2s							
WHN				LR	LR			
	comp=Z,7μm,13.5s							
WHN				LR	LR			
	comp=Z,8μm,14.7s							
HHC	**Hu-ho-hao-te**	**25.23**	**296**	*e*P		**P**	**10 20 30.3**	**-0.3**
HHC				pP		pP	10 20 34.5	-3.0
HHC				sP		sP	10 20 37.3	-3.2
HHC				PP		**PnPn**	**10 21 08.3**	**+3.2**
HHC				S		**S**	**10 24 52.0**	**-2.8**
HHC				sS		pS	10 24 58.9	-3.4
HHC				SS		**SnSn**	**10 25 51.9**	**+5.9**
HHC				pmax	pmax			
	comp=Z,30nm,1.2s							
HHC				pmax	pmax			
	comp=Z,430nm,5.7s							
HHC				LR	LR			
	comp=Z,2μm,14.1s							
HHC				LR	LR			
	comp=Z,2μm,15.5s							
HHC				LR	LR			
	comp=Z,1μm,14.9s							
H11N2	**WAKE ISLAND Hy**	**26.08**	**115**	T		T	10 48 05.1	
	baz=306,slow=73,SNR=9.8							
H11N1	**WAKE ISLAND Hy**	**26.09**	**115**	T		T	10 47 58.7	
	baz=306,slow=73,SNR=9.7							
H11N3	**WAKE ISLAND Hy**	**26.10**	**115**	T		T	10 48 01.7	
	baz=306,slow=73,SNR=8.8							
BTO	**Baotou**	**26.36**	**295**	*e*P		**P**	**10 20 35.6**	**-5.3**
BTO				S		**S**	**10 25 17.6**	**+4.8**
H11S3	**WAKE ISLAND Hy**	**26.67**	**117**	T		T	10 48 44.3	
	baz=312							
H11S1	**WAKE ISLAND Hy**	**26.67**	**117**	T		T	10 48 49.5	
	baz=312,SNR=3.0							
H11S2	**WAKE ISLAND Hy**	**26.69**	**117**	T		T	10 48 50.1	
	baz=312							
XAN	**Xi'an**	**27.35**	**281**	P		**P**	**10 20 46.9**	**-2.9**
XAN				S		**S**	**10 25 28.4**	**0.0**
XAN				pmax	pmax			
	comp=Z,19nm,1.5s							
XAN				pmax	pmax			
	comp=Z,270nm,7.3s							
XAN				LR	LR			
	comp=Z,2μm,14.7s							
XAN				LR	LR			
	comp=Z,2μm,13.7s							
YAK	**Yakutsk**	**29.81**	**348**	P		**P**	**10 21 12.2**	**+0.9**
	comp=Z,5.1nm,0.3s,baz=16,slow=18,SNR=3.2							
YAK				LR		LR	10 33 36.7	
	comp=Z,1μm,18.3s,baz=114,slow=37							
YAK	**Yakutsk**	**29.81**	**348**	*e*P		**P**	**10 21 09.6**	**-1.7**
YAK				*e**PP		**pP**	**10 21 18.4**	**+0.1**
YAK				*e*			10 24 14.2	
YAK				*e*S		**S**	**10 26 05.0**	**-1.3**
YAK				*e*SS		**SnSn**	**10 27 42.7**	**+5.5**
YAK				pmax	pmax			
	comp=Z,3.0nm,0.6s							
YAK				pmax	pmax			
	comp=N,5.0nm,1.1s							
YAK				pmax	pmax			
	comp=Z,928nm,4.0s							
YAK				pmax	pmax			
	comp=E,289nm,4.0s							
YAK				pmax	pmax			
	comp=N,1μm,4.0s							
YAK				smax	smax			
	comp=N,403nm,17.5s							
YAK				smax	smax			
	comp=E,167nm,14.7s							
YAK				MLR	MLR			
	comp=Z,875nm,14.0s							
YAK				MLR	MLR			
	comp=N,1μm,17.0s							
YAK				MLR	MLR			
	comp=E,348nm,17.0s							
ULN	**Ulaanbaatar**	**29.89**	**310**	*e*P		**P**	**10 21 13.1**	**+0.7**
	comp=E,20nm,0.8s							
ULN	**Ulaanbaatar**	**29.89**	**310**	⇓*i*P		**P**	**10 21 14.3**	**+1.9**
ULN				pmax	pmax			
	comp=Z,98nm,2.5s							
SONA1	**Songino Array**	**30.31**	**309**	*e*P		**P**	**10 21 15.6**	**-0.4**
SONA0	**Songino Array**	**30.31**	**309**	*e*P		**P**	**10 21 16.1**	**+0.1**
SONM	**Songino Array**	**30.31**	**309**	P		**P**	**10 21 16.1**	**+0.1**
	comp=Z,16nm,1.0s,baz=108,slow=7.7,SNR=35							
SONM				LR		LR	10 33 56.9	
	comp=Z,1μm,18.1s,baz=106,slow=37							
SEY	**Seymchan**	**30.42**	**10**	P		**P**	**10 21 16.6**	**-0.1**
	comp=Z,7.2nm,0.7s,baz=193,slow=6.9,SNR=14							
SEY	**Seymchan**	**30.42**	**10**	⇑*i*P		**P**	**10 21 17.3**	**+0.7**
BOD	**Bodaibo**	**30.94**	**331**	*e*P		**P**	**10 21 25.9**	**+4.6**
BOD				pmax	pmax			
	comp=Z,71nm,1.7s							
LZH	**Lanzhou**	**31.24**	**286**	*e*P		**P**	**10 21 25.8**	**+1.4**
LZH				pP		pP	10 21 29.5	-2.0
LZH				sP		sP	10 21 31.8	-2.6
LZH				pmax	pmax			
	comp=Z,21nm,1.1s							
QIZ	**Qiongzhong**	**31.89**	**252**	P		**P**	**10 21 28.8**	**-1.2**
QIZ				S		**S**	**10 26 41.3**	**+1.6**
QIZ				ScS		**ScS**	**10 32 00.8**	**-0.2**
QIZ				LR	LR			
	comp=Z,690nm,14.2s							
QIZ				LR	LR			
	comp=Z,920nm,13.2s							
QIZ				LR	LR			
	comp=Z,740nm,14.3s							
QIZ	**Qiongzhong**	**31.89**	**252**	*e*P		**P**	**10 21 29.8**	**-0.2**
	comp=E,8.1nm,1.1s							
CD2	**Chengdu**	**32.23**	**276**	*e*P		**P**	**10 21 32.0**	**-1.1**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,120nm,5.0s							
ZAK	**Zakamensk**	**32.98**	**313**	*e*P		**P**	**10 21 39.4**	**0.0**
ZAK				pmax	pmax			
	comp=Z,7.0nm,1.3s							
TLY	**Talaya**	**33.15**	**315**	*e*P		**P**	**10 21 43.2**	**+2.4**
TLY				*e*			10 22 57.3	
TLY				*e*S		**S**	**10 27 00.9**	**+2.0**
TLY				*e*SSS		SSS	10 29 26.3	
TLY				pmax	pmax			
	comp=Z,10.0nm,0.9s							
TLY				MLR	MLR			
	comp=Z,1μm,16.0s							
GTA	**Gaotai**	**34.17**	**293**	⇑P		**P**	**10 21 48.3**	**-1.7**
GTA				pP		pP	10 21 54.5	-2.5
GTA				sP		sP	10 21 57.3	-2.6
GTA				PP		**PnPn**	**10 23 04.1**	**+0.1**
GTA				S		**S**	**10 27 15.5**	**+0.4**
GTA				sS		sS	10 27 25.6	-1.1
GTA				SS		**SnSn**	**10 29 28.3**	**+4.5**
GTA				pmax	pmax			
	comp=Z,9.0nm,1.4s							
GTA				pmax	pmax			
	comp=Z,200nm,5.1s							
GTA				LR	LR			
	comp=Z,1μm,16.8s							
GTA				LR	LR			
	comp=Z,1μm,15.1s							
GTA				LR	LR			
	comp=Z,2μm,14.1s							
KMI	**Kunming**	**34.93**	**267**	P		**P**	**10 21 57.9**	**+1.1**
KMI				pP		pP	10 22 01.4	-2.4
KMI				sP		sP	10 22 03.0	-3.7
KMI				PP		**PnPn**	**10 23 13.8**	**+0.1**
KMI				S		**S**	**10 27 20.5**	**-6.7**
KMI				sS		pS	10 27 32.8	-2.5
KMI				SS		**SnSn**	**10 29 42.4**	**-0.2**
KMI				pmax	pmax			
	comp=Z,12nm,0.6s							
KMI				pmax	pmax			
	comp=Z,130nm,6.4s							
KMI				LR	LR			
	comp=Z,930nm,13.1s							
KMI				LR	LR			
	comp=Z,2μm,15.0s							
KMI				LR	LR			
	comp=Z,2μm,14.0s							
SIJI	**Sorong**	**35.39**	**198**	P		**P**	**10 21 59.5**	**-1.0**
	comp=Z,7.9nm,0.8s,baz=185,slow=16,SNR=9.7							
JAY	**Jayapura**	**35.61**	**182**	P		**P**	**10 22 02.7**	**+0.3**
	comp=Z,4.1nm,0.7s,baz=276,slow=1.6,SNR=4.4							
JAY	**Jayapura**	**35.61**	**182**	P		**P**	**10 22 02.7**	**+0.3**
JAY				pmax	pmax			
	comp=Z,6.0nm,0.9s							
FAKI	**Fak Fak**	**37.12**	**196**	*e*P		**P**	**10 22 15.1**	**-0.2**
	comp=Z,5.8nm,0.8s							
BILL	**Bilibino**	**37.55**	**15**	*c i*P		**P**	**10 22 17.8**	**-0.6**
BILL				pmax	pmax			
	comp=Z,9.0nm,1.0s							
SKNT	**Sakolnakorn**	**37.68**	**254**	P		**P**	**10 22 22.2**	**+2.1**
	comp=Z,8.3nm,1.8s,comp=Z,588nm							
HVS	**Khovu-Aksy**	**39.08**	**312**	⇓*e*P		**P**	**10 22 33.8**	**+2.2**
HVS				pmax	pmax			
	comp=Z,15nm,1.3s							
CHAI	**Chaiyaphum**	**39.87**	**254**	P		**P**	**10 22 40.3**	**+1.8**
	comp=Z,4.8nm,1.4s,comp=Z,91nm							
UTTA	**Uttaradit**	**40.06**	**258**	P		**P**	**10 22 42.3**	**+2.3**
	comp=Z,4.7nm,1.3s							
UTTA	**Uttaradit**	**40.06**	**258**	P		**P**	**10 22 42.3**	**+2.3**
PBKT	**Sadao Pong**	**40.33**	**256**	P		**P**	**10 22 41.4**	**-0.9**
	comp=Z,19nm,1.0s							
CMMT	**Chiang Mai**	**40.85**	**260**	P		**P**	**10 22 45.6**	**-1.0**
	comp=Z,18nm,1.4s							
CMMT	**Chiang Mai**	**40.85**	**260**	P		**P**	**10 22 45.6**	**-1.0**
CHTO	**Chiang Mai**	**40.85**	**260**	P		**P**	**10 22 45.7**	**-0.9**
	comp=Z,79nm,1.4s							
CHTO	**Chiang Mai**	**40.85**	**260**	P		**P**	**10 22 45.7**	**-0.9**
SRAK	**Srakaew**	**40.88**	**252**	P		**P**	**10 22 46.0**	**-0.8**
	comp=Z,38nm,1.3s							
CMAR	**Chiang Mai Arr**	**41.03**	**260**	P		**P**	**10 22 46.6**	**-1.4**
	comp=Z,3.2nm,0.7s,baz=46,slow=

DGZ pmax pmax
comp=Z,5.0nm,1.2s
SRDT SRDT 43.03 254 P **P** **10 23 06.5 +2.1**
comp=Z,13nm,1.2s,comp=Z,2um
LSA Lhasa 43.04 279 P **P** **10 23 04.0 -0.9**
LSA pmax pmax
comp=Z,9.0nm,1.3s
KSM Kuching 43.30 230 *e*P **P** **10 23 06.1 -0.5**
comp=Z,14nm,0.7s
ANM Nome 44.66 29 *e*P **P** **10 23 18.0 +1.1**
comp=Z,22nm,1.2s
ANM Nome 44.66 29 *e*P **P** **10 23 18.0 +1.1**
ANM pmax pmax
comp=Z,23nm,1.2s
ZAA0 Zalesovo Array 44.77 315 *e*P **P** **10 23 17.8 -0.1**
comp=Z,3.3nm,0.7s
ZAA1 Zalesovo Array 44.77 315 *e*P **P** **10 23 18.1 +0.2**
ZALV Zalesovo Beam 44.77 315 P **P** **10 23 18.1 +0.2**
comp=Z,1.3nm,0.3s,baz=114,slow=7.3,SNR=8.0
ZALV LR LR 10 42 49.8
comp=Z,544nm,18.8s,baz=69,slow=37
ZALV Zalesovo Beam 44.77 315 *e*P **P** **10 23 18.6 +0.7**
ZALV Zalesovo Beam 44.77 315 P **P** **10 23 18.1 +0.2**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV MLR MLR
comp=Z,544nm,18.8s
BRDH Bariadhala 45.20 270 P **P** **10 23 21.2 -0.6**
comp=Z,75nm,0.3s,baz=77,slow=16,SNR=2.4
BRDH LR LR 10 44 30.6
comp=Z,629nm,18.0s,baz=64,slow=39
NVS Novosibirsk 45.75 316 *e*P **P** **10 23 27.1 +1.5**
NVS *e*S **S** **10 30 07.8 +0.3**
NVS pmax pmax
comp=Z,16nm,1.4s
NVS pmax pmax
comp=E,11nm,1.1s
NVS smax smax
comp=E,17nm,1.9s
MK01 Makanchi Array 46.49 305 *e*P **P** **10 23 30.8 -0.9**
MK31 Makanchi Array 46.49 305 *e*P **P** **10 23 31.2 -0.5**
MK31 Makanchi Array 46.49 305 *e*P **P** **10 23 31.2 -0.5**
MK32 Makanchi Array 46.49 305 *e*P **P** **10 23 31.1 -0.6**
MKAR Makanchi Array 46.49 305 P **P** **10 23 31.1 -0.6**
comp=E,3.9nm,0.7s,baz=90,slow=10.0,SNR=30
MKAR LR LR 10 43 41.4
comp=E,598nm,19.0s,baz=80,slow=37
MKAR Makanchi Array 46.49 305 *e*P **P** **10 23 31.2 -0.6**
comp=E,41nm,0.7s
BATI Baumata 46.58 205 LR LR 10 41 06.9
comp=E,319nm,20.7s,baz=18,slow=34
NRIK Noril'sk 46.84 337 P **P** **10 23 35.1 +1.1**
comp=E,5.9nm,0.7s,baz=119,slow=5.8,SNR=6.5
NRIK LR LR 10 46 43.4
comp=E,383nm,18.2s,baz=102,slow=40
COEN Coen 46.98 178 *e*P **P** **10 23 36.0 +0.3**
comp=E,7.5nm,1.0s
MTN Manton Dam 46.98 194 *e*P **P** **10 23 35.3 -0.4**
comp=E,36nm,0.9s
ODAN Odare 47.12 277 *e*P **P** **10 23 35.6 -1.5**
RAMN Ramite 47.74 278 *e*P **P** **10 23 40.6 -1.4**
comp=E,97nm,0.9s
JIRN Jiri 47.82 279 *e*P **P** **10 23 41.7 -1.1**
comp=E,330nm,1.4s
GUN Gumba 47.99 279 *e*P **P** **10 23 43.0 -1.0**
comp=E,108nm,1.0s
PKI Pulchoki 48.50 279 *e*P **P** **10 23 46.2 -1.7**
PKIN Phulchoki 48.51 279 *e*P **P** **10 23 46.4 -1.5**
comp=E,54nm,1.2s
KKN Kakani 48.53 279 *e*P **P** **10 23 46.8 -1.2**
KURK Kurchatov 48.59 311 *e*P **P** **10 23 46.6 -1.3**
KURK Kurchatov 48.59 311⇓ *e*P **P** **10 23 48.5 +0.6**
KURK pmax pmax
comp=Z,16nm,1.0s
KURBB Kurchatov Arra 48.65 311 P **P** **10 23 46.6 -1.8**
comp=Z,5.4nm,0.6s,baz=84,slow=7.5,SNR=20
DMN Daman 48.74 279 *e*P **P** **10 23 48.3 -1.4**
DANN Dangsing 49.58 281 *e*P **P** **10 23 55.2 -1.0**
comp=Z,283nm,1.2s
KDAK Kodiak Island 49.71 40 P **P** **10 23 55.9 -0.4**
comp=Z,14nm,0.7s,baz=260,slow=5.2,SNR=7.8
IM3 Indian Mountai 49.74 29 *e*P **P** **10 23 57.2 +0.7**
KOLN Koldanda 49.92 280 *e*P **P** **10 23 57.5 -1.2**
PPLA Purkeypile 50.09 33 *e*P **P** **10 24 00.6 +1.3**
comp=Z,12nm,1.1s
PYUN Piuthan 50.31 281 *e*P **P** **10 24 00.5 -1.1**
TRF Thorofare Moun 50.98 32 *e*P **P** **10 24 07.0 +0.9**
comp=Z,5.2nm,1.0s
LEM Lembang 51.44 226 LR LR 10 47 06.3
comp=Z,220nm,18.6s,baz=39,slow=37
PMR Palmer 51.47 35 *e*P **P** **10 24 09.3 -0.2**
PMR Palmer 51.47 35 *e*P **P** **10 24 09.3 -0.2**
GHO Glory Hole Cre 51.57 35 *e*P **P** **10 24 10.2 -0.2**
comp=Z,4.4nm,0.9s
TOLK Toolik Lake Re 51.67 26 *e*P **P** **10 24 11.9 +0.8**
comp=Z,7.3nm,1.0s
MDM Murphy Dome 51.94 31 *e*P **P** **10 24 13.7 +0.6**
comp=Z,22nm,1.1s
WRH Wood River Hil 51.98 31 *e*P **P** **10 24 14.0 +0.6**
comp=Z,8.2nm,1.1s
CCB Clear Creek Su 52.11 31 *e*P **P** **10 24 14.5 +0.2**
comp=Z,5.2nm,0.9s
GSI Gunungsitoli 52.26 242 *e*P P 10 24 11.0 -5.1
comp=Z,24nm,1.1s
KSH Kashi 52.34 297 *e*P **P** **10 24 17.1 +0.5**
HDA Harding Lake 52.48 31 *e*P **P** **10 24 16.8 -0.3**
comp=Z,13nm,1.1s
ILAR Eielson Array 52.51 31 P **P** **10 24 16.7 -0.6**
comp=Z,4.9nm,0.7s,baz=264,slow=5.9,SNR=44
ILAR LR LR 10 47 56.7
comp=Z,138nm,19.6s,baz=291,slow=37
ILB Eielson Array 52.51 31 *e*P **P** **10 24 17.1 -0.2**
IL1 Eielson Array 52.51 31 *e*P **P** **10 24 17.2 -0.1**
AAK Ala-Archa 52.66 301 LR LR 10 47 03.3
comp=Z,355nm,18.4s,baz=60,slow=36
AAK Ala-Archa 52.66 301⇑ *e*P **P** **10 24 21.3 +2.4**
AAK pmax pmax
comp=Z,4.0nm,1.0s
FITZ Fitzroy Crossi 53.38 199 *e*P **P** **10 24 23.7 -0.4**
comp=Z,28nm,1.1s
WRAB Tennant Creek 53.39 189 *e*P **P** **10 24 23.3 -0.9**
comp=Z,7.6nm,0.6s
WRAB Tennant Creek 53.39 189⇑ *e*P **P** **10 24 25.8 +1.6**
WRAB pmax pmax
comp=Z,14nm,1.3s
WB2 Warramunga Arr 53.40 189 *e*P **P** **10 24 23.5 -0.8**
WR1 Warramunga Arr 53.40 189 *e*P **P** **10 24 23.6 -0.7**
comp=Z,8.3nm,0.8s
WRA Warramunga Arr 53.40 189 P **P** **10 24 23.6 -0.7**
comp=Z,5.2nm,0.5s,baz=6.0,slow=7.7,SNR=134
WRA LR LR 10 47 30.3
comp=Z,210nm,18.0s,baz=5.0,slow=36
BVAR Borovoye Array 53.41 314 LR LR 10 48 16.8
comp=Z,577nm,18.8s,baz=82,slow=37
WC3 Warramunga Arr 53.41 189 *e*P **P** **10 24 23.8 -0.5**
comp=Z,11nm,0.8s
BRVK Borovoye 53.47 315⇑ *e*P **P** **10 24 26.0 +1.5**
BRVK pmax pmax
comp=Z,108nm,2.5s
EGAK Eagle 54.96 31 *e*P **P** **10 24 35.2 0.0**
comp=Z,6.1nm,0.9s
KK31 Karatay Array 55.38 303 *e*P **P** **10 24 39.4 +0.8**
KK31 Karatay Array 55.38 303 *e*P **P** **10 24 39.4 +0.8**
KKAR Karatay Array 55.38 303 *e*P **P** **10 24 39.4 +0.8**
KKAR Karatay Array 55.38 303 *e*P **P** **10 24 39.4 +0.8**
DAWY Dawson 55.79 31 *e*P **P** **10 24 42.0 +0.7**
comp=Z,1.4nm,0.7s
AS01 Alice Springs 57.12 189 *e*P **P** **10 24 51.7 +0.6**
AS31 Alice Springs 57.12 189 *e*P **P** **10 24 51.9 +0.8**
comp=Z,1.7nm,0.5s
ASAR Alice Springs 57.12 189 P **P** **10 24 50.8 -0.4**
comp=Z,2.5nm,0.5s,baz=0.4,slow=6.6,SNR=34
ASAR LR LR 10 48 52.3
comp=Z,186nm,18.9s,baz=12,slow=35
HYT Haines Junctio 57.13 35 *e*P **P** **10 24 51.9 +0.9**
comp=Z,6.9nm,1.1s
INK Inuvik 57.59 26 P **P** **10 24 54.0 +0.1**
comp=Z,2.6nm,0.9s,baz=291,slow=6.1,SNR=11
INK Inuvik 57.59 26 *e*P **P** **10 24 54.0 +0.1**
comp=Z,2.7nm,0.9s
INK Inuvik 57.59 26 P **P** **10 24 54.0 +0.1**
INK pmax pmax
comp=Z,3.0nm,0.9s
MBWA Marble Bar 58.09 204 *e*P **P** **10 24 58.8 +0.8**
comp=Z,13nm,0.9s
WHY Whitehorse 58.43 35 *e*P **P** **10 25 02.0 +2.0**
comp=Z,7.4nm,1.0s
HYB Hyderabad 58.54 271 *i*P **P** **10 25 00.0 -1.3**
EIDS Eidsvold 58.98 170 *e*P **P** **10 25 04.2 +0.1**
comp=Z,6.4nm,0.9s
ARU Arti 59.44 320 *e*P **P** **10 25 06.2 -0.8**
comp=Z,14nm,1.1s
ARU Arti 59.44 320⇑ *e*P **P** **10 25 05.8 -1.2**
ARU pmax pmax
comp=Z,14nm,1.1s
DZM Mont Dzumac 59.83 153 P **P** **10 25 11.8 +1.7**
comp=Z,20nm,1.2s,baz=20,slow=8.2,SNR=6.7
DZM Mont Dzumac 59.83 153 *e*P **P** **10 25 11.5 +1.4**
comp=Z,62nm,1.4s
DZM Mont Dzumac 59.83 153 *e*LR LR 10 42 35.3
comp=Z,702nm,20.5s
DZM Mont Dzumac 59.83 153 *e*P **P** **10 25 12.4 +2.2**
comp=Z,21nm,1.1s
ABKAR Akbulak array 60.67 312 *e*P **P** **10 25 14.0 -1.5**
DLBC Dease Lake 61.40 37 P **P** **10 25 21.4 +1.0**
comp=Z,3.2nm,0.9s,baz=32,slow=7.0,SNR=2.9
AKTO Aktyubinsk 61.48 314 LR LR 10 53 22.3
comp=Z,477nm,18.5s,baz=65,slow=37
POO Poona 61.94 275 *e*P **P** **10 25 23.0 -1.7**
PRGR Permogore 64.12 328 *e*P **P** **10 25 37.0 -1.4**
PRGR pmax pmax
comp=Z,12nm,0.4s
STKA Stephens Creek 64.80 180 P **P** **10 25 43.6 +0.6**
comp=Z,0.9nm,0.3s,baz=317,slow=9.3,SNR=2.7
LVZ Lovozero 65.69 337⇓ *e*P **P** **10 25 50.2 +1.6**
LVZ pmax pmax
comp=Z,120nm,1.3s
GEYT Alibeck 66.00 301 P **P** **10 25 51.5 +0.4**
comp=Z,0.9nm,0.3s,baz=209,slow=46,SNR=3.7
GEYT LR LR 10 57 28.1
comp=Z,259nm,18.7s,baz=15,slow=38
RES Resolute Bay 66.15 14 *e*P **P** **10 25 51.7 +0.3**
comp=Z,4.0nm,0.8s
RES Resolute Bay 66.15 14 *e*P **P** **10 25 51.7 +0.3**
RES pmax pmax
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 66.89 29 P **P** **10 25 56.2 -0.1**
comp=Z,2.1nm,0.9s,baz=311,slow=6.8,SNR=5.5
ARCES ARCESS Array B 67.64 340 LR LR 11 01 02.1
comp=Z,20nm,18.3s,baz=95,slow=41
DAG Danmarks Havn 69.54 355 *i*P **P** **10 26 12.0 -0.7**
DAG Danmarks Havn 69.54 355 *i*P **P** **10 26 12.0 -0.7**
VRH Novokhopyorsk 70.62 319 *e*P **P** **10 26 18.1 -1.6**
VRH pmax pmax
comp=Z,20nm,0.6s
VRH MLR MLR
comp=Z,790nm,18.0s
LTY Liberty 71.01 46 *e*P **P** **10 26 22.9 +0.6**
comp=Z,3.1nm,0.9s
OBN Obninsk 71.33 324 *e*P **P** **10 26 23.7 -0.2**
OBN *e* 10 29 01.7
OBN *e*S **S** **10 35 42.8 +2.7**
OBN *e*SS **SS** **10 40 10.2 -3.5**
OBN pmax pmax
comp=Z,6.0nm,1.0s
OBN MLR MLR
comp=Z,658nm,18.0s
LPSR Galich'ya Gora 71.43 321 *e*P P 10 26 32.2 +7.6
LPSR pmax pmax
comp=Z,10.0nm,1.2s
VSR Storozhevoye 72.01 320 *e*P **P** **10 26 27.9 -0.2**
VSR pmax pmax
comp=Z,5.0nm,0.4s
VORD Divnogorie 72.07 320 *e*P **P** **10 26 30.8 +2.4**
VORD pmax pmax
comp=Z,10.0nm,0.4s
FIA1 FINESS Array S 72.31 333 *e*P **P** **10 26 29.0 -0.7**
FIA0 FINESS Array S 72.31 333 *e*P **P** **10 26 28.8 -0.9**
FIA0 FINESS Array S 72.31 333 *e*P **P** **10 26 28.8 -0.9**
FINES FINESS Array B 72.31 333 P **P** **10 26 28.8 -0.9**
comp=Z,4.7nm,0.9s,baz=32,slow=11,SNR=6.2
FINES LR LR 11 00 43.1
comp=Z,314nm,18.6s,baz=66,slow=38
FINES FINESS Array B 72.31 333 *i*P **P** **10 26 30.2 +0.5**
FINES pmax pmax
comp=Z,5.0nm,0.9s
YBH Yreka Blue Hor 72.39 51 P **P** **10 26 31.3 +0.6**
comp=Z,6.6nm,0.7s,baz=59,slow=12,SNR=4.3
NEW Newport 72.60 43 P **P** **10 26 32.0 +0.2**
comp=Z,2.8nm,0.8s,baz=303,slow=5.7,SNR=4.6
GOF Gofitskoye 72.88 313 *e*P **P** **10 26 35.3 +1.9**
GOF pmax pmax
comp=Z,50nm,1.6s
ZEI Tsey 73.48 310 *e*P **P** **10 26 34.7 -2.6**
ZEI pmax pmax
comp=Z,12nm,1.4s
KBZ Khabaz 73.64 312 P **P** **10 26 38.4 +0.5**
comp=Z,11nm,1.0s,baz=4.0,slow=5.3,SNR=8.8
KBZ LR LR 11 01 50.2
comp=Z,393nm,18.3s,baz=77,slow=38
KBZ Khabaz 73.64 312 P **P** **10 26 38.4 +0.5**
KBZ pmax pmax
comp=Z,10.0nm,1.0s
KBZ MLR MLR
comp=Z,393nm,18.3s
KIV Kislovodsk 73.66 312 *e*P **P** **10 26 39.8 +1.6**
KIV *e*S **S** **10 36 10.7 +3.3**
KIV *e*SS **SS** **10 40 54.2 +4.1**
KIV pmax pmax
comp=Z,26nm,1.0s
KIV MLR MLR
comp=Z,382nm,18.0s
VSU Vasula 73.88 330⇑ *e*P **P** **10 26 38.1 -0.9**
VSU pmax pmax
comp=Z,46nm,1.0s
NEY Neytrino 73.99 311⇑ *e*P **P** **10 26 41.9 +1.6**
NEY pmax pmax
comp=Z,1.0nm,1.0s
BMO Blue Mountains 74.24 47 *e*P **P** **10 26 42.0 +0.4**
comp=Z,3.8nm,0.9s
BMO Blue Mountains 74.24 47 *e*P **P** **10 26 42.0 +0.4**
BMO pmax pmax
comp=Z,4.0nm,0.9s
GNI Garni 74.26 308 LR LR 11 02 16.5
comp=Z,563nm,18.1s,baz=49,slow=38
GNI Garni 74.26 308⇑ *e*P **P** **10 26 43.7 +1.9**
GNI pmax pmax
comp=Z,33nm,1.1s
ORV Orovile 74.26 53 *e*P **P** **10 26 42.3 +0.6**
ORV Orovile 74.26 53 *e*P **P** **10 26 42.3 +0.6**
SUMG Summit 74.44 0 *e*P **P** **10 26 43.6 +1.0**
comp=Z,12nm,1.0s
SUMG Summit 74.44 0 *i*P **P** **10 26 43.7 +1.1**
comp=Z,33nm,1.1s
SUMG Summit 74.44 0 *i*P **P** **10 26 43.7 +1.1**
SUMG pmax pmax
comp=Z,33nm,1.1s
JTMT Jette 74.49 43 *e*P **P** **10 26 42.1 -0.9**
comp=Z,10nm,1.1s
BEKR Beckworth 74.86 52 *e*P **P** **10 26 46.1 +0.7**
comp=Z,8.4nm,1.0s
CMB Columbia Colle 75.78 54 *e*P **P** **10 26 51.2 +0.7**
comp=Z,11nm,1.1s
CMB Columbia Colle 75.78 54 *e*P **P** **10 26 51.2 +0.7**
CMB pmax pmax
comp=Z,11nm,1.1s
SCO Scoresbysund 75.88 354 *e*P **P** **10 26 51.6 +1.2**
comp=Z,13nm,1.1s
SCO Scoresbysund 75.88 354 *e*P **P** **10 26 51.6 +1.2**
SCO pmax pmax
comp=Z,13nm,1.1s
YERR Yerington 76.06 52 *e*P **P** **10 26 53.2 +0.9**
comp=Z,7.2nm,0.9s
WAKR Walker 76.18 53 *e*P **P** **10 26 54.3 +1.3**
comp=Z,4.1nm,1.0s
ANN Anapa 76.41 315 *e*P **P** **10 26 52.2 -1.7**
ANN pmax pmax
comp=Z,56nm,1.3s
FFC Flin Flon 76.68 32*c**e*P **P** **10 26 57.8 +2.5**
FFC pmax pmax
comp=Z,61nm,1.7s
DLMT Dillon 76.77 44 *e*P **P** **10 26 57.5 +1.4**
comp=Z,4.8nm,0.9s
KVN Kaiserville 76.78 52 *e*P **P** **10 26 56.1 -0.3**
comp=Z,8.1nm,1.1s
KVN Kaiserville 76.78 52 *e*P **P** **10 26 56.1 -0.3**
KVN pmax pmax
comp=Z,8.0nm,1.1s
NV01 Mina Array Sit 76.97 53 *e*P **P** **10 26 58.4 +0.9**
NVAR Mina Array Bea 76.97 53 P **P** **10 26 58.2 +0.7**
comp=Z,3.5nm,0.8s,baz=298,slow=5.8,SNR=20
NVAR LR LR 10 55 48.7
comp=Z,466nm,20.1s,baz=272,slow=32
AKASG Malin Array Be 77.49 323 P **P** **10 26 58.8 -1.1**
comp=Z,1.6nm,0.6s,baz=43,slow=5.8,SNR=9.7
AKASG LR LR 11 04 14.6
comp=Z,860nm,19.8s,baz=50,slow=38
KIEV Kiev 77.51 323⇓ *e*P **P** **10 26 59.2 -0.7**
KIEV pmax pmax
comp=Z,29nm,2.5s
HFS Hagfors 77.66 336 LR LR 11 05 02.9
comp=Z,695nm,19.3s,baz=52,slow=39
RAR Rarotonga 77.68 126 LR LR 10 57 04.4
comp=Z,200nm,19.1s,baz=287,slow=32
ELK Elko 77.72 49 *e*P **P** **10 27 03.0 +1.3**
comp=Z,2.1nm,0.9s
ELK Elko 77.72 49 *e*P **P** **10 27 03.0 +1.3**
ELK pmax pmax
comp=Z,2.0nm,0.9s
NC204 NORSAR Array S 77.75 338 *e*P **P** **10 27 01.6 +0.3**
NB2 NORSAR Subarra 77.79 338 P **P** **10 26 59.4 -2.0**
comp=Z,4.5nm,1.0s,baz=39,slow=5.9
NB200 NORSAR Array S 77.79 338 *e*P **P** **10 27 01.2 -0.2**
NOA NORSAR Array B 77.79 338 P **P** **10 27 01.2 -0.2**
comp=Z,3.5nm,0.9s,baz=39,slow=5.6,SNR=8.5
NOA LR LR 11 05 50.4
comp=Z,367nm,19.7s,baz=25,slow=39
FXWY Fox Creek 78.68 45 *e*P **P** **10 27 08.5 +1.5**
comp=Z,3.8nm,1.0s
HVU Hansel Valley 78.68 47 *e*P **P** **10 27 08.4 +1.5**
comp=Z,8.1nm,1.1s
HVU Hansel Valley 78.68 47 *e*P **P** **10 27 08.4 +1.5**
HVU pmax pmax
comp=Z,8.0nm,1.1s
TPAW Teton Pass 78.81 45 *e*P **P** **10 27 09.4 +1.7**
comp=Z,3.6nm,0.9s
R11A Troy Canyon, C 78.81 51 *e*P **P** **10 27 08.6 +0.8**
RLMT Red Lodge 78.84 43 *e*P **P** **10 27 08.4 +0.6**
comp=Z,7.7nm,1.0s
TPNV Topopah Spring 79.14 53 *e*P **P** **10 27 10.2 +0.7**
comp=Z,6.3nm,1.0s
TPNV Topopah Spring 79.14 53 *e*P **P** **10 27 10.2 +0.7**
TPNV pmax pmax
comp=Z,6.0nm,1.0s
DUG Dugway, Tooele 79.56 49 *e*P **P** **10 27 13.0 +1.3**
comp=Z,8.6nm,1.1s
DUG Dugway, Tooele 79.56 49 *e*P **P** **10 27 13.0 +1.3**
DUG pmax pmax
comp=Z,9.0nm,1.1s
PDAR Pinedale Array 80.06 45 P **P** **10 27 14.7 +0.2**
comp=Z,1.2nm,0.6s,baz=292,slow=2.1,SNR=11
PDAR LR LR 11 04 06.7
comp=Z,104nm,18.4s,baz=325,slow=37
PDAR Pinedale Array 80.06 45 *e*P **P** **10 27 14.9 +0.4**
SHPR Sheep Range 80.12 53 *e*P **P** **10 27 16.2 +1.3**
comp=Z,12nm,1.2s
NLU North Lily Min 80.16 49 *e*P **P** **10 27 15.6 +0.5**
comp=Z,4.0nm,1.0s
MPU Maple Canyon 80.40 48 *e*P **P** **10 27 17.3 +1.0**
comp=Z,7.4nm,1.2s
CCUT Cedar City 80.72 51 *e*P **P** **10 27 19.4 +1.3**
comp=Z,4.1nm,0.9s
MSU Marysvale 80.93 50 *e*P **P** **10 27 20.5 +1.3**
MSU Marysvale 80.93 50 *e*P **P** **10 27 20.5 +1.3**
TMUT Trail Mountain 81.09 49 *e*P **P** **10 27 20.3 +0.2**
comp=Z,3.9nm,1.0s
LCMT Little Creek M 81.10 52 *e*P **P** **10 27 20.6 +0.5**
comp=Z,6.5nm,0.9s
MTPU Mount Pierson 81.20 50 *e*P **P** **10 27 22.1 +1.3**
comp=Z,5.2nm,0.9s
P17A Butcher Ranch, 81.28 48 *e*P **P** **10 27 22.1 +1.1**
comp=Z,10nm,0.9s
KNB Kanab 81.37 51 *e*P **P** **10 27 23.0 +1.4**
comp=Z,10nm,0.9s
KNB Kanab 81.37 51 *e*P **P** **10 27 23.0 +1.4**
KNB pmax pmax
comp=Z,11nm,0.9s
P18A Preston Nutter 81.50 48 *e*P **P** **10 27 23.6 +1.3**
comp=Z,4.1nm,0.8s
BR101 Keskin Array S 81.62 312 *e*P **P** **10 27 22.8 0.0**
BRTR Keskin Array B 81.62 312 P **P** **10 27 22.8 0.0**
comp=Z,4.2nm,0.8s,baz=108,slow=3.9,SNR=17
BRTR LR LR 11 09 01.9
comp=Z,187nm,18.2s,baz=46,slow=40
BRTR Keskin Array B 81.62 312*c**e*P **P** **10 27 23.7 +0.9**
SRU San Rafael Swe 81.63 49 *e*P **P** **10 27 23.4 +0.5**
comp=Z,12nm,0.7s
SRU San Rafael Swe 81.63 49 *e*P **P** **10 27 23.4 +0.5**
SRU pmax pmax
comp=Z,12nm,0.7s
U15A North Rim 82.06 52 *e*P **P** **10 27 26.7 +1.3**
comp=Z,4.0nm,0.9s
UZH Uzhgorod 82.27 324 *e*P **P** **10 27 27.6 +1.8**
UZH *e* 10 27 36.0
RAYN Ar Rayn 82.43 293 *e*P **P** **10 27 26.9 -0.2**
comp=Z,9.9nm,1.0s
RAYN Ar Rayn 82.43 293 *e*P **P** **10 27 26.9 -0.2**
RAYN pmax pmax
comp=Z,10.0nm,1.0s
ULM Lac du Bonnet 82.45 33 P **P** **10 27 26.1 -0.6**
comp=Z,10nm,0.7s,baz=114,slow=6.9,SNR=3.1
MLR Muntele Rosu 82.49 320 LR LR 11 09 48.9
comp=Z,589nm,18.2s,baz=101,slow=40
PPT Papeete 82.64 116 LR LR 11 03 26.6
comp=Z,345nm,19.4s,baz=298,slow=35
PPT2 Papeete2 82.66 116 *e*LR LR 10 52 51.3
comp=Z,634nm,32.0s,baz=304
PV09 Paradox Valley 82.86 48 *e*P **P** **10 27 30.8 +1.3**
PV21 Cone Mtn., Par 82.92 48 *e*P **P** **10 27 30.5 +0.8**
comp=Z,13nm,0.7s
PV23 Carpenter Ridg 82.97 48 *e*P **P** **10 27 30.9 +0.9**
comp=Z,18nm,0.7s
PV10 Paradox Valley 83.00 48 *e*P **P** **10 27 31.2 +1.1**
PV14 Lion Creek, Pa 83.01 48 *e*P **P** **10 27 30.9 +0.8**
comp=Z,21nm,0.8s
PV22 Blue Mesa, Par 83.06 48 *e*P **P** **10 27 31.5 +1.1**
comp=Z,6.6nm,0.8s
PV20 West Nyswonger 83.06 48 *e*P **P** **10 27 31.6 +1.2**
comp=Z,18nm,0.8s
PV19 Morning Glory 83.07 48 *e*P **P** **10 27 31.7 +1.2**
comp=Z,16nm,0.8s
PV17 East Wray Mesa 83.11 48 *e*P **P** **10 27 31.9 +1.3**
comp=Z,26nm,0.9s
PV16 Nyswonger Mesa 83.11 48 *e*P **P** **10 27 31.6 +0.9**
comp=Z,10nm,0.7s
PV05 Paradox Valley 83.14 49 *e*P **P** **10 27 31.9 +1.0**
PV11 David Mesa, Pa 83.15 48 *e*P **P** **10 27 32.4 +1.5**
comp=Z,18nm,0.7s
PV18 Skein Mesa, Pa 83.16 48 *e*P **P** **10 27 31.6 +0.7**
comp=Z,20nm,1.0s
PV12 Saucer Basin, 83.18 48 *e*P **P** **10 27 32.7 +1.7**
comp=Z,11nm,0.8s
PV03 Paradox Valley 83.19 48 *e*P **P** **10 27 32.2 +1.1**
PV13 Radium Mtn., P 83.27 49 *e*P **P** **10 27 32.2 +0.7**
comp=Z,20nm,1.1s
PV02 Paradox Valley 83.29 48 *e*P **P** **10 27 32.8 +1.2**
PV01 Paradox Valley 83.44 48 *e*P **P** **10 27 33.6 +1.2**
MORC Moravsky Berou 83.70 327 *e*P **P** **10 27 34.9 +1.6**
SMCO Snowmass 83.79 47 *e*P **P** **10 27 35.2 +0.8**
comp=Z,4.1nm,1.1s
VYHS Vyhne 84.02 326 *e*P **P** **10 27 35.2 +0.3**
VYHS pmax pmax
comp=Z,28nm,1.9s
VYHS Vyhne 84.02 326 *e*P **P** **10 27 35.2 +0.3**
JAVC Velka Javorina 84.30 327 *e*P **P** **10 27 39.3 +2.9**
BRG Berggiesshubel 84.47 330 *e*P **P** **10 27 37.0 -0.1**
comp=Z,5.3nm,0.8s
VRAC Vranov 84.47 328 LR LR 11 08 42.0
comp=Z,398nm,18.6s,baz=38,slow=38
VRAC Vranov 84.47 328 *e*P **P** **10 27 38.9 +1.8**
CLL Collm 84.53 331 *i*P **P** **10 27 36.7 -0.7**
comp=Z,51nm,1.8s
CLL *e* 10 27 48.0
CLL Collm 84.53 331 *e*P **P** **10 27 37.0 -0.4**
CLL *e* 10 27 48.0
CLL *e*S **S** **10 38 04.0 +1.4**
CLL *e* 10 38 37.0
CLL *e*SS **SS** **10 43 37.0 +4.7**
CLL *e*SSS SSS 10 47 06.0
CLL LmH 11 02 00.0
comp=N,300nm,19.1s
CLL LmH 11 02 00.0
comp=E,400nm,18.9s
CLL Collm 84.53 331 *e*P **P** **10 27 37.0 -0.4**
CLL *e* 10 27 48.0
CLL *e*S **S** **10 38 04.0 +1.4**
KRUC Moravsky 84.74 327 *e*P **P** **10 27 40.1 +1.6**
MODS Modra-Piesok 84.83 327 *e*P **P** **10 27 38.3 -0.7**

MODS					pmax	pmax			
	comp=Z,44nm,1.7s								
MODS	**Modra-Piesok**	**84.83**	**327**	*e*P	**P**	**Pb**	**10 27 38.3**	**-0.7**
TAOE	**Nuku Hiva Isla**	**84.92**	**104**	*e*LR	LR		10 54 13.2	
	comp=Z,450nm,21.5s								
TUC	**Tucson**	**85.49**	**54**	*e*P	**P**	**Pb**	**10 27 43.9**	**+1.2**
	comp=Z,1.4nm,0.8s								
TUC	**Tucson**	**85.49**	**54**	*e*P	**P**	**Pb**	**10 27 43.9**	**+1.2**
TUC					pmax	pmax			
	comp=Z,1.0nm,0.8s								
SDCO	**Great Sand Dun**	**85.58**	**47**	*e*P	**P**	**Pb**	**10 27 43.1**	**-0.2**
	comp=Z,0.9nm,0.8s								
GERES	**GERESS Array B**	**86.09**	**329**	P	**P**	**Pb**	**10 27 44.7**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=49,slow=4.1,SNR=5.9								
GERES					LR	LR	11 10 17.3		
	comp=Z,432nm,18.7s,baz=38,slow=38								
TBI	**Tubuai**	**86.30**	**121**	*e*LR	LR		10 54 43.2		
	comp=Z,315nm,20.5s,baz=316								
ANMO	**Albuquerque**	**86.74**	**50**	P	**P**	**Pb**	**10 27 49.2**	**+0.2**
	comp=Z,1.1nm,1.0s,baz=296,slow=4.6,SNR=3.5								
ANMO	**Albuquerque**	**86.74**	**50**	*e*P	**P**	**Pb**	**10 27 49.3**	**+0.3**
ANMO					pmax	pmax			
	comp=Z,10.0nm,2.5s								
BFO	**Black Forest**	**88.75**	**331**	*e*P	**P**	**Pb**	**10 27 55.8**	**-2.3**
	comp=Z,4.4nm,0.6s								
BFO	**Black Forest**	**88.75**	**331**	*e*P	**P**	**Pb**	**10 27 55.8**	**-2.3**
BFO					pmax	pmax			
	comp=Z,4.0nm,0.6s								
DAVOX	**Davos/Dischmat**	**89.33**	**329**	LR	LR		11 12 02.5		
	comp=Z,492nm,18.5s,baz=26,slow=38								
TX31	**Lajitas Ar. Si**	**92.13**	**53**	*e*P	**P**	**Pb**	**10 28 15.2**	**+0.9**
LTX	**Lajitas**	**92.13**	**53**	*e*P	**P**	**Pb**	**10 28 14.6**	**+0.3**
LTX	**Lajitas**	**92.13**	**53**	*e*P	**P**	**Pb**	**10 28 14.6**	**+0.3**
TXAR	**Lajitas Array**	**92.13**	**53**	P	**P**	**Pb**	**10 28 14.6**	**+0.3**
	comp=Z,2.0nm,0.9s,baz=297,slow=2.9,SNR=10								
TXAR					LR	LR	11 04 36.8		
	comp=Z,371nm,20.6s,baz=0.0,slow=32								
RKT	**Rikitea**	**96.99**	**113**	*e*LR	LR		10 59 44.6		
	comp=Z,308nm,30.0s								
KEST	**Kesra**	**98.22**	**323**	LR	LR		11 17 29.4		
	comp=Z,244nm,19.7s,baz=314,slow=38								
SAML	**Samuel**	**146.55**	**49**	*ce*PKP2	**PKPbc**		**10 34 46.4**	**-0.1**
SAML					pmax	pmax			
	comp=Z,17nm,1.7s								
LPAZ	**La Paz**	**148.12**	**65**	PKPbc	**PKPbc**		**10 34 51.4**	**-0.1**
	comp=Z,4.1nm,0.7s,baz=2.5,slow=4.8,SNR=14								
LPAZ	**La Paz**	**148.12**	**65**	*e*PKPbc	**PKPbc**		**10 34 52.1**	**+0.6**
PB11	**IPOC Station P**	**148.90**	**72**	*e*PKPbc	**PKPbc**		**10 34 53.7**	**+0.9**
PB11				*e*PKPab	**PKPab**		**10 34 58.1**	**+1.2**
LVC	**Limon Verde**	**150.93**	**77**	*e*PKPbc	**PKPbc**		**10 34 59.1**	**+1.1**
LVC				*e*PKPab	**PKPab**		**10 35 04.5**	**-0.9**
LVC	**Limon Verde**	**150.93**	**77**	*c i*PKIKP	**PKPbc**		**10 34 59.5**	**+1.5**
LVC					pmax	pmax			
	comp=Z,19nm,1.7s								
GO02	**Mina Guanaco**	**151.48**	**82**	*e*PKPdf	**PKPdf**		**10 34 51.1**	**-2.0**
GO02				*e*PKPbc	**PKiKP**		**10 34 59.6**	**0.0**
GO02				*e*PKPab	**sPKPdf**		**10 35 05.4**	**+1.7**
LCO	**Las Campanas**	**151.89**	**90**	*e*PKPdf	**PKPdf**		**10 34 51.8**	**-1.7**
LCO				*e*PKPbc	**PKiKP**		**10 35 00.5**	**+0.2**
LCO				*e*PKPab	**sPKPdf**		**10 35 05.8**	**+1.6**
LCO	**Las Campanas**	**151.89**	**90**	*e*PKIKP	**PKPdf**		**10 34 51.8**	**-1.7**
LCO				*e*			10 35 00.5		
LCO				*e*			10 35 05.8		
GO04	**Tololo Observa**	**152.12**	**93**	*e*PKPbc	**PKPbc**		**10 35 00.5**	**+0.1**
GO04				*e*PKPab	**pPKPbc**		**10 35 09.0**	**+0.6**
PLCA	**Paso Flores**	**153.19**	**115**	PKPbc	**PKPbc**		**10 35 02.3**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=251,slow=8.2,SNR=3.6								
PLCA	**Paso Flores**	**153.19**	**115**	*e*PKPdf	**PKPdf**		**10 34 54.3**	**-0.5**
PLCA				*e*PKPbc	**PKPbc**		**10 35 02.4**	**+0.1**
PLCA				*e*PKPab	**PKPab**		**10 35 15.9**	**+1.8**
PLCA	**Paso Flores**	**153.19**	**115**	*e*PKIKP	**PKPdf**		**10 34 54.3**	**-0.5**
PLCA				*e*			10 35 02.4		

KRSC 20 10:20:14.9±0.8, 53.36N×159.53E, h89km±8km, ML3.9,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLC	**Nalytchevo**	**0.22**	**211**	*e*P	Pn	10 20 28.2	+0.4
NLC				*e*S	Sn	10 20 38.7	+1.4
SPN	**Mys Shipunski**	**0.40**	**132**	*e*P	Pn	10 20 29.0	+0.3
SPN				*e*S	Sn	10 20 39.5	+0.5
SDLR	**Sedlovina**	**0.40**	**258**	*e*P	Pn	10 20 29.5	+0.6
SDLR				*e*S	Sn	10 20 40.7	+1.4
SMAR	**Somma**	**0.45**	**258**	*e*P	Pn	10 20 29.9	+0.5
UGLR	**Uglovaya**	**0.45**	**251**	*e*P	Pn	10 20 30.2	+0.9
UGLR				*e*S	Sn	10 20 42.3	+2.4
AVH	**Avacha**	**0.49**	**259**	*e*P	Pn	10 20 30.4	+0.9
KRX	**Arik**	**0.53**	**270**	*e*P	Pn	10 20 30.6	+0.7
KRX				*e*S	Sn	10 20 42.2	+1.1
KOK	**Koryaka**	**0.54**	**263**	*e*P	Pn	10 20 30.7	+0.7
DALK	**Dalny**	**0.57**	**235**	*e*P	Pn	10 20 30.8	+0.7
DALK				*e*S	Sn	10 20 43.0	+1.6
PET	**Petropavlovsk**	**0.63**	**238**	*i* P	Pn	10 20 31.3	+0.7
PET				*e*S	Sn	10 20 44.1	+1.9
GNL	**Ganaly**	**1.01**	**290**	*i* P	Pn	10 20 35.2	+0.5
GNL				*e*S	Sn	10 20 51.2	+1.7
RUS	**Russkaya**	**1.12**	**214**	*i* P	Pn	10 20 36.5	+0.7
RUS				*e*S	Sn	10 20 53.2	+1.7
GRL	**Gorelyy**	**1.20**	**228**	*e*P	Pn	10 20 38.4	+1.4
MTVR	**Mutnovka**	**1.20**	**223**	*e*P	Pn	10 20 38.2	+1.2
MTVR				*e*S	Sn	10 20 56.7	+3.1
APC	**Apacha**	**1.50**	**254**	*e*P	Pn	10 20 41.8	+1.3
APC				*e*S	Sn	10 21 01.6	+1.8
KDTR	**Khodutka, Kamc**	**1.79**	**210**	*e*P	Pn	10 20 45.3	+1.0
KDTR				*e*S	Sn	10 21 08.6	+2.0
KZV	**Kizimen**	**1.81**	**14**	*i* P	Pn	10 20 45.5	+0.8
KZV				*e*S	Sn	10 21 08.9	+1.5
TUMD	**Tumrok D**	**1.92**	**15**	*e*P	Pn	10 20 46.5	+0.6
TUMD				*e*S	Sn	10 21 10.8	+1.3
TUMR	**Tumrok**	**1.96**	**10**	*e*P	Pn	10 20 47.7	+1.1
KMNR	**Kamenistaya**	**2.44**	**9**	*e*P	Pn	10 20 54.4	+1.5
BZMR	**Bezymyannaya**	**2.64**	**12**	*e*P	Pn	10 20 57.3	+1.7
KPT	**Kopyto**	**2.64**	**8**	*e*P	Pn	10 20 56.8	+1.2
BZWR	**Bezymyannyi-We**	**2.67**	**12**	*e*P	Pn	10 20 57.6	+1.6
BZGR	**Bezymyannyi-Gr**	**2.67**	**14**	*e*P	Pn	10 20 58.3	+2.3
ZLN	**Zelenaya**	**2.76**	**15**	*e*P	Pn	10 20 58.9	+1.7
LGNR	**Loginova**	**2.81**	**13**	*e*P	Pn	10 20 59.9	+1.9
CIRR	**Tsirk**	**2.85**	**14**	*e*P	Pn	10 21 01.4	+3.0
KLY	**Klyuchi**	**3.03**	**12**	*e*P	Pn	10 21 02.4	+1.7
SKR	**Severo-Kuril's**	**3.41**	**220**	*e*P	Pn	10 21 09.9	+4.0
SMKR	**Semkarok**	**3.42**	**18**	*e*P	Pn	10 21 09.1	+3.1
KBG	**Krutoberegovo**	**3.43**	**31**	S	Sn	10 21 52.9	+7.2
SRKR	**Sorokina**	**3.43**	**15**	*e*P	Pn	10 21 09.8	+3.6

STR **20** *10:32:11.4±0.3, 45°N±2°×±°, h0km, M3.8/6, MLv3.8/6*
ISCJB **20** *10:32:13.8±0.2, 45.00N±0.01×8.23E±0.02, h27km±2km, Error ellipse: s-maj=2.3km s-min=2.0km az=139.8*
ROM **20** *10:32:13.4±0.1, 44.977N±0.005×8.210E±0.009, h27km±1km, ML3.3/44*
GEN **20** *10:32:14.1, 45.00N×8.29E, h20km±2km, Ml3.3*
LDG **20** *10:32:14.4±0.1, 44.98N×8.25E, h20km, Md3.5/4, Ml3.6/48, Error ellipse: s-maj=1.6km s-min=1.2km az=90.0*
PRU **20** *10:32:14.8±0.0, 45.14N×8.09E, h21km*

ISC 20 10:32:14.0±0.9, 44.98N±0.01×8.26E±0.02, h25km±6km, n167, σ2.17/241, 2C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROTM	**Rocchetta Tana**	**0.15**	**153**	P	**Pb**	**10 32 18.8**	**-0.4**
ROTM				S	**Sb**	**10 32 23.4**	**+0.8**
ROTM	**Rocchetta Tana**	**0.15**	**153**	*i* P	**Pb**	**10 32 18.8**	**-0.4**
ROTM				S	**Sb**	**10 32 23.4**	**+0.8**
ROTM				AML	AML		
ROTM				AML	AML		
MONC	**Moncucco Torin**	**0.25**	**292**	*i* P	**Pb**	**10 32 20.3**	**-0.1**
MONC				AML	AML		
	comp=E,20150μm,0.4s						
MONC				AML	AML		
	comp=N,22700μm,0.3s						
MONC				AML	AML		
	comp=E,20150μm,0.4s						
MONC				AML	AML		
	comp=N,22700μm,0.3s						
MONC				AML	AML		
	comp=E,20150μm,0.4s						
MONC				AML	AML		
	comp=N,22700μm,0.3s						
MONC				AML	AML		
	comp=E,20150μm,0.4s						
PCP	**Piancastagn**	**0.49**	**155**	P	**Pb**	**10 32 23.2**	**-0.8**
PCP				S	**Sb**	**10 32 30.6**	**-0.3**
PCP	**Piancastagn**	**0.49**	**155**	*i* P	**Pb**	**10 32 23.2**	**-0.8**
PCP				S	**Sb**	**10 32 30.5**	**-0.3**
PCP				AML	AML		
	comp=E,5705μm,0.5s						
PCP				AML	AML		
	comp=N,5530μm,0.5s						
PCP				AML	AML		
	comp=E,5705μm,0.5s						
PCP				AML	AML		
	comp=N,5530μm,0.5s						
PCP				AML	AML		
	comp=E,5705μm,0.5s						
PCP				AML	AML		
	comp=N,5530μm,0.5s						
TRAV	**Traversella**	**0.64**	**326**	P	**Pb**	**10 32 26.0**	**-0.7**
TRAV				S	**Sb**	**10 32 35.0**	**-0.3**
TRAV	**Traversella**	**0.64**	**326**	P	**Pb**	**10 32 26.0**	**-0.7**
TRAV				S	**Sb**	**10 32 35.0**	**-0.3**
TRAV				AML	AML		
	comp=E,2520μm,1.2s						
TRAV				AML	AML		
	comp=N,2375μm,0.3s						
TRAV				AML	AML		
	comp=E,2520μm,1.2s						
TRAV				AML	AML		
	comp=N,2375μm,0.3s						
TRAV				AML	AML		
	comp=E,2520μm,1.2s						
TRAV				AML	AML		
	comp=N,2375μm,0.3s						
TRAV				AML	AML		
	comp=N,2375μm,0.3s						
TRAV				AML	AML		
	comp=E,2520μm,1.2s						
QLNO	**Quiliano**	**0.66**	**174**	*i* P	**Pb**	**10 32 26.3**	**-0.6**
QLNO				S	**Sb**	**10 32 36.0**	**+0.2**
QLNO				AML	AML		
	comp=E,1790μm,0.5s						
QLNO				AML	AML		
	comp=N,2200μm,0.9s						
QLNO				AML	AML		
	comp=E,1790μm,0.5s						
QLNO				AML	AML		
	comp=N,2200μm,0.9s						
QLNO				AML	AML		
	comp=E,1790μm,0.5s						
QLNO				AML	AML		
	comp=N,2200μm,0.9s						
QLNO				AML	AML		
	comp=N,2200μm,0.9s						
QLNO				AML	AML		
	comp=E,1790μm,0.5s						
BHB	**Bricherasio**	**0.72**	**259**	P	**Pb**	**10 32 26.8**	**-1.1**
BHB				S	**Sb**	**10 32 36.9**	**-0.5**
BHB	**Bricherasio**	**0.72**	**259**	*i* P	**Pb**	**10 32 26.8**	**-1.1**
BHB				S	**Sb**	**10 32 37.4**	**-0.1**
BHB				AML	AML		
	comp=E,4020μm,0.6s						
BHB				AML	AML		
	comp=N,6315μm,0.6s						
BHB				AML	AML		
	comp=E,4020μm,0.6s						
BHB				AML	AML		
	comp=N,6315μm,0.6s						
BHB				AML	AML		
	comp=N,6315μm,0.6s						
BHB				AML	AML		
	comp=E,4020μm,0.6s						
RSP	**Reno Superiore**	**0.72**	**284**	P	**Pb**	**10 32 26.4**	**-1.6**
RSP				S	**Sb**	**10 32 36.4**	**-1.2**
RSP	**Reno Superiore**	**0.72**	**284**	AML	AML		
	comp=E,1680μm,0.4s						
RSP				AML	AML		
	comp=E,1680μm,0.4s						
RSP				AML	AML		
	comp=N,1650μm,0.6s						
RSP				AML	AML		
	comp=N,1650μm,0.6s						
RSP				AML	AML		
	comp=E,1680μm,0.4s						
RSP				AML	AML		
	comp=N,1650μm,0.6s						
RSP				AML	AML		
	comp=N,1650μm,0.6s						
RSP				AML	AML		
	comp=E,1680μm,0.4s						
CIRO	**Champorcher**	**0.79**	**322**	P	**Pb**	**10 32 27.8**	**-1.4**
CIRO				S	**Sb**	**10 32 38.4**	**-1.2**
CIRO	**Champorcher**	**0.79**	**322**	P	**Pb**	**10 32 27.9**	**-1.4**
CIRO				S	**Sb**	**10 32 39.2**	**-0.5**
CIRO				AML	AML		
	comp=E,1865μm,1.3s						
CIRO				AML	AML		
	comp=N,2550μm,0.7s						
CIRO				AML	AML		
	comp=E,1865μm,1.3s						
CIRO				AML	AML		
	comp=N,2550μm,0.7s						
CIRO				AML	AML		
	comp=E,1865μm,1.3s						
CIRO				AML	AML		
	comp=N,2550μm,0.7s						
CIRO				AML	AML		
	comp=E,1865μm,1.3s						
CIRO				AML	AML		
	comp=N,2550μm,0.7s						
GBOS	**Grotte di Boss**	**0.80**	**202**	P	**Pb**	**10 32 28.5**	**-0.8**
GBOS				S	**Sb**	**10 32 39.4**	**-0.3**
GORR	**Gorreto**	**0.83**	**117**	P	**Pb**	**10 32 29.6**	**-0.2**
GORR				S	**Sn**	**10 32 41.8**	**+0.2**
DOI	**San Damiano**	**0.86**	**237**	P	**Pb**	**10 32 28.9**	**-1.6**
DOI				S	**Sb**	**10 32 41.7**	**+0.1**
DOI				AML	AML		
	comp=E,3500μm,0.4s						
DOI				AML	AML		
	comp=N,3575μm,0.8s						
DOI				AML	AML		
	comp=N,3575μm,0.8s						
DOI				AML	AML		
	comp=E,3500μm,0.4s						
BOB	**Bobbio (Coli)**	**0.87**	**104**	*i* P	**Pb**	**10 32 30.5**	**-0.1**
BOB				AML	AML		
	comp=E,1355μm,0.8s						
BOB				AML	AML		
	comp=N,1665μm,0.8s						
BOB				AML	AML		
	comp=E,1495μm,0.6s						
BOB				AML	AML		
	comp=N,1670μm,0.7s						
BOB				AML	AML		
	comp=E,1355μm,0.8s						
BOB				AML	AML		
	comp=N,1665μm,0.8s						
BOB				AML	AML		
	comp=E,1495μm,0.6s						
BOB				AML	AML		
	comp=N,1670μm,0.7s						
BOB				AML	AML		
	comp=E,1355μm,0.8s						
BOB				AML	AML		
	comp=N,1665μm,0.8s						
BOB				AML	AML		
	comp=E,1495μm,0.6s						
BOB				AML	AML		
	comp=N,1670μm,0.7s						
RORO	**Rocca Rossa**	**0.88**	**189**	P	**Pb**	**10 32 29.9**	**-0.8**
RORO				S	**Sn**	**10 32 43.0**	**+0.2**
RORO	**Rocca Rossa**	**0.88**	**189**	P	**Pb**	**10 32 29.9**	**-0.8**
LSD	**Lago del Serru**	**0.93**	**301**	P	**Pb**	**10 32 29.8**	**-1.8**
LSD				S	**Sb**	**10 32 41.1**	**-2.4**
LSD	**Lago del Serru**	**0.93**	**301**	*i* P	**Pb**	**10 32 29.8**	**-1.8**
LSD				AML	AML		
	comp=E,728μm,0.8s						
LSD				AML	AML		
	comp=N,636μm,1.0s						
LSD				AML	AML		
	comp=N,636μm,1.0s						
LSD				AML	AML		
	comp=E,728μm,0.8s						
SATI	**Passo dei Sala**	**0.93**	**343**	P	**Pb**	**10 32 30.8**	**-1.0**
SATI				S	**Sb**	**10 32 43.8**	**-0.2**
SATI	**Passo dei Sala**	**0.93**	**343**	P	**Pb**	**10 32 30.8**	**-1.0**
SATI				S	**Sb**	**10 32 43.7**	**-0.2**
SATI				AML	AML		
	comp=E,4420μm,0.7s						
SATI				AML	AML		
	comp=N,4285μm,0.5s						
SATI				AML	AML		
	comp=E,4420μm,0.7s						
SATI				AML	AML		
	comp=N,4285μm,0.5s						
SATI				AML	AML		
	comp=E,4420μm,0.7s						
SATI				AML	AML		
	comp=N,4285μm,0.5s						
PZZ	**Stroppo**	**0.94**	**240**	P	**Pb**	**10 32 29.8**	**-2.0**
PZZ				AML	AML		
	comp=E,1960μm,1.3s						
PZZ				AML	AML		
	comp=N,2480μm,0.9s						
PZZ				AML	AML		
	comp=E,1960μm,1.3s						
PZZ				AML	AML		
	comp=N,2480μm,0.9s						
PZZ				AML	AML		
	comp=E,1960μm,1.3s						
PZZ				AML	AML		
	comp=N,2480μm,0.9s						
VARE	**Varese**	**0.96**	**22**	P	**Pn**	**10 32 31.7**	**-0.3**
VARE				S	**Sn**	**10 32 45.5**	**+0.6**
VARE				AML	AML		
	comp=E,3515μm,0.7s						
VARE				AML	AML		
	comp=N,3495μm,0.4s						
VARE				AML	AML		
	comp=E,3515μm,0.7s						
VARE				AML	AML		
	comp=N,3495μm,0.4s						
VARE				AML	AML		
	comp=N,3495μm,0.4s						
VARE				AML	AML		
	comp=E,3515μm,0.7s						
ENR	**Entracque**	**0.96**	**219**	P	**Pn**	**10 32 31.3**	**-0.8**
ENR				S	**Sb**	**10 32 44.6**	**+0.2**
ENR	**Entracque**	**0.96**	**219**	P	**Pn**	**10 32 31.3**	**-0.8**
ENR				S	**Sn**	**10 32 44.7**	**-0.3**
ENR				AML	AML		
	comp=E,3005μm,0.6s						
ENR				AML	AML		
	comp=N,2085μm,0.6s						
ENR				AML	AML		
	comp=E,3005μm,0.6s						
ENR				AML	AML		
	comp=N,2085μm,0.6s						
ENR				AML	AML		
	comp=N,2085μm,0.6s						
ENR				AML	AML		
	comp=E,3005μm,0.6s						
MGRO	**Montegrosso**	**0.99**	**199**	P	**Pn**	**10 32 32.1**	**-0.4**
MGRO				S	**Sn**	**10 32 47.2**	**+1.4**
STV	**Sant Anna di V**	**0.99**	**222**	P	**Pn**	**10 32 31.3**	**-1.1**
STV	**Sant Anna di V**	**0.99**	**222**	P	**Pn**	**10 32 31.4**	**-1.1**
STV				AML	AML		
	comp=E,1510μm,0.7s						
STV				AML	AML		
	comp=N,1205μm,0.6s						
STV				AML	AML		
	comp=E,1510μm,0.7s						
STV				AML	AML		
	comp=N,1205μm,0.6s						
STV				AML	AML		
	comp=N,1205μm,0.6s						
STV				AML	AML		
	comp=E,1510μm,0.7s						
RRL	**Rocca Remolon**	**1.04**	**267**	*i* P	**Pn**	**10 32 31.8**	**-1.5**
RRL				AML	AML		
	comp=E,652μm,1.0s						
RRL				AML	AML		
	comp=N,705μm,0.6s						
RRL				AML	AML		
	comp=N,705μm,0.6s						
RRL				AML	AML		
	comp=E,652μm,1.0s						
MBDF	**Montbardon** SNR=1.0	**1.09**	**257**	*e*Pn	**Pn**	**10 32 32.6**	**-1.2**
MBDF	**Montbardon**	**1.09**	**257**	*e*P	**Pb**	**10 32 34.8**	**+0.6**
MBDF				*e*Sn	**Sb**	**10 32 46.5**	**-1.6**
MBDF	SNR=1.0						
				*e*Sg	**Sn**	**10 32 50.2**	**+2.1**
	comp=E,946nm,0.5s						
MMK	**Mattmark**	**1.09**	**349**	AML	AML		
	comp=N,1255μm,0.6s						
MMK				AML	AML		
	comp=E,1091μm,0.5s						
MMK				AML	AML		
	comp=E,1091μm,0.5s						
MMK				AML	AML		
	comp=N,1255μm,0.6s						
MMK				AML	AML		
	comp=N,1255μm,0.6s						
MMK				AML	AML		
	comp=E,1091μm,0.5s						
MUGIO	**Muggio**	**1.09**	**30**	P	**Pn**	**10 32 33.5**	**-0.3**
MUGIO				AML	AML		
	comp=E,2280μm,0.5s						
MUGIO				AML	AML		
	comp=N,3330μm,0.4s						
MUGIO				AML	AML		
	comp=E,2280μm,0.5s						
MUGIO				AML	AML		
	comp=N,3330μm,0.4s						
MUGIO				AML	AML		
	comp=N,3330μm,0.4s						
MUGIO				AML	AML		
	comp=E,2280μm,0.5s						
SAOF	**Saorge**	**1.11**	**207**	AML	AML		
	comp=N,1725μm,0.6s						
SAOF				AML	AML		
	comp=E,1670μm,0.6s						
SAOF				AML	AML		
	comp=N,1725μm,0.6s						
SAOF				AML	AML		
	comp=E,1670μm,0.6s						
SAOF				AML	AML		
	comp=E,1670μm,0.6s						
SAOF				AML	AML		
	comp=N,1725μm,0.6s						
SAOF				AML	AML		
	comp=E,1670μm,0.6s						
SAOF				AML	AML		
	comp=N,1725μm,0.6s						
MSSA	**Maissana**	**1.12**	**126**	P	**Pb**	**10 32 34.6**	**-0.1**
MSSA				S	**Sb**	**10 32 49.8**	**+0.8**
MSSA				AML	AML		
	comp=E,1145μm,0.7s						
MSSA				AML	AML		
	comp=N,1805μm,0.8s						
MSSA				AML	AML		
	comp=E,1140μm,0.7s						
MSSA				AML	AML		
	comp=N,1805μm,0.8s						
MSSA				AML	AML		
	comp=E,1140μm,0.7s						
MSSA				AML	AML		
	comp=N,1805μm,0.8s						
BNI	**Bardonecchia**	**1.12**	**274**	AML	AML		
	comp=N,270μm,0.5s						
BNI				AML	AML		
	comp=E,228μm,0.6s						
BNI				AML	AML		
	comp=E,228μm,0.6s						
BNI				AML	AML		
	comp=N,270μm,0.5s						
BNI				AML	AML		
	comp=E,228μm,0.6s						
BNI				AML	AML		
	comp=N,270μm,0.5s						
SURF	**Saint Ours**	**1.14**	**245**	Pg	**Pn**	**10 32 33.2**	**-1.4**

SURF Sg **Sb** **10 32 49.8 0.0**
MRGE Morge 1.15 314 AML AML
comp=E,1035µm,0.6s
MRGE AML AML
comp=E,1035µm,0.6s
MRGE AML AML
comp=N,871µm,0.6s
MRGE AML AML
comp=N,871µm,0.6s
REMY Saint-Rh¯my-e 1.15 318 AML AML
comp=E,970µm,0.7s
REMY AML AML
comp=E,968µm,0.7s
REMY AML AML
comp=N,1300µm,0.6s
REMY AML AML
comp=N,1300µm,0.6s
REMY AML AML
comp=N,1300µm,0.6s
REMY AML AML
comp=E,970µm,0.7s
ISO Isola 1.18 228 Pg **Pn** **10 32 33.9 -1.1**
ISO Sg **Sb** **10 32 51.2 +0.7**
LPG La Plagne 1.18 296 *e*Pn **Pn** **10 32 34.0 -1.3**
SNR=1.0
LPG La Plagne 1.18 296 *e*Pg **Pb** **10 32 37.2 +1.2**
LPG *e*Sn **Sn** **10 32 48.6 -2.1**
comp=E,162nm,0.4s
LPG *e*Sg **Sb** **10 32 52.7 +1.8**
comp=E,316nm,0.5s
NEGI Seborga 1.20 199 AML AML
comp=E,1088µm,0.8s
NEGI AML AML
comp=N,990µm,0.7s
LPL La Plagne 1.20 297 *e*Pn **Pn** **10 32 34.5 -1.0**
SNR=1.0
LPL La Plagne 1.20 297 *e*Pg **Pb** **10 32 37.2 +0.9**
LPL *e*Sn **Sn** **10 32 49.2 -1.9**
comp=N,257nm,0.5s
LPL *e*Sg **Sb** **10 32 53.0 +1.5**
comp=N,276nm,0.4s
DIX Grande Dixence 1.25 332 AML AML
comp=E,424µm,0.9s
DIX AML AML
comp=E,424µm,0.9s
DIX AML AML
comp=N,416µm,0.6s
DIX AML AML
comp=N,416µm,0.6s
DIX AML AML
comp=E,424µm,0.9s
DIX AML AML
comp=N,416µm,0.6s
SBF Sospel 1.26 208 *e*Pn **Pb** **10 32 36.6 -0.6**
SNR=1.0
SBF *e*Sn **Sn** **10 32 50.8 -1.6**
SNR=1.0
SBF *e*Sg **Sb** **10 32 55.4 +2.3**
comp=N,2µm,0.6s
ESCA l'Escarene 1.31 209 Pn **Pb** **10 32 37.4 -0.6**
ESCA Sg **Sb** **10 32 55.0 +0.6**
OGAG Argentiere 1.33 247 Pg **Pn** **10 32 35.4 -1.7**
MVIF Mont Vial 1.34 216 Pn **Pn** **10 32 37.8 +0.5**
MVIF Sg **Sb** **10 32 57.0 +1.5**
RSL Roselend 1.35 302 Pn **Pn** **10 32 37.3 -0.1**
RSL Sg **Sb** **10 32 55.1 -0.5**
MON Monaco 1.39 206 Pn **Pb** **10 32 39.0 -0.3**
MON Sg **Sb** **10 32 58.0 +1.5**
REVF Revere 1.40 207 Pg **Pb** **10 32 38.9 -0.5**
REVF Sg **Sb** **10 32 58.1 +1.3**
PLMA Palmaria, Port 1.47 129 P **Pn** **10 32 39.5 +0.5**
FUSIO Fusio 1.50 11 P **Pn** **10 32 38.9 -0.6**
FUSIO AML AML
comp=E,434µm,0.4s
FUSIO AML AML
comp=N,460µm,0.5s
FUSIO AML AML
comp=E,434µm,0.4s
FUSIO AML AML
comp=N,460µm,0.5s
FUSIO AML AML
comp=E,434µm,0.4s
FUSIO AML AML
comp=N,460µm,0.5s
CALF Calern 1.56 218 Pn **Pn** **10 32 40.9 +0.6**
CALF Sn **Sb** **10 33 01.8 +0.2**
TUE Stuetta 1.68 27 P **Pn** **10 32 42.6 +0.6**
TUE AML AML
comp=E,1108µm,0.5s
TUE AML AML
comp=N,863µm,0.5s
TUE AML AML
comp=E,1108µm,0.5s
TUE AML AML
comp=N,863µm,0.5s
TUE AML AML
comp=E,1108µm,0.5s
TUE AML AML
comp=N,863µm,0.5s
ORIF Oris-en-Rattie 1.69 269 *e*Pn **Pn** **10 32 41.3 -0.7**
SNR=1.0
ORIF Oris-en-Rattie 1.69 269 *e*P **Pb** **10 32 43.1 -1.4**
ORIF Oris-en-Rattie 1.69 269 *e*Pg **Pb** **10 32 46.1 +1.6**
ORIF *e*Sn **Sn** **10 33 01.2 -1.7**
comp=N,366nm,0.5s,SNR=1.0
ORIF *e*Sg **Sb** **10 33 09.4 +4.1**
comp=N,303nm,0.4s
ORIF Oris-en-Rattie 1.69 269 Pn **Pb** **10 32 43.0 -1.4**
ORIF Oris-en-Rattie 1.69 269 AML AML
comp=N,506µm,0.6s
ORIF AML AML
comp=E,504µm,0.7s
ORIF AML AML
comp=N,506µm,0.6s
ORIF AML AML
comp=E,504µm,0.7s
VLC Villacollemand 1.73 118 AML AML
comp=N,574µm,0.7s
VLC AML AML
comp=E,564µm,0.7s
VLC AML AML
comp=N,574µm,0.7s
VLC AML AML
comp=E,549µm,0.8s
VLC AML AML
comp=N,473µm,0.8s
VLC AML AML
comp=N,473µm,0.8s
VLC AML AML
comp=E,564µm,0.7s
VLC AML AML
comp=E,549µm,0.8s
FRF La Foret Royal 1.83 220 *e*Pn **Pn** **10 32 43.9 0.0**
SNR=1.0
FRF La Foret Royal 1.83 220 *e*Pg **Pb** **10 32 49.0 +2.2**
FRF *e*Sn **Sn** **10 33 04.4 -1.9**
comp=E,412nm,0.7s,SNR=1.0
FRF *e*Sg **Sb** **10 33 13.1 +3.8**
comp=E,446nm,0.6s
MAGA Magasa 1.85 64 P **Pn** **10 32 43.8 -0.5**
MAGA AML AML
comp=E,2950µm,0.5s
MAGA AML AML
comp=N,1490µm,0.3s
MAGA AML AML
comp=N,1490µm,0.3s
MAGA AML AML
comp=E,2950µm,0.5s
BNALP Bannalp 1.89 4 AML AML
comp=N,274µm,0.8s
BNALP AML AML
comp=E,260µm,0.5s
BNALP AML AML
comp=N,274µm,0.8s
BNALP AML AML
comp=E,260µm,0.5s
MABI Malga Bissina 1.92 55 P **Pn** **10 32 45.0 -0.2**
MABI AML AML
comp=E,398µm,0.5s
MABI AML AML
comp=N,597µm,0.5s
MABI AML AML
comp=E,398µm,0.5s
MABI AML AML
comp=N,597µm,0.5s
MAIM Mastiano 1.92 123 AML AML
comp=N,326µm,0.5s
MAIM AML AML
comp=E,400µm,1.0s
MAIM AML AML
comp=N,326µm,0.5s
MAIM AML AML
comp=E,400µm,1.0s
BALD Monte Baldo 1.94 68 *e*Pg **Pn** **10 32 45.7 +0.1**
BALD *e*Sg **Sn** **10 33 09.1 -0.1**
RNI Roncone 1.94 58⅄ *e*Pg **Pn** **10 32 45.7 +0.1**
RNI *e*Sg **Sn** **10 33 08.9 -0.4**
LMR La Mourre 2.07 218 *e*Pn **Pn** **10 32 47.1 -0.1**
SNR=1.0
LMR La Mourre 2.07 218 *e*P **Pb** **10 32 49.1 -1.8**
LMR La Mourre 2.07 218 *e*Pg **Pb** **10 32 53.2 +2.3**
LMR *e*Sn **Sn** **10 33 10.1 -2.1**
comp=E,66nm,0.3s,SNR=1.0
LMR *e*Sg **Sb** **10 33 20.6 +4.4**
comp=E,142nm,0.4s
GIMEL St. Georges / 2.09 319 P **Pn** **10 32 48.8 +1.3**
GIMEL AML AML
comp=E,167µm,1.5s
GIMEL AML AML
comp=N,147µm,0.9s
GIMEL AML AML
comp=N,147µm,0.9s
GIMEL AML AML
comp=E,167µm,1.5s
ROVR Rover¯¤ Verone 2.10 71 P **Pn** **10 32 47.1 -0.6**
ROVR AML AML
comp=E,596µm,0.5s
ROVR AML AML
comp=N,1350µm,0.4s
ROVR AML AML
comp=E,596µm,0.5s
ROVR AML AML
comp=N,1350µm,0.4s
DAVOX Davos/Dischmat 2.13 32 AML AML
comp=N,978µm,0.5s
DAVOX AML AML
comp=E,544µm,1.1s
DAVOX AML AML
comp=N,978µm,0.5s
DAVOX AML AML
comp=E,544µm,1.1s
FUORN Ofenpass-Fuorn 2.16 40 P **Pn** **10 32 49.9 +1.2**
FUORN AML AML
comp=E,553µm,1.6s
FUORN AML AML
comp=N,566µm,0.9s
FUORN AML AML
comp=E,553µm,1.6s
FUORN AML AML
comp=N,566µm,0.9s
OG35 Corcelles 2.17 300 Pn **Pn** **10 32 49.8 +1.2**
OG35 Sn **Sn** **10 33 15.4 +0.7**
SMRF Simiane la Rot 2.17 243 *e*Pn **Pn** **10 32 48.4 -0.2**
SNR=1.0
SMRF Simiane la Rot 2.17 243 *e*Pg **Pb** **10 32 53.7 +1.1**
SMRF *e*Sn **Sn** **10 33 12.7 -1.9**
comp=N,161nm,0.5s,SNR=1.0
SMRF *e*Sg **Sb** **10 33 23.3 +4.3**
comp=N,193nm,0.6s
MARN Marana (Italy) 2.19 71 *e*Pg **Pn** **10 32 49.1 +0.3**
PLONS Plons/SG 2.21 20 AML AML
comp=N,378µm,0.4s
PLONS AML AML
comp=E,523µm,0.5s
PLONS AML AML
comp=N,378µm,0.4s
PLONS AML AML
comp=E,523µm,0.5s
CABF La Chapelle 2.23 318 *e*Pn **Pn** **10 32 49.5 +0.1**
SNR=1.0
CABF La Chapelle 2.23 318 *e*Pg **Pb** **10 32 55.9 +2.3**
CABF *e*Sn **Sn** **10 33 13.3 -2.9**
comp=E,37nm,0.3s,SNR=1.0
CABF *e*Sg **Sb** **10 33 24.2 +3.4**
comp=E,100nm,0.6s
CARE Lago del Cares 2.24 49 *e*Pg **Pn** **10 32 50.5 +0.8**
DOSS Dosso del Somm 2.25 65 *e*Pg **Pn** **10 32 49.8 -0.1**
MOSI Grossmontoni 2.29 44 P **Pn** **10 32 52.0 +1.6**
MOSI AML AML
comp=E,869µm,0.8s
MOSI AML AML
comp=N,1285µm,0.5s
MOSI AML AML
comp=N,1285µm,0.5s
MOSI AML AML
comp=E,869µm,0.8s
PGF Pioggiola 2.49 167 *e*Pn **Pn** **10 32 52.7 -0.4**
SNR=1.0
PGF *e*Sn **Sn** **10 33 21.0 -1.7**
comp=E,26nm,0.2s,SNR=1.0
PGF Pioggiola 2.49 167 P **Pn** **10 32 52.7 -0.4**
PGF AML AML
comp=E,280µm,0.5s
PGF AML AML
comp=N,190µm,0.8s
PGF AML AML
comp=N,190µm,0.8s
PGF AML AML
comp=E,280µm,0.5s
VIVF Saint-Julien-I 2.55 268 *e*Pn **Pn** **10 32 53.6 -0.2**
SNR=1.0
VIVF Saint-Julien-I 2.55 268 *e*P **Pn** **10 32 55.5 +1.7**
VIVF *e*Sn **Sn** **10 33 20.8 -3.2**
comp=E,13nm,0.2s,SNR=1.0
VIVF *e*Sg **Sb** **10 33 34.3 +4.3**
comp=E,20nm,0.3s,SNR=1.0
DAVA Damuels 2.57 26 Pn **Pn** **10 32 55.7 +1.5**
comp=E,28nm,0.3s,SNR=7.5
DAVA Sn **Sb** **10 33 28.8 -1.9**
comp=E,157nm,0.3s
LOMF Lomont 2.57 338 Pn **Pn** **10 32 55.2 +1.1**
CTI Castel Tesino 2.61 65 AML AML
comp=E,418µm,0.8s
CTI AML AML
comp=N,480µm,0.4s
CTI AML AML
comp=E,418µm,0.8s
CTI AML AML
comp=N,480µm,0.4s
KOSI Kohlern 2.64 55 AML AML
comp=E,571µm,0.6s
KOSI AML AML
comp=E,571µm,0.6s
KOSI AML AML
comp=N,500µm,0.9s
KOSI AML AML
comp=N,500µm,0.9s
CGRP Cima Grappa 2.65 69 P **Pn** **10 32 54.9 -0.5**
CGRP AML AML
comp=E,529µm,1.3s
CGRP AML AML
comp=N,511µm,0.7s
CGRP AML AML
comp=N,511µm,0.7s
CGRP AML AML
comp=E,529µm,1.3s
FETA Feichten 2.67 39 *e*Pn **Pb** **10 32 58.3 -2.9**
comp=E,3.2nm,0.2s,SNR=6.4
FETA Sn **Sb** **10 33 31.1 -2.5**
comp=E,127nm,1.0s
CASP Castiglione de 2.89 138 P **Pn** **10 32 59.0 +0.5**
CASP AML AML
comp=E,102µm,1.2s
CASP AML AML
comp=N,190µm,0.5s
CASP AML AML
comp=E,102µm,1.2s
CASP AML AML
comp=N,190µm,0.5s
MOF Molkenrain 2.97 345 Pn **Pn** **10 33 00.5 +0.8**
KIZ Kirchzarten 2.98 356 Pn **Pn** **10 32 59.4 -0.4**
HINF Hinteralfeld 3.00 342 *e*Pn **Pn** **10 33 00.0 0.0**
SNR=1.0
HINF Hinteralfeld 3.00 342 *e*Pg **Pb** **10 33 10.0 +3.3**
HINF *e*Sn **Sn** **10 33 30.7 -4.4**
comp=N,40nm,0.4s,SNR=1.0
HINF *e*Sg **Sb** **10 33 48.0 +5.1**
comp=N,50nm,0.5s
SQTA Sankt Quirin 3.04 41 *i* Pn **Pn** **10 33 03.0 +2.4**
comp=N,4.8nm,0.1s,SNR=5.4
SQTA *e*Sn **Sn** **10 33 38.9 +2.6**
comp=N,91nm,0.5s
RETA Reutte 3.05 34 *i* Pn **Pn** **10 33 02.1 +1.3**
comp=N,6.3nm,0.3s
RETA *i* Sn **Sn** **10 33 38.6 +2.1**
comp=N,16nm,0.3s
MOTA Moosalm 3.08 39 *i* Pn **Pn** **10 33 03.0 +1.8**
comp=N,3.1nm,0.2s
MOTA *i* Sn **Sb** **10 33 42.3 -3.1**
comp=N,37nm,0.4s
LASF Ste Croix 3.27 255 *e*Pn **Pn** **10 33 02.6 -1.2**
SNR=1.0
LASF Ste Croix 3.27 255 *e*Pg **Pb** **10 33 15.0 +3.6**
LASF *e*Sn **Sn** **10 33 38.9 -3.0**
comp=N,43nm,0.5s,SNR=1.0
WTTA Wattenberg 3.28 45 *i* Pn **Pn** **10 33 06.2 +2.3**
comp=N,1.5nm,0.1s
WTTA *i* Sn **Sn** **10 33 46.0 +3.8**
comp=N,34nm,0.6s
WATA Walderalm 3.30 43 *i* Pn **Pn** **10 33 06.9 +2.7**
comp=N,4.2nm,0.3s
HAU Haudompre 3.30 337 *e*P **Pn** **10 33 04.9 +0.8**
HAU *e*Sn **Sn** **10 33 38.4 -4.1**
comp=N,209nm,0.6s,SNR=1.0
ECH Echery 3.32 347 Pn **Pn** **10 33 04.7 +0.3**
STAL STALIGIAL 3.38 66 AML AML
comp=E,295µm,0.3s
STAL AML AML
comp=N,286µm,0.3s
STAL AML AML
comp=N,286µm,0.3s
STAL AML AML
comp=E,295µm,0.3s
ABTA Abfaltersbach 3.46 58 *i* Pn **Pn** **10 33 07.6 +1.3**
comp=E,7.5nm,0.3s
ABTA *e*Sn **Sn** **10 33 47.1 +0.5**
comp=E,21nm,0.6s
WLS Welschbruch 3.49 350 Pn **Pn** **10 33 07.1 +0.4**
CDF Champ du Feu 3.50 349 *e*Pn **Pn** **10 33 07.2 +0.3**
SNR=1.0
CDF *e*Sn **Sn** **10 33 43.2 -4.3**
comp=E,27nm,0.5s,SNR=1.0
CDF *e*Sg **Sb** **10 34 03.5 +6.2**
comp=E,50nm,0.6s
SMF Signal de Mont 3.51 300 *e*Pn **Pn** **10 33 06.9 -0.1**
SNR=1.0
SMF *e*Sn **Sn** **10 33 43.9 -3.7**
comp=E,85nm,0.5s
AGO Saint Agoulin 3.76 288 Pn **Pn** **10 33 11.0 +0.5**
LOR Lormes 3.82 308 *e*Pn **Pn** **10 33 11.8 +0.6**
LOR *e*Sn **Sn** **10 33 51.4 -3.9**
comp=E,35nm,0.3s,baz=140
AVF Avril sur Loir 3.87 300 *e*Pn **Pn** **10 33 12.7 +0.7**
SNR=1.0
AVF Avril sur Loir 3.87 300 *e*Pg **Pb** **10 33 25.8 +4.2**
AVF *e*Sn **Sn** **10 33 52.3 -4.3**
comp=E,17nm,0.3s,SNR=1.0
SSF Saint Saulge 3.91 304 *e*Pn **Pn** **10 33 13.0 +0.5**
SSF *e*Sn **Sn** **10 33 53.4 -4.1**
comp=E,23nm,0.4s
SFTF Sexfontaines 3.91 327 *e*Pn **Pn** **10 33 11.5 -1.0**
baz=145
SFTF Sexfontaines 3.91 327 *e*P **Pn** **10 33 13.7 +1.2**
baz=136
SFTF *e*Sn **Sn** **10 33 53.5 -4.1**
comp=E,16nm,0.2s
SFTF *e*Sg **Sb** **10 34 17.1 +7.9**
comp=E,69nm,0.7s,baz=136
PAGF Fort de Pagny 3.98 335 *e*P **Pn** **10 33 14.6 +1.2**
baz=146
PAGF Fort de Pagny 3.98 335 *e*Pg Pb 10 33 29.7 +6.4
baz=158
PAGF *e*Sn **Sn** **10 33 54.6 -4.6**
comp=E,52nm,0.5s,baz=162
CADS Cadrg 4.04 70 *i* Pn **Pn** **10 33 13.8 -0.6**
CADS *i* Sn **Sn** **10 33 59.2 -1.8**
CADS Cadrg 4.04 70 *i* Pn **Pn** **10 33 13.8 -0.6**
CADS *i* Sn **Sn** **10 33 59.2 -1.8**
BGF Bois d'Agland 4.10 295 *e*Pn **Pn** **10 33 16.0 +0.9**
SNR=1.0
BGF *e*Sn **Sn** **10 33 58.1 -4.2**
comp=E,136nm,0.5s,SNR=1.0
SKDS Skadanscina 4.11 80 *i* Pn **Pn** **10 33 14.3 -0.9**
SKDS *i* Sn **Sn** **10 34 00.1 -2.3**
SKDS Skadanscina 4.11 80 *i* Pn **Pn** **10 33 14.3 -0.9**
SKDS *i* Sn **Sn** **10 34 00.1 -2.3**
KBA Koelnbreinsper 4.12 58 *i* Pn **Pn** **10 33 17.8 +2.3**
comp=E,3.7nm,0.3s,SNR=4.7
MEZF Maizieres J'vi 4.15 329 *e*P **Pn** **10 33 18.2 +2.4**
baz=150
MEZF *e*Sn **Sn** **10 33 58.8 -4.7**
comp=E,27nm,0.4s
MEZF *e*Sg **Sb** **10 34 24.3 +8.2**
comp=E,38nm,0.5s,baz=147
JAVS Javornik 4.19 75 *i* Pn **Pn** **10 33 16.4 0.0**
JAVS *i* Sn **Sn** **10 34 03.4 -1.2**
JAVS Javornik 4.19 75 *i* Pn **Pn** **10 33 16.4 0.0**
JAVS *i* Sn **Sn** **10 34 03.4 -1.2**
CAF Calviac 4.40 271 *e*Pn **Pn** **10 33 18.3 -0.9**
SNR=1.0
CAF Calviac 4.40 271 *e*P **Pn** **10 33 21.0 +1.8**
CAF *e*Sn **Sn** **10 34 05.1 -4.5**
comp=E,6.2nm,0.3s
TCF Toulx Ste Croi 4.44 289 *e*Pn **Pn** **10 33 20.5 +0.7**
SNR=1.0
TCF *e*Sn **Sn** **10 34 06.4 -4.2**
comp=E,13nm,0.2s,SNR=1.0
HYF Humbligny 4.53 302 *e*P **Pn** **10 33 22.1 +1.2**
HYF *e*Sn **Sn** **10 34 08.9 -3.8**
SJAF Saint Jean de 4.62 239 Pn **Pn** **10 33 22.5 +0.2**
MTLF Montolieu 4.64 251 *e*Pn **Pn** **10 33 22.4 -0.2**
SNR=1.0
MTLF Montolieu 4.64 251 *e*P **Pn** **10 33 25.4 +2.8**
MTLF Montolieu 4.64 251 *e*Pg Pb 10 33 40.6 +5.9
MTLF *e*Sn **Sn** **10 34 11.7 -4.0**
comp=E,15nm,0.5s
MTLF *e*Sg Sb 10 34 40.7 +10
comp=E,8.4nm,0.6s
NVLJ Novalja 4.73 93 *e*Pn **Pn** **10 33 23.1 -0.6**
NVLJ Sn **Sn** **10 34 13.8 -3.9**
RJF Les Rejaudoux 4.78 276 *e*Pn **Pn** **10 33 23.5 -0.9**
RJF Les Rejaudoux 4.78 276 *e*P **Pn** **10 33 27.1 +2.7**
MOA Molln 5.05 53⅄ *i* Pn **Pn** **10 33 28.6 +0.4**
comp=E,1.4nm,0.2s
MOA *i* Sn **Sn** **10 34 26.2 +0.5**
comp=E,4.9nm,0.3s
LFF La Frestale 5.33 272 *e*Pn **Pn** **10 33 30.4 -1.6**
LFF La Frestale 5.33 272 *e*P **Pn** **10 33 34.2 +2.2**
LFF *e*Sn **Sn** **10 34 28.3 -4.3**
comp=E,16nm,0.6s
KHC Kasperske Hory 5.52 39 *e*PN **Pn** **10 33 34.9 +0.3**
KHC *e*SN **Sn** **10 34 35.0 -2.2**
KHC *e*SG Sb 10 35 08.1 +13
comp=E,21nm,0.7s
GIVF Givet 5.62 337 *e*Sg Sb 10 35 09.7 +11
comp=E,25nm,0.6s
BAIF Baives 5.77 333 *e*Pn **Pn** **10 33 37.7 -0.3**
BAIF *e*Sg Sb 10 35 15.0 +12
comp=E,8.8nm,0.5s
NKC Novy Kostel 5.97 27 *e*SG Sb 10 35 22.1 +14
comp=E,25nm,0.8s
EPF Esparros 6.03 254 *e*Pn **Pn** **10 33 40.0 -1.7**
MFF Saint Martin d 6.09 288 *e*Pn **Pn** **10 33 43.5 +1.0**
SNR=1.0
MFF *e*Sn **Sn** **10 34 45.9 -5.5**
comp=E,6.6nm,0.4s,SNR=1.0
ETSF Etsaut 6.70 255 *e*P **Pn** **10 33 54.5 +3.7**
ETSF *e*Sn **Sn** **10 35 00.9 -5.4**
comp=E,10nm,0.8s
LDF La Druitiere 6.79 305 *e*Pn **Pn** **10 33 51.1 -0.9**
SNR=1.0
BRG Berggiesshubel 7.02 31 PN Pn 10 33 39.9 -15
BRG SN **Sn** **10 35 12.4 -1.8**
BRG SG Sb 10 35 54.6 +16
comp=E,7.6nm,0.9s
CLL Collm 7.08 25 *e*Sn Sn 10 34 50.0 -26
CLL *e*Sg Sb 10 35 53.0 +13
comp=Z,9.0nm,0.8s
FLN La Foliniere 7.08 305 *e*Pn **Pn** **10 33 56.4 +0.4**
baz=126
FLN *e*Sn **Sn** **10 35 09.6 -6.0**
comp=Z,10nm,0.4s
SJPF Ste Jean 7.08 258 *e*P **Pn** **10 33 59.8 +3.7**
GRR Gorron 7.13 302 *e*Pn **Pn** **10 33 56.3 -0.4**
SNR=1.0
SGMF Saint Gilles 8.13 298 *e*Pn **Pn** **10 34 10.0 -0.4**
QUIF Quistinic 8.41 294 *e*Pn **Pn** **10 34 13.7 -0.6**
SNR=1.0

*ISCJB **20** 10:38:13.5±0.3,7°.30S±0°.03×129°.32E±0°.04, h139km, mb4.3/21, Error ellipse: s-maj=5.0km s-min=4.4km az=156.6*
*IDC **20** 10:38:14.3±1.5,7°.16S×129°.36E, h130km±14km, mb3.7/10, mb1 3.8/14, mb1mx3.7/42, mbtmp4.2/14, Error ellipse: s-maj=15.2km s-min=11.5km az=84.0*
*NEIC **20** 10:38:14.0±0.9,7°.27S×129°.44E, h128km±9km, mb4.5/11, Error ellipse: s-maj=12.5km s-min=9.7km az=82.0*
*DJA **20** 10:38:16.7±0.3,7°.S±3°×12°.9E±°, h114km±12km, M4.4/11, mb4.6/9, mB4.8/6, MLv4.6/11, Mw(mB)4.1/6*

ISC 20 10:38:15.1±0.4, 7°.24S±0°.05×129°.38E±0°.05, h139km, n71, σ1§93/77, mb4.4/21, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.04**	**111**	*e*Pn	**Pn**	**10 38 48.6**	**-1.4**
SAUI	**Saumlaki**	**2.04**	**111**	P	**Pn**	**10 38 51.2**	**+1.1**
SAUI				S	**Sn**	**10 39 20.0**	**+3.2**
BNDI	**Bandanaira**	**2.75**	**11**	P	**Pn**	**10 39 00.4**	**+1.5**
FAKI	**Fak Fak**	**5.15**	**34**	*e*Pn	**Pn**	**10 39 29.3**	**-1.2**
FAKI	**Fak Fak**	**5.15**	**34**	P	**Pn**	**10 39 26.7**	**-3.8**
FAKI				S	**Sn**	**10 40 23.2**	**-6.0**
SOEI	**Soe**	**5.64**	**243**	*e*Pn	**Pn**	**10 39 37.9**	**+0.8**
SOEI	**Soe**	**5.64**	**243**	P	**Pn**	**10 39 37.9**	**+0.8**
SOEI				S	**Sn**	**10 40 37.3**	**-3.8**
MTN	**Manton Dam**	**5.83**	**163**	*e*Pn	**Pn**	**10 39 39.2**	**-0.2**
SANI	**Sanana**	**6.17**	**327**	P	Pn	10 39 48.4	+4.4
	30nm,0.8s,598nm						
BATI	**Baumata**	**6.38**	**242**	P	**Pn**	**10 39 47.7**	**+0.9**
	23nm,0.3s,baz=151,slow=1.6,SNR=10.0						
BATI				S	**Sn**	**10 40 56.2**	**-2.3**
	46nm,0.3s,baz=95,slow=22,SNR=12						
BATI	**Baumata**	**6.38**	**242**	P	**Pn**	**10 39 48.7**	**+1.9**
	25nm,0.4s,634nm						
SIJI	**Sorong**	**6.60**	**17**	P	**Pn**	**10 39 49.0**	**-0.9**
	3.2nm,0.3s,baz=348,slow=23,SNR=16						
SIJI				S	**Sn**	**10 40 58.9**	**-5.1**
	7.2nm,0.3s,baz=318,slow=21,SNR=12						
SWI	**Sorong**	**6.61**	**17**	P	**Pn**	**10 39 50.8**	**+0.9**
RKPI	**Ransiki, Papua**	**7.43**	**40**	P	**Pn**	**10 40 01.7**	**+0.7**
EDFI	**Ende, Flores**	**7.76**	**258**	P	**Pn**	**10 40 07.4**	**+1.8**
EDFI				S	**Sn**	**10 41 29.7**	**-2.5**
APSI	**Ampana**	**9.95**	**309**	P	Pn	10 40 42.0	+7.3
MRSI	**Marisa**	**10.67**	**316**	P	**Pn**	**10 40 47.5**	**+3.2**
	39nm,0.8s						
FITZ	**Fitzroy Crossi**	**11.39**	**198**	*e*Pn	**Pn**	**10 40 50.9**	**-3.0**
WRAB	**Tennant Creek**	**13.51**	**160**	*e*Pn	**Pn**	**10 41 18.6**	**-2.7**
WRA	**Warramunga Arr**	**13.51**	**160**	P	**Pn**	**10 41 17.6**	**-3.7**
	2.3nm,0.3s,baz=346,slow=13,SNR=90						
WRA				S	Sn	10 43 39.0	-12
	4.7nm,0.3s,baz=335,slow=23,SNR=13						
WB2	**Warramunga Arr**	**13.52**	**160**	*e*Pn	**Pn**	**10 41 18.7**	**-2.8**
WC3	**Warramunga Arr**	**13.54**	**160**	*e*Pn	**Pn**	**10 41 18.5**	**-3.2**
COEN	**Coen**	**15.11**	**117**	*e*Pn	**Pn**	**10 41 40.3**	**-1.2**
	15nm,0.6s						
COEN				*e*Sn	Sn	10 44 16.8	-12
AS31	**Alice Springs**	**16.90**	**166**	*e*P	**P**	**10 42 02.1**	**-1.1**
	5.0nm,0.4s						
ASAR	**Alice Springs**	**16.90**	**166**	P	**P**	**10 42 03.0**	**-0.2**
	2.3nm,0.3s,baz=344,slow=10,SNR=153						
ASAR				S	S	10 44 57.4	-15
	0.5nm,0.3s,baz=333,slow=16,SNR=6.3						
ASAR				ScP	**ScP**	**10 50 03.2**	**-1.2**
	0.1nm,0.3s,baz=2.4,slow=1.6,SNR=4.7						
AS01	**Alice Springs**	**16.91**	**165**	*e*P	**P**	**10 42 03.2**	**-0.1**
PMG	**Port Moresby**	**17.72**	**98**	P	**P**	**10 42 12.6**	**+0.4**
	1.2nm,0.3s,baz=261,slow=6.3,SNR=7.6						
PMG	**Port Moresby**	**17.72**	**98**	*e*P	**P**	**10 42 09.0**	**-3.2**
	19nm,0.9s						
CTA	**Charters Tower**	**20.75**	**130**	P	**P**	**10 42 46.9**	**+1.8**
	2.0nm,0.6s,baz=303,slow=14,SNR=5.0						
FORT	**Forrest**	**23.45**	**183**	*e*P	**P**	**10 43 12.3**	**+0.3**
	24nm,1.0s						
BBOO	**Buckleboo**	**26.19**	**167**	*e*P	**P**	**10 43 37.3**	**+0.5**
	5.3nm,0.9s						
STKA	**Stephens Creek**	**27.03**	**157**	P	**P**	**10 43 44.9**	**+0.5**
	4.9nm,0.8s,baz=320,slow=8.5,SNR=6.6						
TPUB	**Ta-pu**	**31.54**	**344**	*e*P	**P**	**10 44 21.1**	**-3.3**
	12nm,0.9s						
UTTA	**Uttaradit**	**37.78**	**311**	P	**P**	**10 45 19.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**39.42**	**311**	P	**P**	**10 45 32.0**	**+0.2**
	3.0nm,0.8s,baz=140,slow=7.3,SNR=20						
CMMT	**Chiang Mai**	**39.63**	**311**	P	**P**	**10 45 34.0**	**+0.4**
	8.5nm,0.8s						
CHTO	**Chiang Mai**	**39.64**	**311**	P	**P**	**10 45 34.1**	**+0.5**
	38nm,0.8s						
NJ2	**Nanjing**	**40.34**	**346**	*e*P	**P**	**10 45 38.3**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KMI	**Kunming**	**41.32**	**322**	P	**P**	**10 45 51.3**	**+3.7**
KMI				pmax	pmax		
	comp=Z,11nm,1.4s						
CD2	**Chengdu**	**45.18**	**328**	*e*P	**P**	**10 46 18.0**	**-0.3**
HHC	**Hu-ho-hao-te**	**50.58**	**343**	*e*P	**P**	**10 47 02.9**	**+3.1**
HHC				S	**S**	**10 54 06.3**	**+2.6**
HHC				pmax	pmax		
	comp=Z,15nm,1.2s						
HHC				pmax	pmax		
	comp=Z,84nm,5.7s						
CN2	**Changchun**	**50.93**	**356**	*e*P	**P**	**10 47 04.5**	**+2.4**
BKZ	**Black Stump Fm**	**52.87**	**134**	*e*P	**P**	**10 47 17.6**	**+0.8**
	comp=Z,9.5nm,1.2s						
URZ	**Urewera**	**52.95**	**133**	*e*P	**P**	**10 47 18.3**	**+1.0**
	comp=Z,4.8nm,0.9s						
ODAN	**Odare**	**52.95**	**312**	*e*P	**P**	**10 47 17.2**	**-0.6**
TAPN	**Taplejung**	**52.99**	**312**	*e*P	**P**	**10 47 17.6**	**-0.5**
BFZ	**Birch Farm**	**53.33**	**136**	*e*P	**P**	**10 47 21.6**	**+1.5**
	comp=Z,18nm,1.1s						
RAMN	**Ramite**	**53.59**	**311**	*e*P	**P**	**10 47 22.4**	**-0.1**
	comp=Z,26nm,0.6s						
JIRN	**Jiri**	**54.28**	**312**	*e*P	**P**	**10 47 27.1**	**-0.5**
GUN	**Gumba**	**54.65**	**312**	*e*P	**P**	**10 47 29.8**	**-0.5**
	comp=Z,21nm,0.5s						
PKI	**Pulchoki**	**54.82**	**311**	*e*P	**P**	**10 47 30.6**	**-0.9**
PKIN	**Phulchoki**	**54.83**	**311**	*e*P	**P**	**10 47 30.4**	**-1.1**
KKN	**Kakani**	**55.03**	**311**	*e*P	**P**	**10 47 32.7**	**-0.2**
KOLN	**Koldanda**	**56.28**	**310**	*e*P	**P**	**10 47 41.4**	**-0.4**
	comp=Z,15nm,0.6s						
DANN	**Dangsing**	**56.47**	**311**	*e*P	**P**	**10 47 43.1**	**-0.1**
PYUN	**Piuthan**	**56.92**	**310**	*e*P	**P**	**10 47 45.8**	**-0.5**
SONM	**Songino Array**	**58.48**	**342**	P	**P**	**10 47 56.7**	**0.0**
	comp=Z,0.6nm,0.6s,baz=151,slow=6.0,SNR=4.4						
WMQ	**Urumqi**	**63.26**	**327**	*e*P	**P**	**10 48 30.9**	**+1.9**
KSH	**Kashi**	**67.78**	**318**	*e*P	**P**	**10 49 00.8**	**+2.5**
MK01	**Makanchi Array**	**68.07**	**327**	*e*P	**P**	**10 48 59.2**	**-0.6**
MK31	**Makanchi Array**	**68.09**	**327**	*e*P	**P**	**10 48 59.7**	**-0.2**
MKAR	**Makanchi Array**	**68.09**	**327**	P	**P**	**10 48 59.6**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=115,slow=8.4,SNR=25						
MKAR	**Makanchi Array**	**68.09**	**327**	*e*P	**P**	**10 48 59.3**	**-0.6**
	comp=Z,1.3nm,0.4s						
ZALV	**Zalesovo Beam**	**71.53**	**334**	P	**P**	**10 49 20.1**	**-0.6**
	comp=Z,2.1nm,0.7s,baz=136,slow=5.9,SNR=7.4						
ZALV	**Zalesovo Beam**	**71.53**	**334**	*e*P	**P**	**10 49 21.6**	**+0.9**
VNDA	**Vanda**	**72.28**	**173**	P	**P**	**10 49 24.8**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=253,slow=4.3,SNR=3.7						
VNDA	**Vanda**	**72.28**	**173**	*e*P	**P**	**10 49 25.8**	**+0.8**
	comp=Z,0.9nm,0.8s						
KURBB	**Kurchatov Arra**	**72.39**	**329**	P	**P**	**10 49 25.4**	**-0.6**
	comp=Z,1.8nm,0.5s,baz=127,slow=5.1,SNR=18						
QSPA	**South Pole Qui**	**82.74**	**180**	P	**P**	**10 50 23.8**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=309,slow=1.6,SNR=4.8						
AKTO	**Aktyubinsk**	**83.89**	**322**	P	**P**	**10 50 29.6**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=34,slow=2.9,SNR=4.0						
SUA	**Susitna One**	**91.49**	**28**	*e*P	**P**	**10 51 06.0**	**+0.3**
	comp=Z,38nm,1.0s						

*ISCJB **20** 10:42:20.9±0.5,39°.66N±0°.03×28°.89E±0°.04, h8km, Error ellipse: s-maj=5.0km s-min=4.0km az=147.7*
*ISK **20** 10:42:20.8, 39°.65N×28°.90E, h13km, ML2.0/7*
*DDA **20** 10:42:21.2, 39°.63N×28°.87E, h7km, Ml2.7*

ISC 20 10:42:20.8±0.9, 39°.63N±0°.04×28°.88E±0°.03, h8km, n13, σ0§40/17, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DURS	**Dursunbey**	**0.32**	**265**	*i* P	**Pg**	**10 42 26.9**	**-0.1**
DURS				*i* S	**Sg**	**10 42 31.9**	**+0.6**
TVSB	**Tavsanli**	**0.48**	**112**	PG	**Pg**	**10 42 30.6**	**+0.4**
TVSB				SG	**Sb**	**10 42 37.9**	**-1.0**
SIMA	**Simav-Kutahya**	**0.55**	**172**	PG	**Pb**	**10 42 32.4**	**-0.3**
SIMA				SG	**Sb**	**10 42 40.8**	**0.0**
GDZ	**Gediz**	**0.71**	**139**	*i* P	**Pg**	**10 42 34.7**	**+0.2**
KCTX	**Karacabey (Bur**	**0.75**	**328**	PG	**Pb**	**10 42 35.8**	**-0.4**
KCTX				SG	**Sb**	**10 42 46.7**	**+0.1**
CAVI	**Cavuskoy**	**0.94**	**52**	PG	**Pg**	**10 42 38.9**	**+0.1**
STEP	**BALIKESİR_Sava**	**0.94**	**255**	*i* P	**Pg**	**10 42 38.7**	**-0.1**
ARMT	**Armutlu**	**0.94**	**359**	PG	**Pb**	**10 42 39.0**	**-0.3**
SBT5	**Esenkoy-Cinarc**	**1.00**	**360**	PG	**Pb**	**10 42 40.2**	**-0.1**
YLV	**Yalova**	**1.01**	**22**	PG	**Pb**	**10 42 40.3**	**-0.3**
AKHS	**Akhisar**	**1.12**	**228**	*i* P	**Pn**	**10 42 43.0**	**+0.3**
KULA	**Kula-Manisa**	**1.13**	**189**	PN	**Pn**	**10 42 43.1**	**+0.2**
MANT	**Manisa**	**1.16**	**193**	*i* P	**Pn**	**10 42 43.7**	**+0.1**

*SJA **20** 10:45:50.9±0.7,24°.64S×65°.35W, h10km, ML3.7, MW4.4*
*IDC **20** 10:45:59.9±8.5,24°.25S×65°.06W, h76km±79km, mb3.7/1, mb1 3.7/4, mb1mx3.4/30, mbtmp3.9/4, ML3.7/3, MS2.9/4, Ms1 2.9/4, ms1mx2.7/28, Error ellipse: s-maj=105.1km s-min=27.5km az=147.0*

ISC 20 10:45:50.9±1.1, 24°.61S±0°.03×65°.37W±0°.06, h8km±8km, n18, σ2§35/24, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**0.17**	**229**	*e*P	**Pg**	**10 45 53.2**	**-1.4**
SLA				*e*S	**Sg**	**10 45 55.9**	**-1.2**
AZAP	**Zapla**	**0.47**	**35**	*e*S	**Sg**	**10 46 07.7**	**+1.4**
HJA	**Humahuaca**	**1.40**	**358**	*e*P	**Pn**	**10 46 14.2**	**-2.8**
HJA				*e*S	**Sn**	**10 46 39.5**	**+3.7**
HJA				IAML		10 46 45.0	
	comp=Z,2μm,0.4s						
ALOL	**LOMAS DE OLMED**	**1.49**	**58**	*e*P	**Pn**	**10 46 18.9**	**+0.9**
ALOL				*e*S	**Sg**	**10 46 39.7**	**+0.9**
FSA	**Cafayete**	**1.59**	**200**	*e*P	**Pn**	**10 46 19.4**	**-0.1**
FSA				*e*S	**Sn**	**10 46 40.4**	**0.0**
AHML	**Horco Molle**	**2.17**	**179**	*e*P	**Pn**	**10 46 28.8**	**+1.5**
AHML				*e*S	**Sb**	**10 46 57.4**	**0.0**
AHML				IAML		10 46 58.0	
	comp=Z,569nm,0.4s						
YJA	**Yavi**	**2.43**	**357**	*e*P	**Pn**	**10 46 34.0**	**+2.8**
YJA				*e*S	**Sb**	**10 47 06.8**	**+1.5**
YJA				IAML		10 47 12.8	
	comp=Z,359nm,0.4s						
LVC	**Limon Verde**	**3.81**	**301**	P	**Pb**	**10 46 59.1**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=132,slow=14,SNR=11						
LVC				LR	LR	10 48 15.7	
	comp=Z,52nm,19.3s,baz=126,slow=35						
CYA	**Choya**	**3.84**	**186**	*e*P	**Pn**	**10 46 52.1**	**+1.8**
CYA				*e*S	**Sb**	**10 47 46.7**	**+1.2**
CYA				IAML		10 47 51.5	
	comp=Z,120nm,0.4s						
ACLC	**CERRO LA CRUZ**	**5.00**	**196**	*e*P	**Pb**	**10 47 21.6**	**+2.8**
AGUA	**GUANDACOL**	**5.60**	**209**	*e*P	**Pn**	**10 47 17.4**	**+2.9**
APLL	**PUNTA DE LOS L**	**5.86**	**190**	*e*P	**Pn**	**10 47 18.1**	**+0.1**
CPUP	**Villa Florida**	**7.46**	**105**	LR	LR	10 50 56.7	
	comp=Z,63nm,20.6s,baz=304,slow=41						
LPAZ	**La Paz**	**6.68**	**342**	P	**Pn**	**10 47 59.1**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=116,slow=6.0,SNR=6.7						
LPAZ				LR	LR	10 51 32.8	
	comp=Z,52nm,20.5s,baz=140,slow=40						
SIV	**San Ignacio**	**9.47**	**26**	P	**Pn**	**10 48 06.3**	**-1.3**
	comp=Z,2.5nm,0.3s,baz=244,slow=8.5,SNR=25						
SIV				S	**Sn**	**10 49 48.1**	**-6.3**
	comp=Z,1.7nm,0.3s,baz=227,slow=14,SNR=3.8						
TORD	**Torodi Ar. Bea**	**75.40**	**68**	P	**P**	**10 57 34.3**	**-1.3**
	comp=Z,1.3nm,0.8s,baz=259,slow=4.3,SNR=7.0						
TSUM	**Tsumeb**	**76.06**	**105**	LR	LR	11 25 54.4	
	comp=Z,61nm,21.8s,baz=348,slow=32						
WRA	**Warramunga Arr**	**131.74**	**205**	PKP	**PKPdf**	**11 05 04.1**	**-1.2**
	comp=Z,0.2nm,0.9s,baz=152,slow=1.9,SNR=3.9						

*ISCJB **20** 10:51:46.3±0.5,51°.41N±0°.02×16°.16E±0°.03, h0km, Error ellipse: s-maj=3.4km s-min=2.2km az=24.7*
*BGR **20** 10:51:49.0±0.4,51°.40N×16°.16E, h1km, ML3.0/13, Error ellipse: s-maj=6.7km s-min=3.3km az=17.0*
*IDC **20** 10:51:48.0±0.8,51°.37N×16°.38E, h0km, mb1 3.6/6, mb1mx3.3/40, mbtmp3.5/6, ML3.1/6, Error ellipse: s-maj=18.4km s-min=7.0km az=99.0*
*PRU **20** 10:51:49.9±0.0,51°.40N×16°.16E, h0km*
*VIE **20** 10:51:49.8±0.8,51°.28N×16°.29E, h0km, mb2.6/4, ml3.0/5, Error ellipse: s-maj=8.5km s-min=5.3km az=95.0 54 km WNW of Wroclaw Suspected Mining induced.*
*WAR **20** 10:52:31.4,51°.02N×15°.79E, h1km, Mw2.8*

ISC 20 10:51:47.3±0.7, 51°.49N±0°.03×16°.18E±0°.02, h0km, n53, σ1§17/102, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.65**	**174**	*i* Pg	**Pg**	**10 52 00.2**	**+0.5**
KSP				*e*Sg	**Sg**	**10 52 08.3**	**+0.1**
KSP	**Ksiaz**	**0.65**	**174**	*i* Pg	**Pg**	**10 52 00.2**	**+0.5**
KSP				*e*Sg	**Sg**	**10 52 08.3**	**+0.1**
KSP	**Ksiaz**	**0.65**	**174**	*e*Pg	**Pg**	**10 52 00.3**	**+0.5**
KSP				*e*Sg	**Sg**	**10 52 07.4**	**-0.8**
UPC	**Upice**	**0.99**	**186**	*e*PG	**Pg**	**10 52 06.4**	**+0.2**
UPC				*e*SG	**Sg**	**10 52 19.3**	**+0.3**
	comp=Z,217nm,0.4s						
DPC	**Dobruska-Polom**	**1.14**	**175**	*e*PG	**Pg**	**10 52 09.3**	**+0.1**
DPC				*e*SG	**Sg**	**10 52 23.5**	**-0.5**
	comp=Z,94nm,0.5s						
DPC	**Dobruska-Polom**	**1.14**	**175**	*e*Pg	**Pg**	**10 52 09.2**	**+0.1**
DPC				*e*Sg	**Sg**	**10 52 24.4**	**+0.4**
PVCC	**Panska Ves**	**1.40**	**227**	*e*PG	**Pb**	**10 52 14.8**	**+0.5**
PVCC				*e*SG	**Sn**	**10 52 33.5**	**+0.2**
	comp=Z,179nm,0.4s						
KRLC	**Kraliky**	**1.47**	**165**	*e*PG	**Pn**	**10 52 14.9**	**-0.1**
BRG	**Berggiesshubel**	**1.54**	**247**	PN	**Pn**	**10 52 15.7**	**-0.3**
BRG				PG	**Pb**	**10 52 17.2**	**+0.6**
BRG				SG	**Sg**	**10 52 37.7**	**+1.0**
	43nm,0.5s						
BRG	**Berggiesshubel**	**1.54**	**247**	*e*Pg	**Pn**	**10 52 16.6**	**+0.7**
BRG				*e*Sg	**Sn**	**10 52 36.0**	**-0.6**
GOPC	**GO Pecny, Ondr**	**1.81**	**210**	*e*PN	**Pn**	**10 52 20.0**	**+0.3**
GOPC				*e*PG	**Pb**	**10 52 21.6**	**+0.3**
GOPC				*e*SG	**Sb**	**10 52 44.6**	**+0.1**
	comp=Z,32nm,0.5s						
MORC	**Moravsky Berou**	**1.92**	**153**	*e*Pn	**Pn**	**10 52 21.1**	**-0.2**
MORC				*e*Sg	**Sn**	**10 52 46.5**	**+0.3**
MORC	**Moravsky Berou**	**1.92**	**153**	*e*PN	**Pn**	**10 52 20.9**	**+0.4**
MORC				*e*SG	**Sn**	**10 52 44.9**	**-1.3**
CLL	**Collm**	**2.00**	**266**	*e*Pg	**Pb**	**10 52 25.0**	**+0.5**
CLL				*e*Sg	**Sg**	**10 52 53.0**	**+1.5**
	comp=Z,31nm,0.6s						
CLL	**Collm**	**2.00**	**266**	*e*Pg	**Pb**	**10 52 25.3**	**+0.7**
CLL				*e*Sg	**Sb**	**10 52 51.0**	**+1.0**
OKC	**Ostrava-Krasne**	**2.07**	**142**	*e*PG	**Pb**	**10 52 26.3**	**+0.5**
OKC				*e*SG	**Sb**	**10 52 51.8**	**-0.3**
	comp=Z,57nm,0.6s						
OKC	**Ostrava-Krasne**	**2.07**	**142**	*e*Pg	**Pb**	**10 52 26.1**	**+0.4**
OKC				*e*Sg	**Sb**	**10 52 51.4**	**-0.7**
VRAC	**Vranov**	**2.20**	**173**	Pg	**Pn**	**10 52 25.8**	**+0.8**
	comp=Z,3.8nm,0.3s,baz=343,slow=17,SNR=10						
VRAC				Lg	Lg	10 52 55.0	
	comp=Z,6.6nm,0.3s,baz=62,slow=23,SNR=9.4						
VRAC	**Vranov**	**2.20**	**173**	*e*PN	**Pn**	**10 52 25.1**	**0.0**
VRAC				*e*SG	**Sb**	**10 52 55.6**	**-0.1**
TREC	**Trest**	**2.24**	**192**	*e*PN	**Pn**	**10 52 27.1**	**+1.4**
TREC				*e*PG	**Pb**	**10 52 29.2**	**+0.5**
TREC				*e*SG	**Sb**	**10 52 58.0**	**+1.1**
	comp=Z,26nm,0.3s						
KRUC	**Moravsky**	**2.43**	**177**	*e*PG	**Pb**	**10 52 32.3**	**+0.4**
KRUC				*e*SG	**Sb**	**10 53 03.4**	**+1.0**
TANN	**Tannenbergstha**	**2.59**	**247**	*e*Pn	**Pn**	**10 52 31.2**	**+0.8**
TANN				*e*Pg	**Pg**	**10 52 37.2**	**+0.4**
TANN				*e*Sg	**Sb**	**10 53 08.6**	**+1.8**
OJC	**Ojcow**	**2.62**	**118**	*e*Pg	**Pg**	**10 52 38.3**	**+0.8**
OJC				*e*Sg	**Sg**	**10 53 12.7**	**+1.3**
OJC	**Ojcow**	**2.62**	**118**	*e*Pg	**Pg**	**10 52 38.3**	**+0.8**
OJC				*e*Sg	**Sg**	**10 53 12.7**	**+1.3**
OJC	**Ojcow**	**2.62**	**118**	*e*Pg	**Pg**	**10 52 37.0**	**-0.6**
OJC				*e*Sg	**Sg**	**10 53 11.6**	**+0.1**
NKC	**Novy Kostel**	**2.68**	**243**	*e*PN	**Pn**	**10 52 32.5**	**+0.8**
NKC				*e*PG	**Pg**	**10 52 38.4**	**-0.2**
NKC				*e*SG	**Sg**	**10 53 15.6**	**+2.3**
	comp=Z,40nm,0.5s						
JAVC	**Velka Javorina**	**2.80**	**159**	*e*PN	**Pn**	**10 52 35.4**	**+2.0**
KHC	**Kasperske Hory**	**2.89**	**216**	*e*PN	**Pn**	**10 52 34.9**	**+0.3**
KHC				*e*PG	**Pb**	**10 52 41.1**	**+1.4**
KHC				*e*SG	**Sg**	**10 53 19.1**	**-1.0**
	comp=Z,19nm,0.5s						
MOX	**Moxa**	**3.00**	**255**	*e*Pn	**Pn**	**10 52 35.6**	**-0.6**
MOX				*e*Pg	**Pg**	**10 52 44.3**	**-0.5**
MOX				*e*Sg	**Sg**	**10 53 23.8**	**+0.1**
ROTZ	**Rotzenmuhle**	**3.06**	**237**	*e*Pn	**Pn**	**10 52 37.8**	**+0.8**
ROTZ				*e*Sg	**Sg**	**10 53 25.6**	**0.0**
SMOL	**Smolenice**	**3.08**	**164**	*e*PG	**Pg**	**10 52 46.0**	**-0.4**
SMOL				*e*SG	**Sg**	**10 53 27.5**	**+1.1**
GEC2	**GERESS Array S**	**3.09**	**212**	*e*Pn	**Pn**	**10 52 38.5**	**+1.1**
GEC2				*e*Sg	**Sg**	**10 53 24.7**	**-1.8**
GERES	**GERESS Array B**	**3.09**	**212**	Pn	**Pn**	**10 52 38.5**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=35,slow=14,SNR=18						
GERES				Pg	**Pb**	**10 52 44.4**	**+1.2**
	comp=Z,9.5nm,0.3s,baz=29,slow=17,SNR=49						
GERES				Lg	Lg	10 53 25.1	
	comp=Z,4.6nm,0.3s,baz=36,slow=25,SNR=2.5						
LANS	**Liptovska Anna**	**3.15**	**137**	*e*	**Pn**	**10 52 38.7**	**+0.5**
LANS	**Liptovska Anna**	**3.15**	**137**	*e*PG	**Pg**	**10 52 47.6**	**0.0**
LANS				*e*SG	**Sg**	**10 53 28.9**	**+0.5**
WET	**Wettzell**	**3.16**	**223**	*e*Pn	**Pn**	**10 52 39.0**	**+0.7**
WET				*e*Pg	**Pb**	**10 52 45.3**	**+0.9**
WET				*e*Sn	**Sn**	**10 53 13.3**	**-3.4**
WET				*e*Sg	**Sb**	**10 53 26.2**	**+2.8**
MODS	**Modra-Piesok**	**3.20**	**167**	*e*PG	**Pg**	**10 52 47.4**	**-1.2**
MODS				*e*SG	**Sg**	**10 53 28.6**	**-1.4**
MODS				eLG	Lg	10 53 32.2	
NIE	**Niedzica**	**3.35**	**127**	*e*P	**Pg**	**10 52 52.9**	**+1.4**
NIE				*e*S	**Sg**	**10 53 37.2**	**+2.3**
NIE	**Niedzica**	**3.35**	**127**	*e*P	**Pg**	**10 52 52.9**	**+1.4**
NIE				*e*S	**Sg**	**10 53 37.2**	**+2.3**
VYHS	**Vyhne**	**3.45**	**149**	*e*PG	**Pg**	**10 52 55.7**	**+2.2**
VYHS				*e*SG	**Sg**	**10 53 36.8**	**-1.4**
CONA	**Conrad Observa**	**3.57**	**183**	*i* Pn	**Pn**	**10 52 44.4**	**+0.4**
	comp=Z,1.1nm,0.2s						
CONA				*e*Sg	**Sg**	**10 53 40.8**	**-1.2**
	comp=Z,18nm,0.4s						
CLZ	**Clausthal**	**3.63**	**278**	*e*Sg	**Sg**	**10 53 45.5**	**+1.6**
GRF	**Grafenberg Arr**	**3.63**	**242**	*e*Sg	**Sg**	**10 53 41.2**	**-2.9**
BSD	**Bornholm Skovb**	**3.71**	**349**	*i* P	**Pn**	**10 52 45.8**	**0.0**
BSD				*e*S	**Sn**	**10 53 27.9**	**-2.3**
MOA	**Molln**	**3.85**	**200**	*i* Pn	**Pn**	**10 52 48.3**	**+0.5**
	comp=Z,3.0nm,0.3s						
MOA				*e*Sg	**Sg**	**10 53 51.0**	**+0.1**
	comp=Z,13nm,0.5s						
SRO	**Srobarova**	**3.93**	**159**	*e*PG	**Pg**	**10 53 01.3**	**-1.3**
KECS	**Kecovo**	**4.09**	**136**	*e*PG	**Pg**	**10 53 07.5**	**+1.8**
KECS				*e*SG	**Sg**	**10 53 56.9**	**-1.9**
KECS				eLG	Lg	10 54 02.2	
ARSA	**Arzberg**	**4.26**	**186**	*e*Sg	**Sg**	**10 54 04.8**	**+0.5**
	comp=Z,13nm,0.5s						
HFS	**Hagfors**	**8.78**	**352**	Pn	**Pn**	**10 53 55.3**	**0.0**
	comp=Z,0.2nm,0.3s,baz=165,slow=12,SNR=4.1						
NOA	**NORSAR Array B**	**9.96**	**346**	Pn	**Pn**	**10 54 10.2**	**-1.4**
	comp=Z,0.0nm,0.3s,baz=160,slow=12,SNR=2.8						
FINES	**FINESS Array B**	**11.36**	**25**	Pn	**Pn**	**10 54 29.4**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=212,slow=10,SNR=6.0						
EKA	**Eskdalemuir Ar**	**12.15**	**296**	Pn	**Pn**	**10 54 42.5**	**+1.0**
	baz=101,slow=13,SNR=3.3						
ARCES	**ARCESS Array B**	**18.64**	**10**	Pn	**P**	**10 56 03.1**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=194,slow=12,SNR=10						

**ISC 20 11:04:23.6±1.2, 49°.7N±0°.1×17°.76E±0°.07, h8km±17km, n6, σ0§51/10, Czech

SFK				⇓Sn	Sb	11 54 37.4	-1.7		
	19nm,0.5s								
MNAS	**Manas**	**4.98**	**7**	⇑Pn	Pn	11 54 25.5	-2.0		
	4.0nm,0.5s								
MNAS				⇑Sn	Sn	11 55 25.0	-0.9		
	5.0nm,0.5s								
KK31	**Karatay Array**	**5.62**	**352**	⇑Pn	Pn	11 54 34.1	-2.0		
	1.6nm,0.5s,baz=155,slow=13,SNR=12								
KK31				⇑Sn	Sn	11 55 40.6	-0.8		
	1.3nm,0.3s,baz=150,slow=24,SNR=4.7								

ISK ***20*** *11:53:52.9, 38.°92N × 37.°78E, h5km, ML2.2/2*
DDA ***20*** *11:53:53.8, 38.°88N × 37.°75E, h14km, Ml2.6*
ISCJB ***20*** *11:53:54.9±0.6, 38.°90N±0.°04 × 37.°77E±0.°04, h6km±5km, Error ellipse: s-maj=6.9km s-min=5.5km az=0.4*

ISC 20 11:53:54.2±1.0, 38.°90N±0.°04 × 37.°76E±0.°03, h14km±8km, n9, σ1=16/14, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HEKM	**Malatya_Hekimh**	**0.15**	**96**	*i* P	**Pg**	**11 53 57.9**	**-0.4**
HEKM				*i* S	**Sg**	**11 54 02.1**	**+1.0**
DARE	**Darende-Malaty**	**0.39**	**214**	PG	**Pb**	**11 54 02.3**	**-0.7**
DARE				SG	**Sb**	**11 54 09.4**	**+0.5**
CUKAN	**kangal_SIVAS**	**0.48**	**331**	*i* P	**Pg**	**11 54 03.2**	**-0.6**
CUKAN				*i* S	**Sb**	**11 54 10.8**	**-0.7**
AKCD	**Akcadag**	**0.61**	**168**	*i* P	**Pb**	**11 54 06.1**	**-0.7**
ELBS	**KAHRAMANMARAS**	**0.76**	**221**	*i* P	Pg	11 54 01.0	-8.0
ELZG	**Elazig**	**1.04**	**112**	*i* P	**Pg**	**11 54 13.1**	**-1.2**
PTK	**Pertek**	**1.27**	**90**	PN	**Pg**	**11 54 17.9**	**-0.9**
PTK				SN	**Sn**	**11 54 36.6**	**+1.9**
BNN	**Bunyan**	**1.50**	**269**	PN	**Pg**	**11 54 22.5**	**-0.5**
BNN				SN	**Sg**	**11 54 43.7**	**+1.2**
KELT	**Kelkit**	**1.70**	**42**	*i* P	**Pg**	**11 54 25.9**	**-1.0**
KELT				*i* S	**Sg**	**11 54 50.3**	**+1.2**

PRE ***20*** *11:56:43.7±1.6, 21.°33S × 32.°95E, h5km, ML3.3*

ISC 20 11:56:49.6±2.7, 21.°61S±0.°10 × 32.°7E±0.°1, h10km, n11, σ0=99/20, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSNA	**Messina**	**2.63**	**253**	*e*P	**Pn**	**11 57 33.1**	**+0.9**
MSNA				*e*S	**Sn**	**11 58 06.1**	**+2.0**
MSNA				AML	AML	11 58 34.0	
	comp=Z,201nm,0.1s						
BLWY	**Bulawayo**	**4.13**	**290**	*i* P	**Pn**	**11 57 52.8**	**-0.2**
BLWY				*i* S	**Sg**	**11 59 02.0**	**-0.3**
BLWY	**Bulawayo**	**4.13**	**290**	*i* P	**Pn**	**11 57 52.8**	**-0.2**
BLWY				*i* S	**Sg**	**11 59 02.0**	**-0.3**
MATP	**Matopo**	**4.13**	**286**	*i* P	**Pn**	**11 57 53.0**	**0.0**
MATP				*i* S	**Sg**	**11 59 02.6**	**+0.1**
MATP	**Matopo**	**4.13**	**286**	*i* P	**Pn**	**11 57 53.0**	**0.0**
MATP				*i* S	**Sg**	**11 59 02.6**	**+0.1**
CNG	**Changalane**	**4.69**	**186**	*e*P	**Pn**	**11 57 59.6**	**-0.9**
CNG				*e*S	**Sn**	**11 58 56.7**	**+1.7**
CNG				AML	AML	11 59 25.0	
	comp=Z,81nm,0.6s						
PRYS	**Parys**	**7.22**	**222**	*e*P	**Pn**	**11 58 34.5**	**-0.9**
PRYS				*e*S	**Sn**	**11 59 57.7**	**+0.1**
PRYS				AML	AML	12 01 01.0	
	comp=Z,29nm,0.6s						
LBTB	**Lobatse**	**7.39**	**241**	*e*P	**Pn**	**11 58 37.6**	**-0.1**
LBTB				*e*S	**Sn**	**11 59 60.0**	**-1.7**
LBTB				AML	AML	12 01 07.1	
	comp=Z,39nm,0.6s						
SWZ	**Schweizer**	**8.74**	**229**	*e*P	**Pn**	**11 58 56.1**	**-0.2**
SWZ				*e*S	**Sn**	**12 00 33.2**	**-1.7**
SWZ				AML	AML	12 00 43.4	
	comp=Z,9.8nm,0.4s						
BOSA	**Boshof**	**9.72**	**223**	*i* P	**Pn**	**11 59 10.6**	**+0.8**
BOSA	**Boshof**	**9.72**	**223**	*i* P	**Pn**	**11 59 10.6**	**+0.8**

ISCJB ***20*** *12:23:11.3±0.8, 38.°51N±0.°04 × 141.°79E±0.°09, h60km±5km, mb3.5/4, Error ellipse: s-maj=12.6km s-min=5.6km az=15.9*
JMA ***20*** *12:23:12.8, 38.°53N × 141.°72E, h53km±1km, M3.7*
JMA Felt II J1.
IDC ***20*** *12:23:13.3±3.1, 38.°56N × 141.°87E, h69km±26km, mb3.2/4, mb1 3.3/7, mb1mx3.2/40, mbtmp3.4/7, Error ellipse: s-maj=42.3km s-min=21.1km az=81.0*

ISC 20 12:23:12.1±1.2, 38.°51N±0.°05 × 141.°80E±0.°09, h52km±8km, n26, σ0=70/30, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.33**	**234**	P	**Pn**	**12 23 22.3**	**+0.7**
JIKH				S	**Sn**	**12 23 28.7**	**+0.3**
JIO	**Ouri**	**0.36**	**262**	P	**Pn**	**12 23 22.3**	**+0.4**
JIO				S	**Sn**	**12 23 28.7**	**-0.2**
JKMT	**Kesennumamotoy**	**0.40**	**320**	P	**Pn**	**12 23 22.7**	**+0.4**
JKMT				S	**Sn**	**12 23 29.4**	**-0.3**
OFUJ	**Ofunato**	**0.58**	**350**	P	**Pn**	**12 23 24.8**	**+0.3**
OFUJ				S	**Sn**	**12 23 33.1**	**-0.3**
JMK	**Ichinoseki**	**0.64**	**315**	P	**Pn**	**12 23 25.4**	**+0.3**
JMK				S	**Sn**	**12 23 34.0**	**-0.5**
JOU	**Okura**	**0.91**	**262**	P	**Pn**	**12 23 28.5**	**-0.1**
JOU				S	**Sn**	**12 23 40.3**	**-0.4**
JMM	**Marumori**	**1.02**	**232**	P	**Pn**	**12 23 29.9**	**-0.2**
JMM				S	**Sn**	**12 23 42.8**	**-0.6**
JOM	**Ohasama**	**1.04**	**338**	P	**Pn**	**12 23 30.7**	**+0.3**
JOM				S	**Sn**	**12 23 43.9**	**-0.1**
JYK	**Kaneyama**	**1.20**	**291**	P	**Pn**	**12 23 32.6**	**+0.1**
JRG	**Rokugo**	**1.27**	**315**	P	**Pn**	**12 23 33.7**	**+0.2**
JFK	**Kawauchi**	**1.35**	**213**	P	**Pn**	**12 23 35.0**	**+0.4**
JFK				S	**Sn**	**12 23 51.2**	**-0.3**
JYS	**Shirataka**	**1.39**	**259**	P	**Pn**	**12 23 35.4**	**+0.2**
JYS				S	**Sn**	**12 23 52.6**	**+0.1**
MJAR	**Matsushiro Arr**	**3.46**	**237**	P	**Pn**	**12 24 05.7**	**+2.2**
	1.5nm,0.3s,baz=34,slow=13,SNR=14						
MAT	**Matsushiro**	**3.46**	**237**	P	**Pn**	**12 24 05.3**	**+1.8**
ASAJ	**Asahikawa**	**5.64**	**6**	P	**Pn**	**12 24 33.8**	**+0.5**
	0.8nm,0.3s,baz=234,slow=13,SNR=7.2						
USRK	**Ussuriysk Ar.**	**9.31**	**311**	P	**Pn**	**12 25 24.6**	**+1.0**
	0.2nm,0.3s,baz=121,slow=14,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**28.67**	**124**	T	T	12 59 26.6	
	baz=316,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**28.68**	**124**	T	T	12 59 27.6	
	baz=316,slow=75,SNR=84						
H11N3	**WAKE ISLAND Hy**	**28.69**	**124**	T	T	12 59 28.3	
	baz=316,slow=75,SNR=47						
H11S1	**WAKE ISLAND Hy**	**29.43**	**126**	T	T	13 00 23.5	
	baz=318,slow=76,SNR=58						
H11S3	**WAKE ISLAND Hy**	**29.43**	**126**	T	T	13 00 23.6	
	baz=318,slow=76,SNR=56						
H11S2	**WAKE ISLAND Hy**	**29.45**	**126**	T	T	13 00 23.4	
	baz=318,slow=76,SNR=46						
ZALV	**Zalesovo Beam**	**41.17**	**311**	P	**P**	**12 30 50.2**	**-0.9**
	0.5nm,0.4s,baz=79,slow=7.5,SNR=2.7						
MKAR	**Makanchi Array**	**43.61**	**301**	P	**P**	**12 31 11.1**	**0.0**
	0.8nm,0.8s,baz=92,slow=9.5,SNR=5.1						
WRA	**Warramunga Arr**	**58.56**	**188**	P	**P**	**12 33 03.1**	**-0.3**
	0.4nm,0.6s,baz=5.5,slow=7.2,SNR=7.0						
ASAR	**Alice Springs**	**62.28**	**188**	P	**P**	**12 33 28.7**	**-0.1**
	0.2nm,0.6s,baz=4.8,slow=5.1,SNR=4.9						

ISCJB ***20*** *12:29:51.6±0.5, 37.°23N±0.°03 × 28.°19E±0.°04, h0km, Error ellipse: s-maj=4.9km s-min=3.6km az=45.0*
DDA ***20*** *12:29:51.4, 37.°24N × 28.°18E, h7km, Ml2.6, Suspected Mining explosion.*
ISK ***20*** *12:29:51.4, 37.°23N × 28.°17E, h6km, ML2.2/4*

ISC 20 12:29:51.2±0.9, 37.°24N±0.°03 × 28.°22E±0.°03, h0km, n13, σ0=68/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSB	**Milas**	**0.36**	**279**	PG	**Pg**	**12 29 58.2**	**+0.1**
MLSB				SG	**Sg**	**12 30 03.7**	**+0.9**
TURN	**Turunc**	**0.48**	**140**	PG	**Pg**	**12 30 00.3**	**-0.1**
TURN				SG	**Sg**	**12 30 07.8**	**+1.3**
TURN	**Turunc**	**0.48**	**140**	*i* P	**Pg**	**12 30 00.0**	**-0.3**
TURN				*i* S	**Sg**	**12 30 07.6**	**+1.1**
AYDN	**Tasoluk**	**0.50**	**327**	*i* P	**Pg**	**12 30 01.3**	**+0.5**
AYDN				*i* S	**Sg**	**12 30 08.2**	**+0.8**
DALY	**Dalyan (Mu¨la**	**0.55**	**141**	PG	**Pg**	**12 30 02.6**	**+0.9**
DALY				SG	**Sb**	**12 30 11.3**	**-0.7**
DALY	**Dalyan (Mu¨la**	**0.55**	**141**	*i* P	**Pb**	**12 30 03.0**	**-0.6**
DALY				*i* S	**Sb**	**12 30 11.1**	**-0.9**
TAVA	**DENIZLI_Tavas**	**0.59**	**68**	*i* P	**Pb**	**12 30 04.1**	**-0.5**
DAT	**Datca**	**0.72**	**226**	PG	**Pg**	**12 30 05.1**	**0.0**
DAT	**Datca**	**0.72**	**226**	*i* P	**Pb**	**12 30 06.3**	**-0.5**
DAT				*i* S	**Sg**	**12 30 15.2**	**+0.6**
BODT	**Bodrum**	**0.75**	**257**	PG	**Pg**	**12 30 05.4**	**-0.2**
FETY	**Fethiye**	**0.92**	**131**	PG	**Pb**	**12 30 10.0**	**0.0**
MANT	**Manisa**	**1.28**	**12**	*i* P	**Pg**	**12 30 15.3**	**-0.4**
MANT				*i* S	**Sn**	**12 30 34.7**	**+0.2**
AKAS	**Kas**	**1.50**	**132**	PN	**Pg**	**12 30 19.9**	**-0.1**

NEIC ***20*** *12:43:48.4±0.0, 15.°75N × 98.°74W, h16km, MD4.1(MEX), After MEX.*

MEX 20 12:43:47.9±0.6, 15.°76N × 98.°72W, h8km±10km, MD4.1, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.84**	**42**	*e*Pg	Pg	12 44 01.3	-2.8
PNIG				*e*Sn	Sg	12 44 11.4	-3.7
PNIG	**Pinotepa**	**0.84**	**42**	*e*P	Pg	12 44 01.4	-2.8
PNIG				*e*S	Sg	12 44 13.0	-2.2
TLIG	**Tlapa**	**1.79**	**5**	*e*Pn	Pn	12 44 15.9	-3.4
TLIG				*e*Sn	Sn	12 44 37.4	-4.9
TLIG	**Tlapa**	**1.79**	**5**	*e*P	Pn	12 44 15.3	-3.9
TLIG				*e*S	Sn	12 44 37.1	-5.1
VHO	**Vista Hermosa**	**2.31**	**55**	*e*P	Pn	12 44 23.8	-2.5
VHO				*e*S	Sn	12 44 51.2	-3.8
MEIG	**Mezcala**	**2.32**	**338**	*e*Pn	Pn	12 44 23.3	-3.1
MEIG				*e*Sn	Sn	12 44 48.8	-6.4
MEIG	**Mezcala**	**2.32**	**338**	*e*P	Pn	12 44 23.3	-3.1
MEIG				*e*S	Sn	12 44 50.9	-4.3
PLIG	**Platanillo**	**2.72**	**344**	*e*Pn	Pn	12 44 34.0	+2.1
PLIG				*e*Sn	Sb	12 45 08.6	-1.8
PLIG	**Platanillo**	**2.72**	**344**	*i* P	Pn	12 44 29.6	-2.3
PLIG				*i* S	Sn	12 45 01.2	-3.9

ISK ***20*** *12:51:51.7, 40.°05N × 33.°51E, h5km, ML2.5/7*
ISCJB ***20*** *12:51:53.8±0.6, 39.°97N±0.°03 × 33.°57E±0.°04, h5km±6km, Error ellipse: s-maj=5.3km s-min=4.4km az=39.6*
DDA ***20*** *12:51:54.2, 39.°98N × 33.°58E, h7km, Md2.7*

ISC 20 12:51:53.3±1.3, 39.°99N±0.°03 × 33.°55E±0.°03, h4km±12km, n17, σ0=99/25, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELDT	**Eldivan**	**0.51**	**350**	*i* P	**Pb**	**12 52 04.5**	**-0.4**
ELDT				*i* S	**Sb**	**12 52 12.8**	**+0.1**
BBAL	**Bala**	**0.56**	**216**	*i* P	**Pg**	**12 52 04.6**	**+0.6**
ANTO	**Ankara**	**0.59**	**258**	PG	**Pg**	**12 52 03.9**	**-0.8**
ANTO				SG	**Sg**	**12 52 13.3**	**+0.9**
AFSR	**Af˘ar-Bala (A**	**0.66**	**214**	PG	**Pg**	**12 52 06.4**	**+0.5**
AFSR				SG	**Sb**	**12 52 16.6**	**-0.4**
CDAG	**Cicekdag**	**0.73**	**120**	*i* P	**Pb**	**12 52 08.2**	**-0.6**
CORM	**Corum**	**0.85**	**77**	PG	**Pg**	**12 52 09.5**	**-0.2**
CORM				SG	**Sb**	**12 52 22.5**	**-0.1**
KKUL	**Konya-Kulu**	**0.95**	**211**	*i* P	**Pn**	**12 52 12.8**	**-0.8**
KKUL				*i* S	**Sn**	**12 52 26.3**	**-1.2**
CMDR	**Camlidere-ANKA**	**0.96**	**302**	*i* P	**Pn**	**12 52 13.2**	**-0.6**
CMDR				*i* S	**Sn**	**12 52 27.6**	**-0.4**
KULU	**Kulu**	**1.04**	**204**	PN	**Pb**	**12 52 13.7**	**-0.2**
KULU				SN	**Sn**	**12 52 29.6**	**-0.2**
ILGA	**Ilgaz**	**1.07**	**7**	*i* P	**Pn**	**12 52 14.5**	**-0.8**
ILGA				*i* S	**Sn**	**12 52 34.2**	**+3.5**
YAYX	**Yaylak**	**1.07**	**169**	PN	**Pb**	**12 52 14.3**	**-0.2**
AKSY	**AKSARAY - Alti**	**1.35**	**173**	*i* P	**Pg**	**12 52 19.3**	**0.0**
YOZ	**Yozgat**	**1.41**	**104**	PN	**Pg**	**12 52 20.0**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.65**	**251**	PN	**Pn**	**12 52 22.9**	**-0.3**
KIZT	**Kizilcal**	**1.70**	**230**	PN	**Pn**	**12 52 23.9**	**0.0**
LADK	**Ladik-KONYA**	**2.01**	**208**	PN	**Pn**	**12 52 28.9**	**+0.7**
KONT	**Konya--Tatoy**	**2.24**	**205**	PN	**Pn**	**12 52 32.5**	**+1.2**

MEX 20 13:02:11.9±0.6, 17.°82N × 97.°60W, h62km±5km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPIG	**Tehuac#an**	**0.64**	**21**	*e*P	Pn	13 02 24.7	-1.1
TPIG				*e*S	Sn	13 02 34.9	-1.1
PNIG	**Pinotepa**	**1.50**	**200**	*e*P	Pn	13 02 34.5	-2.2
PNIG				*e*S	Sn	13 02 54.1	-1.3

SKHL ***20*** *13:14:28.9±1.0, 44.°41N × 148.°25E, h45km, mb4.2/6*
JMA ***20*** *13:14:28.4±0.4, 43.°98N × 148.°05E, h0km, M3.7*

ISC 20 13:14:27.5±2.8, 44.°39N±0.°09 × 148.°1E±0.°2, h12km±11km, n16, σ0=99/27, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.86**	**348**	*i* P	**Pg**	**13 14 44.0**	**-0.2**
KUR				AMB	AMB	13 14 44.0	
	10.0nm,0.1s						
KUR				AMB	AMB	13 14 44.0	
	70nm,0.1s						
KUR				AMB	AMB	13 14 44.0	
	20nm,0.1s						
KUR				*e*S	**Sg**	**13 14 55.0**	**-0.5**
KUR				A	A	13 14 56.0	
	270nm,0.2s						
KUR				A	A	13 14 56.0	
	889nm,0.2s						
SHO	**Shikotan**	**1.07**	**241**	*i* P	**Pg**	**13 14 48.0**	**-0.1**
SHO				AMB	AMB	13 14 49.0	
	20nm,0.2s						
SHO				AMB	AMB	13 14 49.0	
	3µm,0.2s						
SHO				*e*S	**Sg**	**13 15 02.0**	**0.0**
SHO				A	A	13 15 03.0	
	130nm,0.2s						
SHO				A	A	13 15 03.0	
	458nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.67**	**259**	*i* P	**Pn**	**13 14 57.0**	**+0.5**
YUK				AMB	AMB	13 14 58.0	
	10.0nm,0.3s						
YUK				AMB	AMB	13 14 58.0	
	50nm,0.3s						
YUK				AMB	AMB	13 14 58.0	
	90nm,0.3s						
YUK				*e*S	**Sn**	**13 15 17.0**	**-0.8**
YUK				A	A	13 15 20.0	
	170nm,0.2s						
YUK				A	A	13 15 20.0	
	229nm,0.2s						
LAGR	**Lagunnoye**	**1.72**	**260**	*e*P	**Pn**	**13 14 57.0**	**-0.2**
LAGR				AMB	AMB	13 14 58.0	
	40nm,0.2s						
LAGR				AMB	AMB	13 14 58.0	
	60nm,0.2s						
LAGR				AMB	AMB	13 14 58.0	
	100nm,0.2s						
LAGR				*e*S	**Sn**	**13 15 18.0**	**-1.0**
LAGR				A	A	13 15 20.0	
	220nm,0.2s						
LAGR				A	A	13 15 20.0	
	179nm,0.2s						
GRPR	**Tuman**	**1.74**	**258**	*e*P	**Pn**	**13 14 57.0**	**-0.5**
GRPR				AMB	AMB	13 14 59.0	
	40nm,0.2s						
GRPR				AMB	AMB	13 14 59.0	
	30nm,0.2s						
GRPR				AMB	AMB	13 14 59.0	
	50nm,0.2s						
GRPR				*e*S	**Sn**	**13 15 19.0**	**-0.6**
GRPR				A	A	13 15 23.0	
	230nm,0.2s						
GRPR				A	A	13 15 23.0	
	179nm,0.2s						
GLVR	**Golovnino**	**1.99**	**252**	*e*P	**Pn**	**13 15 01.0**	**+0.1**
GLVR				AMB	AMB	13 15 02.0	
	40nm,0.3s						
GLVR				AMB	AMB	13 15 02.0	
	4µm,0.3s						
GLVR				*e*S	**Sn**	**13 15 26.0**	**+0.3**
GLVR				A	A	13 15 29.0	
	250nm,0.3s						
GLVR				A	A	13 15 29.0	
	169nm,0.3s						
NEM2	**Nemuro 2**	**2.01**	**240**	P	**Pn**	**13 15 00.8**	**-0.3**
NEM2				*e*S	**Sn**	**13 15 24.5**	**-1.6**
JRA	**Rausu**	**2.21**	**259**	P	**Pn**	**13 15 05.5**	**+1.6**
JKHN	**Kushirohamanak**	**2.52**	**240**	P	**Pn**	**13 15 08.3**	**+0.2**
JNK	**Nakash**	**2.59**	**253**	P	**Pn**	**13 15 10.4**	**+1.2**
JNK				*e*S	**Sn**	**13 15 41.2**	**+0.7**
JAK	**Akkeshi**	**2.85**	**242**	P	**Pn**	**13 15 13.0**	**+0.2**
JAR	**Ashorobuto**	**3.34**	**252**	P	**Pn**	**13 15 21.5**	**+2.0**
JCH	**Churui**	**3.90**	**245**	P	**Pn**	**13 15 28.0**	**+0.9**
JCH				*e*S	**Sn**	**13 16 12.2**	**-0.5**
JNBK	**Urakawa-nobuka**	**4.45**	**244**	P	**Pn**	**13 15 36.2**	**+1.4**
JKB	**Kayabe**	**5.76**	**247**	P	**Pn**	**13 15 54.1**	**+1.4**
JKB				*e*S	**Sn**	**13 16 58.3**	**-0.4**
JOT	**Ohata**	**6.01**	**242**	P	**Pn**	**13 15 57.0**	**+0.9**
JOT				*e*S	**Sn**	**13 17 03.2**	**-1.6**

IDC 20 13:15:15.0±14.0, 19.°95S × 178.°00W, h424km±157km, mb3.4/10, mb1 3.7/10, mb1mx3.5/22, mbtmp4.2/10, Error ellipse: s-maj=49.7km s-min=34.4km az=1.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.03**	**244**	P	P	13 21 55.8	+0.5
	2.6nm,0.8s,baz=140,slow=9.2,SNR=3.8						
ASAR	**Alice Springs**	**44.65**	**256**	P	P	13 22 48.4	0.0
	7.3nm,0.8s,baz=95,slow=7.6,SNR=89						
WRA	**Warramunga Arr**	**44.68**	**261**	P	P	13 22 47.8	-0.8
	2.4nm,0.3s,baz=96,slow=7.7,SNR=112						
MJAR	**Matsushiro Arr**	**69.77**	**324**	P	P	13 25 41.3	+0.1
	1.3nm,0.5s,baz=166,slow=6.1,SNR=5.9						
PETK	**Petropavlovsk-**	**75.74**	**345**	P	P	13 26 15.9	+0.5
	2.7nm,0.9s,baz=147,slow=6.4,SNR=3.1						
NVAR	**Mina Array Bea**	**80.62**	**43**	P	P	13 26 43.0	+0.5
	0.2nm,0.4s,baz=239,slow=11,SNR=4.1						
TXAR	**Lajitas Array**	**86.76**	**57**	P	P	13 27 13.4	+0.2
	1.2nm,0.9s,baz=215,slow=6.8,SNR=7.3						
ILAR	**Eielson Array**	**87.78**	**13**	P	P	13 27 15.8	-1.3
	0.5nm,0.9s,baz=211,slow=8.3,SNR=3.5						
PDAR	**Pinedale Array**	**88.56**	**43**	P	P	13 27 21.1	-0.4
	0.5nm,0.5s,baz=222,slow=1.2,SNR=2.3						
CMAR	**Chiang Mai Arr**	**89.93**	**290**	P	P	13 27 28.5	+0.3
	0.6nm,0.3s,baz=132,slow=3.4,SNR=7.9						

IDC 20 13:38:18.2±26.0, 20.°30S × 172.°85W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/40, mbtmp4.0/4, Error ellipse: s-maj=494.6km s-min=165.8km az=74.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**38.31**	**263**	P	P	13 45 41.6	+0.7
	1.2nm,0.3s,baz=101,slow=15,SNR=3.9						
STKA	**Stephens Creek**	**42.23**	**245**	P	P	13 46 12.4	-0.9
	1.7nm,0.7s,baz=70,slow=9.9,SNR=3.2						
ASAR	**Alice Springs**	**49.26**	**256**	P	P	13 47 08.7	-0.4
	0.9nm,0.6s,baz=96,slow=6.8,SNR=14						
WRA	**Warramunga Arr**	**49.41**	**261**	P	P	13 47 10.2	-0.1
	0.6nm,0.3s,baz=95,slow=8.4,SNR=184						

IDC ***20*** *13:40:53.6±1.0, 24.°56N × 122.°00E, h0km, mb3.4/6, mb1 3.5/7, mb1mx3.4/48, mbtmp3.5/7, ML3.4/1, Error ellipse: s-maj=42.1km s-min=18.8km az=62.0*
JMA ***20*** *13:40:55.8, 24.°27N × 122.°08E, h26km±3km, M3.3*
ISCJB ***20*** *13:40:56.0±0.3, 24.°33N±0.°02 × 122.°14E±0.°01, h21km±3km, mb3.4/6, Error ellipse: s-maj=2.8km s-min=2.1km az=156.0*
TAP ***20*** *13:40:56.2, 24.°35N × 122.°04E, h21km, ML3.7, B*

ISC 20 13:40:55.8±0.9, 24.°31N±0.°02 × 122.°11E±0.°02, h20km±3km, n121, σ0=86/180, mb3.4/6, 18C-4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.24**	**5**	⇓P	**Pg**	**13 41 01.9**	**+0.4**
	baz=28						
EOS1				*e*S	**Sg**	**13 41 06.4**	**+1.0**
	baz=28						
ENAH	**Nanao**	**0.30**	**297**	⇑P	**Pg**	**13 41 02.0**	**-0.6**
	baz=301						
ENAH				*e*S	**Sb**	**13 41 06.4**	**-0.8**
	baz=301						
ENA	**Nanau**	**0.35**	**289**	⇑P	**Pg**	**13 41 02.8**	**-0.7**
	baz=291						
ENA				S	**Sg**	**13 41 07.5**	**-1.1**
	baz=291						
TWC	**Suao**	**0.38**	**322**	⇓*i*P	**Pg**	**13 41 03.2**	**-0.7**
	baz=327						
TWC				S	**Sg**	**13 41 07.9**	**-1.4**
	baz=327						
NACB	**Ninganchiao**	**0.49**	**254**	⇓P	**Pb**	**13 41 05.1**	**-0.7**
	baz=250						
TWD	**Chiawan**	**0.52**	**244**	*e*P	**Pb**	**13 41 06.3**	**0.0**
	baz=240						
TWD				*e*S	**Sn**	**13 41 16.0**	**-0.5**
	baz=240						
ILA	**Ilan**	**0.56**	**324**	P	**Pb**	**13 41 06.8**	**-0.1**
	baz=322						
ILA				*e*S	**Sb**	**13 41 13.9**	**-0.6**
	baz=322						
HWA	**Hwalien**	**0.57**	**234**	*e*P	**Pn**	**13 41 08.5**	**-0.3**
	baz=240						
TWE	**Neicheng**	**0.57**	**316**	⇑*i*P	**Pb**	**13 41 06.7**	**-0.5**
	baz=322						
TWE				*e*S	**Sb**	**13 41 13.9**	**-1.0**
	baz=322						
ENTT	**Nioudou**	**0.59**	**304**	⇑*i*P	**Pb**	**13 41 07.1**	**-0.4**
	baz=305						
ENTT				*e*S	**Sb**	**13 41 14.9**	**-0.6**
	baz=305						
NTC	**Toucheng**	**0.60**	**335**	*e*P	**Pb**	**13 41 07.3**	**-0.3**
	baz=347						
SLBB	**Yuanshan**	**0.62**	**316**	⇑*i*P	**Pb**	**13 41 07.8**	**-0.1**
	baz=320						
SLBB				*e*S	**Sb**	**13 41 15.8**	**-0.4**
	baz=320						
NNSB	**Datong**	**0.67**	**280**	⇑P	**Pb**	**13 41 08.5**	**-0.4**
	baz=283						
NNSB				*e*S	**Sb**	**13 41 16.8**	**-1.1**
	baz=283						
NNSH	**Datong**	**0.67**	**280**	*e*P	**Pb**	**13 41 08.5**	**-0.4**
	baz=283

	baz=267								
TDCB	**Techi**	**0.87**	**266**	*eP*		**Pb**	**13 41 12.6**	**+0.2**
	baz=268								
TDCB				*eS*		**Sn**	**13 41 25.7**	**+0.4**
	baz=268								
TATO	**Taipei**	**0.87**	**320**	⇑P		**Pb**	**13 41 12.3**	**0.0**
	baz=314								
TATO				*eS*		**Sb**	**13 41 23.0**	**-0.6**
	baz=314								
CHGB	**Renai**	**0.89**	**254**	⇑P		**Pb**	**13 41 13.1**	**+0.4**
	baz=240								
CHGB				*eS*		**Sn**	**13 41 26.2**	**+0.3**
	baz=240								
EGFH	**Guangfu**	**0.89**	**224**	*eP*		**Pn**	**13 41 13.2**	**-0.1**
	baz=202								
WLTB	**Daxi**	**0.95**	**305**	*eP*		**Pn**	**13 41 14.1**	**0.0**
	baz=312								
WLTB				*eS*		**Sg**	**13 41 26.8**	**-0.1**
	baz=312								
YM01	**YM01**	**0.97**	**330**	*eP*		**Pg**	**13 41 15.3**	**+0.6**
	baz=332								
YM01				*eS*		**Sg**	**13 41 27.6**	**+0.2**
	baz=332								
YM07	**YM07**	**0.97**	**333**	*eP*		**Pb**	**13 41 14.2**	**+0.1**
	baz=336								
YM07				*eS*		**Sb**	**13 41 26.5**	**+0.1**
	baz=336								
YM10	**YM10**	**0.98**	**330**	*eP*		**Pb**	**13 41 14.2**	**0.0**
	baz=332								
YM10				*eS*		**Sg**	**13 41 28.4**	**+0.6**
	baz=332								
YM11	**YM11**	**0.98**	**330**	*eP*		**Pb**	**13 41 14.1**	**-0.1**
	baz=334								
YM05	**YM05**	**0.98**	**330**	*eP*		**Pb**	**13 41 14.3**	**0.0**
	baz=333								
YM04	**YM04**	**0.99**	**328**	*eP*		**Pb**	**13 41 14.6**	**+0.2**
	baz=331								
YM08	**YM08**	**0.99**	**332**	*eP*		**Pb**	**13 41 14.2**	**-0.2**
	baz=335								
TWS1	**Kuangyinshan**	**1.01**	**322**	*eP*		**Pg**	**13 41 15.4**	**0.0**
	baz=336								
TWS1				*eS*		**Sg**	**13 41 28.9**	**+0.2**
	baz=336								
YM03	**YM03**	**1.01**	**329**	*eP*		**Pb**	**13 41 14.9**	**+0.2**
	baz=332								
YM03				*eS*		**Sg**	**13 41 29.8**	**+1.0**
	baz=332								
HGSD	**Ruisui**	**1.03**	**218**	*eP*		**Pb**	**13 41 14.3**	**-0.7**
	baz=199								
NTST	**Danshui**	**1.04**	**325**	*eP*		**Pg**	**13 41 16.0**	**-0.1**
	baz=328								
VWDT	**VWDT**	**1.04**	**238**	⇑P		**Pb**	**13 41 15.5**	**+0.3**
	baz=234								
VWDT				*eS*		**Sn**	**13 41 29.5**	**+0.1**
	baz=234								
LIOB	**Emei**	**1.05**	**289**	*eP*		**Pn**	**13 41 15.8**	**+0.3**
	baz=288								
LIOB				*eS*		**Sg**	**13 41 31.1**	**+1.0**
	baz=288								
NSTT	**Nanjuang**	**1.06**	**288**	*eP*		**Pn**	**13 41 16.1**	**+0.5**
	baz=287								
NSTT				*eS*		**Sg**	**13 41 31.5**	**+1.1**
	baz=287								
NCU	**National Centr**	**1.06**	**308**	*eP*		**Pn**	**13 41 16.1**	**+0.4**
	baz=316								
NCU				*eS*		**Sg**	**13 41 31.9**	**+1.3**
	baz=316								
NCUH	**Zhongli**	**1.06**	**308**	*eP*		**Pg**	**13 41 16.6**	**+0.1**
	baz=294								
NCUH				*eS*		**Sg**	**13 41 32.6**	**+2.1**
	baz=294								
TWY	**Chenhua**	**1.07**	**334**	*eP*		**Pg**	**13 41 16.4**	**-0.2**
	baz=337								
TWY				*eS*		**Sb**	**13 41 29.7**	**+0.5**
	baz=337								
EHY	**Hungye**	**1.08**	**222**	*eP*		**Pb**	**13 41 14.6**	**-1.2**
	baz=216								
SBCB	**Hsinchu**	**1.13**	**295**	*eP*		**Pg**	**13 41 17.8**	**0.0**
	baz=296								
SBCB				*eS*		**Sg**	**13 41 34.8**	**+2.2**
	baz=296								
SSLB	**Suanglung**	**1.18**	**244**	⇑P		**Pn**	**13 41 17.3**	**+0.1**
	baz=241								
SSLB				*eS*		**Sb**	**13 41 32.6**	**+0.2**
	baz=241								
YULB	**Yu-li**	**1.18**	**219**	*eP*		**Pn**	**13 41 16.1**	**-1.1**
	baz=213								
SMLT	**Sun Moon Lake**	**1.18**	**249**	⇑P		**Pb**	**13 41 17.9**	**+0.2**
	baz=246								
TWF1	**Yuli**	**1.21**	**218**	*eP*		**Pn**	**13 41 16.7**	**-1.0**
	baz=227								
TYC	**Yuchr**	**1.21**	**251**	*eP*		**Pn**	**13 41 18.1**	**+0.4**
	baz=248								
TWQ1	**Liyutan**	**1.22**	**272**⇑	*eP*		**Pg**	**13 41 19.4**	**-0.1**
	baz=271								
TWQ1				*eS*		**Sg**	**13 41 35.6**	**+0.2**
	baz=271								
NMLH	**Miaoli**	**1.22**	**281**	*eP*		**Pg**	**13 41 19.4**	**-0.1**
	baz=280								
NSY	**Sanyi**	**1.23**	**275**	*eP*		**Pg**	**13 41 19.9**	**+0.2**
	baz=274								
NSY				*eS*		**Sg**	**13 41 37.7**	**+1.8**
	baz=274								
PTSB	**Yuanli**	**1.29**	**276**	*eP*		**Pg**	**13 41 21.1**	**+0.3**
	baz=275								
PTSB				*eS*		**Sg**	**13 41 39.1**	**+1.5**
	baz=275								
PCYT	**Pengchaiyu**	**1.31**	**359**	*eP*		**Pn**	**13 41 18.4**	**-0.7**
	baz=4.0								
TCU	**Taichung**	**1.32**	**263**	*eP*		**Pb**	**13 41 20.7**	**+0.7**
	baz=261								
FULB	**Fuli**	**1.33**	**214**	*eP*		**Pn**	**13 41 18.9**	**-0.5**
	baz=195								
YUS	**Yu-Shan**	**1.34**	**233**	*eP*		**Pn**	**13 41 20.1**	**+0.2**
	baz=228								
YUS				*eS*		**Sg**	**13 41 38.8**	**-0.6**
	baz=228								
WJS	**Zhushan**	**1.35**	**249**	*eP*		**Pb**	**13 41 21.5**	**+0.9**
	baz=234								
WNT	**Mingjian**	**1.37**	**252**⇑	*eP*		**Pb**	**13 41 21.7**	**+0.9**
	baz=249								
WNT				*eS*		**Sg**	**13 41 41.0**	**+0.7**
	baz=249								
WCHH	**Zhanghua**	**1.43**	**261**	*eP*		**Pb**	**13 41 22.9**	**+1.0**
	baz=259								
IRIF	**Iriomote-Funau**	**1.48**	**89**	P		**Pn**	**13 41 21.1**	**-0.3**
IRIF				*eS*		**Sn**	**13 41 40.4**	**+0.2**
CHN5	**Tsauling**	**1.49**	**242**	*eP*		**Pb**	**13 41 22.9**	**0.0**
	baz=222								
CHN5				*eS*		**Sg**	**13 41 43.7**	**-0.4**
	baz=222								
ELDTW	**Lidau**	**1.50**	**222**	*eP*		**Pn**	**13 41 20.8**	**-1.0**
	baz=203								
WGK	**Gukeng**	**1.54**	**247**	*eP*		**Pb**	**13 41 24.5**	**+0.7**
	baz=225								
WDLH	**Douliu**	**1.56**	**247**	*eP*		**Pb**	**13 41 24.8**	**+0.7**
	baz=227								
HATJ	**Hateruma jima**	**1.57**	**99**	P		**Pb**	**13 41 24.9**	**+0.6**
RLNB	**Erlin**	**1.65**	**256**	*eP*		**Pb**	**13 41 25.0**	**-0.6**
	baz=254								
RLNB				*eS*		**Sg**	**13 41 48.6**	**-0.6**
	baz=254								
CHN2	**Minshiung**	**1.68**	**243**	*eP*		**Pb**	**13 41 27.0**	**+0.9**
	baz=225								
CHN4	**Tsaushan**	**1.68**	**236**	*eP*		**Pb**	**13 41 25.9**	**-0.3**
	baz=233								
CHN4				*eS*		**Sg**	**13 41 50.0**	**-0.3**
	baz=233								
STYT	**Tauyuan**	**1.68**	**228**	*eP*		**Pn**	**13 41 24.6**	**+0.3**
	baz=223								
STYT				*eS*		**Sb**	**13 41 46.5**	**-0.5**
	baz=223								
TPUB	**Ta-pu**	**1.69**	**234**	*eP*		**Pn**	**13 41 25.5**	**+1.2**
	baz=217								
TPUB				*eS*		**Sg**	**13 41 49.1**	**-1.2**
	baz=217								
WTCT	**Ta-ch'eng**	**1.73**	**255**	*eP*		**Pn**	**13 41 24.3**	**-0.5**
	baz=271								
WTP	**Ta-pu**	**1.73**	**233**	*eP*		**Pn**	**13 41 25.9**	**+1.0**
	baz=216								
JKRS	**Kuro-shima**	**1.74**	**92**	P		**Pn**	**13 41 25.4**	**+0.5**
JKRS				*eS*		**Sn**	**13 41 47.0**	**+0.5**
TWGBT	**Beinan**	**1.76**	**213**	*eP*		**Pn**	**13 41 24.2**	**-1.0**
	baz=206								
TWG	**Pinlang**	**1.76**	**213**	*eP*		**Pn**	**13 41 24.1**	**-1.1**
	baz=206								
TWK	**Hsinying**	**1.81**	**235**	*eP*		**Pn**	**13 41 27.3**	**+1.3**
	baz=230								
CHN1	**Nanshi**	**1.83**	**233**	*eP*		**Pb**	**13 41 28.3**	**-0.4**
	baz=228								
WLGB	**Puzi**	**1.85**	**244**	*eP*		**Pb**	**13 41 28.3**	**-0.7**
	baz=223								
WLGB				*eS*		**Sg**	**13 41 55.2**	**-0.4**
	baz=223								
WSF	**Szhu**	**1.85**	**249**	*eP*		**Pb**	**13 41 28.7**	**-0.3**
	baz=247								
WSF				*eS*		**Sb**	**13 41 53.3**	**+1.6**
	baz=247								
JIJ	**Ishigaki jima**	**1.86**	**88**	P		**Pn**	**13 41 26.1**	**-0.5**
JIJ				*eS*		**Sn**	**13 41 48.8**	**-0.7**
SGST	**Jiashian**	**1.86**	**229**	*eP*		**Pb**	**13 41 28.1**	**-1.0**
	baz=225								
SGST				*eS*		**Sb**	**13 41 53.8**	**+1.8**
	baz=225								
CHN8	**Yiju**	**1.98**	**241**	*eP*		**Pn**	**13 41 30.0**	**+1.7**
	baz=220								
ECL	**Taimali**	**2.01**	**212**	*eP*		**Pn**	**13 41 28.2**	**-0.5**
	baz=206								
JISG	**Ishigakijimahi**	**2.03**	**82**	P		**Pn**	**13 41 28.3**	**-0.6**
JISG				S		**Sn**	**13 41 53.4**	**-0.3**
SSD	**Sandimen**	**2.06**	**221**	*eP*		**Pn**	**13 41 30.4**	**+0.9**
	baz=206								
TWM1	**Shoushan**	**2.14**	**227**	*eP*		**Pb**	**13 41 32.6**	**-1.4**
	baz=220								
MASBT	**Mashibuluo**	**2.17**	**219**	*eP*		**Pn**	**13 41 31.6**	**+0.8**
	baz=212								
EAST	**Anshuo**	**2.24**	**211**	*eP*		**Pn**	**13 41 33.6**	**+1.7**
	baz=205								
SCZT	**Fangliau**	**2.36**	**216**	*eP*		**Pb**	**13 41 35.9**	**-1.9**
	baz=195								
JTJ	**Tarama**	**2.39**	**82**	P		**Pn**	**13 41 34.4**	**+0.5**
JTJ				S		**Sn**	**13 42 03.4**	**+0.8**
PNG	**Penghu**	**2.45**	**253**	*eP*		**Pn**	**13 41 34.9**	**+0.1**
	baz=251								
PHUB	**P'eng-hu**	**2.45**	**252**	*eP*		**Pn**	**13 41 35.0**	**+0.2**
	baz=250								
PHUB				*eS*		**Sn**	**13 42 05.3**	**+1.1**
	baz=250								
WDGT	**Dungji**	**2.47**	**245**	*eP*		**Pn**	**13 41 36.3**	**+1.2**
	baz=242								
VWUC	**VWUC**	**2.51**	**286**	*eP*		**Pn**	**13 41 35.2**	**-0.4**
	baz=287								
TWKBT	**Hengchun**	**2.64**	**207**	*eP*		**Pn**	**13 41 39.8**	**+2.4**
	baz=190								
MATB	**Ma-tsu**	**2.68**	**314**	*eP*		**Pn**	**13 41 37.8**	**-0.1**
	baz=315								
VCHM	**Qimei**	**2.69**	**246**	*eP*		**Pn**	**13 41 38.8**	**+0.8**
	baz=227								
PTMZ	**Houxiangcun**	**2.81**	**286**	*eP*		**Pn**	**13 41 39.6**	**-0.1**
	baz=286								
JIRB	**Irabujima**	**2.84**	**79**	P		**Pn**	**13 41 39.9**	**-0.2**
LYJJ	**Jianjiangzhen**	**3.08**	**317**	*eP*		**Pn**	**13 41 44.0**	**+0.6**
	baz=319								
XPSS	**Dashiqiu**	**3.13**	**327**	*eP*		**Pn**	**13 41 44.0**	**-0.1**
	baz=328								
XPSS				*eS*		**Sn**	**13 42 21.3**	**+0.4**
	baz=328								
MHZQ	**Yeshan**	**3.31**	**303**	*eP*		**Pn**	**13 41 46.6**	**+0.1**
	baz=305								
KNM	**Kinmen**	**3.35**	**273**	*eP*		**Pn**	**13 41 49.0**	**+1.9**
	baz=272								
KNMB	**Chin-men Tao**	**3.39**	**273**	*eP*		**Pn**	**13 41 48.4**	**+0.7**
	baz=273								
AXDP	**Jialang**	**3.81**	**280**	*eP*		**Pn**	**13 41 53.7**	**+0.2**
	baz=279								
ZPLA	**Ao Xicun**	**4.00**	**265**	*eP*		**Pn**	**13 41 56.3**	**+0.2**
	baz=264								
JOW	**Kunigami**	**6.11**	**64**	Pn		**Pn**	**13 42 25.4**	**+0.3**
	1.9nm,0.3s,baz=150,slow=14,SNR=9.2								
SONM	**Songino Array**	**26.59**	**336**	P		**P**	**13 46 30.8**	**-2.1**
	1.0nm,1.0s,baz=140,slow=9.4,SNR=3.8								
MKAR	**Makanchi Array**	**38.84**	**315**	P		**P**	**13 48 18.4**	**-1.2**
	0.3nm,0.7s,baz=97,slow=8.0,SNR=3.1								
ZALV	**Zalesovo Beam**	**40.60**	**327**	P		**P**	**13 48 32.8**	**-1.3**
	1.0nm,0.5s,baz=115,slow=6.5,SNR=3.3								
WRA	**Warramunga Arr**	**45.57**	**164**	P		**P**	**13 49 15.7**	**+1.0**
	0.4nm,0.8s,baz=347,slow=8.7,SNR=2.9								
BVAR	**Borovoye Array**	**48.11**	**320**	P		**P**	**13 49 33.2**	**-1.1**
	0.4nm,0.6s,baz=116,slow=6.9,SNR=3.7								
ASAR	**Alice Springs**	**49.05**	**166**	P		**P**	**13 49 46.3**	**+4.6**
	0.2nm,0.8s,baz=337,slow=9.3,SNR=2.5								

ISK ***20*** *14:19:23.1,41.2*′*12N×38.0*′*04E,h6km,ML2.3/4*
DDA ***20*** *14:19:24.4,40.9*′*97N×38.7*′*11E,h18km,Ml3.6*
ISCJB ***20*** *14:19:25.3±0.6,40.9*′*99N±0.0*′*05×38.7*′*11E±0.0*′*03,h11km±5km,*
Error ellipse: s-maj=9.1km s-min=4.0km az=177.9

ISC 20 14:19:24.6±1.1,**41°01N**±0.0′04×**38°08E**±0.0′03,**h16**km±9km,
n22,σ0**s81**/29,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ORDU	**Ordu-Boztepe**	**0.17**	**265**	*i* P		**Pb**	**14 19 29.6**	**+0.2**
ORDU				*i* S		**Sg**	**14 19 33.0**	**+1.1**
ESPY	**Espiye-Giresun**	**0.50**	**100**	PG		**Pb**	**14 19 34.3**	**-0.6**
ESPY				SG		**Sb**	**14 19 42.6**	**+0.7**
SUSE	**Susehri**	**0.80**	**173**	*i* P		**Pg**	**14 19 39.4**	**-0.9**
SUSE				*i* S		**Sg**	**14 19 50.3**	**-0.6**
ERBA	**Erbaa**	**1.06**	**253**	*i* P		**Pn**	**14 19 45.0**	**+0.2**
CUZAR	**Zara_SIVAS**	**1.14**	**192**	*i* P		**Pb**	**14 19 45.3**	**-0.8**
CUZAR				*i* S		Sb	14 19 48.5	-12
KELT	**Kelkit**	**1.24**	**133**	*i* P		**Pn**	**14 19 47.2**	**-0.2**
KELT				*i* S		**Sb**	**14 20 03.4**	**-0.1**
KTUT	**Trabzon**	**1.27**	**90**	PN		**Pg**	**14 19 48.5**	**-0.6**
MACK	**Trabzon**	**1.28**	**92**	*i* P		**Pn**	**14 19 47.5**	**-0.3**
SCER	**sogukcermik**	**1.36**	**213**	*i* P		**Pb**	**14 19 49.3**	**-0.4**
TOKT	**Tokat**	**1.36**	**240**	PN		**Pb**	**14 19 49.6**	**0.0**
TOKT				SN		**Sg**	**14 20 08.8**	**+0.4**
SVSK	**Karacayir**	**1.37**	**218**	PN		**Pg**	**14 19 50.2**	**-0.7**
SVSK				SN		**Sg**	**14 20 10.2**	**+1.5**
SAMS	**Samsun-Alacam**	**1.47**	**285**	*i* P		**Pg**	**14 19 52.1**	**-0.8**
BAYT	**Ayd¨–ntepe-Bay**	**1.68**	**111**	PN		**Pb**	**14 19 54.9**	**-0.3**
REFA	**Refahiye_ERZ**	**1.69**	**162**	*i* P		Pn	14 19 46.8	-6.8
REFA				*i* S		Sn	14 20 03.5	-11
CUKAN	**kangal_SIVAS**	**1.75**	**196**	*i* P		**Pb**	**14 19 56.1**	**-0.3**
KEMA	**Kemaliye**	**1.76**	**170**	*i* P		**Pb**	**14 19 56.7**	**+0.1**
KEMA				*i* S		**Sg**	**14 20 22.7**	**+1.3**
BAYB	**BAYBURT**	**1.81**	**114**	*i* P		**Pb**	**14 19 57.7**	**+0.1**
BAYB				*i* S		**Sb**	**14 20 19.6**	**-0.5**
KOPT	**Kop Dagi**	**2.09**	**117**	*i* P		**Pb**	**14 20 02.3**	**+0.1**
CUSAR	**Sarkisla-SIVAS**	**2.12**	**222**	*i* P		**Pn**	**14 20 00.6**	**+1.1**
CTAK	**Corum_Osmancik**	**2.52**	**263**	*i* P		**Pb**	**14 20 08.1**	**-1.5**
DBAD	**Bademkaya**	**2.73**	**89**	*i* P		**Pn**	**14 20 08.6**	**+0.8**
DAGI	**Agillar**	**2.90**	**87**	*i* P		**Pn**	**14 20 11.6**	**+1.5**

ISK ***20*** *14:38:49.9,35.3*′*2N×27.7*′*77E,h10km,ML3.6/24*
IDC ***20*** *14:38:51.6±1.0,35.3*′*16N×27.7*′*71E,h0km,mb3.7/6,*
mb1 3.8/13,mb1mx3.6/45,mbtmp3.6/13,ML3.4/7,MS2.9/3,
Ms1 2.9/3,ms1mx2.4/53,Error ellipse: s-maj=23.8km
s-min=15.2km az=169.0
THE ***20*** *14:38:54.6,35.2*′*24N×27.8*′*80E,h0km±1km,ML3.4/6,Error*
ellipse: s-maj=3.7km s-min=1.2km az=161.0
ATH ***20*** *14:38:54.4,35.4*′*40N×27.8*′*81E,h22km±8km,ML3.4/3,Error*
ellipse: s-maj=8.4km s-min=1.9km az=324.0
DDA ***20*** *14:39:05.4,35.1*′*5N×27.0*′*00E,h51km,Ml3.6*

ISC 20 14:38:52.9±1.1,**35°31N**±0.0′03×**27°75E**±0.0′02,**h12**km±8km,
n80,σ1**s84**/98,**mb3.7**/6,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZKR	**Zakros**	**1.27**	**262**	P		**Pg**	**14 39 17.0**	**-0.3**
ZKR				S		**Sg**	**14 39 38.4**	**+4.6**
STIA	**Sitia Lasithi**	**1.36**	**266**	P		**Pg**	**14 39 19.5**	**+0.5**
STIA				S		**Sg**	**14 39 39.3**	**+2.6**
NIS1	**Nisyros Isl.**	**1.38**	**340**	PN		**Pn**	**14 39 15.9**	**-2.0**
NIS1				SN		**Sn**	**14 39 34.5**	**-1.6**
NIS1	**Nisyros Isl.**	**1.38**	**340**	P		**Pg**	**14 39 20.6**	**+1.3**
NISR	**Nisiros**	**1.40**	**339**	P		**Pg**	**14 39 21.1**	**+1.4**
DAT	**Datca**	**1.43**	**354**	PN		**Pn**	**14 39 16.4**	**-2.3**
DAT	**Datca**	**1.43**	**354**	*i* P		**Pn**	**14 39 15.8**	**-3.0**
DAT				*i* S		**Sg**	**14 39 40.4**	**+1.5**
DATC	**Datca-Mugla**	**1.45**	**357**	PN		**Pn**	**14 39 16.9**	**-2.1**
MRSB	**Marmaris-Mugla**	**1.45**	**14**	PN		**Pn**	**14 39 16.4**	**-2.6**
DALY	**Dalyan (Mu¨la**	**1.68**	**26**	PN		**Pn**	**14 39 19.8**	**-2.2**
DALY	**Dalyan (Mu¨la**	**1.68**	**26**	*i* P		**Pb**	**14 39 23.4**	**-0.3**
DALY				*i* S		**Sg**	**14 39 52.6**	**+5.7**
TURN	**Turunc**	**1.71**	**24**	PN		Pn	14 39 15.3	-7.2
TURN	**Turunc**	**1.71**	**24**	*i* P		**Pn**	**14 39 18.3**	**-4.2**
TURN				*i* S		**Sb**	**14 39 44.2**	**-1.5**
FETY	**Fethiye**	**1.71**	**39**	PN		**Pn**	**14 39 20.5**	**-2.1**
FETY	**Fethiye**	**1.71**	**39**	P		**Pg**	**14 39 24.9**	**-0.9**
KSL	**Kastellorizon**	**1.71**	**60**	P		**Pg**	**14 39 24.3**	**-1.5**
KSL				S		**Sb**	**14 39 44.9**	**-0.9**
KSL				AML		AML	14 40 16.4	
	comp=N,648μm,1.5s							
KSL				AML		AML	14 40 18.5	
	comp=E,854μm,1.6s							
KSL	**Kastellorizon**	**1.71**	**60**	P		**Pb**	**14 39 23.8**	**-0.5**
KSL				S		**Sg**	**14 39 47.7**	**-0.3**
NPS	**Neapolis**	**1.75**	**269**	P		**Pg**	**14 39 26.0**	**-0.5**
NPS				S		**Sg**	**14 39 50.4**	**+1.3**
NPS				AML		AML	14 39 58.8	
	comp=N,2422μm,0.7s							
NPS				AML		AML	14 40 00.1	
	comp=E,2986μm,0.7s							
NPS	**Neapolis**	**1.75**	**269**	P		**Pg**	**14 39 26.1**	**-0.3**
NPS				S		**Sg**	**14 39 49.8**	**+0.7**
AKAS	**Kas**	**1.77**	**58**	PN		**Pn**	**14 39 20.9**	**-2.6**
AKAS	**Kas**	**1.77**	**58**	*i* P		**Pb**	**14 39 24.7**	**-0.7**
AKAS				*i* S		**Sg**	**14 39 49.6**	**-0.3**
BODT	**Bodrum**	**1.79**	**349**	PN		**Pn**	**14 39 21.7**	**-1.9**
LAST	**Lasithi**	**1.86**	**266**	P		**Pg**	**14 39 27.7**	**-1.0**
LAST				AML		AML	14 40 04.9	
	comp=N,1107μm,0.7s							
LAST				AML		AML	14 40 05.0	
	comp=E,1287μm,0.9s							
LAST	**Lasithi**	**1.86**	**266**	P		**Pg**	**14 39 27.7**	**-1.0**
LAST				S		**Sg**	**14 39 51.3**	**-1.5**
ANAF	**Anafi Island**	**1.92**	**304**	P		**Pb**	**14 39 27.8**	**-0.1**
ANAF	**Anafi Island**	**1.92**	**304**	P		**Pb**	**14 39 27.6**	**-0.2**
ANAF				S		**Sg**	**14 39 54.0**	**-0.6**
MLSB	**Milas**	**1.99**	**1**	PN		**Pn**	**14 39 24.4**	**-1.9**
AMGA	**Amorgos Island**	**2.14**	**316**	P		**Pb**	**14 39 30.7**	**-0.8**
AMGA	**Amorgos Island**	**2.14**	**316**	P		**Pb**	**14 39 29.8**	**-1.8**
SANT	**Santorini**	**2.14**	**300**	PN		**Pn**	**14 39 27.0**	**-1.5**
THR8	**Santorini-Mono**	**2.15**	**301**	P		**Pb**	**14 39 30.5**	**-1.2**
THT1	**Athinios (Pele**	**2.17**	**300**	P		**Pb**	**14 39 32.1**	**0.0**
THT1				S		**Sb**	**14 40 00.4**	**+1.4**
THR6	**Thira Island,**	**2.18**	**299**	P		**Pb**	**14 39 31.8**	**-0.4**
THR3	**Thira Island,**	**2.20**	**301**	P		**Pb**	**14 39 32.2**	**-0.4**
THR5	**Thira Island,**	**2.24**	**300**	P		**Pb**	**14 39 33.0**	**-0.3**
IDI	**Anoyia**	**2.34**	**270**	PN		**Pn**	**14 39 29.7**	**-1.5**
IDI	**Anoyia**	**2.34**	**270**	Pn		**Pb**	**14 39 32.3**	**-2.7**
	comp=E,4.5nm,0.3s,baz=120,slow=10,SNR=25							
TAVA	**DENIZLI_Tavas**	**2.35**	**23**	*i* P		**Pb**	**14 39 32.4**	**-2.9**
TAVA				*i* S		**Sg**	**14 40 07.4**	**-1.1**
AYDN	**Tasoluk**	**2.35**	**3**	*i* P		**Pn**	**14 39 28.8**	**-2.6**
AYDN				*i* S		**Sb**	**14 40 05.7**	**+1.4**
GOLH	**Golhisar**	**2.42**	**37**	*i* P		**Pb**	**14 39 34.2**	**-2.3**
GOLH				*i* S		**Sg**	**14 40 11.8**	**+1.1**
SMG	**Samos**	**2.51**	**343**	P		**Pb**	**14 39 35.2**	**-2.7**
APE	**Apeiranthos**	**2.51**	**315**	PN		**Pn**	**14 39 32.1**	**-1.5**
DNZL	**Cakiroluk**	**2.60**	**23**	*i* P		**Pn**	**14 39 34.8**	**-0.2**
DNZL				*i* S		**Sg**	**14 40 16.1**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**2.64**	**2**	PN		**Pn**	**14 39 33.5**	**-1.9**
KORT	**Korkueli**	**2.70**	**50**	PN		**Pn**	**14 39 34.5**	**-1.8**
KORT	**Korkueli**	**2.70**	**50**	*i* P		**Pb**	**14 39 39.3**	**-1.9**
KORT				*i* S		**Sb**	**14 40 15.7**	**+1.4**
VAM	**Vamos**	**2.90**	**273**	P		**Pb**	**14 39 43.2**	**-1.4**
IMMV	**Iera Moni Meta**	**3.08**	**274**	P		**Pb**	**14 39 45.6**	**-2.1**
URLA	**Izmir**	**3.19**	**343**	PN		**Pn**	**14 39 41.5**	**-1.3**
SERI	**Serifos**	**3.22**	**306**	P		**Pb**	**14 39 46.1**	**-4.0**
KULA	**Kula-Manisa**	**3.29**	**13**	PN		**Pn**	**14 39 42.7**	**-1.6**
CHOS	**Chios island**	**3.36**	**337**	PN		**Pn**	**14 39 43.6**	**-1.7**
CHOS	**Chios island**	**3.36**	**337**	P		**Pn**	**14 39 47.8**	**+2.5**
SUTC	**Sutluce-Ispart**	**3.40**	**49**	PN		**Pn**	**14 39 44.6**	**-1.3**
GAZI	**Gazipasa**	**3.83**	**75**	PN		**Pn**	**14 39 50.4**	**-1.2**
LEF	**Lefka**	**4.21**	**91**	PN		**Pn**	**14 39 55.4**	**-1.5**
TEKE	**Tekeli-Mersin**	**4.45**	**78**	PN		**Pn**	**14 39 59.3**	**-0.8**
KONT	**Konya--Tatoy**	**4.55**	**53**	PN		**Pn**	**14 40 00.7**	**-0.9**
BERE	**Bereket-Mersin**	**4.57**	**75**	PN		**Pn**	**14 40 00.9**	**-1.0**
LADK	**Ladik-KONYA**	**4.70**	**51**	PN		**Pn**	**14 40 02.9**	**-0.8**
TEVE	**Tevekalti-Mers**	**4.76**	**75**	PN		**Pn**	**14 40 03.9**	**-0.6**
AKKU	**Akkuyu-Mersin**	**4.80**	**78**	PN		**Pn**	**14 40 04.6**	**-0.3**

s-min=7.4km az=3.7
*JMA **20** 15:09:51.0±0.2,31°.21N×131°.86E,h23km±2km,M3.3*
*IDC **20** 15:09:53.8±1.3,31°.18N×131°.65E,h35km±8km,mb3.3/3, mb1 3.4/5,mb1mx3.2/44,mbtmp3.5/5,ML2.7/2,Error ellipse: s-maj=49.0km s-min=15.5km az=75.0*

ISC 20 15:09:52.1±1.0,31°.20N±0°.04×131°.78E±0°.08,h27km±5km, n13,σ1s02/24,mb3.5/3,1C-1D,Kyushu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JNAR	**Kushima--Naru**	**0.54**	**307**		↑P		**Pb**	**15 10 02.7**	**-0.4**
JNAR					S		**Sb**	**15 10 10.7**	**+0.1**
JTSR	**Tashiro 2**	**0.74**	**267**		P		**Pb**	**15 10 06.1**	**-0.3**
JTSR					S		**Sn**	**15 10 17.8**	**+0.7**
JTN	**Tanegashima 3**	**0.88**	**232**		P		**Pb**	**15 10 08.7**	**-0.1**
JTZ	**Takazaki**	**0.91**	**320**		P		**Pn**	**15 10 08.3**	**-0.9**
JTZ					*e*S		**Sb**	**15 10 21.1**	**0.0**
JTSN	**Tsuno**	**1.06**	**347**		↓P		**Pn**	**15 10 10.5**	**-0.8**
JTSN					S		**Sn**	**15 10 25.3**	**+0.1**
JMTN	**Minamitane**	**1.10**	**223**		P		**Pn**	**15 10 11.8**	**0.0**
JSU	**Suzuyama**	**1.17**	**285**		P		**Pn**	**15 10 12.6**	**-0.2**
JSU					*e*S		**Sb**	**15 10 28.9**	**+0.3**
JZO	**Okuchi**	**1.37**	**313**		P		**Pn**	**15 10 15.3**	**-0.3**
JZO					S		**Sb**	**15 10 33.6**	**-0.7**
JNU	**Nakatsue** 5.1nm,0.3s,baz=14,slow=2.4,SNR=35	**2.06**	**338**		Pn		**Pn**	**15 10 26.0**	**+1.0**
JNU					Sn		**Sn**	**15 10 50.2**	**+0.4**
JOW	**Kunigami** 6.2nm,0.3s,baz=125,slow=24,SNR=5.6	**5.33**	**216**		Pn		**Pn**	**15 11 11.4**	**+1.5**
JOW					Sn		**Sn**	**15 12 08.1**	**-2.4**
SONM	**Songino Array** 0.5nm,0.3s,baz=151,slow=19,SNR=3.5	**25.51**	**318**		P		**P**	**15 15 18.3**	**0.0**
SONM					pP		**pP**	**15 15 28.3**	**+2.1**
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=159,slow=8.3,SNR=4.2	**50.91**	**177**		P		**P**	**15 18 49.8**	**-1.3**
WRA					pP		**sP**	**15 19 01.6**	**-1.0**
ASAR	**Alice Springs** 0.6nm,0.6s,baz=11,slow=12,SNR=11	**54.60**	**178**		P		**P**	**15 19 19.6**	**+1.3**
ASAR					pP		**sP**	**15 19 29.4**	**-0.5**
	0.2nm,0.6s,baz=12,slow=13,SNR=2.6								

*IDC **20** 15:14:08.8±2.9,35°.90N×70°.55E,h121km±24km,mb3.6/13, mb1 3.7/18,mb1mx3.5/47,mbtmp4.0/18,MS3.7/2, Ms1 3.7/2,ms1mx2.6/45,Error ellipse: s-maj=20.3km s-min=13.4km az=171.0*
*ISCJB **20** 15:14:11.7±0.3,36°.17N±0°.02×70°.41E±0°.04,h150km, mb3.8/16,Error ellipse: s-maj=4.1km s-min=3.3km az=164.2*
*NNC **20** 15:14:12.8±1.9,36°.64N×69°.96E,h0km,mb4.6,mpv4.5, Error ellipse: s-maj=18.7km s-min=8.8km az=155.0*
*MOS **20** 15:14:12.7±0.8,36°.17N×70°.49E,h162km,mb4.0/8,Error ellipse: s-maj=14.0km s-min=6.0km az=75.8*
*BJI **20** 15:14:12.9,36°.01N×70°.60E,h156km,mb4.3/9,mB4.7/5*
*NEIC **20** 15:14:13.4±0.6,36°.23N×70°.40E,h154km±10km,mb4.0/4, Error ellipse: s-maj=10.3km s-min=8.4km az=122.0*
NEIC Felt at Mahmud-e Raqi.

ISC 20 15:14:12.7±0.5,36°.19N±0°.04×70°.36E±0°.04,h150km,n101, σ1s45/116,mb3.9/16,17C-9D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.97**	**214**		*e*Pn		**Pn**	**15 14 48.8**	**+1.0**
KBL					*e*Sn		**Sn**	**15 15 14.6**	**0.0**
KBL	**Kabul**	**1.97**	**214**		*e*PN		**Pn**	**15 14 48.8**	**+1.0**
CEP	**Cherat**	**2.68**	**151**		P		**Pn**	**15 14 57.6**	**+1.3**
NIL	**Nilore**	**3.48**	**136**		*e*Pn		**Pn**	**15 15 07.4**	**+1.2**
NIL	**Nilore**	**3.48**	**136**		*e*PN		**Pn**	**15 15 07.4**	**+1.2**
CHCP	**Chirah Chowk**	**3.48**	**136**		P		**Pn**	**15 15 07.4**	**+1.2**
THW	**Thamme Wali**	**3.58**	**161**		P		**Pn**	**15 15 08.4**	**+0.8**
SFK	**Sufi-Kurgan** 20nm,0.3s	**4.55**	**32**		↑P		**Pn**	**15 15 21.4**	**+1.1**
SFK					↑S		**Sn**	**15 16 12.8**	**-0.1**
	100nm,0.3s								
SARP	**Sargodha**	**4.67**	**155**		P		**Pn**	**15 15 21.8**	**0.0**
KSH	**Kashi**	**5.54**	**52**		P		**Pn**	**15 15 30.1**	**-3.3**
KSH					S		Sn	15 16 26.3	-10
KSH					smax		smax		
	comp=N,550nm,0.6s								
KSH					smax		smax		
	comp=E,470nm,0.9s								
AML	**Almayashu** SNR=32	**6.47**	**23**		P		**Pn**	**15 15 46.2**	**+0.3**
MNAS	**Manas** 17nm,0.6s	**6.50**	**14**		↑P		**Pn**	**15 15 46.5**	**+0.4**
MNAS					↑S		**Sn**	**15 16 57.8**	**-1.6**
	29nm,0.4s								
UCH	**Uchtor** SNR=27	**6.83**	**27**		P		**Pn**	**15 15 51.1**	**+0.3**
NRN	**Naryn**	**6.83**	**38**		*e*Pn		**Pn**	**15 15 49.8**	**-1.0**
NRN	**Naryn**	**6.83**	**38**		*e*PN		**Pn**	**15 15 49.8**	**-1.0**
KK31	**Karatay Array** 36nm,0.4s,baz=184,slow=13,SNR=377	**6.90**	**1**		↑P		**Pn**	**15 15 51.6**	**+0.2**
KK31					↑S		**Sn**	**15 17 06.6**	**-2.2**
	12nm,0.3s,baz=188,slow=23,SNR=9.3								
KK31	**Karatay Array**	**6.90**	**1**		*e*Pn		**Pn**	**15 15 51.5**	**+0.1**
KK31	**Karatay Array**	**6.90**	**1**		*e*PN		**Pn**	**15 15 51.5**	**+0.1**
KKAR	**Karatay Array**	**6.90**	**1**		*e*Pn		**Pn**	**15 15 51.5**	**+0.1**
KKAR	**Karatay Array**	**6.90**	**1**		*e*PN		**Pn**	**15 15 51.5**	**+0.1**
EKS2	**Erkin-Say** SNR=12	**6.98**	**21**		P		**Pn**	**15 15 53.6**	**+1.1**
KZA	**Kyzart** SNR=15	**7.00**	**31**		P		**Pn**	**15 15 52.9**	**-0.1**
AAK	**Ala-Archa** 4.9nm,0.3s,baz=185,slow=6.3,SNR=84	**7.18**	**25**		P		**Pn**	**15 15 56.1**	**+0.8**
AAK					S		**Sn**	**15 17 14.6**	**-1.1**
	4.6nm,0.3s,baz=318,slow=22,SNR=13								
AAK	**Ala-Archa** 20nm,0.7s	**7.18**	**25**		↑P		**Pn**	**15 15 55.6**	**+0.3**
AAK					↓S		**Sn**	**15 17 17.0**	**+1.3**
	41nm,0.6s								
AAK	**Ala-Archa** SNR=14	**7.18**	**25**		P		**Pn**	**15 15 55.9**	**+0.6**
AAK	**Ala-Archa**	**7.18**	**25**		*e*Pn		**Pn**	**15 15 56.0**	**+0.7**
AAK	**Ala-Archa**	**7.18**	**25**		*c i*PN		**Pn**	**15 15 55.9**	**+0.6**
KBK	**Karagaybulak** SNR=6.3	**7.36**	**27**		P		**Pn**	**15 15 59.1**	**+1.4**
FRU1	**Bishkek**	**7.38**	**25**		*e*Pn		**Pn**	**15 15 59.0**	**+1.1**
FRU1	**Bishkek**	**7.38**	**25**		*e*PN		**Pn**	**15 15 59.0**	**+1.1**
ULHL	**Ulahol** SNR=5.5	**7.57**	**35**		P		**Sn**	**15 17 22.2**	**-2.9**
CHMS	**Chumysh** SNR=9.6	**7.59**	**25**		P		**Pn**	**15 16 01.4**	**+0.8**
USP	**Ospenovka** SNR=7.7	**7.75**	**23**		P		**Pn**	**15 16 04.0**	**+1.2**
TKM2	**Tokmak 2** 19nm,0.9s	**7.84**	**29**		↑P		**Pn**	**15 16 04.4**	**+0.3**
TKM2					↓S		**Sn**	**15 17 33.1**	**+1.5**
	24nm,0.7s								
TKM2	**Tokmak 2** SNR=5.3	**7.84**	**29**		P		**Pn**	**15 16 04.7**	**+0.6**
KDJ	**Kajisay**	**7.95**	**40**		*e*Pn		**Pn**	**15 16 06.5**	**+1.0**
KDJ	**Kajisay**	**7.95**	**40**		*e*PN		**Pn**	**15 16 06.5**	**+1.0**
PRZ	**Przheval'sk**	**8.84**	**42**		*e*Pn		**Pn**	**15 16 17.7**	**+0.3**
PRZ	**Przheval'sk**	**8.84**	**42**		*e*PN		**Pn**	**15 16 17.7**	**+0.3**
GEYT	**Alibeck** 0.7nm,0.3s,baz=89,slow=13,SNR=9.1	**9.94**	**284**		P		**Pn**	**15 16 31.2**	**-0.7**
GEYT					S		**Sn**	**15 18 21.6**	**-0.3**
	1.7nm,0.3s,baz=246,slow=30,SNR=6.7								
GYA0B	**ALIBECK ARRAY** 5.1nm,0.9s	**9.94**	**284**		↑P		**Pn**	**15 16 32.1**	**+0.1**
GYA0B					↓S		**Sn**	**15 18 19.6**	**-2.4**
	11nm,0.4s								
DANN	**Dangsing**	**13.76**	**121**		*e*P		**Pn**	**15 17 19.2**	**-2.7**
MK01	**Makanchi Array**	**13.83**	**37**		*e*Pn		**Pn**	**15 17 21.8**	**-0.5**
MK01					*e*P		**P**	**15 17 26.1**	**+0.3**
MK31	**Makanchi Array**	**13.84**	**36**		*e*Pn		**Pn**	**15 17 21.6**	**-0.9**
MK31					*e*P		**P**	**15 17 26.8**	**+0.8**
MK31	**Makanchi Array**	**13.84**	**36**		*e*P		**Pn**	**15 17 21.6**	**-0.9**
MKAR	**Makanchi Array** 1.2nm,0.3s,baz=209,slow=12,SNR=44	**13.84**	**36**		P		**Pn**	**15 17 22.4**	**-0.1**
MKAR	**Makanchi Array**	**13.84**	**36**		*e*Pn		**Pn**	**15 17 21.7**	**-0.8**
MKAR					*e*P		**P**	**15 17 26.5**	**+0.6**
MKAR	**Makanchi Array**	**13.84**	**36**		*e*P		**Pn**	**15 17 21.7**	**-0.8**
KOLN	**Koldanda** 9.7nm,0.3s	**14.02**	**123**		*e*P		**Pn**	**15 17 22.6**	**-2.4**
GKN	**Gorkha** 1.3nm,0.2s	**14.59**	**120**		*e*P		**Pn**	**15 17 29.9**	**-2.2**
AB31	**Akbulak array**	**15.11**	**333**		↓P		**Pn**	**15 17 39.0**	**+0.7**
	3.1nm,0.3s								
AB31					↑S		**Sn**	**15 20 21.7**	**-4.4**
	3.1nm,0.5s								
ABKAR	**Akbulak array**	**15.11**	**333**		*e*Pn		**Pn**	**15 17 38.4**	**+0.1**
DMN	**Daman**	**15.15**	**120**		*e*P		**Pn**	**15 17 36.8**	**-2.5**
WMQ	**Urumqi**	**15.29**	**55**		*e*P		**P**	**15 17 43.6**	**+1.5**
PKIN	**Phulchoki** 18nm,0.4s	**15.38**	**120**		*e*P		**Pn**	**15 17 40.3**	**-1.8**
PKI	**Pulchoki** 38nm,0.5s	**15.39**	**120**		*e*P		**Pn**	**15 17 40.4**	**-1.9**
GUN	**Gumba** 30nm,0.5s	**15.52**	**118**		*e*P		**Pn**	**15 17 43.0**	**-0.9**
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=204,slow=11,SNR=14	**15.58**	**20**		P		**Pn**	**15 17 42.5**	**-1.6**
KURK	**Kurchatov** 4.0nm,0.9s	**15.69**	**20**		*e*Pn		**Pn**	**15 17 45.1**	**-0.4**
KURK	**Kurchatov**	**15.69**	**20**		↓*e*P		**Pn**	**15 17 45.7**	**+0.3**
JIRN	**Jiri** 43nm,0.3s	**15.89**	**118**		*e*P		**Pn**	**15 17 47.7**	**-0.8**
RAMN	**Ramite** 30nm,0.6s	**16.61**	**119**		*e*P		**P**	**15 17 56.0**	**-1.0**
AKTO	**Aktyubinsk** 1.6nm,0.3s,baz=158,slow=11,SNR=15	**16.80**	**332**		P		**Pn**	**15 18 00.3**	**+1.4**
AKTO					S		**S**	**15 20 59.7**	**-5.8**
	0.3nm,0.3s,baz=330,slow=20,SNR=3.8								
AKTO	**Aktyubinsk** 8.6nm,0.8s	**16.80**	**332**		↑P		**Pn**	**15 18 00.5**	**+1.5**
AKTO					↑S		**S**	**15 21 02.5**	**-3.1**
	8.3nm,0.9s								
BVA0	**Borovoye Array** 6.2nm,1.0s,baz=168,slow=10,SNR=26	**16.83**	**0**		↓P		**Pn**	**15 18 02.0**	**+2.7**
BRVK	**Borovoye** 6.4nm,1.1s	**16.86**	**360**		↓P		**Pn**	**15 18 01.6**	**+1.9**
BRVK	**Borovoye** 4.7nm,0.7s	**16.86**	**360**		*e*P		**P**	**15 17 59.5**	**+0.2**
BRVK	**Borovoye** 25nm,0.5s	**16.86**	**360**		↓*e*P		**Pn**	**15 18 00.7**	**+1.0**
TAPN	**Taplejung**	**17.17**	**116**		*e*P		**P**	**15 18 03.8**	**+0.6**
ODAN	**Odare** 19nm,0.6s	**17.22**	**118**		*e*P		**P**	**15 18 03.6**	**-0.1**
DGZ	**Jazzator, Alta**	**18.33**	**37**		*c i*P		**Pn**	**15 18 16.9**	**-0.5**
ZAA0	**Zalesovo Array** 30nm,0.6s	**20.41**	**25**		*e*P		**P**	**15 18 38.0**	**+0.3**
ZALV	**Zalesovo Beam** 31nm,0.5s,baz=222,slow=11,SNR=144	**20.41**	**25**		P		**P**	**15 18 38.5**	**+0.7**
ZALV	**Zalesovo Beam**	**20.41**	**25**		*e*P		**P**	**15 18 37.9**	**+0.1**
ZALV	**Zalesovo Beam**	**20.41**	**25**		*e*P		**P**	**15 18 37.9**	**+0.1**
NVS	**Novosibirsk**	**20.65**	**21**		*e*P		**P**	**15 18 41.2**	**+0.9**
ARU	**Arti** 5.7nm,0.7s,baz=123,slow=5.6,SNR=14	**21.76**	**342**		P		**P**	**15 18 54.5**	**+2.4**
ARU	**Arti** 7.3nm,0.8s	**21.76**	**342**		*e*P		**P**	**15 18 52.8**	**+0.6**
ARU	**Arti**	**21.76**	**342**		*d i*P		**P**	**15 18 52.4**	**+0.2**
ARU								15 19 23.6	
ARU					S		**S**		**15 22 44.3** **+1.6**
ARU					pmax		pmax		
	comp=Z,12nm,1.2s								
GTA	**Gaotai**	**23.44**	**73**		P		**P**	**15 19 10.3**	**+1.7**
GTA					pP		pP	15 19 42.8	+5.3
GTA					sP		sP	15 20 03.0	+6.8
GTA					pmax		pmax		
	comp=Z,4.0nm,1.2s								
KNGR	**Kungurtug, Tuv**	**24.25**	**45**		↑*e*P		**P**	**15 19 15.7**	**-0.1**
SONM	**Songino Array** comp=Z,0.6nm,0.8s,baz=267,slow=8.8,SNR=3.2	**28.93**	**55**		P		**P**	**15 19 56.8**	**-1.0**
BRTR	**Keskin Array B** comp=Z,0.5nm,0.6s,baz=94,slow=9.8,SNR=3.1	**29.04**	**288**		P		**P**	**15 20 01.1**	**+2.3**
KMI	**Kunming**	**29.83**	**103**		P		**P**	**15 20 05.9**	**-0.1**
KMI					pmax		pmax		
	comp=Z,9.0nm,1.3s								
HHC	**Hu-ho-hao-te**	**32.35**	**69**		*e*P		**P**	**15 20 27.9**	**0.0**
HHC					S		**S**	**15 25 27.8**	**-3.0**
HHC					pmax		pmax		
	comp=Z,28nm,1.1s								
HHC					pmax		pmax		
	comp=Z,52nm,5.8s								
NRIK	**Noril'sk** comp=Z,2.2nm,0.4s,baz=187,slow=7.9,SNR=6.3	**34.52**	**11**		P		**P**	**15 20 47.4**	**+1.2**
FINES	**FINESS Array B** comp=Z,3.1nm,0.7s,baz=98,slow=10,SNR=6.3	**37.45**	**327**		P		**P**	**15 21 12.8**	**+1.6**
ARCES	**ARCESS Array B** comp=Z,2.1nm,0.4s,baz=109,slow=7.4,SNR=31	**41.23**	**338**		P		**P**	**15 21 44.5**	**+2.1**
CN2	**Changchun**	**42.20**	**62**		*e*P		**P**	**15 21 51.5**	**+0.8**
NB2	**NORSAR Subarra** comp=Z,1.3nm,0.8s,baz=94,slow=7.9	**44.32**	**323**		P		**P**	**15 22 08.5**	**+1.1**
NOA	**NORSAR Array B** comp=Z,1.3nm,0.7s,baz=97,slow=7.8,SNR=5.1	**44.32**	**323**		P		**P**	**15 22 08.6**	**+1.1**
YAK	**Yakutsk**	**44.51**	**35**		↑*e*P		**P**	**15 22 08.4**	**-0.5**
YAK					pmax		pmax		
	comp=Z,51nm,2.6s								
JOW	**Kunigami** comp=Z,110nm,20.3s,baz=272,slow=36	**49.61**	**84**		LR		LR	15 44 09.8	
ASAJ	**Asahikawa** comp=Z,48nm,21.4s,baz=62,slow=36	**54.15**	**58**		LR		LR	15 47 02.9	
SEY	**Seymchan**	**54.96**	**34**		↑*e*P		**P**	**15 23 28.9**	**+1.1**
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,0.4s,baz=50,slow=5.7,SNR=10	**65.19**	**268**		P		**P**	**15 24 37.5**	**-0.7**
ILAR	**Eielson Array** comp=Z,0.5nm,0.5s,baz=297,slow=4.7,SNR=12	**75.21**	**16**		P		**P**	**15 25 38.6**	**+0.3**
YKA	**Yellowknife Ar** comp=Z,0.5nm,0.4s,baz=350,slow=5.5,SNR=6.2	**81.57**	**2**		P		**P**	**15 26 14.0**	**+0.7**
YKA	**Yellowknife Ar**	**81.57**	**2**		P		**P**	**15 26 14.0**	**+0.7**
YKA					pmax		pmax		
	comp=Z,1.0nm,0.4s								
WRA	**Warramunga Arr** comp=Z,0.4nm,0.9s,baz=325,slow=5.0,SNR=11	**82.27**	**121**		P		**P**	**15 26 15.2**	**-2.4**
ASAR	**Alice Springs** comp=Z,0.2nm,0.7s,baz=314,slow=4.6,SNR=7.2	**84.50**	**124**		P		**P**	**15 26 27.4**	**-1.5**

MEX 20 15:15:33.8±0.7,19°.11N×103°.91W,h11km±2km,MD3.6, Jalisco

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
R15V		**0.10**	**309**		*e*P		Pg	15 15 35.4	-1.1
R15V					*e*S		Sg	15 15 37.8	-0.7
EZ5V		**0.47**	**38**		*e*P		Pg	15 15 42.0	-1.1
EZ5V					*e*S		Sg	15 15 48.7	-0.6
MMIG	**Aquila**	**0.97**	**147**		*e*P		Pg	15 15 49.9	-2.6
MMIG					*i* S		Sg	15 16 02.7	-2.6
CJM	**Chamela**	**1.14**	**290**		*e*P		Pb	15 15 51.8	-3.9
CJM					*e*S		Sb	15 16 06.7	-3.8

*ISCJB **20** 15:21:09.1±0.5,41°.88N±0°.04×15°.89E±0°.05,h26km±4km, Error ellipse: s-maj=7.1km s-min=4.8km az=36.9*
*ROM **20** 15:21:09.2±0.4,41°.80N±0°.03×15°.91E±0°.03,h28km±1km, ML2.9/16*

ISC 20 15:21:09.0±1.0,41°.88N±0°.04×15°.91E±0°.03,h25km±7km, n24,σ1s04/29,Southern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSAG	**Monte S. Angel**	**0.17**	**181**		*i* P		**Pb**	**15 21 14.5**	**+0.1**
MSAG					S		**Sb**	**15 21 18.0**	**0.0**
MSAG					AML		AML		
	comp=E,9720μm,0.3s								
MSAG					AML		AML		
	comp=N,21850μm,0.8s								
MSAG					AML		AML		
	comp=E,10030μm,0.3s								
MSAG					AML		AML		
	comp=N,22400μm,0.8s								
MSAG					AML		AML		
	comp=E,9730μm,0.3s								
MSAG					AML		AML		
	comp=N,21850μm,0.8s								
MSAG					AML		AML		
	comp=E,10030μm,0.3s								
MSAG					AML		AML		
	comp=N,22400μm,0.8s								
MSAG					AML		AML		
	comp=N,22400μm,0.8s								
MSAG					AML		AML		
	comp=N,21850μm,0.8s								
MSAG					AML		AML		
	comp=E,9730μm,0.3s								
MSAG					AML		AML		
	comp=E,10030μm,0.3s								
SGRT	**San Giovanni R**	**0.18**	**225**		*i* P		**Pb**	**15 21 14.6**	**+0.1**
SGRT					S		**Sb**	**15 21 18.0**	**-0.2**
SGRT					AML		AML		
	comp=E,7445μm,0.1s								
SGRT					AML		AML		
	comp=N,11900μm,0.1s								
SGRT					AML		AML		
	comp=N,11900μm,0.1s								
SGRT					AML		AML		
	comp=E,7445μm,0.1s								
SGRT					AML		AML		
	comp=N,11900μm,0.1s								
SGRT					AML		AML		
	comp=E,7445μm,0.1s								
MELA	**Melanico ??? S**	**0.61**	**254**		P		**Pb**	**15 21 20.9**	**-0.2**
MELA					S		**Sb**	**15 21 29.7**	**+0.4**
MELA					AML		AML		
	comp=E,1915μm,0.5s								
MELA					AML		AML		
	comp=N,2495μm,0.3s								
MELA					AML		AML		
	comp=E,1995μm,0.5s								
MELA					AML		AML		
	comp=N,2630μm,0.3s								
MELA					AML		AML		
	comp=E,1915μm,0.5s								
MELA					AML		AML		
	comp=N,2495μm,0.3s								
MELA					AML		AML		
	comp=E,1995μm,0.5s								
MELA					AML		AML		
	comp=N,2630μm,0.3s								
MELA					AML		AML		
	comp=N,2495μm,0.3s								
CIGN	**Sant'Elia a Pi**	**0.79**	**254**		P		**Pb**	**15 21 23.9**	**-0.2**
CIGN					AML		AML		
	comp=E,182μm,1.4s								
CIGN					AML		AML		
	comp=N,184μm,1.6s								
CIGN					AML		AML		
	comp=E,182μm,1.4s								
CIGN					AML		AML		
	comp=N,184μm,1.6s								
CIGN					AML		AML		
	comp=N,184μm,1.6s								
CIGN					AML		AML		
	comp=E,182μm,1.4s								
GATE	**Gambatesa**	**0.84**	**244**		P		**Pn**	**15 21 25.2**	**0.0**
GATE					AML		AML		
	comp=E,431μm,0.3s								
GATE					AML		AML		
	comp=N,494μm,0.5s								
GATE					AML		AML		
	comp=E,170μm,1.3s								
GATE					AML		AML		
	comp=N,588μm,0.5s								
GATE					AML		AML		
	comp=E,431μm,0.3s								
GATE					AML		AML		
	comp=N,494μm,0.5s								
GATE					AML		AML		
	comp=E,170μm,1.3s								
GATE					AML		AML		
	comp=N,588μm,0.5s								
GATE					AML		AML		
	comp=E,170μm,1.3s								
GATE					AML		AML		
	comp=N,588μm,0.5s								
GATE					AML		AML		
	comp=E,431μm,0.3s								
GATE					AML		AML		
	comp=N,494μm,0.5s								
MRVN	**Minervino Murg**	**0.85**	**165**		P		**Pb**	**15 21 24.0**	**-1.1**
MRVN					AML		AML		
	comp=E,610μm,0.3s								
MRVN					AML		AML		
	comp=N,304μm,0.7s								
MRVN					AML		AML		
	comp=E,610μm,0.3s								
MRVN					AML		AML		
	comp=N,304μm,0.7s								
MRVN					AML		AML		
	comp=E,610μm,0.3s								
MRVN					AML		AML		
	comp=N,304μm,0.7s								
SGTA	**Sant Agata di**	**0.85**	**209**		P		**Pb**	**15 21 24.3**	**-0.9**
SGTA					S		**Sb**	**15 21 34.4**	**-1.9**
SGTA					AML		AML		
	comp=E,374μm,0.3s								
SGTA					AML		AML		
	comp=N,434μm,0.4s								
SGTA					AML		AML		
	comp=E,374μm,0.3s								
SGTA					AML		AML		
	comp=N,434μm,0.4s								
SGTA					AML		AML		
	comp=N,434μm,0.4s								
SGTA					AML		AML		
	comp=E,374μm,0.3s								
TRIV	**Trivento**	**1.02**	**264**		P		**Pb**	**15 21 28.6**	**+0.5**
BAI	**Bari**	**1.06**	**137**		*e*Pg		**Pb**	**15 21 28.6**	**-0.1**
BAI					Sg		**Sn**	**15 21 44.4**	**+2.2**
ACER	**Acerenza**	**1.09**	**179**		P		**Pb**	**15 21 29.1**	**-0.2**
ACER					AML		AML		
	comp=E,632μm,0.8s								
ACER					AML		AML		
	comp=N,418μm,1.4s								
ACER					AML		AML		
	comp=E,632μm,0.8s								
ACER					AML		AML		
	comp=N,418μm,1.4s								
AMUR	**Altamura**	**1.10**	**152**		P		**Pn**	**15 21 27.7**	**-1.2**
AMUR					S		**Sb**	**15 21 43.4**	**0.0**
AMUR					AML		AML		
	comp=E,397μm,0.7s								
AMUR					AML		AML		
	comp=N,398μm,0.6s								
AMUR					AML		AML		
	comp=N,398μm,0.6s								
AMUR					AML		AML		
	comp=E,397μm,0.7s								
SG1	**Sgolgore (BA)**	**1.19**	**151**		*e*Pg		**Pn**	**15 21 28.9**	**-1.2**
SG1					Sg		**Sb**	**15 21 46.1**	**+0.2**
LPEL	**Lama dei Pelig**	**1.30**	**278**		P		**Pb**	**15 21 32.7**	**-0.1**
LPEL					AML		AML		
	comp=E,352μm,0.8s								
LPEL					AML		AML		
	comp=N,228μm,1.3s								
LPEL					AML		AML		
	comp=N,228μm,1.3s								
LPEL					AML		AML		
	comp=E,352μm,0.8s								
MIGL	**Miglionico**	**1.34**	**162**		AML		AML		
	comp=E,766μm,1.2s								
MIGL					AML		AML		
	comp=E,766μm,1.2s								
MIGL					AML		AML		
	comp=N,916μm,0.8s								
MIGL					AML		AML		
	comp=N,916μm,0.8s								
NOCI	**Noci**	**1.40**	**141**		P		**Pn**	**15 21 31.9**	**-1.0**
NOCI					AML		AML		
	comp=E,346μm,0.1s								
NOCI					AML		AML		
	comp=N,418μm,0.3s								
NOCI					AML		AML		
	comp=N,418μm,0.3s								
NOCI					AML		AML		
	comp=E,346μm,0.1s								
LTRZ	**Laterza**	**1.45**	**152**		AML		AML		
	comp=N,366μm,0.2s								
LTRZ					AML		AML		
	comp=E,284μm,1.5s								
LTRZ					AML		AML		
	comp=N,366μm,0.2s								

CRAC					AML	AML					
	comp=E,580μm,0.3s										
STON	**Ston**	**1.65**	**53**	*e*Pn	**Pb**		**15 21 37.8**	**-1.0**			
STON					Sn	**Sn**	**15 21 56.9**	**+0.1**			
TAR1	**Taranto**	**1.71**	**142**	*e*Pg	**Pn**		**15 21 37.4**	**+0.3**			
NRCA	**Norcia**	**2.28**	**296**	AML	AML						
	comp=N,78μm,1.4s										
NRCA				AML	AML						
	comp=E,85μm,1.0s										
NRCA				AML	AML						
	comp=N,78μm,1.4s										
NRCA				AML	AML						
	comp=E,85μm,1.0s										
LAV9	**Lanuvio**	**2.41**	**266**	AML	AML						
	comp=N,652μm,0.1s										
LAV9				AML	AML						
	comp=E,640μm,0.9s										
LAV9				AML	AML						
	comp=N,652μm,0.1s										
LAV9				AML	AML						
	comp=E,640μm,0.9s										
NVLJ	**Novalja**	**2.79**	**344**	Sn	**Sn**		**15 22 25.5**	**+0.7**			

*BJI **20** 15:27:54.0,0.35N×126.25E,h8km,mb4.7/50,mB5.0/33, Ms4.6/14,Ms7 4.3/13*
*IDC **20** 15:27:58.0±0.4,0.73N×126.00E,h0km,mb4.8/32, mb1 4.8/33,mb1mx4.7/45,mbtmp4.7/33,ML3.8/1,MS3.6/12, Ms1 3.6/12,ms1mx3.3/36,Error ellipse: s-maj=16.3km s-min=9.7km az=74.0*
*KLM **20** 15:27:59.0,0.79N×126.06E,h10km,mb4.8*
*NEIC **20** 15:28:00.8±1.7,0.81N×126.06E,h19km±11km,mb4.9/51, Error ellipse: s-maj=4.8km s-min=3.4km az=71.0*
*ISCJB **20** 15:28:03.1±0.5,0.78N±0.02×126.12E±0.03,h52km±5km, mb4.8/98,MS3.8/12,Error ellipse: s-maj=4.7km s-min=3.9km az=145.0*
*GCMT **20** 15:28:04.8±0.3,0.83N±0.03×125.96E±0.02,h31km, MW4.9/54,Moment Tensor Solution. s46,c52; s54,c69; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.36±.18; Mθθ-0.40±.10; Mφφ-2.95±.11; Mrθ-0.21±.15; Mθφ0.21±.07; Mφr-0.21±.14; Best double couple: M0 3.17600×10^16^ NP1:ϑs179.00000°,δ47.00000°,λ95.00000°. NP2: ϕs352.00000°,δ43.00000°,λ85.00000°. Principal axes: T 3.3800, Plg86.0000°, Azm149.0000°; N -0.4000, Plg3.0000°, Azm356.0000°; P -2.9730, Plg2.0000°, Azm265.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **20** 15:28:05.2±0.3,1°N±3°×12°6E±°,h47km±3km,M5.0/22, mb4.9/22,mB5.4/4,MLv5.0/2,Mw(mB)4.8/4*
ISC 20 15:28:00.9±0.8,0.78N±0.04×126.09E±0.04,h17km±4km, n245,σ1§60/264,mb4.9/98,MS3.9/12,1C-1D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.28**	**90**	*e*Pn	**Pn**	**15 28 23.5**	**-0.6**
TNTI	**Ternate**	**1.28**	**90**	P	**Pn**	**15 28 23.7**	**-0.4**
TNTI				S	**Sg**	**15 28 42.1**	**-0.4**
KMSI	**Cibinong**	**2.11**	**265**	P	**Pb**	**15 28 38.2**	**-0.6**
SANI	**Sanana**	**2.81**	**182**	P	**Pn**	**15 28 45.8**	**+0.7**
SGSI	**Sangihe**	**2.94**	**349**	P	**Pb**	**15 28 52.5**	**-0.5**
LUWI	**Luwuk**	**3.77**	**241**	*e*Pn	**Pn**	**15 28 59.6**	**+1.2**
LUWI	**Luwuk**	**3.77**	**241**	P	**Pb**	**15 29 03.0**	**-4.1**
MRSI	**Marisa**	**4.15**	**266**	P	**Pn**	**15 29 06.1**	**+2.5**
APSI	**Ampana**	**4.74**	**249**	P	**Pn**	**15 29 15.5**	**+3.8**
SIJI	**Sorong**	**5.43**	**107**	Pn	**Pn**	**15 29 21.0**	**-0.2**
	2.7nm,0.3s,baz=157,slow=22,SNR=18						
SIJI				LR	LR	15 31 51.6	
	comp=Z,1μm,19.8s,baz=286,slow=42						
KDI	**Kendari**	**5.84**	**216**	P	**Pn**	**15 29 30.3**	**+3.5**
	324nm,0.7s,2μm0.9nm						
MPSI	**Mapaga**	**6.20**	**266**	P	Pn	15 29 36.7	+4.9
DAV	**Davao City (W)**	**6.27**	**355**	LR	LR	15 32 11.2	
	comp=Z,532nm,20.8s,baz=190,slow=40						
PCI	**Palu**	**6.47**	**255**	P	Pn	15 29 40.4	+4.9
	191nm,1.1s,2μm0.6nm						
BNDI	**Bandanaira**	**6.50**	**144**	P	**Pn**	**15 29 38.5**	**+2.6**
BBSI	**Bau Bau**	**7.14**	**209**	P	Pn	15 29 49.6	+4.9
FAKI	**Fak Fak**	**7.17**	**121**	*e*Pn	**Pn**	**15 29 45.7**	**+0.5**
FAKI	**Fak Fak**	**7.17**	**121**	P	**Pn**	**15 29 48.7**	**+3.6**
SPSI	**Sidrap Palu**	**7.87**	**233**	P	**Pn**	**15 29 57.9**	**+3.1**
BNSI	**Bone**	**7.88**	**229**	P	**Pn**	**15 29 57.8**	**+2.9**
BKSI	**Bulukumba**	**8.49**	**224**	P	**Pn**	**15 30 06.4**	**+3.1**
MMRI	**Maumere**	**10.11**	**202**	*e*Pn	**Pn**	**15 30 25.5**	**+0.1**
SAUI	**Saumlaki**	**10.14**	**149**	*e*Pn	**Pn**	**15 30 26.4**	**+0.6**
SAUI	**Saumlaki**	**10.14**	**149**	P	**Pn**	**15 30 28.3**	**+2.5**
EDFI	**Ende, Flores**	**10.43**	**205**	P	**Pn**	**15 30 33.8**	**+3.9**
SOEI	**Soe**	**10.62**	**190**	*e*Pn	**Pn**	**15 30 34.3**	**+1.7**
SOEI	**Soe**	**10.62**	**190**	P	Pn	15 30 40.0	+7.5
KDM	**Kudat**	**11.06**	**304**	P	**Pn**	**15 30 37.0**	**-1.5**
KKM	**Kota Kinabalu**	**11.15**	**298**	P	**Pn**	**15 30 38.0**	**-1.9**
BATI	**Baumata**	**11.17**	**192**	Pn	Pn	15 30 45.6	+5.5
	2.8nm,0.3s,baz=186,slow=3.9,SNR=15						
BATI				LR	LR	15 34 41.0	
	comp=Z,250nm,20.4s,baz=356,slow=36						
BATI	**Baumata**	**11.17**	**192**	P	Pn	15 30 49.3	+9.2
PLAI	**Plampang**	**12.63**	**221**	P	**P**	**15 31 15.9**	**+4.6**
TWSI	**Taliwang, Sumb**	**13.17**	**224**	P	**P**	**15 31 19.2**	**+1.9**
SBUM	**Sibu**	**13.96**	**277**	P	**Pn**	**15 31 16.0**	**-2.1**
KMMI	**Kalianget**	**14.37**	**237**	P	P	15 31 35.7	+5.0
MTN	**Manton Dam**	**14.43**	**160**	P	**Pn**	**15 31 25.6**	**+1.0**
	baz=14,SNR=3.9						
MTN	**Manton Dam**	**14.43**	**160**	*e*Pn	**Pn**	**15 31 25.1**	**+0.5**
STKI	**Sintang**	**14.62**	**267**	P	**P**	**15 31 32.0**	**-1.5**
	17nm,0.9s						
JAY	**Jayapura**	**14.98**	**103**	LR	LR	15 36 48.9	
	comp=Z,440nm,21.2s,slow=35						
GMJI	**Gumukmas**	**15.48**	**234**	P	**P**	**15 31 49.2**	**+6.2**
KSM	**Kuching**	**15.79**	**273**	*e*Pn	**Pn**	**15 31 42.0**	**-0.7**
	81nm,0.9s						
KNRA	**Kununurra**	**16.56**	**171**	P	**Pn**	**15 31 52.7**	**+0.2**
	baz=17,SNR=22						
NGJI	**Ngawi**	**16.68**	**241**	P	**P**	**15 32 01.7**	**+5.3**
PWJI	**Pagerwojo**	**16.71**	**238**	P	**P**	**15 31 58.8**	**+2.2**
	166nm,1.0s						
FITZ	**Fitzroy Crossi**	**18.76**	**181**	P	**P**	**15 32 19.0**	**-0.3**
	baz=19,SNR=21						
FITZ	**Fitzroy Crossi**	**18.76**	**181**	*e*P	**P**	**15 32 19.0**	**-0.3**
	19nm,1.0s						
KPJI	**Karang Pucung**	**18.91**	**245**	P	**Pn**	**15 32 24.2**	**+2.5**
	56nm,0.9s						
LEM	**Lembang**	**19.91**	**247**	LR	LR	15 40 36.4	
	comp=Z,228nm,21.0s,baz=60,slow=38						
PPBI	**Pangkal Pinang**	**20.16**	**262**	P	Pn	15 32 38.2	+1.6
	7.9nm,1.3s,2μm						
WRAB	**Tennant Creek**	**22.12**	**159**	*e*P	**P**	**15 32 54.7**	**-1.1**
	32nm,0.6s						
WRA	**Warramunga Arr**	**22.12**	**159**	P	**P**	**15 32 54.8**	**-1.1**
	22nm,0.7s,baz=333,slow=11,SNR=168						
WRA				PcP	**PcP**	**15 36 52.4**	**-0.7**
	3.1nm,0.8s,baz=328,slow=2.5,SNR=7.5						
WRA				S	**S**	**15 36 55.5**	**-3.7**
	3.1nm,1.0s,baz=334,slow=19,SNR=6.4						
WB2	**Warramunga Arr**	**22.13**	**159**	*e*P	**P**	**15 32 54.7**	**-1.1**
MYKOM	**Kota Tinggi**	**22.25**	**273**	*e*P	**P**	**15 32 55.8**	**-1.5**
	10nm,0.8s						
MYKOM	**Kota Tinggi**	**22.25**	**273**	P	**P**	**15 32 56.0**	**-1.3**
COEN	**Coen**	**22.38**	**131**	P	**P**	**15 32 58.6**	**-0.1**
	baz=22,SNR=21						
COEN	**Coen**	**22.38**	**131**	*e*P	**P**	**15 32 58.3**	**-0.4**
	18nm,0.9s						
TWG	**Pinlang**	**22.45**	**348**	*e*P	**P**	**15 32 56.6**	**-2.7**
	152nm,0.6s						
MDSI	**Maura Dua**	**22.50**	**256**	P	**P**	**15 33 00.8**	**+0.8**
	13nm,1.0s						
MBWA	**Marble Bar**	**22.67**	**196**	*e*P	**P**	**15 33 01.2**	**-0.4**
	63nm,1.1s						
YULB	**Yu-li**	**22.96**	**349**	*e*P	**P**	**15 33 01.7**	**-2.9**
	26nm,1.0s						
TPUB	**Ta-pu**	**23.01**	**347**	*e*P	**P**	**15 33 02.6**	**-2.6**
	74nm,0.9s						
PMG	**Port Moresby**	**23.30**	**116**	P	**P**	**15 33 08.7**	**+0.5**
	14nm,0.8s,baz=329,slow=3.4,SNR=6.6						
PMG	**Port Moresby**	**23.30**	**116**	*e*P	**P**	**15 33 07.9**	**-0.3**
	21nm,1.0s						
MASI	**Maura Aman, Be**	**24.15**	**261**	P	**P**	**15 33 20.7**	**+4.2**
YHNB	**Yeheng**	**24.19**	**349**	*e*P	**P**	**15 33 15.0**	**-1.7**
	48nm,1.0s						
QIS	**Mount Isa**	**25.00**	**149**	P	**P**	**15 33 23.8**	**-0.3**
	baz=25,SNR=27						
IPM	**Ipoh**	**25.30**	**279**	*e*P	**P**	**15 33 26.7**	**-0.2**
	16nm,0.7s						
AS31	**Alice Springs**	**25.46**	**163**	*e*P	**P**	**15 33 27.7**	**-0.5**
	5.0nm,0.6s						
ASAR	**Alice Springs**	**25.46**	**163**	P	**P**	**15 33 27.8**	**-0.5**
	13nm,0.6s,baz=342,slow=7.9,SNR=108						
ASAR				PcP	**PcP**	**15 36 59.9**	**-0.3**
	4.3nm,0.8s,baz=348,slow=2.0,SNR=12						
AS01	**Alice Springs**	**25.47**	**163**	*e*P	**P**	**15 33 27.5**	**-0.9**
AS01				*e*PcP	**PcP**	**15 36 59.6**	**-0.7**
PDSI	**Padang**	**25.68**	**266**	P	**P**	**15 33 31.4**	**+1.0**
	47nm,1.0s						
WRKA	**Warakurna**	**25.75**	**175**	P	**P**	**15 33 31.2**	**+0.3**
	baz=26,SNR=14						
KULM	**Kulim**	**25.79**	**281**	P	**P**	**15 33 30.0**	**-1.3**
JOW	**Kunigami**	**25.99**	**4**	P	**P**	**15 33 34.7**	**+1.6**
	52nm,0.8s,baz=222,slow=12,SNR=9.9						
JOW	**Kunigami**	**25.99**	**4**	*e*P	**P**	**15 33 32.8**	**-0.2**
	69nm,1.0s						
MNSI	**Mandailing Nat**	**26.50**	**270**	P	**P**	**15 33 42.3**	**+4.5**
SKNT	**Sakolnakorn**	**27.07**	**308**	P	**P**	**15 33 44.8**	**+1.9**
	3.7nm,1.3s						
PSI	**Prapat**	**27.22**	**275**	P	**P**	**15 33 43.6**	**-0.8**
	4.6nm,0.4s,baz=0.5,slow=1.1,SNR=9.4						
PSI				LR	LR	15 45 35.9	
	comp=Z,316nm,20.8s,baz=89,slow=39						
PSI	**Prapat**	**27.22**	**275**	*e*P	**P**	**15 33 42.9**	**-1.5**
	16nm,1.0s						
CHAI	**Chaiyaphum**	**28.12**	**304**	P	**P**	**15 33 52.7**	**+0.4**
	2.3nm,0.9s,345nm						
MEEK	**Meekatharra**	**28.19**	**194**	P	**P**	**15 33 52.3**	**-0.6**
	baz=28,SNR=7.3						
NONG	**Nongkai**	**28.34**	**309**	P	**P**	**15 33 54.0**	**-0.2**
	0.2nm,1.1s						
GSI	**Gunungsitoli**	**28.51**	**271**	*e*P	**P**	**15 33 53.8**	**-2.1**
	26nm,1.2s						
GSI	**Gunungsitoli**	**28.51**	**271**	P	**P**	**15 33 55.8**	**0.0**
	15nm,1.3s						
UTTA	**Uttaradit**	**30.24**	**305**	P	**P**	**15 34 11.7**	**+0.6**
	2.1nm,0.7s						
JCJ	**Chichijima**	**30.40**	**29**	LR	LR	15 44 36.7	
	comp=Z,50nm,20.1s,baz=239,slow=33						
NANT	**Nan**	**30.68**	**307**	P	**P**	**15 34 15.5**	**+0.5**
	7.8nm,0.7s						
SUKH	**Sukhothai**	**30.86**	**304**	P	**P**	**15 34 17.7**	**+1.1**
	3.4nm,0.8s						
MORW	**Morawa**	**31.19**	**197**	P	**P**	**15 34 19.3**	**-0.1**
	baz=31,SNR=4.3						
FORT	**Forrest**	**31.44**	**177**	P	**P**	**15 34 21.6**	**+0.1**
	baz=32,SNR=41						
FORT	**Forrest**	**31.44**	**177**	*e*P	**P**	**15 34 21.2**	**-0.3**
	68nm,0.6s						
GYA	**Guiyang**	**31.64**	**325**	*e*P	**P**	**15 34 25.0**	**+1.4**
GYA				PP	**PnPn**	**15 35 30.3**	**+2.8**
GYA				S	**S**	**15 39 32.8**	**+0.5**
GYA				SS	**SnSn**	**15 41 23.4**	**+4.6**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.0s						
GYA				LR	LR		
	comp=N,550nm,17.0s						
GYA				LR	LR		
	comp=E,510nm,16.9s						
GYA				LR	LR		
	comp=Z,520nm,17.2s						
NJ2	**Nanjing**	**31.85**	**348**	*e*P	**P**	**15 34 25.3**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**31.92**	**305**	P	**P**	**15 34 25.9**	**-0.1**
	0.9nm,0.7s,baz=136,slow=8.3,SNR=9.0						
CMAR				PcP	**PcP**	**15 37 17.6**	**+1.3**
	3.3nm,0.8s,baz=167,slow=2.0,SNR=18						
CMMT	**Chiang Mai**	**32.09**	**306**	P	**P**	**15 34 27.8**	**+0.3**
	5.8nm,0.9s						
CHTO	**Chiang Mai**	**32.10**	**306**	*e*P	**P**	**15 34 26.2**	**-1.2**
	19nm,1.7s						
CHTO	**Chiang Mai**	**32.10**	**306**	P	**P**	**15 34 27.9**	**+0.4**
KMBL	**Kambalda**	**32.22**	**187**	P	**P**	**15 34 28.1**	**-0.3**
	baz=32,SNR=6.8						
QLP	**Quilpie**	**32.34**	**149**	P	**P**	**15 34 28.6**	**-0.9**
	baz=32						
BLDU	**Ballidu**	**32.47**	**195**	P	**P**	**15 34 30.4**	**-0.1**
	baz=33,SNR=10						
JNU	**Nakatsue**	**32.49**	**8**	LR	LR	15 46 14.5	
	comp=Z,32nm,20.8s,baz=166,slow=34						
JNU	**Nakatsue**	**32.49**	**8**	*e*P	**P**	**15 34 30.3**	**-0.5**
	54nm,1.2s						
KMI	**Kunming**	**33.08**	**319**	P	**P**	**15 34 36.8**	**+0.5**
KMI				pP	pP	15 34 39.3	-2.3
KMI				sP	sP	15 34 40.9	-2.8
KMI				pmax	pmax		
	comp=Z,13nm,1.3s						
KMI				pmax	pmax		
	comp=Z,120nm,4.4s						
KLBR	**Kellerberrin**	**33.15**	**193**	P	**P**	**15 34 36.9**	**+0.4**
	baz=33,SNR=8.2						
ENH	**Enshi**	**33.31**	**333**	*e*P	**P**	**15 34 37.6**	**-0.3**
	11nm,0.8s						
MUN	**Mundaring**	**33.89**	**195**	P	**P**	**15 34 43.0**	**0.0**
	baz=34,SNR=9.8						
NWAO	**Narrogin (SRO)**	**34.55**	**193**	P	**P**	**15 34 50.0**	**+1.3**
	baz=35,SNR=9.7						
BBOO	**Buckleboo**	**34.71**	**165**	P	**P**	**15 34 49.8**	**-0.3**
	baz=35,SNR=19						
BBOO	**Buckleboo**	**34.71**	**165**	*e*P	**P**	**15 34 49.0**	**-1.1**
	20nm,0.9s						
RMQ	**Roma**	**34.82**	**143**	P	**P**	**15 34 50.6**	**-0.6**
	baz=35						
STKA	**Stephens Creek**	**35.65**	**157**	P	**P**	**15 34 57.8**	**-0.4**
	15nm,0.7s,baz=328,slow=8.7,SNR=31						
STKA				PcP	**PcP**	**15 37 26.0**	**-0.7**
	1.6nm,0.8s,baz=57,slow=5.8,SNR=3.0						
STKA	**Stephens Creek**	**35.65**	**157**	P	**P**	**15 34 57.8**	**-0.4**
	baz=36,SNR=30						
STKA	**Stephens Creek**	**35.65**	**157**	*e*P	**P**	**15 34 57.5**	**-0.6**
	3.0nm,0.8s						
STKA				PcP	**PcP**	**15 37 26.0**	**-0.7**
INU	**Inuyama**	**35.87**	**15**	*e*P	**P**	**15 34 59.8**	**-0.3**
	42nm,0.7s						
HTT	**Hallett**	**36.11**	**162**	P	**P**	**15 35 02.2**	**0.0**
	baz=36,SNR=4.9						
RKGY	**Rocky Gully**	**36.22**	**193**	P	**P**	**15 35 04.5**	**+1.4**
	baz=36,SNR=14						
KSAR	**Wonju Array Be**	**36.52**	**2**	P	**P**	**15 35 06.6**	**+1.0**
KSAR				PcP	**PcP**	**15 37 29.4**	**+0.3**
KSRS	**Korea Array**	**36.54**	**2**	P	**P**	**15 35 06.6**	**+0.9**
	8.8nm,0.7s,baz=182,slow=10,SNR=29						
KSRS				PcP	**PcP**	**15 37 29.4**	**+0.3**
	2.8nm,0.7s,baz=188,slow=3.4,SNR=7.7						
KS01	**Wonju Array Si**	**36.56**	**2**	*e*P	**P**	**15 35 05.5**	**-0.4**
CD2	**Chengdu**	**36.69**	**327**	*e*P	**P**	**15 35 06.5**	**-0.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
XAN	**Xi'an**	**36.79**	**336**	P	**P**	**15 35 06.9**	**-1.1**
XAN				pmax	pmax		
	comp=Z,16nm,0.8s						
XAN				pmax	pmax		
	comp=Z,150nm,5.3s						
CMSA	**Cobar Meteorol**	**37.13**	**152**	P	**P**	**15 35 11.0**	**+0.1**
	baz=37,SNR=7.1						
MJAR	**Matsushiro Arr**	**37.32**	**16**	P	**P**	**15 35 11.9**	**-0.6**
	15nm,0.8s,baz=191,slow=9.9,SNR=36						
MJAR				PcP	**PcP**	**15 37 32.0**	**+0.4**
	3.1nm,0.7s,baz=189,slow=3.2,SNR=4.9						
MJAR				LR	LR	15 54 35.8	
	comp=Z,27nm,18.1s,baz=210,slow=43						
MAJO	**Matsushiro**	**37.32**	**16**	*e*P	**P**	**15 35 11.9**	**-0.5**
	22nm,0.7s						
MAT	**Matsushiro**	**37.32**	**16**	P	**P**	**15 35 11.3**	**-1.1**
MAT				S	**S**	**15 41 05.0**	**+5.6**
MJB9	**Matsu-Tunnel**	**37.32**	**16**	*e*P	**P**	**15 35 11.9**	**-0.6**
	22nm,0.7s						
DL2	**Dalian**	**38.17**	**354**	P	**P**	**15 35 20.8**	**+1.3**
DL2				pmax	pmax		
	comp=Z,47nm,0.6s						
ARMA	**Armidale**	**39.42**	**144**	P	**P**	**15 35 30.9**	**+0.6**
	baz=40,SNR=10						
BJT	**Baijiatuan**	**40.09**	**348**	*e*P	**P**	**15 35 34.1**	**-1.5**
	15nm,0.6s						
ARPS	**Mount Arapiles**	**40.12**	**160**	P	**P**	**15 35 36.2**	**+0.3**
	baz=40,SNR=14						
LZH	**Lanzhou**	**40.75**	**332**	*e*P	**P**	**15 35 41.8**	**+0.4**
LZH				pP	pP	15 35 46.3	-0.4
LZH				sP	sP	15 35 48.8	0.0
LZH				*e*S	**S**	**15 41 49.4**	**-2.1**
LZH				SS	**SS**	**15 44 51.0**	**-1.6**
LZH				pmax	pmax		
	comp=Z,49nm,1.0s						
LZH				pmax	pmax		
	comp=Z,160nm,5.4s						
LZH				LR	LR		
	comp=N,350nm,14.1s						
LZH				LR	LR		
	comp=E,400nm,15.2s						
LZH				LR	LR		
	comp=Z,1μm,17.1s						
SHL	**Shillong**	**41.17**	**310**	*e*P	**P**	**15 35 44.6**	**-0.4**
	11nm,0.6s						
HHC	**Hu-ho-hao-te**	**42.01**	**343**	*e*P	**P**	**15 35 52.3**	**+0.8**
HHC				S	**S**	**15 42 17.8**	**+8.0**
HHC				pmax	pmax		
	comp=Z,11nm,1.2s						
HHC				pmax	pmax		
	comp=Z,220nm,5.9s						
CN2	**Changchun**	**42.84**	**359**	*e*P	**P**	**15 35 58.5**	**+0.4**
USA0B	**Ussuriysk Arra**	**43.55**	**6**	*e*P	**P**	**15 36 03.1**	**-0.7**
	22nm,0.9s						
USRK	**Ussuriysk Ar.**	**43.55**	**6**	P	**P**	**15 36 04.3**	**+0.4**
	15nm,0.8s,baz=192,slow=7.2,SNR=26						
MDJ	**Mudanjiang**	**43.76**	**4**	*e*P	**P**	**15 36 05.8**	**+0.2**
	33nm,0.9s						
LSA	**Lhasa**	**43.96**	**314**	*e*P	**P**	**15 36 07.0**	**-0.9**
	8.4nm,0.7s						
ODAN	**Odare**	**45.31**	**308**	*e*P	**P**	**15 36 18.0**	**-0.6**
	18nm,0.8s						
GTA	**Gaotai**	**45.32**	**331**	P	**P**	**15 36 18.1**	**-0.2**
GTA				pP	pP	15 36 22.4	-1.2
GTA				sP	sP	15 36 24.9	-0.8
GTA				PcP	**PcP**	**15 37 58.9**	**+1.1**
GTA				S	**S**	**15 43 00.9**	**+2.5**
GTA				sS	sS	15 43 08.5	+1.3
GTA				ScS	**ScS**	**15 46 11.8**	**-2.9**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,84nm,4.4s						
GTA				LR	LR		
	comp=N,240nm,16.5s						
GTA				LR	LR		
	comp=E,190nm,18.6s						
GTA				LR	LR		
	comp=Z,240nm,17.2s						
ASAJ	**Asahikawa**	**45.59**	**17**	P	**P**	**15 36 21.2**	**+1.1**
	23nm,0.9s,baz=209,slow=11,SNR=10						
RAMN	**Ramite**	**45.98**	**308**	*e*P	**P**	**15 36 23.1**	**-0.7**
	19nm,0.8s						
JIRN	**Jiri**	**46.63**	**309**	*e*P	**P**	**15 36 28.0**	**-1.1**
GUN	**Gumba**	**46.99**	**309**	*e*P	**P**	**15 36 30.9**	**-1.0**
	26nm,0.7s						
PKI	**Pulchoki**	**47.20**	**308**	*e*P	**P**	**15 36 31.9**	**-1.6**
PKIN	**Phulchoki**	**47.22**	**308**	*e*P	**P**	**15 36 32.0**	**-1.6**
KKN	**Kakani**	**47.41**	**308**	*e*P	**P**	**15 36 33.6**	**-1.4**
DMN	**Daman**	**47.46**	**308**	*e*P	**P**	**15 36 34.6**	**-0.9**
	29nm,1.3s						
KLR	**Kul'dur**	**48.51**	**5**	P	**P**	**15 36 43.3**	**+0.4**
	6.8nm,0.7s,baz=203,slow=4.7,SNR=14						
KLR				PcP	**PcP**	**15 38 08.9**	**+0.2**
	2.1nm,0.7s,baz=166,slow=2.6,SNR=5.2						
HIA	**Hailar**	**48.61**	**354**	*e*P	**P**	**15 36 44.1**	**+0.4**
	23nm,1.1s						
KOLN	**Koldanda**	**48.73**	**307**	*e*P	**P**	**15 36 44.1**	**-1.1**
	36nm,0.8s						
DANN	**Dangsing**	**48.86**	**308**	*e*P	**P**	**15 36 45.0**	**-1.3**
	22nm,0.7s						
PYUN	**Piuthan**	**49.36**	**307**	*e*P	**P**	**15 36 48.7**	**-1.3**
	40nm,0.9s						
HYB	**Hyderabad**	**49.57**	**292**	*i* P	**P**	**15 36 52.0**	**+0.4**
ULN	**Ulaanbaatar**	**49.73**	**343**	*e*P	**P**	**15 36 51.4**	**-1.0**
	22nm,1.3s						
ULN				*e*PcP	**PcP**	**15 38 14.0**	**+0.6**
SONM	**Songino Array**	**49.89**	**343**	P	**P**	**15 36 52.9**	**-0.8**
	4.6nm,0.8s,baz=155,slow=8.5,SNR=30						
SONM				PcP	**PcP**	**15 38 13.8**	**-0.1**
	4.2nm,0.8s,baz=165,slow=4.0,SNR=9.8						
SONA1	**Songino Array**	**49.90**	**343**	*e*P	**P**	**15 36 53.2**	**-0.5**
WMQ	**Urumqi**	**54.79**	**327**	P	**P**	**15 37 30.8**	**+0.7**
WMQ				pP	pP	15 37 32.5	-3.0
WMQ				sP	sP	15 37 36.8	-0.8
WMQ				pmax	pmax		
	comp=Z,22nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,170nm,3.6s						
WMQ				LR	LR		
	comp=E,240nm,23.9s						
WMQ				LR	LR		
	comp=Z,180nm,26.3s						
PETK	**Petropavlovsk-**	**58.39**	**22**	P	**P**	**15 37 56.5**	**+1.1**
	18nm,0.7s,baz=191,slow=5.4,SNR=13						
PETK	**Petropavlovsk-**	**58.39**	**22**	*e*P	**P**	**15 37 55.3**	**-0.1**
MK01	**Makanchi Array**	**59.60**	**327**	*e*P	**P**	**15 38 02.6**	**-1.4**
MK31	**Makanchi Array**	**59.62**	**327**	*e*P	**P**	**15 38 02.7**	**-1.4**
MKAR	**Makanchi Array**	**59.62**	**327**	P	**P**	**15 38 03.0**	**-1.1**
	11nm,0.8s,baz=124,slow=8.4,SNR=56						
MKAR				PcP	**PcP**	**15 38 51.4**	**+0.2**
	8.3nm,0.8s,baz=123,slow=4.6,SNR=8.0						
MKAR				LR	LR	16 05 37.7	
	comp=Z,93nm,20.6s,baz=110,slow=38						
MKAR	**Makanchi Array**	**59.62**	**327**	*e*P	**P**	**15 38 02.8**	**-1.3**
	62nm,0.8s						
MKAR				PcP	**PcP**	**15 38 51.4**	**+0.2**
KSH	**Kashi**	**59.70**	**317**	*e*P	**P**	**15 38 05.8**	**+0.9**
KSH				pP	pP	15 38 11.0	+0.6
KSH				PP

	25nm,1.4s							
AKH	**Akhalkalaki**	**83.92**	**311**	*e*P		**P**	**15 40 30.2**	**-0.4**
	17nm,0.8s							
KBZ	**Khabaz**	**84.53**	**314**	P		**P**	**15 40 32.7**	**-0.6**
	4.4nm,0.7s,baz=151,slow=5.1,SNR=9.2							
KDAK	**Kodiak Island**	**84.72**	**32**	P		**P**	**15 40 33.5**	**-0.4**
	16nm,0.6s,baz=257,slow=3.2,SNR=10							
IM3	**Indian Mountai**	**85.29**	**24**	*e*P		**P**	**15 40 36.6**	**0.0**
SUA	**Susitna One**	**86.05**	**29**	*e*P		**P**	**15 40 40.4**	**-0.3**
	33nm,1.4s							
MLY	**Manley**	**86.41**	**25**	*e*P		**P**	**15 40 41.8**	**-0.5**
	7.7nm,1.0s							
COLD	**Coldfoot**	**86.85**	**23**	*e*P		**P**	**15 40 44.4**	**+0.1**
	5.7nm,0.8s							
TOLK	**Toolik Lake Re**	**87.21**	**21**	*e*P		**P**	**15 40 46.2**	**0.0**
	10nm,0.9s							
CCB	**Clear Creek Bu**	**87.63**	**25**	*e*P		**P**	**15 40 47.0**	**-1.2**
	6.4nm,0.8s							
KLMR	**Klimovskoe**	**87.65**	**331**	*e*P		**P**	**15 40 45.9**	**-2.4**
KLMR					AMP		15 40 54.4	
	comp=Z,32nm,1.3s							
HDA	**Harding Lake**	**87.99**	**26**	*e*P		**P**	**15 40 48.6**	**-1.3**
	comp=Z,17nm,0.4s							
IL1	**Eielson Array**	**88.03**	**25**	*e*P		**P**	**15 40 47.9**	**-2.2**
ILAR	**Eielson Array**	**88.03**	**25**	P		**P**	**15 40 48.5**	**-1.5**
	comp=Z,2.3nm,0.6s,baz=242,slow=5.0,SNR=34							
ILB	**Eielson Array**	**88.03**	**25**	*e*P		**P**	**15 40 48.1**	**-2.0**
PAX	**Paxson**	**88.61**	**27**	*e*P		**P**	**15 40 51.2**	**-1.7**
	comp=Z,35nm,1.9s							
KMBO	**Kilima Mbogo**	**88.85**	**269**	P		**P**	**15 40 55.1**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=61,slow=8.4,SNR=4.7							
KMBO	**Kilima Mbogo**	**88.85**	**269**	*e*P		**P**	**15 40 55.3**	**0.0**
	comp=Z,8.0nm,1.4s							
RIDG	**Independ'e Rid**	**88.90**	**26**	*e*P		**P**	**15 40 53.0**	**-1.3**
	comp=Z,14nm,0.9s							
SYO	**Syowa Base**	**89.46**	**201**↑	*e*P		**P**	**15 40 54.6**	**-2.0**
SYO	**Syowa Base**	**89.46**	**201**↓	*e*X		**P**	**15 41 00.0**	**+3.4**
EGAK	**Eagle**	**90.48**	**25**	*e*P		**P**	**15 41 01.2**	**-0.4**
	comp=Z,5.5nm,0.8s							
DAWY	**Dawson**	**91.30**	**26**	*e*P		**P**	**15 41 05.1**	**-0.3**
	comp=Z,29nm,1.8s							
BRTR	**Keskin Array B**	**91.39**	**310**	P		**P**	**15 41 05.2**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=137,slow=6.2,SNR=6.3							
ARCES	**ARCESS Array B**	**92.98**	**340**	P		**P**	**15 41 12.4**	**-0.7**
	comp=Z,4.6nm,0.7s,baz=69,slow=6.6,SNR=12							
INK	**Inuvik**	**93.13**	**21**	P		**P**	**15 41 13.0**	**-0.7**
	comp=Z,7.3nm,1.0s,baz=238,slow=4.1,SNR=16							
INK	**Inuvik**	**93.13**	**21**	*e*P		**P**	**15 41 12.9**	**-0.7**
	comp=Z,14nm,1.3s							
AKASG	**Malin Array Be**	**93.76**	**321**	P		**P**	**15 41 15.4**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=72,slow=4.3,SNR=2.5							
FINES	**FINESS Array B**	**94.11**	**332**	P		**P**	**15 41 17.0**	**-1.4**
	comp=Z,6.7nm,1.0s,baz=141,slow=22,SNR=3.5							
H02N1	**VAN INLET T-PH**	**96.19**	**36**	T		T	17 29 49.9	
	SNR=20							
H02S1	**DAWSON INLET T**	**96.23**	**36**	T		T	17 29 37.2	
	SNR=124							
BUR04	**Bucovina Ar. S**	**96.76**	**318**	*e*P		**P**	**15 41 30.6**	**-0.4**
BUR08	**Bucovina Ar. S**	**96.76**	**318**	*e*P		**P**	**15 41 30.8**	**-0.2**
NOA	**NORSAR Array B**	**101.12**	**333**	P		**Pdif**	**15 41 48.5**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=68,slow=4.8,SNR=3.3							
YKA	**Yellowknife Ar**	**102.44**	**24**	P		**Pdif**	**15 41 55.9**	**0.0**
	comp=Z,1.0nm,0.7s,baz=300,slow=4.5,SNR=3.5							
SUR	**Sutherland**	**103.30**	**237**	Pdiff		**Pdif**	**15 41 59.4**	**-1.2**
	comp=Z,5.0nm,0.9s,baz=39,slow=13,SNR=2.9							
NVAR	**Mina Array Bea**	**109.34**	**49**	PKiKP		**PKiKP**	**15 46 31.0**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=280,slow=2.4,SNR=5.0							
PDAR	**Pinedale Array**	**113.98**	**42**	PKP		**PKiKP**	**15 46 40.5**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=68,slow=0.8,SNR=4.4							
PDAR				PKKPbc		**PKKPbc**	**15 57 21.0**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=104,slow=5.0,SNR=3.9							
ULM	**Lac du Bonnet**	**117.84**	**29**	PKP		**PKPdf**	**15 46 44.8**	**-1.8**
	comp=Z,1.6nm,0.6s,baz=311,slow=3.0,SNR=5.6							
MNTX	**Cornudas Mount**	**121.60**	**52**	*e*PKPdf		**PKPdf**	**15 46 54.1**	**-0.3**
TOA0	**Torodi Ar. Sit**	**123.17**	**286**	*e*PKPdf		**PKPdf**	**15 46 57.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**123.17**	**286**	PKP		**PKPdf**	**15 46 56.3**	**-1.5**
	comp=Z,4.3nm,0.8s,baz=75,slow=1.7,SNR=23							
TORD				PKKPbc		**PKKPab**	**15 56 48.3**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=281,slow=3.6,SNR=8.1							
TX31	**Lajitas Ar. Si**	**123.89**	**53**	*e*PKPdf		**PKPdf**	**15 46 58.4**	**-0.6**
TXAR	**Lajitas Array**	**123.89**	**53**	PKP		**PKPdf**	**15 46 59.4**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=234,slow=1.2,SNR=18							
F41A	**Three Lakes**	**124.24**	**29**	*e*PKPdf		**PKPdf**	**15 46 58.4**	**-0.7**
I39A	**Houston**	**124.32**	**32**	*e*PKPdf		**PKPdf**	**15 46 58.1**	**-1.2**
JCT	**Junction City**	**126.45**	**50**	*e*PKPdf		**PKPdf**	**15 47 03.1**	**-0.7**
DBIC	**Dimbokro**	**130.49**	**279**	PKP		**PKPdf**	**15 47 12.3**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=304,slow=3.3,SNR=3.6							
PLCA	**Paso Flores**	**137.46**	**161**	PKP		**PKPdf**	**15 47 25.1**	**+0.8**
	comp=Z,2.6nm,0.8s,baz=189,slow=3.2,SNR=6.8							
TRQA	**Tornquist**	**142.16**	**170**	*e*PKPpre		PKPpre	15 47 27.2	
GO04	**Tololo Observa**	**146.65**	**153**	*e*PKPdf		**PKPdf**	**15 47 41.0**	**-0.3**
LCO	**Las Campanas**	**147.67**	**152**	*e*PKPbc		**PKPdf**	**15 47 44.2**	**+1.2**
CPUP	**Villa Florida**	**154.38**	**173**	PKP		**PKPdf**	**15 47 53.0**	**0.0**
	comp=Z,2.4nm,0.9s,baz=35,slow=2.1,SNR=5.1							
CPUP				PKPbc		**sPKPdf**	**15 48 01.7**	**+0.8**
	comp=Z,6.1nm,1.0s,baz=160,slow=2.3,SNR=9.3							
CPUP				PKPab		**PKPab**	**15 48 15.8**	**+0.6**
	comp=Z,4.8nm,0.8s,baz=203,slow=1.9,SNR=7.2							
CPUP	**Villa Florida**	**154.38**	**173**	*e*PKPdf		**PKPdf**	**15 47 54.0**	**+1.1**
CPUP				PKPbc		**sPKPdf**	**15 48 01.7**	**+0.8**
CPUP				PKPab		**PKPab**	**15 48 15.8**	**+0.6**
LPAZ	**La Paz**	**159.17**	**138**	PKP		**PKPdf**	**15 48 00.5**	**+0.3**
	comp=Z,2.1nm,1.0s,baz=34,slow=0.8,SNR=5.8							
LPAZ	**La Paz**	**159.17**	**138**	*e*PKPdf		**PKPdf**	**15 48 01.1**	**+1.0**
SAML	**Samuel**	**167.71**	**132**	*e*PKPdf		**PKPdf**	**15 48 06.2**	**-1.3**

*ISCJB **20** 15:31:22.2±0.8, 41°.87N±0°.05×15°.89E±0°.06, h26km±5km, Error ellipse: s-maj=9.5km s-min=6.7km az=25.3*
*ROM **20** 15:31:22.5±0.4, 41°.79N±0°.02×15°.88E±0°.02, h26km±1km, ML2.6/10*

ISC 20 15:31:22.0±1.2, 41°.83N±0°.07×15°.87E±0°.04, h28km±6km, n16, σ0s.84/21, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SGRT	**San Giovanni R**	**0.12**	**232**	*i* P		**Pb**	**15 31 27.5**	**+0.2**
SGRT				S		**Sb**	**15 31 30.9**	**-0.1**
SGRT				AML		AML		
	comp=E,3515μm,0.5s							
SGRT				AML		AML		
	comp=N,5830μm,0.3s							
SGRT				AML		AML		
	comp=N,5830μm,0.3s							
SGRT				AML		AML		
	comp=E,3515μm,0.5s							
MSAG	**Monte S. Angel**	**0.12**	**165**	*i* P		**Pb**	**15 31 27.4**	**+0.1**
MSAG				S		**Sb**	**15 31 30.9**	**0.0**
MSAG				AML		AML		
	comp=E,4530μm,0.3s							
MSAG				AML		AML		
	comp=N,11100μm,0.8s							
MSAG				AML		AML		
	comp=E,5080μm,0.1s							
MSAG				AML		AML		
	comp=N,11455μm,0.8s							
MSAG				AML		AML		
	comp=E,4530μm,0.3s							
MSAG				AML		AML		
	comp=N,11080μm,0.8s							
MSAG				AML		AML		
	comp=E,5080μm,0.1s							
MSAG				AML		AML		
	comp=N,11455μm,0.8s							
MSAG				AML		AML		
	comp=N,11080μm,0.8s							
MSAG				AML		AML		
	comp=N,11455μm,0.8s							
MSAG				AML		AML		
	comp=E,4530μm,0.3s							
MSAG				AML		AML		
	comp=E,5080μm,0.1s							
MELA	**Melanico ??? S**	**0.57**	**258**	P		**Pb**	**15 31 33.8**	**+0.3**
MELA				S		**Sn**	**15 31 42.5**	**-0.1**
MELA				AML		AML		
	comp=E,948μm,0.4s							
MELA				AML		AML		
	comp=N,1010μm,0.3s							
MELA				AML		AML		
	comp=E,983μm,0.4s							
MELA				AML		AML		
	comp=N,1034μm,0.3s							
MELA				AML		AML		
	comp=E,948μm,0.4s							
MELA				AML		AML		
	comp=N,1008μm,0.3s							
MELA				AML		AML		
	comp=E,984μm,0.4s							
MELA				AML		AML		
	comp=N,1034μm,0.3s							
MELA				AML		AML		
	comp=E,984μm,0.4s							
MELA				AML		AML		
	comp=E,948μm,0.4s							
MELA				AML		AML		
	comp=N,1008μm,0.3s							
MELA				AML		AML		
	comp=N,1034μm,0.3s							
CIGN	**Sant'Elia a Pi**	**0.74**	**257**	P		**Pb**	**15 31 36.7**	**+0.3**
SGTA	**Sant Agata di**	**0.79**	**209**	P		**Pb**	**15 31 37.2**	**0.0**
SGTA				AML		AML		
	comp=E,266μm,1.0s							
SGTA				AML		AML		
	comp=N,344μm,0.4s							
SGTA				AML		AML		
	comp=E,266μm,1.0s							
SGTA				AML		AML		
	comp=N,344μm,0.4s							
SGTA				AML		AML		
	comp=N,344μm,0.4s							
SGTA				AML		AML		
	comp=E,266μm,1.0s							
MRVN	**Minervino Murg**	**0.81**	**162**	P		**Pb**	**15 31 36.6**	**-0.9**
MRVN				S		**Sn**	**15 31 47.8**	**-0.8**
MRVN				AML		AML		
	comp=E,304μm,0.3s							
MRVN				AML		AML		
	comp=N,146μm,0.7s							
MRVN				AML		AML		
	comp=E,304μm,0.3s							
MRVN				AML		AML		
	comp=N,146μm,0.7s							
MRVN				AML		AML		
	comp=N,146μm,0.7s							
MRVN				AML		AML		
	comp=E,304μm,0.3s							
ACER	**Acerenza**	**1.04**	**177**	P		**Pb**	**15 31 42.0**	**+0.5**
ACER				AML		AML		
	comp=E,241μm,1.1s							
ACER				AML		AML		
	comp=N,172μm,0.9s							
ACER				AML		AML		
	comp=N,172μm,0.9s							
ACER				AML		AML		
	comp=E,241μm,1.1s							
BAI	**Bari**	**1.05**	**133**	*e*Pg		**Pb**	**15 31 41.9**	**+0.4**
BAI				Sg		**Sn**	**15 31 57.0**	**+2.6**
AMUR	**Altamura**	**1.07**	**149**	P		**Pn**	**15 31 40.8**	**-0.4**
AMUR				AML		AML		
	comp=E,207μm,1.0s							
AMUR				AML		AML		
	comp=N,211μm,0.6s							
AMUR				AML		AML		
	comp=N,211μm,0.6s							
AMUR				AML		AML		
	comp=E,207μm,1.0s							
SG1	**Sgolgore (BA)**	**1.16**	**148**	*e*Pg		**Pb**	**15 31 43.4**	**-0.1**
SG1				Sg		**Sb**	**15 31 59.0**	**+0.9**
MATE	**Matera**	**1.33**	**152**	P		**Pb**	**15 31 46.5**	**+0.1**
MATE				AML		AML		
	comp=E,165μm,1.6s							
MATE				AML		AML		
	comp=N,268μm,0.2s							
MATE				AML		AML		
	comp=N,268μm,0.2s							
MATE				AML		AML		
	comp=E,165μm,1.6s							
NOCI	**Noci**	**1.37**	**139**	AML		AML		
NOCI	comp=N,230μm,0.3s							
				AML		AML		
NOCI	comp=E,236μm,1.1s							
				AML		AML		
NOCI	comp=N,230μm,0.3s							
				AML		AML		
NOCI	comp=E,236μm,1.1s							
LTRZ	**Laterza**	**1.42**	**149**	AML		AML		
LTRZ	comp=N,212μm,1.3s							
				AML		AML		
LTRZ	comp=E,171μm,1.5s							
				AML		AML		
LTRZ	comp=N,212μm,1.3s							
				AML		AML		
LTRZ	comp=E,171μm,1.5s							
FASA	**Fasano**	**1.51**	**132**	*e*Pg		**Pb**	**15 31 49.3**	**0.0**
FASA				Sg		**Sn**	**15 32 04.3**	**-1.6**
MASS	**Massafra**	**1.53**	**141**	*e*Pg		**Pb**	**15 31 50.1**	**+0.3**
STON	**Ston**	**1.71**	**52**	Sn		**Sn**	**15 32 10.5**	**-0.4**

IDC 20 15:32:38.4±16.0, 23°.11S×177°.36W, h445km±77km, mb3.2/4, mb1 3.3/6, mb1mx3.0/43, mbtmp4.1/6, Error ellipse: s-maj=231.6km s-min=48.4km az=59.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.99**	**271**	P		P	15 35 49.7	0.0
	0.2nm,0.3s,baz=84,slow=18,SNR=5.4							
URZ	**Urewera**	**15.82**	**196**	P		P	15 35 58.5	+0.3
	0.5nm,0.3s,baz=45,slow=4.3,SNR=5.3							
CTA	**Charters Tower**	**33.91**	**268**	P		P	15 38 43.4	+0.5
	3.7nm,0.4s,baz=97,slow=11,SNR=18							
STKA	**Stephens Creek**	**37.26**	**247**	P		P	15 39 09.5	-1.2
	1.2nm,0.6s,baz=80,slow=12,SNR=4.1							
ASAR	**Alice Springs**	**44.56**	**259**	P		P	15 40 08.8	-0.6
	0.3nm,0.3s,baz=98,slow=8.3,SNR=5.3							
WRA	**Warramunga Arr**	**44.88**	**264**	P		P	15 40 12.2	+0.2
	0.9nm,0.3s,baz=98,slow=8.4,SNR=41							

KRSC 20 15:34:39.3±1.0, 53°.44N×160°.47E, h48km±13km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.44**	**218**	*e*P		Pn	15 34 50.7	+1.0
SPN				*e*S		Sn	15 34 58.0	+0.9
NLC	**Nalytchevo**	**0.73**	**248**	*e*P		Pn	15 34 54.2	+0.9
NLC				*e*S		Sn	15 35 04.9	+1.5
KII	**Karymskiy**	**0.85**	**315**	*e*P		Pn	15 34 55.7	+0.7
KII				*e*S		Sn	15 35 07.4	+0.9
SDLR	**Sedlovina**	**0.96**	**261**	*i* P		Pn	15 34 57.9	+1.3
SDLR				*e*S		Sn	15 35 10.7	+1.4
UGLR	**Uglovaya**	**1.01**	**257**	*e*P		Pn	15 34 58.8	+1.5
UGLR				*e*S		Sn	15 35 12.3	+1.8
SMAR	**Somma**	**1.01**	**260**	*i* P		Pn	15 34 58.6	+1.2
SMAR				*e*S		Sn	15 35 11.9	+1.2
AVH	**Avacha**	**1.05**	**261**	*i* P		Pn	15 34 59.3	+1.5
AVH				*e*S		Sn	15 35 13.4	+2.0
KRX	**Arik**	**1.09**	**266**	*e*P		Pn	15 34 59.6	+1.2
KRX				*e*S		Sn	15 35 13.6	+1.2
KOK	**Koryaka**	**1.11**	**263**	*e*P		Pn	15 34 59.9	+1.4
KOK				*e*S		Sn	15 35 14.2	+1.5
DALK	**Dalny**	**1.11**	**249**	*e*P		Pn	15 34 59.6	+1.2
DALK				*e*S		Sn	15 35 13.8	+1.2
PET	**Petropavlovsk**	**1.17**	**250**	*i* P		Pn	15 35 00.5	+1.2
PET				*e*S		Sn	15 35 15.3	+1.3
GNL	**Ganaly**	**1.53**	**280**	*e*P		Pn	15 35 05.9	+1.6
RUS	**Russkaya**	**1.56**	**230**	*e*P		Pn	15 35 05.6	+1.1
RUS				*e*S		Sn	15 35 24.3	+0.8
MTVR	**Mutnovka**	**1.68**	**236**	*e*P		Pn	15 35 08.1	+1.7
MTVR				*e*S		Sn	15 35 28.5	+1.6
TUMD	**Tumrok D**	**1.76**	**359**	*e*P		Pn	15 35 08.5	+1.1
TUMD				*e*S		Sn	15 35 28.8	+0.1
APC	**Apacha**	**2.06**	**257**	*e*P		Pn	15 35 15.6	+4.2
APC				*e*S		Sn	15 35 40.1	+4.3
KDTR	**Khodutka, Kamc**	**2.19**	**223**	*e*P		Pn	15 35 15.5	+2.3
KDTR				*e*S		Sn	15 35 41.3	+2.2
KMNR	**Kamenistaya**	**2.32**	**357**	*e*P		Pn	15 35 18.2	+3.1
BZMR	**Bezymyannaya**	**2.50**	**0**	*e*P		Pn	15 35 21.3	+3.7
BZGR	**Bezymyannyi-Gr**	**2.50**	**3**	*e*P		Pn	15 35 21.0	+3.4
BZWR	**Bezymyannyi-We**	**2.53**	**0**	*e*P		Pn	15 35 21.9	+3.9
KPT	**Kopyto**	**2.53**	**357**	*e*P		Pn	15 35 21.7	+3.7
ZLN	**Zelenaya**	**2.59**	**4**	*e*P		Pn	15 35 22.7	+3.9
ZLN				*e*S		Sn	15 35 53.6	+4.6
LGNR	**Loginova**	**2.65**	**3**	*e*S		Sn	15 35 55.8	+5.0
CIRR	**Tsirk**	**2.68**	**3**	*e*P		Pn	15 35 21.2	+1.1
ESO	**Esso**	**2.69**	**338**	*e*P		Pn	15 35 21.7	+1.6
KBTR	**Krutoberegovo**	**3.09**	**25**	*e*P		Pn	15 35 27.4	+1.9

IDC 20 15:47:34.9±1.3, 6°.61S×128°.47E, h269km±18km, mb2.8/1, mb1 3.3/5, mb1mx2.9/32, mbtmp3.8/5, Error ellipse: s-maj=22.8km s-min=13.2km az=113.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.95**	**233**	P		Pn	15 49 04.2	+1.4
	4.4nm,0.3s,baz=90,slow=3.0,SNR=5.1							
BATI				S		S	15 50 13.0	-0.4
	5.6nm,0.3s,baz=29,slow=19,SNR=9.5							
SIJI	**Sorong**	**6.35**	**26**	P		Pn	15 49 09.7	+2.0
	0.2nm,0.3s,baz=163,slow=19,SNR=7.0							
SIJI				S		S	15 50 20.7	-1.7
	0.4nm,0.3s,baz=201,slow=23,SNR=6.1							
WRA	**Warramunga Arr**	**14.43**	**157**	P		P	15 50 46.0	-1.4
	0.4nm,0.3s,baz=333,slow=13,SNR=42							
WRA				S		S	15 53 29.9	+3.1
	0.1nm,0.3s,baz=330,slow=25,SNR=3.1							
ASAR	**Alice Springs**	**17.75**	**163**	P		P	15 51 23.4	-0.3
	1.0nm,0.3s,baz=343,slow=11,SNR=80							
MKAR	**Makanchi Array**	**67.07**	**327**	P		P	15 57 59.5	0.0
	0.1nm,0.3s,baz=115,slow=7.6,SNR=5.8							

*IDC **20** 16:10:37.5±0.6, 5°.73S×151°.68E, h0km, mb4.4/17, mb1 4.6/19, mb1mx4.3/44, mbtmp4.5/19, ML3.9/2, MS3.6/7, Ms1 3.6/7, ms1mx3.1/35, Error ellipse: s-maj=18.1km s-min=14.3km az=95.0*
*NEIC **20** 16:10:38.7±0.3, 5°.79S×151°.73E, h10km, mb4.7/11, Error ellipse: s-maj=8.4km s-min=5.8km az=123.0*
*BJI **20** 16:10:40.6, 5°.80S×151°.80E, h28km, mb4.6/18, mB5.0/11, Ms5.0/2, Ms7 4.7/3*
*ISCJB **20** 16:10:41.3±0.3, 5°.83S±0°.04×151°.67E±0°.05, h41km, mb4.7/30, MS4.0/8, Error ellipse: s-maj=7.6km s-min=4.7km az=25.3*
*DJA **20** 16:10:55.3±2.1, 6°.5S±11°.×15°.1E±1°.5, h101km±11km, M5.1/14, mb5.1/14, mB5.5/4, MLv5.2/1, Mw(mB)5.0/4*

ISC 20 16:10:43.2±0.4, 5°.82S±0°.06×151°.71E±0°.06, h41km, n102, σ1s39/102, mb4.8/30, MS3.8/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.68**	**16**	*e*Pn		**Pn**	**16 11 10.5**	**+0.3**
MANU	**Manus Island**	**5.73**	**311**	*e*Pn		**Pn**	**16 12 03.8**	**-2.0**
PMG	**Port Moresby**	**5.74**	**231**	Pn		**Pn**	**16 12 06.2**	**+0.3**
	66nm,0.3s,baz=44,slow=10,SNR=150							
PMG				Sn		**Sn**	**16 13 12.8**	**+2.1**
	32nm,0.3s,baz=147,slow=9.1,SNR=4.3							
PMG				LR		LR	16 13 56.0	
	comp=Z,276nm,19.7s,baz=66,slow=34							
HNR	**Honiara**	**8.92**	**114**	Pn		**Pn**	**16 12 50.1**	**+0.6**
	6.1nm,0.3s,baz=153,slow=2.3,SNR=5.4							
HNR	**Honiara**	**8.92**	**114**	*e*Pn		**Pn**	**16 12 45.2**	**-4.4**
JAY	**Jayapura**	**11.46**	**286**	LR		LR	16 17 12.0	
	comp=Z,193nm,18.4s,baz=352,slow=35							
JAY	**Jayapura**	**11.46**	**286**	P		Pn	16 13 32.7	+8.3
COEN	**Coen**	**11.66**	**225**	P		**Pn**	**16 13 25.5**	**-1.6**
	baz=12,SNR=7.3							
COEN	**Coen**	**11.66**	**225**	*e*Pn		**Pn**	**16 13 26.2**	**-0.8**
PATS	**Pohnpei**	**14.20**	**28**	*e*Pn		**Pn**	**16 14 01.4**	**-0.4**
MTSU	**Mount Surprise**	**14.21**	**210**	P		**Pn**	**16 14 00.1**	**-1.8**
	baz=14,SNR=8.8							
CTA	**Charters Tower**	**15.14**	**200**	Pn		**P**	**16 14 18.9**	**+0.1**
	0.5nm,0.3s,baz=26,slow=13,SNR=10							
CTAO	**Charters Tower**	**15.14**	**200**	*e*Pn		**Pn**	**16 14 15.4**	**+1.1**
	10.0nm,1.0s							
QIS	**Mount Isa**	**18.78**	**218**	P		**P**	**16 14 58.5**	**-0.6**
	baz=19,SNR=36							
EIDS	**Eidsvold**	**19.45**	**182**	*e*P		**P**	**16 15 06.1**	**-0.3**
	84nm,1.9s							
FAKI	**Fak Fak**	**19.61**	**278**	*e*P		**P**	**16 15 08.1**	**-0.2**
	7.4nm,0.7s							
KDU	**Kakadu**	**20.16**	**249**	P		**P**	**16 15 13.9**	**-0.4**
	baz=20,SNR=26							
SAUI	**Saumlaki**	**20.37**	**263**	*e*P		Pn	16 15 17.9	-0.9
	105nm,0.7s							
SAUI	**Saumlaki**	**20.37**	**263**	P		Pn	16 15 18.2	-0.7
RMQ	**Roma**	**20.74**	**187**	P		**P**	**16 15 19.4**	**-1.1**
	baz=21,SNR=4.9							
SIJI	**Sorong**	**20.99**	**283**	P		**P**	**16 15 23.6**	**+0.4**
	9.1nm,0.4s,baz=66,slow=6.0,SNR=12							
MTN	**Manton Dam**	**21.45**	**250**	P		**P**	**16 15 27.8**	**-0.4**
	baz=22,SNR=20							
MTN	**Manton Dam**	**21.45**	**250**	*e*P		**P**	**16 15 26.9**	**-1.4**
	49nm,0.8s							
DZM	**Mont Dzumac**	**21.54**	**140**	P		**P**	**16 15 31.1**	**+2.0**
	2.1nm,0.6s,baz=347,slow=18,SNR=5.2							
DZM				LR		LR	16 22 16.9	
	comp=Z,109nm,18.8s,baz=350,slow=32							
BNDI	**Bandanaira**	**21.75**	**272**	P		**P**	**16 15 32.0**	**+0.6**
QLP	**Quilpie**	**21.84**	**198**	P		**P**	**16 15 33.1**	**+0.8**
	baz=22,SNR=18							
WRAB	**Tennant Creek**	**21.94**	**229**	*e*P		**P**	**16 15 32.5**	**-0.9**
	44nm,0.6s							
WB2	**Warramunga Arr**	**21.95**	**229**	*e*P		**P**	**16 15 32.6**	**-0.9**
WRA	**Warramunga Arr**	**21.96**	**229**	P		**P**	**16 15 33.1**	**-0.5**
	70nm,1.0s,baz=53,slow=10,SNR=102							
WRA				S		**S**	**16 19 35.0**	**+1.0**
	0.3nm,0.6s,baz=54,slow=14,SNR=3.3							
WRA				ScP		**ScP**	**16 23 10.5**	**+4.7**
	0.3nm,0.6s,baz=45,slow=2.4,SNR=4.6							
KNRA	**Kununurra**	**24.55**	**245**	P		**P**	**16 15 59.3**	**-0.1**
	baz=25,SNR=21							
AS01	**Alice Springs**	**24.63**	**222**	*e*P		**P**	**16 16 00.0**	**-0.1**
AS31	**Alice Springs**	**24.66**	**222**	*

	283nm,1.6s								
KSRS	**Korea Array**	**48.44**	**335**	P		**P**		**16 19 22.2**	**+0.7**
	1.1nm,0.7s,baz=140,slow=7.4,SNR=5.0								
KSAR	**Wonju Array Be**	**48.44**	**335**	P		**P**		**16 19 22.2**	**+0.6**
NJ2	**Nanjing**	**48.97**	**322**	*e*P		**P**		**16 19 26.1**	**+0.4**
NJ2					pmax	pmax			
	comp=Z,9.0nm,0.9s								
MNSI	**Mandailing Nat**	**52.46**	**275**	P		**P**		**16 19 50.6**	**-1.8**
CN2	**Changchun**	**54.80**	**337**	*e*P		**P**		**16 20 11.5**	**+2.5**
CM01	**Chiang Mai Arr**	**57.31**	**296**	*e*P		**P**		**16 20 26.6**	**-0.8**
CMAR	**Chiang Mai Arr**	**57.34**	**296**	P		**P**		**16 20 28.0**	**+0.4**
	0.8nm,0.4s,baz=120,slow=5.1,SNR=9.5								
CD2	**Chengdu**	**58.59**	**312**	*e*P		**P**		**16 20 36.5**	**+0.3**
PETK	**Petropavlovsk-**	**58.93**	**4**	P		**P**		**16 20 38.4**	**+0.3**
	2.3nm,0.6s,baz=162,slow=8.0,SNR=6.6								
HHC	**Hu-ho-hao-te**	**59.25**	**325**	*e*P		**P**		**16 20 43.6**	**+2.9**
HHC					pmax	pmax			
	comp=Z,22nm,1.2s								
LZH	**Lanzhou**	**61.21**	**317**	*e*P		**P**		**16 20 57.3**	**+3.0**
LZH				pP		pP		16 21 07.9	+1.6
LZH				sP		sP		16 21 11.9	+0.8
LZH				SS		SS		16 33 12.0	-0.4
LZH					pmax	pmax			
	comp=Z,52nm,1.1s								
LZH					pmax	pmax			
	comp=Z,210nm,4.6s								
LZH					LR	LR			
	comp=N,350nm,14.6s								
LZH					LR	LR			
	comp=E,490nm,14.9s								
LZH					LR	LR			
	comp=Z,480nm,15.7s								
SONM	**Songino Array**	**66.61**	**329**	P		**P**		**16 21 29.8**	**+0.2**
	1.9nm,0.8s,baz=143,slow=4.2,SNR=7.0								
SONA1	**Songino Array**	**66.62**	**329**	*e*P		**P**		**16 21 29.3**	**-0.3**
ODAN	**Odare**	**70.13**	**301**	*e*P		**P**		**16 21 51.6**	**-0.5**
JIRN	**Jiri**	**71.39**	**302**	*e*P		**P**		**16 21 59.1**	**-0.8**
GUN	**Gumba**	**71.72**	**302**	*e*P		**P**		**16 22 01.2**	**-0.7**
	14nm,0.7s								
VNDA	**Vanda**	**71.86**	**178**	P		**P**		**16 22 02.6**	**+1.2**
	3.5nm,0.8s,baz=334,slow=6.7,SNR=29								
VNDA	**Vanda**	**71.86**	**178**	*e*P		**P**		**16 22 02.2**	**+0.8**
	4.2nm,0.9s								
KKN	**Kakani**	**72.20**	**301**	*e*P		**P**		**16 22 03.6**	**-1.0**
DMN	**Daman**	**72.29**	**301**	*e*P		**P**		**16 22 04.6**	**-0.7**
	17nm,0.9s								
KOLN	**Koldanda**	**73.62**	**301**	*e*P		**P**		**16 22 11.9**	**-1.1**
	8.5nm,0.7s								
DANN	**Dangsing**	**73.64**	**302**	*e*P		**P**		**16 22 12.1**	**-1.2**
	8.2nm,0.6s								
PYUN	**Piuthan**	**74.23**	**301**	*e*P		**P**		**16 22 15.4**	**-1.2**
	14nm,0.8s								
WMQ	**Urumqi**	**75.76**	**318**	*e*P		**P**		**16 22 25.8**	**+0.9**
WMQ					LR	LR			
	comp=Z,140nm,20.5s								
MKAR	**Makanchi Array**	**80.38**	**319**	P		**P**		**16 22 49.8**	**-0.7**
	1.1nm,0.9s,baz=99,slow=6.1,SNR=7.3								
ZALV	**Zalesovo Beam**	**81.40**	**327**	P		**P**		**16 22 54.7**	**-1.0**
	1.7nm,0.4s,baz=112,slow=6.4,SNR=8.2								
ZALV	**Zalesovo Beam**	**81.40**	**327**	*e*P		**P**		**16 22 53.9**	**-1.7**
IM3	**Indian Mountai**	**81.71**	**20**	*e*P		**P**		**16 22 56.3**	**-0.7**
MLY	**Manley**	**82.22**	**21**	*e*P		**P**		**16 22 59.9**	**+0.1**
	5.5nm,0.6s								
KSH	**Kashi**	**82.78**	**311**	*e*P		**P**		**16 23 06.1**	**+2.7**
KSH				S		**S**		**16 33 20.4**	**+1.6**
KSH					pmax	pmax			
	comp=Z,340nm,5.7s								
KSH					LR	LR			
	comp=Z,390nm,10.2s								
ILAR	**Eielson Array**	**83.51**	**22**	P		**P**		**16 23 05.8**	**-0.7**
	2.5nm,0.6s,baz=248,slow=5.0,SNR=9.8								
ILB	**Eielson Array**	**83.51**	**22**	*e*P		**P**		**16 23 05.3**	**-1.2**
IL1	**Eielson Array**	**83.51**	**22**	*e*P		**P**		**16 23 05.7**	**-0.7**
DOT	**Dot Lake**	**84.10**	**24**	*e*P		**P**		**16 23 09.1**	**-0.4**
	15nm,1.0s								
MAW	**Mawson**	**84.21**	**203**	P		**P**		**16 23 10.3**	**+0.3**
	1.4nm,0.5s,baz=106,slow=5.8,SNR=5.4								
NRIK	**Noril'sk**	**86.58**	**341**	P		**P**		**16 23 20.4**	**-1.3**
	1.8nm,0.6s,baz=91,slow=8.5,SNR=3.8								
EBG	**Ellensburg**	**92.65**	**43**	*e*P		**P**		**16 23 48.8**	**-2.1**
NVAR	**Mina Array Bea**	**93.57**	**52**	P		**P**		**16 23 56.0**	**+0.5**
	0.5nm,0.5s,baz=251,slow=5.6,SNR=3.7								
PDAR	**Pinedale Array**	**100.34**	**48**	P		**Pdif**		**16 24 26.3**	**+0.2**
	0.1nm,0.4s,baz=333,slow=0.2,SNR=2.5								
GERES	**GERESS Array B**	**124.34**	**328**	PKP		**PKPdf**		**16 29 38.0**	**0.0**
	1.5nm,0.6s,baz=62,slow=2.1,SNR=14								

SJA ***20*** *16:23:18.7±0.4,33.°94S×72.°82W,h10km±4km,ML5.6, MW3.8*

IDC ***20*** *16:23:22.8±0.4,33.°88S×72.°12W,h0km,mb5.0/22, mb1 5.1/25,mb1mx5.0/39,mbtmp5.0/25,ML5.0/3,MS4.9/24, Ms1 4.9/24,ms1mx4.8/31,Error ellipse: s-maj=17.4km s-min=11.8km az=87.0*

GUC ***20*** *16:23:23.8±0.5,33.°98S×72.°28W,h10km±8km,ML5.3*

ISCJB ***20*** *16:23:24.7±1.0,33.°94S±0.°02×72.°43W±0.°04,h23km±7km, mb5.3/225,MS5.2/129,Error ellipse: s-maj=5.3km s-min=3.7km az=7.7*

NEIC ***20*** *16:23:24.8±0.5,33.°92S×72.°25W,h16km±3km,mb5.4/212, MS5.2/100,ML5.3(GUC),Error ellipse: s-maj=4.7km s-min=2.6km az=78.0*

NEIC Felt [V] at Constitucion, Litueche, Longavi and Pichilemu; [IV] at Cauquenes, Curico, Hualane, Iloca, Linares, Lolol, Navidad, Paredones, Pelarco, Pencahue, Rio Claro, Romeral, Sagrada Familia, San Clemente, Santa Cruz, Santo Domingo and Talca; [III] at Algarrobo, Cartagena, Casablanca, Chanco, Colbun, Maule, Melipilla, Parral, Pelluhue, Rancagua, San Antonio, San Fernando, Santiago and Valparaiso. Felt in many parts of central Chile.

MOS ***20*** *16:23:24.9±1.3,33.°86S×72.°35W,h21km,mb5.5/51, MS5.2/7,Error ellipse: s-maj=12.0km s-min=6.3km az=96.8*

BJI ***20*** *16:23:26.2,33.°90S×72.°30W,h20km,mB5.5/19,Ms5.5/21, Ms7 5.3/21*

GCMT ***20*** *16:23:28.8±0.1,33.°99S±0.°01×72.°40W±0.°01,h19km, MW5.4/105,Moment Tensor Solution. s89,c130; s105,c179; Duration: 1ś3 Moment tensor: Scale 10^{17} Nm; M_{rr}1.00±.03; $M_{\theta\theta}$0.07±.02; $M_{\phi\phi}$-1.07±.02; $M_{r\theta}$-0.10±.04; $M_{r\phi}$-0.21±.01; $M_{\theta\phi}$-1.32±.06; Best double couple: M_o1.69300×10^{17} NP1:ϕ_s185.00000°,δ71.00000°, λ87.00000°. NP2:ϕ_s16.00000°,δ20.00000°,λ100.00000°. Principal axes: T 1.6420, Plg64.0000°, Azm90.0000°; N 0.1010, Plg3.0000°, Azm187.0000°; P -1.7430, Plg26.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 16:23:26.2±0.7,33.°93S±0.°03×72.°33W±0.°04,h24km±4km, n1038,σ1ś28/999,mb5.3/225,MS5.2/129,13C-10D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GO05	**HualaæØ**	**1.13**	**163**	*e*P	g	**Pn**	**16 23 45.0**	**-1.5**
GO05				*e*S	n	**Sb**	**16 23 59.8**	**-1.5**
GO05	**HualaæØ**	**1.13**	**163**	*e*P		**Pn**	**16 23 43.3**	**-3.2**
GO05				*e*S		**Sn**	**16 24 01.0**	**-0.2**
GO05	**HualaæØ**	**1.13**	**163**	*e*P		**Pn**	**16 23 44.7**	**-1.8**
GO05				*e*S		**Sb**	**16 24 00.0**	**-1.2**
GO05				IAML			16 24 02.0	
	comp=E,185μm,0.7s							
ROC1	**El Roble**	**1.46**	**49**	*e*Pn		**Pn**	**16 23 51.1**	**-0.2**
ROC1	**El Roble**	**1.46**	**49**	*e*P		**Pb**	**16 23 52.0**	**-0.8**
ANTU	**Antumapu**	**1.46**	**76**	*e*P		**Pn**	**16 23 50.5**	**-0.6**
ROCH	**El Roble**	**1.46**	**49**	*e*P		**Pn**	**16 23 50.7**	**-0.6**
ROCH				*e*S		**Sb**	**16 24 12.4**	**+1.3**
PEL	**Peldehue**	**1.59**	**61**	*e*Pn		**Pn**	**16 23 53.0**	**+0.2**
PEL	**Peldehue**	**1.59**	**61**	*i*P		**Pn**	**16 23 53.0**	**+0.2**
PEL				*e*S		**Sb**	**16 24 15.3**	**+0.8**
PEL				IAML			16 24 24.1	
	comp=N,89μm,0.5s							
PEL	**Peldehue**	**1.59**	**61**	*e*P		**Pn**	**16 23 53.0**	**+0.2**
CLCH	**Cerro Calan**	**1.59**	**71**	*e*P		**Pn**	**16 23 52.7**	**-0.2**
CLCH				IAML			16 24 29.1	
	comp=N,54μm,0.5s							
LMEL	**Las Melosas**	**1.77**	**88**	*e*P		**Pn**	**16 23 55.4**	**-0.1**
LMEL				*e*S		**Sb**	**16 24 19.6**	**-0.4**
LMEL				IAML			16 24 24.2	
	comp=N,38μm,0.7s							

FCH	**Farellones**	**1.81**	**71**	*e*P		**Pn**		**16 23 56.0**	**-0.2**
FCH				*e*S		**Sb**		**16 24 21.4**	**+0.2**
CCHI	**Chillan**	**2.67**	**176**	*e*P		**Pn**		**16 24 08.7**	**+1.0**
AUSP	**Uspallata**	**3.00**	**56**	*e*P		**Pn**		**16 24 14.7**	**+2.2**
ARCO	**CERRO ARCO**	**3.05**	**70**	*e*P		**Pn**		**16 24 15.3**	**+2.3**
AAGR	**Agrelo**	**3.05**	**75**	*e*P		**Pn**		**16 24 15.9**	**+2.9**
ASAL	**Salagasta**	**3.22**	**66**	*e*P		**Pn**		**16 24 17.8**	**+2.4**
RFA	**San Rafael**	**3.31**	**106**	*e*P		**Pn**		**16 24 19.0**	**+2.5**
RFA				*e*S		**Sb**		**16 25 03.7**	**-0.3**
RTLS	**Leoncito**	**3.33**	**51**	*e*P		**Pn**		**16 24 19.1**	**+2.1**
RTLS				*e*S		**Sb**		**16 25 03.8**	**-1.0**
RTLS				IAML				16 25 17.2	
	comp=Z,8μm,0.7s								
RTCV	**Cerro Valdivia**	**3.80**	**58**	*e*P		**Pn**		**16 24 25.5**	**+2.2**
GO04	**Tololo Observa**	**3.97**	**20**	*e*Pn		**Pn**		**16 24 24.9**	**-0.9**
GO04	**Tololo Observa**	**3.97**	**20**	*e*P		**Pn**		**16 24 24.8**	**-0.9**
CANA	**Caviahue**	**4.08**	**166**	*e*P		**Pn**		**16 24 26.3**	**-0.9**
ACCO	**Cerro Coronel**	**4.33**	**41**	*e*P		**Pn**		**16 24 32.9**	**+2.0**
AMOG	**MOGNA**	**4.41**	**48**	*e*P		**Pn**		**16 24 33.7**	**+2.0**
AROD	**Rodeo**	**4.47**	**34**	*e*P		**Pn**		**16 24 34.2**	**+1.4**
ACAN	**Cantantal**	**4.62**	**70**	*e*P		**Pn**		**16 24 37.7**	**+3.1**
ACAN				*e*S		**Sb**		**16 25 36.2**	**-5.7**
ACDV	**Cuesta del Vie**	**4.64**	**37**	*e*P		**Pn**		**16 24 36.3**	**+1.4**
LCO	**Las Campanas**	**5.10**	**16**	*e*Pn		**Pn**		**16 24 40.1**	**-1.2**
LCO	**Las Campanas**	**5.10**	**16**	*e*P		**Pn**		**16 24 40.8**	**-0.5**
LCO	**Las Campanas**	**5.10**	**16**	*c*eP		**Pn**		**16 24 40.3**	**-1.1**
AGUA	**GUANDACOL**	**5.51**	**37**	*e*P		**Pn**		**16 24 48.1**	**+1.3**
GO06	**Curarrehue**	**5.68**	**173**	*e*Pn		**Pn**		**16 24 49.2**	**0.0**
MRA	**San Martin**	**5.75**	**77**	*e*P		**Pn**		**16 24 53.1**	**+3.0**
GO03	**Copiap**	**6.57**	**17**	*e*Pn		**Pn**		**16 24 59.6**	**-1.8**
PLCA	**Paso Flores**	**6.94**	**169**	Pn		**Pn**		**16 25 06.2**	**-0.1**
	comp=Z,12nm,0.3s,baz=2.2,slow=10,SNR=281								
PLCA					Lg	Lg		16 27 02.1	
	comp=Z,5.8nm,0.3s,baz=271,slow=21,SNR=4.7								
PLCA					LR	LR		16 27 42.9	
	comp=Z,6μm,19.7s,baz=12,slow=37								
PLCA	**Paso Flores**	**6.94**	**169**	*e*P		**Pn**		**16 25 05.2**	**-1.1**
PLCA	**Paso Flores**	**6.94**	**169**	*e*P		**Pn**		**16 25 06.1**	**-0.2**
CYA	**Choya**	**7.83**	**47**	IAML				16 27 54.7	
	comp=Z,442nm,0.7s								
GO02	**Mina Guanaco**	**9.06**	**16**	*e*Pn		**Pn**		**16 25 32.0**	**-3.8**
GO07	**Milladeo Hill,**	**9.23**	**186**	*e*Pn		**Pn**		**16 25 35.2**	**-2.5**
TRQA	**Tornquist**	**9.34**	**119**	*e*Pn		**Pn**		**16 25 40.0**	**+0.6**
TRQA	**Tornquist**	**9.34**	**119**	*c*eP		**Pn**		**16 25 40.1**	**+0.8**
TRQA					pmax	pmax			
	comp=Z,235nm,1.7s								
PB10	**IPOC Station P**	**10.50**	**9**	*e*Pn		**Pn**		**16 25 51.2**	**-4.0**
LVC	**Limon Verde**	**11.68**	**16**	Pn		**Pn**		**16 26 06.9**	**-4.7**
	comp=Z,2.5nm,0.3s,baz=184,slow=7.7,SNR=20								
LVC					Lg	Lg		16 29 22.2	
	comp=Z,9.3nm,0.3s,baz=90,slow=24,SNR=4.5								
LVC					LR	LR		16 30 45.4	
	comp=Z,6μm,19.9s,baz=204,slow=38								
LVC	**Limon Verde**	**11.68**	**16**	*e*Pn		Pn		16 26 06.1	-5.6
LVC				Lg		Lg		16 29 22.2	
LVC	**Limon Verde**	**11.68**	**16**	*c*eP		**Pn**		**16 26 08.7**	**-2.9**
LVC					pmax	pmax			
	comp=Z,5.0nm,0.6s								
PB04	**IPOC Station P**	**11.71**	**10**	*e*Pn		Pn		16 26 06.8	-5.2
LPA	**La Plata**	**11.94**	**99**	*c*eP		**Pn**		**16 26 15.0**	**+0.2**
LPA				*e*PP		**PnPn**		**16 26 22.0**	**-0.5**
LPA				*e*pPP				16 26 26.0	
LPA				*e*PP		**PbPb**		**16 26 53.0**	**-1.3**
LPA				*e*PPP		PPP		16 26 58.0	
LPA				*e*S		**Sn**		**16 28 27.0**	**-0.1**
LPA				*e*sS				16 28 34.0	
LPA				*e*SS		**SnSn**		**16 28 41.0**	**+2.0**
LPA				*e*SSS		SSS		16 28 53.0	
LPA				*e*SS		**SbSb**		**16 29 25.0**	**+7.7**
LPA				*e*SSS		SSS		16 29 30.0	
LPA				*e*SS				16 29 57.0	
LPA				*e*PCP		**PcP**		**16 32 01.0**	**+0.4**
LPA				*e*SCS		**ScS**		**16 39 08.0**	**+0.3**
LPA				*e*PKIKP		**PKiKP**		**16 39 58.0**	**-0.6**
LPA				*e*SKIKP				16 43 28.0	
LPA				*e*PKIKS				16 43 32.0	
LPA				*e*SKIKS				16 47 02.0	
PB01	**IPOC Station P**	**13.09**	**12**	*e*Pn		Pn		16 26 24.1	-6.5
CHRN	**Cochrane**	**13.30**	**181**	*e*Pn		Pn		16 26 28.4	-5.1
PB11	**IPOC Station P**	**14.31**	**10**	*e*Pn		**Pn**		**16 26 43.2**	**-4.3**
GO01	**Chusmiza**	**14.48**	**12**	*e*Pn		Pn		16 26 44.9	-5.2
MNMC	**Minye Minye**	**14.94**	**10**	*e*Pn		**Pn**		**16 26 55.4**	**-0.8**
CPUP	**Villa Florida**	**15.02**	**64**	Pn		**Pn**		**16 26 52.1**	**-4.8**
	comp=Z,0.2nm,0.3s,baz=245,slow=11,SNR=6.2								
CPUP					Lg	Lg		16 31 01.5	
	comp=Z,0.8nm,0.3s,baz=315,slow=18,SNR=4.7								
CPUP					LR	LR		16 33 33.1	
	comp=Z,8μm,18.7s,baz=240,slow=41								
CPUP	**Villa Florida**	**15.02**	**64**	*e*Pn		**Pn**		**16 26 52.7**	**-4.2**
	comp=Z,64nm,0.7s								
CPUP					Lg	Lg		16 31 01.5	
CPUP	**Villa Florida**	**15.02**	**64**	*e*P		**Pn**		**16 26 52.7**	**-4.2**
CPUP					pmax	pmax			
	comp=Z,64nm,0.7s								
GO09	**Cerro Castillo**	**17.33**	**180**	*e*P		**P**		**16 27 27.9**	**+0.3**
	comp=Z,244nm,1.4s								
LPAZ	**La Paz**	**17.97**	**13**	P		**Pn**		**16 27 33.8**	**-1.3**
	comp=Z,3.6nm,0.3s,baz=193,slow=6.7,SNR=153								
LPAZ	**La Paz**	**17.97**	**13**	*e*Pn		**Pn**		**16 27 34.6**	**-0.5**
	comp=Z,103nm,0.8s								
LPAZ	**La Paz**	**17.97**	**13**	*e*P		**Pn**		**16 27 34.6**	**-0.5**
LPAZ					pmax	pmax			
	comp=Z,103nm,0.8s								
GO10	**Punta Arenas**	**19.24**	**178**	*e*P		**Pn**		**16 27 49.5**	**-0.1**
	comp=Z,259nm,1.1s								
EFI	**East Falkland**	**20.53**	**154**	*e*P		**P**		**16 28 01.1**	**-1.4**
	comp=Z,118nm,0.6s								
EFI					LR	LR			
	comp=Z,4μm,18.0s								
EFI	**East Falkland**	**20.53**	**154**	*d*iP		**P**		**16 28 01.9**	**-0.7**
EFI					pmax	pmax			
	comp=Z,64nm,0.8s								
SIV	**San Ignacio**	**20.55**	**32**	P		**P**		**16 28 01.9**	**-1.2**
	comp=Z,52nm,0.7s,baz=226,slow=10.0,SNR=212								
SIV					LR	LR		16 37 24.2	
	comp=Z,8μm,18.8s,baz=226,slow=41								
USHA	**Ushuaia**	**21.07**	**174**	P		**P**		**16 28 09.8**	**+1.4**
	comp=Z,18nm,0.6s,baz=346,slow=11,SNR=14								
NNA	**Nana**	**22.23**	**348**	P		**P**		**16 28 22.3**	**+1.1**
	comp=Z,34nm,0.8s,baz=181,slow=11,SNR=10.0								
NNA					LR	LR		16 34 59.9	
	comp=Z,788nm,20.0s,baz=168,slow=31								
NNA	**Nana**	**22.23**	**348**	*e*P		**P**		**16 28 22.2**	**+1.1**
	comp=Z,136nm,1.3s								
NNA	**Nana**	**22.23**	**348**	*e*P		**P**		**16 28 22.2**	**+1.0**
NNA					pmax	pmax			
	comp=Z,136nm,1.3s								
SPB	**Sao Paulo**	**24.08**	**71**	*e*P		**P**		**16 28 38.5**	**-1.3**
	comp=Z,241nm,0.9s								
SPB					LR	LR			
	comp=Z,20μm,18.0s								
SAML	**Samuel**	**26.25**	**21**	*e*P		**P**		**16 28 58.9**	**-0.6**
	comp=Z,67nm,0.9s								
SAML					LR	LR			
	comp=Z,4μm,20.0s								
SAML	**Samuel**	**26.25**	**21**	*c*eP		**P**		**16 28 59.7**	**+0.1**
SAML					pmax	pmax			
	comp=Z,37nm,1.3s								
ATAH	**Atahualpa**	**27.25**	**347**	LR		LR		16 37 57.2	
	comp=Z,1μm,19.9s,baz=187,slow=32								
BDFB	**Brasilia**	**28.50**	**56**	P		**P**		**16 29 18.9**	**-1.0**
	comp=Z,40nm,0.7s,baz=229,slow=8.9,SNR=44								
BDFB					LR	LR		16 41 36.5	
	comp=Z,5μm,20.1s,baz=227,slow=39								
BDFB	**Brasilia**	**28.50**	**56**	*e*P		**P**		**16 29 19.1**	**-0.8**
	comp=Z,85nm,0.8s								
BDFB	**Brasilia**	**28.50**	**56**	*e*P		**P**		**16 29 19.1**	**-0.8**
BDFB					pmax	pmax			
	comp=Z,85nm,0.8s								
PMSA	**Palmer Station**	**31.28**	**173**	PFAKE				16 30 00.0	+16
PMSA					LR	LR			
	comp=Z,3μm,22.0s								
HOPE	**Hope Point**	**32.30**	**140**	*e*P		**P**		**16 29 53.6**	**+0.6**
	comp=Z,93nm,0.8s								
HOPE					LR	LR			
	comp=Z,3μm,20.0s								
RPN	**Rapa Nui**	**32.46**	**272**	PFAKE				16 30 10.0	+15
RPN					LR	LR			
	comp=Z,5μm,19.0s								
OTAV	**Otavalo**	**34.47**	**349**	*e*P		**P**		**16 30 12.3**	**-0.5**
	comp=Z,42nm,1.6s								
OTAV					LR	LR			
	comp=Z,1μm,18.0s								
OTAV	**Otavalo**	**34.47**	**349**	*e*P		**P**		**16 30 15.0**	**+2.2**

OTAV	**Otavalo**	**34.47**	**349**	*e*P		**P**		**16 30 12.3**	**-0.5**
OTAV					pmax	pmax			
	comp=Z,42nm,1.6s								
OTAV					MLR	MLR			
	comp=Z,1μm,18.0s								
PTGA	**Pitinga**	**35.00**	**22**	P		**P**		**16 30 16.4**	**-0.5**
	comp=Z,36nm,0.9s,baz=199,slow=9.1,SNR=56								
PTGA	**Pitinga**	**35.00**	**22**	*e*P		**P**		**16 30 15.8**	**-1.1**
	comp=Z,108nm,1.3s								
PTGA					LR	LR			
	comp=Z,2μm,18.0s								
PAYG	**Puerto Ayora**	**37.12**	**329**	PFAKE				16 30 50.0	+15
PAYG					LR	LR			
	comp=Z,2μm,19.0s								
PRAC	**Prado**	**37.52**	**356**	*e*P		**P**		**16 30 41.1**	**+2.7**
CHIC	**Chingaza**	**38.38**	**358**	*e*P		**P**		**16 30 48.8**	**+2.7**
ROSC	**El Rosal**	**38.61**	**357**	LR		LR		16 47 13.0	
	comp=Z,1μm,18.0s,baz=216,slow=37								
RREF	**El Recreo**	**38.73**	**355**	*e*P		P		16 30 55.8	+6.6
NORC	**Norcasia**	**39.35**	**356**	*e*P		**P**		**16 30 56.3**	**+2.5**
RUSC	**La Rusia**	**39.61**	**359**	*e*P		**P**		**16 30 57.8**	**+1.3**
HELC	**Santa Helena**	**40.02**	**355**	*e*P		**P**		**16 31 00.7**	**+1.0**
TAMC	**Tame, Arauca**	**40.15**	**1**	*e*P		**P**		**16 31 01.6**	**+1.2**
PTBC	**PUERTO BERRIO,**	**40.30**	**357**	*e*P		**P**		**16 30 59.1**	**-2.5**
DBBC	**Dabeiba**	**40.89**	**354**	*e*P		**P**		**16 31 09.0**	**+2.4**
PAMC	**Pamplona, Colo**	**41.05**	**359**	*e*P		P		16 31 19.3	+11
ZARC	**Zaragoza, Cauc**	**41.27**	**356**	*e*P		**P**		**16 31 09.6**	**0.0**
SMLC	**San Mart`›n de**	**42.53**	**357**	*e*P		**P**		**16 31 19.8**	**-0.1**
MOTC	**Monteria, Cord**	**42.59**	**355**	*e*P		P		16 31 26.9	+6.5
SDV	**Santo Domingo**	**42.61**	**2**	*e*P		**P**		**16 31 20.9**	**+0.1**
	comp=Z,29nm,0.9s								
SDV					LR	LR			
	comp=Z,1μm,18.0s								
SDV	**Santo Domingo**	**42.61**	**2**	*e*P		**P**		**16 31 21.2**	**+0.4**
MDP	**Montagnes des**	**43.06**	**29**	P		**P**		**16 31 23.2**	**-1.1**
	comp=Z,41nm,0.6s,baz=202,slow=8.7,SNR=23								
CODC	**Agust`›n Codaz**	**43.64**	**358**	*e*P		**P**		**16 31 28.6**	**-0.2**
RCBR	**Riachuelo**	**43.82**	**59**	*e*P		**P**		**16 31 30.4**	**-0.1**
	comp=Z,48nm,0.9s								
RCBR					LR	LR			
	comp=Z,29μm,20.0s								
RCBR	**Riachuelo**	**43.82**	**59**	*e*P		**P**		**16 31 30.4**	**-0.1**
RCBR					pmax	pmax			
	comp=Z,48nm,0.9s								
RCBR					MLR	MLR			
	comp=Z,29μm,20.0s								
VNA3	**Neumayer Olymp**	**49.51**	**158**	P		**P**		**16 32 15.2**	**+0.9**
FDF	**Fort de France**	**49.55**	**14**	PFAKE				16 32 30.0	+15
FDF					LR	LR			
	comp=Z,2μm,22.0s								
VNA1	**Neumayer--Stat**	**49.83**	**157**	P		**P**		**16 32 18.4**	**+1.7**
VNA2	**Neumayer--Watz**	**50.17**	**157**	P		**P**		**16 32 20.1**	**+0.8**
	baz=282,slow=9.1								
SNAA	**Sanae**	**51.74**	**158**	P		**P**		**16 32 31.6**	**+0.4**
SNAA	**Sanae**	**51.74**	**158**	*e*P		**P**		**16 32 31.1**	**-0.1**
	comp=Z,178nm,1.3s								
SNAA					LR	LR			
	comp=Z,800nm,19.0s								
SNAA	**Sanae**	**51.74**	**158**	*c i*P		**P**		**16 32 31.2**	**0.0**
ICMP	**Isla Caja de M**	**51.83**	**7**	*e*P		**P**		**16 32 31.4**	**-0.9**
	comp=Z,139nm,1.0s								
CRPR	**Cabo Rojo, PR**	**51.89**	**6**	*e*P		**P**		**16 32 31.4**	**-1.3**
	comp=Z,197nm,0.9s								
SEUS	**St. Eustatius**	**51.91**	**11**	PFAKE				16 32 40.0	+7.1
SEUS					LR	LR			
	comp=Z,2μm,20.0s								
OBIP	**Obispado Ponce**	**51.97**	**7**	*e*P		**P**		**16 32 32.1**	**-1.2**
	comp=Z,89nm,0.8s								
SABA	**Saba**	**51.99**	**11**	*e*P		**P**		**16 32 32.7**	**-0.8**
	comp=Z,235nm,0.8s								
MPR	**Mayaguez**	**52.09**	**6**	*e*P		**P**		**16 32 33.4**	**-0.8**
	comp=Z,77nm,1.2s								
MPR					LR	LR			
	comp=Z,1μm,19.0s								
SJG	**San Juan**	**52.09**	**7**	P		**P**		**16 32 33.1**	**-1.1**
	comp=Z,17nm,0.5s,baz=150,slow=3.3,SNR=11								
SJG	**San Juan**	**52.09**	**7**	P		**P**		**16 32 33.1**	**-1.1**
SJG					LR	LR			
	comp=Z,1μm,19.0s								
SJG	**San Juan

VNDA Vanda 64.12 191 P P 16 33 59.9 +2.0
comp=Z,3.0nm,0.7s,baz=124,slow=6.7,SNR=21
VNDA LR LR 16 59 35.4
comp=Z,445nm,18.1s,baz=134,slow=34
VNDA Vanda 64.12 191 eP P 16 33 58.6 +0.8
comp=Z,23nm,1.2s
VNDA Vanda 64.12 191 eP P 16 33 58.7 +0.8
VNDA pmax pmax
comp=Z,23nm,1.2s
556A Lake Butler 64.30 350 P P 16 34 00.4 +0.9
baz=171
555A McAlpin 64.50 350 P P 16 34 01.4 +0.6
baz=170
554A Perry 64.57 349 P P 16 34 02.9 +1.7
baz=170
553A Crawfordville 64.79 348 P P 16 34 04.2 +1.5
baz=169
455A Stateville 65.11 350 P P 16 34 05.3 +0.5
baz=170
353A Camilla 65.89 349 P P 16 34 10.3 +0.5
baz=169
SYO Syowa Base 66.02 159|| eP P 16 34 09.4 -0.8
SYO Syowa Base 66.02 159|| epP P 16 34 11.8 +1.6
256A Glennville 66.18 351 P P 16 34 12.6 +1.0
baz=171
254A Abbeville 66.34 350 P P 16 34 12.7 0.0
baz=170
349A Repton 66.43 346 P P 16 34 13.8 +0.6
baz=166
252A Lumpkin 66.61 349 P P 16 34 15.5 +1.1
baz=169
TAOE Nuku Hiva Isla 66.72 275 eS S 16 43 05.0 -1.6
comp=Z,677nm,23.5s
TAOE Nuku Hiva Isla 66.72 275 eLR LR 16 54 28.3
comp=Z,1µm,22.6s
156A Sylvania 66.79 352 P P 16 34 15.4 -0.1
baz=172
251A Midway 66.82 348 P P 16 34 15.9 +0.2
baz=168
250A Grady 66.86 347 P P 16 34 15.8 -0.2
baz=167
155A Kite 66.89 351 P P 16 34 17.3 +1.1
baz=171
154A Montrose 66.97 350 P P 16 34 16.5 -0.1
baz=170
833A Chaparral WMA, 67.01 334 eP P 16 34 18.5 +1.5
comp=Z,63nm,0.8s
833A Chaparral WMA, 67.01 334 P P 16 34 18.0 +1.0
baz=156,SNR=14
TBI Tubuai 67.09 257 eS S 16 43 09.8 -0.9
comp=Z,551nm,25.0s
TBI Tubuai 67.09 257 eLR LR 16 54 36.3
comp=Z,3µm,27.0s,baz=118
TBI Tubuai 67.09 257 eT T 17 47 23.1
comp=Z,6.5nm,0.3s
151A Opelika 67.23 348 P P 16 34 19.9 +1.5
baz=168
248A Dixon Mills 67.26 346 P P 16 34 19.7 +1.2
baz=166
152A Waverly Hall 67.27 349 eP P 16 34 18.2 -0.4
comp=Z,65nm,1.7s
441A DeRidder 67.28 341 P P 16 34 19.8 +1.1
baz=161
HKT Hockley 67.31 338 eP P 16 34 19.6 +0.8
comp=Z,34nm,1.3s
HKT Hockley 67.31 338 eP P 16 34 19.6 +0.8
HKT pmax pmax
comp=Z,34nm,1.3s
343A Vidalia 67.37 342 P P 16 34 20.2 +1.0
baz=163
150A Eclectic 67.43 348 P P 16 34 20.5 +0.9
baz=168
Z54A Sparta 67.54 350 P P 16 34 20.7 +0.5
baz=170
342A Flagon Creek P 67.64 342 P P 16 34 22.1 +1.1
baz=162
Z53A Monticello 67.69 350 P P 16 34 22.3 +1.1
baz=170
Z52A Williamson 67.73 349 P P 16 34 22.1 +0.6
baz=169
GOGA Godfrey 67.80 350 eP P 16 34 22.5 +0.6
comp=Z,39nm,1.3s
GOGA Godfrey 67.80 350 eP P 16 34 22.5 +0.6
GOGA pmax pmax
comp=Z,39nm,1.3s
GOGA Godfrey 67.80 350 P P 16 34 22.1 +0.2
baz=170
244A Avery, Jackson 67.86 343 P P 16 34 22.9 +0.6
baz=164
LRAL Lakeview Retre 68.03 347 eP P 16 34 23.8 +0.4
comp=Z,19nm,1.1s
LRAL Lakeview Retre 68.03 347 P P 16 34 23.1 -0.3
baz=167
Z50A Ashland 68.04 348 eP P 16 34 22.8 -0.7
comp=Z,42nm,1.3s
Z50A Ashland 68.04 348 P P 16 34 23.2 -0.3
baz=168
146A Union 68.06 345 P P 16 34 23.4 -0.2
baz=165
Z49A Columbiana 68.09 347 P P 16 34 24.1 +0.3
baz=167
Y54A Tignall 68.14 351 P P 16 34 24.4 +0.4
baz=171
145A Houston Renfro 68.22 344 P P 16 34 25.0 +0.4
baz=164
Y53A Monroe 68.25 350 P P 16 34 25.3 +0.5
baz=170
HPIG 68.30 328 eP P 16 34 26.3 +0.8
comp=Z,94nm,1.5s
Y52A Lilburn 68.33 350 P P 16 34 25.6 +0.3
baz=170
Z47A Carrollton 68.40 346 P P 16 34 26.3 +0.6
baz=166
241A Mo Tay, Goldon 68.41 341 P P 16 34 26.5 +0.7
baz=162
Z48A Northport 68.47 346 P P 16 34 26.6 +0.5
baz=166
Y51A Rockmart 68.53 349 P P 16 34 26.8 +0.3
baz=169
Z46A Louisville 68.57 345 P P 16 34 27.4 +0.6
baz=165
Y50A Piedmont 68.63 348 P P 16 34 27.6 +0.5
baz=168
NATX Nacogdoches 68.65 340 eP P 16 34 27.7 +0.4
comp=Z,51nm,0.8s
NATX LR LR
comp=Z,400nm,22.0s
NATX Nacogdoches 68.65 340 P P 16 34 28.1 +0.8
baz=160
240A Hunter Patters 68.66 341 P P 16 34 28.0 +0.7
baz=161
143A Socs Landing, 68.67 343 eP P 16 34 27.8 +0.4
comp=Z,157nm,1.0s
143A Socs Landing, 68.67 343 P P 16 34 28.0 +0.7
baz=163
Y49A Blount Mountai 68.72 347 P P 16 34 27.8 +0.1
baz=167
X53A Estanollee 68.85 350 P P 16 34 29.0 +0.5
baz=170
Z45A Winona 68.91 344 P P 16 34 28.2 -0.6
baz=165
PAULI Pauline 68.97 352 eP P 16 34 29.3 +0.1
Y47A UCPARC, Winfie 69.03 346 P P 16 34 29.9 +0.3
baz=166,SNR=13
X52A Dahlonega 69.03 350 P P 16 34 29.7 0.0
baz=170
JCT Junction City 69.12 335 eP P 16 34 31.3 +1.0
comp=Z,83nm,1.1s
JCT Junction City 69.12 335 eP P 16 34 31.3 +1.0
JCT pmax pmax
comp=Z,83nm,1.1s
JCT Junction City 69.12 335 P P 16 34 30.8 +0.4
baz=156,SNR=15
X51A Calhoun 69.14 349 eP P 16 34 30.1 -0.2
comp=Z,56nm,1.0s
X51A Calhoun 69.14 349 P P 16 34 31.4 +1.1
baz=169
X50B Fort Payne 69.17 348 P P 16 34 31.4 +0.9
baz=168
Y46A Houston 69.22 345 P P 16 34 31.4 +0.6
baz=165
KMSC Kings Mountain 69.23 352 eP P 16 34 30.4 -0.5
comp=Z,54nm,1.4s
KMSC Kings Mountain 69.23 352 P P 16 34 32.1 +1.3
baz=172
BG3 Lake Jocassee 69.28 351 eP P 16 34 31.1 -0.1
comp=Z,42nm,1.2s
X49A Woodville 69.34 348 P P 16 34 32.4 +0.9
baz=168
Y45A Yeager Farm, C 69.35 345 P P 16 34 32.0 +0.5
baz=165
X48A Hartselle 69.41 347 eP P 16 34 31.4 -0.5
comp=Z,38nm,1.1s
X48A Hartselle 69.41 347 P P 16 34 32.0 0.0
baz=167,SNR=8.0
W53A Cullowhee 69.49 351 P P 16 34 33.5 +0.9
baz=170
W52A Murphy 69.52 350 eP P 16 34 32.9 +0.2
comp=Z,45nm,1.1s
W52A Murphy 69.52 350 P P 16 34 33.5 +0.8
baz=170
TXAR Lajitas Array 69.56 331 P P 16 34 34.2 +1.1
comp=Z,5.7nm,0.7s,baz=152,slow=8.4,SNR=39
TXAR LR LR 17 00 55.7
comp=Z,1µm,18.3s,baz=0.0,slow=32
TX31 Lajitas Ar. Si 69.56 331 eP P 16 34 33.5 +0.3
X47A Russelville 69.63 346 P P 16 34 33.8 +0.5
baz=166,SNR=5.6
Y43A Makayla and Ka 69.71 344 P P 16 34 35.2 +1.4
baz=164
W51A Cleveland 69.71 349 P P 16 34 34.3 +0.5
baz=169,SNR=5.9
WHTX Lake Whitney, 69.71 337 eP P 16 34 34.7 +0.8
comp=Z,51nm,0.8s
WHTX Lake Whitney, 69.71 337 P P 16 34 33.9 0.0
baz=158,SNR=7.6
X46A Booneville 69.81 346 P P 16 34 34.6 +0.2
baz=166
TIAR Tiarei 69.83 262 eT T 17 50 48.5
comp=Z,6.0nm,0.2s
W50A Signal Mountai 69.84 349 eP P 16 34 34.4 -0.2
comp=Z,39nm,0.8s
W50A Signal Mountai 69.84 349 P P 16 34 35.3 +0.7
baz=168,SNR=8.3
W49A Belvidere 69.92 348 P P 16 34 35.4 +0.3
baz=168
V53A Saluda 69.93 351 eP P 16 34 35.7 +0.4
comp=Z,108nm,1.7s
V53A Saluda 69.93 351 P P 16 34 35.5 +0.3
baz=171
OXF Oxford 69.94 345 eP P 16 34 35.5 +0.3
comp=Z,73nm,0.9s
OXF Oxford 69.94 345 eP P 16 34 35.5 +0.3
OXF pmax pmax
comp=Z,73nm,0.9s
OXF Oxford 69.94 345 P P 16 34 35.7 +0.5
baz=165
CPCT Cooper Cave 69.96 349 eP P 16 34 35.0 -0.4
comp=Z,21nm,0.8s
SWET Sewanee 69.96 348 eP P 16 34 35.2 -0.2
comp=Z,98nm,1.3s
PPT2 Papeete2 70.00 262 eS S 16 43 44.9 -0.6
comp=Z,731nm,22.8s
PPT2 Papeete2 70.00 262 eLR LR 16 56 00.6
comp=Z,2µm,27.8s,baz=121
PPT Papeete 70.01 262 LR LR 16 57 57.1
comp=Z,765nm,18.4s,baz=122,slow=30
TKL Tuckaleechee C 70.05 350 eP P 16 34 36.2 +0.3
comp=Z,22nm,0.9s
TKL Tuckaleechee C 70.05 350 eP P 16 34 36.2 +0.3
TKL pmax pmax
comp=Z,22nm,0.9s
W48A Pulaski 70.06 347 P P 16 34 36.1 +0.2
baz=167,SNR=5.4
Y41A Eaglette Beard 70.09 342 P P 16 34 37.4 +1.3
baz=162
PLAL Pickwick Lake 70.12 346 eP P 16 34 36.0 -0.3
comp=Z,35nm,0.6s
V52A Sevierville 70.21 350 P P 16 34 37.5 +0.7
baz=170
V50A Pikeville 70.27 349 P P 16 34 36.8 -0.4
baz=169,SNR=6.2
V51A Loudon 70.28 350 eP P 16 34 36.5 -0.8
comp=Z,28nm,1.0s
V51A Loudon 70.28 350 P P 16 34 37.0 -0.2
baz=169
W47A Westpoint 70.29 347 P P 16 34 37.9 +0.6
baz=167,SNR=6.0
V49A McMinnville 70.49 348 P P 16 34 38.5 -0.1
baz=168,SNR=15
V48A Smith Brothers 70.62 348 eP P 16 34 39.3 -0.1
comp=Z,65nm,0.7s
V48A Smith Brothers 70.62 348 P P 16 34 39.9 +0.5
baz=167,SNR=20
U51A La Follette 70.80 350 P P 16 34 41.1 +0.6
baz=170
V47A Nunnelly 70.84 347 P P 16 34 40.4 -0.3
baz=167,SNR=16
V46A Holladay 70.92 346 P P 16 34 41.1 -0.1
baz=166,SNR=7.0
U50A Jamestown 70.95 349 P P 16 34 41.6 +0.2
baz=169
MIAR Mount Ida 70.97 342 eP P 16 34 42.4 +0.9
comp=Z,28nm,1.1s
MIAR Mount Ida 70.97 342 eP P 16 34 42.4 +0.9
MIAR pmax pmax
comp=Z,28nm,1.1s
MIAR Mount Ida 70.97 342 P P 16 34 43.3 +1.7
baz=161
ABTX Abilene, Hawle 71.02 336 eP P 16 34 42.1 +0.2
comp=Z,79nm,1.1s
ABTX Abilene, Hawle 71.02 336 P P 16 34 42.7 +0.8
baz=156
BLA Blacksburg 71.18 353 P P 16 34 43.6 +0.8
baz=173
WVT Waverly 71.19 347 eP P 16 34 42.6 -0.2
comp=Z,76nm,0.6s
WVT Waverly 71.19 347 eP P 16 34 42.6 -0.2
WVT pmax pmax
comp=Z,76nm,0.6s
WVT Waverly 71.19 347 P P 16 34 43.0 +0.2
baz=166
U49A Red Boiling Sp 71.20 349 P P 16 34 43.6 +0.8
baz=168
W41B Gary Mavity, V 71.23 343 P P 16 34 44.0 +0.9
baz=163
U48A Cassie Pea, Po 71.33 348 P P 16 34 43.3 -0.3
baz=168,SNR=5.7
T51A Gray 71.36 350 P P 16 34 44.5 +0.6
baz=170
U47A Clarksville 71.39 347 P P 16 34 44.0 0.0
baz=167,SNR=12
U46A Springville 71.48 347 P P 16 34 44.9 +0.4
baz=166
T50A Nancy 71.55 349 P P 16 34 45.8 +0.8
baz=169
U45A Rockin P Farm, 71.58 346 P P 16 34 45.7 +0.5
baz=166
V42A Cord 71.63 344 P P 16 34 45.9 +0.5
baz=163
W39A Magazine 71.64 342 eP P 16 34 46.6 +1.0
comp=Z,70nm,1.0s
W39A Magazine 71.64 342 P P 16 34 46.2 +0.6
baz=161,SNR=11
U44B Burton Farm, H 71.69 346 P P 16 34 46.8 +1.0
baz=165
R58B Mineral 71.72 355 P P 16 34 47.0 +1.0
baz=175
V41A Mountainview 71.79 343 P P 16 34 46.9 +0.4
baz=163
T48A Bowling Green 71.88 348 P P 16 34 47.9 +0.9
baz=168
T47A Sharon Grove 71.89 348 eP P 16 34 46.8 -0.2
comp=Z,90nm,1.4s
T47A Sharon Grove 71.89 348 P P 16 34 47.4 +0.4
baz=167
S51A Beattyville 71.97 351 P P 16 34 48.2 +0.7
baz=170
T46A Princeton 72.09 347 P P 16 34 48.8 +0.7
baz=166
U42A Revenden 72.12 344 P P 16 34 49.0 +0.6
baz=164,SNR=7.5
S50A Richmond 72.13 350 P P 16 34 49.1 +0.7
baz=169
U41A Viola 72.27 343 P P 16 34 51.1 +1.8
baz=163
MNTX Cornudas Mount 72.33 331 eP P 16 34 49.8 0.0
comp=Z,20nm,0.9s
MNTX LR LR
comp=Z,2µm,20.0s
MNTX Cornudas Mount 72.33 331 P P 16 34 50.9 +1.1
baz=152
PBMO Poplar Bluff 72.34 345 eP P 16 34 50.2 +0.4
comp=Z,90nm,1.5s
S48A Wiedeman Farm, 72.36 349 P P 16 34 49.7 -0.1
baz=168,SNR=5.2
S49A Springfield 72.36 349 P P 16 34 50.9 +1.1
baz=169
GDL2 Guadalupe Moun 72.37 332 eP P 16 34 50.8 +0.7
S47A Hartford 72.44 348 P P 16 34 50.2 -0.1
baz=167
T44A Benton 72.46 346 P P 16 34 51.7 +1.3
baz=165
U40A Yellville 72.50 343 P P 16 34 52.0 +1.2
baz=162,SNR=7.1
R52A Catlettsburg 72.54 352 P P 16 34 52.2 +1.3
baz=171
T43A Greenville 72.61 345 P P 16 34 51.5 +0.2
baz=164,SNR=7.8
R51A Hillsboro 72.62 351 P P 16 34 52.6 +1.3
baz=170
WMOK Wichita Mounta 72.67 337 eP P 16 34 53.0 +1.2
comp=Z,42nm,1.4s
WMOK Wichita Mounta 72.67 337 P P 16 34 51.2 -0.5
baz=157,SNR=7.4
S46A Don Dixon Farm 72.68 347 P P 16 34 52.1 +0.4
baz=167
HHAR Hobbs 72.71 342 eP P 16 34 51.7 -0.2
comp=Z,18nm,0.8s
R50A Paris 72.71 350 P P 16 34 52.6 +0.7
baz=170
T42A Van Buren 72.73 344 eP P 16 34 51.0 -1.1
comp=Z,25nm,1.1s
T42A Van Buren 72.73 344 P P 16 34 53.2 +1.2
baz=164
S45A Carrier Mills 72.83 347 P P 16 34 53.9 +1.2
baz=166
R49A Shelbyville 72.84 349 P P 16 34 53.4 +0.7
baz=169
EPT El Paso 72.86 330 PFAKE 16 35 00.0 +6.9
EPT LR LR
comp=Z,1µm,20.0s
TUL1 Leonard 72.86 340 eP P 16 34 52.0 -0.9
comp=Z,44nm,1.0s
TUL1 Leonard 72.86 340 P P 16 34 53.5 +0.7
baz=160
T41A Mountain View 72.90 344 P P 16 34 53.6 +0.6
baz=163
WCI Wyandotte Cave 72.96 349 P P 16 34 52.9 -0.5
comp=Z,106nm,1.1s
WCI Wyandotte Cave 72.96 349 P P 16 34 52.9 -0.5
WCI pmax pmax
comp=Z,106nm,1.1s
WCI Wyandotte Cave 72.96 349 P P 16 34 53.7 +0.4
baz=168
SIUC Southern Illin 72.99 346 eP P 16 34 53.9 +0.3
comp=Z,68nm,1.4s
SIUC LR LR
comp=Z,400nm,20.0s
S43A Fulton Ridge, 73.03 345 P P 16 34 53.2 -0.6
baz=165,SNR=16
R48A Northridge Ran 73.06 349 P P 16 34 54.6 +0.6
baz=168
R47A Wooly Knot Far 73.06 348 P P 16 34 53.9 -0.1
baz=168
Q52A Bidwell 73.11 352 P P 16 34 53.4 -0.8
baz=171
R46A Gibon Southern 73.15 348 P P 16 34 54.4 -0.1
baz=167
Q50A Georgetown 73.21 351 P P 16 34 54.7 -0.1
baz=170
Q51A Peebles 73.31 351 eP P 16 34 55.1 -0.3
comp=Z,34nm,0.9s
Q51A Peebles 73.31 351 P P 16 34 54.9 -0.5
baz=170
MAW Mawson 73.31 164 P P 16 34 55.4 +0.2
comp=Z,33nm,0.5s,baz=207,slow=6.8,SNR=94
MAW LR LR 17 09 44.7
comp=Z,1µm,18.4s,baz=232,slow=38
MAW Mawson 73.31 164 eP P 16 34 55.0 -0.2
comp=Z,8.3nm,0.6s
MAW Mawson 73.31 164 eP P 16 34 55.0 -0.2
MAW pmax pmax
comp=Z,8.0nm,0.6s
MSTX Muleshoe 73.34 334 eP P 16 34 55.9 +0.1
comp=Z,48nm,1.0s
MSTX Muleshoe 73.34 334 P P 16 34 56.1 +0.2
baz=154
R45A Skylar, Fairfi 73.37 347 P P 16 34 56.2 +0.4
baz=166
S42A Caledonia 73.38 345 P P 16 34 55.8 0.0
baz=164,SNR=13
S41A Jillco Farms, 73.42 344 P P 16 34 56.3 +0.2
baz=163,SNR=5.4
R44A Waltonville 73.48 346 P P 16 34 57.1 +0.6
baz=166
Q49A Aurora 73.50 350 P P 16 34 56.8 +0.2
baz=169
FVM French Village 73.50 345 eP P 16 34 56.2 -0.4
comp=Z,48nm,1.1s
FVM French Village 73.50 345 eP P 16 34 56.2 -0.4
FVM pmax pmax
comp=Z,48nm,1.1s
MCWV Mont Chateau 73.55 354 P P 16 34 57.8 +1.0
baz=173
Q48A North Vernon 73.55 349 P P 16 34 56.9 +0.1
baz=168
MVL Millersville 73.66 357 eP P 16 35 01.8 +4.4
comp=Z,237nm,0.4s
R43A Red Bud 73.68 346 P P 16 34 58.2 +0.6
baz=165
319A Douglas 73.71 328 eP P 16 34 58.6 +0.4
comp=Z,39nm,1.1s
P51A Williamsport 73.72 351 eP P 16 34 56.8 -1.0
comp=Z,45nm,1.0s
P51A Williamsport 73.72 351 P P 16 34 58.1 +0.3
baz=171
CCM Cathedral Cave 73.75 345 eP P 16 34 57.1 -0.9
comp=Z,69nm,1.1s
CCM Cathedral Cave 73.75 345 eP P 16 34 57.1 -0.9
CCM pmax pmax
comp=Z,69nm,1.1s
CCM Cathedral Cave 73.75 345 P P 16 34 57.9 -0.1
baz=164
P52A Corning 73.76 352 P P 16 34 58.3 +0.3
baz=172
AMTX Amarillo 73.77 335 eP P 16 34 58.7 +0.3
comp=Z,60nm,1.1s
AMTX Amarillo 73.77 335 P P 16 34 58.9 +0.6
baz=155
R42A Luebbering 73.87 345 P P 16 34 59.9 +1.2
baz=164
PAGS Pennsylvania G 73.90 357 eP P 16 34 58.5 -0.4
Q45A Warren Harvey, 73.93 347 P P 16 34 59.5 +0.5
baz=166
P50A Jamestown 73.94 351 P P 16 34 59.6 +0.5
baz=170
P49A Miami Univ. Ec 73.99 350 P P 16 34 59.8 +0.3
baz=169
R41A Rosebud 74.01 345 P P 16 34 59.5 0.0
baz=164,SNR=8.1
P48A Milroy 74.03 349 P P 16 34 59.8 +0.2
baz=169
121A Cookes Peak, D 74.05 329 P P 16 35 01.2 +1.0
baz=150
O56A Blue Knob Stat 74.06 355 eP P 16 35 00.1 +0.2
comp=Z,51nm,1.5s
O56A Blue Knob Stat 74.06 355 P P 16 35 00.9 +1.1
baz=175
Q44A Meyer Farm, Va 74.10 347 P P 16 35 00.3 +0.2
baz=166
P47A Martinsville 74.18 349 P P 16 35 01.3 +0.8
baz=168
O52A Adamsville 74.20 352 eP P 16 35 00.3 -0.3
comp=Z,37nm,1.0s
O52A Adamsville 74.20 352 P P 16 35 00.8 +0.2
baz=172
U32A Winter Ranch, 74.25 338 eP P 16 35 00.7 -0.4
comp=Z,36nm,0.8s
Q43A New Douglas 74.27 346 P P 16 35 00.9 -0.2
baz=165
O51A Pataskala 74.32 352 P P 16 35 01.7 +0.4
baz=171
SSPA Standing Stone 74.38 356 eP P 16 35 02.6 +1.0
comp=Z,110nm,1.1s
SSPA Standing Stone 74.38 356 P P 16 35 02.8 +1.2
baz=175
Q42A Golden Eagle 74.42 345 P P 16 35 03.0 +1.1
baz=164
O50A Cable 74.45 351 P P 16 35 01.9 -0.2
baz=170
ACSO Alum Creek Sta 74.45 352 eP P 16 35 01.0 -1.0
comp=Z,50nm,0.8s
ACSO Alum Creek Sta 74.45 352 P P 16 35 03.1 +1.0

baz=171
P46A **Rosedale** 74.47 348 P P 16 35 02.3 +0.1
baz=167
P45A **Graceland, Par** 74.47 348 P P 16 35 02.3 +0.1
baz=167
N59A **State Game Lan** 74.55 357 eP P 16 35 03.1 +0.4
comp=Z,45nm,1.2s
N59A **State Game Lan** 74.55 357 P P 16 35 03.1 +0.4
baz=177
P44A **Sand Creek, Wi** 74.57 347 P P 16 35 02.8 0.0
baz=166
O49A **Covington** 74.58 350 P P 16 35 02.5 -0.4
baz=170
Q41A **Truxton** 74.61 345 P P 16 35 03.2 +0.1
baz=164,SNR=9.9
O48A **Farmland** 74.77 350 P P 16 35 03.9 0.0
baz=169
N54A **Moraine State** 74.86 354 P P 16 35 03.8 -0.7
baz=173
YLE **Yale** 74.88 360 eP P 16 35 05.1 +0.6
comp=Z,95nm,0.9s
O47A **Sheridan** 74.90 349 P P 16 35 04.0 -0.7
baz=168,SNR=5.2
BNM **Barren Site** 74.98 331 eP P 16 35 06.3 +0.7
LIC **Lamto** 74.99 72 eP P 16 35 06.0 +0.2
comp=Z,114nm,1.2s
N50A **Nevada** 75.00 352 P P 16 35 05.3 +0.1
baz=171
P42A **Winchester** 75.03 346 eP P 16 35 05.1 -0.3
comp=Z,28nm,0.9s
P42A **Winchester** 75.03 346 P P 16 35 06.0 +0.6
baz=165
N51A **Ashland** 75.06 352 eP P 16 35 04.9 -0.7
comp=Z,38nm,0.7s
N51A **Ashland** 75.06 352 P P 16 35 04.9 -0.7
baz=171
SUR **Sutherland** 75.08 119 P P 16 35 07.2 +0.8
comp=Z,18nm,0.6s,baz=224,slow=5.9,SNR=18
SUR **Sutherland** 75.08 119 eP P 16 35 07.8 +1.3
comp=Z,86nm,1.3s
LPM **Los Pinos Moun** 75.12 331 eP P 16 35 05.9 -0.5
LENM **Lemitar** 75.13 331 eP P 16 35 05.2 -1.2
O45A **Potomac** 75.17 348 P P 16 35 06.7 +0.5
baz=167
TUC **Tucson** 75.18 327 eP P 16 35 07.0 +0.4
comp=Z,27nm,1.3s
TUC **Tucson** 75.18 327 eP P 16 35 07.0 +0.4
TUC pmax pmax
comp=Z,27nm,1.3s
TUC **Tucson** 75.18 327 P P 16 35 06.8 +0.2
baz=148
SFIN **Lafayette** 75.19 348 eP P 16 35 05.8 -0.5
comp=Z,42nm,1.4s
SFIN **Lafayette** 75.19 348 P P 16 35 06.4 +0.1
baz=167
O44A **Mansfield** 75.21 347 P P 16 35 06.8 +0.4
baz=166
TIC **Toumodi** 75.25 71 eP P 16 35 07.6 +0.2
P41A **Barry, Barry** 75.26 345 P P 16 35 07.6 +0.8
baz=164
N49A **Columbus Grove** 75.28 351 eP P 16 35 06.0 -0.9
comp=Z,84nm,1.3s
N49A **Columbus Grove** 75.28 351 P P 16 35 07.3 +0.4
baz=170,SNR=6.3
KIC **Kosan Boka** 75.29 72 eP P 16 35 08.1 +0.5
comp=Z,136nm,0.9s
N48A **Decatur** 75.34 350 P P 16 35 07.4 +0.3
baz=169
M54A **Oil Creek Stat** 75.37 354 eP P 16 35 07.5 0.0
comp=Z,33nm,1.3s
M54A **Oil Creek Stat** 75.37 354 P P 16 35 08.2 +0.8
baz=174
DBIC **Dimbokro** 75.39 71 P P 16 35 07.6 -0.5
comp=Z,32nm,0.7s,baz=202,slow=5.3,SNR=14
DBIC LR LR 17 06 55.6
comp=Z,808nm,18.8s,baz=213,slow=35
LAZ **Ladron** 75.41 331 eP P 16 35 06.0 -2.1
M51A **Elyria** 75.44 352 P P 16 35 07.9 +0.1
baz=172
N47A **Urbana** 75.46 350 P P 16 35 07.8 -0.1
baz=168,SNR=5.4
O43A **Sugar Creek Fa** 75.50 347 P P 16 35 08.6 +0.5
baz=166
ANMO **Albuquerque** 75.61 332 LR LR 17 04 14.9
comp=Z,1µm,19.0s,baz=144,slow=32
ANMO **Albuquerque** 75.61 332 eP P 16 35 09.4 +0.3
comp=Z,14nm,1.0s
ANMO **Albuquerque** 75.61 332 eP P 16 35 10.9 +1.8
ANMO pmax pmax
comp=Z,19nm,1.7s
ANMO **Albuquerque** 75.61 332 P P 16 35 10.1 +0.9
baz=151
M50A **Fremont** 75.61 352 eP P 16 35 08.7 0.0
comp=Z,176nm,0.6s
M50A **Fremont** 75.61 352 P P 16 35 09.3 +0.6
baz=171
N46A **Monticello** 75.63 349 P P 16 35 09.5 +0.7
baz=168
O41A **Passleys Farm,** 75.65 345 P P 16 35 09.6 +0.6
baz=164
N45A **Kentland** 75.72 348 P P 16 35 10.6 +1.3
baz=167
HDIL **Hopedale** 75.75 347 P P 16 35 10.3 +0.7
baz=166
M49A **Liberty Center** 75.80 351 P P 16 35 10.8 +1.0
baz=170
214A **Organ Pipe Nat** 75.82 325 P P 16 35 11.0 +0.7
baz=146
BINY **Binghamton** 75.84 357 P P 16 35 11.0 +1.0
baz=177
M47A **Cromwell** 75.92 350 P P 16 35 11.0 +0.6
baz=169
ERPA **Erie** 76.01 354 eP P 16 35 11.1 +0.1
comp=Z,26nm,0.8s
ERPA **Erie** 76.01 354 P P 16 35 11.6 +0.6
baz=173
HRV **Adam Dziewonsk** 76.07 1 P P 16 35 13.1 +1.8
baz=181
M46A **Old House Fiel** 76.07 349 P P 16 35 12.4 +1.0
baz=168
N42A **Yates City** 76.16 346 P P 16 35 12.3 +0.4
baz=165
N41A **Harden Midland** 76.21 346 eP P 16 35 11.8 -0.3
comp=Z,51nm,1.0s
N41A **Harden Midland** 76.21 346 P P 16 35 12.7 +0.5
baz=164
TRY **Troy** 76.30 359 eP P 16 35 15.2 +2.6
comp=Z,52nm,1.0s
L48A **N Adams** 76.32 351 P P 16 35 13.8 +1.0
baz=170
M44A **Midewin, Midew** 76.33 348 eP P 16 35 14.6 +1.7
comp=Z,49nm,1.0s
M44A **Midewin, Midew** 76.33 348 P P 16 35 13.1 +0.2
baz=167
L49A **Milan** 76.40 351 P P 16 35 13.5 +0.3
baz=170
RAR **Rarotonga** 76.44 254 LR LR 17 01 28.1
comp=Z,793nm,18.4s,baz=132,slow=30
L47A **Sherwood** 76.46 350 P P 16 35 14.5 +1.0
baz=169
MMNY **Mt. Morris Dam** 76.47 356 eP P 16 35 12.5 -1.0
comp=Z,97nm,1.4s
N40A **Mertquake, Sal** 76.53 345 P P 16 35 15.2 +1.2
baz=164
M43A **Waltham Townsh** 76.55 347 P P 16 35 15.3 +1.3
baz=166
CBKS **Cedar Bluff** 76.71 338 eP P 16 35 15.2 +0.1
comp=Z,30nm,0.8s
CBKS **Cedar Bluff** 76.71 338 eP P 16 35 15.2 +0.1
CBKS pmax pmax
comp=Z,30nm,0.8s
CBKS **Cedar Bluff** 76.71 338 P P 16 35 16.5 +1.3
baz=157
N39A **Derby Farms, D** 76.73 344 eP P 16 35 16.5 +1.4
comp=Z,93nm,1.3s
N39A **Derby Farms, D** 76.73 344 P P 16 35 16.6 +1.5
baz=163
T25A **Trinidad** 76.77 334 eP P 16 35 15.2 -0.5
comp=Z,63nm,1.1s
T25A **Trinidad** 76.77 334 P P 16 35 16.6 +0.9
baz=153
M41A **Milan** 76.79 346 P P 16 35 16.1 +0.7
baz=164
K50A **Casco** 76.92 352 P P 16 35 16.7 +0.6
baz=171
MEDO **Medina** 76.93 355 P P 16 35 16.7 +0.5
baz=175
ACCN **Adirondack Com** 76.96 359 eP P 16 35 15.6 -0.7
comp=Z,73nm,1.5s
TYNO **Tyneside** 76.97 354 P P 16 35 17.3 +0.9
baz=174
M40A **Post Highland** 77.02 345 P P 16 35 18.3 +1.5
baz=164
STCO **Saint Catharin** 77.03 355 P P 16 35 18.1 +1.4
baz=174
W18A **Petrified Fore** 77.10 329 P P 16 35 17.3 -0.3
baz=149
K47A **Vermontville** 77.11 350 P P 16 35 18.0 +0.8
baz=169
K48A **Perry** 77.12 351 P P 16 35 17.6 +0.3
baz=170
ELFO **Elginfield** 77.19 353 P P 16 35 18.4 +0.7
baz=172
L42A **Oliver, Polo** 77.23 347 eP P 16 35 18.3 +0.4
comp=Z,39nm,1.0s
L42A **Oliver, Polo** 77.23 347 P P 16 35 19.2 +1.3
baz=165
L43A **Garden Prairie** 77.23 348 P P 16 35 18.6 +0.7
baz=166
K46A **Dorr** 77.24 350 P P 16 35 18.7 +0.7
baz=168
X16A **Lo Mia Camp, P** 77.25 328 eP P 16 35 19.4 +0.9
comp=Z,26nm,1.0s
L41A **Preston** 77.45 346 P P 16 35 19.4 +0.2
baz=165
ACTO **Acton** 77.49 354 P P 16 35 21.1 +1.8
baz=173
J49A **Marlette** 77.55 352 P P 16 35 20.1 +0.4
baz=171
J48A **Bridge Port** 77.57 351 P P 16 35 20.0 +0.2
baz=170
L40A **Anamosa** 77.59 346 eP P 16 35 19.5 -0.4
comp=Z,57nm,1.0s
L40A **Anamosa** 77.59 346 P P 16 35 21.4 +1.5
baz=164
J47A **Sunmer** 77.64 351 P P 16 35 21.6 +1.4
baz=169
DRWO **Darlington Wes** 77.65 355 P P 16 35 21.9 +1.7
baz=174
DRCO **St. Marys Ceme** 77.66 355 P P 16 35 21.2 +1.0
baz=174
K43A **Burlington** 77.66 348 P P 16 35 21.3 +1.0
baz=166
WLVO **Wesleyville** 77.68 356 P P 16 35 21.8 +1.4
baz=175
GLA **Glamis** 77.69 325 P P 16 35 21.5 +0.7
baz=145
SDCO **Great Sand Dun** 77.70 334 eP P 16 35 21.1 0.0
comp=Z,7.6nm,0.8s
SDCO **Great Sand Dun** 77.70 334 P P 16 35 22.1 +1.1
baz=152
PKRO **Pickering** 77.77 355 P P 16 35 22.3 +1.4
baz=174
LBNH **Lisbon** 77.80 0 eP P 16 35 23.6 +2.5
comp=Z,37nm,1.0s
LBNH **Lisbon** 77.80 0 P P 16 35 22.6 +1.5
baz=180
L39A **Vinton** 77.81 345 P P 16 35 23.0 +1.8
baz=163
SCIA **State Center** 77.87 344 P P 16 35 21.1 -0.4
K42A **Prairie Point,** 77.92 347 P P 16 35 23.0 +1.2
baz=166
K41A **Shullsburg** 77.93 347 P P 16 35 22.8 +1.0
baz=165
IKP **In-Ko-Pah, Jac** 77.99 323 P P 16 35 23.0 +0.5
baz=144
BASO **Ashfield** 78.04 353 P P 16 35 23.6 +1.3
baz=172
SWSC **Sam W. Stewart** 78.07 324 P P 16 35 24.6 +1.7
baz=144
BWLO **Walkerton** 78.09 354 P P 16 35 23.9 +1.3
baz=172
Y12C **Blythe** 78.11 325 P P 16 35 24.2 +1.2
baz=145
WUAZ **Wupatki** 78.14 328 eP P 16 35 24.8 +1.4
comp=Z,26nm,1.1s
WUAZ **Wupatki** 78.14 328 P P 16 35 24.6 +1.2
baz=148
WVL **Watervile** 78.17 2 eP P 16 35 23.9 +0.9
comp=Z,41nm,1.1s
K40A **Colesburg** 78.19 346 P P 16 35 23.7 +0.4
baz=164
S22A **4UR Ranch, Cre** 78.20 333 eP P 16 35 24.3 +0.5
comp=Z,13nm,1.0s
S22A **4UR Ranch, Cre** 78.20 333 P P 16 35 25.1 +1.3
baz=151
LONY **Lake Ozonia** 78.21 358 eP P 16 35 24.2 +0.9
comp=Z,34nm,1.1s
LONY **Lake Ozonia** 78.21 358 P P 16 35 24.6 +1.3
baz=178
JFWS **Jewell Farm** 78.22 347 eP P 16 35 22.9 -0.4
comp=Z,98nm,1.6s
JFWS **Jewell Farm** 78.22 347 eP P 16 35 23.0 -0.4
JFWS pmax pmax
comp=Z,98nm,1.6s
JFWS **Jewell Farm** 78.22 347 P P 16 35 24.1 +0.8
baz=165
DELO **Deloro Mine** 78.23 356 P P 16 35 24.8 +1.4
baz=176
BRCO **Bruce Peninsul** 78.25 353 P P 16 35 24.9 +1.4
baz=172
J43A **Natural Harves** 78.33 348 P P 16 35 24.8 +0.8
baz=166
K39A **Oelwein** 78.34 345 P P 16 35 24.6 +0.5
baz=164
I47A **Gladwin** 78.37 351 P P 16 35 24.9 +0.7
baz=170
MVCO **Mesa Verde** 78.39 331 P P 16 35 25.8 +1.0
baz=150
EMMW **East Machias** 78.40 4 eP P 16 35 25.2 +0.9
comp=Z,44nm,0.7s
J42A **Columbus** 78.40 348 P P 16 35 24.0 -0.4
baz=166,SNR=6.0
FRNY **Flat Rock** 78.41 359 eP P 16 35 23.9 -0.5
comp=Z,30nm,0.9s
I48A **Sherman Twp** 78.44 352 P P 16 35 26.0 +1.5
baz=170
BC3 **Big Chuckawall** 78.48 324 P P 16 35 25.9 +0.7
baz=145
SADO **Sadowa** 78.58 355 eP P 16 35 24.6 -0.7
comp=Z,23nm,0.8s
HAL **Halifax** 78.60 6 eP P 16 35 26.6 +1.1
HAL **Halifax** 78.60 6 eP P 16 35 26.6 +1.1
J41A **Loganville** 78.61 347 P P 16 35 26.2 +0.7
baz=165
Q24A **Divide** 78.65 334 eP P 16 35 26.2 -0.1
comp=Z,23nm,0.8s
Q24A **Divide** 78.65 334 P P 16 35 27.5 +1.2
baz=153
PLVO **Plevna** 78.72 357 P P 16 35 27.2 +1.1
baz=176
IRM **Iron Mountain** 78.74 325 P P 16 35 28.0 +1.4
baz=145
BANO **Bancroft** 78.75 356 P P 16 35 27.8 +1.5
baz=175
J40A **Soldiers Grove** 78.78 346 P P 16 35 27.0 +0.5
baz=164
I43A **Langenfeld Bro** 78.78 348 P P 16 35 27.5 +1.0
baz=167
GGN **Saint George** 78.84 4 eP P 16 35 26.7 0.0
comp=Z,44nm,0.8s
PKME **Peaks-Kenny Pk** 78.88 2 eP P 16 35 26.8 -0.2
comp=Z,32nm,0.8s
PKME **Peaks-Kenny Pk** 78.88 2 P P 16 35 28.6 +1.7
baz=182
J39A **Decorah** 78.91 346 P P 16 35 28.2 +0.9
baz=164
FRD **Ford Ranch, An** 78.91 324 P P 16 35 29.0 +1.4
baz=144
I42A **Draeger Farm,** 78.92 348 eP P 16 35 27.2 -0.1
comp=Z,21nm,0.8s
I42A **Draeger Farm,** 78.92 348 P P 16 35 28.0 +0.8
baz=166
XPFO **Piæon Flat** 78.93 324 eP P 16 35 28.6 +0.8
comp=Z,38nm,1.1s
PFO **Pinyon Flats O** 78.94 324 eP P 16 35 28.6 +0.8
comp=Z,38nm,1.1s
PFO **Pinyon Flats O** 78.94 324 eP P 16 35 28.6 +0.8
PFO pmax pmax
comp=Z,38nm,1.1s
PFO **Pinyon Flats O** 78.94 324 P P 16 35 29.3 +1.5
baz=144
BELC **Belle Mtn. Jos** 79.02 324 P P 16 35 30.8 +2.6
baz=144
PV01 **Paradox Valley** 79.21 332 eP P 16 35 28.4 -0.9
ALFO **Alfred** 79.22 358 P P 16 35 30.6 +1.8
baz=178
I40A **Norwalk** 79.23 347 P P 16 35 29.9 +0.9
baz=165
KLBO **Killbear Provi** 79.24 354 P P 16 35 29.5 +0.6
baz=173
BUKO **Buck Lake** 79.26 355 P P 16 35 30.2 +1.1
baz=174
H43A **Windswept, Lux** 79.29 349 eP P 16 35 28.8 -0.5
comp=Z,47nm,1.1s
H43A **Windswept, Lux** 79.29 349 P P 16 35 29.9 +0.7
baz=167
MURC **Murrieta** 79.29 323 P P 16 35 30.3 +0.7
baz=143
U15A **North Rim** 79.31 328 eP P 16 35 29.9 0.0
comp=Z,19nm,1.0s
PV13 **Radium Mtn., P** 79.33 332 eP P 16 35 30.6 +0.7
comp=Z,27nm,1.0s
PV13 LR LR
comp=Z,2µm,18.0s
PV02 **Paradox Valley** 79.34 332 eP P 16 35 30.1 +0.1
comp=Z,27nm,1.2s
PEMO **Pembroke** 79.36 356 P P 16 35 30.2 +0.6
baz=176
I39A **Houston** 79.37 346 eP P 16 35 28.9 -0.8
comp=Z,29nm,0.6s
I39A **Houston** 79.37 346 P P 16 35 30.5 +0.7
baz=164
OGNE **Ogallala** 79.38 338 P P 16 35 31.0 +1.1
baz=155
G47A **Hillman** 79.43 352 P P 16 35 31.1 +1.1
baz=170
PV03 **Paradox Valley** 79.43 332 eP P 16 35 30.9 +0.5
PV18 **Skein Mesa, Pa** 79.44 331 eP P 16 35 31.0 +0.4
comp=Z,48nm,1.6s
PV18 LR LR
comp=Z,2µm,18.0s
H42A **Shiocton** 79.45 348 P P 16 35 31.7 +1.6
baz=166
PV12 **Saucer Basin,** 79.46 332 eP P 16 35 31.0 +0.4
comp=Z,27nm,1.2s
TSUM **Tsumeb** 79.47 106 PFAKE 16 35 40.0 +8.8
TSUM LR LR
comp=Z,2µm,20.0s
LDFC **Landfair** 79.47 325 eP P 16 35 31.5 +0.8
comp=Z,82nm,1.8s
PV11 **David Mesa, Pa** 79.47 332 eP P 16 35 30.4 -0.2
comp=Z,58nm,1.6s
PV17 **East Wray Mesa** 79.49 331 eP P 16 35 31.4 +0.6
comp=Z,60nm,1.7s
GMRC **Granite Mounta** 79.50 325 P P 16 35 31.6 +0.8
baz=145
SMCO **Snowmass** 79.51 333 eP P 16 35 31.8 +0.7
comp=Z,77nm,1.7s
G45A **Suttons Bay** 79.53 350 P P 16 35 31.5 +1.0
baz=169
ISCO **Idaho Springs** 79.56 335 eP P 16 35 31.8 +0.5
comp=Z,15nm,1.1s
ISCO **Idaho Springs** 79.56 335 eP P 16 35 31.8 +0.5
ISCO pmax pmax
comp=Z,15nm,1.1s
ISCO **Idaho Springs** 79.56 335 P P 16 35 33.2 +1.9
baz=152
PV14 **Lion Creek, Pa** 79.60 331 eP P 16 35 31.9 +0.5
comp=Z,77nm,1.4s
F52A **Sundridge** 79.61 355 P P 16 35 32.3 +1.3
baz=174
PV22 **Blue Mesa, Par** 79.64 332 eP P 16 35 32.0 +0.3
comp=Z,48nm,1.8s
PV22 LR LR
comp=Z,2µm,20.0s
PV23 **Carpenter Ridg** 79.66 332 eP P 16 35 32.9 +1.1
comp=Z,14nm,0.9s
ALGO **Algonquin Park** 79.69 356 P P 16 35 31.8 +0.5
baz=175
LMN **Caledonia Moun** 79.71 5 eP P 16 35 31.6 +0.1
comp=Z,40nm,0.7s
H41A **Junction City** 79.75 348 P P 16 35 32.7 +1.0
baz=165
F51A **Arnstein** 79.79 355 P P 16 35 32.7 +0.8
baz=174
F49A **Sandfield** 79.81 353 P P 16 35 32.4 +0.4
baz=172
HEC **Hector Ludlow** 79.86 325 P P 16 35 32.4 -0.3
baz=144
H40A **Chili** 79.89 347 P P 16 35 32.7 +0.2
baz=165
F48A **Evansville** 79.93 353 P P 16 35 33.3 +0.6
baz=171
BFSC **Mount Baldy Ra** 80.03 323 P P 16 35 35.0 +1.3
baz=143
KNB **Kanab** 80.04 328 eP P 16 35 34.2 +0.5
comp=Z,28nm,0.9s
KNB **Kanab** 80.04 328 eP P 16 35 34.2 +0.5
KNB pmax pmax
comp=Z,28nm,0.9s
G43A **Wallace** 80.04 349 eP P 16 35 33.5 +0.3
comp=Z,23nm,1.1s
G43A **Wallace** 80.04 349 P P 16 35 34.6 +1.3
baz=167
CASY **Casey** 80.08 181 eP P 16 35 34.0 +0.5
comp=Z,83nm,1.5s
CASY LR LR
comp=Z,900nm,19.0s
E53A **Dumoine, Ponti** 80.08 356 P P 16 35 34.4 +0.9
baz=175
E54A **Lac Daplat, Po** 80.12 357 P P 16 35 33.2 -0.5
baz=176
G42A **Mountain** 80.14 349 eP P 16 35 33.6 -0.3
comp=Z,69nm,1.5s
G42A **Mountain** 80.14 349 P P 16 35 34.6 +0.8
baz=166
TUQ **Turquoise Moun** 80.15 325 P P 16 35 35.6 +1.3
baz=144,SNR=6.1
MWC **Mount Wilson** 80.22 323 eP P 16 35 34.9 +0.1
comp=Z,29nm,1.1s
MWC **Mount Wilson** 80.22 323 eP P 16 35 34.9 +0.1
MWC pmax pmax
comp=Z,29nm,1.1s
BOSA **Boshof** 80.32 118 P P 16 35 35.5 -0.1
comp=Z,19nm,0.6s,baz=243,slow=3.5,SNR=24
BOSA LR LR 17 08 54.0
comp=Z,435nm,18.1s,baz=236,slow=34
PQI **Presque Isle** 80.33 3 eP P 16 35 35.3 +0.5
comp=Z,52nm,1.4s
E51A **G1948 Merrick** 80.36 355 P P 16 35 35.5 +0.5
baz=174
ECSD **EROS Data Cent** 80.41 342 eP P 16 35 35.4 0.0
comp=Z,28nm,0.8s
ECSD **EROS Data Cent** 80.41 342 P P 16 35 35.4 0.0
baz=160,SNR=10
GSC **Goldstone, Bar** 80.47 324 eP P 16 35 36.9 +0.9
comp=Z,11nm,0.9s
GSC **Goldstone, Bar** 80.47 324 eP P 16 35 36.9 +0.9
GSC pmax pmax
comp=Z,11nm,0.9s
GSC **Goldstone, Bar** 80.47 324 P P 16 35 37.0 +0.9
baz=144
G40A **Rib Lake** 80.48 347 eP P 16 35 35.4 -0.3
comp=Z,22nm,1.4s
G40A **Rib Lake** 80.48 347 P P 16 35 35.0 -0.7
baz=165
F43A **Flat Rock, Esc** 80.52 350 P P 16 35 35.3 -0.5
baz=168
E48A **Lockeyer** 80.53 353 P P 16 35 35.9 -0.1
baz=172
F44A **Big Bay de Noc** 80.55 350 P P 16 35 35.6 -0.4
baz=168
F42A **Maple Grove Fa** 80.60 349 P P 16 35 36.8 +0.5
baz=167
MTPU **Mount Pierson** 80.62 329 eP P 16 35 37.8 +0.7
E47A **Iron Bridge** 80.62 352 P P 16 35 37.4 +1.0
baz=171
SZCU **Shurtz Canyon** 80.64 328 eP P 16 35 36.9 -0.1
comp=Z,17nm,1.2s
N23A **Red Feather La** 80.64 335 eP P 16 35 40.3 +3.2
N23A **Red Feather La** 80.64 335 P P 16 35 36.7 -0.3
baz=152
E46A **Sault Ste Mari** 80.66 352 P P 16 35 36.8 +0.2
baz=170
SHPR **Sheep Range** 80.67 326 eP P 16 35 37.2 +0.1
comp=Z,25nm,1.1s
G39A **Holcombe** 80.68 347 P P 16 35 37.6 +0.9
baz=164
G38A **Ridgeland** 80.70 346 P P 16 35 36.9 0.0
baz=164
EDW2 **Edwards Air Fo** 80.71 323 P P 16 35 37.8 +0.5
baz=143
CCUT **Cedar City** 80.72 328 eP P 16 35 38.5 +1.0

comp=Z,50nm,1.4s
F41A Three Lakes 80.74 348 *e*P P **16 35 38.0 +0.9**
comp=Z,71nm,2.0s
F41A Three Lakes 80.74 348 P P **16 35 37.4 +0.3**
baz=166
E45A Wooded Hills, 80.76 351 P P **16 35 38.4 +1.3**
baz=169
D53A Lac Vacive, Po 80.79 356 P P **16 35 37.6 +0.4**
baz=175
D54A Lac Fusel, La 80.81 357 P P **16 35 38.1 +0.7**
baz=176
O20A White River Ci 80.82 333 *e*P P **16 35 38.7 +0.8**
comp=Z,21nm,1.2s
O20A White River Ci 80.82 333 P P **16 35 39.1 +1.2**
baz=150
SRU San Rafael Swe 80.83 331 *e*P P **16 35 38.8 +0.8**
comp=Z,13nm,1.0s
SRU LR LR
comp=Z,900nm,20.0s
SRU San Rafael Swe 80.83 331 *e*P P **16 35 38.8 +0.8**
SRU pmax pmax
comp=Z,13nm,1.0s
SRU MLR MLR
comp=Z,900nm,20.0s
SCZ2 Santa Cruz Isl 80.84 322 P P **16 35 39.1 +1.1**
baz=142
D51A Lot 18 Range I 80.90 355 P P **16 35 39.0 +1.1**
baz=174
SPMN Marine on St. 80.95 346 P P **16 35 38.0 -0.2**
baz=163
LATQ La Tuque 80.95 360 P P **16 35 38.9 +0.8**
baz=180
D50A G1974 Best Tow 81.01 355 P P **16 35 39.4 +1.0**
baz=174
MSU Marysvale 81.01 329 *e*P P **16 35 39.1 +0.1**
MSU Marysvale 81.01 329 *e*P P **16 35 39.1 +0.1**
E43A Lone Tree Farm 81.03 350 *e*P P **16 35 39.1 +0.6**
comp=Z,54nm,1.4s
E43A Lone Tree Farm 81.03 350 P P **16 35 39.8 +1.2**
baz=168
LRMC Laurel Mtn Rad 81.03 324 P P **16 35 40.3 +1.2**
baz=143
BATG Bathurst New B 81.04 4 *e*P P **16 35 39.6 +1.0**
comp=Z,44nm,1.3s
F40A Park Falls 81.09 348 P P **16 35 40.2 +1.2**
baz=165
COWI Conover 81.10 348 *e*P P **16 35 39.1 +0.1**
comp=Z,54nm,1.8s
D48A Paudash Townsh 81.19 353 P P **16 35 40.4 +0.9**
baz=172
D47A Chapleau 81.20 353 P P **16 35 39.2 -0.3**
baz=171
E42A Champion 81.22 349 P P **16 35 40.7 +1.0**
baz=167
F39A Loretta 81.24 347 P P **16 35 39.7 -0.1**
baz=164
TMUT Trail Mountain 81.27 330 *e*P P **16 35 41.1 +0.6**
comp=Z,33nm,1.4s
TMUT LR LR
comp=Z,900nm,21.0s
MPMC Manual Prospec 81.40 324 P P **16 35 42.4 +1.3**
baz=144
E41A Kenton 81.42 348 P P **16 35 42.2 +1.5**
baz=166
FURC Furnace Creek, 81.43 325 P P **16 35 43.2 +2.2**
baz=144
F38A Pierce - Schro 81.46 346 P P **16 35 41.4 +0.5**
baz=164
TPNV Topopah Spring 81.53 326 *e*P P **16 35 42.2 +0.5**
comp=Z,19nm,1.0s
TPNV LR LR
comp=Z,900nm,20.0s
TPNV Topopah Spring 81.53 326 P P **16 35 42.8 +1.1**
baz=144,SNR=7.7
E40A Wakefield 81.56 348 P P **16 35 42.8 +1.3**
baz=165
ISA Isabella, Lake 81.57 324 *e*P P **16 35 41.1 -0.7**
comp=Z,19nm,1.0s
ISA Isabella, Lake 81.57 324 *e*P P **16 35 41.1 -0.7**
ISA pmax pmax
comp=Z,19nm,1.0s
ISA Isabella, Lake 81.57 324 P P **16 35 43.9 +2.0**
baz=143,SNR=6.1
E39A Mellen 81.61 347 P P **16 35 42.7 +1.0**
baz=165
DAC Darwin (Calif) 81.63 325 *e*P P **16 35 42.6 +0.3**
comp=Z,21nm,1.0s
DAC Darwin (Calif) 81.63 325 *e*P P **16 35 42.6 +0.3**
DAC pmax pmax
comp=Z,21nm,1.0s
PKM Mcpherson Peak 81.63 322 P P **16 35 43.4 +1.0**
baz=142
PSUT Pine Spring 81.75 328 *e*P P **16 35 43.1 +0.2**
comp=Z,16nm,1.0s
VLDQ Val d'Or 81.80 357 *e*P P **16 35 42.2 -0.5**
comp=Z,41nm,0.9s
D41A Chassel 81.94 349 *e*P P **16 35 43.3 0.0**
comp=Z,60nm,0.8s
CWC Cottonwood Cre 82.00 324 P P **16 35 45.0 +0.9**
baz=143
E38A The Farm, Brul 82.02 347 P P **16 35 44.4 +0.6**
baz=164
NLU North Lily Min 82.18 330 *e*P P **16 35 45.6 +0.5**
comp=Z,43nm,1.7s
R11A Troy Canyon, C 82.37 327 *e*P P **16 35 47.0 +0.8**
comp=Z,20nm,1.0s
R11A Troy Canyon, C 82.37 327 P P **16 35 47.5 +1.4**
baz=145,SNR=15
K22A Casper 82.40 335 *e*P P **16 35 47.0 +0.9**
comp=Z,52nm,1.3s
K22A Casper 82.40 335 P P **16 35 48.2 +2.1**
baz=152
JLU Jordanelle 82.47 331 *e*P P **16 35 47.1 +0.4**
comp=Z,8.4nm,0.9s
PAGB Antelope Grade 82.51 322 *e*P P **16 35 45.5 -1.2**
comp=Z,31nm,1.3s
LBTB Lobatse 82.56 115 P P **16 35 48.0 +0.5**
comp=Z,22nm,0.4s,baz=296,slow=1.7,SNR=6.5
LBTB Lobatse 82.56 115 *e*P P **16 35 46.4 -1.1**
comp=Z,188nm,1.4s
LBTB Lobatse 82.56 115 *e*P P **16 35 46.4 -1.1**
LBTB pmax pmax
comp=Z,188nm,1.4s
MQZ McQueen's Vall 82.67 222 PFAKE 16 36 00.0 +12
MQZ LR LR
comp=Z,700nm,18.0s
DUG Dugway, Tooele 82.69 330 *e*P P **16 35 46.5 -1.2**
comp=Z,27nm,1.3s
DUG Dugway, Tooele 82.69 330 *e*P P **16 35 46.5 -1.2**
DUG pmax pmax
comp=Z,27nm,1.3s
DUG Dugway, Tooele 82.69 330 P P **16 35 49.8 +2.1**
baz=147,SNR=17
LSQQ Lebel-sur-Quev 82.73 357 P P **16 35 48.0 +0.5**
baz=176
C40A Isle Royale Na 82.86 349 P P **16 35 49.7 +1.5**
baz=166
ODZ Otahua Downs 82.87 220 PFAKE 16 36 00.0 +11
ODZ LR LR
comp=Z,2µm,18.0s
RSSD Black Hills 82.88 338 *e*P P **16 35 46.9 -1.8**
comp=Z,9.3nm,0.8s
RSSD Black Hills 82.88 338 *e*P P **16 35 46.9 -1.8**
RSSD pmax pmax
comp=Z,9.0nm,0.8s
RSSD Black Hills 82.88 338 P P **16 35 49.6 +0.9**
baz=154
TCUT Toone Canyon 82.90 331 *e*P P **16 35 47.6 -1.3**
comp=Z,118nm,1.8s
SNZO South Karori 83.05 224 PFAKE 16 36 00.0 +10
SNZO LR LR
comp=Z,800nm,18.0s
EYMN Ely 83.30 347 *e*P P **16 35 49.1 -1.4**
comp=Z,23nm,1.1s
EYMN Ely 83.30 347 P P **16 35 50.8 +0.4**
baz=164
HWUT Hardware Ranch 83.37 331 *e*P P **16 35 51.6 +0.3**
comp=Z,22nm,1.0s
BGU Big Grassy Mou 83.39 330 *e*P P **16 35 51.7 +0.3**
comp=Z,33nm,1.6s
MATQ Matagami 83.46 357 P P **16 35 51.7 +0.5**
baz=176
SPUT South Promonto 83.48 331 *e*P P **16 35 52.5 +0.8**
comp=Z,15nm,0.9s
LTZ Lake Taylor 83.48 222 *e*P P **16 35 51.3 -0.7**
comp=Z,37nm,1.0s
LTZ LR LR
comp=Z,800nm,18.0s
CHGQ Chibougamau 83.50 359 P P **16 35 52.6 +1.2**
baz=178
URZ Urewera 83.52 228 P P **16 35 53.0 +0.9**
comp=Z,7.9nm,1.0s,baz=303,slow=2.5,SNR=3.5
URZ LR LR 17 05 18.5
comp=Z,900nm,18.8s,baz=145,slow=30
RPZ Rata Peaks 83.54 221 LR LR 17 05 38.2
comp=Z,973nm,18.9s,baz=141,slow=30
LBZ Lake Benmore 83.56 220 PFAKE
LBZ LR LR 16 36 00.0 +7.8
comp=Z,2µm,19.0s
BW06 Boulder Array 83.59 333 *e*P P **16 35 52.8 +0.4**
comp=Z,17nm,1.4s
BW06 Boulder Array 83.59 333 P P **16 35 53.6 +1.2**
baz=150
PD31 Pinedale Array 83.59 333 *e*P P **16 35 52.3 -0.1**
PDAR Pinedale Array 83.59 333 P P **16 35 54.1 +1.7**
comp=Z,1.8nm,0.9s,baz=160,slow=4.7,SNR=10.0
PDAR LR LR 17 09 36.4
comp=Z,744nm,18.6s,baz=153,slow=33
PDAR Pinedale Array 83.59 333 *e*P P **16 35 52.1 -0.3**
NV11 Mina Array Sit 83.62 325 *e*P P **16 35 50.8 -1.7**
comp=Z,3.0nm,1.9s
NV01 Mina Array Sit 83.69 325 *e*P P **16 35 52.7 -0.3**
NVAR Mina Array Bea 83.69 325 P P **16 35 54.2 +1.2**
comp=Z,2.3nm,0.7s,baz=153,slow=4.9,SNR=13
NVAR LR LR 17 06 24.2
comp=Z,257nm,21.2s,baz=101,slow=31
DRLN Deer Lake 83.87 10 *e*P P **16 35 53.9 +0.6**
comp=Z,208nm,1.6s
RYN Ryan 83.95 325 *e*P P **16 35 54.2 0.0**
comp=Z,9.8nm,0.9s
HVU Hansel Valley 84.00 331 *e*P P **16 35 53.2 -1.3**
comp=Z,17nm,1.0s
HVU Hansel Valley 84.00 331 *e*P P **16 35 53.2 -1.3**
HVU pmax pmax
comp=Z,17nm,1.0s
KVN Kaiserville 84.09 326 *e*P P **16 35 53.2 -1.8**
comp=Z,18nm,1.0s
KVN Kaiserville 84.09 326 *e*P P **16 35 53.2 -1.8**
KVN pmax pmax
comp=Z,18nm,1.0s
AHID Auburn Hatcher 84.17 332 *e*P P **16 35 55.8 +0.4**
comp=Z,41nm,1.5s
CMB Columbia Colle 84.38 324 *e*P P **16 35 54.9 -1.4**
comp=Z,70nm,1.3s
CMB Columbia Colle 84.38 324 *e*P P **16 35 54.9 -1.4**
CMB pmax pmax
comp=Z,70nm,1.3s
TOC5 Torodi Ar. Sit 84.39 70 PFAKE 16 36 10.0 +13
TOC5 LR LR
comp=Z,1µm,19.0s
TOB4 Torodi Ar. Sit 84.40 70 PFAKE 16 36 10.0 +13
TOB4 LR LR
comp=Z,800nm,18.0s
TOC4 Torodi Ar. Sit 84.41 70 PFAKE 16 36 10.0 +13
TOC4 LR LR
comp=Z,900nm,18.0s
TOB5 Torodi Ar. Sit 84.41 70 PFAKE 16 36 10.0 +13
TOB5 LR LR
comp=Z,1µm,18.0s
TOA3 Torodi Ar. Sit 84.41 70 PFAKE 16 36 10.0 +13
TOA3 LR LR
comp=Z,1µm,21.0s
TOC7 Torodi Ar. Sit 84.42 70 PFAKE 16 36 10.0 +13
TOC7 LR LR
comp=Z,800nm,18.0s
TOA0 Torodi Ar. Sit 84.42 70 PFAKE 16 36 10.0 +13
TOA0 LR LR
comp=Z,900nm,19.0s
TORD Torodi Ar. Bea 84.42 70 P P **16 35 55.7 -1.3**
comp=Z,30nm,0.7s,baz=197,slow=4.5,SNR=50
TORD LR LR 17 12 57.5
comp=Z,849nm,18.3s,baz=270,slow=35
TOA1 Torodi Ar. Sit 84.42 70 PFAKE 16 36 10.0 +13
TOA1 LR LR
comp=Z,900nm,19.0s
TOB3 Torodi Ar. Sit 84.42 70 PFAKE 16 36 10.0 +13
TOB3 LR LR
comp=Z,900nm,19.0s
TOA2 Torodi Ar. Sit 84.42 70 PFAKE 16 36 10.0 +13
TOA2 LR LR
comp=Z,900nm,18.0s
TOB2 Torodi Ar. Sit 84.43 70 PFAKE 16 36 10.0 +13
TOB2 LR LR
comp=Z,900nm,19.0s
TOC3 Torodi Ar. Sit 84.43 70 PFAKE 16 36 10.0 +13
TOC3 LR LR
comp=Z,900nm,19.0s
TOC1 Torodi Ar. Sit 84.44 70 PFAKE 16 36 10.0 +13
TOC1 LR LR
comp=Z,1µm,18.0s
TOC2 Torodi Ar. Sit 84.44 70 PFAKE 16 36 10.0 +13
TOC2 LR LR
comp=Z,900nm,18.0s
AGMN Agassiz Nation 84.52 344 *e*P P **16 35 54.7 -2.0**
comp=Z,15nm,0.8s
AGMN Agassiz Nation 84.52 344 P P **16 35 57.5 +0.8**
baz=160
YERR Yerington 84.57 325 *e*P P **16 35 58.2 +0.8**
comp=Z,28nm,1.2s
REDW Red Top Meadow 84.59 333 *e*P P **16 35 57.0 -0.5**
comp=Z,18nm,1.1s
LOHW Long Hollow 84.71 333 *e*P P **16 35 56.9 -1.1**
comp=Z,10nm,1.1s
TPAW Teton Pass 84.74 333 *e*P P **16 35 57.0 -1.3**
comp=Z,22nm,1.3s
FXWY Fox Creek 84.89 333 *e*P P **16 35 58.0 -1.0**
comp=Z,22nm,1.7s
MDND Maddock 85.00 342 *e*P P **16 35 58.1 -1.0**
comp=Z,73nm,0.9s
MDND Maddock 85.00 342 P P **16 36 00.5 +1.3**
baz=158
IMW Indian Meadow 85.08 333 *e*P P **16 35 58.2 -1.8**
comp=Z,26nm,1.4s
FLWY Flagg Ranch 85.15 333 *e*P P **16 35 59.9 -0.3**
comp=Z,74nm,1.7s
PAHR Pah Rah Range 85.21 325 PFAKE 16 36 10.0 +9.4
PAHR LR LR
comp=Z,500nm,21.0s
H17A Grant Village 85.37 334 P P **16 36 02.3 +0.9**
baz=149
AFDM Forest Hills D 85.38 324 *e*P P **16 36 01.7 +0.4**
comp=Z,17nm,1.3s
RLMT Red Lodge 85.52 335 *e*P P **16 36 02.1 +0.1**
comp=Z,27nm,1.3s
RLMT Red Lodge 85.52 335 P P **16 36 02.7 +0.7**
baz=150,SNR=7.7
YMR Madison River 85.75 333 *e*P P **16 36 03.5 +0.3**
comp=Z,26nm,1.0s
BEKR Beckworth 85.80 325 *e*P P **16 36 04.0 +0.4**
comp=Z,13nm,0.6s
YHH Holmes Hill 85.81 334 *e*P P **16 36 03.9 +0.3**
comp=Z,41nm,1.5s
LAO LASA Array 85.86 337 *e*P P **16 36 03.0 -0.5**
comp=Z,43nm,1.1s
LAO LASA Array 85.86 337 P P **16 36 05.2 +1.6**
baz=152
ORV Oroville 86.11 324 *e*P P **16 36 05.8 +0.9**
comp=Z,29nm,1.1s
HLID Hailey 86.16 331 *e*P P **16 36 05.2 0.0**
comp=Z,28nm,1.4s
HLID Hailey 86.16 331 P P **16 36 06.5 +1.3**
baz=146,SNR=8.1
GCMT Greycliff 86.24 335 *e*P P **16 36 04.4 -1.1**
ULM Lac du Bonnet 86.37 345 P P **16 36 06.5 +0.6**
comp=Z,9.8nm,1.0s,baz=207,slow=5.1,SNR=7.2
ULM Lac du Bonnet 86.37 345 *e*P P **16 36 05.2 -0.6**
comp=Z,19nm,0.9s
ULM Lac du Bonnet 86.37 345 *e*P P **16 36 05.2 -0.6**
ULM pmax pmax
comp=Z,19nm,0.9s
MCMT McKenzie Canyo 86.59 332 *e*P P **16 36 07.6 +0.1**
O03E Paynes Creek 86.83 324 P P **16 36 10.4 +1.9**
baz=141
DGMT Dagmar 86.83 339 *e*P P **16 36 08.7 +0.4**
comp=Z,82nm,1.0s
DGMT Dagmar 86.83 339 P P **16 36 10.1 +1.8**
baz=154
DLMT Dillon 86.95 333 *e*P P **16 36 09.5 +0.5**
comp=Z,27nm,1.3s
WVOR Wild Horse Val 87.04 328 *e*P P **16 36 09.8 +0.4**
comp=Z,27nm,1.4s
WVOR Wild Horse Val 87.04 328 *e*P P **16 36 09.9 +0.4**
WVOR pmax pmax
comp=Z,27nm,1.4s
WDC Whiskeytown Da 87.41 324 *e*P P **16 36 11.5 +0.4**
comp=Z,22nm,0.9s
WDC Whiskeytown Da 87.41 324 *e*P P **16 36 11.5 +0.4**
WDC pmax pmax
comp=Z,22nm,0.9s
J08A Circle Bar Ran 87.70 328 *e*P P **16 36 13.1 +0.4**
comp=Z,40nm,1.0s
N02D Trinity Center 87.79 324 P P **16 36 14.5 +1.4**
baz=140
M04C Macdoel 88.00 325 P P **16 36 15.1 +1.0**
baz=141
M02C Callahan 88.18 324 P P **16 36 17.0 +2.1**
baz=140
YBH Yreka Blue Hor 88.37 325 P P **16 36 16.2 +0.4**
comp=Z,9.2nm,1.1s,baz=23,slow=4.0,SNR=5.7
YBH Yreka Blue Hor 88.37 325 *e*P P **16 36 16.8 +0.9**
comp=Z,26nm,1.0s
SCHQ Schefferville 88.53 3 P P **16 36 15.8 -0.4**
comp=Z,3.5nm,0.5s,baz=82,slow=2.7,SNR=5.9
JTMT Jette 89.58 333 *e*P P **16 36 22.0 +0.5**
comp=Z,17nm,1.4s
AFI Afiamalu 89.98 253 LR LR 17 09 25.7
comp=Z,748nm,18.1s,baz=162,slow=31
LSZ Lusaka 90.06 108 PFAKE 16 36 40.0 +15
LSZ LR LR
comp=Z,2µm,21.0s
I03D Drain, OR 90.18 326 P P **16 36 25.6 +1.5**
baz=140
H04D Lebanon 90.53 327 P P **16 36 27.4 +1.6**
baz=140
WALA Waterton Lakes 90.54 334 *e*P P **16 36 25.7 -0.2**
comp=Z,55nm,1.8s
NEW Newport 91.09 332 LR LR 17 14 33.3
comp=Z,465nm,18.2s,baz=154,slow=34
C09A Chrisman Ranch 91.18 331 *e*P P **16 36 28.2 -0.5**
comp=Z,22nm,1.3s
TAM Tamanrasset 93.02 65 *e*P P **16 36 37.0 -1.0**
comp=Z,12nm,0.9s
TAM LR LR
comp=Z,2µm,22.0s
TAM Tamanrasset 93.02 65 *e*P P **16 36 37.0 -1.0**
TAM pmax pmax
comp=Z,12nm,0.9s
TAM MLR MLR
comp=Z,2µm,22.0s
ESDC Sonseca Array 96.71 46 P P **16 36 54.1 -0.3**
comp=Z,0.2nm,0.3s,baz=247,slow=2.7,SNR=4.1
ESDC LR LR 17 19 51.1
comp=Z,549nm,19.2s,baz=255,slow=35
ES19 SONSECA Array 96.76 46 *e*P P **16 36 54.2 -0.4**
MBAR Mbarara 100.50 98 PFAKE 16 37 20.0 +7.8
MBAR LR LR
comp=Z,2µm,19.0s
DZM Mont Dzumac 101.08 234 *e*PP PP 16 41 20.2 -2.5
comp=Z,49nm,25.4s
DZM *e*SP SP 16 50 20.2 -2.2
comp=Z,176nm,24.2s
DZM *e*SS **SS** **16 55 53.3 +2.7**
comp=Z,282nm,24.1s
DZM Mont Dzumac 101.08 234 *e*LR LR 17 10 24.2
comp=Z,996nm,28.5s
YKA Yellowknife Ar 101.92 341 P **Pdif** **16 37 16.7 -0.3**
comp=Z,0.4nm,0.6s,baz=147,slow=4.6,SNR=3.3
KEST Kesra 103.01 56 PFAKE 16 37 30.0 +7.3
KEST LR LR
comp=Z,2µm,18.0s
NAI Nairobi 105.08 102 PFAKE 16 42 00.0
NAI LR LR
comp=Z,900nm,21.0s
KMBO Kilima Mbogo 105.53 102 PFAKE 16 42 00.0
KMBO LR LR
comp=Z,800nm,21.0s
BNI Bardonecchia 106.24 46 PFAKE 16 42 00.0
BNI LR LR
comp=Z,2µm,19.0s
CLTB Caltabellotta 106.63 56 PFAKE 16 42 00.0
CLTB LR LR
comp=Z,2µm,20.0s
WDD Wied Dalam 106.67 58 PFAKE 16 42 00.0
WDD LR LR
comp=Z,4µm,18.0s
SENIN Lac Senin/Sane 107.29 46 PFAKE 16 42 00.0
SENIN LR LR
comp=Z,900nm,19.0s
EIDS Eidsvold 108.04 221 PFAKE 16 42 00.0
EIDS LR LR
comp=Z,700nm,20.0s
VLC Villacollemand 108.06 49 PFAKE 16 42 00.0
VLC LR LR
comp=Z,500nm,19.0s
WLF Walferdange 108.33 42 PFAKE 16 42 00.0
WLF LR LR
comp=Z,1µm,19.0s
TUE Stuetta 108.57 46 PFAKE 16 42 00.0
TUE LR LR
comp=Z,700nm,22.0s
CEL Celeste 108.81 56 PFAKE 16 42 00.0
CEL LR LR
comp=Z,2µm,20.0s
AQU L'Aquila 109.09 51 PFAKE 16 42 10.0
AQU LR LR
comp=Z,900nm,18.0s
FUORN Ofenpass-Fuorn 109.19 46 PFAKE 16 42 10.0
FUORN LR LR
comp=Z,800nm,22.0s
CUC Castrocucco 109.58 55 PFAKE 16 42 10.0
CUC LR LR
comp=Z,900nm,18.0s
TIP Timpagrande 109.84 56 PFAKE 16 42 10.0
TIP LR LR
comp=Z,2µm,21.0s
DIV Divide 111.76 330 PFAKE 16 42 10.0
DIV LR LR
comp=Z,600nm,19.0s
GERES GERESS Array B 112.28 45 PKiKP **PKiKP** **16 41 58.9 -0.7**
comp=Z,1.5nm,0.6s,baz=204,slow=1.5,SNR=13
FURI Furi 112.33 94 PFAKE 16 42 10.0
FURI LR LR
comp=Z,1µm,18.0s
KHC Kasperske Hory 112.34 45 PFAKE 16 42 10.0
KHC LR LR
comp=Z,200nm,20.0s
KHC Kasperske Hory 112.34 45 AMS AMS 17 32 00.0
comp=Z,700nm,17.1s
ITM Ithomi 112.56 60 PFAKE 16 42 10.0
ITM LR LR
comp=Z,2µm,22.0s
BLY Banja Luka 112.64 51 PFAKE 16 42 10.0
BLY LR LR
comp=Z,900nm,19.0s
TIR Tirane 112.94 55 PFAKE 16 42 10.0
TIR LR LR
comp=Z,2µm,21.0s
CLL Collm 112.96 43 *i* PKiKP **PKiKP** **16 42 02.2 +1.6**
comp=Z,7.0nm,1.0s
CLL *e* 16 42 10.0
comp=Z,18nm,1.5s
CLL *e*PP **PP** **16 42 54.0 +3.9**
CLL *e*Sdif Sdif 16 50 30.0 +0.3
CLL *e*PS **PS** **16 52 23.0 -1.9**
CLL *e*PPS PPS 16 53 36.0
CLL *e* 16 56 42.0
CLL *e*SS **SS** **16 58 24.0 -8.3**
CLL *e*SSS SSS 17 02 36.0
CLL *e*(SSSS) 17 06 42.0
CLL LmH 17 32 00.0
comp=N,300nm,18.4s
CLL LmH 17 32 00.0
comp=E,400nm,18.4s
CLL LmV 17 33 00.0
comp=Z,500nm,18.1s
CLL Collm 112.96 43 *i* PKiKP **PKiKP** **16 42 02.2 +1.6**
CLL *e* 16 42 10.0
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL MLR MLR
comp=Z,500nm,18.1s
TTG Podgorica 112.99 54 PFAKE 16 42 10.0
TTG LR LR
comp=Z,700nm,19.0s
BRG Berggiesshubel 113.31 44 *e*P **PKiKP** **16 42 00.5 -0.8**
comp=Z,5.7nm,0.9s
GOPC GO Pecny, Ondr 113.39 45 AMS AMS 17 30 00.0
comp=Z,800nm,20.6s
PVCC Panska Ves 113.52 44 AMS AMS 17 36 00.0
comp=Z,700nm,15.8s
TREC Trest 113.53 46 AMS AMS 17 38 40.0

comp=Z,600nm,15.1s
IDI Anoyia 113.90 63 PFAKE 16 42 10.0
IDI LR LR
comp=Z,700nm,20.0s
ILAR Eielson Array 114.02 333 PKP PKPdf 16 42 03.2 +1.0
ILAR PKKPbc **PKKPbc 16 52 43.4 -1.8**
comp=Z,0.4nm,0.9s,baz=197,slow=1.9,SNR=3.7
comp=Z,0.3nm,0.7s,baz=305,slow=3.9,SNR=4.8
DIVS Divibare 114.18 52 PFAKE 16 42 10.0 +6.7
DIVS LR LR
comp=Z,800nm,18.0s
LIT Litokhoron 114.21 57 PFAKE 16 42 10.0 +6.6
LIT LR LR
comp=Z,2μm,20.0s
UPC Upice 114.35 44 AMS AMS 17 30 30.0
comp=Z,800nm,21.3s
DPC Dobruska-Polom 114.47 45 AMS AMS 17 30 50.0
comp=Z,700nm,21.4s
CTAO Charters Tower 114.91 220 PFAKE 16 42 20.0 +15
CTAO LR LR
comp=Z,500nm,19.0s
OKC Ostrava-Krasne 115.34 46 AMS AMS 17 35 40.0
comp=Z,700nm,16.1s
PSZ Piszkesteto 115.65 48 PFAKE 16 42 20.0 +14
PSZ LR LR
comp=Z,800nm,20.0s
VTS Vitosha 115.72 55 PFAKE 16 42 20.0 +14
VTS LR LR
comp=Z,1μm,20.0s
TOLK Toolik Lake Re 116.73 336 *e*PKPdf **PKPdf 16 42 07.8 +0.4**
TOLK Toolik Lake Re 116.73 336 P **PKPdf 16 42 07.6 +0.2**
baz=115
ALN Alexandroupoli 117.02 57 PFAKE 16 42 20.0 +11
ALN LR LR
comp=Z,700nm,20.0s
ATD Arta Tunnel 117.20 94 PFAKE 16 42 20.0 +10
ATD LR LR
comp=Z,700nm,20.0s
UZH Uzhgorod 117.40 48 *e*PKIKP **PKPdf 16 42 10.4 +1.2**
UZH *e* 16 42 22.6
AS01 Alice Springs 117.50 207 *e*PKPdf **PKPdf 16 42 09.0 -1.4**
ASAR Alice Springs 117.52 207 PKP **PKPdf 16 42 09.3 -1.2**
comp=Z,1.3nm,0.8s,baz=137,slow=1.7,SNR=19
ASAR PKKPbc **PKKPbc 16 52 32.8 +0.6**
comp=Z,0.6nm,0.8s,baz=341,slow=3.8,SNR=9.2
KWP Kalwaria Pacla 118.01 47 *e*PKP **PKPdf 16 42 12.1 +1.7**
KWP Kalwaria Pacla 118.01 47 *e*PKIKP **PKPdf 16 42 12.1 +1.7**
MLR Muntele Rosu 118.63 52 *e*PKPdf **PKPdf 16 42 10.9 -0.9**
MLR LR LR
comp=Z,1μm,20.0s
MLR Muntele Rosu 118.63 52 *e*PKIKP **PKPdf 16 42 11.0 -0.9**
MLR MLR MLR
comp=Z,1μm,20.0s
BUR04 Bucovina Ar. S 118.88 50 *e*PKPdf **PKPdf 16 42 11.8 -0.5**
BUR08 Bucovina Ar. S 118.89 50 *e*PKPdf **PKPdf 16 42 12.4 +0.1**
ISP Isparta 119.06 62 PFAKE 16 42 20.0 +7.1
ISP LR LR
comp=Z,600nm,19.0s
SUW Suwalki 119.72 43 *e*PKP **PKPdf 16 42 13.2 -0.3**
SUW Suwalki 119.72 43 *e*PKPdf **PKPdf 16 42 13.0 -0.5**
SUW Suwalki 119.72 43 *e*PKIKP **PKPdf 16 42 13.2 -0.3**
TIRR Tirgusor 119.92 54 PFAKE 16 42 30.0 +16
TIRR LR LR
comp=Z,900nm,20.0s
DAMY Dhamar 120.06 92 PFAKE 16 42 30.0 +14
DAMY LR LR
comp=Z,1μm,20.0s
CSS Mathiatis 120.09 66 *e*PKPdf **PKPdf 16 42 14.3 -0.5**
CSS LR LR
comp=Z,500nm,21.0s
WB2 Warramunga Arr 120.69 209 *e*PKPdf **PKPdf 16 42 15.5 -1.1**
WB2 *e*PKPdf **PKiKP 16 42 15.7 -1.0**
WRA Warramunga Arr 120.70 209 PKP **PKPdf 16 42 15.8 -0.7**
comp=Z,2.4nm,0.5s,baz=159,slow=1.7,SNR=93
WRA PKKPbc **PKKPab 16 52 29.8 +4.9**
comp=Z,0.6nm,0.8s,baz=342,slow=4.8,SNR=6.3
WRA Warramunga Arr 120.70 209 PKIKP **PKPdf 16 42 15.9 -0.7**
WRA pmax pmax
comp=Z,3.0nm,0.5s
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRAB Tennant Creek 120.70 209 *e*PKPdf **PKPdf 16 42 15.5 -1.1**
WRAB Tennant Creek 120.70 209 ⇑*i*PKIKP **PKPdf 16 42 16.5 -0.1**
MMAI Mount Meron Ar 120.94 69 PKP **PKPdf 16 42 16.3 -0.4**
comp=Z,2.6nm,0.5s,baz=48,slow=1.2,SNR=10
ANTO Ankara 121.45 61 *e*PKPdf **PKPdf 16 42 16.8 -0.6**
ANTO LR LR
comp=Z,400nm,21.0s
ANTO Ankara 121.45 61 *e*PKIKP **PKPdf 16 42 16.8 -0.6**
ANTO MLR MLR
comp=Z,400nm,21.0s
ASF Jabal al Asfar 121.78 70 PKP **PKPdf 16 42 17.8 -0.5**
comp=Z,1.4nm,0.4s,baz=3.3,slow=22,SNR=4.8
BR131 Keskin Array S 122.02 61 *e*PKPdf **PKPdf 16 42 18.4 -0.2**
BRTR Keskin Array B 122.02 61 PKP **PKPdf 16 42 18.1 -0.4**
comp=Z,4.6nm,0.7s,baz=191,slow=3.2,SNR=23
BRTR Keskin Array B 122.02 61 PKIKP **PKPdf 16 42 18.2 -0.4**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
AK11 Malin Array Si 122.29 48 *e*PKPdf **PKPdf 16 42 17.5 -1.0**
KIEV Kiev 122.32 48 *e*PKPdf **PKPdf 16 42 17.1 -1.5**
KIEV Kiev 122.32 48 ⇓*i*PKIKP **PKPdf 16 42 17.8 -0.8**
AKASG Malin Array Be 122.33 48 PKP **PKPdf 16 42 17.6 -1.0**
comp=Z,7.4nm,0.7s,baz=259,slow=2.6,SNR=20
FINES FINESS Array B 123.07 35 PKP **PKPdf 16 42 19.4 -0.3**
comp=Z,2.9nm,0.7s,baz=209,slow=3.5,SNR=6.7
ARCES ARCESS Array B 124.06 25 PKP **PKPdf 16 42 21.4 0.0**
comp=Z,2.9nm,0.6s,baz=253,slow=2.0,SNR=13
RAYN Ar Rayn 125.23 84 *e*PKPdf **PKPdf 16 42 24.7 -0.4**
RAYN Ar Rayn 125.23 84 *e*PKIKP **PKPdf 16 42 24.7 -0.4**
FITZ Fitzroy Crossi 125.50 201 *e*PKPdf **PKPdf 16 42 25.7 -0.1**
H11S2 WAKE ISLAND Hyl 125.53 269 T T 19 01 32.1
baz=118,slow=74,SNR=31
H11S1 WAKE ISLAND Hyl 125.54 269 T T 19 01 34.1
baz=118,slow=74,SNR=34
H11S3 WAKE ISLAND Hyl 125.54 269 T T 19 01 33.3
baz=118,slow=74,SNR=22
OBN Obninsk 127.56 43 ⇓*i*PKIKP **PKPdf 16 42 29.6 +1.1**
OBN *e* 16 44 29.5
OBN *e* 16 49 41.4
OBN *i* PS **PS 16 54 32.4 -3.2**
OBN *e*SS SS 17 01 59.4 +20
OBN pmax pmax
comp=Z,46nm,1.5s
MOS Moscow 128.22 43 *e*PKIKP PKPdf 16 42 38.2 +8.5
MOS *e* 16 44 37.6
MTN Manton Dam 128.40 210 *e*PKPdf **PKPdf 16 42 31.4 0.0**
VSR Storozhevoye 128.58 48 ⇑*i*PKIKP **PKPdf 16 42 30.9 +0.3**
LPSR Galich'ya Gora 128.62 47 *e*PKIKP **PKPdf 16 42 29.8 -0.8**
LPSR pmax pmax
comp=Z,30nm,1.3s
VORD Divnogorie 128.62 49 *e*PKIKP **PKPdf 16 42 30.2 -0.5**
VORD pmax pmax
comp=Z,10.0nm,1.2s
KLMR Klimovskoe 129.49 36 *e*PKIKP **PKPdf 16 42 30.6 -1.4**
KLMR pmax pmax
comp=Z,63nm,1.1s
KLMR Klimovskoe 129.49 36 *e*PKPdf **PKPdf 16 42 30.6 -1.4**
KLMR AMP 16 42 43.4
comp=Z,63nm,1.1s
KLMR *e*SKP 16 45 51.4
NEY Neytrino 129.54 59 ⇓*i*PKIKP **PKPdf 16 42 35.2 +2.3**
KIV Kislovodsk 129.66 58 *e*PKPdf **PKPdf 16 42 32.8 -0.2**
KIV Kislovodsk 129.66 58 *i* PKIKP **PKPdf 16 42 35.1 +2.1**
KIV pmax pmax
comp=Z,27nm,1.1s
KBZ Khabaz 129.77 59 PKP **PKPdf 16 42 33.9 +0.8**
comp=Z,6.0nm,1.0s,baz=223,slow=6.8,SNR=6.6
GOF Gofitskoye 130.13 57 *e*PKIKP **PKPdf 16 42 35.6 +1.9**
GOF pmax pmax
comp=Z,40nm,1.3s
VRH Novokhopyorsk 130.17 49 *e*PKIKP **PKPdf 16 42 34.0 +0.4**
VRH pmax pmax
comp=Z,10.0nm,0.9s
NCK Nalchik 130.22 59 ⇑*i*PKIKP **PKPdf 16 42 36.1 +2.1**
ZEI Tsey 130.29 60 *i* PKIKP **PKPdf 16 42 32.3 -2.1**
ZEI pmax pmax
comp=Z,12nm,1.4s
GNI Garni 130.31 64*c i*PKIKP **PKPdf 16 42 36.6 +2.1**
PRGR Permogore 132.40 35 *e*PKIKP **PKPdf 16 42 38.5 +1.0**
PRGR pmax pmax
comp=Z,23nm,1.1s
BILL Bilibino 132.67 334 ⇑*i*PKIKP **PKPdf 16 42 40.9 +3.0**
SEY Seymchan 139.85 330 ⇑*i*PKIKP **PKPdf 16 42 53.4 +2.1**
ARU Arti 139.85 41 *e*PKPdf **PKPdf 16 42 53.0 +1.5**
ARU Arti 139.85 41 ⇓*i*PKIKP **PKPdf 16 42 53.6 +2.1**
PETK Petropavlovsk- 139.93 314 PKP **PKPdf 16 42 52.1 +0.3**
comp=Z,9.3nm,1.1s,baz=90,slow=9.1,SNR=4.6
GEYT Alibeck 140.06 70 PKP **PKPdf 16 42 51.0 -1.6**
comp=Z,2.0nm,0.6s,baz=88,slow=3.7,SNR=9.6
GYA0B ALIBECK ARRAY 140.06 70 *e*PKPdf **PKPdf 16 42 53.3 +0.7**
AKTO Aktyubinsk 140.48 50 PKP **PKPdf 16 42 53.2 +0.4**
comp=Z,3.8nm,0.7s,baz=159,slow=3.0,SNR=7.8
AB31 Akbulak array 141.83 52 PKHKP PKPpre 16 42 49.8
AB31 pmax pmax
comp=Z,7.0nm,0.6s
ABKAR Akbulak array 141.83 52 *e*PKPpre PKPpre 16 42 49.2
PALK Pallekele 143.61 131 PKP PKPbc 16 42 57.9 +0.9
comp=Z,15nm,0.9s,baz=287,slow=1.9,SNR=6.9
PALK Pallekele 143.61 131 *e*PKPdf PKPbc 16 42 57.3 +0.3
PALK Pallekele 143.61 131 *e*PKIKP PKPbc 16 42 57.3 +0.3
GSI Gunungsitoli 146.19 162 *e*PKPdf **PKPbc 16 43 04.9 -0.1**
GSI Gunungsitoli 146.19 162 P **PKPab 16 43 05.6 -0.1**
POO Poona 146.19 108 ⇓*i*P **PKPdf 16 43 04.0 +0.1**
comp=Z,130nm,1.0s
BRVK Borovoye 147.33 43 *e*PKPdf **PKPdf 16 43 05.0 +0.3**
BRVK *e*PKPbc **PKPab 16 43 08.4 -0.6**
BRVK Borovoye 147.33 43 *de*PKP2 **PKPbc 16 43 06.1 -1.0**
BVAR Borovoye Array 147.40 43 PKPbc **PKPdf 16 43 05.8 +0.9**
comp=Z,20nm,0.5s,baz=272,slow=1.8,SNR=79
KSM Kuching 147.61 185 *e*PKPbc **PKPbc 16 43 08.7 -0.5**
KSM Kuching 147.61 185 P **PKPdf 16 43 07.0 +0.5**
MYKOM Kota Tinggi 147.82 173 *e*PKPbc **PKPbc 16 43 08.5 -1.2**
MYKOM Kota Tinggi 147.82 173 P **PKPdf 16 43 08.0 +1.2**
PSI Prapat 147.97 163 *e*PKPbc **PKPbc 16 43 09.8 -0.5**
KBL Kabul 148.19 78 *e*PKPdf **PKPdf 16 43 08.4 +1.3**
SBUM Sibu 148.39 189 *e*PKPbc **PKPbc 16 43 10.7 -0.5**
SBUM Sibu 148.39 189 P **PKPbc 16 43 11.0 -0.2**
TSI Tuntungan 148.56 162 P **PKPbc 16 43 12.3 +0.7**
YAK Yakutsk 148.58 340 PKPbc **PKPbc 16 43 09.3 -0.9**
comp=Z,28nm,0.7s,baz=333,slow=4.6,SNR=16
YAK Yakutsk 148.58 340 *e*PKPdf **PKPdf 16 43 06.9 +0.5**
YAK *e*PKPbc **PKiKP 16 43 11.2 -0.4**
YAK Yakutsk 148.58 340 *e*PKIKP **PKPdf 16 43 07.0 +0.5**
YAK pmax pmax
comp=Z,55nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.0s
HYB Hyderabad 149.18 115 *i* PKP **PKPbc 16 43 14.0 +0.9**
HYB *e* 16 43 17.5
KK31 Karatay Array 149.73 61 *e*PKPbc **PKPbc 16 43 13.7 -0.1**
KK31 Karatay Array 149.73 61 *i* PKHKP PKPpre 16 43 12.7
KK31 pmax pmax
comp=Z,9.0nm,0.7s
KKAR Karatay Array 149.73 61 *e*PKPbc **PKPbc 16 43 13.5 -0.2**
IPM Ipoh 150.05 167 *e*PKPbc **PKPbc 16 43 15.0 -0.4**
OTUK Ortayu 150.07 51 PKIKP **PKPbc 16 43 14.8 +0.4**
OTUK pmax pmax
comp=Z,51nm,0.8s
YSS Yuzh-Sakhalins 150.56 307 *e*PKIKP **PKPbc 16 43 14.3 -1.2**
YSS pmax pmax
comp=Z,20nm,1.2s
YSS MLR MLR
comp=Z,500nm,14.0s
KULM Kulim 150.76 166 *e*PKPdf **PKPbc 16 43 16.3 -0.7**
KULM Kulim 150.76 166 P **PKPdf 16 43 14.0 +2.5**
KKM Kota Kinabalu 151.14 198 *e*PKPbc **PKPbc 16 43 17.6 -0.5**
KKM Kota Kinabalu 151.14 198 P **PKPdf 16 43 13.0 +0.8**
MNAS Manas 151.25 62 PKIKP **PKPdf 16 43 13.5 +1.9**
MNAS pmax pmax
comp=Z,49nm,1.4s
KDM Kudat 151.81 200 P **PKPdf 16 43 14.0 +0.9**
SFK Sufi-Kurgan 152.15 67 PKIKP **PKPbc 16 43 19.8 0.0**
SFK pmax pmax
comp=Z,36nm,1.0s
AML Almayashu 152.16 63 P **PKPbc 16 43 21.2 +1.3**
SNR=6.1
EKS2 Erkin-Say 152.16 62 P **PKPbc 16 43 20.6 +1.0**
SNR=8.5
USP Ospenovka 152.60 60 P **PKPbc 16 43 21.8 +1.3**
SNR=8.1
AAK Ala-Archa 152.69 62 PKPbc **PKPbc 16 43 21.8 +0.9**
comp=Z,30nm,0.7s,baz=159,slow=1.2,SNR=7.9
AAK Ala-Archa 152.69 62 P **PKPbc 16 43 21.4 +0.6**
SNR=11
AAK Ala-Archa 152.69 62 *e*PKPdf **PKPdf 16 43 13.4 -0.3**
AAK *e*PKPbc **PKiKP 16 43 21.3 +0.2**
AAK Ala-Archa 152.69 62 *e*PKIKP **PKPdf 16 43 13.5 -0.3**
AAK *e* 16 43 21.3
UCH Uchtor 152.75 63 P **PKPbc 16 43 22.6 +1.3**
SNR=8.6
FRU1 Bishkek 152.77 61 *e*PKPbc **PKPbc 16 43 21.2 +0.3**
KURBB Kurchatov Arra 152.99 43 PKP **PKPdf 16 43 14.8 +1.1**
comp=Z,2.7nm,0.7s,baz=301,slow=2.0,SNR=14
KURBB PKPbc **PKiKP 16 43 21.9 +0.8**
comp=Z,18nm,0.6s,baz=303,slow=2.9,SNR=82
KURBB PP **PP 16 47 10.6 +4.8**
comp=Z,1.5nm,0.8s,baz=298,slow=6.4,SNR=5.9
KURK Kurchatov 153.00 43 *e*PKPdf **PKPdf 16 43 14.1 +0.4**
KURK *e*PKPbc **PKiKP 16 43 21.5 +0.3**
KURK PP **PP 16 47 10.6 +4.8**
KURK Kurchatov 153.00 43 *e*PKIKP **PKPdf 16 43 14.1 +0.4**
KURK *e* 16 43 21.5
KURK 16 47 10.6
NVS Novosibirsk 153.01 32 *e*PKIKP **PKPdf 16 43 15.4 +1.8**
NVS *e* 16 47 08.1
NVS pmax pmax
comp=Z,76nm,1.1s
NVS pmax pmax
comp=E,22nm,1.3s
GRNR Gornyy 153.14 317 *e*PKIKP **PKPdf 16 43 13.0 -0.9**
TKM2 Tokmak 2 153.45 61 PKIKP **PKPbc 16 43 19.8 -2.8**
TKM2 pmax pmax
comp=Z,22nm,1.0s
NRN Naryn 153.95 64 *e*PKPbc **PKPbc 16 43 24.1 +0.2**
KSH Kashi 154.07 68 PKPbc **PKPbc 16 43 23.4 -0.5**
KSH PP PP 16 47 22.3 +9.4
KSH SKS **SKSdf 16 50 28.5 +7.4**
ZAA0 Zalesovo Array 154.30 32 *e*PKPdf **PKPdf 16 43 14.8 -0.7**
ZAA0 *e*PKPbc **PKPbc 16 43 23.6 -0.1**
ZALV Zalesovo Beam 154.30 32 PKP **PKPdf 16 43 16.3 +0.9**
comp=Z,6.6nm,0.9s,baz=260,slow=2.5,SNR=18
ZALV PKPbc **PKPbc 16 43 23.6 -0.1**
comp=Z,27nm,0.6s,baz=311,slow=3.8,SNR=55
ZALV Zalesovo Beam 154.30 32 *e*PKPdf **PKPdf 16 43 14.6 -0.8**
ZALV *e*PKPbc **PKPbc 16 43 23.6 -0.1**
ZALV Zalesovo Beam 154.30 32 *e*PKIKP **PKPdf 16 43 14.6 -0.8**
ZALV *e* 16 43 23.6
BOD Bodaibo 155.73 352 *e*PKP2 **PKPab 16 43 40.4 -3.3**
BOD pmax pmax
comp=Z,37nm,1.2s
MK31 Makanchi Array 156.90 49 *e*PKPdf **PKPdf 16 43 18.6 -0.7**
MK31 *e*PKPdif **sPKPdf 16 43 29.1 -1.1**
MK31 *e*PKPab **PKPab 16 43 49.3 0.0**
MK31 Makanchi Array 156.90 49 *e*PKIKP **PKPdf 16 43 18.6 -0.7**
MK31 *e* 16 43 29.1
MKAR Makanchi Array 156.90 49 PKP **PKPdf 16 43 19.6 +0.4**
comp=Z,3.4nm,0.9s,baz=341,slow=1.0,SNR=14
MKAR PKPbc **sPKPdf 16 43 29.9 -0.3**
comp=Z,7.8nm,0.9s,baz=27,slow=1.5,SNR=16
MKAR PKPab **PKPab 16 43 49.7 +0.4**
comp=Z,9.7nm,0.6s,baz=278,slow=3.9,SNR=29
MKAR PP **PP 16 47 30.3 +2.4**
comp=Z,2.4nm,1.0s,baz=284,slow=5.0,SNR=4.6
MKAR Makanchi Array 156.90 49 *e*PKPdf **PKPdf 16 43 18.7 -0.6**
MKAR *e*PKPdif **sPKPdf 16 43 29.0 -1.2**
MKAR *e*PKPab **PKPab 16 43 49.3 +0.1**
MKAR PP **PP 16 47 30.3 +2.4**
MKAR Makanchi Array 156.90 49 *e*PKIKP **PKPdf 16 43 18.7 -0.6**
MKAR *e* 16 43 29.0
MKAR 16 47 30.3
MK01 Makanchi Array 156.92 49 *e*PKPdf **PKPdf 16 43 18.5 -0.7**
MK01 *e*PKPab **PKPab 16 43 49.5 +0.2**
PYUN Piuthan 158.09 99 *e*P **PKPdf 16 43 21.2 -0.4**
KOLN Koldanda 158.47 100 *e*P **PKPdf 16 43 21.6 -0.4**
DANN Dangsing 158.81 99 *e*P **PKPdf 16 43 22.6 +0.1**
DMN Daman 159.63 102 *e*P **PKPdf 16 43 22.9 -0.6**
KKN Kakani 159.85 102 *e*P **PKPdf 16 43 23.1 -0.5**
PKIN Phulchoki 159.86 102 *e*P **PKPdf 16 43 23.2 -0.5**
PKI Pulchoki 159.87 102 *e*P **PKPdf 16 43 23.2 -0.6**
MDJ Mudanjiang 160.01 309 PKP **PKPdf 16 43 23.3 +0.3**
GUN Gumba 160.38 102 *e*P **PKPdf 16 43 24.2 -0.2**
JIRN Jiri 160.54 103 *e*P **PKPdf 16 43 24.3 -0.3**
RAMN Ramite 160.57 105 *e*P **PKPdf 16 43 24.5 0.0**
ODAN Odare 161.16 107 *e*P **PKPdf 16 43 25.1 0.0**
WMQ Urumqi 161.62 52 *e*PKP **PKPdf 16 43 24.4 -0.5**
WMQ pPKP sPKPdf 16 43 34.3 -1.5
WMQ LR LR
comp=Z,660nm,29.3s
WMQ LR LR
comp=Z,680nm,29.3s
WMQ LR LR
comp=Z,570nm,26.1s
PBKT Sadao Pong 161.69 159 *e*PKPdf **PKPdf 16 43 25.3 -0.3**
PBKT *e*PKPab **PKPab 16 44 10.5 -0.1**
UTTA Uttaradit 162.66 157 P **PKPdf 16 43 28.7 +2.1**
CM01 Chiang Mai Arr 162.70 151 *e*PKPdf **PKPdf 16 43 25.1 -1.6**
CM31 Chiang Mai Arr 162.73 151 *e*PKPdf **PKPdf 16 43 26.9 +0.2**
CMAR Chiang Mai Arr 162.73 151 PKP **PKPdf 16 43 26.9 +0.2**
comp=Z,5.0nm,1.1s,baz=243,slow=2.6,SNR=21
CMAR PKPab **PKPab 16 44 15.1 -0.1**
comp=Z,1.9nm,0.8s,baz=225,slow=4.7,SNR=5.7
CMAR PP **PP 16 48 00.9 +2.1**
comp=Z,0.6nm,0.8s,baz=215,slow=5.5,SNR=4.5
SKNT Sakolnakorn 162.79 168 P **PKPdf 16 43 28.8 +2.1**
CN2 Changchun 163.03 311 *e*PKP **PKPdf 16 43 23.8 -2.4**
CHTO Chiang Mai 163.05 150 *e*PKPdf **PKPdf 16 43 26.3 -0.6**
CHTO Chiang Mai 163.05 150 *e*PKIKP **PKPdf 16 43 26.3 -0.6**
CHTO Chiang Mai 163.05 150 P **PKPdf 16 43 27.9 +0.9**
CMMT Chiang Mai 163.05 150 P **PKPdf 16 43 27.8 +0.8**
KSRS Korea Array 163.18 288 PKP **PKPdf 16 43 26.6 +0.1**
comp=Z,2.0nm,1.0s,baz=115,slow=1.8,SNR=6.1
KSRS PKPab **PKPab 16 44 18.5 +1.6**
comp=Z,1.4nm,0.8s,baz=76,slow=5.5,SNR=3.6
KS01 Wonju Array Si 163.20 288 *e*PKPdf **PKPdf 16 43 26.3 -0.2**
KSAR Wonju Array Be 163.21 288 PKP **PKPdf 16 43 26.6 +0.1**
KSAR PKPab **PKPab 16 44 18.5 +1.5**
KSAR Wonju Array Be 163.21 288 PKIKP **PKPdf 16 43 26.6 +0.1**
ZAK Zakamensk 163.25 10 *e*PKP2 **PKPab 16 44 16.7 -0.1**
ZAK pmax pmax
comp=Z,10.0nm,1.2s
ZAK pmax pmax
comp=Z,5.0nm,1.4s
NONG Nongkai 163.69 165 P **PKPdf 16 43 29.4 +1.9**
SHL Shillong 163.97 117 *e*PKPdf **PKPdf 16 43 27.6 -0.3**
SHL *e*PKPab **PKPab 16 44 20.6 -0.3**
SHL Shillong 163.97 117 *e*PKIKP **PKPdf 16 43 27.6 -0.3**
SHL *e* 16 44 20.6
SHL Shillong 163.97 117 *e*P **PKPdf 16 43 30.0 +2.1**
LSA Lhasa 165.34 102 *e*PKPdf **PKPdf 16 43 28.8 -0.5**
LSA *e*PKPab **PKPab 16 44 27.3 +0.1**
SONA1 Songino Array 166.07 4 *e*PKPdf **PKPdf 16 43 28.1 -0.8**
SONA1 *e*PKPab **PKPab 16 44 28.9 -0.4**
ULN Ulaanbaatar 166.07 2 *e*PKPdf **PKPdf 16 43 28.5 -0.4**
ULN *e*PKPab **PKPab 16 44 30.3 +1.0**
ULN Ulaanbaatar 166.07 2 *e*PKIKP **PKPdf 16 43 28.5 -0.4**
ULN *e* 16 44 30.3
SONM Songino Array 166.08 4 PKP **PKPdf 16 43 28.5 -0.4**
comp=Z,0.8nm,0.8s,baz=191,slow=1.6,SNR=5.1
SONM PKPab **PKPab 16 44 30.5 +1.2**
comp=Z,3.6nm,0.9s,baz=336,slow=3.4,SNR=9.3
SONM PP **PP 16 48 21.1 +5.0**
comp=Z,0.8nm,0.7s,baz=352,slow=6.8,SNR=3.6
KMI Kunming 170.23 153 PKP **PKPdf 16 43 31.8 -0.8**
KMI pPKP pPKPdf 16 43 37.4 -3.4
KMI sPKP 16 43 40.5
KMI PP **PP 16 48 44.3 +6.5**
KMI SS SS 17 09 43.5 +7.0
KMI AMB AMB
comp=Z,110nm,14.7s
KMI LR LR
comp=Z,300nm,20.0s
KMI LR LR
comp=Z,200nm,22.3s
KMI LR LR
comp=Z,300nm,18.9s
NJ2 Nanjing 170.42 262 *e*PKP **PKPdf 16 43 33.0 +0.9**
GTA Gaotai 171.66 47 PKP **PKPdf 16 43 33.0 +0.2**
GTA pPKP pPKPdf 16 43 38.3 -2.7
GTA sPKP 16 43 41.5
GTA PKPab **PKPab 16 44 56.0 +1.6**
GTA PP **PP 16 48 45.0 -0.4**
GTA SKS **SKSdf 16 50 30.6 -4.0**
GTA SKKS **SKKSac 16 55 27.1 -3.5**
GTA AMB AMB
comp=Z,190nm,6.8s
GTA LR LR
comp=Z,530nm,22.0s
GTA LR LR
comp=Z,270nm,21.6s
GTA LR LR
comp=Z,440nm,22.3s
HHC Hu-ho-hao-te 172.43 337 *e*PKP **PKPdf 16 43 35.6 +2.6**
GYA Guiyang 172.50 173 PKP **PKPdf 16 43 32.8 -0.7**
GYA PKPab **PKPab 16 44 59.0 +0.8**
GYA PKS **PKSdf 16 47 04.6 -1.4**
GYA PP **PP 16 48 51.3 +2.8**
GYA AMB AMB
comp=Z,140nm,8.0s
WHN Wuhan 173.41 241 PKP **PKPdf 16 43 28.3 -5.3**
CD2 Chengdu 175.53 131 PKP **PKPdf 16 43 33.0 -1.3**
ENH Enshi 176.04 203 *e*PKPdf **PKPdf 16 43 34.5 0.0**
LZH Lanzhou 176.20 55 *e*PKP **PKPdf 16 43 31.5 -3.0**
LZH pPKP pPKPdf 16 43 42.5 -0.2
LZH sPKP 16 43 47.0
LZH PKPab **PKPab 16 45 13.8 -0.9**
LZH PKS **PKSdf 16 47 02.8 -4.0**
LZH PP **PP 16 49 05.4 -2.4**
LZH SKKS 16 55 56.6
LZH AMB AMB
comp=Z,290nm,6.2s
LZH LR LR
comp=Z,420nm,16.5s
LZH LR LR
comp=Z,380nm,17.6s
LZH LR LR
comp=Z,550nm,19.0s
XAN Xi'an 178.95 276 PKP **PKPdf 16 43 35.3 +0.5**
XAN pPKP pPKPdf 16 43 42.4 -0.6
XAN PKPab **pPKPab 16 45 34.3 -0.7**
XAN PP **PP 16 49 19.8 -1.4**
XAN SKS **SKSdf 16 50 33.4 -2.8**
XAN SKKS **SKKSac 16 56 02.8 -2.6**
XAN AMB AMB
comp=Z,250nm,8.6s
XAN LR LR
comp=Z,360nm,21.6s
XAN LR LR
comp=Z,380nm,20.1s

NEIC ***20*** *16:23:49.1±0.8, 0.38S×29.93E, h17km±5km, mb4.8/15, Error ellipse: s-maj=8.0km s-min=6.7km az=99.0*
NEIC Felt [III] at Kampala. Also felt at Buganga, Kasese, Mukono, Ntungamo and Rukungiri. Felt [III] at Kigali, Rwanda. Also felt at Kalembule.
IDC ***20*** *16:23:50.2±0.5, 0.30S×29.92E, h22km±2km, mb4.1/22, mb1 4.2/24, mb1mx4.1/47, mbtmp4.3/24, ML4.9/2, MS4.0/20, Ms1 4.0/20, ms1mx3.9/47, Error ellipse: s-maj=15.9km s-min=11.2km az=108.0*
BJI ***20*** *16:23:52.3, 0.64S×30.41E, h10km, mb4.8/30, mB5.1/16, Ms4.8/3, Ms7 4.4/4*
ISCJB ***20*** *16:23:56.1±0.6, 0.82S±0.04×30.54E±0.06, h71km±5km, mb4.6/51, Error ellipse: s-maj=10.3km s-min=7.4km az=1.5*
ISC 20 16:23:50.1±0.4, 0.45S±0.05×29.94E±0.05, h15km±2km, h15km:pP-P, n144, σ2s26/111, mb4.8/65, MS4.0/19, 5C-6D, Zaire

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**0.81**	**101**	*e*P	**Pg**	**16 24 05.8**	**-0.1**
MBAR				*e*Sg	**Sg**	**16 24 15.7**	**-0.9**
NAI	**Nairobi**	**6.91**	**97**	*e*Pn	**Pn**	**16 25 29.6**	**-1.5**
I32KE	**NAIROBI INFRAS**	**6.93**	**97**	Lg	Lg	16 27 29.0	
	baz=250,slow=30,SNR=0.4						
I32KE				*i*		16 58 00.0	
	baz=276,slow=320,SNR=0.3						
KMBO	**Kilima Mbogo**	**7.34**	**95**	*i* P	**Pn**	**16 25 36.3**	**-0.7**
KMBO				*i* S	Sg	16 27 36.8	-9.1
KMBO	**Kilima Mbogo**	**7.34**	**95**	Pn	**Pn**	**16 25 35.8**	**-1.2**
	11nm,0.3s,baz=250,slow=16,SNR=63						
KMBO				Sn	**Sn**	**16 26 58.7**	**-1.6**
	29nm,0.3s,baz=249,slow=16,SNR=4.6						
KMBO				Lg	Lg	16 27 34.0	
	58nm,0.3s,baz=238,slow=20,SNR=5.8						
KMBO	**Kilima Mbogo**	**7.34**	**95**	*e*Pn	**Pn**	**16 25 35.3**	**-1.7**
KMBO				Sn	**Sn**	**16 26 58.7**	**-1.6**

KMBO Lg Lg 16 27 34.0
KMBO Kilima Mbogo 7.34 95 *i* P **Pn** **16 25 36.3 -0.7**
KMBO *i* S Sg 16 27 36.8 -9.1
LSZ Lusaka 14.84 187 Pn **Pn** **16 27 18.9 -0.7**
1.7nm,0.3s,baz=6.8,slow=11,SNR=29
LSZ Sn **Sn** **16 30 07.2 +3.2**
1.4nm,0.3s,baz=119,slow=23,SNR=3.3
LSZ Lg Lg 16 31 42.1
7.3nm,0.3s,baz=294,slow=23,SNR=6.5
LSZ LR LR 16 32 53.7
comp=Z,678nm,19.8s,baz=10.0,slow=36
LSZ Lusaka 14.84 187 *e*Pn **Pn** **16 27 17.2 -2.5**
LSZ Sn **Sn** **16 30 07.2 +3.2**
LSZ Lg Lg 16 31 42.1
ATD Arta Tunnel 17.49 47 LR LR 16 34 37.8
comp=Z,962nm,19.0s,baz=226,slow=37
ATD Arta Tunnel 17.49 47 *e*Pn **P** **16 27 57.5 +2.7**
29nm,1.2s
BLWY Bulawayo 19.61 184 *i* P **Pn** **16 28 19.4 -0.2**
BLWY Bulawayo 19.61 184 *i* P **Pn** **16 28 19.4 -0.2**
MATP Matopo 19.91 184 *i* P **Pn** **16 28 22.7 -0.4**
MATP Matopo 19.91 184 P **P** **16 28 22.1 +0.7**
7.8nm,0.6s,baz=5.9,slow=13,SNR=15
MATP Lg Lg 16 34 21.1
42nm,0.9s,baz=288,slow=23,SNR=6.6
MATP LR LR 16 36 24.2
comp=Z,786nm,18.1s,baz=8.0,slow=38
MATP Matopo 19.91 184 *i* P **Pn** **16 28 22.7 -0.4**
TSUM Tsumeb 22.23 212 P **P** **16 28 47.2 +0.6**
23nm,0.8s,baz=25,slow=9.7,SNR=31
TSUM Lg Lg 16 35 29.7
29nm,0.8s,baz=88,slow=18,SNR=3.2
TSUM LR LR 16 37 59.0
comp=Z,747nm,19.0s,baz=352,slow=38
TSUM Tsumeb 22.23 212 *e*P **P** **16 28 47.0 +0.4**
32nm,1.0s
TSUM Lg Lg 16 35 29.8
OPO Ambohidratompo 24.72 138 LR LR 16 39 01.8
comp=Z,486nm,18.8s,baz=344,slow=37
LBTB Lobatse 24.78 189 P **P** **16 29 11.8 +0.2**
8.9nm,1.0s,baz=23,slow=11,SNR=8.9
LBTB Lobatse 24.78 189 *e*P **P** **16 29 10.1 -1.5**
14nm,0.8s
RAYN Ar Rayn 28.22 31 *e*P **P** **16 29 45.3 +2.7**
6.9nm,1.2s
BOSA Boshof 28.36 189 P **P** **16 29 44.2 +0.3**
3.8nm,0.7s,baz=45,slow=10.0,SNR=4.9
BOSA LR LR 16 41 18.2
comp=Z,444nm,19.1s,baz=7.5,slow=37
EIL Elat 30.33 9 LR LR 16 41 19.5
comp=Z,317nm,18.1s,baz=188,slow=35
TORD Torodi Ar. Bea 31.09 297 P **P** **16 30 05.3 -2.9**
6.1nm,0.6s,baz=94,slow=7.3,SNR=43
TORD LR LR 16 41 58.8
comp=Z,316nm,21.8s,baz=25,slow=35
SUR Sutherland 32.91 194 P **P** **16 30 23.7 -0.5**
9.3nm,0.8s,baz=352,slow=5.4,SNR=6.9
MMAI Mount Meron Ar 33.68 8 LR LR 16 44 15.4
comp=Z,309nm,18.4s,baz=180,slow=36
KIC Kosan Boka 35.27 282 *e*P **P** **16 30 41.7 -3.0**
29nm,1.1s
DBIC Dimbokro 35.44 282 P **P** **16 30 44.0 -2.2**
3.8nm,0.5s,baz=75,slow=8.6,SNR=11
DBIC LR LR 16 45 47.6
comp=Z,240nm,18.1s,baz=65,slow=37
LIC Lamto 35.53 281 *e*P **P** **16 30 44.4 -2.5**
36nm,0.8s
TIC Toumodi 35.59 282 *e*P P 16 30 42.5 -5.0
WSAR Wadi Sarin 36.50 48 LR LR 16 46 52.8
comp=Z,219nm,20.1s,baz=250,slow=38
MANT Manisa 38.77 358 *e*P P 16 31 21.5 +7.1
114nm,1.4s
BR131 Keskin Array S 40.12 4 *e*P **P** **16 31 29.6 +4.1**
BRTR Keskin Array B 40.12 4 P **P** **16 31 22.9 -2.6**
0.6nm,0.6s,baz=172,slow=9.4,SNR=3.8
BRTR pP **pP** **16 31 29.8 -0.4**
3.5nm,0.8s,baz=180,slow=11,SNR=12
BRTR LR LR 16 50 33.2
comp=Z,108nm,18.3s,baz=178,slow=40
KEST Kesra 40.79 334 *e*P P 16 31 37.5 +6.4
16nm,1.1s
FNA Florina 41.77 350 *e*P P 16 31 45.4 +6.4
28nm,1.1s
GNI Garni 42.60 17 pP **pP** **16 31 52.0 +1.5**
30nm,0.9s,baz=172,slow=4.0,SNR=6.9
GNI LR LR 16 49 43.6
comp=Z,185nm,18.7s,baz=196,slow=37
GNI Garni 42.60 17 *e*P P 16 31 50.8 +4.8
38nm,0.9s
MATE Matera 42.64 345⇑ *i*P **P** **16 31 50.5 +4.5**
AKH Akhalkalaki 43.44 15 *e*P P 16 31 58.5 +5.8
29nm,1.0s
AKH Akhalkalaki 43.44 15⇓ *i*P P 16 31 59.8 +7.1
TTG Podgorica 43.76 349 *e*P P 16 32 01.4 +6.4
30nm,1.1s
TBLG Delisi 44.07 16 *e*P P 16 32 02.5 +4.9
33nm,0.8s
DIVS Divibare 45.23 350 *e*P P 16 32 11.8 +4.9
29nm,1.3s
KBZ Khabaz 45.48 13 pP **pP** **16 32 14.5 +1.1**
5.0nm,0.9s,baz=185,slow=5.6,SNR=5.7
KBZ LR LR 16 50 30.8
comp=Z,94nm,18.8s,baz=182,slow=35
HERR Herculane 45.63 353⇑ *i*P P 16 32 14.8 +4.9
KIV Kislovodsk 45.65 13 *e*P P 16 32 16.0 +5.7
29nm,1.4s
KVAR Kislovodsk Arr 45.65 13 LR LR 16 52 44.1
comp=Z,80nm,18.3s,baz=76,slow=38
MLR Muntele Rosu 45.88 356 *e*P P 16 32 19.2 +7.1
15nm,1.2s
MLR Muntele Rosu 45.88 356⇓ *i*P P 16 32 19.6 +7.5
VOIR 45.89 355⇑ *i*P **P** **16 32 09.8 -2.3**
LOT Lotru 46.03 354⇓ *i*P P 16 32 18.5 +5.3
GEYT Alibeck 46.19 31 P **P** **16 32 14.4 -0.2**
0.5nm,0.5s,baz=236,slow=10,SNR=3.1
GEYT LR LR 16 52 34.4
comp=Z,111nm,21.4s,baz=215,slow=37
PLOR Plostina 46.20 357⇑ *i*P P 16 32 20.8 +6.4
SIRR Siria 47.09 352⇑ *i*P P 16 32 27.1 +5.7
BIZ Bicaz 47.31 356⇓ *i*P P 16 32 30.6 +7.5
MORH M¨ţr¨igy, Hung 47.52 349 *e*P P 16 32 30.9 +6.2
BUR08 Bucovina Ar. S 48.08 356 *e*P **P** **16 32 32.1 +2.9**
ARSA Arzberg 49.15 347 *es*P P 16 32 44.5 +7.1
3.8nm,0.7s
KECS Kecovo 49.42 352 *e*P **P** **16 32 43.5 +4.1**
ABTA Abfaltersbach 49.43 344 *es*P P 16 32 47.4 +7.9
11nm,1.2s
KBA Koelnbreinsper 49.51 345 sP P 16 32 47.7 +7.4
14nm,1.3s
VYHS Vyhne 49.69 350 *e*P **P** **16 32 45.5 +4.1**
CONA Conrad Observa 49.72 348 *ep*P **P** **16 32 46.3 +4.5**
7.4nm,1.3s
BNI Bardonecchia 49.78 338 *e*P P 16 32 47.8 +5.5
52nm,1.9s
FUORN Ofenpass-Fuorn 49.96 342 *e*P P 16 32 50.0 +6.2
46nm,1.9s
MOA Molln 50.00 346 *ep*P P 16 32 48.6 +4.7
7.9nm,0.8s
TUE Stuetta 50.11 342 *e*P P 16 32 50.4 +5.5
11nm,0.8s
WTTA Wattenberg 50.14 344 pP P 16 32 50.1 +5.1
8.4nm,1.0s
FETA Feichten 50.18 343 *ep*P P 16 32 50.7 +5.3
4.5nm,1.0s
SQTA Sankt Quirin 50.22 343 *es*P P 16 32 51.4 +5.8
9.3nm,0.8s
WATA Walderalm 50.22 344 *es*P P 16 32 51.3 +5.6
8.7nm,0.9s
JAVC Velka Javorina 50.25 349 *e*P P 16 32 51.0 +5.3
MOTA Moosalm 50.36 343 *ep*P **P** **16 32 51.2 +4.5**
5.4nm,0.5s
ESDC Sonseca Array 50.53 326 P **P** **16 32 46.8 -1.3**
2.2nm,0.8s,baz=135,slow=6.8,SNR=7.8
ESDC pP **sP** **16 32 54.3 -0.3**
4.7nm,0.9s,baz=135,slow=6.8,SNR=7.4
RETA Reutte 50.59 343 sP P 16 32 54.2 +5.8
6.8nm,0.7s
DAVA Damuels 50.67 342 *ep*P **P** **16 32 53.0 +3.9**
11nm,0.6s
KRUC Moravsky 50.68 349 *e*P **P** **16 32 53.3 +4.3**
VRAC Vranov 50.88 349⇓ *i*P P 16 32 55.1 +4.7
VRAC Vranov 50.88 349 *e*P **P** **16 32 54.7 +4.3**
AK11 Malin Array Si 50.94 359 *e*P P 16 32 55.6 +4.8
KIEV Kiev 50.95 359 P **P** **16 32 47.8 -3.1**
16nm,1.1s
KIEV *e* 16 32 54.4
AKASG Malin Array Be 50.96 359 pP pP 16 32 54.8 -0.8
11nm,0.9s,baz=184,slow=6.9,SNR=7.1
GERES GERESS Array B 51.07 346 P **P** **16 32 49.7 -2.2**
1.5nm,0.7s,baz=167,slow=8.2,SNR=13
GERES pP **pP** **16 32 56.4 -0.2**
3.5nm,0.7s,baz=152,slow=6.0,SNR=15
GERES LR LR 16 55 59.7
comp=Z,93nm,19.6s,baz=148,slow=38
TREC Trest 51.09 348 *e*P **P** **16 32 56.2 +4.2**
MORC Moravsky Berou 51.15 350 *e*P **P** **16 32 57.0 +4.4**
9.6nm,0.9s
MORC Moravsky Berou 51.15 350 *e*P **P** **16 32 56.7 +4.2**
PALK Pallekele 51.20 80 LR LR 16 53 35.7
comp=Z,122nm,18.6s,baz=298,slow=35
KHC Kasperske Hory 51.36 346 *e*P **P** **16 32 57.0 +2.8**
6.1nm,0.9s
KHC Kasperske Hory 51.36 346 *e*P **P** **16 32 51.6 -2.5**
KHC *ex* x 16 32 57.5
KRLC Kraliky 51.58 349 *e*P P 16 33 00.9 +5.2
KRLC epP sP 16 33 05.8 +3.6
DPC Dobruska-Polom 51.93 349 *e*P P 16 33 03.1 +4.8
UPC Upice 52.14 349 *e*P P 16 33 04.8 +5.0
BRG Berggiesshubel 52.91 347 *e*P P 16 33 11.5 +6.0
6.8nm,1.1s
CLL Collm 53.53 347 *e*(sP) **sP** **16 33 15.0 -1.5**
CLL *e* 16 33 19.0
comp=Z,6.0nm,1.1s
ABKAR Akbulak array 55.84 23 *e*P **P** **16 33 30.3 +3.4**
AKTO Aktyubinsk 56.06 21 P **P** **16 33 26.6 -1.8**
comp=Z,1.7nm,0.7s,baz=219,slow=9.5,SNR=3.8
AKTO pP **pP** **16 33 33.9 +0.7**
comp=Z,5.3nm,0.9s,baz=178,slow=18,SNR=25
KK31 Karatay Array 56.56 35 *e*P **P** **16 33 31.6 -0.7**
KKAR Karatay Array 56.56 35 *e*P **P** **16 33 31.6 -0.7**
KSH Kashi 57.85 41 *e*P **P** **16 33 43.0 +1.5**
KSH S **S** **16 41 38.8 -2.1**
KSH pmax pmax
comp=Z,300nm,3.9s
PYUN Piuthan 58.17 56 *e*P **P** **16 33 42.4 -1.7**
comp=Z,23nm,1.0s
KOLN Koldanda 58.57 57 *e*P **P** **16 33 45.1 -1.8**
comp=Z,26nm,1.0s
DANN Dangsing 58.89 56 *e*P **P** **16 33 47.4 -1.8**
comp=Z,16nm,0.7s
DMN Daman 59.78 57 *e*P **P** **16 33 53.4 -1.9**
comp=Z,25nm,1.1s
KKN Kakani 59.98 57 *e*P **P** **16 33 54.5 -2.2**
PKIN Phulchoki 60.02 58 *e*P **P** **16 33 54.8 -2.2**
PKI Pulchoki 60.02 58 *e*P **P** **16 33 54.8 -2.3**
GUN Gumba 60.52 57 *e*P **P** **16 33 58.6 -2.0**
comp=Z,35nm,1.0s
JIRN Jiri 60.71 58 *e*P **P** **16 33 59.4 -2.5**
RAMN Ramite 60.85 59 *e*P **P** **16 34 00.5 -2.2**
ARU Arti 61.24 18 P **P** **16 34 02.7 -1.7**
comp=Z,3.2nm,0.5s,baz=226,slow=5.2,SNR=11
KLMR Klimovskoe 61.58 5 *e*P **P** **16 34 10.3 +3.7**
KLMR AMP 16 34 14.2
comp=Z,13nm,1.0s
FINES FINESS Array B 61.80 358 P **P** **16 34 07.3 -0.7**
comp=Z,4.2nm,0.9s,baz=177,slow=2.6,SNR=3.8
FINES pP **sP** **16 34 14.0 -0.6**
comp=Z,3.2nm,0.6s,baz=216,slow=3.2,SNR=3.1
NB2 NORSAR Subarra 62.99 350 P **P** **16 34 13.7 -2.4**
comp=Z,5.1nm,0.9s,baz=160,slow=6.5
NOA NORSAR Array B 62.99 350 P **P** **16 34 13.5 -2.7**
comp=Z,1.9nm,0.8s,baz=160,slow=6.6,SNR=6.5
NOA pP **pP** **16 34 20.3 -0.6**
comp=Z,2.8nm,0.7s,baz=160,slow=6.6,SNR=8.4
BRVK Borovoye 63.01 26 *e*P **P** **16 34 14.8 -1.6**
comp=Z,32nm,1.3s
BRVK *e* 16 34 21.2
BVAR Borovoye Array 63.03 26 P **P** **16 34 14.1 -2.5**
comp=Z,0.9nm,0.7s,baz=202,slow=7.5,SNR=5.4
BVAR pP **pP** **16 34 21.5 +0.2**
comp=Z,3.7nm,0.7s,baz=226,slow=6.0,SNR=19
KURBB Kurchatov Arra 65.46 32 P **P** **16 34 30.1 -2.4**
comp=Z,2.9nm,0.8s,baz=241,slow=6.7,SNR=13
KURBB pP **pP** **16 34 37.5 +0.3**
comp=Z,5.8nm,0.8s,baz=238,slow=6.8,SNR=18
MK01 Makanchi Array 65.53 37 *e*P **P** **16 34 32.1 -1.0**
MKAR Makanchi Array 65.54 37 P **P** **16 34 31.1 -2.1**
comp=Z,1.1nm,0.6s,baz=241,slow=6.0,SNR=2.5
MKAR pP **pP** **16 34 38.2 +0.3**
comp=Z,6.3nm,0.6s,baz=242,slow=6.3,SNR=11
KURK Kurchatov 65.56 32 *e*P **P** **16 34 32.1 -1.0**
comp=Z,54nm,1.8s
KURK pP **pP** **16 34 37.5 -0.3**
KURK *e* 16 34 38.3
WMQ Urumqi 67.61 41 *e*P **P** **16 34 50.3 +3.8**
WMQ pmax pmax
comp=Z,15nm,1.3s
WMQ pmax pmax
comp=Z,150nm,4.1s
WMQ LR LR
comp=Z,550nm,34.5s
WMQ LR LR
comp=Z,330nm,22.5s
SYO Syowa Base 68.75 176⇓ *i*P P 16 35 04.0 +11
ARCES ARCESS Array B 69.92 358 P **P** **16 34 58.1 -2.2**
comp=Z,1.6nm,0.6s,baz=155,slow=4.0,SNR=14
ARCES pP **pP** **16 35 05.5 +0.4**
comp=Z,3.5nm,0.6s,baz=167,slow=5.7,SNR=4.0
CMAR Chiang Mai Arr 70.26 70 P **P** **16 35 02.4 -1.1**
comp=Z,1.2nm,0.9s,baz=260,slow=6.6,SNR=11
CM01 Chiang Mai Arr 70.27 70 *e*P **P** **16 35 00.6 -2.9**
CHTO Chiang Mai 70.31 70 P P 16 35 12.9 +9.2
ZALV Zalesovo Beam 70.50 31 P **P** **16 35 01.7 -2.4**
comp=Z,3.0nm,0.8s,baz=244,slow=6.4,SNR=7.0
ZALV pP **pP** **16 35 09.2 +0.3**
comp=Z,10.0nm,0.8s,baz=251,slow=5.7,SNR=13
KMI Kunming 74.64 64 P **P** **16 35 30.4 +0.7**
KMI pmax pmax
comp=Z,14nm,0.8s
GTA Gaotai 74.83 49 P P 16 35 37.4 +7.0
GTA pP PcP 16 35 42.9 -1.5
GTA sP sP 16 35 46.0 +9.0
GTA S S 16 45 17.3 +10
GTA pmax pmax
comp=Z,6.0nm,1.7s
GTA pmax pmax
comp=Z,80nm,4.7s
GTA LR LR
comp=Z,240nm,20.3s
GTA LR LR
comp=Z,250nm,19.6s
GTA LR LR
comp=Z,170nm,20.3s
CD2 Chengdu 76.37 58 *e*P **P** **16 35 41.0 +1.7**
LZH Lanzhou 77.29 53 *e*P P 16 35 49.3 +4.8
LZH pP PcP 16 35 54.0 -1.1
LZH sP sP 16 35 56.4 +5.3
LZH pmax pmax
comp=Z,21nm,1.1s
GYA Guiyang 78.32 63 *e*P **P** **16 35 53.0 +2.6**
GYA pmax pmax
comp=Z,10.0nm,1.0s
XAN Xi'an 81.12 56 P P 16 36 12.8 +7.4
XAN pmax pmax
comp=Z,7.0nm,1.6s
SONM Songino Array 81.25 42 P **P** **16 36 05.7 -0.2**
comp=Z,0.4nm,0.7s,baz=270,slow=4.3,SNR=3.1
SONM pP **sP** **16 36 12.5 0.0**
comp=Z,1.8nm,0.7s,baz=253,slow=5.6,SNR=8.3
SONA1 Songino Array 81.26 41 *e*P **P** **16 36 03.9 -2.1**
HHC Hu-ho-hao-te 83.94 49 *e*P **P** **16 36 22.6 +2.5**
HHC pmax pmax
comp=Z,20nm,1.2s
NJ2 Nanjing 89.31 58 *e*P **P** **16 36 47.0 +0.7**
NJ2 pmax pmax
comp=Z,13nm,0.5s
SCHQ Schefferville 94.28 325 LR LR 17 17 39.5
comp=Z,194nm,19.9s,baz=116,slow=34
CN2 Changchun 94.29 46 *e*P **P** **16 37 12.0 +2.8**
PLCA Paso Flores 97.66 229 LR LR 17 14 02.6
comp=Z,88nm,19.9s,baz=82,slow=31
PDAR Pinedale Array 124.42 325 PKP **PKPdf** **16 42 49.5 +0.1**
comp=Z,0.6nm,0.9s,baz=69,slow=4.9,SNR=2.8
PDAR pPKP **sPKPdf** **16 42 57.2 +1.1**
comp=Z,0.6nm,0.7s,baz=54,slow=2.6,SNR=3.5
TXAR Lajitas Array 127.30 307 PKP **PKPdf** **16 42 54.8 -0.3**
comp=Z,1.1nm,0.9s,baz=80,slow=1.8,SNR=5.8
TXAR pPKP **sPKPdf** **16 43 03.0 +1.2**
comp=Z,0.6nm,0.7s,baz=96,slow=2.8,SNR=4.7

PRU 20 16:31:51.3±0.0, 50.33N×18.88E, h0km, 2C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
OKC	**Ostrava-Krasne**	**0.68**	**224**	*e*SG		Sg	16 32 13.3	+0.1
MORC	**Moravsky Berou**	**1.02**	**238**⇓	*i*P		Sg	16 32 24.7	+0.5
MORC	**Moravsky Berou**	**1.02**	**238**	*e*PG		Pb	16 32 11.9	0.0
MORC				*e*SG		Sg	16 32 24.7	+0.5
KRLC	**Kraliky**	**1.37**	**260**	*e*PG		Pg	16 32 16.4	-1.2
KRLC				*e*SG		Sg	16 32 34.2	-1.1
DPC	**Dobruska-Polom**	**1.64**	**272**	*e*PG		Pn	16 32 21.6	+0.2
DPC				*e*SG		Sn	16 32 43.3	+0.1
PSZ	**Piszkesteto**	**2.50**	**164**	*e*P		Pg	16 32 40.9	+1.7
	17nm,1.0s							
PSZ	**Piszkesteto**	**2.50**	**164**⇑	*i*P		Pg	16 32 41.3	+2.0
PSZ	**Piszkesteto**	**2.50**	**164**	*e*P		Pg	16 32 41.0	+1.7
TRPA	**Tarpa**	**3.25**	**131**⇑	*i*P		Pn	16 32 40.1	-3.5

*ISCJB **20** 16:39:32.0±1.8, 35°.28N×0°.09×27°.85E±0°.05, h3km±16km, Error ellipse: s-maj=16.4km s-min=5.9km az=162.8*
*DDA **20** 16:39:31.2, 35°.27N×27°.84E, h5km, Ml2.5*
*ATH **20** 16:39:32.1, 35°.30N×27°.82E, h20km±5km, ML2.5/2, Error ellipse: s-maj=10.7km s-min=1.9km az=177.0*
*ISK **20** 16:39:32.3, 35°.25N×27°.85E, h11km, ML2.5/5*
ISC 20 16:39:33.2±1.9, 35°.31N±0°.07×27°.91E±0°.05, h19km±5km, n17, σ0°.84/24, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
ZKR	**Zakros**	**1.40**	**262**	P		**Pn**	**16 39 56.9**	**-0.8**
ZKR				S		**Sn**	**16 40 16.1**	**+0.4**
ZKR				AML		AML	16 40 24.9	
	comp=E,236μm,0.5s							
ZKR				AML		AML	16 40 27.8	
	comp=N,95μm,0.6s							
DAT	**Datca**	**1.44**	**349**	PN		**Pb**	**16 39 59.7**	**+0.2**
DAT				SN		**Sg**	**16 40 19.8**	**-0.1**
DAT	**Datca**	**1.44**	**349**	*i* P		**Pb**	**16 39 59.2**	**-0.3**
KSL	**Kastellorizon**	**1.60**	**58**	P		**Pb**	**16 40 02.7**	**+0.6**
DALY	**Dalyan (Mu¨la**	**1.62**	**22**	PN		**Pb**	**16 40 02.6**	**+0.1**
DALY				SN		**Sg**	**16 40 24.7**	**-0.8**
DALY	**Dalyan (Mu¨la**	**1.62**	**22**	*i* P		**Pg**	**16 40 05.0**	**+0.6**
FETY	**Fethiye**	**1.63**	**35**	PN		**Pb**	**16 40 02.8**	**+0.2**
FETY				SN		**Sg**	**16 40 25.1**	**-0.7**
AKAS	**Kas**	**1.66**	**56**	PN		**Pb**	**16 40 03.2**	**0.0**
AKAS				SN		**Sg**	**16 40 25.6**	**-1.1**
AKAS	**Kas**	**1.66**	**56**	*i* P		**Pb**	**16 40 03.0**	**-0.2**
TURN	**Turunc**	**1.66**	**20**	PN		**Pn**	**16 40 00.7**	**-0.5**
TURN				SN		**Sn**	**16 40 21.3**	**-0.7**
TURN	**Turunc**	**1.66**	**20**	*i* P		**Pn**	**16 40 00.4**	**-0.8**
BODT	**Bodrum**	**1.81**	**345**	PN		**Pb**	**16 40 04.9**	**-0.9**
NPS	**Neapolis**	**1.88**	**269**	P		**Pn**	**16 40 04.4**	**0.0**
ANAF	**Anafi Island**	**2.03**	**302**	P		**Pn**	**16 40 06.3**	**-0.1**
ANAF				S		**Sn**	**16 40 32.3**	**+1.2**
ANAF				AML		AML	16 40 36.6	
	comp=N,279μm,0.4s							
ANAF				AML		AML	16 40 38.8	
	comp=E,307μm,0.5s							
TAVA	**DENIZLI_Tavas**	**2.30**	**20**	*i* P		**Pg**	**16 40 18.0**	**+0.7**
AYDN	**Tasoluk**	**2.35**	**359**	*i* P		**Pb**	**16 40 13.6**	**-1.3**
AYDB	**Zeytinkoy-Aydi**	**2.63**	**360**	PN		**Pn**	**16 40 16.8**	**+2.0**

*IDC **20** 16:53:14.7±3.6, 2°.74S×102°.36E, h0km, mb3.5/5, mb1 3.5/5, mb1mx3.4/49, mbtmp3.5/5, Error ellipse: s-maj=161.5km s-min=21.5km az=55.0*
*ISCJB **20** 16:53:29.8±0.6, 2°.81S±0°.08×102°.34E±0°.07, h150km, mb3.2/5, Error ellipse: s-maj=13.9km s-min=6.8km az=39.5*
*DJA **20** 16:53:31.4±0.6, 3°S±5°×102°E±°, h140km±6km, M3.4/8, MLv3.4/8*
ISC 20 16:53:31.0±0.9, 2°.8S±0°.1×102°.33E±0°.09, h150km, n13, σ0°99/15, mb3.4/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MASI	**Maura Aman, Be**	**0.32**	**196**	P		**Pn**	**16 53 52.3**	**+0.6**
KRJI	**Kerinci**	**1.14**	**310**	P		**Pn**	**16 53 55.1**	**-2.0**
MNAI	**Manna**	**1.64**	**158**	P		**Pn**	**16 54 02.0**	**-0.1**
MNAI				S		**Sn**	**16 54 25.2**	**-0.8**
PPSI	**Pulau Pagai**	**2.32**	**272**	P		**Pn**	**16 54 10.9**	**+1.0**
PPSI				S		**Sn**	**16 54 38.4**	**-1.4**
MDSI	**Maura Dua**	**2.47**	**132**	P		**Pn**	**16 54 12.1**	**+0.3**
PDSI	**Padang**	**2.67**	**316**	P		**Pn**	**16 54 14.3**	**0.0**
KASI	**Kota Agung**	**3.44**	**141**	P		**Pn**	**16 54 23.0**	**-1.0**
SISI	**Saibi**	**3.57**	**295**	P		**Pn**	**16 54 25.8**	**+0.1**
WRA	**Warramunga Arr**	**35.57**	**121**	P		**P**	**17 00 13.9**	**-0.4**
	0.1nm,0.3s,baz=306,slow=8.1,SNR=5.2							
ASAR	**Alice Springs**	**36.89**	**127**	P		**P**	**17 00 25.6**	**+0.1**
	0.3nm,0.9s,baz=300,slow=7.7,SNR=8.8							
SONM	**Songino Array**	**50.58**	**4**	P		**P**	**17 02 16.0**	**+1.5**
	0.4nm,0.5s,baz=187,slow=7.9,SNR=4.6							
MKAR	**Makanchi Array**	**52.48**	**343**	P		**P**	**17 02 28.3**	**-0.2**
	0.3nm,0.5s,baz=157,slow=8.7,SNR=7.8							
ZALV	**Zalesovo Beam**	**58.44**	**348**	P		**P**	**17 03 10.9**	**0.0**
	0.6nm,0.5s,baz=151,slow=3.3,SNR=3.6							

*DDA **20** 16:54:14.6, 39°.53N×39°.86E, h5km, Ml3.6*
*ISK **20** 16:54:14.2, 39°.52N×39°.88E, h3km, ML3.5/14*
ISC 20 16:54:15.1±1.1, 39°.50N±0°.02×39°.88E±0°.02, h4km±10km, n54, σ1°06/70, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
ERZN	**Erzincan**	**0.15**	**306**	PG		**Pg**	**16 54 17.7**	**-0.4**
ERZN				SG		**Sg**	**16 54 20.2**	**+0.1**
EUZM	**Uzumlu**	**0.25**	**326**	*i* P		**Pg**	**16 54 19.8**	**-0.2**
EUZM				*i* S		**Sg**	**16 54 24.1**	**+0.8**
TNCL	**Tunceli-Merkez**	**0.46**	**214**	*i* P		**Pb**	**16 54 25.2**	**-0.7**
TNCL				*i* S		**Sb**	**16 54 32.6**	**-0.6**
YEDI	**Yedisu-Bingol**	**0.52**	**97**	PG		**Pg**	**16 54 25.2**	**+0.1**
YEDI				SG		**Sb**	**16 54 33.2**	**-1.6**
KOPT	**Kop Dagi**	**0.70**	**42**	*i* P		**Pg**	**16 54 28.8**	**+0.1**
PTK	**Pertek**	**0.71**	**212**	PG		**Pb**	**16 54 28.9**	**-1.3**
PTK				SG		**Sb**	**16 54 39.8**	**-0.7**
BGOL	**Bingol**	**0.80**	**129**	*i* P		**Pb**	**16 54 30.5**	**-1.2**
BGOL				*i* S		**Sb**	**16 54 43.0**	**+0.2**
BNGB	**Bing¨¶l**	**0.80**	**129**	PG		**Pb**	**16 54 30.6**	**-1.1**
KELT	**Kelkit**	**0.81**	**324**	*i* P		**Pg**	**16 54 29.8**	**-0.8**
KELT				*i* S		**Sb**	**16 54 42.7**	**-0.4**
BAYB	**BAYBURT**	**0.81**	**21**	*i* P		**Pg**	**16 54 30.1**	**-0.7**
ECAT	**Cat-ERZURUM**	**0.85**	**83**	*i* P		**Pg**	**16 54 31.0**	**-0.5**
REFA	**Refahiye_ERZ¨**	**0.87**	**263**	*i* P		**Pb**	**16 54 32.3**	**-0.6**
REFA				*i* S		**Sn**	**16 54 47.2**	**-0.2**
BAYT	**Ayd¨¬ntepe-Bay**	**0.92**	**13**	PG		**Pg**	**16 54 32.1**	**-0.6**
GUMT	**Gumushane**	**1.01**	**342**	PG		**Pg**	**16 54 34.1**	**-0.3**
ILIC	**ilic-Erzincan**	**1.01**	**268**	PG		**Pb**	**16 54 34.6**	**-0.7**
KEMA	**Kemaliye**	**1.10**	**258**	*i* P		**Pg**	**16 54 35.8**	**-0.4**
KEMA				*i* S		**Sb**	**16 54 51.1**	**-0.3**
BNGL	**BINGOL**	**1.13**	**119**	*i* P		**Pn**	**16 54 36.9**	**-1.0**
HANI	**Diyarbakir_Han**	**1.16**	**159**	*i* P		**Pn**	**16 54 38.1**	**-0.1**
HANI				*i* S		**Sn**	**16 54 57.1**	**+2.7**
VRTB	**Varto-Mus**	**1.27**	**105**	PN		**Pg**	**16 54 39.3**	**-0.2**
VRTB	**Varto-Mus**	**1.27**	**105**	*i* P		**Pg**	**16 54 39.6**	**+0.2**
MACK	**Trabzon**	**1.44**	**357**	*i* P		**Pb**	**16 54 42.0**	**-0.6**
SUSE	**Susehri**	**1.47**	**299**	*i* P		**Pb**	**16 54 42.7**	**-0.5**
KTUT	**Trabzon**	**1.49**	**357**	PN		**Pn**	**16 54 42.4**	**-0.2**
HEKM	**Malatya_Hekimh**	**1.61**	**248**	*i* P		**Pb**	**16 54 44.9**	**-0.7**
HEKM				*i* S		**Sg**	**16 55 10.8**	**+3.9**
HOMI	**Horasan**	**1.66**	**70**	*i* P		**Pg**	**16 54 48.3**	**+1.5**
ESPY	**Espiye-Giresun**	**1.67**	**328**	PN		**Pn**	**16 54 45.1**	**0.0**
CUZAR	**Zara_SIVAS**	**1.67**	**284**	*i* P		**Pb**	**16 54 45.4**	**-1.1**
SVAN	**Silvan-Diyarba**	**1.70**	**142**	PN		**Pb**	**16 54 45.9**	**-1.0**
SVAN	**Silvan-Diyarba**	**1.70**	**142**	*i* P		**Pg**	**16 54 48.0**	**+0.4**
EKAR	**Karacoban**	**1.71**	**97**	*i* P		**Pg**	**16 54 48.9**	**+0.9**
CHOM	**Cayeli-Rize**	**1.73**	**23**	PN		**Pn**	**16 54 46.2**	**+0.2**
CUKAN	**kangal_SIVAS**	**1.88**	**265**	*i* P		**Pb**	**16 54 48.9**	**-1.1**
CUKAN				*i* S		**Sg**	**16 55 17.1**	**+1.7**
BTMN	**Batman**	**1.94**	**145**	*i* P		**Pg**	**16 54 52.2**	**-0.1**
AKCD	**Akcadag**	**1.94**	**232**	*i* P		**Pb**	**16 54 49.4**	**-1.8**
AKCD				*i* S		**Sg**	**16 55 19.0**	**+1.5**
DDEM	**Demirkent**	**2.00**	**45**	*i* P		**Pg**	**16 54 53.4**	**-0.1**
EATA	**Eleskirt**	**2.05**	**79**	*i* P		**Pg**	**16 54 54.0**	**-0.4**
DBAD	**Bademkaya**	**2.06**	**42**	*i* P		**Pb**	**16 54 52.5**	**-0.6**
DARE	**Darende-Malaty**	**2.08**	**244**	PN		**

DAGI	**Agillar**	**2.22**	**44**	*i* P		**Pb**	**16 54 54.4**	**-1.4**
TUTA	**Tutak**	**2.27**	**92**	*i* P		**Pg**	**16 54 57.7**	**-1.0**
DBOC	**Borcka**	**2.29**	**36**	*i* P		**Pb**	**16 54 55.7**	**-1.4**
MARD	**Mardin**	**2.29**	**162**	*i* P		**Pb**	**16 54 56.5**	**-0.7**
ARTV	**Artvin**	**2.30**	**42**	*i* P		**Pg**	**16 54 58.1**	**-1.1**
CUALT	**Altinyayla-SIV**	**2.43**	**266**	*i* P		**Pb**	**16 54 58.2**	**-1.2**
ELBS	**KAHRAMANMARAS**	**2.44**	**242**	*i* P		**Pg**	**16 55 00.6**	**-1.3**
ELBS				*i* S		**Sg**	**16 55 34.2**	**+0.7**
BATM	**Batumi**	**2.52**	**33**	P		**Pn**	**16 54 57.8**	**+1.0**
BATM				S		**Sg**	**16 55 36.7**	**+0.8**
ERBA	**Erbaa**	**2.67**	**297**	*i* P		**Pb**	**16 55 03.7**	**+0.2**
TOKT	**Tokat**	**2.69**	**289**	PN		**Pn**	**16 54 59.7**	**+0.5**
CUSAR	**Sarkisla-SIVAS**	**2.81**	**269**	*i* P		**Pb**	**16 55 05.2**	**-0.8**
ANDN	**Andirin**	**3.37**	**236**	*i* P		**Pg**	**16 55 18.9**	**-0.8**

IDC ***20*** *16:59:34.1±1.4,36.39N×141.92E,h0km,mb3.7/7, mb1 3.7/10,mb1mx3.6/58,mbtmp3.7/10,ML3.5/3,Error ellipse: s-maj=37.5km s-min=19.0km az=78.0*
JMA ***20*** *16:59:39.0±0.1,36.41N×141.69E,h61km±4km,M3.4*
ISC 20 16:59:36.3±2.1, 36.37N±0.04×141.89E±0.08, h15km±12km, n25,σ1$27/35, mb3.6/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHYU	**Hitachinakayam**	**1.05**	**269**	P	**Pb**	**16 59 55.9**	**-0.3**
JHYU				*e*S	**Sb**	**17 00 09.0**	**-0.8**
CHOJ	**Chosi**	**1.07**	**232**	P	**Pg**	**16 59 57.1**	**+0.1**
CHOJ				*e*S	**Sb**	**17 00 10.5**	**+0.2**
JHO	**Hitachi**	**1.09**	**283**	P	**Pb**	**16 59 56.0**	**-0.9**
ONAJ	**Iwakimizuishiy**	**1.14**	**310**	P	**Pb**	**16 59 56.7**	**-1.1**
JIHU	**Itakohorinouch**	**1.17**	**250**	P	**Pn**	**16 59 57.9**	**-0.3**
JIHU				*e*S	**Sb**	**17 00 11.8**	**-1.5**
JFK	**Kawauchi**	**1.28**	**321**	P	**Pn**	**17 00 00.0**	**+0.2**
JFT	**Otama**	**1.69**	**313**	P	**Pn**	**17 00 05.9**	**+0.6**
JMM	**Marumori**	**1.73**	**330**	P	**Pn**	**17 00 06.1**	**+0.3**
JMM				*e*S	**Sn**	**17 00 26.1**	**-1.5**
BSO1	**Boso 1**	**1.87**	**204**	P	**Pn**	**17 00 08.0**	**+0.8**
BSO1				*e*S	**Sn**	**17 00 30.9**	**+0.6**
BSO3	**Boso 3**	**1.93**	**216**	P	**Pn**	**17 00 09.1**	**+0.8**
BSO3				*e*S	**Sn**	**17 00 31.7**	**-0.4**
JAG	**Ashikaga**	**1.96**	**272**	P	**Pn**	**17 00 08.7**	**-0.4**
JFY	**Yanaizu**	**2.03**	**301**	P	**Pn**	**17 00 10.9**	**+0.9**
JRY	**Ryogami san**	**2.44**	**263**	P	**Pn**	**17 00 15.7**	**0.0**
JRY				*e*S	**Sn**	**17 00 42.9**	**-2.4**
MJAR	**Matsushiro Arr**	**2.97**	**274**	Pn	**Pn**	**17 00 24.0**	**+1.1**
	11nm,0.3s,baz=120,slow=8.5,SNR=127						
MJAR				Sn	**Sn**	**17 01 01.3**	**+3.0**
	5.4nm,0.3s,baz=289,slow=30,SNR=5.4						
MAT	**Matsushiro**	**2.97**	**274**	P	**Pn**	**17 00 24.1**	**+1.1**
MAT				*e*S	**Sn**	**17 00 58.3**	**-0.1**
JHJ	**Hachijo jima 2**	**3.68**	**209**	Pn	**Pn**	**17 00 32.0**	**-0.7**
	29nm,0.3s,baz=343,slow=23,SNR=9.1						
JHJ				Sn	**Sn**	**17 01 13.9**	**-1.8**
	53nm,0.3s,baz=54,slow=21,SNR=6.0						
ASAJ	**Asahikawa**	**7.76**	**4**	Pn	**Pn**	**17 01 27.9**	**-0.7**
	0.4nm,0.3s,baz=200,slow=16,SNR=12						
KSRS	**Korea Array**	**11.23**	**280**	Pn	**Pn**	**17 02 20.2**	**+4.0**
	0.1nm,0.3s,baz=95,slow=14,SNR=4.3						
SONM	**Songino Array**	**28.47**	**305**	P	**P**	**17 05 31.2**	**+0.4**
	1.9nm,0.7s,baz=102,slow=9.4,SNR=12						
CMAR	**Chiang Mai Arr**	**41.70**	**256**	P	**P**	**17 07 23.6**	**-1.1**
	0.4nm,0.3s,baz=49,slow=9.7,SNR=4.4						
ZALV	**Zalesovo Beam**	**42.64**	**313**	P	**P**	**17 07 31.6**	**-0.3**
	0.4nm,0.4s,baz=80,slow=8.3,SNR=4.1						
MKAR	**Makanchi Array**	**44.80**	**303**	P	**P**	**17 07 49.9**	**+0.5**
	0.7nm,0.7s,baz=86,slow=10.0,SNR=8.0						
WRA	**Warramunga Arr**	**56.46**	**189**	P	**P**	**17 09 17.5**	**-0.1**
	0.2nm,0.4s,baz=6.3,slow=7.3,SNR=4.4						
ASAR	**Alice Springs**	**60.19**	**188**	P	**P**	**17 09 44.7**	**+1.1**
	0.1nm,0.5s,baz=14,slow=13,SNR=2.4						
AKASG	**Malin Array Be**	**75.05**	**323**	P	**P**	**17 11 17.4**	**+0.2**
	0.5nm,0.5s,baz=51,slow=6.0,SNR=3.2						

UCR 20 17:04:11.4±1.6, 12.35N×87.76W, h49km±34km, ML3.6, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CSGN	**Cosiguina Volc**	**0.66**	**17**	*e*P	Pn	17 04 25.5	+0.8
CSGN				*e*S	Sn	17 04 35.6	+1.4
CRIN	**San Cristobal**	**0.78**	**63**	*e*P	Pn	17 04 26.6	+0.4
CRIN				*e*S	Sn	17 04 38.2	+1.2
LCND	**La Caˆ–ada**	**0.97**	**352**	IAML		17 04 44.2	
	comp=Z,4µm,0.3s						
CNGN	**Cerro Negro**	**1.04**	**81**	*e*P	Pn	17 04 28.6	-1.2
CNGN				*e*S	Sn	17 04 42.8	-0.5
COPN	**Copaltepe**	**1.15**	**98**	*e*P	Pn	17 04 30.7	-0.4
COPN				*e*S	Sn	17 04 45.6	-0.2
COPN				IAML		17 04 52.1	
	comp=Z,879nm,0.2s						
VSM	**San Miguel**	**1.19**	**335**	*e*P	Pn	17 04 32.7	+0.8
VSM				*e*S	Sn	17 04 48.4	+1.3
MOMN	**Momotombo**	**1.19**	**87**	*e*P	Pn	17 04 31.5	-0.3
MOMN				*e*S	Sn	17 04 46.7	-0.2
LCY	**Lacayo**	**1.19**	**334**	*e*P	Pn	17 04 31.8	-0.1
PACA	**Pacayal**	**1.25**	**334**	*e*P	Pn	17 04 33.2	+0.6
PACA				*e*S	Sn	17 04 49.0	+0.6
TECA	**Tecapa**	**1.35**	**328**	*e*P	Pn	17 04 34.0	-0.1
TECA				*e*S	Sn	17 04 51.8	+0.7
TGUH	**Tegucigalpa,Un**	**1.77**	**15**	*e*P	Pn	17 04 40.5	+0.9
PAVA	**Las Pavas**	**1.78**	**320**	*e*P	Pn	17 04 40.2	+0.4
LFRS	**El Faro**	**1.80**	**315**	*e*P	Pn	17 04 40.4	+0.3
LFRS				*e*S	Sn	17 05 02.6	+0.8
LBRS	**Las Brisas**	**1.87**	**318**	*e*P	Pn	17 04 41.4	+0.4
MATN	**Matagalpa**	**1.88**	**72**	*e*P	Pn	17 04 41.1	-0.1
LFU	**La Fuente**	**1.92**	**317**	*e*P	Pn	17 04 42.9	+1.2
LFU				*e*S	Sn	17 05 05.5	+0.7
BOQS	**Boqueron**	**2.03**	**313**	*e*P	Pn	17 04 43.6	+0.3
CEVE	**Cerro Verde**	**2.34**	**309**	*e*P	Pn	17 04 48.9	+1.2
IXG	**Ixpaco**	**3.19**	**305**	*e*P	Pn	17 05 00.4	+1.1

IDC 20 17:06:02.6±30.0, 48.23S×101.40E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/27, mbtmp3.6/3, MS4.1/1, Ms1 4.1/1, ms1mx3.3/23, Error ellipse: s-maj=850.4km s-min=31.5km az=109.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**16.35**	**40**	T	T	17 26 58.8	
	baz=214,slow=74,SNR=19						
H01W1	**Cape Leeuwin H**	**16.36**	**40**	T	T	17 26 56.7	
	baz=214,slow=74,SNR=23						
H01W3	**Cape Leeuwin H**	**16.36**	**40**	T	T	17 26 55.9	
	baz=214,slow=74,SNR=21						
ASAR	**Alice Springs**	**35.53**	**58**	P	P	17 13 01.4	+0.2
	1.1nm,1.0s,baz=211,slow=8.9,SNR=4.7						
VNDA	**Vanda**	**37.11**	**162**	P	P	17 13 14.0	-0.1
	0.3nm,0.6s,baz=270,slow=7.1,SNR=3.7						
WRA	**Warramunga Arr**	**38.74**	**55**	P	P	17 13 28.1	-0.4
	1.2nm,1.0s,baz=216,slow=8.4,SNR=5.3						
DAV	**Davao City (W)**	**59.04**	**28**	LR	LR	17 40 57.6	
	comp=Z,166nm,21.1s,baz=178,slow=36						

BJI ***20*** *17:08:58.9,22.53N×121.36E,h9km,mb4.6/62,mB5.0/48, ML5.0/7,Ms4.8/80,Ms7 4.8/74*
ISCJB ***20*** *17:08:59.9±0.3,22.397N±0.010×121.51E±0.01, h25km±2km,mb5.0/215,MS4.7/40,Error ellipse: s-maj=2.0km s-min=1.6km az=3.9*
NEIC ***20*** *17:08:59.8±1.0,22.34N×121.45E,h18km±6km,mb5.2/133, ML5.4(TAP),Error ellipse: s-maj=3.4km s-min=2.9km az=93.0*
NEIC Felt at Changhua, Kaohsiung and Taitung. Recorded [4 TAP] in Taitung; [2 TAP] in Chiayi, Kaohsiung, Pingtung and Yunlin; [1 TAP] in Changhua, Hualien and Nantou.
MOS ***20*** *17:09:00.5±1.1,22.32N×121.53E,h33km,mb5.3/54, MS4.9/6,Error ellipse: s-maj=7.0km s-min=4.4km az=108.8*
NIED ***20*** *17:09:00,22.60N×121.50E,h5km,Mw4.8 Best double couple: M0 1.86000×10^16 NP1:φ=69.00000°,δ62.00000°, λ169.00000°. NP2:φ=165.00000°,δ80.00000°,λ29.00000°.*
GCMT ***20*** *17:09:01.8±0.2,22.43N±0.01×121.39E±0.01,h23km, MW5.1/90,Moment Tensor Solution. s49,c68; s90,c160; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.37±.28; Mθθ0.04±.15; Mφφ-5.40±.18; Mrθ-1.76±.22; Mφθ-3.20±.09; Mφr-0.88±.23; Best double couple: M0 6.48600×10^16*

NP1:φ=219.00000°,δ54.00000°,λ109.00000°. NP2: φ=9.00000°,δ40.00000°,λ66.00000°. Principal axes: T 5.8990, Plg73.0000°, Azm182.0000°; N 1.1800, Plg15.0000°, Azm28.0000°; P -7.0730, Plg7.0000°, Azm296.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ASIES ***20*** *17:09:01.7,22.45N×121.40E,h25km,MW4.7*
JMA ***20*** *17:09:01.2±0.1,22.57N×121.54E,h14km±3km,M4.9*
TAP ***20*** *17:09:01.7,22.47N×121.36E,h27km,ML5.4,C*
IDC ***20*** *17:09:03.7±1.6,22.34N×121.43E,h45km±14km,mb4.5/29, mb1 4.5/32,mb1mx4.5/39,mbtmp4.7/32,ML4.0/3,MS4.4/22, Ms1 4.4/22,ms1mx4.2/44,Error ellipse: s-maj=13.2km s-min=9.6km az=77.0*
ISC 20 17:09:01.8±0.6, 22.41N±0.02×121.46E±0.02, h29km±3km, n664,σ1$70/738, mb5.1/226, MS4.8/40, 34C-94D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.38**	**167**	⇓P	**Pb**	**17 09 10.3**	**-0.1**
	baz=156						
LAY				*e*S	**Sn**	**17 09 17.2**	**-0.5**
	baz=156						
TTN	**Taitung**	**0.45**	**320**	⇑*i*P	**Pb**	**17 09 10.0**	**-1.3**
	baz=331						
TTN				S	**Sb**	**17 09 16.9**	**-1.0**
	baz=331						
ECL	**Taimali**	**0.50**	**292**	⇓*i*P	**Pb**	**17 09 10.0**	**-2.3**
	baz=289						
ECL				*i* S	**Sb**	**17 09 15.9**	**-3.5**
	baz=289						
TAW	**Tawu**	**0.52**	**264**	⇓*i*P	**Pb**	**17 09 10.7**	**-1.9**
	baz=255						
TWGBT	**Beinan**	**0.54**	**319**	⇓P	**Pb**	**17 09 10.8**	**-2.0**
	baz=311						
TWGBT				*e*S	**Sb**	**17 09 17.0**	**-3.3**
	baz=311						
TWG	**Pinlang**	**0.54**	**319**	*e*Pg	**Pb**	**17 09 10.5**	**-2.4**
EAST	**Anshuo**	**0.56**	**267**	⇓*i*P	**Pb**	**17 09 11.4**	**-1.9**
	baz=259						
EAST				*i* S	**Sb**	**17 09 18.0**	**-3.1**
	baz=259						
TSEB	**Hengchuen, Pin**	**0.72**	**226**	⇑*i*P	**Pb**	**17 09 15.2**	**-0.7**
	baz=227						
TSEB				*e*S	**Sb**	**17 09 25.1**	**-0.4**
	baz=227						
TWKBT	**Hengchun**	**0.76**	**232**	⇑P	**Pb**	**17 09 15.2**	**-1.3**
	baz=223						
TWKBT				S	**Sb**	**17 09 24.4**	**-2.2**
	baz=223						
TWK1	**Hengchun**	**0.76**	**233**	⇑*i*P	**Pb**	**17 09 15.1**	**-1.5**
	baz=223						
TWK1				*e*S	**Sb**	**17 09 24.4**	**-2.2**
	baz=223						
SCZT	**Fangliau**	**0.78**	**267**	⇓*i*P	**Pb**	**17 09 14.7**	**-2.1**
	baz=261						
HEN	**Hengchun**	**0.78**	**239**	⇑P	**Pb**	**17 09 15.6**	**-1.2**
	baz=224						
HEN				*e*S	**Sb**	**17 09 25.1**	**-1.9**
	baz=224						
MASBT	**Mashibuluo**	**0.79**	**285**	⇓P	**Pb**	**17 09 14.7**	**-2.3**
	baz=282						
MASBT				*e*S	**Sb**	**17 09 23.0**	**-4.4**
	baz=282						
FULB	**Fuli**	**0.80**	**349**	⇑P	**Pb**	**17 09 14.6**	**-2.6**
	baz=341						
FULB				*e*S	**Sb**	**17 09 25.3**	**-2.5**
	baz=341						
SSD	**Sandimen**	**0.83**	**294**	⇓*i*P	**Pn**	**17 09 15.1**	**-2.5**
	baz=296						
ELDTW	**Lidau**	**0.88**	**332**	⇓*i*P	**Pn**	**17 09 15.4**	**-2.9**
	baz=337						
SGLT	**Jiouru**	**0.95**	**290**	⇓*i*P	**Pn**	**17 09 18.3**	**-0.8**
	baz=287						
TWF1	**Yuli**	**0.95**	**351**	⇓*i*P	**Pn**	**17 09 16.7**	**-2.5**
	baz=346						
YULB	**Yu-li**	**0.99**	**351**	⇓P	**Pn**	**17 09 17.1**	**-2.6**
	baz=346						
YULB	**Yu-li**	**0.99**	**351**	*e*Pn	**Pn**	**17 09 17.0**	**-2.7**
STYT	**Tauyuan**	**0.99**	**319**	⇓*i*P	**Pn**	**17 09 17.7**	**-2.1**
	baz=328						
WLCH	**Liuqiu**	**1.00**	**267**	*e*P	**Pb**	**17 09 21.2**	**+0.6**
	baz=262						
TWP	**Hsiaoliuchiu**	**1.02**	**267**	⇓*e*P	**Pb**	**17 09 21.6**	**+0.8**
	baz=262						
TWM1	**Shoushan**	**1.04**	**293**	⇓P	**Pn**	**17 09 20.4**	**0.0**
	baz=294						
SGST	**Jiashian**	**1.05**	**310**	⇓*i*P	**Pn**	**17 09 19.8**	**-0.8**
	baz=311						
SGST				*e*S	**Sn**	**17 09 33.4**	**-0.8**
	baz=311						
KAU	**Kaohsiung**	**1.07**	**279**	*e*P	**Pb**	**17 09 22.0**	**+0.2**
	baz=275						
HGSD	**Ruisui**	**1.08**	**358**	⇑*e*P	**Pn**	**17 09 18.6**	**-2.4**
	baz=15						
EHY	**Hungye**	**1.10**	**353**	⇓*i*P	**Pn**	**17 09 18.7**	**-2.5**
	baz=347						
WTP	**Ta-pu**	**1.14**	**317**	⇓*i*P	**Pn**	**17 09 21.1**	**-0.7**
	baz=318						
WTP				*e*S	**Sn**	**17 09 36.3**	**-0.2**
	baz=318						
CHN1	**Nanshi**	**1.15**	**312**	⇓*i*P	**Pn**	**17 09 21.8**	**-0.2**
	baz=313						
CHN1				*e*S	**Sb**	**17 09 37.0**	**-0.8**
	baz=313						
TPUB	**Ta-pu**	**1.17**	**319**	⇓P	**Pn**	**17 09 21.6**	**-0.6**
	baz=321						
TPUB				S	**Sn**	**17 09 35.8**	**-1.4**
	baz=321						
TPUB	**Ta-pu**	**1.17**	**319**	*e*Pn	**Pn**	**17 09 21.1**	**-1.1**
YUS	**Yu-Shan**	**1.17**	**337**	⇓*i*P	**Pn**	**17 09 20.7**	**-1.9**
	baz=334						
CHN4	**Tsaushan**	**1.23**	**320**	⇓*i*P	**Pn**	**17 09 22.7**	**-0.3**
	baz=330						
CHN4				*e*S	**Sb**	**17 09 39.3**	**-0.7**
	baz=330						
TWK	**Hsinying**	**1.24**	**314**	⇓*i*P	**Pn**	**17 09 23.0**	**-0.1**
	baz=324						
TWK				S	**Sb**	**17 09 39.5**	**-0.7**
	baz=324						
EGFH	**Guangfu**	**1.25**	**359**	*e*P	**Pn**	**17 09 21.7**	**-1.7**
	baz=351						
TAI1	**Yung-k'ang**	**1.30**	**299**	⇓P	**Pn**	**17 09 24.2**	**+0.3**
	baz=298						
VWDT	**VWDT**	**1.37**	**348**	⇓P	**Pn**	**17 09 23.6**	**-1.3**
	baz=359						
CHN5	**Tsauling**	**1.38**	**329**	⇓*i*P	**Pn**	**17 09 24.9**	**-0.3**
	baz=330						
CHN5				S	**Sb**	**17 09 43.5**	**-0.9**
	baz=330						
SCLT	**Jiali**	**1.39**	**303**	⇓*i*P	**Pn**	**17 09 25.5**	**+0.3**
	baz=303						
SCLT				*e*S	**Sn**	**17 09 42.3**	**-0.3**
	baz=303						
ESL	**Shilin**	**1.40**	**359**	*e*P	**Pn**	**17 09 23.4**	**-2.0**
	baz=353						
CHN2	**Minshiung**	**1.44**	**321**	⇓*i*P	**Pn**	**17 09 26.6**	**+0.7**
	baz=322						
CHN2				S	**Sb**	**17 09 44.7**	**-1.2**
	baz=322						
CHY	**Chiayi**	**1.44**	**319**	⇓*i*P	**Pn**	**17 09 26.5**	**+0.6**
	baz=320						
CHY				*e*S	**Sb**	**17 09 44.8**	**-1.2**
	baz=320						
SSLB	**Suanglung**	**1.45**	**341**	⇓P	**Pn**	**17 09 25.2**	**-0.9**
	baz=353						
SSLB				*e*S	**Sn**	**17 09 43.9**	**-0.2**
	baz=353						
SSLB	**Suanglung**	**1.45**	**341**	*e*Pn	**Pn**	**17 09 24.9**	**-1.2**
CHN8	**Yiju**	**1.48**	**309**	⇓*i*P	**Pn**	**17 09 26.5**	**0.0**
	baz=310						
CHN8				S	**Sn**	**17 09 45.0**	**+0.2**
	baz=310						
WLGB	**Puzi**	**1.51**	**315**	⇓P	**Pn**	**17 09 27.1**	**+0.3**
	baz=315						
WLGB				*e*S	**Sn**	**17 09 46.1**	**+0.7**
	baz=315						
WGK	**Gukeng**	**1.52**	**327**	⇓*i*P	**Pn**	**17 09 27.7**	**+0.8**
	baz=328						
WDLH	**Douliu**	**1.53**	**327**	⇓P	**Pn**	**17 09 27.9**	**+0.8**
	baz=328						
WDLH				*e*S	**Sb**	**17 09 47.6**	**-0.9**
	baz=328						
SMLT	**Sun Moon Lake**	**1.55**	**341**	⇓*i*P	**Pn**	**17 09 27.4**	**-0.2**
	baz=352						
WJS	**Zhushan**	**1.56**	**335**	⇓*i*P	**Pn**	**17 09 28.5**	**+0.9**
	baz=336						
WJS				S	**Sb**	**17 09 48.2**	**-1.1**
	baz=336						
HWA	**Hwalien**	**1.57**	**5**	*e*P	**Pn**	**17 09 26.9**	**-0.7**
	baz=21						
TYC	**Yuchr**	**1.59**	**340**	⇓P	**Pn**	**17 09 28.6**	**+0.6**
	baz=342						
WNT	**Mingjian**	**1.63**	**334**	⇓*i*P	**Pb**	**17 09 29.5**	**-1.6**
	baz=336						
WNT				S	**Sn**	**17 09 49.1**	**+0.6**
	baz=336						
CHGB	**Renai**	**1.66**	**351**	⇓P	**Pn**	**17 09 28.1**	**-1.1**
	baz=5.0						
TWD	**Chiawan**	**1.67**	**4**	⇓*e*P	**Pn**	**17 09 27.7**	**-1.4**
	baz=358						
TWD				*e*S	**Sn**	**17 09 48.1**	**-1.3**
	baz=358						
WSF	**Szhu**	**1.67**	**317**	⇓*i*P	**Pn**	**17 09 29.0**	**0.0**
	baz=318						
WSF				*e*S	**Sn**	**17 09 49.4**	**-0.2**
	baz=318						
WHF	**Hehuan Shan**	**1.74**	**354**	*e*P	**Pn**	**17 09 29.1**	**-1.3**
	baz=8.0						
NACB	**Ninganchiao**	**1.76**	**4**	⇓*e*P	**Pn**	**17 09 28.4**	**-2.0**
	baz=357						
NACB	**Ninganchiao**	**1.76**	**4**	*e*Pn	**Pn**	**17 09 28.9**	**-1.4**
RLNB	**Erlin**	**1.79**	**326**	⇓P	**Pn**	**17 09 30.8**	**+0.1**
	baz=326						
RLNB				*e*S	**Sn**	**17 09 52.6**	**+0.2**
	baz=326						
WMLT	**Mailiao**	**1.79**	**321**	*e*P	**Pn**	**17 09 30.7**	**-0.1**
	baz=320						
WTCT	**Ta-ch'eng**	**1.81**	**323**	⇓P	**Pn**	**17 09 30.9**	**-0.1**
	baz=324						
WTCT				S	**Sn**	**17 09 52.9**	**0.0**
	baz=324						
TWT	**Tachien**	**1.85**	**352**	*e*P	**Pn**	**17 09 31.5**	**-0.3**
	baz=4.0						
TDCB	**Techi**	**1.85**	**352**	⇓P	**Pn**	**17 09 31.3**	**-0.5**
	baz=4.0						
WCHH	**Zhanghua**	**1.86**	**334**	⇓P	**Pn**	**17 09 32.3**	**+0.7**
	baz=317						
WDGT	**Dungji**	**1.86**	**297**	⇓*i*P	**Pn**	**17 09 30.6**	**-1.1**
	baz=297						
WDGT				*e*S	**Sn**	**17 09 51.2**	**-3.1**
	baz=297						
TCU	**Taichung**	**1.87**	**338**	*e*P	**Pn**	**17 09 32.8**	**+1.0**
	baz=338						
NNSB	**Datong**	**2.01**	**358**	*e*P	**Pn**	**17 09 33.4**	**-0.5**
	baz=13						
NNSH	**Datong**	**2.01**	**358**	*e*P	**Pn**	**17 09 34.6**	**+0.7**
	baz=13						
BBP	**Basco**	**2.02**	**166**	*e*P	**Pn**	**17 09 34.3**	**+0.4**
NNS	**Nan Shan**	**2.02**	**358**	*e*P	**Pn**	**17 09 33.8**	**-0.2**
	baz=13						
ENA	**Nanau**	**2.03**	**7**	*e*P	**Pn**	**17 09 32.7**	**-1.3**
	baz=359						
NANB	**Nanao**	**2.03**	**8**	P	**Pn**	**17 09 32.9**	**-1.1**
	baz=359						
TWQ1	**Liyutan**	**2.03**	**342**	⇓P	**Pn**	**17 09 34.8**	**+0.8**
	baz=326						
TWQ1				*e*S	**Sn**	**17 09 59.7**	**+1.3**
	baz=326						
VCHM	**Qimei**	**2.03**	**293**	⇓P	**Pn**	**17 09 32.9**	**-1.2**
	baz=293						
VCHM				S	**Sn**	**17 09 56.0**	**-2.5**
	baz=293						
ENAH	**Nanao**	**2.06**	**9**	*e*P	**Pn**	**17 09 33.5**	**-0.9**
	baz=360						
PHUB	**P'eng-hu**	**2.06**	**303**	⇓P	**Pn**	**17 09 33.3**	**-1.1**
	baz=302						
PHUB				*e*S	**Sn**	**17 09 55.3**	**-3.8**
	baz=302						
NSY	**Sanyi**	**2.10**	**342**	⇓*e*P	**Pn**	**17 09 35.8**	**+0.8**
	baz=343						
NSY				*e*S	**Sb**	**17 10 02.6**	**-2.2**
	baz=343						
PNG	**Penghu**	**2.10**	**304**	⇓*i*P	**Pn**	**17 09 33.9**	**-1.0**
	baz=304						
PNG				S	**Sn**	**17 09 57.2**	**-2.9**
	baz=304						
PTSB	**Yuanli**	**2.14**	**341**	⇓*i*P	**Pn**	**17 09 36.2**	**+0.6**
	baz=342						
PTSB				S	**Sn**	**17 10 02.9**	**+1.7**
	baz=342						
NMLH	**Miaoli**	**2.20**	**344**	*e*P	**Pn**	**17 09 38.0**	**+1.6**
	baz=344						
EOS1	**EOS1**	**2.22**	**16**	*e*P	**Pn**	**17 09 36.3**	**-0.2**
	baz=30						
TWC	**Suao**	**2.22**	**9**	*e*P	**Pn**	**17 09 36.2**	**-0.4**
	baz=359						
TWC				*e*S	**Sn**	**17 10 02.3**	**-0.8**
	baz=359						
ENTT	**Nioudou**	**2.22**	**3**	*e*P	**Pn**	**17 09 36.2**	**-0.5**
	baz=5.0						
NSTT	**Nanjuang**	**2.25**	**349**	⇓*i*P	**Pn**	**17 09 37.5**	**+0.5**
	baz=334						
NSTT				S	**Sn**	**17 10 05.0**	**+1.1**
	baz=334						
YHNB	**Yeheng**	**2.25**	**358**	⇓P	**Pn**	**17 09 36.7**	**-0.4**
	baz=11						
YHNB	**Yeheng**	**2.25**	**358**	*e*Pn	**Pn**	**17 09 36.8**	**-0.4**
LIOB	**Emei**	**2.26**	**350**	⇓*e*P	**Pn**	**17 09 37.9**	**+0.6**
	baz=334						
TWE	**Neicheng**	**2.31**	**5**	*e*P	**Pn**	**17 09 37.9**	**0.0**
	baz=8.0						
ILA	**Ilan**	**2.36**	**6**	*e*P	**Pn**	**17 09 39.9**	**+1.4**
	baz=360						
SBCB	**Hsinchu**	**2.41**	**350**	*e*P	**Pn**	**17 09 39.6**	**+0.4**
	baz=349						
WLTB	**Daxi**	**2.44**	**356**	*e*P	**Pn**	**17 09 40.8**	**+1.2**
	baz=337						
JYNG	**Yonagunijimaku**	**2.45**	**34**	P	**Pn**	**17 09 39.8**	**0.0**
JYNG				*e*S	**Sn**	**17 10 07.4**	**-1.3**
YOJ	**Yonaguni jima**	**2.49**	**35**	⇑P	**Pn**	**17 09 40.6**	**+0.2**
	baz=38						
YOJ	**Yonaguni jima**	**2.49**	**35**	*e*Pn	**Pn**	**17 09 40.4**	**0.0**
YOJ	**Yonaguni jima**	**2.49**	**35**	*e*P	**Pn**	**17

baz=322
PCYT Pengchaiyu 3.25 10 *e*P **Pn 17 09 50.9 0.0**
baz=360
PTMZ Houxiangcun 3.38 321 ⇓P **Pn 17 09 51.9 -0.7**
baz=318
JISG Ishigakijimahi 3.40 50 P **Pn 17 09 52.4 -0.5**
JISG S **Sn 17 10 30.8 -1.4**
KNM Kinmen 3.42 306⇓*e*P **Pn 17 09 53.7 +0.5**
baz=304
KNM *e*S **Sn 17 10 32.8 +0.1**
baz=304
PTTC Pingtan 3.44 334⇓*e*P **Pn 17 09 52.6 -0.8**
baz=332
PTTC *e*S **Sn 17 10 30.4 -2.9**
baz=332
KNMB Chin-men Tao 3.48 307 ⇓P **Pn 17 09 53.0 -1.0**
baz=304
QZH Quanzhou 3.64 314⇓*i*Pn **Pn 17 09 55.0 -1.2**
QZH Sn **Sn 17 10 35.0 -3.2**
QZH smax smax
comp=N,2μm,0.8s
QZH smax smax
comp=E,2μm,0.9s
QZH LR LR
comp=N,10μm,16.4s
QZH LR LR
comp=E,6μm,13.3s
QZH LR LR
comp=Z,9μm,14.8s
JTJ Tarama 3.71 53 P **Pn 17 09 57.5 +0.3**
JTJ S **Sn 17 10 39.3 -0.7**
ZPLA Ao Xicun 3.73 295⇓*e*P **Pn 17 09 56.6 -0.8**
baz=292
MATB Ma-tsu 3.97 340⇓*e*P **Pn 17 09 59.7 -1.0**
baz=336
AXDP Jialang 4.05 308⇓*e*P **Pn 17 10 00.9 -0.8**
baz=305
ZZJH Jiuhuzhen 4.07 301⇓*e*P **Pn 17 10 01.1 -0.9**
baz=298
JIRB Irabujima 4.17 54 P **Pn 17 10 03.6 +0.1**
JIRB S **Sn 17 10 49.8 -1.5**
SGCP Mt. Cagua 4.18 172 *e*P **Pn 17 10 04.9 +1.2**
SGCP *e*S **Sn 17 10 53.6 +2.0**
JMJ Miyako jima 2 4.25 55 *e*P **Pn 17 10 05.2 +0.6**
baz=58
JMJ Miyako jima 2 4.25 55 P **Pn 17 10 05.2 +0.6**
JMJ S **Sn 17 10 53.1 -0.2**
JIKM Ikemajima 4.28 53 P **Pn 17 10 05.1 +0.1**
JIKM S **Sn 17 10 53.2 -0.8**
MHZQ Yeshan 4.29 329⇓*e*P **Pn 17 10 04.2 -0.9**
baz=324
JOGS Gusukube 4.31 56 P **Pn 17 10 05.9 +0.5**
JOGS S **Sn 17 10 54.8 +0.1**
LYJJ Jianjiangzhen 4.40 340⇓*e*P **Pn 17 10 05.7 -1.0**
baz=334
APYP Conner 4.53 183 *e*P **Pn 17 10 09.4 +1.0**
APYP *e*S **Sn 17 11 03.3 +3.2**
XPSS Dashiqiu 4.65 346⇓*e*P **Pn 17 10 09.0 -1.0**
baz=340
CVP Callao Caves 4.70 176⇑*i*P **Pn 17 10 11.7 +1.0**
VDOS Pratas Island 4.72 250 *e*P **Pn 17 10 11.8 +0.8**
baz=249
ABRA Dolores 4.79 189 *e*P **Pn 17 10 13.7 +1.7**
ABRA *e*S **Sn 17 11 05.8 -0.7**
PALP Palanan 5.40 170 *e*P **Pn 17 10 21.8 +1.4**
PALP *e*S **Sn 17 11 25.2 +3.7**
CAUP Cauayan 5.45 176 *e*P **Pn 17 10 24.1 +3.0**
SMPP San Manuel, Pa 6.27 187 *e*P **Pn 17 10 34.0 +1.6**
BALP Baler 6.63 179 *e*P **Pn 17 10 40.5 +3.1**
SCZP Santa Cruz 6.76 193 *e*P **Pn 17 10 41.4 +2.3**
MCO Taipa Grande 7.32 269 P **Pn 17 10 47.0 +0.2**
MCO S **Sn 17 12 02.0 -7.0**
JOW Kunigami 7.61 53 P **Pn 17 10 49.0 -1.6**
21nm,0.3s,baz=160,slow=4.6,SNR=73
JOW S **Sn 17 12 11.8 -4.1**
13nm,0.3s,baz=340,slow=28,SNR=5.7
JOW Kunigami 7.61 53 *e*P **Pn 17 10 49.2 -1.4**
baz=55
JOW Kunigami 7.61 53 *e*Pn **Pn 17 10 49.1 -1.6**
JOW *e*Sn Sn 17 12 06.8 -9.1
JOW S **Sn 17 12 11.8 -4.1**
TGY Tagaytay City 8.28 184 LR LR 17 14 60.0
comp=Z,2μm,21.8s,baz=26,slow=43
SSE Sheshan 8.65 358 P **Pn 17 11 04.3 -0.7**
SSE S **Sn 17 12 43.9 +2.3**
SSE pmax pmax
comp=Z,23nm,0.6s
SSE LR LR
comp=N,2μm,15.4s
SSE LR LR
comp=E,2μm,10.3s
SSE LR LR
comp=Z,2μm,18.6s
BOAC Boac 8.91 178 *e*P **Pn 17 11 08.7 +0.1**
NJ2 Nanjing 9.88 347 *e*P **Pn 17 11 20.8 -1.0**
NJ2 S **Sn 17 13 14.5 +2.8**
NJ2 pmax pmax
comp=Z,17nm,0.5s
NJ2 smax smax
comp=N,310nm,1.1s
NJ2 smax smax
comp=E,310nm,1.1s
NJ2 LR LR
comp=N,5μm,13.6s
NJ2 LR LR
comp=E,6μm,10.8s
NJ2 LR LR
comp=Z,7μm,15.2s
SJMP San Jose 9.90 182 *e*P **Pn 17 11 25.4 +3.2**
WHN Wuhan 10.30 323 ⇑P **Pn 17 11 26.3 -1.3**
WHN S **Sn 17 13 15.8 -6.3**
WHN LR LR
comp=N,9μm,15.2s
WHN LR LR
comp=E,12μm,16.6s
WHN LR LR
comp=Z,10μm,15.0s
QIZ Qiongzhong 11.38 255 P Pn 17 11 47.3 +4.9
QIZ S Sn 17 13 58.5 +10
QIZ LR LR
comp=N,4μm,16.9s
QIZ LR LR
comp=E,5μm,13.3s
QIZ LR LR
comp=Z,6μm,13.2s
QIZ Qiongzhong 11.38 255 *e*Pn **Pn 17 11 42.6 +0.2**
ENH Enshi 13.28 309 *e*Pn **Pn 17 12 07.6 -0.8**
JNU Nakatsue 13.53 36 P **Pn 17 12 12.3 +0.4**
0.2nm,0.3s,baz=193,slow=9.8,SNR=3.2
JNU Nakatsue 13.53 36 *e*Pn **Pn 17 12 12.2 +0.3**
GYA Guiyang 14.06 290⇑*i*P **Pn 17 12 18.9 -0.3**
GYA PP **PnPn 17 12 30.0 +2.8**
GYA S **Sn 17 14 52.9 -1.5**
GYA SS **S 17 15 13.3 -1.8**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.9s
GYA LR LR
comp=N,3μm,16.0s
GYA LR LR
comp=E,3μm,13.9s
GYA LR LR
comp=Z,4μm,17.6s
TIA Tai'an 14.26 346 P **Pn 17 12 24.3 +2.6**
TIA S **Sn 17 15 02.4 +3.5**
TIA pmax pmax
comp=Z,6.0nm,0.7s
TIA pmax pmax
comp=Z,150nm,2.7s
TIA LR LR
comp=N,4μm,15.2s
TIA LR LR
comp=E,1μm,8.1s
TIA LR LR
comp=Z,5μm,13.7s
PAGZ Pagadian 14.60 172 *e*P **P 17 12 31.4 -1.1**
TJN Taejon 14.83 19⇓*i*P **Pn 17 12 30.4 +0.9**
BUKP Musuan 14.86 166 *e*P **Pn 17 12 30.7 +0.7**
KS15 Wonju Array Si 15.98 19 *e*Pn **P 17 12 46.3 -1.4**
KS15 *e*PcP **PcP 17 17 39.9 -0.9**
KSAR Wonju Array Be 15.98 19 P **P 17 12 46.6 -1.0**
KSAR PcP **PcP 17 17 40.9 0.0**
KSAR Wonju Array Be 15.98 19 P **P 17 12 46.7 -1.0**
XAN Xi'an 15.99 319 P **Pn 17 12 45.1 +0.4**
XAN pP pP 17 12 52.8 -3.0
XAN S **S 17 15 49.4 -5.0**
XAN pmax pmax
comp=Z,28nm,1.9s
XAN pmax pmax
comp=Z,370nm,3.6s
XAN LR LR
comp=N,3μm,13.2s
XAN LR LR
comp=E,2μm,14.7s
XAN LR LR
comp=Z,4μm,15.2s
KSRS Korea Array 16.00 19 P **P 17 12 46.6 -1.3**
0.7nm,0.3s,baz=202,slow=11,SNR=37
KSRS PcP **PcP 17 17 40.9 0.0**
0.1nm,0.3s,baz=195,slow=1.8,SNR=7.7
KS01 Wonju Array Si 16.01 19 *e*Pn **Pn 17 12 44.5 -0.4**
KS01 *e*PcP **PcP 17 17 40.7 -0.2**
KDM Kudat 16.04 197 P **Pn 17 12 45.0 -0.3**
DL2 Dalian 16.44 0 *e*P Pn 17 12 42.6 -7.8
DL2 S **Sn 17 15 42.0 -10**
DL2 pmax pmax
comp=Z,37nm,1.5s
DL2 pmax pmax
comp=Z,340nm,8.2s
DL2 LR LR
comp=N,2μm,17.9s
DL2 LR LR
comp=E,2μm,14.9s
DL2 LR LR
comp=Z,2μm,14.6s
KKM Kota Kinabalu 17.04 198 *e*Pn **Pn 17 12 58.8 +0.7**
comp=Z,198nm,1.3s
KKM Kota Kinabalu 17.04 198 P **Pn 17 12 58.0 -0.2**
TIY Taiyuan 17.12 335 *e*P **P 17 13 02.3 +1.8**
TIY PP **sP 17 13 12.8 +0.7**
TIY S **Sn 17 16 11.0 +2.5**
TIY SS **SnSn 17 16 30.8 +8.6**
TIY pmax pmax
comp=Z,360nm,5.0s
TIY LR LR
comp=Z,6μm,11.3s
TIY LR LR
comp=Z,3μm,11.1s
TIY LR LR
comp=Z,7μm,13.8s
SKNT Sakolnakorn 17.32 255 P **P 17 13 05.8 +3.1**
comp=Z,8.9nm,1.0s
KMI Kunming 17.35 283 P **P 17 13 03.5 +0.3**
KMI pP pP 17 13 07.4 -3.7
KMI sP sP 17 13 10.3 -4.5
KMI S **Sn 17 16 13.3 -1.1**
KMI sS S 17 16 21.5 -1.0
KMI SS **SnSn 17 16 28.8 +1.0**
KMI pmax pmax
comp=Z,7.0nm,1.1s
KMI pmax pmax
comp=Z,160nm,4.8s
KMI LR LR
comp=Z,3μm,21.0s
KMI LR LR
comp=Z,990nm,27.1s
KMI LR LR
comp=Z,3μm,16.9s
NONG Nongkai 17.72 259 P **P 17 13 10.5 +3.4**
comp=Z,0.7nm,1.1s
CD2 Chengdu 17.93 302 P **P 17 13 09.6 +0.2**
CD2 pP pP 17 13 13.5 -3.8
CD2 sP sP 17 13 15.1 -5.9
CD2 S **Sn 17 16 30.1 +2.0**
CD2 pmax pmax
comp=Z,90nm,0.6s
CD2 pmax pmax
comp=Z,830nm,4.7s
CD2 LR LR
comp=Z,6μm,9.0s
CD2 LR LR
comp=Z,7μm,8.8s
CD2 LR LR
comp=Z,11μm,12.0s
BJT Baijiatuau 18.12 347 *e*Pn **Pn 17 13 09.5 -1.8**
comp=Z,37nm,0.9s
BJT Baijiatuau 18.12 347 *e*P **Pn 17 13 09.5 -1.8**
BJT pmax pmax
comp=Z,37nm,0.9s
BJI Beijing 18.14 347 P **P 17 13 12.6 +1.0**
BJI S **S 17 16 38.8 +0.9**
BJI pmax pmax
comp=Z,18nm,0.8s
BJI LR LR
comp=Z,820nm,22.5s
BJI LR LR
comp=Z,2μm,14.2s
BJI LR LR
comp=Z,3μm,15.7s
INU Inuyama 18.73 43 *e*P **Pn 17 13 18.9 +0.2**
comp=Z,102nm,0.9s
CBIJ Chichi jima 19.39 72 *e*P **Pn 17 13 26.6 -0.1**
comp=Z,163nm,1.0s
JCJ Chichijima 19.39 72 P **Pn 17 13 26.9 +0.2**
comp=Z,3.8nm,0.3s,baz=285,slow=20,SNR=3.7
JHJ2 Mitsune 19.40 53 *e*P **P 17 13 25.1 -0.4**
comp=Z,533nm,1.0s
SNY Shenyang 19.44 5 ⇑P **Pn 17 13 33.3 +6.1**
SNY S **Sn 17 17 11.1 +6.6**
SNY pmax pmax
comp=Z,7.0nm,0.6s
SNY pmax pmax
comp=Z,330nm,8.2s
SNY LR LR
comp=N,1μm,20.0s
SNY LR LR
comp=E,2μm,13.1s
SNY LR LR
comp=Z,3μm,12.2s
CHAI Chaiyaphum 19.49 254 P **Pn 17 13 28.7 +0.7**
comp=Z,11nm,0.9s,comp=Z,101nm
PBKT Sadao Pong 20.16 257 *e*P **P 17 13 33.3 -0.7**
PBKT Sadao Pong 20.16 257 P Pn 17 13 36.8 +0.9
comp=Z,32nm,1.2s
UTTA Uttaradit 20.17 260 P Pn 17 13 42.3 +6.3
HHC Hu-ho-hao-te 20.20 338 *e*P Pn 17 13 37.8 +1.5
HHC pP pP 17 13 41.8 -0.4
HHC sP sP 17 13 44.8 -1.1
HHC PP **PnPn 17 13 57.6 +6.3**
HHC S **S 17 17 18.8 -0.7**
HHC sS Sn 17 17 24.8 +2.0
HHC SS **SnSn 17 17 47.8 +10**
HHC pmax pmax
comp=Z,32nm,1.0s
HHC pmax pmax
comp=Z,470nm,5.4s
HHC LR LR
comp=Z,4μm,17.3s
HHC LR LR
comp=Z,2μm,16.1s
HHC LR LR
comp=Z,4μm,16.7s
MAJO Matsushiro 20.23 42 *e*P Pn 17 13 36.2 -0.5
comp=Z,308nm,1.8s
MAJO Matsushiro 20.23 42*de*P Pn 17 13 35.9 -0.7
MAJO pmax pmax
comp=Z,76nm,0.9s
MAT Matsushiro 20.23 42 P Pn 17 13 37.4 +0.8
MAT S Sn 17 17 23.4 -0.2
MJB9 Matsu-Tunnel 20.23 42 *e*P **P 17 13 35.2 +0.6**
comp=Z,314nm,1.8s
MJAR Matsushiro Arr 20.23 42 P Pn 17 13 37.2 +0.5
comp=Z,53nm,0.9s,baz=234,slow=8.9,SNR=51
MJAR LR LR 17 21 45.4
comp=Z,758nm,21.0s,baz=230,slow=38
SRAK Srakaew 20.23 249 P **P 17 13 32.9 -1.8**
comp=Z,96nm,1.0s,comp=Z,780nm
PAYA Payao 20.40 265 P Pn 17 13 39.6 +0.9
comp=Z,22nm,1.1s,comp=Z,173nm
LZH Lanzhou 20.50 316 *e*P Pn 17 13 40.8 +0.9
LZH pP pP 17 13 44.9 -0.6
LZH sP sP 17 13 47.8 -1.5
LZH PP **PnPn 17 14 03.8 +8.4**
LZH *e*S **S 17 17 26.4 +0.7**
LZH sS Sn 17 17 32.4 +2.2
LZH pmax pmax
comp=Z,94nm,1.2s
LZH pmax pmax
comp=Z,590nm,5.4s
LZH LR LR
comp=Z,4μm,13.0s
LZH LR LR
comp=Z,3μm,15.2s
LZH LR LR
comp=Z,5μm,18.4s
BTO Baotou 20.56 335 *e*P Pn 17 13 40.0 -0.6
BTO S **S 17 17 26.6 -0.1**
LAMP Lampang 20.81 263 P Pn 17 13 43.8 +0.3
SUKH Sukhothai 21.09 260 P **P 17 13 46.6 +2.6**
comp=Z,7.1nm,0.8s
CMMT Chiang Mai 21.37 264 P **P 17 13 49.1 +2.1**
comp=Z,47nm,1.0s,comp=Z,670nm
CHTO Chiang Mai 21.37 264 *e*P **P 17 13 48.3 +1.3**
comp=Z,46nm,1.0s
CHTO Chiang Mai 21.37 264 P **P 17 13 49.3 +2.2**
SNR=25
CHTO Chiang Mai 21.37 264 *e*P **P 17 13 48.3 +1.3**
CHTO pmax pmax
comp=Z,46nm,1.0s
CHTO Chiang Mai 21.37 264 P **P 17 13 49.1 +2.1**
comp=Z,212nm,1.4s,comp=Z,3μm
CM01 Chiang Mai Arr 21.45 263 *e*P **P 17 13 48.5 +0.6**
CM31 Chiang Mai Arr 21.46 264 *e*P **P 17 13 49.4 +1.4**
CM31 Chiang Mai Arr 21.46 264 P **P 17 13 50.0 +2.1**
SNR=16
CMAR Chiang Mai Arr 21.46 264 P **P 17 13 49.9 +1.9**
comp=Z,16nm,1.0s,baz=70,slow=8.9,SNR=66
CMAR PcP **PcP 17 17 50.0 -0.7**
comp=Z,3.5nm,0.9s,baz=77,slow=0.6,SNR=12
CMAR LR LR 17 23 08.7
comp=Z,2μm,19.0s,baz=82,slow=39
CN2 Changchun 21.59 8 *e*P **P 17 13 51.3 +2.2**
CN2 *es*P sP 17 14 00.5 -0.3
CN2 *e*S **S 17 17 44.3 -2.5**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=Z,2μm,14.0s
CN2 LR LR
comp=Z,860nm,14.0s
CN2 LR LR
comp=Z,2μm,16.0s
MSHR Mys Shultsa 21.68 20⇑*e*P **P 17 13 50.2 +0.1**
SBUM Sibu 21.77 206 *e*P **P 17 13 51.5 +0.2**
comp=Z,29nm,1.0s
SBUM Sibu 21.77 206 P **P 17 13 53.0 +1.7**
MRSI Marisa 21.81 179 P **P 17 13 54.7 +3.0**
comp=Z,96nm,1.0s,comp=Z,800nm
KMSI Cibinong 21.84 173 P **P 17 13 53.7 +1.6**
comp=Z,314nm,0.8s,comp=Z,2μm
UTHA Uthaitani 21.89 256 P **P 17 13 58.1 +5.5**
comp=Z,11nm,1.1s,comp=Z,106nm
MPSI Mapaga 21.99 184 P **P 17 13 54.9 +1.2**
comp=Z,59nm,1.5s,comp=Z,652nm
UMPA Umpang Tak 22.19 258 P **P 17 14 00.5 +4.6**
comp=Z,15nm,1.0s,comp=Z,262nm
TNTI Ternate 22.26 164 *e*P **P 17 13 54.3 -2.3**
comp=Z,57nm,0.8s
TNTI Ternate 22.26 164 P **P 17 13 55.9 -0.7**
comp=Z,85nm,1.0s,comp=Z,795nm
VLA Vladivostok 22.40 20⇑*e*P **P 17 13 59.3 +1.5**
VLA pmax pmax
comp=Z,28nm,0.9s
SRDT SRDT 22.64 253 P **P 17 14 07.2 +6.5**
comp=Z,24nm,1.1s,comp=Z,2μm
PHET Kaeng Krachan 22.82 249 P **P 17 14 05.9 +3.4**
comp=Z,15nm,0.8s,comp=Z,136nm
SMKI Samarinda 23.09 191 P **P 17 14 09.4 +4.1**
MDJ Mudanjiang 23.14 15 P **P 17 14 06.6 +1.0**
MDJ pP pP 17 14 09.6 -4.1
MDJ sP sP 17 14 10.9 -6.5
MDJ PP **PnPn 17 14 30.9 -0.5**
MDJ S **S 17 18 17.3 +2.2**
MDJ sS pS 17 18 24.9 +1.1
MDJ pmax pmax
comp=Z,14nm,1.4s
MDJ pmax pmax
comp=Z,280nm,12.9s
MDJ LR LR
comp=Z,2μm,15.5s
MDJ LR LR
comp=Z,490nm,10.4s
MDJ LR LR
comp=Z,2μm,15.1s
MDJ Mudanjiang 23.14 15 *e*P **P 17 14 05.6 +0.1**
comp=Z,37nm,1.1s
APSI Ampana 23.18 180 P **P 17 14 07.8 +1.6**
comp=Z,233nm,1.2s,comp=Z,2μm
PCI Palu 23.23 184 P **P 17 14 09.1 +2.4**
comp=Z,153nm,1.1s,comp=Z,1μm
LUWI Luwuk 23.34 177 *e*P **P 17 14 06.6 -1.2**
comp=Z,179nm,1.0s
LUWI Luwuk 23.34 177 P **P 17 14 08.2 +0.4**
comp=Z,182nm,1.0s,comp=Z,3μm
USA0B Ussuriysk Arra 23.41 19 *e*P **P 17 14 08.7 +0.5**
comp=Z,133nm,1.9s
USRK Ussuriysk Ar. 23.41 19 P **P 17 14 09.7 +1.5**
comp=Z,12nm,0.8s,baz=206,slow=9.9,SNR=15
USRK LR LR 17 23 56.3
comp=Z,552nm,19.3s,baz=188,slow=38
KSM Kuching 23.47 209 *e*P **P 17 14 08.4 -0.7**
comp=Z,61nm,0.9s
KSM Kuching 23.47 209 P **P 17 14 10.0 +1.0**
SARN Sarigan 23.60 100 *e*P **P 17 14 08.9 -1.5**
comp=Z,56nm,1.0s
ANA2 Anatahan 23.65 100 *e*P **P 17 14 12.1 +1.3**
comp=Z,181nm,0.4s
GUMO Guam 23.90 108 P **P 17 14 14.8 +1.6**
comp=Z,110nm,0.9s,baz=221,slow=19,SNR=4.6
GUMO Guam 23.90 108 *e*P **P 17 14 12.9 -0.3**
comp=Z,631nm,1.6s
GUMO Guam 23.90 108 *e*P **P 17 14 12.9 -0.3**
GUMO pmax pmax
comp=Z,631nm,1.6s
BKB Balikpapan 23.94 191 P **P 17 14 15.4 +1.8**
comp=Z,392nm,0.7s,comp=Z,5μm
MTKI Muara Teweh, K 24.08 196 P **P 17 14 16.2 +1.4**
comp=Z,369nm,1.1s,comp=Z,5μm
STKI Sintang 24.24 205 P **P 17 14 17.8 +1.4**
comp=Z,40nm,0.9s,comp=Z,4μm
SANI Sanana 24.71 169 P **P 17 14 17.0 -3.6**
SIJI Sorong 25.04 156 P **P 17 14 23.6 +0.1**
comp=Z,22nm,0.6s,baz=358,slow=9.4,SNR=22
GTA Gaotai 25.04 318 P **P 17 14 24.3 +0.7**
GTA pP pP 17 14 29.8 -2.3
GTA sP sP 17 14 32.6 -3.1
GTA PcP **PcP 17 17 58.8 +0.9**
GTA S **S 17 18 45.8 -0.3**
GTA sS pS 17 18 52.6 -2.6
GTA SS **SnSn 17 19 42.8 +6.5**
GTA ScP **ScP 17 21 33.9 -1.1**
GTA ScS **ScS 17 25 21.9 -1.6**
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA pmax pmax
comp=Z,320nm,7.0s
GTA LR LR
comp=Z,990nm,14.4s
GTA LR LR
comp=Z,1μm,14.1s
GTA LR LR
comp=Z,2μm,16.5s
TRTT Trang 25.47 239 P **P 17 14 32.4 +4.9**
comp=Z,8.3nm,1.2s
KRAB Krabi 25.64 240 P **P 17 14 30.6 +1.6**
comp=Z,47nm,0.7s
KBKI Kotabaru 26.07 192 P **P 17 14 36.3 +3.4**
comp=Z,18nm,1.0s,comp=Z,174nm
SPSI Sidrap Palu 26.27 184 P **P 17 14 35.6 +0.9**
comp=Z,32nm,1.1s,comp=Z,365nm
PKDT Phuket 26.52 241 P P 17 14 45.6 +8.6
IPM Ipoh 26.63 231 *e*P **P 17 14 37.9 -0.1**
comp=Z,15nm,0.9s
BNSI Bone 26.68 183 P **P 17 14 39.5 +1.1**
comp=Z,38nm,0.9s
ERM Erimo 26.68 38 *e*P **P 17 14 39.9 +1.6**
comp=Z,110nm,1.0s
MYKOM Kota Tinggi 26.70 222 *e*P **P 17 14 38.9 +0.2**
comp=Z,70nm,1.0s
MYKOM Kota Tinggi 26.70 222 P **P 17 14 41.0 +2.3**
HIA Hailar 26.84 358 *e*P **P 17 14 39.0 -0.6**
comp=Z,12nm,1.0s
HIA Hailar 26.84 358 *e*P **P 17 14 39.0 -0.6**
HIA pmax pmax
comp=Z,12nm,1.0s
TPRI Tanjung Pinang 26.98 220 P **P 17 14 42.7 +1.6**
comp=Z,51nm,1.1s,comp=Z,1μm

SHL	Shillong	27.18	283	*e*P		P		17 14 42.6	-0.5	
	comp=Z,76nm,1.1s									
SHL	Shillong	27.18	283	*e*P		P		17 14 42.6	-0.5	
SHL				pmax		pmax				
	comp=Z,76nm,1.1s									
SHL	Shillong	27.18	283	*e*P		P		17 14 48.0	+4.9	
FAKI	Fak Fak	27.29	156	*e*P		P		17 14 42.5	-1.4	
	comp=Z,46nm,0.7s									
FAKI	Fak Fak	27.29	156	P		P		17 14 44.9	+0.9	
	comp=Z,71nm,0.7s,comp=Z,542nm									
BKSI	Bulukumba	27.59	183	P		P		17 14 58.3	+12	
ASAJ	Asahikawa	27.80	34	*e*P		P		17 14 49.6	+1.3	
	comp=Z,145nm,1.7s									
ULN	Ulaanbaatar	27.90	339	*e*P		P		17 14 49.1	-0.2	
	comp=Z,42nm,1.3s									
ULN	Ulaanbaatar	27.90	339⇓	*e*P		P		17 14 49.3	0.0	
ULN				pmax		pmax				
	comp=Z,35nm,1.3s									
KLR	Kul'dur	27.98	14	P		P		17 14 51.4	+1.6	
	comp=Z,7.0nm,0.7s,baz=218,slow=7.3,SNR=17									
KLR				PcP		PcP		17 18 04.3	-0.1	
	comp=Z,1.8nm,0.6s,baz=307,slow=4.9,SNR=3.7									
KLR	Kul'dur	27.98	14	*ce*P		P		17 14 52.5	+2.7	
BNDI	Bandanaira	28.01	162	P		P		17 14 50.1	-0.3	
	comp=Z,44nm,1.1s									
SONA0	Songino Array	28.10	338	*e*P		P		17 14 51.2	+0.1	
SONA0				*e*ScP		ScP		17 21 41.4	-2.5	
SONM	Songino Array	28.10	338	P		P		17 14 51.2	+0.1	
	comp=Z,12nm,0.8s,baz=152,slow=9.6,SNR=37									
SONM				ScP		ScP		17 21 41.4	-2.5	
	comp=Z,1.2nm,0.9s,baz=156,slow=5.0,SNR=4.7									
SONM				LR		LR		17 27 11.9		
	comp=Z,3μm,19.0s,baz=150,slow=39									
SONA1	Songino Array	28.11	338	*e*P		P		17 14 50.7	-0.5	
LSA	Lhasa	28.12	291	*e*P		P		17 14 53.3	+1.4	
	comp=Z,26nm,0.8s									
PPBI	Pangkal Pinang	28.64	213	P		P		17 15 00.5	+4.5	
PSI	Prapat	29.29	231	P		P		17 15 01.7	-0.3	
	comp=Z,8.1nm,0.9s,baz=0.2,slow=9.6,SNR=6.6									
PSI				PcP		PcP		17 18 07.9	-0.5	
	comp=Z,3.5nm,0.4s,baz=0.2,slow=4.0,SNR=5.9									
PSI	Prapat	29.29	231	*e*P		P		17 15 01.6	-0.4	
	comp=Z,16nm,1.0s									
PSI				*e*PcP		PcP		17 18 07.7	-0.8	
PSI	Prapat	29.29	231	*e*P		P		17 15 01.6	-0.4	
PSI				*e*				17 18 07.7		
PSI				pmax		pmax				
	comp=Z,16nm,1.0s									
YUK	Yuzh-Kuril'sk	29.50	37	*e*P		P		17 15 03.7	+0.3	
YUK				*e*S		S		17 19 58.9	+2.9	
YUK				pmax		pmax				
	comp=N,96nm,1.2s									
YUK				pmax		pmax				
	comp=Z,341nm,1.2s									
YUK				pmax		pmax				
	comp=E,88nm,0.9s									
YUK				pmax		pmax				
	comp=Z,259nm,1.7s									
YUK				MLR		MLR				
	comp=Z,474nm,17.0s									
YUK				MLR		MLR				
	comp=N,693nm,15.0s									
YSS	Yuzh-Sakhalins	29.91	30	*e*P		P		17 15 08.0	+1.0	
	comp=N,70nm,0.9s									
YSS	Yuzh-Sakhalins	29.91	30⇓	*i*P		P		17 15 08.4	+1.4	
YSS				*e*				17 15 20.0		
YSS				pmax		pmax				
	comp=Z,50nm,1.0s									
MNSI	Mandailing Nat	30.25	228	P		P		17 15 11.2	+0.9	
	comp=Z,31nm,0.9s,comp=Z,749nm									
GRNR	Gornyy	30.63	19	*e*P		P		17 15 14.0	+0.7	
MMRI	Maumere	30.86	178	*e*P		P		17 15 15.5	-0.2	
	comp=Z,161nm,1.4s									
MMRI	Maumere	30.86	178	P		P		17 15 16.7	+1.0	
	comp=Z,75nm,1.4s,comp=Z,1μm									
PDSI	Padang	30.93	224	P		P		17 15 18.4	+2.1	
	comp=Z,17nm,1.0s									
TAPN	Taplejung	30.95	286	*e*P		P		17 15 18.5	+1.7	
	comp=Z,62nm,0.9s									
EDFI	Ende, Flores	30.97	180	P		P		17 15 16.2	-0.5	
	comp=Z,61nm,1.5s,comp=Z,1μm									
JAY	Jayapura	31.10	140	LR		LR		17 25 30.6		
	comp=Z,294nm,19.2s,baz=322,slow=32									
NGJI	Ngawi	31.17	199	P		P		17 15 22.8	+4.4	
SMRI	Semarang	31.20	201	*e*P		P		17 15 19.3	+0.6	
	comp=Z,43nm,0.8s									
KRJI	Kerinci	31.21	221	P		P		17 15 21.9	+3.0	
	comp=Z,156nm,1.1s									
ODAN	Odare	31.23	285	*e*P		P		17 15 20.6	+1.4	
GSI	Gunungsitoli	31.30	231	*e*P		P		17 15 20.2	+0.6	
	comp=Z,13nm,0.9s									
ZAK	Zakamensk	31.34	337	*e*P		P		17 15 19.4	-0.4	
ZAK				pmax		pmax				
	comp=Z,8.0nm,1.1s									
MASI	Maura Aman, Be	31.58	219	P		P		17 15 28.9	+6.8	
ZEA	Zeya	31.59	7	*e*P		P		17 15 26.2	+4.5	
ZEA				pmax		pmax				
	comp=Z,46nm,1.4s									
ZEA				MLR		MLR				
	comp=Z,2μm,14.0s									
ZEA				MLR		MLR				
	comp=N,1μm,13.0s									
MDSI	Maura Dua	31.63	214	P		P		17 15 23.9	+1.5	
	comp=N,28nm,1.1s									
SAUI	Saumlaki	31.71	161	*e*P		P		17 15 20.3	-2.8	
	comp=N,33nm,0.7s									
SAUI	Saumlaki	31.71	161	P		P		17 15 24.6	+1.5	
	comp=N,42nm,0.8s,comp=N,2μm									
WOJI	Wonogiri, Jawa	31.78	200	P		P		17 15 26.8	+3.0	
	comp=N,56nm,0.9s									
RAMN	Ramite	31.93	285	*e*P		P		17 15 26.9	+1.5	
	comp=N,69nm,0.9s									
SOEI	Soe	32.08	175	*e*P		P		17 15 23.9	-2.6	
	comp=N,42nm,0.9s									
SOEI	Soe	32.08	175	P		P		17 15 26.4	-0.2	
	comp=N,52nm,1.0s									
LWLI	Liwa	32.14	214	P		P		17 15 29.7	+2.6	
	comp=N,43nm,0.8s,comp=N,9μm									
JIRN	Jiri	32.31	287	*e*P		P		17 15 30.2	+1.4	
	comp=N,89nm,0.7s									
TLY	Talaya	32.31	339	*e*P		P		17 15 26.8	-1.4	
	comp=N,7.7nm,0.7s									
TLY	Talaya	32.31	339	*e*P		P		17 15 30.6	+2.4	
TLY				pmax		pmax				
	comp=Z,12nm,1.1s									
TLY				MLR		MLR				
	comp=Z,2μm,11.0s									
BATI	Baumata	32.49	176	LR		LR		17 31 30.9		
	comp=Z,390nm,18.9s,baz=338,slow=42									
BATI	Baumata	32.49	176	P		P		17 15 28.7	-1.3	
GUN	Gumba	32.59	287	*e*P		P		17 15 32.5	+1.2	
	comp=Z,77nm,0.9s									
CISI	Cisompet, Garu	32.64	206	*e*P		P		17 15 29.9	-1.5	
	comp=Z,60nm,1.0s									
TYV	Tymovskoe	32.86	25	*e*P		P		17 15 38.8	+5.9	
TYV				pmax		pmax				
	comp=Z,400nm,6.3s									
TYV				pmax		pmax				
	comp=Z,16nm,1.3s									
PKI	Pulchoki	33.00	286	*e*P		P		17 15 36.2	+1.4	
PKIN	Phulchoki	33.01	286	*e*P		P		17 15 36.7	+1.8	
	comp=Z,70nm,1.5s									
KKN	Kakani	33.12	287	*e*P		P		17 15 36.6	+0.9	
	comp=Z,35nm,0.9s									
MOY	Mondy	33.23	337	*e*P		P		17 15 39.4	+3.1	
MOY				pmax		pmax				
	comp=Z,30nm,1.8s									
DMN	Daman	33.27	286	*e*P		P		17 15 37.9	+0.8	
	comp=Z,38nm,0.9s									
KNGR	Kungurtug, Tuv	33.79	332⇓	*e*P		P		17 15 42.4	+1.2	
DANN	Dangsing	34.47	288	*e*P		P		17 15 48.3	+0.7	
	comp=Z,76nm,1.1s									
KOLN	Koldanda	34.60	287	*e*P		P		17 15 49.6	+0.9	
	comp=Z,62nm,0.9s									
MANU	Manus Island	35.07	131	*e*P		P		17 15 51.5	-1.0	
	comp=Z,23nm,1.0s									
WMQ	Urumqi	35.08	316	P		P		17 15 55.1	+2.7	
WMQ				sP		sP		17 16 03.3	-1.3	
WMQ				ScS		ScS		17 26 12.3	+1.1	
WMQ				pmax		pmax				
	comp=Z,35nm,1.5s									
WMQ				pmax		pmax				
	comp=Z,240nm,3.8s									
WMQ				LR		LR				
	comp=Z,2μm,13.7s									
WMQ				LR		LR				
	comp=Z,2μm,12.5s									
WMQ				LR		LR				
	comp=Z,1μm,18.3s									
PYUN	Piuthan	35.15	287	*e*P		P		17 15 54.4	+1.1	
	comp=Z,55nm,0.8s									
HVS	Khovu-Aksy	35.88	330⇑	*e*P		P		17 15 58.4	-0.8	
HVS				pmax		pmax				
	comp=Z,9.0nm,1.0s									
MTN	Manton Dam	36.30	164	*e*P		P		17 15 59.5	-3.5	
	comp=Z,94nm,1.9s									
DGZ	Jazzator, Alta	38.16	324	*ce*P		P		17 16 19.8	+1.1	
DGZ				pmax		pmax				
	comp=Z,6.0nm,1.6s									
PATS	Pohnpei	38.73	108	*e*P		P		17 16 23.2	-0.5	
	comp=Z,217nm,1.2s									
SKR	Severo-Kuril's	39.04	35⇑	*e*P		P		17 16 25.5	-0.3	
MK01	Makanchi Array	39.78	317	*e*P		P		17 16 31.9	-0.2	
MK31	Makanchi Array	39.79	317	*e*P		P		17 16 32.9	+0.6	
MK31	Makanchi Array	39.79	317	*e*P		P		17 16 32.9	+0.6	
MK32	Makanchi Array	39.79	317	*e*P		P		17 16 33.0	+0.7	
MK32				*e*ScP		ScP		17 22 23.8	-1.2	
MKAR	Makanchi Array	39.79	317	P		P		17 16 33.0	+0.7	
	comp=Z,34nm,0.8s,baz=107,slow=8.5,SNR=64									
MKAR				ScP		ScP		17 22 23.8	-1.2	
	comp=Z,6.9nm,1.2s,baz=146,slow=2.8,SNR=8.7									
MKAR				LR		LR		17 34 22.5		
	comp=Z,729nm,22.0s,baz=107,slow=38									
MKAR	Makanchi Array	39.79	317	*e*P		P		17 16 32.5	+0.2	
	comp=Z,212nm,0.8s									
MKAR				ScP		ScP		17 22 23.8	-1.2	
MKAR	Makanchi Array	39.79	317	*ce*P		P		17 16 33.0	+0.7	
MKAR				pmax		pmax				
	comp=Z,34nm,0.9s									
YAK	Yakutsk	40.00	6	P		P		17 16 34.2	+0.5	
	comp=Z,2.7nm,0.3s,baz=307,slow=0.2,SNR=3.8									
YAK	Yakutsk	40.00	6	*e*P		P		17 16 33.4	-0.3	
	comp=Z,36nm,1.3s									
YAK	Yakutsk	40.00	6	*e*P		P		17 16 32.8	-0.8	
YAK				pmax		pmax				
	comp=Z,11nm,1.1s									
YAK				pmax		pmax				
	comp=N,8.0nm,1.4s									
YAK				pmax		pmax				
	comp=E,5.0nm,1.3s									
YAK				MLR		MLR				
	comp=Z,1μm,16.0s									
YAK				MLR		MLR				
	comp=N,2μm,19.0s									
YAK				MLR		MLR				
	comp=E,149nm,15.0s									
RABL	Rabaul	40.00	128	*e*P		P		17 16 33.4	-0.9	
	comp=E,30nm,0.8s									
PDGK	Podgornoye	40.43	311	P		P		17 16 38.8	+1.1	
PDGK				pmax		pmax				
	comp=Z,44nm,1.1s									
PMG	Port Moresby	40.43	139	*e*P		P		17 16 35.5	-2.2	
	comp=Z,13nm,0.8s									
PMG	Port Moresby	40.43	139	*e*P		P		17 16 35.5	-2.2	
PMG				pmax		pmax				
	comp=Z,13nm,0.8s									
FITZ	Fitzroy Crossi	40.47	174	*e*P		P		17 16 35.8	-2.2	
PETK	Petropavlovsk-	41.20	33	P		P		17 16 45.4	+1.6	
	comp=Z,4.6nm,0.8s,baz=170,slow=2.6,SNR=3.9									
PETK				LR		LR		17 34 14.5		
	comp=Z,168nm,18.6s,baz=238,slow=37									
PETK	Petropavlovsk-	41.20	33	*e*P		P		17 16 42.8	-1.0	
PETK	Petropavlovsk-	41.20	33	*e*P		P		17 16 42.8	-1.0	
PEA1	Petropavlovsk-	41.21	33	*e*P		P		17 16 45.4	+1.6	
PET	Petropavlovsk	41.64	33	*e*P		P		17 16 45.2	-2.0	
	comp=Z,90nm,1.3s									
PET	Petropavlovsk	41.64	33	*e*P		P		17 16 45.3	-2.0	
PET				pmax		pmax				
	comp=Z,90nm,1.3s									
ZAA0	Zalesovo Array	41.87	328	*e*P		P		17 16 48.9	-0.3	
	comp=Z,29nm,0.7s									
ZALV	Zalesovo Beam	41.87	328	P		P		17 16 49.0	-0.2	
	comp=Z,34nm,0.7s,baz=114,slow=7.7,SNR=131									
ZALV				ScP		ScP		17 22 31.0	-1.9	
	comp=Z,1.5nm,0.8s,baz=101,slow=3.0,SNR=5.4									
ZALV				LR		LR		17 36 09.9		
	comp=Z,538nm,18.3s,baz=86,slow=39									
ZALV	Zalesovo Beam	41.87	328	*e*P		P		17 16 48.4	-0.8	
ZALV				ScP		ScP		17 22 31.0	-1.9	
ZALV	Zalesovo Beam	41.87	328	*e*P		P		17 16 48.4	-0.8	
ZAA1	Zalesovo Array	41.87	328	*e*P		P		17 16 49.0	-0.2	
ZAA1				*e*ScP		ScP		17 22 31.0	-1.9	
COEN	Coen	41.95	147	*e*P		P		17 16 49.5	-0.7	
	comp=Z,19nm,0.8s									
H11N1	WAKE ISLAND Hy	42.36	85	T		T		18 02 28.3		
	baz=282,slow=75,SNR=864									
H11N2	WAKE ISLAND Hy	42.37	85	T		T		18 02 20.8		
	baz=282,slow=75,SNR=988									
H11N3	WAKE ISLAND Hy	42.38	85	T		T		18 02 14.0		
	baz=282,slow=75,SNR=1467									
H11S3	WAKE ISLAND Hy	42.44	87	T		T		18 02 21.6		
	baz=284,slow=74,SNR=1386									
NRN	Naryn	42.44	307	*e*P		P		17 16 55.2	+0.7	
	comp=Z,56nm,1.4s									
NRN	Naryn	42.44	307	*e*P		P		17 16 55.2	+0.7	
NRN				pmax		pmax				
	comp=Z,56nm,1.4s									
H11S1	WAKE ISLAND Hy	42.45	87	T		T		18 02 30.5		
	baz=284,slow=74,SNR=1569									
H11S2	WAKE ISLAND Hy	42.46	87	T		T		18 02 27.3		
	baz=284,slow=74,SNR=1155									
TKM2	Tokmak 2	43.06	309	*i* P		P		17 16 59.5	+0.1	
TKM2				pmax		pmax				
	comp=Z,19nm,0.9s									
NVS	Novosibirsk	43.14	328⇑	*i*P		P		17 16 59.6	+0.1	
NVS				*e*				17 18 46.3		
NVS				*e*S		S		17 23 20.7	-3.1	
NVS				pmax		pmax				
	comp=Z,66nm,1.9s									
NVS				pmax		pmax				
	comp=N,27nm,1.7s									
NVS				smax		smax				
	comp=E,24nm,2.1s									
KURK	Kurchatov	43.62	321	*e*P		P		17 17 04.1	+0.7	
	comp=E,114nm,1.7s									
KURK	Kurchatov	43.62	321	P		P		17 17 04.2	+0.7	
	SNR=15									
KURK	Kurchatov	43.62	321	*e*P		P		17 17 04.1	+0.7	
KURK				pmax		pmax				
	comp=Z,114nm,1.7s									
FRU1	Bishkek	43.73	309	*e*P		P		17 17 04.5	-0.1	
	comp=E,65nm,1.5s									
AAK	Ala-Archa	43.79	309	*e*P		P		17 17 05.6	+0.4	
	comp=Z,10nm,0.8s									
AAK	Ala-Archa	43.79	309⇑	*e*P		P		17 17 04.6	-0.6	
AAK				pmax		pmax				
	comp=Z,13nm,2.1s									
WRAB	Tennant Creek	43.93	162	*e*P		P		17 17 04.2	-2.1	
	comp=Z,13nm,0.8s									
WRAB	Tennant Creek	43.93	162	*de*P		P		17 17 04.1	-2.1	
WRAB				pmax		pmax				
	comp=Z,30nm,1.7s									
WR1	Warramunga Arr	43.93	162	*e*P		P		17 17 04.6	-1.6	
	comp=E,16nm,0.8s									
WRA	Warramunga Arr	43.93	162	P		P		17 17 04.6	-1.6	
	comp=Z,9.2nm,0.7s,baz=344,slow=8.9,SNR=94									
WB2	Warramunga Arr	43.94	162	*e*P		P		17 17 03.1	-3.1	
WC3	Warramunga Arr	43.96	162	*e*P		P		17 17 04.9	-1.6	
	comp=Z,17nm,0.8s									
POO	Poona	44.63	274	*e*P		P		17 17 15.0	+3.0	
OTUK	Ortayu	46.63	316	P		P		17 17 28.0	+0.6	
OTUK				pmax		pmax				
	comp=Z,48nm,1.3s									
KK31	Karatay Array	46.76	309	*e*P		P		17 17 28.3	-0.2	
KK31	Karatay Array	46.76	309	*i* P		P		17 17 28.9	+0.4	
KK31				pmax		pmax				
	comp=Z,18nm,1.0s									
KKAR	Karatay Array	46.76	309	*e*P		P		17 17 29.2	+0.7	
KKAR	Karatay Array	46.76	309	*e*P		P		17 17 29.2	+0.7	
KBL	Kabul	47.17	297	*e*P		P		17 17 32.4	+0.3	
	comp=Z,14nm,0.9s									
KBL	Kabul	47.17	297	*e*P		P		17 17 32.4	+0.3	
KBL				pmax		pmax				
	comp=Z,14nm,0.9s									
AS31	Alice Springs	47.37	164	*e*P		P		17 17 32.1	-1.3	
	comp=Z,3.8nm,0.5s									
ASAR	Alice Springs	47.37	164	P		P		17 17 32.5	-1.0	
	comp=Z,4.8nm,0.6s,baz=341,slow=6.8,SNR=227									
ASAR				ScP		ScP		17 22 54.0	-2.0	
	comp=Z,1.1nm,0.7s,baz=350,slow=4.5,SNR=5.9									
AS01	Alice Springs	47.38	164	*e*P		P		17 17 31.9	-1.6	
MNCI	Minicoy	48.52	261	*e*P		P		17 17 40.2	-2.4	
	comp=Z,63nm,1.4s									
CTAO	Charters Tower	48.69	148	*e*P		P		17 17 43.0	-0.6	
	comp=Z,11nm,0.8s									
CTAO	Charters Tower	48.69	148	*e*P		P		17 17 43.1	-0.6	
CTAO				pmax		pmax				
	comp=Z,11nm,0.8s									
BVA0	Borovoye Array	49.21	322	P		P		17 17 46.7	-0.6	
BVA0				pmax		pmax				
	comp=Z,15nm,0.9s									
BRVK	Borovoye	49.28	322	*e*P		P		17 17 48.3	+0.4	
	comp=Z,20nm,0.8s									
BRVK	Borovoye	49.28	322	P		P		17 17 48.4	+0.6	
	SNR=7.7									
BRVK	Borovoye	49.28	322	*c i*P		P		17 17 48.2	+0.4	
BRVK				pmax		pmax				
	comp=Z,35nm,1.3s									
SMY	Shemya	50.03	39	*e*P		P		17 17 53.3	-0.2	
	comp=Z,848nm,1.8s									
SMY	Shemya	50.03	39	*e*P		P		17 17 53.3	-0.2	
SMY				pmax		pmax				
	comp=Z,848nm,1.8s									
NRIK	Noril'sk	51.17	345	P		P		17 18 01.8	-0.1	
	comp=Z,21nm,0.9s,baz=109,slow=5.7,SNR=13									
NRIK				LR		LR		17 41 22.2		
	comp=Z,668nm,20.3s,baz=147,slow=38									
FORT	Forrest	53.26	173	*e*P		P		17 18 17.3	-0.5	
	comp=Z,41nm,0.8s									
BILL	Bilibino	53.26	19	*e*P		P		17 18 17.0	-0.5	
	comp=Z,8.2nm,0.9s									
BILL	Bilibino	53.26	19⇓	*i*P		P		17 18 18.1	+0.6	
BILL				pmax		pmax				
	comp=Z,3.0nm,0.8s									
AB31	Akbulak array	54.86	315	*i* P		P		17 18 30.2	+0.8	
AB31				pmax		pmax				
	comp=Z,21nm,1.1s									
ABKAR	Akbulak array	54.86	315	*e*P		P		17 18 29.4	0.0	
KIWB	Kanaga Island	55.10	42	*e*P		P		17 18 31.4	+0.3	
MIDW	Midway	55.11	70	*e*P		P		17 18 32.6	+1.1	
	comp=Z,142nm,1.3s									
NWAO	Narrogin (SRO)	55.17	184	P		P		17 18 30.7	-1.1	
	comp=Z,23nm,1.0s,baz=257,slow=8.5,SNR=4.7									
NWAO	Narrogin (SRO)	55.17	184	*e*P		P		17 18 30.5	-1.2	
	comp=Z,40nm,1.1s									
NWAO	Narrogin (SRO)	55.17	184	*e*P		P		17 18 30.5	-1.2	
NWAO				pmax		pmax				
	comp=Z,40nm,1.1s									
SVE	Sverdlovsk	55.62	324	*e*P		P		17 18 36.1	+1.3	
SVE				pmax		pmax				
	comp=Z,35nm,0.9s									
GEYT	Alibeck	55.92	301	P		P		17 18 38.0	+0.8	
	comp=Z,2.9nm,0.8s,baz=310,slow=4.8,SNR=7.2									
GYA0B	ALIBECK ARRAY	55.92	301	*e*P		P		17 18 37.1	-0.2	
	comp=Z,12nm,0.8s									
AKTO	Aktyubinsk	56.22	317	P		P		17 18 41.9	+2.7	
AKTO				pmax		pmax				
	comp=Z,17nm,1.1s									
BBOO	Buckleboo	56.65	165	*e*P		P		17 18 41.8	-0.5	
	comp=Z,25nm,0.8s									
ARU	Arti	56.67	324	*e*P		P		17 18 42.6	+0.3	
	comp=Z,22nm,0.7s									
ARU	Arti	56.67	324	*c i*P		P		17 18 43.6	+1.3	
ARU				pmax		pmax				
	comp=Z,53nm,1.7s									
ATKA	Atka Island	56.95	41	*e*P		P		17 18 45.1	+0.8	
	comp=Z,209nm,1.6s									
STKA	Stephens Creek	57.32	160	P		P		17 18 46.9	-0.2	
	comp=Z,4.6nm,0.6s,baz=334,slow=6.8,SNR=16									
STKA				LR		LR		17 44 31.9		
	comp=Z,108nm,21.9s,baz=313,slow=37									
STKA	Stephens Creek	57.32	160	*e*P		P		17 18 46.4	-0.7	
	comp=Z,6.8nm,1.6s									
STKA	Stephens Creek	57.32	160	*e*P		P		17 18 46.4	-0.7	
STKA				pmax		pmax				
	comp=Z,7.0nm,1.6s									
ARMA	Armidale	59.99	150	*e*P		P		17 19 06.8	+0.9	
	comp=Z,49nm,1.6s									
NIKH	Nikolski High	60.26	41	*e*P		P		17 19 07.6	+0.2	
	comp=Z,161nm,1.4s									
UNV	Unalaska Valle	61.68	40	*e*P		P		17 19 18.2	+1.2	
	comp=Z,245nm,2.0s									
DZM	Mont Dzumac	62.26	132	LR		LR		17 43 04.9		
	comp=Z,243nm,19.8s,baz=218,slow=33									
DZM	Mont Dzumac	62.26	132	*e*P		P		17 19 20.0	-1.4	
	comp=Z,28nm,1.6s									
ANM	Nome	62.77	28	*e*P		P		17 19 24.0	-0.1	
	comp=Z,13nm,0.3s									
ANM	Nome	62.77	28	*e*P		P		17 19 24.0	-0.1	
ANM				pmax		pmax				
	comp=Z,13nm,0.3s									
CAN	Canberra	63.08	155	*e*P		P		17 19 26.5	0.0	
	comp=Z,56nm,1.7s									
CAN	Canberra	63.08	155	*e*P		P		17 19 26.5	0.0	
CAN				pmax		pmax				
	comp=Z,56nm,1.7s									
PRGR	Permogore	63.82	329	*e*P		P		17 19 30.9	-0.2	
PRGR				pmax		pmax				
	comp=Z,23nm,0.8s									
ZEI	Tsey	66.21	308	*e*P		P		17 19 46.8	-0.5	
ZEI				pmax

OBN *i* 17 20 21.6
OBN *e* 17 22 37.7
OBN *eS* **S** **17 29 07.7 0.0**
OBN pmax pmax
comp=Z,44nm,1.7s
OBN MLR MLR
comp=Z,431nm,16.0s
RAYN Ar Rayn 69.11 288 *eP* **P** **17 20 05.5 -0.2**
comp=Z,27nm,1.5s
KDAK Kodiak Island 69.21 35 P **P** **17 20 05.0 -0.6**
comp=Z,8.4nm,0.7s,baz=259,slow=7.5,SNR=6.2
KDAK Kodiak Island 69.21 35 *eP* **P** **17 20 05.0 -0.6**
TRF Thorofare Moun 69.43 29 *eP* **P** **17 20 08.5 +1.4**
comp=Z,54nm,1.8s
SUA Susitna One 69.54 31 *eP* **P** **17 20 08.1 +0.3**
comp=Z,126nm,1.8s
CNPM China Poot 69.62 33 *eP* **P** **17 20 07.4 -0.7**
comp=Z,263nm,1.9s
BRLK Bradley Lake 69.75 33 *eP* **P** **17 20 09.8 +0.8**
comp=Z,146nm,1.6s
MCK McKinley 69.98 28 *eP* **P** **17 20 11.0 +0.6**
comp=Z,34nm,1.6s
MDM Murphy Dome 70.07 27 *eP* **P** **17 20 11.4 +0.5**
comp=Z,13nm,0.9s
RND Reindeer 70.08 29 *eP* **P** **17 20 10.8 -0.1**
comp=Z,18nm,0.8s
RND Reindeer 70.08 29 *eP* **P** **17 20 10.9 -0.1**
RND pmax pmax
comp=Z,19nm,0.8s
WRH Wood River Hil 70.22 27 *eP* **P** **17 20 11.7 0.0**
comp=Z,12nm,1.2s
PMR Palmer 70.28 31 *eP* **P** **17 20 12.9 +0.8**
comp=Z,79nm,2.0s
PMR Palmer 70.28 31 *eP* **P** **17 20 12.9 +0.8**
PMR pmax pmax
comp=Z,79nm,2.0s
CCB Clear Creek Bu 70.31 27 *eP* **P** **17 20 11.7 -0.5**
comp=Z,16nm,1.6s
GHO Glory Hole Cre 70.34 30 *eP* **P** **17 20 14.0 +1.4**
comp=Z,109nm,2.0s
SEW Seward 70.40 32 *eP* **P** **17 20 12.2 -0.7**
comp=Z,144nm,1.9s
IL1 Eielson Array 70.67 27 *eP* **P** **17 20 13.7 -0.8**
ILAR Eielson Array 70.67 27 P **P** **17 20 15.2 +0.7**
comp=Z,0.8nm,0.7s,baz=300,slow=8.5,SNR=12
ILB Eielson Array 70.67 27 *eP* **P** **17 20 15.9 +1.5**
KEV Kevo 70.71 338 *eP* **P** **17 20 15.3 +0.7**
comp=Z,148nm,1.7s
KEV Kevo 70.71 338 *eP* **P** **17 20 15.3 +0.7**
KEV pmax pmax
comp=Z,149nm,1.7s
DHY Denali Highway 70.80 29 *eP* **P** **17 20 16.2 +0.7**
comp=Z,33nm,1.8s
SCM Sheep Creek Mo 71.07 30 *eP* **P** **17 20 18.4 +1.3**
comp=Z,150nm,2.0s
SCM Sheep Creek Mo 71.07 30 *eP* **P** **17 20 18.4 +1.3**
SCM pmax pmax
comp=Z,150nm,2.0s
SPA0 Spitsbergen Ar 71.26 348 *eP* **P** **17 20 18.4 +0.5**
ARA0 ARCESS Array S 71.27 338 *eP* **P** **17 20 18.2 +0.1**
ARCES ARCESS Array B 71.27 338 P **P** **17 20 18.2 +0.1**
comp=Z,4.1nm,0.7s,baz=60,slow=7.2,SNR=8.9
ARCES LR LR 17 55 11.5
comp=Z,27nm,18.4s,baz=123,slow=39
ARCES ARCESS Array B 71.27 338 *eP* **P** **17 20 18.7 +0.6**
ARCES ARCESS Array B 71.27 338 *eP* **P** **17 20 18.7 +0.6**
ARE0 ARCESS Array S 71.27 338 *eP* **P** **17 20 19.0 +0.9**
comp=Z,11nm,1.9s
RIDG Independ'e Rid 71.77 28 *eP* **P** **17 20 22.5 +1.3**
comp=Z,55nm,1.8s
RAGM Ragged Mountai 72.66 31 *eP* **P** **17 20 28.7 +2.1**
comp=Z,216nm,2.0s
SIM Simferopol' 72.70 312 P **P** **17 20 29.4 +2.3**
SIM pmax pmax
comp=Z,16nm,0.7s
EGAK Eagle 73.05 26 *eP* **P** **17 20 29.5 +0.7**
comp=Z,47nm,2.0s
FIA1 FINESS Array S 73.10 330 *eP* **P** **17 20 29.0 -0.1**
FIA0 FINESS Array S 73.10 330 *eP* **P** **17 20 29.1 0.0**
FIA0 FINESS Array S 73.10 330 *eP* **P** **17 20 29.1 0.0**
FINES FINESS Array B 73.10 330 P **P** **17 20 29.1 0.0**
comp=Z,8.8nm,0.7s,baz=44,slow=6.4,SNR=29
FINES LR LR 17 55 27.8
comp=Z,473nm,19.6s,baz=72,slow=38
FINES FINESS Array B 73.10 330 *i P* **P** **17 20 29.6 +0.5**
FINES pmax pmax
comp=Z,9.0nm,0.7s
TGL Tana Glacier 73.44 31 *eP* **P** **17 20 31.6 +0.4**
comp=Z,98nm,1.8s
VSU Vasula 73.60 327 ⇓ *iP* **P** **17 20 34.7 +2.7**
VSU pmax pmax
comp=Z,71nm,1.0s
KIP Kipapa 73.77 73 ⇑ *eP* **P** **17 20 33.9 +0.1**
KIP pmax pmax
comp=Z,427nm,1.2s
DAWY Dawson 74.00 27 *eP* **P** **17 20 33.8 -0.6**
comp=Z,17nm,1.3s
AKASG Malin Array Be 74.36 319 P **P** **17 20 36.5 -0.2**
comp=Z,5.0nm,0.8s,baz=61,slow=6.2,SNR=6.8
AKBB Malin Array Si 74.36 319 *eP* **P** **17 20 36.0 -0.6**
comp=Z,15nm,1.3s
KIEV Kiev 74.37 319 *eP* **P** **17 20 35.8 -1.0**
comp=Z,16nm,1.3s
KIEV Kiev 74.37 319 ⇑ *eP* **P** **17 20 37.0 +0.3**
KIEV pmax pmax
comp=Z,5.0nm,1.0s
AK11 Malin Array Si 74.40 319 *eP* **P** **17 20 36.3 -0.6**
BR101 Keskin Array S 74.43 307 *eP* **P** **17 20 37.5 0.0**
BR131 Keskin Array S 74.43 307 *eP* **P** **17 20 36.5 -1.0**
BRTR Keskin Array B 74.43 307 P **P** **17 20 37.5 0.0**
comp=Z,4.9nm,0.8s,baz=106,slow=6.2,SNR=20
BRTR Keskin Array B 74.43 307 *ceP* **P** **17 20 39.0 +1.5**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
NACGM Naroch 74.58 323 *e* **P** **17 20 37.0 -0.9**
INK Inuvik 74.77 22 *eP* **P** **17 20 38.3 -0.4**
comp=Z,8.2nm,0.9s
INK Inuvik 74.77 22 *eP* **P** **17 20 38.3 -0.4**
INK pmax pmax
comp=Z,8.0nm,0.9s
ANTO Ankara 75.01 307 *eP* **P** **17 20 39.7 -1.1**
comp=Z,13nm,0.8s
ANTO Ankara 75.01 307 *eP* **P** **17 20 39.7 -1.1**
ANTO pmax pmax
comp=Z,13nm,0.8s
CSS Mathiatis 76.05 302 *eP* **P** **17 20 45.5 -1.3**
comp=Z,16nm,0.9s
SUW Suwalki 76.86 323 *eP* **P** **17 20 53.0 +2.1**
SUW Suwalki 76.86 323 *eP* **P** **17 20 52.3 +1.4**
comp=Z,32nm,0.9s
SUW Suwalki 76.86 323 *eP* **P** **17 20 53.0 +2.1**
HARR Harsova 76.99 313 ⇑ *iP* P 17 20 59.8 +7.9
HARR Harsova 76.99 313 ⇑ *P* P 17 20 59.8 +7.9
VRI Vrincioaia 77.42 314 ⇓ *iP* **P** **17 20 55.3 +1.0**
VRI Vrincioaia 77.42 314 ⇓ *P* **P** **17 20 55.3 +1.0**
BIZ Bicaz 77.47 316 ⇓ *iP* **P** **17 20 55.6 +1.0**
PLOR Plostina 77.47 314 ⇑ *iP* P 17 20 59.6 +5.0
PLOR Plostina 77.47 314 ⇑ *P* P 17 20 59.6 +5.0
BURAR Bucovina Array 77.82 317 ⇓ *iP* **P** **17 20 57.6 +1.0**
BUR08 Bucovina Ar. S 77.82 317 *eP* **P** **17 20 57.0 +0.4**
BUR04 Bucovina Ar. S 77.82 317 *eP* **P** **17 20 57.1 +0.5**
MLR Muntele Rosu 78.06 314 *eP* **P** **17 20 57.9 -0.1**
comp=Z,34nm,1.7s
MLR Muntele Rosu 78.06 314 ⇓ *iP* **P** **17 20 59.9 +1.9**
MLR Muntele Rosu 78.06 314 ⇓ *P* **P** **17 20 59.9 +1.9**
DAG Danmarks Havn 78.15 351 *i P* **P** **17 20 56.5 -1.3**
comp=Z,11nm,1.0s
DAG Danmarks Havn 78.15 351 *i P* **P** **17 20 56.5 -1.3**
DAG pmax pmax
comp=Z,11nm,1.0s
MANT Manisa 78.57 307 *eP* **P** **17 21 01.0 -0.1**
comp=Z,161nm,1.8s
KWP Kalwaria Pacla 78.67 319 *eP* **P** **17 21 02.0 +0.8**
KWP Kalwaria Pacla 78.67 319 *eP* **P** **17 21 01.4 +0.3**
comp=Z,54nm,0.5s
KWP Kalwaria Pacla 78.67 319 *eP* **P** **17 21 02.0 +0.8**
BEL Belsk 78.99 322 *eP* **P** **17 21 05.2 +2.4**
BEL Belsk 78.99 322 *eP* **P** **17 21 05.2 +2.4**
UZH Uzhgorod 79.29 318 *eP* **P** **17 21 05.0 +0.5**
UZH *e* 17 21 09.0
UZH *i* 17 21 18.2
DCZ Deep Cove 79.31 149 *eP* **P** **17 21 04.8 +0.4**
comp=Z,37nm,1.2s
TRPA Tarpa 79.32 318 ⇑ *iP* **P** **17 21 04.7 0.0**
THZ Tophouse 79.63 144 *eP* **P** **17 21 06.2 -0.2**
comp=Z,54nm,1.5s
NC405 NORSAR Array S 79.66 332 *eP* **P** **17 21 05.7 -0.7**
MLZ Mavora Lakes 79.69 149 *eP* **P** **17 21 06.0 -0.6**
comp=Z,71nm,1.5s
NC303 NORSAR Array S 79.75 332 *eP* **P** **17 21 05.0 -1.8**
NB2 NORSAR Subarra 79.90 332 P **P** **17 21 07.3 -0.4**
comp=Z,2.8nm,0.8s,baz=62,slow=5.6
NB200 NORSAR Array S 79.90 332 *eP* **P** **17 21 07.4 -0.3**
NOA NORSAR Array B 79.90 332 P **P** **17 21 07.4 -0.3**
comp=Z,4.2nm,0.7s,baz=61,slow=5.3,SNR=14
NOA LR LR 17 59 58.5
comp=Z,1μm,18.1s,baz=60,slow=38
NC204 NORSAR Array S 79.98 333 *eP* **P** **17 21 07.3 -0.9**
RPZ Rata Peaks 79.99 146 *eP* **P** **17 21 07.5 -0.7**
comp=Z,36nm,0.9s
BKZ Black Stump Fm 79.99 140 *eP* **P** **17 21 07.8 -0.6**
comp=Z,19nm,1.2s
SRE Strehaia 80.17 314 ⇓ *iP* **P** **17 21 11.6 +2.2**
SRE Strehaia 80.17 314 ⇓ *P* **P** **17 21 11.6 +2.2**
OJC Ojcow 80.19 320 *eP* **P** **17 21 10.5 +1.1**
OJC Ojcow 80.19 320 *eP* **P** **17 21 08.7 -0.8**
comp=Z,28nm,1.2s
OJC Ojcow 80.19 320 *eP* **P** **17 21 10.5 +1.1**
NIE Niedzica 80.21 319 *eP* **P** **17 21 11.1 +1.5**
NIE Niedzica 80.21 319 *eP* **P** **17 21 11.1 +1.5**
GKP Gorka Klasztor 80.42 324 *eP* **P** **17 21 10.0 -0.5**
GKP Gorka Klasztor 80.42 324 *eP* **P** **17 21 10.0 -0.5**
KECS Kecovo 80.46 319 *eP* **P** **17 21 11.6 +0.7**
KECS pmax pmax
comp=Z,22nm,1.2s
KECS Kecovo 80.46 319 *eP* **P** **17 21 11.6 +0.7**
PUNG Punghina 80.49 314 ⇓ *iP* **P** **17 21 13.1 +2.0**
BFZ Birch Farm 80.81 141 *eP* **P** **17 21 11.8 -0.9**
comp=Z,52nm,0.9s
VTS Vitosha 80.94 312 *eP* **P** **17 21 13.6 -0.2**
comp=Z,21nm,0.8s
VTS Vitosha 80.94 312 ⇓ *iP* **P** **17 21 14.9 +1.1**
VTS Vitosha 80.94 312 ⇓ *P* **P** **17 21 14.9 +1.1**
PSZ Piszkesteto 81.04 318 *eP* **P** **17 21 14.4 +0.3**
comp=Z,56nm,2.0s
PSZ Piszkesteto 81.04 318 ⇓ *iP* **P** **17 21 15.1 +1.0**
PSZ Piszkesteto 81.04 318 ⇓ *P* **P** **17 21 15.1 +1.0**
VYHS Vyhne 81.46 319 *eP* **P** **17 21 17.3 +1.1**
VYHS pmax pmax
comp=Z,7.0nm,1.0s
VYHS Vyhne 81.46 319 *eP* **P** **17 21 17.3 +1.1**
MORC Moravsky Berou 81.70 321 ⇑ *iP* **P** **17 21 19.2 +1.7**
MORC Moravsky Berou 81.70 321 ⇑ *P* **P** **17 21 19.2 +1.7**
MORC Moravsky Berou 81.70 321 *eP* **P** **17 21 20.1 +2.6**
KSP Ksiaz 81.97 322 *eP* **P** **17 21 19.5 +0.6**
KSP Ksiaz 81.97 322 *eP* **P** **17 21 19.5 +0.6**
KRLC Kraliky 82.02 321 *eP* **P** **17 21 19.6 +0.4**
KRLC *eP* **P** **17 21 20.0 +0.8**
KRLC *ex* x 17 21 29.2
KRLC Kraliky 82.02 321 *eP* **P** **17 21 19.6 +0.4**
KRLC *e* 17 21 29.2
DPC Dobruska-Polom 82.17 321 *eP* **P** **17 21 21.6 +1.6**
DPC AMS AMS 18 02 50.0
comp=Z,600nm,16.0s
DPC Dobruska-Polom 82.17 321 *eP* **P** **17 21 21.6 +1.6**
DPC MLR MLR
comp=Z,600nm,16.0s
UPC Upice 82.28 322 AMS AMS 18 02 40.0
comp=Z,600nm,16.3s
VRAC Vranov 82.46 320 LR LR 18 01 54.6
comp=Z,277nm,19.7s,baz=90,slow=38
VRAC Vranov 82.46 320 *eP* **P** **17 21 23.5 +2.0**
DIVS Divibare 82.51 315 *eP* **P** **17 21 22.1 +0.1**
comp=Z,9.8nm,1.0s
KRUC Moravsky 82.69 320 *eP* **P** **17 21 23.5 +0.9**
PVCC Panska Ves 83.09 322 AMS AMS 18 03 10.0
comp=Z,600nm,14.0s
TREC Trest 83.12 321 AMS AMS 18 03 20.0
comp=Z,400nm,16.6s
GOPC GO Pecny, Ondr 83.25 321 AMS AMS 18 03 30.0
comp=Z,500nm,17.1s
BRG Berggiesshubel 83.29 323 *eP* **P** **17 21 26.5 +0.7**
comp=Z,9.3nm,1.1s
BRG *e* 17 30 52.7
comp=Z,38nm,2.0s
comp=N,540nm,14.0s
comp=E,730nm,16.5s
comp=Z,1μm,15.3s
ABPO Ambohimpanom 83.39 246 *eP* **P** **17 21 27.1 +0.2**
comp=Z,15nm,0.9s
ABPO Ambohimpanom 83.39 246 *eP* **P** **17 21 27.1 +0.2**
ABPO pmax pmax
comp=Z,15nm,0.9s
CONA Conrad Observa 83.50 319 *ePcP* **P** **17 21 28.7 +1.7**
comp=Z,14nm,1.3s
CLL Collm 83.62 323 *eP* **P** **17 21 27.2 -0.2**
comp=Z,11nm,0.9s
CLL Collm 83.62 323 *i P* **P** **17 21 28.6 +1.2**
comp=Z,18nm,1.2s
CLL *epP* **pP** **17 21 34.0 -2.8**
CLL Collm 83.62 323 *i P* **P** **17 21 28.6 +1.2**
CLL *e* 17 21 34.0
CLL pmax pmax
comp=Z,18nm,1.2s
ITM Ithomi 83.93 308 *eP* **P** **17 21 29.1 -0.2**
comp=Z,168nm,1.8s
ARSA Arzberg 84.01 319 *ePcP* **P** **17 21 30.8 +1.2**
comp=Z,7.0nm,1.3s
KHC Kasperske Hory 84.31 321 *eP* **P** **17 21 30.6 -0.4**
comp=Z,3.6nm,1.1s
KHC Kasperske Hory 84.31 321 *eP* **P** **17 21 31.7 +0.7**
KHC AMS AMS 18 04 10.0
comp=Z,600nm,16.3s
KHC Kasperske Hory 84.31 321 *eP* **P** **17 21 31.7 +0.7**
KHC MLR MLR
comp=Z,600nm,16.3s
GEC2 GERESS Array S 84.37 321 *eP* **P** **17 21 31.6 +0.2**
comp=Z,9.3nm,1.0s
GERES GERESS Array B 84.37 321 P **P** **17 21 32.1 +0.7**
comp=Z,4.2nm,0.8s,baz=64,slow=4.6,SNR=21
GERES LR LR 18 03 21.5
comp=Z,367nm,18.4s,baz=74,slow=39
GEA0 GERESS Array S 84.37 321 *eP* **P** **17 21 31.4 -0.1**
NKC Novy Kostel 84.44 322 AMS AMS 18 04 10.0
comp=Z,800nm,14.6s
MOA Molln 84.50 320 *ePcP* **P** **17 21 33.6 +1.6**
comp=Z,25nm,2.1s
YKA Yellowknife Ar 84.50 23 P **P** **17 21 31.3 -0.4**
comp=Z,1.4nm,0.7s,baz=313,slow=4.6,SNR=6.0
YKB5 Yellowknife Ar 84.50 23 *eP* **P** **17 21 30.9 -0.7**
PERS Pernice 84.53 318 *i P* **P** **17 21 33.1 +0.8**
PERS Pernice 84.53 318 *i P* **P** **17 21 33.1 +0.8**
SOKA Soboth 84.56 318 *ePcP* **P** **17 21 33.5 +1.1**
comp=Z,12nm,1.1s
OBKA Obir 84.94 318 *ePcP* **P** **17 21 35.5 +1.1**
comp=Z,5.9nm,0.8s
BOJS Bojanci 84.96 317 *eP* **P** **17 21 35.6 +1.2**
BOJS Bojanci 84.96 317 *eP* **P** **17 21 35.6 +1.2**
KMBO Kilima Mbogo 85.07 267 P **P** **17 21 36.3 +0.6**
comp=Z,5.0nm,0.8s,baz=44,slow=8.5,SNR=14
KMBO Kilima Mbogo 85.07 267 *eP* **P** **17 21 34.5 -1.3**
comp=Z,14nm,1.1s
KMBO Kilima Mbogo 85.07 267 *i P* **P** **17 21 37.5 +1.8**
KMBO pmax pmax
comp=Z,5.0nm,0.9s
VISS Visnje 85.08 318 *i P* **P** **17 21 35.9 +0.9**
VISS Visnje 85.08 318 *i P* **P** **17 21 35.9 +0.9**
KBA Koelnbreinsper 85.41 319 *ePcP* **P** **17 21 37.4 +0.6**
comp=Z,5.3nm,0.6s
JAVS Javornik 85.52 318 *i P* **P** **17 21 37.4 +0.1**
JAVS Javornik 85.52 318 *i P* **P** **17 21 37.4 +0.1**
ABTA Abfaltersbach 86.07 319 *eP* **P** **17 21 39.9 0.0**
comp=Z,4.7nm,0.7s
WTTA Wattenberg 86.34 320 *ePcP* **P** **17 21 42.2 +0.7**
comp=Z,6.1nm,0.6s
MOTA Moosalm 86.62 320 *ePcP* **P** **17 21 43.1 +0.4**
comp=Z,3.2nm,0.7s
SQTA Sankt Quirin 86.62 320 *ePcP* **P** **17 21 43.3 +0.6**
comp=Z,6.8nm,0.8s
FETA Feichten 87.00 320 *ePcP* **P** **17 21 45.3 +0.7**
comp=Z,5.9nm,1.0s
DAVA Damuels 87.37 321 *ePcP* **P** **17 21 47.2 +0.8**
comp=Z,7.2nm,1.3s
FUORN Ofenpass-Fuorn 87.48 320 *eP* **P** **17 21 46.0 -1.0**
comp=Z,60nm,1.8s
DAVOX Davos/Dischmat 87.62 320 LR LR 18 05 27.2
comp=Z,448nm,19.6s,baz=53,slow=39
SENIN Lac Senin/Sane 89.36 321 *eP* **P** **17 21 54.8 -1.1**
comp=Z,36nm,1.8s
EKA Eskdalemuir Ar 89.39 332 LR LR 18 06 28.3
comp=Z,1μm,18.2s,baz=40,slow=38
B08A Colville Reser 91.08 36 *eP* **P** **17 22 03.8 +0.1**
comp=Z,23nm,1.6s
PPT Papeete 95.61 107 LR LR 18 01 07.2
comp=Z,84nm,18.4s,baz=308,slow=33
YPP Pitchstone Pla 98.23 35 *eP* **P** **17 22 33.0 -3.9**
comp=Z,4.8nm,0.8s
MAW Mawson 99.51 199 LR LR 18 05 17.5
comp=Z,35nm,18.1s,baz=52,slow=34
LNIG Linares 118.44 43 *ePKPdf* **PKPdf** **17 27 45.6 -1.6**
DBIC Dimbokro 120.04 292 PKP **PKPdf** **17 27 49.7 -0.8**
comp=Z,4.1nm,0.6s,baz=65,slow=2.1,SNR=5.5
SDV Santo Domingo 146.72 22 *ePKPdf* **PKPdf** **17 28 38.5 -1.9**
ROSC El Rosal 148.83 32 PKPbc **PKPdf** **17 28 45.3 +1.2**
comp=Z,11nm,0.8s,baz=34,slow=6.3,SNR=8.6
ROSC El Rosal 148.83 32 *ePKPdf* **PKPdf** **17 28 42.9 -1.2**
PTGA Pitinga 158.41 4 *ePKPdf* **PKPdf** **17 28 55.8 -1.4**
PLCA Paso Flores 159.10 154 PKPab **PKPab** **17 29 34.2 +0.2**
comp=Z,1.6nm,0.6s,baz=248,slow=6.3,SNR=4.0
PLCA Paso Flores 159.10 154 *ePKPab* **PKPab** **17 29 33.5 -0.5**
SAML Samuel 165.89 19 *ePKPdf* **PKPdf** **17 29 04.2 -0.5**
SAML Samuel 165.89 19 *ePKIKP* **PKPdf** **17 29 04.2 -0.5**
LPAZ La Paz 169.09 58 PKP **PKPdf** **17 29 08.2 +0.4**
comp=Z,2.0nm,0.8s,baz=32,slow=2.4,SNR=9.9
LPAZ La Paz 169.09 58 *ePKPdf* **PKPdf** **17 29 07.3 -0.4**
LPAZ *ePKPab* **PKPab** **17 30 18.0 -1.3**
LPAZ La Paz 169.09 58 *ePKIKP* **PKPdf** **17 29 07.3 -0.4**
LPAZ *e* 17 30 18.0
MNMC Minye Minye 169.16 75 *ePKPdf* **PKPdf** **17 29 05.4 -1.9**

BJI ***20*** *17:25:54.6, 8.°25S×127.°56E, h173km, mb4.3/14, mB4.8/6*
ISCJB ***20*** *17:25:55.4±0.2, 7.°73S±0.°03×127.°57E±0.°03, h150km, mb4.5/29, Error ellipse: s-maj=4.5km s-min=4.1km az=160.8*
NEIC ***20*** *17:25:57.6±0.6, 7.°64S×127.°60E, h160km±7km, mb4.6/29, Error ellipse: s-maj=7.8km s-min=5.8km az=47.0*
IDC ***20*** *17:25:58.4±1.4, 7.°69S×127.°53E, h162km±14km, mb3.7/6, mb1 3.9/9, mb1mx3.6/30, mbtmp4.3/9, MS3.6/2, Ms1 3.7/2, ms1mx3.1/46, Error ellipse: s-maj=14.5km s-min=12.5km az=92.0*
DJA ***20*** *17:25:58.4±0.2, 8.°S±.3°×12.°8E±.°, h160km±7km, M4.4/11, mb4.3/11, mB5.3/1, MLv4.4/10, Mw(mB)4.7/1*

ISC 20 17:25:56.6±0.4, 7.74S±0.05×127.63E±0.04, h150km, n92, σ1°79/100, mb4.6/29, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.65**	**94**	*ePn*	**Pn**	**17 26 54.8**	**+2.6**
SAUI				*eSn*	**Sn**	**17 27 32.1**	**-3.4**
SAUI	**Saumlaki**	**3.65**	**94**	P	**Pn**	**17 26 55.0**	**+2.7**
SOEI	**Soe**	**3.88**	**239**	*ePn*	**Pn**	**17 26 57.5**	**+2.1**
SOEI				*eSn*	**Sn**	**17 27 39.4**	**-1.6**
SOEI	**Soe**	**3.88**	**239**	P	**Pn**	**17 26 57.8**	**+2.4**
BNDI	**Bandanaira**	**3.92**	**35**	P	**Pn**	**17 26 58.5**	**+2.7**
BATI	**Baumata**	**4.62**	**238**	P	**Pn**	**17 27 07.3**	**+2.3**
	21nm,0.3s,baz=73,slow=2.3,SNR=43						
BATI				S	**Sn**	**17 27 59.5**	**+1.2**
	49nm,0.3s,baz=62,slow=13,SNR=22						
BATI	**Baumata**	**4.62**	**238**	P	**Pn**	**17 27 07.4**	**+2.4**
MMRI	**Maumere**	**5.41**	**260**	*ePn*	**Pn**	**17 27 16.7**	**+1.2**
MMRI				*eSn*	**Sn**	**17 28 13.0**	**-4.1**
MMRI	**Maumere**	**5.41**	**260**	P	**Pn**	**17 27 16.9**	**+1.4**
SANI	**Sanana**	**5.89**	**344**	P	**Pn**	**17 27 24.6**	**+2.7**
EDFI	**Ende, Flores**	**5.96**	**260**	P	**Pn**	**17 27 25.3**	**+2.4**
MTN	**Manton Dam**	**6.13**	**146**	*ePn*	**Pn**	**17 27 26.1**	**+1.1**
MTN				*eSn*	**Sn**	**17 28 28.9**	**-5.4**
FAKI	**Fak Fak**	**6.64**	**44**	*ePn*	**Pn**	**17 27 32.5**	**+0.5**
FAKI				*eSn*	**Sn**	**17 28 42.4**	**-4.3**
FAKI	**Fak Fak**	**6.64**	**44**	P	**Pn**	**17 27 33.4**	**+1.5**
WSI	**Waingapu**	**7.50**	**255**	P	Pn	17 27 49.2	+5.9
SIJI	**Sorong**	**7.73**	**28**	P	**Pn**	**17 27 48.1**	**+1.6**
	4.3nm,0.3s,baz=236,slow=22,SNR=21						
SIJI				S	**Sn**	**17 29 14.7**	**+1.8**
	0.4nm,0.3s,baz=287,slow=19,SNR=3.4						
BNSI	**Bone**	**8.18**	**294**	P	**Pn**	**17 27 54.7**	**+2.2**
LUWI	**Luwuk**	**8.23**	**324**	*ePn*	**Pn**	**17 27 52.3**	**-0.9**
TNTI	**Ternate**	**8.46**	**358**	*ePn*	**Pn**	**17 27 56.2**	**0.0**
FITZ	**Fitzroy Crossi**	**10.47**	**190**	*ePn*	**Pn**	**17 28 20.6**	**-2.3**
FITZ				*eSn*	Sn	17 30 11.7	-7.1
JAGI	**Jajag, Banyuwa**	**13.36**	**266**	*ePn*	**Pn**	**17 28 59.1**	**-1.4**
WRAB	**Tennant Creek**	**13.76**	**152**	*ePn*	**Pn**	**17 29 03.5**	**-2.0**
WRA	**Warramunga Arr**	**13.76**	**152**	P	**Pn**	**17 29 03.8**	**-1.8**
	4.7nm,0.3s,baz=323,slow=14,SNR=129						
WRA				S	Sn	17 31 28.4	-10
	7.3nm,0.3s,baz=329,slow=23,SNR=12						
WB2	**Warramunga Arr**	**13.77**	**152**	*ePn*	**Pn**	**17 29 03.9**	**-1.8**
JAY	**Jayapura**	**14.02**	**69**	P	**Pn**	**17 29 09.4**	**+0.5**
MBWA	**Marble Bar**	**15.37**	**209**	*ePn*	**Pn**	**17 29 26.2**	**+0.6**
	13nm,1.0s						
COEN	**Coen**	**16.46**	**113**	*eP*	**P**	**17 29 40.4**	**+1.3**
	18nm,1.5s						
AS31	**Alice Springs**	**16.94**	**160**	*eP*	**P**	**17 29 46.6**	**+2.2**
	18nm,0.6s						
ASAR	**Alice Springs**	**16.94**	**160**	P	**P**	**17 29 45.9**	**+1.5**
	6.3nm,0.3s,baz=340,slow=11,SNR=700						
ASAR				S	S	17 32 40.9	-12
	0.8nm,0.3s,baz=334,slow=17,SNR=4.8						
ASAR				LR	LR	17 37 17.4	
	comp=Z,191nm,20.5s,baz=302,slow=40						
UGM	**Wanagama**	**16.95**	**268**	*eP*	**P**	**17 29 43.7**	**-0.8**
	311nm,1.4s						
AS01	**Alice Springs**	**16.95**	**160**	*eP*	**Pn**	**17 29 47.0**	**+2.0**
KKM	**Kota Kinabalu**	**17.81**	**320**	*eP*	**P**	**17 29 53.3**	**-0.7**
	23nm,1.1s						
STKI	**Sintang**	**17.87**	**295**	P	**Pn**	**17 29 56.9**	**+0.8**
	25nm,1.0s						
SBUM	**Sibu**	**18.41**	**303**	*eP*	**Pn**	**17 30 02.6**	**+0.2**
	9.4nm,0.8s						
PMG	**Port Moresby**	**19.38**	**96**	*eP*	**P**	**17 30 10.5**	**-0.5**
	7.1nm,0.8s						
KSM	**Kuching**	**19.55**	**297**	*eP*	**P**	**17 30 13.5**	**+0.6**
	14nm,1.1s						
CISI	**Cisompet, Garu**	**19.64**	**269**	*eP*	**P**	**17 30 10.2**	**-3.7**
	57nm,1.2s						
CTA	**Charters Tower**	**21.82**	**126**	P	**P**	**17 30 39.7**	**+2.6**
	1.8nm,0.6s,baz=288,slow=6.4,SNR=4.1						
CTAO	**Charters Tower**	**21.82**	**126**	*eP*	**P**	**17 30 37.4**	**+0.3**
	15nm,1.4s						
TGY	**Tagaytay City**	**22.70**	**343**	P	**P**	**17 30 47.1**	**+1.4**
	137nm,0.3s,baz=183,slow=3.0,SNR=5.3						
FORT	**Forrest**	**22.92**	**179**	*eP*	**P**	**17 30 49.5**	**+1.8**
	33nm,1.0s						
BBOO	**Buckleboo**	**26.14**	**164**	*eP*	**P**	**17 31 18.9**	**+2.1**
	31nm,1.4s						
NWAO	**Narrogin (SRO)**	**26.85**	**200**	*eP*	**P**	**17 31 24.4**	**+1.2**
	47nm,1.4s						
STKA	**Stephens Creek**	**27.31**	**153**	P	**P**	**17 31 28.6**	**+1.2**
	3.7nm,0.5s,baz=334,slow=8.4,SNR=16						
STKA	**Stephens Creek**	**27.31**	**153**	*eP*	**P**	**17 31 29.3**	**+1.9**
	2.8nm,1.4s						
IPM	**Ipoh**	**29.19**	**294**	*eP*	**P**	**17 31 44.2**	**0.0**
	14nm,1.2s						
KULM	**Kulim**	**29.87**	**295**	*eP*	**P**	**17 31 49.6**	**-0.6**
	14nm,1.2s						
GSI	**Gunungsitoli**	**31.29**	**285**	*eP*	**P**	**17 32 00.4**	**-2.4**
	17nm,1.2s						
YULB	**Yu-li**	**31.56**	**349**	*eP*	**P**	**17 32 01.3**	**-3.6**
	26nm,1.5s						
TPUB	**Ta-pu**	**31.60**	**348**	*eP*	**P**	**17 32 03.8**	**-1.6**
	122nm,2.0s						
CM01	**Chiang Mai Arr**	**38.42**	**313**	*eP*	**P**	**17 33 03.5**	**-0.3**
CM31	**Chiang Mai Arr**	**38.46**	**313**	*eP*	**P**	**17 33 04.3**	**+0.2**
CMAR	**Chiang Mai Arr**	**38.46**	**313**	P	**P**	**17 33 04.2**	**+0.1**
	1.5nm,0.7s,baz=141,slow=6.8,SNR=20						
CMAR				PcP	**PcP**	**17 35 14.5**	**+0.1**
	0.5nm,0.5s,baz=170,slow=2.8,SNR=6.7						
CHTO	**Chiang Mai**	**38.69**	**313**	*eP*	**P**	**17 33 06.2**	**+0.2**
	6.5nm,1.5s						
NJ2	**Nanjing**	**40.45**	**348**	*eP*	**P**	**17 33 19.8**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KMI	**Kunming**	**40.68**	**324**	P	**P**	**17 33 24.5**	**+1.8**
KMI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
CD2	**Chengdu**	**44.73**	**330**	*eP*	**P**	**17 33 55.0**	**-0.1**
LZH	**Lanzhou**	**49.00**	**334**	*eP*	**P**	**17 34 32.0**	**+3.7**
LZH				pP	sP	17 35 12.1	-7.0
LZH				sP	PcP	17 35 29.5	-21
LZH				pmax	pmax		
	comp=

HHC				pmax	pmax			
	comp=Z,150nm,5.4s							
LSA	**Lhasa**	**51.15**	**318**	*eP*	**P**	**17 34 45.4**	**+0.4**
	2.6nm,0.6s							
ODAN	**Odare**	**52.00**	**313**	*eP*	**P**	**17 34 51.3**	**+0.2**
HIZ	**Hauiti**	**52.34**	**133**	*eP*	**P**	**17 34 51.7**	**-1.5**
	89nm,1.4s							
RAMN	**Ramite**	**52.63**	**312**	*eP*	**P**	**17 34 55.5**	**-0.2**
	12nm,0.6s							
GTA	**Gaotai**	**53.53**	**333**	⇓P	**P**	**17 35 02.3**	**+0.3**
GTA				pP	pP	17 35 37.4	+0.8
GTA				S	**S**	**17 42 25.3**	**+1.8**
GTA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
GTA				pmax	pmax			
	comp=Z,120nm,7.1s							
GTA				LR	LR			
	comp=N,270nm,21.0s							
GTA				LR	LR			
	comp=E,250nm,20.3s							
GTA				LR	LR			
	comp=Z,270nm,21.0s							
GUN	**Gumba**	**53.70**	**313**	*eP*	**P**	**17 35 03.2**	**-0.5**
	8.9nm,0.4s							
PKI	**Pulchoki**	**53.85**	**312**	*eP*	**P**	**17 35 03.8**	**-1.0**
PKIN	**Phulchoki**	**53.86**	**312**	*eP*	**P**	**17 35 03.9**	**-0.9**
	4.1nm,0.4s							
KKN	**Kakani**	**54.07**	**313**	*eP*	**P**	**17 35 05.7**	**-0.5**
DMN	**Daman**	**54.09**	**312**	*eP*	**P**	**17 35 06.2**	**-0.3**
GKN	**Gorkha**	**54.66**	**312**	*eP*	**P**	**17 35 09.9**	**-0.5**
	0.7nm,0.2s							
KOLN	**Koldanda**	**55.30**	**311**	*eP*	**P**	**17 35 14.3**	**-0.7**
DANN	**Dangsing**	**55.49**	**312**	*eP*	**P**	**17 35 16.1**	**-0.5**
	6.8nm,0.5s							
PYUN	**Piuthan**	**55.93**	**311**	*eP*	**P**	**17 35 19.1**	**-0.5**
SONM	**Songino Array**	**58.44**	**343**	P	**P**	**17 35 36.8**	**+0.1**
	0.6nm,0.4s,baz=158,slow=6.5,SNR=4.3							
WMQ	**Urumqi**	**62.76**	**328**	*eP*	**P**	**17 36 07.8**	**+1.8**
PEA0B	**Petropavlovsk-**	**65.78**	**19**	*eP*	**P**	**17 36 24.8**	**-0.6**
	76nm,1.5s							
PETK	**Petropavlovsk-**	**65.78**	**19**	*eP*	**P**	**17 36 26.0**	**+0.6**
KSH	**Kashi**	**67.00**	**319**	*eP*	**P**	**17 36 35.8**	**+2.2**
MK01	**Makanchi Array**	**67.56**	**328**	*eP*	**P**	**17 36 36.2**	**-0.6**
MK31	**Makanchi Array**	**67.58**	**328**	*eP*	**P**	**17 36 35.7**	**-1.3**
MKAR	**Makanchi Array**	**67.58**	**328**	P	**P**	**17 36 36.8**	**-0.2**
	2.2nm,0.6s,baz=116,slow=8.3,SNR=30							
MKAR	**Makanchi Array**	**67.58**	**328**	*eP*	**P**	**17 36 36.2**	**-0.8**
	15nm,0.9s							
AAK	**Ala-Archa**	**69.61**	**321**	*eP*	**P**	**17 36 50.4**	**+0.5**
	33nm,1.9s							
ZALV	**Zalesovo Beam**	**71.23**	**335**	P	**P**	**17 36 57.9**	**-1.3**
	1.2nm,0.4s,baz=136,slow=5.4,SNR=6.0							
ZALV	**Zalesovo Beam**	**71.23**	**335**	*eP*	**P**	**17 36 57.5**	**-1.7**
KURK	**Kurchatov**	**71.94**	**330**	*eP*	**P**	**17 37 02.8**	**-0.7**
	3.5nm,0.8s							
VNDA	**Vanda**	**72.01**	**173**	LR	LR	18 08 58.7		
	comp=Z,47nm,19.9s,baz=316,slow=36							
VNDA	**Vanda**	**72.01**	**173**	*eP*	**P**	**17 37 05.3**	**+1.8**
	16nm,2.0s							
ABKAR	**Akbulak array**	**81.64**	**322**	*eP*	**P**	**17 37 57.7**	**-0.2**
ARU	**Arti**	**85.10**	**329**	*eP*	**P**	**17 38 14.6**	**-0.9**
	35nm,2.0s							
DAMY	**Dhamar**	**85.44**	**285**	*eP*	**P**	**17 38 15.1**	**-3.3**
	13nm,1.1s							
PDAR	**Pinedale Array**	**119.08**	**45**	PKP	**PKPdf**	**17 44 29.3**	**+1.1**
	0.2nm,0.5s,baz=114,slow=3.6,SNR=3.0							

ISK ***20*** *17:30:47.2, 39˚.51N×39˚.85E, h6km, ML2.2/5*
DDA ***20*** *17:30:48.1, 39˚.57N×39˚.86E, h7km, Ml2.5*
ISC 20 17:30:48.1±1.1, **39˚.52N**±0˚.03×**39˚.86E**±0˚.03, **h5**km±11km, **n19**, σ0**s67**/24, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERZN	**Erzincan**	**0.12**	**301**	PG	**Pg**	**17 30 50.3**	**-0.4**
ERZN				SG	**Sg**	**17 30 52.7**	**+0.2**
EUZM	**Uzumlu**	**0.22**	**326**	*i* P	**Pg**	**17 30 52.4**	**-0.1**
TNCL	**Tunceli-Merkez**	**0.47**	**211**	*i* P	**Pb**	**17 30 59.7**	**+0.7**
TNCL				*i* S	**Sb**	**17 31 05.0**	**-1.3**
YEDI	**Yedisu-Bingol**	**0.54**	**99**	PG	**Pg**	**17 30 57.9**	**-0.5**
YEDI				SG	**Sg**	**17 31 06.3**	**+0.9**
PTK	**Pertek**	**0.73**	**210**	PG	**Pg**	**17 31 01.4**	**-0.6**
PTK				SG	**Sg**	**17 31 11.4**	**-0.1**
KELT	**Kelkit**	**0.78**	**324**	*i* P	**Pg**	**17 31 02.8**	**-0.3**
BAYB	**BAYBURT**	**0.80**	**22**	*i* P	**Pg**	**17 31 03.2**	**-0.2**
BNGB	**Bing¨¶l**	**0.83**	**130**	PG	**Pg**	**17 31 03.4**	**-0.5**
BNGB				SG	**Sb**	**17 31 15.6**	**-0.8**
ECAT	**Cat-ERZURUM**	**0.87**	**84**	*i* P	**Pg**	**17 31 03.7**	**-1.0**
BAYT	**Ayd¨¯ntepe-Bay**	**0.90**	**14**	PG	**Pg**	**17 31 05.0**	**-0.3**
ILIC	**ilic-Erzincan**	**1.00**	**266**	PG	**Pg**	**17 31 06.8**	**-0.5**
KEMA	**Kemaliye**	**1.09**	**257**	*i* P	**Pg**	**17 31 08.3**	**-0.6**
HANI	**Diyarbakir_Han**	**1.18**	**159**	*i* P	**Pn**	**17 31 12.3**	**+1.1**
ELZG	**Elazig**	**1.23**	**214**	*i* P	**Pg**	**17 31 11.0**	**-0.6**
SUSE	**Susehri**	**1.45**	**299**	*i* P	**Pb**	**17 31 15.4**	**-0.2**
ESPY	**Espiye-Giresun**	**1.64**	**328**	PN	**Pn**	**17 31 17.5**	**-0.1**
CUKAN	**kangal_SIVAS**	**1.86**	**264**	*i* P	**Pn**	**17 31 21.5**	**+0.8**
AKCD	**Akcadag**	**1.94**	**232**	*eP*	**Pg**	**17 31 25.3**	**0.0**
SVSK	**Karacayir**	**2.24**	**281**	PN	**Pn**	**17 31 26.3**	**+0.5**

IDC ***20*** *17:42:09.4±1.2, 1˚.46N×125˚.15E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/40, mbtmp3.4/4, ML2.9/1, Error ellipse: s-maj=59.9km s-min=19.7km az=63.0*
ISCJB ***20*** *17:42:37.2±0.5, 0˚.17N±0˚.09×123˚.36E±0˚.04, h250km, mb3.2/4, Error ellipse: s-maj=12.6km s-min=6.0km az=3.7*
DJA ***20*** *17:42:38.4±0.6, 0˚N±6˚×12˚3E±˚, h241km±6km, M3.4/9, MLv3.4/9*
ISC 20 17:42:37.5±1.0, **0˚.17N**±0˚.10×**123˚.36E**±0˚.05, **h250**km, **n12**, σ1**s27**/17, **mb3.2**/4, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.74**	**57**	P	**Pn**	**17 43 13.2**	**+2.0**
KMSI				S	**S**	**17 43 39.4**	**+1.7**
LUWI	**Luwuk**	**1.34**	**206**	P	**Pn**	**17 43 15.8**	**+1.2**
MRSI	**Marisa**	**1.45**	**282**	P	**Pn**	**17 43 15.4**	**0.0**
MRSI				S	**S**	**17 43 44.0**	**-1.2**
APSI	**Ampana**	**2.02**	**238**	P	**Pn**	**17 43 20.9**	**+0.8**
APSI				S	**S**	**17 43 53.5**	**-0.2**
SANI	**Sanana**	**3.43**	**130**	P	**Pn**	**17 43 35.3**	**+0.6**
SANI				S	**S**	**17 44 18.1**	**-2.0**
MPSI	**Mapaga**	**3.46**	**273**	P	**Pn**	**17 43 35.8**	**+0.7**
MPSI				S	**S**	**17 44 19.2**	**-1.5**
PCI	**Palu**	**3.68**	**253**	P	**Pn**	**17 43 38.9**	**+1.3**
TNTI	**Ternate**	**4.05**	**81**	P	**Pn**	**17 43 42.3**	**+0.4**
TNTI				S	**S**	**17 44 31.8**	**-1.3**
WRA	**Warramunga Arr**	**22.70**	**152**	P	**P**	**17 47 18.6**	**+0.6**
	1.1nm,0.4s,baz=337,slow=10,SNR=31						
ASAR	**Alice Springs**	**25.81**	**157**	P	**P**	**17 47 46.6**	**+0.5**
	0.3nm,0.5s,baz=343,slow=14,SNR=15						
SONM	**Songino Array**	**49.72**	**345**	P	P	17 50 57.9	-6.6
	0.2nm,0.4s,baz=157,slow=8.2,SNR=2.2						
MKAR	**Makanchi Array**	**58.66**	**328**	P	**P**	**17 52 07.8**	**-1.0**
	0.2nm,0.3s,baz=121,slow=8.8,SNR=5.4						

DDA ***20*** *17:56:28.5, 39˚.49N×39˚.84E, h12km, Ml4.2*
ISK ***20*** *17:56:28.2, 39˚.50N×39˚.86E, h5km, ML4.2/30*
NEIC ***20*** *17:56:28.4±0.0, 39˚.49N×39˚.85E, h5km, mb4.5/12, ML4.2(ISK), After ISK.*
IDC ***20*** *17:56:29.6±0.7, 39˚.48N×39˚.81E, h0km, mb4.1/11, mb1 4.0/20, mb1mx3.8/51, mbtmp3.9/20, ML3.4/8, MS3.4/7, Ms1 3.4/7, ms1mx3.0/60, Error ellipse: s-maj=13.4km s-min=8.6km az=169.0*
MOS ***20*** *17:56:29.6±1.4, 39˚.45N×39˚.80E, h10km, mb4.5/12, Error ellipse: s-maj=6.4km s-min=4.2km az=79.2*
GII ***20*** *17:56:31.0±0.0, 39˚.45N×39˚.86E, h6km*
ISC 20 17:56:29.9±1.0, **39˚.51N**±0˚.02×**39˚.84E**±0˚.01, **h1**km±7km, **n242**, σ1**s61**/293, **mb4.4**/26, **29C-16D**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERZN	**Erzincan**	**0.12**	**312**	PG	**Pg**	**17 56 31.9**	**-0.3**
ERZN				SG	**Sg**	**17 56 34.1**	**+0.3**
ERZN	**Erzincan**	**0.12**	**312**	Pg	**Pg**	**17 56 32.0**	**-0.3**
ERZN				Sg	**Sg**	**17 56 34.8**	**+1.0**
EUZM	**Uzumlu**	**0.23**	**332**	⇓*i*P	**Pg**	**17 56 34.0**	**-0.3**
EUZM				*i* S	**Sg**	**17 56 38.3**	**+1.0**
TNCL	**Tunceli-Merkez**	**0.45**	**210**	⇓*i*P	**Pg**	**17 56 39.2**	**+0.7**
TNCL				*i* S	**Sg**	**17 56 46.9**	**+2.4**
YEDI	**Yedisu-Bingol**	**0.55**	**97**	PG	**Pg**	**17 56 39.5**	**-1.0**
YEDI				SG	**Sg**	**17 56 48.2**	**+0.5**
YEDI	**Yedisu-Bingol**	**0.55**	**97**	Pg	**Pg**	**17 56 39.5**	**-1.0**
PTK	**Pertek**	**0.70**	**209**	PG	**Pg**	**17 56 43.1**	**-0.3**
PTK				SG	**Sg**	**17 56 53.8**	**+1.3**
PTK	**Pertek**	**0.70**	**209**	Pg	**Pg**	**17 56 42.9**	**-0.5**
KOPT	**Kop Dagi**	**0.72**	**45**	⇓*i*P	**Pg**	**17 56 42.5**	**-1.3**
KOPT				*i* S	**Sb**	**17 56 55.5**	**-0.6**
KELT	**Kelkit**	**0.78**	**325**	⇑*i*P	**Pg**	**17 56 44.0**	**-0.9**
KELT				*i* S	**Sg**	**17 56 56.4**	**+1.4**
BAYB	**BAYBURT**	**0.82**	**23**	⇓*i*P	**Pg**	**17 56 44.2**	**-1.4**
BAYB				*i* S	**Sg**	**17 56 58.0**	**+1.7**
BGOL	**Bingol**	**0.83**	**128**	⇑*i*P	**Pg**	**17 56 43.5**	**-2.3**
BGOL				*i* S	**Sg**	**17 56 56.2**	**-0.3**
BNGB	**Bing¨¶l**	**0.83**	**128**	PG	**Pg**	**17 56 44.3**	**-1.6**
BNGB	**Bing¨¶l**	**0.83**	**128**	Pg	**Pg**	**17 56 42.9**	**-3.0**
REFA	**Refahiye_ERZ¯**	**0.84**	**263**	⇑*i*P	**Pg**	**17 56 46.1**	**+0.1**
REFA				*i* S	**Sn**	**17 57 00.6**	**-1.5**
ECAT	**Cat-ERZURUM**	**0.89**	**83**	⇑*i*P	**Pg**	**17 56 45.0**	**-1.9**
ECAT				*i* S	**Sg**	**17 56 58.3**	**0.0**
BAYT	**Ayd¨¯ntepe-Bay**	**0.92**	**15**	PG	**Pg**	**17 56 46.1**	**-1.4**
BAYT	**Ayd¨¯ntepe-Bay**	**0.92**	**15**	Pg	**Pg**	**17 56 46.1**	**-1.4**
ILIC	**ilic-Erzincan**	**0.98**	**267**	PG	**Pg**	**17 56 48.6**	**-0.2**
ILIC	**ilic-Erzincan**	**0.98**	**267**	Pg	**Pg**	**17 56 48.5**	**-0.2**
GUMT	**Gumushane**	**0.99**	**344**	PG	**Pg**	**17 56 47.8**	**-1.1**
GUMT	**Gumushane**	**0.99**	**344**	Pg	**Pg**	**17 56 47.8**	**-1.1**
KEMA	**Kemaliye**	**1.07**	**258**	⇑*i*P	**Pg**	**17 56 48.3**	**-2.0**
KEMA				*i* S	**Sg**	**17 57 05.2**	**+1.1**
BNGL	**BINGOL**	**1.16**	**118**	⇑*i*P	**Pb**	**17 56 50.4**	**-2.5**
BNGL				*i* S	**Sn**	**17 57 09.5**	**-0.7**
HANI	**Diyarbakir_Han**	**1.18**	**158**	*i* P	**Pb**	**17 56 50.6**	**-2.4**
HANI				*i* S	**Sn**	**17 57 10.8**	**+0.5**
ELZG	**Elazig**	**1.21**	**214**	⇓*i*P	**Pb**	**17 56 51.1**	**-2.5**
ELZG				*i* S	**Sn**	**17 57 11.7**	**+0.5**
VRTB	**Varto-Mus**	**1.30**	**105**	PN	**Pn**	**17 56 53.3**	**-2.1**
VRTB	**Varto-Mus**	**1.30**	**105**	⇑*i*P	**Pn**	**17 56 52.9**	**-2.6**
VRTB				*i* S	**Sg**	**17 57 18.7**	**+6.9**
MACK	**Trabzon**	**1.44**	**358**	⇓*i*P	**Pn**	**17 56 55.4**	**-1.7**
MACK				*i* S	**Sg**	**17 57 17.7**	**+1.7**
SUSE	**Susehri**	**1.44**	**300**	⇑*i*P	**Pn**	**17 56 55.8**	**-1.5**
SUSE				*i* S	**Sg**	**17 57 18.6**	**+2.4**
KTUT	**Trabzon**	**1.48**	**358**	PN	**Pn**	**17 56 56.7**	**-1.0**
HEKM	**Malatya_Hekimh**	**1.59**	**247**	*i* P	**Pn**	**17 56 58.5**	**-0.9**
HEKM				*i* S	**Sg**	**17 57 22.4**	**+1.5**
DIYA	**Diyarbakir**	**1.60**	**172**	⇓*i*P	**Pn**	**17 56 59.1**	**-0.2**
DIYA				*i* S	**Sb**	**17 57 21.6**	**+0.7**
CUZAR	**Zara_SIVAS**	**1.64**	**284**	⇑*i*P	**Pn**	**17 56 58.8**	**-1.2**
CUZAR				*i* S	**Sg**	**17 57 25.5**	**+3.0**
ESPY	**Espiye-Giresun**	**1.65**	**329**	PN	**Pn**	**17 56 59.4**	**-0.6**
HOMI	**Horasan**	**1.68**	**71**	⇑*i*P	**Pn**	**17 56 59.7**	**-1.1**
HOMI				*i* S	**Sg**	**17 57 27.3**	**+3.3**
CHAY	**Cayeli-Rize**	**1.72**	**23**	PN	**Pn**	**17 57 00.8**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.72**	**141**	PN	**Pn**	**17 57 00.4**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.72**	**141**	⇓*i*P	**Pn**	**17 57 01.2**	**+0.1**
SVAN				*i* S	**Sb**	**17 57 24.4**	**-0.1**
CHOM	**Cayeli-Rize**	**1.74**	**24**	PN	**Pn**	**17 57 01.0**	**-0.3**
EKAR	**Karacoban**	**1.75**	**98**	⇑*i*P	**Pn**	**17 57 01.7**	**+0.1**
EKAR				*i* S	Sg	17 57 36.2	+10
CUKAN	**kangal_SIVAS**	**1.84**	**265**	⇑*i*P	**Pn**	**17 57 02.0**	**-0.9**
CUKAN				*i* S	**Sg**	**17 57 29.6**	**+0.4**
AKCD	**Akcadag**	**1.92**	**232**	⇓*i*P	**Pn**	**17 57 03.3**	**-0.7**
AKCD				*i* S	**Sg**	**17 57 32.4**	**+0.8**
BTMN	**Batman**	**1.96**	**145**	*i* P	**Pn**	**17 57 05.2**	**+0.8**
BTMN				*i* S	**Sg**	**17 57 33.1**	**+0.1**
DDEM	**Demirkent**	**2.02**	**46**	⇑*i*P	**Pn**	**17 57 05.8**	**+0.6**
DDEM				*i* S	**Sg**	**17 57 35.0**	**+0.2**
DARE	**Darende-Malaty**	**2.06**	**244**	PN	**Pn**	**17 57 05.5**	**-0.2**
DBAD	**Bademkaya**	**2.08**	**43**	*i* P	**Pn**	**17 57 06.4**	**+0.3**
DBAD				*i* S	**Sb**	**17 57 35.5**	**+0.7**
EATA	**Eleskirt**	**2.08**	**79**	*i* P	**Pn**	**17 57 05.7**	**-0.6**
EATA				*i* S	**Sg**	**17 57 40.9**	**+4.1**
MAZI	**Mazidag**	**2.10**	**167**	PN	**Pn**	**17 57 05.7**	**-0.7**
SCER	**sogukcermik**	**2.12**	**280**	⇑*i*P	**Pn**	**17 57 06.8**	**+0.2**
SCER				*i* S	**Sg**	**17 57 39.4**	**+1.4**
ORDU	**Ordu-Boztepe**	**2.12**	**315**	*i* P	**Pb**	**17 57 08.3**	**-0.8**
ORDU				*i* S	**Sg**	**17 57 37.7**	**-0.3**
CUGUR	**Gurin_S¯VAS**	**2.14**	**249**	*i* P	**Pn**	**17 57 07.7**	**+0.7**
CUGUR				*i* S	**Sg**	**17 57 40.2**	**+1.5**
SENK	**Senkaya-Erzuru**	**2.20**	**61**	PN	**Pn**	**17 57 07.4**	**-0.4**
URFA	**Urfa**	**2.21**	**201**	PN	**Pn**	**17 57 07.3**	**-0.5**
SRTM	**Siirt_Merkez**	**2.23**	**132**	⇑*i*P	**Pb**	**17 57 10.1**	**-0.9**
SRTM				*i* S	**Sn**	**17 57 36.6**	**+0.3**
SVSK	**Karacayir**	**2.23**	**282**	PN	**Pn**	**17 57 08.2**	**+0.2**
DAGI	**Agillar**	**2.23**	**45**	*i* P	**Pn**	**17 57 08.4**	**+0.2**
DAGI				*i* S	**Sg**	**17 57 43.1**	**+1.4**
DBOC	**Borcka**	**2.31**	**37**	⇑*i*P	**Pn**	**17 57 10.1**	**-0.1**
DBOC				*i* S	**Sb**	**17 57 42.9**	**+1.5**
TUTA	**Tutak**	**2.31**	**92**	*i* P	**Pn**	**17 57 10.7**	**+1.3**
TUTA				*i* S	**Sg**	**17 57 45.4**	**+1.3**
MARD	**Mardin**	**2.31**	**161**	*i* P	**Pn**	**17 57 08.6**	**-0.7**
MARD				*i* S	**Sb**	**17 57 41.6**	**0.0**
ARTV	**Artvin**	**2.32**	**43**	*i* P	**Pn**	**17 57 09.8**	**+0.4**
ARTV				*i* S	**Sg**	**17 57 44.9**	**+0.6**
BCA	**Borcka**	**2.37**	**35**	PN	**Pn**	**17 57 09.8**	**-0.2**
CUALT	**Altinyayla-SIV**	**2.40**	**265**	*i* P	**Pn**	**17 57 12.1**	**+1.6**
CUALT				*i* S	**Sg**	**17 57 46.2**	**-0.8**
ELBS	**KAHRAMANMARAS**	**2.42**	**242**	*i* P	**Pb**	**17 57 12.8**	**-1.4**
ELBS				*i* S	**Sg**	**17 57 49.0**	**+1.5**
AGRB	**Hanur-Agry**	**2.44**	**87**	PN	**Pn**	**17 57 10.8**	**-0.3**
ERBA	**Erbaa**	**2.64**	**297**	*i* P	**Pn**	**17 57 14.7**	**+1.0**
ERBA				*i* S	**Sg**	**17 57 55.8**	**+1.1**
TOKT	**Tokat**	**2.66**	**289**	PN	**Pn**	**17 57 14.1**	**+0.1**
TOKA	**Tokat**	**2.71**	**289**	*i* P	**Pn**	**17 57 15.2**	**+0.6**
TOKA				*i* S	**Sb**	**17 57 53.2**	**+0.8**
KARS	**Kars**	**2.73**	**65**	PN	**Pn**	**17 57 15.0**	**0.0**
CUSAR	**Sarkisla-SIVAS**	**2.78**	**269**	*i* P	**Pn**	**17 57 16.7**	**+0.9**
CUSAR				*i* S	**Sg**	**17 57 59.9**	**+0.6**
SIRT	**Sirnak**	**2.86**	**134**	PN	**Pn**	**17 57 16.6**	**-0.2**
VANB	**Van**	**2.91**	**107**	PN	**Pn**	**17 57 18.0**	**+0.5**
EPOS	**Posof**	**2.97**	**47**	*i* P	**Pn**	**17 57 19.1**	**+0.7**
EPOS				*i* S	**Sg**	**17 58 04.3**	**-1.1**
KMRS	**Kahramanmaras**	**3.05**	**230**	PN	**Pn**	**17 57 19.3**	**0.0**
GAZ	**Gaziantep**	**3.11**	**222**	PN	**Pn**	**17 57 20.4**	**+0.2**
BNN	**Bunyan**	**3.17**	**259**	PN	**Pn**	**17 57 21.3**	**+0.2**
CLDR	**Caldiran**	**3.19**	**95**	PN	**Pn**	**17 57 21.3**	**-0.1**
BGD	**Bogdanovka**	**3.37**	**57**	P	**Pb**	**17 57 31.6**	**+1.0**
BGD				S	Sg	17 58 32.2	+14
AKH	**Akhalkalaki**	**3.38**	**55**	PN	**Pn**	**17 57 24.3**	**+0.3**
AKH	**Akhalkalaki**	**3.38**	**55**	P	**Pb**	**17 57 31.8**	**+1.1**
AKH	**Akhalkalaki**	**3.38**	**55**	*ePn*	**Pn**	**17 57 23.7**	**-0.3**
AKH	**Akhalkalaki**	**3.38**	**55**	*eP*	**Pn**	**17 57 24.0**	**-0.3**
YOZ	**Yozgat**	**3.49**	**274**	PN	**Pn**	**17 57 26.1**	**+0.6**
KOZT	**Kozan**	**3.74**	**239**	PN	**Pn**	**17 57 29.5**	**+0.7**
GNI	**Garni**	**3.83**	**79**	Pn	**Pn**	**17 57 31.7**	**+1.5**
	1.3nm,0.3s,baz=209,slow=7.2,SNR=6.2						
GNI				Pg	**Pb**	**17 57 39.6**	**+1.1**
	6.1nm,0.3s,baz=266,slow=6.4,SNR=20						
GNI				LR	LR	17 58 35.1	
	comp=Z,149nm,19.8s,baz=271,slow=32						
GNI	**Garni**	**3.83**	**79**	*ePn*	**Pn**	**17 57 29.5**	**-0.7**
GNI	**Garni**	**3.83**	**79**	⇓*eP*	**Pn**	**17 57 30.9**	**+0.7**
TRLG	**Trialeti**	**3.83**	**57**	P	**Pn**	**17 57 32.1**	**+1.9**
TRLG				S	**Pn**	**17 57 32.1**	**+1.9**
DOMR	**Dombai**	**4.01**	**19**	*ceP*	**Pn**	**17 57 34.4**	**+1.7**
DOMR				pmax	pmax		
	comp=Z,71nm,1.0s						
CTAK	**Corum_Osmancik**	**4.03**	**288**	*i* P	**Pn**	**17 57 34.3**	**+1.3**
ONI	**Oni**	**4.12**	**40**	P	**Pn**	**17 57 35.7**	**+1.6**
ONI	**Oni**	**4.12**	**40**	*eP*	**Pn**	**17 57 35.7**	**+1.6**
NEY	**Neytrino**	**4.32**	**29**	⇓*eP*	**Pn**	**17 57 38.5**	**+1.5**
TBLG	**Delisi**	**4.34**	**58**	P	**Pb**	**17 57 48.1**	**+1.1**
TBLG	**Delisi**	**4.34**	**58**	*ePn*	**Pn**	**17 57 37.2**	**+0.1**
TBLG	**Delisi**	**4.34**	**58**	*eP*	**Pn**	**17 57 37.2**	**+0.1**
DIGR	**Digorskoe uzhe**	**4.41**	**39**	*ceP*	**Pn**	**17 57 40.9**	**+2.7**
ZEI	**Tsey**	**4.49**	**42**	*ceP*	**Pn**	**17 57 43.8**	**+4.5**
GUDG	**Gudauri**	**4.59**	**48**	P	**Pn**	**17 57 42.0**	**+1.3**
LACR	**Lac**	**4.73**	**44**	*ceP*	**Pn**	**17 57 46.1**	**+3.6**
BR101	**Keskin Array S**	**4.79**	**275**	*ePn*	**Pn**	**17 57 44.0**	**+0.6**
BR101				*eLg*	Lg	17 59 07.4	
BR101				*e*		18 00 01.4	
BR131	**Keskin Array S**	**4.79**	**275**	*ePn*	**Pn**	**17 57 43.7**	**+0.3**
BRTR	**Keskin Array B**	**4.79**	**275**	Pn	**Pn**	**17 57 44.0**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=99,slow=14,SNR=23						
BRTR				Lg	Lg	17 59 07.4	
	comp=Z,1.8nm,0.3s,baz=103,slow=31,SNR=4.6						
BRTR				LR	LR	18 00 01.4	
	comp=Z,476nm,20.9s,baz=50,slow=44						
BRTR	**Keskin Array B**	**4.79**	**275**	P	**Pn**	**17 57 44.0**	**+0.6**
KORR	**Kora**	**4.79**	**40**	*ceP*	Pb	17 57 49.6	-5.1
KBZ	**Khabaz**	**4.80**	**28**	Pn	**Pn**	**17 57 45.4**	**+2.1**
	comp=Z,0.5nm,0.3s,baz=204,slow=13,SNR=14						
KBZ				LR	LR	18 00 01.3	
	comp=Z,375nm,20.9s,baz=200,slow=44						
LSNR	**Lesken**	**4.82**	**37**	*ceP*	**Pn**	**17 57 48.3**	**+4.7**
NCK	**Nalchik**	**4.88**	**34**	⇑*eP*	**Pn**	**17 57 47.3**	**+2.8**
ILGA	**Ilgaz**	**4.93**	**290**	*ePn*	**Pn**	**17 57 46.6**	**+1.2**
KIV	**Kislovodsk**	**4.93**	**25**	*ePn*	**Pn**	**17 57 47.0**	**+1.7**
KIV	**Kislovodsk**	**4.93**	**25**	*eP*	**Pn**	**17 57 47.1**	**+1.9**
KIV				pmax	pmax		
	comp=Z,42nm,1.1s						
KVAR	**Kislovodsk Arr**	**4.93**	**25**	Pn	**Pn**	**17 57 47.6**	**+2.3**
	baz=90,slow=20,SNR=10.0						
LGD	**Lagodekhi**	**5.40**	**62**	P	**Pg**	**17 58 12.1**	**-1.3**
LGD				S	**Pg**	**17 58 12.1**	**-1.3**
ANTO	**Ankara**	**5.45**	**276**	*ePn*	**Pn**	**17 57 54.8**	**+2.5**
ANTO	**Ankara**	**5.45**	**276**	*eP*	**Pn**	**17 57 54.8**	**+2.5**
BR231	**Keskin MP Arra**	**5.46**	**276**	*ePn*	**Pn**	**17 57 51.7**	**-0.8**
ANN	**Anapa**	**5.58**	**342**	*eP*	**Pb**	**17 58 06.5**	**-1.6**
ANN				*eS*	**Sb**	**17 59 07.9**	**-7.7**
ANN				pmax	pmax		
	comp=Z,109nm,1.1s						
GROC	**Groznyy**	**5.81**	**49**	P	**Pn**	**17 57 55.6**	**-1.6**
GROC				*eS*	**Sn**	**17 59 03.2**	**-1.3**
GROC				pmax	pmax		
	comp=Z,27nm,0.4s						
GROC				smax	smax		
	comp=N,98nm,1.4s						
GROC				smax	smax		
	comp=N,32nm,0.9s						
GOF	**Gofitskoye**	**6.04**	**22**	*eP*	**Pn**	**17 58 02.9**	**+2.6**
GOF				pmax	pmax		
	comp=Z,25nm,0.8s						
SUDU	**Sudak**	**6.47**	**328**	*eP*	**Pn**	**17 58 10.0**	**+3.8**
SUDU				*eS*	**Sn**	**17 59 24.3**	**+3.6**
SUDU				pmax	pmax		
	comp=Z,16nm,0.6s						
SUDU				smax	smax		
	comp=N,19nm,0.9s						
SUDU				smax	smax		
	comp=E,87nm,0.9s						
SEV	**Sevastopol'**	**6.81**	**320**	*eP*	Pn	17 58 16.0	+5.0
SEV				*eS*	**Sn**	**17 59 31.5**	**+2.3**
SEV				smax	smax		
	comp=N,11nm,0.6s						
SEV				smax	smax		
	comp=E,5.0nm,0.6s

NC602	**NORSAR Array S**	**27.55**	**330**	*eP*		**P**		**18 02 18.9**	**+0.8**
KONO	**Kongsberg**	**27.72**	**327**	*eP*		**P**		**18 02 18.4**	**-1.1**
KONO					pmax	pmax			
	comp=Z,13nm,1.1s								
KSH	**Kashi**	**27.77**	**78**	*eP*		**P**		**18 02 20.1**	**-0.3**
KURBB	**Kurchatov Arra**	**29.18**	**55**	P		**P**		**18 02 33.9**	**+1.2**
	comp=Z,1.5nm,0.2s,baz=270,slow=8.7,SNR=4.7								
KURK	**Kurchatov**	**29.25**	**55**	*eP*		**P**		**18 02 34.0**	**+0.6**
KURK	**Kurchatov**	**29.25**	**55**	*eP*		**P**		**18 02 34.5**	**+1.2**
KURK					pmax	pmax			
	comp=Z,3.0nm,1.0s								
MK32	**Makanchi Array**	**31.51**	**63**	*eP*		**P**		**18 02 52.9**	**-0.5**
MKAR	**Makanchi Array**	**31.51**	**63**	P		**P**		**18 02 52.9**	**-0.5**
	comp=Z,2.2nm,0.9s,baz=282,slow=6.1,SNR=10								
MKAR	**Makanchi Array**	**31.51**	**63**	*eP*		**P**		**18 02 53.9**	**+0.5**
	comp=Z,12nm,0.8s								
MKAR	**Makanchi Array**	**31.51**	**63**	*eP*		**P**		**18 02 53.9**	**+0.5**
MKAR					pmax	pmax			
	comp=Z,12nm,0.8s								
ZAA0	**Zalesovo Array**	**33.43**	**49**	*eP*		**P**		**18 03 09.5**	**-0.6**
	comp=Z,9.5nm,1.6s								
ZALV	**Zalesovo Beam**	**33.43**	**49**	P		**P**		**18 03 09.3**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=266,slow=11,SNR=4.0								
ZALV	**Zalesovo Beam**	**33.43**	**49**	*eP*		**P**		**18 03 09.5**	**-0.6**
ZALV	**Zalesovo Beam**	**33.43**	**49**	*eP*		**P**		**18 03 09.5**	**-0.6**
ZAA1	**Zalesovo Array**	**33.43**	**49**	*eP*		**P**		**18 03 09.3**	**-0.8**
ES19	**SONSECA Array**	**33.45**	**285**	*eP*		**P**		**18 03 09.5**	**-0.9**
TAM	**Tamanrasset**	**33.51**	**250**	*eP*		**P**		**18 03 11.1**	**-0.2**
	comp=Z,10nm,1.9s								
TAM	**Tamanrasset**	**33.51**	**250**	*eP*		**P**		**18 03 11.1**	**-0.2**
TAM					pmax	pmax			
	comp=Z,10.0nm,1.9s								
DGZ	**Jazzator, Alta**	**34.85**	**57**	*eP*		**P**		**18 03 24.1**	**+1.4**
DGZ					pmax	pmax			
	comp=Z,2.0nm,1.1s								
WMQ	**Urumqi**	**35.62**	**67**	*eP*		**P**		**18 03 31.3**	**+2.1**
DANN	**Dangsing**	**37.77**	**93**	*eP*		**P**		**18 03 49.8**	**+1.8**
	comp=Z,17nm,0.8s								
DMN	**Daman**	**39.17**	**94**	*eP*		**P**		**18 04 01.4**	**+1.6**
	comp=Z,35nm,1.3s								
KKN	**Kakani**	**39.22**	**93**	*eP*		**P**		**18 04 01.3**	**+1.2**
PKIN	**Phulchoki**	**39.41**	**93**	*eP*		**P**		**18 04 03.0**	**+1.2**
PKI	**Pulchoki**	**39.42**	**93**	*eP*		**P**		**18 04 03.3**	**+1.4**
GUN	**Gumba**	**39.62**	**93**	*eP*		**P**		**18 04 05.1**	**+1.5**
	comp=Z,36nm,1.2s								
SPA0	**Spitsbergen Ar**	**39.97**	**353**	*eP*		**P**		**18 04 07.3**	**+1.7**
JIRN	**Jiri**	**39.98**	**93**	*eP*		**P**		**18 04 08.3**	**+1.6**
RAMN	**Ramite**	**40.65**	**93**	*eP*		**P**		**18 04 12.3**	**+0.2**
	comp=Z,9.4nm,0.7s								
ODAN	**Odare**	**41.31**	**93**	*eP*		**P**		**18 04 18.1**	**+0.7**
	comp=Z,12nm,0.7s								
TOA1	**Torodi Ar. Sit**	**42.61**	**243**	*eP*		**P**		**18 04 25.8**	**-2.1**
TOA0	**Torodi Ar. Sit**	**42.61**	**243**	*eP*		**P**		**18 04 26.7**	**-1.2**
TORD	**Torodi Ar. Bea**	**42.61**	**243**	P		**P**		**18 04 25.8**	**-2.1**
	comp=Z,1.9nm,1.0s,baz=12,slow=9.1,SNR=8.1								
LSA	**Lhasa**	**42.85**	**87**	*eP*		**P**		**18 04 30.4**	**0.0**
	comp=Z,2.2nm,0.9s								
LSA	**Lhasa**	**42.85**	**87**	*eP*		**P**		**18 04 30.4**	**0.0**
LSA					pmax	pmax			
	comp=Z,2.0nm,0.9s								
BORG	**Borgarnes**	**42.91**	**327**	*eP*		**P**		**18 04 30.9**	**+1.2**
	comp=Z,109nm,1.3s								
BORG	**Borgarnes**	**42.91**	**327**	*eP*		**P**		**18 04 30.9**	**+1.2**
BORG					pmax	pmax			
	comp=Z,109nm,1.3s								
GTA	**Gaotai**	**45.53**	**70**	*eP*		**P**		**18 04 53.4**	**+2.1**
GTA				pP				18 04 57.5	
GTA				sP				18 05 00.4	
GTA					pmax	pmax			
	comp=Z,3.0nm,1.3s								
ULN	**Ulaanbaatar**	**47.92**	**57**	*eP*		**P**		**18 05 10.9**	**+0.9**
	comp=Z,10nm,1.8s								
ULN	**Ulaanbaatar**	**47.92**	**57**	*eP*		**P**		**18 05 11.0**	**+1.1**
ULN					pmax	pmax			
	comp=Z,2.0nm,1.0s								
PALK	**Pallekele**	**48.69**	**120**	*eP*		**P**		**18 05 15.8**	**-0.3**
	comp=Z,30nm,1.5s								
PALK	**Pallekele**	**48.69**	**120**	*eP*		**P**		**18 05 15.8**	**-0.3**
PALK					pmax	pmax			
	comp=Z,30nm,1.5s								
HHC	**Hu-ho-hao-te**	**53.36**	**64**	*eP*		**P**		**18 05 53.3**	**+2.3**
HHC					pmax	pmax			
	comp=Z,15nm,1.1s								
CM31	**Chiang Mai Arr**	**54.80**	**95**	*eP*		**P**		**18 06 01.7**	**0.0**
CMAR	**Chiang Mai Arr**	**54.80**	**95**	P		**P**		**18 06 01.2**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=300,slow=7.9,SNR=9.0								
CM01	**Chiang Mai Arr**	**54.83**	**95**	*eP*		**P**		**18 06 02.1**	**+0.1**
YAK	**Yakutsk**	**55.96**	**35**	*eP*		**P**		**18 06 09.5**	**+0.1**
YAK					pmax	pmax			
	comp=Z,6.0nm,0.9s								
CN2	**Changchun**	**61.32**	**55**	*eP*		**P**		**18 06 48.9**	**+1.8**
SEY	**Seymchan**	**64.68**	**28**	P		**P**		**18 07 10.8**	**+1.7**
	comp=Z,4.4nm,0.8s,baz=279,slow=5.8,SNR=8.0								
KS15	**Wonju Array Si**	**66.14**	**60**	*eP*		**P**		**18 07 19.2**	**+0.3**
KSAR	**Wonju Array Be**	**66.14**	**60**	P		**P**		**18 07 19.1**	**+0.2**
KSAR	**Wonju Array Be**	**66.14**	**60**	P		**P**		**18 07 19.1**	**+0.2**
KSRS	**Korea Array**	**66.16**	**60**	P		**P**		**18 07 19.1**	**0.0**
	comp=Z,1.3nm,0.8s,baz=292,slow=6.0,SNR=4.8								

*ISCJB **20** 18:32:13.8±0.4, 39°.53N±0°.03×39°.86E±0°.03, h6km±5km, Error ellipse: s-maj=4.4km s-min=4.0km az=137.0*
*DDA **20** 18:32:13.8, 39°.55N×39°.81E, h7km, Ml2.5*
*ISK **20** 18:32:13.3, 39°.52N×39°.85E, h6km, ML2.2/6*

ISC 20 18:32:13.9±1.0, 39°.51N±0°.03×39°.85E±0°.03, h7km±9km, n17, σ0°.93/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ERZN	**Erzincan**	**0.13**	**308**	PG		**Pg**	**18 32 16.1**	**-0.7**
ERZN				SG		**Sg**	**18 32 18.4**	**-0.4**
EUZM	**Uzumlu**	**0.23**	**329**	*i* P		**Pg**	**18 32 18.1**	**-0.5**
EUZM				*i* S		**Sg**	**18 32 25.0**	**+3.2**
TNCL	**Tunceli-Merkez**	**0.46**	**212**	*i* P		**Pg**	**18 32 31.3**	**+0.2**
TNCL				*i* S		**Sb**	**18 32 31.2**	**-0.3**
YEDI	**Yedisu-Bingol**	**0.54**	**97**	PG		**Pg**	**18 32 24.1**	**-0.3**
YEDI				SG		**Sg**	**18 32 32.4**	**+0.9**
PTK	**Pertek**	**0.71**	**210**	PG		**Pg**	**18 32 27.4**	**-0.3**
PTK				SG		**Sb**	**18 32 38.2**	**-0.6**
KELT	**Kelkit**	**0.79**	**324**	*i* P		**Pg**	**18 32 28.3**	**-0.8**
KELT				*i* S		**Sb**	**18 32 41.0**	**-0.1**
BAYB	**BAYBURT**	**0.81**	**22**	*i* P		**Pg**	**18 32 28.7**	**-0.9**
BNGB	**Bing¨¶l**	**0.82**	**129**	PG		**Pg**	**18 32 29.3**	**-0.5**
BNGB				SG		**Sb**	**18 32 41.7**	**-0.2**
BAYT	**Ayd¨¬ntepe-Bay**	**0.91**	**14**	PG		**Pg**	**18 32 31.0**	**-0.5**
BAYT				SG		**Sb**	**18 32 44.4**	**-0.2**
ILIC	**ilic-Erzincan**	**1.00**	**267**	PG		**Pg**	**18 32 32.8**	**-0.3**
ILIC				SG		**Sb**	**18 32 47.3**	**+0.3**
KEMA	**Kemaliye**	**1.08**	**258**	*i* P		**Pg**	**18 32 34.1**	**-0.6**
HANI	**Diyarbakir_Han**	**1.17**	**159**	*i* P		**Pn**	**18 32 37.7**	**+0.9**
ELZG	**Elazig**	**1.21**	**214**	*i* P		**Pb**	**18 32 36.0**	**-1.3**
SUSE	**Susehri**	**1.45**	**299**	*i* P		**Pb**	**18 32 40.9**	**-0.5**
CUKAN	**kangal_SIVAS**	**1.86**	**265**	*i* P		**Pb**	**18 32 47.9**	**-0.4**
AKCD	**Akcadag**	**1.93**	**232**	*i* P		**Pb**	**18 32 48.8**	**-0.8**
SVSK	**Karacayir**	**2.24**	**281**	PN		**Pn**	**18 32 52.0**	**+0.6**

IDC 20 18:34:12.9±453.0, 45°.62N×65°.39E, h0km, Error ellipse: s-maj=199.5km s-min=129.7km az=157.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I31KZ	**AKTYUBINSK INF**	**6.87**	**317**	*i*			19 12 20.0	
	baz=129,slow=338,SNR=0.3							
I46RU	**ZALESOVO INFRA**	**15.03**	**49**	*i*			20 12 00.0	
	baz=240,slow=332,SNR=1.8							
I34MN	**SONGINO INFRAS**	**27.98**	**71**	*i*			21 27 40.0	
	baz=275,slow=323,SNR=0.7							

IDC 20 18:35:48.1±1.9, 5°.44S×151°.50E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.5/38, mbtmp3.7/4, ML2.1/1, MS3.3/3, Ms1 3.4/3, ms1mx2.8/30, Error ellipse: s-maj=110.5km s-min=24.1km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**5.83**	**227**	Pn		Pn	18 37 18.0	+2.1
	3.4nm,0.3s,baz=49,slow=11,SNR=12							
PMG				Sn		Sn	18 38 24.6	+1.0
	1.9nm,0.3s,baz=160,slow=12,SNR=2.9							
WRA	**Warramunga Arr**	**22.05**	**228**	P		P	18 40 44.1	-0.7
	1.4nm,0.5s,baz=52,slow=10,SNR=21							

ASAR	**Alice Springs**	**24.81**	**221**	P		P		18 41 11.8	-0.4
	1.1nm,0.7s,baz=59,slow=9.3,SNR=24								
ASAJ	**Asahikawa**	**49.98**	**352**	LR		LR		19 02 41.1	
	comp=Z,26nm,20.8s,baz=132,slow=32								
CMAR	**Chiang Mai Arr**	**56.98**	**296**	LR		LR		19 09 31.3	
	comp=Z,6.4nm,20.4s,baz=5.0,slow=36								
ILAR	**Eielson Array**	**83.24**	**22**	P		P		18 48 16.2	-0.1
	0.2nm,0.6s,baz=244,slow=4.6,SNR=5.3								
BBB	**Bella Bella**	**88.39**	**37**	LR		LR		19 23 13.1	
	comp=Z,93nm,18.2s,baz=100,slow=32								
TORD	**Torodi Ar. Bea**	**149.26**	**287**	PKPbc		PKPbc		18 55 39.8	-0.2
	0.3nm,0.5s,baz=69,slow=3.5,SNR=3.8								

IDC 20 18:50:14.4±6.6, 16°.00N×145°.80E, h203km±30km, mb3.1/5, mb1 3.2/6, mb1mx2.9/58, mbtmp3.7/6, Error ellipse: s-maj=148.2km s-min=16.3km az=81.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**2.56**	**201**	P		Pn	18 51 00.4	+1.1
	2.0nm,0.3s,baz=308,slow=9.7,SNR=7.2							
GUMO				S		S	18 51 34.3	+0.7
	15nm,0.3s,baz=175,slow=21,SNR=5.6							
WRA	**Warramunga Arr**	**37.45**	**198**	P		P	18 57 08.6	+0.1
	0.2nm,0.3s,baz=30,slow=9.9,SNR=22							
ASAR	**Alice Springs**	**41.10**	**197**	P		P	18 57 38.4	-0.3
	0.5nm,0.6s,baz=17,slow=13,SNR=12							
ZALV	**Zalesovo Beam**	**60.21**	**323**	P		P	18 59 59.5	-1.4
	1.5nm,0.3s,baz=87,slow=7.4,SNR=6.1							
MKAR	**Makanchi Array**	**60.41**	**315**	P		P	19 00 03.2	+0.8
	0.3nm,0.5s,baz=84,slow=8.9,SNR=7.5							
KURBB	**Kurchatov Arra**	**63.39**	**319**	P		P	19 00 22.8	+0.6
	0.4nm,0.4s,baz=99,slow=7.3,SNR=6.3							

*DDA **20** 19:00:14.9, 39°.48N×39°.86E, h7km, Ml2.5*
*ISK **20** 19:00:14.6, 39°.53N×39°.87E, h6km, ML2.4/6*
*ISCJB **20** 19:00:15.4±0.4, 39°.52N±0°.02×39°.88E±0°.03, h6km±4km, Error ellipse: s-maj=4.2km s-min=3.9km az=154.5*

ISC 20 19:00:15.2±1.1, 39°.51N±0°.03×39°.88E±0°.03, h7km±10km, n21, σ0°73/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ERZN	**Erzincan**	**0.14**	**302**	PG		**Pg**	**19 00 17.7**	**-0.5**
ERZN				SG		**Sg**	**19 00 20.0**	**-0.3**
EUZM	**Uzumlu**	**0.24**	**325**	*i* P		**Pg**	**19 00 19.8**	**-0.2**
EUZM				*i* S		**Sg**	**19 00 25.1**	**+1.9**
TNCL	**Tunceli-Merkez**	**0.47**	**213**	*i* P		**Pb**	**19 00 26.8**	**+0.8**
TNCL				*i* S		**Sb**	**19 00 32.7**	**-0.5**
YEDI	**Yedisu-Bingol**	**0.52**	**98**	PG		**Pg**	**19 00 25.4**	**+0.1**
YEDI				SG		**Sb**	**19 00 33.4**	**-1.2**
PTK	**Pertek**	**0.72**	**211**	PG		**Pg**	**19 00 29.2**	**+0.1**
PTK				SG		**Sb**	**19 00 39.9**	**-0.6**
KELT	**Kelkit**	**0.80**	**323**	*i* P		**Pg**	**19 00 30.2**	**-0.3**
KELT				*i* S		**Sb**	**19 00 42.9**	**+0.4**
BAYB	**BAYBURT**	**0.80**	**21**	*i* P		**Pg**	**19 00 30.3**	**-0.3**
BAYB				*i* S		**Sb**	**19 00 42.8**	**0.0**
BNGB	**Bing¨¶l**	**0.81**	**130**	PG		**Pb**	**19 00 31.1**	**-0.6**
ECAT	**Cat-ERZURUM**	**0.85**	**83**	*i* P		**Pg**	**19 00 31.5**	**-0.1**
ECAT				*i* S		**Sb**	**19 00 44.9**	**+0.6**
BAYT	**Ayd¨¬ntepe-Bay**	**0.90**	**13**	PG		**Pg**	**19 00 31.9**	**-0.7**
ILIC	**ilic-Erzincan**	**1.01**	**267**	PG		**Pg**	**19 00 34.4**	**-0.3**
KEMA	**Kemaliye**	**1.10**	**258**	*i* P		**Pg**	**19 00 35.8**	**-0.5**
KEMA				*i* S		**Sb**	**19 00 51.1**	**0.0**
HANI	**Diyarbakir_Han**	**1.17**	**159**	*i* P		**Pn**	**19 00 39.2**	**+1.1**
ELZG	**Elazig**	**1.23**	**215**	*i* P		**Pg**	**19 00 37.7**	**-1.1**
SUSE	**Susehri**	**1.46**	**299**	*i* P		**Pb**	**19 00 42.7**	**-0.2**
KTUT	**Trabzon**	**1.48**	**357**	PN		**Pn**	**19 00 42.2**	**0.0**
ESPY	**Espiye-Giresun**	**1.66**	**328**	PN		**Pn**	**19 00 44.5**	**-0.2**
CUZAR	**Zara_SIVAS**	**1.67**	**284**	*i* P		**Pg**	**19 00 48.2**	**+1.0**
CUKAN	**kangal_SIVAS**	**1.88**	**265**	*i* P		**Pb**	**19 00 48.8**	**-1.1**
AKCD	**Akcadag**	**1.95**	**232**	*i* P		**Pb**	**19 00 50.4**	**-0.7**
DARE	**Darende-Malaty**	**2.09**	**244**	PN		**Pn**	**19 00 51.1**	**+0.4**

*ISK **20** 19:09:57.8, 40°.54N×34°.86E, h5km, ML3.2/25*
*DDA **20** 19:09:58.8, 40°.56N×34°.84E, h16km, Ml3.5*
*ISCJB **20** 19:09:59.2±0.5, 40°.55N±0°.02×34°.85E±0°.03, h2km±4km, Error ellipse: s-maj=3.6km s-min=3.3km az=28.1*

ISC 20 19:09:58.7±1.0, 40°.54N±0°.02×34°.85E±0°.02, h10km±8km, n54, σ1°.26/63, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CTAK	**Corum_Osmancik**	**0.12**	**338**	*i* P		**Pb**	**19 10 02.3**	**-0.9**
CTAK				*i* S		**Sg**	**19 10 04.9**	**+1.0**
COAL	**Corum-Alaca**	**0.30**	**160**	*i* P		**Pb**	**19 10 05.8**	**-0.6**
CORM	**Corum**	**0.40**	**205**	PG		**Pg**	**19 10 06.3**	**-0.3**
CORM				SG		**Sb**	**19 10 13.2**	**-1.0**
TOS	**Tosya**	**0.80**	**309**	PG		**Pb**	**19 10 14.6**	**-0.2**
HAVZ	**Havza**	**0.85**	**51**	*i* P		**Pg**	**19 10 14.7**	**-0.4**
HAVZ				*i* S		**Sb**	**19 10 27.5**	**+0.4**
CANT	**Cankiri**	**0.94**	**274**	PG		**Pn**	**19 10 17.2**	**-0.8**
YOZ	**Yozgat**	**0.97**	**158**	PG		**Pb**	**19 10 17.4**	**-0.3**
YOZ				SG		**Sn**	**19 10 31.8**	**-0.7**
CDAG	**Cicekdag**	**0.99**	**202**	*i* S		**Sn**	**19 10 31.9**	**-0.9**
ILGA	**Ilgaz**	**1.00**	**301**	*i* P		**Pn**	**19 10 18.4**	**-0.6**
ELDT	**Eldivan**	**1.08**	**268**	*i* P		**Pn**	**19 10 19.5**	**-0.7**
ELDT				*i* S		**Sn**	**19 10 34.7**	**-0.6**
DIKM	**Dikmen**	**1.15**	**15**	PN		**Pn**	**19 10 20.9**	**0.0**
DIKM				SN		**Sn**	**19 10 37.9**	**+1.2**
TOKA	**Tokat**	**1.26**	**99**	*i* P		**Pg**	**19 10 22.8**	**-0.2**
TOKT	**Tokat**	**1.31**	**99**	PN		**Pg**	**19 10 23.7**	**-0.3**
ERBA	**Erbaa**	**1.46**	**84**	*i* P		**Pb**	**19 10 25.1**	**-0.8**
SINO	**SINOP_Merkez**	**1.50**	**10**	*i* P		**Pg**	**19 10 26.9**	**-0.6**
SINO				*i* S		**Sg**	**19 10 47.6**	**+0.6**
SNOP	**Sinop**	**1.50**	**10**	PN		**Pg**	**19 10 26.7**	**-0.9**
CUSAR	**Sarkisla-SIVAS**	**1.55**	**136**	*i* P		**Pg**	**19 10 27.9**	**-0.6**
BZK	**Bozkurt**	**1.55**	**336**	PN		**Pg**	**19 10 27.8**	**-0.8**
BBAL	**Bala**	**1.66**	**234**	*i* P		**Pg**	**19 10 29.7**	**-0.8**
ANTO	**Ankara**	**1.71**	**248**	PN		**Pb**	**19 10 30.3**	**0.0**
LOD	**Lodumlu**	**1.72**	**248**	PN		**Pb**	**19 10 30.3**	**-0.2**
AVNS	**Nevsehir-Avano**	**1.73**	**180**	*i* P		**Pg**	**19 10 31.5**	**-0.5**
AFSR	**Af¨ar-Bala (A**	**1.75**	**232**	PN		**Pb**	**19 10 30.6**	**-0.4**
SVSK	**Karacayir**	**1.76**	**110**	PN		**Pb**	**19 10 30.4**	**-0.7**
YAYX	**Yaylak**	**1.79**	**207**	PN		**Pb**	**19 10 31.1**	**-0.6**
CMDR	**Camlidere-ANKA**	**1.81**	**269**	*i* P		**Pb**	**19 10 32.0**	**0.0**
BNN	**Bunyan**	**1.85**	**155**	PN		**Pb**	**19 10 32.1**	**-0.7**
SCER	**sogucksermik**	**1.87**	**111**	*i* P		**Pb**	**19 10 33.4**	**+0.2**
SERE	**Sereflikochisa**	**1.88**	**212**	PN		**Pb**	**19 10 32.7**	**-0.5**
CUALT	**Altinyayla-SIV**	**1.94**	**130**	*i* P		**Pg**	**19 10 34.7**	**-1.2**
KKUL	**Konya-Kulu**	**2.02**	**228**	*i* P		**Pb**	**19 10 35.0**	**-0.6**
KULU	**Kulu**	**2.06**	**224**	PN		**Pb**	**19 10 35.1**	**-1.3**
AKSY	**AKSARAY - Alti**	**2.07**	**204**	*i* P		**Pg**	**19 10 37.6**	**-0.8**
BCAM	**Yenicaga**	**2.13**	**278**	*i* P		**Pb**	**19 10 37.4**	**-0.2**
ORDU	**Ordu-Boztepe**	**2.33**	**78**	*i* P		**Pb**	**19 10 39.8**	**-1.0**
CUZAR	**Zara_SIVAS**	**2.33**	**105**	*i* P		**Pb**	**19 10 39.6**	**-1.3**
CUKAN	**kangal_SIVAS**	**2.36**	**120**	*i* P		**Pb**	**19 10 40.2**	**-1.2**
CUKAN				*i* S		**Sg**	**19 11 14.3**	**-0.2**
NIG	**Nigde**	**2.44**	**184**	PN		**Pn**	**19 10 40.3**	**+1.5**
CHBY	**Cihanbeyli**	**2.47**	**218**	PN		**Pn**	**19 10 40.8**	**+1.6**
SULT	**Sultanhani-AKS**	**2.56**	**204**	PN		**Pb**	**19 10 42.2**	**-2.6**
SUSE	**Susehri**	**2.58**	**96**	*i* P		**Pb**	**19 10 42.7**	**-2.6**
SVRH	**Sivrihisar-ESK**	**2.78**	**248**	PN		**Pn**	**19 10 45.4**	**+2.0**
MDUB	**Mudurnu**	**2.78**	**270**	PN		**Pn**	**19 10 45.5**	**+2.0**
KIZT	**Kizilcal**	**2.83**	**235**	PN		**Pn**	**19 10 45.8**	**+1.7**
DARE	**Darende-Malaty**	**2.83**	**133**	PN		**Pn**	**19 10 45.9**	**+1.8**
HEKM	**Malatya_Hekimh**	**2.92**	**124**	*i* P		**Pb**	**19 10 48.1**	**-2.9**
LADK	**Ladik-KONYA**	**3.03**	**220**	PN		**Pn**	**19 10 48.8**	**+2.0**
KEMA	**Kemaliye**	**3.08**	**113**	*i* P		**Pb**	**19 10 51.6**	**-2.0**
KEMA				*i* S		**Sg**	**19 11 37.1**	**-0.5**
KOZT	**Kozan**	**3.15**	**166**	PN		**Pn**	**19 10 50.7**	**+2.3**
KONT	**Konya--Tatoy**	**3.23**	**217**	PN		**Pb**	**19 10 57.4**	**+1.2**
AKCD	**Akcadag**	**3.27**	**132**	*i* P		**Pn**	**19 10 53.0**	**+2.8**
GULT	**Gulveren**	**3.31**	**270**	PN		**Pn**	**19 10 52.6**	**+2.0**
KELT	**Kelkit**	**3.39**	**95**	*i* P		**Pn**	**19 10 53.8**	**+1.9**
BAYB	**BAYBURT**	**4.14**	**92**	*i* P		**Pb**	**19 11 12.9**	**+1.1**

*ISCJB **20** 19:12:47.9±0.5, 27°.82S±0°.04×140°.62E±0°.05, h10km, Error ellipse: s-maj=6.3km s-min=5.7km az=39.4*
*IDC **20** 19:12:47.3±4.1, 27°.61S×141°.13E, h0km, mb1 3.4/3, mb1mx3.3/25, mbtmp3.2/3, ML2.9/3, Error ellipse: s-maj=68.4km s-min=19.0km az=64.0*
*AUST **20** 19:12:50.5±0.1, 27°.82S×140°.66E, h18km, Error ellipse: s-maj=0.1km s-min=0.1km az=242.0*

ISC 20 19:12:49.5±0.9, 27°.81S±0°.06×140°.69E±0°.06, h10km, n13, σ1°.79/20, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
QLP	**Quilpie**	**3.39**	**70**	P		**Pn**	**19 13 44.2**	**+1.7**
	baz=3.4							
QLP				S		**Sn**	**19 14 22.7**	**-0.1**
	baz=3.4							
STKA	**Stephens Creek**	**4.13**	**169**	Pn		**Pn**	**19 13 54.4**	**+1.7**
	0.1nm,0.3s,baz=351,slow=12,SNR=3.3							
STKA				Sn		**Sn**	**19 14 38.9**	**-2.1**
	1.7nm,0.3s,baz=282,slow=17,SNR=11							
STKA				Lg		Lg	19 15 02.8	
	1.8nm,0.3s,baz=74,slow=23,SNR=6.5							
STKA	**Stephens Creek**	**4.13**	**169**	P		**Pn**	**19 13 54.6**	**+2.0**
	baz=4.1							
STKA				S		**Sn**	**19 14 41.1**	**+0.2**
	baz=4.1							
CMSA	**Cobar Meteorol**	**5.72**	**132**	P		**Pn**	**19 14 14.8**	**+0.3**
	baz=5.7							
CMSA				S		**Sn**	**19 15 17.1**	**-3.2**
	baz=5.7							
HTT	**Hallett**	**5.80**	**195**	P		**Pn**	**19 14 17.3**	**+1.6**
	baz=5.8							
BBOO	**Buckleboo**	**6.39**	**218**	P		**Pn**	**19 14 25.3**	**+1.6**
	baz=6.4							
BBOO				S		**Sn**	**19 15 34.8**	**-1.9**
	baz=6.4							
QIS	**Mount Isa**	**7.29**	**352**	P		**Pn**	**19 14 38.6**	**+2.5**
	baz=7.3							
RMQ	**Roma**	**7.31**	**81**	P		**Pn**	**19 14 37.5**	**+1.1**
	baz=7.3							
AS01	**Alice Springs**	**7.34**	**303**	P		**Pn**	**19 14 38.9**	**+2.0**
	baz=7.3							
ASAR	**Alice Springs**	**7.38**	**303**	Pn		**Pn**	**19 14 38.6**	**+1.3**
	0.5nm,0.3s,baz=121,slow=13,SNR=25							
ASAR				Sn		**Sn**	**19 16 00.3**	**-0.9**
	0.5nm,0.3s,baz=122,slow=23,SNR=5.9							
ASAR				Lg		Lg	19 16 51.8	
	0.2nm,0.3s,baz=128,slow=27,SNR=5.0							
WB2	**Warramunga Arr**	**9.74**	**322**	P		**Pn**	**19 15 10.1**	**+0.3**
	baz=9.8							
WRA	**Warramunga Arr**	**9.75**	**322**	Pn		**Pn**	**19 15 09.5**	**-0.4**
	0.3nm,0.3s,baz=141,slow=13,SNR=14							
WRA				Sn		**Sn**	**19 16 56.9**	**-2.6**
	0.3nm,0.3s,baz=136,slow=22,SNR=6.5							
FORT	**Forrest**	**11.41**	**252**	P		**Pn**	**19 15 32.8**	**+0.2**
	baz=11							

SJA 20 19:14:39.3±0.4, 27°.90S×67°.34W, h13km±1km, ML3.8, MW3.8, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
VCA	**Vinchina**	**1.13**	**222**	*eP*		Pb	19 15 00.9	0.0
VCA				*eS*		Sn	19 15 17.1	+0.5
**C

ALOL	**LOMAS DE OLMED**	**6.20**	**104**	*e*P		Pn	19 50 06.4	+5.3
AHML	**Horco Molle**	**6.41**	**133**	*e*P		**Pn**	**19 50 05.8**	**+1.7**
LCO	**Las Campanas**	**6.53**	**181**	*e*Pn		**Pn**	**19 50 05.3**	**-0.5**
LPAZ	**La Paz**	**6.55**	**21**	P		**Pn**	**19 50 09.8**	**+3.3**
	comp=Z,0.8nm,0.3s,baz=194,slow=3.5,SNR=11							
LPAZ				LR		LR	19 53 08.8	
	comp=Z,76nm,21.6s,baz=191,slow=42							
CYA	**Choya**	**7.35**	**145**	*e*P		**Pn**	**19 50 15.6**	**-1.3**
CYA				IAML			19 50 25.4	
	comp=Z,12nm,0.5s							
CYA				*e*S		Sn	19 51 50.9	+12
SIV	**San Ignacio**	**11.03**	**56**	P		**Pn**	**19 51 08.2**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=247,slow=16,SNR=19							
SIV				LR		LR	19 56 21.5	
	comp=Z,95nm,18.4s,baz=314,slow=43							
CPUP	**Villa Florida**	**12.65**	**110**	P		**Pn**	**19 51 32.3**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=297,slow=11,SNR=2.9							
CPUP				LR		LR	19 57 30.4	
	comp=Z,23nm,18.7s,baz=225,slow=43							
TRQA	**Tornquist**	**17.21**	**157**	*e*Pn		**P**	**19 52 31.6**	**+0.5**
	comp=Z,13nm,1.4s							
PLCA	**Paso Flores**	**18.22**	**180**	*e*Pn		**Pn**	**19 52 40.5**	**-1.8**
PTGA	**Pitinga**	**23.93**	**27**	P		**P**	**19 53 43.3**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=220,slow=9.0,SNR=4.8							
TOA0	**Torodi Ar. Sit**	**79.11**	**71**	*e*P		**P**	**20 00 33.5**	**-0.3**
	comp=Z,1.6nm,0.8s							
TOA1	**Torodi Ar. Sit**	**79.11**	**71**	*e*P		**P**	**20 00 32.8**	**-1.0**
TORD	**Torodi Ar. Bea**	**79.11**	**71**	P		**P**	**20 00 32.8**	**-1.0**
	comp=Z,1.4nm,0.8s,baz=258,slow=5.1,SNR=14							
BOSA	**Boshof**	**84.34**	**118**	P		**P**	**20 00 59.9**	**-1.5**
	comp=Z,4.3nm,1.1s,baz=280,slow=6.1,SNR=2.8							
H11S2	**WAKE ISLAND Hy**	**126.48**	**277**	T		T	22 26 55.6	
	baz=105,slow=74,SNR=68							
H11S1	**WAKE ISLAND Hy**	**126.49**	**277**	T		T	22 27 09.4	
	baz=105,slow=74,SNR=29							
H11S3	**WAKE ISLAND Hy**	**126.49**	**277**	T		T	22 26 57.0	
	baz=105,slow=74,SNR=43							
H11N3	**WAKE ISLAND Hy**	**126.59**	**278**	T		T	22 27 17.3	
	baz=104,slow=75,SNR=25							
H11N2	**WAKE ISLAND Hy**	**126.60**	**278**	T		T	22 27 05.2	
	baz=104,slow=75,SNR=24							
H11N1	**WAKE ISLAND Hy**	**126.60**	**278**	T		T	22 27 19.8	
	baz=104,slow=75,SNR=18							
WR1	**Warramunga Arr**	**131.35**	**212**	*e*PKPdf		**PKPdf**	**20 07 42.7**	**+1.0**
WRA	**Warramunga Arr**	**131.35**	**212**	PKP		**PKPdf**	**20 07 42.7**	**+1.0**
	comp=Z,0.5nm,1.0s,baz=157,slow=1.7,SNR=3.7							
ZAA1	**Zalesovo Array**	**143.46**	**24**	*e*PKPpre		PKPab	20 08 00.5	+1.4
ZALV	**Zalesovo Beam**	**143.46**	**24**	PKP		PKPbc	20 08 00.5	+0.3
	comp=Z,0.4nm,0.4s,baz=321,slow=1.8,SNR=2.5							
MK32	**Makanchi Array**	**147.30**	**35**	*e*PKPdf		**PKPbc**	**20 08 12.7**	**+0.5**
MKAR	**Makanchi Array**	**147.30**	**35**	PKPbc		**PKPbc**	**20 08 12.7**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=346,slow=2.5,SNR=8.7							

NEIC ***20*** *19:51:48.5±0.0, 16.89N×94.78W, h124km, MD4.1(MEX), After MEX.*

MEX 20 19:51:47.5±0.8**, 16.81N×94.65W, h126**km±8km**, MD4.1, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CMIG	**Matias Romero**	**0.36**	**321**		*e*Pn		Pn	19 52 04.4	-1.0
CMIG					*e*Sn		Sn	19 52 16.6	-2.5
CMIG	**Matias Romero**	**0.36**	**321**		*e*P		Pn	19 52 04.4	-1.0
CMIG					*e*S		Sn	19 52 16.6	-2.5
HUIG	**Huatulco**	**1.74**	**234**		*e*Pn		Pn	19 52 17.2	-0.9
HUIG					*e*Sn		Sn	19 52 39.7	-1.9
HUIG	**Huatulco**	**1.74**	**234**		*e*P		Pn	19 52 17.2	-0.9
HUIG					*e*S		Sn	19 52 39.7	-1.9
VHO	**Vista Hermosa**	**2.01**	**278**		*e*Pn		Pn	19 52 20.7	-0.9
VHO					*e*Sn		Sn	19 52 44.1	-3.6
VHO	**Vista Hermosa**	**2.01**	**278**		*i* P		Pn	19 52 21.2	-0.4
VHO					*e*S		Sn	19 52 46.7	-1.0
CCIG	**Comitan**	**2.47**	**102**		*e*Pn		Pn	19 52 28.9	+1.6
CCIG					*e*Sn		Sn	19 52 57.3	-0.6
TPIG	**Tehuac#an**	**3.04**	**302**		*e*Sn		Sn	19 53 00.6	-11
PNIG	**Pinotepa**	**3.36**	**263**		*e*Pn		Pn	19 52 36.5	-2.2
PNIG					*e*Sn		Sn	19 53 11.6	-6.7
PNIG	**Pinotepa**	**3.36**	**263**		*e*P		Pn	19 52 36.7	-2.0
PNIG					*i* S		Sn	19 53 15.9	-2.4
TLIG	**Tlapa**	**3.82**	**282**		*e*Pn		Pn	19 52 43.2	-1.7
TLIG					*e*Sn		Sn	19 53 22.1	-7.2
TEIG	**Tepich**	**6.94**	**60**		*e*Pn		Pn	19 53 23.6	-3.0
TEIG					*e*Sn		Sn	19 54 37.5	-6.7

TAP 20 20:19:18.6, 23.52N×120.48E, h13km, ML1.5, 1C-1D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CHN2	**Minshiung**	**0.02**	**333**			P	Pg	20 19 21.4	+0.5
	baz=333								
CHN2						S	Sg	20 19 23.7	+1.2
	baz=333								
CHY	**Chiayi**	**0.06**	**252**			P	Pg	20 19 21.6	+0.5
	baz=248								
CHY						S	Sg	20 19 24.0	+1.1
	baz=248								
WLGB	**Puzi**	**0.17**	**257**			P	Pb	20 19 23.2	-0.5
	baz=258								
WLGB						S	Sb	20 19 27.3	+0.2
	baz=258								
WDLH	**Douliu**	**0.18**	**16**		*i* P		Pb	20 19 23.6	-0.2
	baz=16								
WDLH					*e*S		Sb	20 19 27.5	+0.2
	baz=16								
WGK	**Gukeng**	**0.18**	**23**	↑	*i* P		Pb	20 19 23.8	-0.1
	baz=25								
WGK					*e*S		Sb	20 19 27.6	+0.1
	baz=25								
CHN4	**Tsaushan**	**0.19**	**149**			P	Pb	20 19 23.8	-0.3
	baz=148								
CHN4						S	Sb	20 19 27.5	-0.2
	baz=148								
CHN5	**Tsauling**	**0.20**	**66**	↓	*i* P		Pb	20 19 23.7	-0.5
	baz=65								
CHN5					*i* S		Sb	20 19 27.3	-0.5
	baz=65								
TWK	**Hsinying**	**0.25**	**179**			P	Pb	20 19 24.8	-0.2
	baz=176								
TWK						S	Sb	20 19 29.4	+0.1
	baz=176								
TPUB	**Ta-pu**	**0.25**	**148**			P	Pb	20 19 24.8	-0.3
	baz=148								
TPUB						S	Sb	20 19 29.0	-0.4
	baz=148								
WSF	**Szhu**	**0.27**	**297**		*e*P		Pg	20 19 23.6	-0.6
	baz=298								
WSF					*e*S		Sb	20 19 29.6	-0.3
	baz=298								
WTP	**Ta-pu**	**0.29**	**156**			P	Pb	20 19 25.6	-0.2
	baz=155								
WTP						S	Sb	20 19 30.7	0.0
	baz=155								
ALS	**Alishan**	**0.29**	**91**			P	Pb	20 19 25.8	-0.1
	baz=91								
ALS						S	Sb	20 19 31.3	+0.4
	baz=91								
CHN8	**Yiju**	**0.30**	**236**			P	Pb	20 19 25.7	-0.2
	baz=235								
CHN8						S	Sb	20 19 31.1	+0.3
	baz=235								
CHN1	**Nanshi**	**0.33**	**173**			P	Pb	20 19 26.3	-0.1
	baz=173								
CHN1						S	Sb	20 19 31.9	+0.2
	baz=173								
RLNB	**Erlin**	**0.39**	**343**		*e*P		Pg	20 19 26.9	+0.5
	baz=336								
RLNB					*e*S		Sb	20 19 33.3	-0.1
	baz=336								
WTCT	**Ta-ch'eng**	**0.39**	**332**		*e*P		Pg	20 19 26.7	+0.2
	baz=333								
WNT	**Mingjian**	**0.40**	**27**		*e*P		Pg	20 19 27.1	+0.4
	baz=27								
STYT	**Tauyuan**	**0.43**	**144**		P		Pb	20 19 28.1	-0.1
	baz=144								
STYT						S	Sb	20 19 35.0	+0.4
	baz=144								
SGST	**Jiashian**	**0.44**	**168**		*e*P		Pg	20 19 27.8	+0.4
	baz=167								
SSLB	**Suanglung**	**0.51**	**58**		*e*P		Pg	20 19 29.0	+0.3
	baz=57								
TYC	**Yuchr**	**0.52**	**41**		*e*P		Pb	20 19 29.6	+0.1
	baz=41								
SMLT	**Sun Moon Lake**	**0.53**	**46**		*e*P		Pb	20 19 29.8	0.0
	baz=46								
ELDTW	**Lidau**	**0.59**	**123**		P		Pb	20 19 31.0	+0.1
	baz=123								
VWDT	**VWDT**	**0.65**	**68**		*e*P		Pg	20 19 31.3	0.0
	baz=68								
YULB	**Yu-li**	**0.76**	**99**		*e*P		Pb	20 19 33.6	0.0
	baz=109								
YULB					*e*S		Sb	20 19 44.1	+0.2
	baz=109								
TWF1	**Yuli**	**0.76**	**102**		*e*P		Pb	20 19 34.0	+0.2
	baz=112								
TWF1					*e*S		Sb	20 19 44.9	+0.7
	baz=112								
EHY	**Hungye**	**0.77**	**91**		*e*P		Pb	20 19 34.5	+0.6
	baz=90								
EHY					*e*S		Sb	20 19 45.2	+0.9
	baz=90								
WDGT	**Dungji**	**0.80**	**252**		*e*P		Pg	20 19 33.9	-0.3
	baz=251								
TWG	**Pinlang**	**0.88**	**142**		*e*P		Pg	20 19 35.4	-0.2
	baz=133								
TWGBT	**Beinan**	**0.89**	**142**		*e*P		Pg	20 19 34.9	-0.9
	baz=133								
MASBT	**Mashibuluo**	**0.91**	**171**		*e*P		Pb	20 19 36.5	+0.2
	baz=172								

TAP 20 20:19:26.7, 23.52N×120.49E, h15km, ML1.6, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CHN2	**Minshiung**	**0.02**	**322**		*i* P		Pg	20 19 29.6	+0.3
	baz=322								
CHN2					*i* S		Sg	20 19 31.9	+0.7
	baz=322								
CHY	**Chiayi**	**0.06**	**250**		P		Pg	20 19 29.8	+0.2
	baz=245								
CHY					S		Sg	20 19 32.3	+0.8
	baz=245								
WDLH	**Douliu**	**0.18**	**16**		P		Pb	20 19 31.8	+0.1
	baz=15								
WDLH					*e*S		Sb	20 19 35.9	+0.9
	baz=15								
WLGB	**Puzi**	**0.18**	**257**		P		Pg	20 19 31.3	+0.3
	baz=256								
WLGB					S		Sb	20 19 35.4	+0.5
	baz=256								
WGK	**Gukeng**	**0.18**	**23**		*i* P		Pb	20 19 31.9	+0.1
	baz=25								
WGK					S		Sb	20 19 36.0	+0.9
	baz=25								
CHN5	**Tsauling**	**0.19**	**66**		P		Pb	20 19 31.9	-0.2
	baz=66								
CHN5					*i* S		Sb	20 19 35.4	-0.1
	baz=66								
CHN4	**Tsaushan**	**0.19**	**150**		P		Pb	20 19 32.0	0.0
	baz=149								
CHN4					S		Sb	20 19 35.7	+0.2
	baz=149								
TWK	**Hsinying**	**0.25**	**180**		P		Pb	20 19 32.9	-0.1
	baz=176								
TWK					S		Sb	20 19 37.4	+0.2
	baz=176								
TPUB	**Ta-pu**	**0.25**	**149**		*e*P		Pb	20 19 32.7	-0.3
	baz=148								
TPUB					S		Sb	20 19 37.4	+0.1
	baz=148								
WSF	**Szhu**	**0.27**	**296**		*e*P		Pg	20 19 32.7	+0.2
	baz=296								
WSF					S		Sb	20 19 37.7	0.0
	baz=296								
ALS	**Alishan**	**0.29**	**92**		*i* P		Pb	20 19 34.1	+0.2
	baz=91								
ALS					*e*S		Sb	20 19 39.7	+1.1
	baz=91								
WTP	**Ta-pu**	**0.30**	**157**		*e*P		Pb	20 19 33.7	-0.1
	baz=155								
WTP					S		Sb	20 19 38.8	+0.3
	baz=155								
CHN8	**Yiju**	**0.31**	**236**		*e*P		Pb	20 19 33.8	-0.1
	baz=234								
CHN8					S		Sb	20 19 39.5	+0.8
	baz=234								
CHN1	**Nanshi**	**0.34**	**173**		P		Pb	20 19 34.5	+0.1
	baz=173								
CHN1					S		Sb	20 19 40.2	+0.6
	baz=173								
RLNB	**Erlin**	**0.39**	**343**		*e*P		Pg	20 19 34.8	+0.2
	baz=342								
RLNB					S		Sb	20 19 41.3	+0.1
	baz=342								
WTCT	**Ta-ch'eng**	**0.39**	**331**		*e*P		Pg	20 19 34.8	+0.1
	baz=332								
WNT	**Mingjian**	**0.40**	**27**		*e*P		Pb	20 19 35.3	-0.2
	baz=28								
WNT					*e*S		Sb	20 19 42.4	+0.9
	baz=28								
STYT	**Tauyuan**	**0.43**	**145**		*e*P		Pb	20 19 36.2	+0.1
	baz=144								
STYT					*e*S		Sb	20 19 42.9	+0.5
	baz=144								
SGST	**Jiashian**	**0.44**	**168**		*e*P		Pg	20 19 35.8	+0.2
	baz=167								
SGST					*e*S		Sb	20 19 44.0	+1.2
	baz=167								
SGST	**Jiashian**	**0.44**	**168**		*e*S		Pg	20 19 35.5	-0.2
	baz=167								
SSLB	**Suanglung**	**0.51**	**58**		*e*P		Pg	20 19 37.0	+0.2
	baz=58								
SSLB	**Suanglung**	**0.51**	**58**		*e*S		Pg	20 19 36.8	0.0
	baz=57								
TYC	**Yuchr**	**0.51**	**42**		*e*P		Pb	20 19 37.6	+0.1
	baz=42								
TYC	**Yuchr**	**0.51**	**42**		*e*S		Pb	20 19 37.5	+0.1
	baz=41								
SMLT	**Sun Moon Lake**	**0.53**	**46**		*e*P		Pb	20 19 38.1	+0.4
	baz=47								
ELDTW	**Lidau**	**0.59**	**124**		*e*P		Pb	20 19 39.2	+0.4
	baz=123								
ELDTW	**Lidau**	**0.59**	**124**		*e*S		Pb	20 19 39.2	+0.4
	baz=123								
VWDT	**VWDT**	**0.65**	**69**		*e*P		Pn	20 19 40.8	-0.5
	baz=68								
YULB	**Yu-li**	**0.76**	**99**		*e*P		Pg	20 19 41.3	-0.2
	baz=99								
YULB					*e*S		Sb	20 19 52.2	+0.5
	baz=99								
WDGT	**Dungji**	**0.80**	**251**		*e*P		Pg	20 19 41.7	-0.6
	baz=250								
WDGT					*e*S		Sg	20 19 52.8	-0.1
	baz=250								
CHGB	**Renai**	**0.83**	**49**		*e*P		Pg	20 19 42.7	-0.2
	baz=49								
PHUB	**P'eng-hu**	**0.84**	**270**		*e*P		Pg	20 19 43.0	0.0
	baz=269								
PHUB					*e*S		Sb	20 19 54.8	+0.7
	baz=269								

ISCJB ***20*** *20:24:47.0±0.7, 19.10N±0.03×145.78E±0.08, h96km±7km, mb4.2/30, Error ellipse: s-maj=13.5km s-min=5.0km az=169.8*

NEIC ***20*** *20:24:48.8±0.7, 19.09N×145.85E, h100km±6km, mb4.5/12, Error ellipse: s-maj=9.4km s-min=5.3km az=83.0*

IDC ***20*** *20:24:49.7±2.6, 19.06N×145.90E, h112km±23km, mb3.8/19, mb1 4.0/22, mb1mx3.8/47, mbtmp4.1/22, Error ellipse: s-maj=19.2km s-min=12.5km az=90.0*

ISC 20 20:24:48.2±1.1**, 19.10N**±0.05**×145.9E**±0.1**, h95**km±10km**, n59, σ1s03/61, mb4.3/29, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
SARN	**Sarigan**	**2.39**	**183**		*e*Pn		**Pn**	**20 25 25.7**	**0.0**
SARN					*e*Sn		**Sn**	**20 25 52.5**	**-2.0**
ANA2	**Anatahan**	**2.75**	**184**		*e*Pn		**Pn**	**20 25 30.9**	**+0.4**
ANA2					*e*Sn		**Sn**	**20 26 01.6**	**-1.5**
GUMO	**Guam**	**5.57**	**191**		P		**Pn**	**20 26 10.0**	**+1.4**
	19nm,0.3s,baz=29,slow=2.4,SNR=12								
GUMO					S		**Sn**	**20 27 12.6**	**+1.2**
	4.2nm,0.3s,baz=199,slow=12,SNR=1.1								
CBIJ	**Chichi jima**	**8.67**	**337**		*e*Pn		**Pn**	**20 26 51.9**	**+1.2**
CBIJ					*e*Sn		**Sn**	**20 28 25.9**	**-0.8**
JCJ	**Chichijima**	**8.67**	**337**		P		**Pn**	**20 26 52.4**	**+1.7**
	5.4nm,0.3s,baz=58,slow=19,SNR=4.0								
JCJ					S		**Sn**	**20 28 24.2**	**-2.5**
	3.6nm,0.3s,baz=270,slow=20,SNR=4.6								
JHJ2	**Mitsune**	**14.98**	**340**		*e*Pn		**Pn**	**20 28 12.3**	**-2.5**
	2μm,1.7s								
MJAR	**Matsushiro Arr**	**18.65**	**340**		P		**P**	**20 28 59.0**	**+0.5**
	0.4nm,0.3s,baz=171,slow=10.0,SNR=3.7								
MAJO	**Matsushiro**	**18.65**	**340**		*e*P		**P**	**20 28 59.0**	**+0.5**
H11S3	**WAKE ISLAND Hy**	**19.68**	**88**		T		T	20 50 11.1	
	baz=275,slow=74,SNR=22								
H11S1	**WAKE ISLAND Hy**	**19.69**	**88**		T		T	20 50 12.0	
	baz=275,slow=74,SNR=22								
H11S2	**WAKE ISLAND Hy**	**19.69**	**88**		T		T	20 49 59.9	
	baz=275,slow=74,SNR=25								
H11N1	**WAKE ISLAND Hy**	**19.80**	**85**		T		T	20 50 26.9	
	baz=266,slow=74,SNR=6.8								
H11N2	**WAKE ISLAND Hy**	**19.80**	**85**		T		T	20 50 27.4	
	baz=266,slow=74,SNR=7.4								
H11N3	**WAKE ISLAND Hy**	**19.81**	**85**		T		T	20 50 28.2	
	baz=266,slow=74,SNR=5.5								
KSRS	**Korea Array**	**24.12**	**323**		P		**P**	**20 29 55.5**	**+0.5**
	0.9nm,0.6s,baz=146,slow=9.0,SNR=6.9								
KSAR	**Wonju Array Be**	**24.13**	**323**		P		**P**	**20 29 55.5**	**+0.3**
FAKI	**Fak Fak**	**25.68**	**213**		*e*P		**P**	**20 30 09.9**	**+0.4**
	6.8nm,0.8s								
WRAB	**Tennant Creek**	**40.42**	**197**		*e*P		**P**	**20 32 15.7**	**-1.5**
	13nm,1.6s								
WR1	**Warramunga Arr**	**40.43**	**197**		*e*P		**P**	**20 32 16.9**	**-0.5**
	5.2nm,0.9s								
WR1					*e*PcP		**PcP**	**20 34 17.4**	**-1.2**
WRA	**Warramunga Arr**	**40.43**	**197**		P		**P**	**20 32 16.8**	**-0.5**
	1.3nm,0.3s,baz=14,slow=8.3,SNR=25								
WRA					PcP		**PcP**	**20 34 17.5**	**-1.2**
	0.2nm,0.3s,baz=17,slow=3.2,SNR=3.1								
SONA0	**Songino Array**	**42.96**	**321**		*e*P		**P**	**20 32 38.2**	**+0.3**
SONA0					*e*PP		**PcP**	**20 34 27.3**	**+0.5**
SONA1	**Songino Array**	**42.96**	**321**		*e*P		**P**	**20 32 38.5**	**+0.6**
SONM	**Songino Array**	**42.96**	**321**		P		**P**	**20 32 38.2**	**+0.3**
	0.4nm,0.4s,baz=130,slow=6.3,SNR=8.6								
SONM					PcP		**PcP**	**20 34 27.3**	**+0.5**
	0.1nm,0.3s,baz=129,slow=3.8,SNR=2.8								
AS01	**Alice Springs**	**44.08**	**196**		*e*P		**P**	**20 32 47.5**	**+0.6**
AS31	**Alice Springs**	**44.09**	**196**		*e*P		**P**	**20 32 48.0**	**+0.9**
	0.9nm,0.4s								
ASAR	**Alice Springs**	**44.09**	**196**		P		**P**	**20 32 45.6**	**-1.5**
	0.7nm,0.6s,baz=17,slow=12,SNR=27								
ASAR					PcP		**PcP**	**20 34 30.6**	**-0.2**
	0.2nm,0.6s,baz=53,slow=4.8,SNR=2.7								
YAK	**Yakutsk**	**44.37**	**349**		*e*P		**P**	**20 32 49.6**	**+0.9**
	26nm,0.6s								
CMAR	**Chiang Mai Arr**	**44.37**	**277**		P		**P**	**20 32 50.7**	**+1.2**
	0.3nm,0.3s,baz=61,slow=7.3,SNR=4.4								
DZM	**Mont Dzumac**	**45.58**	**153**		*e*P		**P**	**20 32 58.7**	**-0.2**
	19nm,1.5s								
LHMI	**Lhok Sumawe**	**49.63**	**260**		*e*P		**P**	**20 33 29.9**	**-0.5**
	54nm,1.0s								
ZALV	**Zalesovo Beam**	**57.82**	**322**		P		**P**	**20 34 29.1**	**-0.5**
	0.9nm,0.6s,baz=101,slow=9.1,SNR=5.6								
ZAA1	**Zalesovo Array**	**57.83**	**322**		*e*P		**P**	**20 34 29.1**	**-0.5**
MK32	**Makanchi Array**	**58.33**	**314**		*e*P		**P**	**20 34 33.7**	**+0.4**
MKAR	**Makanchi Array**	**58.33**	**314**		P		**P**	**20 34 33.7**	**+0.4**
	0.6nm,0.5s,baz=88,slow=8.8,SNR=11								
KDAK	**Kodiak Island**	**58.91**	**33**		P		**P**	**20 34 37.5**	**+0.4**
	5.9nm,0.8s,baz=281,slow=5.6,SNR=2.5								
ILAR	**Eielson Array**	**63.20**	**26**		P		**P**	**20 35 04.9**	**-1.1**
	0.6nm,0.4s,baz=256,slow=6.0,SNR=14								
BVAR	**Borovoye Array**	**66.30**	**320**		P		**P**	**20 35 25.8**	**-0.5**
	1.0nm,0.4s,baz=110,slow=6.8,SNR=6.9								
ABKAR	**Akbulak array**	**73.19**	**317**		*e*P		**P**	**20 36 08.9**	**+0.3**
YKA	**Yellowknife Ar**	**77.54**	**28**		P		**P**	**20 36 33.8**	**+0.5**
	2.1nm,0.6s,baz=288,slow=5.3,SNR=9.2								
YKB5	**Yellowknife Ar**	**77.54**	**28**		*e*P		**P**	**20 36 33.0**	**-0.3**
RES	**Resolute Bay**	**78.99**	**14**		P		**P**	**20 36 41.5**	**+0.4**
	3.6nm,0.7s,baz=263,slow=6.4,SNR=9.4								
RES	**Resolute Bay**	**78.99**	**14**		*e*P		**P**	**20 36 42.0**	**+0.9**
	15nm,1.5s								
ARA0	**ARCESS Array S**	**82.17**	**342**		*e*P		**P**	**20 36 58.2**	**-0.1**
ARCES	**ARCESS Array B**	**82.17**	**342**		P		**P**	**20 36 58.2**	**-0.1**
	4.5nm,0.5s,baz=72,slow=7.8,SNR=33								
NV01	**Mina Array Sit**	**82.73**	**52**		*e*P		**P**	**20 37 02.8**	**+0.8**
NVAR	**Mina Array Bea**	**82.73**	**52**		P		**P**	**20 37 02.7**	**+0.6**
	1.6nm,0.6s,baz=264,slow=6.2,SNR=6.9								
YMR	**Madison River**	**85.71**	**44**		*e*P		**P**	**20 37 18.7**	**+1.7**
	8.2nm,0.8s								
IMW	**Indian Meadow**	**86.03**	**45**		*e*P		**P**	**20 37 19.7**	**+1.0**
	3.9nm,1.0s								
HWUT	**Hardware Ranch**	**86.48**	**47**		*e*P		**P**	**20 37 21.2**	**+0.4**
	4.4nm,0.9s								
FIA0	**FINESS Array S**	**86.61**	**335**		*e*P		**P**	**20 37 19.2**	**-1.5**
FINES	**FINESS Array B**	**86.61**	**335**		P		**P**	**20 37 19.2**	**-1.5**
	2.0nm,0.3s,baz=64,slow=4.8,SNR=36								
KNB	**Kanab**	**87.30**	**52**		*e*P		**P**	**20 37 25.9**	**+1.0**
	4.6nm,1.0s								
PD31	**Pinedale Array**	**87.40**	**46**		*e*P		**P**	**20 37 25.1**	**-0.2**
PDAR	**Pinedale Array**	**87.40**	**46**		P		**P**	**20 37 25.5**	**+0.2**
	0.3nm,0.4s,baz=173,slow=1.0,SNR=5.6								
HFS	**Hagfors**	**92.09**	**338**		P		**P**	**20 37 45.0**	**-1.6**
	1.2nm,0.4s,baz=87,slow=3.9,SNR=11								
NB200	**NORSAR Array S**	**92.27**	**340**		*e*P		**P**	**20 37 46.3**	**-1.1**
NOA	**NORSAR Array B**	**92.27**	**340**		P		**P**	**20 37 46.3**	**-1.1**
	1.3nm,0.9s,baz=33,slow=4.5,SNR=2.5								
LTX	**Lajitas**	**97.44**	**56**		*e*P		Pdif	20 38 12.7

WRA	**Warramunga Arr**	**18.76**	**221**	P		Pn	20 44 28.2	+0.4
	0.1nm,0.3s,baz=49,slow=12,SNR=8.7							
ASAR	**Alice Springs**	**21.81**	**215**	P		P	20 45 01.2	+0.6
	0.2nm,0.5s,baz=52,slow=8.6,SNR=6.2							
TORD	**Torodi Ar. Bea**	**145.46**	**284**	PKPbc		PKPbc	20 59 45.5	-2.4
	0.4nm,1.0s,baz=72,slow=4.3,SNR=2.7							

RSNC 20 20:41:13.4±1.3, 6°.82N×73°.16W, h140km±5km, ML3.2, Mw3.7, 1C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**186**	*i* P	Pn	20 41 32.5	-0.3
BARC				*eS*	Sn	20 41 47.1	-0.5
BARC				*i*		20 41 48.0	
	comp=Z,403nm,0.3s						
GIRC	**Giron, Santand**	**0.26**	**352**	*i* P	Pn	20 41 32.7	-0.2
GIRC				*eS*	Sn	20 41 47.3	-0.3
BRRC	**Barranca, Sant**	**0.62**	**298**	⇓*i* P	Pn	20 41 34.5	+0.2
BRRC				*i*		20 41 34.6	
	comp=Z,211nm,0.3s						
BRRC				*eS*	Sn	20 41 50.2	0.0
PAMC	**Pamplona, Colo**	**0.69**	**41**	*i* P	Pn	20 41 35.4	+0.1
PAMC				*i*		20 41 35.8	
	comp=Z,388nm,0.2s						
PAMC				*eS*	Sn	20 41 52.4	+0.3
RUSC	**La Rusia**	**0.92**	**175**	⇑*i* P	Pn	20 41 36.5	-0.7
RUSC				*eS*	Sn	20 41 54.1	-1.0
RUSC				*i*		20 41 55.4	
	comp=N,312nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.32**	**258**	*e*P	Pn	20 41 39.1	-1.2
PTBC				*eS*	Sn	20 41 59.5	-1.3
PTBC				*i*		20 42 02.4	
	comp=N,244nm,0.3s						
TAMC	**Tame, Arauca**	**1.41**	**105**	⇓*i* P	Pn	20 41 40.9	-0.4
TAMC				*eS*	Sn	20 42 02.2	-0.4
TAMC				*i*		20 42 02.8	
	comp=N,400nm,0.3s						
OCAC	**Ocana**	**1.42**	**354**	*e*P	Pn	20 41 40.7	-0.9
OCAC				*eS*	Sn	20 42 02.4	-0.7
ZARC	**Zaragoza, Cauc**	**1.82**	**292**	*e*P	Pn	20 41 45.7	-0.1
ZARC				*eS*	Sn	20 42 11.0	+0.4
ZARC				*i*		20 42 17.2	
	comp=N,217nm,0.2s						
NORC	**Norcasia**	**2.11**	**234**	*e*P	Pn	20 41 48.5	-0.8
NORC				*eS*	Sn	20 42 15.5	-1.4
NORC				*i*		20 42 21.9	
	comp=N,167nm,0.3s						
SMLC	**San Mart`›n de**	**2.17**	**335**	*i* Pg	Pn	20 41 49.7	-0.3
SMLC				*eS*	Sn	20 42 17.6	-0.6
SMLC				*i*		20 42 21.9	
	comp=N,191nm,0.3s						
CHIC	**Chingaza**	**2.25**	**195**	*e*P	Pn	20 41 50.7	-0.6
CHIC				*eS*	Sn	20 42 19.5	-0.9
CHIC				*i*		20 42 25.7	
	comp=N,91nm,0.2s						
ROSC	**El Rosal**	**2.28**	**211**	*e*P	Pn	20 41 52.3	+0.6
ROSC				*eS*	Sn	20 42 21.6	+0.6
ROSC				*i*		20 42 28.8	
	comp=Z,77nm,0.5s						
HELC	**Santa Helena**	**2.44**	**255**	*e*P	Pn	20 41 53.9	+0.3
HELC				*eS*	Sn	20 42 25.0	+0.5
HELC				*i*		20 42 34.8	
	comp=N,56nm,0.4s						
CVER	**Cruz Verde, Cu**	**2.45**	**202**	*e*P	Pn	20 41 54.6	+0.6
GUYC	**Guyana, Colomb**	**2.73**	**235**	*e*P	Pn	20 41 58.4	+1.0
GUYC				*eS*	Sn	20 42 30.6	-0.6
VILC	**Villavicencio,**	**2.74**	**191**	*e*P	Pn	20 41 56.4	-0.8
VILC				*eS*	Sn	20 42 29.7	-1.2
RREF	**El Recreo**	**2.89**	**229**	*e*P	Pn	20 42 00.4	+0.8
RREF				*eS*	Sn	20 42 35.8	+0.7
RREF				*i*		20 42 46.1	
	comp=Z,44nm,0.5s						
DBBC	**Dabeiba**	**3.04**	**274**	*e*P	Pn	20 42 00.6	-0.3
DBBC				*eS*	Sn	20 42 37.0	-0.6
DBBC				*i*		20 42 43.4	
	comp=Z,72nm,0.5s						
TOLC	**Tolima**	**3.09**	**224**	*e*P	Pn	20 42 02.3	+0.4
CODC	**Agust`›n Codaz**	**3.11**	**355**	*e*P	Pn	20 42 00.9	-0.9
CODC				*eS*	Sn	20 42 38.8	-0.6
CODC				*i*		20 42 41.4	
	comp=N,26nm,0.3s						
MOTC	**Monteria, Cord**	**3.16**	**308**	*i* Pg	Pn	20 42 00.5	-1.9
MOTC				*eS*	Sn	20 42 39.0	-1.4
MOTC				*i*		20 42 42.4	
	comp=N,59nm,0.3s						
ANIL	**Santa Ana**	**3.21**	**224**	*e*P	Pn	20 42 04.1	+0.7
ANIL				*eS*	Sn	20 42 42.4	+0.4
ANIL				*i*		20 42 47.5	
	comp=Z,138nm,0.3s						
PRAC	**Prado**	**3.53**	**209**	*e*P	Pn	20 42 06.4	-0.9
PRAC				*eS*	Sn	20 42 47.8	-1.3
PRAC				*i*		20 42 53.0	
	comp=N,36nm,0.4s						
SJCC	**San Jacinto, C**	**3.66**	**327**	*i* Pg	Pn	20 42 07.6	-1.4
SJCC				*eSg*	Sn	20 42 51.1	-1.0
SJCC				*i*		20 42 52.2	
	comp=N,65nm,0.5s						
SMRC	**Santa Marta, M**	**4.45**	**346**	*e*P	Pn	20 42 17.9	-1.5
SMRC				*i*		20 43 08.4	
	comp=E,32nm,0.2s						

*ISCJB **20** 20:47:13.6±0.6, 5°.95S±0°.05×129°.03E±0°.09, h264km, mb3.3/4, Error ellipse: s-maj=12.0km s-min=6.7km az=3.7*
*IDC **20** 20:47:16.4±1.5, 5°.87S×129°.16E, h280km±18km, mb3.1/4, mb1 3.5/8, mb1mx3.2/42, mbtmp4.1/8, Error ellipse: s-maj=32.0km s-min=14.4km az=95.0*
ISC 20 20:47:14.6±0.8, 6°.05S±0°.07×129°.2E±0°.1, h264km, n8, σ2§01/12, mb3.4/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.56**	**22**	P	**Pn**	**20 48 39.8**	**+2.2**
	10nm,0.3s,baz=197,slow=19,SNR=89						
SIJI				S	**S**	**20 49 42.3**	**-1.9**
	2.1nm,0.3s,baz=253,slow=20,SNR=4.8						
BATI	**Baumata**	**6.83**	**232**	P	**Pn**	**20 48 56.1**	**+2.7**
	5.1nm,0.3s,baz=81,slow=8.2,SNR=5.0						
BATI				S	**S**	**20 50 10.7**	**-2.2**
	10.0nm,0.3s,baz=75,slow=20,SNR=18						
WRA	**Warramunga Arr**	**14.70**	**160**	P	**Pn**	**20 50 32.8**	**+2.0**
	1.1nm,0.3s,baz=340,slow=11,SNR=68						
WRA				S	**S**	**20 53 10.7**	**-2.1**
	0.1nm,0.3s,baz=334,slow=21,SNR=4.8						
ASAR	**Alice Springs**	**18.10**	**166**	P	**Pn**	**20 51 10.3**	**-0.5**
	1.5nm,0.3s,baz=350,slow=12,SNR=88						
ASAR				S	**S**	**20 54 19.3**	**-1.8**
	0.2nm,0.3s,baz=349,slow=22,SNR=8.1						
SONM	**Songino Array**	**57.28**	**342**	P	**P**	**20 56 33.8**	**-1.2**
	0.3nm,0.5s,baz=151,slow=6.1,SNR=3.2						
MKAR	**Makanchi Array**	**66.98**	**327**	P	**P**	**20 57 38.8**	**-0.4**
	0.3nm,0.4s,baz=114,slow=8.0,SNR=11						
ZALV	**Zalesovo Beam**	**70.37**	**334**	P	**P**	**20 57 58.8**	**-1.0**
	0.4nm,0.3s,baz=127,slow=6.1,SNR=2.5						
KURBB	**Kurchatov Arra**	**71.27**	**329**	P	**P**	**20 58 04.2**	**-1.1**
	0.4nm,0.4s,baz=129,slow=5.0,SNR=6.9						

IDC 20 21:05:49.4±4.3, 65°.47S×177°.29E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.8/31, mbtmp3.8/4, ML3.1/1, MS3.5/7, Ms1 3.5/7, ms1mx3.1/28, Error ellipse: s-maj=152.8km s-min=28.8km az=70.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**12.98**	**195**	Pn	Pn	21 08 56.1	+1.5
	0.1nm,0.3s,baz=40,slow=18,SNR=22						
VNDA				LR	LR	21 12 48.0	
	comp=Z,203nm,21.9s,baz=358,slow=32						
RPZ	**Rata Peaks**	**22.08**	**348**	LR	LR	21 17 39.0	
	comp=Z,108nm,18.4s,baz=206,slow=32						
QSPA	**South Pole Qui**	**24.61**	**180**	P	P	21 11 09.6	-1.5
	0.9nm,0.3s,baz=6.9,slow=3.9,SNR=3.6						
QSPA				LR	LR	21 19 37.0	
	comp=Z,129nm,20.7s,baz=50,slow=34						
MAW	**Mawson**	**39.36**	**213**	LR	LR	21 29 36.2	
	comp=Z,123nm,20.1s,baz=84,slow=36						
DZM	**Mont Dzumac**	**43.96**	**345**	LR	LR	21 29 58.9	
	comp=Z,72nm,19.0s,baz=182,slow=33						
DZM	**Mont Dzumac**	**43.96**	**345**	*e*LR	LR	21 25 49.4	
	124nm,23.4s						
RAR	**Rarotonga**	**46.72**	**30**	LR	LR	21 30 29.9	
	comp=Z,39nm,20.0s,baz=129,slow=32						

TBI	**Tubuai**	**47.23**	**43**	*e*T		T	22 03 51.1		
	13nm,0.3s								
H01W1	**Cape Leeuwin H**	**47.74**	**278**	T		T	22 07 00.6		
	baz=149,slow=76,SNR=11								
H01W2	**Cape Leeuwin H**	**47.74**	**278**	T		T	22 07 00.9		
	baz=149,slow=76,SNR=11								
H01W3	**Cape Leeuwin H**	**47.75**	**278**	T		T	22 07 01.8		
	baz=149,slow=76,SNR=11								
ASAR	**Alice Springs**	**50.14**	**305**	P		P	21 14 46.0	-0.3	
	0.6nm,0.6s,baz=159,slow=8.0,SNR=4.4								
RKT	**Rikitea**	**52.17**	**60**	*e*T		T	22 09 51.2		
	3.6nm,0.2s								
PPT2	**Papeete2**	**52.67**	**41**	*e*LR		LR	21 29 31.0		
	60nm,25.8s								
WRA	**Warramunga Arr**	**53.45**	**307**	P		P	21 15 10.2	-0.7	
	0.9nm,0.7s,baz=163,slow=7.6,SNR=4.5								
VAH	**Vaihoa**	**55.45**	**42**	*e*T		T	22 14 04.9		
	25nm,0.2s								
BOSA	**Boshof**	**83.76**	**205**	LR		LR	21 53 28.3		
	comp=Z,18nm,18.5s,baz=202,slow=34								
H08S2	**Diego Garcia H**	**89.17**	**253**	T		T	22 59 11.7		
	baz=155								
H08S1	**Diego Garcia H**	**89.18**	**253**	T		T	22 59 09.9		
	baz=155								
H08S3	**Diego Garcia H**	**89.19**	**253**	T		T	22 59 10.6		
	baz=155								
BRTR	**Keskin Array B**	**146.90**	**237**	PKPbc		PKPab	21 25 33.7	-0.5	
	1.0nm,0.8s,baz=131,slow=4.4,SNR=5.3								

*DJA **20** 21:09:54.5±1.2, 7°.5S×12°.9E±°, h372km±19km, M4.2/7, mb4.0/3, mB5.2/1, MLv4.2/7, Mw(mB)4.6/1*
*ISCJB **20** 21:10:09.9±0.5, 6°.34S±0°.05×130°.14E±0°.07, h146km, mb3.4/5, Error ellipse: s-maj=10.4km s-min=6.6km az=9.9*
*IDC **20** 21:10:12.4±2.1, 6°.31S×130°.17E, h159km±22km, mb3.2/6, mb1 3.5/9, mb1mx3.3/46, mbtmp3.9/9, Error ellipse: s-maj=28.3km s-min=14.4km az=69.0*
ISC 20 21:10:10.3±0.7, 6°.37S±0°.07×130°.31E±0°.10, h146km, n15, σ2§10/15, mb3.4/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.88**	**149**	P	Pn	21 10 50.1	+6.3
BNDI	**Bandanaira**	**1.88**	**347**	P	Pn	21 10 48.9	+5.1
FAKI	**Fak Fak**	**3.93**	**29**	P	**Pn**	**21 11 13.2**	**+3.6**
SIJI	**Sorong**	**5.55**	**10**	P	**Pn**	**21 11 32.4**	**+1.5**
	5.3nm,0.3s,baz=53,slow=3.2,SNR=25						
SIJI				S	**Sn**	**21 12 31.5**	**-2.4**
	9.5nm,0.3s,baz=315,slow=24,SNR=22						
SWI	**Sorong**	**5.55**	**10**	P	**Pn**	**21 11 32.3**	**+1.3**
RKPI	**Ransiki, Papua**	**6.18**	**39**	P	**Pn**	**21 11 36.5**	**-2.9**
BATI	**Baumata**	**7.60**	**239**	P	**Pn**	**21 11 59.5**	**+1.0**
	4.8nm,0.3s,baz=95,slow=1.3,SNR=8.5						
BATI				S	**Sn**	**21 13 20.9**	**-2.5**
	5.5nm,0.3s,baz=9.7,slow=20,SNR=4.5						
WRA	**Warramunga Arr**	**14.05**	**164**	P	**Pn**	**21 13 22.6**	**-0.5**
	0.4nm,0.3s,baz=342,slow=12,SNR=34						
WRA				S	Sn	21 15 51.2	-7.5
	1.9nm,0.3s,baz=358,slow=22,SNR=13						
ASAR	**Alice Springs**	**17.54**	**169**	P	**Pn**	**21 14 07.7**	**+1.7**
	0.9nm,0.3s,baz=343,slow=8.9,SNR=62						
ASAR				S	**S**	**21 17 17.7**	**-2.4**
	0.4nm,0.3s,baz=356,slow=26,SNR=5.5						
CTA	**Charters Tower**	**20.63**	**133**	P	Pn	21 14 41.8	-0.6
	1.1nm,0.3s,baz=306,slow=9.9,SNR=3.7						
STKA	**Stephens Creek**	**27.48**	**159**	P	**P**	**21 15 44.8**	**+1.9**
	0.8nm,0.4s,baz=315,slow=7.1,SNR=3.2						
CMAR	**Chiang Mai Arr**	**39.57**	**309**	P	**P**	**21 17 26.7**	**-0.8**
	0.2nm,0.3s,baz=142,slow=6.6,SNR=4.3						
SONM	**Songino Array**	**57.95**	**341**	P	**P**	**21 19 46.6**	**-0.8**
	0.3nm,0.7s,baz=173,slow=7.4,SNR=3.4						
MKAR	**Makanchi Array**	**67.87**	**327**	P	**P**	**21 20 53.6**	**+0.6**
	0.6nm,0.4s,baz=124,slow=7.2,SNR=18						
VNDA	**Vanda**	**73.03**	**173**	P	**P**	**21 21 24.2**	**+0.6**
	0.4nm,0.8s,baz=328,slow=7.4,SNR=4.0						

NNC 20 21:11:38.0±1.1, 37°.13N×70°.73E, h0km, mb3.7, mpv3.3, 5C-2D, Error ellipse: s-maj=8.0km s-min=7.4km az=0.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.61**	**36**	⇑P	Pn	21 12 35.2	-0.2
	2.2nm,0.3s						
SFK				⇑S	Sn	21 13 20.1	+1.3
	5.3nm,0.4s						
MNAS	**Manas**	**5.53**	**14**	⇓Pn	Pn	21 13 01.7	+0.1
	2.0nm,0.6s						
MNAS				⇑Sn	Sn	21 14 07.3	+1.4
	8.9nm,1.2s						
KK31	**Karatay Array**	**5.97**	**358**	⇑Pn	Pn	21 13 08.2	+0.6
	1.8nm,0.3s,baz=174,slow=12,SNR=21						
KK31				⇓Sn	Sn	21 14 17.5	+0.8
	0.9nm,0.4s,baz=181,slow=22,SNR=5.1						
KK31				⇑Lg	Lg	21 14 48.1	
	0.4nm,0.2s,baz=105,slow=30,SNR=11						

*DDA **20** 21:13:36.7, 39°.71N×45°.37E, h12km, Ml2.9*
ISC 20 21:13:33.1±2.5, 39°.65N±0°.07×45°.7E±0°.1, h3km±16km, n15, σ1§41/26, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGDI	**IGDIR**	**1.26**	**281**	*i* P	**Pn**	**21 13 55.7**	**-2.0**
IGDI				*i* S	**Sb**	**21 14 13.5**	**-0.7**
CLDR	**Caldiran**	**1.46**	**250**	*i* P	**Pg**	**21 13 60.0**	**-1.2**
CLDR				*i* S	**Sg**	**21 14 23.7**	**+3.5**
VMUR	**Van-Muradiye**	**1.77**	**249**	*i* P	**Pg**	**21 14 06.5**	**-0.6**
VMUR				*i* S	**Sg**	**21 14 32.8**	**+2.8**
EAK	**Akyaka**	**1.90**	**304**	*i* P	**Pb**	**21 14 08.2**	**-0.3**
DIGO	**Kars**	**1.93**	**294**	*i* P	**Pb**	**21 14 08.3**	**-0.9**
KZRT	**Kazreti**	**2.00**	**331**	P	**Pn**	**21 14 08.2**	**+0.4**
KZRT				S	**Sb**	**21 14 35.7**	**+0.3**
TBLG	**Delisi**	**2.20**	**341**	P	**Pb**	**21 14 12.3**	**-1.3**
TBLG				S	**Sb**	**21 14 41.5**	**+0.1**
SEAG	**Tbilisi Sea**	**2.22**	**343**	P	**Pb**	**21 14 13.2**	**-0.7**
SEAG				S	**Sb**	**21 14 42.7**	**+0.9**
TUTA	**Tutak**	**2.24**	**265**	*i* P	**Pg**	**21 14 14.7**	**-1.4**
TRLG	**Trialeti**	**2.24**	**328**	P	**Pb**	**21 14 13.2**	**-1.2**
TRLG				S	**Sb**	**21 14 43.4**	**+0.8**
BGD	**Bogdanovka**	**2.27**	**316**	P	**Pb**	**21 14 15.3**	**+0.4**
BGD				S	**Sg**	**21 14 46.8**	**+0.7**
EATA	**Eleskirt**	**2.47**	**276**	*i* P	**Pg**	**21 14 19.1**	**-1.5**
DUS	**Dusheti**	**2.55**	**343**	P	**Pb**	**21 14 19.3**	**-0.3**
DUS				S	**Sg**	**21 14 55.3**	**+0.2**
GUDG	**Gudauri**	**2.96**	**342**	P	**Pn**	**21 14 23.0**	**+1.8**
GUDG				S	**Sb**	**21 15 03.7**	**+0.4**
ONI	**Oni**	**3.39**	**331**	P	**Pb**	**21 14 33.4**	**-0.5**
ONI				S	**Sb**	**21 15 17.1**	**+1.6**

*ISK **20** 21:15:57.9, 37°.38N×36°.29E, h8km, ML2.0/5*
*ISCJB **20** 21:15:58.5±0.6, 37°.35N±0°.03×36°.27E±0°.04, h1km±8km, Error ellipse: s-maj=6.6km s-min=4.5km az=38.1*
*DDA **20** 21:15:59.8, 37°.40N×36°.32E, h7km, Ml2.7*
ISC 20 21:15:58.9±1.1, 37°.38N±0°.04×36°.28E±0°.03, h10km±10km, n12, σ0§62/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.21**	**14**	*i* P	**Pg**	**21 16 03.0**	**-0.3**
ANDN				*i* S	**Sg**	**21 16 07.0**	**+0.6**
KOZT	**Kozan**	**0.38**	**286**	PG	**Pg**	**21 16 05.8**	**-0.5**
KOZT				SG	**Sg**	**21 16 11.7**	**+0.4**
KMRS	**Kahramanmaras**	**0.51**	**75**	PG	**Pg**	**21 16 08.2**	**-0.7**
KMRS				SG	**Sg**	**21 16 15.7**	**+0.1**
SAIM	**ADANA**	**0.62**	**345**	*i* P	**Pg**	**21 16 10.5**	**-0.5**
SAIM				*i* S	**Sb**	**21 16 20.9**	**+0.2**
GAZ	**Gaziantep**	**0.77**	**105**	PG	**Pg**	**21 16 13.1**	**-0.7**
GAZ				SG	**Sb**	**21 16 24.1**	**-0.9**
KUZU	**Kuzuini**	**0.88**	**133**	*i* P	**Pb**	**21 16 16.7**	**+0.4**
KUZU				*i* S	**Sb**	**21 16 28.9**	**+0.8**
TAHT	**Tahtakopru-Hat**	**1.00**	**184**	PG	**Pg**	**21 16 17.6**	**-0.6**
BNN	**Bunyan**	**1.51**	**347**	PN	**Pn**	**21 16 26.0**	**-0.2**
DARE	**Darende-Malaty**	**1.53**	**38**	PN	**Pn**	**21 16 26.0**	**-0.3**
AKCD	**Akcadag**	**1.59**	**54**	*i* P	**Pg**	**21 16 28.8**	**-0.6**
AKCD				*i* S	**Sg**	**21 16 51.1**	**+1.0**
SURC	**SANLIURFA_SURC**	**1.93**	**104**	*i* P	**Pg**	**21 16 35.7**	**-0.2**
URFA	**Urfa**	**2.02**	**87**	PN	**Pn**	**21 16 33.4**	**+0.2**

*IDC **20** 21:19:25.1±7.7, 31°.85S×179°.74E, h492km±102km, mb2.6/2, mb1 3.0/3, mb1mx2.8/34, mbtmp3.8/3, Error ellipse: s-maj=118.1km s-min=47.9km az=5.0*
ISC 20 21:19:22.6±2.0, 31°.5S±0°.1×179°.8E±0°.3, h450km, n38, σ1§56/49, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.01**	**42**	P	P	21 20 21.0	-8.8
GLKZ				S	S	21 21 09.7	-15
RIZ	**Raoul Island**	**3.02**	**42**	P	P	21 20 20.5	-9.3
MXZ	**Matakaoa Point**	**6.14**	**191**	P	**P**	**21 20 59.5**	**+1.2**
MXZ				S	**S**	**21 22 15.2**	**-1.2**
WMGZ	**Waiomatatini S**	**6.38**	**190**	P	**P**	**21 21 02.5**	**+1.9**
WMGZ				S	**S**	**21 22 21.4**	**+0.5**
HAZ	**Te Kaha**	**6.43**	**194**	P	**P**	**21 21 03.3**	**+2.1**
HAZ				S	**S**	**21 22 20.9**	**-0.9**
PKGZ	**Pakihiroa**	**6.50**	**192**	P	**P**	**21 21 04.9**	**+2.9**
PUZ	**Puketiti**	**6.65**	**190**	P	**P**	**21 21 04.3**	**+0.8**
PUZ				S	**S**	**21 22 25.0**	**-1.1**
RUGZ	**Raukumara Range**	**6.65**	**194**	P	**P**	**21 21 05.6**	**+1.9**
RUGZ				S	**S**	**21 22 24.7**	**-1.7**
TWGZ	**Tauwhareparae**	**6.80**	**192**	P	**P**	**21 21 07.9**	**+2.8**
TWGZ				S	**S**	**21 22 28.4**	**-0.6**
MWZ	**Matawai**	**7.04**	**195**	P	**P**	**21 21 09.1**	**+1.4**
MWZ				S	**S**	**21 22 33.4**	**-0.3**
URZ	**Urewera**	**7.06**	**197**	P	**P**	**21 21 09.0**	**+1.2**
	8.5nm,0.3s,baz=266,slow=3.8,SNR=70						
URZ				S	**S**	**21 22 32.3**	**-1.7**
	2.3nm,0.3s,baz=32,slow=22,SNR=10						
URZ	**Urewera**	**7.06**	**197**	P	**P**	**21 21 08.7**	**+0.8**
URZ				S	**S**	**21 22 33.3**	**-0.8**
RAGZ	**Rawiri**	**7.22**	**195**	P	**P**	**21 21 11.3**	**+1.7**
RIGZ	**Rimuhau**	**7.35**	**192**	P	**P**	**21 21 12.9**	**+2.0**
MUGZ	**Murupara**	**7.36**	**199**	P	**P**	**21 21 12.6**	**+1.6**
RTZ	**Ruatahuna**	**7.43**	**197**	P	**P**	**21 21 13.4**	**+1.5**
SNGZ	**Shannon Statio**	**7.51**	**195**	P	**P**	**21 21 14.8**	**+2.2**
KNZ	**Kokohu**	**7.67**	**192**	P	**P**	**21 21 16.3**	**+2.0**
MTHZ	**Maungataniwha**	**7.69**	**197**	P	**P**	**21 21 15.8**	**+1.2**
MTHZ				S	**S**	**21 22 44.6**	**-1.9**
RAHZ	**Arahi**	**7.69**	**196**	P	**P**	**21 21 15.1**	**+0.5**
RAHZ				S	**S**	**21 22 47.2**	**+0.7**
RATZ	**Rangitukua**	**8.02**	**203**	P	**P**	**21 21 20.1**	**+2.0**
ARHZ	**Aropaoanui**	**8.04**	**196**	P	**P**	**21 21 19.6**	**+1.2**
HIZ	**Hauiti**	**8.05**	**209**	P	**P**	**21 21 22.5**	**+4.0**
BKZ	**Black Stump Fm**	**8.08**	**198**	P	**P**	**21 21 19.1**	**+0.3**
BKZ				S	**S**	**21 22 51.9**	**-2.2**
KRVZ	**Karewarewa**	**8.27**	**203**	P	**P**	**21 21 22.5**	**+1.5**
TWVZ	**Taurewa**	**8.32**	**204**	P	**P**	**21 21 22.8**	**+1.4**
KWHZ	**Kaweka Forest**	**8.34**	**198**	P	**P**	**21 21 22.7**	**+1.1**
KWHZ				S	**S**	**21 22 59.5**	**+0.2**
NGZ	**Ngauruhoe**	**8.36**	**203**	P	**P**	**21 21 23.6**	**+1.7**
CKHZ	**Cape Kidnapper**	**8.40**	**194**	P	**P**	**21 21 23.3**	**+1.0**
TUVZ	**Tukino**	**8.42**	**202**	P	**P**	**21 21 23.7**	**+1.2**
KRHZ	**Kereru**	**8.56**	**198**	P	**P**	**21 21 24.5**	**+0.6**
KAHZ	**Kahuranaki**	**8.58**	**195**	P	**P**	**21 21 24.5**	**+0.3**
PXZ	**Pawanui**	**8.81**	**195**	P	**P**	**21 21 26.6**	**0.0**
TSZ	**Takapari Road**	**9.06**	**199**	P	**P**	**21 21 30.3**	**+0.9**
PRHZ	**Porangahau**	**9.08**	**195**	P	**P**	**21 21 30.1**	**+0.5**
ASAR	**Alice Springs**	**41.16**	**269**	P	**P**	**21 26 25.7**	**-0.7**
	0.4nm,0.6s,baz=104,slow=6.8,SNR=5.4						
WRA	**Warramunga Arr**	**42.25**	**275**	P	**P**	**21 26 34.5**	**-0.7**
	0.5nm,0.5s,baz=113,slow=7.7,SNR=6.6						
FINES	**FINESS Array B**	**145.50**	**338**	PKPbc	**PKPdf**	**21 38 07.0**	**-0.8**
	3.8nm,1.0s,baz=33,slow=3.3,SNR=3.4						

*NEIC **20** 21:29:34.9±0.0, 16°.23N×98°.22W, h5km, MD4.1(MEX), After MEX.*
MEX 20 21:29:34.1±0.7, 16°.19N×98°.23W, h5km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.23**	**25**	*e*P	Pg	21 29 37.3	-1.3
PNIG				*eS*	Sg	21 29 40.8	-0.7
PNIG	**Pinotepa**	**0.23**	**25**	*e*P	Pg	21 29 37.4	-1.2
PNIG				*eS*	Sg	21 29 41.6	+0.1
TLIG	**Tlapa**	**1.41**	**347**	Pn	Pn	21 29 56.3	-4.3
TLIG				Sn	Sb	21 30 13.6	-5.6
VHO	**Vista Hermosa**	**1.68**	**58**	*e*P	Pn	21 30 01.4	-3.0
VHO				*eS*	Sn	21 30 24.6	-1.8
VHO	**Vista Hermosa**	**1.68**	**58**	*e*P	Pn	21 30 01.4	-3.0
VHO				*eS*	Sn	21 30 21.8	-4.6
HUIG	**Huatulco**	**2.08**	**101**	*e*P	Pn	21 30 05.7	-3.9
HUIG	**Huatulco**	**2.08**	**101**	*e*P	Pn	21 30 05.7	-4.0
HUIG				*i* S	Sn	21 30 31.0	-5.0

*ISCJB **20** 21:29:36.4±0.4, 36°.59N±0°.03×71°.01E±0°.05, h200km, mb3.7/15, Error ellipse: s-maj=5.7km s-min=4.2km az=147.7*
*IDC **20** 21:29:36.1±2.4, 36°.37N×71°.06E, h202km±22km, mb3.4/16, mb1 3.5/21, mb1mx3.3/49, mbtmp

PKIN	**Phulchoki** 38nm,0.4s	**15.15**	**122**	*e*P	**P**	**21 33 01.3**	**-0.6**
PKI	**Pulchoki** 45nm,0.5s	**15.16**	**122**	*e*P	**P**	**21 33 01.6**	**-0.5**
GUN	**Gumba** 41nm,0.8s	**15.27**	**120**	*e*P	**P**	**21 33 02.9**	**-0.4**
JIRN	**Jiri** 75nm,0.6s	**15.64**	**121**	*e*P	**P**	**21 33 07.8**	**+0.3**
RAMN	**Ramite** 33nm,0.6s	**16.37**	**122**	*e*P	**Pn**	**21 33 16.3**	**+0.2**
BVAR	**Borovoye Array** 0.4nm,0.3s,baz=161,slow=9.5,SNR=7.8	**16.40**	**359**	P	**Pn**	**21 33 16.4**	**+0.4**
AKTO	**Aktyubinsk** 0.7nm,0.3s,baz=141,slow=10.0,SNR=11	**16.68**	**330**	P	**Pn**	**21 33 20.0**	**+0.7**
AKTO	**Aktyubinsk** 6.7nm,1.1s	**16.68**	**330**	⇑P	**Pn**	**21 33 22.9**	**+3.6**
AKTO	4.1nm,0.8s			⇑S	**S**	**21 36 23.3**	**+1.1**
ODAN	**Odare** 39nm,0.7s	**16.97**	**120**	*e*P	**Pn**	**21 33 24.4**	**+1.1**
ZALV	**Zalesovo Beam** 0.7nm,0.4s,baz=224,slow=11,SNR=4.3	**19.79**	**25**	P	**P**	**21 33 52.2**	**+0.3**
ARU	**Arti** 1.3nm,0.4s,baz=146,slow=7.3,SNR=4.7	**21.52**	**341**	P	**P**	**21 34 11.1**	**+0.9**
SONM	**Songino Array** 0.6nm,0.8s,baz=267,slow=8.9,SNR=5.3	**28.25**	**55**	P	**P**	**21 35 12.4**	**+0.8**
BRTR	**Keskin Array B** 0.5nm,0.6s,baz=102,slow=8.3,SNR=3.6	**29.41**	**288**	P	**P**	**21 35 22.9**	**+1.0**
OBN	**Obninsk** 2.3nm,0.4s,baz=126,slow=8.7,SNR=3.2	**29.85**	**319**	P	**P**	**21 35 26.8**	**+1.5**
CMAR	**Chiang Mai Arr** 0.5nm,0.6s,baz=304,slow=8.3,SNR=6.3	**30.50**	**119**	P	**P**	**21 35 30.6**	**-0.9**
AKASG	**Malin Array Be** 1.2nm,0.4s,baz=78,slow=7.5,SNR=8.6	**32.88**	**309**	P	**P**	**21 35 53.0**	**+1.0**
FINES	**FINESS Array B** 3.3nm,0.5s,baz=121,slow=9.4,SNR=28	**37.39**	**326**	P	**P**	**21 36 31.5**	**+1.2**
ARCES	**ARCESS Array B** 3.3nm,0.5s,baz=116,slow=8.2,SNR=25	**41.03**	**338**	P	**P**	**21 37 01.6**	**+1.3**
NB2	**NORSAR Subarra** comp=Z,3.1nm,0.5s,baz=97,slow=7.9	**44.29**	**323**	P	**P**	**21 37 26.9**	**+0.2**
NOA	**NORSAR Array B** comp=Z,4.5nm,0.6s,baz=103,slow=7.1,SNR=20	**44.29**	**323**	P	**P**	**21 37 27.0**	**+0.4**
ESDC	**Sonseca Array** comp=Z,0.3nm,0.5s,baz=65,slow=7.1,SNR=4.6	**57.41**	**298**	P	**P**	**21 39 05.8**	**+0.9**
TORD	**Torodi Ar. Bea** comp=Z,2.4nm,0.6s,baz=53,slow=6.0,SNR=31	**65.74**	**269**	P	**P**	**21 39 58.3**	**-2.5**
ILAR	**Eielson Array** comp=Z,1.3nm,0.9s,baz=321,slow=4.8,SNR=9.4	**74.65**	**16**	P	**P**	**21 40 53.5**	**-0.6**
YKA	**Yellowknife Ar** comp=Z,1.6nm,0.5s,baz=351,slow=5.4,SNR=11	**81.12**	**3**	P	**P**	**21 41 30.0**	**+0.4**
WRA	**Warramunga Arr** comp=Z,0.4nm,0.9s,baz=325,slow=4.9,SNR=5.9	**82.05**	**122**	P	**P**	**21 41 33.5**	**-1.6**
ASAR	**Alice Springs** comp=Z,0.9nm,0.8s,baz=324,slow=4.6,SNR=6.4	**84.31**	**125**	P	**P**	**21 41 43.0**	**-3.7**

IDC 20 21:40:13.2±8.8, 20°99S×178°32W, h614km±112km, mb3.1/4, mb1 3.3/5, mb1mx2.9/41, mbtmp4.1/5, Error ellipse: s-maj=66.0km s-min=36.5km az=21.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 0.7nm,0.3s,baz=72,slow=20,SNR=3.6	**17.66**	**192**	P	P	21 43 44.9	-0.1
CTA	**Charters Tower** 1.5nm,0.4s,baz=89,slow=11,SNR=4.7	**33.15**	**265**	P	P	21 46 01.1	0.0
ASAR	**Alice Springs** 2.0nm,0.5s,baz=97,slow=7.6,SNR=30	**44.12**	**257**	P	P	21 47 29.6	+0.4
WRA	**Warramunga Arr** 1.3nm,0.3s,baz=97,slow=7.7,SNR=84	**44.24**	**263**	P	P	21 47 29.8	-0.4
ILAR	**Eielson Array** 0.4nm,0.7s,baz=217,slow=4.4,SNR=4.3	**88.85**	**13**	P	P	21 52 03.3	+0.5
AKASG	**Malin Array Be** 1.1nm,0.4s,baz=43,slow=4.3,SNR=8.5	**143.29**	**331**	PKP	PKPab	21 58 37.1	+0.1

*NEIC **20** 21:46:49.9±0.7, 4°.94S×102°.97E, h48km±5km, mb4.3/7, Error ellipse: s-maj=13.3km s-min=3.9km az=47.0*
*ISCJB **20** 21:46:50.1±0.7, 5°.065S±0°.06×102°.92E±0°.06, h69km±5km, mb4.3/38, Error ellipse: s-maj=13.5km s-min=4.7km az=43.6*
*DJA **20** 21:46:51.2±0.7, 5°S±3°×10°.3E±°, h27km±6km, M4.2/6, mb4.3/6, MLv4.2/2*
*IDC **20** 21:46:53.9±3.3, 4°.90S×103°.04E, h82km±29km, mb4.0/22, mb1 4.1/23, mb1mx3.9/50, mbtmp4.3/23, MS3.1/12, Ms1 3.1/12, ms1mx2.9/41, Error ellipse: s-maj=27.4km s-min=11.9km az=52.0*

ISC 20 21:46:50.5±1.1, 5°.10S±0°.07×102°.89E±0°.07, h58km±8km, n107, σ1°62/101, mb4.4/38, MS3.2/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.73**	**5**	*e*Pn	**Pn**	**21 47 03.9**	**-1.3**
MNAI	**Manna**	**0.73**	**5**	P	**Pn**	**21 47 04.7**	**-0.4**
MNAI				S	**Sn**	**21 47 15.6**	**-0.2**
LWLI	**Liwa**	**1.17**	**86**	P	**Pn**	**21 47 09.9**	**-1.0**
MDSI	**Maura Dua**	**1.42**	**65**	P	**Pn**	**21 47 13.6**	**-0.6**
KASI	**Kota Agung**	**1.66**	**105**	P	**Pn**	**21 47 16.6**	**-0.7**
KLI	**Kotabumi**	**1.98**	**85**	P	**Pn**	**21 47 21.7**	**0.0**
MASI	**Maura Aman, Be**	**2.05**	**342**	P	**Pn**	**21 47 23.7**	**+1.0**
CGJI	**Cibinong**	**3.17**	**118**	P	**Pn**	**21 47 38.2**	**+0.2**
KRJI	**Kerinci**	**3.31**	**334**	P	**Pn**	**21 47 42.4**	**+2.4**
PPSI	**Pulau Pagai**	**3.69**	**309**	P	**Pn**	**21 47 46.8**	**+1.7**
PPBI	**Pangkal Pinang**	**4.36**	**48**	P	**Pn**	**21 47 54.6**	**+0.3**
PDSI	**Padang**	**4.81**	**330**	P	**Pn**	**21 48 01.3**	**+0.8**
DSRI	**Dabo**	**4.89**	**20**	P	**Pn**	**21 48 02.8**	**+1.2**
LEM	**Lembang** 3.7nm,0.3s,baz=214,slow=12,SNR=5.1	**5.01**	**110**	P	**Pn**	**21 48 06.7**	**+3.3**
LEM	2.3nm,0.3s,baz=288,slow=20,SNR=2.7			S	**Sn**	**21 49 03.7**	**+3.7**
LEM	comp=Z,51nm,18.1s,baz=302,slow=35			LR	LR	21 49 47.2	
CISI	**Cisompet, Garu**	**5.47**	**117**	*e*Pn	**Pn**	**21 48 05.3**	**-4.4**
CISI				*e*Sn	**Sn**	**21 49 05.3**	**-6.1**
BKNI	**Bangkinang**	**5.70**	**341**	*e*Pn	Pn	21 48 07.8	-4.8
BKNI	**Bangkinang**	**5.70**	**341**	P	Pn	21 48 19.0	+6.4
TPRI	**Tanjung Pinang**	**6.20**	**15**	P	**Pn**	**21 48 20.6**	**+1.1**
MNSI	**Mandailing Nat**	**6.72**	**330**	P	**Pn**	**21 48 26.6**	**-0.1**
UGM	**Wanagama**	**8.09**	**111**	*e*Pn	**Pn**	**21 48 44.1**	**-1.3**
GSI	**Gunungsitoli**	**8.28**	**320**	*e*Pn	**Pn**	**21 48 46.5**	**-1.6**
GSI	**Gunungsitoli**	**8.28**	**320**	P	Pn	21 49 00.9	+13
PSI	**Prapat** comp=Z,82nm,18.9s,baz=93,slow=37	**8.79**	**333**	LR	LR	21 52 09.3	
JAGI	**Jajag, Banyuwa**	**11.68**	**107**	*e*Pn	**Pn**	**21 49 34.2**	**-0.3**
BKSI	**Bulukumba** 8.5nm,1.0s	**17.17**	**92**	P	**P**	**21 50 49.7**	**+2.2**
BNSI	**Bone** 13nm,0.9s	**17.18**	**88**	P	**P**	**21 50 49.5**	**+1.9**
MRSI	**Marisa**	**19.82**	**74**	P	**Pn**	**21 51 21.3**	**+2.6**
LUWI	**Luwuk**	**20.26**	**79**	P	Pn	21 51 29.1	+5.3
UTHA	**Uthaitani** 3.5nm,0.7s,46nm	**20.80**	**351**	P	Pn	21 51 29.3	-0.9
CHAI	**Chaiyaphum** 3.6nm,0.8s	**20.88**	**358**	P	Pn	21 51 31.1	-0.1
BATI	**Baumata** 17nm,0.5s,baz=175,slow=3.3,SNR=4.4	**21.20**	**105**	P	**P**	**21 51 31.9**	**+0.3**
PBKT	**Sadao Pong** 7.6nm,0.8s	**21.61**	**355**	P	**P**	**21 51 37.7**	**+1.8**
UTTA	**Uttaradit** 2.5nm,0.9s	**22.81**	**354**	P	**P**	**21 51 49.0**	**+0.3**
SANI	**Sanana** 8.6nm,0.8s	**23.25**	**83**	P	**P**	**21 51 54.1**	**+0.9**
CM01	**Chiang Mai Arr**	**23.69**	**351**	*e*P	**P**	**21 51 56.3**	**-0.8**
CMAR	**Chiang Mai Arr** 5.0nm,0.6s,baz=181,slow=8.9,SNR=34	**23.73**	**351**	P	**P**	**21 51 56.5**	**-1.0**
CMAR	comp=Z,36nm,18.7s,baz=175,slow=38			LR	LR	22 01 55.7	
CMMT	**Chiang Mai** 6.9nm,0.8s	**24.07**	**351**	P	**P**	**21 51 59.6**	**-1.1**
CHTO	**Chiang Mai** 5.1nm,0.8s	**24.08**	**351**	*e*P	**P**	**21 51 59.5**	**-1.2**
CHTO	**Chiang Mai** 30nm,0.7s	**24.08**	**351**	P	**P**	**21 51 59.7**	**-1.0**
FITZ	**Fitzroy Crossi** 6.3nm,1.0s	**25.72**	**122**	*e*P	**P**	**21 52 16.0**	**+0.3**
BNDI	**Bandanaira**	**26.93**	**90**	P	P	21 52 34.5	+7.8
H08S2	**Diego Garcia H** baz=87,slow=76,SNR=9.3	**30.31**	**264**	T	T	22 24 10.4	
H08S3	**Diego Garcia H** baz=87,slow=76,SNR=18	**30.32**	**264**	T	T	22 23 59.8	
H08S1	**Diego Carcia H** baz=87,slow=76,SNR=4.4	**30.32**	**264**	T	T	22 24 18.5	
H01W3	**Cape Leeuwin H** baz=339,slow=76,SNR=7.8	**31.41**	**162**	T	T	22 26 53.6	
H01W2	**Cape Leeuwin H** baz=339,slow=76,SNR=10.0	**31.43**	**162**	T	T	22 26 56.3	
H01W1	**Cape Leeuwin H** baz=339,slow=76,SNR=5.7	**31.43**	**162**	T	T	22 26 42.4	
WRA	**Warramunga Arr** 3.4nm,0.6s,baz=295,slow=9.5,SNR=55	**33.97**	**119**	P	**P**	**21 53 28.3**	**-0.5**
WRA	0.4nm,0.6s,baz=308,slow=2.3,SNR=4.2			PcP	**PcP**	**21 56 06.9**	**+0.8**
WRAB	**Tennant Creek** 6.1nm,0.7s	**33.98**	**119**	*e*P	**P**	**21 53 28.6**	**-0.3**
WB2	**Warramunga Arr**	**33.98**	**119**	*e*P	**P**	**21 53 29.0**	**0.0**
AS31	**Alice Springs** 2.1nm,1.1s	**35.12**	**125**	*e*P	**P**	**21 53 39.9**	**+1.1**
ASAR	**Alice Springs** 3.3nm,0.8s,baz=304,slow=8.2,SNR=28	**35.12**	**125**	P	**P**	**21 53 39.5**	**+0.7**
ASAR	0.7nm,0.7s,baz=274,slow=1.5,SNR=4.8			PcP	**PcP**	**21 56 09.7**	**+0.3**
ODAN	**Odare** 10nm,0.5s	**35.13**	**335**	*e*P	**P**	**21 53 39.2**	**+0.2**
AS01	**Alice Springs**	**35.16**	**125**	*e*P	**P**	**21 53 39.2**	**+0.1**
RAMN	**Ramite**	**35.54**	**334**	*e*P	**P**	**21 53 43.2**	**+0.6**
JIRN	**Jiri** 31nm,0.8s	**36.34**	**335**	*e*P	**P**	**21 53 49.9**	**+0.4**
LSA	**Lhasa** 2.8nm,0.9s	**36.39**	**343**	*e*P	**P**	**21 53 49.5**	**-0.5**
PKI	**Pulchoki** 7.5nm,0.7s	**36.60**	**333**	*e*P	**P**	**21 53 51.7**	**0.0**
PKIN	**Phulchoki**	**36.61**	**333**	*e*P	**P**	**21 53 51.6**	**-0.1**
GUN	**Gumba** 29nm,0.6s	**36.69**	**334**	*e*P	**P**	**21 53 52.9**	**+0.4**
DMN	**Daman**	**36.77**	**333**	*e*P	**P**	**21 53 52.9**	**-0.2**
KKN	**Kakani**	**36.85**	**333**	*e*P	**P**	**21 53 53.5**	**-0.2**
KOLN	**Koldanda** 21nm,0.8s	**37.61**	**331**	*e*P	**P**	**21 54 00.6**	**+0.5**
JAY	**Jayapura** comp=Z,40nm,18.5s,baz=247,slow=44	**37.82**	**88**	LR	LR	22 14 24.2	
DANN	**Dangsing** 25nm,0.5s	**38.02**	**332**	*e*P	**P**	**21 54 03.8**	**+0.1**
PYUN	**Pi'un** 8.9nm,0.5s	**38.18**	**331**	*e*P	**P**	**21 54 05.3**	**+0.4**
XAN	**Xi'an**	**39.34**	**8**	P	**P**	**21 54 13.1**	**-1.2**
XAN	comp=Z,8.0nm,1.0s			pmax	pmax		
XAN	comp=Z,110nm,5.7s			pmax	pmax		
JOW	**Kunigami** comp=Z,27nm,21.4s,baz=220,slow=34	**40.14**	**36**	LR	LR	22 09 37.5	
GTA	**Gaotai**	**44.38**	**357**	*e*P	**P**	**21 54 54.8**	**-0.7**
GTA				pP	pP	21 55 04.1	-6.4
GTA				sP	sP	21 55 08.3	-8.9
GTA				S	**S**	**22 01 26.0**	**0.0**
GTA				sS	sS	22 01 41.8	-9.5
GTA	comp=Z,3.0nm,1.0s			pmax	pmax		
GTA	comp=Z,22nm,4.8s			pmax	pmax		
GTA	comp=N,350nm,16.8s			LR	LR		
GTA	comp=E,230nm,15.5s			LR	LR		
GTA	comp=Z,65nm,17.2s			LR	LR		
STKA	**Stephens Creek** comp=Z,4.1nm,0.6s,baz=319,slow=7.4,SNR=13	**44.95**	**131**	P	**P**	**21 55 00.5**	**+0.3**
STKA	comp=Z,24nm,19.2s,baz=33,slow=37			LR	LR	22 14 50.1	
JNU	**Nakatsue** comp=Z,21nm,18.7s,baz=218,slow=37	**46.36**	**33**	LR	LR	22 15 19.0	
HHC	**Hu-ho-hao-te**	**46.41**	**9**	*e*P	**P**	**21 55 14.9**	**+3.4**
HHC				S	**S**	**22 02 00.8**	**+5.6**
HHC	comp=Z,11nm,1.2s			pmax	pmax		
HHC	comp=Z,140nm,5.7s			pmax	pmax		
KSAR	**Wonju Array Be**	**48.31**	**27**	P	**P**	**21 55 25.3**	**-0.9**
KSRS	**Korea Array** comp=Z,1.3nm,0.8s,baz=218,slow=7.7,SNR=4.4	**48.34**	**27**	P	**P**	**21 55 25.3**	**-1.1**
KSRS	comp=Z,16nm,19.0s,baz=171,slow=39			LR	LR	22 18 17.5	
WMQ	**Urumqi**	**50.59**	**346**	*e*P	**P**	**21 55 44.3**	**+0.8**
WMQ				pP	pP	21 55 53.6	-5.2
WMQ	comp=Z,22nm,1.3s			pmax	pmax		
WMQ	comp=Z,240nm,6.1s			pmax	pmax		
KSH	**Kashi**	**50.87**	**333**	P	**P**	**21 55 45.0**	**-0.8**
KSH				pP	pP	21 55 57.1	-4.0
KSH				PP	**PP**	**21 57 46.6**	**+3.9**
KSH				S	**S**	**22 02 54.1**	**-4.0**
KSH				sS	sS	22 03 16.1	-7.7
KSH	**Kashi** comp=Z,12nm,0.5s	**50.87**	**333**	SS	**SS**	**22 06 28.1**	**-5.6**
KSH	comp=Z,480nm,5.4s			pmax	pmax		
KSH	comp=N,360nm,6.7s			LR	LR		
KSH	comp=E,280nm,6.8s			LR	LR		
SONM	**Songino Array** comp=Z,3.6nm,0.8s,baz=183,slow=8.9,SNR=28	**52.80**	**3**	P	**P**	**21 55 59.9**	**-0.1**
SONM	comp=E,1.1nm,0.6s,baz=184,slow=4.1,SNR=9.0			PcP	**PcP**	**21 57 08.7**	**-0.2**
SONA1	**Songino Array**	**52.81**	**3**	*e*P	**P**	**21 55 60.0**	**-0.2**
MJAR	**Matsushiro Arr** comp=E,1.1nm,0.5s,baz=234,slow=8.0,SNR=4.3	**52.97**	**36**	P	**P**	**21 55 59.9**	**-1.5**
AAK	**Ala-Archa** comp=E,1.3nm,0.8s,baz=134,slow=8.0,SNR=3.6	**54.05**	**334**	P	**P**	**21 56 09.2**	**-0.2**
AAK	comp=E,1.3nm,0.6s,baz=164,slow=4.8,SNR=3.3			PcP	**PcP**	**21 57 14.7**	**+1.0**
MK01	**Makanchi Array**	**54.77**	**343**	*e*P	**P**	**21 56 13.6**	**-0.8**
MK31	**Makanchi Array**	**54.79**	**343**	*e*P	**P**	**21 56 13.6**	**-0.9**
MKAR	**Makanchi Array** comp=E,4.1nm,0.6s,baz=151,slow=8.9,SNR=57	**54.79**	**343**	P	**P**	**21 56 14.1**	**-0.4**
USRK	**Ussuriysk Ar.** comp=E,4.0nm,0.9s,baz=216,slow=7.6,SNR=6.8	**55.62**	**25**	P	**P**	**21 56 19.8**	**-0.7**
KURBB	**Kurchatov Arra** comp=E,3.0nm,0.7s,baz=160,slow=6.4,SNR=22	**59.34**	**342**	P	**P**	**21 56 46.1**	**-0.4**
KURBB	comp=E,0.4nm,0.6s,baz=154,slow=3.5,SNR=6.8			PcP	**PcP**	**21 57 34.3**	**+0.4**
KURK	**Kurchatov** comp=E,4.7nm,0.8s	**59.39**	**342**	*e*P	**P**	**21 56 46.6**	**-0.2**
KURK				PcP	**PcP**	**21 57 34.3**	**+0.1**
KLR	**Kul'dur** comp=E,2.8nm,0.7s,baz=225,slow=7.1,SNR=7.2	**59.66**	**22**	P	**P**	**21 56 47.3**	**-1.5**
GEYT	**Alibeck** comp=E,1.7nm,0.7s,baz=203,slow=6.0,SNR=7.4	**59.66**	**320**	P	**P**	**21 56 49.5**	**+0.4**
GEYT	comp=E,18nm,19.4s,baz=275,slow=37			LR	LR	22 24 02.5	
ZAA0	**Zalesovo Array** comp=E,5.2nm,0.9s	**60.75**	**348**	*e*P	**P**	**21 56 55.6**	**-0.6**
ZALV	**Zalesovo Beam** comp=E,1.8nm,0.4s,baz=171,slow=4.9,SNR=13	**60.75**	**348**	P	**P**	**21 56 55.4**	**-0.8**
ZALV	comp=E,24nm,21.4s,baz=70,slow=39			LR	LR	22 26 05.1	
ZALV	**Zalesovo Beam**	**60.75**	**348**	*e*P	**P**	**21 56 55.0**	**-1.1**
BVAR	**Borovoye Array** comp=E,3.4nm,0.5s,baz=147,slow=9.5,SNR=30	**64.08**	**339**	P	**P**	**21 57 17.8**	**-0.6**
ABKAR	**Akbulak array**	**65.73**	**331**	*e*P	**P**	**21 57 28.9**	**-0.2**
KBZ	**Khabaz** comp=E,2.1nm,0.8s,baz=145,slow=5.9,SNR=5.1	**72.52**	**319**	P	**P**	**21 58 11.8**	**+0.5**
PETK	**Petropavlovsk-** comp=E,4.4nm,1.0s,baz=242,slow=6.1,SNR=2.6	**74.00**	**31**	P	**P**	**21 58 18.9**	**-1.0**
URZ	**Urewera** comp=E,28nm,21.0s,baz=294,slow=36	**74.48**	**128**	LR	LR	22 31 50.9	
NRIK	**Noril'sk** comp=E,38nm,18.6s,baz=105,slow=37	**75.02**	**354**	LR	LR	22 32 58.5	
BR131	**Keskin Array S**	**77.53**	**312**	*e*P	**P**	**21 58 41.0**	**+0.5**
BRTR	**Keskin Array B** comp=E,1.7nm,0.7s,baz=131,slow=6.5,SNR=14	**77.53**	**312**	P	**P**	**21 58 40.7**	**+0.2**
FINES	**FINESS Array B** comp=E,3.1nm,0.9s,baz=141,slow=6.4,SNR=5.6	**88.18**	**332**	P	**P**	**21 59 35.0**	**0.0**
ARCES	**ARCESS Array B** comp=E,1.8nm,0.6s,baz=95,slow=7.2,SNR=8.9	**90.35**	**340**	P	**P**	**21 59 45.1**	**+0.1**
GERES	**GERESS Array B** comp=E,0.2nm,0.4s,baz=88,slow=3.0,SNR=3.2	**93.26**	**319**	P	**P**	**22 00 00.3**	**+1.2**
PAHR	**Pah Rah Range**	**128.67**	**42**	*e*PKPpre	PKPpre	22 05 43.5	
PAHR				*e*PKPdf	**PKPdf**	**22 05 51.6**	**-0.3**
TX31	**Lajitas Ar. Si**	**145.19**	**43**	*e*PKPbc	**PKPdf**	**22 06 22.6**	**0.0**
TXAR	**Lajitas Array** comp=E,2.3nm,0.7s,baz=282,slow=1.1,SNR=22	**145.19**	**43**	PKP	**PKPdf**	**22 06 22.5**	**0.0**
T42A	**Van Buren**	**145.74**	**20**	*e*PKPdf	**PKPdf**	**22 06 23.2**	**+0.2**

*MAN **20** 22:03:20.4, 17°.53N×122°.47E, h34km, mb4.8, ML3.7, MS3.6*

*IDC **20** 22:03:22.2±2.9, 17°.47N×122°.58E, h56km±30km, mb3.5/7, mb1 3.8/8, mb1mx3.4/49, mbtmp3.9/8, ML4.5/2, Error ellipse: s-maj=36.3km s-min=15.4km az=79.0*

ISC 20 22:03:19.7±1.5, 17°.57N±0°.04×122°.50E±0°.06, h32km±12km, n26, σ2°.01/29, mb3.7/6, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.51**	**189**	*e*P	**Pn**	**22 03 31.8**	**+1.0**
PALP				*e*S	**Sn**	**22 03 39.9**	**+1.5**
SGCP	**Mt. Cagua**	**0.80**	**327**	*e*P	**Pb**	**22 03 36.2**	**+1.0**
SGCP				*e*S	**Sn**	**22 03 47.4**	**+1.7**
CAUP	**Cauayan**	**0.90**	**226**	*e*P	**Pb**	**22 03 37.0**	**+0.2**
APYP	**Conner**	**1.24**	**284**	*e*P	**Pn**	**22 03 41.1**	**+0.3**
APYP				*e*S	**Sn**	**22 03 57.0**	**+0.6**
ABRA	**Dolores**	**1.71**	**273**	*e*P	**Pn**	**22 03 47.8**	**+0.5**
ABRA				*e*S	**Sn**	**22 04 08.0**	**-0.1**
BALP	**Baler**	**2.02**	**206**	*e*P	**Pn**	**22 03 51.8**	**+0.2**
BALP				*e*S	**Sn**	**22 04 15.8**	**0.0**
PCPH	**Palayan**	**2.41**	**214**	⇑*e*P	**Pn**	**22 03 57.1**	**+0.2**
PCPH				*i* S	**Sn**	**22 04 25.6**	**+0.2**
BOLP	**Bolinao**	**2.75**	**245**	*e*P	**Pn**	**22 04 02.8**	**+1.2**
BOLP				*e*S	**Sn**	**22 04 34.9**	**+1.2**
SCZP	**Santa Cruz**	**3.06**	**235**	*e*P	**Pn**	**22 04 08.3**	**+2.4**
SCZP				*e*S	**Sb**	**22 04 46.1**	**-4.2**
GQP	**Guinayangan**	**3.64**	**181**	⇑*e*P	**Pn**	**22 04 15.7**	**+1.8**
GQP				*e*S	**Sn**	**22 04 55.1**	**-0.7**
TGY	**Tagaytay City** 127nm,0.3s,baz=7.1,slow=3.0,SNR=7.3	**3.76**	**204**	P	**Pn**	**22 04 17.2**	**+1.6**
BOAC	**Boac**	**4.13**	**189**	*e*P	**Pn**	**22 04 23.5**	**+2.8**
JOW	**Kunigami** 5.4nm,0.3s,baz=145,slow=17,SNR=36	**10.65**	**29**	P	**Pn**	**22 05 51.9**	**+1.7**
JOW	0.8nm,0.3s,baz=131,slow=20,SNR=3.0			S	**Sn**	**22 07 41.8**	**-6.6**
KSRS	**Korea Array** 1.1nm,0.4s,baz=196,slow=11,SNR=6.6	**20.38**	**12**	P	Pn	22 07 55.8	-0.2
SONM	**Songino Array** 0.5nm,0.9s,baz=150,slow=12,SNR=3.9	**32.95**	**340**	P	**P**	**22 09 52.6**	**+1.1**
WRA	**Warramunga Arr** 2.3nm,0.9s,baz=342,slow=9.4,SNR=13	**39.05**	**162**	P	**P**	**22 10 42.6**	**-1.2**
H11S3	**WAKE ISLAND Hy** baz=276,slow=75,SNR=320	**41.95**	**82**	T	T	22 56 05.8	
H11S1	**WAKE ISLAND Hy** baz=276,slow=75,SNR=329	**41.96**	**82**	T	T	22 56 06.6	
H11S2	**WAKE ISLAND Hy** baz=276,slow=75,SNR=295	**41.96**	**82**	T	T	22 56 07.1	
H11N1	**WAKE ISLAND Hy** baz=274,slow=75,SNR=256	**42.03**	**80**	T	T	22 56 12.2	
H11N2	**WAKE ISLAND Hy** baz=274,slow=75,SNR=238	**42.03**	**80**	T	T	22 56 12.5	
H11N3	**WAKE ISLAND Hy** baz=274,slow=75,SNR=181	**42.04**	**80**	T	T	22 56 13.5	
ASAR	**Alice Springs** 0.4nm,0.3s,baz=349,slow=7.9,SNR=3.7	**42.47**	**164**	P	**P**	**22 11 10.9**	**-1.1**
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=111,slow=8.1,SNR=10	**44.07**	**320**	P	**P**	**22 11 25.5**	**+0.7**
KURBB	**Kurchatov Arra** 0.6nm,0.6s,baz=121,slow=8.3,SNR=5.2	**48.05**	**324**	P	**P**	**22 11 56.3**	**+0.3**
FINES	**FINESS Array B** 3.0nm,1.0s,baz=70,slow=12,SNR=3.5	**77.77**	**331**	P	**P**	**22 15 13.5**	**0.0**

*ATH **20** 22:08:58.5, 36°.01N×27°.42E, h26km±6km, ML2.1/3, Error ellipse: s-maj=6.5km s-min=1.8km az=87.0*
*ISK **20** 22:08:58.7, 36°.02N×27°.61E, h7km, ML2.2/9*
*ISCJB **20** 22:08:59.2±0.8, 35°.97N±0°.04×27°.49E±0°.04, h16km±8km, Error ellipse: s-maj=7.4km s-min=4.4km az=150.9*
*DDA **20** 22:08:59.2, 35°.99N×27°.63E, h7km, Ml2.6*

ISC 20 22:08:56.6±1.6, 35°.96N±0°.04×27°.57E±0°.04, h3km±13km, n26, σ1°76/35, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIS1	**Nisyros Isl.**	**0.71**	**334**	PG	**Pg**	**22 09 12.3**	**+1.9**
NIS1				SG	**Sb**	**22 09 22.3**	**+0.3**
DAT	**Datca**	**0.77**	**0**	PG	**Pg**	**22 09 12.7**	**+1.3**
DAT				SG	**Sb**	**22 09 23.4**	**-0.2**
DAT	**Datca**	**0.77**	**0**	*i* P	**Pb**	**22 09 13.4**	**+0.7**
DAT				*i* S	**Sb**	**22 09 24.7**	**+1.1**
DATC	**Datca-Mugla**	**0.80**	**5**	PG	**Pg**	**22 09 13.4**	**+1.4**
DATC				SG	**Sb**	**22 09 24.3**	**-0.1**
MRSB	**Marmaris-Mugla**	**0.91**	**34**	PG	**Pg**	**22 09 15.2**	**+1.2**
BODT	**Bodrum**	**1.12**	**349**	PG	**Pg**	**22 09 19.4**	**+1.3**
DALY	**Dalyan (Mu¨la**	**1.22**	**45**	PN	**Pn**	**22 09 21.5**	**+0.9**
DALY	**Dalyan (Mu¨la**	**1.22**	**45**	*i* P	**Pb**	**22 09 21.2**	**+0.9**
TURN	**Turunc**	**1.23**	**42**	PG	**Pg**	**22 09 16.5**	**-3.7**
TURN	**Turunc**	**1.23**	**42**	*i* P	**Pg**	**22 09 16.8**	**-3.4**
TURN				*i* S	**Sg**	**22 09 30.4**	**-5.8**
MLSB	**Milas**	**1.34**	**7**	PN	**Pb**	**22 09 23.4**	**+0.9**
ZKR	**Zakros**	**1.39**	**233**	P	**Pn**	**22 09 23.8**	**+0.8**
ZKR				S	**Sn**	**22 09 41.6**	**-0.3**
ZKR	comp=E,76μm,0.5s			AML	AML	22 09 48.1	
ZKR	comp=N,54μm,0.6s			AML	AML	22 09 49.2	
FETY	**Fethiye**	**1.39**	**61**	PN	**Pg**	**22 09 24.5**	**+1.2**
ANAF	**Anafi Island**	**1.51**	**286**	P	**Pn**	**22 09 23.9**	**-0.8**
ANAF				S	**Sn**	**22 09 43.6**	**-1.2**
ANAF	comp=E,460μm,0.4s			AML	AML	22 09 47.5	
ANAF	comp=N,248μm,0.6s			AML	AML	22 09 49.1	
AMGA	**Amorgos Island**	**1.61**	**303**	P	**Pn**	**22 09 25.4**	**-0.6**
AMGA				S	**Sn**	**22 09 45.6**	**-1.7**
KSL	**K

DIGR	**Digorskoe uzhe**	**1.23**	**290**	*e*Pg	**Pb**	**22 43 06.7**	**-1.4**
DIGR				*e*Sg	**Sg**	**22 43 23.1**	**-0.7**
KZRT	**Kazreti**	**1.23**	**207**	P	**Pb**	**22 43 07.7**	**-0.4**
KZRT				S	**Sg**	**22 43 24.1**	**+0.3**
LSNR	**Lesken**	**1.25**	**310**	*e*Pg	**Pn**	**22 43 07.8**	**-0.8**
LSNR				*e*Sg	**Sn**	**22 43 25.7**	**-0.1**
ONI	**Oni**	**1.26**	**275**	P	**Pn**	**22 43 08.3**	**-0.3**
ONI				S	**Sn**	**22 43 27.0**	**+1.1**
PRTR	**Priterechnaya**	**1.42**	**334**	*e*Pg	**Pb**	**22 43 10.9**	**-0.3**
PRTR				*e*Sg	**Sg**	**22 43 31.5**	**+1.7**
NCK	**Nalchik**	**1.52**	**312**	*e*Pg	**Pn**	**22 43 12.0**	**-0.2**
NCK				*e*Sg	**Sg**	**22 43 33.3**	**+0.1**
BGD	**Bogdanovka**	**1.68**	**224**	P	**Pb**	**22 43 15.2**	**-0.6**
BGD				S	**Sb**	**22 43 37.8**	**+0.5**
KBTC	**Kuba-Taba**	**1.84**	**317**	*e*Pg	**Pn**	**22 43 16.7**	**+0.1**
KBTC				*e*Sg	**Sb**	**22 43 42.5**	**+0.6**
NEY	**Neytrino**	**1.94**	**294**	*e*Pg	**Pn**	**22 43 17.4**	**-0.7**
NEY				*e*Sg	**Sn**	**22 43 43.4**	**+0.5**
EAK	**Akyaka**	**2.13**	**213**	*i* P	**Pb**	**22 43 23.2**	**-0.3**
EAK				*i* S	**Sg**	**22 43 52.1**	**-0.7**
DIGO	**Kars**	**2.46**	**213**	*i* P	**Pb**	**22 43 29.4**	**+0.3**
DIGO				*i* S	**Sg**	**22 44 03.7**	**+0.5**
DAGI	**Agillar**	**2.79**	**241**	*i* P	**Pb**	**22 43 36.4**	**+1.6**

*IDC **20** 22:43:44.8±0.8, 11°.11N×124°.86E, h0km, mb4.1/15, mb1 4.2/15, mb1mx3.9/51, mbtmp4.1/15, MS3.4/8, Ms1 3.4/8, ms1mx3.1/31, Error ellipse: s-maj=37.1km s-min=16.8km az=73.0*

*MAN **20** 22:43:46.7, 11°.18N×124°.66E, h1km, mb4.7, ML3.6, MS3.6*

*ISCJB **20** 22:43:47.5±0.5, 11°.18N±0°.04×124°.77E±0°.04, h23km±4km, mb4.2/24, MS3.4/6, Error ellipse: s-maj=6.7km s-min=5.8km az=34.4*

*NEIC **20** 22:43:56.5±2.7, 11°.21N×124°.97E, h95km±26km, mb4.2/12, Error ellipse: s-maj=14.4km s-min=7.0km az=66.0*

NEIC Felt [II PIVS] at Tacloban.

ISC 20 22:43:47.5±0.9, 11°.17N±0°.04×124°.71E±0°.03, h11km±6km, n65, σ1§34/63, mb4.2/24, MS3.4/6, 5C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.15**	**221**	*e*P	**Pg**	**22 43 50.3**	**-0.7**
OCLP				*e*S	**Sg**	**22 43 53.2**	**-0.2**
PLP	**Palo**	**0.26**	**90⇓**	*i*P	**Pg**	**22 43 53.0**	**0.0**
PLP				*i* S	**Sg**	**22 43 57.5**	**+1.0**
BESP	**Borongan**	**0.83**	**59**	*e*P	**Pb**	**22 44 03.1**	**-1.0**
MSLP	**Maasin**	**1.04**	**172**	*e*P	**Pg**	**22 44 06.4**	**-1.1**
LLP	**Lapu-Lapu**	**1.12**	**221⇑**	*e*P	**Pg**	**22 44 07.7**	**-1.4**
LLP				*i* S	**Sg**	**22 44 23.7**	**+0.1**
SCPH	**Surigao**	**1.57**	**151⇑**	*e*P	**Pb**	**22 44 16.7**	**0.0**
TBP	**Tagbilaran**	**1.69**	**210**	*e*P	**Pn**	**22 44 16.8**	**-0.2**
RCP	**Roxas**	**1.97**	**282⇑**	*e*P	**Pn**	**22 44 21.4**	**+0.5**
RCP				*e*S	**Sg**	**22 44 50.6**	**-0.3**
GUIM	**Jordan**	**2.15**	**256**	*e*P	**Pn**	**22 44 22.6**	**-0.9**
SNPH	**Sibulan**	**2.32**	**219⇑**	*e*P	**Pb**	**22 44 28.8**	**-0.8**
SNPH				*e*S	**Sg**	**22 45 04.2**	**+1.9**
BUTP	**Butuan**	**2.36**	**158**	*e*P	**Pb**	**22 44 29.5**	**-0.7**
PVCP	**Virac**	**2.48**	**347**	*e*P	**Pn**	**22 44 28.7**	**+0.8**
CGP	**Cagayan de Oro**	**2.69**	**180**	*e*P	Pg	22 44 46.5	+7.2
JAP	**San Jose, Anti**	**2.75**	**262⇑**	*e*P	**Pn**	**22 44 34.2**	**+2.6**
OTRP	**Odiongan**	**2.89**	**295**	*e*P	**Pn**	**22 44 34.6**	**+1.0**
BUKP	**Musuan**	**3.29**	**174**	*e*P	**Pn**	**22 44 41.5**	**+2.5**
SJMP	**San Jose**	**3.75**	**290**	*e*P	**Pn**	**22 44 49.2**	**+3.9**
BUSP	**Coron**	**4.50**	**281**	*e*P	**Pn**	**22 44 56.9**	**+1.2**
SBUM	**Sibu** 16nm,1.0s	**15.12**	**236**	*e*Pn	**P**	**22 47 29.4**	**+2.9**
JOW	**Kunigami** comp=Z,85nm,20.1s,baz=204,slow=35	**15.94**	**12**	LR	LR	22 53 03.9	
KSM	**Kuching** 11nm,1.1s	**17.24**	**237**	*e*P	**P**	**22 47 53.0**	**+3.0**
GUMO	**Guam** comp=Z,120nm,20.6s,baz=282,slow=32	**19.83**	**81**	LR	LR	22 54 11.4	
SAUI	**Saumlaki** 39nm,0.9s	**20.12**	**161**	*e*P	Pn	22 48 25.1	+1.6
ENH	**Enshi** 5.0nm,0.9s	**23.70**	**326**	*e*P	**P**	**22 48 58.9**	**-0.7**
MTN	**Manton Dam** 10nm,1.1s	**24.69**	**165**	*e*P	**P**	**22 49 07.2**	**-1.7**
CM01	**Chiang Mai Arr**	**25.90**	**289**	*e*P	**P**	**22 49 19.8**	**-0.1**
CM31	**Chiang Mai Arr**	**25.92**	**289**	*e*P	**P**	**22 49 22.5**	**+2.4**
CMAR	**Chiang Mai Arr** 1.0nm,0.4s,baz=101,slow=8.3,SNR=4.9	**25.92**	**289**	P	**P**	**22 49 21.5**	**+1.4**
CMAR	comp=Z,46nm,18.4s,baz=142,slow=36			LR	LR	22 59 35.8	
KS15	**Wonju Array Si**	**26.32**	**6**	*e*P	**P**	**22 49 20.3**	**-3.1**
KSAR	**Wonju Array Be**	**26.32**	**6**	P	**P**	**22 49 23.2**	**-0.2**
KSRS	**Korea Array** 2.4nm,0.8s,baz=177,slow=10,SNR=7.6	**26.33**	**6**	P	**P**	**22 49 23.2**	**-0.3**
MJAR	**Matsushiro Arr** comp=Z,52nm,20.5s,baz=210,slow=34	**28.05**	**24**	LR	LR	22 59 37.9	
FITZ	**Fitzroy Crossi** 3.7nm,1.0s	**29.09**	**178**	*e*P	**P**	**22 49 49.9**	**+1.5**
WR1	**Warramunga Arr** 2.5nm,1.1s	**32.33**	**163**	*e*P	**P**	**22 50 16.0**	**-1.1**
WRA	**Warramunga Arr** 1.0nm,0.9s,baz=341,slow=9.8,SNR=6.2	**32.33**	**163**	P	**P**	**22 50 16.0**	**-1.1**
USRK	**Ussuriysk Ar.** 4.9nm,0.8s,baz=193,slow=5.6,SNR=7.6	**33.51**	**9**	P	**P**	**22 50 26.5**	**-0.6**
AS31	**Alice Springs** 1.4nm,0.9s	**35.77**	**165**	*e*P	**P**	**22 50 45.7**	**-1.1**
ASAR	**Alice Springs** 2.3nm,0.9s,baz=344,slow=6.5,SNR=12	**35.77**	**165**	P	**P**	**22 50 44.6**	**-2.2**
AS01	**Alice Springs**	**35.78**	**165**	*e*P	**P**	**22 50 46.7**	**-0.2**
ULN	**Ulaanbaatar** 6.4nm,0.9s	**39.48**	**341**	*e*P	**P**	**22 51 18.8**	**+0.6**
SONM	**Songino Array** 2.9nm,1.0s,baz=158,slow=8.1,SNR=15	**39.66**	**341**	P	**P**	**22 51 20.0**	**+0.3**
SONM	comp=Z,44nm,19.3s,baz=192,slow=39			LR	LR	23 09 47.8	
SONA1	**Songino Array**	**39.67**	**341**	*e*P	**P**	**22 51 19.9**	**+0.1**
MK01	**Makanchi Array**	**50.38**	**323**	*e*P	**P**	**22 52 45.0**	**+0.2**
MK32	**Makanchi Array**	**50.39**	**323**	*e*P	**P**	**22 52 44.9**	**0.0**
MKAR	**Makanchi Array** 1.8nm,0.9s,baz=120,slow=7.3,SNR=7.4	**50.39**	**323**	P	**P**	**22 52 44.9**	**-0.1**
NIL	**Nilore** 6.2nm,1.0s	**51.97**	**304**	*e*P	**P**	**22 52 58.9**	**+1.9**
ZALV	**Zalesovo Beam** 1.6nm,0.7s,baz=130,slow=6.5,SNR=8.0	**53.11**	**332**	P	**P**	**22 53 05.2**	**+0.1**
ZALV	comp=Z,61nm,18.2s,baz=70,slow=36			LR	LR	23 16 02.5	
ZAA1	**Zalesovo Array**	**53.12**	**332**	*e*P	**P**	**22 53 05.2**	**+0.1**
KURK	**Kurchatov**	**54.47**	**326**	P	**P**	**22 53 15.2**	**+0.2**
KURBB	**Kurchatov Arra** 2.4nm,0.8s,baz=121,slow=7.1,SNR=10	**54.47**	**326**	P	**P**	**22 53 15.2**	**+0.1**
BVAR	**Borovoye Array** 1.1nm,0.8s,baz=122,slow=7.2,SNR=6.0	**60.06**	**326**	P	**P**	**22 53 54.9**	**+0.3**
NRIK	**Noril'sk** 4.2nm,0.9s,baz=127,slow=8.1,SNR=5.7	**62.78**	**346**	P	**P**	**22 54 12.1**	**-0.6**
ABKAR	**Akbulak array**	**65.20**	**319**	*e*P	**P**	**22 54 28.8**	**-0.2**
AKTO	**Aktyubinsk** 1.9nm,0.8s,baz=87,slow=11,SNR=5.0	**66.66**	**320**	P	**P**	**22 54 37.3**	**-1.1**
ARU	**Arti**	**67.54**	**327**	P	**P**	**22 54 43.7**	**-0.8**
ARA0	**ARCESS Array S**	**82.83**	**340**	*e*P	**P**	**22 56 10.5**	**-1.2**
ARCES	**ARCESS Array B** 4.2nm,1.0s,baz=52,slow=7.9,SNR=4.4	**82.83**	**340**	P	**P**	**22 56 10.5**	**-1.2**
FIA0	**FINESS Array S**	**84.38**	**331**	*e*P	**P**	**22 56 19.0**	**-0.7**
FINES	**FINESS Array B** 2.5nm,0.8s,baz=176,slow=4.2,SNR=3.7	**84.38**	**331**	P	**P**	**22 56 19.0**	**-0.7**
AKASG	**Malin Array Be** 3.3nm,0.9s,baz=64,slow=4.9,SNR=13	**84.90**	**321**	P	**P**	**22 56 21.6**	**-1.1**
AKBB	**Malin Array Si** 5.0nm,1.1s	**84.90**	**321**	*e*P	**P**	**22 56 22.0**	**-0.7**
KIEV	**Kiev** 4.4nm,1.1s	**84.92**	**321**	*e*P	**P**	**22 56 21.5**	**-1.2**
AK11	**Malin Array Si**	**84.94**	**321**	*e*P	**P**	**22 56 22.1**	**-0.8**
PPT	**Papeete** comp=Z,17nm,19.6s,baz=354,slow=31	**89.30**	**108**	LR	LR	23 29 58.3	
YBH	**Yreka Blue Hor** comp=Z,17nm,19.5s,baz=18,slow=31	**98.88**	**44**	LR	LR	23 34 53.3	

*ISCJB **20** 22:45:14.9±0.5, 36°.98N±0°.04×71°.65E±0°.06, h106km, mb4.0/1, Error ellipse: s-maj=7.2km s-min=4.7km az=147.3*

*IDC **20** 22:45:14.1±7.8, 36°.82N×71°.94E, h107km±36km, mb3.6/1, mb1 3.4/8, mb1mx3.1/60, mbtmp3.8/8, MS2.8/1, Ms1 2.8/1, ms1mx2.1/39, Error ellipse: s-maj=111.8km s-min=28.4km az=157.0*

*NNC **20** 22:45:23.0±2.6, 37°.77N×71°.39E, h0km, mb4.2, mpv4.1, Error ellipse: s-maj=20.1km s-min=14.0km az=178.0*

ISC 20 22:45:16.0±0.9, 37°.10N±0°.07×71°.67E±0°.07, h106km, n31, σ1§93/36, 5C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan** 24nm,0.3s	**3.25**	**26**	⇓P	**Pn**	**22 46 09.0**	**+3.6**
SFK	24nm,0.3s			⇑S	**Sn**	**22 46 44.7**	**+1.2**
AML	**Almayashu** SNR=83	**5.26**	**17**	P	**Pn**	**22 46 35.0**	**+2.3**
MNAS	**Manas** 19nm,0.4s	**5.42**	**7**	⇑P	**Pn**	**22 46 37.1**	**+2.5**
MNAS	42nm,0.9s			⇑S	**Sn**	**22 47 33.6**	**-2.1**
UCH	**Uchtor** SNR=22	**5.57**	**22**	P	**Pn**	**22 46 39.1**	**+2.2**
KZA	**Kyzart** SNR=8.6	**5.69**	**28**	P	**Pn**	**22 46 40.1**	**+1.6**
EKS2	**Erkin-Say** SNR=7.7	**5.79**	**16**	P	**Pn**	**22 46 42.0**	**+2.5**
AAK	**Ala-Archa** 4.1nm,0.3s,baz=186,slow=8.1,SNR=71	**5.94**	**21**	P	**Pn**	**22 46 44.2**	**+2.5**
AAK	1.7nm,0.3s,baz=317,slow=23,SNR=17			S	**Sn**	**22 47 46.7**	**-1.7**
AAK	**Ala-Archa** SNR=15	**5.94**	**21**	P	**Pn**	**22 46 44.2**	**+2.5**
KK31	**Karatay Array** 6.1nm,0.4s,baz=181,slow=13,SNR=59	**6.06**	**352**	⇑P	**Pn**	**22 46 45.9**	**+2.7**
KK31	44nm,0.7s,baz=174,slow=22,SNR=27			⇓S	**Sn**	**22 47 48.8**	**-2.3**
KBK	**Karagaybulak** SNR=5.3	**6.10**	**23**	P	**Pn**	**22 46 46.9**	**+3.2**
ULHL	**Ulahol** SNR=11	**6.23**	**33**	P	**Pn**	**22 46 47.1**	**+1.5**
CHMS	**Chumysh** SNR=5.2	**6.35**	**21**	P	**Pn**	**22 46 49.3**	**+2.3**
GEYT	**Alibeck** 0.6nm,0.3s,baz=348,slow=18,SNR=8.8	**10.80**	**278**	P	**Pn**	**22 47 48.4**	**+1.0**
GEYT	0.3nm,0.3s,baz=81,slow=18,SNR=4.1			S	**Sn**	**22 49 45.8**	**-0.5**
MKAR	**Makanchi Array** 0.0nm,0.3s,baz=208,slow=9.6,SNR=2.8	**12.49**	**36**	P	**Pn**	**22 48 08.8**	**-1.2**
PYUN	**Piuthan** 7.9nm,0.5s	**13.09**	**130**	*e*P	**Pn**	**22 48 16.8**	**-1.3**
DANN	**Dangsing** 12nm,0.5s	**13.40**	**127**	*e*P	**Pn**	**22 48 21.6**	**-0.6**
KOLN	**Koldanda** 3.1nm,0.3s	**13.70**	**129**	*e*P	**Pn**	**22 48 25.4**	**-0.7**
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=210,slow=11,SNR=3.7	**14.39**	**18**	P	**Pn**	**22 48 33.2**	**-1.3**
KKN	**Kakani** 7.4nm,0.6s	**14.76**	**125**	*e*P	**Pn**	**22 48 38.0**	**-1.6**
DMN	**Daman**	**14.77**	**126**	*e*P	**Pn**	**22 48 39.1**	**-0.7**
AB31	**Akbulak array** 0.3nm,0.3s,baz=134,slow=14,SNR=16	**14.84**	**329**	⇑P	**P**	**22 48 42.0**	**-1.3**
AB31	4.4nm,0.5s			⇓S	**Sn**	**22 51 21.3**	**-2.5**
PKIN	**Phulchoki**	**14.98**	**125**	*e*P	**Pn**	**22 48 40.9**	**-1.6**
PKI	**Pulchoki**	**14.99**	**125**	*e*P	**Pn**	**22 48 41.3**	**-1.4**
GUN	**Gumba** 7.4nm,0.4s	**15.07**	**123**	*e*P	**Pn**	**22 48 42.1**	**-1.7**
JIRN	**Jiri** 18nm,0.3s	**15.45**	**123**	*e*P	**Pn**	**22 48 46.9**	**-1.6**
BVAR	**Borovoye Array** 0.5nm,0.3s,baz=168,slow=10,SNR=6.8	**15.95**	**357**	P	**Pn**	**22 48 53.8**	**-0.3**
RAMN	**Ramite** 6.0nm,0.4s	**16.19**	**124**	*e*P	**Pn**	**22 48 56.5**	**-1.1**
AKTO	**Aktyubinsk** 0.2nm,0.3s,baz=121,slow=15,SNR=2.3	**16.54**	**328**	P	**P**	**22 49 04.0**	**+1.8**
ZALV	**Zalesovo Beam** 0.6nm,0.3s,baz=217,slow=11,SNR=8.8	**19.15**	**24**	P	**P**	**22 49 30.4**	**-0.4**
GNI	**Garni** comp=Z,21nm,18.3s,baz=162,slow=46	**21.23**	**287**	LR	LR	23 01 54.1	
ARCES	**ARCESS Array B** 2.2nm,0.8s,baz=103,slow=7.5,SNR=3.6	**40.80**	**337**	P	**P**	**22 52 47.8**	**+1.3**

*NIED **20** 22:49:00, 28°.00N×143°.00E, h5km, Mw3.8 Best double couple: M0 6.58000×10^14 NP1:φs169.00000°, δ18.00000°, λ53.00000°. NP2:φs28.00000°, δ76.00000°, λ101.00000°.*

*IDC **20** 22:49:18.6±1.1, 27°.96N×142°.33E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.8/49, mbtmp3.8/11, ML3.7/1, Error ellipse: s-maj=38.6km s-min=19.0km az=78.0*

*ISCJB **20** 22:49:20.3±1.0, 28°.0N±0°.1×142°.4E±0°.3, h25km, mb3.9/10, Error ellipse: s-maj=34.3km s-min=16.1km az=167.8*

ISC 20 22:49:22.6±1.2, 28°.0N±0°.1×142°.3E±0°.3, h25km, n14, σ0§94/11, mb3.9/10, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr** 0.7nm,0.3s,baz=161,slow=11,SNR=5.4	**9.18**	**339**	Pn	**Pn**	**22 51 32.0**	**-1.4**
H11N2	**WAKE ISLAND Hy** baz=294,slow=74,SNR=6.1	**23.93**	**105**	T	T	23 18 44.7	
H11N1	**WAKE ISLAND Hy** baz=294,slow=74,SNR=4.7	**23.93**	**105**	T	T	23 18 55.8	
H11N3	**WAKE ISLAND Hy** baz=294,SNR=6.6	**23.95**	**105**	T	T	23 18 49.7	
SONM	**Songino Array** 0.9nm,0.6s,baz=117,slow=8.3,SNR=4.0	**34.13**	**315**	P	**P**	**22 56 06.6**	**+1.1**
WRA	**Warramunga Arr** 2.1nm,0.6s,baz=12,slow=8.3,SNR=31	**48.29**	**190**	P	**P**	**22 58 01.7**	**-0.1**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=116,slow=5.6,SNR=2.9	**48.86**	**319**	P	**P**	**22 58 07.1**	**+1.2**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=85,slow=9.0,SNR=4.6	**49.97**	**309**	P	**P**	**22 58 15.1**	**+0.6**
ASAR	**Alice Springs** 0.2nm,0.4s,baz=16,slow=9.7,SNR=6.0	**52.01**	**190**	P	**P**	**22 58 29.2**	**-0.8**
KURBB	**Kurchatov Arra** 1.5nm,0.4s,baz=90,slow=7.1,SNR=19	**52.47**	**314**	P	**P**	**22 58 33.6**	**+0.4**
ILAR	**Eielson Array** 0.2nm,0.6s,baz=261,slow=5.2,SNR=3.4	**56.87**	**29**	P	**P**	**22 59 05.6**	**+0.7**
BVAR	**Borovoye Array** 0.9nm,0.6s,baz=96,slow=9.1,SNR=6.3	**57.44**	**317**	P	**P**	**22 59 09.6**	**+0.5**
FINES	**FINESS Array B** 4.3nm,0.8s,baz=81,slow=8.7,SNR=2.5	**77.17**	**334**	P	**P**	**23 01 13.1**	**-0.8**
KBZ	**Khabaz** 3.6nm,1.1s,baz=129,slow=6.5,SNR=3.6	**77.46**	**313**	P	**P**	**23 01 15.5**	**-0.3**

*ISK **20** 23:02:19.8, 37°.32N×37°.10E, h8km, ML1.9/4*

*ISCJB **20** 23:02:20.4±0.6, 37°.31N±0°.04×37°.09E±0°.04, h6km±6km, Error ellipse: s-maj=7.1km s-min=5.6km az=31.2*

*DDA **20** 23:02:20.4, 37°.32N×37°.15E, h7km, Ml2.6*

ISC 20 23:02:20.3±1.0, 37°.33N±0°.03×37°.12E±0°.03, h11km±9km, n13, σ0§40/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.17**	**156**	PG	**Pg**	**23 02 23.8**	**-0.3**
GAZ				SG	**Sg**	**23 02 26.8**	**+0.1**
KMRS	**Kahramanmaras**	**0.25**	**315**	PG	**Pg**	**23 02 25.2**	**-0.2**
KUZU	**Kuzuini**	**0.56**	**184**	*i* P	**Pg**	**23 02 31.4**	**+0.3**
KUZU				*i* S	**Sn**	**23 02 43.1**	**-0.5**
ANDN	**Andirin**	**0.67**	**292**	*i* P	**Pg**	**23 02 33.5**	**+0.3**
KOZT	**Kozan**	**1.04**	**279**	PG	**Pb**	**23 02 39.9**	**-0.5**
KOZT				SG	**Sg**	**23 02 54.5**	**+0.6**
SAIM	**ADANA**	**1.05**	**308**	*i* P	**Pn**	**23 02 41.2**	**+0.1**
AKCD	**Akcadag**	**1.15**	**33**	*i* P	**Pb**	**23 02 42.0**	**-0.4**
TAHT	**Tahtakopru-Hat**	**1.21**	**219**	PN	**Pn**	**23 02 43.1**	**-0.1**
TAHT				SN	**Sg**	**23 03 00.0**	**+0.6**
DARE	**Darende-Malaty**	**1.27**	**13**	PN	**Pg**	**23 02 44.7**	**0.0**
SURC	**SANLIURFA_SURC**	**1.27**	**110**	*i* P	**Pn**	**23 02 44.1**	**0.0**
URFA	**Urfa**	**1.36**	**85**	PN	**Pb**	**23 02 45.8**	**0.0**
HEKM	**Malatya_Hekimh**	**1.68**	**23**	*i* P	**Pg**	**23 02 52.4**	**-0.2**
ELZG	**Elazig**	**1.88**	**51**	*i* P	**Pb**	**23 02 55.3**	**+0.6**

GUC 20 23:03:36.6±0.5, 24°.22S×67°.45W, h194km±11km, ML3.7, 5C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.84**	**106**	*e*P	Pn	23 04 08.9	-4.2
LVC	**Limon Verde**	**2.09**	**320⇑**	*i*P	Pn	23 04 17.3	+1.2
LVC				*e*S	Sn	23 04 47.9	+1.3
PB15	**IPOC Station P**	**2.11**	**298⇑**	*i*P	Pn	23 04 17.7	+1.7
PB15				*e*S	Sn	23 04 48.8	+2.1
GO02	**Mina Guanaco**	**2.17**	**244⇓**	*e*P	Pn	23 04 18.3	+1.6
GO02				*e*S	Sn	23 04 49.8	+1.9
GO02	comp=N,263nm,0.2s			IAML		23 04 54.2	
PB06	**IPOC Station P**	**2.47**	**307⇑**	*i*P	Pn	23 04 21.3	+1.4
PB06	comp=N,273nm,0.1s			IAML		23 04 57.8	
PB14	**IPOC Station P**	**2.73**	**261**	*e*P	Pn	23 04 24.8	+1.7
PB14				*i* S	Sn	23 05 01.3	+2.1
PB14	comp=E,119nm,0.4s			IAML		23 05 03.0	
PB05	**IPOC Station P**	**2.87**	**298⇑**	*i*P	Pn	23 04 26.1	+1.5
PB05				*e*S	Sn	23 05 02.8	+0.8
PB09	**IPOC Station P**	**2.93**	**325**	*i* P	Pn	23 04 26.6	+1.4
PB09				*i* S	Sn	23 05 04.8	+1.6
PB10	**IPOC Station P**	**2.93**	**283**	*e*P	Pn	23 04 27.2	+2.1
PB10				*i* S	Sn	23 05 05.5	+2.5
PB10	comp=E,74nm,0.3s			IAML		23 05 10.2	
PB03	**IPOC Station P**	**3.03**	**315**	*e*P	Pn	23 04 27.4	+0.9
PB04	**IPOC Station P**	**3.12**	**307⇑**	*i*P	Pn	23 04 29.0	+1.5
PB04				*i* S	Sn	23 05 07.8	+0.6
PB04	comp=E,113nm,0.5s			IAML		23 05 10.8	
PB07	**IPOC Station P**	**3.35**	**317**	*e*P	Pn	23 04 31.3	+1.0
PB07				*e*S	Sn	23 05 12.6	+0.3
PB07	comp=E,112nm,0.4s			IAML		23 05 13.8	

*ISCJB **20** 23:23:45.5±1.6, 26°.3S±0°.1×179°.3E±0°.2, h495km, mb3.7/3, Error ellipse: s-maj=28.6km s-min=13.1km az=151.1*

*IDC **20** 23:23:45.9±2.0, 26°.29S×179°.47E, h509km±24km, mb3.3/3, mb1 3.4/5, mb1mx3.1/37, mbtmp4.3/5, Error ellipse: s-maj=40.0km s-min=25.4km az=5.0*

ISC 20 23:23:45.6±1.4, 26°.3S±0°.1×179°.4E±0°.2, h495km, n8, σ1§34/9, mb3.8/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island** 81nm,0.3s,baz=73,slow=20,SNR=4.9	**3.79**	**141**	P	**P**	**23 25 03.1**	**+1.3**
URZ	**Urewera** 1.9nm,0.3s,baz=295,slow=5.4,SNR=4.2	**12.06**	**189**	P	**P**	**23 26 24.9**	**+0.3**
URZ	0.3nm,0.3s,baz=72,slow=20,SNR=3.5			S	**S**	**23 28 34.7**	**-1.1**
DZM	**Mont Dzumac** 0.4nm,0.3s,baz=96,slow=18,SNR=7.6	**12.53**	**287**	P	**P**	**23 26 31.4**	**+1.4**
CTA	**Charters Tower** 1.7nm,0.4s,baz=92,slow=12,SNR=6.5	**31.00**	**275**	P	**P**	**23 29 21.6**	**-0.5**
ASAR	**Alice Springs** 1.5nm,0.5s,baz=92,slow=7.3,SNR=16	**41.14**	**263**	P	**P**	**23 30 46.5**	**+0.4**
WRA	**Warramunga Arr** 2.3nm,0.7s,baz=104,slow=8.1,SNR=37	**41.73**	**269**	P	**P**	**23 30 50.8**	**-0.1**
AKASG	**Malin Array Be** 0.3nm,0.2s,baz=66,slow=2.8,SNR=3.1	**146.65**	**325**	PKPbc	**PKPbc**	**23 42 29.0**	**-2.0**
BRTR	**Keskin Array B** 0.4nm,0.8s,baz=84,slow=5.9,SNR=2.5	**148.51**	**304**	PKPbc	**PKPbc**	**23 42 35.2**	**-1.2**

*IDC **20** 23:28:21.5±0.9, 38°.59N×87°.68W, h0km, mb3.2/1, mb1 3.7/6, mb1mx3.4/55, mbtmp3.4/6, ML3.4/5, MS3.0/1, Ms1 3.0/1, ms1mx2.4/23, Error ellipse: s-maj=13.5km s-min=7.9km az=52.0*

*ANF **20** 23:28:21.8±0.2, 38°.46N×87°.89W, h6km±1km, ML4.5/162, Error ellipse: s-maj=1.4km s-min=1.3km az=41.0*

*NEIC **20** 23:28:22.6±0.0, 38°.45N×87°.89W, h17km, MN3.6, After CERI.*

NEIC Felt [IV] at Albion and Bone Gap; [III] at Calhoun, Greyville, Mount Carmel, Noble, Olney and West Salem. Also felt [III] at Evansville, Haubstadt, Owensville, Patoka and Princeton, Indiana. Felt in much of northern Kentucky, southeastern Illinois and southwestern Indiana.

*CERI **20** 23:28:22.6, 38°.45N×87°.89W, h17km, mbLg3.6(NEIC)*

ISC 20 23:28:20.5±1.0, 38°.47N±0°.01×87°.90W±0°.01, h2km±9km, n328, σ2§01/442, Southern Indiana

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OLIL	**Olney**	**0.31**	**330**	*e*Pg	**Pg**	**23 28 29.2**	**+2.7**
OLIL				*e*Sg	**Sg**	**23 28 33.4**	**+2.9**
R45A	**Skylar, Fairfi** baz=61	**0.35**	**240**	P	**Pg**	**23 28 29.7**	**+2.6**
R45A	baz=61			S	**Sg**	**23 28 34.8**	**+3.2**
R46A	**Gibon Southern** baz=310	**0.40**	**130**	P	**Pg**	**23 28 30.4**	**+2.2**
R46A	baz=310			S	**Sg**	**23 28 36.0**	**+2.7**
Q45A	**Warren Harvey,** baz=154,SNR=1000	**0.47**	**335**	P	**Pg**	**23 28 32.0**	**+2.4**
Q45A	baz=154			S	**Sg**	**23 28 38.6**	**+2.9**
USIN	**University of**	**0.53**	**160**	*e*Pg	**Pg**	**23 28 32.6**	**+1.9**
Q46A	**CEJHS Indians,** baz=217,SNR=67	**0.70**	**37**	P	**Pb**	**23 28 35.8**	**+0.3**
Q46A	baz=217			S	**Sg**	**23 28 45.2**	**+2.1**
S46A	**Don Dixon Farm** baz=350,SNR=122	**0.79**	**169**	P	**Pb**	**23 28 36.9**	**-0.2**
S46A	baz=350			S	**Sb**	**23 28 47.3**	**-1.0**
S45A	**Carrier Mills** baz=34,SNR=185	**0.95**	**214**	P	**Pb**	**23 28 39.6**	**-0.2**
S45A	baz=34			S	**Sb**	**23 28 52.2**	**-0.6**
R44A	**Waltonville** baz=77,SNR=300	**0.95**	**257**	P	**Pb**	**23 28 39.9**	**+0.1**
R44A	baz=77			S	**Sb**	**23 28 52.8**	**-0.1**
Q44A	**Meyer Farm, Va** baz=116,SNR=432	**0.98**	**297**	P	**Pb**	**23 28 40.4**	**+0.2**
Q44A	baz=116			S	**Sb**	**23 28 53.6**	**0.0**
P45A	**Graceland, Par**	**1.07**	**7**	*e*Pb	**Pb**	**23 28 41.8**	**0.0**
P45A				*e*Sn	**Sb**	**23 28 55.3**	**-0.8**
P45A	**Graceland, Par** baz=

T47A S Sb 23 29 11.5 -0.1
baz=337
R43A Red Bud 1.61 264 P Pn 23 28 50.6 +0.7
baz=83,SNR=487
R43A S Sb 23 29 12.2 +0.5
baz=83
P47A Martinsville 1.63 51 P Pb 23 28 51.6 +0.2
baz=231,SNR=151
P47A S Sb 23 29 13.5 +1.2
baz=231
S48A Wiedeman Farm, 1.66 118 P Pn 23 28 51.4 +0.6
baz=300,SNR=134
S48A S Sb 23 29 13.8 +0.5
baz=300
P43A Skaggs, Pawnee 1.72 313 S Sb 23 29 15.3 +0.3
baz=132
O44A Mansfield 1.74 346 P Pn 23 28 52.8 +1.1
baz=165,SNR=106
O44A S Sb 23 29 15.8 +0.3
baz=165
Q48A North Vernon 1.76 74 P Pb 23 28 53.4 -0.1
baz=255,SNR=224
O45A Potomac 1.79 4 P Pn 23 28 53.7 +1.3
baz=184,SNR=47
T48A Bowling Green 1.81 138 P Pb 23 28 53.9 -0.4
baz=319,SNR=93
T48A S Sb 23 29 17.7 +0.4
baz=319
SLM Saint Louis 1.84 276 ePn Pn 23 28 54.5 +1.4
SLM eSn Sn 23 29 16.4 -0.6
T44A Benton 1.92 225 P Pb 23 28 55.8 -0.5
baz=44,SNR=15
T44A S Sb 23 29 20.7 0.0
baz=44
S43A Fulton Ridge, 1.94 243 P Pb 23 28 56.5 -0.1
baz=62,SNR=161
S43A S Sb 23 29 21.2 +0.1
baz=62
SFIN Lafayette 2.01 18 ePn Pn 23 28 56.8 +1.3
SFIN eSn Sb 23 29 24.1 +0.8
SFIN Lafayette 2.01 18 P Pn 23 28 57.3 +1.8
baz=198,SNR=53
FVM French Village 2.05 257 ePn Pn 23 28 57.8 +1.8
FVM eSn Sb 23 29 24.2 -0.1
U47A Clarksville 2.08 166 P Pn 23 28 57.8 +1.4
baz=347,SNR=152
U47A S Sb 23 29 24.8 -0.4
baz=347
Q42A Golden Eagle 2.11 283 P Pn 23 28 58.8 +2.0
baz=102,SNR=85
U46A Springville 2.12 186 P Pn 23 28 58.6 +1.7
baz=6.0,SNR=75
O43A Sugar Creek Fa 2.12 329 P Pn 23 28 58.8 +1.8
baz=148,SNR=39
R49A Shelbyville 2.15 94 P Pn 23 28 59.0 +1.6
baz=275,SNR=139
P48A Milroy 2.17 62 P Pn 23 28 58.9 +1.2
baz=243,SNR=84
S49A Springfield 2.17 107 P Pn 23 28 59.3 +1.6
baz=289,SNR=132
P42A Winchester 2.21 301 ePn Pb 23 29 00.5 -0.7
P42A eSn Sb 23 29 28.9 0.0
P42A Winchester 2.21 301 P Pb 23 29 00.4 -0.7
baz=120,SNR=177
O47A Sheridan 2.22 37 P Pn 23 28 59.4 +1.1
baz=217,SNR=53
U45A Rockin P Farm, 2.22 198 P Pn 23 29 00.3 +1.9
baz=18
U48A Cassie Pea, Po 2.23 151 P Pn 23 29 00.1 +1.5
baz=332,SNR=128
UTMT University of 2.25 200 ePn Pn 23 28 59.9 +1.1
UTMT eSn Sb 23 29 31.6 +1.3
R42A Luebbering 2.28 266 P Pn 23 29 01.3 +2.1
baz=84,SNR=380
T49A Edmonton 2.32 125 ePn Pn 23 29 00.7 +0.9
T49A eSn Sb 23 29 33.3 +1.2
T49A Edmonton 2.32 125 P Pn 23 29 01.4 +1.7
baz=307,SNR=140
PARMO Parma 2.33 220 ePn Pn 23 29 01.2 +1.4
PARMO eSn Sg 23 29 34.8 -0.4
N44A Piper City 2.33 356 P Pn 23 29 01.2 +1.2
baz=175,SNR=36
WVT Waverly 2.33 179 ePn Pn 23 29 01.1 +1.2
WVT eSn Sb 23 29 32.1 -0.5
WVT Waverly 2.33 179 P Pn 23 29 01.1 +1.2
baz=359
T43A Greenville 2.34 235 P Pn 23 29 01.4 +1.3
baz=53,SNR=62
HDIL Hopedale 2.35 333 ePn Pn 23 29 02.1 +2.0
HDIL eSn Sb 23 29 33.2 +0.2
HDIL Hopedale 2.35 333 P Pn 23 29 01.7 +1.6
baz=152,SNR=63
S42A Caledonia 2.39 254 P Pn 23 29 02.9 +2.2
baz=72,SNR=295
N45A Kentland 2.40 7 P Pn 23 29 02.3 +1.4
baz=187,SNR=18
Q49A Aurora 2.41 76 P Pn 23 29 02.3 +1.3
baz=258,SNR=93
O42A Bath 2.42 316 P Pn 23 29 03.0 +1.9
baz=135
U44B Burton Farm, H 2.42 209 P Pn 23 29 02.0 +0.9
baz=28,SNR=144
U44A Portageville 2.42 217 P Pn 23 29 02.4 +1.3
baz=36,SNR=9.0
GLAT Glass 2.46 207 ePn Pn 23 29 03.0 +1.3
GLAT eSn Sb 23 29 38.4 +2.3
U49A Red Boiling Sp 2.58 138 P Pn 23 29 04.8 +1.5
baz=320,SNR=57
N46A Monticello 2.59 20 P Pn 23 29 05.3 +1.9
baz=200,SNR=49
PBMO Poplar Bluff 2.62 231 ePn Pn 23 29 06.1 +2.3
PBMO eSn Sb 23 29 40.7 -0.1
Q41A Truxton 2.65 282 P Pn 23 29 06.4 +2.1
baz=100,SNR=119
V47A Nunnelly 2.65 173 P Pn 23 29 05.5 +1.2
baz=354,SNR=25
CCM Cathedral Cave 2.66 262 ePn Pn 23 29 05.7 +1.2
CCM eSn Sb 23 29 40.6 -1.5
CCM Cathedral Cave 2.66 262 P Pn 23 29 06.6 +2.1
baz=80
V46A Holladay 2.67 184 P Pn 23 29 06.0 +1.5
baz=3.8,SNR=20
P49A Miami Univ. Ec 2.70 66 P Pn 23 29 05.8 +0.8
baz=248
R41A Rosebud 2.74 268 P Pn 23 29 07.3 +1.8
baz=86
P41A Barry, Barry 2.74 297 P Pn 23 29 08.0 +2.4
baz=115
O48A Farmland 2.78 49 P Pn 23 29 06.8 +0.7
baz=231,SNR=37
R50A Paris 2.81 93 P Pn 23 29 07.8 +1.2
baz=275
T50A Nancy 2.82 120 P Pn 23 29 08.1 +1.5
baz=302,SNR=28
O41A Passleys Farm, 2.84 306 P Pn 23 29 08.9 +2.0
baz=125
V45A Humboldt 2.85 198 P Pn 23 29 08.3 +1.2
baz=17
V48A Smith Brothers 2.85 162 ePn Pn 23 29 08.8 +1.7
V48A Smith Brothers 2.85 162 P Pn 23 29 08.6 +1.5
baz=343,SNR=32
S50A Richmond 2.87 105 P Pn 23 29 08.9 +1.6
baz=287,SNR=71
N42A Yates City 2.88 326 P Pn 23 29 09.1 +1.7
baz=144,SNR=30
U43A Rector 2.89 224 P Pn 23 29 09.1 +1.5
baz=43,SNR=13
T42A Van Buren 2.91 241 ePn Pn 23 29 09.3 +1.4
T42A eSn Sn 23 29 43.6 +0.2
T42A Van Buren 2.91 241 P Pn 23 29 09.1 +1.3
baz=60,SNR=119
M44A Midewin, Midew 2.92 358 ePn Pn 23 29 09.2 +1.1
M44A eSn Sn 23 29 44.1 +0.4
M44A Midewin, Midew 2.92 358 P Pn 23 29 09.0 +1.0
baz=178,SNR=50
N47A Urbana 2.95 35 P Pn 23 29 08.7 +0.3
baz=216
M45A Boilermakers S 2.96 10 P Pn 23 29 10.3 +1.8
baz=190
GNAR Gosnell 3.02 215 ePn Pn 23 29 11.8 +2.5
GNAR eSg Sg 23 29 56.7 -0.7
M43A Waltham Townsh 3.08 345 P Pn 23 29 11.6 +1.5
baz=164,SNR=26
Q50A Georgetown 3.09 82 P Pn 23 29 11.6 +1.3
baz=264,SNR=71
V49A McMinnville 3.13 149 P Pn 23 29 12.6 +1.7
baz=330

S41A Jillco Farms, 3.16 255 P Pn 23 29 13.3 +2.0
baz=73,SNR=135
M46A Old House Fiel 3.17 22 ePn Pn 23 29 11.9 +0.5
M46A Old House Fiel 3.17 22 P Pn 23 29 13.0 +1.6
baz=202
U50A Jamestown 3.18 129 P Pn 23 29 12.8 +1.2
baz=311,SNR=46
N41A Harden Midland 3.20 315 ePn Pn 23 29 12.5 +0.7
N41A eSg Sb 23 30 01.6 +4.2
N41A Harden Midland 3.20 315 P Pn 23 29 13.0 +1.2
baz=134
W47A Westpoint 3.22 176 P Pn 23 29 13.6 +1.5
baz=356,SNR=77
O49A Covington 3.25 57 ePn Pn 23 29 12.7 0.0
O49A eSg Sb 23 30 01.5 +2.3
O49A Covington 3.25 57 P Pn 23 29 13.2 +0.6
baz=239
N48A Decatur 3.26 42 P Pn 23 29 12.8 +0.2
baz=224
W46A Michie 3.35 187 P Pn 23 29 14.6 +0.7
baz=6.5,SNR=10
T41A Mountain View 3.38 246 P Pn 23 29 15.7 +1.4
baz=64,SNR=24
M47A Cromwell 3.38 31 P Pn 23 29 15.1 +0.8
baz=212
P50A Jamestown 3.39 69 P Pn 23 29 15.3 +0.8
baz=252,SNR=8.8
U42A Revenden 3.39 233 P Pn 23 29 15.8 +1.3
baz=50,SNR=12
R51A Hillsboro 3.40 91 P Pn 23 29 16.2 +1.7
baz=274,SNR=32
W48A Pulaski 3.41 167 P Pn 23 29 15.9 +1.2
baz=347
W45A Hickory Valley 3.46 198 P Pn 23 29 16.7 +1.3
baz=17
T51A Gray 3.48 114 P Pn 23 29 17.0 +1.4
baz=297
PLAL Pickwick Lake 3.48 182 ePn Pn 23 29 15.9 +0.2
S51A Beattyville 3.50 102 ePn Pn 23 29 17.3 +1.3
S51A eSg Sg 23 30 11.1 -1.8
S51A Beattyville 3.50 102 P Pn 23 29 17.8 +1.8
baz=285,SNR=86
M41A Milan 3.54 326 P Pn 23 29 17.4 +0.8
baz=144
V50A Pikevile 3.58 140 P Pn 23 29 17.8 +0.8
baz=322
W49A Belvidere 3.59 158 P Pn 23 29 18.8 +1.6
baz=339,SNR=20
Q51A Peebles 3.60 80 ePn Pn 23 29 18.3 +0.9
Q51A eSg Sb 23 30 12.0 +2.8
Q51A Peebles 3.60 80 P Pn 23 29 18.6 +1.2
baz=262,SNR=16
SWET Sewanee 3.61 153 ePn Pn 23 29 18.7 +1.2
SWET eSg Sb 23 30 12.4 +3.1
L44A Lake County Fo 3.71 360 P Pn 23 29 20.1 +1.3
baz=180
O50A Cable 3.72 62 P Pn 23 29 19.5 +0.5
baz=244
U51A La Follette 3.73 123 P Pn 23 29 20.7 +1.5
baz=305,SNR=56
N40A Mertquake, Sal 3.73 312 P Pn 23 29 20.5 +1.4
baz=129
L46A Eue Claire 3.75 19 P Pn 23 29 20.8 +1.4
baz=200,SNR=7.7
L43A Garden Prairie 3.77 350 P Pn 23 29 20.2 +0.5
baz=170,SNR=10.0
N49A Columbus Grove 3.77 48 ePn Pn 23 29 20.1 +0.4
N49A eSb Sb 23 30 14.9 +0.9
N49A Columbus Grove 3.77 48 P Pn 23 29 20.3 +0.5
baz=230
L42A Oliver, Polo 3.78 340 ePn Pn 23 29 20.9 +1.0
L42A eSb Sb 23 30 16.0 +1.7
L42A Oliver, Polo 3.78 340 P Pn 23 29 20.9 +1.0
baz=158
W50A Signal Mountai 3.87 147 ePn Pn 23 29 22.4 +1.4
W50A ePb Pb 23 29 31.3 +1.8
W50A eSg Sb 23 30 21.1 +4.3
W50A Signal Mountai 3.87 147 P Pn 23 29 22.1 +1.0
baz=328
M48A Edgerton 3.88 38 ePn Pn 23 29 22.0 +0.8
M48A eSg Sg 23 30 22.6 -2.6
M48A Edgerton 3.88 38 P Pn 23 29 21.8 +0.6
baz=220
V51A Loudon 3.89 132 ePn Pn 23 29 21.8 +0.5
V51A eSg Sb 23 30 20.9 +3.6
V51A Loudon 3.89 132 P Pn 23 29 22.5 +1.2
baz=314,SNR=11
P51A Williamsport 3.91 73 ePn Pn 23 29 22.4 +0.8
P51A eSg Sb 23 30 21.6 +3.8
X46A Booneville 3.94 188 P Pn 23 29 23.1 +1.1
baz=7.9
X47A Russelville 3.94 179 P Pn 23 29 22.9 +0.8
baz=360,SNR=50
TZTN Tazewell 3.96 118 ePn Pn 23 29 23.4 +1.1
TZTN eSg Sg 23 30 25.8 -1.9
TZTN Tazewell 3.96 118 P Pn 23 29 24.0 +1.7
baz=300,SNR=53
M40A Post Highland 4.04 318 P Pn 23 29 24.0 +0.6
baz=136
CPCT Cooper Cave 4.05 137 ePn Pn 23 29 24.4 +0.9
CPCT eSg Sb 23 30 25.5 +3.6
X48A Hartselle 4.07 170 ePn Pn 23 29 24.7 +1.0
X48A eSg Sb 23 30 25.8 +3.3
X48A Hartselle 4.07 170 P Pn 23 29 24.7 +1.0
baz=351,SNR=37
L47A Sherwood 4.07 30 P Pn 23 29 24.1 +0.3
baz=211
L41A Preston 4.12 332 P Pn 23 29 25.2 +0.7
baz=150,SNR=11
T52A Hallie 4.12 108 P Pn 23 29 25.8 +1.3
baz=291
OXF Oxford 4.13 198 ePn Pn 23 29 25.6 +1.0
OXF ePb Pb 23 29 36.1 +2.2
R52A Catlettsburg 4.13 90 P Pn 23 29 26.6 +2.0
baz=273
X49A Woodville 4.14 162 P Pn 23 29 25.9 +1.1
baz=343,SNR=19
U52A Thorn Hill 4.16 118 P Pn 23 29 26.4 +1.3
baz=301
ACSO Alum Creek Sta 4.20 64 ePn Pn 23 29 26.3 +0.7
ACSO ePb Pb 23 29 33.9 -1.2
ACSO eSg Sb 23 30 30.2 +3.9
K43A Burlington 4.25 356 ePn Pn 23 29 26.6 +0.4
K43A eSg Sg 23 30 34.8 -2.1
K43A Burlington 4.25 356 P Pn 23 29 26.3 +0.1
baz=175,SNR=7.9
N39A Derby Farms, D 4.29 306 ePn Pn 23 29 27.7 +0.9
N39A eSg Sb 23 30 34.8 +5.9
N39A Derby Farms, D 4.29 306 P Pn 23 29 27.6 +0.7
baz=123
V52A Sevierville 4.32 126 ePn Pn 23 29 27.4 +0.1
V52A eSg Sg 23 30 36.4 -3.0
V52A Sevierville 4.32 126 P Pn 23 29 28.5 +1.2
baz=309,SNR=14
V41A Mountainview 4.33 233 P Pn 23 29 28.8 +1.4
baz=50,SNR=60
TKL Tuckaleechee C 4.33 129 Pn Pn 23 29 28.7 +1.3
1.4nm,0.3s,baz=305,slow=4.6,SNR=17
TKL Pg Pb 23 29 37.9 +0.5
8.8nm,0.3s,baz=347,slow=18,SNR=37
TKL Sn Sn 23 30 18.2 -0.2
11nm,0.3s,baz=344,slow=22,SNR=7.3
TKL Lg Lg 23 30 35.0
38nm,0.3s,baz=35,slow=23,SNR=35
TKL Tuckaleechee C 4.33 129 ePn Pn 23 29 27.7 +0.3
TKL Pg Pb 23 29 37.9 +0.5
TKL Sn Sn 23 30 18.2 -0.2
TKL eSg Sg 23 30 36.8 -2.8
N50A Nevada 4.33 56 P Pn 23 29 29.0 +1.6
baz=239
L48A N Adams 4.37 36 P Pn 23 29 29.0 +1.0
baz=218
X50B Fort Payne 4.39 155 P Pn 23 29 29.8 +1.6
baz=336
L40A Anamosa 4.40 326 ePn Pn 23 29 29.3 +1.0
L40A eSg Sb 23 30 36.5 +4.4
L40A Anamosa 4.40 326 P Pn 23 29 29.1 +0.8
baz=144,SNR=12
Q52A Bidwell 4.43 82 P Pn 23 29 30.0 +1.2
baz=265,SNR=17
O51A Pataskala 4.44 66 P Pn 23 29 30.3 +1.4
baz=249
K42A Prairie Point, 4.45 346 P Pn 23 29 29.5 +0.5
baz=165
M39A Webster 4.45 314 P Pn 23 29 30.0 +1.0
baz=131

K41A Shullsburg 4.52 337 P Pn 23 29 30.8 +0.8
baz=155,SNR=13
Y47A UCPARC, Winfie 4.55 179 P Pn 23 29 31.4 +0.9
baz=360
Y48A Jasper 4.58 172 P Pn 23 29 31.5 +0.7
baz=353
X51A Calhoun 4.60 147 ePn Pn 23 29 31.4 +0.3
X51A eSg Sb 23 30 43.3 +5.5
X43A Marvell 4.61 212 ePn Pn 23 29 32.0 +0.7
W52A Murphy 4.64 135 ePn Pn 23 29 31.4 -0.2
W52A eSg Sb 23 30 43.5 +4.6
W52A Murphy 4.64 135 P Pn 23 29 32.5 +0.8
baz=318
P52A Corning 4.64 74 P Pn 23 29 32.9 +1.3
baz=257,SNR=14
Y46A Houston 4.64 190 P Pn 23 29 32.6 +0.9
baz=9.4
U53A Fall Branch 4.73 115 P Pn 23 29 33.6 +0.7
baz=298
WHAR Wooly Hollow 4.74 229 ePn Pn 23 29 33.6 +0.6
WHAR eSg Sb 23 30 48.1 +6.4
M50A Fremont 4.75 50 ePn Pn 23 29 34.3 +1.2
M50A eSn Sn 23 30 28.6 -0.2
M50A eSg Sb 23 30 48.0 +6.0
Y49A Blount Mountai 4.75 165 ePn Pn 23 29 33.7 +0.4
Y49A eSg Sb 23 30 47.4 +5.1
Y49A Blount Mountai 4.75 165 P Pn 23 29 33.9 +0.7
baz=346,SNR=41
JFWS Jewell Farm 4.79 339 ePn Pn 23 29 34.6 +0.9
JFWS Jewell Farm 4.79 339 P Pn 23 29 34.3 +0.7
baz=157,SNR=14
W41B Gary Mavity, V 4.79 228 ePn Pn 23 29 34.9 +1.1
W41B eSg Sb 23 30 48.2 +4.9
W41B Gary Mavity, V 4.79 228 P Pn 23 29 34.5 +0.7
baz=45,SNR=19
L39A Vinton 4.81 321 P Pn 23 29 34.3 +0.3
baz=138,SNR=9.6
Y50A Piedmont 4.89 158 P Pn 23 29 35.7 +0.6
baz=340,SNR=14
K40A Colesburg 4.89 331 P Pn 23 29 35.6 +0.5
baz=149,SNR=11
N51A Ashland 4.92 58 ePn Pn 23 29 36.3 +0.8
N51A ePb Pb 23 29 47.7 +0.3
N51A eSg Sb 23 30 50.9 +4.0
N51A Ashland 4.92 58 P Pn 23 29 36.9 +1.5
baz=242
J43A Natural Harves 4.92 356 P Pn 23 29 37.1 +1.5
baz=175
J42A Columbus 4.93 350 P Pn 23 29 36.0 +0.4
baz=169
V53A Saluda 4.93 123 ePn Pn 23 29 36.5 +0.7
V53A eSg Sg 23 30 55.8 -3.2
V53A Saluda 4.93 123 P Pn 23 29 36.8 +1.1
baz=306,SNR=14
O52A Adamsville 4.98 69 ePn Pn 23 29 37.0 +0.6
O52A ePb Pb 23 29 46.4 -2.1
AAM Ann Arbor 5.02 39 ePn Pn 23 29 37.4 +0.6
AAM ePb Pb 23 29 46.4 -2.6
AAM eSn Sn 23 30 34.5 -0.9
W53A Cullowhee 5.03 129 P Pn 23 29 38.5 +1.5
baz=312
X52A Dahlonega 5.03 139 P Pn 23 29 37.6 +0.7
baz=321,SNR=11
Z48A Northport 5.09 177 P Pn 23 29 38.0 +0.2
baz=357
Y51A Rockmart 5.10 152 P Pn 23 29 39.1 +1.1
baz=334
UALR University of 5.13 225 ePn Pn 23 29 38.0 -0.4
UALR eSg Sg 23 31 01.2 -4.1
J41A Loganville 5.15 343 P Pn 23 29 39.0 +0.3
baz=161
P53A Whipple 5.17 77 ePn Pn 23 29 39.5 +0.5
P53A eSg Sb 23 30 59.6 +5.2
P53A Whipple 5.17 77 P Pn 23 29 40.0 +1.0
baz=261,SNR=19
K39A Oelwein 5.21 326 P Pn 23 29 39.6 +0.1
baz=143
Z47A Carrollton 5.26 182 P Pn 23 29 40.7 +0.5
baz=1.5
HHAR Hobbs 5.28 247 ePn Pn 23 29 41.3 +0.8
BG3 Lake Jocassee 5.29 129 ePn Pn 23 29 40.2 -0.4
BG3 eSg Sb 23 31 03.7 +6.1
Z45A Winona 5.29 196 ePn Pn 23 29 41.1 +0.5
Z45A eSg Sg 23 31 08.2 -2.3
SCIA State Center 5.33 312 ePn Pn 23 29 41.6 +0.5
SCIA eSg Sb 23 31 06.6 +7.9
SCIA State Center 5.33 312 P Pn 23 29 41.8 +0.7
baz=128
J40A Soldiers Grove 5.37 337 P Pn 23 29 42.0 +0.2
baz=156
I43A Langenfeld Bro 5.42 358 P Pn 23 29 42.1 -0.2
baz=178
Z50A Ashland 5.44 162 ePn Pn 23 29 42.2 -0.5
Z50A Ashland 5.44 162 P Pn 23 29 43.0 +0.2
baz=344,SNR=40
LRAL Lakeview Retre 5.47 172 ePn Pn 23 29 42.4 -0.7
LRAL Lakeview Retre 5.47 172 P Pn 23 29 43.0 -0.1
baz=353
I42A Draeger Farm, 5.47 352 ePn Pn 23 29 43.4 +0.3
I42A Draeger Farm, 5.47 352 P Pn 23 29 43.2 +0.1
baz=172
K49A Clarkson 5.48 37 P Pn 23 29 44.4 +1.3
baz=219
CCAR Cane Creek 5.51 216 ePn Pn 23 29 43.1 -0.5
CCAR eSg Sg 23 31 19.6 +1.9
Y52A Lilburn 5.54 145 ePn Pn 23 29 43.5 -0.5
Y52A eSn Sn 23 30 47.4 -1.0
Y52A eSg Sb 23 31 11.1 +6.1
X40A Basin Creek Fa 5.62 227 ePn Pn 23 29 45.0 0.0
X40A eSg Sg 23 31 15.7 -5.3
J39A Decorah 5.65 331 P Pn 23 29 45.4 -0.1
baz=148,SNR=7.9
I45A Fountain 5.70 12 P Pn 23 29 45.9 -0.3
baz=193
W39A Magazine 5.74 237 ePn Pn 23 29 46.6 -0.2
W39A eSg Sg 23 31 19.3 -5.5
I41A Arkdale 5.78 346 ePb Pb 23 30 05.4 +3.3
147A Livingston 5.79 183 ePn Pn 23 29 47.4 0.0
I40A Norwalk 5.79 340 P Pn 23 29 48.0 +0.5
baz=158,SNR=20
146A Union 5.89 190 ePn Pn 23 29 49.4 +0.5
H43A Windswept, Lux 6.00 1 ePn Pn 23 29 49.4 -0.9
H43A ePb Pb 23 30 10.5 +4.7
H43A eSg Sg 23 31 28.3 -4.9
H43A Windswept, Lux 6.00 1 P Pn 23 29 49.8 -0.5
baz=181
MIAR Mount Ida 6.02 231 ePn Pn 23 29 51.5 +0.9
MIAR eSg Sg 23 31 29.6 -4.2
I39A Houston 6.04 334 ePn Pn 23 29 51.4 +0.5
I39A Houston 6.04 334 P Pn 23 29 51.1 +0.3
baz=152,SNR=16
BLA Blacksburg 6.05 100 ePn Pn 23 29 51.2 +0.2
BLA eSg Sg 23 31 30.4 -4.4
BLA Blacksburg 6.05 100 P Pn 23 29 51.7 +0.7
baz=284,SNR=9.0
H42A Shiocton 6.06 356 ePn Pn 23 29 52.8 +1.7
PAULI Pauline 6.10 125 ePn Pn 23 29 51.8 +0.2
I47A Gladwin 6.11 24 P Pn 23 29 52.2 +0.4
baz=206
GOGA Godfrey 6.19 143 ePn Pn 23 29 54.9 +1.9
GOGA eSg Sb 23 31 31.7 +8.0
HODGE Hodges 6.21 131 ePn Pn 23 29 53.7 +0.5
HODGE eSg Sg 23 31 33.4 -6.6
KMSC Kings Mountain 6.23 120 ePn Pn 23 29 53.4 0.0
KMSC eSg Sg 23 31 36.5 -4.0
H41A Junction City 6.28 348 ePn Pn 23 29 55.8 +1.5
H41A ePb Pb 23 30 12.7 +2.1
H41A eSg Sg 23 31 36.8 -5.5
152A Waverly Hall 6.34 155 ePn Pn 23 29 55.0 0.0
152A eSb Sg 23 31 36.9 -7.2
MCWV Mont Chateau 6.38 77 ePn Pn 23 29 56.3 +0.8
MCWV eSb Sg 23 31 40.2 -5.2
143A Socs Landing, 6.42 207 ePn Pn 23 29 56.6 +0.6
143A eLg Lg 23 31 51.8
H40A Chili 6.43 344 P Pn 23 29 56.2 0.0
baz=162
Z41A Richland Creek 6.55 219 ePn Pn 23 29 58.6 +0.8
Z41A eLg Lg 23 31 52.1
N54A Moraine State 6.59 65 ePn Pn 23 29 58.1 -0.3
N54A eSb Sg 23 31 45.4 -6.7
N54A Moraine State 6.59 65 P Pn 23 29 58.6 +0.2
baz=250,SNR=7.3
250A Grady 6.61 168 ePn Pn 23 29 59.5 +0.8
250A eSb Sb 23 31 43.9 +8.2

I49A	**Point Hope**	**6.67**	**33**	P	**Pn**	**23 30 00.5**	**+1.0**
	baz=216,SNR=7.4							
G45A	**Suttons Bay**	**6.78**	**14**	P	**Pn**	**23 30 00.6**	**-0.4**
	baz=195							
G42A	**Mountain**	**6.78**	**357**	*e*Pn	**Pn**	**23 30 00.9**	**-0.1**
G42A	**Mountain**	**6.78**	**357**	P	**Pn**	**23 30 00.8**	**-0.3**
	baz=176							
G43A	**Wallace**	**6.79**	**1**	*e*Pn	**Pn**	**23 30 00.6**	**-0.5**
G43A				*e*Sb	**Sg**	**23 31 52.9**	**-5.6**
G43A	**Wallace**	**6.79**	**1**	P	**Pn**	**23 30 00.4**	**-0.7**
	baz=181							
JSC	**Jenkinsville**	**6.79**	**126**	*e*Pn	**Pn**	**23 30 01.8**	**+0.6**
JSC				*e*Sb	Sb	23 31 49.9	+9.1
TUL1	**Leonard**	**6.80**	**250**	*e*Pn	**Pn**	**23 30 01.5**	**+0.2**
TUL1				*e*Sb	**Sg**	**23 31 52.8**	**-6.0**
GLMI	**Grayling**	**6.81**	**20**	*e*Pn	**Pn**	**23 30 02.0**	**+0.5**
KSU1	**Kansas State U**	**6.83**	**278**	*e*Pn	**Pn**	**23 30 02.9**	**+1.1**
KSU1				*e*Sb	**Sg**	**23 31 55.2**	**-4.8**
G40A	**Rib Lake**	**7.01**	**347**	*e*Pn	**Pn**	**23 30 04.0**	**-0.2**
M54A	**Oil Creek Stat**	**7.01**	**62**	*e*Pn	**Pn**	**23 30 03.5**	**-0.8**
M54A	**Oil Creek Stat**	**7.01**	**62**	P	**Pn**	**23 30 04.6**	**+0.3**
	baz=247,SNR=12							
H38A	**Maiden Rock**	**7.02**	**334**	P	**Pn**	**23 30 04.2**	**-0.1**
	baz=151							
ERPA	**Erie**	**7.06**	**56**	*e*Pn	**Pn**	**23 30 05.1**	**+0.2**
ERPA				*e*Lg	Lg	23 31 55.0	
253A	**Americus**	**7.09**	**153**	*e*Pn	**Pn**	**23 30 05.7**	**+0.3**
X37A	**Clayton**	**7.15**	**240**	*e*Pn	**Pn**	**23 30 07.6**	**+1.5**
G46A	**Petoskey**	**7.21**	**17**	P	**Pn**	**23 30 07.2**	**+0.2**
	baz=199							
G38A	**Ridgeland**	**7.32**	**337**	P	**Pn**	**23 30 08.8**	**+0.3**
	baz=155,SNR=6.3							
F41A	**Three Lakes**	**7.32**	**353**	*e*Pn	**Pn**	**23 30 07.8**	**-0.7**
F41A	**Three Lakes**	**7.32**	**353**	P	**Pn**	**23 30 08.0**	**-0.5**
	baz=172							
G47A	**Hillman**	**7.35**	**23**	P	**Pn**	**23 30 09.0**	**+0.2**
	baz=206							
F45A	**CMU Biological**	**7.43**	**13**	P	**Pn**	**23 30 09.4**	**-0.5**
	baz=194							
O56A	**Blue Knob Stat**	**7.45**	**73**	*e*Pn	**Pn**	**23 30 10.2**	**-0.1**
O56A	**Blue Knob Stat**	**7.45**	**73**	P	**Pn**	**23 30 10.7**	**+0.4**
	baz=259,SNR=9.3							
F44A	**Big Bay de Noc**	**7.58**	**8**	P	**Pn**	**23 30 11.8**	**-0.2**
	baz=189							
447A	**Lucedale**	**7.68**	**185**	*e*Pn	**Pn**	**23 30 11.9**	**-1.4**
SPMN	**Marine on St.**	**7.68**	**333**	*e*Pn	**Pn**	**23 30 13.3**	**0.0**
COWI	**Conover**	**7.68**	**354**	*e*Pn	**Pn**	**23 30 12.5**	**-0.9**
F39A	**Loretta**	**7.77**	**344**	P	**Pn**	**23 30 15.0**	**+0.4**
	baz=162,SNR=5.9							
E43A	**Lone Tree Farm**	**7.93**	**5**	*e*Pn	**Pn**	**23 30 15.7**	**-1.2**
E43A	**Lone Tree Farm**	**7.93**	**5**	P	**Pn**	**23 30 15.8**	**-1.1**
	baz=185							
SSPA	**Standing Stone**	**8.03**	**71**	*e*Pn	**Pn**	**23 30 17.9**	**-0.3**
SSPA				*e*Lg	Lg	23 32 30.3	
SSPA	**Standing Stone**	**8.03**	**71**	P	**Pn**	**23 30 18.1**	**-0.2**
	baz=258							
E45A	**Wooded Hills,**	**8.14**	**13**	P	**Pn**	**23 30 19.2**	**-0.5**
	baz=195							
E39A	**Mellen**	**8.15**	**347**	P	**Pn**	**23 30 19.2**	**-0.5**
	baz=165							
E44A	**Grand Marais A**	**8.28**	**10**	*e*Pn	**Pn**	**23 30 21.3**	**-0.2**
E44A	**Grand Marais A**	**8.28**	**10**	P	**Pn**	**23 30 21.1**	**-0.4**
	baz=191							
F48A	**Evansville**	**8.33**	**26**	P	**Pn**	**23 30 21.4**	**-1.0**
	baz=210							
BGNE	**Belgrade**	**8.40**	**294**	*e*Pn	**Pn**	**23 30 24.2**	**+0.8**
ECSD	**EROS Data Cent**	**8.42**	**311**	*e*Pn	**Pn**	**23 30 23.3**	**-0.3**
ECSD	**EROS Data Cent**	**8.42**	**311**	P	**Pn**	**23 30 23.2**	**-0.4**
	baz=126							
F49A	**Sandfield**	**8.49**	**29**	P	**Pn**	**23 30 23.8**	**-0.6**
	baz=213							
E47A	**Iron Bridge**	**8.68**	**22**	P	**Pn**	**23 30 26.1**	**-1.0**
	baz=205							
SADO	**Sadowa**	**9.09**	**43**	Pn	**Pn**	**23 30 30.1**	**-2.6**
	0.5nm,0.3s,baz=230,slow=11,SNR=4.4							
SADO				Sn	**Sn**	**23 32 06.8**	**-8.8**
	3.3nm,0.3s,baz=223,slow=11,SNR=6.8							
SADO				Lg	Lg	23 33 00.9	
	3.0nm,0.3s,baz=146,slow=21,SNR=12							
CBKS	**Cedar Bluff**	**9.27**	**276**	*e*Pn	**Pn**	**23 30 35.5**	**+0.2**
C40A	**Isle Royale Na**	**9.49**	**355**	*e*Pn	**Pn**	**23 30 36.6**	**-1.5**
C40A	**Isle Royale Na**	**9.49**	**355**	P	**Pn**	**23 30 37.0**	**-1.2**
	baz=174							
WMOK	**Wichita Mounta**	**9.51**	**250**	*e*Pn	**Pn**	**23 30 38.6**	**+0.2**
BINY	**Binghamton**	**9.83**	**64**	*e*Pn	**Pn**	**23 30 42.6**	**-0.3**
EYMN	**Ely**	**9.83**	**346**	*e*Pn	**Pn**	**23 30 41.3**	**-1.5**
EYMN	**Ely**	**9.83**	**346**	P	**Pn**	**23 30 41.5**	**-1.4**
	baz=163							
ODNJ	**Ogdensburg**	**10.56**	**72**	*e*Pn	**Pn**	**23 30 51.3**	**-1.6**
ULM	**Lac du Bonnet**	**13.08**	**337**	Pn	**Pn**	**23 31 23.1**	**-4.1**
	0.5nm,0.3s,baz=155,slow=13,SNR=5.5							
ULM				Sn	Sn	23 33 41.5	-12
	0.3nm,0.3s,baz=330,slow=6.9,SNR=3.2							
ULM				Lg	Lg	23 35 04.1	
	0.4nm,0.3s,baz=253,slow=19,SNR=2.0							
SDCO	**Great Sand Dun**	**13.88**	**272**	*e*Pn	**Pn**	**23 31 39.5**	**+1.0**
ANMO	**Albuquerque**	**15.29**	**262**	Lg	Lg	23 36 24.2	
	0.2nm,0.3s,baz=341,slow=18,SNR=4.9							
TXAR	**Lajitas Array**	**15.93**	**240**	Pn	**Pn**	**23 32 06.5**	**+0.6**
	0.1nm,0.3s,baz=53,slow=14,SNR=4.3							
TXAR				Lg	Lg	23 36 46.3	
	0.2nm,0.3s,baz=49,slow=22,SNR=5.8							
PDAR	**Pinedale Array**	**16.98**	**292**	P	**P**	**23 32 21.3**	**-0.2**
	0.1nm,0.3s,baz=89,slow=12,SNR=2.5							
PDAR				Lg	Lg	23 37 09.0	
	0.1nm,0.3s,baz=104,slow=33,SNR=3.2							
NVAR	**Mina Array Bea**	**23.76**	**279**	P	**P**	**23 33 38.7**	**+4.1**
	0.3nm,0.5s,baz=75,slow=8.6,SNR=2.5							
JTS	**JuntasAbangare**	**28.18**	**174**	LR	LR	23 48 16.8	
	comp=Z,30nm,18.3s,baz=180,slow=42							

*SJA **20** 23:46:45.4±0.6,34.96S×72.75W,h40km±7km, ML3.9, MW3.8*
*GUC **20** 23:46:51.5±0.6,34.86S×71.89W,h25km±10km, ML3.9*
ISC 20 23:46:50.8±1.8,34.75S±0.05×72.06W±0.08,h5km±14km, n22,σ1°93/35,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GO05	**HualaæØ**	**0.28**	**158**	*e*P		**Pg**	**23 46 56.3**	**0.0**
GO05				*e*S		**Sg**	**23 47 00.2**	**+0.1**
ANTU	**Antumapu**	**1.67**	**46**	*e*P		**Pn**	**23 47 19.2**	**-1.5**
ANTU				*e*S		**Sn**	**23 47 39.3**	**-3.1**
LMEL	**Las Melosas**	**1.78**	**60**	*e*P		**Pn**	**23 47 20.6**	**-1.7**
LMEL				*e*S		**Sn**	**23 47 42.0**	**-3.4**
LMEL				IAML			23 47 46.0	
	comp=N,3μm,0.1s							
CLCH	**Cerro Calan**	**1.84**	**44**	*e*P		**Pn**	**23 47 22.1**	**-1.1**
CLCH				*e*S		**Sn**	**23 47 45.0**	**-1.9**
CLCH				IAML			23 47 56.0	
	comp=N,3μm,0.2s							
CCHI	**Chillan**	**1.85**	**181**	*e*P		**Pb**	**23 47 24.3**	**-0.9**
CCHI				*i* S		**Sb**	**23 47 48.2**	**-0.3**
PEL	**Peldehue**	**1.96**	**36**	*e*P		**Pn**	**23 47 25.3**	**+0.6**
PEL	**Peldehue**	**1.96**	**36**	*e*P		**Pn**	**23 47 24.2**	**-0.5**
PEL				*e*S		**Sn**	**23 47 49.4**	**-0.4**
PEL				IAML			23 47 54.5	
	comp=E,1μm,0.7s							
ROC1	**El Roble**	**1.97**	**26**	*e*P		**Pn**	**23 47 24.9**	**-0.1**
ROCH	**El Roble**	**1.97**	**26**	*e*P		**Pn**	**23 47 24.7**	**-0.3**
ROCH				*e*S		**Sb**	**23 47 52.1**	**-0.1**
ROCH				IAML			23 47 56.0	
	comp=N,1μm,0.7s							
FCH	**Farellones**	**2.04**	**47**	*e*P		**Pn**	**23 47 25.2**	**-0.8**
FCH				*e*S		**Sn**	**23 47 51.9**	**-0.1**
FCH				IAML			23 47 56.9	
	comp=E,1μm,0.4s							
RFA	**San Rafael**	**2.96**	**91**	*e*P		**Pn**	**23 47 40.5**	**+2.1**
RFA				*e*S		**Sb**	**23 48 20.7**	**+0.3**
AAGR	**Agrelo**	**3.15**	**59**	*e*P		**Pn**	**23 47 43.8**	**+2.6**
ARCO	**CERRO ARCO**	**3.22**	**55**	*e*P		**Pn**	**23 47 44.8**	**+2.6**
ARCO				IAML			23 47 50.8	
	comp=Z,228nm,0.5s							
ARCO				*e*S		**Sb**	**23 48 28.1**	**-0.1**
AUSP	**Uspallata**	**3.36**	**42**	*e*P		**Pn**	**23 47 46.6**	**+2.4**
AUSP				*e*S		**Sb**	**23 48 31.8**	**-0.6**
ASAL	**Salagasta**	**3.44**	**52**	*e*P		**Pn**	**23 47 47.1**	**+2.0**
ASAL				*e*S		**Sb**	**23 48 33.1**	**-1.3**
RTLS	**Leoncito**	**3.74**	**39**	*e*P		**Pn**	**23 47 51.6**	**+2.2**
RTLS				IAML			23 48 52.1	
	comp=Z,94nm,0.5s							
RTCV	**Cerro Valdivia**	**4.12**	**47**	*e*P		**Pn**	**23 47 57.1**	**+2.7**
ACAN	**Cantantal**	**4.75**	**60**	*e*P		**Pn**	**23 48 05.6**	**+2.4**
AMOG	**MOGNA**	**4.84**	**39**	*e*P		**Pn**	**23 48 05.8**	**+1.5**
ACCO	**Cerro Coronel**	**4.85**	**32**	*e*P		**Pn**	**23 48 06.5**	**+1.8**
ACCO				*e*S		**Sn**	**23 49 06.7**	**+5.2**
AROD	**Rodeo**	**5.06**	**26**	*e*P		**Pn**	**23 48 08.7**	**+1.1**
AGUA	**GUANDACOL**	**6.05**	**31**	*e*P		**Pn**	**23 48 21.7**	**+0.6**

*ISK **20** 23:51:03.3,37.36N×37.20E,h9km,ML1.7/3*
*ISCJB **20** 23:51:04.7±0.7,37.30N±0.05×37.11E±0.05,h6km±7km, Error ellipse: s-maj=9.1km s-min=5.3km az=33.8*
*DDA **20** 23:51:04.5,37.31N×37.14E,h7km, Ml2.6*
ISC 20 23:51:04.3±1.0,37.32N±0.04×37.13E±0.04,h11km±8km, n10,σ0°65/16,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GAZ	**Gaziantep**	**0.16**	**156**	PG		**Pg**	**23 51 07.8**	**-0.1**
GAZ				SG		**Sg**	**23 51 10.9**	**+0.5**
KMRS	**Kahramanmaras**	**0.27**	**316**	PG		**Pg**	**23 51 09.6**	**-0.2**
KUZU	**Kuzuini**	**0.54**	**185**	*i* P		**Pb**	**23 51 15.6**	**-0.4**
KUZU				*i* S		**Sn**	**23 51 27.7**	**+0.5**
ANDN	**Andirin**	**0.68**	**293**	*i* P		**Pg**	**23 51 17.3**	**-0.2**
ANDN				*i* S		**Sn**	**23 51 30.5**	**-0.3**
KOZT	**Kozan**	**1.05**	**279**	PN		**Pg**	**23 51 24.3**	**-0.3**
SAIM	**ADANA**	**1.06**	**309**	*i* P		**Pb**	**23 51 24.9**	**+0.1**
SAIM				*i* S		**Sn**	**23 51 40.5**	**+0.3**
AKCD	**Akcadag**	**1.16**	**32**	*i* P		**Pn**	**23 51 27.4**	**+0.7**
AKCD				*i* S		**Sn**	**23 51 43.4**	**+0.7**
TAHT	**Tahtakopru-Hat**	**1.21**	**219**	PN		**Pg**	**23 51 27.9**	**+0.4**
SURC	**SANLIURFA_SURC**	**1.26**	**110**	*i* P		**Pg**	**23 51 28.1**	**-0.4**
SURC				*i* S		**Sn**	**23 51 46.1**	**+1.2**
URFA	**Urfa**	**1.35**	**84**	PN		**Pn**	**23 51 28.0**	**-1.3**

*IDC **21** 00:00:19.5±1.0,25.32N×92.70E,h0km,mb3.4/6, mb1 3.6/6,mb1mx3.4/51,mbtmp3.4/6,Error ellipse: s-maj=41.2km s-min=22.6km az=58.0*
*NDI **21** 00:00:22.0±1.6,25.68N×93.00E,h10km,ML3.3*
ISC 21 00:00:21.0±2.1,25.70N±0.04×92.94E±0.05,h5km±14km, n14,σ1°45/22,mb3.6/6,India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TEZP	**TEZPUR**	**0.92**	**352**	*i* P		**Pn**	**00 00 40.7**	**+0.1**
TEZP				*e*S		**Sn**	**00 00 54.0**	**-0.2**
TEZP				IAML			00 00 57.4	
	comp=E,1μm,0.1s							
TEZP				IAML			00 00 58.1	
	comp=N,2μm,0.2s							
SHL	**Shillong**	**0.96**	**262**	*e*P		**Pn**	**00 00 42.4**	**+1.0**
SHL				*e*S		**Sn**	**00 00 56.9**	**+1.4**
SHL				IAML			00 00 59.5	
	comp=E,611nm,0.3s							
SHL				IAML			00 01 00.9	
	comp=N,668nm,0.1s							
KOHI	**KOHIMA**	**1.06**	**89**	*e*P		**Pg**	**00 00 40.9**	**-0.3**
KOHI				*e*S		**Sn**	**00 00 59.5**	**+1.7**
KOHI				IAML			00 00 59.7	
	comp=E,2μm,0.9s							
KOHI				IAML			00 01 00.3	
MOKO	**MOKOCHONG**	**1.55**	**66**	*e*P		**Pn**	**00 00 49.3**	**-0.1**
MOKO				*e*S		**Sn**	**00 01 09.8**	**-0.1**
MOKO				IAML			00 01 12.9	
	comp=N,622nm,0.2s							
MOKO				IAML			00 01 14.2	
	comp=E,618nm,0.2s							
AZL	**Aizawl**	**1.97**	**187**	*e*P		**Pn**	**00 00 55.6**	**+0.5**
AZL				*e*S		**Sn**	**00 01 19.4**	**-0.9**
AZL				IAML			00 01 25.7	
	comp=E,212nm,0.2s							
AZL				IAML			00 01 27.0	
	comp=N,135nm,0.3s							
ZIRO	**ZIRO**	**1.99**	**24**	*e*P		**Pn**	**00 00 56.3**	**+0.7**
ZIRO				*e*S		**Sn**	**00 01 21.5**	**+0.5**
TAWA	**Tawang**	**2.11**	**333**	*e*P		**Pn**	**00 00 56.4**	**-1.0**
TAWA				*e*S		**Sb**	**00 01 25.3**	**-1.4**
TAWA				IAML			00 01 32.9	
	comp=N,717nm,0.3s							
TAWA				IAML			00 01 35.1	
	comp=E,813nm,0.4s							
SAIH	**SAIHA**	**3.20**	**179**	*e*P		**Pn**	**00 01 13.6**	**+1.5**
SAIH				*e*S		**Sn**	**00 01 49.4**	**-1.4**
SAIH				IAML			00 01 55.0	
	comp=N,20nm,0.3s							
SAIH				IAML			00 01 59.7	
	comp=E,37nm,0.2s							
MKAR	**Makanchi Array**	**22.69**	**341**	P		**P**	**00 05 26.0**	**+2.6**
	comp=E,1.4nm,1.0s,baz=151,slow=12,SNR=8.0							
SONM	**Songino Array**	**24.51**	**22**	P		**P**	**00 05 44.6**	**+3.2**
	comp=E,0.2nm,0.6s,baz=205,slow=9.5,SNR=1.9							
WRA	**Warramunga Arr**	**60.63**	**134**	P		**P**	**00 10 31.6**	**-1.7**
	comp=E,0.5nm,0.8s,baz=323,slow=7.4,SNR=6.4							
ASAR	**Alice Springs**	**63.10**	**138**	P		**P**	**00 10 48.4**	**-1.4**
	comp=E,0.3nm,0.8s,baz=321,slow=7.2,SNR=3.6							
GERES	**GERESS Array B**	**64.21**	**314**	P		**P**	**00 10 56.2**	**-0.8**
	comp=E,0.2nm,0.4s,baz=90,slow=7.2,SNR=4.0							
TORD	**Torodi Ar. Bea**	**85.50**	**282**	P		**P**	**00 12 59.8**	**-0.9**
	comp=E,0.4nm,1.0s,baz=54,slow=5.1,SNR=9.1							

*NIED **21** 00:02:00,39.60N×142.10E,h53km,Mw4.1 Best double couple: Mo1.86000×10^15 NP1:φs180.00000°,δ20.00000°, λ62.00000°. NP2:φs30.00000°,δ72.00000°,λ100.00000°.*
*BJI **21** 00:02:12.6,39.28N×142.83E,h54km, mb4.5/8, mB4.6/1*
*ISCJB **21** 00:02:18.2±0.5,39.63N±0.03×142.11E±0.06, h57km±3km, mb4.1/31,MS3.2/7, Error ellipse: s-maj=8.2km s-min=4.4km az=13.4*
*JMA **21** 00:02:19.0,39.64N×142.11E,h49km±1km,M4.1 Broadband fault plane solution: P waves. NP1: φs33.00000°,δ73.00000°,λ103.00000°. NP2: φs175.00000°,δ21.00000°,λ53.00000°. Principal axes: T Plg60.0000°, Azm322.0000°; N Plg12.0000°, Azm209.0000°; P Plg27.0000°, Azm113.0000°;*
JMA Felt III J1.
*NEIC **21** 00:02:20.3±0.6,39.59N×142.07E,h62km±5km,mb4.2/8 Error ellipse: s-maj=6.0km s-min=4.8km az=133.0*
NEIC Recorded [3 JMA] in Iwate.
*IDC **21** 00:02:22.6±2.0,39.57N×141.99E,h81km±18km,mb3.8/24, mb1 4.0/29,mb1mx3.9/49,mbtmp4.2/29,MS3.1/14, Ms1 3.1/14,ms1mx2.9/46,Error ellipse: s-maj=14.3km s-min=12.5km az=102.0*
ISC 21 00:02:19.3±0.9,39.62N±0.04×142.10E±0.07,h50km±6km, n91,σ1°14/99,mb4.2/31,MS3.2/7,9D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MIYJ	**Miyakonagasawa**	**0.22**	**260**	||P	**Pn**	**00 02 27.4**	**-0.4**
MIYJ				S		**Sn**	**00 02 33.2**	**-0.7**
JTH	**Tanohata**	**0.37**	**330**	||P	**Pn**	**00 02 28.5**	**-0.7**
JTH				S		**Sn**	**00 02 35.2**	**-1.0**
OFUJ	**Ofunato**	**0.63**	**212**	P		**Pn**	**00 02 31.9**	**-0.3**
OFUJ				S		**Sn**	**00 02 40.9**	**-0.6**
JOM	**Ohasama**	**0.64**	**257**	||P	**Pn**	**00 02 32.2**	**-0.1**
JOM				S		**Sn**	**00 02 41.7**	**0.0**
JKZ	**Kuzumaki**	**0.70**	**302**	||P	**Pn**	**00 02 32.8**	**-0.3**
JKZ				S		**Sn**	**00 02 42.4**	**-0.7**
JANG	**Nango**	**0.88**	**329**	||P	**Pn**	**00 02 34.7**	**-0.7**
JANG				S		**Sn**	**00 02 45.5**	**-1.8**
JMK	**Ichinoseki**	**0.95**	**226**	||P	**Pn**	**00 02 36.3**	**-0.1**
JMK				S		**Sn**	**00 02 48.7**	**-0.2**
JRG	**Rokugo**	**1.16**	**260**	||P	**Pn**	**00 02 39.0**	**-0.1**
JAH	**Hinai**	**1.26**	**297**	||P	**Pn**	**00 02 40.6**	**0.0**
JIO	**Ouri**	**1.30**	**207**	P		**Pn**	**00 02 41.0**	**-0.1**
JIO				*e*S		**Sn**	**00 02 57.8**	**+0.5**
JTM	**Tenmabayashi**	**1.41**	**326**	||P	**Pn**	**00 02 42.3**	**-0.3**
ERM	**Erimo**	**2.53**	**18**	*e*Pn		**Pn**	**00 02 58.2**	**+0.4**
MAJO	**Matsushiro**	**4.34**	**226**	*e*Pn		**Pn**	**00 03 24.7**	**+2.0**
MAT	**Matsushiro**	**4.34**	**226**	P		**Pn**	**00 03 25.0**	**+2.2**
MAT				*e*S		**Sn**	**00 04 14.3**	**+2.2**
MJAR	**Matsushiro Arr**	**4.34**	**226**	P		**Pn**	**00 03 26.1**	**+3.3**
	6.4nm,0.3s,baz=32,slow=12,SNR=81							
MJAR				S		Sn	00 04 22.5	+10
	baz=221,slow=19,SNR=2.9							
MJAR				LR		LR	00 05 01.7	
	comp=Z,68nm,20.1s,baz=95,slow=38							
MJB9	**Matsu-Tunnel**	**4.34**	**226**	*e*Pn		**Pn**	**00 03 24.9**	**+2.1**
ASAJ	**Asahikawa**	**4.51**	**5**	P		**Pn**	**00 03 25.4**	**+0.3**
	5.5nm,0.3s,baz=193,slow=10,SNR=5.9							
ASAJ				S		**Sn**	**00 04 20.7**	**+4.5**
	baz=127,slow=20,SNR=4.0							
ASAJ				LR		LR	00 05 31.4	
	comp=Z,162nm,21.9s,baz=93,slow=41							
INU	**Inuyama**	**5.87**	**225**	*e*Pn		**Pn**	**00 03 44.6**	**+0.9**
JHJ	**Hachijo jima 2**	**6.75**	**197**	P		**Pn**	**00 03 56.5**	**+0.7**
	12nm,0.3s,baz=92,slow=21,SNR=3.6							
JHJ				S		**Sn**	**00 05 09.1**	**-2.2**
	12nm,0.3s,baz=72,slow=20,SNR=2.5							
USA0B	**Ussuriysk Arra**	**8.82**	**305**	*e*Pn		**Pn**	**00 04 26.1**	**+2.1**
USRK	**Ussuriysk Ar.**	**8.82**	**305**	P		**Pn**	**00 04 27.0**	**+2.9**
	1.0nm,0.3s,baz=114,slow=14,SNR=16							
USRK				LR		LR	00 07 34.2	
	comp=Z,152nm,21.6s,baz=95,slow=36							
JNU	**Nakatsue**	**11.12**	**238**	LR		LR	00 09 49.7	
	comp=Z,38nm,18.6s,baz=22,slow=40							
KSRS	**Korea Array**	**11.31**	**263**	P		**Pn**	**00 05 01.9**	**+3.8**
	1.5nm,0.3s,baz=69,slow=14,SNR=11							
KSRS				LR		LR	00 08 57.6	
	comp=Z,66nm,18.2s,baz=86,slow=35							
KSAR	**Wonju Array Be**	**11.35**	**263**	P		**Pn**	**00 05 01.9**	**+3.3**
KLR	**Kul'dur**	**12.12**	**326**	P		**Pn**	**00 05 10.9**	**+1.8**
	0.2nm,0.3s,baz=143,slow=14,SNR=2.9							
KLR				LR		LR	00 09 50.8	
	comp=Z,66nm,19.1s,baz=132,slow=37							
PETK	**Petropavlovsk-**	**17.21**	**33**	LR		LR	00 12 29.0	
	comp=Z,50nm,19.5s,baz=228,slow=35							
YAK	**Yakutsk**	**23.69**	**345**	LR		LR	00 16 24.4	
	comp=Z,36nm,18.4s,baz=82,slow=36							
SEY	**Seymchan**	**24.16**	**12**	P		**P**	**00 07 30.8**	**+0.4**
	11nm,0.9s,baz=191,slow=9.1,SNR=10							
ULN	**Ulaanbaatar**	**26.45**	**300**	*e*P		**P**	**00 07 51.0**	**-0.6**
	1.2nm,0.4s							
SONA1	**Songino Array**	**26.88**	**300**	*e*P		**P**	**00 07 55.0**	**-0.4**
SONM	**Songino Array**	**26.89**	**300**	P		**P**	**00 07 55.2**	**-0.2**
	1.3nm,0.6s,baz=80,slow=8.5,SNR=11							
SONM				PcP		**PcP**	**00 11 16.5**	**-0.1**
	0.3nm,0.6s,baz=99,slow=3.6,SNR=3.7							
SONM				LR		LR	00 18 56.5	
	comp=Z,64nm,18.7s,baz=18,slow=37							
H11N2	**WAKE ISLAND Hy**	**29.11**	**126**	T		T	00 38 50.9	
	baz=319,slow=75,SNR=903							
H11N1	**WAKE ISLAND Hy**	**29.12**	**126**	T		T	00 38 51.7	
	baz=319,slow=75,SNR=1107							
TLY	**Talaya**	**29.12**	**307**	*e*P		**P**	**00 08 15.3**	**+0.1**
	2.5nm,0.7s							
H11N3	**WAKE ISLAND Hy**	**29.13**	**126**	T		T	00 38 52.9	
	baz=319,slow=75,SNR=679							
H11S1	**WAKE ISLAND Hy**	**29.91**	**128**	T		T	00 39 50.6	
	baz=320,slow=76,SNR=201							
H11S3	**WAKE ISLAND Hy**	**29.91**	**128**	T		T	00 39 53.7	
	baz=320,slow=76,SNR=185							
H11S2	**WAKE ISLAND Hy**	**29.92**	**128**	T		T	00 39 54.8	
	baz=320,slow=76,SNR=199							
CD2	**Chengdu**	**32.29**	**266**	*e*P		**P**	**00 08 43.0**	**-0.4**
WMQ	**Urumqi**	**40.22**	**294**	*e*P		**P**	**00 09 50.8**	**-0.1**
ZAA0	**Zalesovo Array**	**40.62**	**310**	*e*P		**P**	**00 09 53.7**	**-0.3**
	4.8nm,0.6s							
ZALV	**Zalesovo Beam**	**40.62**	**310**	P		**P**	**00 09 53.8**	**-0.2**
	4.4nm,0.4s,baz=91,slow=8.4,SNR=24							
ZALV				PcP		**PcP**	**00 11 54.7**	**-0.3**
	1.9nm,0.4s,baz=95,slow=2.6,SNR=7.2							
ZALV				LR		LR	00 27 31.9	
	comp=Z,36nm,18.8s,baz=206,slow=37							
ZALV	**Zalesovo Beam**	**40.62**	**310**	*e*P		**P**	**00 09 53.2**	**-0.8**
ZALV				PcP		**PcP**	**00 11 54.7**	**-0.3**
NRIK	**Noril'sk**	**41.17**	**334**	P		**P**	**00 09 57.6**	**-0.6**
	1.5nm,0.4s,baz=101,slow=5.4,SNR=3.8							
NRIK				LR		LR	00 28 04.4	
	comp=Z,50nm,19.8s,baz=9.5,slow=38							
CHTO	**Chiang Mai**	**42.50**	**254**	*e*P		**P**	**00 10 09.2**	**-0.5**
	1.7nm,0.4s							
CMAR	**Chiang Mai Arr**	**42.72**	**253**	P		**P**	**00 10 11.9**	**+0.3**
	0.7nm,0.3s,baz=45,slow=6.5,SNR=3.4							
CMAR				LR		LR	00 27 57.8	
	comp=Z,4.2nm,18.3s,baz=150,slow=36							
MK01	**Makanchi Array**	**43.25**	**300**	*e*P		**P**	**00 10 15.1**	**-0.5**
MK31	**Makanchi Array**	**43.25**	**300**	*e*P		**P**

CTBH				*i* S	Sb	00 15 18.1	-0.4	
PAGZ	**Pagadian**	**1.05**	**346**	*e*P	Pg	00 15 13.8	+0.1	
PAGZ				*e*S	Sn	00 15 29.4	-0.5	
GSPH	**General Santos**	**1.48**	**119**⇑	*i*P	Pg	00 15 24.2	+2.1	
GSPH				*i* S	Sg	00 15 45.6	+4.3	
BUKP	**Musuan**	**1.75**	**53**	*e*P	Pn	00 15 25.1	+0.6	
BUKP				*e*S	Sg	00 15 50.4	+0.5	
CGP	**Cagayan de Oro**	**1.93**	**33**⇓	*e*P	Pn	00 15 26.3	-0.6	
CGP				*e*S	Sn	00 15 52.4	+0.9	

ISCJB ***21*** *00:21:42.3±0.5,39.°79N±0.°02×25.°48E±0.°04, h2km±6km, Error ellipse: s-maj=4.7km s-min=4.1km az=168.5*
ATH ***21*** *00:21:42.2,39.°79N×25.°46E, h18km±3km, ML2.0/4, Error ellipse: s-maj=3.6km s-min=1.3km az=289.0, ML Amplitudes are expressed in micrometres All distances are expressed in km*
ISK ***21*** *00:21:42.2,39.°77N×25.°51E, h6km, ML2.5/8*
DDA ***21*** *00:21:47.8,39.°80N×25.°88E, h7km, Ml2.6*
ISC 21 00:21:42.5±1.0,**39.°78N**±0.°02×**25.°47E**±0.°03,**h12**km±9km, **n25**,σ0**970**/33,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.25**	**298**	P		**Pg**	**00 21 47.7**	**+0.1**
LIA				S		**Sg**	**00 21 51.4**	**+0.3**
LIA				AML		AML	00 21 51.5	
	comp=E,753μm,0.2s							
LIA				AML		AML	00 21 51.6	
	comp=N,632μm,0.3s							
EFSA	**Agios Efstrati**	**0.44**	**237**	P		**Pb**	**00 21 52.3**	**+0.1**
EFSA				S		**Sg**	**00 21 57.7**	**+0.7**
EFSA				AML		AML	00 22 00.7	
	comp=E,1181μm,0.3s							
EFSA				AML		AML	00 22 00.9	
	comp=N,1135μm,0.3s							
GADA	**Gvkgeada**	**0.53**	**39**	PG		**Pb**	**00 21 52.9**	**-0.8**
SIGR	**SIGRI**	**0.64**	**152**	PG		**Pg**	**00 21 54.6**	**-0.3**
SIGR	**SIGRI**	**0.64**	**152**	P		**Pg**	**00 21 54.8**	**-0.1**
SIGR				S		**Sb**	**00 22 03.8**	**-0.7**
SIGR				AML		AML	00 22 04.5	
	comp=E,376μm,0.5s							
SIGR				AML		AML	00 22 04.5	
	comp=N,591μm,0.5s							
EZN	**Ezine**	**0.66**	**86**	PG		**Pg**	**00 21 54.9**	**-0.4**
EZN				SG		**Sb**	**00 22 04.0**	**-1.1**
SMTH	**Samothraki Isl**	**0.69**	**4**	P		**Pb**	**00 21 56.0**	**-0.4**
PRK	**Paraskevi**	**0.82**	**130**	P		**Pb**	**00 21 58.2**	**-0.4**
AYVA	**Ayvalik**	**1.06**	**116**	*i* P		**Pn**	**00 22 02.8**	**-0.2**
AYVA				*i* S		**Sn**	**00 22 17.6**	**-0.1**
ENEZ	**Enez**	**1.09**	**29**	PN		**Pn**	**00 22 03.3**	**-0.3**
SKY	**Skiros Island**	**1.15**	**219**	P		**Pg**	**00 22 03.3**	**-1.2**
ERIK	**Erikli-Kesan**	**1.20**	**42**	PN		**Pn**	**00 22 04.9**	**-0.1**
ALN	**Alexandroupoli**	**1.20**	**21**	PN		**Pn**	**00 22 05.2**	**+0.1**
ALN	**Alexandroupoli**	**1.20**	**21**	P		**Pg**	**00 22 04.5**	**-1.0**
ALN				S		**Sn**	**00 22 21.9**	**+0.6**
ALN				AML		AML	00 22 22.1	
	comp=E,54μm,0.4s							
ALN				AML		AML	00 22 23.0	
	comp=N,50μm,0.3s							
DKL	**Dikili**	**1.32**	**122**	PN		**Pg**	**00 22 07.1**	**-0.7**
RDO	**Rodhopi**	**1.36**	**2**	P		**Pn**	**00 22 07.3**	**0.0**
KESN	**Edirne-Kesan**	**1.40**	**41**	*i* P		**Pg**	**00 22 10.6**	**+1.3**
KESN				*i* S		**Sn**	**00 22 27.7**	**+1.0**
CHOS	**Chios island**	**1.47**	**162**	PN		**Pb**	**00 22 09.6**	**-0.1**
CHOS	**Chios island**	**1.47**	**162**	P		**Pg**	**00 22 10.2**	**-0.4**
CHOS				S		**Sg**	**00 22 30.3**	**+0.7**
RKY	**Sarkoy-Tekirda**	**1.59**	**55**	PN		**Pb**	**00 22 11.5**	**-0.3**
URLA	**Izmir**	**1.67**	**148**	PN		**Pn**	**00 22 12.1**	**+0.5**
STEP	**BALIKESIR_Sava**	**1.78**	**102**	*i* P		**Pg**	**00 22 16.4**	**-0.3**
EDC	**Edincik**	**1.92**	**72**	PN		**Pn**	**00 22 15.9**	**+0.9**
DURS	**Dursunbey**	**2.33**	**93**	*i* P		**Pn**	**00 22 21.9**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**2.63**	**133**	PN		**Pn**	**00 22 25.9**	**+1.0**

NIED ***21*** *00:22:00,43.°90N×147.°80E, h86km, Mw4.4 Best double couple: M₀4.34000×10¹⁵ NP1:φs44.00000°,δ45.00000°, λ-75.00000°. NP2:φs203.00000°,δ47.00000°, λ-104.00000°.*
MOS ***21*** *00:22:09.9±0.9, 44.°10N×147.°71E, h99km, mb4.6/67, Error ellipse: s-maj=6.0km s-min=5.2km az=103.6*
MOS Felt (II) at Yuzhno-Kuril'sk.
ISCJB ***21*** *00:22:09.9±0.3, 44.°10N±0.°03×147.°71E±0.°03, h97km±2km, mb4.6/234, Error ellipse: s-maj=4.9km s-min=2.9km az=157.2*
IDC ***21*** *00:22:10.7±0.5, 44.°13N×147.°73E, h93km±5km, mb4.2/32, mb1 4.4/40, mb1mx4.3/54, mbtmp4.5/40, MS3.0/10, Ms1 3.0/10, ms1mx2.8/36, Error ellipse: s-maj=11.7km s-min=8.5km az=159.0*
NEIC ***21*** *00:22:10.9±0.4, 44.°12N×147.°69E, h93km±3km, mb4.7/168, Error ellipse: s-maj=4.2km s-min=2.3km az=158.0*
NEIC Recorded [1 JMA] in eastern Hokkaido.
BJI ***21*** *00:22:11.7, 44.°31N×147.°46E, h92km, mb4.8/41, mB4.9/27*
JMA ***21*** *00:22:11.2±0.2, 43.°86N×147.°77E, h86km, M4.6*
JMA Felt I J1.
SKHL ***21*** *00:22:11.1±1.0, 44.°12N×147.°74E, h97km±1km, mb5.3/1, msh5.4/1*
SKHL Felt (II) at Yushno-Kuril'sk.
ISC 21 00:22:10.8±0.5,**44.°13N**±0.°04×**147.°73E**±0.°04,**h93**km±3km, **h93**km:**pP-P, n484,**σ1§**14**/535,**mb4.6**/235,**24C-25D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.70**	**249**	*i* P		**Pn**	**00 22 27.9**	**+0.4**
SHO				AMB		AMB	00 22 28.0	
	4μm,0.4s							
SHO				AMB		AMB	00 22 28.0	
	7μm,0.4s							
SHO				*i* S		**Sn**	**00 22 39.7**	**-0.3**
SHO				A		A	00 22 40.0	
	5μm,0.5s							
SHO				A		A	00 22 40.0	
	21μm,0.5s							
SHO	**Shikotan**	**0.70**	**249**	*d i* PN		**Pn**	**00 22 27.8**	**+0.3**
SHO				*i* S		**Sn**	**00 22 39.6**	**-0.4**
SHO				pmax		pmax		
	comp=Z,7μm,0.3s							
SHO				pmax		pmax		
	comp=E,4μm,0.4s							
SHO				smax		smax		
	comp=E,21nm,0.4s							
SHO				smax		smax		
	comp=N,50nm,0.5s							
KUR	**Kuril'sk**	**1.11**	**5**	*i* P		**Pn**	**00 22 32.4**	**+0.5**
KUR				AMB		AMB	00 22 32.9	
	comp=N,2μm,1.0s							
KUR				AMB		AMB	00 22 32.9	
	comp=N,5μm,1.0s							
KUR				AMB		AMB	00 22 33.0	
	comp=N,280nm,0.2s							
KUR				AMB		AMB	00 22 33.0	
	comp=N,520nm,0.2s							
KUR				AMB		AMB	00 22 33.0	
	comp=N,760nm,0.2s							
KUR				*i* S		**Sn**	**00 22 48.4**	**+0.6**
KUR				A		A	00 22 49.0	
	comp=N,13μm,1.0s							
KUR				A		A	00 22 49.0	
	comp=N,5μm,1.0s							
KUR				A		A	00 22 49.2	
	comp=N,5μm,0.2s							
KUR				A		A	00 22 49.2	
	comp=N,9μm,0.2s							
KUR	**Kuril'sk**	**1.11**	**5**	*d i* PN		**Pn**	**00 22 32.3**	**+0.4**
KUR				*i* S		**Sn**	**00 22 48.2**	**+0.4**
KUR				pmax		pmax		
	comp=Z,757nm,0.1s							
KUR				pmax		pmax		
	comp=N,280nm,0.2s							
KUR				pmax		pmax		
	comp=E,523nm,0.2s							
KUR				smax		smax		
	comp=N,6μm,0.3s							
KUR				smax		smax		
	comp=E,9μm,0.2s							
YUK	**Yuzh-Kuril'sk**	**1.35**	**267**	*i* P		**Pn**	**00 22 35.0**	**+0.2**
YUK				AMB		AMB	00 22 35.0	
	comp=E,130nm,0.2s							
YUK				AMB		AMB	00 22 35.0	
	comp=E,270nm,0.2s							
YUK				AMB		AMB	00 22 35.0	
	comp=E,1μm,0.2s							
YUK				*i* S		**Sn**	**00 22 52.0**	**-0.8**
YUK				A		A	00 22 53.0	
	comp=E,9μm,0.4s							
YUK				A		A	00 22 53.0	
	comp=E,17μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.35**	**267**	*d i* PN		**Pn**	**00 22 34.9**	**+0.2**
YUK				*i* S		**Sn**	**00 22 52.7**	**-0.1**
YUK				pmax		pmax		
	comp=Z,1μm,0.2s							
YUK				pmax		pmax		
	comp=N,127nm,0.1s							
YUK				pmax		pmax		
	comp=E,274nm,0.1s							
YUK				smax		smax		
	comp=N,9μm,0.2s							
YUK				smax		smax		
	comp=E,17μm,0.4s							
LAGR	**Lagunnoye**	**1.40**	**268**	*e*P		**Pn**	**00 22 35.0**	**-0.4**
LAGR				AMB		AMB	00 22 36.0	
	comp=E,190nm,0.2s							
LAGR				AMB		AMB	00 22 36.0	
	comp=E,210nm,0.2s							
LAGR				AMB		AMB	00 22 36.0	
	comp=E,850nm,0.2s							
LAGR				*i* S		**Sn**	**00 22 54.0**	**+0.1**
LAGR				A		A	00 22 56.0	
	comp=E,21μm,0.5s							
LAGR				A		A	00 22 56.0	
	comp=E,32μm,0.5s							
LAGR	**Lagunnoye**	**1.40**	**268**	*e*PN		**Pn**	**00 22 35.9**	**+0.5**
LAGR				*i* S		**Sn**	**00 22 54.1**	**+0.1**
LAGR				pmax		pmax		
	comp=N,191nm,0.2s							
LAGR				pmax		pmax		
	comp=Z,854nm,0.2s							
LAGR				pmax		pmax		
	comp=E,208nm,0.1s							
LAGR				smax		smax		
	comp=E,32μm,0.5s							
LAGR				smax		smax		
	comp=N,21μm,0.4s							
GRPR	**Tuman**	**1.42**	**265**	*e*P		**Pn**	**00 22 35.0**	**-0.6**
GRPR				AMB		AMB	00 22 36.0	
	comp=N,180nm,0.3s							
GRPR				AMB		AMB	00 22 36.0	
	comp=N,140nm,0.3s							
GRPR				AMB		AMB	00 22 36.0	
	comp=N,1μm,0.3s							
GRPR				*i* S		**Sn**	**00 22 53.0**	**-1.3**
GRPR				A		A	00 22 54.0	
	comp=N,16μm,0.5s							
GRPR				A		A	00 22 54.0	
	comp=N,26μm,0.5s							
GRPR	**Tuman**	**1.42**	**265**	*e*PN		**Pn**	**00 22 35.8**	**+0.2**
GRPR				*i* S		**Sn**	**00 22 53.7**	**-0.6**
GRPR				pmax		pmax		
	comp=Z,1μm,0.3s							
GRPR				pmax		pmax		
	comp=E,136nm,0.2s							
GRPR				pmax		pmax		
	comp=N,180nm,0.1s							
GRPR				smax		smax		
	comp=E,26μm,0.4s							
GRPR				smax		smax		
	comp=N,16μm,0.2s							
NEM2	**Nemuro 2**	**1.63**	**243**	P		**Pn**	**00 22 37.6**	**-0.6**
NEM2				S		**Sn**	**00 22 57.6**	**-1.5**
GLVR	**Golovnino**	**1.64**	**257**	*i* P		**Pn**	**00 22 38.0**	**-0.4**
GLVR				AMB		AMB	00 22 39.0	
	comp=N,270nm,0.2s							
GLVR				AMB		AMB	00 22 39.0	
	comp=N,340nm,0.2s							
GLVR				AMB		AMB	00 22 39.0	
	comp=N,1μm,0.2s							
GLVR				*i* S		**Sn**	**00 22 59.0**	**-0.4**
GLVR				A		A	00 23 01.0	
	comp=N,16μm,0.5s							
GLVR				A		A	00 23 01.0	
	comp=N,15μm,0.5s							
GLVR	**Golovnino**	**1.64**	**257**	*d i* PN		**Pn**	**00 22 38.9**	**+0.5**
GLVR				*i* S		**Sn**	**00 22 59.6**	**+0.2**
GLVR				pmax		pmax		
	comp=E,338nm,0.1s							
GLVR				pmax		pmax		
	comp=Z,1μm,0.1s							
GLVR				pmax		pmax		
	comp=N,273nm,0.2s							
GLVR				smax		smax		
	comp=E,15μm,0.5s							
GLVR				smax		smax		
	comp=N,16μm,0.4s							
JRA	**Rausu**	**1.89**	**265**	P		**Pn**	**00 22 42.8**	**+1.2**
JRA				S		**Sn**	**00 23 06.5**	**+1.5**
JKHN	**Kushirohamanak**	**2.14**	**242**	P		**Pn**	**00 22 44.6**	**-0.2**
JKHN				S		**Sn**	**00 23 09.7**	**-1.1**
JNK	**Nakash**	**2.24**	**257**	P		**Pn**	**00 22 46.6**	**+0.4**
JNK				S		**Sn**	**00 23 14.2**	**+0.8**
JAK	**Akkeshi**	**2.48**	**244**	P		**Pn**	**00 22 48.9**	**-0.4**
JAK				S		**Sn**	**00 23 17.0**	**-1.9**
JTKR	**Abashiri--Toko**	**2.76**	**268**	P		**Pn**	**00 22 54.3**	**+1.3**
JAR	**Ashorobuto**	**2.99**	**255**	P		**Pn**	**00 22 57.0**	**+0.9**
JAR				S		**Sn**	**00 23 31.7**	**+0.6**
JCH	**Churui**	**3.52**	**246**	P		**Pn**	**00 23 03.3**	**0.0**
JCH				*e*S		**Sn**	**00 23 42.0**	**-2.0**
JKK2	**Kamakawa 2**	**3.60**	**268**	P		**Pn**	**00 23 06.0**	**+1.6**
JKK2				*e*S		**Sn**	**00 23 48.1**	**+2.2**
JKA	**Kamikawa-asahi**	**3.69**	**272**	*e*P		**Pn**	**00 23 07.6**	**+2.0**
ASAJ	**Asahikawa**	**3.69**	**272**	P		**Pn**	**00 23 07.6**	**+1.9**
	comp=N,37nm,0.3s,baz=78,slow=17,SNR=101							
ASAJ				S		Sn	00 23 59.1	+11
	baz=188,slow=19,SNR=3.7							
ASAJ	**Asahikawa**	**3.69**	**272**	*e*Pn		**Pn**	**00 23 06.9**	**+1.3**
ASAJ				S		Sn	00 23 59.1	+11
JSE	**Soyaes**	**3.77**	**285**	P		**Pn**	**00 23 08.2**	**+1.6**
JSE				*e*S		**Sn**	**00 23 50.9**	**+1.0**
JFR	**Furan**	**3.85**	**257**	P		**Pn**	**00 23 09.3**	**+1.5**
JFR				*e*S		**Sn**	**00 23 52.0**	**+0.1**
ERM	**Erimo**	**3.96**	**239**	*e*Pn		**Pn**	**00 23 10.1**	**+0.9**
ERM				*e*Sn		**Sn**	**00 23 52.4**	**-2.1**
ERM	**Erimo**	**3.96**	**239**	*e*PN		**Pn**	**00 23 10.1**	**+0.9**
ERM				*e*			00 23 52.4	
JNBK	**Urakawa-nobuka**	**4.08**	**245**	P		**Pn**	**00 23 10.3**	**-0.5**
JNBK				*e*S		**Sn**	**00 23 55.0**	**-2.5**
JWK2	**Keihoku**	**4.32**	**288**	P		**Pn**	**00 23 16.8**	**+2.7**
YSS	**Yuzh-Sakhalins**	**4.49**	**311**	*e*Pn		**Pn**	**00 23 17.9**	**+1.4**
YSS				*e*Sn		**Sn**	**00 24 07.6**	**+0.2**
YSS	**Yuzh-Sakhalins**	**4.49**	**311**	*i* P		**Pn**	**00 23 17.4**	**+1.0**
YSS				AMB		AMB	00 23 18.6	
	comp=N,100nm,0.5s							
YSS				AMB		AMB	00 23 18.6	
	comp=N,120nm,0.5s							
YSS				AMB		AMB	00 23 18.6	
	comp=N,210nm,0.5s							
YSS				*e*S		**Sn**	**00 24 06.8**	**-0.7**
YSS				A		A	00 24 10.1	
	comp=N,140nm,0.8s							
YSS				A		A	00 24 10.1	
	comp=N,190nm,0.8s							
YSS	**Yuzh-Sakhalins**	**4.49**	**311**⇑	*i*PN		**Pn**	**00 23 18.1**	**+1.7**
YSS				*e*S		**Sn**	**00 24 08.6**	**+1.1**
YSS				pmax		pmax		
	comp=Z,210nm,0.4s							
YSS				pmax		pmax		
	comp=N,100nm,0.5s							
YSS				pmax		pmax		
	comp=E,120nm,0.5s							
YSS				smax		smax		
	comp=N,140nm,0.8s							
YSS				smax		smax		
	comp=E,190nm,0.9s							
JEW	**Eniwo**	**4.75**	**256**	P		**Pn**	**00 23 21.4**	**+1.5**
JEW				*e*S		**Sn**	**00 24 14.6**	**+0.9**
JKB	**Kayabe**	**5.39**	**248**	P		**Pn**	**00 23 28.5**	**-0.2**
JKB				*e*S		**Sn**	**00 24 26.2**	**-3.2**
JOT	**Ohata**	**5.63**	**243**	P		**Pn**	**00 23 30.9**	**-1.0**
JOT				*e*S		**Sn**	**00 24 30.8**	**-4.4**
UGL	**Uglegorsk**	**6.30**	**324**	*e*P		**Pn**	**00 23 42.7**	**+1.7**
UGL				AMB		AMB	00 23 44.5	
	comp=E,280nm,0.8s							
UGL				AMB		AMB	00 23 44.5	
	comp=E,5μm,0.8s							
UGL				*e*S		**Sn**	**00 24 50.7**	**-0.8**
UGL				A		A	00 25 03.0	
	comp=E,980nm,0.5s							
UGL				A		A	00 25 03.0	
	comp=E,790nm,0.5s							
TYV	**Tymovskoe**	**7.56**	**335**	*e*P		**Pn**	**00 23 58.5**	**+0.4**
TYV				AMB		AMB	00 24 00.5	
	comp=E,240nm,1.0s							
TYV				AMB		AMB	00 24 00.5	
	comp=E,5μm,1.0s							
TYV				*e*S		**Sn**	**00 25 20.5**	**-1.7**
TYV				A		A	00 25 30.1	
	comp=E,230nm,1.0s							
TYV				A		A	00 25 30.1	
	comp=E,190nm,1.0s							
TYV	**Tymovskoe**	**7.56**	**335**	*e*PN		Pn	00 23 52.0	-6.1
TYV				pmax		pmax		
	comp=Z,8.0nm,1.4s							
TEY	**Ternei**	**8.00**	**280**	*e*P		**Pn**	**00 24 05.7**	**+1.6**
TEY				AMB		AMB	00 24 06.8	
	comp=Z,40nm,2.0s							
TEY				AMB		AMB	00 24 06.8	
	comp=Z,4μm,2.0s							
TEY	**Ternei**	**8.00**	**280**⇑	*e*PN		**Pn**	**00 24 05.7**	**+1.6**
TEY				pmax		pmax		
	comp=Z,40nm,1.7s							
SKR	**Severo-Kuril's**	**8.68**	**38**	*e*P		**Pn**	**00 24 13.7**	**+0.4**
SKR				*e*S		**Sn**	**00 25 46.8**	**-2.5**
SKR				A		A	00 25 49.5	
	comp=Z,110nm,0.6s							
SKR				A		A	00 25 49.5	
	comp=Z,190nm,0.6s							
SKR	**Severo-Kuril's**	**8.68**	**38**	*e*PN		**Pn**	**00 24 17.4**	**+4.1**
GRNR	**Gornyy**	**10.13**	**315**	*e*P		**Pn**	**00 24 30.8**	**-2.3**
GRNR	**Gornyy**	**10.13**	**315**	*e*PN		**Pn**	**00 24 30.8**	**-2.3**
MJAR	**Matsushiro Arr**	**10.49**	**227**	P		**Pn**	**00 24 36.3**	**-1.9**
	comp=Z,0.7nm,0.3s,baz=26,slow=13,SNR=9.2							
MAJO	**Matsushiro**	**10.49**	**227**	*e*Pn		**Pn**	**00 24 36.5**	**-1.6**
MAJO	**Matsushiro**	**10.49**	**227**	*e*P		**Pn**	**00 24 36.6**	**-1.6**
MAJO	**Matsushiro**	**10.49**	**227**⇑	*e*PN		**Pn**	**00 24 36.3**	**-1.9**
MAT	**Matsushiro**	**10.49**	**227**	P		**Pn**	**00 24 36.5**	**-1.7**
MAT				*e*S		**Sn**	**00 26 31.1**	**-2.6**
PEA0B	**Petropavlovsk-**	**11.14**	**33**	*e*Pn		**Pn**	**00 24 47.3**	**+0.5**
PETK	**Petropavlovsk-**	**11.14**	**33**	P		**Pn**	**00 24 45.1**	**-1.7**
	comp=Z,1.3nm,0.3s,baz=186,slow=11,SNR=20							
PETK				LR		LR	00 29 48.6	
	comp=Z,46nm,18.2s,baz=215,slow=41							
PETK	**Petropavlovsk-**	**11.14**	**33**	*e*Pn		**Pn**	**00 24 44.9**	**-1.9**
USA0B	**Ussuriysk Arra**	**11.31**	**276**	*e*Pn		**Pn**	**00 24 49.4**	**+0.2**
USRK	**Ussuriysk Ar.**	**11.31**	**276**	P		**Pn**	**00 24 49.1**	**0.0**
	comp=Z,1.1nm,0.3s,baz=88,slow=13,SNR=36							
USRK				LR		LR	00 29 04.8	
	comp=Z,76nm,21.5s,baz=71,slow=37							
VLA	**Vladivostok**	**11.53**	**270**	*e*P		**Pn**	**00 24 51.6**	**-0.5**
VLA	**Vladivostok**	**11.53**	**270**⇓	*e*PN		**Pn**	**00 24 51.6**	**-0.5**
KLR	**Kul'dur**	**12.10**	**301**	P		**Pn**	**00 25 00.1**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=103,slow=14,SNR=12							
KLR				LR		LR	00 30 07.1	
	comp=Z,40nm,18.6s,baz=126,slow=39							
KLR	**Kul'dur**	**12.10**	**301**	*e*P		**Pn**	**00 25 01.4**	**+1.7**
KLR	**Kul'dur**	**12.10**	**301**⇓	*e*PN		**Pn**	**00 25 01.4**	**+1.7**
MDJ	**Mudanjiang**	**12.99**	**278**	P		**Pn**	**00 25 11.3**	**-0.2**
MDJ				pmax		pmax		
	comp=Z,38nm,0.8s							
MDJ				pmax		pmax		
	comp=Z,47nm,3.9s							
MDJ	**Mudanjiang**	**12.99**	**278**	*e*Pn		**Pn**	**00 25 11.4**	**-0.2**
EKMR	**Ekimchan**	**13.23**	**318**	*e*P		**Pn**	**00 25 14.0**	**-0.8**
EKMR				AMB		AMB	00 25 22.8	
	comp=Z,10.0nm,0.9s							
CN2	**Changchun**	**16.04**	**277**	*e*P		**Pn**	**00 25 48.6**	**-2.1**
CN2				*es*P		sP	00 26 20.3	-1.4
CN2				pmax		pmax		
	comp=Z,20nm,0.8s							
CN2				pmax		pmax		
	comp=Z,400nm,5.0s							
BMKR	**Bomnak**	**16.17**	**318**	*e*P		**Pn**	**00 25 52.6**	**+0.4**
BMKR				AMB		AMB	00 25 55.2	
	comp=Z,50nm,0.6s							
KSRS	**Korea Array**	**16.39**	**253**	P		**Pn**	**00 25 54.7**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=63,slow=12,SNR=12							
KSRS				LR		LR	00 31 30.4	
	comp=Z,50nm,20.4s,baz=60,slow=34							
KSAR	**Wonju Array Be**	**16.43**	**253**	P		**Pn**	**00 25 54.7**	**-0.8**
KSAR	**Wonju Array Be**	**16.43**	**253**	P		**Pn**	**00 25 54.7**	**-0.8**
ZEA	**Zeya**	**16.48**	**313**	*e*P		**Pn**	**00 25 55.8**	**-0.3**
ZEA				AMB		AMB	00 25 58.0	
	comp=Z,30nm,0.8s							
ZEA	**Zeya**	**16.48**	**313**	*e*P		**Pn**	**00 25 55.8**	**-0.3**
ZEA				pmax		pmax		
	comp=Z,26nm,0.8s							
KROS	**Kirovskiy**	**16.96**	**315**	*e*P		**Pn**	**00 25 57.0**	**-4.9**
KROS				AMB		AMB	00 26 02.5	
	comp=Z,10.0nm,1.0s							
JNU	**Nakatsue**	**17.11**	**236**	P		**Pn**	**00 26 03.7**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=60,slow=7.2,SNR=5.7							
JNU				LR		LR	00 31 56.7	
	comp=Z,66nm,21.5s,baz=97,slow=34							
TJN	**Taejon**	**17.34**	**250**	*d i* P		**P**	**00 26 07.9**	**+1.2**
SEY	**Seymchan**	**19.03**	**7**	P		**P**	**00 26 24.9**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=169,slow=16,SNR=8.1							
SEY	**Seymchan**	**19.03**	**7**	*e*P		**Pn**	**00 26 26.3**	**-0.5**
SEY	**Seymchan**	**19.03**	**7**⇑	*e*P		**Pn**	**00 26 26.3**	**-0.5**
HIA	**Hailar**	**19.81**	**295**	*e*P		**P**	**00 26 31.3**	**-2.4**
	comp=Z,8.2nm,0.5s							
HIA	**Hailar**	**19.81**	**295**	*e*P		**P**	**00 26 31.3**	**-2.4**
HIA				pmax		pmax		
	comp=Z,8.0nm,0.5s							
YAK	**Yakutsk**	**20.82**	**336**	P		**P**	**00 26 41.9**	**-2.5**
	comp=Z,29nm,0.3s,baz=251,slow=2.3,SNR=5.3							
YAK	**Yakutsk**	**20.82**	**336**	*e*P		**P**	**00 26 41.0**	**-3.4**
	comp=Z,30nm,0.8s							
YAK	**Yakutsk**	**20.82**	**336**	*e*P		**P**	**00 26 40.5**	**-3.9**
YAK				*e*			00 27 11.3	
YAK				*e*S		**S**	**00 30 23.8**	**-7.4**
YAK				*e**SS		Sn	00 30 50.3	+7.8
YAK				pmax		pmax		
	comp=Z,27nm,1.0s							
YAK				pmax		pmax		
	comp=N,7.0nm,1.3s							
YAK				pmax		pmax		
	comp=E,2.0nm,0.9s							
YAK				pmax		pmax		
	comp=Z,25nm,0.9s							
YAK				pmax		pmax		
	comp=N,20nm,1.0s							
YAK				pmax		pmax		
	comp=E,10.0nm,0.9s							
YAK				smax		smax		
	comp=N,548nm,4.2s							
YAK				smax		smax		
	comp=E,115nm,2.6s							
JOW	**Kunigami**	**23.33**	**229**	LR		LR	00 36 30.4	
	comp=E,32nm,20.9s,baz=110,slow=37							
BJI	**Beijing**	**23.69**	**271**	P		**P**	**00 27 13.9**	**0.0**
BJI				pmax		pmax		
	comp=E,15nm,0.9s							
BJT	**Baijiatuau**

ULN **Ulaanbaatar** 28.27 292 *e*P **P** **00 27 54.7 -0.5**
ULN **Ulaanbaatar** 28.27 292⇓ *e*P **P** **00 27 54.7 -0.5**
ULN *i* *PP **pP** **00 28 18.6 +2.4**
ULN pmax pmax
comp=Z,18nm,0.7s
SONA1 **Songino Array** 28.70 292 *e*P **P** **00 27 58.8 -0.3**
SONM **Songino Array** 28.71 292 P **P** **00 27 59.6 +0.5**
comp=Z,11nm,0.6s,baz=81,slow=8.0,SNR=90
SONM LR LR 00 40 23.6
comp=Z,47nm,18.6s,baz=34,slow=38
H11N2 **WAKE ISLAND Hy** 29.12 141 T T 00 59 08.0
baz=332,slow=75,SNR=1066
H11N1 **WAKE ISLAND Hy** 29.13 141 T T 00 59 01.9
baz=332,slow=75,SNR=765
H11N3 **WAKE ISLAND Hy** 29.14 141 T T 00 59 02.4
baz=332,slow=75,SNR=1161
H11S1 **WAKE ISLAND Hy** 30.10 142 T T 01 00 18.4
baz=324,slow=79,SNR=1621
H11S3 **WAKE ISLAND Hy** 30.11 142 T T 01 00 19.9
baz=324,slow=79,SNR=1192
TLY **Talaya** 30.11 300 *e*P **P** **00 28 11.7 +0.4**
TLY pmax pmax
comp=Z,9.0nm,1.8s
TLY MLR MLR
comp=Z,10.0nm,4.0s
H11S2 **WAKE ISLAND Hy** 30.12 142 T T 01 00 19.9
baz=324,slow=79,SNR=1424
ZAK **Zakamensk** 30.44 298 *e*P **P** **00 28 13.7 -0.6**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
XAN **Xi'an** 31.50 265 P P 00 28 32.9 +9.1
XAN pP sP 00 28 55.9 +0.2
XAN pmax pmax
comp=Z,6.0nm,0.9s
XAN pmax pmax
comp=Z,83nm,4.2s
ANM **Nome** 33.04 35 *e*P **P** **00 28 38.2 +1.4**
comp=Z,9.0nm,1.2s
ANM **Nome** 33.04 35 *e*P **P** **00 28 38.2 +1.4**
ANM pmax pmax
comp=Z,9.0nm,1.2s
LZH **Lanzhou** 34.18 272 *e*P **P** **00 28 48.8 +1.6**
LZH pP sP 00 29 13.9 -5.4
LZH sP pP 00 29 25.4 +17
LZH pmax pmax
comp=Z,21nm,1.0s
RDOG **Red Dog Mine** 34.99 30 *e*P **P** **00 28 55.3 +1.6**
comp=Z,4.3nm,0.6s
GTA **Gaotai** 35.64 279 P **P** **00 29 01.4 +1.7**
GTA pP pP 00 29 19.8 -1.3
GTA sP sP 00 29 31.8 -0.1
GTA pmax pmax
comp=Z,4.0nm,1.3s
CD2 **Chengdu** 36.86 264 *e*P **P** **00 29 10.0 -0.1**
SVW2 **Sparrevohn** 37.01 42 *e*P **P** **00 29 11.9 +1.0**
comp=Z,34nm,1.1s
IM3 **Indian Mountai** 38.10 34 *e*P **P** **00 29 20.3 +0.3**
IM3 *e*PcP **PcP** **00 31 33.8 +0.7**
RSO **Redoubt South** 38.40 43 *e*P **P** **00 29 23.4 +0.5**
PPLA **Purkeypile** 38.62 39 *e*P **P** **00 29 25.9 +1.2**
comp=Z,14nm,0.9s
KDAK **Kodiak Island** 38.69 48 P **P** **00 29 24.9 -0.1**
comp=Z,155nm,0.4s,baz=287,slow=2.8,SNR=38
NRIK **Noril'sk** 39.12 331 P **P** **00 29 28.2 -0.4**
comp=Z,1.9nm,0.4s,baz=86,slow=2.1,SNR=4.2
NRIK PcP **PcP** **00 31 36.5 +0.3**
comp=Z,2.1nm,0.5s,baz=98,slow=7.1,SNR=4.2
BPAW **Bear Paw Mtn.** 39.17 38 *e*P **P** **00 29 30.2 +1.1**
comp=Z,16nm,0.8s
MLY **Manley** 39.29 36 *e*P **P** **00 29 30.6 +0.5**
comp=Z,19nm,1.0s
SUA **Susitna One** 39.34 42 *e*P **P** **00 29 31.2 +0.6**
comp=Z,11nm,0.8s
TRF **Thorofare Moun** 39.48 39 *e*P **P** **00 29 32.2 +0.4**
comp=Z,16nm,0.9s
COLD **Coldfoot** 39.61 33 *e*P **P** **00 29 32.9 +0.3**
comp=Z,1.7nm,0.5s
TOLK **Toolik Lake Re** 39.95 30 *e*P **P** **00 29 35.6 +0.1**
comp=Z,7.2nm,1.0s
MCK **McKinley** 40.08 38 *e*P **P** **00 29 36.7 +0.1**
comp=Z,25nm,0.8s
RND **Reindeer** 40.13 39 *e*P **P** **00 29 36.3 -0.8**
comp=Z,23nm,0.8s
RND **Reindeer** 40.13 39 *e*P **P** **00 29 36.3 -0.8**
RND pmax pmax
comp=Z,23nm,0.8s
GHO **Glory Hole Cre** 40.18 41 *e*P **P** **00 29 37.4 -0.2**
comp=Z,24nm,0.9s
MDM **Murphy Dome** 40.36 36 *e*P **P** **00 29 39.1 +0.2**
comp=Z,25nm,0.7s
WRH **Wood River Hil** 40.43 37 *e*P **P** **00 29 40.4 +1.0**
comp=Z,13nm,0.8s
SML **Sawmill** 40.46 41 *e*P **P** **00 29 40.0 +0.2**
comp=Z,36nm,0.9s
SML **Sawmill** 40.46 41 *e*P **P** **00 29 40.0 +0.2**
SML pmax pmax
comp=Z,36nm,0.9s
COLA **College** 40.52 36 *e*P **P** **00 29 40.3 +0.1**
comp=Z,38nm,0.8s
COLA **College** 40.52 36 *e*P **P** **00 29 40.3 +0.1**
COLA **College** 40.52 36 *e*P **P** **00 29 40.3 +0.1**
COLA pmax pmax
comp=Z,38nm,0.8s
CCB **Clear Creek Bu** 40.55 37 *e*P **P** **00 29 41.0 +0.6**
comp=Z,11nm,0.9s
DGZ **Jazzator, Alta** 40.59 300 *d i*P **P** **00 29 41.6 +0.4**
DGZ pmax pmax
comp=Z,4.0nm,0.8s
DHY **Denali Highway** 40.81 39 *e*P **P** **00 29 42.6 -0.3**
comp=Z,21nm,0.6s
HDA **Harding Lake** 40.93 37 *e*P **P** **00 29 43.5 -0.1**
comp=Z,29nm,0.6s
IL1 **Eielson Array** 40.94 36 *e*P **P** **00 29 42.9 -0.7**
ILAR **Eielson Array** 40.94 36 P **P** **00 29 43.8 +0.1**
comp=Z,11nm,0.7s,baz=271,slow=8.7,SNR=123
ILB **Eielson Array** 40.94 36 *e*P **P** **00 29 43.6 -0.1**
KMI **Kunming** 41.01 258 P **P** **00 29 49.3 +4.4**
KMI pmax pmax
comp=Z,11nm,1.2s
ZAA0 **Zalesovo Array** 41.10 307 *e*P **P** **00 29 44.4 -0.8**
comp=Z,4.6nm,1.0s
ZALV **Zalesovo Beam** 41.10 307 P **P** **00 29 44.3 -0.8**
comp=Z,2.9nm,0.5s,baz=82,slow=9.2,SNR=15
ZALV PcP **PcP** **00 31 42.7 -0.1**
comp=Z,3.9nm,0.7s,baz=59,slow=2.4,SNR=12
ZALV LR LR 00 46 09.2
comp=Z,20nm,21.2s,baz=75,slow=35
ZALV **Zalesovo Beam** 41.10 307 *e*P **P** **00 29 43.9 -1.3**
ZALV PcP **PcP** **00 31 42.7 -0.1**
ZALV **Zalesovo Beam** 41.10 307 *i* P **P** **00 29 44.7 -0.4**
ZALV pmax pmax
comp=Z,3.0nm,0.4s
FYU **Fort Yukon** 41.56 34 *e*P **P** **00 29 49.5 +0.8**
comp=Z,28nm,0.8s
KLU **Klutina** 41.64 41 *e*P **P** **00 29 49.9 +0.4**
comp=Z,24nm,1.0s
PAX **Paxson** 41.69 39 *e*P **P** **00 29 51.0 +1.1**
comp=Z,6.9nm,0.8s
PAX **Paxson** 41.69 39 *e*P **P** **00 29 51.0 +1.1**
PAX pmax pmax
comp=Z,7.0nm,0.8s
DIV **Divide** 41.76 42 *e*P **P** **00 29 50.8 +0.3**
comp=Z,27nm,1.0s
NVS **Novosibirsk** 41.81 308⇓ *i*P **P** **00 29 51.0 +0.1**
NVS pmax pmax
comp=Z,10.0nm,1.2s
NVS pmax pmax
comp=N,4.0nm,1.3s
NVS pmax pmax
comp=E,8.0nm,1.3s
HARP **HAARP** 41.89 40 *e*P **P** **00 29 51.9 +0.4**
comp=E,24nm,0.8s
RIDG **Independ'e Rid** 41.90 38 *e*P **P** **00 29 51.7 +0.1**
comp=E,24nm,0.9s
DOT **Dot Lake** 42.25 38 *e*P **P** **00 29 54.6 +0.2**
comp=E,17nm,0.6s
SCRK **Sand Creek** 42.25 38 *e*P **P** **00 29 54.3 -0.2**
comp=E,24nm,0.8s
BMRM **Bremner River** 42.34 42 *e*P **P** **00 29 55.4 +0.2**
comp=E,18nm,0.8s
WMQ **Urumqi** 42.34 291 P **P** **00 29 57.3 +1.8**
WMQ pP pP 00 30 19.5 +2.1
WMQ sP sP 00 30 33.6 +5.6
WMQ pmax pmax
comp=E,48nm,0.9s
WMQ pmax pmax
comp=E,270nm,4.5s
WMQ LR LR
comp=E,91nm,25.1s
WMQ LR LR
comp=E,77nm,21.3s
EGAK **Eagle** 43.38 36 *e*P **P** **00 30 03.8 +0.3**
comp=E,25nm,0.6s
DAWY **Dawson** 44.24 37 *e*P **P** **00 30 10.6 +0.1**
comp=E,7.7nm,0.6s
MK31 **Makanchi Array** 44.78 297 *e*P **P** **00 30 15.3 +0.4**
MK31 **Makanchi Array** 44.78 297 *e*P **P** **00 30 15.2 +0.3**
MK31 pmax pmax
comp=Z,14nm,0.7s
MKAR **Makanchi Array** 44.78 297 P **P** **00 30 15.2 +0.3**
comp=Z,8.2nm,0.6s,baz=80,slow=9.3,SNR=88
MKAR LR LR 00 49 48.8
comp=Z,26nm,20.0s,baz=34,slow=37
MKAR **Makanchi Array** 44.78 297 *e*P **P** **00 30 15.1 +0.2**
MKAR **Makanchi Array** 44.78 297 *ce*P **P** **00 30 15.1 +0.2**
MKAR pmax pmax
comp=Z,8.0nm,0.6s
MK01 **Makanchi Array** 44.78 297 *e*P **P** **00 30 14.8 -0.1**
KURK **Kurchatov** 45.66 304 *e*P **P** **00 30 21.6 -0.2**
comp=Z,5.9nm,0.6s
KURK PcP **PcP** **00 31 58.4 +0.1**
KURK **Kurchatov** 45.66 304 *e*P **P** **00 30 21.1 -0.7**
KURK **Kurchatov** 45.66 304⇓ *e*P **P** **00 30 21.1 -0.7**
KURK pmax pmax
comp=Z,4.0nm,0.5s
KURBB **Kurchatov Arra** 45.75 304 P **P** **00 30 21.9 -0.6**
comp=Z,4.3nm,0.4s,baz=71,slow=8.5,SNR=30
KURBB PcP **PcP** **00 31 58.4 -0.2**
comp=Z,2.0nm,0.6s,baz=78,slow=3.6,SNR=8.1
HYT **Haines Junctio** 45.77 41 *e*P **P** **00 30 23.7 +1.1**
comp=Z,36nm,0.9s
INK **Inuvik** 45.87 31 P **P** **00 30 24.1 +1.0**
comp=Z,6.4nm,0.4s,baz=292,slow=7.6,SNR=80
INK **Inuvik** 45.87 31 *e*P **P** **00 30 24.3 +1.2**
comp=Z,12nm,0.8s
INK **Inuvik** 45.87 31 *e*P **P** **00 30 24.3 +1.2**
INK pmax pmax
comp=Z,12nm,0.8s
PDGK **Podgornoye** 47.99 294 P **P** **00 30 40.2 0.0**
PDGK pmax pmax
comp=Z,15nm,1.4s
CMAR **Chiang Mai Arr** 48.03 254 P **P** **00 30 41.7 +1.1**
comp=Z,1.6nm,0.3s,baz=30,slow=6.3,SNR=3.6
CMAR LR LR 00 52 45.7
comp=Z,12nm,19.7s,baz=170,slow=38
BVA0 **Borovoye Array** 49.59 309 *i* P **P** **00 30 51.1 -1.0**
BVA0 pmax pmax
comp=Z,4.0nm,0.7s
BVAR **Borovoye Array** 49.59 309 P **P** **00 30 52.5 +0.4**
comp=Z,2.8nm,0.6s,baz=90,slow=9.0,SNR=24
BVAR PcP **PcP** **00 32 12.4 +0.1**
comp=Z,1.1nm,0.5s,baz=57,slow=5.3,SNR=4.9
BRVK **Borovoye** 49.63 309 *e*P **P** **00 30 52.4 -0.1**
comp=Z,4.6nm,0.9s
BRVK **Borovoye** 49.63 309 *e*P **P** **00 30 52.3 -0.1**
BRVK **Borovoye** 49.63 309⇓ *e*P **P** **00 30 52.3 -0.1**
BRVK pmax pmax
comp=Z,6.0nm,1.1s
KIP **Kipapa** 49.92 99⇓ *e*P **P** **00 30 56.4 +1.4**
DLBC **Dease Lake** 50.12 43 P **P** **00 30 57.4 +1.2**
comp=Z,6.5nm,0.7s,baz=241,slow=4.1,SNR=8.6
OTUK **Ortayu** 50.40 303 P **P** **00 30 58.2 -0.1**
OTUK pmax pmax
comp=Z,7.0nm,0.4s
JIRN **Jiri** 51.33 273 *e*P **P** **00 31 07.0 +1.0**
comp=Z,19nm,0.5s
GUN **Gumba** 51.41 273 *e*P **P** **00 31 07.5 +0.9**
comp=Z,22nm,0.6s
RAMN **Ramite** 51.45 272 *e*P **P** **00 31 07.0 +0.2**
comp=Z,13nm,0.5s
AAK **Ala-Archa** 51.57 296 *e*P **P** **00 31 07.8 +0.4**
comp=Z,2.0nm,0.6s
AAK **Ala-Archa** 51.57 296 *e*P **P** **00 31 07.8 +0.4**
AAK pmax pmax
comp=Z,2.0nm,0.6s
KKN **Kajani** 51.91 274 *e*P **P** **00 31 11.7 +1.5**
PKI **Pulchoki** 51.94 273 *e*P **P** **00 31 10.6 0.0**
comp=Z,12nm,0.6s
PKIN **Phulchoki** 51.95 273 *e*P **P** **00 31 10.6 +0.1**
comp=Z,8.9nm,0.6s
KSH **Kashi** 52.11 291 *e*P **P** **00 31 15.8 +4.4**
KSH S **S** **00 38 30.4 +2.0**
KSH LR LR
comp=Z,260nm,6.7s
KSH LR LR
comp=Z,230nm,6.0s
DMN **Daman** 52.14 274 *e*P **P** **00 31 12.5 +0.6**
comp=Z,10nm,0.5s
DANN **Dangsing** 52.67 275 *e*P **P** **00 31 17.0 +1.1**
comp=Z,37nm,0.7s
MNAS **Manas** 52.93 296 P **P** **00 31 20.6 +3.2**
MNAS pmax pmax
comp=Z,6.0nm,1.0s
KOLN **Koldanda** 53.13 275 *e*P **P** **00 31 19.8 +0.7**
comp=Z,13nm,0.7s
SVE **Sverdlovsk** 53.15 317 *e*P **P** **00 31 17.8 -0.8**
SVE pmax pmax
comp=Z,13nm,0.8s
PYUN **Piuthan** 53.37 275 *e*P **P** **00 31 21.4 +0.5**
comp=Z,7.8nm,0.4s
SFK **Sufi-Kurgan** 53.51 293 *i* P **P** **00 31 22.1 +0.3**
SFK pmax pmax
comp=Z,5.0nm,0.6s
KK31 **Karatay Array** 53.91 298 *e*P **P** **00 31 24.9 +0.6**
KK31 **Karatay Array** 53.91 298 *e*P **P** **00 31 25.0 +0.6**
KKAR **Karatay Array** 53.91 298 *e*P **P** **00 31 24.9 +0.6**
KKAR **Karatay Array** 53.91 298 *e*P **P** **00 31 25.0 +0.6**
ARU **Arti** 54.36 317 *e*P **P** **00 31 25.9 -1.5**
ARU **Arti** 54.36 317 *c i*P **P** **00 31 26.5 -0.9**
ARU 00 32 29.3
ARU S **S** **00 38 57.8 -0.3**
ARU SS **SS** **00 42 39.1 -1.7**
ARU pmax pmax
comp=Z,21nm,1.2s
RES **Resolute Bay** 54.49 17 P **P** **00 31 28.0 -0.1**
comp=Z,7.5nm,0.6s,baz=338,slow=7.4,SNR=32
RES **Resolute Bay** 54.49 17 *e*P **P** **00 31 27.5 -0.6**
comp=Z,7.3nm,0.6s
RES **Resolute Bay** 54.49 17 P **P** **00 31 28.0 -0.1**
RES pmax pmax
comp=Z,8.0nm,0.6s
SPITS **Spitsbergen Ar** 54.49 349 P **P** **00 31 29.8 +1.7**
YKW3 **Yellowknife Ar** 55.22 34 *e*P **P** **00 31 33.5 0.0**
comp=Z,11nm,0.8s
YKA **Yellowknife Ar** 55.26 34 P **P** **00 31 34.2 +0.4**
comp=Z,7.4nm,0.6s,baz=298,slow=6.7,SNR=26
YKA **Yellowknife Ar** 55.26 34 P **P** **00 31 34.2 +0.4**
YKA pmax pmax
comp=Z,8.0nm,0.7s
YKB5 **Yellowknife Ar** 55.26 34 *e*P **P** **00 31 32.6 -1.2**
NIL **Nilore** 57.08 287 *e*P **P** **00 31 48.3 +1.0**
NIL **Nilore** 57.08 287 *e*P **P** **00 31 48.3 +1.0**
AB31 **Akbulak array** 57.15 309 *i* P **P** **00 31 48.0 +0.5**
AB31 pmax pmax
comp=Z,3.0nm,0.4s
ABKAR **Akbulak array** 57.15 309 *e*P **P** **00 31 47.8 +0.3**
AKTO **Aktyubinsk** 57.61 311 P **P** **00 31 50.0 -0.7**
AKTO pmax pmax
comp=Z,3.0nm,0.8s
MTN **Manton Dam** 58.68 199 *e*P **P** **00 31 59.0 +0.6**
comp=Z,11nm,1.0s
ARCES **ARCESS Array B** 59.04 340 P **P** **00 31 59.2 -1.1**
comp=Z,1.6nm,0.4s,baz=49,slow=7.2,SNR=23
KBL **Kabul** 59.45 290 *e*P **P** **00 32 05.2 +1.2**
comp=Z,5.1nm,0.8s
KBL **Kabul** 59.45 290 *e*P **P** **00 32 05.2 +1.2**
KBL pmax pmax
comp=Z,5.0nm,0.8s
NEW **Newport** 61.77 49 P **P** **00 32 20.0 +0.6**
comp=Z,7.8nm,1.0s,baz=317,slow=6.7,SNR=10
NEW **Newport** 61.77 49 *e*P **P** **00 32 19.9 +0.6**
comp=Z,6.9nm,0.9s
E09A **Wood Farm, Sta** 62.23 51 *e*P **P** **00 32 23.0 +0.6**
comp=Z,8.5nm,0.9s
WALA **Waterton Lakes** 63.02 47 *e*P **P** **00 32 28.5 +0.8**
comp=Z,5.8nm,0.7s
SUMG **Summit** 63.52 2 *e*P **P** **00 32 31.2 +0.2**
comp=Z,5.7nm,0.6s
SUMG **Summit** 63.52 2 *e*P **P** **00 32 31.2 +0.2**
SUMG pmax pmax
comp=Z,6.0nm,0.6s
JTMT **Jette** 63.61 48 *e*P **P** **00 32 32.8 +1.1**
comp=Z,3.4nm,0.9s
J08A **Circle Bar Ran** 63.91 54 *e*P **P** **00 32 34.8 +1.1**
comp=Z,2.2nm,0.8s
MSO **Missoula** 64.36 49 *e*P **P** **00 32 37.3 +0.7**
comp=Z,10nm,0.9s
GEYT **Alibeck** 64.62 299 P **P** **00 32 38.7 +0.4**
comp=Z,3.2nm,0.6s,baz=79,slow=9.0,SNR=11
GYA0B **ALIBECK ARRAY** 64.62 299 *e*P **P** **00 32 39.8 +1.4**
comp=Z,4.4nm,0.6s
FINES **FINESS Array B** 64.73 333 P **P** **00 32 37.8 -0.7**
comp=Z,7.6nm,0.6s,baz=39,slow=7.3,SNR=32
BEKR **Beckworth** 64.88 58 *e*P **P** **00 32 40.9 +0.7**
comp=Z,9.6nm,1.0s
WRAB **Tennant Creek** 64.91 194⇑ *e*P **P** **00 32 39.8 -0.4**
WRAB *i* *PP **pP** **00 33 04.5 +0.8**
WRAB pmax pmax
comp=Z,9.0nm,1.2s
WB2 **Warramunga Arr** 64.92 194 *e*P **P** **00 32 39.3 -1.0**
WB2 *e*pP **pP** **00 33 04.3 +0.5**
WRA **Warramunga Arr** 64.92 194 P **P** **00 32 39.9 -0.4**
comp=Z,3.5nm,0.9s,baz=13,slow=6.7,SNR=23
WRA pP **pP** **00 33 04.2 +0.4**
comp=Z,5.7nm,0.8s,baz=11,slow=6.8,SNR=17
AFDM **Forest Hills D** 65.06 59 *e*P **P** **00 32 41.4 +0.2**
comp=Z,4.4nm,1.0s
FITZ **Fitzroy Crossi** 65.14 203 *e*P **P** **00 32 42.2 +0.6**
comp=Z,2.5nm,1.0s
FFC **Flin Flon** 65.15 37 *e*P **P** **00 32 41.3 -0.1**
comp=Z,13nm,0.9s
FFC **Flin Flon** 65.15 37 *e*P **P** **00 32 42.1 +0.7**
FFC **Flin Flon** 65.15 37 *i* P **P** **00 32 42.1 +0.7**
OBN **Obninsk** 65.26 324⇑ *e*P **P** **00 32 40.6 -1.5**
OBN *e**PP **pP** **00 33 06.4 +0.9**
OBN *e* 00 35 06.8
OBN *e*S **S** **00 41 22.4 +4.5**
OBN pmax pmax
comp=Z,71nm,1.6s
FCC **Fort Churchill** 65.49 30 *e*P **P** **00 32 43.2 -0.3**
comp=Z,9.3nm,0.6s
FCC **Fort Churchill** 65.49 30 *e*P **P** **00 32 43.2 -0.3**
FCC pmax pmax
comp=Z,9.0nm,0.6s
HRY **Holter Researc** 65.57 48 *e*P **P** **00 32 45.4 +1.0**
PAHR **Pah Rah Range** 65.58 58 *e*P **P** **00 32 45.4 +0.8**
comp=Z,7.8nm,1.0s
EGMT **Eagleton** 65.83 46 *e*P **P** **00 32 45.9 -0.1**
comp=Z,11nm,0.8s
LPSR **Galich'ya Gora** 65.90 321 *e*P **P** **00 32 47.3 +1.0**
LPSR pmax pmax
comp=Z,7.0nm,0.7s
CMB **Columbia Colle** 65.98 60 *e*P **P** **00 32 48.0 +0.8**
comp=Z,6.0nm,0.8s
CMB **Columbia Colle** 65.98 60 *e*P **P** **00 32 48.0 +0.8**
CMB pmax pmax
comp=Z,6.0nm,0.8s
DLMT **Dillon** 66.00 50 *e*P **P** **00 32 47.6 +0.3**
comp=Z,5.5nm,0.9s
YERR **Yerington** 66.11 58 *e*P **P** **00 32 48.2 +0.1**
comp=Z,20nm,1.1s
HLID **Hailey** 66.12 52 *e*P **P** **00 32 48.6 +0.5**
comp=Z,4.1nm,1.1s
MCMT **McKenzie Canyo** 66.20 50 *e*P **P** **00 32 47.8 -0.9**
WAKR **Walker** 66.28 59 *e*P **P** **00 32 50.5 +1.2**
comp=Z,7.4nm,0.9s
VSR **Storozhevoye** 66.72 320 *de*P **P** **00 32 51.8 +0.3**
VSR pmax pmax
comp=Z,107nm,4.0s
KVN **Kaiserville** 66.76 58 *e*P **P** **00 32 52.4 +0.1**
comp=Z,13nm,0.9s
KVN **Kaiserville** 66.76 58 *e*P **P** **00 32 52.4 +0.1**
KVN pmax pmax
comp=Z,13nm,0.9s
RYN **Ryan** 66.77 58 *e*P **P** **00 32 51.7 -0.6**
comp=Z,8.2nm,0.9s
NV01 **Mina Array Sit** 67.03 58 *e*P **P** **00 32 54.5 +0.5**
NVAR **Mina Array Bea** 67.03 58 P **P** **00 32 54.7 +0.7**
comp=Z,8.0nm,0.7s,baz=289,slow=6.7,SNR=29
MDPB **Devils Postpil** 67.05 59 *e*P **P** **00 32 54.5 +0.3**
comp=Z,6.3nm,0.7s
YHB **Horse Butte** 67.16 49 *e*P **P** **00 32 54.6 -0.1**
comp=Z,8.6nm,0.9s
YHH **Holmes Hill** 67.32 49 *e*P **P** **00 32 56.2 +0.3**
comp=Z,7.6nm,1.0s
YMR **Madison River** 67.33 49 *e*P **P** **00 32 56.1 +0.2**
comp=Z,8.7nm,0.8s
YFT **Old Faithful** 67.55 49 *e*P **P** **00 32 57.8 +0.5**
comp=Z,7.7nm,0.9s
H17A **Grant Village** 67.72 49 *e*P **P** **00 32 59.8 +1.5**
comp=Z,14nm,1.0s
IMW **Indian Meadow** 67.85 50 *e*P **P** **00 32 60.0 +0.8**
comp=Z,8.0nm,0.9s
RLMT **Red Lodge** 67.96 48 *e*P **P** **00 33 00.4 +0.6**
comp=Z,3.8nm,0.9s
FXWY **Fox Creek** 67.97 50 *e*P **P** **00 33 00.2 +0.4**
comp=Z,6.6nm,1.0s
MOOW **Moose Ponds** 68.05 50 *e*P **P** **00 33 00.4 +0.1**
comp=Z,12nm,1.1s
TPAW **Teton Pass** 68.10 50 *e*P **P** **00 33 01.8 +1.0**
comp=Z,12nm,0.9s
HVU **Hansel Valley** 68.18 53 *e*P **P** **00 33 01.3 +0.2**
comp=Z,5.5nm,0.9s
HVU **Hansel Valley** 68.18 53 *e*P **P** **00 33 01.3 +0.2**
HVU pmax pmax
comp=Z,6.0nm,0.9s
LOHW **Long Hollow** 68.22 50 *e*P **P** **00 33 02.5 +1.1**
comp=Z,4.0nm,0.8s
SNOW **Snow King Moun** 68.23 50 *e*P **P** **00 33 03.2 +1.6**
comp=Z,7.1nm,0.9s
REDW **Red Top Meadow** 68.24 50 *e*P **P** **00 33 02.1 +0.5**
comp=Z,9.1nm,1.0s
DGMT **Dagmar** 68.34 43 *e*P **P** **00 33 02.2 +0.4**
comp=Z,22nm,0.6s
AHID **Auburn Hatcher** 68.49 51 *e*P **P** **00 33 03.3 +0.2**
comp=Z,9.8nm,1.1s
LAO **LASA Array** 68.52 45 *e*P **P** **00 33 03.0 0.0**
comp=Z,13nm,0.9s
AS01 **Alice Springs** 68.63 194 *e*P **P** **00 33 03.8 0.0**
AS01 *e*pP **PcP** **00 33 27.9 -0.2**
ASAR **Alice Springs** 68.64 194 P **P** **00 33 03.7 -0.2**
comp=Z,1.2nm,0.8s,baz=8.8,slow=4.7,SNR=11
ASAR pP **PcP** **00 33 28.1 -0.1**
comp=Z,2.0nm,0.8s,baz=11,slow=6.4,SNR=8.8
SPUT **South Promonto** 68.67 53 *e*P **P** **00 33 04.2 0.0**
comp=Z,2.7nm,1.0s
R11A **Troy Canyon, C** 68.73 57 *e*P **P** **00 33 05.0 +0.4**
comp=Z,6.0nm,1.0s
HWUT **Hardware Ranch** 68.98 52 *e*P **P** **00 33 06.1 -0.1**
comp=Z,3.7nm,0.8s
DUG **Dugway, Tooele** 69.18 54 *e*P **P** **00 33 07.7 +0.3**
comp=Z,6.7nm,0.8s
DUG **Dugway, Tooele** 69.18 54 P **P** **00 33 08.3 +0.9**
DUG pmax pmax
comp=Z,12nm,0.9s
TPNV **Topopah Spring** 69.22 58 *e*P **P** **00 33 08.1 +0.4**
comp=Z,7.7nm,0.8s
BW06 **Boulder Array** 69.35 50 *e*P **P** **00 33 08.7 +0.2**
PD31 **Pinedale Array** 69.35 50 *e*P **P** **00 33 08.8 +0.4**
PDAR **Pinedale Array** 69.35 50 P **P** **00 33 08.6 +0.1**
comp=Z,4.0nm,0.8s,baz=270,slow=3.0,SNR=21
PDAR pP **PcP** **00 33 31.1 -0.3**
comp=Z,0.5nm,0.5s,baz=305,slow=3.2,SNR=1.9
PDAR **Pinedale Array** 69.35 50 *e*P **P** **00 33 08.2 -0.3**
PDAR pP **PcP** **00 33 31.1 -0.3**
NB2 **NORSAR Subarra** 69.40 339 P **P** **00 33 07.3 -1.0**
comp=Z,1.0nm,0.4s,baz=29,slow=6.5
NB2 **NORSAR Subarra** 69.40 339 P **P** **00 33 07.2 -1.0**
NB2 pmax pmax
comp=Z,1.0nm,0.4s
NOA **NORSAR Array B** 69.40 339 P **P** **00 33 07.5 -0.7**
comp=Z,0.7nm,0.3s,baz=40,slow=6.9,SNR=28
NOA **NORSAR Array B** 69.40 339 P **P** **00 33 07.5 -0.7**
NOA pmax pmax
comp=Z,2.0nm,0.5s
NORES **NORESS Array B** 69.58 339 P **P** **00 33 08.3 -0.9**
NORES pmax pmax
comp=Z,1.0nm,0.3s
JLU **Jordanelle** 69.71 53 *e*P **P** **00 33 10.7 0.0**
comp=Z,3.5nm,0.8s
NLU **North Lily Min** 69.77 54 *e*P **P** **00 33 11.1 0.0**
comp=Z,5.0nm,0.9s
KIV **Kislovodsk** 69.82 312 *e*P **P** **00 33 12.5 +1.3**
comp=Z,19nm,0.6s
KIV **Kislovodsk** 69.82 312 *e*P **P** **00 33 12.7 +1.5**
KIV **Kislovodsk** 69.82 312 *e*P **P** **00 33 12.7 +1.5**
KIV pmax pmax
comp=Z,21nm,0.9s
KIV MLR MLR

comp=Z,33nm,17.0s
KBZ **Khabaz** 69.86 312 P P 00 33 12.4 +1.2
comp=Z,5.0nm,0.6s,baz=51,slow=7.4,SNR=24
GSC **Goldstone, Bar** 69.94 60 eP P 00 33 12.6 +0.6
comp=Z,4.9nm,0.9s
GSC **Goldstone, Bar** 69.94 60 eP P 00 33 12.6 +0.6
GSC pmax pmax
comp=Z,5.0nm,0.9s
ZEI **Tsey** 69.94 310 eP P 00 33 09.9 -2.2
ZEI pmax pmax
comp=Z,5.0nm,0.7s
MPU **Maple Canyon** 69.98 53 eP P 00 33 13.3 +0.9
comp=Z,5.4nm,0.8s
SHPR **Sheep Range** 70.18 58 eP P 00 33 13.7 +0.1
comp=Z,7.1nm,0.9s
TBLG **Delisi** 70.19 309 eP P 00 33 14.1 +0.8
comp=Z,14nm,0.7s
TBLG **Delisi** 70.19 309 eP P 00 33 14.1 +0.8
TBLG pmax pmax
comp=Z,14nm,0.7s
CCUT **Cedar City** 70.58 56 eP P 00 33 17.1 +1.0
comp=Z,4.7nm,1.1s
TMUT **Trail Mountain** 70.71 54 eP P 00 33 17.1 +0.2
comp=Z,3.7nm,0.8s
P17A **Butcher Ranch,** 70.86 53 eP P 00 33 18.6 +1.0
comp=Z,7.8nm,0.8s
ULM **Lac du Bonnet** 70.95 37 P P 00 33 17.1 -0.6
comp=Z,1.0nm,0.5s,baz=306,slow=7.9,SNR=7.3
MTPU **Mount Pierson** 70.96 55 eP P 00 33 18.9 +0.3
comp=Z,3.9nm,0.7s
LCMT **Little Creek M** 71.01 57 eP P 00 33 19.0 +0.4
comp=Z,6.4nm,1.0s
P18A **Preston Nutter** 71.04 53 eP P 00 33 19.8 +0.8
comp=Z,4.1nm,1.0s
K22A **Casper** 71.08 49 eP P 00 33 19.3 +0.3
comp=Z,8.9nm,1.0s
LDFC **Landfair** 71.14 59 eP P 00 33 19.7 +0.4
comp=Z,12nm,0.8s
SRU **San Rafael Swe** 71.23 54 eP P 00 33 20.6 +0.7
comp=Z,10nm,0.9s
SRU **San Rafael Swe** 71.23 54 eP P 00 33 20.6 +0.7
SRU pmax pmax
comp=Z,10.0nm,0.9s
KNB **Kanab** 71.26 56 eP P 00 33 20.7 +0.6
comp=Z,5.7nm,1.0s
RWWY **Rawlins** 71.36 50 eP P 00 33 21.1 +0.3
comp=Z,7.4nm,0.8s
RSSD **Black Hills** 71.39 46 eP P 00 33 21.1 +0.2
comp=Z,7.7nm,0.8s
AKASG **Malin Array Be** 71.52 324 P P 00 33 20.9 -0.3
comp=Z,9.3nm,0.7s,baz=37,slow=6.2,SNR=32
KIEV **Kiev** 71.53 324 eP P 00 33 20.6 -0.6
comp=Z,11nm,0.8s
KIEV **Kiev** 71.53 324 ceP P 00 33 21.0 -0.3
KIEV pmax pmax
comp=Z,12nm,0.8s
AK11 **Malin Array Si** 71.56 324 eP P 00 33 21.3 -0.2
O20A **White River Ci** 71.84 52 eP P 00 33 23.9 +0.3
comp=Z,9.0nm,1.1s
W13A **Hualapai Mount** 71.88 59 eP P 00 33 24.4 +0.5
comp=Z,3.3nm,0.9s
U15A **North Rim** 71.97 57 eP P 00 33 25.2 +0.6
comp=Z,7.4nm,0.9s
Y12C **Blythe** 72.38 60 eP P 00 33 27.5 +0.9
comp=Z,5.2nm,0.8s
AGMN **Agassiz Nation** 72.39 39 eP P 00 33 26.1 -0.3
comp=Z,2.2nm,0.8s
PV21 **Cone Mtn., Par** 72.49 53 eP P 00 33 28.2 +0.7
comp=Z,6.7nm,0.7s
PV10 **Paradox Valley** 72.58 53 eP P 00 33 29.1 +1.0
PV14 **Lion Creek, Pa** 72.59 53 eP P 00 33 28.8 +0.6
comp=Z,8.5nm,0.7s
N23A **Red Feather La** 72.60 50 eP P 00 33 29.2 +1.0
comp=Z,6.7nm,1.0s
PV22 **Blue Mesa, Par** 72.62 53 eP P 00 33 28.9 +0.7
comp=Z,5.4nm,0.8s
PV19 **Morning Glory** 72.66 53 eP P 00 33 29.1 +0.6
comp=Z,7.6nm,0.8s
PV17 **East Wray Mesa** 72.69 53 eP P 00 33 29.5 +0.8
comp=Z,14nm,0.7s
PV16 **Nyswonger Mesa** 72.69 53 eP P 00 33 29.4 +0.7
comp=Z,6.1nm,0.8s
PV11 **David Mesa, Pa** 72.73 53 eP P 00 33 29.8 +0.8
comp=Z,13nm,0.8s
PV18 **Skein Mesa, Pa** 72.74 53 eP P 00 33 29.7 +0.7
comp=Z,8.2nm,0.8s
PV05 **Paradox Valley** 72.75 54 eP P 00 33 29.9 +0.8
PV12 **Saucer Basin,** 72.75 53 eP P 00 33 30.7 +1.6
comp=Z,4.8nm,0.8s
PV03 **Paradox Valley** 72.77 53 eP P 00 33 29.8 +0.6
PV13 **Radium Mtn., P** 72.85 53 eP P 00 33 30.4 +0.7
comp=Z,7.2nm,0.6s
WUAZ **Wupatki** 73.13 57 eP P 00 33 32.4 +1.1
comp=Z,4.5nm,0.8s
Y14A **Wickenburg** 73.19 59 eP P 00 33 31.6 0.0
comp=Z,6.7nm,1.0s
ISCO **Idaho Springs** 73.54 50 eP P 00 33 34.4 +0.6
comp=Z,4.3nm,0.9s
ISCO **Idaho Springs** 73.54 50 eP P 00 33 34.4 +0.6
ISCO pmax pmax
comp=Z,4.0nm,0.9s
MVCO **Mesa Verde** 73.69 54 eP P 00 33 35.3 +0.6
comp=Z,6.7nm,0.9s
X16A **Lo Mia Camp, P** 73.83 58 eP P 00 33 36.5 +1.0
comp=Z,8.1nm,0.8s
S22A **4UR Ranch, Cre** 74.28 53 eP P 00 33 38.9 +0.8
comp=Z,5.2nm,1.1s
X18A **Snowflake** 74.66 57 eP P 00 33 41.3 +1.1
comp=Z,3.7nm,0.7s
SDCO **Great Sand Dun** 75.03 52 eP P 00 33 42.8 +0.3
comp=Z,1.2nm,0.8s
ECSD **EROS Data Cent** 75.41 42 eP P 00 33 44.2 0.0
comp=Z,9.8nm,1.0s
BUR08 **Bucovina Ar. S** 75.56 324 eP P 00 33 44.9 -0.2
BUR04 **Bucovina Ar. S** 75.58 324 eP P 00 33 45.3 +0.1
BURAR **Bucovina Array** 75.58 324 ⇓iP P 00 33 45.1 -0.1
E38A **The Farm, Brul** 75.58 38 eP P 00 33 44.5 -0.6
comp=Z,10nm,0.7s
BIZ **Bicaz** 75.72 323 ⇑iP P 00 33 45.8 -0.1
T25A **Trinidad** 76.08 52 eP P 00 33 48.9 +0.5
comp=Z,5.5nm,0.8s
PETR **Petresti** 76.17 322 ⇑iP P 00 33 51.6 +3.2
CFR **Carcaliu** 76.17 321 ⇑iP P 00 33 50.2 +1.8
CFR **Carcaliu** 76.17 321 ⇑P P 00 33 50.2 +1.8
TRPA **Tarpa** 76.28 326 ⇑iP P 00 33 49.9 +0.9
ANMO **Albuquerque** 76.44 54 P P 00 33 50.1 -0.4
comp=Z,2.1nm,0.8s,baz=313,slow=7.2,SNR=8.9
ANMO **Albuquerque** 76.44 54 eP P 00 33 51.4 +0.9
comp=Z,3.1nm,0.8s
ANMO **Albuquerque** 76.44 54⇑eP P 00 33 51.0 +0.6
ANMO pmax pmax
comp=Z,4.0nm,0.9s
LANS **Liptovska Anna** 76.67 328 eP P 00 33 52.4 +1.1
LANS **Liptovska Anna** 76.67 328 eP P 00 33 52.4 +1.1
DOPR **Dopca** 76.79 323 ⇓iP P 00 33 54.9 +2.9
KECS **Kecovo** 76.82 327 eP P 00 33 52.2 +0.1
KECS pmax pmax
comp=Z,4.0nm,0.6s
KECS **Kecovo** 76.82 327 eP P 00 33 52.2 +0.1
DPC **Dobruska-Polom** 76.84 330 eP P 00 33 52.6 +0.4
DPC **Dobruska-Polom** 76.84 330 eP P 00 33 52.6 +0.4
MORC **Moravsky Berou** 76.88 329 eP P 00 33 52.9 +0.5
comp=Z,3.6nm,0.9s
MORC **Moravsky Berou** 76.88 329⇑iP P 00 33 53.0 +0.6
MORC **Moravsky Berou** 76.88 329 ⇑P P 00 33 53.0 +0.6
MORC **Moravsky Berou** 76.88 329 eP P 00 33 52.9 +0.5
MLR **Muntele Rosu** 76.92 322 ⇓iP P 00 33 53.6 +0.8
MLR **Muntele Rosu** 76.92 322 ⇓P P 00 33 53.6 +0.8
SCHQ **Schefferville** 77.13 20 P P 00 33 53.0 -0.7
comp=Z,4.6nm,0.6s,baz=353,slow=4.4,SNR=8.7
CLL **Collm** 77.17 333 eP P 00 33 54.0 0.0
comp=Z,7.6nm,0.8s
CLL **Collm** 77.17 333 eP P 00 33 54.0 0.0
CLL **Collm** 77.17 333⇑iP P 00 33 53.8 -0.2
comp=Z,10.0nm,1.0s
CLL **Collm** 77.17 333 eP P 00 33 54.0 0.0
CLL pmax pmax
comp=Z,8.0nm,0.8s
DRGR 77.28 325⇑iP P 00 33 55.0 +0.2
DRGR 77.28 325 ⇑P P 00 33 55.0 +0.2
PVCC **Panska Ves** 77.31 331 eP P 00 33 55.6 +0.9
PVCC **Panska Ves** 77.31 331 eP P 00 33 55.6 +0.9
F41A **Three Lakes** 77.33 37 eP P 00 33 55.0 0.0
comp=Z,8.2nm,0.9s
VOIR 77.35 323 ⇓iP P 00 33 56.1 +0.9
VOIR 77.35 323 ⇓P P 00 33 56.1 +0.9
VYHS **Vyhne** 77.45 328 eP P 00 33 56.1 +0.5
VYHS **Vyhne** 77.45 328 eP P 00 33 56.1 +0.5
BR131 **Keskin Array S** 77.58 314 eP P 00 33 57.6 +0.9
BRTR **Keskin Array B** 77.58 314 P P 00 33 56.9 +0.2
comp=Z,0.9nm,0.6s,baz=31,slow=3.6,SNR=6.1
BRTR **Keskin Array B** 77.58 314 iP P 00 33 59.4 +2.7
BRTR pmax pmax
comp=Z,1.0nm,0.6s
JAVC **Velka Javorina** 77.59 329 eP P 00 33 58.0 +1.6
ARR **Arges** 77.59 323 ⇓iP P 00 33 59.7 +3.2
VRAC **Vranov** 77.61 330 eP P 00 33 57.4 +0.9
PRA **Prague** 77.74 331 eP P 00 33 57.8 +0.7
PRA **Prague** 77.74 331 eP P 00 33 57.8 +0.7
GOPC **GO Pecny, Ondr** 77.75 331 eP P 00 33 58.2 +0.9
GOPC **GO Pecny, Ondr** 77.75 331 eP P 00 33 58.2 +0.9
KRUC **Moravsky** 77.89 330 eP P 00 33 58.6 +0.6
SIRR **Siria** 78.13 325 ⇓iP P 00 34 00.3 +0.8
MODS **Modra-Piesok** 78.14 329 eP P 00 33 59.4 0.0
MODS pmax pmax
comp=Z,56nm,2.7s
MODS **Modra-Piesok** 78.14 329 eP P 00 33 59.4 0.0
BZS **Buzias** 78.68 325 ⇓iP P 00 34 02.6 +0.2
BZS **Buzias** 78.68 325 ⇓P P 00 34 02.6 +0.2
KHC **Kasperske Hory** 78.83 331 eP P 00 34 03.1 -0.2
comp=Z,2.4nm,0.8s
KHC **Kasperske Hory** 78.83 331 eP P 00 34 03.7 +0.4
KHC **Kasperske Hory** 78.83 331 eP P 00 34 03.7 +0.4
H43A **Windswept, Lux** 78.91 37 eP P 00 34 03.8 0.0
comp=Z,12nm,1.0s
SOP **Sopron** 78.98 329 P P 00 34 06.0 +2.0
SOP pmax pmax
comp=Z,8.0nm,1.8s
GERES **GERESS Array B** 79.03 331 P P 00 34 04.4 0.0
comp=Z,0.9nm,0.5s,baz=36,slow=6.1,SNR=12
CONA **Conrad Observa** 79.03 329 eP P 00 34 05.4 +0.9
comp=Z,2.2nm,0.6s
GEA0 **GERESS Array S** 79.04 331 eP P 00 34 04.1 -0.4
GRFO **Grafenberg** 79.14 333 eP P 00 34 05.3 +0.4
comp=Z,6.1nm,0.7s
GRFO **Grafenberg** 79.14 333 eP P 00 34 05.3 +0.4
GRFO pmax pmax
comp=Z,6.0nm,0.7s
AMTX **Amarillo** 79.23 52 eP P 00 34 06.2 +0.5
comp=Z,8.7nm,0.9s
MNTX **Cornudas Mount** 79.37 56 eP P 00 34 06.9 +0.4
comp=Z,4.7nm,0.8s
N39A **Derby Farms, D** 79.56 42 eP P 00 34 07.3 0.0
comp=Z,12nm,0.8s
MOA **Molln** 79.68 330 P P 00 34 07.8 0.0
comp=Z,4.2nm,1.2s
MEM **Membach** 79.95 336 ⇓iP P 00 34 09.2 0.0
BCLA **Clavier** 80.32 337 ⇑P P 00 34 11.2 0.0
SOKA **Soboth** 80.39 329 P P 00 34 12.1 +0.3
comp=Z,2.6nm,0.6s
VTS **Vitosha** 80.42 322 ⇓iP P 00 34 12.6 +0.5
VTS **Vitosha** 80.42 322 ⇓P P 00 34 12.6 +0.5
N41A **Harden Midland** 80.48 41 eP P 00 34 12.3 0.0
comp=Z,18nm,1.0s
KBA **Koelnbreinsper** 80.66 330 eP P 00 34 14.3 +0.9
comp=Z,9.8nm,1.1s
WMOK **Wichita Mounta** 80.96 50 eP P 00 34 15.2 +0.2
comp=Z,4.3nm,0.9s
WMOK **Wichita Mounta** 80.96 50 eP P 00 34 15.2 +0.2
WMOK pmax pmax
comp=Z,4.0nm,0.9s
WATA **Walderalm** 81.06 332 eP P 00 34 15.9 +0.5
comp=Z,2.4nm,0.5s
MOTA **Moosalm** 81.21 332 eP P 00 34 16.6 +0.3
comp=Z,2.3nm,0.6s
M44A **Midewin, Midew** 81.25 39 eP P 00 34 16.3 -0.1
comp=Z,13nm,0.9s
SQTA **Sankt Quirin** 81.29 332 eP P 00 34 17.0 +0.4
comp=Z,5.0nm,0.7s
HDIL **Hopedale** 81.33 40 eP P 00 34 17.0 +0.1
comp=Z,20nm,0.9s
P42A **Winchester** 81.60 42 eP P 00 34 18.3 0.0
comp=Z,15nm,0.9s
FETA **Feichten** 81.62 332 ePcP P 00 34 21.5 +3.1
comp=Z,3.6nm,0.8s
DAVA **Damuels** 81.68 332 P P 00 34 18.7 0.0
comp=Z,5.2nm,0.9s
TUL1 **Leonard** 81.69 47 eP P 00 34 18.9 +0.1
comp=Z,10nm,0.8s
TXAR **Lajitas Array** 82.09 57 P P 00 34 21.4 +0.3
comp=Z,7.7nm,0.7s,baz=290,slow=3.0,SNR=33
TXAR pP pP 00 34 45.0 -0.5
comp=Z,1.6nm,0.5s,baz=295,slow=3.9,SNR=2.5
FUORN **Ofenpass-Fuorn** 82.13 332 eP P 00 34 22.3 +1.1
comp=Z,12nm,1.1s
RAYN **Ar Rayn** 82.22 295 eP P 00 34 22.0 +0.2
comp=Z,1.9nm,0.7s
CCM **Cathedral Cave** 82.36 43 eP P 00 34 21.6 -0.6
comp=Z,12nm,0.8s
CCM **Cathedral Cave** 82.36 43 eP P 00 34 21.7 -0.6
CCM pmax pmax
comp=Z,12nm,0.8s
HHAR **Hobbs** 82.38 46 eP P 00 34 22.2 -0.2
comp=Z,6.6nm,0.7s
SIUC **Southern Illin** 83.62 42 eP P 00 34 29.1 +0.3
comp=Z,23nm,0.9s
PBMO **Poplar Bluff** 83.77 43 eP P 00 34 29.8 +0.3
comp=Z,7.3nm,0.8s
MIAR **Mount Ida** 83.90 47 eP P 00 34 29.7 -0.5
comp=Z,17nm,1.1s
MIAR **Mount Ida** 83.90 47 eP P 00 34 29.7 -0.5
MIAR pmax pmax
comp=Z,17nm,1.1s
WHAR **Wooly Hollow** 83.99 45 eP P 00 34 30.7 0.0
comp=Z,18nm,1.1s
MOQ **Mont Orford** 84.13 27 eP P 00 34 31.6 +0.2
PARMO **Parma** 84.19 43 eP P 00 34 32.3 +0.6
comp=Z,41nm,0.8s
T47A **Sharon Grove** 85.21 41 eP P 00 34 37.3 +0.5
comp=Z,12nm,0.8s
Q51A **Peebles** 85.26 37 eP P 00 34 37.5 +0.4
comp=Z,15nm,1.0s
O56A **Blue Knob Stat** 86.22 34 eP P 00 34 41.9 +0.1
comp=Z,15nm,0.8s
SWET **Sewanee** 87.20 41 eP P 00 34 46.5 -0.1
comp=Z,9.6nm,0.8s
146A **Union** 87.73 45 eP P 00 34 50.5 +1.3
comp=Z,31nm,0.8s
TKL **Tuckaleechee C** 87.84 40 P P 00 34 49.8 +0.1
comp=Z,5.0nm,0.7s,baz=201,slow=2.8,SNR=8.0
LRAL **Lakeview Retre** 88.45 43 eP P 00 34 51.9 -0.7
Z50A **Ashland** 88.80 42 eP P 00 34 54.0 -0.3
comp=Z,19nm,0.8s
Z50A epP pP 00 35 18.7 -0.2
ESDC **Sonseca Array** 92.76 339 P P 00 35 11.7 -0.9
comp=Z,0.7nm,0.7s,baz=10,slow=4.9,SNR=4.0
TORD **Torodi Ar. Bea** 115.15 323 PKP PKPdf 00 40 39.7 -1.8
comp=Z,0.3nm,0.5s,baz=35,slow=1.2,SNR=6.8
TORD pPKP pPKiKP 00 41 05.4 -1.8
comp=Z,0.2nm,0.4s,baz=9.8,slow=3.2,SNR=1.7
VNDA **Vanda** 121.69 176 PKP PKPdf 00 40 52.2 +0.1
comp=Z,0.6nm,0.5s,baz=349,slow=3.8,SNR=5.0
DBIC **Dimbokro** 123.70 327 PKP PKPdf 00 40 57.0 -0.9
comp=Z,3.0nm,1.0s,baz=14,slow=4.2,SNR=3.2
LCO **Las Campanas** 145.99 77 ePKPbc PKPbc 00 41 39.7 -0.2
LCO **Las Campanas** 145.99 77 ePKP2 PKPbc 00 41 39.7 -0.2
BDFB **Brasilia** 148.62 30 PKPbc PKPbc 00 41 45.7 -1.6
comp=Z,4.9nm,0.8s,baz=271,slow=3.3,SNR=5.8
SNAA **Sanae** 148.94 198 PKP PKPbc 00 41 46.4 -0.1
SNAA **Sanae** 148.94 198 ePKPbc PKPbc 00 41 46.7 +0.2
SNAA **Sanae** 148.94 198 ePKP2 PKPbc 00 41 46.7 +0.2
VNA2 **Neumayer--Watz** 150.46 196 PKP PKPbc 00 41 50.6 +0.5
baz=144,slow=1.2
VNA3 **Neumayer Olymp** 150.64 195 PKP PKPbc 00 41 50.7 +0.1
PLCA **Paso Flores** 151.72 97 PKPbc PKPbc 00 41 52.0 -2.1
comp=Z,6.0nm,0.9s,baz=264,slow=5.1,SNR=6.7
PLCA **Paso Flores** 151.72 97 PKIKP PKPbc 00 41 52.0 -2.1
PLCA pmax pmax
comp=Z,6.0nm,0.9s

*ISCJB **21** 00:26:57.5±0.5,35°.39N±0°.09×135°.92E±0°.10, h353km±5km, mb3.2/6, Error ellipse: s-maj=14.4km s-min=11.9km az=146.5*
*JMA **21** 00:26:58.7±0.1,35°.45N×135°.87E, h344km±1km, M3.1*
*IDC **21** 00:26:58.1±1.2,35°.30N×135°.95E, h352km±12km, mb3.0/6, mb1 3.2/10, mb1mx2.9/52, mbtmp3.7/10, Error ellipse: s-maj=17.9km s-min=16.0km az=165.0*
ISC 21 00:26:58.0±0.8,35°.37N±0°.09×135°.93E±0°.08, h349km±7km, n22, σ0°.78/26, mb3.1/6, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFM	**Mihama**	0.16	16	P	Pn	00 27 42.0	+0.4
JFM				S	S	00 28 16.1	-0.4
JWT	**Wachi**	0.44	258	P	Pn	00 27 42.3	+0.3
JWT				S	S	00 28 16.0	-1.2
JIE	**Ise**	1.17	147	P	Pn	00 27 45.4	+1.0
JIE				S	S	00 28 21.8	+0.2
JWY	**Kouya**	1.18	194	P	Pn	00 27 45.2	+0.6
JTNC	**Tanabenakahech**	1.57	190	P	Pn	00 27 47.1	+0.5
JTNC				eS	S	00 28 24.7	-0.7
JAI	**Aioi**	1.99	218	P	Pn	00 27 49.9	+0.7
JYN	**Shimob**	2.14	86	P	Pn	00 27 50.7	+0.4
MJAR	**Matsushiro Arr**	2.19	57	P	Pn	00 27 51.0	+0.5
	3.0nm,0.3s,baz=242,slow=8.1,SNR=9.3						
JHS	**Saijyo**	2.33	262	P	Pn	00 27 51.9	+0.2
JMN	**Monobe**	2.36	226	P	Pn	00 27 52.6	+0.7
JSZ	**Suzu**	2.37	29	P	Pn	00 27 52.0	+0.2
JRY	**Ryogami san**	2.50	74	P	Pn	00 27 53.7	+0.7
JNU	**Nakatsue**	4.75	243	P	Pn	00 28 15.6	+0.7
	3.0nm,0.3s,baz=16,slow=1.1,SNR=16						
KSRS	**Korea Array**	6.78	290	P	Pn	00 28 38.0	+0.4
	0.8nm,0.3s,baz=107,slow=13,SNR=12						
USRK	**Ussuriysk Ar.**	9.32	342	P	Pn	00 29 07.7	+0.1
	0.5nm,0.3s,baz=149,slow=10,SNR=6.3						
SONM	**Songino Array**	25.18	309	P	P	00 31 53.4	+0.4
	1.0nm,0.4s,baz=121,slow=9.4,SNR=9.2						
ZALV	**Zalesovo Beam**	39.81	314	P	P	00 33 58.9	+0.5
	0.4nm,0.3s,baz=104,slow=6.1,SNR=3.0						
MKAR	**Makanchi Array**	41.27	303	P	P	00 34 10.4	+0.1
	0.6nm,0.7s,baz=82,slow=10,SNR=4.7						
ILAR	**Eielson Array**	53.25	31	P	P	00 35 41.9	+0.5
	0.6nm,0.5s,baz=261,slow=5.6,SNR=15						
WRA	**Warramunga Arr**	55.03	182	P	P	00 35 54.3	-0.3
	3.0nm,0.6s,baz=357,slow=7.8,SNR=5.8						
INK	**Inuvik**	57.85	26	P	P	00 36 14.5	+0.8
	1.2nm,0.4s,baz=271,slow=5.9,SNR=11						
LPAZ	**La Paz**	151.32	55	PKPbc	PKPbc	00 46 09.6	-2.3
	0.7nm,0.5s,baz=326,slow=3.6,SNR=2.7						

*MEX **21** 00:30:47.1±0.4, 15°.95N×98°.63W, h13km±6km, MD4.7*
*NEIC **21** 00:30:47.4±0.0, 15°.99N×98°.60W, h9km, mb4.6/196, MD4.7(MEX), After MEX.*
NEIC Felt at Cacahuatepec.
*IDC **21** 00:30:47.2±0.7, 16°.27N×98°.51W, h0km, mb4.4/21, mb1 4.5/26, mb1mx4.3/48, mbtmp4.4/26, ML3.8/4, MS3.9/23, Ms1 3.9/23, ms1mx3.8/34, Error ellipse: s-maj=21.4km s-min=10.5km az=54.0*
*BJI **21** 00:30:50.8, 16°.30N×98°.30W, h12km, Ms7 4.5/1*
*ISCJB **21** 00:30:51.1±1.2, 16°.39N±0°.03×98°.26W±0°.02, h32km±8km, mb4.5/179, MS4.0/20, Error ellipse: s-maj=5.7km s-min=3.2km az=21.7*
*GCMT **21** 00:30:51.4±0.6, 16°.14N±0°.03×98°.43W±0°.05, h14km±1km, MW4.8/70, Moment Tensor Solution. s12,c14; s70,c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.51±.15; $M_{\theta\theta}$-1.22±.09; $M_{\phi\phi}$-0.28±.08; $M_{r\theta}$0.97±.21; $M_{r\phi}$0.56±.06; $M_{\theta\phi}$-0.32±.25; Best double couple: $M_0$1.81500×10^{16} NP1:ϕ_s111.00000°, δ62.00000°, λ86.00000°. NP2: ϕ_s299.00000°, δ28.00000°, λ97.00000°. Principal axes: T 1.8320, Plg73.0000°, Azm13.0000°; N -0.0290, Plg3.0000°, Azm113.0000°; P -1.7990, Plg17.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 21 00:30:48.5±1.5, 16°.17N±0°.05×98°.57W±0°.04, h12km±8km, n654, σ1$41/646, mb4.6/179, MS4.0/20, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	0.48	62	eP	Pg	00 30 57.7	-0.2
PNIG				eS	Sg	00 31 06.6	+2.4
PNIG	**Pinotepa**	0.48	62	eP	Pg	00 30 57.7	-0.2
PNIG				eS	Sg	00 31 06.9	+2.6
TLIG	**Tlapa**	1.39	360	ePn	Pn	00 31 11.7	-2.2
TLIG				eSg	Sn	00 31 35.8	+3.5
TLIG	**Tlapa**	1.39	360	eP	Pn	00 31 11.8	-2.0
TLIG				eS	Sn	00 31 31.2	-1.0
CAIG	**El Cayaco**	1.85	298	eP	Pn	00 31 15.2	-5.0
CAIG				eS	Sn	00 31 40.1	-3.5
CAIG	**El Cayaco**	1.85	298	eP	Pn	00 31 15.7	-4.5
CAIG				eS	Sn	00 31 38.7	-4.8
VHO	**Vista Hermosa**	1.97	63	eP	Pn	00 31 19.9	-2.1
VHO				eS	Sn	00 31 44.4	-2.4
VHO	**Vista Hermosa**	1.97	63	eP	Pn	00 31 19.9	-2.1
VHO				eS	Sn	00 31 44.4	-2.4
MEIG	**Mezcala**	2.02	330	eP	Pn	00 31 20.3	-2.2
MEIG	**Mezcala**	2.02	330	eP	Pn	00 31 20.3	-2.2
HUIG	**Huatulco**	2.40	99	eP	Pn	00 31 23.9	-3.8
HUIG	**Huatulco**	2.40	99	eP	Pn	00 31 23.9	-3.8
ARIG	**Puente Sto Nin**	2.70	321	eP	Pn	00 31 29.4	-2.6
ARIG				eS	Sb	00 32 09.5	-0.6
ARIG	**Puente Sto Nin**	2.70	321	eP	Pn	00 31 29.4	-2.6
ARIG				iS	Sn	00 32 03.1	-1.5
UNM	**Universidad Na**	3.20	350	ePn	Pn	00 31 39.5	+0.5
UNM				eLg	Lg	00 32 38.3	
CMIG	**Matias Romero**	3.65	75	Pn	Pn	00 31 42.0	-2.8
	14nm,0.3s,baz=260,slow=11,SNR=122						
CMIG				Sn	Sn	00 32 27.7	-0.2
	83nm,0.3s,baz=118,slow=20,SNR=7.2						
CMIG				Lg	Lg	00 32 48.8	
	192nm,0.3s,baz=192,slow=19,SNR=14						
CMIG				LR	LR	00 33 10.3	
	comp=Z,796nm,21.8s,baz=264,slow=40						
MOIG	**Morelia**	4.29	325	ePn	Pn	00 31 55.8	+1.9
MOIG				eSg	Sg	00 33 08.4	+1.9
CCIG	**Comitan**	6.18	88	ePn	Pn	00 32 20.6	+0.8
ZAIG	**Zacatecas**	7.57	331	ePn	Pn	00 32 40.4	+1.3
ZAIG				ePg	Pg	00 33 09.7	-3.9
APG	**El Apazote**	7.89	97	Pn	Pn	00 32 42.4	-1.1
	0.7nm,0.3s,baz=326,slow=15,SNR=12						
APG				Sn	Sn	00 34 07.4	-5.5
	0.8nm,0.3s,baz=13,slow=18,SNR=4.0						
APG				Lg	Lg	00 34 51.4	
	2.4nm,0.3s,baz=327,slow=18,SNR=4.0						
LNIG	**Linares**	8.73	355	ePn	Pn	00 32 53.0	-1.7
TEIG	**Tepich**	10.58	66	ePn	Pn	00 33 16.4	-3.6
CSGN	**Cosiguina Volc**	11.12	105	ePn	Pn	00 33 25.1	-2.5
833A	**Chaparral WMA,**	12.12	357	ePn	Pn	00 33 42.0	+0.9
ESTN	**Estel**	12.19	103	ePn	Pn	00 33 42.5	+0.2
HPIG		12.58	330	ePn	Pn	00 33 49.3	+1.6
LPIG	**La Paz**	13.55	307	LR	LR	00 38 11.6	
	comp=Z,477nm,21.8s,baz=124,slow=33						
TXAR	**Lajitas Array**	13.92	341	Pn	Pn	00 34 07.4	+1.6
	baz=158,slow=15,SNR=7.5						
TXAR				Lg	Lg	00 38 10.1	
	baz=131,slow=30,SNR=3.1						
TXAR				LR	LR	00 40 10.9	
	comp=Z,727nm,21.3s,baz=0.0,slow=41						
TX31	**Lajitas Ar. Si**	13.92	341	ePn	Pn	00 34 02.4	-3.4
HKT	**Hockley**	13.95	10	ePn	Pn	00 34 04.5	-1.6
JCT	**Junction City**	14.29	356	ePn	Pn	00 34 11.9	+1.0
JCT	**Junction City**	14.29	356	P	Pn	00 34 10.1	-0.8
	baz=175						
JTS	**JuntasAbangare**	14.48	112	Pn	P	00 34 15.1	-5.1
	0.5nm,0.3s,baz=321,slow=13,SNR=2.3						
435B	**Jarrell**	14.57	3	ePn	Pn	00 34 12.5	-2.2
WHTX	**Lake Whitney,**	15.79	3	ePn	Pn	00 34 30.3	-0.5
	69nm,0.9s						
WHTX	**Lake Whitney,**	15.79	3	P	Pn	00 34 30.0	-0.8
	baz=184,SNR=19						
NATX	**Nacogdoches**	15.92	12	ePn	Pn	00 34 31.0	-1.6
	40nm,0.8s						
NATX	**Nacogdoches**	15.92	12	P	Pn	00 34 31.2	-1.3
	baz=194						
342A	**Flagon Creek P**	16.17	20	ePn	Pn	00 34 32.0	-3.7
	24nm,0.9s						
342A	**Flagon Creek P**	16.17	20	P	Pn	00 34 34.4	-1.4
	baz=202						
445A	**Amite**	16.33	26	P	Pn	00 34 36.6	-1.2
	baz=209						
240A	**Hunter Patters**	16.39	15	ePn	Pn	00 34 34.4	-4.2
	31nm,0.9s						
ABTX	**Abilene, Hawle**	16.41	357	ePn	Pn	00 34 40.7	+1.8
	64nm,0.9s						
ABTX	**Abilene, Hawle**	16.41	357	P	Pn	00 34 40.6	+1.8
	baz=176,SNR=29						
241A	**Mo Tay, Goldon**	16.60	17	ePn	Pn	00 34 40.0	-1.2
	27nm,0.9s						
241A	**Mo Tay, Goldon**	16.60	17	P	Pn	00 34 40.0	-1.2

	baz=199								
MNTX	Cornudas Mount	16.66	339	ePn	Pn	00 34 41.8	-0.2		
	12nm,1.0s								
MNTX	Cornudas Mount	16.66	339	P	Pn	00 34 42.4	+0.4		
	baz=157								
344A	Westbrook Farm	16.81	24	ePn	Pn	00 34 42.7	-1.2		
	22nm,0.9s								
344A	Westbrook Farm	16.81	24	P	Pn	00 34 42.2	-1.6		
	baz=207								
GDL2	Guadalupe Moun	16.81	343	ePn	Pn	00 34 44.9	+0.9		
EPT	El Paso	17.13	336	ePn	Pn	00 34 48.6	+0.5		
	14nm,1.0s								
HSIG		17.14	320	ePn	P	00 34 49.3	-0.4		
	7.1nm,0.9s								
346A	Big Creek Wild	17.27	27	ePn	Pn	00 34 48.2	-1.5		
	28nm,0.8s								
346A	Big Creek Wild	17.27	27	P	Pn	00 34 47.5	-2.2		
	baz=210								
244A	Avery, Jackson	17.35	23	P	Pn	00 34 48.3	-2.4		
	baz=206								
VBMS	Vicksburg	17.57	23	P	Pn	00 34 51.2	-2.2		
	baz=206								
347A	Saraland	17.70	29	P	Pn	00 34 53.4	-1.7		
	baz=213								
Z41A	Richland Creek	17.80	16	ePn	P	00 34 58.1	+1.2		
	60nm,1.0s								
Z41A	Richland Creek	17.80	16	P	Pn	00 34 55.0	-1.1		
	baz=198								
319A	Douglas	18.02	329	ePn	P	00 35 00.8	+1.2		
	22nm,0.9s								
MSTX	Muleshoe	18.13	349	ePn	Pn	00 35 00.3	0.0		
	27nm,0.9s								
MSTX	Muleshoe	18.13	349	P	Pn	00 35 00.4	0.0		
	baz=167,SNR=16								
BRAL	Brewton	18.26	33	P	P	00 34 59.9	-2.2		
	baz=217								
121A	Cookes Peak, D	18.31	334	P	Pn	00 35 03.5	+0.7		
	baz=151								
Y41A	Eaglette Beard	18.43	16	P	P	00 35 02.9	-1.1		
	baz=198								
WMOK	Wichita Mounta	18.49	359	ePn	P	00 35 02.4	-2.3		
	6.8nm,0.9s								
WMOK	Wichita Mounta	18.49	359	P	P	00 35 03.7	-0.9		
	baz=180								
X37A	Clayton	18.57	8	eP	P	00 35 05.1	-0.3		
	20nm,0.8s								
248A	Dixon Mills	18.66	30	P	P	00 35 04.7	-1.7		
	baz=214								
CCAR	Cane Creek	18.70	18	eP	P	00 35 07.8	+0.9		
	27nm,0.9s								
MIAR	Mount Ida	18.84	13	eP	P	00 35 07.7	-0.7		
	18nm,0.9s								
MIAR	Mount Ida	18.84	13	P	P	00 35 07.0	-1.4		
	baz=195,SNR=7.9								
AMTX	Amarillo	18.85	352	eP	P	00 35 07.1	-1.5		
	23nm,0.8s								
AMTX	Amarillo	18.85	352	P	P	00 35 08.3	-0.3		
	baz=171								
147A	Livingston	18.90	28	eP	P	00 35 09.5	+0.5		
	25nm,0.9s								
147A	Livingston	18.90	28	P	P	00 35 07.6	-1.4		
	baz=212								
X40A	Basin Creek Fa	18.95	15	eP	P	00 35 09.2	-0.5		
	18nm,1.1s								
X40A	Basin Creek Fa	18.95	15	P	P	00 35 08.7	-0.9		
	baz=197								
X41A	Kaden, Bauxite	19.04	15	P	P	00 35 10.1	-0.5		
	baz=198								
Z46A	Louisville	19.05	25	P	P	00 35 09.7	-1.1		
	baz=209								
148A	Greensboro	19.20	29	P	P	00 35 11.5	-0.8		
	baz=214								
Y44A	Strider, Charl	19.25	21	P	P	00 35 12.1	-0.8		
	baz=205								
BNM	Barren Site	19.32	339	eP	Pn	00 35 15.5	+0.5		
UALR	University of	19.35	16	eP	P	00 35 13.7	-0.3		
	32nm,1.1s								
Y45A	Yeager Farm, C	19.41	23	P	P	00 35 13.9	-0.7		
	baz=207,SNR=5.3								
W39A	Magazine	19.43	12	eP	P	00 35 15.7	+0.8		
	29nm,0.8s								
W39A	Magazine	19.43	12	P	P	00 35 15.4	+0.6		
	baz=194,SNR=11								
Z47A	Carrollton	19.43	27	P	P	00 35 14.1	-0.7		
	baz=212								
LENM	Lemitar	19.45	339	eP	P	00 35 16.3	+1.0		
LPM	Los Pinos Moun	19.47	340	eP	P	00 35 16.6	+1.1		
TUC	Tucson	19.53	328	eP	P	00 35 15.3	-0.8		
	10nm,1.0s								
TUC	Tucson	19.53	328	P	Pn	00 35 17.3	0.0		
	baz=143								
149A	Jones	19.53	31	P	P	00 35 15.1	-0.9		
	baz=216,SNR=5.9								
X43A	Marvell	19.53	19	eP	P	00 35 15.5	-0.5		
	49nm,0.9s								
X43A	Marvell	19.53	19	P	P	00 35 16.0	0.0		
	baz=202								
352A	Blakely	19.66	37	P	P	00 35 16.7	-0.8		
	baz=222								
Y46A	Houston	19.69	25	P	P	00 35 16.4	-1.3		
	baz=208,SNR=11								
LAZ	Ladron	19.72	339	eP	P	00 35 18.7	+0.3		
W41B	Gary Mavity, V	19.75	15	eP	P	00 35 18.0	-0.4		
	18nm,1.0s								
W41B	Gary Mavity, V	19.75	15	P	P	00 35 17.3	-1.1		
	baz=198								
X44A	Crenshaw	19.76	21	P	P	00 35 17.4	-1.1		
	baz=204								
LRAL	Lakeview Retre	19.79	30	P	P	00 35 17.7	-1.1		
	baz=214								
Z48A	Northport	19.81	28	P	P	00 35 17.1	-1.9		
	baz=212,SNR=5.4								
TUL1	Leonard	19.82	7	eP	P	00 35 17.5	-1.6		
	30nm,0.8s								
TUL1	Leonard	19.82	7	P	P	00 35 18.0	-1.1		
	baz=188,SNR=11								
WHAR	Wooly Hollow	19.85	15	eP	P	00 35 19.6	+0.1		
	39nm,1.0s								
150A	Eclectic	19.93	33	P	P	00 35 19.0	-1.4		
	baz=217								
X45A	UM Field Stati	19.96	23	P	P	00 35 19.3	-1.4		
	baz=206								
ANMO	Albuquerque	19.99	341	P	P	00 35 21.8	+0.6		
	0.2nm,0.3s,baz=151,slow=12,SNR=21								
ANMO				Lg	Lg	00 41 36.5			
	0.1nm,0.3s,baz=24,slow=12,SNR=4.8								
ANMO				LR	LR	00 42 31.1			
	comp=Z,382nm,18.6s,baz=154,slow=35								
ANMO	Albuquerque	19.99	341	eP	P	00 35 21.5	+0.3		
	17nm,1.1s								
ANMO				Lg	Lg	00 41 36.5			
ANMO	Albuquerque	19.99	341	P	P	00 35 21.8	+0.6		
	baz=158								
OXF	Oxford	20.03	23	eP	P	00 35 20.3	-1.2		
	47nm,0.9s								
OXF	Oxford	20.03	23	P	P	00 35 19.5	-1.9		
	baz=206,SNR=9.3								
Y47A	UCPARC, Winfie	20.12	27	P	P	00 35 21.1	-1.4		
	baz=211								
U32A	Winter Ranch,	20.13	359	eP	P	00 35 22.4	-0.2		
	51nm,0.9s								
Z49A	Columbiana	20.14	31	P	P	00 35 21.8	-0.8		
	baz=215,SNR=5.6								
252A	Lumpkin	20.16	36	P	P	00 35 22.1	-0.8		
	baz=221								
556A	Lake Butler	20.23	44	P	P	00 35 23.1	-0.5		
	baz=230								
151A	Opelika	20.23	34	P	P	00 35 22.8	-0.8		
	baz=219								
V41A	Mountainview	20.36	15	P	P	00 35 24.2	-0.8		
	baz=198,SNR=14								
X46A	Booneville	20.39	24	P	P	00 35 24.6	-0.7		
	baz=208,SNR=6.7								
Y48A	Jasper	20.43	28	P	P	00 35 24.0	-1.8		
	baz=213,SNR=7.2								
HHAR	Hobbs	20.45	11	eP	P	00 35 25.4	-0.7		
	26nm,0.9s								
Z50A	Ashland	20.49	32	P	P	00 35 25.3	-1.2		
	baz=217								
V42A	Cord	20.58	17	P	P	00 35 25.5	-1.9		
	baz=200,SNR=11								
X47A	Russelville	20.65	26	P	P	00 35 26.7	-1.5		
	baz=210,SNR=16								
152A	Waverly Hall	20.67	35	P	P	00 35 26.9	-1.5		
	baz=220								
W45A	Hickory Valley	20.69	22	P	P	00 35 28.0	-0.6		
	baz=206,SNR=9.7								
U40A	Yellville	20.74	13	P	P	00 35 28.6	-0.5		
	baz=196,SNR=36								
Y49A	Blount Mountai	20.74	30	eP	P	00 35 28.1	-1.1		
	21nm,0.8s								
Y49A	Blount Mountai	20.74	30	P	P	00 35 27.6	-1.6		
	baz=215,SNR=6.7								
Z51A	Franklin	20.93	33	P	P	00 35 29.6	-1.6		
	baz=218								
X48A	Hartselle	20.94	27	eP	P	00 35 29.9	-1.5		
	24nm,0.8s								
X48A	Hartselle	20.94	27	P	P	00 35 29.8	-1.5		
	baz=212,SNR=9.7								
U41A	Viola	20.95	15	P	P	00 35 29.8	-1.6		
	baz=198,SNR=14								
X18A	Snowflake	20.95	333	eP	P	00 35 32.1	+0.5		
	14nm,1.0s								
PLAL	Pickwick Lake	20.96	25	eP	P	00 35 29.9	-1.7		
	22nm,0.9s								
254A	Abbeville	20.96	39	P	P	00 35 29.9	-1.7		
	baz=225								
W46A	Michie	20.97	24	P	P	00 35 30.1	-1.5		
	baz=208,SNR=7.0								
U42A	Revenden	21.13	17	P	P	00 35 31.8	-1.6		
	baz=200,SNR=17								
Z52A	Williamson	21.23	34	P	P	00 35 32.4	-2.0		
	baz=220								
X49A	Woodville	21.32	29	P	P	00 35 33.2	-2.2		
	baz=214,SNR=11								
W18A	Petrified Fore	21.36	334	P	P	00 35 36.7	+0.7		
	baz=150								
U43A	Rector	21.39	18	P	P	00 35 34.8	-1.3		
	baz=202,SNR=11								
W47A	Westpoint	21.39	25	P	P	00 35 34.3	-1.8		
	baz=210								
Y51A	Rockmart	21.44	32	P	P	00 35 34.7	-2.0		
	baz=218								
113A	Mohawk Valley,	21.51	323	eP	P	00 35 39.7	+2.3		
	14nm,1.0s								
T25A	Trinidad	21.52	347	eP	P	00 35 37.5	-0.3		
	50nm,1.1s								
T25A	Trinidad	21.52	347	P	P	00 35 37.6	-0.1		
	baz=165,SNR=14								
X16A	Lo Mia Camp, P	21.54	330	eP	P	00 35 39.6	+1.6		
	24nm,1.0s								
154A	Montrose	21.55	38	P	P	00 35 35.5	-2.4		
	baz=224								
W48A	Pulaski	21.57	27	P	P	00 35 35.8	-2.3		
	baz=212,SNR=11								
X50B	Fort Payne	21.60	30	P	P	00 35 36.6	-1.8		
	baz=215								
T41A	Mountain View	21.65	15	P	P	00 35 37.7	-1.2		
	baz=198,SNR=15								
V46A	Holladay	21.66	24	P	P	00 35 37.3	-1.7		
	baz=208,SNR=20								
U44B	Buton Farm, H	21.70	20	P	P	00 35 38.3	-1.2		
	baz=204								
PBMO	Poplar Bluff	21.76	18	eP	P	00 35 39.7	-0.4		
	70nm,0.8s								
Z53A	Monticello	21.77	36	P	P	00 35 38.4	-1.8		
	baz=222								
T42A	Van Buren	21.81	16	eP	P	00 35 39.8	-0.8		
	32nm,1.0s								
T42A	Van Buren	21.81	16	P	P	00 35 39.3	-1.3		
	baz=200,SNR=9.6								
W49A	Belvidere	21.85	28	P	P	00 35 39.0	-2.1		
	baz=213,SNR=5.6								
PARMO	Parma	21.86	19	eP	P	00 35 39.8	-1.4		
	72nm,0.9s								
U45A	Rockin P Farm,	21.91	22	P	P	00 35 40.3	-1.4		
	baz=206								
V47A	Nunnelly	21.92	25	P	P	00 35 40.6	-1.2		
	baz=209,SNR=14								
GOGA	Godfrey	21.92	36	eP	P	00 35 40.8	-1.0		
	17nm,0.8s								
GOGA	Godfrey	21.92	36	P	P	00 35 40.3	-1.6		
	baz=222								
155A	Kite	21.93	39	P	P	00 35 40.1	-1.9		
	baz=225								
Y52A	Lilburn	21.93	34	eP	P	00 35 41.2	-0.8		
	22nm,0.8s								
Y52A	Lilburn	21.93	34	P	P	00 35 39.9	-2.1		
	baz=220,SNR=6.2								
Y14A	Wickenburg	21.96	326	eP	P	00 35 43.8	+1.4		
	13nm,1.0s								
WVT	Waverly	22.06	24	eP	P	00 35 42.0	-1.3		
	62nm,1.0s								
WVT	Waverly	22.06	24	P	P	00 35 42.5	-0.9		
	baz=208								
X51A	Calhoun	22.07	31	P	P	00 35 42.2	-1.3		
	baz=217								
SWET	Sewanee	22.08	28	eP	P	00 35 42.4	-1.3		
	31nm,0.8s								
T43A	Greenville	22.09	18	P	P	00 35 42.0	-1.6		
	baz=201,SNR=22								
U46A	Springville	22.13	23	P	P	00 35 43.3	-0.8		
	baz=207,SNR=8.8								
V48A	Smith Brothers	22.13	26	eP	P	00 35 42.5	-1.6		
	23nm,0.9s								
V48A	Smith Brothers	22.13	26	P	P	00 35 42.5	-1.6		
	baz=211,SNR=8.2								
Z54A	Sparta	22.15	37	P	P	00 35 42.2	-2.1		
	baz=223								
S41A	Jillco Farms,	22.17	14	P	P	00 35 43.7	-0.8		
	baz=198,SNR=29								
Y53A	Monroe	22.19	35	P	P	00 35 43.3	-1.5		
	baz=221								
T44A	Benton	22.30	19	P	P	00 35 44.8	-1.1		
	baz=203,SNR=6.7								
GLA	Glamis	22.33	322	eP	P	00 35 47.2	+0.8		
	6.5nm,0.9s								
GLA	Glamis	22.33	322	P	P	00 35 47.7	+1.3		
	baz=135								
SDCO	Great Sand Dun	22.35	345	eP	P	00 35 46.7	-0.1		
	8.2nm,0.9s								
SDCO	Great Sand Dun	22.35	345	P	P	00 35 46.4	-0.3		
	baz=162,SNR=12								
W50A	Signal Mountai	22.36	30	eP	P	00 35 45.4	-1.2		
	36nm,0.8s								
W50A	Signal Mountai	22.36	30	P	P	00 35 45.0	-1.6		
	baz=215,SNR=9.5								
WUAZ	Wupatki	22.41	332	eP	P	00 35 48.8	+1.4		
	37nm,0.9s								
WUAZ	Wupatki	22.41	332	P	P	00 35 48.5	+1.2		
	baz=146,SNR=28								
U47A	Clarksville	22.54	24	P	P	00 35 46.3	-2.2		
	baz=209,SNR=14								
156A	Sylvania	22.55	40	P	P	00 35 47.0	-1.7		
	baz=227								
V49A	McMinnville	22.55	28	P	P	00 35 46.6	-2.1		
	baz=213,SNR=10								
CBKS	Cedar Bluff	22.58	358	eP	P	00 35 49.3	+0.4		
	12nm,0.8s								
CBKS	Cedar Bluff	22.58	358	P	P	00 35 48.8	-0.2		
	baz=177								
S42A	Caledonia	22.59	16	P	P	00 35 48.5	-0.5		
	baz=200,SNR=23								
W51A	Cleveland	22.59	31	P	P	00 35 47.4	-1.6		
	baz=216								
X52A	Dahlonega	22.59	33	P	P	00 35 47.4	-1.7		
	baz=219								
S43A	Fulton Ridge,	22.60	18	P	P	00 35 48.3	-0.8		
	baz=202								
GTBY	Guantanamo Bay	22.61	77	eP	P	00 35 47.9	-1.4		
	59nm,0.9s								
Y12C	Blythe	22.66	324	eP	P	00 35 51.3	+1.5		
	9.9nm,1.1s								
Y54A	Tignall	22.69	36	P	P	00 35 48.6	-1.5		
	baz=223								
S22A	4UR Ranch, Cre	22.70	343	eP	P	00 35 51.4	+0.9		
	9.4nm,0.9s								
S22A	4UR Ranch, Cre	22.70	343	P	P	00 35 50.4	-0.1		
	baz=159,SNR=12								
MVCO	Mesa Verde	22.73	339	eP	P	00 35 51.3	+0.5		
	34nm,0.9s								
MVCO	Mesa Verde	22.73	339	P	P	00 35 51.0	+0.2		
	baz=155,SNR=22								
CCM	Cathedral Cave	22.74	15	eP	P	00 35 50.5	-0.1		
	30nm,0.9s								
CCM	Cathedral Cave	22.74	15	P	P	00 35 49.7	-0.8		
	baz=198								
X53A	Estanollee	22.83	34	P	P	00 35 50.3	-1.3		
	baz=220								
T46A	Princeton	22.84	22	P	P	00 35 51.0	-0.7		
	baz=207,SNR=9.8								
V50A	Pikevile	22.84	29	P	P	00 35 50.7	-1.0		
	baz=215								
PDMCI	Parker Dam,Lak	22.85	325	P	P	00 35 52.6	+0.8		
	baz=139								
SWSC	Sam W. Stewart	22.85	320	P	P	00 35 52.8	+1.0		
	baz=133								
FVM	French Village	22.89	17	eP	P	00 35 50.7	-1.4		
	28nm,0.9s								
U48A	Cassie Pea, Po	22.91	26	P	P	00 35 50.6	-1.8		
	baz=211,SNR=11								
KSU1	Kansas State U	22.91	4	eP	P	00 35 51.8	-0.6		
	22nm,1.0s								
KSU1	Kansas State U	22.91	4	P	P	00 35 51.4	-0.9		
	baz=188								
R41A	Rosebud	22.93	15	P	P	00 35 51.9	-0.7		
	baz=198,SNR=15								
CPCT	Cooper Cave	22.94	31	eP	P	00 35 52.1	-0.6		
	22nm,0.9s								
W52A	Murphy	22.95	32	eP	P	00 35 52.3	-0.7		
	25nm,0.8s								
W52A	Murphy	22.95	32	P	P	00 35 51.3	-1.6		
	baz=218,SNR=6.1								
S44A	Carbondale	22.96	19	P	P	00 35 52.1	-0.9		
	baz=203,SNR=12								
SIUC	Southern Illin	23.00	19	eP	P	00 35 52.2	-1.0		
	58nm,0.8s								
KSCO	Kaye Shedlock'	23.03	352	eP	P	00 35 53.2	-0.6		
	54nm,1.0s								
KSCO	Kaye Shedlock'	23.03	352	P	P	00 35 53.2	-0.6		
	baz=170,SNR=6.5								
R42A	Luebbering	23.07	16	P	P	00 35 52.6	-1.3		
	baz=199,SNR=7.4								
T47A	Sharon Grove	23.09	24	eP	P	00 35 53.1	-1.2		
	69nm,0.8s								
T47A	Sharon Grove	23.09	24	P	P	00 35 52.9	-1.4		
	baz=209,SNR=18								
BC3	Big Chuckawall	23.13	322	P	P	00 35 55.8	+1.0		
	baz=135								
S45A	Carrier Mills	23.17	20	P	P	00 35 53.4	-1.6		
	baz=205,SNR=13								
MONP2	Monument Peak	23.20	319	P	P	00 35 57.2	+1.6		
	baz=132								
U49A	Red Boiling Sp	23.23	27	P	P	00 35 53.7	-2.0		
	baz=212,SNR=9.5								
R43A	Red Bud	23.30	17	P	P	00 35 55.2	-1.1		
	baz=201,SNR=12								
V51A	Loudon	23.31	30	eP	P	00 35 55.0	-1.4		
	19nm,0.9s								
V51A	Loudon	23.31	30	P	P	00 35 54.8	-1.6		
	baz=216,SNR=5.8								
IRM	Iron Mountain	23.31	323	P	P	00 35 57.9	+1.3		
	baz=137,SNR=15								
W13A	Hualapai Mount	23.31	327	eP	P	00 35 58.8	+2.0		
	4.1nm,0.9s								
BG3	Lake Jocassee	23.40	34	eP	P	00 35 56.4	-1.0		
	12nm,0.8s								
W53A	Cullowhee	23.41	33	P	P	00 35 55.4	-2.3		
	baz=220								
Q24A	Divide	23.43	347	eP	P	00 35 59.0	+0.9		
	8.3nm,1.0s								
Q24A	Divide	23.43	347	P	P	00 35 58.4	+0.3		
	baz=164								
TKL	Tuckaleechee C	23.48	31	P	P	00 35 58.2	+0.1		
	10.0nm,0.9s,baz=193,slow=10,SNR=7.2								
T48A	Bowling Green	23.48	25	P	P	00 35 56.9	-1.3		
	baz=210,SNR=15								
MOTC	Monteria, Cord	23.52	105	eP	P	00 36 02.1	+3.3		
R44A	Waltonville	23.53	19	P	P	00 35 57.9	-0.7		
	baz=203,SNR=16								
U50A	Jamestown	23.57	29	P	P	00 35 57.7	-1.4		
	baz=214								
U15A	North Rim	23.58	331	eP	P	00 36 01.2	+1.6		
	16nm,1.1s								
PV01	Paradox Valley	23.59	340	eP	P	00 36 00.3	+0.8		
Q41A	Truxton	23.59	14	P	P	00 35 57.6	-1.7		
	baz=198,SNR=11								
NHSC	New Hope	23.68	41	P	P	00 35 58.8	-1.4		
	baz=229								
PV13	Radium Mtn., P	23.70	340	eP	P	00 36 01.1	+0.5		
	18nm,1.0s								
BELC	Belle Mtn. Jos	23.70	322	P	P	00 36 01.7	+1.2		
	baz=135								
V52A	Sevierville	23.71	31	eP	P	00 35 59.4	-1.0		
	24nm,1.0s								
V52A	Sevierville	23.71	31	P	P	00 35 59.0	-1.5		
	baz=218,SNR=5.0								
S47A	Hartford	23.71	24	P	P	00 35 59.4	-1.0		
	baz=209,SNR=10								
PV02	Paradox Valley	23.71	340	eP	P	00 36 01.3	+0.6		
	24nm,1.1s								
FRD	Ford Ranch, An	23.72	320	P	P	00 36 01.5	+0.9		
	baz=133								
PV05	Paradox Valley	23.72	339	eP	P	00 36 01.2	+0.4		
Q42A	Golden Eagle	23.73	16	P	P	00 35 59.9	-0.7		
	baz=199								
PV03	Paradox Valley	23.79	340	eP	P	00 36 01.8	+0.3		
PV18	Skein Mesa, Pa	23.80	339	eP	P	00 36 01.9	+0.3		
	13nm,0.9s								
R45A	Skylar Fairfi	23.83	20	P	P	00 36 01.0	-0.6		
	baz=205,SNR=6.1								
PV12	Saucer Basin,	23.83	340	eP	P	00 36 01.9	+0.1		
	16nm,0.8s								
T49A	Edmonton	23.84	26	eP	P	00 36 00.8	-0.9		
	23nm,1.1s								
T49A	Edmonton	23.84	26	P	P	00 36 00.4	-1.2		
	baz=212								
PV11	David Mesa, Pa	23.84	340	eP	P	00 36 02.3	+0.4		
	11nm,0.8s								
PV17	East Wray Mesa	23.85	339	eP	P	00 36 02.5	+0.4		
	19nm,1.2s								
PV16	Nyswonger Mesa	23.86	340	eP	P	00 36 02.5	+0.4		
	6.7nm,0.8s								
PV19	Morning Glory	23.89	339	eP	P	00 36 03.5	+1.1		
	7.5nm,1.0s								
PV20	West Nyswonger	23.91	339	eP	P	00 36 03.5	+0.9		
	9.9nm,0.9s								
U51A	La Follette	23.93	30	P	P	00 36 01.6	-1.0		
	baz=216								
PV14	Lion Creek, Pa	23.96	339	eP	P	00 36 03.7	+0.7		
	6.7nm,0.9s								
LDFC	Landfair	23.96	325	eP	P	00 36 05.2	+2.2		
	18nm,1.0s								
PV10	Paradox Valley	23.96	339	eP	P	00 36 03.0	-0.2		
Q43A	New Douglas	23.98	17	P	P	00 36 02.2	-0.8		
	baz=201,SNR=6.8								
R46A	Gibon Southern	24.02	22	P	P	00 36 02.1	-1.3		
	baz=207,SNR=5.9								
PV23	Carpenter Ridg	24.02	340	eP	P	00 36 05.7	+2.0		
	17nm,0.9s								
PV22	Blue Mesa, Par	24.02	340	eP	P	00 36 04.3	+0.6		
	13nm,1.1s								
GMRC	Granite Mounta	24.05	324	P	P	00 36 04.6	+0.7		
	baz=137								
T50A	Nancy	24.07	28	P	P	00 36 02.5	-1.4		
	baz=214,SNR=9.3								
SMCO	Snowmass	24.08	344	eP	P	00 36 05.2	+0.8		
	8.8nm,0.9s								
S48A	Wiedeman Farm,	24.09	25	P	P	00 36 02.4	-1.6		
	baz=210								
PV09	Paradox Valley	24.11	339	eP	P	00 36 05.3	+0.8		
PV21	Cone Mtn., Par	24.11	340	eP	P	00 36 06.0	+1.5		

R47A	Wooly Knot Far baz=209,SNR=19	24.46	23	P	P	00 36 06.3	-1.1
HEC	Hector,Ludlow baz=135	24.47	323	P	P	00 36 09.0	+1.3
WCI	Wyandotte Cave 49nm,0.8s	24.49	24	eP	P	00 36 07.7	0.0
WCI	Wyandotte Cave baz=209	24.49	24	P	P	00 36 06.6	-1.1
LCMT	Little Creek M 4.7nm,0.9s	24.50	331	eP	P	00 36 10.0	+2.0
S49A	Springfield baz=212,SNR=12	24.51	26	P	P	00 36 06.1	-1.8
TUQ	Turquoise Moun baz=137,SNR=10	24.67	324	P	P	00 36 10.6	+1.0
P43A	Skaggs, Pawnee baz=201	24.68	17	P	P	00 36 08.4	-1.0
O41A	Passleys Farm, baz=198,SNR=12	24.78	14	P	P	00 36 09.3	-1.0
P44A	Sand Creek, Wi baz=203,SNR=6.0	24.79	19	P	P	00 36 09.7	-0.7
R48A	Northridge Ran baz=210,SNR=6.2	24.80	24	P	P	00 36 09.6	-0.9
OGNE	Ogallala	24.87	354	eP	P	00 36 12.4	+1.2
OGNE	Ogallala baz=172,SNR=10	24.87	354	P	P	00 36 10.9	-0.3
MTPU	Mount Pierson 15nm,0.9s	24.88	334	eP	P	00 36 13.2	+1.6
CCUT	Cedar City 3.9nm,1.0s	24.99	331	eP	P	00 36 13.2	+0.7
R49A	Shelbyville baz=212	24.99	26	P	P	00 36 11.1	-1.1
T52A	Hallie baz=217	25.01	31	P	P	00 36 11.6	-0.9
O42A	Bath baz=199	25.05	15	P	P	00 36 12.3	-0.4
SHPR	Sheep Range 8.1nm,1.1s	25.05	327	eP	P	00 36 14.7	+1.7
Q47A	Bedord North L baz=208,SNR=14	25.05	23	P	P	00 36 11.4	-1.4
GSC	Goldstone, Bar 13nm,1.1s	25.08	323	eP	P	00 36 14.8	+1.6
GSC	Goldstone, Bar baz=135	25.08	323	P	P	00 36 14.4	+1.2
P45A	Graceland, Par 25nm,0.8s	25.12	20	eP	P	00 36 13.7	+0.3
P45A	Graceland, Par baz=205,SNR=6.9	25.12	20	P	P	00 36 12.5	-0.9
SRU	San Rafael Swe 11nm,0.9s	25.14	338	eP	P	00 36 15.3	+1.4
S51A	Beattyville 48nm,0.8s	25.14	29	eP	P	00 36 13.1	-0.6
S51A	Beattyville baz=216,SNR=11	25.14	29	P	P	00 36 12.7	-0.9
N39A	Derby Farms, D 34nm,0.8s	25.18	11	eP	P	00 36 12.8	-1.0
N39A	Derby Farms, D baz=194,SNR=11	25.18	11	P	P	00 36 12.1	-1.7
BLO	Bloomington 35nm,0.8s	25.23	22	eP	P	00 36 14.5	+0.1
MSU	Marysvale	25.27	334	eP	P	00 36 15.9	+0.9
Q48A	North Vernon baz=210,SNR=12	25.31	24	P	P	00 36 14.1	-1.0
O20A	White River Ci 30nm,1.1s	25.32	342	eP	P	00 36 16.7	+1.2
O20A	White River Ci baz=158,SNR=11	25.32	342	P	P	00 36 15.3	-0.2
R50A	Paris baz=213	25.34	27	P	P	00 36 14.2	-1.3
N41A	Harden Midland 37nm,0.9s	25.35	14	eP	P	00 36 14.6	-0.9
N41A	Harden Midland baz=197,SNR=6.1	25.35	14	P	P	00 36 14.0	-1.4
N40A	Mertquake, Sal baz=196,SNR=5.9	25.36	12	P	P	00 36 14.8	-0.7
P46A	Rosedale baz=206	25.38	21	P	P	00 36 14.7	-1.0
OTAV	Otavalo 8.7nm,1.1s	25.38	127	eP	P	00 36 16.7	+0.2
N23A	Red Feather La 19nm,1.1s	25.45	347	eP	P	00 36 17.4	+0.6
N23A	Red Feather La baz=164,SNR=7.2	25.45	347	P	P	00 36 16.3	-0.4
O44A	Mansfield baz=203,SNR=5.3	25.46	18	P	P	00 36 15.3	-1.1
P18A	Preston Nutter 23nm,1.2s	25.50	339	eP	P	00 36 18.2	+1.0
P17A	Butcher Ranch, 4.8nm,0.8s	25.54	338	eP	P	00 36 18.9	+1.5
TMUT	Trail Mountain 6.8nm,0.8s	25.56	337	eP	P	00 36 18.7	+1.0
P47A	Martinsville baz=208	25.60	22	P	P	00 36 16.7	-1.0
HDIL	Hopedale 40nm,0.8s	25.60	17	eP	P	00 36 17.5	-0.2
HDIL	Hopedale baz=201,SNR=6.3	25.60	17	P	P	00 36 16.8	-0.9
N42A	Yates City baz=199	25.66	15	P	P	00 36 16.4	-1.8
R51A	Hillsboro baz=215,SNR=24	25.69	28	P	P	00 36 16.9	-1.7
Q49A	Aurora baz=211	25.71	25	P	P	00 36 17.4	-1.3
PHWY	Pilot Hill 11nm,0.9s	25.74	348	eP	P	00 36 20.8	+1.5
O45A	Potomac baz=204,SNR=15	25.78	19	P	P	00 36 18.1	-1.3
M39A	Webster baz=194,SNR=24	25.82	11	P	P	00 36 18.2	-1.5
M40A	Post Highland baz=196,SNR=10	25.88	12	P	P	00 36 18.5	-1.7
MARP	Paez Belalcaza	25.89	118	eP	P	00 36 26.0	+5.1
P48A	Milroy baz=210	25.89	24	P	P	00 36 18.4	-2.0
Q50A	Georgetown baz=213,SNR=17	25.96	27	P	P	00 36 19.4	-1.6
TPNV	Topopah Spring 12nm,1.1s	25.96	326	eP	P	00 36 23.8	+2.5
TPNV	Topopah Spring baz=139	25.96	326	P	P	00 36 22.8	+1.5
MPMC	Manual Prospec baz=135	26.01	323	P	P	00 36 22.4	+0.6
PSUT	Pine Spring 5.5nm,1.0s	26.02	332	eP	P	00 36 23.7	+1.9
M41A	Milan baz=198	26.06	14	P	P	00 36 21.1	-0.8
SCIA	State Center	26.06	9	eP	P	00 36 22.1	+0.2
SCIA	State Center baz=192,SNR=8.0	26.06	9	P	P	00 36 20.9	-1.0
SFIN	Lafayette 27nm,0.8s	26.10	20	eP	P	00 36 23.2	+0.9
SFIN	Lafayette baz=206	26.10	20	P	P	00 36 21.6	-0.6
SDDR	Presa de Saban 15nm,0.9s	26.14	80	eP	P	00 36 22.4	-0.5
R52A	Catlettsburg baz=216	26.15	29	P	P	00 36 20.5	-2.2
N44A	Piper City baz=203,SNR=7.0	26.15	18	P	P	00 36 21.8	-0.9
DAC	Darwin (Calif) 6.6nm,1.1s	26.22	323	eP	P	00 36 25.5	+1.8
P49A	Miami Univ. Ec baz=211,SNR=7.2	26.23	25	P	P	00 36 21.9	-1.6
O47A	Sheridan baz=208,SNR=8.7	26.29	22	P	P	00 36 23.4	-0.6
ISA	Isabella, Lake 8.4nm,1.0s	26.32	321	eP	P	00 36 25.8	+1.4
M42A	Sheffield baz=199	26.32	15	P	P	00 36 23.3	-0.9
ROSC	El Rosal 3.5nm,0.4s,baz=72,slow=20,SNR=2.5	26.32	113	P	P	00 36 27.1	+2.0
MPU	Maple Canyon 6.0nm,0.9s	26.35	337	eP	P	00 36 25.9	+1.1
Q51A	Peebles 54nm,1.1s	26.39	27	eP	P	00 36 24.2	-0.7
Q51A	Peebles baz=214,SNR=5.3	26.39	27	P	P	00 36 23.4	-1.6
N45A	Kentland baz=204	26.39	19	P	P	00 36 23.6	-1.2
BLA	Blacksburg 24nm,0.9s	26.40	34	eP	P	00 36 24.2	-1.0
BLA	Blacksburg baz=222	26.40	34	P	P	00 36 23.9	-1.3
NLU	North Lily Min 12nm,1.1s	26.46	336	eP	P	00 36 26.9	+1.1
L39A	Vinton baz=194	26.48	11	P	P	00 36 25.0	-0.6
RWWY	Rawlins 14nm,0.9s	26.50	345	eP	P	00 36 27.8	+1.5
M43A	Waltham Townsh baz=201,SNR=8.5	26.51	16	P	P	00 36 25.1	-0.8
L40A	Anamosa 38nm,1.1s	26.57	12	eP	P	00 36 26.2	-0.3
L40A	Anamosa baz=196,SNR=8.3	26.57	12	P	P	00 36 25.5	-1.0
GRAC	Grapevine Rang baz=157	26.61	325	P	P	00 36 28.3	+1.3
BARC	Barichara	26.61	108	eP	P	00 36 29.9	+2.5
CWC	Cottonwood Cre baz=135	26.61	323	P	P	00 36 28.7	+1.5
P50A	Jamestown baz=213	26.68	26	P	P	00 36 26.1	-1.4
O48A	Farmland baz=210,SNR=15	26.68	23	P	P	00 36 26.4	-1.2
N46A	Monticello baz=206	26.69	20	P	P	00 36 26.5	-1.1
R11A	Troy Canyon, C	26.69	329	eP	P	00 36 30.1	+2.2
R11A	Troy Canyon, C baz=142	26.69	329	P	P	00 36 28.8	+1.0
M44A	Midewin, Midew 25nm,0.9s	26.73	18	eP	P	00 36 27.6	-0.2
M44A	Midewin, Midew baz=203	26.73	18	P	P	00 36 26.3	-1.6
L41A	Preston baz=197,SNR=7.8	26.73	13	P	P	00 36 26.5	-1.5
VES	Vestal, Richgr baz=132	26.80	321	P	P	00 36 29.6	+0.9
Q52A	Bidwell baz=216	26.83	29	P	P	00 36 27.5	-1.3
L42A	Oliver, Polo 60nm,1.1s	26.86	15	eP	P	00 36 28.5	-0.6
L42A	Oliver, Polo baz=199,SNR=8.1	26.86	15	P	P	00 36 28.2	-0.9
P51A	Williamsport 28nm,0.9s	26.89	27	eP	P	00 36 29.1	-0.3
P51A	Williamsport baz=214	26.89	27	P	P	00 36 27.8	-1.6
CHIC	Chingaza	26.94	112	eP	P	00 36 36.1	+5.5
O49A	Covington 20nm,0.8s	26.95	25	eP	P	00 36 29.4	-0.5
O49A	Covington baz=211,SNR=5.4	26.95	25	P	P	00 36 29.1	-0.8
DUG	Dugway, Tooele 7.4nm,1.1s	26.96	335	eP	P	00 36 31.4	+1.2
DUG	Dugway, Tooele baz=149	26.96	335	P	P	00 36 30.8	+0.5
M45A	Boilermakers S baz=204	26.96	19	P	P	00 36 29.3	-0.7
N47A	Urbana baz=208,SNR=8.1	27.03	22	P	P	00 36 29.5	-1.2
K39A	Oelwein baz=194,SNR=9.9	27.06	11	P	P	00 36 29.7	-1.2
K40A	Colesburg baz=196,SNR=6.5	27.20	12	P	P	00 36 31.2	-0.9
O50A	Cable baz=213	27.20	26	P	P	00 36 30.6	-1.7
TCUT	Toone Canyon 18nm,1.0s	27.23	338	eP	P	00 36 34.4	+1.6
N48A	Decatur baz=209,SNR=8.1	27.26	23	P	P	00 36 31.2	-1.5
K22A	Casper 11nm,1.0s	27.26	347	eP	P	00 36 34.7	+1.8
K22A	Casper baz=163	27.26	347	P	P	00 36 33.3	+0.4
L43A	Garden Prairie baz=201	27.27	16	P	P	00 36 31.5	-1.2
M46A	Old House Fiel 19nm,0.8s	27.27	20	eP	P	00 36 33.8	+1.0
K41A	Shullsburg baz=197,SNR=7.0	27.28	13	P	P	00 36 31.8	-1.1
P52A	Corning baz=216	27.43	28	P	P	00 36 33.1	-1.1
L44A	Lake County Fo baz=202	27.49	17	P	P	00 36 34.2	-0.6
ECSD	EROS Data Cent 8.0nm,0.8s	27.53	3	eP	P	00 36 35.1	0.0
ECSD	EROS Data Cent baz=184	27.53	3	P	P	00 36 34.6	-0.5
ACSO	Alum Creek Sta 18nm,0.8s	27.54	26	eP	P	00 36 34.8	-0.5
ACSO	Alum Creek Sta baz=214	27.54	26	P	P	00 36 33.6	-1.7
JFWS	Jewell Farm 18nm,0.9s	27.59	13	eP	P	00 36 35.4	-0.3
JFWS	Jewell Farm baz=197,SNR=6.9	27.59	13	P	P	00 36 34.7	-1.0
N49A	Columbus Grove baz=211	27.63	24	P	P	00 36 35.5	-0.6
O51A	Pataskala baz=214	27.64	27	P	P	00 36 34.6	-1.5
BGU	Big Grassy Mou 2.6nm,1.0s	27.67	336	eP	P	00 36 37.5	+1.0
K42A	Prairie Point, baz=199	27.67	15	P	P	00 36 35.8	-0.6
J39A	Decorah baz=194	27.70	11	P	P	00 36 36.1	-0.5
HWUT	Hardware Ranch 5.7nm,1.0s	27.72	339	eP	P	00 36 38.0	+0.9
SPUT	South Promonto 6.6nm,1.2s	27.78	337	eP	P	00 36 39.1	+1.6
K43A	Burlington 27nm,1.1s	27.86	16	eP	P	00 36 38.0	-0.1
K43A	Burlington baz=201	27.86	16	P	P	00 36 37.2	-0.9
N50A	Nevada baz=213	27.92	26	P	P	00 36 36.9	-1.7
J40A	Soldiers Grove baz=196	27.95	12	P	P	00 36 38.4	-0.5
J41A	Loganville baz=198,SNR=8.4	28.07	13	P	P	00 36 39.3	-0.7
NV11	Mina Array Sit 0.7nm,1.1s	28.08	326	eP	P	00 36 41.7	+1.4
BW06	Boulder Array 4.5nm,0.8s	28.13	343	eP	P	00 36 42.5	+1.7
BW06	Boulder Array baz=157,SNR=5.6	28.13	343	P	P	00 36 40.6	-0.2
PD31	Pinedale Array	28.13	343	eP	P	00 36 41.8	+0.9
PDAR	Pinedale Array 3.8nm,0.8s,baz=134,slow=8.5,SNR=13	28.13	343	P	P	00 36 41.6	+0.9
PDAR				LR	LR	00 48 50.7	
	comp=Z,722nm,18.4s,baz=168,slow=39						
PDAR	Pinedale Array	28.13	343	eP	P	00 36 41.3	+0.6
NV01	Mina Array Sit	28.15	326	eP	P	00 36 41.9	+0.9
NVAR	Mina Array Bea 3.4nm,0.8s,baz=156,slow=9.3,SNR=11	28.15	326	P	P	00 36 42.1	+1.1
NVAR				PcP	PcP	00 39 53.9	-1.2
	0.3nm,0.3s,baz=158,slow=2.6,SNR=2.8						
NVAR				LR	LR	00 48 58.8	
	comp=Z,499nm,19.1s,baz=121,slow=39						
L47A	Sherwood baz=208	28.17	21	P	P	00 36 39.6	-1.3
M49A	Liberty Center baz=211	28.19	24	P	P	00 36 39.7	-1.4
SDV	Santo Domingo 7.8nm,0.8s,baz=338,slow=7.7,SNR=5.6	28.19	101	P	P	00 36 40.7	-0.8
SDV	Santo Domingo 9.5nm,0.9s	28.19	101	eP	P	00 36 40.7	-0.8
J42A	Columbus baz=199,SNR=5.6	28.23	15	P	P	00 36 39.9	-1.6
I39A	Houston 13nm,0.7s	28.24	11	eP	P	00 36 40.4	-1.1
I39A	Houston baz=194	28.24	11	P	P	00 36 41.1	-0.4
RSSD	Black Hills 5.7nm,0.8s	28.25	352	eP	P	00 36 42.4	+0.6
HVU	Hansel Valley 9.1nm,1.0s	28.31	337	eP	P	00 36 43.2	+0.9
N51A	Asland baz=214	28.37	26	P	P	00 36 41.5	-1.2
L48A	N Adams baz=209	28.42	23	P	P	00 36 41.8	-1.3
I40A	Norwalk baz=196	28.45	12	P	P	00 36 42.7	-0.7
J43A	Natural Harves baz=201	28.47	16	P	P	00 36 42.6	-0.9
KVN	Kaiserville 3.6nm,1.0s	28.50	327	eP	P	00 36 45.2	+1.1
K46A	Dorr baz=206	28.61	20	P	P	00 36 43.1	-1.7
I41A	Arkdale 13nm,1.1s	28.76	13	eP	P	00 36 45.8	-0.3
I41A	Arkdale baz=198	28.76	13	P	P	00 36 44.8	-1.4
M51A	Elyria baz=214	28.79	26	P	P	00 36 44.7	-1.7
L49A	Milan baz=210	28.81	23	P	P	00 36 45.0	-1.6
I42A	Draeger Farm, 20nm,1.1s	28.82	15	eP	P	00 36 45.8	-0.8
I42A	Draeger Farm, baz=199	28.82	15	P	P	00 36 45.4	-1.2
K47A	Vermontville baz=208	28.86	21	P	P	00 36 45.2	-1.8
I43A	Langenfeld Bro baz=201,SNR=5.2	29.01	16	P	P	00 36 47.3	-1.0
REDW	Red Top Meadow 4.1nm,0.9s	29.06	341	eP	P	00 36 50.4	+1.4
H39A	Augusta baz=194	29.08	11	P	P	00 36 47.4	-1.5
SNOW	Snow King Moun 15nm,1.1s	29.12	342	eP	P	00 36 50.8	+1.1
H40A	Chili baz=196	29.19	12	P	P	00 36 48.8	-1.2
TPAW	Teton Pass 8.1nm,1.1s	29.20	341	eP	P	00 36 50.7	+0.3
LOHW	Long Hollow 5.0nm,1.0s	29.21	342	eP	P	00 36 51.1	+0.7
K48A	Perry baz=209	29.28	22	P	P	00 36 48.1	-2.7
H41A	Junction City 22nm,1.1s	29.34	13	eP	P	00 36 50.3	-1.0
H41A	Junction City baz=198	29.34	13	P	P	00 36 48.9	-2.3
FXWY	Fox Creek 2.5nm,0.9s	29.36	341	eP	P	00 36 53.0	+1.3
SPMN	Marine on St. 7.6nm,0.6s	29.37	8	eP	P	00 36 50.7	-0.8
SPMN	Marine on St. baz=191	29.37	8	P	P	00 36 50.6	-0.8
MOOW	Moose Ponds 3.3nm,1.0s	29.38	342	eP	P	00 36 53.4	+1.5
J47A	Sunmer baz=208	29.42	21	P	P	00 36 50.4	-1.5
G38A	Ridgeland baz=193	29.46	10	P	P	00 36 51.7	-0.6
O56A	Blue Knob Stat baz=221	29.64	32	P	P	00 36 52.2	-1.8
H43A	Windswept, Lux baz=201	29.65	16	P	P	00 36 53.1	-0.9
FLWY	Flagg Ranch 3.3nm,1.1s	29.67	342	eP	P	00 36 54.6	+0.2
G39A	Holcombe baz=194	29.69	11	P	P	00 36 53.5	-0.8
I46A	Reed City baz=206	29.84	19	P	P	00 36 54.8	-0.8
G40A	Rib Lake baz=196	29.85	12	P	P	00 36 55.4	-0.4
F37A	Hinrichs Farm, baz=192	29.88	8	P	P	00 36 56.1	+0.1
M54A	Oil Creek Stat baz=218	30.06	29	P	P	00 36 56.8	-0.9
J49A	Marlette baz=210	30.12	23	P	P	00 36 56.5	-1.7
G42A	Mountain 7.6nm,0.9s	30.21	14	eP	P	00 36 58.5	-0.4
G42A	Mountain baz=200	30.21	14	P	P	00 36 57.8	-1.1
I47A	Gladwin baz=208	30.21	20	P	P	00 36 58.1	-0.9
F38A	Pierce - Schro baz=193	30.22	9	P	P	00 36 58.0	-1.1
RLMT	Red Lodge 8.2nm,1.0s	30.24	345	eP	P	00 36 59.7	+0.3
RLMT	Red Lodge baz=160,SNR=5.6	30.24	345	P	P	00 36 59.6	+0.2
H45A	Beulah baz=204	30.27	18	P	P	00 36 58.0	-1.5
YMR	Madison River 6.5nm,1.1s	30.28	342	eP	P	00 37 01.3	+1.5
F39A	Loretta baz=195	30.34	11	P	P	00 36 58.7	-1.4
YHH	Holmes Hill 3.3nm,1.2s	30.36	343	eP	P	00 37 02.0	+1.4
HLID	Hailey 3.4nm,0.9s	30.45	337	eP	P	00 37 02.8	+1.4
HLID	Hailey baz=149	30.45	337	P	P	00 37 02.1	+0.7
F40A	Park Falls baz=196	30.49	12	P	P	00 36 59.7	-1.7
F41A	Three Lakes baz=198	30.53	13	P	P	00 37 00.0	-1.8
ATAH	Atahualpa 7.2nm,0.8s,baz=322,slow=11,SNR=4.2	30.57	138	P	P	00 37 05.2	+2.3
I48A	Sherman Twp baz=209	30.64	21	P	P	00 37 00.9	-1.8
G45A	Suttons Bay baz=205	30.77	18	P	P	00 37 03.2	-0.7
F42A	Maple Grove Fa baz=200	30.77	14	P	P	00 37 03.2	-0.7
H47A	Mio baz=208	30.83	20	P	P	00 37 03.2	-1.2
E39A	Mellen baz=195	30.85	11	P	P	00 37 03.3	-1.3
COWI	Conover 14nm,1.0s	30.87	13	eP	P	00 37 04.5	-0.2
GLMI	Grayling	30.90	20	eP	P	00 37 05.0	-0.1
GLMI	Grayling baz=207	30.90	20	P	P	00 37 03.3	-1.7
E38A	The Farm, Brul 9.9nm,1.1s	30.91	9	eP	P	00 37 05.2	+0.1
E38A	The Farm, Brul baz=193	30.91	9	P	P	00 37 03.7	-1.3
MCMT	McKenzie Canyo	31.01	340	eP	P	00 37 07.2	+0.9
E40A	Wakefield baz=196,SNR=5.6	31.04	12	P	P	00 37 04.7	-1.6
F43A	Flat Rock, Esc baz=202	31.08	16	P	P	00 37 04.9	-1.7
E41A	Kenton baz=198	31.25	13	P	P	00 37 06.4	-1.7
BOZ	Bozeman (W) baz=156	31.32	342	P	P	00 37 10.1	+1.1
F45A	CMU Biological baz=204	31.39	18	P	P	00 37 07.6	-1.8
DLMT	Dillon 9.3nm,1.0s	31.40	341	eP	P	00 37 10.8	+1.2
F44A	Big Bay de Noc baz=203	31.41	16	P	P	00 37 08.1	-1.3
E42A	Champion baz=200	31.45	14	P	P	00 37 08.9	-1.0
G47A	Hillman baz=208	31.45	20	P	P	00 37 08.8	-1.1
BWLO	Walkerton baz=213	31.53	24	P	P	00 37 10.5	-0.1
N59A	State Game Lan baz=225	31.58	34	P	P	00 37 09.6	-1.5
MDND	Maddock baz=178	31.60	359	P	P	00 37 10.7	-0.5
E43A	Lone Tree Farm 14nm,0.9s	31.63	15	eP	P	00 37 10.7	-0.8
E43A	Lone Tree Farm baz=202	31.63	15	P	P	00 37 09.7	-1.7
D41A	Chassel baz=198	31.90	13	P	P	00 37 12.2	-1.6
J08A	Circle Bar Ran 3.7nm,0.8s	31.97	332	eP	P	00 37 15.5	+0.8
AGMN	Agassiz Nation	32.12	3	eP	P	00 37 14.9	-0.8
AGMN	Agassiz Nation baz=185,SNR=16	32.12	3	P	P	00 37 14.5	-1.2
EYMN	Ely baz=193	32.22	9	P	P	00 37 15.9	-0.8
TOBO	Tobermory, Bru baz=212	32.32	23	P	P	00 37 17.3	-0.2
E46A	Sault Ste Mari baz=206	32.37	19	P	P	00 37 17.1	-0.9
BINY	Binghamton baz=223	32.38	32	P	P	00 37 16.4	-1.7
HRY	Holter Researc	32.39	343	eP	P	00 37 18.8	+0.5
F48A	Evansville baz=209	32.45	21	P	P	00 37 17.9	-0.7
DGMT	Dagmar 24nm,1.1s	32.54	353	eP	P	00 37 19.7	+0.2
DGMT	Dagmar baz=170	32.54	353	P	P	00 37 19.4	-0.1
F49A	Sandfield baz=210,SNR=6.3	32.59	22	P	P	00 37 18.6	-1.3
E47A	Iron Bridge baz=208	32.78	20	P	P	00 37 20.7	-0.8
YBH	Yreka Blue Hor comp=Z,219nm,18.2s,baz=151,slow=37	32.88	326	LR	LR	00 50 53.9	
SADO	Sadowa 4.7nm,0.8s,baz=222,slow=8.5,SNR=6.9	32.88	26	P	P	00 37 21.0	-1.5
KLBO	Killbear Provi baz=214	32.93	24	P	P	00 37 21.9	-1.0
E48A	Lockeyer baz=210	33.17	21	P	P	00 37 23.0	-2.0

BUKO	**Buck Lake**	**33.33**	**25**	P		**P**	**00 37 26.1**	**-0.2**
	baz=215								
DELO	**Deloro Mine**	**33.34**	**28**	P		**P**	**00 37 26.0**	**-0.5**
	baz=218								
F10A	**Beach Ranch, E**	**33.56**	**336**	*e*P		**P**	**00 37 28.7**	**+0.2**
	13nm,1.0s								
F52A	**Sundridge**	**33.65**	**25**	P		**P**	**00 37 26.8**	**-2.3**
	baz=215								
PLVO	**Plevna**	**33.99**	**28**	P		**P**	**00 37 31.7**	**-0.5**
	baz=219								
JTMT	**Jette**	**34.06**	**341**	*e*P		**P**	**00 37 33.3**	**+0.5**
	6.8nm,1.1s								
ULM	**Lac du Bonnet**	**34.06**	**3**	P		**P**	**00 37 31.2**	**-1.5**
	4.0nm,0.7s,baz=181,slow=8.0,SNR=7.5								
ULM					LR	LR	00 51 41.0		
	comp=Z,241nm,18.5s,baz=172,slow=37								
ULM	**Lac du Bonnet**	**34.06**	**3**	*e*P		**P**	**00 37 32.6**	**-0.1**
	4.1nm,0.8s								
E51A	**G1948 Merrick**	**34.19**	**24**	P		**P**	**00 37 31.8**	**-2.1**
	baz=214								
ALGO	**Algonquin Park**	**34.29**	**26**	P		**P**	**00 37 34.5**	**-0.2**
	baz=216								
D50A	**G1974 Best Tow**	**34.59**	**23**	P		**P**	**00 37 35.1**	**-2.2**
	baz=213								
C09A	**Chrisman Ranch**	**35.48**	**337**	*e*P		**P**	**00 37 46.9**	**+1.8**
	7.4nm,0.9s								
LTY	**Liberty**	**36.00**	**334**	*e*P		**P**	**00 37 52.0**	**+2.5**
	9.1nm,0.8s								
B08A	**Colville Reser**	**36.34**	**336**	*e*P		**P**	**00 37 53.2**	**+0.8**
	1.7nm,0.9s								
LSQQ	**Lebel-sur-Quev**	**37.23**	**24**	P		**P**	**00 37 59.9**	**0.0**
	baz=216								
MATQ	**Matagami**	**37.56**	**22**	P		**P**	**00 38 02.7**	**+0.1**
	baz=214								
LATQ	**La Tuque**	**37.72**	**29**	P		**P**	**00 38 03.3**	**-0.7**
	baz=223								
FFC	**Flin Flon**	**38.57**	**357**	*e*P		**P**	**00 38 10.7**	**-0.4**
	8.0nm,0.8s								
CHGQ	**Chibougamau**	**38.94**	**25**	P		**P**	**00 38 13.9**	**-0.4**
	baz=219								
PTGA	**Pitinga**	**41.63**	**110**	P		**P**	**00 38 38.5**	**+1.4**
	8.1nm,0.7s,baz=302,slow=9.2,SNR=18								
SAML	**Samuel**	**43.01**	**123**	*e*P		**P**	**00 38 46.8**	**-1.5**
	3.2nm,0.8s								
LPAZ	**La Paz**	**44.06**	**136**	P		**P**	**00 38 56.8**	**-0.6**
	1.6nm,0.8s,baz=314,slow=7.4,SNR=5.7								
LPAZ					LR	LR	00 56 12.4		
	comp=Z,146nm,18.3s,baz=312,slow=35								
LPAZ	**La Paz**	**44.06**	**136**	*e*P		**P**	**00 38 59.2**	**+1.7**
	3.0nm,1.0s								
RPN	**Rapa Nui**	**44.29**	**194**	LR		LR	00 52 48.8		
	comp=Z,139nm,21.3s,baz=36,slow=30								
SCHQ	**Schefferville**	**45.69**	**25**	P		**P**	**00 39 08.7**	**-0.6**
	15nm,0.8s,baz=224,slow=7.1,SNR=11								
SCHQ					LR	LR	01 01 17.2		
	comp=Z,228nm,18.2s,baz=257,slow=40								
SCHQ	**Schefferville**	**45.69**	**25**	*e*P		**P**	**00 39 08.3**	**-0.9**
	19nm,0.9s								
YKA	**Yellowknife Ar**	**47.63**	**350**	P		**P**	**00 39 23.8**	**-0.5**
	2.7nm,0.8s,baz=160,slow=7.1,SNR=8.7								
TAOE	**Nuku Hiva Isla**	**48.09**	**242**	*e*LR		LR	00 52 53.7		
	242nm,24.8s								
TAOE	**Nuku Hiva Isla**	**48.09**	**242**	*e*T		T	01 30 39.2		
	20nm,0.2s								
DLBC	**Dease Lake**	**48.20**	**338**	P		**P**	**00 39 30.3**	**+1.4**
	4.0nm,0.8s,baz=139,slow=10.0,SNR=3.8								
LVC	**Limon Verde**	**48.25**	**142**	*e*P		**P**	**00 39 31.5**	**+1.4**
	3.8nm,0.7s								
SIV	**San Ignacio**	**48.89**	**129**	P		**P**	**00 39 34.4**	**-0.3**
	2.7nm,0.7s,baz=312,slow=8.4,SNR=16								
LCO	**Las Campanas**	**52.37**	**149**	*e*P		**P**	**00 40 02.0**	**+1.0**
	4.7nm,0.8s								
RKT	**Rikitea**	**52.85**	**223**	*e*T		T	01 36 34.1		
	9.3nm,0.3s								
EGAK	**Eagle**	**56.41**	**340**	*e*P		**P**	**00 40 29.5**	**-0.2**
	7.8nm,1.0s								
INK	**Inuvik**	**56.65**	**345**	P		**P**	**00 40 30.9**	**-0.4**
	4.8nm,0.8s,baz=127,slow=7.8,SNR=17								
INK	**Inuvik**	**56.65**	**345**	*e*P		**P**	**00 40 30.9**	**-0.4**
	7.8nm,1.0s								
DOT	**Dot Lake**	**56.75**	**338**	*e*P		**P**	**00 40 34.0**	**+1.8**
	3.2nm,1.0s								
PAX	**Paxson**	**56.90**	**337**	*e*P		**P**	**00 40 34.2**	**+0.9**
	7.7nm,0.6s								
RIDG	**Independ'e Rid**	**57.09**	**337**	*e*P		**P**	**00 40 35.7**	**+1.1**
	25nm,1.2s								
PMOR	**Pomariorio Ree**	**57.72**	**240**	*e*T		T	01 42 41.9		
	2.9nm,0.2s								
HDA	**Harding Lake**	**58.23**	**338**	P		**P**	**00 40 40.6**	**-2.0**
	baz=122								
CPUP	**Villa Florida**	**58.24**	**136**	P		**P**	**00 40 44.3**	**+1.2**
	4.0nm,1.2s,baz=351,slow=12,SNR=3.7								
CPUP					LR	LR	01 04 43.2		
	comp=Z,46nm,20.1s,baz=342,slow=35								
IL1	**Eielson Array**	**58.41**	**338**	*e*P		**P**	**00 40 42.9**	**-0.9**
ILAR	**Eielson Array**	**58.41**	**338**	P		**P**	**00 40 43.5**	**-0.3**
	2.7nm,1.0s,baz=128,slow=4.8,SNR=22								
ILB	**Eielson Array**	**58.41**	**338**	*e*P		**P**	**00 40 43.9**	**+0.1**
RND	**Reindeer**	**58.44**	**336**	*e*P		**P**	**00 40 45.0**	**+0.9**
	19nm,1.1s								
RSO	**Redoubt South**	**58.74**	**332**	*e*P		**P**	**00 40 47.3**	**+0.9**
POKR	**Poker Plat Res**	**58.79**	**338**	P		**P**	**00 40 45.2**	**-1.3**
	baz=122								
COLA	**College**	**58.81**	**338**	*e*P		**P**	**00 40 47.1**	**+0.5**
	4.8nm,0.5s								
TRF	**Thorofare Moun**	**59.02**	**336**	*e*P		**P**	**00 40 48.6**	**+0.3**
	21nm,1.1s								
BDFB	**Brasilia**	**59.06**	**120**	P		**P**	**00 40 50.1**	**+0.9**
	4.9nm,0.7s,baz=276,slow=6.8,SNR=8.2								
BDFB	**Brasilia**	**59.06**	**120**	*e*P		**P**	**00 40 49.6**	**+0.4**
	5.1nm,0.8s								
CAST	**Castle Rocks**	**59.72**	**335**	*e*P		**P**	**00 40 53.1**	**+0.1**
	7.9nm,0.8s								
MLY	**Manley**	**59.95**	**337**	*e*P		**P**	**00 40 54.4**	**-0.2**
	15nm,1.0s								
PPT	**Papeete**	**60.41**	**238**	LR		LR	01 00 19.2		
	comp=Z,95nm,21.5s,baz=358,slow=29								
PPT2	**Papeete2**	**60.42**	**238**	*e*S		**S**	**00 49 16.6**	**+2.7**
	71nm,27.0s								
PPT2					*e*LR	LR	00 58 25.7		
	160nm,26.0s								
TOLK	**Toolik Lake Re**	**61.38**	**341**	*e*P		**P**	**00 41 04.0**	**-0.2**
	2.0nm,0.8s								
TOLK	**Toolik Lake Re**	**61.38**	**341**	P		**P**	**00 41 02.1**	**-2.1**
	baz=122								
PLCA	**Paso Flores**	**62.30**	**156**	P		P	00 41 12.9	+2.1	
	3.3nm,1.0s,baz=4.6,slow=16,SNR=3.0								
PLCA					LR	LR	01 01 38.2		
	comp=Z,105nm,20.0s,baz=340,slow=30								
TBI	**Tubuai**	**63.38**	**233**	*e*LR		LR	01 00 06.8		
	214nm,26.2s								
TBI	**Tubuai**	**63.38**	**233**	*e*T		T	01 49 46.8		
	8.7nm,0.3s								
ANM	**Nome**	**65.60**	**334**	*e*P		**P**	**00 41 33.4**	**+1.2**
	3.2nm,1.0s								
SUMG	**Summit**	**65.91**	**17**	*i* P		**P**	**00 41 33.6**	**-0.9**
	27nm,0.9s								
DAG	**Dannmarks Havn**	**72.06**	**14**	*i* P		**P**	**00 42 10.2**	**-1.9**
	6.4nm,1.0s								
BILL	**Bilibino**	**77.06**	**337**	*e*P		**P**	**00 42 41.2**	**-0.1**
	9.0nm,1.0s								
PAB	**San Pablo**	**83.06**	**51**	*e*P		**P**	**00 43 14.6**	**+0.2**
	9.7nm,1.0s								
ESDC	**Sonseca Array**	**83.31**	**51**	P		**P**	**00 43 16.3**	**+0.6**
	0.9nm,0.7s,baz=285,slow=7.6,SNR=4.6								
ESDC					LR	LR	01 20 01.9		
	comp=Z,63nm,18.0s,baz=320,slow=36								
ES19	**SONSECA Array**	**83.35**	**51**	*e*P		**P**	**00 43 15.3**	**-0.6**
NB2	**NORSAR Subarra**	**85.21**	**27**	P		**P**	**00 43 24.3**	**-0.6**
	comp=Z,2.8nm,0.8s,baz=298,slow=5.3								
NOA	**NORSAR Array B**	**85.21**	**27**	P		**P**	**00 43 25.2**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=301,slow=4.9,SNR=3.8								
NOA					LR	LR	01 21 09.2		
	comp=Z,25nm,21.6s,baz=285,slow=36								
FINES	**FINESS Array B**	**91.13**	**23**	LR		LR	01 25 31.7		
	comp=Z,84nm,21.0s,baz=269,slow=36								
DBIC	**Dimbokro**	**91.71**	**83**	LR		LR	01 20 34.2		
	comp=Z,32nm,21.3s,baz=284,slow=33								
GERES	**GERESS Array B**	**91.88**	**38**	LR		LR	01 28 20.4		
	comp=Z,56nm,18.1s,baz=310,slow=38								
KEST	**Kesra**	**94.56**	**51**	LR		LR	01 24 46.4		
	comp=Z,48nm,19.0s,baz=300,slow=34								
NRIK	**Noril'sk**	**94.61**	**358**	LR		LR	01 28 51.5		
	comp=Z,66nm,21.1s,baz=46,slow=37								
TORD	**Torodi Ar. Bea**	**95.98**	**75**	P		**P**	**00 44 13.6**	**-2.8**
	comp=Z,0.4nm,1.0s,baz=299,slow=4.0,SNR=2.1								
TORD					LR	LR	01 24 29.0		
	comp=Z,69nm,20.4s,baz=305,slow=34								
AKASG	**Malin Array Be**	**99.26**	**31**	LR		LR	01 33 45.9		
	comp=Z,43nm,18.5s,baz=310,slow=38								
DZM	**Mont Dzumac**	**100.42**	**250**	*e*LR		LR	01 17 29.9		
	comp=Z,88nm,24.3s								
HHC	**Hu-ho-hao-te**	**116.75**	**335**	*e*PKP		**PKPdf**	**00 49 37.8**	**+4.4**
WMQ	**Urumqi**	**120.03**	**355**	*e*PKP		**PKPdf**	**00 49 42.1**	**+2.5**
WMQ				LR		LR			
	comp=Z,110nm,17.9s								
NJ2	**Nanjing**	**120.13**	**323**	*e*PKP		**PKPdf**	**00 49 42.6**	**+2.6**
LZH	**Lanzhou**	**123.87**	**338**	*e*PKP		**PKPdf**	**00 49 45.8**	**-1.5**
LZH				sPKP			00 49 59.5		
KSH	**Kashi**	**124.37**	**5**	*e*PKP		**PKPdf**	**00 49 52.8**	**+4.7**
RAYN	**Ar Rayn**	**127.18**	**43**	*e*PKPdf		**PKPdf**	**00 49 55.1**	**+1.3**
WB2	**Warramunga Arr**	**129.71**	**257**	*e*PKPdf		**PKPdf**	**00 49 59.8**	**+1.2**
WRAB	**Tennant Creek**	**129.71**	**257**	*e*PKPdf		**PKPdf**	**00 50 00.3**	**+1.7**
WRA	**Warramunga Arr**	**129.72**	**257**	PKP		**PKPdf**	**00 49 58.1**	**-0.5**
	comp=Z,2.7nm,0.9s,baz=78,slow=2.1,SNR=16								
AS01	**Alice Springs**	**130.29**	**253**	*e*PKPdf		**PKPdf**	**00 50 01.3**	**+1.7**
ASAR	**Alice Springs**	**130.33**	**253**	PKP		**PKPdf**	**00 49 58.7**	**-1.0**
	comp=Z,1.6nm,0.9s,baz=107,slow=2.1,SNR=10								
LSA	**Lhasa**	**133.45**	**348**	*e*PKPdf		**PKPdf**	**00 50 07.0**	**+0.9**
CHTO	**Chiang Mai**	**141.20**	**333**	*e*PKPdf		**PKPdf**	**00 50 20.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**141.52**	**333**	PKP		**PKPdf**	**00 50 19.7**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=356,slow=2.7,SNR=2.8								
CM01	**Chiang Mai Arr**	**141.54**	**333**	*e*PKPdf		**PKPdf**	**00 50 20.9**	**+0.2**
MBWA	**Marble Bar**	**143.44**	**256**	*e*PKPdf		**PKPdf**	**00 50 26.4**	**+2.5**
ABPO	**Ambohimpanom**	**147.30**	**100**	*e*PKPbc		**PKPab**	**00 50 33.2**	**-1.8**
KULM	**Kulim**	**151.43**	**317**	*e*PKPbc		**PKPbc**	**00 50 45.9**	**+2.4**

*ISK **21** 00:38:02.6,39.15N×29.12E,h7km,ML2.0/6*
*ISCJB **21** 00:38:03.1±0.5,39.15N±0.03×29.09E±0.03,h7km±5km,*
Error ellipse: s-maj=4.8km s-min=4.5km az=163.7
*DDA **21** 00:38:03.3,39.15N×29.09E,h7km,Ml2.7*

ISC 21 00:38:03.2±0.9,39.15N±0.03×29.09E±0.03,h10km±9km, n17,σt0.35/23,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMAA	**Simav-Kutahya**	**0.10**	**240**	PG	**Pg**	**00 38 05.8**	**0.0**
GEDZ	**Gediz**	**0.27**	**113**	PG	**Pg**	**00 38 08.3**	**-0.4**
GDZ	**Gediz**	**0.31**	**101**	*i* P	**Pg**	**00 38 09.6**	**+0.1**
GDZ				*i* S	**Sg**	**00 38 14.2**	**+0.6**
DEMI	**Demirci**	**0.31**	**250**	*i* P	**Pg**	**00 38 09.4**	**0.0**
DEMI				*i* S	**Sg**	**00 38 13.8**	**+0.2**
TVSB	**Tavsanli**	**0.41**	**44**	PG	**Pg**	**00 38 11.1**	**-0.3**
TVSB				SG	**Sg**	**00 38 16.6**	**-0.3**
DURS	**Dursunbey**	**0.66**	**313**	*i* P	**Pb**	**00 38 16.3**	**-0.5**
DURS				*i* S	**Sg**	**00 38 24.9**	**+0.4**
KULA	**Kula-Manisa**	**0.72**	**208**	PG	**Pg**	**00 38 16.8**	**-0.3**
MANT	**Manisa**	**0.78**	**212**	*i* P	**Pg**	**00 38 18.0**	**-0.3**
MANT				*i* S	**Sg**	**00 38 28.0**	**-0.4**
KHAL	**Karahalli**	**0.84**	**158**	*i* P	**Pb**	**00 38 19.6**	**-0.4**
ORLT	**Orhaneli**	**0.91**	**351**	PG	**Pg**	**00 38 20.5**	**-0.2**
ORLT				SG	**Sb**	**00 38 33.6**	**+0.3**
BALB	**Balikesir**	**1.06**	**298**	PN	**Pb**	**00 38 23.9**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.09**	**282**	*i* P	**Pn**	**00 38 24.7**	**+0.1**
KZIL	**AFYON_Kizioren**	**1.21**	**137**	*i* P	**Pn**	**00 38 27.1**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.23**	**353**	PN	**Pn**	**00 38 26.5**	**0.0**
KCTX	**Karacabey (Bur**	**1.25**	**333**	PN	**Pg**	**00 38 27.1**	**-0.1**
GONE	**Gonen-Balikesi**	**1.41**	**310**	PN	**Pb**	**00 38 29.4**	**-0.2**
GULT	**Gulveren**	**1.69**	**40**	PN	**Pn**	**00 38 33.0**	**+0.1**

*NEIC **21** 00:41:14.3±0.0, 15.98N×98.64W, h17km, MD4.2(MEX), After MEX.*

MEX 21 00:41:14.0±0.7,15.94N×98.65W,h16km±11km, MD4.0, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.67**	**48**	*i* P	Pg	00 41 24.5	-2.8
PNIG				*e*S	Sg	00 41 33.1	-3.1
PNIG	**Pinotepa**	**0.67**	**48**	*i* P	Pg	00 41 24.4	-2.8
PNIG				*e*S	Sg	00 41 33.1	-3.1
TLIG	**Tlapa**	**1.62**	**3**	*e*P	Pn	00 41 38.9	-3.1
TLIG	**Tlapa**	**1.62**	**3**	*e*P	Pn	00 41 38.8	-3.2
TLIG				*i* S	Sn	00 41 58.1	-4.5
CAIG	**El Cayaco**	**1.91**	**306**	*e*P	Pn	00 41 42.0	-3.9
CAIG	**El Cayaco**	**1.91**	**306**	*e*P	Pn	00 41 42.0	-3.9
CAIG				*e*S	Sn	00 42 04.5	-5.1
VHO	**Vista Hermosa**	**2.15**	**58**	*i* P	Pn	00 41 47.0	-2.4
VHO	**Vista Hermosa**	**2.15**	**58**	*i* P	Pn	00 41 47.0	-2.4
VHO				*i* S	Sn	00 42 11.6	-4.3

KRSC 21 00:42:54.0±1.0,50.61N×157.62E,h71km±14km,ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**1.00**	**330**	*e*P	Pn	00 43 13.7	+1.2
PAU				*e*S	Sn	00 43 28.3	+2.0
KDTR	**Khodutka, Kamc**	**1.24**	**13**	*e*P	Pn	00 43 16.9	+1.4
KDTR				*e*S	Sn	00 43 33.9	+2.3
MTVR	**Mutnovka**	**1.91**	**10**	*e*P	Pn	00 43 26.6	+2.0
MTVR				*e*S	Sn	00 43 50.4	+2.6
RUS	**Russkaya**	**1.91**	**17**	*e*P	Pn	00 43 25.7	+1.3
RUS				*e*S	Sn	00 43 49.2	+1.6
AVH	**Avacha**	**2.75**	**14**	*e*P	Pn	00 43 38.6	+2.8
SMAR	**Somma**	**2.76**	**15**	*e*P	Pn	00 43 39.0	+2.9
KOK	**Koryaka**	**2.76**	**13**	*e*P	Pn	00 43 39.1	+3.1
SDLR	**Sedlovina**	**2.79**	**16**	*e*P	Pn	00 43 38.3	+1.9
GNL	**Ganaly**	**3.10**	**4**	*e*P	Pn	00 43 42.7	+2.1

MAN 21 01:08:24.0,10.03N×124.02E,h2km,mb4.2,ML3.0,MS2.7, 1C-1D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.29**	**349**	⇓*i* P	Pg	01 08 30.5	+0.8
LLP				*i* S	Sb	01 08 35.6	-1.8
TBP	**Tagbilaran**	**0.37**	**206**	*e*P	Pg	01 08 31.0	-0.1
TBP				*i* S	Sg	01 08 35.5	-0.4
MSLP	**Maasin**	**0.83**	**82**	*e*P	Pb	01 08 40.7	-0.4
MSLP				*e*S	Sb	01 08 53.5	+0.7
OCLP	**Ormoc**	**1.17**	**29**	*e*P	Pg	01 08 43.7	-2.7
GUIM	**Jordan**	**1.53**	**293**	*e*S	Sn	01 09 11.8	-1.1
RCP	**Roxas**	**1.98**	**321**	⇑*e*P	Pn	01 08 58.5	0.0
RCP				*e*S	Sn	01 09 24.5	+0.6
PAGZ	**Pagadian**	**2.25**	**196**	*e*P	Pn	01 09 02.5	+0.2
BUKP	**Musuan**	**2.37**	**154**	*e*P	Pb	01 09 05.7	-1.7
BUKP				*e*S	Sn	01 09 34.7	+1.1

NNC 21 01:17:40.0±5.9,35.40N×68.61E,h0km,mb3.7,mpv3.5, 4C-2D,Error ellipse: s-maj=66.3km s-min=39.8km az=144.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**6.02**	**39**	⇓Pn	Pn	01 19 10.3	-0.2
	3.2nm,0.4s						
SFK				⇑Sn	Sn	01 20 23.1	+2.8
	2.7nm,0.4s						
KK31	**Karatay Array**	**7.83**	**10**	⇑Pn	Pn	01 19 35.4	+0.2
	0.6nm,0.5s,baz=189,slow=10,SNR=16						
KK31				⇑Sn	Sn	01 21 07.9	+3.4
	0.2nm,0.3s,baz=192,slow=32,SNR=5.9						
AAK	**Ala-Archa**	**8.55**	**31**	⇓Pn	Pn	01 19 45.4	+0.2
	1.5nm,0.5s						
AAK				⇑Sn	Sn	01 21 20.1	-2.4
	8.4nm,1.1s						
AB31	**Akbulak array**	**15.24**	**338**	P	Pn	01 21 15.7	-0.7
	0.3nm,0.5s,baz=156,slow=12,SNR=5.4						

*BJI **21** 01:18:34.1,6.31S×152.35E,h10km,mb4.7/20,mB5.0/13, Ms4.7/9,Ms7 4.4/8*
*NEIC **21** 01:18:39.8±0.3,5.80S×151.68E,h10km,mb4.9/32,Error ellipse: s-maj=8.9km s-min=5.0km az=118.0*
*ISCJB **21** 01:18:42.7±0.3,5.83S±0.04×151.58E±0.05,h41km, mb4.8/50,MS4.0/25,Error ellipse: s-maj=8.0km s-min=4.0km az=28.1*
*IDC **21** 01:18:42.0±2.7,5.78S×151.62E,h26km±17km,mb4.4/20, mb1 4.6/22,mb1mx4.3/47,mbtmp4.6/22,ML3.5/2,MS3.8/24, Ms1 3.8/24,ms1mx3.7/47,Error ellipse: s-maj=17.9km s-min=11.1km az=110.0*
*DJA **21** 01:19:12.3±2.3,7.7S±13.1×15.0E±2.2,h216km±13km, M4.6/9,mb4.6/9,mB4.9/1,Mw(mB)4.2/1*

ISC 21 01:18:44.2±0.4,5.93S±0.05×151.77E±0.06,h41km,n119, σt1.72/121,mb4.8/51,MS4.0/25,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.77**	**13**	*e*Pn	**Pn**	**01 19 11.0**	**-1.4**
RABL				*e*Sn	**Sn**	**01 19 32.3**	**-1.4**
PMG	**Port Moresby**	**5.73**	**233**	Pn	**Pn**	**01 20 07.0**	**+0.2**
	37nm,0.3s,baz=40,slow=9.0,SNR=135						
PMG				Sn	**Sn**	**01 21 09.4**	**-1.9**
	9.2nm,0.3s,baz=179,slow=12,SNR=3.1						
PMG				LR	LR	01 21 47.9	
	comp=Z,246nm,19.9s,baz=78,slow=32						
PMG	**Port Moresby**	**5.73**	**233**	*e*Pn	**Pn**	**01 20 07.4**	**+0.6**
PMG				*e*Sn	**Sn**	**01 21 09.4**	**-1.9**
PMG				*e*Sn	Sn	01 21 09.6	-1.7
MANU	**Manus Island**	**5.84**	**311**	*e*Pn	**Pn**	**01 20 11.8**	**+3.4**
HNR	**Honiara**	**8.82**	**114**	LR	LR	01 23 55.0	
	comp=Z,436nm,19.2s,baz=276,slow=35						
JAY	**Jayapura**	**11.54**	**287**	LR	LR	01 26 17.3	
	comp=Z,556nm,18.7s,baz=8.5,slow=40						
JAY	**Jayapura**	**11.54**	**287**	P	Pn	01 21 38.1	+12
COEN	**Coen**	**11.63**	**226**	P	**Pn**	**01 21 28.3**	**+0.6**
	baz=12,SNR=15						
COEN	**Coen**	**11.63**	**226**	*e*Pn	**Pn**	**01 21 27.3**	**-0.4**
COEN				*e*Sn	**Sn**	**01 23 29.3**	**-7.0**
MTSU	**Mount Surprise**	**14.15**	**210**	P	**Pn**	**01 22 03.2**	**+1.1**
	baz=14,SNR=5.2						
PATS	**Pohnpei**	**14.26**	**27**	P	**Pn**	**01 22 02.0**	**-1.6**
	baz=14						
CTA	**Charters Tower**	**15.06**	**200**	Pn	**Pn**	**01 22 15.6**	**+1.3**
	0.3nm,0.3s,baz=16,slow=17,SNR=2.6						
CTA	**Charters Tower**	**15.06**	**200**	P	**Pn**	**01 22 15.5**	**+1.1**
	baz=15						
CTAO	**Charters Tower**	**15.06**	**200**	*e*Pn	**Pn**	**01 22 14.3**	**0.0**
	26nm,1.0s						
QIS	**Mount Isa**	**18.73**	**218**	P	**Pn**	**01 23 00.3**	**0.0**
	baz=19,SNR=27						
EIDS	**Eidsvold**	**19.34**	**182**	P	**Pn**	**01 23 08.2**	**+0.6**
	baz=20,SNR=3.4						
EIDS	**Eidsvold**	**19.34**	**182**	*e*P	**P**	**01 23 06.4**	**+0.2**
	20nm,0.9s						
KDU	**Kakadu**	**20.18**	**249**	P	**P**	**01 23 14.4**	**-1.1**
	baz=20,SNR=9.8						
SAUI	**Saumlaki**	**20.42**	**263**	*e*P	**P**	**01 23 17.6**	**-0.6**
	91nm,0.5s						
GUMO	**Guam**	**20.56**	**341**	P	**P**	**01 23 17.0**	**-2.6**
	30nm,0.3s,baz=196,slow=9.9,SNR=3.5						
GUMO				LR	LR	01 29 37.0	
	comp=Z,197nm,20.7s,baz=146,slow=32						
GUMO	**Guam**	**20.56**	**341**	*e*P	**P**	**01 23 18.0**	**-1.6**
RMQ	**Roma**	**20.64**	**188**	P	Pn	01 23 23.1	+0.2
	baz=21,SNR=15						
SIJI	**Sorong**	**21.07**	**283**	P	**P**	**01 23 25.4**	**+0.3**
	12nm,0.7s,baz=112,slow=7.9,SNR=6.8						
DZM	**Mont Dzumac**	**21.42**	**140**	P	**P**	**01 23 30.2**	**+1.3**
	8.8nm,0.7s,baz=316,slow=6.5,SNR=11						
DZM				LR	LR	01 31 19.1	
	comp=Z,656nm,18.1s,baz=273,slow=35						
DZM	**Mont Dzumac**	**21.42**	**140**	*e*P	**P**	**01 23 30.3**	**+1.3**
	13nm,0.9s						
MTN	**Manton Dam**	**21.48**	**250**	P	**P**	**01 23 28.5**	**-1.0**
	baz=22,SNR=18						
MTN	**Manton Dam**	**21.48**	**250**	*e*P	**P**	**01 23 29.0**	**-0.5**
	55nm,0.8s						
QLP	**Quilpie**	**21.76**	**198**	P	**P**	**01 23 33.9**	**+1.5**
	baz=22,SNR=5.5						
WRAB	**Tennant Creek**	**21.92**	**229**	*e*P	**P**	**01 23 33.8**	**-0.4**
	52nm,0.6s						
WB2	**Warramunga Arr**	**21.92**	**229**	*e*P	**P**	**01 23 33.5**	**-0.8**
WR1	**Warramunga Arr**	**21.93**	**229**	*e*P	**P**	**01 23 33.5**	**-0.9**
	60nm,0.7s						
WR1				*e*S	**S**	**01 27 33.4**	**-1.1**
WR1				*e*ScP	**ScP**	**01 31 08.8**	**+2.1**
WR1				*e*		01 32 26.5	
WRA	**Warramunga Arr**	**21.93**	**229**	P	**P**	**01 23 33.5**	**-0.9**
	73nm,1.0s,baz=53,slow=10,SNR=78						
WRA				S	**S**	**01 27 33.4**	**-1.1**
	3.8nm,1.1s,baz=54,slow=18,SNR=4.8				

	comp=N,240nm,15.3s							
HHC					LR	LR		
	comp=E,200nm,16.7s							
HHC					LR	LR		
	comp=Z,150nm,14.1s							
LZH	**Lanzhou**	**61.33**	**317**	*e*P	**P**		**01 29 00.1**	**+4.0**
LZH				pP	pP		01 29 04.9	-3.2
LZH				sP	sP		01 29 07.4	-5.5
LZH				SS	SS		01 41 18.9	+3.6
LZH				pmax	pmax			
	comp=Z,26nm,1.1s							
LZH				pmax	pmax			
	comp=Z,95nm,4.3s							
GTA	**Gaotai**	**65.79**	**318**	*e*P	P		01 29 31.6	+6.1
GTA				pP	pP		01 29 36.8	-0.8
GTA				sP	sP		01 29 39.8	-2.5
GTA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
GTA				pmax	pmax			
	comp=Z,46nm,5.0s							
GTA				LR	LR			
	comp=N,200nm,20.3s							
GTA				LR	LR			
	comp=E,270nm,20.6s							
GTA				LR	LR			
	comp=Z,100nm,19.6s							
SONA0	**Songino Array**	**66.73**	**329**	*e*P	**P**		**01 29 30.5**	**-0.9**
SONM	**Songino Array**	**66.73**	**329**	P	**P**		**01 29 30.5**	**-0.9**
	2.2nm,0.7s,baz=139,slow=5.4,SNR=12							
SONM				LR	LR		01 58 40.5	
	comp=Z,110nm,19.7s,baz=210,slow=36							
SONA1	**Songino Array**	**66.74**	**329**	*e*P	**P**		**01 29 30.3**	**-1.1**
VNDA	**Vanda**	**71.75**	**178**	P	**P**		**01 30 03.0**	**+1.2**
	6.6nm,0.9s,baz=330,slow=7.1,SNR=20							
VNDA				LR	LR		02 00 40.5	
	comp=Z,33nm,18.0s,baz=316,slow=35							
VNDA	**Vanda**	**71.75**	**178**	*e*P	**P**		**01 30 02.8**	**+1.1**
	8.0nm,1.1s							
WMQ	**Urumqi**	**75.88**	**318**	*e*P	**P**		**01 30 28.3**	**+1.7**
WMQ				LR	LR			
	comp=E,120nm,19.7s							
WMQ				LR	LR			
	comp=Z,110nm,23.1s							
ANM	**Nome**	**77.15**	**18**	*e*P	**P**		**01 30 34.0**	**+0.7**
	3.3nm,0.8s							
SVW2	**Sparrevohn**	**78.26**	**23**	*e*P	**P**		**01 30 39.8**	**+0.3**
	14nm,0.8s							
MK32	**Makanchi Array**	**80.50**	**319**	*e*P	**P**		**01 30 50.3**	**-1.8**
MKAR	**Makanchi Array**	**80.50**	**319**	P	**P**		**01 30 50.3**	**-1.8**
	2.0nm,1.0s,baz=95,slow=6.5,SNR=5.8							
MKAR				LR	LR		02 04 53.7	
	comp=Z,48nm,21.3s,baz=73,slow=34							
ZAA0	**Zalesovo Array**	**81.52**	**327**	*e*P	**P**		**01 30 56.0**	**-1.3**
	2.9nm,0.8s							
ZALV	**Zalesovo Beam**	**81.52**	**327**	P	**P**		**01 30 54.7**	**-2.6**
	1.5nm,0.5s,baz=113,slow=5.0,SNR=8.0							
ZALV				LR	LR		02 06 27.0	
	comp=Z,84nm,20.6s,baz=64,slow=35							
ZAA1	**Zalesovo Array**	**81.52**	**327**	*e*P	**P**		**01 30 54.7**	**-2.6**
IM3	**Indian Mountai**	**81.78**	**20**	*e*P	**P**		**01 30 57.9**	**-0.5**
MLY	**Manley**	**82.30**	**21**	*e*P	**P**		**01 31 01.2**	**-0.1**
	6.6nm,0.7s							
DHY	**Denali Highway**	**82.58**	**24**	*e*P	**P**		**01 31 03.5**	**+0.6**
	9.9nm,1.2s							
KSH	**Kashi**	**82.89**	**311**	*e*P	**P**		**01 31 03.3**	**-1.7**
KSH				S	**S**		**01 41 17.3**	**-3.7**
KSH				LR	LR			
	comp=N,270nm,6.9s							
KSH				LR	LR			
	comp=E,390nm,7.4s							
KSH				LR	LR			
	comp=Z,210nm,10.6s							
CCB	**Clear Creek Bu**	**83.18**	**22**	*e*P	**P**		**01 31 04.6**	**-1.2**
	5.8nm,0.8s							
COLA	**College**	**83.27**	**22**	*e*P	**P**		**01 31 06.0**	**-0.2**
	9.9nm,0.8s							
IL1	**Eielson Array**	**83.58**	**22**	*e*P	**P**		**01 31 05.8**	**-2.0**
ILAR	**Eielson Array**	**83.58**	**22**	P	**P**		**01 31 06.2**	**-1.6**
	4.5nm,0.7s,baz=246,slow=5.3,SNR=57							
ILB	**Eielson Array**	**83.58**	**22**	*e*P	**P**		**01 31 06.3**	**-1.6**
KURK	**Kurchatov**	**84.02**	**322**	*e*P	**P**		**01 31 09.5**	**-0.8**
	21nm,0.3s							
QSPA	**South Pole Qui**	**84.04**	**180**	*e*P	**P**		**01 31 11.5**	**+1.1**
	12nm,0.9s							
KURBB	**Kurchatov Arra**	**84.05**	**322**	P	**P**		**01 31 09.6**	**-0.9**
	1.2nm,0.7s,baz=109,slow=3.7,SNR=10							
MAW	**Mawson**	**84.14**	**203**	P	**P**		**01 31 11.0**	**+0.3**
	3.3nm,0.8s,baz=45,slow=5.2,SNR=3.7							
MAW				LR	LR		02 06 26.0	
	comp=Z,92nm,20.2s,baz=66,slow=34							
MAW	**Mawson**	**84.14**	**203**	*e*P	**P**		**01 31 11.0**	**+0.3**
	3.6nm,1.4s							
TOLK	**Toolik Lake Re**	**84.60**	**18**	*e*P	**P**		**01 31 13.7**	**+0.7**
	6.8nm,1.3s							
AAK	**Ala-Archa**	**84.69**	**314**	P	**P**		**01 31 12.4**	**-1.8**
	1.2nm,0.5s,baz=79,slow=6.2,SNR=4.3							
EGAK	**Eagle**	**85.79**	**23**	*e*P	**P**		**01 31 19.7**	**+0.7**
	7.5nm,0.9s							
DAWY	**Dawson**	**86.23**	**24**	*e*P	**P**		**01 31 22.3**	**+1.1**
	11nm,1.4s							
NRIK	**Noril'sk**	**86.69**	**341**	P	**P**		**01 31 20.8**	**-2.5**
	1.7nm,0.5s,baz=100,slow=2.5,SNR=3.8							
NRIK				LR	LR		02 10 32.0	
	comp=Z,57nm,18.9s,baz=109,slow=36							
KK31	**Karatay Array**	**87.66**	**314**	*e*P	**P**		**01 31 28.1**	**-0.6**
KKAR	**Karatay Array**	**87.66**	**314**	*e*P	**P**		**01 31 29.3**	**+0.7**
BVAR	**Borovoye Array**	**89.52**	**323**	P	**P**		**01 31 35.1**	**-2.1**
	0.9nm,0.7s,baz=114,slow=7.0,SNR=5.8							
BVAR				LR	LR		02 13 57.0	
	comp=Z,48nm,18.7s,baz=41,slow=37							
NV01	**Mina Array Sit**	**93.58**	**52**	*e*P	**P**		**01 31 57.1**	**+0.5**
NVAR	**Mina Array Bea**	**93.58**	**52**	P	**P**		**01 31 57.0**	**+0.4**
	1.4nm,0.7s,baz=266,slow=6.4,SNR=5.2							
NVAR				LR	LR		02 08 54.5	
	comp=Z,162nm,19.5s,baz=271,slow=32							
C09A	**Chrisman Ranch**	**94.32**	**43**	*e*P	**P**		**01 32 01.8**	**+2.2**
	73nm,0.5s							
GEYT	**Alibeck**	**96.48**	**307**	LR	LR		02 19 06.9	
	comp=Z,30nm,18.7s,baz=275,slow=38							
YKA	**Yellowknife Ar**	**96.90**	**28**	P	**P**		**01 32 10.8**	**0.0**
	1.1nm,0.8s,baz=277,slow=5.2,SNR=4.2							
YKB5	**Yellowknife Ar**	**96.90**	**28**	*e*P	**P**		**01 32 10.8**	**0.0**
AKTO	**Aktyubinsk**	**96.92**	**320**	LR	LR		02 16 40.7	
	comp=Z,64nm,19.6s,baz=55,slow=36							
PD31	**Pinedale Array**	**100.36**	**48**	*e*Pdif	**Pdif**		**01 32 25.9**	**-1.3**
PDAR	**Pinedale Array**	**100.36**	**48**	P	**Pdif**		**01 32 25.9**	**-1.3**
	0.4nm,0.7s,baz=219,slow=3.7,SNR=5.3							
GERES	**GERESS Array B**	**124.46**	**328**	PKP	**PKPdf**		**01 37 39.0**	**-0.3**
	1.0nm,0.5s,baz=78,slow=1.2,SNR=14							
PTGA	**Pitinga**	**147.63**	**101**	*e*PKPbc	**PKPbc**		**01 38 26.2**	**+0.8**
TOA0	**Torodi Ar. Sit**	**149.65**	**286**	*e*PKPbc	**PKPbc**		**01 38 29.4**	**-1.1**
TORD	**Torodi Ar. Bea**	**149.65**	**286**	PKPbc	**PKPdf**		**01 38 27.8**	**+1.9**
	2.8nm,0.6s,baz=55,slow=2.6,SNR=48							
TOA1	**Torodi Ar. Sit**	**149.65**	**286**	*e*PKPdf	**PKPdf**		**01 38 27.8**	**+1.9**
BDFB	**Brasilia**	**150.96**	**138**	PKPbc	**PKPbc**		**01 38 33.2**	**-0.6**
	1.6nm,0.5s,baz=164,slow=2.9,SNR=4.0							
DBIC	**Dimbokro**	**156.75**	**273**	PKPab	**PKPab**		**01 39 05.1**	**-0.7**
	2.3nm,0.8s,baz=114,slow=3.6,SNR=4.2							

*MOS **21** 01:49:40.4±1.7,53.˚19N×108.˚55E,h9km,mb4.2/1,Error ellipse: s-maj=41.9km s-min=26.5km az=157.3*
*BYKL **21** 01:49:41.0±0.2,53.˚29N×108.˚52E,h19km±3km*
ISC 21 01:49:40.7±0.9,53˚29N±0.˙02×108˚54E±0.˙02,h7km±8km, n36,σ2s68/73,3C-3D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXMB	**Maximikha**	**0.12**	**100**	*i*Pg	**Pg**	**01 49 44.4**	**+1.0**
MXMB				*e*Sg	**Sg**	**01 49 47.3**	**+2.1**
KELR	**Kotokel**	**0.59**	**208**	*i*Pg	**Pg**	**01 49 52.0**	**-0.2**
KELR				eSg	**Sg**	**01 50 00.5**	**+0.6**
OGRR	**Ongureny**	**0.67**	**303**	*i*Pg	**Pg**	**01 49 54.0**	**+0.4**
OGRR				*e*Sg	**Sg**	**01 50 03.0**	**+0.7**
OGRR				Pmax			
	220nm,0.1s						
OGRR				Smax			
	408nm,0.1s						
OGRR	**Ongureny**	**0.67**	**303**	*i*PG	**Pg**	**01 49 54.2**	**+0.6**
OGRR				*e*		01 50 02.9	
OGRR				pmax	pmax		
	comp=Z,217nm,0.3s						
OGRR				smax	smax		
	comp=E,407nm,0.2s						
SYVR	**Suvo**	**0.95**	**66**	*e*Pg	**Pg**	**01 49 58.6**	**-0.3**
SYVR				*e*Sg	**Sb**	**01 50 11.8**	**-0.5**
SYVR				Pmax			
	comp=E,27nm,0.2s						
SYVR				Smax			
	comp=E,151nm,0.4s						
SYVR	**Suvo**	**0.95**	**66**	*e*PG	**Pg**	**01 49 58.1**	**-0.8**
SYVR				*e*		01 50 11.2	
SYVR				pmax	pmax		
	comp=Z,43nm,0.2s						
SYVR				smax	smax		
	comp=N,219nm,0.3s						
TRTB	**Turuntaevo**	**1.19**	**208**	*e*	**Pn**	**01 50 06.4**	**+2.5**
TRTB				*e*Sg	**Sg**	**01 50 18.9**	**-0.1**
TRG	**Tyrgan**	**1.43**	**249**	*i*Pg	**Pn**	**01 50 06.0**	**-1.1**
TRG				*e*		01 50 08.3	
TRG				*e*Sg	**Sb**	**01 50 26.3**	**+0.2**
TRG				*e*		01 50 28.2	
TRG				Pmax			
	comp=N,91nm,0.2s						
TRG				Smax			
	comp=N,651nm,0.3s						
TRG	**Tyrgan**	**1.43**	**249**	*e*PG	**Pn**	**01 50 06.4**	**-0.7**
TRG				*e*		01 50 25.6	
TRG				pmax	pmax		
	comp=Z,90nm,0.2s						
TRG				smax	smax		
	comp=N,651nm,0.2s						
UUDB	**Ulan-Yde**	**1.52**	**201**	*e*Pg	**Pn**	**01 50 08.5**	**+0.1**
UUDB				*e*		01 50 11.7	
UUDB				*e*Sg	**Sg**	**01 50 29.1**	**-0.4**
UUDB				max			
	comp=N,71nm,0.5s						
UUDB				Smax			
	comp=N,243nm,0.4s						
KAB	**Kabansk**	**1.69**	**224**	*e*Sg	**Sg**	**01 50 35.0**	**+0.1**
KAB				Smax			
	comp=N,638nm,0.5s						
STDB	**Stepnoy Dvoret**	**1.73**	**231**	*e*Pg	**Pb**	**01 50 12.7**	**-0.2**
STDB				*e*Sg	**Sg**	**01 50 37.0**	**+0.7**
HRMR	**Khuramsha**	**1.92**	**211**	*i*Pg	**Pb**	**01 50 15.5**	**-0.6**
HRMR				*e*Sg	**Sg**	**01 50 41.8**	**-0.6**
HRMR				*e*		01 50 44.5	
HRMR				Pmax			
	comp=N,177nm,0.4s						
HRMR				max			
	comp=N,972nm,0.3s						
YLYR	**Ulyunkhan**	**2.22**	**43**	*e*Pn	**Pn**	**01 50 18.5**	**+0.5**
YLYR				*e*Pg	**Pb**	**01 50 20.4**	**-0.8**
YLYR				*e*		01 50 23.0	
YLYR				*e*Sg	**Sg**	**01 50 50.8**	**-1.2**
YLYR				Pmax			
	comp=N,43nm,0.5s						
YLYR				Smax			
	comp=N,62nm,0.5s						
BGT	**Bolshoye Golou**	**2.28**	**238**	*e*Pg	**Pb**	**01 50 21.8**	**-0.4**
BGT				*e*Sg	**Sb**	**01 50 51.1**	**+0.6**
BGT				Pmax			
	comp=N,13nm,0.2s						
BGT				Smax			
	comp=N,66nm,0.3s						
NIZ	**Nizh Angarsk**	**2.56**	**13**	*e*Pn	**Pn**	**01 50 23.7**	**+1.0**
NIZ				*e*Pg	**Pb**	**01 50 27.0**	**0.0**
NIZ				*e*PgPg	**PbPb**	**01 50 30.9**	**+0.7**
NIZ				*e*Sg	**Sb**	**01 51 00.2**	**+1.5**
NIZ				Pmax			
	comp=N,27nm,0.3s						
NIZ				Smax			
	comp=N,76nm,0.5s						
LSTR	**Listvyanka**	**2.67**	**239**	*e*Pn	**Pn**	**01 50 23.0**	**-1.2**
LSTR				*e*Pg	**Pb**	**01 50 27.5**	**-1.4**
LSTR				*e*		01 50 50.1	
LSTR				*e*Sg	**Sb**	**01 51 02.5**	**+0.6**
LSTR				*e*		01 51 05.9	
LSTR				Pmax			
	comp=N,5.0nm,0.2s						
LSTR				Smax			
	comp=N,58nm,0.5s						
IRK	**Irkutsk**	**2.80**	**250**	*e*	**Sb**	**01 51 03.3**	**-2.2**
IRK				*e*Sg	**Sg**	**01 51 06.6**	**-3.9**
IRK				Smax			
	comp=N,267nm,0.4s						
IVK	**Ivanovka**	**2.93**	**241**	*e*Pn	**Pn**	**01 50 27.7**	**0.0**
IVK				*e*Pg	**Pb**	**01 50 33.0**	**-0.2**
IVK				*e*Sg	**Sb**	**01 51 10.7**	**+1.5**
IVK				*e*		01 51 13.1	
IVK				Pmax			
	comp=N,9.0nm,0.3s						
IVK				max			
	comp=N,94nm,0.5s						
CIT	**Chita**	**3.30**	**111**	*e*Sg	**Sb**	**01 51 22.4**	**+2.3**
CIT				*e*		01 51 25.8	
CIT				max			
	comp=N,178nm,0.2s						
TLY	**Talaya**	**3.40**	**244**	*e*Pn	**Pn**	**01 50 34.3**	**+0.1**
TLY				*e*Pg	**Pb**	**01 50 41.0**	**-0.3**
TLY				*e*Sg	**Sb**	**01 51 25.9**	**+3.1**
TLY				Pmax			
	comp=N,4.0nm,0.3s						
TLY				Smax			
	comp=N,50nm,0.6s						
ARS	**Arshan**	**3.97**	**252**	*e*Pn	**Pn**	**01 50 40.8**	**-1.3**
ARS				*e*		01 50 50.3	
ARS				*e*		01 50 52.9	
ARS				*e*Sg	**Sb**	**01 51 43.1**	**+3.7**
ARS				max			
	comp=N,15nm,0.5s						
ARS				Smax			
	comp=N,208nm,0.6s						
ARS	**Arshan**	**3.97**	**252**	*e*PN	**Pb**	**01 50 49.3**	**-1.8**
ARS				*e*		01 51 42.2	
ARS				pmax	pmax		
	comp=Z,15nm,0.3s						
ARS				smax	smax		
	comp=E,208nm,0.4s						
SVKR	**Severomuysk**	**4.07**	**44**	*e*Sg	**Sg**	**01 51 47.5**	**-3.7**
SVKR				Smax			
	comp=E,91nm,0.5s						
KPC	**Khapcheranga**	**4.31**	**145**	*e*Pn	**Pn**	**01 50 46.4**	**-0.4**
KPC				*e*Pg	**Pb**	**01 50 58.1**	**+1.2**
KPC				*e*Sn	**Sn**	**01 51 35.8**	**-1.6**
KPC				*e*Sg	**Sg**	**01 51 54.3**	**-4.8**
KPC				Pmax			
	comp=E,6.0nm,0.3s						
KPC				Smax			
	comp=E,47nm,0.9s						
ZAK	**Zakamensk**	**4.37**	**230**	*e*	**Pg**	**01 51 06.9**	**+2.5**
ZAK				*e*		01 51 20.4	
ZAK				*e*		01 51 53.6	
ZAK				*e*Sg	**Sg**	**01 51 57.0**	**-4.0**
ZAK				Smax			
	comp=E,30nm,0.9s						
MOY	**Mondy**	**4.89**	**254**	*e*Pn	**Pn**	**01 50 52.3**	**-2.5**
MOY				*e*		01 50 59.0	
MOY				*e*		01 51 09.1	
MOY				*e*		01 51 54.8	
MOY				*e*		01 52 06.2	
MOY				*e*Sg	**Sb**	**01 52 11.4**	**+5.6**
MOY				max			
	comp=E,5.0nm,0.3s						
MOY				Smax			
	comp=E,53nm,1.3s						
NLYR	**Nelyaty**	**5.24**	**49**	*e*Pn	**Pn**	**01 50 57.6**	**-1.8**
NLYR				*e*Pg	**Pb**	**01 51 14.3**	**+1.8**
NLYR				*e*		01 51 18.9	
NLYR				*e*Sg	**Sg**	**01 52 22.8**	**-5.9**
NLYR				*e*		01 52 27.6	
NLYR				max			
	comp=E,35nm,0.9s						
ORL	**Orlik**	**5.34**	**265**	*e*Pn	**Pn**	**01 51 02.6**	**+1.7**
ORL				*e*		01 51 10.0	
ORL				*e*Sn	**Sn**	**01 51 59.3**	**-3.4**
ORL				*e*Sg	**Sb**	**01 52 24.5**	**+5.9**
ORL				max			
	comp=E,4.0nm,0.5s						
ORL				Smax			
	comp=E,28nm,1.1s						
ORL	**Orlik**	**5.34**	**265**	*e*PN	**Pn**	**01 51 02.6**	**+1.7**
ORL				*e*		01 51 17.5	
ORL				*e*S	**Sn**	**01 52 02.2**	**-0.5**
ORL				*e*		01 52 24.0	
ORL				pmax	pmax		
	comp=Z,5.0nm,0.4s						
ORL				smax	smax		
	comp=N,31nm,1.3s						
ULN	**Ulaanbaatar**	**5.51**	**191**	*e*Pg	**Pb**	**01 51 20.5**	**+3.2**
ULN				*e*		01 52 21.1	
ULN				*e*Sg	**Sg**	**01 52 32.1**	**-5.4**
ULN				*e*		01 52 36.1	
CRS	**Chara**	**6.65**	**53**	*e*Pg	**Pb**	**01 51 40.8**	**+4.1**
CRS				*e*		01 52 56.5	
CRS				*e*Sg	**Sg**	**01 53 07.5**	**-6.6**
CRS				Pmax			
	comp=N,1.0nm,0.1s						
CRS				Smax			
	comp=N,17nm,1.1s						
TUP	**Tupik**	**6.85**	**76**	*e*Pg	**Pb**	**01 51 44.5**	**+4.5**
TUP				*e*Sg	**Sg**	**01 53 13.7**	**-6.7**
TUP				Smax			
	comp=N,53nm,1.2s						
TUP	**Tupik**	**6.85**	**76**	*e*PN	**Pn**	**01 51 20.4**	**-1.2**
TUP				*e*		01 51 43.0	
TUP				*e*S	**Sn**	**01 52 38.8**	**-0.9**
TUP				*e*		01 53 13.6	
TUP				pmax	pmax		
	comp=Z,7.0nm,0.4s						
TUP				smax	smax		
	comp=N,52nm,1.0s						
KNGR	**Kungurtug, Tuv**	**7.32**	**253**	*e*	**Pb**	**01 51 47.3**	**-0.9**
KNGR				*e*Pg	Pg	01 51 52.6	-8.3
KNGR				*e*Sg	**Sg**	**01 53 28.5**	**-7.2**
KNGR				*e*		01 53 32.8	
TDJR	**Todzha**	**7.59**	**268**	*e*Sg	Sg	01 53 34.3	-10
TDJR				*e*		01 53 41.1	

IDC 21 01:51:13.6±3.2,5˚55S×151˚53E,h0km,mb3.6/2, mb1 3.9/3,mb1mx3.5/33,mbtmp3.7/3,ML1.8/1,Error ellipse: s-maj=128.6km s-min=43.0km az=122.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.78**	**228**	Pn	Pn	01 52 42.2	+1.5
	1.8nm,0.3s,baz=46,slow=7.3,SNR=4.7						
WRA	**Warramunga Arr**	**22.00**	**228**	P	P	01 56 10.0	+0.4
	1.7nm,0.6s,baz=53,slow=10.0,SNR=24						
ASAR	**Alice Springs**	**24.75**	**222**	P	P	01 56 36.1	-1.0
	0.8nm,0.6s,baz=53,slow=9.2,SNR=11						
TORD	**Torodi Ar. Bea**	**149.32**	**286**	PKPbc	PKPbc	02 11 05.3	-0.2
	0.1nm,0.4s,baz=53,slow=3.2,SNR=3.0						

*ISCJB **21** 01:56:54.4±0.2,44.˚62N±0.˙01×6.˚71E±0.˙02,h10km±2km, Error ellipse: s-maj=2.4km s-min=1.9km az=156.0*
*ROM **21** 01:56:54.9±0.1,44.˚639N±0.˙005×6.˚75E±0.˙01,h13km±1km, ML2.0/16*
*GEN **21** 01:56:54.7,44.˚62N×6.˚69E,h4km±1km,MI1.9*
*STR **21** 01:56:54.6±0.4,45.˚N±2˚×±˚,h6km±5km,M2.2/6,MLv2.2/6*
*LDG **21** 01:56:55.7±0.1,44.˚62N×6.˚77E,h2km,Md2.0/1,Ml2.5/16, Error ellipse: s-maj=2.2km s-min=1.6km az=72.0*
ISC 21 01:56:54.5±0.8,44.˚62N±0.˙01×6.˚75E±0.˙02,h12km±5km, n59,σ0s76/107,France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBDF	**Montbardon**	**0.10**	**7**	*e*Pg	**Pg**	**01 56 57.5**	**-0.1**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**01 56 59.5**	**-0.3**
	423nm,0.3s						
SURF	**Saint Ours**	**0.15**	**163**	Pg	**Pg**	**01 56 58.2**	**+0.1**
SURF				Sg	**Sg**	**01 57 00.8**	**+0.1**
OGAG	**Argentiere**	**0.23**	**222**	Pg	**Pg**	**01 56 58.8**	**-0.5**
OGAG				Sg	**Sg**	**01 57 01.8**	**-0.8**
PZZ	**Stroppo**	**0.28**	**114**	P	**Pb**	**01 57 01.1**	**-0.5**
PZZ				S	**Sb**	**01 57 05.5**	**-0.9**
PZZ	**Stroppo**	**0.28**	**114**	P	**Pb**	**01 57 01.1**	**-0.5**
PZZ				S	**Sb**	**01 57 06.1**	**-0.2**
PZZ				AML	AML		
	comp=E,1085μm,1.1s						
PZZ				AML	AML		
	comp=N,1295μm,0.2s						
PZZ				AML	AML		
	comp=E,1085μm,1.1s						
PZZ				AML	AML		
	comp=N,1300μm,0.2s						
PZZ				AML	AML		
	comp=N,1300μm,0.2s						
PZZ				AML	AML		
	comp=E,1085μm,1.1s						
RRL	**Rocca Remolon**	**0.30**	**5**	P	**Pg**	**01 57 01.0**	**+0.3**
RRL				S	**Sg**	**01 57 05.5**	**+0.5**
RRL	**Rocca Remolon**	**0.30**	**5**	P	**Pg**	**01 57 01.0**	**+0.3**
RRL				S	**Sg**	**01 57 05.4**	**+0.5**
RRL				AML	AML		
	comp=E,258μm,0.6s						
RRL				AML	AML		
	comp=N,270μm,0.4s						
RRL				AML	AML		
	comp=E,258μm,0.6s						
RRL				AML	AML		
	comp=N,270μm,0.4s						
RRL				AML	AML		
	comp=E,258μm,0.6s						
RRL				AML	AML		
	comp=N,270μm,0.4s						
DOI	**San Damiano**	**0.37**	**108**	P	**Pb**	**01 57 02.7**	**-0.4**
DOI				S	**Sb**	**01 57 08.3**	**-0.5**
DOI				AML	AML		
	comp=E,686μm,0.3s						
DOI				AML	AML		
	comp=N,718μm,0.3s						
DOI				AML	AML		
	comp=N,718μm,0.3s						
DOI				AML	AML		
	comp=E,686μm,0.3s						
BHB	**Bricherasio**	**0.42**	**59**	P	**Pb**	**01 57 03.7**	**-0.3**
BHB				S	**Sb**	**01 57 09.7**	**-0.5**
BHB	**Bricherasio**	**0.42**	**59**	P	**Pb**	**01 57 03.6**	**-0.3**
BHB				S	**Sb**	**01 57 09.8**	**-0.5**
BHB				AML	AML		
	comp=E,128μm,0.1s						
BHB				AML	AML		
	comp=N,224μm,0.6s						
BHB				AML	AML		
	comp=E,129μm,0.1s						
BHB				AML	AML		
	comp=N,223μm,0.6s						
BHB				AML	AML		
	comp=E,129μm,0.1s						
BHB				AML	AML		
	comp=N,223μm,0.6s						
BNI	**Bardonecchia**	**0.43**	**353**	P	**Pg**	**01 57 03.1**	**0.0**
BNI				S	**Sg**	**01 57 09.9**	**+1.0**
ISO	**Isola**	**0.49**	**154**	Pg	**Pg**	**01 57 04.4**	**+0.3**
ISO				Sg	**Sg**	**01 57 11.1**	**+0.5**
STV	**Sant Anna di V**	**0.56**	**132**	P	**Pb**	**01 57 05.8**	**-0.4**
STV				S	**Sb**	**01 57 13.9**	**-0.2**
STV	**Sant Anna di V**	**0.56**	**132**	P	**Pb**	**01 57 05.8**	**-0.4**
STV				S	**Sb**	**01 57 14.1**	**-0.1**
STV				AML	AML		
	comp=E,158μm,1.0s						
STV				AML	AML		
	comp=N,161μm,0.2s						
STV				AML	AML		
	comp=E,158μm,1.0s						
STV				AML	AML		
	comp=N,160μm,0.2s						
STV				AML	AML		
	comp=N,160μm,0.2s						
STV				AML	AML		
	comp=E,158μm,1.0s						
OGDI	**Digne**	**0.61**	**213**	Pg	**Pb**	**01 57 07.7**	**+0.6**
OGDI				Sg	**Sb**	**01 57 16.7**	**+1.1**
ENR	**Entracque**	**0.62**	**129**	P	**Pb**	**01 57 07.1**	**-0.2**
ENR				S	**Sb**	**01 57 15.6**	**-0.4**
ENR	**Entracque**	**0.62**	**129**	P	**Pb**	**01 57 07.0**	**-0.3**
ENR				S	**Sb**	**01 57 15.9**	**0.0**
ENR				AML	AML		
	comp=E,286μm,0.3s						
ENR				AML	AML		
	comp=N,320μm,0.2s						
ENR				AML	AML		
	comp=E,286μm,0.3s						
ENR				AML	AML		
	comp=E,286μm,0.3s						
ENR

RSP	**Reno Superiore**	**0.64**	**34**	P	**Pb**	**01 57 07.6**	**0.0**
RSP				S	**Sb**	**01 57 16.4**	**-0.2**
RSP	**Reno Superiore**	**0.64**	**34**	P	**Pb**	**01 57 07.2**	**-0.4**
RSP				S	**Sg**	**01 57 15.9**	**+0.5**
RSP				AML	AML		
	comp=E,109μm,1.3s						
RSP				AML	AML		
	comp=N,108μm,1.2s						
RSP				AML	AML		
	comp=E,109μm,1.3s						
RSP				AML	AML		
	comp=N,108μm,1.2s						
RSP				AML	AML		
	comp=E,109μm,1.3s						
RSP				AML	AML		
	comp=N,108μm,1.2s						
ORIF	**Oris-en-Rattie**	**0.69**	**296**	*e*Pg	**Pg**	**01 57 07.1**	**-0.8**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**01 57 15.3**	**-1.7**
	comp=N,36nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.69**	**296**	Pg	**Pg**	**01 57 07.1**	**-0.8**
SAOF	**Saorge**	**0.86**	**138**	P	**Pb**	**01 57 11.2**	**-0.1**
SAOF				S	**Sb**	**01 57 22.9**	**+0.1**
SAOF				AML	AML		
	comp=E,89μm,1.1s						
SAOF				AML	AML		
	comp=N,96μm,0.3s						
SAOF				AML	AML		
	comp=E,89μm,1.1s						
SAOF				AML	AML		
	comp=N,96μm,0.3s						
SAOF				AML	AML		
	comp=E,89μm,1.1s						
SAOF				AML	AML		
	comp=N,96μm,0.3s						
GBOS	**Grotte di Boss**	**0.87**	**116**	P	**Pb**	**01 57 11.7**	**+0.2**
GBOS				S	**Sb**	**01 57 23.5**	**+0.4**
LPG	**La Plagne**	**0.88**	**360**	*e*Pg	**Pg**	**01 57 11.4**	**0.0**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**01 57 23.1**	**+0.2**
	comp=N,11nm,0.2s,SNR=1.0						
CALF	**Calern**	**0.88**	**172**	Pg	**Pb**	**01 57 12.0**	**+0.3**
CALF				Sg	**Sb**	**01 57 24.3**	**+0.8**
LSD	**Lago del Serru**	**0.88**	**18**	P	**Pg**	**01 57 11.5**	**0.0**
LSD				S	**Sb**	**01 57 23.4**	**-0.2**
LSD	**Lago del Serru**	**0.88**	**18**	P	**Pg**	**01 57 11.2**	**-0.3**
LSD				S	**Sg**	**01 57 23.0**	**-0.1**
LSD				AML	AML		
	comp=E,78μm,1.2s						
LSD				AML	AML		
	comp=N,61μm,0.7s						
LSD				AML	AML		
	comp=E,78μm,1.2s						
LSD				AML	AML		
	comp=N,61μm,0.7s						
LPL	**La Plagne**	**0.89**	**359**	*e*Pg	**Pg**	**01 57 11.8**	**0.0**
	SNR=1.0						
LPL				*e*Sg	**Sb**	**01 57 24.1**	**0.0**
	comp=N,14nm,0.3s,SNR=1.0						
SBF	**Sospel**	**0.90**	**147**	*e*Pg	**Pb**	**01 57 12.4**	**+0.3**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**01 57 23.5**	**-0.2**
	comp=N,61nm,0.3s,SNR=1.0						
ESCA	**l'Escarene**	**0.91**	**150**	Pg	**Pb**	**01 57 12.6**	**+0.4**
ESCA				Sg	**Sb**	**01 57 24.8**	**+0.6**
MGRO	**Montegrosso**	**0.95**	**127**	P	**Pb**	**01 57 13.3**	**+0.2**
MGRO				S	**Sn**	**01 57 26.7**	**-0.7**
NEGI	**Seborga**	**1.03**	**138**	P	**Pn**	**01 57 14.8**	**0.0**
NEGI				AML	AML		
	comp=E,161μm,1.4s						
NEGI				AML	AML		
	comp=N,190μm,0.3s						
NEGI				AML	AML		
	comp=N,190μm,0.3s						
NEGI				AML	AML		
	comp=E,161μm,1.4s						
FRF	**La Foret Royal**	**1.06**	**184**	*e*Pg	**Pg**	**01 57 15.0**	**0.0**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**01 57 27.5**	**-1.3**
	comp=E,26nm,0.3s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.06**	**233**	*e*Pg	**Pn**	**01 57 15.6**	**+0.3**
	SNR=1.0						
SMRF				*e*Sg	**Sn**	**01 57 29.9**	**-0.1**
	comp=E,21nm,0.3s						
RORO	**Rocca Rossa**	**1.07**	**118**	P	**Pb**	**01 57 14.4**	**-0.5**
RORO				S	**Sn**	**01 57 29.6**	**-0.5**
RORO				AML	AML		
	comp=E,115μm,0.5s						
RORO				AML	AML		
	comp=N,89μm,0.9s						
RORO				AML	AML		
	comp=E,115μm,0.5s						
RORO				AML	AML		
	comp=N,89μm,0.9s						
IMI	**Imperia**	**1.08**	**131**	P	**Pn**	**01 57 15.6**	**0.0**
IMI				AML	AML		
	comp=E,165μm,0.6s						
IMI				AML	AML		
	comp=N,248μm,0.5s						
IMI				AML	AML		
	comp=N,248μm,0.5s						
IMI				AML	AML		
	comp=E,165μm,0.6s						
BSTF	**la Bastide-des**	**1.09**	**227**	Pg	**Pn**	**01 57 16.8**	**+1.2**
BSTF				Sg	**Sn**	**01 57 31.7**	**+1.1**
TRAV	**Traversella**	**1.14**	**38**	P	**Pb**	**01 57 15.6**	**-0.5**
CIRO	**Champorcher**	**1.14**	**30**	P	**Pb**	**01 57 15.6**	**-0.7**
CIRO				S	**Sg**	**01 57 30.9**	**-0.3**
CIRO				AML	AML		
	comp=E,31μm,1.4s						
CIRO				AML	AML		
	comp=N,27μm,0.6s						
CIRO				AML	AML		
	comp=E,31μm,1.4s						
CIRO				AML	AML		
	comp=N,27μm,0.6s						
ROTM	**Rocchetta Tana**	**1.16**	**78**	P	**Pg**	**01 57 17.6**	**+0.8**
QLNO	**Quiliano**	**1.18**	**104**	P	**Pg**	**01 57 17.4**	**+0.2**
QLNO				AML	AML		
	comp=E,66μm,0.6s						
QLNO				AML	AML		
	comp=N,65μm,1.2s						
QLNO				AML	AML		
	comp=N,65μm,1.2s						
QLNO				AML	AML		
	comp=E,66μm,0.6s						
FINB	**Finale Ligure**	**1.21**	**111**	P	**Pg**	**01 57 17.7**	**0.0**
FINB				AML	AML		
	comp=E,61μm,0.3s						
FINB				AML	AML		
	comp=N,59μm,0.5s						
FINB				AML	AML		
	comp=N,59μm,0.5s						
FINB				AML	AML		
	comp=E,61μm,0.3s						
LMR	**La Mourre**	**1.30**	**188**	*e*Pn	**Pg**	**01 57 19.3**	**-0.1**
	SNR=1.0						
LMR				*e*Sg	**Sn**	**01 57 36.0**	**+0.3**
	comp=E,27nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.50**	**280**	*e*Pn	**Pn**	**01 57 21.8**	**+0.5**
	SNR=1.0						
VIVF				*e*Sn	**Sb**	**01 57 41.5**	**+0.2**
	comp=E,6.1nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**2.04**	**347**	*e*Pn	**Pb**	**01 57 31.0**	**-0.6**
	SNR=1.0						
CABF				*e*Sn	**Sb**	**01 57 56.5**	**-0.5**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**01 57 59.1**	**-1.1**
	comp=E,5.6nm,0.6s,SNR=1.0						
LASF	**Ste Croix**	**2.15**	**256**	*e*Pn	**Pn**	**01 57 30.0**	**-0.1**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**01 57 55.7**	**-1.0**
	comp=E,1.9nm,0.2s						
LBL	**Lubilhac**	**2.56**	**285**	Pn	**Pn**	**01 57 36.7**	**+0.8**
PGF	**Pioggiola**	**2.64**	**141**	*e*Pn	**Pn**	**01 57 37.7**	**+0.8**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**01 58 07.2**	**-1.7**
	comp=E,4.1nm,0.3s						
SMF	**Signal de Mont**	**2.88**	**316**	*e*Pn	**Pn**	**01 57 41.5**	**+1.4**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**01 58 16.6**	**+2.0**
	comp=E,3.9nm,0.3s,SNR=1.0						
AGO	**Saint Agoulin**	**2.93**	**301**	Pn	**Pn**	**01 57 42.0**	**+1.2**
AVF	**Avril sur Loir**	**3.22**	**314**	*e*Pn	**Pn**	**01 57 46.2**	**+1.3**
	SNR=1.0						
LOR	**Lormes**	**3.33**	**324**	*e*Pn	**Pn**	**01 57 47.3**	**+0.9**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**01 58 25.1**	**-0.7**
	comp=E,3.7nm,0.5s,SNR=1.0						
SSF	**Saint Saulge**	**3.33**	**318**	*e*Pn	**Pn**	**01 57 48.1**	**+1.7**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**01 58 25.1**	**-0.8**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**01 58 39.7**	**-1.8**
	comp=E,1.1nm,0.2s,SNR=1.0						
CAF	**Calviac**	**3.35**	**277**	*e*Pn	**Pn**	**01 57 48.0**	**+1.3**
	SNR=1.0						
BGF	**Bois d'Agland**	**3.36**	**307**	*e*Pn	**Pn**	**01 57 48.2**	**+1.5**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**01 58 43.9**	**+1.6**
	comp=E,4.9nm,0.4s,SNR=1.0						
HAU	**Haudompre**	**3.40**	**355**	*e*Pn	**Pn**	**01 57 48.6**	**+1.3**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**01 58 26.6**	**-0.9**
	comp=E,6.8nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**3.52**	**250**	*e*Pn	**Pn**	**01 57 49.0**	**+0.1**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**01 58 28.7**	**-1.7**
	comp=E,0.8nm,0.2s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.60**	**299**	*e*Pn	**Pn**	**01 57 51.0**	**+0.8**
	SNR=1.0						
CDF	**Champ du Feu**	**3.81**	**5**	*e*Pn	**Pn**	**01 57 54.0**	**+1.0**
	SNR=1.0						

IDC 21 02:05:02.9±1.9,3°56S×145°64E,h0km,mb3.5/2, mb1 4.0/3,mb1mx3.5/35,mbtmp3.7/3,ML4.0/1,MS3.0/12, Ms1 3.1/12,ms1mx2.9/27,Error ellipse: s-maj=338.8km s-min=28.3km az=118.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**5.03**	**282**	LR	LR	02 08 31.0	
	comp=E,61nm,18.3s,baz=220,slow=41						
PMG	**Port Moresby**	**6.01**	**165**	LR	LR	02 08 33.8	
	comp=Z,23nm,21.6s,baz=347,slow=35						
SIJI	**Sorong**	**14.60**	**280**	LR	LR	02 13 51.2	
	comp=Z,78nm,19.0s,baz=122,slow=36						
HNR	**Honiara**	**15.37**	**113**	LR	LR	02 14 52.0	
	comp=Z,81nm,18.1s,baz=312,slow=38						
WRA	**Warramunga Arr**	**19.67**	**213**	P	P	02 09 33.4	-0.3
	0.4nm,0.3s,baz=41,slow=12,SNR=9.0						
ASAR	**Alice Springs**	**22.98**	**209**	P	P	02 10 09.5	+0.1
	0.7nm,0.5s,baz=36,slow=7.9,SNR=10.0						
ASAR				LR	LR	02 20 00.2	
	comp=Z,74nm,18.6s,baz=35,slow=39						
DZM	**Mont Dzumac**	**27.32**	**134**	LR	LR	02 20 22.9	
	comp=Z,54nm,19.1s,baz=206,slow=34						
STKA	**Stephens Creek**	**28.43**	**187**	LR	LR	02 23 15.6	
	comp=Z,55nm,20.1s,baz=18,slow=38						
JOW	**Kunigami**	**34.56**	**332**	LR	LR	02 23 45.4	
	comp=Z,37nm,19.7s,baz=191,slow=32						
JNU	**Nakatsue**	**39.06**	**340**	LR	LR	02 27 32.7	
	comp=Z,24nm,21.1s,baz=120,slow=35						
KSRS	**Korea Array**	**44.00**	**340**	LR	LR	02 28 37.3	
	comp=Z,20nm,21.5s,baz=131,slow=32						
CMAR	**Chiang Mai Arr**	**50.92**	**297**	LR	LR	02 36 31.5	
	comp=Z,16nm,19.0s,baz=220,slow=37						
ZALV	**Zalesovo Beam**	**76.23**	**328**	LR	LR	02 50 16.5	
	comp=Z,19nm,19.5s,baz=69,slow=36						
ILAR	**Eielson Array**	**83.79**	**23**	P	P	02 17 33.9	0.0
	0.4nm,0.8s,baz=240,slow=4.8,SNR=6.0						

*IDC **21** 02:07:45.3±1.1,13°94N×92°68W,h0km,mb3.9/8, mb1 4.1/11,mb1mx3.8/47,mbtmp3.9/11,ML3.4/3,MS2.8/2, Ms1 2.8/2,ms1mx2.5/35,Error ellipse: s-maj=23.1km s-min=14.6km az=21.0*

*ISCJB **21** 02:07:49.9±0.7,14°05N±0°07×92°60W±0°06,h46km, mb4.1/17,MS2.8/1,Error ellipse: s-maj=10.3km s-min=7.1km az=33.7*

*NEIC **21** 02:07:50.8±0.8,14°07N×92°57W,h35km,mb4.4/14,Error ellipse: s-maj=17.4km s-min=8.4km az=216.0*

ISC 21 02:07:51.0±0.8,13°97N±0°08×92°68W±0°07,h46km,n38, σ1°65/39,mb4.2/17,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.36**	**13**	*e*Pn	**Pn**	**02 08 28.3**	**+0.8**
CCIG				*e*Sn	**Sn**	**02 08 56.0**	**+0.7**
APG	**El Apazote**	**2.38**	**64**	Pn	**Pn**	**02 08 28.0**	**+0.2**
	5.5nm,0.3s,baz=237,slow=5.9,SNR=78						
APG				Lg	Lg	02 09 01.2	
	14nm,0.3s,baz=307,slow=15,SNR=4.1						
APG				LR	LR	02 09 31.3	
	comp=Z,123nm,20.4s,baz=118,slow=44						
CMIG	**Matias Romero**	**3.76**	**326**	Pn	**Pn**	**02 08 43.3**	**-3.2**
	2.2nm,0.3s,baz=155,slow=14,SNR=15						
CMIG				Sn	**Sn**	**02 09 29.0**	**-0.6**
	6.8nm,0.3s,baz=126,slow=9.7,SNR=5.7						
CSGN	**Cosiguina Volc**	**5.08**	**101**	*e*Pn	**Pn**	**02 09 02.3**	**-2.5**
TEIG	**Tepich**	**7.51**	**33**	*e*Pn	**Pn**	**02 09 37.1**	**-1.0**
TEIG				*e*Sn	**Sn**	**02 11 01.0**	**-1.0**
JTS	**JuntasAbangare**	**8.39**	**115**	Lg	Lg	02 12 05.4	
	0.2nm,0.3s,baz=0.0,slow=20,SNR=2.1						
957A	**Wimauma**	**16.75**	**34**	*e*Pn	**Pn**	**02 11 39.4**	**-3.1**
	77nm,0.6s						
LTX	**Lajitas**	**18.37**	**328**	*e*P	**P**	**02 12 01.2**	**-0.9**
TXAR	**Lajitas Array**	**18.37**	**328**	P	**P**	**02 12 01.2**	**-0.9**
	0.1nm,0.3s,baz=150,slow=13,SNR=7.1						
MIAR	**Mount Ida**	**20.50**	**358**	*e*P	**P**	**02 12 21.4**	**-3.9**
	15nm,1.5s						
X37A	**Clayton**	**20.68**	**354**	*e*P	**P**	**02 12 26.9**	**-0.2**
	26nm,1.8s						
MNTX	**Cornudas Mount**	**21.14**	**329**	*e*P	**P**	**02 12 33.0**	**+0.7**
	2.2nm,0.9s						
WMOK	**Wichita Mounta**	**21.40**	**346**	*e*P	**P**	**02 12 35.3**	**+0.3**
	15nm,1.8s						
SDV	**Santo Domingo**	**22.19**	**101**	P	**P**	**02 12 42.9**	**-0.9**
	3.0nm,0.4s,baz=0.6,slow=3.0,SNR=3.1						
HHAR	**Hobbs**	**22.25**	**357**	*e*P	**P**	**02 12 44.2**	**+0.1**
	3.0nm,0.7s						
AMTX	**Amarillo**	**22.36**	**340**	*e*P	**P**	**02 12 42.8**	**-2.5**
	7.6nm,0.7s						
TKL	**Tuckaleechee C**	**23.04**	**19**	P	**P**	**02 12 51.0**	**-1.4**
	4.5nm,1.0s,baz=148,slow=9.5,SNR=2.6						
TKL	**Tuckaleechee C**	**23.04**	**19**	*e*P	**P**	**02 12 51.0**	**-1.4**
	32nm,1.8s						
WCI	**Wyandotte Cave**	**24.82**	**12**	*e*P	**P**	**02 13 08.5**	**-0.4**
	11nm,0.8s						
T25A	**Trinidad**	**25.34**	**338**	*e*P	**P**	**02 13 16.3**	**+2.4**
	12nm,1.4s						
BLO	**Bloomington**	**25.69**	**11**	*e*P	**P**	**02 13 15.4**	**-1.4**
	13nm,0.6s						
NNA	**Nana**	**30.19**	**148**	LR	LR	02 23 15.2	
	comp=Z,26nm,21.7s,baz=301,slow=31						
PD31	**Pinedale Array**	**32.18**	**336**	*e*P	**P**	**02 14 15.7**	**+0.9**
PDAR	**Pinedale Array**	**32.18**	**336**	P	**P**	**02 14 15.7**	**+0.9**
	0.3nm,0.7s,baz=142,slow=7.4,SNR=3.2						
SNOW	**Snow King Moun**	**33.24**	**336**	*e*P	**P**	**02 14 25.7**	**+1.6**
	47nm,1.8s						
NV01	**Mina Array Sit**	**33.28**	**322**	*e*P	**P**	**02 14 25.5**	**+1.0**
NVAR	**Mina Array Bea**	**33.28**	**322**	P	**P**	**02 14 25.5**	**+1.0**
	1.1nm,0.7s,baz=138,slow=7.5,SNR=7.6						
PTGA	**Pitinga**	**35.54**	**112**	P	**P**	**02 14 44.5**	**+0.4**
	2.6nm,0.7s,baz=302,slow=10,SNR=10						
PTGA	**Pitinga**	**35.54**	**112**	*e*P	**P**	**02 14 45.9**	**+1.8**
	2.6nm,0.8s						
SIV	**San Ignacio**	**43.15**	**133**	P	**P**	**02 15 47.2**	**-0.3**
	0.6nm,0.5s,baz=296,slow=8.9,SNR=3.1						
YKA	**Yellowknife Ar**	**50.91**	**347**	P	**P**	**02 16 48.0**	**+0.7**
	3.4nm,0.7s,baz=150,slow=7.4,SNR=15						
YKA	**Yellowknife Ar**	**50.91**	**347**	P	**P**	**02 16 48.0**	**+0.7**
YKB5	**Yellowknife Ar**	**50.91**	**347**	*e*P	**P**	**02 16 48.0**	**+0.7**
ILAR	**Eielson Array**	**62.61**	**337**	P	**P**	**02 18 12.8**	**+2.4**
	1.2nm,0.9s,baz=95,slow=6.1,SNR=8.3						
ILB	**Eielson Array**	**62.61**	**337**	*e*P	**P**	**02 18 12.8**	**+2.4**
RDOG	**Red Dog Mine**	**69.77**	**338**	*e*P	**P**	**02 18 59.4**	**+3.2**
	9.3nm,0.7s						
CM31	**Chiang Mai Arr**	**145.80**	**340**	*e*PKPdf	**PKPdf**	**02 27 25.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**145.80**	**340**	PKPbc	**PKPdf**	**02 27 25.9**	**+0.3**
	0.7nm,0.3s,baz=338,slow=3.6,SNR=6.3						

*ISCJB **21** 02:13:01.6±0.4,24°29N±0°02×122°60E±0°02,h70km±5km, Error ellipse: s-maj=3.5km s-min=2.4km az=173.4*

*TAP **21** 02:13:02.3,24°27N×122°58E,h60km,ML3.0,C*

*JMA **21** 02:13:02.0±0.1,24°27N×122°61E,h68km±2km,M2.4*

ISC 21 02:13:01.9±1.3,24°30N±0°03×122°61E±0°02,h71km±8km, n82,σ0°64/137,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.34**	**64**	P	**Pn**	**02 13 13.4**	**0.0**
JYNG				S	**Sn**	**02 13 21.7**	**-0.2**
YOJ	**Yonaguni jima**	**0.40**	**66**	P	**Pn**	**02 13 13.9**	**0.0**
	baz=62						
YOJ				S	**Sn**	**02 13 22.4**	**-0.3**
	baz=62						
YOJ	**Yonaguni jima**	**0.40**	**66**	P	**Pn**	**02 13 13.9**	**0.0**
YOJ				S	**Sn**	**02 13 22.4**	**-0.3**
EOS1	**EOS1**	**0.51**	**299**	P	**Pn**	**02 13 15.0**	**+0.2**
	baz=303						
EOS1				*e*S	**Sn**	**02 13 25.1**	**+0.8**
	baz=303						
ENAH	**Nanao**	**0.75**	**282**	*e*P	**Pn**	**02 13 17.5**	**+0.1**
	baz=283						
ENAH				*e*S	**Sn**	**02 13 28.9**	**0.0**
	baz=283						
TWC	**Suao**	**0.76**	**294**	P	**Pn**	**02 13 17.5**	**0.0**
	baz=296						
TWC				S	**Sn**	**02 13 28.5**	**-0.6**
	baz=296						
NANB	**Nanao**	**0.80**	**279**	P	**Pn**	**02 13 18.1**	**+0.2**
	baz=281						
NANB				S	**Sn**	**02 13 29.7**	**-0.2**
	baz=281						
ENA	**Nanau**	**0.81**	**279**	P	**Pn**	**02 13 18.3**	**+0.2**
	baz=281						
ENA				*e*S	**Sn**	**02 13 30.3**	**+0.2**
	baz=281						
EGS		**0.82**	**311**	*e*P	**Pn**	**02 13 18.5**	**+0.2**
	baz=314						
TWB1	**Santiao Chiao**	**0.91**	**321**	*e*P	**Pn**	**02 13 19.4**	**+0.1**
	baz=323						
TWB1				*e*S	**Sn**	**02 13 31.5**	**-0.7**
	baz=323						
ILA	**Ilan**	**0.91**	**301**	*e*P	**Pn**	**02 13 19.5**	**+0.2**
	baz=302						
ILA				*e*S	**Sn**	**02 13 32.4**	**+0.1**
	baz=302						
NACB	**Ninganchiao**	**0.94**	**262**	*e*P	**Pn**	**02 13 19.7**	**0.0**
	baz=263						
NACB				*e*S	**Sn**	**02 13 32.5**	**-0.4**
	baz=263						
TWD	**Chiawan**	**0.95**	**257**	*e*P	**Pn**	**02 13 19.9**	**+0.1**
	baz=257						
TWD				*e*S	**Sn**	**02 13 32.7**	**-0.5**
	baz=257						
TWE	**Neicheng**	**0.96**	**296**	*e*P	**Pn**	**02 13 20.4**	**+0.5**
	baz=298						
TWE				*e*S	**Sn**	**02 13 33.0**	**-0.3**
	baz=298						
HWA	**Hwalien**	**0.98**	**251**	*e*P	**Pn**	**02 13 19.6**	**-0.5**
	baz=251						
HWA				*e*S	**Sn**	**02 13 33.0**	**-0.7**
	baz=251						
SLBB	**Yuanshan**	**1.00**	**297**	P	**Pn**	**02 13 21.1**	**+0.6**
	baz=299						
SLBB				*e*S	**Sn**	**02 13 34.6**	**+0.3**
	baz=299						
ENLB	**Shoufeng**	**1.00**	**247**	*e*S	**Sn**	**02 13 33.9**	**-0.4**
	baz=247						
ENTT	**Nioudou**	**1.01**	**290**	*e*P	**Pn**	**02 13 20.9**	**+0.3**
	baz=291						
ENTT				*e*S	**Sn**	**02 13 34.9**	**+0.4**
	baz=291						
IRIF	**Iriomote-Funau**	**1.02**	**88**	P	**Pn**	**02 13 20.7**	**+0.1**
IRIF				S	**Sn**	**02 13 34.7**	**+0.1**
NWF	**Wu-fen Shan**	**1.08**	**316**	*e*P	**Pn**	**02 13 21.8**	**+0.3**
	baz=317						
NWF				*e*S	**Sn**	**02 13 36.2**	**0.0**
	baz=317						
WFSB	**Wu-fen Shan**	**1.08**	**316**	*e*P	**Pn**	**02 13 21.8**	**+0.4**
	baz=317						
WFSB				*e*S	**Sn**	**02 13 36.0**	**0.0**
	baz=317						
HATJ	**Hateruma jima**	**1.11**	**102**	P	**Pn**	**02 13 22.8**	**+0.9**
HATJ				S	**Sn**	**02 13 37.6**	**+0.8**
NWLT	**Wulai**	**1.12**	**295**	*e*P	**Pn**	**02 13 22.8**	**+0.9**
	baz=297						
NWLT				*e*S	**Sn**	**02 13 37.1**	**+0.2**
	baz=297						
NNSB	**Datong**	**1.13**	**277**	*e*P	**Pn**	**02 13 22.2**	**+0.1**
	baz=278						
NNSB				*e*S	**Sn**	**02 13 36.9**	**-0.5**
	baz=278						
NNSH	**Datong**	**1.13**	**277**	*e*S	**Sn**	**02 13 37.1**	**-0.3**
	baz=278						
NNS	**Nan Shan**	**1.14**	**277**	*e*P	**Pn**	**02 13 22.6**	**+0.3**
	baz=278						
NNS				*e*S	**Sn**	**02 13 37.4**	**-0.2**
	baz=278						
TWA	**Mucha**	**1.16**	**306**	*e*S	**Sn**	**02 13 37.5**	**-0.3**
	baz=307						
ESL	**Shilin**	**1.18**	**246**	*e*P	**Pn**	**02 13 22.4**	**-0.4**
	baz=246						
ESL				*e*S	**Sn**	**02 13 38.0**	**-0.4**
	baz=246						
YHNB	**Yeheng**	**1.19**	**288**	*e*P	**Pn**	**02 13 23.8**	**+0.9**
	baz=289						
YHNB				S	**Sn**	**02 13 38.5**	**-0.1**
	baz=289						
NSK	**Sanguang**	**1.20**	**288**	*e*P	**Pn**	**02 13 23.4**	**+0.3**
	baz=289						
NSK				*e*S	**Sn**	**02 13 39.1**	**+0.1**
	baz=289						
TATO	**Taipei**	**1.23**	**303**	*e*P	**Pn**	**02 13 23.6**	**+0.3**
	baz=305						
TATO				*e*S	**Sn**	**02 13 38.6**	**-0.8**
	baz=305						
WHF	**Hehuan Shan**	**1.24**	**263**	*e*P	**Pn**	**02 13 23.8**	**-0.1**
	baz=263						
WHF				*e*S	**Sn**	**02 13 39.6**	**-0.8**
	baz=263						
EGFH	**Guangfu**	**1.25**	**240**	*e*P	**Pn**	**02 13 23.9**	**+0.3**
	baz=240						
EGFH				*e*S	**Sn**	**02 13 39.9**	**-0.1**
	baz=240						
YM07	**YM07**	**1.25**	**314**	*e*S	**Sn**	**02 13 38.9**	**-1.2**
	baz=315						
YM01	**YM01**	**1.27**	**312**	*e*P	**Pn**	**02 13 24.8**	**+0.9**
	baz=313						
YM01				*e*S	**Sn**	**02 13 40.1**	**-0.3**
	baz=313						
JKRS	**Kuro-shima**	**1.27**	**93**	P	**Pn**	**02 13 24.6**	**+0.7**
JKRS				*e*S	**Sn**	**02 13 40.9**	**+0.4**
YM10	**YM10**	**1.28**	**312**	*e*S	**Sn**	**02 13 40.1**	**-0.6**
	baz=313						
YM05	**YM05**	**1.28**	**312**	*e*P	**Pn**	**02 13 24.9**	**+0.8**
	baz=313						
YM04	**YM04**	**1.30**	**311**	*e*S	**Sn**	**02 13 40.6**	**-0.4**
	baz=312						
TDCB	**Techi**	**1.33**	**268**	P	**Pn**	**02 13 25.8**	**+1.0**
	baz=269						
TDCB				*e*S	**Sn**	**02 13 41.8**	**-0.2**
	baz=269						
CHGB	**Renai**	**1.34**	**260**	P	**Pn**	**02 13 25.4**	**+0.5**
	baz=260						
CHGB				*e*S	**Sn**	**02 13 41.9**	**-0.3**
	baz=260						
TWY	**Chenhua**	**1.34**	**317**	*e*S	**Sn**	**02 13 42.3**	**+0.4**
	baz=318						
HGSD	**Ruisui**	**1.35**	**234**	*e*P	**Pn**	**02 13 25.0**	**+0.1**
	baz=233						
HGSD				*e*S	**Sn**	**02 13 42.5**	**+0.2**
	baz=233

YULB	**Yu-li**	**1.51**	**233**	P	**Pn**	**02 13 26.9**	**-0.1**
	baz=233						
YULB				S	**Sn**	**02 13 45.6**	**-0.3**
	baz=233						
TWF1	**Yuli**	**1.53**	**232**	*eP*	**Pn**	**02 13 27.6**	**+0.3**
	baz=231						
TWF1				*eS*	**Sn**	**02 13 46.3**	**-0.2**
	baz=231						
JISG	**Ishigakijimahi**	**1.57**	**79**	P	**Pn**	**02 13 27.7**	**-0.1**
JISG				S	**Sn**	**02 13 46.3**	**-1.1**
SSLB	**Suanglung**	**1.60**	**252**	*eP*	**Pn**	**02 13 28.8**	**+0.6**
	baz=252						
SSLB				*eS*	**Sn**	**02 13 47.8**	**-0.4**
	baz=252						
SMLT	**Sun Moon Lake**	**1.62**	**255**	*eP*	**Pn**	**02 13 29.5**	**+0.9**
	baz=255						
SMLT				*eS*	**Sn**	**02 13 48.9**	**+0.1**
	baz=255						
FULB	**Fuli**	**1.63**	**228**	*eP*	**Pn**	**02 13 28.8**	**+0.1**
	baz=227						
FULB				*eS*	**Sn**	**02 13 48.5**	**-0.4**
	baz=227						
TYC	**Yuchr**	**1.65**	**257**	*eP*	**Pn**	**02 13 29.7**	**+0.8**
	baz=256						
TYC				*eS*	**Sn**	**02 13 49.3**	**-0.1**
	baz=256						
CHKT	**Chengkung**	**1.66**	**224**	*eP*	**Pn**	**02 13 29.5**	**+0.6**
	baz=223						
CHKT				*eS*	**Sn**	**02 13 48.9**	**-0.5**
	baz=223						
NMLH	**Miaoli**	**1.68**	**278**	*eS*	**Sn**	**02 13 50.2**	**+0.3**
	baz=279						
TWQ1	**Liyutan**	**1.68**	**272**	*eP*	**Pn**	**02 13 30.1**	**+0.9**
	baz=272						
TWQ1				*eS*	**Sn**	**02 13 50.3**	**+0.2**
	baz=272						
YUS	**Yu-Shan**	**1.72**	**242**	*eP*	**Pn**	**02 13 30.7**	**+0.4**
	baz=242						
YUS				*eS*	**Sn**	**02 13 51.1**	**-0.6**
	baz=242						
ELDTW	**Lidau**	**1.83**	**233**	P	**Pn**	**02 13 32.1**	**+0.7**
	baz=232						
ELDTW				*eS*	**Sn**	**02 13 53.4**	**-0.4**
	baz=232						
CHN5	**Tsauling**	**1.90**	**249**	*eS*	**Sn**	**02 13 55.8**	**+0.3**
	baz=248						
JTJ	**Tarama**	**1.93**	**79**	*eS*	**Sn**	**02 13 55.6**	**-0.4**
TWGBT	**Beinan**	**2.04**	**224**	*eS*	**Sn**	**02 13 58.0**	**-0.7**
	baz=223						
TPUB	**Ta-pu**	**2.07**	**242**	*eP*	**Pn**	**02 13 36.4**	**+1.9**
	baz=241						
TPUB				*eS*	**Sn**	**02 13 59.6**	**+0.2**
	baz=241						
WTP	**Ta-pu**	**2.11**	**241**	*eP*	**Pn**	**02 13 35.7**	**+0.6**
	baz=240						
WTP				*eS*	**Sn**	**02 13 59.7**	**-0.8**
	baz=240						
TWK	**Hsinying**	**2.20**	**243**	*eP*	**Pn**	**02 13 36.7**	**+0.3**
	baz=242						
TWK				*eS*	**Sn**	**02 14 02.9**	**+0.3**
	baz=242						
CHN1	**Nanshi**	**2.21**	**240**	*eS*	**Sn**	**02 14 02.6**	**-0.2**
	baz=240						
SLGT	**Liugui**	**2.22**	**235**	*eS*	**Sn**	**02 14 03.2**	**+0.1**
	baz=234						
ECL	**Taimali**	**2.28**	**222**	*eP*	**Pn**	**02 13 38.1**	**+0.7**
	baz=221						
CHN8	**Yiju**	**2.40**	**247**	*eS*	**Sn**	**02 14 07.1**	**-0.2**
	baz=246						
MASBT	**Mashibuluo**	**2.48**	**228**	*eP*	**Pn**	**02 13 40.5**	**+0.5**
	baz=227						
MASBT				*eS*	**Sn**	**02 14 08.1**	**-1.1**
	baz=227						
SGLT	**Jiouru**	**2.50**	**232**	*eS*	**Sn**	**02 14 09.7**	**-0.1**
	baz=231						
TAI1	**Yung-k'ang**	**2.52**	**241**	*eP*	**Pn**	**02 13 41.3**	**+0.7**
	baz=240						
PHUB	**P'eng-hu**	**2.89**	**255**	*eS*	**Sn**	**02 14 17.8**	**-1.5**
	baz=254						
PNG	**Penghu**	**2.89**	**256**	*eS*	**Sn**	**02 14 18.3**	**-1.0**
	baz=255						
WDGT	**Dungji**	**2.90**	**250**	*eS*	**Sn**	**02 14 18.6**	**-0.9**
	baz=249						
VWUC	**VWUC**	**2.96**	**284**	*eP*	**Pn**	**02 13 46.1**	**-0.4**
	baz=284						
VWUC				*eS*	**Sn**	**02 14 17.8**	**-3.1**
	baz=284						
MATB	**Ma-tsu**	**3.04**	**308**	*eS*	**Sn**	**02 14 23.0**	**+0.2**
	baz=308						
VCHM	**Qimei**	**3.11**	**250**	*eP*	**Pn**	**02 13 48.7**	**+0.1**
	baz=249						
VCHM				*eS*	**Sn**	**02 14 24.6**	**-0.1**
	baz=249						
PTMZ	**Houxiangcun**	**3.26**	**284**	*eS*	**Sn**	**02 14 25.8**	**-2.5**
	baz=283						
LYJJ	**Jianjiangzhen**	**3.42**	**312**	*eP*	**Pn**	**02 13 53.7**	**+0.9**
	baz=311						

ISK 21 02:14:37.3, 39.58N×39.82E, h17km±1km, ML1.5/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERZN	**Erzincan**	**0.07**	**273**	PG	Pg	02 14 40.9	+0.1
ERZN				SG	Sg	02 14 43.3	+0.2
YEDI	**Yedisu-Bingol**	**0.58**	**104**	PG	Pg	02 14 49.0	+0.1
PTK	**Pertek**	**0.77**	**206**	PG	Pg	02 14 52.6	+0.3
BAYT	**Ayd¯ntepe-Bay**	**0.85**	**17**	PG	Pg	02 14 54.2	+0.3
BNGB	**Bing¶l**	**0.89**	**131**	PG	Pn	02 14 55.1	-0.1

*MOS **21** 02:15:28.6±0.0, 42.87N×46.20E, h59km±3km, MPVA3.6*
*DRS **21** 02:15:28.7±0.0, 43.27N×45.59E, h32km*
*ISCJB **21** 02:15:29.8±0.4, 42.87N±0.03×46.22E±0.03, h71km±4km, Error ellipse: s-maj=5.9km s-min=2.9km az=21.7*
*NORS **21** 02:15:29.3±0.0, 42.59N×46.00E, h44km, MPVA3.9*
ISC 21 02:15:32.1±0.9, 42.86N±0.03×46.22E±0.02, h61km±5km, n76, σ1s86/138, 4C-7D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVE	**Vedeno**	**0.12**	**326**	*i* P	**Pn**	**02 15 40.0**	**-1.4**
DVE				*i* S	**Sn**	**02 15 48.2**	**+0.1**
DVE				pmax	pmax		
	comp=Z,324nm,0.1s						
DVE				smax	smax		
	comp=E,2μm,0.4s						
DVE	**Vedeno**	**0.12**	**326**	*i* Pg	**Pn**	**02 15 39.9**	**-1.4**
DVE				*i* Sg	**Sn**	**02 15 48.1**	**+0.1**
BTLR	**Botlikh**	**0.19**	**179**	⇓*i*P	**Pn**	**02 15 39.9**	**-1.8**
BTLR				*e*		02 15 48.0	
BTLR				pmax	pmax		
	comp=Z,76nm,0.2s						
BTLR				smax	smax		
	comp=N,517nm,0.4s						
BTLR				smax	smax		
	comp=E,841nm,0.4s						
BTLR				pmax	pmax		
	comp=E,713nm,0.4s						
BTLR	**Botlikh**	**0.19**	**179**	*eP*g	**Pn**	**02 15 39.9**	**-1.8**
BTLR				*eS*g	**Sn**	**02 15 47.8**	**-0.8**
DLMR	**Dylym**	**0.37**	**54**	⇓*i*P	**Pn**	**02 15 40.0**	**-2.9**
DLMR				*i* S	**Sn**	**02 15 49.0**	**-1.7**
DLMR				pmax	pmax		
	comp=Z,107nm,0.2s						
DLMR	**Dylym**	**0.37**	**54**	*i* Pg	**Pn**	**02 15 40.0**	**-2.9**
DLMR				*i* Sg	**Sn**	**02 15 49.0**	**-1.7**
UNCR	**Uncukul**	**0.45**	**108**	*i* P	**Pn**	**02 15 42.0**	**-1.6**
UNCR				*e*S	**Sn**	**02 15 52.0**	**0.0**
UNCR				pmax	pmax		
	comp=Z,152nm,0.1s						
UNCR	**Uncukul**	**0.45**	**108**	*i* Pg	**Pn**	**02 15 42.0**	**-1.6**
UNCR				*e*Sg	**Sn**	**02 15 52.0**	**0.0**
GROC	**Groznyy**	**0.47**	**318**	*eP*	**Pn**	**02 15 42.8**	**-0.9**
GROC				*e*		02 15 53.0	
GROC				pmax	pmax		
	comp=Z,145nm,0.2s						
GROC				smax	smax		
	comp=N,876nm,0.6s						
GROC				smax	smax		
	comp=E,754nm,0.9s						
GROC				smax	smax		
	comp=E,1μm,0.5s						
GROC	**Groznyy**	**0.47**	**318**	*i* Pg	**Pn**	**02 15 43.2**	**-0.5**
GROC				*i* Sg	**Sn**	**02 15 54.5**	**+2.3**
XNZR	**Khunzakh**	**0.48**	**131**	*eP*	**Pn**	**02 15 42.7**	**-1.3**
XNZR				*e*		02 15 52.0	
XNZR	**Khunzakh**	**0.48**	**131**	*eP*g	**Pn**	**02 15 42.7**	**-1.3**
XNZR				*e*Sg	**Sn**	**02 15 52.0**	**-0.7**
DBC	**Dubki**	**0.48**	**70**	⇓*i*P	**Pn**	**02 15 41.9**	**-2.0**
DBC				*i* S	**Sn**	**02 15 51.6**	**-1.0**
DBC				pmax	pmax		
	comp=Z,110nm,0.1s						
DBC	**Dubki**	**0.48**	**70**	*i* Pg	**Pn**	**02 15 41.9**	**-2.0**
DBC				*i* Sg	**Sn**	**02 15 51.6**	**-1.0**
KRNR	**Karanay**	**0.51**	**93**	⇓*i*P	**Pn**	**02 15 42.2**	**-2.1**
KRNR				*e*S	**Sn**	**02 15 51.5**	**-1.7**
KRNR				pmax	pmax		
	comp=Z,78nm,0.2s						
KRNR	**Karanay**	**0.51**	**93**	*i* Pg	**Pn**	**02 15 42.2**	**-2.1**
KRNR				*e*Sg	**Sn**	**02 15 51.5**	**-1.7**
BUJR	**Buynaksk**	**0.66**	**92**	*i* P	**Pn**	**02 15 44.0**	**-1.8**
BUJR				*i* S	**Sn**	**02 15 56.0**	**+0.1**
BUJR				pmax	pmax		
	comp=Z,72nm,0.1s						
BUJR	**Buynaksk**	**0.66**	**92**	*i* Pg	**Pn**	**02 15 44.0**	**-1.8**
BUJR				*i* Sg	**Sn**	**02 15 56.0**	**+0.1**
MAK	**Makhachkala**	**0.95**	**83**	*eP*	**Pn**	**02 15 47.5**	**-2.0**
MAK				*e*		02 16 01.4	
MAK				pmax	pmax		
	comp=Z,133nm,0.2s						
MAK				smax	smax		
	comp=E,702nm,0.3s						
MAK				smax	smax		
	comp=E,630nm,0.3s						
KMKR	**Kumukh**	**0.97**	**138**	*i* P	**Pn**	**02 15 49.0**	**-1.0**
KMKR				*i* S	**Sn**	**02 16 03.0**	**-0.2**
KMKR				pmax	pmax		
	comp=Z,77nm,0.1s						
KMKR	**Kumukh**	**0.97**	**138**	*i* Pg	**Pn**	**02 15 49.0**	**-1.0**
KMKR				*i* Sg	**Sn**	**02 16 03.0**	**-0.2**
KMGR	**Komgaron**	**1.01**	**282**	*eP*	**Pn**	**02 15 49.0**	**-0.8**
KMGR				*e*S	**Sn**	**02 16 06.7**	**+2.8**
KMGR	**Komgaron**	**1.01**	**282**	*eP*g	**Pn**	**02 15 49.0**	**-1.4**
KMGR				*e*Sg	**Sn**	**02 16 06.1**	**+2.2**
VLKR	**Vladikavkaz**	**1.15**	**280**	*eP*	**Pn**	**02 15 51.2**	**-0.9**
VLKR				*e*S	**Sn**	**02 16 08.0**	**+1.0**
VLKR	**Vladikavkaz**	**1.15**	**280**	*eP*g	**Pn**	**02 15 53.1**	**+1.0**
VLKR				*e*Sg	**Sn**	**02 16 07.4**	**+0.4**
URKR	**Urkarakh**	**1.25**	**123**	⇓*i*P	**Pn**	**02 15 52.2**	**-1.3**
URKR				*e*		02 16 08.9	
URKR	**Urkarakh**	**1.25**	**123**	*i* Pg	**Pn**	**02 15 52.3**	**-1.3**
URKR				*e*Sg	**Sn**	**02 16 09.0**	**-0.7**
BTKR	**Batakoyurt**	**1.33**	**293**	*i* Pg	**Pn**	**02 15 53.6**	**-0.9**
BTKR				*e*Sg	**Sn**	**02 16 12.6**	**+1.3**
GUDG	**Gudauri**	**1.34**	**254**	P	**Pn**	**02 15 53.8**	**-1.1**
GUDG				S	**Sn**	**02 16 12.6**	**+0.7**
DUS	**Dusheti**	**1.36**	**236**	P	**Pn**	**02 15 53.9**	**-1.1**
DUS				S	**Sn**	**02 16 13.7**	**+1.6**
DUS	**Dusheti**	**1.36**	**236**	*eP*	**Pn**	**02 15 53.9**	**-1.0**
DUS				*e*S	**Sn**	**02 16 13.7**	**+1.6**
DUS	**Dusheti**	**1.36**	**236**	*eP*g	**Pn**	**02 15 53.9**	**-1.0**
DUS				*e*Sg	**Sn**	**02 16 13.7**	**+1.6**
LACR	**Lac**	**1.41**	**270**	*i* P	**Pn**	**02 15 53.4**	**-2.3**
LACR				*e*S	**Sn**	**02 16 11.2**	**-2.3**
LACR				pmax	pmax		
	comp=Z,14nm,0.1s						
LACR				smax	smax		
	comp=N,144nm,0.3s						
LACR	**Lac**	**1.41**	**270**	*eP*g	**Pn**	**02 15 53.3**	**-2.4**
LACR				*e*Sg	**Sn**	**02 16 11.3**	**-2.1**
ARNR	**Ardon**	**1.46**	**284**	*eP*	**Pn**	**02 15 55.1**	**-1.1**
ARNR				*e*S	**Sn**	**02 16 14.1**	**-0.2**
ARNR	**Ardon**	**1.46**	**284**	*eP*g	**Pn**	**02 15 54.8**	**-1.4**
ARNR				*e*Sg	**Sn**	**02 16 14.6**	**+0.3**
TBLG	**Delisi**	**1.57**	**225**	P	**Pn**	**02 15 55.5**	**-2.2**
TBLG				S	**Sn**	**02 16 15.7**	**-1.4**
TBLG	**Delisi**	**1.57**	**225**	*eP*	**Pn**	**02 15 55.5**	**-2.2**
TBLG				*e*S	**Sn**	**02 16 15.7**	**-1.4**
TBLG	**Delisi**	**1.57**	**225**	*eP*g	**Pn**	**02 15 55.5**	**-2.2**
TBLG				*e*Sg	**Sn**	**02 16 15.7**	**-1.4**
KORR	**Kora**	**1.59**	**279**	*eP*	**Pn**	**02 15 56.3**	**-1.8**
KORR				*e*S	**Sn**	**02 16 17.2**	**-0.5**
KORR				pmax	pmax		
	comp=Z,4.0nm,0.1s						
KORR				smax	smax		
	comp=E,44nm,0.2s						
KORR	**Kora**	**1.59**	**279**	*eP*g	**Pn**	**02 15 55.9**	**-2.2**
KORR				*e*Sg	**Sn**	**02 16 16.7**	**-1.0**
STDR	**Stavd-Durt**	**1.66**	**289**	⇑*i*P	**Pn**	**02 15 57.8**	**-1.1**
STDR				*e*S	**Sn**	**02 16 19.3**	**+0.1**
STDR	**Stavd-Durt**	**1.66**	**289**	*eP*g	**Pn**	**02 15 56.6**	**-2.3**
STDR				*e*Sg	**Sn**	**02 16 17.0**	**-2.2**
PRTR	**Priterechnaya**	**1.67**	**303**	*i* P	**Pn**	**02 15 57.9**	**-1.2**
PRTR				*e*S	**Sn**	**02 16 19.9**	**+0.4**
PRTR				pmax	pmax		
	comp=Z,21nm,0.1s						
PRTR				smax	smax		
	comp=N,117nm,0.2s						
PRTR	**Priterechnaya**	**1.67**	**303**	*eP*g	**Pn**	**02 15 57.4**	**-1.7**
PRTR				*e*Sg	**Sn**	**02 16 18.0**	**-1.5**
ZEI	**Tsey**	**1.71**	**269**	*eP*	**Pn**	**02 15 57.0**	**-2.7**
ZEI				*e*S	**Sn**	**02 16 17.5**	**-3.1**
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.1s						
ZEI				smax	smax		
	comp=E,31nm,0.3s						
ZEI	**Tsey**	**1.71**	**269**	*eP*g	**Pn**	**02 15 57.1**	**-2.6**
ZEI				*e*Sg	**Sn**	**02 16 19.6**	**-1.1**
DRN	**Derbent**	**1.77**	**117**	*eP*	**Pn**	**02 15 59.8**	**-0.5**
DRN				*e*S	**Sn**	**02 16 23.0**	**+1.3**
DRN	**Derbent**	**1.77**	**117**	*eP*g	**Pn**	**02 15 57.5**	**-2.9**
DRN				*e*Sg	**Sn**	**02 16 21.4**	**-0.4**
AKT	**Akhty**	**1.77**	**140**	*eP*	**Pn**	**02 15 58.8**	**-1.8**
AKT				*i*		02 16 20.0	
AKT				pmax	pmax		
	comp=Z,44nm,0.4s						
AKT				pmax	pmax		
	comp=E,116nm,0.5s						
AKT	**Akhty**	**1.77**	**140**	*eP*g	**Pn**	**02 15 58.7**	**-1.9**
AKT				*e*Sg	**Sn**	**02 16 20.5**	**-1.7**
LSNR	**Lesken**	**1.80**	**284**	*i* P	**Pn**	**02 15 59.3**	**-1.6**
LSNR				*e*S	**Sn**	**02 16 20.5**	**-2.3**
LSNR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LSNR				smax	smax		
	comp=N,19nm,0.6s						
LSNR	**Lesken**	**1.80**	**284**	*eP*g	**Pn**	**02 15 59.3**	**-1.6**
LSNR				*e*Sg	**Sn**	**02 16 21.9**	**-0.9**
KSMR	**Kasumkent**	**1.89**	**131**	*eP*	**Pn**	**02 16 01.0**	**-1.1**
KSMR				*e*S	**Sn**	**02 16 25.5**	**+0.6**
KSMR	**Kasumkent**	**1.89**	**131**	*eP*g	**Pn**	**02 16 01.0**	**-1.1**
KSMR				*e*Sg	**Sn**	**02 16 25.5**	**+0.6**
DIGR	**Digorskoe uzhe**	**1.94**	**272**	*eP*	**Pn**	**02 16 00.7**	**-2.2**
DIGR				*e*S	**Sn**	**02 16 23.3**	**-3.0**
DIGR				pmax	pmax		
	comp=Z,14nm,0.1s						
DIGR				smax	smax		
	comp=N,23nm,0.2s						
DIGR	**Digorskoe uzhe**	**1.94**	**272**	*eP*g	**Pn**	**02 16 00.7**	**-2.2**
DIGR				*e*Sg	**Sn**	**02 16 22.8**	**-3.5**
NCK	**Nalchik**	**2.02**	**289**	⇓*i*P	**Pn**	**02 16 02.4**	**-1.4**
NCK				*e*S	**Sn**	**02 16 28.0**	**0.0**
NCK	**Nalchik**	**2.02**	**289**	*eP*g	**Pn**	**02 16 01.4**	**-2.5**
NCK				*e*Sg	**Sn**	**02 16 26.4**	**-1.7**
TRLG	**Trialeti**	**2.05**	**231**	P	**Pn**	**02 16 02.1**	**-2.3**
TRLG				S	**Sn**	**02 16 26.4**	**-2.6**
ONI	**Oni**	**2.06**	**264**	P	**Pn**	**02 16 03.7**	**-0.7**
ONI				S	**Sn**	**02 16 31.2**	**+2.3**
ONI	**Oni**	**2.06**	**264**	*eP*	**Pn**	**02 16 03.7**	**-0.7**
ONI				*e*S	**Sn**	**02 16 31.2**	**+2.3**
ONI	**Oni**	**2.06**	**264**	*eP*g	**Pn**	**02 16 03.7**	**-0.7**
ONI				*e*Sg	**Sn**	**02 16 31.2**	**+2.3**
KBTC	**Kuba-Taba**	**2.26**	**296**	*eP*	**Pn**	**02 16 05.2**	**-2.0**
KBTC				*e*S	**Sn**	**02 16 33.0**	**-1.0**
KBTC	**Kuba-Taba**	**2.26**	**296**	*eP*g	**Pn**	**02 16 04.7**	**-2.5**
KBTC				*e*Sg	**Sn**	**02 16 31.1**	**-2.8**
PYA1	**Pyatigorsk**	**2.57**	**299**	*eP*n	**Pn**	**02 16 08.2**	**-3.1**
PYA1				*e*Sn	**Sn**	**02 16 36.7**	**-4.8**
NEY	**Neytrino**	**2.59**	**280**	*eP*	**Pn**	**02 16 09.7**	**-2.1**
NEY				*e*S	**Sn**	**02 16 39.6**	**-2.6**
NEY	**Neytrino**	**2.59**	**280**	*eP*n	**Pn**	**02 16 10.1**	**-1.6**
NEY				*e*Sn	**Sn**	**02 16 38.8**	**-3.4**
KIV	**Kislovodsk**	**2.80**	**294**	*i* P	**Pn**	**02 16 16.0**	**+1.5**
KIV				pmax	pmax		
	comp=Z,23nm,0.7s						
KIV	**Kislovodsk**	**2.80**	**294**	*eP*n	**Pn**	**02 16 11.6**	**-2.9**
KIV				*e*Sn	**Sn**	**02 16 42.9**	**-4.2**
GNI	**Garni**	**2.92**	**203**	⇑*eP*	**Pn**	**02 16 14.2**	**-2.1**
GNI				pmax	pmax		
	comp=Z,24nm,1.3s						
GOF	**Gofitskoye**	**3.18**	**315**	*eP*	Pn	02 16 06.7	-13
GOF				pmax	pmax		
	comp=Z,10.0nm,0.4s						
OBN	**Obninsk**	**13.79**	**336**	⇑*eP*	**Pn**	**02 18 46.2**	**+1.8**
OBN				*e*S	**Sn**	**02 21 18.7**	**+3.1**
OBN				pmax	pmax		
	comp=Z,48nm,2.3s						
OBN				MLR	MLR		
	comp=Z,85nm,16.0s						
KIEV	**Kiev**	**14.03**	**310**	*i* P	**Pn**	**02 18 46.2**	**-1.4**
BRVK	**Borovoye**	**18.99**	**49**	⇑*eP*	**Pn**	**02 19 53.2**	**+3.5**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AAK	**Ala-Archa**	**20.73**	**81**	⇓*eP*	Pn	02 20 11.2	+0.6
AAK				pmax	pmax		
	comp=Z,9.0nm,2.1s						

IDC 21 02:17:58.5±3.6, 15.51N×92.27W, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.6/44, mbtmp3.7/6, ML2.7/1, Error ellipse: s-maj=114.9km s-min=23.0km az=29.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**1.81**	**106**	Pn	Pn	02 18 31.6	+0.4
	3.4nm,0.3s,baz=246,slow=5.7,SNR=49						
CMIG	**Matias Romero**	**2.96**	**302**	Pn	Pn	02 18 46.7	-0.2
	1.0nm,0.3s,baz=147,slow=9.5,SNR=10.0						
TXAR	**Lajitas Array**	**17.32**	**325**	P	P	02 22 05.0	+1.7
	0.0nm,0.3s,baz=157,slow=13,SNR=5.1						
ANMO	**Albuquerque**	**23.18**	**329**	P	P	02 23 08.6	+1.6
	0.2nm,0.3s,baz=146,slow=11,SNR=2.5						
NVAR	**Mina Array Bea**	**32.35**	**320**	P	P	02 24 29.9	-0.1
	0.8nm,0.8s,baz=131,slow=9.8,SNR=4.3						
YKA	**Yellowknife Ar**	**49.51**	**347**	P	P	02 26 50.4	-0.2
	1.7nm,0.7s,baz=152,slow=7.6,SNR=7.8						
INK	**Inuvik**	**58.93**	**343**	P	P	02 27 58.2	-1.0
	1.9nm,0.8s,baz=107,slow=7.6,SNR=7.0						
ILAR	**Eielson Array**	**61.36**	**337**	P	P	02 28 16.0	0.0
	0.5nm,0.8s,baz=119,slow=6.8,SNR=6.4						

IDC 21 02:35:13.8±5.9, 28.21S×175.69W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.5/32, mbtmp3.6/2, Error ellipse: s-maj=282.8km s-min=90.8km az=162.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.30**	**264**	P	P	02 43 33.5	-0.1
	0.4nm,0.6s,baz=112,slow=7.2,SNR=4.5						
WRA	**Warramunga Arr**	**46.10**	**269**	P	P	02 43 39.4	-0.6
	0.4nm,0.3s,baz=109,slow=6.3,SNR=13						
FINES	**FINESS Array B**	**143.73**	**342**	PKP	PKPdf	02 54 51.4	+1.2
	2.7nm,0.9s,baz=11,slow=1.4,SNR=3.9						

JMA 21 02:50:32.6±0.2, 38.18N×143.85E, h42km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.88**	**275**	P	Pn	02 51 03.2	+1.0
JIKH				*e*S	Sn	02 51 25.3	+0.5
OFUJ	**Ofunato**	**1.93**	**298**	P	Pn	02 51 03.9	+1.0
OFUJ				*e*S	Sn	02 51 27.1	+1.1
JKMT	**Kesennumamotoy**	**1.97**	**289**	P	Pn	02 51 04.6	+1.2
JKMT				S	Sn	02 51 28.6	+1.7
JIO	**Ouri**	**1.99**	**279**	P	Pn	02 51 05.0	+1.3
JIO				S	Sn	02 51 28.5	+1.2
JMK	**Ichinoseki**	**2.20**	**291**	P	Pn	02 51 08.3	+1.7
JOM	**Ohasama**	**2.38**	**304**	*eS*	Sn	02 51 38.8	+1.8
JYK	**Kaneyama**	**2.83**	**286**	P	Pn	02 51 17.6	+2.3
JYK				*eS*	Sn	02 51 51.5	+3.2
JANG	**Nango**	**2.84**	**321**	*eS*	Sn	02 51 49.2	+0.7
JFT	**Otama**	**2.86**	**258**	P	Pn	02 51 17.6	+1.9
JFT				*eS*	Sn	02 51 50.8	+1.9
JAG	**Ashikaga**	**3.92**	**245**	P	Pn	02 51 32.1	+1.9
JAG				*eS*	Sn	02 52 14.9	-0.1
JNBK	**Urakawa-nobuka**	**4.18**	**349**	P	Pn	02 51 35.1	+1.3
JNBK				*eS*	Sn	02 52 20.9	-0.5
JKB	**Kayabe**	**4.29**	**331**	P	Pn	02 51 38.4	+3.1
JCH	**Churui**	**4.45**	**355**	P	Pn	02 51 37.1	-0.3
JCH				*eS*	Sn	02 52 25.8	-2.1
JRY	**Ryogami san**	**4.51**	**243**	P	Pn	02 51 39.5	+1.1
JRY				*eS*	Sn	02 52 28.7	-0.8

*ISK **21** 03:19:56.7, 36.79N×32.04E, h5km, ML2.0/5*
*DDA **21** 03:20:02.0, 36.95N×32.20E, h7km, Ml2.5*
ISC 21 03:20:00.4±1.2, 36.91N±0.03×32.21E±0.03, h4km±13km, n13, σ2s14/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEPZ	**Antalya-Kepez**	**0.49**	**270**	*i* P	**Pg**	**03 20 10.1**	**+0.3**
KEPZ				*i* S	**Sb**	**03 20 19.7**	**+0.4**
ERMK	**Ermenek**	**0.62**	**115**	*i* P	**Pb**	**03 20 15.8**	**+1.8**
ERMK				*i* S	**Sn**	**03 20 30.7**	**+3.9**
GAZI	**Gazipasa**	**0.67**	**173**	*i* P	**Pg**	**03 20 14.8**	**+1.5**
GAZI				*i* S	**Sb**	**03 20 26.7**	**+2.2**
KMER	**Konya-Meram**	**0.87**	**8**	*i* P	**Pb**	**03 20 18.6**	**+0.4**
BERE	**Bereket-Mersin**	**0.98**	**124**	PG	**Pg**	**03 20 17.8**	**-1.5**
BERE				SG	**Sg**	**03 20 33.8**	**+1.7**
KONT	**Konya--Tatoy**	**1.04**	**6**	PN	**Pg**	**03 20 20.9**	**+0.4**
KONT	**Konya--Tatoy**	**1.04**	**6**	*i* P	**Pg**	**03 20 21.2**	**+0.7**
TEKE	**Tekeli-Mersin**	**1.05**	**136**	PG	**Pb**	**03 20 18.1**	**-3.1**
TEKE				SG	**Sg**	**03 20 34.4**	**+0.2**
TEVE	**Tevekalti-Mers**	**1.09**	**115**	PN	**Pb**	**03 20 20.8**	**-1.2**
TEVE				SN	**Sg**	**03 20 38.1**	**+2.5**
SUTC	**Sutluce-Ispart**	**1.12**	**301**	PN

MKZ			*e*S	Sn	03 23 30.8	-1.1
SPN	**Mys Shipunski**	**1.24 235**	*e*P	Pn	03 23 30.7	+1.7
SPN			*e*S	Sn	03 23 45.4	+0.9
KII	**Karymskiy**	**1.35 280**	*e*P	Pn	03 23 31.8	+1.2
KZV	**Kizimen**	**1.53 328**	*e*P	Pn	03 23 34.5	+1.4
KZV			*e*S	Sn	03 23 52.5	+0.6
NLC	**Nalytchevo**	**1.56 246**	*e*P	Pn	03 23 35.1	+1.8
NLC			*e*S	Sn	03 23 53.2	+1.0
TUMR	**Tumrok**	**1.72 329**	*e*P	Pn	03 23 37.5	+1.8
TUMR			*e*S	Sn	03 23 57.9	+1.4
SDLR	**Sedlovina**	**1.77 253**	*e*P	Pn	03 23 38.6	+2.2
SMAR	**Somma**	**1.82 253**	*e*P	Pn	03 23 39.6	+2.4
UGLR	**Uglovaya**	**1.83 251**	*e*P	Pn	03 23 38.4	+1.3
AVH	**Avacha**	**1.86 254**	*e*P	Pn	03 23 40.2	+2.7
KOK	**Koryaka**	**1.91 255**	*e*P	Pn	03 23 40.7	+2.5
DALK	**Dalny**	**1.94 247**	*e*P	Pn	03 23 40.7	+2.2
DALK			*e*S	Sn	03 24 02.7	+1.1
PET	**Petropavlovsk**	**2.00 248**	*e*P	Pn	03 23 42.0	+2.7
PET			*e*S	Sn	03 24 05.0	+2.0
KMNR	**Kamenistaya**	**2.12 337**	*e*P	Pn	03 23 44.0	+3.0
KMNR			*e*S	Sn	03 24 09.1	+3.0
BZGR	**Bezymyannyi-Gr**	**2.20 345**	*e*P	Pn	03 23 44.8	+2.6
BZMR	**Bezymyannaya**	**2.23 342**	*e*P	Pn	03 23 45.6	+3.0
GNL	**Ganaly**	**2.24 268**	*e*P	Pn	03 23 45.6	+2.8
GNL			*e*S	Sn	03 24 11.7	+2.5
ZLN	**Zelenaya**	**2.26 347**	*e*P	Pn	03 23 46.1	+3.1
KPT	**Kopyto**	**2.31 339**	*e*P	Pn	03 23 46.9	+3.2
CIRR	**Tsirk**	**2.36 347**	*e*P	Pn	03 23 48.1	+3.6
KRMR	**Karymshinskiy**	**2.37 247**	*e*P	Pn	03 23 47.4	+3.0
KRMR			*e*S	Sn	03 24 14.5	+2.3
RUS	**Russkaya**	**2.38 235**	*e*P	Pn	03 23 48.8	+4.3
RUS			*e*S	Sn	03 24 17.0	+4.6
KBTR	**Krutoberegovo**	**2.47 15**	*e*P	Pn	03 23 49.1	+3.3
KBTR			*e*S	Sn	03 24 17.4	+2.6
KOZ	**Kozyrevsk**	**2.48 335**	*e*P	Pn	03 23 49.2	+3.3
KOZ			*e*S	Sn	03 24 17.7	+2.8
KRSR	**Krestovskiy**	**2.49 345**	*e*P	Pn	03 23 50.6	+4.5
MTVR	**Mutnovka**	**2.51 239**	*e*P	Pn	03 23 50.8	+4.3
MTVR			*e*S	Sn	03 24 19.9	+3.9
BDR	**Baidarnaya**	**2.76 354**	*e*P	Pn	03 23 53.5	+3.6
SMKR	**Semkarok**	**2.77 357**	*e*P	Pn	03 23 54.9	+4.9
BKI	**Bering**	**2.84 59**	*e*S	Sn	03 24 23.4	-0.4
SRKR	**Sorokina**	**2.85 354**	*e*P	Pn	03 23 55.6	+4.5

JMA ***21*** *03:26:34.8±0.1,22°.83N×121°.65E,h21km±2km,M3.4*
ISCJB ***21*** *03:26:35.5±0.3,22°.88N±0°.02×121°.67E±0°.02,h17km±3km,*
Error ellipse: s-maj=2.8km s-min=2.4km az=36.6
TAP ***21*** *03:26:36.7,22°.90N×121°.58E,h22km,ML3.7,B*
ISC 21 03:26:35.0±1.0,22°.87N±0°.02×121°.64E±0°.02,h14km±8km,
n106,σ0s91/174,4C-12D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.34**	**311**	⇓*i*P		**Pb**	**03 26 43.0**	**+0.1**
	baz=322							
CHKT				*i* S		**Sb**	**03 26 47.5**	**-0.6**
	baz=322							
FULB	**Fuli**	**0.46**	**315**	⇓*i*P		**Pb**	**03 26 44.8**	**0.0**
	baz=319							
FULB				*i* S		**Sg**	**03 26 50.9**	**+0.6**
	baz=319							
TTN	**Taitung**	**0.47**	**255**	⇓*i*P		**Pb**	**03 26 45.5**	**+0.4**
	baz=244							
TTN				S		**Sb**	**03 26 52.2**	**+0.3**
	baz=244							
TWGBT	**Beinan**	**0.52**	**264**	⇓P		**Pb**	**03 26 45.8**	**-0.2**
	baz=261							
TWGBT				S		**Sb**	**03 26 52.2**	**-1.1**
	baz=261							
TWG	**Pinlang**	**0.53**	**264**	⇓*i*P		**Pb**	**03 26 45.8**	**-0.3**
	baz=261							
TWG				S		**Sb**	**03 26 52.4**	**-1.1**
	baz=261							
TWF1	**Yuli**	**0.57**	**326**	⇑P		**Pb**	**03 26 47.0**	**+0.2**
	baz=338							
TWF1				S		**Sg**	**03 26 54.4**	**+0.4**
	baz=338							
YULB	**Yu-li**	**0.61**	**328**	⇑P		**Pb**	**03 26 47.6**	**+0.2**
	baz=340							
YULB				S		**Sb**	**03 26 55.7**	**-0.1**
	baz=340							
HGSD	**Ruisui**	**0.65**	**342**	⇑P		**Pg**	**03 26 47.9**	**+0.2**
	baz=346							
ELDTW	**Lidau**	**0.66**	**299**	P		**Pb**	**03 26 47.9**	**-0.4**
	baz=300							
ELDTW				*e*S		**Sg**	**03 26 55.9**	**-0.7**
	baz=300							
ECL	**Taimali**	**0.69**	**247**	⇓*e*P		**Pb**	**03 26 48.6**	**-0.3**
	baz=257							
ECL				*e*S		**Sg**	**03 26 56.9**	**-0.7**
	baz=257							
EHY	**Hungye**	**0.69**	**335**	*e*P		**Pb**	**03 26 49.0**	**+0.1**
	baz=346							
EHY				S		**Sg**	**03 26 58.3**	**+0.5**
	baz=346							
EGFH	**Guangfu**	**0.82**	**346**	*e*P		**Pb**	**03 26 51.1**	**+0.2**
	baz=359							
EGFH				*e*S		**Sg**	**03 27 02.0**	**+0.4**
	baz=359							
LAY	**Lan-yu**	**0.83**	**186**	⇓P		**Pg**	**03 26 50.5**	**-0.8**
	baz=181							
LAY				*e*S		**Sb**	**03 27 01.4**	**-1.0**
	baz=181							
STYT	**Tauyuan**	**0.86**	**290**	P		**Pb**	**03 26 51.6**	**-0.2**
	baz=295							
STYT				*e*S		**Sg**	**03 27 02.4**	**-0.8**
	baz=295							
EAST	**Anshuo**	**0.88**	**237**	*e*P		**Pb**	**03 26 51.7**	**-0.4**
	baz=243							
YUS	**Yu-Shan**	**0.88**	**314**	P		**Pb**	**03 26 52.4**	**0.0**
	baz=309							
YUS				*e*S		**Sg**	**03 27 02.7**	**-1.2**
	baz=309							
SSD	**Sandimen**	**0.94**	**262**	*e*P		**Pb**	**03 26 52.6**	**-0.4**
	baz=267							
ESL	**Shilin**	**0.96**	**348**	*e*P		**Pg**	**03 26 53.0**	**-0.5**
ESL				*e*S		**Sg**	**03 27 04.6**	**-1.4**
MASBT	**Mashibuluo**	**0.97**	**255**	⇓P		**Pb**	**03 26 53.3**	**-0.2**
	baz=244							
VWDT	**VWDT**	**0.99**	**332**	P		**Pg**	**03 26 54.0**	**-0.2**
	baz=335							
VWDT				*e*S		**Sg**	**03 27 06.0**	**-1.1**
	baz=335							
SGST	**Jiashian**	**1.00**	**282**	*e*P		**Pn**	**03 26 54.7**	**+0.2**
	baz=278							
SGST				*e*S		**Sn**	**03 27 08.1**	**-0.4**
	baz=278							
WTP	**Ta-pu**	**1.02**	**292**	⇓P		**Pn**	**03 26 54.8**	**-0.1**
	baz=295							
WTP				*e*S		**Sb**	**03 27 08.5**	**+0.8**
	baz=295							
TPUB	**Ta-pu**	**1.02**	**295**	⇓P		**Pn**	**03 26 55.0**	**0.0**
	baz=304							
TPUB				*e*S		**Sb**	**03 27 08.3**	**+0.5**
	baz=304							
SCZT	**Fangliau**	**1.07**	**242**	*e*P		**Pn**	**03 26 55.4**	**-0.1**
	baz=233							
CHN1	**Nanshi**	**1.07**	**287**	*e*P		**Pn**	**03 26 56.2**	**+0.6**
	baz=287							
SGLT	**Jiouru**	**1.07**	**262**	*e*P		**Pn**	**03 26 56.0**	**+0.4**
	baz=261							
CHN4	**Tsaushan**	**1.08**	**296**	⇓P		**Pn**	**03 26 56.1**	**+0.4**
	baz=300							
CHN4				*e*S		**Sn**	**03 27 10.7**	**+0.3**
	baz=300							
HWA	**Hwalien**	**1.10**	**358**	*e*P		**Pb**	**03 26 55.3**	**-0.5**
	baz=14							
SSLB	**Suanglung**	**1.11**	**325**	*e*P		**Pb**	**03 26 55.9**	**0.0**
	baz=337							
SSLB				*e*S		**Sb**	**03 27 08.9**	**-1.3**
	baz=337							
TWM1	**Shoushan**	**1.13**	**268**	*e*P		**Pn**	**03 26 58.0**	**+1.7**
	baz=266							
TWK	**Hsinying**	**1.13**	**290**	⇓P		**Pn**	**03 26 57.0**	**+0.5**
	baz=291							
TWK				*e*S		**Sn**	**03 27 12.6**	**+0.8**
	baz=291							
CHN5	**Tsauling**	**1.14**	**309**	*e*P		**Pn**	**03 26 57.3**	**+0.7**
	baz=311							
TSEB	**Hengchuen, Pin**	**1.19**	**215**	*e*P		**Pg**	**03 26 58.2**	**+0.3**
	baz=214							
TSEB				*e*S		**Sn**	**03 27 13.3**	**+0.2**
	baz=214							
TWD	**Chiawan**	**1.20**	**358**	*e*P		**Pn**	**03 26 56.5**	**-0.8**
	baz=12							
TWD				*e*S		**Sb**	**03 27 11.4**	**-1.5**
	baz=12							
HEN	**Hengchun**	**1.20**	**224**	*e*P		**Pg**	**03 26 59.0**	**+0.8**
	baz=221							
TWKBT	**Hengchun**	**1.21**	**220**	*e*P		**Pb**	**03 26 57.0**	**-0.6**
	baz=217							
TWKBT				*e*S		**Sb**	**03 27 11.6**	**-1.4**
	baz=217							
SMLT	**Sun Moon Lake**	**1.21**	**326**	*e*P		**Pb**	**03 26 58.1**	**+0.3**
	baz=337							
SMLT				*e*S		**Sb**	**03 27 13.7**	**+0.3**
	baz=337							
CHGB	**Renai**	**1.26**	**340**	⇑P		**Pn**	**03 26 58.3**	**0.0**
	baz=354							
CHGB				*e*S		**Sb**	**03 27 12.8**	**-2.0**
	baz=354							
CHN2	**Minshiung**	**1.26**	**302**	*e*P		**Pg**	**03 26 59.8**	**+0.5**
	baz=303							
CHN2				*e*S		**Sg**	**03 27 16.2**	**+0.5**
	baz=303							
WJS	**Zhushan**	**1.26**	**318**	*e*P		**Pg**	**03 26 59.1**	**-0.2**
	baz=320							
WLCH	**Liuqiu**	**1.28**	**246**	*e*P		**Pg**	**03 27 00.7**	**+1.0**
	baz=227							
WGK	**Gukeng**	**1.28**	**309**	*e*P		**Pg**	**03 27 00.1**	**+0.4**
	baz=326							
WGK				*e*S		**Sg**	**03 27 17.5**	**+1.1**
	baz=326							
CHY	**Chiayi**	**1.28**	**299**	*e*P		**Pg**	**03 26 59.6**	**-0.1**
	baz=300							
CHY				*e*S		**Sg**	**03 27 16.5**	**+0.1**
	baz=300							
NACB	**Ninganchiao**	**1.29**	**358**	*e*P		**Pn**	**03 26 57.8**	**-0.9**
	baz=11							
NACB				*e*S		**Sb**	**03 27 13.6**	**-2.1**
	baz=11							
WDLH	**Douliu**	**1.30**	**309**	*e*P		**Pg**	**03 27 00.3**	**+0.2**
	baz=324							
WDLH				*e*S		**Sg**	**03 27 18.3**	**+1.3**
	baz=324							
WHF	**Hehuan Shan**	**1.31**	**345**	*e*P		**Pn**	**03 26 58.7**	**-0.6**
	baz=347							
WHF				*e*S		**Sb**	**03 27 14.8**	**-1.7**
	baz=347							
WNT	**Mingjian**	**1.33**	**319**	*e*P		**Pg**	**03 27 00.4**	**-0.2**
	baz=322							
SCLT	**Jiali**	**1.37**	**283**	*e*P		**Pg**	**03 27 00.6**	**-0.7**
	baz=283							
SCLT				*e*S		**Sg**	**03 27 19.5**	**+0.3**
	baz=283							
WLGB	**Puzi**	**1.37**	**296**	*e*P		**Pb**	**03 27 00.5**	**0.0**
	baz=297							
WLGB				*e*S		**Sg**	**03 27 19.5**	**+0.1**
	baz=297							
CHN8	**Yiju**	**1.40**	**290**	*e*P		**Pb**	**03 27 01.0**	**+0.1**
	baz=290							
CHN8				*e*S		**Sg**	**03 27 20.5**	**+0.3**
	baz=290							
TWT	**Tachien**	**1.44**	**343**	*e*P		**Pn**	**03 27 01.5**	**+0.7**
	baz=344							
TWT				*e*S		**Sn**	**03 27 18.6**	**-0.9**
	baz=344							
TDCB	**Techi**	**1.44**	**342**	*e*P		**Pn**	**03 27 01.3**	**+0.5**
	baz=344							
TDCB				*e*S		**Sn**	**03 27 17.9**	**-1.7**
	baz=344							
TCU	**Taichung**	**1.55**	**325**	*e*P		**Pb**	**03 27 03.3**	**-0.2**
	baz=327							
TCU				*e*S		**Sb**	**03 27 23.7**	**+0.8**
	baz=327							
ENA	**Nanau**	**1.55**	**3**	*e*P		**Pn**	**03 27 02.1**	**0.0**
	baz=6.0							
NANB	**Nanao**	**1.55**	**4**	*e*P		**Pn**	**03 27 02.0**	**-0.1**
	baz=6.0							
RLNB	**Erlin**	**1.55**	**311**	*e*P		**Pb**	**03 27 03.4**	**-0.2**
	baz=314							
NNSB	**Datong**	**1.57**	**351**	*e*P		**Pn**	**03 27 02.8**	**+0.3**
	baz=6.0							
NNSH	**Datong**	**1.57**	**351**	*e*P		**Pn**	**03 27 02.4**	**-0.1**
	baz=5.0							
EOS1	**EOS1**	**1.73**	**15**	*e*P		**Pn**	**03 27 04.9**	**+0.4**
	baz=28							
EOS1				*e*S		**Sn**	**03 27 26.6**	**+0.3**
	baz=28							
NSY	**Sanyi**	**1.73**	**332**	*e*P		**Pb**	**03 27 07.3**	**+0.7**
	baz=334							
NSY				*e*S		**Sb**	**03 27 29.9**	**+1.6**
	baz=334							
TWC	**Suao**	**1.74**	**6**	*e*P		**Pn**	**03 27 05.8**	**+1.1**
	baz=19							
TWC				*e*S		**Sn**	**03 27 26.4**	**-0.3**
	baz=19							
ENTT	**Nioudou**	**1.76**	**358**	*e*P		**Pn**	**03 27 06.3**	**+1.2**
PTSB	**Yuanli**	**1.79**	**331**	*e*P		**Pb**	**03 27 06.8**	**-0.7**
	baz=333							
PTSB				*e*S		**Sb**	**03 27 30.3**	**+0.6**
	baz=333							
YHNB	**Yeheng**	**1.81**	**352**	*e*P		**Pn**	**03 27 06.2**	**+0.5**
	baz=5.0							
YHNB				*e*S		**Sn**	**03 27 27.2**	**-1.2**
	baz=5.0							
NSK	**Sanguang**	**1.81**	**352**	*e*P		**Pn**	**03 27 06.9**	**+1.0**
	baz=6.0							
NMLH	**Miaoli**	**1.83**	**335**	*e*P		**Pb**	**03 27 08.4**	**+0.2**
	baz=338							
TWE	**Neicheng**	**1.84**	**1**	*e*P		**Pn**	**03 27 07.6**	**+1.5**
	baz=3.0							
NSTT	**Nanjuang**	**1.84**	**342**	*e*P		**Pb**	**03 27 07.9**	**-0.7**
	baz=343							
NSTT				*e*S		**Sn**	**03 27 30.5**	**+1.2**
	baz=343							
LIOB	**Emei**	**1.85**	**342**	*e*P		**Pb**	**03 27 08.0**	**-0.7**
	baz=352							
LIOB				*e*S		**Sb**	**03 27 31.7**	**0.0**
	baz=352							
WDGT	**Dungji**	**1.87**	**282**	*e*P		**Pn**	**03 27 07.4**	**+0.9**
	baz=282							
WDGT				*e*S		**Sn**	**03 27 29.2**	**-0.7**
	baz=282							
SLBB	**Yuanshan**	**1.87**	**360**	*e*P		**Pn**	**03 27 07.4**	**+0.7**
	baz=2.0							
NWLT	**Wulai**	**1.90**	**356**	*e*P		**Pn**	**03 27 08.0**	**+1.0**
	baz=358							
JYNG	**Yonagunijimaku**	**1.97**	**37**	P		**Pn**	**03 27 09.1**	**+1.1**
JYNG				*e*S		**Sb**	**03 27 34.8**	**-0.3**
EGS		**1.98**	**8**	*e*P		**Pn**	**03 27 08.8**	**+0.8**
	baz=20							
PHUB	**P'eng-hu**	**2.01**	**289**	*e*P		**Pn**	**03 27 09.6**	**+1.1**
	baz=289							
PHUB				*e*S		**Sn**	**03 27 32.9**	**-0.4**
	baz=289							
YOJ	**Yonaguni jima**	**2.02**	**38**	*e*P		**Pn**	**03 27 09.5**	**+0.9**
	baz=52							
YOJ				*e*S		**Sn**	**03 27 33.7**	**+0.1**
	baz=52							
YOJ	**Yonaguni jima**	**2.02**	**38**	P		**Pn**	**03 27 09.5**	**+0.9**
YOJ				*e*S		**Sn**	**03 27 34.3**	**+0.7**
PNG	**Penghu**	**2.04**	**290**	*e*P		**Pn**	**03 27 10.1**	**+1.2**
	baz=275							
PNG				*e*S		**Sn**	**03 27 33.9**	**-0.2**
	baz=275							
VCHM	**Qimei**	**2.06**	**280**	*e*P		**Pn**	**03 27 10.2**	**+1.0**
	baz=280							
VCHM				*e*S		**Sn**	**03 27 34.1**	**-0.6**
	baz=280							
TWB1	**Santiao Chiao**	**2.15**	**8**	*e*P		**Pn**	**03 27 12.4**	**+2.0**
	baz=10.0							
NWF	**Wu-fen Shan**	**2.19**	**3**	*e*P		**Pn**	**03 27 12.9**	**+1.9**
	baz=351							
NWF				*e*S		**Sn**	**03 27 39.0**	**+1.0**
	baz=351							
WFSB	**Wu-fen Shan**	**2.19**	**3**	*e*P		**Pn**	**03 27 12.8**	**+1.8**
	baz=352							
WFSB				*e*S		**Sn**	**03 27 38.5**	**+0.7**
	baz=352							
YM01	**YM01**	**2.26**	**358**	*e*P		**Pb**	**03 27 14.7**	**-1.0**
YM04	**YM04**	**2.27**	**358**	*e*P		**Pn**	**03 27 14.1**	**+2.0**
	baz=359							
YM10	**YM10**	**2.27**	**358**	*e*P		**Pn**	**03 27 14.1**	**+1.9**
YM05	**YM05**	**2.28**	**358**	*e*P		**Pn**	**03 27 13.2**	**+0.9**
YM11	**YM11**	**2.28**	**358**	*e*P		**Pn**	**03 27 14.0**	**+1.7**
YM07	**YM07**	**2.29**	**360**	*e*P		**Pn**	**03 27 13.7**	**+1.3**
	baz=1.0							
HATJ	**Hateruma jima**	**2.31**	**59**	P		**Pn**	**03 27 13.2**	**+0.6**
HATJ				*e*S		**Sn**	**03 27 41.2**	**+0.4**
IRIF	**Iriomote-Funau**	**2.41**	**52**	P		**Pn**	**03 27 15.1**	**+1.2**
IRIF				S		**Sn**	**03 27 44.7**	**+1.6**
JKRS	**Kuro-shima**	**2.56**	**58**	P		**Pn**	**03 27 16.8**	**+0.8**
JKRS				S		**Sn**	**03 27 46.9**	**-0.1**
JIJ	**Ishigaki jima**	**2.73**	**57**	P		**Pn**	**03 27 19.4**	**+1.0**
JIJ				*e*S		**Sn**	**03 27 50.8**	**-0.4**
VWUC	**VWUC**	**2.91**	**317**	*e*P		**Pn**	**03 27 21.8**	**+1.0**
	baz=318							
VWUC				*e*S		**Sn**	**03 27 54.8**	**-0.8**
	baz=318							
JISG	**Ishigakijimahi**	**2.98**	**55**	P		**Pn**	**03 27 22.7**	**+0.9**
JISG				S		**Sn**	**03 27 57.0**	**-0.4**
PTTC	**Pingtan**	**3.12**	**327**	*e*P		**Pn**	**03 27 24.9**	**+1.1**
	baz=329							
PTTC				*e*S		**Sn**	**03 28 00.2**	**-0.7**
	baz=329							
PTMZ	**Houxiangcun**	**3.16**	**314**	*e*P		**Pn**	**03 27 25.2**	**+0.9**
	baz=315							
PTMZ				*e*S		**Sn**	**03 28 00.4**	**-1.3**
	baz=315							
JTJ	**Tarama**	**3.31**	**57**	P		**Pn**	**03 27 27.5**	**+1.2**
JTJ				S		**Sn**	**03 28 05.8**	**+0.3**
KNM	**Kinmen**	**3.32**	**298**	*e*P		**Pn**	**03 27 29.0**	**+2.6**
	baz=300							
KNMB	**Chin-men Tao**	**3.38**	**299**	*e*P		**Pn**	**03 27 28.0**	**+0.7**
	baz=299							
KNMB				*e*S		**Sn**	**03 28 05.7**	**-1.4**
	baz=299							
MATB	**Ma-tsu**	**3.61**	**335**	*e*P		**Pn**	**03 27 30.9**	**+0.4**
	baz=337							
MATB				*e*S		**Sn**	**03 28 11.3**	**-1.6**
	baz=337							
ZPLA	**Ao Xicun**	**3.73**	**287**	*e*P		**Pn**	**03 27 33.4**	**+1.3**
	baz=290							
AXDP	**Jialang**	**3.92**	**302**	*e*P		**Pn**	**03 27 35.7**	**+1.0**
	baz=302							
AXDP				*e*S		**Sn**	**03 28 19.1**	**-1.4**
	baz=302							
MHZQ	**Yeshan**	**4.00**	**324**	*e*P		**Pn**	**03 27 38.3**	**+2.5**
	baz=326							
MHZQ				*e*S		**Sn**	**03 28 21.3**	**-1.1**
	baz=326							
LYJJ	**Jianjiangzhen**	**4.04**	**335**	*e*P		**Pn**	**03 27 37.0**	**+0.6**
	baz=337							
XPSS	**Dashiqiu**	**4.25**	**342**	*e*P		**Pn**	**03 27 39.7**	**+0.5**
	baz=344							
JOW	**Kunigami**	**7.20**	**55**	*e*P		**Pn**	**03 28 20.0**	**+0.2**
	baz=55							

IDC 21 03:28:24.2±27.0,17°.42S×177°.45W,h163km±217km,
mb3.4/3,mb1 3.7/3,mb1mx3.2/47,mbtmp3.9/3,Error
ellipse: s-maj=282.9km s-min=59.2km az=139.0,Fiji
Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.62**	**259**		P	P	03 36 28.1	-0.4
	0.4nm,0.5s,baz=93,slow=7.0,SNR=12							
ASAR	**Alice Springs**	**45.80**	**254**		P	P	03 36 30.4	+0.4
	5.1nm,0.6s,baz=89,slow=8.2,SNR=60							
ILAR	**Eielson Array**	**85.21**	**13**		P	P	03 40 42.8	+0.9
	0.2nm,0.4s,baz=222,slow=6.3,SNR=5.8							
BRTR	**Keskin Array B**	**145.08**	**316**		PKPbc	PKPbc	03 47 40.2	-2.2
	0.9nm,0.8s,baz=107,slow=6.6,SNR=5.2							
GERES	**GERESS Array B**	**147.37**	**346**		PKPbc	PKPbc	03 47 47.8	-1.0
	0.1nm,0.4s,baz=26,slow=3.4,SNR=5.9							

IDC 21 03:34:46.9±751.0,51°.38N×130°.15E,h0km,Error ellipse:
s-maj=278.4km s-min=144.8km az=160.0,Southeastern
Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**7.29**	**170**	*i*			04 19 40.0	
	baz=351,slow=337,SNR=3.0							
I44RU	**PETROPAVLOVSK**	**16.93**	**73**	*i*			05 25 00.0	
	baz=276,slow=330,SNR=0.6							
I30JP	**ISUMI INFRASON**	**17.65**	**152**	*i*			05 23 40.0	
	baz=342,slow=320,SNR=0.4							

ISCJB ***21*** *03:39:50.9±0.4,24°.34N±0°.02×122°.62E±0°.01,h69km±5km,*
Error ellipse: s-maj=3.5km s-min=2.2km az=174.3
TAP ***21*** *03:39:51.6,24°.37N×122°.56E,h78km,ML3.5,C*
JMA ***21*** *03:39:51.1±0.1,24°.32N×122°.61E,h71km±2km,M2.7*
ISC 21 03:39:51.3±1.2,24°.34N±0°.03×122°.62E±0°.02,h69km±7km,
n88,σ0s99/147,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.32**	**69**	P		**Pn**	**03 40 02.7**	**+0.2**
JYNG				S		**Sn**	**03 40 11.0**	**+0.3**
YOJ	**Yonaguni jima**	**0.38**	**71**	*e*P		**Pn**	**03 40 02.9**	**0.0**
	baz=69							
YOJ				*e*S		**Sn**	**03 40 11.5**	**0.0**
	baz=69							
YOJ	**Yonaguni jima**	**0.38**	**71**	P		**Pn**	**03 40 03.1**	**+0.2**
YOJ				*e*S		**Sn**	**03 40 11.8**	**+0.3**
EOS1	**EOS1**	**0.50**	**295**	P		**Pn**	**03 40 04.4**	**+0.5**
	baz=301							
EOS1				S		**Sn**	**03 40 14.3**	**+1.1**
	baz=301							
ENAH	**Nanao**	**0.75**	**279**	*e*P		**Pn**	**03 40 06.9**	**+0.3**
	baz=277							
ENAH				*e*S		**Sn**	**03 40 18.3**	**+0.3**
	baz=277							
TWC	**Suao**	**0.75**	**291**	P		**Pn**	**03 40 06.8**	**+0.1**
	baz=295							
TWC				S		**Sn**	**03 40 17.7**	**-0.5**
	baz=295							
NANB	**Nanao**	**0.80**	**277**	*e*P		**Pn**	**03 40 07.4**	**+0.1**
	baz=275							
NANB				*e*S		**Sn**	**03 40 19.2**	**0.0**
	baz=275							
EGS		**0.81**	**309**	P		**Pn**	**03 40 07.5**	**+0.2**
	baz=314							
EGS				*e*S		**Sn**	**03 40 18.9**	**-0.3**
	baz=314							
ENA	**Nanau**	**0.81**	**277**	P		**Pn**	**03 40 07.7**	**+0.3**
	baz=275							
ENA				S		**Sn**	**03 40 19.3**	**0.0**
	baz=275							
TWB1	**Santiao Chiao**	**0.88**	**319**	*e*P		**Pn**	**03 40 07.8**	**-0.5**
	baz=328							
TWB1				*e*S		**Sn**	**03 40 20.2**	**-0.7**
	baz=328							
NTC	**Toucheng**	**0.89**	**306**	*e*P		**Pn**	**03 40 08.5**	**+0.2**
	baz=306							
NTC				*e*S		**Sn**	**03 40 20.6**	**-0.4**
	baz=306							
TWE	**Neicheng**	**0.95**	**294**	*e*P		**Pn**	**03 40 09.5**	**+0.4**
	baz=299							

HATJ				eS		Sn	03 40 27.0	+0.9	
NNSB	**Datong**	**1.13**	**275**	*eP*		**Pn**	**03 40 11.8**	**+0.2**	
	baz=274								
NNSB				*eS*		**Sn**	**03 40 25.8**	**-0.8**	
	baz=274								
NNSH	**Datong**	**1.13**	**275**	*eP*		**Pn**	**03 40 11.5**	**0.0**	
	baz=274								
NNSH				*eS*		**Sn**	**03 40 26.0**	**-0.7**	
	baz=274								
TWA	**Mucha**	**1.14**	**304**	*eS*		**Sn**	**03 40 25.9**	**-0.8**	
	baz=305								
NNS	**Nan Shan**	**1.14**	**275**	*eS*		**Sn**	**03 40 26.5**	**-0.4**	
	baz=274								
YHNB	**Yeheng**	**1.18**	**287**	*eP*		**Pn**	**03 40 12.6**	**+0.5**	
	baz=279								
YHNB				*eS*		**Sn**	**03 40 27.6**	**-0.1**	
	baz=279								
ESL	**Shilin**	**1.20**	**245**	*eP*		**Pn**	**03 40 11.9**	**-0.4**	
	baz=248								
ESL				*eS*		**Sn**	**03 40 27.4**	**-0.8**	
	baz=248								
TATO	**Taipei**	**1.21**	**302**	*eS*		**Sn**	**03 40 27.3**	**-1.0**	
	baz=302								
YM07	**YM07**	**1.23**	**313**	*eP*		**Pn**	**03 40 12.9**	**+0.2**	
	baz=306								
YM07				*eS*		**Sn**	**03 40 28.2**	**-0.7**	
	baz=306								
YM01	**YM01**	**1.25**	**310**	*eP*		**Pn**	**03 40 14.2**	**+1.2**	
	baz=303								
YM01				*eS*		**Sn**	**03 40 29.4**	**+0.1**	
	baz=303								
WHF	**Hehuan Shan**	**1.25**	**262**	P		**Pn**	**03 40 13.3**	**-0.1**	
	baz=252								
WHF				S		**Sn**	**03 40 29.1**	**-0.7**	
	baz=252								
YM11	**YM11**	**1.26**	**311**	*eS*		**Sn**	**03 40 28.7**	**-0.9**	
	baz=304								
YM10	**YM10**	**1.26**	**310**	*eS*		**Sn**	**03 40 29.0**	**-0.5**	
	baz=302								
YM08	**YM08**	**1.26**	**312**	*eS*		**Sn**	**03 40 28.3**	**-1.2**	
	baz=305								
YM05	**YM05**	**1.27**	**311**	*eS*		**Sn**	**03 40 28.7**	**-1.0**	
	baz=303								
JKRS	**Kuro-shima**	**1.27**	**94**	P		**Pn**	**03 40 13.9**	**+0.7**	
JKRS				*eS*		**Sn**	**03 40 30.1**	**+0.5**	
EGFH	**Guangfu**	**1.28**	**239**	*eP*		**Pn**	**03 40 13.0**	**-0.3**	
	baz=232								
EGFH				*eS*		**Sn**	**03 40 29.2**	**-0.6**	
	baz=232								
YM04	**YM04**	**1.28**	**310**	*eS*		**Sn**	**03 40 28.9**	**-1.0**	
	baz=302								
TWY	**Chenhua**	**1.32**	**315**	*eS*		**Sn**	**03 40 30.6**	**-0.1**	
	baz=309								
TWT	**Tachien**	**1.32**	**267**	P		**Pn**	**03 40 15.1**	**+1.1**	
	baz=260								
TWT				S		**Sn**	**03 40 31.5**	**+0.4**	
	baz=260								
TWS1	**Kuangyinshan**	**1.33**	**305**	*eS*		**Sn**	**03 40 30.7**	**-0.3**	
	baz=306								
TDCB	**Techi**	**1.34**	**267**	*eP*		**Pn**	**03 40 14.9**	**+0.7**	
	baz=260								
TDCB				*eS*		**Sn**	**03 40 31.1**	**-0.4**	
	baz=260								
CHGB	**Renai**	**1.35**	**259**	*eP*		**Pn**	**03 40 14.7**	**+0.3**	
	baz=250								
CHGB				*eS*		**Sn**	**03 40 31.0**	**-0.9**	
	baz=250								
HGSD	**Ruisui**	**1.38**	**233**	*eP*		**Pn**	**03 40 14.3**	**-0.4**	
	baz=227								
HGSD				*eS*		**Sn**	**03 40 31.4**	**-0.8**	
	baz=227								
JIJ	**Ishigaki jima**	**1.39**	**89**	P		**Pn**	**03 40 14.6**	**-0.1**	
JIJ				S		**Sn**	**03 40 31.2**	**-1.2**	
EHY	**Hungye**	**1.45**	**235**	*eP*		**Pn**	**03 40 15.2**	**-0.3**	
	baz=233								
EHY				*eS*		**Sn**	**03 40 32.4**	**-1.5**	
	baz=233								
NCUH	**Zhongli**	**1.45**	**296**	*eS*		**Sn**	**03 40 34.2**	**+0.3**	
	baz=296								
VWDT	**VWDT**	**1.47**	**247**	*eP*		**Pn**	**03 40 16.3**	**+0.5**	
	baz=239								
VWDT				*eS*		**Sn**	**03 40 33.6**	**-0.7**	
	baz=239								
LIOB	**Emei**	**1.50**	**282**	*eP*		**Pn**	**03 40 16.9**	**+0.7**	
	baz=293								
LIOB				*eS*		**Sn**	**03 40 36.0**	**+1.1**	
	baz=293								
NSTT	**Nanjuang**	**1.50**	**282**	*eS*		**Sn**	**03 40 35.7**	**+0.6**	
	baz=292								
YULB	**Yu-li**	**1.53**	**232**	*eP*		**Pn**	**03 40 16.3**	**-0.4**	
	baz=239								
YULB				*eS*		**Sn**	**03 40 34.3**	**-1.6**	
	baz=239								
TWF1	**Yuli**	**1.56**	**231**	*eP*		**Pn**	**03 40 16.8**	**-0.2**	
	baz=238								
TWF1				*eS*		**Sn**	**03 40 35.2**	**-1.2**	
	baz=238								
JISG	**Ishigakijimahi**	**1.56**	**80**	P		**Pn**	**03 40 16.9**	**-0.1**	
JISG				S		**Sn**	**03 40 35.7**	**-0.7**	
SSLB	**Suanglung**	**1.62**	**251**	*eP*		**Pn**	**03 40 18.1**	**+0.3**	
	baz=249								
SSLB				*eS*		**Sn**	**03 40 36.7**	**-1.2**	
	baz=249								
SMLT	**Sun Moon Lake**	**1.64**	**254**	*eP*		**Pn**	**03 40 18.9**	**+0.8**	
	baz=249								
SMLT				*eS*		**Sn**	**03 40 38.2**	**-0.2**	
	baz=249								
FULB	**Fuli**	**1.66**	**227**	*eP*		**Pn**	**03 40 17.6**	**-0.8**	
	baz=219								
FULB				*eS*		**Sn**	**03 40 36.9**	**-2.0**	
	baz=219								
TYC	**Yuchr**	**1.67**	**255**	*eP*		**Pn**	**03 40 19.3**	**+0.9**	
	baz=250								
TYC				*eS*		**Sn**	**03 40 39.0**	**-0.1**	
	baz=250								
CHKT	**Chengkung**	**1.69**	**223**	*eP*		**Pn**	**03 40 17.8**	**-0.9**	
	baz=217								
CHKT				*eS*		**Sn**	**03 40 37.2**	**-2.3**	
	baz=217								
TWQ1	**Liyutan**	**1.69**	**271**	*eS*		**Sn**	**03 40 40.2**	**+0.7**	
	baz=281								
NSY	**Sanyi**	**1.70**	**273**	*eS*		**Sn**	**03 40 41.2**	**+1.4**	
	baz=283								
YUS	**Yu-Shan**	**1.75**	**241**	*eP*		**Pn**	**03 40 20.4**	**+0.4**	
	baz=232								
YUS				*eS*		**Sn**	**03 40 40.5**	**-1.0**	
	baz=232								
WJS	**Zhushan**	**1.81**	**254**	*eS*		**Sn**	**03 40 44.5**	**+2.1**	
	baz=252								
WNT	**Mingjian**	**1.83**	**256**	*eS*		**Sn**	**03 40 44.8**	**+2.0**	
	baz=254								
ELDTW	**Lidau**	**1.86**	**232**	*eP*		**Pn**	**03 40 20.8**	**-0.3**	
	baz=225								
ELDTW				*eS*		**Sn**	**03 40 42.1**	**-1.7**	
	baz=225								
JTJ	**Tarama**	**1.92**	**80**	P		**Pn**	**03 40 22.2**	**+0.4**	
JTJ				S		**Sn**	**03 40 44.9**	**-0.1**	
CHN5	**Tsauling**	**1.92**	**248**	*eS*		**Sn**	**03 40 46.5**	**+1.2**	
	baz=239								
WGK	**Gukeng**	**1.99**	**251**	*eS*		**Sn**	**03 40 49.5**	**+2.7**	
	baz=250								
WDLH	**Douliu**	**2.01**	**252**	*eS*		**Sn**	**03 40 49.4**	**+2.1**	
	baz=264								
STYT	**Tauyuan**	**2.07**	**236**	*eP*		**Pn**	**03 40 25.0**	**+1.1**	
	baz=229								
STYT				*eS*		**Sn**	**03 40 49.2**	**+0.5**	
	baz=229								
TWGBT	**Beinan**	**2.07**	**223**	*eP*		**Pn**	**03 40 23.0**	**-0.9**	
	baz=227								
TWGBT				*eS*		**Sn**	**03 40 47.0**	**-1.7**	
	baz=227								
TWG	**Pinlang**	**2.07**	**224**	*eP*		**Pn**	**03 40 23.4**	**-0.5**	
	baz=227								
TWG				*eS*		**Sn**	**03 40 47.3**	**-1.5**	
	baz=227								
TPUB	**Ta-pu**	**2.10**	**241**	*eP*		**Pn**	**03 40 26.0**	**+1.8**	
	baz=239								
TPUB				*eS*		**Sn**	**03 40 50.8**	**+1.4**	
	baz=239								
CHN4	**Tsaushan**	**2.10**	**243**	*eP*		**Pn**	**03 40 26.3**	**+2.0**	
	baz=233								
CHN4				*eS*		**Sn**	**03 40 51.7**	**+2.3**	
	baz=233								
RLNB	**Erlin**	**2.11**	**258**	*eS*		**Sn**	**03 40 50.6**	**+0.9**	
	baz=257								
WTP	**Ta-pu**	**2.13**	**240**	*eP*		**Pn**	**03 40 26.4**	**+1.6**	
	baz=237								
WTP				*eS*		**Sn**	**03 40 52.1**	**+1.8**	
	baz=237								
TWK	**Hsinying**	**2.23**	**242**	*eP*		**Pn**	**03 40 27.7**	**+1.7**	
	baz=239								
TWK				*eS*		**Sn**	**03 40 54.4**	**+1.8**	
	baz=239								
CHN1	**Nanshi**	**2.23**	**240**	*eS*		**Sn**	**03 40 54.8**	**+2.1**	
	baz=237								
SLGT	**Liugui**	**2.25**	**234**	*eS*		**Sn**	**03 40 54.9**	**+1.8**	
	baz=226								
WSF	**Szhu**	**2.30**	**253**	*eS*		**Sn**	**03 40 55.5**	**+1.3**	
	baz=263								
JIRB	**Irabujima**	**2.37**	**78**	P		**Pn**	**03 40 27.8**	**-0.1**	
JIRB				*eS*		**Sn**	**03 40 55.6**	**-0.4**	
MASBT	**Mashibuluo**	**2.51**	**227**	*eS*		**Sn**	**03 41 01.1**	**+1.8**	
	baz=225								
PHUB	**P'eng-hu**	**2.91**	**254**	*eP*		**Pn**	**03 40 34.8**	**-0.4**	
	baz=252								
PHUB				*eS*		**Sn**	**03 41 07.3**	**-1.8**	
	baz=252								
PNG	**Penghu**	**2.91**	**255**	*eS*		**Sn**	**03 41 07.0**	**-2.0**	
	baz=253								
WDGT	**Dungji**	**2.92**	**249**	*eP*		**Pn**	**03 40 35.6**	**+0.3**	
	baz=247								
WDGT				*eS*		**Sn**	**03 41 08.3**	**-1.0**	
	baz=247								
VWUC	**VWUC**	**2.96**	**283**	*eP*		**Pn**	**03 40 35.5**	**-0.4**	
	baz=282								
PTMZ	**Houxiangcun**	**3.26**	**283**	*eP*		**Pn**	**03 40 39.7**	**-0.3**	
	baz=282								
LYJJ	**Jianjiangzhen**	**3.40**	**311**	*eS*		**Sn**	**03 41 19.4**	**-1.6**	
	baz=312								

MEX 21 03:41:07.6±0.4, 14.10N×92.43W, h27km±20km, MD3.8,
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.77**	**335**	*i* P	Pn	03 41 34.7	-1.8
PCIG				*i* S	Sn	03 41 55.1	-3.1
CCIG	**Comitan**	**2.19**	**7**	*eP*	Pn	03 41 40.7	-1.8
CCIG				*i* S	Sn	03 42 05.8	-3.0

*NNC **21** 03:44:50.3±0.4, 43.15N×75.69E, h0km, mb3.7, mpv3.5,*
Error ellipse: s-maj=5.6km s-min=2.0km az=159.0
*KRNET **21** 03:44:50.9±0.1, 43.11N×75.70E, h18km, mb4.0*
*SOME **21** 03:44:51.5, 43.13N×75.72E, h10km*
ISC 21 03:44:51.0±0.9, 43.13N±0.02×75.68E±0.01, h8km±8km,
n76, σ1$07/138, 55C-26D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**0.21**	**197**	⇑P	**Pg**	**03 44 55.6**	**+0.2**
TKM2				⇑S	**Sg**	**03 44 58.8**	**+0.4**
TKM2	**Tokmak 2**	**0.21**	**197**	⇓P	**Pg**	**03 44 55.7**	**+0.3**
	3μm,0.1s						
TKM2	**Tokmak 2**	**0.21**	**197**	⇓*i*P	**Pg**	**03 44 55.5**	**+0.2**
	baz=1.0						
TKM2				⇓*i*S	**Sg**	**03 44 58.7**	**+0.4**
	baz=1.0						
KST	**Kastek**	**0.22**	**112**	⇑*i*P	**Pg**	**03 44 55.6**	**+0.1**
	baz=8.0						
KST				⇑*e*S	**Sg**	**03 44 58.8**	**+0.2**
	baz=8.0						
KST	**Kastek**	**0.22**	**112**	⇑*i*P	**Pg**	**03 44 55.6**	**+0.1**
	5μm,0.2s						
KST				*e*S	**Sg**	**03 44 58.7**	**+0.2**
	4μm,0.4s						
MTBS	**Maitube**	**0.55**	**89**	⇑*i*P	**Pg**	**03 45 01.1**	**-0.5**
	baz=87						
MTBS				⇑*e*S	**Sg**	**03 45 08.4**	**-0.4**
	baz=87						
MTBS	**Maitube**	**0.55**	**89**	⇑*i*P	**Pg**	**03 45 01.1**	**-0.5**
	235nm,0.2s						
MTBS				*e*S	**Sg**	**03 45 08.4**	**-0.4**
	948nm,0.3s						
BOOM	**Boomskoye usch**	**0.66**	**163**	⇑*i*P	**Pg**	**03 45 02.9**	**-0.9**
	baz=63						
BOOM				⇑*i*S	**Sg**	**03 45 11.7**	**-0.8**
	baz=63						
IZV	**Izvestkoviy**	**0.69**	**97**	*eP*	**Pg**	**03 45 04.3**	**0.0**
	baz=96						
IZV				*e*S	**Sg**	**03 45 13.6**	**+0.3**
	baz=96						
IZV	**Izvestkoviy**	**0.69**	**97**	*eP*	**Pg**	**03 45 04.3**	**0.0**
	409nm,0.1s						
IZV				*e*S	**Sg**	**03 45 13.6**	**+0.3**
	1μm,0.2s						
CHMS	**Chumysh**	**0.69**	**260**	⇑P	**Pg**	**03 45 04.2**	**-0.1**
	236nm,0.1s,SNR=376						
CHMS	**Chumysh**	**0.69**	**260**	*i* P	**Pg**	**03 45 04.2**	**-0.1**
	baz=61						
CHMS				*i* S	**Sg**	**03 45 13.5**	**+0.1**
	baz=61						
KBK	**Karagaybulak**	**0.71**	**229**	P	**Pg**	**03 45 04.8**	**0.0**
	183nm,0.1s,SNR=672						
KBK	**Karagaybulak**	**0.71**	**229**	⇑*i*P	**Pg**	**03 45 04.7**	**0.0**
	baz=31						
KBK				⇑*i*S	**Sg**	**03 45 14.2**	**+0.1**
	baz=31						
FRU1	**Bishkek**	**0.83**	**248**	⇑*i*P	**Pg**	**03 45 06.8**	**-0.2**
	baz=50						
FRU1				⇑*i*S	**Sg**	**03 45 17.5**	**-0.4**
	baz=50						
USP	**Ospenovka**	**0.88**	**280**	⇑P	**Pg**	**03 45 07.6**	**-0.2**
	134nm,0.1s,SNR=69						
USP	**Ospenovka**	**0.88**	**280**	⇑*i*P	**Pg**	**03 45 07.4**	**-0.4**
	baz=81						
USP				⇑*i*S	**Sg**	**03 45 19.5**	**+0.3**
	baz=81						
KUU	**Kurty**	**0.90**	**32**	⇓*i*P	**Pg**	**03 45 08.2**	**-0.2**
	baz=31						
KUU				⇑*i*S	**Sb**	**03 45 20.2**	**-1.0**
	baz=31						
KUU	**Kurty**	**0.90**	**32**	⇓*i*P	**Pg**	**03 45 08.2**	**-0.2**
	485nm,0.1s						
KUU				⇑*i*S	**Sb**	**03 45 20.2**	**-1.0**
	855nm,0.2s						
AAA	**Alma-Ata**	**0.91**	**84**	*eP*	**Pb**	**03 45 08.5**	**-0.5**
	baz=83						
AAA				*e*S	**Sb**	**03 45 20.6**	**-0.7**
	baz=83						
AAA	**Alma-Ata**	**0.91**	**84**	*eP*	**Pb**	**03 45 08.5**	**-0.5**
	74nm,0.1s						
AAA				*e*S	**Sb**	**03 45 20.5**	**-0.7**
	1μm,0.2s						
TNSS	**Tian-Shan**	**0.93**	**95**	⇑*i*P	**Pg**	**03 45 08.1**	**-0.8**
	baz=94						
TNSS				⇑*e*S	**Sg**	**03 45 20.5**	**-0.6**
	baz=94						
TNSS	**Tian-Shan**	**0.93**	**95**	⇑*i*P	**Pg**	**03 45 08.1**	**-0.8**
	410nm,0.2s						
TNSS				*e*S	**Sg**	**03 45 20.5**	**-0.6**
	1μm,0.5s						
KTBS	**Karatobe**	**0.94**	**51**	*eP*	**Pg**	**03 45 08.4**	**-0.6**
	91nm,0.2s						
KTBS				*e*S	**Sg**	**03 45 20.5**	**-0.6**
	983nm,0.3s						
KNDC	**Almaty**	**0.94**	**84**	⇑P	**Pg**	**03 45 08.6**	**-0.5**
	68nm,0.5s						
KNDC				⇓S	**Sg**	**03 45 21.2**	**-0.2**
	493nm,0.5s						
ULHL	**Ulahol**	**0.97**	**155**	⇓P	**Pg**	**03 45 08.5**	**-1.2**
	199nm,0.2s,SNR=720						
ULHL	**Ulahol**	**0.97**	**155**	*i* P	**Pg**	**03 45 08.5**	**-1.2**
	baz=55						
ULHL				*i* S	**Sg**	**03 45 21.1**	**-1.2**
	baz=55						
AAK	**Ala-Archa**	**1.00**	**241**	⇑P	**Pg**	**03 45 09.6**	**-0.6**
	19nm,0.3s						
AAK				⇓S	**Sg**	**03 45 23.0**	**-0.2**
	373nm,0.6s						
AAK	**Ala-Archa**	**1.00**	**241**	⇓P	**Pg**	**03 45 09.6**	**-0.6**
	46nm,0.1s,SNR=50						
AAK	**Ala-Archa**	**1.00**	**241**	⇑*i*P	**Pg**	**03 45 09.6**	**-0.6**
	baz=42						
AAK				⇑*i*S	**Sg**	**03 45 22.9**	**-0.2**
	baz=42						
MDOK	**Medeo**	**1.00**	**87**	⇓*i*P	**Pg**	**03 45 09.4**	**-0.8**
	baz=86						
MDOK				⇓*i*S	**Sg**	**03 45 22.6**	**-0.7**
	baz=86						
MDOK	**Medeo**	**1.00**	**87**	⇓*i*P	**Pg**	**03 45 09.4**	**-0.8**
	278nm,0.2s						
MDOK				⇓*i*S	**Sg**	**03 45 22.6**	**-0.7**
	1μm,0.4s						
KOTS	**Kotyrbulak**	**1.05**	**84**	*eP*	**Pg**	**03 45 10.4**	**-0.8**
	50nm,0.2s						
KOTS				*e*S	**Sg**	**03 45 24.1**	**-0.8**
	432nm,0.3s						
KZA	**Kyzart**	**1.09**	**197**	⇓P	**Pg**	**03 45 11.4**	**-0.6**
	239nm,0.3s,SNR=328						
KZA	**Kyzart**	**1.09**	**197**	⇑*i*P	**Pg**	**03 45 11.3**	**-0.7**
	baz=98						
KZA				⇑*i*S	**Sg**	**03 45 25.1**	**-1.2**
	baz=98						
CHKK	**Chushkaly**	**1.20**	**52**	⇓P	**Pb**	**03 45 12.9**	**-1.1**
	baz=51						
CHKK				⇓*e*S	**Sb**	**03 45 28.6**	**-1.1**
	baz=51						
CHKK	**Chushkaly**	**1.20**	**52**	⇓*i*P	**Pb**	**03 45 12.9**	**-1.1**
	43nm,0.2s						
CHKK				*e*S	**Sb**	**03 45 28.6**	**-1.1**
	891nm,0.3s						
UCH	**Uchtor**	**1.24**	**224**	⇓P	**Pn**	**03 45 14.1**	**-1.1**
	104nm,0.3s,SNR=323						
UCH	**Uchtor**	**1.24**	**224**	⇑*i*P	**Pn**	**03 45 14.0**	**-1.1**
	baz=25						
UCH				⇑*i*S	**Sb**	**03 45 30.1**	**-1.3**
	baz=25						
EKS2	**Erkin-Say**	**1.47**	**252**	⇑P	**Pb**	**03 45 18.3**	**-0.4**
	89nm,0.1s,SNR=37						
EKS2	**Erkin-Say**	**1.47**	**252**	*i* P	**Pb**	**03 45 18.3**	**-0.4**
	baz=53						
EKS2				*i* S	**Sb**	**03 45 37.9**	**+0.2**
	baz=53						
KDJ	**Kajisay**	**1.49**	**131**	⇑*i*P	**Pb**	**03 45 18.4**	**-0.6**
	baz=31						
KDJ				⇑*i*S	**Sb**	**03 45 37.6**	**-0.5**
	baz=31						
ARLS	**Aral**	**1.61**	**219**	⇑*i*P	**Pn**	**03 45 20.1**	**+0.2**
	baz=20						
ARLS				⇑*i*S	**Sn**	**03 45 41.2**	**+0.2**
	baz=20						
NRN	**Naryn**	**1.71**	**172**	⇑*i*P	**Pb**	**03 45 22.1**	**-0.7**
	baz=73						
NRN				⇑*i*S	**Sb**	**03 45 44.5**	**-0.1**
	baz=73						
AML	**Almayashu**	**1.77**	**237**	⇑P	**Pb**	**03 45 23.7**	**-0.3**
	65nm,0.3s,SNR=161						
AML	**Almayashu**	**1.77**	**237**	⇑*i*P	**Pb**	**03 45 23.7**	**-0.3**
	baz=37						
AML				⇑*i*S	**Sb**	**03 45 46.5**	**0.0**
	baz=37						
MRKS	**Merke**	**1.84**	**259**	*eP*	**Pb**	**03 45 25.0**	**0.0**
	baz=60						
MRKS				*e*S	**Sg**	**03 45 49.5**	**-0.7**
	baz=60						
MRKS	**Merke**	**1.84**	**259**	*eP*	**Pb**	**03 45 25.0**	**0.0**
	234nm,0.3s						
MRKS				*e*S	**Sg**	**03 45 49.5**	**-0.7**
	739nm,0.2s						
KURS	**Kuram**	**1.85**	**78**	*eP*	**Pb**	**03 45 24.6**	**-0.5**
	baz=77						
KURS				*e*S	**Sb**	**03 45 48.5**	**0.0**
	baz=77						
KURS	**Kuram**	**1.85**	**78**	*eP*	**Pb**	**03 45 24.6**	**-0.5**
	40nm,0.5s						
KURS				*e*S	**Sb**	**03 45 48.6**	**0.0**
	272nm,0.5s						
ARXS	**Arharly**	**1.90**	**54**	*eP*	**Pb**	**03 45 25.6**	**-0.3**
	64nm,0.4s						
ARXS				*e*S	**Sg**	**03 45 50.4**	**-1.6**
	504nm,0.3s						
SATY	**Saty**	**2.00**	**91**	*eP*	**Pb**	**03 45 26.9**	**-0.7**
	47nm,0.2s						
SATY				*e*S	**Sb**	**03 45 52.6**	**-0.1**
	462nm,0.3s						
ZHN	**Zhinishke**	**2.02**	**88**	*eP*	**Pb**	**03 45 27.4**	**-0.6**
	baz=87						
ZHN				*e*S	**Sb**	**03 45 52.7**	**-0.6**
	baz=87						
ZHN	**Zhinishke**	**2.02**	**88**	*eP*	**Pb**	**03 45 27.4**	**-0.6**
	70nm,0.3s						
ZHN				*e*S	**Sb**	**03 45 52.7**	**-0.6**
	263nm,0.2s						
PRZ	**Przheval'sk**	**2.10**	**107**	⇑*i*P	**Pb**	**03 45 28.1**	**-1.4**
	baz=6.0						
PRZ				⇑*i*S	**Sb**	**03 45 55.0**	**-0.8**
	baz=6.0						
MNBS	**Baschi**	**2.19**	**63**	*eP*	**Pb**	**03 45 29.9**	**-1.1**
	baz=66						
MNBS				*e*S	**Sb**	**03 45 57.2**	**-1.2**
	baz=66						
MNBS	**Baschi**	**2.19**	**63**	*eP*	**Pb**	**03 45 29.9**	**-1.1**
	33nm,0.4s						
MNBS				*e*S	**Sb**	**03 45 57.2**	**-1.2**
	256nm,0.3s						
KPKS	**Kokpek**	**2.22**	**80**	*eP*	**Pb**	**03 45 31.6**	**+0.2**
	215nm,0.4s						
KPKS				*e*S	**Sg**	**03 46 00.2**	**-2.0**
	841nm,0.4s						
BTLS	**Baital**	**2.25**	**329**	*eP*	**Pb**	**03 45 32.4**	**+0.5**
	29nm,0.2s						
BTLS				*e*S	**Sb**	**03 46 01.3**	**+1.4**
	219nm,0.3s						
MNAS	**Manas**	**2.42**	**256**	⇑Pn	**Pn**	**03 45 32.5**	**+1.4**
	31nm,0.5s						
MNAS				⇑Lg	Lg	03 46 05.8	
	43nm,0.4s						
MNAS	**Manas**	**2.42**	**256**	⇑*i*P	**Pn**	**03 45 32.5**	**+1.4**
	baz=56						
MNAS				⇑*i*S	**Sn**	**03 46 02.6**	**+1.6**
	baz=56						
UZB	**Uzynbulak**	**2.45**	**88**	*eP*	**Pb**	**03 45 35.4**	**0.0**
	56nm,0.3s						
UZB				*e*S	**Sb**	**03 46 06.5**	**+0.8**
	252nm,0.4s						
ARSB	**Arslanbob**	**2.69**	**229**	⇑*i*P	**Pn**	**03 45 36.4**	**+1.6**
	baz=29						
ARSB				⇑*i*S	**Sn**	**03 46 09.2**	**+1.5**
	baz=29						
TDK	**Taldyqorghan**	**2.72**	**45**	*eP*	**Pb**	**03 45 40.6**	**+0.7**
	79nm,0.7s						
TDK				*e*S	**Sg**	**03 46 15.7**	**-2.6**
	308nm,0.6s						
SHLS	**Shalkode**	**2.77**	**88**	*eP*	**Pg**	**03 45 45.8**	**+1.8**
	84nm,0.5s						
SHLS				*e*S	**Sg**	**03 46 24.7**	**+4.9**
	121nm,0.6s						
PDGK	**Podgornoye**	**2.79**	**85**	⇓Pg	**Pb**	**03 45 40.1**	**-1.1**
	7.2nm,0.3s						
PDGK				⇑Lg	Lg	03 46 15.1	
	111nm,0.8s						
PDGK	**Podgornoye**	**2.79**	**85**	⇓*i*P	**Pn**	**03 45 37.4**	**+1.3**
	baz=84						
PDGK				⇓*i*S	**Sn**	**03 46 11.6**	**+1.6**
	baz=84						
DZA	**Taraz**	**3.20**	**267**	*eP*	**Pg**	**03 45 50.5**	**-1.8**
	57nm,0.2s						
DZA				*e*S	**Sg**	**03 46 32.3**	**-1.5**
	213nm,0.2s						
DJR	**Jarkent**	**3.21**	**67**	*eP*	**Pb**	**03 45 49.6**	**+1.3**
	10nm,0.4s						
DJR				*e*S	**Sg**	**03 46 31.8**	**-2.4**
	76nm,0.6s						
KAPS	**Kapalarasan**	**3.41**	**49**	*eP*	**Pb**	**

AB31	**Akbulak array**	**12.50**	**305**	P	**Pn**	**03 47 47.5**	**-1.6**
	0.8nm,0.6s,baz=115,slow=12,SNR=4.9						

*IDC **21** 03:58:23.9±0.6, 1°.04S×127°.19E, h0km, mb4.3/16, mb1 4.4/16, mb1mx4.3/42, mbtmp4.4/16, ML4.2/1, MS3.4/10, Ms1 3.4/10, ms1mx3.0/43, Error ellipse: s-maj=27.8km s-min=12.3km az=70.0*
*BJI **21** 03:58:24.4, 1°.15S×127°.39E, h15km, mb4.6/28, mB4.8/17, Ms4.4/1*
*ISCJB **21** 03:58:26.7±0.2, 1°.08S±0°.03×127°.31E±0°.03, h31km, mb4.6/34, MS3.4/10, Error ellipse: s-maj=4.3km s-min=3.0km az=138.4*
*DJA **21** 03:58:27.0±0.2, 1°.S±3°×12°.7E±°, h10km, M4.5/13, mb4.8/8, mB4.9/6, MLv4.5/13, Mw(mB)4.2/6*
*NEIC **21** 03:58:27.7±1.5, 1°.06S×127°.28E, h26km±11km, mb4.5/22, Error ellipse: s-maj=5.9km s-min=3.5km az=51.0*
*KLM **21** 03:58:29.0, 0°.92S×127°.32E, h46km, mb4.6*

ISC 21 03:58:28.8±0.4, **1°.08S**±0°.04×**127°.30E**±0°.05, **h31km, n106,**
σ1=**48**/116, **mb4.6**/34, **MS3.4**/10, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**1.63**	**234**	P		P	**Pn**	**03 58 54.0**	**-1.3**
SANI				S		S	**Sb**	**03 59 17.5**	**-0.9**
TNTI	**Ternate**	**1.84**	**2**	*e*Pn		P	**Pn**	**03 58 57.2**	**-1.1**
TNTI				*e*Sn		S	**Sn**	**03 59 18.6**	**-2.0**
TNTI	**Ternate**	**1.84**	**2**	P		P	**Pn**	**03 58 57.2**	**-1.1**
KMSI	**Cibinong**	**3.71**	**296**	P		P	**Pn**	**03 59 23.6**	**-0.4**
SWI	**Sorong**	**3.96**	**87**	P		P	**Pn**	**03 59 27.9**	**+0.4**
SIJI	**Sorong**	**3.97**	**87**	Pn		P	**Pn**	**03 59 29.6**	**+2.0**
	15nm,0.3s,baz=64,slow=10,SNR=20								
BNDI	**Bandanaira**	**4.29**	**143**	P		P	**Pn**	**03 59 32.6**	**+0.6**
LUWI	**Luwuk**	**4.53**	**270**	*e*Pn		P	**Pn**	**03 59 35.1**	**-0.2**
LUWI				*e*Sn		S	**Sn**	**04 00 26.8**	**-0.2**
LUWI	**Luwuk**	**4.53**	**270**	P		P	**Pn**	**03 59 35.2**	**-0.1**
FAKI	**Fak Fak**	**5.27**	**110**	*e*Pn		P	**Pn**	**03 59 45.0**	**-0.5**
FAKI				*e*Sn		S	**Sn**	**04 00 45.0**	**-0.1**
FAKI	**Fak Fak**	**5.27**	**110**	P		P	**Pn**	**03 59 45.0**	**-0.5**
	77nm,0.9s,1μm0.3nm								
MRSI	**Marisa**	**5.58**	**286**	P		P	**Pn**	**03 59 49.5**	**-0.2**
	36nm,0.6s,733nm0.2nm								
MRSI				S		S	**Sn**	**04 00 53.4**	**+0.5**
	36nm,0.6s,733nm0.2nm								
PCI	**Palu**	**7.47**	**271**	P		P	**Pn**	**04 00 15.9**	**+0.2**
	156nm,0.5s,2μm0.6nm								
MPSI	**Mapaga**	**7.54**	**281**	P		P	**Pn**	**04 00 18.1**	**+1.5**
TTSI	**Tana Toraja**	**7.73**	**255**	P		P	**Pn**	**04 00 19.5**	**+0.2**
	43nm,0.5s,1μm0.3nm								
SAUI	**Saumlaki**	**7.93**	**150**	*e*Pn		P	**Pn**	**04 00 25.7**	**+3.7**
SAUI				*e*Sn		S	**Sn**	**04 01 49.9**	**-0.8**
SPSI	**Sidrap Palu**	**8.05**	**249**	P		P	**Pn**	**04 00 25.4**	**+1.7**
	106nm,0.5s,2μm								
BKSI	**Bulukumba**	**8.31**	**239**	P		P	**Pn**	**04 00 30.2**	**+2.9**
EDFI	**Ende, Flores**	**9.45**	**216**	P		P	**Pn**	**04 00 46.8**	**+3.9**
MTN	**Manton Dam**	**12.29**	**162**	*e*Pn		P	**Pn**	**04 01 21.3**	**-0.4**
KKM	**Kota Kinabalu**	**13.14**	**303**	*e*Pn		P	**Pn**	**04 01 33.3**	**-0.3**
JAY	**Jayapura**	**13.47**	**96**	LR		LR		04 08 02.3	
	comp=Z,274nm,20.9s,slow=43								
SBUM	**Sibu**	**15.48**	**283**	*e*Pn		Pn	**Pn**	**04 02 03.1**	**-1.9**
	2.3nm,0.9s								
FITZ	**Fitzroy Crossi**	**16.99**	**185**	*e*Pn		Pn	**Pn**	**04 02 24.4**	**+0.2**
	17nm,1.4s								
KSM	**Kuching**	**17.18**	**278**	*e*Pn		Pn	**Pn**	**04 02 25.7**	**-1.0**
	10.0nm,1.0s								
KSM	**Kuching**	**17.18**	**278**	P		P	**Pn**	**04 02 26.0**	**-0.7**
SMRI	**Semarang**	**17.83**	**250**	*e*Pn		Pn	**Pn**	**04 02 34.1**	**-0.6**
	59nm,1.0s								
WRAB	**Tennant Creek**	**19.96**	**160**	*e*P		P	**P**	**04 02 58.0**	**-0.6**
	8.9nm,0.6s								
WRA	**Warramunga Arr**	**19.97**	**160**	P		P	**P**	**04 02 57.8**	**-0.9**
	3.4nm,0.3s,baz=342,slow=12,SNR=65								
WRA				S		S	**S**	**04 06 37.0**	**-4.9**
	2.4nm,0.9s,baz=345,slow=20,SNR=3.8								
WR1	**Warramunga Arr**	**19.97**	**160**	*e*P		P	**P**	**04 02 57.8**	**-0.9**
	8.8nm,0.6s								
WR1				*e*S		S	**S**	**04 06 37.0**	**-4.8**
WB2	**Warramunga Arr**	**19.97**	**160**	*e*P		P	**P**	**04 02 58.2**	**-0.5**
	8.0nm,0.6s								
COEN	**Coen**	**20.25**	**130**	*e*P		Pn		04 03 03.6	-0.3
	62nm,1.0s								
PMG	**Port Moresby**	**21.42**	**113**	P		P	**P**	**04 03 14.4**	**+0.1**
	3.6nm,0.3s,baz=319,slow=7.7,SNR=8.3								
PMG	**Port Moresby**	**21.42**	**113**	*e*P		P	**P**	**04 03 14.5**	**+0.1**
	18nm,0.8s								
GUMO	**Guam**	**22.71**	**49**	LR		LR		04 11 25.6	
	comp=Z,34nm,21.5s,baz=326,slow=34								
AS31	**Alice Springs**	**23.34**	**165**	*e*P		P	**P**	**04 03 34.2**	**-0.4**
	3.8nm,0.9s								
AS31				*e*S		S	**S**	**04 07 40.4**	**-5.2**
AS31				*e*ScP		ScP	**ScP**	**04 10 59.8**	**+2.4**
ASAR	**Alice Springs**	**23.34**	**165**	P		P	**P**	**04 03 34.2**	**-0.5**
	9.8nm,0.7s,baz=344,slow=10,SNR=84								
ASAR				S		S	**S**	**04 07 40.4**	**-5.2**
	1.6nm,1.0s,baz=344,slow=24,SNR=7.9								
ASAR				ScP		ScP	**ScP**	**04 10 59.8**	**+2.4**
	0.7nm,0.8s,baz=331,slow=2.3,SNR=4.7								
AS01	**Alice Springs**	**23.36**	**164**	*e*P		P	**P**	**04 03 34.2**	**-0.6**
MYKOM	**Kota Tinggi**	**23.62**	**277**	*e*P		P	**P**	**04 03 37.5**	**+0.1**
	25nm,1.0s								
MYKOM				*e*Sn		Sn		04 08 03.6	-8.6
MYKOM	**Kota Tinggi**	**23.62**	**277**	P		P	**P**	**04 03 37.0**	**-0.5**
TPUB	**Ta-pu**	**25.09**	**345**	*e*P		P	**P**	**04 03 50.7**	**-0.2**
	33nm,1.1s								
CTA	**Charters Tower**	**26.46**	**137**	P		P	**P**	**04 04 03.6**	**+0.2**
	7.8nm,1.0s,baz=307,slow=11,SNR=5.9								
CTAO	**Charters Tower**	**26.46**	**137**	*e*P		P	**P**	**04 04 03.3**	**-0.1**
	12nm,1.1s								
PSI	**Prapat**	**28.63**	**278**	*e*P		P	**P**	**04 04 21.6**	**-1.4**
	17nm,1.3s								
FORT	**Forrest**	**29.54**	**179**	*e*P		P	**P**	**04 04 30.6**	**-0.1**
	21nm,0.9s								
GSI	**Gunungsitoli**	**29.82**	**274**	*e*P		P	**P**	**04 04 32.9**	**-0.5**
	19nm,0.8s								
STKA	**Stephens Creek**	**33.47**	**158**	P		P	**P**	**04 05 06.9**	**+1.6**
	17nm,0.9s,baz=323,slow=9.6,SNR=19								
STKA				LR		LR		04 19 27.4	
	comp=Z,74nm,19.1s,baz=14,slow=38								
STKA	**Stephens Creek**	**33.47**	**158**	*e*P		P	**P**	**04 05 06.4**	**+1.1**
	3.7nm,0.9s								
HNR	**Honiara**	**33.52**	**105**	LR		LR		04 20 33.9	
	comp=Z,40nm,19.0s,baz=176,slow=49								
NJ2	**Nanjing**	**33.91**	**347**	*e*P		P	**P**	**04 05 09.8**	**+0.7**
NJ2				pmax		pmax			
	comp=Z,8.0nm,0.5s								
CMAR	**Chiang Mai Arr**	**33.98**	**306**	LR		LR		04 21 13.4	
	comp=Z,39nm,18.1s,baz=172,slow=40								
CHTO	**Chiang Mai**	**34.17**	**307**	*e*P		P	**P**	**04 05 11.4**	**-0.1**
	4.4nm,0.8s								
KMI	**Kunming**	**35.28**	**319**	P		P	**P**	**04 05 20.9**	**-0.4**
KMI				pmax		pmax			
	comp=Z,15nm,1.2s								
KS15	**Wonju Array Si**	**38.34**	**1**	*e*P		P	**P**	**04 05 45.6**	**-1.3**
KSRS	**Korea Array**	**38.35**	**1**	P		P	**P**	**04 05 45.6**	**-1.3**
	1.2nm,0.5s,baz=178,slow=8.5,SNR=5.1								
MAJO	**Matsushiro**	**38.78**	**14**	*e*P		P	**P**	**04 05 50.4**	**-0.3**
MJAR	**Matsushiro Arr**	**38.78**	**14**	P		P	**P**	**04 05 50.4**	**-0.3**
	0.7nm,0.3s,baz=197,slow=9.2,SNR=3.3								
MJAR				LR		LR		04 19 54.9	
	comp=Z,40nm,20.9s,baz=220,slow=33								
LZH	**Lanzhou**	**42.95**	**332**	*e*P		P	**P**	**04 06 28.6**	**+3.3**
LZH				pP		pP		04 06 33.0	-1.5
LZH				sP		sP		04 06 36.3	-1.9
LZH				pmax		pmax			
	comp=Z,25nm,0.9s								
SHL	**Shillong**	**43.29**	**310**	*e*P		P	**P**	**04 06 27.9**	**-0.3**
	12nm,0.8s								
HHC	**Hu-ho-hao-te**	**44.13**	**343**	*e*P		P	**P**	**04 06 36.4**	**+1.8**
HHC				pmax		pmax			
	comp=Z,11nm,1.1s								
HHC				pmax		pmax			
	comp=Z,69nm,6.3s								
CN2	**Changchun**	**44.72**	**358**	*e*P		P	**P**	**04 06 38.0**	**-1.1**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
USRK	**Ussuriysk Ar.**	**45.28**	**5**	P		P	**P**	**04 06 42.9**	**-0.6**
	4.6nm,0.6s,baz=195,slow=6.5,SNR=9.0								
ODAN	**Odare**	**47.42**	**309**	*e*P		P	**P**	**04 07 01.5**	**+0.5**
	15nm,0.6s								
GTA	**Gaotai**	**47.53**	**331**	P		P	**P**	**04 07 02.3**	**+0.8**
GTA				pP		pP		04 07 08.3	-2.5
GTA				sP		sP		04 07 11.8	-2.7
GTA				PcP		PcP	**PcP**	**04 08 32.1**	**+0.8**
GTA				ScP		ScP	**ScP**	**04 12 25.6**	**+2.2**
GTA				S		S	**S**	**04 13 56.9**	**+2.3**
GTA				sS		pS		04 14 05.8	+0.2
GTA				pmax		pmax			
	comp=Z,5.0nm,1.3s								
GTA				pmax		pmax			
	comp=Z,82nm,5.2s								
GTA				LR		LR			
	comp=N,180nm,19.9s								
GTA				LR		LR			
	comp=E,210nm,17.9s								
RAMN	**Ramite**	**48.08**	**309**	*e*P		P	**P**	**04 07 06.9**	**+0.8**
	18nm,0.5s								
JIRN	**Jiri**	**48.74**	**309**	*e*P		P	**P**	**04 07 11.9**	**+0.6**
GUN	**Gumba**	**49.10**	**309**	*e*P		P	**P**	**04 07 14.6**	**+0.5**
	26nm,0.6s								
PKI	**Pulchoki**	**49.30**	**309**	*e*P		P	**P**	**04 07 15.7**	**+0.1**
PKIN	**Phulchoki**	**49.32**	**309**	*e*P		P	**P**	**04 07 15.7**	**0.0**
KKN	**Kakani**	**49.51**	**309**	*e*P		P	**P**	**04 07 17.4**	**+0.3**
DMN	**Daman**	**49.56**	**308**	*e*P		P	**P**	**04 07 17.8**	**+0.3**
	31nm,1.0s								
KOLN	**Koldanda**	**50.82**	**308**	*e*P		P	**P**	**04 07 27.6**	**+0.6**
	54nm,0.9s								
DANN	**Dangsing**	**50.96**	**309**	*e*P		P	**P**	**04 07 28.4**	**+0.3**
	48nm,0.7s								
PYUN	**Piuthan**	**51.45**	**308**	*e*P		P	**P**	**04 07 32.4**	**+0.7**
	33nm,0.6s								
ULN	**Ulaanbaatar**	**51.85**	**343**	*e*P		P	**P**	**04 07 34.0**	**-0.3**
	5.7nm,0.8s								
SONA0	**Songino Array**	**52.02**	**342**	*e*P		P	**P**	**04 07 35.2**	**-0.3**
SONA0				*e*PcP		PcP	**PcP**	**04 08 47.5**	**0.0**
SONM	**Songino Array**	**52.02**	**342**	P		P	**P**	**04 07 35.2**	**-0.3**
	2.4nm,0.6s,baz=155,slow=8.1,SNR=11								
SONM				PcP		PcP	**PcP**	**04 08 47.5**	**0.0**
	0.9nm,0.7s,baz=160,slow=3.5,SNR=2.4								
SONA1	**Songino Array**	**52.03**	**342**	*e*P		P	**P**	**04 07 35.0**	**-0.6**
WMQ	**Urumqi**	**57.00**	**327**	*e*P		P	**P**	**04 08 12.8**	**+1.1**
WMQ				pP		pP		04 08 18.5	-2.7
WMQ				sP		sP		04 08 22.3	-2.6
WMQ				pmax		pmax			
	comp=Z,35nm,1.1s								
WMQ				pmax		pmax			
	comp=Z,400nm,5.9s								
PETK	**Petropavlovsk-**	**59.67**	**21**	P		P	**P**	**04 08 30.9**	**+0.8**
	7.0nm,1.0s,baz=185,slow=7.1,SNR=5.1								
PEA1	**Petropavlovsk-**	**59.68**	**21**	*e*P		P	**P**	**04 08 30.9**	**+0.7**
MK01	**Makanchi Array**	**61.82**	**327**	*e*P		P	**P**	**04 08 44.6**	**-0.3**
MK31	**Makanchi Array**	**61.84**	**327**	*e*P		P	**P**	**04 08 44.6**	**-0.4**
MK32	**Makanchi Array**	**61.84**	**327**	*e*P		P	**P**	**04 08 44.8**	**-0.2**
MKAR	**Makanchi Array**	**61.84**	**327**	P		P	**P**	**04 08 44.8**	**-0.2**
	5.4nm,0.5s,baz=116,slow=8.0,SNR=76								
MKAR	**Makanchi Array**	**61.84**	**327**	*e*P		P	**P**	**04 08 44.6**	**-0.4**
	54nm,0.8s								
KSH	**Kashi**	**61.88**	**317**	*e*P		P	**P**	**04 08 47.3**	**+1.7**
ZALV	**Zalesovo Beam**	**65.12**	**334**	P		P	**P**	**04 09 05.1**	**-1.4**
	1.4nm,0.6s,baz=110,slow=7.1,SNR=6.5								
ZALV	**Zalesovo Beam**	**65.12**	**334**	*e*P		P	**P**	**04 09 05.0**	**-1.6**
ZAA1	**Zalesovo Array**	**65.12**	**334**	*e*P		P	**P**	**04 09 05.1**	**-1.4**
KURK	**Kurchatov**	**66.10**	**329**	*e*P		P	**P**	**04 09 12.6**	**-0.3**
	17nm,1.1s								
KK31	**Karatay Array**	**67.15**	**318**	*e*P		P	**P**	**04 09 19.5**	**-0.4**
KKAR	**Karatay Array**	**67.15**	**318**	*e*P		P	**P**	**04 09 18.8**	**-1.1**
BRVK	**Borovoye**	**71.73**	**328**	*e*P		P	**P**	**04 09 47.0**	**-0.9**
	5.0nm,0.9s								
NRIK	**Noril'sk**	**75.21**	**346**	P		P	**P**	**04 10 08.4**	**+0.4**
	4.9nm,0.6s,baz=174,slow=4.6,SNR=4.3								
NRIK				LR		LR		04 45 10.8	
	comp=Z,24nm,18.3s,baz=12,slow=37								
ABKAR	**Akbulak array**	**76.23**	**321**	*e*P		P	**P**	**04 10 13.6**	**-0.7**
AKTO	**Aktyubinsk**	**77.78**	**322**	LR		LR		04 47 28.8	
	comp=Z,21nm,19.6s,baz=343,slow=38								
VNDA	**Vanda**	**78.61**	**173**	P		P	**P**	**04 10 27.7**	**+0.6**
	0.9nm,0.8s,baz=11,slow=4.4,SNR=3.0								
VNDA				LR		LR		04 45 58.4	
	comp=Z,43nm,18.1s,baz=252,slow=36								
PPT	**Papeete**	**83.12**	**107**	LR		LR		04 48 12.6	
	comp=Z,17nm,18.1s,baz=317,slow=36								
ILAR	**Eielson Array**	**89.18**	**25**	P		P	**P**	**04 11 19.5**	**-1.7**
	0.9nm,1.0s,baz=238,slow=6.3,SNR=4.3								
ILB	**Eielson Array**	**89.18**	**25**	*e*P		P	**P**	**04 11 19.5**	**-1.7**
FYU	**Fort Yukon**	**89.97**	**24**	*e*P		P	**P**	**04 11 24.8**	**0.0**
	15nm,0.8s								
ARA0	**ARCESS Array S**	**95.13**	**340**	*e*P		P	**P**	**04 11 47.1**	**-1.6**
ARCES	**ARCESS Array B**	**95.13**	**340**	P		P	**P**	**04 11 47.1**	**-1.6**
	3.1nm,1.0s,baz=76,slow=3.8,SNR=3.3								
TORD	**Torodi Ar. Bea**	**124.84**	**285**	PKP			**PKPdf**	**04 17 27.5**	**+0.8**
	0.5nm,0.8s,baz=101,slow=1.5,SNR=2.9								
TOA1	**Torodi Ar. Sit**	**124.84**	**285**	*e*PKPdf			**PKPdf**	**04 17 27.5**	**+0.8**

IDC 21 04:11:13.2±2.2, **3°.18N×128°.56E, h0km, mb3.5**/3, **mb1 3.7**/3, **mb1mx3.4**/48, **mbtmp3.5**/3, **Error ellipse: s-maj=145.1km s-min=26.0km az=68.0, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.67**	**166**	P		P	P	04 16 26.4	-0.2
	1.2nm,0.6s,baz=346,slow=10,SNR=15								
ASAR	**Alice Springs**	**27.18**	**169**	P		P	P	04 16 58.5	-0.3
	0.2nm,0.4s,baz=351,slow=7.1,SNR=4.3								
MKAR	**Makanchi Array**	**59.06**	**325**	P		P	P	04 21 15.5	+0.3
	0.3nm,0.5s,baz=120,slow=7.2,SNR=5.6								

*ISCJB **21** 04:22:36.9±0.5, 50°.41N±0°.03×18°.83E±0°.03, h0km, mb2.8/1, Error ellipse: s-maj=4.3km s-min=2.2km az=17.2*
*IDC **21** 04:22:37.7±1.3, 50°.10N×19°.15E, h0km, mb2.9/1, mb1 3.4/4, mb1mx3.2/40, mbtmp3.2/4, ML2.8/3, Error ellipse: s-maj=27.0km s-min=9.4km az=144.0*
*PRU **21** 04:22:38.7±0.0, 50°.40N×18°.86E, h0km*
*VIE **21** 04:22:38.2±1.0, 50°.55N×18°.63E, h0km, mb2.5/5, ml3.0/6, Error ellipse: s-maj=10.2km s-min=6.5km az=143.0 41 km NW of Katowice Suspected Mining induced.*
*WAR **21** 04:22:39.3, 50°.36N×18°.92E, h1km, Mw3.1*

ISC 21 04:22:37.9±0.7, **50°.36N**±0°.03×**18°.85E**±0°.02, **h0km, n49,**
σ1=**28**/78, **6C-5D, Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.11**	**125**	*e*Pg		P	**Pg**	**04 22 41.2**	**+1.2**
CHZP				*e*Sg		S	**Sg**	**04 22 42.7**	**+1.2**
CHZP	**Chorzow**	**0.11**	**125**	*e*Pg		Pg	**Pg**	**04 22 41.2**	**+1.2**
CHZP				*e*Sg		Sg	**Sg**	**04 22 42.7**	**+1.2**
OJC	**Ojcow**	**0.62**	**102**	*e*Pg		Pg	**Pg**	**04 22 50.3**	**+0.4**
OJC				*e*Sg		Sg	**Sg**	**04 22 58.9**	**+0.9**
OJC	**Ojcow**	**0.62**	**102**	*e*Pg		Pg	**Pg**	**04 22 50.3**	**+0.4**
OJC				*e*Sg		Sg	**Sg**	**04 22 58.9**	**+0.9**
OKC	**Ostrava-Krasne**	**0.69**	**221**	*e*PG		Pb	**Pb**	**04 22 53.0**	**+0.2**
OKC				*e*SG		Sb	**Sb**	**04 23 02.4**	**-0.5**
	comp=Z,123nm,0.4s								
MORC	**Moravsky Berou**	**1.02**	**236**	||*i*P		**Pb**	**04 22 58.8**	**+0.2**
MORC	**Moravsky Berou**	**1.02**	**236**	S			**Sb**	**04 23 12.5**	**0.0**
MORC	**Moravsky Berou**	**1.02**	**236**	*e*PG			**Pb**	**04 22 58.7**	**+0.2**
MORC				*e*SG			**Sb**	**04 23 12.7**	**+0.2**
LANS	**Liptovska Anna**	**1.27**	**161**	*e*PG			**Pn**	**04 23 03.0**	**0.0**
LANS				*e*SG			**Sn**	**04 23 20.5**	**-0.3**
NIE	**Niedzica**	**1.33**	**134**	*e*Pg			**Pg**	**04 23 03.6**	**+0.2**
NIE				*e*Sg			**Sn**	**04 23 22.1**	**0.0**
NIE	**Niedzica**	**1.33**	**134**	*e*Pg			**Pg**	**04 23 03.6**	**+0.2**
NIE				*e*Sg			**Sn**	**04 23 22.1**	**0.0**
KRLC	**Kraliky**	**1.36**	**259**	*e*PG			**Pg**	**04 23 04.1**	**+0.1**
KRLC				*e*SG			**Sb**	**04 23 22.3**	**+0.1**
	comp=Z,36nm,0.3s								
DPC	**Dobruska-Polom**	**1.62**	**271**	*e*PG			**Pb**	**04 23 08.6**	**-0.1**
DPC				*e*SG			**Sg**	**04 23 30.8**	**+0.9**
	comp=Z,53nm,0.3s								
JAVC	**Velka Javorina**	**1.68**	**208**	*e*PN			**Pb**	**04 23 09.7**	**-0.1**
KSP	**Ksiaz**	**1.70**	**288**	*e*Pg			**Pg**	**04 23 11.5**	**+0.9**
KSP				*e*Sb			**Sg**	**04 23 32.3**	**-0.2**
KSP				*e*Sg			**Sb**	**04 23 34.3**	**+2.2**
KSP	**Ksiaz**	**1.70**	**288**	*e*Pg			**Pg**	**04 23 11.5**	**+0.9**
KSP				*e*Sb			**Sg**	**04 23 32.3**	**-0.2**
KSP				*e*Sg			**Sb**	**04 23 34.3**	**+2.2**
VRAC	**Vranov**	**1.80**	**235**	Pg			**Pn**	**04 23 11.0**	**+0.8**
	7.7nm,0.3s,baz=51,slow=14,SNR=27								
VRAC				Lg			Lg	04 23 36.8	
	16nm,0.3s,baz=328,slow=23,SNR=19								
VRAC				LR			LR	04 23 37.3	
	comp=Z,32nm,20.4s,baz=298,slow=32								
VRAC	**Vranov**	**1.80**	**235**	||*i*P		**Pn**	**04 23 10.9**	**+0.7**
VRAC	**Vranov**	**1.80**	**235**	S			**Sg**	**04 23 36.4**	**+0.8**
VRAC	**Vranov**	**1.80**	**235**	*e*PN			**Pn**	**04 23 10.8**	**+0.6**
VRAC				*e*SG			**Sg**	**04 23 36.5**	**+0.8**
KOLL	**Kolacno**	**1.80**	**189**	*e*PN			**Pn**	**04 23 10.4**	**+0.1**
VYHS	**Vyhne**	**1.86**	**180**	*e*PN			**Pn**	**04 23 11.3**	**+0.2**
VYHS				*e*SN			**Sn**	**04 23 35.6**	**+0.2**
VYHS				*e*LG			Lg	04 23 39.5	
KRUC	**Moravsky**	**2.05**	**232**	*e*PN			**Pn**	**04 23 13.6**	**-0.1**
KRUC				*e*SG			**Sb**	**04 23 43.1**	**+1.0**
TREC	**Trest**	**2.42**	**245**	*e*SG			**Sg**	**04 23 54.4**	**-1.3**
	comp=Z,34nm,0.5s								
PSZ	**Piszkesteto**	**2.53**	**164**	||*i*P		**Pn**	**04 23 21.5**	**+1.1**
PSZ	**Piszkesteto**	**2.53**	**164**	||*ex*		**Pg**	**04 23 27.1**	**+0.6**
PSZ				*e*Sdiff			**Sg**	**04 23 59.9**	**+0.6**
GOPC	**GO Pecny, Ondr**	**2.65**	**262**	*e*PG			**Pb**	**04 23 26.9**	**+0.6**
GOPC				*e*SG			**Sg**	**04 24 01.9**	**-1.2**
PVCC	**Panska Ves**	**2.74**	**275**	*e*SG			**Sg**	**04 24 06.1**	**+0.1**
	comp=Z,61nm,0.2s								
CONA	**Conrad Observa**	**3.12**	**220**	*e*Pn			**Pn**	**04 23 28.9**	**+0.4**
	0.6nm,0.3s								
CONA				*e*Sn			**Sn**	**04 24 06.0**	**-0.5**
	5.4nm,0.4s								
BRG	**Berggiesshubel**	**3.17**	**281**	PG			**Pg**	**04 23 39.6**	**+1.0**
BRG				SG			**Sg**	**04 24 20.1**	**+0.4**
	22nm,0.4s								
TRPA	**Tarpa**	**3.29**	**131**	||*i*P		**Pn**	**04 23 30.3**	**-0.3**
KHC	**Kasperske Hory**	**3.63**	**252**	*e*PN			**Pn**	**04 23 36.1**	**+0.7**
KHC				*e*PG			**Pb**	**04 23 43.2**	**+0.2**
KHC				*e*SG			**Sg**	**04 24 34.1**	**-0.5**
	comp=Z,25nm,0.4s								
GERES	**GERESS Array B**	**3.67**	**248**	Pn			**Pn**	**04 23 37.2**	**+1.1**
	0.3nm,0.3s,baz=64,slow=15,SNR=6.3								
GERES				Pg			**Pg**	**04 23 47.1**	**-1.3**
	2.0nm,0.3s,baz=65,slow=15,SNR=20								
GERES				Lg			Lg	04 24 35.1	
	3.9nm,0.3s,baz=62,slow=26,SNR=28								
ARSA	**Arzberg**	**3.81**	**217**	Pn			**Pn**	**04 23 40.0**	**+2.2**
	1.6nm,0.5s								
CLL	**Collm**	**3.83**	**287**	*e*Pg			**Pg**	**04 23 54.0**	**+2.7**
CLL				*e*Sg			**Sg**	**04 24 41.0**	**+0.2**
	comp=Z,24nm,0.7s								
MOA	**Molln**	**3.92**	**232**	*e*Pn			**Pn**	**04 23 40.1**	**+0.7**
	comp=Z,0.2nm,0.2s								
MOA				Pg			**Pg**	**04 23 52.4**	**-0.6**
	comp=Z,2.5nm,0.5s								
MOA				*e*S			**Sg**	**04 24 40.9**	**-2.9**
	comp=Z,18nm,0.7s								
NKC	**Novy Kostel**	**4.11**	**271**	*e*SG			**Sg**	**04 24 48.0**	**-1.8**
BEHE	**Becsehely**	**4.13**	**200**	||*e*SKSdf		**Pn**	**04 23 44.1**	**+1.9**
MORH	**M¯‡r¯igy, Hung**	**4.15**	**182**	||*e*SKSdf		**Pn**	**04 23 42.6**	**+0.2**
DRGR		**4.39**	**143**	||*i*P		**Pn**	**04 23 46.4**	**+0.5**
SIRR	**Siria**	**4.50**	**154**	||*i*P		**Pn**	**04 23 48.1**	**+0.7**
KBA	**Koelnbreinsper**	**4.90**	**230**	Pn			**Pn**	**04 23 55.1**	**+2.1**
	comp=Z,0.4nm,0.3s								
KBA				*e*Sn			**Sn**	**04 24 52.1**	**+1.6**
	comp=Z,1.6nm,0.4s								
KBA	

mb1 3.6/6, mb1mx3.3/42, mbtmp3.4/6, ML3.0/1, Error ellipse: s-maj=60.3km s-min=19.6km az=137.0, Northern and central Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**17.59**	**237**	P	P	05 04 53.2	+0.8
	0.2nm,0.3s,baz=37,slow=11,SNR=2.9						
KURBB	**Kurchatov Arra**	**22.52**	**241**	P	P	05 05 45.8	-0.2
	0.5nm,0.2s,baz=36,slow=11,SNR=2.6						
MKAR	**Makanchi Array**	**24.57**	**231**	P	P	05 06 06.0	-0.4
	0.8nm,1.0s,baz=43,slow=8.7,SNR=3.1						
ILAR	**Eielson Array**	**37.95**	**43**	P	P	05 08 04.3	+0.5
	0.2nm,0.7s,baz=306,slow=6.3,SNR=3.4						
PDAR	**Pinedale Array**	**66.97**	**31**	P	P	05 11 38.9	-0.5
	0.2nm,0.5s,baz=26,slow=2.5,SNR=3.1						
WRA	**Warramunga Arr**	**87.94**	**157**	P	P	05 13 36.4	0.0
	0.2nm,0.6s,baz=345,slow=6.0,SNR=2.8						

IDC ***21*** *05:13:20.5±1.6, 13.93N×92.74W, h0km, mb3.6/5, mb1 3.8/9, mb1mx3.7/38, mbtmp3.5/9, ML3.4/4, MS2.8/3, Ms1 2.8/3, ms1mx2.6/21, Error ellipse: s-maj=35.9km s-min=18.2km az=33.0*

MEX ***21*** *05:13:23.7±0.7, 14.10N×92.68W, h100km±15km, MD4.2*

ISCJB ***21*** *05:13:24.9±1.5, 14.12N±0.08×92.84W±0.06, h33km±13km, mb3.1/1, MS3.6/1, Error ellipse: s-maj=15.1km s-min=8.1km az=30.2*

NEIC ***21*** *05:13:24.4±0.0, 14.16N×92.67W, h106km, mb4.4/5, MD4.2(MEX), After MEX.*

ISC 21 05:13:24.3±2.2, 14.17N±0.08×92.81W±0.06, h16km±12km, n27, σ1§64/35, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.90**	**36**	*eP*	**Pn**	**05 13 42.4**	**+0.1**
THIG				*eS*	**Sn**	**05 13 56.3**	**+1.3**
THIG		**0.90**	**36**	*eP*	**Pg**	**05 13 41.5**	**-0.3**
THIG				*eS*	**Sn**	**05 13 55.8**	**+0.8**
PCIG		**1.58**	**345**	*eP*	**Pn**	**05 13 51.6**	**+0.1**
PCIG				*eS*	**Sn**	**05 14 12.2**	**+0.6**
PCIG		**1.58**	**345**	*eP*	**Pn**	**05 13 51.6**	**+0.1**
PCIG				*eS*	**Sn**	**05 14 12.2**	**+0.6**
CCIG	**Comitan**	**2.20**	**17**	*ePn*	**Pb**	**05 14 04.3**	**+0.5**
CCIG				*eS*	**Sn**	**05 14 25.1**	**-2.1**
CCIG	**Comitan**	**2.20**	**17**	*i* P	**Pn**	**05 13 58.9**	**-1.4**
CCIG				*eP*	**Pb**	**05 14 03.9**	**+0.2**
CCIG				*eS*	**Sn**	**05 14 25.1**	**-2.1**
APG	**El Apazote**	**2.41**	**70**	Pn	**Pn**	**05 14 01.4**	**-1.9**
	8.0nm,0.3s,baz=277,slow=7.7,SNR=76						
APG				Sn	**Sn**	**05 14 34.3**	**+1.7**
	27nm,0.3s,baz=237,slow=23,SNR=6.8						
APG				LR	LR	05 14 55.6	
	comp=Z,122nm,18.4s,baz=196,slow=39						
CMIG	**Matias Romero**	**3.53**	**326**	Pn	**Pn**	**05 14 19.5**	**+1.1**
	1.1nm,0.3s,baz=166,slow=13,SNR=20						
CMIG				Sn	**Sb**	**05 15 06.5**	**-2.4**
	6.5nm,0.3s,baz=288,slow=20,SNR=4.4						
CMIG				Lg	Lg	05 15 18.1	
	7.1nm,0.3s,baz=74,slow=22,SNR=5.6						
CMIG				LR	LR	05 15 29.3	
	comp=Z,24nm,21.4s,baz=164,slow=34						
CMIG	**Matias Romero**	**3.53**	**326**	*eP*	**Pn**	**05 14 19.4**	**+0.9**
CMIG				*eS*	**Sn**	**05 14 59.0**	**-0.8**
CMIG	**Matias Romero**	**3.53**	**326**	*i* P	**Pn**	**05 14 18.1**	**-0.3**
CMIG				*eS*	**Sn**	**05 14 59.0**	**-0.8**
TGUH	**Tegucigalpa,Un**	**5.37**	**91**	*ePn*	**Pn**	**05 14 44.2**	**+0.4**
ESTN	**Estel**	**6.35**	**99**	*ePn*	**Pn**	**05 14 59.7**	**+2.4**
JTS	**JuntasAbangare**	**8.59**	**116**	Pn	**Pn**	**05 15 24.9**	**-3.1**
	0.4nm,0.3s,baz=294,slow=20,SNR=2.5						
VBMS	**Vicksburg**	**18.09**	**6**	*ePn*	Pn	05 17 21.4	-13
	36nm,0.3s						
TXAR	**Lajitas Array**	**18.13**	**328**	P	**P**	**05 17 38.0**	**+2.2**
	0.1nm,0.3s,baz=153,slow=12,SNR=5.3						
TX31	**Lajitas Ar. Si**	**18.13**	**328**	*ePn*	**P**	**05 17 39.4**	**+3.5**
146A	**Union**	**18.70**	**10**	*ePn*	P	05 17 27.1	-15
	46nm,1.6s						
ABTX	**Abilene, Hawle**	**19.40**	**342**	*eP*	**P**	**05 17 50.5**	**+0.8**
	6.1nm,1.0s						
AMTX	**Amarillo**	**22.12**	**340**	*eP*	**P**	**05 18 20.6**	**+1.4**
	7.1nm,0.8s						
ANMO	**Albuquerque**	**24.07**	**332**	P	**P**	**05 18 41.1**	**+1.9**
	0.3nm,0.3s,baz=158,slow=5.4,SNR=2.8						
CBN	**Corbin Frederi**	**27.57**	**27**	*eP*	P	05 19 00.1	-11
	32nm,1.4s						
PDAR	**Pinedale Array**	**31.95**	**336**	P	**P**	**05 19 51.0**	**+1.4**
	0.1nm,0.3s,baz=153,slow=11,SNR=2.3						
NVAR	**Mina Array Bea**	**33.05**	**322**	P	**P**	**05 20 00.8**	**+1.4**
	1.0nm,0.7s,baz=138,slow=8.4,SNR=6.0						
NVAR				LR	LR	05 34 36.2	
	comp=Z,104nm,19.0s,baz=86,slow=38						
YKA	**Yellowknife Ar**	**50.68**	**347**	P	**P**	**05 22 22.7**	**+0.1**
	1.6nm,0.6s,baz=151,slow=7.2,SNR=9.8						
ILAR	**Eielson Array**	**62.38**	**337**	P	**P**	**05 23 46.1**	**+0.1**
	0.2nm,0.5s,baz=135,slow=6.8,SNR=5.1						
WRA	**Warramunga Arr**	**134.68**	**256**	PKP	**PKPdf**	**05 32 40.0**	**-3.0**
	0.4nm,0.8s,baz=44,slow=0.9,SNR=4.6						
CMAR	**Chiang Mai Arr**	**145.57**	**340**	PKPbc	**PKPdf**	**05 33 01.5**	**-1.2**
	0.7nm,0.3s,baz=344,slow=3.8,SNR=7.3						

SOME ***21*** *05:21:37.3, 49.53N×83.47E, h0km*

NNC ***21*** *05:21:37.6±5.8, 49.55N×83.73E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=54.4km s-min=15.2km az=63.0, Suspected Mining explosion.*

ISC 21 05:21:36.8±4.6, 49.6N±0.3×83.6E±0.3, h0km, n4, σ0§63/5, 4C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZSN	**Zaisan**	**2.31**	**159**	*eP*	**Pg**	**05 22 20.9**	**-0.2**
	3.6nm,0.5s						
ZSN				*eS*	**Sg**	**05 22 51.9**	**+0.8**
	13nm,0.5s						
MK31	**Makanchi Array**	**2.96**	**198**	⇑Pg	**Pb**	**05 22 30.0**	**-0.3**
	0.1nm,0.2s,baz=25,slow=14,SNR=53						
MK31				Lg	Lg	05 23 11.8	
	6.0nm,0.5s,baz=27,slow=28,SNR=15						
KURK	**Kurchatov**	**3.40**	**291**	⇓Pg	**Pg**	**05 22 42.0**	**0.0**
	1.4nm,0.4s						
KURK				⇑Lg	Lg	05 23 26.3	
	8.5nm,0.7s						
KURBB	**Kurchatov Arra**	**3.43**	**289**	⇑Pg	**Pg**	**05 22 42.5**	**0.0**
	1.4nm,0.3s						
KURBB				⇑Lg	Lg	05 23 27.5	
	11nm,0.4s						

NEIC ***21*** *05:25:59.7±0.7, 45.11N×148.40E, h104km±6km, mb4.4/10, Error ellipse: s-maj=9.6km s-min=6.1km az=149.0*

IDC ***21*** *05:26:00.1±2.2, 45.18N×148.37E, h104km±18km, mb3.8/18, mb1 3.9/20, mb1mx3.7/39, mbtmp4.1/20, Error ellipse: s-maj=19.3km s-min=12.5km az=151.0*

MOS ***21*** *05:26:01.4±1.5, 45.09N×148.48E, h134km, mb4.1/18, Error ellipse: s-maj=9.9km s-min=8.0km az=87.8*

ISCJB ***21*** *05:26:01.9±0.6, 45.01N±0.05×148.44E±0.08, h136km±4km, mb4.1/42, Error ellipse: s-maj=9.8km s-min=7.2km az=36.9*

SKHL ***21*** *05:26:03.7±0.6, 44.96N×148.41E, h126km±4km, mb5.2/7, msh6.0/6*

JMA ***21*** *05:26:05.3±0.7, 44.69N×148.40E, h128km, M4.2*

ISC 21 05:26:02.3±0.7, 44.99N±0.05×148.46E±0.06, h134km±5km, n144, σ1§54/165, mb4.2/42, 11C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.48**	**300**	*i* P	**Pn**	**05 26 22.0**	**+0.3**
KUR				AMB	AMB	05 26 22.0	
	420nm,0.2s						
KUR				AMB	AMB	05 26 22.0	
	2μm,0.2s						
KUR				AMB	AMB	05 26 23.1	
	3μm,1.0s						
KUR				*i* S	**Sn**	**05 26 35.7**	**-0.7**
KUR				A	A	05 26 37.0	
	2μm,0.4s						
KUR				A	A	05 26 37.0	
	2μm,0.4s						
KUR				A	A	05 26 38.0	
	6μm,2.0s						
KUR				A	A	05 26 38.0	
	4μm,2.0s						
KUR	**Kuril'sk**	**0.48**	**300**	*d* iPN	**Pn**	**05 26 22.6**	**+0.9**
KUR				*i* S	**Sn**	**05 26 36.8**	**+0.4**
KUR				pmax	pmax		
	comp=N,420nm,0.2s						
KUR				pmax	pmax		
	comp=Z,2μm,0.2s						
KUR				pmax	pmax		
	comp=E,74nm,0.1s						
KUR				smax	smax		
	comp=N,1μm,0.4s						
KUR				smax	smax		
	comp=E,3μm,0.4s						
SHO	**Shikotan**	**1.62**	**227**	*i* P	**Pn**	**05 26 32.7**	**+0.7**
SHO				AMB	AMB	05 26 33.0	
	comp=E,30nm,0.2s						
SHO				AMB	AMB	05 26 33.0	
	comp=E,40nm,0.2s						
SHO				AMB	AMB	05 26 33.0	
	comp=E,150nm,0.2s						
SHO				*i* S	**Sn**	**05 26 54.1**	**-0.5**
SHO				A	A	05 26 54.5	
	comp=E,2μm,0.5s						
SHO				A	A	05 26 54.5	
	comp=E,900nm,0.5s						
SHO	**Shikotan**	**1.62**	**227**	*d* iPN	**Pn**	**05 26 33.0**	**+1.0**
SHO				*i* S	**Sn**	**05 26 53.9**	**-0.7**
SHO				pmax	pmax		
	comp=Z,72nm,0.2s						
SHO				pmax	pmax		
	comp=N,29nm,0.1s						
SHO				pmax	pmax		
	comp=E,37nm,0.1s						
SHO				smax	smax		
	comp=N,2μm,0.5s						
SHO				smax	smax		
	comp=E,899nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.09**	**244**	*i* P	**Pn**	**05 26 38.8**	**+1.2**
YUK				AMB	AMB	05 26 39.0	
	comp=E,30nm,0.3s						
YUK				AMB	AMB	05 26 39.0	
	comp=E,110nm,0.3s						
YUK				AMB	AMB	05 26 39.0	
	comp=E,210nm,0.3s						
YUK				*i* S	**Sn**	**05 27 05.0**	**+0.4**
YUK				A	A	05 27 08.0	
	comp=E,620nm,0.4s						
YUK				A	A	05 27 08.0	
	comp=E,2μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.09**	**244**	*d* iPN	**Pn**	**05 26 39.2**	**+1.6**
YUK				*i* S	**Sn**	**05 27 05.5**	**+0.9**
YUK				pmax	pmax		
	comp=Z,214nm,0.2s						
YUK				pmax	pmax		
	comp=N,32nm,0.1s						
YUK				pmax	pmax		
	comp=E,107nm,0.3s						
YUK				smax	smax		
	comp=N,621nm,0.4s						
YUK				smax	smax		
	comp=E,2μm,0.4s						
LAGR	**Lagunnoye**	**2.13**	**245**	*eP*	**Pn**	**05 26 39.0**	**+1.0**
LAGR				AMB	AMB	05 26 40.0	
	comp=E,80nm,0.2s						
LAGR				AMB	AMB	05 26 40.0	
	comp=E,150nm,0.2s						
LAGR				AMB	AMB	05 26 40.0	
	comp=E,160nm,0.2s						
LAGR				*eS*	**Sn**	**05 27 06.0**	**+0.6**
LAGR				A	A	05 27 08.0	
	comp=E,1μm,0.4s						
LAGR				A	A	05 27 08.0	
	comp=E,2μm,0.4s						
LAGR	**Lagunnoye**	**2.13**	**245**	*ePN*	**Pn**	**05 26 39.5**	**+1.5**
LAGR				*eS*	**Sn**	**05 27 06.6**	**+1.2**
LAGR				pmax	pmax		
	comp=Z,159nm,0.2s						
LAGR				pmax	pmax		
	comp=N,81nm,0.1s						
LAGR				pmax	pmax		
	comp=E,147nm,0.1s						
LAGR				smax	smax		
	comp=N,1μm,0.2s						
LAGR				smax	smax		
	comp=E,2μm,0.4s						
GRPR	**Tuman**	**2.17**	**243**	*eP*	**Pn**	**05 26 39.7**	**+1.2**
GRPR				AMB	AMB	05 26 41.0	
	comp=E,120nm,0.2s						
GRPR				AMB	AMB	05 26 41.0	
	comp=E,200nm,0.2s						
GRPR				*eS*	**Sn**	**05 27 06.0**	**-0.3**
GRPR				A	A	05 27 07.0	
	comp=E,870nm,0.3s						
GRPR				A	A	05 27 07.0	
	comp=E,1μm,0.3s						
GRPR	**Tuman**	**2.17**	**243**	*ePN*	**Pn**	**05 26 40.2**	**+1.7**
GRPR				*eS*	**Sn**	**05 27 06.8**	**+0.5**
GRPR				pmax	pmax		
	comp=Z,198nm,0.2s						
GRPR				pmax	pmax		
	comp=N,118nm,0.1s						
GRPR				pmax	pmax		
	comp=E,115nm,0.1s						
GRPR				smax	smax		
	comp=E,1μm,0.3s						
GRPR				smax	smax		
	comp=N,868nm,0.2s						
GLVR	**Golovnino**	**2.45**	**240**	*eP*	**Pn**	**05 26 43.0**	**+0.9**
GLVR				AMB	AMB	05 26 44.0	
	comp=N,60nm,0.1s						
GLVR				AMB	AMB	05 26 44.0	
	comp=N,160nm,0.1s						
GLVR				*eS*	**Sn**	**05 27 13.0**	**+0.4**
GLVR				A	A	05 27 15.0	
	comp=N,830nm,0.4s						
GLVR				A	A	05 27 15.0	
	comp=N,1μm,0.4s						
GLVR	**Golovnino**	**2.45**	**240**	*ePN*	**Pn**	**05 26 43.6**	**+1.5**
GLVR				*eS*	**Sn**	**05 27 13.5**	**+0.9**
GLVR				pmax	pmax		
	comp=N,62nm,0.1s						
GLVR				pmax	pmax		
	comp=E,62nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,159nm,0.1s						
GLVR				smax	smax		
	comp=N,825nm,0.4s						
GLVR				smax	smax		
	comp=E,1μm,0.3s						
NEM2	**Nemuro 2**	**2.54**	**231**	P	**Pn**	**05 26 43.4**	**+0.2**
NEM2				*eS*	**Sn**	**05 27 12.8**	**-1.8**
JRA	**Rausu**	**2.61**	**247**	P	**Pn**	**05 26 45.8**	**+1.7**
JNK	**Nakash**	**3.03**	**244**	P	**Pn**	**05 26 51.0**	**+1.5**
JKHN	**Kushirohamanak**	**3.05**	**232**	P	**Pn**	**05 26 50.1**	**+0.4**
JAK	**Akkeshi**	**3.37**	**235**	P	**Pn**	**05 26 54.3**	**+0.5**
JAK				*eS*	**Sn**	**05 27 32.0**	**-1.7**
JTKR	**Abashiri--Toko**	**3.42**	**254**	P	**Pn**	**05 26 56.2**	**+1.8**
JAR	**Ashorobuto**	**3.78**	**245**	P	**Pn**	**05 27 01.3**	**+2.1**
JSE	**Soyaes**	**4.17**	**272**	P	**Pn**	**05 27 06.4**	**+2.1**
JKK2	**Kamakawa 2**	**4.24**	**257**	P	**Pn**	**05 27 07.6**	**+2.3**
ASAJ	**Asahikawa**	**4.28**	**260**	P	**Pn**	**05 27 02.9**	**-3.0**
	comp=E,1.4nm,0.3s,baz=74,slow=14,SNR=3.1						
ASAJ				S	**Sn**	**05 27 51.8**	**-3.4**
	comp=E,1.9nm,0.3s,baz=63,slow=13,SNR=4.3						
ASAJ	**Asahikawa**	**4.28**	**260**	*ePn*	Pn	05 27 00.9	-5.0
ASAJ				*eSn*	**Sn**	**05 27 50.7**	**-4.5**
JCH	**Churui**	**4.39**	**239**	P	**Pn**	**05 27 08.3**	**+1.0**
JCH				*eS*	**Sn**	**05 27 55.9**	**-1.9**
YSS	**Yuzh-Sakhalins**	**4.43**	**298**	*ePn*	**Pn**	**05 27 04.5**	**-3.3**
YSS				*eSn*	**Sn**	**05 27 58.0**	**-0.8**
YSS	**Yuzh-Sakhalins**	**4.43**	**298**	*eP*	**Pn**	**05 27 08.5**	**+0.7**
YSS				AMB	AMB	05 27 10.5	
	comp=E,20nm,0.3s						
YSS				AMB	AMB	05 27 10.5	
	comp=E,4μm,0.3s						
YSS				*eS*	**Sn**	**05 27 59.8**	**+1.0**
YSS				A	A	05 28 04.1	
	comp=E,50nm,1.0s						
YSS				A	A	05 28 04.1	
	comp=E,90nm,1.0s						
YSS	**Yuzh-Sakhalins**	**4.43**	**298**	⇑*ePN*	**Pn**	**05 27 09.8**	**+2.0**
YSS				*eS*	**Sn**	**05 27 59.8**	**+1.0**
YSS				pmax	pmax		
	comp=Z,20nm,0.5s						
YSS				smax	smax		
	comp=N,50nm,1.1s						
YSS				smax	smax		
	comp=E,90nm,1.1s						
ERM	**Erimo**	**4.87**	**234**	*ePn*	**Pn**	**05 27 11.2**	**-2.5**
ERM				*eSn*	**Sn**	**05 28 05.6**	**-3.7**
ERM	**Erimo**	**4.87**	**234**	*ePN*	**Pn**	**05 27 11.2**	**-2.5**
ERM				*e*		05 28 05.6	
JNBK	**Urakawa-nobuka**	**4.95**	**239**	P	**Pn**	**05 27 14.5**	**-0.3**
JKB	**Kayabe**	**6.23**	**243**	*eS*	**Sn**	**05 28 38.4**	**-3.6**
JOT	**Ohata**	**6.51**	**239**	*eS*	**Sn**	**05 28 43.3**	**-5.3**
PETK	**Petropavlovsk-**	**10.13**	**33**	P	**Pn**	**05 28 21.2**	**-2.9**
	baz=210,slow=13,SNR=2.4						
PEA1	**Petropavlovsk-**	**10.13**	**33**	*ePn*	**Pn**	**05 28 21.2**	**-3.0**
EKMR	**Ekimchan**	**12.97**	**314**	*erx*	rx	05 29 05.6	
BMKR	**Bomnak**	**15.90**	**315**	*eP*	**P**	**05 29 39.0**	**-0.4**
KROS	**Kirovskiy**	**16.74**	**312**	*eP*	**Pn**	**05 29 45.1**	**-3.6**
SEY	**Seymchan**	**18.12**	**6**	P	**P**	**05 30 02.4**	**-1.2**
	comp=E,0.5nm,0.3s,baz=175,slow=23,SNR=8.8						
SEY	**Seymchan**	**18.12**	**6**	*eP*	**Pn**	**05 30 05.1**	**0.0**
SEY	**Seymchan**	**18.12**	**6**	*i* P	**Pn**	**05 30 05.1**	**0.0**
YAK	**Yakutsk**	**20.26**	**334**	*eP*	**P**	**05 30 24.4**	**-2.5**
	comp=E,20nm,0.3s,baz=64,slow=3.0,SNR=6.2						
YAK	**Yakutsk**	**20.26**	**334**	*eP*	**P**	**05 30 24.4**	**-2.5**
	comp=E,33nm,0.5s						
YAK	**Yakutsk**	**20.26**	**334**	*i* P	**P**	**05 30 26.3**	**-0.5**
YAK				pmax	pmax		
	comp=Z,19nm,0.5s						
ULN	**Ulaanbaatar**	**28.44**	**291**	*i* P	**P**	**05 31 46.1**	**+1.6**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONA0	**Songino Array**	**28.88**	**291**	*eP*	**P**	**05 31 47.9**	**-0.5**
SONM	**Songino Array**	**28.88**	**291**	P	**P**	**05 31 47.9**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=81,slow=7.9,SNR=8.8						
SONM	**Songino Array**	**28.88**	**291**	*eP*	**P**	**05 31 50.0**	**+1.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GTA	**Gaotai**	**36.03**	**279**	*eP*	**P**	**05 32 52.8**	**+2.1**
GTA				pP	pP	05 32 59.8	-20
GTA				sP	sP	05 33 02.8	-32
GTA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,60nm,4.9s						
GTA				LR	LR		
	comp=N,400nm,21.0s						
GTA				LR	LR		
	comp=E,180nm,18.9s						
GTA				LR	LR		
	comp=Z,64nm,17.5s						
ILAR	**Eielson Array**	**39.93**	**37**	P	**P**	**05 33 21.5**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=272,slow=8.9,SNR=4.8						
ILAR	**Eielson Array**	**39.93**	**37**	*eP*	P	05 33 28.8	+5.9
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILB	**Eielson Array**	**39.93**	**37**	*eP*	**P**	**05 33 23.6**	**+0.7**
DGZ	**Jazzator, Alta**	**40.62**	**299**	*i* P	**P**	**05 33 30.6**	**+1.6**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MK31	**Makanchi Array**	**44.85**	**297**	*eP*	**P**	**05 34 03.0**	**+0.1**
MK32	**Makanchi Array**	**44.85**	**297**	*eP*	**P**	**05 34 02.6**	**-0.3**
MK32				*eP*	**PcP**	**05 35 43.3**	**+1.0**
MKAR	**Makanchi Array**	**44.85**	**297**	P	**P**	**05 34 02.6**	**-0.3**
	comp=Z,4.9nm,0.6s,baz=78,slow=8.2,SNR=40						
MKAR				PcP	**PcP**	**05 35 43.3**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=55,slow=5.5,SNR=2.7						
MKAR	**Makanchi Array**	**44.85**	**297**	*eP*	**P**	**05 34 02.5**	**-0.5**
	comp=Z,52nm,0.6s						
MKAR				PcP	**PcP**	**05 35 43.3**	**+1.0**
MK01	**Makanchi Array**	**44.85**	**297**	*eP*	**P**	**05 34 02.7**	**-0.3**
INK	**Inuvik**	**44.85**	**31**	P	**P**	**05 34 02.9**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=290,slow=5.9,SNR=25						
KURK	**Kurchatov**	**45.62**	**303**	*eP*	**P**	**05 34 08.1**	**-0.8**
	comp=Z,3.8nm,0.6s						
KURK	**Kurchatov**	**45.62**	**303**	*eP*	**P**	**05 34 09.0**	**+0.1**
KURK	**Kurchatov**	**45.62**	**303**	*i* P	**P**	**05 34 09.0**	**+0.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRVK	**Borovoye**	**49.49**	**309**	*eP*	**P**	**05 34 41.3**	**+2.5**
BRVK	**Borovoye**	**49.49**	**309**	*i* P	**P**	**05 34 41.3**	**+2.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AAK	**Ala-Archa**	**51.67**	**295**	*i* P	**P**	**05 34 55.4**	**-0.1**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KK31	**Karatay Array**	**53.97**	**298**	*eP*	**P**	**05 35 12.5**	**+0.4**
KK31	**Karatay Array**	**53.97**	**298**	*eP*	**P**	**05 35 12.5**	**+0.4**
KKAR	**Karatay Array**	**53.97**	**298**	*eP*	**P**	**05 35 12.5**	**+0.4**
KKAR	**Karatay Array**	**53.97**	**298**	*eP*	**P**	**05 35 12.5**	**+0.4**
YKA	**Yellowknife Ar**	**54.24**	**35**	P	**P**	**05 35 14.4**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=300,slow=6.9,SNR=3.6						
ABKAR	**Akbulak array**	**57.02**	**309**	*eP*	**P**	**05 35 33.6**	**-0.2**
AKTO	**Aktyubinsk**	**57.44**	**311**	P	**P**	**05 35 35.8**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=33,slow=14,SNR=4.2						
ARA0	**ARCESS Array S**	**58.41**	**340**	*eP*	**P**	**05 35 42.1**	**-1.2**
ARCES	**ARCESS Array B**	**58.41**	**340**	P	**P**	**05 35 42.1**	**-1.2**
	comp=Z,7.3nm,1.1s,baz=41,slow=8.4,SNR=5.6						
FIA0	**FINESS Array S**	**64.19**	**333**	*eP*	**P**	**05 36 20.6**	**-1.6**
FIA0	**FINESS Array S**	**64.19**	**333**	*eP*	**P**	**05 36 20.6**	**-1.6**
FINES	**FINESS Array B**	**64.19**	**333**	P	**P**	**05 36 20.6**	**-1.6**
	comp=Z,3.7nm,0.6s,baz=46,slow=6.0,SNR=16						
GEYT	**Alibeck**	**64.66**	**299**	P	**P**	**05 36 26.2**	**+0.4**
	comp=Z,191nm,0.4s,baz=54,slow=7.3,SNR=172						
LRM	**Limekiln Ridge**	**64.83**	**50**	*eP*	**P**	**05 36 24.3**	**-2.6**
WR1	**Warramunga Arr**	**65.89**	**195**	*eP*	**P**	**05 36 34.3**	**+0.7**
	comp=Z,1.7nm,0.9s						
WRA	**Warramunga Arr**	**65.89**	**195**	P	**P**	**05 36 34.3**	**+0.7**
	comp=Z,0.4nm,0.9s,baz=13,slow=6.8,SNR=3.3						
PDAR	**Pinedale Array**	**68.39**	**51**	P	**P**	**05 36 50.9**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=270,slow=2.4,SNR=3.6						
NB2	**NORSAR Subarra**	**68.78**	**339**	P	**P**	**05 36 50.4**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=28,slow=6.5						
NB2	**NORSAR Subarra**	**68.78**	**339**	P	**P**	**05 36 50.4**	**-1.1**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB200	**NORSAR Array S**	**68.78**	**339**	*eP*	**P**	**05 36 50.4**	**-1.1**
NOA	**NORSAR Array B**	**68.78**	**339**	P	**P**	**05 36 50.4**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=28,slow=6.6,SNR=17						
NORES	**NORESS Array B**	**68.96**	**339**	P	**P**	**05 36 51.3**	**-1.2**
NORES				pmax	pmax		
	comp=Z,1.0nm,0.2s						
ASAR	**Alice Springs**	**69.61**	**194**	P	**P**	**05 36 59.5**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=4.6,slow=5.8,SNR=3.8						
KIV	**Kislovodsk**	**69.63**	**312**	*eP*	**P**	**05 36 58.4**	**+1.3**
	comp=Z,22nm,0.7s						
KIV	**Kislovodsk**	**69.63**	**312**	*eP*	**P**	**05 36 58.2**	**+1.2**
KIV	**Kislovodsk**	**69.63**	**312**	*eP*	**P**	**05 36 58.7**	**+1.7**
KIV				pmax	pmax	

GOPC	**GO Pecny, Ondr**	**77.24**	**331**	*eP*	**P**	**05 37 43.0**	**+1.6**
BR101	**Keskin Array S**	**77.36**	**314**	*eP*	**P**	**05 37 43.8**	**+1.4**
BRTR	**Keskin Array B**	**77.36**	**314**	P	**P**	**05 37 43.8**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=74,slow=2.9,SNR=4.6						
BRTR	**Keskin Array B**	**77.36**	**314**	*eP*	**P**	**05 37 44.4**	**+2.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BZS	**Buzias**	**78.27**	**325**	⇑*iP*	**P**	**05 37 47.2**	**+0.1**
KHC	**Kasperske Hory**	**78.32**	**332**	*eP*	**P**	**05 37 47.9**	**+0.5**
	comp=Z,3.3nm,0.6s						
KHC	**Kasperske Hory**	**78.32**	**332**	*eP*	**P**	**05 37 48.7**	**+1.3**
KHC	**Kasperske Hory**	**78.32**	**332**	*eP*	**P**	**05 37 48.7**	**+1.3**
KHC	**Kasperske Hory**	**78.32**	**332**	*eP*	**P**	**05 37 48.7**	**+1.3**
GERES	**GERESS Array B**	**78.52**	**331**	P	**P**	**05 37 49.1**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=39,slow=6.3,SNR=23						
GERES	**GERESS Array B**	**78.52**	**331**	*eP*	**P**	**05 37 49.3**	**+0.7**
GERES	**GERESS Array B**	**78.52**	**331**	*eP*	**P**	**05 37 49.3**	**+0.7**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GEA0	**GERESS Array S**	**78.53**	**331**	*eP*	**P**	**05 37 48.2**	**-0.4**
CONA	**Conrad Observa**	**78.55**	**330**	*eP*	**P**	**05 37 50.3**	**+1.6**
	comp=Z,4.4nm,0.6s						
MOA	**Molln**	**79.18**	**331**	*eP*	**P**	**05 37 54.1**	**+2.0**
	comp=Z,1.4nm,0.6s						
SOKA	**Soboth**	**79.91**	**329**	*eP*	**P**	**05 37 57.0**	**+0.8**
	comp=Z,4.1nm,1.0s						
KBA	**Koelnbreinsper**	**80.17**	**331**	*eP*	**P**	**05 37 59.4**	**+1.7**
	comp=Z,7.1nm,0.7s						
WATA	**Walderalm**	**80.55**	**332**	*eP*	**P**	**05 38 00.9**	**+1.3**
	comp=Z,4.2nm,0.5s						
WTTA	**Wattenberg**	**80.59**	**332**	*eP*	**P**	**05 38 01.5**	**+1.6**
	comp=Z,2.6nm,0.4s						
MOTA	**Moosalm**	**80.69**	**332**	*eP*	**P**	**05 38 01.6**	**+1.1**
	comp=Z,8.7nm,0.9s						
SQTA	**Sankt Quirin**	**80.77**	**332**	*eP*	**P**	**05 38 01.9**	**+1.1**
	comp=Z,6.3nm,0.8s						
DAVA	**Damuels**	**81.15**	**333**	*eP*	**P**	**05 38 03.7**	**+0.8**
	comp=Z,2.6nm,0.6s						
LTX	**Lajitas**	**81.18**	**57**	*eP*	**P**	**05 38 04.2**	**+1.0**
LTX	**Lajitas**	**81.18**	**57**	*eP*	**P**	**05 38 04.3**	**+1.0**
TXAR	**Lajitas Array**	**81.18**	**57**	P	**P**	**05 38 04.2**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=319,slow=4.8,SNR=5.7						
TUE	**Stuetta**	**82.04**	**333**	*eP*	**P**	**05 38 07.8**	**+0.2**
	comp=Z,4.3nm,0.7s						

IDC 21 05:36:24.8±641.0, 51°82N×133°87E, h0km, Error ellipse: s-maj=229.9km s-min=150.6km az=179.0, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I45RU	**USSURIYSK INFR**	**7.73**	**190**	*i*			06 23 10.0	
	baz=9.2,slow=332,SNR=1.6							
I44RU	**PETROPAVLOVSK**	**14.58**	**76**	*i*			07 10 50.0	
	baz=276,slow=331,SNR=0.9							
I30JP	**ISUMI INFRASON**	**17.14**	**162**	*i*			07 24 40.0	
	baz=348,slow=326,SNR=0.4							

IDC 21 05:46:46.1±750.0, 51°11N×130°17E, h0km, Error ellipse: s-maj=279.1km s-min=140.2km az=160.0, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I45RU	**USSURIYSK INFR**	**7.02**	**169**	*i*			06 30 40.0	
	baz=350,slow=327,SNR=2.0							
I44RU	**PETROPAVLOVSK**	**17.00**	**73**	*i*			07 37 00.0	
	baz=275,slow=327,SNR=0.6							
I30JP	**ISUMI INFRASON**	**17.41**	**151**	*i*			07 33 00.0	
	baz=342,slow=325,SNR=0.6							

*ISCJB **21** 06:21:36.4±0.6, 23°.01S±0°.04×128°.56E±0°.05, h10km, mb3.8/1, Error ellipse: s-maj=6.2km s-min=5.6km az=159.3*
*IDC **21** 06:21:39.1±2.0, 23°.22S×128°.59E, h0km, mb3.8/1, mb1 3.9/5, mb1mx3.6/44, mbtmp3.8/5, ML3.6/3, Error ellipse: s-maj=35.0km s-min=26.9km az=177.0*
*AUST **21** 06:21:44.8±0.0, 22°.97S×128°.60E, h10km, Error ellipse: s-maj=0.5km s-min=0.1km az=8.0*

ISC 21 06:21:39.3±0.7, 22°.99S±0°.05×128°.60E±0°.05, h10km, n14, σ2s47/23, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRKA	**Warakurna**	**2.06**	**188**	P		**Pb**	**06 22 17.8**	**+1.0**
	baz=2.1,SNR=733							
WRKA				S		**Sb**	**06 22 45.2**	**+2.8**
	baz=2.1,SNR=7.1							
ASPA	**Alice Springs**	**4.92**	**99**	P		**Pn**	**06 22 56.4**	**+3.1**
	baz=4.9							
ASPA				S		**Sn**	**06 23 51.6**	**+1.3**
	baz=4.9							
ASAR	**Alice Springs**	**4.92**	**99**	Pn		**Pn**	**06 22 56.1**	**+2.8**
	0.7nm,0.3s,baz=280,slow=13,SNR=62							
ASAR				Sn		**Sn**	**06 23 51.1**	**+0.6**
	5.1nm,0.3s,baz=276,slow=24,SNR=22							
ASAR				Lg		Lg	06 24 09.1	
	4.1nm,0.3s,baz=282,slow=26,SNR=6.4							
FITZ	**Fitzroy Crossi**	**5.60**	**330**	P		**Pn**	**06 23 04.9**	**+2.2**
	baz=5.6,SNR=26							
FITZ				S		**Sn**	**06 24 07.2**	**+0.1**
	baz=5.6							
WRA	**Warramunga Arr**	**6.14**	**62**	Pn		**Pn**	**06 23 11.7**	**+1.5**
	1.0nm,0.3s,baz=235,slow=12,SNR=21							
WRA				Pg		**Pg**	**06 23 33.5**	**-3.5**
	1.3nm,0.3s,baz=260,slow=16,SNR=6.9							
WRA				Sn		**Sn**	**06 24 19.3**	**-1.3**
	3.5nm,0.3s,baz=244,slow=23,SNR=14							
WRA				Lg		Lg	06 24 46.9	
	5.1nm,0.3s,baz=242,slow=30,SNR=5.9							
KNRA	**Kununurra**	**7.28**	**1**	P		**Pn**	**06 23 28.3**	**+2.6**
	baz=7.3,SNR=13							
KNRA				S		**Sn**	**06 24 46.8**	**-1.7**
	baz=7.3							
FORT	**Forrest**	**7.77**	**183**	P		**Pn**	**06 23 34.6**	**+2.1**
	baz=7.8,SNR=14							
FORT				S		**Sn**	**06 24 59.3**	**-1.3**
	baz=7.8							
MEEK	**Meekatharra**	**9.77**	**246**	P		**Pn**	**06 24 00.4**	**+0.4**
	baz=9.8,SNR=5.5							
MEEK				S		**Sn**	**06 25 44.3**	**-5.6**
	baz=9.8							
MTN	**Manton Dam**	**10.37**	**14**	P		**Pn**	**06 24 09.2**	**+1.0**
	baz=10,SNR=5.7							
QIS	**Mount Isa**	**10.51**	**79**	P		**Pn**	**06 24 10.8**	**+0.7**
	baz=10,SNR=4.6							
KDU	**Kakadu**	**10.89**	**20**	P		**Pn**	**06 24 15.0**	**-0.3**
	baz=11,SNR=10							
NWAO	**Narrogin (SRO)**	**14.09**	**223**	Pn		**Pn**	**06 24 55.8**	**-3.2**
	0.6nm,0.3s,baz=288,slow=6.4,SNR=3.4							
NWAO				Sn		Sn	06 27 23.1	-12
	1.0nm,0.3s,baz=348,slow=18,SNR=4.6							
NWAO				Lg		Lg	06 28 55.5	
	0.4nm,0.3s,baz=204,slow=20,SNR=2.7							
STKA	**Stephens Creek**	**14.53**	**130**	Pn		**Pn**	**06 25 03.2**	**-1.8**
	0.4nm,0.3s,baz=301,slow=12,SNR=7.2							
STKA				Sn		Sn	06 27 34.4	-12
	0.2nm,0.3s,baz=210,slow=20,SNR=2.1							
SONM	**Songino Array**	**73.27**	**345**	P		**P**	**06 33 14.0**	**+3.2**
	0.4nm,0.4s,baz=167,slow=8.3,SNR=3.1							

*SFS **21** 06:34:59.0, 35°.21N×4°.04W, ML2.2, ALHUCEMAS (MARRUECOS)*
*MDD **21** 06:34:59.0±1.3, 35°.22N×4°.05W, h0km, mbLg2.2/11, Error ellipse: s-maj=12.6km s-min=5.9km az=15.0, PRXIMO*
*CNRM **21** 06:35:01.5, 35°.21N×3°.98W, h84km, ML2.8*

ISC 21 06:34:59.3±1.2, 35°.33N±0°.05×4°.06W±0°.02, h1km±11km, n31, σ1s62/45, 1C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PVLZ	**Peæn de**	**0.25**	**233**	⇑*iP*		**Pg**	**06 35 03.8**	**-0.3**
PVLZ				*eS*		**Sg**	**06 35 07.9**	**+0.6**
MELI	**Melilla**	**0.92**	**92**	P		**Pg**	**06 35 15.6**	**-1.3**
	15nm,0.1s,SNR=7.9							
MELI				S		**Sg**	**06 35 28.8**	**0.0**
	30nm,0.5s,SNR=7.9							
MELI	**Melilla**	**0.92**	**92**	*eP*		**Pg**	**06 35 16.0**	**-0.8**
MELI				*i* S		**Sg**	**06 35 28.6**	**-0.2**
EALB	**Alboran**	**1.03**	**53**	P		**Pg**	**06 35 18.9**	**-0.2**
	7.0nm,0.1s,SNR=12							
EALB				S		**Sg**	**06 35 33.7**	**+1.1**
	63nm,0.2s,SNR=8.2							
CEUT	**Ceuta**	**1.17**	**299**	P		**Pg**	**06 35 22.0**	**+0.2**
CEUT	**Ceuta**	**1.17**	**299**	S		**Sg**	**06 35 40.7**	**+3.7**
CEU	**Ceuta**	**1.22**	**298**	P		Pg	06 35 19.8	-2.7
CEU				S		**Sg**	**06 35 35.4**	**-3.0**
CEU	**Ceuta**	**1.22**	**298**	*eP*		Pg	06 35 19.8	-2.7
CEU				*eS*		**Sg**	**06 35 35.4**	**-3.0**
EMAL	**Malaga-Limoner**	**1.46**	**348**	*eP*		Pn	06 35 25.5	-1.3
EMAL				*eS*		**Sn**	**06 35 45.2**	**-1.4**
RSA	**Sarsar**	**1.52**	**253**	P		**Pn**	**06 35 28.6**	**+1.0**
RSA	**Sarsar**	**1.52**	**253**	S		**Sg**	**06 35 49.5**	**+1.4**
ELGU	**Los Guajares,**	**1.58**	**13**	P		Pn	06 35 27.5	-1.0
	2.2nm,0.2s,SNR=7.9							
ELGU				S		**Sn**	**06 35 50.6**	**+1.1**
	21nm,0.3s,SNR=7.9							
EJIF	**Jimena Fronter**	**1.60**	**315**	P		**Pn**	**06 35 30.3**	**+1.6**
	1.6nm,0.3s,SNR=7.9							
EGOR	**Sierra Gorda,**	**1.78**	**359**	P		**Pn**	**06 35 30.8**	**-0.6**
	1.7nm,0.3s,SNR=7.9							
EBER	**Berja**	**1.83**	**31**	P		Pn	06 35 30.6	-1.5
	2.3nm,0.5s,SNR=5.8							
EBER				S		**Sn**	**06 35 56.6**	**+0.7**
	7.6nm,0.3s,SNR=6.0							
EQUE	**Quentar**	**1.94**	**15**	P		**Pn**	**06 35 33.2**	**-0.3**
	2.8nm,0.4s,SNR=11							
EQUE				S		**Sn**	**06 35 58.2**	**-0.3**
	2.3nm,0.2s,SNR=7.9							
ENIJ	**Nijar**	**2.22**	**42**	P		**Pn**	**06 35 39.0**	**+1.7**
	6.3nm,0.5s,SNR=7.9							
ENIJ				S		**Sn**	**06 36 02.0**	**-3.3**
	13nm,0.6s,SNR=7.9							
EQES	**Quesada**	**2.60**	**18**	P		**Pn**	**06 35 43.2**	**+0.7**
	5.7nm,0.4s,SNR=18							
EQES				S		**Sn**	**06 36 15.1**	**+0.4**
	4.0nm,0.6s							
HORN	**Hornachuelos**	**2.69**	**339**	P		**Pn**	**06 35 44.0**	**+0.3**
HORN	**Hornachuelos**	**2.69**	**339**	S		**Sn**	**06 36 20.3**	**+3.3**
EADA	**Adamuz**	**2.87**	**352**	P		**Pn**	**06 35 46.6**	**+0.4**
	1.5nm,0.3s,SNR=7.9							
EADA				S		**Sn**	**06 36 22.9**	**+1.6**
	0.8nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**2.95**	**339**	P		**Pn**	**06 35 47.2**	**-0.1**
	0.7nm,0.3s,SNR=5.7							
ECAB				S		**Sn**	**06 36 23.1**	**-0.4**
	4.4nm,0.5s							
SESP	**Santiago Espad**	**3.04**	**23**	P		**Pn**	**06 35 51.2**	**+2.5**
SESP	**Santiago Espad**	**3.04**	**23**	S		**Sn**	**06 36 25.8**	**+0.1**
EMIN	**Mina Concepcio**	**3.22**	**320**	P		**Pn**	**06 35 50.6**	**-0.4**
	0.5nm,0.2s,SNR=9.2							
EMIN				S		**Sn**	**06 36 27.7**	**-2.3**
	0.2nm,0.4s,SNR=7.9							
EMUR	**La Murta**	**3.38**	**41**	S		**Sn**	**06 36 31.0**	**-3.0**
	8.9nm,0.4s,SNR=7.9							
EGRO	**El Granado**	**3.53**	**310**	P		**Pn**	**06 35 55.3**	**0.0**
	1.4nm,0.3s,SNR=7.9							
EGRO				S		**Sn**	**06 36 35.8**	**-1.9**
	15nm,0.6s,SNR=7.9							
ETOB	**Tobarra**	**3.87**	**31**	P		**Pn**	**06 36 01.7**	**+1.6**
	0.1nm,0.3s,SNR=7.3							
ETOB				S		**Sn**	**06 36 46.9**	**+0.7**
	8.2nm,0.6s,SNR=7.9							
EBAD	**Badajoz**	**4.16**	**326**	P		**Pn**	**06 36 03.9**	**0.0**
	1.6nm,0.4s,SNR=7.9							
EBAD				S		**Sn**	**06 36 51.2**	**-1.9**
	0.1nm,0.4s,SNR=7.9							
PAB	**San Pablo**	**4.22**	**357**	P		**Pn**	**06 36 05.0**	**+0.2**
	0.5nm,0.2s,SNR=7.9							
PAB				S		**Sn**	**06 36 54.7**	**0.0**
	0.4nm,0.3s,SNR=7.9							
ESDC	**Sonseca Array**	**4.34**	**1**	P		**Pn**	**06 36 07.5**	**+1.1**
	0.2nm,0.1s,baz=183,slow=12,SNR=5.6							

*IDC **21** 06:40:08.9±1.1, 4°.42S×129°.26E, h0km, mb4.0/5, mb1 4.1/7, mb1mx3.8/44, mbtmp4.0/7, ML3.8/2, MS3.4/3, Ms1 3.4/3, ms1mx2.6/47, Error ellipse: s-maj=32.6km s-min=20.3km az=66.0*
*DJA **21** 06:40:10.1±1.1, 5°S±14°×12°9E±°, h10km, M3.9/5, MLv3.9/5*
*ISCJB **21** 06:40:11.8±0.7, 4°.42S±0°.07×129°.25E±0°.06, h33km, mb3.9/5, MS3.9/1, Error ellipse: s-maj=10.0km s-min=8.1km az=22.1*

ISC 21 06:40:13.0±0.9, 4°.54S±0°.09×129°.30E±0°.07, h35km, n15, σ1s57/13, mb4.0/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BNDI	**Bandanaira**	**0.61**	**88**	P		**Pn**	**06 40 23.7**	**-1.4**
BNDI				S		**Sn**	**06 40 34.8**	**+1.1**
FAKI	**Fak Fak**	**3.36**	**61**	P		**Pn**	**06 41 03.7**	**+0.7**
SAUI	**Saumlaki**	**3.96**	**150**	P		Pn	06 41 01.0	-10
SANI	**Sanana**	**4.13**	**307**	P		**Pn**	**06 41 13.0**	**-0.5**
SIJI	**Sorong**	**4.15**	**28**	Pn		**Pn**	**06 41 12.8**	**-1.1**
	9.6nm,0.3s,baz=213,slow=22,SNR=67							
SIJI				Sn		**Sn**	**06 41 59.8**	**-1.4**
	1.5nm,0.3s,baz=210,slow=20,SNR=3.2							
RKPI	**Ransiki, Papua**	**5.73**	**58**	P		Pn	06 41 28.6	-7.0
JAY	**Jayapura**	**11.56**	**80**	LR		LR	06 48 47.2	
	comp=Z,104nm,18.3s,baz=11,slow=45							
WRA	**Warramunga Arr**	**16.08**	**163**	Pn		**Pn**	**06 43 52.9**	**-3.6**
	0.1nm,0.3s,baz=344,slow=12,SNR=7.4							
WRA				LR		LR	06 50 42.8	
	comp=Z,84nm,18.9s,baz=70,slow=39							
ASAR	**Alice Springs**	**19.52**	**167**	P		**Pn**	**06 44 39.6**	**+0.6**
	0.2nm,0.3s,baz=344,slow=10,SNR=28							
CTA	**Charters Tower**	**22.61**	**135**	P		**P**	**06 45 12.5**	**+1.5**
	2.3nm,0.7s,baz=285,slow=9.0,SNR=4.2							
CMAR	**Chiang Mai Arr**	**37.65**	**308**	P		**P**	**06 47 25.6**	**+0.6**
	0.8nm,0.3s,baz=142,slow=7.1,SNR=8.4							
SONM	**Songino Array**	**55.91**	**342**	P		**P**	**06 49 48.1**	**+0.6**
	1.9nm,1.0s,baz=163,slow=8.4,SNR=6.0							
AFI	**Afiamalu**	**58.77**	**103**	LR		LR	07 15 19.5	
	comp=Z,98nm,21.9s,baz=4.0,slow=36							
MKAR	**Makanchi Array**	**65.80**	**327**	P		**P**	**06 50 54.3**	**-0.4**
	0.8nm,0.8s,baz=127,slow=8.4,SNR=6.9							
SEY	**Seymchan**	**69.54**	**11**	P		**P**	**06 51 18.9**	**+1.0**
	0.6nm,0.2s,baz=214,slow=7.1,SNR=8.4							

MEX 21 06:42:35.8±0.5, 14°.27N×92°.84W, h104km±11km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
THIG		**0.84**	**41**	*eP*		Pn	06 42 53.3	-1.6
THIG				*eS*		Sn	06 43 07.4	-1.9
PCIG		**1.47**	**346**	*eP*		Pn	06 42 57.1	-4.8
PCIG				*eS*		Sn	06 43 20.1	-1.6
CCIG	**Comitan**	**2.11**	**19**	*eP*		Pn	06 43 14.4	+4.3
CCIG				*eS*		Sn	06 43 34.5	-1.9

*ISCJB **21** 06:42:57.5±0.8, 35°.97N±0°.05×140°.14E±0°.07, h72km±6km, mb3.5/3, Error ellipse: s-maj=9.6km s-min=7.7km az=41.8*
*JMA **21** 06:42:59.1±0.1, 36°.02N×140°.08E, h62km±1km, M3.0*
*IDC **21** 06:42:59.4±3.8, 35°.81N×140°.03E, h77km±35km, mb3.2/3, mb1 3.5/3, mb1mx3.1/45, mbtmp3.6/3, Error ellipse: s-maj=35.5km s-min=23.4km az=104.0*

ISC 21 06:42:58.5±1.0, 35°.98N±0°.06×140°.12E±0°.06, h66km±8km, n13, σ0s60/22, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JYT	**Yasato**	**0.26**	**14**	P		**Pn**	**06 43 09.0**	**0.0**
JYT				S		**Sn**	**06 43 16.3**	**-0.3**
JIHU	**Itakohorinouch**	**0.33**	**92**	P		**Pn**	**06 43 10.4**	**+0.9**
JAG	**Ashikaga**	**0.70**	**310**	P		**Pn**	**06 43 13.1**	**-0.1**
JAG				S		**Sn**	**06 43 23.3**	**-0.6**
JRY	**Ryogami san**	**0.99**	**272**	P		**Pn**	**06 43 16.9**	**+0.2**
JRY				S		**Sn**	**06 43 30.5**	**+0.3**
JKT	**Katashina**	**1.05**	**318**	P		**Pn**	**06 43 17.3**	**-0.3**
JKT				S		**Sn**	**06 43 31.4**	**-0.4**
JOD2	**Odawara 2**	**1.10**	**230**	P		**Pn**	**06 43 18.3**	**+0.1**
JOD2				S		**Sn**	**06 43 32.1**	**-0.7**
JYN	**Shimob**	**1.37**	**250**	P		**Pn**	**06 43 22.3**	**+0.6**
JYN				S		**Sn**	**06 43 39.8**	**+0.7**
JFY	**Yanaizu**	**1.46**	**347**	P		**Pn**	**06 43 23.4**	**+0.5**
JFY				S		**Sn**	**06 43 41.4**	**+0.1**
MJAR	**Matsushiro Arr**	**1.64**	**291**	P		**Pn**	**06 43 25.3**	**0.0**
	27nm,0.3s,baz=104,slow=7.9,SNR=112							
MJAR				S		**Sn**	**06 43 46.5**	**+0.9**
	6.1nm,0.3s,baz=122,slow=26,SNR=8.6							
MAT	**Matsushiro**	**1.64**	**291**	P		**Pn**	**06 43 25.8**	**+0.5**
MAT				S		**Sn**	**06 43 46.2**	**+0.6**
SONM	**Songino Array**	**27.53**	**306**	P		**P**	**06 48 39.1**	**+0.2**
	0.5nm,0.4s,baz=88,slow=10,SNR=3.5							
ILAR	**Eielson Array**	**50.94**	**32**	P		**P**	**06 51 53.3**	**+0.5**
	0.7nm,1.1s,baz=282,slow=6.3,SNR=3.7							
WRA	**Warramunga Arr**	**55.88**	**187**	P		**P**	**06 52 28.3**	**-1.2**
	0.3nm,0.5s,baz=2.6,slow=7.4,SNR=8.2							

*ISCJB **21** 07:01:30.1±1.2, 34°.9S±0°.1×70°.3W±0°.2, h154km±18km, Error ellipse: s-maj=30.6km s-min=10.1km az=35.9*
*GUC **21** 07:01:30.7±0.5, 34°.91S×70°.27W, h148km±8km, ML3.2*
*SJA **21** 07:01:31.4±0.5, 34°.86S×69°.87W, h150km±14km, ML3.3*

ISC 21 07:01:28.6±2.6, 35°.0S±0°.1×70°.2W±0°.1, h157km±21km, n14, σ1s48/22, 3C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LMEL	**Las Melosas**	**1.13**	**359**	⇑*iP*		**Pn**	**07 01 55.8**	**+0.4**
LMEL					IAML		07 02 25.1	
	comp=E,380nm,0.1s							
GO05	**HualaæØ**	**1.44**	**268**	⇓*iP*		**Pn**	**07 01 58.5**	**+0.4**
GO05				*i* S		**Sn**	**07 02 19.4**	**-1.3**
GO05					IAML		07 02 20.0	
	comp=N,360nm,0.3s							
FSR	**Penalolen**	**1.52**	**349**	*eP*		**Pn**	**07 02 01.8**	**+2.8**
FSR				*i* S		**Sn**	**07 02 23.7**	**+1.2**
CLCH	**Cerro Calan**	**1.61**	**349**	⇑*iP*		**Pn**	**07 02 00.5**	**+0.6**
CLCH				*i* S		**Sn**	**07 02 23.2**	**-0.7**
CLCH					IAML		07 02 29.2	
	comp=N,231nm,0.5s							
FCH	**Farellones**	**1.65**	**357**	⇓*iP*		**Pn**	**07 02 01.4**	**+0.8**
FCH				*i* S		**Sn**	**07 02 24.6**	**-0.6**
FCH					IAML		07 02 29.0	
	comp=N,147nm,0.2s							
PEL	**Peldehue**	**1.88**	**347**	⇑*iP*		**Pn**	**07 02 03.2**	**+0.3**
PEL				*i* S		**Sn**	**07 02 28.1**	**-1.1**
PEL					IAML		07 02 29.1	
	comp=N,230nm,0.3s							
ROCH	**El Roble**	**2.12**	**341**	*eP*		**Pn**	**07 02 06.3**	**+0.5**
ROCH				*i* S		**Sn**	**07 02 33.0**	**-1.4**
ROCH					IAML		07 02 35.9	
	comp=N,231nm,0.4s							
AAGR	**Agrelo**	**2.20**	**31**	*eP*		**Pn**	**07 02 07.3**	**+0.7**
CCHI	**Chillan**	**2.24**	**223**	IAML			07 02 39.4	
	comp=E,200nm,0.1s							
AUSP	**Uspallata**	**2.83**	**14**	*eP*		**Pn**	**07 02 16.1**	**+1.7**
AUSP				*eS*		**Sn**	**07 02 49.1**	**-0.7**
RTLS	**Leoncito**	**3.26**	**13**	*eP*		**Pn**	**07 02 21.9**	**+2.1**
RTCV	**Cerro Valdivia**	**3.40**	**24**	*eP*		**Pn**	**07 02 22.2**	**+0.9**
RTCV				*eS*		**Sn**	**07 02 59.8**	**-2.5**
AMOG	**MOGNA**	**4.27**	**20**	*eP*		**Pn**	**07 02 33.4**	**+0.7**
AMOG				*eS*		**Sn**	**07 03 20.1**	**-2.5**
ACDV	**Cuesta del Vie**	**4.88**	**11**	*eP*		**Pn**	**07 02 41.6**	**+0.9**
ACDV					IAML		07 03 37.5	
	comp=Z,21nm,0.9s							

*NIED **21** 07:02:00, 28°.20N×142°.70E, h5km, Mw4.0 Best double couple: M0 9.76000×10^14 NP1:ϕs 130.00000°, δ13.00000°, λ27.00000°. NP2:ϕs 14.00000°, δ84.00000°, λ101.00000°.*
*IDC **21** 07:02:48.7±1.4, 28°.11N×142°.53E, h0km, mb3.7/5, mb1 3.8/8, mb1mx3.6/64, mbtmp3.7/8, ML3.8/2, MS2.6/2, Ms1 2.6/2, ms1mx2.3/43, Error ellipse: s-maj=37.4km s-min=15.9km az=93.0*
*JMA **21** 07:02:49.5±0.1, 28°.21N×142°.71E, h33km, M4.2*
*ISCJB **21** 07:02:50.2±0.8, 28°.24N±0°.03×142°.4E±0°.2, h25km, mb3.8/5, Error ellipse: s-maj=24.0km s-min=4.0km az=178.3*

ISC 21 07:02:52.4±1.2, 28°.17N±0°.06×142°.4E±0°.2, h25km, n21, σ1s22/22, mb3.9/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CBIJ	**Chichi jima**	**1.09**	**191**	P		**Pn**	**07 03 10.8**	**-1.3**
CBIJ				S		**Sn**	**07 03 26.2**	**-0.2**
JCJ	**Chichijima**	**1.09**	**191**	Pn		**Pn**	**07 03 11.2**	**-0.8**
	41nm,0.3s,baz=1.2,slow=20,SNR=26							
JCJ				Sn		**Sn**	**07 03 25.9**	**-0.4**
	119nm,0.3s,baz=90,slow=20,SNR=42							
JHHJ	**Haha-jima-NKT**	**1.55**	**188**	P		**Pn**	**07 03 17.1**	**-1.3**
JHHJ				S		**Sn**	**07 03 37.3**	**-0.4**
BSO1	**Boso 1**	**6.58**	**350**	P		**Pn**	**07 04 25.5**	**-1.5**
BSO3	**Boso 3**	**6.81**	**347**	P		**Pn**	**07 04 30.5**	**+0.1**
BSO4	**Boso 4**	**7.03**	**346**	P		**Pn**	**07 04 33.7**	**+0.2**
JHU	**Hanno**	**8.11**	**342**	P		**Pn**	**07 04 47.8**	**-0.7**
JHU				*eS*		**Sn**	**07 06 16.2**	**-3.1**
JRY	**Ryogami san**	**8.37**	**340**	P		**Pn**	**07 04 52.5**	**+0.4**
JRY				*eS*		**Sn**	**07 06 24.7**	**-1.2**
JAG	**Ashikaga**	**8.60**	**344**	P		**Pn**	**07 04 54.6**	**-0.7**
MJAR	**Matsushiro Arr**	**9.07**	**338**	Pn		**Pn**	**07 05 00.7**	**-1.0**
	1.0nm,0.3s,baz=158,slow=9.7,SNR=5.6							
JNU	**Nakatsue**	**11.09**	**299**	LR

79nm,0.6s
CTAO Charters Tower 16.63 207 *e*P **P** 07 09 36.3 +0.7
CTAO pmax pmax
comp=Z,79nm,0.6s
EIDS Eidsvold 20.19 188 P **P** 07 10 11.9 +0.4
baz=20,SNR=3.8
DZM Mont Dzumac 20.43 146 P **P** 07 10 14.1 +0.2
comp=Z,63nm,0.5s,baz=311,slow=7.9,SNR=266
DZM Mont Dzumac 20.43 146 *e*P **P** 07 10 13.1 -0.7
comp=Z,83nm,0.6s
QIS Mount Isa 20.80 222 P **P** 07 10 17.5 +0.3
baz=21,SNR=148
RMQ Roma 21.71 193 P **P** 07 10 25.3 -0.1
baz=22,SNR=6.6
FAKI Fak Fak 22.07 275 *e*P **P** 07 10 27.9 -1.0
comp=Z,21nm,0.7s
FAKI Fak Fak 22.07 275 P **P** 07 10 28.3 -0.6
comp=Z,34nm,0.8s
KDU Kakadu 22.71 250 P **P** 07 10 33.9 -0.7
baz=23,SNR=42
QLP Quilpie 23.23 203 P **P** 07 10 39.1 0.0
baz=23,SNR=40
SIJI Sorong 23.36 280 P **P** 07 10 40.4 -0.2
comp=Z,10nm,0.5s,baz=151,slow=19,SNR=3.1
MTN Manton Dam 24.01 250 P **P** 07 10 45.6 -0.7
baz=24,SNR=6.5
WRAB Tennant Creek 24.22 231 *e*P **P** 07 10 47.8 -0.3
comp=Z,125nm,1.1s
WRAB Tennant Creek 24.22 231 *ce*P **P** 07 10 47.9 -0.3
WRAB pmax pmax
comp=Z,43nm,0.5s
WB2 Warramunga Arr 24.22 231 *e*P **P** 07 10 47.0 -1.2
WB2 *e*P P 07 10 48.0 -0.2
WR1 Warramunga Arr 24.23 231 *e*P **P** 07 10 48.2 0.0
comp=Z,156nm,1.1s
WR1 *e*S **S** 07 14 34.6 -2.3
WRA Warramunga Arr 24.23 231 P **P** 07 10 48.2 0.0
comp=Z,50nm,0.4s,baz=54,slow=9.5,SNR=187
WRA S **S** 07 14 34.6 -2.4
comp=Z,2.9nm,0.5s,baz=55,slow=14,SNR=5.6
WRA ScP **ScP** 07 17 17.2 +1.6
comp=Z,5.0nm,0.7s,baz=59,slow=2.8,SNR=12
WRA Warramunga Arr 24.23 231 *i* P **P** 07 10 45.4 -2.9
WRA pmax pmax
comp=Z,50nm,0.4s
BNDI Bandanaira 24.27 271 P P 07 10 40.4 -8.3
AS01 Alice Springs 26.76 225 *e*P **P** 07 11 09.8 -0.9
AS31 Alice Springs 26.79 225 *e*P **P** 07 11 10.3 -0.7
comp=Z,12nm,0.3s
ASAR Alice Springs 26.79 225 P **P** 07 11 10.3 -0.7
comp=Z,14nm,0.3s,baz=55,slow=9.0,SNR=202
ASAR pP **PP** 07 12 22.1 -0.1
comp=Z,3.3nm,0.6s,baz=51,slow=9.9,SNR=1.5
ASAR S **S** 07 15 14.3 -2.8
comp=Z,6.7nm,0.6s,baz=54,slow=15,SNR=12
ASAR ScP **ScP** 07 17 25.1 +2.1
comp=Z,2.8nm,0.7s,baz=56,slow=3.3,SNR=8.7
KNRA Kununurra 27.07 246 P **P** 07 11 12.6 -0.8
baz=27,SNR=16
NLAI Namlea 27.15 273 P **P** 07 11 14.8 +0.5
comp=Z,59nm,0.5s,comp=Z,4µm
SANI Sanana 28.39 275 P **P** 07 11 25.2 0.0
STKA Stephens Creek 28.98 203 P **P** 07 11 29.7 -0.4
comp=Z,4.8nm,0.4s,baz=20,slow=8.5,SNR=18
STKA S **S** 07 15 51.2 +0.1
comp=Z,3.5nm,0.9s,baz=219,slow=9.1,SNR=3.2
STKA Stephens Creek 28.98 203 P **P** 07 11 29.8 -0.4
baz=29,SNR=1
STKA Stephens Creek 28.98 203 *e*P **P** 07 11 29.7 -0.4
comp=Z,1.8nm,0.7s
STKA S **S** 07 15 51.2 +0.1
STKA Stephens Creek 28.98 203 *e*P **P** 07 11 29.7 -0.4
STKA S **S** 07 15 51.3 +0.1
STKA pmax pmax
comp=Z,2.0nm,0.7s
SOEI Soe 30.04 260 *e*P **P** 07 11 38.8 -1.0
comp=Z,36nm,0.8s
SOEI Soe 30.04 260 P P 07 11 46.2 +6.4
FITZ Fitzroy Crossi 30.71 243 P **P** 07 11 44.2 -1.2
baz=31,SNR=126
FITZ Fitzroy Crossi 30.71 243 *e*P **P** 07 11 44.2 -1.2
comp=Z,68nm,1.1s
KMSI Cibinong 30.79 280 P P 07 11 52.0 +5.8
HTT Hallett 31.42 205 P **P** 07 11 51.1 -0.3
baz=32,SNR=8.6
LUWI Luwuk 31.71 277 P **P** 07 11 55.4 +1.3
BBOO Buckleboo 32.21 210 P **P** 07 11 57.6 -0.6
baz=32,SNR=26
BBOO Buckleboo 32.21 210 *e*P **P** 07 11 57.7 -0.6
comp=Z,25nm,0.8s
EDFI Ende, Flores 32.49 262 P **P** 07 11 59.3 -1.7
comp=Z,16nm,0.8s
BNSI Bone 34.03 270 P **P** 07 12 14.4 +0.3
KAPI Kappang 34.36 269 *ce*P **P** 07 12 17.1 +0.3
KAPI pmax pmax
comp=Z,12nm,1.0s
SPSI Sidrap Palu 34.39 271 P **P** 07 12 17.5 +0.4
PCI Palu 34.63 276 P **P** 07 12 20.4 +1.2
PCI pmax pmax
comp=Z,112nm,1.1s
PCI Palu 34.63 276 P **P** 07 12 19.5 +0.3
MPSI Mapaga 34.76 278 P **P** 07 12 19.9 -0.3
comp=Z,39nm,0.9s,comp=Z,1µm
FORT Forrest 35.34 221 P **P** 07 12 24.3 -0.6
baz=36,SNR=22
FORT Forrest 35.34 221 *e*P **P** 07 12 24.3 -0.6
comp=Z,83nm,0.6s
MBWA Marble Bar 36.99 242 *e*P **P** 07 12 37.6 -1.2
comp=Z,14nm,0.6s
URZ Urewera 38.84 151 P **P** 07 12 53.5 -0.3
comp=Z,9.9nm,0.6s,baz=251,slow=4.9,SNR=12
URZ S **S** 07 18 22.2 +1.1
comp=Z,6.4nm,0.9s,baz=90,slow=20,SNR=6.2
URZ Urewera 38.84 151 *e*P **P** 07 12 53.5 -0.3
URZ *e*P P 07 12 54.3 +0.6
URZ *e*S **S** 07 18 22.2 +1.1
BKZ Black Stump Fm 39.27 152 *e*P **P** 07 12 57.2 -0.2
comp=Z,8.8nm,0.6s
KKM Kota Kinabalu 39.61 286 *e*P **P** 07 13 00.5 -0.1
comp=Z,54nm,0.8s
KKM Kota Kinabalu 39.61 286 P **P** 07 13 00.0 -0.6
KMBL Kambalda 39.92 226 P **P** 07 13 01.9 -0.9
baz=40,SNR=19
THZ Tophouse 39.94 158 *e*P **P** 07 13 02.8 0.0
comp=Z,31nm,0.7s
MEEK Meekatharra 40.07 234 P **P** 07 13 03.2 -0.9
baz=40,SNR=17
LTZ Lake Taylor 40.60 160 *e*P **P** 07 13 08.7 +0.6
comp=Z,66nm,0.6s
KHZ Kahutara 40.74 158 *e*P **P** 07 13 08.4 -0.7
comp=Z,27nm,1.0s
OXZ Oxford 41.01 160 *e*P **P** 07 13 10.7 -0.6
comp=Z,20nm,0.9s
RPZ Rata Peaks 41.03 161 P **P** 07 13 12.1 +0.7
comp=Z,28nm,0.6s,baz=360,slow=3.0,SNR=12
RPZ Rata Peaks 41.03 161 *e*P **P** 07 13 11.6 +0.1
comp=Z,30nm,0.7s
RPZ *e*P P 07 13 12.2 +0.7
PWJI Pagerwojo 42.23 264 P **P** 07 13 21.0 -0.6
comp=Z,59nm,0.9s
SBUM Sibu 42.69 279 *e*P **P** 07 13 25.2 0.0
comp=Z,5.4nm,0.9s
KLBR Kellerberrin 43.04 228 P **P** 07 13 26.1 -1.6
baz=43,SNR=6.1
MORW Morawa 43.17 232 P **P** 07 13 27.5 -1.3
baz=43,SNR=9.8
MJAR Matsushiro Arr 44.25 341 P **P** 07 13 36.4 -0.7
comp=Z,3.5nm,0.5s,baz=174,slow=8.3,SNR=10
MJAR PcP **PcP** 07 15 13.4 +0.1
comp=Z,3.0nm,0.8s,baz=170,slow=3.7,SNR=4.7
MAJO Matsushiro 44.25 341 *e*P **P** 07 13 36.4 -0.7
MAJO *e*PcP **PcP** 07 15 13.4 +0.1
MAJO Matsushiro 44.25 341 *e*P **P** 07 13 36.4 -0.7
MAJO *e* 07 15 13.5
KSM Kuching 44.41 278 P **P** 07 13 38.0 -0.7
KPJI Karang Pucung 45.08 265 P P 07 13 55.0 +11
CISI Cisompet, Garu 46.18 265 *e*P **P** 07 13 50.7 -1.8
comp=Z,179nm,0.6s
CISI Cisompet, Garu 46.18 265 P **P** 07 13 51.2 -1.3
comp=Z,248nm,0.6s,comp=Z,5µm
LEM Lembang 46.38 266 P **P** 07 13 54.2 0.0
comp=Z,35nm,0.7s,baz=126,slow=18,SNR=3.5
CGJI Cibinong 48.30 266 P **P** 07 14 07.0 -1.6
KSRS Korea Array 49.10 332 P **P** 07 14 13.2 -0.9
comp=Z,2.7nm,0.6s,baz=147,slow=8.7,SNR=6.8
KSRS PcP **PcP** 07 15 30.4 -0.3
comp=Z,1.2nm,0.6s,baz=142,slow=4.1,SNR=4.1

KS15 Wonju Array Si 49.11 332 *e*P **P** 07 14 13.2 -1.0
KSAR Wonju Array Be 49.11 332 P **P** 07 14 13.2 -0.9
KSAR PcP **PcP** 07 15 30.4 -0.3
KSAR Wonju Array Be 49.11 332 P **P** 07 14 13.3 -0.9
KSAR 07 15 30.4
MDSI Maura Dua 49.89 269 P **P** 07 14 19.3 -1.1
NJ2 Nanjing 50.15 320 *e*P **P** 07 14 21.3 -0.7
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
ASAJ Asahikawa 50.30 349 P **P** 07 14 23.7 +0.8
comp=Z,8.1nm,0.6s,baz=182,slow=6.6,SNR=5.9
SKNT Sakolnakorn 54.38 295 P **P** 07 14 57.2 +4.2
comp=Z,4.1nm,1.3s,comp=Z,1µm
KULM Kulim 54.55 280 *e*P **P** 07 14 53.3 -1.0
comp=Z,21nm,0.6s
KULM Kulim 54.55 280 P **P** 07 14 54.0 -0.3
MNSI Mandailing Nat 54.94 275 P **P** 07 14 55.3 -1.7
NONG Nongkai 55.49 296 P P 07 15 07.0 +6.2
CHAI Chaiyaphum 55.85 293 P **P** 07 15 04.1 +0.7
comp=Z,4.1nm,0.8s
GYA Guiyang 55.85 307 *e*P **P** 07 15 04.3 +0.9
GYA pmax pmax
comp=Z,10.0nm,1.0s
PBKT Sadao Pong 56.98 294 P **P** 07 15 12.5 +1.3
comp=Z,12nm,0.7s
PHET Kaeng Krachan 57.20 289 P **P** 07 15 14.4 +1.6
comp=Z,8.2nm,0.8s
UTTA Uttaradit 57.72 295 P **P** 07 15 17.8 +1.5
comp=Z,4.1nm,0.7s
KLR Kul'dur 57.74 343 P **P** 07 15 15.1 -0.8
comp=Z,4.2nm,0.7s,baz=146,slow=3.5,SNR=9.6
KLR PcP **PcP** 07 16 03.1 -0.3
comp=Z,2.9nm,0.6s,baz=141,slow=1.3,SNR=6.2
KLR Kul'dur 57.74 343 *ce*P **P** 07 15 15.9 0.0
NANT Nan 57.92 296 P **P** 07 15 18.7 +0.9
comp=Z,3.8nm,0.6s
SRDT SRDT 58.05 290 P **P** 07 15 20.1 +1.4
comp=Z,19nm,1.2s
UTHA Uthaitani 58.08 292 P **P** 07 15 20.0 +1.1
comp=Z,7.2nm,0.7s,comp=Z,86nm
PETK Petropavlovsk- 58.26 2 P **P** 07 15 19.8 +0.4
comp=Z,12nm,0.7s,baz=152,slow=7.9,SNR=24
PEA1 Petropavlovsk- 58.26 2 *e*P **P** 07 15 19.8 +0.4
KMI Kunming 58.46 304 P **P** 07 15 20.0 -1.6
KMI pmax pmax
comp=Z,15nm,0.6s
SUKH Sukhothai 58.48 294 P **P** 07 15 23.6 +2.1
comp=Z,3.7nm,0.7s
PAYA Payao 58.85 296 P **P** 07 15 28.1 +4.0
comp=Z,4.8nm,0.7s,comp=Z,290nm
CM01 Chiang Mai Arr 59.37 295 *e*P **P** 07 15 27.6 0.0
CMAR Chiang Mai Arr 59.40 295 P **P** 07 15 27.9 +0.1
comp=Z,5.7nm,0.7s,baz=120,slow=5.3,SNR=25
CMAR pP **pP** 07 16 54.4 +1.6
comp=Z,1.1nm,0.5s,baz=99,slow=5.6,SNR=1.2
CHTO Chiang Mai 59.51 295 P **P** 07 15 29.5 +1.0
CHTO pmax pmax
comp=Z,5.0nm,1.0s
CD2 Chengdu 60.16 310 *e*P **P** 07 15 33.0 +0.2
HHC Hu-ho-hao-te 60.30 324 *e*P **P** 07 15 33.8 +0.3
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,77nm,5.3s
HIA Hailar 62.08 335 P **P** 07 15 45.7 +0.6
HIA pmax pmax
comp=Z,13nm,0.5s
LZH Lanzhou 62.59 315 *e*P **P** 07 15 50.8 +1.9
LZH pP PcP 07 16 45.8 +22
LZH sP pP 07 17 17.3 +2.3
LZH pmax pmax
comp=Z,20nm,1.1s
GTA Gaotai 67.00 317 *e*P **P** 07 16 18.6 +1.7
GTA pP pP 07 17 17.3 -27
GTA sP sP 07 17 42.8 -45
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA pmax pmax
comp=Z,92nm,5.0s
GTA LR LR
comp=Z,180nm,21.0s
GTA LR LR
comp=Z,190nm,19.9s
GTA LR LR
comp=Z,98nm,21.0s
ULN Ulaanbaatar 67.18 328 *e*P **P** 07 16 17.9 +0.1
comp=Z,6.9nm,1.0s
ULN Ulaanbaatar 67.18 328 *ce*P **P** 07 16 18.2 +0.3
ULN pmax pmax
comp=Z,8.0nm,1.1s
SONA0 Songino Array 67.52 327 *e*P **P** 07 16 20.2 +0.3
SONM Songino Array 67.52 327 P **P** 07 16 20.2 +0.3
comp=Z,3.5nm,0.6s,baz=138,slow=5.8,SNR=29
SONA1 Songino Array 67.52 327 *e*P **P** 07 16 20.4 +0.4
SEY Seymchan 68.05 359 *i*P **P** 07 16 23.2 +0.5
YAK Yakutsk 69.75 348 P **P** 07 16 33.6 +0.6
comp=Z,22nm,0.5s,baz=274,slow=1.1,SNR=6.3
YAK Yakutsk 69.75 348 *e*P **P** 07 16 33.6 +0.6
comp=Z,39nm,0.9s
YAK Yakutsk 69.75 348 *e*P **P** 07 16 32.2 -0.8
YAK pmax pmax
comp=Z,31nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.3s
ZAK Zakamensk 70.67 328 *e*P **P** 07 16 39.6 +0.6
ZAK pmax pmax
comp=Z,6.0nm,1.0s
VNDA Vanda 72.29 178 P **P** 07 16 48.6 +0.7
comp=Z,1.5nm,0.7s,baz=326,slow=7.3,SNR=16
BILL Bilibino 73.66 5 *e*P **P** 07 16 56.0 +0.1
comp=Z,28nm,1.0s
BILL Bilibino 73.66 5 *i*P **P** 07 16 56.3 +0.4
BILL *e* 07 19 46.5
BILL pmax pmax
comp=Z,26nm,0.9s
PALK Pallekele 74.44 279 P **P** 07 17 00.7 -0.9
comp=Z,2.9nm,0.6s,baz=77,slow=1.1,SNR=4.0
ANM Nome 75.83 17 *e*P **P** 07 17 09.1 +0.8
comp=Z,14nm,0.8s
ANM Nome 75.83 17 *e*P **P** 07 17 09.1 +0.8
ANM pmax pmax
comp=Z,14nm,0.8s
WMQ Urumqi 77.09 317 *e*P **P** 07 17 17.5 +1.7
CNPM China Poot 77.54 25 *e*P **P** 07 17 18.4 +0.5
comp=Z,67nm,0.7s
RDOG Red Dog Mine 79.08 15 *e*P **P** 07 17 26.3 +0.3
comp=Z,20nm,0.6s
DGZ Jazzator, Alta 79.35 323 *d*i P **P** 07 17 28.3 +0.2
DGZ pmax pmax
comp=Z,2.0nm,0.6s
CAST Castle Rocks 79.43 22 *e*P **P** 07 17 27.3 -0.7
comp=Z,15nm,0.6s
PMR Palmer 79.54 24 *e*P **P** 07 17 28.2 -0.4
comp=Z,15nm,1.0s
PMR Palmer 79.54 24 *e*P **P** 07 17 28.2 -0.4
PMR pmax pmax
comp=Z,15nm,1.0s
TRF Thorofare Moun 80.11 22 *e*P **P** 07 17 30.9 -0.9
comp=Z,15nm,0.9s
IM3 Indian Mountai 80.37 19 *e*P **P** 07 17 32.5 -0.4
DIV Divide 80.70 25 *e*P **P** 07 17 34.5 -0.3
comp=Z,15nm,0.7s
KLU Klutina 80.81 25 *e*P **P** 07 17 35.6 +0.2
comp=Z,18nm,0.9s
MLY Manley 80.83 21 *e*P **P** 07 17 35.2 -0.2
comp=Z,15nm,0.6s
DHY Denali Highway 81.02 23 *e*P **P** 07 17 36.7 +0.1
comp=Z,16nm,1.1s
WRH Wood River Hil 81.48 22 *e*P **P** 07 17 37.6 -1.1
comp=Z,9.8nm,0.8s
MK01 Makanchi Array 81.64 319 *e*P **P** 07 17 40.3 +0.3
MK31 Makanchi Array 81.65 319 *e*P **P** 07 17 40.1 +0.1
MK32 Makanchi Array 81.65 319 *e*P **P** 07 17 40.3 +0.2
MKAR Makanchi Array 81.65 319 P **P** 07 17 40.3 +0.2
comp=Z,4.6nm,0.6s,baz=99,slow=5.7,SNR=18
MKAR Makanchi Array 81.65 319 *e*P **P** 07 17 39.9 -0.1
comp=Z,43nm,0.8s
MKAR Makanchi Array 81.65 319 *i*P **P** 07 17 40.4 +0.4
MKAR pmax pmax
comp=Z,5.0nm,0.6s
COLA College 81.78 21 *e*P **P** 07 17 39.2 -1.0
comp=Z,26nm,0.6s
COLA College 81.78 21 *e*P **P** 07 17 39.2 -1.0
COLA pmax pmax

comp=Z,26nm,0.6s
IL1 Eielson Array 82.08 22 *e*P **P** 07 17 40.2 -1.6
ILAR Eielson Array 82.08 22 P **P** 07 17 40.3 -1.5
comp=Z,9.3nm,0.6s,baz=244,slow=5.1,SNR=160
ILAR pP **pP** 07 19 11.8 -1.6
comp=Z,0.9nm,0.8s,baz=268,slow=4.1,SNR=3.5
ILB Eielson Array 82.08 22 *e*P **P** 07 17 40.4 -1.5
ILB epP **pP** 07 19 11.8 -1.6
COLD Coldfoot 82.25 19 *e*P **P** 07 17 43.0 +0.4
comp=Z,4.2nm,1.0s
RIDG Independ'e Rid 82.34 23 *e*P **P** 07 17 43.1 -0.1
comp=Z,8.1nm,0.8s
ZAA0 Zalesovo Array 82.37 326 *e*P **P** 07 17 43.3 -0.2
comp=Z,5.5nm,0.8s
ZALV Zalesovo Beam 82.37 326 P **P** 07 17 43.1 -0.3
comp=Z,4.2nm,0.6s,baz=116,slow=5.1,SNR=15
ZALV pP **pP** 07 19 15.5 +0.3
comp=Z,1.1nm,0.6s,baz=120,slow=8.5,SNR=1.9
ZALV Zalesovo Beam 82.37 326 *e*P **P** 07 17 42.7 -0.8
ZALV pP **pP** 07 19 15.5 +0.3
ZAA1 Zalesovo Array 82.37 326 *e*P **P** 07 17 43.1 -0.3
ZAA1 epP **pP** 07 19 15.5 +0.3
DOT Dot Lake 82.61 23 *e*P **P** 07 17 44.6 0.0
comp=Z,20nm,0.8s
HYT Haines Junctio 84.21 27 *e*P **P** 07 17 53.5 +0.7
comp=Z,18nm,0.7s
EGAK Eagle 84.25 23 *e*P **P** 07 17 53.1 +0.3
comp=Z,18nm,0.9s
KSH Kashi 84.36 310 *e*P **P** 07 17 56.5 +2.5
DAWY Dawson 84.65 24 *e*P **P** 07 17 55.5 +0.7
comp=Z,8.1nm,0.8s
QSPA South Pole Qui 84.67 180 *e*P **P** 07 17 55.2 +0.2
comp=Z,15nm,0.8s
KURK Kurchatov 85.05 322 *e*P **P** 07 17 56.9 -0.1
KURK epP **pP** 07 19 29.3 -0.1
KURK Kurchatov 85.05 322 *i* P **P** 07 17 56.5 -0.5
KURK pmax pmax
comp=Z,5.0nm,1.1s
KURBB Kurchatov Arra 85.08 322 P **P** 07 17 56.9 -0.3
comp=Z,1.4nm,0.6s,baz=99,slow=4.9,SNR=8.9
KURBB pP **pP** 07 19 29.3 -0.2
comp=Z,0.8nm,0.8s,baz=101,slow=4.8,SNR=3.0
MAW Mawson 85.67 203 P **P** 07 17 58.1 -1.6
comp=Z,2.7nm,0.5s,baz=94,slow=5.7,SNR=7.6
AAK Ala-Archa 86.06 313 P **P** 07 17 59.8 -2.5
comp=Z,1.8nm,0.5s,baz=207,slow=16,SNR=3.9
AAK Ala-Archa 86.06 313 *ce*P **P** 07 18 02.7 +0.4
AAK pmax pmax
comp=Z,3.0nm,0.9s
NRIK Noril'sk 86.90 341 P **P** 07 18 04.9 -0.6
comp=Z,5.9nm,0.6s,baz=112,slow=4.5,SNR=11
INK Inuvik 88.40 21 P **P** 07 18 12.3 -0.3
comp=Z,6.0nm,0.9s,baz=273,slow=3.8,SNR=17
INK Inuvik 88.40 21 *e*P **P** 07 18 12.6 0.0
comp=Z,9.6nm,1.1s
INK Inuvik 88.40 21 *e*P **P** 07 18 12.6 0.0
INK pmax pmax
comp=Z,10.0nm,1.1s
BVAR Borovoye Array 90.50 323 P **P** 07 18 21.9 -0.9
comp=Z,7.7nm,0.6s,baz=106,slow=4.8,SNR=12
PAHR Pah Rah Range 90.55 50 *e*P **P** 07 18 23.5 +0.1
comp=Z,5.4nm,0.8s
BRVK Borovoye 90.57 323 *ce*P **P** 07 18 21.8 -1.2
BRVK pmax pmax
comp=Z,4.0nm,1.1s
RYN Ryan 91.10 51 *e*P **P** 07 18 25.5 -0.6
comp=Z,8.9nm,1.1s
NV01 Mina Array Sit 91.25 52 *e*P **P** 07 18 27.0 +0.2
NVAR Mina Array Bea 91.25 52 P **P** 07 18 27.3 +0.5
comp=Z,7.2nm,0.8s,baz=257,slow=6.3,SNR=29
NV11 Mina Array Sit 91.37 52 *e*P **P** 07 18 27.9 +0.6
comp=Z,0.8nm,1.0s
KVN Kaiserville 91.47 51 *e*P **P** 07 18 28.4 +0.6
comp=Z,5.5nm,0.7s
KVN Kaiserville 91.47 51 *e*P **P** 07 18 28.4 +0.6
KVN pmax pmax
comp=Z,6.0nm,0.7s
DAC Darwin (Calif) 91.61 54 *e*P **P** 07 18 29.0 +0.5
comp=Z,8.6nm,0.9s
DAC Darwin (Calif) 91.61 54 *e*P **P** 07 18 29.0 +0.5
DAC pmax pmax
comp=Z,9.0nm,0.9s
E09A Wood Farm, Sta 92.15 44 *e*P **P** 07 18 30.4 0.0
comp=Z,4.4nm,0.8s
TPNV Topopah Spring 92.75 53 *e*P **P** 07 18 33.4 -0.3
comp=Z,10nm,1.1s
TPNV Topopah Spring 92.75 53 *e*P **P** 07 18 33.4 -0.3
TPNV pmax pmax
comp=Z,10.0nm,1.1s
NEW Newport 93.00 42 P **P** 07 18 33.6 -0.8
R11A Troy Canyon, C 93.38 52 *e*P **P** 07 18 37.2 +0.7
comp=Z,4.9nm,1.1s
SHPR Sheep Range 93.59 54 *e*P **P** 07 18 38.0 +0.4
comp=Z,4.7nm,1.0s
SYO Syowa Base 93.68 199 *ll*eX **P** 07 18 34.6 -2.4
Y12C Blythe 93.92 57 *e*P **P** 07 18 39.0 +0.1
comp=Z,3.2nm,0.6s
CCUT Cedar City 95.08 53 *e*P **P** 07 18 44.0 -0.4
comp=Z,4.4nm,1.1s
YKA Yellowknife Ar 95.19 28 P **P** 07 18 43.4 -0.6
comp=Z,2.1nm,0.8s,baz=266,slow=4.8,SNR=10
YKB5 Yellowknife Ar 95.19 28 *e*P **P** 07 18 43.4 -0.6
DUG Dugway, Tooele 95.62 50 P **P** 07 18 46.2 -0.5
DUG pmax pmax
comp=Z,4.0nm,2.2s
HVU Hansel Valley 95.71 49 *e*P **P** 07 18 47.2 +0.1
comp=Z,3.6nm,0.9s
HVU Hansel Valley 95.71 49 *e*P **P** 07 18 47.2 +0.1
HVU pmax pmax
comp=Z,4.0nm,0.9s
BOZ Bozeman (W) 96.63 45 *e*pP pP 07 20 26.8 +1.8
PD31 Pinedale Array 98.11 48 *e*P **P** 07 18 57.1 -0.8
PDAR Pinedale Array 98.11 48 P **P** 07 18 56.5 -1.4
comp=Z,1.2nm,0.7s,baz=213,slow=2.5,SNR=11
PDAR Pinedale Array 98.11 48 *e*P **P** 07 18 56.2 -1.7
AKASG Malin Array Be 115.74 325 PKP **PKPdf** 07 23 58.8 -1.9
comp=Z,0.6nm,0.5s,baz=61,slow=2.0,SNR=5.6
PLCA Paso Flores 118.51 142 PKP **PKPdf** 07 24 06.7 +0.1
comp=Z,2.7nm,0.7s,baz=267,slow=3.3,SNR=14
TKL Tuckaleechee C 118.86 52 PKP **PKPdf** 07 24 06.8 -0.4
comp=Z,4.1nm,0.9s,baz=174,slow=10,SNR=4.4
BOSA Boshof 120.48 232 PKP **PKPdf** 07 24 10.5 -0.2
comp=Z,2.5nm,0.8s,baz=110,slow=4.6,SNR=4.2
CLL Collm 123.98 332 *e*PKPdf **PKPdf** 07 24 16.0 -0.6
CLL Collm 123.98 332 *e*PKIKP **PKPdf** 07 24 16.0 -0.6
GERES GERESS Array B 125.23 329 PKP **PKPdf** 07 24 19.1 0.0
comp=Z,0.9nm,0.6s,baz=79,slow=2.9,SNR=7.9
GRFO Grafenberg 125.90 331 *e*PKPdf **PKPdf** 07 24 21.9 +1.6
GRFO Grafenberg 125.90 331 *e*PKIKP **PKPdf** 07 24 21.9 +1.6
ESK Eskdalemuir 126.94 344 *i* PKIKP **PKPdf** 07 24 26.4 +4.3
OTAV Otavalo 127.14 94 *ci* PKIKP **PKPdf** 07 24 28.0 +3.7
OTAV pmax pmax
comp=Z,4.0nm,1.7s
ROSC El Rosal 131.63 88 PKP **PKPdf** 07 24 33.4 +0.7
comp=Z,4.8nm,0.5s,baz=126,slow=20,SNR=5.9
ROSC El Rosal 131.63 88 *e*PKPdf **PKPdf** 07 24 32.0 -0.7
LPAZ La Paz 132.91 118 PKP **PKPdf** 07 24 36.0 +0.6
comp=Z,2.2nm,0.5s,baz=251,slow=2.4,SNR=12
LPAZ La Paz 132.91 118 *e*PKPdf **PKPdf** 07 24 36.1 +0.8
LPAZ La Paz 132.91 118 *e*PKIKP **PKPdf** 07 24 36.1 +0.8
SDV Santo Domingo 135.34 83 *e*PKPdf **PKPdf** 07 24 39.9 +0.4
CPUP Villa Florida 136.12 137 PKP **PKPdf** 07 24 40.5 +0.2
comp=Z,2.4nm,0.7s,baz=270,slow=1.8,SNR=7.9
OBIP Obispado Ponce 138.14 69 *e*PKPdf **PKPdf** 07 24 44.1 -0.2
HUMP Col San Antoni 138.82 68 *e*PKPdf **PKPdf** 07 24 45.2 -0.3
MTP Monte Pirata 139.11 68 *e*PKPdf **PKPdf** 07 24 44.8 -1.2
CDVI St. Croix 139.91 69 *e*PKPdf **PKPdf** 07 24 47.1 -0.4
SAML Samuel 140.09 111 *c* i PKIKP **PKPdf** 07 24 49.3 +1.4
SAML pmax pmax
comp=Z,2.0nm,1.0s
SPB Sao Paulo 144.33 144 *e*PKPbc PKPbc 07 24 54.1 -0.4
PTGA Pitinga 145.30 99 *e*PKPdf **PKPdf** 07 24 57.5 +0.3
BDFB Brasilia 149.69 134 PKPbc **PKPbc** 07 25 09.5 0.0
comp=Z,15nm,0.5s,baz=238,slow=1.2,SNR=27
BDFB Brasilia 149.69 134 *e*PKPdf **PKPdf** 07 25 05.8 +1.3
BDFB *e*PKPbc **PKPbc** 07 25 09.5 0.0
TOA0 Torodi Ar. Sit 151.84 288 *e*PKPbc **PKPbc** 07 25 12.6 -1.8
TORD Torodi Ar. Bea 151.84 288 PKPbc **PKPbc** 07 25 12.8 -1.6
comp=Z,1.6nm,0.6s,baz=113,slow=3.4,SNR=11
TORD PKPab **PKPab** 07 25 24.8 -0.4
comp=Z,0.4nm,0.5s,baz=104,slow=2.3,SNR=4.3
TORD pPKP **pPKPdf** 07 26 48.2 +1.3
comp=Z,0.5nm,0.7s,baz=32,slow=5.6,SNR=1.8
TORD pPKPbc **pPKPbc** 07 26 52.9 +0.1
comp=Z,1.2nm,0.8s,baz=37,slow=2.8,SNR=3.5
TOA1 Torodi Ar. Sit 151.84 288 *e*PKPbc **PKPbc** 07 25 12.8 -1.6

TOA1 *e*PKPab **PKPab 07 25 24.8 -0.4**

IDC ***21*** *07:15:07.0±2.4, 11˚.13S×113˚.48E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/48, mbtmp3.7/4, Error ellipse: s-maj=108.2km s-min=22.5km az=46.0*
ISCJB ***21*** *07:15:09.2±1.0, 10˚.85S±0˚.06×113˚.61E±0˚.08, h25km, mb3.6/4, Error ellipse: s-maj=11.6km s-min=8.7km az=153.5*
DJA ***21*** *07:15:12.2±1.3, 11˚S±15˚×11˚4E±˚, h29km±27km, M3.7/6, MLv3.7/6*

ISC 21 07:15:09.8±1.2, 10˚.94S±0˚.10×113˚.68E±0˚.08, h25km, n9, σ2s78/13, mb3.7/4, South of Java

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.50**	**11**	P		**Pn**		**07 15 48.2**	**-0.7**
JAGI				S		**Sn**		**07 16 17.3**	**-1.3**
GMJI	**Gumukmas**	**2.66**	**355**	P		**Pn**		**07 15 50.7**	**-0.4**
SRBI	**Singaraja**	**3.22**	**28**	P		**Pn**		**07 15 59.3**	**+0.5**
SRBI				S		**Sn**		**07 16 36.1**	**-0.2**
PWJI	**Pagerwojo**	**3.44**	**327**	P		**Pn**		**07 16 00.9**	**-0.9**
PWJI				S		**Sn**		**07 16 38.5**	**-3.3**
TWSI	**Taliwang, Sumb**	**3.84**	**56**	P		**Pn**		**07 16 07.5**	**+0.1**
WRA	**Warramunga Arr**	**21.81**	**117**	P		**P**		**07 20 01.9**	**+1.5**
	2.9nm,0.6s,baz=290,slow=11,SNR=17								
WRA				S		**S**		**07 23 53.5**	**-7.1**
	0.2nm,0.8s,baz=284,slow=24,SNR=3.7								
ASAR	**Alice Springs**	**23.05**	**126**	P		**P**		**07 20 14.8**	**+1.3**
	0.9nm,0.6s,baz=299,slow=9.2,SNR=8.0								
CMAR	**Chiang Mai Arr**	**32.63**	**333**	P		**P**		**07 21 42.6**	**+2.7**
	0.5nm,0.4s,baz=165,slow=7.2,SNR=4.6								
MKAR	**Makanchi Array**	**63.96**	**337**	P		**P**		**07 25 41.9**	**+0.9**
	0.1nm,0.4s,baz=139,slow=9.5,SNR=2.4								

IDC 21 07:22:39.8±1.4, 27˚.54N×100˚.40E, h0km, mb3.3/5, mb1 3.5/5, mb1mx3.3/47, mbtmp3.3/5, MS3.0/1, Ms1 3.0/1, ms1mx2.3/30, Error ellipse: s-maj=80.4km s-min=21.5km az=63.0, Yunnan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**20.80**	**11**	P		P		07 27 22.7	0.0
	0.2nm,0.6s,baz=182,slow=8.7,SNR=2.1								
MKAR	**Makanchi Array**	**23.93**	**328**	P		P		07 27 55.3	-0.2
	0.3nm,0.6s,baz=128,slow=9.5,SNR=2.8								
PALK	**Pallekele**	**27.48**	**226**	LR		LR		07 41 47.2	
	comp=Z,35nm,20.6s,baz=114,slow=42								
KURBB	**Kurchatov Arra**	**28.43**	**330**	P		P		07 28 36.2	+0.1
	0.2nm,0.5s,baz=140,slow=10.0,SNR=1.7								
WRA	**Warramunga Arr**	**57.51**	**141**	P		P		07 32 30.7	-0.4
	0.6nm,0.6s,baz=328,slow=8.0,SNR=8.0								
ASAR	**Alice Springs**	**60.31**	**144**	P		P		07 32 50.9	+0.3
	0.3nm,0.4s,baz=328,slow=6.6,SNR=8.0								

KRNET ***21*** *07:27:23.7±0.1, 39˚.18N×71˚.36E, h10km, mb3.2*
NNC ***21*** *07:27:28.4±4.5, 39˚.18N×71˚.39E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=35.3km s-min=22.2km az=9.0*

ISC 21 07:27:28.0±2.3, 39˚.4N±0˚.1×71˚.43E±0˚.05, h10km, n21, σ2s69/34, 19C-10D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.32**	**66**	⇑*e*P		**Pg**		**07 27 32.5**	**-2.0**
	baz=49								
DRK				⇑*e*S		**Sg**		**07 27 39.4**	**+0.6**
	baz=49								
BTK	**Batken**	**0.85**	**327**	⇓*i*P		**Pg**		**07 27 42.5**	**-1.8**
	baz=35								
BTK				⇓*i*S		**Sb**		**07 27 56.2**	**-0.1**
	baz=35								
SFK	**Sufi-Kurgan**	**1.73**	**67**	⇑Pg		**Pg**		**07 28 01.7**	**+0.4**
	6.2nm,0.3s								
SFK				⇓Lg		Lg		07 28 30.6	
	25nm,0.5s								
SFK	**Sufi-Kurgan**	**1.73**	**67**	⇑*i*P		**Pn**		**07 27 58.6**	**+0.2**
	baz=62								
SFK				⇑*i*S		**Sg**		**07 28 24.2**	**+0.4**
	baz=62								
ARSB	**Arslanbob**	**2.30**	**31**	⇑*i*P		**Pb**		**07 28 08.2**	**-1.5**
	baz=30								
ARSB				⇑*i*S		**Sb**		**07 28 39.7**	**+1.5**
	baz=30								
ARK	**Arkit**	**2.48**	**9**	⇑*i*P		**Pn**		**07 28 09.5**	**+1.0**
	baz=10.0								
ARK				⇑*i*S		**Sb**		**07 28 43.2**	**-0.1**
	baz=10.0								
MNAS	**Manas**	**3.24**	**14**	⇓Pn		**Pb**		**07 28 23.1**	**-2.6**
	2.2nm,0.4s								
MNAS				⇓Sn		**Sb**		**07 29 06.3**	**+1.2**
	4.1nm,0.4s								
MNAS	**Manas**	**3.24**	**14**	⇑*i*P		**Pn**		**07 28 21.2**	**+2.2**
	baz=14								
MNAS				⇑*i*S		**Sb**		**07 29 02.1**	**-3.0**
	baz=14								
AML	**Almayashu**	**3.27**	**31**	P		**Pb**		**07 28 23.1**	**-3.2**
	SNR=7.1								
AML	**Almayashu**	**3.27**	**31**	⇓*i*P		**Pn**		**07 28 21.5**	**+1.9**
	baz=30								
AML				⇓*i*S		**Sb**		**07 29 03.0**	**-3.3**
	baz=30								
ARLS	**Aral**	**3.34**	**40**	⇓*e*P		**Pn**		**07 28 21.4**	**+1.0**
	baz=39								
ARLS				⇓*i*S		**Sb**		**07 29 04.7**	**-3.4**
	baz=39								
UCH	**Uchtor**	**3.71**	**38**	P		**Pn**		**07 28 28.9**	**+3.2**
	SNR=8.0								
UCH	**Uchtor**	**3.71**	**38**	⇑*e*P		**Pn**		**07 28 27.1**	**+1.4**
	baz=37								
UCH				⇑*i*S		**Sn**		**07 29 13.6**	**+3.9**
	baz=37								
EKS2	**Erkin-Say**	**3.75**	**28**	P		**Pb**		**07 28 30.8**	**-3.6**
	SNR=11								
KK31	**Karatay Array**	**3.81**	**350**	Pn		**Pn**		**07 28 30.2**	**+3.5**
	1.5nm,0.3s,baz=172,slow=13,SNR=61								
KK31				⇑Sn		**Sb**		**07 29 19.9**	**-1.6**
	1.6nm,0.3s,baz=187,slow=25,SNR=4.4								
KK31				Lg		Lg		07 29 30.7	
	4.3nm,0.5s,baz=164,slow=27,SNR=5.9								
KZA	**Kyzart**	**3.98**	**46**	P		**Pn**		**07 28 33.0**	**+3.5**
	SNR=7.0								
KZA	**Kyzart**	**3.98**	**46**	⇑*e*P		**Pn**		**07 28 31.5**	**+2.0**
	baz=44								
KZA				⇑*i*S		**Sn**		**07 29 20.6**	**+4.2**
	baz=44								
AAK	**Ala-Archa**	**4.02**	**34**	⇓Pn		**Pn**		**07 28 33.5**	**+3.7**
	3.5nm,0.3s								
AAK				⇑Sn		**Sb**		**07 29 23.7**	**-4.0**
	3.5nm,0.7s								
AAK	**Ala-Archa**	**4.02**	**34**	P		**Pn**		**07 28 33.5**	**+3.7**
	SNR=8.4								
CHMS	**Chumysh**	**4.42**	**33**	P		**Pn**		**07 28 39.0**	**+3.8**
	SNR=5.4								
TKM2	**Tokmak 2**	**4.76**	**40**	⇑Pn		**Pn**		**07 28 42.1**	**+2.2**
	1.9nm,0.5s								
TKM2				⇑Lg		Lg		07 29 59.3	
	1.5nm,0.5s								

CNRM ***21*** *07:49:28.9, 36˚.76N×7˚.15W, h33km, ML3.3*
ISCJB ***21*** *07:49:29.7±0.3, 36˚.99N±0˚.02×6˚.91W±0˚.02, h35km, Error ellipse: s-maj=3.4km s-min=1.8km az=32.3*
SFS ***21*** *07:49:29.0, 36˚.70N×7˚.00W, h20km, ML3.6, GOLFO DE CADIZ*
IGIL ***21*** *07:49:30.7, 36˚.81N×7˚.07W, h30km, ML3.4*
MDD ***21*** *07:49:30.4±0.4, 36˚.82N×7˚.05W, h40km, mbLg3.6/62, Error ellipse: s-maj=4.9km s-min=2.7km az=29.0, PRXIMO MDD EMS: II INTENSIDAD MAXIMA.*
LDG ***21*** *07:49:31.0, 36˚.85N×7˚.03W, h38km*
INMG ***21*** *07:49:31.0±1.5, 36˚.81N×7˚.06W, h30km±7km, ML3.6, Error ellipse: s-maj=3.1km s-min=2.5km az=36.0*

ISC 21 07:49:28.0±1.1, 36˚.85N±0˚.03×6˚.99W±0˚.03, h35km, n127, σ2s33/224, 2C-19D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SFS	**San Fernando**	**0.74**	**121**	P		**Pn**		**07 49 44.0**	**+2.0**
SFS				S		**Sn**		**07 49 56.2**	**+4.3**
SFS	**San Fernando**	**0.74**	**121**	*i*P		**Pn**		**07 49 44.0**	**+2.0**
SFS				*e*S		**Sn**		**07 49 56.2**	**+4.3**
EGRO	**El Granado**	**0.79**	**331**	⇓P		**Pn**		**07 49 44.6**	**+1.9**
	314nm,0.1s,SNR=18								
EGRO				S		**Sn**		**07 49 54.8**	**+1.5**
	3µm,0.2s,SNR=16								
PVAQ	**Vaqueiros**	**0.80**	**314**	⇓*i*P		**Pn**		**07 49 44.5**	**+1.6**
PVAQ				*e*S		**Sn**		**07 49 54.8**	**+1.2**
PVAQ				A		A		07 49 55.3	
	3µm,0.2s								
PVAQ	**Vaqueiros**	**0.80**	**314**	P		**Pn**		**07 49 43.8**	**+0.9**
PVAQ				S		**Sn**		**07 49 54.8**	**+1.2**
	3µm,0.2s								
PVAQ	**Vaqueiros**	**0.80**	**314**	P		**Pn**		**07 49 43.8**	**+0.9**
GIBL	**Gibalbin**	**0.82**	**91**	P		**Pn**		**07 49 45.5**	**+2.3**
GIBL	**Gibalbin**	**0.82**	**91**	*i* P		**Pn**		**07 49 45.5**	**+2.3**
CNIL	**Conil**	**0.89**	**122**	P		**Pn**		**07 49 46.3**	**+2.3**
CNIL	**Conil**	**0.89**	**122**	*i* P		**Pn**		**07 49 46.3**	**+2.3**
EMIN	**Mina Concepcio**	**0.96**	**15**	⇓P		**Pn**		**07 49 47.2**	**+2.2**
	11nm,0.1s,SNR=18								
EMIN				S		**Sn**		**07 49 59.2**	**+1.9**
	338nm,0.1s,SNR=12								
EJIF	**Jimena Fronter**	**1.29**	**107**	P		**Pn**		**07 49 51.3**	**+1.8**
	7.5nm,0.2s,SNR=7.9								
EJIF				S		**Sn**		**07 50 06.3**	**+0.7**
	41nm,0.2s,SNR=4.0								
PBAR	**Barrancos**	**1.33**	**358**	*e*P		**Pn**		**07 49 52.4**	**+2.3**
PBAR				*e*S		**Sn**		**07 50 08.7**	**+2.1**
PBAR				A		A		07 50 15.0	
	461nm,0.1s								
PBAR	**Barrancos**	**1.33**	**358**	P		**Pn**		**07 49 52.4**	**+2.3**
PBAR				S		**Sn**		**07 50 08.7**	**+2.1**
	461nm,0.1s								
PBEJ	**Beja**	**1.37**	**330**	*e*P		**Pn**		**07 49 53.3**	**+2.6**
PBEJ				*e*S		**Sn**		**07 50 09.7**	**+2.1**
PBEJ				A		A		07 50 17.5	
	241nm,0.1s								
PBEJ	**Beja**	**1.37**	**330**	P		**Pn**		**07 49 53.3**	**+2.6**
PBEJ				S		**Sn**		**07 50 09.7**	**+2.1**
	121nm,0.1s								
MESJ	**Messejana**	**1.39**	**316**	*e*P		**Pn**		**07 49 52.6**	**+1.6**
MESJ				*e*S		**Sn**		**07 50 08.4**	**+0.3**
MESJ				AML		AML		07 50 10.0	
	comp=N,484nm,0.2s								
MESJ	**Messejana**	**1.39**	**316**	⇓*i*P		**Pn**		**07 49 52.6**	**+1.6**
MESJ				*e*S		**Sn**		**07 50 08.9**	**+0.7**
MESJ				A		A		07 50 09.9	
	comp=N,399nm,0.3s								
MESJ	**Messejana**	**1.39**	**316**	P		**Pn**		**07 49 52.6**	**+1.6**
MESJ				S		**Sn**		**07 50 08.9**	**+0.7**
	comp=N,399nm,0.3s								
MORF	**Marmelete**	**1.40**	**290**	*e*P		**Pn**		**07 49 52.0**	**+0.8**
MORF				*e*S		**Sn**		**07 50 08.1**	**-0.4**
MORF				AML		AML		07 50 10.3	
	comp=N,697nm,0.3s								
MORF	**Marmelete**	**1.40**	**290**	⇓*i*P		**Pn**		**07 49 52.0**	**+0.8**
MORF				*e*S		**Sn**		**07 50 08.6**	**+0.1**
MORF				A		A		07 50 10.2	
	comp=N,418nm,0.2s								
MORF	**Marmelete**	**1.40**	**290**	P		**Pn**		**07 49 52.0**	**+0.8**
MORF				S		**Sn**		**07 50 08.6**	**+0.1**
	comp=N,418nm,0.2s								
PFVI	**Vila Bisbo**	**1.50**	**282**	⇓*e*P		**Pn**		**07 49 53.0**	**+0.6**
PFVI				*e*S		**Sn**		**07 50 09.9**	**-0.8**
PFVI				A		A		07 50 27.6	
	comp=N,167nm,0.3s								
PFVI	**Vila Bisbo**	**1.50**	**282**	⇓P		**Pn**		**07 49 53.0**	**+0.6**
	comp=N,78nm,0.2s,SNR=18								
PFVI				S		**Sn**		**07 50 09.7**	**-1.0**
	comp=N,296nm,0.2s,SNR=6.5								
PFVI	**Vila Bisbo**	**1.50**	**282**	P		**Pn**		**07 49 52.9**	**+0.6**
PTEO	**Sao Teotonio**	**1.55**	**297**	⇓*i*Pn		**Pn**		**07 49 54.6**	**+1.5**
PTEO				*e*Sn		**Sn**		**07 50 12.4**	**+0.4**
PTEO				A		A		07 50 30.1	
	comp=N,208nm,0.5s								
PTEO	**Sao Teotonio**	**1.55**	**297**	P		**Pn**		**07 49 54.6**	**+1.5**
PTEO				S		**Sn**		**07 50 12.4**	**+0.4**
	comp=N,104nm,0.5s								
CEU	**Ceuta**	**1.61**	**125**	P		**Pn**		**07 49 56.6**	**+2.6**
CEU				S		**Sn**		**07 50 16.0**	**+2.4**
CEU	**Ceuta**	**1.61**	**125**	*e*P		**Pn**		**07 49 56.6**	**+2.6**
CEU				*e*S		**Sn**		**07 50 16.0**	**+2.4**
CEUT	**Ceuta**	**1.65**	**125**	P		**Pn**		**07 49 56.6**	**+2.0**
HORN	**Hornachuelos**	**1.71**	**54**	P		**Pn**		**07 49 57.2**	**+1.9**
ECAB	**El Cabril**	**1.75**	**45**	⇑P		**Pn**		**07 49 57.9**	**+1.9**
	comp=N,3.5nm,0.2s,SNR=18								
ECAB				S		**Sn**		**07 50 18.0**	**+0.8**
	comp=N,50nm,0.1s,SNR=7.9								
EVO	**Evora**	**1.87**	**335**	⇓*i*Pn		**Pn**		**07 50 01.5**	**+4.0**
EVO				*e*Sn		**Sn**		**07 50 23.3**	**+3.4**
EVO				A		A		07 50 24.1	
	comp=N,403nm,0.2s								
EVO	**Evora**	**1.87**	**335**	P		**Pn**		**07 50 01.1**	**+3.6**
EVO				S		**Sn**		**07 50 23.4**	**+3.4**
EVO	**Evora**	**1.87**	**335**	*e*P		**Pn**		**07 50 01.1**	**+3.6**
EVO				*e*S		**Sn**		**07 50 23.4**	**+3.4**
EBAD	**Badajoz**	**1.91**	**360**	⇓P		**Pn**		**07 50 00.2**	**+2.1**
	comp=N,29nm,0.1s,SNR=18								
EBAD				S		**Sn**		**07 50 21.9**	**+1.0**
	comp=N,450nm,0.1s,SNR=7.2								
EMAL	**Malaga-Limoner**	**2.06**	**92**	*i* P		**Pn**		**07 50 03.0**	**+2.9**
EMAL				*e*S		**Sn**		**07 50 26.8**	**+2.2**
PESTR	**Estremoz**	**2.07**	**347**	⇓*e*Pn		**Pn**		**07 50 02.2**	**+1.8**
PESTR				A		A		07 50 44.0	
	comp=N,122nm,0.4s								
PESTR	**Estremoz**	**2.07**	**347**	P		**Pn**		**07 50 02.0**	**+1.6**
RSA	**Sarsar**	**2.18**	**154**	P		**Pn**		**07 50 03.0**	**+1.1**
EGOR	**Sierra Gordа,**	**2.33**	**83**	P		**Pn**		**07 50 06.4**	**+2.5**
	comp=N,1.6nm,0.1s,SNR=7.9								
EGOR				S		**Sn**		**07 50 33.0**	**+1.6**
	comp=N,57nm,0.2s,SNR=7.9								
EADA	**Adamuz**	**2.33**	**55**	P		**Pn**		**07 50 06.3**	**+2.3**
	comp=N,3.7nm,0.1s,SNR=30								
EADA				S		**Sn**		**07 50 32.3**	**+0.9**
	comp=N,67nm,0.1s,SNR=4.6								
LIS	**Lisbon**	**2.53**	**318**	*e*P		**Pn**		**07 50 08.6**	**+2.0**
LIS				*e*S		**Sn**		**07 50 35.8**	**-0.4**
LIS				AML		AML		07 50 37.5	
	comp=N,126nm,0.7s								
LIS	**Lisbon**	**2.53**	**318**	P		**Pn**		**07 50 08.6**	**+2.0**
LIS				S		**Sn**		**07 50 35.8**	**-0.4**
	comp=N,126nm,0.7s								
PMST	**Lisbon--Monsan**	**2.56**	**318**	⇓*e*Pn		**Pn**		**07 50 09.2**	**+2.1**
PMST				*e*Sn		**Sn**		**07 50 40.0**	**+3.0**
PMST				A		A		07 50 40.1	
	comp=N,162nm,0.2s								
PMRV	**Marv??o**	**2.60**	**353**	⇓*e*Pn		**Pn**		**07 50 10.5**	**+2.9**
PMRV				*e*Sn		**Sn**		**07 50 38.7**	**+0.8**
PMRV				A		A		07 50 41.0	
	comp=N,211nm,0.2s								
PMRV	**Marv??o**	**2.60**	**353**	P		**Pn**		**07 50 10.5**	**+2.9**
PMRV				S		**Sn**		**07 50 38.7**	**+0.8**
	comp=N,211nm,0.2s								
ELGU	**Los Guajares,**	**2.70**	**89**	P		**Pn**		**07 50 11.5**	**+2.4**
	comp=N,6.8nm,0.1s,SNR=7.9								
ELGU				S		**Sn**		**07 50 41.8**	**+1.3**
	comp=N,151nm,0.3s,SNR=7.9								
PVLZ	**Peæn de**	**2.75**	**127**	*e*P		**Pn**		**07 50 10.3**	**+0.7**
PVLZ				*e*S		**Sn**		**07 50 40.7**	**-0.9**
PMAFR	**Mafra**	**2.78**	**320**	⇓*e*Pn		**Pn**		**07 50 12.0**	**+2.0**
PMAFR				*e*Sn		**Sn**		**07 50 42.4**	**+0.1**
PMAFR				A		A		07 50 44.9	
	comp=N,360nm,0.2s								
PMAFR	**Mafra**	**2.78**	**320**	⇓P		**Pn**		**07 50 12.0**	**+2.0**
	comp=N,124nm,0.1s,SNR=18								
PMAFR				S		**Sn**		**07 50 42.8**	**+0.4**
	comp=N,718nm,0.2s,SNR=17								
EQUE	**Quentar**	**2.87**	**82**	P		**Pn**		**07 50 14.1**	**+2.7**
	comp=N,0.7nm,0.2s,SNR=14								
EQUE				S		**Sn**		**07 50 46.1**	**+1.4**
	comp=N,39nm,0.3s,SNR=5.7								
MPAL	**Palemas**	**2.96**	**122**	P		**Pn**		**07 50 14.0**	**+1.5**
PTOM	**Tomar**	**2.98**	**338**	⇓*e*Pn		**Pn**		**07 50 14.9**	**+2.0**
PTOM				*e*Sn		**Sn**		**07 50 48.3**	**+0.9**
PTOM				A		A		07 51 14.9	
	comp=N,193nm,0.8s								
PTOM	**Tomar**	**2.98**	**338**	P		**Pn**		**07 50 14.9**	**+2.0**
PTOM				S		**Sn**		**07 50 48.3**	**+0.9**
	comp=N,96nm,0.8s								
PCBR	**Castelo Branco**	**3.01**	**353**	⇓*e*Pn		**Pn**		**07 50 15.5**	**+2.2**
PCBR				*e*Sn		**Sn**		**07 50 47.9**	**-0.3**
PCBR				A		A		07 50 50.8	
	comp=N,164nm,0.3s								
PCBR	**Castelo Branco**	**3.01**	**353**	P		**Pn**		**07 50 15.5**	**+2.2**
PCBR				S		**Sn**		**07 50 47.9**	**-0.3**
	comp=N,82nm,0.3s								
GORA	**Gorafe**	**3.22**	**77**	S		**Sn**		**07 50 55.2**	**+1.8**
	comp=N,73nm,0.2s,SNR=7.9								
EQES	**Quesada**	**3.27**	**72**	P		**Pn**		**07 50 19.1**	**+2.2**
	comp=N,1.4nm,0.1s,SNR=12								
EQES				S		**Sn**		**07 50 55.5**	**+0.9**
	comp=N,24nm,0.1s,SNR=6.1								
EBER	**Berja**	**3.29**	**88**	P		**Pn**		**07 50 20.0**	**+2.7**
	comp=N,4.4nm,0.3s,SNR=17								
EBER				S		**Sn**		**07 50 54.8**	**-0.4**
	comp=N,24nm,0.3s,SNR=4.0								
EPLA	**Plasencia**	**3.29**	**12**	P		**Pn**		**07 50 19.3**	**+2.2**
	comp=N,16nm,0.1s,SNR=79								
EPLA				S		**Sn**		**07 50 56.3**	**+1.2**
	comp=N,64nm,0.1s,SNR=15								
EALB	**Alboran**	**3.32**	**105**	P		**Pn**		**07 50 18.5**	**+1.0**
	comp=N,3.5nm,0.1s,SNR=7.9								
EALB				S		**Sn**		**07 50 55.0**	**-0.7**
	comp=N,53nm,0.2s,SNR=7.9								
PAB	**San Pablo**	**3.41**	**37**	P		**Pn**		**07 50 21.1**	**+2.3**
	comp=N,11nm,0.1s,SNR=7.9								
PAB				S		**Sn**		**07 50 56.9**	**-1.1**
	comp=N,30nm,0.1s,SNR=7.9								
PCAS	**Casmilo, Conde**	**3.41**	**340**	*e*Pn		**Pn**		**07 50 20.7**	**+1.9**
PCAS				*e*Sn		**Sn**		**07 50 58.6**	**+0.6**
PCAS				A		A		07 51 23.5	
	comp=N,120nm,0.5s								
MTE	**Manteigas**	**3.58**	**353**	*e*Pn		**Pn**		**07 50 23.1**	**+2.0**
MTE				*e*Sn		**Sn**		**07 51 01.1**	**-1.0**
MTE				A		A		07 51 03.6	
	comp=N,163nm,0.3s								
MTE	**Manteigas**	**3.58**	**353**	Pn		**Pn**		**07 50 23.1**	**+2.0**
MTE				Sn		**Sn**		**07 51 01.1**	**-1.0**
	comp=N,81nm,0.3s								
IFR	**Ifrane**	**3.66**	**155**	*e*P		**Pn**		**07 50 21.9**	**-0.4**
IFR				*e*S		**Sn**		**07 50 59.5**	**-4.8**
ESDC	**Sonseca Array**	**3.70**	**39**	P		**Pn**		**07 50 25.2**	**+2.5**
	comp=N,2.9nm,0.2s,baz=224,slow=13,SNR=40								
ESDC				S		**Sn**		**07 51 03.6**	**-1.5**
	comp=N,2.2nm,0.6s,baz=224,slow=23,SNR=8.9								
SESP	**Santiago Espad**	**3.76**	**69**	P		**Pn**		**07 50 26.4**	**+2.7**
	comp=N,0.1nm,0.2s,SNR=7.9								
SESP				S		**Sn**		**07 51 06.5**	**-0.3**
	comp=N,60nm,0.1s,SNR=7.9								
ENIJ	**Nijar**	**3.84**	**87**	P		**Pn**		**07 50 27.0**	**+2.4**
	comp=N,3.1nm,0.2s,SNR=7.9								
ENIJ				S		**Sn**		**07 51 07.7**	**-0.8**
	comp=N,27nm,0.2s,SNR=7.9								
PVIS	**Viseu**	**3.93**	**350**	*e*Pn		**Pn**		**07 50 27.6**	**+1.7**
PVIS				*e*Sn		**Sn**		**07 51 10.8**	**0.0**
PVIS				A		A		07 51 12.6	
	comp=N,91nm,0.3s								
PVIS	**Viseu**	**3.93**	**350**	P		**Pn**		**07 50 27.6**	**+1.7**
PVIS				S		**Sn**		**07 51 10.8**	**0.0**
	comp=N,45nm,0.3s								
MVO	**Moncorvo**	**4.31**	**360**	*e*Pn		**Pn**		**07 50 33.3**	**+2.1**
MVO				*e*Sn		**Sn**		**07 51 19.5**	**-0.8**
MVO				A		A		07 51 22.0	
	comp=N,177nm,0.3s								
MVO	**Moncorvo**	**4.31**	**360**	P		**Pn**		**07 50 33.3**	**+2.1**
	comp=N,25nm,0.2s,SNR=107								
MVO				S		**Sn**		**07 51 19.5**	**-0.8**
	comp=N,96nm,0.1s,SNR=19								
PVRL	**Vila Real**	**4.46**	**353**	*e*Sn		**Sn**		**07 51 21.4**	**-2.5**
PVRL	**Vila Real**	**4.46**	**353**	S		**Sn**		**07 51 21.4**	**-2.5**
PTO	**Porto**	**4.47**	**344**	*e*Pn		**Pn**		**07 50 35.2**	**+2.0**
PTO				A		A		07 51 25.6	
	comp=N,242nm,0.1s								
PTO	**Porto**	**4.47**	**344**	P		**Pn**		**07 50 35.2**	**+2.0**
POLO	**Lamas de Olo**	**4.56**	**352**	⇓*e*Pn		**Pn**		**07 50 36.6**	**+1.9**
POLO				*e*Sn		**Sn**		**07 51 25.2**	**-1.3**
POLO				A		A		07 51 28.5	
	comp=N,90nm,0.2s								
ETOB	**Tobarra**	**4.67**	**66**	P		**Pn**		**07 50 37.6**	**+1.4**
	comp=N,1.5nm,0.1s,SNR=12								
ETOB				S		**Sn**		**07 51 29.2**	**-0.1**
	comp=N,28nm,0.1s								
EMUR	**La Murta**	**4.69**	**76**	P		**Pn**		**07 50 40.2**	**+3.9**
	comp=N,2.6nm,0.3s,SNR=7.9								
EMUR				S		**Sn**		**07 51 28.3**	**-1.3**
	comp=N,19nm,0.4s,SNR=7.9								
PBRG	**Braganca**	**4.96**	**2**	*e*Pn		**Pn**		**07 50 42.1**	**+2.1**
PBRG				*e*Sn		**Sn**		**07 51 34.4**	**-1.7**
PBRG				A		A		07 51 37.9	
	comp=N,77nm,0.2s								
PBRG	**Braganca**	**4.96**	**2**	P		**Pn**		**07 50 42.1**	**+2.1**
PBRG				S		**Sn**		**07 51 34.4**	**-1.7**
	comp=N,38nm,0.2s								
ELOB	**Lobios**	**5.08**	**351**	⇓P

ETSF					S		Sn	07 52 42.4 -4.0
	comp=N,1.1nm,0.3s							
ATE	**Arette**	**7.88**	**36**	P			**Pn**	**07 51 23.6 +3.4**
	comp=N,1.9nm,0.3s,SNR=7.9							
ATE					S		Sn	07 52 45.6 -2.5
	comp=N,9.8nm,0.3s,SNR=7.9							
ECHI	**Chisagues Biel**	**8.02**	**41**	P			**Pn**	**07 51 25.2 +3.0**
	comp=N,0.6nm,0.2s,SNR=7.9							
ECHI					S		Sn	07 52 48.1 -3.7
	comp=N,1.9nm,0.1s,SNR=7.9							
ETOS	**Mallorca**	**8.24**	**66**	S			**Sn**	**07 52 53.6 -3.4**
	comp=N,0.6nm,0.3s,SNR=4.0							
CSOR	**Sort**	**8.36**	**46**	P			**Pn**	**07 51 28.9 +2.2**
	comp=N,0.6nm,0.2s,SNR=7.2							
CSOR					S		Sn	07 52 57.6 -2.3
	comp=N,1.0nm,0.2s,SNR=7.9							
EPF	**Esparros**	**8.36**	**40**	*e*Pn			**Pn**	**07 51 30.1 +3.4**
EPF				*e*Sn			**Sn**	**07 52 57.5 -2.3**
	comp=N,4.2nm,0.2s							
EPF	**Esparros**	**8.36**	**40**	P			**Pn**	**07 51 30.1 +3.4**
EPF				S			**Sn**	**07 52 57.5 -2.3**
	comp=N,2.1nm,0.2s							
CLLI	**Llivia**	**8.91**	**48**	S			**Sn**	**07 53 10.2 -3.3**
	comp=N,0.7nm,0.2s,SNR=7.9							
LFF	**La Frestale**	**9.98**	**33**	*e*Pn			**Pn**	**07 51 50.4 +1.6**
LFF				*e*Sn			**Sn**	**07 53 35.1 -4.4**
	comp=N,6.7nm,0.4s							
LFF	**La Frestale**	**9.98**	**33**	P			**Pn**	**07 51 50.4 +1.6**
LFF				S			**Sn**	**07 53 35.1 -4.4**
	comp=N,3.3nm,0.4s							
CAF	**Calviac**	**10.59**	**38**	*e*Sn			**Sn**	**07 53 49.5 -4.9**
	comp=N,3.3nm,0.3s							
CAF	**Calviac**	**10.59**	**38**	S			**Sn**	**07 53 49.5 -4.9**
	comp=N,1.7nm,0.3s							
RJF	**Les Rejaudoux**	**10.61**	**35**	*e*Pn			**Pn**	**07 51 58.8 +1.3**
RJF	**Les Rejaudoux**	**10.61**	**35**	P			**Pn**	**07 51 58.8 +1.3**
LASF	**Ste Croix**	**10.97**	**45**	*e*Pn			**Pn**	**07 52 03.5 +1.1**
LASF	**Ste Croix**	**10.97**	**45**	P			**Pn**	**07 52 03.5 +1.1**
QUIF	**Quistinic**	**11.42**	**13**	*e*Pn			**Pn**	**07 52 09.5 +1.0**
QUIF				*e*Sn			**Sn**	**07 54 09.4 -5.3**
	comp=N,2.4nm,0.2s							
QUIF	**Quistinic**	**11.42**	**13**	P			**Pn**	**07 52 09.5 +1.0**
QUIF				S			**Sn**	**07 54 09.4 -5.3**
	comp=N,1.2nm,0.2s							
ROSF	**Rostrenen**	**11.80**	**12**	*e*Pn			**Pn**	**07 52 14.6 +0.8**
ROSF				*e*Sn			**Sn**	**07 54 17.7 -6.5**
	comp=N,2.6nm,0.3s							
ROSF	**Rostrenen**	**11.80**	**12**	P			**Pn**	**07 52 14.6 +0.8**
ROSF				S			**Sn**	**07 54 17.7 -6.5**
	comp=N,1.3nm,0.3s							

IDC 21 08:07:27.2±1.6, 12°14N×143°06E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/44, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=83.0km s-min=20.4km az=122.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.27**	**51**	Pn	Pn	08 08 07.2	+1.2
	17nm,0.3s,baz=210,slow=1.8,SNR=7.5						
GUMO				Sn	Sn	08 08 34.8	0.0
	23nm,0.3s,baz=156,slow=23,SNR=7.9						
H11S3	**WAKE ISLAND Hy**	**23.63**	**72**	T	T	08 37 00.5	
	baz=265,slow=76						
H11S1	**WAKE ISLAND Hy**	**23.65**	**72**	T	T	08 37 01.8	
	baz=265						
H11S2	**WAKE ISLAND Hy**	**23.65**	**72**	T	T	08 36 59.9	
	baz=265,slow=76						
H11N1	**WAKE ISLAND Hy**	**24.10**	**69**	T	T	08 37 38.8	
	baz=265,slow=76,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**24.11**	**69**	T	T	08 37 33.9	
	baz=265,slow=76,SNR=3.7						
H11N3	**WAKE ISLAND Hy**	**24.12**	**69**	T	T	08 37 37.8	
	baz=265,slow=76,SNR=3.9						
WRA	**Warramunga Arr**	**33.02**	**195**	P	P	08 14 04.0	-0.3
	0.8nm,0.8s,baz=19,slow=9.7,SNR=8.2						
ASAR	**Alice Springs**	**36.70**	**194**	P	P	08 14 36.5	+0.4
	0.2nm,0.6s,baz=26,slow=11,SNR=2.3						
ILAR	**Eielson Array**	**70.62**	**25**	P	P	08 18 43.9	-0.4
	0.3nm,0.5s,baz=251,slow=5.9,SNR=6.0						

MEX 21 08:20:48.2±0.4, 13°91N×92°27W, h74km±20km, MD4.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.00**	**0**	*i* P	Pn	08 21 05.1	-1.8
THIG				*e*S	Sn	08 21 19.0	-1.8
PCIG		**2.01**	**333**	*e*P	Pn	08 21 18.7	-1.4
PCIG				*e*S	Sn	08 21 42.7	-1.7
CCIG	**Comitan**	**2.37**	**3**	*i* P	Pn	08 21 24.2	-0.8
CCIG				*e*P		08 21 27.2	
CCIG				*i* S	Sn	08 21 51.3	-2.0

IDC 21 08:21:22.4±4.8, 4°74S×151°71E, h112km±42km, mb3.6/5, mb1 3.9/6, mb1mx3.4/40, mbtmp4.0/6, MS2.7/2, Ms1 2.7/2, ms1mx2.4/34, Error ellipse: s-maj=113.3km s-min=27.1km az=132.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.47**	**224**	P	Pn	08 22 56.3	+1.1
	1.7nm,0.3s,baz=43,slow=5.5,SNR=4.2						
PMG				S	Sn	08 24 08.0	+0.3
	1.3nm,0.3s,baz=128,slow=19,SNR=2.4						
PMG				LR	LR	08 25 10.1	
	comp=Z,57nm,19.4s,baz=150,slow=35						
GUMO	**Guam**	**19.44**	**340**	LR	LR	08 33 42.8	
	comp=Z,24nm,18.6s,baz=154,slow=38						
WRA	**Warramunga Arr**	**22.68**	**227**	P	P	08 26 14.2	-0.4
	1.2nm,0.5s,baz=53,slow=10.0,SNR=28						
ASAR	**Alice Springs**	**25.47**	**221**	P	P	08 26 40.1	-0.2
	0.7nm,0.4s,baz=58,slow=9.1,SNR=20						
ILAR	**Eielson Array**	**82.52**	**22**	P	P	08 33 31.5	-0.8
	0.8nm,0.8s,baz=242,slow=5.8,SNR=7.3						
NVAR	**Mina Array Bea**	**92.90**	**52**	P	P	08 34 23.7	+0.3
	0.6nm,0.8s,baz=247,slow=9.4,SNR=4.6						
PDAR	**Pinedale Array**	**99.61**	**48**	P	Pdif	08 34 53.8	+0.1
	0.3nm,0.7s,baz=290,slow=5.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	**149.26**	**288**	PKPbc	PKPbc	08 40 59.5	+0.5
	0.8nm,0.6s,baz=60,slow=3.5,SNR=6.7						

IDC 21 08:26:36.3±4.0, 5°73S×151°55E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.3/44, mbtmp3.4/2, Error ellipse: s-maj=145.9km s-min=54.2km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.89**	**228**	P	P	08 31 32.9	+1.6
	0.7nm,0.4s,baz=54,slow=10,SNR=9.6						
ASAR	**Alice Springs**	**24.62**	**222**	P	P	08 31 57.6	-1.2
	0.4nm,0.4s,baz=51,slow=8.9,SNR=10						
TORD	**Torodi Ar. Bea**	**149.38**	**286**	PKPbc	PKPbc	08 46 28.0	-0.4
	0.2nm,0.4s,baz=103,slow=4.2,SNR=1.6						

*ISCJB **21** 08:38:33.5±0.6, 38°27N±0°03×38°59E±0°04, h0km±8km, Error ellipse: s-maj=5.1km s-min=4.9km az=9.3*
*DDA **21** 08:38:33.9, 38°30N×38°57E, h7km, Ml2.8*
ISC 21 08:38:33.9±1.3, 38°29N±0°03×38°56E±0°03, h10km±11km, n11, σ0s69/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.39**	**58**	*i* P	**Pg**	**08 38 41.8**	**+0.1**
ELZG				*i* S	**Sg**	**08 38 47.8**	**+0.9**
AKCD	**Akcadag**	**0.50**	**271**	*i* P	**Pg**	**08 38 43.6**	**-0.1**
AKCD				*i* S	**Sb**	**08 38 51.9**	**-0.5**
HEKM	**Malatya_Hekimh**	**0.75**	**321**	*i* P	**Pg**	**08 38 48.4**	**0.0**
HEKM				*i* S	**Sb**	**08 39 00.5**	**+0.9**
ATAB	**Bozova**	**0.85**	**194**	*i* P	**Pg**	**08 38 50.2**	**0.0**
URFA	**Urfa**	**0.88**	**166**	PG	**Pg**	**08 38 50.4**	**-0.4**
PTK	**Pertek**	**0.89**	**47**	PG	**Pg**	**08 38 50.2**	**-0.8**
PTK				SG	**Sb**	**08 39 03.4**	**-0.1**
DARE	**Darende-Malaty**	**0.89**	**289**	*e*PG	**Pg**	**08 38 49.7**	**-1.4**
KEMA	**Kemaliye**	**0.98**	**357**	*i* P	**Pg**	**08 38 51.9**	**-0.8**
KEMA				*i* S	**Sn**	**08 39 07.1**	**-0.7**
ELBS	**KAHRAMANMARAS**	**1.12**	**272**	*i* P	**Pn**	**08 38 56.1**	**+0.2**
ELBS				*i* S	**Sn**	**08 39 12.1**	**+0.7**
CUKAN	**kangal_SIVAS**	**1.33**	**320**	*i* P	**Pn**	**08 38 59.1**	**+0.3**
CUKAN				*i* S	**Sn**	**08 39 17.2**	**+0.6**
SURC	**SANLIURFA_SURC**	**1.41**	**178**	*i* P	**Pn**	**08 38 59.1**	**-0.7**
SURC				*i* S	**Sb**	**08 39 18.8**	**+0.3**

*IDC **21** 08:53:20.9±1.5, 5°75S×151°92E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.9/38, mbtmp3.9/7, ML2.2/1, Error ellipse: s-maj=60.6km s-min=21.4km az=116.0*
*NEIC **21** 08:53:21.8±0.6, 5°97S×152°13E, h10km, mb4.1/7, Error ellipse: s-maj=13.7km s-min=9.6km az=115.0*
*ISCJB **21** 08:53:23.8±0.6, 6°05S±0°05×152°11E±0°08, h36km, mb4.0/13, Error ellipse: s-maj=11.9km s-min=6.5km az=22.3*
ISC 21 08:53:25.5±0.8, 6°01S±0°07×152°12E±0°09, h36km, n22, σ1s09/24, mb4.1/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.81**	**1**	*e*Pn	**Pn**	**08 53 53.9**	**-0.2**
RABL				*e*Sn	**Sn**	**08 54 17.3**	**+1.4**
PMG	**Port Moresby**	**5.96**	**235**	Pn	**Pn**	**08 54 52.7**	**+1.4**
	4.1nm,0.3s,baz=37,slow=7.5,SNR=12						
PMG				Sn	**Sn**	**08 55 56.9**	**-1.5**
	2.8nm,0.3s,baz=32,slow=14,SNR=3.2						
MANU	**Manus Island**	**6.17**	**310**	*e*Pn	**Pn**	**08 54 55.5**	**+1.4**
HNR	**Honiara**	**8.46**	**114**	*e*Pn	**Pn**	**08 55 25.3**	**-0.3**
MTN	**Manton Dam**	**21.78**	**250**	*e*P	**P**	**08 58 12.5**	**-1.8**
	7.4nm,0.8s						
WC3	**Warramunga Arr**	**22.13**	**230**	*e*P	**P**	**08 58 17.8**	**-0.4**
	6.6nm,0.8s						
WRAB	**Tennant Creek**	**22.13**	**230**	*e*P	**P**	**08 58 17.4**	**-0.7**
	6.3nm,0.7s						
WB2	**Warramunga Arr**	**22.14**	**230**	*e*P	**P**	**08 58 18.3**	**+0.1**
	10.0nm,1.1s						
WR1	**Warramunga Arr**	**22.15**	**230**	*e*P	**P**	**08 58 17.9**	**-0.4**
	7.1nm,0.8s						
WRA	**Warramunga Arr**	**22.15**	**230**	P	**P**	**08 58 17.9**	**-0.4**
	6.7nm,0.9s,baz=54,slow=10,SNR=36						
AS01	**Alice Springs**	**24.77**	**223**	*e*P	**P**	**08 58 45.4**	**+1.3**
AS31	**Alice Springs**	**24.81**	**223**	*e*P	**P**	**08 58 44.8**	**+0.4**
	1.6nm,0.8s						
ASAR	**Alice Springs**	**24.81**	**223**	P	**P**	**08 58 45.5**	**+1.1**
	4.8nm,0.8s,baz=55,slow=9.3,SNR=37						
STKA	**Stephens Creek**	**27.55**	**200**	P	**P**	**08 59 11.2**	**+2.1**
	1.8nm,0.8s,baz=30,slow=14,SNR=3.3						
FITZ	**Fitzroy Crossi**	**28.50**	**243**	*e*P	**P**	**08 59 17.2**	**-0.5**
	4.3nm,0.6s						
SONA0	**Songino Array**	**66.99**	**328**	*e*P	**P**	**09 04 13.8**	**-1.0**
SONM	**Songino Array**	**66.99**	**328**	P	**P**	**09 04 13.8**	**-1.0**
	0.3nm,0.4s,baz=138,slow=7.1,SNR=2.8						
MK32	**Makanchi Array**	**80.79**	**319**	*e*P	**P**	**09 05 34.6**	**-0.9**
MKAR	**Makanchi Array**	**80.79**	**319**	P	**P**	**09 05 34.6**	**-0.9**
	0.3nm,0.6s,baz=87,slow=9.2,SNR=2.4						
ILAR	**Eielson Array**	**83.53**	**22**	P	**P**	**09 05 50.1**	**+0.8**
	0.5nm,0.6s,baz=247,slow=5.0,SNR=8.8						
TORD	**Torodi Ar. Bea**	**150.01**	**286**	PKPbc	**PKPbc**	**09 13 12.7**	**-0.6**
	0.7nm,0.5s,baz=91,slow=2.7,SNR=5.7						
TOA1	**Torodi Ar. Sit**	**150.02**	**286**	*e*PKPbc	**PKPbc**	**09 13 12.7**	**-0.6**

*NEIC **21** 08:55:28.2±0.4, 5°84S×151°85E, h10km, mb4.4/8, Error ellipse: s-maj=11.6km s-min=7.6km az=117.0*
*ISCJB **21** 08:55:31.2±0.4, 5°83S±0°06×151°73E±0°08, h41km, mb4.2/18, MS3.5/12, Error ellipse: s-maj=12.1km s-min=7.8km az=23.6*
*IDC **21** 08:55:35.9±2.8, 5°83S×151°67E, h66km±25km, mb3.9/12, mb1 4.1/14, mb1mx3.9/38, mbtmp4.2/14, MS3.5/13, Ms1 3.5/13, ms1mx3.2/48, Error ellipse: s-maj=21.0km s-min=14.3km az=118.0*
ISC 21 08:55:32.9±0.6, 5°88S±0°07×151°72E±0°09, h41km, n48, σ1s57/44, mb4.1/18, MS3.4/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.73**	**15**	*e*Pn	**Pn**	**08 55 59.4**	**-1.3**
RABL				*e*Sn	**Sn**	**08 56 24.3**	**+2.7**
PMG	**Port Moresby**	**5.72**	**232**	P	**Pn**	**08 56 58.6**	**+3.1**
	6.9nm,0.3s,baz=38,slow=8.3,SNR=8.9						
PMG				S	**Sn**	**08 57 55.9**	**-4.0**
	3.9nm,0.3s,baz=69,slow=18,SNR=2.1						
PMG	**Port Moresby**	**5.72**	**232**	*e*Pn	**Pn**	**08 56 57.0**	**+1.6**
PMG				*e*Sn	**Sn**	**08 57 55.9**	**-4.0**
HNR	**Honiara**	**8.88**	**114**	LR	LR	09 00 32.7	
	comp=Z,164nm,21.2s,baz=292,slow=33						
JAY	**Jayapura**	**11.49**	**286**	P	**Pn**	**08 58 16.6**	**+2.1**
	0.4nm,0.3s,baz=138,slow=12,SNR=2.5						
CTA	**Charters Tower**	**15.09**	**200**	P	**P**	**08 59 09.6**	**+1.5**
	0.4nm,0.3s,baz=36,slow=8.9,SNR=4.8						
GUMO	**Guam**	**20.50**	**341**	LR	LR	09 08 32.2	
	comp=Z,58nm,18.3s,baz=136,slow=38						
MTN	**Manton Dam**	**21.45**	**250**	*e*P	**P**	**09 00 17.6**	**-0.3**
	14nm,0.9s						
DZM	**Mont Dzumac**	**21.49**	**140**	P	**P**	**09 00 20.6**	**+2.3**
	9.7nm,1.1s,baz=319,slow=11,SNR=4.6						
DZM				LR	LR	09 07 23.0	
	comp=Z,243nm,20.9s,baz=294,slow=33						
DZM	**Mont Dzumac**	**21.49**	**140**	*e*P	**P**	**09 00 19.0**	**+0.6**
	11nm,1.1s						
WRAB	**Tennant Creek**	**21.92**	**229**	*e*P	**P**	**09 00 22.8**	**-0.2**
	19nm,0.8s						
WB2	**Warramunga Arr**	**21.92**	**229**	*e*P	**P**	**09 00 22.4**	**-0.6**
WR1	**Warramunga Arr**	**21.93**	**229**	*e*P	**P**	**09 00 23.7**	**+0.6**
	19nm,0.8s						
WR1				*e*S	**S**	**09 04 23.5**	**+0.3**
WRA	**Warramunga Arr**	**21.93**	**229**	P	**P**	**09 00 23.7**	**+0.6**
	15nm,0.8s,baz=53,slow=9.6,SNR=21						
WRA				S	**S**	**09 04 23.5**	**+0.3**
	3.2nm,1.1s,baz=55,slow=18,SNR=5.6						
WRA				LR	LR	09 10 16.3	
	comp=Z,104nm,18.1s,baz=340,slow=40						
ARMA	**Armidale**	**24.41**	**180**	*e*P	**P**	**09 00 46.8**	**-1.0**
AS01	**Alice Springs**	**24.60**	**222**	*e*P	**P**	**09 00 50.1**	**+0.6**
AS31	**Alice Springs**	**24.63**	**222**	*e*P	**P**	**09 00 50.0**	**+0.1**
	5.3nm,0.8s						
ASAR	**Alice Springs**	**24.64**	**222**	P	**P**	**09 00 50.9**	**+1.0**
	15nm,0.8s,baz=58,slow=9.1,SNR=38						
STKA	**Stephens Creek**	**27.55**	**199**	P	**P**	**09 01 15.1**	**-0.9**
	4.9nm,0.8s,baz=10,slow=13,SNR=4.2						
STKA				LR	LR	09 11 48.2	
	comp=Z,73nm,18.4s,baz=25,slow=35						
STKA	**Stephens Creek**	**27.55**	**199**	*e*P	**P**	**09 01 15.1**	**-0.9**
	1.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**28.21**	**242**	*e*P	**P**	**09 01 21.9**	**-0.1**
	12nm,0.8s						
DAV	**Davao City (W)**	**29.09**	**296**	LR	LR	09 12 34.7	
	comp=Z,86nm,18.2s,baz=144,slow=35						
NWAO	**Narrogin (SRO)**	**41.87**	**226**	LR	LR	09 20 32.4	
	comp=Z,78nm,19.3s,baz=279,slow=36						
MJAR	**Matsushiro Arr**	**44.06**	**344**	LR	LR	09 20 52.2	
	comp=Z,47nm,19.5s,baz=205,slow=34						
KSRS	**Korea Array**	**48.49**	**335**	LR	LR	09 23 25.1	
	comp=Z,31nm,20.0s,baz=140,slow=34						
ASAJ	**Asahikawa**	**50.44**	**351**	LR	LR	09 27 28.1	
	comp=Z,32nm,18.3s,baz=156,slow=38						
CMAR	**Chiang Mai Arr**	**57.38**	**296**	P	**P**	**09 05 18.7**	**+1.0**
	0.6nm,0.3s,baz=130,slow=6.3,SNR=4.9						
PETK	**Petropavlovsk-**	**58.98**	**4**	LR	LR	09 32 51.1	
	comp=Z,38nm,18.0s,baz=134,slow=38						
SONA0	**Songino Array**	**66.67**	**329**	*e*P	**P**	**09 06 19.3**	**-0.4**
SONM	**Songino Array**	**66.67**	**329**	P	**P**	**09 06 19.3**	**-0.4**
	0.4nm,0.5s,baz=137,slow=5.2,SNR=4.1						
VNDA	**Vanda**	**71.80**	**178**	P	**P**	**09 06 52.0**	**+1.2**
	2.1nm,1.0s,baz=329,slow=7.5,SNR=3.7						
VNDA	**Vanda**	**71.80**	**178**	*e*P	**P**	**09 06 50.6**	**-0.2**
MK32	**Makanchi Array**	**80.43**	**319**	*e*P	**P**	**09 07 39.5**	**-1.0**
MKAR	**Makanchi Array**	**80.43**	**319**	P	**P**	**09 07 39.5**	**-1.0**
	1.2nm,0.9s,baz=117,slow=4.2,SNR=5.7						
ZALV	**Zalesovo Beam**	**81.45**	**327**	P	**P**	**09 07 44.3**	**-1.4**
	0.6nm,0.3s,baz=123,slow=5.3,SNR=2.3						
ZAA1	**Zalesovo Array**	**81.46**	**327**	*e*P	**P**	**09 07 44.3**	**-1.4**
IL1	**Eielson Array**	**83.56**	**22**	*e*P	**P**	**09 07 55.0**	**-1.4**
ILAR	**Eielson Array**	**83.56**	**22**	P	**P**	**09 07 55.5**	**-0.9**
	1.1nm,0.8s,baz=253,slow=4.7,SNR=8.0						
ILB	**Eielson Array**	**83.56**	**22**	*e*P	**P**	**09 07 55.5**	**-0.9**
ILB				*e*pP	**pP**	**09 08 05.3**	**-3.6**
KURK	**Kurchatov**	**83.96**	**322**	*e*P	**P**	**09 07 59.2**	**+0.5**
KURBB	**Kurchatov Arra**	**83.99**	**322**	P	**P**	**09 07 59.2**	**+0.3**
	1.6nm,0.2s,baz=112,slow=4.2,SNR=3.2						
QSPA	**South Pole Qui**	**84.09**	**180**	*e*P	**P**	**09 07 59.3**	**-0.1**
	5.2nm,0.9s						
MAW	**Mawson**	**84.17**	**203**	LR	LR	09 42 08.0	
	comp=Z,44nm,20.9s,baz=53,slow=33						
DLBC	**Dease Lake**	**88.85**	**31**	LR	LR	09 51 11.5	
	comp=Z,66nm,18.0s,baz=36,slow=38						
NV01	**Mina Array Sit**	**93.59**	**52**	*e*P	**P**	**09 08 44.2**	**-1.2**
NVAR	**Mina Array Bea**	**93.59**	**52**	P	**P**	**09 08 47.1**	**+1.7**
	0.2nm,0.3s,baz=240,slow=8.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**149.60**	**286**	PKPbc	**PKPbc**	**09 15 19.1**	**0.0**
	1.6nm,0.9s,baz=83,slow=1.5,SNR=6.9						
TOA1	**Torodi Ar. Sit**	**149.60**	**286**	*e*PKPbc	**PKPbc**	**09 15 19.1**	**0.0**

IDC 21 09:02:41.4±6.2, 5°53S×151°36E, h83km±50km, mb3.2/3, mb1 3.5/4, mb1mx3.1/40, mbtmp3.5/4, ML1.7/1, Error ellipse: s-maj=113.2km s-min=34.5km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.67**	**227**	P	Pn	09 04 03.0	-0.2
	1.3nm,0.3s,baz=69,slow=8.6,SNR=2.8						
PMG				S	Sn	09 05 08.0	+1.0
	1.8nm,0.3s,baz=61,slow=13,SNR=3.0						
WRA	**Warramunga Arr**	**21.89**	**228**	P	P	09 07 27.6	-0.3
	1.5nm,0.9s,baz=54,slow=10,SNR=6.8						
ASAR	**Alice Springs**	**24.65**	**221**	P	P	09 07 54.5	0.0
	0.6nm,0.6s,baz=54,slow=9.8,SNR=15						
ILAR	**Eielson Array**	**83.37**	**22**	P	P	09 14 58.8	-0.4
	0.2nm,0.5s,baz=258,slow=4.5,SNR=5.0						
TORD	**Torodi Ar. Bea**	**149.15**	**286**	PKPbc	PKPbc	09 22 21.4	0.0
	0.3nm,0.7s,baz=103,slow=4.5,SNR=2.8						

*ISCJB **21** 09:17:38.8±1.0, 5°2S±0°1×151°2E±0°2, h35km, mb4.0/10, Error ellipse: s-maj=32.8km s-min=8.6km az=32.7*
*IDC **21** 09:17:43.2±3.1, 5°24S×151°11E, h61km±27km, mb3.6/9, mb1 3.9/10, mb1mx3.6/50, mbtmp3.9/10, ML2.0/1, Error ellipse: s-maj=46.5km s-min=13.8km az=125.0*
ISC 21 09:17:40.8±1.2, 5°2S±0°2×151°2E±0°2, h35km, n13, σ1s79/15, mb3.9/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.81**	**223**	P	**Pn**	**09 19 05.6**	**+1.0**
	3.0nm,0.3s,baz=44,slow=8.9,SNR=8.4						
PMG				S	**Sn**	**09 20 11.4**	**+1.3**
	3.4nm,0.3s,baz=352,slow=13,SNR=10.0						
WRA	**Warramunga Arr**	**22.02**	**227**	P	**P**	**09 22 30.7**	**-1.7**
	6.5nm,0.8s,baz=53,slow=9.7,SNR=33						
WRA				S	**S**	**09 26 31.0**	**-2.6**
	1.5nm,1.1s,baz=54,slow=16,SNR=4.3						
ASAR	**Alice Springs**	**24.82**	**221**	P	**P**	**09 22 57.9**	**-2.0**
	2.9nm,0.7s,baz=57,slow=8.9,SNR=28						
MJAR	**Matsushiro Arr**	**43.24**	**345**	P	**P**	**09 25 37.7**	**-1.1**
	0.7nm,0.5s,baz=205,slow=17,SNR=3.0						
HHC	**Hu-ho-hao-te**	**58.43**	**325**	*e*P	**P**	**09 27 35.3**	**+2.0**
HHC				pmax	pmax		
	comp=Z,30nm,1.1s						
HHC				pmax	pmax		
	comp=Z,100nm,5.1s						
SONM	**Songino Array**	**65.80**	**329**	P	**P**	**09 28 22.8**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=106,slow=7.7,SNR=2.5						
WMQ	**Urumqi**	**74.94**	**318**	*e*P	**P**	**09 29 18.8**	**+0.3**
MKAR	**Makanchi Array**	**79.56**	**319**	P	**P**	**09 29 43.5**	**-0.8**
	comp=Z,0.4nm,0.9s,baz=107,slow=3.5,SNR=2.8						
ZALV	**Zalesovo Beam**	**80.58**	**327**	P	**P**	**09 29 48.6**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=108,slow=4.7,SNR=2.9						
ILAR	**Eielson Array**	**83.10**	**22**	P	**P**	**09 30 02.8**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=250,slow=5.1,SNR=12						
INK	**Inuvik**	**89.37**	**21**	P	**P**	**09 30 32.8**	**-0.6**
	comp=Z,2.3nm,1.1s,baz=273,slow=3.8,SNR=3.4						
NVAR	**Mina Array Bea**	**93.56**	**52**	P	**P**	**09 30 53.6**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=254,slow=9.3,SNR=2.7						
TORD	**Torodi Ar. Bea**	**148.90**	**287**	PKPbc	**PKPdf**	**09 37 25.8**	**+3.8**
	comp=Z,3.1nm,0.9s,baz=27,slow=3.4,SNR=14						

*IDC **21** 09:32:29.8±1.5, 5°48S×151°61E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/49, mbtmp3.7/7, ML1.4/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/37, Error ellipse: s-maj=54.9km s-min=19.8km az=114.0*
*ISCJB **21** 09:32:35.7±1.2, 5°6S±0°2×151°5E±0°2, h57km, mb3.5/6, Error ellipse: s-maj=39.1km s-min=11.4km az=35.9*
ISC 21 09:32:37.5±1.4, 5°6S±0°2×151°5E±0°3, h57km, n9, σ1s42/9, mb3.5/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.74**	**228**	Pn	**Pn**	**09 33 58.5**	**-1.7**
	0.7nm,0.3s,baz=61,slow=10,SNR=1.9						
PMG				Sn	**

SATY				*e*S		**Sb**	**09 51 00.0**	**+0.5**
	137nm,0.1s							
KURS	**Kuram**	**1.26**	**294**	*e*P		**Pg**	**09 50 51.3**	**+0.5**
	baz=88							
KURS				*e*S		**Sb**	**09 51 06.8**	**-0.4**
	baz=88							
KURS	**Kuram**	**1.26**	**294**	*e*P		**Pg**	**09 50 51.3**	**+0.5**
	3.4nm,0.5s							
KURS				*e*S		**Sb**	**09 51 06.8**	**-0.4**
	7.2nm,0.6s							
DJR	**Jarkent**	**1.34**	**1**	*e*P		**Pb**	**09 50 52.0**	**0.0**
	9.3nm,0.3s							
DJR				*e*S		**Sb**	**09 51 08.1**	**-1.3**
	20nm,0.4s							
MNBS	**Baschi**	**1.47**	**318**	*e*P		**Pn**	**09 50 53.8**	**+0.2**
	17nm,0.1s							
MNBS				*e*S		**Sn**	**09 51 11.2**	**-1.8**
	65nm,0.3s							
ARXS	**Arharly**	**1.86**	**312**	*e*P		**Pb**	**09 51 00.6**	**-0.4**
	12nm,0.3s							
ARXS				*e*S		**Sn**	**09 51 22.5**	**-0.1**
	25nm,0.2s							
KOTS	**Kotyrbulak**	**1.95**	**278**	*e*P		**Pg**	**09 51 04.5**	**+0.4**
	5.4nm,0.2s							
KOTS				*e*S		**Sg**	**09 51 29.1**	**-0.3**
	30nm,0.4s							
MDOK	**Medeo**	**1.99**	**276**	*e*P		**Pg**	**09 51 05.1**	**+0.3**
	baz=71							
MDOK				*e*S		**Sb**	**09 51 29.4**	**+1.1**
	baz=71							
MDOK	**Medeo**	**1.99**	**276**	*e*P		**Pg**	**09 51 05.1**	**+0.3**
	3.5nm,0.2s							
MDOK				*e*S		**Sg**	**09 51 30.4**	**-0.3**
	13nm,0.4s							
TNSS	**Tian-Shan**	**2.06**	**272**	*e*P		**Pg**	**09 51 06.3**	**+0.1**
	baz=68							
TNSS				*e*S		**Sb**	**09 51 31.6**	**+1.0**
	baz=68							
TNSS	**Tian-Shan**	**2.06**	**272**	*e*P		**Pg**	**09 51 06.3**	**+0.1**
	3.3nm,0.3s							
TNSS				*e*S		**Sg**	**09 51 32.6**	**-0.4**
	18nm,0.3s							
KDJ	**Kajisay**	**2.09**	**247**⇑	*e*P		**Pg**	**09 51 06.9**	**+0.2**
	baz=41							
KDJ			⇑	*e*S		**Sg**	**09 51 33.4**	**-0.4**
	baz=41							
CHKK	**Chushkaly**	**2.19**	**294**	*e*P		**Pb**	**09 51 06.8**	**+0.2**
	baz=91							
CHKK				*e*S		**Sn**	**09 51 32.4**	**+1.6**
	baz=91							
CHKK	**Chushkaly**	**2.19**	**294**	*e*P		**Pb**	**09 51 06.8**	**+0.2**
	2.0nm,0.2s							
CHKK				*e*S		**Sb**	**09 51 33.4**	**-0.5**
	28nm,0.2s							
IZV	**Izvestkoviy**	**2.31**	**272**	*e*P		**Pg**	**09 51 11.4**	**+0.5**
	4.3nm,0.3s							
IZV				*e*S		**Sg**	**09 51 40.8**	**0.0**
	30nm,0.5s							
KAPS	**Kapalarasan**	**2.31**	**353**⇓	*i*P		**Pb**	**09 51 08.7**	**+0.1**
	8.1nm,0.3s							
KAPS			⇓	*i*S		**Sb**	**09 51 36.6**	**-0.7**
	23nm,0.5s							
KTBS	**Karatobe**	**2.36**	**289**	*e*P		**Pb**	**09 51 10.1**	**+0.8**
	1.0nm,0.2s							
KTBS				*e*S		**Sb**	**09 51 38.5**	**-0.1**
	13nm,0.4s							
MTBS	**Maitube**	**2.44**	**274**	*e*P		**Pg**	**09 51 13.2**	**-0.2**
	4.7nm,0.2s							
MTBS				*e*S		**Sg**	**09 51 44.6**	**-0.5**
	15nm,0.3s							
KUU	**Kurty**	**2.65**	**291**	*e*P		**Pb**	**09 51 15.1**	**+0.8**
	1.3nm,0.1s							
KUU			⇑	*i*S		**Sb**	**09 51 47.4**	**+0.3**
	18nm,0.3s							
ULHL	**Ulahol**	**2.70**	**255**⇑	*i*P		**Pb**	**09 51 15.3**	**0.0**
	baz=51							
ULHL			⇑	*i*S		**Sb**	**09 51 48.1**	**-0.6**
	baz=51							
KST	**Kastek**	**2.79**	**272**	*e*P		**Pg**	**09 51 19.6**	**-0.4**
	4.5nm,0.4s							
KST				*e*S		**Sg**	**09 51 55.1**	**-0.9**
	12nm,0.4s							
BOOM	**Boomskoye usch**	**2.86**	**261**⇑	*i*P		**Pb**	**09 51 17.0**	**-1.0**
	baz=58							
BOOM			⇑	*i*S		**Sb**	**09 51 50.8**	**-2.4**
	baz=58							
TKM2	**Tokmak 2**	**3.06**	**270**	⇓Pg		**Pg**	**09 51 25.5**	**+0.4**
	0.7nm,0.3s							
TKM2				⇓Lg		Lg	09 52 03.0	
	8.4nm,0.6s							
TKM2	**Tokmak 2**	**3.06**	**270**	⇓*i*P		**Pb**	**09 51 19.4**	**-2.0**
	baz=67							
TKM2				⇓*i*S		**Sn**	**09 51 54.9**	**+2.5**
	baz=67							
MK31	**Makanchi Array**	**4.21**	**24**	Pg		**Pg**	**09 51 41.1**	**+0.3**
	0.6nm,0.6s,baz=194,slow=14,SNR=3.5							
MK31				Lg		Lg	09 52 35.8	
	0.2nm,0.2s,baz=204,slow=30,SNR=5.2							

*NEIC **21** 09:59:40.0±0.7, 8°.55S×118°.40E, h130km±6km, mb4.8/13, Error ellipse: s-maj=8.3km s-min=5.8km az=49.0*
*ISCJB **21** 09:59:40.2±0.2, 8°.70S±0°.04×118°.34E±0°.02, h152km, mb4.5/31, Error ellipse: s-maj=5.0km s-min=3.4km az=11.1*
*IDC **21** 09:59:41.6±1.3, 8°.47S×118°.52E, h142km±10km, mb4.0/18, mb1 4.1/20, mb1mx3.8/54, mbtmp4.5/20, MS3.1/4, Ms1 3.1/4, ms1mx2.6/42, Error ellipse: s-maj=14.2km s-min=7.9km az=63.0*
*DJA **21** 09:59:41.4±0.2, 9°S±3°×11°8E±°, h115km±3km, M4.8/21, mb5.0/6, mB5.2/6, MLv4.8/21, Mw(mB)4.5/6*
*BJI **21** 09:59:41.6, 9°.14S×118°.56E, h129km, mb4.8/9, mB4.7/4*
*KLM **21** 09:59:44.0, 8°.93S×118°.49E, h140km, mb4.9*

ISC 21 09:59:42.6±0.4, 8°.73S±0°.05×118°.42E±0°.03, h152km, n94, σ2§40/106, mb4.4/29, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLAI	**Plampang**	**0.64**	**261**	P		**Pn**	**10 00 00.6**	**-4.3**
PLAI				S		**Sn**	**10 00 14.7**	**-7.2**
WBSI	**Waikabubak, Su**	**1.32**	**134**	P		**Pn**	**10 00 07.4**	**-3.1**
WBSI				S		**Sn**	**10 00 27.3**	**-4.6**
TWSI	**Taliwang, Sumb**	**1.52**	**269**	P		**Pn**	**10 00 08.4**	**-4.1**
TWSI				S		**Sn**	**10 00 29.8**	**-5.6**
BASI	**Baing, Sumba**	**2.59**	**125**	P		**Pn**	**10 00 23.7**	**-1.2**
DNP	**Denpasar**	**3.17**	**271**	P		**Pn**	**10 00 31.1**	**-1.1**
DNP				S		**Sn**	**10 01 12.2**	**+1.6**
EDFI	**Ende, Flores**	**3.23**	**91**	P		**Pn**	**10 00 31.4**	**-1.7**
EDFI				S		**Sn**	**10 01 12.9**	**+0.7**
SRBI	**Singaraja**	**3.24**	**281**	P		**Pn**	**10 00 29.7**	**-3.3**
IGBI	**Denpasar**	**3.24**	**268**	P		**Pn**	**10 00 30.4**	**-2.6**
MMRI	**Maumere**	**3.78**	**89**	*e*Pn		**Pn**	**10 00 37.6**	**-2.3**
MMRI				*e*Sn		**Sn**	**10 01 22.2**	**-2.4**
MMRI	**Maumere**	**3.78**	**89**	P		**Pn**	**10 00 38.7**	**-1.3**
BKSI	**Bulukumba**	**3.78**	**27**	P		**Pn**	**10 00 37.0**	**-3.1**
JAGI	**Jajag, Banyuwa**	**4.23**	**273**	*e*Pn		**Pn**	**10 00 42.4**	**-3.5**
JAGI				*e*Sn		**Sn**	**10 01 31.9**	**-3.3**
JAGI	**Jajag, Banyuwa**	**4.23**	**273**	P		**Pn**	**10 00 41.7**	**-4.2**
JAGI				S		**Sn**	**10 01 31.4**	**-3.7**
BNSI	**Bone**	**4.61**	**21**	P		**Pn**	**10 00 49.7**	**-1.3**
KMMI	**Kalianget**	**4.71**	**290**	P		**Pn**	**10 00 50.0**	**-2.3**
BLJI	**Banyuglugur**	**4.87**	**281**	P		**Pn**	**10 00 53.1**	**-1.3**
SPSI	**Sidrap Palu**	**4.92**	**16**	P		**Pn**	**10 00 53.4**	**-1.6**
GMJI	**Gumukmas**	**4.94**	**275**	P		**Pn**	**10 00 52.6**	**-2.7**
BATI	**Baumata**	**5.38**	**106**	P		**Pn**	**10 01 00.1**	**-1.0**
	203nm,0.3s,baz=302,slow=4.5,SNR=46							
BATI				S		**Sn**	**10 01 59.7**	**-2.7**
	54nm,0.3s,baz=243,slow=2.3,SNR=3.9							
BATI	**Baumata**	**5.38**	**106**	P		**Pn**	**10 01 00.3**	**-0.8**
	309nm,0.5s,4µm1.3nm							
TTSI	**Tana Toraja**	**5.81**	**14**	P		**Pn**	**10 01 06.6**	**-0.3**
	83nm,0.8s,696nm0.2nm							
KBKI	**Kotabaru**	**5.84**	**337**	P		Pn	10 01 12.9	+5.7
SOEI	**Soe**	**5.86**	**100**	*e*Pn		**Pn**	**10 01 06.2**	**-1.4**
SOEI	**Soe**	**5.86**	**100**	P		**Pn**	**10 01 06.5**	**-1.1**
	376nm,0.7s,4µm1.5nm							
PWJI	**Pagerwojo**	**6.58**	**276**	P		**Pn**	**10 01 15.5**	**-1.6**
UGM	**Wanagama**	**7.86**	**275**	*e*Pn		**Pn**	**10 01 36.0**	**+1.9**
PCI	**Palu**	**7.90**	**10**	P		Pn	10 01 40.2	+5.5
LUWI	**Luwuk**	**8.78**	**30**	*e*Pn		**Pn**	**10 01 47.0**	**+0.6**
SANI	**Sanana**	**10.04**	**49**	P		**Pn**	**10 02 02.8**	**-0.3**
	26nm,0.9s,574nm							
NLAI	**Namlea**	**10.21**	**58**	P		**Pn**	**10 02 08.9**	**+3.5**
FITZ	**Fitzroy Crossi**	**11.66**	**144**	*e*Pn		**Pn**	**10 02 22.7**	**-1.8**
BNDI	**Bandanaira**	**12.15**	**71**	P		**P**	**10 02 37.9**	**+0.9**
MBWA	**Marble Bar**	**12.43**	**174**	*e*Pn		**Pn**	**10 02 32.5**	**-1.8**
SBUM	**Sibu**	**12.71**	**331**	*e*Pn		**P**	**10 02 43.7**	**+0.4**
SBUM	**Sibu**	**12.71**	**331**	P		**P**	**10 02 44.0**	**+0.7**
KSM	**Kuching**	**12.96**	**321**	*e*Pn		**P**	**10 02 44.6**	**-1.5**
KSM	**Kuching**	**12.96**	**321**	P		**P**	**10 02 46.0**	**-0.1**
TNTI	**Ternate**	**12.98**	**44**	*e*Pn		**Pn**	**10 02 42.8**	**+1.2**
MTN	**Manton Dam**	**13.14**	**109**	*e*Pn		**Pn**	**10 02 42.1**	**-1.5**
KKM	**Kota Kinabalu**	**14.84**	**351**	*e*Pn		**P**	**10 03 07.0**	**0.0**
	42nm,0.8s							
FAKI	**Fak Fak**	**14.91**	**68**	*e*Pn		**Pn**	**10 03 04.1**	**-1.9**
FAKI				*e*Sn		**Sn**	**10 05 50.3**	**-1.5**
FAKI	**Fak Fak**	**14.91**	**68**	P		**P**	**10 03 08.4**	**+0.6**
SIJI	**Sorong**	**14.99**	**59**	P		**Pn**	**10 03 04.3**	**-2.5**
	2.6nm,0.3s,baz=299,slow=23,SNR=5.0							
SIJI				S		**Sn**	**10 05 50.4**	**-3.1**
	baz=240,slow=20,SNR=2.2							
KDM	**Kudat**	**15.62**	**354**	P		**P**	**10 03 20.0**	**+4.4**
DAV	**Davao City (W)**	**17.24**	**25**	LR		LR	10 11 53.3	
	comp=Z,40nm,18.0s,baz=248,slow=43							
WRA	**Warramunga Arr**	**19.01**	**128**	P		**P**	**10 03 52.8**	**-0.1**
	3.6nm,0.3s,baz=302,slow=12,SNR=192							
WRA				S		**S**	**10 07 19.1**	**-1.7**
	0.9nm,0.3s,baz=303,slow=23,SNR=9.3							
WRA				ScP		**ScP**	**10 11 34.5**	**+1.0**
	0.1nm,0.3s,baz=321,slow=2.2,SNR=5.7							
WRAB	**Tennant Creek**	**19.01**	**128**	*e*P		**P**	**10 03 53.1**	**+0.2**
	42nm,0.9s							
WRAB				*e*S		**S**	**10 07 20.1**	**-0.7**
WB2	**Warramunga Arr**	**19.02**	**128**	*e*P		**P**	**10 03 52.1**	**-0.8**
	40nm,0.8s							
AS31	**Alice Springs**	**20.98**	**137**	*e*P		**P**	**10 04 14.2**	**+0.2**
	10.0nm,0.3s							
ASAR	**Alice Springs**	**20.98**	**137**	P		**P**	**10 04 14.9**	**+0.9**
	16nm,0.5s,baz=309,slow=9.2,SNR=397							
ASAR				S		**S**	**10 08 00.7**	**+1.3**
	2.3nm,0.8s,baz=317,slow=19,SNR=5.7							
ASAR				ScP		**ScP**	**10 11 39.5**	**+1.5**
	2.6nm,0.7s,baz=330,slow=1.7,SNR=6.4							
ASAR				LR		LR	10 13 30.6	
	comp=Z,54nm,19.1s,baz=300,slow=39							
AS01	**Alice Springs**	**21.02**	**137**	*e*P		**P**	**10 04 14.6**	**+0.2**
COCO	**West Island**	**21.50**	**259**	*e*P		**P**	**10 04 22.6**	**+3.0**
	105nm,1.0s							
PSI	**Prapat**	**22.56**	**300**	P		**P**	**10 04 28.5**	**-1.9**
	3.1nm,0.4s,baz=180,slow=9.2,SNR=5.1							
GSI	**Gunungsitoli**	**23.04**	**295**	*e*P		**P**	**10 04 39.1**	**+4.4**
	13nm,1.1s							
FORT	**Forrest**	**23.71**	**159**	*e*P		**P**	**10 04 41.7**	**+1.0**
	98nm,0.6s							
NWAO	**Narrogin (SRO)**	**24.11**	**182**	P		**P**	**10 04 45.1**	**+0.9**
	19nm,0.7s,baz=222,slow=9.6,SNR=17							
NWAO	**Narrogin (SRO)**	**24.11**	**182**	*e*P		**P**	**10 04 45.5**	**+1.2**
	20nm,0.6s							
COEN	**Coen**	**24.81**	**104**	*e*P		**P**	**10 04 51.3**	**+0.4**
	18nm,0.7s							
BBOO	**Buckleboo**	**29.00**	**148**	*e*P		**P**	**10 05 29.1**	**+1.0**
	40nm,1.4s							
CTA	**Charters Tower**	**29.18**	**116**	P		**P**	**10 05 31.0**	**+1.2**
	5.6nm,0.9s,baz=309,slow=12,SNR=4.3							
STKA	**Stephens Creek**	**31.53**	**140**	P		**P**	**10 05 52.0**	**+1.6**
	7.9nm,0.6s,baz=304,slow=9.1,SNR=2.9							
STKA				ScP		**ScP**	**10 12 10.4**	**+1.6**
	1.8nm,0.6s,baz=320,slow=7.9,SNR=3.3							
STKA				LR		LR	10 22 04.9	
	comp=Z,56nm,19.4s,baz=347,slow=42							
STKA	**Stephens Creek**	**31.53**	**140**	*e*P		**P**	**10 05 52.0**	**+1.6**
	1.8nm,0.7s							
CMAR	**Chiang Mai Arr**	**33.15**	**325**	P		**P**	**10 06 04.4**	**-0.3**
	0.8nm,0.3s,baz=156,slow=8.2,SNR=4.3							
CMAR				ScP		**ScP**	**10 12 15.3**	**+0.8**
	0.5nm,0.3s,baz=178,slow=3.2,SNR=3.4							
CMAR				LR		LR	10 20 19.9	
	comp=Z,18nm,18.9s,baz=210,slow=38							
YOJ	**Yonaguni jima**	**33.29**	**8**	*e*P		**P**	**10 06 09.2**	**+3.4**
	212nm,1.3s							
KMI	**Kunming**	**36.95**	**336**	P		P	10 06 48.0	+11
KMI				pmax		pmax		
	comp=Z,18nm,0.9s							
NJ2	**Nanjing**	**40.55**	**1**	*e*P		**P**	**10 07 11.8**	**+4.8**
NJ2				pmax		pmax		
	comp=Z,18nm,0.5s							
CD2	**Chengdu**	**41.84**	**341**	*e*P		P	10 07 23.0	+5.3
LZH	**Lanzhou**	**46.64**	**344**	*e*P		P	10 08 03.8	+7.9
LZH				pP		pP	10 08 31.8	+1.7
LZH				sP		sP	10 08 43.9	-3.2
LZH				pmax		pmax		
	comp=Z,22nm,1.0s							
KSAR	**Wonju Array Be**	**46.77**	**10**	P		**P**	**10 07 56.0**	**-0.7**
KSRS	**Korea Array**	**46.79**	**10**	P		**P**	**10 07 56.0**	**-0.8**
	7.9nm,1.0s,baz=192,slow=8.6,SNR=21							
MJAR	**Matsushiro Arr**	**48.72**	**21**	P		**P**	**10 08 08.8**	**-2.9**
	2.5nm,0.8s,baz=206,slow=8.4,SNR=7.1							
HHC	**Hu-ho-hao-te**	**49.73**	**353**	*e*P		P	10 08 26.6	+7.1
HHC				pmax		pmax		
	comp=Z,9.0nm,0.9s							
HHC				pmax		pmax		
	comp=Z,73nm,5.9s							
GTA	**Gaotai**	**50.91**	**341**	P		**P**	**10 08 27.6**	**-0.8**
GTA				pP		pP	10 08 56.0	-7.1
GTA				sP		sP	10 09 08.8	-11
GTA				pmax		pmax		
	comp=Z,4.0nm,0.9s							
USRK	**Ussuriysk Ar.**	**54.09**	**12**	P		**P**	**10 08 49.5**	**-2.0**
	comp=Z,4.5nm,0.6s,baz=187,slow=7.5,SNR=9.5							
ASAJ	**Asahikawa**	**56.98**	**21**	P		**P**	**10 09 10.6**	**-1.6**
	comp=Z,6.0nm,0.7s,baz=184,slow=19,SNR=1.8							
SONM	**Songino Array**	**57.31**	**350**	P		**P**	**10 09 12.8**	**-1.8**
	comp=Z,1.1nm,0.4s,baz=172,slow=8.6,SNR=12							
WMQ	**Urumqi**	**59.26**	**335**	*e*P		P	10 09 34.8	+6.6
BKZ	**Black Stump Fm**	**59.92**	**130**	*e*P		**P**	**10 09 34.0**	**+1.2**
	comp=Z,9.2nm,1.0s							
KSH	**Kashi**	**62.05**	**324**	*e*P		P	10 09 54.8	+7.6
KSH				S		**S**	**10 18 08.0**	**+7.9**
MKAR	**Makanchi Array**	**63.95**	**333**	P		**P**	**10 09 57.7**	**-1.8**
	comp=Z,2.0nm,0.8s,baz=142,slow=7.7,SNR=19							
KURBB	**Kurchatov Arra**	**68.47**	**334**	P		**P**	**10 10 25.4**	**-2.7**
	comp=Z,1.0nm,0.6s,baz=145,slow=5.4,SNR=11							
KURK	**Kurchatov**	**68.50**	**334**	P		**P**	**10 10 25.4**	**-2.9**
ZALV	**Zalesovo Beam**	**68.58**	**339**	P		**P**	**10 10 26.1**	**-2.7**
	comp=Z,2.5nm,0.5s,baz=147,slow=3.8,SNR=10							
MAW	**Mawson**	**69.30**	**200**	P		**P**	**10 10 35.4**	**+2.4**
	comp=Z,8.2nm,1.0s,baz=108,slow=16,SNR=6.9							
PETK	**Petropavlovsk-**	**70.06**	**24**	P		**P**	**10 10 36.4**	**-1.5**
	comp=Z,4.1nm,0.6s,baz=235,slow=4.4,SNR=11							
VNDA	**Vanda**	**72.34**	**171**	P		**P**	**10 10 53.2**	**+1.9**
	comp=Z,1.9nm,0.5s,baz=324,slow=5.8,SNR=26							
SEY	**Seymchan**	**76.05**	**15**	P		**P**	**10 11 11.7**	**-1.1**
	comp=Z,3.0nm,0.8s,baz=228,slow=4.1,SNR=4.6							
TORD	**Torodi Ar. Bea**	**117.85**	**280**	PKP		**PKPdf**	**10 18 10.8**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=47,slow=2.6,SNR=8.7							
NVAR	**Mina Array Rea**	**121.29**	**50**	PKP		**PKPdf**	**10 18 18.6**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=244,slow=3.9,SNR=2.1							
ANMO	**Albuquerque**	**131.41**	**51**	SKPbc		**SKPbc**	**10 21 49.5**	**+0.6**
	baz=267,slow=4.2							
TXAR	**Lajitas Array**	**135.57**	**57**	PKP		**PKPdf**	**10 18 45.3**	**-0.3**
	comp=Z,0.1nm,0.6s,baz=272,slow=2.5,SNR=2.4							
TXAR				SKPbc		**SKPbc**	**10 22 00.2**	**-2.7**
	comp=Z,0.9nm,0.8s,baz=240,slow=5.0,SNR=11							
CPUP	**Villa Florida**	**144.91**	**187**	PKPbc		**PKPdf**	**10 19 03.7**	**+1.3**
	comp=Z,6.0nm,0.8s,baz=159,slow=2.6,SNR=14							
LRAL	**Lakeview Retre**	**146.29**	**41**	*e*PKPbc		**PKPbc**	**10 19 05.8**	**-0.1**
LPAZ	**La Paz**	**154.31**	**165**	PKPbc		**PKPbc**	**10 19 28.8**	**+2.2**
	comp=Z,0.5nm,0.6s,baz=290,slow=4.2,SNR=4.4							
LPAZ				PKPab		**PKPab**	**10 19 43.5**	**+2.5**
	comp=Z,1.1nm,0.5s,baz=198,slow=2.4,SNR=6.6							

*DDA **21** 10:12:47.6, 37°.55N×38°.77E, h7km, Ml2.8*
*ISK **21** 10:12:47.3, 37°.32N×38°.82E, h2km, ML2.3/8*
*ISCJB **21** 10:12:48.3±0.8, 37°.53N±0°.04×38°.79E±0°.03, h2km±8km, Error ellipse: s-maj=6.4km s-min=4.1km az=6.2*

ISC 21 10:12:47.9±0.9, 37°.49N±0°.04×38°.80E±0°.03, h13km±6km, n18, σ0§92/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URFA	**Urfa**	**0.05**	**163**	PG		**Pg**	**10 12 50.3**	**-0.2**
URFA				SG		**Sg**	**10 12 52.3**	**-0.1**
ATAB	**Bozova**	**0.40**	**267**	*i* P		**Pg**	**10 12 55.6**	**-0.4**
ATAB				*i* S		**Sg**	**10 13 01.5**	**+0.1**
SURC	**SANLIURFA_SURC**	**0.63**	**194**	*i* P		**Pb**	**10 13 01.1**	**+0.4**
SURC				*i* S		**Sn**	**10 13 10.3**	**-2.2**
AKCD	**Akcadag**	**1.06**	**319**	*i* P		**Pb**	**10 13 07.3**	**-0.9**
AKCD				*i* S		**Sb**	**10 13 20.7**	**-1.3**
DIYA	**Diyarbakir**	**1.13**	**67**	*i* P		**Pg**	**10 13 09.8**	**+0.1**
DIYA				*i* S		**Sg**	**10 13 24.6**	**+0.1**
GAZ	**Gaziantep**	**1.31**	**256**	PN		**Pg**	**10 13 12.9**	**-0.1**
MAZI	**Mazidag**	**1.31**	**91**	PN		**Pg**	**10 13 12.9**	**-0.2**
MAZI				SN		**Sg**	**10 13 31.8**	**+1.7**
PTK	**Pertek**	**1.47**	**18**	PN		**Pg**	**10 13 16.6**	**+0.4**
DARE	**Darende-Malaty**	**1.50**	**316**	PN		**Pg**	**10 13 18.1**	**+1.4**
KMRS	**Kahramanmaras**	**1.51**	**271**	PN		**Pg**	**10 13 16.7**	**-0.3**
HEKM	**Malatya_Hekimh**	**1.54**	**335**	*i* P		**Pn**	**10 13 14.6**	**-0.5**
HEKM				*i* S		**Sb**	**10 13 36.7**	**+0.9**
KUZU	**Kuzuini**	**1.56**	**243**	*i* P		**Pg**	**10 13 17.6**	**-0.1**
KUZU				*i* S		**Sg**	**10 13 38.6**	**+0.7**
ELBS	**KAHRAMANMARAS**	**1.56**	**303**	*i* P		**Pn**	**10 13 16.2**	**+0.7**
ELBS				*i* S		**Sb**	**10 13 37.6**	**+1.2**
HANI	**Diyarbakir_Han**	**1.56**	**53**	*i* P		**Pg**	**10 13 17.4**	**-0.5**
HANI				*i* S		**Sn**	**10 13 34.3**	**-1.3**
ILIC	**ilic-Erzincan**	**1.96**	**355**	PN		**Pg**	**10 13 25.2**	**-0.4**
SVAN	**Silvan-Diyarba**	**2.01**	**70**	PN		**Pb**	**10 13 24.1**	**-0.2**
BNGB	**Bing˜ll**	**2.10**	**44**	PN		**Pb**	**10 13 26.3**	**+0.4**
TAHT	**Tahtakopru-Hat**	**2.37**	**243**	PN		**Pn**	**10 13 27.8**	**+1.3**

IDC 21 10:15:55.8±5.9, 8°.06N×121°.78E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/46, mbtmp3.5/3, Error ellipse: s-maj=264.8km s-min=28.3km az=47.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**24.48**	**297**	P		P	10 21 16.9	0.0
	0.6nm,0.4s,baz=101,slow=9.3,SNR=4.3							
WRA	**Warramunga Arr**	**30.45**	**156**	P		P	10 22 09.4	-0.9
	0.4nm,0.5s,baz=334,slow=10,SNR=15							
ASAR	**Alice Springs**	**33.69**	**160**	P		P	10 22 39.8	+1.0
	0.1nm,0.4s,baz=330,slow=6.5,SNR=3.6							

*ISCJB **21** 10:28:46.6±0.6, 18°.3S±0°.2×178°.2W±0°.1, h550km, mb3.6/7, Error ellipse: s-maj=25.0km s-min=9.7km az=148.9*
*IDC **21** 10:28:46.9±1.9, 18°.42S×178°.20W, h530km±28km, mb3.1/8, mb1 3.3/9, mb1mx3.1/32, mbtmp4.1/9, Error ellipse: s-maj=24.4km s-min=17.9km az=178.0*

ISC 21 10:28:47.3±0.8, 18°.2S±0°.2×178°.2W±0°.1, h550km, n9, σ1§44/11, mb3.7/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**7.51**	**56**	P		**P**	**10 30 40.5**	**0.0**
	1.8nm,0.3s,baz=204,slow=10.0,SNR=3.3							
AFI				S		**S**	**10 32 10.7**	**-2.4**
	1.0nm,0.3s,baz=75,slow=16,SNR=2.4							
URZ	**Urewera**	**20.37**	**191**	P		**P**	**10 32 45.5**	**-1.2**
	4.3nm,0.5s,baz=272,slow=3.5,SNR=17							
CTA	**Charters Tower**	**33.60**	**261**	P		**P**	**10 34 42.9**	**+0.3**
	2.3nm,0.6s,baz=79,slow=10,SNR=3.9							
STKA	**Stephens Creek**	**38.66**	**242**	P		**P**	**10 35 24.2**	**0.0**
	1.7nm,0.8s,baz=95,slow=12,SNR=2.8							
WRA	**Warramunga Arr**	**44.78**	**260**	P		**P**	**10 36 12.8**	**+0.1**
	0.5nm,0.4s,baz=96,slow=7.1,SNR=31							
ASAR	**Alice Springs**	**44.90**	**255**	P		**P**	**10 36 14.4**	**+0.8**
	2.9nm,0.5s,baz=88,slow=9.1,SNR=88							
ASAR				S		**S**	**10 42 09.7**	**-2.2**
	0.4nm,0.9s,baz=85,slow=16,SNR=4.5							
QSPA	**South Pole Qui**	**71.83**	**180**	P		**P**	**10 39 14.7**	**+0.2**
	1.7nm,0.8s,baz=334,slow=1.5,SNR=4.8							
TXAR	**Lajitas Array**	**85.99**	**58**	P		**P**	**10 40 32.1**	**+1.9**
	0.2nm,0.6s,baz=233,slow=6.9,SNR=3.9							
SNAA	**Sanae**	**90.27**	**179**	P		**P**	**10 40 49.

RPZ	**Rata Peaks**	**79.24**	**156**	P		**P**	**10 45 53.2**	**+0.4**
	3.7nm,0.7s,baz=236,slow=7.3,SNR=2.4							
ASAR	**Alice Springs**	**82.39**	**120**	P		**P**	**10 46 09.7**	**-0.2**
	0.6nm,0.8s,baz=216,slow=4.9,SNR=5.3							
AS31	**Alice Springs**	**82.39**	**120**	*e*P		**P**	**10 46 08.3**	**-1.6**
	0.7nm,0.9s							
WR1	**Warramunga Arr**	**85.67**	**118**	*e*P		**P**	**10 46 26.6**	**-0.1**
	26nm,1.9s							
WRA	**Warramunga Arr**	**85.67**	**118**	P		**P**	**10 46 26.6**	**-0.1**
	0.9nm,0.9s,baz=199,slow=3.2,SNR=7.5							
WB2	**Warramunga Arr**	**85.68**	**118**	*e*P		**P**	**10 46 26.6**	**-0.1**
PD31	**Pinedale Array**	**147.74**	**270**	*e*PKPdf		**PKPdf**	**10 53 27.6**	**-1.6**
PD31				*e*PKPbc		**pPKPdf**	**10 53 32.3**	**-0.4**
PDAR	**Pinedale Array**	**147.74**	**270**	PKPbc		**PKPbc**	**10 53 30.9**	**-1.2**
	0.3nm,0.5s,baz=150,slow=7.9,SNR=3.9							
F10A	**Beach Ranch, E**	**154.10**	**269**	*e*PKPdf		**PKPdf**	**10 53 37.6**	**-1.1**

*NEIC **21** 10:39:08.2±0.0, 17.51°N×96.76°W, h80km, MD4.0(MEX), After MEX.*

MEX 21 10:39:08.3±0.6, 17.51°N×96.76°W, h78km±4km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VHO	**Vista Hermosa**	**0.44**	**177**	*e*Pn		Pn	10 39 20.1	-1.5
VHO				*e*Sn		Sn	10 39 30.1	-1.2
VHO	**Vista Hermosa**	**0.44**	**177**	*e*P		Pn	10 39 20.1	-1.5
VHO				*i* S		Sn	10 39 29.8	-1.6
OXBJ	**Oaxaca**	**0.44**	**176**	*i* P		Pn	10 39 20.1	-1.6
OXBJ				*i* S		Sn	10 39 29.6	-1.8
TLIG	**Tlapa**	**1.73**	**272**	*e*Pn		Pn	10 39 35.4	-1.2
TLIG				*e*Sn		Sn	10 39 56.2	-1.9
TLIG	**Tlapa**	**1.73**	**272**	*e*P		Pn	10 39 35.4	-1.3
TLIG				*e*S		Sn	10 39 56.5	-1.6
CMIG	**Matias Romero**	**1.84**	**103**	*e*Pn		Pn	10 39 37.3	-0.7
CMIG				*e*Sn		Sn	10 39 58.2	-2.4
CMIG	**Matias Romero**	**1.84**	**103**	*e*P		Pn	10 39 37.3	-0.7
CMIG				*e*S		Sn	10 39 58.2	-2.4
HUIG	**Huatulco**	**1.84**	**160**	*e*Pn		Pn	10 39 39.7	+1.6
HUIG				*e*Sn		Sn	10 39 56.0	-4.7
HUIG	**Huatulco**	**1.84**	**160**	*i* P		Pn	10 39 37.5	-0.6
HUIG				*i* S		Sn	10 39 58.4	-2.3
UNM	**Universidad Na**	**2.92**	**309**	*e*Pn		Pn	10 39 52.7	-0.2
CCIG	**Comitan**	**4.59**	**105**	*e*Pn		Pn	10 40 15.4	-0.1
CCIG				*e*Sn		Sn	10 41 08.0	+0.4
JRQG	**Juriquilla Cam**	**4.72**	**313**	*e*Pn		Pn	10 40 12.3	-4.9
MOIG	**Morelia**	**4.72**	**298**	*e*Pn		Pn	10 40 18.2	+0.9
MOIG				*e*Sn		Sn	10 41 11.3	+0.4
TEIG	**Tepich**	**8.47**	**70**	*e*Pn		Pn	10 41 07.1	-1.2
TEIG				*e*Sn		Sn	10 42 37.8	-4.5
CSGN	**Cosiguina Volc**	**9.96**	**116**	*e*Pn		Pn	10 41 20.0	-8.7
ESTN	**Estel**	**10.94**	**112**	*e*Pn		Pn	10 41 34.5	-7.6
BOAB	**BOACO BROADBAN**	**11.84**	**114**	*e*Pn		Pn	10 41 52.6	-1.7
JTS	**JuntasAbangare**	**13.52**	**121**	*e*Pn		Pn	10 42 17.1	+0.2

*BJI **21** 10:44:29.7, 51.50°N×150.80°E, h506km, mb4.9/42, mB4.8/29*
*KRSC **21** 10:44:30.3±1.2, 51.24°N×151.19°E, h554km±23km, ML5.4*
*MOS **21** 10:44:31.9±1.0, 51.40°N×150.97°E, h546km, mb4.3/52, Error ellipse: s-maj=6.6km s-min=4.7km az=73.8*
*ISCJB **21** 10:44:31.7±0.1, 51.43°N±0.03°×150.89°E±0.04, h535km±2km, mb4.3/107, Error ellipse: s-maj=5.1km s-min=2.6km az=145.1*
*SKHL **21** 10:44:31.4±0.9, 51.34°N×150.78°E, h542km±30km, mb5.0/6, msh5.0/6*
*NEIC **21** 10:44:32.3±0.2, 51.49°N×150.76°E, h524km±3km, mb4.4/29, Error ellipse: s-maj=4.8km s-min=2.6km az=148.0*
*IDC **21** 10:44:33.1±0.5, 51.49°N×150.81°E, h538km±5km, mb3.6/30, mb1 3.8/38, mb1mx3.7/51, mbtmp4.6/38, Error ellipse: s-maj=8.9km s-min=5.5km az=143.0*

ISC 21 10:44:32.3±0.4, 51.41°N±0.04°×150.92°E±0.04, h532km±4km, h530km:pP-P, n377, σ1966/486, mb4.4/107, 19C-12D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.36**	**100**	*e*P		**P**	**10 45 48.6**	**+0.5**
SKR				AMB		AMB	10 45 49.2	
	310nm,0.3s							
SKR				AMB		AMB	10 45 49.2	
	5μm,0.3s							
SKR				AMB		AMB	10 45 52.4	
	2μm,4.0s							
SKR				AMB		AMB	10 45 52.4	
	5μm,4.0s							
SKR				*e*S		**S**	**10 46 48.0**	**-2.0**
SKR				A		A	10 46 52.5	
	230nm,0.5s							
SKR				A		A	10 46 52.5	
	270nm,0.5s							
SKR				A		A	10 46 54.5	
	2μm,4.0s							
SKR				A		A	10 46 54.5	
	3μm,4.0s							
SKR	**Severo-Kuril's**	**3.36**	**100**	*e*P		**P**	**10 45 48.4**	**+0.3**
SKR				*e*S		**S**	**10 46 49.9**	**-0.1**
SKR	**Severo-Kuril's**	**3.36**	**100**	*e*P		**P**	**10 45 48.4**	**+0.3**
SKR				*e*S		**S**	**10 46 49.3**	**-0.7**
SKR				pmax		pmax		
	comp=Z,758nm,0.7s							
SKR				smax		smax		
	comp=N,464nm,1.0s							
SKR				smax		smax		
	comp=E,261nm,0.8s							
PAU	**Pauzhetka**	**3.69**	**87**	*e*P		**P**	**10 45 50.6**	**+0.2**
PAU	**Pauzhetka**	**3.69**	**87**	*e*P		**P**	**10 45 50.6**	**+0.2**
PAU	**Pauzhetka**	**3.69**	**87**	P		**P**	**10 45 50.6**	**+0.2**
APC	**Apacha**	**4.13**	**66**	*e*P		**P**	**10 45 53.8**	**+0.1**
APC				*e*S		**S**	**10 47 00.4**	**+0.1**
APC	**Apacha**	**4.13**	**66**	P		**P**	**10 45 53.8**	**+0.1**
APC				*S*		**S**	**10 47 00.4**	**+0.1**
KDTR	**Khodutka, Kamc**	**4.48**	**82**	*e*P		**P**	**10 45 55.9**	**-0.6**
KDTR				*e*S		**S**	**10 47 01.5**	**-3.9**
PEA0B	**Petropavlovsk-**	**4.50**	**65**	*e*P		**P**	**10 45 56.4**	**-0.3**
PETK	**Petropavlovsk-**	**4.50**	**65**	P		**P**	**10 45 56.8**	**+0.2**
	comp=E,24nm,0.3s,baz=232,slow=4.3,SNR=408							
PETK				S		**S**	**10 47 07.3**	**+1.5**
	baz=145,slow=23,SNR=2.4							
GRL	**Gorelyy**	**4.57**	**73**	*e*P		**P**	**10 45 57.1**	**-0.3**
GRL	**Gorelyy**	**4.57**	**73**	P		**P**	**10 45 57.1**	**-0.3**
MTVR	**Mutnovka**	**4.62**	**74**	*e*P		**P**	**10 45 58.2**	**+0.3**
MTVR				*e*S		**S**	**10 47 06.0**	**-1.9**
MTVR	**Mutnovka**	**4.62**	**74**	P		**P**	**10 45 58.2**	**+0.3**
MTVR				*S*		**S**	**10 47 06.0**	**-1.9**
KRMR	**Karymshinskiy**	**4.67**	**69**	*i* P		**P**	**10 45 58.1**	**+0.1**
KRMR				*e*S		**S**	**10 47 08.2**	**0.0**
KRMR	**Karymshinskiy**	**4.67**	**69**	P		**P**	**10 45 58.1**	**+0.1**
KRMR				*S*		**S**	**10 47 08.2**	**0.0**
RUS	**Russkaya**	**4.81**	**75**	*e*P		**P**	**10 45 58.8**	**-0.5**
RUS	**Russkaya**	**4.81**	**75**	*e*P		**P**	**10 45 58.8**	**-0.5**
RUS				*e*S		**S**	**10 47 07.9**	**-2.6**
RUS	**Russkaya**	**4.81**	**75**	P		**P**	**10 45 58.8**	**-0.5**
RUS				*S*		**S**	**10 47 07.9**	**-2.6**
GNL	**Ganaly**	**4.86**	**59**	*e*P		**P**	**10 46 00.3**	**+0.5**
GNL	**Ganaly**	**4.86**	**59**	P		**P**	**10 46 00.3**	**+0.5**
PET	**Petropavlovsk**	**5.02**	**68**	*e*P		**P**	**10 46 01.1**	**+0.1**
PET	**Petropavlovsk**	**5.02**	**68**	*e*P		**P**	**10 46 01.1**	**+0.1**
PET				AMB		AMB	10 46 02.1	
	comp=E,2μm,1.0s							
PET				AMB		AMB	10 46 02.1	
	comp=E,5μm,1.0s							
PET				AMB		AMB	10 46 02.8	
	comp=E,600nm,0.6s							
PET				AMB		AMB	10 46 02.8	
	comp=E,5μm,0.6s							
PET				*e*S		**S**	**10 47 11.7**	**-2.0**
PET				A		A	10 47 14.5	
	comp=E,2μm,2.0s							
PET				A		A	10 47 16.7	
	comp=E,410nm,0.7s							
PET				A		A	10 47 16.7	
	comp=E,530nm,0.7s							
PET	**Petropavlovsk**	**5.02**	**68**	*e*P		**P**	**10 46 01.2**	**+0.1**
PET				*e*S		**S**	**10 47 11.7**	**-2.0**
PET	**Petropavlovsk**	**5.02**	**68**	⇓*i*P		**P**	**10 46 00.9**	**-0.1**
PET				*e*S		**S**	**10 47 11.8**	**-2.0**
PET				pmax		pmax		
	comp=Z,2μm,1.3s							
PET				pmax		pmax		
	comp=Z,500nm,4.7s							
PET				pmax		pmax		
	comp=Z,854nm,0.6s							
PET				smax		smax		
	comp=E,2μm,2.1s							
PET				smax		smax		
	comp=N,413nm,0.7s							
PET				smax		smax		
	comp=E,530nm,0.6s							
DALK	**Dalny**	**5.08**	**68**	*e*P		**P**	**10 46 01.2**	**-0.4**
DALK				*e*S		**S**	**10 47 13.0**	**-1.7**
DALK	**Dalny**	**5.08**	**68**	P		**P**	**10 46 01.2**	**-0.4**
DALK				*S*		**S**	**10 47 13.0**	**-1.7**
KOK	**Koryaka**	**5.09**	**65**	*e*P		**P**	**10 46 03.1**	**+1.3**
KOK	**Koryaka**	**5.09**	**65**	P		**P**	**10 46 03.1**	**+1.3**
KRX	**Arik**	**5.12**	**65**	*e*P		**P**	**10 46 02.8**	**+0.7**
KRX				*e*S		**S**	**10 47 13.6**	**-2.1**
KRX	**Arik**	**5.12**	**65**	P		**P**	**10 46 02.8**	**+0.7**
KRX				*S*		**S**	**10 47 13.6**	**-2.1**
AVH	**Avacha**	**5.14**	**66**	*e*P		**P**	**10 46 03.0**	**+0.8**
AVH	**Avacha**	**5.14**	**66**	*e*P		**P**	**10 46 03.0**	**+0.8**
AVH				*e*S		**S**	**10 47 13.8**	**-2.1**
AVH	**Avacha**	**5.14**	**66**	P		**P**	**10 46 03.0**	**+0.8**
AVH				*S*		**S**	**10 47 13.8**	**-2.1**
UGLR	**Uglovaya**	**5.17**	**67**	*e*P		**P**	**10 46 03.8**	**+1.3**
UGLR				*e*S		**S**	**10 47 15.1**	**-1.3**
UGLR	**Uglovaya**	**5.17**	**67**	P		**P**	**10 46 03.8**	**+1.3**
UGLR				*S*		**S**	**10 47 15.1**	**-1.3**
SMAR	**Somma**	**5.18**	**66**	*e*P		**P**	**10 46 03.1**	**+0.4**
SMAR				*e*S		**S**	**10 47 15.6**	**-1.1**
SMAR	**Somma**	**5.18**	**66**	P		**P**	**10 46 03.1**	**+0.4**
SMAR				*S*		**S**	**10 47 15.6**	**-1.1**
SDLR	**Sedlovina**	**5.23**	**66**	*e*P		**P**	**10 46 02.9**	**-0.1**
SDLR				*e*S		**S**	**10 47 15.3**	**-2.0**
SDLR	**Sedlovina**	**5.23**	**66**	P		**P**	**10 46 02.9**	**-0.1**
SDLR				*S*		**S**	**10 47 15.3**	**-2.0**
TYV	**Tymovskoe**	**5.23**	**267**	*e*P		**P**	**10 46 03.4**	**+0.5**
TYV				AMB		AMB	10 46 04.9	
	comp=E,110nm,0.9s							
TYV				AMB		AMB	10 46 04.9	
	comp=E,4μm,0.9s							
TYV				AMB		AMB	10 46 05.0	
	comp=E,200nm,2.0s							
TYV				AMB		AMB	10 46 05.0	
	comp=E,4μm,2.0s							
TYV				*e*S		**S**	**10 47 15.3**	**-1.8**
TYV				A		A	10 47 19.0	
	comp=E,350nm,1.0s							
TYV				A		A	10 47 21.7	
	comp=E,2μm,5.0s							
TYV	**Tymovskoe**	**5.23**	**267**	*e*P		**P**	**10 46 04.5**	**+1.6**
TYV				*e*S		**S**	**10 47 16.7**	**-0.4**
TYV				pmax		pmax		
	comp=Z,109nm,0.9s							
TYV				pmax		pmax		
	comp=Z,200nm,2.4s							
TYV				smax		smax		
	comp=N,31nm,1.2s							
TYV				smax		smax		
	comp=E,2μm,5.4s							
OKH	**Okha**	**5.33**	**297**	*i* P		**P**	**10 46 03.7**	**0.0**
OKH				AMB		AMB	10 46 06.3	
	comp=E,30nm,0.7s							
OKH				AMB		AMB	10 46 06.3	
	comp=E,150nm,0.7s							
OKH				AMB		AMB	10 46 13.3	
	comp=E,2μm,16.0s							
OKH				AMB		AMB	10 46 13.3	
	comp=E,4μm,16.0s							
OKH				*i* S		**S**	**10 47 16.5**	**-2.2**
OKH				A		A	10 47 25.7	
	comp=E,300nm,9.0s							
OKH				A		A	10 47 25.7	
	comp=E,4μm,9.0s							
OKH	**Okha**	**5.33**	**297**	⇑*i* P		**P**	**10 46 05.1**	**+1.4**
OKH				*i* S		**S**	**10 47 19.3**	**+0.6**
OKH				pmax		pmax		
	comp=Z,200nm,16.2s							
OKH				smax		smax		
	comp=N,300nm,9.0s							
OKH				smax		smax		
	comp=E,500nm,15.8s							
NLC	**Nalytchevo**	**5.47**	**68**	*e*P		**P**	**10 46 05.1**	**+0.2**
NLC				*e*S		**S**	**10 47 18.3**	**-2.5**
NLC	**Nalytchevo**	**5.47**	**68**	P		**P**	**10 46 05.1**	**+0.2**
NLC				*S*		**S**	**10 47 18.3**	**-2.5**
KII	**Karymskiy**	**5.81**	**60**	*e*P		**P**	**10 46 09.6**	**+1.4**
KII				*e*S		**S**	**10 47 25.2**	**-1.6**
KII	**Karymskiy**	**5.81**	**60**	P		**P**	**10 46 09.6**	**+1.4**
KII				*S*		**S**	**10 47 25.2**	**-1.6**
SPN	**Mys Shipunski**	**5.84**	**70**	*i* P		**P**	**10 46 07.0**	**-1.4**
SPN				*e*S		**S**	**10 47 21.1**	**-6.1**
SPN	**Mys Shipunski**	**5.84**	**70**	P		**P**	**10 46 07.0**	**-1.4**
SPN				*S*		**S**	**10 47 21.1**	**-6.1**
UGL	**Uglegorsk**	**6.14**	**251**	*e*P		**P**	**10 46 12.1**	**+0.9**
UGL				AMB		AMB	10 46 14.0	
	comp=E,180nm,0.5s							
UGL				AMB		AMB	10 46 14.0	
	comp=E,5μm,0.5s							
UGL				AMB		AMB	10 46 15.8	
	comp=E,300nm,3.0s							
UGL				AMB		AMB	10 46 15.8	
	comp=E,4μm,3.0s							
UGL				*e*S		**S**	**10 47 31.4**	**-0.8**
UGL				A		A	10 47 35.5	
	comp=E,160nm,1.0s							
UGL				A		A	10 47 35.5	
	comp=E,190nm,1.0s							
UGL				A		A	10 47 36.0	
	comp=E,250nm,3.0s							
UGL				A		A	10 47 36.0	
	comp=E,1μm,3.0s							
ESO	**Esso**	**6.47**	**43**	*e*P		**P**	**10 46 15.5**	**+1.3**
ESO				*e*S		**S**	**10 47 38.8**	**+0.9**
ESO	**Esso**	**6.47**	**43**	P		**P**	**10 46 15.5**	**+1.3**
ESO				*S*		**S**	**10 47 38.8**	**+0.9**
KUR	**Kuril'sk**	**6.50**	**199**	*e*P		**P**	**10 46 13.0**	**-1.8**
KUR				AMB		AMB	10 46 15.8	
	comp=E,70nm,0.8s							
KUR				AMB		AMB	10 46 15.8	
	comp=E,80nm,0.8s							
KUR				AMB		AMB	10 46 19.0	
	comp=E,2μm,4.0s							
KUR				AMB		AMB	10 46 19.0	
	comp=E,5μm,4.0s							
KUR				*e*S		**S**	**10 47 33.5**	**-5.1**
KUR				A		A	10 47 37.6	
	comp=E,70nm,0.4s							
KUR				A		A	10 47 37.6	
	comp=E,30nm,0.4s							
KUR				A		A	10 47 39.0	
	comp=E,1μm,4.0s							
KUR				A		A	10 47 39.0	
	comp=E,3μm,4.0s							
KUR	**Kuril'sk**	**6.50**	**199**	P		P	10 46 05.2	-10
KUR				*S*		**S**	**10 47 44.3**	**+5.7**
KUR				pmax		pmax		
	comp=Z,43nm,0.4s							
KZV	**Kizimen**	**6.74**	**53**	*e*P		**P**	**10 46 18.7**	**+1.7**
KZV				*e*S		**S**	**10 47 41.4**	**-1.5**
KZV	**Kizimen**	**6.74**	**53**	P		**P**	**10 46 18.7**	**+1.7**
KZV				*S*		**S**	**10 47 41.4**	**-1.5**
TUMR	**Tumrok**	**6.75**	**51**	*e*P		**P**	**10 46 18.0**	**+0.9**
TUMR				*e*S		**S**	**10 47 41.7**	**-1.3**
TUMR	**Tumrok**	**6.75**	**51**	P		**P**	**10 46 18.0**	**+0.9**
TUMR				*S*		**S**	**10 47 41.7**	**-1.3**
YSS	**Yuzh-Sakhalins**	**6.96**	**233**	*e*P		**P**	**10 46 18.7**	**-0.5**
YSS	**Yuzh-Sakhalins**	**6.96**	**233**	*e*P		**P**	**10 46 18.7**	**-0.5**
YSS				AMB		AMB	10 46 20.9	
	comp=Z,20nm,0.6s							
YSS				AMB		AMB	10 46 20.9	
	comp=Z,4μm,0.6s							
YSS				*e*S		**S**	**10 47 43.2**	**-3.5**
YSS				A		A	10 47 49.8	
	comp=Z,30nm,3.0s							
YSS	**Yuzh-Sakhalins**	**6.96**	**233**	⇑*e*P		**P**	**10 46 18.7**	**-0.5**
YSS				*e*S		**S**	**10 47 45.7**	**-1.0**
YSS				pmax		pmax		
	comp=Z,30nm,1.3s							
YSS				smax		smax		
	comp=N,30nm,2.6s							
YSS				smax		smax		
	comp=E,30nm,3.2s							
KMNR	**Kamenistaya**	**7.05**	**48**	*e*P		**P**	**10 46 21.4**	**+1.5**
KMNR	**Kamenistaya**	**7.05**	**48**	P		**P**	**10 46 21.4**	**+1.5**
KIRR	**Kirishev**	**7.21**	**47**	*e*S		**S**	**10 47 50.9**	**-0.4**
MKZ	**Mys Kozlova**	**7.25**	**60**	*e*P		**P**	**10 46 20.6**	**-1.1**
MKZ				*e*S		**S**	**10 47 44.5**	**-7.1**
MKZ	**Mys Kozlova**	**7.25**	**60**	P		**P**	**10 46 20.6**	**-1.1**
MKZ				*S*		**S**	**10 47 44.5**	**-7.1**
BZMR	**Bezymyannaya**	**7.27**	**48**	*e*P		**P**	**10 46 23.4**	**+1.3**
BZMR	**Bezymyannaya**	**7.27**	**48**	P		**P**	**10 46 23.4**	**+1.3**
BZGR	**Bezymyannyi-Gr**	**7.37**	**48**	*e*P		**P**	**10 46 24.2**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**7.37**	**48**	P		**P**	**10 46 24.2**	**+1.1**
LGNR	**Loginova**	**7.45**	**47**	*e*P		**P**	**10 46 25.2**	**+1.2**
LGNR	**Loginova**	**7.45**	**47**	P		**P**	**10 46 25.2**	**+1.2**
ZLN	**Zelenaya**	**7.46**	**48**	*e*P		**P**	**10 46 25.1**	**+1.1**
ZLN				*e*S		**S**	**10 47 53.4**	**-2.3**
ZLN	**Zelenaya**	**7.46**	**48**	P		**P**	**10 46 25.1**	**+1.1**
ZLN				*S*		**S**	**10 47 53.4**	**-2.3**
KRSR	**Krestovskiy**	**7.47**	**46**	*e*P		**P**	**10 46 24.7**	**+0.7**
KRSR				*e*S		**S**	**10 47 55.7**	**-0.1**
KRSR	**Krestovskiy**	**7.47**	**46**	P		**P**	**10 46 24.7**	**+0.7**
KRSR				*S*		**S**	**10 47 55.7**	**-0.1**
CIRR	**Tsirk**	**7.49**	**47**	*e*P		**P**	**10 46 25.2**	**+0.9**
CIRR	**Tsirk**	**7.49**	**47**	P		**P**	**10 46 25.2**	**+0.9**
KLY	**Klyuchi**	**7.56**	**46**	*e*P		**P**	**10 46 27.1**	**+2.3**
KLY	**Klyuchi**	**7.56**	**46**	P		**P**	**10 46 27.1**	**+2.3**
BDR	**Baidarnaya**	**7.96**	**46**	*e*P		**P**	**10 46 30.2**	**+1.2**
BDR	**Baidarnaya**	**7.96**	**46**	P		**P**	**10 46 30.2**	**+1.2**
SRKR	**Sorokina**	**8.00**	**45**	*e*P		**P**	**10 46 30.9**	**+1.6**
SRKR				*e*S		**S**	**10 48 02.6**	**-2.8**
SRKR	**Sorokina**	**8.00**	**45**	P		**P**	**10 46 30.9**	**+1.6**
SRKR				*S*		**S**	**10 48 02.6**	**-2.8**
SHO	**Shikotan**	**8.03**	**202**	*e*P		**P**	**10 46 28.1**	**-1.7**
SHO				AMB		AMB	10 46 32.1	
	comp=E,20nm,1.0s							
SHO				AMB		AMB	10 46 32.1	
	comp=E,10.0nm,1.0s							
SHO				AMB		AMB	10 46 32.1	
	comp=E,110nm,1.0s							
SHO				*e*S		**S**	**10 48 00.2**	**-5.9**
SHO				A		A	10 48 04.2	
	comp=E,200nm,0.5s							
SHO				A		A	10 48 04.2	
	comp=E,30nm,0.5s							
SHO	**Shikotan**	**8.03**	**202**	*e*P		**P**	**10 46 26.9**	**-2.9**
SHO				*e*S		**S**	**10 47 58.4**	**-7.7**
SHO				pmax		pmax		
	comp=Z,41nm,0.3s							
SHO				pmax		pmax		
	comp=N,19nm,0.2s							
SHO				pmax		pmax		
	comp=E,5.0nm,0.2s							
SMKR	**Semkarok**	**8.09**	**46**	*e*P		**P**	**10 46 31.5**	**+1.3**
SMKR				*e*S		**S**	**10 48 06.8**	**-0.3**
SMKR	**Semkarok**	**8.09**	**46**	P		**P**	**10 46 31.5**	**+1.3**
SMKR				*S*		**S**	**10 48 06.8**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**8.12**	**207**	*e*P		**P**	**10 46 30.1**	**-0.6**
YUK				AMB		AMB	10 46 35.0	
	comp=E,20nm,1.0s							
YUK				AMB		AMB	10 46 35.0	
	comp=E,10.0nm,1.0s							
YUK				AMB		AMB	10 46 35.0	
	comp=E,220nm,1.0s							
YUK				*e*S		**S**	**10 48 06.7**	**-1.2**
YUK				A		A	10 48 13.3	
	comp=E,80nm,0.9s							
YUK				A		A	10 48 13.3	
	comp=E,60nm,0.9s							
YUK	**Yuzh-Kuril'sk**	**8.12**	**207**	*e*P		**P**	**10 46 30.4**	**-0.3**
YUK				*e*S		**S**	**10 48 07.9**	**0.0**
YUK				pmax		pmax		
	comp=Z,73nm,0.3s							
YUK				pmax		pmax		
	comp=N,20nm,0.2s							
YUK				pmax		pmax		
	comp=E,14nm,0.1s							
MA2	**Magadan**	**8.19**	**359**	P		**P**	**10 46 31.2**	**+0.2**
	comp=E,8.4nm,0.3s,baz=171,slow=9.0,SNR=67							
KBG	**Krutoberegovo**	**8.49**	**51**	*e*S		**S**	**10 48 09.0**	**-5.4**
KBTR	**Krutoberegovo**	**8.52**	**51**	*e*P		**P**	**10 46 32.6**	**-1.9**
KBTR	**Krutoberegovo**	**8.52**	**51**	P		**P**	**10 46 32.6**	**-1.9**
GRNR	**Gornyy**	**9.15**	**272**	*e*P		**P**	**10 46 41.0**	**-0.1**
GRNR	**Gornyy**	**9.15**	**272**	*e*P		**P**	**10 46 41.0**	**-0.1**
GRNR				*e*			10 48 26.2	
JKA	**Kamikawa-asahi**	**9.19**	**221**	*e*P		**P**	**10 46 41.8**	**+0.2**
ASAJ	**Asahikawa**	**9.19**	**221**	P		**P**	**10 46 41.8**	**+0.1**
	comp=E,1.9nm,0.3s,baz=22,slow=4.2,SNR=15							
ASAJ				S		**S**	**10 48 28.2**	**+0.4**
	baz=246,slow=20,SNR=4.8							
ASAJ	**Asahikawa**	**9.19**	**221**	*e*P		**P**	**10 46 42.0**	**+0.4**
PALN	**Palana**	**9.26**	**30**	*e*P		**P**	**10 46 44.1**	**+2.1**
PALN	**Palana**	**9.26**	**30**	P		**P**	**10 46 44.1**	**+2.1**
BKI	**Bering**	**9.78**	**61**	*e*P		**P**	**10 46 45.9**	**-1.5**
BKI				*e*S		**S**	**10 48 34.3**	**-4.2**
BKI	**Bering**	**9.78**	**61**	P		**P**	**10 46 45.9**	**-1.5**
BKI				*S*		**S**	**10 48 34.3**	**-4.2**
ERM	**Erimo**	**10.79**	**213**	*e*P		**P**	**10 46 57.6**	**-0.6**
ERM				*e*S		**S**	**10 48 54.7**	**-3.5**
ERM	**Erimo**	**10.79**	**213**	*e*P		**P**	**10 46 57.6**	**-0.6**
ERM				*e*S		**S**	**10 48 54.7**	**-3.5**
EKMR	**Ekimchan**	**11.14**	**286**	*e*P		**P**	**10 47 02.4**	**+0.7**
EKMR				AMB		AMB	10 47 06.0	
	comp=E,20nm,0.7s							
TEY	**Ternei**	**11.47**	**242**	*e*P		**P**	**10 47 06.5**	**+1.3**
TEY				AMB		AMB	10 47 07.5	
	comp=E,60nm,0.5s							
TEY	**Ternei**	**11.47**	**242**	⇑*e*P		**P**	**10 47 06.5**	**+1.3**
TEY				pmax		pmax		
	comp=E,40nm,0.4s							
TEY				pmax		pmax		
	comp=Z,60nm,0.5s							
SEY	**Seymchan**	**11.58**	**3**	P		**P**	**10 47 06.3**	**+0.2**
	comp=Z,3.7nm,0.3s,baz=187,slow=9.1,SNR=98							
SEY				S		**S**	**10 49 12.8**

MAJO Matsushiro 17.41 216 *e*P **P** 10 48 05.6 -0.1
MAJO Matsushiro 17.41 216*d i*P **P** 10 48 05.6 -0.1
MAJO pmax pmax
comp=Z,32nm,0.4s
MAT Matsushiro 17.41 216 P **P** 10 48 05.5 -0.2
MAT S **S** 10 51 01.8 +2.1
MJAR Matsushiro Arr 17.41 216 P **P** 10 48 05.8 +0.1
comp=Z,16nm,0.3s,baz=6.5,slow=8.3,SNR=184
BILL Bilibino 18.29 19 *e*P **P** 10 48 14.1 +0.9
comp=Z,29nm,1.8s
BILL Bilibino 18.29 19 *e*P **P** 10 48 13.7 +0.5
BILL Bilibino 18.29 19⇑*i*P **P** 10 48 13.7 +0.5
BILL eS **S** 10 51 20.1 +7.0
BILL pmax pmax
comp=Z,18nm,2.5s
CN2 Changchun 18.72 256 *e*P **P** 10 48 16.3 -1.2
CN2 *e*S **S** 10 51 26.3 +5.6
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,5.0s
INU Inuyama 18.91 217 *e*P **P** 10 48 19.2 -0.2
comp=Z,44nm,0.6s
KIWB Kanaga Island 19.75 76 *e*P **P** 10 48 28.2 +1.4
HIA Hailar 19.94 276 *e*P **P** 10 48 28.2 -0.4
comp=Z,43nm,0.7s
HIA Hailar 19.94 276 *e*P **P** 10 48 28.2 -0.4
HIA pmax pmax
comp=Z,43nm,0.7s
KS01 Wonju Array Si 21.42 238 *e*P **P** 10 48 42.4 +0.3
KSRS Korea Array 21.43 238 P **P** 10 48 42.5 +0.4
comp=Z,8.3nm,0.6s,baz=44,slow=9.2,SNR=34
KS15 Wonju Array Si 21.45 238 *e*P **P** 10 48 43.0 +0.6
BOD Bodaibo 22.10 301 *e*P **P** 10 48 46.8 -1.1
BOD pmax pmax
comp=Z,11nm,0.8s
JNU Nakatsue 23.40 226 P **P** 10 49 00.3 +0.4
comp=Z,7.9nm,0.7s,baz=12,slow=1.6,SNR=16
JNU Nakatsue 23.40 226 *e*P **P** 10 49 00.1 +0.3
comp=Z,8.3nm,0.9s
ULN Ulaanbaatar 28.31 280 *e*P **P** 10 49 42.8 -0.3
comp=Z,12nm,0.7s
ULN Ulaanbaatar 28.31 280 *e*P **P** 10 49 42.9 -0.2
ULN Ulaanbaatar 28.31 280*d i*P **P** 10 49 42.9 -0.2
ULN pmax pmax
comp=Z,10.0nm,0.6s
SONA1 Songino Array 28.72 281 *e*P **P** 10 49 46.5 -0.1
SONM Songino Array 28.73 281 P **P** 10 49 46.5 -0.1
comp=Z,7.9nm,0.5s,baz=71,slow=7.7,SNR=65
SONM PcP **PcP** 10 52 39.3 -0.4
comp=Z,0.4nm,0.4s,baz=83,slow=2.3,SNR=3.2
SONM ScP **ScP** 10 55 29.0 -1.4
comp=Z,1.2nm,0.6s,baz=86,slow=2.2,SNR=9.1
HHC Hu-ho-hao-te 28.92 264 *e*P **P** 10 49 47.3 -1.1
HHC pmax pmax
comp=Z,14nm,1.0s
HHC pmax pmax
comp=Z,50nm,4.7s
TLY Talaya 29.00 289 P **P** 10 49 49.1 +0.3
comp=Z,6.5nm,0.6s,baz=116,slow=5.4,SNR=7.7
TLY Talaya 29.00 289 *e*P **P** 10 49 49.0 +0.1
comp=Z,10nm,0.8s
TLY Talaya 29.00 289 *e*P **P** 10 49 45.0 -3.9
TLY pmax pmax
comp=Z,16nm,1.0s
ZAK Zakamensk 29.65 287 *e*P **P** 10 49 54.2 -0.4
ZAK pmax pmax
comp=Z,9.0nm,1.1s
JOW Kunigami 29.94 224 P **P** 10 49 57.5 +0.1
comp=Z,63nm,0.4s,baz=19,slow=8.1,SNR=55
JOW S **S** 10 54 17.0 -0.4
comp=Z,14nm,0.8s,baz=236,slow=18,SNR=5.0
JOW Kunigami 29.94 224 *e*P **P** 10 49 57.4 +0.1
comp=Z,73nm,0.4s
MOY Mondy 30.57 290 *e*P **P** 10 50 03.0 +0.5
MOY pmax pmax
comp=Z,17nm,1.6s
IM3 Indian Mountai 31.01 41 *e*P **P** 10 50 06.2 +0.3
KDAK Kodiak Island 32.49 56 P **P** 10 50 18.6 -0.1
comp=Z,13nm,1.1s,baz=252,slow=6.4,SNR=11
TOLK Toolik Lake Re 32.67 36 *e*P **P** 10 50 20.4 +0.3
comp=Z,22nm,2.0s
KNGR Kungurtug, Tuv 32.99 290 *i*P **P** 10 50 24.0 +0.8
WRH Wood River Hil 33.47 43 *e*P **P** 10 50 27.6 +0.8
comp=Z,24nm,1.6s
COLA College 33.53 43 P **P** 10 50 28.2 +0.9
COLA pmax pmax
comp=Z,11nm,2.6s
ILAR Eielson Array 33.95 43 P **P** 10 50 30.8 0.0
comp=Z,1.9nm,0.7s,baz=273,slow=8.8,SNR=23
ILB Eielson Array 33.95 43 *e*P **P** 10 50 31.9 +1.0
IL1 Eielson Array 33.95 43 *e*P **P** 10 50 32.0 +1.2
NRIK Noril'sk 34.06 325 P **P** 10 50 31.0 -0.7
comp=Z,1.8nm,0.4s,baz=100,slow=6.1,SNR=4.2
EGAK Eagle 36.37 42 *e*P **P** 10 50 51.0 0.0
comp=Z,4.5nm,1.0s
LZH Lanzhou 36.61 264 *e*P **P** 10 50 54.8 +1.2
LZH pmax pmax
comp=Z,23nm,1.2s
GTA Gaotai 37.10 272 ⇓P **P** 10 50 57.9 +0.4
GTA pP pP 10 52 25.3 -4.4
GTA sP sP 10 53 23.5 -6.8
GTA ScP **ScP** 10 55 59.6 -0.3
GTA ScS **ScS** 11 00 08.9 -0.7
GTA pmax pmax
comp=Z,10.0nm,1.2s
ENH Enshi 37.13 252 *e*P **P** 10 50 57.5 -0.3
comp=Z,69nm,0.7s
INK Inuvik 38.58 35 P **P** 10 51 09.2 +0.2
comp=Z,2.5nm,0.5s,baz=296,slow=6.4,SNR=39
INK S **S** 10 56 25.4 -1.1
comp=Z,0.4nm,0.6s,baz=216,slow=8.7,SNR=5.5
INK Inuvik 38.58 35 *e*P **P** 10 51 09.6 +0.7
comp=Z,3.7nm,0.6s
ZAA0 Zalesovo Array 38.85 301 *e*P **P** 10 51 10.6 -0.8
comp=Z,7.7nm,0.6s
ZALV Zalesovo Beam 38.85 301 P **P** 10 51 11.0 -0.4
comp=Z,11nm,0.6s,baz=65,slow=7.1,SNR=32
ZALV PcP **PcP** 10 53 07.9 -0.8
comp=Z,1.8nm,0.3s,baz=80,slow=4.1,SNR=5.8
ZALV ScP **ScP** 10 56 03.5 -2.7
comp=Z,0.4nm,0.3s,baz=90,slow=5.8,SNR=3.4
ZALV Zalesovo Beam 38.85 301 *e*P **P** 10 51 10.8 -0.6
ZALV *e*PcP **PcP** 10 53 08.4 -0.3
DGZ Jazzator, Alta 39.25 293*d i*P **P** 10 51 15.8 +0.9
DGZ pmax pmax
comp=Z,9.0nm,0.7s
WMQ Urumqi 42.09 285 P **P** 10 51 38.3 +0.8
WMQ pmax pmax
comp=Z,46nm,0.7s
WMQ pmax pmax
comp=Z,380nm,4.1s
MK31 Makanchi Array 43.68 292 *e*P **P** 10 51 49.5 -0.3
MK31 Makanchi Array 43.68 292 *e*P **P** 10 51 49.5 -0.3
MKAR Makanchi Array 43.68 292 P **P** 10 51 49.4 -0.3
comp=Z,9.4nm,0.4s,baz=54,slow=6.7,SNR=106
MKAR PcP **pP** 10 53 24.0 -2.0
comp=Z,0.8nm,0.3s,baz=74,slow=3.3,SNR=2.9
MKAR ScP **ScP** 10 56 23.5 -2.2
comp=Z,0.4nm,0.6s,baz=42,slow=4.5,SNR=3.5
MKAR Makanchi Array 43.68 292 *e*P **P** 10 51 49.5 -0.3
comp=Z,148nm,0.4s
MK01 Makanchi Array 43.68 292 *e*P **P** 10 51 49.5 -0.3
KURK Kurchatov 43.71 299 *e*P **P** 10 51 49.9 0.0
comp=Z,168nm,0.4s
KURK Kurchatov 43.71 299 *e*P **P** 10 51 49.7 -0.2
KURK Kurchatov 43.71 299*ce*P **P** 10 51 49.7 -0.2
KURK pmax pmax
comp=Z,24nm,0.7s
KURBB Kurchatov Arra 43.81 299 P **P** 10 51 50.5 -0.2
comp=Z,24nm,0.5s,baz=66,slow=8.4,SNR=71
KURBB PcP **pP** 10 53 24.6 -2.3
comp=Z,3.3nm,0.5s,baz=66,slow=3.1,SNR=6.9
KURBB ScP **ScP** 10 56 23.6 -2.5
comp=Z,0.4nm,0.5s,baz=82,slow=3.1,SNR=5.1
KMI Kunming 44.95 253 P **P** 10 51 59.3 -0.8
KMI pmax pmax
comp=Z,18nm,1.1s
BVAR Borovoye Array 46.88 305 P **P** 10 52 13.8 -0.4
comp=Z,10.0nm,0.4s,baz=59,slow=7.8,SNR=62
BVAR PcP **PcP** 10 53 35.5 -0.7
comp=Z,3.8nm,0.4s,baz=83,slow=3.6,SNR=10
BVAR PP **PP** 10 54 05.5 -5.5
comp=Z,2.5nm,0.6s,baz=52,slow=9.3,SNR=4.7
RES Resolute Bay 46.90 19 P **P** 10 52 13.4 -0.5
comp=Z,1.0nm,0.4s,baz=356,slow=7.6,SNR=8.4

BRVK Borovoye 46.92 305 *e*P **P** 10 52 14.2 -0.2
comp=Z,13nm,0.6s
BRVK Borovoye 46.92 305 P **P** 10 52 14.2 -0.2
BRVK Borovoye 46.92 305*ce*P **P** 10 52 14.2 -0.2
BRVK pmax pmax
comp=Z,10.0nm,0.6s
PDGK Podgornoye 47.27 290 P **P** 10 52 17.5 +0.1
PDGK pmax pmax
comp=Z,11nm,1.6s
YKA Yellowknife Ar 48.11 38 P **P** 10 52 23.2 +0.1
comp=Z,1.4nm,0.5s,baz=303,slow=6.9,SNR=13
YKA PcP **PcP** 10 53 40.4 0.0
comp=Z,0.2nm,0.3s,baz=313,slow=3.6,SNR=4.6
YKA ScP **ScP** 10 56 43.5 -0.4
comp=Z,1.6nm,1.0s,baz=283,slow=2.9,SNR=4.2
OTUK Ortayu 48.49 299 P **P** 10 52 26.3 0.0
OTUK pmax pmax
comp=Z,13nm,1.0s
NONG Nongkai 50.16 247 P **P** 10 52 39.9 +1.0
comp=Z,0.3nm,0.9s
SKNT Sakolnakorn 50.55 245 P **P** 10 52 42.4 +0.6
comp=Z,10nm,0.7s
AAK Ala-Archa 50.61 292 *e*P **P** 10 52 42.3 +0.1
comp=Z,9.7nm,0.7s
AAK Ala-Archa 50.61 292 *e*P **P** 10 52 42.1 -0.1
AAK Ala-Archa 50.61 292⇑*i*P **P** 10 52 42.1 -0.1
AAK pmax pmax
comp=Z,30nm,1.9s
ARU Arti 50.66 314*d i*P **P** 10 52 42.1 0.0
ARU 10 53 48.5
ARU 10 54 43.1
ARU S **S** 10 59 18.0 +0.9
ARU SS **SS** 11 02 55.9 -3.9
ARU pmax pmax
comp=Z,29nm,0.6s
PAYA Payao 51.05 251 P **P** 10 52 46.8 +1.3
comp=Z,9.9nm,0.7s
SHL Shillong 51.27 263 *e*P **P** 10 52 47.1 -0.1
comp=Z,42nm,0.5s
SHL Shillong 51.27 263 *e*P **P** 10 52 47.1 -0.1
SHL pmax pmax
comp=Z,42nm,0.5s
KSH Kashi 51.69 288 P **P** 10 52 54.1 +4.1
KSH pP pP 10 54 33.1 +2.2
KSH PP **PP** 10 55 00.3 +5.7
KSH S **S** 10 59 35.8 +4.1
KSH sS sS 11 02 31.6 -1.8
KSH SS **SKiKP** 11 03 23.5 +8.6
KSH pmax pmax
comp=Z,31nm,0.8s
KSH pmax pmax
comp=Z,220nm,3.8s
LAMP Lampang 51.84 250 P **P** 10 52 52.5 +1.3
comp=Z,3.8nm,0.8s
MNAS Manas 51.86 293 P **P** 10 52 51.4 +0.2
MNAS pmax pmax
comp=Z,14nm,0.6s
UTTA Uttaradit 51.91 249 P **P** 10 52 52.7 +1.1
comp=Z,4.4nm,0.8s
DAG Danmarks Havn 51.92 357 P **P** 10 52 53.0 +2.1
DAG pmax pmax
comp=Z,10.0nm,2.2s
CMMT Chiang Mai 52.02 251 P **P** 10 52 52.9 +0.4
comp=Z,18nm,0.7s,comp=Z,562nm
CHTO Chiang Mai 52.02 251 *e*P **P** 10 52 52.8 +0.3
comp=Z,13nm,0.8s
CHTO Chiang Mai 52.02 251 *e*P **P** 10 52 52.8 +0.3
CHTO pmax pmax
comp=Z,13nm,0.8s
CHTO Chiang Mai 52.02 251 P **P** 10 52 53.0 +0.5
comp=Z,81nm,0.8s
CM31 Chiang Mai Arr 52.30 251 *e*P **P** 10 52 55.5 +1.0
CMAR Chiang Mai Arr 52.30 251 P **P** 10 52 54.6 +0.1
comp=Z,6.6nm,0.7s,baz=28,slow=6.9,SNR=32
CMAR PcP **PcP** 10 53 57.4 +0.6
comp=Z,1.3nm,0.6s,baz=20,slow=2.3,SNR=5.1
CMAR Chiang Mai Arr 52.30 251 P **P** 10 52 54.6 +0.1
CMAR 10 53 57.4
CMAR pmax pmax
comp=Z,6.0nm,0.7s
CM01 Chiang Mai Arr 52.32 251 *e*P **P** 10 52 55.0 +0.3
CM01 *e*PcP **PcP** 10 53 57.2 +0.4
HAMF Hammerfest 52.51 340 *e*P **P** 10 52 54.8 -0.5
PBKT Sadao Pong 52.59 248 *e*P **P** 10 52 56.3 -0.3
PBKT Sadao Pong 52.59 248 P **P** 10 52 57.5 +0.9
comp=Z,9.5nm,0.7s
TAPN Taplejung 52.60 268 *e*P **P** 10 52 57.3 +0.4
comp=Z,35nm,0.4s
KK31 Karatay Array 52.61 295 *e*P **P** 10 52 56.0 -0.5
KK31 Karatay Array 52.61 295 *e*P **P** 10 52 56.0 -0.5
KKAR Karatay Array 52.61 295 *e*P **P** 10 52 56.0 -0.5
KKAR Karatay Array 52.61 295 *e*P **P** 10 52 56.0 -0.5
SUKH Sukhothai 52.66 250 P **P** 10 52 59.1 +2.1
comp=Z,2.6nm,0.7s
PRGR Permogore 52.70 325 *e*P **P** 10 52 53.3 -3.3
PRGR pmax pmax
comp=Z,16nm,0.6s
SFK Sufi-Kurgan 52.84 290 P **P** 10 52 58.3 -0.1
ARCES ARCESS Array B 52.98 339 P **P** 10 52 58.2 -0.4
comp=Z,2.3nm,0.4s,baz=18,slow=7.7,SNR=44
ARCES PcP **PcP** 10 53 58.1 -0.5
comp=Z,2.4nm,0.8s,baz=54,slow=4.6,SNR=3.2
ARE0 ARCESS Array S 52.98 339 *e*P **P** 10 52 58.9 +0.3
ODAN Odare 53.15 268 *e*P **P** 10 53 01.1 +0.4
comp=Z,29nm,0.6s
JIRN Jiri 53.33 270 *e*P **P** 10 53 02.4 +0.2
comp=Z,102nm,0.7s
GUN Gumba 53.35 270 *e*P **P** 10 53 02.4 +0.1
comp=Z,60nm,0.4s
RAMN Ramite 53.58 269 *e*P **P** 10 53 03.9 +0.1
comp=Z,162nm,0.6s
KKN Kakani 53.81 270 *e*P **P** 10 53 05.8 +0.4
comp=Z,79nm,0.5s
PKI Pulchoki 53.88 270 *e*P **P** 10 53 06.2 +0.1
comp=Z,30nm,0.4s
PKIN Phulchoki 53.89 270 *e*P **P** 10 53 06.1 +0.1
comp=Z,34nm,0.5s
KTK1 Kautokeino 53.90 339 *e*P **P** 10 53 04.9 -0.2
SRAK Srakaew 54.03 245 P **P** 10 53 05.5 -1.3
comp=Z,41nm,0.8s,comp=Z,545nm
DMN Daman 54.05 270 *e*P **P** 10 53 07.3 +0.2
comp=Z,92nm,0.7s
GKN Gorkha 54.06 271 *e*P **P** 10 53 07.6 +0.5
comp=Z,3.7nm,0.3s
UMPA Umpang Tak 54.11 249 P **P** 10 53 11.2 +3.8
comp=Z,4.6nm,0.8s,comp=Z,2um
TRO Tromso 54.30 341 *e*P **P** 10 53 07.5 -0.4
SGF Sodankyl 54.36 337 *e*P **P** 10 53 08.1 -0.3
SGF pmax pmax
comp=Z,21nm,1.6s
DANN Dangsing 54.37 272 *e*P **P** 10 53 09.9 +0.5
comp=Z,100nm,0.6s
ABKAR Akbulak array 54.41 306 *e*P **P** 10 53 08.9 -0.1
KOLN Koldanda 54.88 272 *e*P **P** 10 53 13.2 +0.3
comp=Z,62nm,0.5s
MSF Maaselka 54.89 335 *e*P **P** 10 53 12.3 +0.2
MSF pmax pmax
comp=Z,15nm,0.4s
PYUN Piuthan 55.03 272 *e*P **P** 10 53 14.3 +0.4
comp=Z,59nm,0.3s
KLMR Klimovskoe 55.40 326 *e*P **P** 10 53 12.0 -3.7
KLMR pmax pmax
comp=Z,17nm,1.1s
KLMR Klimovskoe 55.40 326 *e*P **P** 10 53 12.0 -3.7
KLMR AMP 10 53 17.0
comp=Z,17nm,1.1s
OUL Oulu 56.37 335 *e*P **P** 10 53 21.6 -0.7
OUL pmax pmax
comp=Z,29nm,0.7s
STEI Steigen 56.47 342 *e*P **P** 10 53 22.4 -0.6
JOF Joensuu 56.53 332 P **P** 10 53 23.6 +0.1
JOF pmax pmax
comp=Z,28nm,1.9s
LOF Lofoten 56.62 342 *e*P **P** 10 53 24.0 -0.1
MOR8 Moi Rana 58.14 341 *e*P **P** 10 53 32.9 -1.6
SUF Sumiainen 58.18 334 *e*P **P** 10 53 34.5 -0.2
SUF pmax pmax
comp=Z,22nm,1.4s
SBUM Sibu 58.57 227 *e*P **P** 10 53 38.4 +0.3
comp=Z,4.9nm,0.6s
KBL Kabul 59.13 288 *e*P **P** 10 53 40.5 -1.4
KBL Kabul 59.13 288 *e*P **P** 10 53 40.5 -1.4
FIA1 FINESS Array S 59.22 333 *e*P **P** 10 53 40.8 -1.0
FINES FINESS Array B 59.22 333 P **P** 10 53 41.2 -0.5
comp=Z,14nm,0.4s,baz=36,slow=7.7,SNR=136

FINES FINESS Array B 59.22 333 *i*P **P** 10 53 41.2 -0.5
FINES pmax pmax
comp=Z,15nm,0.4s
KSM Kuching 60.31 229 *e*P **P** 10 53 50.8 +1.1
comp=Z,14nm,1.1s
KRAB Krabi 60.34 243 P **P** 10 53 51.5 +1.6
OBN Obninsk 60.68 323 *e*P **P** 10 53 50.9 -0.6
OBN Obninsk 60.68 323‖*e*P **P** 10 53 50.9 -0.6
OBN *e**PP **pP** 10 55 36.8 -0.3
OBN *e* 10 56 15.4
OBN *e*S **S** 11 01 24.3 -2.4
OBN pmax pmax
comp=Z,15nm,1.3s
KVN Kaiserville 61.26 63 *e*P **P** 10 53 56.0 +0.1
comp=Z,4.6nm,0.7s
KVN Kaiserville 61.26 63 *e*P **P** 10 53 56.0 +0.1
KVN pmax pmax
comp=Z,5.0nm,0.7s
VSU Vasula 61.43 330 *i*P **P** 10 53 56.2 -0.2
VSU pmax pmax
comp=Z,15nm,0.4s
VRH Novokhopyorsk 61.55 317 *e*P **P** 10 53 56.0 -1.3
VRH pmax pmax
comp=Z,20nm,0.7s
NV01 Mina Array Sit 61.59 63 *e*P **P** 10 53 59.3 +1.2
NVAR Mina Array Bea 61.59 63 P **P** 10 53 59.5 +1.4
comp=Z,2.7nm,0.6s,baz=297,slow=6.9,SNR=14
NVAR pP **pP** 10 55 46.6 +2.4
comp=Z,0.7nm,0.7s,baz=299,slow=6.1,SNR=2.9
LPSR Galich'ya Gora 61.66 320 *e*P **P** 10 53 56.8 -1.2
LPSR pmax pmax
comp=Z,20nm,0.9s
VSR Storozhevoye 62.61 319⇓*e*P **P** 10 54 03.3 -0.9
VSR pmax pmax
comp=Z,12nm,0.5s
GEYT Alibeck 63.06 298 P **P** 10 54 07.7 +0.3
comp=Z,8.7nm,0.6s,baz=69,slow=8.1,SNR=6.3
GYA0B ALIBECK ARRAY 63.06 298 *e*P **P** 10 54 08.0 +0.5
comp=Z,14nm,0.6s
PD31 Pinedale Array 63.19 54 *e*P **P** 10 54 09.2 +0.8
PDAR Pinedale Array 63.19 54 P **P** 10 54 09.0 +0.6
comp=Z,1.9nm,0.7s,baz=324,slow=1.6,SNR=18
PDAR pP **pP** 10 55 56.7 +1.5
comp=Z,0.7nm,0.8s,baz=289,slow=2.8,SNR=2.3
PDAR Pinedale Array 63.19 54 *e*P **P** 10 54 08.7 +0.3
DUG Dugway, Tooele 63.34 58 P **P** 10 54 10.7 +1.4
DUG pmax pmax
comp=Z,6.0nm,1.1s
NB2 NORSAR Subarra 63.35 339 P **P** 10 54 08.4 -0.5
comp=Z,2.4nm,0.5s,baz=25,slow=6.5
NB2 NORSAR Subarra 63.35 339 P **P** 10 54 08.3 -0.5
NB2 pmax pmax
comp=Z,2.0nm,0.5s
NB2 NORSAR Subarra 63.35 339 P **P** 10 54 08.4 -0.5
baz=25,slow=6.5
NOA NORSAR Array B 63.35 339 P **P** 10 54 08.4 -0.5
comp=Z,1.9nm,0.4s,baz=28,slow=6.6,SNR=16
NORES NORESS Array B 63.55 339 P **P** 10 54 12.5 +2.4
NORES pmax pmax
comp=Z,1.0nm,0.4s
TPNV Topopah Spring 63.78 63 *e*P **P** 10 54 13.5 +1.3
comp=Z,5.0nm,0.8s
TPNV Topopah Spring 63.78 63 *e*P **P** 10 54 13.5 +1.3
TPNV pmax pmax
comp=Z,5.0nm,0.8s
ULM Lac du Bonnet 63.94 41 P **P** 10 54 11.8 -0.9
comp=Z,1.9nm,0.8s,baz=315,slow=5.7,SNR=3.5
HYB Hyderabad 65.60 268 *i*P **P** 10 54 23.5 -0.3
KIV Kislovodsk 66.57 312 *e*P **P** 10 54 30.7 +1.2
KIV Kislovodsk 66.57 312 *e*P **P** 10 54 30.7 +1.2
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,50nm,17.0s
KBZ Khabaz 66.64 311 P **P** 10 54 30.3 +0.5
comp=Z,8.0nm,0.7s,baz=65,slow=6.3,SNR=23
AKASG Malin Array Be 66.90 324 P **P** 10 54 29.9 -1.3
comp=Z,4.6nm,0.4s,baz=34,slow=6.3,SNR=20
AKASG Malin Array Be 66.90 324 P **P** 10 54 30.0 -1.3
AKASG pmax pmax
comp=Z,5.0nm,0.4s
KIEV Kiev 66.91 324 *e*P **P** 10 54 30.0 -1.3
comp=Z,10.0nm,1.0s
KIEV Kiev 66.91 324 *e*P **P** 10 54 30.0 -1.3
KIEV Kiev 66.91 324⇓*e*P **P** 10 54 30.0 -1.3
KIEV pmax pmax
comp=Z,25nm,1.7s
GSI Gunungsitoli 66.95 241 *e*P **P** 10 54 32.6 +0.4
comp=Z,27nm,0.6s
Y12C Blythe 67.07 64 *e*P **P** 10 54 34.4 +1.7
comp=Z,5.8nm,0.8s
ISCO Idaho Springs 67.38 54 P **P** 10 54 36.1 +1.2
AKH Akhalkalaki 68.12 309⇑*i*P **P** 10 54 40.1 +0.9
AKH Akhalkalaki 68.12 309 P **P** 10 54 40.0 +0.9
GNI Garni 68.47 308*ce*P **P** 10 54 42.3 +1.0
GNI pmax pmax
comp=Z,91nm,1.5s
SCHQ Schefferville 69.56 22 P **P** 10 54 46.6 -0.7
comp=Z,1.8nm,0.4s,baz=322,slow=9.8,SNR=8.1
OJC Ojcow 70.56 329 *e*P **P** 10 54 52.6 -0.8
comp=Z,64nm,1.9s
OJC Ojcow 70.56 329 *e*P **P** 10 54 52.6 -0.8
OJC pmax pmax
comp=Z,64nm,1.9s
ANMO Albuquerque 70.61 58*ce*P **P** 10 54 54.9 +0.7
ANMO pmax pmax
comp=Z,4.0nm,2.5s
BUR08 Bucovina Ar. S 70.91 324 *e*P **P** 10 54 55.3 -0.4
BUR04 Bucovina Ar. S 70.93 324 *e*P **P** 10 54 55.0 -0.8
BURAR Bucovina Array 70.93 324⇓*i*P **P** 10 54 55.0 -0.7
BURAR Bucovina Array 70.93 324 P **P** 10 54 55.0 -0.7
NIE Niedzica 71.09 328 P **P** 10 54 56.8 +0.2
NIE pmax pmax
comp=Z,3.0nm,1.3s
BIZ Bicaz 71.17 324⇑*i*P **P** 10 54 57.0 -0.1
TRPA Tarpa 71.44 326⇑*i*P **P** 10 54 57.8 -0.8
DPC Dobruska-Polom 71.53 331 *e*P **P** 10 54 59.8 +0.7
DPC Dobruska-Polom 71.53 331 *e*P **P** 10 54 59.8 +0.7
LANS Liptovska Anna 71.59 329 *e*P **P** 10 55 00.2 +0.7
LANS Liptovska Anna 71.59 329 *e*P **P** 10 55 00.2 +0.7
KRLC Kraliky 71.63 331 *e*P **P** 10 55 00.3 +0.6
KRLC Kraliky 71.63 331 *e*P **P** 10 55 00.3 +0.6
CLL Collm 71.64 334 *e*P **P** 10 54 59.2 -0.5
comp=Z,10.0nm,0.5s
CLL Collm 71.64 334⇓*i*P **P** 10 54 59.1 -0.5
comp=Z,8.0nm,0.9s
CLL *e*pP **pP** 10 56 52.0 +1.9
CLL Collm 71.64 334 *e*P **P** 10 54 59.2 -0.5
CLL pmax pmax
comp=Z,10.0nm,0.5s
MORC Moravsky Berou 71.66 330 *e*P **P** 10 54 59.9 -0.1
comp=Z,40nm,1.7s
MORC Moravsky Berou 71.66 330⇑*i*P **P** 10 54 58.8 -1.1
MORC Moravsky Berou 71.66 330 *e*P **P** 10 54 59.9 -0.1
MORC pmax pmax
comp=Z,40nm,1.7s
MORC Moravsky Berou 71.66 330 *e*P **P** 10 54 59.8 -0.1
BRG Berggiesshubel 71.76 333 *e*P **P** 10 54 59.4 -1.0
comp=Z,4.4nm,0.8s
CFR Carcaliu 71.87 321⇑*i*P **P** 10 55 00.8 -0.3
CFR Carcaliu 71.87 321 P **P** 10 55 00.7 -0.3
TIRR Tirgusor 72.36 321⇑*i*P **P** 10 55 04.0 0.0
TIRR Tirgusor 72.36 321 P **P** 10 55 04.0 0.0
VRAC Vranov 72.36 331 P **P** 10 55 05.2 +1.2
VRAC Vranov 72.36 331 *e*P **P** 10 55 04.0 0.0
GOPC GO Pecny, Ondr 72.37 332 *e*P **P** 10 55 04.9 +0.9
GOPC GO Pecny, Ondr 72.37 332 *e*P **P** 10 55 04.9 +0.9
VYHS Vyhne 72.37 329 *e*P **P** 10 55 04.2 +0.2
VYHS pmax pmax
comp=Z,7.0nm,1.7s
VYHS Vyhne 72.37 329 *e*P **P** 10 55 04.2 +0.2
JAVC Velka Javorina 72.42 330 *e*P **P** 10 55 05.0 +0.6
MLR Muntele Rosu 72.45 323 *e*P **P** 10 55 04.9 +0.2
comp=Z,8.2nm,0.6s
MLR Muntele Rosu 72.45 323⇑*i*P **P** 10 55 04.6 -0.1
MLR Muntele Rosu 72.45 323 *e*P **P** 10 55 04.9 +0.2
MLR pmax pmax
comp=Z,8.0nm,0.6s
WRA Warramunga Arr 72.52 196 P **P** 10 55 06.0 +0.9
comp=Z,1.0nm,0.8s,baz=12,slow=5.9,SNR=12
WRA Warramunga Arr 72.52 196 *e*P **P** 10 55 06.3 +1.2
WRA Warramunga Arr 72.52 196 *i*P **P** 10 55 06.3 +1.2
WRA pmax pmax
comp=Z,1.0nm,0.8s
KRUC Moravsky 72.64 331 P **P** 10 55 07.3 +1.7

KRUC				pmax	pmax			
	comp=Z,9.0nm,1.3s							
KRUC	**Moravsky**	**72.64**	**331**	*eP*	**P**	**10**	**55**	**05.5 -0.1**
ILGA	**Ilgaz**	**72.93**	**315**	*eP*	**P**	**10**	**55**	**08.8 +1.1**
	comp=Z,98nm,1.8s							
MODS	**Modra-Piesok**	**72.98**	**330**	*eP*	**P**	**10**	**55**	**07.2 -0.3**
MODS				pmax	pmax			
	comp=Z,36nm,1.9s							
MODS	**Modra-Piesok**	**72.98**	**330**	*eP*	**P**	**10**	**55**	**07.2 -0.3**
ARR	**Arges**	**73.05**	**324**	⇓*iP*	**P**	**10**	**55**	**07.9 -0.1**
KHC	**Kasperske Hory**	**73.43**	**332**	*eP*	**P**	**10**	**55**	**09.9 -0.2**
	comp=Z,7.7nm,1.5s							
KHC	**Kasperske Hory**	**73.43**	**332**	*eP*	**P**	**10**	**55**	**10.3 +0.2**
KHC				*ex*	x	10	55	16.9
KHC	**Kasperske Hory**	**73.43**	**332**	*eP*	**P**	**10**	**55**	**09.9 -0.2**
KHC				pmax	pmax			
	comp=Z,8.0nm,1.5s							
GERES	**GERESS Array B**	**73.65**	**332**	P	**P**	**10**	**55**	**11.0 -0.4**
	comp=Z,1.5nm,0.5s,baz=29,slow=6.1,SNR=12							
GEA0	**GERESS Array S**	**73.65**	**332**	*eP*	**P**	**10**	**55**	**11.2 -0.2**
BZS	**Buzias**	**73.93**	**326**	P	**P**	**10**	**55**	**15.1 +2.2**
BZS				pmax	pmax			
	comp=Z,6.0nm,1.2s							
BR131	**Keskin Array S**	**74.05**	**315**	*eP*	**P**	**10**	**55**	**14.2 +0.2**
BRTR	**Keskin Array B**	**74.05**	**315**	P	**P**	**10**	**55**	**13.7 -0.2**
	comp=Z,2.0nm,0.4s,baz=42,slow=3.0,SNR=8.1							
KBA	**Koelnbreinsper**	**75.34**	**332**	P	**P**	**10**	**55**	**22.0 +0.9**
KBA				pmax	pmax			
	comp=Z,15nm,0.9s							
VTS	**Vitosha**	**75.95**	**323**	*eP*	**P**	**10**	**55**	**24.3 -0.2**
	comp=Z,32nm,1.5s							
VTS	**Vitosha**	**75.95**	**323**	⇑*iP*	**P**	**10**	**55**	**24.3 -0.2**
VTS	**Vitosha**	**75.95**	**323**	*eP*	**P**	**10**	**55**	**24.3 -0.2**
VTS				pmax	pmax			
	comp=Z,33nm,1.5s							
AS01	**Alice Springs**	**76.22**	**196**	*eP*	**P**	**10**	**55**	**26.9 +1.0**
ASAR	**Alice Springs**	**76.23**	**196**	P	**P**	**10**	**55**	**27.4 +1.3**
	comp=Z,1.5nm,0.6s,baz=9.4,slow=5.1,SNR=32							
TX31	**Lajitas Ar. Si**	**76.43**	**60**	*eP*	**P**	**10**	**55**	**28.1 +0.7**
TX31				*ep*P	**pP**	**10**	**57**	**23.9 +4.2**
TXAR	**Lajitas Array**	**76.43**	**60**	P	**P**	**10**	**55**	**28.4 +1.1**
	comp=Z,1.2nm,0.7s,baz=299,slow=4.6,SNR=19							
TXAR				pP	**pP**	**10**	**57**	**21.3 +1.6**
	comp=Z,1.7nm,0.8s,baz=303,slow=5.0,SNR=12							
TUE	**Stuetta**	**77.04**	**334**	*eP*	**P**	**10**	**55**	**30.1 -0.4**
	comp=Z,40nm,1.9s							
RAYN	**Ar Rayn**	**80.99**	**296**	*eP*	**P**	**10**	**55**	**51.0 -0.7**
	comp=Z,5.5nm,1.0s							
RAYN	**Ar Rayn**	**80.99**	**296**	*eP*	**P**	**10**	**55**	**51.0 -0.7**
RAYN				pmax	pmax			
	comp=Z,6.0nm,1.0s							
PLCA	**Paso Flores**	**149.70**	**86**	PKPbc	**PKPbc**	**11**	**03**	**21.7 +0.2**
	comp=Z,1.0nm,0.4s,baz=298,slow=4.0,SNR=4.1							

ISK ***21*** *10:50:32.9,40.68N×35.24E,h5km,ML2.9/20*
DDA ***21*** *10:50:33.6,40.67N×35.36E,h10km, Ml3.3*
ISC 21 10:50:33.3±1.3, 40.70N±0.03×35.37E±0.03, h2km±12km, n36, σ0.85/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAK	**Corum_Osmancik**	**0.44**	**264**	*i* P	**Pg**	**10 50 42.6**	**+0.8**
HAVZ	**Havza**	**0.46**	**35**	*i* P	**Pb**	**10 50 43.9**	**-0.3**
COAL	**Corum-Alaca**	**0.53**	**213**	*i* P	**Pg**	**10 50 43.6**	**+0.1**
COAL				*i* S	**Sg**	**10 50 51.0**	**+0.6**
CORM	**Corum**	**0.77**	**228**	PG	**Pg**	**10 50 46.7**	**-1.3**
TOKA	**Tokat**	**0.93**	**114**	*i* P	**Pg**	**10 50 50.7**	**-0.3**
DIKM	**Dikmen**	**0.95**	**355**	PG	**Pn**	**10 50 53.1**	**-0.6**
DIKM				SG	**Sn**	**10 51 06.8**	**-1.1**
TOKT	**Tokat**	**0.97**	**112**	PG	**Pn**	**10 50 53.9**	**-0.1**
ERBA	**Erbaa**	**1.05**	**90**	*i* P	**Pg**	**10 50 53.2**	**-0.3**
YOZ	**Yozgat**	**1.06**	**182**	PG	**Pg**	**10 50 53.8**	**+0.2**
YOZ				SG	**Sn**	**10 51 09.3**	**-1.4**
TOS	**Tosya**	**1.07**	**289**	PG	**Pg**	**10 50 53.1**	**-0.8**
ILGA	**Ilgaz**	**1.30**	**286**	*i* P	**Pn**	**10 50 58.2**	**-0.5**
CDAG	**Cicekdag**	**1.32**	**216**	*i* P	**Pn**	**10 50 57.7**	**-1.1**
CDAG				*i* S	**Sb**	**10 51 16.0**	**-0.2**
SNOP	**Sinop**	**1.32**	**355**	PN	**Pg**	**10 50 59.6**	**+0.9**
SNOP				SN	**Sn**	**10 51 19.2**	**+2.1**
CANT	**Cankiri**	**1.33**	**267**	PN	**Pn**	**10 50 57.5**	**-1.5**
CUSAR	**Sarkisla-SIVAS**	**1.44**	**152**	*i* P	**Pg**	**10 51 01.2**	**+0.2**
ELDT	**Eldivan**	**1.49**	**263**	*i* P	**Pn**	**10 51 01.0**	**-0.3**
BZK	**Bozkurt**	**1.63**	**321**	PN	**Pb**	**10 51 03.4**	**-0.6**
CUALT	**Altinyayla-SIV**	**1.78**	**143**	*i* P	**Pb**	**10 51 07.0**	**+0.3**
BNN	**Bunyan**	**1.88**	**169**	PN	**Pb**	**10 51 08.0**	**-0.4**
ORDU	**Ordu-Boztepe**	**1.91**	**80**	*i* P	**Pb**	**10 51 08.4**	**-0.5**
AVNS	**Nevsehir-Avano**	**1.93**	**192**	*i* P	**Pb**	**10 51 09.9**	**+0.6**
AVNS				*i* S	**Sg**	**10 51 35.2**	**-0.1**
BBAL	**Bala**	**2.07**	**237**	*i* P	**Pb**	**10 51 11.5**	**-0.2**
BBAL				*i* S	**Sb**	**10 51 39.2**	**+1.3**
YAYX	**Yaylak**	**2.13**	**215**	PN	**Pn**	**10 51 10.3**	**+0.3**
ANTO	**Ankara**	**2.14**	**248**	PN	**Pn**	**10 51 09.6**	**-0.5**
LOD	**Lodumlu**	**2.15**	**249**	PN	**Pn**	**10 51 09.7**	**-0.5**
AFSR	**Af˙ar-Bala (A**	**2.16**	**235**	PN	**Pn**	**10 51 10.5**	**+0.1**
SERE	**Sereflikochisa**	**2.23**	**219**	PN	**Pn**	**10 51 11.3**	**-0.1**
AKSY	**AKSARAY - Alti**	**2.39**	**212**	*i* P	**Pb**	**10 51 16.7**	**-0.4**
AKSY				*i* S	**Sb**	**10 51 47.2**	**+0.1**
KKUL	**Konya-Kulu**	**2.42**	**232**	*i* P	**Pn**	**10 51 13.9**	**-0.2**
KKUL				*i* S	**Sb**	**10 51 49.6**	**+1.6**
KULU	**Kulu**	**2.46**	**229**	PN	**Pn**	**10 51 14.6**	**+0.1**
DARE	**Darende-Malaty**	**2.68**	**142**	PN	**Pb**	**10 51 20.2**	**-1.8**
CHBY	**Cihanbeyli**	**2.85**	**223**	PN	**Pn**	**10 51 20.0**	**+0.1**
SULT	**Sultanhani-AKS**	**2.88**	**210**	PN	**Pn**	**10 51 20.9**	**+0.6**
SVRH	**Sivrihisar-ESK**	**3.20**	**248**	PN	**Pn**	**10 51 24.9**	**+0.1**
KOZT	**Kozan**	**3.23**	**174**	PN	**Pn**	**10 51 26.9**	**+1.8**
KIZT	**Kizilcal**	**3.24**	**237**	PN	**Pn**	**10 51 25.6**	**+0.3**

MAN 21 10:50:43.9, 7.97N×125.10E, h32km, mb4.0, ML2.8, MS2.4, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.10**	**204**	*eP*	Pb	10 50 49.7	+0.1
BUKP				*eS*	Sb	10 50 52.6	-0.8
CGP	**Cagayan de Oro**	**0.63**	**320**	⇑*eP*	Pn	10 50 57.5	+1.0
CGP				*i* S	Sn	10 51 06.2	+0.6
CTBH	**Cotabato--PC H**	**1.13**	**229**	⇓*i*P	Pb	10 51 04.2	-0.6
CTBH				*i* S	Sn	10 51 17.9	0.0

BJI ***21*** *11:26:19.3, 11.86S×120.11E, h14km, mb4.8/34, mB5.0/24, Ms4.3/9, Ms7 4.0/9*
IDC ***21*** *11:26:21.8±0.6, 11.46S×119.59E, h0km, mb4.5/13, mb1 4.5/15, mb1mx4.3/28, mbtmp4.5/15, ML4.8/2, MS3.6/16, Ms1 3.6/16, ms1mx3.5/28, Error ellipse: s-maj=20.8km s-min=14.8km az=73.0*
NEIC ***21*** *11:26:22.6±0.3, 11.63S×119.65E, h10km, mb4.5/11, Error ellipse: s-maj=7.6km s-min=5.2km az=219.0*
ISCJB ***21*** *11:26:22.3±0.3, 11.70S±0.03×119.68E±0.03, h21km, mb4.7/36, MS3.8/16, Error ellipse: s-maj=4.9km s-min=4.0km az=36.3*
DJA ***21*** *11:26:23.4±1.0, 12.S±2.°×12.0E±.°, h11km±7km, M4.7/13, mb4.8/12, mB5.0/6, MLv4.9/13, Mw(mB)4.4/6*
GCMT ***21*** *11:26:25.6±0.3, 11.61S±0.02×119.65E±0.05, h17km±1km, MW4.8/63, Moment Tensor Solution. s20,c24; s63,c84; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.59±. 14; Mθθ 1.82±.09; Mφφ-0.23±.11; Mrθ 0.54±.22; Mrφ 0.27±.06; Mθφ 0.41±.33; Best double couple: M0 1.85700×10^16 NP1:φs 251.00000°, δ56.00000°, λ-105.00000°. NP2: φs 96.00000°, δ37.00000°, λ-70.00000°. Principal axes: T 1.9540, Plg10.0000°, Azm351.0000°; N -0.1980, Plg12.0000°, Azm259.0000°; P -1.7600, Plg75.0000°, Azm118.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 21 11:26:24.7±0.4, 11.61S±0.04×119.66E±0.04, h21km, n115, σ1.98/118, mb4.7/36, MS3.6/17, 1C, South of Sumba

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.65**	**33**	P	**Pn**	**11 26 53.2**	**+0.7**
BASI				S	**Sb**	**11 27 16.4**	**+1.6**
WBSI	**Waikabubak, Su**	**1.97**	**352**	P	**Pn**	**11 26 55.9**	**-1.0**
WBSI				S	**Sb**	**11 27 22.9**	**-1.2**
WSI	**Waingapu**	**2.03**	**18**	P	**Pb**	**11 27 00.7**	**-0.2**
WSI				S	**Sb**	**11 27 25.8**	**+0.1**
PLAI	**Plampang**	**3.33**	**326**	P	**Pn**	**11 27 14.5**	**-1.0**
EDFI	**Ende, Flores**	**3.48**	**35**	P	**Pn**	**11 27 16.0**	**-1.7**
MMRI	**Maumere**	**3.90**	**41**	*e*Pn	**Pn**	**11 27 22.8**	**-0.6**
MMRI				*e*Sn	**Sn**	**11 28 06.2**	**-2.3**
MMRI	**Maumere**	**3.90**	**41**	P	**Pn**	**11 27 23.4**	**0.0**
TWSI	**Taliwang, Sumb**	**3.95**	**316**	P	**Pn**	**11 27 22.8**	**-1.3**
BATI	**Baumata**	**4.17**	**71**	Pn	**Pn**	**11 27 26.9**	**-0.4**
	82nm,0.3s,baz=280,slow=2.6,SNR=29						
BATI				Sn	**Sn**	**11 28 14.7**	**-0.8**
	79nm,0.3s,baz=35,slow=23,SNR=8.7						
BATI	**Baumata**	**4.17**	**71**	P	**Pn**	**11 27 28.4**	**+1.1**
SOEI	**Soe**	**4.89**	**68**	*e*Pn	**Pn**	**11 27 38.0**	**+0.9**
SOEI	**Soe**	**4.89**	**68**	P	**Pn**	**11 27 38.1**	**+0.9**
JAGI	**Jajag, Banyuwa**	**6.25**	**299**	*e*Pn	**Pn**	**11 27 54.3**	**-1.5**
JAGI				*e*Sn	**Sn**	**11 29 02.0**	**-4.7**
BKSI	**Bulukumba**	**6.26**	**4**	P	**Pn**	**11 27 57.5**	**+1.6**
BNSI	**Bone**	**7.17**	**4**	P	**Pn**	**11 28 09.8**	**+1.3**
KMMI	**Kalianget**	**7.21**	**308**	P	**Pn**	**11 28 10.2**	**+1.2**
SPSI	**Sidrap Palu**	**7.59**	**1**	P	Pb	11 28 25.3	-10
TTSI	**Tana Toraja**	**8.51**	**1**	P	Pn	11 28 36.4	+10
PWJI	**Pagerwojo**	**8.52**	**294**	P	Pn	11 28 34.5	+7.6
PCJI	**Pacitan**	**9.02**	**291**	P	Pn	11 28 44.5	+11
NGJI	**Ngawi**	**9.11**	**297**	P	Pn	11 28 47.1	+12
MBWA	**Marble Bar**	**9.50**	**180**	*e*Pn	**Pn**	**11 28 38.5**	**-1.8**
UGM	**Wanagama**	**9.72**	**291**	*e*Pn	**Pn**	**11 28 43.0**	**-0.5**
UGM				*e*Sn	**Sn**	**11 30 25.8**	**-6.3**
NLAI	**Namlea**	**11.12**	**42**	P	Pn	11 29 07.9	+5.4
MTN	**Manton Dam**	**11.29**	**97**	*e*Pn	**Pn**	**11 29 04.5**	**-0.4**
SANI	**Sanana**	**11.38**	**34**	P	**Pn**	**11 29 08.3**	**+2.1**
BNDI	**Bandanaira**	**12.35**	**56**	P	P	11 29 37.3	+5.9
FAKI	**Fak Fak**	**15.18**	**56**	*e*Pn	**Pn**	**11 29 55.4**	**-2.5**
	64nm,1.3s						
SIJI	**Sorong**	**15.71**	**48**	Pn	**Pn**	**11 30 02.9**	**-2.0**
	3.0nm,0.3s,baz=334,slow=23,SNR=10						
SIJI				Sn	**Sn**	**11 32 55.9**	**-2.6**
	0.6nm,0.3s,baz=342,slow=20,SNR=2.2						
SIJI				LR	LR	11 36 59.6	
	comp=Z,240nm,18.9s,slow=41						
SBUM	**Sibu**	**15.80**	**332**	P	**P**	**11 30 09.0**	**-0.8**
KSM	**Kuching**	**15.97**	**324**	*e*Pn	**Pn**	**11 30 05.2**	**-3.1**
	14nm,0.9s						
KSM	**Kuching**	**15.97**	**324**	P	**P**	**11 30 12.0**	**+0.3**
WRA	**Warramunga Arr**	**16.37**	**122**	Pn	**Pn**	**11 30 08.9**	**-4.5**
	1.7nm,0.3s,baz=296,slow=13,SNR=102						
WRA				Sn	Sn	11 32 56.8	-18
	2.4nm,0.3s,baz=295,slow=25,SNR=8.2						
WRA				LR	LR	11 37 06.4	
	comp=Z,275nm,18.4s,baz=305,slow=39						
WRAB	**Tennant Creek**	**16.38**	**122**	*e*Pn	**Pn**	**11 30 11.6**	**-1.9**
	13nm,0.6s						
WB2	**Warramunga Arr**	**16.38**	**122**	*e*Pn	**Pn**	**11 30 11.7**	**-1.8**
MDSI	**Maura Dua**	**16.87**	**294**	P	**P**	**11 30 24.3**	**+2.6**
AS31	**Alice Springs**	**18.10**	**133**	*e*P	**Pn**	**11 30 34.3**	**-0.6**
	7.4nm,0.6s						
ASAR	**Alice Springs**	**18.10**	**133**	P	**Pn**	**11 30 32.6**	**-2.4**
	0.5nm,0.3s,baz=313,slow=12,SNR=82						
ASAR				S	Sn	11 33 40.4	-16
	0.5nm,0.3s,baz=302,slow=21,SNR=2.8						
ASAR				LR	LR	11 38 25.5	
	comp=Z,152nm,19.7s,baz=310,slow=40						
AS01	**Alice Springs**	**18.13**	**133**	*e*P	**Pn**	**11 30 34.6**	**-0.8**
MASI	**Maura Aman, Be**	**19.20**	**295**	P	**Pn**	**11 30 51.2**	**+2.8**
DAV	**Davao City (W)**	**19.47**	**18**	LR	LR	11 38 43.4	
	comp=Z,226nm,21.3s,baz=162,slow=38						
FORT	**Forrest**	**20.61**	**159**	*e*P	**P**	**11 31 02.0**	**-0.6**
	45nm,0.8s						
NWAO	**Narrogin (SRO)**	**21.34**	**186**	P	**P**	**11 31 11.4**	**+0.9**
	30nm,0.3s,baz=250,slow=11,SNR=24						
NWAO				S	S	11 34 48.8	-18
	8.7nm,0.4s,baz=233,slow=12,SNR=2.5						
NWAO				LR	LR	11 39 32.5	
	comp=Z,248nm,18.3s,baz=256,slow=37						
NWAO	**Narrogin (SRO)**	**21.34**	**186**	*e*P	**P**	**11 31 09.9**	**-0.5**
	72nm,1.1s						
NWAO				S	S	11 34 48.8	-18
PDSI	**Padang**	**21.82**	**298**	P	**P**	**11 31 20.2**	**+4.4**
GENI	**Genyem**	**22.22**	**68**	P	**P**	**11 31 21.7**	**+1.6**
COCO	**West Island**	**22.34**	**266**	*e*P	**P**	**11 31 19.8**	**-1.5**
	210nm,1.4s						
JAY	**Jayapura**	**22.74**	**68**	P	**P**	**11 31 26.1**	**+0.4**
	20nm,0.9s,baz=210,slow=12,SNR=9.7						
JAY				S	S	11 35 16.1	-17
	5.9nm,0.9s,baz=240,slow=20,SNR=2.7						
JAY	**Jayapura**	**22.74**	**68**	P	**P**	**11 31 26.7**	**+1.0**
COEN	**Coen**	**23.05**	**98**	*e*P	**P**	**11 31 27.6**	**-1.3**
	18nm,1.1s						
MNSI	**Mandailing Nat**	**23.45**	**300**	P	**P**	**11 31 36.0**	**+3.1**
IPOH	**Ipoh**	**24.47**	**310**	*e*P	**P**	**11 31 40.0**	**-2.5**
	8.1nm,0.8s						
PSI	**Prapat**	**25.10**	**304**	P	**P**	**11 31 46.7**	**-1.6**
	13nm,1.1s,baz=180,slow=9.8,SNR=6.6						
PSI	**Prapat**	**25.10**	**304**	*e*P	**P**	**11 31 45.2**	**-3.1**
	14nm,0.9s						
TGY	**Tagaytay City**	**25.57**	**3**	P	**P**	**11 31 53.0**	**+0.4**
	188nm,0.3s,baz=319,slow=7.5,SNR=3.1						
TGY				LR	LR	11 43 56.4	
	comp=Z,68nm,18.1s,baz=60,slow=42						
KCSI	**Kotacane, Aceh**	**26.45**	**303**	P	**P**	**11 32 03.1**	**+2.6**
PMG	**Port Moresby**	**27.13**	**88**	LR	LR	11 44 39.4	
	comp=Z,241nm,20.8s,baz=218,slow=40						
STKA	**Stephens Creek**	**28.56**	**138**	P	**P**	**11 32 20.6**	**+1.3**
	2.8nm,0.6s,baz=309,slow=12,SNR=6.6						
SRAK	**Srakaew**	**30.87**	**325**	P	**P**	**11 32 38.8**	**-1.0**
	19nm,0.4s						
PBKT	**Sadao Pong**	**33.55**	**326**	*e*P	**P**	**11 33 04.7**	**+1.4**
UTHA	**Uthaitani**	**33.60**	**323**	P	**P**	**11 33 06.1**	**+2.3**
	3.1nm,0.7s						
CM01	**Chiang Mai Arr**	**36.16**	**325**	*e*P	**P**	**11 33 27.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**36.20**	**325**	P	**P**	**11 33 26.6**	**+0.4**
	0.6nm,0.5s,baz=152,slow=6.1,SNR=11						
CMAR				LR	LR	11 48 34.4	
	comp=Z,126nm,21.2s,baz=156,slow=37						
KMI	**Kunming**	**40.06**	**336**	P	**P**	**11 33 59.1**	**+0.1**
KMI				pP	pP	11 34 06.5	+1.0
KMI				sP	sP	11 34 09.8	+1.7
KMI				S	**S**	**11 40 07.8**	**+3.6**
KMI				SS	**SS**	**11 43 01.3**	**-0.7**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KMI				pmax	pmax		
	comp=Z,110nm,3.6s						
KMI				LR	LR		
	comp=N,140nm,18.3s						
KMI				LR	LR		
	comp=E,130nm,19.3s						
KMI				LR	LR		
	comp=Z,180nm,44.5s						
ENH	**Enshi**	**42.77**	**347**	*e*P	**P**	**11 34 21.5**	**+0.6**
	8.8nm,0.6s						
NJ2	**Nanjing**	**43.42**	**359**	*e*P	**P**	**11 34 24.8**	**-1.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SHL	**Shillong**	**45.80**	**324**	*e*P	**P**	**11 34 44.8**	**-0.6**
	17nm,1.0s						
XAN	**Xi'an**	**46.53**	**348**	P	**P**	**11 34 51.0**	**+0.2**
XAN				sP	sP	11 35 02.3	+2.3
XAN				pmax	pmax		
	comp=Z,13nm,1.0s						
H08S2	**Diego Garcia H**	**46.62**	**270**	T	T	12 24 34.6	
	baz=97,slow=75,SNR=80						
H08S3	**Diego Garcia H**	**46.64**	**270**	T	T	12 24 34.3	
	baz=97,slow=75,SNR=68						
H08S1	**Diego Garcia H**	**46.64**	**270**	T	T	12 24 34.3	
	baz=97,slow=75,SNR=31						
KSAR	**Wonju Array Be**	**49.40**	**9**	P	**P**	**11 35 11.8**	**-1.2**
KSRS	**Korea Array**	**49.41**	**9**	P	**P**	**11 35 11.8**	**-1.3**
	2.5nm,0.8s,baz=190,slow=8.0,SNR=9.3						
KSRS				LR	LR	11 55 10.7	
	comp=Z,50nm,22.0s,baz=205,slow=35						
LZH	**Lanzhou**	**49.73**	**343**	*e*P	**P**	**11 35 17.1**	**+1.4**
LZH				pP	pP	11 35 23.0	+0.7
LZH				sP	sP	11 35 26.8	+1.9
LZH				PP	**PP**	**11 37 13.8**	**+3.2**
LZH				*e*S	**S**	**11 42 28.3**	**+4.4**
LZH				sS	sS	11 42 42.1	+7.3
LZH				SS	**SS**	**11 45 52.3**	**-4.5**
LZH				pmax	pmax		
	comp=Z,35nm,1.3s						
LZH				pmax	pmax		
	comp=Z,92nm,4.6s						
LZH				LR	LR		
	comp=N,310nm,14.1s						
LZH				LR	LR		
	comp=E,190nm,16.0s						
LZH				LR	LR		
	comp=Z,300nm,16.8s						
RAMN	**Ramite**	**49.99**	**321**	*e*P	**P**	**11 35 19.0**	**+1.0**
	38nm,0.9s						
JIRN	**Jiri**	**50.75**	**321**	*e*P	**P**	**11 35 24.5**	**+0.6**
	76nm,0.7s						
MJAR	**Matsushiro Arr**	**50.98**	**19**	P	**P**	**11 35 24.2**	**-0.8**
	5.6nm,1.1s,baz=197,slow=9.7,SNR=6.9						
MJAR				LR	LR	11 54 40.2	
	comp=Z,40nm,21.9s,baz=210,slow=33						
GUN	**Gumba**	**51.12**	**321**	*e*P	**P**	**11 35 27.3**	**+0.7**
	50nm,0.8s						
PKI	**Pulchoki**	**51.17**	**320**	*e*P	**P**	**11 35 27.2**	**+0.2**
PKIN	**Phulchoki**	**51.19**	**320**	*e*P	**P**	**11 35 27.2**	**+0.2**
DMN	**Daman**	**51.39**	**320**	*e*P	**P**	**11 35 29.0**	**+0.4**
KKN	**Kakani**	**51.41**	**320**	*e*P	**P**	**11 35 29.2**	**+0.6**
BJI	**Beijing**	**51.48**	**357**	P	**P**	**11 35 28.6**	**0.0**
BJI				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KOLN	**Koldanda**	**52.46**	**319**	*e*P	**P**	**11 35 36.8**	**+0.3**
	45nm,0.9s						
HHC	**Hu-ho-hao-te**	**52.73**	**352**	*e*P	**P**	**11 35 40.8**	**+2.8**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,89nm,4.8s						
DANN	**Dangsing**	**52.76**	**320**	*e*P	**P**	**11 35 39.1**	**+0.3**
	59nm,0.7s						
PYUN	**Piuthan**	**53.08**	**319**	*e*P	**P**	**11 35 41.7**	**+0.6**
	62nm,0.9s						
GTA	**Gaotai**	**54.01**	**341**	⇑P	**P**	**11 35 49.3**	**+1.7**
GTA				pP	sP	11 35 57.3	+0.5
GTA				sP	pP	11 36 00.8	+6.5
GTA				S	**S**	**11 43 25.9**	**+3.3**
GTA				pmax	pmax		
	comp=Z,13nm,1.4s						
GTA				pmax	pmax		
	comp=Z,140nm,4.8s						
GTA				LR	LR		
	comp=N,130nm,20.3s						
GTA				LR	LR		
	comp=Z,120nm,18.9s						
USRK	**Ussuriysk Ar.**	**56.66**	**11**	P	**P**	**11 36 05.8**	**-0.5**
	2.1nm,0.4s,baz=188,slow=8.2,SNR=7.3						
USRK				LR	LR	11 59 35.8	
	comp=Z,39nm,21.1s,baz=160,slow=35						
ULN	**Ulaanbaatar**	**60.26**	**350**	*e*P	**P**	**11 36 30.8**	**-0.9**
	16nm,1.2s						
SONM	**Songino Array**	**60.34**	**350**	P	**P**	**11 36 30.0**	**-2.2**
	8.8nm,0.7s,baz=167,slow=8.1,SNR=44						
SONM				LR	LR	12 05 29.0	
	comp=Z,37nm,18.4s,baz=192,slow=39						
SONA1	**Songino Array**	**60.35**	**350**	*e*P	**P**	**11 36 30.9**	**-1.4**
WMQ	**Urumqi**	**62.37**	**334**	P	**P**	**11 36 47.5**	**+1.6**
WMQ				sP	sP	11 36 58.8	+3.6
WMQ				pmax	pmax		
	comp=Z,38nm,0.9s						
WMQ				LR	LR		
	comp=E,210nm,29.7s						
WMQ				LR	LR		
	comp=Z,140nm,23.7s						
TLY	**Talaya**	**64.54**	**349**	*e*P	**P**	**11 37 00.3**	**+0.3**
	8.3nm,1.0s						
KSH	**Kashi**	**65.08**	**324**	P	**P**	**11 37 05.3**	**+1.4**
KSH				pP	sP	11 37 13.3	0.0
KSH				PcP	**PcP**	**11 37 38.6**	**+1.9**
KSH				S	**S**	**11 45 44.9**	**-0.6**
KSH				sS	sS	11 45 57.9	+1.2
KSH				pmax	pmax		
	comp=Z,32nm,1.1s						
KSH				LR	LR		
	comp=N,220nm,7.3s						
KSH				LR	LR		
	comp=E,240nm,8.4s						
KSH				LR	LR		
	comp=Z,180nm,10.9s						
MK01	**Makanchi Array**	**67.04**	**333**	*e*P	**P**	**11 37 16.4**	**+0.2**
MK31	**Makanchi Array**	**67.06**	**333**	*e*P	**P**	**11 37 16.5**	**+0.1**
MKAR	**Makanchi Array**	**67.06**	**333**	P	**P**	**11 37 14.6**	**-1.8**
	12nm,0.8s,baz=143,slow=7.5,SNR=68						
MKAR				LR	LR	12 09 21.8	
	comp=Z,37nm,18.1s,baz=142,slow=39						
MKAR	**Makanchi Array**	**67.06**	**333**	*e*P	**P**	**11 37 16.5**	**+0.1**
	61nm,0.9s						
AAK	**Ala-Archa**	**67.98**	**326**	*e*P	**P**	**11 37 22.4**	**-0.1**
	25nm,1.8s						
VNDA	**Vanda**	**69.33**	**171**	P	**P**	**11 37 31.2**	**+1.0**
	1.6nm,0.9s,baz=316,slow=8.3,SNR=7.8						
VNDA				LR	LR	12 07 21.9	
	comp=Z,39nm,18.3s,baz=352,slow=35						
KURK	**Kurchatov**	**71.61**	**334**	*e*P	**P**	**11 37 45.0**	**+0.6**
	34nm,1.0s						
ZALV	**Zalesovo Beam**	**71.69**	**339**	P	**P**	**11 37

ISC 21 11:30:17.1±0.6, 11°76S±0°05×119°66E±0°05, h10km, n29, σ2°99/37, mb4.3/6, South of Sumba

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**4.02**	**40**	*e*Pn	**Pn**	**11 31 18.9**	**+0.1**
MMRI				*e*Sn	**Sn**	**11 32 02.0**	**-3.9**
BATI	**Baumata**	**4.23**	**69**	Pn	**Pn**	**11 31 24.1**	**+2.4**
	18nm,0.3s,baz=249,slow=2.3,SNR=5.5						
BATI				Sn	**Sn**	**11 32 10.6**	**-0.6**
	20nm,0.3s,baz=8.6,slow=20,SNR=5.8						
SOEI	**Soe**	**4.95**	**67**	*e*Pn	**Pn**	**11 31 35.8**	**+4.0**
SOEI				*e*Sn	**Sn**	**11 32 30.9**	**+1.7**
JAGI	**Jajag, Banyuwa**	**6.33**	**301**	*e*Pn	**Pn**	**11 31 51.6**	**+1.0**
JAGI				*e*Sn	**Sn**	**11 33 00.5**	**-2.5**
FITZ	**Fitzroy Crossi**	**8.55**	**138**	*e*Pn	**Pn**	**11 32 24.4**	**+3.4**
FITZ				*e*Sn	**Sn**	**11 33 57.0**	**-0.6**
MBWA	**Marble Bar**	**9.34**	**180**	*e*Pn	**Pn**	**11 32 34.7**	**+2.8**
MBWA				*e*Sn	**Sn**	**11 34 12.1**	**-5.1**
SIJI	**Sorong**	**15.81**	**48**	Pn	**Pn**	**11 34 00.9**	**+0.9**
	0.8nm,0.3s,baz=229,slow=19,SNR=2.6						
SIJI				Sn	**Sn**	**11 36 55.6**	**+0.2**
	0.3nm,0.3s,baz=217,slow=20,SNR=1.7						
KSM	**Kuching**	**16.10**	**324**	*e*Pn	**Pn**	**11 34 01.3**	**-2.4**
	9.2nm,1.3s						
WRA	**Warramunga Arr**	**16.29**	**122**	Sn	Sn	11 36 56.7	-10
	0.6nm,0.3s,baz=298,slow=21,SNR=5.7						
WRAB	**Tennant Creek**	**16.30**	**122**	*e*Pn	**Pn**	**11 34 08.8**	**+2.5**
	15nm,0.7s						
WB2	**Warramunga Arr**	**16.30**	**122**	*e*Pn	**Pn**	**11 34 08.6**	**+2.3**
AS31	**Alice Springs**	**17.99**	**133**	*e*P	**P**	**11 34 30.3**	**+2.3**
	4.6nm,0.5s						
AS31				*e*Sn	**Sn**	**11 37 40.6**	**-7.8**
ASAR	**Alice Springs**	**17.99**	**133**	P	**P**	**11 34 30.6**	**+2.5**
	0.9nm,0.3s,baz=313,slow=12,SNR=7.7						
ASAR				S	**Sn**	**11 37 40.6**	**-7.8**
	0.3nm,0.3s,baz=302,slow=22,SNR=5.1						
KKM	**Kota Kinabalu**	**18.02**	**349**	*e*Pn	**Pn**	**11 34 22.7**	**-5.2**
	53nm,1.2s						
FORT	**Forrest**	**20.46**	**159**	*e*P	**P**	**11 34 55.2**	**+0.2**
	22nm,0.7s						
RABL	**Rabaul**	**33.03**	**80**	*e*P	**P**	**11 36 51.9**	**-1.1**
	133nm,0.4s						
SONA0	**Songino Array**	**60.49**	**350**	*e*P	**P**	**11 40 28.3**	**+0.9**
SONM	**Songino Array**	**60.49**	**350**	P	**P**	**11 40 28.3**	**+0.9**
	1.9nm,0.7s,baz=167,slow=8.9,SNR=9.6						
MK32	**Makanchi Array**	**67.20**	**333**	*e*P	**P**	**11 41 11.3**	**-0.1**
MKAR	**Makanchi Array**	**67.20**	**333**	P	**P**	**11 41 11.3**	**-0.1**
	1.4nm,0.6s,baz=140,slow=7.9,SNR=5.5						
VNDA	**Vanda**	**69.17**	**171**	P	**P**	**11 41 27.6**	**+4.2**
	0.7nm,0.8s,baz=333,slow=6.8,SNR=2.6						
VNDA	**Vanda**	**69.17**	**171**	*e*P	**P**	**11 41 25.3**	**+1.8**
ZALV	**Zalesovo Beam**	**71.84**	**339**	P	**P**	**11 41 40.1**	**+0.2**
	1.8nm,0.4s,baz=155,slow=5.4,SNR=6.8						
ZAA1	**Zalesovo Array**	**71.84**	**339**	*e*P	**P**	**11 41 40.1**	**+0.2**
KBZ	**Khabaz**	**88.68**	**315**	P	**P**	**11 43 10.6**	**-0.2**
	0.9nm,0.7s,baz=165,slow=7.8,SNR=4.0						
BEKR	**Beckworth**	**120.40**	**51**	*e*PKPdf	**PKPdf**	**11 49 08.0**	**-1.4**
WVOR	**Wild Horse Val**	**121.15**	**47**	*e*PKPdf	**PKPdf**	**11 49 09.6**	**-1.1**
LPAZ	**La Paz**	**151.08**	**164**	PKPbc	**PKPbc**	**11 50 13.7**	**+1.4**
	0.5nm,0.6s,baz=180,slow=3.0,SNR=2.8						
LPAZ	**La Paz**	**151.08**	**164**	*e*PKPbc	**PKPbc**	**11 50 14.2**	**+1.9**

*DJA **21** 12:00:04.4±0.7,2°N±6°×12°2E±°, h10km, M4.3/7, mb4.5/2, MLv4.2/7*

*IDC **21** 12:00:09.2±1.2,0°.53N×122°.42E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/28, mbtmp3.6/5, MS3.0/3, Ms1 3.1/3, ms1mx2.6/38, Error ellipse: s-maj=143.8km s-min=19.7km az=64.0*

ISC 21 12:00:10.0±0.9, 0°52N±0°10×122°28E±0°05, h10km, n15, σ2°36/12, mb3.7/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.35**	**263**	P	**Pn**	**12 00 24.2**	**+3.1**
MRSI				S	Sb	12 00 39.5	+16
LUWI	**Luwuk**	**1.63**	**163**	P	Pg	12 00 47.6	+6.3
KMSI	**Cibinong**	**1.70**	**88**	P	**Pb**	**12 00 38.5**	**-2.9**
MPSI	**Mapaga**	**2.39**	**266**	P	**Pn**	**12 00 46.8**	**-2.5**
MPSI				S	**Sn**	**12 01 18.4**	**-0.3**
PCI	**Palu**	**2.83**	**240**	P	**Pn**	**12 00 58.4**	**+3.1**
TTSI	**Tana Toraja**	**4.31**	**215**	P	**Pb**	**12 01 23.2**	**-2.8**
SANI	**Sanana**	**4.50**	**125**	P	**Pn**	**12 01 20.4**	**+2.1**
DAV	**Davao City (W)**	**7.29**	**27**	LR	LR	12 05 19.6	
	comp=Z,93nm,18.2s,baz=356,slow=43						
WRA	**Warramunga Arr**	**23.52**	**151**	P	**P**	**12 05 20.7**	**+0.2**
	0.9nm,0.4s,baz=326,slow=11,SNR=38						
ASAR	**Alice Springs**	**26.56**	**156**	P	**P**	**12 05 49.3**	**+0.9**
	0.1nm,0.3s,baz=332,slow=7.2,SNR=8.3						
CMAR	**Chiang Mai Arr**	**29.04**	**309**	LR	LR	12 19 16.4	
	comp=Z,38nm,18.4s,baz=198,slow=39						
STKA	**Stephens Creek**	**37.05**	**152**	P	**P**	**12 07 19.4**	**-1.0**
	1.5nm,0.6s,baz=320,slow=12,SNR=3.0						
MJAR	**Matsushiro Arr**	**38.76**	**21**	LR	LR	12 23 55.3	
	comp=Z,12nm,19.0s,baz=225,slow=37						
SONM	**Songino Array**	**49.11**	**346**	P	**P**	**12 08 58.6**	**+0.7**
	0.4nm,0.7s,baz=162,slow=3.7,SNR=3.8						
MKAR	**Makanchi Array**	**57.80**	**329**	P	**P**	**12 10 03.0**	**+1.4**
	0.5nm,0.6s,baz=126,slow=8.9,SNR=7.5						

*IDC **21** 12:16:54.1±1.4,24°.00S×179°.88W, h494km±15km, mb3.5/12, mb1 3.6/15, mb1mx3.4/32, mbtmp4.4/15, Error ellipse: s-maj=16.7km s-min=14.2km az=171.0*

*ISCJB **21** 12:16:55.2±0.5,23°.99S±0°.06×179°.95W±0°.09, h518km, mb3.9/12, Error ellipse: s-maj=11.5km s-min=8.5km az=172.7*

ISC 21 12:16:55.7±0.6, 24°08S±0°08×179°87W±0°10, h518km, n23, σ1°36/27, mb4.0/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.44**	**162**	P	**P**	**12 18 25.7**	**-1.8**
	98nm,0.3s,baz=17,slow=20,SNR=3.2						
RAO				S	**S**	**12 19 43.3**	**+0.7**
	86nm,0.3s,baz=60,slow=1.7,SNR=3.0						
AFI	**Afiamalu**	**12.68**	**39**	P	**P**	**12 19 39.7**	**-1.9**
	1.3nm,0.3s,baz=225,slow=19,SNR=3.3						
AFI				S	S	12 21 49.2	-9.0
	0.6nm,0.3s,baz=240,slow=20,SNR=2.5						
DZM	**Mont Dzumac**	**12.76**	**276**	P	**P**	**12 19 41.5**	**-0.8**
	0.1nm,0.3s,baz=108,slow=20,SNR=2.3						
URZ	**Urewera**	**14.37**	**190**	P	**P**	**12 19 57.9**	**-1.0**
	2.4nm,0.3s,baz=297,slow=4.0,SNR=9.3						
URZ				S	**S**	**12 22 28.8**	**-1.1**
	1.2nm,0.3s,baz=20,slow=22,SNR=11						
RPZ	**Rata Peaks**	**20.96**	**199**	P	**P**	**12 21 01.2**	**-0.7**
	7.8nm,0.7s,baz=32,slow=9.5,SNR=3.4						
CTA	**Charters Tower**	**31.60**	**270**	P	**P**	**12 22 34.5**	**-1.4**
	6.1nm,0.4s,baz=90,slow=11,SNR=12						
PMG	**Port Moresby**	**34.67**	**289**	P	**P**	**12 23 02.1**	**+0.2**
	5.9nm,0.7s,baz=180,slow=2.5,SNR=3.7						
ASAR	**Alice Springs**	**42.12**	**261**	P	**P**	**12 24 02.7**	**+0.2**
	0.7nm,0.4s,baz=95,slow=7.5,SNR=7.3						
ASAR				ScP	**ScP**	**12 28 49.3**	**+3.0**
	1.2nm,0.8s,baz=107,slow=4.1,SNR=9.9						
WRA	**Warramunga Arr**	**42.52**	**266**	P	**P**	**12 24 05.9**	**+0.3**
	2.4nm,0.4s,baz=96,slow=8.4,SNR=34						
WRA				ScP	**ScP**	**12 28 50.7**	**+2.7**
	0.7nm,0.9s,baz=96,slow=4.0,SNR=4.7						
JAY	**Jayapura**	**43.70**	**293**	P	**P**	**12 24 15.0**	**+0.1**
	8.7nm,0.6s,baz=225,slow=2.9,SNR=5.0						
SIJI	**Sorong**	**52.60**	**289**	P	**P**	**12 25 21.6**	**+0.2**
	9.3nm,0.6s,baz=132,slow=23,SNR=4.6						
MAW	**Mawson**	**77.62**	**200**	P	**P**	**12 28 00.1**	**+2.2**
	1.5nm,0.5s,baz=146,slow=3.6,SNR=5.1						
VNA3	**Neumayer Olymp**	**84.69**	**177**	P	**P**	**12 28 35.4**	**+1.0**
NVAR	**Mina Array Bea**	**84.80**	**44**	P	**P**	**12 28 36.7**	**+1.1**
	1.0nm,0.8s,baz=221,slow=7.1,SNR=4.6						
VNA2	**Neumayer--Watz**	**85.11**	**178**	P	**P**	**12 28 37.6**	**+1.2**
	baz=190,slow=3.5						
TXAR	**Lajitas Array**	**90.42**	**58**	P	**P**	**12 29 03.2**	**+1.1**
	1.3nm,0.7s,baz=211,slow=6.4,SNR=20						
ILAR	**Eielson Array**	**92.18**	**14**	P	**P**	**12 29 08.5**	**-0.7**
	0.3nm,0.7s,baz=230,slow=5.5,SNR=3.7						
PDAR	**Pinedale Array**	**92.73**	**44**	P	**P**	**12 29 13.0**	**+0.4**
	0.3nm,0.6s,baz=212,slow=5.0,SNR=3.2						
ARCES	**ARCESS Array B**	**132.09**	**348**	PKP	**PKPdf**	**12 35 09.2**	**-0.3**
	0.8nm,0.5s,baz=36,slow=1.6,SNR=8.4						
FINES	**FINESS Array B**	**138.65**	**341**	PKP	**PKPdf**	**12 35 23.4**	**+1.5**
	4.6nm,1.1s,baz=87,slow=4.0,SNR=4.2						
AKASG	**Malin Array Be**	**145.19**	**327**	PKPbc	**PKPdf**	**12 35 33.3**	**-0.6**
	0.9nm,0.4s,baz=47,slow=4.0,SNR=2.6						
BRTR	**Keskin Array B**	**147.78**	**307**	PKPbc	**PKPbc**	**12 35 41.0**	**-1.5**
	0.7nm,0.4s,baz=138,slow=4.0,SNR=3.5						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**169.03**	**188**	PKPab	**PKPab**	**12 37 18.6**	**-0.2**
	0.6nm,0.7s,baz=157,slow=1.6,SNR=3.8						

*ISCJB **21** 12:17:18.2±0.6,27°.82S±0°.04×140°.83E±0°.05, h10km, Error ellipse: s-maj=6.6km s-min=5.7km az=163.8*

*AUST **21** 12:17:19.5±0.0,27°.76S×140°.85E, h10km, Error ellipse: s-maj=0.1km s-min=0.1km az=16.0*

*IDC **21** 12:17:20.3±2.0,27°.72S×140°.73E, h0km, mb1 3.6/4, mb1mx3.4/34, mbtmp3.4/4, ML3.1/4, Error ellipse: s-maj=34.1km s-min=15.5km az=65.0*

ISC 21 12:17:19.8±0.8, 27°77S±0°05×140°81E±0°06, h10km, n12, σ1°79/20, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QLP	**Quilpie**	**3.27**	**70**	S	**Sn**	**12 18 50.5**	**+0.4**
	baz=3.2						
STKA	**Stephens Creek**	**4.15**	**171**	Pn	**Pn**	**12 18 25.2**	**+2.0**
	0.1nm,0.3s,baz=352,slow=15,SNR=2.9						
STKA				Pg	**Pg**	**12 18 37.8**	**-1.5**
	0.6nm,0.3s,baz=350,slow=14,SNR=4.8						
STKA				Sn	**Sn**	**12 19 10.8**	**-1.0**
	1.6nm,0.3s,baz=7.7,slow=15,SNR=7.1						
STKA				Lg	Lg	12 19 33.0	
	1.6nm,0.3s,baz=3.5,slow=19,SNR=4.3						
STKA	**Stephens Creek**	**4.15**	**171**	P	**Pn**	**12 18 25.2**	**+2.0**
	baz=4.2						
STKA				S	**Sn**	**12 19 11.1**	**-0.7**
	baz=4.2						
CMSA	**Cobar Meteorol**	**5.67**	**133**	P	**Pn**	**12 18 44.9**	**+0.8**
	baz=5.7						
CMSA				S	**Sn**	**12 19 47.9**	**-1.4**
	baz=5.7						
HTT	**Hallett**	**5.87**	**196**	P	**Pn**	**12 18 48.1**	**+1.1**
	baz=5.9						
HTT				S	**Sn**	**12 19 54.3**	**-0.1**
	baz=5.9						
BBOO	**Buckleboo**	**6.49**	**218**	P	**Pn**	**12 18 56.3**	**+0.8**
	baz=6.5						
RMQ	**Roma**	**7.19**	**82**	P	**Pn**	**12 19 05.1**	**0.0**
	baz=7.2						
AS19	**Alice Springs**	**7.38**	**302**	P	**Pn**	**12 19 09.0**	**+1.2**
	baz=7.4						
AS01	**Alice Springs**	**7.42**	**302**	P	**Pn**	**12 19 10.3**	**+2.1**
	baz=7.4						
ASAR	**Alice Springs**	**7.45**	**302**	Pn	**Pn**	**12 19 09.9**	**+1.3**
	0.6nm,0.3s,baz=122,slow=13,SNR=24						
ASAR				Sn	**Sn**	**12 20 30.1**	**-3.1**
	0.4nm,0.3s,baz=123,slow=23,SNR=5.4						
ASAR				Lg	Lg	12 21 12.2	
	baz=180,slow=19,SNR=2.8						
CTA	**Charters Tower**	**9.12**	**34**	Pn	**Pn**	**12 19 34.5**	**+2.9**
	0.2nm,0.3s,baz=236,slow=3.6,SNR=2.7						
CTA				Sn	**Sn**	**12 21 12.2**	**-2.1**
	0.3nm,0.3s,baz=202,slow=19,SNR=3.0						
WRA	**Warramunga Arr**	**9.78**	**321**	Pn	**Pn**	**12 19 40.8**	**+0.1**
	0.4nm,0.3s,baz=142,slow=13,SNR=20						
WRA				Sn	**Sn**	**12 21 27.9**	**-2.8**
	0.2nm,0.3s,baz=142,slow=25,SNR=4.7						
WRA				Lg	Lg	12 22 27.9	
	baz=140,slow=30,SNR=3.3						

*ISCJB **21** 12:18:39.4±0.6,0°.3S±0°.1×13°.12W±0°.09, h10km, mb4.6/14, MS3.8/18, Error ellipse: s-maj=17.7km s-min=9.9km az=146.0*

*IDC **21** 12:18:39.6±2.5,0°.34S×13°.22W, h0km, mb4.1/7, mb1 4.3/9, mb1mx3.9/38, mbtmp4.2/9, ML4.3/2, MS3.8/20, Ms1 3.8/20, ms1mx3.7/24, Error ellipse: s-maj=59.7km s-min=30.4km az=73.0*

*GCMT **21** 12:18:39.3±0.2,0°.79S±0°.02×13°.49W±0°.01, h22km±1km, MW4.9/91, Moment Tensor Solution. s37,c42; s91,c120; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.36±.15; $M_{\theta\theta}$1.65±.15; $M_{\phi\phi}$-1.29±.14; $M_{r\theta}$0.03±.18; $M_{r\phi}$-2.76±.10; $M_{\theta\phi}$-0.27±.18; Best double couple: M≈3.14000×10^{16} NP1:ϕ$_s$346.00000°,δ88.00000°,λ-5.00000°. NP2: ϕ$_s$76.00000°,δ85.00000°,λ-178.00000°. Principal axes: T 3.3140, Plg3.0000°, Azm31.0000°; N -0.3460, Plg85.0000°, Azm149.0000°; P -2.9650, Plg5.0000°, Azm301.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **21** 12:18:40.3±0.5,0°.44S×13°.19W, h10km, mb4.8/7 Error ellipse: s-maj=17.0km s-min=10.1km az=142.0*

ISC 21 12:18:40.5±0.7, 0°43S±0°1×13°2W±0°1, h10km, n55, σ1°54/33, mb4.7/14, MS3.8/18, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**7.53**	**190**	T	T	12 27 09.3	
	baz=8.7,slow=74,SNR=173						
H10N3	**ASCENSION HYDR**	**7.54**	**190**	T	T	12 27 07.4	
	baz=8.7,slow=74,SNR=201						
H10N1	**ASCENSION HYDR**	**7.54**	**190**	T	T	12 27 10.7	
	baz=8.7,slow=74,SNR=351						
H10S1	**ASCENSION HYDR**	**8.65**	**190**	T	T	12 28 29.3	
	baz=7.7,slow=75,SNR=36						
H10S3	**ASCENSION HYDR**	**8.66**	**190**	T	T	12 28 28.2	
	baz=7.7,slow=75,SNR=49						
H10S2	**ASCENSION HYDR**	**8.66**	**190**	T	T	12 28 29.3	
	baz=7.7,slow=75,SNR=22						
LIC	**Lamto**	**10.43**	**51**	*e*P	**Pn**	**12 21 13.5**	**+3.2**
	44nm,0.6s						
TIC	**Toumodi**	**10.71**	**49**	*e*P	**Pn**	**12 21 15.4**	**+1.4**
KIC	**Kosan Boka**	**10.74**	**51**	*e*P	**Pn**	**12 21 16.3**	**+1.8**
	41nm,0.8s						
DBIC	**Dimbokro**	**10.85**	**50**	Pn	**Pn**	**12 21 16.8**	**+0.8**
	0.9nm,0.3s,baz=222,slow=14,SNR=12						
DBIC				Sn	**Sn**	**12 23 14.2**	**-3.3**
	3.8nm,0.3s,baz=307,slow=23,SNR=5.9						
DBIC				LR	LR	12 25 03.7	
	comp=Z,776nm,19.1s,baz=204,slow=35						
DBIC	**Dimbokro**	**10.85**	**50**	*e*Pn	**Pn**	**12 21 17.3**	**+1.4**
DBIC				*e*Sn	**Sn**	**12 23 14.2**	**-3.3**
TOA0	**Torodi Ar. Sit**	**19.93**	**47**	*e*P	**P**	**12 23 12.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**19.93**	**47**	P	**P**	**12 23 12.9**	**+0.2**
	2.3nm,0.3s,baz=235,slow=8.5,SNR=80						
TORD				S	S	12 26 45.1	-12
	0.3nm,0.3s,baz=235,slow=23,SNR=2.7						
TORD				LR	LR	12 30 28.8	
	comp=Z,535nm,19.7s,baz=275,slow=36						
TOA1	**Torodi Ar. Sit**	**19.94**	**47**	*e*P	**P**	**12 23 12.9**	**+0.1**
TOA1				*e*S	S	12 26 45.1	-12
RCBR	**Riachuelo**	**23.33**	**256**	*e*P	**P**	**12 23 50.4**	**+1.2**
	46nm,1.4s						
MACI	**Morro de la Ar**	**28.63**	**354**	*e*P	**P**	**12 24 37.0**	**-0.6**
	81nm,1.4s						
BDFB	**Brasilia**	**37.59**	**244**	LR	LR	12 38 14.0	
	comp=Z,58nm,19.0s,baz=113,slow=31						
ESDC	**Sonseca Array**	**40.73**	**11**	LR	LR	12 42 28.1	
	comp=Z,109nm,20.9s,baz=325,slow=35						
KEST	**Kesra**	**41.59**	**28**	LR	LR	12 45 39.2	
	comp=Z,342nm,18.5s,baz=308,slow=39						
KEST	**Kesra**	**41.59**	**28**	*e*P	**P**	**12 26 29.8**	**+1.0**
	46nm,1.8s						
BOSA	**Boshof**	**46.23**	**131**	P	**P**	**12 27 07.1**	**+0.9**
	3.0nm,0.9s,baz=282,slow=9.3,SNR=3.8						
BOSA				LR	LR	12 43 32.0	
	comp=Z,83nm,18.0s,baz=214,slow=32						
CPUP	**Villa Florida**	**49.72**	**235**	LR	LR	12 46 00.6	
	comp=Z,66nm,20.1s,baz=70,slow=33						
KMBO	**Kilima Mbogo**	**50.42**	**91**	P	**P**	**12 27 39.9**	**+0.8**
	0.8nm,0.3s,baz=282,slow=8.6,SNR=3.0						
KMBO	**Kilima Mbogo**	**50.42**	**91**	*e*P	**P**	**12 27 38.3**	**-0.8**
	5.4nm,1.4s						
FNA	**Florina**	**51.59**	**33**	*e*P	**P**	**12 27 45.3**	**-1.8**
	11nm,1.1s						
GEA0	**GERESS Array S**	**54.23**	**22**	*e*P	**P**	**12 28 06.8**	**+0.3**
GEC2	**GERESS Array S**	**54.23**	**22**	*e*P	**P**	**12 28 07.4**	**+0.8**
	12nm,1.2s						
GERES	**GERESS Array B**	**54.23**	**22**	P	**P**	**12 28 07.2**	**+0.6**
	3.9nm,0.9s,baz=190,slow=6.8,SNR=20						
GERES				LR	LR	12 52 30.4	
	comp=Z,156nm,18.6s,baz=272,slow=37						
LPAZ	**La Paz**	**56.42**	**251**	LR	LR	12 50 29.3	
	comp=Z,51nm,21.1s,baz=90,slow=34						
LPAZ	**La Paz**	**56.42**	**251**	*e*P	**P**	**12 28 21.1**	**-2.4**
BR101	**Keskin Array S**	**58.41**	**41**	*e*P	**P**	**12 28 38.2**	**+1.5**
BRTR	**Keskin Array B**	**58.41**	**41**	P	**P**	**12 28 38.2**	**+1.5**
	1.7nm,0.8s,baz=231,slow=7.8,SNR=9.3						
ROSC	**El Rosal**	**61.30**	**276**	LR	LR	12 53 10.2	
	comp=Z,69nm,19.1s,baz=99,slow=34						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**62.31**	**29**	P	**P**	**12 29 02.3**	**-0.5**
	0.2nm,0.3s,baz=230,slow=7.4,SNR=5.3						
AKBB	**Malin Array Si**	**62.31**	**29**	*e*P	**P**	**12 29 02.7**	**-0.2**
	29nm,1.8s						
PLCA	**Paso Flores**	**65.56**	**225**	LR	LR	12 52 50.4	
	comp=Z,73nm,21.8s,baz=122,slow=31						
KBZ	**Khabaz**	**66.40**	**41**	P	**P**	**12 29 31.8**	**+1.9**
	3.4nm,0.9s,baz=207,slow=2.3,SNR=4.4						
KBZ				LR	LR	13 00 28.0	
	comp=Z,26nm,20.6s,baz=208,slow=38						
FIA0	**FINESS Array S**	**68.50**	**19**	*e*P	**P**	**12 29 43.5**	**+0.8**
FINES	**FINESS Array B**	**68.50**	**19**	P	**P**	**12 29 43.5**	**+0.8**
	2.5nm,0.9s,baz=192,slow=3.8,SNR=3.5						
GEYT	**Alibeck**	**75.53**	**51**	LR	LR	13 05 06.4	
	comp=Z,64nm,21.7s,baz=270,slow=37						
SPITS	**Spitsbergen Ar**	**80.03**	**6**	LR	LR	13 06 35.3	
	comp=Z,57nm,18.0s,baz=30,slow=36						
ULM	**Lac du Bonnet**	**85.60**	**320**	LR	LR	13 04 22.6	
	comp=Z,56nm,20.5s,baz=102,slow=32						
QSPA	**South Pole Qui**	**89.70**	**180**	*e*P	**P**	**12 31 37.7**	**-1.1**
	10nm,1.2s						
TXAR	**Lajitas Array**	**90.61**	**299**	LR	LR	13 09 00.7	
	comp=Z,28nm,18.9s,baz=0.0,slow=33						
Q24A	**Divide**	**91.77**	**309**	*e*P	**P**	**12 31 49.0**	**-0.3**
	3.3nm,0.7s						
MKAR	**Makanchi Array**	**94.01**	**43**	LR	LR	13 19 33.5	
	comp=Z,30nm,18.2s,baz=290,slow=39						
NRIK	**Noril'sk**	**94.13**	**20**	LR	LR	13 17 42.7	
	comp=Z,50nm,19.6s,baz=238,slow=38						
PDAR	**Pinedale Array**	**94.95**	**313**	LR	LR	13 07 05.0	
	comp=Z,60nm,19.7s,baz=74,slow=31						
ZALV	**Zalesovo Beam**	**95.00**	**36**	LR	LR	13 18 51.9	
	comp=Z,32nm,18.6s,baz=54,slow=38						
LRM	**Limekiln Ridge**	**96.74**	**316**	*e*P	**P**	**12 32 12.9**	**+1.1**
BEKR	**Beckworth**	**103.39**	**311**	*e*Pdif	**Pdif**	**12 32 42.0**	**+0.4**
ASAR	**Alice Springs**	**140.09**	**129**	PKhKP	PKPpre	12 37 59.8	
	0.2nm,0.6s,baz=224,slow=3.2,SNR=3.8						
AS31	**Alice Springs**	**140.09**	**129**	*e*PKPdf	**PKPdf**	**12 38 08.5**	**-1.9**
WR1	**Warramunga Arr**	**142.31**	**124**	*e*PKPpre	PKPpre	12 38 05.8	
WRA	**Warramunga Arr**	**142.31**	**124**	PKhKP	PKPpre	12 38 05.8	
	0.5nm,1.0s,baz=233,slow=2.5,SNR=3.5						

*NEIC **21** 12:40:08.4±0.3,8°.62S×159°.19E, h10km, mb4.3/8, Error ellipse: s-maj=8.3km s-min=5.8km az=104.0*

*ISCJB **21** 12:40:19.0±0.4,8°.90S±0°.06×159°.45E±0°.08, h132km, mb4.4/25, Error ellipse: s-maj=10.6km s-min=7.9km az=176.6*

*IDC **21** 12:40:22.2±0.5,8°.95S×159°.49E, h150km±6km, mb3.7/12, mb1 3.9/14, mb1mx3.8/34, mbtmp4.2/14, Error ellipse: s-maj=16.6km s-min=14.2km az=111.0*

ISC 21 12:40:21.1±0.5, 8°86S±0°07×159°42E±0°09, h132km, n52, σ1°69/43, mb4.2/24, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.77**	**137**	P	**Pn**	**12 40 44.6**	**+2.4**
	360nm,0.3s,baz=231,slow=3.8,SNR=109						
HNR				S	**Sn**	**12 41 02.6**	**+4.4**
	358nm,0.3s,baz=64,slow=22,SNR=6.0						
HNR	**Honiara**	**0.77**	**137**	*i* P	**Pn**	**12 40 45.0**	**+2.8**
HNR				*i* S	**Sn**	**12 40 57.0**	**-1.2**
PMG	**Port Moresby**	**12.11**	**266**	*e*Pn	Pn	12 42 57.6	-12
MANU	**Manus Island**	**13.77**	**299**	*e*Pn	Pn	12 43 19.4	-11
DZM	**Mont Dzumac**	**14.77**	**154**	P	**Pn**	**12 43 41.8**	**-1.7**
	0.4nm,0.3s,baz=342,slow=23,SNR=5.9						
DZM	**Mont Dzumac**	**14.77**	**154**	*e*Pn	**Pn**	**12 43 41.6**	**-2.0**
	63nm,1.6s						
PATS	**Pohnpei**	**15.64**	**356**	*e*Pn	Pn	12 43 45.5	-8.8
	153nm,1.4s						
CTA	**Charters Tower**	**16.92**	**227**	P	**Pn**	**12 44 13.6**	**+3.5**
	0.7nm,0.3s,baz=59,slow=14,SNR=9.6						
CTAO	**Charters Tower**	**16.92**	**227**	*e*Pn	**P**	**12 44 05.0**	**-4.9**
	9.5nm,0.8s						
EIDS	**Eidsvold**	**18.23**	**205**

RLMT	**Red Lodge**	**97.14**	**46**	*e*P		Pdif	12 53 40.6		+1.7
	comp=Z,66nm,0.4s								
WCI	**Wyandotte Cave**	**114.49**	**52**	*e*PKPdf		PKPdf	12 58 50.6		+4.8
OTAV	**Otavalo**	**121.75**	**95**	*e*PKPdf		**PKPdf**	**12 59 03.5**		**+2.4**
TORD	**Torodi Ar. Bea**	**157.72**	**283**	PKPab		**PKPab**	**13 00 34.8**		**-1.3**
	comp=Z,0.5nm,0.9s,baz=134,slow=4.2,SNR=4.0								

*IDC **21** 12:40:32.3±1.2, 11°.41S×119°.68E, h0km, mb4.0/4, mb1 4.0/6, mb1mx3.8/33, mbtmp4.0/6, ML3.8/2, Error ellipse: s-maj=31.6km s-min=23.7km az=61.0*
*ISCJB **21** 12:40:33.6±0.7, 11°.52S±0°.06×119°.70E±0°.05, h21km, mb4.0/4, Error ellipse: s-maj=8.4km s-min=6.9km az=22.5*
*DJA **21** 12:40:39.1±1.2, 11°.5S×12°.0E±°, h39km±49km, M4.0/10, mb4.3/1, MLv3.8/10*

ISC 21 12:40:35.3±0.8, 11°.46S±0°.08×119°.68E±0°.06, h21km, n15, σ1°51/18, mb4.1/4, 1C, South of Sumba

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.51**	**36**	P		**Pb**	**12 41 02.5**	**-0.2**
WBSI	**Waikabubak, Su**	**1.83**	**351**	P		**Pn**	**12 41 06.2**	**+0.6**
PLAI	**Plampang**	**3.22**	**324**	P		**Pn**	**12 41 25.8**	**+1.1**
PLAI				S		**Sn**	**12 42 01.9**	**-0.5**
EDFI	**Ende, Flores**	**3.34**	**37**	P		**Pn**	**12 41 27.5**	**+1.1**
EDFI				S		**Sn**	**12 42 04.6**	**-1.0**
TWSI	**Taliwang, Sumb**	**3.86**	**314**	P		**Pn**	**12 41 34.4**	**+0.9**
BATI	**Baumata**	**4.11**	**73**	Pn		**Pn**	**12 41 38.1**	**+1.2**
	10nm,0.3s,baz=205,slow=14,SNR=7.0							
BATI				Sn		**Sn**	**12 42 24.2**	**-0.1**
	9.4nm,0.3s,baz=20,slow=22,SNR=6.7							
BATI	**Baumata**	**4.11**	**73**	P		**Pn**	**12 41 38.8**	**+1.9**
SOEI	**Soe**	**4.82**	**70**	P		**Pn**	**12 41 48.7**	**+1.9**
WRA	**Warramunga Arr**	**16.43**	**123**	Pn		**Pn**	**12 44 21.0**	**-3.8**
	0.2nm,0.3s,baz=301,slow=14,SNR=17							
WRA				Sn		Sn	12 47 06.5	-20
	0.1nm,0.3s,baz=299,slow=24,SNR=2.4							
ASAR	**Alice Springs**	**18.18**	**134**	P		**Pn**	**12 44 44.9**	**-1.8**
	0.1nm,0.3s,baz=311,slow=12,SNR=15							
ASAR				S		Sn	12 47 50.2	-19
	0.1nm,0.3s,baz=301,slow=22,SNR=2.6							
NWAO	**Narrogin (SRO)**	**21.49**	**186**	P		**P**	**12 45 24.2**	**+1.5**
	3.7nm,0.5s,baz=345,slow=19,SNR=6.8							
SONM	**Songino Array**	**60.20**	**350**	P		**P**	**12 50 42.5**	**+0.7**
	1.3nm,0.8s,baz=165,slow=8.1,SNR=7.1							
MKAR	**Makanchi Array**	**66.94**	**333**	P		**P**	**12 51 25.7**	**-0.6**
	0.8nm,0.6s,baz=147,slow=7.2,SNR=11							
ZALV	**Zalesovo Beam**	**71.56**	**339**	P		**P**	**12 51 54.8**	**+0.1**
	1.1nm,0.5s,baz=144,slow=5.4,SNR=3.6							
SYO	**Syowa Base**	**75.82**	**201**	*e*P		**P**	**12 52 19.6**	**+0.1**

*DDA **21** 12:54:24.4, 38°.88N×43°.58E, h13km, Ml3.1*
*ISK **21** 12:54:24.3, 38°.91N×43°.51E, h16km, ML3.0/4*
*ISCJB **21** 12:54:25.1±0.6, 38°.92N±0°.03×43°.56E±0°.06, h13km±3km, Error ellipse: s-maj=7.6km s-min=4.1km az=11.0*

ISC 21 12:54:24.3±1.0, 38°.89N±0°.03×43°.58E±0°.05, h14km±6km, n14, σ1°00/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.10**	**355**	*i* P		**Pg**	**12 54 27.3**	**-0.3**
VMUR				*i* S		**Sg**	**12 54 30.2**	**+0.3**
ERCV	**ERCIS-VAN**	**0.23**	**304**	PG		**Pg**	**12 54 29.0**	**-0.5**
ERCV				SG		**Sg**	**12 54 32.4**	**-0.6**
VANB	**Van**	**0.33**	**207**	PG		**Pb**	**12 54 32.8**	**+0.7**
VANB				SG		**Sn**	**12 54 39.5**	**-2.0**
TVAN	**Van**	**0.39**	**201**	*i* P		**Pb**	**12 54 32.7**	**-0.4**
TVAN				*i* S		**Sb**	**12 54 39.8**	**+0.8**
DYDN	**Diyadin**	**0.66**	**7**	*i* P		**Pb**	**12 54 37.5**	**-0.2**
DYDN				*i* S		**Sb**	**12 54 47.2**	**+0.4**
ADCV	**BITLIS_Adilcev**	**0.68**	**263**	*i* P		**Pg**	**12 54 37.2**	**-0.3**
ADCV				*i* S		**Sb**	**12 54 47.5**	**+0.3**
GEVA	**Gevas**	**0.71**	**216**	*i* P		**Pg**	**12 54 37.7**	**-0.5**
GEVA				*i* S		**Sb**	**12 54 49.1**	**+0.9**
AGRB	**Hanur-Agry**	**0.82**	**326**	PG		**Pg**	**12 54 39.8**	**-0.5**
AGRB				SG		**Sb**	**12 54 51.0**	**-0.5**
TASB	**TASBURUN-IGDIR**	**1.20**	**25**	PN		**Pb**	**12 54 47.3**	**+0.4**
EKAR	**Karacoban**	**1.24**	**288**	*i* P		**Pg**	**12 54 48.2**	**+0.1**
EKAR				*i* S		**Sg**	**12 55 07.4**	**+3.2**
GURO	**Guroymak-BITLI**	**1.26**	**255**	PN		**Pn**	**12 54 46.9**	**-0.7**
EATA	**Eleskirt**	**1.29**	**319**	*i* P		**Pn**	**12 54 47.6**	**-0.6**
EATA				*i* S		**Sg**	**12 55 06.7**	**+0.8**
GNI	**Garni**	**1.54**	**35**	PN		**Pn**	**12 54 52.3**	**+0.7**
SVAN	**Silvan-Diyarba**	**2.01**	**249**	PN		**Pn**	**12 54 57.9**	**+0.1**

MEX 21 12:58:13.9±0.8, 14°.77N×91°.72W, h144km±16km, MD3.8, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PCIG		**1.72**	**303**	*i* P		Pn	12 58 43.4	-2.0
PCIG				*i* S		Sn	12 59 08.1	-1.4

*ISK **21** 13:09:51.4, 37°.32N×37°.11E, h10km, ML2.3/3*
*DDA **21** 13:09:51.8, 37°.28N×37°.12E, h7km, Ml2.9*
*ISCJB **21** 13:09:52.0±0.5, 37°.28N±0°.04×37°.09E±0°.04, h6km±6km, Error ellipse: s-maj=7.6km s-min=3.8km az=37.5*

ISC 21 13:09:51.9±0.9, 37°.30N±0°.03×37°.12E±0°.03, h11km±7km, n14, σ0°53/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.15**	**150**	PG		**Pg**	**13 09 55.4**	**0.0**
GAZ				SG		**Sg**	**13 09 58.3**	**+0.4**
KMRS	**Kahramanmaras**	**0.27**	**320**	PG		**Pg**	**13 09 57.1**	**-0.3**
KMRS				SG		**Sg**	**13 10 00.9**	**-0.1**
KUZU	**Kuzuini**	**0.53**	**184**	*i* P		**Pb**	**13 10 03.0**	**-0.2**
KUZU				*i* S		**Sn**	**13 10 15.2**	**+0.8**
ANDN	**Andirin**	**0.67**	**295**	*i* P		**Pg**	**13 10 05.1**	**+0.2**
ANDN				*i* S		**Sb**	**13 10 14.5**	**-0.5**
ATAB	**Bozova**	**0.95**	**80**	*i* P		**Pg**	**13 10 10.0**	**-0.2**
ATAB				*i* S		**Sn**	**13 10 24.1**	**-0.7**
ELBS	**KAHRAMANMARAS**	**1.02**	**1**	*i* P		**Pn**	**13 10 12.9**	**+0.7**
ELBS				*i* S		**Sn**	**13 10 27.6**	**+1.0**
KOZT	**Kozan**	**1.04**	**280**	PG		**Pg**	**13 10 11.8**	**-0.1**
SAIM	**ADANA**	**1.06**	**310**	*i* P		**Pg**	**13 10 12.0**	**-0.3**
SAIM				*i* S		**Sn**	**13 10 27.5**	**-0.1**
AKCD	**Akcadag**	**1.18**	**33**	*i* P		**Pg**	**13 10 14.8**	**+0.2**
AKCD				*i* S		**Sn**	**13 10 31.1**	**+0.5**
TAHT	**Tahtakopru-Hat**	**1.19**	**219**	PN		**Pg**	**13 10 14.7**	**0.0**
SURC	**SANLIURFA_SURC**	**1.27**	**109**	*i* P		**Pb**	**13 10 15.8**	**-0.1**
SURC				*i* S		**Sg**	**13 10 33.8**	**+1.0**
DARE	**Darende-Malaty**	**1.30**	**13**	PN		**Pn**	**13 10 15.9**	**-0.2**
URFA	**Urfa**	**1.37**	**84**	PN		**Pn**	**13 10 17.0**	**+0.1**
SANL	**SANLIURFA_Merk**	**1.50**	**94**	*i* P		**Pn**	**13 10 18.0**	**-0.7**
SANL				*i* S		**Sg**	**13 10 39.8**	**-0.4**

*ISCJB **21** 13:21:17.4±1.2, 39°.40N±0°.05×44°.27E±0°.07, h0km, Error ellipse: s-maj=9.5km s-min=5.5km az=36.1*
*DDA **21** 13:21:17.6, 39°.47N×44°.26E, h7km, Ml2.8, Suspected Mining explosion.*

ISC 21 13:21:18.6±1.6, 39°.49N±0°.05×44°.29E±0°.07, h0km, n10, σ1°58/18, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IGDI	**IGDIR**	**0.41**	**336**	*i* P		**Pg**	**13 21 26.8**	**+0.4**
IGDI				*i* S		**Sg**	**13 21 32.2**	**+0.4**
DYDN	**Diyadin**	**0.47**	**276**	*i* P		**Pg**	**13 21 27.0**	**-0.6**
DYDN				*i* S		**Sg**	**13 21 33.0**	**-0.7**
TASB	**TASBURUN-IGDIR**	**0.49**	**355**	PG		**Pb**	**13 21 29.8**	**-0.4**
TASB				SG		**Sb**	**13 21 38.4**	**+0.4**
GNI	**Garni**	**0.74**	**28**	PG		**Pb**	**13 21 34.4**	**-0.1**
VMUR	**Van-Muradiye**	**0.75**	**228**	*i* P		**Pg**	**13 21 30.9**	**-2.0**
VMUR				*i* S		**Sn**	**13 21 51.4**	**+2.6**
AGRB	**Hanur-Agry**	**1.01**	**275**	*e*PG		**Pg**	**13 21 35.1**	**-2.8**
TUTA	**Tutak**	**1.15**	**266**	*i* P		**Pg**	**13 21 39.6**	**-1.0**
TUTA				*i* S		**Sg**	**13 21 55.4**	**-0.1**
DIGO	**Kars**	**1.16**	**323**	*i* P		**Pg**	**13 21 39.1**	**-1.8**
DIGO				*i* S		**Sn**	**13 21 58.5**	**-0.5**
EATA	**Eleskirt**	**1.44**	**285**	*i* P		**Pg**	**13 21 44.4**	**-1.8**
EATA				*i* S		**Sn**	**13 22 07.5**	**+1.6**
EKAR	**Karacoban**	**1.74**	**263**	*i* P		**Pg**	**13 21 52.0**	**0.0**
EKAR				*i* S		**Sg**	**13 22 17.3**	**+2.8**

*IDC **21** 13:25:51.2±7.0, 17°.08S×179°.18W, h507km±84km, mb2.9/7, mb1 3.3/8, mb1mx3.0/37, mbtmp3.8/8, Error ellipse: s-maj=93.0km s-min=28.5km az=153.0*
*ISCJB **21** 13:25:52.6±1.3, 17°.1S±0°.6×179°.3W±0°.4, h533km, mb3.3/7, Error ellipse: s-maj=89.4km s-min=15.0km az=149.5*

ISC 21 13:25:53.2±1.4, 17°.1S±0°.6×179°.3W±0°.4, h533km, n9, σ0°50/8, mb3.3/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.90**	**67**	S		S	13 29 16.9	-8.0
	4.4nm,0.3s,baz=254,slow=23,SNR=8.2							
DZM	**Mont Dzumac**	**14.33**	**248**	P		**P**	**13 28 55.4**	**-0.7**
	0.1nm,0.3s,baz=49,slow=20,SNR=2.8							
STKA	**Stephens Creek**	**38.30**	**240**	P		**P**	**13 32 28.4**	**+0.2**
	2.1nm,0.7s,baz=108,slow=11,SNR=4.0							
WRA	**Warramunga Arr**	**43.98**	**259**	P		**P**	**13 33 14.0**	**+0.6**
	0.2nm,0.6s,baz=98,slow=7.5,SNR=7.8							
ASAR	**Alice Springs**	**44.22**	**254**	P		**P**	**13 33 15.9**	**+0.5**
	3.7nm,0.5s,baz=89,slow=8.1,SNR=95							
NVAR	**Mina Array Bea**	**79.44**	**44**	P		**P**	**13 37 04.8**	**+0.2**
	0.5nm,0.7s,baz=214,slow=6.4,SNR=3.8							
ILAR	**Eielson Array**	**85.33**	**13**	P		**P**	**13 37 33.2**	**-0.2**
	0.3nm,0.4s,baz=220,slow=5.2,SNR=6.8							
TXAR	**Lajitas Array**	**86.28**	**58**	P		**P**	**13 37 38.8**	**-0.1**
	0.4nm,0.7s,baz=207,slow=7.9,SNR=4.8							
PDAR	**Pinedale Array**	**87.36**	**44**	P		**P**	**13 37 43.9**	**0.0**
	0.2nm,0.5s,baz=199,slow=4.8,SNR=3.2							

*ISCJB **21** 13:31:48.5±0.3, 11°.74S±0°.04×119°.64E±0°.03, h21km, mb4.5/10, Error ellipse: s-maj=5.5km s-min=4.1km az=27.3*
*IDC **21** 13:31:49.3±0.9, 11°.48S×119°.64E, h0km, mb4.4/7, mb1 4.4/10, mb1mx4.0/42, mbtmp4.4/10, ML4.4/3, MS2.9/5, Ms1 2.9/5, ms1mx2.6/39, Error ellipse: s-maj=31.6km s-min=20.4km az=79.0*
*NEIC **21** 13:31:49.4±0.3, 11°.67S×119°.60E, h10km, mb4.2/7, Error ellipse: s-maj=7.6km s-min=4.9km az=39.0*
*DJA **21** 13:31:52.3±0.4, 12°.5S±4°×12°.0E±°, h41km±17km, M4.7/17, mB5.4/5, mb4.7/12, MLv4.6/17, Mw(mB)4.8/5*

ISC 21 13:31:51.3±0.6, 11°.64S±0°.06×119°.68E±0°.06, h21km, n66, σ1°16/67, mb4.6/10, South of Sumba

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.67**	**32**	P		**Pn**	**13 32 19.4**	**+0.1**
BASI				S		**Sn**	**13 32 40.6**	**+0.6**
WBSI	**Waikabubak, Su**	**2.00**	**352**	P		**Pn**	**13 32 24.3**	**+0.3**
WBSI				S		**Sn**	**13 32 47.8**	**-0.7**
WSI	**Waingapu**	**2.05**	**17**	P		**Pn**	**13 32 25.4**	**+0.8**
PLAI	**Plampang**	**3.36**	**326**	P		**Pn**	**13 32 42.3**	**-0.3**
EDFI	**Ende, Flores**	**3.49**	**35**	P		**Pn**	**13 32 44.1**	**-0.4**
MMRI	**Maumere**	**3.91**	**40**	*e*Pn		**Pn**	**13 32 49.5**	**-0.6**
MMRI	**Maumere**	**3.91**	**40**	P		**Pn**	**13 32 49.5**	**-0.6**
TWSI	**Taliwang, Sumb**	**3.98**	**316**	P		**Pn**	**13 32 50.9**	**-0.3**
BATI	**Baumata**	**4.17**	**70**	Pn		**Pn**	**13 32 55.1**	**+1.4**
	30nm,0.3s,baz=244,slow=2.7,SNR=29							
BATI				Sn		**Sn**	**13 33 41.1**	**-0.8**
	43nm,0.3s,baz=9.7,slow=21,SNR=11							
BATI	**Baumata**	**4.17**	**70**	P		**Pn**	**13 32 54.5**	**+0.8**
SOEI	**Soe**	**4.89**	**68**	*e*Pn		**Pn**	**13 33 04.7**	**+1.0**
SOEI	**Soe**	**4.89**	**68**	P		**Pn**	**13 33 05.5**	**+1.8**
IGBI	**Denpasar**	**5.27**	**302**	P		**Pn**	**13 33 08.0**	**-0.8**
DNP	**Denpasar**	**5.29**	**303**	P		**Pn**	**13 33 09.2**	**+0.1**
JAGI	**Jajag, Banyuwa**	**6.28**	**300**	*e*Pn		**Pn**	**13 33 21.0**	**-1.9**
JAGI	**Jajag, Banyuwa**	**6.28**	**300**	P		**Pn**	**13 33 21.0**	**-1.9**
	66nm,0.5s,2µm0.5nm							
BKSI	**Bukumba**	**6.29**	**4**	P		**Pn**	**13 33 23.7**	**+0.8**
	31nm,0.5s,373nm0.2nm							
GMJI	**Gumukmas**	**6.99**	**298**	P		**Pn**	**13 33 31.6**	**-0.9**
KMMI	**Kalianget**	**7.25**	**308**	P		**Pn**	**13 33 35.9**	**-0.1**
SPSI	**Sidrap Palu**	**7.62**	**1**	P		Pb	13 33 57.2	-5.7
FITZ	**Fitzroy Crossi**	**8.63**	**139**	*e*Pn		**Pn**	**13 33 54.6**	**-0.4**
PCJI	**Pacitan**	**9.04**	**291**	P		**Pn**	**13 33 59.7**	**-1.0**
MBWA	**Marble Bar**	**9.47**	**180**	*e*Pn		**Pn**	**13 34 05.0**	**-1.5**
UGM	**Wanagama**	**9.75**	**291**	*e*Pn		**Pn**	**13 34 09.4**	**-1.0**
MTN	**Manton Dam**	**11.26**	**97**	*e*Pn		**Pn**	**13 34 31.2**	**0.0**
CGJI	**Cibinong**	**14.68**	**289**	P		**Pn**	**13 35 16.1**	**-1.8**
	28nm,0.9s							
FAKI	**Fak Fak**	**15.18**	**56**	*e*Pn		**Pn**	**13 35 21.9**	**-2.6**
	17nm,0.7s							
SIJI	**Sorong**	**15.71**	**48**	Pn		**Pn**	**13 35 31.4**	**-0.2**
	2.0nm,0.3s,baz=225,slow=8.8,SNR=5.2							
WRA	**Warramunga Arr**	**16.34**	**122**	Pn		**Pn**	**13 35 36.7**	**-2.9**
	0.8nm,0.3s,baz=295,slow=13,SNR=44							
WRA				Sn		Sn	13 38 23.1	-17
	0.5nm,0.3s,baz=296,slow=23,SNR=4.2							
WRA				LR		LR	13 42 05.0	
	comp=Z,52nm,20.0s,baz=260,slow=37							
WRAB	**Tennant Creek**	**16.34**	**122**	*e*Pn		**Pn**	**13 35 37.3**	**-2.4**
	4.3nm,0.8s							
WB2	**Warramunga Arr**	**16.35**	**122**	*e*Pn		**Pn**	**13 35 37.0**	**-2.7**
	12nm,1.4s							
KKM	**Kota Kinabalu**	**17.90**	**349**	*e*Pn		**Pn**	**13 35 58.0**	**-1.3**
	32nm,1.4s							
MNAI	**Manna**	**18.06**	**292**	*e*Pn		**Pn**	**13 35 59.6**	**-1.6**
	296nm,1.4s							
AS31	**Alice Springs**	**18.06**	**133**	*e*Pn		**Pn**	**13 35 59.9**	**-1.2**
	3.4nm,0.6s							
ASAR	**Alice Springs**	**18.06**	**133**	P		**P**	**13 36 01.7**	**+0.2**
	0.5nm,0.3s,baz=313,slow=12,SNR=34							
ASAR				S		Sn	13 39 08.8	-13
	0.6nm,0.3s,baz=318,slow=26,SNR=7.4							
AS01	**Alice Springs**	**18.09**	**133**	*e*P		**Pn**	**13 36 01.4**	**-0.1**
DAV	**Davao City (W)**	**19.49**	**18**	LR		LR	13 44 49.1	
	comp=Z,41nm,18.9s,baz=323,slow=40							
NWAO	**Narrogin (SRO)**	**21.31**	**186**	P		**P**	**13 36 39.9**	**+3.2**
	10nm,0.5s,baz=241,slow=12,SNR=15							
NWAO				S		S	13 40 18.9	-14
	14nm,0.4s,baz=71,slow=4.4,SNR=13							
NWAO				LR		LR	13 44 32.0	
	comp=Z,42nm,19.1s,baz=243,slow=36							
CMAR	**Chiang Mai Arr**	**36.23**	**325**	LR		LR	13 54 40.9	
	comp=Z,16nm,19.7s,baz=155,slow=38							
KSAR	**Wonju Array Be**	**49.42**	**9**	P		**P**	**13 40 39.2**	**-0.5**
KSRS	**Korea Array**	**49.44**	**9**	P		**P**	**13 40 39.2**	**-0.6**
	0.9nm,0.6s,baz=170,slow=8.4,SNR=4.7							
KSRS				LR		LR	14 03 59.5	
	comp=Z,6.3nm,19.0s,baz=350,slow=39							
RAMN	**Ramite**	**50.03**	**321**	*e*P		**P**	**13 40 45.4**	**+0.6**
	12nm,0.5s							
JIRN	**Jiri**	**50.79**	**321**	*e*P		**P**	**13 40 51.1**	**+0.4**
	29nm,0.6s							
GUN	**Gumba**	**51.16**	**321**	*e*P		**P**	**13 40 53.8**	**+0.3**
	19nm,0.7s							
PKI	**Pulchoki**	**51.21**	**320**	*e*P		**P**	**13 40 53.6**	**-0.3**
	6.5nm,0.5s							
PKIN	**Phulchoki**	**51.22**	**320**	*e*P		**P**	**13 40 53.7**	**-0.2**
	7.4nm,0.5s							
DMN	**Daman**	**51.43**	**320**	*e*P		**P**	**13 40 55.3**	**-0.1**
	7.9nm,0.6s							
KOLN	**Koldanda**	**52.50**	**319**	*e*P		**P**	**13 41 03.2**	**-0.2**
	15nm,0.8s							
HHC	**Hu-ho-hao-te**	**52.76**	**352**	*e*P		**P**	**13 41 06.6**	**+1.7**
HHC				pmax		pmax		
	comp=Z,18nm,1.0s							
HHC				pmax		pmax		
	comp=Z,120nm,6.1s							
DANN	**Dangsing**	**52.80**	**320**	*e*P		**P**	**13 41 05.6**	**0.0**
	comp=Z,30nm,0.6s							
PYUN	**Piuthan**	**53.12**	**319**	*e*P		**P**	**13 41 08.1**	**+0.2**
	comp=Z,21nm,0.8s							
GTA	**Gaotai**	**54.05**	**341**	*e*P		**P**	**13 41 15.1**	**+0.7**
GTA				pP		pP	13 41 19.5	-1.6
GTA				sP		sP	13 41 22.1	-1.6
GTA				S		**S**	**13 48 48.9**	**-0.8**
GTA				pmax		pmax		
	comp=Z,3.0nm,1.2s							
GTA				pmax		pmax		
	comp=Z,30nm,4.7s							
GTA				LR		LR		
	comp=N,220nm,19.6s							
GTA				LR		LR		
	comp=E,120nm,17.9s							
GTA				LR		LR		
	comp=Z,96nm,16.5s							
USRK	**Ussuriysk Ar.**	**56.69**	**11**	P		**P**	**13 41 32.6**	**-0.5**
	comp=Z,2.4nm,0.5s,baz=188,slow=8.0,SNR=5.7							
SONM	**Songino Array**	**60.38**	**350**	P		**P**	**13 41 59.3**	**+0.3**
	comp=Z,3.7nm,0.7s,baz=169,slow=8.6,SNR=26							
SONA1	**Songino Array**	**60.39**	**350**	*e*P		**P**	**13 41 59.2**	**+0.1**
WMQ	**Urumqi**	**62.41**	**334**	*e*P		**P**	**13 42 14.4**	**+1.6**
WMQ				LR		LR		
	comp=Z,66nm,21.3s							
MK01	**Makanchi Array**	**67.07**	**333**	*e*P		**P**	**13 42 43.1**	**0.0**
MK31	**Makanchi Array**	**67.09**	**333**	*e*P		**P**	**13 42 43.6**	**+0.4**
MKAR	**Makanchi Array**	**67.09**	**333**	P		**P**	**13 42 43.9**	**+0.7**
	comp=Z,2.7nm,0.6s,baz=144,slow=7.6,SNR=29							
MKAR	**Makanchi Array**	**67.09**	**333**	*e*P		**P**	**13 42 43.6**	**+0.4**
	comp=Z,19nm,0.6s							
ZAA0	**Zalesovo Array**	**71.73**	**339**	*e*P		**P**	**13 43 11.3**	**-0.4**
	comp=Z,3.2nm,0.6s							
ZALV	**Zalesovo Beam**	**71.73**	**339**	P		**P**	**13 43 11.6**	**-0.1**
	comp=Z,3.3nm,0.5s,baz=149,slow=4.7,SNR=12							
ZALV	**Zalesovo Beam**	**71.73**	**339**	*e*P		**P**	**13 43 11.2**	**-0.5**
SEY	**Seymchan**	**78.53**	**15**	P		**P**	**13 43 52.1**	**+1.5**
	comp=Z,3.9nm,0.6s,baz=211,slow=8.2,SNR=19							
ABKAR	**Akbulak array**	**80.09**	**325**	*e*P		**P**	**13 43 59.9**	**+0.4**
LPAZ	**La Paz**	**151.20**	**164**	PKPbc		**PKPbc**	**13 51 46.6**	**+1.7**
	comp=Z,0.6nm,0.5s,baz=303,slow=8.4,SNR=6.7							

IDC 21 13:51:08.7±4.6, 3.71N×123.09E, h552km±66km, mb3.0/5, mb1 3.2/6, mb1mx2.8/57, mbtmp4.1/6, Error ellipse: s-maj=103.9km s-min=17.4km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**13.84**	**178**	P		P	13 54 05.6	-0.7
	3.3nm,0.3s,baz=315,slow=2.9,SNR=4.9							
WRA	**Warramunga Arr**	**25.98**	**155**	P		P	13 55 57.4	-0.6
	2.1nm,0.3s,baz=336,slow=9.6,SNR=76							
ASAR	**Alice Springs**	**29.18**	**159**	P		P	13 56 26.1	+0.1
	1.0nm,0.3s,baz=341,slow=6.9,SNR=31							
STKA	**Stephens Creek**	**39.53**	**155**	P		P	13 57 53.1	+0.8
	1.3nm,0.6s,baz=332,slow=9.2,SNR=4.1							
SONM	**Songino Array**	**46.25**	**344**	P		P	13 58 44.7	0.0
	0.6nm,0.7s,baz=157,slow=7.6,SNR=4.3							
MKAR	**Makanchi Array**	**55.55**	**327**	P		P	13 59 52.1	+0.1
	1.1nm,0.3s,baz=124,slow=7.8,SNR=37							
MKAR				PcP		PcP	14 00 42.5	-1.2
	0.4nm,0.6s,baz=117,slow=4.8,SNR=4.6							

*ISCJB **21** 13:51:13.5±0.8, 51°.49N±0°.04×16°.09E±0°.04, h0km, Error ellipse: s-maj=5.4km s-min=3.2km az=21.5*
*PRU **21** 13:51:15.8±0.0, 51°.51N×16°.07E, h0km*
*VIE **21** 13:51:15.8±0.9, 51°.40N×16°.04E, h0km, mb2.4/3, ml2.5/5, Error ellipse: s-maj=7.8km s-min=3.8km az=18.0 75 km WNW of Wroclaw Suspected Mining induced.*

ISC 21 13:51:15.3±1.3, 51°.51N±0°.06×16°.07E±0°.03, h0km, n19, σ0°94/36, Poland

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**168**	*e*Pg		**Pg**	**13 51 28.6**	**+0.2**
KSP				*e*Sg		**Sg**	**13 51 38.2**	**+1.0**
UPC	**Upice**	**1.00**	**182**	*e*PG		**Pg**	**13 51 34.8**	**+0.3**
UPC				*e*SG		**Sb**	**13 51 48.5**	**-0.8**
	comp=Z,43nm,0.3s							
DPC	**Dobruska-Polom**	**1.17**	**172**	*e*PG		**Pg**	**13 51 37.6**	**-0.1**
DPC				*e*SG		**Sg**	**13 51 52.9**	**0.0**
	comp=Z,11nm,0.4s							
PVCC	**Panska Ves**	**1.36**	**224**	*e*PG		**Pb**	**13 51 41.9**	**+0.2**
PVCC				*e*SG		**Sn**	**13 52 00.7**	**+0.4**
	comp=Z,75nm,0.2s							
BRG	**Berggiesshubel**	**1.48**	**245**	PG		**Pg**	**13 51 43.8**	**+0.1**
BRG				SG		**Sn**	**13 52 03.9**	**+0.7**
	50nm,0.4s							
KRLC	**Kraliky**	**1.51**	**162**	*e*PG		**Pn**	**13 51 43.2**	**-0.4**
KRLC				*e*SG		**Sn**	**13 52 04.2**	**+0.3**
	comp=Z,2.4nm,0.3s							
GOPC	**GO Pecny, Ondr**	**1.79**	**207**	*e*PG		**Pb**	**13 51 48.6**	**-0.4**
GOPC				*e*SG		**Sg**	**13 52 12.8**	**0.0**
	comp=Z,8.7nm,0.3s							
CLL	**Collm**	**1.93**	**265**	*e*Pg		**Pb**	**13 51 51.0**	**-0.3**
CLL				*e*Sg		**Sg**	**13 52 17.0**	**-0.2**
	comp=Z,13nm,0.4s							
MORC	**

SGAM	Sherman Glacie	7.03	36	P	Pn	13 57 36.5	+0.2
JPK	Jack Peak	7.04	29	P	Pn	13 57 36.1	-0.3
RAGM	Ragged Mountai	7.13	38	P	Pn	13 57 37.0	-0.6
GHO	Glory Hole Cre	7.14	18	P	Pn	13 57 37.1	-0.7
HMT	Hamilton	7.25	39	P	Pn	13 57 38.9	-0.4
SUCK	Suckling Hills	7.25	42	P	Pn	13 57 40.0	+0.7
NICHA	Nichawak Mount	7.29	41	P	Pn	13 57 39.8	0.0
DIV	Divide	7.33	31	ePn	Pn	13 57 40.0	-0.5
BERG	Berg Lake	7.49	41	P	Pn	13 57 41.8	-0.8
SCM	Sheep Creek Mo	7.52	23	P	Pn	13 57 43.6	+0.5
BMRM	Bremner River	7.58	35	P	Pn	13 57 43.4	-0.4
KLU	Klutina	7.58	29	ePn	Pn	13 57 43.7	-0.2
KHIT	Khitrov Hills	7.69	41	P	Pn	13 57 44.8	-0.7
WAX	Waxell Ridge	7.85	42	P	Pn	13 57 47.2	-0.3
PPLA	Purkeypile	7.88	5	ePn	Pn	13 57 50.2	+2.2
TT01	Tatalina	7.96	352	P	Pn	13 57 49.1	+0.1
ISLE	Juniper Island	8.14	43	P	Pn	13 57 51.5	-0.2
BAGL	Bagley Icefiel	8.18	44	P	Pn	13 57 52.4	+0.4
YAH	Yahtse	8.24	45	P	Pn	13 57 53.4	+0.3
CHX	Chaix Hills	8.34	48	P	Pn	13 57 55.3	+1.1
CAST	Castle Rocks	8.41	4	ePn	Pn	13 57 53.5	-1.7
HARP	HAARP	8.54	27	ePn	Pn	13 57 58.3	+1.3
TRF	Thorofare Moun	8.57	10	P	Pn	13 57 56.8	-0.6
DHY	Denali Highway	8.63	19	P	Pn	13 57 57.4	-0.9
RND	Reindeer	8.70	14	ePn	Pn	13 57 59.2	+0.1
PCA	Pinnacle	8.73	49	P	Pn	13 58 00.2	+0.6
CTGM	Chitina Glacie	8.76	43	P	Pn	13 57 59.8	-0.3
PNL	Peninsula	8.91	53	P	Pn	13 58 02.9	+0.8
PAX	Paxson	8.94	24	P	Pn	13 58 03.5	+1.0
MCK	McKinley	9.00	13	ePn	Pn	13 58 03.3	+0.1
BPAW	Bear Paw Mtn.	9.15	7	ePn	Pn	13 58 05.2	-0.1
DHAK	Deception Hill	9.26	58	P	Pn	13 58 06.6	-0.3
RIDG	Independ'e Rid	9.75	23	ePn	Pn	13 58 14.5	+1.0
WRH	Wood River Hil	9.82	14	P	Pn	13 58 14.0	-0.4
GCSA	Galena City Sc	9.85	352	P	Pn	13 58 13.7	-1.1
HDA	Harding Lake	9.93	17	P	Pn	13 58 16.6	+0.6
CCB	Clear Creek Bu	10.02	14	P	Pn	13 58 16.8	-0.4
BCA3	Beaver Creek A	10.03	32	P	Pn	13 58 17.4	+0.1
MLY	Manley	10.09	7	ePn	Pn	13 58 18.5	+0.3
SCRK	Sand Creek	10.15	25	ePn	Pn	13 58 19.9	+0.8
COLA	College	10.23	14	ePn	Pn	13 58 20.0	0.0
MDM	Murphy Dome	10.26	13	ePn	Pn	13 58 20.5	0.0
HYT	Haines Junctio	10.27	49	P	Pn	13 58 20.2	-0.5
IL1	Eielson Array	10.28	16	ePn	Pn	13 58 20.7	0.0
ILB	Eielson Array	10.28	16	ePn	Pn	13 58 20.4	-0.4
SIT	Sitka	10.37	72	P	Pn	13 58 20.8	-1.2
SKAG	Skagway	10.78	59	ePn	Pn	13 58 28.1	+0.5
BESE	Bessie Mountai	10.81	63	ePn	Pn	13 58 28.6	+0.5
IM3	Indian Mountai	10.95	360	ePn	Pn	13 58 29.7	-0.3
JIS	Juneau Island	11.01	65	ePn	Pn	13 58 31.1	+0.4
ANM	Nome	11.21	333	ePn	Pn	13 58 33.2	-0.2
WHY	Whitehorse	11.38	53	ePn	Pn	13 58 36.7	+0.8
DAWY	Dawson	11.49	33	ePn	Pn	13 58 38.5	+1.1
EGAK	Eagle	11.52	27	ePn	Pn	13 58 39.0	+1.4
TOLK	Toolik Lake Re	13.74	6	ePn	Pn	13 59 08.4	+0.4
INK	Inuvik	16.19	27	ePn	P	13 59 42.8	-1.0
	15nm,1.7s						

*ISCJB **21** 14:20:46.4±0.6,37°.43N±0°.05×28°.13E±0°.07,h0km, Error ellipse: s-maj=9.0km s-min=4.7km az=140.6*
*DDA **21** 14:20:46.5,37°.42N×28°.12E,h7km,Ml2.5,Suspected Mining explosion.*
*ISK **21** 14:20:47.1,37°.39N×28°.07E,h5km±1km,ML1.8/5*
ISC 21 14:20:45.3±1.0,**37°.52N**±0°.06×**28°.15E**±0°.05,**h0**km,**n9**, σ0**43**/11,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDN	Tasoluk	0.26	305	*i* P	Pb	14 20 52.7	-0.1
AYDN				*i* S	Sb	14 20 57.0	-0.9
TAVA	DENIZLI_Tavas	0.61	94	*i* P	Pb	14 20 58.7	-0.3
TURN	Turunc	0.74	150	PG	Pg	14 20 59.6	+0.2
TURN				SG	Sg	14 21 09.0	0.0
BODT	Bodrum	0.81	236	PG	Pg	14 21 00.8	+0.1
DALY	Dalyan (Mu¨la	0.81	150	PG	Pb	14 21 01.9	-0.3
DAT	Datca	0.91	210	PG	Pg	14 21 02.9	+0.3
MANT	Manisa	1.03	18	*i* P	Pn	14 21 07.6	+0.5
DGB	¨zmir	1.14	299	*i* P	Pn	14 21 08.9	+0.5
FETY	Fethiye	1.16	139	PN	Pn	14 21 08.9	+0.2

*ISCJB **21** 14:23:52.1±0.9,2°.0N±0°.2×128°.3E±0°.3,h134km,mb3.6/5, Error ellipse: s-maj=45.9km s-min=10.2km az=140.9*
*IDC **21** 14:23:52.8±5.8,1°.81N×128°.04E,h122km±64km,mb3.4/5, mb1 3.4/6,mb1mx3.2/49,mbtmp3.8/6, Error ellipse: s-maj=117.3km s-min=20.0km az=71.0*
ISC 21 14:23:53.8±1.0,**1°.9N**±0°.2×**128°.3E**±0°.3,**h134**km,**n6**, σ0**29**/7,**mb3.9**/5,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	4.04	133	P	Pn	14 24 54.5	+0.2
	0.9nm,0.3s,baz=201,slow=23,SNR=3.6						
SIJI				S	Sn	14 25 40.9	-0.3
	0.8nm,0.3s,baz=210,slow=22,SNR=2.3						
WRA	Warramunga Arr	22.50	165	P	P	14 28 42.4	0.0
	0.2nm,0.4s,baz=344,slow=11,SNR=4.8						
STKA	Stephens Creek	35.88	160	P	P	14 30 41.0	+0.1
	0.9nm,0.4s,baz=353,slow=5.8,SNR=5.6						
SONM	Songino Array	49.53	341	P	P	14 32 31.2	+0.2
	0.4nm,0.6s,baz=152,slow=8.8,SNR=4.0						
MKAR	Makanchi Array	59.95	325	P	P	14 33 45.9	0.0
	1.5nm,0.4s,baz=115,slow=8.0,SNR=36						
KURBB	Kurchatov Arra	64.12	327	P	P	14 34 13.3	-0.4
	0.9nm,0.4s,baz=125,slow=6.5,SNR=9.9						

DDA 21 14:39:10.1,40°.76N×41°.26E,h7km,Ml2.5,Suspected Mining explosion.,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBAD	Bademkaya	0.41	52	*i* P	Pg	14 39 18.6	+0.4
DBAD				*i* S	Sg	14 39 24.5	+0.9
DAGI	Agillar	0.58	57	*i* P	Pg	14 39 21.6	+0.3
ARTV	Artvin	0.66	50	*i* P	Pg	14 39 22.9	+0.2
BAYB	BAYBURT	0.92	237	*i* P	Pg	14 39 27.6	-0.1

*ISCJB **21** 14:39:39.9±0.8,38°.91N±0°.05×43°.55E±0°.08,h13km±6km, Error ellipse: s-maj=10.8km s-min=7.4km az=22.8*
*DDA **21** 14:39:39.5,38°.94N×43°.51E,h14km,Ml3.0*
*ISK **21** 14:39:39.2,38°.90N×43°.57E,h17km,ML2.3/3*
ISC 21 14:39:39.5±1.0,**38°.94N**±0°.04×**43°.53E**±0°.04,**h14**km±7km, **n13**, σ0**30**/17,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.06	30	*i* P	Pg	14 39 42.4	-0.1
VMUR				*i* S	Sg	14 39 44.6	+0.1
ERCV	ERCIS-VAN	0.17	299	PG	Pb	14 39 44.7	+0.1
VANB	Van	0.36	198	PG	Pb	14 39 48.0	+0.3
CLDR	Caldiran	0.36	55	PG	Pg	14 39 47.2	+0.2
CLDR				SG	Sb	14 39 53.1	-0.5
CLDR	Caldiran	0.36	55	*i* P	Pg	14 39 47.1	+0.1
CLDR				*i* S	Sb	14 39 53.2	-0.4
TVAN	Van	0.42	194	*i* P	Pg	14 39 47.9	0.0
ADCV	BITLIS_Adilcev	0.64	259	*i* P	Pb	14 39 52.4	-0.2
ADCV	BITLIS_Adilcev	0.64	259	*i* P	Pg	14 39 52.2	+0.1
TUTA	Tutak	0.73	310	*i* P	Pg	14 39 53.2	-0.5
AGRB	Hanur-Agry	0.77	327	PG	Pb	14 39 55.2	+0.5
EKAR	Karacoban	1.19	286	*i* P	Pg	14 40 02.7	+0.3
EATA	Eleskirt	1.23	319	*i* P	Pg	14 40 03.4	+0.2
EATA				*i* S	Sg	14 40 19.4	+0.1
GURO	Guroymak-BITLI	1.23	252	PN	Pn	14 40 02.5	0.0

*IDC **21** 14:46:29.6±1.1,52°.45N×131°.70W,h0km,mb3.9/5, mb1 4.1/9,mb1mx3.8/45,mbtmp3.9/9,ML3.6/5,MS3.4/10, Ms1 3.4/10,ms1mx3.0/46, Error ellipse: s-maj=21.0km s-min=6.7km az=44.0*
*PGC **21** 14:46:30.3±0.0,52°.31N×131°.92W,h41km,ML3.8/18, 104km south of Sandspit, Bc Queen Charlotte Islands Region*
*NEIC **21** 14:46:32.0±0.4,52°.40N×131°.83W,h10km,mb4.0/40, ML3.8(OTT), Error ellipse: s-maj=10.1km s-min=3.6km az=51.0*
ISC 21 14:46:30.2±1.5,**52°.23N**±0°.05×**131°.99W**±0°.05,**h12**km±9km, **n124**,σ1**93**/123,**mb4.0**/13,**MS3.5**/5,**Queen Charlotte Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	Barry Inlet	0.38	23	P	Pg	14 46 38.6	+0.9
BNB				S	Sg	14 46 44.8	+2.0
HG3B	Hotspring	0.48	44	P	Pg	14 46 40.3	+0.6
HG3B				S	Sg	14 46 46.3	+0.3
HG4B	Hotspring	0.49	82	P	Pg	14 46 39.9	0.0
HG4B				S	Sg	14 46 47.2	+0.8
HG1B	Mitchell Dam	0.71	353	P	Pg	14 46 42.7	-1.2
HG1B				S	Sg	14 46 51.8	-1.5
MOBC	Moresby Island	0.92	1	P	Pb	14 46 46.4	-1.7
MOBC				S	Sb	14 46 56.6	-3.7
DIB	Dawson Inlet,	1.02	343	ePg	Pb	14 46 46.8	-2.9
DIB	Dawson Inlet,	1.02	343	P	Pb	14 46 46.8	-2.9
DIB				S	Sb	14 46 59.7	-3.4
H02S1	DAWSON INLET T	1.02	343	Pg	Pb	14 46 47.0	-2.7
H02S1				Lg	Lg	14 47 00.2	
H02N1	VAN INLET T-PH	1.08	342	Pg	Pb	14 46 48.1	-2.7
H02N1				Lg	Lg	14 47 01.8	
VIB	Van Inlet	1.08	342	P	Pb	14 46 47.9	-2.9
VIB				S	Sb	14 47 01.2	-3.7
MASB	Masset	1.79	359	Pn	Pn	14 46 57.8	-3.1
NDB	Naden	1.82	342	Pn	Pn	14 46 58.7	-2.7
RUBB	Prince Rupert	2.35	26	Pn	Pn	14 47 07.2	-1.3
BBB	Bella Bella	2.39	90	Pn	Pn	14 47 07.1	-2.0
	9.1nm,0.3s,baz=266,slow=7.0,SNR=71						
BBB				Sn	Sn	14 47 35.6	-2.6
	23nm,0.3s,baz=172,slow=21,SNR=7.4						
BBB	Bella Bella	2.39	90	Pn	Pn	14 47 06.6	-2.5
BCBC	Bella Coola	3.22	85	Pn	Pn	14 47 20.2	-0.3
PHC	Port Hardy	3.23	116	Pn	Pn	14 47 17.5	-3.2
PHC				Sn	Sn	14 47 53.3	-5.8
CRAG	Craig	3.31	349	ePn	Pn	14 47 21.8	0.0
PACB	Port Alice, BC	3.35	121	Pn	Pn	14 47 18.9	-3.4
PACB				Sn	Sn	14 47 57.0	-4.8
TLCB	Telegraph Cove	3.64	116	Pn	Pn	14 47 23.7	-2.6
WOSB	Woss	3.99	119	Pn	Pn	14 47 29.4	-1.8
NCRB	Newcastle Ridg	4.15	114	Pn	Pn	14 47 31.9	-1.6
WRAK	Wrangell Islan	4.20	357	ePn	Pn	14 47 33.9	-0.1
SPLB	Strathcona Par	4.63	118	Pn	Pn	14 47 37.5	-2.5
CBB	Campbell River	4.72	115	Pn	Pn	14 47 39.1	-2.0
UBRB	Upper Baezaeko	4.87	79	Pn	Pn	14 47 42.9	-0.4
BTB	Buttle Lake	4.94	121	Pn	Pn	14 47 43.8	-0.6
FSB	Fort Saint Jam	5.11	61	Pn	Pn	14 47 44.7	-2.0
TXB	Texada	5.41	115	Pn	Pn	14 47 49.2	-1.5
MGB	Mount Grey	5.66	122	Pn	Pn	14 47 52.9	-1.3
SHB	Sechelt	5.77	114	Pn	Pn	14 47 54.4	-1.4
DLBC	Dease Lake	6.32	9	Pn	Pn	14 48 01.0	-2.2
	0.6nm,0.3s,baz=215,slow=26,SNR=9.1						
DLBC				Sn	Sn	14 49 16.4	+1.0
	0.8nm,0.3s,baz=66,slow=20,SNR=2.7						
DLBC				LR	LR	14 49 51.5	
	comp=Z,72nm,18.4s,baz=260,slow=33						
DLBC	Dease Lake	6.32	9	Pn	Pn	14 48 00.7	-2.5
BMBC	Bull Mountain	6.94	53	Pn	Pn	14 48 12.8	+1.1
FNBB	Fort Nelson	8.39	34	Pn	Pn	14 48 30.7	-0.8
WHY	Whitehorse	8.60	350	ePn	Pn	14 48 34.9	+0.4
LTY	Liberty	8.86	120	ePn	Pn	14 48 40.4	+2.4
HYT	Haines Junctio	9.13	343	ePn	Pn	14 48 43.7	+1.8
NEW	Newport	10.31	107	LR	LR	14 52 28.3	
	comp=Z,84nm,19.2s,baz=312,slow=35						
YBH	Yreka Blue Hor	12.25	145	Pn	Pn	14 49 27.1	+2.6
	0.1nm,0.3s,baz=63,slow=2.3,SNR=3.0						
YBH				LR	LR	14 53 33.0	
	comp=Z,84nm,18.6s,baz=344,slow=34						
MSO	Missoula	12.90	108	ePn	Pn	14 49 34.5	+1.2
KDAK	Kodiak Island	13.03	303	LR	LR	14 53 12.1	
	comp=Z,160nm,18.2s,baz=119,slow=31						
SML	Sawmill	13.05	324	ePn	Pn	14 49 36.1	+0.9
SUA	Susitna One	13.76	320	ePn	Pn	14 49 46.2	+1.2
YKA	Yellowknife Ar	13.87	35	Pn	Pn	14 49 46.0	-0.3
	0.2nm,0.3s,baz=227,slow=12,SNR=8.7						
YKB5	Yellowknife Ar	13.87	35	ePn	Pn	14 49 43.9	-2.4
YKW3	Yellowknife Ar	13.91	35	ePn	Pn	14 49 44.3	-2.6
HRY	Holter Researc	14.21	105	ePn	Pn	14 49 51.6	+0.4
ILAR	Eielson Array	14.73	334	Pn	P	14 50 06.0	+1.8
	0.1nm,0.3s,baz=147,slow=10,SNR=18						
ILAR				LR	LR	14 55 27.0	
	comp=Z,49nm,19.2s,baz=118,slow=37						
TRF	Thorofare Moun	14.80	326	ePn	Pn	14 50 00.7	+1.4
WRH	Wood River Hil	14.83	332	ePn	P	14 50 07.1	+1.7
EGMT	Eagleton	14.85	98	ePn	P	14 50 06.3	+0.5
CCB	Clear Creek Bu	14.88	333	ePn	P	14 50 07.6	+1.7
BOZ	Bozeman (W)	14.91	108	ePn	Pn	14 50 02.7	+1.8
PPLA	Purkeypile	15.14	323	ePn	P	14 50 10.5	+1.6
	29nm,1.5s						
MDM	Murphy Dome	15.24	333	ePn	P	14 50 11.0	+1.1
	4.1nm,0.8s						
CAST	Castle Rocks	15.41	324	ePn	P	14 50 13.3	+1.5
	38nm,1.6s						
BPAW	Bear Paw Mtn.	15.47	328	ePn	Pn	14 50 09.3	+1.4
	17nm,1.3s						
QLMT	Earthquake Lak	15.47	110	ePn	P	14 50 11.8	-1.0
SVW2	Sparrevohn	15.63	314	ePn	P	14 50 15.2	+0.9
	23nm,1.3s						
FYU	Fort Yukon	15.82	340	ePn	Pn	14 50 17.4	+1.1
	53nm,2.0s						
YHH	Holmes Hill	15.83	110	ePn	Pn	14 50 15.2	+2.1
	7.1nm,1.1s						
YMR	Madison River	15.83	110	ePn	P	14 50 19.4	+2.6
	8.6nm,0.8s						
GCMT	Greycliff	15.97	105	ePn	Pn	14 50 16.7	+2.0
YNR	Norris Junctio	15.97	110	ePn	Pn	14 50 17.3	+2.5
	3.6nm,0.9s						
MLY	Manley	16.02	330	ePn	Pn	14 50 15.9	+0.7
	5.8nm,0.9s						
INK	Inuvik	16.15	358	Pn	Pn	14 50 19.0	+2.3
	0.0nm,0.3s,baz=112,slow=13,SNR=2.5						
H17A	Grant Village	16.22	110	ePn	P	14 50 21.2	+0.1
	11nm,1.1s						
LKWY	Lake	16.22	110	ePn	P	14 50 21.4	+0.3
	16nm,0.9s						
KVN	Kaiserville	16.33	138	ePn	Pn	14 50 26.0	+3.7
	6.9nm,1.1s						
FXWY	Fox Creek	16.42	113	ePn	P	14 50 26.1	+2.7
	7.5nm,0.9s						
MOOW	Moose Ponds	16.51	112	ePn	P	14 50 27.2	+2.8
	6.5nm,1.0s						
TPAW	Teton Pass	16.56	114	ePn	P	14 50 27.9	+2.9
	16nm,1.0s						
RLMT	Red Lodge	16.57	106	ePn	P	14 50 26.6	+1.6
	19nm,1.6s						
SNOW	Snow King Moun	16.69	113	ePn	P	14 50 27.6	+1.2
	24nm,1.6s						
REDW	Red Top Meadow	16.70	114	ePn	P	14 50 28.8	+2.3
	14nm,1.2s						
NV01	Mina Array Sit	16.78	140	ePn	P	14 50 28.1	+0.7
NVAR	Mina Array Bea	16.78	140	Pn	P	14 50 28.3	+0.9
	0.2nm,0.3s,baz=301,slow=12,SNR=4.5						
NV11	Mina Array Sit	16.84	140	ePn	P	14 50 29.4	+1.4
	0.8nm,1.6s						
AHID	Auburn Hatcher	16.94	116	ePn	P	14 50 29.1	-0.1
	9.8nm,1.4s						
HWUT	Hardware Ranch	17.48	119	ePn	P	14 50 36.3	+1.3
	5.5nm,1.3s						
IM3	Indian Mountai	17.59	330	ePn	P	14 50 36.6	+0.7
BW06	Boulder Array	17.81	113	ePn	P	14 50 40.0	+1.3
	5.3nm,0.9s						
PD31	Pinedale Array	17.81	113	ePn	P	14 50 40.8	+2.1
PDAR	Pinedale Array	17.81	113	P	P	14 50 39.7	+1.0
	0.1nm,0.3s,baz=294,slow=6.8,SNR=23						
PDAR	Pinedale Array	17.81	113	ePn	P	14 50 40.0	+1.3
DUG	Dugway, Tooele	17.85	125	ePn	Pn	14 50 40.6	+1.5
	6.9nm,1.4s						
FFC	Flin Flon	17.97	70	ePn	Pn	14 50 40.2	+0.5
	56nm,1.9s						
DGMT	Dagmar	18.08	91	ePn	Pn	14 50 41.9	+0.7
	19nm,1.1s						
PSUT	Pine Spring	18.63	130	eP	Pn	14 50 49.5	+1.4
	2.2nm,0.9s						
MSU	Marysvale	19.45	127	eP	Pn	14 50 59.9	+1.9
P18A	Preston Nutter	19.59	121	eP	Pn	14 51 01.3	+1.5
	11nm,1.5s						
K22A	Casper	19.62	109	eP	P	14 50 60.0	+1.4
	10nm,1.0s						
SHPR	Sheep Range	19.72	136	eP	Pn	14 51 02.1	+1.0
	8.6nm,1.4s						
SZCU	Shurtz Canyon	19.75	130	eP	Pn	14 51 01.9	+0.5
	3.3nm,0.9s						
SRU	San Rafael Swe	19.83	123	eP	Pn	14 51 04.0	+1.6
	18nm,1.9s						
LCMT	Little Creek M	20.15	132	eP	Pn	14 51 06.1	0.0
	9.4nm,1.3s						
O20A	White River Ci	20.31	117	eP	Pn	14 51 08.9	+0.9
	8.4nm,0.9s						
PHWY	Pilot Hill	21.09	111	eP	P	14 51 15.4	+0.8
	6.3nm,0.8s						
PV12	Saucer Basin,	21.32	122	eP	P	14 51 17.6	+0.5
	6.0nm,1.0s						
PV13	Radium Mtn., P	21.43	122	eP	P	14 51 18.3	+0.1
	11nm,1.2s						
BELC	Belle Mtn. Jos	21.55	141	eP	P	14 51 27.2	+7.7
BELC				eS	Sn	14 55 24.0	-2.5
SMCO	Snowmass	21.67	117	eP	P	14 51 21.2	+0.2
	8.7nm,1.0s						
WUAZ	Wupatki	22.23	131	eP	P	14 51 27.9	+1.1
	20nm,1.8s						
ULM	Lac du Bonnet	22.55	81	P	P	14 51 29.8	-0.2
	4.0nm,0.9s,baz=290,slow=6.7,SNR=3.7						
ULM				LR	LR	15 00 51.9	
	comp=Z,192nm,19.6s,baz=127,slow=39						
S22A	4UR Ranch, Cre	22.79	120	eP	P	14 51 33.2	+0.4
	4.7nm,1.1s						
SDCO	Great Sand Dun	23.50	118	eP	P	14 51 41.2	+1.0
	14nm,1.8s						
RES	Resolute Bay	27.06	21	LR	LR	15 03 32.1	
	comp=Z,90nm,21.5s,baz=53,slow=38						
TXAR	Lajitas Array	31.01	126	P	P	14 52 49.6	+2.0
	0.7nm,0.7s,baz=333,slow=5.9,SNR=4.9						
SCHQ	Schefferville	37.57	59	LR	LR	15 09 35.3	
	comp=Z,190nm,20.9s,baz=62,slow=37						
SEY	Seymchan	39.56	316	P	P	14 54 01.6	+1.0
	3.2nm,0.8s,baz=216,slow=18,SNR=4.7						
H11N2	WAKE ISLAND Hy	57.01	260	T	T	15 58 22.8	
	baz=39,slow=76,SNR=33						
H11N3	WAKE ISLAND Hy	57.01	260	T	T	15 58 22.6	
	baz=39,slow=76,SNR=27						
H11N1	WAKE ISLAND Hy	57.02	260	T	T	15 58 23.7	
	baz=39,slow=76,SNR=23						
HFS	Hagfors	64.64	18	LR	LR	15 24 16.5	
	comp=Z,68nm,18.7s,baz=322,slow=35						
SONM	Songino Array	68.57	322	P	P	14 57 33.2	+0.6
	0.4nm,0.9s,baz=23,slow=8.0,SNR=4.2						
HHC	Hu-ho-hao-te	72.18	314	eP	P	14 57 56.4	+1.6
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,190nm,5.5s						
AKASG	Malin Array Be	76.22	12	LR	LR	15 31 07.8	
	comp=Z,27nm,20.6s,baz=275,slow=35						
MKAR	Makanchi Array	77.07	337	P	P	14 58 23.0	0.0
	comp=Z,0.9nm,0.7s,baz=38,slow=6.1,SNR=9.9						
WMQ	Urumqi	78.38	332	eP	P	14 58 34.1	+3.7
VNA3	Neumayer Olymp	148.48	148	PKP	PKPbc	15 06 14.1	-1.1
VNA1	Neumayer--Stat	149.01	147	PKP	PKPab	15 06 19.4	-1.4
VNA2	Neumayer--Watz	149.26	148	PKP	PKPbc	15 06 16.8	-0.3
SNAA	Sanae	150.56	150	PKP	PKPbc	15 06 19.7	-0.7

*IDC **21** 14:50:18.7±2.0,21°.24S×179°.37W,h568km±24km,mb3.3/9, mb1 3.6/12,mb1mx3.3/34,mbtmp4.3/12, Error ellipse: s-maj=22.5km s-min=13.6km az=146.0*
*ISCJB **21** 14:50:20.6±0.6,21°.52S±0°.06×179°.3W±0°.1,h604km, mb3.9/2, Error ellipse: s-maj=13.5km s-min=7.6km az=178.6*
*WEL **21** 14:50:27.2±1.2,22°.S±10°×17°8W±4°.3,h654km±20km*
ISC 21 14:50:21.1±0.7,**21°.61S**±0°.08×**179°.4W**±0°.1,**h604**km,**n51**, σ2**9**01/61,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	7.74	171	P	P	14 52 17.5	-0.4
GLKZ				S	S	14 53 53.2	-0.5
AFI	Afiamalu	10.52	45	P	P	14 52 39.6	-5.7
	4.5nm,0.3s,baz=97,slow=3.8,SNR=9.6						
AFI				S	S	14 54 29.3	-14
	1.1nm,0.3s,baz=37,slow=20,SNR=3.8						
DZM	Mont Dzumac	13.19	265	P	P	14 53 11.4	-0.5
	0.9nm,0.3s,baz=123,slow=14,SNR=20						
OUZ	Omahuta	14.90	203	P	P	14 53 31.6	+3.5
GRZ	Great Barrier	15.28	196	P	P	14 53 33.0	+1.5
WCZ	Waipu Caves	15.30	200	P	P	14 53 34.3	+2.6
KUZ	Kuaotunu	15.68	195	P	P	14 53 38.0	+2.9
WIAZ	Waiheke Island	15.87	196	P	P	14 53 40.6	+3.7
MXZ	Matakaoa Point	16.03	187	P	P	14 53 38.0	-0.3
MKAZ	Moumakai	16.16	196	P	P	14 53 43.1	+3.6
WMGZ	Waiomatatini S	16.27	186	P	P	14 53 41.2	+0.6
WMGZ				S	S	14 56 21.9	-1.1
HAZ	Te Kaha	16.29	188	P	P	14 53 41.0	+0.3
PKGZ	Pakihiroa	16.38	187	P	P	14 53 41.6	-0.1
RUGZ	Raukumara Rang	16.50	188	P	P	14 53 43.3	+0.5
TGRZ	Tauranga	16.51	192	P	P	14 53 46.2	+3.5
PUZ	Puketiti	16.54	187	P	P	14 53 45.7	+2.7
TOZ	Tahuroa Road	16.67	194	P	P	14 53 47.9	+3.6
TWGZ	Tauwhareparae

	0.1nm,0.3s,baz=344,slow=15,SNR=6.4				
VNDA			LR	LR	15 07 46.9
	comp=Z,43nm,20.0s,baz=326,slow=35				
H01W1	**Cape Leeuwin H**	**36.09 298**	T	T	15 43 33.1
	baz=147,slow=75,SNR=113				
H01W2	**Cape Leeuwin H**	**36.09 298**	T	T	15 43 33.5
	baz=147,slow=75,SNR=109				
H01W3	**Cape Leeuwin H**	**36.11 298**	T	T	15 43 34.4
	baz=147,slow=75,SNR=118				
ASAR	**Alice Springs**	**39.64 332**	P	P	15 05 35.0 -0.1
	0.4nm,1.0s,baz=159,slow=8.8,SNR=5.5				
WRA	**Warramunga Arr**	**43.13 333**	P	P	15 06 03.6 -0.2
	0.8nm,1.1s,baz=167,slow=7.2,SNR=3.4				
H08S2	**Diego Garcia H**	**78.88 274**	T	T	16 37 21.4
	baz=150,slow=76,SNR=6.8				
H08S1	**Diego Carcia H**	**78.89 274**	T	T	16 37 21.4
	baz=150,slow=76,SNR=4.1				
H08S3	**Diego Garcia H**	**78.90 274**	T	T	16 37 22.7
	baz=150,slow=76,SNR=7.3				

*CNRM **21** 15:16:58.5, 36˝.45N×9˝.60W, h6km, ML2.9*
*MDD **21** 15:17:01.7±1.5, 36˝.53N×9˝.69W, h40km, mbLg2.6/21, Error ellipse: s-maj=13.5km s-min=12.1km az=15.0, PRXIMO*
*IGIL **21** 15:17:02.6, 36˝.60N×9˝.60W, h19km, ML2.3*
*INMG **21** 15:17:02.6±0.9, 36˝.59N×9˝.61W, h20km±3km, ML2.4, Error ellipse: s-maj=4.4km s-min=4.0km az=64.0*

ISC 21 15:16:59.5±2.4, 36˚54N±0˝.08×9˚67W±0˝.09, h32km±12km, n36, σ1§60/63, 1C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**0.90**	**49**	*eP*	**Pn**	**15 17 17.6**	**+1.7**
PFVI				*eS*	**Sn**	**15 17 29.0**	**+1.2**
PFVI				A	A	15 17 29.8	
	48nm,0.4s						
PFVI	**Vila Bisbo**	**0.90**	**49**	⇑P	**Pn**	**15 17 17.6**	**+1.7**
	5.7nm,0.1s,SNR=18						
PFVI				S	**Sn**	**15 17 28.8**	**+1.1**
	76nm,0.1s,SNR=11						
MORF	**Marmelete**	**1.12**	**47**	*eP*	**Pb**	**15 17 20.6**	**+0.3**
MORF				*eS*	**Sb**	**15 17 33.7**	**-0.9**
MORF				AML	AML	15 17 35.2	
	comp=N,108nm,0.1s						
MORF	**Marmelete**	**1.12**	**47**	*eP*	**Pb**	**15 17 20.7**	**+0.3**
MORF				*eS*	**Sb**	**15 17 34.4**	**-0.2**
MORF				A	A	15 17 35.4	
	comp=N,74nm,0.1s						
MORF	**Marmelete**	**1.12**	**47**	P	**Pb**	**15 17 20.7**	**+0.3**
MORF				S	**Sb**	**15 17 34.4**	**-0.2**
	comp=N,74nm,0.1s						
PTEO	**Sao Teotonio**	**1.26**	**37**	*eP*	**Pb**	**15 17 22.5**	**-0.1**
PTEO				*eS*	**Sn**	**15 17 37.7**	**+1.1**
PTEO				A	A	15 17 38.5	
	comp=N,30nm,0.4s						
PTEO	**Sao Teotonio**	**1.26**	**37**	P	**Pb**	**15 17 22.5**	**-0.1**
PTEO				S	**Sn**	**15 17 37.7**	**+1.1**
	comp=N,15nm,0.4s						
MESJ	**Messejana**	**1.74**	**41**	*eP*	**Pn**	**15 17 29.1**	**+1.8**
MESJ				*eS*	**Sn**	**15 17 48.4**	**0.0**
MESJ				AML	AML	15 17 50.6	
	comp=N,17nm,0.1s						
MESJ	**Messejana**	**1.74**	**41**	*ePn*	**Pn**	**15 17 29.2**	**+1.8**
MESJ				*eSn*	**Sn**	**15 17 49.3**	**+0.8**
MESJ				A	A	15 17 59.2	
	comp=N,10nm,0.4s						
MESJ	**Messejana**	**1.74**	**41**	P	**Pn**	**15 17 29.2**	**+1.8**
MESJ				S	**Sn**	**15 17 49.3**	**+0.8**
	comp=N,10nm,0.4s						
PVAQ	**Vaqueiros**	**1.79**	**61**	*ePn*	**Pn**	**15 17 29.8**	**+1.7**
PVAQ				*eSn*	**Sn**	**15 17 50.2**	**+0.5**
PVAQ				A	A	15 17 51.7	
	comp=N,20nm,0.2s						
PVAQ	**Vaqueiros**	**1.79**	**61**	P	**Pn**	**15 17 29.8**	**+1.7**
PVAQ				S	**Sn**	**15 17 50.2**	**+0.5**
	comp=N,20nm,0.2s						
PVAQ	**Vaqueiros**	**1.79**	**61**	P	**Pn**	**15 17 29.8**	**+1.7**
EGRO	**El Granado**	**2.01**	**60**	P	**Pn**	**15 17 32.8**	**+1.6**
	comp=N,1.5nm,0.1s,SNR=13						
EGRO				S	**Sn**	**15 17 55.6**	**+0.4**
	comp=N,26nm,0.2s,SNR=4.9						
PBEJ	**Beja**	**2.07**	**44**	*eSn*	**Sn**	**15 17 57.8**	**+1.2**
PBEJ				A	A	15 18 09.0	
	comp=N,6.6nm,0.2s						
PBEJ	**Beja**	**2.07**	**44**	S	**Sn**	**15 17 57.8**	**+1.2**
	comp=N,3.3nm,0.2s						
EVO	**Evora**	**2.38**	**33**	*ePn*	**Pb**	**15 17 39.7**	**-2.0**
EVO				*eSn*	**Sn**	**15 18 06.2**	**+1.8**
EVO				A	A	15 18 07.7	
	comp=N,19nm,0.2s						
EVO	**Evora**	**2.38**	**33**	P	**Pb**	**15 17 39.7**	**-2.0**
EVO				S	**Sn**	**15 18 06.2**	**+1.8**
	comp=N,19nm,0.2s						
PMAFR	**Mafra**	**2.43**	**7**	*ePn*	**Pn**	**15 17 38.4**	**+1.5**
PMAFR				*eSn*	**Sn**	**15 18 06.0**	**+0.4**
PMAFR				A	A	15 18 09.8	
	comp=N,19nm,0.3s						
PMAFR	**Mafra**	**2.43**	**7**	P	**Pn**	**15 17 38.1**	**+1.2**
	comp=N,9.3nm,0.1s,SNR=9.0						
PMAFR				S	**Sn**	**15 18 05.0**	**-0.5**
	comp=N,34nm,0.2s						
EMIN	**Mina Concepcio**	**2.69**	**62**	P	**Pn**	**15 17 41.9**	**+1.4**
	comp=N,0.4nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**15 18 11.5**	**-0.4**
	comp=N,4.1nm,0.1s,SNR=5.8						
EBAD	**Badajoz**	**3.06**	**43**	P	**Pn**	**15 17 47.0**	**+1.5**
	comp=N,1.2nm,0.1s,SNR=6.6						
EBAD				S	**Sn**	**15 18 20.7**	**-0.2**
	comp=N,6.9nm,0.1s						
PMRV	**Marv??o**	**3.40**	**31**	*ePn*	**Pn**	**15 17 52.3**	**+2.0**
PMRV				*eSn*	**Sn**	**15 18 28.7**	**-0.8**
PMRV				A	A	15 18 31.4	
	comp=N,7.3nm,0.6s						
PMRV	**Marv??o**	**3.40**	**31**	P	**Pn**	**15 17 52.3**	**+2.0**
PMRV				S	**Sn**	**15 18 28.7**	**-0.8**
	comp=N,7.3nm,0.6s						
ECAB	**El Cabril**	**3.72**	**64**	P	**Pn**	**15 17 56.4**	**+1.7**
	comp=N,0.8nm,0.1s,SNR=9.9						
ECAB				S	**Sn**	**15 18 36.0**	**-1.5**
	comp=N,3.3nm,0.1s						
HORN	**Hornachuelos**	**3.76**	**68**	P	**Pn**	**15 17 56.6**	**+1.5**
EADA	**Adamuz**	**4.37**	**67**	P	**Pn**	**15 18 05.4**	**+1.7**
	comp=N,1.2nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**15 18 51.0**	**-2.5**
	comp=N,4.2nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**4.51**	**38**	S	**Sn**	**15 18 55.0**	**-2.0**
	comp=N,4.4nm,0.1s,SNR=9.1						
ELGU	**Los Guajares,**	**4.87**	**84**	S	**Sn**	**15 19 02.9**	**-2.8**
	comp=N,3.5nm,0.3s,SNR=7.9						
MVO	**Moncorvo**	**5.06**	**23**	P	**Pn**	**15 18 14.0**	**+0.9**
	comp=N,1.4nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**15 19 08.1**	**-2.3**
	comp=N,4.8nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**5.16**	**53**	P	**Pn**	**15 18 16.1**	**+1.6**
	comp=N,0.3nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**15 19 10.8**	**-2.2**
	comp=N,1.4nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.42**	**75**	S	**Sn**	**15 19 17.1**	**-2.4**
	comp=N,1.7nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**5.46**	**13**	P	**Pn**	**15 18 19.4**	**+0.8**
	comp=N,1.9nm,0.3s,SNR=7.9						
ELOB				S	**Sn**	**15 19 17.2**	**-3.2**
	comp=N,3.5nm,0.2s,SNR=7.9						
OUK	**Oukaimeden**	**5.53**	**164**	P	**Pn**	**15 18 20.0**	**+0.2**
ECAL	**Calabor**	**5.85**	**22**	P	**Pn**	**15 18 25.6**	**+1.6**
	comp=N,1.4nm,0.2s,SNR=7.9						
ECAL				S	**Sn**	**15 19 27.1**	**-3.0**
	comp=N,3.4nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**5.95**	**45**	S	**Sn**	**15 19 29.5**	**-3.1**
	comp=N,1.7nm,0.3s,SNR=7.9						

*ISCJB **21** 15:34:24.5±0.6, 23˝.93N±0˝.04×94˝.27E±0˝.08, h86km±7km, mb3.5/6, Error ellipse: s-maj=12.3km s-min=6.6km az=174.6*
*IDC **21** 15:34:26.2±4.1, 23˝.94N×94˝.46E, h78km±38km, mb3.3/6, mb1 3.4/7, mb1mx3.1/47, mbtmp3.5/7, ML3.5/1, MS3.2/1, Ms1 3.2/1, ms1mx2.3/24, Error ellipse: s-maj=65.2km s-min=15.7km az=63.0*
*NDI **21** 15:34:27.4±2.2, 23˝.97N×94˝.09E, h33km±21km, ML3.3*

ISC 21 15:34:25.8±1.0, 23˚94N±0˝.05×94˚20E±0˝.10, h76km±11km, n16, σ1§31/19, mb3.5/6, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**0.92**	**346**	*eP*	**Pn**	**15 34 44.2**	**+0.5**
IMP				*eS*	**Sn**	**15 34 57.3**	**+0.2**
IMP				IAML		15 34 59.2	
	comp=N,430nm,0.3s						
IMP				IAML		15 35 04.1	
	comp=E,325nm,0.3s						
KOHI	**KOHIMA**	**1.77**	**357**	*eP*	**Pn**	**15 34 56.7**	**+1.9**
KOHI				*eS*	**Sn**	**15 35 17.9**	**+1.2**
KOHI				IAML		15 35 23.4	
	comp=N,377nm,0.3s						
KOHI				IAML		15 35 24.1	
	comp=E,412nm,0.3s						
SAIH	**SAIHA**	**1.82**	**218**	*eP*	**Pn**	**15 34 55.7**	**+0.3**
SAIH				*eS*	**Sn**	**15 35 18.6**	**+0.8**
SAIH				IAML		15 35 22.8	
	comp=E,264nm,0.3s						
SAIH				IAML		15 35 24.4	
	comp=N,227nm,0.3s						
SHL	**Shillong**	**2.66**	**308**	*eP*	**Pn**	**15 35 07.3**	**+0.7**
SHL				*eS*	**Sn**	**15 35 36.9**	**-1.0**
SHL				IAML		15 35 38.2	
	comp=E,241nm,0.2s						
SHL				IAML		15 35 38.3	
	comp=N,290nm,0.1s						
TEZP	**TEZPUR**	**2.95**	**335**	*eP*	**Pn**	**15 35 09.7**	**-0.8**
TEZP				*eS*	**Sn**	**15 35 41.7**	**-3.1**
TEZP				IAML		15 35 47.4	
	comp=E,224nm,0.1s						
TEZP				IAML		15 35 47.6	
	comp=N,269nm,0.1s						
ITAN	**ITANAGAR**	**3.22**	**352**	*eP*	**Pn**	**15 35 15.3**	**+1.1**
ITAN				*eS*	**Sn**	**15 35 50.2**	**-1.2**
ITAN				IAML		15 36 07.1	
	comp=N,262nm,0.2s						
ITAN				IAML		15 36 08.3	
	comp=E,186nm,0.3s						
ZIRO	**ZIRO**	**3.59**	**355**	*ex*	Pn	15 35 11.6	-7.6
ZIRO				*ex*	x	15 35 22.5	
CMAR	**Chiang Mai Arr**	**7.02**	**140**	P	**Pn**	**15 36 04.5**	**-1.6**
	comp=E,0.2nm,0.3s,baz=316,slow=13,SNR=12						
UTTA	**Uttaradit**	**8.56**	**135**	P	**Pn**	**15 36 26.4**	**-0.6**
MKAR	**Makanchi Array**	**24.73**	**340**	P	**P**	**15 39 41.0**	**+1.0**
	comp=E,0.9nm,0.7s,baz=147,slow=11,SNR=9.1						
SONM	**Songino Array**	**25.75**	**19**	P	**P**	**15 39 48.9**	**-0.6**
	comp=E,0.2nm,0.4s,baz=188,slow=8.7,SNR=3.0						
KURBB	**Kurchatov Arra**	**29.28**	**339**	P	**P**	**15 40 21.5**	**+0.7**
	comp=E,0.5nm,0.2s,baz=159,slow=9.0,SNR=2.8						
BRTR	**Keskin Array B**	**52.87**	**303**	LR	LR	16 11 12.6	
	comp=E,21nm,19.0s,baz=270,slow=42						
WRA	**Warramunga Arr**	**58.59**	**135**	P	P	15 44 13.4	-1.6
	comp=E,0.4nm,1.0s,baz=323,slow=7.4,SNR=7.8						
ARCES	**ARCESS Array B**	**60.35**	**338**	P	**P**	**15 44 27.2**	**+0.6**
	comp=E,1.8nm,0.9s,baz=108,slow=8.9,SNR=4.0						
ASAR	**Alice Springs**	**61.03**	**138**	P	**P**	**15 44 31.2**	**-0.6**
	comp=E,0.2nm,0.4s,baz=321,slow=6.9,SNR=9.2						

IDC 21 15:47:34.8±2.3, 13˚73S×171˚88E, h620km±27km, mb3.5/7, mb1 3.6/8, mb1mx3.1/37, mbtmp4.5/8, Error ellipse: s-maj=26.6km s-min=20.5km az=126.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.78**	**211**	P	P	15 49 53.1	+1.3
	0.7nm,0.3s,baz=152,slow=20,SNR=12						
CTA	**Charters Tower**	**25.30**	**252**	P	P	15 52 13.6	-1.1
	1.1nm,0.3s,baz=73,slow=8.8,SNR=5.9						
RPZ	**Rata Peaks**	**29.89**	**181**	P	P	15 52 53.6	-0.6
	8.0nm,1.0s,baz=354,slow=11,SNR=4.3						
STKA	**Stephens Creek**	**33.08**	**232**	P	P	15 53 22.6	+1.0
	9.7nm,0.4s,baz=64,slow=8.9,SNR=57						
WRA	**Warramunga Arr**	**36.40**	**255**	P	P	15 53 48.6	-0.5
	3.7nm,0.4s,baz=81,slow=6.1,SNR=116						
ASAR	**Alice Springs**	**37.20**	**249**	P	P	15 53 55.6	-0.1
	5.5nm,0.4s,baz=75,slow=9.6,SNR=344						
ASAR				ScP	ScP	15 58 47.7	+0.1
	0.5nm,0.9s,baz=94,slow=4.7,SNR=3.8						
PETK	**Petropavlovsk-**	**67.67**	**351**	P	P	15 57 32.5	+1.1
	3.6nm,1.8s,baz=158,slow=6.8,SNR=4.8						
ILAR	**Eielson Array**	**84.25**	**16**	P	P	15 59 01.3	-0.8
	0.8nm,0.6s,baz=231,slow=5.3,SNR=13						
ARCES	**ARCESS Array B**	**120.35**	**347**	PKP	PKPdf	16 05 16.2	0.0
	2.2nm,0.9s,baz=64,slow=2.2,SNR=6.8						

*ISCJB **21** 15:57:56.0±6.6, 5˚.0N±0˝.1×123˚.4E±0˝.2, h600km, mb3.8/8, Error ellipse: s-maj=27.4km s-min=8.2km az=148.2*
*IDC **21** 15:57:57.8±1.6, 4˚.88N×123˚.21E, h593km±17km, mb3.1/8, mb1 3.2/8, mb1mx2.8/46, mbtmp4.1/8, Error ellipse: s-maj=41.7km s-min=9.2km az=64.0*

ISC 21 15:57:57.6±0.7, 5˚.0N±0˝.1×123˚.4E±0˝.2, h600km, n21, σ1§00/29, mb3.8/8, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**2.34**	**20**	⇓*i*P	**P**	**15 59 11.3**	**-2.1**
WRA	**Warramunga Arr**	**27.00**	**157**	P	**P**	**16 02 53.5**	**+0.1**
	2.9nm,0.4s,baz=337,slow=9.7,SNR=63						
WRA				PcP	**PcP**	**16 05 55.4**	**+0.9**
	0.2nm,0.3s,baz=329,slow=4.5,SNR=4.5						
WRA				S	**S**	**16 06 47.9**	**-2.5**
	0.8nm,0.5s,baz=334,slow=16,SNR=10						
WRA				ScP	**ScP**	**16 08 40.6**	**+1.8**
	0.2nm,0.5s,baz=342,slow=3.2,SNR=4.4						
CMAR	**Chiang Mai Arr**	**27.41**	**301**	P	**P**	**16 02 57.0**	**-0.1**
	1.1nm,0.8s,baz=119,slow=7.2,SNR=11						
ASAR	**Alice Springs**	**30.27**	**161**	P	**P**	**16 03 22.5**	**+0.8**
	1.0nm,0.4s,baz=340,slow=7.0,SNR=69						
ASAR				PcP	**PcP**	**16 06 03.2**	**+0.3**
	0.1nm,0.4s,baz=336,slow=2.7,SNR=3.1						
ASAR				S	**S**	**16 07 40.5**	**-0.2**
	0.9nm,0.6s,baz=325,slow=12,SNR=17						
ASAR				ScP	**ScP**	**16 08 51.1**	**+1.8**
	0.7nm,0.5s,baz=342,slow=3.0,SNR=12						
NWAO	**Narrogin (SRO)**	**38.18**	**188**	P	**P**	**16 04 26.2**	**-1.2**
	5.0nm,0.7s,baz=251,slow=7.9,SNR=4.1						
STKA	**Stephens Creek**	**40.55**	**156**	P	**P**	**16 04 47.5**	**+1.1**
	1.6nm,0.6s,baz=326,slow=17,SNR=3.6						
ODAN	**Odare**	**40.67**	**306**	*eP*	**P**	**16 04 47.6**	**-0.2**
	11nm,0.8s						
RAMN	**Ramite**	**41.35**	**306**	*eP*	**P**	**16 04 53.2**	**+0.1**
	8.8nm,0.7s						
JIRN	**Jiri**	**41.98**	**307**	*eP*	**P**	**16 04 58.0**	**-0.2**
	13nm,0.6s						
GUN	**Gumba**	**42.34**	**307**	*eP*	**P**	**16 05 00.8**	**-0.2**
	14nm,0.6s						
PKI	**Pulchoki**	**42.57**	**306**	*eP*	**P**	**16 05 02.0**	**-0.8**
PKIN	**Phulchoki**	**42.58**	**306**	*eP*	**P**	**16 05 02.0**	**-0.8**
	3.1nm,0.6s						
KKN	**Kakani**	**42.77**	**306**	*eP*	**P**	**16 05 03.6**	**-0.6**
DMN	**Daman**	**42.83**	**306**	*eP*	**P**	**16 05 04.2**	**-0.5**
KOLN	**Koldanda**	**44.12**	**305**	*eP*	**P**	**16 05 14.5**	**-0.1**
	19nm,0.7s						
DANN	**Dangsing**	**44.22**	**306**	*eP*	**P**	**16 05 15.2**	**-0.3**
	19nm,0.7s						
PYUN	**Piuthan**	**44.74**	**305**	*eP*	**P**	**16 05 19.3**	**-0.1**
	14nm,0.8s						
SONM	**Songino Array**	**45.11**	**344**	P	**P**	**16 05 22.6**	**+0.8**
	0.6nm,0.7s,baz=161,slow=8.9,SNR=4.7						
MKAR	**Makanchi Array**	**54.67**	**326**	P	**P**	**16 06 31.8**	**+0.5**
	1.9nm,0.6s,baz=122,slow=7.4,SNR=24						
MKAR				PcP	**PcP**	**16 07 25.0**	**+0.3**
	0.8nm,0.6s,baz=122,slow=4.0,SNR=5.6						
MKAR				ScP	**ScP**	**16 10 27.4**	**+1.1**
	0.2nm,0.6s,baz=122,slow=5.2,SNR=2.8						
FINES	**FINESS Array B**	**89.17**	**332**	P	**P**	**16 09 49.3**	**-0.7**
	1.5nm,0.8s,baz=111,slow=6.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**119.41**	**288**	PKP	**PKPdf**	**16 15 40.8**	**0.0**
	0.3nm,0.5s,baz=66,slow=2.4,SNR=3.4						

IDC 21 16:03:44.4±1.6, 3˚.10N×65˚.47E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.5/42, mbtmp3.6/7, MS3.2/7, Ms1 3.2/7, ms1mx2.9/44, Error ellipse: s-maj=44.6km s-min=25.3km az=51.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**10.87**	**149**	T	T	16 17 53.4	
	baz=330,slow=76,SNR=124						
H08N3	**Diego Garcia H**	**10.88**	**150**	T	T	16 17 33.5	
	baz=330,slow=76,SNR=113						
H08N1	**Diego Carcia H**	**10.89**	**149**	T	T	16 17 54.5	
	baz=330,slow=76,SNR=136						
PALK	**Pallekele**	**15.72**	**74**	LR	LR	16 12 24.1	
	comp=Z,51nm,19.1s,baz=297,slow=33						
WSAR	**Wadi Sarin**	**21.09**	**342**	LR	LR	16 15 26.9	
	comp=Z,64nm,18.5s,baz=219,slow=33						
CMAR	**Chiang Mai Arr**	**36.14**	**63**	P	P	16 10 50.2	+1.5
	0.2nm,0.3s,baz=264,slow=6.3,SNR=3.4						
CMAR				LR	LR	16 24 38.3	
	comp=Z,46nm,19.2s,baz=218,slow=35						
KBZ	**Khabaz**	**45.13**	**337**	LR	LR	16 30 19.9	
	comp=Z,31nm,18.1s,baz=108,slow=35						
MKAR	**Makanchi Array**	**45.91**	**16**	P	P	16 12 07.6	-1.2
	0.3nm,0.8s,baz=208,slow=8.1,SNR=3.2						
BRTR	**Keskin Array B**	**46.49**	**326**	P	P	16 12 13.9	+0.3
	0.4nm,0.6s,baz=121,slow=5.6,SNR=3.4						
BRTR				LR	LR	16 31 06.8	
	comp=Z,9.6nm,18.0s,baz=264,slow=35						
BOSA	**Boshof**	**49.85**	**228**	LR	LR	16 32 23.0	
	comp=Z,34nm,18.2s,baz=32,slow=34						
ZALV	**Zalesovo Beam**	**53.11**	**14**	P	P	16 13 01.9	-1.7
	0.5nm,0.3s,baz=193,slow=9.0,SNR=3.8						
SONM	**Songino Array**	**56.77**	**32**	P	P	16 13 30.7	+0.3
	0.2nm,0.4s,baz=224,slow=6.0,SNR=2.8						
H01W3	**Cape Leeuwin H**	**59.23**	**134**	T	T	17 17 48.2	
	baz=300,slow=75,SNR=17						
H01W2	**Cape Leeuwin H**	**59.24**	**134**	T	T	17 17 51.6	
	baz=300,slow=75,SNR=16						
H01W1	**Cape Leeuwin H**	**59.25**	**134**	T	T	17 17 46.4	
	baz=300,slow=75,SNR=17						
TORD	**Torodi Ar. Bea**	**63.77**	**283**	LR	LR	16 40 32.5	
	comp=Z,29nm,18.5s,baz=335,slow=35						
WRA	**Warramunga Arr**	**71.31**	**112**	P	P	16 15 06.4	-0.1
	0.7nm,0.8s,baz=289,slow=5.3,SNR=7.8						
ASAR	**Alice Springs**	**71.64**	**116**	P	P	16 15 07.7	-0.8
	0.5nm,0.9s,baz=281,slow=5.6,SNR=5.0						
TXAR	**Lajitas Array**	**146.11**	**343**	PKPbc	PKPab	16 23 27.6	-0.2
	0.6nm,0.7s,baz=64,slow=2.9,SNR=6.2						

IDC 21 16:05:51.8±4.3, 16˚88S×177˚84W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/29, mbtmp3.8/4, Error ellipse: s-maj=183.3km s-min=35.7km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.61**	**240**	P	P	16 13 25.7	+0.4
	0.8nm,0.5s,baz=98,slow=15,SNR=3.1						
WRA	**Warramunga Arr**	**45.36**	**258**	P	P	16 14 12.3	0.0
	0.5nm,0.5s,baz=94,slow=7.4,SNR=32						
ASAR	**Alice Springs**	**45.60**	**253**	P	P	16 14 13.7	-0.6
	2.0nm,0.6s,baz=88,slow=8.8,SNR=65						
ILAR	**Eielson Array**	**84.77**	**13**	P	P	16 18 27.6	0.0
	0.6nm,1.1s,baz=218,slow=4.6,SNR=4.2						

*NNC **21** 16:12:58.9±0.4, 42˚.97N×71˚.58E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=5.5km s-min=1.7km az=22.0*
*SOME **21** 16:12:59.7, 43˚.08N×71˚.50E, h5km*
*ISCJB **21** 16:13:00.9±0.4, 42˚.98N±0˝.03×71˚.57E±0˝.02, h10km, Error ellipse: s-maj=4.5km s-min=2.4km az=1.3*
*KRNET **21** 16:13:00.6±0.1, 42˚.94N×71˚.68E, h19km, mb3.4*

ISC 21 16:13:00.4±0.7, 42˚89N±0˝.03×71˚61E±0˝.02, h10km, n49, σ1§97/85, 33C-25D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZA	**Taraz**	**0.21**	**271**	*eP*	**Pg**	**16 13 03.6**	**-1.1**
	571nm,0.1s						
DZA				*eS*	**Sg**	**16 13 06.3**	**-1.3**
	6µm,0.4s						
MNAS	**Manas**	**0.77**	**121**	⇓P	**Pg**	**16 13 15.0**	**-0.3**
	12nm,0.2s						
MNAS				⇓S	**Sb**	**16 13 26.4**	**-0.1**
	151nm,0.3s						
MNAS	**Manas**	**0.77**	**121**	⇑*i*P	**Pg**	**16 13 15.0**	**-0.3**
	baz=26						
MNAS				⇑*i*S	**Sb**	**16 13 25.7**	**-0.9**
	baz=26						
KK31	**Karatay Array**	**0.83**	**285**	⇑P	**Pg**	**16 13 14.2**	**-2.3**
	7.0nm,0.3s,baz=103,slow=17,SNR=20						
KK31				⇑S	**Sg**	**16 13 25.3**	**-2.0**
	22nm,0.2s,baz=96,slow=29,SNR=8.9						
ARK	**Arkit**	**1.12**	**166**	⇓*i*P	**Pn**	**16 13 23.0**	**+0.8**
	baz=69						
ARK				⇓*i*S	**Sn**	**16 13 39.1**	**+1.3**
	baz=69						
MRKS	**Merke**	**1.20**	**96**	⇑*i*P	**Pb**	**16 13 22.5**	**-0.7**
	37nm,0.4s						
MRKS				*eS*	**Sn**	**16 13 39.4**	**-0.2**
	188nm,0.3s						
BRLS	**Borolday**	**1.31**	**277**	*eP*	**Pg**	**16 13 25.5**	**0.0**
	4.2nm,0.2s						
BRLS				*eS*	**Sg**	**16 13 43.5**	**+1.0**
	109nm,0.4s						
IUG	**Iuzhnay**	**1.38**	**238**	*eP*	**Pg**	**16 13 26.4**	**-0.5**
	16nm,0.3s						
IUG				*eS*	**Sg**	**16 13 45.3**	**+0.4**
	499nm,0.5s						
CHM	**Chimkent**	**1.59**	**250**	*eP*	**Pg**	**16 13 30.5**	**-0.3**
	334nm,0.2s						
CHM				*eS*	**Sg**	**16 13 52.8**	**+1.4**
	776nm,0.4s						
EKS2	**Erkin-Say**	**1.61**	**97**	P	**Pb**	**16 13 30.1**	**-0.2**
	SNR=77						
EKS2	**Erkin-Say**	**1.61**	**97**	⇑*i*P	**Pb**	**16 13 29.6**	**-0.7**
	baz=0.0						
EKS2				⇑*i*S	**Sb**	**16 13 50.6**	**-0.1**

KST	**Kastek**	**3.20**	**86**	*e*P		**Pb**	**16 13 57.9**	**+0.6**	
	50nm,0.4s								
KST				*e*S		**Sg**	**16 14 40.0**	**-3.0**	
	52nm,0.5s								
SFK	**Sufi-Kurgan**	**3.21**	**153**	⇑Pg		**Pg**	**16 14 01.8**	**0.0**	
	1.2nm,0.4s								
SFK				⇓Lg		Lg	16 14 42.6		
	1.7nm,0.3s								
SFK	**Sufi-Kurgan**	**3.21**	**153**	⇓*i*P		**Pb**	**16 13 53.8**	**-3.7**	
	baz=54								
SFK				⇓*i*S		**Sn**	**16 14 32.3**	**+2.9**	
	baz=54								
BOOM	**Boomskoye usch**	**3.22**	**96**	⇓*i*P		**Pn**	**16 13 53.2**	**+2.1**	
	baz=97								
BOOM				⇓*i*S		**Sn**	**16 14 31.5**	**+1.9**	
	baz=97								
MTBS	**Maitube**	**3.54**	**84**	⇓*i*P		**Pg**	**16 14 06.1**	**-2.1**	
	13nm,0.3s								
MTBS				⇓*i*S		**Sg**	**16 14 53.5**	**-0.6**	
	38nm,0.5s								
NRN	**Naryn**	**3.57**	**113**	⇑*i*P		**Pn**	**16 13 58.6**	**+2.5**	
	baz=14								
NRN				⇑*i*S		**Sn**	**16 14 40.7**	**+2.1**	
	baz=14								
KUU	**Kurty**	**3.59**	**72**	*e*P		**Pb**	**16 14 04.6**	**+0.7**	
	17nm,0.4s								
KUU				⇓*i*S		**Sb**	**16 14 51.1**	**+3.5**	
	89nm,0.5s								
IZV	**Izvestkoviy**	**3.67**	**86**	*e*P		**Pb**	**16 14 06.9**	**+1.5**	
	31nm,0.3s								
IZV				*e*S		**Sg**	**16 14 55.0**	**-3.4**	
	65nm,0.6s								
KTBS	**Karatobe**	**3.79**	**76**	*e*P		**Pb**	**16 14 09.8**	**+2.4**	
	15nm,0.5s								
KTBS				*e*S		**Sg**	**16 14 59.8**	**-2.3**	
	60nm,0.4s								
KNDC	**Almaty**	**3.94**	**83**	⇑Pg		**Pb**	**16 14 12.4**	**+2.5**	
	15nm,0.3s								
KNDC				⇑Lg		Lg	16 15 03.1		
	30nm,0.5s								
MDOK	**Medeo**	**4.00**	**84**	*e*P		**Pb**	**16 14 13.7**	**+2.7**	
	16nm,0.4s								
MDOK				*e*S		**Sg**	**16 15 07.0**	**-1.7**	
	31nm,0.7s								
CHKK	**Chushkaly**	**4.04**	**74**	⇑*i*P		**Pb**	**16 14 13.9**	**+2.3**	
	19nm,0.7s								
CHKK				*e*S		**Sg**	**16 15 08.2**	**-1.8**	
	89nm,0.6s								
KOTS	**Kotyrbulak**	**4.04**	**83**	*e*P		**Pb**	**16 14 14.3**	**+2.5**	
	13nm,0.3s								
KOTS				*e*S		**Sg**	**16 15 08.5**	**-1.8**	
	70nm,0.6s								
ARXS	**Arharly**	**4.71**	**72**	*e*P		**Pb**	**16 14 25.3**	**+2.3**	
	13nm,0.5s								
ARXS				*e*S		**Sg**	**16 15 27.4**	**-4.0**	
	40nm,0.7s								
SATY	**Saty**	**4.99**	**86**	*e*P		**Pb**	**16 14 30.4**	**+2.6**	
	6.8nm,0.3s								
SATY				*e*S		**Sg**	**16 15 35.9**	**-4.6**	
	15nm,0.4s								
MNBS	**Baschi**	**5.08**	**74**	*e*P		**Pb**	**16 14 31.3**	**+1.8**	
	7.7nm,0.4s								
MNBS				*e*S		**Sb**	**16 15 36.6**	**+6.1**	
	28nm,0.8s								
OTUK	**Ortayu**	**5.38**	**5**	⇓Pn		**Pn**	**16 14 20.2**	**-0.5**	
	1.2nm,0.4s								
OTUK				⇓Pg		**Pg**	**16 14 40.4**	**-3.0**	
	2.7nm,0.5s								
OTUK				⇓Lg		Lg	16 15 51.1		
	8.2nm,0.6s								
PDGK	**Podgornoye**	**5.78**	**83**	⇓Pg		**Pb**	**16 14 45.0**	**+3.6**	
	1.9nm,0.4s								
PDGK				⇑Lg		Lg	16 15 59.7		
	5.6nm,0.6s								
MK31	**Makanchi Array**	**8.53**	**59**	⇑Pn		**Pn**	**16 15 05.1**	**+1.2**	
MK31				⇑Sn		**Sn**	**16 16 39.6**	**-0.6**	
	0.9nm,0.5s								
MK31				⇑Lg		Lg	16 17 27.1		
	4.5nm,0.6s								
AB31	**Akbulak array**	**10.30**	**312**	⇑Pn		**Pn**	**16 15 25.1**	**-3.0**	
	0.6nm,0.6s								
AB31				⇑Sn		**Sn**	**16 17 26.6**	**+3.0**	
	2.1nm,0.9s								
AB31				⇓Lg		Lg	16 18 21.7		
	1.1nm,0.8s								

*NIED **21** 16:24:00,32.˚10N×141.˚30E,h35km,Mw3.7 Best double couple: M₀4.67000×10¹⁴ NP1:φ₈46.00000°,δ37.00000°, λ144.00000°. NP2:φ₈166.00000°,δ69.00000°,λ58.00000°.*

*IDC **21** 16:24:44.6±0.8,31.˚82N×141.˚22E,h0km,mb3.9/10, mb1 4.1/12,mb1mx3.8/46,mbtmp4.0/12,ML3.8/2,MS2.5/1, Ms1 2.5/1,ms1mx1.9/46,Error ellipse: s-maj=26.1km s-min=15.9km az=78.0*

*ISCJB **21** 16:24:48.0±0.4,31.˚79N±0.˚04×141.˚27E±0.˚09,h35km, mb4.0/12,Error ellipse: s-maj=11.6km s-min=3.7km az=156.8*

*JMA **21** 16:24:49.1±0.4,32.˚08N×141.˚30E,h13km,M4.1*

*NEIC **21** 16:24:51.6±0.8,31.˚75N×141.˚12E,h52km±7km,mb4.7/5, Error ellipse: s-maj=11.8km s-min=6.1km az=72.0*

ISC 21 16:24:49.6±0.6,**31.˚81N**±0.˚05×**141.˚25E**±0.˚09,**h35**km,**n51,** σ1§**41**/52,**mb4.0**/12,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**1.42**	**298**	P	**Pn**	**16 25 13.7**	**+0.7**
JHCJ	**Hachijojimakas**	**1.76**	**316**	P	**Pn**	**16 25 17.4**	**-0.2**
JHJ2	**Mitsune**	**1.78**	**317**	*e*Pn	**Pn**	**16 25 17.8**	**0.0**
JHJ2	**Mitsune**	**1.78**	**317**	P	**Pn**	**16 25 17.8**	**0.0**
JHJ	**Hachijo jima 2**	**1.80**	**317**	Pn	**Pn**	**16 25 17.7**	**-0.5**
	202nm,0.3s,baz=357,slow=23,SNR=104						
JHJ				LR	LR	16 25 34.2	
	comp=Z,60nm,18.3s,baz=330,slow=28						
JHJ				Sn	**Sn**	**16 25 37.6**	**-2.2**
	137nm,0.3s,baz=87,slow=21,SNR=5.6						
JMKN	**Mikurajimanish**	**2.51**	**327**	P	**Pn**	**16 25 27.9**	**+0.1**
JMKN				*e*S	**Sn**	**16 25 55.9**	**-1.3**
BSO1	**Boso 1**	**2.85**	**355**	P	**Pn**	**16 25 31.3**	**-0.8**
JOD2	**Odawara 2**	**3.89**	**333**	P	**Pn**	**16 25 47.0**	**+0.1**
JYN	**Shimob**	**4.32**	**329**	P	**Pn**	**16 25 55.3**	**+2.5**
CBIJ	**Chichi jima**	**4.76**	**170**	*e*Pn	**Pn**	**16 25 59.7**	**+0.8**
CBIJ				*e*Sn	**Sn**	**16 26 52.1**	**-0.8**
CBIJ	**Chichi jima**	**4.76**	**170**	P	**Pn**	**16 26 00.3**	**+1.4**
CBIJ				S	**Sn**	**16 26 52.3**	**-0.7**
JCJ	**Chichijima**	**4.76**	**170**	Pn	**Pn**	**16 25 59.3**	**+0.3**
	15nm,0.3s,baz=92,slow=23,SNR=12						
JCJ				Sn	**Sn**	**16 26 52.0**	**-0.9**
	22nm,0.3s,baz=284,slow=22,SNR=7.2						
INU	**Inuyama**	**5.00**	**316**	*e*Pn	**Pn**	**16 26 02.9**	**+0.9**
JTNC	**Tanabenakahech**	**5.16**	**294**	P	**Pn**	**16 26 05.9**	**+1.6**
JYTA	**Yamagatataniai**	**5.33**	**316**	P	**Pn**	**16 26 09.1**	**+2.4**
MJAR	**Matsushiro Arr**	**5.35**	**333**	Pn	**Pn**	**16 26 09.0**	**+2.0**
	2.9nm,0.3s,baz=160,slow=13,SNR=16						
MJAR				Sn	**Sn**	**16 27 06.5**	**-0.9**
	baz=154,slow=14,SNR=2.9						
MAJO	**Matsushiro**	**5.36**	**333**	*e*Pn	**Pn**	**16 26 09.6**	**+2.5**
MAJO				*e*Sn	**Sn**	**16 27 06.5**	**-1.0**
MAT	**Matsushiro**	**5.36**	**333**	P	**Pn**	**16 26 09.4**	**+2.4**
MAT				S	**Sn**	**16 27 06.3**	**-1.2**
MJB9	**Matsu-Tunnel**	**5.36**	**333**	*e*Pn	**Pn**	**16 26 09.8**	**+2.7**
JNU	**Nakatsue**	**8.86**	**281**	LR	LR	16 30 20.8	
	comp=Z,25nm,18.0s,baz=91,slow=38						
ASAJ	**Asahikawa**	**12.33**	**5**	Pn	**Pn**	**16 27 40.9**	**-1.7**
	0.4nm,0.3s,baz=199,slow=19,SNR=5.5						
KSRS	**Korea Array**	**12.33**	**301**	Pn	**Pn**	**16 27 46.1**	**+3.5**
	baz=113,slow=13,SNR=4.6						
KSAR	**Wonju Array Be**	**12.36**	**301**	Pn	**Pn**	**16 27 46.1**	**+3.1**
ANA2	**Anatahan**	**15.92**	**164**	*e*Pn	**P**	**16 28 32.5**	**-1.9**
	67nm,0.7s						
SSLB	**Suanglung**	**19.63**	**251**	*e*P	**P**	**16 29 12.7**	**-2.6**
	66nm,2.0s						
H11N2	**WAKE ISLAND Hy**	**25.97**	**111**	T	T	16 57 36.3	
	baz=310						
H11N1	**WAKE ISLAND Hy**	**25.97**	**111**	T	T	16 57 44.5	
	baz=310						
H11N3	**WAKE ISLAND Hy**	**25.98**	**111**	T	T	16 57 41.1	
	baz=310						
H11S3	**WAKE ISLAND Hy**	**26.49**	**114**	T	T	16 59 19.3	
	baz=304,slow=75,SNR=8.4						
H11S1	**WAKE ISLAND Hy**	**26.49**	**114**	T	T	16 59 19.4	
	baz=304,slow=75,SNR=8.4						
H11S2	**WAKE ISLAND Hy**	**26.50**	**114**	T	T	16 59 19.8	
	baz=304,slow=75,SNR=5.9						
SONA0	**Songino Array**	**30.87**	**311**	*e*P	**P**	**16 31 02.9**	**+0.2**
SONM	**Songino Array**	**30.87**	**311**	P	**P**	**16 31 02.9**	**+0.2**
	0.8nm,0.7s,baz=114,slow=8.2,SNR=5.2						
MK01	**Makanchi Array**	**46.94**	**306**	*e*P	**P**	**16 33 16.1**	**-0.7**
MK32	**Makanchi Array**	**46.94**	**306**	*e*P	**P**	**16 33 16.4**	**-0.4**
MKAR	**Makanchi Array**	**46.94**	**306**	P	**P**	**16 33 16.4**	**-0.4**
	1.4nm,0.7s,baz=90,slow=9.2,SNR=13						
KURBB	**Kurchatov Arra**	**49.24**	**312**	P	**P**	**16 33 33.2**	**-1.3**
	0.7nm,0.4s,baz=90,slow=8.8,SNR=9.9						
WR1	**Warramunga Arr**	**51.88**	**188**	*e*P	**P**	**16 33 54.6**	**0.0**
	12nm,1.5s						
WRA	**Warramunga Arr**	**51.88**	**188**	P	**P**	**16 33 54.6**	**0.0**
	1.3nm,0.4s,baz=5.1,slow=7.6,SNR=59						
ILAR	**Eielson Array**	**54.02**	**30**	P	**P**	**16 34 09.9**	**-0.1**
	0.4nm,0.6s,baz=268,slow=6.3,SNR=6.7						
ILB	**Eielson Array**	**54.02**	**30**	*e*P	**P**	**16 34 10.6**	**+0.6**
AS31	**Alice Springs**	**55.60**	**188**	*e*P	**P**	**16 34 21.6**	**-0.4**
	2.1nm,1.4s						
ASAR	**Alice Springs**	**55.61**	**188**	P	**P**	**16 34 22.1**	**+0.1**
	0.4nm,0.5s,baz=3.4,slow=7.3,SNR=13						
INK	**Inuvik**	**59.12**	**26**	P	**P**	**16 34 46.3**	**+0.1**
	0.8nm,0.3s,baz=276,slow=6.3,SNR=6.9						
INK	**Inuvik**	**59.12**	**26**	*e*P	**P**	**16 34 46.4**	**+0.3**
	22nm,2.0s						
ABKAR	**Akbulak array**	**61.28**	**312**	*e*P	**P**	**16 35 00.6**	**-0.6**
FIA0	**FINESS Array S**	**73.38**	**333**	*e*P	**P**	**16 36 17.5**	**-0.1**
FINES	**FINESS Array B**	**73.38**	**333**	P	**P**	**16 36 17.5**	**-0.1**
	1.5nm,0.7s,baz=46,slow=5.5,SNR=6.0						
AKASG	**Malin Array Be**	**78.36**	**323**	P	**P**	**16 36 47.5**	**+1.3**
	0.4nm,0.4s,baz=54,slow=5.2,SNR=2.9						
LTX	**Lajitas Array**	**93.41**	**52**	*e*P	**P**	**16 38 02.9**	**+1.2**
TXAR	**Lajitas Array**	**93.41**	**52**	P	**P**	**16 38 02.9**	**+1.2**
	0.5nm,0.7s,baz=308,slow=3.8,SNR=6.1						

*ISK **21** 16:26:35.9,38.˚92N×43.˚55E,h20km,ML1.8/3*

*DDA **21** 16:26:36.6,38.˚95N×43.˚49E,h8km,Ml2.5*

*ISCJB **21** 16:26:37.1±0.7,38.˚95N±0.˚04×43.˚56E±0.˚07,h16km±7km, Error ellipse: s-maj=9.6km s-min=6.0km az=13.9*

ISC 21 16:26:36.4±0.9,**38.˚96N**±0.˚04×**43.˚52E**±0.˚05,**h15**km±6km, **n8,** σ0§**58**/14,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.05**	**48**	*i*P	**Pg**	**16 26 39.3**	**-0.3**
VMUR				*i*S	**Sg**	**16 26 41.9**	**+0.3**
CLDR	**Caldiran**	**0.36**	**59**	PG	**Pg**	**16 26 43.9**	**0.0**
CLDR				SG	**Sb**	**16 26 49.9**	**-0.3**
CLDR	**Caldiran**	**0.36**	**59**	*i*P	**Pg**	**16 26 43.8**	**-0.1**
CLDR				*i*S	**Sb**	**16 26 50.5**	**+0.4**
VANB	**Van**	**0.38**	**196**	PG	**Pb**	**16 26 45.1**	**+0.3**
VANB				SG	**Sb**	**16 26 51.9**	**+1.4**
TVAN	**Van**	**0.44**	**192**	*i*P	**Pg**	**16 26 44.8**	**-0.5**
TVAN				*i*S	**Sb**	**16 26 52.1**	**-0.3**
TUTA	**Tutak**	**0.71**	**309**	*i*P	**Pg**	**16 26 50.2**	**-0.1**
AGRB	**Hanur-Agry**	**0.74**	**327**	PG	**Pb**	**16 26 51.6**	**+0.4**
AGRB				SG	**Sn**	**16 27 03.2**	**-0.4**
GURO	**Guroymak-BITLI**	**1.23**	**251**	PN	**Pn**	**16 26 58.8**	**-0.4**

MEX 21 16:37:14.8±0.6,**16.˚41N×98.˚02W,h5**km,**MD3.7,Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.10**	**263**	*e*P	Pg	16 37 16.4	-0.7
PNIG				*e*S	Sg	16 37 18.8	+0.3

*BJI **21** 16:46:35.4,11.˚40S×117.˚90E,h10km,mb5.7/80,mB5.6/55, Ms4.9/80,Ms7 4.8/72*

*IDC **21** 16:46:36.4±0.3,11.˚37S×117.˚93E,h0km,mb5.5/36, mb1 5.5/40,mb1mx5.4/43,mbtmp5.5/40,ML5.4/4,MS4.6/26, Ms1 4.6/26,ms1mx4.5/36,Error ellipse: s-maj=11.2km s-min=9.4km az=67.0*

*ISCJB **21** 16:46:39.3±0.3,11.˚43S±0.˚02×117.˚93E±0.˚02,h35km±2km, mb5.7/209,MS5.0/142,Error ellipse: s-maj=3.4km s-min=2.6km az=19.1*

*NEIC **21** 16:46:39.0±0.0,11.˚58S×118.˚02E,h23km,Moment Tensor Solution. s15 Moment tensor: Scale 10¹⁷Nm; Mrr-1.52; Mθθ1.56; Mφφ-0.04; Mrθ-0.78; Mθφ-0.32; Mφr0.01; Best double couple: M₀1.80000×10¹⁷ NP1:φ₉96.00000°, δ58.00000°,λ-95.00000°. NP2:φ₉286.00000°,δ32.00000°, λ-81.00000°. Principal axes: T 1.8000, Plg13.0000°, Azm190.0000°; N -0.0900, Plg4.0000°, Azm99.0000°; P -1.7100, Plg76.0000°, Azm351.0000°;*

*DJA **21** 16:46:40.4±0.5,12.˚S±1.˚1×11.˚8E±.˚,h28km±4km,M5.7/110, mb5.8/110,mB6.0/96,MLv6.3/30,Mw(mB)5.7/96,Mwp5.5/8*

*NEIC **21** 16:46:40.1±0.1,11.˚36S×117.˚93E,h25km,mb5.8/96, ME5.3,MS5.1/88,MW5.3,MW5.4,Error ellipse: s-maj=3.6km s-min=2.5km az=215.0 Best double couple: NP1:φ₉321.00000°,δ47.00000°,λ-61.00000°. NP2: φ₉102.00000°,δ51.00000°,λ-118.00000°. Principal axes: T 1.1200, Plg2.0000°, Azm211.0000°; N -0.0600, Plg21.0000°, Azm120.0000°; P -1.0600, Plg69.0000°, Azm306.0000°; Broadband fault plane solution: P waves. NP1:φ₉240.00000°,δ20.00000°,λ-90.00000°. NP2: φ₉60.00000°,δ70.00000°,λ-90.00000°. Principal axes: T Plg25.0000°, Azm150.0000°; N Plg0.0000°, Azm0.0000°; P Plg65.0000°, Azm330.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [IV] at Denpasar and [III] at Kuta, Bali. Also felt at Gianyar and Sukawati and on Nusa Penida. Felt [III] at Lombok, Lombok.

*MOS **21** 16:46:42.1±1.0,11.˚06S×117.˚90E,h42km,mb5.9/81, MS4.7/25 Error ellipse: s-maj=7.9km s-min=4.8km az=112.6*

*GCMT **21** 16:46:43.1±0.1,11.˚46S±0.˚01×117.˚98E±0.˚01,h35km, MW5.4/116,Moment Tensor Solution. s111,c180; s116,c258; Duration: 1s3 Moment tensor: Scale 10¹⁷ Nm; Mrr-1.36±.03; Mθθ1.56±.02; Mφφ-0.19±.02; Mrθ-0.89±.02; Mθφ-0.36±.01; Mφr-0.38±.03; Best double couple: M₀1.79200×10¹⁷ NP1:φ₉82.00000°,δ62.00000°, λ-111.00000°. NP2:φ₉301.00000°,δ34.00000°, λ-57.00000°. Principal axes: T 1.8390, Plg15.0000°, Azm187.0000°; N -0.0920, Plg18.0000°, Azm92.0000°; P -1.7460, Plg66.0000°, Azm314.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 21 16:46:40.7±0.5,**11.˚36S**±0.˚03×**117.˚92E**±0.˚03,**h31**km±3km, **h31**km:**pP-P,n1525,**σ1§**46**/1470,**mb5.7**/214,**MS5.0**/143, **38C-72D,South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**2.24**	**40**	P	**Pn**	**16 47 17.4**	**+1.7**
WBSI				S	**Sn**	**16 47 43.0**	**+0.7**
PLAI	**Plampang**	**2.52**	**357**	P	**Pn**	**16 47 21.6**	**+2.1**
TWSI	**Taliwang, Sumb**	**2.80**	**339**	P	**Pn**	**16 47 25.5**	**+2.2**
BASI	**Baing, Sumba**	**2.85**	**67**	P	**Pn**	**16 47 24.6**	**+0.6**
WSI	**Waingapu**	**2.88**	**55**	P	**Pn**	**16 47 25.8**	**+1.3**
IGBI	**Denpasar**	**3.72**	**313**	P	**Pn**	**16 47 37.1**	**+1.1**
DNP	**Denpasar**	**3.77**	**315**	P	**Pn**	**16 47 38.0**	**+1.3**
DNP	**Denpasar**	**3.77**	**315**	P	**Pn**	**16 47 38.0**	**+1.3**
SRBI	**Singaraja**	**4.21**	**320**	P	**Pn**	**16 47 44.4**	**+1.7**
EDFI	**Ende, Flores**	**4.53**	**55**	P	**Pn**	**16 47 47.8**	**+0.5**
JAGI	**Jajag, Banyuwa**	**4.69**	**307**	*e*Pn	**Pn**	**16 47 49.9**	**+0.5**
JAGI	**Jajag, Banyuwa**	**4.69**	**307**	P	**Pn**	**16 47 50.1**	**+0.7**
MMRI	**Maumere**	**5.04**	**58**	*e*Pn	**Pn**	**16 47 54.2**	**0.0**
MMRI	**Maumere**	**5.04**	**58**	P	**Pn**	**16 47 54.8**	**+0.6**
GMJI	**Gumukmas**	**5.37**	**304**	P	**Pn**	**16 47 59.4**	**+0.7**
BLJI	**Banyuglugur**	**5.57**	**310**	P	**Pn**	**16 48 02.8**	**+1.3**
	3μm,0.7s,59μm40nm						
BATI	**Baumata**	**5.76**	**79**	Pn	**Pn**	**16 48 05.0**	**+0.9**
	312nm,0.3s,baz=277,slow=3.2,SNR=249						
BATI				Sn	**Sn**	**16 49 08.7**	**-0.5**
	474nm,0.3s,baz=180,slow=23,SNR=8.6						
BATI	**Baumata**	**5.76**	**79**	P	**Pn**	**16 48 04.6**	**+0.5**
	724nm,0.6s,7μm4.6nm						
KMMI	**Kalianget**	**5.79**	**317**	P	**Pn**	**16 48 08.2**	**+3.7**
	629nm,0.6s,9μm8.5nm						
BKSI	**Bulukumba**	**6.38**	**20**	P	**Pn**	**16 48 15.7**	**+3.1**
	2μm,0.7s,18μm13μm12nm						
SOEI	**Soe**	**6.44**	**76**	*e*Pn	**Pn**	**16 48 14.3**	**+0.7**
SOEI	**Soe**	**6.44**	**76**	P	**Pn**	**16 48 14.4**	**+0.8**
	2μm,0.9s,17μm15nm						
PWJI	**Pagerwojo**	**6.88**	**298**	P	**Pn**	**16 48 19.9**	**+0.5**
	1μm,0.8s,27μm20nm						
GRJI	**Gresik**	**6.95**	**309**	P	**Pn**	**16 48 21.7**	**+1.2**
	420nm,0.5s,7μm5.2nm						
BNSI	**Bone**	**7.25**	**18**	P	**Pn**	**16 48 29.1**	**+4.6**
	2μm,0.8s,17μm18μm10nm						
PCJI	**Pacitan**	**7.35**	**295**	P	**Pn**	**16 48 27.1**	**+1.2**
	2μm,0.8s,22μm16nm						
BBSI	**Bau Bau**	**7.43**	**39**	P	**Pn**	**16 48 29.0**	**+1.9**
	154nm,1.1s,1μm0.5nm						
TBJI	**Tambak Boyo**	**7.50**	**306**	P	**Pn**	**16 48 29.0**	**+1.0**
	464nm,0.9s,6μm6.2nm						
NGJI	**Ngawi**	**7.50**	**301**	P	**Pn**	**16 48 30.4**	**+2.4**
	967nm,1.1s,11μm8.4nm						
SPSI	**Sidrap Palu**	**7.57**	**14**	P	**Pn**	**16 48 32.5**	**+3.5**
	390nm,0.8s,6μm9μm2.9nm						
WOJI	**Wonogiri, Jawa**	**7.73**	**296**	P	**Pn**	**16 48 32.9**	**+1.7**
	559nm,1.1s,10μm9.5nm						
UGM	**Wanagama**	**8.05**	**295**	*e*Pn	**Pn**	**16 48 35.2**	**-0.4**
UGM	**Wanagama**	**8.05**	**295**	P	**Pn**	**16 48 37.6**	**+2.0**
	2μm,1.1s,25μm19nm						
TTSI	**Tana Toraja**	**8.47**	**13**	P	Pn	16 48 46.6	+5.2
	1μm,0.7s,17μm						
SMRI	**Semarang**	**8.53**	**299**	*e*Pn	**Pn**	**16 48 42.4**	**+0.2**
SMRI	**Semarang**	**8.53**	**299**	P	**Pn**	**16 48 43.7**	**+1.5**
	1μm,1.0s,9μm5.3nm						
KDI	**Kendari**	**8.70**	**33**	P	**Pn**	**16 48 48.0**	**+3.5**
	538nm,1.2s,6μm1.6nm						
KPJI	**Karang Pucung**	**9.73**	**294**	P	**Pn**	**16 48 59.6**	**+1.0**
	575nm,0.7s,8μm						
MBWA	**Marble Bar**	**9.90**	**170**	*e*Pn	**Pn**	**16 48 56.8**	**-4.1**
MBWA	**Marble Bar**	**9.90**	**170**	P	**Pn**	**16 48 56.9**	**-4.0**
	SNR=44						
CMJI	**Cimerak**	**9.99**	**290**	P	**Pn**	**16 49 01.3**	**-0.9**
BKB	**Balikpapan**	**10.08**	**354**	P	Pn	16 49 09.3	+5.8
PCI	**Palu**	**10.56**	**11**	P	**Pn**	**16 49 13.5**	**+3.5**
	946nm,1.2s,11μm2μm						
PBKI	**Pangkalan Bun**	**10.60**	**324**	P	**Pn**	**16 49 14.9**	**+4.4**
	923nm,1.0s,8μm						
CISI	**Cisompet, Garu**	**10.66**	**290**	*e*Pn	**Pn**	**16 49 10.6**	**-0.7**
CISI	**Cisompet, Garu**	**10.66**	**290**	P	**Pn**	**16 49 11.1**	**-0.3**
	495nm,0.6s,17μm						
JCJI	**Jatiwangi**	**10.69**	**296**	P	**Pn**	**16 49 11.3**	**-0.4**
	391nm,0.6s,5μm						
MTKI	**Muara Teweh, K**	**10.78**	**344**	P	Pn	16 49 17.9	+5.0
	1μm,1.3s						
SMKI	**Samarinda**	**10.86**	**356**	P	Pn	16 49 19.6	+5.4
	291nm,0.7s,5μm7μm						
LEM	**Lembang**	**11.12**	**293**	Pn	**Pn**	**16 49 19.0**	**+1.2**
	25nm,0.3s,baz=39,slow=9.9,SNR=20						
LEM				Sn	**Sn**	**16 51 21.5**	**+0.2**
	44nm,0.3s,baz=79,slow=23,SNR=5.8						
LUWI	**Luwuk**	**11.33**	**26**	*e*Pn	**Pn**	**16 49 22.3**	**+1.8**
LUWI	**Luwuk**	**11.33**	**26**	P	**Pn**	**16 49 23.8**	**+3.3**
	489nm,1.4s,6μm						
KNRA	**Kununurra**	**11.39**	**113**	P	**Pn**	**16 49 19.3**	**-2.0**
	baz=11,SNR=109						
GIRL	**Giralia**	**11.76**	**197**	P	**Pn**	**16 49 23.6**	**-2.8**
	baz=12,SNR=749						
MPSI	**Mapaga**	**11.79**	**10**	P	**Pn**	**16 49 30.9**	**+4.1**
	106nm,1.4s,3μm						
CBJI	**Citeko**	**11.98**	**293**	P	**Pn**	**16 49 27.4**	**-2.1**
	889nm,0.7s,7μm						
DBJI	**Dramaga**	**12.02**	**292**	P	**Pn**	**16 49 31.6**	**+1.6**
	236nm,0.9s,4μm						
SKJI	**Sukabumi**	**12.02**	**290**	P	**Pn**	**16 49 30.3**	**+0.3**
	283nm,0.5s,8μm						
XMIS	**Christmas Isla**	**12.08**	**273**	*e*Pn	**Pn**	**16 49 28.6**	**-2.2**
NLAI	**Namlea**	**12.16**	**49**	P	**Pn**	**16 49 34.9**	**+3.0**
SANI	**Sanana**	**12.23**	**41**	P	**Pn**	**16 49 32.9**	**0.0**
	175nm,1.3s,3μm						
MRSI	**Marisa**	**12.42**	**19**	P	Pn	**16 49 37.6**	**+2.2**
	203nm,1.3s,2μm						
SBJI	**Serang**	**12.76**	**293**	P	Pn	**16 49 38.7**	**-1.4**
	250nm,0.6s,7μm						
CGJI	**Cibinong**	**12.96**	**290**	P	**Pn**	**16 49 41.2**	**-1.6**
	523nm,0.7s,9μm						
MTN	**Manton Dam**	**13.01**	**98**	P	**Pn**	**16 49 41.9**	**-1.6**
	baz=13,SNR=185						
MTN	**Manton Dam**	**13.01**	**98**	*e*Pn	**Pn**	**16 49 41.6**	**-1.9**
STKI	**Sintang**	**13.03**	**330**	P	**Pn**	**16 49 47.9**	**+4.1**
	288nm,0.9s,7μm						
KMSI	**Cibinong**	**13.30**	**27**	P	**Pn**	**16 49 49.9**	**+2.4**
SAUI	**Saumlaki**	**13.61**	**77**	*e*Pn	**Pn**	**16 49 50.1**	**-1.6**
SAUI	**Saumlaki**	**13.61**	**77**	P	**Pn**	**16 49 50.5**	**-1.3**
BNDI	**Bandanaira**	**13.67**	**61**	P	**Pn**	**16 49 52.6**	**0.0**
	1μm,1.3s,13μm						
BLSI	**Bandar Lampung**	**13.87**	**294**	P	**Pn**	**16 49 57.2**	**+1.9**
	172nm,0.8s						
KDU	**Kakadu**	**14.30**	**97**	P	**Pn**	**16 49 59.1**	**-2.0**

comp=Z,4μm,19.6s,baz=304,slow=37
ASAR P3KPbc 17 25 32.7
comp=Z,0.0nm,0.3s,baz=110,slow=3.7,SNR=3.5
AS31 Alice Springs 19.53 131 eP P 16 51 05.3 -0.5
comp=Z,53nm,0.6s
AS01 Alice Springs 19.56 131 eP P 16 51 05.2 -0.9
IPIL Ipil 19.58 14 eP Pn 16 51 08.8 +1.1
PPSI Pulau Pagai 19.70 294 P P 16 51 07.3 -0.4
comp=Z,1μm,0.9s,comp=Z,9μm
DAV Davao City (W) 19.83 23 P Pn 16 51 12.7 +1.9
comp=Z,56nm,0.3s,baz=102,slow=4.0,SNR=8.1
DAV LR LR 16 59 26.5
comp=Z,1μm,21.9s,baz=198,slow=39
DAV Davao City (W) 19.83 23 eP P 16 51 09.1 0.0
PAGZ Pagadian 19.84 16 eP Pn 16 51 12.2 +1.3
BATP Bataraza 20.02 360 eP Pn 16 51 12.7 -0.3
KLBR Kellerberrin 20.14 180 P P 16 51 11.7 -0.5
baz=20,SNR=370
PDSI Padang 20.20 300 P P 16 51 11.9 -1.3
comp=Z,17nm,0.6s,comp=Z,3μm
KMBL Kambalda 20.25 170 P P 16 51 12.4 -1.1
baz=20,SNR=120
BUKP Musuan 20.39 21 eP Pn 16 51 18.0 +0.6
BKNI Bangkinang 20.40 304 P Pn 16 51 17.9 +0.4
comp=Z,788nm,0.9s,comp=Z,6μm
SRPI Serui, Papua 20.48 64 P Pn 16 51 18.0 -0.4
comp=Z,277nm,1.5s,comp=Z,6μm
MUN Mundaring 20.58 184 P P 16 51 16.3 -0.8
baz=21,SNR=46
CGP Cagayan de Oro 20.81 19 eP Pn 16 51 23.7 +1.5
SISI Saibi 21.18 297 P P 16 51 24.7 +1.0
comp=Z,203nm,0.9s,comp=Z,3μm
SNPH Sibulan 21.23 15 eP P 16 51 29.7 +5.4
NWAO Narrogin (SRO) 21.48 182 P P 16 51 25.5 -1.2
comp=Z,125nm,1.0s,baz=228,slow=9.5,SNR=40
NWAO S S 16 55 09.0 -14
comp=Z,747nm,0.7s,baz=153,slow=15,SNR=12
NWAO LR LR 16 59 51.8
comp=Z,4μm,21.5s,baz=228,slow=37
NWAO Narrogin (SRO) 21.48 182 P P 16 51 25.5 -1.2
baz=22,SNR=33
NWAO Narrogin (SRO) 21.48 182 eP P 16 51 25.2 -1.5
comp=Z,536nm,0.8s
NWAO S S 16 55 09.0 -14
NWAO Narrogin (SRO) 21.48 182 P P 16 51 25.7 -1.0
SNR=16
FORT Forrest 21.49 156 P P 16 51 26.3 -0.6
baz=22,SNR=93
FORT Forrest 21.49 156 eP P 16 51 26.0 -0.9
comp=Z,424nm,0.6s
FORT LR LR
comp=Z,9μm,20.0s
BUTP Butuan 21.60 21 eP P 16 51 34.7 +6.6
MNSI Mandailing Nat 21.86 302 P P 16 51 29.2 -1.8
comp=Z,168nm,0.9s,comp=Z,1μm
CUYO Cuyo Island 22.28 8 eP P 16 51 38.6 +3.1
GUIM Jordan 22.33 12 eP P 16 51 34.6 -1.4
MSLP Maasin 22.44 18 eP P 16 51 37.8 +0.6
ENPP El Nido 22.47 4 eP P 16 51 35.5 -1.9
PBSI Pulau Batu 22.51 299 P P 16 51 37.1 -0.9
comp=Z,172nm,0.8s,comp=Z,3μm
IPM Ipoh 23.02 312 eP P 16 51 44.1 +0.7
comp=Z,275nm,0.9s
IPM LR LR
comp=Z,3μm,21.0s
RKGY Rocky Gully 23.16 182 P P 16 51 45.5 +0.9
baz=23,SNR=16
OCLP Ormoc 23.23 17 eP P 16 51 44.7 -0.7
RCP Roxas 23.27 12 eP P 16 51 47.8 +2.0
BUSP Coron 23.32 6 eP P 16 51 47.6 +1.3
PSI Prapat 23.55 306 P P 16 51 49.0 +0.2
comp=Z,206nm,0.9s,baz=180,slow=9.1,SNR=90
PSI LR LR 17 02 42.9
comp=Z,2μm,18.1s,baz=90,slow=41
PSI Prapat 23.55 306 eP P 16 51 47.2 -1.6
comp=Z,2μm,1.9s
GENI Genyem 23.72 70 P P 16 51 50.6 +0.3
comp=Z,434nm,1.6s,comp=Z,7μm
GSI Gunungsitoli 23.82 301 eP P 16 51 49.1 -2.0
comp=Z,220nm,1.2s
GSI LR LR
comp=Z,2μm,20.0s
GSI Gunungsitoli 23.82 301 P P 16 51 50.9 -0.2
comp=Z,147nm,1.0s
KULM Kulim 23.85 313 eP P 16 51 51.5 +0.1
comp=Z,547nm,1.5s
KULM LR LR
comp=Z,3μm,21.0s
SJMP San Jose 23.88 8 eP P 16 51 53.3 +1.7
OTRP Odiongan 23.92 10 eP P 16 51 53.4 +1.4
JAY Jayapura 24.25 70 P P 16 51 55.4 +0.2
comp=Z,44nm,0.8s,baz=237,slow=5.8,SNR=14
JAY Jayapura 24.25 70 P P 16 51 56.4 +1.2
comp=Z,1μm,1.1s,comp=Z,29μm
TSI Tuntungan 24.26 306 P P 16 51 56.4 +1.1
comp=Z,1μm,0.8s,comp=Z,14μm
COEN Coen 24.77 99 P P 16 51 59.9 -0.1
baz=25,SNR=15
COEN Coen 24.77 99 eP P 16 51 59.9 -0.1
comp=Z,197nm,1.4s
COEN LR LR
comp=Z,2μm,21.0s
KCSI Kotacane, Aceh 24.90 305 P P 16 52 00.8 -0.3
comp=Z,236nm,1.3s,comp=Z,4μm
BOAC Boac 24.96 9 eP P 16 52 02.2 +0.6
AUQP San Andres 24.97 11 eP P 16 52 05.2 +3.5
SKLT Songkhla 25.20 316 P P 16 52 04.9 +1.1
comp=Z,297nm,1.2s
TPTI 25.23 304 P P 16 52 04.9 +0.9
comp=Z,295nm,1.6s,comp=Z,4μm
SNSI Sinabang, Aceh 25.46 301 P P 16 52 08.8 +2.7
comp=Z,416nm,1.4s,comp=Z,5μm
TGY Tagaytay City 25.47 7 P P 16 52 07.4 +1.2
comp=Z,241nm,0.6s,baz=297,slow=3.6,SNR=13
PVCP Virac 25.55 14 eP P 16 52 06.5 -0.4
TRTT Trang 26.31 316 P P 16 52 14.5 +0.6
comp=Z,84nm,0.9s,comp=Z,880nm
MTSU Mount Surprise 26.38 108 P P 16 52 14.5 0.0
baz=26,SNR=16
MLSI Meulaboh, Aceh 26.44 305 P P 16 52 16.1 +1.0
comp=Z,627nm,1.1s,comp=Z,6μm
LHMI Lhok Sumawe 26.59 307 eP P 16 52 16.9 +0.5
comp=Z,712nm,0.9s
LHMI Lhok Sumawe 26.59 307 P P 16 52 17.5 +1.1
comp=Z,699nm,0.9s,comp=Z,9μm
KRAB Krabi 26.93 315 P P 16 52 20.1 +0.7
comp=Z,139nm,0.7s,comp=Z,1μm
SCZP Santa Cruz 27.03 4 eP P 16 52 20.0 -0.3
BBOO Buckleboo 27.09 145 P P 16 52 20.1 -0.6
baz=27,SNR=20
BBOO Buckleboo 27.09 145 eP P 16 52 19.0 -1.7
comp=Z,94nm,0.8s
BBOO LR LR
comp=Z,5μm,19.0s
BALP Baler 27.17 8 eP P 16 52 21.3 -0.2
PKDT Phuket 27.30 314 P P 16 52 23.6 +0.8
comp=Z,33nm,1.0s,comp=Z,956nm
SMPP San Manuel, Pa 27.47 6 eP P 16 52 23.5 -0.7
CAUP Cauayan 28.39 8 eP P 16 52 32.7 +0.4
CTA Charters Tower 28.59 111 P P 16 52 35.4 +1.1
comp=Z,11nm,1.0s,baz=272,slow=11,SNR=6.9
CTA LR LR 17 04 06.6
comp=Z,2μm,20.8s,baz=282,slow=37
CTAO Charters Tower 28.59 111 eP P 16 52 32.9 -1.4
comp=Z,55nm,0.9s
CTAO LR LR
comp=Z,2μm,20.0s
CTAO Charters Tower 28.59 111 eP P 16 52 32.9 -1.4
CTAO pmax pmax
comp=Z,55nm,0.9s
CTAO MLR MLR
comp=Z,2μm,20.0s
PALP Palanan 28.59 9 eP P 16 52 41.0 +6.8
PMG Port Moresby 28.82 89 LR LR 17 05 02.6
comp=Z,2μm,21.9s,baz=250,slow=38
ABRA Dolores 28.95 6 eP P 16 52 35.5 -1.9
QLP Quilpie 29.04 125 P P 16 52 37.3 -0.9
baz=29,SNR=10
HTT Hallett 29.20 142 P P 16 52 39.1 -0.6
baz=29,SNR=34
APYP Conner 29.22 6 eP P 16 52 37.8 -2.0
PATY Pattaya 29.47 324 P P 16 52 43.6 +1.6
comp=Z,46nm,0.9s,comp=Z,666nm
SRAK Srakaew 29.72 328 P P 16 52 41.9 -2.4
comp=Z,214nm,0.8s,comp=Z,2μm
STKA Stephens Creek 29.90 137 P P 16 52 45.8 0.0
comp=Z,23nm,0.7s,baz=312,slow=9.8,SNR=21
STKA LR LR 17 05 38.0
comp=Z,5μm,19.2s,baz=300,slow=38
STKA Stephens Creek 29.90 137 P P 16 52 45.6 -0.2
baz=30,SNR=18
STKA Stephens Creek 29.90 137 eP P 16 52 45.0 -0.7
comp=Z,8.9nm,0.8s
PHET Kaeng Krachan 30.18 323 P P 16 52 49.7 +1.3
comp=Z,16nm,0.9s,comp=Z,183nm
MANU Manus Island 30.64 75 eP P 16 52 53.0 +0.4
comp=Z,76nm,1.3s
QIZ Qiongzhong 31.23 345 P P 16 52 58.3 +0.7
QIZ S S 16 58 02.4 +0.3
QIZ pmax pmax
comp=Z,41nm,1.5s
QIZ LR LR
comp=Z,520nm,15.7s
QIZ LR LR
comp=Z,720nm,22.6s
QIZ LR LR
comp=Z,1μm,24.0s
QIZ Qiongzhong 31.23 345 eP P 16 52 58.1 +0.5
comp=Z,91nm,1.3s
QIZ LR LR
comp=Z,1μm,20.0s
CHAI Chaiyaphum 31.34 329 P P 16 52 59.7 +1.1
comp=Z,54nm,0.8s,comp=Z,416nm
SKNT Sakolnakorn 31.34 334 P P 16 52 59.2 +0.6
comp=Z,18nm,0.9s,comp=Z,457nm
PBKT Sadao Pong 32.42 329 eP P 16 53 08.8 +0.7
comp=Z,95nm,0.9s
PBKT Sadao Pong 32.42 329 P P 16 53 08.6 +0.6
comp=Z,126nm,1.0s,comp=Z,1μm
CMSA Cobar Meteorol 32.57 132 P P 16 53 10.5 +1.1
baz=33,SNR=10.0
ARPS Mount Arapiles 33.23 144 P P 16 53 15.4 +0.3
baz=33,SNR=11
UMPA Umpang Tak 33.25 325 P P 16 53 15.2 -0.2
comp=Z,28nm,1.2s,comp=Z,242nm
MCO Taipa Grande 33.55 353 P P 16 53 19.0 +1.2
UTTA Uttaradit 33.62 329 P P 16 53 19.6 +1.1
comp=Z,49nm,0.8s,comp=Z,411nm
SUKH Sukhothai 33.88 328 P P 16 53 22.1 +1.3
comp=Z,35nm,0.9s
PBA Port Blair 33.88 312 PFAKE
PBA LR LR 16 53 30.0 +9.1
comp=Z,2μm,21.0s
EIDS Eidsvold 34.31 119 eP P 16 53 24.8 +0.3
comp=Z,39nm,1.2s
EIDS LR LR
comp=Z,4μm,20.0s
GZH Guangzhou 34.52 353 P P 16 53 31.3 +5.0
GZH S S 16 58 59.6 +6.4
GZH pmax pmax
comp=Z,290nm,4.1s
GZH LR LR
comp=Z,940nm,17.7s
GZH LR LR
comp=Z,780nm,17.2s
LAMP Lampang 34.74 329 P P 16 53 29.6 +1.3
comp=Z,23nm,0.9s,comp=Z,244nm
CM01 Chiang Mai Arr 35.01 327 eP P 16 53 30.8 +0.2
CM31 Chiang Mai Arr 35.05 327 eP P 16 53 31.8 +0.8
CM31 Chiang Mai Arr 35.05 327 P P 16 53 32.2 +1.3
SNR=66
CMAR Chiang Mai Arr 35.05 327 P P 16 53 32.0 +1.1
comp=Z,41nm,0.9s,baz=153,slow=6.4,SNR=315
CMAR PcP PcP 16 56 04.7 +2.1
comp=Z,26nm,0.8s,baz=181,slow=2.7,SNR=18
CMAR LR LR 17 08 08.3
comp=Z,2μm,21.9s,baz=156,slow=37
SSLB Suanglung 35.06 5 eP P 16 53 29.1 -1.9
comp=Z,43nm,1.1s
PAYA Payao 35.33 330 P P 16 53 34.4 +1.0
comp=Z,36nm,1.2s,comp=Z,361nm
CMMT Chiang Mai 35.34 328 P P 16 53 34.0 +0.5
comp=Z,62nm,1.2s,comp=Z,1μm
CHTO Chiang Mai 35.34 328 eP P 16 53 33.4 -0.1
comp=Z,87nm,1.3s
CHTO LR LR
comp=Z,2μm,20.0s
CHTO Chiang Mai 35.34 328 P P 16 53 34.6 +1.1
SNR=28
CHTO Chiang Mai 35.34 328 eP P 16 53 33.4 -0.1
CHTO pmax pmax
comp=Z,87nm,1.3s
CHTO MLR MLR
comp=Z,2μm,20.0s
CHTO Chiang Mai 35.34 328 P P 16 53 34.1 +0.6
comp=Z,278nm,1.2s,comp=Z,5μm
TOO Toolangi 35.95 141 P P 16 53 39.9 +1.3
baz=36,SNR=10
TOO Toolangi 35.95 141 P P 16 53 41.3 +2.7
TOO pmax pmax
comp=Z,176nm,1.0s
YNG Young 35.96 134 P P 16 53 40.0 +1.3
baz=36,SNR=18
YHNB Yeheng 35.97 5 eP P 16 53 37.7 -1.1
comp=Z,136nm,1.4s
YHNB LR LR
comp=Z,900nm,20.0s
QZH Quanzhou 36.09 1 P P 16 53 40.3 +0.6
QZH S S 16 59 15.5 -1.7
QZH pmax pmax
comp=Z,510nm,2.9s
QZH LR LR
comp=Z,500nm,17.1s
QZH LR LR
comp=Z,340nm,12.8s
QZH LR LR
comp=Z,680nm,17.5s
GUMO Guam 36.46 48 P P 16 53 42.9 -0.2
comp=Z,58nm,0.8s,baz=226,slow=7.4,SNR=5.4
ARMA Armidale 36.56 126 eP P 16 53 45.1 +1.1
comp=Z,27nm,0.8s
ARMA LR LR
comp=Z,4μm,18.0s
CAN Canberra 36.92 135 PFAKE
CAN LR LR 16 54 00.0 +13
comp=Z,4μm,21.0s
GYA Guiyang 39.15 344 *i*P P 16 54 06.3 +0.5
GYA PP PnPn 16 55 43.0 +4.2
GYA PcP PcP 16 56 17.3 +2.2
GYA ScP S 17 00 05.8 +1.8
GYA S ScP 17 00 10.4 +9.0
GYA pmax pmax
comp=Z,80nm,1.0s
GYA pmax pmax
comp=Z,240nm,6.2s
GYA LR LR
comp=Z,1μm,17.9s
GYA LR LR
comp=Z,540nm,19.2s
GYA LR LR
comp=Z,1μm,20.1s
KMI Kunming 39.16 338 P P 16 54 08.3 +2.2
KMI pP pP 16 54 16.0 +0.7
KMI sP sP 16 54 19.3 +0.2
KMI PP PnPn 16 55 38.0 -1.1
KMI S S 17 00 04.3 -0.1
KMI sS sS 17 00 17.1 -2.5
KMI SS SS 17 02 53.5 -4.7
KMI pmax pmax
comp=Z,94nm,1.3s
KMI pmax pmax
comp=Z,580nm,4.6s
KMI LR LR
comp=Z,710nm,24.4s
KMI LR LR
comp=Z,820nm,20.5s
KMI LR LR
comp=Z,1μm,30.6s
JOW Kunigami 39.27 15 P P 16 54 07.0 +0.3
comp=Z,35nm,0.8s,baz=241,slow=7.5,SNR=6.6
JOW Kunigami 39.27 15 eP P 16 54 06.5 -0.2
comp=Z,63nm,0.9s
JOW LR LR
comp=Z,1μm,22.0s
HNR Honiara 41.36 91 P P 16 54 24.0 -0.3
comp=Z,60nm,0.6s,baz=253,slow=2.6,SNR=6.1
HNR Honiara 41.36 91 P P 16 54 25.0 +0.7
HNR Honiara 41.36 91 eP P 16 54 23.5 -0.8
comp=Z,129nm,0.9s
HNR Honiara 41.36 91 P P 16 54 24.0 -0.3
HNR pmax pmax
comp=Z,60nm,0.6s
PALK Pallekele 41.40 295 P P 16 54 25.4 +0.8
comp=Z,56nm,1.0s,baz=115,slow=7.8,SNR=37
PALK Pallekele 41.40 295 *e*P P 16 54 24.5 -0.1
comp=Z,78nm,1.0s
PALK LR LR
comp=Z,1μm,21.0s
PALK Pallekele 41.40 295 *i* P P 16 54 25.4 +0.8
SNR=21
SAIH SAIHA 41.58 324 *e*P P 16 54 26.1 +0.1
WHN Wuhan 41.80 355 ||P P 16 54 28.3 +0.8
WHN S S 17 00 35.8 -7.3
WHN pmax pmax
comp=Z,240nm,1.1s
WHN LR LR
comp=Z,3μm,18.8s
WHN LR LR
comp=Z,390nm,10.0s
WHN LR LR
comp=Z,3μm,21.9s
ENH Enshi 42.18 349 *e*P P 16 54 30.5 -0.2
comp=Z,333nm,0.8s
ENH LR LR
comp=Z,1μm,19.0s
SSE Sheshan 42.33 4 P P 16 54 33.0 +1.2
SSE S S 17 00 50.6 -0.3
SSE pmax pmax
comp=Z,10.0nm,0.6s
SSE pmax pmax
comp=Z,180nm,3.0s
SSE LR LR
comp=Z,340nm,16.7s
SSE LR LR
comp=Z,330nm,15.5s
BRDH Bariadhala 42.51 323 P P 16 54 35.0 +1.6
comp=Z,73nm,0.3s,baz=93,slow=6.1,SNR=23
LHI Lord Howe Isla 42.91 124 PFAKE 16 54 50.0 +13
LHI LR LR
comp=Z,3μm,18.0s
BELO BELONIA 43.06 323 *e*P P 16 54 39.1 +1.2
NJ2 Nanjing 43.17 1 *e*P P 16 54 38.9 +0.2
NJ2 pP pP 16 54 43.8 -4.1
NJ2 sP sP 16 54 46.6 -5.1
NJ2 S S 17 01 03.8 +0.5
NJ2 pmax pmax
comp=Z,70nm,1.1s
NJ2 pmax pmax
comp=Z,480nm,5.4s
NJ2 LR LR
comp=Z,480nm,13.6s
NJ2 LR LR
comp=Z,450nm,17.3s
NJ2 LR LR
comp=Z,600nm,17.3s
SILR SILCHAR 43.48 326 *e*P P 16 54 42.2 +0.9
KOHI KOHIMA 43.54 328 *e*P P 16 54 41.6 -0.4
KOHI IAmb IAmb 16 54 42.5
comp=Z,184nm,0.8s
AGT Agartala 43.66 323 *e*P P 16 54 44.2 +1.5
MOKO MOKOCHONG 43.83 329 *e*P P 16 54 44.5 +0.3
LKP Lekhapani 44.02 331 *e*P P 16 54 45.4 -0.2
PATS Pohnpei 44.07 68 P P 16 54 46.5 +0.3
baz=44,SNR=4.8
PATS Pohnpei 44.07 68 *e*P P 16 54 46.1 -0.1
comp=Z,182nm,1.2s
CD2 Chengdu 44.17 342 ||*i*P P 16 54 47.3 +0.5
CD2 pP pP 16 54 50.3 -5.8
CD2 PP PcP 16 56 30.9 -0.5
CD2 S S 17 01 16.0 -2.1
CD2 sS pS 17 01 28.1 -0.9
CD2 pmax pmax
comp=Z,800nm,3.2s
CD2 LR LR
comp=Z,2μm,19.6s
CD2 LR LR
comp=Z,2μm,21.1s
CD2 LR LR
comp=Z,2μm,17.7s
JORH JORHAT 44.31 329 *e*P P 16 54 47.8 -0.1
SHL Shillong 44.61 326 *e*P P 16 54 50.5 -0.1
comp=Z,237nm,0.8s
SHL LR LR
comp=Z,500nm,21.0s
SHL Shillong 44.61 326 *e*P P 16 54 50.5 -0.1
SHL pmax pmax
comp=Z,237nm,0.8s
SHL MLR MLR
comp=Z,500nm,21.0s
SHL Shillong 44.61 326 *e*P P 16 54 50.8 +0.2
SHL *e*x x 17 00 25.0
CBIJ Chichi jima 44.90 31 *e*P P 16 54 51.5 -1.1
comp=Z,481nm,0.8s
ITAN ITANAGAR 44.90 329 *e*P P 16 54 52.9 +0.2
ITAN IAmb IAmb 16 54 54.0
comp=Z,207nm,0.8s
H08S2 Diego Garcia H 44.92 271 T T 17 42 31.3
baz=95,slow=76,SNR=3.5
H08S3 Diego Garcia H 44.93 271 T T 17 42 25.0
baz=95,slow=76,SNR=11
H08S1 Diego Carcia H 44.94 271 T T 17 42 24.2
baz=95,slow=76,SNR=9.5
TEZP TEZPUR 44.95 327 *e*P P 16 54 52.6 -0.4
TEZP IAmb IAmb 16 54 53.8
comp=Z,80nm,0.9s
ZIRO ZIRO 45.15 329 *e*P P 16 54 53.6 -1.3
JNU Nakatsue 45.93 15 *e*P P 16 54 59.9 -0.8
comp=Z,60nm,1.0s
JNU LR LR
comp=Z,400nm,22.0s
XAN Xi'an 45.95 350 P P 16 55 00.8 -0.1
XAN sP pP 16 55 09.0 -1.2
XAN PcP PcP 16 56 37.8 +0.3
XAN PP PP 16 56 46.4 -2.7
XAN S S 17 01 40.4 -3.3
XAN pmax pmax
comp=Z,410nm,1.0s
XAN pmax pmax
comp=Z,750nm,4.2s
XAN LR LR
comp=Z,920nm,24.5s
XAN LR LR
comp=Z,600nm,19.4s
XAN LR LR
comp=Z,2μm,25.0s
TAWA Tawang 46.23 327 *e*P P 16 55 04.0 +0.4
BOK Bokaro 46.92 318 *e*P P 16 55 09.1 +0.5
BOK IAmb IAmb 16 55 10.2
comp=Z,82nm,0.9s
TIA Tai'an 47.32 359 P P 16 55 10.4 -1.1
TIA S S 17 01 58.0 -5.2
TIA pmax pmax
comp=Z,18nm,1.2s
TIA pmax pmax
comp=Z,290nm,7.1s
TIA LR LR
comp=Z,360nm,18.6s
TIA LR LR
comp=Z,490nm,19.1s
TIA LR LR
comp=Z,470nm,18.1s
DZM Mont Dzumac 47.50 110 P P 16 55 14.6 +1.2
comp=Z,18nm,1.1s,baz=306,slow=6.1,SNR=6.3
DZM Mont Dzumac 47.50 110 eP P 16 55 14.6 +1.2
comp=Z,102nm,1.4s
DZM *e*S S 17 02 07.7 +1.1
comp=Z,990nm,27.8s
DZM *e*LR LR 17 08 43.8
comp=Z,2μm,22.7s
DZM Mont Dzumac 47.50 110 eP P 16 55 13.9 +0.5
comp=Z,71nm,1.4s
DZM LR LR
comp=Z,2μm,20.0s
GTK Tadong 47.82 324 *e*P P 16 55 16.7 +0.9
ODAN Odare 48.19 322 ||*i*P P 16 55 19.3 +0.6
comp=Z,477nm,0.8s
HYB Hyderabad 48.27 306 ||*i*P P 16 55 20.0 +0.7
HYB *e*S S 17 02 16.0 -1.3
HYB Hyderabad 48.27 306 *e*P P 16 55 19.0 -0.3
HYB IAmb IAmb 16 55 20.0
comp=Z,117nm,0.6s
LSA Lhasa 48.29 328 P P 16 55 21.0 +1.2
LSA pmax pmax
comp=Z,210nm,1.0s
LSA Lhasa 48.29 328 *e*P P 16 55 20.6 +0.8
comp=Z,555nm,1.5s
LSA Lhasa 48.29 328 *i* P P 16 55 21.0 +1.2
SNR=48
LSA Lhasa 48.29 328 *e*P P 16 55 20.6 +0.8
LSA pmax pmax

comp=Z,555nm,1.5s
TJN Taejon 48.31 10*d* iP **P 16 55 19.1 -0.1**
TAPN Taplejung 48.36 323⇓ *i*P **P 16 55 21.1 +0.9**
comp=Z,781nm,0.9s
MNCI Minicoy 48.70 292 *e*P **P 16 55 23.3 +0.7**
comp=Z,368nm,1.1s
RAMN Ramite 48.73 322⇓ *i*P **P 16 55 23.6 +0.7**
comp=Z,450nm,0.8s
LZH Lanzhou 49.02 345 *e*P **P 16 55 26.1 +1.2**
LZH pP pP 16 55 31.0 -3.3
LZH sP sP 16 55 34.9 -3.1
LZH PP **PP 16 57 22.8 +4.0**
LZH *e*S **S 17 02 27.4 -0.2**
LZH sS pS 17 02 36.4 -2.4
LZH SS **SS 17 05 56.8 -2.4**
LZH pmax pmax
comp=Z,470nm,1.0s
LZH pmax pmax
comp=Z,1μm,5.2s
LZH LR LR
comp=Z,1μm,16.8s
LZH LR LR
comp=Z,1μm,17.9s
LZH LR LR
comp=Z,2μm,18.2s
TIY Taiyuan 49.08 354 *e*P **P 16 55 24.5 -0.7**
TIY pP **pP 16 55 34.8 +0.2**
TIY PP **PP 16 57 20.4 +1.2**
TIY S **S 17 02 26.5 -1.7**
TIY SS **SS 17 05 50.9 -9.0**
TIY pmax pmax
comp=Z,52nm,0.8s
TIY LR LR
comp=Z,350nm,14.1s
TIY LR LR
comp=Z,230nm,14.4s
TIY LR LR
comp=Z,330nm,15.5s
KS15 Wonju Array Si 49.44 10 *e*P **P 16 55 27.6 -0.2**
KSAR Wonju Array Be 49.44 10 P **P 16 55 28.1 +0.4**
KSAR PcP **PcP 16 56 51.5 +1.7**
KSAR Wonju Array Be 49.44 10 P **P 16 55 28.2 +0.4**
KSAR 16 56 51.5
KSRS Korea Array 49.45 10 P **P 16 55 28.1 +0.2**
comp=Z,38nm,0.9s,baz=186,slow=7.9,SNR=127
KSRS PcP **PcP 16 56 51.5 +1.6**
comp=Z,12nm,0.8s,baz=187,slow=3.2,SNR=6.6
KSRS LR LR 17 16 00.7
comp=Z,308nm,21.8s,baz=188,slow=36
KSRS Korea Array 49.45 10 P **P 16 55 28.2 +0.2**
KSRS 16 56 51.5
KSRS pmax pmax
comp=Z,38nm,0.9s
KSRS MLR MLR
comp=Z,308nm,21.8s
KS01 Wonju Array Si 49.47 10 *e*P **P 16 55 27.9 -0.2**
JIRN Jiri 49.50 322⇓ *i*P **P 16 55 29.7 +0.8**
comp=Z,1μm,0.7s
INU Inuyama 49.85 20 *e*P **P 16 55 29.6 -1.4**
comp=Z,53nm,1.0s
GUN Gumba 49.87 322⇓ *i*P **P 16 55 32.3 +0.6**
comp=Z,785nm,0.7s
PKI Pulchoki 49.91 321⇓ *i*P **P 16 55 32.2 +0.2**
comp=Z,233nm,0.7s
PKIN Phulchoki 49.92 321⇓ *i*P **P 16 55 32.1 +0.1**
comp=Z,194nm,0.7s
DMN Daman 50.12 321⇓ *i*P **P 16 55 33.9 +0.4**
comp=Z,783nm,1.0s
DL2 Dalian 50.12 4 P **P 16 55 31.5 -1.5**
DL2 pP **pP 16 55 42.8 +0.4**
DL2 S **S 17 02 36.1 -6.4**
DL2 pmax pmax
comp=Z,42nm,0.7s
DL2 pmax pmax
comp=Z,210nm,5.6s
DL2 LR LR
comp=Z,380nm,20.3s
DL2 LR LR
comp=Z,320nm,20.8s
DL2 LR LR
comp=Z,540nm,23.8s
KKN Kakani 50.14 322⇓ *i*P **P 16 55 34.0 +0.3**
comp=Z,369nm,0.9s
GKN Gorkha 50.69 321⇓ *i*P **P 16 55 38.0 +0.3**
BJT Baijiatuan 51.14 358 *e*P **P 16 55 39.9 -0.8**
comp=Z,61nm,0.9s
BJT Baijiatuan 51.14 358 *e*P **P 16 55 39.9 -0.8**
BJT pmax pmax
comp=Z,61nm,0.9s
BJI Beijing 51.16 358 P **P 16 55 40.5 -0.3**
BJI PP **PP 16 57 41.4 +3.5**
BJI S **S 17 02 51.9 -5.0**
BJI SS **SS 17 06 34.0 +1.2**
BJI pmax pmax
comp=Z,52nm,1.6s
BJI LR LR
comp=Z,590nm,17.8s
BJI LR LR
comp=Z,320nm,16.7s
BJI Beijing 51.16 358 P **P 16 55 39.9 -0.9**
KOLN Koldanda 51.17 320⇓ *i*P **P 16 55 41.7 +0.3**
comp=Z,383nm,0.7s
MAJO Matsushiro 51.34 21 *e*P **P 16 55 40.1 -2.2**
comp=Z,120nm,1.3s
MAJO Matsushiro 51.34 21*d* *i*P **P 16 55 40.9 -1.4**
MAJO pmax pmax
comp=Z,107nm,1.3s
MAT Matsushiro 51.34 21 P **P 16 55 40.7 -1.6**
MAT S **S 17 02 57.2 -2.4**
MJAR Matsushiro Arr 51.34 21 P **P 16 55 40.9 -1.4**
comp=Z,56nm,0.9s,baz=199,slow=8.1,SNR=89
MJAR PcP **PcP 16 56 58.1 +1.2**
comp=Z,28nm,1.0s,baz=204,slow=5.1,SNR=6.7
MJAR LR LR 17 16 15.7
comp=Z,444nm,22.0s,baz=210,slow=35
MJB9 Matsu-Tunnel 51.34 21 *e*P **P 16 55 40.0 -2.3**
comp=Z,122nm,1.3s
DANN Dangsing 51.48 321⇓ *i*P **P 16 55 44.1 +0.3**
comp=Z,858nm,0.7s
PYUN Piuthan 51.78 320⇓ *i*P **P 16 55 46.2 +0.2**
comp=Z,1μm,1.2s
BTO Baotou 52.22 352 *e*P **P 16 55 49.4 +0.6**
HHC Hu-ho-hao-te 52.27 354 *e*P **P 16 55 49.3 0.0**
HHC sP sP 16 56 00.1 -2.4
HHC S **S 17 03 09.4 -3.1**
HHC sS pS 17 03 22.3 -1.5
HHC pmax pmax
comp=Z,74nm,1.3s
HHC pmax pmax
comp=Z,330nm,5.4s
HHC LR LR
comp=Z,570nm,18.0s
HHC LR LR
comp=Z,490nm,20.4s
HHC LR LR
comp=Z,500nm,20.7s
BHPL Bhopal 52.47 311 *e*P **P 16 55 50.3 -0.7**
BHPL IAmb IAmb 16 55 51.3
comp=Z,91nm,0.9s
POO Poona 52.65 304 *e*P **P 16 55 52.5 +0.1**
SNY Shenyang 53.18 5 ⇓P **P 16 55 54.8 -1.0**
SNY S **S 17 03 20.9 -3.6**
SNY pmax pmax
comp=Z,44nm,0.8s
SNY pmax pmax
comp=Z,660nm,3.6s
SNY LR LR
comp=Z,840nm,24.0s
GTA Gaotai 53.24 343 ⇓P **P 16 55 57.6 +1.1**
GTA pP pP 16 56 02.1 -3.9
GTA sP sP 16 56 04.8 -4.9
GTA PcP **PcP 16 57 05.8 +1.7**
GTA PP **PP 16 58 02.6 +5.6**
GTA PcS **PcS 17 00 58.6 -4.5**
GTA S **S 17 03 25.8 -0.1**
GTA sS pS 17 03 34.8 -2.4
GTA ScS **ScS 17 05 43.8 -0.2**
GTA SS **SS 17 07 05.5 -0.7**
GTA pmax pmax
comp=Z,190nm,1.2s
GTA pmax pmax
comp=Z,550nm,6.4s
GTA LR LR
comp=Z,830nm,20.6s
GTA LR LR
comp=Z,470nm,20.3s
GTA LR LR
comp=Z,1μm,20.3s
PYZ Puysegur Point 53.85 140 PFAKE 16 56 10.0 +9.2
PYZ LR LR
comp=Z,3μm,20.0s
DCZ Deep Cove 53.87 139 PFAKE 16 56 10.0 +9.1
DCZ LR LR
comp=Z,2μm,20.0s
MLZ Mavora Lakes 54.46 138 *e*P **P 16 56 05.3 0.0**
comp=Z,42nm,1.0s
MLZ LR LR
comp=Z,3μm,21.0s
WHZ Wether Hill Ro 54.55 139 *e*P **P 16 56 04.5 -1.4**
comp=Z,32nm,0.9s
WHZ LR LR
comp=Z,4μm,22.0s
WKZ Wanaka 54.85 137 PFAKE 16 56 20.0 +12
WKZ LR LR
comp=Z,4μm,19.0s
FOZ Fox Glacier 54.94 136 PFAKE 16 56 20.0 +11
FOZ LR LR
comp=Z,2μm,20.0s
MSHR Mys Shultsa 55.03 12*d* *i*P **P 16 56 09.3 0.0**
CASY Casey 55.08 184 PFAKE 16 56 20.0 +11
CASY LR LR
comp=Z,2μm,20.0s
CN2 Changchun 55.32 7 *e*P **P 16 56 10.1 -1.3**
CN2 *es*P pP 16 56 17.3 -3.6
CN2 PcP **PcP 16 57 13.1 +1.4**
CN2 *e*S **S 17 03 53.8 +0.4**
CN2 pmax pmax
comp=Z,30nm,1.1s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,330nm,20.0s
CN2 LR LR
comp=Z,200nm,20.0s
CN2 LR LR
comp=Z,500nm,20.0s
LBZ Lake Benmore 55.48 137 PFAKE 16 56 30.0 +17
LBZ LR LR
comp=Z,4μm,20.0s
OUZ Omahuta 55.59 125 PFAKE 16 56 30.0 +16
OUZ LR LR
comp=Z,3μm,18.0s
VLA Vladivostok 55.70 12*d* *i*P **P 16 56 13.9 -0.2**
VLA pmax pmax
comp=Z,127nm,1.2s
RPZ Rata Peaks 55.85 135 *e*P **P 16 56 15.4 0.0**
comp=Z,56nm,0.8s
RPZ LR LR
comp=Z,3μm,20.0s
ODZ Otahua Downs 56.01 137 PFAKE 16 56 30.0 +14
ODZ LR LR
comp=Z,3μm,20.0s
OXZ Oxford 56.41 135 *e*P **P 16 56 19.6 +0.2**
comp=Z,73nm,0.8s
LTZ Lake Taylor 56.41 134 PFAKE 16 56 30.0 +11
LTZ LR LR
comp=Z,3μm,22.0s
DDI Dehra Dun 56.45 318 *e*P **P 16 56 18.9 -1.0**
THZ Tophouse 56.58 133 *e*P **P 16 56 20.5 -0.1**
comp=Z,50nm,0.7s
THZ LR LR
comp=Z,2μm,21.0s
MDJ Mudanjiang 56.71 10 P **P 16 56 21.0 -0.3**
MDJ pP pP 16 56 24.3 -6.5
MDJ PP **PP 16 58 25.0 -2.8**
MDJ S **S 17 04 09.0 -2.8**
MDJ ScS **ScS 17 06 10.8 +2.5**
MDJ pmax pmax
comp=Z,170nm,0.9s
MDJ pmax pmax
comp=Z,190nm,4.7s
MDJ LR LR
comp=Z,450nm,21.5s
MDJ LR LR
comp=Z,320nm,21.5s
MDJ LR LR
comp=Z,520nm,22.3s
MDJ Mudanjiang 56.71 10 *e*P **P 16 56 20.9 -0.3**
comp=Z,140nm,1.0s
USRK Ussuriysk Ar. 56.75 12 P **P 16 56 21.4 -0.2**
comp=Z,39nm,0.8s,baz=193,slow=6.7,SNR=63
USRK LR LR 17 20 35.2
comp=Z,165nm,19.9s,baz=197,slow=36
USA0B Ussuriysk Arra 56.76 12 *e*P **P 16 56 21.2 -0.4**
comp=Z,78nm,1.0s
MQZ McQueen's Vall 56.95 135 PFAKE 16 56 40.0 +17
MQZ LR LR
comp=Z,2μm,21.0s
KHZ Kahutara 57.21 133 *e*P **P 16 56 24.9 -0.1**
comp=Z,55nm,1.2s
KHZ LR LR
comp=Z,3μm,20.0s
HIZ Hauiti 57.24 129 PFAKE 16 56 40.0 +15
HIZ LR LR
comp=Z,2μm,20.0s
SMLA Simla 57.56 318 *e*P **P 16 56 27.2 -0.4**
SNZO South Karori 57.77 132 PFAKE 16 56 40.0 +11
SNZO LR LR
comp=Z,1μm,19.0s
BHJ Bhuj 58.42 306 *e*P **P 16 56 33.7 -0.1**
TEY Ternei 58.62 15⇓ *i*P **P 16 56 34.6 -0.1**
TEY pmax pmax
comp=N,20nm,1.0s
TEY pmax pmax
comp=Z,60nm,1.1s
BKZ Black Stump Fm 58.63 129 PFAKE 16 56 50.0 +15
BKZ LR LR
comp=Z,2μm,19.0s
BFZ Birch Farm 58.76 131 PFAKE 16 56 50.0 +14
BFZ LR LR
comp=Z,2μm,19.0s
DHRM DHARAMSHALA 58.85 319 *e*P **P 16 56 36.4 -0.5**
URZ Urewera 58.93 128 PFAKE 16 56 50.0 +13
URZ LR LR
comp=Z,2μm,19.0s
ASAJ Asahikawa 59.60 20 *e*P **P 16 56 40.6 -0.9**
comp=Z,50nm,0.8s
MXZ Matakaoa Point 59.75 127 PFAKE 16 57 00.0 +17
MXZ LR LR
comp=Z,2μm,18.0s
ULN Ulaanbaatar 59.75 352 *e*P **P 16 56 42.6 0.0**
comp=Z,84nm,0.9s
ULN LR LR
comp=Z,500nm,20.0s
ULN Ulaanbaatar 59.75 352 P **P 16 56 43.2 +0.5**
SNR=35
ULN Ulaanbaatar 59.75 352*d* *i*P **P 16 56 42.7 0.0**
ULN pmax pmax
comp=Z,161nm,1.7s
SONM Songino Array 59.81 351 P **P 16 56 43.3 +0.2**
comp=Z,94nm,0.8s,baz=168,slow=8.9,SNR=689
SONM LR LR 17 25 18.3
comp=Z,445nm,19.9s,baz=184,slow=39
SONM PKP2bc 17 26 18.3
comp=Z,2.0nm,1.2s,baz=309,slow=0.9,SNR=6.3
SONA1 Songino Array 59.83 351 *e*P **P 16 56 43.1 -0.1**
RER Riviere de l'E 60.16 252 *e*P **P 16 56 46.2 +0.2**
comp=Z,58nm,0.9s
HIA Hailar 60.38 1 *e*P **P 16 56 46.3 -0.5**
comp=Z,56nm,0.9s
HIA Hailar 60.38 1 *e*P **P 16 56 46.3 -0.5**
HIA pmax pmax
comp=Z,56nm,0.9s
WMQ Urumqi 61.42 335 ⇓P **P 16 56 55.1 +1.0**
WMQ sP pP 16 57 04.5 +0.8
WMQ PcP **PcP 16 57 38.3 +2.3**
WMQ S **S 17 05 11.0 -2.2**
WMQ sS pS 17 05 24.6 -0.2
WMQ LR LR
comp=Z,2μm,23.9s
WMQ LR LR
comp=Z,1μm,26.1s
WMQ LR LR
comp=Z,2μm,27.1s
KLR Kul'dur 61.55 10*d* *i*P **P 16 56 54.3 -0.4**
RAO Raoul Island 62.06 117 LR LR 17 23 04.9
comp=Z,651nm,18.9s,baz=238,slow=35
YSS Yuzh-Sakhalins 62.15 19 *e*P **P 16 56 58.8 -0.1**
comp=Z,45nm,1.0s
YSS Yuzh-Sakhalins 62.15 19⇓ *e*P **P 16 56 58.7 -0.1**
YSS *e* 16 57 11.3
YSS *e*S S 17 05 10.7 -11
YSS pmax pmax
comp=Z,40nm,1.1s
YSS pmax pmax
comp=Z,100nm,4.8s
ZAK Zakamensk 62.80 350 *e*P **P 16 57 02.3 -0.9**
ZAK pmax pmax
comp=Z,55nm,1.2s
CIT Chita 63.23 357 *e*P **P 16 57 07.0 +1.0**
CIT *e* 16 57 18.3
CIT *e* 16 57 28.7
CIT pmax pmax
comp=Z,223nm,1.5s
KSH Kashi 63.88 325 P **P 16 57 10.8 +0.1**
KSH pP pP 16 57 15.8 -4.5
KSH PP **PP 16 59 33.8 +2.2**
KSH S **S 17 05 41.9 -2.4**
KSH SS **SS 17 09 51.8 -1.6**
KSH LR LR
comp=Z,300nm,9.3s
KSH LR LR
comp=Z,470nm,14.2s
KSH LR LR
comp=Z,1μm,22.5s
GRNR Gornyy 63.94 13 *e*P **P 16 57 10.8 +0.2**
GRNR pmax pmax
comp=N,25nm,1.0s
GRNR pmax pmax
comp=Z,57nm,1.0s
TLY Talaya 63.99 350 *e*P **P 16 57 11.1 +0.2**
comp=Z,89nm,1.1s
TLY Talaya 63.99 350 *e*P **P 16 57 11.0 0.0**
TLY *e*S **S 17 05 37.9 -7.0**
TLY pmax pmax
comp=Z,102nm,1.3s
IRK Irkutsk 64.43 351 *e*P **P 16 57 13.7 -0.1**
IRK pmax pmax
comp=Z,129nm,2.1s
MOY Mondy 64.46 348 *e*P **P 16 57 14.6 +0.4**
MOY pmax pmax
comp=Z,26nm,1.5s
SHLS Shalkode 64.62 330⇓ *i*P **P 16 57 15.2 -0.2**
comp=Z,209nm,0.9s
SHLS *e*S **S 17 05 48.9 -4.5**
PRZ Przheval'sk 64.66 329 *e*P **P 16 57 16.6 +0.8**
comp=Z,544nm,1.5s
PRZ Przheval'sk 64.66 329 *e*P **P 16 57 16.6 +0.8**
PRZ pmax pmax
comp=Z,544nm,1.5s
PDGK Podgornoye 64.73 330 P **P 16 57 16.4 +0.2**
PDGK pmax pmax
comp=Z,253nm,1.4s
UZB Uzynbulak 64.83 329⇓ *i*P **P 16 57 17.7 +0.9**
comp=Z,168nm,1.1s
UZB *i* S **S 17 05 53.9 -2.1**
KBL Kabul 65.04 317 *e*P **P 16 57 18.0 -0.5**
comp=Z,180nm,0.8s
KBL LR LR
comp=Z,600nm,22.0s
KBL Kabul 65.04 317 *e*P **P 16 57 18.0 -0.5**
KBL pmax pmax
comp=Z,180nm,0.8s
KBL MLR MLR
comp=Z,600nm,22.0s
KDJ Kajisay 65.04 328 *e*P **P 16 57 19.3 +1.0**
comp=Z,110nm,0.9s
KDJ LR LR
comp=Z,700nm,21.0s
KDJ Kajisay 65.04 328 *e*P **P 16 57 19.3 +1.0**
KDJ pmax pmax
comp=Z,110nm,0.9s
KDJ MLR MLR
comp=Z,700nm,21.0s
SATY Saty 65.08 329⇓ *i*P **P 16 57 19.4 +0.9**
comp=Z,202nm,0.9s
SATY *e*S **S 17 05 57.1 -1.9**
ZHN Zhinishke 65.14 329⇓ *i*P **P 16 57 19.4 +0.6**
comp=Z,112nm,1.2s
ZHN *e*S **S 17 05 57.5 -2.3**
NRN Naryn 65.18 326 *e*P **P 16 57 19.5 +0.1**
comp=Z,126nm,1.0s
NRN Naryn 65.18 326 *e*P **P 16 57 19.5 +0.1**
NRN pmax pmax
comp=Z,126nm,1.0s
KPKS Kokpek 65.23 330⇓ *i*P **P 16 57 20.0 +0.6**
comp=Z,260nm,1.0s
KPKS *e*S **S 17 05 58.5 -2.3**
ZEA Zeya 65.33 6*de* **P 16 57 19.8 +0.2**
ZEA pmax pmax
comp=N,130nm,1.0s
ZEA pmax pmax
comp=E,47nm,1.0s
ZEA pmax pmax
comp=Z,260nm,1.0s
ZEA pmax pmax
comp=Z,500nm,7.0s
ZEA MLR MLR
comp=Z,600nm,16.0s
ZEA MLR MLR
comp=N,600nm,14.0s
ZSN Zaisan 65.53 336⇓ *i*P **P 16 57 21.9 +0.7**
comp=N,37nm,0.9s
ZSN *i* PP **PP 16 59 46.7 +1.0**
ZSN *e*S **S 17 06 02.1 -2.0**
TYV Tymovskoe 65.60 17 *e*P **P 16 57 21.6 +0.2**
TYV pmax pmax
comp=Z,600nm,3.8s
TYV pmax pmax
comp=Z,19nm,1.1s
ULHL Ulahol 65.62 327 P **P 16 57 22.8 +0.8**
SNR=5.9
SFK Sufi-Kurgan 65.63 324 P **P 16 57 22.7 +0.5**
SFK pmax pmax
comp=Z,86nm,0.9s
HVS Khovu-Aksy 65.70 344*c* *i*P **P 16 57 22.3 +0.1**
HVS pmax pmax
comp=Z,161nm,0.9s
MDOK Medeo 65.84 328 *i* P **P 16 57 24.0 +0.6**
comp=Z,2μm,1.1s
MDOK *i* S **S 17 06 06.1 -2.3**
MDOK LR LR 17 26 41.3
comp=Z,208nm,17.1s
KZA Kyzart 66.03 326 P **P 16 57 26.1 +1.1**
SNR=100
MK01 Makanchi Array 66.06 334 *e*P **P 16 57 24.8 +0.3**
MK31 Makanchi Array 66.08 334 *e*P **P 16 57 24.9 +0.3**
MK31 Makanchi Array 66.08 334 *e*P **P 16 57 25.0 +0.3**
MKAR Makanchi Array 66.08 334 P **P 16 57 25.2 +0.5**
comp=Z,163nm,0.7s,baz=148,slow=7.5,SNR=1262
MKAR PKP2bc 17 26 02.5
comp=Z,0.7nm,0.9s,baz=343,slow=2.0,SNR=4.0
MKAR LR LR 17 30 36.3
comp=Z,329nm,19.9s,baz=143,slow=40
MKAR Makanchi Array 66.08 334 *e*P **P 16 57 25.0 +0.3**
comp=Z,955nm,0.7s
MKAR ⇑*e* 17 26 02.5
DGZ Jazzator, Alta 66.43 339*d* *i*P **P 16 57 28.1 +1.1**
DGZ pmax pmax
comp=Z,244nm,1.1s
TKM2 Tokmak 2 66.43 327 P **P 16 57 27.7 +0.5**
SNR=30
TDK Taldyqorghan 66.49 331 *i* P **P 16 57 28.1 +0.7**
comp=Z,545nm,1.7s
TDK *e*S **S 17 06 13.8 -2.1**
TDK LR LR 17 27 18.2
comp=Z,318nm,18.0s
UCH Uchtor 66.54 326 P **P 16 57 28.1 -0.1**
SNR=59
KBK Karagaybulak 66.59 327 P **P 16 57 29.4 +1.1**
SNR=134
MAW Mawson 66.67 200 P **P 16 57 28.0 -0.1**
comp=Z,10nm,0.9s,baz=52,slow=6.0,SNR=10
MAW LR LR 17 23 31.6
comp=Z,859nm,18.4s,baz=50,slow=33
MAW PKPPKP **P'P'df** **17 25 56.0 -4.8**
comp=Z,11nm,1.1s,baz=307,slow=4.7,SNR=4.4
MAW Mawson 66.67 200 P **P 16 57 28.6 +0.5**
baz=67,SNR=6.2
MAW Mawson 66.67 200 *e*P **P 16 57 27.7 -0.4**
comp=Z,18nm,1.9s
MAW P'P' 17 25 56.0
MAW Mawson 66.67 200 P **P 16 57 28.0 -0.1**
MAW pmax pmax
comp=Z,12nm,1.0s
MAW MLR MLR
comp=Z,859nm,18.4s

KUU **Kurty** 66.72 329 *i* P P 16 57 29.2 +0.3
comp=Z,413nm,1.6s
KUU eS S 17 06 16.3 -2.5
KUU LR LR 17 30 15.8
comp=Z,153nm,16.5s
AAK Ala-Archa 66.83 327 P P 16 57 30.7 +1.0
SNR=104
AAK Ala-Archa 66.83 327 *e*P P 16 57 30.4 +0.7
comp=Z,153nm,0.9s
AAK LR LR
comp=Z,600nm,21.0s
AAK Ala-Archa 66.83 327 P P 16 57 30.7 +1.0
SNR=71
AAK Ala-Archa 66.83 327 *i* P P 16 57 30.9 +1.2
SNR=149
AAK Ala-Archa 66.83 327 *d i* P P 16 57 29.9 +0.2
AAK pmax pmax
comp=Z,188nm,1.0s
FRU1 Bishkek 66.87 327 *e*P P 16 57 30.5 +0.6
comp=Z,112nm,1.1s
FRU1 Bishkek 66.87 327 *e*P P 16 57 30.5 +0.6
FRU1 pmax pmax
comp=Z,112nm,1.1s
FRU Bishkek 66.89 327⇓ *e*P P 16 57 29.0 -1.0
FRU *e* 16 58 00.0
FRU *e*S S 17 06 19.0 -1.9
FRU pmax pmax
comp=Z,330nm,2.0s
AML Almayashu 66.92 326 P P 16 57 31.5 +0.9
SNR=158
CHMS Chumysh 66.93 327 P P 16 57 30.5 +0.2
SNR=24
EKS2 Erkin-Say 67.23 326 P P 16 57 33.3 +1.1
SNR=120
USP Ospenovka 67.25 327 P P 16 57 32.7 +0.4
SNR=74
SGDS Sogindy 67.31 327⇓ *i* P P 16 57 33.0 +0.3
comp=Z,128nm,1.4s
SGDS *e*S S 17 06 23.5 -2.5
WSAR Wadi Sarin 67.42 301 P P 16 57 34.4 +0.6
comp=Z,113nm,1.1s,baz=137,slow=6.7,SNR=50
WSAR Wadi Sarin 67.42 301 P P 16 57 34.3 +0.6
SNR=28
JMDO Jabal Madar 67.52 300 P P 16 57 35.6 +1.3
SNR=9.2
MNAS Manas 67.82 325 P P 16 57 36.5 +0.5
MNAS pmax pmax
comp=Z,230nm,1.6s
SMDO Samad 67.84 301 P P 16 57 37.8 +1.3
SNR=11
BIDO Bidbid 67.96 301 P P 16 57 37.8 +0.7
SNR=24
ABPO Ambohimpanom 68.27 254 *e*P P 16 57 40.0 +0.6
comp=Z,60nm,1.3s
ABPO Ambohimpanom 68.27 254 *e*P P 16 57 40.0 +0.6
ABPO pmax pmax
comp=Z,60nm,1.3s
OPO Ambohidratompo 68.35 254 P P 16 57 41.1 +1.3
comp=Z,20nm,1.1s,baz=98,slow=5.8,SNR=11
AFI Afiamalu 68.43 101 LR LR 17 24 54.6
comp=Z,174nm,21.4s,baz=238,slow=34
BSY Bisya 68.43 300 P P 16 57 41.2 +1.1
SNR=16
HOQ Hoqain 68.67 301 P P 16 57 42.1 +0.6
SNR=9.7
BOD Bodaibo 69.00 358 *e*P P 16 57 42.9 0.0
BOD pmax pmax
comp=Z,280nm,1.2s
IUG luzhnay 69.01 324⇓ *i* P P 16 57 44.3 +0.9
comp=Z,122nm,0.9s
IUG *e*S S 17 06 44.5 -1.9
RBK Rabkut 69.15 294 P P 16 57 45.3 +0.6
SNR=9.8
KK31 Karatay Array 69.34 325 *e*P P 16 57 45.1 -0.2
KK31 Karatay Array 69.34 325 *e*P P 16 57 45.1 -0.2
KKAR Karatay Array 69.34 325 *e*P P 16 57 45.2 -0.1
KKAR Karatay Array 69.34 325 *e*P P 16 57 45.2 -0.1
CHM Chimkent 69.36 324⇓ *e*P P 16 57 46.4 +0.9
comp=Z,208nm,1.1s
CHM *e*S S 17 06 48.6 -1.7
WHFO Wadi Hawf 69.68 294 P P 16 57 47.9 0.0
SNR=18
VNDA Vanda 69.84 171 P P 16 57 48.7 +0.8
comp=Z,12nm,1.0s,baz=305,slow=5.3,SNR=22
VNDA LR LR 17 25 52.0
comp=Z,949nm,21.4s,baz=342,slow=34
VNDA Vanda 69.84 171 *e*P P 16 57 48.5 +0.6
comp=Z,120nm,1.8s
ABTO Aybut 69.91 293 P P 16 57 50.0 +0.6
SNR=39
UOSS Minazif 70.14 302 *e*P P 16 57 50.2 -0.4
comp=Z,203nm,1.5s
UOSS LR LR
comp=Z,300nm,22.0s
UOSS Minazif 70.14 302 P P 16 57 50.4 -0.2
SNR=12
UOSS Minazif 70.14 302 *i* P P 16 57 50.6 0.0
SNR=17
HATD Hatta, Dubai 70.15 302 P P 16 57 51.0 +0.3
SNR=20
HATD Hatta, Dubai 70.15 302 *i* P P 16 57 51.2 +0.6
SNR=27
ASHO Ashiyiah 70.15 301 P P 16 57 51.1 +0.3
SNR=28
ASHO Ashiyiah 70.15 301 *i* P P 16 57 51.3 +0.5
SNR=8.3
SKR Severo-Kuril's 70.17 25 *c*eP P 16 57 50.1 -0.1
ALNE Al Ain 70.17 301 *i* P P 16 57 51.1 +0.3
SNR=20
MDH Madha 70.20 302 P P 16 57 50.3 -0.6
MSFE Esma-Masafi 70.34 302 *i* P P 16 57 52.4 +0.6
SNR=14
BANOM Banah 70.44 303 P P 16 57 54.7 +2.2
SNR=6.9
BANOM Banah 70.44 303 *i* P P 16 57 53.7 +1.2
SNR=14
FAQ Al Faqa, Dubai 70.57 301 P P 16 57 53.7 +0.4
SNR=23
FAQ Al Faqa, Dubai 70.57 301 *i* P P 16 57 53.7 +0.4
SNR=68
SHME Shamm 70.62 303 *i* P P 16 57 54.4 +0.8
SNR=21
KURK Kurchatov 70.65 335 *e*P P 16 57 53.5 +0.4
comp=Z,211nm,0.9s
KURK LR LR
comp=Z,400nm,22.0s
KURK Kurchatov 70.65 335 P P 16 57 53.5 +0.4
SNR=70
KURK Kurchatov 70.65 335 *d i* P P 16 57 53.3 +0.2
KURK pmax pmax
comp=Z,326nm,1.3s
ASUD Al Ashush, Dub 70.74 301 P P 16 57 55.1 +0.8
SNR=9.6
ASUD Al Ashush, Dub 70.74 301 *i* P P 16 57 55.0 +0.8
SNR=9.4
UMQ Umm Al-Quwin 70.81 302 P P 16 57 55.8 +1.1
SBA Scott Base 70.86 170 *e*P P 16 57 55.4 +1.3
comp=Z,219nm,2.0s
SBA Scott Base 70.86 170 P P 16 57 54.1 0.0
SBA pmax pmax
comp=Z,54nm,1.6s
ZAA0 Zalesovo Array 70.87 340 *e*P P 16 57 53.6 -0.8
comp=Z,173nm,0.7s
ZAA0 LR LR
comp=Z,300nm,20.0s
ZALV Zalesovo Beam 70.87 340 P P 16 57 54.1 -0.3
comp=Z,161nm,0.6s,baz=146,slow=4.5,SNR=640
ZALV S S 17 07 03.8 -3.7
comp=Z,0.6nm,0.3s,baz=133,slow=10.0,SNR=5.1
ZALV PKPPKP P'P'df 17 25 56.0 +6.9
comp=Z,0.4nm,0.3s,baz=291,slow=4.1,SNR=4.1
ZALV LR LR 17 32 09.8
comp=Z,296nm,20.6s,baz=97,slow=39
ZALV Zalesovo Beam 70.87 340 *e*P P 16 57 53.7 -0.7
ZALV S S 17 07 03.8 -3.7
ZALV P'P' 17 25 56.0
ZALV Zalesovo Beam 70.87 340 *i* P P 16 57 53.7 -0.7
ZALV pmax pmax
comp=Z,162nm,0.6s
MZR Muzera 71.71 299 *i* P P 16 58 01.0 +0.8
SNR=41
OTUK Ortayu 71.74 330 P P 16 58 00.2 +0.3
OTUK pmax pmax
comp=Z,128nm,1.1s
NVS Novosibirsk 72.13 340⇑ *i* P P 16 58 01.8 -0.2
NVS *i* 16 58 19.6
NVS *i* S S 17 07 16.7 -5.3

NVS pmax pmax
comp=Z,141nm,1.2s
NVS pmax pmax
comp=N,84nm,1.4s
NVS pmax pmax
comp=E,70nm,1.4s
NVS smax smax
comp=N,25nm,2.5s
NVS smax smax
comp=E,36nm,2.0s
PEA0B Petropavlovsk- 72.65 24 *e*P P 16 58 06.0 +0.8
comp=E,265nm,1.0s
PETK Petropavlovsk- 72.65 24 P P 16 58 06.5 +1.4
comp=E,135nm,0.8s,baz=198,slow=5.9,SNR=71
PETK Petropavlovsk- 72.65 24 *e*P P 16 58 05.8 +0.7
BRZS Berezniki 72.76 331⇓ *i* P P 16 58 06.5 +0.6
comp=E,155nm,1.3s
BRZS *i* PP PP 17 00 49.2 +0.9
BRZS *e*S S 17 07 27.3 -2.2
BRZS LR LR 17 31 51.9
comp=E,111nm,16.8s
PET Petropavlovsk 72.97 24 *e*P P 16 58 08.1 +1.1
comp=E,351nm,1.3s
PET Petropavlovsk 72.97 24⇑ *i* P P 16 58 08.6 +1.6
PET *e* 17 00 52.5
PET *e*S S 17 07 31.6 0.0
PET *e*SS SS 17 12 17.6 +4.7
PET pmax pmax
comp=Z,235nm,1.3s
PET pmax pmax
comp=Z,300nm,15.7s
PET pmax pmax
comp=Z,100nm,12.4s
YAK Yakutsk 73.74 6 P P 16 58 11.4 0.0
comp=Z,67nm,0.7s,baz=339,slow=0.7,SNR=5.7
YAK Yakutsk 73.74 6 *e*P P 16 58 11.1 -0.3
comp=Z,203nm,1.1s
YAK Yakutsk 73.74 6 *c i* P P 16 58 09.4 -1.9
YAK *e* 16 58 21.6
YAK *e*PP PcP 16 58 34.3 +7.4
YAK *e*PPP PPP 17 02 44.5
YAK *e*S SKiKP 17 07 36.5 -2.2
YAK *e* 17 08 03.0
YAK *e*SS ScS 17 08 24.4 +6.1
YAK *e*SS SS 17 12 15.1 -9.2
YAK pmax pmax
comp=Z,150nm,1.3s
YAK pmax pmax
comp=E,15nm,1.6s
YAK pmax pmax
comp=N,54nm,1.3s
YAK smax smax
comp=N,287nm,5.6s
YAK smax smax
comp=E,123nm,3.8s
ASHT Ashkhabad 74.14 315 P P 16 58 16.1 +1.8
ASHT pmax pmax
comp=Z,93nm,1.0s
GEYT Alibeck 74.32 315 P P 16 58 15.8 +0.4
comp=Z,70nm,1.0s,baz=134,slow=4.3,SNR=145
GEYT LR LR 17 35 25.7
comp=Z,187nm,19.3s,baz=235,slow=39
GYA0B ALIBECK ARRAY 74.32 315 *e*P P 16 58 16.3 +1.0
comp=Z,233nm,1.3s
GYA0B LR LR
comp=Z,300nm,21.0s
SYO Syowa Base 75.28 201⇑ *e*P P 16 58 20.0 -0.3
SYO Syowa Base 75.28 201⇑ *e*pP P 16 58 23.0 +2.7
MA2 Magadan 75.47 17 P P 16 58 22.9 +1.4
comp=Z,216nm,0.8s,baz=192,slow=5.6,SNR=60
BRVK Borovoye 75.94 333 *e*P P 16 58 24.4 +0.1
comp=Z,189nm,1.5s
BRVK Borovoye 75.94 333 P P 16 58 24.7 +0.3
SNR=42
BRVK Borovoye 75.94 333 *d i* P P 16 58 24.5 +0.1
BRVK pmax pmax
comp=Z,120nm,1.3s
DAMY Dhamar 77.27 288 *e*P P 16 58 35.0 +2.0
comp=Z,183nm,1.2s
ATD Arta Tunnel 77.95 284 *e*P P 16 58 37.8 +1.2
comp=Z,88nm,1.1s
QSPA South Pole Qui 78.65 180 P P 16 58 39.4 -0.2
comp=Z,7.7nm,1.0s,baz=316,slow=3.3,SNR=12
QSPA South Pole Qui 78.65 180 *e*P P 16 58 39.2 -0.4
comp=Z,131nm,1.6s
QSPA LR LR
comp=Z,1μm,22.0s
SEY Seymchan 78.70 15 P P 16 58 41.0 +1.4
comp=Z,175nm,0.9s,baz=219,slow=5.0,SNR=221
RAYN Ar Rayn 78.80 297 *e*P P 16 58 41.3 +0.3
comp=Z,102nm,1.0s
RAYN LR LR
comp=Z,300nm,20.0s
RAYN Ar Rayn 78.80 297 *i* P P 16 58 41.7 +0.7
SNR=119
RAYN Ar Rayn 78.80 297 *e*P P 16 58 41.3 +0.3
RAYN pmax pmax
comp=Z,101nm,1.0s
RAYN MLR MLR
comp=Z,300nm,20.0s
AB31 Akbulak array 78.88 326 *i* P P 16 58 41.0 +0.2
AB31 pmax pmax
comp=Z,117nm,1.0s
ABKAR Akbulak array 78.88 326 *e*P P 16 58 41.2 +0.4
KMBO Kilima Mbogo 80.63 271 P P 16 58 52.7 +1.2
comp=Z,31nm,1.0s,baz=71,slow=6.5,SNR=66
KMBO Kilima Mbogo 80.63 271 *e*P P 16 58 52.4 +0.9
comp=Z,44nm,1.0s
KMBO LR LR
comp=Z,400nm,20.0s
KMBO Kilima Mbogo 80.63 271 P P 16 58 53.3 +1.8
SNR=20
KMBO Kilima Mbogo 80.63 271 *i* P P 16 58 53.1 +1.7
SNR=44
KMBO Kilima Mbogo 80.63 271 *e*P P 16 58 52.4 +0.9
KMBO pmax pmax
comp=Z,44nm,1.0s
KMBO MLR MLR
comp=Z,400nm,20.0s
NAI Nairobi 81.04 270 *e*P P 16 58 55.1 +1.5
comp=Z,114nm,0.9s
NAI Nairobi 81.04 270 *e*P P 16 58 55.1 +1.5
NAI pmax pmax
comp=Z,114nm,0.9s
FURI Furi 81.32 281 PFAKE 16 59 10.0 +15
FURI LR LR
comp=Z,600nm,20.0s
SVE Sverdlovsk 82.65 332 *c i* P P 16 59 01.1 +0.3
SVE pmax pmax
comp=Z,124nm,1.4s
NRIK Noril'sk 83.26 350 P P 16 59 04.4 +0.6
comp=Z,65nm,1.0s,baz=146,slow=5.2,SNR=43
NRIK PP PP 17 02 15.1 -0.6
comp=Z,22nm,1.1s,baz=153,slow=7.8,SNR=4.3
NRIK LR LR 17 39 27.2
comp=Z,304nm,21.1s,baz=162,slow=38
ARU Arti 83.40 331 *d i* P P 16 59 04.5 -0.2
ARU 17 02 12.4
ARU S S 17 09 25.4 +1.8
ARU SS SS 17 14 51.9 +2.1
ARU pmax pmax
comp=Z,139nm,1.7s
ARU MLR MLR
comp=Z,632nm,26.0s
MAK Makhachkala 83.77 316 *e*P P 16 59 02.9 -4.0
MAK *e* 17 02 18.8
MAK *e*S S 17 09 20.7 -7.3
MAK *e*SS SS 17 14 58.1 +2.2
MAK pmax pmax
comp=Z,144nm,0.8s
KIWB Kanaga Island 84.02 34 *e*P P 16 59 09.0 +1.0
ADK Adak 84.29 34 *e*P P 16 59 10.1 +0.7
comp=Z,266nm,1.5s
ADK Adak 84.29 34 *e*P P 16 59 10.1 +0.7
ADK pmax pmax
comp=Z,266nm,1.5s
NVL N'lazarevskaya 84.57 199 *e*P P 16 59 12.4 +1.8
NVL *e*S S 17 09 30.2 -4.9
NVL pmax pmax
comp=Z,11nm,0.9s
GNI Garni 84.73 313 *e*P P 16 59 13.2 +1.1
comp=Z,252nm,1.6s
GNI Garni 84.73 313 P P 16 59 14.1 +2.0
SNR=26
GNI Garni 84.73 313 *i* P P 16 59 13.9 +1.9
SNR=18

GNI Garni 84.73 313 *d i* P P 16 59 14.0 +1.9
GNI pmax pmax
comp=Z,462nm,1.6s
GROC Groznyy 85.03 316 *e*P P 16 59 14.3 +1.0
GROC *e* 17 02 30.9
GROC *e*S S 17 09 38.4 -2.1
GROC pmax pmax
comp=Z,316nm,1.3s
TBLG Delisi 85.26 314 *e*P P 16 59 16.4 +1.8
comp=Z,1μm,2.0s
TBLG Delisi 85.26 314 *e*P P 16 59 16.4 +1.8
ATKA Atka Island 85.82 35 *e*P P 16 59 17.0 0.0
comp=Z,136nm,0.8s
AKH Akhalkalaki 86.04 313 *e*P P 16 59 20.4 +1.8
comp=Z,104nm,1.0s
AKH Akhalkalaki 86.04 313⇓ *i* P P 16 59 21.0 +2.4
AKH Akhalkalaki 86.04 313 P P 16 59 21.0 +2.4
ZEI Tsey 86.19 315 *e*P P 16 59 17.7 -1.7
ZEI pmax pmax
comp=Z,145nm,1.5s
BILL Bilibino 86.34 16 *e*P P 16 59 19.5 +0.2
comp=Z,28nm,1.0s
BILL Bilibino 86.34 16 *d i* P P 16 59 19.7 +0.4
BILL *e* 17 02 42.0
BILL *i* S SKSac 17 09 43.4 +0.4
BILL pmax pmax
comp=Z,31nm,1.0s
BILL MLR MLR
comp=Z,262nm,22.0s
NCK Nalchik 86.64 315⇓ *i* P P 16 59 22.9 +1.6
NCK pmax pmax
comp=Z,185nm,1.8s
LSZ Lusaka 86.81 255 *e*P P 16 59 23.2 +0.3
comp=Z,139nm,1.6s
LSZ Lusaka 86.81 255 P P 16 59 23.1 +0.1
SNR=12
LSZ Lusaka 86.81 255 *e*P P 16 59 23.2 +0.3
LSZ pmax pmax
comp=Z,139nm,1.6s
BOSA Boshof 86.95 242 P P 16 59 24.1 +0.7
comp=Z,18nm,1.0s,baz=97,slow=6.9,SNR=11
BOSA LR LR 17 32 48.1
comp=Z,211nm,18.9s,baz=98,slow=32
MBAR Mbarara 87.12 270 *d i* P P 16 59 25.9 +1.4
NEY Neytrino 87.16 315⇑ *i* P P 16 59 25.8 +1.7
NEY pmax pmax
comp=Z,28nm,1.7s
KBZ Khabaz 87.19 315 P P 16 59 25.2 +1.2
comp=Z,24nm,0.8s,baz=145,slow=3.0,SNR=38
KBZ PKKPbc PKKPbc 17 17 16.6 -0.4
comp=Z,3.1nm,0.8s,baz=253,slow=3.1,SNR=6.6
LBTB Lobatse 87.35 245 *e*P P 16 59 26.1 +0.8
comp=Z,58nm,1.3s
KIV Kislovodsk 87.41 316 *e*P P 16 59 25.6 +0.5
comp=Z,35nm,1.0s
KIV Kislovodsk 87.41 316 P P 16 59 26.3 +1.1
SNR=11
KIV Kislovodsk 87.41 316 *i* P P 16 59 26.3 +1.1
SNR=11
KIV Kislovodsk 87.41 316 *e*P P 16 59 26.2 +1.1
KIV *e* 17 02 50.9
KIV *e* 17 09 52.1
KIV pmax pmax
comp=Z,99nm,4.0s
KIV pmax pmax
comp=Z,22nm,1.0s
GOF Gofitskoye 87.52 317⇓ *i* P P 16 59 26.7 +1.2
GOF pmax pmax
comp=Z,130nm,1.0s
TBI Tubuai 87.94 113 *e*S S 17 10 05.3 -4.5
comp=Z,314nm,27.2s
TBI Tubuai 87.94 113 *e*LR LR 17 27 29.0
comp=Z,794nm,25.2s
SNAA Sanae 88.45 196 P P 16 59 30.4 +0.8
SNAA Sanae 88.45 196 *e*P P 16 59 30.2 +0.5
comp=Z,170nm,1.9s
SNAA LR LR
comp=Z,2μm,20.0s
SNAA Sanae 88.45 196 *d i* P P 16 59 30.3 +0.6
PPT2 Papeete2 88.98 108 *e*S S 17 10 14.7 -5.2
comp=Z,195nm,24.8s
PPT2 Papeete2 88.98 108 *e*LR LR 17 27 55.7
comp=Z,800nm,25.5s
PPT Papeete 88.98 108 LR LR 17 35 55.2
comp=Z,209nm,22.0s,baz=242,slow=33
VNA2 Neumayer--Watz 90.09 196 P P 16 59 38.1 +0.9
baz=137,slow=3.5
VRH Novokhopyorsk 90.28 322 *e*P P 16 59 38.1 -0.3
VRH pmax pmax
comp=Z,70nm,1.4s
VNA3 Neumayer Olymp 90.48 195 P P 16 59 39.5 +0.4
VNA1 Neumayer--Stat 90.48 196 P P 16 59 36.4 -2.7
HMH Humu'ula Sheep 90.60 70 *e*P P 16 59 45.1 +4.1
comp=Z,266nm,1.4s
KKO Keanakako'i 90.76 70 PFAKE 16 59 50.0 +8.5
KKO LR LR
comp=Z,2μm,20.0s
SBLHI Steaming Bluff 90.76 70 PFAKE 16 59 50.0 +8.5
SBLHI LR LR
comp=Z,3μm,22.0s
JCUZ Jacuzzi 90.91 71 PFAKE 16 59 50.0 +7.9
JCUZ LR LR
comp=Z,2μm,19.0s
ANN Anapa 91.26 315 *e*P P 16 59 42.4 -0.7
ANN *e*S SKSac 17 10 14.4 +1.2
ANN pmax pmax
comp=Z,111nm,1.2s
VORD Divnogorie 91.68 322 *e*P P 16 59 44.0 -0.9
VORD pmax pmax
comp=Z,20nm,1.2s
PRGR Permogore 91.69 333 *e*P P 16 59 41.4 -3.3
PRGR pmax pmax
comp=Z,34nm,0.8s
VSR Storozhevoye 91.82 322 *e*P P 16 59 45.0 -0.6
VSR pmax pmax
comp=Z,40nm,1.3s
VORR Voronezh 91.92 322 *e*P P 16 59 46.0 0.0
VORR pmax pmax
comp=Z,250nm,2.0s
CSS Mathiatis 92.04 305 *e*P P 16 59 47.4 +0.3
comp=Z,28nm,1.0s
CSS LR LR
comp=Z,300nm,20.0s
LPSR Galich'ya Gora 92.34 323 *e*P P 16 59 46.3 -1.6
LPSR pmax pmax
comp=Z,20nm,1.4s
BR131 Keskin Array S 92.82 310 *e*P P 16 59 50.7 +0.1
BR131 Keskin Array S 92.82 310 P P 16 59 51.0 +0.3
SNR=22
BRTR Keskin Array B 92.82 310 P P 16 59 50.9 +0.2
comp=Z,31nm,0.9s,baz=126,slow=5.4,SNR=125
BRTR PP PP 17 03 32.7 -0.6
comp=Z,8.2nm,1.2s,baz=99,slow=7.6,SNR=5.0
BRTR PKKPbc PKKPbc 17 17 03.6 +0.7
comp=Z,0.7nm,0.9s,baz=308,slow=6.1,SNR=3.6
BRTR LR LR 17 45 40.7
comp=Z,123nm,20.1s,baz=92,slow=38
ILGA Ilgaz 93.04 311 PFAKE 17 00 00.0 +8.2
ILGA LR LR
comp=Z,200nm,19.0s
ANTO Ankara 93.48 310 *e*P P 16 59 54.2 +0.6
comp=Z,37nm,1.0s
ANTO Ankara 93.48 310⇑ *i* P P 16 59 54.2 +0.6
ANTO Ankara 93.48 310 P P 16 59 54.5 +0.8
SNR=6.3
ANTO Ankara 93.48 310 *e*P P 16 59 54.2 +0.6
ANTO pmax pmax
comp=Z,37nm,1.0s
SIM Simferopol' 93.59 315 *e*P P 16 59 54.2 +0.3
SIM pmax pmax
comp=Z,28nm,0.8s
MOS Moscow 93.89 326 *e*P P 16 59 53.4 -1.6
MOS *e* 17 00 06.5
MOS *e* 17 03 41.5
MOS pmax pmax
comp=Z,41nm,1.2s
KLMR Klimovskoe 94.25 331 *e*P P 16 59 52.8 -3.7
KLMR pmax pmax
comp=Z,81nm,1.3s
KLMR Klimovskoe 94.25 331 *e*P P 16 59 52.8 -3.7
KLMR AMP 16 59 58.6
comp=Z,81nm,1.3s
KLMR *e*PP PP 17 03 35.4 -8.3
OBN Obninsk 94.32 325 *e*P P 16 59 56.5 -0.5
comp=Z,157nm,1.3s
OBN Obninsk 94.32 325⇓ *i* P P 16 59 56.8 -0.2

OBN *e* 17 03 45.9
OBN pmax pmax
comp=Z,56nm,1.3s
OBN MLR MLR
comp=Z,224nm,20.0s
ANM Nome 94.54 25 *e*P **P** **16 59 58.6 +0.8**
comp=Z,17nm,0.8s
ANM Nome 94.54 25 *e*P **P** **16 59 58.6 +0.8**
ANM pmax pmax
comp=Z,17nm,0.8s
TSUM Tsumeb 95.87 249 PFAKE 17 00 20.0 +15
TSUM LR LR
comp=Z,700nm,20.0s
RDOG Red Dog Mine 96.44 22 *e*P **P** **17 00 07.0 +0.6**
comp=Z,67nm,1.5s
MANT Manisa 96.47 308 *e*P **P** **17 00 07.8 +0.3**
comp=Z,129nm,1.0s
MFTR Murfatlar 97.45 313 ⇓ *i*P Pdif 17 00 20.2 +8.6
AKASG Malin Array Be 97.86 320 P **P** **17 00 12.6 -0.6**
comp=Z,5.5nm,0.7s,baz=85,slow=4.3,SNR=21
AKASG PP **PP** **17 04 09.6 -2.3**
comp=Z,4.6nm,0.8s,baz=83,slow=6.8,SNR=6.5
AKASG LR LR 17 53 02.1
comp=Z,130nm,18.7s,baz=50,slow=41
KIEV Kiev 97.87 320 *e*P **P** **17 00 12.4 -0.8**
comp=Z,8.3nm,0.9s
KIEV Kiev 97.87 320 *i* P **P** **17 00 12.4 -0.8**
KIEV pmax pmax
comp=Z,28nm,2.1s
AK11 Malin Array Si 97.89 320 *e*P **P** **17 00 12.2 -1.1**
APA Apatity 98.32 337 ⇑ *i*P P 17 00 08.5 -6.4
APA pmax pmax
comp=Z,8.0nm,0.9s
JOF Joensuu 98.48 332 P Pdif 17 00 16.2 +0.5
JOF pmax pmax
comp=Z,24nm,1.0s
APE Apeiranthos 98.63 306 ⇑ *i*P **P** **17 00 16.9 -0.2**
ALN Alexandroupoli 98.74 310 P Pdif 17 00 17.4 0.0
ALN pmax pmax
comp=Z,16nm,1.3s
VRI Vrinicioaia 98.87 315 ⇑ *i*P Pdif 17 00 18.7 +0.8
VRI Vrinicioaia 98.87 315 P Pdif 17 00 18.6 +0.7
IDI Anoyia 98.91 304 ⇑ *i*P Pdif 17 00 18.5 +0.1
PLOR Plostina 98.92 315 ⇓ *i*P Pdif 17 00 20.1 +1.9
PLOR Plostina 98.92 315 P Pdif 17 00 20.0 +1.8
BUC1 Bucharest 99.18 313 ⇑ *i*P **Pdif** **17 00 19.8 +0.6**
KDAK Kodiak Island 99.25 33 P **Pdif** **17 00 19.5 +0.3**
comp=Z,9.5nm,0.8s,baz=229,slow=9.3,SNR=3.2
MLR Muntele Rosu 99.37 315 ⇑ *i*P **PP** **17 04 22.5 -1.3**
BIZ Bicaz 99.43 316 ⇓ *i*P **PP** **17 04 19.9 -4.2**
RSO Redoubt South 99.45 30 *e*P **Pdif** **17 00 19.6 -0.8**
IM3 Indian Mountai 99.61 25 *e*Pdif **Pdif** **17 00 20.8 +0.1**
DOPR Dopca 99.81 315 ⇑ *i*P Pdif 17 00 39.2 +17
DOPR Dopca 99.81 315 ⇑ *i*P **PP** **17 04 25.0 -2.0**
TAOE Nuku Hiva Isla 99.82 101 *e*LR LR 17 33 00.4
comp=Z,304nm,22.0s
PPLA Purkeypile 99.97 28 *e*Pdif **Pdif** **17 00 22.9 +0.3**
comp=Z,62nm,1.8s
VOIR 99.99 314 ⇑ *i*P **PP** **17 04 23.4 -5.1**
CAST Castle Rocks 100.06 27 *e*Pdif **Pdif** **17 00 23.1 +0.3**
BURAR Bucovina Array 100.10 317 ⇑ *i*P **Pdif** **17 00 24.4 +1.0**
BURAR Bucovina Array 100.10 317 ⇑ *i*P **PP** **17 04 27.9 -1.4**
BURAR Bucovina Array 100.10 317 P **Pdif** **17 00 24.4 +1.0**
BUR04 Bucovina Ar. S 100.10 317 *e*Pdif **Pdif** **17 00 23.6 +0.1**
BUR08 Bucovina Ar. S 100.11 317 *e*Pdif **Pdif** **17 00 23.8 +0.3**
BRLK Bradley Lake 100.32 31 *e*Pdif **Pdif** **17 00 24.0 0.0**
SUA Susitna One 100.53 29 *e*Pdif **Pdif** **17 00 24.4 -0.7**
FIA1 FINESS Array S 100.76 331 *e*Pdif **Pdif** **17 00 25.6 -0.3**
FINES FINESS Array B 100.76 331 P **Pdif** **17 00 25.8 -0.1**
comp=Z,13nm,0.8s,baz=112,slow=8.5,SNR=20
MLY Manley 100.77 26 *e*Pdif **Pdif** **17 00 25.9 -0.1**
SUF Sumiainen 100.81 332 P **Pdif** **17 00 25.6 -0.5**
TRF Thorofare Moun 100.87 27 *e*Pdif **Pdif** **17 00 26.3 -0.3**
LOT Lotru 100.89 314 ⇑ *i*P **Pdif** **17 00 28.3 +1.3**
LOT Lotru 100.89 314 ⇑ *i*P **PP** **17 04 32.8 -2.5**
RKT Rikitea 100.91 116 *e*LR LR 17 33 30.7
comp=Z,805nm,29.0s
VTS Vitosha 101.03 311 PFAKE 17 00 40.0 +12
VTS LR LR
comp=Z,200nm,21.0s
VTS Vitosha 101.03 311 ⇑ *i*P **Pdif** **17 00 28.0 +0.2**
VTS Vitosha 101.03 311 ⇑ *i*P **PP** **17 04 33.1 -3.5**
COLD Coldfoot 101.11 23 *e*Pdif **Pdif** **17 00 28.2 +0.9**
KNT Kendrikon 101.13 310 P **Pdif** **17 00 27.3 -0.8**
KNT pmax pmax
comp=Z,14nm,1.3s
BMR Baia Mare 101.26 317 ⇑ *i*P **Pdif** **17 00 19.6 -8.9**
PMR Palmer 101.30 29 *e*Pdif **Pdif** **17 00 28.2 -0.1**
PMR Palmer 101.30 29 *e*P **Pdif** **17 00 28.2 -0.1**
LIT Litokhoron 101.34 309 P **Pdif** **17 00 28.6 -0.5**
LIT pmax pmax
comp=Z,49nm,1.1s
ARCES ARCESS Array B 101.40 339 P **Pdif** **17 00 28.7 +0.1**
comp=Z,16nm,0.9s,baz=98,slow=5.3,SNR=17
ARCES ARCESS Array B 101.40 339 *e*Pdif **Pdif** **17 00 28.3 -0.3**
TOLK Toolik Lake Re 101.41 22 *e*Pdif **Pdif** **17 00 29.1 +0.4**
TOLK Toolik Lake Re 101.41 22 P **Pdif** **17 00 29.3 +0.5**
baz=268
GRG Griva 101.49 310 *e*P **Pdif** **17 00 29.6 -0.1**
GRG pmax pmax
comp=Z,15nm,1.1s
SML Sawmill 101.69 29 *e*Pdif **Pdif** **17 00 30.6 +0.5**
SML Sawmill 101.69 29 *e*P **Pdif** **17 00 30.6 +0.5**
HERR Herculane 101.80 314 ⇑ *i*P PP 17 04 30.2 -12
WRH Wood River Hil 101.89 26 *e*Pdif **Pdif** **17 00 30.7 -0.1**
TRPA Tarpa 101.94 317 ⇑ *i*P **Pdif** **17 00 31.8 +0.4**
CCB Clear Creek Bu 102.01 26 *e*Pdif **Pdif** **17 00 31.1 -0.3**
UZH Uzhgorod 102.13 318 *e*P **Pdif** **17 00 40.0 +7.7**
UZH *i* 17 04 48.6
SCM Sheep Creek Mo 102.17 29 *e*Pdif **Pdif** **17 00 33.6 +1.4**
DHY Denali Highway 102.17 28 *e*Pdif **Pdif** **17 00 31.7 -0.7**
HDA Harding Lake 102.38 26 P **Pdif** **17 00 33.3 +0.2**
baz=270
IL1 Eielson Array 102.41 26 *e*Pdif **Pdif** **17 00 32.0 -1.1**
ILAR Eielson Array 102.41 26 P **Pdif** **17 00 32.3 -0.9**
comp=Z,4.6nm,1.2s,baz=236,slow=5.2,SNR=14
ILAR PP **PP** **17 04 43.0 -3.0**
comp=Z,2.5nm,0.9s,baz=261,slow=6.2,SNR=7.6
ILAR PKKPbc **PKKPbc** **17 16 35.0 -2.1**
comp=Z,1.2nm,1.0s,baz=69,slow=2.0,SNR=6.4
ILB Eielson Array 102.41 26 *e*Pdif **Pdif** **17 00 32.2 -1.0**
BZS Buzias 102.41 314 ⇑ *i*P **Pdif** **17 00 33.8 +0.1**
BZS Buzias 102.41 314 ⇑ *i*P **PP** **17 04 44.0 -2.6**
BZS Buzias 102.41 314 P **Pdif** **17 00 33.7 +0.1**
SIRR Siria 102.42 315 ⇑ *i*P **Pdif** **17 00 34.2 +0.5**
SIRR Siria 102.42 315 ⇑ *i*P **PP** **17 04 44.7 -2.0**
DIV Divide 102.91 30 *e*Pdif **Pdif** **17 00 35.5 0.0**
PAX Paxson 103.04 28 *e*Pdif **Pdif** **17 00 36.4 +0.3**
PAX Paxson 103.04 28 *e*P **Pdif** **17 00 36.4 +0.3**
RIDG Independ'e Rid 103.31 27 *e*Pdif **Pdif** **17 00 37.1 -0.2**
KECS Kecovo 103.33 317 *e*P **Pdif** **17 00 37.0 -0.6**
KECS *e* 17 04 53.4
KECS Kecovo 103.33 317 *e*PDIFF **Pdif** **17 00 37.0 -0.6**
KECS *e*PP **PP** **17 04 53.4 0.0**
PSZ Piszkesteto 103.70 317 ⇓ *i*P **Pdif** **17 00 40.2 +0.8**
PSZ Piszkesteto 103.70 317 ⇑ *i*P **PP** **17 04 52.5 -3.8**
PDG Podgorica 103.94 311 ⇑ *i*P **Pdif** **17 00 41.0 +0.5**
VYHS Vyhne 104.42 317 *e*P **Pdif** **17 00 42.9 +0.4**
VYHS *e* 17 04 59.1
VYHS Vyhne 104.42 317 *e*PDIFF **Pdif** **17 00 42.9 +0.4**
VYHS *e*PP **PKiKP** **17 04 59.1 +0.3**
EGAK Eagle 104.86 26 *e*Pdif **Pdif** **17 00 44.4 +0.3**
OKC Ostrava-Krasne 104.88 319 AMS AMS 17 49 30.0
comp=Z,600nm,17.5s
JAVC Velka Javorina 105.20 318 *e*PKIKP PKiKP 17 05 08.1 +7.9
MORC Moravsky Berou 105.28 319 ⇑ *i*P **PP** **17 05 05.6 -2.3**
MORC Moravsky Berou 105.28 319 *e*PKIKP **PP** **17 05 05.6 -2.3**
MODS Modra-Piesok 105.46 317 *e*PP PP 17 05 07.6 -1.7
DAWY Dawson 105.69 26 *e*Pdif **Pdif** **17 00 48.5 +0.6**
VRAC Vranov 105.90 318 ⇓ *i*P **PP** **17 05 11.6 -0.9**
VRAC Vranov 105.90 318 *e*PKIKP PKiKP 17 05 10.8 +9.3
KRUC Moravsky 106.03 318 *e*PKIKP PKiKP 17 05 10.7 +9.0
DPC Dobruska-Polom 106.05 319 *e*PDIFF **Pdif** **17 00 51.7 +1.9**
DPC *e*PP **PP** **17 05 14.0 +0.4**
DPC Dobruska-Polom 106.05 319 *e*P **Pdif** **17 00 51.7 +1.9**
DPC *e* 17 05 14.0
CONA Conrad Observa 106.41 317 *i* PP PP 17 05 15.9 -0.5
comp=Z,37nm,2.2s,SNR=5.5
GOLS Golise 106.61 315 *e*P **PP** **17 05 15.4 -2.4**
GOLS Golise 106.61 315 *e*P **PP** **17 05 15.4 -2.4**
ARSA Arzberg 106.66 316 *i* PP PP 17 05 17.4 -0.8
comp=Z,24nm,1.5s
GROS Grobnik 106.69 315 *e*P **PP** **17 05 16.0 -2.4**
GROS Grobnik 106.69 315 *e*P **PP** **17 05 16.0 -2.4**
PERS Pernice 106.95 315 *i* P **PP** **17 05 18.2 -2.1**
PERS Pernice 106.95 315 *i* P **PP** **17 05 18.2 -2.1**
SOKA Soboth 107.01 315 *i* PP PP 17 05 19.1 -1.7
comp=Z,27nm,1.4s
GOPC GO Pecny, Ondr 107.06 319 *e*PP PP 17 05 18.4 -2.6
INK Inuvik 107.32 22 Pdiff **Pdif** **17 00 55.1 +0.2**
comp=Z,5.4nm,1.0s,baz=307,slow=2.8,SNR=7.4
INK Inuvik 107.32 22 *e*Pdif **Pdif** **17 00 54.5 -0.4**
OBKA Obir 107.34 315 *i* P **PP** **17 05 18.4 -4.9**
comp=Z,20nm,1.0s
MOA Molln 107.49 317 *i* PP PP 17 05 22.9 -1.3
comp=Z,29nm,1.7s,SNR=5.7
BRG Berggiesshubel 107.54 320 *e*P **PP** **17 05 20.8 -3.7**
comp=Z,8.3nm,1.2s
BRG *i* 17 05 24.7
comp=Z,23nm,1.4s
BRG *e* 17 22 00.3
comp=Z,8.9nm,1.3s
GERES GERESS Array B 107.82 318 Pdiff **Pdif** **17 00 58.5 +0.8**
comp=Z,0.3nm,0.5s,baz=90,slow=2.7,SNR=4.1
GERES PKiKP **PKiKP** **17 05 05.2 +0.1**
comp=Z,0.9nm,0.7s,baz=75,slow=4.2,SNR=4.3
GERES PP **PP** **17 05 23.1 -3.6**
comp=Z,4.4nm,0.9s,baz=90,slow=8.0,SNR=12
GERES PKKP **PKKPbc** **17 16 20.1 -0.1**
comp=Z,0.4nm,0.5s,baz=319,slow=2.9,SNR=4.1
NB2 NORSAR Subarra 107.94 331 PP PP 17 05 26.0 -1.1
comp=Z,138nm,3.3s,baz=81,slow=7.4
NB2 NORSAR Subarra 107.94 331 PP PP 17 05 26.0 -1.1
baz=81,slow=7.4
NOA NORSAR Array B 107.94 331 PP PP 17 05 26.6 -0.6
comp=Z,5.3nm,0.9s,baz=79,slow=7.5,SNR=8.1
CLL Collm 108.11 320 *e*PP PP 17 05 27.0 -1.5
CLL *e*pPP 17 05 33.0
CLL *e*PS **PS** **17 14 50.0 -2.6**
CLL *e* 17 16 07.0
CLL *e* 17 30 30.0
CLL LmV 18 00 00.0
comp=Z,200nm,21.2s
KBA Koelnbreinsper 108.15 316 *i* PP PP 17 05 25.1 -4.2
comp=Z,13nm,1.2s
WTTA Wattenberg 109.30 316 *i* PP PP 17 05 34.9 -2.7
comp=Z,21nm,1.4s
WATA Walderalm 109.34 316 *i* PP PP 17 05 35.2 -2.6
comp=Z,3.5nm,0.5s
SQTA Sankt Quirin 109.59 316 *i* PP PP 17 05 37.2 -2.5
comp=Z,10nm,0.9s
MOTA Moosalm 109.66 316 *i* PP PP 17 05 37.0 -3.2
comp=Z,8.3nm,0.8s
RETA Reutte 109.88 316 *i* PP PP 17 05 38.0 -3.7
comp=Z,17nm,1.1s
FETA Feichten 109.94 316 *i* PP PP 17 05 39.6 -2.6
comp=Z,15nm,1.1s
DAVA Damuels 110.49 316 *i* PKiKP **PKiKP** **17 05 11.1 +0.8**
comp=Z,18nm,1.4s
DAVA *i* PP **PP** **17 05 42.1 -4.1**
comp=Z,25nm,1.4s
DLBC Dease Lake 111.11 32 PP PP 17 05 49.7 -0.5
comp=Z,1.9nm,0.5s,baz=274,slow=1.1,SNR=4.7
KEST Kesra 111.58 304 PP PP 17 05 56.3 +1.9
comp=Z,13nm,1.1s,baz=338,slow=7.2,SNR=4.9
RES Resolute Bay 114.06 9 PKP PKPdf 17 05 16.1 0.0
comp=Z,3.8nm,0.9s,baz=328,slow=8.9,SNR=3.7
YKA Yellowknife Ar 116.77 24 PKP **PKPdf** **17 05 21.8 +0.2**
comp=Z,3.6nm,0.7s,baz=307,slow=1.9,SNR=14
YKB5 Yellowknife Ar 116.77 24 *e*PKPdf **PKPdf** **17 05 21.2 -0.4**
A04D Tuumuli Island 117.72 41 P **PKPdf** **17 05 23.6 -0.2**
baz=285
TOC3 Torodi Ar. Sit 117.77 279 PFAKE 17 05 40.0 +15
TOC3 LR LR
comp=Z,400nm,20.0s
TOC2 Torodi Ar. Sit 117.77 279 PFAKE 17 05 40.0 +15
TOC2 LR LR
comp=Z,500nm,20.0s
TOB2 Torodi Ar. Sit 117.78 279 PFAKE 17 05 40.0 +15
TOB2 LR LR
comp=Z,500nm,20.0s
TOB3 Torodi Ar. Sit 117.79 279 PFAKE 17 05 40.0 +15
TOB3 LR LR
comp=Z,400nm,19.0s
TOC4 Torodi Ar. Sit 117.79 279 PFAKE 17 05 40.0 +15
TOC4 LR LR
comp=Z,500nm,21.0s
TOC1 Torodi Ar. Sit 117.79 279 PFAKE 17 05 40.0 +15
TOC1 LR LR
comp=Z,500nm,19.0s
TOA0 Torodi Ar. Sit 117.80 279 *e*PKPdf **PKPdf** **17 05 24.7 -0.2**
TOA0 LR LR
comp=Z,500nm,18.0s
TORD Torodi Ar. Bea 117.80 279 PKP **PKPdf** **17 05 23.3 -1.6**
comp=Z,15nm,1.0s,baz=45,slow=1.4,SNR=46
TOA1 Torodi Ar. Sit 117.80 279 PFAKE 17 05 40.0 +15
TOA1 LR LR
comp=Z,500nm,21.0s
TOB4 Torodi Ar. Sit 117.81 279 PFAKE 17 05 40.0 +15
TOB4 LR LR
comp=Z,500nm,20.0s
TOC5 Torodi Ar. Sit 117.81 279 PFAKE 17 05 40.0 +15
TOC5 LR LR
comp=Z,600nm,21.0s
TOC7 Torodi Ar. Sit 117.81 279 PFAKE 17 05 40.0 +15
TOC7 LR LR
comp=Z,500nm,21.0s
B05A Bryant 118.23 41 P **PKPdf** **17 05 25.5 +0.7**
baz=285
HUMO Hull Mountain 118.97 47 *e*PKPdf **PKPdf** **17 05 27.8 +1.2**
I04A Tendick Farm, 119.11 46 P **PKPdf** **17 05 27.6 +0.8**
baz=283
M02C Callahan 119.29 49 P **PKPdf** **17 05 28.4 +1.2**
baz=281
YBH Yreka Blue Hor 119.33 48 PKP **PKPdf** **17 05 28.6 +1.3**
comp=Z,5.6nm,1.0s,baz=101,slow=17,SNR=4.4
YBH Yreka Blue Hor 119.33 48 PKIKP **PKPdf** **17 05 28.6 +1.3**
YBH pmax pmax
comp=Z,4.0nm,0.9s
J04D Umpqua Nationa 119.45 47 P **PKPdf** **17 05 28.7 +1.1**
baz=283
N02D Trinity Center 119.48 49 P **PKPdf** **17 05 28.8 +1.2**
baz=281
L04D Klamath Falls 119.53 48 P **PKPdf** **17 05 27.9 +0.1**
baz=282
I05D Terrebonne, OR 119.74 45 P **PKPdf** **17 05 29.4 +1.4**
baz=284
M04C Macdoel 119.95 48 P **PKPdf** **17 05 29.8 +1.2**
baz=282
B08A Colville Reser 119.98 40 *e*PKPdf **PKPdf** **17 05 28.6 +0.3**
J05D Fort Rock, OR 120.06 46 P **PKPdf** **17 05 30.1 +1.4**
baz=283
O03E Paynes Creek 120.28 50 P **PKPdf** **17 05 29.4 +0.2**
baz=281
HAWA Hanford 120.43 43 *e*PKPdf **PKPdf** **17 05 30.2 +1.0**
D08A Wollman Farm, 120.64 42 *e*PKPdf **PKPdf** **17 05 30.3 +0.8**
ORV Oroville 120.65 51 *e*PKPdf **PKPdf** **17 05 29.9 +0.1**
ORV Oroville 120.65 51 *e*PKIKP **PKPdf** **17 05 29.9 +0.1**
E08A Dider Farm, El 120.71 42 *e*PKPdf **PKPdf** **17 05 30.1 +0.4**
CHRN Cochrane 120.91 172 PFAKE 17 05 40.0 +10
CHRN LR LR
comp=Z,100nm,18.0s
MOD Modoc Plateau 121.05 48 *e*PKPdf **PKPdf** **17 05 31.2 +0.5**
G08A Pilot Rock 121.12 44 *e*PKPdf **PKPdf** **17 05 31.3 +0.6**
AFDM Forest Hills D 121.17 51 *e*PKPdf **PKPdf** **17 05 31.1 +0.2**
NEW Newport 121.40 40 PKP **PKPdf** **17 05 31.7 +0.7**
comp=Z,6.0nm,0.9s,baz=319,slow=0.1,SNR=9.0
NEW Newport 121.40 40 *e*PKPdf **PKPdf** **17 05 31.5 +0.4**
NEW Newport 121.40 40 *e*PKIKP **PKPdf** **17 05 31.5 +0.4**
NEW Newport 121.40 40 P **PKPdf** **17 05 32.6 +1.5**
baz=290
ES19 SONSECA Array 121.56 310 *e*PKPdf **PKPdf** **17 05 31.9 +0.2**
ESDC Sonseca Array 121.61 310 PKP **PKPdf** **17 05 32.5 +0.7**
comp=Z,3.7nm,0.8s,baz=41,slow=2.6,SNR=21
CMB Columbia Colle 121.80 52 *e*PKPdf **PKPdf** **17 05 32.4 +0.2**
CMB Columbia Colle 121.80 52 *e*PKIKP **PKPdf** **17 05 32.4 +0.2**
PAB San Pablo 121.93 310 *e*PKPdf **PKPdf** **17 05 32.6 +0.2**
J08A Circle Bar Ran 121.99 46 *e*PKPdf **PKPdf** **17 05 32.5 0.0**
WVOR Wild Horse Val 122.12 47 *e*PKPdf **PKPdf** **17 05 32.5 -0.2**
WVOR Wild Horse Val 122.12 47 *e*PKIKP **PKPdf** **17 05 32.5 -0.2**
PAGB Antelope Grade 122.32 55 *e*PKPdf **PKPdf** **17 05 33.7 +0.5**
BMO Blue Mountains 122.37 44 *e*PKPdf **PKPdf** **17 05 33.1 0.0**
BMO Blue Mountains 122.37 44 *e*PKIKP **PKPdf** **17 05 33.1 0.0**
SMMC Simmler 122.59 55 P **PKPdf** **17 05 35.2 +1.5**
baz=280
PKM Mcpherson Peak 122.81 56 P **PKPdf** **17 05 35.4 +1.0**
baz=279
MDPB Devils Postpil 122.89 52 *e*PKPdf **PKPdf** **17 05 33.9 -0.6**
KIC Kosan Boka 123.20 270 *e*PKIKP **PKPdf** **17 05 35.6 +0.2**
comp=Z,69nm,0.9s
VES Vestal, Richgr 123.23 55 P **PKPdf** **17 05 35.1 +0.3**
baz=280
NVAR Mina Array Bea 123.32 51 PKP **PKPdf** **17 05 36.7 +1.4**
comp=Z,9.7nm,0.9s,baz=259,slow=2.3,SNR=35
NVAR PP **PP** **17 07 15.8 -0.3**
comp=Z,6.9nm,1.1s,baz=271,slow=6.6,SNR=4.8
NV01 Mina Array Sit 123.32 51 *e*PKPdf **PKPdf** **17 05 35.5 +0.3**
DBIC Dimbokro 123.36 271 PKP **PKPdf** **17 05 36.1 +0.4**
comp=Z,34nm,0.9s,baz=89,slow=2.3,SNR=29
JTMT Jette 123.37 40 *e*PKPdf **PKPdf** **17 05 34.5 -0.4**
NV11 Mina Array Sit 123.44 51 *e*PKPdf **PKPdf** **17 05 35.5 +0.1**
LIC Lamto 123.45 270 *e*PKIKP **PKPdf** **17 05 36.0 +0.1**
comp=Z,102nm,1.0s
TIC Toumodi 123.52 270 *e*PKIKP **PKPdf** **17 05 36.0 -0.1**
MVO Moncorvo 123.53 312 *e*PKPdf **PKPdf** **17 05 36.5 +1.1**
ISA Isabella, Lake 123.75 55 *e*PKPdf **PKPdf** **17 05 36.1 +0.1**
ISA Isabella, Lake 123.75 55 *e*PKIKP **PKPdf** **17 05 36.1 +0.1**
ISA Isabella, Lake 123.75 55 P **PKPdf** **17 05 36.8 +0.8**
baz=281
CWC Cottonwood Cre 123.92 54 P **PKPdf** **17 05 37.3 +0.8**
baz=282
MSO Missoula 123.93 41 *e*PKPdf **PKPdf** **17 05 36.2 +0.1**
MSO Missoula 123.93 41 P **PKPdf** **17 05 36.5 +0.5**
baz=292
POLO Lamas de Olo 124.03 312 *e*PKPdf **PKPdf** **17 05 36.5 +0.1**
MTE Manteigas 124.11 311 *e*PKPdf **PKPdf** **17 05 35.8 -0.7**
CIS Catalina Islan 124.19 57 P **PKPdf** **17 05 37.9 +1.0**
baz=279
PGAV Gavieira, Arco 124.21 313 *e*PKPdf **PKPdf** **17 05 37.5 +0.8**
PCBR Castelo Branco 124.21 311 *e*PKPdf **PKPdf** **17 05 38.3 +1.7**
PMRV Marv??o 124.25 310 *e*PKPdf **PKPdf** **17 05 37.0 +0.3**
PASC Pasadena Art C 124.25 56 *e*PKPdf **PKPdf** **17 05 36.6 -0.3**
PAS Pasadena 124.27 56 PKIKP **PKPdf** **17 05 36.6 -0.3**
EDW2 Edwards Air Fo 124.28 55 P **PKPdf** **17 05 38.4 +1.4**
baz=281
PVIS Viseu 124.28 312 *e*PKPdf **PKPdf** **17 05 38.4 +1.6**
DAC Darwin (Calif) 124.33 54 *e*PKPdf **PKPdf** **17 05 37.4 +0.2**
DAC Darwin (Calif) 124.33 54 *e*PKIKP **PKPdf** **17 05 37.4 +0.2**
MWC Mount Wilson 124.35 56 *e*PKPdf **PKPdf** **17 05 38.0 +0.7**
MWC Mount Wilson 124.35 56 *e*PKIKP **PKPdf** **17 05 38.1 +0.7**
GRAC Grapevine Rang 124.36 53 P **PKPdf** **17 05 38.7 +1.6**
baz=282
LRMC Laurel Mtn Rad 124.42 55 P **PKPdf** **17 05 38.8 +1.4**
baz=281
MPMC Manual Prospec 124.46 54 P **PKPdf** **17 05 38.9 +1.4**
baz=282
PESTR Estremoz 124.54 310 *e*PKPdf **PKPdf** **17 05 37.6 +0.3**
BFSC Mount Baldy Ra 124.67 56 P **PKPdf** **17 05 38.8 +0.9**
baz=280
HLID Hailey 124.75 44 *e*PKPdf **PKPdf** **17 05 39.0 +1.2**
HLID Hailey 124.75 44 P **PKPdf** **17 05 39.3 +1.4**
baz=289
FURC Furnace Creek, 124.87 53 P **PKPdf** **17 05 39.4 +1.5**
baz=282
PCAS Casmilo, Conde 124.91 311 *e*PKPdf **PKPdf** **17 05 38.4 +0.4**
EVO Evora 124.94 309 *e*PKPdf **PKPdf** **17 05 40.9 +2.8**
PBEJ Beja 124.95 309 *e*PKPdf **PKPdf** **17 05 38.2 +0.1**
PVAQ Vaqueiros 124.98 308 *e*PKPdf **PKPdf** **17 05 38.5 +0.3**
PVAQ Vaqueiros 124.98 308 *e*PKPdf **PKPdf** **17 05 38.5 +0.3**
GSC Goldstone, Bar 125.16 55 *e*PKPdf **PKPdf** **17 05 40.0 +1.3**
GSC Goldstone, Bar 125.16 55 *e*PKIKP **PKPdf** **17 05 40.0 +1.3**
GSC Goldstone, Bar 125.16 55 P **PKPdf** **17 05 40.1 +1.3**
baz=282
MURC Murrieta 125.17 57 P **PKPdf** **17 05 40.0 +1.3**
baz=280
TPNV Topopah Spring 125.24 53 *e*PKPdf **PKPdf** **17 05 40.0 +1.1**
TPNV Topopah Spring 125.24 53 *e*PKIKP **PKPdf** **17 05 40.1 +1.1**
TPNV Topopah Spring 125.24 53 P **PKPdf** **17 05 40.3 +1.4**
baz=283
LRM Limekiln Ridge 125.26 41 *e*PKPdf **PKPdf** **17 05 39.3 +0.5**
MESJ Messejana 125.27 308 *e*PKPdf **PKPdf** **17 05 39.4 +0.6**
MESJ Messejana 125.27 308 *e*PKPdf **PKPdf** **17 05 40.1 +1.4**
DLMT Dillon 125.34 42 *e*PKPdf **PKPdf** **17 05 40.1 +1.3**
DLMT LR LR
comp=Z,500nm,21.0s
MCMT McKenzie Canyo 125.37 43 *e*PKPdf **PKPdf** **17 05 40.3 +1.3**
R11A Troy Canyon, C 125.42 51 *e*PKPdf **PKPdf** **17 05 40.4 +1.2**
R11A Troy Canyon, C 125.42 51 P **PKPdf** **17 05 40.8 +1.5**
baz=285
SHOC Shoshone, Teco 125.46 54 P **PKPdf** **17 05 40.5 +1.3**
baz=282
HEC Hector,Ludlow 125.63 55 P **PKPdf** **17 05 41.0 +1.4**
baz=282
FRD Ford Ranch, An 125.67 57 P **PKPdf** **17 05 41.3 +1.5**
baz=281
MORF Marmelete 125.73 308 *e*PKPdf **PKPdf** **17 05 40.0 +0.3**
PFO Pinyon Flats O 125.77 57 *e*PKPdf **PKPdf** **17 05 40.6 +0.6**
PFO Pinyon Flats O 125.77 57 *e*PKIKP **PKPdf** **17 05 40.6 +0.6**
PFO Pinyon Flats O 125.77 57 P **PKPdf** **17 05 41.2 +1.2**
baz=281
XPFO Piæon Flat 125.77 57 *e*PKPdf **PKPdf** **17 05 40.6 +0.6**
PMAFR Mafra 125.79 310 *e*PKPdf **PKPdf** **17 05 39.1 -0.6**
TUQ Turquoise Moun 125.83 54 P **PKPdf** **17 05 41.1 +1.1**
baz=282
BOZ Bozeman (W) 125.88 41 *e*PKPdf **PKPdf** **17 05 40.9 +1.1**
BOZ Bozeman (W) 125.88 41 *e*PKIKP **PKPdf** **17 05 40.9 +1.1**
BOZ Bozeman (W) 125.88 41 P **PKPdf** **17 05 41.1 +1.2**
baz=293
MONP2 Monument Peak 125.93 58 P **PKPdf** **17 05 41.7 +1.3**
baz=280
EGMT Eagleton 126.04 38 *e*PKPdf **PKPdf** **17 05 40.8 +0.8**
EGMT Eagleton 126.04 38 P **PKPdf** **17 05 40.5 +0.5**
baz=296
BELC Belle Mtn. Jos 126.07 56 P **PKPdf** **17 05 42.2 +1.6**
baz=281
GMRC Granite Mounta 126.19 55 P **PKPdf** **17 05 42.3 +1.6**
baz=282
IKP In-Ko-Pah, Jac 126.23 58 P **PKPdf** **17 05 42.4 +1.6**
baz=280
SWSC Sam W. Stewart 126.43 57 P **PKPdf** **17 05 42.7 +1.6**
baz=281
HVU Hansel Valley 126.48 46 *e*PKPdf **PKPdf** **17 05 41.6 +0.5**
LDFC Landfair 126.56 55 *e*PKPdf **PKPdf** **17 05 42.3 +0.8**
FFC Flin Flon 126.57 28 *e*PKPdf **PKPdf** **17 05 41.2 +0.5**
FFC Flin Flon 126.57 28 *e*PKIKP **PKPdf** **17 05 41.2 +0.5**
BGU Big Grassy Mou 126.58 47 *e*PKPdf **PKPdf** **17 05 41.5 +0.1**
BC3 Big Chuckawall 126.58 56 P **PKPdf** **17 05 43.0 +1.5**
baz=282
YMR Madison River 126.67 42 *e*PKPdf **PKPdf** **17 05 43.1 +1.6**
PSUT Pine Spring 126.68 50 *e*PKPdf **PKPdf** **17 05 42.8 +1.1**
YHH Holmes Hill 126.70 42 *e*PKPdf **PKPdf** **17 05 43.1 +1.4**
IRM Iron Mountain 126.73 56 P **PKPdf** **17 05 43.2 +1.5**
baz=282
YNR Norris Junctio 126.84 42 *e*PKPdf **PKPdf** **17 05 43.0 +1.1**
YFT Old Faithful 126.84 42 *e*PKPdf **PKPdf** **17 05 44.1 +2.2**
SPUT South Promonto 126.87 46 *e*PKPdf **PKPdf** **17 05 42.8 +0.9**
DUG Dugway, Tooele 126.96 48 *e*PKPdf **PKPdf** **17 05 42.6 +0.5**
DUG Dugway, Tooele 126.96 48 *e*PKIKP **PKPdf** **17 05 42.6 +0.5**
DUG Dugway, Tooele 126.96 48 P **PKPdf** **17 05 43.5 +1.4**
baz=288
NEE2 Needles Airpor 127.03 55 P **PKPdf** **17 05 43.5 +1.3**
baz=283
FXWY Fox Creek 127.03 43 *e*PKPdf **PKPdf** **17 05 43.1 +0.9**
GCMT Greycliff 127.06 40 *e*PKPdf **PKPdf** **17 05 43.1 +1.0**
TPAW Teton Pass 127.13 43 *e*PKPdf **PKPdf** **17 05 43.7 +1.2**
MOOW Moose Ponds 127.17 43 *e*PKPdf **PKPdf** **17 05 43.9 +1.4**
GLA Glamis 127.22 57 *e*PKPdf **PKPdf** **17 05 43.6 +0.9**
GLA Glamis 127.22 57 *e*PKIKP **PKPdf** **17 05 43.6 +0.9**
GLA Glamis 127.22 57 P **PKPdf** **17 05 44.0 +1.4**
baz=282
REDW Red Top Meadow 127.25 44 *e*PKPdf **PKPdf** **17 05 44.0 +1.3**
SNOW Snow King Moun 127.28 43 *e*PKPdf **PKPdf** **17 05 44.2 +1.5**
AHID Auburn Hatcher 127.30 44 *e*PKPdf **PKPdf** **17 05 43.8 +1.1**
LOHW Long Hollow 127.32 43 *e*PKPdf

KNB Kanab 127.88 52 ePKPdf PKPdf 17 05 45.5 +1.5
KNB Kanab 127.88 52 ePKIKP PKPdf 17 05 45.5 +1.5
MSU Marysvale 127.94 50 ePKPdf PKPdf 17 05 45.6 +1.5
MSU Marysvale 127.94 50 ePKIKP PKPdf 17 05 45.6 +1.5
MTPU Mount Pierson 128.08 50 ePKPdf PKPdf 17 05 46.3 +1.8
PKCU Pink Cliffs 128.16 51 ePKPdf PKPdf 17 05 46.3 +1.6
BW06 Boulder Array 128.35 44 ePKPdf PKPdf 17 05 45.1 +0.3
BW06 Boulder Array 128.35 44 P PKPdf 17 05 45.7 +0.9
baz=293
PD31 Pinedale Array 128.35 44 ePKPdf PKPdf 17 05 45.1 +0.3
PDAR Pinedale Array 128.35 44 PKP PKPdf 17 05 45.6 +0.9
comp=Z,5.0nm,1.0s,baz=219,slow=1.9,SNR=23
PDAR PP PP 17 07 50.4 +1.2
comp=Z,1.0nm,0.9s,baz=207,slow=3.7,SNR=2.6
PDAR Pinedale Array 128.35 44 ePKPdf PKPdf 17 05 44.9 +0.1
PDAR PP PP 17 07 50.4 +1.2
TMUT Trail Mountain 128.42 48 ePKPdf PKPdf 17 05 46.2 +1.1
GO06 Curarrehue 128.57 171 ePdif Pdif 17 02 31.1 +0.7
GO06 ePKPdf PKiKP 17 05 45.8 -0.1
GO06 Curarrehue 128.57 171 eP Pdif 17 02 28.2 -2.2
P17A Butcher Ranch, 128.71 48 ePKPdf PKPdf 17 05 46.3 +0.8
LAO LASA Array 128.79 38 ePKPdf PKPdf 17 05 46.7 +1.4
LAO LASA Array 128.79 38 P PKPdf 17 05 46.5 +1.3
baz=299
ASCN Ascension 128.80 250 PFAKE 17 06 00.0 +14
ASCN LR LR
comp=Z,580µm,20.0s
SRU San Rafael Swe 128.98 48 ePKPdf PKPdf 17 05 46.7 +0.6
SRU San Rafael Swe 128.98 48 ePKIKP PKPdf 17 05 46.7 +0.6
P18A Preston Nutter 129.01 48 ePKPdf PKPdf 17 05 47.3 +1.1
DGMT Dagmar 129.06 35 P PKPdf 17 05 46.5 +0.8
baz=302
214A Organ Pipe Nat 129.10 58 P PKPdf 17 05 47.2 +0.9
baz=282
WUAZ Wupatki 129.42 53 ePKPdf PKPdf 17 05 48.2 +1.2
WUAZ Wupatki 129.42 53 P PKPdf 17 05 48.0 +1.0
baz=286
PV09 Paradox Valley 130.21 49 ePKPdf PKPdf 17 05 49.4 +0.8
O20A White River Ci 130.27 46 ePKPdf PKPdf 17 05 49.6 +1.1
O20A White River Ci 130.27 46 P PKPdf 17 05 49.5 +1.1
baz=292
PV21 Cone Mtn., Par 130.31 49 ePKPdf PKPdf 17 05 49.6 +1.0
PV21 LR LR
comp=Z,900nm,21.0s
PV23 Carpenter Ridg 130.32 49 ePKPdf PKPdf 17 05 49.9 +1.2
PV14 Lion Creek, Pa 130.34 49 ePKPdf PKPdf 17 05 49.4 +0.6
PV05 Paradox Valley 130.38 49 ePKPdf PKPdf 17 05 49.4 +0.6
PV19 Morning Glory 130.39 49 ePKPdf PKPdf 17 05 49.8 +1.0
PV20 West Nyswonger 130.39 49 ePKPdf PKPdf 17 05 49.7 +1.0
PV17 East Wray Mesa 130.41 49 ePKPdf PKPdf 17 05 49.8 +1.0
PV16 Nyswonger Mesa 130.44 49 ePKPdf PKPdf 17 05 49.8 +1.0
K22A Casper 130.44 43 ePKPdf PKPdf 17 05 49.7 +1.0
K22A Casper 130.44 43 P PKPdf 17 05 49.5 +0.8
baz=296
PV22 Blue Mesa, Par 130.45 49 ePKPdf PKPdf 17 05 49.6 +0.7
PV22 LR LR
comp=Z,800nm,21.0s
PV18 Skein Mesa, Pa 130.46 49 ePKPdf PKPdf 17 05 49.2 +0.3
PV11 David Mesa, Pa 130.47 49 ePKPdf PKPdf 17 05 49.4 +0.5
PV03 Paradox Valley 130.50 49 ePKPdf PKPdf 17 05 49.6 +0.6
PV12 Saucer Basin, 130.52 49 ePKPdf PKPdf 17 05 49.8 +0.7
PV13 Radium Mtn., P 130.56 49 ePKPdf PKPdf 17 05 50.0 +0.9
PV02 Paradox Valley 130.60 49 ePKPdf PKPdf 17 05 50.2 +1.2
TUC Tucson 130.70 57 ePKPdf PKPdf 17 05 50.5 +1.1
TUC Tucson 130.70 57 PKIKP PKPdf 17 05 50.5 +1.1
TUC Tucson 130.70 57 P PKPdf 17 05 50.7 +1.4
baz=284
PV01 Paradox Valley 130.75 49 ePKPdf PKPdf 17 05 50.6 +1.1
W18A Petrified Fore 130.81 53 ePKPdf PKPdf 17 05 52.6 +3.0
W18A Petrified Fore 130.81 53 P PKPdf 17 05 50.8 +1.2
baz=287
TRQA Tornquist 130.84 180 ePKPdf PKPdf 17 05 49.7 +0.2
TRQA Tornquist 130.84 180 ePKIKP PKPdf 17 05 49.7 +0.2
MVCO Mesa Verde 131.12 50 ePKPdf PKPdf 17 05 51.8 +1.6
MVCO Mesa Verde 131.12 50 P PKPdf 17 05 51.5 +1.3
baz=290
HSIG 131.26 61 ePKPdf PKPdf 17 05 49.9 -0.5
RSSD Black Hills 131.38 40 ePKPdf PKPdf 17 05 50.3 -0.2
RSSD Black Hills 131.38 40 ePKIKP PKPdf 17 05 50.3 -0.2
RSSD Black Hills 131.38 40 P PKPdf 17 05 51.2 +0.7
baz=299
SMCO Snowmass 131.54 47 ePKPdf PKPdf 17 05 51.3 +0.1
SMCO LR LR
comp=Z,900nm,20.0s
N23A Red Feather La 131.58 45 P PKPdf 17 05 52.1 +1.0
baz=295
MDND Maddock 131.96 33 ePKPdf PKPdf 17 05 52.5 +1.3
MDND Maddock 131.96 33 P PKPdf 17 05 52.9 +1.8
baz=307
S22A 4UR Ranch, Cre 132.18 49 ePKPdf PKPdf 17 05 53.5 +1.2
S22A 4UR Ranch, Cre 132.18 49 P PKPdf 17 05 53.8 +1.5
baz=291
ISCO Idaho Springs 132.26 46 ePKPdf PKPdf 17 05 53.2 +0.8
ISCO Idaho Springs 132.26 46 P PKPdf 17 05 53.5 +1.1
baz=294
ULM Lac du Bonnet 132.32 29 PKP PKPdf 17 05 51.7 -0.1
comp=Z,6.3nm,0.8s,baz=300,slow=1.1,SNR=6.0
ULM PP PP 17 08 14.5 +0.4
comp=Z,3.0nm,0.8s,baz=283,slow=11,SNR=3.0
Q24A Divide 132.93 47 P PKPdf 17 05 55.1 +1.4
baz=294
GO05 HualaæØ 132.95 169 PFAKE 17 06 10.0 +16
GO05 LR LR
comp=Z,800nm,20.0s
LAZ Ladron 133.07 53 ePKPdf PKPdf 17 05 55.5 +1.6
121A Cookes Peak, D 133.10 56 P PKPdf 17 05 55.5 +1.4
baz=286
SDCO Great Sand Dun 133.15 48 ePKPdf PKPdf 17 05 54.9 +0.8
SDCO ePKPdf PKiKP 17 05 55.6 +0.3
SDCO Great Sand Dun 133.15 48 P PKPdf 17 05 55.5 +1.4
baz=293
LENM Lemitar 133.27 53 ePKPdf PKPdf 17 05 53.6 -0.7
ANMO Albuquerque 133.43 52 PKP PKPdf 17 05 55.8 +1.2
comp=Z,8.6nm,1.0s,baz=222,slow=1.8,SNR=13
ANMO Albuquerque 133.43 52 ePKPdf PKPdf 17 05 54.4 -0.2
ANMO ePKPdf PKiKP 17 05 56.3 +0.4
ANMO Albuquerque 133.43 52 P PKPdf 17 05 56.1 +1.5
baz=289
LPM Los Pinos Moun 133.50 53 ePKPdf PKPdf 17 05 54.8 +0.1
BNM Barren Site 133.55 53 ePKPdf PKPdf 17 05 54.5 -0.4
AGMN Agassiz Nation 133.63 31 P PKPdf 17 05 55.8 +1.5
baz=311
T25A Trinidad 134.19 49 ePKPdf PKPdf 17 05 56.6 +0.6
T25A Trinidad 134.19 49 P PKPdf 17 05 57.1 +1.1
baz=293
OGNE Ogallala 134.21 43 PFAKE 17 06 10.0 +14
OGNE LR LR
comp=Z,400nm,19.0s
OGNE Ogallala 134.21 43 P PKPdf 17 05 57.8 +2.1
baz=299
KSCO Kaye Shedlock' 134.69 45 ePKPdf PKPdf 17 05 57.4 +0.6
KSCO Kaye Shedlock' 134.69 45 P PKPdf 17 05 58.2 +1.4
baz=296
PEL Peldehue 134.99 170 PFAKE 17 06 10.0 +13
PEL LR LR
comp=Z,32µm,19.0s
MNTX Cornudas Mount 135.29 56 ePKPdf PKPdf 17 05 58.1 +0.1
MNTX Cornudas Mount 135.29 56 P PKPdf 17 05 59.2 +1.3
baz=287
EYMN Ely 135.99 28 ePKPdf PKPdf 17 05 58.1 -0.7
EYMN Ely 135.99 28 P PKPdf 17 05 59.0 +0.3
baz=316
ECSD EROS Data Cent 136.09 36 ePKPdf PKPdf 17 05 58.9 -0.2
ECSD EROS Data Cent 136.09 36 P PKPdf 17 05 59.2 +0.1
baz=307
SCHQ Schefferville 136.47 4 PKP PKPdf 17 05 59.6 +0.2
comp=Z,10nm,0.9s,baz=250,slow=18,SNR=4.3
BGNE Belgrade 136.49 40 ePKPdf PKPdf 17 05 59.3 -0.6
BGNE Belgrade 136.49 40 P PKPdf 17 06 00.7 +0.8
baz=303
MSTX Muleshoe 136.62 52 ePKPdf PKPdf 17 06 01.0 +0.5
MSTX Muleshoe 136.62 52 P PKPdf 17 06 00.8 +0.3
baz=292
E38A The Farm, Brul 136.92 30 ePKPdf PKPdf 17 06 00.4 0.0
E38A The Farm, Brul 136.92 30 P PKPdf 17 06 01.1 +0.6
baz=315
C40A Isle Royale Na 137.07 27 P PKPdf 17 06 01.2 +0.5
baz=319
F38A Pierce - Schro 137.21 31 P PKPdf 17 06 02.0 +0.9
baz=314
TX31 Lajitas Ar. Si 137.38 59 ePKPpre PKPpre 17 05 48.0
TXAR Lajitas Array 137.38 59 PKiKP PKPpre 17 05 50.5
comp=Z,1.7nm,0.8s,baz=256,slow=3.7,SNR=6.9
TXAR PKP PKiKP 17 06 03.1 -0.8
comp=Z,4.3nm,0.8s,baz=282,slow=2.4,SNR=5.0
E39A Mellen 137.56 29 P PKPdf 17 06 01.9 +0.2
baz=316
F39A Loretta 137.72 30 P PKPdf 17 06 02.6 +0.6
baz=315
G38A Ridgeland 137.77 32 P PKPdf 17 06 02.3 +0.2
baz=314
E40A Wakefield 137.83 29 P PKPdf 17 06 02.9 +0.7
baz=317
GO04 Tololo Observa 137.87 169 ePKPdf PKPdf 17 06 03.0 -0.1
GO04 LR LR
comp=Z,20µm,18.0s
H38A Maiden Rock 137.89 32 P PKPdf 17 06 02.5 +0.2
baz=313
D41A Chassel 137.98 27 P PKPdf 17 06 03.1 +0.7
baz=319
G39A Holcombe 138.04 31 P PKPdf 17 06 02.9 +0.3
baz=315
F40A Park Falls 138.10 29 P PKPdf 17 06 02.9 +0.2
baz=316
E41A Kenton 138.25 28 P PKPdf 17 06 03.0 +0.1
baz=318
H39A Augusta 138.40 32 P PKPdf 17 06 04.1 +0.8
baz=314
COWI Conover 138.44 28 ePKPdf PKPdf 17 06 03.7 +0.4
G40A Rib Lake 138.53 30 ePKPpre PKPpre 17 05 56.8
G40A Rib Lake 138.53 30 P PKPdf 17 06 04.0 +0.5
baz=316
F41A Three Lakes 138.72 29 ePKPdf PKPdf 17 06 04.0 +0.2
F41A Three Lakes 138.72 29 P PKPdf 17 06 04.2 +0.3
baz=318
KSU1 Kansas State U 138.73 42 ePKPdf PKPdf 17 06 04.5 +0.4
E42A Champion 138.75 27 P PKPdf 17 06 04.3 +0.4
baz=320
I39A Houston 138.84 33 ePKPpre PKPpre 17 05 57.0
I39A ePKPdf PKPdf 17 06 04.0 -0.1
LCO Las Campanas 139.01 168 ePKPdf PKPdf 17 06 04.7 -0.6
LCO LR LR
comp=Z,15µm,21.0s
J39A Decorah 139.10 33 P PKPdf 17 06 05.3 +0.7
baz=312
WMOK Wichita Mounta 139.34 49 ePKPpre PKPpre 17 05 56.9
WMOK Wichita Mounta 139.34 49 ePKHKP PKPpre 17 05 56.9
G42A Mountain 139.41 29 P PKPdf 17 06 06.1 +1.0
baz=318
ABTX Abilene, Hawle 139.55 52 ePKPpre PKPpre 17 05 59.9
I42A Draeger Farm, 140.16 31 ePKPdf PKPdf 17 06 06.3 -0.3
I42A Draeger Farm, 140.16 31 P PKPdf 17 06 06.2 -0.4
baz=316
JFWS Jewell Farm 140.17 33 ePKPdf PKPdf 17 06 06.0 -0.5
JFWS Jewell Farm 140.17 33 P PKPdf 17 06 05.9 -0.7
baz=314
JCT Junction City 140.21 56 ePKPpre PKPpre 17 06 00.5
JCT ePKPdf PKPdf 17 06 07.6 +0.5
JCT Junction City 140.21 56 PKIKP PKPdf 17 06 07.6 +0.5
JCT Junction City 140.21 56 P PKPdf 17 06 07.2 +0.1
baz=290
D47A Chapleau 140.24 23 P PKPdf 17 06 05.9 -0.7
baz=327
E46A Sault Ste Mari 140.34 24 P PKPdf 17 06 07.3 +0.5
baz=324
F45A CMU Biological 140.38 26 P PKPdf 17 06 06.7 -0.1
baz=322
J42A Columbus 140.47 31 P PKPdf 17 06 06.8 -0.3
baz=316
GO03 Copiap 140.48 169 PFAKE 17 06 20.0 +12
GO03 LR LR
comp=Z,12µm,19.0s
D48A Paudash Townsh 140.61 21 P PKPdf 17 06 07.2 -0.1
baz=329
E47A Iron Bridge 140.67 23 P PKPdf 17 06 07.4 +0.1
baz=326
E48A Lockeyer 141.07 22 P PKPdf 17 06 08.4 +0.3
baz=328
VLDQ Val d'Or 141.16 16 ePKPpre PKPpre 17 06 00.9
WHTX Lake Whitney, 141.50 52 ePKPpre PKPpre 17 06 04.7
X37A Clayton 141.90 47 ePKPpre PKPpre 17 06 06.0
HHAR Hobbs 142.03 44 ePKPpre PKPpre 17 06 06.1
JRQG Juriquilla Cam 142.06 71 PFAKE 17 06 20.0 +9.1
JRQG LR LR
comp=Z,700nm,19.0s
LNIG Linares 142.15 64 ePKPpre PKPpre 17 06 06.1
CPUP Villa Florida 142.25 187 PKP PKPdf 17 06 10.8 0.0
comp=Z,9.9nm,1.0s,baz=132,slow=1.0,SNR=15
CPUP Villa Florida 142.25 187 ePKPdf PKPdf 17 06 11.2 +0.4
P42A Winchester 142.34 37 ePKPpre PKPpre 17 06 06.3
W39A Magazine 142.71 45 ePKPdf PKPdf 17 06 10.1 -1.3
CCM Cathedral Cave 142.76 39 PKPdf PKPpre 17 06 07.1
CCM Cathedral Cave 142.76 39 PKHKP PKPpre 17 06 07.1
GO02 Mina Guanaco 142.97 169 PFAKE 17 06 20.0 +7.4
GO02 LR LR
comp=Z,7µm,18.0s
N45A Kentland 143.07 33 P PKPbc 17 06 08.4 -0.3
baz=316
Q43A New Douglas 143.14 37 P PKPbc 17 06 08.6 -0.3
baz=311
MIAR Mount Ida 143.20 46 ePKPdf PKPdf 17 06 11.9 -0.3
MIAR Mount Ida 143.20 46 PKIKP PKPdf 17 06 11.9 -0.3
MIAR Mount Ida 143.20 46 P PKPbc 17 06 09.4 +0.2
baz=301
S42A Caledonia 143.22 39 P PKPbc 17 06 08.9 -0.2
baz=308
J49A Marlette 143.26 26 P PKPbc 17 06 09.2 +0.1
baz=324
M46A Old House Fiel 143.27 31 P PKPbc 17 06 09.1 -0.1
baz=318
K48A Perry 143.27 28 P PKPbc 17 06 09.1 -0.1
baz=322
FVM French Village 143.32 39 ePKPpre PKPbc 17 06 09.3 -0.1
FVM French Village 143.32 39 ePKIKP PKPbc 17 06 09.3 -0.1
BASO Ashfield 143.33 24 P PKPbc 17 06 10.3 +1.0
baz=327
U41A Viola 143.35 42 P PKPbc 17 06 09.3 -0.3
baz=305
O45A Potomac 143.38 34 P PKPbc 17 06 09.1 -0.4
baz=315
L47A Sherwood 143.41 29 P PKPbc 17 06 09.2 -0.3
baz=320
P44A Sand Creek, Wi 143.42 35 P PKPbc 17 06 09.6 0.0
baz=313
PEMO Pembroke 143.43 18 P PKPbc 17 06 09.6 +0.1
baz=335
R43A Red Bud 143.43 38 P PKPab 17 06 09.2 +0.5
baz=310
N46A Monticello 143.44 32 P PKPbc 17 06 09.3 -0.4
baz=317
BWLO Walkerton 143.45 23 P PKPbc 17 06 10.2 +0.6
baz=328
T42A Van Buren 143.48 41 P PKPab 17 06 09.2 +0.3
baz=307
V41A Mountainview 143.51 43 P PKPab 17 06 09.6 +0.5
baz=304
Q44A Meyer Farm, Va 143.57 37 P PKPbc 17 06 09.8 -0.2
baz=312
K49A Clarkson 143.59 27 P PKPbc 17 06 09.9 -0.1
baz=323
HKT Hockley 143.60 54 ePKPdf PKPdf 17 06 12.1 -0.9
HKT Hockley 143.60 54 PKIKP PKPdf 17 06 12.1 -0.9
SADO Sadowa 143.62 21 ePKPpre PKPpre 17 06 09.9
SFIN Lafayette 143.63 33 P PKPbc 17 06 10.0 -0.2
baz=316
M47A Cromwell 143.67 30 P PKPbc 17 06 10.4 +0.1
baz=319
WHAR Wooly Hollow 143.69 44 ePKPpre PKPpre 17 06 10.0
NATX Nacogdoches 143.75 51 ePKPdf PKPdf 17 06 12.4 -0.9
NATX Nacogdoches 143.75 51 P PKPbc 17 06 11.9 +1.0
baz=297
X40A Basin Creek Fa 143.75 46 ePKPpre PKPpre 17 06 10.9
X40A Basin Creek Fa 143.75 46 P PKPbc 17 06 11.4 +0.6
baz=302
W41B Gary Mavity, V 143.79 44 ePKPpre PKPpre 17 06 10.3
W41B Gary Mavity, V 143.79 44 P PKPbc 17 06 10.8 -0.1
baz=304
S43A Fulton Ridge, 143.79 39 P PKPbc 17 06 10.6 -0.3
baz=309
U42A Revenden 143.79 42 P PKPbc 17 06 10.8 -0.1
baz=306
L48A N Adams 143.80 29 P PKPbc 17 06 10.9 +0.2
baz=321
BANO Bancroft 143.81 19 P PKPbc 17 06 10.3 -0.3
baz=333
I52A Shelburne 143.86 22 P PKPbc 17 06 11.1 +0.3
baz=329
P45A Graceland, Par 143.87 35 ePKPpre PKPbc 17 06 11.1 +0.1
P45A Graceland, Par 143.87 35 P PKPbc 17 06 11.2 +0.2
baz=314
AAM Ann Arbor 143.88 28 ePKPdf PKPbc 17 06 11.3 +0.4
AAM Ann Arbor 143.88 28 ePKIKP PKPbc 17 06 11.3 +0.4
AAM Ann Arbor 143.88 28 P PKPbc 17 06 10.7 -0.2
baz=322
UALR University of 143.94 45 ePKPdf PKPbc 17 06 11.6 +0.3
K50A Casco 143.96 26 P PKPbc 17 06 11.3 +0.2
baz=324
T43A Greenville 143.96 40 P PKPbc 17 06 11.2 -0.2
baz=308
R44A Waltonville 143.96 37 P PKPbc 17 06 11.2 -0.1
baz=311
WLAR White Oak Lake 143.97 47 ePKPdf PKPbc 17 06 12.5 +1.0
X41A Kaden, Bauxite 143.97 45 P PKPbc 17 06 11.8 +0.4
baz=302
L49A Milan 143.98 28 P PKPbc 17 06 11.6 +0.4
baz=322
N47A Urbana 143.99 31 P PKPbc 17 06 11.1 -0.2
baz=318
V42A Cord 144.01 43 P PKPab 17 06 11.2 +0.2
baz=305
M48A Edgerton 144.02 29 ePKPdf PKPbc 17 06 11.7 +0.3
M48A Edgerton 144.02 29 P PKPbc 17 06 11.1 -0.3
baz=320
BATG Bathurst New B 144.04 5 ePKPdf PKPbc 17 06 12.1 +0.9
PLVO Plevna 144.06 18 P PKPbc 17 06 11.3 -0.1
baz=334
Q45A Warren Harvey, 144.07 36 P PKPbc 17 06 12.0 +0.4
baz=313
P46A Rosedale 144.11 34 P PKPbc 17 06 12.1 +0.4
baz=315
ORIO Orleans, Innes 144.14 16 P PKPab 17 06 11.3 +0.2
baz=337
ALFO Alfred 144.14 15 P PKPbc 17 06 11.4 -0.2
baz=338
TLIG Tlapa 144.18 76 ePKPdf PKPbc 17 06 13.5 +0.8
OLIL Olney 144.21 36 ePKPdf PKPbc 17 06 12.5 +0.5
OLIL LR LR
comp=Z,300nm,18.0s
S44A Carbondale 144.22 38 P PKPbc 17 06 12.2 +0.1
baz=310
O47A Sheridan 144.22 32 P PKPbc 17 06 12.0 0.0
baz=317
W42A Bald Knob 144.22 43 P PKPbc 17 06 12.1 -0.1
baz=305
Y41A Eaglette Beard 144.23 46 P PKPdf 17 06 13.2 -0.9
baz=302
ACTO Acton 144.30 23 P PKPbc 17 06 13.0 +0.8
baz=329
240A Hunter Patters 144.30 50 ePKPdf PKPdf 17 06 13.8 -0.4
240A Hunter Patters 144.30 50 P PKPdf 17 06 14.0 -0.2
baz=298
U43A Rector 144.32 41 P PKPbc 17 06 12.5 +0.1
baz=307
N48A Decatur 144.34 30 P PKPbc 17 06 12.5 +0.1
baz=319
PKRO Pickering 144.35 21 P PKPbc 17 06 13.1 +0.8
baz=331
DELO Deloro Mine 144.36 19 P PKPbc 17 06 12.9 +0.5
baz=333
M49A Liberty Center 144.38 29 P PKPbc 17 06 12.8 +0.3
baz=321
T44A Benton 144.40 39 P PKPbc 17 06 12.9 +0.2
baz=309
R45A Skylar, Fairfi 144.41 37 P PKPbc 17 06 13.2 +0.5
baz=312
Z41A Richland Creek 144.41 47 ePKPdf PKPdf 17 06 14.1 -0.3
Z41A Richland Creek 144.41 47 P PKPdf 17 06 14.0 -0.4
baz=301
Q46A CEJHS Indians, 144.44 35 P PKPbc 17 06 13.0 +0.2
baz=314
PQI Presque Isle 144.45 7 ePKPdf PKPbc 17 06 13.1 +0.5
DRWO Darlington Wes 144.55 21 P PKPdf 17 06 13.9 -0.4
baz=331
X42A Stuttgart 144.55 45 P PKPbc 17 06 13.8 +0.5
baz=304
PARMO Parma 144.56 40 ePKPdf PKPbc 17 06 13.4 +0.2
DRCO St. Marys Ceme 144.56 21 P PKPdf 17 06 13.8 -0.5
baz=331
TORO Toronto--Lesli 144.56 22 P PKPdf 17 06 13.7 -0.6
baz=330
V43A Jonesboro 144.58 42 P PKPbc 17 06 13.9 +0.6
baz=306
WLVO Wesleyville 144.62 21 P PKPdf 17 06 14.1 -0.4
baz=332
S45A Carrier Mills 144.63 38 P PKPbc 17 06 13.6 +0.2
baz=311
U44A Portageville 144.70 40 P PKPbc 17 06 13.9 +0.3
baz=308
N49A Columbus Grove 144.71 30 ePKPdf PKPbc 17 06 13.7 +0.1
N49A Columbus Grove 144.71 30 P PKPbc 17 06 13.9 +0.3
baz=320
P47A Martinsville 144.71 33 P PKPbc 17 06 13.8 +0.2
baz=316
O48A Farmland 144.73 31 P PKPbc 17 06 13.8 +0.2
baz=318
BLO Bloomington 144.80 34 ePKPdf PKPbc 17 06 14.2 +0.3
BLO Bloomington 144.80 34 ePKIKP PKPbc 17 06 14.2 +0.3
CCAR Cane Creek 144.80 46 ePKPdf PKPdf 17 06 15.2 +0.2
Y42A Garnett, Star 144.83 46 P PKPdf 17 06 15.5 +0.4
baz=303
M50A Fremont 144.87 28 P PKPbc 17 06 14.3 +0.2
baz=322
W43A Forest City 144.88 43 P PKPdf 17 06 14.8 -0.3
baz=305
R46A Gibon Southern 144.91 36 P PKPdf 17 06 14.8 -0.3
baz=313
241A Mo Tay, Goldon 144.94 49 ePKPdf PKPdf 17 06 16.3 +1.0
241A Mo Tay, Goldon 144.94 49 P PKPdf 17 06 16.7 +1.3
baz=299
STCO Saint Catharin 144.97 22 P PKPdf 17 06 14.8 -0.3
baz=330
V44A Blytheville 144.97 41 P PKPdf 17 06 15.2 -0.1
baz=307
USIN University of 144.98 36 ePKPbc PKPdf 17 06 14.9 -0.3
U44B Burton Farm, H 145.01 40 P PKPdf 17 06 15.4 +0.1
baz=308
Q47A Bedord North L 145.01 34 P PKPab 17 06 14.9 +0.3
baz=315
Z42A Norrel Spur, H 145.01 47 P PKPdf 17 06 16.3 +0.9
baz=302
T45A Paducah 145.02 39 P PKPab 17 06 15.0 +0.3
baz=310
MOQ Mont Orford 145.06 13 ePKPbc PKPdf 17 06 15.4 +0.1
X43A Marvell 145.08 44 P PKPdf 17 06 15.9 +0.4
baz=304
GLAT Glass 145.09 40 ePKPbc PKPdf 17 06 15.8 +0.3
S46A Don Dixon Farm 145.14 37 P PKPdf 17 06 15.4 -0.1
baz=312
LONY Lake Ozonia 145.16 16 ePKPbc PKPdf 17 06 15.3 0.0
LONY Lake Ozonia 145.16 16 P PKPdf 17 06 15.4 0.0
baz=338
P48A Milroy 145.18 32 P PKPbc 17 06 15.1 0.0
baz=317
O49A Covington 145.19 31 ePKPbc PKPbc 17 06 15.2 0.0
O49A Covington 145.19 31 P PKPdf 17 06 15.6 0.0
baz=320
FRNY Flat Rock 145.21 14 ePKPbc PKPbc 17 06 14.9 -0.2
MEDO Medina 145.27 21 P PKPdf 17 06 15.8 +0.3
baz=331
M51A Elyria 145.31 27 P PKPab 17 06 15.7 0.0
baz=324
UTMT University of 145.32 40 ePKPbc PKPdf 17 06 16.4 +0.5
N50A Nevada 145.32 29 P PKPdf 17 06 16.2 +0.4
baz=322
441A DeRidder 145.33 51 P PKPdf 17 06 18.0 +1.9
baz=297
U45A Rockin P Farm, 145.38 40 P PKPab 17 06 16.3 +0.2
baz=309
Y43A Makayla and Ka 145.39 45 P PKPab 17 06 17.2 +1.1
baz=304
Q48A North Vernon 145.40 33 P PKPab 17 06 16.2 +0.1
baz=316
R47A Wooly Knot Far 145.41 35 P PKPab 17 06 16.1 +0.1
baz=314
W44A Shelby Farms P 145.44 42 P PKPab 17 06 16.6 +0.3
baz=307
T46A Princeton 145.46 38 P PKPab 17 06 16.8 +0.5
baz=311
P49A Miami Univ. Ec 145.49 32 P PKPab 17 06 16.3 0.0
baz=318
LMN Caledonia Moun 145.55 3 ePKPdf PKPab 17 06 16.6 +0.3
Z43A Armstrong Fami 145.55 46 P PKPab 17 06 17.6 +0.9
baz=302
N51A Ashland 145.56 28 ePKPdf PKPbc 17 06 16.4 +0.1
N51A Ashland 145.56 28 P PKPbc 17 06 16.5 +0.1
baz=323
O50A Cable 145.58 30 P PKPab 17 06 16.8 +0.1

baz=320
LVC Limon Verde 145.59 169 PKPbc PKPab 17 06 18.5 +0.9
comp=Z,21nm,1.0s,baz=173,slow=3.0,SNR=23
LVC Limon Verde 145.59 169 ePKPdf PKPab 17 06 17.8 +0.1
LVC LR LR
comp=Z,6μm,20.0s
WCI Wyandotte Cave 145.59 35 ePKPdf PKPab 17 06 16.6 -0.1
WCI Wyandotte Cave 145.59 35 ePKIKP PKPab 17 06 16.6 -0.1
WCI Wyandotte Cave 145.59 35 P PKPab 17 06 16.8 +0.1
baz=315
ERPA Erie 145.59 24 ePKPdf PKPab 17 06 16.7 +0.1
ERPA Erie 145.59 24 P PKPab 17 06 16.6 0.0
baz=328
X44A Crenshaw 145.59 43 P PKPab 17 06 17.2 +0.3
baz=305
PB04 IPOC Station P 145.59 167 ePKPdf PKPab 17 06 17.8 +0.4
PB04 LR LR
comp=Z,4μm,19.0s
V45A Humboldt 145.63 41 P PKPab 17 06 16.9 -0.1
baz=308
541A Lake Charles 145.64 53 P PKPab 17 06 18.6 +1.4
baz=296
PKME Peaks-Kenny Pk 145.65 9 ePKPdf PKPab 17 06 17.1 +0.4
PKME Peaks-Kenny Pk 145.65 9 P PKPab 17 06 17.6 +0.9
baz=347
342A Flagon Creek P 145.69 50 ePKPdf PKPab 17 06 19.3 +1.9
342A Flagon Creek P 145.69 50 P PKPab 17 06 19.1 +1.7
baz=299
S47A Hartford 145.69 36 P PKPbc 17 06 16.8 -0.1
baz=313
R48A Northridge Ran 145.70 34 P PKPab 17 06 17.4 +0.2
baz=316
143A Socs Landing, 145.70 47 P PKPab 17 06 18.3 +1.0
baz=302
U46A Springville 145.73 39 P PKPab 17 06 17.4 +0.1
baz=310
Q49A Aurora 145.79 32 P PKPab 17 06 17.5 +0.1
baz=318
ACSO Alum Creek Sta 145.82 29 ePKPdf PKPbc 17 06 16.9 -0.2
ACSO Alum Creek Sta 145.82 29 P PKPab 17 06 17.6 0.0
baz=322
MMNY Mt. Morris Dam 145.84 21 ePKPdf PKPab 17 06 17.3 -0.2
W45A Hickory Valley 145.84 42 P PKPab 17 06 17.9 +0.1
baz=307
NCB Newcomb 145.85 16 ePKPdf PKPab 17 06 17.6 0.0
Y44A Strider, Charl 145.85 44 P PKPab 17 06 18.6 +0.7
baz=305
VT1 Waterbury 145.88 14 ePKPdf PKPbc 17 06 17.4 +0.2
P50A Jamestown 145.90 31 P PKPab 17 06 17.7 -0.2
baz=320
ALLY Alegheny Colle 145.92 24 ePKPdf PKPbc 17 06 17.1 -0.3
ALLY LR LR
comp=Z,1μm,18.0s
442A Mamou 145.93 51 P PKPab 17 06 20.2 +2.0
baz=298
T47A Sharon Grove 145.97 37 P PKPab 17 06 18.3 +0.1
baz=312
O51A Pataskala 146.06 29 P PKPab 17 06 18.4 -0.1
baz=322
GBN Guysborough 146.07 359 ePKPdf PKPab 17 06 18.0 -0.3
243A Waterproof 146.07 48 P PKPab 17 06 19.6 +0.9
baz=300
OXF Oxford 146.08 43 ePKPdf PKPdf 17 06 17.3 +0.1
OXF Oxford 146.08 43 P PKPab 17 06 18.6 -0.1
baz=306
Z44A Pea Ridge, Bel 146.08 45 P PKPab 17 06 19.2 +0.5
baz=304
WVT Waverly 146.09 39 ePKPdf PKPdf 17 06 17.1 -0.1
WVT Waverly 146.09 39 ePKIKP PKPdf 17 06 17.1 -0.1
WVT Waverly 146.09 39 P PKPab 17 06 18.5 -0.2
baz=310
542A Morse 146.10 52 P PKPab 17 06 20.3 +1.4
baz=297
GGN Saint George 146.11 6 ePKPdf PKPab 17 06 18.5 0.0
S48A Wiedeman Farm, 146.12 35 P PKPab 17 06 18.6 -0.2
baz=314
V46A Holladay 146.13 40 P PKPbc 17 06 18.4 +0.2
baz=310
X45A UM Field Stati 146.14 43 P PKPab 17 06 18.8 -0.1
baz=306
LBNH Lisbon 146.15 13 ePKPdf PKPab 17 06 19.1 +0.4
LBNH Lisbon 146.15 13 ePKP2 PKPab 17 06 19.1 +0.4
LBNH Lisbon 146.15 13 P PKPab 17 06 19.1 +0.4
baz=342
R49A Shelbyville 146.16 34 P PKPab 17 06 18.9 0.0
baz=316
U47A Clarksville 146.22 38 P PKPab 17 06 19.1 -0.1
baz=311
M54A Oil Creek Stat 146.24 24 ePKPdf PKPdf 17 06 17.5 +0.2
M54A Oil Creek Stat 146.24 24 P PKPab 17 06 18.9 -0.2
baz=328
343A Vidalia 146.26 49 P PKPab 17 06 20.5 +1.0
baz=300
WVL Waterville 146.28 10 ePKPdf PKPab 17 06 18.9 -0.2
T48A Bowling Green 146.31 36 P PKPbc 17 06 19.1 +0.3
baz=313
P51A Williamsport 146.36 30 ePKPdf PKPdf 17 06 17.4 -0.2
P51A Williamsport 146.36 30 P PKPbc 17 06 18.7 -0.1
baz=321
Y45A Yeager Farm, C 146.37 44 P PKPab 17 06 20.1 +0.2
baz=305
W46A Michie 146.38 41 P PKPbc 17 06 18.9 0.0
baz=308
Q50A Georgetown 146.39 32 P PKPbc 17 06 19.2 +0.3
baz=319
144A Alexander Plac 146.44 46 P PKPab 17 06 20.5 +0.4
baz=303
EMMW East Machias 146.45 7 ePKPdf PKPab 17 06 19.4 -0.3
O52A Adamsville 146.45 28 ePKPdf PKPdf 17 06 17.8 +0.1
O52A Adamsville 146.45 28 P PKPbc 17 06 19.4 +0.3
baz=323
S49A Springfield 146.46 34 P PKPab 17 06 19.6 -0.4
baz=316
V47A Nunnelly 146.48 39 P PKPbc 17 06 19.5 +0.3
baz=310
ACCN Adirondack Com 146.55 15 ePKPdf PKPbc 17 06 19.6 +0.4
Z45A Winona 146.55 45 ePKPdf PKPbc 17 06 19.7 +0.2
Z45A Winona 146.55 45 P PKPab 17 06 20.5 0.0
baz=305
N54A Moraine State 146.56 25 ePKPdf PKPbc 17 06 19.6 +0.2
N54A Moraine State 146.56 25 P PKPbc 17 06 19.8 +0.4
baz=327
244A Avery, Jackson 146.56 48 P PKPab 17 06 20.9 +0.2
baz=302
Q51A Peebles 146.57 31 ePKPdf PKPbc 17 06 19.4 -0.1
Q51A Peebles 146.57 31 P PKPbc 17 06 19.6 +0.2
baz=320
HNH Hanover 146.58 13 ePKPbc PKPab 17 06 20.2 -0.1
VBMS Vicksburg 146.59 47 ePKPbc PKPab 17 06 20.6 -0.1
VBMS Vicksburg 146.59 47 P PKPab 17 06 21.0 +0.2
baz=302
X46A Booneville 146.60 42 P PKPbc 17 06 20.1 +0.5
baz=308
R50A Paris 146.62 33 P PKPbc 17 06 19.7 +0.1
baz=318
U48A Cassie Pea, Po 146.63 37 P PKPbc 17 06 20.2 +0.5
baz=312
543A St. Martinvill 146.66 52 P PKPab 17 06 22.3 +1.2
baz=298
P52A Corning 146.69 29 P PKPbc 17 06 19.7 0.0
baz=322
W47A Westpoint 146.80 40 P PKPbc 17 06 20.4 +0.2
baz=310
T49A Edmonton 146.81 36 P PKPbc 17 06 20.6 +0.4
baz=315
145A Houston Renfro 146.81 46 P PKPab 17 06 21.4 -0.2
baz=303
HAL Halifax 146.81 2 ePKPbc PKPab 17 06 20.5 -0.6
HAL Halifax 146.81 2 ePKP2 PKPab 17 06 20.5 -0.6
Y46A Houston 146.82 43 P PKPbc 17 06 20.8 +0.5
baz=306
344A Westbrook Farm 146.84 49 P PKPab 17 06 22.2 +0.5
baz=301
BINY Binghamton 146.96 19 ePKPbc PKPbc 17 06 20.7 +0.2
BINY Binghamton 146.96 19 P PKPbc 17 06 21.2 +0.7
baz=334
V48A Smith Brothers 146.97 39 ePKPbc PKPbc 17 06 20.6 -0.1
V48A Smith Brothers 146.97 39 P PKPbc 17 06 20.8 +0.1
baz=311
PB01 IPOC Station P 146.99 167 ePKPdf PKPbc 17 06 20.6 -0.6
R51A Hillsboro 147.00 32 P PKPbc 17 06 20.6 0.0
baz=319
S50A Richmond 147.03 34 P PKPbc 17 06 20.9 +0.1
baz=317
U49A Red Boiling Sp 147.07 37 P PKPbc 17 06 21.4 +0.5
baz=314

X47A Russelville 147.10 41 P PKPbc 17 06 20.9 -0.2
baz=308
245A Little AP, Sta 147.14 47 P PKPab 17 06 22.2 -0.6
baz=303
Q52A Bidwell 147.16 30 P PKPbc 17 06 21.1 0.0
baz=322
TRY Troy 147.16 16 ePKPbc PKPab 17 06 22.2 -0.3
P53A Whipple 147.16 28 ePKPdf PKPdf 17 06 19.1 +0.2
P53A ePKPbc PKPab 17 06 21.9 -0.8
P53A Whipple 147.16 28 P PKPbc 17 06 21.6 +0.5
baz=323
Z46A Louisville 147.16 44 P PKPab 17 06 22.3 -0.7
baz=305
444A Pine Grove 147.19 50 P PKPab 17 06 23.2 +0.1
baz=300
T50A Nancy 147.26 35 P PKPbc 17 06 21.8 +0.4
baz=316
W48A Pulaski 147.29 40 P PKPbc 17 06 21.6 0.0
baz=310
146A Union 147.40 45 ePKPbc PKPbc 17 06 22.9 +1.0
146A Union 147.40 45 P PKPbc 17 06 23.0 +1.0
baz=304
345A Thompson Farm, 147.42 48 P PKPab 17 06 23.5 -0.5
baz=302
R52A Catlettsburg 147.45 31 P PKPbc 17 06 21.9 -0.1
baz=320
Y47A UCPARC, Winfie 147.48 42 P PKPbc 17 06 22.2 +0.1
baz=308
S51A Beattyville 147.49 33 ePKPbc PKPbc 17 06 22.3 +0.3
S51A Beattyville 147.49 33 P PKPbc 17 06 22.1 +0.1
baz=318
445A Amite 147.49 49 P PKPab 17 06 23.7 -0.6
baz=300
V49A McMinnville 147.51 38 P PKPbc 17 06 22.2 0.0
baz=313
KSPA Keystone Colle 147.61 19 ePKPbc PKPbc 17 06 22.7 +0.4
X48A Hartselle 147.66 41 ePKPdf PKPdf 17 06 19.2 -0.7
X48A ePKPbc PKPbc 17 06 22.6 -0.1
X48A Hartselle 147.66 41 P PKPbc 17 06 22.3 -0.4
baz=309
SSPA Standing Stone 147.68 23 ePKPbc PKPbc 17 06 22.9 +0.4
SSPA Standing Stone 147.68 23 P PKPbc 17 06 23.0 +0.5
baz=330
U50A Jamestown 147.68 36 P PKPbc 17 06 23.2 +0.5
baz=315
246A Jackson Lee, B 147.70 46 P PKPbc 17 06 23.8 +1.1
baz=304
MCWV Mont Chateau 147.71 26 P PKPbc 17 06 23.2 +0.6
baz=326
W49A Belvidere 147.72 39 P PKPbc 17 06 22.8 0.0
baz=311
O56A Blue Knob Stat 147.73 24 ePKPbc PKPbc 17 06 22.6 -0.1
O56A Blue Knob Stat 147.73 24 P PKPbc 17 06 23.2 +0.5
baz=329
S52A Salyersville 147.73 32 P PKPbc 17 06 23.0 +0.2
baz=319
Z47A Carrollton 147.75 44 P PKPbc 17 06 23.3 +0.4
baz=306
T51A Gray 147.79 34 P PKPbc 17 06 23.3 +0.4
baz=317
346A Big Creek Wild 147.79 48 ePKPbc PKPbc 17 06 22.8 -0.3
346A Big Creek Wild 147.79 48 P PKPbc 17 06 23.9 +0.9
baz=302
HRV Adam Dziewonsk 147.89 13 ePKPbc PKPbc 17 06 23.1 +0.1
HRV Adam Dziewonsk 147.89 13 P PKPbc 17 06 24.0 +1.0
baz=342
QUA2 Belchertown 147.92 14 ePKPbc PKPbc 17 06 23.8 +0.7
Y48A Jasper 147.92 42 P PKPbc 17 06 23.1 -0.2
baz=309
147A Livingston 147.92 44 ePKPbc PKPbc 17 06 23.4 0.0
147A Livingston 147.92 44 P PKPbc 17 06 23.8 +0.4
baz=306
Z48A Northport 147.99 43 P PKPbc 17 06 23.7 +0.1
baz=307
247A Quitman 148.04 46 P PKPbc 17 06 24.7 +1.0
baz=304
V50A Pikevile 148.05 37 P PKPbc 17 06 23.8 +0.1
baz=314
WES Weston 148.06 13 ePKPbc PKPbc 17 06 23.9 +0.5
X49A Woodville 148.08 40 P PKPbc 17 06 23.8 0.0
baz=310
U51A La Follette 148.18 35 P PKPbc 17 06 24.5 +0.5
baz=316
446A Poplarville 148.18 48 P PKPbc 17 06 25.5 +1.3
baz=302
N59A State Game Lan 148.18 20 ePKPbc PKPbc 17 06 24.6 +0.7
N59A State Game Lan 148.18 20 P PKPbc 17 06 24.7 +0.8
baz=334
PB11 IPOC Station P 148.19 166 ePKPdf PKPdf 17 06 22.4 +1.0
PB11 LR LR
comp=Z,3μm,18.0s
546A Slidell 148.20 50 P PKPab 17 06 25.9 -1.3
baz=300
T52A Hallie 148.21 33 P PKPbc 17 06 24.6 +0.5
baz=318
W50A Signal Mountai 148.25 38 P PKPbc 17 06 24.3 +0.1
baz=313
TZTN Tazewell 148.32 34 ePKPbc PKPbc 17 06 24.1 -0.3
TZTN Tazewell 148.32 34 P PKPbc 17 06 24.9 +0.5
baz=317
GO01 Chusmiza 148.38 167 ePKPdf PKPdf 17 06 23.6 +1.5
V51A Loudon 148.40 36 ePKPbc PKPbc 17 06 24.8 +0.2
V51A Loudon 148.40 36 P PKPbc 17 06 24.9 +0.4
baz=315
ODNJ Ogdensburg 148.41 18 ePKPbc PKPbc 17 06 24.9 +0.5
148A Greensboro 148.42 44 P PKPbc 17 06 24.8 +0.1
baz=306
Y49A Blount Mountai 148.44 41 ePKPbc PKPbc 17 06 24.3 -0.4
Y49A Blount Mountai 148.44 41 P PKPbc 17 06 24.8 0.0
baz=320
347A Saraland 148.45 47 P PKPbc 17 06 25.8 +1.0
baz=304
BRYW Bryant College 148.45 14 ePKPbc PKPbc 17 06 24.8 +0.3
PAGS Pennsylvania G 148.47 22 ePKPbc PKPbc 17 06 24.5 -0.1
U52A Thorn Hill 148.53 34 P PKPbc 17 06 25.4 +0.5
baz=317
X50B Fort Payne 148.53 39 P PKPbc 17 06 25.1 +0.1
baz=311
CPCT Cooper Cave 148.54 37 ePKPbc PKPbc 17 06 24.7 -0.2
LRAL Lakeview Retre 148.57 43 ePKPdf PKPdf 17 06 21.9 +0.5
LRAL ePKPbc PKPbc 17 06 25.3 +0.3
LRAL Lakeview Retre 148.57 43 P PKPbc 17 06 25.5 +0.4
baz=308
LUPA Lehigh Univers 148.60 20 ePKPbc PKPbc 17 06 25.3 +0.4
W51A Cleveland 148.60 37 P PKPbc 17 06 25.4 +0.2
baz=314
248A Dixon Mills 148.62 45 P PKPbc 17 06 25.5 +0.3
baz=306
PAL Palisades 148.69 17 ePKPbc PKPbc 17 06 25.7 +0.6
PAL Palisades 148.69 17 P PKPbc 17 06 25.9 +0.8
baz=337
447A Lucedale 148.70 48 ePKPbc PKPbc 17 06 26.4 +0.9
447A Lucedale 148.70 48 P PKPbc 17 06 26.5 +1.1
baz=302
Z49A Columbiana 148.78 42 P PKPbc 17 06 26.0 +0.4
baz=309
V52A Sevierville 148.80 35 ePKPdf PKPdf 17 06 23.2 +1.5
V52A Sevierville 148.80 35 P PKPbc 17 06 26.3 +0.7
baz=316
MVL Millersville 148.80 21 ePKPdf PKPdf 17 06 22.9 +1.3
MVL ePKPbc PKPbc 17 06 25.9 +0.4
MNMC Minye Minye 148.81 166 ePKPdf PKPbc 17 06 24.5 -1.9
TKL Tuckaleechee C 148.83 36 ePKPdf PKPdf 17 06 21.4 -0.4
TKL ePKPbc PKPbc 17 06 26.2 +0.5
TKL Tuckaleechee C 148.83 36 ePKIKP PKPdf 17 06 21.4 -0.4
TKL e 17 06 26.2
RCBR Riachuelo 148.85 238 ePKPbc PKPbc 17 06 26.8 +0.4
Y50A Piedmont 148.85 40 P PKPbc 17 06 26.0 +0.2
baz=311
CPNY Central Park 148.87 18 ePKPbc PKPbc 17 06 26.3 +0.7
348A Jackson 148.90 46 ePKPbc PKPbc 17 06 26.5 +0.5
348A Jackson 148.90 46 P PKPbc 17 06 26.9 +0.9
baz=304
X51A Calhoun 148.95 38 ePKPbc PKPbc 17 06 26.1 +0.1
X51A Calhoun 148.95 38 P PKPbc 17 06 26.4 +0.3
baz=313
149A Jones 148.97 43 P PKPbc 17 06 26.5 +0.4
baz=307
U53A Fall Branch 148.98 33 P PKPbc 17 06 26.5 +0.4
baz=318
M65A Busby, Falmout 148.99 13 P PKPbc 17 06 26.7 +0.8
baz=344
249A Camden 149.12 44 P PKPbc 17 06 27.1 +0.7
baz=306
SDMD Soldier's Deli 149.14 23 ePKPbc PKPbc 17 06 26.3 0.0
W52A Murphy 149.14 37 ePKPdf PKPdf 17 06 23.6 +1.3

W52A ePKPbc PKPbc 17 06 27.0 +0.5
W52A Murphy 149.14 37 P PKPbc 17 06 27.0 +0.5
baz=315
Z50A Ashland 149.14 41 ePKPdf PKPdf 17 06 22.6 +0.2
Z50A ePKPbc PKPbc 17 06 26.7 +0.2
Z50A Ashland 149.14 41 P PKPbc 17 06 26.6 0.0
baz=310
PSUB Penn St. - Bra 149.18 20 ePKPbc PKPbc 17 06 26.4 0.0
448A Bay Minette 149.19 47 P PKPbc 17 06 27.8 +1.1
baz=304
Y51A Rockmart 149.27 39 P PKPbc 17 06 26.5 -0.3
baz=312
V53A Saluda 149.36 34 ePKPdf PKPdf 17 06 24.6 +1.9
V53A Saluda 149.36 34 P PKPbc 17 06 27.7 +0.6
baz=317
BLA Blacksburg 149.43 30 ePKPbc PKPbc 17 06 27.4 +0.3
BLA Blacksburg 149.43 30 P PKPbc 17 06 27.5 +0.3
baz=323
349A Repton 149.43 46 P PKPbc 17 06 28.2 +0.9
baz=305
150A Eclectic 149.48 42 P PKPbc 17 06 27.8 +0.4
baz=308
X52A Dahlonega 149.50 37 P PKPbc 17 06 28.0 +0.6
baz=314
W53A Cullowhee 149.53 36 P PKPbc 17 06 28.5 +0.9
baz=316
Z51A Franklin 149.58 40 P PKPbc 17 06 27.6 0.0
baz=311
BRAL Brewton 149.64 46 ePKPbc PKPbc 17 06 29.3 +1.5
BRAL Brewton 149.64 46 P PKPbc 17 06 28.8 +1.0
baz=305
250A Grady 149.70 44 ePKPdf PKPdf 17 06 24.5 +1.2
250A ePKPbc PKPbc 17 06 28.4 +0.5
250A Grady 149.70 44 P PKPbc 17 06 28.4 +0.5
baz=307
449A Pace 149.75 47 P PKPbc 17 06 28.8 +0.7
baz=304
BDFB Brasilia 149.77 208 PKP PKPdf 17 06 24.7 +0.7
comp=Z,20nm,1.1s,baz=174,slow=2.1,SNR=7.9
BDFB PKPbc PKiKP 17 06 29.3 -0.4
comp=Z,68nm,1.1s,baz=123,slow=2.9,SNR=37
BDFB Brasilia 149.77 208 ePKPdf PKPdf 17 06 22.6 -1.4
BDFB ePKPbc PKPbc 17 06 28.9 +0.2
BDFB Brasilia 149.77 208 ePKIKP PKPdf 17 06 22.6 -1.4
BG3 Lake Jocassee 149.79 35 ePKPbc PKPbc 17 06 28.9 +0.8
Y52A Lilburn 149.91 38 ePKPdf PKPdf 17 06 23.8 +0.2
Y52A ePKPbc PKPbc 17 06 29.4 +0.9
Y52A Lilburn 149.91 38 P PKPbc 17 06 29.3 +0.9
baz=313
X53A Estanollee 149.92 37 P PKPbc 17 06 29.3 +0.9
baz=315
R58B Mineral 149.97 25 P PKPbc 17 06 28.6 +0.2
baz=328
CBN Corbin Frederi 149.97 25 ePKPbc PKPbc 17 06 28.6 +0.3
CBN Corbin Frederi 149.97 25 P PKPbc 17 06 29.1 +0.7
baz=329
151A Opelika 149.99 42 P PKPbc 17 06 29.0 +0.4
baz=309
350A Dozier 149.99 45 P PKPbc 17 06 29.4 +0.7
baz=306
Z52A Williamson 150.14 40 P PKPbc 17 06 29.3 +0.3
baz=312
450A Crestview 150.17 46 P PKPbc 17 06 29.6 +0.4
baz=305
251A Midway 150.21 43 P PKPbc 17 06 29.6 +0.4
baz=309
Y53A Monroe 150.21 38 P PKPbc 17 06 29.7 +0.5
baz=314
152A Waverly Hall 150.29 41 ePKPdf PKPdf 17 06 24.4 +0.2
152A ePKPbc PKPbc 17 06 29.9 +0.5
152A Waverly Hall 150.29 41 P PKPbc 17 06 29.8 +0.5
baz=310
CCIG Comitan 150.43 77 ePKPbc PKPbc 17 06 30.5 +0.1
PAULI Pauline 150.54 34 ePKPdf PKPdf 17 06 26.3 +1.8
PAULI ePKPbc PKPbc 17 06 30.2 +0.4
KMSC Kings Mountain 150.56 33 ePKPdf PKPdf 17 06 25.6 +1.1
KMSC ePKPbc PKiKP 17 06 30.5 -0.2
KMSC Kings Mountain 150.56 33 P PKPbc 17 06 30.2 +0.2
baz=319
351A Pinckard 150.57 44 P PKPbc 17 06 30.7 +0.6
baz=307
GOGA Godfrey 150.58 38 ePKPdf PKPdf 17 06 26.0 +1.4
GOGA ePKPbc PKPbc 17 06 30.4 +0.4
GOGA Godfrey 150.58 38 ePKIKP PKPdf 17 06 26.0 +1.4
GOGA Godfrey 150.58 38 P PKPbc 17 06 30.5 +0.4
baz=313
Z53A Monticello 150.61 39 P PKPbc 17 06 30.5 +0.4
baz=313
252A Lumpkin 150.71 42 P PKPbc 17 06 30.8 +0.4
baz=310
HODGE Hodges 150.72 36 ePKPdf PKPdf 17 06 26.6 +1.8
HODGE ePKPbc PKPbc 17 06 30.6 +0.3
Y54A Tignall 150.73 37 P PKPbc 17 06 31.2 +0.8
baz=315
153A Fort Valley 150.87 40 P PKPbc 17 06 31.1 +0.3
baz=312
451A Vernon 150.87 45 P PKPbc 17 06 31.5 +0.7
baz=306
352A Blakely 150.91 43 ePKPbc PKPbc 17 06 30.7 -0.2
352A Blakely 150.91 43 P PKPbc 17 06 31.2 +0.3
baz=309
253A Americus 151.06 41 P PKPbc 17 06 31.8 +0.5
baz=311
452A Marianna 151.12 44 P PKPbc 17 06 32.0 +0.7
baz=307
JSC Jenkinsville 151.24 34 ePKPdf PKPdf 17 06 27.5 +1.9
JSC ePKPbc PKiKP 17 06 32.2 +0.1
JSC Jenkinsville 151.24 34 ePKIKP PKPdf 17 06 27.5 +1.9
154A Montrose 151.34 39 ePKPbc PKPbc 17 06 32.6 +0.8
154A Montrose 151.34 39 P PKPbc 17 06 32.2 +0.4
baz=313
353A Camilla 151.46 42 P PKPbc 17 06 32.7 +0.6
baz=309
552A Lynn Haven 151.47 46 P PKPbc 17 06 32.5 +0.3
baz=306
Z55A Blythe 151.51 37 P PKPbc 17 06 33.0 +0.8
baz=315
254A Abbeville 151.68 40 P PKPbc 17 06 33.1 +0.5
baz=312
453A Whigham 151.70 43 ePKPbc PKPbc 17 06 33.7 +0.9
453A Whigham 151.70 43 P PKPbc 17 06 33.6 +0.9
baz=309
155A Kite 151.73 38 P PKPbc 17 06 33.6 +0.8
baz=314
TIGA Tifton 151.81 42 P PKPbc 17 06 33.8 +0.8
baz=311
LPAZ La Paz 151.89 168 PKP PKPdf 17 06 29.3 +1.4
comp=Z,6.9nm,1.1s,baz=97,slow=0.9,SNR=22
LPAZ PKPbc PKiKP 17 06 35.1 +0.5
comp=Z,48nm,0.9s,baz=140,slow=0.9,SNR=99
LPAZ La Paz 151.89 168 ePKPdf PKPdf 17 06 28.7 +0.8
LPAZ ePKPbc PKiKP 17 06 35.1 +0.5
LPAZ La Paz 151.89 168 ePKIKP PKPdf 17 06 28.7 +0.8
553A Crawfordville 152.03 45 P PKPbc 17 06 34.1 +0.6
baz=307
255A Hazlehurst 152.20 39 ePKPbc PKPbc 17 06 34.6 +0.8
255A Hazlehurst 152.20 39 P PKPbc 17 06 34.2 +0.4
baz=313
CNNC Cliffs of the 152.23 29 P PKPbc 17 06 34.3 +0.5
baz=325
156A Sylvania 152.29 37 P PKPbc 17 06 34.9 +0.9
baz=316
355A Pearson 152.35 41 P PKPbc 17 06 34.6 +0.5
baz=312
256A Glennville 152.53 39 P PKPbc 17 06 35.4 +0.9
baz=314
NNA Nana 152.56 147 PKPbc PKPbc 17 06 36.1 +0.9
comp=Z,67nm,1.1s,baz=294,slow=2.6,SNR=12
NNA Nana 152.56 147 ePKPbc PKPbc 17 06 35.5 +0.3
NNA Nana 152.56 147 ePKIKP PKPbc 17 06 35.5 +0.3
554A Perry 152.61 44 P PKPbc 17 06 35.4 +0.6
baz=308
455A Stateville 152.63 42 P PKPbc 17 06 35.5 +0.7
baz=310
NHSC New Hope 152.72 35 ePKPdf PKPdf 17 06 27.8 -0.1
NHSC ePKPab PKPab 17 06 46.2 +0.6
NHSC New Hope 152.72 35 P PKPbc 17 06 35.7 +0.7
baz=318
SIV San Ignacio 152.81 182 PKP PKPdf 17 06 29.9 +1.4
comp=Z,9.5nm,1.0s,baz=195,slow=2.4,SNR=30
SIV PKPbc PKiKP 17 06 36.7 +0.9
comp=Z,24nm,0.9s,baz=175,slow=1.9,SNR=40
356A Blackshear 152.83 40 P PKPbc 17 06 35.8 +0.6
baz=313
CSU Charleston Sou 152.87 35 ePKPbc PKPbc 17 06 35.6 +0.3
CSU ePKPab sPKPbc 17 06 47.8 -1.2

257A	**Skidaway Islan**	**153.05**	**38**	P		**PKPbc**	**17 06 36.0**	**+0.3**
	baz=316							
555A	**McAlpin**	**153.07**	**43**	*e*PKPbc		**PKPbc**	**17 06 36.0**	**+0.2**
555A	**McAlpin**	**153.07**	**43**	P		**PKPbc**	**17 06 36.4**	**+0.6**
	baz=310							
357A	**Townsend**	**153.16**	**39**	P		**PKPbc**	**17 06 36.8**	**+0.9**
	baz=314							
456A	**Hilliard**	**153.30**	**41**	P		**PKPbc**	**17 06 37.1**	**+0.8**
	baz=312							
TEIG	**Tepich**	**153.33**	**67**	*e*PKPbc		**PKPbc**	**17 06 36.2**	**-0.4**
556A	**Lake Butler**	**153.52**	**43**	P		**PKPbc**	**17 06 37.4**	**+0.6**
	baz=310							
657A	**Interlachen**	**154.15**	**43**	P		**PKPbc**	**17 06 38.7**	**+0.5**
	baz=311							
ATAH	**Atahualpa**	**155.49**	**138**	PKP		**PKPdf**	**17 06 34.8**	**+1.9**
	comp=Z,16nm,1.1s,baz=344,slow=1.2,SNR=11							
ESTN	**Estel**	**156.20**	**83**	PFAKE			17 06 40.0	+6.7
ESTN				LR	LR			
	comp=Z,300nm,21.0s							
ESPN	**Las Esperanzas**	**158.24**	**86**	PFAKE			17 06 50.0	+14
ESPN				LR	LR			
	comp=Z,200nm,21.0s							
SAML	**Samuel**	**159.80**	**177**	*e*PKPdf		**PKPdf**	**17 06 37.0**	**-0.7**
SAML				LR	LR			
	comp=Z,2μm,20.0s							
SAML	**Samuel**	**159.80**	**177**	*e*PKIKP		**PKPdf**	**17 06 37.0**	**-0.7**
SAML				MLR	MLR			
	comp=Z,2μm,20.0s							
OTAV	**Otavalo**	**160.34**	**123**	*e*PKPdf		**PKPdf**	**17 06 38.6**	**-0.3**
OTAV	**Otavalo**	**160.34**	**123**	∥*e*P		**PKPdf**	**17 06 40.2**	**+1.3**
OTAV	**Otavalo**	**160.34**	**123**	*e*PKIKP		**PKPdf**	**17 06 38.6**	**-0.3**
CMBC	**Cumbal**	**161.25**	**122**	*e*P		**PKPdf**	**17 06 42.2**	**+2.3**
GCUF	**Volcan Galeras**	**161.81**	**123**	*e*P		**PKPdf**	**17 06 41.5**	**+1.0**
SOTA	**Rioblanco**	**162.92**	**121**	∥*e*P		**PKPdf**	**17 06 42.3**	**+0.7**
POPC	**Popayan, Colom**	**163.08**	**120**	∥*e*P		**PKPdf**	**17 06 41.5**	**+0.1**
PCON	**Cinco Dias**	**163.21**	**121**	∥*e*P		**PKPdf**	**17 06 43.0**	**+1.1**
FLOC	**Florencia**	**163.40**	**125**	*e*P		**PKPdf**	**17 06 40.9**	**-0.5**
MARP	**Paez Belalcaza**	**163.85**	**121**	*e*P		**PKPdf**	**17 06 43.2**	**+1.0**
YOTC	**Yotoco, Valle**	**164.09**	**116**	∥*e*P		**PKPdf**	**17 06 41.9**	**-0.3**
RREF	**El Recreo**	**165.39**	**115**	∥*e*P		**PKPdf**	**17 06 44.3**	**+0.3**
DBBC	**Dabeiba**	**165.41**	**106**	*e*P		**PKPdf**	**17 06 43.8**	**+0.5**
ROSC	**El Rosal**	**166.27**	**117**	PKP		**PKPdf**	**17 06 45.0**	**+0.6**
	comp=Z,4.8nm,0.3s,baz=114,slow=10,SNR=5.6							
ROSC	**El Rosal**	**166.27**	**117**	*e*P		**PKPdf**	**17 06 44.1**	**-0.2**
MOTC	**Monteria, Cord**	**166.38**	**100**	∥*e*P		**PKPdf**	**17 06 44.0**	**+0.1**
CHIC	**Chingaza**	**166.67**	**119**	*e*P		**PKPdf**	**17 06 44.5**	**-0.2**
ZARC	**Zaragoza, Cauc**	**166.83**	**106**	∥*e*P		**PKPdf**	**17 06 44.1**	**-0.3**
PTBC	**PUERTO BERRIO**	**166.88**	**110**	∥*e*P		**PKPdf**	**17 06 43.7**	**-0.7**
PTGA	**Pitinga**	**167.81**	**190**	PKP		**PKPdf**	**17 06 44.4**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=116,slow=3.3,SNR=7.3							
PTGA	**Pitinga**	**167.81**	**190**	*e*PKPdf		**PKPdf**	**17 06 44.1**	**-1.0**
RUSC	**La Rusia**	**167.85**	**116**	∥*e*P		**PKPdf**	**17 06 45.1**	**-0.6**
BARC	**Barichara**	**168.06**	**112**	*e*P		**PKPdf**	**17 06 45.2**	**-0.3**
SDDR	**Presa de Saban**	**168.33**	**48**	*e*PKPab		**PKPab**	**17 07 54.6**	**+0.6**
CODC	**Agust˜n Codaz**	**168.74**	**96**	*e*P		**PKPdf**	**17 06 44.9**	**-0.8**
MDP	**Montagnes des**	**168.78**	**237**	PKP		**PKPdf**	**17 06 44.4**	**-1.3**
	comp=Z,8.9nm,0.8s,baz=58,slow=9.5,SNR=3.0							
PAMC	**Pamplona, Colo**	**168.79**	**110**	*e*P		**PKPdf**	**17 06 46.2**	**-0.1**
SDV	**Santo Domingo**	**171.23**	**105**	PKP		**PKPdf**	**17 06 46.3**	**-1.0**
	comp=Z,1.1nm,1.1s,baz=225,slow=20,SNR=4.4							
SDV	**Santo Domingo**	**171.23**	**105**	*e*PKPdf		**PKPdf**	**17 06 46.2**	**-1.1**
SDV	**Santo Domingo**	**171.23**	**105**	∥*e*P		**PKPdf**	**17 06 46.6**	**-0.7**
OBIP	**Obispado Ponce**	**172.04**	**33**	*e*PKPdf		**PKPdf**	**17 06 46.0**	**-1.3**
ICMP	**Isla Caja de M**	**172.22**	**33**	*e*PKPdf		**PKPdf**	**17 06 46.2**	**-1.2**
HUMP	**Col San Antoni**	**172.34**	**28**	*e*PKPdf		**PKPdf**	**17 06 46.7**	**-0.7**
MTP	**Monte Pirata**	**172.51**	**26**	*e*PKPdf		**PKPdf**	**17 06 46.2**	**-1.4**
MTP				*e*PKPab		**PKPab**	**17 08 12.2**	**0.0**
STVI	**Saint Thomas**	**172.51**	**21**	*e*PKPdf		**PKPdf**	**17 06 46.6**	**-0.9**
STVI				*e*PKPab		**PKPab**	**17 08 12.3**	**+0.1**
PCRV	**Puerto La Cruz**	**177.23**	**115**	PKP		**PKPdf**	**17 06 47.5**	**-1.6**
	comp=Z,5.3nm,0.6s,baz=352,slow=15,SNR=2.2							

UCR 21 16:52:25.6±1.0, 13°27N×90°02W, h35km±999km, MD3.6, ML3.4, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CEVE	**Cerro Verde**	**0.67**	**34**	*e*P		Pn	16 52 39.2	+0.3
CEVE				IAML			16 52 53.3	
	comp=Z,2μm,0.2s							
SBLS	**San Blas**	**0.68**	**34**	*e*P		Pn	16 52 39.1	+0.1
SBLS				*e*S		Sn	16 52 49.6	+1.1
SNJE	**San Jose**	**0.71**	**34**	*e*P		Pn	16 52 39.6	+0.2
RTR	**El Retiro**	**0.72**	**30**	↑*e*P		Pn	16 52 39.9	+0.5
BOQS	**Boqueron**	**0.85**	**57**	*e*P		Pn	16 52 41.7	+0.4
BOQS				*e*S		Sn	16 52 53.2	+0.5
SNET	**Serv Nac Est T**	**0.87**	**61**	*e*P		Pn	16 52 41.3	-0.1
LFRS	**El Faro**	**0.99**	**69**	*e*P		Pn	16 52 42.9	-0.2
IXG	**Ixpaco**	**0.99**	**335**	*e*P		Pn	16 52 42.9	-0.3
LFU	**La Fuente**	**1.00**	**62**	*e*P		Pn	16 52 43.6	+0.4
LBRS	**Las Brisas**	**1.05**	**64**	*e*P		Pn	16 52 44.0	0.0
PAVA	**Las Pavas**	**1.14**	**67**	*e*P		Pn	16 52 45.5	+0.4
PAVA				IAML			16 53 07.0	
	comp=Z,325nm,0.3s							
SNVI	**San Vicente**	**1.19**	**73**	*e*P		Pn	16 52 46.4	+0.5
MTO3	**Montecristo**	**1.29**	**29**	*e*P		Pn	16 52 47.8	+0.5
TECA	**Tecapa**	**1.49**	**81**	*e*P		Pn	16 52 49.8	-0.3
PACA	**Pacayal**	**1.66**	**83**	*e*P		Pn	16 52 52.6	+0.2
PACA				*e*S		Sn	16 53 14.1	+1.6
CSGN	**Cosiguina Volc**	**2.41**	**97**	*e*P		Pn	16 53 03.4	+0.8
CSGN				*e*S		Sn	16 53 30.9	-0.1
CSGN				IAML			16 53 34.3	
	comp=N,506nm,0.5s							

IDC 21 17:33:26.4±3.1, 5°69S×151°99E, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.5/32, mbtmp3.8/3, ML1.8/1, MS3.9/1, Ms1 3.9/1, ms1mx2.8/27, Error ellipse: s-maj=123.0km s-min=42.8km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.04**	**232**	Pn		Pn	17 34 57.9	+0.8
	1.5nm,0.3s,baz=45,slow=19,SNR=5.9							
PMG				Sn		Sn	17 36 04.1	-2.8
	0.7nm,0.3s,baz=353,slow=20,SNR=1.2							
WRA	**Warramunga Arr**	**22.25**	**229**	P		P	17 38 24.9	-0.2
	2.7nm,0.9s,baz=54,slow=10,SNR=20							
ASAR	**Alice Springs**	**24.95**	**222**	P		P	17 38 51.3	-0.3
	1.1nm,0.6s,baz=55,slow=9.4,SNR=24							
RAO	**Raoul Island**	**36.84**	**133**	LR		LR	17 52 21.2	
	comp=Z,185nm,21.0s,baz=184,slow=31							
TORD	**Torodi Ar. Bea**	**149.79**	**286**	PKPbc		PKPbc	17 53 19.3	-0.2
	0.2nm,0.4s,baz=107,slow=1.5,SNR=2.5							

NIED ***21*** *17:42:00, 38.50N×141.80E, h50km, Mw5.0 Best double couple: M03.50000×10^16 NP1:ϕs189.00000°, δ22.00000°, λ75.00000°. NP2:ϕs26.00000°, δ69.00000°, λ96.00000°.*

BJI ***21*** *17:42:31.7, 38.38N×142.14E, h34km, mb4.9/74, mB5.0/56, Ms4.5/70, Ms7 4.3/65*

NEIC ***21*** *17:42:36.7±1.2, 38.48N×141.65E, h35km±8km, mb5.0/160, Error ellipse: s-maj=3.3km s-min=2.2km az=148.0*

NEIC Felt at Fukushima, Furukawa, Ishinomaki, Kitakami and Sendai. Recorded [4 JMA] in Miyagi.

MOS ***21*** *17:42:38.0±0.9, 38.73N×141.67E, h50km, mb5.3/129, MS4.2/19, Error ellipse: s-maj=6.0km s-min=3.7km az=110.7*

ISCJB ***21*** *17:42:38.1±0.2, 38.53N±0.02×141.71E±0.02, h59km±1km, mb5.0/299, MS4.3/38, Error ellipse: s-maj=3.5km s-min=2.4km az=144.2*

JMA ***21*** *17:42:38.4±0.1, 38.53N×141.81E, h50km±1km, M5.0 Broadband fault plane solution: P waves. NP1: ϕs30.00000°, δ61.00000°, λ101.00000°. NP2: ϕs188.00000°, δ31.00000°, λ71.00000°. Principal axes: T Plg72.0000°, Azm326.0000°; N Plg10.0000°, Azm205.0000°; P Plg15.0000°, Azm112.0000°;*

JMA Felt IV J1.

GCMT ***21*** *17:42:39.7±0.2, 38.61N±0.02×141.84E±0.02, h50km±1km, MW5.1/102, Moment Tensor Solution. s59,c80; s102,c148; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.41±.18; Mθθ-1.30±.12; Mϕϕ-3.11±.12; Mrθ1.32±.10; Mθϕ-1.03±.10; Mϕr2.74±.10; Best double couple: M05.01900×10^16 NP1:ϕs25.00000°, δ64.00000°, λ91.00000°. NP2:ϕs204.00000°, δ26.00000°, λ89.00000°. Principal axes: T 5.4370, Plg71.0000°, Azm296.0000°; N -0.8350, Plg0.0000°, Azm205.0000°; P -4.6020, Plg19.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***21*** *17:42:39.5±1.7, 38.53N×141.70E, h62km±15km, mb4.4/27, mb1 4.6/33, mb1mx4.5/43, mbtmp4.7/33, MS4.2/23, Ms1 4.2/23, ms1mx4.0/36 Error ellipse: s-maj=12.4km s-min=10.1km az=92.0*

ISC 21 17:42:37.0±0.4, 38.49N±0.03×141.88E±0.03, h42km±2km, h42km:pP-P, n839, σ1°42/916, mb5.0/300, MS4.3/40, 76C-44D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.38**	**241**	P			**Pn**	**17 42 47.9**	**+1.7**
JIKH				S			**Sn**	**17 42 54.6**	**+1.9**
JIO	**Ouri**	**0.42**	**265**	∥P			**Pn**	**17 42 48.2**	**+1.4**
JIO				S			**Sn**	**17 42 54.9**	**+1.3**
JKMT	**Kesennumamotoy**	**0.45**	**315**	P			**Pn**	**17 42 48.5**	**+1.4**
JKMT				S			**Sn**	**17 42 55.3**	**+1.0**
OFUJ	**Ofunato**	**0.61**	**344**	∥P			**Pn**	**17 42 50.4**	**+1.2**
OFUJ				S			**Sn**	**17 42 58.8**	**+0.8**
JMK	**Ichinoseki**	**0.69**	**312**	∥P			**Pn**	**17 42 51.4**	**+1.1**
JMK				S			**Sn**	**17 43 00.6**	**+0.7**
JOU	**Okura**	**0.97**	**263**	∥P			**Pn**	**17 42 54.9**	**+0.8**
JOU				S			**Sn**	**17 43 07.3**	**+0.6**
JMM	**Marumori**	**1.06**	**234**	∥P			**Pn**	**17 42 56.2**	**+0.8**
JMM				*e*S			**Sn**	**17 43 09.2**	**+0.2**
JOM	**Ohasama**	**1.08**	**335**	∥P			**Pn**	**17 42 56.6**	**+0.9**
JOM				*e*S			**Sn**	**17 43 10.0**	**+0.6**
MIYJ	**Miyakonagasawa**	**1.08**	**357**	∥P			**Pn**	**17 42 56.4**	**+0.7**
JYK	**Kaneyama**	**1.27**	**290**	∥P			**Pn**	**17 42 59.1**	**+0.9**
JYK				*e*S			**Sn**	**17 43 13.9**	**-0.1**
JRG	**Rokugo**	**1.33**	**313**	∥P			**Pn**	**17 42 59.8**	**+0.8**
JFK	**Kawauchi**	**1.38**	**216**	∥P			**Pn**	**17 43 00.9**	**+1.1**
JFK				S			**Sn**	**17 43 17.2**	**+0.4**
JTH	**Tanohata**	**1.44**	**359**	∥P			**Pn**	**17 43 01.3**	**+0.7**
JYS	**Shirataka**	**1.46**	**260**	∥P			**Pn**	**17 43 01.9**	**+1.1**
JKZ	**Kuzumaki**	**1.55**	**344**	∥P			**Pn**	**17 43 03.1**	**+1.0**
JFT	**Otama**	**1.56**	**232**	∥P			**Pn**	**17 43 03.5**	**+1.2**
ONAJ	**Iwakimizuishiy**	**1.63**	**212**	∥P			**Pn**	**17 43 04.3**	**+1.0**
JYW	**Yuwa**	**1.67**	**309**	∥P			**Pn**	**17 43 05.1**	**+1.4**
JYA	**Atsumi**	**1.70**	**274**	∥P			**Pn**	**17 43 05.2**	**+1.0**
JANG	**Nango**	**1.90**	**351**	∥P			**Pn**	**17 43 07.5**	**+0.6**
JTB	**Tobi-shima**	**1.95**	**292**	∥P			**Pn**	**17 43 08.4**	**+0.9**
JAH	**Hinai**	**1.95**	**331**	∥P			**Pn**	**17 43 09.2**	**+1.6**
JFY	**Yanaizu**	**2.04**	**238**	∥P			**Pn**	**17 43 10.5**	**+1.7**
JAW	**Awa shima**	**2.07**	**270**	∥P			**Pn**	**17 43 10.4**	**+1.2**
JTM	**Tenmabayashi**	**2.38**	**345**	∥P			**Pn**	**17 43 14.7**	**+1.3**
JIW	**Iwasaki**	**2.55**	**326**	∥P			**Pn**	**17 43 17.1**	**+1.3**
JHK	**Hiroka**	**2.59**	**242**	∥P			**Pn**	**17 43 17.9**	**+1.6**
JOG3	**Oga3**	**2.60**	**304**	P			Pn	17 43 11.0	-5.5
JKT	**Katashina**	**2.71**	**231**	∥P			**Pn**	**17 43 20.7**	**+2.6**
JSI2	**Shiura 2**	**2.80**	**337**	∥P			**Pn**	**17 43 21.0**	**+1.8**
JSD	**Sado**	**2.89**	**262**	P			**Pn**	**17 43 21.1**	**+0.7**
JGK	**Kuni**	**3.22**	**234**	∥P			**Pn**	**17 43 27.9**	**+2.8**
JRY	**Ryogami san**	**3.43**	**225**	∥P			**Pn**	**17 43 29.8**	**+1.8**
MJAR	**Matsushiro Arr**	**3.51**	**237**	P			**Pn**	**17 43 31.4**	**+2.4**
	59nm,0.3s,baz=15,slow=18,SNR=288								
MJAR				S			Sn	17 44 22.7	+13
	36nm,0.3s,baz=333,slow=15,SNR=4.9								
MJAR				LR			LR	17 45 06.0	
	comp=Z,4μm,21.4s,baz=45,slow=43								
MAJO	**Matsushiro**	**3.51**	**237**	*e*Pn			**Pn**	**17 43 30.8**	**+1.7**
MAJO				*e*Sn			Sn	17 44 22.7	+13
MAJO				*e*				17 45 06.0	
MAJO	**Matsushiro**	**3.51**	**237**	*d* iP			**Pn**	**17 43 31.7**	**+2.6**
MAT	**Matsushiro**	**3.51**	**237**	P			**Pn**	**17 43 31.7**	**+2.6**
MAT				*e*S			**Sn**	**17 44 11.3**	**+1.9**
MJB9	**Matsu-Tunnel**	**3.51**	**238**	*e*Pn			**Pn**	**17 43 31.0**	**+1.9**
ERM	**Erimo**	**3.65**	**15**	*e*Pn			**Pn**	**17 43 32.4**	**+1.5**
ERM	**Erimo**	**3.65**	**15**	*e*P			**Pn**	**17 43 32.4**	**+1.5**
INU	**Inuyama**	**5.00**	**233**	*e*Pn			**Pn**	**17 43 52.0**	**+2.5**
JHJ2	**Mitsune**	**5.63**	**198**	*e*Pn			**Pn**	**17 43 58.9**	**+0.8**
JHJ	**Hachijo jima 2**	**5.63**	**198**	P			**Pn**	**17 43 59.2**	**+1.1**
	86nm,0.3s,baz=65,slow=17,SNR=27								
JHJ				S			**Sn**	**17 45 00.6**	**-0.9**
	203nm,0.3s,baz=79,slow=22,SNR=9.3								
ASAJ	**Asahikawa**	**5.64**	**5**	*e*Pn			**Pn**	**17 43 58.9**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**6.29**	**27**	*c* iP			**Pn**	**17 44 06.9**	**-0.3**
YUK				*e*S			**Sn**	**17 45 13.5**	**-4.2**
YUK				pmax	pmax				
	comp=N,26nm,0.2s								
YUK				pmax	pmax				
	comp=Z,197nm,0.2s								
YUK				pmax	pmax				
	comp=E,19nm,0.1s								
YUK				smax	smax				
	comp=N,2μm,0.4s								
YUK				smax	smax				
	comp=E,2μm,0.5s								
SHO	**Shikotan**	**6.54**	**33**	*e*P			**Pn**	**17 44 10.4**	**-0.1**
SHO				*i* S			**Sn**	**17 45 18.0**	**-5.8**
SHO				pmax	pmax				
	comp=Z,78nm,0.3s								
SHO				pmax	pmax				
	comp=N,38nm,0.2s								
SHO				pmax	pmax				
	comp=E,46nm,0.2s								
SHO				smax	smax				
	comp=E,291nm,0.2s								
SHO				smax	smax				
	comp=N,992nm,0.4s								
TEY	**Ternei**	**7.63**	**331**	∥*e*P			**Pn**	**17 44 29.8**	**+4.3**
TEY				pmax	pmax				
	comp=E,110nm,1.3s								
TEY				pmax	pmax				
	comp=Z,170nm,1.3s								
TEY				pmax	pmax				
	comp=N,160nm,1.4s								
KUR	**Kuril'sk**	**8.08**	**32**	*e*P			**Pn**	**17 44 32.2**	**+0.6**
KUR				*e*S			**Sn**	**17 45 57.5**	**-4.1**
KUR				pmax	pmax				
	comp=Z,172nm,0.9s								
KUR				pmax	pmax				
	comp=N,93nm,0.5s								
KUR				pmax	pmax				
	comp=E,56nm,0.3s								
KUR				smax	smax				
	comp=E,561nm,0.5s								
KUR				smax	smax				
	comp=N,144nm,0.6s								
YSS	**Yuzh-Sakhalins**	**8.48**	**4**	*e*Pn			**Pn**	**17 44 37.2**	**+0.1**
YSS	**Yuzh-Sakhalins**	**8.48**	**4**	∥*e*P			**Pn**	**17 44 37.8**	**+0.7**
YSS				*e*S			**Sn**	**17 46 10.6**	**-0.8**
YSS				pmax	pmax				
	comp=Z,90nm,0.9s								
YSS				pmax	pmax				
	comp=N,70nm,1.3s								
YSS				MLR	MLR				
	comp=Z,370nm,15.0s								
YSS				MLR	MLR				
	comp=N,250nm,11.0s								
YSS				MLR	MLR				
	comp=E,300nm,16.0s								
VLA	**Vladivostok**	**8.88**	**305**	*d* iP			**Pn**	**17 44 44.2**	**+1.6**
MSHR	**Mys Shultsa**	**9.13**	**300**	*c*eP			**Pn**	**17 44 47.1**	**+1.1**
USA0B	**Ussuriysk Arra**	**9.37**	**311**	*e*Pn			**Pn**	**17 44 50.2**	**+0.9**
USRK	**Ussuriysk Ar.**	**9.37**	**311**	P			**Pn**	**17 44 50.7**	**+1.4**
	comp=E,3.2nm,0.3s,baz=124,slow=13,SNR=60								
USRK				S			**Sn**	**17 46 40.7**	**+7.4**
	baz=120,slow=14,SNR=1.5								
USRK				LR			LR	17 48 26.3	
	comp=E,1μm,18.1s,baz=115,slow=38								
JNU	**Nakatsue**	**10.42**	**242**	P			**Pn**	**17 45 04.6**	**+0.8**
	comp=E,2.5nm,0.3s,baz=45,slow=0.7,SNR=24								
JNU				LR			LR	17 49 27.0	
	comp=E,2μm,21.1s,baz=48,slow=40								
JNU	**Nakatsue**	**10.42**	**242**	*e*Pn			**Pn**	**17 45 05.7**	**+1.9**
JNU				*e*				17 49 27.0	
MDJ	**Mudanjiang**	**11.05**	**308**	P			**Pn**	**17 45 14.5**	**+2.2**
MDJ				pP				17 45 22.3	
MDJ				sP				17 45 28.3	
MDJ				S			**Sn**	**17 47 12.8**	**-1.7**
MDJ				sS				17 47 26.1	
MDJ				pmax	pmax				
	comp=E,70nm,1.2s								
MDJ				pmax	pmax				
	comp=E,230nm,4.3s								
MDJ				LR	LR				
	comp=E,820nm,13.9s								
MDJ				LR	LR				
	comp=E,1μm,16.3s								
MDJ				LR	LR				
	comp=E,2μm,20.7s								

MDJ	**Mudanjiang**	**11.05**	**308**	*e*Pn		**Pn**	**17 45 14.6**	**+2.3**
KSRS	**Korea Array**	**11.07**	**269**	P		**Pn**	**17 45 16.3**	**+3.6**
	comp=E,2.3nm,0.3s,baz=85,slow=14,SNR=26							
KSRS				LR	LR		17 49 09.8	
	comp=E,1μm,20.9s,baz=74,slow=36							
KS01	**Wonju Array Si**	**11.09**	**269**	*e*Pn		**Pn**	**17 45 15.6**	**+2.6**
KS15	**Wonju Array Si**	**11.10**	**269**	*e*Pn		**Pn**	**17 45 16.1**	**+2.9**
KS15				*e*			17 49 09.8	
KSAR	**Wonju Array Be**	**11.10**	**269**	P		**Pn**	**17 45 16.2**	**+3.2**
KSAR	**Wonju Array Be**	**11.10**	**269**	P		**Pn**	**17 45 16.3**	**+3.2**
CBIJ	**Chichi jima**	**11.37**	**179**	*e*Pn		**Pn**	**17 45 16.0**	**-0.8**
CBIJ				S		Sn	17 47 11.5	-11
JCJ	**Chichijima**	**11.37**	**179**	P		**Pn**	**17 45 15.7**	**-1.1**
	comp=E,23nm,0.3s,baz=99,slow=23,SNR=14							
JCJ				S		Sn	17 47 11.5	-11
	comp=E,28nm,0.3s,baz=19,slow=23,SNR=4.8							
TJN	**Taejon**	**11.74**	**264**	*c* iP		**Pn**	**17 45 26.2**	**+4.4**
TYV	**Tymovskoe**	**12.38**	**2**	*e*P		**Pn**	**17 45 30.3**	**-0.2**
TYV				*e*S		**Sn**	**17 47 43.0**	**-3.9**
TYV				pmax	pmax			
	comp=Z,15nm,1.7s							
TYV				pmax	pmax			
	comp=Z,300nm,4.0s							
TYV				smax	smax			
	comp=N,500nm,4.7s							
TYV				smax	smax			
	comp=E,20nm,1.5s							
GRNR	**Gornyy**	**12.87**	**344**	*e*P		**Pn**	**17 45 38.4**	**+1.2**
GRNR				*e*			17 48 02.4	
GRNR				pmax	pmax			
	comp=Z,7.0nm,0.7s							
KLR	**Kul'dur**	**12.97**	**329**	P		**Pn**	**17 45 39.1**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=124,slow=11,SNR=6.0							
KLR				LR		LR	17 50 34.0	
	comp=Z,2μm,18.7s,baz=142,slow=37							
KLR	**Kul'dur**	**12.97**	**329**	↑*i*P		**Pn**	**17 45 38.7**	**+0.1**
CN2	**Changchun**	**13.47**	**298**	*e*P		**Pn**	**17 45 45.6**	**+0.2**
CN2				*e*PP		**P**	**17 45 56.3**	**+2.5**
CN2				*e*S		**Sn**	**17 48 13.4**	**-0.1**
CN2				sS		S	17 48 25.8	-10
CN2				pmax	pmax			
	comp=Z,20nm,1.3s							
CN2				pmax	pmax			
	comp=Z,250nm,4.0s							
CN2				LR	LR			
	comp=Z,370nm,13.0s							
CN2				LR	LR			
	comp=Z,790nm,13.0s							
CN2				LR	LR			
	comp=Z,1μm,14.0s							
SNY	**Shenyang**	**14.39**	**289**	↑P		**P**	**17 46 05.4**	**+1.4**
SNY				S		**S**	**17 49 00.5**	**+6.0**
SNY				pmax	pmax			
	comp=Z,26nm,1.0s							
SNY				pmax	pmax			
	comp=Z,270nm,5.3s							
SNY				LR	LR			
	comp=N,370nm,13.7s							
SNY				LR	LR			
	comp=E,1μm,19.6s							
SNY				LR	LR			
	comp=Z,2μm,19.6s							
DL2	**Dalian**	**15.82**	**278**	P		**P**	**17 46 18.9**	**-1.0**
DL2				sP		**sP**	**17 46 33.8**	**-1.6**
DL2				S		**S**	**17 49 19.4**	**-4.5**
DL2				pmax	pmax			
	comp=Z,130nm,1.1s							
DL2				pmax	pmax			
	comp=Z,190nm,5.1s							
DL2				LR	LR			
	comp=Z,250nm,19.2s							
DL2				LR	LR			
	comp=Z,820nm,23.7s							
DL2				LR	LR			
	comp=Z,970nm,24.5s							
PETK	**Petropavlovsk-**	**18.25**	**32**	P		**Pn**	**17 46 50.0**	**+3.2**
	comp=Z,0.2nm,0.3s,baz=184,slow=13,SNR=5.2							
PETK				LR	LR		17 54 56.0	
	comp=Z,273nm,18.9s,baz=219,slow=40							
PETK	**Petropavlovsk-**	**18.25**	**32**	P		**Pn**	**17 46 50.0**	**+3.2**
PETK				MLR	MLR			
	comp=Z,273nm,18.9s							
PEA1	**Petropavlovsk-**	**18.25**	**32**	*e*P		**Pn**	**17 46 50.0**	**+3.1**
PEA1				*e*ScP		**ScP**	**17 54 56.0**	**+6.7**
ZEA	**Zeya**	**18.25**	**331**	*e*P		**P**	**17 46 45.2**	**-1.5**
ZEA				pmax	pmax			
	comp=N,73nm,0.8s							
ZEA				pmax	pmax			
	comp=E,52nm,0.8s							
ZEA				p

TIY pmax pmax
comp=Z,68nm,1.1s
TIY pmax pmax
comp=Z,130nm,5.3s
TIY LR LR
comp=Z,160nm,11.3s
TIY LR LR
comp=Z,420nm,13.4s
TIY LR LR
comp=Z,520nm,17.1s
HHC Hu-ho-hao-te 23.40 285 *e*P **P 17 47 40.9 -1.3**
HHC sP sP 17 47 59.4 +1.3
HHC S **S 17 51 46.4 -6.0**
HHC pmax pmax
comp=Z,31nm,1.0s
HHC pmax pmax
comp=Z,130nm,6.7s
HHC LR LR
comp=Z,380nm,13.7s
HHC LR LR
comp=Z,1μm,15.7s
HHC LR LR
comp=Z,1μm,15.9s
TPUB Ta-pu 23.62 236 *e*P **P 17 47 41.1 -3.2**
comp=Z,116nm,1.3s
TWG Pinlang 23.68 235 *e*P **P 17 47 43.2 -1.6**
comp=Z,381nm,1.3s
CIT Chita 23.91 314 *e*P **P 17 47 47.3 +0.5**
CIT *e* 17 48 00.7
CIT *e* 17 48 31.4
CIT pmax pmax
comp=Z,183nm,1.3s
WHN Wuhan 23.97 259 ⇓P **P 17 47 46.9 -0.5**
WHN S **S 17 51 55.3 -6.1**
WHN pmax pmax
comp=Z,84nm,1.0s
WHN LR LR
comp=Z,1μm,9.9s
WHN LR LR
comp=Z,2μm,18.9s
YAK Yakutsk 24.73 346 *e*P **P 17 47 57.9 +3.8**
YAK *e**PP **sP 17 48 10.2 -0.2**
YAK *e* 17 48 31.6
YAK *e*S **S 17 52 16.4 +3.3**
YAK *e*SS **SnSn 17 53 02.4 +0.3**
YAK pmax pmax
comp=Z,57nm,1.0s
YAK pmax pmax
comp=N,25nm,1.0s
YAK pmax pmax
comp=E,36nm,1.3s
YAK pmax pmax
comp=Z,53nm,1.0s
YAK pmax pmax
comp=N,10.0nm,0.6s
YAK pmax pmax
comp=E,16nm,0.8s
YAK smax smax
comp=N,339nm,3.5s
YAK smax smax
comp=E,439nm,3.9s
YAK MLR MLR
comp=Z,782nm,18.0s
YAK MLR MLR
comp=N,693nm,18.0s
YAK MLR MLR
comp=E,182nm,17.0s
SEY Seymchan 25.29 11 *ce*P **P 17 48 00.3 +1.2**
BOD Bodaibo 26.51 326 *e*P **P 17 48 09.7 -0.6**
BOD pmax pmax
comp=Z,55nm,1.3s
XAN Xi'an 26.86 271 P P **17 48 12.9 -0.8**
XAN pP pP 17 48 22.6 -2.4
XAN S **S 17 52 48.1 +0.6**
XAN pmax pmax
comp=Z,23nm,1.0s
XAN pmax pmax
comp=Z,120nm,3.5s
XAN LR LR
comp=Z,310nm,18.0s
XAN LR LR
comp=Z,380nm,19.4s
XAN LR LR
comp=Z,410nm,17.3s
ULN Ulaanbaatar 26.87 302 *e*P **P 17 48 13.5 -0.3**
comp=Z,18nm,1.0s
ULN Ulaanbaatar 26.87 302 P **P 17 48 12.7 -1.2**
SNR=10
ULN Ulaanbaatar 26.87 302 *ce*P **P 17 48 14.1 +0.3**
ULN pmax pmax
comp=Z,26nm,1.3s
SONA1 Songino Array 27.30 302 *e*P **P 17 48 16.7 -1.0**
SONA0 Songino Array 27.31 302 *e*P **P 17 48 16.9 -0.8**
SONA0 *e*PcP **PcP 17 51 36.2 -0.1**
SONA0 *e*ScP **ScP 17 55 13.0 -0.3**
SONA0 *e* 17 59 34.0
SONM Songino Array 27.31 302 P **P 17 48 17.0 -0.8**
comp=Z,6.1nm,0.7s,baz=92,slow=7.8,SNR=26
SONM PcP **PcP 17 51 36.2 -0.1**
comp=Z,1.2nm,0.5s,baz=72,slow=1.2,SNR=4.6
SONM ScP **ScP 17 55 13.0 -0.3**
comp=Z,0.5nm,0.8s,baz=112,slow=2.6,SNR=3.9
SONM LR LR 17 59 34.0
comp=Z,392nm,19.4s,baz=150,slow=37
ENH Enshi 27.86 263 *e*P **P 17 48 21.4 -1.3**
comp=Z,107nm,0.8s
H11N2 WAKE ISLAND Hy 28.61 124 T T 18 18 39.8
baz=316,slow=75,SNR=2483
H11N1 WAKE ISLAND Hy 28.62 124 T T 18 18 45.3
baz=316,slow=75,SNR=3888
H11N3 WAKE ISLAND Hy 28.63 124 T T 18 18 43.2
baz=316,slow=75,SNR=3139
GZH Guangzhou 28.78 246 *e*P **P 17 48 27.8 -3.1**
GZH S **S 17 53 11.1 -6.5**
GZH LR LR
comp=Z,570nm,13.5s
GZH LR LR
comp=Z,430nm,13.6s
H11S1 WAKE ISLAND Hy 29.37 126 T T 18 19 41.2
baz=318,slow=76,SNR=1244
H11S3 WAKE ISLAND Hy 29.38 126 T T 18 19 45.4
baz=318,slow=76,SNR=2394
H11S2 WAKE ISLAND Hy 29.39 126 T T 18 19 41.1
baz=318,slow=76,SNR=1609
TLY Talaya 29.68 309 P **P 17 48 36.0 -2.6**
comp=Z,4.5nm,0.5s,baz=130,slow=16,SNR=3.3
TLY Talaya 29.68 309 *e*P **P 17 48 36.0 -2.6**
TLY *e*S **S 17 53 37.2 +5.8**
TLY *e*SS **ScP 17 55 24.7 +4.2**
TLY pmax pmax
comp=Z,12nm,1.3s
TLY MLR MLR
comp=Z,492nm,19.0s
ZAK Zakamensk 29.68 306 *e*P **P 17 48 37.2 -1.6**
ZAK pmax pmax
comp=Z,17nm,1.2s
LZH Lanzhou 30.22 277 *e*P **P 17 48 43.1 -0.6**
LZH pP pP 17 48 52.3 -2.8
LZH sP sP 17 48 57.4 -2.7
LZH PP **PnPn 17 49 39.4 -3.0**
LZH *e*S **S 17 53 38.8 -1.7**
LZH SS **SnSn 17 55 17.6 +1.1**
LZH pmax pmax
comp=Z,53nm,1.2s
LZH pmax pmax
comp=Z,290nm,4.9s
LZH LR LR
comp=Z,2μm,14.4s
LZH LR LR
comp=Z,2μm,15.7s
LZH LR LR
comp=Z,2μm,15.7s
GYA Guiyang 31.86 258 P **P 17 48 58.9 +0.7**
GYA pP pP 17 49 09.3 -0.3
GYA PP **PnPn 17 50 04.0 +0.3**
GYA PcP **PcP 17 51 50.6 +2.3**
GYA SS SS 17 55 56.5 -27
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,6.0s
GYA LR LR
comp=Z,530nm,17.9s
GYA LR LR
comp=Z,500nm,19.2s
GYA LR LR
comp=Z,460nm,20.1s
CD2 Chengdu 32.07 268 P **P 17 48 59.8 -0.2**
CD2 pP pP 17 49 10.3 -1.0
CD2 PP **PP 17 50 12.3 -0.5**
CD2 S **S 17 54 08.9 -0.4**
CD2 sS sS 17 54 26.8 -1.4
CD2 pmax pmax
comp=Z,90nm,0.8s
CD2 pmax pmax
comp=Z,300nm,6.3s
CD2 LR LR
comp=Z,820nm,17.7s
CD2 LR LR
comp=Z,970nm,19.6s
CD2 LR LR
comp=Z,810nm,23.0s
GTA Gaotai 32.52 285 *e*P **P 17 49 02.8 -1.1**
GTA pP pP 17 49 10.8 -4.5
GTA sP sP 17 49 14.8 -5.5
GTA PcP **PcP 17 51 50.6 +0.7**
GTA S **S 17 54 13.3 -2.9**
GTA sS sS 17 54 29.8 -5.4
GTA ScP **ScP 17 55 29.9 -0.4**
GTA PcS **PcS 17 55 35.3 +0.2**
GTA ScS **ScS 17 59 26.8 -3.1**
GTA pmax pmax
comp=Z,12nm,1.1s
GTA pmax pmax
comp=Z,85nm,7.3s
GTA LR LR
comp=Z,340nm,18.6s
GTA LR LR
comp=Z,750nm,19.6s
GTA LR LR
comp=Z,1μm,19.9s
BILL Bilibino 32.52 17 *e*P **P 17 49 03.3 -0.1**
comp=Z,26nm,1.1s
BILL Bilibino 32.52 17⇑ *e*P **P 17 49 03.2 -0.2**
BILL *e* 17 50 10.3
BILL pmax pmax
comp=Z,22nm,1.1s
KNGR Kungurtug, Tuv 33.37 306 ⇓ *i*P **P 17 49 11.3 +0.1**
QIZ Qiongzhong 33.88 244 P **P 17 49 16.4 +0.6**
QIZ S **S 17 54 39.1 +1.6**
QIZ LR LR
comp=Z,330nm,17.7s
QIZ LR LR
comp=Z,200nm,16.7s
QIZ LR LR
comp=Z,310nm,14.9s
KMI Kunming 35.57 260 P **P 17 49 29.8 -0.8**
KMI pP pP 17 49 38.4 -3.7
KMI sP sP 17 49 42.8 -4.2
KMI PP **PP 17 50 52.1 +0.3**
KMI S **S 17 55 01.8 -2.0**
KMI sS sS 17 55 17.0 -5.9
KMI SS **SnSn 17 57 24.3 -2.4**
KMI pmax pmax
comp=Z,25nm,1.4s
KMI pmax pmax
comp=Z,130nm,4.2s
KMI LR LR
comp=Z,400nm,18.0s
KMI LR LR
comp=Z,330nm,16.6s
KMI LR LR
comp=Z,500nm,17.8s
HVS Khovu-Aksy 35.80 307⇑ *i*P **P 17 49 32.8 +0.6**
HVS pmax pmax
comp=Z,17nm,0.9s
NONG Nongkai 39.35 250 P **P 17 50 03.0 +0.7**
comp=Z,0.3nm,0.7s
SKNT Sakolnakorn 39.43 248 P **P 17 50 04.6 +1.5**
comp=Z,4.5nm,1.0s
DGZ Jazzator, Alta 39.86 304 *c*i P **P 17 50 07.3 +0.8**
DGZ pmax pmax
comp=Z,61nm,0.9s
ANM Nome 40.16 32 *e*P **P 17 50 10.7 +2.1**
comp=Z,39nm,1.3s
ANM Nome 40.16 32 *e*P **P 17 50 10.7 +2.1**
ANM pmax pmax
comp=Z,39nm,1.3s
WMQ Urumqi 40.53 295 P **P 17 50 12.6 +0.6**
WMQ pP pP 17 50 22.3 -1.3
WMQ sP sP 17 50 30.0 +1.4
WMQ pmax pmax
comp=Z,210nm,1.1s
WMQ pmax pmax
comp=Z,690nm,4.9s
WMQ LR LR
comp=Z,650nm,24.3s
WMQ LR LR
comp=Z,920nm,26.3s
ZAA0 Zalesovo Array 41.22 311 *e*P **P 17 50 16.5 -0.9**
comp=Z,45nm,1.0s
ZAA0 *e*PcP **PcP 17 52 14.9 -0.8**
ZAA1 Zalesovo Array 41.22 311 *e*P **P 17 50 17.0 -0.5**
ZAA1 *e*PcP **PcP 17 52 15.2 -0.6**
ZAA1 *e*ScP **ScP 17 56 01.5 -0.7**
ZAA1 *e* 18 08 07.6
ZALV Zalesovo Beam 41.22 311 P **P 17 50 17.0 -0.5**
comp=Z,22nm,0.7s,baz=87,slow=6.8,SNR=93
ZALV PcP **PcP 17 52 15.2 -0.5**
comp=Z,5.2nm,0.4s,baz=104,slow=2.8,SNR=7.4
ZALV ScP **ScP 17 56 01.5 -0.7**
comp=Z,0.5nm,0.4s,baz=69,slow=4.8,SNR=3.6
ZALV LR LR 18 08 07.6
comp=Z,411nm,19.2s,baz=76,slow=37
ZALV Zalesovo Beam 41.22 311 *e*P **P 17 50 16.1 -1.3**
ZALV *e*PcP **PcP 17 52 14.6 -1.1**
ZALV ScP **ScP 17 56 01.5 -0.7**
UTTA Uttaradit 41.47 252 P **P 17 50 21.0 +1.1**
comp=Z,4.2nm,0.9s,comp=Z,36nm
CHAI Chaiyaphum 41.58 248 P **P 17 50 20.8 0.0**
comp=Z,5.5nm,1.1s,comp=Z,56nm
CMMT Chiang Mai 42.02 255 P **P 17 50 24.3 -0.2**
comp=Z,15nm,0.7s
CHTO Chiang Mai 42.02 255 *e*P **P 17 50 23.4 -1.1**
comp=Z,10.0nm,0.8s
CHTO Chiang Mai 42.02 255 *e*P **P 17 50 23.4 -1.1**
CHTO pmax pmax
comp=Z,10.0nm,0.8s
CHTO Chiang Mai 42.02 255 P **P 17 50 24.3 -0.2**
comp=Z,65nm,0.7s
RDOG Red Dog Mine 42.04 27 *e*P **P 17 50 24.6 +0.6**
comp=Z,16nm,0.9s
NRIK Noril'sk 42.10 335 P **P 17 50 23.9 -0.6**
comp=Z,10nm,0.8s,baz=113,slow=7.6,SNR=12
NRIK LR LR 18 08 49.4
comp=Z,741nm,19.5s,baz=89,slow=37
NVS Novosibirsk 42.12 313⇑ *i*P **P 17 50 24.5 -0.3**
NVS *i* 17 50 39.8
NVS *i* 17 52 18.7
NVS *e*S **S 17 56 41.3 +0.1**
NVS pmax pmax
comp=Z,56nm,1.3s
NVS pmax pmax
comp=N,11nm,1.5s
NVS pmax pmax
comp=E,39nm,1.3s
CM31 Chiang Mai Arr 42.24 254 *e*P **P 17 50 25.9 -0.3**
CM31 *e*PcP **PcP 17 52 19.7 0.0**
CM31 *e*ScP **ScP 17 56 04.3 -2.5**
CM31 *e* 18 09 31.1
CMAR Chiang Mai Arr 42.24 254 P **P 17 50 26.0 -0.3**
comp=E,1.5nm,0.8s,baz=44,slow=6.7,SNR=16
CMAR PcP **PcP 17 52 19.7 0.0**
comp=E,3.0nm,0.9s,baz=21,slow=1.5,SNR=7.6
CMAR ScP **ScP 17 56 04.3 -2.5**
comp=E,0.3nm,0.7s,baz=32,slow=3.6,SNR=3.1
CMAR LR LR 18 09 31.0
comp=E,100nm,18.2s,baz=57,slow=38
CM01 Chiang Mai Arr 42.25 254 *e*P **P 17 50 25.1 -1.2**
CM01 *e*PcP **PcP 17 52 19.6 -0.1**
SUKH Sukhothai 42.32 252 P **P 17 50 28.3 +1.5**
comp=E,5.0nm,1.0s
LSA Lhasa 42.47 274 *e*P **P 17 50 26.2 -2.3**
comp=E,43nm,1.1s
LSA Lhasa 42.47 274 *i* P **P 17 50 29.6 +1.1**
SNR=7.1
LSA Lhasa 42.47 274 *e*P **P 17 50 26.2 -2.3**
LSA pmax pmax
comp=Z,43nm,1.1s
SRAK Srakaew 42.78 246 P **P 17 50 27.8 -2.8**
comp=Z,27nm,0.9s,comp=Z,290nm
UTHA Uthaitani 43.66 250 P **P 17 50 38.7 +0.9**
comp=Z,3.6nm,1.1s
MK01 Makanchi Array 43.67 301 *e*P **P 17 50 36.3 -1.3**
MK31 Makanchi Array 43.67 301 *e*P **P 17 50 37.0 -0.5**
MK31 Makanchi Array 43.67 301 *e*P **P 17 50 37.0 -0.5**
MK32 Makanchi Array 43.67 301 *e*P **P 17 50 37.1 -0.5**
MK32 *e* 18 09 23.0
MKAR Makanchi Array 43.67 301 P **P 17 50 37.1 -0.5**
comp=Z,33nm,0.8s,baz=86,slow=9.4,SNR=176
MKAR LR LR 18 09 23.0
comp=Z,168nm,21.5s,baz=64,slow=37
MKAR Makanchi Array 43.67 301 *e*P **P 17 50 37.0 -0.5**
comp=Z,190nm,0.9s
MKAR Makanchi Array 43.67 301 *i* P **P 17 50 37.4 -0.2**
MKAR pmax pmax
comp=Z,33nm,0.9s
UMPA Umpang Tak 43.69 252 P **P 17 50 40.0 +2.0**
comp=Z,7.4nm,1.0s,comp=Z,66nm
SHL Shillong 43.81 268 *e*P **P 17 50 38.3 -0.8**
comp=Z,28nm,1.0s
SHL Shillong 43.81 268 *e*P **P 17 50 38.3 -0.8**
SHL pmax pmax
comp=Z,28nm,1.0s
SHL Shillong 43.81 268 *i* P **P 17 50 37.0 -2.1**
SRDT SRDT 44.68 249 P **P 17 50 46.5 +0.6**
comp=Z,22nm,1.2s,comp=Z,2μm
IM3 Indian Mountai 45.21 31 *e*P **P 17 50 50.2 +0.7**
PHET Kaeng Krachan 45.26 247 P **P 17 50 51.8 +1.3**
comp=Z,9.7nm,1.0s,comp=Z,84nm
KURK Kurchatov 45.34 307 *e*P **P 17 50 49.9 -0.9**
comp=Z,102nm,0.8s
KURK Kurchatov 45.34 307 P **P 17 50 50.4 -0.3**
SNR=42
KURK Kurchatov 45.34 307 *c i*P **P 17 50 50.2 -0.5**
KURK pmax pmax
comp=Z,185nm,1.3s
RSO Redoubt South 45.53 39 *e*P **P 17 50 53.5 +1.1**
PPLA Purkeypile 45.76 36 *e*P **P 17 50 56.4 +2.3**
comp=Z,62nm,1.6s
CAST Castle Rocks 45.81 35 *e*P **P 17 50 55.7 +1.3**
comp=Z,16nm,1.2s
TAPN Taplejung 46.23 273⇑ *i*P **P 17 50 58.7 +0.3**
comp=Z,67nm,1.0s
BPAW Bear Paw Mtn. 46.30 34 *e*P **P 17 50 59.0 +0.8**
comp=Z,47nm,1.8s
MLY Manley 46.42 33 *e*P **P 17 51 01.0 +1.8**
comp=Z,16nm,1.0s
SUA Susitna One 46.47 38 *e*P **P 17 51 01.7 +2.0**
comp=Z,22nm,0.9s
TRF Thorofare Moun 46.62 35 *e*P **P 17 51 03.1 +2.2**
comp=Z,14nm,1.0s
ODAN Odare 46.71 272⇑ *i*P **P 17 51 02.2 +0.1**
comp=Z,134nm,1.1s
KSM Kuching 46.83 226 *e*P **P 17 51 03.5 +0.6**
comp=Z,14nm,1.1s
KSM Kuching 46.83 226 P **P 17 51 04.0 +1.1**
TOLK Toolik Lake Re 47.01 28 *e*P **P 17 51 04.9 +1.2**
comp=Z,21nm,0.9s
TOLK Toolik Lake Re 47.01 28 P **P 17 51 04.8 +1.2**
baz=267
PMR Palmer 47.24 37 *e*P **P 17 51 06.4 +0.9**
comp=Z,14nm,0.8s
PMR Palmer 47.24 37 *e*P **P 17 51 06.4 +0.9**
PMR pmax pmax
comp=Z,14nm,0.8s
JIRN Jiri 47.27 274⇑ *i*P **P 17 51 06.9 +0.2**
RAMN Ramite 47.28 273⇑ *i*P **P 17 51 06.7 +0.1**
comp=Z,197nm,0.9s
GHO Glory Hole Cre 47.32 37 *e*P **P 17 51 07.3 +1.1**
comp=Z,26nm,0.8s
GUN Gumba 47.40 275⇑ *i*P **P 17 51 07.8 +0.2**
comp=Z,231nm,1.0s
PRZ Przheval'sk 47.45 296 P **P 17 51 08.2 +0.5**
PRZ pmax pmax
comp=Z,26nm,0.8s
WRH Wood River Hil 47.56 33 *e*P **P 17 51 07.9 -0.1**
comp=Z,11nm,0.9s
CCB Clear Creek Bu 47.68 33 *e*P **P 17 51 09.5 +0.6**
comp=Z,16nm,1.3s
POKR Poker Flat Res 47.82 33 P **P 17 51 11.5 +1.5**
baz=272
KKN Kakani 47.92 275⇑ *i*P **P 17 51 11.5 0.0**
comp=Z,142nm,0.9s
PKI Pulchoki 47.92 274⇑ *i*P **P 17 51 11.4 -0.3**
PKIN Phulchoki 47.93 274⇑ *i*P **P 17 51 11.2 -0.5**
DHY Denali Highway 47.95 35 *e*P **P 17 51 12.3 +1.1**
comp=Z,15nm,1.1s
HDA Harding Lake 48.06 34 *e*P **P 17 51 12.3 +0.5**
comp=Z,17nm,1.0s
HDA Harding Lake 48.06 34 P **P 17 51 12.4 +0.5**
baz=273
ILAR Eielson Array 48.07 33 P **P 17 51 12.4 +0.6**
comp=Z,4.8nm,0.8s,baz=268,slow=6.2,SNR=48
ILAR PcP **PcP 17 52 38.6 -0.5**
comp=Z,2.0nm,0.8s,baz=258,slow=4.5,SNR=1.5
ILB Eielson Array 48.07 33 *e*P **P 17 51 12.6 +0.7**
IL1 Eielson Array 48.07 33 *e*P **P 17 51 12.4 +0.5**
DMN Daman 48.14 275⇑ *i*P **P 17 51 13.2 -0.1**
GKN Gorkha 48.32 275⇑ *i*P **P 17 51 14.5 -0.1**
FYU Fort Yukon 48.66 31 *e*P **P 17 51 17.7 +1.3**
comp=Z,37nm,1.2s
TRTT Trang 48.70 242 P **P 17 51 18.8 +1.4**
comp=Z,9.0nm,1.3s
KRAB Krabi 48.77 243 P **P 17 51 19.0 +1.1**
comp=Z,55nm,0.9s,comp=Z,503nm
KLU Klutina 48.78 37 *e*P **P 17 51 18.6 +1.0**
comp=Z,17nm,1.0s
DANN Dangsing 48.85 276⇑ *i*P **P 17 51 19.1 +0.3**
comp=Z,246nm,0.9s
DIV Divide 48.89 38 *e*P **P 17 51 20.2 +1.9**
comp=Z,23nm,1.0s
RIDG Independ'e Rid 49.03 34 *e*P **P 17 51 19.4 0.0**
comp=Z,15nm,1.1s
KOLN Koldanda 49.24 276⇑ *i*P **P 17 51 21.8 +0.1**
comp=Z,230nm,1.3s
TKM2 Tokmak 2 49.28 297 P **P 17 51 22.4 +0.6**
SNR=15
DOT Dot Lake 49.39 34 *e*P **P 17 51 22.6 +0.5**
comp=Z,8.6nm,1.0s
BMRM Bremner River 49.48 38 *e*P **P 17 51 24.9 +2.0**
comp=Z,22nm,0.9s
NRN Naryn 49.48 295 *e*P **P 17 51 23.2 -0.3**
comp=Z,9.8nm,0.9s
NRN Naryn 49.48 295 *e*P **P 17 51 23.2 -0.3**
NRN pmax pmax
comp=Z,10.0nm,0.9s
PYUN Piuthan 49.56 276⇑ *i*P **P 17 51 24.2 +0.1**
PKDT Phuket 49.61 244 P **P 17 51 26.0 +1.7**
comp=Z,29nm,1.0s
KZA Kyzart 49.79 297 P **P 17 51 27.0 +1.0**
SNR=8.9
KBK Karagaybulak 49.81 297 P **P 17 51 26.1 +0.3**
SNR=29
CHMS Chumysh 49.84 298 P **P 17 51 25.6 -0.2**
SNR=7.2
KULM Kulim 49.88 239 *e*P **P 17 51 27.0 +0.6**
comp=Z,20nm,0.9s
KULM Kulim 49.88 239 P **P 17 51 27.0 +0.6**
OTUK Ortayu 49.88 305 P **P 17 51 25.7 -0.4**
OTUK pmax pmax
comp=Z,28nm,1.1s
USP Ospenovka 49.93 298 P **P 17 51 26.5 0.0**
SNR=6.5
BRVK Borovoye 49.93 312 *e*P **P 17 51 25.4 -1.0**
comp=Z,20nm,0.8s
BRVK Borovoye 49.93 312 P **P 17 51 26.1 -0.2**
SNR=8.5
BRVK Borovoye 49.93 312 *ce*P **P 17 51 26.1 -0.2**
BRVK pmax pmax
comp=Z,26nm,1.0s
FRU1 Bishkek 49.98 298 *e*P **P 17 51 26.7 -0.3**
comp=Z,23nm,0.9s
FRU1 Bishkek 49.98 298 *e*P **P 17 51 26.7 -0.3**
FRU1 pmax pmax
comp=Z,23nm,0.9s
FRU Bishkek 49.99 298 *e*P **P 17 51 25.0 -2.0**
FRU *e* 17 51 43.0
FRU pmax pmax
comp=Z,45nm,2.0s
AAK Ala-Archa 50.13 297 P **P 17 51 28.1 -0.1**
SNR=7.6
AAK Ala-Archa 50.13 297 *e*P **P 17 51 27.7 -0.6**
comp=Z,12nm,1.0s
AAK Ala-Archa 50.13 297 *i* P **P 17 51 28.1 -0.1**
SNR=11
AAK Ala-Archa 50.13 297 *c i*P **P 17 51 28.1 -0.1**
AAK pmax pmax

	comp=Z,13nm,1.1s										
KSH	**Kashi**	**50.16**	**293**		P		**P**	**17**	**51**	**32.0**	**+3.5**
KSH					pP		pP	17	51	42.0	+1.7
KSH					PcP		**PcP**	**17**	**52**	**50.0**	**+2.7**
KSH					S		**S**	**17**	**58**	**40.3**	**+2.9**
KSH					SS		**SS**	**18**	**02**	**10.8**	**+0.1**
KSH					pmax	pmax					
	comp=Z,36nm,0.9s										
KSH					pmax	pmax					
	comp=Z,220nm,5.8s										
KSH					LR	LR					
	comp=Z,270nm,10.1s										
KSH					LR	LR					
	comp=Z,230nm,8.1s										
KSH					LR	LR					
	comp=Z,700nm,22.3s										
IPM	**Ipoh**	**50.22**	**238**	*e*P		**P**		**17**	**51**	**29.0**	**0.0**
	comp=Z,47nm,1.1s										
UCH	**Uchtor**	**50.26**	**297**	P		**P**		**17**	**51**	**30.2**	**+0.7**
	SNR=8.3										
EGAK	**Eagle**	**50.51**	**33**	*e*P		**P**		**17**	**51**	**31.8**	**+1.3**
	comp=Z,10nm,0.8s										
EKS2	**Erkin-Say**	**50.63**	**298**	P		**P**		**17**	**51**	**31.9**	**0.0**
	SNR=9.1										
SOEI	**Soe**	**50.74**	**203**	*e*P		**P**		**17**	**51**	**32.1**	**-0.8**
	comp=Z,33nm,1.0s										
AML	**Almayashu**	**50.86**	**297**	P		**P**		**17**	**51**	**34.6**	**+0.5**
	SNR=19										
BATI	**Baumata**	**51.35**	**203**	P		**P**		**17**	**51**	**38.0**	**+0.6**
	comp=Z,7.5nm,0.4s,baz=217,slow=19,SNR=4.3										
MNAS	**Manas**	**51.57**	**298**	P		**P**		**17**	**51**	**39.1**	**+0.1**
MNAS					pmax	pmax					
	comp=Z,26nm,1.0s										
SFK	**Sufi-Kurgan**	**51.75**	**295**	P		**P**		**17**	**51**	**40.3**	**-0.2**
SFK					pmax	pmax					
	comp=Z,22nm,1.2s										
EPYK	**Eagle Plains**	**52.08**	**30**	P		**P**		**17**	**51**	**44.0**	**+1.7**
	baz=281										
KK31	**Karatay Array**	**52.73**	**299**	*e*P		**P**		**17**	**51**	**47.0**	**-0.5**
KK31	**Karatay Array**	**52.73**	**299**	*e*P		**P**		**17**	**51**	**47.0**	**-0.5**
KKAR	**Karatay Array**	**52.73**	**299**	*e*P		**P**		**17**	**51**	**47.0**	**-0.5**
KKAR	**Karatay Array**	**52.73**	**299**	*e*P		**P**		**17**	**51**	**47.0**	**-0.5**
PSI	**Prapat**	**52.87**	**239**	*e*P		**P**		**17**	**51**	**48.2**	**-0.7**
	comp=Z,19nm,0.9s										
PSI	**Prapat**	**52.87**	**239**	*e*P		**P**		**17**	**51**	**48.2**	**-0.7**
PSI					pmax	pmax					
	comp=Z,19nm,0.9s										
HYT	**Haines Junctio**	**52.91**	**37**	*e*P		**P**		**17**	**51**	**49.7**	**+1.1**
INK	**Inuvik**	**52.92**	**28**	*e*P		**P**		**17**	**51**	**49.8**	**+1.4**
	comp=Z,20nm,0.9s										
INK	**Inuvik**	**52.92**	**28**	*e*P		**P**		**17**	**51**	**49.8**	**+1.4**
INK					pmax	pmax					
	comp=Z,20nm,0.9s										
SVE	**Sverdlovsk**	**54.31**	**318⇓**	*e*P		**P**		**17**	**51**	**59.2**	**+0.4**
SVE					pmax	pmax					
	comp=Z,84nm,1.1s										
SVE					MLR	MLR					
	comp=Z,578nm,21.0s										
NIL	**Nilore**	**54.52**	**287**	*e*P		**P**		**17**	**52**	**01.2**	**+0.5**
	comp=Z,47nm,0.9s										
NIL	**Nilore**	**54.52**	**287**	*e*P		**P**		**17**	**52**	**01.2**	**+0.5**
NIL					pmax	pmax					
	comp=Z,47nm,0.9s										
GSI	**Gunungsitoli**	**54.87**	**239**	*e*P		**P**		**17**	**52**	**03.6**	**+0.2**
	comp=Z,84nm,1.1s										
ARU	**Arti**	**55.52**	**318**	*e*P		**P**		**17**	**52**	**06.8**	**-0.7**
ARU	**Arti**	**55.52**	**318**	*c i*P		**P**		**17**	**52**	**07.2**	**-0.3**
ARU					*PP		**pP**	**17**	**52**	**20.3**	**+0.8**
ARU								17	53	06.6	
ARU								17	54	10.6	
ARU					S		**S**	**17**	**59**	**49.8**	**+0.2**
ARU					SS		**SS**	**18**	**03**	**33.4**	**-0.9**
ARU					pmax	pmax					
	comp=Z,62nm,1.0s										
ARU					MLR	MLR					
	comp=Z,528nm,20.0s										
KBL	**Kabul**	**57.25**	**290**	*e*P		**P**		**17**	**52**	**20.1**	**-0.4**
	comp=Z,22nm,0.9s										
KBL	**Kabul**	**57.25**	**290**	*e*P		**P**		**17**	**52**	**20.1**	**-0.4**
KBL					pmax	pmax					
	comp=Z,22nm,0.9s										
ABKAR	**Akbulak array**	**57.29**	**310**	*e*P		**P**		**17**	**52**	**19.6**	**-0.6**
FITZ	**Fitzroy Crossi**	**58.32**	**198**	*e*P		**P**		**17**	**52**	**28.5**	**+0.8**
	comp=Z,19nm,1.5s										
WRAB	**Tennant Creek**	**58.55**	**188**	*e*P		**P**		**17**	**52**	**29.0**	**-0.2**
	comp=Z,12nm,0.9s										
WRAB	**Tennant Creek**	**58.55**	**188**	*ce*P		**P**		**17**	**52**	**29.1**	**-0.2**
WRAB					pmax	pmax					
	comp=Z,13nm,1.3s										
WB2	**Warramunga Arr**	**58.55**	**188**	*e*P		**P**		**17**	**52**	**28.2**	**-1.1**
WR1	**Warramunga Arr**	**58.56**	**188**	*e*P		**P**		**17**	**52**	**29.1**	**-0.2**
	comp=Z,19nm,1.1s										
WR1				*e*PKKSdf		PKKSdf		18	17	15.5	-10
WRA	**Warramunga Arr**	**58.56**	**188**	P		**P**		**17**	**52**	**29.1**	**-0.2**
	comp=Z,6.6nm,0.6s,baz=5.6,slow=6.9,SNR=137										
WRA					LR	LR		18	17	15.5	
	comp=Z,57nm,21.4s,baz=240,slow=35										
HYB	**Hyderabad**	**58.62**	**268**	*i* P		**P**		**17**	**52**	**30.0**	**-0.1**
KBS	**Kingsbay**	**59.28**	**350**	*ce*P		**P**		**17**	**52**	**33.8**	**+0.1**
KBS					pmax	pmax					
	comp=Z,459nm,2.5s										
PRGR	**Permogore**	**59.75**	**327**	*e*P		**P**		**17**	**52**	**36.5**	**-0.6**
PRGR				*e*SP		**sP**		**17**	**52**	**55.4**	**+1.3**
PRGR				*e*				17	54	47.7	
PRGR					pmax	pmax					
	comp=Z,44nm,1.2s										
RES	**Resolute Bay**	**61.10**	**15**	*e*P		**P**		**17**	**52**	**46.2**	**+0.1**
	comp=Z,24nm,1.0s										
RES	**Resolute Bay**	**61.10**	**15**	*e*P		**P**		**17**	**52**	**46.2**	**+0.1**
RES					pmax	pmax					
	comp=Z,24nm,1.0s										
APA	**Apatity**	**61.51**	**336⇓**	*i*P		**P**		**17**	**52**	**47.5**	**-1.6**
APA					pmax	pmax					
	comp=Z,16nm,0.8s										
POO	**Poona**	**61.69**	**272**	*e*P		**P**		**17**	**52**	**50.0**	**-1.1**
AS01	**Alice Springs**	**62.28**	**188**	*e*P		**P**		**17**	**52**	**54.8**	**+0.1**
AS31	**Alice Springs**	**62.28**	**188**	*e*P		**P**		**17**	**52**	**55.2**	**+0.4**
	comp=Z,2.5nm,0.8s										
AS31				*e*				18	19	29.8	
ASAR	**Alice Springs**	**62.28**	**188**	P		**P**		**17**	**52**	**54.8**	**+0.1**
	comp=Z,4.3nm,0.7s,baz=357,slow=4.7,SNR=72										
ASAR					LR	LR		18	19	29.8	
	comp=Z,98nm,21.9s,baz=358,slow=36										
YKW3	**Yellowknife Ar**	**62.32**	**31**	*e*P		**P**		**17**	**52**	**54.8**	**+0.2**
	comp=Z,18nm,1.3s										
YKA	**Yellowknife Ar**	**62.36**	**31**	P		**P**		**17**	**52**	**55.4**	**+0.5**
	comp=Z,5.5nm,0.8s,baz=301,slow=6.7,SNR=16										
YKB5	**Yellowknife Ar**	**62.36**	**31**	*e*P		**P**		**17**	**52**	**54.8**	**0.0**
KLMR	**Klimovskoe**	**62.73**	**327**	*e*P		**P**		**17**	**52**	**55.7**	**-1.5**
KLMR				*e*				17	55	13.3	
KLMR					pmax	pmax					
	comp=Z,36nm,1.5s										
KLMR	**Klimovskoe**	**62.73**	**327**	*e*P		**P**		**17**	**52**	**55.8**	**-1.5**
KLMR					AMP			17	52	58.0	
	comp=Z,36nm,1.6s										
KLMR				*e*PP		**PP**		**17**	**55**	**13.3**	**-1.8**
ARA0	**ARCESS Array S**	**62.76**	**339**	*e*P		**P**		**17**	**52**	**57.6**	**+0.1**
ARA0				*e*				18	25	12.4	
ARCES	**ARCESS Array B**	**62.76**	**339**	P		**P**		**17**	**52**	**57.6**	**+0.1**
	comp=Z,8.1nm,0.9s,baz=44,slow=7.1,SNR=9.8										
ARCES					LR	LR		18	25	12.5	
	comp=Z,7.1nm,18.0s,baz=29,slow=41										
PALK	**Pallekele**	**63.05**	**257**	*i* P		**P**		**17**	**53**	**04.9**	**+4.7**
GEYT	**Alibeck**	**63.46**	**299**	P		**P**		**17**	**53**	**01.8**	**-0.8**
	comp=Z,3.8nm,0.7s,baz=76,slow=14,SNR=11										
GEYT					LR	LR		18	21	58.3	
	comp=Z,168nm,21.9s,baz=220,slow=37										
GYA0B	**ALIBECK ARRAY**	**63.46**	**299**	*e*P		**P**		**17**	**53**	**02.8**	**+0.1**
	comp=Z,9.8nm,0.9s										
SGF	**Sodankyl**	**63.75**	**337**	*e*P		**P**		**17**	**53**	**04.3**	**+0.3**
SGF					pmax	pmax					
	comp=Z,47nm,2.1s										
MSF	**Maaselka**	**63.88**	**335**	*e*P		**P**		**17**	**53**	**05.8**	**+0.9**
MSF					pmax	pmax					
	comp=Z,46nm,2.4s										
DAG	**Danmarks Havn**	**64.35**	**355⇑**	*i*P		**P**		**17**	**53**	**07.5**	**-0.3**
	comp=Z,23nm,1.1s										
DAG	**Danmarks Havn**	**64.35**	**355⇑**	*i*P		**P**		**17**	**53**	**07.5**	**-0.3**
DAG					pmax	pmax					
	comp=Z,29nm,1.1s										
DZM	**Mont Dzumac**	**64.50**	**155**	P		**P**		**17**	**53**	**10.6**	**+1.1**
	comp=Z,5.0nm,1.1s,baz=221,slow=23,SNR=1.7										
DZM	**Mont Dzumac**	**64.50**	**155**	*e*P		P		17	53	16.6	+7.1
	comp=Z,97nm,1.4s										
DZM	**Mont Dzumac**	**64.50**	**155**	*e*LR		LR		18	12	28.8	
	comp=Z,477nm,21.8s										
DZM	**Mont Dzumac**	**64.50**	**155**	*e*P		**P**		**17**	**53**	**09.4**	**-0.1**
	comp=Z,42nm,1.2s										
JOF	**Joensuu**	**64.85**	**332**	P		**P**		**17**	**53**	**11.4**	**+0.1**
JOF					pmax	pmax					
	comp=Z,32nm,2.0s										
OUL	**Oulu**	**65.43**	**335**	*e*P		**P**		**17**	**53**	**15.4**	**+0.5**
OUL					pmax	pmax					
	comp=Z,36nm,1.0s										
D03D	**Eldon**	**65.84**	**48**	P		**P**		**17**	**53**	**20.8**	**+2.9**
	baz=301										
B05A	**Bryant**	**66.03**	**47**	P		**P**		**17**	**53**	**21.4**	**+2.3**
	baz=302										
MOS	**Moscow**	**66.30**	**323**	*e*P		**P**		**17**	**53**	**19.0**	**-1.7**
MOS				*e*				17	53	35.1	
MOS				*e*				17	55	44.1	
MOS					pmax	pmax					
	comp=Z,31nm,0.6s										
VRH	**Novokhopyorsk**	**66.75**	**318**	*e*P		**P**		**17**	**53**	**22.4**	**-1.3**
VRH					pmax	pmax					
	comp=Z,40nm,1.1s										
VRH					MLR	MLR					
	comp=Z,780nm,16.0s										
SUF	**Sumiainen**	**66.85**	**333**	*e*P		**P**		**17**	**53**	**24.7**	**+0.6**
SUF					pmax	pmax					
	comp=Z,33nm,1.3s										
OBN	**Obninsk**	**67.15**	**323⇓**	*i*P		**P**		**17**	**53**	**26.0**	**-0.1**
OBN				*e*				17	55	52.7	
OBN				*eS*		S		18	02	31.9	+15
OBN					pmax	pmax					
	comp=Z,28nm,1.3s										
OBN					MLR	MLR					
	comp=Z,159nm,17.0s										
LPSR	**Galich'ya Gora**	**67.42**	**320**	*e*P		**P**		**17**	**53**	**26.8**	**-1.1**
LPSR					pmax	pmax					
	comp=Z,40nm,1.3s										
B08A	**Colville Reser**	**67.55**	**45**	*e*P		**P**		**17**	**53**	**30.9**	**+2.1**
	comp=Z,12nm,1.1s										
FIA0	**FINESS Array S**	**67.70**	**332**	*e*P		**P**		**17**	**53**	**28.9**	**-0.6**
FIA0				*e*				18	24	42.8	
FIA0	**FINESS Array S**	**67.70**	**332**	*e*P		**P**		**17**	**53**	**28.9**	**-0.6**
FINES	**FINESS Array B**	**67.70**	**332**	P		**P**		**17**	**53**	**28.9**	**-0.6**
	comp=Z,20nm,0.9s,baz=45,slow=8.4,SNR=23										
FINES					LR	LR		18	24	42.8	
	comp=Z,212nm,21.6s,baz=66,slow=37										
MAK	**Makhachkala**	**67.86**	**308**	*e*P		**P**		**17**	**53**	**31.3**	**+0.5**
MAK				*e*				17	56	01.1	
MAK				*eS*		**S**		**18**	**02**	**28.0**	**+1.9**
MAK				*eSS*		**SS**		**18**	**06**	**51.3**	**+3.8**
MAK					pmax	pmax					
	comp=Z,210nm,1.1s										
VSR	**Storozhevoye**	**68.08**	**319**	*e*P		**P**		**17**	**53**	**30.8**	**-1.3**
VSR					pmax	pmax					
	comp=Z,20nm,0.9s										
VORD	**Divnogorie**	**68.16**	**318**	*e*P		**P**		**17**	**53**	**31.8**	**-0.8**
VORD					pmax	pmax					
	comp=Z,30nm,1.3s										
I04A	**Tendick Farm,**	**68.22**	**51**	P		**P**		**17**	**53**	**34.2**	**+1.0**
	baz=303										
C09A	**Chrisman Ranch**	**68.45**	**46**	*e*P		**P**		**17**	**53**	**35.8**	**+1.3**
	comp=Z,20nm,1.3s										
D08A	**Wollman Farm,**	**68.49**	**47**	*e*P		**P**		**17**	**53**	**35.9**	**+1.1**
	comp=Z,9.8nm,0.8s										
GROC	**Groznyy**	**68.78**	**309**	*e*P		**P**		**17**	**53**	**36.4**	**-0.2**
GROC				*e*PP		**pP**		**17**	**53**	**51.5**	**+2.6**
GROC				*e*				17	56	07.8	
GROC				*eS*		**S**		**18**	**02**	**34.9**	**-2.2**
GROC				*eS*		SKiKP		18	02	54.2	-31
GROC					pmax	pmax					
	comp=Z,36nm,1.4s										
NEW	**Newport**	**68.83**	**45**	*e*P		**P**		**17**	**53**	**38.1**	**+1.2**
	comp=Z,12nm,1.0s										
NEW	**Newport**	**68.83**	**45**	*e*P		**P**		**17**	**53**	**38.1**	**+1.2**
NEW					pmax	pmax					
	comp=Z,12nm,1.0s										
NEW	**Newport**	**68.83**	**45**	P		**P**		**17**	**53**	**38.0**	**+1.1**
	baz=304										
L04D	**Klamath Falls**	**69.15**	**52**	P		**P**		**17**	**53**	**40.5**	**+1.4**
	baz=304										
J05D	**Fort Rock, OR**	**69.22**	**51**	P		**P**		**17**	**53**	**41.3**	**+1.8**
	baz=304										
SUMG	**Summit**	**69.23**	**0**	*e*P		**P**		**17**	**53**	**40.1**	**+0.7**
	comp=Z,32nm,0.9s										
SUMG	**Summit**	**69.23**	**0**	*i* P		**P**		**17**	**53**	**40.2**	**+0.8**
	comp=Z,83nm,0.9s										
SUMG	**Summit**	**69.23**	**0**	*i* P		**P**		**17**	**53**	**40.2**	**+0.8**
SUMG					pmax	pmax					
	comp=Z,83nm,0.9s										
VSU	**Vasula**	**69.39**	**329**	P		**P**		**17**	**53**	**40.9**	**+0.8**
VSU					pmax	pmax					
	comp=Z,120nm,1.4s										
GOF	**Gofitskoye**	**69.40**	**312⇓**	*i*P		**P**		**17**	**53**	**40.4**	**-0.1**
GOF					pmax	pmax					
	comp=Z,70nm,0.9s										
N02D	**Trinity Center**	**69.58**	**54**	P		**P**		**17**	**53**	**44.1**	**+2.4**
	baz=304										
M04C	**Macdoel**	**69.68**	**52**	P		**P**		**17**	**53**	**44.4**	**+2.0**
	baz=304										
O02D	**Mt. Diablo Mer**	**69.97**	**54**	P		**P**		**17**	**53**	**45.9**	**+1.8**
	baz=304										
STKA	**Stephens Creek**	**70.01**	**180**	P		**P**		**17**	**53**	**44.5**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=344,slow=8.2,SNR=4.8										
STKA					LR	LR		18	22	24.3	
	comp=Z,62nm,21.8s,baz=24,slow=34										
STKA	**Stephens Creek**	**70.01**	**180**	*e*P		**P**		**17**	**53**	**44.7**	**+0.6**
	comp=Z,5.0nm,1.7s										
STKA				*e*				18	22	24.3	
STKA	**Stephens Creek**	**70.01**	**180**	*e*P		**P**		**17**	**53**	**44.7**	**+0.6**
STKA					pmax	pmax					
	comp=Z,5.0nm,1.7s										
ZEI	**Tsey**	**70.16**	**309**	*e*P		**P**		**17**	**53**	**42.3**	**-3.1**
ZEI					pmax	pmax					
	comp=Z,11nm,0.9s										
KIV	**Kislovodsk**	**70.23**	**311**	*e*P		**P**		**17**	**53**	**45.9**	**+0.2**
	comp=Z,72nm,0.9s										
KIV	**Kislovodsk**	**70.23**	**311**	P		**P**		**17**	**53**	**46.9**	**+1.2**
	SNR=16										
KIV	**Kislovodsk**	**70.23**	**311**	*i* P		**P**		**17**	**53**	**46.0**	**+0.3**
	SNR=23										
KIV	**Kislovodsk**	**70.23**	**311**	*e*P		**P**		**17**	**53**	**45.5**	**-0.2**
KIV					pmax	pmax					
	comp=Z,92nm,1.1s										
KIV					MLR	MLR					
	comp=Z,104nm,18.0s										
KBZ	**Khabaz**	**70.24**	**310**	P		**P**		**17**	**53**	**45.8**	**+0.2**
	comp=Z,24nm,0.9s,baz=33,slow=3.0,SNR=33										
KBZ					LR	LR		18	27	35.8	
	comp=Z,147nm,18.9s,baz=46,slow=38										
TBLG	**Delisi**	**70.24**	**308**	*e*P		**P**		**17**	**53**	**45.6**	**-0.1**
TBLG	**Delisi**	**70.24**	**308**	*e*P		**P**		**17**	**53**	**45.6**	**-0.1**
O03E	**Paynes Creek**	**70.53**	**54**	P		**P**		**17**	**53**	**48.9**	**+1.3**
	baz=304										
NEY	**Neytrino**	**70.61**	**310**	*i* P		**P**		**17**	**53**	**48.5**	**+0.3**
NEY					pmax	pmax					
	comp=Z,3.0nm,0.9s										
BMO	**Blue Mountains**	**70.67**	**48**	*e*P		**P**		**17**	**53**	**50.1**	**+1.8**
	comp=Z,8.8nm,1.1s										
BMO	**Blue Mountains**	**70.67**	**48**	*e*P		**P**		**17**	**53**	**50.1**	**+1.8**
BMO					pmax	pmax					
	comp=Z,9.0nm,1.1s										
JTMT	**Jette**	**70.68**	**44**	*e*P		**P**		**17**	**53**	**49.8**	**+1.4**
	comp=Z,14nm,0.9s										
SCO	**Scoresbysund**	**70.70**	**354**	*i* P		**P**		**17**	**53**	**47.3**	**-0.6**
	comp=Z,29nm,1.3s										
SCO	**Scoresbysund**	**70.70**	**354**	*i* P		**P**		**17**	**53**	**47.3**	**-0.6**
SCO					pmax	pmax					
	comp=Z,29nm,1.3s										
J08A	**Circle Bar Ran**	**70.84**	**50**	*e*P		**P**		**17**	**53**	**51.3**	**+1.8**
	comp=Z,11nm,1.1s										
GNI	**Garni**	**71.14**	**307**	*e*P		**P**		**17**	**53**	**52.4**	**+1.0**
	comp=Z,44nm,1.5s										
GNI	**Garni**	**71.14**	**307**	P		**P**		**17**	**53**	**52.2**	**+0.9**
GNI	**Garni**	**71.14**	**307**	*i* P		**P**		**17**	**53**	**51.8**	**+0.4**
GNI					pmax	pmax					
	comp=Z,51nm,1.3s										
SHME	**Shamm**	**71.15**	**289**	P		**P**		**17**	**53**	**51.5**	**0.0**
AKH	**Akhalkalaki**	**71.20**	**308**	*e*P		**P**		**17**	**53**	**51.3**	**-0.4**
	comp=Z,11nm,1.0s										
AKH	**Akhalkalaki**	**71.20**	**308⇑**	*i*P		**P**		**17**	**53**	**51.3**	**-0.4**
AKH	**Akhalkalaki**	**71.20**	**308**	*e*P		**P**		**17**	**53**	**51.3**	**-0.4**
AKH					pmax	pmax					
	comp=Z,11nm,1.0s										
MSO	**Missoula**	**71.42**	**45**	P		**P**		**17**	**53**	**54.1**	**+1.3**
	baz=307										
MDH	**Madha**	**71.45**	**288**	P		**P**		**17**	**53**	**53.8**	**+0.5**
MSFE	**Esma-Masafi**	**71.52**	**288**	P		**P**		**17**	**53**	**53.6**	**-0.1**
BEKR	**Beckworth**	**71.69**	**53**	*e*P		**P**		**17**	**53**	**56.0**	**+1.3**
	comp=Z,54nm,0.7s										
NACGM	**Naroch**	**71.71**	**327**	*e*		**P**		**17**	**53**	**54.0**	**-0.3**
UOSS	**Minazif**	**71.72**	**288**	*e*P		**P**		**17**	**53**	**54.9**	**0.0**
	comp=Z,14nm,1.0s										
UOSS	**Minazif**	**71.72**	**288**	P		**P**		**17**	**53**	**55.3**	**+0.4**
	SNR=5.2										
UOSS	**Minazif**	**71.72**	**288**	P		**P**		**17**	**53**	**54.9**	**0.0**
HATD	**Hatta, Dubai**	**71.84**	**288**	P		**P**		**17**	**53**	**56.2**	**+0.5**
	SNR=7.0										
HATD	**Hatta, Dubai**	**71.84**	**288**	*i* P		**P**		**17**	**53**	**55.4**	**-0.3**
	SNR=7.0										
ASHO	**Ashiyiah**	**71.98**	**287**	*i* P		**P**		**17**	**53**	**56.8**	**+0.3**
	SNR=6.4										
FFC	**Flin Flon**	**72.28**	**33**	*e*P		**P**		**17**	**53**	**58.6**	**+0.8**
	comp=Z,19nm,1.0s										
FFC	**Flin Flon**	**72.28**	**33**	*e*P		**P**		**17**	**53**	**58.6**	**+0.8**
FFC					pmax	pmax					
	comp=Z,19nm,1.0s										
HRY	**Holter Researc**	**72.64**	**44**	*e*P		**P**		**17**	**54**	**01.8**	**+1.6**
CMB	**Columbia Colle**	**72.72**	**55**	*e*P		**P**		**17**	**54**	**02.6**	**+1.8**
	comp=Z,8.0nm,1.0s										
NC405	**NORSAR Array S**	**72.78**	**337**	*e*P		**P**		**17**	**54**	**00.9**	**+0.3**
NC303	**NORSAR Array S**	**72.79**	**337**	*e*P		**P**		**17**	**54**	**01.0**	**+0.3**
LRM	**Limekiln Ridge**	**72.85**	**45**	*e*P		**P**		**17**	**54**	**03.0**	**+1.3**
EGMT	**Eagleton**	**72.93**	**42**	*e*P		**P**		**17**	**54**	**03.0**	**+1.1**
	comp=Z,22nm,1.0s										
EGMT	**Eagleton**	**72.93**	**42**	P		**P**		**17**	**54**	**03.0**	**+1.1**
	baz=309										
NC204	**NORSAR Array S**	**72.94**	**338**	*e*P		**P**		**17**	**54**	**01.8**	**+0.1**
NB201	**NORSAR Array S**	**72.95**	**337**	*e*P		**P**		**17**	**54**	**01.4**	**-0.3**
NB2	**NORSAR Subarra**	**72.98**	**337**	P		**P**		**17**	**54**	**01.4**	**-0.5**
	comp=Z,39nm,1.0s,baz=37,slow=6.2										
NB2	**NORSAR Subarra**	**72.98**	**337**	P		**P**		**17**	**53**	**58.7**	**-3.2**
NB2					pmax	pmax					
	comp=Z,39nm,1.0s										
NB2	**NORSAR Subarra**	**72.98**	**337**	P		**P**		**17**	**54**	**01.4**	**-0.5**
	baz=37,slow=6.2										
NB200	**NORSAR Array S**	**72.98**	**337**	*e*P		**P**		**17**	**54**	**01.7**	**-0.2**
NB200				*e*				18	28	41.4	
NOA	**NORSAR Array B**	**72.98**	**337**	P		**P**		**17**	**54**	**01.7**	**-0.2**
	comp=Z,19nm,0.8s,baz=39,slow=5.9,SNR=42										
NOA					LR	LR		18	28	41.4	
	comp=Z,302nm,21.5s,baz=40,slow=38										
DLMT	**Dillon**	**73.05**	**45**	*e*P		**P**		**17**	**54**	**04.5**	**+1.8**
	comp=Z,8.6nm,0.9s										
HLID	**Hailey**	**73.11**	**48**	*e*P		**P**		**17**	**54**	**05.1**	**+1.9**
	comp=Z,5.3nm,1.0s										
HLID	**Hailey**	**73.11**	**48**	P		**P**		**17**	**54**	**04.2**	**+1.1**
	baz=307										
NBO00	**NORSAR Array S**	**73.12**	**337**	*e*P		**P**		**17**	**54**	**03.0**	**+0.3**
NORES	**NORESS Array B**	**73.12**	**337**	P		**P**		**17**	**54**	**03.3**	**+0.6**
NORES					pmax	pmax					
	comp=Z,1.0nm,0.3s										
NAO01	**NORSAR Array S**	**73.24**	**337**	*e*P		**P**		**17**	**54**	**03.0**	**-0.3**
BMN	**Battle Mountai**	**73.31**	**51**	*e*P		**P**		**17**	**54**	**06.1**	**+1.8**
	comp=Z,4.7nm,0.8s										
BMN	**Battle Mountai**	**73.31**	**51**	*e*P		**P**		**17**	**54**	**06.1**	**+1.8**
BMN					pmax	pmax	

MPU Maple Canyon 76.94 49 eP P 17 54 26.7 +1.4
comp=Z,12nm,1.1s
KWP Kalwaria Pacla 77.16 324 eP P 17 54 26.7 +0.6
KWP Kalwaria Pacla 77.16 324 eP P 17 54 26.7 +0.6
ILGA Ilgaz 77.26 313 eP P 17 54 28.0 +0.9
comp=Z,30nm,0.9s
MUD Monsted U'grnd 77.29 335 iP P 17 54 26.3 -0.3
comp=Z,41nm,1.1s
MUD Monsted U'grnd 77.29 335 iP P 17 54 26.3 -0.3
MUD pmax pmax
comp=Z,41nm,1.1s
BUR08 Bucovina Ar. S 77.39 322 eP P 17 54 27.7 +0.2
BUR04 Bucovina Ar. S 77.40 322 eP P 17 54 27.6 0.0
BURAR Bucovina Array 77.40 322⇑iP P 17 54 28.0 +0.3
BURAR Bucovina Array 77.40 322 P P 17 54 27.9 +0.3
BIZ Bicaz 77.43 321⇑iP P 17 54 28.2 +0.5
TMUT Trail Mountain 77.65 49 eP P 17 54 31.1 +1.7
comp=Z,5.8nm,1.1s
GMRC Granite Mounta 77.72 55 P P 17 54 31.3 +1.7
baz=309
P17A Butcher Ranch, 77.81 49 eP P 17 54 31.8 +1.7
comp=Z,12nm,1.0s
VRI Vrincioaia 77.86 320⇑iP P 17 54 30.4 +0.3
VRI Vrincioaia 77.86 320 P P 17 54 30.3 +0.2
LCMT Little Creek M 77.86 52 eP P 17 54 32.6 +2.2
comp=Z,5.5nm,1.0s
MTPU Mount Pierson 77.86 51 eP P 17 54 32.5 +1.8
comp=Z,7.4nm,1.1s
PLOR Plostina 77.91 320⇑iP P 17 54 30.6 +0.2
PLOR Plostina 77.91 320 P P 17 54 30.5 +0.2
P18A Preston Nutter 78.01 49 eP P 17 54 33.0 +1.6
comp=Z,6.7nm,0.9s
OJC Ojcow 78.03 326 eP P 17 54 31.3 +0.3
OJC Ojcow 78.03 326 eP P 17 54 30.5 -0.5
comp=Z,36nm,1.0s
OJC Ojcow 78.03 326 eP P 17 54 31.3 +0.3
UZH Uzhgorod 78.07 324⇑iP P 17 54 31.9 +0.8
UZH i 17 54 50.2
ULM Lac du Bonnet 78.08 34 P P 17 54 31.4 +0.2
comp=Z,6.5nm,0.9s,baz=308,slow=9.3,SNR=4.7
KNB Kanab 78.12 52 eP P 17 54 33.9 +2.0
comp=Z,11nm,1.2s
KNB Kanab 78.12 52 P P 17 54 34.4 +2.5
KNB pmax pmax
comp=Z,11nm,1.2s
MFTR Murfatlar 78.13 318⇑iP P 17 54 31.9 +0.3
BR101 Keskin Array S 78.16 312 eP P 17 54 31.6 -0.5
BR101 ePP PP 17 57 28.1 -0.4
BR101 e 18 33 44.8
BR131 Keskin Array S 78.16 312 eP P 17 54 31.9 -0.1
BR131 Keskin Array S 78.16 312 P P 17 54 31.9 -0.1
SNR=5.0
BRTR Keskin Array B 78.16 312 P P 17 54 31.6 -0.5
comp=Z,2.6nm,0.4s,baz=108,slow=4.0,SNR=28
BRTR PP PP 17 57 28.1 -0.4
comp=Z,2.8nm,1.1s,baz=54,slow=7.3,SNR=4.9
BRTR LR LR 18 33 44.8
comp=Z,63nm,20.4s,baz=46,slow=39
BRTR Keskin Array B 78.16 312 iP P 17 54 32.0 -0.1
BRTR pmax pmax
comp=Z,3.0nm,0.4s
SRU San Rafael Swe 78.17 49 eP P 17 54 33.5 +1.3
comp=Z,9.7nm,0.8s
SRU San Rafael Swe 78.17 49 eP P 17 54 33.5 +1.3
SRU pmax pmax
comp=Z,10.0nm,0.8s
ARCR ARCALIA 78.19 322⇑iP P 17 54 32.6 +0.7
TRPA Tarpa 78.31 323⇑iP P 17 54 33.4 +0.9
TRPA Tarpa 78.31 323⇑eP P 17 54 32.7 +0.2
TRPA Tarpa 78.31 323⇑eP P 17 54 32.7 +0.2
NIE Niedzica 78.40 325 eP P 17 54 33.7 +0.6
NIE Niedzica 78.40 325 eP P 17 54 33.7 +0.6
IRM Iron Mountain 78.44 56 P P 17 54 34.0 +0.5
baz=309
DOPR Dopca 78.46 320⇑iP P 17 54 34.4 +1.0
ISR Istrita 78.47 319⇑iP P 17 54 34.2 +0.7
ISR Istrita 78.47 319 P P 17 54 35.2 +1.7
ISR pmax pmax
comp=Z,44nm,1.4s
RSSD Black Hills 78.50 42 eP P 17 54 34.0 0.0
comp=Z,6.6nm,1.0s
RSSD Black Hills 78.50 42 eP P 17 54 34.0 0.0
RSSD pmax pmax
comp=Z,7.0nm,1.0s
RSSD Black Hills 78.50 42 P P 17 54 33.9 0.0
baz=313
MLR Muntele Rosu 78.51 320 eP P 17 54 34.7 +0.9
comp=Z,35nm,1.5s
MLR Muntele Rosu 78.51 320⇑iP P 17 54 33.7 -0.2
MLR Muntele Rosu 78.51 320 P P 17 54 35.7 +1.8
MLR pmax pmax
comp=Z,14nm,1.4s
BC3 Big Chuckawall 78.55 56 P P 17 54 35.7 +1.4
baz=309
ANTO Ankara 78.56 312 eP P 17 54 34.4 +0.2
comp=Z,20nm,0.8s
ANTO Ankara 78.56 312⇑iP P 17 54 33.9 -0.3
ANTO Ankara 78.56 312 P P 17 54 34.9 +0.7
ANTO pmax pmax
comp=Z,27nm,1.0s
CJR Cluj-Napoca 78.82 322⇑iP P 17 54 36.4 +1.0
CJR Cluj-Napoca 78.82 322 P P 17 54 36.4 +1.0
O20A White River Ci 78.84 47 eP P 17 54 37.4 +1.5
comp=Z,9.9nm,1.0s
O20A White River Ci 78.84 47 P P 17 54 36.4 +0.5
baz=311
LANS Liptovska Anna 78.97 326 eP P 17 54 37.1 +0.9
LANS Liptovska Anna 78.97 326 eP P 17 54 37.1 +0.9
PDMCI Parker Dam,Lak 79.00 55 P P 17 54 37.9 +1.4
baz=309
VOIR 79.00 320⇓iP P 17 54 37.2 +0.8
VOIR 79.00 320 P P 17 54 37.3 +0.8
VOIR pmax pmax
comp=Z,10.0nm,1.4s
KECS Kecovo 79.00 325 eP P 17 54 35.1 -1.2
KECS pmax pmax
comp=Z,13nm,1.0s
KECS Kecovo 79.00 325 eP P 17 54 35.1 -1.2
KSP Ksiaz 79.06 328 eP P 17 54 37.0 +0.4
KSP Ksiaz 79.06 328 eP P 17 54 37.0 +0.4
Y12C Blythe 79.10 56 P P 17 54 38.2 +1.1
baz=309
DRGR 79.19 322⇑iP P 17 54 37.5 0.0
DRGR 79.19 322 P P 17 54 37.9 +0.4
DRGR pmax pmax
comp=Z,21nm,2.6s
ARR Arges 79.26 320⇑iP P 17 54 38.9 +1.0
MORC Moravsky Berou 79.34 327 eP P 17 54 38.6 +0.4
comp=Z,23nm,1.0s
MORC Moravsky Berou 79.34 327⇓iP P 17 54 39.0 +0.8
MORC Moravsky Berou 79.34 327 eP P 17 54 38.6 +0.4
MORC pmax pmax
comp=Z,23nm,1.0s
MORC Moravsky Berou 79.34 327 eP P 17 54 38.6 +0.4
GLA Glamis 79.34 56 P P 17 54 40.0 +1.5
baz=309
PV09 Paradox Valley 79.40 49 eP P 17 54 41.0 +1.9
DPC Dobruska-Polom 79.42 328 eP P 17 54 39.6 +1.0
DPC ex x 17 54 53.3
DPC Dobruska-Polom 79.42 328 eP P 17 54 39.6 +1.0
DPC e 17 54 53.3
UPC Upice 79.43 328 eP P 17 54 39.1 +0.5
UPC Upice 79.43 328 eP P 17 54 39.1 +0.5
KRLC Kraliky 79.44 328 eP P 17 54 39.5 +0.8
KRLC ex x 17 54 49.6
KRLC Kraliky 79.44 328 eP P 17 54 39.5 +0.8
KRLC e 17 54 49.6
PV21 Cone Mtn., Par 79.45 49 eP P 17 54 40.2 +0.9
comp=Z,12nm,0.8s
PV23 Carpenter Ridg 79.50 49 eP P 17 54 40.9 +1.3
comp=Z,14nm,0.9s
AGMN Agassiz Nation 79.53 35 P P 17 54 39.5 +0.3
baz=318
PV10 Paradox Valley 79.53 49 eP P 17 54 41.9 +2.1
PV22 Blue Mesa, Par 79.58 49 eP P 17 54 41.2 +1.3
comp=Z,9.8nm,0.9s
PV20 West Nyswonger 79.60 49 eP P 17 54 41.5 +1.5
comp=Z,17nm,0.9s
PV19 Morning Glory 79.61 49 eP P 17 54 41.7 +1.5
comp=Z,15nm,1.0s
LOT Lotru 79.63 321⇑iP P 17 54 40.1 +0.1
PV17 East Wray Mesa 79.64 49 eP P 17 54 41.8 +1.5
comp=Z,17nm,0.8s
N23A Red Feather La 79.64 46 P P 17 54 41.3 +1.0
baz=313

PV16 Nyswonger Mesa 79.65 49 eP P 17 54 42.2 +1.9
comp=Z,10nm,1.0s
PV11 David Mesa, Pa 79.68 49 eP P 17 54 41.6 +1.1
comp=Z,12nm,0.8s
PSZ Piszkesteto 79.69 325 eP P 17 54 40.6 +0.4
comp=Z,33nm,1.2s
PSZ Piszkesteto 79.69 325⇑iP P 17 54 40.7 +0.5
PSZ Piszkesteto 79.69 325⇑eP P 17 54 40.6 +0.4
PSZ Piszkesteto 79.69 325⇑eP P 17 54 40.6 +0.4
PSZ Piszkesteto 79.69 325 eP P 17 54 40.6 +0.4
PSZ pmax pmax
comp=Z,33nm,1.2s
PV05 Paradox Valley 79.69 49 eP P 17 54 42.5 +1.9
PV18 Skein Mesa, Pa 79.70 49 eP P 17 54 41.9 +1.3
comp=Z,8.1nm,0.9s
PV12 Saucer Basin, 79.71 49 eP P 17 54 42.5 +1.9
comp=Z,9.5nm,1.0s
PV03 Paradox Valley 79.73 49 eP P 17 54 42.5 +1.7
VYHS Vyhne 79.73 325 eP P 17 54 40.7 +0.4
VYHS pmax pmax
comp=Z,8.0nm,1.1s
VYHS Vyhne 79.73 325 eP P 17 54 40.7 +0.4
VYHS ePP PP 17 57 37.1 -4.0
PV13 Radium Mtn., P 79.81 49 eP P 17 54 42.7 +1.5
comp=Z,14nm,1.0s
PV02 Paradox Valley 79.82 49 eP P 17 54 42.5 +1.2
comp=Z,9.0nm,1.1s
PV01 Paradox Valley 79.97 49 eP P 17 54 43.8 +1.7
WUAZ Wupatki 79.97 52 eP P 17 54 44.2 +2.2
comp=Z,7.4nm,0.9s
WUAZ Wupatki 79.97 52 P P 17 54 43.9 +1.8
baz=310
JAVC Velka Javorina 79.97 326 eP P 17 54 42.9 +1.2
BRG Berggiesshubel 79.99 330 eP P 17 54 41.5 -0.1
comp=Z,13nm,1.0s
BRG e 17 55 02.0
comp=Z,7.2nm,1.2s
BRG Berggiesshubel 79.99 330 P P 17 54 41.9 +0.3
BRG pmax pmax
comp=Z,17nm,1.0s
PVCC Panska Ves 80.00 329 eP P 17 54 42.9 +1.2
PVCC Panska Ves 80.00 329 eP P 17 54 42.9 +1.2
CLL Collm 80.02 330 eP P 17 54 41.1 -0.6
comp=Z,30nm,1.0s
CLL Collm 80.02 330⇑iP P 17 54 41.1 -0.6
comp=Z,32nm,1.0s
CLL e(sP) sP 17 55 00.0 +1.0
CLL e 17 57 33.0
CLL Lm MLR 18 33 00.0
comp=N,200nm,19.0s
CLL Lm MLR 18 33 00.0
comp=E,100nm,20.9s
CLL Lm MLR 18 33 00.0
comp=Z,200nm,19.4s
CLL Collm 80.02 330 eP P 17 54 41.2 -0.6
CLL pmax pmax
comp=Z,30nm,1.0s
SIRR Siria 80.07 323⇑iP P 17 54 42.5 +0.3
VRAC Vranov 80.10 327⇓iP P 17 54 43.2 +0.9
VRAC Vranov 80.10 327 P P 17 54 42.9 +0.6
VRAC Vranov 80.10 327 eP P 17 54 42.6 +0.3
SMOL Smolenice 80.34 326 P P 17 54 45.3 +1.7
SMOL pmax pmax
comp=Z,21nm,0.7s
VLAD Vladila 80.34 319⇑iP P 17 54 43.1 -0.6
KRUC Moravsky 80.37 327 P P 17 54 44.1 +0.4
KRUC pmax pmax
comp=Z,24nm,1.1s
KRUC Moravsky 80.37 327 eP P 17 54 44.1 +0.4
GOPC GO Pecny, Ondr 80.39 328 eP P 17 54 44.1 +0.2
GOPC ePCP PcP 17 54 48.6 -2.2
GOPC GO Pecny, Ondr 80.39 328 eP P 17 54 44.1 +0.2
RAYN Ar Rayn 80.45 292 eP P 17 54 44.2 -0.4
comp=Z,24nm,1.2s
RAYN Ar Rayn 80.45 292 iP P 17 54 43.7 -1.0
SNR=21
RAYN Ar Rayn 80.45 292 eP P 17 54 44.2 -0.4
RAYN pmax pmax
comp=Z,24nm,1.2s
MODS Modra-Piesok 80.51 326 eP P 17 54 44.1 -0.4
MODS pmax pmax
comp=Z,23nm,1.3s
MODS Modra-Piesok 80.51 326 eP P 17 54 44.1 -0.4
BZS Buzias 80.56 322⇑iP P 17 54 44.6 -0.2
ISCO Idaho Springs 80.57 46 P P 17 54 45.9 +0.5
baz=313
TREC Trest 80.58 328 eP P 17 54 45.8 +0.9
TREC Trest 80.58 328 eP P 17 54 45.8 +0.9
MVCO Mesa Verde 80.62 50 eP P 17 54 47.9 +2.2
comp=Z,12nm,1.3s
MVCO Mesa Verde 80.62 50 P P 17 54 46.4 +0.8
baz=312
SUSD Miller 80.87 39 P P 17 54 47.7 +1.2
baz=316
MOX Moxa 81.08 331 P P 17 54 48.0 +0.5
MOX pmax pmax
comp=Z,20nm,2.1s
NKC Novy Kostel 81.08 330 eP P 17 54 48.2 +0.7
NKC Novy Kostel 81.08 330 eP P 17 54 48.2 +0.7
S22A 4UR Ranch, Cre 81.25 48 eP P 17 54 50.7 +1.6
comp=Z,5.2nm,1.0s
S22A 4UR Ranch, Cre 81.25 48 P P 17 54 50.6 +1.6
baz=312
214A Organ Pipe Nat 81.35 56 P P 17 54 50.8 +1.5
baz=310
SOP Sopron 81.35 326⇑eP P 17 54 49.7 +0.7
SOP Sopron 81.35 326⇑eP P 17 54 49.7 +0.7
SOP Sopron 81.35 326 P P 17 54 50.1 +1.1
SOP pmax pmax
comp=Z,26nm,1.1s
Q24A Divide 81.40 47 P P 17 54 51.1 +1.2
baz=313
CSS Mathiatis 81.46 308 eP P 17 54 49.8 0.0
comp=Z,11nm,1.0s
CONA Conrad Observa 81.47 327 iP P 17 54 50.4 +0.7
comp=Z,16nm,1.0s,SNR=11
KHC Kasperske Hory 81.49 329 eP P 17 54 50.1 +0.3
comp=Z,8.9nm,1.0s
KHC Kasperske Hory 81.49 329 eP P 17 54 50.0 +0.2
KHC ePCP PcP 17 54 54.2 -1.5
KHC Kasperske Hory 81.49 329 eP P 17 54 50.1 +0.3
KHC pmax pmax
comp=Z,9.0nm,1.0s
MORH M˝ţr¡gy, Hung 81.52 324⇑eP P 17 54 49.2 -0.7
MORH M˝ţr¡gy, Hung 81.52 324⇑eP P 17 54 49.2 -0.7
MORH M˝ţr¡gy, Hung 81.52 324⇑iP P 17 54 49.2 -0.7
GEC2 GERESS Array S 81.67 328 eP P 17 54 50.8 0.0
comp=Z,18nm,1.2s
GEC2 GERESS Array S 81.67 328 eP P 17 54 50.8 0.0
GEC2 pmax pmax
comp=Z,18nm,1.2s
GERES GERESS Array B 81.67 328 P P 17 54 50.3 -0.5
comp=Z,10nm,1.0s,baz=35,slow=4.9,SNR=31
GERES PP PP 17 57 53.4 -3.7
comp=Z,0.5nm,0.6s,baz=50,slow=7.9,SNR=4.0
GERES LR LR 18 33 13.8
comp=Z,269nm,21.6s,baz=38,slow=37
GEA0 GERESS Array S 81.67 328 eP P 17 54 50.5 -0.3
EYMN Ely 81.71 33 eP P 17 54 51.2 +0.2
comp=Z,24nm,1.3s
EYMN Ely 81.71 33 P P 17 54 51.1 +0.2
baz=321
FRGS Fruska Gora 81.77 323⇑iP P 17 54 51.0 -0.3
WET Wettzell 81.77 329 P P 17 54 51.8 +0.6
WET pmax pmax
comp=Z,15nm,1.1s
VTS Vitosha 81.96 319 eP P 17 54 52.3 -0.2
comp=Z,18nm,0.9s
VTS Vitosha 81.96 319⇑iP P 17 54 52.7 +0.2
VTS Vitosha 81.96 319 eP P 17 54 52.3 -0.2
VTS pmax pmax
comp=Z,18nm,0.9s
GRF Grafenberg Arr 81.99 330 P P 17 54 53.3 +0.9
GRF pmax pmax
comp=Z,46nm,1.5s
GRFO Grafenberg 81.99 330 eP P 17 54 52.9 +0.5
comp=Z,43nm,1.1s
GRFO Grafenberg 81.99 330 eP P 17 54 52.9 +0.5
GRFO pmax pmax
comp=Z,43nm,1.1s
SDCO Great Sand Dun 82.03 48 eP P 17 54 54.8 +1.6
comp=Z,14nm,1.8s
SDCO Great Sand Dun 82.03 48 P P 17 54 54.7 +1.6
baz=313
ARSA Arzberg 82.13 326 iP P 17 54 53.6 +0.4

comp=Z,9.4nm,0.9s
MOA Molln 82.21 327 iPcP P 17 54 55.1 +1.5
comp=Z,15nm,1.2s
TUC Tucson 82.43 55 P P 17 54 56.2 +1.1
TUC Tucson 82.43 55 P P 17 54 56.6 +1.5
baz=311
DIVS Divibare 82.46 322 eP P 17 54 54.7 -0.3
comp=Z,21nm,1.3s
DIVS Divibare 82.46 322⇑iP P 17 54 54.6 -0.4
ECSD EROS Data Cent 82.54 39 eP P 17 54 56.0 +0.6
comp=Z,9.8nm,1.0s
ECSD EROS Data Cent 82.54 39 P P 17 54 55.9 +0.6
baz=318
TNS Taunus Mts 82.62 332 P P 17 54 56.6 +0.9
E38A The Farm, Brul 82.72 34 eP P 17 54 55.7 -0.5
comp=Z,15nm,1.1s
E38A The Farm, Brul 82.72 34 P P 17 54 55.7 -0.5
baz=321
GROS Grobnik 82.75 326 iP P 17 54 56.2 -0.3
GROS Grobnik 82.75 326 iP P 17 54 56.2 -0.3
SOKA Soboth 82.79 326 iP P 17 54 56.8 +0.1
comp=Z,40nm,1.1s,SNR=16
BBLS Lazići 82.92 322⇑iP P 17 54 57.6 +0.2
HAPS Han Pijesak,Bl 82.97 322⇑iP P 17 54 57.2 -0.5
F38A Pierce - Schro 83.08 35 P P 17 54 58.8 +0.7
baz=321
T25A Trinidad 83.08 47 eP P 17 54 58.7 +0.2
comp=Z,44nm,2.0s
T25A Trinidad 83.08 47 P P 17 54 59.2 +0.7
baz=314
OBKA Obir 83.13 326 iP P 17 54 58.1 -0.4
comp=Z,7.1nm,0.9s
KNT Kendrikon 83.15 318 P P 17 55 00.9 +2.4
KNT pmax pmax
comp=Z,12nm,1.2s
MEM Membach 83.17 333 P P 17 54 59.0 +0.5
MEM pmax pmax
comp=Z,30nm,1.1s
MEM Membach 83.17 333⇓P P 17 54 58.5 +0.1
comp=Z,21nm,1.1s
FUR Furstenfeldbru 83.19 329 P P 17 54 59.8 +1.1
FUR pmax pmax
comp=Z,51nm,0.9s
KBA Koelnbreinsper 83.20 327 iPcP P 17 54 60.0 +1.0
comp=Z,14nm,0.7s
KBA Koelnbreinsper 83.20 327 P P 17 55 00.1 +1.2
KBA pmax pmax
comp=Z,21nm,1.0s
CRES Cresnjev 83.26 325⇑iP P 17 54 57.9 -1.1
PDKS Podkum 83.28 326 iP P 17 54 58.6 -0.6
PDKS Podkum 83.28 326 iP P 17 54 58.6 -0.6
E39A Mellen 83.33 34 P P 17 54 59.4 0.0
baz=322
ANMO Albuquerque 83.36 50 eP P 17 55 02.1 +2.1
comp=Z,4.5nm,1.0s
ANMO Albuquerque 83.36 50 eP P 17 55 02.1 +2.1
ANMO pmax pmax
comp=Z,5.0nm,1.0s
ANMO Albuquerque 83.36 50 P P 17 55 01.6 +1.6
baz=313
MYKA Terra Mystica 83.43 327 iP P 17 54 59.5 -0.5
comp=Z,11nm,0.8s,SNR=6.0
LJU Ljubljana 83.50 326 eP P 17 55 00.4 +0.1
F39A Loretta 83.53 34 P P 17 55 00.3 -0.1
baz=321
GRG Griva 83.55 318 P P 17 55 01.3 +0.6
E40A Wakefield 83.56 33 P P 17 55 00.7 +0.2
baz=322
BCLA Clavier 83.58 334 ⇑P P 17 55 00.2 -0.4
comp=Z,14nm,1.2s
UPM Unac-Piva 83.66 322⇑iP P 17 55 00.6 -0.7
WATA Walderalm 83.73 329 iP P 17 55 01.3 -0.3
comp=Z,3.4nm,0.6s
WTTA Wattenberg 83.77 328 iP P 17 55 01.8 0.0
comp=Z,8.0nm,0.9s
CEY Cerknica 83.78 326⇑iP P 17 55 01.0 -0.8
ABTA Abfaltersbach 83.81 328 iP P 17 55 01.0 -0.9
comp=Z,14nm,1.1s
JAVS Javornik 83.82 326 iP P 17 55 00.8 -1.2
JAVS Javornik 83.82 326 iP P 17 55 00.8 -1.2
SCHQ Schefferville 83.83 16 P P 17 55 02.2 +0.4
comp=Z,6.3nm,0.8s,baz=260,slow=12,SNR=3.0
F40A Park Falls 83.88 34 P P 17 55 01.9 -0.3
baz=322
G39A Holcombe 83.91 35 P P 17 55 02.3 -0.1
baz=321
MOTA Moosalm 83.92 329 iP P 17 55 02.4 -0.1
comp=Z,35nm,1.2s,SNR=12
RETA Reutte 83.94 329 iP P 17 55 02.7 +0.1
comp=Z,42nm,1.2s,SNR=20
E41A Kenton 83.95 33 P P 17 55 02.4 -0.1
baz=322
SQTA Sankt Quirin 83.98 329 iP P 17 55 01.6 -1.2
comp=Z,14nm,0.9s,SNR=5.8
BRY Bratogost 84.06 322⇑iP P 17 55 02.4 -0.9
PDG Podgorica 84.06 321⇓iP P 17 55 03.3 +0.1
PDG Podgorica 84.06 321⇑iP P 17 55 02.8 -0.4
TTG Podgorica 84.06 321 eP P 17 55 02.6 -0.5
comp=Z,35nm,0.9s
TTG Podgorica 84.06 321 eP P 17 55 02.6 -0.5
TTG pmax pmax
comp=Z,35nm,0.9s
DOU Dourbes 84.10 334 ⇑P P 17 55 02.7 -0.5
121A Cookes Peak, D 84.18 53 P P 17 55 05.1 +0.9
baz=312
FNA Florina 84.21 319 eP P 17 55 04.2 +0.2
comp=Z,19nm,1.2s
FNA Florina 84.21 319 P P 17 55 04.4 +0.3
FNA pmax pmax
comp=Z,16nm,2.9s
BFO Black Forest 84.21 331 eP P 17 55 03.8 -0.1
comp=Z,36nm,1.0s
BFO Black Forest 84.21 331 iP P 17 55 04.1 +0.2
BAIF Baives 84.26 334 eP P 17 55 04.5 +0.5
BAIF pmax pmax
comp=Z,21nm,1.2s
DRME Dracevica, Mon 84.28 321⇑iP P 17 55 03.6 -0.7
FETA Feichten 84.33 329 iP P 17 55 04.7 0.0
comp=Z,23nm,1.1s,SNR=9.8
H39A Augusta 84.33 35 P P 17 55 02.9 -1.6
baz=321
G40A Rib Lake 84.35 34 P P 17 55 04.2 -0.4
baz=322
E42A Champion 84.41 32 P P 17 55 04.3 -0.6
baz=323
HCY Herceg Novi 84.42 322 eP P 17 55 04.7 -0.3
PMOR Pomariorio Ree 84.43 114 eT T 19 28 05.8
comp=Z,73nm,0.2s
DAVA Damuels 84.46 329 iP P 17 55 05.3 0.0
comp=Z,47nm,1.1s,SNR=13
F41A Three Lakes 84.46 33 eP P 17 55 05.6 +0.4
comp=Z,16nm,1.1s
F41A Three Lakes 84.46 33 P P 17 55 05.5 +0.3
baz=322
CDF Champ du Feu 84.54 332 eP P 17 55 05.1 -0.5
CDF pmax pmax
comp=Z,34nm,1.1s
ECH Echery 84.75 331 eP P 17 55 06.6 0.0
comp=Z,25nm,1.0s
ECH Echery 84.75 331 eP P 17 55 06.6 0.0
ECH pmax pmax
comp=Z,25nm,1.0s
H40A Chili 84.78 35 P P 17 55 06.9 +0.2
baz=322
FUORN Ofenpass-Fuorn 84.84 329 eP P 17 55 07.6 +0.2
comp=Z,40nm,0.8s
I39A Houston 84.86 36 P P 17 55 07.0 -0.3
baz=321
PPT2 Papeete2 84.97 117 eLR LR 18 21 59.7
comp=Z,453nm,25.8s,baz=315
PPT2 Papeete2 84.97 117 eT T 19 28 47.5
comp=Z,18nm,0.3s
H41A Junction City 85.11 34 P P 17 55 09.2 +0.8
baz=322
TIAR Tiarei 85.11 117 eT T 19 28 57.1
comp=Z,6.0nm,0.2s
G42A Mountain 85.14 33 P P 17 55 08.9 +0.3
baz=323
J39A Decorah 85.18 36 P P 17 55 09.3 +0.5
baz=321
HINF Hinteralfeld 85.19 331 eP P 17 55 07.9 -1.0
HINF pmax pmax
comp=Z,21nm,1.2s
F43A Flat Rock, Esc 85.20 32 P P 17 55 08.6 -0.3
baz=324
HAU Haudompre 85.23 332 eP P 17 55 08.1 -0.9

HAU					pmax		pmax			
	comp=Z,18nm,0.9s									
I40A	**Norwalk**	**85.25**	**35**	P		**P**		**17 55 09.2**	**0.0**	
	baz=322									
TUE	**Stuetta**	**85.33**	**329**	*e*P		**P**		**17 55 09.6**	**-0.2**	
	comp=Z,18nm,1.0s									
J40A	**Soldiers Grove**	**85.58**	**36**	P		**P**		**17 55 10.7**	**-0.1**	
	baz=322									
K39A	**Oelwein**	**85.58**	**37**	P		**P**		**17 55 11.0**	**+0.2**	
	baz=321									
D47A	**Chapleau**	**85.82**	**29**	P		**P**		**17 55 11.3**	**-0.7**	
	baz=326									
J41A	**Loganville**	**85.93**	**35**	P		**P**		**17 55 12.9**	**+0.3**	
	baz=322									
K40A	**Colesburg**	**85.94**	**36**	P		**P**		**17 55 12.8**	**+0.2**	
	baz=321									
L39A	**Vinton**	**85.98**	**37**	P		**P**		**17 55 12.9**	**+0.1**	
	baz=321									
TAOE	**Nuku Hiva Isla**	**86.17**	**104**	*e*LR		LR		18 22 25.2		
	comp=Z,479nm,31.2s									
TAOE	**Nuku Hiva Isla**	**86.17**	**104**	*e*T		T		19 30 15.5		
	comp=Z,27nm,0.2s									
SENIN	**Lac Senin/Sane**	**86.23**	**330**	*e*P		**P**		**17 55 14.2**	**0.0**	
	comp=Z,9.3nm,0.8s									
F46A	**Macinaw City C**	**86.23**	**31**	P		**P**		**17 55 13.9**	**0.0**	
	baz=325									
MNTX	**Cornudas Mount**	**86.24**	**52**	P		**P**		**17 55 14.8**	**+0.5**	
	baz=314									
MSTX	**Muleshoe**	**86.24**	**49**	P		**P**		**17 55 15.4**	**+1.0**	
	baz=315									
E47A	**Iron Bridge**	**86.25**	**29**	P		**P**		**17 55 13.6**	**-0.5**	
	baz=326									
LSQQ	**Lebel-sur-Quev**	**86.28**	**24**	P		**P**		**17 55 14.0**	**-0.2**	
	baz=331									
J42A	**Columbus**	**86.37**	**35**	P		**P**		**17 55 15.1**	**+0.5**	
	baz=323									
L40A	**Anamosa**	**86.39**	**37**	P		**P**		**17 55 15.2**	**+0.3**	
	baz=321									
M39A	**Webster**	**86.39**	**38**	P		**P**		**17 55 15.7**	**+0.8**	
	baz=321									
CABF	**La Chapelle**	**86.49**	**331**	*e*P		**P**		**17 55 14.6**	**-0.8**	
CABF					pmax		pmax			
	comp=Z,13nm,1.1s									
ITM	**Ithomi**	**86.56**	**316**	*e*P		**P**		**17 55 15.2**	**-0.6**	
	comp=Z,22nm,0.9s									
J43A	**Natural Harves**	**86.63**	**34**	P		**P**		**17 55 16.0**	**0.0**	
	baz=323									
K42A	**Prairie Point,**	**86.69**	**35**	P		**P**		**17 55 16.2**	**-0.1**	
	baz=322									
N39A	**Derby Farms, D**	**86.70**	**38**	P		**P**		**17 55 17.2**	**+0.8**	
	baz=320									
L41A	**Preston**	**86.72**	**36**	P		**P**		**17 55 16.5**	**0.0**	
	baz=322									
AQU	**L'Aquila**	**86.90**	**324**	P		**P**		**17 55 17.8**	**+0.4**	
FLN	**La Foliniere**	**86.93**	**336**	*e*P		**P**		**17 55 16.8**	**-0.5**	
FLN					pmax		pmax			
	comp=Z,32nm,1.2s									
LDF	**La Druitiere**	**86.96**	**336**	*e*P		**P**		**17 55 16.0**	**-1.5**	
LDF					pmax		pmax			
	comp=Z,27nm,1.1s									
SSF	**Saint Saulge**	**87.06**	**333**	*e*P		**P**		**17 55 18.4**	**+0.4**	
SSF					pmax		pmax			
	comp=Z,24nm,1.1s									
G47A	**Hillman**	**87.09**	**30**	P		**P**		**17 55 18.0**	**-0.2**	
	baz=326									
N40A	**Mertquake, Sal**	**87.13**	**38**	P		**P**		**17 55 18.8**	**+0.4**	
	baz=321									
LPL	**La Plagne**	**87.16**	**330**	*e*P		**P**		**17 55 18.3**	**-0.5**	
LPL					pmax		pmax			
	comp=Z,19nm,1.0s									
D51A	**Lot 18 Range I**	**87.16**	**27**	P		**P**		**17 55 18.2**	**-0.3**	
	baz=329									
LPG	**La Plagne**	**87.16**	**330**	*e*P		**P**		**17 55 18.4**	**-0.5**	
LPG					pmax		pmax			
	comp=Z,22nm,1.1s									
M41A	**Milan**	**87.25**	**37**	P		**P**		**17 55 19.8**	**+0.8**	
	baz=322									
F49A	**Sandfield**	**87.31**	**29**	P		**P**		**17 55 19.4**	**+0.2**	
	baz=327									
AVF	**Avril sur Loir**	**87.34**	**333**	*e*P		**P**		**17 55 18.9**	**-0.5**	
AVF					pmax		pmax			
	comp=Z,41nm,1.0s									
GRR	**Gorron**	**87.38**	**336**	*e*P		**P**		**17 55 19.2**	**-0.3**	
GRR					pmax		pmax			
	comp=Z,33nm,1.1s									
N41A	**Harden Midland**	**87.62**	**37**	*e*P		**P**		**17 55 21.6**	**+0.8**	
	comp=Z,27nm,1.4s									
N41A	**Harden Midland**	**87.62**	**37**	P		**P**		**17 55 21.3**	**+0.5**	
	baz=322									
D53A	**Lac Vacive, Po**	**87.75**	**26**	P		**P**		**17 55 21.2**	**-0.2**	
	baz=330									
N42A	**Yates City**	**87.91**	**37**	P		**P**		**17 55 23.1**	**+0.9**	
	baz=322									
M43A	**Waltham Townsh**	**87.93**	**36**	P		**P**		**17 55 22.9**	**+0.6**	
	baz=323									
F51A	**Arnstein**	**87.96**	**28**	P		**P**		**17 55 22.2**	**-0.1**	
	baz=329									
I48A	**Sherman Twp**	**87.97**	**31**	P		**P**		**17 55 23.1**	**+0.7**	
	baz=326									
ORIF	**Oris-en-Rattie**	**87.99**	**330**	*e*P		**P**		**17 55 22.2**	**-0.4**	
ORIF					pmax		pmax			
	comp=Z,28nm,1.7s									
WMOK	**Wichita Mounta**	**87.99**	**46**	*e*P		**P**		**17 55 23.9**	**+1.1**	
	comp=Z,12nm,1.4s									
WMOK	**Wichita Mounta**	**87.99**	**46**	*e*P		**P**		**17 55 23.9**	**+1.1**	
WMOK					pmax		pmax			
	comp=Z,13nm,1.4s									
WMOK	**Wichita Mounta**	**87.99**	**46**	P		**P**		**17 55 23.7**	**+0.9**	
	baz=317									
D54A	**Lac Fusel, La**	**88.04**	**25**	P		**P**		**17 55 22.7**	**0.0**	
	baz=331									
O41A	**Passleys Farm,**	**88.07**	**38**	P		**P**		**17 55 23.6**	**+0.6**	
	baz=322									
TCF	**Toulx Ste Croi**	**88.18**	**333**	*e*P		**P**		**17 55 23.2**	**-0.2**	
TCF					pmax		pmax			
	comp=Z,27nm,1.5s									
F52A	**Sundridge**	**88.29**	**27**	P		**P**		**17 55 24.4**	**+0.4**	
	baz=329									
P41A	**Barry, Barry**	**88.33**	**38**	P		**P**		**17 55 24.7**	**+0.5**	
	baz=321									
M44A	**Midewin, Midew**	**88.39**	**35**	P		**P**		**17 55 25.0**	**+0.6**	
	baz=323									
E54A	**Lac Daplat, Po**	**88.49**	**26**	P		**P**		**17 55 24.4**	**-0.5**	
	baz=331									
J48A	**Bridge Port**	**88.67**	**31**	P		**P**		**17 55 26.9**	**+1.1**	
	baz=326									
P42A	**Winchester**	**88.74**	**38**	P		**P**		**17 55 27.1**	**+0.9**	
	baz=322									
Q41A	**Truxton**	**88.80**	**39**	P		**P**		**17 55 27.3**	**+0.8**	
	baz=321									
J49A	**Marlette**	**88.88**	**31**	P		**P**		**17 55 28.0**	**+1.3**	
	baz=326									
LTX	**Lajitas**	**88.94**	**53**	*e*P		**P**		**17 55 27.9**	**+0.5**	
LTX	**Lajitas**	**88.94**	**53**	*e*P		**P**		**17 55 27.9**	**+0.5**	
TX31	**Lajitas Ar. Si**	**88.94**	**53**	*e*P		**P**		**17 55 27.4**	**0.0**	
TXAR	**Lajitas Array**	**88.94**	**53**	P		**P**		**17 55 27.9**	**+0.5**	
	comp=Z,2.2nm,0.8s,baz=292,slow=3.4,SNR=28									
TBI	**Tubuai**	**88.96**	**121**	*e*LR		LR		18 23 21.4		
	comp=Z,190nm,26.2s,baz=310									
TBI	**Tubuai**	**88.96**	**121**	*e*T		T		19 33 46.4		
	comp=Z,162nm,0.3s									
R41A	**Rosebud**	**89.24**	**39**	P		**P**		**17 55 29.2**	**+0.6**	
	baz=321									
RJF	**Les Rejaudoux**	**89.27**	**333**	*e*P		**P**		**17 55 28.4**	**-0.2**	
RJF					pmax		pmax			
	comp=Z,37nm,1.6s									
CAF	**Calviac**	**89.41**	**333**	*e*P		**P**		**17 55 29.7**	**+0.5**	
CAF					pmax		pmax			
	comp=Z,12nm,1.0s									
BANO	**Bancroft**	**89.46**	**27**	P		**P**		**17 55 29.7**	**+0.3**	
	baz=330									
CCM	**Cathedral Cave**	**89.50**	**39**	*e*P		**P**		**17 55 30.5**	**+0.8**	
	comp=Z,12nm,1.0s									
CCM	**Cathedral Cave**	**89.50**	**39**	*e*P		**P**		**17 55 30.5**	**+0.8**	
CCM					pmax		pmax			
	comp=Z,12nm,1.0s									
CCM	**Cathedral Cave**	**89.50**	**39**	P		**P**		**17 55 29.9**	**+0.2**	
	baz=321									
L48A	**N Adams**	**89.52**	**33**	P		**P**		**17 55 30.4**	**+0.7**	
	baz=326									
S41A	**Jillco Farms,**	**89.61**	**40**	P		**P**		**17 55 30.5**	**+0.2**	
	baz=321									
SFIN	**Lafayette**	**89.62**	**35**	P		**P**		**17 55 29.2**	**-1.0**	
	baz=324									
G55A	**Calabogie**	**89.68**	**26**	P		**P**		**17 55 30.3**	**-0.2**	
	baz=331									
PLVO	**Plevna**	**89.74**	**26**	P		**P**		**17 55 30.3**	**-0.5**	
	baz=331									
LFF	**La Frestale**	**89.86**	**334**	*e*P		**P**		**17 55 31.3**	**0.0**	
LFF					pmax		pmax			
	comp=Z,10.0nm,0.7s									
Q44A	**Meyer Farm, Va**	**89.91**	**37**	P		**P**		**17 55 32.6**	**+0.9**	
	baz=323									
S42A	**Caledonia**	**89.94**	**39**	P		**P**		**17 55 32.2**	**+0.3**	
	baz=322									
R43A	**Red Bud**	**89.97**	**38**	P		**P**		**17 55 31.8**	**-0.1**	
	baz=322									
ALFO	**Alfred**	**89.97**	**25**	P		**P**		**17 55 32.2**	**+0.4**	
	baz=332									
U40A	**Yellville**	**89.99**	**41**	P		**P**		**17 55 32.3**	**+0.2**	
	baz=320									
DELO	**Deloro Mine**	**90.00**	**27**	P		**P**		**17 55 32.2**	**+0.3**	
	baz=330									
T41A	**Mountain View**	**90.02**	**40**	P		**P**		**17 55 32.3**	**0.0**	
	baz=321									
H55A	**Tweed**	**90.13**	**27**	P		**P**		**17 55 32.2**	**-0.3**	
	baz=331									
N48A	**Decatur**	**90.15**	**34**	P		**P**		**17 55 33.3**	**+0.5**	
	baz=325									
Q45A	**Warren Harvey,**	**90.32**	**37**	P		**P**		**17 55 34.6**	**+1.0**	
	baz=323									
T42A	**Van Buren**	**90.37**	**40**	*e*P		**P**		**17 55 34.4**	**+0.6**	
	comp=Z,37nm,1.8s									
T42A	**Van Buren**	**90.37**	**40**	P		**P**		**17 55 33.9**	**+0.1**	
	baz=322									
H56A	**Elgin**	**90.41**	**26**	P		**P**		**17 55 34.0**	**+0.1**	
	baz=331									
N49A	**Columbus Grove**	**90.46**	**33**	P		**P**		**17 55 34.7**	**+0.5**	
	baz=326									
O48A	**Farmland**	**90.59**	**34**	P		**P**		**17 55 35.6**	**+0.8**	
	baz=325									
SIUC	**Southern Illin**	**90.75**	**38**	*e*P		**P**		**17 55 35.9**	**+0.3**	
	comp=Z,20nm,0.9s									
V41A	**Mountainview**	**90.79**	**41**	P		**P**		**17 55 36.3**	**+0.5**	
	baz=321									
PBMO	**Poplar Bluff**	**90.89**	**39**	*e*P		**P**		**17 55 37.2**	**+0.9**	
	comp=Z,6.7nm,0.8s									
MIAR	**Mount Ida**	**90.99**	**43**	*e*P		**P**		**17 55 37.6**	**+0.8**	
	comp=Z,8.2nm,1.0s									
MIAR	**Mount Ida**	**90.99**	**43**	*e*P		**P**		**17 55 37.6**	**+0.8**	
MIAR					pmax		pmax			
	comp=Z,8.0nm,1.0s									
MIAR	**Mount Ida**	**90.99**	**43**	P		**P**		**17 55 37.5**	**+0.7**	
	baz=320									
W41B	**Gary Mavity, V**	**91.21**	**42**	P		**P**		**17 55 38.4**	**+0.7**	
	baz=321									
EPF	**Esparros**	**91.67**	**333**	*e*P		**P**		**17 55 36.7**	**-3.1**	
EPF					pmax		pmax			
	comp=Z,25nm,1.4s									
KEST	**Kesra**	**94.08**	**323**	LR		LR		18 43 20.5		
	comp=Z,286nm,18.5s,baz=245,slow=39									
ES19	**SONSECA Array**	**96.10**	**334**	*e*P		**P**		**17 56 00.1**	**-0.2**	
ESDC	**Sonseca Array**	**96.14**	**334**	P		**P**		**17 55 59.9**	**-0.5**	
	comp=Z,0.5nm,0.6s,baz=21,slow=3.4,SNR=4.5									
ESDC						LR	LR	18 43 03.0		
	comp=Z,164nm,19.1s,baz=295,slow=38									
TOA1	**Torodi Ar. Sit**	**116.55**	**316**	*e*PKPdf		**PKPdf**		**18 01 15.6**	**-1.3**	
TOA1				*e*PP		**PP**		**18 02 23.0**	**-0.5**	
TORD	**Torodi Ar. Bea**	**116.56**	**316**	PKP		**PKPdf**		**18 01 15.6**	**-1.3**	
	comp=Z,0.7nm,0.8s,baz=40,slow=2.5,SNR=3.5									
TORD						PP	**PP**		**18 02 23.0**	**-0.5**
	comp=Z,1.3nm,1.0s,baz=34,slow=5.4,SNR=3.6									
DBIC	**Dimbokro**	**125.47**	**318**	PKP		**PKPdf**		**18 01 33.3**	**-0.8**	
	comp=Z,3.1nm,1.1s,baz=18,slow=3.2,SNR=2.9									
QSPA	**South Pole Qui**	**128.23**	**180**	*e*PKPdf		**PKPdf**		**18 01 37.4**	**-0.3**	
SNAA	**Sanae**	**142.25**	**197**	PKP		**PKPdf**		**18 01 58.9**	**-4.8**	
VNA2	**Neumayer--Watz**	**143.82**	**197**	PKP	PKPbc			18 02 04.0	-0.1	
	baz=96,slow=2.0									
VNA3	**Neumayer Olymp**	**144.07**	**195**	PKP	PKPbc			18 02 04.7	-0.2	
VNA1	**Neumayer--Stat**	**144.22**	**196**	PKP		**PKPab**		**18 02 05.0**	**0.0**	
LPAZ	**La Paz**	**145.62**	**58**	PKPbc		**PKPab**		**18 02 12.4**	**0.0**	
	comp=Z,13nm,0.9s,baz=336,slow=4.0,SNR=54									
LPAZ	**La Paz**	**145.62**	**58**	*e*PKPdf		**PKPab**		**18 02 12.3**	**-0.1**	
MNMC	**Minye Minye**	**146.58**	**64**	*e*PKPdf		**PKPab**		**18 02 15.9**	**+0.2**	
PB11	**IPOC Station P**	**146.95**	**65**	*e*PKPdf		**PKPbc**		**18 02 14.7**	**-0.8**	
GO01	**Chusmiza**	**147.22**	**64**	*e*PKPbc		**PKPab**		**18 02 17.6**	**-0.8**	
LVC	**Limon Verde**	**149.30**	**68**	PKPbc		**PKPbc**		**18 02 21.4**	**-0.5**	
	comp=Z,4.9nm,0.7s,baz=274,slow=5.1,SNR=5.8									
LVC	**Limon Verde**	**149.30**	**68**	*e*PKPdf		**PKPdf**		**18 02 19.7**	**+2.1**	
LVC				*e*PKPbc		**PKPbc**		**18 02 21.4**	**-0.5**	
SIV	**San Ignacio**	**149.84**	**48**	PKP		**PKPdf**		**18 02 17.5**	**-0.7**	
	comp=Z,6.3nm,0.8s,baz=262,slow=2.5,SNR=6.2									
SIV					PKPbc		**PKPbc**	**18 02 23.1**	**+0.1**	
	comp=Z,11nm,1.1s,baz=308,slow=2.1,SNR=23									
LCO	**Las Campanas**	**151.43**	**81**	*e*PKPbc		**PKPbc**		**18 02 27.3**	**+0.6**	
LCO	**Las Campanas**	**151.43**	**81**	*e*PKIKP		**PKPbc**		**18 02 27.3**	**+0.6**	
GO04	**Tololo Observa**	**151.88**	**83**	*e*PKPbc		**PKPbc**		**18 02 27.6**	**-0.1**	
PLCA	**Paso Flores**	**154.99**	**105**	PKPab		**PKPab**		**18 02 51.7**	**+2.1**	
	comp=Z,1.2nm,0.8s,baz=259,slow=5.2,SNR=2.7									

*ISK **21** 18:02:00.9,39˚.70N×26˚.11E,h11km,ML3.1/20*
*ISCJB **21** 18:02:02.0±0.4,39˚.69N±0˚.02×26˚.14E±0˚.03,h8km±3km, Error ellipse: s-maj=3.5km s-min=2.5km az=172.7*
*ATH **21** 18:02:02.0,39˚.68N×26˚.17E,h27km±1km,ML2.5/8, Error ellipse: s-maj=2.4km s-min=0.8km az=255.0*
*THE **21** 18:02:02.8,39˚.69N×26˚.16E,h6km,ML2.5/7, Error ellipse: s-maj=0.8km s-min=0.3km az=100.0*
*DDA **21** 18:02:03.6,39˚.69N×26˚.26E,h20km, Ml3.0*

ISC 21 18:02:02.4±0.8,39˚.69N±0˚.01×26˚.17E±0˚.02,h13km±7km, n76,σ0§79/98,5C,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZN	**Ezine**	**0.18**	**43**	PG	**Pg**	**18 02 06.4**	**-0.1**
EZN				SG	**Sg**	**18 02 09.0**	**-0.3**
EZN	**Ezine**	**0.18**	**43**	P	**Pg**	**18 02 06.6**	**+0.1**
EZN				S	**Sg**	**18 02 09.5**	**+0.2**
PRK	**Paraskevi**	**0.46**	**170**	P	**Pg**	**18 02 11.6**	**+0.2**
PRK				S	**Sg**	**18 02 17.9**	**+0.5**
PRK				AML	AML	18 02 18.8	
	comp=N,5023μm,0.3s						
PRK				AML	AML	18 02 19.3	
	comp=E,2510μm,0.6s						
PRK	**Paraskevi**	**0.46**	**170**	P	**Pg**	**18 02 11.6**	**+0.2**
PRK				S	**Sb**	**18 02 18.5**	**-0.4**
GADA	**Gvkgeada**	**0.54**	**338**	PG	**Pg**	**18 02 11.5**	**-1.4**
GADA				SG	**Sg**	**18 02 19.2**	**-0.9**
GADA	**Gvkgeada**	**0.54**	**338**	P	**Pg**	**18 02 13.1**	**+0.2**
GADA				S	**Sb**	**18 02 20.8**	**-0.6**
SIGR	**SIGRI**	**0.54**	**207**	PG	**Pg**	**18 02 12.1**	**-0.8**
SIGR				SG	**Sg**	**18 02 19.4**	**-0.7**
SIGR	**SIGRI**	**0.54**	**207**	P	**Pg**	**18 02 12.9**	**0.0**
SIGR				S	**Sg**	**18 02 20.7**	**+0.6**
SIGR				AML	AML	18 02 23.0	
	comp=N,1209μm,0.4s						
SIGR				AML	AML	18 02 23.3	
	comp=E,1006μm,0.3s						
SIGR	**SIGRI**	**0.54**	**207**	P	**Pg**	**18 02 12.9**	**0.0**
SIGR				S	**Sg**	**18 02 20.5**	**+0.4**
AYVA	**Ayvalik**	**0.56**	**133**	*i* P	**Pb**	**18 02 13.7**	**-0.3**
AYVA				*i* S	**Sb**	**18 02 22.0**	**0.0**
LIA	**Limnos Island**	**0.78**	**285**	P	**Pb**	**18 02 17.6**	**-0.3**
LIA				S	**Sg**	**18 02 28.7**	**+0.9**
LIA				AML	AML	18 02 34.3	
	comp=E,1000μm,0.4s						
LIA				AML	AML	18 02 34.6	
	comp=N,634μm,0.3s						
LIA	**Limnos Island**	**0.78**	**285**	P	**Pb**	**18 02 17.7**	**-0.2**
LIA				S	**Sg**	**18 02 29.0**	**+1.2**
LPK	**Lapseki**	**0.82**	**34**	PG	**Pb**	**18 02 16.8**	**-1.7**
DKL	**Dikili**	**0.85**	**137**	PG	**Pb**	**18 02 18.7**	**-0.2**
SMTH	**Samothraki Isl**	**0.92**	**328**	P	**Pb**	**18 02 20.1**	**-0.1**
SMTH				S	**Sg**	**18 02 32.7**	**+0.6**
SMTH				AML	AML	18 02 35.4	
	comp=E,1256μm,0.4s						
SMTH				AML	AML	18 02 36.4	
	comp=N,818μm,0.5s						
SMTH	**Samothraki Isl**	**0.92**	**328**	P	**Pb**	**18 02 20.1**	**-0.1**
SMTH				S	**Sn**	**18 02 33.5**	**-0.6**
EFSA	**Agios Efstrati**	**0.92**	**261**	P	**Pn**	**18 02 20.9**	**-0.2**
ERIK	**Erikli-Kesan**	**1.01**	**15**	PG	**Pb**	**18 02 21.2**	**-0.6**
ENEZ	**Enez**	**1.04**	**359**	PG	**Pb**	**18 02 20.9**	**-1.4**
FOCM	**Fo˘ša**	**1.07**	**156**	PN	**Pn**	**18 02 22.6**	**-0.5**
KRBG	**Karabiga-Canak**	**1.11**	**51**	PN	**Pb**	**18 02 22.3**	**-1.2**
KRBN	**Karaburun**	**1.14**	**165**	PN	**Pb**	**18 02 23.7**	**-0.2**
KNL	**Bal˘-kesir**	**1.19**	**61**	*i* P	**Pg**	**18 02 25.3**	**-0.1**
KNL				*i* S	**Sg**	**18 02 40.6**	**-0.3**
KESN	**Edirne-Kesan**	**1.20**	**19**	*i* P	**Pg**	**18 02 25.6**	**+0.1**
KESN				*i* S	**Sg**	**18 02 41.9**	**+0.8**
ALN	**Alexandroupoli**	**1.21**	**356**	PN	**Pn**	**18 02 24.5**	**-0.5**
ALN	**Alexandroupoli**	**1.21**	**356**	P	**Pb**	**18 02 25.0**	**-0.1**
ALN				AML	AML	18 02 43.0	
	comp=E,404μm,0.6s						
ALN				AML	AML	18 02 43.0	
	comp=N,353μm,0.6s						
ALN	**Alexandroupoli**	**1.21**	**356**	P	**Pb**	**18 02 25.0**	**-0.1**
ALN				S	**Sg**	**18 02 41.9**	**+0.6**
GONE	**Gonen-Balikesi**	**1.22**	**73**	PN	**Pb**	**18 02 25.2**	**-0.2**
PSRA	**Psara**	**1.24**	**202**	P	**Pb**	**18 02 25.6**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.24**	**104**	*i* P	**Pg**	**18 02 27.0**	**+0.8**
STEP				*i* S	**Sg**	**18 02 44.6**	**+2.1**
RKY	**Sarkoy-Tekirda**	**1.26**	**38**	PN	**Pb**	**18 02 25.5**	**-0.5**
SART	**Tekirdag**	**1.26**	**38**	*i* P	**Pg**	**18 02 26.8**	**+0.2**
CHOS	**Chios island**	**1.31**	**184**	PN	**Pn**	**18 02 25.7**	**-0.8**
CHOS	**Chios island**	**1.31**	**184**	P	**Pn**	**18 02 26.3**	**-0.2**
CHOS				S	**Sb**	**18 02 43.3**	**-0.3**
CHOS				AML	AML	18 02 50.1	
	comp=N,489μm,0.3s						
CHOS				AML	AML	18 02 52.1	
	comp=E,720μm,0.3s						
CHOS	**Chios island**	**1.31**	**184**	P	**Pn**	**18 02 26.3**	**-0.2**
CHOS				S	**Sg**	**18 02 44.5**	**0.0**
BALB	**Balikesir**	**1.32**	**92**	PN	**Pb**	**18 02 26.7**	**-0.4**
URLA	**Izmir**	**1.37**	**166**	PN	**Pn**	**18 02 27.2**	**-0.1**
URLA	**Izmir**	**1.37**	**166**	*i* P	**Pb**	**18 02 27.4**	**-0.6**
THAS	**Thassos island**	**1.44**	**310**	P	**Pn**	**18 02 27.8**	**-0.3**
THAS	**Thassos island**	**1.44**	**310**	P	**Pn**	**18 02 28.2**	**+0.1**
EDC	**Edincik**	**1.46**	**63**	PN	**Pn**	**18 02 28.3**	**-0.2**
AKHS	**Akhisar**	**1.52**	**122**	*i* P	**Pg**	**18 02 31.4**	**0.0**
RDO	**Rodhopi**	**1.53**	**342**	PN	**Pn**	**18 02 28.9**	**-0.5**
RDO	**Rodhopi**	**1.53**	**342**	P	**Pb**	**18 02 30.1**	**-0.4**
RDO				S	**Sb**	**18 02 50.1**	**+0.3**
RDO				AML	AML	18 02 50.8	
	comp=E,124μm,0.5s						
RDO				AML	AML	18 02 54.6	
	comp=N,131μm,0.4s						
RDO	**Rodhopi**	**1.53**	**342**	P	**Pb**	**18 02 30.2**	**-0.4**
RDO				S	**Sb**	**18 02 50.3**	**+0.4**
SBT4	**Kumbag-Tekirda**	**1.54**	**42**	PN	**Pb**	**18 02 29.8**	**-0.9**
TKR	**Tekirdag**	**1.67**	**39**	PN	**Pn**	**18 02 31.1**	**-0.2**
DGB	**˘zmir**	**1.73**	**161**	*i* P	**Pb**	**18 02 34.2**	**+0.1**
KCTX	**Karacabey (Bur**	**1.78**	**71**	PN	**Pn**	**18 02 33.0**	**+0.1**
DURS	**Dursunbey**	**1.79**	**92**	*i* P	**Pb**	**18 02 34.5**	**-0.5**
OUR	**Ouranopolis**	**1.79**	**292**	PN	**Pn**	**18 02 32.1**	**-1.0**
OUR	**Ouranopolis**	**1.79**	**292**	P	**Pn**	**18 02 33.2**	**+0.1**
SMG	**Samos**	**2.05**	**165**	P	**Pn**	**18 02 36.9**	**+0.3**
DEMI	**Demirci**	**2.08**	**107**	*i* P	**Pb**	**18 02 39.6**	**-0.5**
MDNY	**Mudanya-Bursa**	**2.19**	**71**	PN	**Pn**	**18 02 38.8**	**+0.2**
EDRB	**Edirne**	**2.19**	**11**	PN	**Pn**	**18 02 38.3**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**2.21**	**142**	PN	**Pn**	**18 02 38.3**	**-0.5**
MANT	**Manisa**	**2.22**	**122**	*i* P	**Pb**	**18 02 41.2**	**-1.3**
ARMT	**Armutlu**	**2.24**	**66**	PN	**Pn**	**18 02 39.7**	**+0.4**
KULA	**Kula-Manisa**	**2.27**	**120**	PN	**Pn**	**18 02 39.8**	**+0.1**
CTKS	**Kestanelik-??a**	**2.36**	**48**	PN	**Pn**	**18 02 40.9**	**+0.1**
NVR	**Nevrokopi**	**2.41**	**314**	P	**Pn**	**18 02 42.5**	**+0.9**
NVR				AML	AML	18 03 21.2	
	comp=N,38μm,0.8s						
NVR				AML	AML	18 03 25.4	
	comp=E,32μm,0.6s						
SRS	**Serrai**	**2.42**	**307**	P	**Pn**	**18 02 42.2**	**+0.4**
BGKT	**Bogazkoy**	**2.48**	**52**	PN	**Pn**	**18 02 42.9**	**+0.4**
TVSB	**Tavsanli**	**2.56**	**94**	PN	**Pn**	**18 02 43.9**	**+0.2**
ISK	**Istanbul-Kandi**	**2.60**	**57**	PN	**Pn**	**18 02 44.7**	**+0.6**
APE	**Apeiranthos**	**2.67**	**191**	*i* P	**Pn**	**18 02 46.2**	**+1.1**
APE	**Apeiranthos**	**2.67**	**191**	S	**Sn**	**18 03 16.5**	**-0.9**
APE	**Apeiranthos**	**2.67**	**191**	P	**Pn**	**18 02 45.1**	**0.0**
**AMG

JAK	**Akkeshi**	**4.63**	**254**	P		**Pn**	**18 10 14.2**	**+0.1**
JAK				*e*S		**Sn**	**18 11 04.6**	**-1.9**
JTKR	**Abashiri--Toko**	**4.95**	**267**	P		**Pn**	**18 10 19.8**	**+1.3**
JAR	**Ashorobuto**	**5.18**	**260**	P		**Pn**	**18 10 23.0**	**+1.3**
JAR				*e*S		**Sn**	**18 11 20.9**	**+0.7**
JOB	**Onbets**	**5.25**	**256**	P		**Pn**	**18 10 23.3**	**+0.6**
JMP	**Maruseppu**	**5.34**	**268**	P		**Pn**	**18 10 24.9**	**+1.0**
HRK	**Horoka**	**5.60**	**263**	*e*P		**Pn**	**18 10 28.8**	**+1.4**
JCH	**Churui**	**5.68**	**254**	P		**Pn**	**18 10 28.9**	**+0.4**
JCH				*e*S		**Sn**	**18 11 30.6**	**-1.7**
JKK2	**Kamakawa 2**	**5.80**	**267**	P		**Pn**	**18 10 31.2**	**+1.1**
MYR	**Moyori**	**5.86**	**251**	*e*P		**Pn**	**18 10 32.1**	**+1.2**
JNBK	**Urakawa-nobuka**	**6.22**	**253**	P		**Pn**	**18 10 35.8**	**-0.2**
JBT2	**Biratori 2**	**6.32**	**258**	P		**Pn**	**18 10 37.6**	**+0.3**
JKB	**Kayabe**	**7.56**	**254**	P		**Pn**	**18 10 54.3**	**+0.1**
JKB				*e*S		**Sn**	**18 12 14.3**	**-4.0**
JYM2	**Yakumo 2**	**7.93**	**257**	P		**Pn**	**18 11 00.0**	**+0.7**
JANG	**Nango**	**7.95**	**243**	*e*S		**Sn**	**18 12 24.3**	**-3.8**
JTH	**Tanohata**	**7.99**	**239**	*e*S		**Sn**	**18 12 23.6**	**-5.4**
JTM	**Tenmabayashi**	**8.02**	**246**	*e*S		**Sn**	**18 12 27.6**	**-2.2**
OFUJ	**Ofunato**	**8.64**	**235**	*e*S		**Sn**	**18 12 41.5**	**-3.6**
JRG	**Rokugo**	**9.07**	**240**	*e*S		**Sn**	**18 12 53.3**	**-2.2**
JIO	**Ouri**	**9.25**	**233**	*e*S		**Sn**	**18 12 55.5**	**-4.4**
PETK	**Petropavlovsk-** comp=N,0.1nm,0.3s,baz=220,slow=17,SNR=2.7	**9.81**	**25**	Pn		**Pn**	**18 11 20.2**	**-4.8**
SONM	**Songino Array** comp=N,0.4nm,0.7s,baz=77,slow=7.6,SNR=3.4	**30.62**	**292**	P		**P**	**18 15 14.2**	**-0.9**
ILAR	**Eielson Array** comp=N,0.5nm,1.0s,baz=263,slow=8.2,SNR=4.2	**39.39**	**37**	P		**P**	**18 16 31.1**	**+1.0**
MKAR	**Makanchi Array** comp=N,0.3nm,0.6s,baz=80,slow=8.2,SNR=4.0	**46.57**	**298**	P		**P**	**18 17 28.1**	**-0.2**
CMAR	**Chiang Mai Arr** comp=N,0.3nm,0.6s,baz=40,slow=7.1,SNR=3.6	**50.22**	**256**	P		**P**	**18 17 60.0**	**+3.3**
CMAR	**Chiang Mai Arr**	**50.22**	**256**	*e*P		**P**	**18 18 00.0**	**+3.3**
CMAR	**Chiang Mai Arr**	**50.22**	**256**	P		**P**	**18 18 00.0**	**+3.3**
WRA	**Warramunga Arr** comp=N,0.2nm,0.6s,baz=13,slow=6.6,SNR=3.2	**65.80**	**197**	P		P	18 19 51.1	+5.6
ULM	**Lac du Bonnet** comp=N,2.1nm,0.7s,baz=301,slow=12,SNR=2.3	**69.36**	**39**	P		**P**	**18 20 09.2**	**+1.5**
ASAR	**Alice Springs** comp=N,0.4nm,0.9s,baz=9.1,slow=6.9,SNR=6.3	**69.50**	**196**	P		P	18 20 15.8	+7.0
KBZ	**Khabaz** comp=N,2.5nm,0.8s,baz=53,slow=10,SNR=6.8	**71.27**	**313**	P		**P**	**18 20 20.9**	**+1.5**
AKASG	**Malin Array Be** comp=N,0.4nm,0.4s,baz=37,slow=5.9,SNR=3.3	**72.54**	**325**	P		**P**	**18 20 26.9**	**0.0**
GERES	**GERESS Array B** comp=N,0.4nm,0.6s,baz=37,slow=5.0,SNR=4.1	**79.79**	**333**	P		**P**	**18 21 09.0**	**+0.7**
GERES	**GERESS Array B**	**79.79**	**333**	*e*P		**P**	**18 21 09.0**	**+0.7**
GERES	**GERESS Array B**	**79.79**	**333**	P		**P**	**18 21 09.0**	**+0.7**

*SJA **21** 18:16:30.3±0.2,34˚.04S×73˚.24W,h33km, ML5.5,MW4.5*
*ISCJB **21** 18:16:35.1±1.1,33˚.96S±0˚.03×72˚.36W±0˚.03,h10km±7km, mb5.0/117,MS4.7/17, Error ellipse: s-maj=4.4km s-min=4.3km az=16.3*
*BJI **21** 18:16:37.0,34˚.00S×72˚.10W,h10km,mB5.4/9,Ms5.3/7, Ms7 5.1/9*
*GUC **21** 18:16:37.5±0.7,33˚.93S×72˚.36W,h10km±10km,ML5.1*
*NEIC **21** 18:16:38.5±1.7,33˚.93S×72˚.10W,h19km±10km,mb5.1/96, ML5.1(GUC), Error ellipse: s-maj=6.3km s-min=3.7km az=82.0*
NEIC Felt [V] at Navidad and Pichilemu; [IV] at Graneros, La Estrella, Rancagua and Santiago; [III] in the Linares-Vina del Mar area.
*MOS **21** 18:16:39.7±1.2,33˚.90S×72˚.05W,h33km, mb5.2/43, Error ellipse: s-maj=12.0km s-min=7.1km az=92.2*
*IDC **21** 18:16:40.7±4.2,33˚.93S×72˚.02W,h33km±30km, mb4.6/19, mb1 4.7/22,mb1mx4.6/26,mbtmp4.8/22,ML4.6/3,MS4.7/19, Ms1 4.7/19,ms1mx4.5/32, Error ellipse: s-maj=17.3km s-min=12.2km az=87.0*
*GCMT **21** 18:16:41.5±0.2,33˚.93S±0˚.01×72˚.40W±0˚.02, h28km, MW5.2/75, Moment Tensor Solution. s57,c79; s75,c111; Duration: 1s0 Moment tensor: Scale 10^17^Nm; Mrr0.59±.02; Mθθ0.03±.01; Mϕϕ-0.62±.02; Mrθ0.19±.03; Mθϕ-0.05±.01; Mϕr-0.64±.03; Best double couple: M0 0.90600×10^17^ NP1:ϕs169.00000°,δ69.00000°, λ79.00000°. NP2:ϕs19.00000°,δ24.00000°,λ118.00000°. Principal axes: T 0.9100, Plg64.0000°, Azm60.0000°; N -0.0080, Plg11.0000°, Azm173.0000°; P -0.9020, Plg23.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 18:16:36.8±1.0,33˚.96S±0˚.03×72˚.19W±0˚.04,h11km±5km, n559,σ1s04/576,mb5.1/117,MS4.8/17,7C-8D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GO05	**HualaæØ**	**1.07**	**169**	*e*Pg		**Pb**	**18 16 56.5**	**-0.8**
GO05	**HualaæØ**	**1.07**	**169**	‖ *i*P		**Pb**	**18 16 56.4**	**-1.0**
GO05				*e*S		**Sb**	**18 17 10.2**	**-1.2**
GO05	comp=E,88μm,0.8s			IAML			18 17 13.6	
ANTU	**Antumapu**	**1.35**	**74**	*e*P		**Pb**	**18 17 02.9**	**+0.6**
ANTU				*e*S		**Sg**	**18 17 22.2**	**+1.9**
ANTU	comp=N,40μm,0.3s			IAML			18 17 31.3	
ROC1	**El Roble**	**1.39**	**45**	*e*Pn		**Pg**	**18 17 03.7**	**+0.2**
ROCH	**El Roble**	**1.39**	**45**	*e*P		**Pb**	**18 17 03.4**	**+0.4**
ROCH				*e*S		**Sg**	**18 17 23.3**	**+1.6**
ROCH	comp=E,40μm,0.5s			IAML			18 17 33.9	
CLCH	**Cerro Calan**	**1.49**	**68**	‖ *i*P		**Pb**	**18 17 05.1**	**+0.6**
CLCH				*e*S		**Sg**	**18 17 25.5**	**+0.8**
CLCH	comp=N,62μm,0.7s			IAML			18 17 38.6	
PEL	**Peldehue**	**1.50**	**57**	*e*Pn		**Pb**	**18 17 05.3**	**+0.6**
PEL	**Peldehue**	**1.50**	**57**	‖ *i*P		**Pb**	**18 17 05.3**	**+0.6**
PEL				‖ *i*P		**Pb**	**18 17 05.3**	**+0.6**
PEL				*e*S		**Sg**	**18 17 26.2**	**+1.2**
PEL	comp=N,37μm,0.2s			IAML			18 17 35.6	
PEL	**Peldehue**	**1.50**	**57**	*e*P		**Pb**	**18 17 05.3**	**+0.6**
LMEL	**Las Melosas**	**1.65**	**87**	‖ *i*P		**Pb**	**18 17 07.6**	**+0.1**
LMEL				*e*S		**Sg**	**18 17 31.3**	**+1.3**
LMEL	comp=C,11μm,0.6s			IAML			18 17 36.0	
FCH	**Farellones**	**1.70**	**69**	*e*P		**Pb**	**18 17 08.7**	**+0.3**
CCHI	**Chillan**	**2.64**	**178**	*e*P		**Pn**	**18 17 20.0**	**+0.6**
AUSP	**Uspallata**	**2.92**	**54**	*e*P		**Pb**	**18 17 29.1**	**0.0**
AAGR	**Agrelo**	**2.94**	**74**	*e*P		**Pb**	**18 17 30.1**	**+0.7**
ARCO	**CERRO ARCO**	**2.94**	**69**	*e*P		**Pb**	**18 17 29.9**	**+0.5**
ARCO	comp=Z,11μm,0.6s			IAML			18 17 36.0	
ARCO				*e*S		**Sg**	**18 18 13.9**	**+2.5**
AVIZ	**Vizcacheras**	**3.10**	**82**	*e*P		**Pb**	**18 17 32.4**	**+0.3**
ASAL	**Salagasta**	**3.12**	**65**	*e*P		**Pb**	**18 17 32.1**	**-0.3**
RFA	**San Rafael**	**3.18**	**106**	*e*P		**Pb**	**18 17 32.9**	**-0.6**
RFA				*e*S		**Sg**	**18 18 19.2**	**+0.2**
RTLS	**Leoncito**	**3.25**	**49**	*e*P		**Pb**	**18 17 33.4**	**-1.4**
RTLS				*e*S		**Sg**	**18 18 19.8**	**-1.5**
RTLS	comp=Z,4μm,0.7s			IAML			18 17 27.8	
RTCV	**Cerro Valdivia**	**3.71**	**57**	*e*P		**Pb**	**18 17 39.9**	**-2.6**
GO04	**Tololo Observa**	**3.96**	**18**	*e*Pn		**Pn**	**18 17 37.9**	**+0.2**
RTLL	**Cerro Villicun**	**4.09**	**51**	*e*P		**Pb**	**18 17 44.5**	**-4.3**
LCO	**Las Campanas**	**5.09**	**15**	*e*Pn		**Pn**	**18 17 53.0**	**-0.4**
LCO	**Las Campanas**	**5.09**	**15**	*e*P		**Pn**	**18 17 53.0**	**-0.4**
GO06	**Curarrehue**	**5.64**	**174**	*e*Pn		**Pn**	**18 18 01.1**	**+0.3**
GO03	**Copiap**	**6.56**	**15**	*e*Pn		**Pn**	**18 18 12.6**	**-0.8**
PLCA	**Paso Flores** comp=Z,3.7nm,0.3s,baz=1.4,slow=10,SNR=37	**6.88**	**170**	Pn		**Pn**	**18 18 18.9**	**+1.1**
PLCA				Sn		Sb	18 19 48.8	-10
PLCA	comp=Z,2.7nm,0.3s,baz=49,slow=16,SNR=1.7			Lg		Lg	18 20 09.6	
PLCA	comp=Z,2.6nm,0.3s,baz=310,slow=18,SNR=2.7			LR		LR	18 21 17.9	
PLCA	**Paso Flores** comp=Z,6μm,18.5s,baz=14,slow=40	**6.88**	**170**	*e*Pn		**Pn**	**18 18 18.5**	**+0.7**
PLCA				Sn		Sb	18 19 48.8	-10
PLCA				Lg		Lg	18 20 09.6	
PLCA	**Paso Flores**	**6.88**	**170**	*e*P		**Pn**	**18 18 18.5**	**+0.7**
GO02	**Mina Guanaco**	**9.05**	**15**	*e*Pn		**Pn**	**18 18 45.0**	**-2.8**
TRQA	**Tornquist**	**9.22**	**119**	*e*Pn		**Pn**	**18 18 51.0**	**+1.2**
TRQA	**Tornquist**	**9.22**	**119**	*e*P		**Pn**	**18 18 51.0**	**+1.2**
LVC	**Limon Verde** comp=Z,1.7nm,0.3s,baz=181,slow=9.3,SNR=11	**11.67**	**15**	Pn		**Pn**	**18 19 19.6**	**-4.2**
LVC	comp=Z,5μm,19.9s,baz=205,slow=39			LR		LR	18 24 10.7	
LVC	**Limon Verde**	**11.67**	**15**	*e*P		**Pn**	**18 19 19.7**	**-4.0**
PB04	**IPOC Station P**	**11.72**	**9**	*e*Pn		**Pn**	**18 19 21.4**	**-2.9**
LPA	**La Plata**	**11.81**	**99**	*ce*P		**Pn**	**18 19 26.0**	**+0.8**
LPA				*ep*P			18 19 31.0	
LPA				*e*PP		**PnPn**	**18 19 34.0**	**+1.1**
LPA				*es*P			18 19 38.0	
LPA				*e*PPP		PPP	18 19 41.0	
LPA				*es*S		Sn	18 21 48.0	+11
LPA				*e*PCP		**PcP**	**18 25 13.0**	**-0.4**
LPA				*es*CS		**ScS**	**18 32 17.0**	**-4.9**
LPA				*e*PKIKP		**PKiKP**	**18 33 11.0**	**-0.4**
LPA				*es*KIKP			18 36 40.0	
LPA				*e*PKIKS			18 36 45.0	
LPA				*es*KIKS			18 40 12.0	
PB01	**IPOC Station P**	**13.09**	**11**	*e*Pn		Pn	18 19 37.5	-5.4
PB11	**IPOC Station P**	**14.32**	**10**	*e*Pn		Pn	18 19 53.3	-6.5
GO01	**Chusmiza**	**14.48**	**11**	*e*Pn		**Pn**	**18 19 58.6**	**-3.7**
CPUP	**Villa Florida** comp=Z,0.1nm,0.3s,baz=235,slow=11,SNR=3.7	**14.93**	**63**	Pn		**Pn**	**18 20 05.5**	**-2.4**
CPUP				Sn		**Sn**	**18 22 52.0**	**-1.2**
CPUP	comp=Z,0.7nm,0.3s,baz=232,slow=13,SNR=2.5			Lg		Lg	18 24 14.9	
CPUP	comp=Z,1.2nm,0.3s,baz=329,slow=18,SNR=3.3			LR		LR	18 26 44.8	
CPUP	**Villa Florida** comp=Z,4μm,18.4s,baz=240,slow=41	**14.93**	**63**	*e*Pn		**Pn**	**18 20 06.2**	**-1.7**
CPUP				Sn		**Sn**	**18 22 52.0**	**-1.2**
CPUP				Lg		Lg	18 24 14.9	
CPUP	**Villa Florida**	**14.93**	**63**	*e*P		**Pn**	**18 20 06.2**	**-1.7**
CPUP							18 22 52.0	
MNMC	**Minye Minye**	**14.95**	**10**	*e*Pn		**Pn**	**18 20 05.2**	**-3.3**
LPAZ	**La Paz** comp=Z,2.4nm,0.3s,baz=190,slow=5.9,SNR=121	**17.97**	**13**	P		**P**	**18 20 48.7**	**+0.8**
LPAZ	comp=Z,0.1nm,0.3s,baz=165,slow=20,SNR=1.2			S		**S**	**18 24 18.4**	**+3.8**
LPAZ	**La Paz**	**17.97**	**13**	*e*Pn		**Pn**	**18 20 47.7**	**+0.3**
LPAZ				S		**S**	**18 24 18.4**	**+3.8**
LPAZ	**La Paz**	**17.97**	**13**	*e*P		**Pn**	**18 20 47.7**	**+0.3**
SIV	**San Ignacio** comp=Z,40nm,0.7s,baz=226,slow=10,SNR=236	**20.51**	**32**	P		**P**	**18 21 14.8**	**-0.3**
SIV	comp=Z,3.2nm,0.8s,baz=307,slow=14,SNR=1.9			S		**S**	**18 25 01.4**	**-3.2**
SIV	comp=Z,2.0nm,0.8s,baz=240,slow=11,SNR=1.3			Lg		Lg	18 27 31.6	
SIV	comp=Z,5μm,19.1s,baz=227,slow=41			LR		LR	18 30 37.5	
USHA	**Ushuaia** comp=Z,17nm,1.1s,baz=339,slow=14,SNR=2.4	**21.03**	**174**	P		**P**	**18 21 22.4**	**+1.9**
USHA	comp=Z,2μm,18.3s,baz=350,slow=39			LR		LR	18 30 16.9	
NNA	**Nana** comp=Z,27nm,0.8s,baz=185,slow=8.5,SNR=7.3	**22.28**	**348**	P		**P**	**18 21 35.8**	**+1.5**
NNA	comp=Z,658nm,20.8s,baz=178,slow=31			LR		LR	18 28 15.8	
NNA	**Nana**	**22.28**	**348**	*i* P		**P**	**18 21 36.7**	**+2.4**
SPB	**Sao Paulo** comp=Z,64nm,0.9s	**23.98**	**71**	*e*P		**P**	**18 21 51.6**	**+0.1**
SAML	**Samuel** comp=Z,43nm,0.8s	**26.24**	**20**	*e*P		**P**	**18 22 12.0**	**0.0**
SAML	comp=Z,43nm,0.8s			pmax		pmax	**18 22 12.0**	**0.0**
BDFB	**Brasilia** comp=Z,25nm,0.8s,baz=228,slow=9.6,SNR=31	**28.41**	**56**	P		**P**	**18 22 31.1**	**-0.7**
BDFB	comp=Z,14nm,1.1s,baz=114,slow=9.1,SNR=3.2			Lg		Lg	18 31 26.2	
BDFB	comp=Z,4μm,18.1s,baz=236,slow=39			LR		LR	18 34 56.6	
BDFB	**Brasilia** comp=Z,46nm,0.8s	**28.41**	**56**	*e*P		**P**	**18 22 31.4**	**-0.3**
BDFB				Lg		Lg	18 31 26.2	
BDFB	**Brasilia** comp=Z,46nm,0.8s	**28.41**	**56**	*e*P		**P**	**18 22 31.4**	**-0.3**
BDFB				pmax		pmax		
RPN	**Rapa Nui** comp=Z,44nm,0.9s,baz=207,slow=9.0,SNR=3.0	**32.58**	**272**	P		**P**	**18 23 10.2**	**+1.9**
OTAV	**Otavalo**	**34.52**	**349**	P		**P**	**18 23 27.9**	**+2.1**
OTAV	comp=Z,7.0nm,1.1s			pmax		pmax		
PTGA	**Pitinga** comp=Z,20nm,0.8s	**34.98**	**22**	*e*P		**P**	**18 23 28.6**	**-0.8**
SOTA	**Rioblanco**	**36.14**	**352**	*e*P		**P**	**18 23 42.3**	**+2.5**
PCON	**Cinco Dias**	**36.31**	**353**	*e*P		**P**	**18 23 43.0**	**+1.6**
PRAC	**Prado**	**37.56**	**356**	‖ *e*P		**P**	**18 23 53.2**	**+1.9**
CHIC	**Chingaza**	**38.41**	**358**	*e*P		**P**	**18 24 01.2**	**+2.3**
ROSC	**El Rosal** comp=Z,480nm,18.6s,baz=241,slow=38	**38.64**	**357**	LR		LR	18 40 60.0	
GUYC	**Guyana, Colomb**	**39.09**	**355**	*e*P		**P**	**18 24 06.4**	**+1.7**
RUSC	**La Rusia**	**39.65**	**359**	‖ *e*P		**P**	**18 24 10.4**	**+1.0**
HELC	**Santa Helena**	**40.06**	**355**	‖ *e*P		**P**	**18 24 13.4**	**+0.7**
PTBC	**PUERTO BERRIO,**	**40.34**	**357**	‖ *e*P		**P**	**18 24 15.5**	**+0.9**
BARC	**Barichara**	**40.34**	**358**	*e*P		**P**	**18 24 17.3**	**+2.4**
DBBC	**Dabeiba**	**40.93**	**354**	‖ *e*P		**P**	**18 24 22.0**	**+2.4**
ZARC	**Zaragoza, Cauc**	**41.30**	**356**	*e*P		**P**	**18 24 22.4**	**-0.2**
SMLC	**San Mart`›n de**	**42.56**	**357**	*e*P		**P**	**18 24 31.7**	**-1.1**
SDV	**Santo Domingo** comp=Z,17nm,0.9s	**42.64**	**2**	*e*P		**P**	**18 24 32.8**	**-0.8**
CODC	**Agust`›n Codaz**	**43.67**	**358**	*e*P		**P**	**18 24 39.1**	**-2.6**
RCBR	**Riachuelo** comp=Z,20nm,0.9s	**43.73**	**58**	*e*P		**P**	**18 24 42.4**	**0.0**
RCBR	**Riachuelo** comp=Z,20nm,0.9s	**43.73**	**58**	*e*P		**P**	**18 24 42.4**	**0.0**
RCBR				pmax		pmax		
SVB	**Belmont** comp=Z,46nm,0.6s	**48.11**	**14**	*e*P		**P**	**18 25 16.6**	**-0.2**
VNA3	**Neumayer Olymp**	**49.44**	**158**	P		**P**	**18 25 27.0**	**+0.5**
VNA2	**Neumayer--Watz** baz=293,slow=9.7	**50.10**	**157**	P		**P**	**18 25 32.0**	**+0.5**
VNA2				x		x	18 25 32.6	
SNAA	**Sanae**	**51.67**	**158**	P		**P**	**18 25 43.7**	**+0.3**
SNAA	**Sanae** comp=Z,24nm,0.9s	**51.67**	**158**	*e*P		**P**	**18 25 43.4**	**0.0**
SNAA	**Sanae**	**51.67**	**158**	*e*P		**P**	**18 25 43.4**	**0.0**
ICMP	**Isla Caja de M** comp=Z,48nm,0.9s	**51.84**	**7**	*e*P		**P**	**18 25 44.1**	**-1.0**
CRPR	**Cabo Rojo, PR** comp=Z,74nm,0.9s	**51.90**	**6**	*e*P		**P**	**18 25 44.7**	**-0.8**
OBIP	**Obispado Ponce** comp=Z,41nm,0.8s	**51.99**	**7**	*e*P		**P**	**18 25 45.5**	**-0.7**
SJG	**San Juan** comp=Z,29nm,0.9s	**52.10**	**7**	*e*P		**P**	**18 25 45.3**	**-1.7**
SJG	**San Juan** comp=Z,29nm,0.9s	**52.10**	**7**	*e*P		**P**	**18 25 45.3**	**-1.7**
SJG				pmax		pmax		
CBYP	**Canovanas** comp=Z,22nm,0.8s	**52.29**	**8**	*e*P		**P**	**18 25 47.1**	**-1.5**
TEIG	**Tepich** comp=Z,42nm,0.9s	**56.02**	**342**	*e*P		**P**	**18 26 15.6**	**-0.1**
QSPA	**South Pole Qui** comp=Z,16nm,0.9s,baz=144,slow=3.7,SNR=41	**56.27**	**180**	P		**P**	**18 26 17.9**	**+0.7**
NVL	**N'lazarevskaya**	**56.41**	**157**	‖ *i*P		**P**	**18 26 16.7**	**-1.2**
NVL				*e*S		**S**	**18 34 07.4**	**-0.8**
NVL	comp=Z,13nm,0.8s			pmax		pmax		
VNDA	**Vanda** comp=Z,1.6nm,0.7s,baz=166,slow=19,SNR=8.7	**64.12**	**191**	P		**P**	**18 27 12.1**	**+1.5**
VNDA	comp=Z,177nm,18.0s,baz=128,slow=34			LR		LR	18 53 07.3	
VNDA	**Vanda** comp=Z,18nm,1.5s	**64.12**	**191**	*e*P		**P**	**18 27 11.7**	**+1.1**
VNDA	**Vanda** comp=Z,18nm,1.5s	**64.12**	**191**	*e*P		**P**	**18 27 11.7**	**+1.1**
VNDA				pmax		pmax		
353A	**Camilla** baz=169	**65.94**	**349**	P		**P**	**18 27 22.4**	**-0.5**
SYO	**Syowa Base**	**65.95**	**159**	‖ *e*P		**P**	**18 27 21.1**	**-1.5**
SYO	**Syowa Base**	**65.95**	**159**	‖ *i*pP		pP	18 27 30.0	+4.0
254A	**Abbeville** baz=170	**66.39**	**350**	P		**P**	**18 27 25.5**	**-0.2**
TAOE	**Nuku Hiva Isla** comp=Z,384nm,21.5s	**66.84**	**275**	*e*LR		LR	18 47 39.7	
251A	**Midway** baz=168	**66.87**	**348**	P		**P**	**18 27 28.6**	**-0.2**
155A	**Kite** baz=171	**66.93**	**351**	P		**P**	**18 27 28.9**	**-0.4**
154A	**Montrose** baz=170	**67.01**	**350**	P		**P**	**18 27 29.8**	**+0.1**
833A	**Chaparral WMA,** comp=Z,31nm,1.0s	**67.09**	**334**	*e*P		**P**	**18 27 31.1**	**+0.8**
833A	**Chaparral WMA,** baz=156	**67.09**	**334**	P		**P**	**18 27 31.2**	**+0.9**
TBI	**Tubuai** comp=Z,641nm,29.0s	**67.21**	**257**	*e*S		**S**	**18 36 24.8**	**-1.4**
TBI	**Tubuai** comp=Z,1μm,27.5s	**67.21**	**257**	*e*LR		LR	18 47 50.4	
151A	**Opelika**	**67.28**	**348**	P		**P**	**18 27 30.9**	**-0.5**
	baz=168							
HKT	**Hockley** comp=Z,6.9nm,0.9s	**67.38**	**338**	*e*P		**P**	**18 27 32.5**	**+0.4**
HKT				pmax		pmax		
HKT	**Hockley** comp=Z,7.0nm,0.9s	**67.38**	**338**	*e*P		**P**	**18 27 32.5**	**+0.4**
Z53A	**Monticello** baz=170	**67.74**	**350**	P		**P**	**18 27 34.1**	**-0.2**
Z52A	**Williamson** baz=169	**67.78**	**349**	P		**P**	**18 27 34.1**	**-0.4**
GOGA	**Godfrey**	**67.85**	**350**	P		**P**	**18 27 34.7**	**-0.3**
GOGA	comp=Z,20nm,1.0s			pmax		pmax		
GOGA	**Godfrey** baz=170	**67.85**	**350**	P		**P**	**18 27 35.2**	**+0.2**
LRAL	**Lakeview Retre** comp=Z,9.8nm,0.9s	**68.08**	**347**	*e*P		**P**	**18 27 36.2**	**-0.2**
LRAL	**Lakeview Retre** baz=167	**68.08**	**347**	P		**P**	**18 27 36.0**	**-0.5**
Z50A	**Ashland** comp=Z,21nm,0.9s	**68.10**	**348**	*e*P		**P**	**18 27 36.3**	**-0.2**
Z50A	**Ashland** baz=168	**68.10**	**348**	P		**P**	**18 27 36.4**	**-0.2**
Z49A	**Columbiana** baz=167	**68.15**	**347**	P		**P**	**18 27 36.7**	**-0.2**
LPIG	**La Paz** comp=Z,21nm,0.3s,baz=135,slow=1.4,SNR=2.0	**68.18**	**323**	P		**P**	**18 27 38.3**	**+1.1**
Y54A	**Tignall** baz=171	**68.18**	**351**	P		**P**	**18 27 36.9**	**-0.2**
Y53A	**Monroe** baz=170	**68.30**	**350**	P		**P**	**18 27 37.7**	**-0.2**
Y52A	**Lilburn** comp=Z,27nm,1.1s	**68.38**	**349**	*e*P		**P**	**18 27 38.6**	**+0.2**
Y52A	**Lilburn** baz=169	**68.38**	**349**	P		**P**	**18 27 38.1**	**-0.3**
241A	**Mo Tay, Goldon** baz=162	**68.48**	**341**	P		**P**	**18 27 38.7**	**-0.3**
Z48A	**Northport** baz=166	**68.52**	**346**	P		**P**	**18 27 39.0**	**-0.3**
Y51A	**Rockmart** baz=168	**68.58**	**349**	P		**P**	**18 27 39.2**	**-0.4**
Y50A	**Piedmont** baz=168	**68.68**	**348**	P		**P**	**18 27 40.0**	**-0.2**
435B	**Jarrell** baz=158	**68.72**	**337**	P		**P**	**18 27 40.6**	**+0.1**
NATX	**Nacogdoches** baz=160	**68.72**	**340**	P		**P**	**18 27 40.9**	**+0.4**
X53A	**Estanollee** baz=170	**68.90**	**350**	P		**P**	**18 27 41.7**	**+0.1**
Z45A	**Winona** baz=164	**68.97**	**344**	P		**P**	**18 27 41.9**	**-0.1**
X52A	**Dahlonega** baz=170,SNR=5.7	**69.08**	**350**	P		**P**	**18 27 42.8**	**+0.1**
Y47A	**UCPARC, Winfie** baz=166,SNR=9.7	**69.09**	**346**	P		**P**	**18 27 42.8**	**+0.1**
X51A	**Calhoun** comp=Z,53nm,1.0s	**69.20**	**349**	*e*P		**P**	**18 27 43.3**	**-0.1**
X51A	**Calhoun** baz=169	**69.20**	**349**	P		**P**	**18 27 43.5**	**+0.1**
X50B	**Fort Payne** baz=168	**69.22**	**348**	P		**P**	**18 27 43.2**	**-0.5**
KMSC	**Kings Mountain** baz=172	**69.28**	**352**	P		**P**	**18 27 43.7**	**-0.2**
Y46A	**Houston** baz=165	**69.28**	**345**	P		**P**	**18 27 43.8**	**-0.1**
X49A	**Woodville** baz=167	**69.39**	**348**	P		**P**	**18 27 44.4**	**-0.2**
Y45A	**Yeager Farm, C** baz=165	**69.41**	**345**	P		**P**	**18 27 44.7**	**0.0**
X48A	**Hartselle** comp=Z,25nm,0.9s	**69.47**	**347**	*e*P		**P**	**18 27 45.1**	**0.0**
X48A	**Hartselle** baz=167,SNR=5.9	**69.47**	**347**	P		**P**	**18 27 45.0**	**-0.1**
W53A	**Cullowhee** baz=170	**69.53**	**350**	P		**P**	**18 27 45.6**	**-0.1**
TX31	**Lajitas Ar. Si**	**69.64**	**331**	*e*P		**P**	**18 27 46.7**	**+0.3**
TXAR	**Lajitas Array** comp=Z,1.4nm,0.7s,baz=156,slow=8.7,SNR=12	**69.64**	**331**	P		**P**	**18 27 47.4**	**+1.0**
X47A	**Russelville** baz=166	**69.69**	**346**	P		**P**	**18 27 46.2**	**-0.2**
W51A	**Cleveland** baz=169,SNR=5.2	**69.76**	**349**	P		**P**	**18 27 46.9**	**0.0**
WHTX	**Lake Whitney,** comp=Z,29nm,1.0s	**69.79**	**337**	*e*P		**P**	**18 27 47.4**	**+0.2**
WHTX	**Lake Whitney,** baz=158	**69.79**	**337**	P		**P**	**18 27 47.1**	**-0.1**
W50A	**Signal Mountai** comp=Z,26nm,0.9s	**69.89**	**349**	*e*P		**P**	**18 27 47.5**	**-0.2**
W50A	**Signal Mountai** baz=168,SNR=6.9	**69.89**	**349**	P		**P**	**18 27 47.7**	**0.0**
X45A	**UM Field Stati** baz=165	**69.92**	**345**	P		**P**	**18 27 47.9**	**0.0**
W49A	**Belvidere** baz=168	**69.97**	**348**	P		**P**	**18 27 48.1**	**-0.1**
OXF	**Oxford** comp=Z,65nm,1.1s	**70.00**	**345**	*e*P		**P**	**18 27 48.4**	**0.0**
OXF	comp=Z,65nm,1.1s			pmax		pmax		
OXF	**Oxford** baz=165	**70.00**	**345**	P		**P**	**18 27 47.9**	**-0.4**
SWET	**Sewanee** comp=Z,30nm,1.0s	**70.01**	**348**	*e*P		**P**	**18 27 48.3**	**-0.2**
W48A	**Pulaski** baz=167	**70.11**	**347**	P		**P**	**18 27 49.1**	**+0.1**
PPT2	**Papeete2** comp=Z,348nm,23.0s	**70.12**	**262**	*e*S		**S**	**18 36 58.8**	**-2.3

comp=Z,45nm,0.6s
T49A **Edmonton** 71.79 349 P P 18 27 59.3 +0.1
baz=168
V41A **Mountainview** 71.85 343 P P 18 27 59.6 0.0
baz=163
T48A **Bowling Green** 71.94 348 P P 18 28 00.2 +0.1
baz=168
T47A **Sharon Grove** 71.94 347 eP P 18 27 59.7 -0.5
comp=Z,19nm,1.0s
T47A **Sharon Grove** 71.94 347 P P 18 28 00.0 -0.1
baz=167
S51A **Beattyville** 72.02 350 P P 18 28 00.4 -0.2
baz=170
T46A **Princeton** 72.14 347 P P 18 28 01.0 -0.3
baz=166,SNR=6.2
S50A **Richmond** 72.18 350 P P 18 28 01.5 0.0
baz=169
U42A **Revenden** 72.18 344 P P 18 28 01.3 -0.2
baz=163
U41A **Viola** 72.33 343 P P 18 28 02.5 0.0
baz=163
PBMO **Poplar Bluff** 72.40 345 eP P 18 28 02.8 -0.1
comp=Z,18nm,0.9s
S48A **Wiedeman Farm,** 72.41 348 P P 18 28 02.7 -0.2
baz=168
MNTX **Cornudas Mount** 72.42 331 eP P 18 28 02.6 -0.5
comp=Z,6.4nm,0.9s
MNTX **Cornudas Mount** 72.42 331 P P 18 28 02.6 -0.5
baz=152,SNR=6.8
U40A **Yellville** 72.57 343 P P 18 28 03.8 -0.1
baz=162,SNR=5.7
T43A **Greenville** 72.67 345 P P 18 28 04.5 +0.1
baz=164
S46A **Don Dixon Farm** 72.73 347 P P 18 28 04.4 -0.4
baz=166
WMOK **Wichita Mounta** 72.74 337 P P 18 28 04.4 -0.6
baz=157
R50A **Paris** 72.76 350 P P 18 28 04.5 -0.4
baz=169
HHAR **Hobbs** 72.77 342 eP P 18 28 05.1 -0.1
comp=Z,21nm,1.1s
T42A **Van Buren** 72.79 344 P P 18 28 05.5 +0.3
baz=164
TUL1 **Leonard** 72.93 340 P P 18 28 05.9 -0.2
baz=160
T41A **Mountain View** 72.96 344 P P 18 28 05.8 -0.4
baz=163
S44A **Carbondale** 73.04 346 P P 18 28 06.3 -0.3
baz=165
SIUC **Southern Illin** 73.05 346 eP P 18 28 06.7 0.0
comp=Z,17nm,0.9s
S43A **Fulton Ridge,** 73.09 345 P P 18 28 06.5 -0.4
baz=164,SNR=9.2
Q52A **Bidwell** 73.16 352 P P 18 28 06.9 -0.4
baz=171
MAW **Mawson** 73.25 164 P P 18 28 07.9 +0.3
comp=Z,16nm,0.7s,baz=217,slow=6.4,SNR=29
MAW LR LR 19 03 05.7
comp=Z,1µm,18.2s,baz=228,slow=38
MAW **Mawson** 73.25 164 eP P 18 28 07.9 +0.3
comp=Z,3.7nm,0.8s
Q51A **Peebles** 73.35 351 P P 18 28 08.1 -0.4
baz=170
R45A **Skylar, Fairfi** 73.43 347 P P 18 28 08.7 -0.2
baz=166
S42A **Caledonia** 73.44 345 P P 18 28 08.5 -0.5
baz=164
S41A **Jillco Farms,** 73.47 344 P P 18 28 09.0 -0.2
baz=163,SNR=6.9
Q49A **Aurora** 73.55 350 P P 18 28 09.0 -0.6
baz=169
FVM **French Village** 73.56 345 eP P 18 28 09.4 -0.3
comp=Z,29nm,1.1s
FVM **French Village** 73.56 345 eP P 18 28 09.4 -0.3
FVM pmax pmax
comp=Z,29nm,1.1s
Q48A **North Vernon** 73.60 349 P P 18 28 09.5 -0.4
baz=168
P51A **Williamsport** 73.77 351 eP P 18 28 10.5 -0.4
comp=Z,24nm,1.0s
P51A **Williamsport** 73.77 351 P P 18 28 10.2 -0.7
baz=171
P52A **Corning** 73.80 352 P P 18 28 10.9 -0.2
baz=171
CCM **Cathedral Cave** 73.81 344 eP P 18 28 10.7 -0.5
comp=Z,34nm,1.0s
CCM **Cathedral Cave** 73.81 344 eP P 18 28 10.7 -0.5
CCM pmax pmax
comp=Z,34nm,1.0s
CCM **Cathedral Cave** 73.81 344 P P 18 28 11.1 -0.1
baz=164
P50A **Jamestown** 73.99 351 P P 18 28 11.7 -0.5
baz=170
Q45A **Warren Harvey,** 73.99 347 P P 18 28 11.3 -0.9
baz=166
R41A **Rosebud** 74.07 344 P P 18 28 12.2 -0.5
baz=164
P48A **Milroy** 74.08 349 P P 18 28 12.0 -0.7
baz=169
121A **Cookes Peak, D** 74.14 329 P P 18 28 13.3 -0.2
baz=150
Q43A **New Douglas** 74.33 346 P P 18 28 14.0 -0.2
baz=165
O51A **Pataskala** 74.37 352 P P 18 28 14.0 -0.4
baz=171
SSPA **Standing Stone** 74.41 356 P P 18 28 14.9 +0.2
baz=175
O50A **Cable** 74.49 351 P P 18 28 14.7 -0.4
baz=170
ACSO **Alum Creek Sta** 74.50 351 eP P 18 28 14.9 -0.3
comp=Z,21nm,0.6s
ACSO **Alum Creek Sta** 74.50 351 P P 18 28 14.8 -0.3
baz=171,SNR=5.6
P46A **Rosedale** 74.52 348 P P 18 28 15.1 -0.2
baz=167
P45A **Graceland, Par** 74.53 348 P P 18 28 14.9 -0.4
baz=167
N59A **State Game Lan** 74.58 357 P P 18 28 15.0 -0.7
baz=177
O49A **Covington** 74.63 350 eP P 18 28 15.9 0.0
comp=Z,16nm,0.7s
O49A **Covington** 74.63 350 P P 18 28 15.0 -1.0
baz=170
Q41A **Truxton** 74.67 345 P P 18 28 15.4 -0.8
baz=164,SNR=6.5
O48A **Farmland** 74.81 350 P P 18 28 16.0 -1.0
baz=169
LIC **Lamto** 74.88 72 eP P 18 28 17.9 -0.1
comp=Z,53nm,1.3s
O47A **Sheridan** 74.95 349 P P 18 28 16.8 -1.0
baz=168
P43A **Skaggs, Pawnee** 74.97 346 P P 18 28 17.1 -0.7
baz=165
N50A **Nevada** 75.05 351 P P 18 28 17.9 -0.4
baz=170,SNR=9.7
TIC **Toumodi** 75.14 71 eP P 18 28 19.3 -0.2
KIC **Kosan Boka** 75.19 72 eP P 18 28 19.8 0.0
comp=Z,28nm,0.7s
TUC **Tucson** 75.27 327 P P 18 28 21.1 +1.2
TUC pmax pmax
comp=Z,6.0nm,1.2s
DBIC **Dimbokro** 75.28 71 P P 18 28 20.4 0.0
comp=Z,13nm,0.7s,baz=205,slow=5.5,SNR=17
DBIC LR LR 18 59 57.7
comp=Z,512nm,19.0s,baz=224,slow=35
N49A **Columbus Grove** 75.33 351 eP P 18 28 18.9 -1.0
comp=Z,25nm,0.9s
N49A **Columbus Grove** 75.33 351 P P 18 28 19.3 -0.6
baz=170,SNR=7.5
N48A **Decatur** 75.39 350 P P 18 28 19.7 -0.5
baz=169
M54A **Oil Creek Stat** 75.41 354 P P 18 28 20.0 -0.5
baz=174
M51A **Elyria** 75.49 352 P P 18 28 20.3 -0.6
baz=171
N47A **Urbana** 75.51 349 P P 18 28 20.1 -0.8
baz=168
M50A **Fremont** 75.66 352 P P 18 28 21.4 -0.4
baz=171
N46A **Monticello** 75.69 349 P P 18 28 21.8 -0.1
baz=168
ANMO **Albuquerque** 75.69 331 eP P 18 28 22.4 0.0
comp=Z,10nm,1.3s
ANMO **Albuquerque** 75.69 331 *i* P P 18 28 22.4 0.0
ANMO pmax pmax
comp=Z,3.0nm,0.9s
O41A **Passleys Farm,** 75.71 345 P P 18 28 21.7 -0.4
baz=164
N45A **Kentland** 75.77 348 P P 18 28 22.2 -0.3
baz=167
N44A **Piper City** 75.83 348 P P 18 28 22.9 +0.1
baz=166
M49A **Liberty Center** 75.85 351 P P 18 28 23.0 +0.1
baz=170
BINY **Binghamton** 75.87 357 P P 18 28 23.0 -0.1
baz=177
N41A **Harden Midland** 76.27 345 P P 18 28 25.0 -0.3
baz=164
L48A **N Adams** 76.37 351 P P 18 28 25.9 0.0
baz=170
M44A **Midewin, Midew** 76.39 348 eP P 18 28 24.8 -1.2
comp=Z,26nm,0.8s
M44A **Midewin, Midew** 76.39 348 P P 18 28 26.2 +0.2
baz=166
L49A **Milan** 76.44 351 P P 18 28 26.1 -0.1
baz=170
MMNY **Mt. Morris Dam** 76.50 356 eP P 18 28 26.3 -0.3
comp=Z,29nm,1.3s
L47A **Sherwood** 76.51 350 P P 18 28 25.8 -0.8
baz=169
N40A **Mertquake, Sal** 76.59 345 P P 18 28 26.7 -0.5
baz=164
M43A **Waltham Townsh** 76.60 347 P P 18 28 26.7 -0.5
baz=166
N39A **Derby Farms, D** 76.79 344 eP P 18 28 27.6 -0.6
comp=Z,24nm,1.1s
N39A **Derby Farms, D** 76.79 344 P P 18 28 28.0 -0.3
baz=163
T25A **Trinidad** 76.84 334 eP P 18 28 28.9 -0.1
comp=Z,36nm,1.3s
T25A **Trinidad** 76.84 334 P P 18 28 29.6 +0.7
baz=153
M41A **Milan** 76.85 346 P P 18 28 28.3 -0.2
baz=164
K50A **Casco** 76.96 352 P P 18 28 29.1 0.0
baz=171
MEDO **Medina** 76.97 355 P P 18 28 29.5 +0.3
baz=175
TYNO **Tyneside** 77.01 354 P P 18 28 30.0 +0.6
baz=173
STCO **Saint Catharin** 77.06 355 P P 18 28 30.5 +0.8
baz=174
K47A **Vermontville** 77.16 350 P P 18 28 30.0 -0.3
baz=169
K48A **Perry** 77.17 351 P P 18 28 29.8 -0.6
baz=170
W18A **Petrified Fore** 77.19 329 P P 18 28 30.7 -0.2
baz=149
L42A **Oliver, Polo** 77.28 347 eP P 18 28 29.5 -1.5
comp=Z,26nm,0.8s
L42A **Oliver, Polo** 77.28 347 P P 18 28 30.6 -0.4
baz=165
L43A **Garden Prairie** 77.28 347 P P 18 28 30.7 -0.3
baz=166
L41A **Preston** 77.51 346 P P 18 28 31.7 -0.6
baz=164
ACTO **Acton** 77.53 354 P P 18 28 32.1 -0.3
baz=173
J49A **Marlette** 77.60 352 P P 18 28 31.9 -0.9
baz=171
J48A **Bridge Port** 77.62 351 P P 18 28 31.8 -1.1
baz=170
L40A **Anamosa** 77.65 346 eP P 18 28 31.5 -1.6
comp=Z,19nm,0.9s
L40A **Anamosa** 77.65 346 P P 18 28 32.6 -0.5
baz=164
J47A **Sunmer** 77.69 351 P P 18 28 33.2 -0.1
baz=169
DRCO **St. Marys Ceme** 77.69 355 P P 18 28 33.9 +0.6
baz=174
K43A **Burlington** 77.72 348 P P 18 28 33.3 -0.1
baz=168
SDCO **Great Sand Dun** 77.78 334 P P 18 28 34.3 0.0
baz=152
PKRO **Pickering** 77.81 355 P P 18 28 34.5 +0.6
baz=174
LBNH **Lisbon** 77.83 0 P P 18 28 34.0 -0.1
baz=180
L39A **Vinton** 77.87 345 P P 18 28 34.3 0.0
baz=163
K42A **Prairie Point,** 77.97 347 P P 18 28 34.5 -0.3
baz=165,SNR=5.8
K41A **Shullsburg** 77.99 346 P P 18 28 34.5 -0.4
baz=165,SNR=5.9
BASO **Ashfield** 78.08 353 P P 18 28 35.7 +0.3
baz=172
BWLO **Walkerton** 78.14 353 P P 18 28 35.8 +0.1
baz=172
WUAZ **Watki** 78.23 328 eP P 18 28 36.5 -0.2
comp=Z,11nm,1.1s
WUAZ **Wupatki** 78.23 328 P P 18 28 36.9 +0.3
baz=148
LONY **Lake Ozonia** 78.24 358 P P 18 28 36.2 -0.1
baz=178
K40A **Colesburg** 78.24 346 P P 18 28 35.9 -0.5
baz=164
DELO **Deloro Mine** 78.26 356 P P 18 28 36.9 +0.5
baz=175
JFWS **Jewell Farm** 78.27 347 eP P 18 28 35.8 -0.7
comp=Z,12nm,0.8s
JFWS **Jewell Farm** 78.27 347 eP P 18 28 35.8 -0.7
JFWS pmax pmax
comp=Z,12nm,0.8s
JFWS **Jewell Farm** 78.27 347 P P 18 28 36.3 -0.2
baz=165
S22A **4UR Ranch, Cre** 78.28 333 P P 18 28 37.4 +0.3
baz=151
J43A **Natural Harves** 78.39 348 P P 18 28 37.0 -0.1
baz=166
K39A **Oelwein** 78.40 345 P P 18 28 37.3 +0.1
baz=163
FRNY **Flat Rock** 78.44 359 eP P 18 28 37.7 +0.4
comp=Z,12nm,0.8s
J42A **Columbus** 78.45 347 P P 18 28 37.7 +0.2
baz=166
MVCO **Mesa Verde** 78.47 331 P P 18 28 38.8 +0.7
baz=156
I48A **Sherman Twp** 78.48 352 P P 18 28 37.5 -0.1
baz=170
BMRO **Meriville Lake** 78.62 353 P P 18 28 38.7 +0.3
baz=172
J41A **Loganville** 78.66 347 P P 18 28 38.7 +0.1
baz=165
Q24A **Divide** 78.73 334 eP P 18 28 40.4 +0.9
comp=Z,12nm,0.9s
Q24A **Divide** 78.73 334 P P 18 28 40.4 +0.9
baz=153
PLVO **Plevna** 78.75 356 P P 18 28 39.8 +0.7
baz=176
BANO **Bancroft** 78.78 356 P P 18 28 40.0 +0.7
baz=175
I43A **Langenfeld Bro** 78.83 348 P P 18 28 39.7 +0.1
baz=166
J40A **Soldiers Grove** 78.83 346 P P 18 28 39.0 -0.6
baz=164,SNR=8.8
IRM **Iron Mountain** 78.83 325 P P 18 28 40.5 +0.6
baz=145
GGN **Saint George** 78.86 4 eP P 18 28 40.6 +1.0
comp=Z,32nm,0.9s
PKME **Peaks-Kenny Pk** 78.90 2 P P 18 28 40.8 +1.0
baz=182
I42A **Draeger Farm,** 78.97 348 eP P 18 28 40.5 +0.2
comp=Z,12nm,0.8s
I42A **Draeger Farm,** 78.97 348 P P 18 28 40.0 -0.3
baz=166
FRD **Ford Ranch, An** 79.01 323 P P 18 28 41.8 +0.8
baz=144
ORIO **Orleans, Innes** 79.10 358 P P 18 28 41.7 +0.8
baz=177
ALFO **Alfred** 79.26 358 P P 18 28 42.8 +1.0
baz=178
TOBO **Tobermory, Bru** 79.27 353 P P 18 28 42.2 +0.3
baz=172
KLBO **Killbear Provi** 79.28 354 P P 18 28 41.0 -1.0
baz=173
BUKO **Buck Lake** 79.30 355 P P 18 28 42.5 +0.4
baz=174
TSUM **Tsumeb** 79.34 106 LR LR 18 59 02.1
comp=Z,715nm,20.7s,baz=194,slow=32
PEMO **Pembroke** 79.40 356 P P 18 28 42.5 -0.1
baz=176
PV13 **Radium Mtn., P** 79.42 331 eP P 18 28 43.7 +0.4
comp=Z,7.7nm,0.9s
PV02 **Paradox Valley** 79.42 331 eP P 18 28 42.3 -1.0
comp=Z,6.4nm,0.8s
I39A **Houston** 79.43 346 eP P 18 28 41.1 -1.8
comp=Z,18nm,0.8s
G47A **Hillman** 79.47 352 P P 18 28 42.7 -0.3
baz=170
SMCO **Snowmass** 79.59 333 eP P 18 28 44.4 0.0
comp=Z,12nm,0.9s
GMRC **Granite Mounta** 79.59 325 P P 18 28 45.0 +0.9
baz=144
ISCO **Idaho Springs** 79.64 334 eP P 18 28 44.1 -0.4
comp=Z,7.7nm,1.2s
ISCO **Idaho Springs** 79.64 334 P P 18 28 45.3 +0.8
ISCO pmax pmax
comp=Z,9.0nm,1.2s
ISCO **Idaho Springs** 79.64 334 P P 18 28 45.3 +0.8
baz=152
F52A **Sundridge** 79.65 355 P P 18 28 44.1 +0.1
baz=174
ALGO **Algonquin Park** 79.72 356 P P 18 28 44.5 +0.1
baz=175
LMN **Caledonia Moun** 79.72 5 eP P 18 28 44.6 +0.2
comp=Z,23nm,0.8s
H41A **Junction City** 79.80 347 P P 18 28 43.8 -1.0
baz=165
F49A **Sandfield** 79.85 353 P P 18 28 44.7 -0.4
baz=172
H40A **Chili** 79.94 347 P P 18 28 45.7 +0.1
baz=165
F48A **Evansville** 79.98 353 P P 18 28 45.5 -0.3
baz=171
G43A **Wallace** 80.09 349 P P 18 28 46.2 -0.2
baz=167
E53A **Dumoine, Ponti** 80.12 356 P P 18 28 46.2 -0.3
baz=175
KNB **Kanab** 80.12 328 eP P 18 28 47.1 +0.1
comp=Z,22nm,1.2s
KNB **Kanab** 80.12 328 eP P 18 28 47.1 +0.1
KNB pmax pmax
comp=Z,22nm,1.2s
E54A **Lac Daplat, Po** 80.15 356 P P 18 28 46.5 -0.2
baz=176
H39A **Augusta** 80.17 346 P P 18 28 47.0 +0.2
baz=164
G42A **Mountain** 80.20 348 P P 18 28 47.0 +0.1
baz=166
BOSA **Boshof** 80.20 118 P P 18 28 48.1 +0.3
comp=Z,9.2nm,0.7s,baz=252,slow=4.2,SNR=18
BOSA LR LR 19 01 00.8
comp=Z,193nm,18.5s,baz=231,slow=33
BOSA **Boshof** 80.20 118 eP P 18 28 47.9 +0.1
BOSA **Boshof** 80.20 118 eP P 18 28 47.9 +0.1
E50A **Wahnapitae** 80.39 354 P P 18 28 47.9 -0.1
baz=173
E51A **G1948 Merrick** 80.39 355 P P 18 28 47.6 -0.4
baz=174
ECSD **EROS Data Cent** 80.47 342 eP P 18 28 48.2 -0.3
comp=Z,16nm,0.9s
ECSD **EROS Data Cent** 80.47 342 P P 18 28 48.5 0.0
baz=160
G40A **Rib Lake** 80.53 347 P P 18 28 49.1 +0.3
baz=165
F43A **Flat Rock, Esc** 80.57 349 P P 18 28 49.4 +0.4
baz=167
E48A **Lockeyer** 80.58 353 P P 18 28 48.7 -0.3
baz=172
F42A **Maple Grove Fa** 80.65 349 P P 18 28 49.4 -0.1
baz=167
E47A **Iron Bridge** 80.67 352 P P 18 28 49.3 -0.1
baz=171
E46A **Sault Ste Mari** 80.70 352 P P 18 28 49.5 -0.2
baz=170
MTPU **Mount Pierson** 80.70 329 eP P 18 28 50.8 +0.5
comp=Z,22nm,1.9s
N23A **Red Feather La** 80.72 335 P P 18 28 49.1 -1.1
baz=152
SHPR **Sheep Range** 80.76 326 eP P 18 28 50.7 +0.2
comp=Z,18nm,1.6s
D53A **Lac Vacive, Po** 80.82 356 P P 18 28 50.3 0.0
baz=175
D54A **Lac Fusel, La** 80.84 357 P P 18 28 49.8 -0.6
baz=176
SRU **San Rafael Swe** 80.92 331 eP P 18 28 52.6 +1.4
comp=Z,6.0nm,0.9s
SRU **San Rafael Swe** 80.92 331 eP P 18 28 52.6 +1.4
SRU pmax pmax
comp=Z,6.0nm,0.9s
D51A **Lot 18 Range I** 80.94 355 P P 18 28 50.7 -0.2
baz=174
LATQ **La Tuque** 80.98 360 P P 18 28 51.7 +0.6
baz=179
D50A **G1974 Best Tow** 81.05 355 P P 18 28 51.1 -0.4
baz=174
E43A **Lone Tree Farm** 81.08 350 eP P 18 28 52.4 +0.8
comp=Z,13nm,0.8s
E43A **Lone Tree Farm** 81.08 350 P P 18 28 51.3 -0.4
baz=168
F40A **Park Falls** 81.15 347 P P 18 28 51.9 -0.2
baz=165
D48A **Paudash Townsh** 81.23 353 P P 18 28 52.6 +0.1
baz=172
D47A **Chapleau** 81.24 352 P P 18 28 52.3 -0.2
baz=171
E42A **Champion** 81.27 349 P P 18 28 53.0 +0.3
baz=167
F39A **Loretta** 81.29 347 P P 18 28 52.9 0.0
baz=164
MPMC **Manual Prospec** 81.50 324 P P 18 28 54.8 +0.4
baz=143
F38A **Pierce - Schro** 81.52 346 P P 18 28 54.6 +0.6
baz=164
E40A **Wakefield** 81.62 348 P P 18 28 55.0 +0.4
baz=165
TPNV **Topopah Spring** 81.62 326 eP P 18 28 56.5 +1.5
comp=Z,7.7nm,1.0s
TPNV **Topopah Spring** 81.62 326 eP P 18 28 56.5 +1.5
TPNV pmax pmax
comp=Z,8.0nm,1.0s
TPNV **Topopah Spring** 81.62 326 P P 18 28 55.5 +0.5
baz=144
ISA **Isabella, Lake** 81.66 323 P P 18 28 55.3 +0.1
baz=143
E39A **Mellen** 81.67 347 P P 18 28 55.4 +0.6
baz=165
DAC **Darwin (Calif)** 81.72 324 eP P 18 28 57.7 +2.1
comp=Z,14nm,1.4s
DAC **Darwin (Calif)** 81.72 324 eP P 18 28 57.7 +2.1
DAC pmax pmax
comp=Z,14nm,1.4s
PKM **Mcpherson Peak** 81.73 322 P P 18 28 55.4 -0.3
baz=142
PSUT **Pine Spring** 81.84 328 eP P 18 28 57.8 +1.6
comp=Z,7.2nm,1.1s
VLDQ **Val d'Or** 81.84 356 eP P 18 28 56.6 +1.0
comp=Z,22nm,0.9s
D41A **Chassel** 81.99 349 eP P 18 28 57.0 +0.6
comp=Z,36nm,0.8s
D41A **Chassel** 81.99 349 P P 18 28 56.6 +0.1
baz=166
E38A **The Farm, Brul** 82.08 347 eP P 18 28 57.2 +0.3
comp=Z,12nm,1.1s
E38A **The Farm, Brul** 82.08 347 P P 18 28 57.3 +0.3
baz=164
CWC **Cottonwood Cre** 82.09 324 P P 18 28 57.8 +0.3
baz=143
MPU **Maple Canyon** 82.14 330 eP P 18 28 59.4 +1.7
comp=Z,20nm,1.5s
LBTB **Lobatse** 82.43 115 LR LR 19 03 54.5
comp=Z,464nm,18.0s,baz=236,slow=34
R11A **Troy Canyon, C** 82.46 327 eP P 18 29 01.2 +1.8
comp=Z,10.0nm,1.1s
R11A **Troy Canyon, C** 82.46 327 P P 18 29 00.4 +1.0
baz=145
LSQQ **Lebel-sur-Quev** 82.76 357 P P 18 29 01.0 +0.5
baz=176
DUG **Dugway, Tooele** 82.78 330 P P 18 29 02.3 +1.3
DUG pmax pmax
comp=Z,17nm,1.4s
DUG **Dugway, Tooele** 82.78 330 P P 18 29 01.8 +0.8
baz=147
C40A **Isle Royale Na** 82.91 349 P P 18 29 02.2 +0.9
baz=166
RSSD **Black Hills** 82.95 337 eP P 18 29 02.6 +0.7
comp=Z,13nm,1.4s
RSSD **Black Hills** 82.95 337 eP P 18 29 02.6 +0.7
RSSD pmax pmax
comp=Z,13nm,1.4s
RSSD **Black Hills** 82.95 337 P P 18 29 02.0 +0.1
baz=154
EYMN **Ely** 83.35 347 eP P 18 29 03.8 +0.2
comp=Z,11nm,1.0s

EYMN	Ely	83.35	347	P		P	18 29 03.7	+0.2
	baz=164							
HWUT	Hardware Ranch	83.46	331	*e*P		P	18 29 05.2	+0.6
	comp=Z,7.6nm,0.8s							
MATQ	Matagami	83.49	356	P		P	18 29 04.5	+0.3
	baz=175							
CHGQ	Chibougamau	83.53	359	P		P	18 29 04.6	+0.1
	baz=178							
PDAR	Pinedale Array	83.67	333	P		P	18 29 06.6	+0.9
	comp=Z,1.6nm,1.0s,baz=147,slow=3.5,SNR=8.1							
PDAR	Pinedale Array	83.67	333	*e*P		P	18 29 05.8	+0.2
NV01	Mina Array Sit	83.78	325	*e*P		P	18 29 07.7	+1.4
NVAR	Mina Array Bea	83.78	325	P		P	18 29 07.2	+1.0
	comp=Z,2.3nm,0.8s,baz=147,slow=5.5,SNR=10							
DRLN	Deer Lake	83.87	10	*e*P		P	18 29 07.0	+0.8
	comp=Z,162nm,1.8s							
HVU	Hansel Valley	84.09	331	*e*P		P	18 29 08.8	+1.1
	comp=Z,9.3nm,1.2s							
HVU	Hansel Valley	84.09	331	*e*P		P	18 29 08.8	+1.1
HVU				pmax	pmax			
	comp=Z,9.0nm,1.2s							
KVN	Kaiserville	84.18	326	*e*P		P	18 29 09.5	+1.2
	comp=Z,8.3nm,1.2s							
KVN	Kaiserville	84.18	326	*e*P		P	18 29 09.5	+1.2
KVN				pmax	pmax			
	comp=Z,8.0nm,1.2s							
TOA0	Torodi Ar. Sit	84.31	70	*e*P		P	18 29 07.7	-1.6
TORD	Torodi Ar. Bea	84.31	70	P		P	18 29 07.9	-1.4
	comp=Z,17nm,0.8s,baz=251,slow=4.4,SNR=74							
TORD				LR		LR	19 05 59.8	
	comp=Z,511nm,18.6s,baz=270,slow=35							
AGMN	Agassiz Nation	84.58	344	*e*P		P	18 29 10.0	+0.2
	comp=Z,9.0nm,0.8s							
AGMN	Agassiz Nation	84.58	344	P		P	18 29 09.6	-0.2
	baz=160							
MDND	Maddock	85.07	342	*e*P		P	18 29 13.0	+0.7
	comp=Z,34nm,0.8s							
MDND	Maddock	85.07	342	P		P	18 29 12.7	+0.4
	baz=157							
YHH	Holmes Hill	85.89	334	*e*P		P	18 29 18.2	+1.4
	comp=Z,10nm,1.0s							
LAO	LASA Array	85.94	337	*e*P		P	18 29 17.4	+0.6
	comp=Z,13nm,0.9s							
LAO	LASA Array	85.94	337	P		P	18 29 17.0	+0.3
	baz=152							
ORV	Oroville	86.20	324	*e*P		P	18 29 19.8	+1.6
	comp=Z,23nm,1.4s							
ORV	Oroville	86.20	324	P		P	18 29 19.8	+1.6
ORV				pmax	pmax			
	comp=Z,23nm,1.4s							
HLID	Hailey	86.24	331	*e*P		P	18 29 19.9	+1.4
	comp=Z,111nm,1.1s							
HLID	Hailey	86.24	331	P		P	18 29 19.5	+1.0
	baz=146							
ULM	Lac du Bonnet	86.43	345	P		P	18 29 18.2	-0.8
	comp=Z,8.7nm,0.9s,baz=167,slow=3.0,SNR=9.7							
MCMT	McKenzie Canyo	86.58	332	*e*P		P	18 29 22.2	+1.5
DGMT	Dagmar	86.90	339	*e*P		P	18 29 22.3	+0.9
	comp=Z,30nm,0.9s							
DGMT	Dagmar	86.90	339	P		P	18 29 21.9	+0.5
	baz=154							
MATP	Matopo	87.23	113	LR		LR	19 04 34.0	
	comp=Z,517nm,20.7s,baz=243,slow=33							
J08A	Circle Bar Ran	87.79	328	*e*P		P	18 29 27.6	+1.7
	comp=Z,26nm,1.4s							
N02D	Trinity Center	87.88	324	P		P	18 29 27.0	+0.6
	baz=140							
M04C	Macdoel	88.09	325	P		P	18 29 28.0	+0.6
	baz=141							
EGMT	Eagleton	88.27	336	P		P	18 29 28.4	+0.4
	baz=150							
M02C	Callahan	88.28	324	P		P	18 29 28.9	+0.7
	baz=140							
YBH	Yreka Blue Hor	88.47	325	P		P	18 29 29.2	0.0
	comp=Z,4.2nm,0.9s,baz=151,slow=10							
YBH				LR		LR	19 02 19.9	
	comp=Z,190nm,20.5s,baz=252,slow=31							
SCHQ	Schefferville	88.55	3	P		P	18 29 29.0	-0.1
	comp=Z,8.3nm,0.9s,baz=246,slow=7.9,SNR=3.9							
L04D	Klamath Falls	88.64	325	P		P	18 29 30.6	+0.6
	baz=140							
TAM	Tamanrasset	92.92	65	*e*P		P	18 29 51.3	+0.9
	comp=Z,4.3nm,0.8s							
TAM	Tamanrasset	92.92	65	*e*P		P	18 29 51.3	+0.9
TAM				pmax	pmax			
	comp=Z,4.0nm,0.8s							
B05A	Bryant	93.21	329	P		P	18 29 52.4	+1.4
	baz=140							
ESDC	Sonseca Array	96.64	46	P		P	18 30 05.9	-1.0
	comp=Z,1.1nm,0.8s,baz=247,slow=4.2,SNR=4.6							
ESDC				LR		LR	19 13 02.1	
	comp=Z,201nm,18.9s,baz=260,slow=35							
ES19	SONSECA Array	96.69	46	*e*P		P	18 30 07.5	+0.4
DZM	Mont Dzumac	101.16	234	*e*SS		SS	18 49 09.4	+3.6
	comp=Z,172nm,24.4s							
DZM	Mont Dzumac	101.16	234	*e*LR		LR	19 03 37.3	
	comp=Z,506nm,28.5s							
YKA	Yellowknife Ar	101.98	341	P		Pdif	18 30 29.9	-0.2
	comp=Z,0.5nm,0.7s,baz=139,slow=4.5,SNR=3.0							
GERES	GERESS Array B	112.22	45	PKiKP		PKiKP	18 35 11.9	-0.4
	comp=Z,1.2nm,0.8s,baz=225,slow=0.4,SNR=11							
ILAR	Eielson Array	114.10	333	PKP		PKPdf	18 35 15.0	-0.3
	comp=Z,0.4nm,0.9s,baz=135,slow=0.3,SNR=4.6							
ILAR				PP		PP	18 36 20.2	+10
	comp=Z,0.4nm,0.9s,baz=119,slow=5.2,SNR=4.1							
ILAR	Eielson Array	114.10	333	PKIKP		PKPdf	18 35 15.0	-0.3
ILAR							18 36 20.2	
ILAR				pmax	pmax			
	comp=Z,1.0nm,1.2s							
NOA	NORSAR Array B	116.06	33	PKP		PKPdf	18 35 19.7	+0.5
	comp=Z,0.9nm,0.8s,baz=252,slow=1.9,SNR=3.1							
TOLK	Toolik Lake Re	116.80	336	P		PKPdf	18 35 20.5	0.0
	baz=115							
ASAR	Alice Springs	117.55	207	PKP		PKPdf	18 35 22.1	-1.3
	comp=Z,1.2nm,0.9s,baz=134,slow=1.5,SNR=11							
ASAR				PKKPbc		PKKPbc	18 45 45.2	+0.3
	comp=Z,0.7nm,0.7s,baz=336,slow=2.7,SNR=8.2							
BUR04	Bucovina Ar. S	118.81	50	*e*PKPdf		PKPdf	18 35 25.2	+0.1
BUR08	Bucovina Ar. S	118.81	50	*e*PKPdf		PKPdf	18 35 26.5	+1.4
WB2	Warramunga Arr	120.73	209	*e*PKPdf		PKPdf	18 35 28.7	-0.9
WRA	Warramunga Arr	120.73	209	PKP		PKPdf	18 35 28.7	-0.9
	comp=Z,2.0nm,0.7s,baz=152,slow=1.6,SNR=24							
BR131	Keskin Array S	121.92	61	*e*PKPdf		PKPdf	18 35 31.6	+0.2
BRTR	Keskin Array B	121.92	61	PKP		PKPdf	18 35 31.5	+0.2
	comp=Z,3.3nm,0.8s,baz=196,slow=2.9,SNR=20							
AK11	Malin Array Si	122.22	47	*e*PKPdf		PKPdf	18 35 30.6	-0.7
KIEV	Kiev	122.25	47	*e*PKPdf		PKPdf	18 35 30.5	-0.9
KIEV	Kiev	122.25	47	*i* PKIKP		PKPdf	18 35 30.3	-1.1
AKASG	Malin Array Be	122.26	47	PKP		PKPdf	18 35 30.6	-0.7
	comp=Z,4.0nm,0.7s,baz=263,slow=2.8,SNR=29							
FINES	FINESS Array B	123.03	35	PKP		PKPdf	18 35 32.2	-0.4
	comp=Z,3.5nm,0.8s,baz=264,slow=3.8,SNR=4.7							
ARCES	ARCESS Array B	124.03	25	PKP		PKPdf	18 35 34.3	0.0
	comp=Z,2.3nm,0.7s,baz=263,slow=2.1,SNR=7.4							
FITZ	Fitzroy Crossi	125.51	201	*e*PKPdf		PKPdf	18 35 38.7	0.0
H11S2	WAKE ISLAND Hyl	125.65	269	T		T	20 54 45.8	
	baz=118,slow=74,SNR=28							
H11S1	WAKE ISLAND Hyl	125.66	269	T		T	20 54 48.0	
	baz=118,slow=74,SNR=22							
H11S3	WAKE ISLAND Hyl	125.66	269	T		T	20 54 50.0	
	baz=118,slow=74,SNR=19							
H11N3	WAKE ISLAND Hyl	126.06	271	T		T	20 54 47.6	
	baz=121							
H11N1	WAKE ISLAND Hyl	126.07	271	T		T	20 54 43.4	
	baz=121							
H11N2	WAKE ISLAND Hyl	126.08	271	T		T	20 54 44.5	
	baz=121							
OBN	Obninsk	127.49	43	*ce*PKIKP		PKPdf	18 35 41.7	+0.5
OBN				*e*			18 37 43.6	
OBN				pmax	pmax			
	comp=Z,65nm,2.9s							
VSR	Storozhevoye	128.51	48	*e*PKIKP		PKPdf	18 35 43.0	-0.3
VSR				pmax	pmax			
	comp=Z,7.0nm,0.9s							
VORD	Divnogorie	128.55	49	*e*PKIKP		PKPdf	18 35 43.0	-0.4
VORD				pmax	pmax			
	comp=Z,6.0nm,0.8s							
LPSR	Galich'ya Gora	128.56	47	*e*PKIKP		PKPdf	18 35 43.5	+0.1
LPSR				pmax	pmax			
	comp=Z,10.0nm,0.6s							
KLMR	Klimovskoe	129.45	36	*e*PKIKP		PKPdf	18 35 44.2	-0.6
KLMR				pmax	pmax			
	comp=Z,14nm,0.9s							
KLMR	Klimovskoe	129.45	36	*e*PKPdf		PKPdf	18 35 44.3	-0.6
KLMR				AMP			18 35 46.7	
	comp=Z,14nm,0.9s							
KIV	Kislovodsk	129.57	58	*i* PKIKP		PKPdf	18 35 46.1	+0.3
KIV				pmax	pmax			
	comp=Z,9.0nm,1.1s							
KIV				MLR	MLR			
	comp=Z,184nm,23.0s							
KBZ	Khabaz	129.68	59	PKP		PKPdf	18 35 46.7	+0.9
	comp=Z,3.5nm,1.0s,baz=140,slow=2.9,SNR=5.3							
GOF	Gofitskoye	130.04	57	*e*PKHKP		PKPpre	18 35 22.7	
GOF				pmax	pmax			
	comp=Z,50nm,1.8s							
VRH	Novokhopyorsk	130.10	49	*e*PKIKP		PKPdf	18 35 45.8	-0.6
VRH				pmax	pmax			
	comp=Z,10.0nm,0.8s							
PRGR	Permogore	132.36	35	*e*PKIKP		PKPdf	18 35 50.0	-0.3
PRGR				pmax	pmax			
	comp=Z,9.0nm,0.7s							
ARU	Arti	139.79	41	*i* PKHKP		PKPpre	18 35 57.5	
ABKAR	Akbulak array	141.76	52	*e*PKPpre		PKPpre	18 36 02.4	
PALK	Pallekele	143.50	131	*i* PKHKP		PKPpre	18 36 06.5	
GSI	Gunungsitoli	146.13	161	*e*PKPdf		PKPbc	18 36 17.9	+0.2
BRVK	Borovoye	147.26	43	*e*PKPdf		PKPdf	18 36 18.6	+1.1
BRVK	Borovoye	147.26	43	*e*PKP2		PKPdf	18 36 18.6	+1.1
PSI	Prapat	147.91	163	*e*PKPdf		PKPdf	18 36 21.4	+1.4
PSI	Prapat	147.91	163	*e*PKP2		PKPdf	18 36 21.4	+1.4
YAK	Yakutsk	148.65	340	*e*PKPbc		PKPbc	18 36 23.3	+0.1
YAK	Yakutsk	148.65	340	*e*PKHKP		PKPpre	18 36 18.5	
YAK				pmax	pmax			
	comp=Z,42nm,1.0s							
YAK				pmax	pmax			
	comp=N,2.0nm,0.8s							
YAK				pmax	pmax			
	comp=E,7.0nm,1.0s							
HYB	Hyderabad	149.06	115	*i* PKP		PKPbc	18 36 25.0	-0.7
HYB				*e*			18 36 30.0	
KK31	Karatay Array	149.63	61	*e*PKPdf		PKPdf	18 36 22.7	+0.9
KKAR	Karatay Array	149.63	61	*e*PKPdf		PKPdf	18 36 22.7	+0.9
FRU	Bishkek	152.66	61	*e*PKIKP		PKPbc	18 36 32.0	-1.5
KURK	Kurchatov	152.94	43	*e*PKPdf		PKPdf	18 36 26.8	+0.3
KURK	Kurchatov	152.94	43	*e*PKIKP		PKPdf	18 36 26.8	+0.3
NVS	Novosibirsk	152.97	32	*e*PKIKP		PKPdf	18 36 26.9	+0.5
NVS				pmax	pmax			
	comp=Z,32nm,0.8s							
NVS				pmax	pmax			
	comp=N,3.0nm,0.7s							
NVS				pmax	pmax			
	comp=E,5.0nm,0.7s							
KSH	Kashi	153.97	68	PKPbc		PKPbc	18 36 36.3	-0.3
KSH				PP	PP		18 40 34.4	+9.3
KSH				SKS	SKSdf		18 43 41.4	+5.9
ZALV	Zalesovo Beam	154.26	32	PKP		PKPdf	18 36 28.1	-0.2
	comp=E,5.3nm,0.8s,baz=284,slow=3.0,SNR=20							
ZALV				PKPbc		PKiKP	18 36 36.7	+0.2
	comp=E,29nm,0.7s,baz=295,slow=3.2,SNR=60							
ZALV				PKPab		PKPab	18 36 50.8	+0.3
	comp=E,13nm,0.7s,baz=297,slow=5.2,SNR=8.4							
BOD	Bodaibo	155.77	352	*e*PKP2		PKPab	18 36 56.4	-0.4
BOD				pmax	pmax			
	comp=Z,15nm,0.9s							
MK31	Makanchi Array	156.83	49	*e*PKPdf		PKPdf	18 36 32.3	+0.2
MK31	Makanchi Array	156.83	49	*e*PKIKP		PKPdf	18 36 32.3	+0.2
MKAR	Makanchi Array	156.83	49	PKP		PKPdf	18 36 31.7	-0.3
	comp=Z,2.4nm,0.8s,baz=318,slow=1.6,SNR=17							
MKAR				PKPab		PKPab	18 37 01.4	-0.4
	comp=Z,6.7nm,0.7s,baz=299,slow=4.2,SNR=18							
MKAR	Makanchi Array	156.83	49	*e*PKPdf		PKPdf	18 36 32.3	+0.2
MKAR				PKPab		PKPab	18 37 01.4	-0.4
MKAR	Makanchi Array	156.83	49	*e*PKIKP		PKPdf	18 36 32.3	+0.2
MK01	Makanchi Array	156.85	49	*e*PKPdf		PKPdf	18 36 31.9	-0.1
WMQ	Urumqi	161.54	52	*e*PKP		PKPdf	18 36 37.8	+0.1
WMQ				LR		LR		
	comp=Z,380nm,21.3s							
WMQ				LR		LR		
	comp=Z,390nm,21.3s							
CM01	Chiang Mai Arr	162.62	151	*e*PKPdf		PKPdf	18 36 39.1	-0.4
CMAR	Chiang Mai Arr	162.65	151	PKP		PKPdf	18 36 39.4	0.0
	comp=Z,1.7nm,0.8s,baz=250,slow=2.9,SNR=16							
CMAR				PKPab		PKPab	18 37 26.6	-1.1
	comp=Z,0.7nm,0.6s,baz=227,slow=6.1,SNR=4.6							
CHTO	Chiang Mai	162.97	150	*e*PKPdf		PKPdf	18 36 40.1	+0.3
CHTO	Chiang Mai	162.97	150	*e*PKIKP		PKPdf	18 36 40.1	+0.3
CN2	Changchun	163.15	311	*e*PKP		PKPdf	18 36 37.0	-2.2
SONA1	Songino Array	166.09	4	*e*PKPab		PKPab	18 37 43.0	+0.8
ULN	Ulaanbaatar	166.10	2	*e*PKPab		PKPab	18 37 43.3	+1.0
ULN	Ulaanbaatar	166.10	2	*e*PKP2		PKPab	18 37 43.3	+1.0
SONM	Songino Array	166.10	4	PKP		PKPdf	18 36 41.3	-0.5
	comp=Z,0.9nm,0.8s,baz=207,slow=2.3,SNR=6.4							
SONM				PKPab		PKPab	18 37 42.4	+0.2
	comp=Z,3.0nm,0.8s,baz=329,slow=4.6,SNR=15							
KMI	Kunming	170.15	152	PKP		PKPdf	18 36 43.9	-1.5
KMI				pPKP		sPKPdf	18 36 50.3	0.0
KMI				PP		PP	18 41 51.6	+1.4
KMI				SS		SS	19 02 54.0	+4.0
KMI				LR		LR		
	comp=Z,110nm,21.9s							
NJ2	Nanjing	170.53	261	*e*PKP		PKPdf	18 36 45.6	+0.5
GTA	Gaotai	171.59	47	PKP		PKPdf	18 36 45.6	0.0
GTA				PKPab		PKPab	18 38 07.4	+0.5
GTA				PP		PP	18 41 59.8	+1.9
GTA				SKS		SKSdf	18 43 50.0	+0.9
GTA				SS		SS	19 03 08.5	+3.5
GTA				AMB	AMB			
	comp=Z,95nm,5.8s							
GTA				LR	LR			
	comp=Z,240nm,21.0s							
GTA				LR	LR			
	comp=Z,160nm,19.6s							
GTA				LR	LR			
	comp=Z,250nm,18.2s							
GYA	Guiyang	172.46	172	*e*PKP		PKPdf	18 36 46.3	-0.1
GYA				PKPab		PKPab	18 38 12.0	+1.1
GYA				PKS		PKSdf	18 40 16.6	-2.3
GYA				PP		PP	18 42 04.8	+3.6
GYA				AMB	AMB			
	comp=Z,120nm,7.9s							
HHC	Hu-ho-hao-te	172.50	338	*e*PKP		PKPdf	18 36 46.6	+0.6
HHC				PP		PP	18 42 01.6	0.0
HHC				SS		SS	19 03 15.1	+2.5
HHC				AMB	AMB			
	comp=Z,170nm,9.8s							
HHC				LR	LR			
	comp=Z,300nm,19.8s							
HHC				LR	LR			
	comp=Z,210nm,19.0s							
HHC				LR	LR			
	comp=Z,360nm,19.6s							
CD2	Chengdu	175.42	130	PKP		PKPdf	18 36 46.0	-1.2
LZH	Lanzhou	176.11	56	*e*PKP		PKPdf	18 36 44.3	-3.1
LZH				pPKP		sPKPdf	18 36 54.3	+2.0
LZH				PKPab		pPKPab	18 38 29.3	-1.5
LZH				PKS		PKSdf	18 40 14.4	-5.3
LZH				PP		PP	18 42 19.8	-0.4
LZH				SKS		SKSdf	18 43 50.6	+0.1
LZH				SKKS		SKKSac	18 49 07.9	+1.3
LZH				SS		SS	19 03 44.4	-5.0
LZH				AMB	AMB			
	comp=Z,230nm,6.2s							
LZH				LR	LR			
	comp=Z,280nm,12.7s							
LZH				LR	LR			
	comp=Z,410nm,16.0s							
LZH				LR	LR			
	comp=Z,360nm,16.5s							

SOME ***21*** *18:47:41.9,43.˚12N×71.˚50E,h10km*
NNC ***21*** *18:47:41.4±1.3,42.˚95N×71.˚55E,h0km,mb2.8,mpv1.7,*
Error ellipse: s-maj=8.8km s-min=7.5km az=46.0
ISCJB ***21*** *18:47:42.6±0.8,43.˚00N±0.˚05×71.˚58E±0.˚04,h15km±9km,*
Error ellipse: s-maj=8.9km s-min=5.2km az=7.2
KRNET ***21*** *18:47:42.2±0.1,42.˚96N×71.˚65E,h24km,mb2.4*

ISC 21 18:47:42.8±1.1,42.˚96N±0.˚06×71.˚59E±0.˚03,h16km±7km,
n15,σ1s31/29,15C-4D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZA	Taraz	0.20	251	*e*P	Pg	18 47 47.6	0.0
	baz=54						
DZA				*e*S	Sg	18 47 51.8	+1.0
	baz=54						
DZA	Taraz	0.20	251	*e*P	Pg	18 47 47.6	0.0
	18nm,0.1s						
DZA				*e*S	Sg	18 47 51.7	+1.0
	57nm,0.2s						
KK31	Karatay Array	0.80	281	P	Pg	18 47 56.3	-2.2
	0.1nm,0.2s,baz=100,slow=17,SNR=34						
KK31				⇑S	Sg	18 48 06.8	-2.3
	1.0nm,0.3s,baz=101,slow=30,SNR=13						
MNAS	Manas	0.82	125	⇓P	Pg	18 47 58.4	-0.5
	0.3nm,0.3s						
MNAS				⇓S	Sg	18 48 07.9	-1.8
	0.7nm,0.2s						
MNAS	Manas	0.82	125	⇑*i*P	Pg	18 47 57.1	-1.8
	baz=26						
MNAS				⇑*i*S	Sg	18 48 07.9	-1.8
	baz=26						
JBG	Jabagly	0.94	236	*e*P	Pg	18 48 00.0	-1.1
	baz=99						
JBG				*e*S	Sg	18 48 12.7	-0.7
	baz=99						
ARK	Arkit	1.19	166	⇑*i*P	Pn	18 48 04.6	-0.4
	baz=68						
ARK				⇑*i*S	Sb	18 48 20.8	+0.4
	baz=68						
MRKS	Merke	1.22	100	*e*P	Pg	18 48 06.6	+0.2
MRKS				*e*S	Sn	18 48 24.5	+2.8
IUG	luzhnay	1.41	235	*e*P	Pn	18 48 08.4	+0.5
IUG				*e*S	Sn	18 48 27.5	+1.2
EKS2	Erkin-Say	1.64	100	⇑*i*P	Pn	18 48 11.4	+0.3
	baz=0.0						
EKS2				⇑*i*S	Sn	18 48 32.7	+0.7
	baz=0.0						
AML	Almayashu	1.76	117	⇓*i*P	Pn	18 48 13.1	0.0
	baz=18						
AML				⇓*i*S	Sn	18 48 35.1	-0.3
	baz=18						
ARSB	Arslanbob	1.93	147	⇑*i*P	Pn	18 48 15.8	+0.5
	baz=48						
ARSB				⇑*i*S	Sn	18 48 40.7	+1.4
	baz=48						
USP	Ospenovka	2.15	81	⇑*i*P	Pn	18 48 19.2	+1.0
	baz=81						
USP				⇑*i*S	Sn	18 48 45.9	+1.3
	baz=81						
AAK	Ala-Archa	2.16	98	⇑Pg	Pg	18 48 23.0	-1.3
	2.1nm,0.8s						
AAK				⇑Lg	Lg	18 48 52.5	
	1.0nm,0.5s						
ARLS	Aral	2.30	118	⇑*e*P	Pn	18 48 21.1	+0.8
	baz=18						
ARLS				⇑*i*S	Sn	18 48 49.7	+1.3
	baz=18						

MAN ***21*** *18:54:49.2,5.˚15N×126.˚46E,h30km,mb5.0,ML3.9,MS4.0*
ISCJB ***21*** *18:54:55.2±0.5,5.˚64N±0.˚03×126.˚37E±0.˚06,h108km±4km,*
mb4.0/19,Error ellipse: s-maj=10.1km s-min=4.8km
az=167.7
NEIC ***21*** *18:54:55.3±0.9,5.˚76N×126.˚55E,h95km±8km,mb4.2/8,*
Error ellipse: s-maj=13.0km s-min=5.7km az=72.0
IDC ***21*** *18:54:56.0±1.5,5.˚63N×126.˚28E,h97km±13km,mb3.7/13,*
mb1 3.9/14,mb1mx3.7/47,mbtmp4.1/14,MS3.9/2,
Ms1 3.9/2,ms1mx3.0/32,Error ellipse: s-maj=32.7km
s-min=10.7km az=70.0
DJA ***21*** *18:55:01.7±0.5,5.˚N±4.˚×12.˚6E±.˚,h53km±15km,M4.5/11,*
mb4.8/11,mB4.9/6,MLv4.6/7,Mw(mB)4.2/6

ISC 21 18:54:55.9±0.8,5.˚59N±0.˚04×126.˚43E±0.˚07,h98km±7km,
n80,σ1s75/95,mb4.1/19,1C-4D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	1.55	289	⇓*i*P	Pn	18 55 20.6	-2.3
DAV	Davao City (W)	1.70	330	P	Pn	18 55 23.9	-0.6
	56nm,0.3s,baz=114,slow=3.2,SNR=3.9						
DAV				S	Sn	18 55 42.9	-3.4
	155nm,0.3s,baz=53,slow=23,SNR=11						
DAV	Davao City (W)	1.70	330	*e*Pn	Pn	18 55 20.4	-4.1
DAV				*e*		18 55 23.7	
DAV				S	Sn	18 55 42.9	-3.4
SGSI	Sangihe	2.09	205	P	Pn	18 55 29.9	+0.3
BIPH	Bislig	2.58	359	⇑*e*P	Pn	18 55 37.0	+1.0
BIPH				*e*S	Sn	18 56 09.4	+2.5
BUKP	Musuan	2.65	329	*e*P	Pn	18 55 36.0	-1.0
BUKP				*e*S	Sn	18 56 12.5	+3.9
CTBH	Cotabato--PC H	2.71	307	⇓*e*P	Pn	18 55 35.7	-2.1
CGP	Cagayan de Oro	3.33	329	⇓*e*P	Pn	18 55 42.9	-3.2
CGP				*e*S	Sn	18 56 28.7	+4.0
BUTP	Butuan	3.46	347	*e*P	Pn	18 55 49.0	+1.3
BUTP				*e*S	Sn	18 56 33.5	+5.7
PAGZ	Pagadian	3.77	307	*e*P	Pn	18 55 51.0	-0.9
SCPH	Surigao	4.27	347	⇓*e*P	Pn	18 55 59.5	+0.7
IPIL	Ipil	4.41	300	*e*P	Pn	18 55 59.8	-0.9
IPIL				*e*S	Sn	18 56 53.9	+2.9
MSLP	Maasin	4.78	341	*e*P	Pn	18 56 08.8	+3.2
TNTI	Ternate	4.87	169	*e*Pn	Pn	18 56 08.2	+1.3
TNTI	Ternate	4.87	169	P	Pn	18 56 07.4	+0.5
MRSI	Marisa	6.77	222	P	Pn	18 56 34.4	+1.7
	80nm,0.6s,863nm						
MRSI				S	Sn	18 57 46.4	-1.9
	80nm,0.6s,863nm						
LUWI	Luwuk	7.53	209	*e*Pn	Pn	18 56 47.3	+4.3
LUWI	Luwuk	7.53	209	P	Pn	18 56 44.9	+1.9
SANI	Sanana	7.60	183	P	Pn	18 56 42.6	-1.4
SIJI	Sorong	8.03	143	P	Pn	18 56 50.0	+0.1
	6.3nm,0.3s,baz=334,slow=15,SNR=33						
SIJI				S	Sn	18 58 17.1	-2.0
	0.4nm,0.3s,baz=153,slow=23,SNR=1.1						

0.2nm,0.6s,baz=338,slow=2.8,SNR=4.5
KSAR Wonju Array Be 31.73 2 P **P** **19 01 11.4 +0.8**
KSRS Korea Array 31.75 2 P **P** **19 01 11.4 +0.7**
0.7nm,0.5s,baz=187,slow=11,SNR=3.8
KSRS LR LR 19 14 49.2
comp=Z,48nm,19.4s,baz=115,slow=38
USRK Ussuriysk Ar. 38.77 6 P **P** **19 02 10.6 -0.2**
0.9nm,0.6s,baz=178,slow=9.9,SNR=3.0
STKA Stephens Creek 39.96 160 P **P** **19 02 22.3 +1.4**
3.7nm,0.7s,baz=321,slow=9.5,SNR=7.4
H11S2 WAKE ISLAND Hy 41.31 68 T T 19 46 40.5
SNR=9.1
TAPN Taplejung 42.70 305 *eP* **P** **19 02 43.1 -0.7**
ODAN Odare 42.77 304 *eP* **P** **19 02 44.2 -0.1**
RAMN Ramite 43.46 304 *eP* **P** **19 02 49.3 -0.5**
9.8nm,0.7s
KLR Kul'dur 43.72 5 P **P** **19 02 51.5 +0.3**
0.9nm,0.5s,baz=203,slow=7.7,SNR=3.5
JIRN Jiri 44.06 305 *eP* **P** **19 02 54.0 -0.8**
21nm,0.7s
GUN Gumba 44.41 305 *eP* **P** **19 02 56.6 -1.0**
18nm,0.8s
PKI Pulchoki 44.67 304 *eP* **P** **19 02 58.2 -1.4**
5.8nm,0.7s
PKIN Phulchoki 44.68 304 *eP* **P** **19 02 58.2 -1.5**
KKN Kakani 44.86 304 *eP* **P** **19 02 59.8 -1.2**
7.2nm,0.8s
DMN Daman 44.94 304 *eP* **P** **19 03 00.5 -1.1**
13nm,1.1s
SONA0 Songino Array 45.45 341 *eP* **P** **19 03 04.3 -0.9**
SONA0 *eP* cP **PcP** **19 04 43.2 +0.4**
SONM Songino Array 45.45 341 P **P** **19 03 04.3 -0.9**
0.9nm,0.7s,baz=145,slow=6.2,SNR=6.0
SONM PcP **PcP** **19 04 43.2 +0.4**
0.7nm,0.7s,baz=153,slow=4.7,SNR=5.1
KOLN Koldanda 46.24 303 *eP* **P** **19 03 11.0 -0.9**
20nm,0.6s
DANN Dangsing 46.31 304 *eP* **P** **19 03 11.4 -1.1**
26nm,0.6s
PYUN Piuthan 46.86 304 *eP* **P** **19 03 15.9 -0.8**
15nm,0.6s
MK01 Makanchi Array 55.85 325 *eP* **P** **19 04 22.2 -1.2**
MK31 Makanchi Array 55.87 325 *eP* **P** **19 04 22.4 -1.1**
MK32 Makanchi Array 55.87 325 *eP* **P** **19 04 22.1 -1.3**
MKAR Makanchi Array 55.87 325 P **P** **19 04 22.1 -1.3**
2.0nm,0.5s,baz=120,slow=7.6,SNR=37
MKAR Makanchi Array 55.87 325 *eP* **P** **19 04 22.4 -1.1**
16nm,0.5s
NIL Nilore 56.57 307 *eP* **P** **19 04 27.7 -1.0**
10nm,1.0s
ZAA0 Zalesovo Array 58.81 333 *eP* **P** **19 04 43.0 -0.9**
2.6nm,0.8s
ZALV Zalesovo Beam 58.81 333 P **P** **19 04 42.1 -1.8**
0.6nm,0.3s,baz=132,slow=7.2,SNR=3.0
ZALV Zalesovo Beam 58.81 333 *eP* **P** **19 04 42.5 -1.4**
ZAA1 Zalesovo Array 58.81 333 *eP* **P** **19 04 42.1 -1.8**
KK31 Karatay Array 61.68 316 *eP* **P** **19 05 03.2 -0.6**
KKAR Karatay Array 61.68 316 *eP* **P** **19 05 03.2 -0.6**
ARU Arti 73.22 327 LR LR 19 38 34.4
comp=Z,377nm,19.7s,baz=339,slow=36
VNDA Vanda 85.29 173 P **P** **19 07 22.4 +1.0**
1.0nm,0.7s,baz=314,slow=6.1,SNR=3.8
ARA0 ARCESS Array S 88.61 340 *eP* **P** **19 07 36.9 -0.8**
ARCES ARCESS Array B 88.61 340 P **P** **19 07 36.9 -0.8**
2.3nm,0.8s,baz=79,slow=6.4,SNR=7.5
FIA0 FINESS Array S 90.06 332 *eP* **P** **19 07 44.1 -0.5**
FINES FINESS Array B 90.06 332 P **P** **19 07 44.1 -0.5**
2.6nm,0.9s,baz=57,slow=7.0,SNR=8.1
H02S1 DAWSON INLET T 92.18 36 T T 20 50 48.9
SNR=49
TORD Torodi Ar. Bea 122.04 289 PKP **PKPdf** **19 13 38.4 -1.7**
0.6nm,0.4s,baz=66,slow=1.6,SNR=10
TOA1 Torodi Ar. Sit 122.04 289 *e*PKPdf **PKPdf** **19 13 38.4 -1.7**

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*ISCJB **21** 18:59:01.8±1.1,37°.37N±0°.06×72°.1E±0°.2,h150km, Error ellipse: s-maj=18.3km s-min=6.2km az=163.5*
*NNC **21** 18:59:08.5±3.8,37°.78N×71°.91E,h167km±51km,mb2.1, mpv3.0,Error ellipse: s-maj=41.5km s-min=30.8km az=61.0*

ISC 21 18:59:01.1±1.3,37°.30N±0°.09×72°.0E±0°.1,h150km,n11, σ2s13/15,4C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.96**	**23**	⇑P	**Pn**	**18 59 51.0**	**+2.9**
SFK	6.2nm,0.3s			⇓S	**Sn**	**19 00 25.5**	**+1.0**
MNAS	14nm,0.2s **Manas**	**5.20**	**4**	⇓P	**Pn**	**19 00 21.4**	**+4.3**
MNAS	0.3nm,0.3s			⇓S	**Sn**	**19 01 14.0**	**-2.6**
AAK	12nm,0.5s **Ala-Archa**	**5.67**	**19**	P	**Pn**	**19 00 23.3**	**-0.2**
AAK	2.1nm,0.5s			⇑S	**Sn**	**19 01 25.7**	**-2.2**
KK31	5.6nm,0.7s **Karatay Array**	**5.91**	**349**	P	**Pn**	**19 00 28.1**	**+1.6**
KK31	0.4nm,0.2s,baz=154,slow=12,SNR=34			⇑S	**Sn**	**19 01 30.4**	**-2.9**
KKN	8.1nm,0.5s,baz=171,slow=23,SNR=26 **Kakani**	**14.67**	**126**	*eP*	**Pn**	**19 02 21.4**	**-0.1**
DMN	**Daman**	**14.68**	**127**	*eP*	**Pn**	**19 02 22.1**	**+0.3**
AB31	**Akbulak array**	**14.80**	**328**	⇑P	**P**	**19 02 24.7**	**-0.1**
PKIN	0.5nm,0.5s,baz=137,slow=10,SNR=14 **Phulchoki**	**14.89**	**127**	*eP*	**P**	**19 02 25.3**	**-1.0**
PKI	3.0nm,0.4s **Pulchoki**	**14.90**	**127**	*eP*	**P**	**19 02 25.4**	**-1.1**
GUN	2.9nm,0.4s **Gumba**	**14.97**	**125**	*eP*	**P**	**19 02 26.2**	**-1.1**
JIRN	4.2nm,0.4s **Jiri**	**15.34**	**125**	*eP*	**P**	**19 02 30.8**	**-0.7**
	8.1nm,0.4s						

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*ISCJB **21** 18:59:56.9±1.2,8°.3S±0°.1×107°.86E±0°.07,h64km±12km, Error ellipse: s-maj=23.3km s-min=6.7km az=25.7*
*DJA **21** 18:59:56.0±0.9,8°.5S±4°×107°.8E±°,h10km±4km,M4.0/13, MLv4.0/13*
*IDC **21** 19:00:02.0±2.1,7°.83S×108°.29E,h81km±17km,mb3.2/4, mb1 3.4/4,mb1mx3.1/36,mbtmp3.6/4,Error ellipse: s-maj=77.1km s-min=18.6km az=50.0*

ISC 21 18:59:56.9±1.8,8°.4S±0°.1×107°.82E±0°.06,h49km±16km, n17,σ1s62/25,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.80**	**359**	P	**Pn**	**19 00 10.9**	**-1.1**
CISI				S	**Sn**	**19 00 21.0**	**-1.9**
CMJI	**Cimerak**	**0.84**	**47**	P	**Pn**	**19 00 11.9**	**-0.6**
CMJI				S	**Sn**	**19 00 22.3**	**-1.6**
KPJI	**Karang Pucung**	**1.50**	**47**	P	**Pn**	**19 00 22.4**	**+1.1**
LEM	**Lembang**	**1.54**	**352**	P	**Pn**	**19 00 23.6**	**+1.5**
	70nm,0.3s,baz=144,slow=17,SNR=43			S	**Sn**	**19 00 45.4**	**+4.5**
LEM	76nm,0.3s,baz=166,slow=22,SNR=7.3						
LEM				LR	LR	19 01 01.5	
	comp=Z,157nm,19.5s,baz=240,slow=50						
LEM	**Lembang**	**1.54**	**352**	P	**Pn**	**19 00 23.1**	**+1.0**
LEM				S	**Sn**	**19 00 42.1**	**+1.1**
SKJI	**Sukabumi**	**1.84**	**317**	P	**Pn**	**19 00 27.0**	**+0.9**
SKJI				S	**Sn**	**19 00 47.7**	**-0.5**
DBJI	**Dramaga**	**2.09**	**329**	P	**Pn**	**19 00 30.7**	**+1.3**
DBJI				S	**Sn**	**19 00 56.6**	**+2.3**
UGM	**Wanagama**	**2.71**	**81**	P	**Pn**	**19 00 38.6**	**+0.6**
CGJI	**Cibinong**	**2.74**	**309**	P	**Pn**	**19 00 38.3**	**0.0**
SMRI	**Semarang**	**2.90**	**63**	P	**Pn**	**19 00 42.5**	**+1.9**
WOJI	**Wonogiri, Jawa**	**3.11**	**81**	P	**Pn**	**19 00 44.6**	**+1.1**
PCJI	**Pacitan**	**3.32**	**87**	P	**Pn**	**19 00 47.5**	**+1.2**
PWJI	**Pagerwojo**	**3.95**	**85**	P	**Pn**	**19 00 56.1**	**+1.1**
WRA	**Warramunga Arr**	**28.12**	**117**	P	**P**	**19 05 45.4**	**+0.9**
	0.3nm,0.8s,baz=294,slow=10,SNR=2.8						
ASAR	**Alice Springs**	**29.24**	**124**	P	**P**	**19 05 55.3**	**+0.9**
	0.4nm,0.9s,baz=298,slow=7.9,SNR=3.5						
SONM	**Songino Array**	**55.96**	**359**	P	**P**	**19 09 28.9**	**-1.4**
	0.6nm,0.5s,baz=178,slow=5.5,SNR=7.0						
SONM				PcP	**PcP**	**19 10 27.8**	**-0.5**
	0.2nm,0.4s,baz=176,slow=4.7,SNR=3.6						
MKAR	**Makanchi Array**	**59.44**	**340**	P	**P**	**19 09 53.1**	**-1.5**
	0.5nm,0.5s,baz=158,slow=7.5,SNR=9.2						
MKAR				PcP	**PcP**	**19 10 41.6**	**-0.3**
	0.3nm,0.6s,baz=141,slow=4.8,SNR=2.5						

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*NIED **21** 19:06:00,29°.60N×140°.10E,h380km,Mw4.7 Best double couple: M0 1.49000×10^16 NP1:ϕ=291.00000°, δ45.00000°,λ=-33.00000°. NP2:ϕ=46.00000°,δ67.00000°, λ=-130.00000°.*
*JMA **21** 19:06:56.4±0.2,29°.58N×140°.13E,h385km±3km,M5.1*
*MOS **21** 19:06:57.9±0.9,29°.54N×139°.47E,h349km,mb4.7/72, Error ellipse: s-maj=7.3km s-min=4.3km az=115.6*
*IDC **21** 19:06:58.8±0.6,29°.53N×139°.53E,h346km±5km,mb4.1/31, mb1 4.3/36,mb1mx4.2/46,mbtmp4.8/36,Error ellipse: s-maj=9.7km s-min=7.7km az=89.0*
*BJI **21** 19:06:58.4,29°.41N×139°.67E,h381km,mb4.7/46, mb4.6/21*
*ISCJB **21** 19:06:58.1±0.2,29°.50N±0°.02×139°.62E±0°.03, h354km±1km,mb4.5/180,Error ellipse: s-maj=3.8km s-min=3.0km az=37.6*
*NEIC **21** 19:07:00.0±1.5,29°.53N×139°.48E,h358km±5km, mb4.6/126,Error ellipse: s-maj=14.9km s-min=11.7km az=107.0*

ISC 21 19:06:58.7±0.4,29°.54N±0°.04×139°.62E±0°.04,h347km±3km, h347km:pP-P,n567,σ1s27/649,mb4.6/194,75C-25D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.33**	**137**	*e*Pn	**Pn**	**19 07 58.9**	**-1.9**
CBIJ	**Chichi jima**	**3.33**	**137**	⇓P	**Pn**	**19 07 59.1**	**-1.8**
CBIJ				*e*S	**S**	**19 08 48.2**	**-2.7**
JHCJ	**Hachijojimakas**	**3.52**	**2**	⇑P	**Pn**	**19 08 03.4**	**+0.8**
JHCJ				*e*S	**S**	**19 08 55.4**	**+1.3**
JHJ2	**Mitsune**	**3.56**	**3**	*e*Pn	**Pn**	**19 08 03.7**	**+0.7**
JHJ2	**Mitsune**	**3.56**	**3**	⇑P	**Pn**	**19 08 03.7**	**+0.7**
JHJ2				*e*S	**S**	**19 08 55.8**	**+1.0**
JHJ	**Hachijo jima 2**	**3.57**	**2**	P	**Pn**	**19 08 03.7**	**+0.6**
	606nm,0.3s,baz=138,slow=23,SNR=258			S	**S**	**19 08 51.0**	**-3.9**
JHJ	463nm,0.3s,baz=78,slow=21,SNR=13						
JHHJ	**Haha-jima-NKT**	**3.68**	**141**	P	**Pn**	**19 08 02.7**	**-1.6**
JHHJ				*e*S	**S**	**19 08 54.2**	**-2.9**
JMKN	**Mikurajimanish**	**4.34**	**360**	⇑P	**Pn**	**19 08 10.8**	**-0.1**
TTO1	**TONANKAI O.B.S**	**4.73**	**330**	⇑P	**Pn**	**19 08 17.6**	**+2.8**
JIZS	**Izushimoda**	**5.20**	**353**	⇑P	**Pn**	**19 08 20.6**	**+0.4**
BSO1	**Boso 1**	**5.22**	**12**	P	**Pn**	**19 08 20.1**	**+0.2**
JSG	**Sagara**	**5.26**	**347**	⇑P	**Pn**	**19 08 22.7**	**+1.8**
BSO3	**Boso 3**	**5.30**	**8**	P	**Pn**	**19 08 20.6**	**-0.4**
BSO3				S	**S**	**19 09 25.4**	**-2.4**
JIE	**Ise**	**5.43**	**334**	⇑P	**Pn**	**19 08 25.2**	**+2.4**
JTNC	**Tanabenakahech**	**5.46**	**322**	P	**Pn**	**19 08 25.3**	**+2.1**
JTNC				*e*S	**S**	**19 09 33.0**	**+1.3**
BSO4	**Boso 4**	**5.47**	**6**	P	**Pn**	**19 08 22.5**	**-0.6**
BSO4				*e*S	**S**	**19 09 29.1**	**-2.4**
JKN2	**Miekihoku**	**5.48**	**330**	⇑P	**Pn**	**19 08 25.5**	**+2.2**
JAA	**Atsumi**	**5.49**	**338**	P	**Pn**	**19 08 25.5**	**+2.0**
HMMJ	**Hamamatsu 2**	**5.54**	**344**	⇑P	**Pn**	**19 08 25.4**	**+1.4**
JWM	**Minabe**	**5.62**	**321**	⇑P	**Pn**	**19 08 27.2**	**+2.2**
SHZ3	**Shizuoka 3**	**5.64**	**348**	⇑P	**Pn**	**19 08 26.3**	**+1.1**
JYZW	**Yoshizawa**	**5.67**	**344**	P	**Pn**	**19 08 26.9**	**+1.4**
JOD2	**Odawara 2**	**5.72**	**356**	P	**Pn**	**19 08 25.9**	**-0.2**
JOD2				S	**S**	**19 09 35.7**	**-1.3**
TSUJ	**Tsu 2**	**5.82**	**333**	⇑P	**Pn**	**19 08 29.7**	**+2.5**
JNY	**Yasuok**	**5.99**	**346**	⇑P	**Pn**	**19 08 30.3**	**+1.1**
JYN	**Shimob**	**6.01**	**352**	⇑P	**Pn**	**19 08 29.9**	**+0.5**
JAO	**Obara**	**6.05**	**341**	⇑P	**Pn**	**19 08 31.6**	**+1.8**
JAI	**Aioi**	**6.11**	**315**	⇑P	**Pn**	**19 08 33.2**	**+2.6**
INU	**Inuyama**	**6.19**	**340**	*e*Pn	**Pn**	**19 08 33.2**	**+1.7**
JEG	**Eigenji**	**6.21**	**335**	⇑P	**Pn**	**19 08 34.4**	**+2.7**
JHU	**Hanno**	**6.30**	**358**	⇑P	**Pn**	**19 08 31.4**	**-1.3**
JHU				*e*S	**S**	**19 09 42.8**	**-6.2**
JAJZ	**Tsuna**	**6.31**	**322**	⇑P	**Pn**	**19 08 35.2**	**+2.4**
JGF	**Kuroka**	**6.34**	**343**	⇑P	**Pn**	**19 08 34.4**	**+1.2**
JMN	**Monobe**	**6.43**	**312**	⇑P	**Pn**	**19 08 37.1**	**+2.8**
JNT	**Takato**	**6.44**	**349**	⇑P	**Pn**	**19 08 35.2**	**+0.8**
JRY	**Ryogami san**	**6.49**	**355**	P	**Pn**	**19 08 34.4**	**-0.5**
JYT	**Yasato**	**6.69**	**4**	P	**Pn**	**19 08 35.6**	**-1.5**
JTO	**Tosashimizu**	**6.71**	**301**	⇑P	**Pn**	**19 08 39.9**	**+2.4**
JKU	**Kubokawa**	**6.74**	**306**	P	**Pn**	**19 08 40.4**	**+2.5**
JJS	**Sakaide**	**6.82**	**316**	⇑P	**Pn**	**19 08 41.0**	**+2.2**
JAG	**Ashikaga**	**6.87**	**359**	⇑P	**Pn**	**19 08 37.4**	**-1.9**
JGN	**Niukaw**	**6.94**	**344**	P	**Pn**	**19 08 41.1**	**+0.9**
JNG	**Nsakai**	**6.96**	**350**	⇑P	**Pn**	**19 08 40.7**	**+0.2**
UWA2	**Uwa jima 2**	**7.01**	**303**	⇑P	**Pn**	**19 08 43.6**	**+2.5**
JET	**Tanbara**	**7.01**	**309**	⇑P	**Pn**	**19 08 43.6**	**+2.5**
MJAR	**Matsushiro Arr**	**7.08**	**351**	P	**Pn**	**19 08 41.0**	**-0.8**
	23nm,0.3s,baz=161,slow=8.3,SNR=111			S	**S**	**19 10 04.2**	**-1.5**
MJAR	4.6nm,0.3s,baz=162,slow=13,SNR=4.4						
MAJO	**Matsushiro**	**7.08**	**351**	*e*Pn	**Pn**	**19 08 41.1**	**-0.7**
MAJO				*e*S	**S**	**19 10 04.2**	**-1.5**
MAJO	**Matsushiro**	**7.08**	**351**	*ci*P	**Pn**	**19 08 41.4**	**-0.4**
MAT	**Matsushiro**	**7.08**	**351**	P	**Pn**	**19 08 41.3**	**-0.5**
MAT				S	**S**	**19 09 58.8**	**-6.9**
MJB9	**Matsu-Tunnel**	**7.08**	**351**	*e*Pn	**Pn**	**19 08 41.2**	**-0.7**
JAD	**Aida**	**7.09**	**321**	⇑P	**Pn**	**19 08 43.9**	**+2.0**
JHO	**Hitachi**	**7.09**	**6**	⇑P	**Pn**	**19 08 40.3**	**-1.6**
JKG	**Kaga**	**7.26**	**338**	⇑P	**Pn**	**19 08 45.5**	**+1.6**
JNA	**Nagahama**	**7.29**	**305**	P	**Pn**	**19 08 46.9**	**+2.6**
JTT	**Ttatey**	**7.30**	**345**	⇑P	**Pn**	**19 08 45.5**	**+1.1**
JKSM	**Kasumi**	**7.34**	**327**	⇑P	**Pn**	**19 08 47.0**	**+2.2**
JTSN	**Tsuno**	**7.47**	**293**	P	**Pn**	**19 08 49.2**	**+2.7**
JUS	**Usuki**	**7.59**	**300**	P	**Pn**	**19 08 50.6**	**+2.7**
JKIT	**Kitakata**	**7.65**	**296**	P	**Pn**	**19 08 51.5**	**+3.0**
JHK	**Hiroka**	**7.70**	**356**	⇑P	**Pn**	**19 08 47.7**	**-1.4**
JHS	**Saijyo**	**7.74**	**316**	P	**Pn**	**19 08 52.0**	**+2.4**
JFK	**Kawauchi**	**7.87**	**7**	P	**Pn**	**19 08 50.0**	**-1.2**
JKI	**Kunimi**	**7.99**	**303**	P	**Pn**	**19 08 55.5**	**+3.0**
JHIK	**Hikimi**	**8.21**	**309**	P	**P**	**19 08 57.4**	**-0.8**
JNU	**Nakatsue**	**8.28**	**298**	P	**P**	**19 08 58.9**	**-0.2**
	4.7nm,0.3s,baz=104,slow=6.6,SNR=52			S	**S**	**19 10 33.9**	**+2.0**
JNU	baz=216,slow=24,SNR=0.7						
JNU	**Nakatsue**	**8.28**	**298**	P	**P**	**19 08 59.0**	**-0.2**
JOI	**OKI**	**8.60**	**323**	P	**P**	**19 09 01.7**	**-0.8**
JSJ	**Shimokoshiki**	**8.80**	**286**	P	**P**	**19 09 04.6**	**-0.2**
JOU	**Okura**	**8.84**	**5**	P	**Pn**	**19 09 02.3**	**-0.4**
JIO	**Ouri**	**9.01**	**9**	P	**Pn**	**19 09 04.0**	**-0.6**
JAMN	**Amaminishikomi**	**9.25**	**264**	P	**Pn**	**19 09 08.4**	**+0.8**
JMK	**Ichinoseki**	**9.48**	**8**	P	**Pn**	**19 09 09.9**	**-0.3**
JMK				*e*S	**S**	**19 10 53.5**	**-4.5**
JRG	**Rokugo**	**9.87**	**5**	P	**Pn**	**19 09 14.9**	**0.0**
JTU	**Tsushima**	**9.99**	**302**	P	**P**	**19 09 18.7**	**+0.6**
JOM	**Ohasama**	**10.00**	**7**	P	**Pn**	**19 09 16.6**	**+0.1**
MIYJ	**Miyakonagasawa**	**10.17**	**10**	P	**Pn**	**19 09 18.7**	**+0.2**
JOW	**Kunigami**	**10.37**	**258**	P	**P**	**19 09 23.1**	**+0.7**
	8.3nm,0.3s,baz=96,slow=9.5,SNR=35						
JOW	**Kunigami**	**10.37**	**258**	*e*Pn	**Pn**	**19 09 21.8**	**+0.7**
JOW	**Kunigami**	**10.37**	**258**	P	**P**	**19 09 23.1**	**+0.7**
JKE	**Kume jima 2**	**11.79**	**257**	P	**P**	**19 09 40.2**	**+2.1**
JOT	**Ohata**	**11.87**	**5**	P	**P**	**19 09 39.4**	**+0.6**
TJN	**Taejon**	**12.34**	**307**	*ce*P	**Pn**	**19 09 46.3**	**+2.0**
JKB	**Kayabe**	**12.37**	**5**	P	**Pn**	**19 09 45.2**	**+0.6**
JOSM	**Okushiri--Mats**	**12.52**	**360**	P	**Pn**	**19 09 46.9**	**+0.5**
KSRS	**Korea Array**	**12.54**	**312**	P	**Pn**	**19 09 47.7**	**+0.9**
	2.2nm,0.3s,baz=123,slow=12,SNR=77						
KSRS	baz=117,slow=19,SNR=5.7			S	**S**	**19 12 08.1**	**+3.0**
KS15	**Wonju Array Si**	**12.56**	**312**	*e*P	**Pn**	**19 09 48.0**	**+1.0**
KSAR	**Wonju Array Be**	**12.56**	**312**	P	**Pn**	**19 09 47.7**	**+0.7**
KSAR				S	**S**	**19 12 08.1**	**+2.6**
KSAR	**Wonju Array Be**	**12.56**	**312**	P	**Pn**	**19 09 47.7**	**+0.7**
KSAR				S	**S**	**19 12 08.1**	**+2.6**
KS01	**Wonju Array Si**	**12.57**	**312**	*e*P	**Pn**	**19 09 47.9**	**+0.7**
ERM	**Erimo**	**12.77**	**12**	*e*P	**Pn**	**19 09 50.5**	**+1.1**
ERM	**Erimo**	**12.77**	**12**	*e*P	**Pn**	**19 09 50.5**	**+1.1**
JCH	**Churui**	**13.39**	**12**	P	**Pn**	**19 09 55.2**	**+1.5**
SARN	**Sarigan**	**13.98**	**155**	*e*P	**P**	**19 10 03.1**	**+0.7**
JISG	**Ishigakijimahi**	**14.50**	**254**	P	**Pn**	**19 10 09.6**	**-0.3**
MSHR	**Mys Shultsa**	**14.69**	**335**	*ce*P	**Pn**	**19 10 14.1**	**+2.3**
JIJ	**Ishigaki jima**	**14.73**	**253**	P	**Pn**	**19 10 11.9**	**-0.6**
ASAJ	**Asahikawa**	**14.74**	**8**	P	**Pn**	**19 10 12.4**	**0.0**
	8.4nm,0.3s,baz=236,slow=8.7,SNR=59			S	**S**	**19 12 54.3**	**+4.9**
ASAJ	0.3nm,0.3s,baz=11,slow=33,SNR=1.3						
ASAJ	**Asahikawa**	**14.74**	**8**	*e*P	**Pn**	**19 10 12.9**	**+0.5**
ASAJ				S	**S**	**19 12 54.3**	**+4.9**
YUK	**Yuzh-Kuril'sk**	**15.30**	**17**	P	**P**	**19 10 17.0**	**+0.6**
YUK	comp=Z,148nm,0.4s			pmax	pmax		
YUK	comp=N,56nm,0.5s			pmax	pmax		
YUK				pmax	pmax		
	comp=E,18nm,0.5s						
SHO	**Shikotan**	**15.41**	**20**	*e*P	**Pn**	**19 10 19.7**	**-0.5**
SHO	comp=Z,46nm,0.7s			pmax	pmax		
SHO	comp=N,8.0nm,0.3s			pmax	pmax		
SHO	comp=E,18nm,0.4s			pmax	pmax		
YOJ	**Yonaguni jima**	**15.64**	**255**	*e*P	**P**	**19 10 21.2**	**+0.8**
	comp=E,255nm,0.7s						
YOJ	**Yonaguni jima**	**15.64**	**255**	*e*P	**P**	**19 10 21.3**	**+0.8**
YOJ	comp=Z,255nm,0.7s			pmax	pmax		
TEY	**Ternei**	**15.65**	**352**	⇓P	**Pn**	**19 10 24.5**	**+1.6**
TEY	comp=N,60nm,0.9s			pmax	pmax		
TEY	comp=Z,70nm,0.7s			pmax	pmax		
TEY	comp=E,20nm,0.7s			pmax	pmax		
USA0B	**Ussuriysk Arra**	**15.84**	**340**	*e*P	**P**	**19 10 22.3**	**-0.1**
	comp=E,58nm,0.6s						
USRK	**Ussuriysk Ar.**	**15.84**	**340**	P	**P**	**19 10 22.5**	**+0.1**
	comp=E,6.1nm,0.3s,baz=159,slow=12,SNR=32						
USRK	baz=156,slow=14,SNR=2.0			S	**S**	**19 13 10.3**	**-1.0**
TATO	**Taipei**	**16.75**	**259**	*e*P	**P**	**19 10 30.5**	**-1.9**
	comp=E,55nm,0.8s						
NACB	**Ninganchiao**	**16.94**	**256**	*e*P	**P**	**19 10 33.4**	**-1.1**
	comp=E,38nm,0.8s						
YHNB	**Yeheng**	**16.95**	**258**	*e*P	**P**	**19 10 33.7**	**-1.0**
	comp=E,54nm,0.7s						
YULB	**Yu-li**	**17.50**	**254**	*e*P	**P**	**19 10 39.8**	**-0.8**
	comp=E,48nm,0.6s						
YSS	**Yuzh-Sakhalins**	**17.55**	**7**	*e*P	**Pn**	**19 10 46.8**	**+2.0**
	comp=E,126nm,0.5s						
YSS	**Yuzh-Sakhalins**	**17.55**	**7**	⇑*e*P	**Pn**	**19 10 48.9**	**+4.1**
YSS	comp=N,100nm,0.6s			pmax	pmax		
YSS	comp=Z,120nm,0.6s			pmax	pmax		
SSLB	**Suanglung**	**17.63**	**255**	*e*P	**P**	**19 10 42.0**	**0.0**
	comp=Z,288nm,1.6s						
TWG	**Pinlang**	**17.93**	**252**	*e*P	**P**	**19 10 44.6**	**-0.6**
	comp=Z,215nm,0.6s						
TPUB	**Ta-pu**	**18.10**	**254**	*e*P	**P**	**19 10 46.0**	**-1.0**
	comp=Z,133nm,1.3s						
CN2	**Changchun**	**18.18**	**325**	*e*P	**P**	**19 10 47.3**	**-0.2**
CN2				*es*P	sP	19 12 26.3	+4.0
CN2				*e*S	**S**	**19 13 50.4**	**-6.8**
CN2	comp=Z,10.0nm,0.8s			pmax	pmax		
CN2	comp=Z,200nm,5.0s			pmax	pmax		
TIA	**Tai'an**	**20.01**	**295**	P	**P**	**19 11 05.0**	**-1.8**
TIA	comp=Z,52nm,0.7s			pmax	pmax		
KLR	**Kul'dur**	**20.56**	**345**	P	**P**	**19 11 12.4**	**+0.6**
	comp=Z,5.1nm,0.4s,baz=166,slow=9.7,SNR=23						
KLR	**Kul'dur**	**20.56**	**345**	⇓*i*P	**P**	**19 11 12.1**	**+0.3**
GRNR	**Gornyy**	**21.34**	**354**	*e*P	**P**	**19 11 20.2**	**+1.4**
GRNR	comp=Z,10.0nm,0.8s			pmax	pmax		
BJT	**Baijiatuau**	**21.85**	**305**	*e*P	**P**	**19 11 22.3**	**-1.4**
	comp=Z,61nm,1.3s						
BJT	**Baijiatuau**	**21.85**	**305**	*e*P	**P**	**19 11 22.3**	**-1.4**
BJT	comp=Z,61nm,1.3s			pmax	pmax		
WHN	**Wuhan**	**21.89**	**279**	⇓P	**P**	**19 11 24.3**	**+0.2**
TGY	**Tagaytay City**	**23.12**	**232**	P	**P**	**19 11 35.0**	**-0.5**
	comp=Z,88nm,0.3s,baz=236,slow=4.0,SNR=3.9						
TGY	**Tagaytay City**	**23.12**	**232**	P	**P**	**19 11 35.0**	**-0.5**
TGY	comp=Z,82nm,0.3s			pmax	pmax		
HIA	**Hailar**	**24.84**	**328**	*e*P	**P**	**19 11 51.2**	**+0.6**
	comp=Z,23nm,0.8s						
HIA	**Hailar**	**24.84**	**328**	*e*P	**P**	**19 11 51.2**	**+0.6**
HIA	comp=Z,23nm,0.8s			pmax	pmax		
ZEA	**Zeya**	**25.81**	**343**	*e*P	**P**	**19 11 59.6**	**+0.5**
ZEA	comp=Z,23nm,1.0s			pmax	pmax		
ENH	**Enshi**	**26.10**	**279**	*e*P	**P**	**19 12 01.3**	**-0.7**
	comp=Z,44nm,0.9s						
XAN	**Xi'an**	**26.42**	**288**	P	**P**	**19 12 04.1**	**-0.8**
XAN	comp=Z,63nm,0.8s			pmax	pmax		
XAN	comp=Z,110nm,3.8s			pmax	pmax		
PETK	**Petropavlovsk-**	**27.03**	**24**	P	**P**	**19 12 11.0**	**+1.1**
	comp=Z,6.2nm,1.0s,baz=216,slow=7.1,SNR=2.6						
PEA1	**Petropavlovsk-**	**27.03**	**24**	*e*P	**P**	**19 12 11.0**	**+1.0**
GYA	**Guiyang**	**29.21**	**272**	⇓*i*P	**P**	**19 12 29.0**	**-0.7**
GYA	comp=Z,70nm,1.0s			pmax	pmax		
CIT	**Chita**	**29.61**	**327**	*e*P	**P**	**19 12 33.8**	**+1.0**
LZH	**Lanzhou**	**30.64**	**292**	*e*P	**P**	**19 12 42.1**	**-0.1**
LZH	comp=Z,21nm,1.1s			pmax	pmax		
ULN	**Ulaanbaatar**	**31.00**	**315**	*e*P	**P**	**19 12 44.7**	**-0.4**
ULN	comp=Z,35nm,0.9s

PBKT Sadao Pong 37.66 259 *e*P **P** 19 13 42.2 +0.3
PBKT *e*PcP **PcP** 19 15 52.2 +1.0
PBKT Sadao Pong 37.66 259 P **P** 19 13 41.9 0.0
comp=Z,51nm,1.1s,comp=Z,765nm
KNGR Kungurtug, Tuv 37.81 316*d i*P **P** 19 13 42.8 -0.1
LAMP Lampang 37.96 262 P **P** 19 13 44.7 +0.2
comp=Z,19nm,0.7s,comp=Z,162nm
SRAK Srakaew 37.97 254 P **P** 19 13 40.7 -3.8
comp=Z,306nm,0.8s,comp=Z,2µm
SUKH Sukhothai 38.40 261 P **P** 19 13 48.6 +0.5
comp=Z,11nm,0.7s
CMMT Chiang Mai 38.44 263 P **P** 19 13 47.8 -0.6
comp=Z,71nm,1.0s,comp=Z,670nm
CHTO Chiang Mai 38.44 263 *e*P **P** 19 13 48.2 -0.2
comp=Z,51nm,0.7s
CHTO Chiang Mai 38.44 263 *e*P **P** 19 13 48.2 -0.2
CHTO pmax pmax
comp=Z,51nm,0.7s
CHTO Chiang Mai 38.44 263 P **P** 19 13 47.9 -0.5
comp=Z,310nm,0.8s,comp=Z,3µm
CM31 Chiang Mai Arr 38.59 263 *e*P **P** 19 13 49.7 0.0
CM31 *e*PcP **PcP** 19 15 54.9 +0.7
CMAR Chiang Mai Arr 38.59 263 P **P** 19 13 49.5 -0.1
comp=Z,13nm,0.8s,baz=70,slow=5.2,SNR=189
CMAR PcP **PcP** 19 15 54.9 +0.7
comp=Z,3.5nm,0.7s,baz=48,slow=1.0,SNR=11
CMAR ScP **ScP** 19 19 07.8 -0.8
comp=Z,0.9nm,1.0s,baz=52,slow=1.8,SNR=6.1
CMAR Chiang Mai Arr 38.59 263 P **P** 19 13 49.5 -0.1
CMAR 19 15 54.9
CMAR pmax pmax
comp=Z,11nm,0.6s
CM01 Chiang Mai Arr 38.59 263 *e*P **P** 19 13 49.1 -0.5
UTHA Uthaitani 39.42 258 P **P** 19 13 56.6 +0.1
comp=Z,12nm,0.6s,comp=Z,111nm
KSM Kuching 39.45 230 *e*P **P** 19 13 57.0 +0.3
comp=Z,28nm,0.7s
KSM Kuching 39.45 230 P **P** 19 13 58.0 +1.2
PATY Pattaya 39.50 254 P **P** 19 13 57.5 +0.4
comp=Z,14nm,0.8s
UMPA Umpang Tak 39.62 260 P **P** 19 13 59.3 +1.1
comp=Z,14nm,0.9s,comp=Z,151nm
STKI Sintang 39.74 228 P **P** 19 13 59.6 +0.5
comp=Z,21nm,0.5s,comp=Z,719nm
SRDT SRDT 40.27 257 P **P** 19 14 03.3 -0.1
comp=Z,33nm,0.7s
HVS Khovu-Aksy 40.28 316*c i*P **P** 19 14 03.8 +0.7
HVS pmax pmax
comp=Z,62nm,0.8s
PHET Kaeng Krachan 40.55 255 P **P** 19 14 06.2 +0.6
comp=Z,9.4nm,0.7s,comp=Z,94nm
BILL Bilibino 41.63 15 *e*P **P** 19 14 13.8 +0.2
comp=Z,8.9nm,0.9s
BILL Bilibino 41.63 15⇑ *i*P **P** 19 14 14.4 +0.7
BILL *e**PP **pP** 19 15 21.6 -0.6
BILL *e* 19 16 01.8
BILL *e*SS SS 19 23 37.7 +14
BILL pmax pmax
comp=Z,10.0nm,0.9s
SOEI Soe 41.78 203 *e*P **P** 19 14 13.6 -2.0
comp=Z,15nm,0.9s
LSA Lhasa 41.88 283 *e*P **P** 19 14 13.3 -3.6
comp=Z,6.5nm,0.8s
LSA Lhasa 41.88 283 *e*P **P** 19 14 13.3 -3.6
LSA pmax pmax
comp=Z,7.0nm,0.8s
SHL Shillong 42.28 276 *e*P **P** 19 14 18.9 -0.8
comp=Z,57nm,1.4s
SHL Shillong 42.28 276 *e*P **P** 19 14 18.9 -0.8
SHL pmax pmax
comp=Z,57nm,1.4s
TRTT Trang 43.24 248 P **P** 19 14 28.2 +1.0
comp=Z,7.8nm,0.8s
COEN Coen 43.38 175 *e*P **P** 19 14 29.1 +0.9
comp=Z,10nm,0.7s
KRAB Krabi 43.42 249 P **P** 19 14 28.9 +0.2
comp=Z,93nm,0.7s,comp=Z,792nm
MYKOM Kota Tinggi 43.79 238 *e*P **P** 19 14 31.9 +0.3
comp=Z,16nm,0.9s
MYKOM Kota Tinggi 43.79 238 P **P** 19 14 32.0 +0.5
DGZ Jazzator, Alta 43.95 312*d i*P **P** 19 14 32.9 +0.3
DGZ pmax pmax
comp=Z,30nm,0.8s
KULM Kulim 43.98 244 *e*P **P** 19 14 32.9 -0.2
comp=Z,34nm,0.7s
KULM Kulim 43.98 244 P **P** 19 14 33.0 -0.1
IPM Ipoh 44.19 243 *e*P **P** 19 14 34.3 -0.5
comp=Z,32nm,0.6s
IPM *e*PcP **PcP** 19 16 13.3 +0.6
TAPN Taplejung 45.38 280⇓ *i*P **P** 19 14 44.3 0.0
comp=Z,43nm,0.4s
ODAN Odare 45.79 280⇓ *i*P **P** 19 14 47.3 -0.1
comp=Z,120nm,0.7s
ZAA0 Zalesovo Array 46.16 318 *e*P **P** 19 14 48.8 -0.8
comp=Z,24nm,0.8s
ZAA0 *e*PcP **PcP** 19 16 18.6 -0.3
ZALV Zalesovo Beam 46.16 318 P **P** 19 14 49.0 -0.5
comp=Z,12nm,0.4s,baz=98,slow=6.9,SNR=72
ZALV PcP **PcP** 19 16 18.3 -0.6
comp=Z,10nm,0.7s,baz=103,slow=3.6,SNR=11
ZALV Zalesovo Beam 46.16 318 *e*P **P** 19 14 48.7 -0.9
ZALV *e*PcP **PcP** 19 16 18.2 -0.7
ZAA1 Zalesovo Array 46.16 318 *e*P **P** 19 14 49.0 -0.5
ZAA1 *e*PcP **PcP** 19 16 18.3 -0.6
RAMN Ramite 46.45 280⇓ *i*P **P** 19 14 52.4 -0.1
comp=Z,84nm,0.4s
JIRN Jiri 46.60 281⇓ *i*P **P** 19 14 54.2 +0.4
comp=Z,157nm,0.4s
GUN Gumba 46.80 282⇓ *i*P **P** 19 14 55.6 +0.3
comp=Z,166nm,0.8s
PSI Prapat 46.86 243 *e*P **P** 19 14 55.4 -0.3
comp=Z,20nm,0.8s
PSI *e*PcP **PcP** 19 16 22.8 +0.6
PSI Prapat 46.86 243 *e*P **P** 19 14 55.4 -0.3
PSI *e* 19 16 22.8
PSI pmax pmax
comp=Z,20nm,0.8s
MK01 Makanchi Array 47.18 308 *e*P **P** 19 14 56.9 -0.6
MK31 Makanchi Array 47.19 308 *e*P **P** 19 14 57.1 -0.5
MK31 Makanchi Array 47.19 308 *e*P **P** 19 14 57.1 -0.5
MK32 Makanchi Array 47.19 308 *e*P **P** 19 14 57.2 -0.4
MK32 *e*PcP **PcP** 19 16 22.6 -0.2
MK32 *e*ScP **ScP** 19 19 42.0 -0.9
MKAR Makanchi Array 47.19 308 P **P** 19 14 57.2 -0.4
comp=Z,13nm,0.8s,baz=93,slow=9.1,SNR=91
MKAR PcP **PcP** 19 16 22.6 -0.2
comp=Z,7.5nm,0.7s,baz=78,slow=6.3,SNR=11
MKAR ScP **ScP** 19 19 42.0 -0.9
comp=Z,0.9nm,0.7s,baz=74,slow=5.2,SNR=3.8
MKAR Makanchi Array 47.19 308 *e*P **P** 19 14 57.1 -0.4
comp=Z,82nm,0.8s
MKAR PcP **PcP** 19 16 22.6 -0.2
MKAR ScP **ScP** 19 19 42.0 -0.9
MKAR Makanchi Array 47.19 308*ce*P **P** 19 14 57.2 -0.4
MKAR pmax pmax
comp=Z,14nm,0.8s
NVS Novosibirsk 47.22 319⇓ *i*P **P** 19 14 57.7 +0.1
NVS pmax pmax
comp=N,5.0nm,0.8s
NVS pmax pmax
comp=E,16nm,0.8s
NVS pmax pmax
comp=Z,19nm,0.8s
PKI Pulchoki 47.29 282⇓ *i*P **P** 19 14 58.6 -0.5
comp=Z,67nm,1.0s
PKIN Phulchoki 47.30 282⇓ *i*P **P** 19 14 58.6 -0.4
KKN Kakani 47.34 282⇓ *i*P **P** 19 14 59.2 -0.1
comp=Z,102nm,0.9s
DMN Daman 47.54 282⇓ *i*P **P** 19 15 00.7 -0.2
comp=Z,42nm,0.6s
DANN Dangsing 48.49 283⇓ *i*P **P** 19 15 08.4 +0.3
comp=Z,173nm,0.8s
KOLN Koldanda 48.78 282⇓ *i*P **P** 19 15 10.2 0.0
GSI Gunungsitoli 48.85 243 *e*P **P** 19 15 09.5 -1.1
comp=Z,80nm,1.0s
PYUN Piuthan 49.21 283⇓ *i*P **P** 19 15 13.6 +0.2
comp=Z,207nm,0.6s
FITZ Fitzroy Crossi 49.24 198 *e*P **P** 19 15 13.6 +0.3
comp=Z,4.2nm,0.6s
WRAB Tennant Creek 49.45 187 *e*P **P** 19 15 14.3 -0.6
comp=Z,8.5nm,0.5s
WRAB Tennant Creek 49.45 187*ce*P **P** 19 15 15.2 +0.3
WRAB pmax pmax
comp=Z,12nm,1.3s
WB2 Warramunga Arr 49.46 187 *e*P **P** 19 15 14.1 -0.9
WR1 Warramunga Arr 49.46 187 *e*P **P** 19 15 14.2 -0.8
comp=Z,9.6nm,0.6s
WR1 *ep*P **PcP** 19 16 31.6 +0.4
WR1 *e*ScP **ScP** 19 19 50.9 -1.9
WRA Warramunga Arr 49.46 187 P **P** 19 15 14.2 -0.8
comp=Z,7.9nm,0.5s,baz=6.1,slow=7.7,SNR=261
WRA PcP **PcP** 19 16 31.6 +0.4
comp=Z,2.2nm,0.4s,baz=1.8,slow=4.0,SNR=8.9
WRA ScP **ScP** 19 19 50.9 -1.9
comp=Z,2.0nm,0.8s,baz=360,slow=4.1,SNR=4.8
WRA Warramunga Arr 49.46 187 *i* P **P** 19 15 14.3 -0.7
WRA pmax pmax
comp=Z,8.0nm,0.5s
NRIK Noril'sk 49.55 338 P **P** 19 15 15.1 +0.1
comp=Z,7.3nm,0.4s,baz=111,slow=9.2,SNR=8.7
KURK Kurchatov 49.66 313 *e*P **P** 19 15 15.3 -0.9
comp=Z,46nm,1.0s
KURK Kurchatov 49.66 313*ce*P **P** 19 15 15.7 -0.5
KURK pmax pmax
comp=Z,56nm,1.3s
PRZ Przheval'sk 50.17 302 *e*P **P** 19 15 21.3 +0.9
comp=Z,66nm,0.9s
PRZ Przheval'sk 50.17 302 *e*P **P** 19 15 21.3 +0.9
PRZ pmax pmax
comp=Z,66nm,0.9s
NRN Naryn 52.08 301 *e*P **P** 19 15 34.2 -0.4
comp=Z,12nm,0.8s
NRN Naryn 52.08 301 *e*P **P** 19 15 34.2 -0.4
NRN pmax pmax
comp=Z,12nm,0.8s
TKM2 Tokmak 2 52.18 303 P **P** 19 15 35.5 +0.4
SNR=6.1
KZA Kyzart 52.54 302 P **P** 19 15 39.1 +1.0
SNR=10
KBK Karagaybulak 52.68 303 P **P** 19 15 39.0 +0.2
SNR=27
CHMS Chumysh 52.78 303 P **P** 19 15 38.6 -0.7
SNR=9.7
FRU1 Bishkek 52.90 303 *e*P **P** 19 15 40.3 +0.1
comp=Z,26nm,0.9s
FRU1 Bishkek 52.90 303 *e*P **P** 19 15 40.3 +0.1
FRU1 pmax pmax
comp=Z,26nm,0.9s
FRU Bishkek 52.90 303 *e*P **P** 19 15 38.0 -2.2
USP Ospenovka 52.93 304 P **P** 19 15 40.2 -0.1
SNR=6.8
AAK Ala-Archa 53.02 303 P **P** 19 15 41.1 -0.1
SNR=8.5
AAK Ala-Archa 53.02 303 *e*P **P** 19 15 40.5 -0.7
comp=Z,9.1nm,0.6s
AAK Ala-Archa 53.02 303 *i* P **P** 19 15 41.0 -0.2
SNR=19
AAK Ala-Archa 53.02 303 *e*P **P** 19 15 40.5 -0.7
AAK pmax pmax
comp=Z,9.0nm,0.6s
UCH Uchtor 53.06 303 P **P** 19 15 42.6 +0.7
SNR=24
AS01 Alice Springs 53.18 186 *e*P **P** 19 15 41.8 -0.5
AS01 *e*PcP **PcP** 19 16 44.6 -0.6
AS31 Alice Springs 53.19 187 *e*P **P** 19 15 41.9 -0.4
comp=Z,2.7nm,0.3s
AS31 *e*PcP **PcP** 19 16 45.3 +0.1
AS31 *e*S **S** 19 22 41.6 -4.3
ASAR Alice Springs 53.19 187 P **P** 19 15 41.7 -0.6
comp=Z,2.0nm,0.4s,baz=1.4,slow=5.4,SNR=48
ASAR PcP **PcP** 19 16 45.3 +0.1
comp=Z,2.0nm,0.8s,baz=13,slow=4.0,SNR=7.7
ASAR ScP **ScP** 19 20 09.3 +0.4
comp=Z,0.6nm,0.8s,baz=12,slow=5.0,SNR=3.4
EKS2 Erkin-Say 53.54 303 P **P** 19 15 44.8 0.0
SNR=9.2
AML Almayashu 53.68 303 P **P** 19 15 46.8 +0.6
SNR=37
IM3 Indian Mountai 53.91 28 *e*P **P** 19 15 48.2 +1.2
IM3 *e*PcP **PcP** 19 16 48.5 +1.1
NDI New Delhi 53.92 286 *e*P **P** 19 15 47.5 -0.2
MBWA Marble Bar 53.93 203 *e*P **P** 19 15 47.6 0.0
comp=Z,16nm,0.7s
CAST Castle Rocks 54.33 31 *e*P **P** 19 15 51.3 +1.2
comp=Z,10nm,0.8s
BRVK Borovoye 54.78 316 *e*P **P** 19 15 53.3 -0.1
comp=Z,24nm,0.6s
BRVK Borovoye 54.78 316*ce*P **P** 19 15 53.1 -0.3
BRVK pmax pmax
comp=Z,40nm,1.3s
SUA Susitna One 54.84 33 *e*P **P** 19 15 54.4 +0.6
comp=Z,59nm,1.9s
BPAW Bear Paw Mtn. 54.87 30 *e*P **P** 19 15 55.8 +1.9
comp=Z,6.8nm,0.6s
MLY Manley 55.05 29 *e*P **P** 19 15 56.8 +1.6
comp=Z,7.6nm,0.6s
PMR Palmer 55.61 33 *e*P **P** 19 15 59.7 +0.6
comp=Z,19nm,1.3s
PMR Palmer 55.61 33 *e*P **P** 19 15 59.7 +0.6
PMR pmax pmax
comp=Z,19nm,1.3s
NIL Nilore 55.81 293 *e*P **P** 19 16 01.1 +0.1
comp=Z,54nm,0.8s
KK31 Karatay Array 55.83 304 *e*P **P** 19 16 00.9 -0.2
KK31 Karatay Array 55.83 304 *e*P **P** 19 16 00.9 -0.2
KKAR Karatay Array 55.83 304 *e*P **P** 19 16 00.9 -0.2
KKAR Karatay Array 55.83 304 *e*P **P** 19 16 00.9 -0.2
WRH Wood River Hil 56.15 30 *e*P **P** 19 16 03.4 +0.5
WRH *e*PcP **PcP** 19 16 56.6 +0.5
CCB Clear Creek Bu 56.28 30 *e*P **P** 19 16 05.0 +1.2
CCB *e*PcP **PcP** 19 16 57.0 +0.4
HDA Harding Lake 56.65 30 *e*P **P** 19 16 06.4 +0.1
comp=Z,12nm,0.6s
ILAR Eielson Array 56.68 29 P **P** 19 16 06.5 -0.1
comp=Z,3.5nm,0.7s,baz=254,slow=4.6,SNR=39
ILAR PcP **PcP** 19 16 57.4 -0.8
comp=Z,1.1nm,0.6s,baz=264,slow=3.4,SNR=5.9
ILAR pP **pP** 19 17 20.3 +0.3
comp=Z,2.1nm,0.9s,baz=263,slow=6.1,SNR=4.4
ILAR ScP **ScP** 19 20 24.7 +1.1
comp=Z,0.3nm,0.8s,baz=283,slow=4.5,SNR=2.9
ILB Eielson Array 56.68 29 *e*P **P** 19 16 06.5 -0.1
IL1 Eielson Array 56.68 29 *e*P **P** 19 16 06.2 -0.3
HYB Hyderabad 56.74 272 *i* P **P** 19 16 07.0 -0.8
PAX Paxson 57.32 32 *e*P **P** 19 16 12.4 +1.2
comp=Z,6.3nm,0.8s
PAX Paxson 57.32 32 *e*P **P** 19 16 12.4 +1.2
PAX pmax pmax
comp=Z,6.0nm,0.8s
HARP HAARP 57.48 32 *e*P **P** 19 16 13.9 +1.7
comp=Z,23nm,0.9s
RIDG Independ'e Rid 57.58 31 *e*P **P** 19 16 13.5 +0.6
comp=Z,7.1nm,0.7s
BMRM Bremner River 57.81 34 *e*P **P** 19 16 16.0 +1.4
comp=Z,77nm,2.0s
DOT Dot Lake 57.93 31 *e*P **P** 19 16 15.9 +0.6
comp=Z,13nm,0.7s
DOT *e*PcP **PcP** 19 17 04.6 +1.4
KBL Kabul 58.93 295 *e*P **P** 19 16 22.3 -0.6
comp=Z,25nm,0.9s
KBL Kabul 58.93 295 *e*P **P** 19 16 22.3 -0.6
KBL pmax pmax
comp=Z,25nm,0.9s
EGAK Eagle 59.13 29 *e*P **P** 19 16 23.7 +0.2
comp=Z,4.4nm,0.6s
PALK Pallekele 59.47 261 *e*P **P** 19 16 26.7 +0.1
comp=Z,36nm,1.6s
PALK Pallekele 59.47 261 *e*P **P** 19 16 26.7 +0.1
PALK pmax pmax
comp=Z,36nm,1.6s
SVE Sverdlovsk 59.91 321 *e*P **P** 19 16 28.9 +0.1
SVE pmax pmax
comp=Z,23nm,0.6s
POO Poona 60.38 276⇓ *i*PS **P** 19 16 31.0 -1.7
comp=Z,180nm,1.0s
STKA Stephens Creek 61.11 178 P **P** 19 16 37.3 +0.2
comp=Z,2.9nm,0.7s,baz=346,slow=9.3,SNR=11
HYT Haines Junctio 61.28 34 *e*P **P** 19 16 39.6 +1.6
comp=Z,12nm,1.0s
INK Inuvik 61.76 25 P **P** 19 16 41.4 +0.5
comp=Z,8.5nm,0.4s,baz=290,slow=5.5,SNR=55
INK Inuvik 61.76 25 *e*P **P** 19 16 41.5 +0.5
comp=Z,20nm,1.3s
INK Inuvik 61.76 25 *e*P **P** 19 16 41.5 +0.5
INK pmax pmax
comp=Z,20nm,1.3s
ABKAR Akbulak array 61.78 313 *e*P **P** 19 16 41.0 -0.4
WHY Whitehorse 62.57 34 *e*P **P** 19 16 48.4 +1.7
comp=Z,11nm,0.9s
GEYT Alibeck 66.29 301 P **P** 19 17 10.9 +0.1
comp=Z,6.2nm,0.8s,baz=63,slow=3.6,SNR=17
GYA0B ALIBECK ARRAY 66.29 301 *e*P **P** 19 17 11.0 +0.2
comp=Z,12nm,0.9s
PRGR Permogore 66.29 329 *e*P **P** 19 17 09.7 -0.6
PRGR *e* 19 17 35.4
PRGR pmax pmax
comp=Z,34nm,0.9s
SPA0 Spitsbergen Ar 67.57 349 *e*P **P** 19 17 19.1 +1.0
KLMR Klimovskoe 69.33 329 *e*P **P** 19 17 27.3 -1.8
KLMR pmax pmax
comp=Z,13nm,0.6s
KLMR Klimovskoe 69.33 329 *e*P **P** 19 17 27.4 -1.7
KLMR AMP 19 17 29.1
comp=Z,13nm,0.7s
RES Resolute Bay 70.22 13 P **P** 19 17 34.8 +0.5
comp=Z,8.7nm,0.7s,baz=317,slow=4.9,SNR=8.8
RES Resolute Bay 70.22 13 *e*P **P** 19 17 34.2 0.0
comp=Z,8.7nm,0.8s
ARA0 ARCESS Array S 70.49 340 *e*P **P** 19 17 36.4 +0.4
ARCES ARCESS Array B 70.49 340 P **P** 19 17 36.4 +0.4
comp=Z,26nm,0.7s,baz=73,slow=8.7,SNR=127
ARCES ARCESS Array B 70.49 340 *e*P **P** 19 17 36.3 +0.3
ARE0 ARCESS Array S 70.49 340 *e*P **P** 19 17 36.4 +0.4
YKA Yellowknife Ar 71.07 28 P **P** 19 17 39.5 0.0
comp=Z,1.1nm,0.4s,baz=295,slow=6.3,SNR=11
WBK Wadi Bani Khal 71.44 286 P **P** 19 17 42.9 +0.4
KTK1 Kautokeino 71.45 340 *e*P **P** 19 17 42.1 +0.4
VRH Novokhopyorsk 72.18 319 *e*P **P** 19 17 45.2 -1.1
VRH pmax pmax
comp=Z,40nm,0.8s
BANOM Banah 72.27 290 *i* P **P** 19 17 47.6 +0.3
SNR=7.4
TRO Tromso 72.31 342 *e*P **P** 19 17 46.6 -0.1
SHME Shamm 72.34 290 *i* P **P** 19 17 48.3 +0.5
SNR=25
MSFE Esma-Masafi 72.62 290 *i* P **P** 19 17 49.7 +0.3
SNR=10
UOSS Minazif 72.75 289 *e*P **P** 19 17 49.8 -0.4
comp=Z,18nm,0.8s
UOSS Minazif 72.75 289 P **P** 19 17 49.5 -0.7
UOSS Minazif 72.75 289 *i* P **P** 19 17 49.7 -0.4
SNR=8.7
BSY Bisya 72.86 287 P **P** 19 17 55.0 +4.1
SNR=5.4
HATD Hatta, Dubai 72.86 289 P **P** 19 17 50.8 0.0
SNR=6.1
HATD Hatta, Dubai 72.86 289 *i* P **P** 19 17 51.0 +0.2
SNR=26
ASHO Ashiyiah 72.98 289 P **P** 19 17 51.4 -0.1
SNR=5.6
ASHO Ashiyiah 72.98 289 *i* P **P** 19 17 51.4 -0.1
SNR=8.0
DAG Danmarks Havn 73.09 355 *i* P **P** 19 17 51.4 +0.3
comp=Z,13nm,0.9s
DAG Danmarks Havn 73.09 355 *i* P **P** 19 17 51.4 +0.3
DAG pmax pmax
comp=Z,11nm,0.9s
LPSR Galich'ya Gora 73.13 321 *e*P **P** 19 17 50.8 -1.0
LPSR pmax pmax
comp=Z,30nm,1.0s
ARQ Araqi 73.17 288 P **P** 19 17 53.0 +0.4
SNR=7.4
OBN Obninsk 73.23 324⇓ *i*P **P** 19 17 51.9 -0.4
OBN *e**PP **pP** 19 19 13.8 +3.7
OBN *e* 19 20 48.4
OBN *e*S **ScS** 19 27 34.7 +7.5
OBN pmax pmax
comp=Z,28nm,1.1s
FAQ Al Faqa, Dubai 73.34 289 *i* P **P** 19 17 53.1 -0.5
SNR=14
ALNE Al Ain 73.50 289 *i* P **P** 19 17 54.4 -0.1
SNR=25
ASUD Al Ashush, Dub 73.61 289 *i* P **P** 19 17 55.2 +0.1
SNR=9.3
VSR Storozhevoye 73.62 320 *e*P **P** 19 17 54.0 -0.7
VSR pmax pmax
comp=Z,40nm,1.1s
VORD Divnogorie 73.66 320 *e*P **P** 19 17 53.0 -1.9
VORD pmax pmax
comp=Z,10.0nm,0.5s
AJN Ajban 73.92 289 P **P** 19 17 56.4 -0.4
STEI Steigen 74.44 341 *e*P **P** 19 17 59.2 +0.1
ZEI Tsey 74.45 311 *e*P **P** 19 17 57.1 -2.8
ZEI pmax pmax
comp=Z,10.0nm,0.8s
KBZ Khabaz 74.69 312 P **P** 19 18 01.2 +0.3
comp=Z,15nm,0.8s,baz=101,slow=3.7,SNR=32
KIV Kislovodsk 74.73 312 *e*P **P** 19 18 01.1 -0.2
comp=Z,19nm,0.9s
KIV Kislovodsk 74.73 312 P **P** 19 18 03.0 +1.7
SNR=5.2
KIV Kislovodsk 74.73 312 *i* P **P** 19 18 01.8 +0.4
SNR=7.7
KIV Kislovodsk 74.73 312 *e*P **P** 19 18 02.1 +0.8
KIV pmax pmax
comp=Z,24nm,1.1s
FIA1 FINESS Array S 74.75 333 *e*P **P** 19 18 00.7 -0.2
FIA0 FINESS Array S 74.75 333 *e*P **P** 19 18 00.7 -0.2
FIA0 FINESS Array S 74.75 333 *e*P **P** 19 18 00.7 -0.2
FINES FINESS Array B 74.75 333 P **P** 19 18 00.7 -0.2
comp=Z,18nm,0.4s,baz=70,slow=4.9,SNR=236
NEY Neytrino 75.02 311 *i* P **P** 19 18 02.3 -0.8
NEY pmax pmax
comp=Z,2.0nm,1.0s
GNI Garni 75.03 308 P **P** 19 18 03.3 +0.1
comp=Z,10.0nm,1.1s,baz=150,slow=3.0,SNR=8.5
GNI Garni 75.03 308*ce*P **P** 19 18 04.6 +1.4
GNI pmax pmax
comp=Z,66nm,1.3s
AKH Akhalkalaki 75.33 309 *e*P **P** 19 18 05.9 +1.0
comp=Z,17nm,1.1s
AKH Akhalkalaki 75.33 309⇑ *i*P **P** 19 18 05.6 +0.7
AKH Akhalkalaki 75.33 309 *e*P **P** 19 18 05.9 +1.0
AKH pmax pmax
comp=Z,17nm,1.1s
MZR Muzera 75.84 289 *i* P **P** 19 18 07.5 -0.3
SNR=16
MOR8 Moi Rana 75.86 340 *e*P **P** 19 18 06.1 -1.1
VSU Vasula 76.16 330 *e*P **P** 19 18 08.5 -0.4
VSU lAmb lAmb 19 18 09.7
comp=Z,71nm,0.9s
VSU Vasula 76.16 330*ce*P **P** 19 18 09.7 +0.8
VSU pmax pmax
comp=Z,74nm,1.3s
NEW Newport 76.62 42 *e*P **P** 19 18 13.1 +1.3
comp=Z,11nm,1.0s
NEW Newport 76.62 42 *e*P **P** 19 18 13.1 +1.3
NEW pmax pmax
comp=Z,11nm,1.0s
NSS Namsos 77.75 339 *e*P **P** 19 18 16.4 -1.2
IZAR Zarasai 77.93 328 *e*P **P** 19 18 18.3 -0.5
IZAR lAmb lAmb 19 18 19.8
comp=Z,15nm,0.8s
IDID Didziasalis 77.95 327 *e*P **P** 19 18 18.4 -0.4
IDID lAmb lAmb 19 18 19.9
comp=Z,13nm,0.8s
ISAL Salakas 78.09 328 *e*P **P** 19 18 19.2 -0.4
ISAL lAmb lAmb 19 18 20.7
comp=Z,17nm,0.9s
SUMG Summit 78.15 359 *e*P **P** 19 18 21.1 +1.0
comp=Z,13nm,0.7s
SUMG Summit 78.15 359 *i* P **P** 19 18 21.3 +1.1
comp=Z,34nm,0.7s
SUMG Summit 78.15 359 *i* P **P** 19 18 21.3 +1.1
SUMG pmax pmax
comp=Z,34nm,0.7s
NACGM Naroch 78.16 327 *e* **P** 19 18 19.0 -1.1
IIGN Ignalina 78.17 328 *e*P **P** 19 18 19.6 -0.5
IIGN lAmb lAmb 19 18 21.1
comp=Z,9.8nm,0.8s
BMO Blue Mountains 78.19 45 *e*P **P** 19 18 21.4 +0.8
comp=Z,11nm,1.1s
BMO Blue Mountains 78.19 45 *e*P **P** 19 18 21.4 +0.8
BMO pmax pmax
comp=Z,11nm,1.1s
J08A Circle Bar Ran 78.20 47 *e*P **P** 19 18 22.1 +1.4
comp=Z,12nm,1.1s
JTMT Jette 78.53 41 *e*P **P** 19 18 23.9 +1.5
comp=Z,7.8nm,0.8s
SLIT Slitere, Latvi 78.56 331 *e*P **P** 19 18 20.0 -2.1
SLIT lAmb lAmb 19 18 21.6
comp=Z,150nm,0.9s
AKASG Malin Array Be 79.31 323 P **P** 19 18 25.6 -0.8
comp=Z,4.9nm,0.4s,baz=51,slow=5.5,SNR=33
AKASG PP **PP** 19 21 29.1 -2.0
comp=Z,0.3nm,0.2s,baz=48,slow=8.9,SNR=4.3
AKBB Malin Array Si 79.31 323 *e*P **P** 19 18 25.8 -0.6
comp=Z,13nm,0.8s

AKBB	**Malin Array Si**	**79.31**	**323**	*e*P		**P**	**19 18 25.8**	**-0.6**
AKBB				pmax	pmax				
	comp=Z,13nm,0.8s								
KIEV	**Kiev**	**79.32**	**323**	*e*P		**P**	**19 18 25.7**	**-0.7**
	comp=Z,12nm,0.8s								
KIEV	**Kiev**	**79.32**	**323**	*e*P		**P**	**19 18 25.7**	**-0.7**
KIEV				pmax	pmax				
	comp=Z,12nm,0.8s								
AK11	**Malin Array Si**	**79.35**	**323**	*e*P		**P**	**19 18 25.2**	**-1.4**
SCO	**Scoresbysund**	**79.39**	**354**	*i* P		**P**	**19 18 25.2**	**-1.2**
	comp=Z,13nm,0.9s								
SCO	**Scoresbysund**	**79.39**	**354**	*i* P		**P**	**19 18 25.2**	**-1.2**
SCO				pmax	pmax				
	comp=Z,13nm,0.9s								
CMB	**Columbia Colle**	**79.54**	**52**	*e*P		**P**	**19 18 27.3**	**-0.6**
	comp=Z,4.1nm,0.8s								
CMB	**Columbia Colle**	**79.54**	**52**	*e*P		**P**	**19 18 27.3**	**-0.6**
CMB				pmax	pmax				
	comp=Z,4.0nm,0.8s								
NC405	**NORSAR Array S**	**80.28**	**337**	*e*P		**P**	**19 18 31.1**	**-0.2**
NC303	**NORSAR Array S**	**80.31**	**337**	*e*P		**P**	**19 18 31.4**	**-0.1**
SUW	**Suwalki**	**80.39**	**328**	*e*P		**P**	**19 18 31.6**	**-0.3**
SUW	**Suwalki**	**80.39**	**328**	*e*P		**P**	**19 18 31.8**	**-0.2**
	comp=Z,49nm,0.9s								
SUW	**Suwalki**	**80.39**	**328**	*e*P		**P**	**19 18 31.8**	**-0.2**
SUW				pmax	pmax				
	comp=Z,49nm,0.9s								
NB201	**NORSAR Array S**	**80.47**	**337**	*e*P		**P**	**19 18 32.1**	**-0.3**
NC204	**NORSAR Array S**	**80.48**	**338**	*e*P		**P**	**19 18 32.2**	**-0.2**
HRY	**Holter Researc**	**80.49**	**41**	*e*P		**P**	**19 18 33.9**	**+1.0**
NB2	**NORSAR Subarra**	**80.50**	**337**	P		**P**	**19 18 31.7**	**-0.8**
	comp=Z,339nm,3.3s,baz=46,slow=4.8								
NB2	**NORSAR Subarra**	**80.50**	**337**	P		**P**	**19 18 31.7**	**-0.8**
	baz=46,slow=4.8								
NB200	**NORSAR Array S**	**80.50**	**337**	*e*P		**P**	**19 18 31.9**	**-0.6**
NOA	**NORSAR Array B**	**80.50**	**337**	P		**P**	**19 18 31.9**	**-0.6**
	comp=Z,17nm,0.7s,baz=45,slow=5.1,SNR=56								
NOA	**NORSAR Array B**	**80.50**	**337**	P		**P**	**19 18 32.0**	**-0.6**
NOA				pmax	pmax				
	comp=Z,17nm,0.7s								
RYN	**Ryan**	**80.52**	**51**	*e*P		**P**	**19 18 33.1**	**-0.2**
	comp=Z,8.0nm,1.1s								
KVN	**Kaiserville**	**80.59**	**50**	*e*P		**P**	**19 18 34.0**	**+0.3**
	comp=Z,9.2nm,1.2s								
KVN	**Kaiserville**	**80.59**	**50**	*e*P		**P**	**19 18 34.0**	**+0.3**
KVN				pmax	pmax				
	comp=Z,9.0nm,1.2s								
NC602	**NORSAR Array S**	**80.61**	**337**	*e*P		**P**	**19 18 32.4**	**-0.7**
NORES	**NORESS Array B**	**80.61**	**337**	P		**P**	**19 18 32.2**	**-0.8**
NORES				pmax	pmax				
	comp=Z,3.0nm,0.3s								
LRM	**Limekiln Ridge**	**80.61**	**42**	*e*P		**P**	**19 18 34.4**	**+0.7**
HLID	**Hailey**	**80.64**	**45**	*e*P		**P**	**19 18 35.0**	**+1.2**
	comp=Z,3.6nm,0.8s								
NBO00	**NORSAR Array S**	**80.65**	**337**	*e*P		**P**	**19 18 33.1**	**-0.2**
NV01	**Mina Array Sit**	**80.77**	**51**	*e*P		**P**	**19 18 35.7**	**+1.0**
NVAR	**Mina Array Bea**	**80.77**	**51**	P		**P**	**19 18 35.8**	**+1.1**
	comp=Z,5.7nm,0.8s,baz=283,slow=5.4,SNR=20								
NVAR				pP		**pP**	**19 19 54.9**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=291,slow=4.9,SNR=2.4								
NV11	**Mina Array Sit**	**80.87**	**51**	*e*P		**P**	**19 18 36.4**	**+1.3**
	comp=Z,0.3nm,1.0s								
BOZ	**Bozeman (W)**	**81.22**	**42**	*e*P		**P**	**19 18 36.1**	**-0.7**
	comp=Z,3.9nm,0.6s								
BOZ	**Bozeman (W)**	**81.22**	**42**	*e*P		**P**	**19 18 36.1**	**-0.7**
BOZ				pmax	pmax				
	comp=Z,4.0nm,0.6s								
KIS	**Kishinev**	**81.61**	**320**	*e*P		**P**	**19 18 36.0**	**-2.6**
ILGA	**Ilgaz**	**81.93**	**313**	*e*P		**P**	**19 18 41.0**	**+0.3**
	comp=Z,68nm,1.6s								
RAYN	**Ar Rayn**	**82.11**	**292**	*e*P		**P**	**19 18 41.8**	**+0.2**
	comp=Z,52nm,0.9s								
RAYN	**Ar Rayn**	**82.11**	**292**	*i* P		**P**	**19 18 41.8**	**+0.2**
	SNR=76								
RAYN	**Ar Rayn**	**82.11**	**292**	*e*P		**P**	**19 18 41.8**	**+0.2**
RAYN				pmax	pmax				
	comp=Z,52nm,0.9s								
HVU	**Hansel Valley**	**82.62**	**46**	*e*P		**P**	**19 18 45.6**	**+1.5**
	comp=Z,18nm,1.5s								
HVU	**Hansel Valley**	**82.62**	**46**	*e*P		**P**	**19 18 45.6**	**+1.5**
HVU				pmax	pmax				
	comp=Z,19nm,1.5s								
R11A	**Troy Canyon, C**	**82.64**	**50**	*e*P		**P**	**19 18 45.2**	**+0.9**
	comp=Z,4.9nm,1.1s								
BR101	**Keskin Array S**	**82.69**	**312**	*e*P		**P**	**19 18 44.1**	**-0.3**
BR131	**Keskin Array S**	**82.69**	**312**	*e*P		**P**	**19 18 44.2**	**-0.3**
BRTR	**Keskin Array B**	**82.69**	**312**	P		**P**	**19 18 44.1**	**-0.3**
	comp=Z,9.2nm,0.8s,baz=96,slow=3.7,SNR=52								
BIR	**Birlad**	**82.71**	**320**	⇑*i*P		**P**	**19 18 43.8**	**-0.4**
MOOW	**Moose Ponds**	**82.77**	**43**	*e*P		**P**	**19 18 46.7**	**+1.8**
	comp=Z,2.2nm,0.8s								
PRAR	**RASCA**	**82.84**	**321**	⇑*i*P		**P**	**19 18 44.7**	**-0.2**
TPNV	**Topopah Spring**	**82.92**	**52**	*e*P		**P**	**19 18 46.6**	**+0.9**
	comp=Z,12nm,1.1s								
TPNV	**Topopah Spring**	**82.92**	**52**	*e*P		**P**	**19 18 46.6**	**+0.9**
TPNV				pmax	pmax				
	comp=Z,13nm,1.1s								
BIZ	**Bicaz**	**83.16**	**321**	⇑*i*P		**P**	**19 18 46.6**	**+0.1**
BURAR	**Bucovina Array**	**83.24**	**322**	⇑*i*P		**P**	**19 18 47.2**	**+0.1**
BURAR	**Bucovina Array**	**83.24**	**322**	P		**P**	**19 18 47.2**	**+0.1**
PETR	**Petresti**	**83.25**	**319**	⇑*i*P		**P**	**19 18 47.6**	**+0.6**
BSD	**Bornholm Skovb**	**83.31**	**332**	*i* P		**P**	**19 18 45.6**	**-1.5**
	comp=Z,35nm,0.8s								
BSD	**Bornholm Skovb**	**83.31**	**332**	*i* P		**P**	**19 18 45.6**	**-1.5**
BSD				pmax	pmax				
	comp=Z,35nm,0.8s								
KWP	**Kalwaria Pacla**	**83.33**	**324**	*e*P		**P**	**19 18 47.2**	**-0.1**
KWP	**Kalwaria Pacla**	**83.33**	**324**	*e*P		**P**	**19 18 47.2**	**-0.1**
GSC	**Goldstone, Bar**	**83.40**	**53**	*e*P		**P**	**19 18 49.5**	**+1.4**
	comp=Z,6.0nm,0.9s								
GSC	**Goldstone, Bar**	**83.40**	**53**	*e*P		**P**	**19 18 49.5**	**+1.4**
GSC				pmax	pmax				
	comp=Z,6.0nm,0.9s								
HARR	**Harsova**	**83.45**	**318**	⇑*i*P		**P**	**19 18 48.0**	**0.0**
HARR	**Harsova**	**83.45**	**318**	P		**P**	**19 18 48.0**	**0.0**
VRI	**Vrincioaia**	**83.45**	**320**	⇑*i*P		**P**	**19 18 48.5**	**+0.4**
VRI	**Vrincioaia**	**83.45**	**320**	P		**P**	**19 18 48.4**	**+0.4**
SFJD	**Kangerlussuaq**	**83.45**	**4**	*i* P		**P**	**19 18 47.2**	**-0.3**
	comp=Z,12nm,0.7s								
SFJD	**Kangerlussuaq**	**83.45**	**4**	*i* P		**P**	**19 18 47.2**	**-0.3**
SFJD				pmax	pmax				
	comp=Z,12nm,0.7s								
DUG	**Dugway, Tooele**	**83.46**	**47**	*e*P		**P**	**19 18 49.5**	**+1.1**
	comp=Z,9.8nm,0.9s								
DUG	**Dugway, Tooele**	**83.46**	**47**	*e*P		**P**	**19 18 49.5**	**+1.1**
DUG				pmax	pmax				
	comp=Z,10.0nm,0.9s								
HWUT	**Hardware Ranch**	**83.47**	**46**	*e*P		**P**	**19 18 49.7**	**+1.3**
	comp=Z,13nm,0.9s								
PLOR	**Plostina**	**83.50**	**320**	⇑*i*P		**P**	**19 18 48.4**	**+0.1**
PLOR	**Plostina**	**83.50**	**320**	P		**P**	**19 18 48.1**	**-0.2**
GRER		**83.59**	**319**	⇑*i*P		**P**	**19 18 49.6**	**+0.9**
PSUT	**Pine Spring**	**83.69**	**49**	*e*P		**P**	**19 18 50.2**	**+0.6**
	comp=Z,4.4nm,0.9s								
SHPR	**Sheep Range**	**83.90**	**51**	*e*P		**P**	**19 18 51.7**	**+1.0**
	comp=Z,4.3nm,0.9s								
ARCR	**ARCALIA**	**84.03**	**322**	⇑*i*P		**P**	**19 18 50.7**	**-0.2**
BW06	**Boulder Array**	**84.04**	**44**	*e*P		**P**	**19 18 51.8**	**+0.4**
	comp=Z,5.5nm,1.1s								
PD31	**Pinedale Array**	**84.04**	**44**	*e*P		**P**	**19 18 52.1**	**+0.7**
PDAR	**Pinedale Array**	**84.04**	**44**	P		**P**	**19 18 51.9**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=317,slow=0.5,SNR=12								
PDAR				pP		**pP**	**19 20 11.4**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=306,slow=1.7,SNR=1.5								
JLU	**Jordanelle**	**84.10**	**46**	*e*P		**P**	**19 18 52.7**	**+0.9**
	comp=Z,19nm,1.5s								
MLR	**Muntele Rosu**	**84.11**	**320**	⇓*i*P		**P**	**19 18 51.9**	**+0.4**
BMR	**Baia Mare**	**84.13**	**322**	⇑*i*P		**P**	**19 18 50.9**	**-0.5**
DOPR	**Dopca**	**84.14**	**320**	⇑*i*P		**P**	**19 18 51.3**	**-0.2**
UZH	**Uzhgorod**	**84.16**	**324**	⇑*i*P		**P**	**19 18 51.0**	**-0.5**
MPU	**Maple Canyon**	**84.31**	**47**	*e*P		**P**	**19 18 53.6**	**+0.9**
	comp=Z,7.4nm,0.9s								
TRPA	**Tarpa**	**84.35**	**323**	⇑*i*P		**P**	**19 18 52.3**	**-0.1**
OJC	**Ojcow**	**84.40**	**326**	*e*P		**P**	**19 18 52.5**	**-0.2**
OJC	**Ojcow**	**84.40**	**326**	*e*P		**P**	**19 18 52.3**	**-0.4**
	comp=Z,10nm,0.9s								
OJC	**Ojcow**	**84.40**	**326**	*e*P		**P**	**19 18 52.5**	**-0.2**
ASF	**Jabal al Asfar**	**84.42**	**304**	P		**P**	**19 18 53.5**	**+0.2**
	comp=Z,7.3nm,1.0s,baz=155,slow=1.0,SNR=15								
PFO	**Pinyon Flats O**	**84.53**	**54**	*e*P		**P**	**19 18 54.7**	**+0.9**
	comp=Z,11nm,1.0s								
PFO	**Pinyon Flats O**	**84.53**	**54**	*e*P		**P**	**19 18 54.7**	**+0.9**
PFO				pmax	pmax				
	comp=Z,11nm,1.0s								
VOIR		**84.65**	**320**	⇑*i*P		**P**	**19 18 54.4**	**+0.3**
VOIR		**84.65**	**320**	P		**P**	**19 18 54.4**	**+0.3**
NIE	**Niedzica**	**84.67**	**325**	*e*P		**P**	**19 18 53.6**	**-0.5**
NIE	**Niedzica**	**84.67**	**325**	*e*P		**P**	**19 18 53.6**	**-0.5**
MSU	**Marysvale**	**84.80**	**48**	*e*P		**P**	**19 18 56.8**	**+1.6**
MSU				*e*pP		**pP**	**19 20 15.0**	**-0.5**
MSU	**Marysvale**	**84.80**	**48**	*e*P		**P**	**19 18 56.8**	**+1.6**
MSU				*e**PP		**pP**	**19 20 15.0**	**-0.5**
LCMT	**Little Creek M**	**84.92**	**50**	*e*P		**P**	**19 18 57.2**	**+1.5**
	comp=Z,7.1nm,1.0s								
ARR	**Arges**	**84.92**	**320**	⇑*i*P		**P**	**19 18 55.8**	**+0.3**
MMAI	**Mount Meron Ar**	**85.05**	**305**	P		**P**	**19 18 56.2**	**-0.2**
	comp=Z,5.6nm,0.7s,baz=51,slow=6.6,SNR=14								
MTPU	**Mount Pierson**	**85.06**	**49**	*e*P		**P**	**19 18 58.5**	**+1.8**
MTPU				*e*pP		**pP**	**19 20 15.8**	**-1.2**
DRGR		**85.10**	**322**	⇑*i*P		**P**	**19 18 55.8**	**-0.5**
DRGR		**85.10**	**322**	P		**P**	**19 18 55.7**	**-0.5**
P17A	**Butcher Ranch,**	**85.19**	**47**	*e*P		**P**	**19 18 58.6**	**+1.6**
	comp=Z,7.6nm,0.8s								
KNB	**Kanab**	**85.20**	**50**	*e*P		**P**	**19 18 58.9**	**+1.7**
	comp=Z,14nm,1.1s								
KNB	**Kanab**	**85.20**	**50**	*e*P		**P**	**19 18 58.9**	**+1.7**
KNB				pmax	pmax				
	comp=Z,14nm,1.1s								
LOT	**Lotru**	**85.36**	**321**	⇑*i*P		**P**	**19 18 57.3**	**-0.3**
P18A	**Preston Nutter**	**85.41**	**47**	*e*P		**P**	**19 18 59.1**	**+0.8**
	comp=Z,5.7nm,0.9s								
CSS	**Mathiatis**	**85.46**	**308**	*e*P		**P**	**19 18 57.6**	**-0.7**
	comp=Z,10nm,0.6s								
KSP	**Ksiaz**	**85.65**	**328**	*e*P		**P**	**19 18 58.8**	**-0.1**
KSP	**Ksiaz**	**85.65**	**328**	*e*P		**P**	**19 18 58.7**	**-0.1**
DPC	**Dobruska-Polom**	**85.97**	**328**	*e*P		**P**	**19 19 00.4**	**-0.1**
DPC	**Dobruska-Polom**	**85.97**	**328**	*e*P		**P**	**19 19 00.4**	**-0.1**
SIRR	**Siria**	**85.99**	**322**	⇑*i*P		**P**	**19 18 59.6**	**-1.0**
VYHS	**Vyhne**	**86.01**	**325**	*e*P		**P**	**19 18 59.9**	**-0.7**
VYHS				pmax	pmax				
	comp=Z,81nm,3.3s								
VYHS	**Vyhne**	**86.01**	**325**	*e*P		**P**	**19 18 59.9**	**-0.7**
UPC	**Upice**	**86.01**	**328**	*e*P		**P**	**19 19 00.2**	**-0.4**
UPC				*e*PCP		**PcP**	**19 19 03.0**	**+0.3**
UPC	**Upice**	**86.01**	**328**	*e*P		**P**	**19 19 00.2**	**-0.4**
BZS	**Buzias**	**86.43**	**322**	⇑*i*P		**P**	**19 19 01.8**	**-0.9**
BZS	**Buzias**	**86.43**	**322**	P		**P**	**19 19 01.7**	**-0.9**
HERR	**Herculane**	**86.46**	**321**	⇑*i*P		**P**	**19 19 02.1**	**-0.7**
PUNG	**Punghina**	**86.55**	**320**	⇓*i*P		**P**	**19 19 02.5**	**-0.8**
VRAC	**Vranov**	**86.56**	**327**	⇑*i*P		**P**	**19 19 02.0**	**-1.3**
VRAC	**Vranov**	**86.56**	**327**	P		**P**	**19 19 02.0**	**-1.3**
ULM	**Lac du Bonnet**	**86.61**	**32**	P		**P**	**19 19 03.4**	**-0.1**
	comp=Z,4.5nm,0.9s,baz=42,slow=5.2,SNR=2.9								
BRG	**Berggiesshubel**	**86.70**	**329**	*e*P		**P**	**19 19 03.0**	**-0.9**
	comp=Z,10nm,1.3s								
CLL	**Collm**	**86.81**	**330**	*e*P		**P**	**19 19 03.0**	**-1.4**
CLL				*e*			19 19 38.0		
CLL	**Collm**	**86.81**	**330**	*e*P		**P**	**19 19 03.0**	**-1.4**
MODS	**Modra-Piesok**	**86.86**	**326**	*e*P		**P**	**19 19 03.8**	**-0.9**
MODS				pmax	pmax				
	comp=Z,76nm,2.5s								
MODS	**Modra-Piesok**	**86.86**	**326**	*e*P		**P**	**19 19 03.8**	**-0.9**
PV10	**Paradox Valley**	**86.90**	**47**	*e*P		**P**	**19 19 05.8**	**+0.3**
GOPC	**GO Pecny, Ondr**	**86.99**	**328**	*e*P		**P**	**19 19 05.0**	**-0.3**
GOPC	**GO Pecny, Ondr**	**86.99**	**328**	*e*P		**P**	**19 19 05.0**	**-0.3**
PV11	**David Mesa, Pa**	**87.05**	**47**	*e*P		**P**	**19 19 07.1**	**+1.0**
	comp=Z,5.6nm,0.8s								
TREC	**Trest**	**87.09**	**327**	*e*P		**P**	**19 19 05.4**	**-0.4**
TREC	**Trest**	**87.09**	**327**	*e*P		**P**	**19 19 05.4**	**-0.4**
DAMY	**Dhamar**	**87.38**	**285**	*e*P		**P**	**19 19 08.2**	**+0.1**
	comp=Z,18nm,0.9s								
VTS	**Vitosha**	**87.45**	**319**	⇑*i*P		**P**	**19 19 07.1**	**-0.7**
VTS	**Vitosha**	**87.45**	**319**	P		**P**	**19 19 07.0**	**-0.7**
CONA	**Conrad Observa**	**87.86**	**326**	*i* PcP		**P**	**19 19 09.2**	**-0.3**
	comp=Z,4.9nm,0.9s								
KHC	**Kasperske Hory**	**88.10**	**328**	*e*P		**P**	**19 19 09.8**	**-0.8**
	comp=Z,3.0nm,0.9s								
KHC	**Kasperske Hory**	**88.10**	**328**	*e*P		**P**	**19 19 10.0**	**-0.6**
KHC	**Kasperske Hory**	**88.10**	**328**	*e*P		**P**	**19 19 10.0**	**-0.6**
GERES	**GERESS Array B**	**88.25**	**328**	P		**P**	**19 19 10.3**	**-1.1**
	comp=Z,3.0nm,0.7s,baz=40,slow=5.6,SNR=24								
GERES	**GERESS Array B**	**88.25**	**328**	P		**P**	**19 19 10.3**	**-1.1**
GERES				pmax	pmax				
	comp=Z,4.0nm,0.8s								
GEA0	**GERESS Array S**	**88.25**	**328**	*e*P		**P**	**19 19 10.0**	**-1.3**
ARSA	**Arzberg**	**88.49**	**326**	*i* PcP		**P**	**19 19 11.8**	**-0.7**
	comp=Z,1.4nm,0.6s								
MOA	**Molln**	**88.68**	**327**	*i* PcP		**P**	**19 19 13.1**	**-0.3**
	comp=Z,4.9nm,1.0s								
SOKA	**Soboth**	**89.13**	**325**	*i* PcP		**P**	**19 19 14.6**	**-1.0**
	comp=Z,9.6nm,1.1s								
OBKA	**Obir**	**89.49**	**326**	*i* P		**P**	**19 19 15.9**	**-1.3**
	comp=Z,3.3nm,0.7s								
PDG	**Podgorica**	**89.79**	**320**	⇑*i*P		**P**	**19 19 17.6**	**-0.9**
MYKA	**Terra Mystica**	**89.85**	**326**	*i* P		**P**	**19 19 17.3**	**-1.5**
	comp=Z,3.1nm,0.5s								
ABTA	**Abfaltersbach**	**90.31**	**327**	*i* P		**P**	**19 19 19.2**	**-1.8**
	comp=Z,12nm,1.0s								
WTTA	**Wattenberg**	**90.35**	**328**	*i* PcP		**P**	**19 19 20.8**	**-0.5**
	comp=Z,7.2nm,0.9s								
MOTA	**Moosalm**	**90.54**	**328**	*i* P		**P**	**19 19 20.6**	**-1.5**
	comp=Z,2.9nm,0.7s								
SQTA	**Sankt Quirin**	**90.58**	**328**	*i* PcP		**P**	**19 19 21.2**	**-1.1**
	comp=Z,5.5nm,1.0s								
RETA	**Reutte**	**90.59**	**328**	*i* PcP		**P**	**19 19 21.6**	**-0.7**
	comp=Z,7.2nm,1.0s								
ANMO	**Albuquerque**	**90.61**	**49**	*e*P		**P**	**19 19 24.3**	**+1.5**
	comp=Z,5.4nm,0.9s								
ANMO	**Albuquerque**	**90.61**	**49**	*ce*P		**P**	**19 19 24.6**	**+1.8**
ANMO				pmax	pmax				
	comp=Z,7.0nm,1.3s								
IDI	**Anoyia**	**90.92**	**312**	P		**P**	**19 19 22.8**	**-1.2**
	comp=Z,5.1nm,1.0s,baz=56,slow=3.6,SNR=4.8								
FETA	**Feichten**	**90.95**	**328**	*i* PcP		**P**	**19 19 23.0**	**-1.0**
	comp=Z,8.4nm,0.8s								
BFO	**Black Forest**	**91.05**	**330**	*ce*P		**P**	**19 19 24.0**	**-0.3**
DAVA	**Damuels**	**91.14**	**328**	*i* P		**P**	**19 19 23.5**	**-1.4**
FUORN	**Ofenpass-Fuorn**	**91.46**	**328**	*e*P		**P**	**19 19 26.2**	**-0.4**
	comp=Z,24nm,1.1s								
TUE	**Stuetta**	**91.99**	**328**	*e*P		**P**	**19 19 28.1**	**-0.9**
	comp=Z,8.3nm,1.0s								
TX31	**Lajitas Ar. Si**	**95.91**	**52**	*e*P		**P**	**19 19 47.9**	**+0.9**
TX31				*e*pP		**pP**	**19 21 08.9**	**+0.3**
LTX	**Lajitas**	**95.91**	**52**	*e*P		**P**	**19 19 48.0**	**+0.9**
LTX				*e*pP		**pP**	**19 21 07.7**	**-0.9**
LTX	**Lajitas**	**95.91**	**52**	*e*P		**P**	**19 19 48.0**	**+0.9**
LTX				*e**PP		**pP**	**19 21 07.7**	**-0.9**
TXAR	**Lajitas Array**	**95.91**	**52**	P		**P**	**19 19 48.0**	**+0.9**
	comp=Z,2.9nm,0.8s,baz=306,slow=3.6,SNR=27								
TXAR				pP		**pP**	**19 21 07.7**	**-0.9**
	comp=Z,1.1nm,0.9s,baz=270,slow=2.7,SNR=4.9								
TOA1	**Torodi Ar. Sit**	**121.28**	**310**	*e*PKPdf		**PKPdf**	**19 25 10.7**	**-0.9**
TOA0	**Torodi Ar. Sit**	**121.28**	**310**	*e*PKPdf		**PKPdf**	**19 25 09.8**	**-1.8**
TORD	**Torodi Ar. Bea**	**121.28**	**310**	PKP		**PKPdf**	**19 25 10.7**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=358,slow=2.7,SNR=23								
DBIC	**Dimbokro**	**130.38**	**311**	PKP		**PKPdf**	**19 25 28.4**	**-0.6**
	comp=Z,3.5nm,0.7s,baz=329,slow=1.6,SNR=5.6								
PTGA	**Pitinga**	**145.81**	**37**	*e*PKPdf		**PKPbc**	**19 25 57.8**	**-0.5**
USHA	**Ushuaia**	**147.68**	**149**	PKPbc		**PKPbc**	**19 26 02.9**	**+0.7**
	comp=Z,12nm,0.9s,baz=244,slow=1.3,SNR=5.4								
SAML	**Samuel**	**150.40**	**51**	*e*PKPdf		**PKPdf**	**19 26 04.8**	**+0.3**
SAML				*e*PKPbc		**PKPbc**	**19 26 09.9**	**-0.2**
SAML	**Samuel**	**150.40**	**51**	*e*PKiKP		**PKPdf**	**19 26 04.8**	**+0.3**
LPAZ	**La Paz**	**151.33**	**69**	PKP		**PKPdf**	**19 26 06.4**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=305,slow=4.3,SNR=7.8								
LPAZ				PKPbc		**PKiKP**	**19 26 13.6**	**+0.3**
	comp=Z,9.6nm,0.7s,baz=272,slow=1.6,SNR=59								
LPAZ				pPKPbc		**pPKPbc**	**19 27 39.1**	**+0.8**
	comp=Z,2.4nm,0.9s,baz=288,slow=2.2,SNR=2.9								
LPAZ	**La Paz**	**151.33**	**69**	*e*PKPdf		**PKPdf**	**19 26 07.1**	**+0.5**
LPAZ				*e*PKPbc		**PKPdf**	**19 26 07.6**	**+1.0**
LPAZ				*e*PKiKP		**PKiKP**	**19 26 13.6**	**+0.3**
LPAZ				*e*			19 26 13.8		
LPAZ				pPKPbc		**pPKPbc**	**19 27 39.1**	**+0.8**
LPAZ	**La Paz**	**151.33**	**69**	*e*PKiKP		**PKPdf**	**19 26 07.1**	**+0.5**
LPAZ				*e*			19 26 07.6		
MNMC	**Minye Minye**	**151.51**	**75**	*e*PKPbc		**PKPbc**	**19 26 13.5**	**+0.6**
PB11	**IPOC Station P**	**151.74**	**77**	*e*PKPbc		**PKPbc**	**19 26 14.0**	**+0.8**
PLCA	**Paso Flores**	**153.05**	**123**	PKPbc		**PKPbc**	**19 26 16.2**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=251,slow=11,SNR=4.5								
LVC	**Limon Verde**	**153.51**	**82**	PKPbc		**PKPbc**	**19 26 17.7**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=159,slow=1.2,SNR=3.6								
ROC1	**El Roble**	**153.64**	**105**	*e*PKPbc		**PKPbc**	**19 26 17.7**	**+0.5**
BDFB	**Brasilia**	**164.48**	**29**	PKPab		**PKPab**	**19 27 18.3**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=181,slow=24,SNR=3.2								
CPUP	**Villa Florida**	**164.68**	**82**	PKP		**PKPdf**	**19 26 21.8**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=340,slow=3.4,SNR=2.8								
CPUP				PKPab		**PKPab**	**19 27 20.0**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=254,slow=6.5,SNR=4.5								

*IDC **21** 19:12:10.0±7.8, 36°.65N×143°.58E, h0km, mb3.6/3, mb1 3.5/6, mb1mx3.4/49, mbtmp3.5/6, ML2.8/3, Error ellipse: s-maj=130.3km s-min=66.9km az=146.0*
*JMA **21** 19:12:23.5±0.2, 37°.37N×142°.23E, h28km±4km, M3.5*

ISC 21 19:12:23.0±2.6, 37°.41N±0°.07×142°.2E±0°.1, h9km±11km, n15, σ0°90/19, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**1.02**	**268**	P		**Pg**	**19 12 42.8**	**+0.2**
JFK				S		**Sg**	**19 12 56.4**	**+0.5**
JIKH	**Ishinomakikobu**	**1.05**	**329**	P		**Pg**	**19 12 43.1**	**-0.2**
ONAJ	**Iwakimizuishiy**	**1.12**	**255**	P		**Pg**	**19 12 44.1**	**-0.5**
ONAJ				*e*S		**Sg**	**19 12 59.4**	**+0.2**
JMM	**Marumori**	**1.17**	**293**	P		**Pg**	**19 12 45.4**	**-0.2**
JMM				S		**Sg**	**19 13 00.8**	**0.0**
JIO	**Ouri**	**1.22**	**329**	P		**Pg**	**19 12 46.0**	**-0.5**
JFT	**Otama**	**1.45**	**275**	P		**Pn**	**19 12 50.1**	**+0.6**
JFT				S		**Sb**	**19 13 08.8**	**0.0**
JOU	**Okura**	**1.52**	**310**	P		**Pn**	**19 12 51.0**	**+0.5**
JOU				S		**Sn**	**19 13 10.8**	**+0.4**
JYK	**Kaneyama**	**2.07**	**317**	P		**Pn**	**19 12 58.9**	**+0.9**
JOM	**Ohasama**	**2.17**	**342**	P		**Pn**	**19 13 00.4**	**+1.0**
MJAR	**Matsushiro Arr**	**3.27**	**256**	Pn		**Pn**	**19 13 16.0**	**+1.4**
	0.8nm,0.3s,baz=82,slow=16,SNR=1.3							
MJAR				Sn		**Sb**	**19 13 59.6**	**-

DGMT	**Dagmar** baz=190	**4.77**	**9**	P		Pn	20 03 38.0	-0.5
Q24A	**Divide** baz=358	**4.80**	**178**	Sb		Sb	20 04 52.5	+3.6
BOZ	**Bozeman (W)** baz=111	**4.85**	**294**	Sb		Sb	20 04 54.5	+4.4
EGMT	**Eagleton** baz=143	**5.26**	**326**	P		Pn	20 03 45.8	+0.5
EGMT	baz=143			S		Sn	20 04 49.7	+3.1
MDND	**Maddock** baz=226	**5.72**	**42**	S		Sn	20 04 58.9	+1.1
CBKS	**Cedar Bluff** baz=322	**6.50**	**138**	S		Sn	20 05 19.4	+2.3

MEX 21 20:11:49.6±0.6, 17°29N×98°44W, h49km±7km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**0.30**	**336**	*e*P	Pn	20 11 57.1	-1.7
TLIG				*e*S	Sn	20 12 03.4	-1.9
MEIG	**Mezcala**	**1.29**	**300**	*e*P	Pn	20 12 09.8	-1.6
MEIG				*i* S	Sn	20 12 26.2	-1.4

*NORS **21** 20:16:40.7±0.0, 41°.98N×47°.31E, h13km, MPVA3.5*
*DRS **21** 20:16:42.3±0.0, 41°.96N×47°.23E, h16km*
MOS 21 20:16:39.4±0.0, 41°.94N×47°.20E, h20km, MPVA3.2, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMKR	**Kumukh**	**0.21**	**338**	*e*Pg	Pb	20 16 46.5	+1.6
KMKR				*e*Sg	Sb	20 16 49.5	+0.9
URKR	**Urkarakh**	**0.39**	**55**	*i* Pg	Pn	20 16 49.4	-0.7
URKR				*e*Sg	Sn	20 16 55.4	-1.6
GNBR	**Gunib**	**0.48**	**339**	*i* Pg	Pn	20 16 50.6	-0.7
GNBR				*i* Sg	Sn	20 16 57.8	-1.4
AKT	**Akhty**	**0.60**	**139**	*i* Pg	Pn	20 16 53.0	0.0
AKT				*e*Sg	Sn	20 17 01.6	-0.6
KSMR	**Kasumkent**	**0.77**	**116**	*e*Pg	Pn	20 16 56.0	+0.8
KSMR				*e*Sg	Sn	20 17 09.0	+2.8
UNCR	**Uncukul**	**0.83**	**339**	*i* Pg	Pn	20 16 57.0	+1.0
UNCR				*e*Sg	Sn	20 17 10.0	+2.2
DRN	**Derbent**	**0.84**	**83**	*e*Pg	Pn	20 16 58.1	+1.9
DRN				*e*Sg	Sn	20 17 08.9	+1.0
KRNR	**Karanay**	**0.92**	**346**	*e*Pg	Pn	20 16 58.0	+0.8
KRNR				*i* Sg	Sn	20 17 12.0	+2.1
BTLR	**Botlikh**	**1.03**	**315**	*e*Pg	Pn	20 17 00.2	+1.4
BTLR				*e*Sg	Sn	20 17 14.3	+1.7
DBC	**Dubki**	**1.12**	**346**	*e*Pg	Pb	20 17 01.9	+1.8
DBC				*e*Sg	Sn	20 17 17.2	+2.4
GROC	**Groznyy**	**1.64**	**321**	*e*Pg	Pb	20 17 13.7	+4.8
GROC				*i* Sg	Sb	20 17 35.5	+6.5

IDC 21 20:23:07.0±1.8, 10°.69S×123°.76E, h0km, mb3.9/1, mb1 3.6/3, mb1mx3.4/27, mbtmp3.5/3, ML3.2/2, Error ellipse: s-maj=61.4km s-min=11.4km az=75.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata** 225nm,0.3s,baz=152,slow=5.6,SNR=191	**0.49**	**349**	Pg	Pg	20 23 16.4	0.0
BATI				Lg	Lg	20 23 23.2	
BATI	246nm,0.3s,baz=61,slow=23,SNR=18			LR	LR	20 23 40.2	
WRA	comp=Z,317nm,19.4s,baz=269,slow=68 **Warramunga Arr** 0.1nm,0.3s,baz=306,slow=14,SNR=7.5	**13.73**	**133**	Pn	Pn	20 26 22.6	-0.6
WRA				Sn	Sn	20 28 55.5	-1.1
ASAR	0.1nm,0.3s,baz=309,slow=23,SNR=4.5 **Alice Springs** 0.1nm,0.3s,baz=320,slow=12,SNR=11	**16.13**	**144**	Pn	Pn	20 26 56.5	+1.2
ASAR				Sn	Sn	20 29 51.5	-3.5
MKAR	0.1nm,0.3s,baz=315,slow=22,SNR=4.2 **Makanchi Array** 1.0nm,0.7s,baz=139,slow=7.1,SNR=8.5	**68.15**	**331**	P	P	20 34 09.2	+0.1

*SJA **21** 20:45:42.8±0.2, 33°.93S×72°.91W, h33km, ML3.4, MW3.6*
*ISCJB **21** 20:45:47.6±0.9, 34°.06S±0°.04×72°.16W±0°.08, h10km, Error ellipse: s-maj=10.4km s-min=5.4km az=23.3*
*GUC **21** 20:45:47.3±0.6, 34°.03S×72°.28W, h35km±2km, ML3.4*
ISC 21 20:45:46.4±1.5, 34°.03S±0°.05×72°.19W±0°.09, h10km, n21, σ1s99/30, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**HualaæØ**	**1.00**	**168**	*e*P	**Pb**	**20 46 04.8**	**-1.0**
GO05				*e*S	**Sb**	**20 46 18.5**	**-0.5**
ANTU	**Antumapu**	**1.37**	**71**	*e*P	**Pb**	**20 46 11.4**	**-0.7**
ANTU				*e*S	**Sg**	**20 46 30.0**	**-0.5**
ROCH	**El Roble**	**1.44**	**43**	*e*P	**Pb**	**20 46 12.6**	**-0.9**
ROCH				*e*S	**Sn**	**20 46 31.6**	**-0.3**
ROCH	comp=N,594nm,0.1s			IAML		20 46 39.5	
CLCH	**Cerro Calan**	**1.51**	**66**	*e*P	**Pb**	**20 46 14.1**	**-0.5**
CLCH				*e*S	**Sb**	**20 46 34.1**	**+0.2**
CLCH	comp=N,646nm,0.6s			IAML		20 46 47.5	
PEL	**Peldehue**	**1.53**	**55**	*e*P	**Pb**	**20 46 14.2**	**-0.7**
PEL				*e*S	**Sb**	**20 46 34.4**	**-0.1**
PEL	comp=N,681nm,0.4s			IAML		20 46 42.4	
LMEL	**Las Melosas**	**1.66**	**84**	*e*P	**Pb**	**20 46 16.4**	**-0.7**
LMEL				*e*S	**Sb**	**20 46 38.1**	**-0.1**
LMEL	comp=N,757nm,0.3s			IAML		20 46 40.8	
FCH	**Farellones**	**1.73**	**67**	*e*P	**Pb**	**20 46 17.2**	**-1.2**
FCH				*e*S	**Sb**	**20 46 39.9**	**-0.5**
FCH	comp=E,630nm,0.1s			IAML		20 46 46.0	
CCHI	**Chillan**	**2.57**	**178**	*e*S	**Sg**	**20 47 07.2**	**-1.7**
AAGR	**Agrelo**	**2.96**	**72**	*e*P	**Pb**	**20 46 38.2**	**-1.1**
AAGR				*e*S	**Sg**	**20 47 19.2**	**-2.2**
AUSP	**Uspallata**	**2.96**	**53**	*e*P	**Pb**	**20 46 37.3**	**-2.1**
AUSP				*e*S	**Sb**	**20 47 17.7**	**+1.9**
ARCO	**CERRO ARCO**	**2.97**	**67**	*e*P	**Pb**	**20 46 38.0**	**-1.4**
ARCO	comp=Z,108nm,0.4s			IAML		20 46 44.9	
ASAL	**Salagasta**	**3.15**	**64**	*e*P	**Pb**	**20 46 40.3**	**-2.3**
RFA	**San Rafael**	**3.16**	**105**	*e*P	**Pb**	**20 46 41.9**	**-0.9**
RFA	comp=Z,28nm,0.4s			IAML		20 46 46.6	
RTLS	**Leoncito**	**3.29**	**48**	*e*P	**Pb**	**20 46 41.7**	**-3.4**
RTLS	comp=Z,56nm,0.4s			IAML		20 47 35.9	
RTCV	**Cerro Valdivia**	**3.75**	**56**	*e*P	**Pb**	**20 46 48.3**	**-4.5**
RTLL	**Cerro Villicun**	**4.13**	**50**	*e*P	**Pn**	**20 46 52.9**	**+3.3**
ACCO	**Cerro Coronel**	**4.33**	**38**	*e*P	**Pn**	**20 46 55.2**	**+2.6**
AMOG	**MOGNA**	**4.39**	**46**	*e*P	**Pn**	**20 46 56.1**	**+3.0**
AGUA	**GUANDACOL**	**5.52**	**36**	*e*P	**Pn**	**20 47 10.2**	**+1.5**
APLL	**PUNTA DE LOS L**	**6.01**	**54**	*e*P	**Pn**	**20 47 18.7**	**+3.2**
APLL	comp=Z,15nm,0.9s			IAML		20 48 41.3	
ACLC	**CERRO LA CRUZ**	**6.40**	**46**	*e*P	**Pn**	**20 47 23.2**	**+2.3**

*ISCJB **21** 20:52:42.9±0.6, 37°.32N±0°.04×37°.11E±0°.05, h5km±7km, Error ellipse: s-maj=8.0km s-min=4.1km az=137.1*
*DDA **21** 20:52:43.0, 37°.34N×37°.11E, h7km, Ml2.5*
*ISK **21** 20:52:42.1, 37°.32N×37°.12E, h8km, ML1.8/5*
ISC 21 20:52:42.6±0.9, 37°.32N±0°.04×37°.11E±0°.04, h11km±8km, n11, σ0s27/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.16**	**150**	PG	**Pg**	**20 52 46.1**	**-0.2**
GAZ				SG	**Sg**	**20 52 48.8**	**-0.1**
KMRS	**Kahramanmaras**	**0.25**	**319**	PG	**Pg**	**20 52 47.9**	**0.0**
KMRS				SG	**Sg**	**20 52 51.6**	**+0.2**
KUZU	**Kuzuini**	**0.54**	**183**	*i* P	**Pb**	**20 52 54.3**	**+0.1**
KUZU				*i* S	**Sb**	**20 53 02.4**	**+0.3**
ANDN	**Andirin**	**0.66**	**294**	*i* P	**Pg**	**20 52 55.5**	**0.0**
ANDN				*i* S	**Sb**	**20 53 05.1**	**-0.6**
KOZT	**Kozan**	**1.03**	**280**	PG	**Pg**	**20 53 02.4**	**-0.2**
SAIM	**ADANA**	**1.05**	**309**	*i* P	**Pb**	**20 53 03.1**	**+0.2**
SAIM				*i* S	**Sn**	**20 53 17.7**	**-0.5**
AKCD	**Akcadag**	**1.17**	**33**	*i* P	**Pn**	**20 53 05.3**	**+0.1**
AKCD				*i* S	**Sn**	**20 53 21.3**	**0.0**
TAHT	**Tahtakopru-Hat**	**1.20**	**219**	PN	**Pb**	**20 53 05.7**	**+0.4**
SURC	**SANLIURFA_SURC**	**1.28**	**109**	*i* P	**Pg**	**20 53 07.0**	**-0.2**
SURC				*i* S	**Sg**	**20 53 23.9**	**0.0**
DARE	**Darende-Malaty**	**1.29**	**13**	PN	**Pn**	**20 53 06.8**	**+0.1**
URFA	**Urfa**	**1.37**	**84**	PN	**Pn**	**20 53 07.9**	**+0.1**

*SJA **21** 21:05:23.6±0.3, 21°.67S×69°.69W, h100km, ML4.1, MW3.5*
*ISCJB **21** 21:05:32.0±0.3, 22°.15S±0°.03×69°.15W±0°.04, h97km±2km, mb4.1/14, Error ellipse: s-maj=6.9km s-min=3.9km az=163.7*
*IDC **21** 21:05:32.7±0.5, 22°.07S×68°.88W, h86km±4km, mb3.8/9, mb1 3.9/11, mb1mx3.8/29, mbtmp4.1/11, MS2.9/4, Ms1 2.9/4, ms1mx2.7/30, Error ellipse: s-maj=18.7km s-min=11.4km az=107.0*
*NEIC **21** 21:05:33.0±0.0, 22°.09S×69°.17W, h86km, mb4.5/7, ML4.6(GUC), After GUC.*
NEIC Felt [III] at Tocopilla and [II] at Oficina Maria Elena and Sierra Gorda.
*GUC **21** 21:05:33.0±0.4, 22°.09S×69°.17W, h86km±2km, ML4.6*
ISC 21 21:05:32.7±0.5, 22°.08S±0°.04×69°.12W±0°.04, h86km±4km, n88, σ1s68/92, mb4.4/17, 5C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.30**	**338**	↓*i* P	**Pn**	**21 05 46.7**	**+0.9**
PB09				*e*S	**Sn**	**21 05 56.8**	**+1.2**
PB09	comp=E,35μm,0.5s			IAML		21 05 58.6	
LVC	**Limon Verde**	**0.57**	**160**	P	**Pn**	**21 05 48.5**	**+0.5**
LVC	comp=E,693nm,0.3s,baz=344,slow=6.0,SNR=4601			S	**Sn**	**21 06 00.4**	**+1.0**
LVC	comp=E,2μm,0.3s,baz=299,slow=23,SNR=225			LR	LR	21 06 02.7	
LVC	comp=E,170nm,18.2s,baz=16,slow=55 **Limon Verde**	**0.57**	**160**	*e*P	**Pn**	**21 05 48.6**	**+0.6**
LVC				*e*S	**Sn**	**21 06 00.4**	**+1.0**
PB03	**IPOC Station P**	**0.59**	**273**	↓*i* P	**Pn**	**21 05 48.7**	**+0.3**
PB03				*e*S	**Sn**	**21 05 59.6**	**+0.4**
PB03	comp=N,39μm,0.2s			IAML		21 06 00.1	
PB06	**IPOC Station P**	**0.75**	**214**	↓*i* P	**Pn**	**21 05 50.0**	**+0.5**
PB06				*e*S	**Sn**	**21 06 02.8**	**+0.7**
PB06	comp=N,33μm,0.2s			IAML		21 06 03.9	
PB07	**IPOC Station P**	**0.79**	**296**	*e*P	**Pn**	**21 05 50.4**	**+0.4**
PB07				*e*S	**Sn**	**21 06 03.3**	**+0.5**
PB07	comp=N,23μm,0.4s			IAML		21 06 04.4	
PB04	**IPOC Station P**	**0.99**	**255**	*e*Pn	**Pn**	**21 05 52.2**	**+0.1**
PB04	**IPOC Station P**	**0.99**	**255**	↓*i* P	**Pn**	**21 05 52.2**	**+0.1**
PB04				*e*S	**Sn**	**21 06 07.3**	**+0.6**
PB04	comp=N,15μm,0.3s			IAML		21 06 10.3	
PB02	**IPOC Station P**	**1.04**	**316**	↑*i* P	**Pn**	**21 05 53.1**	**+0.4**
PB02				*e*S	**Sn**	**21 06 08.5**	**+0.8**
PB02	comp=E,32μm,0.1s			IAML		21 06 10.0	
PB01	**IPOC Station P**	**1.08**	**342**	*e*Pn	**Pn**	**21 05 53.6**	**+0.4**
PB01	**IPOC Station P**	**1.08**	**342**	↑*i* P	**Pn**	**21 05 53.8**	**+0.6**
PB01				*e*S	**Sn**	**21 06 10.0**	**+1.5**
PB01	comp=N,34μm,0.3s			IAML		21 06 10.7	
PB15	**IPOC Station P**	**1.17**	**196**	*e*P	**Pn**	**21 05 55.0**	**+0.6**
PB15				*e*S	**Sn**	**21 06 11.9**	**+1.2**
PB10	**IPOC Station P**	**1.95**	**222**	*e*Pn	**Pn**	**21 06 03.6**	**-0.5**
PB11	**IPOC Station P**	**2.36**	**348**	*e*Pn	**Pn**	**21 06 09.7**	**0.0**
GO01	**Chusmiza**	**2.40**	**358**	*e*Pn	**Pn**	**21 06 11.3**	**+0.8**
MNMC	**Minye Minye**	**2.96**	**351**	*e*Pn	**Pn**	**21 06 17.7**	**-0.3**
GO02	**Mina Guanaco**	**3.10**	**188**	*e*Pn	**Pn**	**21 06 19.4**	**-0.4**
YJA	**Yavi**	**3.35**	**92**	*e*P	**Pn**	**21 06 23.9**	**+0.7**
HJA	**Humahuaca**	**3.61**	**109**	*e*P	**Pn**	**21 06 28.6**	**+1.9**
SLA	**San Lorenzo**	**4.24**	**129**	*e*P	**Pn**	**21 06 36.7**	**+1.6**
SLA	comp=Z,61nm,0.6s			IAML		21 06 40.1	
AZAP	**Zapla**	**4.30**	**121**	*e*P	**Pn**	**21 06 37.9**	**+1.9**
FSA	**Cafayete**	**4.94**	**145**	*e*P	**Pn**	**21 06 46.0**	**+1.3**
ALOL	**LOMAS DE OLMED**	**5.04**	**111**	*e*P	**Pn**	**21 06 46.6**	**+0.7**
GO03	**Copiap**	**5.59**	**190**	*e*Pn	**Pn**	**21 06 53.7**	**+0.3**
AHML	**Horco Molle**	**5.82**	**144**	*e*P	**Pn**	**21 06 57.1**	**+0.6**
LPAZ	**La Paz**	**5.83**	**9**	P	**Pn**	**21 06 59.8**	**+2.5**
VCA	comp=Z,4.3nm,0.3s,baz=192,slow=4.7,SNR=70 **Vinchina**	**6.68**	**173**	*e*P	**Pn**	**21 07 06.8**	**-1.6**
CYA	**Choya**	**7.01**	**155**	*e*P	**Pn**	**21 07 12.8**	**0.0**
CYA	comp=Z,15nm,0.5s			IAML		21 07 16.1	
LCO	**Las Campanas**	**7.05**	**191**	*e*Pn	Pn	21 07 19.4	+5.8
LCO				*e*Sn	Sn	21 08 41.8	+9.5
AGUA	**GUANDACOL**	**7.40**	**176**	*e*P	**Pn**	**21 07 15.9**	**-2.2**
ACLC	**CERRO LA CRUZ**	**7.58**	**165**	*e*P	**Pn**	**21 07 19.8**	**-0.8**
ACLC	**Cuesta del Vie**	**8.06**	**180**	*e*P	**Pn**	**21 07 24.8**	**-2.4**
ACCO	**Cerro Coronel**	**8.48**	**180**	*e*P	**Pn**	**21 07 31.1**	**-1.9**
ACCO				*e*S	**Sn**	**21 09 05.2**	**-2.0**
APLL	**PUNTA DE LOS L**	**8.61**	**165**	*e*P	**Pn**	**21 07 33.7**	**-0.8**
AMOG	**MOGNA**	**8.85**	**176**	*e*P	**Pn**	**21 07 35.5**	**-2.3**
RTLS	**Leoncito**	**9.69**	**181**	*e*P	**Pn**	**21 07 46.7**	**-2.7**
RTLS	comp=Z,14nm,0.5s			IAML		21 09 53.9	
SIV	**San Ignacio** comp=Z,1.9nm,0.3s,baz=258,slow=11,SNR=29	**9.72**	**53**	P	**Pn**	**21 07 47.7**	**-2.1**
SIV	baz=346,slow=23,SNR=1.9			S	**Sn**	**21 09 30.1**	**-7.2**
RTCV	**Cerro Valdivia**	**9.76**	**177**	*e*P	**Pn**	**21 07 47.9**	**-2.4**
AUSP	**Uspallata**	**10.11**	**181**	*e*P	**Pn**	**21 07 52.7**	**-2.6**
ROC1	**El Roble**	**10.99**	**188**	*e*Pn	Pn	21 08 12.7	+5.5
CPUP	**Villa Florida** comp=Z,0.1nm,0.3s,baz=306,slow=15,SNR=3.1	**11.56**	**114**	P	**Pn**	**21 08 13.1**	**-1.6**
CPUP	comp=Z,37nm,20.5s,baz=226,slow=43			LR	LR	21 13 39.0	
NNA	**Nana** comp=Z,68nm,20.8s,baz=184,slow=35	**12.45**	**322**	LR	LR	21 12 52.3	
TRQA	**Tornquist** comp=Z,13nm,0.6s	**17.07**	**160**	*e*Pn	**Pn**	**21 09 25.7**	**-0.3**
ATAH	**Atahualpa** comp=Z,50nm,21.5s,baz=112,slow=37	**17.34**	**328**	LR	LR	21 16 22.4	
BDFB	**Brasilia** comp=Z,1.6nm,0.3s,baz=219,slow=12,SNR=3.1	**20.96**	**76**	P	**P**	**21 10 05.7**	**-3.4**
PTGA	**Pitinga** comp=Z,3.3nm,0.3s,baz=207,slow=8.0,SNR=9.5	**23.01**	**24**	P	**P**	**21 10 29.4**	**-1.2**
PTGA	comp=Z,41nm,21.2s,baz=186,slow=39			LR	LR	21 20 21.1	
PTGA	**Pitinga** comp=Z,5.5nm,0.9s	**23.01**	**24**	*e*P	**P**	**21 10 29.2**	**-1.4**
PLAL	**Pinkwick Lake**	**59.53**	**342**	*e*P	**P**	**21 15 30.5**	**+3.4**
TX31	**Lajitas Ar. Si**	**60.99**	**326**	*e*P	**P**	**21 15 37.8**	**+0.4**
TXAR	**Lajitas Array** comp=Z,0.3nm,0.5s,baz=147,slow=8.6,SNR=6.6	**60.99**	**326**	P	**P**	**21 15 37.8**	**+0.5**
SNAA	**Sanae**	**61.80**	**161**	P	**P**	**21 15 41.8**	**-0.5**
LIC	**Lamto** comp=Z,35nm,1.5s	**68.74**	**74**	*e*P	pP	21 16 49.3	-0.6
TIC	**Toumodi**	**68.93**	**73**	*e*P	pP	21 16 52.4	+1.3
KIC	**Kosan Boka** comp=Z,14nm,0.8s	**69.05**	**74**	*e*P	pP	21 16 52.5	+0.6
DBIC	**Dimbokro** comp=Z,10nm,1.0s,baz=242,slow=6.7,SNR=7.0	**69.09**	**73**	pP	pP	21 16 52.5	+0.4
PV21	**Cone Mtn., Par** comp=Z,6.9nm,0.8s	**70.96**	**328**	*e*P	**P**	**21 16 43.8**	**+2.5**
KNB	**Kanab** comp=Z,4.1nm,0.9s	**71.78**	**324**	*e*P	**P**	**21 16 48.8**	**+2.6**
SZCU	**Shurtz Canyon** comp=Z,6.1nm,1.0s	**72.34**	**325**	*e*P	**P**	**21 16 49.9**	**+0.3**
PDAR	**Pinedale Array** comp=Z,0.3nm,0.5s,baz=120,slow=6.1,SNR=3.5	**74.51**	**330**	P	**P**	**21 17 02.2**	**+0.1**
ULM	**Lac du Bonnet** comp=Z,3.7nm,0.5s,baz=149,slow=6.9,SNR=13	**75.80**	**343**	P	**P**	**21 17 08.6**	**-0.6**
SYO	**Syowa Base**	**76.03**	**159**	↑*e*P	**P**	**21 17 10.0**	**-0.3**
SYO	**Syowa Base**	**76.03**	**159**	↑*e*X	P	21 17 15.2	+4.9
SYO	**Syowa Base**	**76.03**	**159**	↑*i*pP	pP	21 17 33.4	+0.7
VNDA	**Vanda** comp=Z,0.4nm,0.5s,baz=135,slow=5.7,SNR=3.6	**76.25**	**190**	P	**P**	**21 17 12.5**	**+1.0**
TOA0	**Torodi Ar. Sit** comp=Z,5.7nm,0.6s	**77.73**	**70**	*e*P	**P**	**21 17 19.8**	**-1.0**
TORD	**Torodi Ar. Bea** comp=Z,1.1nm,0.5s,baz=249,slow=5.3,SNR=87	**77.73**	**70**	P	**P**	**21 17 19.6**	**-1.2**
TORD	comp=Z,2.2nm,0.6s,baz=252,slow=5.2,SNR=7.3			pP	pP	21 17 43.1	-0.2
C09A	**Chrisman Ranch** comp=Z,5.5nm,0.6s	**82.36**	**329**	*e*P	**P**	**21 17 46.3**	**+1.3**
MAW	**Mawson** comp=Z,2.5nm,0.6s,baz=214,slow=5.2,SNR=6.1	**83.84**	**163**	P	**P**	**21 17 52.6**	**+0.2**
ESDC	**Sonseca Array**	**86.38**	**45**	pP	pP	21 18 30.0	+1.6

	comp=Z,1.1nm,0.8s,baz=258,slow=5.3,SNR=3.3								
YKA	**Yellowknife Ar** comp=Z,1.7nm,0.7s,baz=136,slow=4.4,SNR=14	**91.66**	**341**	P		**P**	**21 18 29.7**	**-0.1**
YKA				pP		**pP**	**21 18 54.4**	**+1.5**
VYHS	**Vyhne**	**104.89**	**43**	*e*PP		PP	21 23 52.3	+1.0
H11S2	**WAKE ISLAND Hy** baz=105,slow=75,SNR=64	**127.75**	**277**	T		T	23 44 38.2	
H11S1	**WAKE ISLAND Hy** baz=105,slow=75,SNR=84	**127.76**	**277**	T		T	23 44 36.7	
H11S3	**WAKE ISLAND Hy** baz=105,slow=75,SNR=64	**127.77**	**277**	T		T	23 44 38.0	
H11N3	**WAKE ISLAND Hy** baz=104,slow=75,SNR=70	**127.85**	**278**	T		T	23 44 40.9	
H11N2	**WAKE ISLAND Hy** baz=104,slow=75,SNR=54	**127.86**	**278**	T		T	23 44 43.2	
H11N1	**WAKE ISLAND Hy** baz=104,slow=75,SNR=51	**127.86**	**278**	T		T	23 44 43.1	
ASAR	**Alice Springs** comp=Z,1.2nm,0.9s,baz=134,slow=2.0,SNR=8.9	**129.31**	**208**	PKP		**PKPdf**	**21 24 31.7**	**-0.3**
ASAR				pPKP		**pPKPdf**	**21 24 56.9**	**+0.9**
WRA	comp=Z,0.3nm,0.6s,baz=153,slow=1.6,SNR=2.2 **Warramunga Arr** comp=Z,0.6nm,0.7s,baz=148,slow=1.7,SNR=11	**132.36**	**210**	PKP		**PKPdf**	**21 24 37.6**	**-0.2**
WRA				pPKP		**pPKPdf**	**21 25 02.1**	**+0.4**
ZALV	comp=Z,0.3nm,0.6s,baz=158,slow=1.9,SNR=2.4 **Zalesovo Beam** comp=Z,1.6nm,0.6s,baz=326,slow=2.3,SNR=6.6	**142.56**	**25**	PKP		**PKPdf**	**21 24 55.4**	**0.0**
NRN	**Naryn**	**144.94**	**48**	*e*PKPbc		**PKPdf**	**21 25 00.9**	**+0.4**
KSH	**Kashi**	**145.61**	**52**	PKPbc		**PKPdf**	**21 25 01.6**	**+0.2**
KSH				PP		**PP**	**21 28 25.4**	**+2.4**
KSH	comp=Z,240nm,4.4s			AMB		AMB		
KSH	comp=Z,1μm,20.7s			LR		LR		
MK31	**Makanchi Array**	**146.21**	**36**	*e*PKPdf		**PKPdf**	**21 25 02.6**	**+0.6**
MKAR	**Makanchi Array** comp=Z,4.0nm,1.0s,baz=290,slow=2.9,SNR=15	**146.21**	**36**	PKPbc		**PKPdf**	**21 25 02.5**	**+0.5**
MKAR				pPKPbc		**pPKPdf**	**21 25 26.1**	**+0.1**
MKAR	comp=Z,2.2nm,0.8s,baz=326,slow=2.4,SNR=6.8 **Makanchi Array**	**146.21**	**36**	PKPbc		**PKPdf**	**21 25 02.5**	**+0.5**
MKAR				*e*PKPdf		**PKPbc**	**21 25 02.6**	**-0.6**
MKAR				pPKPbc		**pPKPdf**	**21 25 26.1**	**+0.1**
MK01	**Makanchi Array**	**146.23**	**36**	*e*PKPdf		**PKPdf**	**21 25 02.4**	**+0.3**
SONM	**Songino Array** comp=Z,0.4nm,0.5s,baz=354,slow=2.0,SNR=4.0	**154.05**	**7**	PKPbc		**PKPbc**	**21 25 22.6**	**0.0**
LZH	**Lanzhou**	**164.75**	**22**	*e*PKP		**PKPdf**	**21 25 26.6**	**-0.6**
LZH				pPKP		pPKPdf	21 25 51.1	-0.1
LZH				sPKP			21 25 59.0	
LZH				PKP		**PKPab**	**21 26 22.6**	**-0.5**

*SJA **21** 21:36:08.1±0.5, 34°.53S×73°.02W, h5km±8km, ML5.9, MW4.2*
*GUC **21** 21:36:21.4±0.5, 34°.01S×72°.22W, h12km±7km, ML5.6, MW5.5*
*NEIC **21** 21:36:22.0±0.0, 34°.30S×71°.96W, h25km, Moment Tensor Solution. s26 Moment tensor: Scale 10^{17}Nm; M_{rr}4.72; $M_{\theta\theta}$-0.09; $M_{\phi\phi}$-4.63; $M_{r\theta}$1.39; $M_{\theta\phi}$0.41; $M_{\phi r}$-7.01; Best double couple: M_o8.50000×10^{17} NP1:φs170.00000°, δ73.00000°, λ87.00000°. NP2:φs360.00000°, δ17.00000°, λ99.00000°. Principal axes: T 8.5900, Plg61.0000°, Azm75.0000°; N -0.0900, Plg2.0000°, Azm170.0000°; P -8.5000, Plg28.0000°, Azm262.0000°;*
*IDC **21** 21:36:22.7±2.3, 33°.94S×72°.01W, h17km±13km, mb5.3/30, mb1 5.3/33, mb1mx5.3/34, mbtmp5.4/33, ML5.0/3, MS5.6/27, Ms1 5.6/27, ms1mx5.5/35 Error ellipse: s-maj=14.4km s-min=9.0km az=86.0*
*NEIC **21** 21:36:22.7±0.1, 33°.94S×71°.87W, h18km, mb5.7/298, ME5.7, MS5.5/299, MW5.8, MW5.9, ML5.6(GUC), Error ellipse: s-maj=4.3km s-min=2.5km az=82.0, Moment Tensor Solution. s41 Moment tensor: Scale 10^{17}Nm; M_{rr}4.66; $M_{\theta\theta}$-1.48; $M_{\phi\phi}$-3.17; $M_{r\theta}$1.05; $M_{\theta\phi}$1.36; $M_{\phi r}$-4.77; Best double couple: M_o6.50000×10^{17} NP1:φs163.00000°, δ69.00000°, λ97.00000°. NP2:φs324.00000°, δ22.00000°, λ73.00000°. Principal axes: T 6.9300, Plg65.0000°, Azm84.0000°; N -0.8800, Plg6.0000°, Azm341.0000°; P -6.0500, Plg24.0000°, Azm248.0000°; Broadband fault plane solution: P waves. NP1:φs350.00000°, δ35.00000°, λ90.00000°. NP2:φs170.00000°, δ55.00000°, λ90.00000°. Principal axes: T Plg80.0000°, Azm80.0000°; N Plg0.0000°, Azm0.0000°; P Plg10.0000°, Azm260.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [VI] at Litueche, Navidad and Pichilemu; [V] in much of Maule and Libertador General Bernardo O'Higgins. Felt as far as Chillan, Concepcion, Los Andes and Zapallar.
*ISCJB **21** 21:36:22.2±1.0, 33°.87S±0°.02×72°.05W±0°.04, h26km±7km, mb5.6/347, MS5.6/394 Error ellipse: s-maj=5.1km s-min=3.3km az=6.3*
*BJI **21** 21:36:23.0, 33°.96S×72°.04W, h20km, mB5.7/51, Ms6.0/61, Ms7 5.8/59*
*MOS **21** 21:36:24.9±1.1, 33°.81S×72°.06W, h37km, mb5.8/80, MS5.6/62, Error ellipse: s-maj=10.0km s-min=5.7km az=94.2*
*GCMT **21** 21:36:26.7±0.1, 34°.05S±0°.01×72°.31W±0°.01, h21km, MW5.9/128, Moment Tensor Solution. s128,c247; s128,c375; Duration: 2s1 Moment tensor: Scale 10^{17} Nm; M_{rr}5.08±.06; $M_{\theta\theta}$0.35±.04; $M_{\phi\phi}$-5.43±.05; $M_{r\theta}$1.40±.08; $M_{\theta\phi}$0.26±.04; $M_{\phi r}$-6.23±.14; Best double couple: M_o8.27600×10^{17} NP1:φs169.00000°, δ70.00000°, λ84.00000°. NP2:φs6.00000°, δ20.00000°, λ106.00000°. Principal axes: T 8.1480, Plg64.0000°, Azm70.0000°; N 0.2540, Plg

CCSP San Pedro de C 2.98 195 *e*P **Pn** 21 37 05.7 -2.9
AVIZ Vizcacheras 3.06 82 *e*P **Pn** 21 37 12.0 +2.2
ASAL Salagasta 3.09 65 *e*P **Pb** 21 37 13.4 -3.3
RFA San Rafael 3.14 106 *e*P **Pn** 21 37 09.6 -1.4
RFA *e*S **Sb** 21 37 55.9 +0.2
RFA IAML 21 38 09.9
comp=Z,12µm,0.8s
RTLS Leoncito 3.22 49 *e*P **Pb** 21 37 16.1 -3.0
RTLS *e*S **Sg** 21 38 06.4 +0.6
RTCV Cerro Valdivia 3.68 56 *e*P **Pn** 21 37 22.0 +3.6
GO04 Tololo Observa 3.95 17 *e*Pn **Pn** 21 37 22.0 -0.2
GO04 *e*Sn **Sn** 21 38 07.5 -0.7
GO04 Tololo Observa 3.95 17 *e*P **Pn** 21 37 21.4 -0.9
RTLL Cerro Villicun 4.06 51 *e*P **Pn** 21 37 27.4 +3.8
RTLL *e*S **Sb** 21 38 25.6 +3.6
RTLL Cerro Villicun 4.06 51⇑ *e*P **Pn** 21 37 25.9 +2.3
LSCH La Serena 4.12 11 *e*P **Pn** 21 37 23.8 -0.5
ACCO Cerro Coronel 4.26 39 *e*P **Pn** 21 37 30.7 +4.2
AMOG MOGNA 4.32 47 *e*P **Pn** 21 37 31.1 +4.0
AROD Rodeo 4.41 32 *e*P **Pn** 21 37 32.1 +3.4
AROD *e*S **Sb** 21 38 34.6 +2.1
ACAN Cantantal 4.49 69 *e*P **Pn** 21 37 32.9 +3.5
ACAN *e*S **Sb** 21 38 35.5 +1.2
ACDV Cuesta del Vie 4.57 35 *e*P **Pn** 21 37 34.2 +3.5
LCO Las Campanas 5.09 14 *e*Pn **Pn** 21 37 37.5 -0.5
LCO *e*Sn **Sn** 21 38 35.4 -1.1
LCO Las Campanas 5.09 14 *e*P **Pn** 21 37 37.4 -0.5
LCO Las Campanas 5.09 14 *e*P **Pn** 21 37 37.5 -0.5
LCO *e* 21 38 35.4
AGUA GUANDACOL 5.44 36 *e*P **Pn** 21 37 45.9 +3.2
MRA San Martin 5.60 76 *e*P **Pn** 21 37 47.7 +2.9
MRA IAML 21 39 39.1
comp=Z,2µm,0.8s
GO06 Curarrehue 5.63 175 *e*Pn **Pn** 21 37 45.0 -0.2
GO06 *e*Sn **Sn** 21 38 49.9 +0.3
VCA Vinchina 6.21 34 *e*P **Pn** 21 37 56.1 +3.0
VCA IAML 21 39 38.1
comp=Z,3µm,0.5s
GO03 Copiap 6.56 15 *e*Pn **Pn** 21 37 56.7 -1.3
PLCA Paso Flores 6.87 170 Pn **Pn** 21 38 02.7 +0.5
comp=Z,11nm,0.3s,baz=358,slow=12,SNR=105
PLCA Lg Lg 21 39 53.2
comp=Z,9.2nm,0.3s,baz=51,slow=23,SNR=2.4
PLCA LR LR 21 41 03.7
comp=Z,62µm,19.7s,baz=14,slow=41
PLCA Paso Flores 6.87 170 *e*Pn **Pn** 21 38 02.2 0.0
PLCA *e*Sn **Sn** 21 39 17.1 -2.9
PLCA Lg Lg 21 39 53.2
GO02 Mina Guanaco 9.05 15 *e*Pn **Pn** 21 38 29.3 -3.0
TRQA Tornquist 9.19 119 *e*Pn **Pn** 21 38 35.5 +1.7
TRQA Tornquist 9.19 119 *e*P **Pn** 21 38 35.6 +1.7
GO07 Milladeo Hill, 9.21 187 *e*Pn **Pn** 21 38 34.5 +0.3
PB10 IPOC Station P 10.51 8 *e*Pn **Pn** 21 38 51.5 -0.6
LVC Limon Verde 11.66 15 Pn Pn 21 39 03.4 -4.8
comp=Z,4.0nm,0.3s,baz=197,slow=7.6,SNR=26
LVC Sn **Sn** 21 41 13.1 -5.2
comp=Z,1.1nm,0.3s,baz=132,slow=21,SNR=2.6
LVC LR LR 21 44 04.6
comp=Z,62µm,18.4s,baz=205,slow=40
PB04 IPOC Station P 11.72 9 *e*Pn **Pn** 21 39 05.2 -3.6
PB04 *e*Sn **Sn** 21 41 17.7 -1.7
LPA La Plata 11.77 99 *de*P **Pn** 21 39 06.0 -3.3
LPA *ep*P 21 39 11.0
LPA *e*PP **PnPn** 21 39 14.0 -2.9
LPA *ep*PP 21 39 18.0
LPA *e*PPP PPP 21 39 22.0
LPA *e*PP **PbPb** 21 39 44.0 -3.8
LPA *ep*PP 21 39 47.0
LPA *e*PP **PgPg** 21 40 04.0 -3.7
LPA *e*S **Sn** 21 41 16.0 -4.2
LPA *es*S 21 41 22.0
LPA *e*SS **SnSn** 21 41 29.0 -3.0
LPA *e*SSS SSS 21 41 41.0
LPA *e*SS **SbSb** 21 42 11.0 +2.0
LPA *e*SSS SSS 21 42 18.0
LPA *e*SS **SgSg** 21 42 44.0 +3.8
LPA *e*PCP **PcP** 21 44 58.0 +0.5
LPA *e*SCS **ScS** 21 52 04.0 -1.2
LPA *e*PKIKP **PKiKP** 21 52 56.0 +0.4
LPA *e*SKIKP 21 56 25.0
LPA *e*PKIKS 21 56 28.0
comp=Z,122µm,18.0s
PB01 IPOC Station P 13.09 11 *e*Pn Pn 21 39 21.3 -6.1
PB01 *e*Sn **Sn** 21 41 52.5 -0.2
CHRN Cochrane 13.27 181 *e*Pn **Pn** 21 39 31.1 +1.3
PB11 IPOC Station P 14.32 10 *e*Pn **Pn** 21 39 41.7 -2.7
GO01 Chusmiza 14.48 11 *e*Pn Pn 21 39 41.2 -5.6
CPUP Villa Florida 14.89 63 Pn **Pn** 21 39 50.7 -1.2
comp=Z,0.6nm,0.3s,baz=235,slow=11,SNR=9.7
CPUP LR LR 21 46 02.7
comp=Z,54µm,20.4s,baz=240,slow=39
CPUP Villa Florida 14.89 63 *e*Pn **Pn** 21 39 48.0 -3.9
CPUP *e*Sn **Sn** 21 42 36.0 -0.5
CPUP Villa Florida 14.89 63 P **Pn** 21 39 50.7 -1.2
CPUP pmax pmax
comp=Z,1.0nm,0.3s
CPUP MLR MLR
comp=Z,54µm,20.4s
MNMC Minye Minye 14.95 9 *e*Pn Pn 21 39 47.1 -5.9
LPAZ La Paz 17.97 13 P **P** 21 40 33.1 +0.7
comp=Z,3.4nm,0.3s,baz=180,slow=6.1,SNR=484
LPAZ La Paz 17.97 13 P **P** 21 40 33.1 +0.7
comp=Z,453nm,0.8s
GO10 Punta Arenas 19.20 178 *e*P **P** 21 40 43.6 -1.4
comp=Z,231nm,0.9s
EFI East Falkland 20.43 154 *e*P **P** 21 40 57.4 -1.0
comp=Z,1µm,1.8s
EFI LR LR
comp=Z,34µm,20.0s
EFI East Falkland 20.43 154 *e*P **P** 21 40 57.4 -1.0
EFI pmax pmax
comp=Z,1µm,1.8s
EFI MLR MLR
comp=Z,34µm,20.0s
SIV San Ignacio 20.49 32 P **P** 21 40 58.7 -0.7
comp=Z,123nm,0.7s,baz=221,slow=8.9,SNR=445
SIV PcP **PcP** 21 45 12.0 +1.1
comp=Z,17nm,0.8s,baz=214,slow=1.6,SNR=2.8
SIV LR LR 21 50 22.2
comp=Z,49µm,19.3s,baz=227,slow=41
USHA Ushuaia 21.02 174 P **P** 21 41 05.6 +0.8
comp=Z,68nm,0.8s,baz=332,slow=9.7,SNR=10.0
USHA LR LR 21 50 02.3
comp=Z,28µm,18.7s,baz=348,slow=39
NNA Nana 22.30 348 P **P** 21 41 19.4 +0.6
comp=Z,121nm,0.8s,baz=198,slow=10.0,SNR=25
NNA LR LR 21 48 00.2
comp=Z,8µm,21.4s,baz=165,slow=31
NNA Nana 22.30 348 *e*P **P** 21 41 18.3 -0.5
comp=Z,183nm,0.9s
NNA Nana 22.30 348 *ce*P **P** 21 41 20.4 +1.6
SPB Sao Paulo 23.94 71 *e*P **P** 21 41 33.6 -1.8
comp=Z,526nm,1.0s
SPB LR LR
comp=Z,71µm,18.0s
SAML Samuel 26.23 20 *e*P **P** 21 41 56.3 0.0
comp=Z,188nm,0.8s
SAML LR LR
comp=Z,23µm,22.0s
SAML Samuel 26.23 20 *e*P **P** 21 41 56.3 0.0
SAML pmax pmax
comp=Z,188nm,0.8s
SAML MLR MLR
comp=Z,23µm,22.0s
ATAH Atahualpa 27.32 346 P **P** 21 42 08.4 +1.8
comp=Z,14nm,0.8s,baz=162,slow=7.5,SNR=10
ATAH PcP **PcP** 21 45 28.1 +2.1
comp=Z,19nm,0.8s,baz=52,slow=2.8,SNR=3.7
ATAH ScP **ScP** 21 49 06.2 +0.6
comp=Z,8.8nm,0.8s,baz=171,slow=1.8,SNR=6.5
ATAH LR LR 21 51 11.4
comp=Z,4µm,19.1s,baz=180,slow=32
BDFB Brasilia 28.39 56 P **P** 21 42 14.6 -1.3
comp=Z,150nm,1.1s,baz=227,slow=8.5,SNR=112
BDFB LR LR 21 54 49.7
comp=Z,46µm,18.5s,baz=227,slow=39
PMSA Palmer Station 31.23 173 P **P** 21 42 42.9 +2.5
comp=Z,43nm,1.1s,baz=40,slow=5.3,SNR=3.8
PMSA Palmer Station 31.23 173 P **P** 21 42 42.9 +2.5
PMSA LR LR
comp=Z,20µm,20.0s
HOPE Hope Point 32.17 140 *e*P **P** 21 42 49.5 +0.7
comp=Z,1µm,1.4s
HOPE LR LR
comp=Z,13µm,20.0s
RPN Rapa Nui 32.62 272 LR LR 21 52 35.1
comp=Z,20µm,19.0s,baz=84,slow=30
OTAV Otavalo 34.54 349 *e*P **P** 21 43 11.4 +1.1
comp=Z,132nm,1.5s
OTAV *e*PcP **PcP** 21 45 45.7 +0.6
OTAV Otavalo 34.54 349 *e*P **P** 21 43 11.4 +1.1
OTAV *e* 21 45 45.7
OTAV pmax pmax
comp=Z,132nm,1.5s
PTGA Pitinga 34.98 22 P **P** 21 43 13.2 -0.3
comp=Z,117nm,0.8s,baz=203,slow=9.7,SNR=223
PTGA PcP **PcP** 21 45 46.7 +0.8
comp=Z,16nm,0.7s,baz=220,slow=3.7,SNR=3.8
CMBC Cumbal 35.13 350 *e*P **P** 21 43 16.4 +1.0
GCUF Volcan Galeras 35.35 351 *e*P **P** 21 43 19.6 +2.3
FLOC Florencia 35.51 354 *e*P **P** 21 43 19.0 +0.8
CRUC La Cruz 35.63 352 *e*P **P** 21 43 22.4 +2.7
SOTA Rioblanco 36.16 352 *e*P **P** 21 43 26.1 +1.8
GUVC San Jose del G 36.32 359 *e*P **P** 21 43 24.9 -0.2
PCON Cinco Dias 36.32 353⇑ *i*P **P** 21 43 28.5 +2.7
POPC Popayan, Colom 36.56 352 *e*P **P** 21 43 28.4 +1.0
BETC Betania 36.58 354 *e*P **P** 21 43 29.0 +1.6
MARP Paez Belalcaza 36.79 354 *e*P **P** 21 43 29.0 -0.4
PAYG Puerto Ayora 37.23 329 *e*P **P** 21 43 33.6 +0.7
comp=Z,69nm,1.0s
PAYG LR LR
comp=Z,8µm,20.0s
PRAC Prado 37.57 356 *e*P **P** 21 43 37.2 +1.5
VILC Villavicencio, 37.90 357 *e*P **P** 21 43 39.6 +0.9
YOTC Yotoco, Valle 37.95 353 *e*P **P** 21 43 39.5 +0.3
CVER Cruz Verde, Cu 38.32 357 *e*P **P** 21 43 43.7 +1.1
ANIL Santa Ana 38.37 355 *e*P **P** 21 43 44.5 +1.6
ANIL IAmb IAmb 21 43 49.0
comp=Z,53nm,0.8s
ANIL *i* 21 43 49.9
comp=Z,24nm,0.6s
CHIC Chingaza 38.42 357 *e*P **P** 21 43 43.7 +0.3
CHIC *i* 21 44 10.1
comp=Z,12nm,0.6s
TOLC Tolima 38.46 355 *e*P **P** 21 43 44.9 +1.2
ROSC El Rosal 38.65 357 P **P** 21 43 47.3 +2.0
comp=Z,20nm,0.6s,baz=184,slow=14,SNR=11
ROSC El Rosal 38.65 357 *e*P **P** 21 43 46.8 +1.5
comp=Z,51nm,1.1s
ROSC LR LR
comp=Z,6µm,19.0s
ROSC El Rosal 38.65 357 *e*P **P** 21 43 46.6 +1.3
RREF El Recreo 38.77 355⇑ *i*P **P** 21 43 49.7 +3.1
PLMC San Jos˜ del 38.86 353 *e*P **P** 21 43 45.4 -1.2
GUYC Guyana, Colomb 39.10 355 *e*P **P** 21 43 50.7 +1.6
RUSC La Rusia 39.65 359 *e*P **P** 21 43 54.8 +1.1
HELC Santa Helena 40.07 355 *e*P **P** 21 43 57.2 +0.1
TAMC Tame, Arauca 40.18 1 *e*P **P** 21 43 57.2 -0.5
PTBC PUERTO BERRIO, 40.34 356 *e*P **P** 21 43 57.8 -1.2
BARC Barichara 40.35 358 *e*P **P** 21 43 58.7 -0.6
BARC *i* 21 44 22.1
comp=Z,39nm,0.7s
BARC IAmb IAmb 21 44 37.0
comp=Z,470nm,1.4s
DBBC Dabeiba 40.94 354 *e*P **P** 21 44 06.1 +2.1
PAMC Pamplona, Colo 41.08 359 *e*P **P** 21 44 04.2 -1.4
ZARC Zaragoza, Cauc 41.31 356 *e*P **P** 21 44 06.6 -0.4
OCAC Ocana 41.99 358 *e*P **P** 21 44 10.1 -2.5
AZU Azuero 42.24 348 *e*P **P** 21 44 11.9 -2.7
AZU IAmb IAmb 21 44 17.7
comp=Z,432nm,1.6s
SMLC San Mart`n de 42.57 357 *e*P **P** 21 44 15.4 -1.8
MOTC Monteria, Cord 42.64 355 *e*P **P** 21 44 16.8 -1.0
SDV Santo Domingo 42.64 2 P **P** 21 44 17.7 -0.3
comp=Z,109nm,0.9s,baz=185,slow=7.6,SNR=62
SDV PcP **PcP** 21 46 10.2 +0.2
comp=Z,18nm,0.7s,baz=164,slow=14,SNR=2.5
SDV ScP **ScP** 21 49 59.7 -0.3
comp=Z,1.3nm,0.4s,baz=122,slow=9.7,SNR=3.3
SDV Santo Domingo 42.64 2 P **P** 21 44 17.7 -0.3
comp=Z,53nm,1.0s
SDV PcP **PcP** 21 46 10.2 +0.2
SDV ScP **ScP** 21 49 59.8 -0.3
SDV LR LR
comp=Z,8µm,19.0s
MDP Montagnes des 43.01 29 P **P** 21 44 20.4 -0.4
comp=Z,166nm,0.8s,baz=200,slow=8.6,SNR=80
MDP PcP **PcP** 21 46 12.4 +1.3
comp=Z,12nm,0.7s,baz=251,slow=3.4,SNR=3.0
BCIP Isla Barro Col 43.51 349 *e*P **P** 21 44 25.5 +0.6
comp=Z,338nm,1.8s
BCIP LR LR
comp=Z,2µm,21.0s
CODC Agust`n Codaz 43.67 358 *e*P **P** 21 44 24.2 -2.0
RCBR Riachuelo 43.70 58 P **P** 21 44 27.3 +0.8
comp=Z,71nm,0.7s,baz=27,slow=2.4,SNR=23
RCBR Riachuelo 43.70 58 P **P** 21 44 27.3 +0.8
RCBR LR LR
comp=Z,28µm,19.0s
PCRV Puerto La Cruz 44.47 11 P **P** 21 44 32.7 +0.1
comp=Z,57nm,0.8s,baz=195,slow=1.9,SNR=14
SMRC Santa Marta, M 44.92 357 *e*P **P** 21 44 35.9 -0.2
HDC Heredia 45.18 343 PFAKE 21 44 50.0 +12
HDC LR LR
comp=Z,3µm,21.0s
URIC Uribia, Colomb 45.41 0 *e*P **P** 21 44 37.8 -2.2
JTS JuntasAbangare 45.67 342 P **P** 21 44 43.0 +1.0
comp=Z,19nm,0.8s,baz=202,slow=4.3,SNR=8.4
JTS PcP **PcP** 21 46 21.2 +1.1
comp=Z,25nm,1.1s,baz=265,slow=2.4,SNR=4.2
JTS JuntasAbangare 45.67 342 *e*P **P** 21 44 43.4 +1.3
comp=Z,112nm,1.4s
JTS PcP **PcP** 21 46 21.2 +1.1
JTS JuntasAbangare 45.67 342 *e*P **P** 21 44 43.4 +1.3
JTS 21 46 21.2
JTS pmax pmax
comp=Z,112nm,1.4s
GRGR Grenville 46.92 14 *e*P **P** 21 44 51.9 0.0
comp=Z,421nm,1.0s
GRGR LR LR
comp=Z,7µm,20.0s
ESPN Las Esperanzas 47.34 344 *e*P **P** 21 44 54.7 -0.4
comp=Z,102nm,1.0s
VNA3 Neumayer Olymp 49.42 158 P **P** 21 45 11.0 +0.3
FDF Fort de France 49.55 14 *e*P **P** 21 45 11.3 -0.9
comp=Z,103nm,0.9s
FDF LR LR
comp=Z,9µm,21.0s
FDF Fort de France 49.55 14 *e*P **P** 21 45 11.3 -0.9
FDF pmax pmax
comp=Z,103nm,0.9s
FDF MLR MLR
comp=Z,9µm,21.0s
VNA1 Neumayer--Stat 49.74 157 P **P** 21 45 14.1 +1.1
TGUH Tegucigalpa,Un 49.88 341 *e*P **P** 21 45 15.2 +0.5
comp=Z,121nm,0.9s
TGUH LR LR
comp=Z,1µm,21.0s
VNA2 Neumayer--Watz 50.08 157 P **P** 21 45 15.7 +0.1
baz=292,slow=9.4
PTCN Pitcairn Islan 50.63 264 *e*P **P** 21 45 21.5 +1.0
comp=Z,311nm,1.2s
PTCN LR LR
comp=Z,6µm,19.0s
SNAA Sanae 51.65 158 P **P** 21 45 27.7 +0.1
SNAA Sanae 51.65 158 P **P** 21 45 27.5 0.0
comp=Z,117nm,1.0s,baz=279,slow=6.1,SNR=196
SNAA Sanae 51.65 158 P **P** 21 45 27.5 0.0
comp=Z,615nm,1.6s
SNAA LR LR
comp=Z,5µm,20.0s
SNAA Sanae 51.65 158 *c* *i*P **P** 21 45 28.5 +1.0
APG El Apazote 51.73 337 P **P** 21 45 29.7 +0.8
comp=Z,40nm,0.9s,baz=169,slow=5.8,SNR=24
APG LR LR 22 03 58.1
comp=Z,3µm,18.2s,baz=132,slow=32
ICMP Isla Caja de M 51.84 7 *e*P **P** 21 45 28.8 -0.6
comp=Z,275nm,1.1s
CRPR Cabo Rojo, PR 51.90 6 *e*P **P** 21 45 29.2 -0.7
comp=Z,292nm,0.9s
CRPR LR LR
comp=Z,7µm,19.0s
CDVI St. Croix 51.91 9 *e*P **P** 21 45 28.7 -1.2
comp=Z,542nm,1.7s
SEUS St. Eustatius 51.91 11 *e*P **P** 21 45 28.8 -1.2
comp=Z,371nm,1.0s
SEUS LR LR
comp=Z,10µm,21.0s
OBIP Obispado Ponce 51.99 7 *e*P **P** 21 45 29.4 -1.1
comp=Z,188nm,0.9s
SABA Saba 51.99 11 *e*P **P** 21 45 30.6 0.0
comp=Z,590nm,0.9s
SABA LR LR
comp=Z,11µm,20.0s
SJG San Juan 52.10 7 P **P** 21 45 29.6 -1.7
comp=Z,96nm,0.9s,baz=172,slow=3.4,SNR=48
SJG San Juan 52.10 7 *e*P **P** 21 45 30.6 -0.7
SJG LR LR
comp=Z,5µm,19.0s
SJG San Juan 52.10 7 *e*P **P** 21 45 30.6 -0.7
SJG MLR MLR
comp=Z,5µm,19.0s
MPR Mayaguez 52.10 6 *e*P **P** 21 45 31.2 -0.2
comp=Z,182nm,1.2s
MPR LR LR
comp=Z,7µm,18.0s
MTP Monte Pirata 52.15 8 *e*P **P** 21 45 31.0 -0.7
comp=Z,76nm,1.0s
MTP LR LR
comp=Z,5µm,20.0s
MTDJ Mount Denham 52.15 354 *e*P **P** 21 45 32.2 +0.3
comp=Z,80nm,0.8s
MTDJ LR LR
comp=Z,3µm,21.0s
HUMP Col San Antoni 52.16 8 *e*P **P** 21 45 30.9 -0.9
comp=Z,143nm,1.5s
HUMP LR LR
comp=Z,6µm,18.0s
SDD Santo Domingo 52.17 3 *e*P **P** 21 45 32.4 +0.5
comp=Z,371nm,0.9s
SDD LR LR
comp=Z,4µm,19.0s
ANWB Willy Bob 52.29 13 *e*P **P** 21 45 31.4 -1.4
comp=Z,264nm,0.8s
ANWB LR LR
comp=Z,5µm,20.0s
CBYP Canovanas 52.29 8 *e*P **P** 21 45 31.3 -1.5
comp=Z,160nm,1.0s
CBYP LR LR
comp=Z,6µm,20.0s
CUPR Culebra, Puert 52.39 8 *e*P **P** 21 45 31.8 -1.7
comp=Z,80nm,1.0s
CUPR LR LR
comp=Z,6µm,19.0s
SMRT St. Maarten 52.44 11 *e*P **P** 21 45 32.9 -1.0
comp=Z,288nm,1.4s
SMRT LR LR
comp=Z,8µm,21.0s
STVI Saint Thomas 52.47 9 *e*P **P** 21 45 32.7 -1.4
comp=Z,72nm,1.1s
STVI LR LR
comp=Z,6µm,21.0s
SDDR Presa de Saban 52.66 1 *e*P **P** 21 45 35.9 +0.3
comp=Z,78nm,1.0s
SDDR LR LR
comp=Z,5µm,19.0s
ABVI Anegada Island 52.93 9 PFAKE 21 45 50.0 +13
ABVI LR LR
comp=Z,6µm,20.0s
CCIG Comitan 53.48 336 *e*P **P** 21 45 42.4 +0.6
comp=Z,65nm,1.0s
CCIG LR LR
comp=Z,5µm,18.0s
GTBY Guantanamo Bay 53.67 357 *e*P **P** 21 45 42.8 -0.1
comp=Z,152nm,1.0s
GTBY LR LR
comp=Z,2µm,18.0s
GRTK Grand Turk 55.18 1 *e*P **P** 21 45 53.8 -0.1
GRTK LR LR
comp=Z,4µm,20.0s
CMIG Matias Romero 55.21 333 P **P** 21 45 55.1 +0.9
comp=Z,9.6nm,0.8s,baz=141,slow=5.5,SNR=11
CMIG PcP **PcP** 21 46 55.5 +0.4
comp=Z,13nm,0.8s,baz=234,slow=5.5,SNR=4.1
CMIG LR LR 22 05 24.1
comp=Z,4µm,18.3s,baz=141,slow=32
RKT Rikitea 55.49 264 *e*S **S** 21 53 39.2 -1.7
comp=Z,3µm,28.5s
RKT *e*SS **SS** 21 57 24.6 -1.1
comp=Z,1µm,30.5s
RKT *e*LR LR 22 02 09.8
comp=Z,4µm,27.5s,baz=114
RKT Rikitea 55.49 264 *e*T T 22 45 43.5
comp=Z,2.9nm,0.2s
TEIG Tepich 56.04 342 *e*P **P** 21 45 60.0 -0.1
comp=Z,192nm,0.8s
TEIG LR LR
comp=Z,2µm,18.0s
QSPA South Pole Qui 56.27 180 P **P** 21 46 02.5 +1.0
comp=Z,88nm,0.9s,baz=145,slow=3.6,SNR=122
QSPA South Pole Qui 56.27 180 *e*P **P** 21 46 01.9 +0.4
comp=Z,137nm,1.0s
QSPA LR LR
comp=Z,3µm,20.0s
NVL N'lazarevskaya 56.38 157⇑ *i*P **P** 21 46 02.8 +0.8
NVL *e*S **S** 21 53 46.2 -5.3
NVL *e*SS **SS** 21 57 39.9 +2.0
NVL pmax pmax
comp=Z,122nm,1.2s
TLIG Tlapa 57.10 330 *e*P **P** 21 46 09.1 +1.2
comp=Z,56nm,1.1s
TLIG LR LR
comp=Z,8µm,20.0s
H10S3 ASCENSION HYDR 58.17 79 P **P** 21 46 16.2 +1.1
baz=249,slow=11,SNR=1.6
H10S2 ASCENSION HYDR 58.18 79 P **P** 21 46 16.7 +1.5
baz=249,slow=11,SNR=2.4
H10S1 ASCENSION HYDR 58.19 79 P **P** 21 46 16.6 +1.3
baz=249,slow=11,SNR=4.3
UNM Universidad Na 58.93 330 PFAKE 21 46 30.0 +9.2
UNM LR LR
comp=Z,7µm,19.0s
ASCN Ascension 58.99 78 PFAKE 21 46 30.0 +8.8
ASCN LR LR
comp=Z,7µm,21.0s
061Z Ochoppi 60.08 351 *e*P **P** 21 46 27.8 -0.5
comp=Z,395nm,1.3s
061Z Ochoppi 60.08 351 P **P** 21 46 28.5 +0.2
baz=171
MOIG Morelia 60.10 328 PFAKE 21 46 40.0 +11
MOIG LR LR
comp=Z,4µm,20.0s
060Z West Palm Beac 60.57 351 P **P** 21 46 31.0 -0.7
baz=172
059Z Ave Maria 60.62 350 P **P** 21 46 31.5 -0.5
baz=171
JRQG Juriquilla Cam 60.69 329 PFAKE 21 46 50.0 +17
JRQG LR LR
comp=Z,10µm,20.0s
060A Indiantown 61.17 352 PFAKE 21 46 50.0 +14
060A LR LR
comp=Z,2µm,20.0s
060A Indiantown 61.17 352 P **P** 21 46 35.6 -0.1
baz=172
059A Moore Haven 61.20 351 P **P** 21 46 35.1 -0.8
baz=171
058A Arcadia 61.38 350 P **P** 21 46 37.1 0.0
baz=171
959A Okeechobee 61.71 351 P **P** 21 46 39.6 +0.2
baz=172
SHEL Horse Pasture 61.83 91 *e*P **P** 21 46 41.4 +0.8
SHEL LR LR
comp=Z,6µm,20.0s
SHEL Horse Pasture 61.83 91 *e*P **P** 21 46 41.4 +0.8
SHEL MLR MLR
comp=Z,6µm,20.0s
958A Wauchula 61.89 350 P **P** 21 46 40.8 +0.2
baz=171
957A Wimauma 62.04 350 PFAKE 21 46 50.0 +8.4
957A LR LR
comp=Z,2µm,21.0s
957A Wimauma 62.04 350 P **P** 21 46 41.8 +0.2
baz=170
859A Kempfer Cattle 62.24 351 P **P** 21 46 43.1 +0.2
baz=172
DWPF Disney Wildern 62.36 351 *e*P **P** 21 46 41.6 -2.1
comp=Z,132nm,1.1s
DWPF LR LR
comp=Z,2µm,21.0s
DWPF Disney Wildern 62.36 351 P **P** 21 46 43.8 +0.1
baz=171
858A St. Cloud 62.45 351 P **P** 21 46 44.3 -0.1
baz=171
857A Zephyrhills 62.63 350 P **P** 21 46 45.4 -0.1
baz=170
SBA Scott Base 63.09 192 *e*P **P** 21 46 48.9 +0.8
comp=Z,57nm,1.3s
SBA LR LR

comp=Z,3µm,18.0s
SBA **Scott Base** **63.09 192** *e*P **P** **21 46 48.9 +0.8**
SBA pmax pmax
comp=Z,57nm,1.3s
SBA MLR MLR
comp=Z,3µm,18.0s
758A **Lake Helen** **63.17 351** P **P** **21 46 48.5 -0.6**
baz=171
757A **Oxford** **63.27 350** P **P** **21 46 50.1 +0.4**
baz=171,SNR=8.0
ZAIG **Zacatecas** **63.42 328** *e*P **P** **21 46 52.4 +1.1**
comp=Z,50nm,1.4s
ZAIG LR LR
comp=Z,3µm,20.0s
658A **Bunnell** **63.63 351** PFAKE 21 47 00.0 +7.9
658A LR LR
comp=Z,2µm,20.0s
658A **Bunnell** **63.63 351** P **P** **21 46 52.0 -0.1**
baz=171
656A **Willston** **63.76 350** *e*P **P** **21 46 53.3 +0.3**
comp=Z,224nm,1.0s
656A LR LR
comp=Z,2µm,20.0s
656A **Willston** **63.76 350** P **P** **21 46 53.1 +0.1**
baz=170,SNR=9.1
657A **Interlachen** **63.87 351** P **P** **21 46 53.9 +0.1**
baz=171,SNR=6.9
655A **Horseshoe Beac** **64.00 349** P **P** **21 46 54.2 -0.3**
baz=170
LNIG **Linares** **64.04 332** *e*P **P** **21 46 54.8 -0.2**
comp=Z,64nm,1.5s
VNDA **Vanda** **64.12 191** P **P** **21 46 56.4 +1.5**
comp=Z,9.5nm,1.0s,baz=135,slow=6.3,SNR=25
VNDA LR LR 22 12 53.4
comp=Z,2µm,18.4s,baz=132,slow=34
VNDA PKPPKP **P'P'df** **22 15 47.6 -5.5**
comp=Z,5.4nm,1.1s,baz=296,slow=5.8,SNR=7.1
VNDA PKP2ab 22 15 55.0
comp=Z,2.2nm,0.9s,baz=291,slow=5.2,SNR=3.7
557A **Orange Park** **64.28 351** P **P** **21 46 55.9 -0.5**
baz=171
556A **Lake Butler** **64.36 350** P **P** **21 46 57.0 +0.1**
baz=170,SNR=7.9
555A **McAlpin** **64.56 350** *e*P **P** **21 46 58.4 +0.2**
comp=Z,200nm,1.0s
555A LR LR
comp=Z,2µm,18.0s
555A **McAlpin** **64.56 350** P **P** **21 46 58.3 +0.1**
baz=170,SNR=12
554A **Perry** **64.63 349** P **P** **21 46 58.7 0.0**
baz=169
457A **Yulee** **64.85 351** P **P** **21 46 59.6 -0.5**
baz=171
553A **Crawfordville** **64.86 348** P **P** **21 47 00.8 +0.6**
baz=168,SNR=8.6
552A **Lynn Haven** **64.95 347** P **P** **21 47 00.2 -0.6**
baz=168
456A **Hilliard** **65.02 351** *e*P **P** **21 47 01.8 +0.6**
comp=Z,178nm,1.0s
456A **Hilliard** **65.02 351** P **P** **21 46 59.9 -1.3**
baz=171
455A **Stateville** **65.18 350** P **P** **21 47 02.3 0.0**
baz=170
645A **Chauvin** **65.45 342** P **P** **21 47 04.7 +0.7**
baz=163
453A **Whigham** **65.49 348** *e*P **P** **21 47 05.0 +0.7**
comp=Z,150nm,1.1s
453A LR LR
comp=Z,2µm,19.0s
453A **Whigham** **65.49 348** P **P** **21 47 04.4 +0.2**
baz=169,SNR=5.5
451A **Vernon** **65.51 347** PFAKE 21 47 20.0 +16
451A LR LR
comp=Z,2µm,21.0s
451A **Vernon** **65.51 347** P **P** **21 47 03.6 -0.7**
baz=167
356A **Blackshear** **65.62 351** P **P** **21 47 04.0 -1.1**
baz=171
452A **Marianna** **65.63 348** P **P** **21 47 04.7 -0.4**
baz=168
357A **Townsend** **65.64 351** P **P** **21 47 05.2 0.0**
baz=171
355A **Pearson** **65.74 350** P **P** **21 47 05.0 -0.9**
baz=170
450A **Crestview** **65.85 346** P **P** **21 47 05.9 -0.7**
baz=167
KVTX **Kingsville** **65.87 335** *e*P **P** **21 47 08.2 +1.5**
comp=Z,152nm,1.1s
449A **Pace** **65.93 346** P **P** **21 47 06.5 -0.6**
baz=166
TIGA **Tifton** **65.95 349** PFAKE **21 47 20.0 +13**
TIGA LR LR
comp=Z,2µm,19.0s
TIGA **Tifton** **65.95 349** P **P** **21 47 05.8 -1.4**
baz=169,SNR=9.2
353A **Camilla** **65.96 349** P **P** **21 47 06.4 -0.8**
baz=169,SNR=10
546A **Slidell** **65.98 343** P **P** **21 47 07.8 +0.4**
baz=164
257A **Skidaway Islan** **66.12 352** PFAKE **21 47 20.0 +12**
257A LR LR
comp=Z,3µm,20.0s
257A **Skidaway Islan** **66.12 352** P **P** **21 47 07.4 -0.9**
baz=172
351A **Pinckard** **66.12 347** P **P** **21 47 08.1 -0.2**
baz=168,SNR=6.4
352A **Blakely** **66.20 348** *e*P **P** **21 47 09.4 +0.5**
comp=Z,237nm,1.1s
352A LR LR
comp=Z,2µm,19.0s
352A **Blakely** **66.20 348** P **P** **21 47 08.3 -0.5**
baz=168,SNR=6.6
544A **White Castle** **66.22 342** P **P** **21 47 09.1 +0.2**
baz=163
448A **Bay Minette** **66.23 345** P **P** **21 47 08.4 -0.7**
baz=166
256A **Glennville** **66.23 351** P **P** **21 47 07.9 -1.2**
baz=171
255A **Hazlehurst** **66.26 350** *e*P **P** **21 47 09.5 +0.3**
comp=Z,184nm,1.4s
255A LR LR
comp=Z,2µm,22.0s
255A **Hazlehurst** **66.26 350** P **P** **21 47 08.6 -0.6**
baz=170,SNR=5.3
447A **Lucedale** **66.27 345** P **P** **21 47 08.7 -0.6**
baz=165
BRAL **Brewton** **66.30 346** PFAKE **21 47 20.0 +11**
BRAL LR LR
comp=Z,900nm,21.0s
BRAL **Brewton** **66.30 346** P **P** **21 47 09.3 -0.2**
baz=166
BBSR **BB Station** **66.36 7** *e*P **P** **21 47 10.2 +0.4**
comp=Z,265nm,1.5s
543A **St. Martinvill** **66.38 341** P **P** **21 47 10.9 +1.0**
baz=162
254A **Abbeville** **66.40 350** P **P** **21 47 09.6 -0.5**
baz=170,SNR=11
350A **Dozier** **66.40 347** P **P** **21 47 09.7 -0.4**
baz=167
349A **Repton** **66.50 346** P **P** **21 47 11.0 +0.3**
baz=166,SNR=5.9
542A **Morse** **66.60 341** P **P** **21 47 12.6 +1.2**
baz=161
445A **Amite** **66.60 343** P **P** **21 47 12.1 +0.7**
baz=163
253A **Americus** **66.64 349** PFAKE **21 47 20.0 +8.4**
253A LR LR
comp=Z,2µm,21.0s
253A **Americus** **66.64 349** P **P** **21 47 09.9 -1.7**
baz=169
252A **Lumpkin** **66.68 348** P **P** **21 47 10.8 -1.1**
baz=168,SNR=7.9
444A **Pine Grove** **66.69 343** P **P** **21 47 12.5 +0.5**
baz=163
348A **Jackson** **66.71 345** *e*P **P** **21 47 12.4 +0.3**
comp=Z,103nm,1.0s
348A **Jackson** **66.71 345** P **P** **21 47 11.5 -0.6**
baz=166
541A **Lake Charles** **66.72 340** P **P** **21 47 13.0 +0.9**
baz=161
347A **Saraland** **66.83 345** P **P** **21 47 12.9 0.0**
baz=165
156A **Sylvania** **66.85 351** P **P** **21 47 13.3 +0.4**
baz=171,SNR=6.3
TAOE **Nuku Hiva Isla** **66.88 275** *e*S **S** **21 56 01.6 -4.6**
comp=Z,9µm,26.3s
TAOE **Nuku Hiva Isla** **66.88 275** *e*LR LR 22 07 34.5
comp=Z,5µm,21.5s,baz=130

251A **Midway** **66.89 348** P **P** **21 47 12.8 -0.4**
baz=168,SNR=22
250A **Grady** **66.93 347** *e*P **P** **21 47 13.9 +0.4**
comp=Z,144nm,1.2s
250A LR LR
comp=Z,2µm,19.0s
250A **Grady** **66.93 347** P **P** **21 47 13.3 -0.2**
baz=167,SNR=7.5
155A **Kite** **66.94 351** P **P** **21 47 13.5 0.0**
baz=170,SNR=11
443A **Delano Plantat** **67.00 342** P **P** **21 47 14.5 +0.5**
baz=162
154A **Montrose** **67.03 350** *e*P **P** **21 47 14.5 +0.4**
comp=Z,262nm,1.0s
154A LR LR
comp=Z,2µm,22.0s
154A **Montrose** **67.03 350** P **P** **21 47 14.0 -0.1**
baz=170,SNR=12
346A **Big Creek Wild** **67.03 344** *e*P **P** **21 47 15.4 +1.3**
comp=Z,253nm,0.9s
346A **Big Creek Wild** **67.03 344** P **P** **21 47 14.9 +0.8**
baz=164,SNR=8.1
345A **Thompson Farm,** **67.08 343** P **P** **21 47 14.8 +0.3**
baz=164
249A **Camden** **67.09 346** P **P** **21 47 14.5 0.0**
baz=166,SNR=8.7
833A **Chaparral WMA,** **67.11 334** *e*P **P** **21 47 16.2 +1.5**
comp=Z,230nm,1.1s
833A **Chaparral WMA,** **67.11 334** P **P** **21 47 15.8 +1.0**
baz=156,SNR=21
833A S **S** **21 56 08.8 +0.6**
baz=156
442A **Mamou** **67.12 341** P **P** **21 47 15.8 +1.0**
baz=162
NHSC **New Hope** **67.15 353** *e*P **P** **21 47 15.1 +0.3**
NHSC LR LR
comp=Z,2µm,20.0s
NHSC **New Hope** **67.15 353** P **P** **21 47 15.1 +0.3**
baz=172,SNR=6.5
153A **Fort Valley** **67.17 349** P **P** **21 47 14.4 -0.6**
baz=169
TBI **Tubuai** **67.24 256** *e*S **S** **21 56 09.7 -0.5**
comp=Z,3µm,27.8s
TBI **Tubuai** **67.24 256** *e*LR LR 22 07 35.2
comp=Z,13µm,26.8s,baz=121
TBI **Tubuai** **67.24 256** *e*T T 23 00 23.6
comp=Z,15nm,0.3s
151A **Opelika** **67.30 348** P **P** **21 47 15.1 -0.7**
baz=168,SNR=15
152A **Waverly Hall** **67.33 349** *e*P **P** **21 47 16.2 +0.1**
152A LR LR
comp=Z,2µm,20.0s
152A **Waverly Hall** **67.33 349** P **P** **21 47 15.7 -0.3**
baz=168,SNR=8.3
248A **Dixon Mills** **67.33 346** P **P** **21 47 16.3 +0.3**
baz=166,SNR=7.9
441A **DeRidder** **67.37 340** P **P** **21 47 17.3 +1.0**
baz=161
344A **Westbrook Farm** **67.39 343** *e*P **P** **21 47 17.3 +0.9**
comp=Z,87nm,0.9s
344A **Westbrook Farm** **67.39 343** P **P** **21 47 16.8 +0.4**
baz=163
HKT **Hockley** **67.40 338** *e*P **P** **21 47 17.5 +1.1**
comp=Z,274nm,2.0s
HKT LR LR
comp=Z,2µm,19.0s
HKT **Hockley** **67.40 338** *e*P **P** **21 47 17.5 +1.1**
HKT pmax pmax
comp=Z,274nm,2.0s
HKT MLR MLR
comp=Z,2µm,19.0s
343A **Vidalia** **67.45 342** P **P** **21 47 17.2 +0.4**
baz=162
247A **Quitman** **67.48 345** P **P** **21 47 17.1 +0.2**
baz=165,SNR=10
Z55A **Blythe** **67.49 351** P **P** **21 47 16.7 -0.3**
baz=171
150A **Eclectic** **67.50 347** P **P** **21 47 16.9 -0.2**
baz=167,SNR=27
246A **Jackson Lee, B** **67.55 344** P **P** **21 47 17.1 -0.3**
baz=165
Z54A **Sparta** **67.60 350** P **P** **21 47 17.1 -0.6**
baz=170,SNR=13
149A **Jones** **67.63 347** P **P** **21 47 17.7 -0.2**
baz=167,SNR=10
SLBS **Sierra La Lagu** **67.68 323** *e*P **P** **21 47 20.1 +1.6**
comp=Z,31nm,0.9s
342A **Flagon Creek P** **67.72 341** *e*P **P** **21 47 20.4 +1.8**
comp=Z,217nm,1.0s
342A **Flagon Creek P** **67.72 341** P **P** **21 47 20.1 +1.6**
baz=162,SNR=14
245A **Little AP. Sta** **67.75 344** P **P** **21 47 19.2 +0.6**
baz=164,SNR=8.1
Z53A **Monticello** **67.75 350** P **P** **21 47 18.1 -0.5**
baz=170,SNR=17
Z52A **Williamson** **67.79 349** P **P** **21 47 18.8 -0.1**
baz=169,SNR=16
148A **Greensboro** **67.83 346** P **P** **21 47 19.0 -0.1**
baz=166,SNR=6.5
GOGA **Godfrey** **67.86 350** *e*P **P** **21 47 19.0 -0.4**
comp=Z,91nm,1.1s
GOGA LR LR
comp=Z,2µm,21.0s
GOGA **Godfrey** **67.86 350** *e*P **P** **21 47 19.0 -0.4**
GOGA pmax pmax
comp=Z,91nm,1.1s
GOGA MLR MLR
comp=Z,2µm,21.0s
GOGA **Godfrey** **67.86 350** P **P** **21 47 19.2 -0.1**
baz=170,SNR=13
244A **Avon Jackson** **67.94 343** P **P** **21 47 21.0 +1.2**
baz=163,SNR=20
243A **Waterproof** **67.98 342** P **P** **21 47 20.5 +0.3**
baz=163
147A **Livingston** **68.00 345** *e*P **P** **21 47 20.9 +0.6**
comp=Z,184nm,1.3s
147A LR LR
comp=Z,2µm,18.0s
147A **Livingston** **68.00 345** P **P** **21 47 20.6 +0.3**
baz=165,SNR=7.3
Z51A **Franklin** **68.04 348** P **P** **21 47 19.9 -0.6**
baz=168
VBMS **Vicksburg** **68.07 343** *e*P **P** **21 47 21.1 +0.4**
comp=Z,125nm,0.9s
VBMS **Vicksburg** **68.07 343** P **P** **21 47 21.3 +0.6**
baz=163
LRAL **Lakeview Retre** **68.10 347** *e*P **P** **21 47 20.9 0.0**
comp=Z,52nm,1.0s
LRAL LR LR
comp=Z,2µm,20.0s
LRAL **Lakeview Retre** **68.10 347** P **P** **21 47 20.8 0.0**
baz=166,SNR=17
Z50A **Ashland** **68.11 348** *e*P **P** **21 47 20.8 -0.2**
comp=Z,101nm,1.0s
Z50A LR LR
comp=Z,1µm,21.0s
Z50A **Ashland** **68.11 348** P **P** **21 47 20.6 -0.3**
baz=168,SNR=24
146A **Union** **68.14 345** *e*P **P** **21 47 22.2 +1.1**
comp=Z,335nm,1.1s
146A **Union** **68.14 345** P **P** **21 47 22.0 +0.8**
baz=165,SNR=19
Z49A **Columbiana** **68.16 347** P **P** **21 47 21.2 0.0**
baz=167,SNR=23
Y54A **Tignall** **68.19 351** P **P** **21 47 21.0 -0.4**
baz=170,SNR=19
LPIG **La Paz** **68.20 323** LR LR 22 10 20.9
comp=Z,871nm,19.9s,baz=140,slow=30
145A **Houston Renfro** **68.30 344** P **P** **21 47 23.1 +0.9**
baz=164
Y53A **Monroe** **68.32 350** P **P** **21 47 22.0 -0.2**
baz=170,SNR=23
Y52A **Lilburn** **68.40 349** *e*P **P** **21 47 22.9 +0.2**
comp=Z,154nm,1.2s
Y52A LR LR
comp=Z,1µm,18.0s
Y52A **Lilburn** **68.40 349** P **P** **21 47 22.8 +0.1**
baz=169,SNR=23
HPIG **68.41 328** *e*P **P** **21 47 23.9 +0.7**
comp=Z,77nm,1.3s
HPIG LR LR
comp=Z,4µm,21.0s
JSC **Jenkinsville** **68.43 352** *e*P **P** **21 47 23.4 +0.5**
comp=Z,64nm,1.0s
JSC LR LR
comp=Z,2µm,20.0s
JSC **Jenkinsville** **68.43 352** *e*P **P** **21 47 23.4 +0.5**
JSC pmax pmax
comp=Z,65nm,1.0s
JSC MLR MLR
comp=Z,2µm,20.0s
144A **Alexander Plac** **68.44 343** P **P** **21 47 23.7 +0.7**
baz=164
Z47A **Carrollton** **68.47 346** P **P** **21 47 23.6 +0.4**
baz=166,SNR=10
241A **Mo Tay, Goldon** **68.50 341** *e*P **P** **21 47 25.2 +1.8**
comp=Z,172nm,1.1s
241A **Mo Tay, Goldon** **68.50 341** P **P** **21 47 24.4 +1.1**
baz=161,SNR=8.9
HODGE **Hodges** **68.50 351** *e*P **P** **21 47 23.4 0.0**
comp=Z,76nm,1.3s
Z48A **Northport** **68.54 346** P **P** **21 47 23.7 +0.2**
baz=166,SNR=17
Y51A **Rockmart** **68.59 348** P **P** **21 47 23.4 -0.5**
baz=168,SNR=18
Z46A **Louisville** **68.65 345** P **P** **21 47 25.2 +0.9**
baz=165,SNR=13
Y50A **Piedmont** **68.70 348** P **P** **21 47 24.6 0.0**
baz=168,SNR=19
435B **Jarrell** **68.73 337** *e*P **P** **21 47 26.1 +1.2**
comp=Z,90nm,1.1s
435B **Jarrell** **68.73 337** P **P** **21 47 25.3 +0.4**
baz=157
NATX **Nacogdoches** **68.73 340** *e*P **P** **21 47 26.2 +1.3**
comp=Z,185nm,1.0s
NATX **Nacogdoches** **68.73 340** P **P** **21 47 25.8 +0.9**
baz=160,SNR=13
240A **Hunter Patters** **68.74 340** *e*P **P** **21 47 25.8 +0.9**
comp=Z,207nm,1.1s
240A **Hunter Patters** **68.74 340** P **P** **21 47 25.8 +0.9**
baz=161,SNR=9.9
143A **Socs Landing,** **68.75 343** *e*P **P** **21 47 26.3 +1.4**
comp=Z,381nm,1.0s
143A **Socs Landing,** **68.75 343** P **P** **21 47 25.4 +0.4**
baz=163
Y49A **Blount Mountai** **68.79 347** *e*P **P** **21 47 25.3 +0.2**
comp=Z,120nm,1.1s
Y49A LR LR
comp=Z,1µm,18.0s
Y49A **Blount Mountai** **68.79 347** P **P** **21 47 25.1 0.0**
baz=167,SNR=11
X53A **Estanollee** **68.91 350** P **P** **21 47 26.0 +0.1**
baz=170,SNR=16
Y48A **Jasper** **68.98 347** P **P** **21 47 26.0 -0.4**
baz=166,SNR=9.0
Z45A **Winona** **68.98 344** *e*P **P** **21 47 27.2 +0.8**
comp=Z,254nm,1.1s
Z45A **Winona** **68.98 344** P **P** **21 47 27.3 +0.9**
baz=164,SNR=6.5
PAULI **Pauline** **69.03 351** PFAKE **21 47 40.0 +13**
PAULI LR LR
comp=Z,2µm,22.0s
CNNC **Cliffs of the** **69.06 355** PFAKE **21 47 40.0 +13**
CNNC LR LR
comp=Z,2µm,20.0s
CNNC **Cliffs of the** **69.06 355** P **P** **21 47 27.0 +0.2**
baz=175
Z44A **Pea Ridge, Bel** **69.06 344** P **P** **21 47 27.1 +0.2**
baz=164
X52A **Dahlonega** **69.10 350** P **P** **21 47 27.0 -0.1**
baz=169,SNR=32
Y47A **UCPARC, Winfie** **69.11 346** P **P** **21 47 27.4 +0.3**
baz=166,SNR=56
Z43A **Armstrong Fami** **69.19 343** P **P** **21 47 28.1 +0.4**
baz=163
X51A **Calhoun** **69.21 349** *e*P **P** **21 47 28.0 +0.2**
comp=Z,211nm,1.0s
X51A LR LR
comp=Z,1µm,21.0s
X51A **Calhoun** **69.21 349** P **P** **21 47 27.8 0.0**
baz=168,SNR=36
JCT **Junction City** **69.22 335** *e*P **P** **21 47 28.9 +0.9**
comp=Z,165nm,1.3s
JCT **Junction City** **69.22 335** *e*P **P** **21 47 28.9 +0.9**
JCT pmax pmax
comp=Z,165nm,1.3s
JCT **Junction City** **69.22 335** P **P** **21 47 28.4 +0.4**
baz=156,SNR=38
X50B **Fort Payne** **69.24 348** P **P** **21 47 27.7 -0.3**
baz=168,SNR=17
KMSC **Kings Mountain** **69.29 352** *e*P **P** **21 47 28.1 -0.1**
comp=Z,64nm,1.0s
KMSC LR LR
comp=Z,2µm,22.0s
KMSC **Kings Mountain** **69.29 352** P **P** **21 47 27.8 -0.5**
baz=172,SNR=6.4
Y46A **Houston** **69.29 345** P **P** **21 47 28.2 -0.1**
baz=165,SNR=14
BG3 **Lake Jocassee** **69.34 351** PFAKE **21 47 40.0 +11**
BG3 LR LR
comp=Z,2µm,22.0s
X49A **Woodville** **69.41 348** P **P** **21 47 29.1 +0.1**
baz=167,SNR=16
Y45A **Yeager Farm, C** **69.43 345** P **P** **21 47 29.9 +0.8**
baz=164,SNR=17
Z42A **Norrel Spur, H** **69.43 342** P **P** **21 47 29.1 0.0**
baz=162
X48A **Hartselle** **69.48 347** *e*P **P** **21 47 29.5 +0.1**
comp=Z,125nm,1.0s
X48A LR LR
comp=Z,1µm,20.0s
X48A **Hartselle** **69.48 347** P **P** **21 47 29.5 +0.1**
baz=167,SNR=29
W53A **Cullowhee** **69.55 350** P **P** **21 47 29.8 -0.2**
baz=170,SNR=9.8
W52A **Murphy** **69.58 350** PFAKE **21 47 40.0 +10**
W52A LR LR
comp=Z,2µm,20.0s
W52A **Murphy** **69.58 350** P **P** **21 47 29.5 -0.6**
baz=169
Z41A **Richland Creek** **69.63 342** *e*P **P** **21 47 31.3 +0.9**
comp=Z,209nm,1.2s
Z41A **Richland Creek** **69.63 342** P **P** **21 47 30.6 +0.2**
baz=162
TXAR **Lajitas Array** **69.66 331** P **P** **21 47 31.2 +0.4**
comp=Z,12nm,0.9s,baz=152,slow=8.2,SNR=74
TXAR LR LR 22 13 49.1
comp=Z,5µm,18.4s,baz=0.0,slow=32
TXAR PKP2ab 22 15 39.6
comp=Z,0.8nm,0.9s,baz=321,slow=1.8,SNR=6.0
TX31 **Lajitas Ar. Si** **69.66 331** *e*P **P** **21 47 31.3 +0.5**
Y44A **Strider, Charl** **69.67 344** P **P** **21 47 30.4 -0.2**
baz=164
X47A **Russelville** **69.70 346** P **P** **21 47 30.5 -0.3**
baz=166,SNR=34
W51A **Cleveland** **69.78 349** P **P** **21 47 31.0 -0.3**
baz=169,SNR=22
Y43A **Makayla and Ka** **69.79 343** P **P** **21 47 31.3 0.0**
baz=163
WHTX **Lake Whitney,** **69.81 337** *e*P **P** **21 47 32.5 +0.9**
comp=Z,174nm,1.3s
WHTX **Lake Whitney,** **69.81 337** P **P** **21 47 31.7 +0.2**
baz=158,SNR=12
X46A **Booneville** **69.89 346** P **P** **21 47 31.4 -0.5**
baz=165
W50A **Signal Mountai** **69.90 349** *e*P **P** **21 47 32.3 +0.2**
comp=Z,115nm,0.9s
W50A LR LR
comp=Z,2µm,21.0s
W50A **Signal Mountai** **69.90 349** P **P** **21 47 31.9 -0.2**
baz=168,SNR=22
Y42A **Garnett, Star** **69.92 343** P **P** **21 47 32.7 +0.6**
baz=162
X45A **UM Field Stati** **69.93 345** P **P** **21 47 32.0 -0.2**
baz=165,SNR=16
TIAR **Tiarei** **69.98 262** *e*T T 23 03 49.7
comp=Z,7.5nm,0.2s
W49A **Belvidere** **69.99 348** P **P** **21 47 32.8 +0.2**
baz=167,SNR=16
V53A **Saluda** **69.99 351** *e*P **P** **21 47 32.8 +0.2**
comp=Z,83nm,1.0s
V53A LR LR
comp=Z,2µm,22.0s
V53A **Saluda** **69.99 351** P **P** **21 47 32.1 -0.6**
baz=170,SNR=15
CCAR **Cane Creek** **70.00 343** *e*P **P** **21 47 34.3 +1.6**
comp=Z,272nm,1.4s
OXF **Oxford** **70.02 345** *e*P **P** **21 47 32.2 -0.5**
comp=Z,273nm,1.0s
OXF LR LR
comp=Z,2µm,21.0s
OXF **Oxford** **70.02 345** *e*P **P** **21 47 32.2 -0.5**
OXF pmax pmax
comp=Z,273nm,1.0s
OXF MLR MLR
comp=Z,2µm,21.0s

OXF **Oxford** **70.02 345** P **P** **21 47 32.2 -0.5**
baz=165,SNR=35
CPCT **Cooper Cave** **70.02 349** PFAKE 21 47 50.0 +17
CPCT LR LR
comp=Z,2µm,20.0s
SWET **Sewanee** **70.02 348** eP **P**
SWET LR LR **21 47 33.0 +0.2**
comp=Z,2µm,21.0s
TKL **Tuckaleechee C** **70.11 350** eP **P** **21 47 33.2 -0.1**
comp=Z,78nm,1.0s
TKL LR LR
comp=Z,2µm,22.0s
TKL **Tuckaleechee C** **70.11 350** eP **P**
TKL pmax pmax **21 47 33.3 -0.1**
comp=Z,78nm,1.0s
TKL MLR MLR
comp=Z,2µm,22.0s
W48A **Pulaski** **70.13 347** P **P** **21 47 33.2 -0.2**
baz=167,SNR=24
PPTF **Pamatai, Papee** **70.15 262** PFAKE
PPTF LR LR 21 47 50.0 +16
comp=Z,5µm,19.0s
PPT2 **Papeete2** **70.16 262** eS **S** **21 56 44.1 -1.0**
comp=Z,6µm,24.0s
PPT2 **Papeete2** **70.16 262** eLR LR 22 08 53.0
comp=Z,9µm,27.5s,baz=123
PPT **Papeete** **70.17 262** P **P** **21 47 35.8 +1.6**
comp=Z,38nm,0.9s,baz=252,slow=16,SNR=3.1
PPT LR LR 22 11 17.2
comp=Z,5µm,18.2s,baz=162,slow=30
X44A **Crenshaw** **70.17 344** P **P** **21 47 33.2 -0.5**
baz=164
Y41A **Eaglette Beard** **70.17 342** P **P** **21 47 34.7 +1.0**
baz=162,SNR=19
PLAL **Pickwick Lake** **70.19 346** eP **P** **21 47 33.4 -0.4**
comp=Z,104nm,0.9s
V52A **Sevierville** **70.27 350** eP **P** **21 47 34.2 -0.2**
comp=Z,90nm,1.0s
V52A LR LR
comp=Z,2µm,22.0s
V52A **Sevierville** **70.27 350** P **P** **21 47 34.1 -0.2**
baz=170,SNR=9.9
V50A **Pikevile** **70.33 349** P **P** **21 47 34.9 +0.3**
baz=168,SNR=21
V51A **Loudon** **70.34 349** eP **P** **21 47 35.1 +0.4**
comp=Z,60nm,0.9s
V51A LR LR
comp=Z,2µm,20.0s
V51A **Loudon** **70.34 349** P **P** **21 47 34.7 0.0**
baz=169,SNR=7.3
X43A **Marvell** **70.36 344** eP **P** **21 47 36.3 +1.5**
comp=Z,342nm,1.4s
X43A **Marvell** **70.36 344** P **P** **21 47 35.0 +0.1**
baz=163
W47A **Westpoint** **70.36 347** P **P** **21 47 35.0 +0.2**
baz=166,SNR=32
W46A **Michie** **70.40 346** P **P** **21 47 34.7 -0.4**
baz=166,SNR=8.3
V49A **McMinnville** **70.56 348** P **P** **21 47 35.5 -0.5**
baz=168,SNR=48
X42A **Stuttgart** **70.57 343** P **P** **21 47 35.7 -0.4**
baz=163
W45A **Hickory Valley** **70.59 345** P **P** **21 47 35.7 -0.5**
baz=165
U53A **Fall Branch** **70.64 351** P **P** **21 47 36.2 -0.4**
baz=171,SNR=9.1
V48A **Smith Brothers** **70.69 347** eP **P** **21 47 36.8 -0.1**
comp=Z,322nm,1.0s
V48A LR LR
comp=Z,2µm,20.0s
V48A **Smith Brothers** **70.69 347** P **P** **21 47 36.8 -0.1**
baz=167,SNR=101
W44A **Shelby Farms P** **70.71 345** P **P** **21 47 36.6 -0.4**
baz=164
X41A **Kaden, Bauxite** **70.73 342** P **P** **21 47 36.9 -0.2**
baz=162
U52A **Thorn Hill** **70.78 350** P **P** **21 47 36.7 -0.7**
baz=170,SNR=6.3
X40A **Basin Creek Fa** **70.81 342** eP **P** **21 47 38.1 +0.5**
comp=Z,32nm,1.1s
X40A **Basin Creek Fa** **70.81 342** P **P** **21 47 37.4 -0.2**
baz=162,SNR=12
U51A **La Follette** **70.86 350** P **P** **21 47 37.3 -0.6**
baz=169,SNR=10
W43A **Forest City** **70.86 344** P **P** **21 47 37.4 -0.5**
baz=164
V47A **Nunnelly** **70.91 347** P **P** **21 47 37.8 -0.4**
baz=166,SNR=75
TZTN **Tazewell** **70.95 350** eP **P** **21 47 38.3 -0.1**
comp=Z,80nm,1.4s
TZTN **Tazewell** **70.95 350** P **P** **21 47 37.9 -0.6**
baz=170
UALR **University of** **70.95 342** eP **P** **21 47 39.1 +0.7**
comp=Z,72nm,1.1s
V46A **Holladay** **71.00 346** P **P** **21 47 38.0 -0.7**
baz=166,SNR=37
U50A **Jamestown** **71.02 349** P **P** **21 47 38.2 -0.7**
baz=169,SNR=10
MIAR **Mount Ida** **71.06 341** eP **P** **21 47 39.5 +0.4**
comp=Z,93nm,1.3s
MIAR **Mount Ida** **71.06 341** eP **P**
MIAR pmax pmax **21 47 39.5 +0.4**
comp=Z,93nm,1.3s
MIAR **Mount Ida** **71.06 341** P **P** **21 47 39.0 -0.1**
baz=161,SNR=25
V45A **Humboldt** **71.11 346** P **P** **21 47 39.0 -0.3**
baz=165,SNR=7.8
ABTX **Abilene, Hawle** **71.11 336** eP **P** **21 47 40.4 +0.8**
comp=Z,238nm,1.5s
ABTX **Abilene, Hawle** **71.11 336** P **P** **21 47 39.8 +0.2**
baz=156,SNR=20
W42A **Bald Knob** **71.23 343** P **P** **21 47 39.9 -0.2**
baz=163
BLA **Blacksburg** **71.23 353** PFAKE
BLA LR LR 21 47 50.0 +10
comp=Z,1µm,21.0s
BLA **Blacksburg** **71.23 353** P **P** **21 47 40.2 +0.1**
baz=172
WVT **Waverly** **71.26 347** eP **P** **21 47 39.8 -0.5**
comp=Z,334nm,0.9s
WVT **Waverly** **71.26 347** eP **P**
WVT pmax pmax **21 47 39.8 -0.5**
comp=Z,334nm,0.9s
WVT **Waverly** **71.26 347** P **P** **21 47 40.1 -0.2**
baz=166
U49A **Red Boiling Sp** **71.26 348** P **P** **21 47 39.8 -0.5**
baz=168,SNR=11
W41B **Gary Mavity, V** **71.31 343** eP **P** **21 47 40.8 +0.2**
comp=Z,112nm,1.2s
W41B **Gary Mavity, V** **71.31 343** P **P** **21 47 40.5 -0.1**
baz=162,SNR=29
V44A **Blytheville** **71.39 345** P **P** **21 47 41.0 -0.1**
baz=164
U48A **Cassie Pea, Po** **71.39 348** P **P** **21 47 40.8 -0.3**
baz=167,SNR=22
T51A **Gray** **71.42 350** P **P** **21 47 40.8 -0.5**
baz=170,SNR=10
T52A **Hallie** **71.43 351** P **P** **21 47 40.9 -0.4**
baz=170
WHAR **Wooly Hollow** **71.43 343** eP **P** **21 47 41.8 +0.5**
comp=Z,186nm,1.4s
U47A **Clarksville** **71.46 347** P **P** **21 47 41.1 -0.4**
baz=167,SNR=74
V43A **Jonesboro** **71.49 344** P **P** **21 47 41.3 -0.4**
baz=164
U46A **Springville** **71.55 346** P **P** **21 47 42.0 0.0**
baz=166,SNR=13
X37A **Clayton** **71.59 340** eP **P** **21 47 43.0 +0.7**
comp=Z,114nm,1.5s
T50A **Nancy** **71.61 349** P **P** **21 47 41.6 -0.8**
baz=169,SNR=6.3
U45A **Rockin P Farm,** **71.65 346** P **P** **21 47 42.9 +0.2**
baz=165,SNR=12
UTMT **University of** **71.67 346** eP **P** **21 47 43.8 +1.1**
comp=Z,437nm,1.0s
V42A **Cord** **71.71 344** P **P** **21 47 42.4 -0.6**
baz=163,SNR=16
W39A **Magazine** **71.72 341** eP **P** **21 47 43.6 +0.5**
comp=Z,143nm,1.0s
W39A **Magazine** **71.72 341** P **P** **21 47 43.7 +0.6**
baz=161,SNR=55
R58B **Mineral** **71.76 355** P **P** **21 47 43.7 +0.5**
baz=175,SNR=12
U44B **Burton Farm, H** **71.77 345** P **P** **21 47 43.6 +0.2**
baz=165,SNR=7.2
T49A **Edmonton** **71.80 349** eP **P** **21 47 43.0 -0.5**
comp=Z,88nm,0.9s
T49A LR LR
comp=Z,2µm,21.0s
T49A **Edmonton** **71.80 349** P **P** **21 47 43.4 -0.1**
baz=168,SNR=15
SRIG **Santa Rosalia** **71.84 323** PFAKE 21 48 00.0 +16
SRIG LR LR
comp=Z,2µm,18.0s
V41A **Mountainview** **71.87 343** P **P** **21 47 43.6 -0.4**
baz=162,SNR=30
T48A **Bowling Green** **71.95 348** P **P** **21 47 44.3 -0.1**
baz=167,SNR=12
T47A **Sharon Grove** **71.96 347** eP **P** **21 47 44.5 0.0**
comp=Z,116nm,0.9s
T47A LR LR
comp=Z,2µm,22.0s
T47A **Sharon Grove** **71.96 347** P **P** **21 47 43.9 -0.5**
baz=167,SNR=26
CBN **Corbin Frederi** **71.97 356** PFAKE 21 48 00.0 +16
CBN LR LR
comp=Z,2µm,20.0s
CBN **Corbin Frederi** **71.97 356** P **P** **21 47 44.4 0.0**
baz=175
U44A **Portageville** **72.00 345** P **P** **21 47 44.7 0.0**
baz=165
S52A **Salyersville** **72.00 351** P **P** **21 47 44.3 -0.5**
baz=170,SNR=18
U43A **Rector** **72.02 345** P **P** **21 47 44.6 -0.2**
baz=164
S51A **Beattyville** **72.03 350** eP **P** **21 47 45.1 +0.2**
comp=Z,89nm,0.9s
S51A LR LR
comp=Z,2µm,19.0s
S51A **Beattyville** **72.03 350** P **P** **21 47 44.4 -0.5**
baz=170,SNR=15
T46A **Princeton** **72.16 347** P **P** **21 47 45.4 -0.2**
baz=166,SNR=27
PARMO **Parma** **72.16 345** eP **P** **21 47 46.8 +1.1**
comp=Z,187nm,1.0s
S50A **Richmond** **72.19 350** P **P** **21 47 45.4 -0.4**
baz=169,SNR=21
U42A **Revenden** **72.19 344** P **P** **21 47 45.4 -0.5**
baz=163,SNR=32
T45A **Paducah** **72.28 346** eP **P** **21 47 46.3 -0.1**
comp=Z,317nm,1.4s
T45A LR LR
comp=Z,1µm,19.0s
T45A **Paducah** **72.28 346** P **P** **21 47 45.8 -0.6**
baz=166
U41A **Viola** **72.35 343** P **P** **21 47 46.6 -0.2**
baz=163,SNR=11
PBMO **Poplar Bluff** **72.42 345** eP **P** **21 47 47.1 -0.1**
comp=Z,117nm,1.2s
S48A **Wiedeman Farm,** **72.43 348** P **P** **21 47 46.2 -1.1**
baz=168,SNR=12
S49A **Springfield** **72.43 349** P **P** **21 47 46.3 -1.0**
baz=168,SNR=8.7
MNTX **Cornudas Mount** **72.44 331** eP **P** **21 47 47.1 -0.5**
comp=Z,39nm,0.9s
MNTX LR LR
comp=Z,5µm,19.0s
MNTX **Cornudas Mount** **72.44 331** P **P** **21 47 46.8 -0.7**
baz=151,SNR=17
S47A **Hartford** **72.51 348** P **P** **21 47 46.8 -0.9**
baz=167,SNR=11
T44A **Ben** **72.54 345** P **P** **21 47 47.5 -0.5**
baz=165,SNR=7.6
U40A **Yellville** **72.58 343** P **P** **21 47 48.3 0.0**
baz=162,SNR=48
R52A **Catlettsburg** **72.60 351** P **P** **21 47 47.6 -0.7**
baz=171,SNR=8.6
HSIG **72.61 325** eP **P** **21 47 50.0 +1.4**
comp=Z,72nm,1.4s
HSIG LR LR
comp=Z,2µm,18.0s
T43A **Greenville** **72.68 345** P **P** **21 47 48.7 -0.1**
baz=164,SNR=33
R51A **Hillsboro** **72.68 351** P **P** **21 47 48.4 -0.4**
baz=170,SNR=15
S46A **Don Dixon Farm** **72.75 347** P **P** **21 47 48.7 -0.5**
baz=166,SNR=13
WMOK **Wichita Mounta** **72.76 337** eP **P** **21 47 48.5 -0.9**
comp=Z,89nm,1.5s
WMOK LR LR
comp=Z,1µm,21.0s
WMOK **Wichita Mounta** **72.76 337** eP **P** **21 47 48.5 -0.9**
WMOK pmax pmax
comp=Z,89nm,1.5s
WMOK MLR MLR
comp=Z,1µm,21.0s
WMOK **Wichita Mounta** **72.76 337** P **P** **21 47 49.0 -0.4**
baz=157,SNR=24
R50A **Paris** **72.77 350** P **P** **21 47 48.6 -0.7**
baz=169,SNR=14
HHAR **Hobbs** **72.79 342** eP **P** **21 47 49.5 0.0**
comp=Z,70nm,1.1s
T42A **Van Buren** **72.81 344** eP **P** **21 47 49.4 -0.1**
comp=Z,78nm,1.4s
T42A **Van Buren** **72.81 344** P **P** **21 47 49.3 -0.2**
baz=163,SNR=19
S45A **Carrier Mills** **72.90 346** P **P** **21 47 49.7 -0.4**
baz=166
R49A **Shobyville** **72.91 349** P **P** **21 47 49.8 -0.3**
baz=168,SNR=13
TUL1 **Leonard** **72.95 340** eP **P** **21 47 50.7 +0.3**
comp=Z,101nm,1.1s
TUL1 **Leonard** **72.95 340** P **P** **21 47 50.4 0.0**
baz=159,SNR=12
EPT **El Paso** **72.97 330** PFAKE 21 48 00.0 +9.2
EPT LR LR
comp=Z,4µm,19.0s
T41A **Mountain View** **72.98 344** P **P** **21 47 50.3 -0.2**
baz=163,SNR=23
USIN **University of** **73.01 347** PFAKE 21 48 00.0 +9.3
USIN LR LR
comp=Z,2µm,18.0s
WCI **Wyandotte Cave** **73.02 348** eP **P** **21 47 50.1 -0.7**
WCI LR LR
comp=Z,1µm,21.0s
WCI **Wyandotte Cave** **73.02 348** eP **P** **21 47 50.1 -0.7**
WCI MLR MLR
comp=Z,1µm,21.0s
WCI **Wyandotte Cave** **73.02 348** P **P** **21 47 49.9 -0.9**
baz=168
S44A **Carbondale** **73.05 346** P **P** **21 47 50.6 -0.4**
baz=165,SNR=12
SIUC **Southern Illin** **73.07 346** eP **P** **21 47 51.1 +0.1**
comp=Z,89nm,0.9s
S43A **Fulton Ridge,** **73.11 345** P **P** **21 47 50.8 -0.6**
baz=164,SNR=51
R48A **Northridge Ran** **73.12 349** P **P** **21 47 51.2 -0.2**
baz=168,SNR=15
R47A **Wooly Knot Far** **73.13 348** P **P** **21 47 50.5 -0.9**
baz=167
SDMD **Soldier's Deli** **73.14 356** eP **P** **21 47 52.6 +1.1**
comp=Z,45nm,1.0s
SDMD LR LR
comp=Z,1µm,21.0s
Q52A **Bidwell** **73.17 352** P **P** **21 47 50.9 -0.8**
baz=171
R46A **Gibon Southern** **73.22 347** P **P** **21 47 51.2 -0.8**
baz=166,SNR=13
MAW **Mawson** **73.24 164** P **P** **21 47 52.3 +0.5**
comp=Z,64nm,0.9s,baz=224,slow=7.2,SNR=61
MAW LR LR 22 22 51.7
comp=Z,11µm,18.3s,baz=229,slow=38
MAW **Mawson** **73.24 164** eP **P** **21 47 52.2 +0.4**
comp=Z,19nm,0.9s
MAW **Mawson** **73.24 164** eP **P**
MAW pmax pmax **21 47 52.2 +0.4**
comp=Z,19nm,0.9s
Q50A **Georgetown** **73.27 350** P **P** **21 47 51.7 -0.6**
baz=170,SNR=9.7
Q51A **Peebles** **73.36 351** PFAKE 21 48 10.0 +17
Q51A LR LR
comp=Z,2µm,20.0s
Q51A **Peebles** **73.36 351** P **P** **21 47 52.5 -0.3**
baz=170,SNR=8.6
MSTX **Muleshoe** **73.44 334** eP **P** **21 47 54.1 +0.6**
comp=Z,75nm,1.0s
MSTX **Muleshoe** **73.44 334** P **P** **21 47 53.6 +0.1**
baz=154,SNR=8.2
R45A **Skylar, Fairfi** **73.44 347** P **P** **21 47 52.7 -0.5**
baz=166,SNR=15
S42A **Caledonia** **73.45 345** P **P** **21 47 53.0 -0.3**
baz=164,SNR=25
S41A **Jillco Farms,** **73.49 344** P **P** **21 47 53.7 +0.1**
baz=163,SNR=51
R44A **Waltonville** **73.55 346** P **P** **21 47 53.4 -0.5**
baz=165,SNR=10
FVM **French Village** **73.58 345** eP **P** **21 47 54.3 +0.2**
comp=Z,181nm,1.3s
FVM LR LR
comp=Z,1µm,22.0s
FVM **French Village** **73.58 345** eP **P**
FVM pmax pmax **21 47 54.3 +0.2**
comp=Z,181nm,1.3s
FVM MLR MLR
comp=Z,1µm,22.0s
P53A **Whipple** **73.59 353** eP **P** **21 47 54.5 +0.5**
comp=Z,86nm,1.1s
P53A LR LR
comp=Z,2µm,22.0s
P53A **Whipple** **73.59 353** P **P** **21 47 53.6 -0.5**
baz=172
PSUB **Penn St. - Bra** **73.59 357** eP **P** **21 47 55.4 +1.3**
comp=Z,74nm,1.1s
PSUB LR LR
comp=Z,2µm,19.0s
MCWV **Mont Chateau** **73.60 354** P **P** **21 47 53.7 -0.5**
baz=173
Q48A **North Vernon** **73.62 349** P **P** **21 47 54.0 -0.3**
baz=168,SNR=16
MVL **Millersville** **73.70 357** eP **P** **21 47 56.2 +1.5**
comp=Z,69nm,1.2s
Q47A **Bedord North L** **73.74 348** P **P** **21 47 53.9 -1.1**
baz=168
R43A **Red Bud** **73.75 345** P **P** **21 47 54.8 -0.3**
baz=164,SNR=7.4
P51A **Williamsport** **73.78 351** eP **P** **21 47 54.9 -0.3**
comp=Z,115nm,0.9s
P51A LR LR
comp=Z,2µm,21.0s
P51A **Williamsport** **73.78 351** P **P** **21 47 54.6 -0.6**
baz=170,SNR=6.7
P52A **Corning** **73.81 352** P **P** **21 47 54.5 -0.9**
baz=171
CCM **Cathedral Cave** **73.83 344** eP **P** **21 47 55.4 -0.1**
comp=Z,162nm,1.0s
CCM **Cathedral Cave** **73.83 344** eP **P**
CCM pmax pmax **21 47 55.4 -0.1**
comp=Z,162nm,1.0s
CCM **Cathedral Cave** **73.83 344** P **P** **21 47 55.2 -0.4**
baz=163
AMTX **Amarillo** **73.87 335** eP **P** **21 47 56.2 +0.2**
comp=Z,139nm,1.3s
AMTX **Amarillo** **73.87 335** P **P** **21 47 56.3 +0.2**
baz=155
R42A **Luebbering** **73.94 345** P **P** **21 47 56.1 -0.1**
baz=164,SNR=11
PAGS **Pennsylvania G** **73.95 356** eP **P** **21 47 57.0 +0.8**
comp=Z,72nm,1.0s
PAGS LR LR
comp=Z,3µm,21.0s
Q46A **CEJHS Indians,** **73.98 348** P **P** **21 47 55.5 -0.9**
baz=167
P50A **Jamestown** **74.00 351** P **P** **21 47 56.2 -0.4**
baz=170,SNR=8.1
Q45A **Warren Harvey,** **74.00 347** P **P** **21 47 55.8 -0.7**
baz=166,SNR=19
P49A **Miami Univ. Ec** **74.05 350** P **P** **21 47 56.1 -0.7**
baz=169,SNR=6.3
R41A **Rosebud** **74.09 344** P **P** **21 47 56.8 -0.3**
baz=163,SNR=33
P48A **Milroy** **74.09 349** P **P** **21 47 56.0 -1.0**
baz=168,SNR=18
O56A **Blue Knob Stat** **74.11 355** eP **P** **21 47 57.9 +0.7**
comp=Z,141nm,1.5s
O56A LR LR
comp=Z,2µm,19.0s
O56A **Blue Knob Stat** **74.11 355** P **P** **21 47 57.5 +0.3**
baz=174,SNR=7.8
SLM **Saint Louis** **74.16 345** eP **P** **21 47 58.1 +0.6**
comp=Z,133nm,0.8s
SLM LR LR
comp=Z,1µm,18.0s
SLM **Saint Louis** **74.16 345** eP **P**
SLM pmax pmax **21 47 58.1 +0.6**
comp=Z,133nm,0.8s
SLM MLR MLR
comp=Z,1µm,18.0s
121A **Cookes Peak, D** **74.17 329** P **P** **21 47 59.0 +1.1**
baz=168,SNR=19
Q44A **Meyer Farm, Va** **74.17 346** P **P** **21 47 56.9 -0.6**
baz=165,SNR=11
P47A **Martinsville** **74.25 349** P **P** **21 47 57.0 -1.0**
baz=168
LUPA **Lehigh Univers** **74.26 357** eP **P** **21 47 59.4 +1.4**
comp=Z,4.3nm,0.9s
LUPA LR LR
comp=Z,200nm,18.0s
O52A **Adamsville** **74.26 352** PFAKE 21 48 10.0 +12
O52A LR LR
comp=Z,2µm,19.0s
O52A **Adamsville** **74.26 352** P **P** **21 47 57.4 -0.6**
baz=171,SNR=12
BRNJ **Basking Ridge** **74.31 358** PFAKE 21 48 10.0 +12
BRNJ LR LR
comp=Z,3µm,21.0s
U32A **Winter Ranch,** **74.34 338** eP **P** **21 47 59.8 +1.2**
comp=Z,89nm,0.8s
Q43A **New Douglas** **74.35 346** P **P** **21 47 58.0 -0.5**
baz=165,SNR=17
O51A **Pataskala** **74.38 352** P **P** **21 47 58.1 -0.6**
baz=171,SNR=19
SSPA **Standing Stone** **74.42 355** eP **P** **21 47 58.9 -0.1**
comp=Z,95nm,1.1s
SSPA LR LR
comp=Z,2µm,18.0s
SSPA **Standing Stone** **74.42 355** P **P** **21 47 59.4 +0.4**
baz=175
Q42A **Golden Eagle** **74.49 345** P **P** **21 47 59.2 -0.2**
baz=164,SNR=12
O50A **Cable** **74.50 351** P **P** **21 47 59.0 -0.5**
baz=170,SNR=18
ACSO **Alum Creek Sta** **74.51 351** eP **P** **21 47 58.9 -0.6**
comp=Z,140nm,0.8s
ACSO LR LR
comp=Z,2µm,20.0s
ACSO **Alum Creek Sta** **74.51 351** P **P** **21 47 58.9 -0.6**
baz=170,SNR=27
P46A **Rosedale** **74.53 348** P **P** **21 47 58.9 -0.8**
baz=167,SNR=12
P45A **Graceland, Par** **74.54 348** PFAKE 21 48 10.0 +10
P45A LR LR
comp=Z,2µm,19.0s
P45A **Graceland, Par** **74.54 348** P **P** **21 47 58.9 -0.8**
baz=166,SNR=14
N59A **State Game Lan** **74.59 357** eP **P** **21 48 01.3 +1.3**
comp=Z,78nm,0.9s
N59A LR LR
comp=Z,2µm,20.0s
N59A **State Game Lan** **74.59 357** P **P** **21 48 01.1 +1.2**
baz=177,SNR=15
PAL **Palisades** **74.62 359** eP **P** **21 48 01.1 +1.0**
comp=Z,41nm,1.1s
PAL LR LR
comp=Z,3µm,22.0s
PAL **Palisades** **74.62 359** eP **P**
PAL pmax pmax **21 48 01.1 +1.0**
comp=Z,41nm,1.1s
PAL MLR MLR
comp=Z,3µm,22.0s
PAL **Palisades** **74.62 359** P **P** **21 48 00.4 +0.3**
baz=178
O49A **Covington** **74.64 350** PFAKE 21 48 10.0 +10
O49A LR LR
comp=Z,2µm,18.0s
O49A **Covington** **74.64 350** P **P** **21 48 00.0 -0.2**
baz=169,SNR=12
P44A **Sand Creek, Wi** **74.64 347** P **P** **21 47 59.2 -1.1**
baz=166
Q41A **Truxton** **74.68 345** P **P** **21 48 00.6 +0.1**
baz=164,SNR=52
ODNJ **Ogdensburg** **74.72 358** eP **P** **21 48 01.7 +1.1**
comp=Z,48nm,0.9s
ODNJ LR LR
comp=Z,3µm,22.0s
O48A **Farmland** **74.83 350** P **P** **21 48 00.3 -1.0**
baz=169,SNR=8.4
LIC **Lamto** **74.84 72** eP **P** **21 48 01.8 -0.3**
comp=Z,420nm,1.5s
N54A **Moraine State** **74.91 354** PFAKE 21 48 10.0 +8.2
N54A LR LR
comp=Z,2µm,21.0s
N54A **Moraine State** **74.91 354** P **P** **21 48 01.4 -0.4**
baz=173,SNR=11
YLE **Yale** **74.92 359** eP **P** **21 48 03.6 +1.9**

comp=Z,162nm,0.9s
YLE LR LR
comp=Z,3µm,21.0s
SUR Sutherland 74.92 119 *e*P **P 21 48 03.6 +1.1**
comp=Z,98nm,1.1s
SUR LR LR
comp=Z,4µm,22.0s
O47A Sheridan 74.96 349 P **P 21 48 01.4 -0.7**
baz=168,SNR=13
P43A Skaggs, Pawnee 74.99 346 P **P 21 48 01.6 -0.7**
baz=165,SNR=20
N50A Nevada 75.06 351 P **P 21 48 02.1 -0.6**
baz=170,SNR=30
BNM Barren Site 75.09 331 *e*P **P 21 48 05.0 +1.7**
P42A Winchester 75.10 346 *e*P **P 21 48 02.9 0.0**
comp=Z,112nm,1.0s
P42A Winchester 75.10 346 P **P 21 48 02.2 -0.7**
baz=164,SNR=18
TIC Toumodi 75.10 71 *e*P **P 21 48 03.2 -0.4**
N51A Ashland 75.11 352 PFAKE 21 48 20.0 +17
N51A LR LR
comp=Z,2µm,18.0s
N51A Ashland 75.11 352 P **P 21 48 02.1 -0.9**
baz=171,SNR=12
KIC Kosan Boka 75.15 72 *e*P **P 21 48 03.8 -0.1**
comp=Z,512nm,1.4s
M65A Busby, Falmout 75.17 1 P **P 21 48 03.1 -0.1**
baz=181
KSPA Keystone Colle 75.23 357 *e*P **P 21 48 04.7 +1.1**
comp=Z,28nm,0.8s
KSPA LR LR
comp=Z,3µm,18.0s
LPM Los Pinos Moun 75.23 331 *e*P **P 21 48 05.4 +1.4**
O45A Potomac 75.24 348 P **P 21 48 02.5 -1.2**
baz=166,SNR=11
LENM Lemitar 75.24 331 *e*P **P 21 48 05.8 +1.7**
DBIC Dimbokro 75.25 71 P **P 21 48 04.5 +0.1**
comp=Z,53nm,0.8s,baz=204,slow=7.0,SNR=58
DBIC LR LR 22 19 41.8
comp=Z,6µm,18.9s,baz=216,slow=35
DBIC Dimbokro 75.25 71 P **P 21 48 04.5 +0.1**
DBIC pmax pmax
comp=Z,53nm,0.9s
DBIC MLR MLR
comp=Z,6µm,18.9s
SFIN Lafayette 75.25 348 PFAKE 21 48 20.0 +16
SFIN LR LR
comp=Z,1µm,19.0s
SFIN Lafayette 75.25 348 P **P 21 48 02.5 -1.3**
baz=167,SNR=12
O44A Mansfield 75.28 347 P **P 21 48 02.8 -1.1**
baz=166,SNR=10
TUC Tucson 75.30 327 *e*P **P 21 48 05.6 +1.3**
comp=Z,45nm,1.3s
TUC LR LR
comp=Z,2µm,20.0s
TUC Tucson 75.30 327 *e*P **P 21 48 05.6 +1.3**
TUC pmax pmax
comp=Z,45nm,1.3s
TUC MLR MLR
comp=Z,2µm,20.0s
TUC Tucson 75.30 327 P **P 21 48 05.2 +0.8**
baz=148
P41A Barry, Barry 75.34 345 P **P 21 48 03.5 -0.7**
baz=164,SNR=8.5
N49A Columbus Grove 75.34 351 PFAKE 21 48 20.0 +16
N49A LR LR
comp=Z,2µm,22.0s
N49A Columbus Grove 75.34 351 P **P 21 48 03.7 -0.6**
baz=170,SNR=19
N48A Decatur 75.40 350 P **P 21 48 03.9 -0.7**
baz=169,SNR=9.9
M54A Oil Creek Stat 75.42 354 *e*P **P 21 48 04.8 +0.1**
comp=Z,58nm,0.9s
M54A LR LR
comp=Z,2µm,20.0s
M54A Oil Creek Stat 75.42 354 P **P 21 48 04.1 -0.7**
baz=173,SNR=12
M51A Elyria 75.50 352 P **P 21 48 04.5 -0.7**
baz=171,SNR=11
LAZ Ladron 75.51 331 *e*P **P 21 48 07.2 +1.6**
BRYW Bryant College 75.52 0 *e*P **P 21 48 06.6 +1.3**
comp=Z,118nm,1.0s
N47A Urbana 75.52 349 P **P 21 48 03.9 -1.4**
baz=168,SNR=28
O43A Sugar Creek Fa 75.57 347 P **P 21 48 05.3 -0.3**
baz=165
ALLY Alegheny Colle 75.61 354 *e*P **P 21 48 06.3 +0.5**
comp=Z,92nm,1.0s
O42A Bath 75.63 346 P **P 21 48 05.5 -0.5**
baz=164,SNR=8.8
M50A Fremont 75.67 352 *e*P **P 21 48 06.1 0.0**
comp=Z,109nm,0.9s
M50A LR LR
comp=Z,2µm,22.0s
M50A Fremont 75.67 352 P **P 21 48 05.8 -0.3**
baz=170,SNR=9.0
N46A Monticello 75.70 349 P **P 21 48 05.2 -1.1**
baz=167,SNR=33
ANMO Albuquerque 75.71 331 LR LR 22 17 17.6
comp=Z,5µm,19.2s,baz=158,slow=32
ANMO Albuquerque 75.71 331 *e*P **P 21 48 08.2 +1.4**
comp=Z,41nm,1.1s
ANMO Albuquerque 75.71 331 *c*e**P P 21 48 08.4 +1.6**
ANMO pmax pmax
comp=Z,61nm,1.7s
ANMO Albuquerque 75.71 331 P **P 21 48 08.0 +1.2**
baz=151
O41A Passleys Farm, 75.72 345 P **P 21 48 06.2 -0.2**
baz=164,SNR=19
N45A Kentland 75.78 348 P **P 21 48 06.2 -0.6**
baz=167,SNR=9.6
HDIL Hopedale 75.83 347 *e*P **P 21 48 06.8 -0.3**
comp=Z,238nm,1.4s
HDIL LR LR
comp=Z,1µm,20.0s
HDIL Hopedale 75.83 347 P **P 21 48 06.1 -0.9**
baz=165
N44A Piper City 75.84 348 P **P 21 48 06.4 -0.8**
baz=166,SNR=19
M49A Liberty Center 75.86 351 P **P 21 48 06.8 -0.4**
baz=170,SNR=12
QUA2 Belchertown 75.88 360 *e*P **P 21 48 08.7 +1.4**
comp=Z,73nm,0.9s
BINY Binghamton 75.88 357 *e*P **P 21 48 08.1 +0.8**
comp=Z,56nm,1.1s
BINY LR LR
comp=Z,3µm,18.0s
BINY Binghamton 75.88 357 P **P 21 48 07.7 +0.3**
baz=176,SNR=7.1
214A Organ Pipe Nat 75.94 325 P **P 21 48 09.4 +1.4**
baz=146,SNR=12
M48A Edgerton 75.97 350 *e*P **P 21 48 07.7 -0.2**
comp=Z,135nm,0.9s
M48A LR LR
comp=Z,2µm,20.0s
M48A Edgerton 75.97 350 P **P 21 48 07.5 -0.4**
baz=169,SNR=9.2
M47A Cromwell 75.98 350 P **P 21 48 07.1 -0.8**
baz=168
WES Weston 75.98 1 *e*P **P 21 48 09.5 +1.6**
comp=Z,81nm,1.3s
ERPA Erie 76.06 354 *e*P **P 21 48 08.5 +0.2**
comp=Z,111nm,1.0s
ERPA LR LR
comp=Z,2µm,20.0s
ERPA Erie 76.06 354 P **P 21 48 08.1 -0.2**
baz=173,SNR=11
HRV Adam Dziewonsk 76.11 0 *e*P **P 21 48 08.6 0.0**
HRV Adam Dziewonsk 76.11 0 *e*P **P 21 48 08.6 0.0**
HRV Adam Dziewonsk 76.11 0 P **P 21 48 09.0 +0.4**
baz=180
M46A Old House Fiel 76.14 349 PFAKE 21 48 20.0 +11
M46A LR LR
comp=Z,2µm,19.0s
M46A Old House Fiel 76.14 349 P **P 21 48 08.1 -0.7**
baz=168
KSU1 Kansas State U 76.16 341 *e*P **P 21 48 09.0 0.0**
comp=Z,38nm,0.9s
KSU1 Kansas State U 76.16 341 P **P 21 48 08.4 -0.6**
baz=159
N42A Yates City 76.23 346 P **P 21 48 08.8 -0.5**
baz=165
M45A Boilermakers S 76.26 348 P **P 21 48 08.8 -0.8**
baz=167
N41A Harden Midland 76.28 345 *e*P **P 21 48 09.3 -0.4**
comp=Z,154nm,0.9s
N41A LR LR
comp=Z,2µm,22.0s
N41A Harden Midland 76.28 345 P **P 21 48 09.3 -0.4**
baz=164,SNR=21
TRY Troy 76.34 359 *e*P **P 21 48 11.6 +1.7**
comp=Z,135nm,1.0s
L48A N Adams 76.38 351 P **P 21 48 09.6 -0.6**
baz=169,SNR=13
M44A Midewin, Midew 76.40 348 *e*P **P 21 48 09.8 -0.5**
comp=Z,175nm,1.0s
M44A LR LR
comp=Z,2µm,22.0s
M44A Midewin, Midew 76.40 348 P **P 21 48 09.5 -0.8**
baz=166,SNR=23
L49A Milan 76.45 351 P **P 21 48 10.0 -0.6**
baz=170
MMNY Mt. Morris Dam 76.51 356 *e*P **P 21 48 11.4 +0.5**
comp=Z,136nm,1.1s
MMNY LR LR
comp=Z,2µm,19.0s
L47A Sherwood 76.52 350 P **P 21 48 10.2 -0.8**
baz=169,SNR=24
RAR Rarotonga 76.58 253 LR LR 22 14 30.0
comp=Z,4µm,18.2s,baz=139,slow=30
N40A Mertquake, Sal 76.61 345 P **P 21 48 10.8 -0.7**
baz=163,SNR=13
M43A Waltham Townsh 76.61 347 P **P 21 48 11.3 -0.2**
baz=166,SNR=26
AAM Ann Arbor 76.63 351 *e*P **P 21 48 11.2 -0.3**
comp=Z,120nm,1.3s
AAM LR LR
comp=Z,3µm,21.0s
AAM Ann Arbor 76.63 351 *e*P **P 21 48 11.3 -0.3**
AAM pmax pmax
comp=Z,120nm,1.3s
AAM MLR MLR
comp=Z,3µm,21.0s
AAM Ann Arbor 76.63 351 P **P 21 48 11.0 -0.5**
baz=170
L46A Eue Claire 76.72 349 P **P 21 48 11.1 -1.0**
baz=168
M42A Sheffield 76.78 346 P **P 21 48 11.9 -0.5**
baz=165
N39A Derby Farms, D 76.80 344 *e*P **P 21 48 12.5 -0.1**
comp=Z,164nm,1.0s
N39A Derby Farms, D 76.80 344 P **P 21 48 12.3 -0.3**
baz=163,SNR=28
CBKS Cedar Bluff 76.81 338 *e*P **P 21 48 13.5 +0.7**
comp=Z,70nm,0.8s
CBKS Cedar Bluff 76.81 338 *e*P **P 21 48 13.5 +0.7**
CBKS pmax pmax
comp=Z,70nm,0.8s
CBKS Cedar Bluff 76.81 338 P **P 21 48 13.0 +0.2**
baz=157,SNR=7.0
M41A Milan 76.86 346 P **P 21 48 12.3 -0.6**
baz=164,SNR=12
T25A Trinidad 76.86 334 *e*P **P 21 48 14.4 +1.1**
comp=Z,94nm,1.0s
T25A LR LR
comp=Z,2µm,20.0s
T25A Trinidad 76.86 334 P **P 21 48 14.4 +1.1**
baz=153,SNR=42
K50A Casco 76.97 352 P **P 21 48 13.0 -0.5**
baz=171,SNR=8.2
MEDO Mena 76.98 355 P **P 21 48 13.5 0.0**
baz=174
ACCN Adirondack Com 76.99 359 *e*P **P 21 48 14.6 +1.0**
comp=Z,92nm,1.1s
ACCN LR LR
comp=Z,2µm,21.0s
TYNO Tyneside 77.02 354 P **P 21 48 13.8 +0.1**
baz=173
STCO Saint Catharin 77.07 355 P **P 21 48 13.8 -0.2**
baz=174
K49A Clarkson 77.08 351 P **P 21 48 13.4 -0.7**
baz=170
M40A Post Highland 77.09 345 P **P 21 48 13.4 -0.8**
baz=163
L44A Lake County Fo 77.14 348 P **P 21 48 13.7 -0.8**
baz=166
WIN Windhoek 77.15 109 P **P 21 48 16.8 +1.4**
WIN pmax pmax
comp=Z,75nm,0.9s
K47A Vernontville 77.17 350 P **P 21 48 13.9 -0.7**
baz=169,SNR=9.7
K48A Perry 77.18 351 P **P 21 48 14.1 -0.6**
baz=170,SNR=13
W18A Petrified Fore 77.21 329 *e*P **P 21 48 16.8 +1.5**
comp=Z,111nm,1.3s
W18A LR LR
comp=Z,3µm,18.0s
W18A Petrified Fore 77.21 329 P **P 21 48 16.5 +1.2**
baz=149,SNR=23
ELFO Elginfield 77.25 353 P **P 21 48 14.6 -0.4**
baz=172
L42A Oliver, Polo 77.30 347 *e*P **P 21 48 15.3 0.0**
comp=Z,120nm,1.0s
L42A LR LR
comp=Z,2µm,21.0s
L42A Oliver, Polo 77.30 347 P **P 21 48 15.0 -0.3**
baz=165,SNR=18
L43A Garda Prairie 77.30 347 P **P 21 48 14.6 -0.7**
baz=166,SNR=21
K46A Dorr 77.30 350 P **P 21 48 14.4 -1.0**
baz=168
HNH Hanover 77.30 360 *e*P **P 21 48 16.9 +1.5**
comp=Z,48nm,0.9s
M39A Webster 77.31 345 P **P 21 48 14.7 -0.7**
baz=163,SNR=6.9
TORO Toronto--Lesli 77.49 355 P **P 21 48 16.2 -0.1**
baz=174
L41A Preston 77.53 346 P **P 21 48 16.3 -0.3**
baz=164,SNR=29
ACTO Acton 77.54 354 P **P 21 48 16.8 +0.1**
baz=173
NCB Newcomb 77.59 358 *e*P **P 21 48 17.5 +0.5**
comp=Z,36nm,0.9s
NCB LR LR
comp=Z,2µm,21.0s
J49A Marlette 77.61 352 P **P 21 48 16.2 -0.9**
baz=170,SNR=8.9
J48A Bridge Port 77.63 351 P **P 21 48 16.3 -0.8**
baz=170,SNR=26
L40A Anamosa 77.66 346 *e*P **P 21 48 17.3 -0.1**
comp=Z,177nm,1.0s
L40A Anamosa 77.66 346 P **P 21 48 16.9 -0.5**
baz=164,SNR=37
DRCO St. Marys Ceme 77.70 355 P **P 21 48 17.5 0.0**
baz=174
J47A Sumner 77.70 351 P **P 21 48 17.1 -0.5**
baz=169
K43A Burlington 77.73 348 *e*P **P 21 48 17.4 -0.3**
comp=Z,98nm,1.0s
K43A LR LR
comp=Z,2µm,20.0s
K43A Burlington 77.73 348 P **P 21 48 17.0 -0.7**
baz=166,SNR=5.1
WLVO Wesleyville 77.73 355 P **P 21 48 17.7 0.0**
baz=174
SDCO Great Sand Dun 77.80 334 *e*P **P 21 48 19.6 +0.9**
comp=Z,37nm,1.2s
SDCO LR LR
comp=Z,2µm,19.0s
SDCO Great Sand Dun 77.80 334 P **P 21 48 19.4 +0.7**
baz=152,SNR=27
GLA Glamis 77.81 324 *e*P **P 21 48 20.6 +2.1**
comp=Z,113nm,1.8s
GLA LR LR
comp=Z,3µm,18.0s
GLA Glamis 77.81 324 *e*P **P 21 48 20.6 +2.1**
GLA pmax pmax
comp=Z,113nm,1.8s
GLA MLR MLR
comp=Z,3µm,18.0s
GLA Glamis 77.81 324 P **P 21 48 20.0 +1.5**
baz=145,SNR=7.2
PKRO Pickering 77.82 355 P **P 21 48 18.3 +0.1**
baz=174
LBNH Lisbon 77.84 0 *e*P **P 21 48 19.7 +1.4**
comp=Z,86nm,0.9s
LBNH Lisbon 77.84 0 *e*P **P 21 48 19.7 +1.4**
LBNH pmax pmax
comp=Z,86nm,0.9s
LBNH Lisbon 77.84 0 P **P 21 48 19.0 +0.7**
baz=180,SNR=14
L39A Vinton 77.88 345 P **P 21 48 18.1 -0.5**
baz=163,SNR=14
KSCO Kaye Shedlock' 77.92 336 *e*P **P 21 48 20.8 +1.7**
comp=Z,88nm,1.0s
KSCO Kaye Shedlock' 77.92 336 P **P 21 48 19.8 +0.7**
baz=154,SNR=9.0
J46A Howard City 77.93 350 P **P 21 48 17.9 -0.9**
baz=168
VT1 Waterbury 77.93 360 *e*P **P 21 48 20.1 +1.2**
comp=Z,38nm,1.3s
SCIA State Center 77.95 344 *e*P **P 21 48 19.6 +0.6**
comp=Z,115nm,1.1s
SCIA State Center 77.95 344 P **P 21 48 18.7 -0.2**
baz=162,SNR=7.1
K42A Prairie Point, 77.98 347 P **P 21 48 18.8 -0.4**
baz=165,SNR=27
K41A Shullsburg 78.00 346 P **P 21 48 19.1 -0.2**
baz=164,SNR=27
I52A Shelburne 78.01 354 P **P 21 48 19.2 -0.1**
baz=173
BASO Ashfield 78.09 353 P **P 21 48 19.6 -0.1**
baz=172
IKP In-Ko-Pah, Jac 78.11 323 P **P 21 48 21.5 +1.3**
baz=144,SNR=6.2
J45A Montague 78.12 349 P **P 21 48 19.3 -0.7**
baz=168
BWLO Walkerton 78.14 353 P **P 21 48 19.8 -0.3**
baz=172
I49A Point Hope 78.15 352 P **P 21 48 19.0 -1.0**
baz=171,SNR=6.1
WVL Waterville 78.19 2 *e*P **P 21 48 22.1 +1.9**
comp=Z,88nm,1.0s
SWSC Sam W. Stewart 78.20 324 P **P 21 48 21.6 +1.0**
baz=144
Y12C Blythe 78.23 325 *e*P **P 21 48 22.8 +2.0**
comp=Z,55nm,1.1s
Y12C LR LR
comp=Z,2µm,19.0s
Y12C Blythe 78.23 325 P **P 21 48 22.2 +1.5**
baz=145,SNR=9.2
LONY Lake Ozonia 78.25 358 *e*P **P 21 48 20.4 -0.2**
comp=Z,87nm,1.1s
LONY LR LR
comp=Z,2µm,19.0s
LONY Lake Ozonia 78.25 358 P **P 21 48 21.2 +0.6**
baz=178,SNR=18
K40A Colesburg 78.26 346 P **P 21 48 20.0 -0.7**
baz=164,SNR=18
WUAZ Wupatki 78.26 328 *e*P **P 21 48 22.1 +1.0**
comp=Z,58nm,1.1s
WUAZ LR LR
comp=Z,2µm,18.0s
WUAZ Wupatki 78.26 328 P **P 21 48 22.6 +1.5**
baz=147,SNR=23
DELO Deloro Mine 78.27 356 P **P 21 48 20.4 -0.3**
baz=175
JFWS Jewell Farm 78.29 347 *e*P **P 21 48 20.8 -0.1**
comp=Z,44nm,0.9s
JFWS LR LR
comp=Z,1µm,18.0s
JFWS Jewell Farm 78.29 347 *e*P **P 21 48 20.8 -0.1**
JFWS pmax pmax
comp=Z,44nm,0.9s
JFWS MLR MLR
comp=Z,1µm,18.0s
JFWS Jewell Farm 78.29 347 P **P 21 48 20.7 -0.1**
baz=164,SNR=20
S22A 4UR Ranch, Cre 78.30 333 *e*P **P 21 48 22.9 +1.4**
comp=Z,89nm,1.7s
S22A LR LR
comp=Z,2µm,18.0s
S22A 4UR Ranch, Cre 78.30 333 P **P 21 48 22.7 +1.3**
baz=151,SNR=15
CLWO Collingwood 78.40 354 P **P 21 48 21.8 +0.3**
baz=173
J43A Natural Harves 78.40 348 P **P 21 48 21.2 -0.3**
baz=166
BAR Barrett 78.42 323 *e*P **P 21 48 23.5 +1.7**
comp=Z,28nm,1.1s
BAR LR LR
comp=Z,3µm,20.0s
K39A Oelwein 78.42 345 P **P 21 48 20.8 -0.8**
baz=163,SNR=11
EMMW East Machias 78.42 3 *e*P **P 21 48 22.9 +1.4**
comp=Z,174nm,1.0s
I47A Gladwin 78.43 351 P **P 21 48 21.0 -0.6**
baz=169,SNR=15
FRNY Flat Rock 78.44 359 *e*P **P 21 48 22.2 +0.6**
comp=Z,72nm,0.9s
FRNY LR LR
comp=Z,2µm,21.0s
MONP2 Monument Peak 78.46 323 P **P 21 48 23.0 +0.7**
baz=144
J42A Columbus 78.47 347 P **P 21 48 21.5 -0.3**
baz=166,SNR=20
I46A Reed City 78.48 350 P **P 21 48 20.6 -1.3**
baz=169
I48A Sherman Twp 78.49 352 P **P 21 48 21.2 -0.7**
baz=170,SNR=16
MVCO Mesa Verde 78.49 331 *e*P **P 21 48 23.7 +1.3**
comp=Z,40nm,1.0s
MVCO LR LR
comp=Z,6µm,19.0s
MVCO Mesa Verde 78.49 331 P **P 21 48 23.5 +1.1**
baz=150,SNR=19
PDMCI Parker Dam,Lak 78.50 326 P **P 21 48 23.5 +1.2**
baz=145
H52A Wyevale 78.56 354 P **P 21 48 21.9 -0.4**
baz=173
BC3 Big Chuckawall 78.60 324 P **P 21 48 24.5 +1.5**
baz=144,SNR=23
HAL Halifax 78.62 6 *e*P **P 21 48 24.6 +2.0**
comp=Z,97nm,0.9s
HAL LR LR
comp=Z,3µm,22.0s
HAL Halifax 78.62 6 *e*P **P 21 48 24.6 +2.0**
HAL pmax pmax
comp=Z,97nm,0.9s
HAL MLR MLR
comp=Z,3µm,22.0s
SADO Sadowa 78.62 355 *e*P **P 21 48 22.5 -0.1**
comp=Z,62nm,0.9s
SADO LR LR
comp=Z,2µm,20.0s
BMRO Meriville Lake 78.63 353 P **P 21 48 22.0 -0.6**
baz=172
J41A Loganville 78.68 347 P **P 21 48 22.4 -0.6**
baz=165,SNR=27
I45A Fountain 78.69 350 P **P 21 48 22.2 -0.8**
baz=168
BGNE Belgrade 78.73 340 P **P 21 48 23.3 -0.1**
baz=158
Q24A Divide 78.75 334 *e*P **P 21 48 25.1 +1.1**
comp=Z,60nm,0.9s
Q24A LR LR
comp=Z,2µm,18.0s
Q24A Divide 78.75 334 P **P 21 48 24.5 +0.6**
baz=152,SNR=24
PLVO Plevna 78.76 356 PFAKE 21 48 40.0 +17
PLVO LR LR
comp=Z,3µm,22.0s
PLVO Plevna 78.76 356 P **P 21 48 23.5 +0.1**
baz=176
BANO Bancroft 78.79 356 P **P 21 48 23.4 -0.2**
baz=175
109C Camp Elliot, M 78.80 323 P **P 21 48 24.6 +0.6**
baz=143
CPE Camp Elliot 78.80 323 PFAKE 21 48 40.0 +16
CPE LR LR
comp=Z,4µm,21.0s
I43A Langenfeld Bro 78.84 348 P **P 21 48 23.1 -0.8**
baz=166,SNR=5.5
J40A Soldiers Grove 78.85 346 P **P 21 48 23.2 -0.8**
baz=164,SNR=43
GGN Saint George 78.86 4 *e*P **P 21 48 25.2 +1.3**
comp=Z,111nm,0.8s
IRM Iron Mountain 78.86 325 P **P 21 48 25.9 +1.6**
baz=145,SNR=18
PKME Peaks-Kenny Pk 78.90 2 *e*P **P 21 48 24.5 +0.3**
comp=Z,97nm,0.9s
PKME Peaks-Kenny Pk 78.90 2 P **P 21 48 25.0 +0.8**
baz=182,SNR=11
MOQ Mont Orford 78.91 360 *e*P **P 21 48 25.3 +1.0**
H48A Harrisville 78.95 352 P **P 21 48 23.7 -0.7**
baz=170
H47A Mio 78.96 351 P **P 21 48 23.8 -0.7**
baz=170
I42A Draeger Farm, 78.98 348 *e*P **P 21 48 24.8 +0.1**
comp=Z,99nm,1.0s
I42A LR LR
comp=Z,2µm,21.0s
I42A Draeger Farm, 78.98 348 P **P 21 48 24.6 -0.1**

baz=166,SNR=12
J39A Decorah 78.98 346 P P 21 48 23.7 -1.0
baz=163,SNR=11
H46A Fife Lake 79.03 351 P P 21 48 24.3 -0.6
baz=169,SNR=6.8
FRD Ford Ranch, An 79.03 323 P P 21 48 27.4 +2.0
baz=144,SNR=12
TPFO Pinon Flats 79.05 324 P P 21 48 27.3 +1.8
baz=144,SNR=19
XPFO Piæon Flat 79.06 324 eP P 21 48 27.4 +1.9
comp=Z,56nm,1.1s
PFO Pinyon Flats O 79.06 324 eP P 21 48 27.4 +1.9
comp=Z,56nm,1.1s
PFO LR LR
comp=Z,3µm,22.0s
PFO Pinyon Flats O 79.06 324 eP P 21 48 27.4 +1.9
PFO pmax pmax
comp=Z,56nm,1.1s
PFO MLR MLR
comp=Z,3µm,22.0s
PFO Pinyon Flats O 79.06 324 P P 21 48 27.1 +1.6
baz=144,SNR=21
ORIO Orleans, Innes 79.11 358 P P 21 48 25.5 +0.2
baz=177
BELC Belle Mtn. Jos 79.15 324 P P 21 48 27.3 +1.3
baz=144,SNR=13
H45A Beulah 79.23 350 P P 21 48 25.5 -0.6
baz=168
GLMI Grayling 79.24 351 eP P 21 48 25.8 -0.2
GLMI LR LR
comp=Z,2µm,20.0s
GLMI Grayling 79.24 351 P P 21 48 25.8 -0.2
baz=169
ALFO Alfred 79.26 358 P P 21 48 26.3 +0.2
baz=178
TOBO Tobermory, Bru 79.28 353 P P 21 48 26.0 -0.3
baz=172
KLBO Killbear Provi 79.29 354 P P 21 48 24.9 -1.4
baz=173
I40A Norwalk 79.30 347 P P 21 48 25.7 -0.7
baz=164,SNR=11
TSUM Tsumeb 79.30 106 eP P 21 48 27.4 0.0
comp=Z,166nm,1.5s
TSUM LR LR
comp=Z,8µm,20.0s
BUKO Buck Lake 79.31 355 P P 21 48 26.0 -0.4
baz=174
I41A Arkdale 79.32 347 eP P 21 48 26.4 -0.1
comp=Z,76nm,0.9s
I41A LR LR
comp=Z,2µm,20.0s
I41A Arkdale 79.32 347 P P 21 48 25.6 -0.9
baz=165,SNR=11
PV01 Paradox Valley 79.32 332 eP P 21 48 28.7 +1.7
H43A Windswept, Lux 79.35 349 eP P 21 48 27.3 +0.7
comp=Z,96nm,0.9s
H43A Windswept, Lux 79.35 349 P P 21 48 26.1 -0.5
baz=167
PEMO Pembroke 79.41 356 P P 21 48 26.8 -0.2
baz=176
MURC Murrieta 79.42 323 P P 21 48 28.2 +0.9
baz=143
PV13 Radium Mtn., P 79.44 331 eP P 21 48 29.2 +1.6
comp=Z,43nm,1.0s
PV13 LR LR
comp=Z,6µm,18.0s
I39A Houston 79.44 346 eP P 21 48 26.9 -0.3
comp=Z,123nm,0.8s
I39A LR LR
comp=Z,1µm,20.0s
I39A Houston 79.44 346 P P 21 48 26.4 -0.8
baz=164,SNR=18
PV02 Paradox Valley 79.45 331 eP P 21 48 29.4 +1.7
comp=Z,27nm,0.9s
OGNE Ogallala 79.47 337 eP P 21 48 28.4 +0.9
comp=Z,58nm,1.0s
OGNE Ogallala 79.47 337 P P 21 48 27.5 0.0
baz=155
PV05 Paradox Valley 79.48 331 eP P 21 48 28.9 +1.1
G47A Hillman 79.48 352 P P 21 48 26.7 -0.6
baz=170,SNR=12
H42A Shiocton 79.52 348 PFAKE 21 48 40.0 +12
H42A LR LR
comp=Z,1µm,20.0s
H42A Shiocton 79.52 348 P P 21 48 27.1 -0.4
baz=166
PV03 Paradox Valley 79.53 331 eP P 21 48 29.0 +0.9
PV18 Skein Mesa, Pa 79.55 331 eP P 21 48 29.6 +1.4
comp=Z,36nm,0.9s
PV18 LR LR
comp=Z,6µm,18.0s
PV12 Saucer Basin, 79.57 331 PFAKE 21 48 40.0 +12
PV12 LR LR
comp=Z,7µm,18.0s
PV11 David Mesa, Pa 79.58 331 eP P 21 48 29.8 +1.5
comp=Z,39nm,1.0s
PV11 LR LR
comp=Z,7µm,20.0s
G45A Suttons Bay 79.59 350 P P 21 48 27.3 -0.6
baz=168
GBN Guysborough 79.59 8 PFAKE 21 48 40.0 +12
GBN LR LR
comp=Z,3µm,21.0s
LDFC Landfair 79.59 325 PFAKE 21 48 40.0 +12
LDFC LR LR
comp=Z,2µm,18.0s
PV16 Nyswonger Mesa 79.61 331 eP P 21 48 30.0 +1.5
comp=Z,69nm,1.4s
SMCO Snowmass 79.61 333 eP P 21 48 30.1 +1.3
comp=Z,107nm,1.3s
SMCO LR LR
comp=Z,2µm,20.0s
GMRC Granite Mounta 79.62 325 P P 21 48 30.1 +1.6
baz=144,SNR=23
PV19 Morning Glory 79.64 331 PFAKE 21 48 40.0 +11
PV19 LR LR
comp=Z,5µm,20.0s
PV20 West Nyswonger 79.66 331 eP P 21 48 30.1 +1.3
comp=Z,46nm,1.2s
PV20 LR LR
comp=Z,5µm,19.0s
F52A Sundridge 79.66 355 P P 21 48 27.9 -0.4
baz=174,SNR=12
ISCO Idaho Springs 79.66 334 eP P 21 48 29.6 +0.7
comp=Z,24nm,1.0s
ISCO LR LR
comp=Z,2µm,20.0s
ISCO Idaho Springs 79.66 334 eP P 21 48 29.6 +0.7
ISCO pmax pmax
comp=Z,24nm,1.0s
ISCO MLR MLR
comp=Z,2µm,20.0s
ISCO Idaho Springs 79.66 334 P P 21 48 29.3 +0.5
baz=152,SNR=18
PV14 Lion Creek, Pa 79.70 331 eP P 21 48 30.5 +1.4
comp=Z,69nm,1.1s
PV14 LR LR
comp=Z,6µm,20.0s
PV10 Paradox Valley 79.71 331 eP P 21 48 30.1 +1.0
LMN Caledonia Moun 79.72 5 eP P 21 48 29.5 +0.9
comp=Z,96nm,0.8s
LMN LR LR
comp=Z,2µm,22.0s
ALGO Algonquin Park 79.73 356 P P 21 48 28.3 -0.4
baz=175
PV22 Blue Mesa, Par 79.75 332 eP P 21 48 30.8 +1.6
comp=Z,32nm,1.1s
PV22 LR LR
comp=Z,6µm,19.0s
G46A Petoskey 79.75 351 P P 21 48 28.2 -0.6
baz=169
PV23 Carpenter Ridg 79.77 331 eP P 21 48 30.9 +1.5
comp=Z,34nm,1.0s
PV23 LR LR
comp=Z,8µm,20.0s
BBRC Big Bear Solar 79.81 324 P P 21 48 28.6 -1.1
baz=143
H41A Junction City 79.82 347 eP P 21 48 29.0 -0.2
comp=Z,55nm,0.9s
H41A LR LR
comp=Z,2µm,20.0s
H41A Junction City 79.82 347 P P 21 48 28.8 -0.4
baz=165,SNR=13
F51A Arnstein 79.83 354 P P 21 48 29.1 -0.1
baz=173,SNR=11
PV21 Cone Mtn., Par 79.85 331 eP P 21 48 31.4 +1.5
comp=Z,39nm,1.2s
PV21 LR LR
comp=Z,6µm,20.0s
F49A Sandfield 79.86 353 P P 21 48 28.8 -0.6
baz=171,SNR=15
H40A Chili 79.96 347 P P 21 48 29.6 -0.4
baz=164,SNR=13
HEC Hector,Ludlow 79.98 324 P P 21 48 31.6 +1.2
baz=144,SNR=24
F48A Evansville 79.99 353 P P 21 48 29.5 -0.5
baz=171,SNR=15
CASY Casey 80.05 181 eP P 21 48 31.2 +0.8
comp=Z,115nm,1.4s
CASY LR LR
comp=Z,5µm,19.0s
FMP Fort Macarthur 80.06 322 P P 21 48 31.4 +0.7
baz=142
G43A Wallace 80.10 349 P P 21 48 30.3 -0.4
baz=167
E53A Dumoine, Ponti 80.13 356 P P 21 48 30.6 -0.3
baz=175,SNR=12
KNB Kanab 80.15 328 eP P 21 48 33.3 +1.9
comp=Z,87nm,1.1s
KNB LR LR
comp=Z,2µm,18.0s
KNB Kanab 80.15 328 eP P 21 48 33.3 +1.9
KNB pmax pmax
comp=Z,87nm,1.1s
KNB MLR MLR
comp=Z,2µm,18.0s
BFSC Mount Baldy Ra 80.16 323 P P 21 48 32.2 +0.8
baz=143,SNR=19
E54A Lac Daplat, Po 80.16 356 P P 21 48 30.6 -0.4
baz=176,SNR=19
BOSA Boshof 80.16 118 P P 21 48 31.9 +0.1
comp=Z,53nm,1.1s,baz=238,slow=3.7,SNR=59
BOSA LR LR 22 21 30.5
comp=Z,2µm,18.1s,baz=234,slow=34
BOSA Boshof 80.16 118 eP P 21 48 32.0 +0.1
F46A Macinaw City C 80.19 351 P P 21 48 30.8 -0.3
baz=169
H39A Augusta 80.19 346 P P 21 48 30.5 -0.7
baz=164,SNR=9.3
F45A CMU Biological 80.20 351 P P 21 48 30.9 -0.3
baz=169
G42A Mountain 80.21 348 eP P 21 48 31.6 +0.3
comp=Z,95nm,0.9s
G42A Mountain 80.21 348 P P 21 48 31.3 0.0
baz=166,SNR=15
TUQ Turquoise Moun 80.27 325 P P 21 48 33.4 +1.3
baz=144,SNR=30
PKCU Pink Cliffs 80.28 329 eP P 21 48 34.5 +2.1
comp=Z,34nm,1.0s
PKCU LR LR
comp=Z,2µm,18.0s
G41A Antigo 80.31 348 P P 21 48 31.4 -0.5
baz=166
LCMT Little Creek M 80.33 328 eP P 21 48 34.1 +1.7
comp=Z,29nm,1.2s
LCMT LR LR
comp=Z,2µm,18.0s
RRX Edison Barstow 80.34 324 P P 21 48 33.7 +1.5
baz=143
MWC Mount Wilson 80.34 323 eP P 21 48 34.5 +2.0
comp=Z,50nm,1.2s
MWC LR LR
comp=Z,2µm,20.0s
MWC Mount Wilson 80.34 323 eP P 21 48 34.5 +2.0
MWC pmax pmax
comp=Z,50nm,1.2s
MWC MLR MLR
comp=Z,2µm,20.0s
PQI Presque Isle 80.35 3 eP P 21 48 33.2 +1.2
comp=Z,71nm,1.0s
PASC Pasadena Art C 80.37 323 PFAKE
PASC LR LR 21 48 40.0 +7.6
comp=Z,2µm,22.0s
H38A Maiden Rock 80.39 346 P P 21 48 31.5 -0.7
baz=163
E50A Wahnapitae 80.39 354 P P 21 48 32.0 -0.2
baz=173,SNR=13
E51A G1948 Merrick 80.40 355 P P 21 48 32.2 -0.1
baz=174,SNR=17
ECSD EROS Data Cent 80.49 342 eP P 21 48 32.5 -0.4
comp=Z,128nm,1.0s
ECSD ERS Data Cent 80.49 342 P P 21 48 32.6 -0.2
baz=159,SNR=65
DECC Green Verdugo 80.50 323 P P 21 48 34.0 +0.7
baz=142
G40A Rib Lake 80.55 347 eP P 21 48 32.7 -0.4
comp=Z,36nm,1.0s
G40A LR LR
comp=Z,2µm,22.0s
G40A Rib Lake 80.55 347 P P 21 48 32.6 -0.6
baz=165,SNR=8.0
F43A Flat Rock, Esc 80.58 349 P P 21 48 33.0 -0.3
baz=167,SNR=6.9
E48A Lockeyer 80.59 353 P P 21 48 33.2 -0.1
baz=171,SNR=15
GSC Goldstone, Bar 80.59 324 eP P 21 48 35.4 +1.7
comp=Z,31nm,1.1s
GSC LR LR
comp=Z,2µm,21.0s
GSC Goldstone, Bar 80.59 324 eP P 21 48 35.4 +1.7
GSC pmax pmax
comp=Z,31nm,1.1s
GSC MLR MLR
comp=Z,2µm,21.0s
GSC Goldstone, Bar 80.59 324 P P 21 48 35.2 +1.5
baz=144,SNR=13
F44A Big Bay de Noc 80.61 350 P P 21 48 32.8 -0.7
baz=168,SNR=5.4
F42A Maple Grove Fa 80.67 349 P P 21 48 34.0 +0.3
baz=166
E47A Iron Bridge 80.68 352 P P 21 48 33.7 0.0
baz=170,SNR=18
E46A Sault Ste Mari 80.71 351 P P 21 48 33.2 -0.7
baz=170,SNR=24
MTPU Mount Pierson 80.73 329 eP P 21 48 36.1 +1.3
comp=Z,29nm,1.1s
MTPU LR LR
comp=Z,3µm,18.0s
N23A Red Feather La 80.74 335 eP P 21 48 36.2 +1.6
comp=Z,71nm,1.4s
N23A LR LR
comp=Z,1µm,18.0s
N23A Red Feather La 80.74 335 P P 21 48 35.3 +0.6
baz=152,SNR=14
SZCU Shurtz Canyon 80.75 328 eP P 21 48 36.8 +2.1
comp=Z,83nm,1.4s
SZCU LR LR
comp=Z,2µm,19.0s
G39A Holcombe 80.75 347 P P 21 48 33.4 -0.8
baz=164,SNR=13
BLG Laguna Peak, P 80.76 322 P P 21 48 33.6 -1.0
baz=142
G38A Ridgeland 80.77 346 P P 21 48 33.6 -0.7
baz=163,SNR=12
SHPR Sheep Range 80.78 326 eP P 21 48 36.8 +1.9
comp=Z,50nm,1.1s
SHPR LR LR
comp=Z,2µm,20.0s
F41A Three Lakes 80.81 348 eP P 21 48 34.5 0.0
comp=Z,62nm,1.4s
F41A Three Lakes 80.81 348 P P 21 48 34.0 -0.5
baz=166,SNR=7.8
E45A Wooded Hills, 80.81 351 P P 21 48 34.7 +0.2
baz=169,SNR=6.7
SHOC Shoshone, Teco 80.81 325 P P 21 48 35.4 +0.6
baz=144
D53A Lac Vacive, Po 80.83 356 P P 21 48 34.4 -0.2
baz=175,SNR=22
CCUT Cedar City 80.83 328 eP P 21 48 37.1 +2.0
comp=Z,52nm,1.1s
CCUT LR LR
comp=Z,2µm,20.0s
EDW2 Edwards Air Fo 80.83 323 P P 21 48 35.4 +0.4
baz=143,SNR=11
D54A Lac Fusel, La 80.85 357 P P 21 48 33.7 -1.0
baz=176,SNR=22
O20A White River Ci 80.92 333 eP P 21 48 36.8 +1.3
comp=Z,51nm,1.1s
O20A LR LR
comp=Z,2µm,20.0s
O20A White River Ci 80.92 333 P P 21 48 36.0 +0.5
baz=150,SNR=9.9
PHWY Pilot Hill 80.93 335 eP P 21 48 36.7 +1.0
comp=Z,60nm,1.3s
PHWY LR LR
comp=Z,1µm,18.0s
SRU San Rafael Swe 80.94 331 eP P 21 48 36.9 +1.3
comp=Z,141nm,1.9s
SRU LR LR
comp=Z,3µm,19.0s
SRU San Rafael Swe 80.94 331 eP P 21 48 36.9 +1.3
SRU pmax pmax
comp=Z,141nm,1.9s
SRU MLR MLR
comp=Z,3µm,19.0s
D51A Lot 18 Range I 80.95 355 P P 21 48 34.8 -0.4
baz=174,SNR=10
SCZ2 Santa Cruz Isl 80.97 322 P P 21 48 38.3 +2.6
baz=142
LATQ La Tuque 80.98 360 P P 21 48 35.3 -0.1
baz=179
OSI Osito Audit: C 80.99 323 PFAKE 21 48 50.0 +14
OSI LR LR
comp=Z,2µm,20.0s
OSI Osito Audit: C 80.99 323 P P 21 48 37.1 +1.2
baz=142
SPMN Marine on St. 81.02 345 eP P 21 48 35.3 -0.4
comp=Z,73nm,0.9s
SPMN LR LR
comp=Z,1µm,21.0s
SPMN Marine on St. 81.02 345 P P 21 48 34.6 -1.0
baz=163,SNR=13
D50A G1974 Best Tow 81.06 355 P P 21 48 35.4 -0.4
baz=173,SNR=28
E43A Lone Tree Farm 81.09 350 eP P 21 48 36.4 +0.4
comp=Z,80nm,0.9s
E43A LR LR
comp=Z,2µm,20.0s
E43A Lone Tree Farm 81.09 350 P P 21 48 36.2 +0.2
baz=167,SNR=14
MSU Marysvale 81.12 329 eP P 21 48 38.2 +1.5
MSU Marysvale 81.12 329 eP P 21 48 38.2 +1.5
F40A Park Falls 81.16 347 P P 21 48 36.3 -0.1
baz=165,SNR=23
COWI Conover 81.16 348 eP P 21 48 36.5 +0.1
comp=Z,39nm,1.0s
E44A Grand Marais A 81.17 350 PFAKE 21 48 50.0 +14
E44A LR LR
comp=Z,2µm,20.0s
E44A Grand Marais A 81.17 350 P P 21 48 36.6 +0.2
baz=168
D48A Paudash Townsh 81.24 353 P P 21 48 36.0 -0.7
baz=172,SNR=14
D47A Chapleau 81.25 352 P P 21 48 36.6 -0.3
baz=171,SNR=8.5
E42A Champion 81.28 349 P P 21 48 37.2 +0.1
baz=167,SNR=14
F39A Loretta 81.31 347 P P 21 48 37.2 0.0
baz=164,SNR=18
TCRU Three Creeks R 81.32 329 PFAKE 21 48 50.0 +12
TCRU LR LR
comp=Z,3µm,18.0s
P17A Butcher Ranch, 81.34 331 eP P 21 48 39.1 +1.4
comp=Z,58nm,1.3s
P17A LR LR
comp=Z,3µm,18.0s
SBC Santa Barbara 81.36 322 P P 21 48 38.8 +1.1
baz=142
TMUT Trail Mountain 81.38 330 eP P 21 48 39.7 +1.6
comp=Z,26nm,1.1s
TMUT LR LR
comp=Z,3µm,20.0s
ARVC Arvin 81.44 323 P P 21 48 39.4 +1.3
baz=142
F37A Hinrichs Farm, 81.46 346 P P 21 48 37.6 -0.3
baz=163,SNR=11
E41A Kenton 81.49 348 P P 21 48 37.8 -0.3
baz=166,SNR=8.7
MPMC Manual Prospec 81.52 324 P P 21 48 40.1 +1.3
baz=143,SNR=25
F38A Pierce - Schro 81.53 346 P P 21 48 38.4 0.0
baz=163,SNR=33
FURC Furnace Creek, 81.55 325 P P 21 48 40.1 +1.4
baz=144,SNR=8.2
E40A Wakefield 81.63 348 P P 21 48 39.1 +0.2
baz=165,SNR=24
TPNV Topopah Spring 81.65 326 eP P 21 48 40.8 +1.4
TPNV LR LR
comp=Z,2µm,18.0s
TPNV Topopah Spring 81.65 326 eP P 21 48 40.8 +1.4
TPNV MLR MLR
comp=Z,2µm,18.0s
TPNV Topopah Spring 81.65 326 P P 21 48 41.1 +1.7
baz=144,SNR=33
E39A Mellen 81.68 347 P P 21 48 39.3 +0.1
baz=164,SNR=30
ISA Isabella, Lake 81.69 323 eP P 21 48 41.8 +2.3
comp=Z,44nm,1.0s
ISA LR LR
comp=Z,2µm,20.0s
ISA Isabella, Lake 81.69 323 P P 21 48 41.8 +2.3
ISA Isabella, Lake 81.69 323 P P 21 48 41.4 +1.8
baz=142,SNR=9.1
DAC Darwin (Calif) 81.75 324 eP P 21 48 41.0 +1.0
comp=Z,53nm,1.0s
DAC LR LR
comp=Z,3µm,21.0s
DAC Darwin (Calif) 81.75 324 eP P 21 48 41.0 +1.0
DAC pmax pmax
comp=Z,53nm,1.0s
DAC MLR MLR
comp=Z,3µm,21.0s
PKM Mcpherson Peak 81.75 322 P P 21 48 41.5 +1.5
baz=142,SNR=14
SUSD Miller 81.77 341 P P 21 48 39.8 +0.2
baz=158,SNR=6.8
VLDQ Val d'Or 81.85 356 eP P 21 48 40.4 +0.5
comp=Z,104nm,0.9s
VLDQ LR LR
comp=Z,2µm,20.0s
PSUT Pine Spring 81.86 328 eP P 21 48 42.3 +1.7
comp=Z,34nm,1.0s
PSUT LR LR
comp=Z,3µm,18.0s
RWWY Rawlins 81.89 334 PFAKE 21 48 50.0 +9.3
RWWY LR LR
comp=Z,2µm,18.0s
D41A Chassel 82.00 349 eP P 21 48 41.1 +0.4
comp=Z,236nm,0.8s
D41A LR LR
comp=Z,1µm,21.0s
D41A Chassel 82.00 349 P P 21 48 40.9 +0.1
baz=166,SNR=26
E38A The Farm, Brul 82.09 347 eP P 21 48 41.2 -0.1
comp=Z,43nm,0.9s
E38A LR LR
comp=Z,2µm,21.0s
E38A The Farm, Brul 82.09 347 P P 21 48 40.6 -0.6
baz=164,SNR=11
CWC Cottonwood Cre 82.12 324 P P 21 48 43.3 +1.4
baz=143
VES Vestal, Richgr 82.14 323 P P 21 48 42.7 +0.9
baz=142,SNR=7.3
MPU Maple Canyon 82.16 330 eP P 21 48 43.6 +1.5
comp=Z,56nm,1.3s
MPU LR LR
comp=Z,3µm,19.0s
SMMC Simmler 82.18 322 P P 21 48 43.8 +1.7
baz=142
GRAC Grapevine Rang 82.22 325 P P 21 48 43.9 +1.7
baz=143
NLU North Lily Min 82.29 330 eP P 21 48 44.2 +1.4
comp=Z,88nm,1.6s
NLU LR LR
comp=Z,4µm,19.0s
LBTB Lobatse 82.39 115 eP P 21 48 43.9 +0.1
LBTB Lobatse 82.39 115 eP P 21 48 43.9 +0.1
R11A Troy Canyon, C 82.48 327 eP P 21 48 45.3 +1.5
comp=Z,39nm,1.0s
R11A LR LR
comp=Z,2µm,19.0s
R11A Troy Canyon, C 82.48 327 P P 21 48 45.4 +1.6
baz=145,SNR=54
K22A Casper 82.50 335 eP P 21 48 44.9 +1.1
comp=Z,125nm,1.4s
K22A LR LR
comp=Z,2µm,20.0s
K22A Casper 82.50 335 P P 21 48 44.5 +0.8
baz=152,SNR=10
JLU Jordanelle 82.58 331 eP P 21 48 45.4 +1.1
comp=Z,135nm,2.0s
JLU LR LR
comp=Z,3µm,20.0s
BFZ Birch Farm 82.63 225 eP P 21 48 47.0 +2.4

comp=Z,58nm,1.2s
BFZ LR LR
comp=Z,4µm,18.0s
PAGB Antelope Grade 82.64 322 *e*P **P 21 48 46.8 +2.4**
comp=Z,62nm,1.2s
TIN Tinemaha, Big 82.68 324 P **P 21 48 46.2 +1.5**
baz=143,SNR=6.7
MQZ McQueen's Vall 82.75 221 PFAKE 21 49 00.0 +15
MQZ LR LR
comp=Z,3µm,19.0s
LSQQ Lebel-sur-Quev 82.77 357 P **P 21 48 44.6 -0.1**
baz=176
CTU Camp Tracy 82.78 331 *e*P **P 21 48 46.3 +1.0**
comp=Z,12nm,0.9s
CTU LR LR
comp=Z,3µm,20.0s
DUG Dugway, Tooele 82.80 330 *e*P **P 21 48 46.4 +1.0**
comp=Z,112nm,1.6s
DUG LR LR
comp=Z,3µm,19.0s
DUG Dugway, Tooele 82.80 330 *e*P **P 21 48 46.4 +1.0**
DUG pmax pmax
comp=Z,112nm,1.6s
DUG MLR MLR
comp=Z,3µm,19.0s
DUG Dugway, Tooele 82.80 330 P **P 21 48 46.6 +1.2**
baz=147,SNR=31
CRLZ Canterbury Las 82.85 221 PFAKE 21 49 00.0 +14
CRLZ LR LR
comp=Z,2µm,20.0s
C40A Isle Royale Na 82.93 349 PFAKE 21 49 00.0 +14
C40A LR LR
comp=Z,1µm,20.0s
C40A Isle Royale Na 82.93 349 P **P 21 48 45.1 -0.5**
baz=166
ODZ Otahua Downs 82.95 219 PFAKE 21 49 00.0 +14
ODZ LR LR
comp=Z,5µm,20.0s
RSSD Black Hills 82.97 337 *e*P **P 21 48 46.5 +0.3**
comp=Z,35nm,0.9s
RSSD Black Hills 82.97 337 *e*P **P 21 48 46.5 +0.3**
RSSD pmax pmax
comp=Z,35nm,0.9s
RSSD Black Hills 82.97 337 P **P 21 48 46.5 +0.3**
baz=154
TCUT Toone Canyon 83.00 331 *e*P **P 21 48 47.8 +1.3**
comp=Z,52nm,1.0s
TCUT LR LR
comp=Z,6µm,20.0s
KHZ Kahutara 83.09 223 *e*P **P 21 48 48.6 +1.7**
comp=Z,23nm,0.9s
KHZ LR LR
comp=Z,2µm,22.0s
SNZO South Karori 83.14 224 PFAKE 21 49 00.0 +13
SNZO LR LR
comp=Z,3µm,18.0s
MXZ Matakaoa Point 83.31 229 PFAKE 21 49 00.0 +12
MXZ LR LR
comp=Z,4µm,22.0s
OXZ Oxford 83.34 221 PFAKE 21 49 00.0 +12
OXZ LR LR
comp=Z,2µm,20.0s
EYMN Ely 83.37 347 *e*P **P 21 48 47.5 -0.4**
comp=Z,72nm,1.0s
EYMN LR LR
comp=Z,2µm,20.0s
EYMN Ely 83.37 347 P **P 21 48 47.5 -0.4**
baz=164,SNR=30
MLAC Mammoth, Mammo 83.43 324 P **P 21 48 49.9 +1.1**
baz=142
BKZ Black Stump Fm 83.43 227 *e*P **P 21 48 51.0 +2.2**
comp=Z,48nm,1.3s
BKZ LR LR
comp=Z,6µm,20.0s
HWUT Hardware Ranch 83.48 331 PFAKE 21 49 00.0 +11
HWUT LR LR
comp=Z,4µm,20.0s
OMMB Old Mammoth Mi 83.49 324 *e*P **P 21 48 51.0 +1.8**
comp=Z,29nm,1.0s
OMMB LR LR
comp=Z,4µm,18.0s
MATQ Matagami 83.50 356 P **P 21 48 48.4 -0.1**
baz=175
BGU Big Grassy Mou 83.50 330 *e*P **P 21 48 50.0 +1.0**
BGU LR LR
comp=Z,2µm,20.0s
CHGQ Chibougamau 83.53 359 P **P 21 48 48.4 -0.3**
baz=178
MDPB Devils Postpil 83.55 324 PFAKE 21 49 00.0 +11
MDPB LR LR
comp=Z,3µm,18.0s
LTZ Lake Taylor 83.56 222 *e*P **P 21 48 50.9 +1.5**
comp=Z,44nm,1.0s
SPUT South Promonto 83.58 331 *e*P **P 21 48 50.3 +0.9**
comp=Z,46nm,1.0s
SPUT LR LR
comp=Z,2µm,20.0s
RPZ Rata Peaks 83.62 221 LR LR 22 18 47.3
comp=Z,4µm,18.6s,baz=122,slow=30
RPZ Rata Peaks 83.62 221 *e*P **P 21 48 51.0 +1.3**
comp=Z,77nm,1.0s
URZ Urewera 83.62 228 LR LR 22 18 19.1
comp=Z,4µm,18.9s,baz=158,slow=30
LBZ Lake Benmore 83.63 220 PFAKE 21 49 00.0 +10
LBZ LR LR
comp=Z,6µm,20.0s
BW06 Boulder Array 83.69 333 *e*P **P 21 48 50.6 +0.6**
comp=Z,35nm,1.3s
BW06 LR LR
comp=Z,5µm,18.0s
BW06 Boulder Array 83.69 333 P **P 21 48 49.9 -0.1**
baz=149,SNR=13
PD31 Pinedale Array 83.69 333 *e*P **P 21 48 50.5 +0.5**
PDAR Pinedale Array 83.69 333 P **P 21 48 50.1 +0.1**
comp=Z,8.3nm,0.8s,baz=157,slow=4.2,SNR=45
NV11 Mina Array Sit 83.74 325 *e*P **P 21 48 52.0 +1.7**
comp=Z,1.8nm,1.1s
WHZ Wether Hill Ro 83.77 218 *e*P **P 21 48 52.0 +1.6**
comp=Z,59nm,1.3s
WHZ LR LR
comp=Z,2µm,18.0s
NV01 Mina Array Sit 83.81 325 *e*P **P 21 48 52.0 +1.3**
NVAR Mina Array Bea 83.81 325 P **P 21 48 51.8 +1.1**
comp=Z,13nm,0.8s,baz=154,slow=6.2,SNR=47
NVAR LR LR 22 19 27.0
comp=Z,1µm,21.5s,baz=139,slow=31
DRLN Deer Lake 83.87 10 *e*P **P 21 48 51.3 +0.9**
comp=Z,147nm,1.0s
THZ Tophouse 83.88 223 *e*P **P 21 48 52.8 +1.8**
comp=Z,62nm,1.3s
THZ LR LR
comp=Z,3µm,22.0s
WKZ Wanaka 83.95 219 PFAKE 21 49 00.0 +8.7
WKZ LR LR
comp=Z,5µm,20.0s
MLZ Mavora Lakes 84.04 218 PFAKE 21 49 00.0 +8.2
MLZ LR LR
comp=Z,3µm,19.0s
RYN Ryan 84.07 325 *e*P **P 21 48 53.8 +1.8**
comp=Z,44nm,1.3s
RYN LR LR
comp=Z,2µm,20.0s
HVU Hansel Valley 84.11 331 *e*P **P 21 48 52.7 +0.6**
comp=Z,38nm,1.0s
HVU LR LR
comp=Z,2µm,20.0s
HVU Hansel Valley 84.11 331 *e*P **P 21 48 52.7 +0.6**
HVU pmax pmax
comp=Z,38nm,1.0s
HVU MLR MLR
comp=Z,2µm,20.0s
PMOZ Porto Moniz, M 84.15 44 *e*LR LR 22 16 49.6
comp=Z,2µm,18.0s
KVN Kaiserville 84.21 326 *e*P **P 21 48 53.8 +1.2**
comp=Z,33nm,1.0s
KVN Kaiserville 84.21 326 *e*P **P 21 48 53.8 +1.2**
KVN pmax pmax
comp=Z,33nm,1.0s
PYZ Puysegur Point 84.21 217 PFAKE 21 49 10.0 +17
PYZ LR LR
comp=Z,4µm,18.0s
TOC5 Torodi Ar. Sit 84.25 70 PFAKE 21 49 00.0 +6.8
TOC5 LR LR
comp=Z,6µm,19.0s
TOB4 Torodi Ar. Sit 84.26 70 PFAKE 21 49 00.0 +6.7
TOB4 LR LR
comp=Z,5µm,19.0s
TOC4 Torodi Ar. Sit 84.27 70 PFAKE 21 49 00.0 +6.7
TOC4 LR LR
comp=Z,6µm,19.0s
TOB5 Torodi Ar. Sit 84.27 70 PFAKE 21 49 00.0 +6.7
TOB5 LR LR
comp=Z,6µm,19.0s
TOA3 Torodi Ar. Sit 84.27 70 PFAKE 21 49 00.0 +6.7
TOA3 LR LR
comp=Z,5µm,19.0s
TOC7 Torodi Ar. Sit 84.28 70 PFAKE 21 49 00.0 +6.7
TOC7 LR LR
comp=Z,5µm,19.0s
TOA0 Torodi Ar. Sit 84.28 70 *e*P **P 21 48 53.1 -0.3**
TOA0 LR LR
comp=Z,6µm,19.0s
TORD Torodi Ar. Bea 84.28 70 P **P 21 48 52.9 -0.4**
comp=Z,66nm,0.8s,baz=274,slow=4.6,SNR=179
TORD PKKPbc **PKKPbc 22 07 05.5 +0.3**
comp=Z,0.8nm,0.9s,baz=11,slow=4.2,SNR=3.7
TORD LR LR 22 25 43.8
comp=Z,5µm,18.5s,baz=265,slow=35
TOA1 Torodi Ar. Sit 84.28 70 PFAKE 21 49 00.0 +6.7
TOA1 LR LR
comp=Z,5µm,19.0s
AHID Auburn Hatcher 84.28 332 *e*P **P 21 48 53.2 +0.2**
comp=Z,81nm,1.5s
AHID LR LR
comp=Z,3µm,18.0s
TOB3 Torodi Ar. Sit 84.28 70 PFAKE 21 49 00.0 +6.7
TOB3 LR LR
comp=Z,6µm,19.0s
TOA2 Torodi Ar. Sit 84.28 70 PFAKE 21 49 00.0 +6.6
TOA2 LR LR
comp=Z,6µm,19.0s
TOB2 Torodi Ar. Sit 84.29 70 PFAKE 21 49 00.0 +6.6
TOB2 LR LR
comp=Z,6µm,19.0s
TOC3 Torodi Ar. Sit 84.29 70 PFAKE 21 49 00.0 +6.6
TOC3 LR LR
comp=Z,6µm,19.0s
TOC1 Torodi Ar. Sit 84.30 70 PFAKE 21 49 00.0 +6.6
TOC1 LR LR
comp=Z,6µm,19.0s
TOC2 Torodi Ar. Sit 84.30 70 PFAKE 21 49 00.0 +6.5
TOC2 LR LR
comp=Z,6µm,19.0s
FOZ Fox Glacier 84.41 220 PFAKE 21 49 10.0 +16
FOZ LR LR
comp=Z,6µm,18.0s
WAKR Walker 84.41 325 *e*P **P 21 48 56.1 +2.4**
comp=Z,36nm,1.1s
WAKR LR LR
comp=Z,4µm,20.0s
DCZ Deep Cove 84.47 217 PFAKE 21 49 10.0 +16
DCZ LR LR
comp=Z,2µm,18.0s
AGMN Agassiz Nation 84.60 344 *e*P **P 21 48 53.7 -0.4**
comp=Z,53nm,0.8s
AGMN LR LR
comp=Z,2µm,19.0s
AGMN Agassiz Nation 84.60 344 P **P 21 48 54.2 0.0**
baz=160,SNR=20
REDW Red Top Meadow 84.69 333 *e*P **P 21 48 55.5 +0.4**
comp=Z,36nm,1.1s
REDW LR LR
comp=Z,2µm,19.0s
YERR Yerington 84.69 325 PFAKE 21 49 10.0 +15
YERR LR LR
comp=Z,3µm,20.0s
SNOW Snow King Moun 84.74 333 *e*P **P 21 48 56.4 +1.0**
comp=Z,20nm,0.8s
SNOW LR LR
comp=Z,3µm,19.0s
LOHW Long Hollow 84.81 333 *e*P **P 21 48 56.2 +0.5**
comp=Z,21nm,1.0s
LOHW LR LR
comp=Z,4µm,18.0s
PMPS Porto Santo 84.82 44 *e*P **P 21 48 58.7 +3.1**
comp=Z,456nm,1.4s
HIZ Hauiti 84.83 226 PFAKE 21 49 10.0 +14
HIZ LR LR
comp=Z,4µm,19.0s
TPAW Teton Pass 84.84 333 *e*P **P 21 48 56.2 +0.3**
comp=Z,29nm,0.9s
TPAW LR LR
comp=Z,2µm,19.0s
BMN Battle Mountai 84.91 327 PFAKE 21 49 10.0 +14
BMN LR LR
comp=Z,3µm,19.0s
PNTR Pine Nut 84.95 325 *e*P **P 21 48 58.8 +2.3**
comp=Z,30nm,0.9s
PNTR LR LR
comp=Z,3µm,20.0s
MOOW Moose Ponds 84.98 333 *e*P **P 21 48 56.8 +0.3**
comp=Z,14nm,1.0s
MOOW LR LR
comp=Z,3µm,19.0s
FXWY Fox Creek 84.99 333 *e*P **P 21 48 57.0 +0.4**
comp=Z,17nm,0.9s
MDND Maddock 85.08 342 *e*P **P 21 48 56.6 0.0**
comp=Z,204nm,0.9s
MDND Maddock 85.08 342 P **P 21 48 56.7 0.0**
baz=157,SNR=21
VCNR Virginia City 85.13 325 PFAKE 21 49 10.0 +13
VCNR LR LR
comp=Z,3µm,21.0s
FLWY Flagg Ranch 85.25 333 *e*P **P 21 48 58.9 +1.1**
comp=Z,53nm,0.9s
FLWY LR LR
comp=Z,4µm,19.0s
PAHR Pah Rah Range 85.33 325 *e*P **P 21 49 00.9 +2.6**
comp=Z,130nm,1.8s
PAHR LR LR
comp=Z,2µm,20.0s
YPP Pitchstone Pla 85.45 333 PFAKE 21 49 10.0 +11
YPP LR LR
comp=Z,4µm,19.0s
H17A Grant Village 85.47 333 PFAKE 21 49 10.0 +11
H17A LR LR
comp=Z,5µm,20.0s
H17A Grant Village 85.47 333 P **P 21 48 59.2 +0.2**
baz=149
AFDM Forest Hills D 85.50 324 *e*P **P 21 49 00.4 +1.5**
comp=Z,54nm,1.4s
LKWY Lake 85.55 334 PFAKE 21 49 10.0 +11
LKWY LR LR
comp=Z,3µm,19.0s
YFT Old Faithful 85.62 333 *e*P **P 21 49 02.0 +2.3**
comp=Z,36nm,1.0s
YFT LR LR
comp=Z,5µm,19.0s
RLMT Red Lodge 85.62 335 PFAKE 21 49 10.0 +10
RLMT LR LR
comp=Z,1µm,19.0s
RLMT Red Lodge 85.62 335 P **P 21 48 59.8 +0.2**
baz=150
YNR Norris Junctio 85.78 334 *e*P **P 21 49 04.9 +4.3**
comp=Z,26nm,1.2s
YNR LR LR
comp=Z,3µm,20.0s
RAO Raoul Island 85.82 237 LR LR 22 17 32.3
comp=Z,2µm,20.0s,baz=127,slow=29
YMR Madison River 85.85 333 *e*P **P 21 49 02.6 +1.8**
comp=Z,85nm,0.8s
YMR LR LR
comp=Z,3µm,19.0s
YHH Holmes Hill 85.91 333 *e*P **P 21 49 02.4 +1.2**
comp=Z,62nm,1.0s
YHH LR LR
comp=Z,3µm,20.0s
BEKR Beckworth 85.92 325 *e*P **P 21 49 03.2 +1.9**
comp=Z,49nm,0.8s
LAO LASA Array 85.96 337 *e*P **P 21 49 01.8 +0.7**
comp=Z,107nm,1.1s
LAO LR LR
comp=Z,2µm,20.0s
LAO LASA Array 85.96 337 P **P 21 49 01.3 +0.2**
baz=152,SNR=14
YHB Horse Butte 86.00 333 *e*P **P 21 49 05.2 +3.6**
comp=Z,54nm,1.2s
YHB LR LR
comp=Z,2µm,19.0s
ORV Oroville 86.23 324 *e*P **P 21 49 04.2 +1.7**
comp=Z,83nm,1.2s
HLID Hailey 86.27 331 *e*P **P 21 49 03.8 +0.9**
comp=Z,49nm,1.3s
HLID Hailey 86.27 331 P **P 21 49 03.7 +0.9**
baz=146,SNR=34
ULM Lac du Bonnet 86.44 345 P **P 21 49 03.1 -0.2**
comp=Z,52nm,0.9s,baz=167,slow=4.2,SNR=33
ULM Lac du Bonnet 86.44 345 *e*P **P 21 49 03.1 -0.2**
comp=Z,72nm,1.0s
ULM LR LR
comp=Z,2µm,18.0s
MCMT McKenzie Canyo 86.70 332 *e*P **P 21 49 06.2 +1.2**
BOZ Bozeman (W) 86.89 333 *e*P **P 21 49 05.8 0.0**
comp=Z,30nm,1.1s
BOZ LR LR
comp=Z,2µm,19.0s
BOZ Bozeman (W) 86.89 333 *e*P **P 21 49 05.8 0.0**
BOZ pmax pmax
comp=Z,30nm,1.1s
BOZ MLR MLR
comp=Z,2µm,19.0s
BOZ Bozeman (W) 86.89 333 P **P 21 49 06.1 +0.3**
baz=148,SNR=13
DGMT Dagmar 86.92 339 *e*P **P 21 49 06.5 +0.8**
comp=Z,291nm,1.0s
DGMT Dagmar 86.92 339 P **P 21 49 06.3 +0.6**
baz=154,SNR=36
O03E Paynes Creek 86.95 324 P **P 21 49 06.3 +0.1**
baz=140,SNR=15
DLMT Dillon 87.05 333 *e*P **P 21 49 08.0 +1.4**
comp=Z,68nm,1.2s
WVOR Wild Horse Val 87.15 327 *e*P **P 21 49 08.0 +0.9**
comp=Z,41nm,1.1s
WVOR LR LR
comp=Z,2µm,19.0s
WVOR Wild Horse Val 87.15 327 *e*P **P 21 49 08.0 +0.9**
WVOR pmax pmax
comp=Z,41nm,1.1s
WVOR MLR MLR
comp=Z,2µm,19.0s
WDC Whiskeytown Da 87.53 324 *e*P **P 21 49 08.1 -0.7**
comp=Z,40nm,0.8s
WDC Whiskeytown Da 87.53 324 *e*P **P 21 49 08.1 -0.7**
WDC pmax pmax
comp=Z,40nm,0.8s
OUZ Omahuta 87.73 228 PFAKE 21 49 20.0 +10
OUZ LR LR
comp=Z,4µm,19.0s
J08A Circle Bar Ran 87.82 328 *e*P **P 21 49 11.9 +1.6**
comp=Z,116nm,1.0s
KMRM Mail Ridge 87.83 323 *e*P **P 21 49 13.3 +2.9**
comp=Z,104nm,1.3s
HRY Holter Researc 87.91 334 *e*P **P 21 49 11.7 +1.1**
N02D Trinity Center 87.91 324 P **P 21 49 11.2 +0.5**
baz=140,SNR=8.4
M04C Macdoel 88.12 325 P **P 21 49 12.7 +1.0**
baz=140,SNR=16
EGMT Eagleton 88.30 336 *e*P **P 21 49 12.4 0.0**
comp=Z,54nm,1.1s
EGMT Eagleton 88.30 336 P **P 21 49 12.1 -0.3**
baz=149,SNR=11
M02C Callahan 88.30 324 P **P 21 49 13.4 +0.8**
baz=140,SNR=9.9
KHMM Horse Mountain 88.34 324 *e*P **P 21 49 15.2 +2.3**
comp=Z,73nm,1.1s
YBH Yreka Blue Hor 88.49 325 *e*P **P 21 49 13.9 +0.4**
comp=Z,30nm,1.0s
YBH Yreka Blue Hor 88.49 325 *e*P **P 21 49 13.9 +0.4**
YBH pmax pmax
comp=Z,30nm,1.0s
BMO Blue Mountains 88.52 330 *e*P **P 21 49 14.4 +0.8**
BMO LR LR
comp=Z,2µm,20.0s
BMO Blue Mountains 88.52 330 *e*P **P 21 49 14.4 +0.8**
BMO MLR MLR
comp=Z,2µm,20.0s
SCHQ Schefferville 88.56 3 P **P 21 49 13.3 0.0**
comp=Z,30nm,1.1s,baz=149,slow=5.1,SNR=9.1
SCHQ LR LR 22 29 42.4
comp=Z,1µm,21.3s,baz=186,slow=36
L04D Klamath Falls 88.67 325 P **P 21 49 14.3 -0.2**
baz=140
K04D Chiloquin, OR 88.73 326 P **P 21 49 14.6 -0.1**
baz=141
MSO Missoula 88.79 333 *e*P **P 21 49 16.0 +1.2**
comp=Z,79nm,1.9s
MSO LR LR
comp=Z,3µm,19.0s
MSO Missoula 88.79 333 P **P 21 49 16.8 +1.9**
baz=146
J05D Fort Rock, OR 89.00 326 P **P 21 49 17.0 +1.1**
baz=141,SNR=9.9
L02E Cave Junction 89.25 324 P **P 21 49 18.4 +1.5**
baz=139
J04D Umpqua Nationa 89.37 326 P **P 21 49 18.8 +1.1**
baz=140
F10A Beach Ranch, E 89.39 330 *e*P **P 21 49 17.6 0.0**
comp=Z,51nm,1.1s
F10A LR LR
comp=Z,2µm,21.0s
G08A Pilot Rock 89.57 329 *e*P **P 21 49 19.9 +1.3**
comp=Z,34nm,1.4s
G08A LR LR
comp=Z,2µm,19.0s
JTMT Jette 89.68 333 PFAKE 21 49 30.0 +11
JTMT LR LR
comp=Z,2µm,20.0s
K02D Willamette Mer 89.69 325 P **P 21 49 20.2 +1.1**
baz=139
I05D Terrebonne, OR 89.86 327 P **P 21 49 21.1 +1.2**
baz=141
LSZ Lusaka 89.90 108 PFAKE 21 49 30.0 +9.1
LSZ LR LR
comp=Z,8µm,21.0s
LSZ Lusaka 89.90 108 pP **P 21 49 22.5 +1.7**
SNR=17
AFI Afiamalu 90.13 253 PFAKE 21 49 30.0 +8.1
AFI LR LR
comp=Z,4µm,20.0s
E09A Wood Farm, Sta 90.20 330 *e*P **P 21 49 21.6 +0.3**
comp=Z,17nm,1.0s
E09A LR LR
comp=Z,2µm,19.0s
G06A Carlson Farm, 90.25 328 *e*P **P 21 49 23.4 +1.8**
comp=Z,156nm,1.9s
G06A LR LR
comp=Z,3µm,20.0s
F07A Phinny Hill Vi 90.46 329 *e*P **P 21 49 26.1 +3.6**
comp=Z,23nm,0.9s
HAWA Hanford 90.69 329 *e*P **P 21 49 24.6 +1.1**
comp=Z,35nm,1.1s
HAWA LR LR
comp=Z,2µm,22.0s
E07A Sunnyside 90.95 329 *e*P **P 21 49 26.1 +1.3**
comp=Z,34nm,1.4s
D08A Wollman Farm, 90.96 330 *e*P **P 21 49 26.1 +1.3**
comp=Z,62nm,1.6s
NEW Newport 91.20 332 *e*P **P 21 49 25.3 -0.6**
comp=Z,16nm,1.2s
NEW LR LR
comp=Z,2µm,20.0s
NEW Newport 91.20 332 *e*P **P 21 49 25.3 -0.6**
NEW pmax pmax
comp=Z,15nm,1.2s
NEW MLR MLR
comp=Z,2µm,20.0s
NEW Newport 91.20 332 P **P 21 49 25.5 -0.5**
baz=144,SNR=5.3
C09A Chrisman Ranch 91.29 331 *e*P **P 21 49 27.1 +0.8**
comp=Z,33nm,1.0s
LTY Liberty 91.85 329 *e*P **P 21 49 31.6 +2.6**
comp=Z,23nm,1.3s
LTY LR LR
comp=Z,2µm,20.0s
LON Longmire 91.94 328 *e*P **P 21 49 29.5 +0.1**
comp=Z,14nm,1.0s
LON LR LR
comp=Z,2µm,20.0s
LON Longmire 91.94 328 *e*P **P 21 49 29.5 +0.1**
LON pmax pmax
comp=Z,14nm,1.0s
LON MLR MLR
comp=Z,2µm,20.0s
FFC Flin Flon 91.99 343 *e*P **P 21 49 29.4 0.0**
comp=Z,74nm,1.8s
FFC LR LR
comp=Z,2µm,20.0s
FFC Flin Flon 91.99 343 *ce*P **P 21 49 30.0 +0.6**
PFVI Vila Bisbo 92.06 46 PFAKE 21 49 40.0 +10
PFVI LR LR
comp=Z,5µm,18.0s
B08A Colville Reser 92.16 331 *e*P **P 21 49 30.6 +0.3**

B08A LR LR
comp=Z,53nm,1.8s
D05A Enumclaw 92.36 329 *e*P **P 21 49 32.2 +0.9**
comp=Z,2µm,18.0s
D05A LR LR
comp=Z,36nm,1.0s
TAM Tamanrasset 92.89 65 *e*P **P 21 49 34.0 -0.5**
comp=Z,3µm,19.0s
TAM LR LR
comp=Z,32nm,1.0s
TAM Tamanrasset 92.89 65 *e*P **P 21 49 34.0 -0.5**
TAM pmax pmax
comp=Z,7µm,21.0s
TAM MLR MLR
comp=Z,32nm,1.0s
PVAQ Vaqueiros 92.90 46 *e*SKP **SKSac 22 00 10.0 +3.0**
PVAQ Vaqueiros 92.90 46 *e*LR LR 22 20 39.1
comp=Z,4µm,18.0s
PMAFR Mafra 93.02 44 *e*SKP **SKKSac 22 00 23.0 -3.2**
B06A Marblemount 93.17 330 PFAKE 21 49 50.0 +15
B06A LR LR
comp=Z,2µm,19.0s
SFS San Fernando 93.20 47 PFAKE 21 49 50.0 +15
SFS LR LR
comp=Z,2µm,18.0s
PBEJ Beja 93.22 45 *e*P **P 21 49 37.4 +1.9**
B05A Bryant 93.24 329 P **P 21 49 36.2 +1.0**
baz=140
PESTR Estremoz 93.94 45 PFAKE 21 49 50.0 +11
PESTR LR LR
comp=Z,3µm,20.0s
FCC Fort Churchill 94.18 349 PFAKE 21 49 50.0 +11
FCC LR LR
comp=Z,2µm,21.0s
PMRV Marv??o 94.43 45 *e*LQ LQ 22 20 23.3
PMRV *e*LR LR 22 28 32.0
comp=Z,3µm,18.0s
MTE Manteigas 94.98 44 *e*P **P 21 49 43.6 0.0**
MTE Manteigas 94.98 44 *e*SKP **SKSac 22 00 16.2 -2.1**
MTE Manteigas 94.98 44 *e*LQ LQ 22 20 23.1
MTE *e*LR LR 22 23 20.3
comp=Z,4µm,18.0s
MTE Manteigas 94.98 44 PFAKE 21 49 50.0 +6.4
MTE LR LR
comp=Z,5µm,20.0s
NPOC North of Pu'u 95.02 290 PFAKE 21 50 00.0 +16
NPOC LR LR
comp=Z,4µm,20.0s
PGAV Gavieira, Arco 95.60 42 *e*LR LR 22 25 32.6
comp=Z,3µm,18.0s
MVO Moncorvo 95.77 44 *e*P **P 21 49 47.7 +0.5**
comp=Z,65nm,1.7s
MVO Moncorvo 95.77 44 *e*LQ LQ 22 20 40.4
MVO *e*LR LR 22 24 22.9
comp=Z,4µm,18.0s
PAB San Pablo 96.30 46 *e*P **P 21 49 50.2 +0.5**
comp=Z,52nm,1.9s
PAB LR LR
comp=Z,4µm,19.0s
PAB San Pablo 96.30 46 *e*P **P 21 49 50.2 +0.5**
PAB pmax pmax
comp=Z,53nm,1.9s
PAB MLR MLR
comp=Z,4µm,19.0s
ESDC Sonseca Array 96.61 46 P **P 21 49 51.0 0.0**
comp=Z,3.4nm,0.8s,baz=249,slow=3.8,SNR=16
ESDC LR LR 22 32 54.9
comp=Z,2µm,18.4s,baz=230,slow=35
ESLA Sonseca Array 96.61 46 PFAKE 21 50 00.0 +8.9
ESLA LR LR
comp=Z,3µm,19.0s
ES19 SONSECA Array 96.67 46 *e*P **P 21 49 51.3 -0.1**
CART Cartagena 97.14 49 PFAKE 21 50 00.0 +6.5
CART LR LR
comp=Z,2µm,21.0s
LHI Lord Howe Isla 98.94 222 PFAKE 21 50 10.0 +8.1
LHI LR LR
comp=Z,3µm,19.0s
MBAR Mbarara 100.34 98 PFAKE 21 50 20.0 +11
MBAR LR LR
comp=Z,8µm,19.0s
CAN Canberra 101.06 213 PFAKE 21 50 20.0 +8.7
CAN LR LR
comp=Z,2µm,19.0s
DZM Mont Dzumac 101.19 234 *e*PP PP 21 54 14.2 -6.3
comp=Z,249nm,26.5s
DZM *e*SP SP 22 03 17.5 -3.8
comp=Z,1µm,23.1s
DZM *e*SS **SS 22 08 45.8 -4.0**
comp=Z,4µm,25.6s
DZM Mont Dzumac 101.19 234 *e*LR LR 22 23 22.2
comp=Z,6µm,28.9s,baz=128
DZM Mont Dzumac 101.19 234 PFAKE 21 50 20.0 +7.8
DZM LR LR
comp=Z,2µm,20.0s
ABPO Ambohimpanom 101.86 123 PFAKE 21 50 30.0 +15
ABPO LR LR
comp=Z,2µm,19.0s
YKA Yellowknife Ar 102.00 341 P **Pdif 21 50 13.7 -0.7**
comp=Z,2.3nm,0.7s,baz=143,slow=4.5,SNR=16
YKA PP **PP 21 54 23.4 -3.1**
comp=Z,1.4nm,0.9s,baz=135,slow=7.9,SNR=4.1
YKB5 Yellowknife Ar 102.00 341 *e*Pdif **Pdif 21 50 14.0 -0.5**
YKW3 Yellowknife Ar 102.06 341 PFAKE 21 50 30.0 +15
YKW3 LR LR
comp=Z,1µm,18.0s
KEST Kesra 102.90 56 PFAKE 21 50 30.0 +11
KEST LR LR
comp=Z,6µm,19.0s
CRAG Craig 103.16 329 PFAKE 21 50 30.0 +10
CRAG LR LR
comp=Z,1µm,19.0s
ARMA Armidale 103.78 218 PFAKE 21 50 40.0 +16
ARMA LR LR
comp=Z,2µm,19.0s
DSB Dublin 103.86 34 PFAKE 21 50 30.0 +7.0
DSB LR LR
comp=Z,4µm,20.0s
SSB Saint Sauveur 104.99 45 PFAKE 21 50 40.0 +12
SSB LR LR
comp=Z,4µm,19.0s
KMBO Kilima Mbogo 105.37 102 PP PP 21 54 49.6 -3.0
comp=Z,9nm,0.8s,baz=238,slow=7.2,SNR=4.4
KMBO Kilima Mbogo 105.37 102 PP PP 21 54 49.6 -3.0
KMBO LR LR
comp=Z,3µm,21.0s
JIS Juneau Island 105.52 331 PFAKE 21 55 00.0
JIS LR LR
comp=Z,1µm,18.0s
BESE Bessie Mountai 105.91 331 PFAKE 21 55 00.0
BESE LR LR
comp=Z,1µm,19.0s
BNI Bardonecchia 106.14 46 PFAKE 21 55 00.0
BNI LR LR
comp=Z,5µm,20.0s
CLTB Caltabellotta 106.52 56 PFAKE 21 55 00.0
CLTB LR LR
comp=Z,10µm,20.0s
WDD Wied Dalam 106.55 58 PFAKE 21 55 00.0
WDD LR LR
comp=Z,16µm,19.0s
ESK Eskdalemuir 106.59 34 PFAKE 21 55 00.0
ESK LR LR
comp=Z,5µm,20.0s
SKAG Skagway 106.66 332 PFAKE 21 55 00.0
SKAG LR LR
comp=Z,1µm,20.0s
SENIN Lac Senin/Sane 107.20 45 PFAKE 21 55 00.0
SENIN LR LR
comp=Z,4µm,20.0s
STKA Stephens Creek 107.20 210 PKKPab PKKPab 22 06 18.4 -3.3
comp=Z,3.9nm,0.8s,baz=309,slow=4.2,SNR=6.6
WHY Whitehorse 107.25 333 PFAKE 21 55 00.0
WHY LR LR
comp=Z,2µm,20.0s
DHAK Deception Hill 107.59 330 PFAKE 21 55 00.0
DHAK LR LR
comp=Z,2µm,22.0s
VLC Villacollemand 107.96 49 PFAKE 21 55 00.0
VLC LR LR
comp=Z,3µm,20.0s
ECH Echery 108.07 44 PFAKE 21 55 00.0
ECH LR LR
comp=Z,2µm,22.0s
EIDS Eidsvold 108.11 221 PFAKE 21 55 00.0
EIDS LR LR
comp=Z,2µm,20.0s
WLF Walferdange 108.25 42 PFAKE 21 55 00.0
WLF LR LR
comp=Z,7µm,18.0s
TUE Stuetta 108.48 46 PFAKE 21 55 00.0
TUE LR LR
comp=Z,3µm,18.0s
CEL Celeste 108.69 56 PFAKE 21 55 00.0
CEL LR LR
comp=Z,10µm,19.0s
BFO Black Forest 108.81 44 PFAKE 21 55 00.0
BFO LR LR
comp=Z,3µm,22.0s
DAVOX Davos/Dischmat 108.95 46 PKiKP **PKiKP 21 54 51.2 +0.7**
comp=Z,1.8nm,0.5s,baz=311,slow=18,SNR=3.8
AQU L'Aquila 108.99 51 PFAKE 21 55 00.0
AQU LR LR
comp=Z,4µm,19.0s
CUC Castrocucco 109.47 55 PFAKE 21 55 00.0
CUC LR LR
comp=Z,4µm,18.0s
STU Stuttgart 109.52 44 PFAKE 21 55 00.0
STU LR LR
comp=Z,2µm,22.0s
FETA Feichten 109.57 46 *i* PKiKP **PKiKP 21 54 52.8 +1.1**
comp=Z,8.0nm,1.3s
TIP Timpagrande 109.72 56 PFAKE 21 55 00.0
TIP LR LR
comp=Z,10µm,21.0s
MOTA Moosalm 109.95 46 *i* PKiKP **PKiKP 21 54 52.8 +0.5**
comp=Z,14nm,1.2s
WATA Walderalm 110.23 46 *i* PKiKP **PKiKP 21 54 54.1 +1.2**
comp=Z,4.5nm,0.4s
ABTA Abfaltersbach 110.52 47 *i* PKiKP **PKiKP 21 54 54.0 +0.7**
comp=Z,8.3nm,1.7s
MYKA Terra Mystica 111.15 47 *i* PKiKP **PKiKP 21 54 55.3 +0.8**
comp=Z,4.3nm,0.8s
INK Inuvik 111.61 339 PKiKP **PKiKP 21 54 54.7 +0.1**
comp=Z,1.8nm,1.0s,baz=261,slow=2.5,SNR=3.2
INK PKKPbc **PKKPbc 22 05 48.9 -1.6**
comp=Z,2.2nm,0.9s,baz=262,slow=2.0,SNR=4.8
INK PKKPab **PKKPab 22 05 56.5 +1.0**
comp=Z,3.8nm,1.1s,baz=348,slow=5.2,SNR=3.6
OBKA Obir 111.66 48 *i* PKiKP **PKiKP 21 54 56.4 +0.9**
comp=Z,7.4nm,0.9s
OBKA *i* PP **PP 21 55 39.7 +1.7**
comp=Z,14nm,1.3s
SOKA Soboth 112.03 48 *i* PKiKP **PKiKP 21 54 56.9 +0.7**
comp=Z,2.2nm,0.8s
NKC Novy Kostel 112.08 44 *e*PKP **PKiKP 21 54 57.2 +1.1**
NKC *e*PS **PS 22 05 11.9 -2.1**
NKC AMS AMS 22 39 40.0
comp=Z,4µm,19.3s
NKC Novy Kostel 112.08 44 *e*PKIKP **PKiKP 21 54 57.2 +1.1**
NKC *e*SP SP 22 05 11.9 +0.5
NKC MLR MLR
comp=Z,4µm,19.3s
GERES GERESS Array B 112.19 45 PKiKP **PKiKP 21 54 56.3 -0.2**
comp=Z,5.1nm,0.8s,baz=198,slow=1.3,SNR=28
KHC Kasperske Hory 112.25 45 *e*PKP **PKiKP 21 54 54.5 -2.0**
KHC *e*PP **PP 21 55 36.0 -6.1**
KHC *e*PS **PS 22 05 13.0 -2.5**
KHC *ex* x 22 06 29.1
KHC AMS AMS 22 44 50.0
comp=Z,3µm,18.6s
KHC Kasperske Hory 112.25 45 *e*PKIKP **PKiKP 21 54 54.5 -2.0**
KHC *e*SP SP 22 05 13.0 +0.1
KHC *e* 22 06 29.1
KHC MLR MLR
comp=Z,3µm,18.6s
BLY Banja Luka 112.53 50 ⇑*i*P **PKiKP 21 54 58.3 +1.2**
ARSA Arzberg 112.58 47 *i* PKiKP **PKiKP 21 54 57.2 0.0**
comp=Z,5.6nm,0.8s
ARSA *i* PP **PP 21 55 43.8 -0.8**
comp=Z,9.1nm,1.5s
CLL Collm 112.88 43 *e*Pdif **Pdif 21 51 04.0 +0.9**
CLL ⇓*i*PKiKP **PKiKP 21 54 58.2 +0.6**
comp=Z,12nm,1.2s
CLL *e*PP **PP 21 55 45.0 -1.5**
CLL *e*PPP PPP 21 58 10.0
CLL *e*SKSac **SKSac 22 01 41.0 +0.6**
CLL *e*SKKSac **SKKSac 22 02 50.0 +2.9**
CLL *e*Sdif **Sdif 22 03 29.0 +2.2**
CLL *e*PS **PS 22 05 22.0 +0.9**
CLL *e*PPS PPS 22 06 36.0
CLL *e* 22 06 55.0
CLL *e* 22 09 48.0
CLL *e*SS **SS 22 11 29.0 +0.2**
CLL *e*SSS SSS 22 15 30.0
CLL *e*SSSS 22 19 18.0
CLL Lm MLR 22 41 00.0
comp=N,1µm,21.8s
CLL Lm MLR 22 41 00.0
comp=E,3µm,20.5s
CLL Lm MLR 22 41 00.0
comp=Z,3µm,21.1s
CLL Collm 112.88 43 ⇓*i*PKIKP **PKiKP 21 54 58.2 +0.6**
CLL *e* 22 01 41.0
CLL pmax pmax
comp=Z,12nm,1.2s
CLL MLR MLR
comp=Z,3µm,21.1s
CONA Conrad Observa 113.08 47 *i* PKiKP **PKiKP 21 54 58.2 0.0**
comp=Z,5.2nm,0.7s
CONA *i* PP **PP 21 55 47.0 -1.2**
comp=Z,13nm,1.5s
PRA Prague 113.16 44 AMS AMS 22 45 00.0
comp=Z,4µm,18.9s
BRG Berggiesshubel 113.22 43 *e*PKP **PKiKP 21 54 58.7 +0.5**
comp=Z,15nm,1.3s
BRG PP **PP 21 55 46.0 -3.0**
BRG SKS **SKSac 22 01 42.0 +0.2**
BRG SS **SS 22 11 32.0 -1.4**
comp=N,1µm,19.0s
comp=E,2µm,18.7s
comp=Z,2µm,16.8s
GOPC GO Pecny, Ondr 113.30 45 *e*SP SP 22 05 23.0 +0.5
GOPC *ex* x 22 06 32.6
GOPC AMS AMS 22 43 10.0
comp=Z,3µm,20.8s
PVCC Panska Ves 113.43 44 *e*PKP **PKiKP 21 54 59.8 +1.1**
PVCC *e*PP **PP 21 55 45.1 -5.4**
PVCC *e*SP SP 22 05 27.0 +3.3
PVCC AMS AMS 22 40 40.0
comp=Z,3µm,21.5s
PVCC Panska Ves 113.43 44 *e*PKIKP **PKiKP 21 54 59.8 +1.1**
PVCC *e*SP SP 22 05 27.0 +3.3
PVCC MLR MLR
comp=Z,3µm,21.5s
TREC Trest 113.44 45 *e*PKP **PKiKP 21 54 59.6 +0.8**
TREC *e*PP **PP 21 55 45.6 -5.1**
TREC *e*SP SP 22 05 26.2 +2.3
TREC AMS AMS 22 51 30.0
comp=Z,3µm,18.3s
TREC Trest 113.44 45 *e*PKIKP **PKiKP 21 54 59.6 +0.8**
TREC *e*SP SP 22 05 26.2 +2.3
TREC MLR MLR
comp=Z,3µm,18.3s
IDI Anoyia 113.77 63 PKiKP **PKiKP 21 55 00.5 +0.6**
comp=Z,4.5nm,0.9s,baz=359,slow=7.3,SNR=2.4
IDI PP **PP 21 55 56.8 +3.5**
comp=Z,7.6nm,1.1s,baz=233,slow=7.9,SNR=3.9
KRUC Moravsky 113.89 46 *e*PKP **PKiKP 21 54 59.3 -0.3**
VRAC Vranov 114.11 46 PKP PKPdf 21 55 00.6 +0.6
comp=Z,2.3nm,0.5s,baz=237,slow=3.7,SNR=4.2
VRAC PP **PP 21 55 53.4 -1.9**
comp=Z,2.9nm,0.9s,baz=63,slow=3.9,SNR=3.3
VRAC Vranov 114.11 46 ⇑*i*P PKPdf 21 55 00.4 +0.4
VRAC Vranov 114.11 46 ⇑PKIKP PKPdf 21 55 00.4 +0.4
ILAR Eielson Array 114.13 333 PKP PKPdf 21 54 59.2 -0.3
comp=Z,1.5nm,0.8s,baz=188,slow=1.1,SNR=13
ILAR PP **PP 21 55 52.1 -2.9**
comp=Z,1.4nm,1.0s,baz=93,slow=7.5,SNR=5.8
ILAR PKKPbc **PKKPbc 22 05 40.0 -1.9**
comp=Z,0.9nm,1.0s,baz=307,slow=4.2,SNR=4.9
MODS Modra-Piesok 114.13 47 *e*PKIKP PKPdf 21 54 59.2 -0.9
MODS Modra-Piesok 114.13 47 *e*PKP PKPdf 21 54 59.2 -0.9
UPC Upice 114.26 44 *e*PKP PKPdf 21 55 01.3 +1.0
UPC *e*PP PP 21 55 46.6 -10
UPC *e*PS **PS 22 05 33.0 -0.9**
UPC *ex* x 22 06 42.8
UPC AMS AMS 22 43 30.0
comp=Z,3µm,21.4s
UPC Upice 114.26 44 *e*PKIKP PKPdf 21 55 01.3 +1.0
UPC *e*SP SP 22 05 33.0 +1.7
UPC *e* 22 06 42.8
UPC MLR MLR
comp=Z,3µm,21.4s
DPC Dobruska-Polom 114.38 45 *e*PKP PKPdf 21 55 01.2 +0.7
DPC *ep*PKP PKiKP 21 55 08.8 +8.3
DPC *e*PP PP 21 55 49.3 -8.0
DPC *e*PS **PS 22 05 33.4 -1.7**
DPC *ex* x 22 06 49.4
DPC AMS AMS 22 44 00.0
comp=Z,3µm,19.5s
DPC Dobruska-Polom 114.38 45 *e*PKIKP PKPdf 21 55 01.2 +0.7
DPC *e* 21 55 08.8
DPC *e*SP SP 22 05 33.4 +1.0
DPC *e* 22 06 49.4
DPC MLR MLR
comp=Z,3µm,19.5s
KRLC Kraliky 114.53 45 *e*PKP PKPdf 21 55 02.1 +1.2
KRLC Kraliky 114.53 45 *e*PKIKP PKPdf 21 55 02.1 +1.2
KSP Ksiaz 114.56 44 *e*P PKPdf 21 55 03.8 +3.0
KSP Ksiaz 114.56 44 *e*PKIKP PKPdf 21 55 03.8 +3.0
JAVC Velka Javorina 114.57 47 *e*PKP PKPdf 21 55 02.0 +1.0
MORC Moravsky Berou 114.86 46 ⇑*i*P PKPdf 21 55 01.9 +0.4
MORC Moravsky Berou 114.86 46 ⇑PKIKP PKPdf 21 55 01.9 +0.4
MORC Moravsky Berou 114.86 46 *e*PKP PKPdf 21 55 01.6 +0.1
APE Apeiranthos 114.99 61 ⇑*i*P PKPdf 21 55 01.7 -0.5
APE Apeiranthos 114.99 61 ⇑PKIKP PKPdf 21 55 01.7 -0.5
VYHS Vyhne 115.13 47 *e*PKIKP **PKPdf 21 55 02.2 +0.2**
VYHS Vyhne 115.13 47 *e*PKP **PKPdf 21 55 02.2 +0.2**
OKC Ostrava-Krasne 115.25 46 *e*PKP **PKPdf 21 55 02.5 +0.3**
OKC *e*PP **PP 21 55 59.8 -3.6**
OKC *e*PS **PS 22 05 43.1 +0.2**
OKC AMS AMS 22 48 30.0
comp=Z,2µm,19.9s
OKC Ostrava-Krasne 115.25 46 *e*PKIKP **PKPdf 21 55 02.5 +0.3**
OKC *e* 21 55 59.8
OKC *e*SP SP 22 05 43.1 +2.8
OKC MLR MLR
comp=Z,2µm,19.9s
DAG Danmarks Havn 115.30 12 *i* P **PKPdf 21 55 00.7 -0.8**
comp=Z,7.0nm,1.0s
DAG Danmarks Havn 115.30 12 *i* P **PKPdf 21 55 09.0 +7.5**
DAG *i* S **PP 21 55 59.6 -3.4**
DAG Danmarks Havn 115.30 12 *i* PKIKP **PKPdf 21 55 00.7 -0.8**
DAG pmax pmax
comp=Z,7.0nm,1.0s
PSZ Piszkesteto 115.55 48 ⇑*i*P **PKPdf 21 55 02.6 -0.3**
PSZ Piszkesteto 115.55 48 ⇑PKIKP **PKPdf 21 55 02.6 -0.3**
CAST Castle Rocks 115.56 331 *e*PKPdf **PKPdf 21 55 02.5 +0.2**
VTS Vitosha 115.61 55 ⇑*i*P **PKPdf 21 55 04.0 +0.7**
VTS Vitosha 115.61 55 ⇑PKIKP **PKPdf 21 55 04.0 +0.7**
BZS Buzias 115.75 51 ⇓*i*P **PKPdf 21 55 03.8 +0.5**
BZS Buzias 115.75 51 ⇓PKIKP **PKPdf 21 55 03.8 +0.5**
LANS Liptovska Anna 115.77 47 *e*PKIKP **PKPdf 21 55 04.2 +0.9**
LANS Liptovska Anna 115.77 47 *e*PKP **PKPdf 21 55 04.2 +0.9**
SIRR Siria 116.03 50 ⇑*i*P **PKPdf 21 55 03.8 0.0**
NB2 NORSAR Subarra 116.04 33 PKPdf **PKPdf 21 55 03.1 -0.3**
comp=Z,23nm,1.7s,baz=248,slow=1.9
NB2 NORSAR Subarra 116.04 33 PKPdf **PKPdf 21 55 03.1 -0.3**
baz=248,slow=1.9
NOA NORSAR Array B 116.04 33 PKP **PKPdf 21 55 03.7 +0.3**
comp=Z,2.8nm,0.8s,baz=252,slow=2.0,SNR=9.3
GKP Gorka Klasztor 116.05 42 *e*P **PKPdf 21 55 04.5 +0.9**
GKP Gorka Klasztor 116.05 42 *e*PKIKP **PKPdf 21 55 04.5 +0.9**
KECS Kecovo 116.14 48 *e*PKIKP **PKPdf 21 55 00.4 -3.5**
KECS Kecovo 116.14 48 *e*PKP **PKPdf 21 55 00.4 -3.5**
NIE Niedzica 116.38 47 *e*P **PKPdf 21 55 05.6 +1.2**
NIE Niedzica 116.38 47 *e*PKIKP **PKPdf 21 55 05.6 +1.2**
OJC Ojcow 116.38 46 *e*P **PKPdf 21 55 04.5 +0.2**
OJC Ojcow 116.38 46 *e*PKPdf **PKPdf 21 55 04.5 +0.2**
OJC Ojcow 116.38 46 *e*PKIKP **PKPdf 21 55 04.5 +0.2**
TOLK Toolik Lake Re 116.82 336 *e*PKPdf **PKPdf 21 55 05.1 +0.4**
HFS Hagfors 116.82 34 PKP **PKPdf 21 55 04.4 -0.5**
comp=Z,5.0nm,0.7s,baz=188,slow=4.5,SNR=8.1
DRGR 116.89 50 ⇑*i*P **PKPdf 21 55 05.5 0.0**
DRGR 116.89 50 ⇑PKIKP **PKPdf 21 55 05.5 0.0**
IM3 Indian Mountai 117.24 333 *e*PKPdf **PKPdf 21 55 05.6 +0.1**
TRPA Tarpa 117.28 49 ⇑*i*P **PKPdf 21 55 06.3 +0.2**
UZH Uzhgorod 117.31 48 ⇑*i*PKIKP **PKPdf 21 55 06.6 +0.5**
UZH *e* 21 55 19.6
UZH *i* 22 01 55.4
UZH *e* 22 06 03.7
UZH *e* 22 12 30.4
HUMR Humele 117.54 53 ⇑*i*P **PKPdf 21 55 07.4 +0.7**
AS01 Alice Springs 117.54 207 *e*PKPdf **PKPdf 21 55 05.7 -1.9**
ASAR Alice Springs 117.56 207 PKP **PKPdf 21 55 06.7 -1.0**
comp=Z,4.6nm,0.9s,baz=149,slow=2.1,SNR=31
ASAR PKKPbc **PKKPbc 22 05 29.8 +0.6**
comp=Z,3.1nm,0.9s,baz=339,slow=2.8,SNR=16
ASAR SKKPbc SKKPbc 22 09 13.9 +1.8
comp=Z,1.6nm,0.8s,baz=0.1,slow=4.9,SNR=6.2
ASAR PKPPKP **PPdf 22 14 06.3 -6.7**
comp=Z,0.2nm,0.6s,baz=326,slow=1.7,SNR=4.3
AS31 Alice Springs 117.56 207 *e*PKPdf **PKPdf 21 55 06.8 -0.8**
ARR Arges 117.62 52 ⇑*i*P **PKPdf 21 55 06.9 -0.1**
VOIR 117.91 52 ⇑*i*P **PKPdf 21 55 08.2 +0.6**
VOIR 117.91 52 ⇑PKIKP **PKPdf 21 55 08.2 +0.6**
KWP Kalwaria Pacla 117.92 47 *e*P **PKPdf 21 55 08.1 +0.8**
KWP Kalwaria Pacla 117.92 47 *e*PKIKP **PKPdf 21 55 08.1 +0.8**
ARCR ARCALIA 118.05 50 ⇓*i*P **PKPdf 21 55 08.1 +0.4**
DOPR Dopca 118.33 52 ⇑*i*P **PKPdf 21 55 07.5 -0.8**
MLR Muntele Rosu 118.52 52 PKP **PKPdf 21 55 08.8 -0.1**
comp=Z,7.6nm,0.8s,baz=151,slow=21,SNR=9.2
MLR Muntele Rosu 118.52 52 ⇓*i*P **PKPdf 21 55 08.7 -0.1**
BUR04 Bucovina Ar. S 118.78 50 *e*PKPdf **PKPdf 21 55 09.4 +0.2**
BUR08 Bucovina Ar. S 118.78 50 *e*PKPdf **PKPdf 21 55 09.7 +0.5**
BURAR Bucovina Array 118.78 50 ⇑*i*P **PKPdf 21 55 10.2 +1.0**
BURAR Bucovina Array 118.78 50 ⇑PKIKP **PKPdf 21 55 10.2 +1.0**
LVV L'vov 118.79 47 *e*PKIKP **PKPdf 21 55 08.8 -0.2**
LVV MLR MLR
comp=N,700nm,17.0s
LVV MLR MLR
comp=E,600nm,17.0s
LVV MLR MLR
comp=Z,2µm,18.0s
PLOR Plostina 119.11 52 ⇑*i*P **PKPdf 21 55 08.9 -0.9**
PLOR Plostina 119.11 52 ⇑PKIKP **PKPdf 21 55 08.9 -0.9**
BIZ Bicaz 119.12 51 ⇑*i*P **PKPdf 21 55 09.8 +0.1**
VRI Vrincioaia 119.17 52 ⇑*i*P **PKPdf 21 55 09.1 -0.8**
VRI Vrincioaia 119.17 52 ⇑PKIKP **PKPdf 21 55 09.1 -0.8**
PRAR RASCA 119.34 50 ⇑*i*P **PKPdf 21 55 09.6 +0.6**
SUW Suwalki 119.63 43 *e*P **PKPdf 21 55 10.4 0.0**
SUW Suwalki 119.63 43 *e*PKPdf **PKPdf 21 55 09.8 -0.7**
SUW Suwalki 119.63 43 *e*PKIKP **PKPdf 21 55 09.8 -0.7**
CSS Mathiatis 119.96 66 *e*PKPdf **PKPdf 21 55 11.5 -0.2**
WB2 Warramunga Arr 120.75 209 *e*PKPdf **PKPdf 21 55 13.0 -0.8**
WRA Warramunga Arr 120.75 209 PKP **PKPdf 21 55 12.6 -1.2**
comp=Z,21nm,1.2s,baz=158,slow=1.7,SNR=87
WRA PKKPbc **PKKPbc 22 05 18.2 +0.7**
comp=Z,1.6nm,0.9s,baz=342,slow=4.3,SNR=10
WRA SKKPbc SKKPbc 22 08 41.2 -21
comp=Z,2.2nm,0.9s,baz=355,slow=5.2,SNR=5.1
WRAB Tennant Creek 120.75 209 *e*PKPdf **PKPdf 21 55 12.9 -1.0**
WRAB Tennant Creek 120.75 209 ⇓*i*PKIKP **PKPdf 21 55 12.3 -1.5**
MMAI Mount Meron Ar 120.80 69 PKP **PKPdf 21 55 13.9 +0.4**
comp=Z,4.9nm,0.7s
KIS Kishinev 120.90 52 *e*PKP **PKPdf 21 55 11.0 -2.1**
KIS Kishinev 120.90 52 *e*PP PP 21 56 40.0 -2.7
KIS Kishinev 120.90 52 *e*PKIKP **PKPdf 21 55 11.0 -2.1**
KIS *e* 21 55 22.0
KIS *e* 21 56 40.0
KIS *e*PS **PS 22 06 37.0 +2.9**
KIS *e*PPS PPS 22 07 58.0
RDOG Red Dog Mine 121.30 334 *e*PKPdf **PKPdf 21 55 13.7 +0.4**
BR231 Keskin MP Arra 121.31 61 *e*PKPdf **PKPdf 21 55 15.6 +1.3**
ANTO Ankara 121.33 61 *e*PKPdf **PKPdf 21 55 14.7 +0.4**
ANTO Ankara 121.33 61 PKIKP **PKPdf 21 55 14.7 +0.4**
SNR=5.0
ASF Jabal al Asfar 121.64 70 PKP **PKPdf 21 55 15.7 +0.6**
comp=Z,3.5nm,0.8s
IIGN Ignalina 121.70 42 *e*P **PKPdf 21 55 13.9 -0.5**
IIGN IAmb IAmb 21 55 15.8
comp=Z,17nm,0.8s
ISAL Salakas 121.71 41 *e*P **PKPdf 21 55 13.4 -0.9**
ISAL IAmb IAmb 21 55 15.8
comp=Z,8.3nm,0.7s
IZAR Zarasai 121.82 41 *e*P **PKPdf 21 55 11.8 -2.8**
IZAR IAmb IAmb 21 55 15.9
comp=Z,12nm,0.8s
BR131 Keskin Array S 121.89 61 *e*PKPdf **PKPdf 21 55 15.4 -0.1**
BR131 Keskin Array S 121.89 61 PKPdf **PKPdf 21 55 14.8 -0.7**
SNR=8.5

BRTR Keskin Array B 121.89 61 PKP **PKPdf 21 55 15.1 -0.4**
comp=Z,11nm,0.8s,baz=189,slow=3.0,SNR=55
NACGM Naroch 121.90 42 *e* **PKPdf 21 55 14.0 -0.8**
NACGM *e*LQ LQ 22 40 30.0
NACGM *e*LR LR 22 46 18.0
NACGM LRM MLR 22 50 18.0
IDID Didziasalis 121.98 42 *e*P **PKPdf 21 55 14.1 -0.8**
IDID IAmb IAmb 21 55 16.1
comp=Z,12nm,0.8s
AK11 Malin Array Si 122.19 47 *e*PKPdf **PKPdf 21 55 14.4 -1.0**
KIEV Kiev 122.22 47 *e*PKPdf **PKPdf 21 55 14.7 -0.8**
KIEV Kiev 122.22 47 *i* P **PKPdf 21 55 14.8 -0.7**
SNR=15
KIEV Kiev 122.22 47⇑ *i*PKIKP **PKPdf 21 55 13.8 -1.7**
AKASG Malin Array Be 122.23 47 PKP **PKPdf 21 55 14.6 -1.0**
comp=Z,20nm,0.8s,baz=265,slow=2.6,SNR=65
AKASG PP **PP 21 56 48.5 -3.1**
comp=Z,0.3nm,0.3s,baz=253,slow=6.7,SNR=5.6
AKASG Malin Array Be 122.23 47*c* *i*PKIKP **PKPdf 21 55 14.6 -1.0**
AKASG *e* 21 56 48.5
AKASG pmax pmax
comp=Z,21nm,0.8s
ILGA Ilgaz 122.38 59 *e*PKPdf **PKPdf 21 55 17.1 +0.6**
SPITS Spitsbergen Ar 122.66 14 PKP **PKPdf 21 55 15.8 +0.1**
comp=Z,3.3nm,0.5s,baz=269,slow=12,SNR=6.8
VSU Vasula 122.72 38 *e*P **PKPdf 21 55 15.4 -0.9**
VSU IAmb IAmb 21 55 17.3
comp=Z,110nm,0.7s
VSU Vasula 122.72 38*c* *i*PKIKP **PKPdf 21 55 16.0 -0.2**
VSU pmax pmax
comp=Z,79nm,0.6s
FINES FINESS Array B 123.01 35 PKP **PKPdf 21 55 17.1 +0.4**
comp=Z,16nm,0.9s,baz=48,slow=2.8,SNR=16
SIM Simferopol' 123.83 55 *e*PKIKP **PKPdf 21 55 19.4 +0.6**
SIM *e* 21 56 59.9
SIM pmax pmax
comp=Z,21nm,0.9s
SIM pmax pmax
comp=Z,140nm,8.7s
ARCES ARCESS Array B 124.02 25 PKP **PKPdf 21 55 18.1 -0.4**
comp=Z,5.5nm,0.5s,baz=241,slow=2.5,SNR=34
MBWA Marble Bar 124.03 193 *e*PKPdf **PKPdf 21 55 18.6 -1.5**
RAYN Ar Rayn 125.08 83 *i* P **PKPdf 21 55 22.2 +0.3**
SNR=12
FITZ Fitzroy Crossi 125.52 201 *e*PKPdf **PKPdf 21 55 22.6 -0.4**
ANN Anapa 126.07 56 *i*PKIKP **PKPdf 21 55 23.3 +0.2**
ANN pmax pmax
comp=Z,87nm,1.7s
APA Apatity 126.80 27⇓ *i*PKIKP **PKPdf 21 55 23.5 -0.3**
APA *i* 21 57 19.8
APA pmax pmax
comp=Z,32nm,0.7s
LVZ Lovozero 127.27 27 *e*PKPdf **PKPdf 21 55 25.1 +0.3**
LVZ Lovozero 127.27 27*c* *i*PKIKP **PKPdf 21 55 26.3 +1.5**
LVZ pmax pmax
comp=Z,292nm,1.7s
OBN Obninsk 127.47 43 PKP **PKPdf 21 55 25.3 -0.1**
comp=Z,4.4nm,0.4s,baz=171,slow=2.1,SNR=12
OBN Obninsk 127.47 43 *e*PKPdf **PKPdf 21 55 24.6 -0.8**
OBN *e*PP **PP 21 57 22.2 -4.3**
OBN Obninsk 127.47 43⇓ *i*PKIKP **PKPdf 21 55 25.5 +0.1**
OBN *e* 21 57 24.8
OBN *i* SS SS 22 14 56.7 +21
OBN pmax pmax
comp=Z,90nm,1.7s
MOS Moscow 128.14 43 *i*PKIKP **PKPdf 21 55 25.6 -1.1**
MOS *e* 21 57 28.8
MOS pmax pmax
comp=Z,83nm,1.4s
MTN Manton Dam 128.45 209 *e*PKPdf **PKPdf 21 55 28.6 -0.1**
VSR Storozhevoye 128.48 48 *e*PKIKP **PKPdf 21 55 27.2 -0.3**
VSR pmax pmax
comp=Z,50nm,1.5s
VSR MLR MLR
comp=Z,4μm,22.0s
VORD Divnogorie 128.53 49 *e*PKIKP **PKPdf 21 55 27.2 -0.4**
VORD pmax pmax
comp=Z,30nm,1.1s
LPSR Galich'ya Gora 128.53 47 *e*PKIKP **PKPdf 21 55 27.8 +0.3**
LPSR pmax pmax
comp=Z,80nm,1.1s
VORR Voronezh 128.57 48 PKIKP **PKPdf 21 55 27.0 -0.7**
VORR pmax pmax
comp=Z,250nm,1.6s
NEY Neytrino 129.42 59⇑ *i*PKIKP **PKPdf 21 55 31.4 +1.6**
KLMR Klimovskoe 129.43 36 *e*PKIKP **PKPdf 21 55 27.8 -1.2**
KLMR pmax pmax
comp=Z,131nm,1.3s
KLMR Klimovskoe 129.43 36 *e*PKPdf **PKPdf 21 55 27.9 -1.1**
KLMR AMP 21 55 33.3
comp=Z,131nm,1.3s
KLMR *e*SKP 21 58 48.4
KIV Kislovodsk 129.54 58 *e*PKPdf **PKPdf 21 55 30.4 +0.4**
KIV *e*PP **PP 21 57 34.9 -5.7**
KIV Kislovodsk 129.54 58 PKiKP **PKiKP 21 55 30.8 +0.2**
SNR=12
KIV Kislovodsk 129.54 58 *i* P **PKiKP 21 55 30.9 +0.2**
SNR=15
KIV Kislovodsk 129.54 58 *i* P **Pdif 21 52 16.5 -1.1**
KIV *i* 21 55 29.5
KIV *e* 21 57 39.4
KIV *e*PS **PS 22 07 49.5 -1.1**
KIV *e*SS SS 22 15 01.8 -0.9
KIV pmax pmax
comp=Z,43nm,1.0s
KIV MLR MLR
comp=Z,2μm,23.0s
KVAR Kislovodsk Arr 129.55 58 PKP **PKPdf 21 55 31.1 +1.1**
comp=Z,4.8nm,0.8s,baz=268,slow=23,SNR=12
AKH Akhalkalaki 129.56 62 *e*PKPdf **PKPdf 21 55 31.4 +1.3**
AKH Akhalkalaki 129.56 62⇑ *i*P **PKPdf 21 55 31.7 +1.5**
AKH Akhalkalaki 129.56 62 PKiKP **PKPdf 21 55 31.4 +1.3**
KBZ Khabaz 129.65 59 PKP **PKPdf 21 55 30.9 +1.0**
comp=Z,17nm,0.9s,baz=234,slow=1.8,SNR=21
KBZ SKPbc SKPab 21 58 50.9 +0.3
comp=Z,4.2nm,1.0s,baz=239,slow=5.2,SNR=5.2
GOF Gofitskoye 130.01 57⇓ *i*PKIKP **PKPdf 21 55 31.6 +1.0**
GOF pmax pmax
comp=Z,60nm,0.9s
VRH Novokhopyorsk 130.07 49 *e*PKIKP **PKPdf 21 55 30.5 0.0**
VRH pmax pmax
comp=Z,60nm,1.3s
VRH MLR MLR
comp=Z,4μm,24.0s
NCK Nalchik 130.09 59⇓ *i*PKIKP **PKPdf 21 55 31.8 +0.9**
ZEI Tsey 130.17 60 *i* PKIKP **PKPdf 21 55 30.8 -0.5**
ZEI pmax pmax
comp=Z,21nm,1.2s
GNI Garni 130.18 63 PKP **PKPdf 21 55 32.3 +0.9**
comp=Z,12nm,0.9s,baz=154,slow=3.7,SNR=9.7
GNI SKPbc **SKPab 21 58 53.2 0.0**
comp=Z,19nm,1.2s,baz=215,slow=6.1,SNR=6.3
GNI Garni 130.18 63 PKiKP **PKiKP 21 55 32.9 +0.7**
SNR=6.8
GNI Garni 130.18 63 *i* P **PKPdf 21 55 32.7 +1.4**
SNR=6.8
GNI Garni 130.18 63*c* *i*PKIKP **PKPdf 21 55 33.1 +1.7**
GNI pmax pmax
comp=Z,153nm,1.7s
TBLG Delisi 130.54 61 *e*PKPdf **PKPdf 21 55 32.9 +1.1**
TBLG Delisi 130.54 61 *e*PKIKP **PKPdf 21 55 32.9 +1.1**
GROC Groznyy 131.61 60 *i* PKIKP **PKPdf 21 55 33.6 -0.1**
GROC *e* 22 02 44.3
GROC pmax pmax
comp=Z,61nm,1.4s
PRGR Permogore 132.34 35⇓ *i*PKIKP **PKPdf 21 55 35.4 +0.9**
PRGR pmax pmax
comp=Z,48nm,0.9s
BILL Bilibino 132.77 334 *e*PKPdf **PKPdf 21 55 36.2 +1.0**
BILL Bilibino 132.77 334⇓ *i*PKIKP **PKPdf 21 55 35.5 +0.3**
BILL *e* 21 58 03.4
BILL *i* SS SS 22 15 35.2 -5.2
BILL pmax pmax
comp=Z,46nm,1.7s
BILL MLR MLR
comp=Z,1μm,20.0s
MAK Makhachkala 132.80 60 *i* PKIKP **PKPdf 21 55 37.1 +1.2**
MAK *e* 21 58 01.1
MAK *e*PPP PPP 22 00 53.7
MAK pmax pmax
comp=Z,209nm,1.0s
BATI Baumata 133.57 202 PKP **PKPdf 21 55 40.5 +2.1**
SOEI Soe 133.81 203 *e*PKPdf **PKPdf 21 55 39.9 +0.9**
SOEI Soe 133.81 203 PKP **PKPdf 21 55 41.4 +2.4**

FAQ Al Faqa, Dubai 133.94 87 P **PKPdf 21 55 38.8 +0.1**
SHME Shamm 134.92 86 P **PKPdf 21 55 40.6 0.0**
EDFI Ende, Flores 135.54 200 PKP PKPpre 21 55 37.1
TWSI Taliwang, Sumb 136.68 193 PKP **PKPdf 21 55 44.9 +0.7**
CISI Cisompet, Garu 138.71 180 *e*PKPdf **PKPdf 21 55 47.3 -0.7**
BKSI Bulukumba 139.24 199 PKP **PKPdf 21 55 51.3 +2.4**
PET Petropavlovsk 139.51 314 *i* PKIKP **PKPdf 21 55 50.2 +2.1**
PET *e* 21 58 53.4
PET pmax pmax
comp=Z,200nm,11.2s
PET pmax pmax
comp=Z,300nm,19.4s
KDI Kendari 139.79 203 PKP **PKPdf 21 55 53.1 +3.2**
GEYT Alibeck 139.92 70 PKhKP PKPpre 21 55 42.5
comp=Z,4.2nm,0.8s,baz=276,slow=14,SNR=5.2
GEYT PKP **PKPdf 21 55 50.5 +1.0**
comp=Z,5.4nm,0.9s,baz=251,slow=4.4,SNR=9.6
GYA0B ALIBECK ARRAY 139.92 70 *e*PKPpre PKPpre 21 55 43.0
SEY Seymchan 139.96 330 PKhKP PKPpre 21 55 41.5
comp=Z,8.7nm,0.8s,baz=148,slow=5.4,SNR=3.5
SEY PKP **PKPdf 21 55 48.2 -0.4**
comp=Z,15nm,0.8s,baz=81,slow=5.0,SNR=10
PETK Petropavlovsk- 140.07 314 PKhKP PKPpre 21 55 42.9
comp=Z,9.9nm,1.0s,baz=98,slow=8.1,SNR=3.2
PETK PKP **PKPdf 21 55 47.9 -1.2**
comp=Z,12nm,1.0s,baz=96,slow=7.4,SNR=4.1
BNSI Bone 140.12 199 PKP **PKPdf 21 55 54.2 +3.7**
SANI Sanana 140.32 209 PKP PKPpre 21 55 44.5
AKTO Aktyubinsk 140.38 50 PKhKP PKPpre 21 55 42.2
comp=Z,3.1nm,0.7s,baz=248,slow=3.5,SNR=8.5
AKTO PKP **PKPdf 21 55 50.5 +0.7**
comp=Z,12nm,0.7s,baz=320,slow=2.5,SNR=16
AKTO PP **PP 21 58 49.6 +0.8**
comp=Z,8.5nm,0.9s,baz=281,slow=6.5,SNR=6.6
SPSI Sidrap Palu 140.63 199 PKP **PKPdf 21 55 53.0 +1.6**
SVE Sverdlovsk 140.79 40⇑ *i*PKHKP PKPpre 21 55 45.7
SVE pmax pmax
comp=Z,49nm,1.9s
SVE MLR MLR
comp=Z,2μm,20.0s
MDSI Maura Dua 141.60 174 PKP **PKPdf 21 55 54.8 +1.6**
ABKAR Akbulak array 141.73 52 *e*PKPpre PKPpre 21 55 46.1
LUWI Luwuk 142.46 205 PKP **PKPdf 21 55 51.9 -2.8**
MASI Maura Aman, Be 142.71 171 PKP **PKPdf 21 55 56.9 +1.7**
NRIK Noril'sk 142.80 12 PKP **PKPdf 21 55 52.1 -1.4**
comp=Z,12nm,0.8s,baz=23,slow=3.0,SNR=7.8
PALK Pallekele 143.47 130 *e*PKPdf PKPbc 21 55 53.7 0.0
PALK Pallekele 143.47 130 *i* P PKPbc 21 55 53.6 -0.1
SNR=17
PALK Pallekele 143.47 130 *e*PKIKP PKPbc 21 55 53.7 0.0
KRJI Kerinci 143.63 169 PKP PKPbc 21 55 55.0 +0.8
SISI Saibi 143.94 165 PKP **PKPdf 21 55 56.6 -0.7**
BKB Balikpapan 143.94 195 PKP **PKPdf 21 55 57.5 +0.2**
PPBI Pangkal Pinang 144.03 177 PKP PKPbc 21 55 55.4 +0.1
PDSI Padang 144.62 167 PKP **PKPab 21 55 57.0 0.0**
SMKI Samarinda 144.66 196 PKP **PKPdf 21 55 59.9 +1.3**
MPSI Mapaga 144.69 201 PKP **PKPab 21 55 56.3 -1.0**
BHJ Bhuj 144.98 98 *e*P **PKPab 21 57 57.7 -0.4**
BHJ IAMs_20 IAMs_20 22 24 28.9
comp=Z,263nm,9.2s
PBSI Pulau Batu 144.98 163 PKP **PKPdf 21 55 59.9 +0.8**
BOM Bombay 145.41 107 *e*P **PKPbc 21 55 56.7 -2.9**
BKNI Bangkinang 145.93 168 PKP **PKPbc 21 56 01.2 -0.2**
POO Poona 146.03 108 *e*P **PKPdf 21 55 59.7 -1.1**
MNSI Mandailing Nat 146.10 165 PKP **PKPdf 21 56 01.2 +0.2**
STKI Sintang 146.11 186 PKP **PKPab 21 56 02.6 +0.1**
GSI Gunungsitoli 146.11 161 *e*PKPdf **PKPdf 21 56 01.5 +0.4**
GSI Gunungsitoli 146.11 161 PKP **PKPbc 21 56 02.2 +0.3**
SNSI Sinabang, Aceh 146.81 159 PKP **PKPab 21 56 05.0 -0.2**
TPRI Tanjung Pinang 146.98 174 PKP **PKPbc 21 56 04.5 +0.1**
BRVK Borovoye 147.24 43 *e*PKPdf **PKPdf 21 56 02.5 +0.8**
BRVK *e*PKPbc **PKPbc 21 56 04.5 +0.5**
BRVK Borovoye 147.24 43*c* *i*PKIKP **PKPdf 21 56 02.8 +1.1**
BRVK pmax pmax
comp=Z,86nm,0.8s
BVAR Borovoye Array 147.31 43 PKPbc **PKPdf 21 56 02.4 +0.6**
comp=Z,49nm,0.6s,baz=279,slow=2.9,SNR=70
KUR Kuril'sk 147.49 302 PKIKP **PKPdf 21 56 02.7 +0.4**
KSM Kuching 147.59 185 *e*PKPdf **PKPdf 21 56 03.7 +0.2**
MYKOM Kota Tinggi 147.77 172 *e*PKPdf **PKPdf 21 56 03.6 -0.2**
TPTI 147.87 160 PKP **PKPbc 21 56 06.1 -0.8**
PSI Prapat 147.89 163 *e*PKPdf **PKPdf 21 56 03.7 -0.5**
PSI Prapat 147.89 163 *e*PKIKP **PKPdf 21 56 03.7 -0.5**
KBL Kabul 148.04 78 *e*PKPdf **PKPdf 21 56 04.8 +0.9**
KBL Kabul 148.04 78 *e*PKIKP **PKPdf 21 56 04.8 +0.9**
LATR Latur 148.09 111 *ex* PKPpre 21 55 52.3
LATR IAMs_20 IAMs_20 22 54 58.4
comp=Z,2μm,21.1s
KCSI Kotacane, Aceh 148.28 161 PKP **PKPbc 21 56 07.1 -0.9**
SBUM Sibu 148.38 188 *e*PKPdf **PKPdf 21 56 05.3 +0.4**
TSI Tuntungan 148.47 162 PKP **PKPbc 21 56 09.0 +0.5**
MLSI Meulaboh, Aceh 148.59 158 PKP **PKPbc 21 56 08.1 -0.7**
SKMP Bagumbayan, Su 148.62 213 *e*P **PKPdf 21 56 06.1 +0.9**
CHM Chimkent 148.99 63⇑ *e*PKP **PKPdf 21 56 05.3 +0.3**
comp=Z,103nm,1.9s
HYB Hyderabad 149.02 115 *i* PKP **PKPdf 21 56 06.5 +0.7**
HYB *e* 21 56 10.0
HYB *e*PP **PP 21 59 44.0 +3.2**
HYB Hyderabad 149.02 115 *e*P **PKPdf 21 56 06.0 +0.3**
IUG luzhnay 149.31 63⇑ *i*PKP **PKPdf 21 56 06.0 +0.4**
comp=Z,52nm,1.1s
IUG *i* PP **PP 21 59 42.1 -0.4**
IUG LR LR 23 05 30.4
comp=Z,924nm,24.3s
CTBH Cotabato--PC H 149.38 213⇓ *i*P **PKPbc 21 56 11.0 +0.2**
BUKP Musuan 149.57 215 *e*P **PKPbc 21 56 11.7 +0.4**
KK31 Karatay Array 149.60 61 *e*PKPdf **PKPdf 21 56 06.5 +0.5**
KKAR Karatay Array 149.60 61 *e*PKPdf **PKPdf 21 56 06.5 +0.5**
LHMI Lhok Sumawe 149.66 158 *e*PKPdf **PKPdf 21 56 09.3 +2.4**
LHMI Lhok Sumawe 149.66 158 PKP **PKPdf 21 56 08.8 +1.9**
LHMI PKP **PKPbc 21 56 11.3 -0.2**
BRZS Berezniki 149.68 47⇑ *i*PKP **PKPdf 21 56 06.0 +0.2**
comp=Z,76nm,1.9s
BRZS LR LR 23 07 25.2
comp=Z,756nm,18.3s
BTK Batken 149.96 67 PKHKP **PKPdf 21 56 07.2 +0.5**
IPM Ipoh 149.98 166 *e*PKPdf **PKPdf 21 56 07.3 -0.1**
PAGZ Pagadian 150.32 212 *e*P **PKPbc 21 56 11.1 -2.0**
KULM Kulim 150.69 165 *e*PKPdf **PKPdf 21 56 08.2 -0.3**
YSS Yuzh-Sakhalins 150.70 307 *e*PKPdf **PKPdf 21 56 06.8 -0.7**
YSS Yuzh-Sakhalins 150.70 307⇑ *i*PKIKP **PKPbc 21 56 12.9 -0.1**
YSS *e*SS SS 22 19 10.6 +0.6
YSS pmax pmax
comp=Z,70nm,0.9s
MNAS Manas 151.12 62 PKIKP **PKPdf 21 56 09.2 +0.7**
BHPL Bhopal 151.32 104 *e*P **PKPdf 21 56 07.9 -1.3**
NIL Nilore 151.32 81 *e*PKPdf **PKPdf 21 56 08.9 0.0**
NIL Nilore 151.32 81 *e*PKIKP **PKPdf 21 56 09.0 0.0**
ASAJ Asahikawa 151.37 301 PKPbc **PKPbc 21 56 14.9 +0.3**
comp=Z,51nm,0.9s,baz=268,slow=8.2,SNR=9.8
ASAJ Asahikawa 151.37 301 *e*PKPbc **PKPbc 21 56 15.2 +0.5**
ASAJ Asahikawa 151.37 301 PKIKP **PKPbc 21 56 15.0 +0.3**
ASAJ pmax pmax
comp=Z,51nm,0.9s
NGP Nagpur 151.55 109 *e*P **PKPdf 21 56 09.2 -0.4**
NGP IAMs_20 IAMs_20 23 00 56.2
comp=Z,3μm,31.8s
MSLP Maasin 151.61 217 *e*P **PKPbc 21 56 16.1 0.0**
SFK Sufi-Kurgan 152.02 67 PKIKP **PKPdf 21 56 11.0 +0.9**
AML Almayashu 152.03 63 P **PKPdf 21 56 11.1 +0.9**
SNR=10
EKS2 Erkin-Say 152.04 62 P **PKPdf 21 56 11.0 +1.1**
SNR=16
USP Ospenovka 152.48 60 P **PKPdf 21 56 11.1 +0.7**
SNR=10
AAK Ala-Archa 152.56 62 P **PKPdf 21 56 11.6 +0.9**
SNR=8.3
AAK Ala-Archa 152.56 62 *e*PKPdf **PKPdf 21 56 11.6 +0.9**
AAK Ala-Archa 152.56 62 PKPdf **PKPdf 21 56 11.7 +0.9**
SNR=39
AAK Ala-Archa 152.56 62 *i* P **PKPdf 21 56 12.0 +1.3**
SNR=10
UCH Uchtor 152.63 63 P **PKPdf 21 56 12.3 +1.2**
SNR=16
FRU Bishkek 152.63 61 *e*PKIKP **PKPdf 21 56 10.0 -0.6**
FRU *i* 21 56 17.0
FRU pmax pmax
comp=Z,40nm,1.6s
FRU pmax pmax
comp=Z,260nm,1.8s
FRU1 Bishkek 152.64 61 *e*PKPdf **PKPdf 21 56 12.2 +1.5**
FRU1 Bishkek 152.64 61 PKIKP **PKPdf 21 56 12.2 +1.5**
CHMS Chumysh 152.70 61 P **PKPbc 21 56 18.1 +0.3**
SNR=9.8
KBK Karagaybulak 152.89 62 P **PKPdf 21 56 12.1 +0.9**
SNR=7.2
KURK Kurchatov 152.91 43 *e*PKPdf **PKPdf 21 56 11.0 +0.3**
KURK Kurchatov 152.91 43 *e*PKIKP **PKPdf 21 56 11.0 +0.3**
NVS Novosibirsk 152.96 32⇑ *i*PKIKP **PKPdf 21 56 11.5 +0.9**
NVS pmax pmax
comp=Z,226nm,1.2s
NVS pmax pmax
comp=N,23nm,1.0s
NVS pmax pmax
comp=E,65nm,1.3s
KZA Kyzart 153.19 63 P **PKPbc 21 56 20.6 +1.2**
SNR=7.7
TKM2 Tokmak 2 153.33 61 P **PKPdf 21 56 12.8 +0.9**
SNR=7.0
DHRM DHARAMSHALA 153.56 85 *e*P **PKPdf 21 56 12.2 -0.3**
DHRM IAMs_20 IAMs_20 22 29 37.1
comp=Z,338nm,12.8s
KUU Kurty 153.69 59⇑ *i*PKP **PKPdf 21 56 12.2 +0.1**
comp=Z,25nm,1.9s
KUU *i* PP **PP 22 00 07.0 -0.4**
KUU LR LR 23 08 44.3
comp=Z,877nm,18.1s
NRN Naryn 153.82 64 *e*PKPdf **PKPdf 21 56 13.7 +0.9**
NRN Naryn 153.82 64 PKIKP **PKPdf 21 56 13.7 +0.9**
KSH Kashi 153.94 68 PKPbc **PKPdf 21 56 13.3 +0.6**
KSH PP **PP 22 00 10.8 +1.7**
KSH SKS **SKSdf 22 03 18.3 -0.5**
KSH SS **SS 22 19 45.1 -1.5**
KSH AMB AMB
comp=Z,750nm,5.3s
KSH LR LR
comp=Z,3μm,17.6s
KSH LR LR
comp=Z,3μm,18.9s
KSH LR LR
comp=Z,8μm,20.1s
SMLA Simla 154.02 88 *e*P **PKPdf 21 56 12.9 0.0**
ZAA0 Zalesovo Array 154.24 32 *e*PKPdf **PKPdf 21 56 12.4 -0.1**
ZALV Zalesovo Beam 154.24 32 PKP **PKPdf 21 56 11.8 -0.6**
comp=Z,22nm,0.8s,baz=278,slow=2.9,SNR=71
ZALV PKPbc **PKiKP 21 56 21.2 +0.5**
comp=Z,112nm,0.7s,baz=293,slow=3.3,SNR=72
ZALV PKPab **PKPab 21 56 35.4 +0.7**
comp=Z,68nm,0.8s,baz=298,slow=5.2,SNR=9.2
MDOK Medeo 154.34 60 *i* PKP **PKPdf 21 56 13.7 +0.5**
comp=Z,332nm,2.5s
MDOK *i* PP **PP 22 00 10.6 -0.6**
MDOK LR LR 23 06 50.4
comp=Z,832nm,18.8s
DDI Dehra Dun 154.55 90 *e*P **PKPdf 21 56 11.9 -1.9**
TDK Taldyqorghan 154.87 55 *i* PKP **PKPdf 21 56 13.7 0.0**
comp=Z,162nm,4.9s
TDK *i* PP **PP 22 00 13.8 -0.1**
TDK LR LR 23 05 38.3
comp=Z,1μm,21.0s
MJAR Matsushiro Arr 155.13 285 PKP **PKPdf 21 56 13.8 -0.5**
comp=Z,3.3nm,0.9s,baz=185,slow=1.7,SNR=7.8
MAT Matsushiro 155.13 285 PKP **PKPdf 21 56 13.3 -1.0**
MJB9 Matsu-Tunnel 155.13 285 *e*PKPbc PKPbc 21 56 26.3
PRZ Przheval'sk 155.44 61 *e*PKPab **PKPab 21 56 42.2 +1.8**
PRZ Przheval'sk 155.44 61 PKP2 **PKPab 21 56 42.2 +1.8**
KPKS Kokpek 155.44 59⇑ *e*PKP **PKPdf 21 56 15.1 +0.4**
comp=Z,29nm,1.8s
KPKS LR LR 23 09 26.0
comp=Z,560nm,17.3s
UZB Uzynbulak 155.75 59⇑ *i*PKP **PKPdf 21 56 15.4 +0.2**
comp=Z,18nm,2.4s
UZB *i* PP **PP 22 00 18.9 -0.2**
BOD Bodaibo 155.78 352 *e*PKIKP **PKPdf 21 56 12.8 -1.7**
BOD *e* 21 56 40.6
BOD pmax pmax
comp=Z,116nm,1.2s
ZEA Zeya 155.93 331 *i* PKIKP **PKPdf 21 56 18.8 +4.0**
ZEA *e* 22 00 24.0
ZEA pmax pmax
comp=Z,500nm,11.0s
ZEA pmax pmax
comp=Z,43nm,1.2s
SHLS Shalkode 156.07 59⇑ *i*PKP **PKPdf 21 56 16.7 +1.2**
comp=Z,33nm,2.2s
SHLS *i* PP **PP 22 00 22.0 +1.1**
SHLS LR LR 23 09 38.2
comp=Z,649nm,19.0s
BWNR Bhubaneshwar 156.18 119 *e*P **PKPdf 21 56 14.7 -1.4**
BWNR IAMs_20 IAMs_20 23 01 58.9
comp=Z,3μm,15.7s
KLR Kul'dur 156.65 318 PKP **PKPdf 21 56 15.3 -0.6**
comp=Z,9.5nm,0.9s,baz=3.9,slow=4.1,SNR=16
MK31 Makanchi Array 156.81 49 *e*PKPdf **PKPdf 21 56 16.5 +0.3**
MKAR Makanchi Array 156.81 49 PKP **PKPdf 21 56 16.4 +0.2**
comp=Z,9.8nm,0.9s,baz=321,slow=1.6,SNR=52
MKAR PKPab **PKPab 21 56 46.0 +0.1**
comp=Z,21nm,0.7s,baz=311,slow=2.6,SNR=15
MKAR PP **PP 22 00 24.9 +0.4**
comp=Z,6.6nm,1.0s,baz=322,slow=3.7,SNR=4.8
MK01 Makanchi Array 156.82 49 *e*PKPdf **PKPdf 21 56 16.1 -0.2**
PHET Kaeng Krachan 157.74 158 P PKPdf 21 56 30.8 +13
comp=Z,6.4nm,1.2s,comp=Z,94nm
ZSN Zaisan 158.07 45 *e*PKP **PKPdf 21 56 18.1 +0.4**
comp=Z,20nm,3.7s
ZSN LR LR 23 11 13.6
comp=Z,200nm,17.7s
BOK Bokaro 158.29 112 *e*P **PKPdf 21 56 16.8 -2.0**
DANN Dangsing 158.65 99 *e*P **PKPdf 21 56 19.4 0.0**
comp=Z,168nm,1.1s
USRK Ussuriysk Ar. 158.73 306 PKP **PKPdf 21 56 18.1 -0.5**
comp=Z,1.5nm,0.8s,baz=148,slow=11,SNR=3.3
USRK PKPab **PKPab 21 56 55.1 +0.8**
comp=Z,7.4nm,0.9s,baz=60,slow=3.5,SNR=7.6
DMN Daman 159.47 102 *e*P **PKPdf 21 56 19.9 -0.5**
KKN Kakani 159.68 102 *e*P **PKPdf 21 56 20.0 -0.6**
comp=Z,54nm,1.2s
PKIN Phulchoki 159.69 102 *e*P **PKPdf 21 56 19.8 -0.9**
comp=Z,121nm,1.8s
PKI Pulchoki 159.70 102 *e*P **PKPdf 21 56 19.8 -0.9**
comp=Z,107nm,1.4s
MDJ Mudanjiang 160.16 309 PKP **PKPdf 21 56 19.3 -1.0**
MDJ PP **PP 22 00 41.8 -1.0**
MDJ SS SS 22 20 52.4 +0.2
MDJ AMB AMB
comp=Z,340nm,10.4s
MDJ LR LR
comp=Z,690nm,12.7s
MDJ LR LR
comp=Z,1μm,15.1s
MDJ LR LR
comp=Z,1μm,12.7s
MDJ Mudanjiang 160.16 309 *e*PKPdf **PKPdf 21 56 19.4 -0.9**
GUN Gumba 160.22 102 *e*P **PKPdf 21 56 20.9 -0.4**
JIRN Jiri 160.37 103 *e*P **PKPdf 21 56 21.0 -0.5**
comp=Z,83nm,1.1s
RAMN Ramite 160.40 105 *e*P **PKPdf 21 56 21.4 0.0**
comp=Z,248nm,1.5s
UMPA Umpang Tak 160.55 153 P **PKPab 21 57 02.6 -0.2**
comp=Z,6.7nm,1.2s
CIT Chita 161.49 349 *e*PKP2 **PKPab 21 57 07.4 +1.4**
WMQ Urumqi 161.52 52 PKP **PKPdf 21 56 22.5 +0.6**
WMQ pPKP sPKPdf 21 56 29.9 0.0
WMQ PKPab **PKPab 21 57 07.3 +0.7**
WMQ PP **PP 22 00 48.9 -1.4**
WMQ SKKS 22 07 38.1
WMQ AMB AMB
comp=Z,1μm,11.7s
WMQ LR LR
comp=Z,4μm,21.5s
WMQ LR LR
comp=Z,4μm,21.5s
WMQ LR LR
comp=Z,4μm,23.1s
IRK Irkutsk 161.55 7 *e*PKP2 **PKPab 21 57 06.5 +0.3**
IRK pmax pmax
comp=Z,78nm,1.9s
TLY Talaya 162.03 9 PKP **PKPdf 21 56 22.1 0.0**
comp=Z,3.2nm,0.6s,baz=37,slow=10,SNR=2.9
TLY PKPab **PKPab 21 57 08.4 0.0**
comp=Z,14nm,0.8s,baz=291,slow=5.3,SNR=8.0
TLY PP **PP 22 00 54.8 +2.9**
comp=Z,3.0nm,0.5s,baz=355,slow=8.7,SNR=4.1
TLY Talaya 162.03 9 *e*PKIKP **PKPdf 21 56 21.6 -0.5**
TLY *e* 21 57 08.5
TLY *e* 22 00 53.0
TLY *e*PPS PPS 22 14 15.9
TLY *e*SS SS 22 21 12.3 +2.4
TLY pmax pmax

	comp=Z,16nm,1.5s							
BELO	**BELONIA**	**162.09**	**122**	*e*P	**PKPdf**	**21 56 22.2**	**-0.8**
GTK	**Tadong**	**162.17**	**107**	*e*P	**PKPdf**	**21 56 22.4**	**-0.7**
HIA	**Hailar**	**162.35**	**334**	*e*PKPdf	**PKPdf**	**21 56 21.1**	**-1.4**
HIA				*e*PKPab	**PKPab**	**21 57 10.5**	**+0.6**
HIA	**Hailar**	**162.35**	**334**	*e*PKIKP	**PKPdf**	**21 56 21.1**	**-1.4**
HIA				*e*		21 57 10.5	
CM01	**Chiang Mai Arr**	**162.59**	**151**	*e*PKPdf	**PKPdf**	**21 56 23.6**	**0.0**
CM31	**Chiang Mai Arr**	**162.62**	**150**	*e*PKPdf	**PKPdf**	**21 56 24.1**	**+0.5**
CM31	**Chiang Mai Arr**	**162.62**	**150**	PKPdf	**PKPdf**	**21 56 22.9**	**-0.7**
	SNR=18						
CMAR	**Chiang Mai Arr**	**162.62**	**150**	PKP	**PKPdf**	**21 56 23.8**	**+0.1**
	comp=Z,8.3nm,0.9s,baz=248,slow=2.8,SNR=63						
CMAR				PKPab	**PKPab**	**21 57 11.3**	**-0.5**
	comp=Z,5.3nm,1.1s,baz=219,slow=6.5,SNR=7.0						
SAIH	**SAIHA**	**162.63**	**127**	*e*P	**PKPdf**	**21 56 23.6**	**-0.1**
CHTO	**Chiang Mai**	**162.94**	**150**	*e*PKPab	**PKPab**	**21 57 11.7**	**-1.5**
CHTO	**Chiang Mai**	**162.94**	**150**	PKPdf	**PKPdf**	**21 56 23.5**	**-0.5**
	SNR=18						
CHTO	**Chiang Mai**	**162.94**	**150**	PKIKP	**PKPdf**	**21 56 23.5**	**-0.5**
CHTO	**Chiang Mai**	**162.94**	**150**	PKP	**PKPdf**	**21 56 23.8**	**-0.2**
CN2	**Changchun**	**163.18**	**311**	PKP	**PKPdf**	**21 56 21.8**	**-1.6**
CN2				PP	**PP**	**22 01 00.5**	**+1.6**
CN2				SKKS		22 07 46.5	
CN2				SS	**SS**	**22 21 24.5**	**+0.9**
CN2				AMB	AMB		
	comp=Z,300nm,5.0s						
CN2				LR	LR		
	comp=Z,470nm,22.0s						
CN2				LR	LR		
	comp=Z,990nm,22.0s						
CN2				LR	LR		
	comp=Z,1μm,22.0s						
ZAK	**Zakamensk**	**163.25**	**10**	*e*PKIKP	**PKPdf**	**21 56 22.8**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.6s						
KSRS	**Korea Array**	**163.34**	**288**	PKP	**PKPdf**	**21 56 22.7**	**-1.1**
	comp=Z,6.2nm,1.0s,baz=161,slow=0.8,SNR=20						
KSRS				PKPab	**PKPab**	**21 57 15.7**	**+1.0**
	comp=Z,4.0nm,0.9s,baz=96,slow=4.6,SNR=5.5						
KS01	**Wonju Array Si**	**163.36**	**288**	*e*PKPdf	**PKPdf**	**21 56 22.9**	**-0.9**
KSAR	**Wonju Array Be**	**163.37**	**288**	PKP	**PKPdf**	**21 56 22.7**	**-1.1**
KSAR				PKPab	**PKPab**	**21 57 15.7**	**+0.8**
KSAR	**Wonju Array Be**	**163.37**	**288**	PKIKP	**PKPdf**	**21 56 22.7**	**-1.1**
KSAR						21 57 15.7	
NONG	**Nongkai**	**163.61**	**164**	P	**PKPab**	**21 57 16.1**	**+0.1**
	comp=Z,0.9nm,1.1s						
SHL	**Shillong**	**163.81**	**117**	*e*PKPdf	**PKPdf**	**21 56 25.2**	**+0.3**
SHL				*e*PKPab	**PKPab**	**21 57 17.8**	**+0.5**
SHL	**Shillong**	**163.81**	**117**	*e*PKIKP	**PKPdf**	**21 56 25.2**	**+0.3**
SHL				*e*		21 57 17.8	
SHL	**Shillong**	**163.81**	**117**	*e*P	**PKPdf**	**21 56 24.2**	**-0.7**
SHL	**Shillong**	**163.81**	**117**	*i* P	**PKPdf**	**21 56 23.0**	**-1.8**
SSLB	**Suanglung**	**164.70**	**232**	*e*PKPdf	**PKPdf**	**21 56 26.1**	**+0.6**
TAWA	**Tawang**	**164.87**	**111**	*e*P	**PKPdf**	**21 56 25.0**	**-0.9**
QIZ	**Qiongzhong**	**165.02**	**187**	PKP	**PKPdf**	**21 56 24.1**	**-1.7**
QIZ				PP	**PP**	**22 01 08.3**	**+0.8**
QIZ				SS	SS	22 21 40.3	-0.3
QIZ				LR	LR		
	comp=Z,650nm,18.1s						
QIZ				LR	LR		
	comp=Z,650nm,18.6s						
QIZ				LR	LR		
	comp=Z,530nm,17.6s						
TEZP	**TEZPUR**	**165.08**	**115**	*e*P	**PKPdf**	**21 56 25.2**	**-0.5**
LSA	**Lhasa**	**165.18**	**102**	*e*PKPdf	**PKPdf**	**21 56 27.0**	**+0.7**
LSA				*e*PKPab	**PKPab**	**21 57 24.8**	**+1.2**
LSA	**Lhasa**	**165.18**	**102**	*i* P	**PKPdf**	**21 56 27.0**	**+0.7**
	SNR=6.2						
LSA	**Lhasa**	**165.18**	**102**	PKIKP	**PKPdf**	**21 56 27.5**	**+1.2**
SNY	**Shenyang**	**165.33**	**307**	⇑PKP	**PKPdf**	**21 56 21.1**	**-4.3**
SNY				PKPab	**pPKPab**	**21 57 29.0**	**-0.1**
SNY				PP	**PP**	**22 01 08.5**	**-1.8**
SNY				SKKS		22 08 00.0	
SNY				SS	**SS**	**22 21 44.8**	**-1.1**
SNY				AMB	AMB		
	comp=Z,450nm,15.5s						
SNY				LR	LR		
	comp=Z,2μm,17.8s						
SNY				LR	LR		
	comp=Z,610nm,17.3s						
SNY				LR	LR		
	comp=Z,2μm,23.0s						
KOHI	**KOHIMA**	**165.52**	**121**	*e*P	**PKPdf**	**21 56 26.2**	**-0.1**
KOHI				IAMs_20	IAMs_20	22 28 01.1	
	comp=Z,330nm,16.7s						
SONA1	**Songino Array**	**166.09**	**4**	*e*PKPdf	**PKPdf**	**21 56 25.5**	**-0.5**
SONM	**Songino Array**	**166.10**	**4**	PKP	**PKPdf**	**21 56 25.6**	**-0.5**
	comp=Z,5.5nm,0.9s,baz=295,slow=0.6,SNR=24						
SONM				PKPab	**PKPab**	**21 57 27.2**	**+0.7**
	comp=Z,14nm,0.9s,baz=336,slow=3.7,SNR=18						
SONM				PP	**PP**	**22 01 12.7**	**-0.7**
	comp=Z,4.6nm,1.1s,baz=338,slow=4.7,SNR=7.0						
ULN	**Ulaanbaatar**	**166.10**	**2**	*e*PKPdf	**PKPdf**	**21 56 25.3**	**-0.8**
ULN				*e*PKPab	**PKPab**	**21 57 27.6**	**+1.0**
ULN				*e*PP	**PP**	**22 01 11.7**	**-1.7**
ULN	**Ulaanbaatar**	**166.10**	**2**	*e*PKIKP	**PKPdf**	**21 56 25.3**	**-0.8**
ULN				*e*		21 57 27.6	
ULN				*e*		22 01 11.7	
MOKO	**MOKOCHONG**	**166.18**	**120**	*e*P	**PKPdf**	**21 56 26.8**	**0.0**
ZIRO	**ZIRO**	**166.35**	**114**	*e*P	**PKPdf**	**21 56 23.4**	**-3.6**
QZH	**Quanzhou**	**167.04**	**229**	*i* PKP	**PKPdf**	**21 56 27.4**	**+0.1**
QZH				PP	**PP**	**22 01 25.0**	**+6.0**
QZH				AMB	AMB		
	comp=Z,330nm,9.0s						
QZH				LR	LR		
	comp=Z,990nm,18.0s						
QZH				LR	LR		
	comp=Z,790nm,18.9s						
QZH				LR	LR		
	comp=Z,2μm,18.5s						
LKP	**Lekhapani**	**167.73**	**119**	*e*P	**PKPdf**	**21 56 27.3**	**-0.4**
DL2	**Dalian**	**167.87**	**298**	PKP	**PKPdf**	**21 56 26.8**	**-0.6**
DL2				PKPab	**pPKPab**	**21 57 39.8**	**-0.6**
DL2				PP	**PP**	**22 01 21.5**	**-2.1**
DL2				SS	SS	22 22 11.8	-0.3
DL2				AMB	AMB		
	comp=Z,320nm,9.1s						
DL2				LR	LR		
	comp=Z,1μm,19.9s						
DL2				LR	LR		
	comp=Z,760nm,19.1s						
DL2				LR	LR		
	comp=Z,2μm,20.4s						
GZH	**Guangzhou**	**168.14**	**205**	PKP	**PKPdf**	**21 56 29.3**	**+1.2**
GZH				PP	**PP**	**22 01 29.3**	**+5.4**
GZH				SKKS		22 08 14.6	
GZH				LR	LR		
	comp=Z,990nm,19.6s						
GZH				LR	LR		
	comp=Z,1μm,19.6s						
SSE	**Sheshan**	**168.39**	**259**	PKP	**PKPdf**	**21 56 24.6**	**-3.4**
SSE				SS	SS	22 22 12.9	-5.1
SSE				AMB	AMB		
	comp=Z,410nm,3.4s						
SSE				LR	LR		
	comp=Z,1μm,12.2s						
SSE				LR	LR		
	comp=Z,670nm,15.5s						
KMI	**Kunming**	**170.13**	**152**	PKP	**PKPdf**	**21 56 29.8**	**+0.2**
KMI				pPKP	pPKPdf	21 56 35.3	-0.3
KMI				sPKP		21 56 37.3	
NJ2	**Nanjing**	**170.57**	**261**	*e*PKP	**PKPdf**	**21 56 29.3**	**0.0**
NJ2				pPKP	**pPKPdf**	**21 56 34.0**	**-1.4**
NJ2				PKPab	**PKPab**	**21 57 44.8**	**-2.0**
NJ2				PP	**PP**	**22 01 39.3**	**+1.6**
NJ2				SKKS		22 08 25.1	
NJ2				AMB	AMB		
	comp=Z,670nm,6.0s						
NJ2				LR	LR		
	comp=Z,1μm,17.3s						
NJ2				LR	LR		
	comp=Z,730nm,17.3s						
NJ2				LR	LR		
	comp=Z,1μm,21.7s						
GTA	**Gaotai**	**171.56**	**48**	PKP	**PKPdf**	**21 56 30.4**	**+0.6**
GTA				sPKP		21 56 43.8	
GTA				PKPab	**PKPab**	**21 57 52.3**	**+1.2**
GTA				PP	**PP**	**22 01 41.5**	**-0.5**
GTA				SKKS		22 08 24.8	
GTA				AMB	AMB		
	comp=Z,740nm,9.9s						
GTA				LR	LR		
	comp=Z,2μm,20.3s						
GTA				LR	LR		
	comp=Z,1μm,21.6s						
GTA				LR	LR		
	comp=Z,3μm,22.3s						
TIA	**Tai'an**	**172.08**	**289**	PKP	**PKPdf**	**21 56 30.1**	**+0.1**
TIA				PP	**PP**	**22 01 43.8**	**-1.3**
TIA				AMB	AMB		
	comp=Z,360nm,13.7s						
TIA				LR	LR		
	comp=Z,920nm,20.4s						
TIA				LR	LR		
	comp=Z,780nm,16.3s						
TIA				LR	LR		
	comp=Z,2μm,20.8s						
GYA	**Guiyang**	**172.45**	**172**	*i* PKP	**PKPdf**	**21 56 30.4**	**-0.2**
GYA				PKPab	**PKPab**	**21 57 56.6**	**+1.5**
GYA				PKS	**PKSdf**	**22 00 00.3**	**-2.8**
GYA				PP	**PP**	**22 01 48.8**	**+3.4**
GYA				SKKS		22 08 32.0	
GYA				SS	**SS**	**22 22 55.5**	**+0.4**
GYA				AMB	AMB		
	comp=Z,190nm,8.9s						
GYA				LR	LR		
	comp=Z,160nm,21.9s						
GYA				LR	LR		
	comp=Z,180nm,22.0s						
GYA				LR	LR		
	comp=Z,210nm,21.6s						
HHC	**Hu-ho-hao-te**	**172.52**	**338**	*e*PKP	**PKPdf**	**21 56 31.4**	**+1.2**
HHC				PP	**PP**	**22 01 45.3**	**-0.7**
HHC				SS	SS	22 22 54.6	-1.7
HHC				AMB	AMB		
	comp=Z,430nm,9.9s						
HHC				LR	LR		
	comp=Z,1μm,20.1s						
HHC				LR	LR		
	comp=Z,1μm,19.3s						
HHC				LR	LR		
	comp=Z,2μm,19.8s						
WHN	**Wuhan**	**173.53**	**240**	⇓PKP	**PKPdf**	**21 56 31.4**	**+0.7**
WHN				PKPab	**sPKPab**	**21 58 06.8**	**-1.0**
WHN				PP	**PP**	**22 01 57.8**	**+5.9**
WHN				SKKS		22 08 39.6	
WHN				LR	LR		
	comp=Z,3μm,17.4s						
WHN				LR	LR		
	comp=Z,3μm,17.7s						
WHN				LR	LR		
	comp=Z,5μm,20.1s						
TIY	**Taiyuan**	**174.73**	**316**	PKP	**PKPdf**	**21 56 31.8**	**+0.8**
TIY				PP	**PP**	**22 02 00.3**	**+3.0**
TIY				SKS	**SKSdf**	**22 03 35.3**	**+1.9**
TIY				AMB	AMB		
	comp=Z,330nm,11.1s						
TIY				LR	LR		
	comp=Z,1μm,16.0s						
TIY				LR	LR		
	comp=Z,290nm,12.0s						
TIY				LR	LR		
	comp=Z,1μm,18.7s						
CD2	**Chengdu**	**175.38**	**130**	PKP	**PKPdf**	**21 56 31.0**	**-0.4**
CD2				pPKP	pPKPdf	21 56 36.4	-1.0
CD2				sPKP		21 56 38.4	
CD2				PP	**PP**	**22 01 58.3**	**-2.3**
CD2				SKS	**SKSdf**	**22 03 33.5**	**-0.3**
CD2				SKKS	**SKKSac**	**22 08 45.5**	**-0.9**
CD2				SS	**SS**	**22 23 25.1**	**-0.2**
CD2				AMB	AMB		
	comp=Z,910nm,6.3s						
CD2				LR	LR		
	comp=Z,4μm,18.8s						
CD2				LR	LR		
	comp=Z,2μm,20.4s						
CD2				LR	LR		
	comp=Z,5μm,21.6s						
ENH	**Enshi**	**176.07**	**201**	*e*PKPdf	**PKPdf**	**21 56 31.8**	**+0.2**
LZH	**Lanzhou**	**176.08**	**56**	*e*PKP	**PKPdf**	**21 56 31.3**	**-0.3**
LZH				pPKP	sPKPdf	21 56 42.6	+3.0
LZH				PKPab	**PKPab**	**21 58 13.3**	**+2.0**
LZH				PKS	**PKSdf**	**22 00 01.3**	**-2.6**
LZH				PP	**PP**	**22 02 04.6**	**+0.3**
LZH				SKS	**SKSdf**	**22 03 28.8**	**-5.1**
LZH				SS	**SS**	**22 23 34.0**	**+1.4**
LZH				AMB	AMB		
	comp=Z,1μm,5.4s						
LZH				LR	LR		
	comp=Z,3μm,17.9s						
LZH				LR	LR		
	comp=Z,3μm,17.3s						
LZH				LR	LR		
	comp=Z,3μm,18.4s						
XAN	**Xi'an**	**179.12**	**275**	PKP	**PKPdf**	**21 56 31.8**	**-0.1**
XAN				PP	**PP**	**22 02 17.6**	**-1.4**
XAN				SKKS		22 09 05.9	
XAN				AMB	AMB		
	comp=Z,1μm,10.4s						
XAN				LR	LR		
	comp=Z,1μm,21.1s						
XAN				LR	LR		
	comp=Z,650nm,18.1s						
XAN				LR	LR		
	comp=Z,2μm,20.6s						

IDC 21 22:04:17.0±7.8, 19°.47N×108°.87W, h0km, mb3.4/4, mb1 3.9/5, mb1mx3.7/44, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=136.7km s-min=65.3km az=149.0, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**10.91**	**25**	Pn	Pn	22 06 53.9	-0.7
	0.1nm,0.3s,baz=198,slow=15,SNR=18						
NVAR	**Mina Array Bea**	**20.60**	**339**	P	P	22 08 56.9	-1.1
	1.2nm,0.7s,baz=170,slow=12,SNR=5.9						
PDAR	**Pinedale Array**	**23.24**	**359**	P	P	22 09 28.0	+1.9
	0.9nm,0.8s,baz=195,slow=10.0,SNR=2.5						
INK	**Inuvik**	**51.22**	**349**	P	P	22 13 23.2	+1.3
	1.5nm,0.8s,baz=161,slow=17,SNR=3.3						
ILAR	**Eielson Array**	**51.84**	**340**	P	P	22 13 25.0	-1.7
	0.3nm,0.8s,baz=142,slow=7.8,SNR=3.7						

IDC 21 22:08:33.8±1.6, 15°.48S×178°.44W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.8/32, mbtmp3.8/6, MS4.6/2, Ms1 4.6/2, ms1mx3.7/41, Error ellipse: s-maj=100.8km s-min=21.5km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**21.93**	**283**	LR	LR	22 21 07.3	
	comp=Z,993nm,19.8s,baz=130,slow=34						
STKA	**Stephens Creek**	**39.81**	**239**	P	P	22 16 08.6	-0.4
	0.7nm,0.3s,baz=79,slow=10,SNR=2.6						
WRA	**Warramunga Arr**	**45.09**	**257**	P	P	22 16 51.9	-0.1
	0.7nm,1.0s,baz=91,slow=7.1,SNR=3.5						
ASAR	**Alice Springs**	**45.46**	**252**	P	P	22 16 54.8	-0.2
	0.8nm,0.5s,baz=87,slow=8.5,SNR=11						
PETK	**Petropavlovsk-**	**71.34**	**345**	LR	LR	22 47 09.6	
	comp=Z,549nm,20.4s,baz=50,slow=32						
NVAR	**Mina Array Bea**	**77.71**	**44**	P	P	22 20 33.3	+0.4
	0.9nm,0.6s,baz=217,slow=6.9,SNR=5.4						
ILAR	**Eielson Array**	**83.55**	**13**	P	P	22 21 02.0	-1.3
	1.1nm,1.0s,baz=218,slow=7.0,SNR=5.3						
TXAR	**Lajitas Array**	**84.73**	**58**	P	P	22 21 10.0	-0.3
	0.4nm,0.9s,baz=197,slow=2.6,SNR=4.2						
BRTR	**Keskin Array B**	**143.03**	**317**	PKP	PKPdf	22 28 10.1	0.0
	2.0nm,0.8s,baz=151,slow=2.8,SNR=10.0						
GERES	**GERESS Array B**	**145.27**	**346**	PKPbc	PKPdf	22 28 14.0	+0.3
	0.3nm,0.4s,baz=300,slow=2.2,SNR=2.9						

*NIED **21** 22:25:00, 23°.90N×122°.30E, h38km, Mw4.7 Best double couple: M0 1.32000×10^16 NP1:φs56.00000°, δ85.00000°, λ5.00000°. NP2:φs326.00000°, δ85.00000°, λ175.00000°.*
*BJI **21** 22:25:24.3, 24°.05N×122°.29E, h5km, mb4.5/53, mB4.7/34, ML4.6/6, Ms4.5/53, Ms7 4.5/47*
*JMA **21** 22:25:25.9±0.2, 23°.95N×122°.29E, h18km±3km, M4.9*
*MOS **21** 22:25:26.8±0.9, 24°.11N×122°.41E, h39km, mb5.2/53, Error ellipse: s-maj=8.9km s-min=4.5km az=122.2*
*TAP **21** 22:25:26.4, 24°.01N×122°.32E, h22km, ML5.0, C*
*NEIC **21** 22:25:27.0±1.4, 24°.04N×122°.34E, h29km±9km, mb4.9/35, ML4.7(TAP), Error ellipse: s-maj=5.0km s-min=4.4km az=71.0*

NEIC Recorded [2 TAP] in Yilan and [1 TAP] in Changhua and Hualien.
*ISCJB **21** 22:25:27.4±0.2, 23°.99N±0°.01×122°.33E±0°.01, h43km±1km, mb4.7/120, MS4.5/2, Error ellipse: s-maj=2.1km s-min=1.6km az=138.3*
*IDC **21** 22:25:28.1±2.2, 24°.17N×122°.36E, h33km±15km, mb4.4/26, mb1 4.5/28, mb1mx4.4/39, mbtmp4.6/28, ML4.0/1, MS4.3/5, Ms1 4.3/5, ms1mx3.7/47, Error ellipse: s-maj=15.0km s-min=10.2km az=68.0*

ISC 21 22:25:27.4±0.7, 23°.97N±0°.02×122°.30E±0°.02, h30km±4km, n475, σ1§47/601, mb4.9/124, 97C-30D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.59**	**345**	⇓P	**Pb**	**22 25 38.1**	**-1.3**
	baz=342						
EOS1				S	**Sb**	**22 25 46.5**	**-1.0**
	baz=342						
HWA	**Hwalien**	**0.64**	**271**	*e*P	**Pb**	**22 25 39.4**	**-0.7**
	baz=253						
HWA				S	**Sn**	**22 25 49.2**	**-0.3**
	baz=253						
TWD	**Chiawan**	**0.65**	**280**	⇑*i*P	**Pb**	**22 25 39.2**	**-1.2**
	baz=277						
TWD				*i* S	**Sb**	**22 25 48.7**	**-0.5**
	baz=277						
NACB	**Ninganchiao**	**0.68**	**287**	⇑P	**Pb**	**22 25 39.6**	**-1.2**
	baz=269						
NACB				S	**Sb**	**22 25 49.0**	**-0.9**
	baz=269						
NACB	**Ninganchiao**	**0.68**	**287**	*e*Pg	**Pb**	**22 25 39.5**	**-1.2**
NANB	**Nanao**	**0.68**	**312**	⇓*i*P	**Pb**	**22 25 39.2**	**-1.5**
	baz=320						
NANB				*e*S	**Sb**	**22 25 49.8**	**-0.1**
	baz=320						
ENA	**Nanau**	**0.68**	**312**	⇓*i*P	**Pb**	**22 25 39.3**	**-1.6**
	baz=320						
ENA				*e*S	**Sb**	**22 25 49.2**	**-0.8**
	baz=320						
TWC	**Suao**	**0.76**	**327**	⇓*i*P	**Pn**	**22 25 40.2**	**-1.9**
	baz=324						
TWC				*e*S	**Sb**	**22 25 49.4**	**-2.7**
	baz=324						
JYNG	**Yonagunijimaku**	**0.76**	**51**	P	**Pn**	**22 25 40.7**	**-1.4**
JYNG				S	**Sb**	**22 25 50.2**	**-2.0**
ESL	**Shilin**	**0.81**	**259**	⇑*e*P	**Pn**	**22 25 41.2**	**-1.6**
	baz=245						
ESL				*e*S	**Sb**	**22 25 52.2**	**-1.4**
	baz=245						
YOJ	**Yonaguni jima**	**0.81**	**53**	⇓P	**Pn**	**22 25 41.8**	**-1.1**
	baz=64						
YOJ				*e*S	**Sb**	**22 25 51.8**	**-1.9**
	baz=64						
YOJ	**Yonaguni jima**	**0.81**	**53**	*e*Pn	**Pn**	**22 25 41.7**	**-1.1**
YOJ	**Yonaguni jima**	**0.81**	**53**	*e*P	**Pn**	**22 25 41.7**	**-1.1**
YOJ	**Yonaguni jima**	**0.81**	**53**	P	**Pn**	**22 25 41.7**	**-1.1**
YOJ				S	**Sb**	**22 25 51.7**	**-2.0**
EGFH	**Guangfu**	**0.85**	**249**	⇑*e*P	**Pn**	**22 25 42.0**	**-1.4**
	baz=248						
EGFH				*e*S	**Sb**	**22 25 53.5**	**-1.4**
	baz=248						
EGS		**0.93**	**339**	⇓P	**Pn**	**22 25 43.6**	**-0.9**
	baz=325						
EGS				*e*S	**Sn**	**22 25 56.0**	**-0.8**
	baz=325						
HGSD	**Ruisui**	**0.94**	**239**	⇓P	**Pn**	**22 25 43.4**	**-1.2**
	baz=238						
HGSD				S	**Sn**	**22 25 55.3**	**-1.5**
	baz=238						
ILA	**Ilan**	**0.94**	**328**	*e*P	**Pn**	**22 25 43.9**	**-0.6**
	baz=325						
ILA				S	**Sn**	**22 25 56.8**	**-0.1**
	baz=325						
ENTT	**Nioudou**	**0.94**	**315**	⇓*i*P	**Pn**	**22 25 44.1**	**-0.6**
	baz=324						
ENTT				*e*S	**Sn**	**22 25 56.3**	**-0.8**
	baz=324						
TWE	**Neicheng**	**0.94**	**322**	⇓*i*P	**Pn**	**22 25 43.9**	**-0.8**
	baz=329						
TWE				*e*S	**Sn**	**22 25 56.3**	**-0.8**
	baz=329						
NNSB	**Datong**	**0.95**	**299**	⇑P	**Pn**	**22 25 44.2**	**-0.7**
	baz=283						
NNSB				S	**Sn**	**22 25 56.7**	**-0.8**
	baz=283						
WHF	**Hehuan Shan**	**0.96**	**280**	⇑P	**Pn**	**22 25 44.2**	**-1.0**
	baz=278						
WHF				*e*S	**Sn**	**22 25 57.3**	**-0.9**
	baz=278						
NNS	**Nan Shan**	**0.97**	**299**	⇑*i*P	**Pn**	**22 25 44.5**	**-0.6**
	baz=283						
NNS				*e*S	**Sn**	**22 25 57.2**	**-0.6**
	baz=283						
NTC	**Toucheng**	**0.98**	**334**	⇓*e*P	**Pn**	**22 25 44.3**	**-0.8**
	baz=332						
EHY	**Hungye**	**1.01**	**243**	*e*P	**Pn**	**22 25 44.6**	**-1.0**
	baz=242						
EHY				*e*S	**Sn**	**22 25 58.2**	**-0.5**
	baz=242						
CHGB	**Renai**	**1.03**	**275**	⇑P	**Pn**	**22 25 45.5**	**-0.5**
	baz=260						
CHGB				S	**Sn**	**22 25 58.6**	**-1.1**
	baz=260						
TWT	**Tachien**	**1.06**	**285**	⇑*e*P	**Pn**	**22 25 46.3**	**-0.2**
	baz=272						
TWT				*e*S	**Sn**	**22 26 00.6**	**+0.3**
	baz=272						
TWB1	**Santiao Chiao**	**1.07**	**345**	⇑P	**Pn**	**22 25 45.6**	**-0.8**
	baz=328						
TWB1				*e*S	**Sn**	**22 26 00.1**	**-0.1**
	baz=328						
TDCB	**Techi**	**1.08**	**285**	⇑P	**Pn**	**22 25 46.3**	**-0.4**
	baz=272						
TDCB				*e*S	**Sn**	**22 26 00.4**	**-0.3**
	baz=272						
YULB	**Yu-li**	**1.09**	**238**	⇓*e*P	**Pn**	**22 25 45.8**	**-0.8**
	baz=254						
YULB				*e*S	**Sn**	**22 25 59.7**	**-0.9**
	baz=254						
YULB	**Yu-li**	**1.09**	**238**	*e*Pn	**Pn**	**22 25 45.9**	**-0.8**
YHNB	**Yeheng**	**1.09**	**310**	⇑P	**Pn**	**22 25 46.5**	**-0.3**
	baz=307						
YHNB				*e*S	**Sn**	**22 26 00.7**	**-0.2**
	baz=307						
YHNB	**Yeheng**	**1.09**	**310**	*e*Pn	**Pn**	**22 25 46.5**	**-0.3**
NSK	**Sanguang**	**1.11**	**309**	⇑*i*P	**Pn**	**22 25 46.6**	**-0.4**
	baz=306						
NSK				S	**Sn**	**22 26 01.3**	**0.0**
	baz=306						
TWF1	**Yuli**	**1.11**	**236**	⇓P	**Pn**	**22 25 46.2**	**-0.8**
	baz=236						
TWF1				*e*S	**Sn**	**22 25 60.0**	**-1.2**
	baz=236						
NWF	**Wu-fen Shan**	**1.19**	**337**	⇑*i*P	**Pn**	**22 25 48.0**	**-0.2**
	baz=333						
NWF				*e*S	**Sb**	**22 26 04.1**	**-0.5**
	baz=333						
WFSB	**Wu-fen Shan**	**1.19**	**337**	⇑*i*P	**Pn**	**22 25 47.9**	**-0.2**
	baz=333						
WFSB				S	**Sb**	**22 26 04.3**	**-0.2**
	baz=333						
TWA	**Mucha**	**1.20**	**327**	⇑*i*P	**Pn**	**22 25 48.6**	**+0.5**
	baz=324						
TWA				*e*S	**Sn**	**22 26 03.6**	**+0.2**
	baz=324						
FULB	**Fuli**	**1.20**	**230**	⇓*e*P	**Pn**	**22 25 47.0**	**-1.2**
	baz=217						
FULB				*e*S	**Sn**	**22 26 02.2**	**-1.4**
	baz=217						
TATO	**Taipei**	**1.24**	**324**	⇑P	**Pn**	**22 25 49.1**	**+0.4**
	baz=320						
TATO				S	**Sn**	**22 26 05.1**	**+0.6**
	baz=320						
TATO	**Taipei**	**1.24**	**324**	*e*Pn	**Pn**	**22 25 49.2**	**+0.4

SMLT eS Sn 22 26 05.0 -0.7
baz=254
WLTB Daxi 1.30 313⇑*i*P Pb 22 25 50.4 -0.8
baz=310
WLTB eS Sb 22 26 07.1 -0.3
baz=310
YUS Yu-Shan 1.33 249 *e*P Pn 22 25 50.0 -0.3
baz=248
YUS eS Sn 22 26 06.6 -0.6
baz=248
YM01 YM01 1.34 331⇑*e*P Pn 22 25 50.9 +0.7
baz=344
YM07 YM07 1.35 333 ⇑P Pn 22 25 49.8 -0.5
baz=329
YM07 eS Sb 22 26 08.5 -0.5
baz=329
LIOB Emei 1.35 300⇑*i*P Pn 22 25 51.1 +0.9
baz=297
LIOB S Sb 22 26 08.7 -0.4
baz=297
NSTT Nanjuang 1.35 299 ⇑P Pn 22 25 51.1 +0.8
baz=284
NSTT S Sb 22 26 08.6 -0.6
baz=284
IRIF Iriomote-Funau 1.35 74 P Pn 22 25 50.9 +0.6
IRIF eS Sb 22 26 09.7 +0.5
YM10 YM10 1.36 330⇑*e*P Pn 22 25 50.1 -0.3
baz=343
YM10 eS Sn 22 26 08.0 +0.6
baz=343
YM11 YM11 1.36 331 *e*P Pn 22 25 50.1 -0.3
baz=345
YM05 YM05 1.36 331⇑*e*P Pn 22 25 50.1 -0.4
baz=327
YM05 eS Sn 22 26 08.4 +0.8
baz=327
YM04 YM04 1.37 330 *e*P Pn 22 25 50.2 -0.3
baz=326
YM04 eS Sb 22 26 08.8 -0.7
baz=326
YM08 YM08 1.37 332⇑*e*P Pn 22 25 49.9 -0.7
baz=329
YM08 eS Sn 22 26 08.0 +0.3
baz=329
HATJ Hateruma jima 1.38 86 P Pn 22 25 50.8 +0.2
TWS1 Kuangyinshan 1.38 325 *e*P Pn 22 25 50.9 +0.3
baz=334
TWS1 eS Sb 22 26 09.1 -0.8
baz=334
YM03 YM03 1.39 330⇑*e*P Pn 22 25 50.4 -0.4
baz=326
YM03 eS Sb 22 26 09.7 -0.5
baz=326
ELDTW Lidau 1.41 237 ⇓P Pn 22 25 50.3 -0.9
baz=236
ELDTW eS Sn 22 26 07.4 -1.5
baz=236
NTST Danshui 1.42 327 *e*P Pn 22 25 51.6 +0.4
baz=342
NCU National Centr 1.42 315 *e*P Pn 22 25 51.7 +0.5
baz=311
NCU eS Sb 22 26 10.8 -0.2
baz=311
NCUH Zhongli 1.42 315 *e*P Pn 22 25 51.6 +0.4
baz=312
TWQ1 Liyutan 1.44 285⇑*i*P Pb 22 25 52.9 -0.8
baz=283
TWQ1 eS Sb 22 26 11.1 -0.6
baz=283
TWY Chenhua 1.45 334 *e*P Pn 22 25 51.8 +0.2
baz=330
TWY eS Sn 22 26 09.7 +0.2
baz=330
WJS Zhushan 1.45 264 *e*P Pn 22 25 52.7 +1.1
baz=263
SBCB Hsinchu 1.45 305 ⇑P Pn 22 25 52.6 +0.9
baz=301
SBCB eS Sb 22 26 11.7 -0.2
baz=301
NSY Sanyi 1.47 288 ⇑P Pb 22 25 53.4 -0.8
baz=285
NSY S Sb 22 26 13.0 +0.4
baz=285
WNT Mingjian 1.48 267 *e*P Pb 22 25 53.2 -1.1
baz=265
WNT eS Sb 22 26 12.6 -0.2
baz=265
NMLH Miaoli 1.49 292 *e*P Pb 22 25 53.5 -1.0
baz=290
NMLH eS Sb 22 26 13.1 +0.1
baz=290
TCU Taichung 1.50 277⇑*e*P Pb 22 25 53.8 -0.8
baz=275
TCU eS Sb 22 26 13.5 +0.3
baz=275
PTSB Yuanli 1.53 288 ⇑P Pn 22 25 54.0 +1.2
baz=286
PTSB eS Sb 22 26 13.2 -1.1
baz=286
CHN5 Tsauling 1.53 256 ⇑P Pn 22 25 53.7 +0.9
baz=243
CHN5 eS Sn 22 26 13.0 +1.2
baz=243
JKRS Kuro-shima 1.58 80 P Pn 22 25 54.0 +0.6
JKRS S Sb 22 26 15.2 -0.5
WCHH Zhanghua 1.60 274 *e*P Pn 22 25 54.8 +1.2
baz=272
WCHH eS Sb 22 26 16.3 +0.3
baz=272
TWGBT Beinan 1.61 225 ⇓P Pn 22 25 52.7 -1.1
baz=224
TWG Pinlang 1.61 225 ⇓P Pn 22 25 52.7 -1.1
baz=238
TWG eS Sn 22 26 11.4 -2.2
baz=238
TWG Pinlang 1.61 225 *e*Pn Pn 22 25 52.8 -1.1
TTN Taitung 1.61 221 *e*P Pn 22 25 53.2 -0.6
baz=222
TTN eS Sn 22 26 12.8 -0.7
baz=222
WGK Gukeng 1.62 260 *e*P Pn 22 25 54.9 +1.0
baz=259
WGK eS Sb 22 26 16.0 -0.7
baz=259
STYT Tauyuan 1.63 241 ⇓P Pn 22 25 54.5 +0.4
baz=230
STYT eS Sn 22 26 14.5 +0.4
baz=230
WDLH Douliu 1.64 260 *e*P Pn 22 25 55.5 +1.3
baz=259
WDLH eS Sb 22 26 16.9 -0.3
baz=259
PCYT Pengchaiyu 1.66 353 *e*P Pn 22 25 54.0 -0.5
baz=350
TPUB Ta-pu 1.67 247 ⇑P Pn 22 25 55.6 +0.9
baz=246
TPUB eS Sn 22 26 16.5 +1.4
baz=246
TPUB Ta-pu 1.67 247 *e*Pn Pn 22 25 54.8 +0.1
CHN4 Tsaushan 1.68 249⇑*e*P Pn 22 25 56.0 +1.1
baz=248
CHN4 eS Sb 22 26 18.0 -0.6
baz=248
WTP Ta-pu 1.71 245 ⇑P Pn 22 25 56.3 +1.1
baz=245
WTP eS Sb 22 26 18.0 -1.3
baz=245
JIJ Ishigaki jima 1.73 77 P Pn 22 25 55.4 0.0
JIJ S Sn 22 26 17.7 +1.2
RLNB Erlin 1.78 268 ⇑P Pb 22 25 57.8 -1.6
baz=267
RLNB eS Sb 22 26 20.7 -0.5
baz=267
CHY Chiayi 1.78 255 *e*P Pn 22 25 57.8 +1.6
baz=254
CHY eS Sb 22 26 20.8 -0.6
baz=254
TWK Hsinying 1.80 247 *e*P Pn 22 25 58.0 +1.4
baz=247
TWK eS Sb 22 26 20.5 -1.6
baz=247
CHN1 Nanshi 1.81 245⇓*e*P Pn 22 25 58.1 +1.6
baz=244
CHN1 eS Sb 22 26 20.8 -1.3
baz=244
SGST Jiashian 1.81 241 *e*P Pn 22 25 57.6 +1.0
baz=230
SGST eS Sn 22 26 20.1 +1.6
baz=230
ECL Taimali 1.85 222 *e*P Pn 22 25 55.8 -1.2
baz=223
ECL eS Sn 22 26 16.7 -2.7
baz=223
WTCT Ta-ch'eng 1.85 267 *e*P Pn 22 25 58.4 +1.3
baz=266
WTCT S Sb 22 26 22.6 -0.8
baz=266
WLGB Puzi 1.90 255 *e*P Pn 22 25 59.5 +1.7
baz=255
WLGB eS Sb 22 26 23.4 -1.4
baz=255
WMLT Mailiao 1.91 265 *e*P Pn 22 25 59.6 +1.7
baz=264
WSF Szhu 1.93 260 *e*P Pn 22 25 59.6 +1.4
baz=259
WSF eS Sb 22 26 24.6 -1.2
baz=259
JISG Ishigakijimahi 1.93 71 P Pn 22 25 58.2 -0.1
JISG eS Sn 22 26 22.3 +0.7
SSD Sandimen 1.96 232 *e*P Pn 22 25 58.8 +0.2
baz=222
LAY Lan-yu 2.04 200 *e*P Pn 22 25 58.1 -1.7
baz=200
MASBT Mashibuluo 2.05 229 *e*P Pn 22 25 59.9 0.0
baz=222
MASBT eS Sn 22 26 25.4 +1.0
baz=222
TWM1 Shoushan 2.07 237 *e*P Pb 22 26 03.0 -1.4
baz=236
TWM1 eS Sb 22 26 29.6 -0.1
baz=236
EAST Anshuo 2.07 220 *e*P Pn 22 25 59.1 -1.1
baz=220
SGLT Jiouru 2.08 234 *e*P Pn 22 26 02.2 +1.9
baz=224
SGLT eS Sb 22 26 28.6 -1.2
baz=224
SCLT Jiali 2.09 248 *e*P Pn 22 26 01.5 +1.1
baz=248
SCLT eS Sb 22 26 28.2 -2.0
baz=248
SCZT Fangliau 2.22 224 *e*P Pn 22 26 02.5 +0.3
baz=218
SCZT eS Sn 22 26 30.3 +1.7
baz=218
JTJ Tarama 2.29 73 P Pn 22 26 03.9 +0.7
JTJ S Sn 22 26 32.0 +1.6
WLCH Liuqiu 2.39 228 *e*P Pb 22 26 08.4 -1.4
baz=229
WLCH eS Sb 22 26 38.9 -0.1
baz=229
TWP Hsiaoliuchiu 2.41 228 *e*P Pb 22 26 07.7 -2.5
baz=230
TWP eS Sb 22 26 39.2 -0.2
baz=230
HEN Hengchun 2.43 217 *e*P Pn 22 26 06.0 +0.9
baz=218
HEN eS Sn 22 26 34.6 +0.8
baz=218
TSEB Hengchuen, Pin 2.43 212 *e*P Pn 22 26 06.1 +1.0
baz=215
TSEB eS Sn 22 26 34.8 +0.9
baz=215
TWKBT Hengchun 2.44 214 ⇓P Pn 22 26 05.1 -0.2
baz=216
TWKBT eS Sn 22 26 34.1 -0.1
baz=216
WDGT Dungji 2.52 254 ⇑P Pn 22 26 06.9 +0.5
baz=242
WDGT eS Sn 22 26 36.2 +0.1
baz=242
PHUB P'eng-hu 2.54 260 ⇑P Pn 22 26 07.2 +0.6
baz=259
PHUB eS Sn 22 26 36.6 +0.1
baz=259
PNG Penghu 2.55 261⇓*e*P Pn 22 26 07.4 +0.7
baz=260
PNG eS Sn 22 26 37.7 +1.0
baz=260
JIRB Irabujima 2.75 71 P Pn 22 26 10.6 +1.1
JIRB S Sn 22 26 43.6 +1.8
PTTC Pingtan 2.76 304⇑*e*P Pn 22 26 08.8 -0.8
baz=302
JIKM Ikemajima 2.85 70 P Pn 22 26 12.0 +1.2
JIKM eS Sn 22 26 46.3 +2.2
JMJ Miyako jima 2 2.85 72 *e*P Pn 22 26 12.4 +1.5
baz=75
JMJ eS Sn 22 26 43.9 -0.4
baz=75
JMJ Miyako jima 2 2.85 72 P Pn 22 26 12.8 +1.9
JMJ eS Sn 22 26 46.1 +1.8
JOGS Gusukube 2.94 74 P Pn 22 26 13.4 +1.3
JOGS eS Sn 22 26 48.1 +1.7
MATB Ma-tsu 3.04 316⇑*e*P Pn 22 26 12.6 -0.9
baz=313
PTMZ Houxiangcun 3.08 291⇑*e*P Pn 22 26 13.8 -0.4
baz=289
LYJJ Jianjiangzhen 3.45 319⇑*e*P Pn 22 26 18.1 -0.9
baz=316
XPSS Dashiqiu 3.51 328⇑*e*P Pn 22 26 19.2 -0.7
baz=335
QZH Quanzhou 3.51 287⇑*i*Pn Pn 22 26 19.6 -0.4
QZH Sn Sn 22 26 58.0 -2.6
QZH LR LR
comp=N,4μm,4.4s
QZH LR LR
comp=Z,4μm,12.8s
KNM Kinmen 3.56 278⇑*e*P Pn 22 26 22.0 +1.4
baz=276
KNMB Chin-men Tao 3.60 279⇑*e*P Pn 22 26 20.9 -0.4
baz=277
MHZQ Yeshan 3.65 306⇑*e*P Pn 22 26 20.9 -0.9
baz=304
AXDP Jialang 4.05 284⇑*e*P Pn 22 26 27.3 -0.1
baz=282
ZPLA Ao Xicun 4.16 270⇑*e*P Pn 22 26 28.9 0.0
baz=269
ZZJH Jiuhuzhen 4.29 278⇑*e*P Pn 22 26 30.4 -0.3
baz=276
JOW Kunigami 6.11 61 Pn Pn 22 26 54.6 -1.0
8.1nm,0.3s,baz=146,slow=18,SNR=16
JOW Sn Sn 22 28 04.0 -0.6
1.5nm,0.3s,baz=134,slow=29,SNR=1.7
JOW Kunigami 6.11 61 *e*P Pn 22 26 54.6 -1.0
baz=64
MCO Taipa Grande 8.26 259 P Sn 22 28 51.0 -6.5
GZH Guangzhou 8.27 266 Pn Pn 22 27 21.1 -4.2
GZH Sn Sn 22 28 44.5 -13
GZH Sg Sb 22 29 21.0 -6.8
GZH smax smax
comp=N,250nm,0.8s
GZH smax smax
comp=E,250nm,0.9s
NJ2 Nanjing 8.60 340 *e*P Pn 22 27 29.8 -0.1
NJ2 pP 22 27 33.8
NJ2 sP 22 27 39.3
NJ2 S Sn 22 29 06.3 +0.4
NJ2 pmax pmax
comp=E,22nm,0.5s
NJ2 smax smax
comp=E,87nm,1.3s
NJ2 smax smax
comp=E,96nm,1.2s
NJ2 LR LR
comp=E,3μm,10.3s
NJ2 LR LR
comp=E,2μm,7.6s
NJ2 LR LR
comp=E,4μm,11.9s
WHN Wuhan 9.63 315 ⇓P Pn 22 27 48.0 +4.0
WHN S Sn 22 29 31.9 +0.6
WHN LR LR
comp=E,3μm,4.1s
WHN LR LR
comp=E,5μm,13.1s
TGY Tagaytay City 9.90 188 Pn Pn 22 27 50.5 +2.7
comp=E,50nm,0.3s,baz=283,slow=3.0,SNR=7.5
JNU Nakatsue 11.82 38 Pn Pn 22 28 18.5 +4.5
comp=E,0.3nm,0.3s,baz=191,slow=11,SNR=3.6
QIZ Qiongzhong 12.59 249 *e*Pn Pn 22 28 23.5 -1.1
QIZ eS Sn 22 30 43.9 0.0
ENH Enshi 13.02 302 *e*Pn Pn 22 28 31.6 +1.2
TJN Taejon 13.11 18 *i*P Pn 22 28 29.8 -1.8
KSAR Wonju Array Be 14.25 18 Pn Pn 22 28 49.5 +2.3
KSAR Wonju Array Be 14.25 18 P Pn 22 28 49.5 +2.3
KSRS Korea Array 14.28 18 Pn Pn 22 28 49.5 +2.0
comp=E,0.5nm,0.3s,baz=195,slow=12,SNR=24
KSRS LR LR 22 34 49.8
comp=E,607nm,20.7s,baz=176,slow=40
GYA Guiyang 14.37 283⇑*i*P Pn 22 28 50.1 +1.1
GYA pP P 22 28 55.4 -0.2
GYA PP PnPn 22 29 01.8 +4.9
GYA S Sn 22 31 24.1 -3.3
GYA sS S 22 31 38.6 -8.3
GYA SS SnSn 22 31 47.8 +7.9
GYA pmax pmax
comp=E,20nm,0.8s
GYA pmax pmax
comp=E,120nm,4.9s
GYA LR LR
comp=E,970nm,12.7s
GYA LR LR
comp=E,1μm,15.7s
GYA LR LR
comp=E,2μm,16.9s
XAN Xi'an 15.40 314 P P 22 29 08.5 +1.6
XAN S S 22 32 01.8 -6.0
XAN pmax pmax
comp=E,36nm,1.0s
XAN pmax pmax
comp=E,390nm,11.5s
XAN LR LR
comp=E,710nm,4.5s
XAN LR LR
comp=E,510nm,4.7s
XAN LR LR
comp=E,500nm,15.6s
TIY Taiyuan 16.09 331 *e*P P 22 29 13.8 -0.8
TIY sP sP 22 29 25.3 -1.2
TIY S Sn 22 32 05.4 -3.6
TIY SS SnSn 22 32 30.8 +8.5
TIY pmax pmax
comp=E,20nm,0.5s
TIY pmax pmax
comp=E,150nm,4.0s
TIY LR LR
comp=E,2μm,12.1s
TIY LR LR
comp=E,550nm,8.6s
TIY LR LR
comp=E,2μm,13.9s
BJT Baijiatuau 16.81 344 *e*Pn Pn 22 29 21.2 +0.7
comp=E,8.8nm,0.8s
BJT Baijiatuau 16.81 344 *e*P Pn 22 29 21.3 +0.7
BJT pmax pmax
comp=Z,9.0nm,0.8s
BJI Beijing 16.83 344 P Pn 22 29 21.0 +0.2
BJI S Sn 22 32 28.6 +1.7
BJI pmax pmax
comp=Z,5.0nm,0.9s
BJI LR LR
comp=Z,1μm,12.8s
BJI LR LR
comp=Z,440nm,16.2s
BJI LR LR
comp=Z,750nm,28.4s
KMI Kunming 17.83 278 P P 22 29 36.8 +2.6
KMI sP sP 22 29 47.5 +1.5
KMI PP PnPn 22 29 50.6 +6.0
KMI S Sn 22 32 51.8 0.0
KMI sS sS 22 33 04.5 -6.0
KMI pmax pmax
comp=Z,13nm,1.2s
KMI pmax pmax
comp=Z,160nm,5.1s
KMI LR LR
comp=Z,450nm,11.9s
KMI LR LR
comp=Z,1μm,13.9s
KMI LR LR
comp=Z,1μm,13.4s
CD2 Chengdu 17.84 297 *e*P Pn 22 29 32.5 -1.0
CD2 S Sn 22 32 51.8 +0.3
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,160nm,5.2s
CD2 LR LR
comp=Z,2μm,7.8s
CD2 LR LR
comp=Z,2μm,10.6s
CD2 LR LR
comp=Z,3μm,12.6s
MJAR Matsushiro Arr 18.56 44 P P 22 29 40.9 -1.0
baz=245,slow=10,SNR=3.6
NONG Nongkai 18.82 255 P Pn 22 29 53.2 +7.8
HHC Hu-ho-hao-te 19.09 334 *e*P Pn 22 29 49.5 +0.8
HHC sP sP 22 29 58.3 -1.3
HHC PP PnPn 22 30 06.4 +4.8
HHC S S 22 33 26.1 +3.6
HHC sS sS 22 33 30.8 -4.7
HHC pmax pmax
comp=Z,31nm,1.3s
HHC pmax pmax
comp=Z,220nm,5.4s
HHC LR LR
comp=Z,2μm,13.7s
HHC LR LR
comp=Z,800nm,14.7s
HHC LR LR
comp=Z,2μm,14.5s
BTO Baotou 19.53 331 *e*P Pn 22 29 55.0 +1.0
CN2 Changchun 19.95 7 *e*P P 22 29 55.8 -1.1
CN2 *ep*P Pn 22 29 59.9 +1.1
CN2 *e*PP PnPn 22 30 14.9 +1.6
CN2 *e*S S 22 33 35.1 -4.7
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=Z,1μm,13.0s
CN2 LR LR
comp=Z,380nm,13.0s
CN2 LR LR
comp=Z,1μm,14.0s
MSHR Mys Shultsa 19.96 19*ce*P P 22 29 55.8 -1.3
LZH Lanzhou 19.99 311 *e*P Pn 22 29 59.6 +0.1
LZH pP pP 22 30 02.8 -2.9
LZH sP sP 22 30 05.3 -4.3
LZH PP PnPn 22 30 21.8 +7.8
LZH *e*S S 22 33 37.3 -3.7
LZH sS Sn 22 33 48.1 +4.6
LZH SS SnSn 22 34 04.1 +6.0
LZH pmax pmax
comp=Z,51nm,1.1s
LZH pmax pmax
comp=Z,520nm,4.9s
LZH LR LR
comp=Z,1μm,13.3s
LZH LR LR
comp=Z,2μm,13.6s
LZH LR LR
comp=Z,3μm,15.2s
CHAI Chaiyaphum 20.70 251 P Pn 22 30 09.0 +1.2
comp=Z,5.6nm,1.1s,comp=Z,51nm
PAYA Payao 21.34 262 P P 22 30 16.7 +4.5
comp=Z,3.1nm,0.9s
SRAK Srakaew 21.54 246 P P 22 30 12.7 -1.7
comp=Z,49nm,1.0s,comp=Z,402nm
USRK Ussuriysk Ar. 21.68 19 P P 22 30 13.6 -2.0
comp=Z,5.6nm,0.8s,baz=202,slow=10,SNR=11
LAMP Lampang 21.80 260 P P 22 30 20.4 +3.2
comp=Z,5.9nm,1.1s,comp=Z,56nm
SUKH Sukhothai 22.15 257 P P 22 30 24.4 +3.5
comp=Z,4.2nm,1.1s
CMMT Chiang Mai 22.33 261 P P 22 30 25.6 +2.7
comp=Z,17nm,1.2s
CHTO Chiang Mai 22.33 261 *e*P P 22 30 23.9 +1.0
comp=Z,11nm,0.9s
CHTO Chiang Mai 22.33 261 P P 22 30 25.7 +2.8
SNR=8.4
CHTO Chiang Mai 22.33 261 *e*P P 22 30 24.0 +1.0
CHTO pmax pmax
comp=Z,11nm,0.9s
CM01 Chiang Mai Arr 22.44 260 *e*P P 22 30 26.3 +2.3
CM31 Chiang Mai Arr 22.44 260 P P 22 30 27.4 +3.3
SNR=5.4
CMAR Chiang Mai Arr 22.44 260 P P 22 30 25.8 +1.6
comp=Z,5.6nm,1.0s,baz=63,slow=8.3,SNR=36
CMAR PcP PcP 22 34 19.0 +0.9

comp=Z,0.9nm,0.7s,baz=37,slow=0.8,SNR=6.8
CMAR ScP **ScP** **22 37 54.0 +0.4**
comp=Z,0.2nm,0.3s,baz=154,slow=0.9,SNR=4.3
CMAR LR LR 22 40 23.1
comp=Z,339nm,18.3s,baz=20,slow=40
UMPA Umpang Tak 23.31 255 P **P** **22 30 37.7 +4.6**
comp=Z,3.2nm,1.0s,comp=Z,484nm
MRSI Marisa 23.36 181 P **P** **22 30 35.0 +1.5**
SBUM Sibu 23.51 206 *e*P **P** **22 30 35.0 -0.1**
comp=Z,6.9nm,1.1s
TNTI Ternate 23.58 167 *e*P **P** **22 30 37.8 +2.1**
comp=Z,58nm,1.1s
TNTI Ternate 23.58 167 P **P** **22 30 37.3 +1.6**
MPSI Mapaga 23.61 186 P **P** **22 30 37.5 +1.6**
GTA Gaotai 24.46 314 P **P** **22 30 43.4 -0.5**
GTA pP pP 22 30 50.6 -2.0
GTA sP sP 22 30 53.5 -2.8
GTA PcP **PcP** **22 34 22.8 +0.6**
GTA ScP **ScP** **22 37 59.6 +0.8**
GTA pmax pmax
comp=Z,11nm,2.0s
GTA pmax pmax
comp=Z,210nm,5.2s
GTA LR LR
comp=Z,310nm,15.1s
GTA LR LR
comp=Z,680nm,14.1s
GTA LR LR
comp=Z,770nm,14.1s
PCI Palu 24.84 186 P **P** **22 30 48.8 +1.4**
LUWI Luwuk 24.87 179 P **P** **22 30 49.0 +1.4**
SANI Sanana 26.11 172 P **P** **22 30 59.1 +0.2**
SIJI Sorong 26.18 159 P **P** **22 31 02.8 +3.2**
comp=Z,15nm,0.6s,baz=347,slow=2.7,SNR=9.6
KLR Kul'dur 26.28 14 P **P** **22 31 00.2 +0.1**
comp=Z,2.2nm,0.8s,baz=286,slow=12,SNR=3.1
KLR PcP **PcP** **22 34 26.0 +0.1**
comp=Z,1.5nm,0.8s,baz=292,slow=5.4,SNR=4.2
KLR Kul'dur 26.28 14 *i* P **P** **22 30 59.2 -0.9**
ULN Ulaanbaatar 26.75 337 *e*P **P** **22 31 03.5 -1.0**
comp=Z,39nm,0.9s
ULN Ulaanbaatar 26.75 337 P **P** **22 31 03.7 -0.9**
SNR=13
ULN Ulaanbaatar 26.75 337 *ce*P **P** **22 31 03.6 -0.9**
ULN pmax pmax
comp=Z,49nm,1.0s
SONM Songino Array 26.97 336 P **P** **22 31 05.6 -0.9**
comp=Z,63nm,0.9s,baz=148,slow=8.9,SNR=287
SONM PcP **PcP** **22 34 27.8 +0.1**
comp=Z,2.0nm,1.0s,baz=162,slow=3.9,SNR=5.0
SONM ScP **ScP** **22 38 04.9 -0.9**
comp=Z,1.8nm,1.1s,baz=132,slow=2.2,SNR=7.1
SONM LR LR 22 43 23.0
comp=Z,922nm,18.6s,baz=148,slow=40
SONA1 **Songino Array 26.97 336** *e*P **P** **22 31 05.5 -1.0**
NLAI Namlea 27.45 170 P **P** **22 31 12.8 +1.9**
comp=Z,45nm,1.0s
SHL Shillong 27.64 280 *e*P **P** **22 31 13.7 +0.9**
comp=Z,17nm,1.2s
SHL Shillong 27.64 280 *e*P **P** **22 31 13.7 +0.9**
SHL pmax pmax
comp=Z,17nm,1.2s
LSA Lhasa 28.32 288 *e*P **P** **22 31 20.3 +1.1**
comp=Z,5.6nm,0.7s
LSA Lhasa 28.32 288 *i* P **P** **22 31 20.8 +1.6**
SNR=6.0
LSA Lhasa 28.32 288 *e*P **P** **22 31 20.3 +1.1**
LSA pmax pmax
comp=Z,6.0nm,0.7s
ZAK Zakamensk 30.23 336 *e*P **P** **22 31 32.2 -3.2**
ZAK pmax pmax
comp=Z,7.0nm,1.0s
TLY Talaya 31.16 337 *e*P **P** **22 31 42.5 -0.9**
comp=Z,15nm,0.8s
TLY Talaya 31.16 337 *ce*P **P** **22 31 42.6 -0.9**
TLY pmax pmax
comp=Z,19nm,1.0s
JAY Jayapura 31.84 143 LR LR 22 43 38.2
comp=Z,870nm,21.6s,baz=70,slow=34
MNSI Mandailing Nat 31.87 227 P **P** **22 31 51.0 +0.9**
RAMN Ramite 32.30 283 *e*P **P** **22 31 54.9 +0.7**
comp=Z,11nm,0.7s
EDFI Ende, Flores 32.53 181 P **P** **22 31 55.1 -0.9**
comp=Z,18nm,0.8s
JIRN Jiri 32.64 284 *e*P **P** **22 31 57.9 +0.6**
comp=Z,29nm,0.8s
KNGR Kungurtug, Tuv 32.80 330 *i* P **P** **22 31 57.3 -0.8**
GUN Gumba 32.91 285 *e*P **P** **22 32 00.0 +0.4**
comp=Z,24nm,0.9s
SAUI Saumlaki 32.95 163 P **P** **22 32 00.1 +0.5**
comp=Z,142nm,0.8s
PKI Pulchoki 33.34 284 *e*P **P** **22 32 03.5 +0.2**
PKIN Phulchoki 33.35 284 *e*P **P** **22 32 03.0 -0.3**
KKN Kakani 33.44 285 *e*P **P** **22 32 04.3 +0.2**
DMN Daman 33.60 284 *e*P **P** **22 32 05.8 +0.2**
comp=Z,15nm,0.9s
WMQ Urumqi 34.54 314 *e*P **P** **22 32 13.9 +0.7**
WMQ pP pP 22 32 22.0 -0.1
WMQ pmax pmax
comp=Z,25nm,1.7s
DANN Dangsing 34.77 286 *e*P **P** **22 32 16.0 +0.3**
comp=Z,18nm,0.9s
KOLN Koldanda 34.93 285 *e*P **P** **22 32 17.2 +0.2**
comp=Z,16nm,1.0s
HVS Khovu-Aksy 34.94 328⇑ *i*P **P** **22 32 16.1 -0.5**
HVS pmax pmax
comp=Z,16nm,0.9s
PYUN Piuthan 35.45 285 *e*P **P** **22 32 21.7 +0.2**
comp=Z,17nm,1.0s
DGZ Jazzator, Alta 37.38 322 *c i*P **P** **22 32 36.8 -0.8**
DGZ pmax pmax
comp=Z,3.0nm,1.1s
MTN Manton Dam 37.60 166 *e*P **P** **22 32 38.4 -1.1**
comp=Z,41nm,0.6s
MK01 Makanchi Array 39.19 316 *e*P **P** **22 32 52.1 -0.5**
MK31 Makanchi Array 39.20 316 *e*P **P** **22 32 52.5 -0.3**
MK31 Makanchi Array 39.20 316 *e*P **P** **22 32 52.5 -0.3**
MKAR Makanchi Array 39.20 316 P **P** **22 32 52.5 -0.4**
comp=Z,9.2nm,0.7s,baz=106,slow=9.9,SNR=65
MKAR PcP **PcP** **22 35 01.5 -0.2**
comp=Z,1.2nm,0.7s,baz=93,slow=5.1,SNR=4.5
PDGK Podgornoye 40.01 310 P **P** **22 32 59.9 +0.2**
PDGK pmax pmax
comp=Z,31nm,1.1s
ZAA0 Zalesovo Array 40.98 327 *e*P **P** **22 33 05.5 -1.8**
comp=Z,27nm,0.8s
ZALV Zalesovo Beam 40.98 327 P **P** **22 33 05.7 -1.7**
comp=Z,37nm,0.9s,baz=116,slow=7.5,SNR=74
PMG Port Moresby 41.12 141 P **P** **22 33 10.2 +1.3**
comp=Z,4.7nm,0.3s,baz=339,slow=2.7,SNR=3.4
PMG Port Moresby 41.12 141 *e*P **P** **22 33 09.5 +0.6**
PMG Port Moresby 41.12 141 *e*P **P** **22 33 09.5 +0.6**
H11N1 WAKE ISLAND Hy 41.48 87 T T 23 19 12.4
baz=282,slow=75,SNR=3.6
H11N2 WAKE ISLAND Hy 41.48 87 T T 23 18 53.2
baz=282,slow=75,SNR=3.5
H11N3 WAKE ISLAND Hy 41.50 87 T T 23 18 57.9
baz=282,slow=75,SNR=4.1
H11S3 WAKE ISLAND Hy 41.60 89 T T 23 18 52.9
baz=284,slow=75,SNR=3.1
H11S1 WAKE ISLAND Hy 41.61 89 T T 23 19 01.1
baz=284,slow=75,SNR=4.2
H11S2 WAKE ISLAND Hy 41.62 89 T T 23 18 53.8
baz=284,slow=75,SNR=6.1
KSH Kashi 41.87 303 P **P** **22 33 18.3 +3.2**
KSH pP pP 22 33 25.0 +0.9
KSH PcP **PcP** **22 35 13.9 +3.3**
KSH S **S** **22 39 36.0 +4.7**
KSH sS sS 22 39 47.1 +1.0
KSH pmax pmax
comp=Z,16nm,0.8s
KSH LR LR
comp=Z,950nm,16.0s
KSH LR LR
comp=Z,640nm,11.7s
KSH LR LR
comp=Z,2μm,19.9s
NVS Novosibirsk 42.23 327⇓ *i*P **P** **22 33 16.4 -1.3**
NVS *i* 22 33 27.0
NVS pmax pmax
comp=N,7.0nm,1.0s
NVS pmax pmax
comp=E,9.0nm,1.0s
NVS pmax pmax
comp=Z,17nm,1.0s
TKM2 Tokmak 2 42.70 308 P **P** **22 33 22.9 +1.0**
SNR=13
KZA Kyzart 42.80 307 P **P** **22 33 24.7 +1.7**
SNR=7.1
COEN Coen 42.87 149 *e*P **P** **22 33 24.3 +1.1**
comp=Z,27nm,0.9s
KURK Kurchatov 42.91 320 *e*P **P** **22 33 22.1 -1.1**
comp=Z,24nm,1.1s
KURK Kurchatov 42.91 320 P **P** **22 33 22.3 -0.9**
SNR=8.4
KURK Kurchatov 42.91 320 *e*P **P** **22 33 22.1 -1.1**
KURK pmax pmax
comp=Z,24nm,1.1s
KBK Karagaybulak 43.12 307 P **P** **22 33 26.2 +1.0**
SNR=19
CHMS Chumysh 43.32 308 P **P** **22 33 27.4 +0.7**
SNR=14
UCH Uchtor 43.36 307 P **P** **22 33 29.1 +1.5**
SNR=24
FRU1 Bishkek 43.38 308 *e*P **P** **22 33 28.4 +1.2**
comp=Z,15nm,0.8s
FRU1 Bishkek 43.38 308 *e*P **P** **22 33 28.4 +1.2**
FRU1 pmax pmax
comp=Z,15nm,0.8s
AAK Ala-Archa 43.45 307 P **P** **22 33 29.0 +1.1**
SNR=6.9
AAK Ala-Archa 43.45 307 *e*P **P** **22 33 28.6 +0.6**
comp=Z,7.3nm,0.9s
AAK Ala-Archa 43.45 307 *i* P **P** **22 33 28.8 +0.9**
SNR=10
AAK Ala-Archa 43.45 307⇑ *i*P **P** **22 33 28.5 +0.6**
AAK pmax pmax
comp=Z,9.0nm,1.0s
USP Ospenovka 43.55 308 P **P** **22 33 29.4 +0.8**
SNR=5.1
NIL Nilore 43.70 294 *e*P **P** **22 33 30.4 +0.5**
NIL Nilore 43.70 294 *e*P **P** **22 33 30.4 +0.5**
SFK Sufi-Kurgan 43.82 303 P **P** **22 33 31.9 +0.9**
SFK pmax pmax
comp=Z,13nm,1.1s
AML Almayashu 43.95 306 P **P** **22 33 33.0 +0.8**
SNR=13
EKS2 Erkin-Say 43.97 307 P **P** **22 33 32.9 +0.8**
SNR=10
MNAS Manas 44.87 307 P **P** **22 33 40.3 +1.0**
MNAS pmax pmax
comp=Z,20nm,1.0s
WRAB Tennant Creek 45.19 164 *e*P **P** **22 33 41.8 0.0**
comp=Z,18nm,0.8s
WRAB Tennant Creek 45.19 164 *e*P **P** **22 33 41.8 0.0**
WRAB pmax pmax
comp=Z,18nm,0.8s
WRA Warramunga Arr 45.20 164 P **P** **22 33 42.0 +0.1**
comp=Z,17nm,0.8s,baz=346,slow=8.9,SNR=96
WB2 Warramunga Arr 45.20 164 *e*P **P** **22 33 40.9 -1.0**
KK31 Karatay Array 46.41 307 *e*P **P** **22 33 50.5 -0.8**
KK31 Karatay Array 46.41 307 *e*P **P** **22 33 50.5 -0.8**
KKAR Karatay Array 46.41 307 *e*P **P** **22 33 50.7 -0.6**
KKAR Karatay Array 46.41 307 *e*P **P** **22 33 50.7 -0.6**
KBL Kabul 47.17 296 *e*P **P** **22 33 58.6 +1.0**
comp=Z,16nm,0.9s
KBL Kabul 47.17 296 *e*P **P** **22 33 58.6 +1.0**
KBL pmax pmax
comp=Z,16nm,0.9s
BRVK Borovoye 48.55 321 *e*P **P** **22 34 07.0 -0.8**
comp=Z,17nm,0.9s
BRVK Borovoye 48.55 321 P **P** **22 34 07.2 -0.6**
SNR=5.7
BRVK Borovoye 48.55 321 *ce*P **P** **22 34 06.3 -1.5**
BRVK pmax pmax
comp=Z,16nm,0.8s
AS31 Alice Springs 48.68 166 *e*P **P** **22 34 09.0 0.0**
comp=Z,2.6nm,0.6s
ASAR Alice Springs 48.68 166 P **P** **22 34 09.8 +0.8**
comp=Z,6.6nm,0.8s,baz=344,slow=6.8,SNR=57
ASAR ScP **ScP** **22 39 26.2 -0.7**
comp=Z,0.2nm,0.5s,baz=351,slow=4.4,SNR=4.1
AS01 Alice Springs 48.69 166 *e*P **P** **22 34 06.9 -2.2**
CTA Charters Tower 49.63 150 P **P** **22 34 17.8 +1.4**
comp=Z,3.9nm,0.9s,baz=353,slow=14,SNR=3.8
NRIK Noril'sk 49.87 345 P **P** **22 34 15.6 -2.1**
comp=Z,5.1nm,0.7s,baz=132,slow=7.6,SNR=7.9
NRIK PcP **PcP** **22 35 37.1 -0.6**
comp=Z,8.2nm,1.0s,baz=135,slow=2.3,SNR=4.7
BILL Bilibino 51.54 19⇑ *e*P **P** **22 34 29.7 -0.5**
BILL *e* 22 36 23.4
BILL pmax pmax
comp=Z,2.0nm,0.9s
ABKAR Akbulak array 54.32 314 *e*P **P** **22 34 50.9 -0.1**
SVE Sverdlovsk 54.82 324 *e*P **P** **22 34 53.3 -1.2**
SVE pmax pmax
comp=Z,17nm,1.1s
GEYT Alibeck 55.78 301 P **P** **22 35 02.4 +0.5**
comp=Z,3.0nm,0.7s,baz=91,slow=15,SNR=11
GYA0B ALIBECK ARRAY 55.78 301 *e*P **P** **22 35 03.2 +1.4**
comp=Z,10nm,1.0s
STKA Stephens Creek 58.52 161 P **P** **22 35 22.1 +1.1**
comp=Z,3.0nm,0.6s,baz=338,slow=6.2,SNR=7.8
STKA Stephens Creek 58.52 161 *e*P **P** **22 35 22.1 +1.1**
comp=Z,0.7nm,0.6s
STKA Stephens Creek 58.52 161 *e*P **P** **22 35 22.1 +1.1**
STKA pmax pmax
comp=Z,1.0nm,0.6s
BANOM Banah 59.29 287 P **P** **22 35 27.9 +1.2**
ASHO Ashiyiah 59.80 286 P **P** **22 35 30.8 +0.6**
FAQ Al Faqa, Dubai 60.19 286 P **P** **22 35 33.4 +0.5**
ALNE Al Ain 60.23 285 P **P** **22 35 33.6 +0.4**
ASUD Al Ashush, Dub 60.45 286 P **P** **22 35 35.2 +0.6**
PRGR Permogore 62.89 329 *e*P **P** **22 35 48.7 -1.7**
PRGR pmax pmax
comp=Z,8.0nm,0.7s
GNI Garni 65.76 305 *e*P **P** **22 36 10.4 +0.5**
comp=Z,12nm,1.0s
GNI Garni 65.76 305 *ce*P **P** **22 36 10.4 +0.5**
GNI pmax pmax
comp=Z,44nm,1.3s
ZEI Tsey 65.87 308 *e*P **P** **22 36 08.2 -2.4**
ZEI pmax pmax
comp=Z,12nm,0.8s
KLMR Klimovskoe 65.89 328 *e*P **P** **22 36 06.3 -3.8**
KLMR pmax pmax
comp=Z,20nm,1.5s
KLMR Klimovskoe 65.89 328 *e*P **P** **22 36 06.4 -3.7**
KLMR AMP 22 36 10.9
comp=Z,20nm,1.6s
VRH Novokhopyorsk 65.91 317 *e*P **P** **22 36 09.1 -1.3**
VRH pmax pmax
comp=Z,40nm,1.3s
GOF Gofitskoye 66.05 310⇓ *i*P **P** **22 36 12.1 +0.6**
GOF pmax pmax
comp=Z,30nm,0.9s
KBZ Khabaz 66.41 309 P **P** **22 36 14.0 +0.3**
comp=Z,10nm,1.0s,baz=192,slow=8.3,SNR=17
AKH Akhalkalaki 66.44 306⇑ *i*P **P** **22 36 15.7 +1.5**
AKH Akhalkalaki 66.44 306 P **P** **22 36 15.7 +1.5**
AKH pmax pmax
comp=Z,20nm,0.9s
KIV Kislovodsk 66.51 309 *e*P **P** **22 36 14.6 0.0**
comp=Z,16nm,0.9s
KIV Kislovodsk 66.51 309 P **P** **22 36 14.8 +0.2**
SNR=6.9
KIV Kislovodsk 66.51 309 *i* P **P** **22 36 14.9 +0.4**
SNR=11
KIV Kislovodsk 66.51 309 *e*P **P** **22 36 14.6 0.0**
KIV pmax pmax
comp=Z,16nm,0.9s
NEY Neytrino 66.62 308 *e*P **P** **22 36 15.3 -0.1**
NEY pmax pmax
comp=Z,2.0nm,0.8s
KARS Kars 66.90 306 P **P** **22 36 18.7 +1.5**
TOLK Toolik Lake Re 67.24 23 *e*P **P** **22 36 18.1 -0.6**
comp=Z,6.9nm,1.0s
MLY Manley 67.27 27 *e*P **P** **22 36 19.1 +0.1**
comp=Z,5.1nm,0.9s
LPSR Galich'ya Gora 67.38 319 *e*P **P** **22 36 18.7 -1.1**
LPSR pmax pmax
comp=Z,30nm,1.1s
VORD Divnogorie 67.45 317 *e*P **P** **22 36 19.4 -0.8**
VORD pmax pmax
comp=Z,10.0nm,1.2s
VSR Storozhevoye 67.49 317 *e*P **P** **22 36 18.9 -1.6**
VSR pmax pmax
comp=Z,20nm,1.2s
MOS Moscow 67.59 322 *e*P **P** **22 36 17.9 -3.1**
APA Apatity 67.67 335⇓ *i*P **P** **22 36 17.3 -4.1**
APA pmax pmax
comp=Z,12nm,1.0s
APA MLR MLR
comp=Z,1μm,16.0s
OBN Obninsk 68.30 322⇑ *e*P **P** **22 36 24.8 -0.6**
OBN *e* 22 38 53.7
OBN pmax pmax
comp=Z,11nm,1.0s
OBN MLR MLR
comp=Z,694nm,17.0s
ILAR Eielson Array 68.93 27 P **P** **22 36 27.1 -2.2**
comp=Z,0.7nm,0.7s,baz=295,slow=8.7,SNR=6.3
RAYN Ar Rayn 69.38 287 *e*P **P** **22 36 32.7 -0.2**
comp=Z,10nm,1.0s
RAYN Ar Rayn 69.38 287 *i* P **P** **22 36 33.1 +0.2**
SNR=11
RAYN Ar Rayn 69.38 287 *e*P **P** **22 36 32.7 -0.2**
RAYN pmax pmax
comp=Z,10.0nm,1.0s
ARCES ARCESS Array B 70.11 338 P **P** **22 36 35.3 -1.3**
comp=Z,6.5nm,1.0s,baz=78,slow=7.0,SNR=5.7
FINES FINESS Array B 72.14 330 P **P** **22 36 48.3 -0.6**
comp=Z,1.3nm,0.4s,baz=65,slow=4.5,SNR=10.0
FINES FINESS Array B 72.14 330 *i* P **P** **22 36 48.2 -0.7**
FINES pmax pmax
comp=Z,1.0nm,0.4s
SIM Simferopol' 72.24 312 *e*P **P** **22 36 49.7 -0.1**
SIM pmax pmax
comp=Z,30nm,0.9s
SIM MLR MLR
comp=Z,500nm,16.7s
INK Inuvik 73.04 22 *e*P **P** **22 36 52.6 -1.5**
INK Inuvik 73.04 22 *e*P **P** **22 36 52.6 -1.5**
IDID Didziasalis 73.69 324 *e*P **P** **22 36 58.3 +0.1**
IDID IAmb IAmb 22 36 59.2
comp=Z,11nm,0.9s
AKASG Malin Array Be 73.70 319 P **P** **22 36 57.3 -1.1**
comp=Z,12nm,0.8s,baz=60,slow=6.1,SNR=26
KIEV Kiev 73.72 319 *e*P **P** **22 36 56.9 -1.5**
comp=Z,9.3nm,0.8s
KIEV Kiev 73.72 319 *i* P **P** **22 36 57.3 -1.1**
SNR=6.0
KIEV Kiev 73.72 319 *e*P **P** **22 36 56.9 -1.5**
KIEV pmax pmax
comp=Z,9.0nm,0.8s
IZAR Zarasai 73.82 324 *e*P **P** **22 36 58.9 0.0**
IZAR IAmb IAmb 22 36 59.9
comp=Z,8.0nm,0.8s
ISAL Salakas 73.94 324 *e*P **P** **22 36 59.7 +0.1**
ISAL IAmb IAmb 22 37 01.5
comp=Z,10nm,0.9s
IIGN Ignalina 73.96 324 *e*P **P** **22 36 59.9 +0.1**
IIGN IAmb IAmb 22 37 00.8
comp=Z,7.3nm,0.9s
BR131 Keskin Array S 74.12 307 *e*P **P** **22 37 01.2 0.0**
BR131 Keskin Array S 74.12 307 P **P** **22 37 01.4 +0.2**
SNR=10
BRTR Keskin Array B 74.12 307 P **P** **22 37 01.2 0.0**
comp=Z,16nm,0.9s,baz=104,slow=6.7,SNR=67
ANTO Ankara 74.69 307 *e*P **P** **22 37 04.3 -0.2**
comp=Z,28nm,0.8s
ANTO Ankara 74.69 307⇑ *i*P **P** **22 37 04.7 +0.2**
ANTO Ankara 74.69 307⇑ P **P** **22 37 04.7 +0.2**
BR231 Keskin MP Arra 74.71 307 *e*P **P** **22 37 03.6 -1.0**
CSS Mathiatis 75.88 302 *e*P **P** **22 37 10.6 -0.7**
comp=Z,24nm,1.0s
SUW Suwalki 76.08 323 *e*P **P** **22 37 11.5 -0.5**
SUW Suwalki 76.08 323 *e*P **P** **22 37 11.5 -0.5**
HARR Harsova 76.50 313⇓ *i*P **P** **22 37 14.6 0.0**
HARR Harsova 76.50 313⇓ P **P** **22 37 14.6 0.0**
DAG Danmarks Havn 76.73 351 *i* P **P** **22 37 13.2 -2.1**
comp=Z,5.3nm,0.9s
DAG Danmarks Havn 76.73 351 *i* P **P** **22 37 13.2 -2.1**
DAG pmax pmax
comp=Z,5.0nm,0.9s
VRI Vrincioaia 76.88 314⇑ *i*P **P** **22 37 17.6 +0.8**
VRI Vrincioaia 76.88 314⇑ P **P** **22 37 17.6 +0.8**
BIZ Bicaz 76.90 316⇑ *i*P **P** **22 37 17.1 +0.2**
PLOR Plostina 76.94 314⇑ *i*P **P** **22 37 17.7 +0.6**
PLOR Plostina 76.94 314⇑ P **P** **22 37 17.7 +0.6**
BUR08 Bucovina Ar. S 77.22 317 *e*P **P** **22 37 18.6 -0.2**
BURAR Bucovina Array 77.22 316⇑ *i*P **P** **22 37 18.9 +0.1**
BURAR Bucovina Array 77.22 316⇑ P **P** **22 37 18.9 +0.1**
MLR Muntele Rosu 77.53 314 *e*P **P** **22 37 19.8 -0.7**
comp=Z,14nm,1.0s
MLR Muntele Rosu 77.53 314⇑ *i*P **P** **22 37 21.0 +0.4**
MLR Muntele Rosu 77.53 314⇑ P **P** **22 37 21.0 +0.4**
DOPR Dopca 77.72 315⇓ *i*P **P** **22 37 21.7 +0.2**
ARCR ARCALIA 77.96 316⇑ *i*P **P** **22 37 23.1 +0.3**
KWP Kalwaria Pacla 78.00 319 *e*P **P** **22 37 22.8 -0.2**
KWP Kalwaria Pacla 78.00 319 *e*P **P** **22 37 22.8 -0.2**
ARR Arges 78.43 315⇓ *i*P **P** **22 37 25.4 -0.1**
CJR Cluj-Napoca 78.58 316⇑ *i*P **P** **22 37 27.2 +0.9**
CJR Cluj-Napoca 78.58 316⇑ P **P** **22 37 27.2 +0.9**
UZH Uzhgorod 78.65 318 *e*P **P** **22 37 26.6 +0.1**
UZH *e* 22 37 42.3
TRPA Tarpa 78.69 318⇑ *i*P **P** **22 37 26.5 -0.3**
NB2 NORSAR Subarra 78.89 332 P **P** **22 37 25.8 -1.9**
comp=Z,1.3nm,0.8s,baz=59,slow=5.9
NOA NORSAR Array B 78.89 332 P **P** **22 37 26.3 -1.4**
comp=Z,3.2nm,0.9s,baz=58,slow=5.7,SNR=5.6
LOT Lotru 78.96 315⇑ *i*P **P** **22 37 28.0 -0.5**
DRGR 79.11 316⇑ *i*P **P** **22 37 28.8 -0.4**
DRGR 79.11 316⇑ P **P** **22 37 28.8 -0.4**
DEV Deva 79.35 315⇑ *i*P **P** **22 37 31.1 +0.7**
DEV Deva 79.35 315⇑ P **P** **22 37 31.1 +0.7**
OJC Ojcow 79.49 320 *e*P **P** **22 37 30.7 -0.4**
OJC Ojcow 79.49 320 *e*P **P** **22 37 30.7 -0.4**
NIE Niedzica 79.53 319 *e*P **P** **22 37 31.6 +0.2**
NIE Niedzica 79.53 319 *e*P **P** **22 37 31.6 +0.2**
KECS Kecovo 79.80 319 *e*P **P** **22 37 31.9 -1.0**
KECS pmax pmax
comp=Z,7.0nm,1.0s
KECS Kecovo 79.80 319 *e*P **P** **22 37 31.9 -1.0**
PUNG Punghina 79.97 314⇑ *i*P **P** **22 37 34.5 +0.7**
SIRR Siria 79.99 316⇓ *i*P **P** **22 37 33.7 -0.2**
LANS Liptovska Anna 80.13 319 *e*P **P** **22 37 34.7 0.0**
LANS Liptovska Anna 80.13 319 *e*P **P** **22 37 34.7 0.0**
BZS Buzias 80.28 316⇑ *i*P **P** **22 37 35.1 -0.4**
BZS Buzias 80.28 316⇑ P **P** **22 37 35.1 -0.4**
PSZ Piszkesteto 80.40 318⇑ *i*P **P** **22 37 36.6 +0.4**
PSZ Piszkesteto 80.40 318⇑ P **P** **22 37 36.6 +0.4**
VTS Vitosha 80.46 312 P **P** **22 37 36.5 -0.2**
SRS Serrai 80.79 311 P **P** **22 37 38.5 +0.1**
VYHS Vyhne 80.79 319 *e*P **P** **22 37 38.2 0.0**
VYHS pmax pmax
comp=Z,10.0nm,1.1s
VYHS Vyhne 80.79 319 *e*P **P** **22 37 38.2 0.0**
MORC Moravsky Berou 80.99 321⇑ *i*P **P** **22 37 39.7 +0.4**
MORC Moravsky Berou 80.99 321⇑ P **P** **22 37 39.7 +0.4**
MORC Moravsky Berou 80.99 321 *e*P **P** **22 37 39.3 0.0**
APE Apeiranthos 81.01 306⇑ *i*P **P** **22 37 37.9 -1.7**
APE Apeiranthos 81.01 306⇑ P **P** **22 37 37.9 -1.7**
KSP Ksiaz 81.23 322 *e*P **P** **22 37 40.2 -0.2**
KSP Ksiaz 81.23 322 *e*P **P** **22 37 40.2 -0.2**
KRLC Kraliky 81.30 321 *e*P **P** **22 37 39.9 -1.0**
KRLC Kraliky 81.30 321 *e*P **P** **22 37 39.9 -1.0**
JAVC Velka Javorina 81.33 320 *e*P **P** **22 37 42.3 +1.2**
SANT Santorini 81.34 306⇓ *i*P **P** **22 37 39.4 -2.0**
DPC Dobruska-Polom 81.44 321 *e*P **P** **22 37 41.5 -0.1**
DPC Dobruska-Polom 81.44 321 *e*P **P** **22 37 41.5 -0.1**
SMOL Smolenice 81.62 319 *e*P **P** **22 37 43.1 +0.5**
SMOL Smolenice 81.62 319 *e*P **P** **22 37 43.1 +0.5**
VRAC Vranov 81.76 320⇑ *i*P **P** **22 37 44.0 +0.7**
VRAC Vranov 81.76 320⇑ P **P** **22 37 44.0 +0.7**
VRAC Vranov 81.76 320 *e*P **P** **22 37 43.6 +0.3**
MODS Modra-Piesok 81.78 319 *e*P **P** **22 37 43.1 -0.4**
MODS Modra-Piesok 81.78 319 *e*P **P** **22 37 43.1 -0.4**
DIVS Divibare 81.97 315 *e*P **P** **22 37 44.1 -0.6**
comp=Z,6.6nm,1.0s
KRUC Moravsky 81.98 320 *e*P **P** **22 37 44.5 0.0**
BRG Berggiesshubel 82.53 323 *e*P **P** **22 37 49.5 +2.2**
comp=Z,13nm,1.6s
YKA Yellowknife Ar 82.77 23 P **P** **22 37 47.5 -0.8**
comp=Z,3.6nm,0.8s,baz=314,slow=5.2,SNR=16
YKB5 Yellowknife Ar 82.77 23 *e*P **P** **22 37 46.4 -1.8**
SUMG Summit 82.81 354 *e*P **P** **22 37 46.8 -2.0**
comp=Z,12nm,1.0s
SUMG Summit 82.81 354 *i* P **P** **22 37 47.4 -1.5**
comp=Z,26nm,1.0s
SUMG pmax pmax
comp=Z,26nm,1.0s
CONA Conrad Observa 82.82 319 *i* P **P** **22 37 48.3 -0.7**
comp=Z,9.1nm,1.3s

CLL	**Collm**	**82.83**	**323**	*e*P		**P**	**22 37 47.0**	**-1.9**
ARSA	**Arzberg**	**83.34**	**319**	*i* P		**P**	**22 37 50.3**	**-1.3**
	comp=Z,5.1nm,1.1s							
BLY	**Banja Luka**	**83.48**	**316**⇑	*i*P		**P**	**22 37 52.2**	**-0.2**
KHC	**Kasperske Hory**	**83.58**	**321**	*e*P		**P**	**22 37 52.2**	**-0.7**
KHC	**Kasperske Hory**	**83.58**	**321**	*e*P		**P**	**22 37 52.2**	**-0.7**
GEC2	**GERESS Array S**	**83.65**	**321**	*e*P		**P**	**22 37 53.1**	**-0.2**
	comp=Z,8.0nm,1.0s							
GEC2	**GERESS Array S**	**83.65**	**321**	*e*P		**P**	**22 37 53.1**	**-0.2**
GEC2					pmax	pmax		
	comp=Z,8.0nm,1.0s							
GERES	**GERESS Array B**	**83.65**	**321**	P		**P**	**22 37 52.5**	**-0.7**
	comp=Z,5.1nm,0.9s,baz=57,slow=4.9,SNR=34							
MOA	**Molln**	**83.81**	**320**	*i* P		**P**	**22 37 53.9**	**-0.1**
	comp=Z,9.0nm,1.0s,SNR=8.4							
SOKA	**Soboth**	**83.91**	**319**	*i* P		**P**	**22 37 53.8**	**-0.8**
	comp=Z,5.9nm,0.7s,SNR=7.0							
OBKA	**Obir**	**84.29**	**319**	*i* P		**P**	**22 37 55.6**	**-1.0**
	comp=Z,6.4nm,0.8s							
KBA	**Koelnbreinsper**	**84.73**	**320**	*i* P		**P**	**22 37 58.5**	**-0.4**
	comp=Z,6.8nm,0.9s							
ABTA	**Abfaltersbach**	**85.39**	**320**	*i* P		**P**	**22 38 01.1**	**-1.0**
	comp=Z,11nm,1.2s							
WATA	**Walderalm**	**85.64**	**320**	*i* P		**P**	**22 38 02.8**	**-0.6**
	comp=Z,5.5nm,1.0s							
WTTA	**Wattenberg**	**85.64**	**320**	*i* P		**P**	**22 38 03.1**	**-0.4**
	comp=Z,9.2nm,1.2s							
MOTA	**Moosalm**	**85.91**	**321**	*i* P		**P**	**22 38 04.1**	**-0.7**
	comp=Z,3.1nm,0.9s							
SQTA	**Sankt Quirin**	**85.91**	**320**	*i* P		**P**	**22 38 04.0**	**-0.8**
	comp=Z,7.6nm,1.0s							
KMBO	**Kilima Mbogo**	**85.92**	**267**	P		**P**	**22 38 06.8**	**+1.3**
	comp=Z,2.8nm,0.6s,baz=32,slow=7.0,SNR=12							
KMBO	**Kilima Mbogo**	**85.92**	**267**	P		**P**	**22 38 06.9**	**+1.3**
KMBO	**Kilima Mbogo**	**85.92**	**267**	*i* P		**P**	**22 38 06.0**	**+0.5**
KMBO					pmax	pmax		
	comp=Z,3.0nm,0.6s							
CDF	**Champ du Feu**	**87.51**	**323**	*e*P		**P**	**22 38 11.7**	**-0.8**
CDF					pmax	pmax		
	comp=Z,26nm,1.8s							
B08A	**Colville Reser**	**89.36**	**36**	*e*P		**P**	**22 38 21.5**	**+0.3**
	comp=Z,13nm,0.9s							
LPG	**La Plagne**	**89.44**	**321**	*e*P		**P**	**22 38 21.2**	**-0.7**
LPG					pmax	pmax		
	comp=Z,11nm,0.9s							
LPL	**La Plagne**	**89.44**	**321**	*e*P		**P**	**22 38 21.1**	**-0.8**
LPL					pmax	pmax		
	comp=Z,11nm,1.0s							
PGF	**Pioggiola**	**89.72**	**317**	*e*P		**P**	**22 38 22.3**	**-0.8**
PGF					pmax	pmax		
	comp=Z,10.0nm,0.9s							
LOR	**Lormes**	**90.05**	**323**	*e*P		**P**	**22 38 23.2**	**-1.2**
LOR					pmax	pmax		
	comp=Z,21nm,1.6s							
ORIF	**Oris-en-Rattie**	**90.28**	**320**	*e*P		**P**	**22 38 24.7**	**-0.9**
ORIF					pmax	pmax		
	comp=Z,9.0nm,1.1s							
D08A	**Wollman Farm,**	**90.36**	**37**	*e*P		**P**	**22 38 26.4**	**+0.6**
	comp=Z,14nm,1.0s							
SMF	**Signal de Mont**	**90.43**	**323**	*e*P		**P**	**22 38 25.1**	**-1.1**
SMF					pmax	pmax		
	comp=Z,20nm,1.1s							
NEW	**Newport**	**90.59**	**35**	*e*P		**P**	**22 38 26.9**	**0.0**
	comp=Z,9.7nm,0.9s							
NEW	**Newport**	**90.59**	**35**	*e*P		**P**	**22 38 27.0**	**0.0**
NEW					pmax	pmax		
	comp=Z,10.0nm,0.9s							
FRF	**La Foret Royal**	**90.60**	**319**	*e*P		**P**	**22 38 25.0**	**-2.0**
FRF					pmax	pmax		
	comp=Z,5.0nm,0.9s							
AVF	**Avril sur Loir**	**90.61**	**323**	*e*P		**P**	**22 38 25.8**	**-1.2**
AVF					pmax	pmax		
	comp=Z,24nm,1.4s							
VIVF	**Saint-Julien-l**	**91.01**	**321**	*e*P		**P**	**22 38 28.0**	**-1.0**
VIVF					pmax	pmax		
	comp=Z,3.0nm,0.9s							
TCF	**Toulx Ste Croi**	**91.54**	**323**	*e*P		**P**	**22 38 30.7**	**-0.7**
TCF					pmax	pmax		
	comp=Z,16nm,1.4s							
FRB	**Frobisher Bay**	**92.16**	**5**	LR		LR	23 22 47.7	
	comp=Z,246nm,19.9s,baz=54,slow=37							
CAF	**Calviac**	**92.46**	**322**	*e*P		**P**	**22 38 35.3**	**-0.3**
CAF					pmax	pmax		
	comp=Z,14nm,1.0s							
RJF	**Les Rejaudoux**	**92.53**	**323**	*e*P		**P**	**22 38 35.7**	**-0.2**
RJF					pmax	pmax		
	comp=Z,10.0nm,1.0s							
FFC	**Flin Flon**	**92.91**	**24**	*i* P		**P**	**22 38 37.8**	**+0.3**
KEST	**Kesra**	**93.17**	**311**	P		**P**	**22 38 38.2**	**-0.9**
	comp=Z,4.3nm,0.8s,baz=280,slow=5.3,SNR=5.0							
NV01	**Mina Array Sit**	**95.89**	**43**	*e*P		**P**	**22 38 51.6**	**-0.2**
NVAR	**Mina Array Bea**	**95.89**	**43**	P		**P**	**22 38 51.6**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=288,slow=5.5,SNR=4.9							
TXAR	**Lajitas Array**	**110.99**	**42**	PKiKP		**PKiKP**	**22 43 58.5**	**0.0**
	comp=Z,0.5nm,0.9s,baz=265,slow=6.3,SNR=3.7							
TORD	**Torodi Ar. Bea**	**111.25**	**296**	PKiKP		**PKiKP**	**22 43 58.7**	**-0.5**
	comp=Z,0.7nm,1.1s,baz=64,slow=3.4,SNR=3.1							
SDV	**Santo Domingo**	**144.98**	**23**	PKP		**PKPab**	**22 45 01.4**	**-0.7**
	comp=Z,12nm,0.8s,baz=18,slow=2.2,SNR=22							
SDV	**Santo Domingo**	**144.98**	**23**	*e*PKPdf		**PKPab**	**22 45 01.2**	**-0.9**
MDP	**Montagnes des**	**150.68**	**350**	PKPbc		**PKPbc**	**22 45 17.8**	**+0.3**
	comp=Z,15nm,0.9s,baz=63,slow=3.7,SNR=6.4							
PTGA	**Pitinga**	**156.79**	**6**	PKPab		**PKPab**	**22 45 48.1**	**-1.9**
	comp=Z,1.2nm,0.3s,baz=330,slow=8.2,SNR=4.4							
LPAZ	**La Paz**	**167.58**	**54**	PKP		**PKPdf**	**22 45 32.3**	**+0.1**
	comp=Z,1.8nm,1.0s,baz=49,slow=3.8,SNR=5.1							
SIV	**San Ignacio**	**171.45**	**22**	PKP		**PKPdf**	**22 45 34.2**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=90,slow=0.5,SNR=10							
SIV				PKPab		**PKPab**	**22 46 52.7**	**-1.6**
	comp=Z,0.7nm,0.6s,baz=337,slow=7.7,SNR=3.0							

TAP **21** *22:37:51.5,24.˚00N×122.˚26E,h6km,ML4.1,D*
JMA **21** *22:37:51.7±0.2,23.˚94N×122.˚29E,h22km±5km,M3.7*
ISCJB **21** *22:37:52.1±0.3,23.˚96N±0.˚01×122.˚34E±0.˚01,h16km±3km, mb3.9/11,Error ellipse: s-maj=2.6km s-min=1.7km az=150.2*
IDC **21** *22:37:54.6±4.4,24.˚11N×122.˚33E,h44km±44km,mb3.8/11, mb1 3.9/12,mb1mx3.6/39,mbtmp4.0/12,ML3.2/1,Error ellipse: s-maj=39.9km s-min=18.0km az=61.0*
ISC 21 22:37:50.6±1.0,24.˚01N±0.˚02×122.˚36E±0.˚01,h16km±7km, n122,σ1§10/215,mb4.1/11,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
EOS1	**EOS1**	**0.57**	**339**	*i* P	**Pn**	**22 38 03.9**	**-0.3**
	baz=347						
EOS1				S	**Sn**	**22 38 12.1**	**-1.1**
	baz=347						
JYNG	**Yonaguni jima**	**0.69**	**51**	P	**Pn**	**22 38 06.4**	**+0.6**
JYNG				S	**Sn**	**22 38 15.9**	**-0.3**
HWA	**Hwalien**	**0.69**	**267**	*e*P	**Pg**	**22 38 04.4**	**+0.2**
	baz=267						
HWA				*e*S	**Sb**	**22 38 14.7**	**+1.1**
	baz=267						
NANB	**Nanao**	**0.69**	**307**	P	**Pb**	**22 38 05.0**	**+0.7**
	baz=312						
NANB				S	**Sb**	**22 38 14.9**	**+1.2**
	baz=312						
ENA	**Nanau**	**0.70**	**306**	P	**Pb**	**22 38 05.0**	**+0.5**
	baz=312						
ENA				*e*S	**Sb**	**22 38 14.9**	**+1.0**
	baz=312						
TWD	**Chiawan**	**0.70**	**276**	P	**Pb**	**22 38 04.9**	**+0.4**
	baz=278						
TWD				S	**Sb**	**22 38 14.3**	**+0.4**
	baz=278						
NACB	**Ninganchiao**	**0.72**	**283**	*e*P	**Pb**	**22 38 05.3**	**+0.5**
	baz=286						
NACB				S	**Sb**	**22 38 14.8**	**+0.4**
	baz=286						
YOJ	**Yonaguni jima**	**0.74**	**53**	*e*P	**Pn**	**22 38 08.2**	**+1.7**
	baz=55						
YOJ				*e*S	**Sn**	**22 38 19.8**	**+2.3**
	baz=55						
YOJ	**Yonaguni jima**	**0.74**	**53**	P	**Pn**	**22 38 07.4**	**+0.9**
YOJ				S	**Sn**	**22 38 17.4**	**-0.1**
TWC	**Suao**	**0.75**	**322**	P	**Pb**	**22 38 06.0**	**+0.6**
	baz=329						
TWC				*e*S	**Sb**	**22 38 16.0**	**+0.6**
	baz=329						
ESL	**Shilin**	**0.87**	**257**	P	**Pg**	**22 38 06.9**	**-0.7**
	baz=256						
ESL				*e*S	**Sg**	**22 38 18.6**	**-0.4**
	baz=256						
EGS		**0.92**	**335**	*i* P	**Pn**	**22 38 09.7**	**+0.8**
	baz=341						
EGS				*i* S	**Sn**	**22 38 22.7**	**+1.0**
	baz=341						
EGFH	**Guangfu**	**0.92**	**248**	*e*P	**Pg**	**22 38 08.1**	**-0.4**
	baz=246						
EGFH				S	**Sg**	**22 38 20.3**	**-0.3**
	baz=246						
ILA	**Ilan**	**0.93**	**323**	P	**Pn**	**22 38 09.7**	**+0.5**
	baz=328						
ILA				S	**Sn**	**22 38 22.7**	**+0.5**
	baz=328						
TWE	**Neicheng**	**0.95**	**318**	*i* P	**Pn**	**22 38 09.7**	**+0.4**
	baz=323						
TWE				S	**Sn**	**22 38 22.9**	**+0.4**
	baz=323						
ENTT	**Nioudou**	**0.95**	**311**	P	**Pn**	**22 38 10.1**	**+0.6**
	baz=315						
ENTT				S	**Sb**	**22 38 22.0**	**+0.8**
	baz=315						
NTC	**Toucheng**	**0.97**	**330**	P	**Pn**	**22 38 10.4**	**+0.9**
	baz=335						
NTC				S	**Sn**	**22 38 24.4**	**+1.4**
	baz=335						
NNSB	**Datong**	**0.98**	**295**	P	**Pn**	**22 38 10.0**	**+0.1**
	baz=298						
NNSB				*e*S	**Sn**	**22 38 23.4**	**-0.2**
	baz=298						
NNS	**Nan Shan**	**1.00**	**295**	P	**Pn**	**22 38 10.3**	**+0.2**
	baz=298						
NNS				*e*S	**Sb**	**22 38 23.6**	**+1.0**
	baz=298						
HGSD	**Ruisui**	**1.00**	**239**	*e*P	**Pb**	**22 38 09.3**	**-0.3**
	baz=236						
HGSD				*e*S	**Sg**	**22 38 22.2**	**-0.9**
	baz=236						
WHF	**Hehuan Shan**	**1.01**	**278**	P	**Pg**	**22 38 09.9**	**-0.3**
	baz=279						
WHF				S	**Sg**	**22 38 23.2**	**-0.4**
	baz=279						
TWB1	**Santiao Chiao**	**1.05**	**341**	P	**Pn**	**22 38 11.7**	**+1.0**
	baz=346						
TWB1				S	**Sn**	**22 38 27.3**	**+2.3**
	baz=346						
TIPB	**Shuangxi**	**1.07**	**333**	*e*P	**Pn**	**22 38 11.9**	**+0.9**
	baz=337						
TIPB				*e*S	**Sn**	**22 38 27.2**	**+1.5**
	baz=337						
EHY	**Hungye**	**1.08**	**242**	P	**Pb**	**22 38 10.7**	**-0.2**
	baz=240						
EHY				*e*S	**Sb**	**22 38 24.2**	**-0.6**
	baz=240						
CHGB	**Renai**	**1.08**	**273**	P	**Pb**	**22 38 11.2**	**0.0**
	baz=273						
CHGB				*e*S	**Sg**	**22 38 25.2**	**-0.7**
	baz=273						
NWLT	**Wulai**	**1.09**	**314**	P	**Pn**	**22 38 12.1**	**+0.8**
	baz=318						
YHNB	**Yeheng**	**1.11**	**306**	P	**Pn**	**22 38 12.3**	**+0.6**
	baz=309						
YHNB				*e*S	**Sn**	**22 38 26.6**	**-0.1**
	baz=309						
TDCB	**Techi**	**1.12**	**283**	P	**Pb**	**22 38 12.0**	**+0.2**
	baz=284						
TDCB				S	**Sg**	**22 38 26.7**	**-0.4**
	baz=284						
NSK	**Sanguang**	**1.13**	**306**	P	**Pn**	**22 38 12.5**	**+0.6**
	baz=309						
NSK				*e*S	**Sn**	**22 38 27.1**	**0.0**
	baz=309						
VWDT	**VWDT**	**1.15**	**257**	*e*P	**Pg**	**22 38 13.8**	**+1.0**
	baz=256						
VWDT				*e*S	**Sb**	**22 38 26.1**	**-0.6**
	baz=256						
YULB	**Yu-li**	**1.15**	**238**	*e*P	**Pb**	**22 38 11.4**	**-0.8**
	baz=235						
YULB				*e*S	**Sb**	**22 38 26.7**	**-0.3**
	baz=235						
NWF	**Wu-fen Shan**	**1.18**	**334**	*e*P	**Pg**	**22 38 13.2**	**-0.2**
	baz=337						
NWF				*e*S	**Sn**	**22 38 30.0**	**+1.7**
	baz=337						
WFSB	**Wu-fen Shan**	**1.18**	**334**	*e*P	**Pg**	**22 38 13.0**	**-0.4**
	baz=337						
WFSB				*e*S	**Sn**	**22 38 30.4**	**+2.2**
	baz=337						
TWA	**Mucha**	**1.19**	**324**	*e*P	**Pg**	**22 38 14.9**	**+1.2**
	baz=328						
TWA				S	**Sn**	**22 38 31.3**	**+2.6**
	baz=328						
TATO	**Taipei**	**1.24**	**321**	P	**Pg**	**22 38 15.3**	**+0.7**
	baz=324						
TATO				*e*S	**Sn**	**22 38 31.7**	**+1.8**
	baz=324						
TAP1	**Taipei**	**1.27**	**323**	P	**Pg**	**22 38 15.7**	**+0.5**
	baz=326						
TAP1				*e*S	**Sg**	**22 38 33.4**	**+1.6**
	baz=326						
IRIF	**Iriomote-Funau**	**1.29**	**75**	P	**Pg**	**22 38 16.1**	**+0.5**
IRIF				S	**Sg**	**22 38 32.9**	**+0.5**
SSLB	**Suanglung**	**1.31**	**260**	*e*P	**Pn**	**22 38 14.4**	**+0.2**
	baz=260						
SSLB				*e*S	**Sn**	**22 38 32.6**	**+1.2**
	baz=260						
WLTB	**Daxi**	**1.31**	**310**	P	**Pg**	**22 38 16.2**	**+0.3**
	baz=312						
WLTB				*e*S	**Sg**	**22 38 33.7**	**+0.7**
	baz=312						
HATJ	**Hateruma jima**	**1.32**	**88**	P	**Pg**	**22 38 17.0**	**+0.9**
YM01	**YM01**	**1.34**	**328**	P	**Pg**	**22 38 17.6**	**+1.1**
	baz=331						
YM01				*e*S	**Sg**	**22 38 35.2**	**+1.3**
	baz=331						
YM07	**YM07**	**1.34**	**330**	P	**Pg**	**22 38 16.8**	**+0.3**
	baz=333						
YM07				*e*S	**Sg**	**22 38 35.2**	**+1.3**
	baz=333						
SMLT	**Sun Moon Lake**	**1.34**	**265**	P	**Pn**	**22 38 15.1**	**+0.2**
	baz=264						
SMLT				*e*S	**Sb**	**22 38 33.2**	**+0.7**
	baz=264						
YM10	**YM10**	**1.35**	**328**	P	**Pg**	**22 38 16.8**	**+0.1**
	baz=331						
YM10				*e*S	**Sg**	**22 38 34.5**	**+0.2**
	baz=331						
YM11	**YM11**	**1.35**	**328**	P	**Pg**	**22 38 16.8**	**+0.1**
	baz=331						
YM11				*e*S	**Sg**	**22 38 35.5**	**+1.1**
	baz=331						
YM05	**YM05**	**1.35**	**328**	P	**Pg**	**22 38 16.4**	**-0.4**
	baz=331						
YM05				*e*S	**Sg**	**22 38 35.2**	**+0.7**
	baz=331						
YM04	**YM04**	**1.36**	**327**	P	**Pg**	**22 38 16.7**	**-0.2**
	baz=330						
YM08	**YM08**	**1.36**	**329**	P	**Pg**	**22 38 16.5**	**-0.4**
	baz=332						
YM08				*e*S	**Sg**	**22 38 35.8**	**+1.1**
	baz=332						
LIOB	**Emei**	**1.38**	**297**	P	**Pb**	**22 38 16.6**	**+0.5**
	baz=299						
LIOB				*e*S	**Sn**	**22 38 34.1**	**+0.9**
	baz=299						
YM03	**YM03**	**1.38**	**327**	P	**Pg**	**22 38 16.9**	**-0.3**
	baz=330						
YM03				*e*S	**Sg**	**22 38 34.5**	**-0.7**
	baz=330						
TWS1	**Kuangyinshan**	**1.38**	**322**	P	**Pg**	**22 38 17.2**	**-0.1**
	baz=325						
TWS1				*e*S	**Sg**	**22 38 35.9**	**+0.6**
	baz=325						
NSTT	**Nanjuang**	**1.38**	**297**	P	**Pg**	**22 38 17.2**	**-0.1**
	baz=298						
NSTT				S	**Sg**	**22 38 34.7**	**-0.6**
	baz=298						
YUS	**Yu-Shan**	**1.39**	**248**	P	**Pn**	**22 38 16.4**	**+0.6**
	baz=246						
YUS				*e*S	**Sb**	**22 38 33.4**	**-0.8**
	baz=246						
NTST	**Danshui**	**1.41**	**324**	P	**Pg**	**22 38 17.6**	**-0.3**
	baz=327						
NTST				*e*S	**Sg**	**22 38 36.2**	**-0.1**
	baz=327						
NCU	**National Centr**	**1.43**	**312**	*e*P	**Pg**	**22 38 17.5**	**-0.7**
	baz=314						
NCU				S	**Sg**	**22 38 36.5**	**-0.4**
	baz=314						
NCUH	**Zhongli**	**1.43**	**312**	P	**Pg**	**22 38 17.6**	**-0.7**
	baz=314						
NCUH				*e*S	**Sg**	**22 38 36.8**	**-0.1**
	baz=314						
TWY	**Chenhua**	**1.43**	**331**	P	**Pg**	**22 38 18.4**	**+0.1**
	baz=334						
TWY				*e*S	**Sg**	**22 38 37.3**	**+0.3**
	baz=334						
SBCB	**Hsinchu**	**1.47**	**302**	P	**Pg**	**22 38 18.4**	**-0.6**
	baz=304						
SBCB				*e*S	**Sg**	**22 38 38.2**	**0.0**
	baz=304						
TWQ1	**Liyutan**	**1.49**	**283**	P	**Pb**	**22 38 18.6**	**+0.6**
	baz=284						
TWQ1				*e*S	**Sb**	**22 38 37.3**	**+0.7**
	baz=284						
WJS	**Zhushan**	**1.50**	**263**	*e*P	**Pb**	**22 38 19.0**	**+0.8**
	baz=262						
WJS				*e*S	**Sb**	**22 38 37.7**	**+0.6**
	baz=262						
NSY	**Sanyi**	**1.51**	**286**	*e*P	**Pg**	**22 38 19.3**	**-0.5**
	baz=287						
NSY				*e*S	**Sb**	**22 38 37.5**	**+0.2**
	baz=287						
NMLH	**Miaoli**	**1.52**	**290**	P	**Pg**	**22 38 19.3**	**-0.6**
	baz=291						
NMLH				*e*S	**Sb**	**22 38 38.4**	**+0.7**
	baz=291						
JKRS	**Kuro-shima**	**1.52**	**81**	P	**Pg**	**22 38 19.9**	**-0.1**
WNT	**Mingjian**	**1.54**	**265**	P	**Pb**	**22 38 19.0**	**+0.2**
	baz=265						
WNT				*e*S	**Sn**	**22 38 38.1**	**+1.0**
	baz=265						
TCU	**Taichung**	**1.54**	**275**	P	**Pb**	**22 38 18.8**	**-0.1**
	baz=275						
TCU				*e*S	**Sb**	**22 38 39.2**	**+1.0**
	baz=275						
PTSB	**Yuanli**	**1.57**	**286**	*e*P	**Pn**	**22 38 19.0**	**+1.1**
	baz=287						
PTSB				*e*S	**Sb**	**22 38 39.5**	**+0.5**
	baz=287						
CHN5	**Tsauling**	**1.59**	**255**	P	**Pb**	**22 38 20.1**	**+0.3**
	baz=254						
CHN5				*e*S	**Sn**	**22 38 39.7**	**+1.0**
	baz=254						
WCHH	**Zhanghua**	**1.65**	**273**	*e*P	**Pb**	**22 38 20.8**	**+0.1**
	baz=273						
WCHH				*e*S	**Sb**	**22 38 41.2**	**0.0**
	baz=273						
JIJ	**Ishigaki jima**	**1.67**	**78**	P	**Pb**	**22 38 21.0**	**0.0**
JIJ				*e*S	**Sn**	**22 38 40.8**	**+0.6**
TWG	**Pinlang**	**1.68**	**225**	*e*P	**Pn**	**22 38 18.8**	**-0.5**
	baz=222						
TWG				*e*S	**Sn**	**22 38 42.2**	**+1.7**
	baz=222						
TTN	**Taitung**	**1.68**	**222**	*e*S	**Sn**	**22 38 42.2**	**+1.7**
	baz=219						
WGK	**Gukeng**	**1.68**	**259**	*e*P	**Pn**	**22 38 20.5**	**+1.2**
	baz=258						
WGK				*e*S	**Sn**	**22 38 42.0**	**+1.5**
	baz=258						
STYT	**Tauyuan**	**1.70**	**240**	*e*P	**Pn**	**22 38 20.2**	**+0.5**
	baz=238						
STYT				S	**Sn**	**22 38 41.9**	**+0.8**
	baz=238						
WDLH	**Douliu**	**1.70**	**259**	*e*P	**Pb**	**22 38 21.4**	**-0.1**
	baz=259						
WDLH				*e*S	**Sn**	**22 38 42.2**	**+1.2**
	baz=259						
TPUB	**Ta-pu**	**1.74**	**246**	*e*P	**Pn**	**22 38 21.8**	**+1.6**
	baz=245						
TPUB				*e*S	**Sn**	**22 38 43.2**	**+1.2**
	baz=245						
CHN4	**Tsaushan**	**1.75**	**248**	*e*P	**Pn**	**22 38 21.8**	**+1.5**
	baz=247						
CHN4				*e*S	**Sb**	**22 38 44.4**	**+0.3**
	baz=247						
WTP	**Ta-pu**	**1.77**	**245**	*e*P	**Pn**	**22 38 22.0**	**+1.3**
	baz=243						
WTP				*e*S	**Sn**	**22 38 44.9**	**+1.9**
	baz=243						
CHN2	**Minshiung**	**1.79**	**255**	*e*P	**Pb**	**22 38 23.1**	**0.0**
	baz=254						
CHN2				*e*S	**Sn**	**22 38 45.0**	**+1.7**
	baz=254						
RLNB	**Erlin**	**1.83**	**267**	*e*P	**Pb**	**22 38 23.3**	**-0.5**
	baz=266						
RLNB				*e*S	**Sn**	**22 38 45.9**	**+1.5**
	baz=266						
CHY	**Chiayi**	**1.85**	**254**	*e*S	**Sn**	**22 38 46.6**	**+1.9**
	baz=253						
JISG	**Ishigakijimahi**	**1.87**	**72**	P	**Pn**	**22 38 23.7**	**+1.7**
JISG				*e*S	**Sb**	**22 38 47.9**	**+0.3**
TWK	**Hsinying**	**1.87**	**247**	*e*P	**Pn**	**22 38 23.3**	**+1.3**
	baz=245						
TWK				*e*S	**Sn**	**22 38 46.6**	**+1.2**
	baz=245						
CHN1	**Nanshi**	**1.87**	**244**	*e*P	**Pn**	**22 38 23.5**	**+1.5**
	baz=243						
CHN1				*e*S	**Sn**	**22 38 46.8**	**+1.4**
	baz=243						
SLGT	**Liugui**	**1.87**	**237**	*e*P	**Pn**	**22 38 23.5**	**+1.4**
	baz=236						
SLGT				*e*S	**Sn**	**22 38 46.8**	**+1.4**
	baz=236						
SGST	**Jiashian**	**1.88**	**241**	*e*P	**Pb**	**22 38 24.8**	**+0.3**
	baz=239						
SGST				*e*S	**Sn**	**22 38 47.1**	**+1.6**
	baz=239						
WTCT	**Ta-ch'eng**	**1.91**	**266**	*e*P	**Pb**	**22 38 24.6**	**-0.4**
	baz=265						
WTCT				*e*S	**Sb**	**22 38 48.9**	**+0.3**
	baz=265						
WLGB	**Puzi**	**1.96**	**255**	*e*S	**Sn**	**22 38 48.7**	**+1.2**
	baz=253						
WMLT	**Mailiao**	**1.97**	**264**	*e*P	**Pb**	**22 38 25.5**	**-0.6**
	baz=264						
WMLT				*e*S	**Sn**	**22 38 49.8**	**+2.1**
	baz=264						
SSD	**Sandimen**	**2.03**	**232**	P	**Pn**	**22 38 26.2**	**+2.0**
	baz=230						
SSD				*e*S	**Sn**	**22 38 50.5**	**+1.3**
	baz=230						
MASBT	**Mashibuluo**	**2.11**	**229**	P	**Pn**	**22 38 26.5**	**+1.1**
	baz=227						
EAST	**Anshuo**	**2.14**	**221**	*e*S	**Sn**	**22 38 53.6**	**+1.7**
	baz=218						
TWM1	**Shoushan**	**2.14**	**237**	*e*P	**Pn**	**22 38 27.6**	**+1.9**
	baz=235						
TWM1				*e*S	**Sn**	**22 38 53.4**	**+1.5**
	baz=235						
SCLT	**Jiali**	**2.15**	**248**	*e*S	**Sn**	**22 38 53.9**	**+1.6**
	baz=246						
JTJ	**Tarama**	**2.23**	**73**	P	**Pb**	**22 38 30.0**	**-0.5**
JTJ				S	**Sb**	**22 38 58.0**	**+0.1**
SCZT	**Fangliau**	**2.29**	**225**	*e*P	**Pn**	**22 38 30.0**	**+2.3**
	baz=222						
SCZT				*e*S	**Sn**	**22 38 57.5**	**+1.9**
	baz=222						
WLCH	**Liuqiu**	**2.46**	**228**	*e*P	**Pb**	**22 38 33.9**	**-0.7**
	baz=226						
WLCH				*e*S	**Sn**	**22 39 01.4**	**+1.5**
	baz=226						
TWP	**Hsiaoliuchiu**	**2.48**	**228**	*e*P	**Pn**	**22 38 32.1**	**+1.8**
	baz=226						
TWP				*e*S	**Sn**	**22 39 02.2**	**+2.0**
	baz=226						
HEN	**Hengchun**	**2.50**	**

JIKM				eS	Sb	22 39 12.3	-1.6
JMJ	**Miyako jima 2**	**2.79**	**73**	eS	**Sb**	**22 39 12.8**	**-1.3**
JOGS	**Gusukube**	**2.88**	**74**	eS	**Sn**	**22 39 13.8**	**+3.7**
MHZQ	**Yeshan**	**3.67**	**305**	eP	**Pn**	**22 38 47.2**	**+0.5**
	baz=305						
JOW	**Kunigami**	**6.04**	**61**	P	**Pn**	**22 39 20.8**	**+1.5**
	1.5nm,0.3s,baz=124,slow=20,SNR=4.9						
JOW				S	Sn	22 40 17.6	-11
	4.0nm,0.3s,baz=202,slow=24,SNR=5.8						
KSRS	**Korea Array**	**14.22**	**18**	P	**P**	**22 41 16.1**	**-2.6**
	0.2nm,0.3s,baz=197,slow=11,SNR=7.8						
SONM	**Songino Array**	**26.95**	**336**	P	**P**	**22 43 31.4**	**-0.1**
	7.2nm,0.8s,baz=150,slow=9.9,SNR=55						
MKAR	**Makanchi Array**	**39.21**	**316**	P	**P**	**22 45 18.1**	**+0.1**
	1.0nm,0.5s,baz=101,slow=10.0,SNR=19						
ZALV	**Zalesovo Beam**	**40.97**	**327**	P	**P**	**22 45 31.1**	**-1.4**
	6.4nm,0.9s,baz=118,slow=9.0,SNR=12						
WRA	**Warramunga Arr**	**45.22**	**164**	P	**P**	**22 46 07.5**	**+0.2**
	0.8nm,0.8s,baz=345,slow=9.1,SNR=5.2						
ASAR	**Alice Springs**	**48.70**	**166**	P	**P**	**22 46 36.6**	**+2.1**
	0.2nm,0.5s,baz=353,slow=13,SNR=4.1						
KBZ	**Khabaz**	**66.42**	**309**	P	**P**	**22 48 39.7**	**+0.6**
	1.7nm,0.8s,baz=2.9,slow=3.8,SNR=3.8						
FINES	**FINESS Array B**	**72.13**	**330**	P	**P**	**22 49 14.1**	**0.0**
	2.2nm,0.9s,baz=15,slow=7.9,SNR=3.3						
AKASG	**Malin Array Be**	**73.71**	**319**	P	**P**	**22 49 22.7**	**-1.0**
	1.2nm,0.6s,baz=58,slow=6.0,SNR=4.0						
BRTR	**Keskin Array B**	**74.14**	**307**	P	**P**	**22 49 26.6**	**-0.1**
	1.5nm,0.8s,baz=90,slow=5.6,SNR=9.2						
YKA	**Yellowknife Ar**	**82.71**	**23**	P	**P**	**22 50 13.7**	**+0.4**
	0.6nm,0.7s,baz=308,slow=4.9,SNR=3.5						
GERES	**GERESS Array B**	**83.65**	**321**	P	**P**	**22 50 17.2**	**-1.4**
	0.2nm,0.2s,baz=84,slow=5.5,SNR=3.7						
SDV	**Santo Domingo**	**144.92**	**23**	PKP	**PKPab**	**22 57 26.1**	**-1.2**
	1.4nm,0.4s,baz=289,slow=2.5,SNR=5.6						

*ISCJB **21** 22:51:21.8±1.2,34.°00S±0.°04×72.°38W±0.°05,h22km±9km, mb4.2/14, Error ellipse: s-maj=8.1km s-min=5.8km az=29.6*
*IDC **21** 22:51:21.2±0.7,33.°96S×72.°01W,h0km,mb4.3/14, mb1 4.3/16,mb1mx4.2/38,mbtmp4.3/16,ML4.3/2, Error ellipse: s-maj=32.1km s-min=14.4km az=90.0*
*GUC **21** 22:51:23.5±0.4,34.°01S×72.°31W,h35km±2km,ML4.1*
*NEIC **21** 22:51:23.0±0.0,34.°01S×72.°31W,h35km,mb4.2/3, ML4.1(GUC),After GUC.*

ISC 21 22:51:24.8±2.5,34.°00S±0.°05×72.°23W±0.°08,h27km±17km, n50,σ1°20/59,mb4.3/14,1C-2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**HualaæØ**	**1.04**	**166**	*e*Pg	**Pn**	**22 51 41.8**	**-1.9**
GO05	**HualaæØ**	**1.04**	**166**	∥ *i*P	**Pn**	**22 51 41.7**	**-1.9**
GO05				*e*S	**Sn**	**22 51 55.2**	**-2.2**
ANTU	**Antumapu**	**1.40**	**73**	*e*P	**Pn**	**22 51 48.1**	**-0.4**
ANTU				*e*S	**Sn**	**22 52 06.6**	**+0.5**
ANTU				IAML		22 52 08.7	
	comp=N,5μm,0.4s						
ROC1	**El Roble**	**1.44**	**45**	*e*Pn	**Pn**	**22 51 48.2**	**-1.1**
ROCH	**El Roble**	**1.44**	**45**	*e*P	**Pn**	**22 51 48.8**	**-0.5**
ROCH				*e*S	**Sb**	**22 52 09.6**	**+0.5**
ROCH				IAML		22 52 17.6	
	comp=N,4μm,0.6s						
CLCH	**Cerro Calan**	**1.53**	**67**	*e*P	**Pn**	**22 51 50.0**	**-0.4**
CLCH				IAML		22 52 15.6	
	comp=E,4μm,0.4s						
PEL	**Peldehue**	**1.54**	**57**	*e*Pn	**Pn**	**22 51 50.6**	**0.0**
PEL	**Peldehue**	**1.54**	**57**	∥ *i*P	**Pn**	**22 51 50.6**	**0.0**
PEL				*e*S	**Sn**	**22 52 10.8**	**+1.0**
PEL				IAML		22 52 19.2	
	comp=N,4μm,0.5s						
LMEL	**Las Melosas**	**1.69**	**85**	*e*P	**Pn**	**22 51 52.6**	**-0.1**
LMEL				*e*S	**Sn**	**22 52 14.8**	**+1.3**
LMEL				IAML		22 52 20.3	
	comp=N,4μm,0.1s						
FCH	**Farellones**	**1.75**	**68**	*e*P	**Pn**	**22 51 53.6**	**0.0**
FCH				*e*S	**Sn**	**22 52 16.4**	**+1.1**
FCH				IAML		22 52 23.0	
	comp=E,2μm,0.6s						
GO04	**Tololo Observa**	**4.00**	**18**	*e*Pn	**Pn**	**22 52 23.9**	**-0.6**
LCO	**Las Campanas**	**5.14**	**15**	*e*Pn	**Pn**	**22 52 39.1**	**-1.1**
GO06	**Curarrehue**	**5.61**	**174**	*e*Pn	**Pn**	**22 52 47.3**	**+0.8**
GO03	**Copiap**	**6.61**	**16**	*e*Pn	**Pn**	**22 52 58.7**	**-1.5**
PLCA	**Paso Flores**	**6.86**	**169**	Pn	**Pn**	**22 53 03.8**	**+0.2**
	comp=E,1.5nm,0.3s,baz=358,slow=11,SNR=24						
PLCA	**Paso Flores**	**6.86**	**169**	*e*Pn	**Pn**	**22 53 04.2**	**+0.6**
GO02	**Mina Guanaco**	**9.10**	**15**	*e*Pn	**Pn**	**22 53 31.1**	**-3.5**
TRQA	**Tornquist**	**9.24**	**119**	*e*Pn	**Pn**	**22 53 35.0**	**-1.2**
LVC	**Limon Verde**	**11.71**	**15**	Pn	**Pn**	22 54 04.8	-5.7
	comp=E,0.3nm,0.3s,baz=157,slow=11,SNR=3.4						
LVC	**Limon Verde**	**11.71**	**15**	*e*Pn	Pn	22 54 04.9	-5.6
GO01	**Chusmiza**	**14.53**	**11**	*e*Pn	**Pn**	**22 54 50.3**	**+1.3**
CPUP	**Villa Florida**	**14.97**	**63**	Pn	**Pn**	**22 54 55.5**	**+0.9**
	comp=E,0.2nm,0.3s,baz=227,slow=14,SNR=3.7						
MNMC	**Minye Minye**	**14.99**	**10**	*e*Pn	**P**	**22 55 02.1**	**+1.7**
LPAZ	**La Paz**	**18.02**	**13**	P	**Pn**	**22 55 34.1**	**+0.2**
	comp=E,0.5nm,0.3s,baz=184,slow=6.0,SNR=33						
LPAZ	**La Paz**	**18.02**	**13**	*e*Pn	**Pn**	**22 55 34.2**	**+0.3**
	comp=E,8.6nm,0.8s						
EFI	**East Falkland**	**20.43**	**154**	*e*P	**P**	**22 55 58.3**	**-1.4**
SIV	**San Ignacio**	**20.55**	**32**	P	**P**	**22 56 00.1**	**-1.3**
	comp=E,5.6nm,0.7s,baz=222,slow=10,SNR=40						
SAML	**Samuel**	**26.28**	**21**	*e*P	**P**	**22 56 56.6**	**-1.4**
	comp=E,5.3nm,0.8s						
BDFB	**Brasilia**	**28.46**	**56**	P	**P**	**22 57 16.3**	**-1.5**
	comp=E,3.8nm,0.8s,baz=241,slow=9.5,SNR=6.7						
PTGA	**Pitinga**	**35.03**	**22**	P	**P**	**22 58 15.0**	**-0.3**
	comp=E,1.6nm,0.3s,baz=195,slow=11,SNR=9.2						
SDV	**Santo Domingo**	**42.67**	**2**	P	**P**	**22 59 19.2**	**-0.3**
	comp=E,1.0nm,0.3s,baz=306,slow=5.8,SNR=3.0						
MDP	**Montagnes des**	**43.07**	**29**	P	**P**	**22 59 22.2**	**-0.4**
	comp=E,4.5nm,0.6s,baz=210,slow=10,SNR=4.8						
SNAA	**Sanae**	**51.65**	**158**	P	**P**	**23 00 28.5**	**-0.3**
	comp=E,2.9nm,0.8s,baz=279,slow=7.3,SNR=13						
SNAA	**Sanae**	**51.65**	**158**	*e*P	**P**	**23 00 29.1**	**+0.4**
	comp=E,5.7nm,1.1s						
SJG	**San Juan**	**52.14**	**7**	P	**P**	**23 00 32.0**	**-0.9**
	comp=E,2.3nm,0.3s,baz=48,slow=7.4,SNR=2.7						
QSPA	**South Pole Qui**	**56.24**	**180**	P	**P**	**23 01 03.3**	**+0.9**
	comp=E,0.9nm,0.2s,baz=141,slow=6.6,SNR=4.2						
SYO	**Syowa Base**	**65.93**	**159**∩	*e*P	**P**	**23 02 11.6**	**+3.7**
TXAR	**Lajitas Array**	**69.66**	**331**	P	**P**	**23 02 33.0**	**+1.0**
	comp=E,0.3nm,0.5s,baz=160,slow=15,SNR=4.4						
MAW	**Mawson**	**73.23**	**164**	P	**P**	**23 02 53.4**	**+0.5**
	comp=E,2.3nm,0.6s,baz=216,slow=8.8,SNR=4.2						
DBIC	**Dimbokro**	**75.33**	**71**	P	**P**	**23 03 05.5**	**-0.5**
	comp=E,2.2nm,0.8s,baz=190,slow=9.4,SNR=3.3						
BOSA	**Boshof**	**80.21**	**118**	P	**P**	**23 03 33.1**	**-0.1**
	comp=E,2.5nm,0.8s,baz=224,slow=6.6,SNR=5.5						
TORD	**Torodi Ar. Bea**	**84.36**	**70**	P	**P**	**23 03 54.5**	**-0.4**
	comp=E,3.4nm,0.9s,baz=265,slow=3.7,SNR=15						
ULM	**Lac du Bonnet**	**86.45**	**345**	P	**P**	**23 04 04.7**	**+0.2**
	comp=E,1.8nm,0.5s,baz=118,slow=20,SNR=3.0						
BVAR	**Borovoye Array**	**147.39**	**43**	PKP	**PKPdf**	**23 11 03.9**	**+0.8**
	comp=E,2.1nm,0.5s,baz=272,slow=3.8,SNR=18						
BVAR				PKPbc	**PKPbc**	**23 11 06.1**	**+0.6**
	comp=E,2.1nm,0.5s,baz=280,slow=4.1,SNR=18						
AAK	**Ala-Archa**	**152.64**	**62**	PKPbc	**PKPbc**	**23 11 19.7**	**+0.8**
	comp=E,1.8nm,0.7s,baz=194,slow=5.4,SNR=6.0						
KURBB	**Kurchatov Arra**	**152.98**	**43**	PKP	**PKPdf**	**23 11 13.1**	**+1.3**
	comp=E,0.9nm,0.9s,baz=3.9,slow=15,SNR=4.3						
KURBB				PKPbc	**PKPbc**	**23 11 19.1**	**0.0**
	comp=E,1.6nm,0.6s,baz=298,slow=2.9,SNR=13						
KURK	**Kurchatov**	**152.99**	**43**	PKP	**PKPdf**	**23 11 13.1**	**+1.3**
KURK				PKPbc	**PKPbc**	**23 11 19.1**	**0.0**
ZALV	**Zalesovo Beam**	**154.31**	**32**	PKP	**PKPdf**	**23 11 13.5**	**-0.1**
	comp=E,0.4nm,0.3s,baz=285,slow=5.7,SNR=3.9						
ZALV				PKPbc	**PKiKP**	**23 11 22.1**	**+0.1**
	comp=E,4.6nm,0.6s,baz=300,slow=3.1,SNR=17						
MKAR	**Makanchi Array**	**156.88**	**49**	PKPab	**PKPab**	**23 11 47.1**	**-0.2**
	comp=E,1.0nm,0.7s,baz=296,slow=5.0,SNR=5.7						
LZH	**Lanzhou**	**176.16**	**56**	*e*PKP	**PKPdf**	**23 11 30.8**	**-1.9**
LZH				pPKP	pPKPdf	23 11 42.1	+0.5
LZH				sPKP		23 11 46.8	
LZH				PKP	**PKPab**	**23 13 11.3**	**-1.5**

*ISCJB **21** 22:52:27.5±0.1,33.°99S±0.°02×72.°29W±0.°03,h19km, mb5.1/141,MS4.6/1,Error ellipse: s-maj=3.6km s-min=3.4km az=44.4*
*GUC **21** 22:52:28.4±0.5,34.°03S×72.°38W,h34km±5km,ML5.2*
*NEIC **21** 22:52:29.4±2.4,33.°92S×71.°99W,h16km±14km,mb5.2/122, ML5.2(GUC),Error ellipse: s-maj=8.4km s-min=4.9km az=72.0*
NEIC Felt [IV] at Navidad and Pichilemu; [III] at Constitucion, Paredones, Rancagua, Rio Claro, Romeral, San Fernando, Santa Cruz, Santiago and Villa Alegre; [II] at Colbun, Curico, El Tabo, Maule, Molina, Pelarco, San Antonio, San Clemente, Talca and Villa Alemana. Also felt at Vina del Mar.
*IDC **21** 22:52:29.9±6.2,33.°99S×72.°03W,h20km±38km,mb4.7/27, mb1 4.8/30,mb1mx4.7/39,mbtmp4.8/30,ML4.8/3,MS4.5/10, Ms1 4.5/10,ms1mx4.2/29,Error ellipse: s-maj=18.0km s-min=10.0km az=82.0*
*BJI **21** 22:52:30.0,34.°00S×72.°00W,h20km,mB5.3/2,Ms5.1/4, Ms7 4.8/4*
*MOS **21** 22:52:31.1±1.1,33.°96S×72.°08W,h37km,mb5.3/45,Error ellipse: s-maj=12.6km s-min=7.2km az=94.4*
*GCMT **21** 22:52:31.4±0.4,34.°04S±0.°03×72.°49W±0.°04,h33km±1km, MW5.1/55,Moment Tensor Solution. s36,c39; s55,c64; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.19±.37; $M_{\theta\theta}$0.07±.27; $M_{\phi\phi}$-5.26±.23; $M_{r\theta}$0.50±.29; $M_{\theta\phi}$-0.36±.16; $M_{\phi r}$-2.62±.24; Best double couple: M_o5.87800×10^{16} NP1:ϕ_s177.00000°,δ58.00000°,λ83.00000°. NP2: ϕ_s11.00000°,δ32.00000°,λ101.00000°. Principal axes: T 5.8660, Plg75.0000°, Azm67.0000°; N 0.0200, Plg6.0000°, Azm181.0000°; P -5.8890, Plg13.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 22:52:29.4±0.3,33.°99S±0.°03×72.°12W±0.°04,h19km,n703, σ0°94/721,mb5.2/140,6C-3D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**HualaæØ**	**1.03**	**171**	*e*Pg	**Pb**	**22 52 47.5**	**-1.2**
GO05	**HualaæØ**	**1.03**	**171**	*e*P	**Pb**	**22 52 46.7**	**-2.0**
GO05				*e*S	**Sb**	**22 52 60.0**	**-1.9**
GO05				IAML		22 53 03.1	
	comp=E,129μm,0.9s						
ANTU	**Antumapu**	**1.31**	**72**	*e*P	**Pb**	**22 52 53.8**	**+0.4**
ROC1	**El Roble**	**1.37**	**43**	*e*Pn	**Pb**	**22 52 54.6**	**0.0**
ROCH	**El Roble**	**1.37**	**43**	*e*P	**Pb**	**22 52 54.8**	**+0.1**
ROCH				IAML		22 53 23.5	
	comp=N,44μm,0.6s						
CLCH	**Cerro Calan**	**1.45**	**66**	*e*P	**Pb**	**22 52 56.1**	**+0.3**
CLCH				*e*S	**Sg**	**22 53 17.1**	**+0.9**
CLCH				IAML		22 53 29.0	
	comp=E,33μm,0.4s						
PEL	**Peldehue**	**1.47**	**55**	*e*Pn	**Pb**	**22 52 56.4**	**+0.3**
PEL	**Peldehue**	**1.47**	**55**	*e*P	**Pb**	**22 52 56.4**	**+0.3**
PEL				*e*S	**Sg**	**22 53 17.1**	**+0.2**
PEL				IAML		22 53 25.0	
	comp=E,41μm,0.3s						
PEL	**Peldehue**	**1.47**	**55**	*e*P	**Pb**	**22 52 56.4**	**+0.3**
LMEL	**Las Melosas**	**1.60**	**85**	*e*P	**Pb**	**22 52 58.2**	**-0.3**
LMEL				*e*S	**Sg**	**22 53 21.5**	**+0.3**
LMEL				IAML		22 53 23.8	
	comp=N,35μm,0.1s						
FCH	**Farellones**	**1.66**	**67**	*e*P	**Pb**	**22 52 59.4**	**-0.3**
AUSP	**Uspallata**	**2.89**	**53**	*e*P	**Pb**	**22 53 18.0**	**-2.6**
AAGR	**Agrelo**	**2.89**	**73**	*e*P	**Pn**	**22 53 15.8**	**+1.2**
AVIZ	**Vizcacheras**	**3.05**	**81**	*e*P	**Pn**	**22 53 17.3**	**+0.6**
RFA	**San Rafael**	**3.12**	**105**	*e*P	**Pn**	**22 53 12.8**	**-4.0**
RFA				*e*S	**Sb**	**22 54 03.0**	**+1.0**
RTLS	**Leoncito**	**3.23**	**48**	*e*P	**Pn**	**22 53 22.6**	**+3.2**
RTLS				IAML		22 54 18.7	
	comp=E,5μm,0.6s						
RTLL	**Cerro Villicun**	**4.06**	**50**	*e*P	**Pn**	**22 53 33.2**	**+2.6**
ACCO	**Cerro Coronel**	**4.26**	**38**	*e*P	**Pn**	**22 53 36.6**	**+2.9**
AMOG	**MOGNA**	**4.32**	**46**	*e*P	**Pn**	**22 53 36.8**	**+2.6**
AMOG				*e*S	**Sg**	**22 54 43.2**	**-4.9**
AROD	**Rodeo**	**4.42**	**31**	*e*P	**Pn**	**22 53 37.8**	**+1.9**
ACAN	**Cantantal**	**4.48**	**69**	*e*P	**Pn**	**22 53 37.9**	**+1.5**
ACDV	**Cuesta del Vie**	**4.58**	**35**	*e*P	**Pn**	**22 53 40.0**	**+2.1**
LCO	**Las Campanas**	**5.11**	**14**	*e*Pn	Pn	22 53 36.9	-8.4
LCO				*e*S	**Sn**	**22 54 41.0**	**-2.7**
LCO	**Las Campanas**	**5.11**	**14**	*e*P	Pn	22 53 36.9	-8.3
LCO				*e*S	**Sn**	**22 54 41.1**	**-2.7**
AGUA	**GUANDACOL**	**5.45**	**36**	*e*P	**Pn**	**22 53 51.7**	**+2.0**
GO06	**Curarrehue**	**5.61**	**175**	*e*Pn	**Pn**	**22 53 53.5**	**+1.6**
APLL	**PUNTA DE LOS L**	**5.94**	**54**	*e*P	**Pn**	**22 53 58.4**	**+1.9**
APLL				*e*S	**Sb**	**22 55 21.1**	**-2.2**
VCA	**Vinchina**	**6.21**	**34**	*e*P	**Pn**	**22 54 01.2**	**+0.8**
GO03	**Copiap**	**6.58**	**15**	*e*Pn	**Pn**	**22 54 04.7**	**-0.5**
PLCA	**Paso Flores**	**6.85**	**170**	Pn	**Pn**	**22 54 09.7**	**+0.8**
	comp=E,5.8nm,0.3s,baz=345,slow=11,SNR=8.7						
PLCA				LR	LR	22 57 08.3	
	comp=Z,3μm,19.2s,baz=13,slow=41						
PLCA	**Paso Flores**	**6.85**	**170**	*e*Pn	**Pn**	**22 54 08.5**	**-0.4**
CYA	**Choya**	**7.73**	**46**	*e*P	**Pn**	**22 54 22.5**	**+1.4**
GO02	**Mina Guanaco**	**9.07**	**15**	*e*Pn	**Pn**	**22 54 36.8**	**-2.8**
TRQA	**Tornquist**	**9.16**	**119**	*e*Pn	**Pn**	**22 54 40.2**	**+2.4**
TRQA	**Tornquist**	**9.16**	**119**	*e*P	**Pn**	**22 54 43.0**	**+2.4**
GO07	**Milladeo Hill,**	**9.19**	**187**	*e*Pn	**Pn**	**22 54 40.1**	**-0.9**
AHML	**Horco Molle**	**9.27**	**41**	*e*P	**Pn**	**22 54 42.7**	**+0.6**
FSA	**Cafayete**	**9.48**	**36**	*e*P	**Pn**	**22 54 45.6**	**+0.4**
LVC	**Limon Verde**	**11.68**	**15**	Pn	**Pn**	**22 55 11.0**	**-4.5**
	comp=Z,1.4nm,0.3s,baz=203,slow=4.2,SNR=6.6						
LVC				LR	LR	23 00 01.6	
	comp=Z,3μm,18.3s,baz=200,slow=39						
LVC	**Limon Verde**	**11.68**	**15**	*e*Pn	**Pn**	**22 55 11.3**	**-4.2**
LVC	**Limon Verde**	**11.68**	**15**	*e*P	**Pn**	**22 55 11.3**	**-4.2**
PB01	**IPOC Station P**	**13.11**	**11**	*e*Pn	Pn	22 55 28.6	-6.1
CHRN	**Cochrane**	**13.25**	**181**	*e*Pn	**Pn**	**22 55 35.0**	**-1.5**
PB11	**IPOC Station P**	**14.34**	**9**	*e*Pn	**Pn**	**22 55 47.9**	**-3.7**
GO01	**Chusmiza**	**14.50**	**11**	*e*Pn	**Pn**	**22 55 49.6**	**-4.5**
CPUP	**Villa Florida**	**14.89**	**63**	Pn	**Pn**	**22 55 58.7**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=240,slow=7.1,SNR=4.1						
CPUP				LR	LR	23 02 08.6	
	comp=Z,2μm,19.7s,baz=234,slow=39						
CPUP	**Villa Florida**	**14.89**	**63**	*e*Pn	**Pn**	**22 55 55.5**	**-3.4**
MNMC	**Minye Minye**	**14.97**	**9**	*e*Pn	**Pn**	**22 55 58.3**	**-2.0**
LPAZ	**La Paz**	**17.99**	**12**	P	**P**	**22 56 40.0**	**+0.4**
	comp=Z,1.5nm,0.3s,baz=189,slow=7.3,SNR=22						
LPAZ	**La Paz**	**17.99**	**12**	*e*Pn	**Pn**	**22 56 39.0**	**-0.1**
	comp=Z,72nm,0.9s						
LPAZ	**La Paz**	**17.99**	**12**	*e*P	**Pn**	**22 56 39.0**	**-0.1**
LPAZ				pmax	pmax		
	comp=Z,72nm,0.9s						
EFI	**East Falkland**	**20.40**	**154**	*i* P	**P**	**22 57 04.5**	**-0.6**
EFI				pmax	pmax		
	comp=Z,165nm,1.4s						
SIV	**San Ignacio**	**20.50**	**32**	P	**P**	**22 57 06.2**	**-0.3**
	comp=Z,26nm,0.7s,baz=231,slow=12,SNR=36						
SIV				PcP	**PcP**	**23 01 18.3**	**+0.4**
	comp=Z,5.4nm,0.9s,baz=295,slow=12,SNR=2.9						
SIV				LR	LR	23 06 48.3	
	comp=Z,2μm,18.1s,baz=230,slow=42						
USHA	**Ushuaia**	**21.00**	**174**	P	**P**	**22 57 11.7**	**+0.2**
	comp=Z,17nm,1.1s,baz=56,slow=2.3,SNR=2.5						
USHA				LR	LR	23 05 58.6	
	comp=Z,1μm,19.4s,baz=330,slow=38						
NNA	**Nana**	**22.32**	**348**	P	**P**	**22 57 27.6**	**+1.5**
	comp=Z,25nm,0.7s,baz=201,slow=11,SNR=8.3						
NNA				LR	LR	23 03 52.0	
	comp=Z,409nm,21.0s,baz=168,slow=30						
NNA	**Nana**	**22.32**	**348**	*e*P	**P**	**22 57 27.4**	**+1.3**
	comp=Z,39nm,0.9s						
NNA	**Nana**	**22.32**	**348**	*ce*P	**P**	**22 57 29.0**	**+2.9**
SPB	**Sao Paulo**	**23.93**	**71**	*e*P	**P**	**22 57 39.8**	**-2.6**
	comp=Z,105nm,0.9s						
SAML	**Samuel**	**26.24**	**20**	*e*P	**P**	**22 58 03.7**	**+0.2**
	comp=Z,44nm,0.8s						
SAML	**Samuel**	**26.24**	**20**	*e*P	**P**	**22 58 03.7**	**+0.2**
SAML				pmax	pmax		
	comp=Z,44nm,0.8s						
ATAH	**Atahualpa**	**27.34**	**346**	LR	LR	23 06 45.5	
	comp=Z,616nm,19.4s,baz=190,slow=31						
BDFB	**Brasilia**	**28.38**	**56**	P	**P**	**22 58 21.9**	**-0.8**
	comp=Z,21nm,0.8s,baz=231,slow=8.3,SNR=22						
BDFB	**Brasilia**	**28.38**	**56**	*e*P	**P**	**22 58 22.4**	**-0.4**
	comp=Z,44nm,0.9s						
BDFB	**Brasilia**	**28.38**	**56**	P	**P**	**22 58 22.0**	**-0.8**
BDFB				pmax	pmax		
	comp=Z,21nm,0.8s						
PMSA	**Palmer Station**	**31.21**	**173**	LR	LR	23 11 08.5	
	comp=Z,962nm,19.5s,baz=308,slow=36						
OTAV	**Otavalo**	**34.56**	**349**	*e*P	**P**	**22 59 19.9**	**+2.4**
	comp=Z,38nm,1.8s						
OTAV	**Otavalo**	**34.56**	**349**	*e*P	**P**	**22 59 19.9**	**+2.4**
OTAV				pmax	pmax		
	comp=Z,38nm,1.8s						
PTGA	**Pitinga**	**34.99**	**22**	P	**P**	**22 59 20.7**	**-0.1**
	comp=Z,26nm,0.8s,baz=202,slow=9.8,SNR=33						
PTGA				PcP	**PcP**	**23 01 53.1**	**+0.2**
	comp=Z,6.3nm,0.6s,baz=220,slow=5.3,SNR=4.8						
PTGA	**Pitinga**	**34.99**	**22**	*e*P	**P**	**22 59 20.6**	**-0.1**
	comp=Z,40nm,1.0s						
PTGA				PcP	**PcP**	**23 01 53.1**	**+0.2**
SDV	**Santo Domingo**	**42.66**	**2**	P	**P**	**23 00 25.1**	**-0.1**
	comp=Z,17nm,0.9s,baz=226,slow=3.5,SNR=16						
SDV	**Santo Domingo**	**42.66**	**2**	*e*P	**P**	**23 00 24.5**	**-0.7**
	comp=Z,27nm,1.1s						
MDP	**Montagnes des**	**43.02**	**29**	P	**P**	**23 00 27.7**	**-0.2**
	comp=Z,53nm,0.9s,baz=207,slow=8.2,SNR=21						
MDP				LR	LR	23 19 39.0	
	comp=Z,500nm,20.5s,baz=204,slow=38						
RCBR	**Riachuelo**	**43.69**	**58**	*e*P	**P**	**23 00 34.0**	**+0.5**
	comp=Z,81nm,1.5s						
RCBR	**Riachuelo**	**43.69**	**58**	*e*P	**P**	**23 00 34.0**	**+0.5**
RCBR				pmax	pmax		
	comp=Z,81nm,1.5s						
PCRV	**Puerto La Cruz**	**44.49**	**11**	P	**P**	**23 00 39.9**	**+0.1**
	comp=Z,25nm,1.1s,baz=56,slow=18,SNR=3.9						
JTS	**JuntasAbangare**	**45.69**	**342**	P	**P**	**23 00 49.2**	**-0.1**
	comp=Z,5.7nm,0.8s,baz=33,slow=15,SNR=2.3						
SVB	**Belmont**	**48.12**	**14**	*e*P	**P**	**23 01 08.0**	**-0.3**
	comp=Z,44nm,0.6s						
VNA3	**Neumayer Olymp**	**49.40**	**158**	P	**P**	**23 01 17.7**	**+0.3**
VNA1	**Neumayer--Stat**	**49.71**	**157**	P	**P**	**23 01 20.5**	**+0.7**
VNA2	**Neumayer--Watz**	**50.05**	**157**	P	**P**	**23 01 22.7**	**+0.3**
	baz=284,slow=8.7						
SNAA	**Sanae**	**51.62**	**158**	P	**P**	**23 01 34.5**	**+0.2**
SNAA	**Sanae**	**51.62**	**158**	P	**P**	**23 01 34.5**	**+0.2**
	comp=Z,40nm,1.1s,baz=277,slow=7.2,SNR=26						
SNAA	**Sanae**	**51.62**	**158**	*e*P	**P**	**23 01 34.6**	**+0.2**
	comp=Z,51nm,1.1s						
SNAA	**Sanae**	**51.62**	**158**	*e*P	**P**	**23 01 34.6**	**+0.2**
SNAA				pmax	pmax		
	comp=Z,51nm,1.1s						
APG	**El Apazote**	**51.76**	**337**	P	**P**	**23 01 36.6**	**+0.5**
	comp=Z,11nm,0.9s,baz=339,slow=12,SNR=6.0						
ICMP	**Isla Caja de M**	**51.86**	**7**	*e*P	**P**	**23 01 35.6**	**-0.9**
	comp=Z,49nm,0.7s						
CRPR	**Cabo Rojo, PR**	**51.92**	**6**	*e*P	**P**	**23 01 36.2**	**-0.8**
	comp=Z,59nm,0.9s						
OBIP	**Obispado Ponce**	**52.01**	**7**	*e*P	**P**	**23 01 37.1**	**-0.5**
	comp=Z,39nm,0.8s						
SABA	**Saba**	**52.01**	**11**	*e*P	**P**	**23 01 37.8**	**0.0**
	comp=Z,115nm,0.9s						
SJG	**San Juan**	**52.12**	**7**	P	**P**	**23 01 37.3**	**-1.2**
	comp=Z,16nm,0.5s,baz=192,slow=1.2,SNR=10						
SJG	**San Juan**	**52.12**	**7**	*e*P	**P**	**23 01 37.7**	**-0.8**
	comp=Z,24nm,0.8s						
SJG	**San Juan**	**52.12**	**7**	*e*P	**P**	**23 01 37.7**	**-0.8**
SJG				pmax	pmax		
	comp=Z,24nm,0.8s						
ANWB	**Willy Bob**	**52.30**	**12**	*e*P	**P**	**23 01 38.3**	**-1.6**
	comp=Z,168nm,1.4s						
CBYP	**Canovanas**	**52.31**	**8**	*e*P	**P**	**23 01 39.0**	**-1.0**
	comp=Z,

	comp=Z,26nm,1.1s							
Z50A	**Ashland**	68.14	348	P	P	23	03	27.6 -0.5
	baz=168,SNR=7.2							
Z49A	**Columbiana**	68.19	347	P	P	23	03	28.0 -0.4
	baz=167,SNR=6.3							
Y54A	**Tignall**	68.22	351	P	P	23	03	28.1 -0.5
	baz=170,SNR=5.2							
Y53A	**Monroe**	68.34	350	P	P	23	03	28.9 -0.4
	baz=170							
Y52A	**Lilburn**	68.42	349	eP	P	23	03	30.0 +0.2
	comp=Z,17nm,0.9s							
Y52A	**Lilburn**	68.42	349	P	P	23	03	29.5 -0.4
	baz=169							
Z47A	**Carrollton**	68.50	346	P	P	23	03	30.5 +0.2
	baz=166							
241A	**Mo Tay, Goldon**	68.52	341	P	P	23	03	31.6 +1.1
	baz=162							
Z48A	**Northport**	68.56	346	P	P	23	03	30.7 0.0
	baz=166							
Y51A	**Rockmart**	68.62	348	P	P	23	03	30.7 -0.4
	baz=168							
Z46A	**Louisville**	68.67	345	P	P	23	03	32.4 +1.0
	baz=165,SNR=5.5							
Y50A	**Piedmont**	68.72	348	P	P	23	03	31.4 -0.4
	baz=168,SNR=6.0							
240A	**Hunter Patters**	68.77	340	P	P	23	03	32.9 +0.9
	baz=161							
143A	**Socs Landing,**	68.78	343	eP	P	23	03	33.0 +0.9
	comp=Z,88nm,1.1s							
143A	**Socs Landing,**	68.78	343	P	P	23	03	32.8 +0.8
	baz=163							
Y49A	**Blount Mountai**	68.81	347	P	P	23	03	32.3 0.0
	baz=167							
X53A	**Estanollee**	68.94	350	P	P	23	03	32.9 -0.1
	baz=170							
Y48A	**Jasper**	69.01	347	P	P	23	03	33.3 -0.2
	baz=167							
Z45A	**Winona**	69.01	344	P	P	23	03	34.2 +0.7
	baz=164							
PAULI	**Pauline**	69.05	351	eP	P	23	03	34.2 +0.5
	comp=Z,31nm,1.2s							
X52A	**Dahlonega**	69.12	350	P	P	23	03	34.0 -0.2
	baz=170,SNR=6.4							
Y47A	**UCPARC, Winfie**	69.13	346	P	P	23	03	34.5 +0.2
	baz=166,SNR=11							
X51A	**Calhoun**	69.23	349	eP	P	23	03	35.0 +0.1
	comp=Z,44nm,1.0s							
X51A	**Calhoun**	69.23	349	P	P	23	03	34.9 +0.1
	baz=169,SNR=6.1							
JCT	**Junction City**	69.25	335	eP	P	23	03	35.7 +0.6
	comp=Z,30nm,1.2s							
JCT	**Junction City**	69.25	335	eP	P	23	03	35.7 +0.6
JCT				pmax	pmax			
	comp=Z,30nm,1.2s							
JCT	**Junction City**	69.25	335	P	P	23	03	35.7 +0.6
	baz=156,SNR=7.9							
X50B	**Fort Payne**	69.26	348	P	P	23	03	34.7 -0.4
	baz=168							
KMSC	**Kings Mountain**	69.31	352	P	P	23	03	34.9 -0.5
	baz=172							
Y46A	**Houston**	69.32	345	P	P	23	03	35.4 0.0
	baz=165,SNR=5.7							
BG3	**Lake Jocassee**	69.37	351	eP	P	23	03	36.2 +0.4
	comp=Z,42nm,1.3s							
X49A	**Woodville**	69.43	347	P	P	23	03	35.9 -0.3
	baz=167							
Y45A	**Yeager Farm, C**	69.45	345	P	P	23	03	36.8 +0.5
	baz=164							
Z42A	**Norrel Spur, H**	69.45	342	P	P	23	03	36.9 +0.6
	baz=162							
X48A	**Hartselle**	69.51	347	eP	P	23	03	36.8 +0.2
	comp=Z,18nm,0.8s							
X48A	**Hartselle**	69.51	347	P	P	23	03	36.8 +0.2
	baz=167,SNR=8.5							
W53A	**Cullowhee**	69.57	350	P	P	23	03	36.8 -0.4
	baz=170							
W52A	**Murphy**	69.61	350	eP	P	23	03	37.6 +0.4
	comp=Z,16nm,0.9s							
W52A	**Murphy**	69.61	350	P	P	23	03	37.1 -0.1
	baz=170							
Z41A	**Richland Creek**	69.66	342	P	P	23	03	38.2 +0.6
	baz=162							
TX31	**Lajitas Ar. Si**	69.69	331	eP	P	23	03	38.5 +0.5
TXAR	**Lajitas Array**	69.69	331	P	P	23	03	38.5 +0.5
	comp=Z,2.0nm,0.7s,baz=154,slow=8.2,SNR=15							
X47A	**Russelville**	69.73	346	P	P	23	03	37.8 -0.2
	baz=166,SNR=9.7							
W51A	**Cleveland**	69.80	349	P	P	23	03	38.3 -0.1
	baz=169							
WHTX	**Lake Whitney,**	69.83	337	eP	P	23	03	39.2 +0.5
	comp=Z,51nm,1.4s							
WHTX	**Lake Whitney,**	69.83	337	P	P	23	03	39.0 +0.4
	baz=158,SNR=6.1							
X46A	**Booneville**	69.91	346	P	P	23	03	38.9 -0.2
	baz=165							
W50A	**Signal Mountai**	69.93	349	eP	P	23	03	39.5 +0.2
	comp=Z,28nm,0.8s							
W50A	**Signal Mountai**	69.93	349	P	P	23	03	39.2 -0.1
	baz=168,SNR=8.9							
X45A	**UM Field Stati**	69.96	345	P	P	23	03	39.1 -0.3
	baz=165							
W49A	**Belvidere**	70.01	348	P	P	23	03	39.5 -0.2
	baz=167							
V53A	**Saluda**	70.02	351	eP	P	23	03	39.5 -0.3
	comp=Z,20nm,1.1s							
V53A	**Saluda**	70.02	351	P	P	23	03	39.4 -0.3
	baz=170,SNR=6.0							
OXF	**Oxford**	70.04	345	eP	P	23	03	39.8 -0.1
	comp=Z,60nm,1.3s							
OXF	**Oxford**	70.04	345	eP	P	23	03	39.8 -0.1
OXF				pmax	pmax			
	comp=Z,60nm,1.3s							
OXF	**Oxford**	70.04	345	P	P	23	03	39.6 -0.3
	baz=165							
CPCT	**Cooper Cave**	70.05	349	eP	P	23	03	40.1 +0.2
	comp=Z,32nm,1.2s							
SWET	**Sewanee**	70.05	348	eP	P	23	03	40.1 +0.1
	comp=Z,25nm,0.7s							
TKL	**Tuckaleechee C**	70.14	350	P	P	23	03	40.0 -0.5
	comp=Z,9.7nm,0.8s,baz=170,slow=8.6,SNR=8.2							
TKL	**Tuckaleechee C**	70.14	350	eP	P	23	03	40.0 -0.5
	comp=Z,28nm,1.1s							
TKL	**Tuckaleechee C**	70.14	350	P	P	23	03	40.0 -0.5
TKL				pmax	pmax			
	comp=Z,10.0nm,0.8s							
W48A	**Pulaski**	70.15	347	P	P	23	03	40.5 -0.1
	baz=167,SNR=5.6							
PPT2	**Papeete2**	70.17	262	eLR	LR	23	25	05.9
	comp=Z,296nm,27.0s							
X44A	**Crenshaw**	70.20	344	P	P	23	03	40.3 -0.5
	baz=164							
Y41A	**Eaglette Beard**	70.20	342	P	P	23	03	41.5 +0.7
	baz=162							
PLAL	**Pickwick Lake**	70.22	346	eP	P	23	03	40.8 -0.2
	comp=Z,17nm,0.6s							
V52A	**Sevierville**	70.29	350	P	P	23	03	40.9 -0.5
	baz=170,SNR=5.9							
V50A	**Pikeville**	70.36	349	P	P	23	03	41.7 -0.1
	baz=168,SNR=9.4							
V51A	**Loudon**	70.37	349	P	P	23	03	41.4 -0.4
	baz=169							
W47A	**Westpoint**	70.39	347	P	P	23	03	41.8 -0.2
	baz=166,SNR=8.6							
W46A	**Michie**	70.43	346	P	P	23	03	41.6 -0.7
	baz=166							
W45A	**Hickory Valley**	70.62	345	P	P	23	03	43.4 0.0
	baz=165							
U53A	**Fall Branch**	70.67	351	P	P	23	03	42.8 -0.9
	baz=171							
V48A	**Smith Brothers**	70.72	347	eP	P	23	03	44.2 +0.2
	comp=Z,82nm,1.0s							
V48A	**Smith Brothers**	70.72	347	P	P	23	03	44.2 +0.2
	baz=167,SNR=22							
U52A	**Thorn Hill**	70.80	350	P	P	23	03	44.4 -0.1
	baz=170							
X40A	**Basin Creek Fa**	70.83	342	P	P	23	03	45.1 +0.4
	baz=162							
U51A	**La Follette**	70.88	350	P	P	23	03	44.5 -0.5
	baz=170							
V47A	**Nunnelly**	70.93	347	P	P	23	03	44.9 -0.4
	baz=166,SNR=17							
V46A	**Holladay**	71.02	346	P	P	23	03	45.2 -0.6
	baz=166,SNR=11							
U50A	**Jamestown**	71.04	349	P	P	23	03	45.5 -0.5
	baz=169,SNR=5.7							
MIAR	**Mount Ida**	71.08	341	eP	P	23	03	46.9 +0.6
	comp=Z,34nm,1.6s							
MIAR	**Mount Ida**	71.08	341	eP	P	23	03	46.9 +0.6
MIAR				pmax	pmax			
	comp=Z,34nm,1.6s							
MIAR	**Mount Ida**	71.08	341	P	P	23	03	46.4 +0.2
	baz=161							
V45A	**Humboldt**	71.13	346	P	P	23	03	46.1 -0.4
	baz=165							
ABTX	**Abilene, Hawle**	71.14	336	P	P	23	03	47.3 +0.6
	baz=156							
WVT	**Waverly**	71.28	347	eP	P	23	03	47.3 -0.1
	comp=Z,68nm,0.9s							
WVT	**Waverly**	71.28	347	eP	P	23	03	47.3 -0.1
WVT				pmax	pmax			
	comp=Z,68nm,0.9s							
WVT	**Waverly**	71.28	347	P	P	23	03	47.3 -0.1
	baz=166							
U49A	**Red Boiling Sp**	71.29	348	P	P	23	03	47.1 -0.3
	baz=168,SNR=5.1							
W41B	**Gary Mavity, V**	71.34	343	eP	P	23	03	48.0 +0.2
	comp=Z,31nm,1.5s							
W41B	**Gary Mavity, V**	71.34	343	P	P	23	03	47.8 0.0
	baz=162							
U48A	**Cassie Pea, Po**	71.42	348	P	P	23	03	48.1 -0.1
	baz=167,SNR=5.5							
T51A	**Gray**	71.45	350	P	P	23	03	48.0 -0.4
	baz=170							
T52A	**Hallie**	71.45	351	P	P	23	03	47.8 -0.7
	baz=170							
WHAR	**Wooly Hollow**	71.46	343	eP	P	23	03	48.9 +0.4
	comp=Z,43nm,1.4s							
U47A	**Clarksville**	71.48	347	P	P	23	03	48.6 0.0
	baz=167,SNR=18							
U46A	**Springville**	71.57	346	P	P	23	03	49.2 0.0
	baz=166,SNR=5.4							
U45A	**Rockin P Farm,**	71.68	346	P	P	23	03	49.8 0.0
	baz=165							
V42A	**Cord**	71.73	344	P	P	23	03	49.5 -0.6
	baz=163							
W39A	**Magazine**	71.75	341	eP	P	23	03	51.0 +0.8
	comp=Z,25nm,0.9s							
W39A	**Magazine**	71.75	341	P	P	23	03	50.8 +0.5
	baz=161,SNR=12							
R58B	**Mineral**	71.79	355	P	P	23	03	49.7 -0.7
	baz=175							
U44B	**Burton Farm, H**	71.79	345	P	P	23	03	50.8 +0.3
	baz=167							
T49A	**Edmonton**	71.83	349	eP	P	23	03	50.4 -0.3
	comp=Z,14nm,0.7s							
T49A	**Edmonton**	71.83	349	P	P	23	03	50.1 -0.5
	baz=168,SNR=6.7							
V41A	**Mountainview**	71.90	343	P	P	23	03	50.8 -0.3
	baz=162,SNR=7.6							
T47A	**Sharon Grove**	71.98	347	eP	P	23	03	51.3 -0.3
	comp=Z,23nm,0.8s							
T47A	**Sharon Grove**	71.98	347	P	P	23	03	51.1 -0.5
	baz=167,SNR=7.2							
S51A	**Beattyville**	72.06	350	eP	P	23	03	51.8 -0.3
	comp=Z,18nm,0.8s							
S51A	**Beattyville**	72.06	350	P	P	23	03	51.6 -0.4
	baz=170							
T46A	**Princeton**	72.18	347	P	P	23	03	52.3 -0.4
	baz=166,SNR=9.9							
S50A	**Richmond**	72.21	350	P	P	23	03	52.3 -0.7
	baz=169,SNR=7.3							
U42A	**Reden**	72.22	344	P	P	23	03	52.5 -0.5
	baz=163,SNR=8.2							
U41A	**Viola**	72.37	343	P	P	23	03	53.7 -0.3
	baz=163							
PBMO	**Poplar Bluff**	72.45	345	eP	P	23	03	54.2 -0.1
	comp=Z,45nm,1.4s							
S48A	**Wiedeman Farm,**	72.45	348	P	P	23	03	53.3 -1.1
	baz=168,SNR=7.7							
S49A	**Springfield**	72.45	349	P	P	23	03	53.5 -0.9
	baz=168							
MNTX	**Cornudas Mount**	72.47	331	eP	P	23	03	54.2 -0.5
	comp=Z,5.3nm,0.9s							
MNTX	**Cornudas Mount**	72.47	331	P	P	23	03	55.1 +0.4
	baz=151							
S47A	**Hartford**	72.53	348	P	P	23	03	53.8 -1.0
	baz=167							
T44A	**Benton**	72.56	345	P	P	23	03	54.7 -0.4
	baz=165							
U40A	**Yellville**	72.61	343	P	P	23	03	55.3 -0.1
	baz=162,SNR=9.1							
R52A	**Catlettsburg**	72.62	351	P	P	23	03	54.9 -0.5
	baz=171							
R51A	**Hillsboro**	72.71	351	P	P	23	03	55.6 -0.3
	baz=170							
T43A	**Greenville**	72.71	345	P	P	23	03	55.4 -0.5
	baz=164							
S46A	**Don Dixon Farm**	72.77	347	P	P	23	03	55.5 -0.8
	baz=166							
WMOK	**Wichita Mounta**	72.79	337	eP	P	23	03	56.5 -0.1
	comp=Z,16nm,1.5s							
WMOK	**Wichita Mounta**	72.79	337	eP	P	23	03	56.5 -0.1
WMOK				pmax	pmax			
	comp=Z,16nm,1.5s							
WMOK	**Wichita Mounta**	72.79	337	P	P	23	03	56.4 -0.1
	baz=157							
R50A	**Paris**	72.79	350	P	P	23	03	55.7 -0.7
	baz=169							
HHAR	**Hobbs**	72.82	342	eP	P	23	03	56.8 +0.1
	comp=Z,51nm,1.8s							
T42A	**Van Buren**	72.83	344	eP	P	23	03	56.6 -0.1
	comp=Z,27nm,1.4s							
T42A	**Van Buren**	72.83	344	P	P	23	03	56.2 -0.5
	baz=164							
S45A	**Carrier Mills**	72.93	346	P	P	23	03	56.6 -0.6
	baz=166							
R49A	**Shelbyville**	72.93	349	P	P	23	03	56.2 -1.0
	baz=169							
TUL1	**Leonard**	72.97	340	eP	P	23	03	57.5 -0.1
	comp=Z,20nm,1.1s							
TUL1	**Leonard**	72.97	340	P	P	23	03	57.5 -0.1
	baz=160							
T41A	**Mountain View**	73.00	344	P	P	23	03	57.3 -0.4
	baz=163,SNR=6.6							
USIN	**University of**	73.03	347	eP	P	23	03	57.2 -0.6
	comp=Z,32nm,0.8s							
WCI	**Wyanokette Cave**	73.05	348	P	P	23	03	57.1 -0.8
	baz=168							
S44A	**Carbondale**	73.08	346	P	P	23	03	57.5 -0.6
	baz=165							
SIUC	**Southern Illin**	73.09	346	eP	P	23	03	58.2 0.0
	comp=Z,23nm,0.9s							
S43A	**Fulton Ridge,**	73.13	345	P	P	23	03	58.0 -0.4
	baz=164,SNR=13							
R48A	**Northridge Ran**	73.15	349	P	P	23	03	58.0 -0.5
	baz=168,SNR=5.9							
R47A	**Wooly Knot Far**	73.15	348	P	P	23	03	58.2 -0.3
	baz=167							
Q52A	**Bidwell**	73.19	352	P	P	23	03	58.4 -0.4
	baz=171							
MAW	**Mawson**	73.21	164	P	P	23	03	58.4 -0.2
	comp=Z,16nm,0.8s,baz=201,slow=6.1,SNR=16							
MAW	**Mawson**	73.21	164	eP	P	23	03	59.0 +0.3
	comp=Z,5.8nm,1.0s							
R46A	**Gibon Southern**	73.25	347	P	P	23	03	58.0 -1.1
	baz=168							
Q50A	**Georgetown**	73.30	350	P	P	23	03	58.6 -0.8
	baz=170							
Q51A	**Peebles**	73.39	351	eP	P	23	03	59.9 0.0
	comp=Z,23nm,0.8s							
Q51A	**Peebles**	73.39	351	P	P	23	03	59.5 -0.5
	baz=170,SNR=6.7							
R45A	**Skylar, Fairfi**	73.47	347	P	P	23	03	59.6 -0.7
	baz=166							
MSTX	**Muleshoe**	73.47	334	eP	P	23	04	01.1 +0.4
	comp=Z,14nm,0.9s							
MSTX	**Muleshoe**	73.47	334	P	P	23	04	00.7 0.0
	baz=154							
S42A	**Caledonia**	73.48	345	P	P	23	03	59.8 -0.7
	baz=164							
S41A	**Jillco Farms,**	73.52	344	P	P	23	04	00.5 -0.2
	baz=163,SNR=10							
R44A	**Waltonville**	73.58	346	P	P	23	04	00.2 -0.8
	baz=165							
Q49A	**Aurora**	73.59	350	P	P	23	04	00.5 -0.6
	baz=169,SNR=5.8							
FVM	**French Village**	73.60	345	eP	P	23	04	01.1 -0.1
	comp=Z,23nm,1.0s							
FVM	**French Village**	73.60	345	eP	P	23	04	01.1 -0.1
FVM				pmax	pmax			
	comp=Z,23nm,1.0s							
P53A	**Whipple**	73.61	353	P	P	23	04	00.1 -1.2
	baz=172							
MCWV	**Mont Chateau**	73.63	354	P	P	23	04	00.8 -0.5
	baz=173							
Q48A	**North Vernon**	73.64	349	P	P	23	04	00.6 -0.8
	baz=168,SNR=7.9							
MVL	**Millersville**	73.72	357	eP	P	23	04	02.9 +1.1
	comp=Z,41nm,1.4s							
Q47A	**Bedord North L**	73.76	348	P	P	23	04	01.5 -0.6
	baz=168							
R43A	**Red Bud**	73.78	345	P	P	23	04	01.8 -0.4
	baz=165							
P51A	**Williamsport**	73.80	351	eP	P	23	04	02.3 0.0
	comp=Z,26nm,0.9s							
P51A	**Williamsport**	73.80	351	P	P	23	04	01.8 -0.5
	baz=170							
P52A	**Corning**	73.84	352	P	P	23	04	02.0 -0.6
	baz=171							
CCM	**Cathedral Cave**	73.85	344	eP	P	23	04	02.1 -0.6
	comp=Z,276nm,1.3s							
CCM	**Cathedral Cave**	73.85	344	eP	P	23	04	02.1 -0.6
CCM				pmax	pmax			
	comp=Z,276nm,1.3s							
CCM	**Cathedral Cave**	73.85	344	P	P	23	04	02.7 +0.1
	baz=164							
OLIL	**Olney**	73.86	347	eP	P	23	04	02.3 -0.4
	comp=Z,37nm,0.2s							
AMTX	**Amarillo**	73.90	335	eP	P	23	04	03.4 +0.2
	comp=Z,31nm,1.4s							
AMTX	**Amarillo**	73.90	335	P	P	23	04	03.6 +0.5
	baz=155							
R42A	**Luebbering**	73.97	345	P	P	23	04	03.2 -0.2
	baz=164							
BLO	**Bloomington**	74.01	348	eP	P	23	04	03.2 -0.3
	comp=Z,116nm,1.9s							
BLO	**Bloomington**	74.01	348	eP	P	23	04	03.2 -0.3
BLO				pmax	pmax			
	comp=Z,116nm,1.9s							
P50A	**Jamestown**	74.02	351	P	P	23	04	03.2 -0.5
	baz=170,SNR=5.6							
Q45A	**Warren Harvey,**	74.03	347	P	P	23	04	02.9 -0.8
	baz=166							
P49A	**Miami Univ. Ec**	74.08	350	P	P	23	04	02.9 -1.1
	baz=169							
R41A	**Rosebud**	74.11	344	P	P	23	04	04.1 -0.1
	baz=163,SNR=9.4							
P48A	**Milroy**	74.11	349	P	P	23	04	03.0 -1.2
	baz=168,SNR=8.0							
O56A	**Blue Knob Stat**	74.13	355	P	P	23	04	04.3 0.0
	baz=174							
121A	**Cookes Peak, D**	74.19	329	P	P	23	04	06.3 +1.3
	baz=150,SNR=5.1							
Q44A	**Meyer Farm, Va**	74.20	346	P	P	23	04	04.0 -0.6
	baz=165							
P47A	**Martinsville**	74.27	349	P	P	23	04	04.2 -0.9
	baz=168							
O52A	**Adamsville**	74.28	352	P	P	23	04	04.6 -0.6
	baz=172							
Q43A	**New Douglas**	74.37	346	P	P	23	04	05.4 -0.3
	baz=165							
O51A	**Pataskala**	74.40	352	P	P	23	04	05.4 -0.4
	baz=171,SNR=6.6							
SSPA	**Standing Stone**	74.45	355	P	P	23	04	05.9 -0.2
	baz=175							
Q42A	**Golden Eagle**	74.52	345	P	P	23	04	06.3 -0.2
	baz=164,SNR=8.1							
O50A	**Cable**	74.53	351	P	P	23	04	05.9 -0.7
	baz=170,SNR=7.0							
ACSO	**Alum Creek Sta**	74.53	351	eP	P	23	04	06.5 -0.1
	comp=Z,39nm,0.8s							
ACSO	**Alum Creek Sta**	74.53	351	P	P	23	04	06.1 -0.5
	baz=171							
P46A	**Rosedale**	74.56	348	P	P	23	04	05.9 -0.8
	baz=167							
P45A	**Graceland, Par**	74.57	348	eP	P	23	04	06.5 -0.3
	comp=Z,31nm,1.3s							
P45A	**Graceland, Par**	74.57	348	P	P	23	04	05.6 -1.2
	baz=166							
N59A	**State Game Lan**	74.61	357	P	P	23	04	06.1 -1.0
	baz=177							
O49A	**Covington**	74.67	350	eP	P	23	04	06.9 -0.5
	comp=Z,29nm,0.9s							
O49A	**Covington**	74.67	350	P	P	23	04	06.8 -0.6
	baz=169,SNR=5.9							
P44A	**Sand Creek, Wi**	74.67	347	P	P	23	04	06.5 -0.9
	baz=166							
Q41A	**Truxton**	74.71	345	P	P	23	04	07.5 -0.2
	baz=164,SNR=10							
LIC	**Lamto**	74.83	72	eP	P	23	04	08.8 -0.2
	comp=Z,68nm,1.2s							
O48A	**Farmland**	74.85	350	P	P	23	04	07.7 -0.7
	baz=169							
N54A	**Moraine State**	74.93	354	P	P	23	04	08.7 -0.2
	baz=173							
O47A	**Sheridan**	74.99	349	P	P	23	04	08.1 -1.1
	baz=168							
P43A	**Skaggs, Pawnee**	75.01	346	P	P	23	04	08.8 -0.5
	baz=165							
N50A	**Nevada**	75.08	351	P	P	23	04	09.4 -0.3
	baz=170,SNR=9.7							
TIC	**Toumodi**	75.09	71	eP	P	23	04	10.3 -0.2
P42A	**Winchester**	75.12	346	eP	P	23	04	09.7 -0.4
	comp=Z,21nm,1.0s							
P42A	**Winchester**	75.12	346	P	P	23	04	09.6 -0.5
	baz=164							
N51A	**Ashland**	75.14	352	eP	P	23	04	10.0 -0.1
	comp=Z,23nm,0.8s							
N51A	**Ashland**	75.14	352	P	P	23	04	09.4 -0.6
	baz=171							
KIC	**Kosan Boka**	75.14	72	eP	P	23	04	10.8 0.0
	comp=Z,97nm,1.3s							
DBIC	**Dimbokro**	75.24	71	P	P	23	04	11.4 +0.1
	comp=Z,9.1nm,0.6s,baz=223,slow=6.3,SNR=12							
DBIC				LR	LR	23	35	57.0
	comp=Z,318nm,19.0s,baz=202,slow=35							
O45A	**Potomac**	75.26	348	P	P	23	04	09.8 -1.0
	baz=167							
SFIN	**Lafayette**	75.28	348	P	P	23	04	10.5 -0.4
	baz=167							
O44A	**Mansfield**	75.30	347	P	P	23	04	10.2 -0.8
	baz=166							
TUC	**Tucson**	75.32	327	eP	P	23	04	12.8 +1.3
	comp=Z,14nm,1.6s							
TUC	**Tucson**	75.32	327	eP	P	23	04	12.8 +1.3
TUC				pmax	pmax			
	comp=Z,15nm,1.6s							
TUC	**Tucson**	75.32	327	P	P	23	04	12.3 +0.9
	baz=148							
P41A	**Barry, Barry**	75.36	345	P	P	23	04	11.0 -0.4
	baz=164							
N49A	**Columbus Grove**	75.37	351	eP	P	23	04	11.1 -0.3
	comp=Z,33nm,0.8s							
N49A	**Columbus Grove**	75.37	351	P	P	23	04	11.0

baz=177
214A Organ Pipe Nat 75.97 325 P P 23 04 16.5 +1.3
baz=146
M47A Cromwell 76.00 350 P P 23 04 14.5 -0.5
baz=168
ERPA Erie 76.08 354 eP P 23 04 15.6 +0.2
comp=Z,31nm,1.2s
ERPA Erie 76.08 354 P P 23 04 14.9 -0.6
baz=173
M46A Old House Fiel 76.16 349 P P 23 04 15.7 -0.3
baz=168
N42A Yates City 76.26 346 P P 23 04 16.1 -0.4
baz=165
N41A Harden Midland 76.31 345 eP P 23 04 16.7 -0.1
comp=Z,24nm,0.9s
N41A Harden Midland 76.31 345 P P 23 04 16.3 -0.5
baz=164
L48A N Adams 76.41 351 P P 23 04 16.3 -1.0
baz=169
M44A Midewin, Midew 76.43 348 eP P 23 04 17.1 -0.3
comp=Z,34nm,0.8s
M44A Midewin, Midew 76.43 348 P P 23 04 16.6 -0.8
baz=166,SNR=6.1
L49A Milan 76.48 351 P P 23 04 16.9 -0.8
baz=170,SNR=5.4
MMNY Mt. Morris Dam 76.53 356 eP P 23 04 18.2 +0.2
comp=Z,107nm,1.6s
L47A Sherwood 76.54 350 P P 23 04 17.1 -1.0
baz=169
N40A Mertquake, Sal 76.63 345 P P 23 04 18.2 -0.4
baz=163
M43A Waltham Townsh 76.64 347 P P 23 04 17.9 -0.7
baz=166,SNR=5.6
AAM Ann Arbor 76.66 351 P P 23 04 17.7 -1.0
baz=170
L46A Eue Claire 76.74 349 P P 23 04 18.4 -0.8
baz=168
M42A Sheffield 76.81 346 P P 23 04 18.8 -0.8
baz=165
N39A Derby Farms, D 76.83 344 eP P 23 04 19.5 -0.3
comp=Z,34nm,1.0s
N39A Derby Farms, D 76.83 344 P P 23 04 19.3 -0.4
baz=163,SNR=6.9
CBKS Cedar Bluff 76.83 338 P P 23 04 20.3 +0.5
baz=157
M41A Milan 76.89 346 P P 23 04 19.4 -0.7
baz=164,SNR=5.3
T25A Trinidad 76.89 334 eP P 23 04 21.8 +1.2
comp=Z,18nm,1.0s
T25A Trinidad 76.89 334 P P 23 04 21.7 +1.2
baz=153,SNR=8.3
MEDO Medina 77.00 355 P P 23 04 20.6 0.0
baz=174
TYNO Tyneside 77.04 354 P P 23 04 20.7 -0.1
baz=173
STCO Saint Catharin 77.10 355 P P 23 04 21.1 0.0
baz=174
K49A Clarkson 77.11 351 P P 23 04 21.1 -0.1
baz=170
L44A Lake County Fo 77.17 348 P P 23 04 21.0 -0.6
baz=166
K47A Vermontville 77.20 350 P P 23 04 20.6 -1.1
baz=169
K48A Perry 77.21 351 P P 23 04 20.8 -1.0
baz=170
W18A Petrified Fore 77.24 329 P P 23 04 23.4 +0.9
baz=149
ELFO Elginfield 77.27 353 P P 23 04 21.5 -0.6
baz=172
L42A Oliver, Polo 77.32 347 eP P 23 04 22.4 0.0
comp=Z,24nm,0.8s
L42A Oliver, Polo 77.32 347 P P 23 04 21.8 -0.7
baz=165
L43A Garden Prairie 77.32 347 P P 23 04 22.1 -0.4
baz=166,SNR=5.0
M39A Webster 77.33 345 P P 23 04 21.9 -0.6
baz=163
L41A Preston 77.55 346 P P 23 04 23.0 -0.7
baz=164,SNR=7.8
ACTO Acton 77.57 354 P P 23 04 23.6 -0.2
baz=173
J49A Marlette 77.64 352 P P 23 04 23.8 -0.4
baz=171
J48A Bridge Port 77.65 351 P P 23 04 23.5 -0.8
baz=170,SNR=6.6
L40A Anamosa 77.69 346 eP P 23 04 24.1 -0.4
comp=Z,29nm,0.9s
L40A Anamosa 77.69 346 P P 23 04 23.9 -0.6
baz=164,SNR=5.6
K43A Burlington 77.75 348 P P 23 04 24.5 -0.3
baz=166
SDCO Great Sand Dun 77.83 334 eP P 23 04 26.6 +0.8
comp=Z,3.8nm,0.9s
SDCO Great Sand Dun 77.83 334 P P 23 04 26.6 +0.8
baz=152,SNR=5.2
GLA Glamis 77.83 324 P P 23 04 27.0 +1.3
baz=145
PKRO Pickering 77.84 355 P P 23 04 25.6 +0.2
baz=174
LBNH Lisbon 77.86 0 P P 23 04 26.1 +0.7
baz=180
L39A Vinton 77.91 345 P P 23 04 25.6 -0.2
baz=163
KSCO Kaye Shedlock' 77.94 336 P P 23 04 27.1 +0.9
baz=154
J46A Howard City 77.95 350 P P 23 04 25.0 -1.0
baz=168
SCIA State Center 77.97 344 P P 23 04 25.8 -0.3
baz=162
K42A Prairie Point, 78.01 347 P P 23 04 25.9 -0.4
baz=165,SNR=6.8
K41A Shullsburg 78.03 346 P P 23 04 26.1 -0.2
baz=165,SNR=7.7
BASO Ashfield 78.12 353 P P 23 04 26.9 0.0
baz=172
IKP In-Ko-Pah, Jac 78.14 323 P P 23 04 28.9 +1.6
baz=144
BWLO Walkerton 78.17 353 P P 23 04 26.9 -0.2
baz=172
I49A Point Hope 78.17 352 P P 23 04 26.3 -0.8
baz=171
LONY Lake Ozonia 78.27 358 eP P 23 04 27.9 +0.2
comp=Z,55nm,1.9s
LONY Lake Ozonia 78.27 358 P P 23 04 27.1 -0.6
baz=178
K40A Colesburg 78.28 346 P P 23 04 27.2 -0.6
baz=164
WUAZ Wupatki 78.28 328 eP P 23 04 29.1 +0.9
comp=Z,16nm,1.1s
WUAZ Wupatki 78.28 328 P P 23 04 29.5 +1.3
baz=148
DELO Deloro Mine 78.30 356 P P 23 04 27.7 -0.2
baz=175
JFWS Jewell Farm 78.31 347 eP P 23 04 28.1 +0.1
comp=Z,17nm,0.9s
JFWS Jewell Farm 78.31 347 eP P 23 04 28.1 +0.1
JFWS pmax pmax
comp=Z,17nm,0.9s
JFWS Jewell Farm 78.31 347 P P 23 04 27.7 -0.3
baz=165
BRCO Bruce Peninsul 78.32 353 P P 23 04 28.1 +0.1
baz=172
S22A 4UR Ranch, Cre 78.33 333 P P 23 04 29.4 +0.8
baz=151
J43A Natural Harves 78.43 348 P P 23 04 28.3 -0.3
baz=166
K39A Oelwein 78.44 345 P P 23 04 28.2 -0.5
baz=163
I47A Gladwin 78.45 351 P P 23 04 28.0 -0.7
baz=169
FRNY Flat Rock 78.46 359 eP P 23 04 29.6 +0.8
comp=Z,16nm,0.9s
J42A Columbus 78.49 347 P P 23 04 28.6 -0.3
baz=166,SNR=5.2
I46A Reed City 78.51 350 P P 23 04 27.9 -1.2
baz=169
I48A Sherman Twp 78.52 352 P P 23 04 28.3 -0.8
baz=170
MVCO Mesa Verde 78.52 331 P P 23 04 29.7 +0.1
baz=150
H52A Wyevale 78.58 354 P P 23 04 29.0 -0.4
baz=173
BC3 Big Chuckawall 78.63 324 P P 23 04 31.5 +1.4
baz=144
SADO Sadowa 78.65 355 P P 23 04 29.9 +0.2
comp=Z,9.2nm,0.7s,baz=197,slow=5.1,SNR=11
BMRO Meriville Lake 78.65 353 P P 23 04 29.9 +0.1
baz=172

J41A Loganville 78.70 347 P P 23 04 29.9 -0.3
baz=165
Q24A Divide 78.78 334 eP P 23 04 32.3 +1.2
comp=Z,8.8nm,0.8s
Q24A Divide 78.78 334 P P 23 04 31.9 +0.9
baz=152,SNR=5.7
PLVO Plevna 78.79 356 eP P 23 04 31.1 +0.6
comp=Z,69nm,1.7s
PLVO Plevna 78.79 356 P P 23 04 30.6 +0.1
baz=176
BANO Bancroft 78.81 356 P P 23 04 30.7 +0.1
baz=175
I43A Langenfeld Bro 78.87 348 P P 23 04 30.6 -0.4
baz=166
J40A Soldiers Grove 78.87 346 P P 23 04 30.7 -0.4
baz=164,SNR=9.0
GGN Saint George 78.88 4 eP P 23 04 32.6 +1.6
comp=Z,28nm,0.9s
PKME Peaks-Kenny Pk 78.92 2 P P 23 04 32.1 +0.8
baz=182
I42A Draeger Farm, 79.01 348 P P 23 04 31.4 -0.4
baz=166
J39A Decorah 79.01 346 P P 23 04 31.2 -0.6
baz=163
H46A Fife Lake 79.06 351 P P 23 04 31.1 -1.0
baz=169
FRD Ford Ranch, An 79.06 323 P P 23 04 34.0 +1.5
baz=144
TPFO Pinon Flats 79.08 324 P P 23 04 33.8 +1.2
baz=144
PFO Pinyon Flats O 79.09 324 P P 23 04 34.2 +1.5
baz=144
ORIO Orleans, Innes 79.13 358 P P 23 04 32.3 -0.1
baz=177
ORHO Orleans, Herit 79.14 358 P P 23 04 32.2 -0.1
baz=177
ALFO Alfred 79.29 358 P P 23 04 33.7 +0.5
baz=178
KLBO Killbear Provi 79.31 354 P P 23 04 32.5 -0.9
baz=173
I40A Norwalk 79.33 347 P P 23 04 33.0 -0.6
baz=164
BUKO Buck Lake 79.33 355 P P 23 04 33.4 -0.1
baz=174
I41A Arkdale 79.34 347 P P 23 04 33.0 -0.6
baz=165
H43A Windswept, Lux 79.38 349 P P 23 04 33.4 -0.4
baz=167
PEMO Pembroke 79.43 356 P P 23 04 33.9 -0.1
baz=176
I39A Houston 79.47 346 eP P 23 04 33.9 -0.4
comp=Z,29nm,0.7s
I39A Houston 79.47 346 P P 23 04 33.7 -0.6
baz=164,SNR=5.5
G47A Hillman 79.51 352 P P 23 04 34.0 -0.5
baz=170
H42A Shiocton 79.54 348 P P 23 04 34.1 -0.5
baz=166
SMCO Snowmass 79.64 333 eP P 23 04 37.4 +1.5
comp=Z,9.2nm,1.0s
F52A Sundridge 79.68 355 P P 23 04 35.1 -0.3
baz=174
ISCO Idaho Springs 79.69 334 P P 23 04 36.6 +0.6
baz=152
LMN Caledonia Moun 79.75 5 eP P 23 04 36.9 +1.1
comp=Z,34nm,0.9s
ALGO Algonquin Park 79.75 356 P P 23 04 35.7 -0.1
baz=175
H41A Junction City 79.84 347 P P 23 04 35.6 -0.7
baz=165
F51A Arnstein 79.86 354 P P 23 04 35.8 -0.5
baz=173
F49A Sandfield 79.89 353 P P 23 04 36.0 -0.5
baz=172
H40A Chili 79.98 347 P P 23 04 36.9 -0.2
baz=165
F48A Evansville 80.01 353 P P 23 04 36.8 -0.3
baz=171
BOSA Boshof 80.14 118 P P 23 04 38.4 -0.3
comp=Z,13nm,0.9s,baz=236,slow=3.4,SNR=20
BOSA Boshof 80.14 118 eP P 23 04 39.0 +0.3
E53A Dumoine, Ponti 80.15 356 P P 23 04 37.8 -0.1
baz=175
E54A Lac Daplat, Po 80.18 356 P P 23 04 37.6 -0.5
baz=176,SNR=5.2
F46A Macinaw City C 80.21 351 P P 23 04 37.9 -0.3
baz=169
H39A Augusta 80.21 346 P P 23 04 37.6 -0.7
baz=164
G42A Mountain 80.24 348 P P 23 04 38.1 -0.3
baz=166
H38A Maiden Rock 80.41 346 P P 23 04 38.8 -0.6
baz=163
E50A Wahnapitae 80.42 354 P P 23 04 38.9 -0.5
baz=173
E51A G1948 Merrick 80.43 355 P P 23 04 39.1 -0.3
baz=174
ECSD EROS Data Cent 80.52 342 eP P 23 04 39.5 -0.5
comp=Z,23nm,0.9s
ECSD EROS Data Cent 80.52 342 P P 23 04 40.0 0.0
baz=160,SNR=12
G40A Rib Lake 80.57 347 P P 23 04 40.0 -0.3
baz=165
F43A Flat Rock, Esc 80.61 349 P P 23 04 40.0 -0.4
baz=167
E48A Lockeyer 80.61 353 P P 23 04 40.1 -0.3
baz=172
F42A Maple Grove Fa 80.69 349 P P 23 04 40.8 -0.1
baz=166
E47A Iron Bridge 80.70 352 P P 23 04 40.5 -0.4
baz=170
E46A Sault Ste Mari 80.74 351 P P 23 04 40.6 -0.4
baz=170,SNR=5.3
N23A Red Feather La 80.77 335 P P 23 04 42.6 +0.9
baz=152
G39A Holcombe 80.78 347 P P 23 04 40.9 -0.5
baz=164
G38A Ridgeland 80.80 346 P P 23 04 41.3 -0.1
baz=163
F41A Three Lakes 80.83 348 P P 23 04 41.4 -0.3
baz=166
D53A Lac Vacive, Po 80.85 356 P P 23 04 41.1 -0.6
baz=175,SNR=5.8
CCUT Cedar City 80.86 328 eP P 23 04 44.3 +2.0
comp=Z,13nm,1.2s
D54A Lac Fusel, La 80.87 357 P P 23 04 41.1 -0.7
baz=176
O20A White River Ci 80.95 333 P P 23 04 43.6 +0.9
baz=150
PHWY Pilot Hill 80.96 335 eP P 23 04 43.3 +0.5
comp=Z,7.9nm,0.6s
D51A Lot 18 Range I 80.97 355 P P 23 04 42.0 -0.3
baz=174
LATQ La Tuque 81.00 360 P P 23 04 42.6 +0.1
baz=179
SPMN Marine on St. 81.05 345 eP P 23 04 42.5 -0.3
comp=Z,15nm,0.8s
SPMN Marine on St. 81.05 345 P P 23 04 42.5 -0.3
baz=163
D50A G1974 Best Tow 81.08 355 P P 23 04 42.7 -0.2
baz=173,SNR=7.0
E43A Lone Tree Farm 81.11 350 P P 23 04 42.9 -0.2
baz=167
F40A Park Falls 81.19 347 P P 23 04 43.2 -0.3
baz=165
D48A Paudash Townsh 81.26 353 P P 23 04 43.2 -0.7
baz=172
D47A Chapleau 81.28 352 P P 23 04 43.2 -0.8
baz=171
E42A Champion 81.31 349 P P 23 04 44.0 -0.2
baz=167
F39A Loretta 81.33 347 P P 23 04 44.1 -0.2
baz=164
F37A Hinrichs Farm, 81.49 346 P P 23 04 45.0 -0.1
baz=163
F38A Pierce - Schro 81.56 346 P P 23 04 45.2 -0.3
baz=163,SNR=5.6
FURC Furnace Creek, 81.58 325 P P 23 04 47.5 +1.7
baz=144
E40A Wakefield 81.66 348 P P 23 04 46.0 0.0
baz=165,SNR=6.5
TPNV Topopah Spring 81.68 326 P P 23 04 48.0 +1.5
baz=144
E39A Mellen 81.71 347 P P 23 04 45.9 -0.3
baz=164,SNR=5.8
ISA Isabella, Lake 81.72 323 P P 23 04 48.1 +1.4
baz=143
DAC Darwin (Calif) 81.78 324 eP P 23 04 48.1 +1.0

comp=Z,7.4nm,0.9s
DAC Darwin (Calif) 81.78 324 eP P 23 04 48.1 +1.0
DAC pmax pmax
comp=Z,7.0nm,0.9s
PKM Mcpherson Peak 81.78 322 P P 23 04 48.5 +1.4
baz=142
SUSD Miller 81.79 341 P P 23 04 46.5 -0.2
baz=158
VLDQ Val d'Or 81.87 356 eP P 23 04 47.5 +0.5
comp=Z,23nm,0.8s
D41A Chassel 82.03 349 P P 23 04 47.7 -0.2
baz=166,SNR=7.7
E38A The Farm, Brul 82.12 347 eP P 23 04 48.1 -0.2
comp=Z,77nm,2.0s
E38A The Farm, Brul 82.12 347 P P 23 04 47.9 -0.5
baz=164
CWC Cottonwood Cre 82.14 324 P P 23 04 50.5 +1.5
baz=143
R11A Troy Canyon, C 82.51 327 eP P 23 04 52.7 +1.8
comp=Z,9.0nm,1.0s
R11A Troy Canyon, C 82.51 327 P P 23 04 52.3 +1.4
baz=145
K22A Casper 82.52 335 eP P 23 04 52.0 +1.1
comp=Z,18nm,1.3s
K22A Casper 82.52 335 P P 23 04 51.5 +0.6
baz=152
TIN Tinemaha, Big 82.71 324 P P 23 04 53.2 +1.3
baz=143
LSQQ Lebel-sur-Quev 82.79 357 P P 23 04 51.5 -0.4
baz=176
DUG Dugway, Tooele 82.83 330 eP P 23 04 53.0 +0.5
comp=Z,19nm,1.4s
DUG Dugway, Tooele 82.83 330 eP P 23 04 53.0 +0.5
DUG pmax pmax
comp=Z,19nm,1.4s
DUG Dugway, Tooele 82.83 330 P P 23 04 53.4 +1.0
baz=147
RSSD Black Hills 83.00 337 eP P 23 04 53.7 +0.4
comp=Z,8.8nm,0.9s
RSSD Black Hills 83.00 337 eP P 23 04 53.7 +0.4
RSSD pmax pmax
comp=Z,9.0nm,0.9s
RSSD Black Hills 83.00 337 P P 23 04 53.4 0.0
baz=154
EYMN Ely 83.39 347 eP P 23 04 54.8 -0.2
comp=Z,12nm,0.9s
EYMN Ely 83.39 347 P P 23 04 54.5 -0.5
baz=164
MATQ Matagami 83.52 356 P P 23 04 55.2 -0.4
baz=175
BGU Big Grassy Mou 83.53 330 eP P 23 04 57.7 +1.6
comp=Z,20nm,1.8s
CHGQ Chibougamau 83.56 359 P P 23 04 55.5 -0.3
baz=178
SPUT South Promonto 83.61 331 eP P 23 04 57.8 +1.3
comp=Z,12nm,1.0s
BW06 Boulder Array 83.72 333 P P 23 04 57.5 +0.3
baz=149
PDAR Pinedale Array 83.72 333 P P 23 04 57.4 +0.2
comp=Z,1.9nm,0.7s,baz=144,slow=5.3,SNR=6.9
PDAR Pinedale Array 83.72 333 eP P 23 04 56.8 -0.3
NVAR Mina Array Bea 83.84 325 P P 23 04 58.6 +0.8
comp=Z,3.7nm,0.8s,baz=148,slow=6.4,SNR=5.8
DRLN Deer Lake 83.89 10 eP P 23 04 58.4 +0.9
comp=Z,32nm,0.9s
HVU Hansel Valley 84.14 331 eP P 23 04 59.7 +0.5
comp=Z,7.4nm,0.8s
HVU Hansel Valley 84.14 331 eP P 23 04 59.7 +0.5
HVU pmax pmax
comp=Z,7.0nm,0.8s
TOA0 Torodi Ar. Sit 84.27 70 eP P 23 05 00.2 -0.1
TORD Torodi Ar. Bea 84.27 70 P P 23 04 58.6 -1.7
comp=Z,20nm,0.9s,baz=238,slow=2.5,SNR=39
AGMN Agassiz Nation 84.63 344 eP P 23 05 01.1 -0.2
comp=Z,11nm,0.8s
AGMN Agassiz Nation 84.63 344 P P 23 05 01.0 -0.3
baz=160
MDND Maddock 85.11 342 eP P 23 05 04.4 +0.6
comp=Z,42nm,0.8s
MDND Maddock 85.11 342 P P 23 05 04.0 +0.2
baz=157,SNR=5.6
AFDM Forest Hills D 85.53 324 eP P 23 05 07.5 +1.4
comp=Z,14nm,1.4s
LAO LASA Array 85.99 337 eP P 23 05 08.5 +0.3
comp=Z,26nm,1.2s
LAO LASA Array 85.99 337 P P 23 05 08.3 +0.1
baz=152
ORV Oroville 86.26 324 eP P 23 05 11.2 +1.6
comp=Z,22nm,1.3s
ORV Oroville 86.26 324 P P 23 05 11.2 +1.6
ORV pmax pmax
comp=Z,22nm,1.3s
HLID Hailey 86.29 331 eP P 23 05 11.3 +1.4
comp=Z,6.0nm,0.9s
HLID Hailey 86.29 331 P P 23 05 10.8 +0.8
baz=146,SNR=5.7
ULM Lac du Bonnet 86.47 345 P P 23 05 09.5 -0.9
comp=Z,9.6nm,0.9s,baz=155,slow=2.0,SNR=8.8
MCMT McKenzie Canyo 86.73 332 eP P 23 05 13.3 +1.2
DGMT Dagmar 86.95 339 eP P 23 05 13.1 +0.2
comp=Z,34nm,0.8s
DGMT Dagmar 86.95 339 P P 23 05 13.3 +0.5
baz=154,SNR=5.7
O03E Paynes Creek 86.98 324 P P 23 05 13.6 +0.3
baz=141
WDC Whiskeytown Da 87.56 324 eP P 23 05 15.3 -0.6
comp=Z,7.8nm,0.7s
WDC Whiskeytown Da 87.56 324 eP P 23 05 15.3 -0.6
WDC pmax pmax
comp=Z,8.0nm,0.7s
J08A Circle Bar Ran 87.84 328 eP P 23 05 18.9 +1.5
comp=Z,167nm,0.6s
M04C Macdoel 88.14 325 P P 23 05 19.8 +0.9
baz=141
L04D Klamath Falls 88.70 325 P P 23 05 22.0 +0.5
baz=140
MSO Missoula 88.82 333 P P 23 05 22.5 +0.6
baz=146
J05D Fort Rock, OR 89.03 326 P P 23 05 23.8 +0.8
baz=141
LSZ Lusaka 89.87 108 eP P 23 05 29.7 +1.9
comp=Z,10nm,1.1s
LSZ Lusaka 89.87 108 eP P 23 05 29.7 +1.9
LSZ pmax pmax
comp=Z,10.0nm,1.1s
TAM Tamanrasset 92.88 65 eP P 23 05 41.9 +0.5
TAM Tamanrasset 92.88 65 eP P 23 05 41.9 +0.5
ESDC Sonseca Array 96.62 46 P P 23 05 58.0 0.0
comp=Z,0.9nm,0.7s,baz=268,slow=4.2,SNR=6.3
YKA Yellowknife Ar 102.03 341 P Pdif 23 06 21.0 -0.5
comp=Z,0.5nm,0.5s,baz=146,slow=4.0,SNR=5.3
STKA Stephens Creek 107.19 210 PKIP PKiKP 23 10 54.9 +0.3
comp=Z,0.5nm,0.3s,baz=16,slow=18,SNR=3.0
ILAR Eielson Array 114.15 333 PKP PKPdf 23 11 06.2 -0.4
comp=Z,0.5nm,0.7s,baz=174,slow=3.1,SNR=5.2
TOLK Toolik Lake Re 116.85 336 P PKPdf 23 11 11.5 -0.2
baz=114
ASAR Alice Springs 117.55 207 PKP PKPdf 23 11 12.9 -1.6
comp=Z,1.0nm,0.8s,baz=160,slow=2.1,SNR=7.9
ASAR Alice Springs 117.55 207 PKIKP PKPdf 23 11 13.0 -1.6
ASAR pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 120.74 209 PKP PKPdf 23 11 19.6 -1.2
comp=Z,1.9nm,0.5s,baz=157,slow=1.7,SNR=19
BRTR Keskin Array B 121.89 61 PKP PKPdf 23 11 22.0 -0.4
comp=Z,2.2nm,0.8s,baz=190,slow=4.1,SNR=12
KIEV Kiev 122.22 47 i PKIKP PKPdf 23 11 21.0 -1.5
AKASG Malin Array Be 122.23 47 PKP PKPdf 23 11 21.4 -1.1
comp=Z,3.3nm,0.7s,baz=267,slow=3.0,SNR=14
VSU Vasula 122.72 38 i PKIKP PKPdf 23 11 22.1 -1.1
FINES FINESS Array B 123.02 35 PKP PKPdf 23 11 23.5 -0.2
comp=Z,2.5nm,0.7s,baz=239,slow=3.3,SNR=5.9
ARCES ARCESS Array B 124.03 25 PKP PKPdf 23 11 25.1 -0.4
comp=Z,2.5nm,0.7s,baz=252,slow=3.2,SNR=14
OBN Obninsk 127.47 43 c i PKIKP PKPdf 23 11 32.5 +0.1
OBN e 23 13 34.0
OBN eSS SS 23 31 11.4 +28
OBN pmax pmax
comp=Z,8.0nm,0.6s
VSR Storozhevoye 128.49 48 ePKIKP PKPdf 23 11 33.7 -0.8
VSR pmax pmax
comp=Z,10.0nm,1.1s
VORD Divnogorie 128.53 49 ePKIKP PKPdf 23 11 34.3 -0.3
VORD pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 128.53 47 ePKIKP PKPdf 23 11 34.7 +0.2
LPSR pmax pmax

comp=Z,10.0nm,0.7s
KLMR Klimovskoe 129.44 36 *e*PKIKP **PKPdf 23 11 34.8 -1.2**
KLMR pmax pmax
comp=Z,27nm,1.2s
KLMR Klimovskoe 129.44 36 *e*PKPdf **PKPdf 23 11 34.9 -1.1**
KLMR AMP 23 11 38.0
comp=Z,27nm,1.2s
KLMR *e*SKP 23 14 53.9
KIV Kislovodsk 129.54 58 *e*PKIKP **PKPdf 23 11 36.8 -0.1**
KIV pmax pmax
comp=Z,16nm,1.0s
KBZ Khabaz 129.64 59 PKP **PKPdf 23 11 37.2 +0.3**
comp=Z,3.5nm,1.0s,baz=110,slow=5.4,SNR=4.7
VRH Novokhopyorsk 130.08 49 *e*PKIKP **PKPdf 23 11 37.7 +0.2**
VRH pmax pmax
comp=Z,10.0nm,1.1s
GNI Garni 130.18 64*c i*PKIKP **PKPdf 23 11 39.1 +0.8**
GNI pmax pmax
comp=Z,24nm,1.3s
PRGR Permogore 132.35 35 *e*PKIKP **PKPdf 23 11 41.0 -0.5**
PRGR pmax pmax
comp=Z,12nm,0.9s
BILL Bilibino 132.80 334⇓*i*PKIKP **PKPdf 23 11 42.3 +0.1**
BILL *e* 23 14 04.6
BILL pmax pmax
comp=Z,12nm,1.7s
ARU Arti 139.78 41 PKhKP PKPpre 23 11 46.4
ARU PKP **PKPdf 23 11 56.2 +0.7**
ARU Arti 139.78 41 *i* PKHKP PKPpre 23 11 46.8
GEYT Alibeck 139.91 70 PKP **PKPdf 23 11 56.3 -0.1**
comp=Z,1.4nm,0.7s,baz=265,slow=8.7,SNR=3.4
SEY Seymchan 139.99 330 PKP **PKPdf 23 11 56.2 +0.6**
comp=Z,4.7nm,0.6s,baz=102,slow=5.2,SNR=6.6
NRIK Noril'sk 142.82 12 PKP **PKPdf 23 11 59.2 -1.3**
comp=Z,2.2nm,0.6s,baz=29,slow=8.7,SNR=3.7
GSI Gunungsitoli 146.08 161 P **PKPdf 23 12 07.9 -0.1**
BRVK Borovoye 147.25 43 *e*PKPdf **PKPdf 23 12 09.0 +0.3**
BRVK *e*PKPbc **PKPbc 23 12 11.4 +0.4**
BRVK Borovoye 147.25 43*c i*PKIKP **PKPdf 23 12 08.8 +0.1**
BRVK pmax pmax
comp=Z,39nm,1.3s
BVAR Borovoye Array 147.32 43 PKP **PKPdf 23 12 09.3 +0.5**
comp=Z,14nm,0.6s,baz=275,slow=2.4,SNR=37
BVAR PKPbc **PKPbc 23 12 12.0 +0.8**
comp=Z,14nm,0.6s,baz=280,slow=2.8,SNR=33
BVAR Borovoye Array 147.32 43 PKIKP **PKPdf 23 12 09.3 +0.5**
BVAR 23 12 12.0
BVAR pmax pmax
comp=Z,14nm,0.6s
BVAR pmax pmax
comp=Z,14nm,0.6s
KCSI Kotacane, Aceh 148.26 161 P **PKPbc 23 12 14.0 -0.9**
YAK Yakutsk 148.70 340 PKPbc **PKPbc 23 12 14.5 -0.1**
comp=Z,29nm,0.6s,baz=89,slow=0.5,SNR=9.5
YAK Yakutsk 148.70 340 *e*PKP2 **PKPbc 23 12 14.4 -0.1**
YAK *e* 23 15 49.5
YAK *e*SS SS 23 34 53.7 +0.9
YAK pmax pmax
comp=Z,49nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=Z,115nm,3.7s
YAK pmax pmax
comp=N,118nm,3.5s
YAK pmax pmax
comp=E,103nm,3.3s
HYB Hyderabad 149.00 115 *i* PKP **PKPbc 23 12 16.0 -0.7**
HYB *e* 23 12 21.0
NIL Nilore 151.31 81 *e*PKPbc **PKPbc 23 12 21.8 -0.1**
ASAJ Asahikawa 151.39 301 PKPbc **PKPbc 23 12 22.1 +0.4**
comp=E,15nm,0.9s,baz=219,slow=16,SNR=2.9
AML Almayashu 152.03 63 P **PKPbc 23 12 23.8 +0.1**
SNR=5.6
EKS2 Erkin-Say 152.03 62 P **PKPbc 23 12 24.3 +1.0**
SNR=5.0
USP Ospenovka 152.48 60 P **PKPbc 23 12 24.7 +0.4**
SNR=6.0
AAK Ala-Archa 152.56 62 PKPbc **PKPbc 23 12 25.2 +0.6**
comp=E,11nm,0.8s,baz=182,slow=1.6,SNR=20
AAK Ala-Archa 152.56 62 P **PKPbc 23 12 25.4 +0.8**
SNR=8.6
UCH Uchtor 152.62 63 P **PKPbc 23 12 25.9 +0.8**
SNR=7.0
FRU Bishkek 152.62 61 *e*PKIKP **PKPbc 23 12 24.0 -0.6**
CHMS Chumysh 152.70 61 P **PKPbc 23 12 24.9 +0.1**
SNR=5.9
KURBB Kurchatov Arra 152.91 43 PKP **PKPdf 23 12 17.8 +0.1**
comp=E,2.6nm,0.9s,baz=296,slow=1.8,SNR=6.6
KURBB PKPbc **PKiKP 23 12 25.1 0.0**
comp=E,8.5nm,0.5s,baz=302,slow=2.9,SNR=38
KURK Kurchatov 152.92 43 *e*PKPdf **PKPdf 23 12 17.5 -0.1**
KURK *e*PKPbc **PKPbc 23 12 24.6 -0.3**
KURK Kurchatov 152.92 43 *e*PKIKP **PKPdf 23 12 17.5 -0.1**
KURK *e* 23 12 24.6
NVS Novosibirsk 152.97 32⇑*i*PKIKP **PKPdf 23 12 18.1 +0.5**
NVS *e* 23 12 32.5
NVS pmax pmax
comp=E,10.0nm,1.0s
NVS pmax pmax
comp=Z,39nm,1.0s
NVS pmax pmax
comp=N,7.0nm,1.2s
TKM2 Tokmak 2 153.32 61 P **PKPbc 23 12 23.8 -2.6**
SNR=8.6
KSH Kashi 153.93 68 PKPbc **PKPdf 23 12 19.5 -0.2**
KSH PP **PP 23 16 18.0 +1.9**
KSH SKS **SKSdf 23 19 21.3 -4.3**
ZALV Zalesovo Beam 154.25 32 PKP **PKPdf 23 12 18.9 -0.5**
comp=N,4.3nm,0.8s,baz=268,slow=3.0,SNR=8.4
ZALV PKPbc **PKiKP 23 12 27.9 +0.1**
comp=N,24nm,0.7s,baz=298,slow=3.3,SNR=34
ZALV PKPab **PKPab 23 12 42.1 +0.5**
comp=N,15nm,0.7s,baz=296,slow=5.0,SNR=9.7
ZALV Zalesovo Beam 154.25 32 PKIKP **PKPdf 23 12 18.9 -0.5**
ZALV 23 12 27.9
ZALV pmax pmax
comp=Z,5.0nm,0.8s
BOD Bodaibo 155.81 352 *e*PKP2 **PKPab 23 12 47.4 -0.7**
BOD pmax pmax
comp=Z,26nm,1.0s
KLR Kul'dur 156.68 318 PKP **PKPdf 23 12 22.2 -0.7**
comp=Z,2.7nm,1.0s,baz=32,slow=4.9,SNR=4.5
KLR Kul'dur 156.68 318 PKIKP **PKPdf 23 12 22.2 -0.7**
KLR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 156.81 49 PKP **PKPdf 23 12 23.0 -0.2**
comp=Z,2.3nm,0.9s,baz=336,slow=2.7,SNR=7.7
MKAR PKPab **PKPab 23 12 52.9 0.0**
comp=Z,5.8nm,0.7s,baz=297,slow=4.4,SNR=14
MKAR Makanchi Array 156.81 49 PKIKP **PKPdf 23 12 23.0 -0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
WMQ Urumqi 161.52 52 *e*PKP **PKPdf 23 12 28.6 -0.2**
UTTA Uttaradit 162.54 156 P **PKPdf 23 12 32.0 +1.5**
KSRS Korea Array 163.36 288 PKP **PKPdf 23 12 29.7 -1.0**
comp=Z,1.4nm,0.8s,baz=191,slow=1.3,SNR=5.0
KSAR Wonju Array Be 163.39 288 PKP **PKPdf 23 12 29.7 -1.1**
KSAR Wonju Array Be 163.39 288 PKIKP **PKPdf 23 12 29.7 -1.1**
SONM Songino Array 166.12 4 PKP **PKPdf 23 12 32.2 -0.8**
comp=Z,1.0nm,0.9s,baz=4.0,slow=3.4,SNR=6.2
SONM PKPab **PKPab 23 13 33.8 +0.3**
comp=Z,3.2nm,0.9s,baz=335,slow=3.6,SNR=12
SONM PP **PP 23 17 19.4 -1.0**
comp=Z,2.4nm,1.2s,baz=358,slow=2.8,SNR=5.8
KMI Kunming 170.10 152 PKP **PKPdf 23 12 35.8 -0.8**
NJ2 Nanjing 171.59 262 *e*PKP **PKPdf 23 12 37.9 +1.6**
GTA Gaotai 171.56 48 PKP **PKPdf 23 12 36.8 0.0**
GTA PKPab **PKPab 23 13 57.8 -0.2**
GTA PP **PP 23 17 49.9 +0.9**
GTA LR LR
comp=Z,200nm,23.0s
GTA LR LR
comp=Z,140nm,22.7s
GTA LR LR
comp=Z,170nm,22.0s
GYA Guiyang 172.42 172 PKP **PKPdf 23 12 36.6 -1.0**
GYA PKPab **PKPab 23 14 03.0 +1.1**
GYA PKS **PKSdf 23 16 06.8 -3.3**
GYA PP **PP 23 17 55.4 +3.2**
GYA AMB AMB
comp=Z,130nm,8.2s
HHC Hu-ho-hao-te 172.55 338 *e*PKP **PKPdf 23 12 38.8 +1.6**

WHN Wuhan 173.53 240 ⇓PKP **PKPdf 23 12 37.8 +0.1**
CD2 Chengdu 175.36 130 PKP **PKPdf 23 12 38.0 -0.4**
LZH Lanzhou 176.08 57 *e*PKP **PKPdf 23 12 36.3 -2.3**
LZH pPKP sPKPdf 23 12 47.3 0.0
XAN Xi'an 179.13 274 PKP **PKPdf 23 12 38.4 -0.5**

*IDC **21** 22:54:38.0±0.9,24.07N×122.27E,h0km,mb3.9/9, mb1 4.0/10,mb1mx3.7/45,mbtmp3.9/10,ML3.4/1, Error ellipse: s-maj=40.9km s-min=18.6km az=61.0*
*ISCJB **21** 22:54:41.2±0.3,23.95N±0.01×122.33E±0.01,h15km±2km, mb3.9/9, Error ellipse: s-maj=2.4km s-min=1.6km az=149.1*
*JMA **21** 22:54:41.1±0.2,23.96N×122.28E,h18km±4km,M3.9*
*TAP **21** 22:54:41.7,24.01N×122.31E,h23km,ML4.2,C*
ISC 21 22:54:40.9±1.0,**23.99N**±0.02×**122.28E**±0.02,**h18**km±4km, **n133,**σ0=**83**/243,**mb3.9**/9,**19C-4D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.57**	**346**	⇓*i*P		**Pn**		**22 54 53.3**	**-0.9**
	baz=343								
EOS1				S		**Sb**		**22 55 01.3**	**+1.1**
	baz=343								
HWA	**Hwalien**	**0.61**	**269**	*e*P		**Pn**		**22 54 54.5**	**-0.2**
	baz=253								
HWA				*e*S		**Sn**		**22 55 04.4**	**+0.3**
	baz=253								
TWD	**Chiawan**	**0.63**	**278**	⇑*i*P		**Pg**		**22 54 54.3**	**+0.9**
	baz=276								
TWD				S		**Sn**		**22 55 03.7**	**-0.8**
	baz=276								
NANB	**Nanao**	**0.65**	**312**	⇓*i*P		**Pg**		**22 54 54.4**	**+0.6**
	baz=320								
NANB				*e*S		**Sg**		**22 55 03.1**	**+0.6**
	baz=320								
NACB	**Ninganchiao**	**0.65**	**287**	⇑*i*P		**Pn**		**22 54 54.6**	**-0.6**
	baz=268								
NACB				*e*S		**Sn**		**22 55 04.4**	**-0.6**
	baz=268								
ENA	**Nanau**	**0.66**	**312**	*i* P		**Pg**		**22 54 54.4**	**+0.5**
	baz=320								
ENA				*e*S		**Sn**		**22 55 05.1**	**-0.1**
	baz=320								
TWC	**Suao**	**0.73**	**328**	⇓*i*P		**Pg**		**22 54 55.3**	**+0.1**
	baz=325								
TWC				*e*S		**Sb**		**22 55 04.3**	**-0.4**
	baz=325								
JYNG	**Yonagunijimaku**	**0.76**	**53**	P		**Pg**		**22 54 55.9**	**0.0**
JYNG				S		**Sb**		**22 55 05.3**	**-0.4**
ESL	**Shilin**	**0.79**	**257**	P		**Pb**		**22 54 56.2**	**+0.1**
	baz=246								
ESL				*e*S		**Sg**		**22 55 07.4**	**+0.5**
	baz=246								
YOJ	**Yonaguni jima**	**0.82**	**55**	P		**Pg**		**22 54 56.9**	**0.0**
	baz=63								
YOJ				*e*S		**Sb**		**22 55 07.0**	**-0.2**
	baz=63								
YOJ	**Yonaguni jima**	**0.82**	**55**	P		**Pg**		**22 54 56.9**	**0.0**
YOJ				*e*S		**Sb**		**22 55 06.8**	**-0.5**
EGFH	**Guangfu**	**0.84**	**248**	P		**Pb**		**22 54 57.3**	**+0.3**
	baz=247								
EGFH				*e*S		**Sg**		**22 55 09.3**	**+0.9**
	baz=247								
EGS		**0.91**	**340**	*i* P		**Pn**		**22 54 58.7**	**-0.1**
	baz=327								
EGS				*e*S		**Sn**		**22 55 11.5**	**+0.1**
	baz=327								
ILA	**Ilan**	**0.91**	**328**	P		**Pn**		**22 54 59.3**	**+0.5**
	baz=325								
ILA				*e*S		**Sn**		**22 55 11.3**	**-0.2**
	baz=325								
ENTT	**Nioudou**	**0.92**	**315**	*i* P		**Pn**		**22 54 59.2**	**+0.3**
	baz=324								
ENTT				*e*S		**Sn**		**22 55 11.7**	**+0.1**
	baz=324								
TWE	**Neicheng**	**0.92**	**323**	⇓*i*P		**Pn**		**22 54 59.0**	**+0.1**
	baz=328								
TWE				*e*S		**Sn**		**22 55 12.4**	**+0.8**
	baz=328								
HGSD	**Ruisui**	**0.93**	**238**	*e*P		**Pb**		**22 54 58.4**	**0.0**
	baz=238								
HGSD				*e*S		**Sb**		**22 55 10.7**	**+0.4**
	baz=238								
NNSB	**Datong**	**0.93**	**298**	⇑*i*P		**Pn**		**22 54 59.3**	**+0.2**
	baz=283								
NNSB				S		**Sn**		**22 55 12.2**	**+0.2**
	baz=283								
WHF	**Hehuan Shan**	**0.94**	**280**	⇑*i*P		**Pg**		**22 54 59.3**	**0.0**
	baz=278								
WHF				S		**Sg**		**22 55 12.2**	**+0.5**
	baz=278								
NNS	**Nan Shan**	**0.94**	**299**	*i* P		**Pn**		**22 54 59.5**	**+0.1**
	baz=283								
NNS				*e*S		**Sg**		**22 55 11.6**	**0.0**
	baz=283								
NTC	**Toucheng**	**0.95**	**335**	*i* P		**Pn**		**22 54 59.6**	**+0.2**
	baz=331								
NTC				*e*S		**Sn**		**22 55 12.4**	**-0.1**
	baz=331								
EHY	**Hungye**	**1.00**	**241**	*e*P		**Pb**		**22 54 59.6**	**-0.1**
	baz=241								
EHY				*e*S		**Sb**		**22 55 13.2**	**+0.7**
	baz=241								
CHGB	**Renai**	**1.01**	**274**	⇑*i*P		**Pn**		**22 55 00.5**	**+0.2**
	baz=261								
CHGB				*e*S		**Sg**		**22 55 13.9**	**0.0**
	baz=261								
TWT	**Tachien**	**1.04**	**285**	P		**Pg**		**22 55 01.4**	**+0.2**
	baz=272								
TWT				*e*S		**Sn**		**22 55 16.0**	**+1.1**
	baz=272								
TWB1	**Santiao Chiao**	**1.05**	**346**	P		**Pg**		**22 55 00.9**	**-0.4**
	baz=330								
TWB1				*e*S		**Sn**		**22 55 14.5**	**-0.3**
	baz=330								
NWLT	**Wulai**	**1.05**	**318**	*i* P		**Pg**		**22 55 01.5**	**+0.1**
	baz=325								
NWLT				*e*S		**Sg**		**22 55 16.2**	**+0.9**
	baz=325								
TDCB	**Techi**	**1.05**	**285**	⇑*i*P		**Pg**		**22 55 01.4**	**0.0**
	baz=273								
TDCB				*e*S		**Sg**		**22 55 15.4**	**+0.1**
	baz=273								
YHNB	**Yeheng**	**1.06**	**310**	⇑*i*P		**Pg**		**22 55 01.6**	**0.0**
	baz=307								
YHNB				*e*S		**Sg**		**22 55 15.6**	**0.0**
	baz=307								
YULB	**Yu-li**	**1.08**	**237**	P		**Pb**		**22 55 00.8**	**-0.2**
	baz=254								
YULB				*e*S		**Sb**		**22 55 14.8**	**+0.1**
	baz=254								
NSK	**Sanguang**	**1.08**	**309**	⇑*i*P		**Pg**		**22 55 01.7**	**-0.2**
	baz=306								
NSK				*e*S		**Sg**		**22 55 15.9**	**-0.2**
	baz=306								
TWF1	**Yuli**	**1.10**	**235**	P		**Pn**		**22 55 01.3**	**-0.1**
	baz=223								
TWF1				*e*S		**Sb**		**22 55 15.9**	**+0.5**
	baz=223								
NWF	**Wu-fen Shan**	**1.17**	**337**	⇑*i*P		**Pg**		**22 55 03.1**	**-0.5**
	baz=334								
NWF				*e*S		**Sg**		**22 55 18.8**	**-0.1**
	baz=334								
WFSB	**Wu-fen Shan**	**1.17**	**337**	⇑*i*P		**Pg**		**22 55 03.1**	**-0.5**
	baz=333								
WFSB				*e*S		**Sg**		**22 55 18.7**	**-0.1**
	baz=333								
TWA	**Mucha**	**1.17**	**328**	P		**Pg**		**22 55 04.0**	**+0.4**
	baz=324								
TWA				*e*S		**Sg**		**22 55 19.6**	**+0.6**
	baz=324								
FULB	**Fuli**	**1.20**	**229**	*e*P		**Pn**		**22 55 02.2**	**-0.6**
	baz=216								
FULB				*e*S		**Sb**		**22 55 17.1**	**-1.1**
	baz=216								
TATO	**Taipei**	**1.22**	**324**	⇑*e*P		**Pg**		**22 55 04.3**	**-0.2**
	baz=320								
TATO				*e*S		**Sg**		**22 55 20.2**	**-0.2**
	baz=320								
CHKT	**Chengkung**	**1.22**	**224**	*e*P		**Pn**		**22 55 02.2**	**-0.8**
	baz=213								
CHKT				*e*S		**Sb**		**22 55 17.0**	**-1.8**
	baz=213								
SSLB	**Suanglung**	**1.23**	**261**	*e*P		**Pn**		**22 55 03.4**	**+0.2**
	baz=260								
SSLB				*e*S		**Sg**		**22 55 20.6**	**-0.2**
	baz=260								
TAP1	**Taipei**	**1.25**	**327**	P		**Pg**		**22 55 05.0**	**-0.1**
	baz=323								
TAP1				*e*S		**Sg**		**22 55 21.7**	**+0.3**
	baz=323								
SMLT	**Sun Moon Lake**	**1.26**	**265**	⇑P		**Pb**		**22 55 04.5**	**+0.2**
	baz=254								
SMLT				*e*S		**Sb**		**22 55 20.6**	**+0.4**
	baz=254								
WLTB	**Daxi**	**1.27**	**313**	⇑*i*P		**Pg**		**22 55 05.5**	**+0.1**
	baz=310								
WLTB				*e*S		**Sg**		**22 55 22.7**	**+0.7**
	baz=310								
TYC	**Yuchr**	**1.30**	**267**	⇑P		**Pb**		**22 55 05.0**	**+0.1**
	baz=256								
TYC				*e*S		**Sb**		**22 55 21.9**	**+0.7**
	baz=256								
YUS	**Yu-Shan**	**1.31**	**248**	*e*P		**Pn**		**22 55 05.3**	**+0.5**
	baz=248								
YUS				*e*S		**Sb**		**22 55 22.0**	**+0.1**
	baz=248								
LIOB	**Emei**	**1.32**	**300**	⇑P		**Pg**		**22 55 06.3**	**-0.1**
	baz=297								
LIOB				*e*S		**Sg**		**22 55 24.1**	**+0.3**
	baz=297								
YM07	**YM07**	**1.32**	**333**	*e*P		**Pb**		**22 55 05.0**	**-0.3**
	baz=329								
YM07				*e*S		**Sg**		**22 55 23.1**	**-0.8**
	baz=329								
NSTT	**Nanjuang**	**1.33**	**299**	*e*P		**Pg**		**22 55 06.2**	**-0.3**
	baz=284								
NSTT				*e*S		**Sg**		**22 55 23.7**	**-0.2**
	baz=284								
YM10	**YM10**	**1.33**	**331**	*e*P		**Pb**		**22 55 05.4**	**0.0**
	baz=343								
YM10				*e*S		**Sg**		**22 55 23.0**	**-1.1**
	baz=343								
YM11	**YM11**	**1.33**	**331**	*e*P		**Pb**		**22 55 05.3**	**-0.2**
	baz=328								
YM11				*e*S		**Sg**		**22 55 23.1**	**-1.1**
	baz=328								
YM05	**YM05**	**1.34**	**331**	*e*P		**Pb**		**22 55 05.3**	**-0.2**
	baz=343								
YM05				*e*S		**Sg**		**22 55 24.0**	**-0.2**
	baz=343								
YM04	**YM04**	**1.34**	**330**	*e*P		**Pb**		**22 55 05.4**	**-0.1**
	baz=326								
YM04				*e*S		**Sg**		**22 55 24.3**	**-0.1**
	baz=326								
YM08	**YM08**	**1.35**	**332**	*e*P		**Pb**		**22 55 05.5**	**-0.2**
	baz=345								
TWS1	**Kuangyinshan**	**1.35**	**325**	P		**Pb**		**22 55 06.3**	**+0.6**
	baz=333								
TWS1				*e*S		**Sg**		**22 55 25.2**	**+0.4**
	baz=333								
YM03	**YM03**	**1.36**	**331**	*e*P		**Pb**		**22 55 06.1**	**+0.2**
	baz=328								
IRIF	**Iriomote-Funau**	**1.37**	**75**	P		**Pb**		**22 55 06.3**	**+0.3**
IRIF				S		**Sb**		**22 55 23.3**	**+0.1**
NTST	**Danshui**	**1.39**	**327**	*e*P		**Pb**		**22 55 06.8**	**+0.4**
	baz=341								
NCUH	**Zhongli**	**1.39**	**315**	*e*P		**Pb**		**22 55 06.8**	**+0.5**
	baz=311								
NCUH				*e*S		**Sg**		**22 55 25.6**	**-0.4**
	baz=311								
NCU	**National Centr**	**1.39**	**315**	*e*P		**Pb**		**22 55 07.0**	**+0.6**
	baz=311								
NCU				*e*S		**Sg**		**22 55 25.9**	**-0.1**
	baz=311								
HATJ	**Hateruma jima**	**1.40**	**87**	P		**Pb**		**22 55 06.6**	**+0.1**
HATJ				*e*S		**Sn**		**22 55 23.6**	**+0.1**
ELDTW	**Lidau**	**1.40**	**236**	P		**Pn**		**22 55 05.4**	**-0.3**
	baz=236								
ELDTW				*e*S		**Sn**		**22 55 22.2**	**-1.6**
	baz=236								
TWQ1	**Liyutan**	**1.42**	**285**	⇑*e*P		**Pg**		**22 55 08.0**	**-0.3**
	baz=283								
TWQ1				*e*S		**Sg**		**22 55 27.1**	**+0.3**
	baz=283								
TWY	**Chenhua**	**1.42**	**334**	*e*P		**Pg**		**22 55 07.8**	**-0.5**
	baz=331								
TWY				*e*S		**Sg**		**22 55 26.6**	**-0.3**
	baz=331								
SBCB	**Hsinchu**	**1.42**	**304**	*e*P		**Pg**		**22 55 07.7**	**-0.7**
	baz=301								
SBCB				*e*S		**Sg**		**22 55 27.5**	**+0.6**
	baz=301								
WJS	**Zhushan**	**1.43**	**264**	*e*P		**Pb**		**22 55 08.0**	**+1.0**
	baz=263								
WJS				*e*S		**Sg**		**22 55 28.8**	**+1.7**
	baz=263								
ALS	**Alishan**	**1.43**	**251**	P		**Pb**		**22 55 07.2**	**0.0**
	baz=250								
ALS				*e*S		**Sn**		**22 55 25.4**	**+0.7**
	baz=250								
NSY	**Sanyi**	**1.45**	**287**	*e*P		**Pg**		**22 55 08.5**	**-0.3**
	baz=285								
NSY				*e*S		**Sg**		**22 55 28.1**	**+0.4**
	baz=285								
NMLH	**Miaoli**	**1.46**	**292**	*e*P		**Pg**		**22 55 08.7**	**-0.5**
	baz=289								
NMLH				*e*S		**Sg**		**22 55 28.3**	**+0.1**
	baz=289								
WNT	**Mingjian**	**1.46**	**266**	*e*P		**Pb**		**22 55 08.5**	**+0.9**
	baz=265								
WNT				*e*S		**Sg**		**22 55 28.2**	**0.0**
	baz=265								
TCU	**Taichung**	**1.47**	**276**	⇑*e*P		**Pg**		**22 55 08.9**	**-0.3**
	baz=275								
TCU				*e*S		**Sg**		**22 55 28.8**	**+0.3**
	baz=275								
PTSB	**Yuanli**	**1.51**	**288**	*e*P		**Pb**		**22 55 09.1**	**+0.8**
	baz=285								
PTSB				*e*S		**Sg**		**22 55 29.4**	**-0.2**
	baz=285								
CHN5	**Tsauling**	**1.52**	**255**	*e*P		**Pb**		**22 55 08.8**	**+0.3**
	baz=244								
CHN5				*e*S		**Sb**		**22 55 28.8**	**+1.3**
	baz=244								
WCHH	**Zhanghua**	**1.57**	**274**	*e*P		**Pb**		**22 55 10.1**	**+0.6**
	baz=272								
WCHH				*e*S		**Sg**		**22 55 31.1**	**-0.7**
	baz=272								
WGK	**Gukeng**	**1.60**	**259**	*e*P		**Pb**		**22 55 10.4**	**+0.5**
	baz=259								
WGK				*e*S		**Sg**		**22 55 33.1**	**+0.6**
	baz=259								
JKRS	**Kuro-shima**	**1.60**	**81**	P		**Pb**		**22 55 09.3**	**-0.7**
JKRS				*e*S		**Sb**		**22 55 30.2**	**+0.3**
TWGBT	**Beinan**	**1.60**	**224**	*e*P		**Pn**		**22 55 07.7**	**-0.7**
	baz=237								
TWGBT				*e*S		**Sn**		**22 55 27.3**	**-1.3**
	baz=237								
TWG	**Pinlang**	**1.61**	**224**	*e*P		**Pn**		**22 55 07.8**	**-0.6**
	baz=237								
TWG				*e*S		**Sn**		**22 55 28.1**	**-0.5**
	baz=237								
TTN	**Taitung**	**1.61**	**220**	*e*P		**Pb**		**22 55 11.4**	**+1.3**
	baz=221								
TTN				*e*S		**Sn**		**22 55 29.5**	**+0.8**
	baz=221								
STYT	**Tauyuan**	**1.62**	**240**	P		**Pn**		**22 55 09.6**	**+1.0**
	baz=229								
STYT				*e*S		**Sn**		**22 55 30.0**	**+0.9**
	baz=229								
WDLH	**Douliu**	**1.62**	**260**	*e*P		**Pb**		**22 55 10.6**	**+0.4**
	baz=259								
WDLH				*e*S		**Sb**		**22 55 32.1**	**+1.7**
	baz=259								
PCYT	**Pengchaiyu**	**1.64**	**354**	*e*P		**Pn**		**22 55 09.6**	**+0.7**
	baz=351								
TPUB	**Ta-pu**	**1.66**	**246**	*e*P		**Pb**		**22 55 10.9**	**-0.1**
	baz=246								
TPUB				*e*S		**Sb**		**22 55 32.3**	**+0.8**
	baz=246								
CHN4	**Tsaushan**	**1.67**	**248**	*e*P		**Pb**		**22 55 11.6**	**+0.5**
	baz=248								
CHN4				*e*S		**Sg**		**22 55 34.2**	**-0.6**
	baz=248								
WTP	**Ta-pu**	**1.69**	**244**	*e*P		**Pb**		**22 55 11.4**	**-0.2**
	baz=244								
WTP				*e*S		**Sb**		**22 55 33.5**	**+0.8**
	baz=244								
CHN2	**Minshiung**	**1.71**	**255**	*e*P		**Pb**		**22 55 13.0**	**+1.2**
	baz=255								
CHN2				*e*S		**Sg**		**22 55 35.7**	**-0.4**
	baz=255								
JIJ	**Ishigaki jima**	**1.74**	**77**	P		**Pn**		**22 55 10.3**	**0.0**

JIJ				eS		Sb	22 55 33.3	-0.7
RLNB	**Erlin**	**1.76**	**267**	*e*P		**Pb**	**22 55 12.9**	**+0.3**
	baz=266							
RLNB				eS		Sb	22 55 35.1	+0.8
	baz=266							
CHY	**Chiayi**	**1.77**	**254**	*e*P		**Pg**	**22 55 14.3**	**-0.6**
	baz=254							
CHY				eS		Sb	22 55 36.5	+1.9
	baz=254							
TWK	**Hsinying**	**1.79**	**247**	*e*P		**Pb**	**22 55 12.9**	**-0.3**
	baz=247							
TWK				eS		Sb	22 55 36.7	+1.3
	baz=247							
CHN1	**Nanshi**	**1.79**	**244**	*e*P		**Pb**	**22 55 13.2**	**0.0**
	baz=244							
CHN1				eS		Sb	22 55 36.5	+1.1
	baz=244							
SLGT	**Liugui**	**1.79**	**237**	*e*P		**Pn**	**22 55 12.6**	**+1.6**
	baz=228							
SLGT				eS		Sb	22 55 35.5	+0.1
	baz=228							
SGST	**Jiashian**	**1.80**	**240**	*e*P		**Pb**	**22 55 13.2**	**-0.1**
	baz=229							
SGST				eS		Sb	22 55 36.6	+1.1
	baz=229							
WTCT	**Ta-ch'eng**	**1.83**	**266**	*e*P		**Pb**	**22 55 13.6**	**-0.2**
	baz=265							
WTCT				eS		Sb	22 55 38.0	+1.6
	baz=265							
ECL	**Taimali**	**1.84**	**222**	*e*P		**Pn**	**22 55 11.2**	**-0.5**
	baz=223							
ECL				eS		Sn	22 55 33.2	-1.3
	baz=223							
WLGB	**Puzi**	**1.88**	**255**	*e*P		**Pb**	**22 55 15.1**	**+0.4**
	baz=254							
WLGB				eS		Sb	22 55 38.8	+0.9
	baz=254							
WSF	**Szhu**	**1.91**	**260**	*e*P		**Pb**	**22 55 15.2**	**-0.1**
	baz=259							
WSF				eS		Sb	22 55 40.4	+1.6
	baz=259							
JISG	**Ishigakijimahi**	**1.95**	**72**	P		**Pn**	**22 55 13.5**	**+0.4**
JISG				eS		Sn	22 55 38.4	+1.3
SSD	**Sandimen**	**1.95**	**231**	*e*P		**Pn**	**22 55 14.9**	**+1.7**
	baz=225							
SSD				eS		Sb	22 55 39.4	-0.6
	baz=225							
CHN8	**Yiju**	**2.00**	**252**	*e*P		**Pb**	**22 55 16.5**	**-0.2**
	baz=251							
CHN8				eS		Sb	22 55 41.5	+0.2
	baz=251							
MASBT	**Mashibuluo**	**2.04**	**228**	*e*P		**Pn**	**22 55 15.4**	**+1.1**
	baz=223							
MASBT				eS		Sn	22 55 40.7	+1.3
	baz=223							
LAY	**Lan-yu**	**2.05**	**199**	*e*P		**Pn**	**22 55 14.2**	**-0.4**
	baz=210							
LAY				eS		Sn	22 55 36.1	-3.6
	baz=210							
TWM1	**Shoushan**	**2.06**	**236**	*e*P		**Pb**	**22 55 19.1**	**+1.3**
	baz=236							
EAST	**Anshuo**	**2.07**	**220**	*e*P		**Pn**	**22 55 14.6**	**-0.2**
	baz=220							
SCZT	**Fangliau**	**2.22**	**224**	*e*P		**Pn**	**22 55 18.6**	**+1.8**
	baz=218							
SCZT				eS		Sn	22 55 42.4	-1.4
	baz=218							
JTJ	**Tarama**	**2.31**	**73**	P		**Pn**	**22 55 19.2**	**+1.2**
JTJ				eS		Sn	22 55 46.8	+0.9
WLCH	**Liuqiu**	**2.39**	**227**	*e*P		**Pb**	**22 55 23.8**	**+0.4**
	baz=228							
TWKBT	**Hengchun**	**2.44**	**214**	*e*P		**Pn**	**22 55 20.5**	**+0.6**
	baz=215							
WDGT	**Dungji**	**2.51**	**254**	*e*P		**Pn**	**22 55 22.1**	**+1.3**
	baz=241							
WDGT				eS		Sn	22 55 51.7	+0.8
	baz=241							
PHUB	**P'eng-hu**	**2.52**	**260**	*e*P		**Pn**	**22 55 22.2**	**+1.3**
	baz=259							
PHUB				eS		Sn	22 55 52.6	+1.3
	baz=259							
PNG	**Penghu**	**2.53**	**261**	*e*P		**Pn**	**22 55 22.3**	**+1.3**
	baz=260							
PNG				eS		Sn	22 55 53.1	+1.7
	baz=260							
PTTC	**Pingtan**	**2.73**	**304**	*e*P		**Pn**	**22 55 23.9**	**+0.1**
	baz=300							
PTTC				eS		Sn	22 55 55.4	-1.0
	baz=300							
JIRB	**Irabujima**	**2.77**	**72**	eS		**Sn**	**22 55 58.1**	**+0.8**
JIKM	**Ikemajima**	**2.86**	**70**	P		**Pn**	**22 55 27.5**	**+1.9**
JIKM				eS		Sn	22 56 01.2	+1.6
JMJ	**Miyako jima 2**	**2.87**	**73**	eS		**Sn**	**22 56 02.2**	**+2.4**
JOGS	**Gusukube**	**2.96**	**74**	P		**Pn**	**22 55 29.1**	**+2.2**
JOGS				eS		Sn	22 56 04.8	+2.9
MATB	**Ma-tsu**	**3.02**	**316**	*e*P		**Pn**	**22 55 27.7**	**-0.1**
	baz=313							
PTMZ	**Houxiangcun**	**3.06**	**291**	*e*P		**Pn**	**22 55 28.9**	**+0.5**
	baz=287							
PTMZ				eS		Sn	22 56 03.5	-1.0
	baz=287							
LYJJ	**Jianjiangzhen**	**3.42**	**319**	*e*P		**Pn**	**22 55 33.4**	**0.0**
	baz=314							
LYJJ				eS		Sn	22 56 12.2	-1.1
	baz=314							
XPSS	**Dashiqiu**	**3.48**	**328**	*e*P		**Pn**	**22 55 34.5**	**+0.3**
	baz=311							
XPSS				eS		Sn	22 56 15.3	+0.3
	baz=311							
KNM	**Kinmen**	**3.54**	**278**	*e*P		**Pn**	**22 55 37.2**	**+2.4**
	baz=274							
KNM				eS		Sn	22 56 18.9	+2.7
	baz=274							
KNMB	**Chin-men Tao**	**3.58**	**278**	*e*P		**Pn**	**22 55 36.1**	**+0.6**
	baz=275							
KNMB				eS		Sn	22 56 17.2	-0.2
	baz=275							
MHZQ	**Yeshan**	**3.62**	**306**	*e*P		**Pn**	**22 55 36.2**	**+0.2**
	baz=304							
AXDP	**Jialang**	**4.03**	**284**	*e*P		**Pn**	**22 55 42.3**	**+0.6**
	baz=280							
AXDP				eS		Sn	22 56 28.3	-0.1
	baz=280							
ZPLA	**Ao Xicun**	**4.14**	**270**	*e*P		**Pn**	**22 55 43.9**	**+0.7**
	baz=267							
ZPLA				eS		Sn	22 56 29.9	-1.3
	baz=267							
ZZJH	**Jiuhuzhen**	**4.27**	**277**	*e*P		**Pn**	**22 55 45.7**	**+0.7**
	baz=275							
JOW	**Kunigami**	**6.12**	**61**	Pn		**Pn**	**22 56 09.5**	**-0.9**
	1.9nm,0.3s,baz=111,slow=20,SNR=5.2							
SONM	**Songino Array**	**26.94**	**336**	P		**P**	**23 00 20.8**	**-0.6**
	5.2nm,0.8s,baz=151,slow=9.9,SNR=42							
MKAR	**Makanchi Array**	**39.17**	**316**	P		**P**	**23 02 07.2**	**-0.5**
	0.7nm,0.5s,baz=99,slow=10,SNR=15							
ZALV	**Zalesovo Beam**	**40.95**	**327**	P		**P**	**23 02 20.9**	**-1.4**
	1.9nm,0.5s,baz=110,slow=8.1,SNR=7.8							
WRA	**Warramunga Arr**	**45.22**	**164**	P		**P**	**23 02 57.2**	**0.0**
	1.1nm,0.7s,baz=346,slow=8.9,SNR=6.9							
BVAR	**Borovoye Array**	**48.46**	**321**	P		**P**	**23 03 21.7**	**-0.5**
	0.7nm,0.6s,baz=116,slow=10,SNR=6.5							
ASAR	**Alice Springs**	**48.70**	**166**	P		**P**	**23 03 25.3**	**+1.0**
	0.4nm,0.6s,baz=353,slow=13,SNR=4.6							
AKASG	**Malin Array Be**	**73.68**	**319**	P		**P**	**23 06 12.5**	**-1.0**
	0.8nm,0.5s,baz=59,slow=6.4,SNR=3.6							
BRTR	**Keskin Array B**	**74.09**	**307**	P		**P**	**23 06 16.7**	**+0.4**
	1.1nm,0.8s,baz=116,slow=6.5,SNR=5.8							
GERES	**GERESS Array B**	**83.62**	**321**	P		**P**	**23 07 07.9**	**-0.5**
	0.7nm,0.9s,baz=46,slow=5.6,SNR=4.1							

*ISCJB **21** 22:55:03.3±0.6,23.°95N×0.°02×122.°36E±0.°03,h26km±3km, mb3.9/12, Error ellipse: s-maj=4.9km s-min=3.2km az=33.8*
*TAP **21** 22:55:04.5,24.°00N×122.°29E,h23km±1km,ML4.2,C*
*IDC **21** 22:55:07.5±5.2,24.°17N×122.°58E,h59km±48km,mb3.7/12, mb1 3.8/13,mb1mx3.6/45,mbtmp3.9/13,ML3.4/1,Error ellipse: s-maj=30.0km s-min=16.2km az=67.0*

ISC 21 22:55:04.5±1.2,**24.°00N**±0.°03×**122.°29E**±0.°04,**h30**km±8km, **n53,**σ1s**00/83,mb4.0/12,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.57**	**345**	*i* P	**Pb**	**22 55 15.7**	**-0.5**
	baz=344						
EOS1				S	**Sn**	**22 55 24.3**	**-0.7**
	baz=344						
HWA	**Hwalien**	**0.62**	**268**	*e*P	**Pb**	**22 55 16.9**	**-0.1**
	baz=256						
HWA				eS	**Sn**	**22 55 26.8**	**+0.5**
	baz=256						
TWD	**Chiawan**	**0.64**	**278**	P	**Pb**	**22 55 16.8**	**-0.5**
	baz=277						
TWD				S	**Sn**	**22 55 26.1**	**-0.5**
	baz=277						
NANB	**Nanao**	**0.65**	**311**	*e*P	**Pn**	**22 55 17.7**	**0.0**
	baz=321						
NANB				eS	**Sn**	**22 55 26.7**	**-0.3**
	baz=321						
NACB	**Ninganchiao**	**0.66**	**286**	*e*P	**Pb**	**22 55 17.2**	**-0.3**
	baz=272						
NACB				eS	**Sn**	**22 55 26.8**	**-0.3**
	baz=272						
ENA	**Nanau**	**0.66**	**311**	*e*P	**Pn**	**22 55 17.9**	**+0.1**
	baz=321						
ENA				eS	**Sn**	**22 55 26.9**	**-0.2**
	baz=321						
TWC	**Suao**	**0.73**	**327**	P	**Pb**	**22 55 17.8**	**-1.0**
	baz=326						
TWC				eS	**Sn**	**22 55 27.5**	**-1.5**
	baz=326						
ESL	**Shilin**	**0.80**	**257**	*e*P	**Pn**	**22 55 18.9**	**-0.9**
	baz=246						
ESL				eS	**Sb**	**22 55 29.3**	**-1.2**
	baz=246						
YOJ	**Yonaguni jima**	**0.81**	**55**	*e*P	**Pn**	**22 55 20.1**	**+0.2**
	baz=64						
YOJ				eS	**Sb**	**22 55 31.6**	**+0.9**
	baz=64						
EGFH	**Guangfu**	**0.85**	**248**	*e*P	**Pn**	**22 55 20.6**	**+0.1**
	baz=248						
EGFH				eS	**Sn**	**22 55 31.8**	**-0.1**
	baz=248						
EGS		**0.91**	**339**	*e*P	**Pb**	**22 55 22.2**	**+0.5**
	baz=338						
EGS				eS	**Sn**	**22 55 34.6**	**+1.3**
	baz=338						
TWE	**Neicheng**	**0.92**	**322**	*e*P	**Pn**	**22 55 22.0**	**+0.1**
	baz=329						
TWE				eS	**Sn**	**22 55 34.2**	**+0.6**
	baz=329						
ENTT	**Nioudou**	**0.92**	**314**	*e*P	**Pb**	**22 55 22.1**	**+0.2**
	baz=325						
ENTT				eS	**Sn**	**22 55 34.2**	**+0.6**
	baz=325						
NNSB	**Datong**	**0.93**	**298**	*e*P	**Pb**	**22 55 21.9**	**-0.3**
	baz=285						
NNSB				eS	**Sn**	**22 55 34.7**	**+0.6**
	baz=285						
HGSD	**Ruisui**	**0.94**	**238**	*e*P	**Pn**	**22 55 20.1**	**-1.6**
	baz=238						
HGSD				eS	**Sn**	**22 55 33.4**	**-0.7**
	baz=238						
NNS	**Nan Shan**	**0.94**	**298**	*e*P	**Pb**	**22 55 22.1**	**-0.4**
	baz=285						
NNS				eS	**Sn**	**22 55 34.9**	**+0.5**
	baz=285						
WHF	**Hehuan Shan**	**0.95**	**279**	*e*P	**Pn**	**22 55 21.9**	**-0.2**
	baz=279						
WHF				eS	**Sn**	**22 55 34.6**	**-0.2**
	baz=279						
NTC	**Toucheng**	**0.95**	**334**	*e*P	**Pb**	**22 55 22.3**	**-0.2**
	baz=332						
NTC				eS	**Sn**	**22 55 36.6**	**+2.2**
	baz=332						
EHY	**Hungye**	**1.01**	**241**	*e*P	**Pn**	**22 55 23.1**	**+0.4**
	baz=242						
EHY				eS	**Sn**	**22 55 35.6**	**-0.2**
	baz=242						
CHGB	**Renai**	**1.02**	**274**	*e*P	**Pn**	**22 55 22.8**	**-0.2**
	baz=261						
CHGB				eS	**Sb**	**22 55 36.7**	**-0.2**
	baz=261						
TWB1	**Santiao Chiao**	**1.04**	**345**	*e*P	**Pb**	**22 55 24.7**	**+0.7**
	baz=331						
TWB1				eS	**Sb**	**22 55 38.4**	**+1.0**
	baz=331						
TWT	**Tachien**	**1.05**	**284**	*e*P	**Pn**	**22 55 23.9**	**+0.5**
	baz=273						
TWT				eS	**Sb**	**22 55 38.3**	**+0.6**
	baz=273						
NWLT	**Wulai**	**1.06**	**318**	*e*P	**Pn**	**22 55 23.0**	**-0.4**
	baz=316						
NWLT				eS	**Sb**	**22 55 38.5**	**+0.7**
	baz=316						
TDCB	**Techi**	**1.06**	**284**	*e*P	**Pb**	**22 55 24.2**	**-0.2**
	baz=273						
TDCB				eS	**Sb**	**22 55 38.3**	**+0.2**
	baz=273						
YHNB	**Yeheng**	**1.07**	**309**	*e*P	**Pb**	**22 55 24.1**	**-0.4**
	baz=307						
YHNB				eS	**Sb**	**22 55 38.4**	**+0.2**
	baz=307						
NSK	**Sanguang**	**1.08**	**309**	*e*P	**Pb**	**22 55 24.6**	**-0.2**
	baz=295						
NSK				eS	**Sb**	**22 55 38.5**	**-0.1**
	baz=295						
YULB	**Yu-li**	**1.09**	**237**	eS	**Sn**	**22 55 37.3**	**-0.5**
	baz=226						
TWF1	**Yuli**	**1.11**	**235**	*e*P	**Pn**	**22 55 24.5**	**+0.5**
	baz=223						
TWF1				eS	**Sn**	**22 55 38.5**	**+0.1**
	baz=223						
NWF	**Wu-fen Shan**	**1.17**	**337**	*e*P	**Pb**	**22 55 26.6**	**+0.4**
	baz=334						
NWF				eS	**Sb**	**22 55 41.1**	**+0.1**
	baz=334						
CHKT	**Chengkung**	**1.23**	**224**	eS	**Sn**	**22 55 39.6**	**-1.6**
	baz=213						
YUS	**Yu-Shan**	**1.32**	**248**	*e*P	**Pn**	**22 55 27.3**	**-0.1**
	baz=248						
YUS				eS	**Sn**	**22 55 44.3**	**0.0**
	baz=248						
NSY	**Sanyi**	**1.46**	**287**	*e*P	**Pb**	**22 55 31.1**	**+0.1**
	baz=286						
NSY				eS	**Sb**	**22 55 49.9**	**+0.8**
	baz=286						
WCHH	**Zhanghua**	**1.58**	**273**	eS	**Sb**	**22 55 53.3**	**+0.6**
	baz=273						
STYT	**Tauyuan**	**1.63**	**240**	eS	**Sn**	**22 55 52.0**	**+0.7**
	baz=229						
TPUB	**Ta-pu**	**1.67**	**246**	eS	**Sn**	**22 55 54.6**	**+2.4**
	baz=246						
CHN4	**Tsaushan**	**1.68**	**248**	eS	**Sb**	**22 55 56.9**	**+1.3**
	baz=248						
RLNB	**Erlin**	**1.77**	**267**	eS	**Sb**	**22 55 58.2**	**+0.2**
	baz=267						
TWK	**Hsinying**	**1.80**	**247**	eS	**Sb**	**22 55 59.3**	**+0.1**
	baz=247						
CHN1	**Nanshi**	**1.80**	**244**	eS	**Sn**	**22 55 58.5**	**+3.0**
	baz=244						
SGST	**Jiashian**	**1.81**	**240**	eS	**Sn**	**22 55 59.4**	**+3.7**
	baz=229						
KSRS	**Korea Array**	**14.26**	**19**	P	**Pn**	**22 58 22.9**	**-1.5**
	0.2nm,0.3s,baz=196,slow=13,SNR=3.2						
CMAR	**Chiang Mai Arr**	**22.43**	**260**	P	**P**	**23 00 04.0**	**+2.9**
	0.4nm,0.3s,baz=50,slow=8.7,SNR=5.1						
SONM	**Songino Array**	**26.94**	**336**	P	**P**	**23 00 43.3**	**0.0**
	10nm,0.9s,baz=150,slow=9.6,SNR=27						
MKAR	**Makanchi Array**	**39.17**	**316**	P	**P**	**23 02 29.9**	**+0.2**
	1.1nm,0.5s,baz=100,slow=9.7,SNR=10.0						
ZALV	**Zalesovo Beam**	**40.95**	**327**	P	**P**	**23 02 43.4**	**-0.8**
	3.7nm,0.7s,baz=117,slow=8.4,SNR=9.2						
AAK	**Ala-Archa**	**43.42**	**307**	P	**P**	**23 03 06.1**	**+1.3**
	0.8nm,0.5s,baz=117,slow=9.0,SNR=3.0						
WRA	**Warramunga Arr**	**45.22**	**164**	P	**P**	**23 03 19.1**	**-0.1**
	1.7nm,0.8s,baz=346,slow=8.9,SNR=7.8						
BVAR	**Borovoye Array**	**48.46**	**321**	P	**P**	**23 03 44.1**	**0.0**
	1.1nm,0.6s,baz=106,slow=7.3,SNR=7.8						
ASAR	**Alice Springs**	**48.70**	**166**	P	**P**	**23 03 47.5**	**+1.1**
	0.8nm,0.6s,baz=346,slow=5.7,SNR=8.5						
AKASG	**Malin Array Be**	**73.68**	**319**	P	**P**	**23 06 34.5**	**-0.8**
	0.8nm,0.5s,baz=59,slow=6.5,SNR=4.5						
BRTR	**Keskin Array B**	**74.09**	**307**	P	**P**	**23 06 39.0**	**+0.8**
	2.3nm,0.9s,baz=105,slow=7.8,SNR=9.7						
YKA	**Yellowknife Ar**	**82.75**	**23**	P	**P**	**23 07 23.2**	**-2.1**
	0.3nm,0.6s,baz=49,slow=5.5,SNR=3.5						
GERES	**GERESS Array B**	**83.62**	**321**	P	**P**	**23 07 29.5**	**-0.8**
	0.7nm,0.8s,baz=64,slow=3.1,SNR=5.2						

*ISK **21** 22:57:59.7,37.°34N×37.°14E,h6km,ML1.8/5*
*ISCJB **21** 22:58:00.4±0.7,37.°31N±0.°04×37.°11E±0.°05,h2km±8km, Error ellipse: s-maj=8.7km s-min=4.2km az=42.4*

*DDA **21** 22:58:00.3,37.°32N×37.°14E,h7km,Ml2.5*

ISC 21 22:58:00.2±1.0,**37.°32N**±0.°03×**37.°13E**±0.°03,**h10**km±8km, **n13,**σ0s**30/20,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.16**	**154**	PG	**Pg**	**22 58 03.7**	**-0.1**
GAZ				SG	**Sg**	**22 58 06.7**	**+0.4**
KMRS	**Kahramanmaras**	**0.26**	**317**	PG	**Pg**	**22 58 05.4**	**-0.2**
KMRS				SG	**Sg**	**22 58 09.0**	**-0.1**
KUZU	**Kuzuini**	**0.54**	**184**	*i* P	**Pb**	**22 58 11.6**	**-0.3**
KUZU				*i* S	**Sn**	**22 58 23.0**	**-0.3**
ANDN	**Andirin**	**0.67**	**293**	*i* P	**Pg**	**22 58 12.9**	**-0.4**
ANDN				*i* S	**Sg**	**22 58 22.0**	**-0.2**
KOZT	**Kozan**	**1.05**	**279**	PG	**Pb**	**22 58 20.5**	**0.0**
SAIM	**ADANA**	**1.06**	**309**	*i* P	**Pb**	**22 58 20.8**	**+0.1**
SAIM				*i* S	**Sn**	**22 58 36.2**	**+0.2**
AKCD	**Akcadag**	**1.16**	**33**	*i* P	**Pn**	**22 58 23.3**	**+0.6**
AKCD				*i* S	**Sn**	**22 58 38.6**	**-0.1**
TAHT	**Tahtakopru-Hat**	**1.20**	**219**	PN	**Pn**	**22 58 23.5**	**+0.4**
SURC	**SANLIURFA_SURC**	**1.27**	**110**	*i* P	**Pg**	**22 58 24.4**	**-0.1**
SURC				*i* S	**Sn**	**22 58 41.4**	**+0.2**
DARE	**Darende-Malaty**	**1.28**	**13**	PN	**Pn**	**22 58 24.3**	**0.0**
URFA	**Urfa**	**1.36**	**84**	PN	**Pb**	**22 58 25.6**	**-0.2**
SANL	**SANLIURFA_Merk**	**1.50**	**95**	*i* P	**Pg**	**22 58 28.4**	**-0.5**
HEKM	**Malatya_Hekimh**	**1.69**	**23**	*i* P	**Pg**	**22 58 32.7**	**-0.1**

*IDC **21** 23:08:20.3±1.3,44.°80N×106.°61W,h0km,mb1 3.7/2, mb1mx3.2/41,mbtmp3.5/2,ML3.2/2,Error ellipse: s-maj=60.4km s-min=9.2km az=138.0*
*ISCJB **21** 23:08:21.2±0.6,45.°13N±0.°04×106.°89W±0.°06,h0km,Error ellipse: s-maj=6.8km s-min=5.6km az=22.6*
*NEIC **21** 23:08:21.3±0.8,45.°14N×106.°88W,h0km,MN2.9,Error ellipse: s-maj=11.6km s-min=10.7km az=134.0,Suspected Mining explosion.*
NEIC 39 km [24 miles] N of Sheridan.

ISC 21 23:08:20.4±0.9,**45.°08N**±0.°04×**106.°78W**±0.°05,**h0**km,**n11,** σ1s**26/17,Montana**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAO	**LASA Array**	**1.66**	**13**	*e*Pn	**Pn**	**23 08 50.5**	**-0.3**
LAO				*e*S	**Sg**	**23 09 13.9**	**+0.3**
RLMT	**Red Lodge**	**1.76**	**272**	Pn	**Pn**	**23 08 51.2**	**-1.2**
RSSD	**Black Hills**	**2.18**	**115**	*e*Pn	**Pb**	**23 09 00.5**	**-0.3**
RSSD				*e*S	**Sg**	**23 09 30.5**	**+0.1**
PDAR	**Pinedale Array**	**3.06**	**222**	Pn	**Pn**	**23 09 11.8**	**+1.5**
	2.7nm,0.3s,baz=58,slow=14,SNR=34						
PDAR				Lg	Lg	23 09 51.8	
	5.6nm,0.3s,baz=49,slow=30,SNR=17						
BW06	**Boulder Array**	**3.06**	**222**	*e*Pn	**Pn**	**23 09 09.9**	**-0.4**
BW06				*e*S	**Sb**	**23 09 51.5**	**-2.4**
BOZ	**Bozeman (W)**	**3.46**	**280**	*e*Pn	**Pn**	**23 09 16.5**	**+0.9**
BOZ				*e*S	**Sb**	**23 10 03.3**	**-1.9**
EGMT	**Eagleton**	**3.59**	**326**	*e*Pn	**Pn**	**23 09 17.1**	**-0.3**
EGMT				*e*S	**Sn**	**23 10 02.8**	**+2.3**
DGMT	**Dagmar**	**3.83**	**27**	*e*Pn	**Pn**	**23 09 21.3**	**+0.7**
DGMT				*e*S	**Sg**	**23 10 23.0**	**-0.3**
AHID	**Auburn Hatcher**	**3.89**	**235**	*e*Pn	**Pn**	**23 09 22.5**	**+1.0**
AHID				*e*S	**Sb**	**23 10 18.2**	**+0.6**
I10CA	**LAC DU BONNET**	**8.88**	**51**	*i*		00 00 30.0	
	baz=234,slow=300,SNR=1.0						
ULM	**Lac du Bonnet**	**8.99**	**51**	Pn	**Pn**	**23 10 30.9**	**-0.5**
	0.5nm,0.3s,baz=238,slow=13,SNR=4.1						
ULM				Lg	Lg	23 12 58.0	
	0.2nm,0.3s,baz=326,slow=7.3,SNR=2.5						

*ATH **21** 23:27:20.9,35.°24N×27.°92E,h10km±2km,ML2.7/7, Error ellipse: s-maj=2.9km s-min=1.3km az=13.0*
*THE **21** 23:27:22.1,35.°26N×27.°96E,h0km±2km,ML2.7/4, Error ellipse: s-maj=6.9km s-min=1.3km az=133.0*
*ISK **21** 23:27:22.9,35.°37N×27.°70E,h6km,ML2.9/12*
*DDA **21** 23:28:14.0,35.°19N×27.°61E,h34km,Ml2.8*

ISC 21 23:27:22.4±1.4,**35.°24N**±0.°05×**27.°90E**±0.°04,**h10**km±10km, **n44,**σ1s**20/62,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.99**	**11**	PG	**Pg**	**23 27 40.7**	**-0.8**
ARG				SG	**Sg**	**23 27 53.9**	**-0.5**
ARG	**Arkhangelos**	**0.99**	**11**	P	**Pg**	**23 27 40.7**	**-0.8**
ARG				S	**Sg**	**23 27 53.3**	**-1.1**
ARG				AML	AML	23 28 02.2	
	comp=E,664μm,0.3s						
ARG				AML	AML	23 28 03.9	
	comp=N,595μm,0.5s						
ARG	**Arkhangelos**	**0.99**	**11**	P	**Pg**	**23 27 40.7**	**-0.8**
ARG				S	**Sn**	**23 27 55.7**	**-0.8**
ZKR	**Zakros**	**1.39**	**265**	P	**Pn**	**23 27 46.5**	**-1.3**
ZKR				S	**Sn**	**23 28 07.0**	**+0.7**
ZKR				AML	AML	23 28 13.0	
	comp=N,302μm,0.5s						
ZKR				AML	AML	23 28 17.0	
	comp=E,448μm,0.5s						
ZKR	**Zakros**	**1.39**	**265**	P	**Pn**	**23 27 46.6**	**-1.3**
ZKR				S	**Sg**	**23 28 07.8**	**+0.8**
NIS1	**Nisyros Isl.**	**1.48**	**337**	PN	**Pn**	**23 27 48.4**	**-0.7**
NIS1	**Nisyros Isl.**	**1.48**	**337**	P	**Pn**	**23 27 48.5**	**-0.7**
NIS1				S	**Sb**	**23 28 09.2**	**+0.2**
NIS1				AML	AML	23 28 14.5	
	comp=N,822μm,0.4s						
NIS1				AML	AML	23 28 19.7	
	comp=E,871μm,0.5s						
NIS1	**Nisyros Isl.**	**1.48**	**337**	P	**Pn**	**23 27 48.6**	**-0.6**
NIS1				S	**Sn**	**23 28 08.7**	**+0.1**
MRSB	**Marmaris-Mugla**	**1.49**	**9**	PN	**Pn**	**23 27 49.8**	**+0.5**
NISR	**Nisiros**	**1.51**	**336**	P	**Pn**	**23 27 49.1**	**-0.4**
NISR				S	**Sb**	**23 28 10.0**	**+0.4**
NISR				AML	AML	23 28 13.0	
	comp=N,327μm,0.5s						
NISR				AML	AML	23 28 21.7	
	comp=E,525μm,0.6s						
DAT	**Datca**	**1.51**	**350**	PN	**Pn**	**23 27 49.5**	**-0.2**
DAT				SN	**Sn**	**23 28 07.9**	**-1.6**
DAT	**Datca**	**1.51**	**350**	*i* P	**Pn**	**23 27 49.3**	**-0.3**
DAT				*i* S	**Sg**	**23 28 11.2**	**+0.2**
DATC	**Datca-Mugla**	**1.53**	**353**	PN	**Pn**	**23 27 49.6**	**-0.2**
KSL	**Kastellorizon**	**1.64**	**56**	P	**Pn**	**23 27 51.7**	**+0.3**
DALY	**Dalyan (Mu¨la**	**1.69**	**21**	PN	**Pb**	**23 27 53.5**	**-0.1**
DALY	**Dalyan (Mu¨la**	**1.69**	**21**	*i* P	**Pg**	**23 27 54.7**	**-0.1**
DALY				*i* S	**Sg**	**23 28 23.1**	**+6.4**
FETY	**Fethi

GOLH	Golhisar	2.40	33	*i* P		Pb	23 28 05.2	-0.7
AYDN	Tasoluk	2.42	360	*i* P		Pn	23 28 03.0	+0.9
IDI	Anoyia	2.46	272	PN		Pn	23 28 02.1	-0.6
IDI				SN		Sn	23 28 31.4	-1.6
SMG	Samos	2.61	341	P		Pn	23 28 05.1	+0.4
APE	Apeiranthos	2.65	314	PN		Pn	23 28 04.1	-1.1
KORT	Korkueli	2.65	48	PN		Pb	23 28 07.8	-2.2
AYDB	Zeytinkoy-Aydi	2.70	360	PN		Pn	23 28 06.6	+0.5
DEMI	Demirci	3.85	9	*i* P		Pn	23 28 22.5	+0.7

*BJI **21** 23:30:05.0,54.′30N×160.′80W,h23km,mb4.4/8*
*IDC **21** 23:30:06.7±0.8,54.′70N×160.′99W,h0km,mb4.0/23, mb1 4.2/25,mb1mx4.0/69,mbtmp4.0/25,ML3.7/2,MS4.3/1, Ms1 4.3/1,ms1mx3.0/47,Error ellipse: s-maj=23.4km s-min=12.4km az=173.0*
*ISCJB **21** 23:30:07.0±0.4,54.′38N±0.′05×160.′60W±0.′05,h22km, mb4.0/25,MS4.2/1,Error ellipse: s-maj=7.5km s-min=2.9km az=159.0*
*AEIC **21** 23:30:11.7±0.0,54.′56N×160.′87W,h10km*
*NEIC **21** 23:30:12.1±0.5,54.′60N×160.′84W,h42km±3km,mb4.1/3, ML3.8(AEIC),Error ellipse: s-maj=9.1km s-min=2.8km az=158.0*

ISC 21 23:30:09.5±0.6,54.°52N±0.°08×160.°81W±0.°04,h22km, n108,σ1s27/106,mb4.2/25,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	Sand Point	0.85	13	P	Pb	23 30 26.2	+0.6
SDPT				S	Sn	23 30 39.2	+1.1
DOL	Dolgoi Island	0.88	316	P	Pb	23 30 26.5	+0.5
DRIA	Deer Island	0.95	299	P	Pb	23 30 27.1	-0.2
PS4A	Pavlof South-4	1.03	324	P	Pb	23 30 29.3	+0.7
PVV	Pavlof Volcano	1.03	327	P	Pb	23 30 29.2	+0.6
DT1	Dutton Round H	1.04	305	P	Pb	23 30 28.6	-0.2
BALA	Baldy Mountain	1.33	301	P	Pn	23 30 34.5	+1.7
FALS	False Pass	1.55	284	P	Pn	23 30 36.9	+1.1
FALS				S	Sn	23 30 55.8	+0.7
SSLN	Shishaldin Nor	1.87	280	P	Pn	23 30 42.2	+2.0
VNSS	Veniaminof 8	1.88	24	P	Pn	23 30 42.6	+2.1
VNFG	Veniaminof 2	1.91	22	P	Pb	23 30 43.5	-0.2
SSBA	Shishaldin	1.94	279	P	Pn	23 30 42.9	+1.6
SSBA				S	Sn	23 31 04.8	-0.2
CHGN	Chignik	2.25	36	P	Pn	23 30 47.1	+1.7
CHGN				S	Sb	23 31 14.9	-1.9
WESP	Westdahl Peak	2.28	271	P	Pn	23 30 48.2	+2.3
WECS	Westdahl Cape	2.31	272	P	Pn	23 30 48.5	+2.2
ANPB	Aniakchak Plen	2.70	31	P	Pn	23 30 53.6	+2.0
ANPK	Aniakchak Peak	2.78	32	P	Pn	23 30 54.6	+1.9
ANNE	Aniakchak Nort	2.86	32	P	Pn	23 30 55.7	+1.8
AKSA	Akutan Strait	2.89	264	P	Pn	23 30 55.3	+1.2
AKUT	Akutan	2.93	264	P	Pn	23 30 55.7	+1.0
HSB	Akutan Spr's B	3.00	266	P	Pn	23 30 56.8	+1.0
UNV	Unalaska Valle	3.41	261	P	Pn	23 31 01.8	+0.4
MSW	Makushin Switc	3.56	263	P	Pn	23 31 03.8	+0.4
MREP	Makushin Rep't	3.56	261	P	Pn	23 31 04.0	+0.6
PLK4	Peulik 4	4.00	37	P	Pn	23 31 11.4	+2.0
PLK3	Peulik 3	4.07	37	P	Pn	23 31 12.4	+2.0
SII	Sitkinak Islan	4.29	59	P	Pn	23 31 13.8	+0.4
ANCK	Angle Creek	4.73	37	P	Pn	23 31 21.2	+1.7
KABR	Katmai Barrier	4.87	40	P	Pn	23 31 22.6	+1.2
OHAK	Old Harbor	5.03	54	P	Pn	23 31 23.2	-0.3
KDAK	Kodiak Island	5.64	51	Pn	Pn	23 31 31.8	-0.1
	1.9nm,0.3s,baz=219,slow=7.0,SNR=20						
KDAK				Sn	Sn	23 32 34.3	-1.7
	3.4nm,0.3s,baz=158,slow=24,SNR=5.9						
KDAK				Lg	Lg	23 33 03.7	
	3.2nm,0.3s,baz=318,slow=18,SNR=4.5						
SVW2	Sparrevohn	7.16	21	*e*Pn	Pn	23 31 55.1	+2.2
CNPM	China Poot	7.24	42	P	Pn	23 31 55.3	+1.4
RDWB	Redoubt West	7.36	32	P	Pn	23 31 57.0	+1.3
RSO	Redoubt South	7.37	33	*e*Pn	Pn	23 31 58.4	+2.5
BRLK	Bradley Lake	7.53	42	P	Pn	23 31 58.6	+0.7
SEW	Seward	8.31	43	*e*Pn	Pn	23 32 08.7	+0.2
SUA	Susitna One	8.77	33	*e*Pn	Pn	23 32 15.8	+0.8
PWL	Port Wells	9.21	41	P	Pn	23 32 20.7	-0.2
KNK	Knik Glacier	9.52	38	P	Pn	23 32 24.8	-0.4
GHO	Glory Hole Cre	9.60	36	*e*Pn	Pn	23 32 26.5	+0.2
HIN	Hinchinbrook I	9.69	47	P	Pn	23 32 27.3	-0.2
FID	Port Fidalgo	9.89	45	*e*Pn	Pn	23 32 29.6	-0.6
SCM	Sheep Creek Mo	10.20	39	P	Pn	23 32 34.5	0.0
DIV	Divide	10.38	44	*e*Pn	Pn	23 32 37.0	-0.1
TRF	Thorofare Moun	10.46	27	*e*Pn	Pn	23 32 37.9	-0.2
RAGM	Ragged Mountai	10.48	49	*e*Pn	Pn	23 32 29.7	-8.6
KLU	Klutina	10.53	42	*e*Pn	Pn	23 32 38.9	-0.1
BMRM	Bremner River	10.79	47	*e*Pn	Pn	23 32 42.2	-0.3
DHY	Denali Highway	11.03	34	*e*Pn	Pn	23 32 46.0	+0.1
HARP	HAARP	11.36	40	*e*Pn	Pn	23 32 51.4	+1.1
TGL	Tana Glacier	11.46	50	*e*Pn	Pn	23 32 51.9	+0.1
IM3	Indian Mountai	12.01	14	*e*Pn	Pn	23 33 00.8	+1.6
HDA	Harding Lake	12.13	30	*e*Pn	Pn	23 33 00.1	-0.7
MDM	Murphy Dome	12.21	26	*e*Pn	Pn	23 32 58.8	-3.2
FIDG	Independe'e Rid	12.32	35	*e*Pn	Pn	23 33 03.5	+0.1
IL1	Eielson Array	12.42	29	*e*Pn	Pn	23 33 04.0	-0.8
ILAR	Eielson Array	12.42	29	Pn	Pn	23 33 03.2	-1.6
	0.2nm,0.3s,baz=217,slow=13,SNR=9.6						
ILB	Eielson Array	12.42	29	*e*Pn	Pn	23 33 02.6	-2.2
SCRK	Sand Creek	12.76	35	*e*Pn	Pn	23 33 09.0	-0.5
EGAK	Eagle	14.22	36	*e*Pn	Pn	23 33 28.6	-0.7
DAWY	Dawson	14.45	40	*e*Pn	Pn	23 33 33.0	+0.5
WHY	Whitehorse	15.13	56	*e*Pn	Pn	23 33 42.1	+0.3
	23nm,1.7s						
DLBC	Dease Lake	17.36	64	P	P	23 34 16.4	+5.0
	0.2nm,0.3s,baz=204,slow=14,SNR=2.4						
INK	Inuvik	18.77	32	P	P	23 34 26.1	-0.6
	0.2nm,0.3s,baz=248,slow=10,SNR=11						
INK	Inuvik	18.77	32	*e*Pn	P	23 34 26.3	-0.4
	5.5nm,1.1s						
PETK	Petropavlovsk-	24.29	284	P	P	23 35 24.4	-0.5
	4.9nm,0.7s,baz=86,slow=12,SNR=21						
YKA	Yellowknife Ar	24.92	53	P	P	23 35 31.8	+1.3
	1.1nm,0.8s,baz=268,slow=9.4,SNR=8.3						
NVAR	Mina Array Bea	32.81	102	P	P	23 36 43.4	+2.1
	0.5nm,0.7s,baz=302,slow=8.4,SNR=3.1						
PDAR	Pinedale Array	35.08	88	P	P	23 37 02.4	+1.4
	0.2nm,0.5s,baz=321,slow=5.0,SNR=2.4						
YAK	Yakutsk	35.64	311	LR	LR	23 52 28.7	
	comp=Z,406nm,18.3s,baz=244,slow=38						
H11N2	WAKE ISLAND Hy	42.53	228	T	T	00 23 32.0	
	baz=27,slow=76,SNR=21						
H11N3	WAKE ISLAND Hy	42.53	228	T	T	00 23 31.6	
	baz=27,slow=76,SNR=28						
H11N1	WAKE ISLAND Hy	42.55	228	T	T	00 23 33.7	
	baz=27,slow=76,SNR=25						
H11S1	WAKE ISLAND Hy	43.70	228	T	T	00 24 58.8	
	baz=27,slow=75,SNR=16						
H11S2	WAKE ISLAND Hy	43.71	228	T	T	00 25 04.4	
	baz=27,slow=75,SNR=8.7						
H11S3	WAKE ISLAND Hy	43.71	228	T	T	00 25 04.7	
	baz=27,slow=75,SNR=6.5						
MJAR	Matsushiro Arr	44.81	272	P	P	23 38 21.3	-0.2
	0.9nm,0.3s,baz=49,slow=7.9,SNR=2.8						
NRIK	Noril'sk	46.90	333	P	P	23 38 37.8	+0.2
	1.9nm,0.6s,baz=80,slow=6.8,SNR=4.1						
TXAR	Lajitas Array	47.76	98	P	P	23 38 45.5	+0.5
	0.4nm,0.7s,baz=308,slow=4.8,SNR=5.2						
KSRS	Korea Array	50.13	281	P	P	23 39 02.9	0.0
	1.2nm,0.6s,baz=44,slow=9.3,SNR=3.1						
KSAR	Wonju Array Be	50.16	281	P	P	23 39 02.9	-0.2
SONM	Songino Array	54.46	304	P	P	23 39 34.5	-0.6
	1.8nm,0.9s,baz=51,slow=5.6,SNR=11						
SONM				PcP	PcP	23 40 37.9	-0.4
	0.8nm,0.8s,baz=4.5,slow=2.9,SNR=3.7						
ARCES	ARCESS Array B	56.17	357	P	P	23 39 45.1	-1.8
	2.0nm,0.8s,baz=9.3,slow=6.3,SNR=6.1						
ZALV	Zalesovo Beam	59.13	321	P	P	23 40 07.5	-0.4
	0.6nm,0.4s,baz=28,slow=6.5,SNR=2.4						
GTA	Gaotai	63.89	302	*e*P	P	23 40 39.0	-1.4
GTA				pP	pP	23 40 46.8	-0.6
GTA				sP	sP	23 40 49.9	-0.2
GTA				pmax	pmax		
	comp=Z,3.0nm,1.4s						
FINES	FINESS Array B	64.25	356	P	P	23 40 41.2	-1.1
	1.8nm,0.5s,baz=30,slow=8.1,SNR=19						
NB2	NORSAR Subarra	64.61	4	P	P	23 40 44.1	-0.6
	comp=Z,1.4nm,0.7s,baz=355,slow=6.5						
NOA	NORSAR Array B	64.61	4	P	P	23 40 44.4	-0.3
	comp=Z,3.4nm,0.9s,baz=356,slow=6.6,SNR=8.7						
HFS	Hagfors	65.61	3	P	P	23 40 50.5	-0.7
	comp=Z,4.9nm,0.6s,baz=18,slow=5.2,SNR=18						
MKAR	Makanchi Array	65.85	318	P	P	23 40 51.9	-1.1
	comp=Z,1.1nm,0.7s,baz=45,slow=5.5,SNR=9.8						
WMQ	Urumqi	66.05	313	*e*P	P	23 40 56.1	+1.8
EKA	Eskdalemuir Ar	68.98	13	P	P	23 41 12.3	-0.2
	comp=Z,1.9nm,0.6s,baz=356,slow=5.9,SNR=5.1						
ABKAR	Akbulak array	71.07	333	*e*P	P	23 41 25.3	-0.2
KK31	Karatay Array	73.36	323	*e*P	P	23 41 38.8	-0.5
KKAR	Karatay Array	73.36	323	*e*P	P	23 41 38.8	-0.5
KSH	Kashi	74.46	318	*e*P	P	23 41 48.8	+2.8
AKASG	Malin Array Be	74.81	353	P	P	23 41 46.5	-1.1
	comp=Z,3.2nm,0.5s,baz=9.8,slow=5.8,SNR=14						
GERES	GERESS Array B	76.91	4	P	P	23 41 59.6	-0.1
	comp=Z,0.1nm,0.3s,baz=348,slow=6.0,SNR=4.9						
VYHS	Vyhne	77.36	0	*e*P	P	23 42 01.9	-0.3
KBZ	Khabaz	80.06	343	P	P	23 42 17.6	+0.6
	comp=Z,2.1nm,0.8s,baz=31,slow=1.8,SNR=5.9						
MLR	Muntele Rosu	80.20	355	P	P	23 42 17.3	-0.7
	comp=Z,3.8nm,1.0s,baz=115,slow=19,SNR=2.6						
CMAR	Chiang Mai Arr	80.95	289	P	P	23 42 21.8	-0.5
	comp=Z,1.9nm,0.7s,baz=21,slow=5.1,SNR=13						
CM01	Chiang Mai Arr	80.97	289	*e*P	P	23 42 21.6	-0.8
KBL	Kabul	81.47	320	*e*P	P	23 42 23.9	-1.2
	comp=Z,3.9nm,1.1s						
ES19	SONSECA Array	84.08	18	*e*P	P	23 42 38.0	-0.3
ESDC	Sonseca Array	84.09	18	*e*P	P	23 42 39.0	+0.6
	comp=Z,0.1nm,0.3s,baz=341,slow=3.3,SNR=4.4						
BRTR	Keskin Array B	85.31	349	P	P	23 42 44.6	0.0
	comp=Z,0.7nm,0.8s,baz=120,slow=4.4,SNR=4.3						

*ISCJB **21** 23:37:50.9±1.7,34.′05S±0.′07×72.′41W±0.′08,h24km±15km, mb3.9/3,Error ellipse: s-maj=14.3km s-min=8.3km az=141.0*
*GUC **21** 23:37:51.7±0.4,34.′02S×72.′39W,h33km±3km,ML4.1*
*IDC **21** 23:37:56.2±3.5,34.′08S×71.′75W,h49km±34km,mb3.5/4, mb1 3.7/6,mb1mx3.5/35,mbtmp3.7/6,ML3.6/2,Error ellipse: s-maj=47.2km s-min=22.2km az=95.0*

ISC 21 23:37:51.2±2.9,34.°03S±0.°06×72.°2W±0.°1,h12km±18km, n14,σ0s82/19,mb4.1/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	HualaæØ	1.00	167	*e*P	Pb	23 38 09.9	-0.7
GO05				IAML		23 38 26.0	
	comp=E,10μm,0.2s						
ANTU	Antumapu	1.39	71	*e*P	Pb	23 38 17.1	0.0
ROCH	El Roble	1.45	44	*e*P	Pb	23 38 17.8	-0.5
ROCH				*e*S	Sg	23 38 38.1	+0.1
ROCH				IAML		23 38 48.1	
	comp=N,4μm,0.4s						
CLCH	Cerro Calan	1.53	66	*e*P	Pb	23 38 19.5	0.0
CLCH				*e*S	Sg	23 38 40.5	0.0
PEL	Peldehue	1.55	56	*e*P	Pb	23 38 19.3	-0.5
PEL				*e*S	Sg	23 38 40.7	-0.3
PEL				IAML		23 38 48.7	
	comp=N,3μm,0.4s						
LMEL	Las Melosas	1.68	84	*e*P	Pb	23 38 22.1	0.0
LMEL				*e*S	Sg	23 38 44.8	-0.4
LMEL				IAML		23 38 47.7	
	comp=N,3μm,0.2s						
FCH	Farellones	1.75	67	*e*P	Pb	23 38 22.5	-0.9
FCH				*e*S	Sb	23 38 46.3	+0.9
PLCA	Paso Flores	6.82	169	P	Pn	23 39 32.5	+1.4
	comp=N,0.3nm,0.3s,baz=14,slow=13,SNR=5.2						
LPAZ	La Paz	18.04	13	P	P	23 42 03.2	+0.2
	comp=N,0.1nm,0.3s,baz=193,slow=7.7,SNR=6.0						
SIV	San Ignacio	20.57	32	P	P	23 42 29.5	-0.6
	comp=N,1.6nm,0.7s,baz=221,slow=10,SNR=12						
QSPA	South Pole Qui	56.21	180	P	P	23 47 30.3	-0.5
	comp=N,1.2nm,0.5s,baz=168,slow=4.6,SNR=4.7						
TXAR	Lajitas Array	69.69	331	P	P	23 49 02.3	+1.5
	comp=N,0.4nm,0.6s,baz=126,slow=9.1,SNR=6.9						
TORD	Torodi Ar. Bea	84.35	70	P	P	23 50 22.3	-1.3
	comp=N,1.2nm,1.0s,baz=208,slow=5.9,SNR=5.5						
ZALV	Zalesovo Beam	154.33	32	PKPbc	PKPbc	23 57 50.0	-0.8
	comp=N,0.8nm,0.4s,baz=292,slow=4.7,SNR=4.2						

IDC 21 23:40:26.3±7.2,7.°97S×126.°04E,h76km±78km,mb3.2/1, mb1 3.5/4,mb1mx3.2/43,mbtmp3.5/4,ML3.5/3,Error ellipse: s-maj=57.3km s-min=19.4km az=28.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	3.23	226	P	Pn	23 41 13.6	-1.2
	9.8nm,0.3s,baz=103,slow=4.3,SNR=6.3						
BATI				S	Sn	23 41 53.2	+1.0
	11nm,0.3s,baz=90,slow=11,SNR=7.4						
WRA	Warramunga Arr	14.36	147	P	Pn	23 43 45.7	-0.2
	0.2nm,0.3s,baz=320,slow=14,SNR=7.4						
WRA				S	Sn	23 46 22.0	-2.0
	0.4nm,0.3s,baz=321,slow=26,SNR=7.0						
ASAR	Alice Springs	17.33	155	P	P	23 44 24.4	+0.7
	0.1nm,0.3s,baz=326,slow=11,SNR=4.5						
ASAR				S	Sn	23 47 36.6	+0.6
	0.1nm,0.3s,baz=316,slow=21,SNR=5.1						
MKAR	Makanchi Array	66.95	329	P	P	23 51 10.8	0.0
	0.3nm,0.5s,baz=122,slow=6.9,SNR=8.0						

*MOS **21** 23:52:41.4±2.4,50.°27N×157.°17E,h40km,mb4.4/1,Error ellipse: s-maj=34.2km s-min=6.7km az=79.7*

KRSC 21 23:52:41.4±1.4,50.°27N×157.°17E,h40km±20km,ML4.3, 1C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.79	302	*i* P	Pn	23 52 55.9	-0.1
SKR				*e*S	Sn	23 53 05.8	-0.8
SKR	Severo-Kuril's	0.79	302	↑*i* PN	Pn	23 52 56.0	0.0
SKR				*e*S	Sn	23 53 05.9	-0.7
SKR				pmax	pmax		
	comp=Z,844nm,0.4s						
SKR				smax	smax		
	comp=E,8μm,0.4s						
SKR				smax	smax		
	comp=N,5μm,0.4s						
PAU	Pauzhetka	1.22	349	*e*P	Pn	23 53 03.8	+1.9
PAU				*e*S	Sn	23 53 19.6	+2.4
PAU	Pauzhetka	1.22	349	PN	Pn	23 53 03.8	+1.9
PAU				S	Sn	23 53 19.6	+2.4
KDTR	Khodutka, Kamc	1.65	20	*e*P	Pn	23 53 09.9	+2.2
KDTR				*e*S	Sn	23 53 29.9	+2.2
MTVR	Mutnovka	2.31	16	*e*P	Pn	23 53 19.7	+2.7
MTVR				*e*S	Sn	23 53 47.2	+3.0
MTVR	Mutnovka	2.31	16	PN	Pn	23 53 19.7	+2.7
MTVR				S	Sn	23 53 47.2	+3.0
RUS	Russkaya	2.33	21	*e*P	Pn	23 53 19.2	+2.1
RUS				*e*S	Sn	23 53 46.3	+1.9
RUS	Russkaya	2.33	21	PN	Pn	23 53 19.2	+2.1
RUS				S	Sn	23 53 46.3	+1.9
KRMR	Karymshinskiy	2.64	13	*e*P	Pn	23 53 25.0	+3.7
KRMR				*e*S	Sn	23 53 55.8	+3.8
KRMR	Karymshinskiy	2.64	13	PN	Pn	23 53 25.0	+3.7
KRMR				S	Sn	23 53 55.8	+3.8
PET	Petropavlovsk	2.91	18	*e*P	Pn	23 53 28.3	+3.2
PET				*e*S	Sn	23 54 01.4	+2.6
PET	Petropavlovsk	2.91	18	PN	Pn	23 53 28.3	+3.2
PET				S	Sn	23 54 01.4	+2.6
UGLR	Uglovaya	3.12	19	P	Pn	23 53 32.5	+4.4
UGLR	Uglovaya	3.12	19	PN	Pn	23 53 32.5	+4.4
AVH	Avacha	3.16	17	*e*P	Pn	23 53 33.0	+4.4
AVH				*e*S	Sn	23 54 10.5	+5.5
AVH	Avacha	3.16	17	PN	Pn	23 53 33.0	+4.4
AVH				S	Sn	23 54 10.5	+5.5
KOK	Koryaka	3.16	16	*e*P	Pn	23 53 33.3	+4.6
KOK	Koryaka	3.16	16	PN	Pn	23 53 33.3	+4.6
SMAR	Somma	3.17	18	*e*P	Pn	23 53 32.9	+4.1
SMAR	Somma	3.17	18	PN	Pn	23 53 32.9	+4.1
SDLR	Sedlovina	3.20	19	*e*P	Pn	23 53 32.4	+3.2
SDLR	Sedlovina	3.20	19	PN	Pn	23 53 32.4	+3.2
KRX	Arik	3.23	16	*e*P	Pn	23 53 33.3	+3.7
KRX	Arik	3.23	16	PN	Pn	23 53 33.3	+3.7
SPN	Mys Shipunski	3.35	31	P	Pn	23 53 35.0	+3.9
SPN				*e*S	Sn	23 54 12.9	+3.4
SPN	Mys Shipunski	3.35	31	PN	Pn	23 53 35.0	+3.9
SPN				S	Sn	23 54 12.9	+3.4
GNL	Ganaly	3.47	8	*e*P	Pn	23 53 37.4	+4.5
GNL	Ganaly	3.47	8	PN	Pn	23 53 37.4	+4.5
BKI	Bering	7.28	44	*e*P	Pn	23 54 29.5	+4.5
BKI	Bering	7.28	44	PN	Pn	23 54 29.5	+4.5

*ISCJB **22** 00:07:46.8±0.4,37.′30N±0.′02×37.′11E±0.′02,h9km±4km,*

Error ellipse: s-maj=3.6km s-min=3.0km az=1.8
*ISK **22** 00:07:46.1,37.′32N×37.′11E,h10km,ML3.3/29*
*DDA **22** 00:07:47.1,37.′30N×37.′15E,h25km,Ml3.9*

ISC 22 00:07:46.8±0.9,37.°31N±0.°02×37.°13E±0.°02,h10km±7km, n56,σ0s91/70,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	Gaziantep	0.15	154	PG	Pg	00 07 50.4	+0.2
GAZ				SG	Sg	00 07 53.1	+0.5
KMRS	Kahramanmaras	0.27	317	PG	Pg	00 07 51.9	-0.3
KMRS				SG	Sg	00 07 55.5	-0.4
KUZU	Kuzuini	0.54	184	*i* P	Pb	00 07 58.4	+0.1
KUZU				*i* S	Sb	00 08 06.3	+0.2
ANDN	Andirin	0.68	294	*i* P	Pg	00 07 59.7	-0.2
ANDN				*i* S	Sn	00 08 12.9	-0.4
ATAB	Bozova	0.94	80	*i* P	Pn	00 08 05.0	-1.1
ATAB				*i* S	Sg	00 08 17.6	+0.4
ELBS	KAHRAMANMARAS	1.01	0	*i* P	Pg	00 08 07.6	+1.3
ELBS				*i* S	Sn	00 08 22.2	+0.7
KOZT	Kozan	1.05	280	PG	Pn	00 08 06.6	-1.0
KOZT				SG	Sg	00 08 21.3	+0.7
SAIM	ADANA	1.06	309	*i* P	Pn	00 08 07.0	-0.9
SAIM				*i* S	Sg	00 08 22.8	+1.7
AKCD	Akcadag	1.17	32	*i* P	Pg	00 08 06.4	+0.4
AKCD				*i* S	Sg	00 08 25.2	+0.8
TAHT	Tahtakopru-Hat	1.20	219	PN	Pg	00 08 09.5	-0.3
TAHT				SN	Sg	00 08 26.4	+1.0
SURC	SANLIURFA_SURC	1.26	109	*i* P	Pg	00 08 10.8	-0.3
SURC				*i* S	Sg	00 08 27.6	+0.1
DARE	Darende-Malaty	1.29	12	PN	Pb	00 08 10.9	-0.3
YURE	YUREGIR	1.29	248	PN	Pb	00 08 10.7	-0.4
YURE	YUREGIR	1.29	248	*i* P	Pg	00 08 11.7	+0.2
URFA	Urfa	1.36	84	PN	Pb	00 08 11.3	-1.0
CUGUR	Gurin_S¨VAS	1.42	5	*i* P	Pg	00 08 13.7	-0.3
CUGUR				*i* S	Sg	00 08 34.4	+2.0
SANL	SANLIURFA_Merk	1.49	95	*i* P	Pg	00 08 15.3	-0.1
SANL				*i* S	Sb	00 08 32.8	-0.8
HEKM	Malatya_Hekimh	1.70	22	*i* P	Pb	00 08 17.9	-0.3
HEKM				*i* S	Sg	00 08 42.0	+0.6
BNN	Bunyan	1.84	327	PN	Pn	00 08 18.7	+0.1
ELZG	Elazig	1.89	51	*i* P	Pb	00 08 19.2	0.0
CUALT	Altinyayla-SIV	1.98	352	*i* P	Pb	00 08 20.9	-2.1
CUKAN	kangal_SIVAS	2.02	7	*i* P	Pb	00 08 22.9	-0.8
MERS	Mersin	2.13	259	PN	Pn	00 08 22.4	-0.1
CUSAR	Sarkisla-SIVAS	2.22	342	*i* P	Pb	00 08 25.0	-2.0
KEMA	Kemaliye	2.23	28	*i* P	Pb	00 08 24.7	-2.5
AVNS	Nevsehir-Avano	2.34	310	*i* P	Pb	00 08 26.7	-2.4
KERG	Konya-Eregli	2.39	273	*i* P	Pn	00 08 26.7	+0.5
ILIC	ilic-Erzincan	2.42	27	PN	Pn	00 08 26.8	+0.3
DIYA	Diyarbakir	2.45	75	*i* P	Pn	00 08 27.7	+0.7
KIZK	Mersin	2.53	252	PN	Pn	00 08 28.0	+0.1
SVSK	Karacayir	2.60	358	PN	Pn	00 08 29.4	+0.5
MAZI	Mazidag	2.65	86	PN	Pn	00 08 30.3	+0.7
YOZ	Yozgat	2.73	329	PN	Pn	00 08 31.2	+0.5
HANI	Diyarbakir_Han	2.81	66	*i* P	Pn	00 08 31.5	-0.4
MARD	Mardin	2.91	89	*i* P	Pn	00 08 32.9	-0.4
IKL	Isikli	2.96	250	PN	Pn	00 08 34.3	+0.5
EREN	Erenkoy	2.97	234	PN	Pn	00 08 34.3	+0.3
SULT	Sultanhani-AKS	3.00	288	PN	Pn	00 08 35.0	+0.6
SUSE	Susehri	3.01	16	*i* P	Pn	00 08 35.3	+0.6
TOKT	Tokat	3.04	352	PN	Pn	00 08 35.5	+0.5
ERZN	Erzincan	3.05	41	PN	Pn	00 08 35.9	+0.7
TEVE	Tevekalti-Mers	3.08	255	PN	Pn	00 08 36.1	+0.6
AKKU	Akkuyu-Mersin	3.09	249	PN	Pn	00 08 36.3	+0.7
CDAG	Cicekdag	3.16	318	*i* P	Pn	00 08 38.2	+1.5
BNGB	Bing¨ll	3.26	58	PN	Pn	00 08 38.6	+0.5
BERE	Bereket-Mersin	3.28	254	PN	Pn	00 08 38.9	+0.6
KELT	Kelkit	3.29	30	*i* P	Pn	00 08 39.2	+0.7
SVAN	Silvan-Diyarba	3.33	74	PN	Pn	00 08 40.2	+1.2
YEDI	Yedisu-B

PLIG			*i* S	Sn	00 15 00.0	-4.6

IDC ***22*** *00:21:21.1±8.1,25°.15S×178°.40W,h45km±88km,mb3.4/4, mb1 3.5/4,mb1mx3.4/20,mbtmp3.6/4,ML4.4/2,MS3.2/1, Ms1 3.2/1,ms1mx2.8/15,Error ellipse: s-maj=63.9km s-min=42.6km az=169.0*

ISC 22 00:21:20.0±1.4,25°.15±0°.1×178°.4W±0°.3,h35km,n10, σ0s71/7,mb3.4/4,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.18**	**174**	P	**Pn**	**00 22 21.3**	**0.0**
	55nm,0.3s,baz=90,slow=20,SNR=4.2						
RAO				S	**Sn**	**00 23 08.5**	**-0.4**
	62nm,0.3s,baz=288,slow=20,SNR=2.8						
URZ	**Urewera**	**13.68**	**195**	P	**Pn**	**00 24 31.8**	**+0.4**
	0.9nm,0.3s,baz=340,slow=15,SNR=3.6						
URZ				S	Sn	00 26 50.4	-12
	1.5nm,0.3s,baz=20,slow=22,SNR=9.2						
URZ				LR	LR	00 29 41.0	
	comp=Z,97nm,19.1s,baz=5.0,slow=37						
ASAR	**Alice Springs**	**43.27**	**261**	P	**P**	**00 29 18.6**	**+0.1**
	0.3nm,0.4s,baz=109,slow=8.3,SNR=9.4						
WRA	**Warramunga Arr**	**43.77**	**267**	P	**P**	**00 29 22.8**	**+0.3**
	0.4nm,0.8s,baz=101,slow=8.6,SNR=3.0						
SNAA	**Sanae**	**83.47**	**179**	P	P	00 33 33.7	-10
VNA3	**Neumayer Olymp**	**83.62**	**176**	P	P	00 33 34.1	-10
VNA2	**Neumayer--Watz**	**84.06**	**177**	P	P	00 33 36.7	-10
	baz=197,slow=3.7						
VNA1	**Neumayer--Stat**	**84.29**	**177**	P	P	00 33 37.9	-10
ILAR	**Eielson Array**	**92.84**	**13**	P	**P**	**00 34 29.1**	**+0.7**
	0.1nm,0.8s,baz=191,slow=4.2,SNR=3.6						
SONM	**Songino Array**	**98.93**	**319**	P	**P**	**00 34 55.6**	**-1.1**
	0.2nm,0.5s,baz=112,slow=3.9,SNR=2.9						

IDC ***22*** *00:43:45.7±6.0,51°.42N×178°.29W,h0km,mb3.4/4, mb1 3.9/5,mb1mx3.5/35,mbtmp3.7/5,ML4.2/1,Error ellipse: s-maj=110.4km s-min=57.4km az=85.0*

ISCJB ***22*** *00:43:56.7±0.9,51°.39N±0°.09×177°.00W±0°.07,h45km, mb3.5/3,Error ellipse: s-maj=12.8km s-min=5.9km az=170.7*

NEIC ***22*** *00:43:58.4±0.0,51°.68N×177°.06W,h53km,ML3.3(AEIC), After AEIC.*

ISC 22 00:43:57.8±1.2,51°.5N±0°.1×177°.07W±0°.05,h45km,n26, σ0s68/23,mb3.5/3,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIKV	**Kanaga Island**	**0.37**	**350**	P	**Pn**	**00 44 07.8**	**+0.6**
KICM	**Kanaga Island**	**0.41**	**349**	P	**Pn**	**00 44 08.3**	**+0.7**
ADK	**Adak**	**0.44**	**33**	*e*Pn	**Pn**	**00 44 08.2**	**+0.3**
ADK				*e*S	**Sn**	**00 44 15.7**	**+0.5**
ETKA	**Kagalaska Isla**	**0.54**	**50**	P	**Pn**	**00 44 09.3**	**+0.1**
ADAG	**Mount Adagdak**	**0.55**	**32**	P	**Pn**	**00 44 09.8**	**+0.5**
TAPA	**Tanaga Point A**	**0.55**	**303**	P	**Pn**	**00 44 09.8**	**+0.4**
TASE	**Tanaga Southea**	**0.68**	**298**	P	**Pn**	**00 44 11.8**	**+0.6**
TAFP	**Tanaga Falls P**	**0.69**	**304**	P	**Pn**	**00 44 11.3**	**+0.2**
GSTD	**Great Sitkin T**	**0.79**	**46**	P	**Pn**	**00 44 12.8**	**+0.2**
GSTD				S	**Sn**	**00 44 23.4**	**+0.2**
GSSP	**Great Sitkin S**	**0.80**	**44**	P	**Pn**	**00 44 13.1**	**+0.4**
GSMY	**Great Sitkin M**	**0.82**	**50**	P	**Pn**	**00 44 13.2**	**+0.3**
GAEA	**Gareloi East**	**1.08**	**285**	P	**Pn**	**00 44 17.0**	**+0.5**
GALAA	**Gareloi Lava P**	**1.09**	**284**	P	**Pn**	**00 44 17.3**	**+0.7**
ATKA	**Atka Island**	**1.91**	**68**	P	**Pn**	**00 44 28.4**	**+0.7**
ATKA				S	**Sn**	**00 44 51.2**	**+0.6**
KOFP	**Korovin Flat P**	**1.99**	**66**	P	**Pn**	**00 44 30.1**	**+1.2**
KDAK	**Kodiak Island**	**15.44**	**56**	Pn	**Pn**	**00 47 32.9**	**+0.7**
	1.0nm,0.3s,baz=279,slow=9.4,SNR=17						
ILAR	**Eielson Array**	**20.46**	**38**	P	**P**	**00 48 30.0**	**-1.2**
	0.2nm,0.4s,baz=243,slow=11,SNR=5.8						
INK	**Inuvik**	**26.73**	**35**	P	**P**	**00 49 31.2**	**-1.3**
	0.4nm,0.3s,baz=250,slow=10,SNR=8.2						
H11N2	**WAKE ISLAND Hy**	**34.13**	**208**	T	T	01 27 00.2	
	baz=19,slow=76						
H11N3	**WAKE ISLAND Hy**	**34.14**	**208**	T	T	01 27 06.5	
	baz=19,slow=76						
H11N1	**WAKE ISLAND Hy**	**34.15**	**208**	T	T	01 27 08.9	
	baz=19,slow=76						
H11S1	**WAKE ISLAND Hy**	**35.35**	**207**	T	T	01 28 37.7	
	baz=12,slow=76						
H11S2	**WAKE ISLAND Hy**	**35.37**	**207**	T	T	01 28 41.5	
	baz=12,slow=76						
H11S3	**WAKE ISLAND Hy**	**35.37**	**207**	T	T	01 28 41.6	
	baz=12,slow=76						
PDAR	**Pinedale Array**	**45.23**	**73**	P	**P**	**00 52 10.3**	**-0.3**
	0.7nm,0.6s,baz=311,slow=3.9,SNR=6.6						
TXAR	**Lajitas Array**	**57.56**	**83**	P	**P**	**00 53 42.6**	**-0.2**
	0.2nm,0.6s,baz=312,slow=6.8,SNR=4.6						

ISK ***22*** *00:51:58.7,37°.32N×37°.12E,h9km,ML1.4/4*

ISCJB ***22*** *00:51:59.7±0.6,37°.30N±0°.04×37°.12E±0°.05,h7km±6km, Error ellipse: s-maj=7.2km s-min=5.4km az=147.0*

DDA ***22*** *00:51:59.9,37°.30N×37°.16E,h7km,Ml2.5*

ISC 22 00:51:59.4±1.0,37°.32N±0°.04×37°.14E±0°.04,h8km±8km,n8, σ0s57/14,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.15**	**157**	PG	**Pg**	**00 52 02.9**	**+0.2**
GAZ				SG	**Sg**	**00 52 05.4**	**+0.4**
KMRS	**Kahramanmaras**	**0.27**	**315**	PG	**Pg**	**00 52 04.5**	**-0.2**
KMRS				SG	**Sg**	**00 52 08.3**	**0.0**
KUZU	**Kuzuini**	**0.54**	**185**	*i* P	**Pb**	**00 52 10.5**	**-0.7**
KUZU				*i* S	**Sn**	**00 52 22.7**	**-0.1**
ANDN	**Andirin**	**0.68**	**293**	*i* P	**Pg**	**00 52 12.4**	**-0.2**
ANDN				*i* S	**Sb**	**00 52 24.7**	**+1.4**
AKCD	**Akcadag**	**1.16**	**32**	*i* P	**Pn**	**00 52 22.0**	**-0.1**
AKCD				*i* S	**Sn**	**00 52 38.6**	**+0.3**
TAHT	**Tahtakopru-Hat**	**1.21**	**219**	PN	**Pb**	**00 52 22.0**	**-0.5**
TAHT				SN	**Sn**	**00 52 39.5**	**+0.3**
SURC	**SANLIURFA_SURC**	**1.26**	**110**	*i* P	**Pg**	**00 52 23.5**	**0.0**
URFA	**Urfa**	**1.35**	**84**	PN	**Pn**	**00 52 24.4**	**-0.2**

IDC ***22*** *01:21:39.3±2.3,39°.24N×74°.99E,h0km,mb3.4/3, mb1 3.5/5,mb1mx3.3/30,mbtmp3.4/5,ML2.8/2,MS3.9/1, Ms1 3.9/1,ms1mx2.6/30,Error ellipse: s-maj=77.9km s-min=26.5km az=147.0*

NNC ***22*** *01:21:41.1±2.4,38°.99N×75°.52E,h0km,mb3.9,mpv3.5, Error ellipse: s-maj=19.0km s-min=10.3km az=169.0*

ISCJB ***22*** *01:21:42.6±0.6,39°.04N±0°.04×75°.62E±0°.09,h10km, mb3.3/3,MS4.0/1,Error ellipse: s-maj=9.8km s-min=5.1km az=12.4*

ISC 22 01:21:42.5±1.0,39°.04N±0°.07×75°.47E±0°.06,h10km,n24, σ2s16/28,mb3.6/3,9C-7D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.80**	**303**	⇓P	**Pn**	**01 22 13.8**	**-0.1**
	39nm,0.4s						
SFK				⇑S	**Sg**	**01 22 40.6**	**+0.1**
	86nm,0.3s						
KZA	**Kyzart**	**3.04**	**357**	P	**Pn**	**01 22 32.1**	**+1.1**
	SNR=10						
ULHL	**Ulahol**	**3.25**	**10**	P	**Pb**	**01 22 39.4**	**-1.1**
	SNR=11						
UCH	**Uchtor**	**3.26**	**347**	P	**Pn**	**01 22 35.6**	**+1.4**
	SNR=31						
KBK	**Karagaybulak**	**3.63**	**354**	P	**Pn**	**01 22 41.1**	**+2.2**
	SNR=28						
AAK	**Ala-Archa**	**3.67**	**349**	⇑Pn	**Pn**	**01 22 41.0**	**+1.6**
	6.6nm,0.4s						
AAK				⇑Sn	**Sn**	**01 23 26.1**	**+3.3**
	24nm,0.6s						
AAK	**Ala-Archa**	**3.67**	**349**	P	**Pn**	**01 22 41.2**	**+1.8**
	SNR=17						
TKM2	**Tokmak 2**	**3.87**	**1**	⇑Pn	**Pn**	**01 22 44.0**	**+1.7**
	7.5nm,0.5s						
TKM2				⇓Sn	**Sn**	**01 23 30.4**	**+2.4**
	19nm,0.6s						
TKM2	**Tokmak 2**	**3.87**	**1**	P	**Pn**	**01 22 44.4**	**+2.1**
	SNR=11						
CHMS	**Chumysh**	**3.99**	**352**	P	**Pn**	**01 22 45.7**	**+1.9**
	SNR=18						
MNAS	**Manas**	**4.11**	**328**	⇓Pn	**Pn**	**01 22 45.9**	**+0.4**
	1.1nm,0.5s						
MNAS				⇑Pg	**Pb**	**01 22 57.4**	**+2.3**
	6.7nm,0.9s						
MNAS				⇓Lg	Lg	01 23 52.7	
	9.5nm,0.5s						
USP	**Ospenovka**	**4.28**	**350**	P	**Pn**	**01 22 49.3**	**+1.6**
	SNR=12						
KNDC	**Almaty**	**4.32**	**15**	⇑Pg	**Pb**	**01 23 00.4**	**+1.8**
	14nm,0.5s						
KNDC				⇓Lg	Lg	01 24 00.3	
	38nm,0.6s						
PDGK	**Podgornoye**	**5.25**	**34**	⇑Pn	**Pn**	**01 23 02.1**	**+1.0**
	3.3nm,0.9s						
PDGK				⇑Pg	**Pb**	**01 23 16.6**	**+2.3**
	8.9nm,0.8s						
PDGK				⇓Lg	Lg	01 24 28.5	
	21nm,0.8s						
KK31	**Karatay Array**	**5.52**	**319**	⇓Pn	**Pn**	**01 23 03.1**	**-1.7**
	1.0nm,0.4s,baz=123,slow=11,SNR=8.8						
KK31				⇑Sn	**Sn**	**01 24 07.4**	**-0.9**
	2.8nm,0.5s,baz=134,slow=22,SNR=4.9						
CHCP	**Chirah Chowk**	**5.66**	**199**	P	Pn	01 23 12.0	+5.3
CEP	**Cherat**	**5.95**	**210**	P	**Pn**	**01 23 13.7**	**+2.9**
CEP				S	**Sn**	**01 24 23.0**	**+4.0**
THW	**Thamme Wali**	**6.93**	**207**	P	Pn	01 23 27.3	+3.1
MKAR	**Makanchi Array**	**9.22**	**31**	Pn	**Pn**	**01 23 55.4**	**-0.1**
	0.1nm,0.3s,baz=211,slow=14,SNR=5.8						
ZALV	**Zalesovo Beam**	**16.21**	**20**	Pn	**Pn**	**01 25 27.7**	**-2.6**
	0.2nm,0.3s,baz=206,slow=13,SNR=2.2						
SONM	**Songino Array**	**23.98**	**58**	P	**P**	**01 26 57.7**	**+0.5**
	0.3nm,0.6s,baz=266,slow=8.4,SNR=3.4						
DAV	**Davao City (W)**	**55.08**	**112**	LR	LR	01 57 03.3	
	comp=Z,109nm,18.5s,baz=1.5,slow=38						
TORD	**Torodi Ar. Bea**	**69.28**	**270**	P	**P**	**01 32 46.7**	**-3.5**
	0.5nm,1.0s,baz=37,slow=6.2,SNR=4.6						
YKA	**Yellowknife Ar**	**78.48**	**5**	P	**P**	**01 33 40.1**	**-3.2**
	0.3nm,0.5s,baz=347,slow=5.8,SNR=3.3						

NIED ***22*** *01:31:00,39°.20N×144°.50E,h5km,Mw3.4 Best double couple: M₀1.31000×10¹⁴ NP1:φs2.00000°,δ42.00000°, λ-147.00000°. NP2:φs246.00000°,δ68.00000°, λ-53.00000°.*

JMA 22 01:31:53.5±0.2,39°.22N×144°.53E,h50km,M3.7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**2.13**	**280**	P	Pn	01 32 27.8	+1.2
MIYJ				*e*S	Sn	01 32 53.1	+1.2
JTH	**Tanohata**	**2.18**	**290**	*e*S	Sn	01 32 54.8	+1.7
OFUJ	**Ofunato**	**2.23**	**267**	P	Pn	01 32 28.9	+0.9
OFUJ				*e*S	Sn	01 32 55.2	+0.9
JOM	**Ohasama**	**2.52**	**277**	P	Pn	01 32 33.5	+1.5
JOM				*e*S	Sn	01 33 03.3	+1.8
JMK	**Ichinoseki**	**2.59**	**265**	P	Pn	01 32 34.1	+1.2
JMK				*e*S	Sn	01 33 04.1	+1.0
JANG	**Nango**	**2.59**	**297**	P	Pn	01 32 33.8	+0.9
JANG				*e*S	Sn	01 33 03.6	+0.4
JYK	**Kaneyama**	**3.26**	**266**	*e*S	Sn	01 33 21.4	+1.7
JNBK	**Urakawa-nobuka**	**3.34**	**337**	P	Pn	01 32 43.9	+0.7
JNBK				*e*S	Sn	01 33 22.3	+0.7
JOT	**Ohata**	**3.43**	**310**	*e*S	Sn	01 33 24.7	+1.0
JCH	**Churui**	**3.50**	**346**	P	Pn	01 32 44.8	-0.6
JCH				*e*S	Sn	01 33 24.9	-0.7
JFT	**Otama**	**3.71**	**244**	P	Pn	01 32 49.0	+0.7
JFT				*e*S	Sn	01 33 30.7	0.0
NEM2	**Nemuro 2**	**4.24**	**12**	P	Pn	01 32 52.8	-2.7
NEM2				*e*S	Sn	01 33 38.2	-5.5
JTKR	**Abashiri--Toko**	**4.77**	**355**	P	Pn	01 33 02.4	-0.4
JTKR				*e*S	Sn	01 33 53.8	-2.9
BSO1	**Boso 1**	**5.37**	**213**	P	Pn	01 33 08.3	-2.3
BSO1				*e*S	Sn	01 34 08.5	-2.4
JRY	**Ryogami san**	**5.49**	**236**	P	Pn	01 33 12.5	-0.3
JRY				*e*S	Sn	01 34 12.8	-1.9
MAT	**Matsushiro**	**5.67**	**244**	P	Pn	01 33 16.8	+1.6
JOD2	**Odawara 2**	**5.87**	**229**	*e*S	Sn	01 34 20.3	-3.6

ISCJB ***22*** *01:42:46.9±0.5,5°.80S±0°.03×154°.39E±0°.04,h394km±4km, mb4.5/109,Error ellipse: s-maj=5.5km s-min=4.7km az=1.6*

IDC ***22*** *01:42:47.7±0.5,5°.83S×154°.52E,h396km±5km,mb4.2/25, mb1 4.3/30,mb1mx4.2/39,mbtmp4.9/30,Error ellipse: s-maj=10.1km s-min=7.1km az=78.0*

MOS ***22*** *01:42:48.3±1.0,5°.73S×154°.27E,h402km,mb4.6/18,Error ellipse: s-maj=10.2km s-min=7.6km az=101.0*

NEIC ***22*** *01:42:48.0±0.1,5°.77S×154°.42E,mb4.6/61,Error ellipse: s-maj=4.7km s-min=3.5km az=109.0*

BJI ***22*** *01:42:48.7,5°.31S×154°.35E,h387km,mb4.6/43,mB4.6/27*

DJA ***22*** *01:42:51.7±1.3,6°.5S±6°.5×15°.4E±1°.0,h418km±11km, M4.9/22,mB5.1/7,mb4.8/22,MLv5.5/1,Mw(mB)4.4/7*

ISC 22 01:42:47.5±0.3,5°.88S±0°.04×154°.44E±0°.04,h390km±3km, h391kmpP-P,n279,σ1s16/338,mb4.5/108,9C-3D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.82**	**306**	*e*Pn	**Pn**	**01 43 47.7**	**-0.9**
RABL				*e*S	**S**	**01 44 35.4**	**-2.5**
HNR	**Honiara**	**6.50**	**123**	P	**Pn**	**01 44 25.6**	**+0.2**
	14nm,0.3s,baz=163,slow=17,SNR=8.2						
HNR				S	**S**	**01 45 41.5**	**-3.6**
	8.6nm,0.3s,baz=186,slow=7.0,SNR=4.3						
HNR	**Honiara**	**6.50**	**123**	*e*P	**Pn**	**01 44 25.0**	**-0.4**
HNR				*e*S	**S**	**01 45 41.0**	**-4.1**
HNR	**Honiara**	**6.50**	**123**	*e*Pn	**Pn**	**01 44 23.1**	**-2.3**
HNR				*e*S	**S**	**01 45 40.3**	**-4.8**
HNR	**Honiara**	**6.50**	**123**	P	**P**	**01 44 28.7**	**+3.3**
HNR				pmax	pmax		
	comp=Z,233nm,0.9s						
MANU	**Manus Island**	**8.02**	**298**	*e*Pn	**P**	**01 44 43.7**	**+0.2**
PMG	**Port Moresby**	**8.03**	**244**	P	**P**	**01 44 43.8**	**+0.3**
	comp=Z,9.4nm,0.3s,baz=50,slow=7.2,SNR=41						
PMG	**Port Moresby**	**8.03**	**244**	*e*Pn	**P**	**01 44 44.5**	**+1.0**
PMG	**Port Moresby**	**8.03**	**244**	*e*P	**P**	**01 44 44.5**	**+1.0**
COEN	**Coen**	**13.69**	**233**	*e*P	**Pn**	**01 45 49.2**	**+0.6**
COEN				*e*S	**S**	**01 48 13.6**	**-0.5**
JAY	**Jayapura**	**14.10**	**283**	P	**P**	**01 45 50.9**	**+0.1**
	comp=Z,9.4nm,0.3s,baz=54,slow=4.2,SNR=10						
JAY	**Jayapura**	**14.10**	**283**	P	**P**	**01 45 51.0**	**+0.2**
CTA	**Charters Tower**	**16.21**	**209**	P	**Pn**	**01 46 15.5**	**-1.7**
	comp=Z,2.5nm,0.3s,baz=34,slow=12,SNR=33						
CTAO	**Charters Tower**	**16.21**	**209**	*e*P	**Pn**	**01 46 16.8**	**-0.4**
	comp=Z,117nm,1.2s						
CTAO	**Charters Tower**	**16.21**	**209**	*e*P	**Pn**	**01 46 16.8**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,117nm,1.2s						
EIDS	**Eidsvold**	**19.65**	**189**	*e*P	**P**	**01 46 50.7**	**+1.3**
	comp=Z,117nm,1.4s						
DZM	**Mont Dzumac**	**19.84**	**145**	P	**P**	**01 46 52.2**	**+0.8**
	comp=Z,9nm,0.3s,baz=288,slow=5.9,SNR=20						
DZM	**Mont Dzumac**	**19.84**	**145**	*e*P	**P**	**01 46 52.7**	**+1.3**
	comp=Z,55nm,0.8s						
DZM				*e*S	**S**	**01 50 09.9**	**-0.9**
	comp=Z,250nm,26.6s						
DZM	**Mont Dzumac**	**19.84**	**145**	*e*P	**P**	**01 46 52.9**	**+1.5**
	comp=Z,29nm,0.9s						
GUMO	**Guam**	**21.55**	**334**	P	**P**	**01 47 06.3**	**-0.6**
	comp=Z,26nm,0.5s,baz=124,slow=11,SNR=2.8						
SIJI	**Sorong**	**23.66**	**281**	P	**P**	**01 47 26.0**	**-0.1**
	comp=Z,7.1nm,0.4s,baz=158,slow=19,SNR=3.6						
MTN	**Manton Dam**	**24.00**	**252**	*e*P	**P**	**01 47 28.7**	**-0.5**
	comp=Z,48nm,1.1s						
WRAB	**Tennant Creek**	**24.01**	**233**	*e*P	**P**	**01 47 29.8**	**+0.6**
	comp=Z,45nm,0.7s						
WRAB	**Tennant Creek**	**24.01**	**233**	*ce*P	**P**	**01 47 29.6**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,115nm,1.7s						
WB2	**Warramunga Arr**	**24.02**	**233**	*e*P	**P**	**01 47 30.1**	**+0.8**
WR1	**Warramunga Arr**	**24.03**	**233**	*e*P	**P**	**01 47 29.9**	**+0.5**
	comp=Z,72nm,1.1s						
WR1				*e*pP	PP	01 48 34.2	+0.3
WR1				*e*PcP	**PcP**	**01 50 58.0**	**-1.0**
WR1				*e*S	**S**	**01 51 15.8**	**-1.8**
WR1				*e*ScP	**ScP**	**01 53 59.7**	**-0.1**
WRA	**Warramunga Arr**	**24.03**	**233**	P	**P**	**01 47 29.9**	**+0.5**
	comp=Z,27nm,0.5s,baz=58,slow=9.1,SNR=160						
WRA				pP	PP	01 48 34.2	+0.3
	comp=Z,12nm,0.7s,baz=51,slow=10,SNR=3.5						
WRA				PcP	**PcP**	**01 50 58.0**	**-1.0**
	comp=Z,3.7nm,0.9s,baz=51,slow=2.5,SNR=5.1						
WRA				S	**S**	**01 51 15.8**	**-1.8**
	comp=Z,3.7nm,0.8s,baz=55,slow=14,SNR=3.2						
WRA				ScP	**ScP**	**01 53 59.7**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=70,slow=3.5,SNR=2.6						
WRA	**Warramunga Arr**	**24.03**	**233**	*i* P	**P**	**01 47 29.8**	**+0.5**
WRA				pmax	pmax		
	comp=Z,26nm,0.5s						
ARMA	**Armidale**	**24.55**	**186**	*e*P	**P**	**01 47 36.1**	**+2.1**
	comp=Z,76nm,1.3s						
AS01	**Alice Springs**	**26.49**	**226**	*e*P	**P**	**01 47 51.6**	**+0.3**
AS01				*e*PcP	**PcP**	**01 51 04.2**	**-0.4**
AS31	**Alice Springs**	**26.52**	**226**	*e*P	**P**	**01 47 51.7**	**+0.1**
	comp=Z,6.8nm,0.9s						
AS31				*e*PcP	**PcP**	**01 51 05.4**	**+0.7**
AS31				*e*S	**S**	**01 51 54.9**	**-2.0**
AS31				*e*ScP	**ScP**	**01 54 07.0**	**-0.1**
ASAR	**Alice Springs**	**26.52**	**226**	P	**P**	**01 47 51.6**	**+0.1**
	comp=Z,11nm,0.4s,baz=57,slow=9.1,SNR=152						
ASAR				pP	**pP**	**01 48 59.9**	**+0.2**
	comp=Z,3.1nm,0.6s,baz=54,slow=10,SNR=1.9						
ASAR				PcP	**PcP**	**01 51 05.4**	**+0.7**
	comp=Z,5.5nm,0.6s,baz=66,slow=2.2,SNR=7.9						
ASAR				S	**S**	**01 51 54.9**	**-2.0**
	comp=Z,6.2nm,0.7s,baz=57,slow=15,SNR=6.8						
ASAR				ScP	**ScP**	**01 54 07.0**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=50,slow=2.9,SNR=2.3						
NLAI	**Namlea**	**27.38**	**274**	P	**P**	**01 47 59.2**	**0.0**
STKA	**Stephens Creek**	**28.52**	**203**	P	**P**	**01 48 09.2**	**+0.1**
	comp=Z,14nm,0.6s,baz=11,slow=7.9,SNR=32						
STKA				pP	**PP**	**01 49 22.5**	**-1.2**
	comp=Z,2.8nm,0.5s,baz=352,slow=13,SNR=1.8						
STKA	**Stephens Creek**	**28.52**	**203**	*e*P	**P**	**01 48 09.8**	**+0.8**
	comp=Z,9.0nm,1.3s						
STKA	**Stephens Creek**	**28.52**	**203**	*e*P	**P**	**01 48 09.9**	**+0.8**
STKA				pmax	pmax		
	comp=Z,9.0nm,1.3s						
SANI	**Sanana**	**28.63**	**276**	P	**P**	**01 48 09.2**	**-1.1**
CAN	**Canberra**	**29.73**	**189**	*e*P	**P**	**01 48 21.8**	**+2.1**
	comp=Z,15nm,0.9s						
CAN	**Canberra**	**29.73**	**189**	*e*P	**P**	**01 48 21.8**	**+2.1**
CAN				pmax	pmax		
	comp=Z,15nm,0.9s						
SOEI	**Soe**	**30.13**	**261**	*e*P	**P**	**01 48 25.0**	**+1.4**
	comp=Z,22nm,0.7s						
SOEI				*e*pP	**pP**	**01 49 35.1**	**0.0**
SOEI	**Soe**	**30.13**	**261**	P	**P**	**01 48 23.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**30.62**	**244**	*e*P	**P**	**01 48 27.0**	**-0.6**
	comp=Z,54nm,0.8s						
FITZ				*e*pP	**pP**	**01 49 36.9**	**-2.4**
BATI	**Baumata**	**30.77**	**260**	P	**P**	**01 48 29.0**	**0.0**
	comp=Z,25nm,0.4s,baz=135,slow=2.8,SNR=7.0						
BATI	**Baumata**	**30.77**	**260**	P	**P**	**01 48 29.7**	**+0.7**
BBOO	**Buckleboo**	**31.80**	**210**	*e*P	**P**	**01 48 38.2**	**+0.5**
	comp=Z,43nm,0.6s						
EDFI	**Ende, Flores**	**32.60**	**263**	P	**P**	**01 48 43.1**	**-1.8**
FORT	**Forrest**	**35.03**	**222**	*e*P	**P**	**01 49 05.8**	**+0.5**
	comp=Z,105nm,0.6s						
PLAI	**Plampang**	**36.47**	**263**	P	**P**	**01 49 17.0**	**-0.6**
	comp=Z,48nm,0.5s						
MBWA	**Marble Bar**	**36.89**	**242**	*e*P	**P**	**01 49 20.2**	**-0.8**
	comp=Z,31nm,0.6s						
URZ	**Urewera**	**38.24**	**151**	P	**P**	**01 49 32.2**	**+0.3**
	comp=Z,15nm,1.0s,baz=329,slow=5.9,SNR=4.5						
BKZ	**Black Stump Fm**	**38.67**	**152**	*e*P	**P**	**01 49 37.0**	**+1.5**
	comp=Z,16nm,1.3s						
THZ	**Tophouse**	**39.34**	**158**	*e*P	**P**	**01 49 42.1**	**+1.2**
	comp=Z,20nm,1.0s						
KKM	**Kota Kinabalu**	**39.95**	**287**	*e*P	**P**	**01 49 46.4**	**-0.1**
	comp=Z,40nm,0.8s						
KKM	**Kota Kinabalu**	**39.95**	**287**	P	**P**	**01 49 47.0**	**+0.6**
LTZ	**Lake Taylor**	**40.00**	**159**	*e*P	**P**	**01 49 46.7**	**+0.4**
	comp=Z,64nm,1.5s						
RPZ	**Rata Peaks**	**40.42**	**161**	P	**P**	**01 49 49.6**	**0.0**
	comp=Z,30nm,0.7s,baz=81,slow=0.6,SNR=14						
RPZ	**Rata Peaks**	**40.42**	**161**	*e*P	**P**	**01 49 51.4**	**+1.7**
MLZ	**Mavora Lakes**	**41.10**	**165**	*e*P	**P**	**01 49 56.5**	**+1.4**
	comp=Z,26nm,1.0s						
SBUM	**Sibu**	**42.97**	**280**	*e*P	**P**	**01 50 11.3**	**+0.8**
	comp=Z,7.1nm,1.2s						
SBUM	**Sibu**	**42.97**	**280**	P	**P**	**01 50 10.0**	**-0.5**
NWAO	**Narrogin (SRO)**	**43.83**	**227**	P	**P**	**01 50 17.1**	**0.0**
	comp=Z,5.6nm,0.5s,baz=250,slow=5.7,SNR=6.3						
KSM	**Kuching**	**44.67**	**278**	*e*P	**P**	**01 50 23.6**	**-0.2**
	comp=Z,22nm,0.7s						
KSM	**Kuching**	**44.67**	**278**	P	**P**	**01 50 24.0**	**+0.1**
JNU	**Nakatsue**	**44.77**	**332**	P	**P**	**01 50 23.6**	**-0.8**
	comp=Z,20nm,0.7s,baz=145,slow=8.0,SNR=13						
JNU	**Nakatsue**	**44.77**	**332**	*e*P	**P**	**01 50 24.0**	**-0.3**
	comp=Z,28nm,0.9s						
MJAR	**Matsushiro Arr**	**44.85**	**341**	P	**P**	**01 50 23.6**	**-1.3**
	comp=Z,12n

comp=Z,15nm,0.7s
UMPA Umpang Tak 59.20 293 P P 01 52 12.1 +2.4
LAMP Lampang 59.21 295 P P 01 52 10.6 +0.9
comp=Z,8.4nm,0.7s,comp=Z,361nm
PAYA Payao 59.27 296 P P 01 52 11.9 +1.7
comp=Z,9.0nm,0.7s,comp=Z,1µm
CM01 Chiang Mai Arr 59.79 295 *eP* **P 01 52 13.7 +0.1**
CM31 Chiang Mai Arr 59.81 295 *eP* **P 01 52 14.4 +0.7**
CMAR Chiang Mai Arr 59.81 295 P P 01 52 14.4 +0.7
comp=Z,14nm,0.8s,baz=119,slow=4.9,SNR=29
CMMT Chiang Mai 59.92 296 P P 01 52 15.5 +1.0
comp=Z,15nm,1.5s
CHTO Chiang Mai 59.92 296 *eP* **P 01 52 15.2 +0.6**
comp=Z,16nm,1.0s
CHTO Chiang Mai 59.92 296 *eP* **P 01 52 15.2 +0.6**
CHTO pmax pmax
comp=Z,16nm,1.0s
CHTO Chiang Mai 59.92 296 P P 01 52 15.6 +1.1
comp=Z,66nm,1.5s
HHC Hu-ho-hao-te 60.87 324 *eP* **P 01 52 23.5 +2.9**
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,170nm,5.2s
HIA Hailar 62.69 335 *eP* **P 01 52 32.4 +0.1**
comp=Z,27nm,0.7s
HIA Hailar 62.69 335 *eP* **P 01 52 32.4 +0.1**
HIA pmax pmax
comp=Z,27nm,0.7s
LZH Lanzhou 63.14 315 *eP* **P 01 52 36.5 +0.8**
LZH pP pP 01 54 02.6 +3.4
LZH sP sP 01 54 40.0 -1.4
LZH *e*S **S 02 00 35.3 -0.2**
LZH sS sS 02 03 00.5 -3.8
LZH pmax pmax
comp=Z,49nm,1.3s
LZH pmax pmax
comp=Z,310nm,5.4s
ZEA Zeya 63.65 342 *eP* **P 01 52 38.7 +0.3**
ZEA pmax pmax
comp=N,52nm,0.8s
ZEA pmax pmax
comp=E,21nm,0.8s
ZEA pmax pmax
comp=Z,72nm,0.8s
GTA Gaotai 67.55 317 *eP* **P 01 53 04.0 +0.4**
GTA pP pP 01 54 29.5 +1.0
GTA sP sP 01 55 07.3 -3.0
GTA pmax pmax
comp=Z,9.0nm,1.1s
ULN Ulaanbaatar 67.77 328 *eP* **P 01 53 05.5 +0.7**
comp=Z,19nm,1.1s
ULN Ulaanbaatar 67.77 328 *ce*P **P 01 53 05.3 +0.5**
ULN pmax pmax
comp=Z,24nm,1.2s
SONA0 Songino Array 68.11 327 *eP* **P 01 53 07.3 +0.5**
SONA0 *ep*P **pP 01 54 32.4 +0.6**
SONM Songino Array 68.11 327 P P 01 53 07.3 +0.5
comp=Z,20nm,0.7s,baz=145,slow=6.0,SNR=124
SONM pP **pP 01 54 32.4 +0.6**
comp=Z,2.0nm,1.0s,baz=136,slow=5.9,SNR=2.8
SONA1 Songino Array 68.11 327 *eP* **P 01 53 07.0 +0.2**
SEY Seymchan 68.63 359 *eP* **P 01 53 10.8 +1.3**
BOD Bodaibo 71.38 339 *eP* **P 01 53 25.2 -0.9**
BOD pmax pmax
comp=Z,19nm,1.1s
VNDA Vanda 71.71 178 P P 01 53 28.8 +1.0
comp=Z,8.1nm,0.7s,baz=330,slow=6.6,SNR=24
ODAN Odare 72.50 300 *eP* **P 01 53 33.8 +0.1**
comp=Z,96nm,0.7s
RAMN Ramite 73.20 300 *eP* **P 01 53 37.6 -0.2**
comp=Z,25nm,0.6s
JIRN Jiri 73.74 301 *eP* **P 01 53 41.0 0.0**
comp=Z,44nm,0.7s
GUN Gumba 74.07 301 *eP* **P 01 53 42.9 0.0**
comp=Z,55nm,0.7s
BILL Bilibino 74.22 5 *eP* **P 01 53 42.3 -0.1**
comp=Z,24nm,0.9s
BILL *ep*P **pP 01 55 11.1 +2.0**
BILL Bilibino 74.22 5 *d iP* **P 01 53 42.5 +0.1**
BILL *i* *PP **pP 01 55 10.8 +1.6**
BILL *i* 01 56 38.9
BILL pmax pmax
comp=Z,27nm,0.9s
PKI Pulchoki 74.39 301 *eP* **P 01 53 44.3 -0.4**
comp=Z,48nm,1.1s
PKIN Phulchoki 74.40 301 *eP* **P 01 53 44.3 -0.4**
comp=Z,26nm,0.8s
KNGR Kungurtug, Tuv 74.48 326 *i P* **P 01 53 45.4 +1.0**
KKN Kakani 74.55 301 *eP* **P 01 53 45.3 -0.2**
comp=Z,48nm,0.8s
DMN Daman 74.66 301 *eP* **P 01 53 46.2 +0.1**
comp=Z,43nm,0.8s
PALK Pallekele 74.72 279 *eP* **P 01 53 47.1 +0.7**
comp=Z,7.2nm,0.9s
PALK Pallekele 74.72 279 *eP* **P 01 53 47.1 +0.7**
PALK pmax pmax
comp=Z,7.0nm,0.9s
KOLN Koldanda 75.99 300 *eP* **P 01 53 53.0 -0.5**
comp=Z,48nm,1.0s
DANN Dangsing 76.00 301 *eP* **P 01 53 53.1 -0.6**
comp=Z,45nm,0.7s
ANM Nome 76.32 17 *eP* **P 01 53 55.4 +1.1**
comp=Z,18nm,1.1s
ANM Nome 76.32 17 *eP* **P 01 53 55.4 +1.1**
ANM pmax pmax
comp=Z,18nm,1.1s
PYUN Piuthan 76.59 301 *eP* **P 01 53 56.1 -0.8**
comp=Z,27nm,0.7s
SVW2 Sparrevohn 77.18 22 *eP* **P 01 53 59.5 +0.3**
comp=Z,6.2nm,0.7s
SVW2 *ep*P **pP 01 55 29.6 +2.9**
WMQ Urumqi 77.64 317 *eP* **P 01 54 04.0 +1.8**
WMQ pmax pmax
comp=Z,33nm,1.1s
HYB Hyderabad 78.39 289 *i P* **P 01 54 07.0 +0.3**
SUA Susitna One 79.28 24 *eP* **P 01 54 09.9 -0.8**
comp=Z,17nm,1.4s
SUA *ep*P **pP 01 55 39.6 +0.9**
RDOG Red Dog Mine 79.59 15 *eP* **P 01 54 13.4 +1.3**
comp=Z,14nm,0.9s
RDOG *ep*P **pP 01 55 44.1 +4.0**
CAST Castle Rocks 79.89 22 *eP* **P 01 54 13.4 -0.4**
comp=Z,5.8nm,0.7s
CAST *ep*P **pP 01 55 43.8 +1.8**
DGZ Jazzator, Alta 79.93 323 *d iP* **P 01 54 14.1 -0.3**
DGZ pmax pmax
comp=Z,5.0nm,0.7s
TRF Thorofare Moun 80.57 22 *eP* **P 01 54 16.7 -0.9**
comp=Z,5.1nm,0.9s
IM3 Indian Mountai 80.86 19 *eP* **P 01 54 18.7 0.0**
IM3 *ep*P **pP 01 55 46.5 -0.7**
KLU Klutina 81.26 25 *eP* **P 01 54 20.6 -0.5**
comp=Z,24nm,1.3s
KLU *ep*P **pP 01 55 52.2 +2.6**
MLY Manley 81.30 21 *eP* **P 01 54 21.2 0.0**
comp=Z,24nm,1.4s
MLY *ep*P **pP 01 55 50.7 +0.9**
DHY Denali Highway 81.48 23 *eP* **P 01 54 21.7 -0.6**
comp=Z,6.6nm,0.8s
WRH Wood River Hil 81.94 22 *eP* **P 01 54 24.1 -0.3**
comp=Z,7.9nm,0.9s
WRH *ep*P **pP 01 55 54.5 +1.4**
CCB Clear Creek Bu 82.14 22 *eP* **P 01 54 24.4 -1.0**
comp=Z,7.1nm,0.9s
MK01 Makanchi Array 82.19 319 *eP* **P 01 54 25.9 -0.3**
MK31 Makanchi Array 82.21 319 *eP* **P 01 54 26.1 -0.1**
MK31 Makanchi Array 82.21 319 *eP* **P 01 54 26.2 -0.1**
MK32 Makanchi Array 82.21 319 *eP* **P 01 54 26.1 -0.2**
MKAR Makanchi Array 82.21 319 P P 01 54 26.1 -0.1
comp=Z,16nm,0.7s,baz=102,slow=5.6,SNR=63
MKAR Makanchi Array 82.21 319 *eP* **P 01 54 26.1 -0.1**
comp=Z,102nm,0.7s
COLA College 82.25 21 *eP* **P 01 54 27.5 +1.5**
comp=Z,17nm,0.9s
HDA Harding Lake 82.33 22 *eP* **P 01 54 26.4 -0.1**
comp=Z,4.9nm,0.9s
ILAR Eielson Array 82.54 22 P P 01 54 26.4 -1.2
comp=Z,6.8nm,0.9s,baz=246,slow=4.5,SNR=34
ILAR pP **pP 01 55 53.9 -2.5**
comp=Z,4.7nm,1.0s,baz=254,slow=5.1,SNR=9.9
ILB Eielson Array 82.54 22 *eP* **P 01 54 26.3 -1.2**
ILB *ep*P **pP 01 55 57.3 +0.9**
IL1 Eielson Array 82.54 22 *eP* **P 01 54 25.9 -1.6**
IL1 *ep*P **pP 01 55 54.0 -2.4**
RIDG Independ'e Rid 82.80 23 *eP* **P 01 54 28.9 0.0**
comp=Z,15nm,1.2s
RIDG *ep*P **pP 01 55 59.6 +1.8**
ZAA0 Zalesovo Array 82.95 326 *eP* **P 01 54 28.7 -1.1**
comp=Z,9.1nm,0.7s
ZALV Zalesovo Beam 82.95 326 P P 01 54 28.6 -1.2
comp=Z,8.7nm,0.5s,baz=118,slow=5.9,SNR=24
ZALV pP **pP 01 55 56.5 -2.2**
comp=Z,1.5nm,0.5s,baz=145,slow=5.4,SNR=3.1
ZALV Zalesovo Beam 82.95 326 *eP* **P 01 54 28.4 -1.4**
ZALV Zalesovo Beam 82.95 326 *eP* **P 01 54 28.4 -1.4**
ZAA1 Zalesovo Array 82.95 326 *eP* **P 01 54 28.6 -1.2**
ZAA1 *ep*P **pP 01 55 56.5 -2.2**
DOT Dot Lake 83.06 23 *eP* **P 01 54 30.5 +0.3**
comp=Z,12nm,0.9s
DOT *ep*P **pP 01 55 58.6 -0.6**
QSPA South Pole Qui 84.09 180 *eP* **P 01 54 36.4 +0.9**
comp=Z,17nm,0.7s
NVS Novosibirsk 84.12 327 *eP* **P 01 54 35.3 -0.3**
NVS pmax pmax
comp=N,7.0nm,1.8s
NVS pmax pmax
comp=E,16nm,1.8s
NVS pmax pmax
comp=Z,17nm,1.8s
HYT Haines Junctio 84.64 27 *eP* **P 01 54 40.0 +1.7**
comp=Z,24nm,1.5s
HYT *ep*P **pP 01 56 10.0 +2.4**
EGAK Eagle 84.71 23 *eP* **P 01 54 39.1 +0.7**
comp=Z,15nm,1.0s
EGAK *ep*P **pP 01 56 09.7 +1.9**
KSH Kashi 84.87 310 P P 01 54 41.3 +1.4
KSH pP pP 01 56 16.1 +6.8
KSH PP **PP 01 58 07.0 +4.0**
KSH S S 02 04 25.3 -10
KSH sS sS 02 07 11.4 -2.5
KSH pmax pmax
comp=Z,27nm,1.2s
KSH pmax pmax
comp=Z,380nm,5.2s
KSH LR LR
comp=Z,200nm,6.5s
KSH LR LR
comp=Z,230nm,8.0s
KSH LR LR
comp=Z,270nm,6.0s
DAWY Dawson 85.10 24 *eP* **P 01 54 41.5 +1.1**
comp=Z,9.7nm,1.3s
DAWY *ep*P **pP 01 56 12.3 +2.5**
MAW Mawson 85.21 203 P P 01 54 40.0 -0.8
comp=Z,7.7nm,0.6s,baz=114,slow=5.3,SNR=16
MAW Mawson 85.21 203 *eP* **P 01 54 41.6 +0.8**
comp=Z,2.3nm,0.8s
MAW Mawson 85.21 203 *eP* **P 01 54 41.6 +0.8**
MAW pmax pmax
comp=Z,2.0nm,0.8s
KURK Kurchatov 85.62 322 *eP* **P 01 54 42.3 -0.8**
comp=Z,13nm,1.4s
KURK Kurchatov 85.62 322 *ce*P **P 01 54 41.8 -1.3**
KURK pmax pmax
comp=Z,12nm,1.7s
AAK Ala-Archa 86.59 313 *eP* **P 01 54 48.3 0.0**
comp=Z,4.9nm,0.7s
AAK Ala-Archa 86.59 313 *c iP* **P 01 54 48.4 +0.2**
AAK pmax pmax
comp=Z,5.0nm,0.7s
NRIK Noril'sk 87.51 341 P P 01 54 50.0 -1.7
comp=Z,3.9nm,0.5s,baz=119,slow=4.6,SNR=4.1
E03A Lebam 88.74 43 *eP* **P 01 54 57.5 -0.5**
comp=Z,52nm,1.3s
INK Inuvik 88.88 21 *eP* **P 01 54 58.1 0.0**
comp=Z,8.8nm,1.1s
INK *ep*P **pP 01 56 30.0 +1.5**
INK Inuvik 88.88 21 *eP* **P 01 54 58.1 0.0**
INK *e**PP **pP 01 56 30.0 +1.5**
INK pmax pmax
comp=Z,9.0nm,1.1s
BRVK Borovoye 91.15 323 *eP* **P 01 55 08.1 -1.0**
comp=Z,4.5nm,1.0s
BRVK Borovoye 91.15 323 *ce*P **P 01 55 07.0 -2.0**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
NV01 Mina Array Sit 91.46 52 *eP* **P 01 55 12.5 +1.3**
NV01 *ep*P **pP 01 56 42.7 +1.0**
NVAR Mina Array Bea 91.46 52 P P 01 55 11.9 +0.8
comp=Z,2.8nm,1.0s,baz=250,slow=6.8,SNR=8.2
NVAR pP **pP 01 56 42.1 +0.5**
comp=Z,2.0nm,0.9s,baz=253,slow=6.6,SNR=6.5
SYO Syowa Base 93.20 199 *‖eP* **P 01 55 18.0 -0.2**
YKA Yellowknife Ar 95.61 28 P P 01 55 28.0 -1.2
comp=Z,1.4nm,0.7s,baz=268,slow=4.5,SNR=6.8
YKA pP **pP 01 56 58.6 -1.4**
comp=Z,0.9nm,0.8s,baz=269,slow=4.7,SNR=4.3
YKB5 Yellowknife Ar 95.61 28 *eP* **P 01 55 28.0 -1.2**
PD31 Pinedale Array 98.36 48 *e*Pdif Pdif 01 55 41.1 -1.3
PDAR Pinedale Array 98.36 48 P Pdif 01 55 41.1 -1.3
comp=Z,0.3nm,0.6s,baz=256,slow=3.6,SNR=2.6
ARA0 ARCESS Array S 108.37 343 *e*PKiKP **PKiKP 02 00 28.5 -1.2**
ARCES ARCESS Array B 108.37 343 PKiKP **PKiKP 02 00 28.5 -1.2**
comp=Z,1.7nm,0.7s,baz=90,slow=2.4,SNR=4.7
OBN Obninsk 110.52 327 *i* PKIKP **PKiKP 02 00 33.5 -0.6**
OBN *e* 02 01 17.9
OBN *e* 02 02 06.8
OBN *e* 02 07 06.4
OBN *i* PS **PS 02 10 52.9 -0.1**
OBN pmax pmax
comp=Z,7.0nm,1.3s
FIA0 FINESS Array S 112.70 336 *e*PKiKP **PKiKP 02 00 36.9 -1.2**
FIA0 FINESS Array S 112.70 336 *e*PKIKP 02 00 36.9
FINES FINESS Array B 112.70 336 PKiKP **PKiKP 02 00 36.9 -1.2**
comp=Z,5.9nm,1.1s,baz=224,slow=21,SNR=7.0
AKASG Malin Array Be 116.32 325 PKP **PKPdf 02 00 43.8 -1.6**
comp=Z,1.8nm,0.5s,baz=63,slow=2.1,SNR=6.6
AKBB Malin Array Si 116.32 325 *e*PKPdf **PKPdf 02 00 43.8 -1.6**
AKBB Malin Array Si 116.32 325 *e*PKIKP **PKPdf 02 00 43.8 -1.6**
AK11 Malin Array Si 116.36 325 *e*PKPdf **PKPdf 02 00 45.2 -0.2**
BR101 Keskin Array S 117.23 312 *e*PKPdf **PKPdf 02 00 46.9 -0.8**
BR131 Keskin Array S 117.23 312 *e*PKPdf **PKPdf 02 00 47.1 -0.5**
BRTR Keskin Array B 117.23 312 PKP **PKPdf 02 00 46.9 -0.8**
comp=Z,1.3nm,0.6s,baz=134,slow=3.3,SNR=9.7
MMAI Mount Meron Ar 117.44 304 PKP **PKPdf 02 00 47.7 -0.4**
comp=Z,0.9nm,0.6s,baz=68,slow=8.0,SNR=3.3
PLCA Paso Flores 117.94 143 PKP **PKPdf 02 00 48.2 -0.8**
comp=Z,1.3nm,0.4s,baz=269,slow=2.8,SNR=10
NB2 NORSAR Subarra 118.47 341 PKPdf **PKPdf 02 00 48.4 -0.9**
comp=Z,0.3nm,0.6s,baz=39,slow=1.9
NB200 NORSAR Array S 118.47 341 *e*PKPdf **PKPdf 02 00 48.7 -0.6**
NOA NORSAR Array B 118.47 341 PKP **PKPdf 02 00 48.7 -0.6**
comp=Z,1.0nm,0.7s,baz=44,slow=1.9,SNR=4.0
BOSA Boshof 120.28 232 PKP **PKPdf 02 00 54.0 +0.2**
comp=Z,5.1nm,0.9s,baz=93,slow=1.1,SNR=6.9
MLR Muntele Rosu 120.52 320 PKP **PKPdf 02 00 53.4 -0.4**
comp=Z,2.4nm,0.8s,baz=41,slow=23,SNR=3.8
MATP Matopo 120.82 242 PKP **PKPdf 02 00 54.4 -0.7**
comp=Z,3.3nm,0.6s,baz=147,slow=1.2
KECS Kecovo 122.37 325 *eP* **Pdif 01 57 30.5 +1.8**
KECS Kecovo 122.37 325 *e*PDIFF **Pdif 01 57 30.5 +1.8**
LANS Liptovska Anna 122.57 327 *e*PKIKP **PKPdf 02 00 57.8 +0.3**
LANS Liptovska Anna 122.57 327 *e*PKP **PKPdf 02 00 57.8 +0.3**
LSZ Lusaka 122.76 248 PKP **PKPdf 02 00 58.4 -0.5**
comp=Z,1.8nm,0.6s,baz=119,slow=2.8,SNR=5.0
VYHS Vyhne 123.28 326 *e*PKIKP **PKPdf 02 00 59.0 +0.1**
VYHS Vyhne 123.28 326 *e*PKP **PKPdf 02 00 59.0 +0.1**
DPC Dobruska-Polom 123.55 329 *e*PKPdf **PKPdf 02 00 59.1 -0.3**
DPC Dobruska-Polom 123.55 329 *e*PKIKP **PKPdf 02 00 59.1 -0.3**
PVCC Panska Ves 124.32 330 *e*PKPdf **PKPdf 02 01 01.0 +0.2**
PVCC Panska Ves 124.32 330 *e*PKIKP **PKPdf 02 01 01.0 +0.2**
LCO Las Campanas 124.44 131 *e*PKPdf **PKPdf 02 01 02.2 +0.1**
CLL Collm 124.57 332 *i* PKPdf **PKPdf 02 01 02.5 +1.3**
CLL *i* PKiKP **PKiKP 02 01 03.0 +1.5**
comp=Z,7.0nm,0.7s
CLL Collm 124.57 332 *e*PKIKP **PKPdf 02 00 58.0 -3.2**
DIVS Divibare 124.92 321 *e*PKPdf **PKPdf 02 01 02.4 +0.2**
IDI Anoyia 125.22 309 PKP **PKPdf 02 01 02.2 -0.8**
comp=Z,5.3nm,0.6s,baz=328,slow=3.5,SNR=14
CONA Conrad Observa 125.24 327 *i* PKPdf **PKPdf 02 01 01.7 -1.1**
comp=Z,2.0nm,0.7s
NKC Novy Kostel 125.55 331 *e*PKPdf **PKPdf 02 01 03.6 +0.4**
NKC Novy Kostel 125.55 331 *e*PKIKP **PKPdf 02 01 03.6 +0.4**
FNA Florina 125.59 317 *e*PKPpre PKPpre 02 00 59.3
KHC Kasperske Hory 125.70 329 *e*PKPdf **PKPdf 02 01 04.0 +0.5**
KHC Kasperske Hory 125.70 329 *e*PKIKP **PKPdf 02 01 04.0 +0.5**
GEC2 GERESS Array S 125.82 329 *e*PKPdf **PKPdf 02 01 04.5 +0.7**
GEC2 GERESS Array S 125.82 329 *e*PKIKP **PKPdf 02 01 04.5 +0.7**
GERES GERESS Array B 125.82 329 PKP **PKPdf 02 01 04.1 +0.3**
comp=Z,2.7nm,0.6s,baz=87,slow=1.9,SNR=20
GEA0 GERESS Array S 125.82 329 *e*PKPdf **PKPdf 02 01 04.0 +0.2**
SOKA Soboth 126.44 326 *i* PKPdf **PKPdf 02 01 03.4 -1.7**
comp=Z,0.3nm,0.3s
MYKA Terra Mystica 127.23 327 *i* PKiKP **PKiKP 02 01 07.5 +0.4**
comp=Z,1.6nm,0.7s
ABTA Abfaltersbach 127.76 328 *i* PKPdf **PKPdf 02 01 06.9 -0.6**
comp=Z,6.7nm,1.1s
MOTA Moosalm 128.12 329 *i* PKiKP **PKiKP 02 01 08.7 -0.3**
comp=Z,5.6nm,0.7s
SQTA Sankt Quirin 128.14 329 *i* PKiKP **PKiKP 02 01 08.8 -0.2**
comp=Z,6.8nm,1.0s
RETA Reutte 128.20 329 *i* PKiKP **PKiKP 02 01 09.3 +0.3**
comp=Z,4.8nm,1.0s
FETA Feichten 128.52 329 *i* PKiKP **PKiKP 02 01 09.9 +0.1**
comp=Z,6.7nm,0.9s
DAVA Damuels 128.78 330 *i* PKiKP **PKPdf 02 01 09.9 +0.3**
comp=Z,4.2nm,0.7s
DAVOX Davos/Dischmat 129.12 329 PKP **PKPdf 02 01 09.7 -0.6**
comp=Z,3.9nm,0.6s,baz=265,slow=5.6,SNR=12
LPAZ La Paz 132.47 118 PKP **PKPdf 02 01 19.2 +1.2**
comp=Z,2.7nm,0.6s,baz=259,slow=6.9,SNR=10
SDV Santo Domingo 135.22 83 *e*PKPdf **PKPdf 02 01 23.2 +0.5**
CPUP Villa Florida 135.57 138 PKP **PKPdf 02 01 23.4 +0.6**
comp=Z,3.1nm,0.7s,baz=309,slow=2.1,SNR=7.1
KEST Kesra 136.30 318 PKP **PKPdf 02 01 23.8 -0.2**
comp=Z,1.3nm,0.5s,baz=135,slow=2.9,SNR=2.5
ESDC Sonseca Array 141.13 333 PKP **PKPdf 02 01 32.3 -0.4**
comp=Z,0.8nm,0.7s,baz=256,slow=29,SNR=4.8
SPB Sao Paulo 143.75 145 *e*PKPdf **PKPdf 02 01 37.0 -0.7**
PTGA Pitinga 145.02 100 *e*PKPdf **PKPbc 02 01 40.5 0.0**
TAM Tamanrasset 145.63 302 *e*PKPdf **PKPbc 02 01 42.0 -0.2**
TAM Tamanrasset 145.63 302 *e*PKP2 **PKPbc 02 01 42.0 -0.2**
BDFB Brasilia 149.15 134 PKPbc **PKPdf 02 01 48.5 +1.4**
comp=Z,14nm,0.6s,baz=290,slow=1.2,SNR=24
BDFB Brasilia 149.15 134 *e*PKPdf **PKPdf 02 01 48.5 +1.4**
BDFB *e*PKPdf **PKPdf 02 01 48.7 +1.6**
TOA0 Torodi Ar. Sit 152.19 287 *e*PKPdf **PKPdf 02 01 51.1 -0.5**
TOA0 *e*PKPdf **PKPdf 02 01 53.2 +1.7**
TORD Torodi Ar. Bea 152.19 287 PKP **PKPdf 02 01 51.0 -0.6**
comp=Z,4.0nm,0.5s,baz=22,slow=1.3,SNR=11
TORD PKPbc **PKPbc 02 01 57.1 -1.6**
comp=Z,4.2nm,0.5s,baz=83,slow=2.1,SNR=52
TORD PKPab **PKPab 02 02 09.7 -0.4**
comp=Z,3.5nm,0.6s,baz=86,slow=6.1,SNR=6.1
TORD pPKP **pPKPdf 02 03 28.7 +1.0**
comp=Z,1.1nm,0.7s,baz=98,slow=2.6,SNR=3.1
TORD pPKPbc **pPKPbc 02 03 35.4 +1.6**
comp=Z,4.9nm,0.8s,baz=82,slow=2.1,SNR=7.4
TOA1 Torodi Ar. Sit 152.19 287 *e*PKPdf **PKPdf 02 01 51.0 -0.6**
TOA1 *e*PKPbc **PKPbc 02 01 57.1 -1.6**
TOA1 *e*PKPab **PKPab 02 02 09.7 -0.4**
DBIC Dimbokro 159.41 273 PKPab **PKPab 02 02 41.0 -0.3**
comp=Z,3.8nm,0.6s,baz=62,slow=5.0,SNR=6.4

NEIC ***22*** *01:45:57.4±0.0, 16.66N×94.03W, h165km, MD4.2(MEX), After MEX.*

MEX 22 01:45:57.1±0.5, 16.69N×94.00W, h166km±5km, MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.93**	**295**	*e*Pn	Pn	01 46 21.1	-1.8
CMIG				*e*Sn	Sn	01 46 40.6	-2.0
CMIG	**Matias Romero**	**0.93**	**295**	*i* P	Pn	01 46 21.1	-1.8
CMIG				*i* S	Sn	01 46 40.6	-2.0
PCIG		**1.24**	**142**	*e*Pn	Pn	01 46 23.9	-1.5
PCIG				*e*Sn	Sn	01 46 45.6	-1.6
PCIG		**1.24**	**142**	*e*P	Pn	01 46 23.9	-1.5
PCIG				*e*S	Sn	01 46 45.6	-1.6
CCIG	**Comitan**	**1.84**	**103**	*e*Pn	Pn	01 46 27.9	-3.7
CCIG				*e*Sn	Sn	01 46 55.3	-2.9
HUIG	**Huatulco**	**2.22**	**246**	*e*Pn	Pn	01 46 33.8	-1.9
HUIG	**Huatulco**	**2.22**	**246**	*i* P	Pn	01 46 33.8	-1.9
HUIG				*i* S	Sn	01 47 03.6	-2.0
VHO	**Vista Hermosa**	**2.64**	**279**	*e*Pn	Pn	01 46 40.2	-0.7
VHO	**Vista Hermosa**	**2.64**	**279**	*e*P	Pn	01 46 40.2	-0.7
VHO				*i* S	Sn	01 47 13.1	-1.7
PNIG	**Pinotepa**	**3.97**	**266**	*e*Pn	Pn	01 46 55.9	-1.4
PNIG	**Pinotepa**	**3.97**	**266**	*e*P	Pn	01 46 55.9	-1.4
PNIG				*i* S	Sn	01 47 42.8	-1.6
TLIG	**Tlapa**	**4.45**	**282**	*e*Pn	Pn	01 47 03.3	-0.4
TLIG				*e*Sn	Sn	01 47 46.4	-9.3
TLIG	**Tlapa**	**4.45**	**282**	*e*P	Pn	01 47 03.3	-0.4
TEIG	**Tepich**	**6.47**	**56**	*e*Pn	Pn	01 47 22.5	-7.7
JTS	**JuntasAbangare**	**10.86**	**125**	*e*Pn	Pn	01 48 24.2	-4.0

MEX 22 02:06:42.2±0.4, 16.29N×98.06W, h7km±4km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.13**	**327**	*i* P	Pg	02 06 44.4	-0.6
PNIG				*i* S	Sg	02 06 47.0	0.0
TLIG	**Tlapa**	**1.36**	**339**	*e*P	Pn	02 07 04.0	-3.7
TLIG				*i* S	Sb	02 07 21.6	-4.2
VHO	**Vista Hermosa**	**1.49**	**58**	*e*P	Pn	02 07 06.5	-3.0
VHO				*i* S	Sn	02 07 25.1	-4.3
HUIG	**Huatulco**	**1.94**	**105**	*i* P	Pn	02 07 12.7	-2.9
HUIG				*i* S	Sn	02 07 36.1	-4.1
CMIG	**Matias Romero**	**3.14**	**75**	*e*P	Pn	02 07 29.0	-3.1
CMIG				*i* S	Sn	02 08 06.2	-3.7

IDC 22 02:08:28.0±16.0, 0.12N×125.68E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/24, mbtmp3.9/3, Error ellipse: s-maj=255.9km s-min=170.2km az=161.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.67**	**157**	P	P	02 13 20.2	-0.2
	2.0nm,0.6s,baz=335,slow=11,SNR=21						
ASAR	**Alice Springs**	**24.96**	**162**	P	P	02 13 54.5	+1.0
	1.5nm,0.6s,baz=345,slow=12,SNR=22						
STKA	**Stephens Creek**	**35.21**	**156**	P	P	02 15 22.8	-1.3
	1.9nm,0.8s,baz=328,slow=9.5,SNR=3.7						

IDC 22 02:34:15.8±5.2, 27.70S×140.78E, h0km, mb1 3.2/2, mb1mx3.1/27, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=103.7km s-min=19.6km az=65.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**4.23**	**170**	Pg	Pb	02 35 33.6	+2.6
	0.1nm,0.3s,baz=341,slow=18,SNR=1.9						
STKA				Sn	Sn	02 36 07.5	-4.1
	0.6nm,0.3s,baz=285,slow=18,SNR=5.6						
STKA				Lg	Lg	02 36 28.9	
	0.6nm,0.3s,baz=67,slow=22,SNR=3.9						
ASAR	**Alice Springs**	**7.38**	**301**	Pn	Pn	02 36 06.0	+1.1
	0.2nm,0.3s,baz=122,slow=13,SNR=7.5						
ASAR				Sn	Sn	02 37 28.4	-1.1
	0.2nm,0.3s,baz=122,slow=23,SNR=3.4						
WRA	**Warramunga Arr**	**9.71**	**321**	Pn	Pn	02 36 36.2	-0.5
	0.1nm,0.3s,baz=142,slow=13,SNR=7.1						
WRA				Sn	Sn	02 38 24.0	-2.6
	0.1nm,0.3s,baz=142,slow=25,SNR=3.6						

GCMT 22 02:39:15.0±0.4, 32.18S±0.02×13.74W±0.03, h32km±2km, MW4.9/72, Moment Tensor Solution. s29,c36; s72,c100; Duration: 0 Moment tensor: Scale 10^{16} **Nm;** M_{rr}-0.23±.27; $M_{\theta\theta}$-1.50±.21; $M_{\phi\phi}$1.73±.19; $M_{r\theta}$-0.23±.25; $M_{\theta\phi}$2.16±.11; $M_{\phi r}$0.86±.23; **Best double couple:** $M_0$2.84000×10^{16} **NP1:** ϕ_s162.00000°, δ89.00000°, λ-162.00000°. **NP2:** ϕ_s72.00000°, δ72.00000°, λ-1.00000°. **Principal axes:** T 2.9530, Plg12.0000°, Azm295.0000°; N -0.2280, Plg22.0000°, Azm166.0000°; P -2.7280, Plg14.0000°, Azm28.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Southern Mid-Atlantic Ridge**

ISCJB ***22*** *02:48:36.3±0.8, 27.77S±0.05×140.75E±0.07, h10km Error ellipse: s-maj=10.0km s-min=6.7km az=147.1*
AUST ***22*** *02:48:38.1±0.0, 27.78S×140.92E, h10km, Error ellipse: s-maj=0.2km s-min=0.1km az=19.0*
IDC ***22*** *02:48:39.1±4.6, 27.63S×140.77E, h0km, mb1 3.2/2,*

mb1mx3.1/21,mbtmp2.9/2,ML2.8/2,Error ellipse: s-maj=87.5km s-min=19.5km az=66.0

ISC 22 02:48:38.0±1.0, 27.72S±0.06×140.85E±0.08, h10km, n8, σ2.34/13, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QLP	**Quilpie** baz=3.2	**3.22**	**70**	P	**Pn**	**02 49 28.5**	**-0.1**
STKA	**Stephens Creek** 0.4nm,0.3s,baz=342,slow=16,SNR=3.8	**4.19**	**171**	Pg	**Pg**	**02 49 58.8**	**+0.5**
STKA				Sn	**Sn**	**02 50 31.1**	**0.0**
STKA	0.9nm,0.3s,baz=282,slow=18,SNR=8.4			Lg	Lg	02 50 53.5	
STKA	1.1nm,0.3s,baz=68,slow=22,SNR=5.7 **Stephens Creek** baz=4.1	**4.19**	**171**	P	**Pn**	**02 49 43.0**	**+1.0**
STKA				S	**Sn**	**02 50 27.2**	**-3.9**
CMSA	baz=4.1 **Cobar Meteorol** baz=5.6	**5.67**	**133**	P	**Pn**	**02 50 02.7**	**+0.3**
BBOO	**Buckleboo** baz=6.5	**6.55**	**218**	P	**Pn**	**02 50 15.9**	**+1.5**
BBOO				S	**Sn**	**02 51 26.2**	**-3.0**
AS01	baz=6.5 **Alice Springs** baz=7.5	**7.42**	**301**	P	**Pn**	**02 50 29.8**	**+3.3**
ASAR	**Alice Springs** 0.1nm,0.3s,baz=124,slow=14,SNR=4.4	**7.46**	**301**	Pn	**Pn**	**02 50 28.1**	**+1.2**
ASAR				Sn	**Sn**	**02 51 50.3**	**-1.3**
WRA	0.2nm,0.3s,baz=121,slow=23,SNR=3.9 **Warramunga Arr** 0.1nm,0.3s,baz=139,slow=13,SNR=8.9	**9.77**	**321**	Pn	**Pn**	**02 50 59.8**	**+1.1**
WRA				Sn	**Sn**	**02 52 45.2**	**-3.3**
	0.1nm,0.3s,baz=136,slow=22,SNR=3.6						

*NIED **22** 03:28:00,24.10N×122.40E,h20km,Mw3.7 Best double couple: M0 4.51000×10^14 NP1:φs 29.00000°,δ 42.00000°, λ -69.00000°. NP2:φs 182.00000°,δ 51.00000°, λ -108.00000°.*

*ISCJB **22** 03:28:42.0±0.3,24.14N±0.02×122.38E±0.01,h17km±3km, Error ellipse: s-maj=2.8km s-min=1.9km az=160.2*

*JMA **22** 03:28:42.2±0.1,24.14N×122.39E,h19km±3km,M3.7*

*TAP **22** 03:28:43.5,24.20N×122.28E,h22km,ML3.8,D*

ISC 22 03:28:41.0±1.0, 24.13N±0.02×122.37E±0.01, h12km±9km, n91, σ0.972/152, 7C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1** baz=337	**0.47**	**332**	P	**Pb**	**03 28 51.5**	**+0.2**
EOS1				*e*S	**Sb**	**03 28 57.9**	**-0.3**
JYNG	baz=337 **Yonagunijimaku**	**0.61**	**58**	P	**Pb**	**03 28 53.6**	**-0.1**
JYNG				S	**Sb**	**03 29 01.7**	**-0.6**
ENA	**Nanau** baz=301	**0.65**	**297**	⇑*i*P	**Pb**	**03 28 54.2**	**-0.1**
ENA				*e*S	**Sg**	**03 29 02.6**	**+0.5**
YOJ	baz=301 **Yonaguni jima**	**0.67**	**60**	P	**Pb**	**03 28 54.7**	**0.0**
YOJ				*e*S	**Sg**	**03 29 02.9**	**+0.1**
TWC	**Suao** baz=316	**0.67**	**315**	⇑*i*P	**Pb**	**03 28 54.3**	**-0.4**
TWC				*e*S	**Sg**	**03 29 02.1**	**-0.9**
NACB	baz=316 **Ninganchiao** baz=250	**0.71**	**274**	⇑*e*P	**Pn**	**03 28 56.2**	**-0.7**
NACB				*e*S	**Sb**	**03 29 06.4**	**+1.3**
TWD	baz=250 **Chiawan** baz=259	**0.71**	**266**	*e*P	**Pn**	**03 28 56.4**	**-0.5**
EGS		**0.82**	**331**	*e*P	**Pb**	**03 28 57.4**	**+0.2**
EGS	baz=333			*e*S	**Sg**	**03 29 07.2**	**-0.3**
ILA	baz=333 **Ilan** baz=318	**0.85**	**318**	P	**Pb**	**03 28 57.9**	**+0.2**
ILA				*e*S	**Sb**	**03 29 08.8**	**-0.3**
TWE	baz=318 **Neicheng** baz=312	**0.87**	**313**	*e*P	**Pb**	**03 28 58.2**	**+0.1**
TWE				*e*S	**Sg**	**03 29 09.1**	**-0.1**
ENTT	baz=312 **Nioudou** baz=303	**0.89**	**305**	⇑P	**Pb**	**03 28 58.7**	**+0.2**
ENTT				*e*S	**Sg**	**03 29 08.7**	**-1.2**
ESL	baz=303 **Shilin** baz=233	**0.91**	**250**	P	**Pb**	**03 28 58.9**	**+0.1**
ESL				*e*S	**Sg**	**03 29 10.3**	**-0.3**
SLBB	baz=233 **Yuanshan** baz=312	**0.91**	**313**	P	**Pn**	**03 28 59.3**	**-0.4**
SLBB				*e*S	**Sg**	**03 29 10.6**	**0.0**
TWB1	baz=312 **Santiao Chiao** baz=346	**0.94**	**338**	P	**Pn**	**03 28 59.8**	**-0.3**
TWB1				*e*S	**Sg**	**03 29 10.4**	**-1.0**
NNSB	baz=346 **Datong** baz=284	**0.95**	**288**	⇑*e*P	**Pn**	**03 29 00.0**	**-0.3**
NNSB				*e*S	**Sg**	**03 29 11.6**	**-0.2**
NNS	baz=284 **Nan Shan** baz=285	**0.96**	**289**	*e*P	**Pn**	**03 29 00.4**	**-0.1**
NNS				*e*S	**Sg**	**03 29 12.0**	**-0.1**
WHF	baz=285 **Hehuan Shan** baz=266	**1.01**	**271**	P	**Pn**	**03 29 01.3**	**-0.1**
WHF				*e*S	**Sg**	**03 29 13.2**	**-0.6**
NWLT	baz=266 **Wulai** baz=308	**1.02**	**309**	*e*P	**Pn**	**03 29 01.1**	**-0.1**
YHNB	**Yeheng** baz=281	**1.05**	**301**	⇑*e*P	**Pn**	**03 29 02.0**	**+0.3**
YHNB				*e*S	**Sg**	**03 29 14.1**	**-1.0**
HGSD	baz=281 **Ruisui** baz=217	**1.07**	**234**	*e*P	**Pb**	**03 29 01.2**	**-0.4**
HGSD				*e*S	**Sg**	**03 29 16.3**	**+0.7**
NWF	baz=217 **Wu-fen Shan** baz=330	**1.08**	**330**	P	**Pn**	**03 29 02.1**	**0.0**
NWF				*e*S	**Sg**	**03 29 14.9**	**-0.9**
WFSB	baz=330 **Wu-fen Shan** baz=330	**1.08**	**330**	*e*P	**Pn**	**03 29 02.1**	**+0.1**
WFSB				*e*S	**Sb**	**03 29 15.1**	**-0.6**
CHGB	baz=330 **Renai** baz=249	**1.10**	**267**	⇑*e*P	**Pn**	**03 29 02.6**	**+0.2**
CHGB				*e*S	**Sg**	**03 29 15.7**	**-0.7**
TWT	baz=249 **Tachien** baz=259	**1.10**	**277**	*e*P	**Pn**	**03 29 03.8**	**+1.4**
TWA	**Mucha** baz=327	**1.11**	**320**	P	**Pn**	**03 29 02.9**	**+0.5**
TWA				*e*S	**Sb**	**03 29 16.4**	**-0.2**
TDCB	baz=327 **Techi** baz=272	**1.11**	**277**	*e*P	**Pn**	**03 29 03.1**	**+0.5**
TDCB				*e*S	**Sg**	**03 29 17.1**	**+0.2**
EHY	baz=272 **Hungye** baz=223	**1.14**	**237**	*e*P	**Pb**	**03 29 02.4**	**-0.3**
EHY				*e*S	**Sb**	**03 29 17.3**	**-0.2**
TATO	baz=223 **Taipei** baz=328	**1.16**	**317**	*e*P	**Pg**	**03 29 03.9**	**+0.5**
TATO				*e*S	**Sb**	**03 29 17.6**	**-0.5**
VWDT	baz=328 **VWDT** baz=235	**1.19**	**252**	*e*P	**Pg**	**03 29 03.7**	**-0.1**
VWDT				*e*S	**Sb**	**03 29 18.4**	**-0.3**
TAP1	baz=235 **Taipei** baz=318	**1.19**	**320**	*e*P	**Pg**	**03 29 04.3**	**+0.5**
TAP1				*e*S	**Sb**	**03 29 18.4**	**-0.5**
TAP	baz=318 **Taipei** baz=318	**1.20**	**319**	*e*P	**Pg**	**03 29 04.8**	**+0.7**
TAP				*e*S	**Sb**	**03 29 19.2**	**0.0**
YULB	baz=318 **Yu-li** baz=219	**1.23**	**234**	*e*P	**Pn**	**03 29 03.6**	**-0.4**
YULB				*e*S	**Sb**	**03 29 19.1**	**-0.9**
	baz=219						
YM07	**YM07** baz=326	**1.25**	**327**	*e*P	**Pb**	**03 29 04.4**	**0.0**
YM07				*e*S	**Sb**	**03 29 20.6**	**+0.1**
WLTB	baz=326 **Daxi** baz=304	**1.25**	**305**	*e*P	**Pg**	**03 29 06.0**	**+1.0**
YM01	**YM01** baz=339	**1.25**	**324**	*e*P	**Pg**	**03 29 05.7**	**+0.8**
IRIF	**Iriomote-Funau**	**1.26**	**80**	P	**Pg**	**03 29 04.7**	**-0.4**
IRIF				S	**Sg**	**03 29 21.5**	**0.0**
YM10	**YM10** baz=323	**1.26**	**324**	*e*P	**Pb**	**03 29 04.7**	**0.0**
YM10				*e*S	**Sb**	**03 29 20.5**	**-0.5**
YM11	baz=323 **YM11** baz=340	**1.26**	**325**	*e*P	**Pg**	**03 29 04.9**	**-0.4**
YM05	**YM05** baz=340	**1.26**	**325**	*e*P	**Pb**	**03 29 04.7**	**-0.1**
YM08	**YM08** baz=325	**1.27**	**326**	*e*P	**Pg**	**03 29 06.0**	**+0.6**
YM04	**YM04** baz=322	**1.27**	**323**	*e*P	**Pb**	**03 29 04.9**	**-0.1**
YM04				*e*S	**Sb**	**03 29 20.8**	**-0.5**
YM03	baz=322 **YM03** baz=323	**1.29**	**324**	*e*P	**Pg**	**03 29 05.9**	**+0.1**
YM03				*e*S	**Sb**	**03 29 21.4**	**-0.5**
TWS1	baz=323 **Kuangyinshan** baz=329	**1.30**	**318**	*e*P	**Pg**	**03 29 06.9**	**+1.0**
TWS1				*e*S	**Sn**	**03 29 22.1**	**-0.2**
HATJ	baz=329 **Hateruma jima**	**1.31**	**93**	P	**Pg**	**03 29 06.1**	**-0.1**
HATJ				*e*S	**Sg**	**03 29 23.6**	**+0.3**
LIOB	**Emei** baz=289	**1.34**	**293**	*e*P	**Pg**	**03 29 07.4**	**+0.7**
LIOB				*e*S	**Sg**	**03 29 23.8**	**-0.3**
SSLB	baz=289 **Suanglung** baz=252	**1.34**	**256**	*e*P	**Pn**	**03 29 05.9**	**+0.3**
SSLB				*e*S	**Sb**	**03 29 22.1**	**-1.2**
TWY	baz=252 **Chenhua** baz=328	**1.34**	**329**	*e*P	**Pg**	**03 29 07.3**	**+0.6**
NSTT	**Nanjuang** baz=288	**1.34**	**292**	*e*P	**Pg**	**03 29 07.7**	**+0.9**
NSTT				*e*S	**Sb**	**03 29 21.8**	**-1.6**
FULB	baz=288 **Fuli** baz=211	**1.35**	**227**	*e*P	**Pn**	**03 29 04.4**	**-1.3**
FULB				*e*S	**Sb**	**03 29 22.9**	**-0.8**
NCU	baz=211 **National Centr** baz=306	**1.36**	**308**	*e*P	**Pg**	**03 29 07.2**	**0.0**
SMLT	**Sun Moon Lake** baz=256	**1.37**	**260**	*e*P	**Pb**	**03 29 06.9**	**+0.3**
SMLT				*e*S	**Sb**	**03 29 23.1**	**-1.0**
SBCB	baz=256 **Hsinchu** baz=295	**1.43**	**298**	*e*P	**Pg**	**03 29 08.1**	**-0.3**
YUS	**Yu-Shan** baz=241	**1.45**	**244**	*e*P	**Pb**	**03 29 08.0**	**-0.2**
YUS				*e*S	**Sn**	**03 29 25.0**	**-1.7**
TWQ1	baz=241 **Liyutan** baz=275	**1.48**	**279**	*e*P	**Pg**	**03 29 09.7**	**+0.4**
NSY	**Sanyi** baz=277	**1.50**	**281**	*e*P	**Pg**	**03 29 09.9**	**+0.2**
JKRS	**Kuro-shima**	**1.50**	**86**	P	**Pb**	**03 29 08.7**	**-0.1**
JKRS				*e*S	**Sb**	**03 29 27.6**	**-0.2**
ELDTW	**Lidau** baz=217	**1.56**	**233**	*e*P	**Pn**	**03 29 08.4**	**-0.2**
WNT	**Mingjian** baz=247	**1.56**	**261**	*e*P	**Pg**	**03 29 10.6**	**-0.4**
JIJ	**Ishigaki jima**	**1.63**	**81**	P	**Pn**	**03 29 09.9**	**+0.3**
JIJ				S	**Sn**	**03 29 29.3**	**-1.3**
CHN5	**Tsauling** baz=238	**1.64**	**251**	*e*P	**Pb**	**03 29 11.4**	**+0.2**
CHN5				*e*S	**Sn**	**03 29 31.1**	**+0.3**
TWGBT	baz=238 **Beinan** baz=221	**1.76**	**222**	*e*P	**Pn**	**03 29 10.8**	**-0.6**
STYT	**Tauyuan** baz=235	**1.77**	**237**	*e*P	**Pn**	**03 29 12.2**	**+0.8**
STYT				*e*S	**Sn**	**03 29 34.6**	**+0.7**
TWG	baz=235 **Pinlang** baz=221	**1.77**	**223**	*e*P	**Pn**	**03 29 10.9**	**-0.6**
TPUB	**Ta-pu** baz=241	**1.80**	**243**	*e*P	**Pb**	**03 29 13.6**	**-0.2**
TPUB				*e*S	**Sb**	**03 29 36.3**	**-0.1**
CHN4	baz=241 **Tsaushan** baz=232	**1.80**	**245**	*e*P	**Pb**	**03 29 14.4**	**+0.5**
CHN4				*e*S	**Sb**	**03 29 37.0**	**+0.4**
JISG	baz=232 **Ishigakijimahi**	**1.83**	**75**	P	**Pn**	**03 29 12.1**	**-0.1**
JISG				S	**Sn**	**03 29 34.4**	**-0.9**
WTP	**Ta-pu** baz=239	**1.83**	**242**	*e*P	**Pb**	**03 29 14.2**	**-0.4**
WTP				*e*S	**Sn**	**03 29 36.7**	**+1.1**
RLNB	baz=239 **Erlin** baz=260	**1.85**	**263**	*e*P	**Pb**	**03 29 14.4**	**-0.4**
RLNB				*e*S	**Sb**	**03 29 37.7**	**-0.3**
TWK	baz=260 **Hsinying** baz=242	**1.93**	**244**	P	**Pb**	**03 29 15.9**	**-0.2**
TWK				*e*S	**Sb**	**03 29 39.5**	**-0.7**
CHN1	baz=242 **Nanshi** baz=240	**1.93**	**241**	*e*P	**Pb**	**03 29 15.8**	**-0.4**
CHN1				*e*S	**Sb**	**03 29 40.3**	**0.0**
SGST	baz=240 **Jiashian** baz=225	**1.94**	**238**	*e*P	**Pb**	**03 29 16.5**	**+0.1**
SSD	**Sandimen** baz=221	**2.11**	**230**	*e*P	**Pb**	**03 29 18.1**	**-1.1**
SSD				*e*S	**Sn**	**03 29 43.0**	**+0.7**
JTJ	baz=221 **Tarama**	**2.19**	**76**	P	**Pn**	**03 29 18.2**	**+1.0**
JTJ				S	**Sn**	**03 29 43.4**	**-0.8**
MASBT	**Mashibuluo** baz=218	**2.20**	**227**	*e*P	**Pn**	**03 29 18.9**	**+1.5**
MASBT				*e*S	**Sn**	**03 29 46.3**	**+1.8**
SCZT	baz=218 **Fangliau** baz=217	**2.38**	**223**	*e*P	**Pn**	**03 29 21.9**	**+2.0**
SCZT				*e*S	**Sn**	**03 29 49.7**	**+0.7**
TWKBT	baz=217 **Hengchun** baz=215	**2.61**	**214**	*e*P	**Pn**	**03 29 23.9**	**+0.9**
TWKBT				*e*S	**Sn**	**03 29 54.2**	**-0.5**
WDGT	baz=215 **Dungji** baz=249	**2.63**	**251**	*e*P	**Pn**	**03 29 24.7**	**+1.4**
PHUB	**P'eng-hu** baz=255	**2.64**	**257**	*e*P	**Pn**	**03 29 23.6**	**+0.2**
PHUB				*e*S	**Sn**	**03 29 55.0**	**-0.3**
PNG	baz=255 **Penghu** baz=256	**2.64**	**258**	*e*P	**Pn**	**03 29 24.7**	**+1.3**
JIRB	**Irabujima**	**2.65**	**74**	P	**Pn**	**03 29 24.4**	**+0.9**
JIRB				*e*S	**Sn**	**03 29 55.2**	**-0.4**
PTTC	**Pingtan** baz=297	**2.73**	**301**	*e*P	**Pn**	**03 29 26.9**	**+2.2**
JIKM	**Ikemajima**	**2.74**	**73**	*e*S	**Sn**	**03 29 57.7**	**-0.1**
JMJ	**Miyako jima 2**	**2.75**	**75**	S	**Sn**	**03 29 58.0**	**-0.1**
VWUC	**VWUC** baz=285	**2.79**	**288**	*e*P	**Pn**	**03 29 25.8**	**+0.2**
JOGS	**Gusukube**	**2.84**	**77**	P	**Pn**	**03 29 28.5**	**+2.4**
MATB	**Ma-tsu** baz=296	**2.98**	**313**	*e*P	**Pn**	**03 29 29.4**	**+1.2**
PTMZ	**Houxiangcun** baz=282	**3.10**	**288**	*e*P	**Pn**	**03 29 30.1**	**+0.4**
PTMZ				*e*S	**Sn**	**03 30 05.3**	**-1.4**
LYJJ	baz=282 **Jianjiangzhen** baz=324	**3.38**	**316**	*e*P	**Pn**	**03 29 34.0**	**+0.4**
XPSS	**Dashiqiu** baz=333	**3.41**	**325**	*e*P	**Pn**	**03 29 35.3**	**+1.2**
AXDP	**Jialang** baz=277	**4.08**	**282**	*e*P	**Pn**	**03 29 44.2**	**+0.9**
ZPLA	**Ao Xicun** baz=265	**4.23**	**268**	*e*P	**Pn**	**03 29 45.7**	**+0.4**

*IDC **22** 03:32:42.8±1.5, 13.75N×92.63W, h0km, mb3.7/5, mb1 4.0/8, mb1mx3.7/39, mbtmp3.7/8, ML3.4/3, MS3.2/5, Ms1 3.2/5, ms1mx2.8/35, Error ellipse: s-maj=45.2km s-min=22.1km az=42.0*

*ISCJB **22** 03:32:47.3±1.3, 13.8N±0.2×92.6W±0.1, h46km, mb3.7/5, MS3.2/4, Error ellipse: s-maj=27.5km s-min=14.8km az=29.8*

ISC 22 03:32:49.0±1.4, 13.8N±0.2×92.7W±0.1, h46km, n14, σ1.961/9, mb3.8/5, MS3.2/4, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote** 7.5nm,0.3s,baz=246,slow=7.1,SNR=59	**2.42**	**61**	Pn	**Pn**	**03 33 25.2**	**-1.1**
APG				LR	LR	03 34 35.0	
CMIG	comp=Z,214nm,18.0s,baz=154,slow=46 **Matias Romero** 1.3nm,0.3s,baz=164,slow=16,SNR=16	**3.89**	**327**	Pn	**Pn**	**03 33 43.7**	**-2.6**
JTS	**JuntasAbangare** 0.3nm,0.3s,baz=325,slow=19,SNR=3.4	**8.31**	**114**	Lg	Lg	03 37 01.2	
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=147,slow=12,SNR=2.3	**18.50**	**328**	P	**Pn**	**03 37 03.4**	**+1.4**
TKL	**Tuckaleechee C** comp=Z,49nm,18.5s,baz=236,slow=37	**23.16**	**19**	LR	LR	03 46 52.3	
ANMO	**Albuquerque** 0.4nm,0.4s,baz=130,slow=13,SNR=3.8	**24.44**	**332**	P	**P**	**03 38 03.5**	**-0.3**
SJG	**San Juan** comp=Z,36nm,20.3s,baz=278,slow=33	**25.82**	**77**	LR	LR	03 47 00.2	
NVAR	**Mina Array Bea** 0.9nm,0.6s,baz=120,slow=9.6,SNR=5.4	**33.41**	**322**	P	**P**	**03 39 25.5**	**+1.9**
SIV	**San Ignacio** 0.6nm,0.6s,baz=330,slow=11,SNR=4.4	**43.04**	**132**	P	**P**	**03 40 43.8**	**-0.8**
YKA	**Yellowknife Ar** 2.4nm,0.6s,baz=151,slow=7.3,SNR=17	**51.05**	**347**	P	**P**	**03 41 46.2**	**-0.1**
ILAR	**Eielson Array** 0.4nm,0.5s,baz=175,slow=5.1,SNR=7.6	**62.74**	**337**	P	**P**	**03 43 10.2**	**+1.0**
AFI	**Afiamalu** comp=Z,29nm,18.9s,baz=333,slow=29	**83.04**	**254**	LR	LR	04 12 43.7	
NOA	**NORSAR Array B** comp=Z,16nm,18.1s,baz=295,slow=35	**84.59**	**28**	LR	LR	04 22 38.1	
CMAR	**Chiang Mai Arr** 1.1nm,0.4s,baz=336,slow=5.0,SNR=6.4	**145.94**	**340**	PKPbc	**PKPab**	**03 52 24.6**	**-0.3**

*ISCJB **22** 03:51:31.6±0.4,50.15N±0.03×19.00E±0.03,h0km, Error ellipse: s-maj=4.7km s-min=2.2km az=16.7*

*SIGU **22** 03:51:32.2±0.8,50.1N±2.1×9E±?,h7km±1km,MD2.9/4*

*IDC **22** 03:51:33.2±1.6,49.96N×19.13E,h0km,mb1 3.4/2, mb1mx3.1/39,mbtmp3.2/2,ML2.5/2,Error ellipse: s-maj=30.7km s-min=10.1km az=148.0*

*WAR **22** 03:51:33.5,50.08N×19.15E,h1km,Mw2.8*

*PRU **22** 03:51:33.1±0.0,50.13N×19.07E,h0km*

*VIE **22** 03:51:38.9±3.8,49.41N×18.73E,h8km,mb2.5/2,ml2.4/4, Error ellipse: s-maj=24.1km s-min=12.0km az=115.0 21 km N of Zilina*

ISC 22 03:51:31.8±0.7, 50.08N±0.02×19.16E±0.02, h0km, n47, σ1.921/72, 4C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.24**	**333**	*e*Pg	**Pb**	**03 51 38.5**	**+2.2**
CHZP				*e*Sg	**Sg**	**03 51 41.4**	**+2.0**
CHZP	**Chorzow**	**0.24**	**333**	*e*Pg	**Pb**	**03 51 38.5**	**+2.2**
CHZP				*e*Sg	**Sg**	**03 51 41.4**	**+2.0**
OJC	**Ojcow**	**0.43**	**71**	*e*Pg	**Pb**	**03 51 41.8**	**-0.5**
OJC				*e*Sg	**Sb**	**03 51 48.4**	**-1.0**
OJC	**Ojcow**	**0.43**	**71**	*e*Pg	**Pb**	**03 51 41.8**	**-0.5**
OJC				*e*Sg	**Sb**	**03 51 48.4**	**-1.0**
OKC	**Ostrava-Krasne**	**0.70**	**250**	*e*PG	**Pb**	**03 51 46.6**	**-0.2**
OKC	comp=Z,85nm,0.9s			*e*SG	**Sb**	**03 51 56.2**	**-0.7**
LANS	**Liptovska Anna**	**0.95**	**168**	*e*PG	**Pn**	**03 51 52.0**	**-0.4**
LANS				*e*SG	**Sn**	**03 52 05.5**	**-1.2**
NIE	**Niedzica**	**0.99**	**131**	*e*Pg	**Pn**	**03 51 52.7**	**-0.3**
NIE				*e*Sg	**Sn**	**03 52 07.8**	**+0.2**
NIE	**Niedzica**	**0.99**	**131**	*e*Pg	**Pn**	**03 51 52.7**	**-0.3**
NIE				*e*Sg	**Sn**	**03 52 07.8**	**+0.2**
MORC	**Moravsky Berou**	**1.09**	**255**	⇑*i*P	**Pb**	**03 51 53.3**	**-0.2**
MORC	**Moravsky Berou**	**1.09**	**255**	S	**Sb**	**03 52 08.2**	**0.0**
MORC	**Moravsky Berou**	**1.09**	**255**	*e*PG	**Pb**	**03 51 52.9**	**-0.6**
MORC				*e*SG	**Sb**	**03 52 07.8**	**-0.4**
KRLC	**Kraliky**	**1.53**	**271**	*e*PG	**Pn**	**03 51 59.7**	**-0.7**
KRLC	comp=Z,17nm,0.8s			*e*SG	**Sg**	**03 52 20.5**	**-0.5**
JAVC	**Velka Javorina**	**1.56**	**219**	*e*PN	**Pg**	**03 52 02.4**	**+0.8**
VYHS	**Vyhne**	**1.60**	**188**	*e*PN	**Pb**	**03 52 01.8**	**-0.4**
VYHS				*e*SN	**Sg**	**03 52 24.2**	**+1.1**
VYHS				*e*LG	Lg	03 52 27.1	
VRAC	**Vranov** 3.1nm,0.3s,baz=65,slow=16,SNR=17	**1.84**	**246**	Pg	**Pb**	**03 52 06.1**	**-0.2**
VRAC	4.7nm,0.3s,baz=327,slow=22,SNR=15			Lg	Lg	03 52 30.2	
VRAC	**Vranov**	**1.84**	**246**	⇓*i*P	**Pn**	**03 52 04.0**	**-0.6**
VRAC	**Vranov**	**1.84**	**246**	S	**Sg**	**03 52 30.5**	**-0.2**
VRAC	**Vranov**	**1.84**	**246**	*e*PN	**Pb**	**03 52 06.0**	**-0.2**
VRAC				*e*SG	**Sg**	**03 52 30.5**	**-0.2**
DPC	**Dobruska-Polom**	**1.84**	**280**	*e*PG	**Pn**	**03 52 04.7**	**0.0**
DPC	comp=Z,36nm,0.7s			*e*SG	**Sn**	**03 52 29.3**	**+0.6**
KSP	**Ksiaz**	**1.99**	**294**	*e*Pb	**Pn**	**03 52 06.6**	**0.0**
KSP				*e*Pg	**Pg**	**03 52 09.3**	**-0.5**
KSP				*e*Sg	**Sb**	**03 52 34.0**	**0.0**
KSP	**Ksiaz**	**1.99**	**294**	*e*Pb	**Pn**	**03 52 06.6**	**0.0**
KSP				*e*Pg	**Pg**	**03 52 09.3**	**-0.5**
KSP				*e*Sg	**Sb**	**03 52 34.0**	**0.0**
UPC	**Upice**	**2.06**	**283**	*e*PG	**Pn**	**03 52 07.4**	**-0.3**
UPC	comp=Z,20nm,0.5s			*e*SG	**Sb**	**03 52 35.8**	**-0.5**
KRUC	**Moravsky**	**2.07**	**242**	*e*PN	**Pb**	**03 52 09.9**	**-0.2**
KRUC				*e*SG	**Sb**	**03 52 36.9**	**+0.5**
PSZ	**Piszkesteto**	**2.21**	**167**	⇑*i*P	**Pg**	**03 52 13.9**	**-0.3**
PSZ	**Piszkesteto**	**2.21**	**167**	S	**Sg**	**03 52 47.2**	**+4.3**
PSZ	**Piszkesteto**	**2.21**	**167**	⇓*ex*	**Pg**	**03 52 16.7**	**+2.5**
PSZ				*ex*	**Sg**	**03 52 45.6**	**+2.7**
STZU	**Stuzhytsa**	**2.49**	**114**	*e*Pn	**Pb**	**03 52 16.5**	**-0.9**
UZH	**Uzhgorod**	**2.51**	**124**	*e*Pn	**Pb**	**03 52 17.8**	**+0.2**
TREC	**Trest**	**2.51**	**253**	*e*PG	**Pb**	**03 52 16.9**	**-0.8**
MUKU	**Mukachevo**	**2.83**	**124**	*e*Pn	**Pb**	**03 52 21.9**	**-1.1**
GOPC	**GO Pecny, Ondr** comp=Z,11nm,0.5s	**2.83**	**268**	*e*SG	**Sb**	**03 53 00.2**	**+2.0**
BERU	**Beregovo**	**2.94**	**128**	*e*Pn	**Pn**	**03 52 21.7**	**+2.0**
SOP	**Sopron**	**2.95**	**217**	*ex*	**Pn**	**03 52 20.5**	**+0.7**
TRPA	**Tarpa**	**2.95**	**130**	⇓*i*P	**Pb**	**03 52 24.2**	**-1.0**
TRPA	**Tarpa**	**2.95**	**130**	S	**Sg**	**03 53 05.3**	**-1.3**
PVCC	**Panska Ves** comp=Z,23nm,0.5s	**2.98**	**280**	*e*SG	**Sg**	**03 53 06.6**	**-0.8**
CONA	**Conrad Observa** 0.5nm,0.3s	**3.06**	**227**	Pn	**Pn**	**03 52 21.6**	**+0.2**
CONA				Sg	**Sn**	**03 52 59.6**	**+0.9**
BRG	3.8nm,0.4s **Berggiesshubel**	**3.43**	**285**	PG	**Pg**	**03 52 36.6**	**-0.8**
BRG				SG	**Sg**	**03 53 21.4**	**-0.3**
KHC	9.8nm,0.6s **Kasperske Hory**	**3.75**	**258**	*e*PN	**Pn**	**03 52 31.2**	**+0.3**
KHC				*ex*	x	03 52 38.5	
KHC				*e*SG	**Sg**	**03 53 30.3**	**-1.9**
GERES	comp=Z,9.4nm,0.7s **GERESS Array B** 0.2nm,0.3s,baz=70,slow=15,SNR=4.2	**3.77**	**253**	Pn	**Pn**	**03 52 31.1**	**0.0**
GERES				Pg	**Pb**	**03 52 41.0**	**+1.8**
GERES	0.5nm,0.3s,baz=66,slow=17,SNR=12			Lg	Lg	03 53 32.3	
MOA	1.6nm,0.3s,baz=69,slow=26,SNR=8.0 **Molln** 0.7nm,0.2s	**3.92**	**237**	*e*Pn	**Pn**	**03 52 33.8**	**+0.6**
MOA				*i* Sg	**Sb**	**03 53 28.4**	**-1.4**
DRGR	4.3nm,0.5s	**4.05**	**143**	⇑*i*P	**Pn**	**03 52 37.1**	**+2.1**
CLL	**Collm**	**4.10**	**290**	*e*Pg	Pg	03 52 56.0	+5.6
CLL				*e*Sg	**Sg**	**03 53 45.0**	**+1.5**
BURAR	comp=Z,18nm,1.3s **Bucovina Array**	**4.70**	**119**	⇑*i*P	**Pn**	**03 52 45.6**	**+1.7**
BSD	**Bornholm Skovb**	**5.67**	**334**	*i* P	**Pn**	**03 52 57.0**	**-0.1**
AKASG	**Malin Array Be** comp=Z,0.3nm,0.3s,baz=263,slow=13,SNR=3.5	**6.47**	**81**	Pg	**Pb**	**03 53 25.6**	**+0.5**
FINES	**FINESS Array B** comp=Z,0.2nm,0.3s,baz=201,slow=10,SNR=6.9	**12.03**	**16**	Pn	**Pn**	**03 54 21.8**	**-2.5**

IDC 22 03:54:31.9±3.9, 7.45N×136.26E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/41, mbtmp3.7/4, MS2.6/2, Ms1 2.6/2,

ms1mx2.3/41, **Error ellipse: s-maj=209.1km s-min=22.9km az=77.0, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**10.85**	**156**	LR	LR	04 00 39.0	
	comp=Z,20nm,18.6s,baz=18,slow=34						
JNU	**Nakatsue**	**26.03**	**350**	LR	LR	04 08 56.8	
	comp=Z,20nm,20.4s,baz=100,slow=33						
WRA	**Warramunga Arr**	**27.29**	**184**	P	P	04 00 18.2	-0.1
	0.2nm,0.5s,baz=2.6,slow=10,SNR=4.9						
ASAR	**Alice Springs**	**31.01**	**184**	P	P	04 00 51.5	0.0
	0.3nm,0.6s,baz=18,slow=10,SNR=4.5						
H11S3	**WAKE ISLAND Hy**	**31.57**	**67**	T	T	04 33 53.4	
	baz=253,slow=75,SNR=6.0						
H11S2	**WAKE ISLAND Hy**	**31.58**	**67**	T	T	04 33 54.1	
	baz=253,slow=75,SNR=5.0						
H11S1	**WAKE ISLAND Hy**	**31.58**	**67**	T	T	04 33 52.9	
	baz=253,slow=75,SNR=6.3						
SONM	**Songino Array**	**47.58**	**333**	P	P	04 03 09.2	-0.3
	1.7nm,0.8s,baz=143,slow=9.1,SNR=8.8						
MKAR	**Makanchi Array**	**60.37**	**320**	P	P	04 04 43.1	+0.1
	2.3nm,0.7s,baz=109,slow=9.1,SNR=12						

IDC 22 04:14:19.2±7.5, **50.62N**×**130.74E, h0**km, **Error ellipse: s-maj=107.0km s-min=46.0km az=64.0, Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLR	**Kul'dur**	**1.54**	**155**	Pg	Pn	04 14 47.0	-0.9
	0.7nm,0.3s,baz=328,slow=17,SNR=16						
KLR				Lg	Lg	04 15 08.0	
	1.7nm,0.3s,baz=126,slow=5.5,SNR=14						
I45RU	**USSURIYSK INFR**	**6.48**	**172**	*i*		04 53 40.0	
	baz=353,slow=324,SNR=2.4						
I44RU	**PETROPAVLOVSK**	**16.81**	**71**	*i*		05 58 40.0	
	baz=274,slow=325,SNR=0.5						
I30JP	**ISUMI INFRASON**	**16.81**	**152**	*i*		05 55 50.0	
	baz=342,slow=326,SNR=0.6						

NNC ***22*** *04:14:37.9±1.7, 42.15N×80.68E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=11.3km s-min=9.6km az=103.0*
SOME ***22*** *04:14:39.3, 42.25N×80.55E, h10km*
KRNET ***22*** *04:14:39.7±0.1, 42.33N×80.53E, mb3.6*
ISC 22 04:14:40.8±1.7, **42.29N**±0.06×**80.55E**±0.06, **h10**km, **n46,** σ**2.5**05/81, **31C-15D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.17**	**353**	*e*P	**Pn**	**04 15 01.9**	**-1.4**
	73nm,0.1s						
KTMS				*e*S	**Sb**	**04 15 18.4**	**0.0**
	247nm,0.4s						
SHLS	**Shalkode**	**1.18**	**318**	*e*P	**Pn**	**04 14 58.9**	**-4.7**
	167nm,0.1s						
SHLS				*e*S	**Sb**	**04 15 13.6**	**-5.2**
	483nm,0.4s						
PDGK	**Podgornoye**	**1.30**	**323**	⇑P	**Pn**	**04 15 03.5**	**-1.7**
	16nm,0.4s						
PDGK				⇑S	**Sg**	**04 15 25.6**	**+2.9**
	90nm,0.4s						
PDGK	**Podgornoye**	**1.30**	**323**	⇑*i*P	**Pn**	**04 15 03.7**	**-1.5**
	baz=23						
PDGK				⇑*i*S	**Sn**	**04 15 21.3**	**-1.4**
	baz=23						
UZB	**Uzynbulak**	**1.42**	**308**	*e*P	**Pn**	**04 15 05.5**	**-1.3**
	57nm,0.2s						
UZB				*e*S	**Sn**	**04 15 24.2**	**-1.4**
	114nm,0.1s						
PRZ	**Przheval'sk**	**1.60**	**278**	⇓*i*P	**Pb**	**04 15 09.2**	**-1.5**
	baz=76						
PRZ				⇓*i*S	**Sb**	**04 15 31.1**	**0.0**
	baz=76						
SATY	**Saty**	**1.76**	**297**	*e*P	**Pb**	**04 15 12.2**	**-1.1**
	128nm,0.4s						
SATY				*e*S	**Sn**	**04 15 35.7**	**+1.7**
	459nm,0.2s						
ZHN	**Zhinishke**	**1.79**	**300**	*e*P	**Pb**	**04 15 13.3**	**-0.4**
	86nm,0.2s						
ZHN				*e*S	**Sb**	**04 15 38.5**	**+2.2**
	351nm,0.2s						
KPKS	**Kokpek**	**1.81**	**311**	*e*P	**Pb**	**04 15 13.3**	**-0.8**
	135nm,0.2s						
KPKS				*e*S	**Sb**	**04 15 38.0**	**+1.2**
	616nm,0.4s						
DJR	**Jarkent**	**2.12**	**345**	*e*P	**Pb**	**04 15 18.9**	**-0.4**
	15nm,0.5s						
DJR				*e*S	**Sb**	**04 15 47.3**	**+1.6**
	147nm,0.4s						
KURS	**Kuram**	**2.12**	**305**	*e*P	**Pb**	**04 15 18.8**	**-0.6**
	80nm,0.2s						
KURS				*e*S	**Sb**	**04 15 47.3**	**+1.6**
	72nm,0.5s						
MNBS	**Baschi**	**2.38**	**319**	*e*P	**Pb**	**04 15 23.0**	**-0.8**
	66nm,0.2s						
MNBS				*e*S	**Sb**	**04 15 54.5**	**+1.2**
	274nm,0.3s						
KDJ	**Kajisay**	**2.51**	**267**	⇑*i*P	**Pb**	**04 15 24.0**	**-2.1**
	baz=66						
KDJ				⇑*i*S	**Sb**	**04 15 55.9**	**-1.2**
	baz=66						
KOTS	**Kotyrbulak**	**2.70**	**292**	*e*P	**Pb**	**04 15 30.2**	**+0.8**
	42nm,0.3s						
KOTS				*e*S	**Sg**	**04 16 06.7**	**-0.9**
	204nm,0.5s						
MDOK	**Medeo**	**2.72**	**290**	*e*P	**Pb**	**04 15 29.5**	**-0.3**
	36nm,0.3s						
MDOK				*e*S	**Sb**	**04 16 05.5**	**+2.3**
	78nm,0.4s						
TNSS	**Tian-Shan**	**2.76**	**287**	*e*P	**Pb**	**04 15 29.5**	**-1.0**
	70nm,0.3s						
TNSS				*e*S	**Sb**	**04 16 06.1**	**+1.5**
	67nm,0.4s						
ARXS	**Arharly**	**2.77**	**315**	*e*P	**Pb**	**04 15 30.1**	**-0.3**
	23nm,0.4s						
ARXS				*e*S	**Sb**	**04 16 06.6**	**+2.2**
	136nm,0.6s						
KNDC	**Almaty**	**2.80**	**291**	⇑Pg	**Pb**	**04 15 30.1**	**-0.8**
	42nm,0.3s						
KNDC				⇑Lg	Lg	04 16 10.1	
	42nm,0.3s						
AAA	**Alma-Ata**	**2.83**	**290**	*e*P	**Pb**	**04 15 32.0**	**+0.5**
	29nm,0.1s						
AAA				*e*S	**Sb**	**04 16 10.0**	**+3.7**
	74nm,0.3s						
IZV	**Izvestkoviy**	**3.00**	**286**	*e*P	**Pb**	**04 15 33.8**	**-0.6**
	33nm,0.2s						
IZV				*e*S	**Sb**	**04 16 12.8**	**+1.7**
	127nm,0.5s						
CHKK	**Chushkaly**	**3.04**	**302**	*e*P	**Pb**	**04 15 34.9**	**-0.2**
	12nm,0.3s						
CHKK				*e*S	**Sb**	**04 16 14.5**	**+2.2**
	99nm,0.3s						
KAPS	**Kapalarasan**	**3.12**	**344**	*e*P	**Pb**	**04 15 35.9**	**-0.5**
	5.7nm,0.2s						
KAPS				*e*S	**Sb**	**04 16 16.6**	**+2.2**
	55nm,0.4s						
TDK	**Taldyqorghan**	**3.13**	**331**	*e*P	**Pb**	**04 15 36.1**	**-0.4**
	63nm,0.2s						
TDK				*e*S	**Sb**	**04 16 17.0**	**+2.3**
	130nm,0.5s						
MTBS	**Maitube**	**3.15**	**287**	*e*P	**Pb**	**04 15 36.7**	**-0.3**
	21nm,0.3s						
MTBS				*e*S	**Sb**	**04 16 17.6**	**+2.1**
	93nm,0.3s						
KTBS	**Karatobe**	**3.17**	**298**	*e*P	**Pb**	**04 15 37.2**	**-0.2**
	22nm,0.3s						
KTBS				*e*S	**Sb**	**04 16 18.6**	**+2.5**
	139nm,0.3s						
ULHL	**Ulahol**	**3.20**	**271**	⇑*i*P	**Pb**	**04 15 33.6**	**-4.2**
	baz=70						
ULHL				⇑*i*S	**Sn**	**04 16 12.5**	**+2.9**
	baz=70						
BOOM	**Boomskoye usch**	**3.42**	**275**	⇑*i*P	**Pn**	**04 15 36.2**	**+1.8**
	baz=74						
BOOM				⇑*i*S	**Sn**	**04 16 17.4**	**+2.3**
	baz=74						
KST	**Kastek**	**3.47**	**284**	*e*P	**Pb**	**04 15 40.9**	**-1.5**
	30nm,0.3s						
KST				*e*S	**Sb**	**04 16 25.2**	**+0.7**
	71nm,0.5s						
KUU	**Kurty**	**3.48**	**299**	*e*P	**Pb**	**04 15 41.7**	**-0.7**
	8.6nm,0.5s						
KUU				*e*S	**Sb**	**04 16 26.4**	**+1.7**
	32nm,0.6s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**3.50**	**257**	⇑*i*P	**Pn**	**04 15 37.4**	**+1.7**
	baz=57						
NRN				⇑*i*S	**Sn**	**04 16 19.8**	**+2.5**
	baz=57						
TKM2	**Tokmak 2**	**3.71**	**281**	⇓Pn	**Pn**	**04 15 40.4**	**+2.0**
	6.3nm,0.5s						
TKM2				⇑Lg	Lg	04 16 38.3	
	30nm,0.6s						
TKM2	**Tokmak 2**	**3.71**	**281**	⇑*i*P	**Pn**	**04 15 40.3**	**+1.9**
	baz=81						
TKM2				⇑*i*S	**Sn**	**04 16 24.6**	**+2.3**
	baz=81						
KZA	**Kyzart**	**3.94**	**269**	⇑*i*P	**Pn**	**04 15 43.9**	**+2.1**
	baz=68						
KZA				⇑*i*S	**Sn**	**04 16 30.7**	**+2.4**
	baz=68						
KBK	**Karagaybulak**	**4.16**	**277**	⇑*i*P	**Pn**	**04 15 46.5**	**+2.0**
	baz=76						
KBK				⇑*i*S	**Sn**	**04 16 35.6**	**+2.3**
	baz=76						
CHMS	**Chumysh**	**4.34**	**281**	⇑*i*P	**Pn**	**04 15 48.7**	**+1.9**
	baz=81						
CHMS				⇑*i*S	**Sn**	**04 16 39.4**	**+2.0**
	baz=81						
UCH	**Uchtor**	**4.48**	**271**	⇑*i*P	**Pn**	**04 15 51.5**	**+2.3**
	baz=71						
UCH				⇑*i*S	**Sn**	**04 16 43.5**	**+1.9**
	baz=71						
AAK	**Ala-Archa**	**4.49**	**276**	Pn	**Pn**	**04 15 48.6**	**-0.5**
	3.8nm,0.9s						
AAK				⇓Pg	**Pg**	**04 16 03.7**	**-3.2**
	6.1nm,0.5s						
AAK				Lg	Lg	04 17 04.8	
	23nm,0.6s						
AAK	**Ala-Archa**	**4.49**	**276**	⇓*i*P	**Pn**	**04 15 51.5**	**+2.4**
	baz=76						
AAK				⇓*i*S	**Sn**	**04 16 43.4**	**+1.9**
	baz=76						
USP	**Ospenovka**	**4.56**	**284**	⇑*i*P	**Pn**	**04 15 51.8**	**+1.9**
	baz=84						
USP				⇑*i*S	**Sn**	**04 16 44.8**	**+1.8**
	baz=84						
MK31	**Makanchi Array**	**4.67**	**15**	⇑Pn	**Pn**	**04 15 53.1**	**+1.6**
	1.4nm,0.3s,baz=202,slow=14,SNR=58						
MK31				⇓Sn	**Sn**	**04 16 49.4**	**+3.7**
	5.7nm,0.5s,baz=186,slow=24,SNR=3.8						
MK31				⇓Lg	Lg	04 17 07.6	
	19nm,0.8s,baz=193,slow=27,SNR=4.2						
AML	**Almayashu**	**5.09**	**271**	⇓*e*P	**Pn**	**04 15 59.7**	**+2.1**
	baz=70						
AML				⇓*i*S	**Sn**	**04 16 58.2**	**+1.6**
	baz=70						
SFK	**Sufi-Kurgan**	**5.79**	**249**	⇓Pg	Pg	04 16 26.1	-5.5
	0.1nm,0.2s						
SFK				⇓Lg	Lg	04 17 43.9	
	1.3nm,0.5s						
MNAS	**Manas**	**5.96**	**275**	⇓Pg	**Pg**	**04 16 30.2**	**-4.7**
	4.3nm,1.0s						
MNAS				⇓Lg	Lg	04 17 52.7	
	7.7nm,1.0s						
KK31	**Karatay Array**	**7.44**	**280**	⇑Pg	Pg	04 16 56.0	-7.3
	1.8nm,0.8s						
KK31				⇓Lg	Lg	04 18 38.7	
	2.6nm,0.6s						
OTUK	**Ortayu**	**8.30**	**319**	⇑Lg	Lg	04 19 07.4	
	9.9nm,1.1s						
KURBB	**Kurchatov Arra**	**8.45**	**351**	⇑Lg	Lg	04 19 09.8	
	12nm,0.6s						

IDC 22 04:15:25.3±1.8, **1.07S**×**125.60E, h0**km, **mb3.7**/3, **mb1 4.0**/3, **mb1mx3.5**/42, **mbtmp3.8**/3, **MS3.9**/1, **Ms1 3.9**/1, **ms1mx2.5**/38, **Error ellipse: s-maj=176.9km s-min=24.7km az=64.0, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.62**	**156**	P	P	04 20 05.9	-0.6
	0.8nm,0.3s,baz=334,slow=12,SNR=42						
ASAR	**Alice Springs**	**23.87**	**161**	P	P	04 20 41.2	+0.5
	1.8nm,0.4s,baz=346,slow=11,SNR=29						
CTA	**Charters Tower**	**27.67**	**134**	LR	LR	04 33 36.6	
	comp=Z,271nm,21.6s,baz=314,slow=39						
MKAR	**Makanchi Array**	**60.89**	**327**	P	P	04 25 39.8	-0.1
	0.4nm,0.6s,baz=123,slow=11,SNR=4.7						

IDC 22 04:22:54.6±9.2, **51.01N**×**130.34E, h0**km, **Error ellipse: s-maj=94.7km s-min=52.2km az=61.0, Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLR	**Kul'dur**	**2.00**	**152**	Pg	Pn	04 23 30.7	+1.0
	0.6nm,0.3s,baz=329,slow=14,SNR=7.4						
KLR				Lg	Lg	04 23 58.4	
	0.9nm,0.3s,baz=336,slow=23,SNR=11						
I45RU	**USSURIYSK INFR**	**6.91**	**170**	*i*		05 03 00.0	
	baz=353,slow=329,SNR=2.3						
I44RU	**PETROPAVLOVSK**	**16.93**	**72**	*i*		06 10 10.0	
	baz=274,slow=325,SNR=0.6						
I30JP	**ISUMI INFRASON**	**17.28**	**152**	*i*		06 04 50.0	
	baz=341,slow=323,SNR=0.5						

ISCJB ***22*** *04:52:10.9±0.9, 22.32S×0.06×66.22W±0.07, h250km,*
mb3.1/1, Error ellipse: s-maj=9.8km s-min=7.4km az=31.1
IDC ***22*** *04:52:10.1±1.5, 22.24S×66.22W, h263km±27km, mb3.0/1,*
mb1 3.0/5, mb1mx2.9/36, mbtmp3.5/5, Error ellipse:
s-maj=43.5km s-min=15.3km az=109.0
GUC ***22*** *04:52:11.9±0.3, 22.31S×66.61W, h266km±21km, ML3.5*
ISC 22 04:52:09.9±1.1, **22.30S**±0.07×**66.16W**±0.09, **h250**km, **n13,** σ**1.9**35/21, **5C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.56**	**262**	P	**Pn**	**04 52 59.8**	**+1.6**
	7.8nm,0.3s,baz=87,slow=5.5,SNR=74						
LVC				S	**S**	**04 53 37.0**	**+0.8**
	5.4nm,0.3s,baz=271,slow=21,SNR=42						
PB06	**IPOC Station P**	**3.18**	**262**	*e*P	**Pn**	**04 53 05.7**	**+1.1**
PB06				IAML		04 53 51.0	
	comp=N,57nm,0.3s						
PB15	**IPOC Station P**	**3.19**	**253**	*e*P	**Pn**	**04 53 06.0**	**+1.3**
PB01	**IPOC Station P**	**3.33**	**291**	⇑*i*P	**Pn**	**04 53 07.4**	**+1.2**
PB01				*i* S	**S**	**04 53 49.9**	**-0.9**
PB03	**IPOC Station P**	**3.34**	**274**	*e*P	**Pn**	**04 53 07.5**	**+1.1**
PB03				*i* S	**S**	**04 53 49.8**	**-1.1**
PB07	**IPOC Station P**	**3.50**	**279**	⇑*i*P	**Pn**	**04 53 09.5**	**+1.3**
PB07				*i* S	**S**	**04 53 52.9**	**-1.4**
PB04	**IPOC Station P**	**3.69**	**269**	⇑*i*P	**Pn**	**04 53 11.4**	**+1.1**
PB04				*i* S	**S**	**04 53 56.6**	**-1.6**
PB05	**IPOC Station P**	**3.77**	**261**	⇑*i*P	**Pn**	**04 53 12.3**	**+1.0**
PB05				*i* S	**S**	**04 53 58.1**	**-1.8**
GO02	**Mina Guanaco**	**4.24**	**227**	⇑*i*P	**Pn**	**04 53 17.9**	**+1.0**
GO02				*i* S	**S**	**04 54 09.0**	**-1.1**
LPAZ	**La Paz**	**6.26**	**342**	P	**Pn**	**04 53 43.3**	**+1.3**
	comp=N,0.9nm,0.3s,baz=169,slow=8.1,SNR=33						
LPAZ				S	**S**	**04 54 55.7**	**+0.2**
	comp=N,0.1nm,0.3s,baz=14,slow=16,SNR=4.3						
SIV	**San Ignacio**	**7.90**	**38**	P	**Pn**	**04 54 02.1**	**-0.1**
	comp=N,0.5nm,0.3s,baz=243,slow=6.5,SNR=15						
PLCA	**Paso Flores**	**18.75**	**190**	P	**P**	**04 56 12.2**	**+1.5**
	comp=N,0.2nm,0.3s,baz=4.6,slow=10,SNR=6.0						
TORD	**Torodi Ar. Bea**	**75.24**	**69**	P	**P**	**05 03 23.9**	**-1.9**
	comp=N,0.2nm,0.4s,baz=258,slow=5.9,SNR=7.2						

IDC ***22*** *04:53:47.8±1.3, 13.75N×92.50W, h0km, mb3.7/6,*
mb1 3.9/9, mb1mx3.7/46, mbtmp3.6/9, ML3.5/3, MS3.2/3,
Ms1 3.2/3, ms1mx2.7/32, Error ellipse: s-maj=44.5km
s-min=17.9km az=42.0
ISCJB ***22*** *04:53:50.8±1.2, 13.8N±0.2×92.6W±0.1, h35km, mb3.7/6,*
MS3.5/2, Error ellipse: s-maj=26.9km s-min=13.0km
az=34.7
ISC 22 04:53:52.5±1.2, **13.8N**±0.2×**92.6W**±0.1, **h35**km, **n13,** σ**1.9**55/10, **mb3.8/6, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**2.41**	**59**	Pn	**Pn**	**04 54 29.4**	**-0.4**
	16nm,0.3s,baz=240,slow=6.8,SNR=43						
APG				LR	LR	04 55 24.4	
	comp=Z,113nm,21.3s,baz=155,slow=41						
CMIG	**Matias Romero**	**3.98**	**327**	Pn	**Pn**	**04 54 49.0**	**-2.1**
	2.1nm,0.3s,baz=139,slow=9.9,SNR=24						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**8.23**	**114**	Lg	Lg	04 58 04.7	
	0.4nm,0.3s,baz=3.9,slow=24,SNR=3.8						
TXAR	**Lajitas Array**	**18.59**	**328**	P	**Pn**	**04 58 07.3**	**+0.1**
	0.0nm,0.3s,baz=149,slow=12,SNR=6.5						
TKL	**Tuckaleechee C**	**23.21**	**18**	LR	LR	05 08 22.0	
	comp=Z,96nm,18.3s,baz=250,slow=38						
PDAR	**Pinedale Array**	**32.41**	**336**	P	**P**	**05 00 19.1**	**-0.2**
	0.2nm,0.4s,baz=165,slow=13,SNR=2.2						
NVAR	**Mina Array Bea**	**33.50**	**322**	P	**P**	**05 00 30.4**	**+1.5**
	0.9nm,0.7s,baz=129,slow=8.7,SNR=5.7						
PTGA	**Pitinga**	**35.39**	**111**	P	**P**	**05 00 42.9**	**-2.4**
	1.0nm,0.9s,baz=175,slow=13,SNR=1.8						
SIV	**San Ignacio**	**42.95**	**132**	P	**P**	**05 01 49.1**	**+0.7**
	0.6nm,0.7s,baz=305,slow=9.9,SNR=4.1						
SCHQ	**Schefferville**	**45.65**	**21**	LR	LR	05 22 11.8	
	comp=Z,67nm,18.4s,baz=174,slow=37						
YKA	**Yellowknife Ar**	**51.13**	**347**	P	**P**	**05 02 51.8**	**+0.2**
	1.6nm,0.6s,baz=151,slow=7.2,SNR=17						
ILAR	**Eielson Array**	**62.84**	**337**	P	**P**	**05 04 16.1**	**+1.5**
	0.4nm,0.4s,baz=108,slow=6.1,SNR=4.7						
CMAR	**Chiang Mai Arr**	**146.03**	**340**	PKPbc	**PKPab**	**05 13 31.3**	**+1.2**
	0.9nm,0.3s,baz=341,slow=3.2,SNR=10						

MDD ***22*** *05:05:43.9±2.5, 37.65N×17.20W, h29km±60km, mb4.2/3,*
Error ellipse: s-maj=42.7km s-min=18.8km az=114.0,
PRXIMO
INMG ***22*** *05:05:46.7±2.3, 37.54N×17.25W, h10km, ML2.9, Error*
ellipse: s-maj=14.3km s-min=5.4km az=117.0
ISC 22 05:05:39.4±1.9, **37.54N**±0.07×**17.0W**±0.1, **h10**km, **n42,** σ**3.9**36/61, **Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPS	**Porto Santo**	**4.51**	**173**	*e*Sn	**Sn**	**05 07 33.9**	**-6.3**
PMPS	**Porto Santo**	**4.51**	**173**	S	**Sn**	**05 07 33.9**	**-6.3**
PMOZ	**Porto Moniz, M**	**4.71**	**182**	*e*Sn	**Sn**	**05 07 41.0**	**-4.4**
PMOZ	**Porto Moniz, M**	**4.71**	**182**	S	**Sn**	**05 07 41.0**	**-4.4**
PMAR	**Madeira**	**4.81**	**179**	*e*Pn	**Pn**	**05 06 55.3**	**+3.3**
PMAR				*e*Sn	**Sn**	**05 07 42.8**	**-5.1**
PMAR				A	A	05 07 45.2	
	16nm,0.2s						
PMAR	**Madeira**	**4.81**	**179**	P	**Pn**	**05 06 55.3**	**+3.3**
PMAR				S	**Sn**	**05 07 42.8**	**-5.1**
	7.8nm,0.2s						
PMAFR	**Mafra**	**6.23**	**75**	*e*Pn	**Pn**	**05 07 14.6**	**+3.2**
PMAFR				*e*Sn	**Sn**	**05 08 22.1**	**-0.6**
PMAFR				A	A	05 08 25.6	
	16nm,0.2s						
PMAFR	**Mafra**	**6.23**	**75**	P	**Pn**	**05 07 15.3**	**+3.9**
	2.4nm,0.3s,SNR=7.9						
PMAFR				S	**Sn**	**05 08 23.0**	**+0.3**
	15nm,0.2s,SNR=12						
PMST	**Lisbon--Monsan**	**6.27**	**77**	*e*Sn	**Sn**	**05 08 22.0**	**-1.7**
PMST				A	A	05 08 28.7	
	15nm,0.5s						
PFVI	**Vila Bisbo**	**6.52**	**91**	*e*Sn	**Sn**	**05 08 27.9**	**-1.9**
PFVI	**Vila Bisbo**	**6.52**	**91**	P	Pn	05 07 20.5	+5.2
	SNR=7.9						
PFVI				S	**Sn**	**05 08 26.4**	**-3.4**
	SNR=7.9						
PTEO	**Sao Teotonio**	**6.57**	**87**	*e*Sn	**Sn**	**05 08 28.4**	**-2.7**
PTEO				A	A	05 08 34.0	
	9.7nm,0.7s						
PTEO	**Sao Teotonio**	**6.57**	**87**	S	**Sn**	**05 08 28.4**	**-2.7**
	4.8nm,0.7s						
MORF	**Marmelete**	**6.65**	**90**	*e*Pn	**Pn**	**05 07 19.4**	**+2.3**
MORF				*e*Sn	**Sn**	**05 08 31.8**	**-1.2**
MORF				A	A	05 08 41.5	
	4.8nm,0.1s						
MORF	**Marmelete**	**6.65**	**90**	P	**Pn**	**05 07 19.4**	**+2.3**
MORF				S	**Sn**	**05 08 31.8**	**-1.2**
	4.8nm,0.1s						
MESJ	**Messejana**	**6.97**	**85**	*e*Sn	**Sn**	**05 08 39.1**	**-1.6**
MESJ				A	A	05 08 42.6	
	3.4nm,0.1s						
MESJ	**Messejana**	**6.97**	**85**	S	**Sn**	**05 08 39.1**	**-1.6**
	3.4nm,0.1s						
PTOM	**Tomar**	**7.04**	**70**	*e*Sn	**Sn**	**05 08 40.0**	**-2.5**
PTOM	**Tomar**	**7.04**	**70**	S	**Sn**	**05 08 40.0**	**-2.5**
PCAS	**Casmilo, Conde**	**7.09**	**67**	*e*Sn	**Sn**	**05 08 41.0**	**-2.9**
PCAS				A	A	05 08 44.2	
	1.7nm,0.3s						
EVO	**Evora**	**7.16**	**79**	*e*Pn	Pn	05 07 28.8	+4.7
EVO				*e*Sn	**Sn**	**05 08 45.3**	**-0.2**
EVO				A	A	05 08 49.7	
	5.3nm,0.1s						
EVO	**Evora**	**7.16**	**79**	P	Pn	05 07 28.8	+4.7
EVO				S	**Sn**	**05 08 45.3**	**-0.2**
	5.3nm,0.1s						
PBEJ	**Beja**	**7.25**	**83**	*e*Sn	**Sn**	**05 08 46.4**	**-1.3**
PBEJ				A	A	05 08 52.7	
	2.6nm,0.3s						
PBEJ	**Beja**	**7.25**	**83**	S	**Sn**	**05 08 46.4**	**-1.3**
	1.3nm,0.3s						
PVAQ	**Vaqueiros**	**7.38**	**88**	*e*Pn	**Pn**	**05 07 30.7**	**+3.5**
PVAQ				*e*Sn	**Sn**	**05 08 49.1**	**-1.9**
PVAQ				A	A	05 08 57.7	
	4.0nm,0.5s						
PVAQ	**Vaqueiros**	**7.38**	**88**	P	**Pn**	**05 07 30.7**	**+3.5**
PVAQ				S	**Sn**	**05 08 49.1**	**-1.9**
	4.0nm,0.5s						
PESTR	**Estremoz**	**7.52**	**77**	*e*Pn	Pn	05 07 34.4	+5.3
PESTR				*e*Sn	**Sn**	**05 08 53.1**	**-1.4**
EGRO	**El Granado**	**7.56**	**87**	P	**Pn**	**05 07 33.7**	**+4.1**
	0.5nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**05 08 53.6**	**-1.7**
	1.2nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**7.76**	**73**	*e*Pn	**Pn**	**05 07 36.0**	**+3.5**
PMRV				*e*Sn	**Sn**	**05 08 58.2**	**-2.2**
PMRV				A	A	05 09 01.3	
	2.6nm,0.3s						
PMRV	**Marv??o**	**7.76**	**73**	P	**Pn**	**05 07 36.0**	**+3.5**
PMRV				S	**Sn**	**05 08 58.2**	**-2.2**
	2.6nm,0.3s						
PCBR	**Castelo Branco**	**7.79**	**70**	*e*Sn	**Sn**	**05 08 56.9**	**-4.1**
PCBR				A	A	05 09 02.4	
	1.7nm,0.5s						
PCBR	**Castelo Branco**	**7.79**	**70**	S	**Sn**	**05 08 56.9**	**-4.1**
	0.9nm,0.5s						
EBAD	**Badajoz**	**7.96**

TVAN	**Van**	**0.26**	**138**	*i* P	**Pg**	**05 06 58.6**	**-0.2**
TVAN				*i* S	**Sg**	**05 07 03.1**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.37**	**283**	*i* P	**Pb**	**05 07 01.3**	**-0.2**
ADCV				*i* S	**Sb**	**05 07 08.1**	**+0.9**
VMUR	**Van-Muradiye**	**0.40**	**49**	*i* P	**Pg**	**05 07 00.8**	**-0.5**
VMUR				*i* S	**Sb**	**05 07 08.7**	**+0.5**
GEVA	**Gevas**	**0.42**	**193**	*i* P	**Pg**	**05 07 01.7**	**+0.1**
CLDR	**Caldiran**	**0.71**	**54**	PG	**Pb**	**05 07 07.2**	**-0.2**
TUTA	**Tutak**	**0.73**	**337**	*i* P	**Pg**	**05 07 07.5**	**+0.1**
AGRB	**Hanur-Agry**	**0.86**	**350**	PG	**Pg**	**05 07 09.7**	**-0.1**
GURO	**Guroymak-BITLI**	**0.92**	**259**	PG	**Pb**	**05 07 10.1**	**-0.7**
GURO				SG	**Sb**	**05 07 22.7**	**-0.2**

IDC 22 05:18:22.4±14.0, 23.47S×178.70E, h662km±194km, mb3.1/5, mb1 3.4/5, mb1mx3.0/35, mbtmp4.3/5, Error ellipse: s-maj=103.8km s-min=72.2km az=146.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**30.28**	**270**	P	P	05 23 44.4	+0.8
	14nm,0.3s,baz=92,slow=11,SNR=34						
STKA	**Stephens Creek**	**33.78**	**247**	P	P	05 24 12.1	-0.8
	0.9nm,0.4s,baz=101,slow=5.2,SNR=3.4						
ASAR	**Alice Springs**	**40.93**	**260**	P	P	05 25 10.8	0.0
	0.9nm,0.4s,baz=99,slow=7.3,SNR=13						
WRA	**Warramunga Arr**	**41.25**	**266**	P	P	05 25 13.1	-0.1
	1.5nm,0.4s,baz=96,slow=8.4,SNR=107						
TXAR	**Lajitas Array**	**91.22**	**59**	P	P	05 30 19.7	+0.1
	0.4nm,0.7s,baz=216,slow=4.5,SNR=3.5						

*IDC **22** 05:21:44.3±0.4, 54.09N×168.40E, h0km, mb4.9/39, mb1 5.0/42, mb1mx4.9/55, mbtmp4.9/42, ML3.9/3, MS4.1/29, Ms1 4.1/29, ms1mx4.0/39, Error ellipse: s-maj=11.6km s-min=8.9km az=156.0*

*ISCJB **22** 05:21:45.4±0.6, 53.98N±0.02×168.40E±0.02, h19km±4km, mb5.1/469, MS4.2/43, Error ellipse: s-maj=3.9km s-min=1.7km az=178.3*

*BJI **22** 05:21:47.2, 54.45N×168.11E, h25km, mb5.0/56, mB5.1/44, Ms4.7/42, Ms7 4.4/32*

*NEIC **22** 05:21:47.9±0.1, 54.10N×168.32E, mb5.3/299, Error ellipse: s-maj=4.4km s-min=2.2km az=171.0*

*MOS **22** 05:21:47.6±1.0, 53.92N×168.33E, h75km, mb5.2/127, MS4.1/17, Error ellipse: s-maj=4.8km s-min=3.8km az=113.8*

*KRSC **22** 05:21:49.8±1.7, 53.91N×167.92E, h83km±31km, ML5.4*

*GCMT **22** 05:21:50.9±0.4, 54.04N±0.02×168.43E±0.03, h28km±2km, MW4.9/68, Moment Tensor Solution. s17,c17; s68,c91; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr 1.32±.19; Mθθ -2.57±.14; Mφφ 1.25±.10; Mrθ -0.02±.20; Mθφ 0.03±.09; Mφr 1.93±.27; Best double couple: Mo2.89300×10^16 NP1:φs306.00000°, δ60.00000°, λ144.00000°. NP2: φs56.00000°, δ59.00000°, λ35.00000°. Principal axes: T 3.2150, Plg46.0000°, Azm270.0000°; N -0.6450, Plg44.0000°, Azm92.0000°; P -2.5710, Plg1.0000°, Azm1.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 05:21:48.9±0.5, 53.89N±0.04×168.28E±0.03, h31km±3km, h31km:pP-P, n1196, o1938/1234, mb5.2/470, MS4.2/44, 45C-9D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMY	**Shemya**	**3.68**	**106**	P	**Pn**	**05 22 43.2**	**-0.3**
SMY				S	**Sn**	**05 23 24.9**	**-0.9**
SMY	**Shemya**	**3.68**	**106**	PN	**Pn**	**05 22 43.3**	**-0.3**
SMY				S	**Sn**	**05 23 24.9**	**-0.9**
MKZ	**Mys Kozlova**	**3.90**	**283**	*e*P	**Pn**	**05 22 46.4**	**-0.2**
MKZ				*e*S	**Sn**	**05 23 29.0**	**-2.3**
MKZ	**Mys Kozlova**	**3.90**	**283**	PN	**Pn**	**05 22 46.4**	**-0.2**
KBTR	**Krutoberegovo**	**3.91**	**309**	*e*P	**Pn**	**05 22 45.8**	**-0.9**
KBTR				*e*S	**Sn**	**05 23 29.3**	**-2.2**
KBTR	**Krutoberegovo**	**3.91**	**309**	PN	**Pn**	**05 22 45.8**	**-0.9**
KBG	**Krutoberegovo**	**3.99**	**309**	*e*P	**Pn**	**05 22 48.9**	**+1.1**
KBG				*e*S	**Sn**	**05 23 33.3**	**-0.1**
KBG	**Krutoberegovo**	**3.99**	**309**	PN	**Pn**	**05 22 48.9**	**+1.1**
KBG				S	**Sn**	**05 23 33.3**	**-0.1**
SMKR	**Semkarok**	**4.74**	**307**	*e*P	**Pn**	**05 22 59.2**	**+0.9**
SMKR	**Semkarok**	**4.74**	**307**	PN	**Pn**	**05 22 59.2**	**+0.9**
ZLN	**Zelenaya**	**4.81**	**299**	*e*P	**Pn**	**05 23 00.2**	**+1.0**
ZLN				*e*S	**Sn**	**05 23 53.0**	**-0.8**
ZLN	**Zelenaya**	**4.81**	**299**	PN	**Pn**	**05 23 00.2**	**+1.0**
KZV	**Kizimen**	**4.81**	**288**	*e*P	**Pn**	**05 22 59.1**	**-0.2**
KZV				*e*S	**Sn**	**05 23 50.7**	**-3.3**
KZV	**Kizimen**	**4.81**	**288**	PN	**Pn**	**05 22 59.1**	**-0.2**
BZGR	**Bezymyannyi-Gr**	**4.83**	**298**	*e*P	**Pn**	**05 23 00.0**	**+0.4**
BZGR	**Bezymyannyi-Gr**	**4.83**	**298**	PN	**Pn**	**05 23 00.0**	**+0.4**
BDR	**Baidarnaya**	**4.86**	**306**	*e*P	**Pn**	**05 23 01.7**	**+1.9**
BDR				*e*S	**Sn**	**05 23 54.8**	**-0.2**
BDR	**Baidarnaya**	**4.86**	**306**	PN	**Pn**	**05 23 01.7**	**+1.9**
CIRR	**Tsirk**	**4.88**	**300**	*e*P	**Pn**	**05 23 02.6**	**+2.4**
CIRR	**Tsirk**	**4.88**	**300**	PN	**Pn**	**05 23 02.6**	**+2.4**
LGNR	**Loginova**	**4.89**	**300**	*e*P	**Pn**	**05 23 02.1**	**+1.6**
LGNR	**Loginova**	**4.89**	**300**	PN	**Pn**	**05 23 02.1**	**+1.6**
SRKR	**Sorokina**	**4.92**	**307**	*e*P	**Pn**	**05 23 02.7**	**+2.0**
SRKR	**Sorokina**	**4.92**	**307**	PN	**Pn**	**05 23 02.7**	**+2.0**
TUMR	**Tumrok**	**4.93**	**290**	*e*P	**Pn**	**05 23 01.0**	**+0.1**
TUMR				*e*S	**Sn**	**05 23 53.7**	**-3.2**
TUMR	**Tumrok**	**4.93**	**290**	PN	**Pn**	**05 23 01.0**	**+0.1**
BZMR	**Bezymyannaya**	**4.94**	**298**	*e*P	**Pn**	**05 23 01.4**	**+0.4**
BZMR	**Bezymyannaya**	**4.94**	**298**	PN	**Pn**	**05 23 01.4**	**+0.4**
BZWR	**Bezymyannyi-We**	**4.95**	**298**	*e*P	**Pn**	**05 23 01.7**	**+0.5**
BZWR	**Bezymyannyi-We**	**4.95**	**298**	PN	**Pn**	**05 23 01.7**	**+0.5**
SPN	**Mys Shipunski**	**4.99**	**264**	*e*P	**Pn**	**05 23 01.8**	**+0.2**
SPN				*e*S	**Sn**	**05 23 55.6**	**-2.6**
SPN	**Mys Shipunski**	**4.99**	**264**	PN	**Pn**	**05 23 01.8**	**+0.2**
KLY	**Klyuchi**	**5.01**	**302**	*e*P	**Pn**	**05 23 01.8**	**0.0**
KLY				*e*S	**Sn**	**05 23 54.8**	**-3.8**
KLY	**Klyuchi**	**5.01**	**302**	PN	**Pn**	**05 23 01.8**	**0.0**
KRSR	**Krestovskiy**	**5.01**	**301**	*e*P	**Pn**	**05 23 03.6**	**+1.6**
KRSR	**Krestovskiy**	**5.01**	**301**	PN	**Pn**	**05 23 03.6**	**+1.6**
KMNR	**Kamenistaya**	**5.01**	**295**	*e*P	**Pn**	**05 23 02.5**	**+0.5**
KMNR	**Kamenistaya**	**5.01**	**295**	PN	**Pn**	**05 23 02.5**	**+0.5**
KIRR	**Kirishev**	**5.02**	**298**	*e*S	**Sn**	**05 23 57.1**	**-2.1**
KPT	**Kopyto**	**5.09**	**297**	*e*P	**Pn**	**05 23 03.8**	**+0.7**
KPT	**Kopyto**	**5.09**	**297**	PN	**Pn**	**05 23 03.8**	**+0.7**
KII	**Karymskiy**	**5.22**	**275**	*e*P	**Pn**	**05 23 04.8**	**0.0**
KII				*e*S	**Sn**	**05 24 01.0**	**-2.9**
KII	**Karymskiy**	**5.22**	**275**	PN	**Pn**	**05 23 04.8**	**0.0**
KOZ	**Kozyrevsk**	**5.31**	**298**	*e*P	**Pn**	**05 23 06.8**	**+0.8**
KOZ	**Kozyrevsk**	**5.31**	**298**	PN	**Pn**	**05 23 06.8**	**+0.8**
NLC	**Nalytchevo**	**5.38**	**266**	*e*P	**Pn**	**05 23 06.7**	**-0.2**
NLC				*e*S	**Sn**	**05 24 03.8**	**-3.9**
NLC	**Nalytchevo**	**5.38**	**266**	PN	**Pn**	**05 23 06.7**	**-0.2**
SDLR	**Sedlovina**	**5.63**	**268**	*i* P	**Pn**	**05 23 10.9**	**+0.4**
SDLR	**Sedlovina**	**5.63**	**268**	PN	**Pn**	**05 23 10.9**	**+0.4**
UGLR	**Uglovaya**	**5.68**	**267**	*e*P	**Pn**	**05 23 11.8**	**+0.6**
UGLR	**Uglovaya**	**5.68**	**267**	PN	**Pn**	**05 23 11.8**	**+0.6**
SMAR	**Somma**	**5.68**	**268**	*e*P	**Pn**	**05 23 11.6**	**+0.3**
SMAR				*e*S	**Sn**	**05 24 12.4**	**-3.1**
SMAR	**Somma**	**5.68**	**268**	PN	**Pn**	**05 23 11.6**	**+0.3**
AVH	**Avacha**	**5.72**	**268**	*e*P	**Pn**	**05 23 12.4**	**+0.7**
AVH				*e*S	**Sn**	**05 24 14.5**	**-1.7**
AVH	**Avacha**	**5.72**	**268**	PN	**Pn**	**05 23 12.4**	**+0.7**
KRX	**Arik**	**5.76**	**269**	*e*P	**Pn**	**05 23 12.6**	**+0.3**
KRX				*e*S	**Sn**	**05 24 14.8**	**-2.4**
KRX	**Arik**	**5.76**	**269**	PN	**Pn**	**05 23 12.6**	**+0.3**
KOK	**Koryaka**	**5.78**	**268**	*e*P	**Pn**	**05 23 12.9**	**+0.4**
KOK	**Koryaka**	**5.78**	**268**	PN	**Pn**	**05 23 12.9**	**+0.4**
PET	**Petropavlovsk**	**5.82**	**265**	*i* P	**Pn**	**05 23 13.8**	**+0.9**
PET	**Petropavlovsk**	**5.82**	**265**	i/PN	**Pn**	**05 23 12.9**	**0.0**
PET				pmax	pmax		
	comp=Z,260nm,0.4s						
PET				MLR	MLR		
	comp=Z,3μm,18.0s						
PET				MLR	MLR		
	comp=Z,2μm,16.0s						
RUS	**Russkaya**	**6.05**	**260**	*e*P	**Pn**	**05 23 16.2**	**0.0**
RUS				*e*S	**Sn**	**05 24 20.7**	**-3.6**
RUS	**Russkaya**	**6.05**	**260**	PN	**Pn**	**05 23 16.2**	**0.0**
GNL	**Ganaly**	**6.13**	**272**	*e*P	**Pn**	**05 23 18.2**	**+0.8**
GNL	**Ganaly**	**6.13**	**272**	PN	**Pn**	**05 23 18.2**	**+0.8**
MTVR	**Mutnovka**	**6.23**	**261**	*e*P	**Pn**	**05 23 19.0**	**+0.2**
MTVR				*e*S	**Sn**	**05 24 25.9**	**-3.0**
MTVR	**Mutnovka**	**6.23**	**261**	PN	**Pn**	**05 23 19.0**	**+0.2**
GRL	**Gorelyy**	**6.28**	**262**	*e*P	**Pn**	**05 23 20.8**	**+1.4**
GRL	**Gorelyy**	**6.28**	**262**	PN	**Pn**	**05 23 20.8**	**+1.4**
PEA0B	**Petropavlovsk-**	**6.36**	**267**	*e*Pn	**Pn**	**05 23 20.9**	**+0.4**
PEA0B				*e*Sn	**Sn**	**05 24 33.0**	**+1.0**
PETK	**Petropavlovsk-**	**6.36**	**267**	Pn	**Pn**	**05 23 21.2**	**+0.7**
	comp=Z,320nm,0.3s,baz=95,slow=20,SNR=549						
PETK				Sn	**Sn**	**05 24 33.5**	**+1.5**
	comp=Z,25nm,0.3s,baz=90,slow=7.4,SNR=5.8						
PETK	**Petropavlovsk-**	**6.36**	**267**	*e*Pn	**Pn**	**05 23 19.4**	**-1.1**
PETK				*e*Sn	**Sn**	**05 24 34.0**	**+2.1**
TILK	**Tilichiki**	**6.68**	**351**	*e*P	**Pn**	**05 23 26.1**	**+1.4**
TILK				*e*S	**Sn**	**05 24 39.3**	**-0.3**
TILK	**Tilichiki**	**6.68**	**351**	PN	**Pn**	**05 23 26.1**	**+1.4**
CESW	**Semis' Southwe**	**7.11**	**102**	P	**Pn**	**05 23 29.5**	**-1.3**
PAU	**Pauzhetka**	**7.38**	**255**	*e*P	**Pn**	**05 23 35.8**	**+1.4**
PAU				*e*S	**Sn**	**05 24 55.0**	**-2.0**
PAU	**Pauzhetka**	**7.38**	**255**	PN	**Pn**	**05 23 35.8**	**+1.4**
SKR	**Severo-Kuril's**	**8.12**	**252**	*e*P	**Pn**	**05 23 44.8**	**+0.3**
SKR				*e*S	**Sn**	**05 25 10.8**	**-4.3**
SKR	**Severo-Kuril's**	**8.12**	**252**	*e*PN	**Pn**	**05 23 44.8**	**+0.3**
SKR				pmax	pmax		
	comp=Z,343nm,0.8s						
SKR				MLR	MLR		
	comp=Z,2μm,15.0s						
TASE	**Tanaga Southea**	**8.53**	**98**	P	**Pn**	**05 23 49.1**	**-1.1**
TAFP	**Tanaga Falls P**	**8.54**	**98**	P	**Pn**	**05 23 48.8**	**-1.5**
KIKV	**Kanaga Island**	**9.03**	**97**	P	**Pn**	**05 23 55.6**	**-1.4**
KIMD	**Kanaga Island**	**9.03**	**98**	P	**Pn**	**05 23 55.3**	**-1.7**
KIWB	**Kanaga Island**	**9.05**	**97**	*e*Pn	**Pn**	**05 23 55.4**	**-1.9**
ADK	**Adak**	**9.31**	**96**	P	**Pn**	**05 23 58.7**	**-2.1**
ADK				S	**Sn**	**05 25 38.3**	**-6.1**
ADK	**Adak**	**9.31**	**96**	PN	**Pn**	**05 23 58.7**	**-2.1**
ETKA	**Kagalaska Isla**	**9.48**	**96**	P	**Pn**	**05 24 02.4**	**-0.8**
GSTD	**Great Sitkin T**	**9.58**	**95**	P	**Pn**	**05 24 01.6**	**-2.9**
GSTR	**Great Sitkin T**	**9.62**	**94**	*e*Pn	**Pn**	**05 24 03.8**	**-1.3**
GSMY	**Great Sitkin M**	**9.63**	**95**	P	**Pn**	**05 24 04.2**	**-1.0**
ATKA	**Atka Island**	**10.69**	**92**	*e*Pn	**Pn**	**05 24 19.4**	**-0.3**
ATKA				*e*Sn	**Sn**	**05 26 17.3**	**-0.7**
SEY	**Seymchan**	**12.28**	**324**	Pn	**Pn**	**05 24 39.6**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=18,slow=20,SNR=1.9						
SEY	**Seymchan**	**12.28**	**324**	*e*PN	**Pn**	**05 24 44.2**	**+2.9**
BILL	**Bilibino**	**14.23**	**357**	*e*Pn	**Pn**	**05 25 09.4**	**+1.4**
BILL	**Bilibino**	**14.23**	**357**	*d i*P	**Pn**	**05 25 09.3**	**+1.4**
BILL				*e*S	**Sn**	**05 27 47.1**	**+2.6**
BILL				pmax	pmax		
	comp=Z,59nm,0.8s						
BILL				MLR	MLR		
	comp=Z,2μm,17.0s						
UNV	**Unalaska Valle**	**14.86**	**80**	*e*Pn	**P**	**05 25 19.9**	**-2.0**
AKUT	**Akutan**	**15.23**	**79**	*e*Pn	**P**	**05 25 26.5**	**+0.4**
	comp=Z,492nm,1.4s						
TYV	**Tymovskoe**	**15.91**	**269**	*e*P	**P**	**05 25 34.5**	**+0.9**
TYV				*e*S	**S**	**05 28 34.4**	**-4.4**
TYV				pmax	pmax		
	comp=Z,45nm,1.0s						
TYV				pmax	pmax		
	comp=Z,300nm,4.9s						
TYV				smax	smax		
	comp=E,19nm,1.6s						
TYV				smax	smax		
	comp=E,400nm,3.8s						
FALS	**False Pass**	**16.48**	**75**	*e*Pn	**Pn**	**05 25 38.5**	**+1.1**
	comp=E,202nm,0.6s						
ANM	**Nome**	**17.06**	**41**	*e*Pn	**Pn**	**05 25 45.4**	**+0.7**
	comp=E,155nm,1.6s						
ANM	**Nome**	**17.06**	**41**	*e*P	**Pn**	**05 25 45.4**	**+0.7**
ANM				pmax	pmax		
	comp=Z,155nm,1.6s						
YSS	**Yuzh-Sakhalins**	**17.62**	**257**	*e*P	**P**	**05 25 56.0**	**+3.4**
	comp=Z,62nm,1.1s						
YSS	**Yuzh-Sakhalins**	**17.62**	**257**	i/*i*P	**Pn**	**05 25 50.3**	**-1.5**
YSS				*e*S	**Sn**	**05 28 59.4**	**-7.5**
YSS				MLR	MLR		
	comp=E,800nm,16.0s						
YSS				MLR	MLR		
	comp=Z,1μm,16.0s						
YSS				MLR	MLR		
	comp=N,700nm,11.0s						
SDPT	**Sand Point**	**18.08**	**73**	*e*Pn	**P**	**05 26 02.7**	**+5.2**
	comp=N,881nm,2.0s						
CHGN	**Chignik**	**19.11**	**69**	*e*P	Pn	05 26 16.6	+6.8
	comp=N,150nm,1.4s						
ASAJ	**Asahikawa**	**19.38**	**250**	P	**P**	**05 26 13.1**	**+1.1**
	comp=N,1.1nm,0.3s,baz=34,slow=11,SNR=7.7						
ASAJ				LR	LR	05 32 47.8	
	comp=N,369nm,21.6s,baz=350,slow=34						
ASAJ	**Asahikawa**	**19.38**	**250**	*e*P	**Pn**	**05 26 13.6**	**+0.4**
	comp=N,170nm,1.7s						
GRNR	**Gornyy**	**19.63**	**274**	*e*P	**Pn**	**05 26 17.0**	**+0.8**
GRNR				pmax	pmax		
	comp=Z,53nm,0.6s						
RDOG	**Red Dog Mine**	**19.64**	**33**	*e*P	**P**	**05 26 13.9**	**-0.7**
	comp=Z,24nm,0.8s						
ERM	**Erimo**	**20.47**	**245**	*e*P	Pn	05 26 25.8	-0.3
	comp=Z,64nm,0.7s						
ERM	**Erimo**	**20.47**	**245**	*e*P	Pn	05 26 25.8	-0.3
ERM				pmax	pmax		
	comp=Z,65nm,0.7s						
SVW2	**Sparrevohn**	**20.49**	**55**	*e*P	**P**	**05 26 22.4**	**-1.6**
	comp=Z,54nm,0.6s						
OHAK	**Old Harbor**	**21.79**	**66**	*e*P	**P**	**05 26 35.4**	**-2.5**
	comp=Z,116nm,0.8s						
RSO	**Redoubt South**	**21.86**	**57**	*e*P	**P**	**05 26 39.1**	**+0.3**
KDAK	**Kodiak Island**	**22.10**	**64**	P	**P**	**05 26 38.6**	**-2.6**
	comp=Z,29nm,0.5s,baz=37,slow=0.2,SNR=30						
KDAK				LR	LR	05 34 48.7	
	comp=Z,682nm,21.6s,baz=253,slow=36						
IM3	**Indian Mountai**	**22.12**	**42**	*e*P	**P**	**05 26 39.4**	**-2.0**
PPLA	**Purkeypile**	**22.25**	**50**	*e*P	**P**	**05 26 42.4**	**-0.5**
	comp=Z,148nm,1.2s						
TEY	**Ternei**	**22.25**	**260**	i/*e*P	**P**	**05 26 47.3**	**+4.4**
TEY				pmax	pmax		
	comp=E,40nm,0.9s						
TEY				pmax	pmax		
	comp=Z,50nm,0.9s						
CAST	**Castle Rocks**	**22.35**	**49**	*e*P	**P**	**05 26 42.6**	**-1.3**
	comp=Z,48nm,0.9s						
HOM	**Homer**	**22.43**	**59**	*e*P	**P**	**05 26 45.7**	**+0.9**
	comp=Z,462nm,1.0s						
SKT	**Skwentna**	**22.48**	**53**	*e*P	**P**	**05 26 44.4**	**-1.0**
	comp=Z,58nm,0.9s						
CNPM	**China Poot**	**22.65**	**59**	*e*P	**P**	**05 26 45.7**	**-1.4**
	comp=Z,108nm,1.0s						
BRLK	**Bradley Lake**	**22.81**	**59**	*e*P	**P**	**05 26 45.7**	**-3.1**
	comp=Z,70nm,0.9s						
SUA	**Susitna One**	**22.84**	**54**	*e*P	**P**	**05 26 46.6**	**-2.7**
	comp=Z,116nm,1.0s						
BPAW	**Bear Paw Mtn.**	**22.92**	**47**	*e*P	**P**	**05 26 48.1**	**-1.8**
	comp=Z,65nm,0.9s						
KLR	**Kul'dur**	**23.01**	**273**	P	**P**	**05 26 51.3**	**+0.4**
	comp=Z,19nm,1.1s,baz=51,slow=11,SNR=22						
KLR				LR	LR	05 36 01.6	
	comp=Z,283nm,21.2s,baz=69,slow=37						
KLR	**Kul'dur**	**23.01**	**273**	*c i*P	**P**	**05 26 51.0**	**+0.1**
MLY	**Manley**	**23.15**	**45**	*e*P	**P**	**05 26 50.4**	**-2.0**
	comp=Z,52nm,0.8s						
TRF	**Thorofare Moun**	**23.16**	**49**	*e*P	**P**	**05 26 50.7**	**-1.7**
	comp=Z,124nm,0.8s						
SEW	**Seward**	**23.51**	**58**	*e*P	**P**	**05 26 52.8**	**-2.9**
	comp=Z,61nm,0.8s						
PMR	**Palmer**	**23.62**	**54**	*e*P	**P**	**05 26 53.7**	**-3.1**
	comp=Z,56nm,1.1s						
PMR	**Palmer**	**23.62**	**54**	*e*P	**P**	**05 26 53.7**	**-3.1**
PMR				pmax	pmax		
	comp=Z,56nm,1.1s						
GHO	**Glory Hole Cre**	**23.71**	**53**	*e*P	**P**	**05 26 55.7**	**-2.2**
	comp=Z,34nm,0.8s						
MCK	**McKinley**	**23.78**	**49**	*e*P	**P**	**05 26 56.2**	**-2.2**
	comp=Z,58nm,1.0s						
RND	**Reindeer**	**23.80**	**49**	*e*P	**P**	**05 26 55.9**	**-2.7**
	comp=Z,87nm,0.8s						
RND	**Reindeer**	**23.80**	**49**	*e*P	**P**	**05 26 55.9**	**-2.7**
RND				pmax	pmax		
	comp=Z,87nm,0.8s						
COLD	**Coldfoot**	**23.80**	**40**	*e*P	**P**	**05 26 56.9**	**-1.7**
	comp=Z,25nm,1.0s						
ZEA	**Zeya**	**23.99**	**286**	*e*P	**P**	**05 27 00.5**	**+0.1**
ZEA				*e*		05 27 13.6	
ZEA				pmax	pmax		
	comp=Z,26nm,1.0s						
ZEA				MLR	MLR		
	comp=E,500nm,15.0s						
ZEA				MLR	MLR		
	comp=Z,800nm,15.0s						
SML	**Sawmill**	**23.99**	**53**	*e*P	**P**	**05 26 58.1**	**-2.3**
	comp=Z,162nm,0.8s						
SML	**Sawmill**	**23.99**	**53**	*e*P	**P**	**05 26 58.1**	**-2.3**
SML				pmax	pmax		
	comp=Z,162nm,0.8s						
MDM	**Murphy Dome**	**24.20**	**46**	*e*P	**P**	**05 27 00.6**	**-1.7**
	comp=Z,73nm,0.8s						
WRH	**Wood River Hil**	**24.21**	**47**	*e*P	**P**	**05 27 00.6**	**-1.7**
	comp=Z,102nm,1.0s						
TCOL	**CIGO, UAF Yank**	**24.35**	**46**	P	**P**	**05 27 02.1**	**-1.5**
	baz=264,SNR=44						
CCB	**Clear Creek Bu**	**24.35**	**46**	*e*P	**P**	**05 27 01.5**	**-2.1**
	comp=Z,66nm,0.8s						
COLA	**College**	**24.35**	**46**	*e*P	**P**	**05 27 01.8**	**-1.8**
	comp=Z,202nm,0.7s						
COLA	**College**	**24.35**	**46**	*e*P	**P**	**05 27 01.8**	**-1.8**
COLA				pmax	pmax		
	comp=Z,202nm,0.7s						
TOLK	**Toolik Lake Re**	**24.39**	**37**	*e*P	**P**	**05 27 02.2**	**-1.9**
	comp=Z,74nm,0.8s						
TOLK	**Toolik Lake Re**	**24.39**	**37**	P	**P**	**05 27 02.1**	**-1.9**
	baz=254,SNR=80						
DHY	**Denali Highway**	**24.45**	**50**	*e*P	**P**	**05 27 02.4**	**-2.3**
	comp=Z,60nm,0.8s						
SCM	**Sheep Creek Mo**	**24.47**	**53**	*e*P	**P**	**05 27 02.6**	**-2.2**
	comp=Z,179nm,0.9s						
SCM	**Sheep Creek Mo**	**24.47**	**53**	*e*P	**P**	**05 27 02.6**	**-2.2**
SCM				pmax	pmax		
	comp=Z,179nm,0.9s						
POKR	**Poker Plat Res**	**24.55**	**45**	P	**P**	**05 27 03.8**	**-1.7**
	baz=264,SNR=78						
TIXI	**Tiksi**	**24.59**	**331**	P	**P**	**05 27 05.4**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=295,slow=24,SNR=30						
GLI	**Glacier Island**	**24.63**	**56**	*e*P	**P**	**05 27 04.3**	**-1.9**
	comp=Z,130nm,1.4s						
HDA	**Harding Lake**	**24.70**	**47**	*e*P	**P**	**05 27 04.4**	**-2.4**
	comp=Z,58nm,0.8s						
HDA	**Harding Lake**	**24.70**	**47**	P	**P**	**05 27 04.6**	**-2.2**
	baz=266,SNR=40						
IL1	**Eielson Array**	**24.75**	**46**	*e*P	**P**	**05 27 04.5**	**-2.8**
ILAR	**Eielson Array**	**24.75**	**46**	P	**P**	**05 27 04.5**	**-2.7**
	comp=Z,76nm,0.7s,baz=251,slow=6.9,SNR=318						
ILAR				PcP	**PcP**	**05 30 41.8**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=291,slow=3.4,SNR=5.5						
ILAR				LR	LR	05 37 25.3	
	comp=Z,1μm,18.1s,baz=254,slow=38						
ILB	**Eielson Array**	**24.75**	**46**	*e*P	**P**	**05 27 04.6**	**-2.7**
FID	**Port Fidalgo**	**24.94**	**56**	*e*P	**P**	**05 27 06.0**	**-3.0**
	comp=Z,64nm,1.0s						
KLU	**Klutina**	**25.16**	**54**	*e*P	**P**	**05 27 09.5**	**-1.5**
	comp=Z,105nm,0.8s						
DIV	**Divide**	**25.25**	**55**	*e*P	**P**	**05 27 09.7**	**-2.2**
	comp=Z,57nm,0.8s						
EYAK	**Cordova Ski Ar**	**25.31**	**56**	*e*P	**P**	**05 27 10.2**	**-2.2**
	comp=Z,69nm,0.9s						
PAX	**Paxson**	**25.32**	**51**	*e*P	**P**	**05 27 10.9**	**-1.6**
	comp=Z,70nm,1.0s						
PAX	**Paxson**	**25.32**	**51**	*e*P	**P**	**05 27 10.9**	**-1.6**
PAX				pmax	pmax		
	comp=Z,70nm,1.0s						
USA0B	**Ussuriysk Arra**	**25.43**	**263**	*e*P	**P**	**05 27 13.4**	**-0.1**
	comp=Z,20nm,0.9s						
USRK	**Ussuriysk Ar.**	**25.43**	**263**	P	**P**	**05 27 13.9**	**+0.4**
	comp=Z,13nm,0.7s,baz=62,slow=8.6,SNR=34						
USRK				LR	LR	05 37 13.3	
	comp=Z,730nm,21.3s,baz=50,slow=36						
HARP	**HAARP**	**25.48**	**52**	*e*P	**P**	**05 27 12.4**	**-1.4**
	comp=Z,64nm,0.9s						
RIDG	**Independ'e Rid**	**25.60**	**49**	*e*P	**P**	**05 27 12.1**	**-3.0**
	comp=Z,83nm,0.8s						
FYU	**Fort Yukon**	**25.62**	**42**	*e*P	**P**	**05 27 13.7**	**-1.3**
	comp=Z,133nm,0.9s						
BMRM	**Bremner River**	**25.83**	**55**	*e*P	**P**	**05 27 15.3**	**-1.8**
	comp=Z,157nm,1.4s						
RAGM	**Ragged Mountai**	**25.86**	**56**	*e*P	**P**	**05 27 16.8**	**-0

baz=1.9,slow=76,SNR=197
H11S2 WAKE ISLAND Hy 35.35 183 T T 06 06 38.6
baz=1.9,slow=76,SNR=824
TLY Talaya 37.95 294 P **P** **05 29 04.0 +0.7**
comp=Z,6.0nm,0.8s,baz=346,slow=8.3,SNR=5.1
TLY Talaya 37.95 294 *eP* **P** **05 29 04.0 +0.7**
TLY *e* 05 30 36.1
TLY pmax pmax
comp=Z,7.0nm,0.9s
TLY MLR MLR
comp=Z,402nm,18.0s
ULN Ulaanbaatar 38.03 287 *eP* **P** **05 29 04.2 0.0**
comp=Z,11nm,1.0s
ULN Ulaanbaatar 38.03 287 *ceP* **P** **05 29 04.1 0.0**
ULN pmax pmax
comp=Z,20nm,1.7s
NRIK Noril'sk 38.06 325 LR LR 05 45 48.0
comp=Z,562nm,18.0s,baz=66,slow=38
SONA1 Songino Array 38.40 287 *eP* **P** **05 29 07.3 0.0**
SONM Songino Array 38.41 287 P **P** **05 29 08.0 +0.6**
comp=Z,11nm,0.6s,baz=59,slow=8.1,SNR=72
SONM PcP **PcP** **05 31 20.5 +0.3**
comp=Z,2.2nm,0.7s,baz=114,slow=2.7,SNR=4.7
SONM ScP **ScP** **05 35 06.9 +1.5**
comp=Z,2.1nm,1.1s,baz=54,slow=2.6,SNR=7.0
SONM LR LR 05 46 40.5
comp=Z,299nm,18.8s,baz=18,slow=39
ZAK Zakamensk 38.80 292 *eP* **P** **05 29 08.9 -1.7**
ZAK pmax pmax
comp=Z,6.0nm,1.4s
YKW3 Yellowknife Ar 39.15 46 *eP* **P** **05 29 11.9 -1.2**
comp=Z,33nm,0.8s
YKA Yellowknife Ar 39.18 46 P **P** **05 29 12.1 -1.3**
comp=Z,23nm,0.6s,baz=294,slow=8.2,SNR=81
YKA Yellowknife Ar 39.18 46 P **P** **05 29 12.1 -1.3**
YKA pmax pmax
comp=Z,24nm,0.6s
YKB5 Yellowknife Ar 39.18 46 *eP* **P** **05 29 10.9 -2.5**
HHC Hu-ho-hao-te 39.50 275 *eP* **P** **05 29 17.3 +0.8**
HHC S **S** **05 35 17.3 +0.6**
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,85nm,6.1s
HHC LR LR
comp=Z,480nm,17.7s
HHC LR LR
comp=Z,430nm,17.5s
HHC LR LR
comp=Z,400nm,16.4s
BTO Baotou 40.57 275 *eP* **P** **05 29 25.9 +0.5**
RES Resolute Bay 40.68 24 *eP* **P** **05 29 24.4 -1.4**
comp=Z,24nm,0.8s
RES Resolute Bay 40.68 24 *eP* **P** **05 29 24.4 -1.4**
RES pmax pmax
comp=Z,24nm,0.8s
TIY Taiyuan 41.02 270 *eP* P 05 29 34.8 +5.7
TIY sP sP 05 29 53.8 +12
TIY PP **PnPn** **05 31 15.1 +6.9**
TIY S **S** **05 35 39.0 -0.2**
TIY sS sS 05 36 08.1 +14
TIY SS **SS** **05 38 38.9 -2.7**
TIY pmax pmax
comp=Z,130nm,4.0s
TIY LR LR
comp=N,300nm,12.6s
TIY LR LR
comp=E,130nm,7.3s
TIY LR LR
comp=Z,190nm,14.7s
NJ2 Nanjing 41.18 258 *eP* **P** **05 29 32.0 +1.6**
NJ2 pmax pmax
comp=Z,21nm,0.9s
PGC Sidney 41.53 68 *eP* **P** **05 29 34.3 +1.3**
comp=Z,29nm,0.7s
D03D Eldon 42.36 69 P **P** **05 29 39.2 -0.7**
baz=306,SNR=6.6
B05A Bryant 42.49 68 P **P** **05 29 40.5 -0.4**
baz=305,SNR=11
B06A Marblemount 42.68 67 *eP* **P** **05 29 43.4 +0.9**
comp=Z,28nm,0.8s
D05A Enumclaw 43.17 69 *eP* **P** **05 29 46.9 +0.4**
comp=Z,52nm,0.7s
HVS Khovu-Aksy 43.52 298⇑ *iP* **P** **05 29 50.0 +0.7**
HVS pmax pmax
comp=Z,21nm,1.6s
LON Longmire 43.53 70 *eP* **P** **05 29 50.8 +1.4**
comp=Z,18nm,1.1s
LON Longmire 43.53 70 *eP* **P** **05 29 50.8 +1.4**
LON pmax pmax
comp=Z,18nm,1.1s
LTY Liberty 43.86 68 *eP* **P** **05 29 52.4 +0.3**
comp=Z,16nm,1.1s
B08A Colville Reser 43.95 66 *eP* **P** **05 29 52.0 -0.7**
comp=Z,48nm,0.6s
E07A Sunnyside 44.73 69 *eP* **P** **05 29 58.6 -0.3**
comp=Z,19nm,0.8s
C09A Chrisman Ranch 44.85 66 *eP* **P** **05 29 59.0 -0.9**
comp=Z,36nm,0.7s
D08A Wollman Farm, 44.94 68 *eP* **P** **05 30 01.4 +0.8**
comp=Z,7.5nm,0.6s
HAWA Hanford 45.00 69 *eP* **P** **05 30 00.8 -0.4**
comp=Z,30nm,0.8s
F07A Phinny Hill Vi 45.09 70 *eP* **P** **05 30 01.7 -0.1**
comp=Z,52nm,0.7s
NEW Newport 45.20 65 *eP* **P** **05 30 01.6 -1.1**
comp=Z,26nm,0.7s
NEW Newport 45.20 65 *eP* **P** **05 30 01.6 -1.1**
NEW pmax pmax
comp=Z,26nm,0.7s
NEW Newport 45.20 65 P **P** **05 30 01.9 -0.7**
baz=307,SNR=17
E08A Dider Farm, El 45.20 68 *eP* **P** **05 30 02.5 -0.2**
comp=Z,13nm,0.8s
J04D Umpqua Nationa 45.50 74 P **P** **05 30 04.7 -0.6**
baz=309,SNR=5.7
E09A Wood Farm, Sta 45.69 68 *eP* **P** **05 30 05.8 -0.8**
comp=Z,35nm,0.8s
J05D Fort Rock, OR 45.97 73 P **P** **05 30 08.4 -0.6**
baz=310,SNR=11
G08A Pilot Rock 45.99 70 *eP* **P** **05 30 08.3 -0.8**
comp=Z,8.6nm,0.8s
YBH Yreka Blue Hor 46.12 76 *eP* **P** **05 30 11.6 +1.5**
comp=Z,16nm,0.9s
ZAA0 Zalesovo Array 46.37 306 *eP* **P** **05 30 10.5 -1.3**
comp=Z,4.7nm,0.9s
ZALV Zalesovo Beam 46.37 306 P **P** **05 30 10.4 -1.4**
comp=Z,2.5nm,0.7s,baz=30,slow=5.4,SNR=7.3
ZALV PcP **PcP** **05 31 46.2 -0.1**
comp=Z,4.1nm,0.7s,baz=9.6,slow=1.2,SNR=5.4
ZALV LR LR 05 50 14.8
comp=Z,128nm,20.5s,baz=334,slow=37
ZALV Zalesovo Beam 46.37 306 *eP* **P** **05 30 08.6 -3.2**
ZALV PcP **PcP** **05 31 46.2 -0.1**
ZALV Zalesovo Beam 46.37 306 *i P* **P** **05 30 10.3 -1.5**
ZALV pmax pmax
comp=Z,3.0nm,0.7s
F10A Beach Ranch, E 46.53 68 *eP* **P** **05 30 13.4 +0.2**
comp=Z,13nm,0.6s
NVS Novosibirsk 46.60 308 *eP* **P** **05 30 12.5 -1.1**
NVS *e* 05 32 00.5
NVS pmax pmax
comp=N,21nm,2.1s
NVS pmax pmax
comp=E,27nm,2.1s
NVS pmax pmax
comp=Z,50nm,2.1s
BSMT Bassoo Peak 46.70 64 *eP* **P** **05 30 14.0 -0.7**
WDC Whiskeytown Da 46.96 77 *eP* **P** **05 30 18.1 +1.6**
comp=Z,22nm,1.0s
JTMT Jette 47.03 64 *eP* **P** **05 30 17.3 +0.1**
comp=Z,54nm,0.8s
BMO Blue Mountains 47.18 69 *eP* **P** **05 30 17.6 -0.8**
comp=Z,9.4nm,0.9s
BMO Blue Mountains 47.18 69 *eP* **P** **05 30 17.6 -0.8**
BMO pmax pmax
comp=Z,9.0nm,0.9s
LZH Lanzhou 47.19 275 *eP* **P** **05 30 19.9 +1.3**
LZH pP pP 05 30 28.4 +0.4
LZH sP sP 05 30 32.8 +1.0
LZH PcP **PcP** **05 31 50.6 +0.9**
LZH *e*S **S** **05 37 05.9 -3.4**
LZH sS pS 05 37 23.1 +2.8
LZH SS **SS** **05 40 28.1 -8.3**
LZH pmax pmax
comp=Z,86nm,1.0s
LZH pmax pmax
comp=Z,290nm,4.0s
LZH LR LR
comp=Z,880nm,14.6s
LZH LR LR
comp=Z,2μm,14.6s
GTA Gaotai 47.31 281⇑ P **P** **05 30 20.0 +0.5**
GTA pP pP 05 30 29.0 +0.1
GTA sP sP 05 30 33.6 +0.9
GTA S **S** **05 37 08.3 -2.6**
GTA sS pS 05 37 24.8 +2.9
GTA SS SS 05 40 27.5 -11
GTA pmax pmax
comp=Z,24nm,1.0s
GTA pmax pmax
comp=Z,110nm,9.3s
GTA LR LR
comp=Z,350nm,16.8s
GTA LR LR
comp=Z,290nm,15.5s
GTA LR LR
comp=Z,370nm,21.0s
J08A Circle Bar Ran 47.48 71 *eP* **P** **05 30 21.9 +1.2**
comp=Z,13nm,1.1s
O03E Paynes Creek 47.57 77 P **P** **05 30 21.3 -0.2**
baz=312,SNR=7.1
DGZ Jazzator, Alta 47.62 300 *c iP* **P** **05 30 21.2 -0.6**
DGZ pmax pmax
comp=Z,5.0nm,0.8s
MSO Missoula 47.78 65 *eP* **P** **05 30 21.9 -1.2**
comp=Z,12nm,0.6s
MSO Missoula 47.78 65 P **P** **05 30 22.0 -1.0**
baz=309,SNR=12
ENH Enshi 47.96 265 *eP* **P** **05 30 25.0 +0.5**
comp=Z,10nm,0.7s
ENH *e*PcP **PcP** **05 31 53.4 +1.0**
WVOR Wild Horse Val 47.98 72 *eP* **P** **05 30 24.1 -0.6**
comp=Z,10nm,1.0s
WVOR Wild Horse Val 47.98 72 *eP* **P** **05 30 24.1 -0.6**
WVOR pmax pmax
comp=Z,10.0nm,1.0s
ORV Oroville 48.23 77 *eP* **P** **05 30 25.8 -0.7**
comp=Z,8.2nm,0.8s
ORV Oroville 48.23 77 *eP* **P** **05 30 25.8 -0.7**
ORV pmax pmax
comp=Z,8.0nm,0.8s
KULLO Kullorsuaq 48.27 15 *i P* **P** **05 30 25.3 -1.0**
comp=Z,119nm,0.9s
KULLO Kullorsuaq 48.27 15 *i P* **P** **05 30 25.3 -1.0**
KULLO pmax pmax
comp=Z,120nm,0.9s
BEKR Beckworth 48.69 76 *eP* **P** **05 30 30.9 +0.7**
comp=Z,12nm,1.0s
FFC Flin Flon 48.85 50 *eP* **P** **05 30 31.6 +0.6**
comp=Z,23nm,1.1s
FFC Flin Flon 48.85 50 *i P* **P** **05 30 32.0 +1.0**
AFDM Forest Hills D 48.95 77 *eP* **P** **05 30 33.3 +1.3**
comp=Z,9.3nm,0.9s
HRY Holter Researc 48.98 64 *eP* **P** **05 30 31.4 -0.9**
EGMT Eagleton 49.24 61 *eP* **P** **05 30 32.8 -1.4**
comp=Z,29nm,0.8s
EGMT Eagleton 49.24 61 P **P** **05 30 32.1 -2.1**
baz=310,SNR=12
PAHR Pah Rah Range 49.35 76 *eP* **P** **05 30 35.2 0.0**
comp=Z,12nm,0.8s
DLMT Dillon 49.43 66 *eP* **P** **05 30 36.9 +1.1**
comp=Z,8.0nm,0.9s
VCNR Virginia City 49.47 76 *eP* **P** **05 30 36.5 +0.2**
comp=Z,16nm,0.8s
DAG Danmarks Havn 49.53 2 *i P* **P** **05 30 34.1 -1.8**
comp=Z,21nm,0.7s
DAG Danmarks Havn 49.53 2 *i P* **P** **05 30 34.1 -1.8**
DAG pmax pmax
comp=Z,14nm,0.7s
HLID Hailey 49.61 69 *eP* **P** **05 30 36.3 -0.9**
comp=Z,7.6nm,0.6s
HLID Hailey 49.61 69 P **P** **05 30 35.0 -2.2**
baz=311,SNR=14
MCMT McKenzie Canyo 49.64 66 *eP* **P** **05 30 36.3 -1.2**
PNTR Pine Nut 49.64 76 *eP* **P** **05 30 37.6 +0.1**
comp=Z,26nm,0.7s
BOZ Bozeman (W) 49.80 65 *eP* **P** **05 30 37.3 -1.3**
comp=Z,19nm,0.8s
BOZ Bozeman (W) 49.80 65 *eP* **P** **05 30 37.3 -1.3**
BOZ pmax pmax
comp=Z,19nm,0.8s
BOZ Bozeman (W) 49.80 65 P **P** **05 30 37.1 -1.5**
baz=310,SNR=27
CMB Columbia Colle 49.90 78 *eP* **P** **05 30 39.4 +0.1**
comp=Z,6.6nm,0.9s
CMB Columbia Colle 49.90 78 *eP* **P** **05 30 39.4 +0.1**
CMB pmax pmax
comp=Z,7.0nm,0.9s
YERR Yerington 49.92 76 *eP* **P** **05 30 39.4 -0.2**
comp=Z,13nm,0.7s
WAKR Walker 50.13 77 *eP* **P** **05 30 41.5 +0.2**
comp=Z,15nm,0.5s
QLMT Earthquake Lak 50.41 66 *eP* **P** **05 30 43.7 +0.4**
KVN Kaiserville 50.53 75 *eP* **P** **05 30 44.4 +0.2**
comp=Z,11nm,0.8s
KVN Kaiserville 50.53 75 *eP* **P** **05 30 44.4 +0.2**
KVN pmax pmax
comp=Z,11nm,0.8s
RYN Ryan 50.57 76 *eP* **P** **05 30 44.6 +0.1**
comp=Z,8.7nm,0.8s
YHB Horse Butte 50.59 65 *eP* **P** **05 30 45.1 +0.5**
comp=Z,42nm,0.9s
YHH Holmes Hill 50.75 65 *eP* **P** **05 30 45.2 -0.8**
comp=Z,21nm,0.7s
YMR Madison River 50.76 65 *eP* **P** **05 30 45.8 -0.2**
comp=Z,31nm,0.8s
NV01 Mina Array Sit 50.83 76 *eP* **P** **05 30 46.4 -0.2**
NVAR Mina Array Bea 50.83 76 P **P** **05 30 46.0 -0.6**
comp=Z,7.4nm,0.6s,baz=295,slow=6.8,SNR=42
NVAR LR LR 05 49 01.5
comp=Z,183nm,21.6s,baz=272,slow=32
YNR Norris Junctio 50.89 65 *eP* **P** **05 30 49.2 +2.3**
comp=Z,19nm,0.9s
CD2 Chengdu 50.89 270 *eP* **P** **05 30 46.0 -0.9**
CD2 S **S** **05 38 01.3 +0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.0s
CD2 LR LR
comp=Z,600nm,16.2s
CD2 LR LR
comp=Z,500nm,13.7s
CD2 LR LR
comp=Z,380nm,12.8s
NV11 Mina Array Sit 50.92 76 *eP* **P** **05 30 47.3 +0.2**
comp=Z,1.0nm,1.1s
MDPB Devils Postpil 50.93 77 *eP* **P** **05 30 47.8 +0.4**
comp=Z,15nm,0.9s
YFT Old Faithful 50.98 66 *eP* **P** **05 30 49.8 +2.2**
comp=Z,37nm,0.8s
OMMB Old Mammoth Mi 50.99 77 *eP* **P** **05 30 48.3 +0.4**
comp=Z,29nm,1.6s
YPP Pitchstone Pla 51.11 66 *eP* **P** **05 30 50.0 +1.3**
comp=Z,24nm,0.7s
H17A Grant Village 51.15 65 *eP* **P** **05 30 50.9 +2.0**
comp=Z,34nm,1.2s
H17A Grant Village 51.15 65 P **P** **05 30 47.9 -1.0**
baz=312,SNR=6.1
WMQ Urumqi 51.23 294 P **P** **05 30 49.5 +0.2**
WMQ pmax pmax
comp=Z,23nm,0.7s
WMQ pmax pmax
comp=Z,360nm,5.5s
WMQ LR LR
comp=Z,1μm,16.9s
WMQ LR LR
comp=Z,790nm,22.7s
FLWY Flagg Ranch 51.29 66 *eP* **P** **05 30 50.3 +0.4**
comp=Z,43nm,0.7s
KURK Kurchatov 51.36 306 *c iP* **P** **05 30 48.4 -1.7**
KURK pmax pmax
comp=Z,35nm,0.9s
RLMT Red Lodge 51.37 64 *eP* **P** **05 30 50.0 -0.5**
comp=Z,41nm,0.8s
RLMT Red Lodge 51.37 64 P **P** **05 30 49.5 -1.1**
baz=312,SNR=35
FXWY Fox Creek 51.41 66 *eP* **P** **05 30 51.6 +0.7**
comp=Z,8.2nm,0.8s
KURBB Kurchatov Arra 51.47 305 P **P** **05 30 49.7 -1.2**
comp=Z,18nm,0.7s,baz=55,slow=7.5,SNR=112
MOOW Moose Ponds 51.49 66 *eP* **P** **05 30 52.1 +0.7**
comp=Z,9.2nm,0.8s
TPAW Teton Pass 51.55 67 *eP* **P** **05 30 53.2 +1.2**
comp=Z,8.5nm,0.9s
LOHW Long Hollow 51.66 66 *eP* **P** **05 30 53.5 +0.8**
comp=Z,12nm,0.6s
SNOW Snow King Moun 51.67 66 *eP* **P** **05 30 54.7 +1.9**
comp=Z,6.9nm,0.8s
REDW Red Top Meadow 51.69 67 *eP* **P** **05 30 49.7 -3.3**
comp=Z,10nm,1.0s
HVU Hansel Valley 51.69 69 *eP* **P** **05 30 54.1 +1.2**
comp=Z,17nm,0.6s
HVU Hansel Valley 51.69 69 *eP* **P** **05 30 54.1 +1.2**
HVU pmax pmax
comp=Z,17nm,0.6s
DGMT Dagmar 51.79 58 *eP* **P** **05 30 53.8 +0.5**
comp=Z,25nm,0.9s
DGMT Dagmar 51.79 58 P **P** **05 30 52.5 -0.9**
baz=312,SNR=7.2
LAO LASA Array 51.93 61 *eP* **P** **05 30 55.8 +1.3**
comp=Z,68nm,1.1s
LAO LASA Array 51.93 61 P **P** **05 30 54.1 -0.4**
baz=312,SNR=5.8
AHID Auburn Hatcher 51.95 67 *eP* **P** **05 30 56.6 +1.8**
comp=Z,12nm,0.9s
MK31 Makanchi Array 52.12 300 *eP* **P** **05 30 54.5 -1.3**
MK31 *ep*P **P** **05 30 58.4 +2.5**
MK31 Makanchi Array 52.12 300 *eP* **P** **05 30 54.5 -1.3**
MKAR Makanchi Array 52.12 300 P **P** **05 30 54.2 -1.6**
comp=Z,6.7nm,0.8s,baz=52,slow=7.4,SNR=22
MKAR LR LR 05 53 54.6
comp=Z,338nm,19.4s,baz=38,slow=37
MKAR Makanchi Array 52.12 300 *eP* **P** **05 30 54.5 -1.3**
comp=Z,33nm,0.6s
BGU Big Grassy Mou 52.13 70 *eP* **P** **05 30 57.7 +1.5**
comp=Z,40nm,1.8s
MK01 Makanchi Array 52.13 300 *eP* **P** **05 30 54.0 -1.9**
VES Vestal, Richgr 52.16 79 P **P** **05 30 56.2 -0.1**
baz=315
R11A Troy Canyon, C 52.44 74 *eP* **P** **05 30 58.5 -0.1**
comp=Z,29nm,1.7s
R11A Troy Canyon, C 52.44 74 P **P** **05 30 57.6 -1.0**
baz=314,SNR=12
GYA Guiyang 52.45 264 *eP* **P** **05 31 00.4 +1.7**
GYA pP pP 05 31 09.8 +1.6
GYA PP **PP** **05 33 00.6 +3.1**
GYA S **S** **05 38 22.4 -0.4**
GYA SS **SS** **05 41 59.5 -1.2**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.4s
SUMG Summit 52.46 10 *eP* **P** **05 30 57.1 -1.4**
comp=Z,53nm,1.0s
SUMG Summit 52.46 10 *i P* **P** **05 30 57.4 -1.1**
comp=Z,126nm,1.0s
SUMG Summit 52.46 10 *i P* **P** **05 30 57.4 -1.1**
SUMG pmax pmax
comp=Z,130nm,1.0s
HWUT Hardware Ranch 52.48 69 *eP* **P** **05 30 59.6 +0.8**
comp=Z,13nm,0.8s
ISA Isabella, Lake 52.64 79 *eP* **P** **05 30 59.2 -0.7**
comp=Z,7.4nm,1.1s
ISA Isabella, Lake 52.64 79 *eP* **P** **05 30 59.2 -0.7**
ISA pmax pmax
comp=Z,7.0nm,1.1s
ISA Isabella, Lake 52.64 79 P **P** **05 30 59.3 -0.7**
baz=315
DAC Darwin (Calif) 52.73 78 *eP* **P** **05 31 00.7 0.0**
comp=Z,4.6nm,0.9s
DAC Darwin (Calif) 52.73 78 *eP* **P** **05 31 00.7 0.0**
DAC pmax pmax
comp=Z,5.0nm,0.9s
DUG Dugway, Tooele 52.74 71 *eP* **P** **05 31 01.6 +0.9**
comp=Z,11nm,0.6s
DUG Dugway, Tooele 52.74 71 *eP* **P** **05 31 01.7 +0.9**
DUG pmax pmax
comp=Z,11nm,0.6s
DUG Dugway, Tooele 52.74 71 P **P** **05 31 00.6 -0.2**
baz=314,SNR=10
BW06 Boulder Array 52.79 66 *eP* **P** **05 31 00.4 -0.7**
comp=Z,24nm,0.9s
BW06 Boulder Array 52.79 66 P **P** **05 31 00.4 -0.7**
baz=313,SNR=25
PD31 Pinedale Array 52.79 66 *eP* **P** **05 31 00.4 -0.7**
PDAR Pinedale Array 52.79 66 P **P** **05 30 59.8 -1.4**
comp=Z,13nm,0.6s,baz=312,slow=2.1,SNR=68
PDAR Pinedale Array 52.79 66 *eP* **P** **05 30 60.0 -1.2**
TCUT Toone Canyon 52.90 69 *eP* **P** **05 31 04.0 +2.0**
comp=Z,15nm,0.7s
MPMC Manual Prospec 52.94 78 P **P** **05 31 01.9 -0.4**
baz=315,SNR=8.5
CTU Camp Tracy 53.00 70 *eP* **P** **05 31 03.5 +0.9**
comp=Z,15nm,0.8s
TPNV Topopah Spring 53.03 76 *eP* **P** **05 31 02.9 0.0**
comp=Z,16nm,0.9s
TPNV Topopah Spring 53.03 76 *eP* **P** **05 31 02.9 0.0**
TPNV pmax pmax
comp=Z,16nm,0.9s
TPNV Topopah Spring 53.03 76 P **P** **05 31 02.7 -0.2**
baz=315,SNR=17
JLU Jordanelle 53.23 70 *eP* **P** **05 31 05.2 +0.8**
comp=Z,8.4nm,0.9s
PSUT Pine Spring 53.30 73 *eP* **P** **05 31 05.1 +0.1**
comp=Z,10.0nm,0.7s
NLU North Lily Min 53.32 71 *eP* **P** **05 31 06.6 +1.5**
comp=Z,9.5nm,0.8s
KEV Kevo 53.50 344 *eP* **P** **05 31 04.2 -1.4**
KEV Kevo 53.50 344 *eP* **P** **05 31 04.2 -1.4**
MPU Maple Canyon 53.53 70 *eP* **P** **05 31 07.6 +1.1**
comp=Z,8.2nm,0.9s
BVAR Borovoye Array 53.61 312 P **P** **05 31 05.8 -1.0**
comp=Z,18nm,0.6s,baz=52,slow=7.7,SNR=37
BRVK Borovoye 53.64 312 *eP* **P** **05 31 06.1 -0.8**
comp=Z,27nm,0.6s
BRVK Borovoye 53.64 312 *c iP* **P** **05 31 05.9 -1.0**
BRVK pmax pmax
comp=Z,15nm,0.8s
GSC Goldstone, Bar 53.87 78 *eP* **P** **05 31 08.8 -0.1**
comp=Z,2nm,1.4s
GSC Goldstone, Bar 53.87 78 *eP* **P** **05 31 08.8 -0.1**
GSC pmax pmax
comp=Z,32nm,1.4s
MWC Mount Wilson 53.90 80 *eP* **P** **05 31 09.4 +0.1**
comp=Z,59nm,1.6s
MWC Mount Wilson 53.90 80 *eP* **P** **05 31 09.4 +0.1**
MWC pmax pmax
comp=Z,59nm,1.6s
ARCES ARCESS Array B 53.93 345 P **P** **05 31 07.8 -1.0**
comp=Z,13nm,0.7s,baz=21,slow=10,SNR=18
SHPR Sheep Range 53.97 76 *eP* **P** **05 31 10.9 +1.1**
comp=Z,3.7nm,0.9s
TMUT Trail Mountain 54.26 71 *eP* **P** **05 31 12.1 +0.1**
comp=Z,41nm,0.8s
CCUT Cedar City 54.26 74 *eP* **P** **05 31 12.4 +0.4**
comp=Z,12nm,0.9s
MSU Marysvale 54.26 72 *eP* **P** **05 31 12.3 +0.3**
MSU Marysvale 54.26 72 *eP* **P** **05 31 12.3 +0.3**
APA Apatity 54.27 340⇓ *iP* **P** **05 31 08.8 -2.5**
APA pmax pmax
comp=Z,4.0nm,1.1s
APA MLR MLR
comp=Z,900nm,16.0s
SZCU Shurtz Canyon 54.39 73 *eP* **P** **05 31 14.0 +1.1**
comp=Z,13nm,1.2s
P17A Butcher Ranch, 54.40 70 *eP* **P** **05 31 14.3 +1.4**
MDND Maddock 54.48 56 *eP* **P** **05 31 12.8 -0.4**
comp=Z,122nm,0.7s
MDND Maddock 54.48 56 P **P** **05 31 12.7 -0.5**
baz=314,SNR=13
K22A Casper 54.50 65 *eP* **P** **05 31 15.3 +1.7**
comp=Z,15nm,0.8s
K22A Casper 54.50 65 P **P** **05 31 13.1 -0.5**
baz=314,SNR=8.6
P18A Preston Nutter 54.56 70 *eP* **P** **05 31 15.3 +1.1**
MTPU Mount Pierson 54.59 72 *eP* **P** **05 31 15.3 +0.8**
comp=Z,11nm,0.8s
ULM Lac du Bonnet 54.60 52 P **P** **05 31 13.0 -1.0**
comp=Z,20nm,0.8s,baz=314,slow=7.3,SNR=11
ULM LR LR 05 55 45.1
comp=Z,523nm,18.8s,baz=326,slow=38
ULM Lac du Bonnet 54.60 52 *eP* **P** **05 31 13.2 -0.8**
ULM pmax pmax
comp=Z,28nm,0.9s
LCMT Little Creek M 54.71 74 *eP* **P** **05 31 15.5 +0.4**
comp=Z,18nm,0.9s

SRU San Rafael Swe 54.77 70 eP P 05 31 15.7 +0.1
comp=Z,84nm,0.7s
RSSD Black Hills 54.80 62 eP P 05 31 15.0 -0.8
comp=Z,50nm,0.6s
RSSD Black Hills 54.80 62 eP P 05 31 15.0 -0.8
RSSD pmax pmax
comp=Z,50nm,0.6s
RSSD Black Hills 54.80 62 P P 05 31 14.8 -1.0
baz=314
GMRC Granite Mounta 54.89 78 P P 05 31 16.4 -0.1
baz=316,SNR=12
SVE Sverdlovsk 54.93 320 eP P 05 31 16.0 -0.2
SVE pmax pmax
comp=Z,14nm,0.8s
PKCU Pink Cliffs 54.93 73 eP P 05 31 19.0 +2.0
comp=Z,23nm,0.9s
KNB Kanab 54.94 74 eP P 05 31 17.4 +0.5
comp=Z,24nm,0.9s
KNB Kanab 54.94 74 eP P 05 31 17.4 +0.5
KNB pmax pmax
comp=Z,24nm,0.9s
LDFC Landfair 55.00 77 eP P 05 31 18.3 +1.1
comp=Z,25nm,0.8s
BELC Belle Mtn. Jos 55.26 78 P P 05 31 18.5 -0.6
baz=316,SNR=8.2
FRD Ford Ranch, An 55.27 79 P P 05 31 19.1 0.0
baz=316
PFO Pinyon Flats O 55.27 79 eP P 05 31 19.9 +0.7
comp=Z,6.6nm,0.8s
PFO Pinyon Flats O 55.27 79 eP P 05 31 19.9 +0.7
PFO pmax pmax
comp=Z,7.0nm,0.8s
XPFO Piæon Flat 55.27 79 eP P 05 31 20.0 +0.8
comp=Z,7.1nm,0.9s
TPFO Pinon Flats 55.27 79 P P 05 31 18.9 -0.3
baz=316
O20A White River Ci 55.32 68 eP P 05 31 19.1 -0.4
comp=Z,32nm,0.6s
O20A White River Ci 55.32 68 P P 05 31 19.1 -0.4
baz=315,SNR=24
IRM Iron Mountain 55.64 78 P P 05 31 21.6 -0.1
baz=316,SNR=16
KMI Kunming 55.77 266 P P 05 31 23.8 +0.8
KMI pP pP 05 31 32.8 +0.2
KMI pmax pmax
comp=Z,22nm,0.7s
KMI LR LR
comp=Z,160nm,15.1s
KMI LR LR
comp=Z,220nm,15.8s
KMI LR LR
comp=Z,280nm,20.3s
BAR Barrett 55.81 80 eP P 05 31 26.8 +3.8
comp=Z,8.8nm,0.7s
BC3 Big Chuckawall 55.82 78 P P 05 31 22.8 -0.4
baz=316,SNR=8.5
SFJD Kangerlussuaq 55.94 17 iP P 05 31 20.4 -2.9
SFJD Kangerlussuaq 55.94 17 iP P 05 31 20.4 -2.9
AGMN Agassiz Nation 55.97 53 eP P 05 31 22.8 -1.1
comp=Z,43nm,0.8s
AGMN Agassiz Nation 55.97 53 P P 05 31 22.8 -1.1
baz=315,SNR=23
PV09 Paradox Valley 55.97 70 eP P 05 31 25.2 +0.8
PV21 Cone Mtn., Par 56.02 70 eP P 05 31 25.6 +0.9
comp=Z,25nm,0.6s
N23A Red Feather La 56.04 66 eP P 05 31 25.5 +0.7
comp=Z,32nm,0.8s
PV23 Carpenter Ridg 56.07 70 eP P 05 31 25.5 +0.4
comp=Z,38nm,0.7s
PV10 Paradox Valley 56.11 70 eP P 05 31 25.7 +0.4
PV14 Lion Creek, Pa 56.12 70 eP P 05 31 25.4 -0.1
comp=Z,36nm,0.6s
PV22 Blue Mesa, Par 56.14 70 eP P 05 31 25.6 +0.2
comp=Z,38nm,0.6s
PV20 West Nyswonger 56.18 70 eP P 05 31 25.9 +0.1
comp=Z,31nm,0.6s
PV19 Morning Glory 56.19 70 eP P 05 31 25.8 -0.1
comp=Z,34nm,0.5s
PV17 East Wray Mesa 56.22 70 eP P 05 31 26.0 -0.1
comp=Z,81nm,0.6s
PV16 Nyswonger Mesa 56.23 70 eP P 05 31 25.9 -0.2
comp=Z,38nm,0.6s
PRGR Permogore 56.25 331 eP P 05 31 25.2 -0.4
PRGR pmax pmax
comp=Z,37nm,0.8s
PV11 David Mesa, Pa 56.26 70 eP P 05 31 26.3 -0.1
comp=Z,59nm,0.6s
PV18 Skein Mesa, Pa 56.28 70 eP P 05 31 26.6 +0.1
comp=Z,55nm,0.6s
PV12 Saucer Basin, 56.28 70 eP P 05 31 26.9 +0.3
comp=Z,38nm,0.6s
PV05 Paradox Valley 56.29 70 eP P 05 31 26.8 +0.2
Y12C Blythe 56.29 78 eP P 05 31 26.4 +0.1
comp=Z,14nm,0.8s
Y12C Blythe 56.29 78 P P 05 31 26.6 +0.2
baz=316,SNR=8.9
PV03 Paradox Valley 56.30 70 eP P 05 31 26.4 -0.3
PV13 Radium Mtn., P 56.39 70 eP P 05 31 27.2 -0.1
comp=Z,115nm,0.7s
PV02 Paradox Valley 56.40 70 eP P 05 31 27.4 0.0
comp=Z,38nm,0.6s
PV01 Paradox Valley 56.54 70 eP P 05 31 28.1 -0.3
GLA Glamis 56.62 78 eP P 05 31 30.2 +1.5
comp=Z,19nm,0.6s
GLA Glamis 56.62 78 eP P 05 31 30.2 +1.5
GLA pmax pmax
comp=Z,19nm,0.6s
GLA Glamis 56.62 78 P P 05 31 28.9 +0.1
baz=317,SNR=11
SMCO Snowmass 56.69 68 eP P 05 31 29.3 -0.3
comp=Z,18nm,0.6s
WUAZ Wupatki 56.83 74 eP P 05 31 30.8 +0.4
comp=Z,17nm,0.9s
WUAZ Wupatki 56.83 74 P P 05 31 30.6 +0.3
baz=316,SNR=15
ISCO Idaho Springs 56.99 66 eP P 05 31 32.1 +0.5
comp=Z,27nm,0.8s
ISCO Idaho Springs 56.99 66 eP P 05 31 32.1 +0.5
ISCO pmax pmax
comp=Z,27nm,0.8s
ISCO Idaho Springs 56.99 66 P P 05 31 31.8 +0.2
baz=316,SNR=38
MVCO Mesa Verde 57.24 71 eP P 05 31 34.1 +0.7
comp=Z,16nm,0.9s
MVCO Mesa Verde 57.24 71 P P 05 31 34.0 +0.7
baz=316,SNR=15
S22A 4UR Ranch, Cre 57.78 69 eP P 05 31 37.8 +0.5
comp=Z,27nm,1.0s
S22A 4UR Ranch, Cre 57.78 69 P P 05 31 37.7 +0.5
baz=316,SNR=34
Q24A Divide 57.84 67 eP P 05 31 40.1 +2.5
comp=Z,16nm,0.7s
Q24A Divide 57.84 67 P P 05 31 37.7 0.0
baz=316
OGNE Ogallala 58.09 63 eP P 05 31 40.4 +1.3
comp=Z,55nm,0.8s
OGNE Ogallala 58.09 63 P P 05 31 39.0 -0.1
baz=316,SNR=7.4
TKM2 Tokmak 2 58.23 300 P P 05 31 39.4 -0.8
SNR=5.5
EYMN Ely 58.27 51 eP P 05 31 38.9 -1.1
comp=Z,47nm,1.0s
EYMN Ely 58.27 51 P P 05 31 39.0 -1.1
baz=317,SNR=25
SDCO Great Sand Dun 58.52 68 eP P 05 31 42.5 +0.1
comp=Z,12nm,0.6s
SDCO Great Sand Dun 58.52 68 P P 05 31 42.5 +0.1
baz=316,SNR=21
USP Ospenovka 58.54 301 P P 05 31 41.6 -0.6
SNR=7.5
KLMR Klimovskoe 58.58 333 eP P 05 31 40.1 -1.9
KLMR pmax pmax
comp=Z,46nm,1.0s
KLMR Klimovskoe 58.58 333 eP P 05 31 40.1 -1.9
KLMR AMP 05 31 55.9
comp=Z,46nm,1.0s
214A Organ Pipe Nat 58.58 78 P P 05 31 42.7 +0.1
baz=318
KBK Karagaybulak 58.75 301 P P 05 31 43.3 -0.5
SNR=6.8
JOF Joensuu 58.76 339 P P 05 31 44.6 +1.3
JOF pmax pmax
comp=Z,40nm,1.3s
ECSD EROS Data Cent 58.87 58 eP P 05 31 43.2 -1.2
comp=Z,25nm,0.8s
ECSD EROS Data Cent 58.87 58 P P 05 31 43.0 -1.3
baz=317,SNR=22

AAK Ala-Archa 58.99 301 P P 05 31 44.3 -1.1
comp=Z,7.8nm,0.8s,baz=76,slow=4.1,SNR=23
AAK Ala-Archa 58.99 301 P P 05 31 44.9 -0.7
SNR=7.5
AAK Ala-Archa 58.99 301 eP P 05 31 44.8 -0.7
comp=Z,12nm,1.0s
AAK Ala-Archa 58.99 301 ciP P 05 31 44.8 -0.7
AAK pmax pmax
comp=Z,10.0nm,0.8s
KSCO Kaye Shedlock' 59.16 65 eP P 05 31 46.7 0.0
comp=Z,68nm,0.5s
KSCO Kaye Shedlock' 59.16 65 P P 05 31 46.0 -0.7
baz=317,SNR=25
LSA Lhasa 59.20 279 eP P 05 31 48.0 +0.6
comp=Z,10nm,0.7s
LSA Lhasa 59.20 279 eP P 05 31 48.0 +0.6
LSA pmax pmax
comp=Z,10.0nm,0.7s
E38A The Farm, Brul 59.22 52 eP P 05 31 45.7 -1.0
comp=Z,34nm,1.0s
E38A The Farm, Brul 59.22 52 P P 05 31 45.0 -1.7
baz=318,SNR=8.8
EKS2 Erkin-Say 59.34 301 P P 05 31 47.4 -0.4
SNR=7.1
TUC Tucson 59.49 76 eP P 05 31 49.1 +0.2
comp=Z,6.1nm,0.9s
TUC Tucson 59.49 76 eP P 05 31 49.1 +0.2
TUC pmax pmax
comp=Z,6.0nm,0.9s
TUC Tucson 59.49 76 P P 05 31 48.9 0.0
baz=318
T25A Trinidad 59.55 68 eP P 05 31 49.4 -0.1
comp=Z,19nm,0.8s
T25A Trinidad 59.55 68 P P 05 31 49.0 -0.4
baz=317,SNR=17
SPMN Marine on St. 59.64 54 eP P 05 31 49.2 -0.5
comp=Z,49nm,1.2s
AML Almayashu 59.77 301 P P 05 31 50.8 -0.4
SNR=5.7
BGNE Belgrade 59.78 60 eP P 05 31 51.0 +0.3
comp=Z,115nm,0.9s
BGNE Belgrade 59.78 60 P P 05 31 49.0 -1.7
baz=317,SNR=14
E39A Mellen 59.85 52 P P 05 31 49.7 -1.4
baz=318,SNR=13
SUF Sumiainen 60.00 341 P P 05 31 54.1 +2.3
SUF pmax pmax
comp=Z,45nm,0.8s
ANMO Albuquerque 60.02 71 LR LR 05 55 50.8
comp=Z,203nm,20.4s,baz=321,slow=34
ANMO Albuquerque 60.02 71 eP P 05 31 52.9 +0.2
comp=Z,8.6nm,0.7s
ANMO Albuquerque 60.02 71 ceP P 05 31 52.2 -0.5
ANMO pmax pmax
comp=Z,9.0nm,0.8s
ANMO Albuquerque 60.02 71 P P 05 31 52.5 -0.1
baz=317
LAZ Ladron 60.03 72 eP P 05 31 53.2 +0.5
E40A Wakefield 60.11 51 P P 05 31 52.2 -0.7
baz=318,SNR=22
MNAS Manas 60.11 302 P P 05 31 52.7 -0.4
MNAS pmax pmax
comp=Z,10.0nm,0.7s
G38A Ridgeland 60.14 53 P P 05 31 51.1 -2.0
baz=318,SNR=9.8
D41A Chassel 60.26 50 eP P 05 31 54.1 +0.2
comp=Z,30nm,0.6s
D41A Chassel 60.26 50 P P 05 31 52.5 -1.4
baz=319,SNR=6.6
LENM Lemitar 60.30 72 eP P 05 31 55.2 +0.7
G39A Holcombe 60.37 53 P P 05 31 53.5 -1.2
baz=318,SNR=6.0
F40A Park Falls 60.40 52 P P 05 31 54.2 -0.6
baz=318
BNM Barren Site 60.50 72 eP P 05 31 56.8 +0.7
KSH Kashi 60.50 297 P P 05 31 58.9 +3.1
KSH PcP PcP 05 32 42.9 +2.6
KSH S S 05 40 10.4 +1.2
KSH sS sS 05 40 27.5 +2.5
KSH SS SS 05 44 10.5 +3.7
KSH pmax pmax
comp=Z,71nm,1.2s
KSH pmax pmax
comp=Z,370nm,5.0s
KSH LR LR
comp=Z,760nm,15.3s
KSH LR LR
comp=Z,740nm,15.0s
E41A Kenton 60.52 51 P P 05 31 55.3 -0.5
baz=319,SNR=8.0
KK31 Karatay Array 60.65 304 eP P 05 31 55.5 -1.1
KK31 Karatay Array 60.65 304 eP P 05 31 55.6 -1.1
KKAR Karatay Array 60.65 304 eP P 05 31 55.5 -1.1
KKAR Karatay Array 60.65 304 eP P 05 31 55.6 -1.1
COWI Conover 60.72 51 eP P 05 31 57.1 +0.1
comp=Z,22nm,1.1s
AKTO Aktyubinsk 60.76 317 P P 05 31 56.0 -1.2
comp=Z,11nm,0.8s,baz=61,slow=6.6,SNR=22
G40A Rib Lake 60.84 52 eP P 05 31 57.8 -0.1
comp=Z,18nm,0.9s
G40A Rib Lake 60.84 52 P P 05 31 57.8 -0.1
baz=319,SNR=6.6
CBKS Cedar Bluff 60.85 63 eP P 05 31 58.4 +0.3
comp=Z,40nm,0.8s
CBKS Cedar Bluff 60.85 63 eP P 05 31 58.4 +0.3
CBKS pmax pmax
comp=Z,40nm,0.8s
CBKS Cedar Bluff 60.85 63 P P 05 31 57.0 -1.1
baz=318,SNR=6.7
ABKAR Akbulak array 60.87 315 eP P 05 31 56.7 -1.3
NONG Nongkai 60.98 261 P P 05 32 00.6 +1.5
F41A Three Lakes 61.00 51 eP P 05 31 58.4 -0.6
comp=Z,24nm,1.0s
E42A Champion 61.03 50 P P 05 31 58.0 -1.2
baz=319,SNR=9.4
121A Cookes Peak, D 61.04 74 P P 05 31 59.8 +0.2
baz=318
FIA1 FINESS Array S 61.18 340 eP P 05 31 59.1 -0.8
FINES FINESS Array B 61.18 340 P P 05 31 58.8 -1.1
comp=Z,14nm,0.7s,baz=56,slow=7.8,SNR=18
FINES LR LR 06 00 31.7
comp=Z,209nm,21.5s,baz=52,slow=38
H40A Chili 61.24 53 P P 05 31 59.3 -1.3
baz=319,SNR=5.8
I39A Houston 61.27 54 eP P 05 31 59.4 -1.4
comp=Z,23nm,0.6s
I39A Houston 61.27 54 P P 05 31 59.2 -1.6
baz=319,SNR=7.5
SKNT Sakolnakorn 61.34 259 P P 05 32 02.8 +1.2
E43A Lone Tree Farm 61.48 50 eP P 05 32 02.1 -0.2
comp=Z,22nm,0.8s
E43A Lone Tree Farm 61.48 50 P P 05 32 01.0 -1.2
baz=320
J39A Decorah 61.57 55 P P 05 32 01.9 -0.9
baz=319,SNR=7.9
H41A Junction City 61.59 53 eP P 05 32 02.4 -0.6
comp=Z,25nm,0.9s
H41A Junction City 61.59 53 P P 05 32 02.2 -0.8
baz=319
I40A Norwalk 61.68 54 P P 05 32 03.0 -0.6
baz=319,SNR=5.5
G42A Mountain 61.69 51 P P 05 32 03.1 -0.5
baz=319
F43A Flat Rock, Esc 61.82 50 P P 05 32 03.7 -0.8
baz=320,SNR=5.2
HSIG 61.83 79 eP P 05 32 05.0 +0.3
comp=Z,6.5nm,0.7s
SHL Shillong 61.86 275 eP P 05 32 04.9 -0.3
comp=Z,76nm,1.7s
SHL Shillong 61.86 275 eP P 05 32 04.9 -0.3
SHL pmax pmax
comp=Z,76nm,1.7s
SHL Shillong 61.86 275 eP P 05 32 06.0 +0.8
PAYA Payao 61.88 264 P P 05 32 06.8 +1.5
SCIA State Center 61.90 57 eP P 05 32 05.9 +0.7
comp=Z,82nm,0.8s
SCIA State Center 61.90 57 P P 05 32 04.2 -0.9
baz=319,SNR=8.2
I41A Arkdale 61.91 53 eP P 05 32 05.5 +0.4
comp=Z,28nm,1.0s
K39A Oelwein 61.96 55 P P 05 32 04.6 -0.9
baz=319,SNR=11
J40A Soldiers Grove 61.99 54 P P 05 32 05.5 -0.2
baz=319,SNR=6.4
KSU1 Kansas State U 62.27 61 eP P 05 32 07.8 +0.1
comp=Z,23nm,0.8s
KSU1 Kansas State U 62.27 61 P P 05 32 06.6 -1.0
baz=319
K40A Colesburg 62.33 55 P P 05 32 06.7 -1.2
baz=319
L39A Vinton 62.34 56 P P 05 32 06.7 -1.3
baz=319,SNR=13
J41A Loganville 62.36 54 P P 05 32 06.9 -1.3
baz=319,SNR=11
I42A Draeger Farm, 62.49 53 eP P 05 32 08.9 -0.1
comp=Z,23nm,0.6s
SCHQ Schefferville 62.52 32 P P 05 32 08.2 -0.9
comp=Z,25nm,0.8s,baz=316,slow=6.1,SNR=16
SCHQ LR LR 06 01 06.7
comp=Z,176nm,18.9s,baz=326,slow=38
SCHQ Schefferville 62.52 32 eP P 05 32 08.4 -0.6
comp=Z,46nm,1.0s
JFWS Jewell Farm 62.59 54 eP P 05 32 08.2 -1.5
comp=Z,15nm,0.8s
JFWS Jewell Farm 62.59 54 eP P 05 32 08.2 -1.5
JFWS pmax pmax
comp=Z,15nm,0.8s
JFWS Jewell Farm 62.59 54 P P 05 32 08.2 -1.5
baz=320
LAMP Lampang 62.68 264 P P 05 32 12.0 +1.4
D47A Chapleau 62.68 47 P P 05 32 08.8 -1.4
baz=321
E46A Sault Ste Mari 62.69 48 P P 05 32 09.1 -1.2
baz=321
AMTX Amarillo 62.71 68 eP P 05 32 12.4 +1.6
comp=Z,19nm,1.3s
M39A Webster 62.74 56 P P 05 32 09.4 -1.3
baz=319,SNR=21
L40A Anamosa 62.77 55 eP P 05 32 09.9 -0.9
comp=Z,29nm,0.8s
L40A Anamosa 62.77 55 P P 05 32 09.7 -1.1
baz=319,SNR=8.5
MSTX Muleshoe 62.79 69 eP P 05 32 10.9 -0.4
comp=Z,18nm,0.7s
MSTX Muleshoe 62.79 69 P P 05 32 10.8 -0.5
baz=319,SNR=15
K41A Shullsburg 62.80 54 P P 05 32 09.6 -1.5
baz=320,SNR=12
MATQ Matagami 62.82 42 P P 05 32 08.7 -2.4
baz=323,SNR=5.5
J42A Columbus 62.82 53 P P 05 32 09.7 -1.5
baz=320,SNR=7.3
I43A Langenfeld Bro 62.85 52 P P 05 32 10.3 -1.2
baz=320
CMMT Chiang Mai 62.85 265 P P 05 32 12.5 +0.7
CHTO Chiang Mai 62.86 265 eP P 05 32 12.8 +1.0
comp=Z,26nm,0.8s
CHTO Chiang Mai 62.86 265 eP P 05 32 12.8 +1.0
CHTO pmax pmax
comp=Z,26nm,0.8s
CHTO Chiang Mai 62.86 265 P P 05 32 12.6 +0.8
F46A Macinaw City C 62.95 49 P P 05 32 10.6 -1.4
baz=321
MNTX Cornudas Mount 63.02 73 eP P 05 32 12.9 +0.1
comp=Z,15nm,0.8s
MNTX Cornudas Mount 63.02 73 P P 05 32 12.7 0.0
baz=319,SNR=33
N39A Derby Farms, D 63.03 57 eP P 05 32 11.7 -1.0
comp=Z,42nm,0.9s
N39A Derby Farms, D 63.03 57 P P 05 32 11.3 -1.3
baz=319,SNR=12
E47A Iron Bridge 63.07 47 P P 05 32 10.8 -2.0
baz=321
L41A Preston 63.11 55 P P 05 32 11.9 -1.2
baz=320,SNR=6.5
M40A Post Highland 63.12 56 P P 05 32 12.0 -1.3
baz=320,SNR=13
K42A Prairie Point, 63.13 54 P P 05 32 11.7 -1.6
baz=320,SNR=9.7
CM31 Chiang Mai Arr 63.13 265 eP P 05 32 15.2 +1.6
CMAR Chiang Mai Arr 63.13 265 P P 05 32 14.8 +1.2
comp=Z,17nm,0.7s,baz=23,slow=7.5,SNR=82
CMAR LR LR 06 01 48.5
comp=Z,93nm,20.9s,baz=48,slow=38
CMAR Chiang Mai Arr 63.13 265 iP P 05 32 14.8 +1.2
CMAR pmax pmax
comp=Z,18nm,0.7s
CM01 Chiang Mai Arr 63.15 265 eP P 05 32 13.9 +0.2
GDL2 Guadalupe Moun 63.22 72 eP P 05 32 16.7 +2.5
CHAI Chaiyaphum 63.35 260 P P 05 32 16.2 +1.1
PBKT Sadao Pong 63.42 262 eP P 05 32 16.7 +1.2
comp=Z,6.5nm,0.7s
PBKT Sadao Pong 63.42 262 P P 05 32 16.6 +1.1
MOS Moscow 63.48 331 eP P 05 32 26.1 +11
N40A Mertquake, Sal 63.48 57 P P 05 32 14.1 -1.5
baz=320,SNR=9.8
SUKH Sukhothai 63.49 263 P P 05 32 17.6 +1.6
KKM Kota Kinabalu 63.50 241 eP P 05 32 18.2 +2.1
ODAN Odare 63.52 280 eP P 05 32 15.9 -0.5
comp=Z,52nm,1.2s
E48A Lockeyer 63.53 47 P P 05 32 15.3 -0.6
baz=322,SNR=5.9
L42A Oliver, Polo 63.56 54 eP P 05 32 15.8 -0.4
comp=Z,22nm,0.7s
L42A Oliver, Polo 63.56 54 P P 05 32 14.9 -1.3
baz=320
GUN Gumba 63.60 282 eP P 05 32 16.6 -0.5
comp=Z,70nm,0.7s
JIRN Jiri 63.61 281 eP P 05 32 16.9 -0.2
comp=Z,56nm,0.9s
M41A Milan 63.62 56 P P 05 32 15.6 -0.9
baz=320,SNR=6.0
LSQQ Lebel-sur-Quev 63.63 42 P P 05 32 14.1 -2.4
baz=323
K43A Burlington 63.67 53 eP P 05 32 17.1 +0.2
comp=Z,27nm,0.9s
K43A Burlington 63.67 53 P P 05 32 16.3 -0.5
baz=320
H46A Fife Lake 63.70 50 P P 05 32 16.6 -0.5
baz=321,SNR=15
GLMI Grayling 63.75 49 eP P 05 32 17.7 +0.3
comp=Z,59nm,0.8s
NC303 NORSAR Array S 63.78 348 eP P 05 32 19.0 +1.7
NC204 NORSAR Array S 63.80 348 eP P 05 32 17.0 -0.5
NC405 NORSAR Array S 63.84 348 eP P 05 32 17.1 -0.6
RAMN Ramite 63.91 280 eP P 05 32 18.6 -0.4
comp=Z,158nm,0.9s
CHGQ Chibougamau 63.95 40 P P 05 32 16.2 -2.4
baz=324,SNR=9.2
NB201 NORSAR Array S 63.96 348 eP P 05 32 17.9 -0.6
N41A Harden Midland 63.97 56 eP P 05 32 17.3 -1.6
comp=Z,66nm,0.6s
N41A Harden Midland 63.97 56 P P 05 32 17.4 -1.5
baz=320,SNR=18
NB2 NORSAR Subarra 63.98 348 P P 05 32 17.4 -1.2
comp=Z,5.3nm,0.5s,baz=16,slow=6.9
NOA NORSAR Array B 63.98 348 P P 05 32 17.7 -0.9
comp=Z,12nm,0.7s,baz=17,slow=6.7,SNR=33
NOA LR LR 06 01 53.3
comp=Z,89nm,18.2s,baz=10.0,slow=38
NOA NORSAR Array B 63.98 348 P P 05 32 17.7 -0.9
NOA pmax pmax
comp=Z,10.0nm,0.7s
NOA MLR MLR
comp=Z,89nm,18.2s
D50A G1974 Best Tow 63.98 45 P P 05 32 17.8 -1.1
baz=323
KKN Kakani 64.04 282 eP P 05 32 19.6 -0.2
comp=Z,46nm,0.8s
I46A Reed City 64.06 50 P P 05 32 18.6 -0.8
baz=321,SNR=5.7
FAKI Fak Fak 64.07 221 eP P 05 32 20.9 +1.2
comp=Z,83nm,1.7s
FAKI Fak Fak 64.07 221 P P 05 32 20.8 +1.1
PKI Pulchoki 64.13 282 eP P 05 32 20.1 -0.4
comp=Z,71nm,0.8s
PKIN Phulchoki 64.14 282 eP P 05 32 19.9 -0.6
comp=Z,43nm,0.6s
F49A Sandfield 64.15 47 P P 05 32 18.3 -1.7
baz=322
E50A Wahnapitae 64.19 46 P P 05 32 18.9 -1.3
baz=322
VLDQ Val d'Or 64.20 43 eP P 05 32 16.7 -3.5
comp=Z,25nm,0.9s
NORES NORESS Array B 64.23 348 P P 05 32 21.2 +1.0
NORES pmax pmax
comp=Z,2.0nm,0.5s
D51A Lot 18 Range I 64.23 45 P P 05 32 19.4 -1.1
baz=323,SNR=5.9
DMN Daman 64.28 282 eP P 05 32 21.1 -0.3
comp=Z,23nm,0.7s
N42A Yates City 64.28 56 P P 05 32 19.7 -1.2
baz=320,SNR=6.1
OBN Obninsk 64.32 332 eP P 05 32 22.0 +1.1

OBN *i* 05 32 31.4
OBN *e* 05 34 42.1
OBN *eS* **S** **05 40 58.3 +2.0**
OBN *eSS* **SS** **05 45 11.2 +6.0**
OBN pmax pmax
comp=Z,65nm,2.5s
OBN MLR MLR
comp=Z,212nm,17.0s
M43A Waltham Townsh 64.34 54 P **P** **05 32 20.2 -1.0**
baz=320,SNR=5.2
WMOK Wichita Mounta 64.39 66 *e*P **P** **05 32 20.9 -0.9**
comp=Z,29nm,0.8s
WMOK Wichita Mounta 64.39 66 *e*P **P** **05 32 20.9 -0.9**
WMOK pmax pmax
comp=Z,29nm,0.8s
WMOK Wichita Mounta 64.39 66 P **P** **05 32 20.8 -0.9**
baz=319,SNR=38
O41A Passleys Farm, 64.41 57 P **P** **05 32 20.1 -1.7**
baz=320,SNR=12
I47A Gladwin 64.42 50 P **P** **05 32 20.8 -1.0**
baz=321
J46A Howard City 64.42 51 P **P** **05 32 20.8 -1.0**
baz=321
DANN Dangsing 64.50 284 *e*P **P** **05 32 22.5 -0.4**
comp=Z,64nm,0.7s
E51A G1948 Merrick 64.63 45 P **P** **05 32 21.6 -1.5**
baz=323
P41A Barry, Barry 64.66 57 P **P** **05 32 22.3 -1.1**
baz=320,SNR=11
M44A Midewin, Midew 64.81 54 *e*P **P** **05 32 24.3 -0.1**
comp=Z,26nm,0.8s
M44A Midewin, Midew 64.81 54 P **P** **05 32 23.2 -1.2**
baz=321
HDIL Hopedale 64.85 55 *e*P **P** **05 32 23.4 -1.2**
comp=Z,91nm,0.6s
HDIL Hopedale 64.85 55 P **P** **05 32 23.4 -1.2**
baz=321,SNR=21
D53A Lac Vacive, Po 64.93 44 P **P** **05 32 23.9 -1.1**
baz=324,SNR=8.4
UMPA Umpang Tak 64.95 263 P **P** **05 32 27.9 +2.3**
KOLN Koldanda 65.03 283 *e*P **P** **05 32 25.6 -0.6**
comp=Z,37nm,0.8s
P42A Winchester 65.08 57 *e*P **P** **05 32 24.7 -1.5**
comp=Z,27nm,0.6s
P42A Winchester 65.08 57 P **P** **05 32 24.5 -1.6**
baz=320,SNR=7.8
TUL1 Leonard 65.10 63 *e*P **P** **05 32 26.2 -0.1**
comp=Z,14nm,0.9s
TUL1 Leonard 65.10 63 P **P** **05 32 25.3 -1.0**
baz=320,SNR=5.9
UTHA Uthaitani 65.11 262 P **P** **05 32 28.0 +1.4**
Q41A Truxton 65.12 58 P **P** **05 32 25.2 -1.2**
baz=320,SNR=16
PYUN Piuthan 65.13 284 *e*P **P** **05 32 26.3 -0.6**
comp=Z,77nm,1.0s
K47A Vermontville 65.25 51 P **P** **05 32 25.7 -1.5**
baz=322,SNR=8.0
D54A Lac Fusel, La 65.30 43 P **P** **05 32 25.9 -1.5**
baz=324
P43A Skaggs, Pawnee 65.45 56 P **P** **05 32 27.3 -1.2**
baz=321,SNR=8.3
Q42A Golden Eagle 65.51 57 P **P** **05 32 27.8 -1.1**
baz=321,SNR=20
E53A Dumoine, Ponti 65.51 44 P **P** **05 32 27.1 -1.8**
baz=324,SNR=8.3
ABTX Abilene, Hawle 65.52 68 *e*P **P** **05 32 28.9 -0.2**
comp=Z,39nm,0.6s
ABTX Abilene, Hawle 65.52 68 P **P** **05 32 28.5 -0.6**
baz=320,SNR=15
PMG Port Moresby 65.54 203 P **P** **05 32 30.8 +1.6**
comp=Z,6.5nm,0.4s,baz=14,slow=6.3,SNR=4.3
PMG Port Moresby 65.54 203 P **P** **05 32 30.8 +1.6**
PMG pmax pmax
comp=Z,13nm,0.7s
K48A Perry 65.55 50 P **P** **05 32 27.0 -2.1**
baz=322,SNR=6.7
J49A Marlette 65.56 49 P **P** **05 32 28.4 -0.7**
baz=322
R41A Rosebud 65.56 58 P **P** **05 32 28.1 -1.1**
baz=320,SNR=20
O44A Mansfield 65.56 55 P **P** **05 32 28.2 -1.1**
baz=321
M46A Old House Fiel 65.60 53 *e*P **P** **05 32 29.6 +0.1**
comp=Z,22nm,0.8s
E54A Lac Daplat, Po 65.66 44 P **P** **05 32 28.0 -1.8**
baz=324,SNR=9.5
L47A Sherwood 65.70 52 P **P** **05 32 28.7 -1.4**
baz=322,SNR=7.5
TX31 Lajitas Ar. Si 65.77 73 *e*P **P** **05 32 30.5 -0.4**
TXAR Lajitas Array 65.77 73 P **P** **05 32 30.4 -0.5**
comp=Z,8.5nm,0.5s,baz=304,slow=4.8,SNR=149
HHAR Hobbs 65.79 61 *e*P **P** **05 32 29.0 -1.8**
comp=Z,14nm,0.8s
CCM Cathedral Cave 65.81 58 *e*P **P** **05 32 29.3 -1.6**
comp=Z,17nm,0.8s
CCM Cathedral Cave 65.81 58 *e*P **P** **05 32 29.3 -1.6**
CCM pmax pmax
comp=Z,17nm,0.8s
CCM Cathedral Cave 65.81 58 P **P** **05 32 29.7 -1.1**
baz=321
LPSR Galich'ya Gora 65.81 329 *e*P **P** **05 32 32.5 +1.9**
LPSR *e**SP **sP** **05 32 43.0 -1.0**
LPSR pmax pmax
comp=Z,20nm,0.8s
O45A Potomac 65.85 54 P **P** **05 32 29.8 -1.2**
baz=321,SNR=11
SANI Sanana 65.86 227 P **P** **05 32 31.4 0.0**
R42A Luebbering 65.86 58 P **P** **05 32 30.0 -1.2**
baz=321,SNR=21
K49A Clarkson 65.87 50 P **P** **05 32 29.7 -1.4**
baz=322,SNR=15
S41A Jillco Farms, 65.91 59 P **P** **05 32 29.7 -1.9**
baz=321,SNR=19
LPIG La Paz 65.92 82 LR LR 05 55 24.0
comp=Z,82nm,21.7s,baz=304,slow=31
H52A Wyevale 65.97 47 P **P** **05 32 30.4 -1.4**
baz=323,SNR=6.7
M47A Cromwell 65.98 52 P **P** **05 32 30.9 -1.1**
baz=322,SNR=5.5
P44A Sand Creek, Wi 66.02 56 P **P** **05 32 31.0 -1.2**
baz=321,SNR=26
SFIN Lafayette 66.05 54 *e*P **P** **05 32 31.1 -1.3**
comp=Z,21nm,0.8s
SFIN Lafayette 66.05 54 P **P** **05 32 30.4 -2.0**
baz=322,SNR=5.5
VRH Novokhopyorsk 66.13 326 *e*P **P** **05 32 32.0 -0.7**
VRH *e**SP **sP** **05 32 45.9 -0.2**
VRH pmax pmax
comp=Z,70nm,1.2s
AAM Ann Arbor 66.15 50 *e*P **P** **05 32 34.3 +1.3**
comp=Z,22nm,0.9s
SADO Sadowa 66.18 46 *e*P **P** **05 32 32.0 -1.1**
comp=Z,14nm,0.8s
PEMO Pembroke 66.25 44 P **P** **05 32 31.4 -2.1**
baz=324,SNR=5.9
S42A Caledonia 66.25 58 P **P** **05 32 32.7 -1.0**
baz=321,SNR=17
Q44A Meyer Farm, Va 66.26 56 P **P** **05 32 32.8 -1.0**
baz=321
FVM French Village 66.28 58 *e*P **P** **05 32 32.4 -1.5**
comp=Z,23nm,0.6s
FVM French Village 66.28 58 *e*P **P** **05 32 32.4 -1.5**
FVM pmax pmax
comp=Z,23nm,0.6s
U40A Yellville 66.29 61 P **P** **05 32 32.8 -1.3**
baz=321,SNR=14
R43A Red Bud 66.30 57 P **P** **05 32 32.5 -1.4**
baz=321,SNR=18
M48A Edgerton 66.31 52 *e*P **P** **05 32 33.5 -0.5**
comp=Z,36nm,0.9s
T41A Mountain View 66.32 59 P **P** **05 32 32.9 -1.3**
baz=321,SNR=15
N47A Urbana 66.33 53 P **P** **05 32 32.6 -1.6**
baz=322
NIL Nilore 66.34 295 *e*P **P** **05 32 34.1 -0.2**
comp=Z,78nm,0.8s
NIL Nilore 66.34 295 *e*P **P** **05 32 34.2 -0.2**
NIL pmax pmax
comp=Z,78nm,0.8s
P45A Graceland, Par 66.40 55 *e*P **P** **05 32 34.8 +0.1**
comp=Z,15nm,0.8s
HPIG 66.45 76 *e*P **P** **05 32 35.8 +0.4**
comp=Z,9.4nm,1.2s
BANO Bancroft 66.50 45 P **P** **05 32 33.0 -2.2**
baz=324,SNR=11
MPSI Mapaga 66.56 235 P **P** **05 32 36.0 +0.1**
comp=Z,9.6nm,1.2s,comp=Z,2µm

LATQ La Tuque 66.63 40 P **P** **05 32 34.3 -1.7**
baz=326,SNR=6.4
N48A Decatur 66.66 52 P **P** **05 32 34.9 -1.3**
baz=322,SNR=9.1
T42A Van Buren 66.67 59 *e*P **P** **05 32 34.2 -2.2**
comp=Z,12nm,0.7s
T42A Van Buren 66.67 59 P **P** **05 32 34.4 -2.0**
baz=321,SNR=7.9
Q45A Warren Harvey, 66.69 56 P **P** **05 32 35.1 -1.4**
baz=322,SNR=13
W39A Magazine 66.70 62 *e*P **P** **05 32 36.3 -0.3**
comp=Z,11nm,0.7s
W39A Magazine 66.70 62 P **P** **05 32 34.8 -1.8**
baz=321,SNR=5.9
R44A Waltonville 66.74 57 P **P** **05 32 35.3 -1.5**
baz=321,SNR=10
S43A Fulton Ridge, 66.77 58 P **P** **05 32 35.7 -1.3**
baz=321,SNR=16
U41A Viola 66.78 60 P **P** **05 32 36.0 -1.1**
baz=321,SNR=13
PLVO Plevna 66.83 45 *e*P **P** **05 32 36.3 -1.0**
comp=Z,15nm,0.8s
PLVO Plevna 66.83 45 P **P** **05 32 34.9 -2.4**
baz=324
OLIL Olney 66.85 56 *e*P **P** **05 32 37.7 +0.3**
comp=Z,27nm,0.8s
VSR Storozhevoye 66.94 328 *e*P **P** **05 32 40.0 +2.1**
VSR *e**SP **sP** **05 32 50.2 -1.0**
VSR pmax pmax
comp=Z,10.0nm,0.7s
N49A Columbus Grove 67.00 52 *e*P **P** **05 32 37.7 -0.8**
comp=Z,20nm,0.8s
N49A Columbus Grove 67.00 52 P **P** **05 32 37.2 -1.2**
baz=322,SNR=6.5
DELO Deloro Mine 67.03 45 P **P** **05 32 36.5 -2.1**
baz=324
JCT Junction City 67.07 70 *e*P **P** **05 32 38.1 -1.0**
comp=Z,15nm,0.8s
JCT Junction City 67.07 70 *e*P **P** **05 32 38.1 -1.0**
JCT pmax pmax
comp=Z,15nm,0.8s
JCT Junction City 67.07 70 P **P** **05 32 38.3 -0.7**
baz=320,SNR=8.5
O48A Farmland 67.07 53 P **P** **05 32 37.6 -1.3**
baz=322
S44A Carbondale 67.08 57 P **P** **05 32 38.1 -0.9**
baz=321,SNR=9.3
SIUC Southern Illin 67.09 57 *e*P **P** **05 32 37.9 -1.1**
comp=Z,32nm,0.6s
V41A Mountainview 67.09 61 P **P** **05 32 38.2 -0.9**
baz=321,SNR=24
PHET Kaeng Krachan 67.10 260 P **P** **05 32 41.2 +1.8**
VORD Divnogorie 67.11 328 *e*P **P** **05 32 40.2 +1.2**
VORD *e**SP **pP** **05 32 50.8 +2.1**
VORD pmax pmax
comp=Z,10.0nm,0.9s
U42A Revenden 67.13 59 P **P** **05 32 38.3 -1.0**
baz=321,SNR=6.9
ORIO Orleans, Innes 67.14 43 P **P** **05 32 36.6 -2.6**
baz=325,SNR=5.1
P47A Martinsville 67.14 54 P **P** **05 32 38.1 -1.3**
baz=322,SNR=17
M50A Fremont 67.14 51 *e*P **P** **05 32 39.3 0.0**
comp=Z,18nm,0.9s
WHTX Lake Whitney, 67.20 67 *e*P **P** **05 32 39.0 -0.9**
comp=Z,16nm,0.6s
WHTX Lake Whitney, 67.20 67 P **P** **05 32 39.0 -0.9**
baz=320,SNR=8.6
PBMO Poplar Bluff 67.20 59 *e*P **P** **05 32 38.2 -1.6**
comp=Z,44nm,0.8s
ALFO Alfred 67.25 43 P **P** **05 32 38.1 -1.8**
baz=325
MIAR Mount Ida 67.31 62 *e*P **P** **05 32 38.9 -1.6**
comp=Z,16nm,0.7s
MIAR Mount Ida 67.31 62 *e*P **P** **05 32 38.9 -1.6**
MIAR pmax pmax
comp=Z,16nm,0.7s
MIAR Mount Ida 67.31 62 P **P** **05 32 39.5 -1.0**
baz=321,SNR=14
T44A Benton 67.39 58 P **P** **05 32 40.0 -1.0**
baz=322
WHAR Wooly Hollow 67.41 61 *e*P **P** **05 32 39.6 -1.4**
comp=Z,17nm,0.8s
Q47A Bedord North L 67.50 55 P **P** **05 32 39.8 -1.9**
baz=322,SNR=13
O49A Covington 67.51 52 *e*P **P** **05 32 39.9 -1.8**
comp=Z,21nm,0.6s
O49A Covington 67.51 52 P **P** **05 32 39.7 -2.0**
baz=323,SNR=6.8
W41B Gary Mavity, V 67.52 61 *e*P **P** **05 32 40.1 -1.6**
comp=Z,19nm,1.1s
W41B Gary Mavity, V 67.52 61 P **P** **05 32 40.2 -1.6**
baz=321,SNR=8.3
U43A Rector 67.53 59 P **P** **05 32 41.1 -0.8**
baz=321,SNR=10
R46A Gibon Southern 67.54 56 P **P** **05 32 40.5 -1.4**
baz=322
P48A Milroy 67.57 54 P **P** **05 32 40.7 -1.3**
baz=322,SNR=7.9
N50A Nevada 67.60 51 P **P** **05 32 41.3 -0.9**
baz=323,SNR=6.5
PARMO Parma 67.64 58 *e*P **P** **05 32 43.2 +0.7**
comp=Z,86nm,0.7s
USIN University of 67.66 56 *e*P **P** **05 32 41.5 -1.2**
comp=Z,62nm,0.8s
X40A Basin Creek Fa 67.74 62 *e*P **P** **05 32 42.7 -0.6**
comp=Z,11nm,0.9s
X40A Basin Creek Fa 67.74 62 P **P** **05 32 42.8 -0.5**
baz=321,SNR=7.6
MEDO Medina 67.77 47 P **P** **05 32 42.0 -1.3**
baz=324,SNR=5.6
N51A Ashland 67.83 51 *e*P **P** **05 32 42.0 -1.7**
comp=Z,59nm,0.9s
Q48A North Vernon 67.84 54 P **P** **05 32 42.4 -1.3**
baz=322
P49A Miami Univ. Ec 67.84 53 P **P** **05 32 42.4 -1.4**
baz=323
S46A Don Dixon Farm 67.85 56 P **P** **05 32 43.0 -0.9**
baz=322,SNR=6.4
O50A Cable 67.87 52 P **P** **05 32 42.6 -1.4**
baz=323,SNR=14
KBL Kabul 67.89 298 *e*P **P** **05 32 42.7 -1.7**
comp=Z,15nm,0.8s
KBL Kabul 67.89 298 *e*P **P** **05 32 42.7 -1.7**
KBL pmax pmax
comp=Z,15nm,0.8s
ERPA Erie 67.95 48 *e*P **P** **05 32 44.4 0.0**
comp=Z,41nm,0.8s
ERPA Erie 67.95 48 P **P** **05 32 43.0 -1.4**
baz=324,SNR=7.6
R47A Wooly Knot Far 67.95 55 P **P** **05 32 43.0 -1.5**
baz=322
435B Jarrell 68.06 68 *e*P **P** **05 32 46.3 +1.1**
comp=Z,25nm,0.8s
U44B Burton Farm, H 68.09 58 P **P** **05 32 44.5 -0.9**
baz=322,SNR=7.3
ACSO Alum Creek Sta 68.10 51 *e*P **P** **05 32 45.8 +0.4**
comp=Z,27nm,0.8s
WCI Wyandotte Cave 68.12 55 *e*P **P** **05 32 44.2 -1.3**
WCI Wyandotte Cave 68.12 55 *e*P **P** **05 32 44.2 -1.3**
WCI Wyandotte Cave 68.12 55 P **P** **05 32 44.2 -1.3**
baz=322
GLAT Glass 68.18 58 *e*P **P** **05 32 47.2 +1.3**
comp=Z,56nm,0.6s
P50A Jamestown 68.22 52 P **P** **05 32 44.4 -1.7**
baz=323,SNR=7.5
T46A Princeton 68.27 57 P **P** **05 32 45.5 -1.0**
baz=322,SNR=14
UTMT University of 68.33 58 *e*P **P** **05 32 47.6 +0.7**
comp=Z,52nm,0.8s
S47A Hartford 68.33 56 P **P** **05 32 45.8 -1.1**
baz=322,SNR=12
O51A Pataskala 68.34 51 P **P** **05 32 45.3 -1.7**
baz=323,SNR=12
MMNY Mt. Morris Dam 68.36 46 *e*P **P** **05 32 46.4 -0.6**
comp=Z,34nm,0.9s
FRNY Flat Rock 68.42 42 *e*P **P** **05 32 46.3 -1.0**
comp=Z,47nm,1.7s
MOQ Mont Orford 68.55 41 *e*P **P** **05 32 47.9 -0.4**
M54A Oil Creek Stat 68.58 48 *e*P **P** **05 32 48.0 -0.5**
comp=Z,32nm,0.9s
M54A Oil Creek Stat 68.58 48 P **P** **05 32 47.0 -1.4**
baz=324,SNR=5.9
P51A Williamsport 68.66 52 *e*P **P** **05 32 47.8 -1.2**
comp=Z,16nm,0.8s
P51A Williamsport 68.66 52 P **P** **05 32 47.7 -1.2**
baz=323
S48A Wiedeman Farm, 68.69 55 P **P** **05 32 48.1 -1.0**
baz=323,SNR=20
T47A Sharon Grove 68.70 56 *e*P **P** **05 32 48.3 -0.9**
comp=Z,30nm,0.7s
T47A Sharon Grove 68.70 56 P **P** **05 32 48.3 -0.9**
baz=322,SNR=10
Z41A Richland Creek 68.71 63 *e*P **P** **05 32 50.5 +1.2**
comp=Z,16nm,0.9s
Z41A Richland Creek 68.71 63 P **P** **05 32 48.9 -0.4**
baz=321
O52A Adamsville 68.72 51 *e*P **P** **05 32 47.8 -1.6**
comp=Z,73nm,0.9s
O52A Adamsville 68.72 51 P **P** **05 32 48.4 -0.9**
baz=324,SNR=16
X43A Marvell 68.73 60 *e*P **P** **05 32 49.6 +0.2**
comp=Z,32nm,1.0s
X43A Marvell 68.73 60 P **P** **05 32 48.9 -0.5**
baz=322
CCAR Cane Creek 68.74 62 *e*P **P** **05 32 50.5 +1.0**
comp=Z,22nm,0.6s
Q50A Georgetown 68.74 53 P **P** **05 32 48.1 -1.4**
baz=323,SNR=7.3
V45A Humboldt 68.76 58 P **P** **05 32 48.7 -0.9**
baz=322
Y42A Garnett, Star 68.80 62 P **P** **05 32 49.1 -0.7**
baz=322
N54A Moraine State 68.88 49 *e*P **P** **05 32 50.7 +0.4**
comp=Z,50nm,1.0s
N54A Moraine State 68.88 49 P **P** **05 32 49.8 -0.5**
baz=324,SNR=7.9
NCB Newcomb 68.88 43 *e*P **P** **05 32 50.1 -0.2**
comp=Z,16nm,1.0s
NATX Nacogdoches 68.89 65 *e*P **P** **05 32 50.1 -0.3**
NATX Nacogdoches 68.89 65 P **P** **05 32 50.1 -0.3**
baz=321,SNR=5.3
Q51A Peebles 68.89 52 *e*P **P** **05 32 49.2 -1.2**
comp=Z,28nm,1.1s
Q51A Peebles 68.89 52 P **P** **05 32 49.0 -1.3**
baz=323,SNR=6.0
833A Chaparral WMA, 68.95 71 *e*P **P** **05 32 50.9 0.0**
comp=Z,17nm,0.8s
833A Chaparral WMA, 68.95 71 P **P** **05 32 50.5 -0.3**
baz=321
T48A Bowling Green 68.95 56 P **P** **05 32 48.5 -2.3**
baz=323,SNR=10
S49A Springfield 68.96 55 P **P** **05 32 49.5 -1.2**
baz=323,SNR=8.2
P52A Corning 68.97 51 P **P** **05 32 49.7 -1.2**
baz=324,SNR=6.9
WVT Waverly 69.02 57 *e*P **P** **05 32 50.1 -1.1**
comp=Z,26nm,0.6s
WVT Waverly 69.02 57 *e*P **P** **05 32 50.1 -1.1**
WVT pmax pmax
comp=Z,26nm,0.6s
WVT Waverly 69.02 57 P **P** **05 32 50.4 -0.7**
baz=322
R50A Paris 69.02 54 P **P** **05 32 49.9 -1.3**
baz=323
W45A Hickory Valley 69.10 59 P **P** **05 32 51.5 -0.3**
baz=322
X44A Crenshaw 69.12 60 P **P** **05 32 51.3 -0.6**
baz=322
V46A Holladay 69.13 58 P **P** **05 32 50.6 -1.3**
baz=322,SNR=13
240A Hunter Patters 69.15 64 *e*P **P** **05 32 48.1 -4.0**
comp=Z,60nm,0.6s
BATG Bathurst New B 69.19 36 *e*P **P** **05 32 52.4 +0.3**
comp=Z,74nm,1.8s
U48A Cassie Pea, Po 69.36 56 P **P** **05 32 52.1 -1.2**
baz=323,SNR=10.0
R51A Hillsboro 69.36 53 P **P** **05 32 52.0 -1.3**
baz=323,SNR=11
T49A Edmonton 69.38 55 *e*P **P** **05 32 52.0 -1.3**
comp=Z,26nm,0.7s
T49A Edmonton 69.38 55 P **P** **05 32 52.1 -1.3**
baz=323,SNR=13
P53A Whipple 69.43 51 *e*P **P** **05 32 53.6 -0.1**
comp=Z,16nm,0.9s
P53A Whipple 69.43 51 P **P** **05 32 52.6 -1.1**
baz=324
Q52A Bidwell 69.45 52 P **P** **05 32 52.3 -1.5**
baz=324
OXF Oxford 69.49 59 *e*P **P** **05 32 53.8 -0.3**
comp=Z,63nm,0.8s
OXF Oxford 69.49 59 *e*P **P** **05 32 53.8 -0.3**
OXF pmax pmax
comp=Z,63nm,0.8s
OXF Oxford 69.49 59 P **P** **05 32 53.2 -0.9**
baz=322,SNR=12
X45A UM Field Stati 69.57 60 P **P** **05 32 53.5 -1.1**
baz=322,SNR=5.4
ACCN Adirondack Com 69.59 43 *e*P **P** **05 32 53.8 -0.9**
comp=Z,28nm,0.8s
241A Mo Tay, Goldon 69.61 64 P **P** **05 32 54.1 -0.8**
baz=322
HKT Hockley 69.66 67 *e*P **P** **05 32 54.9 -0.2**
comp=Z,26nm,1.8s
HKT Hockley 69.66 67 *e*P **P** **05 32 54.9 -0.2**
HKT pmax pmax
comp=Z,25nm,1.8s
U49A Red Boiling Sp 69.73 56 P **P** **05 32 54.4 -1.2**
baz=323,SNR=8.7
PKME Peaks-Kenny Pk 69.73 39 *e*P **P** **05 32 54.0 -1.4**
R52A Catlettsburg 69.77 52 P **P** **05 32 54.7 -1.2**
baz=324,SNR=5.8
T50A Nancy 69.78 55 P **P** **05 32 54.7 -1.2**
baz=323,SNR=13
PLAL Pickwick Lake 69.80 58 *e*P **P** **05 32 54.6 -1.4**
comp=Z,35nm,0.7s
V48A Smith Brothers 69.83 57 *e*P **P** **05 32 54.9 -1.3**
comp=Z,25nm,0.8s
V48A Smith Brothers 69.83 57 P **P** **05 32 54.9 -1.3**
baz=323,SNR=9.9
W47A Westpoint 69.83 58 P **P** **05 32 55.2 -1.0**
baz=323,SNR=8.0
X46A Booneville 69.88 59 P **P** **05 32 55.9 -0.6**
baz=322,SNR=9.4
143A Socs Landing, 69.88 62 *e*P **P** **05 32 58.1 +1.5**
comp=Z,15nm,0.8s
S51A Beattyville 69.88 53 *e*P **P** **05 32 57.0 +0.5**
comp=Z,12nm,0.8s
S51A Beattyville 69.88 53 P **P** **05 32 55.4 -1.1**
baz=324
Y45A Yeager Farm, C 69.93 60 P **P** **05 32 55.9 -0.9**
baz=322,SNR=13
MCWV Mont Chateau 70.00 50 P **P** **05 32 56.0 -1.2**
baz=324,SNR=8.2
SSPA Standing Stone 70.07 48 *e*P **P** **05 32 56.1 -1.6**
comp=Z,23nm,1.0s
SSPA Standing Stone 70.07 48 P **P** **05 32 56.1 -1.6**
baz=325
KSPA Keystone Colle 70.23 46 *e*P **P** **05 32 58.7 +0.2**
comp=Z,84nm,1.6s
Z45A Winona 70.24 60 *e*P **P** **05 32 58.2 -0.5**
comp=Z,84nm,0.8s
Z45A Winona 70.24 60 P **P** **05 32 58.1 -0.7**
baz=322,SNR=7.2
W48A Pulaski 70.25 57 P **P** **05 32 57.7 -1.1**
baz=323,SNR=21
V49A McMinnville 70.26 56 P **P** **05 32 57.9 -1.0**
baz=323
U50A Jamestown 70.26 55 P **P** **05 32 57.9 -1.0**
baz=323,SNR=11
AKASG Malin Array Be 70.26 334 P **P** **05 32 57.4 -1.2**
comp=Z,6.7nm,0.7s,baz=27,slow=6.4,SNR=14
AKASG PP **PP** **05 35 29.2 -4.4**
comp=Z,0.5nm,0.3s,baz=26,slow=9.8,SNR=4.1
AKASG LR 06 07 23.9
comp=Z,183nm,18.2s,baz=10.0,slow=39
Y46A Houston 70.27 59 P **P** **05 32 57.9 -1.1**
baz=322,SNR=18
KIEV Kiev 70.27 334 *e*P **P** **05 32 59.4 +0.8**
comp=Z,13nm,0.9s
KIEV Kiev 70.27 334 *i* P **P** **05 32 58.9 +0.2**
KIEV pmax pmax
comp=Z,9.0nm,1.0s
X47A Russelville 70.27 58 P **P** **05 32 57.9 -1.1**
baz=323,SNR=7.6
AK11 Malin Array Si 70.30 334 *e*P **P** **05 32 59.8 +1.0**
W49A Belvidere 70.59 57 P **P** **05 33 00.1 -0.9**
baz=323
T52A Hallie 70.60 53 P **P** **05 32 59.9 -1.1**
baz=324
GEYT Alibeck 70.61 308 P **P** **05 33 00.1 -0.9**
comp=Z,2.0nm,0.6s,baz=289,slow=9.2,SNR=5.8
SWET Sewanee 70.68 57 *e*P **P** **05 33 00.6 -0.9**
comp=Z,29nm,0.8s
U51A La Follette 70.69 55 P **P** **05 33 00.8 -0.7**
baz=324,SNR=6.5

V50A Pikevile 70.73 56 P P 05 33 00.6 -1.2
baz=323,SNR=10.0
X48A Hartselle 70.73 58 *eP* P 05 33 00.2 -1.6
comp=Z,13nm,0.9s
X48A Hartselle 70.73 58 P P 05 33 00.9 -0.9
baz=323
N59A State Game Lan 70.76 46 *eP* P 05 33 01.6 -0.2
comp=Z,19nm,0.9s
N59A State Game Lan 70.76 46 P P 05 33 00.6 -1.3
baz=326
Y47A UCPARC, Winfie 70.77 59 P P 05 33 01.3 -0.7
baz=323,SNR=7.0
Z46A Louisville 70.77 60 P P 05 33 01.1 -0.8
baz=323
244A Avery, Jackson 70.77 62 P P 05 33 01.7 -0.3
baz=322,SNR=7.2
TZTN Tazewell 70.78 54 *eP* P 05 33 01.1 -0.9
comp=Z,21nm,0.8s
TZTN Tazewell 70.78 54 P P 05 33 00.9 -1.1
baz=324,SNR=5.2
COEN Coen 70.90 206 *eP* P 05 33 04.1 +1.3
comp=Z,22nm,0.8s
V51A Loudon 70.99 55 *eP* P 05 33 02.1 -1.2
comp=Z,41nm,0.8s
V51A Loudon 70.99 55 P P 05 33 02.4 -0.9
baz=324,SNR=10
U52A Thorn Hill 70.99 54 P P 05 33 02.2 -1.2
baz=324,SNR=6.8
W50A Signal Mountai 71.00 56 *eP* P 05 33 02.0 -1.4
comp=Z,34nm,0.6s
W50A Signal Mountai 71.00 56 P P 05 33 02.6 -0.8
baz=323,SNR=8.8
X49A Woodville 71.05 57 P P 05 33 02.5 -1.1
baz=323,SNR=19
Y48A Jasper 71.10 58 P P 05 33 03.2 -0.8
baz=323,SNR=7.2
146A Union 71.15 60 *eP* P 05 33 04.1 -0.2
comp=Z,94nm,0.9s
146A Union 71.15 60 P P 05 33 03.7 -0.6
baz=323,SNR=15
CPCT Cooper Cave 71.19 55 *eP* P 05 33 04.4 -0.1
comp=Z,25nm,0.7s
LUPA Lehigh Univers 71.19 46 *eP* P 05 33 04.8 +0.4
comp=Z,1.7nm,1.1s
Z47A Carrollton 71.21 59 P P 05 33 03.7 -1.0
baz=323,SNR=15
344A Westbrook Farm 71.21 62 *eP* P 05 33 06.0 +1.4
comp=Z,20nm,0.8s
W51A Cleveland 71.30 56 P P 05 33 04.0 -1.2
baz=324,SNR=12
V52A Sevierville 71.32 55 *eP* P 05 33 04.1 -1.3
comp=Z,15nm,0.7s
V52A Sevierville 71.32 55 P P 05 33 04.0 -1.3
baz=324
Z48A Northport 71.33 59 P P 05 33 04.3 -1.0
baz=323,SNR=11
TKL Tuckaleechee C 71.38 55 *eP* P 05 33 07.3 +1.6
comp=Z,13nm,0.8s
TKL Tuckaleechee C 71.38 55 *eP* P 05 33 07.3 +1.6
TKL pmax pmax
comp=Z,13nm,0.8s
X50B Fort Payne 71.42 57 P P 05 33 05.0 -1.0
baz=323,SNR=7.2
ZAIG Zacatecas 71.44 77 *eP* P 05 33 07.0 +0.4
comp=Z,8.0nm,1.0s
PAL Palisades 71.47 45 P P 05 33 04.5 -1.6
baz=327
147A Livingston 71.52 60 P P 05 33 05.8 -0.8
baz=323
Y49A Blount Mountai 71.52 58 *eP* P 05 33 05.7 -0.9
comp=Z,20nm,0.6s
Y49A Blount Mountai 71.52 58 P P 05 33 05.0 -1.6
baz=323,SNR=6.4
SDMD Soldier's Deli 71.54 48 *eP* P 05 33 06.7 +0.2
comp=Z,10.0nm,0.9s
BLA Blacksburg 71.72 52 *eP* P 05 33 08.7 +1.0
comp=Z,30nm,0.9s
BLA Blacksburg 71.72 52 *eP* P 05 33 08.7 +1.0
BLA pmax pmax
comp=Z,30nm,0.9s
BLA Blacksburg 71.72 52 P P 05 33 06.9 -0.9
baz=325,SNR=6.3
X51A Calhoun 71.73 56 *eP* P 05 33 08.7 +0.9
comp=Z,27nm,1.0s
W52A Murphy 71.76 55 *eP* P 05 33 07.9 -0.1
comp=Z,29nm,0.8s
W52A Murphy 71.76 55 P P 05 33 07.0 -1.0
baz=324,SNR=8.6
Y50A Piedmont 71.84 57 P P 05 33 07.5 -0.9
baz=324,SNR=9.2
V53A Saluda 71.84 54 *eP* P 05 33 08.7 +0.2
comp=Z,14nm,0.6s
V53A Saluda 71.84 54 P P 05 33 07.3 -1.2
baz=324
247A Quitman 71.84 61 P P 05 33 08.1 -0.4
baz=323
LRAL Lakeview Retre 71.88 59 *eP* P 05 33 07.0 -1.7
comp=Z,17nm,0.6s
LRAL Lakeview Retre 71.88 59 P P 05 33 06.3 -2.4
baz=323,SNR=7.4
148A Greensboro 71.90 59 P P 05 33 08.1 -0.8
baz=323,SNR=5.3
346A Big Creek Wild 71.92 62 *eP* P 05 33 10.2 +1.3
comp=Z,28nm,0.8s
346A Big Creek Wild 71.92 62 P P 05 33 08.2 -0.8
baz=323
Z49A Columbiana 71.99 58 P P 05 33 08.4 -1.0
baz=323,SNR=16
KIV Kislovodsk 72.02 322 *eP* P 05 33 07.7 -1.8
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,113nm,18.0s
W53A Cullowhee 72.07 55 P P 05 33 09.2 -0.8
baz=324,SNR=9.8
KBZ Khabaz 72.14 322 P P 05 33 09.9 -0.1
comp=Z,6.1nm,0.8s,baz=349,slow=2.4,SNR=9.7
KBZ LR LR 06 07 35.2
comp=Z,171nm,20.4s,baz=26,slow=38
KBZ Khabaz 72.14 322 P P 05 33 10.0 -0.1
KBZ pmax pmax
comp=Z,6.0nm,0.8s
KBZ MLR MLR
comp=Z,171nm,20.4s
Y51A Rockmart 72.16 57 P P 05 33 09.8 -0.6
baz=324,SNR=7.3
X52A Dahlonega 72.17 56 P P 05 33 09.4 -1.1
baz=324,SNR=9.2
Z50A Ashland 72.25 58 *eP* P 05 33 09.2 -1.8
comp=Z,30nm,0.7s
Z50A Ashland 72.25 58 P P 05 33 09.2 -1.8
baz=324,SNR=11
BG3 Lake Jocassee 72.33 55 *eP* P 05 33 10.2 -1.1
comp=Z,29nm,0.7s
149A Jones 72.34 59 P P 05 33 10.7 -0.7
baz=323,SNR=5.5
347A Saraland 72.39 61 P P 05 33 11.0 -0.8
baz=323
446A Poplarville 72.45 62 P P 05 33 11.6 -0.5
baz=323
X53A Estanollee 72.54 55 P P 05 33 11.4 -1.3
baz=324,SNR=7.3
Z51A Franklin 72.57 57 P P 05 33 12.1 -0.7
baz=324
ZEI Tsey 72.58 320 *eP* P 05 33 11.7 -1.3
ZEI pmax pmax
comp=Z,5.0nm,0.7s
249A Camden 72.67 59 P P 05 33 12.7 -0.7
baz=323
Y52A Lilburn 72.69 56 *eP* P 05 33 13.9 +0.4
comp=Z,31nm,0.7s
Y52A Lilburn 72.69 56 P P 05 33 12.6 -0.9
baz=324,SNR=9.4
348A Jackson 72.71 60 *eP* P 05 33 16.0 +2.3
comp=Z,39nm,0.7s
150A Eclectic 72.72 58 P P 05 33 13.0 -0.7
baz=324,SNR=6.0
KWP Kalwaria Pacla 72.85 337 *eP* P 05 33 14.7 +0.4
KWP Kalwaria Pacla 72.85 337 *eP* P 05 33 14.7 +0.4
Y53A Monroe 72.93 56 P P 05 33 14.2 -0.7
baz=324,SNR=5.4
OJC Ojcow 72.93 339 *eP* P 05 33 14.5 -0.2
OJC Ojcow 72.93 339 *eP* P 05 33 14.5 -0.2
comp=Z,19nm,0.8s
OJC Ojcow 72.93 339 *eP* P 05 33 14.5 -0.2
KMSC Kings Mountain 72.97 53 *eP* P 05 33 13.8 -1.4
comp=Z,21nm,0.6s
KMSC Kings Mountain 72.97 53 P P 05 33 14.0 -1.2
baz=325,SNR=5.5
KSP Ksiaz 73.02 342 *eP* P 05 33 14.9 -0.3
KSP Ksiaz 73.02 342 *eP* P 05 33 14.9 -0.3
Z52A Williamson 73.05 57 P P 05 33 14.7 -1.0
baz=324,SNR=9.6
250A Grady 73.10 59 *eP* P 05 33 16.2 +0.2
comp=Z,22nm,0.6s
250A Grady 73.10 59 P P 05 33 15.2 -0.7
baz=324
349A Repton 73.13 60 P P 05 33 15.4 -0.8
baz=324
151A Opelika 73.13 58 P P 05 33 15.2 -1.0
baz=324,SNR=5.4
CLL Collm 73.15 344 *eP* P 05 33 15.1 -0.9
comp=Z,7.3nm,0.9s
CLL Collm 73.15 344 *eP* P 05 33 16.0 +0.1
comp=Z,18nm,1.5s
CLL *e* 05 33 28.0
CLL LmV 06 07 00.0
comp=Z,100nm,19.4s
CLL Collm 73.15 344 *eP* P 05 33 15.1 -0.9
CLL pmax pmax
comp=Z,7.0nm,0.9s
HODGE Hodges 73.27 55 *eP* P 05 33 16.1 -0.8
comp=Z,36nm,0.8s
152A Waverly Hall 73.32 57 *eP* P 05 33 17.2 -0.1
comp=Z,23nm,0.8s
BRAL Brewton 73.35 60 *eP* P 05 33 18.5 +1.1
comp=Z,34nm,0.8s
BRAL Brewton 73.35 60 P P 05 33 16.5 -0.9
baz=324
Y54A Tignall 73.36 55 P P 05 33 16.4 -1.1
baz=325,SNR=9.9
Z53A Monticello 73.40 56 P P 05 33 16.6 -1.1
baz=324,SNR=5.2
BRG Berggiesshubel 73.41 343 P P 05 33 19.7 +2.2
251A Midway 73.44 58 P P 05 33 17.2 -0.7
baz=324
DPC Dobruska-Polom 73.49 342 *eP* P 05 33 18.7 +0.6
DPC *epP* **pP** 05 33 26.3 -1.6
DPC Dobruska-Polom 73.49 342 *eP* P 05 33 18.7 +0.6
DPC *e* 05 33 26.3
SOEI Soe 73.50 226 *eP* P 05 33 23.9 +5.3
comp=Z,22nm,0.7s
SOEI Soe 73.50 226 P P 05 33 20.0 +1.4
NIE Niedzica 73.58 339 *eP* P 05 33 18.4 -0.2
NIE Niedzica 73.58 339 *eP* P 05 33 18.4 -0.2
449A Pace 73.59 60 P P 05 33 18.1 -0.7
baz=324,SNR=5.1
MTN Manton Dam 73.61 218 *eP* P 05 33 20.1 +1.1
comp=Z,42nm,0.9s
KRLC Kraliky 73.67 341 *eP* P 05 33 19.7 +0.6
KRLC Kraliky 73.67 341 *eP* P 05 33 19.7 +0.6
JSC Jenkinsville 73.71 54 *eP* P 05 33 20.1 +0.6
comp=Z,16nm,0.7s
EDFI Ende, Flores 73.72 228 P P 05 33 20.0 +0.2
KIS Kishinev 73.76 332 *eP* P 05 33 32.0 +12
KIS LRM MLR 06 08 36.0
comp=Z,500nm,20.0s
KIS Kishinev 73.76 332 *eP* P 05 33 20.0 +0.4
KIS *e* 05 43 20.0
KIS MLR MLR
comp=Z,500nm,20.0s
Z54A Sparta 73.79 56 P P 05 33 19.1 -0.9
baz=325
MORC Moravsky Berou 73.81 341 *eP* P 05 33 19.3 -0.6
comp=Z,10nm,1.0s
MORC Moravsky Berou 73.81 341 *i*P P 05 33 19.0 -0.9
MORC Moravsky Berou 73.81 341 *eP* P 05 33 19.3 -0.6
MORC pmax pmax
comp=Z,10.0nm,1.0s
MORC Moravsky Berou 73.81 341 *eP* P 05 33 19.7 -0.2
252A Lumpkin 73.86 58 P P 05 33 19.6 -0.9
baz=324
450A Crestview 73.88 60 P P 05 33 19.8 -0.8
baz=324
UZH Uzhgorod 73.89 337 *eP* P 05 33 18.7 -1.6
UZH *i* 05 33 33.7
351A Pinckard 74.00 59 P P 05 33 20.3 -1.0
baz=324
LANS Liptovska Anna 74.01 339 *eP* P 05 33 22.1 +1.0
LANS Liptovska Anna 74.01 339 *eP* P 05 33 22.1 +1.0
BUR08 Bucovina Ar. S 74.11 335 *eP* P 05 33 21.6 -0.2
BUR04 Bucovina Ar. S 74.13 335 *eP* P 05 33 21.6 -0.3
BURAR Bucovina Array 74.14 335 *i*P P 05 33 21.9 0.0
BURAR Bucovina Array 74.14 335 ||P P 05 33 21.9 0.0
Z55A Blythe 74.15 55 P P 05 33 20.9 -1.2
baz=325,SNR=6.1
154A Montrose 74.17 56 *eP* P 05 33 22.6 +0.3
154A Montrose 74.17 56 P P 05 33 21.3 -1.0
baz=325
352A Blakely 74.17 58 *eP* P 05 33 23.5 +1.2
comp=Z,60nm,1.4s
352A Blakely 74.17 58 P P 05 33 21.3 -1.0
baz=324
GOPC GO Pecny, Ondr 74.19 343 *eP* P 05 33 22.4 +0.3
GOPC GO Pecny, Ondr 74.19 343 *eP* P 05 33 22.4 +0.3
NKC Novy Kostel 74.28 344 *eP* P 05 33 22.6 0.0
NKC Novy Kostel 74.28 344 *eP* P 05 33 22.6 0.0
TRPA Tarpa 74.30 337 *i*P P 05 33 23.0 +0.3
KECS Kecovo 74.43 338 *eP* P 05 33 23.3 -0.2
KECS pmax pmax
comp=Z,14nm,0.8s
KECS Kecovo 74.43 338 *eP* P 05 33 23.3 -0.2
VRAC Vranov 74.44 341 *i*P P 05 33 23.2 -0.4
VRAC Vranov 74.44 341 ||P P 05 33 23.2 -0.4
VRAC Vranov 74.44 341 *eP* P 05 33 23.8 +0.2
GNI Garni 74.52 318 *ce*P P 05 33 25.2 +0.8
GNI pmax pmax
comp=Z,23nm,1.1s
BIZ Bicaz 74.54 334 *i*P P 05 33 24.6 +0.4
254A Abbeville 74.61 57 P P 05 33 23.8 -1.0
baz=325
JAVC Velka Javorina 74.66 340 *eP* P 05 33 26.0 +1.1
TREC Trest 74.66 342 *eP* P 05 33 25.5 +0.6
TREC Trest 74.66 342 *eP* P 05 33 25.5 +0.6
KRUC Moravsky 74.71 341 *eP* P 05 33 25.4 +0.3
VYHS Vyhne 74.77 339 *eP* P 05 33 26.5 +1.0
VYHS pmax pmax
comp=Z,4.0nm,1.0s
VYHS Vyhne 74.77 339 *eP* P 05 33 26.5 +1.0
ARCR ARCALIA 74.84 335 *i*P P 05 33 29.3 +3.4
255A Hazlehurst 75.03 56 *eP* P 05 33 28.1 +0.8
comp=Z,68nm,0.8s
255A Hazlehurst 75.03 56 P P 05 33 26.1 -1.2
baz=325
SMOL Smolenice 75.03 340 P P 05 33 31.1 +4.1
PSZ Piszkesteto 75.09 339 *eP* P 05 33 30.0 +2.5
comp=Z,9.6nm,0.9s
PSZ Piszkesteto 75.09 339 *i*P P 05 33 31.2 +3.8
PSZ Piszkesteto 75.09 339 ||P P 05 33 31.2 +3.8
KHC Kasperske Hory 75.16 343 *eP* P 05 33 28.0 +0.2
comp=Z,4.7nm,0.9s
KHC Kasperske Hory 75.16 343 *eP* P 05 33 28.0 +0.2
KHC *ex* x 05 33 37.3
KHC Kasperske Hory 75.16 343 *eP* P 05 33 28.0 +0.2
KHC pmax pmax
comp=Z,5.0nm,0.9s
MODS Modra-Piesok 75.20 340 *eP* P 05 33 29.2 +1.2
MODS pmax pmax
comp=Z,14nm,0.8s
MODS Modra-Piesok 75.20 340 *eP* P 05 33 29.2 +1.2
355A Pearson 75.32 57 P P 05 33 28.1 -0.8
baz=325
VRI Vrincioaia 75.37 333 *i*P P 05 33 29.5 +0.5
VRI Vrincioaia 75.37 333 ||P P 05 33 29.5 +0.5
PLOR Plostina 75.40 333 *i*P P 05 33 31.8 +2.6
PLOR Plostina 75.40 333 ||P P 05 33 31.8 +2.6
GEC2 GERESS Array S 75.41 343 *eP* P 05 33 29.5 +0.2
comp=Z,8.6nm,0.8s
GEC2 GERESS Array S 75.41 343 *eP* P 05 33 29.5 +0.2
GEC2 pmax pmax
comp=Z,9.0nm,0.8s
GERES GERESS Array B 75.41 343 P P 05 33 29.4 +0.1
comp=Z,5.2nm,0.7s,baz=28,slow=5.4,SNR=26
GERES LR LR 06 10 01.9
comp=Z,109nm,19.9s,baz=30,slow=38
GEA0 GERESS Array S 75.42 343 *eP* P 05 33 28.9 -0.4
DRGR 75.52 336 *i*P P 05 33 29.9 0.0
DRGR 75.52 336 ||P P 05 33 29.9 0.0
DOPR Dopca 75.62 334 *i*P P 05 33 30.7 +0.2
DZM Mont Dzumac 75.66 182 P P 05 33 32.9 +2.0
comp=Z,22nm,1.0s,baz=72,slow=8.4,SNR=9.3
DZM Mont Dzumac 75.66 182 *eP* P 05 33 32.5 +1.7
comp=Z,60nm,1.2s
DZM Mont Dzumac 75.66 182 *e*LR LR 05 56 56.3
comp=Z,276nm,23.6s
DZM Mont Dzumac 75.66 182 *eP* P 05 33 33.7 +2.9
comp=Z,28nm,1.1s
PSI Prapat 75.67 255 *eP* P 05 33 32.7 +1.5
comp=Z,8.6nm,0.9s
PSI Prapat 75.67 255 *eP* P 05 33 32.7 +1.5
PSI pmax pmax
comp=Z,9.0nm,0.9s
CONA Conrad Observa 75.90 341 *i* pP P 05 33 33.1 +1.0
comp=Z,24nm,1.3s,SNR=5.1
MLR Muntele Rosu 75.92 334 *eP* P 05 33 33.4 +1.2
comp=Z,10.0nm,0.8s
MLR Muntele Rosu 75.92 334 *i*P P 05 33 33.5 +1.2
MLR Muntele Rosu 75.92 334 ||P P 05 33 33.5 +1.2
HYB Hyderabad 75.97 280 *i* P P 05 33 32.0 -0.8
SOP Sopron 76.00 341 P P 05 33 36.6 +4.0
CTA Charters Tower 76.08 201 P P 05 33 34.5 +1.3
comp=Z,29nm,0.9s,baz=4.7,slow=7.4,SNR=31
CTAO Charters Tower 76.08 201 *eP* P 05 33 34.5 +1.3
comp=Z,35nm,0.9s
CTAO Charters Tower 76.08 201 *eP* P 05 33 34.5 +1.3
CTAO pmax pmax
comp=Z,35nm,0.9s
VOIR 76.20 334 *i*P P 05 33 35.0 +1.1
VOIR 76.20 334 ||P P 05 33 35.0 +1.1
SIRR Siria 76.25 337 *i*P P 05 33 34.5 +0.4
MOA Molln 76.27 342 *i* P P 05 33 34.6 +0.5
comp=Z,9.4nm,1.0s
ARR Arges 76.37 335 *i*P P 05 33 36.1 +1.3
ARSA Arzberg 76.61 341 *i* P P 05 33 36.3 +0.2
comp=Z,13nm,0.8s,SNR=6.5
BZS Buzias 76.88 337 *i*P P 05 33 38.0 +0.4
BZS Buzias 76.88 337 ||P P 05 33 38.0 +0.4
KBA Koelnbreinsper 77.18 343 *i* P P 05 33 40.3 +0.8
comp=Z,41nm,0.9s,SNR=18
KBA Koelnbreinsper 77.18 343 P P 05 33 40.4 +0.9
RETA Reutte 77.21 345 *i* P P 05 33 39.6 +0.1
comp=Z,3.3nm,0.7s
WATA Walderalm 77.23 344 *i* P P 05 33 40.2 +0.5
comp=Z,6.6nm,0.5s
SOKA Soboth 77.26 341 *i* P P 05 33 40.3 +0.5
comp=Z,9.4nm,0.5s,SNR=8.7
FLN La Foliniere 77.28 352 *eP* P 05 33 38.8 -1.0
FLN pmax pmax
comp=Z,65nm,1.5s
PERS Pernice 77.28 341 *i* P P 05 33 40.5 +0.6
PERS Pernice 77.28 341 *i* P P 05 33 40.5 +0.6
WTTA Wattenberg 77.29 344 *i* P P 05 33 40.9 +0.8
comp=Z,7.2nm,0.6s
MOTA Moosalm 77.30 344 *i* P P 05 33 40.3 +0.2
comp=Z,5.5nm,0.6s,SNR=6.5
HAU Haudompre 77.33 348 *eP* P 05 33 40.5 +0.4
HAU pmax pmax
comp=Z,15nm,1.2s
SQTA Sankt Quirin 77.40 344 *i* P P 05 33 41.2 +0.6
comp=Z,17nm,0.8s
LDF La Druitiere 77.42 352 *eP* P 05 33 39.4 -1.2
LDF pmax pmax
comp=Z,110nm,2.3s
OBKA Obir 77.51 342 *i* P P 05 33 42.2 +0.9
comp=Z,54nm,0.7s,SNR=23
MYKA Terra Mystica 77.56 342 *i* P P 05 33 42.4 +0.9
comp=Z,11nm,0.8s
ABTA Abfaltersbach 77.64 343 *i* P P 05 33 42.4 +0.5
comp=Z,19nm,0.9s,SNR=7.0
FETA Feichten 77.67 344 *i* P P 05 33 42.8 +0.6
comp=Z,10nm,0.8s
GRR Gorron 77.68 353 *eP* P 05 33 41.2 -0.8
GRR pmax pmax
comp=Z,96nm,1.8s
ILGA Ilgaz 77.69 327 *eP* P 05 33 44.1 +1.6
comp=Z,16nm,1.0s
PUNG Punghina 77.82 335 *i*P P 05 33 42.9 +0.1
TLIG Tlapa 77.84 77 *eP* P 05 33 44.1 +0.6
comp=Z,18nm,1.3s
ROSF Rostrenen 77.90 354 *eP* P 05 33 42.9 -0.3
ROSF pmax pmax
comp=Z,131nm,1.6s
VISS Visnje 78.14 341 *eP* P 05 33 44.7 +0.1
VISS Visnje 78.14 341 *eP* P 05 33 44.7 +0.1
JAVS Javornik 78.19 342 *eP* P 05 33 46.1 +1.0
JAVS Javornik 78.19 342 *eP* P 05 33 46.1 +1.0
BOJS Bojanci 78.35 341 *eP* P 05 33 45.7 0.0
BOJS Bojanci 78.35 341 *eP* P 05 33 45.7 0.0
LOR Lormes 78.35 349 *eP* P 05 33 45.0 -0.8
LOR pmax pmax
comp=Z,11nm,1.0s
TUE Stuetta 78.42 345 *eP* P 05 33 45.8 -0.6
comp=Z,10nm,0.9s
SSF Saint Saulge 78.60 349 *eP* P 05 33 46.4 -0.7
SSF pmax pmax
comp=Z,12nm,1.1s
BLY Banja Luka 78.68 339 *eP* P 05 33 50.4 +2.8
comp=Z,6.7nm,0.8s
BLY Banja Luka 78.68 339 *i*P P 05 33 47.9 +0.3
DIVS Divibare 78.69 337 *eP* P 05 33 47.8 0.0
comp=Z,9.4nm,0.8s
CABF La Chapelle 78.74 348 *eP* P 05 33 47.7 -0.3
CABF pmax pmax
comp=Z,86nm,2.2s
AVF Avril sur Loir 78.88 350 *eP* P 05 33 48.1 -0.6
AVF pmax pmax
comp=Z,7.0nm,0.7s
BR131 Keskin Array S 78.91 326 *eP* P 05 33 49.7 +0.5
BRTR Keskin Array B 78.92 326 P P 05 33 49.0 -0.2
comp=Z,3.5nm,0.7s,baz=57,slow=3.4,SNR=11
BRTR LR LR 06 13 16.5
comp=Z,42nm,18.0s,baz=18,slow=39
SMF Signal de Mont 78.97 349 *eP* P 05 33 48.4 -0.8
SMF pmax pmax
comp=Z,14nm,1.0s
WRAB Tennant Creek 79.11 212 *eP* P 05 33 50.9 +0.8
comp=Z,24nm,0.9s
WRAB Tennant Creek 79.11 212 *ce*P P 05 33 50.8 +0.7
WRAB pmax pmax
comp=Z,31nm,1.0s
WB2 Warramunga Arr 79.12 212 *eP* P 05 33 51.0 +0.8
WRA Warramunga Arr 79.12 212 P P 05 33 50.9 +0.7
comp=Z,15nm,0.8s,baz=28,slow=5.8,SNR=84
WRA Warramunga Arr 79.12 212 *i* P P 05 33 50.9 +0.7
WRA pmax pmax
comp=Z,16nm,0.8s
BGF Bois d'Agland 79.17 350 *eP* P 05 33 49.9 -0.4
BGF pmax pmax
comp=Z,20nm,1.2s
VTS Vitosha 79.33 335 *eP* P 05 33 50.5 -0.9
comp=Z,6.0nm,0.7s
VTS Vitosha 79.33 335 ||P P 05 33 51.5 +0.1
VTS Vitosha 79.33 335 *eP* P 05 33 50.5 -0.9
VTS pmax pmax
comp=Z,6.0nm,0.7s
TCF Toulx Ste Croi 79.50 350 *eP* P 05 33 51.5 -0.6
TCF pmax pmax
comp=Z,10.0nm,1.1s
LPL La Plagne 79.73 347 *eP* P 05 33 53.3 -0.3
LPL pmax pmax
comp=Z,18nm,1.0s
LPG La Plagne 79.74 347 *eP* P 05 33 53.6 -0.2
LPG pmax pmax
comp=Z,15nm,0.9s
PPT2 Papeete2 79.83 139 *e*LR LR 05 58 48.6
comp=Z,111nm,22.8s
BNI Bardonecchia 80.19 347 *eP* P 05 33 56.9 +0.8
comp=Z,16nm,1.1s
SSB Saint Sauveur 80.24 348 *eP* P 05 33 55.3 -0.8
comp=Z,7.3nm,0.7s
SSB Saint Sauveur 80.24 348 *eP* P 05 33 55.3 -0.8
SSB pmax pmax
comp=Z,7.0nm,0.7s
EIDS Eidsvold 80.32 196 *eP* P 05 33 58.4 +1.9
comp=Z,9.8nm,0.8s
CMIG Matias Romero 80.33 74 LR LR 06 06 12.2
comp=Z,88nm,21.6s,baz=298,slow=33
ORIF Oris-en-Rattie 80.43 347 *eP* P 05 33 57.6 +0.4
ORIF pmax pmax
comp=Z,13nm,1.0s
PDG Podgorica 80.44 337 ||*i*P P 05 33 56.9 -0.3
TTG Podgorica 80.44 337 *eP* P 05 33 56.4 -0.8
comp=Z,13nm,0.8s
TTG Podgorica 80.44 337 *eP* P 05 33 56.4 -0.8
TTG pmax pmax
comp=Z,13nm,0.8s
FITZ Fitzroy Crossi 80.48 221 *eP* P 05 33 58.7 +1.2
comp=Z,25nm,1.1s
MBDF Montbardon 80.50 347 *eP* P 05 33 57.9 +0.2

MBDF					pmax	pmax			
	comp=Z,9.0nm,0.7s								
VLC	**Villacollemand**	**80.51**	**344**	*e*P		**P**	**05**	**33**	**58.3 +0.7**
	comp=Z,13nm,0.7s								
VIVF	**Saint-Julien-l**	**80.64**	**348**	*e*P		**P**	**05**	**34**	**01.1 +2.8**
VIVF					pmax	pmax			
	comp=Z,14nm,1.4s								
CAF	**Calviac**	**80.86**	**350**	*e*P		**P**	**05**	**33**	**59.5 0.0**
CAF					pmax	pmax			
	comp=Z,15nm,1.1s								
LFF	**La Frestale**	**80.97**	**351**	*e*P		**P**	**05**	**33**	**59.8 -0.2**
LFF					pmax	pmax			
	comp=Z,10.0nm,0.9s								
FNA	**Florina**	**81.50**	**335**	*e*P		**P**	**05**	**34**	**06.2 +3.3**
	comp=Z,8.8nm,1.1s								
FNA	**Florina**	**81.50**	**335**	*e*P		**P**	**05**	**34**	**06.2 +3.3**
FNA					pmax	pmax			
	comp=Z,9.0nm,1.1s								
FRF	**La Foret Royal**	**81.66**	**347**	*e*P		**P**	**05**	**34**	**05.1 +1.4**
FRF					pmax	pmax			
	comp=Z,6.0nm,0.7s								
AQU	**L'Aquila**	**81.74**	**341**	*e*P		**P**	**05**	**34**	**07.5 +3.3**
	comp=Z,28nm,1.0s								
AQU	**L'Aquila**	**81.74**	**341**	*e*P		**P**	**05**	**34**	**07.5 +3.3**
AQU					pmax	pmax			
	comp=Z,28nm,1.0s								
MATE	**Matera**	**82.71**	**339**	⇑*i*P		**P**	**05**	**34**	**07.9 -1.3**
AS01	**Alice Springs**	**82.73**	**211**	*e*P		**P**	**05**	**34**	**10.2 +0.9**
AS31	**Alice Springs**	**82.75**	**211**	*e*P		**P**	**05**	**34**	**11.0 +1.5**
	comp=Z,6.0nm,0.9s								
ASAR	**Alice Springs**	**82.75**	**211**	P		**P**	**05**	**34**	**10.9 +1.5**
	comp=Z,16nm,0.8s,baz=21,slow=5.2,SNR=130								
ASAR					LR	LR	06	09	05.5
	comp=Z,90nm,19.1s,baz=36,slow=34								
ASAR	**Alice Springs**	**82.75**	**211**	P		**P**	**05**	**34**	**11.0 +1.5**
ASAR					pmax	pmax			
	comp=Z,16nm,0.8s								
PALK	**Pallekele**	**82.75**	**272**	*e*P		**P**	**05**	**34**	**09.6 -0.3**
	comp=Z,13nm,0.8s								
PALK	**Pallekele**	**82.75**	**272**	*i* P		**P**	**05**	**34**	**07.7 -2.2**
EPF	**Esparros**	**82.90**	**351**	*e*P		**P**	**05**	**34**	**09.5 -0.8**
EPF					pmax	pmax			
	comp=Z,20nm,1.4s								
ETSF	**Etsaut**	**83.11**	**352**	*e*P		**P**	**05**	**34**	**11.5 +0.1**
ETSF					pmax	pmax			
	comp=Z,10.0nm,0.8s								
TIP	**Timpagrande**	**84.11**	**338**	*e*P		**P**	**05**	**34**	**16.9 +0.3**
	comp=Z,16nm,0.9s								
TIP	**Timpagrande**	**84.11**	**338**	⇑*i*P		**P**	**05**	**34**	**15.1 -1.4**
APG	**El Apazote**	**84.51**	**72**	LR		LR	06	11	01.8
	comp=Z,47nm,20.4s,baz=314,slow=35								
SANT	**Santorini**	**84.54**	**331**	⇑*i*P		P	05	34	10.4 -8.3
PBRG	**Braganca**	**84.59**	**356**	*e*P		**P**	**05**	**34**	**18.6 -0.3**
	comp=Z,35nm,1.5s								
POLO	**Lamas de Olo**	**85.05**	**357**	*e*P		**P**	**05**	**34**	**21.5 +0.2**
	comp=Z,27nm,1.7s								
MVO	**Moncorvo**	**85.23**	**356**	*e*P		**P**	**05**	**34**	**22.3 +0.1**
	comp=Z,46nm,2.1s								
MBWA	**Marble Bar**	**85.61**	**225**	*e*P		**P**	**05**	**34**	**24.1 +0.1**
	comp=Z,14nm,0.8s								
PVIS	**Viseu**	**85.71**	**357**	*e*P		**P**	**05**	**34**	**24.4 -0.2**
	comp=Z,33nm,1.5s								
MTE	**Manteigas**	**86.02**	**357**	*e*P		**P**	**05**	**34**	**26.4 +0.3**
	comp=Z,34nm,2.1s								
PCAS	**Casmilo, Conde**	**86.39**	**358**	*e*P		**P**	**05**	**34**	**27.8 -0.1**
	comp=Z,55nm,1.5s								
ES19	**SONSECA Array**	**86.54**	**354**	*e*P		**P**	**05**	**34**	**28.4 -0.3**
ESDC	**Sonseca Array**	**86.57**	**354**	P		**P**	**05**	**34**	**28.7 -0.2**
	comp=Z,2.7nm,0.5s,baz=356,slow=4.6,SNR=27								
PCBR	**Castelo Branco**	**86.57**	**357**	*e*P		**P**	**05**	**34**	**28.6 -0.1**
	comp=Z,32nm,1.7s								
PTOM	**Tomar**	**86.82**	**357**	*e*P		**P**	**05**	**34**	**30.3 +0.3**
PMRV	**Marv??o**	**86.98**	**357**	*e*P		**P**	**05**	**34**	**33.0 +2.2**
PESTR	**Estremoz**	**87.55**	**357**	*e*P		**P**	**05**	**34**	**33.4 -0.1**
	comp=Z,22nm,2.1s								
EVO	**Evora**	**87.89**	**357**	*e*P		**P**	**05**	**34**	**38.5 +3.3**
	comp=Z,36nm,2.0s								
STKA	**Stephens Creek**	**88.49**	**202**	P		**P**	**05**	**34**	**39.4 +1.6**
	comp=Z,13nm,0.8s,baz=349,slow=7.7,SNR=33								
STKA					LR	LR	06	08	12.0
	comp=Z,158nm,21.8s,baz=32,slow=31								
RAYN	**Ar Rayn**	**88.53**	**309**	*e*P		**P**	**05**	**34**	**36.6 -1.9**
	comp=Z,4.7nm,0.8s								
RAYN	**Ar Rayn**	**88.53**	**309**	*e*P		**P**	**05**	**34**	**36.6 -1.9**
RAYN					pmax	pmax			
	comp=Z,5.0nm,0.8s								
KEST	**Kesra**	**88.90**	**343**	P		**P**	**05**	**34**	**40.4 +0.3**
	comp=Z,3.3nm,0.6s,baz=267,slow=3.4,SNR=4.8								
KEST					LR	LR	06	19	20.0
	comp=Z,65nm,18.6s,baz=280,slow=39								
FORT	**Forrest**	**91.23**	**214**	*e*P		**P**	**05**	**34**	**51.6 +1.1**
TORD	**Torodi Ar. Bea**	**112.25**	**346**	PP		PP	05	41	06.5 +0.8
	comp=Z,0.8nm,1.0s,baz=0.4,slow=9.4,SNR=3.9								
LPAZ	**La Paz**	**122.63**	**72**	PKP		**PKPdf**	**05**	**40**	**42.6 +0.5**
	comp=Z,0.6nm,0.7s,baz=327,slow=8.4,SNR=3.2								
VNDA	**Vanda**	**131.20**	**182**	PKP		**PKPdf**	**05**	**40**	**55.6 -0.2**
	comp=Z,1.1nm,0.8s,baz=230,slow=3.8,SNR=3.0								
CPUP	**Villa Florida**	**136.65**	**69**	PKP		**PKPdf**	**05**	**41**	**07.9 +0.3**
	comp=Z,1.5nm,0.8s,baz=309,slow=6.8,SNR=4.5								
PLCA	**Paso Flores**	**139.18**	**96**	PKP		**PKPdf**	**05**	**41**	**12.4 +0.5**
	comp=Z,3.0nm,0.8s,baz=346,slow=3.2,SNR=6.3								
BOSA	**Boshof**	**143.11**	**298**	PKhKP		PKPpre	05	41	16.2
	comp=Z,3.2nm,0.6s,baz=10,slow=2.6,SNR=4.7								
MAW	**Mawson**	**143.58**	**218**	PKP		PKPbc	05	41	17.1 +0.8
	comp=Z,11nm,0.8s,baz=111,slow=3.9,SNR=14								
QSPA	**South Pole Qui**	**143.64**	**180**	*e*PKPdf		PKPab	05	41	15.7 -0.1
SYO	**Syowa Base**	**152.27**	**217**	⇑*i*PKPdf		**PKPbc**	**05**	**41**	**38.0 -1.8**

IDC 22 05:22:46.8±5.5, 6°.19S×154°.89E, h110km±47km, mb3.6/3, mb1 3.9/5, mb1mx3.4/44, mbtmp4.1/5, Error ellipse: s-maj=40.9km s-min=30.9km az=33.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.30**	**247**	P	Pn	05 24 44.5	+0.2
	8.2nm,0.3s,baz=48,slow=10.0,SNR=17						
DZM	**Mont Dzumac**	**19.34**	**146**	P	P	05 27 03.7	-0.1
	0.5nm,0.3s,baz=300,slow=11,SNR=5.9						
WRA	**Warramunga Arr**	**24.20**	**234**	P	P	05 27 53.5	+0.3
	2.0nm,0.7s,baz=59,slow=9.6,SNR=17						
ASAR	**Alice Springs**	**26.64**	**227**	P	P	05 28 15.0	-0.4
	0.9nm,0.6s,baz=58,slow=8.0,SNR=9.9						
MKAR	**Makanchi Array**	**82.73**	**319**	P	P	05 34 58.6	+0.1
	1.1nm,0.7s,baz=100,slow=6.4,SNR=3.7						

MEX 22 05:26:45.0±0.5, 16°.27N×98°.17W, h12km±11km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLIG	**Tlapa**	**1.34**	**344**	*e*P	Pn	05 27 06.0	-3.6
TLIG				*e*S	Sb	05 27 22.1	-5.3
VHO	**Vista Hermosa**	**1.59**	**60**	*e*P	Pn	05 27 09.2	-4.0
VHO				*i* S	Sn	05 27 29.6	-4.2

IDC 22 05:52:37.9±6.8, 50°.89N×133°.61E, h0km, mb1 2.1/1, mb1mx2.1/40, mbtmp2.1/1, ML2.0/1, Error ellipse: s-maj=136.1km s-min=41.8km az=128.0, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLR	**Kul'dur**	**2.05**	**217**	Pn	Pn	05 53 14.1	+0.4
	0.6nm,0.3s,baz=46,slow=17,SNR=6.3						
KLR				Lg	Lg	05 53 42.6	
	0.7nm,0.3s,baz=176,slow=19,SNR=5.4						
I45RU	**USSURIYSK INFR**	**6.79**	**190**	*i*		06 38 38.5	
	baz=9.9,slow=332,SNR=1.7						
I44RU	**PETROPAVLOVSK**	**14.99**	**72**	*i*		07 22 20.0	
	baz=276,slow=325,SNR=0.9						
I30JP	**ISUMI INFRASON**	**16.32**	**160**	*i*		07 35 10.0	
	baz=350,slow=327,SNR=0.9						

*BJI **22** 05:55:10.0, 19°.10S×67°.40W, h191km, mB5.3/1*
*ISCJB **22** 05:55:12.3±0.2, 19°.11S±0°.02×67°.60W±0°.02, h209km±1km, mb4.6/162, Error ellipse: s-maj=3.8km s-min=3.2km az=158.1*
*NEIC **22** 05:55:12.2±0.3, 19°.07S×67°.46W, h188km±3km, mb4.8/143, Error ellipse: s-maj=5.1km s-min=3.9km az=70.0*
*IDC **22** 05:55:13.3±0.8, 19°.06S×67°.47W, h194km±6km, mb4.2/22, mb1 4.3/30, mb1mx4.3/36, mbtmp4.8/30, MS2.7/1, Ms1 2.7/1, ms1mx2.3/29, Error ellipse: s-maj=11.7km s-min=8.3km az=63.0*
*GUC **22** 05:55:14.6±0.5, 19°.28S×68°.12W, h247km±5km, ML4.7*
*SCB **22** 05:55:15.0±1.9, 19°.25S×67°.59W, h0km±2km, ML4.8/5, Error ellipse: s-maj=3.7km s-min=3.0km az=0.0*

ISC 22 05:55:13.1±0.6, 19°.19S±0°.03×67°.63W±0°.03, h200km±5km, n528, σ1§20/561, mb4.7/162, 4C-2D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO01	**Chusmiza**	**1.56**	**252**	*e*Pn	**Pn**	**05 55 49.2**	**+1.4**
GO01	**Chusmiza**	**1.56**	**252**	*e*P	**Pn**	**05 55 49.0**	**+1.2**
GO01				*e*S	**S**	**05 56 16.2**	**+1.9**
GO01				IAML		05 56 21.0	
	comp=N,2μm,0.5s						
MNMC	**Minye Minye**	**1.86**	**271**	*e*Pn	**Pn**	**05 55 51.4**	**+0.9**
MNMC				*e*Sn	**S**	**05 56 21.0**	**+2.0**
MNMC	**Minye Minye**	**1.86**	**271**	P	**Pn**	**05 55 49.5**	**-1.0**
MNMC				S	**S**	**05 56 15.4**	**-3.6**
MNMC	**Minye Minye**	**1.86**	**271**	*i* P	**Pn**	**05 55 51.5**	**+0.9**
MNMC				*i* S	**S**	**05 56 20.2**	**+1.2**
MNMC				IAML		05 56 25.1	
	comp=N,5μm,0.4s						
PB16	**IPOC Station P**	**1.98**	**295**	⇑*i*P	**Pn**	**05 55 53.5**	**+1.5**
PB16				*e*S	**S**	**05 56 23.4**	**+1.9**
PB16				IAML		05 56 29.5	
	comp=E,518nm,0.6s						
PB11	**IPOC Station P**	**2.00**	**253**	*e*Pn	**Pn**	**05 55 52.4**	**+0.7**
PB11				*e*Sn	**S**	**05 56 22.3**	**+1.0**
PB11	**IPOC Station P**	**2.00**	**253**	P	**Pn**	**05 55 50.1**	**-1.7**
PB11	**IPOC Station P**	**2.00**	**253**	⇑*i*P	**Pn**	**05 55 52.4**	**+0.7**
PB11				*i* S	**S**	**05 56 21.9**	**+0.6**
PB11				IAML		05 56 23.1	
	comp=E,3μm,0.5s						
BBOJ	**La Paz, Jacaqu**	**2.27**	**346**	P	**Pn**	**05 55 55.9**	**+0.9**
BBOE	**La Paz, Chanca**	**2.39**	**352**	P	**Pn**	**05 55 57.6**	**+1.2**
PSGC	**Pisagua**	**2.39**	**260**	P	**Pn**	**05 55 55.5**	**-0.4**
PSGC				S	**S**	**05 56 26.0**	**-2.6**
BS10	**CO. Tuti**	**2.41**	**45**	P	**Pn**	**05 55 57.5**	**+1.0**
BS10				S	**S**	**05 56 29.8**	**+0.2**
BS10				AML	AML	05 56 32.1	
	comp=E,4μm,0.8s						
BB01	**Montecillos**	**2.50**	**64**	P	**Pn**	**05 55 56.6**	**-0.7**
BB01				S	**S**	**05 56 29.7**	**-1.4**
PB01	**IPOC Station P**	**2.54**	**223**	*e*Pn	**Pn**	**05 55 58.0**	**+0.4**
PB01				*e*Sn	**S**	**05 56 31.9**	**+0.3**
PB01	**IPOC Station P**	**2.54**	**223**	P	**Pn**	**05 55 57.0**	**-0.5**
PB01	**IPOC Station P**	**2.54**	**223**	*e*P	**Pn**	**05 55 57.9**	**+0.4**
PB01				*e*S	**S**	**05 56 31.3**	**-0.3**
PB01				IAML		05 56 34.3	
	comp=E,2μm,0.4s						
PB12	**IPOC Station P**	**2.62**	**282**	⇑*i*P	**Pn**	**05 55 58.1**	**-0.4**
PB12				*i* S	**S**	**05 56 31.7**	**-1.4**
PB12				IAML		05 56 33.5	
	comp=N,4μm,0.5s						
BBOD	**La Paz, Gloria**	**2.70**	**340**	P	**Pn**	**05 56 01.6**	**+1.7**
BS01	**CO. Balc¨‡n**	**2.75**	**124**	P	**Pn**	**05 56 00.7**	**+0.5**
BS01				S	**S**	**05 56 35.5**	**-0.8**
BS01				AML	AML	05 56 39.6	
	comp=N,3μm,0.8s						
LPAZ	**La Paz**	**2.93**	**350**	P	**Pn**	**05 56 03.1**	**+0.6**
LPAZ				S	**S**	**05 56 39.0**	**-1.4**
	comp=N,36nm,0.3s,baz=73,slow=25,SNR=13						
LPAZ	**La Paz**	**2.93**	**350**	*e*Pn	**Pn**	**05 56 03.7**	**+1.2**
LPAZ				*e*Sn	**S**	**05 56 40.2**	**-0.3**
LPAZ	**La Paz**	**2.93**	**350**	P	**Pn**	**05 56 04.0**	**+1.5**
PB09	**IPOC Station P**	**3.00**	**210**	⇓*e*P	**Pn**	**05 56 04.1**	**+1.2**
PB09				*e*S	**S**	**05 56 42.1**	**+0.8**
PB09				IAML		05 56 51.3	
	comp=E,2μm,0.9s						
PB02	**IPOC Station P**	**3.01**	**225**	P	**Pn**	**05 56 02.9**	**0.0**
PB02				S	**S**	**05 56 40.2**	**-1.0**
PB02	**IPOC Station P**	**3.01**	**225**	*e*P	**Pn**	**05 56 02.6**	**-0.2**
PB02				*e*S	**S**	**05 56 39.8**	**-1.5**
PB02				IAML		05 56 46.9	
	comp=E,3μm,0.4s						
BS03	**Mojotorillo**	**3.07**	**93**	P	**Pn**	**05 56 04.7**	**+0.7**
BS03				S	**S**	**05 56 44.3**	**+1.3**
BS03				AML	AML	05 56 48.0	
	comp=E,2μm,0.9s						
BBOB	**La Paz, Bander**	**3.07**	**351**	P	**Pn**	**05 56 05.5**	**+1.4**
BS09	**Huarina**	**3.13**	**342**	P	**Pn**	**05 56 06.8**	**+2.0**
BS09				S	**S**	**05 56 46.4**	**+1.9**
BS09				AML	AML	05 56 47.5	
	comp=E,3μm,0.8s						
PB07	**IPOC Station P**	**3.30**	**220**	*e*P	**Pn**	**05 56 06.4**	**0.0**
PB07				*e*S	**S**	**05 56 45.8**	**-1.8**
PB07				IAML		05 56 52.4	
	comp=E,1μm,0.4s						
BB03	**San Joaqu¨n**	**3.38**	**51**	P	**Pn**	**05 56 08.1**	**+0.7**
PB03	**IPOC Station P**	**3.47**	**215**	⇓*e*P	**Pn**	**05 56 08.8**	**+0.2**
PB03				*e*S	**S**	**05 56 50.1**	**-1.3**
YJA	**Yavi**	**3.57**	**147**	*e*P	**Pn**	**05 56 12.0**	**+2.0**
YJA				*e*S	**S**	**05 56 56.0**	**+2.0**
LVC	**Limon Verde**	**3.61**	**199**	P	**Pn**	**05 56 11.8**	**+1.4**
	comp=E,157nm,0.3s,baz=19,slow=8.2,SNR=1557						
LVC				S	**S**	**05 56 56.6**	**+1.8**
	comp=E,21nm,0.3s,baz=266,slow=17,SNR=5.6						
LVC				LR	LR	05 58 27.2	
	comp=E,122nm,21.6s,baz=30,slow=51						
PB04	**IPOC Station P**	**3.92**	**217**	*e*Pn	**Pn**	**05 56 14.5**	**+0.4**
PB04	**IPOC Station P**	**3.92**	**217**	P	**Pn**	**05 56 14.6**	**+0.6**
PB04	**IPOC Station P**	**3.92**	**217**	*e*P	**Pn**	**05 56 13.9**	**-0.1**
PB04				*e*S	**S**	**05 56 58.9**	**-2.4**
PB06	**IPOC Station P**	**3.94**	**207**	P	**Pn**	**05 56 15.2**	**+0.9**
BB02	**La Guardia**	**4.28**	**73**	P	**Pn**	**05 56 18.8**	**+0.4**
BB05	**Carapari**	**4.49**	**126**	P	**Pn**	**05 56 21.7**	**+0.6**
BB05				S	**S**	**05 57 14.4**	**+0.3**
BB05				AML	AML	05 57 15.6	
	comp=E,2μm,0.6s						
HJA	**Humahuaca**	**4.50**	**153**	*e*P	**Pn**	**05 56 23.8**	**+2.3**
HJA				*e*S	**S**	**05 57 16.4**	**+1.5**
HJA				IAML		05 57 20.4	
	comp=Z,408nm,0.5s						
SLA	**San Lorenzo**	**5.85**	**161**	*e*P	**Pn**	**05 56 40.4**	**+1.9**
SLA				*e*S	**S**	**05 57 44.3**	**-1.5**
GO02	**Mina Guanaco**	**6.22**	**197**	*e*Pn	**Pn**	**05 56 43.2**	**-0.2**
SIV	**San Ignacio**	**7.01**	**64**	P	**Pn**	**05 56 52.2**	**-1.4**
	comp=Z,13nm,0.3s,baz=267,slow=9.9,SNR=487						
SIV				S	S	05 58 02.5	-11
	comp=Z,0.7nm,0.3s,baz=251,slow=14,SNR=3.1						
FSA	**Cafayete**	**7.05**	**168**	*e*P	**Pn**	**05 56 55.7**	**+1.6**
GO03	**Copiap**	**8.70**	**195**	*e*Pn	**Pn**	**05 57 13.2**	**-2.2**
CYA	**Choya**	**9.36**	**170**	*e*P	**Pn**	**05 57 25.1**	**+1.1**
CYA				IAML		05 57 26.4	
	comp=Z,16nm,0.4s						
LCO	**Las Campanas**	**10.17**	**195**	*e*Pn	**Pn**	**05 57 32.3**	**-2.4**
LCO				*e*Sn	**S**	**05 59 21.7**	**-7.2**
SAML	**Samuel**	**11.05**	**24**	*e*Pn	**Pn**	**05 57 44.4**	**-1.6**
GO04	**Tololo Observa**	**11.31**	**194**	*e*Pn	**Pn**	**05 57 47.4**	**-2.0**
NNA	**Nana**	**11.40**	**308**	P	**Pn**	**05 57 49.7**	**-0.8**
	comp=Z,16nm,0.3s,baz=124,slow=10,SNR=21						
NNA				S	S	05 59 48.2	-10
	comp=Z,7.9nm,0.3s,baz=206,slow=18,SNR=5.5						
NNA	**Nana**	**11.40**	**308**	*e*Pn	**Pn**	**05 57 49.2**	**-1.3**
NNA				*e*Sn	S	05 59 50.0	-7.9
CPUP	**Villa Florida**	**11.86**	**129**	P	**Pn**	**05 57 55.4**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=299,slow=12,SNR=18						
ROC1	**El Roble**	**14.06**	**192**	*e*Pn	**Pn**	**05 58 23.1**	**-0.8**
PEL	**Peldehue**	**14.16**	**191**	*e*Pn	**Pn**	**05 58 24.8**	**-0.3**
ATAH	**Atahualpa**	**15.91**	**317**	P	**Pn**	**05 58 47.9**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=352,slow=18,SNR=4.1						
BDFB	**Brasilia**	**19.04**	**82**	P	**Pn**	**05 59 20.6**	**-2.9**
	comp=Z,3.0nm,0.3s,baz=258,slow=11,SNR=18						
BDFB	**Brasilia**	**19.04**	**82**	*e*P	**P**	**05 59 19.7**	**-0.7**
	comp=Z,22nm,0.6s						
SPB	**Sao Paulo**	**19.30**	**107**	*e*P	**P**	**05 59 22.4**	**-0.7**
	comp=Z,37nm,0.7s						
TRQA	**Tornquist**	**19.43**	**166**	*e*P	**P**	**05 59 24.9**	**+0.6**
	comp=Z,55nm,0.6s						
PTGA	**Pitinga**	**19.82**	**23**	P	**P**	**05 59 26.5**	**-2.1**
	comp=Z,24nm,0.3s,baz=144,slow=24,SNR=146						
PTGA	**Pitinga**	**19.82**	**23**	*e*P	**P**	**05 59 26.7**	**-1.9**
	comp=Z,54nm,0.7s						
GO06	**Curarrehue**	**20.59**	**188**	*e*P	**P**	**05 59 38.3**	**+1.5**
	comp=Z,32nm,0.9s						
PLCA	**Paso Flores**	**21.62**	**186**	P	**P**	**05 59 49.4**	**+1.9**
	comp=Z,19nm,0.8s,baz=24,slow=12,SNR=54						
PLCA	**Paso Flores**	**21.62**	**186**	*e*P	**P**	**05 59 47.9**	**+0.4**
	comp=Z,22nm,0.8s						
OTAV	**Otavalo**	**22.04**	**330**	*e*P	**P**	**05 59 53.3**	**+1.0**
	comp=Z,12nm,0.7s						
OTAV	**Otavalo**	**22.04**	**330**	*e*P	**P**	**05 59 53.5**	**+1.2**
CMBC	**Cumbal**	**22.37**	**332**	*e*P	**P**	**05 59 55.8**	**+0.4**
GCUF	**Volcan Galeras**	**22.42**	**334**	*e*P	**P**	**05 59 57.5**	**+1.6**
CRUC	**La Cruz**	**22.57**	**335**	*e*P	**P**	**05 59 57.7**	**+0.7**
SOTA	**Rioblanco**	**22.96**	**336**	*e*P	**P**	**06 00 00.1**	**-0.6**
POPC	**Popayan, Colom**	**23.36**	**337**	*e*P	**P**	**06 00 04.6**	**+0.6**
PRAC	**Prado**	**23.86**	**342**	*e*P	**P**	**06 00 07.5**	**-0.8**
VILC	**Villavicencio,**	**23.91**	**345**	*e*P	**P**	**06 00 09.3**	**+0.3**
CHIC	**Chingaza**	**24.42**	**345**	*e*P	**P**	**06 00 13.5**	**-0.3**
YOTC	**Yotoco, Valle**	**24.57**	**339**	*e*P	**P**	**06 00 14.1**	**-0.9**
ANIL	**Santa Ana**	**24.75**	**341**	*e*P	**P**	**06 00 15.7**	**-1.0**
ROSC	**El Rosal**	**24.77**	**344**	P	**P**	**06 00 16.2**	**-0.8**
	comp=Z,12nm,0.5s,baz=326,slow=21,SNR=11						
ROSC	**El Rosal**	**24.77**	**344**	*e*P	**P**	**06 00 17.3**	**+0.3**
	comp=Z,18nm,0.6s						
ROSC	**El Rosal**	**24.77**	**344**	*e*P	**P**	**06 00 17.3**	**+0.3**
TOLC	**Tolima**	**24.81**	**341**	*e*P	**P**	**06 00 16.5**	**-0.8**
RREF	**El Recreo**	**25.12**	**342**	*e*P	**P**	**06 00 21.1**	**+0.7**
GUYC	**Guyana, Colomb**	**25.44**	**342**	*e*P	**P**	**06 00 21.4**	**-1.7**
RUSC	**La Rusia**	**25.50**	**347**	*e*P	**P**	**06 00 23.5**	**-0.2**
BARC	**Barichara**	**26.20**	**347**	*e*P	**P**	**06 00 28.1**	**-1.6**
HELC	**Santa Helena**	**26.39**	**342**	*e*P	**P**	**06 00 30.0**	**-1.7**
PTBC	**PUERTO BERRIO,**	**26.44**	**345**	*e*P	**P**	**06 00 28.9**	**-2.8**
ZARC	**Zaragoza, Cauc**	**27.45**	**344**	*e*P	**P**	**06 00 38.1**	**-2.6**
SDV	**Santo Domingo**	**28.05**	**354**	P	**P**	**06 00 45.1**	**-1.0**
	comp=Z,17nm,0.5s,baz=145,slow=3.1,SNR=38						
SDV	**Santo Domingo**	**28.05**	**354**	*e*P	**P**	**06 00 44.5**	**-1.7**
	comp=Z,31nm,1.0s						
MDP	**Montagnes des**	**28.29**	**33**	P	**P**	**06 00 46.9**	**-1.2**
	comp=Z,5.4nm,0.5s,baz=218,slow=8.7,SNR=18						
SMLC	**San Mart¨›n de**	**28.53**	**347**	*e*P	**P**	**06 00 47.2**	**-3.0**
PCRV	**Puerto La Cruz**	**29.33**	**6**	P	**P**	**06 00 56.9**	**-0.4**
	comp=Z,35nm,0.4s,baz=193,slow=4.0,SNR=50						
SVB	**Belmont**	**32.86**	**11**	*e*P	**P**	**06 01 26.2**	**-2.0**
	comp=Z,31nm,0.5s						
JTS	**JuntasAbangare**	**33.91**	**328**	*e*P	**P**	**06 01 37.5**	**+0.2**
	comp=Z,49nm,1.6s						
FDF	**Fort de France**	**34.31**	**11**	*e*P	**P**	**06 01 38.3**	**-2.4**
	comp=Z,64nm,0.5s						
ICMP	**Isla Caja de M**	**36.86**	**2**	*e*P	**P**	**06 02 01.6**	**-0.7**
	comp=Z,33nm,0.8s						
OBIP	**Obispado Ponce**	**37.01**	**2**	*e*P	**P**	**06 02 01.8**	**-1.8**
	comp=Z,44nm,0.6s						
ESTN	**Estel**	**37.02**	**329**	*e*P	**P**	**06 02 03.8**	**-0.1**
	comp=Z,29nm,0.5s						
SJG	**San Juan**	**37.10**	**2**	*e*P	**P**	**06 02 01.5**	**-2.8**
	comp=Z,41nm,0.8s						
HUMP	**Col San Antoni**	**37.14**	**3**	*e*P	**P**	**06 02 02.3**	**-2.4**
	comp=Z,11nm,0.5s						
MPR	**Mayaguez**	**37.17**	**1**	*e*P	**P**	**06 02 02.7**	**-2.2**
	comp=Z,32nm,0.9s						
APG	**El Apazote**	**40.74**	**325**	P	**P**	**06 02 36.8**	**+1.9**
	comp=Z,24nm,0.7s,baz=151,slow=3.6,SNR=12						
TEIG	**Tepich**	**44.09**	**332**	*e*P	**P**	**06 03 00.6**	**-1.0**
	comp=Z,30nm,0.9s						
CMIG	**Matias Romero**	**44.92**	**322**	P	**P**	**06 03 09.5**	**+1.3**
	comp=Z,7.5nm,0.6s,baz=123,slow=6.6,SNR=12						
059Z	**Ave Maria**	**47.20**	**343**	P	**P**	**06 03 25.8**	**0.0**
	baz=162						
TLIG	**Tlapa**	**47.52**	**318**	*e*P	**P**	**06 03 28.6**	**0.0**
	comp=Z,33nm,1.5s						
059A	**Moore Haven**	**47.72**	**344**	P	**P**	**06 03 29.6**	**-0.1**
	baz=162						
058A	**Arcadia**	**47.98**	**343**	P	**P**	**06 03 31.8**	**0.0**
	baz=162						
957A	**Wimauma**	**48.69**	**343

X47A **Russelville** 56.77 340 P P 06 04 35.1 -1.1
baz=157,SNR=11
V52A **Sevierville** 56.78 345 eP P 06 04 35.6 -0.8
comp=Z,13nm,0.9s
V52A **Sevierville** 56.78 345 P P 06 04 35.5 -0.8
baz=162
SWET **Sewanee** 56.83 342 eP P 06 04 35.9 -0.8
comp=Z,11nm,0.5s
W49A **Belvidere** 56.84 342 P P 06 04 35.7 -1.0
baz=159
NATX **Nacogdoches** 56.91 332 eP P 06 04 38.6 +1.4
comp=Z,34nm,0.8s
V50A **Pikevile** 57.02 343 P P 06 04 37.3 -0.7
baz=160,SNR=5.5
W48A **Pulaski** 57.06 341 P P 06 04 37.5 -0.7
baz=158,SNR=7.9
V49A **McMinnville** 57.34 342 P P 06 04 39.1 -1.1
baz=159,SNR=6.4
W47A **Westpoint** 57.36 341 P P 06 04 39.3 -1.1
baz=157
435B **Jarrell** 57.43 329 eP P 06 04 41.8 +0.8
comp=Z,16nm,0.6s
V48A **Smith Brothers** 57.58 342 eP P 06 04 41.1 -0.7
comp=Z,16nm,0.8s
V48A **Smith Brothers** 57.58 342 P P 06 04 41.2 -0.7
baz=158,SNR=6.8
CCAR **Cane Creek** 57.61 336 eP P 06 04 42.5 +0.3
comp=Z,19nm,0.7s
W45A **Hickory Valley** 57.80 339 P P 06 04 42.3 -1.1
baz=156,SNR=6.2
X43A **Marvell** 57.81 337 eP P 06 04 43.2 -0.3
comp=Z,41nm,0.8s
X43A **Marvell** 57.81 337 P P 06 04 43.4 -0.1
baz=154
V47A **Nunnelly** 57.87 341 P P 06 04 42.7 -1.3
baz=158
U49A **Red Boiling Sp** 58.00 343 P P 06 04 43.9 -0.9
baz=160
T50A **Nancy** 58.22 344 P P 06 04 45.2 -1.1
baz=161
WVT **Waverly** 58.25 341 eP P 06 04 45.4 -1.1
comp=Z,18nm,0.9s
WVT **Waverly** 58.25 341 P P 06 04 45.5 -1.1
baz=157
V45A **Humboldt** 58.25 340 P P 06 04 45.5 -1.1
baz=156,SNR=5.2
JCT **Junction City** 58.28 327 eP P 06 04 47.5 +0.5
comp=Z,9.3nm,0.8s
U47A **Clarksville** 58.37 341 P P 06 04 46.3 -1.1
baz=158,SNR=9.6
WHTX **Lake Whitney,** 58.37 330 eP P 06 04 48.2 +0.8
comp=Z,27nm,0.7s
WHTX **Lake Whitney,** 58.37 330 P P 06 04 48.3 +0.8
baz=148,SNR=14
T49A **Edmonton** 58.48 343 eP P 06 04 46.9 -1.2
comp=Z,16nm,0.9s
T49A **Edmonton** 58.48 343 P P 06 04 47.2 -1.0
baz=160,SNR=5.8
UALR **University of** 58.59 336 eP P 06 04 48.6 -0.3
comp=Z,12nm,0.7s
W42A **Bald Knob** 58.72 337 P P 06 04 49.4 -0.4
baz=153
S50A **Richmond** 58.73 344 P P 06 04 49.0 -0.8
baz=161
T48A **Bowling Green** 58.73 342 P P 06 04 48.8 -1.0
baz=159
T47A **Sharon Grove** 58.82 342 eP P 06 04 49.6 -0.9
comp=Z,21nm,0.9s
T47A **Sharon Grove** 58.82 342 P P 06 04 49.7 -0.7
baz=158,SNR=7.4
MIAR **Mount Ida** 58.87 335 eP P 06 04 50.6 -0.2
comp=Z,13nm,0.7s
MIAR **Mount Ida** 58.87 335 P P 06 04 50.7 -0.2
baz=151,SNR=10
W41B **Gary Mavity, V** 58.90 337 eP P 06 04 50.5 -0.6
comp=Z,17nm,1.3s
W41B **Gary Mavity, V** 58.90 337 P P 06 04 50.6 -0.4
baz=152,SNR=5.0
U44B **Burton Farm, H** 58.93 340 P P 06 04 50.5 -0.7
baz=156
S49A **Springfield** 59.06 344 P P 06 04 50.9 -1.2
baz=160
T46A **Princeton** 59.11 341 P P 06 04 51.6 -0.9
baz=157
R51A **Hillsboro** 59.12 345 P P 06 04 51.9 -0.6
baz=162
S48A **Wiedeman Farm,** 59.15 343 P P 06 04 51.3 -1.4
baz=160,SNR=5.1
R50A **Paris** 59.28 345 P P 06 04 52.9 -0.7
baz=161
S47A **Hartford** 59.32 342 P P 06 04 52.6 -1.3
baz=159
T45A **Paducah** 59.32 341 eP P 06 04 53.0 -0.9
comp=Z,85nm,1.0s
PARMO **Parma** 59.35 339 eP P 06 04 54.0 -0.2
comp=Z,51nm,0.8s
V41A **Mountainview** 59.41 337 P P 06 04 53.9 -0.7
baz=153,SNR=16
Q52A **Bidwell** 59.45 347 P P 06 04 54.3 -0.4
baz=164
TXAR **Lajitas Array** 59.47 323 P P 06 04 55.5 +0.4
comp=Z,2.4nm,0.5s,baz=154,slow=8.6,SNR=58
TX31 **Lajitas Ar. Si** 59.47 323 eP P 06 04 55.2 0.0
W39A **Magazine** 59.52 335 eP P 06 04 55.6 +0.3
comp=Z,17nm,0.9s
W39A **Magazine** 59.52 335 P P 06 04 55.8 +0.5
baz=151,SNR=5.5
U42A **Revenden** 59.58 338 P P 06 04 55.1 -0.6
baz=154,SNR=13
X37A **Clayton** 59.64 334 eP P 06 04 56.3 +0.2
comp=Z,63nm,1.6s
MCWV **Mont Chateau** 59.64 349 P P 06 04 56.3 +0.2
baz=166
S46A **Don Dixon Farm** 59.65 342 P P 06 04 54.9 -1.2
baz=158
PBMO **Poplar Bluff** 59.69 339 eP P 06 04 55.5 -0.9
comp=Z,24nm,0.8s
Q50A **Georgetown** 59.73 345 P P 06 04 55.9 -0.8
baz=162
WCI **Wyandotte Cave** 59.75 343 P P 06 04 55.6 -1.2
baz=159
P53A **Whipple** 59.77 348 eP P 06 04 57.0 0.0
comp=Z,24nm,0.7s
P53A **Whipple** 59.77 348 P P 06 04 56.9 0.0
baz=165,SNR=6.8
U41A **Viola** 59.82 337 P P 06 04 56.5 -0.8
baz=153,SNR=10
S45A **Carrier Mills** 59.91 341 P P 06 04 57.0 -0.9
baz=157
T43A **Greenville** 59.91 339 P P 06 04 57.4 -0.5
baz=155,SNR=20
ABTX **Abilene, Hawle** 59.94 329 eP P 06 04 58.4 +0.2
comp=Z,9.7nm,0.8s
P52A **Corning** 60.07 347 P P 06 04 58.2 -0.7
baz=164
Q49A **Aurora** 60.11 345 P P 06 04 58.4 -0.8
baz=161
T42A **Van Buren** 60.14 338 eP P 06 04 58.5 -1.0
comp=Z,9.8nm,0.6s
T42A **Van Buren** 60.14 338 P P 06 04 58.5 -1.0
baz=154,SNR=7.1
U40A **Yellville** 60.18 337 P P 06 04 59.5 -0.3
baz=152,SNR=13
Q48A **North Vernon** 60.25 344 P P 06 04 59.2 -1.0
baz=160,SNR=7.0
S43A **Fulton Ridge,** 60.29 340 P P 06 04 59.6 -0.9
baz=155,SNR=8.6
R45A **Skylar, Fairfi** 60.38 341 P P 06 04 59.8 -1.3
baz=157,SNR=7.2
T41A **Mountain View** 60.39 338 P P 06 05 00.4 -0.8
baz=154,SNR=7.7
P50A **Jamestown** 60.41 346 P P 06 05 00.4 -0.9
baz=162
Q47A **Bedord North L** 60.44 343 P P 06 05 00.4 -1.1
baz=159,SNR=5.6
O52A **Adamsville** 60.47 348 eP P 06 05 00.9 -0.8
comp=Z,13nm,0.8s
O52A **Adamsville** 60.47 348 P P 06 05 01.1 -0.5
baz=164
HHAR **Hobbs** 60.53 336 eP P 06 05 01.9 -0.2
comp=Z,14nm,0.8s
P49A **Miami Univ. Ec** 60.56 345 P P 06 05 01.0 -1.3
baz=161
O51A **Pataskala** 60.66 347 P P 06 05 02.2 -0.7
baz=164,SNR=5.8
P48A **Milroy** 60.67 344 P P 06 05 01.5 -1.6
baz=160
S42A **Caledonia** 60.71 339 P P 06 05 02.4 -1.0
baz=155,SNR=20
FVM **French Village** 60.78 339 eP P 06 05 03.3 -0.5
comp=Z,47nm,0.8s
ACSO **Alum Creek Sta** 60.82 347 eP P 06 05 03.3 -0.8
comp=Z,14nm,0.8s
ACSO **Alum Creek Sta** 60.82 347 P P 06 05 03.5 -0.6
baz=163
S41A **Jillco Farms,** 60.87 338 P P 06 05 03.9 -0.6
baz=154,SNR=27
R43A **Red Bud** 60.88 340 P P 06 05 03.7 -0.8
baz=156,SNR=7.1
Q45A **Warren Harvey,** 60.90 342 P P 06 05 03.7 -0.8
baz=158
BRYW **Bryant College** 60.91 357 eP P 06 05 04.7 +0.1
comp=Z,106nm,1.5s
P47A **Martinsville** 60.92 344 P P 06 05 03.6 -1.1
baz=160,SNR=8.1
N54A **Moraine State** 60.94 349 P P 06 05 03.7 -1.1
baz=166
TUL1 **Leonard** 60.95 334 eP P 06 05 05.1 +0.1
comp=Z,19nm,0.8s
TUL1 **Leonard** 60.95 334 P P 06 05 05.2 +0.3
baz=149,SNR=8.9
O49A **Covington** 61.09 345 eP P 06 05 04.7 -1.1
comp=Z,16nm,1.0s
CCM **Cathedral Cave** 61.12 339 eP P 06 05 05.5 -0.5
comp=Z,39nm,0.8s
CCM **Cathedral Cave** 61.12 339 P P 06 05 05.6 -0.5
baz=154
Q44A **Meyer Farm, Va** 61.16 341 P P 06 05 05.1 -1.2
baz=157,SNR=7.2
R42A **Luebbering** 61.17 339 P P 06 05 06.1 -0.3
baz=155,SNR=25
WMOK **Wichita Mounta** 61.27 331 eP P 06 05 07.2 0.0
comp=Z,15nm,1.6s
WMOK **Wichita Mounta** 61.27 331 P P 06 05 07.9 +0.7
baz=146,SNR=5.6
N51A **Ashland** 61.35 347 eP P 06 05 07.1 -0.4
comp=Z,14nm,0.6s
N51A **Ashland** 61.35 347 P P 06 05 07.2 -0.4
baz=164
O48A **Farmland** 61.35 345 P P 06 05 06.7 -0.9
baz=161
P45A **Graceland, Par** 61.36 342 eP P 06 05 05.8 -1.9
comp=Z,20nm,0.9s
P45A **Graceland, Par** 61.36 342 P P 06 05 06.4 -1.3
baz=158
N50A **Nevada** 61.38 347 P P 06 05 07.1 -0.6
baz=163
R41A **Rosebud** 61.38 339 P P 06 05 07.4 -0.4
baz=154,SNR=34
M54A **Oil Creek Stat** 61.41 350 eP P 06 05 07.8 -0.2
comp=Z,57nm,1.7s
Q43A **New Douglas** 61.41 341 P P 06 05 07.1 -0.9
baz=156,SNR=5.7
P44A **Sand Creek, Wi** 61.56 342 P P 06 05 07.8 -1.2
baz=157
BINY **Binghamton** 61.57 353 eP P 06 05 09.0 0.0
comp=Z,15nm,0.8s
BINY **Binghamton** 61.57 353 P P 06 05 09.4 +0.4
baz=171
O47A **Sheridan** 61.59 344 P P 06 05 08.1 -1.1
baz=160,SNR=6.4
Q42A **Golden Eagle** 61.65 340 P P 06 05 09.1 -0.6
baz=155,SNR=9.7
M51A **Elyria** 61.71 348 P P 06 05 09.4 -0.5
baz=164
N49A **Columbus Grove** 61.75 346 eP P 06 05 09.3 -1.0
comp=Z,41nm,0.7s
N49A **Columbus Grove** 61.75 346 P P 06 05 09.6 -0.7
baz=162,SNR=12
TRY **Troy** 61.86 355 eP P 06 05 10.3 -0.6
comp=Z,22nm,0.9s
VNA3 **Neumayer Olymp** 61.88 162 P P 06 05 12.4 +1.6
N48A **Decatur** 61.89 345 P P 06 05 10.3 -0.9
baz=161,SNR=5.2
Q41A **Truxton** 61.92 339 P P 06 05 11.0 -0.5
baz=154,SNR=24
SFIN **Lafayette** 61.98 343 eP P 06 05 09.6 -2.2
comp=Z,21nm,0.5s
SFIN **Lafayette** 61.98 343 P P 06 05 10.3 -1.5
baz=159,SNR=8.6
P43A **Skaggs, Pawnee** 62.00 341 P P 06 05 10.9 -1.1
baz=156,SNR=17
O45A **Potomac** 62.03 343 P P 06 05 10.6 -1.5
baz=158,SNR=12
VNA1 **Neumayer--Stat** 62.06 161 P P 06 05 14.1 +2.2
ERPA **Erie** 62.06 350 eP P 06 05 11.3 -1.0
comp=Z,34nm,0.6s
ERPA **Erie** 62.06 350 P P 06 05 12.2 0.0
baz=167,SNR=8.8
N47A **Urbana** 62.08 345 P P 06 05 11.2 -1.2
baz=160,SNR=7.0
O44A **Mansfield** 62.15 342 P P 06 05 11.5 -1.4
baz=158,SNR=5.8
P42A **Winchester** 62.20 340 eP P 06 05 12.4 -0.9
comp=Z,29nm,0.7s
P42A **Winchester** 62.20 340 P P 06 05 12.4 -0.9
baz=156,SNR=8.7
M49A **Liberty Center** 62.23 346 P P 06 05 12.7 -0.7
baz=162,SNR=6.5
MMNY **Mt. Morris Dam** 62.34 351 eP P 06 05 13.5 -0.6
comp=Z,49nm,1.6s
N46A **Monticello** 62.36 344 P P 06 05 13.1 -1.2
baz=159,SNR=6.1
M48A **Edgerton** 62.41 346 P P 06 05 13.6 -1.0
baz=162
VNA2 **Neumayer--Watz** 62.43 161 P P 06 05 15.9 +1.5
baz=293,slow=8.1
M47A **Cromwell** 62.51 345 P P 06 05 14.4 -0.9
baz=161,SNR=12
P41A **Barry, Barry** 62.52 340 P P 06 05 14.5 -0.9
baz=155,SNR=5.8
O43A **Sugar Creek Fa** 62.52 341 P P 06 05 14.2 -1.2
baz=157
N44A **Piper City** 62.65 343 P P 06 05 15.4 -0.9
baz=158
O42A **Bath** 62.68 341 P P 06 05 15.4 -1.0
baz=156,SNR=5.3
HDIL **Hopedale** 62.77 342 eP P 06 05 15.6 -1.4
comp=Z,36nm,0.6s
HDIL **Hopedale** 62.77 342 P P 06 05 15.9 -1.1
baz=157,SNR=5.8
L48A **N Adams** 62.78 346 P P 06 05 16.1 -1.0
baz=162,SNR=7.9
O41A **Passleys Farm,** 62.86 340 P P 06 05 16.6 -1.1
baz=155,SNR=5.8
L47A **Sherwood** 62.99 345 P P 06 05 17.8 -0.7
baz=161
K50A **Casco** 63.19 348 P P 06 05 18.7 -1.0
baz=164
N42A **Yates City** 63.24 341 P P 06 05 19.1 -1.0
baz=156,SNR=5.9
K49A **Clarkson** 63.37 347 P P 06 05 19.9 -1.0
baz=163
N41A **Harden Midland** 63.39 340 eP P 06 05 19.9 -1.1
comp=Z,22nm,0.7s
N41A **Harden Midland** 63.39 340 P P 06 05 20.0 -1.1
baz=155
M43A **Waltham Townsh** 63.48 342 P P 06 05 20.6 -1.0
baz=157
K48A **Perry** 63.53 347 P P 06 05 20.9 -1.0
baz=162,SNR=6.4
K47A **Vermontville** 63.60 346 P P 06 05 21.2 -1.2
baz=162
K46A **Dorr** 63.80 345 P P 06 05 22.5 -1.3
baz=161
J49A **Marlette** 63.85 347 P P 06 05 22.9 -1.2
baz=164
M41A **Milan** 63.90 341 P P 06 05 23.3 -1.1
baz=156
KSU1 **Kansas State U** 64.02 335 eP P 06 05 24.8 -0.5
KSU1 **Kansas State U** 64.02 335 P P 06 05 25.2 -0.1
baz=149,SNR=6.6
SNAA **Sanae** 64.07 161 P P 06 05 26.8 +1.6
SNAA **Sanae** 64.07 161 eP P 06 05 24.9 -0.3
comp=Z,4.9nm,0.7s
N39A **Derby Farms, D** 64.08 339 eP P 06 05 25.0 -0.6
comp=Z,30nm,0.5s
N39A **Derby Farms, D** 64.08 339 P P 06 05 24.8 -0.8
baz=154,SNR=10
J47A **Sunmer** 64.10 346 P P 06 05 24.9 -0.8
baz=162,SNR=5.3
L43A **Garden Prairie** 64.11 343 P P 06 05 24.8 -0.9
baz=158,SNR=7.3
L42A **Oliver, Polo** 64.21 342 P P 06 05 25.4 -1.0
baz=157
M40A **Post Highland** 64.23 340 P P 06 05 25.6 -1.0
baz=155,SNR=6.0
K43A **Burlington** 64.48 343 P P 06 05 27.1 -1.0
baz=158
H52A **Wyevale** 64.50 350 P P 06 05 27.7 -0.5
baz=167
M39A **Webster** 64.51 340 P P 06 05 27.6 -0.8
baz=154
L41A **Preston** 64.52 341 P P 06 05 27.5 -1.0
baz=156
L40A **Anamosa** 64.73 341 P P 06 05 29.1 -0.7
baz=155
BNM **Barren Site** 64.75 325 eP P 06 05 31.7 +1.3
I47A **Gladwin** 64.77 347 P P 06 05 29.1 -0.9
baz=162
K42A **Prairie Point,** 64.83 342 P P 06 05 29.9 -0.6
baz=157,SNR=5.2
LPM **Los Pinos Moun** 64.88 325 eP P 06 05 32.5 +1.4
I46A **Reed City** 64.91 346 P P 06 05 29.7 -1.2
baz=161,SNR=9.0
K41A **Shullsburg** 64.95 342 P P 06 05 30.5 -0.7
baz=156,SNR=7.0
L39A **Vinton** 65.03 340 P P 06 05 31.1 -0.7
baz=154
CBKS **Cedar Bluff** 65.07 333 eP P 06 05 32.6 +0.4
comp=Z,36nm,0.6s
CBKS **Cedar Bluff** 65.07 333 P P 06 05 33.0 +0.8
baz=146,SNR=5.1
JFWS **Jewell Farm** 65.21 342 eP P 06 05 31.9 -1.0
comp=Z,31nm,0.6s
JFWS **Jewell Farm** 65.21 342 P P 06 05 32.4 -0.5
baz=156,SNR=11
LAZ **Ladron** 65.22 325 eP P 06 05 34.7 +1.3
ANMO **Albuquerque** 65.26 325 P P 06 05 34.7 +1.1
comp=Z,3.0nm,0.6s,baz=140,slow=7.4,SNR=16
ANMO **Albuquerque** 65.26 325 eP P 06 05 33.5 -0.1
comp=Z,3.7nm,0.8s
ANMO **Albuquerque** 65.26 325 P P 06 05 34.5 +0.9
baz=139
J42A **Columbus** 65.26 343 P P 06 05 33.1 -0.1
baz=157
K40A **Colesburg** 65.28 341 P P 06 05 32.7 -0.7
baz=155,SNR=9.0
H46A **Fife Lake** 65.42 346 P P 06 05 33.1 -1.1
baz=162,SNR=8.1
K39A **Oelwein** 65.52 341 P P 06 05 34.2 -0.7
baz=155,SNR=5.3
I43A **Langenfeld Bro** 65.52 344 P P 06 05 34.4 -0.4
baz=158
J41A **Loganville** 65.56 342 P P 06 05 34.4 -0.7
baz=157
TUC **Tucson** 65.80 321 eP P 06 05 37.5 +0.6
comp=Z,3.3nm,0.9s
TUC **Tucson** 65.80 321 P P 06 05 38.4 +1.4
baz=135
J40A **Soldier Grove** 65.80 342 P P 06 05 36.2 -0.5
baz=156,SNR=5.6
E54A **Lac Daplat, Po** 65.88 353 P P 06 05 36.8 -0.3
baz=170
E53A **Dumoine, Ponti** 65.89 352 P P 06 05 36.7 -0.4
baz=169
T25A **Trinidad** 65.89 328 eP P 06 05 39.1 +1.5
comp=Z,13nm,1.4s
T25A **Trinidad** 65.89 328 P P 06 05 37.2 -0.5
baz=142
J39A **Decorah** 66.04 341 P P 06 05 37.5 -0.6
baz=155,SNR=8.4
I39A **Houston** 66.45 341 eP P 06 05 40.1 -0.7
comp=Z,30nm,0.9s
I39A **Houston** 66.45 341 P P 06 05 40.1 -0.7
baz=155
KSCO **Kaye Shedlock'** 66.53 331 eP P 06 05 41.8 +0.2
comp=Z,37nm,1.5s
D54A **Lac Fusel, La** 66.53 353 P P 06 05 41.2 0.0
baz=170
D53A **Lac Vacive, Po** 66.58 353 P P 06 05 41.0 -0.5
baz=170
BGNE **Belgrade** 66.60 335 eP P 06 05 42.2 +0.3
comp=Z,129nm,0.4s
BGNE **Belgrade** 66.60 335 P P 06 05 42.1 +0.3
baz=148
H41A **Junction City** 66.61 343 eP P 06 05 39.8 -1.9
comp=Z,16nm,0.9s
H41A **Junction City** 66.61 343 P P 06 05 41.0 -0.7
baz=157
214A **Organ Pipe Nat** 66.79 319 P P 06 05 45.1 +1.9
baz=133
H40A **Chili** 66.82 343 P P 06 05 42.8 -0.3
baz=156,SNR=5.4
SDCO **Great Sand Dun** 66.91 328 eP P 06 05 45.4 +1.2
comp=Z,10nm,0.7s
DBIC **Dimbokro** 66.93 74 P P 06 05 43.8 -0.6
comp=Z,2.6nm,0.7s,baz=243,slow=6.5,SNR=4.1
H38A **Maiden Rock** 67.42 341 P P 06 05 46.5 -0.4
baz=155,SNR=5.4
F41A **Three Lakes** 67.50 344 P P 06 05 47.1 -0.3
baz=158
S22A **4UR Ranch, Cre** 67.58 327 eP P 06 05 49.7 +1.2
comp=Z,6.3nm,1.0s
S22A **4UR Ranch, Cre** 67.58 327 P P 06 05 49.6 +1.2
baz=140,SNR=7.8
Q24A **Divide** 67.68 329 eP P 06 05 50.1 +1.1
comp=Z,9.8nm,0.7s
Q24A **Divide** 67.68 329 P P 06 05 50.4 +1.3
baz=141,SNR=6.4
G38A **Ridgeland** 67.75 342 P P 06 05 48.2 -0.7
baz=155,SNR=5.5
OGNE **Ogallala** 67.83 332 P P 06 05 50.8 +1.2
baz=145
F40A **Park Falls** 67.94 343 P P 06 05 50.0 -0.1
baz=157,SNR=16
ECSD **EROS Data Cent** 68.03 338 eP P 06 05 50.4 -0.3
comp=Z,24nm,1.4s
ECSD **EROS Data Cent** 68.03 338 P P 06 05 50.5 -0.2
baz=150,SNR=5.6
MVCO **Mesa Verde** 68.05 326 eP P 06 05 52.3 +1.0
comp=Z,10nm,1.1s
MVCO **Mesa Verde** 68.05 326 P P 06 05 52.5 +1.3
baz=138,SNR=7.8
SPMN **Marine on St.** 68.08 341 eP P 06 05 50.3 -0.7
comp=Z,19nm,0.4s
E40A **Wakefield** 68.36 344 P P 06 05 52.6 -0.1
baz=157,SNR=9.8
WUAZ **Wupatki** 68.41 323 eP P 06 05 54.9 +1.4
comp=Z,9.1nm,0.9s
WUAZ **Wupatki** 68.41 323 P P 06 05 55.1 +1.6
baz=135,SNR=8.1
E39A **Mellen** 68.48 343 P P 06 05 53.5 +0.1
baz=157,SNR=6.4
ISCO **Idaho Springs** 68.56 329 eP P 06 05 55.5 +1.0
ISCO **Idaho Springs** 68.56 329 P P 06 05 55.7 +1.2
baz=141,SNR=5.4
PV01 **Paradox Valley** 68.78 326 eP P 06 05 56.8 +1.1
PV13 **Radium Mtn., P** 68.92 326 eP P 06 05 56.9 +0.3
comp=Z,4.6nm,1.0s
PV03 **Paradox Valley** 69.01 326 eP P 06 05 57.7 +0.6
PV12 **Saucer Basin,** 69.03 326 eP P 06 05 57.9 +0.5
comp=Z,9.2nm,1.2s
Y12C **Blythe** 69.06 319 eP P 06 05 58.9 +1.6
comp=Z,5.5nm,0.8s
Y12C **Blythe** 69.06 319 P P 06 05 59.2 +1.9
baz=132
PV22 **Blue Mesa, Par** 69.19 326 eP P 06 05 58.3 0.0
comp=Z,8.1nm,1.1s
BC3 **Big Chuckawall** 69.57 319 P P 06 06 02.6 +2.0
baz=132,SNR=5.2
PHWY **Pilot Hill** 69.66 330 eP P 06 06 02.1 +0.9
comp=Z,3.9nm,0.6s
MONP2 **Monument Peak** 69.68 318 P P 06 06 03.6 +2.1
baz=131
IRM **Iron Mountain** 69.72 319 P P 06 06 03.5 +2.1
baz=132,SNR=6.9
O20A **White River Ci** 70.11 328 eP P 06 06 05.0 +1.1
comp=Z,8.7nm,0.8s
O20A **White River Ci** 70.11 328 P P 06 06 05.4 +1.5
baz=139,SNR=7.1
BELC **Belle Mtn. Jos** 70.14 319 P P 06 06 06.1 +2.0
baz=131
EYMN **Ely** 70.17 343 eP P 06 06 03.5 -0.3
comp=Z,8.0nm,0.6s
PFO **Pinyon Flats O** 70.17 318 P P 06 06 06.0 +1.7
baz=131
KNB **Kanab** 70.29 323 eP P 06 06 06.7 +1.7
comp=Z,18nm,0.9s
LDFC **Landfair** 70.31 320 eP P 06 06 06.8 +1.7
comp=Z,16nm,0.9s
GMRC **Granite Mounta** 70.45 320 P P 06 06 07.4 +1.5
baz=132,SNR=10
SRU **San Rafael Swe** 70.53 326 eP P 06 06 07.2 +0.9

comp=Z,9.3nm,0.7s
LCMT Little Creek M 70.53 323 eP P 06 06 08.0 +1.6
comp=Z,5.9nm,1.0s
P18A Preston Nutter 70.76 326 eP P 06 06 09.4 +1.5
comp=Z,14nm,0.7s
SZCU Shurtz Canyon 70.85 323 eP P 06 06 09.5 +1.1
CCUT Cedar City 70.97 323 eP P 06 06 11.9 +2.7
comp=Z,10nm,0.8s
MSU Marysvale 70.99 324 eP P 06 06 11.4 +2.2
TMUT Trail Mountain 71.03 326 eP P 06 06 10.3 +0.7
comp=Z,5.0nm,0.7s
RSSD Black Hills 71.27 333 eP P 06 06 11.5 +0.7
comp=Z,11nm,1.0s
RSSD Black Hills 71.27 333 P P 06 06 12.3 +1.6
baz=144
SHPR Sheep Range 71.30 321 eP P 06 06 13.2 +2.1
comp=Z,5.8nm,0.9s
GSC Goldstone, Bar 71.50 319 eP P 06 06 13.3 +1.1
comp=Z,18nm,1.5s
AGMN Agassiz Nation 71.77 341 eP P 06 06 13.1 -0.3
PSUT Pine Spring 71.94 323 eP P 06 06 16.9 +2.1
comp=Z,9.1nm,0.6s
EDW2 Edwards Air Fo 71.96 318 P P 06 06 16.5 +1.6
baz=130
JLU Jordanelle 72.10 326 eP P 06 06 15.6 -0.3
comp=Z,7.1nm,0.7s
TPNV Topopah Spring 72.25 321 eP P 06 06 18.0 +1.3
TPNV Topopah Spring 72.25 321 P P 06 06 19.2 +2.5
baz=132,SNR=13
MPMC Manual Prospec 72.41 319 P P 06 06 19.4 +1.6
baz=131
TCUT Toone Canyon 72.45 327 eP P 06 06 17.9 0.0
comp=Z,8.8nm,1.1s
DUG Dugway, Tooele 72.53 325 eP P 06 06 19.8 +1.5
DUG Dugway, Tooele 72.53 325 P P 06 06 20.2 +1.9
baz=135
DAC Darwin (Calif) 72.62 320 eP P 06 06 18.9 -0.1
comp=Z,5.8nm,0.8s
MDND Maddock 72.63 338 eP P 06 06 18.9 +0.3
comp=Z,63nm,0.6s
MDND Maddock 72.63 338 P P 06 06 19.6 +1.1
baz=148,SNR=5.1
BW06 Boulder Array 72.74 329 eP P 06 06 20.0 +0.4
BW06 Boulder Array 72.74 329 P P 06 06 20.4 +0.9
baz=138
PD31 Pinedale Array 72.74 329 eP P 06 06 19.9 +0.3
PDAR Pinedale Array 72.74 329 P P 06 06 20.2 +0.6
comp=Z,2.2nm,0.4s,baz=121,slow=7.9,SNR=30
PDAR Pinedale Array 72.74 329 eP P 06 06 20.0 +0.4
ISA Isabella, Lake 72.77 319 eP P 06 06 21.2 +1.6
comp=Z,6.5nm,0.7s
ISA Isabella, Lake 72.77 319 P P 06 06 22.0 +2.3
baz=130,SNR=7.3
R11A Troy Canyon, C 72.80 322 eP P 06 06 21.0 +1.0
comp=Z,7.0nm,1.3s
R11A Troy Canyon, C 72.80 322 P P 06 06 22.1 +2.2
baz=133,SNR=6.2
HWUT Hardware Ranch 72.89 327 eP P 06 06 20.9 +0.5
comp=Z,5.5nm,0.6s
VES Vestal, Richgr 73.26 318 P P 06 06 24.1 +1.6
baz=129
ULM Lac du Bonnet 73.50 342 P P 06 06 23.2 -0.3
comp=Z,20nm,0.5s,baz=150,slow=6.6,SNR=51
ULM Lac du Bonnet 73.50 342 eP P 06 06 23.2 -0.3
comp=Z,21nm,0.6s
SCHQ Scheffervlle 73.72 0 P P 06 06 24.7 -0.1
comp=Z,8.9nm,0.6s,baz=204,slow=6.3,SNR=17
SNOW Snow King Moun 73.84 329 eP P 06 06 26.7 +0.7
comp=Z,4.7nm,0.6s
LOHW Long Hollow 73.88 329 eP P 06 06 26.9 +0.7
comp=Z,4.3nm,0.6s
FXWY Fox Creek 74.11 329 eP P 06 06 27.7 +0.2
comp=Z,3.3nm,0.6s
OMMB Old Mammoth Mi 74.34 320 eP P 06 06 30.4 +1.3
comp=Z,8.0nm,0.8s
NV11 Mina Array Sit 74.36 321 eP P 06 06 29.9 +0.9
comp=Z,1.4nm,1.9s
RLMT Red Lodge 74.38 331 eP P 06 06 29.8 +0.8
RLMT Red Lodge 74.38 331 P P 06 06 30.5 +1.5
baz=139
MDPB Devils Postpil 74.40 320 eP P 06 06 29.2 -0.1
comp=Z,4.3nm,0.7s
NV01 Mina Array Sit 74.45 321 eP P 06 06 29.9 +0.3
NVAR Mina Array Bea 74.45 321 P P 06 06 31.4 +1.8
comp=Z,4.6nm,0.8s,baz=159,slow=6.8,SNR=20
KVN Kaiserville 74.73 321 eP P 06 06 30.6 -0.6
comp=Z,7.4nm,0.7s
YMR Madison River 74.84 330 eP P 06 06 32.9 +1.2
comp=Z,12nm,0.8s
DGMT Dagmar 74.85 336 eP P 06 06 31.5 +0.1
DGMT Dagmar 74.85 336 P P 06 06 32.8 +1.4
baz=144
YHH Holmes Hill 74.87 330 eP P 06 06 32.4 +0.4
comp=Z,12nm,0.7s
YHB Horse Butte 75.01 329 eP P 06 06 33.2 +0.5
comp=Z,11nm,0.7s
YERR Yerington 75.36 321 eP P 06 06 36.4 +1.6
comp=Z,4.1nm,0.6s
TOA0 Torodi Ar. Sit 75.45 70 eP P 06 06 34.8 -0.7
TORD Torodi Ar. Bea 75.45 70 P P 06 06 34.8 -0.8
comp=Z,1.4nm,0.3s,baz=254,slow=5.3,SNR=58
PNTR Pine Nut 75.65 321 eP P 06 06 37.7 +1.3
comp=Z,12nm,0.8s
HLID Hailey 75.76 327 eP P 06 06 38.1 +1.2
HLID Hailey 75.76 327 P P 06 06 38.5 +1.6
baz=135,SNR=14
VCNR Virginia City 75.81 321 eP P 06 06 38.7 +1.4
comp=Z,5.8nm,0.8s
BOZ Bozeman (W) 75.84 330 P P 06 06 38.4 +1.1
baz=137
MCMT McKenzie Canyo 75.87 329 eP P 06 06 39.5 +1.9
PAHR Pah Rah Range 75.91 321 eP P 06 06 39.6 +1.8
comp=Z,16nm,0.8s
DLMT Dillon 76.13 329 eP P 06 06 39.8 +0.9
comp=Z,24nm,2.0s
HRY Holter Researc 76.75 330 eP P 06 06 43.5 +1.2
ORV Oroville 77.08 320 eP P 06 06 45.6 +1.4
comp=Z,14nm,1.4s
J08A Circle Bar Ran 77.78 325 eP P 06 06 48.8 +0.6
comp=Z,4.9nm,0.6s
MOD Modoc Plateau 77.86 323 eP P 06 06 49.8 +1.1
comp=Z,6.2nm,0.7s
BMO Blue Mountains 78.15 326 eP P 06 06 51.2 +1.1
SYO Syowa Base 78.23 159‖ eP P 06 06 49.8 -0.3
F10A Beach Ranch, E 78.87 327 eP P 06 06 55.7 +1.6
comp=Z,26nm,1.6s
MORF Marmelete 78.97 44 eP P 06 06 54.8 0.0
MORF Marmelete 78.97 44 eP P 06 06 56.6 +1.9
PTEO Sao Teotonio 79.06 44 eP P 06 06 57.6 +2.5
comp=Z,102nm,1.5s
YBH Yreka Blue Hor 79.15 321 P P 06 06 55.7 +0.1
comp=Z,1.4nm,0.3s,baz=147,slow=2.4,SNR=7.8
VNDA Vanda 79.32 190 P P 06 06 57.9 +2.0
comp=Z,1.5nm,0.8s,baz=118,slow=5.0,SNR=6.3
TSUM Tsumeb 79.55 107 eP P 06 06 59.4 +1.0
comp=Z,23nm,1.3s
MESJ Messejana 79.56 44 eP P 06 06 57.9 +0.1
MESJ Messejana 79.56 44 eP P 06 06 59.7 +1.9
comp=Z,39nm,1.4s
PVAQ Vaqueiros 79.65 44 eP P 06 07 00.0 +1.7
comp=Z,35nm,1.6s
PBEJ Beja 79.89 44 eP P 06 07 02.3 +2.7
EVO Evora 80.08 43 eP P 06 07 04.1 +3.5
NEW Newport 80.38 329 P P 06 07 02.2 +0.1
comp=Z,1.7nm,0.5s,baz=76,slow=8.5,SNR=5.8
PTOM Tomar 80.44 42 eP P 06 07 03.3 +0.8
PESTR Estremoz 80.54 43 eP P 06 07 04.7 +1.6
comp=Z,25nm,1.6s
C09A Chrisman Ranch 80.64 328 eP P 06 07 04.2 +0.8
comp=Z,12nm,0.8s
LTY Liberty 81.50 327 eP P 06 07 08.3 +0.3
comp=Z,8.2nm,0.6s
MVO Moncorvo 82.18 42 eP P 06 07 13.2 +1.5
comp=Z,33nm,2.0s
B06A Marblemount 82.73 327 eP P 06 07 14.6 +0.4
comp=Z,15nm,0.8s
ESDC Sonseca Array 83.35 44 P P 06 07 18.8 +1.1
comp=Z,3.7nm,1.0s,baz=234,slow=5.7,SNR=11
ES19 SONSECA Array 83.40 44 eP P 06 07 18.8 +0.8
BOSA Boshof 83.46 118 P P 06 07 19.6 +0.8
comp=Z,4.5nm,0.4s,baz=256,slow=3.8,SNR=16
MAW Mawson 86.18 163 P P 06 07 33.2 +1.8
comp=Z,3.3nm,0.7s,baz=225,slow=7.9,SNR=6.1
YKA Yellowknife Ar 89.43 340 P P 06 07 47.3 +0.7
comp=Z,7.1nm,0.5s,baz=130,slow=4.7,SNR=93
YKB5 Yellowknife Ar 89.43 340 eP P 06 07 47.3 +0.7
YKW3 Yellowknife Ar 89.48 340 eP P 06 07 46.6 -0.2
comp=Z,7.9nm,0.6s
ILAR Eielson Array 102.69 334 PKiKP PKiKP 06 13 05.5 -1.0
comp=Z,0.8nm,1.0s,baz=94,slow=4.8,SNR=6.0
ASAR Alice Springs 132.51 207 PKP PKPdf 06 14 05.4 +0.9
comp=Z,0.8nm,0.5s,baz=135,slow=1.9,SNR=13
ASAR SKPbc SKPab 06 17 13.6 -0.5
comp=Z,1.2nm,0.6s,baz=147,slow=4.2,SNR=11
WRA Warramunga Arr 135.55 210 PKiKP PKPpre 06 13 57.5
comp=Z,0.2nm,0.4s,baz=165,slow=2.2,SNR=7.6
WRA PKP PKiKP 06 14 11.5 -0.3
comp=Z,0.4nm,0.5s,baz=153,slow=1.8,SNR=5.2
WRA SKPbc SKPbc 06 17 24.1 +1.5
comp=Z,1.3nm,0.8s,baz=148,slow=2.8,SNR=9.2
ZALV Zalesovo Beam 139.36 25 SKPbc SKiKP 06 17 34.5 -1.0
comp=Z,3.8nm,0.9s,baz=318,slow=4.0,SNR=6.7
KSH Kashi 142.70 49 ePKP PKPdf 06 14 18.3 -4.5
MKAR Makanchi Array 143.06 35 PKP PKPdf 06 14 21.2 -1.8
comp=Z,0.7nm,0.8s,baz=306,slow=3.2,SNR=3.1
MKAR SKPbc SKiKP 06 17 43.8 +0.3
comp=Z,0.6nm,0.6s,baz=314,slow=2.8,SNR=3.9
WMQ Urumqi 147.89 35 ePKPbc PKPdf 06 14 30.6 -0.8
WMQ LR LR
comp=Z,140nm,27.3s
USRK Ussuriysk Ar. 150.15 331 PKPbc PKPbc 06 14 41.5 +1.3
comp=Z,4.2nm,0.7s,baz=21,slow=1.2,SNR=13
SONA1 Songino Array 151.00 8 ePKPbc PKPbc 06 14 43.4 +1.1
SONM Songino Array 151.01 8 PKPbc PKPbc 06 14 43.3 +1.0
comp=Z,3.7nm,0.5s,baz=309,slow=1.6,SNR=30
MJAR Matsushiro Arr 151.49 313 PKPbc PKPbc 06 14 44.7 +1.1
comp=Z,1.4nm,0.3s,baz=108,slow=0.9,SNR=3.9
HHC Hu-ho-hao-te 158.40 2 ePKP PKPdf 06 14 41.9 -4.8
LZH Lanzhou 161.56 22 ePKP PKPdf 06 14 51.8 +1.4
LZH pPKP PKPab 06 15 33.3 -2.8
NJ2 Nanjing 165.93 337 ePKP PKPdf 06 14 53.8 -0.5

MAN 22 06:01:36.1, 10.80N×125.01E, h0km, mb4.1, ML2.9, MS2.6, 1C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
PLP	Palo	0.36	355	i	P	Pb	06 01 45.2	-0.3
PLP				i	S	Sb	06 01 51.9	+0.2
MSLP	Maasin	0.68	193	eP		Pg	06 01 49.7	+0.5
MSLP				eS		Sb	06 02 01.2	+0.3
BESP	Borongan	0.90	28	eP		Pb	06 01 54.6	0.0
BESP				eS		Sn	06 02 08.7	-1.0
SCPH	Surigao	1.12	155	eP		Pg	06 01 57.8	+0.2
LLP	Lapu-Lapu	1.14	245	eP		Pg	06 01 57.5	-0.5
LLP				eS		Sg	06 02 12.6	-0.1
TBP	Tagbilaran	1.58	226	eP		Pn	06 02 05.4	-0.1
RCP	Roxas	2.35	289	eP		Pn	06 02 16.8	+0.8
BUKP	Musuan	2.91	179	eP		Pn	06 02 25.1	+1.3

*ISCJB **22** 06:18:54.6±0.5, 15.90S±0.10×178.15W±0.07, h10km, mb4.4/14, MS4.0/18, Error ellipse: s-maj=15.3km s-min=8.1km az=151.1*
*IDC **22** 06:18:55.1±1.3, 16.03S×178.02W, h0km, mb4.0/7, mb1 4.3/7, mb1mx4.0/31, mbtmp4.0/7, MS4.0/20, Ms1 4.0/20, ms1mx3.9/33, Error ellipse: s-maj=92.4km s-min=20.1km az=149.0*
*NEIC **22** 06:18:56.4±0.4, 15.92S×178.14W, h10km, mb4.6/7, Error ellipse: s-maj=13.7km s-min=7.1km az=151.0*
*GCMT **22** 06:19:01.4±0.3, 16.13S±0.02×177.56W±0.01, h17km±1km, MW5.0/97, Moment Tensor Solution. s25,c33; s97,c131; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.14±.14; Mθθ=-3.31±.13; Mϕϕ 3.45±.12; Mrθ=0.63±.31; Mθϕ 0.83±.12; Mϕr 2.22±.40; Best double couple: M=4.11100×10^16 NP1:ϕs=322.00000°, δ85.00000°, λ150.00000°. NP2: ϕs=55.00000°, δ60.00000°, λ6.00000°. Principal axes: T 4.5390, Plg25.0000°, Azm274.0000°; N -0.8600, Plg59.0000°, Azm133.0000°; P -3.6830, Plg17.0000°, Azm12.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 06:18:56.5±0.7, 15.95S±0.11×178.13W±0.10, h10km, n50, σ19 00/30, mb4.2/14, MS4.0/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
AFI	Afiamalu	6.46	73	LR		LR	06 22 15.3	
	comp=Z,2μm,19.6s,baz=244,slow=31							
AFI	Afiamalu	6.46	73	ePn		Pn	06 20 31.4	-0.3
FUNA	Funafuti	7.79	340	ePn		Pn	06 20 50.6	+0.6
DZM	Mont Dzumac	15.82	245	LR		LR	06 27 58.2	
	comp=Z,816nm,19.4s,baz=54,slow=34							
DZM	Mont Dzumac	15.82	245	eLQ		LQ	06 26 01.6	
	3μm,27.9s							
DZM				eLR		LR	06 26 04.5	
	1μm,25.3s							
DZM	Mont Dzumac	15.82	245	ePn		Pn	06 22 39.4	-0.2
	20nm,1.3s							
HNR	Honiara	22.32	284	LR		LR	06 31 29.9	
	comp=Z,1μm,19.3s,baz=110,slow=34							
URZ	Urewera	22.66	190	LR		LR	06 31 34.2	
	comp=Z,727nm,18.4s,baz=4.0,slow=34							
PPT	Papeete	27.38	98	LR		LR	06 32 13.6	
	comp=Z,278nm,21.1s,baz=283,slow=29							
PPT2	Papeete2	27.38	98	eLR		LR	06 31 18.5	
	981nm,27.0s,baz=263							
TBI	Tubuai	27.96	110	eLQ		LQ	06 30 22.2	
	575nm,33.0s							
TBI				eLR		LR	06 31 34.7	
	1μm,29.2s,baz=283							
KWAJ	Kwajalein Atol	28.32	329	eP		P	06 24 49.5	-1.2
	356nm,1.1s							
MQZ	McQueen's Vall	28.80	194	eP		P	06 24 54.7	+0.1
	78nm,1.4s							
CTAO	Charters Tower	34.09	258	eP		P	06 25 41.1	-0.5
	23nm,1.4s							
PMG	Port Moresby	34.44	277	LR		LR	06 38 23.2	
	comp=Z,237nm,18.0s,baz=18,slow=34							
PMG	Port Moresby	34.44	277	eP		P	06 25 44.7	0.0
	14nm,1.1s							
TAOE	Nuku Hiva Isla	37.71	84	eLR		LR	06 35 58.0	
	932nm,28.4s							
STKA	Stephens Creek	39.85	239	P		P	06 26 31.8	+1.3
	2.5nm,0.9s,baz=81,slow=10,SNR=5.0							
STKA				LR		LR	06 41 31.3	
	comp=Z,127nm,20.3s,baz=30,slow=34							
STKA	Stephens Creek	39.85	239	eP		P	06 26 30.0	-0.5
	3.9nm,1.4s							
RKT	Rikitea	41.19	107	eLR		LR	06 37 36.5	
	689nm,27.2s							
JAY	Jayapura	42.65	284	LR		LR	06 43 38.4	
	comp=Z,136nm,21.7s,slow=35							
WB2	Warramunga Arr	45.28	258	eP		P	06 27 13.3	-1.5
WRAB	Tennant Creek	45.28	258	eP		P	06 27 13.4	-1.3
	24nm,1.5s							
WR1	Warramunga Arr	45.29	258	eP		P	06 27 15.3	+0.4
	23nm,1.6s							
WRA	Warramunga Arr	45.29	258	P		P	06 27 15.3	+0.4
	1.8nm,1.0s,baz=90,slow=7.4,SNR=8.2							
WRA				LR		LR	06 46 04.7	
	comp=Z,184nm,18.2s,baz=105,slow=36							
AS01	Alice Springs	45.58	252	eP		P	06 27 16.6	-0.6
AS31	Alice Springs	45.62	252	eP		P	06 27 16.9	-0.6
	1.4nm,0.9s							
ASAR	Alice Springs	45.62	252	P		P	06 27 16.7	-0.8
	2.1nm,0.7s,baz=84,slow=8.6,SNR=19							
ASAR				LR		LR	06 45 38.4	
	comp=Z,490nm,18.1s,baz=98,slow=35							
VNDA	Vanda	62.45	185	LR		LR	06 51 38.5	
	comp=Z,80nm,20.0s,baz=3.0,slow=32							
RPN	Rapa Nui	64.30	113	LR		LR	06 49 41.9	
	comp=Z,137nm,19.9s,baz=266,slow=29							
MJAR	Matsushiro Arr	66.48	323	LR		LR	06 52 57.3	
	comp=Z,40nm,21.7s,baz=130,slow=31							
PETK	Petropavlovsk-	71.83	345	LR		LR	06 57 09.6	
	comp=Z,76nm,19.6s,baz=164,slow=32							
USRK	Ussuriysk Ar.	75.13	325	LR		LR	06 58 15.6	
	comp=Z,40nm,19.3s,baz=180,slow=31							
NV01	Mina Array Sit	77.81	44	eP		P	06 30 53.4	-1.1
NVAR	Mina Array Bea	77.81	44	P		P	06 30 55.4	+0.9
	1.4nm,0.8s,baz=234,slow=9.9,SNR=6.0							
IL1	Eielson Array	83.89	13	eP		P	06 31 26.7	+0.6
ILAR	Eielson Array	83.89	13	P		P	06 31 26.6	+0.5
	1.4nm,1.0s,baz=205,slow=5.4,SNR=4.0							
ILAR				LR		LR	07 02 15.1	
	comp=Z,79nm,20.2s,baz=226,slow=31							
ILB	Eielson Array	83.89	13	eP		P	06 31 26.7	+0.6
PV10	Paradox Valley	84.18	48	eP		P	06 31 28.5	-0.1
LTX	Lajitas	84.70	58	eP		P	06 31 30.2	-1.0
TX31	Lajitas Ar. Si	84.70	58	eP		P	06 31 30.4	-0.8
TXAR	Lajitas Array	84.70	58	P		P	06 31 30.2	-1.0
	0.6nm,0.9s,baz=244,slow=3.7,SNR=3.7							
TXAR				LR		LR	07 01 42.3	
	comp=Z,72nm,19.4s,baz=0.0,slow=30							
PD31	Pinedale Array	85.72	43	eP		P	06 31 35.6	-0.6
PDAR	Pinedale Array	85.72	43	P		P	06 31 35.4	-0.9
	1.0nm,1.0s,baz=204,slow=3.3,SNR=4.3							
PDAR				LR		LR	07 03 05.9	
	comp=Z,48nm,19.6s,baz=264,slow=31							
MAW	Mawson	85.82	200	LR		LR	07 07 13.4	
	comp=Z,167nm,19.7s,baz=114,slow=34							
CMAR	Chiang Mai Arr	88.47	290	LR		LR	07 11 36.7	
	comp=Z,30nm,18.1s,baz=136,slow=36							
BR131	Keskin Array S	143.54	317	ePKPpre		PKPpre	06 38 27.9	
GERES	GERESS Array B	145.75	346	PKPbc		PKPab	06 38 38.0	+1.7
	0.6nm,0.6s,baz=292,slow=0.7,SNR=4.6							
TORD	Torodi Ar. Bea	177.25	176	PKP		PKPdf	06 39 10.2	+1.9
	1.3nm,1.2s,baz=122,slow=1.9,SNR=3.7							
TOA1	Torodi Ar. Sit	177.25	176	ePKPdf		PKPdf	06 39 10.2	+1.9

*BJI **22** 06:27:13.0, 13.20N×145.11E, h135km, mb4.6/19, mB4.9/13*
*DJA **22** 06:27:15.6±1.1, 14.1N±12.1×14.5E±1.3, h136km±3km, M5.0/12, mb4.7/12, mB5.9/4, Mw(mB)5.5/4*
*IDC **22** 06:27:18.7±0.4, 13.68N×144.88E, h136km±3km, mb3.9/16, mb1 4.1/17, mb1mx3.8/45, mbtmp4.4/17, Error ellipse: s-maj=15.7km s-min=9.2km az=85.0*
*ISCJB **22** 06:27:19.4±0.5, 13.60N±0.03×144.77E±0.06, h154km±6km, mb4.6/49, Error ellipse: s-maj=9.3km s-min=5.6km az=173.8*
*NEIC **22** 06:27:19.9±0.5, 13.61N×144.67E, h142km±5km, mb4.7/22, Error ellipse: s-maj=7.4km s-min=4.7km az=80.0*
NEIC Felt [III] at Santa Rita. Also felt at Barrigada, Inarajan, Mangilao, Talofofo, Yigo and Yona. Felt on Saipan, Northern Mariana Islands.

ISC 22 06:27:18.8±0.5, 13.56N±0.05×144.80E±0.06, h136km±5km, h137km; pP-P, n89, σ19 71/88, mb4.6/49, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
GUMO	Guam	0.07	66	P		Pn	06 27 38.1	+0.8
	2μm,0.3s,baz=87,slow=6.0,SNR=1385							
GUMO				S		Sn	06 27 51.2	0.0
	4μm,0.3s,baz=164,slow=12,SNR=30							
ANA2	Anatahan	2.90	18	ePn		Pn	06 28 06.2	+1.8
ANA2				eSn		Sn	06 28 43.5	+3.9
SARN	Sarigan	3.26	17	ePn		Pn	06 28 10.6	+1.5
SARN				eSn		Sn	06 28 49.7	+1.7
PATS	Pohnpei	14.88	115	ePn		P	06 30 45.5	+0.8
	83nm,0.8s							
PATS				eSn		Sn	06 33 19.7	-7.7
MANU	Manus Island	15.71	170	ePn		P	06 30 54.7	+0.7
	112nm,1.4s							
JAY	Jayapura	16.48	195	P		P	06 31 05.3	+2.7
	0.3nm,0.3s,baz=36,slow=8.2,SNR=5.0							
RABL	Rabaul	19.09	157	eP		Pn	06 31 33.9	+0.5
	120nm,0.6s							
SIJI	Sorong	19.64	224	P		Pn	06 31 40.3	+0.5
	2.2nm,0.3s,baz=29,slow=9.3,SNR=12							
MSLP	Maasin	19.81	262	eP		Pn	06 31 41.1	-0.8
OCLP	Ormoc	19.89	265	eP		P	06 31 31.7	-8.0
BUKP	Musuan	20.19	256	eP		Pn	06 31 45.2	-1.1
FAKI	Fak Fak	20.57	218	eP		P	06 31 46.0	-1.1
	39nm,1.0s							
FAKI	Fak Fak	20.57	218	P		Pn	06 31 49.6	-1.2
TNTI	Ternate	21.43	235	eP		P	06 31 55.5	-0.9
	64nm,1.1s							
H11S3	WAKE ISLAND Hy	21.59	74	T		T	06 53 47.9	
	baz=263,slow=74,SNR=21							
H11S1	WAKE ISLAND Hy	21.61	74	T		T	06 53 49.4	
	baz=183,slow=74,SNR=19							
H11S2	WAKE ISLAND Hy	21.61	74	T		T	06 54 43.5	
	SNR=14							
H11N1	WAKE ISLAND Hy	22.02	71	T		T	06 55 13.5	
	baz=257,slow=75,SNR=12							
H11N2	WAKE ISLAND Hy	22.03	71	T		T	06 55 05.1	
	baz=257,slow=75,SNR=8.0							
H11N3	WAKE ISLAND Hy	22.04	71	T		T	06 55 08.2	
	baz=257,slow=75,SNR=14							
OTRP	Odiongan	22.23	270	eP		P	06 32 04.9	+0.2
PMG	Port Moresby	22.94	174	P		P	06 32 12.5	+1.2
	51nm,0.9s,baz=1.7,slow=6.4,SNR=12							
PMG	Port Moresby	22.94	174	eP		P	06 32 12.3	+1.0
	41nm,0.8s							
SJMP	San Jose	23.10	270	eP		P	06 32 13.6	+0.7
TGY	Tagaytay City	23.18	274	P		P	06 32 14.6	+0.8
	110nm,0.3s,baz=137,slow=4.8,SNR=3.2							
JNU	Nakatsue	23.25	329	P		P	06 32 14.5	+0.4
	12nm,0.9s,baz=154,slow=8.4,SNR=5.5							
MJAR	Matsushiro Arr	23.64	347	P		P	06 32 16.0	-1.6
	2.1nm,0.7s,baz=172,slow=10,SNR=6.0							
MJAR				pP		pP	06 32 44.7	0.0
	7.8nm,1.0s,baz=178,slow=10,SNR=6.0							
MAT	Matsushiro	23.64	347	P		P	06 32 17.0	-0.7
SANI	Sanana	24.26	232	P		P	06 32 22.9	-0.6
TWG	Pinlang	24.32	296	eP		P	06 32 22.7	-1.3
	268nm,1.5s							
SSLB	Suanglung	24.74	298	eP		P	06 32 26.9	-0.9
	22nm,0.8s							
LUWI	Luwuk	26.22	238	eP		P	06 32 40.7	-0.5
	79nm,0.6s							
COEN	Coen	27.39	183	eP		P	06 32 52.5	+0.8
	16nm,1.4s							
KSRS	Korea Array	28.16	331	P		P	06 32 57.8	-0.5
	2.7nm,0.9s,baz=142,slow=9.4,SNR=8.4							
KSRS				pP		pP	06 33 26.8	-0.6
	1.9nm,0.7s,baz=156,slow=9.6,SNR=2.6							
KSAR	Wonju Array Be	28.17	331	P		P	06 32 57.8	-0.6
KSAR				pP		pP	06 33 26.8	-0.7
ERM	Erimo	28.39	357	eP		P	06 33 01.0	+0.7
	47nm,1.0s							
MTN	Manton Dam	29.52	208	eP		P	06 33 10.6	0.0
	16nm,1.4s							
NJ2	Nanjing	30.05	312	eP		P	06 33 14.1	-1.0
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.5s							
BNSI	Bone	30.32	236	P		P	06 33 20.5	+2.8
	17nm,1.3s,2μm							
EDFI	Ende, Flores	31.90	227	P		P	06 33 32.6	+0.9
	5.0nm,0.6s							
CTAO	Charters Tower	33.47	178	eP		P	06 33 46.0	+0.8
	13nm,0.8s							
SBUM	Sibu	34.05	254	eP		P	06 33 49.7	-0.6
	4.3nm,0.8s							
WRAB	Tennant Creek	34.84	197	eP		P	06 33 57.0	0.0
	19nm,1.1s							
WB2	Warramunga Arr	34.84	197	eP		P	06 33 57.2	+0.1
WRA	Warramunga Arr	34.85	197	P		P	06 33 57.6	+0.6
	7.6nm,0.8s,baz=19,slow=9.3,SNR=60							
KSM	Kuching	36.18	254	eP		P	06 34 07.8	-0.8
	23nm,1.2s							
AS01	Alice Springs	38.49	196	eP		P	06 34 28.4	+0.5
AS31	Alice Springs	38.50	196	eP		P	06 34 28.8	+0.7
	2.2nm,0.5s							
ASAR	Alice Springs	38.50	196	P		P	06 34 28.9	+0.9
	2.8nm,0.5s,baz=20,slow=13,SNR=35							
EIDS	Eidsvold	39.17	171	eP		P	06 34 33.9	+0.4
	6.0nm,0.8s							
SKNT	Sakolnakorn	39.48	280	P		P	06 34 36.9	+0.6
	5.4nm,0.7s							
HHC	Hu-ho-hao-te	39.75	319	eP		P	06 34 40.4	+2.0
HHC				pmax		pmax		
	comp=Z,25nm,1.0s							
HHC				pmax		pmax		
	comp=Z,150nm,6.1s							
KMI	Kunming	41.16	293	P		P	06 34 51.5	+1.2
KMI				pmax		pmax		
	comp=Z,22nm,0.5s							
DZM	Mont Dzumac	41.28	149	eP		P	06 34 53.6	+2.5
	51nm,0.8s							
CD2	Chengdu	41.45	302	eP		P	06 34 51.5	-0.9
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				pmax		pmax		
	comp=Z,120nm,5.0s							
SRAK	Srakaew

LZH				*e*S	S	06 41 21.4	+1.1		
LZH				sS	sS	06 42 15.3	+1.9		
LZH				SS	SS	06 44 29.1	-8.4		
LZH				pmax	pmax				
	comp=Z,20nm,1.0s								
LZH				pmax	pmax				
	comp=Z,98nm,4.3s								
LZH				LR	LR				
	comp=N,1μm,13.0s								
LZH				LR	LR				
	comp=E,1μm,14.1s								
LZH				LR	LR				
	comp=Z,1μm,16.0s								
UTHA	**Uthaitani**	**43.89**	**278**	P	**P**	**06 35 13.1**	**+0.9**		
	4.2nm,0.6s								
MDSI	**Maura Dua**	**44.13**	**249**	P	**P**	**06 35 13.7**	**-0.4**		
	17nm,1.2s,1μm								
CM01	**Chiang Mai Arr**	**44.25**	**283**	*e*P	**P**	**06 35 15.5**	**+0.5**		
CMAR	**Chiang Mai Arr**	**44.26**	**283**	P	**P**	**06 35 15.8**	**+0.7**		
	4.6nm,0.7s,baz=85,slow=6.1,SNR=19								
KULM	**Kulim**	**44.26**	**264**	*e*P	**P**	**06 35 15.9**	**+0.6**		
	25nm,1.0s								
RGRI	**Rengat**	**44.28**	**255**	P	P	06 35 10.8	-4.6		
	733nm,0.4s,60μm								
UMPA	**Umpang Tak**	**44.41**	**279**	P	**P**	**06 35 19.0**	**+2.6**		
STKA	**Stephens Creek**	**45.28**	**184**	P	**P**	**06 35 23.5**	**+0.6**		
	7.9nm,0.7s,baz=348,slow=9.2,SNR=17								
STKA	**Stephens Creek**	**45.28**	**184**	*e*P	**P**	**06 35 21.8**	**-1.1**		
	1.9nm,0.8s								
ULN	**Ulaanbaatar**	**46.37**	**325**	*e*P	**P**	**06 35 32.2**	**+0.7**		
PSI	**Prapat**	**46.56**	**261**	P	**P**	**06 35 33.0**	**-0.5**		
	9.3nm,0.7s,baz=170,slow=0.5,SNR=12								
PSI	**Prapat**	**46.56**	**261**	*e*P	**P**	**06 35 33.4**	**-0.1**		
	12nm,0.9s								
SONM	**Songino Array**	**46.72**	**325**	P	**P**	**06 35 34.1**	**-0.1**		
	2.0nm,1.1s,baz=138,slow=9.7,SNR=6.3								
BBOO	**Buckleboo**	**46.86**	**190**	*e*P	**P**	**06 35 36.2**	**+0.9**		
	18nm,0.6s								
KCSI	**Kotacane, Aceh**	**47.48**	**262**	P	**P**	**06 35 40.0**	**-0.5**		
	25nm,1.1s,362nm								
GSI	**Gunungsitoli**	**48.28**	**259**	*e*P	**P**	**06 35 45.3**	**-1.4**		
	15nm,0.6s								
GSI	**Gunungsitoli**	**48.28**	**259**	P	**P**	**06 35 46.8**	**+0.2**		
WMQ	**Urumqi**	**57.11**	**314**	*e*P	**P**	**06 36 52.3**	**+1.1**		
WMQ				LR	LR				
	comp=E,160nm,18.7s								
WMQ				LR	LR				
	comp=Z,130nm,23.9s								
MKAR	**Makanchi Array**	**61.47**	**316**	P	**P**	**06 37 19.9**	**-1.1**		
	1.1nm,0.6s,baz=84,slow=9.3,SNR=4.4								
MKAR				pP	**pP**	**06 37 53.2**	**-0.5**		
	2.1nm,0.9s,baz=83,slow=9.9,SNR=3.3								
ZALV	**Zalesovo Beam**	**61.61**	**324**	P	**P**	**06 37 20.5**	**-1.3**		
	0.5nm,0.3s,baz=124,slow=12,SNR=5.4								
RPZ	**Rata Peaks**	**61.84**	**159**	P	**P**	**06 37 22.8**	**-0.6**		
	10nm,0.7s,baz=146,slow=10.0,SNR=4.7								
ILAR	**Eielson Array**	**68.62**	**25**	P	**P**	**06 38 04.5**	**-2.5**		
	0.5nm,0.4s,baz=250,slow=5.9,SNR=17								
ARU	**Arti**	**76.75**	**325**	*e*P	**P**	**06 38 54.5**	**-0.7**		
	4.2nm,0.6s								
YKA	**Yellowknife Ar**	**82.92**	**27**	P	**P**	**06 39 27.0**	**-1.2**		
	0.4nm,0.4s,baz=286,slow=5.1,SNR=6.3								
NVAR	**Mina Array Bea**	**86.99**	**51**	P	**P**	**06 39 50.3**	**+1.0**		
	0.8nm,0.6s,baz=275,slow=5.4,SNR=5.3								
NVAR				pP	**pP**	**06 40 23.2**	**-0.8**		
	0.6nm,0.6s,baz=273,slow=5.2,SNR=3.3								
TORD	**Torodi Ar. Bea**	**134.83**	**304**	PKP	**PKPdf**	**06 46 22.6**	**0.0**		
	0.7nm,0.6s,baz=83,slow=1.6,SNR=5.6								
KIC	**Kosan Boka**	**143.86**	**301**	*e*PKP1	PKPab	06 46 36.6	+0.2		
	51nm,1.7s								
TIC	**Toumodi**	**143.93**	**302**	*e*PKP1	PKPab	06 46 36.7	0.0		
LIC	**Lamto**	**144.17**	**301**	*e*PKP1	**PKPab**	**06 46 37.6**	**0.0**		
	24nm,0.9s								
LVC	**Limon Verde**	**146.78**	**111**	*e*PKPbc	**PKPab**	**06 46 48.0**	**+0.3**		
LPAZ	**La Paz**	**148.08**	**99**	PKPbc	**PKPbc**	**06 46 51.1**	**+0.9**		
	7.0nm,0.6s,baz=301,slow=2.3,SNR=44								

*ISCJB **22** 06:32:22.8±0.4, 4˚.83N±0˚.02×126˚.51E±0˚.03, h93km±3km, mb4.6/67, Error ellipse: s-maj=6.0km s-min=3.0km az=161.0*
*IDC **22** 06:32:24.2±1.6, 4˚.79N×126˚.24E, h82km±14km, mb4.3/22, mb1 4.4/25, mb1mx4.2/46, mbtmp4.6/25, MS3.4/18, Ms1 3.4/18, ms1mx3.3/34, Error ellipse: s-maj=19.3km s-min=9.6km az=76.0*
*NEIC **22** 06:32:25.0±0.6, 4˚.90N×126˚.46E, h98km±5km, mb4.6/28, Error ellipse: s-maj=6.0km s-min=3.6km az=66.0*
*BJI **22** 06:32:24.3, 4˚.77N×126˚.21E, h101km, mb4.8/33, mB5.0/22*
*KLM **22** 06:32:24.0, 4˚.99N×126˚.69E, h106km, mb4.7*
*MAN **22** 06:32:24.5, 4˚.67N×126˚.10E, h27km, mb5.2, ML4.1, MS4.2*
*DJA **22** 06:32:27.5±0.6, 4˚.N±4˚×12˚.6E±˚, h70km±4km, M4.8/19, mb4.9/19, mB5.2/12, MLv5.0/5, Mw(mB)4.6/12*

ISC 22 06:32:25.4±0.7, **4˚.79N**±0˚.03×**126˚.42E**±0˚.05, **h98**km±6km, **n193**,σ**1$81**/205, **mb4.6**/67, **4C-2D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.42**	**219**	P	**Pn**	**06 32 48.7**	**-1.9**
DDMP	**Don Marcelino,**	**1.48**	**332**	*e*P	**Pn**	**06 32 48.6**	**-2.8**
DDMP				*e*S	**Sn**	**06 33 07.0**	**-4.1**
GSPH	**General Santos**	**1.95**	**311**	||*i*P	**Pn**	**06 32 55.0**	**-2.4**
GSPH				*i* S	**Sn**	**06 33 18.5**	**-3.2**
DAV	**Davao City (W)**	**2.41**	**340**	P	**Pn**	**06 33 02.4**	**-1.0**
	229nm,0.3s,baz=54,slow=8.7,SNR=3.0						
DAV				S	**Sn**	**06 33 36.0**	**+3.6**
	242nm,0.3s,baz=109,slow=22,SNR=8.4						
DAV	**Davao City (W)**	**2.41**	**340**	*e*Pn	**Pn**	**06 33 01.6**	**-1.7**
DAV				*e*Sn	**Sn**	**06 33 29.1**	**-3.4**
DAV				S	**Sn**	**06 33 36.0**	**+3.6**
BUKP	**Musuan**	**3.35**	**336**	*e*P	**Pn**	**06 33 15.2**	**-0.7**
BUKP				*e*S	**Sn**	**06 33 55.4**	**+0.6**
BIPH	**Bislig**	**3.37**	**359**	||*e*P	**Pn**	**06 33 13.0**	**-3.1**
BIPH	**Bislig**	**3.37**	**359**	||*i*P	**Pn**	**06 33 18.4**	**+2.3**
BIPH				*i* S	**Sn**	**06 34 01.1**	**+5.8**
CGP	**Cagayan de Oro**	**4.02**	**335**	||*e*P	**Pn**	**06 33 26.2**	**+1.3**
CGP				*e*S	Sn	06 34 20.8	+10
TNTI	**Ternate**	**4.11**	**167**	*e*Pn	**Pn**	**06 33 25.1**	**-0.9**
TNTI				*e*Sn	**Sn**	**06 34 10.6**	**-2.4**
TNTI	**Ternate**	**4.11**	**167**	P	**Pn**	**06 33 24.1**	**-1.9**
BUTP	**Butuan**	**4.22**	**349**	*e*P	**Pn**	**06 33 29.2**	**+1.5**
IPIL	**Ipil**	**4.85**	**308**	*e*P	**Pn**	**06 33 35.7**	**-0.4**
IPIL				*e*S	**Sn**	**06 34 29.9**	**-1.1**
KMSI	**Cibinong**	**4.85**	**210**	P	**Pn**	**06 33 34.6**	**-1.5**
MSLP	**Maasin**	**5.53**	**344**	*e*P	**Pn**	**06 33 47.9**	**+2.6**
MSLP				*e*S	Sn	06 34 2.2	+8.6
LLP	**Lapu-Lapu**	**6.00**	**336**	*e*P	**Pn**	**06 33 52.1**	**+0.3**
LLP				*e*S	**Sn**	**06 35 05.5**	**+6.3**
MRSI	**Marisa**	**6.20**	**226**	P	**Pn**	**06 33 53.6**	**-0.8**
	291nm,0.5s,4μm						
MRSI				S	**Sn**	**06 35 00.9**	**-3.0**
	291nm,0.5s,4μm						
MRSI	**Marisa**	**6.20**	**226**	P	**Pn**	**06 33 54.5**	**+0.1**
OCLP	**Ormoc**	**6.47**	**344**	*e*P	**Pn**	**06 34 01.3**	**+3.2**
SANI	**Sanana**	**6.81**	**184**	P	**Pn**	**06 33 59.1**	**-3.7**
	71nm,0.7s,4μm						
LUWI	**Luwuk**	**6.85**	**212**	*e*Pn	**Pn**	**06 34 07.0**	**+3.7**
LUWI				*e*Sn	**Sn**	**06 35 27.6**	**+7.8**
LUWI	**Luwuk**	**6.85**	**212**	P	**Pn**	**06 34 02.4**	**-0.9**
	498nm,0.7s,9μm						
LUWI	**Luwuk**	**6.85**	**212**	P	Pn	06 34 07.9	+4.6
SWI	**Sorong**	**7.41**	**139**	P	**Pn**	**06 34 08.3**	**-2.7**
	71nm,0.5s,1μm						
SIJI	**Sorong**	**7.42**	**139**	P	**Pn**	**06 34 09.8**	**-1.3**
	13nm,0.3s,baz=194,slow=22,SNR=13						
SIJI				S	**Sn**	**06 35 30.7**	**-3.1**
	2.7nm,0.3s,baz=196,slow=20,SNR=4.8						
RCP	**Roxas**	**7.64**	**332**	||*e*P	**Pn**	**06 34 16.3**	**+2.2**
MPSI	**Mapaga**	**7.88**	**236**	P	**Pn**	**06 34 17.8**	**+0.5**
NLAI	**Namlea**	**8.01**	**175**	P	**Pn**	**06 34 16.7**	**-2.4**
	126nm,0.5s,6μm						
CUYO	**Cuyo Island**	**8.05**	**319**	*e*P	**Pn**	**06 34 20.2**	**+0.5**
FAKI	**Fak Fak**	**9.62**	**143**	*e*Pn	**Pn**	**06 34 40.7**	**-0.4**
FAKI	**Fak Fak**	**9.62**	**143**	P	**Pn**	**06 34 39.4**	**-1.7**
	85nm,0.9s						
KDM	**Kudat**	**9.77**	**283**	P	**Pn**	**06 34 46.0**	**+3.0**
TTSI	**Tana Toraja**	**10.21**	**220**	P	**Pn**	**06 34 48.7**	**-0.3**
KKM	**Kota Kinabalu**	**10.24**	**277**	*e*Pn	**Pn**	**06 34 49.4**	**-0.1**
KKM	**Kota Kinabalu**	**10.24**	**277**	P	**Pn**	**06 34 50.0**	**+0.5**
SPSI	**Sidrap Palu**	**10.95**	**217**	P	**Pn**	**06 34 58.3**	**-0.8**
BNSI	**Bone**	**11.10**	**215**	P	**Pn**	**06 35 00.1**	**-1.0**
MTKI	**Muara Teweh, K**	**12.85**	**244**	P	**Pn**	**06 35 26.6**	**+2.1**
SAUI	**Saumlaki**	**13.59**	**159**	*e*Pn	**Pn**	**06 35 35.6**	**+1.4**
MMRI	**Maumere**	**13.98**	**197**	*e*Pn	**Pn**	**06 35 40.7**	**+1.5**

EDFI	**Ende, Flores**	**14.26**	**199**	P	**Pn**	**06 35 42.5**	**-0.4**		
	45nm,0.7s								
SBUM	**Sibu**	**14.36**	**261**	*e*Pn	**Pn**	**06 35 45.0**	**+0.8**		
SBUM	**Sibu**	**14.36**	**261**	P	**P**	**06 35 48.0**	**-0.3**		
SOEI	**Soe**	**14.61**	**188**	*e*Pn	**Pn**	**06 35 47.5**	**0.0**		
SOEI	**Soe**	**14.61**	**188**	P	**Pn**	**06 35 46.3**	**-1.2**		
BATI	**Baumata**	**15.15**	**190**	P	**Pn**	**06 35 52.1**	**-2.2**		
	1.7nm,0.3s,baz=299,slow=16,SNR=2.1								
WBSI	**Waikabubak, Su**	**15.96**	**206**	P	**Pn**	**06 36 04.5**	**+0.1**		
PLAI	**Plampang**	**16.04**	**213**	P	**Pn**	**06 36 05.7**	**+0.3**		
KSM	**Kuching**	**16.42**	**259**	*e*Pn	**P**	**06 36 11.4**	**+0.2**		
	53nm,0.9s								
KSM	**Kuching**	**16.42**	**259**	P	**Pn**	**06 36 11.0**	**+0.9**		
TWSI	**Taliwang, Sumb**	**16.47**	**215**	P	**Pn**	**06 36 11.1**	**+0.4**		
MTN	**Manton Dam**	**18.14**	**165**	P	**P**	**06 36 29.0**	**-1.0**		
	baz=18,SNR=9.1								
MTN	**Manton Dam**	**18.14**	**165**	*e*P	**Pn**	**06 36 31.1**	**+0.1**		
	23nm,1.1s								
YULB	**Yu-li**	**19.14**	**346**	*e*P	**P**	**06 36 39.0**	**-2.0**		
	41nm,1.6s								
TPUB	**Ta-pu**	**19.23**	**344**	*e*P	**P**	**06 36 40.9**	**-1.1**		
	21nm,0.5s								
SSLB	**Suanglung**	**19.61**	**345**	*e*P	**P**	**06 36 44.7**	**-1.4**		
	12nm,0.6s								
GUMO	**Guam**	**20.18**	**63**	LR	LR	06 43 22.4			
	comp=Z,138nm,21.1s,baz=120,slow=32								
KNRA	**Kununurra**	**20.47**	**174**	P	**P**	**06 36 56.7**	**+1.3**		
	baz=21,SNR=15								
KPJI	**Karang Pucung**	**21.21**	**235**	P	**P**	**06 37 06.8**	**+3.4**		
PPBI	**Pangkal Pinang**	**21.41**	**252**	P	**P**	**06 37 09.7**	**+4.1**		
	8.9nm,0.7s,12μm								
JOW	**Kunigami**	**21.99**	**4**	P	**P**	**06 37 12.0**	**+0.5**		
	29nm,0.9s,baz=107,slow=7.1,SNR=4.8								
JOW				LR	LR	06 44 46.5			
	comp=Z,54nm,19.7s,baz=82,slow=34								
LEM	**Lembang**	**22.03**	**239**	LR	LR	06 47 01.6			
	comp=Z,59nm,19.3s,baz=52,slow=40								
MYKOM	**Kota Tinggi**	**22.73**	**263**	*e*P	**P**	**06 37 19.6**	**+0.2**		
	87nm,1.6s								
MYKOM	**Kota Tinggi**	**22.73**	**263**	P	**P**	**06 37 19.0**	**-0.4**		
FITZ	**Fitzroy Crossi**	**22.76**	**182**	P	**P**	**06 37 19.8**	**+0.1**		
	baz=23,SNR=12								
FITZ	**Fitzroy Crossi**	**22.76**	**182**	*e*P	**P**	**06 37 19.7**	**+0.1**		
	29nm,1.1s								
FITZ				*e*S	**S**	**06 41 23.6**	**+2.5**		
MDSI	**Maura Dua**	**24.05**	**248**	P	**P**	**06 37 33.9**	**+2.2**		
	16nm,0.8s								
COEN	**Coen**	**24.97**	**138**	P	**P**	**06 37 37.5**	**-2.5**		
	baz=25,SNR=6.5								
COEN	**Coen**	**24.97**	**138**	*e*P	**P**	**06 37 40.5**	**+0.5**		
	6.7nm,0.8s								
PMG	**Port Moresby**	**25.02**	**124**	LR	LR	06 50 00.4			
	comp=Z,61nm,19.3s,baz=342,slow=42								
SKNT	**Sakolnakorn**	**25.10**	**301**	P	**P**	**06 37 41.5**	**+0.3**		
	6.9nm,0.9s,808nm								
IPM	**Ipoh**	**25.31**	**270**	*e*P	**P**	**06 37 42.1**	**-1.2**		
	24nm,1.1s								
KULM	**Kulim**	**25.68**	**272**	*e*P	**P**	**06 37 46.5**	**+0.1**		
	15nm,1.0s								
KULM	**Kulim**	**25.68**	**272**	P	**P**	**06 37 46.0**	**-0.5**		
BKNI	**Bangkinang**	**25.73**	**261**	*e*P	**P**	**06 37 47.8**	**+0.8**		
	60nm,0.5s								
SKLT	**Songkhla**	**25.77**	**277**	P	**P**	**06 37 48.7**	**+1.4**		
	27nm,1.1s								
WRAB	**Tennant Creek**	**25.78**	**163**	*e*P	**P**	**06 37 47.4**	**0.0**		
	17nm,0.8s								
WRA	**Warramunga Arr**	**25.79**	**163**	P	**P**	**06 37 47.6**	**+0.3**		
	8.3nm,0.7s,baz=342,slow=10,SNR=36								
WRA				S	**S**	**06 42 07.7**	**-1.9**		
	0.6nm,1.0s,baz=337,slow=16,SNR=5.4								
WB2	**Warramunga Arr**	**25.79**	**163**	*e*P	**P**	**06 37 47.7**	**+0.3**		
CHAI	**Chaiyaphum**	**26.41**	**297**	P	**P**	**06 37 53.9**	**+0.8**		
	9.2nm,0.7s								
PDSI	**Padang**	**26.55**	**258**	P	**P**	**06 37 56.5**	**+2.1**		
MBWA	**Marble Bar**	**26.61**	**194**	*e*P	**P**	**06 37 54.9**	**+0.1**		
	16nm,0.8s								
TRTT	**Trang**	**26.73**	**278**	P	**P**	**06 37 57.8**	**+1.8**		
	6.5nm,0.8s								
CBIJ	**Chichi jima**	**26.80**	**32**	*e*P	**P**	**06 37 53.9**	**-2.5**		
	50nm,0.8s								
JCJ	**Chichijima**	**26.80**	**32**	P	**P**	**06 37 57.7**	**+1.3**		
	48nm,0.8s,baz=311,slow=20,SNR=3.7								
JCJ				LR	LR	06 48 21.9			
	comp=Z,46nm,20.6s,slow=36								
KRAB	**Krabi**	**27.26**	**279**	P	**P**	**06 38 04.2**	**+3.5**		
	18nm,0.7s								
PSI	**Prapat**	**27.51**	**267**	P	**P**	**06 38 03.0**	**-0.1**		
	5.7nm,0.5s,baz=175,slow=1.1,SNR=7.5								
PSI				LR	LR	06 49 46.0			
	comp=Z,168nm,20.3s,baz=89,slow=38								
PSI	**Prapat**	**27.51**	**267**	*e*P	**P**	**06 38 02.8**	**-0.3**		
	6.9nm,0.7s								
WHN	**Wuhan**	**28.03**	**337**	P	**P**	**06 38 09.8**	**+2.5**		
NJ2	**Nanjing**	**28.03**	**346**	*e*P	**P**	**06 38 05.4**	**-1.9**		
NJ2				pmax	pmax				
	comp=Z,6.0nm,0.7s								
QIS	**Mount Isa**	**28.33**	**153**	P	**P**	**06 38 08.9**	**-1.3**		
	baz=28,SNR=6.2								
JNU	**Nakatsue**	**28.49**	**8**	LR	LR	06 48 03.4			
	comp=Z,41nm,20.6s,baz=128,slow=33								
UTHA	**Uthaitani**	**28.58**	**294**	P	**P**	**06 38 14.0**	**+1.5**		
	4.2nm,0.8s,91nm								
KCSI	**Kotacane, Aceh**	**28.60**	**269**	P	**P**	**06 38 16.7**	**+4.0**		
	15nm,0.7s,1μm								
NANT	**Nan**	**28.71**	**301**	P	**P**	**06 38 18.2**	**+4.6**		
	2.0nm,0.5s								
GSI	**Gunungsitoli**	**29.01**	**264**	*e*P	**P**	**06 38 14.3**	**-2.0**		
	37nm,0.9s								
SUKH	**Sukhothai**	**29.10**	**298**	P	P	06 38 22.3	+5.3		
	2.4nm,0.5s								
AS31	**Alice Springs**	**29.21**	**166**	*e*P	**P**	**06 38 18.1**	**0.0**		
	2.1nm,0.5s								
ASAR	**Alice Springs**	**29.21**	**166**	P	**P**	**06 38 18.8**	**+0.7**		
	4.3nm,0.6s,baz=346,slow=7.2,SNR=54								
ASAR				PcP	**PcP**	**06 41 24.4**	**+1.2**		
	1.3nm,0.7s,baz=343,slow=2.0,SNR=4.5								
ASAR				S	**S**	**06 43 04.2**	**+0.6**		
	1.2nm,0.8s,baz=350,slow=22,SNR=5.5								
ASAR				ScP	**ScP**	**06 44 58.4**	**+2.3**		
	1.5nm,0.8s,baz=339,slow=1.9,SNR=8.3								
AS01	**Alice Springs**	**29.22**	**166**	*e*P	**P**	**06 38 18.7**	**+0.6**		
UMPA	**Umpang Tak**	**29.33**	**295**	P	P	06 38 24.6	+5.5		
	3.7nm,0.7s,1μm								
WRKA	**Warakurna**	**29.71**	**177**	P	**P**	**06 38 23.1**	**+0.7**		
	baz=30,SNR=17								
CM01	**Chiang Mai Arr**	**30.05**	**299**	*e*P	**P**	**06 38 25.0**	**-0.4**		
CM31	**Chiang Mai Arr**	**30.08**	**299**	*e*P	**P**	**06 38 25.6**	**-0.2**		
CMAR	**Chiang Mai Arr**	**30.08**	**299**	P	**P**	**06 38 25.2**	**-0.5**		
	3.2nm,0.7s,baz=108,slow=6.6,SNR=10								
CMAR				PcP	**PcP**	**06 41 26.8**	**+1.4**		
	0.9nm,0.4s,baz=145,slow=1.4,SNR=5.5								
CMAR				ScP	**ScP**	**06 45 01.1**	**+2.2**		
	1.0nm,0.3s,baz=138,slow=1.3,SNR=5.7								
CMAR				LR	LR	06 52 04.6			
	comp=Z,34nm,18.2s,baz=105,slow=39								
CMMT	**Chiang Mai**	**30.22**	**300**	P	**P**	**06 38 27.6**	**+0.6**		
	6.8nm,0.7s								
CHTO	**Chiang Mai**	**30.22**	**300**	*e*P	**P**	**06 38 26.4**	**-0.6**		
	6.5nm,1.0s								
CHTO	**Chiang Mai**	**30.22**	**300**	P	**P**	**06 38 27.7**	**+0.7**		
KMI	**Kunming**	**30.42**	**314**	P	**P**	**06 38 30.5**	**+1.6**		
KMI				pmax	pmax				
	comp=Z,13nm,0.5s								
JHJ	**Hachijo jima 2**	**30.82**	**22**	LR	LR	06 50 21.4			
	comp=Z,33nm,20.7s,baz=174,slow=35								
JHJ2	**Mitsune**	**30.82**	**22**	*e*P	**P**	**06 38 29.3**	**-2.8**		
	196nm,1.1s								
CTA	**Charters Tower**	**31.49**	**142**	LR	LR	06 52 53.8			
	comp=Z,309nm,21.9s,baz=334,slow=39								
MEEK	**Meekatharra**	**32.15**	**193**	P	**P**	**06 38 44.1**	**+0.2**		
	baz=32,SNR=22								
KSAR	**Wonju Array Be**	**32.52**	**2**	P	**P**	**06 38 48.2**	**+1.3**		
KSRS	**Korea Array**	**32.54**	**2**	P	**P**	**06 38 48.2**	**+1.2**		
	1.7nm,0.5s,baz=190,slow=10,SNR=5.7								
KSRS				LR	LR	06 52 52.9			
	comp=Z,19nm,19.2s,baz=132,slow=38								
XAN	**Xi'an**	**33.33**	**333**	P	**P**	**06 38 52.8**	**-1.3**		
XAN				pP	pP	06 39 13.9	-2.5		
XAN				sP	sP	06 39 25.8	-2.0		
XAN				pmax	pmax				
	comp=Z,27nm,1.0s								
XAN				pmax	pmax				
	comp=Z,100nm,4.1s								
CD2	**Chengdu**	**33.61**	**323**	*e*P	**P**	**06 38 55.5**	**-1.1**		
PBA	**Port Blair**	**34.00**	**284**	*e*P	P	06 38 59.2	-0.9		
	122nm,1.1s								
MORW	**Morawa**	**35.12**	**196**	P	**P**	**06 39 10.0**	**+0.5**		

	baz=36,SNR=6.6								
FORT	**Forrest**	**35.41**	**178**	P	**P**	**06 39 12.7**	**+0.8**		
	baz=36,SNR=9.9								
QLP	**Quilpie**	**35.64**	**152**	P	**P**	**06 39 13.1**	**-1.0**		
	baz=36,SNR=3.8								
KMBL	**Kambalda**	**36.22**	**187**	P	**P**	**06 39 19.6**	**+0.7**		
	baz=36,SNR=6.7								
BJT	**Baijiatuan**	**36.27**	**347**	*e*P	**P**	**06 39 19.2**	**-0.1**		
	16nm,0.6s								
BJI	**Beijing**	**36.29**	**347**	||*e*P	**P**	**06 39 19.3**	**-0.1**		
BJI				pmax	pmax				
	comp=Z,18nm,0.5s								
BLDU	**Ballidu**	**36.41**	**194**	P	**P**	**06 39 20.9**	**+0.3**		
	baz=37,SNR=14								
KLBR	**Kellerberrin**	**37.11**	**192**	P	**P**	**06 39 27.2**	**+0.6**		
	baz=38,SNR=5.2								
LZH	**Lanzhou**	**37.44**	**329**	*e*P	**P**	**06 39 29.8**	**+0.4**		
LZH				pP	pP	06 39 51.3	-0.7		
LZH				sP	sP	06 40 01.3	-2.0		
LZH				*e*S	**S**	**06 45 04.8**	**-6.1**		
LZH				SS	SnSn	06 47 40.6	-18		
LZH				pmax	pmax				
	comp=Z,55nm,1.1s								
LZH				pmax	pmax				
	comp=Z,140nm,4.3s								
MUN	**Mundaring**	**37.84**	**194**	P	**P**	**06 39 33.2**	**+0.6**		
	baz=38,SNR=7.0								
HHC	**Hu-ho-hao-te**	**38.30**	**342**	*e*P	**P**	**06 39 35.3**	**-1.2**		
HHC				pmax	pmax				
	comp=Z,14nm,0.8s								
HHC				pmax	pmax				
	comp=Z,120nm,6.1s								
EIDS	**Eidsvold**	**38.38**	**143**	*e*P	**P**	**06 39 36.2**	**-1.0**		
	39nm,1.5s								
BBOO	**Buckleboo**	**38.50**	**167**	P	**P**	**06 39 39.4**	**+1.2**		
	baz=39,SNR=25								
BBOO	**Buckleboo**	**38.50**	**167**	*e*P	**P**	**06 39 39.3**	**+1.1**		
	12nm,0.6s								
NWAO	**Narrogin (SRO)**	**38.51**	**192**	P	**P**	**06 39 38.2**	**0.0**		
	19nm,0.7s,baz=262,slow=7.0,SNR=8.0								
NWAO	**Narrogin (SRO)**	**38.51**	**192**	P	**P**	**06 39 39.3**	**+1.0**		
	baz=39,SNR=4.4								
NWAO	**Narrogin (SRO)**	**38.51**	**192**	*e*P	**P**	**06 39 38.6**	**+0.4**		
	37nm,1.1s								
SHL	**Shillong**	**39.01**	**306**	*e*P	**P**	**06 39 41.8**	**-1.0**		
	26nm,0.8s								
SHL	**Shillong**	**39.01**	**306**	*e*P	**P**	**06 39 43.0**	**+0.2**		
STKA	**Stephens Creek**	**39.23**	**159**	P	**P**	**06 39 45.6**	**+1.4**		
	7.5nm,0.6s,baz=331,slow=8.9,SNR=23								
STKA				LR	LR	06 57 15.7			
	comp=Z,43nm,20.5s,baz=14,slow=38								
STKA	**Stephens Creek**	**39.23**	**159**	P	**P**	**06 39 45.7**	**+1.4**		
	baz=39,SNR=10								
STKA	**Stephens Creek**	**39.23**	**159**	*e*P	**P**	**06 39 45.0**	**+0.7**		
	1.9nm,0.8s								
USRK	**Ussuriysk Ar.**	**39.55**	**6**	P	**P**	**06 39 48.0**	**+1.3**		
	4.5nm,0.7s,baz=212,slow=7.8,SNR=4.1								
HTT	**Hallett**	**39.82**	**164**	P	**P**	**06 39 49.6**	**+0.3**		
	baz=40,SNR=6.6								

NOA	**NORSAR Array B**	**97.70**	**334**	P	**P**	**06 45 48.3**	**-0.8**
	comp=Z,4.3nm,0.8s,baz=66,slow=4.6,SNR=14						
NOA				LR	LR	07 32 12.0	
	comp=Z,23nm,21.0s,baz=45,slow=37						
TXAR	**Lajitas Array**	**121.19**	**52**	PKP	**PKPdf**	**06 51 08.8**	**+1.1**
	comp=Z,0.2nm,0.8s,baz=191,slow=4.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**122.29**	**289**	PKP	**PKPdf**	**06 51 10.4**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=139,slow=3.2,SNR=10.0						
DBIC	**Dimbokro**	**130.05**	**283**	PKP	**PKPdf**	**06 51 25.4**	**+0.5**
	comp=Z,2.5nm,0.7s,baz=130,slow=15,SNR=3.6						

WEL 22 06:35:52.5, 40°.5S ± 0°.6 × 17°.6E ± °, h30 km ± 2 km, ML3.6/9, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANWZ	**Angora Road**	**0.13**	**79**	P	Pb	06 35 58.3	+0.2
ANWZ				S	Sb	06 36 02.9	+1.1
BFZ	**Birch Farm**	**0.20**	**192**	P	Pb	06 35 59.1	+0.3
BFZ				S	Sb	06 36 03.9	+0.9
PRWZ	**Pori Road**	**0.26**	**255**	P	Pn	06 36 00.0	-0.3
PRWZ				S	Sn	06 36 05.8	+0.4
PRHZ	**Porangahau**	**0.34**	**49**	P	Pb	06 36 00.9	+0.4
PRHZ				S	Sn	06 36 07.3	+0.1
POWZ	**Post Office Ro**	**0.42**	**283**	P	Pb	06 36 01.9	+0.2
POWZ				S	Sn	06 36 08.9	-0.4
CPWZ	**Castlepoint**	**0.43**	**190**	P	Pn	06 36 03.1	+0.5
CPWZ				S	Sn	06 36 11.2	+1.7
TIWZ	**Tintock**	**0.43**	**227**	P	Pn	06 36 02.5	-0.2
TIWZ				S	Sn	06 36 09.8	+0.2
WPHZ	**Waipukurau**	**0.43**	**14**	P	Pb	06 36 02.2	+0.3
WPHZ				S	Sn	06 36 09.9	+0.2
TSZ	**Takapari Road**	**0.50**	**328**	P	Pb	06 36 02.8	-0.1
TSZ				S	Sb	06 36 10.5	+0.4
PNHZ	**Pukenui**	**0.58**	**352**	P	Pb	06 36 04.1	-0.1
PNHZ				S	Sn	06 36 13.0	-0.2
MRZ	**Mangatainoka R**	**0.58**	**252**	P	Pb	06 36 04.3	+0.1
MRZ				S	Sn	06 36 13.1	-0.1
PXZ	**Pawanui**	**0.62**	**43**	P	Pn	06 36 05.3	0.0
TMWZ	**Te Maipa**	**0.69**	**207**	P	Pb	06 36 06.0	-0.2
HOWZ	**Holdsworth Sta**	**0.73**	**235**	P	Pb	06 36 06.5	-0.2
OHWZ	**Ohakea**	**0.81**	**290**	P	Pb	06 36 08.7	+0.7
KAHZ	**Kahuranaki**	**0.82**	**33**	P	Pn	06 36 07.9	-0.2
KRHZ	**Kereru**	**0.84**	**4**	P	Pn	06 36 08.1	-0.2
MTW	**Mount Morrison**	**0.91**	**222**	P	Pb	06 36 08.6	-1.1
MTW				P	Pn	06 36 08.6	-0.7
OGWZ	**Otaki Gorge**	**0.92**	**249**	P	Pn	06 36 09.3	-0.1
BHHZ	**Black Hill Sta**	**1.01**	**349**	P	Pn	06 36 10.8	0.0
BHHZ				P	Pb	06 36 11.0	-0.5
CKHZ	**Cape Kidnapper**	**1.02**	**36**	P	Pn	06 36 10.8	+0.1
TRWZ	**Traveller**	**1.02**	**207**	P	Pn	06 36 10.2	-0.6
KWHZ	**Kaweka Forest**	**1.06**	**5**	P	Pn	06 36 11.3	-0.1
MCHZ	**McNeill Hill**	**1.08**	**16**	P	Pn	06 36 11.7	0.0
PAWZ	**Paruwai Farm**	**1.11**	**216**	P	Pn	06 36 11.3	-0.8
KIW	**Kapiti Island**	**1.12**	**250**	P	Pn	06 36 12.1	-0.1
CAW	**Cannon Point**	**1.12**	**236**	P	Pn	06 36 11.8	-0.4
MOVZ	**Moawhango**	**1.16**	**338**	P	Pn	06 36 13.2	+0.5
MSWZ	**Moikau Station**	**1.23**	**220**	P	Pn	06 36 12.5	-1.1
MSWZ				P	Pb	06 36 12.8	-2.3
WAZ	**Wanganui**	**1.25**	**305**	P	Pb	06 36 15.3	-0.1
MTVZ	**Mangateitei**	**1.27**	**330**	P	Pb	06 36 15.8	-0.1
TUVZ	**Tukino**	**1.31**	**337**	P	Pb	06 36 16.0	-0.7
TRVZ	**Turoa**	**1.32**	**334**	P	Pb	06 36 16.6	-0.2
WHVZ	**Whangaehu Hut**	**1.32**	**335**	P	Pb	06 36 16.6	-0.2
BKZ	**Black Stump Fm**	**1.33**	**6**	P	Pn	06 36 14.8	-0.2
ARHZ	**Aropaoanui**	**1.33**	**24**	P	Pn	06 36 15.2	+0.1
PLWZ	**Palliser**	**1.34**	**216**	P	Pn	06 36 14.0	-1.3
FWVZ	**Far West T-bar**	**1.36**	**335**	P	Pn	06 36 16.3	+0.7
PKVZ	**Pokaka**	**1.40**	**328**	P	Pb	06 36 17.6	-0.5
NGZ	**Ngauruhoe**	**1.42**	**337**	P	Pb	06 36 17.6	-0.8
BHW	**Baring Head**	**1.42**	**229**	P	Pn	06 36 15.4	-0.9
NMHZ	**Naumai**	**1.44**	**16**	P	Pn	06 36 16.8	+0.2
RITZ	**Rihia Road**	**1.54**	**347**	P	Pb	06 36 19.6	-0.9
TWVZ	**Taurewa**	**1.56**	**334**	P	Pb	06 36 19.8	-1.0
RAHZ	**Arahi**	**1.68**	**21**	P	Pn	06 36 19.6	-0.3
MTHZ	**Maungataniwha**	**1.68**	**14**	P	Pb	06 36 21.4	-1.4
TCW	**Tory Channel**	**1.70**	**244**	P	Pn	06 36 19.3	-0.8
TUWZ	**Tuamarina**	**2.02**	**241**	P	Pn	06 36 23.6	-0.9
BSWZ	**Blackbirch Sta**	**2.21**	**235**	P	Pn	06 36 26.2	-0.9
TARZ	**Mount Tarawera**	**2.25**	**4**	P	Pn	06 36 27.5	-0.3
URZ	**Urewera**	**2.31**	**16**	P	Pn	06 36 27.2	-1.3
MWZ	**Matawai**	**2.35**	**24**	P	Pn	06 36 27.7	-1.4
RUGZ	**Raukumara Rang**	**2.73**	**23**	P	Pn	06 36 33.1	-1.4
THZ	**Tophouse**	**2.87**	**242**	P	Pn	06 36 34.8	-1.4
QRZ	**Quartz Range**	**2.89**	**262**	P	Pn	06 36 36.6	+0.1

*ISCJB **22** 06:38:05.4 ± 0.7, 27°.76S ± 0°.03 × 69°.29W ± 0°.05, h112 km ± 12 km, Error ellipse: s-maj=7.8km s-min=4.6km az=175.2*
*GUC **22** 06:38:05.6 ± 0.7, 27°.69S × 69°.64W, h131 km ± 5 km, ML3.7*
*SJA **22** 06:38:07.0 ± 0.3, 27°.82S × 69°.16W, h100 km, ML3.3, MW3.5*

ISC 22 06:38:05.7 ± 1.5, **27.75S** ± 0°.04 × **69.31W** ± 0°.05, **h115** km ± 17 km, **n17**, σ **1°04**/29, **1C, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO03	**Copiap**	**0.83**	**280**	*e*P	**Pn**	**06 38 26.1**	**+0.3**
GO03				*e*S	**Sn**	**06 38 40.7**	**-0.2**
GO03				IAML		06 38 42.8	
	comp=N,2 μm,0.1s						
LCO	**Las Campanas**	**1.75**	**224**	*e*P	**Pn**	**06 38 36.5**	**+0.4**
LCO				*e*S	**Sn**	**06 38 59.5**	**+0.2**
LCO				IAML		06 39 01.1	
	comp=N,552nm,0.5s						
AGUA	**GUANDACOL**	**1.88**	**158**	*e*P	**Pn**	**06 38 37.9**	**+0.4**
AGUA				*e*S	**Sn**	**06 39 00.3**	**-1.6**
AROD	**Rodeo**	**2.42**	**183**	*e*P	**Pn**	**06 38 46.2**	**+1.7**
AROD				*e*S	**Sn**	**06 39 15.4**	**+1.1**
ACDV	**Cuesta del Vie**	**2.42**	**176**	*e*P	**Pn**	**06 38 45.6**	**+1.2**
ACDV				IAML		06 38 46.9	
	comp=Z,69nm,0.2s						
GO02	**Mina Guanaco**	**2.58**	**354**	*i*P	**Pn**	**06 38 47.5**	**+0.8**
GO02				*e*S	**Sn**	**06 39 19.0**	**+0.8**
GO02				IAML		06 39 25.2	
	comp=E,330nm,0.1s						
ACLC	**CERRO LA CRUZ**	**2.67**	**129**	*e*P	**Pn**	**06 38 47.9**	**+0.3**
LSCH	**La Serena**	**2.74**	**218**	*e*P	**Pn**	**06 38 47.9**	**-0.5**
LSCH				*e*S	**Sn**	**06 39 20.0**	**-1.2**
LSCH				IAML		06 39 21.8	
	comp=E,160nm,0.2s						
GO04	**Tololo Observa**	**2.75**	**208**	*e*P	**Pn**	**06 38 48.6**	**-0.1**
GO04				*e*S	**Sn**	**06 39 20.4**	**-1.4**
GO04				IAML		06 39 25.1	
	comp=N,939nm,0.5s						
ACCO	**Cerro Coronel**	**2.84**	**176**	*e*P	**Pn**	**06 38 51.6**	**+1.6**
CYA	**Choya**	**3.18**	**103**	*e*P	**Pn**	**06 38 54.6**	**+0.4**
CYA				*e*S	**Sn**	**06 39 29.7**	**-2.0**
PB14	**IPOC Station P**	**3.26**	**342**	*e*P	**Pn**	**06 38 55.5**	**-0.1**
PB14				*e*S	**Sn**	**06 39 33.0**	**-1.0**
PB14				IAML		06 39 41.4	
	comp=N,138nm,0.5s						
AMOG	**MOGNA**	**3.26**	**167**	*e*P	**Pn**	**06 38 56.2**	**+0.8**
AMOG				*e*S	**Sn**	**06 39 32.9**	**-0.8**
RTLL	**Cerro Villicun**	**3.65**	**169**	*e*P	**Pn**	**06 39 01.5**	**+1.1**
RTLL				*e*S	**Sn**	**06 39 41.9**	**-0.9**
AHML	**Horco Molle**	**3.67**	**76**	*e*P	**Pn**	**06 39 01.6**	**+0.8**
RTLS	**Leoncito**	**4.04**	**180**	*e*S	**Sn**	**06 39 52.5**	**-0.1**
RTLS				IAML		06 39 53.7	
	comp=Z,68nm,0.5s						
RTCV	**Cerro Valdivia**	**4.16**	**171**	*e*P	**Pn**	**06 39 08.1**	**+0.9**
RTCV				*e*S	**Sn**	**06 39 54.0**	**-1.0**

*NIED **22** 07:15:00, 37°.60N × 142°.70E, h29 km, Mw3.6 Best double couple: $M_0$2.40000×10^{14} NP1:ϕ_s29.00000°, δ40.00000°, λ84.00000°. NP2:ϕ_s216.00000°, δ50.00000°, λ95.00000°.*
*JMA **22** 07:15:02.8 ± 0.4, 37°.57N × 142°.66E, h12 km ± 3 km, M3.8*
*IDC **22** 07:15:02.4 ± 0.8, 37°.52N × 142°.64E, h0 km, mb3.6/11, mb1 3.8/14, mb1mx3.7/31, mbtmp3.6/14, ML3.0/3, MS2.9/2, Ms1 2.9/2, ms1mx2.4/37, Error ellipse: s-maj=22.1km s-min=19.5km az=102.0*
*ISCJB **22** 07:15:03.6 ± 0.6, 37°.52N ± 0°.04 × 142°.66E ± 0°.06, h21 km, mb3.6/11, MS3.4/1, Error ellipse: s-maj=6.5km s-min=6.0km az=27.5*

ISC 22 07:15:05.7 ± 0.7, **37°.58N** ± 0°.05 × **142°.59E** ± 0°.06, **h21** km, **n37**, σ **1°07**/35, **mb3.7**/11, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**1.15**	**310**	P	**Pn**	**07 15 25.0**	**-1.5**
JIKH				*e*S	**Sb**	**07 15 40.8**	**-0.5**
JIO	**Ouri**	**1.31**	**312**	P	**Pn**	**07 15 27.5**	**-1.3**
JFK	**Kawauchi**	**1.38**	**262**	P	**Pn**	**07 15 28.6**	**-1.2**
JFK				*e*S	**Sb**	**07 15 47.3**	**-0.7**
JMM	**Marumori**	**1.45**	**282**	P	**Pn**	**07 15 29.6**	**-1.1**
ONAJ	**Iwakimizuishiy**	**1.50**	**252**	P	**Pn**	**07 15 30.4**	**-1.1**
JKMT	**Kesennumamotoy**	**1.51**	**325**	P	**Pn**	**07 15 30.5**	**-1.0**
JOU	**Okura**	**1.71**	**298**	P	**Pn**	**07 15 34.1**	**-0.2**
JMK	**Ichinoseki**	**1.74**	**322**	P	**Pn**	**07 15 34.1**	**-0.6**
JMK				*e*S	**Sn**	**07 15 56.9**	**+0.6**
JFT	**Otama**	**1.79**	**269**	P	**Pn**	**07 15 35.6**	**+0.2**
JYS	**Shirataka**	**2.10**	**289**	P	**Pn**	**07 15 40.5**	**+0.9**
JOM	**Ohasama**	**2.15**	**332**	P	**Pn**	**07 15 40.6**	**+0.3**
JYK	**Kaneyama**	**2.21**	**308**	P	**Pn**	**07 15 41.2**	**+0.1**
MJAR	**Matsushiro Arr**	**3.65**	**255**	Pn	**Pn**	**07 16 00.7**	**-0.3**
	1.9nm,0.3s,baz=77,slow=14,SNR=8.2						
MJAR				Sn	**Sb**	**07 16 51.7**	**-1.7**
	0.7nm,0.3s,baz=50,slow=9.9,SNR=4.1						
MAT	**Matsushiro**	**3.65**	**255**	P	**Pn**	**07 16 03.1**	**+2.1**
MAT				*e*S	**Sn**	**07 16 44.7**	**+1.2**
JHJ	**Hachijo jima 2**	**5.01**	**208**	Sn	**Sn**	**07 17 14.9**	**-1.9**
	9.5nm,0.3s,baz=66,slow=19,SNR=2.9						
ASAJ	**Asahikawa**	**6.53**	**0**	Pn	**Pn**	**07 16 41.4**	**+0.9**
	0.7nm,0.3s,baz=180,slow=6.1,SNR=4.6						
ASAJ				Sn	**Sn**	**07 17 52.9**	**-1.4**
	0.5nm,0.3s,baz=221,slow=19,SNR=2.5						
USRK	**Ussuriysk Ar.**	**10.39**	**313**	Pn	**Pn**	**07 17 35.2**	**+1.7**
	0.1nm,0.3s,baz=133,slow=36,SNR=2.6						
KSRS	**Korea Array**	**11.65**	**274**	LR	LR	07 22 11.9	
	comp=Z,20nm,18.9s,baz=235,slow=37						
H11N2	**WAKE ISLAND Hy**	**27.64**	**123**	T	T	07 49 44.2	
	baz=316,slow=75,SNR=42						
H11N1	**WAKE ISLAND Hy**	**27.65**	**123**	T	T	07 49 38.9	
	baz=316,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hy**	**27.66**	**123**	T	T	07 49 45.2	
	baz=316,slow=75,SNR=27						
SONM	**Songino Array**	**28.27**	**303**	P	**P**	**07 20 57.6**	**+0.1**
	0.4nm,0.6s,baz=105,slow=9.1,SNR=4.8						
H11S1	**WAKE ISLAND Hy**	**28.39**	**125**	T	T	07 50 43.7	
	baz=317,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**28.39**	**125**	T	T	07 50 39.9	
	baz=317,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**28.41**	**125**	T	T	07 50 41.9	
	baz=317,slow=76,SNR=16						
ZALV	**Zalesovo Beam**	**42.24**	**312**	P	**P**	**07 22 57.2**	**0.0**
	1.0nm,0.6s,baz=98,slow=18,SNR=3.2						
MKAR	**Makanchi Array**	**44.62**	**302**	P	**P**	**07 23 18.0**	**+1.4**
	1.0nm,0.8s,baz=95,slow=9.0,SNR=4.1						
ILAR	**Eielson Array**	**48.53**	**33**	P	**P**	**07 23 46.7**	**-0.2**
	0.4nm,0.7s,baz=258,slow=5.8,SNR=6.7						
BVAR	**Borovoye Array**	**50.90**	**312**	LR	LR	07 47 02.7	
	comp=Z,36nm,21.2s,baz=72,slow=38						
WRA	**Warramunga Arr**	**57.74**	**189**	P	**P**	**07 24 54.4**	**-0.7**
	0.9nm,0.7s,baz=7.6,slow=7.2,SNR=12						
ASAR	**Alice Springs**	**61.47**	**189**	P	**P**	**07 25 20.6**	**-0.2**
	0.2nm,0.6s,baz=24,slow=9.6,SNR=4.8						
YKA	**Yellowknife Ar**	**62.86**	**31**	P	**P**	**07 25 29.4**	**-0.3**
	0.5nm,0.9s,baz=273,slow=12,SNR=3.1						
GEYT	**Alibeck**	**64.39**	**299**	P	**P**	**07 25 39.6**	**-0.6**
	0.5nm,0.4s,baz=56,slow=19,SNR=2.4						
PDAR	**Pinedale Array**	**76.61**	**46**	P	**P**	**07 26 55.5**	**+0.5**
	0.1nm,0.5s,baz=338,slow=6.8,SNR=2.1						
GERES	**GERESS Array B**	**82.73**	**329**	P	**P**	**07 27 27.3**	**-0.7**
	0.2nm,0.2s,baz=46,slow=8.8,SNR=2.2						
TXAR	**Lajitas Array**	**89.05**	**53**	P	**P**	**07 28 00.4**	**+0.8**
	0.1nm,0.5s,baz=305,slow=3.2,SNR=3.0						
TORD	**Torodi Ar. Bea**	**117.60**	**316**	PKP	**PKPdf**	**07 33 52.4**	**+1.8**
	0.1nm,0.6s,baz=76,slow=6.1,SNR=2.3						

MEX 22 07:35:35.4 ± 0.5, **14°.31N** × **93°.22W, h16** km ± 52 km, **MD4.0, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.10**	**57**	*e*P	Pb	07 35 52.5	-3.4
THIG				*i* S	Sb	07 36 05.4	-4.7
PCIG		**1.39**	**0**	*e*P	Pn	07 35 56.5	-3.5
PCIG				*i* S	Sn	07 36 18.5	-5.5
CCIG	**Comitan**	**2.22**	**28**	*i* P	Pn	07 36 09.4	-2.2
CCIG				*e*P	Pb	07 36 11.9	-3.3
CCIG				*i* S	Sn	07 36 35.1	-3.8

*GDNRW **22** 08:25:11.1 ± 0.2, 51°.52N × 6°.50E, h1 km, ML2.3*
*ISCJB **22** 08:25:11.6 ± 0.4, 51°.49N ± 0°.02 × 6°.50E ± 0°.03, h0 km, Error ellipse: s-maj=3.0km s-min=2.0km az=151.0*
*BUG **22** 08:25:11.5 ± 0.0, 51°.51N × 6°.49E, h1 km, ML2.2*
*BGR **22** 08:25:12.6 ± 0.4, 51°.50N × 6°.52E, h1 km, ML2.4/6, Error ellipse: s-maj=5.6km s-min=3.3km az=114.0*
*BNS **22** 08:25:12.9 ± 1.1, 51°.49N × 6°.51E, h1 km, ML2.1*
*LDG **22** 08:25:13.1 ± 0.2, 51°.49N × 6°.54E, h1 km, Md2.9/2, Ml2.9/6, Error ellipse: s-maj=3.5km s-min=1.8km az=176.0, Suspected Mining induced.*

ISC 22 08:25:11.2 ± 0.8, **51°.47N** ± 0°.02 × **6°.46E** ± 0°.02, **h0** km, **n52**, σ **0°89**/92, **Germany**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRHE	**Rheinberg**	**0.08**	**57**	Pg	**Pg**	**08 25 13.4**	**+0.6**
BRHE				Sg	**Sg**	**08 25 14.6**	**+0.8**
LAUG	**Laupendahl**	**0.33**	**112**	*e*Pg	**Pg**	**08 25 18.5**	**+1.1**
LAUG				*e*Sg	**Sg**	**08 25 23.0**	**+1.4**
	123nm,0.5s						
HES	**Velbert-Hesper**	**0.38**	**106**	*e*Pg	**Pg**	**08 25 18.6**	**+0.2**
RWB	**Wassenberg**	**0.42**	**208**	*e*Pg	**Pb**	**08 25 20.4**	**-1.0**
RWB				*e*Sg	**Sb**	**08 25 27.3**	**-1.0**
	406nm,0.7s						
BUG	**Bochum--Univer**	**0.51**	**93**	*e*Pg	**Pg**	**08 25 21.6**	**+0.7**
BUG				Sg	**Sg**	**08 25 28.7**	**+1.3**
PLH	**Pulheim**	**0.52**	**154**	*e*Pg	**Pg**	**08 25 22.2**	**+1.1**
PLH				*e*Sg	**Sg**	**08 25 29.5**	**+1.7**
	978nm,0.5s						
WTSB	**Winterswijk**	**0.54**	**23**	*e*Pg	**Pg**	**08 25 22.1**	**+0.6**
WTSB				*e*Sg	**Sg**	**08 25 29.6**	**+1.1**
WTSB	**Winterswijk**	**0.54**	**23**	*e*Pg	**Pg**	**08 25 22.1**	**+0.6**
WTSB				*e*Sg	**Sg**	**08 25 27.7**	**-0.8**
ENTS	**Ennepetalsperr**	**0.64**	**111**	*e*Pg	**Pg**	**08 25 23.8**	**+0.3**
ENTS				*e*Sg	**Sg**	**08 25 32.4**	**+0.8**
BNS	**Bensberg**	**0.68**	**138**	*e*Pg	**Pb**	**08 25 25.9**	**0.0**
BNS				*e*Sg	**Sb**	**08 25 35.5**	**-0.3**
HOBG	**Hohbusch**	**0.73**	**131**	*e*Pg	**Pb**	**08 25 26.9**	**0.0**
GSH	**Grosshau**	**0.74**	**184**	*e*Pg	**Pb**	**08 25 26.5**	**-0.4**
GSH				*e*Sg	**Sb**	**08 25 37.3**	**-0.3**
	65nm,0.2s						
HGN	**Heimansgroeve**	**0.78**	**205**	*e*Pn	**Pb**	**08 25 28.2**	**+0.5**
HGN				*e*Pg	**Pn**	**08 25 29.5**	**0.0**
HGN				*e*Sn	**Sb**	**08 25 39.3**	**+0.6**
HGN				*e*Sg	**Sb**	**08 25 41.8**	**0.0**
HGN	**Heimansgroeve**	**0.78**	**205**	*e*Pg	**Pb**	**08 25 28.2**	**+0.5**
HGN				*e*Sg	**Sb**	**08 25 39.4**	**+0.6**
DREG	**Dreilaegerbach**	**0.82**	**190**	*e*Pg	**Pb**	**08 25 28.8**	**+0.4**
KLL	**Kalltalsperre**	**0.83**	**187**	*e*Pg	**Pb**	**08 25 28.9**	**+0.4**
BEBN	**Eben Emael**	**0.84**	**216**	P	**Pn**	**08 25 29.7**	**-0.5**
BEBN				S	**Sb**	**08 25 41.4**	**+1.1**
	comp=E,9.6nm,0.0s						
WBS	**Wahnbachtalspe**	**0.84**	**142**	*e*Pg	**Pg**	**08 25 28.1**	**+0.7**
WBS				*e*Sg	**Sb**	**08 25 39.7**	**-0.9**
	comp=E,118nm,0.4s						
BMOL	**Mol**	**0.90**	**254**	P	**Pn**	**08 25 31.5**	**+0.4**
BMOL				S	**Sn**	**08 25 43.8**	**-1.0**
MEM	**Membach**	**0.91**	**199**	*e*Pg	**Pb**	**08 25 30.4**	**+0.6**
MEM				*e*Sg	**Sb**	**08 25 43.1**	**+0.6**
MEM	**Membach**	**0.91**	**199**	P	**Pb**	**08 25 30.3**	**+0.5**
MEM				S	**Sb**	**08 25 42.9**	**+0.4**
	comp=E,81nm,0.0s						
STB	**Steinbach**	**0.91**	**165**	*e*Pg	**Pn**	**08 25 31.0**	**-0.2**
TDN	**Todenfeld**	**0.95**	**161**	*e*Pg	**Pb**	**08 25 30.4**	**-0.1**
TDN				*e*Sg	**Sb**	**08 25 43.4**	**-0.2**
	comp=E,125nm,0.2s						
SORT	**Sorpetalsperre**	**0.95**	**97**	*e*Pg	**Pg**	**08 25 29.1**	**-0.3**
SORT				*e*Sg	**Sg**	**08 25 42.2**	**+0.4**
	comp=E,65nm,0.5s						
OLFT	**Oleftalsperre**	**0.98**	**182**	*e*Pg	**Pb**	**08 25 31.1**	**0.0**
OLFT				*e*Sg	**Sb**	**08 25 44.8**	**+0.3**
BLCH	**La Chartreuse**	**0.99**	**213**	P	**Pn**	**08 25 33.5**	**+1.1**
BLCH				S	**Sn**	**08 25 46.5**	**-0.6**
	comp=E,48nm,0.0s						
AHRW	**Bad Neuenahr-A**	**1.01**	**157**	*e*Pg	**Pn**	**08 25 32.5**	**-0.1**
AHRW				*e*Sg	**Sb**	**08 25 46.0**	**+0.7**
BSTI	**Sart Tilman**	**1.05**	**213**	P	**Pn**	**08 25 33.5**	**+0.3**
BHOU	**Houvegnez**	**1.16**	**195**	P	**Pn**	**08 25 35.0**	**+0.4**
BHOU				S	**Sn**	**08 25 50.4**	**-0.7**
	comp=N,6.0nm,0.0s						
IBBN	**Ibbenburen**	**1.16**	**43**	*e*Pg	**Pg**	**08 25 33.8**	**+0.4**
BCLA	**Clavier**	**1.28**	**215**	P	**Pn**	**08 25 37.5**	**+1.2**
BCLA				S	**Sn**	**08 25 55.0**	**+0.8**
	comp=E,34nm,0.0s						
LOH	**Wallersheim-Lo**	**1.29**	**178**	*e*Pg	**Pb**	**08 25 36.5**	**+0.2**
LOH				*e*Sg	**Sn**	**08 25 54.1**	**-0.4**
	comp=E,76nm,0.5s						
BGES	**Gesves**	**1.39**	**219**	P	**Pb**	**08 25 38.9**	**+0.8**
BGES				S	**Sn**	**08 25 57.7**	**+0.7**
	comp=N,28nm,0.0s						
RCHB	**Rochefort**	**1.53**	**211**	P	**Pg**	**08 25 41.5**	**+0.9**
RCHB				S	**Sn**	**08 26 02.2**	**+1.8**
BMRD	**Maredsous**	**1.59**	**223**	P	**Pg**	**08 25 42.0**	**+0.4**
BMRD				S	**Sg**	**08 26 02.4**	**+0.2**
SNF	**Seneffe**	**1.68**	**236**	S	**Sg**	**08 26 05.7**	**+0.5**
BSKQ	**Steenkerk**	**1.71**	**242**	S	**Sg**	**08 26 07.1**	**+0.9**
GIVF	**Givet**	**1.72**	**218**	*e*Pn	**Pn**	**08 25 42.9**	**+0.5**
GIVF				*e*Sn	**Sn**	**08 26 04.9**	**-0.1**
	comp=N,29nm,0.2s						
TNS	**Taunus Mts**	**1.77**	**134**	*e*Sg	**Sb**	**08 26 07.2**	**-0.3**
DOU	**Dourbes**	**1.82**	**221**	P	**Pb**	**08 25 44.9**	**-0.4**
DOU				S	**Sg**	**08 26 09.3**	**-0.2**
WLF	**Walferdange**	**1.82**	**186**	*e*Sg	**Sg**	**08 26 10.2**	**+0.6**
WLF	**Walferdange**	**1.82**	**186**	P	**Pb**	**08 25 45.2**	**-0.2**
BAIF	**Baives**	**2.01**	**226**	*e*Pn	**Pn**	**08 25 46.7**	**+0.3**
BAIF				*e*Sn	**Sn**	**08 26 11.5**	**-0.7**
CDF	**Champ du Feu**	**3.11**	**170**	*e*Pn	**Pn**	**08 26 01.5**	**0.0**
CDF				*e*Sn	**Sn**	**08 26 37.2**	**-2.2**
CDF				*e*Sg	**Sg**	**08 26 51.0**	**0.0**
	comp=N,4.9nm,0.5s						
HAU	**Haudompre**	**3.47**	**181**	*e*Pn	**Pn**	**08 26 06.7**	**+0.2**
HAU	**Haudompre**	**3.47**	**181**	*e*Pg	**Pg**	**08 26 17.7**	**0.0**
HAU				*e*Sn	**Sn**	**08 26 46.1**	**-2.1**
HAU				*e*Sg	**Sg**	**08 27 02.4**	**-0.2**
	comp=N,8.0nm,0.4s						
LOR	**Lormes**	**4.54**	**203**	*e*Pn	**Pn**	**08 26 21.1**	**0.0**
LOR				*e*Sn	**Sn**	**08 27 11.7**	**-2.8**
LOR				*e*Sg	**Sg**	**08 27 35.9**	**-1.0**
	comp=N,5.7nm,0.4s						
SSF	**Saint Saulge**	**4.82**	**205**	*e*Pn	**Pn**	**08 26 24.7**	**-0.3**
CABF	**La Chapelle**	**4.87**	**183**	*e*Pn	**Pn**	**08 26 25.6**	**-0.2**
AVF	**Avril sur Loir**	**5.11**	**205**	*e*Pn	**Pn**	**08 26 28.5**	**-0.4**
BGF	**Bois d'Agland**	**5.46**	**207**	*e*Pn	**Pn**	**08 26 33.0**	**-0.8**
GRR	**Gorron**	**5.64**	**240**	*e*Pn	**Pn**	**08 26 36.2**	**-0.1**
GRR				*e*Sn	**Sn**	**08 27 37.8**	**-4.0**
	comp=N,7.1nm,0.3s						

IDC 22 08:32:05.2 ± 3.3, **17°.90S** × **176°.06W, h0** km, **mb3.8**/3, **mb1 3.9**/4, **mb1mx3.6**/30, **mbtmp3.8**/4, **ML3.6**/1, **Error ellipse: s-maj=172.1km s-min=32.3km az=145.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.72**	**47**	Pn	Pn	08 33 31.6	+0.1
	1.7nm,0.3s,baz=221,slow=11,SNR=4.7						
AFI

CGJI **Cibinong** 9.62 283 P Pn 09 11 47.7 -0.2
943nm,0.6s,10µm
STKI **Sintang** 9.68 338 P Pn 09 11 55.9 +7.3
91nm,0.9s,16µm
MPSI **Mapaga** 10.40 28 P Pn 09 12 00.2 +1.7
LUWI **Luwuk** 10.96 45 *e*Pn Pn 09 12 05.3 -0.9
LUWI **Luwuk** 10.96 45 P Pn 09 12 19.2 +13
KASI **Kota Agung** 11.07 287 P Pn 09 12 19.9 +12
KSM **Kuching** 11.42 335 *e*Pn Pn 09 12 12.2 -0.2
KSM **Kuching** 11.42 335 P Pn 09 12 18.0 +5.5
MRSI **Marisa** 11.59 36 P Pn 09 12 28.5 +14
SBUM **Sibu** 11.70 346 *e*Pn Pn 09 12 16.6 +0.3
SBUM **Sibu** 11.70 346 P Pn 09 12 22.0 +5.7
MDSI **Maura Dua** 11.73 292 P Pn 09 12 17.3 +0.6
22nm,0.9s
SANI **Sanana** 12.82 58 P P 09 12 37.7 -1.6
128nm,0.8s,1µm
MNAI **Manna** 12.91 290 *e*Pn Pn 09 12 31.2 -1.5
MBWA **Marble Bar** 12.91 160 *e*Pn Pn 09 12 26.8 -5.8
NLAI **Namlea** 13.21 65 P P 09 12 44.2 +0.6
167nm,1.0s
GIRL **Giralia** 13.62 183 P Pn 09 12 36.6 -5.4
baz=13,SNR=38
FITZ **Fitzroy Crossi** 13.68 133 P Pn 09 12 40.0 -2.7
baz=14,SNR=127
FITZ **Fitzroy Crossi** 13.68 133 *e*Pn Pn 09 12 39.9 -2.9
MASI **Maura Aman, Be** 14.04 294 P Pn 09 12 49.1 +1.5
186nm,0.7s
KKM **Kota Kinabalu** 14.95 4 *e*Pn Pn 09 13 00.8 +1.4
KKM **Kota Kinabalu** 14.95 4 P P 09 13 08.0 +4.9
BNDI **Bandanaira** 15.34 74 P P 09 13 11.2 +3.9
717nm,0.7s,6µm
TNTI **Ternate** 15.58 52 *e*Pn Pn 09 13 07.5 +0.2
36nm,0.8s
KDM **Kudat** 15.87 6 P P 09 13 21.0 +7.8
SAUI **Saumlaki** 16.04 88 *e*Pn Pn 09 13 12.6 -0.6
607nm,0.7s
SAUI **Saumlaki** 16.04 88 P P 09 13 16.2 +1.1
920nm,0.7s,7µm
MTN **Manton Dam** 16.20 105 *e*Pn Pn 09 13 12.9 -2.1
99nm,0.4s
PDSI **Padang** 16.63 298 P P 09 13 23.2 +1.5
35nm,0.6s,3µm
BKNI **Bangkinang** 16.78 303 *e*Pn Pn 09 13 22.2 -0.2
104nm,0.4s
KDU **Kakadu** 17.45 104 P P 09 13 30.6 -0.1
baz=18,SNR=11
MEEK **Meekatharra** 17.89 170 P P 09 13 34.7 -0.7
baz=18,SNR=44
SWI **Sorong** 17.98 64 P Pn 09 13 41.0 +4.0
154nm,0.7s,2µm
SIJI **Sorong** 17.98 64 P Pn 09 13 38.9 +1.8
9.1nm,0.3s,baz=241,slow=8.1,SNR=28
SIJI S S 09 16 58.1 +0.1
0.5nm,0.3s,baz=143,slow=20,SNR=2.4
FAKI **Fak Fak** 18.07 72 *e*P P 09 13 37.5 0.0
107nm,0.6s
FAKI *e*Sn Sn 09 16 56.4 -3.1
FAKI **Fak Fak** 18.07 72 P Pn 09 13 38.2 +0.1
IPM **Ipoh** 19.38 313 *e*P P 09 13 52.7 +0.8
16nm,0.7s
BUKP **Musuan** 19.45 31 *e*P Pn 09 13 57.5 +2.8
PSI **Prapat** 19.92 305 P P 09 13 58.7 +0.8
0.7nm,0.3s,baz=180,slow=13,SNR=6.2
PSI **Prapat** 19.92 305 *e*P P 09 13 58.2 +0.3
8.8nm,0.8s
KULM **Kulim** 20.21 314 *e*P P 09 14 01.0 +0.2
8.3nm,0.8s
KULM **Kulim** 20.21 314 P Pn 09 14 08.0 +4.6
GSI **Gunungsitoli** 20.23 299 *e*P P 09 14 01.6 +0.5
18nm,0.4s
GSI *e*S Sn 09 17 47.9 -3.6
WRKA **Warakurna** 20.33 143 P P 09 14 03.1 +0.9
baz=20,SNR=57
RKPI **Ransiki, Papua** 20.37 70 P Pn 09 14 06.9 +1.5
126nm,0.5s,4µm
GUIM **Jordan** 20.84 21 *e*P Pn 09 14 10.2 -0.6
KCSI **Kotacane, Aceh** 21.28 305 P P 09 14 14.5 +2.1
25nm,0.7s,558nm
WR1 **Warramunga Arr** 21.55 123 *e*P P 09 14 15.8 +0.5
23nm,0.9s
WR1 *e*S S 09 18 05.0 -5.0
WR1 *e* 09 26 00.7
WRA **Warramunga Arr** 21.55 123 P P 09 14 15.8 +0.5
7.4nm,0.3s,baz=295,slow=12,SNR=115
WRA S S 09 18 05.0 -5.0
10nm,1.0s,baz=298,slow=21,SNR=13
WRA ScP ScP 09 21 44.5 -0.8
3.2nm,0.6s,baz=310,slow=2.3,SNR=5.7
WRA LR LR 09 22 47.8
comp=Z,58nm,19.2s,baz=275,slow=37
WRA PKiKP PKiKP 09 26 00.7 -1.2
0.4nm,0.4s,baz=308,slow=1.2,SNR=7.0
WRA **Warramunga Arr** 21.55 123 P P 09 14 15.8 +0.5
WRA S S 09 18 05.1 -5.0
WRA pmax pmax
comp=Z,11nm,0.3s
WRA smax smax
comp=N,10.0nm,1.0s
WRA MLR MLR
comp=Z,58nm,19.2s
WRAB **Tennant Creek** 21.56 122 *e*P P 09 14 15.5 +0.1
comp=Z,22nm,0.6s
WRAB **Tennant Creek** 21.56 122 *ce*P P 09 14 15.2 -0.1
WRAB pmax pmax
comp=Z,25nm,1.0s
WB2 **Warramunga Arr** 21.57 122 *e*P P 09 14 15.6 +0.1
WB2 *e*P P 09 14 16.0 +0.6
BLDU **Ballidu** 21.59 176 P P 09 14 15.1 -0.4
baz=21,SNR=18
TPTI **21.61 303** P P 09 14 19.8 +3.9
comp=Z,14nm,0.7s
TRTT **Trang** 22.69 317 P P 09 14 28.1 +0.7
comp=Z,7.0nm,0.7s
MLSI **Meulaboh, Aceh** 22.82 304 P P 09 14 31.9 +3.1
comp=Z,85nm,0.6s
MUN **Mundaring** 22.92 178 P P 09 14 27.1 -2.5
baz=23,SNR=6.0
KMBL **Kambalda** 23.16 165 P P 09 14 31.0 -1.0
baz=23,SNR=5.5
AS31 **Alice Springs** 23.17 131 *e*P P 09 14 32.3 0.0
comp=Z,13nm,0.5s
ASAR **Alice Springs** 23.17 131 P P 09 14 32.5 +0.3
comp=Z,22nm,0.6s,baz=302,slow=8.7,SNR=301
ASAR PcP PcP 09 18 19.1 +0.9
comp=Z,5.0nm,0.4s,baz=304,slow=1.5,SNR=8.7
ASAR S S 09 18 38.5 +0.7
comp=Z,5.1nm,0.9s,baz=325,slow=24,SNR=6.5
ASAR ScP ScP 09 21 49.4 0.0
comp=Z,2.2nm,0.8s,baz=323,slow=2.9,SNR=3.7
ASAR LR LR 09 23 29.7
comp=Z,53nm,20.7s,baz=294,slow=36
AS01 **Alice Springs** 23.20 131 *e*P P 09 14 32.7 +0.1
KRAB **Krabi** 23.30 317 P P 09 14 34.0 +0.6
comp=Z,75nm,0.5s,comp=Z,1µm
TGY **Tagaytay City** 23.64 14 P P 09 14 34.5 -2.0
comp=Z,148nm,0.4s,baz=307,slow=5.1,SNR=2.2
PKDT **Phuket** 23.66 315 P P 09 14 40.2 +3.5
NWAO **Narrogin (SRO)** 23.92 176 P P 09 14 37.8 -1.1
comp=Z,17nm,0.7s,baz=235,slow=8.7,SNR=11
NWAO S S 09 18 56.6 +6.9
comp=Z,9.3nm,0.4s,baz=288,slow=16,SNR=5.2
NWAO **Narrogin (SRO)** 23.92 176 P P 09 14 39.1 +0.2
baz=24,SNR=7.0
FORT **Forrest** 24.84 153 P P 09 14 47.3 +0.1
baz=25,SNR=27
FORT **Forrest** 24.84 153 *e*P P 09 14 47.5 +0.3
comp=Z,62nm,0.8s
RKGY **Rocky Gully** 25.58 176 P P 09 14 54.8 +0.9
baz=25,SNR=11
PATY **Pattaya** 25.95 327 P P 09 14 59.3 +1.9
SRAK **Srakaew** 26.26 330 P P 09 14 59.2 -1.0
comp=Z,58nm,1.0s,comp=Z,479nm
QIS **Mount Isa** 26.30 119 P P 09 15 01.8 +1.2
baz=26,SNR=19
PHET **Kaeng Krachan** 26.62 324 P P 09 15 05.5 +2.0
comp=Z,8.1nm,0.8s,comp=Z,94nm
COEN **Coen** 27.94 103 P P 09 15 17.1 +1.8
baz=28,SNR=14
COEN **Coen** 27.94 103 *e*P P 09 15 15.1 -0.2
comp=Z,13nm,0.7s
SKNT **Sakolnakorn** 28.03 337 P P 09 15 17.1 +1.1
comp=Z,11nm,0.8s,comp=Z,2µm
SRDT **SRDT** 28.07 325 P P 09 15 18.2 +1.7
comp=Z,21nm,0.7s,comp=Z,3µm
UTHA **Uthaitani** 28.89 327 P P 09 15 25.2 +1.5
comp=Z,13nm,0.7s,comp=Z,111nm

NONG **Nongkai** 29.34 336 P P 09 15 29.3 +1.6
comp=Z,0.4nm,1.1s,comp=Z,45nm
UMPA **Umpang Tak** 29.74 327 P P 09 15 31.3 0.0
comp=Z,8.6nm,0.7s,comp=Z,1µm
MTSU **Mount Surprise** 29.78 111 P P 09 15 34.0 +2.3
baz=30,SNR=60
SUKH **Sukhothai** 30.41 330 P P 09 15 39.1 +2.0
comp=Z,3.8nm,0.6s
BBOO **Buckleboo** 30.63 144 P P 09 15 39.1 +0.1
baz=30,SNR=24
BBOO **Buckleboo** 30.63 144 *e*P P 09 15 39.3 +0.3
comp=Z,29nm,0.9s
CM01 **Chiang Mai Arr** 31.54 330 *e*P P 09 15 48.1 +1.0
CM31 **Chiang Mai Arr** 31.58 330 *e*P P 09 15 47.8 +0.3
CMAR **Chiang Mai Arr** 31.58 330 P P 09 15 49.1 +1.6
comp=Z,19nm,0.8s,baz=160,slow=7.9,SNR=70
CMAR PcP PcP 09 18 39.9 +1.5
comp=Z,1.4nm,0.3s,baz=188,slow=3.1,SNR=5.3
CMAR LR LR 09 29 19.3
comp=Z,94nm,18.6s,baz=140,slow=38
CMAR **Chiang Mai Arr** 31.58 330 P P 09 15 49.1 +1.6
CMAR 09 18 39.9
CMAR pmax pmax
comp=Z,14nm,0.8s
CMAR MLR MLR
comp=Z,94nm,18.6s
CMMT **Chiang Mai** 31.88 330 P P 09 15 51.6 +1.5
CHTO **Chiang Mai** 31.88 330 *e*P P 09 15 49.9 -0.2
comp=Z,8.7nm,0.8s
CHTO **Chiang Mai** 31.88 330 *e*P P 09 15 49.9 -0.2
CHTO pmax pmax
comp=Z,9.0nm,0.8s
CHTO **Chiang Mai** 31.88 330 P P 09 15 51.7 +1.6
comp=Z,39nm,1.1s
PAYA **Payao** 31.91 332 P P 09 15 52.7 +2.4
comp=Z,5.6nm,0.9s
CTAO **Charters Tower** 32.05 114 *e*P P 09 15 52.6 +0.9
comp=Z,5.8nm,0.9s
CTAO **Charters Tower** 32.05 114 *e*P P 09 15 52.6 +0.9
CTAO pmax pmax
comp=Z,6.0nm,0.9s
QLP **Quilpie** 32.67 126 P P 09 15 58.9 +1.9
baz=33,SNR=7.1
HTT **Hallett** 32.78 141 P P 09 15 58.9 +1.0
baz=33,SNR=25
STKA **Stephens Creek** 33.52 137 P P 09 16 05.4 +1.1
comp=Z,14nm,0.5s,baz=315,slow=8.7,SNR=59
STKA PcP PcP 09 18 44.5 +0.9
comp=Z,8.4nm,0.4s,baz=331,slow=2.3,SNR=6.3
STKA LR LR 09 31 20.9
comp=Z,49nm,18.3s,baz=334,slow=39
STKA **Stephens Creek** 33.52 137 P P 09 16 05.4 +1.1
baz=33,SNR=39
STKA **Stephens Creek** 33.52 137 *e*P P 09 16 05.4 +1.1
comp=Z,5.5nm,1.1s
STKA *e*PcP PcP 09 18 44.5 +0.9
KMI **Kunming** 35.97 341 P P 09 16 28.6 +2.9
KMI pmax pmax
comp=Z,21nm,0.5s
GYA **Guiyang** 36.16 347 *e*P P 09 16 30.0 +2.8
GYA pmax pmax
comp=Z,10.0nm,1.0s
CMSA **Cobar Meteorol** 36.21 133 P P 09 16 29.1 +1.6
baz=36,SNR=11
RMQ **Roma** 36.32 123 P P 09 16 30.9 +2.4
baz=36,SNR=4.7
ARPS **Mount Arapiles** 36.79 143 P P 09 16 33.4 +1.0
baz=37,SNR=9.4
EIDS **Eidsvold** 37.88 120 P P 09 16 43.6 +1.9
baz=38,SNR=4.7
EIDS **Eidsvold** 37.88 120 *e*P P 09 16 43.1 +1.3
comp=Z,4.6nm,0.5s
PALK **Pallekele** 37.90 294 *e*P P 09 16 41.8 -0.2
comp=Z,31nm,0.9s
PALK **Pallekele** 37.90 294 *i* P P 09 16 41.7 -0.4
SNR=9.9
PALK **Pallekele** 37.90 294 *e*P P 09 16 41.8 -0.2
PALK pmax pmax
comp=Z,31nm,0.9s
WHN **Wuhan** 39.29 359 P P 09 16 54.6 +1.2
YNG **Young** 39.60 135 P P 09 16 56.5 +0.5
baz=40,SNR=7.3
NJ2 **Nanjing** 40.94 5 *e*P P 09 17 07.5 +0.5
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
SHL **Shillong** 41.10 327 *e*P P 09 17 08.3 -0.4
comp=Z,65nm,1.1s
SHL **Shillong** 41.10 327 *e*P P 09 17 08.3 -0.4
SHL pmax pmax
comp=Z,65nm,1.1s
SHL **Shillong** 41.10 327 *e*P P 09 17 10.0 +1.3
CD2 **Chengdu** 41.12 345 P P 09 17 09.0 +0.4
CD2 pmax pmax
comp=Z,140nm,5.0s
H08S2 **Diego Garcia H** 42.17 268 T T 10 02 33.1
baz=95,slow=76,SNR=44
H08S3 **Diego Garcia H** 42.18 269 T T 10 02 45.5
baz=95,slow=76,SNR=46
H08S1 **Diego Garcia H** 42.19 268 T T 10 02 33.7
baz=95,slow=76,SNR=27
XAN **Xi'an** 43.17 352 P P 09 17 26.5 +1.3
XAN pP pP 09 17 43.5 -1.0
XAN pmax pmax
comp=Z,11nm,0.7s
XAN pmax pmax
comp=Z,130nm,5.0s
HYB **Hyderabad** 44.64 306 *i* P P 09 17 36.0 -1.2
LSA **Lhasa** 44.83 330 *e*P P 09 17 40.0 +0.9
comp=Z,24nm,0.9s
LSA **Lhasa** 44.83 330 *e*P P 09 17 40.0 +0.9
LSA pmax pmax
comp=Z,24nm,0.9s
RAMN **Ramite** 45.16 323 *e*P P 09 17 41.7 +0.2
MNCI **Minicoy** 45.26 291 *e*P P 09 17 42.9 +0.7
comp=Z,81nm,1.0s
JIRN **Jiri** 45.93 323 *e*P P 09 17 47.9 +0.2
comp=Z,235nm,0.7s
LZH **Lanzhou** 46.05 347 *e*P P 09 17 50.5 +2.2
LZH pP pP 09 18 06.5 -1.2
LZH sP sP 09 18 14.3 -2.4
LZH PcP PcP 09 19 25.9 +2.4
LZH pmax pmax
comp=Z,25nm,1.0s
GUN **Gumba** 46.30 323 *e*P P 09 17 50.8 +0.2
comp=Z,125nm,0.6s
PKI **Pulchoki** 46.33 323 *e*P P 09 17 50.3 -0.5
PKIN **Phulchoki** 46.34 323 *e*P P 09 17 50.3 -0.5
DMN **Daman** 46.54 322 *e*P P 09 17 52.2 -0.2
comp=Z,108nm,0.7s
KKN **Kakani** 46.57 323 *e*P P 09 17 52.3 -0.3
comp=Z,65nm,0.8s
KOLN **Koldanda** 47.58 321 *e*P P 09 18 00.0 -0.4
comp=Z,130nm,0.8s
KSAR **Wonju Array Be** 47.69 14 P P 09 17 59.4 -1.4
KSAR PcP PcP 09 19 30.4 +1.4
KSAR **Wonju Array Be** 47.69 14 P P 09 17 59.4 -1.4
KSAR 09 19 30.4
KSRS **Korea Array** 47.71 14 P P 09 17 59.4 -1.5
comp=Z,1.2nm,0.7s,baz=208,slow=5.9,SNR=4.9
KSRS PcP PcP 09 19 30.4 +1.3
comp=Z,1.0nm,0.5s,baz=196,slow=4.4,SNR=2.6
KSRS ScP ScP 09 23 17.6 +1.1
comp=Z,0.6nm,0.6s,baz=182,slow=4.7,SNR=3.5
KSRS LR LR 09 40 23.1
comp=Z,16nm,18.1s,baz=188,slow=39
KS01 **Wonju Array Si** 47.73 14 *e*P P 09 18 01.2 +0.1
DANN **Dangsing** 47.90 322 *e*P P 09 18 02.5 -0.5
comp=Z,190nm,0.6s
PYUN **Piuthan** 48.19 321 *e*P P 09 18 04.6 -0.5
comp=Z,98nm,0.8s
HHC **Hu-ho-hao-te** 49.67 356 *e*P P 09 18 18.9 +2.8
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,120nm,5.1s
GTA **Gaotai** 50.18 345 *e*P P 09 18 21.8 +1.8
GTA pP pP 09 18 40.0 +0.3
GTA sP sP 09 18 49.4 +0.7
GTA PcP PcP 09 19 39.5 +1.2
GTA S S 09 25 24.6 -1.6
GTA sS sS 09 25 59.4 -0.4
GTA SS SS 09 28 56.9 -3.9
GTA pmax pmax
comp=Z,7.0nm,0.9s
GTA pmax pmax
comp=Z,84nm,7.2s

MAJO **Matsushiro** 50.21 24 *e*P P 09 18 18.6 -1.6
MAJO *e*PcP PcP 09 19 38.8 +0.6
MAJO **Matsushiro** 50.21 24 *i* P P 09 18 17.5 -2.6
MAJO pmax pmax
comp=Z,5.0nm,0.8s
MAT **Matsushiro** 50.21 24 P P 09 18 22.1 +2.0
MJAR **Matsushiro Arr** 50.21 24 P P 09 18 18.6 -1.6
comp=Z,4.0nm,0.6s,baz=221,slow=9.3,SNR=5.3
MJAR PcP PcP 09 19 38.8 +0.6
comp=Z,3.3nm,0.8s,baz=208,slow=6.7,SNR=3.2
MJAR LR LR 09 39 58.2
comp=Z,10.0nm,20.4s,baz=195,slow=36
MSHR **Mys Shultsa** 53.35 15 *ce*P P 09 18 39.9 -3.5
USRK **Ussuriysk Ar.** 55.08 15 P P 09 18 55.2 -0.7
comp=Z,5.6nm,0.8s,baz=185,slow=7.2,SNR=12
USRK PcP PcP 09 19 53.8 -2.7
comp=Z,3.8nm,0.7s,baz=203,slow=5.9,SNR=2.6
ULN **Ulaanbaatar** 57.03 354 *e*P P 09 19 09.4 -0.6
comp=Z,5.7nm,0.7s
ULN **Ulaanbaatar** 57.03 354 *ce*P P 09 19 08.6 -1.4
ULN pmax pmax
comp=Z,5.0nm,0.7s
SONA0 **Songino Array** 57.08 353 *e*P P 09 19 10.2 0.0
SONA0 *e*PcP PcP 09 20 04.4 +0.1
SONM **Songino Array** 57.08 353 P P 09 19 10.2 0.0
comp=Z,5.8nm,0.6s,baz=175,slow=8.8,SNR=29
SONM PcP PcP 09 20 04.4 +0.1
comp=Z,5.5nm,0.6s,baz=173,slow=4.4,SNR=9.1
SONM ScP ScP 09 23 57.3 +0.2
comp=Z,2.5nm,0.7s,baz=173,slow=4.7,SNR=7.9
SONM LR LR 09 44 35.0
comp=Z,33nm,20.2s,baz=190,slow=37
SONA1 **Songino Array** 57.09 353 *e*P P 09 19 09.9 -0.5
NIL **Nilore** 58.10 319 *e*P P 09 19 16.1 -1.6
comp=Z,18nm,0.9s
NIL **Nilore** 58.10 319 *e*P P 09 19 16.1 -1.6
NIL pmax pmax
comp=Z,18nm,0.9s
WMQ **Urumqi** 58.13 337 *e*P P 09 19 18.3 +0.6
WMQ pP pP 09 19 37.9 +0.1
WMQ pmax pmax
comp=Z,47nm,1.3s
WMQ pmax pmax
comp=Z,280nm,3.9s
RPZ **Rata Peaks** 59.48 136 LR LR 09 45 20.8
comp=Z,57nm,19.3s,baz=284,slow=36
KSH **Kashi** 60.36 326 P P 09 19 32.0 -1.2
KSH PP PP 09 21 47.8 +0.6
KSH S S 09 27 34.8 -7.2
KSH pmax pmax
comp=Z,72nm,0.5s
KSH pmax pmax
comp=Z,220nm,4.1s
KSH LR LR
comp=Z,190nm,7.0s
KSH LR LR
comp=Z,250nm,7.1s
KSH LR LR
comp=Z,190nm,7.8s
PRZ **Przheval'sk** 61.21 330 *e*P P 09 19 40.2 +1.2
comp=Z,22nm,0.6s
PRZ **Przheval'sk** 61.21 330 *e*P P 09 19 40.2 +1.2
PRZ pmax pmax
comp=Z,22nm,0.6s
KDJ **Kajisay** 61.56 329 *e*P P 09 19 41.9 +0.5
comp=Z,20nm,0.6s
KDJ **Kajisay** 61.56 329 *e*P P 09 19 41.9 +0.5
KDJ pmax pmax
comp=Z,20nm,0.6s
NRN **Naryn** 61.69 327 *e*P P 09 19 42.0 -0.4
comp=Z,8.5nm,0.8s
NRN *e*PcP PcP 09 20 24.1 +1.0
NRN **Naryn** 61.69 327 *e*P P 09 19 42.0 -0.4
NRN *e* 09 20 24.1
NRN pmax pmax
comp=Z,9.0nm,0.8s
ULHL **Ulahol** 62.13 328 P P 09 19 45.1 -0.2
SNR=7.4
KZA **Kyzart** 62.54 327 P P 09 19 48.2 0.0
SNR=14
URZ **Urewera** 62.57 128 LR LR 09 47 59.5
comp=Z,41nm,18.4s,baz=288,slow=37
HVS **Khovu-Aksy** 62.66 345 *i* P P 09 19 46.9 -1.5
HVS pmax pmax
comp=Z,5.0nm,0.9s
MK01 **Makanchi Array** 62.72 335 *e*P P 09 19 48.4 -0.5
MK31 **Makanchi Array** 62.75 335 *e*P P 09 19 48.6 -0.4
MK31 **Makanchi Array** 62.75 335 *e*P P 09 19 48.6 -0.4
MK32 **Makanchi Array** 62.75 335 *e*P P 09 19 48.5 -0.6
MK32 *e*PcP PcP 09 20 27.1 +0.2
MKAR **Makanchi Array** 62.75 335 P P 09 19 48.5 -0.5
comp=Z,14nm,0.5s,baz=150,slow=7.2,SNR=154
MKAR PcP PcP 09 20 27.1 +0.2
comp=Z,6.0nm,0.6s,baz=139,slow=5.9,SNR=7.2
MKAR **Makanchi Array** 62.75 335 *e*P P 09 19 48.6 -0.5
comp=Z,94nm,0.5s
MKAR PcP PcP 09 20 27.1 +0.2
TKM2 **Tokmak 2** 62.95 328 P P 09 19 50.5 -0.1
SNR=25
UCH **Uchtor** 63.03 327 P P 09 19 51.5 0.0
SNR=12
KBK **Karagaybulak** 63.10 328 P P 09 19 52.0 +0.4
SNR=25
DGZ **Jazzator, Alta** 63.24 340 *c* *i* P P 09 19 52.1 -0.3
DGZ pmax pmax
comp=Z,7.0nm,0.8s
AAK **Ala-Archa** 63.33 327 LR LR 09 50 00.6
comp=Z,34nm,18.2s,baz=136,slow=38
AAK **Ala-Archa** 63.33 327 P P 09 19 53.3 +0.2
SNR=13
AAK **Ala-Archa** 63.33 327 *e*P P 09 19 53.3 +0.2
comp=Z,18nm,0.8s
AAK **Ala-Archa** 63.33 327 *i* P P 09 19 53.2 0.0
SNR=18
AAK **Ala-Archa** 63.33 327 *c* *i* P P 09 19 53.1 0.0
AAK pmax pmax
comp=Z,20nm,1.0s
FRU **Bishkek** 63.40 328 *e*P P 09 19 51.0 -2.4
FRU *e* 09 20 28.0
AML **Almayashu** 63.41 327 P P 09 19 54.1 +0.2
SNR=6.4
EKS2 **Erkin-Say** 63.73 327 P P 09 19 56.0 +0.2
SNR=20
USP **Ospenovka** 63.76 328 P P 09 19 55.6 -0.3
SNR=10
MNAS **Manas** 64.30 326 P P 09 19 59.7 +0.2
MNAS pmax pmax
comp=Z,42nm,0.8s
KK31 **Karatay Array** 65.81 326 *e*P P 09 20 08.4 -0.7
KK31 **Karatay Array** 65.81 326 *e*P P 09 20 08.4 -0.7
KKAR **Karatay Array** 65.81 326 *e*P P 09 20 08.4 -0.7
KKAR **Karatay Array** 65.81 326 *e*P P 09 20 08.4 -0.7
UOSS **Minazif** 66.53 302 *e*P P 09 20 12.9 -1.2
comp=Z,19nm,0.8s
UOSS **Minazif** 66.53 302 *i* P P 09 20 13.4 -0.7
SNR=7.5
HATD **Hatta, Dubai** 66.55 302 *i* P P 09 20 14.0 -0.2
SNR=8.7
ASHO **Ashiyiah** 66.56 302 P P 09 20 13.9 -0.4
SNR=16
ALNE **Al Ain** 66.58 301 *i* P P 09 20 13.9 -0.5
SNR=6.4
FAQ **Al Faqa, Dubai** 66.97 302 P P 09 20 16.3 -0.6
FAQ **Al Faqa, Dubai** 66.97 302 *i* P P 09 20 16.4 -0.5
SNR=38
SHME **Shamm** 67.01 303 *i* P P 09 20 16.7 -0.5
SNR=5.3
ASUD **Al Ashush, Dub** 67.15 301 P P 09 20 17.9 -0.2
ASUD **Al Ashush, Dub** 67.15 301 *i* P P 09 20 17.8 -0.2
SNR=16
KURK **Kurchatov** 67.33 336 *e*P P 09 20 18.0 -0.6
comp=Z,6.7nm,0.6s
KURK **Kurchatov** 67.33 336 *ce*P P 09 20 17.2 -1.4
KURK pmax pmax
comp=Z,24nm,1.7s
ZAA0 **Zalesovo Array** 67.71 341 *e*P P 09 20 19.8 -1.1
comp=Z,6.9nm,0.7s
ZALV **Zalesovo Beam** 67.71 341 P P 09 20 19.8 -1.1
comp=Z,6.0nm,0.3s,baz=147,slow=3.9,SNR=19
ZALV **Zalesovo Beam** 67.71 341 *e*P P 09 20 19.4 -1.5
ZALV **Zalesovo Beam** 67.71 341 *i* P P 09 20 20.0 -0.9
ZALV pmax pmax
comp=Z,6.0nm,0.3s
ZAA1 **Zalesovo Array** 67.71 341 *e*P P 09 20 19.8 -1.1
MAW **Mawson** 67.98 199 P P 09 20 22.7 +0.3
comp=Z,8.6nm,0.7s,baz=101,slow=9.7,SNR=16

MAW LR LR 09 44 42.4
comp=Z,37nm,18.7s,baz=42,slow=31
MAW Mawson 67.98 199 P **P** 09 20 22.5 0.0
baz=68,SNR=9.8
MAW Mawson 67.98 199 *eP* **P** 09 20 22.7 +0.3
comp=Z,2.2nm,0.8s
GEYT Alibeck 70.68 315 P **P** 09 20 39.4 -0.3
comp=Z,11nm,0.7s,baz=178,slow=4.5,SNR=25
GYA0B ALIBECK ARRAY 70.68 315 *eP* **P** 09 20 39.0 -0.8
comp=Z,34nm,1.0s
PETK Petropavlovsk- 71.64 25 P **P** 09 20 45.4 +0.3
comp=Z,4.1nm,0.8s,baz=148,slow=1.0,SNR=6.0
PEA1 Petropavlovsk- 71.64 25 *eP* **P** 09 20 45.4 +0.3
BRVK Borovoye 72.58 334 *eP* **P** 09 20 50.2 -0.5
comp=Z,8.8nm,0.7s
BRVK Borovoye 72.58 334 *ceP* **P** 09 20 49.5 -1.2
BRVK pmax pmax
comp=Z,14nm,0.8s
VNDA Vanda 72.64 170 P **P** 09 20 51.1 +0.4
comp=Z,3.5nm,0.5s,baz=314,slow=7.0,SNR=35
VNDA LR LR 09 50 31.0
comp=Z,31nm,20.7s,baz=330,slow=34
VNDA Vanda 72.64 170 *eP* **P** 09 20 51.4 +0.6
comp=Z,7.1nm,0.8s
VNDA Vanda 72.64 170 *eP* **P** 09 20 51.4 +0.6
VNDA pmax pmax
comp=Z,7.0nm,0.8s
RAYN Ar Rayn 75.25 297 *eP* **P** 09 21 06.5 -0.6
comp=Z,50nm,1.0s
RAYN Ar Rayn 75.25 297 *i* P **P** 09 21 06.6 -0.5
SNR=41
RAYN Ar Rayn 75.25 297 *eP* **P** 09 21 06.5 -0.6
RAYN pmax pmax
comp=Z,50nm,1.0s
ABKAR Akbulak array 75.36 326 *eP* **P** 09 21 06.7 -0.4
AKTO Aktyubinsk 77.05 327 LR LR 10 00 19.2
comp=Z,30nm,18.7s,baz=119,slow=40
KMBO Kilima Mbogo 77.83 271 P **P** 09 21 22.6 +0.5
comp=Z,4.3nm,0.6s,baz=63,slow=9.4,SNR=14
KMBO Kilima Mbogo 77.83 271 *eP* **P** 09 21 21.4 -0.7
comp=Z,5.7nm,0.7s
KMBO Kilima Mbogo 77.83 271 *i* P **P** 09 21 22.7 +0.6
KMBO pmax pmax
comp=Z,4.0nm,0.6s
SVE Sverdlovsk 79.27 333‖ *eP* **P** 09 21 28.4 -0.3
SVE pmax pmax
comp=Z,27nm,0.9s
ARU Arti 79.99 332 *c iP* **P** 09 21 31.8 -0.8
ARU *PP **pP** 09 21 51.8 -2.0
ARU 09 24 31.4
ARU S **S** 09 31 30.9 +0.8
ARU SS **SS** 09 36 42.4 +0.5
ARU pmax pmax
comp=Z,21nm,1.0s
QSPA South Pole Qui 81.03 180 P **P** 09 21 38.5 +0.2
baz=314,slow=2.9
QSPA South Pole Qui 81.03 180 *eP* **P** 09 21 38.5 +0.2
QSPA *eP* **P** 09 21 38.6 +0.3
GNI Garni 81.09 313 P **P** 09 21 39.2 +0.1
comp=Z,5.6nm,0.4s,baz=173,slow=2.5,SNR=5.4
GNI Garni 81.09 313 *ceP* **P** 09 21 38.5 -0.6
GNI pmax pmax
comp=Z,52nm,1.3s
TBLG Delisi 81.62 315 *eP* **P** 09 21 41.9 +0.2
comp=Z,27nm,0.9s
TBLG Delisi 81.62 315 *eP* **P** 09 21 41.9 +0.2
TBLG pmax pmax
comp=Z,27nm,0.9s
AKH Akhalkalaki 82.40 314 *eP* **P** 09 21 46.7 +0.7
comp=Z,28nm,1.0s
AKH Akhalkalaki 82.40 314‖ *iP* **P** 09 21 47.0 +1.0
AKH Akhalkalaki 82.40 314 *eP* **P** 09 21 46.7 +0.7
AKH pmax pmax
comp=Z,28nm,1.0s
ZEI Tsey 82.56 315 *eP* **P** 09 21 45.2 -1.7
ZEI pmax pmax
comp=Z,24nm,1.0s
NEY Neytrino 83.53 316 *i* P **P** 09 21 50.9 -0.9
NEY pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 83.56 316 P **P** 09 21 52.2 +0.6
comp=Z,13nm,0.9s,baz=117,slow=6.1,SNR=25
KIV Kislovodsk 83.78 316 *eP* **P** 09 21 52.1 -0.9
KIV pmax pmax
comp=Z,16nm,1.0s
MBAR Mbarara 84.35 270 *i* P **P** 09 21 55.4 -1.2
LSZ Lusaka 84.74 255 *eP* **P** 09 21 59.3 +0.8
comp=Z,45nm,0.6s
LSZ Lusaka 84.74 255 *eP* **P** 09 21 59.3 +0.8
LSZ pmax pmax
comp=Z,45nm,0.6s
BILL Bilibino 84.86 17 *eP* **P** 09 21 57.3 -0.5
BILL pmax pmax
comp=Z,4.0nm,1.2s
ASF Jabal al Asfar 84.89 304 P **P** 09 22 00.3 +1.4
comp=Z,18nm,0.8s,baz=42,slow=3.5,SNR=31
BOSA Boshof 85.64 242 P **P** 09 22 03.4 +0.6
comp=Z,9.0nm,0.7s,baz=88,slow=3.9,SNR=14
BOSA LR LR 09 52 09.3
comp=Z,39nm,21.4s,baz=32,slow=30
NVL N'lazarevskaya 85.93 199 *eP* **P** 09 22 05.6 +2.5
NVL pmax pmax
comp=Z,9.0nm,0.9s
EIL Elat 85.95 301 P **P** 09 22 04.9 +0.8
comp=Z,10nm,0.8s,baz=131,slow=6.9,SNR=8.2
MMAI Mount Meron Ar 86.31 304 P **P** 09 22 07.3 +1.4
comp=Z,8.2nm,0.5s,baz=94,slow=7.6,SNR=21
VRH Novokhopyorsk 86.71 323 *eP* **P** 09 22 06.5 -0.8
VRH pmax pmax
comp=Z,50nm,0.7s
ANN Anapa 87.63 316 *eP* **P** 09 22 09.4 -2.4
ANN *e*PP **pP** 09 22 30.9 -2.4
ANN *eS* **SKSac** 09 32 28.4 -4.4
ANN *eSS* **SS** 09 38 32.5 -2.7
ANN pmax pmax
comp=Z,57nm,1.2s
VORD Divnogorie 88.10 322 *eP* **P** 09 22 13.3 -0.6
VORD pmax pmax
comp=Z,40nm,0.8s
VSR Storozhevoye 88.25 322 *eP* **P** 09 22 13.7 -0.9
VSR pmax pmax
comp=Z,90nm,0.8s
CSS Mathiatis 88.41 306 *eP* **P** 09 22 15.7 -0.1
comp=Z,27nm,0.8s
LPSR Galich'ya Gora 88.78 324 *eP* **P** 09 22 16.8 -0.3
LPSR pmax pmax
comp=Z,30nm,0.7s
SUR Sutherland 88.86 238 P **P** 09 22 19.5 +1.2
comp=Z,4.3nm,0.6s,baz=107,slow=7.4,SNR=9.8
BR101 Keskin Array S 89.17 310 *eP* **P** 09 22 19.2 -0.3
BR131 Keskin Array S 89.17 310 *eP* **P** 09 22 19.4 -0.1
BRTR Keskin Array B 89.17 310 P **P** 09 22 19.2 -0.3
comp=Z,14nm,0.9s,baz=123,slow=6.1,SNR=40
BRTR LR LR 10 05 34.9
comp=Z,11nm,18.4s,baz=98,slow=38
SNAA Sanae 89.98 196 P **P** 09 22 23.8 +1.2
SNAA Sanae 89.98 196 *eP* **P** 09 22 23.7 +1.2
comp=Z,14nm,1.1s
SNAA Sanae 89.98 196 *eP* **P** 09 22 23.7 +1.2
SNAA pmax pmax
comp=Z,14nm,1.1s
OBN Obninsk 90.80 326‖ *eP* **P** 09 22 25.7 -0.8
OBN pmax pmax
comp=Z,13nm,0.9s
VNA2 Neumayer--Watz 91.62 196 P **P** 09 22 31.3 +1.2
baz=109,slow=3.7
VNA1 Neumayer--Stat 92.01 196 P **P** 09 22 33.2 +1.3
VNA3 Neumayer Olymp 92.05 195 P **P** 09 22 33.0 +0.9
AKASG Malin Array Be 94.27 321 P **P** 09 22 41.4 -1.2
comp=Z,5.0nm,0.7s,baz=83,slow=4.3,SNR=13
AKASG Malin Array Be 94.27 321 *i* P **P** 09 22 41.5 -1.1
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKBB Malin Array Si 94.27 321 *eP* **P** 09 22 41.8 -0.8
comp=Z,7.2nm,0.8s
KIEV Kiev 94.28 320 *eP* **P** 09 22 41.5 -1.1
comp=Z,6.7nm,0.8s
KIEV Kiev 94.28 320 *i* P **P** 09 22 41.7 -0.9
KIEV pmax pmax
comp=Z,6.0nm,0.8s
AK11 Malin Array Si 94.30 320 *eP* **P** 09 22 41.4 -1.3
VRI Vrincioaia 95.24 315‖ *iP* **P** 09 22 46.0 -1.2
PLOR Plostina 95.29 315‖ *iP* **P** 09 22 43.4 -4.1
BURAR Bucovina Array 96.48 317‖ *iP* **P** 09 22 53.3 +0.4
BUR04 Bucovina Ar. S 96.48 317 *eP* **P** 09 22 52.6 -0.3
BUR08 Bucovina Ar. S 96.49 317 *eP* **P** 09 22 52.4 -0.6

FIA0 FINESS Array S 97.34 331 *eP* **P** 09 22 55.4 -0.9
FIA0 *e*PKiKP **PKiKP** 09 27 31.4 +0.3
FIA0 FINESS Array S 97.34 331 *eP* **P** 09 22 55.4 -0.9
FINES FINESS Array B 97.34 331 P **P** 09 22 55.4 -0.9
comp=Z,6.9nm,0.6s,baz=104,slow=6.2,SNR=34
FINES PKiKP **PKiKP** 09 27 31.4 +0.3
comp=Z,2.2nm,0.9s,baz=104,slow=3.9,SNR=5.4
FINES PKKP **PKKPbc** 09 39 35.1 -1.9
comp=Z,5.6nm,1.1s,baz=252,slow=3.8,SNR=5.3
FINES LR LR 10 14 34.5
comp=Z,42nm,19.8s,baz=64,slow=40
FINES FINESS Array B 97.34 331 *i* P **P** 09 22 55.7 -0.6
FINES pmax pmax
comp=Z,7.0nm,0.6s
ARA0 ARCESS Array S 98.20 339 *eP* **P** 09 22 58.5 -1.6
ARA0 *e*PKiKP **PKiKP** 09 27 32.9 +0.6
ARCES ARCESS Array B 98.20 339 P **P** 09 22 58.5 -1.6
comp=Z,7.8nm,1.0s,baz=98,slow=5.0,SNR=5.5
ARCES PKiKP **PKiKP** 09 27 32.9 +0.6
comp=Z,6.2nm,1.0s,baz=108,slow=2.9,SNR=2.7
SPITS Spitsbergen Ar 100.51 348 Pdiff **Pdif** 09 23 09.4 -0.9
comp=Z,6.4nm,0.8s,baz=75,slow=17,SNR=3.0
ILAR Eielson Array 101.47 26 Pdiff **Pdif** 09 23 14.4 -0.3
comp=Z,0.3nm,0.8s,baz=194,slow=7.2,SNR=2.7
ILAR PKKPbc **PKKPbc** 09 39 23.6 -1.9
comp=Z,1.4nm,0.9s,baz=96,slow=1.3,SNR=11
ILB Eielson Array 101.47 26 *e*Pdif **Pdif** 09 23 14.4 -0.3
HFS Hagfors 103.41 330 Pdiff **Pdif** 09 23 23.5 0.0
comp=Z,2.8nm,0.8s,baz=156,slow=7.4,SNR=3.7
GERES GERESS Array B 104.20 318 Pdiff **Pdif** 09 23 26.0 -1.4
comp=Z,0.2nm,0.3s,baz=41,slow=31,SNR=2.5
PMSA Palmer Station 106.46 180 Pdiff **Pdif** 09 23 34.2 -2.8
comp=Z,6.2nm,0.6s,baz=90,slow=2.0,SNR=3.4
TORD Torodi Ar. Bea 114.67 280 PKP PKPdf 09 28 03.1 -1.3
comp=Z,1.5nm,0.6s,baz=74,slow=1.9,SNR=12
TOA1 Torodi Ar. Sit 114.68 280 *e*PKiKP PKPdf 09 28 03.1 -1.3
YKA Yellowknife Ar 115.70 23 PKP **PKPdf** 09 28 04.8 -0.2
comp=Z,2.3nm,0.5s,baz=308,slow=1.9,SNR=30
YKB5 Yellowknife Ar 115.70 23 *e*PKPdf **PKPdf** 09 28 04.8 -0.2
ESDC Sonseca Array 117.97 310 PKP **PKPdf** 09 28 10.4 +0.2
comp=Z,0.8nm,0.4s,baz=21,slow=3.1,SNR=5.3
J05D Fort Rock, OR 120.37 45 P **PKPdf** 09 28 15.7 +0.9
baz=288
KIC Kosan Boka 120.38 272 *e*PKiKP **PKPdf** 09 28 15.2 -0.3
comp=Z,20nm,1.1s
DBIC Dimbokro 120.53 272 PKP **PKPdf** 09 28 14.8 -0.9
comp=Z,7.3nm,0.7s,baz=118,slow=3.6,SNR=6.9
LIC Lamto 120.65 272 *e*PKiKP **PKPdf** 09 28 15.6 -0.4
comp=Z,18nm,0.6s
TIC Tomodi 120.69 272 *e*PKiKP **PKPdf** 09 28 15.4 -0.7
BEKR Beckworth 122.00 48 *e*PKPdf **PKPdf** 09 28 18.8 +0.7
F10A Beach Ranch, E 122.14 41 *e*PKPdf **PKPdf** 09 28 19.2 +1.1
PAHR Pah Rah Range 122.76 48 *e*PKPdf **PKPdf** 09 28 20.4 +0.9
PNTR Pine Nut 122.78 49 *e*PKPdf **PKPdf** 09 28 20.7 +1.0
MSO Missoula 123.86 39 *e*PKPdf **PKPdf** 09 28 22.0 +0.6
MSO Missoula 123.86 39 P **PKPdf** 09 28 22.0 +0.6
baz=296
KVN Kaiserville 123.91 49 *e*PKPdf **PKPdf** 09 28 23.2 +1.4
KVN Kaiserville 123.91 49 *e*PKiKP **PKPdf** 09 28 23.2 +1.4
NV01 Mina Array Sit 123.94 49 *e*PKPdf **PKPdf** 09 28 23.1 +1.2
NVAR Mina Array Bea 123.94 49 PKP **PKPdf** 09 28 23.5 +1.6
comp=Z,2.9nm,0.6s,baz=259,slow=2.0,SNR=19
ISA Isabella, Lake 124.57 53 P **PKPdf** 09 28 24.4 +1.4
baz=285
CWC Cottonwood Cre 124.67 52 P **PKPdf** 09 28 23.8 +0.5
baz=286
HLID Hailey 124.93 42 *e*PKPdf **PKPdf** 09 28 25.5 +1.9
HLID Hailey 124.93 42 P **PKPdf** 09 28 24.0 +0.4
baz=294
GRAC Grapevine Rang 125.07 51 P **PKPdf** 09 28 24.9 +1.0
baz=287
EDW2 Edwards Air Fo 125.16 54 P **PKPdf** 09 28 24.7 +0.6
baz=285
MPMC Manual Prospec 125.24 52 P **PKPdf** 09 28 24.7 +0.2
baz=286
LRMC Laurel Mtn Rad 125.24 53 P **PKPdf** 09 28 24.9 +0.5
baz=286
BOZ Bozeman (W) 125.85 39 *e*PKPdf **PKPdf** 09 28 26.4 +1.1
BOZ Bozeman (W) 125.85 39 *e*PKiKP **PKPdf** 09 28 26.4 +1.1
BOZ Bozeman (W) 125.85 39 P **PKPdf** 09 28 26.1 +0.9
baz=298
TPNV Topopah Spring 125.94 51 P **PKPdf** 09 28 26.3 +0.5
baz=289
R11A Troy Canyon, C 126.00 49 P **PKPdf** 09 28 26.5 +0.7
baz=289
PFO Pinyon Flats O 126.71 55 P **PKPdf** 09 28 28.6 +1.3
baz=285
BELC Belle Mtn. Jos 126.98 54 P **PKPdf** 09 28 29.6 +1.8
baz=286
GMRC Granite Mounta 127.03 53 P **PKPdf** 09 28 29.7 +1.9
baz=287
FXWY Fox Creek 127.12 41 *e*PKPdf **PKPdf** 09 28 29.0 +1.1
DUG Dugway, Tooele 127.35 46 P **PKPdf** 09 28 28.9 +0.6
baz=293
REDW Red Top Meadow 127.36 41 *e*PKPdf **PKPdf** 09 28 29.9 +1.5
SNOW Snow King Moun 127.38 41 *e*PKPdf **PKPdf** 09 28 30.1 +1.7
IRM Iron Mountain 127.61 54 P **PKPdf** 09 28 29.2 +0.3
baz=287
HWUT Hardware Ranch 127.65 44 *e*PKPdf **PKPdf** 09 28 30.3 +1.4
PD31 Pinedale Array 128.47 41 *e*PKPdf **PKPdf** 09 28 31.4 +0.9
PDAR Pinedale Array 128.47 41 PKP **PKPdf** 09 28 31.0 +0.5
comp=Z,1.0nm,0.5s,baz=101,slow=1.0,SNR=13
LAO LaSA Array 128.53 36 *e*PKPdf **PKPdf** 09 28 31.8 +1.6
WUAZ Wupatki 130.13 51 P **PKPdf** 09 28 33.2 -0.6
baz=291
PLCA Paso Flores 130.27 174 PKP **PKPdf** 09 28 35.3 +1.5
comp=Z,2.7nm,0.8s,baz=93,slow=2.1,SNR=5.1
O20A White River Ci 130.56 44 *e*PKPdf **PKPdf** 09 28 34.9 +0.4
O20A White River Ci 130.56 44 P **PKPdf** 09 28 34.9 +0.4
baz=297
PV10 Paradox Valley 130.76 46 *e*PKPdf **PKPdf** 09 28 35.0 0.0
PV14 Lion Creek, Pa 130.77 46 *e*PKPdf **PKPdf** 09 28 34.5 -0.6
PV02 Paradox Valley 131.05 46 *e*PKPdf **PKPdf** 09 28 36.8 +1.2
RSSD Black Hills 131.24 37 *e*PKPdf **PKPdf** 09 28 36.0 +0.3
RSSD Black Hills 131.24 37 *e*PKiKP **PKPdf** 09 28 36.0 +0.3
RSSD Black Hills 131.24 37 P **PKPdf** 09 28 36.4 +0.7
baz=304
TUC Tucson 131.65 54 P **PKPdf** 09 28 38.0 +1.3
baz=288
ANMO Albuquerque 134.07 49 *i* PKiKP **PKPdf** 09 28 39.3 -2.0
ANMO Albuquerque 134.07 49 P **PKPdf** 09 28 43.2 +1.9
baz=294
SCHQ Schefferville 134.23 2 PKP **PKPdf** 09 28 41.3 +0.6
comp=Z,2.9nm,0.7s,baz=22,slow=5.4,SNR=3.1
SCHQ SKPbc **SKPbc** 09 32 04.8 +1.5
comp=Z,3.7nm,0.7s,baz=64,slow=9.5,SNR=4.1
MNTX Cornudas Mount 136.17 53 *e*PKPdf **PKPdf** 09 28 45.1 +0.1
MNTX Cornudas Mount 136.17 53 P **PKPdf** 09 28 46.8 +1.7
baz=292
E39A Mellen 136.74 26 P **PKPdf** 09 28 47.6 +1.9
baz=322
HPIG 137.53 60 *e*PKPdf **PKPdf** 09 28 48.3 +0.4
LTX Lajitas 138.42 55 *e*PKPdf **PKPdf** 09 28 47.7 -1.7
LTX Lajitas 138.42 55 *e*PKiKP **PKPdf** 09 28 47.7 -1.7
TX31 Lajitas Ar. Si 138.42 55 *e*PKPpre PKPpre 09 28 41.2
TX31 *e*PKPpre PKPpre 09 28 41.5
TXAR Lajitas Array 138.42 55 PKiKP PKPpre 09 28 39.2
comp=Z,0.5nm,0.5s,baz=221,slow=2.5,SNR=16
TXAR PKP **PKPdf** 09 28 47.7 -1.7
comp=Z,1.6nm,0.7s,baz=188,slow=2.5,SNR=7.1
TXAR SKPbc **SKPbc** 09 32 16.3 -0.7
comp=Z,0.5nm,0.6s,baz=274,slow=1.4,SNR=5.0
KSU1 Kansas State U 138.69 38 *e*PKPpre PKPpre 09 28 43.2
JCT Junction City 141.04 52 *e*PKPpre PKPpre 09 28 48.9
JCT Junction City 141.04 52 *e*PKiKP PKPpre 09 28 48.9
P42A Winchester 141.96 33 *e*PKPpre PKPpre 09 28 49.6
P42A Winchester 141.96 33 P PKPpre 09 28 51.3
baz=317
HHAR Hobbs 142.10 40 *e*PKPpre PKPpre 09 28 50.6
R41A Rosebud 142.31 35 P PKPpre 09 28 52.3
baz=314
CCM Cathedral Cave 142.55 35 *e*PKPpre PKPpre 09 28 51.6
CCM Cathedral Cave 142.55 35 *e*PKiKP PKPpre 09 28 51.6
S41A Jillco Farms, 142.58 36 P PKPpre 09 28 52.8
baz=313
R42A Luebbering 142.65 35 P PKPpre 09 28 53.1
baz=315
U40A Yellville 142.73 39 P PKPpre 09 28 53.6
baz=310
L48A N Adams 142.91 24 P PKPpre 09 28 54.1
baz=327
T41A Mountain View 142.94 37 P PKPpre 09 28 54.5
baz=312
P44A Sand Creek, Wi 142.95 31 P PKPpre 09 28 53.8
baz=319
S42A Caledonia 143.00 35 P PKPpre 09 28 53.7
baz=314
FVM French Village 143.06 35 *e*PKPpre PKPpre 09 28 54.0
FVM French Village 143.06 35 *e*PKiKP PKPpre 09 28 54.0
R43A Red Bud 143.13 34 P PKPbc 09 28 54.1 -0.5
baz=316
N47A Urbana 143.25 27 P PKPbc 09 28 54.3 -0.4
baz=324
U41A Viola 143.31 38 P PKPbc 09 28 54.6 -0.5
baz=311
T42A Van Buren 143.34 36 P PKPbc 09 28 54.9 -0.3
baz=313
MIAR Mount Ida 143.40 42 *e*PKPdf PKPbc 09 28 55.8 +0.4
MIAR Mount Ida 143.40 42 *e*PKiKP PKPbc 09 28 55.8 +0.4
MIAR Mount Ida 143.40 42 P PKPbc 09 28 55.8 +0.4
baz=308
LNIG Linares 143.47 60 *e*PKPdf PKPbc 09 28 56.0 +0.1
V41A Mountainview 143.53 39 P PKPbc 09 28 55.3 -0.4
baz=311
S43A Fulton Ridge, 143.55 35 P PKPbc 09 28 55.3 -0.4
baz=315
N48A Decatur 143.56 26 P PKPbc 09 28 55.6 -0.1
baz=325
R44A Waltonville 143.61 33 P PKPbc 09 28 56.0 +0.1
baz=317
U42A Revenden 143.72 37 P PKPbc 09 28 56.6 +0.4
baz=312
WHAR Wooly Hollow 143.76 40 *e*PKPdf PKPbc 09 28 56.7 +0.3
OLIL Olney 143.77 31 *e*PKPdf PKPbc 09 28 56.7 +0.4
T43A Greenville 143.77 35 P PKPbc 09 28 56.3 0.0
baz=314
W41B Gary Mavity, V 143.87 40 *e*PKPdf PKPbc 09 28 57.0 +0.3
W41B Gary Mavity, V 143.87 40 P PKPbc 09 28 56.8 +0.1
baz=310
N49A Columbus Grove 143.87 25 *e*PKPdf PKPbc 09 28 57.0 +0.4
N49A Columbus Grove 143.87 25 P PKPbc 09 28 56.9 +0.3
baz=326
SIUC Southern Illin 143.93 34 *e*PKPdf PKPbc 09 28 57.3 +0.5
O48A Farmland 143.99 27 P PKPbc 09 28 57.0 0.0
baz=324
R45A Skylar, Fairfi 144.00 32 P PKPbc 09 28 57.5 +0.5
baz=318
UALR University of 144.06 40 *e*PKPdf PKPbc 09 28 57.8 +0.5
P47A Martinsville 144.10 29 P PKPbc 09 28 57.2 -0.1
baz=322
CPUP Villa Florida 144.15 192 PKP **PKPdf** 09 28 58.8 -0.8
comp=Z,5.7nm,0.5s,baz=170,slow=1.7,SNR=20
CPUP Villa Florida 144.15 192 *e*PKPdf **PKPdf** 09 28 59.0 -0.7
CPUP Villa Florida 144.15 192 *e*PKiKP **PKPdf** 09 28 59.0 -0.7
T44A Benton 144.17 35 P PKPbc 09 28 57.6 0.0
baz=315
NCB Newcomb 144.19 12 *e*PKPdf **PKPdf** 09 28 58.3 -0.9
U43A Rector 144.20 36 P PKPbc 09 28 57.7 0.0
baz=314
BLO Bloomington 144.22 29 *e*PKPdf PKPbc 09 28 57.9 +0.2
BLO Bloomington 144.22 29 *e*PKiKP PKPbc 09 28 57.9 +0.2
NATX Nacogdoches 144.25 46 *e*PKPdf PKPbc 09 28 58.1 +0.1
NATX Nacogdoches 144.25 46 P **PKPdf** 09 28 59.6 0.0
baz=303
S45A Carrier Mills 144.30 33 P PKPbc 09 28 58.3 +0.3
baz=317
HKT Hockley 144.32 50 *i* PKiKP **PKPab** 09 28 57.1 -0.7
PARMO Parma 144.37 35 *e*PKPdf PKPbc 09 28 58.7 +0.5
ERPA Erie 144.40 19 *e*PKPdf PKPbc 09 28 58.5 +0.3
O49A Covington 144.41 26 *e*PKPdf PKPbc 09 28 58.7 +0.5
O49A Covington 144.41 26 P **PKPdf** 09 28 59.0 -0.7
baz=326
N50A Nevada 144.42 24 P **PKPdf** 09 28 59.0 -0.7
baz=328
Y41A Eaglette Beard 144.44 42 P **PKPdf** 09 28 59.4 -0.5
baz=308
Q47A Bedord North L 144.45 30 P PKPbc 09 28 58.7 +0.3
baz=322
R46A Gibon Southern 144.46 31 P PKPbc 09 28 59.0 +0.5
baz=319
MMNY Mt. Morris Dam 144.48 17 *e*PKPdf PKPbc 09 28 58.5 +0.2
V43A Jonesboro 144.51 37 P **PKPdf** 09 28 59.3 -0.6
baz=313
P48A Milroy 144.51 28 P PKPbc 09 28 58.5 -0.1
baz=324
USIN University of 144.57 32 *e*PKPdf PKPbc 09 28 58.9 +0.1
N51A Ashland 144.60 23 P PKPbc 09 28 59.3 +0.4
baz=329
Z41A Richland Creek 144.69 43 *e*PKPdf **PKPdf** 09 29 00.7 +0.4
240A Hunter Patters 144.74 45 P **PKPdf** 09 29 01.1 +0.7
baz=304
O50A Cable 144.75 25 P PKPbc 09 28 59.7 +0.4
baz=327
S46A Don Dixon Farm 144.75 32 P PKPbc 09 28 59.7 +0.3
baz=318,SNR=6.8
P49A Miami Univ. Ec 144.78 27 P PKPbc 09 28 59.4 0.0
baz=325
U44B Burton Farm, H 144.83 35 P **PKPdf** 09 29 00.3 -0.2
baz=315
R47A Wooly Knot Far 144.90 30 P PKPbc 09 29 00.1 +0.3
baz=321,SNR=18
GLAT Glass 144.91 36 *e*PKPbc PKPbc 09 29 00.2 +0.3
ACSO Alum Creek Sta 144.94 24 *e*PKPbc PKPbc 09 29 00.2 +0.3
ACSO Alum Creek Sta 144.94 24 P **PKPdf** 09 29 00.3 -0.3
baz=328
CCAR Cane Creek 144.96 41 *e*PKPbc **PKPdf** 09 29 00.6 -0.2
Y42A Garnett, Star 145.00 41 P **PKPdf** 09 29 01.1 +0.3
baz=309
M54A Oil Creek Stat 145.06 20 *e*PKPbc **PKPab** 09 29 00.5 +0.2
M54A Oil Creek Stat 145.06 20 P **PKPab** 09 29 00.3 0.0
baz=334
WCI Wyandotte Cave 145.07 30 *e*PKPbc **PKPab** 09 29 00.6 +0.2
WCI Wyandotte Cave 145.07 30 *e*PKiKP **PKPab** 09 29 00.6 +0.2
WCI Wyandotte Cave 145.07 30 P **PKPdf** 09 29 00.7 -0.1
baz=321
P50A Jamestown 145.12 26 P **PKPdf** 09 29 00.8 -0.1
baz=326
Q49A Aurora 145.12 28 P **PKPdf** 09 29 01.0 +0.1
baz=324
T46A Princeton 145.14 33 P **PKPdf** 09 29 01.2 +0.2
baz=318
R48A Northridge Ran 145.14 29 P **PKPdf** 09 29 01.2 +0.2
baz=322,SNR=5.6
X43A Marvell 145.15 39 *e*PKPbc **PKPab** 09 29 00.8 0.0
X43A Marvell 145.15 39 P **PKPdf** 09 29 01.4 +0.3
baz=311
U45A Rockin P Farm, 145.16 35 P **PKPdf** 09 29 01.2 +0.1
baz=316
O51A Pataskala 145.17 24 P **PKPdf** 09 29 01.0 +0.1
baz=328
Z42A Norrel Spur, H 145.25 42 P **PKPdf** 09 29 02.0 +0.7
baz=308
S47A Hartford 145.26 31 P **PKPbc** 09 29 01.1 +0.1
baz=320,SNR=11
241A Mo Tay, Goldon 145.33 45 P **PKPab** 09 29 03.3 +1.7
baz=306
N54A Moraine State 145.44 20 *e*PKPdf **PKPab** 09 29 01.8 0.0
N54A Moraine State 145.44 20 P **PKPab** 09 29 01.9 +0.2
baz=333
V45A Humboldt 145.48 36 P **PKPab** 09 29 01.9 -0.1
baz=315
U46A Springville 145.48 34 P **PKPab** 09 29 01.9 -0.1
baz=317
BINY Binghamton 145.49 15 *e*PKPdf **PKPab** 09 29 01.9 0.0
BINY Binghamton 145.49 15 P **PKPab** 09 29 02.2 +0.3
baz=340
O52A Adamsville 145.50 23 *e*PKPdf **PKPab** 09 29 01.9 -0.1
O52A Adamsville 145.50 23 P **PKPab** 09 29 02.1 +0.1
baz=330
Y43A Makayla and Ka 145.51 40 P **PKPab** 09 29 03.0 +0.8
baz=310
P51A Williamsport 145.54 25 *e*PKPdf **PKPdf** 09 29 01.6 0.0
P51A Williamsport 145.54 25 P **PKPbc** 09 29 01.9 +0.1
baz=327
R49A Shelbyville 145.56 29 P **PKPab** 09 29 02.5 +0.3
baz=323,SNR=7.4
T47A Sharon Grove 145.60 32 *e*PKPdf **PKPab** 09 29 02.3 -0.1
T47A Sharon Grove 145.60 32 P **PKPab** 09 29 02.4 -0.1
baz=319,SNR=9.8
X44A Crenshaw 145.61 39 P **PKPab** 09 29 03.0 +0.4
baz=312
S48A Wiedeman Farm, 145.63 31 P **PKPab** 09 29 02.5 -0.1
baz=321
Q50A Georgetown 145.67 27 P **PKPbc** 09 29 02.4 +0.1
baz=325
W45A Hickory Valley 145.75 37 P **PKPab** 09 29 03.2 +0.1
baz=314
GO02 Mina Guanaco 145.77 172 *e*PKPdf **PKPab** 09 29 04.6 +0.8
P52A Corning 145.79 24 P **PKPbc** 09 29 02.8 +0.2
baz=329
Q51A Peebles 145.80 26 *e*PKPdf **PKPbc** 09 29 02.8 +0.1
Q51A Peebles 145.80 26 P **PKPbc** 09 29 02.9 +0.2

	baz=326							
WVT	Waverly	145.84	34	ePKPdf	PKPbc	09 29 02.6	-0.3	
WVT	Waverly	145.84	34	ePKP2	PKPbc	09 29 02.6	-0.3	
WVT	Waverly	145.84	34	P	PKPab	09 29 03.4	+0.1	
	baz=317							
T48A	Bowling Green	145.88	31	P	PKPab	09 29 03.6	+0.1	
	baz=320							
U47A	Clarksville	145.91	33	P	PKPab	09 29 03.5	-0.1	
	baz=318,SNR=6.9							
S49A	Springfield	145.91	30	P	PKPbc	09 29 03.2	+0.2	
	baz=322							
V46A	Holladay	145.91	35	P	PKPbc	09 29 03.0	-0.1	
	baz=316							
Y44A	Strider, Charl	145.93	39	P	PKPab	09 29 03.9	+0.1	
	baz=311							
143A	Socs Landing,	145.96	42	P	PKPab	09 29 04.5	+0.6	
	baz=308							
R50A	Paris	145.97	28	P	PKPbc	09 29 03.2	0.0	
	baz=324							
OXF	Oxford	146.06	38	ePKPdf	PKPab	09 29 03.9	-0.3	
OXF	Oxford	146.06	38	ePKP2	PKPab	09 29 03.9	-0.3	
OXF	Oxford	146.06	38	P	PKPbc	09 29 03.7	+0.1	
	baz=313,SNR=8.1							
X45A	UM Field Stati	146.13	38	P	PKPbc	09 29 04.0	+0.2	
	baz=313,SNR=5.9							
TLIG	Tlapa	146.18	72	ePKPdf	PKPdf	09 29 03.3	-0.2	
P53A	Whipple	146.21	23	ePKPdf	PKPab	09 29 04.5	-0.2	
P53A	Whipple	146.21	23	P	PKPab	09 29 04.4	-0.2	
	baz=330							
V47A	Nunnelly	146.23	34	P	PKPbc	09 29 04.2	+0.2	
	baz=317,SNR=15							
Z44A	Pea Ridge, Bel	146.23	41	P	PKPab	09 29 04.9	-0.1	
	baz=310							
W46A	Michie	146.24	36	P	PKPbc	09 29 03.8	-0.3	
	baz=315							
U48A	Cassie Pea, Po	146.25	32	P	PKPab	09 29 04.6	-0.4	
	baz=319							
R51A	Hillsboro	146.29	27	P	PKPbc	09 29 03.9	-0.3	
	baz=325							
Q52A	Bidwell	146.31	25	P	PKPbc	09 29 04.1	-0.1	
	baz=328							
T49A	Edmonton	146.32	31	ePKPdf	PKPbc	09 29 04.7	+0.3	
T49A	Edmonton	146.32	31	P	PKPbc	09 29 04.6	+0.3	
	baz=321							
Y45A	Yeager Farm, C	146.41	39	P	PKPab	09 29 05.6	0.0	
	baz=312,SNR=6.7							
SSPA	Standing Stone	146.41	18	ePKPdf	PKPab	09 29 04.9	-0.5	
SSPA	Standing Stone	146.41	18	P	PKPbc	09 29 04.7	+0.2	
	baz=336							
S50A	Richmond	146.42	29	P	PKPbc	09 29 04.6	0.0	
	baz=324,SNR=26							
PLAL	Pickwick Lake	146.52	36	ePKPdf	PKPbc	09 29 04.7	-0.2	
X46A	Booneville	146.52	37	P	PKPbc	09 29 05.0	0.0	
	baz=314							
O56A	Blue Knob Stat	146.53	19	ePKPdf	PKPbc	09 29 05.0	+0.1	
O56A	Blue Knob Stat	146.53	19	P	PKPab	09 29 05.4	-0.5	
	baz=335							
W47A	Westpoint	146.60	35	P	PKPbc	09 29 05.2	0.0	
	baz=316							
MCWV	Mont Chateau	146.64	21	ePKPdf	PKPbc	09 29 05.4	+0.2	
MCWV	Mont Chateau	146.64	21	P	PKPab	09 29 05.8	-0.6	
	baz=332							
Z45A	Winona	146.64	40	ePKPdf	PKPbc	09 29 05.5	+0.1	
Z45A	Winona	146.64	40	P	PKPab	09 29 06.1	-0.5	
	baz=311							
144A	Alexander Plac	146.65	41	P	PKPab	09 29 06.6	0.0	
	baz=309							
U49A	Red Boiling Sp	146.65	32	P	PKPbc	09 29 05.5	+0.2	
	baz=320							
R52A	Catlettsburg	146.68	26	P	PKPbc	09 29 05.5	+0.2	
	baz=327							
V48A	Smith Brothers	146.68	34	ePKPdf	PKPbc	09 29 05.4	0.0	
V48A	Smith Brothers	146.68	34	P	PKPbc	09 29 05.4	0.0	
	baz=318,SNR=8.2							
T50A	Nancy	146.73	30	P	PKPbc	09 29 05.5	0.0	
	baz=322							
N59A	State Game Lan	146.75	15	ePKPdf	PKPab	09 29 06.2	-0.6	
N59A	State Game Lan	146.75	15	P	PKPab	09 29 06.1	-0.6	
	baz=340							
Y46A	Houston	146.82	38	P	PKPbc	09 29 06.1	+0.3	
	baz=313,SNR=21							
S51A	Beattyville	146.83	28	ePKPdf	PKPbc	09 29 04.8	-1.0	
S51A	Beattyville	146.83	28	P	PKPbc	09 29 05.7	0.0	
	baz=325,SNR=14							
244A	Avery, Jackson	146.84	43	P	PKPab	09 29 07.1	-0.3	
	baz=308							
VBMS	Vicksburg	146.84	42	P	PKPab	09 29 07.1	-0.3	
	baz=309							
X47A	Russelville	146.98	36	P	PKPbc	09 29 05.9	-0.4	
	baz=315,SNR=32							
145A	Houston Renfro	146.99	41	P	PKPab	09 29 07.3	-0.6	
	baz=310							
S52A	Salyersville	147.03	27	P	PKPbc	09 29 06.5	+0.2	
	baz=326							
W48A	Pulaski	147.06	34	P	PKPbc	09 29 06.3	-0.1	
	baz=317,SNR=10							
PAL	Palisades	147.10	13	P	PKPbc	09 29 07.0	+0.6	
	baz=344							
PAGS	Pennsylvania G	147.13	17	ePKPdf	PKPbc	09 29 06.7	+0.1	
V49A	McMinnville	147.15	33	P	PKPbc	09 29 06.5	-0.2	
	baz=319							
U50A	Jamestown	147.20	31	P	PKPbc	09 29 07.4	+0.5	
	baz=322							
T51A	Gray	147.21	29	P	PKPbc	09 29 07.0	+0.2	
	baz=324,SNR=11							
Z46A	Louisville	147.23	39	P	PKPab	09 29 08.0	-0.9	
	baz=312							
CPNY	Central Park	147.30	13	ePKPbc	PKPbc	09 29 07.1	+0.2	
245A	Little AP, Sta	147.37	42	P	PKPbc	09 29 08.2	+0.8	
	baz=309							
Y47A	UCPARC, Winfie	147.41	37	P	PKPbc	09 29 07.6	+0.1	
	baz=314							
W49A	Belvidere	147.44	34	P	PKPbc	09 29 07.5	-0.1	
	baz=318,SNR=9.4							
MVL	Millersville	147.45	16	ePKPbc	PKPbc	09 29 07.9	+0.6	
X48A	Hartselle	147.49	35	ePKPdf	PKPbc	09 29 07.3	-0.4	
X48A	Hartselle	147.49	35	P	PKPbc	09 29 07.6	-0.1	
	baz=316,SNR=17							
146A	Union	147.53	40	ePKPbc	PKPbc	09 29 08.4	+0.5	
146A	Union	147.53	40	P	PKPbc	09 29 08.7	+0.8	
	baz=311							
T52A	Hallie	147.54	28	P	PKPbc	09 29 08.3	+0.6	
	baz=325,SNR=10.0							
SWET	Sewanee	147.55	33	ePKPdf	PKPbc	09 29 06.8	-1.1	
U51A	La Follette	147.64	30	P	PKPbc	09 29 08.6	+0.5	
	baz=323,SNR=8.0							
V50A	Pikeville	147.65	32	P	PKPbc	09 29 08.1	0.0	
	baz=320,SNR=7.7							
345A	Thompson Farm,	147.73	43	P	PKPab	09 29 09.9	-1.0	
	baz=308							
TZTN	Tazewell	147.74	29	ePKPbc	PKPbc	09 29 08.3	0.0	
TZTN	Tazewell	147.74	29	P	PKPbc	09 29 08.8	+0.4	
	baz=324							
Z47A	Carrollton	147.76	38	P	PKPbc	09 29 08.8	+0.3	
	baz=313							
Y48A	Jasper	147.81	36	P	PKPbc	09 29 08.1	-0.5	
	baz=316							
SDMD	Soldier's Deli	147.85	18	ePKPbc	PKPbc	09 29 08.6	0.0	
X49A	Woodville	147.86	35	P	PKPbc	09 29 08.7	0.0	
	baz=317,SNR=9.7							
W50A	Signal Mountai	147.90	33	ePKPbc	PKPbc	09 29 09.2	+0.3	
W50A	Signal Mountai	147.90	33	P	PKPbc	09 29 08.9	+0.1	
	baz=320,SNR=8.4							
V51A	Loudon	147.93	31	ePKPbc	PKPbc	09 29 09.3	+0.5	
V51A	Loudon	147.93	31	P	PKPbc	09 29 09.0	+0.2	
	baz=322,SNR=9.2							
U52A	Thorn Hill	147.94	29	P	PKPbc	09 29 09.5	+0.6	
	baz=324							
Z48A	Northport	147.95	37	P	PKPbc	09 29 09.2	+0.2	
	baz=314,SNR=17							
147A	Livingston	148.00	39	ePKPbc	PKPbc	09 29 09.5	+0.4	
147A	Livingston	148.00	39	P	PKPbc	09 29 09.6	+0.6	
	baz=312							
346A	Big Creek Wild	148.06	42	ePKPdf	PKPdf	09 29 07.5	+1.4	
346A	Big Creek Wild	148.06	42	P	PKPbc	09 29 10.4	+1.1	
	baz=309							
CPCT	Cooper Cave	148.12	31	ePKPbc	PKPbc	09 29 09.7	+0.3	
247A	Quitman	148.19	40	P	PKPbc	09 29 10.8	+1.2	
	baz=311							
W51A	Cleveland	148.22	32	P	PKPbc	09 29 10.1	+0.5	
	baz=320							
X50B	Fort Payne	148.27	34	P	PKPbc	09 29 09.8	-0.1	
	baz=318,SNR=19							
V52A	Sevierville	148.27	30	ePKPbc	PKPbc	09 29 10.2	+0.4	
V52A	Sevierville	148.27	30	P	PKPbc	09 29 10.4	+0.7	
	baz=323							
Y49A	Blount Mountai	148.28	36	ePKPbc	PKPbc	09 29 09.9	+0.1	
Y49A	Blount Mountai	148.28	36	P	PKPbc	09 29 09.9	+0.1	
	baz=317,SNR=68							
TKL	Tuckaleechee C	148.33	30	ePKPbc	PKPbc	09 29 10.6	+0.7	
U53A	Fall Branch	148.34	28	P	PKPbc	09 29 10.4	+0.4	
	baz=325							
LVC	Limon Verde	148.37	173	ePKPdf	PKPdf	09 29 06.2	-1.1	
LVC	Limon Verde	148.37	173	ePKIKP	PKPdf	09 29 06.3	-1.1	
148A	Greensboro	148.45	38	P	PKPbc	09 29 10.8	+0.5	
	baz=314,SNR=18							
LRAL	Lakeview Retre	148.53	37	ePKPdf	PKPdf	09 29 08.1	+1.3	
LRAL	Lakeview Retre	148.53	37	P	PKPbc	09 29 10.9	+0.4	
	baz=315,SNR=60							
BLA	Blacksburg	148.56	24	ePKPbc	PKPbc	09 29 11.0	+0.5	
BLA	Blacksburg	148.56	24	ePKP2	PKPbc	09 29 11.0	+0.5	
X51A	Calhoun	148.62	33	ePKPbc	PKPbc	09 29 11.1	+0.4	
X51A	Calhoun	148.62	33	P	PKPbc	09 29 11.0	+0.4	
	baz=320							
Y50A	Piedmont	148.65	35	P	PKPbc	09 29 10.9	+0.2	
	baz=318							
347A	Saraland	148.66	41	P	PKPbc	09 29 11.9	+1.1	
	baz=310							
Z49A	Columbiana	148.69	37	P	PKPbc	09 29 11.3	+0.4	
	baz=316,SNR=5.1							
W52A	Murphy	148.70	31	ePKPbc	PKPbc	09 29 11.7	+0.7	
W52A	Murphy	148.70	31	P	PKPbc	09 29 11.6	+0.7	
	baz=322							
V53A	Saluda	148.79	29	ePKPbc	PKPbc	09 29 11.8	+0.7	
V53A	Saluda	148.79	29	P	PKPbc	09 29 11.9	+0.7	
	baz=324,SNR=12							
CBN	Corbin Frederi	148.79	19	ePKPbc	PKPbc	09 29 11.7	+0.8	
CBN	Corbin Frederi	148.79	19	P	PKPbc	09 29 11.7	+0.8	
	baz=336							
R58B	Mineral	148.84	20	P	PKPbc	09 29 11.6	+0.5	
	baz=335							
Z50A	Ashland	149.00	36	ePKPdf	PKPdf	09 29 08.6	+1.0	
Z50A				ePKPbc	PKPbc	09 29 11.9	+0.2	
Z50A	Ashland	149.00	36	P	PKPbc	09 29 11.9	+0.2	
	baz=317							
W53A	Cullowhee	149.02	30	P	PKPbc	09 29 12.7	+0.9	
	baz=323,SNR=9.2							
348A	Jackson	149.07	41	P	PKPbc	09 29 13.3	+1.4	
	baz=312							
X52A	Dahlonega	149.10	32	P	PKPbc	09 29 12.7	+0.7	
	baz=321,SNR=7.5							
249A	Camden	149.18	39	P	PKPbc	09 29 12.9	+0.7	
	baz=313							
BG3	Lake Jocassee	149.28	30	ePKPbc	PKPbc	09 29 13.3	+1.0	
150A	Eclectic	149.41	37	P	PKPbc	09 29 13.3	+0.5	
	baz=316							
X53A	Estanollee	149.48	31	P	PKPbc	09 29 13.8	+1.0	
	baz=322							
349A	Repton	149.56	40	P	PKPbc	09 29 14.3	+1.2	
	baz=312							
Y52A	Lilburn	149.58	33	ePKPbc	PKPbc	09 29 14.1	+0.9	
Y52A	Lilburn	149.58	33	P	PKPbc	09 29 14.0	+0.9	
	baz=320,SNR=19							
250A	Grady	149.71	38	ePKPbc	PKPbc	09 29 14.1	+0.7	
250A	Grady	149.71	38	P	PKPbc	09 29 14.2	+0.8	
	baz=315							
BRAL	Brewton	149.77	40	ePKPbc	PKPbc	09 29 14.0	+0.3	
BRAL	Brewton	149.77	40	P	PKPbc	09 29 14.9	+1.2	
	baz=312							
PB01	IPOC Station P	149.84	171	ePKPbc	PKPbc	09 29 15.2	+1.0	
Y53A	Monroe	149.84	32	P	PKPbc	09 29 14.7	+0.9	
	baz=321							
151A	Opelika	149.87	36	P	PKPbc	09 29 14.5	+0.7	
	baz=317							
Z52A	Williamson	149.90	34	P	PKPbc	09 29 14.9	+1.0	
	baz=319							
KMSC	Kings Mountain	149.91	28	ePKPbc	PKPbc	09 29 14.3	+0.5	
KMSC	Kings Mountain	149.91	28	P	PKPbc	09 29 14.5	+0.6	
	baz=326							
PAULI	Pauline	149.96	29	ePKPbc	PKPbc	09 29 14.0	0.0	
350A	Dozier	150.05	39	P	PKPbc	09 29 15.4	+1.1	
	baz=314							
152A	Waverly Hall	150.12	35	ePKPbc	PKPbc	09 29 15.2	+0.7	
152A	Waverly Hall	150.12	35	P	PKPbc	09 29 15.2	+0.7	
	baz=318							
251A	Midway	150.14	37	P	PKPbc	09 29 15.3	+0.7	
	baz=316							
GOGA	Godfrey	150.25	32	ePKPbc	PKPbc	09 29 14.3	-0.4	
GOGA	Godfrey	150.25	32	ePKIKP	PKPbc	09 29 14.3	-0.4	
GOGA	Godfrey	150.25	32	P	PKPbc	09 29 15.8	+1.1	
	baz=321							
Z53A	Monticello	150.29	33	P	PKPbc	09 29 15.8	+0.9	
	baz=320							
Y54A	Tignall	150.30	31	P	PKPbc	09 29 15.7	+0.8	
	baz=323							
BDFB	Brasilia	150.38	214	PKPbc	PKPbc	09 29 16.9	+1.3	
	baz=135,slow=2.2							
BDFB				PKPab	PKPab	09 29 21.7	-0.4	
	baz=164,slow=7.4							
BDFB	Brasilia	150.38	214	ePKPbc	PKPbc	09 29 16.9	+1.3	
BDFB				ePKPbc	PKiKP	09 29 17.1	+0.6	
BDFB				ePKPab	PKPab	09 29 21.7	-0.4	
351A	Pinckard	150.60	38	P	PKPbc	09 29 16.7	+1.0	
	baz=315							
252A	Lumpkin	150.60	36	P	PKPbc	09 29 16.6	+1.0	
	baz=317							
153A	Fort Valley	150.63	34	P	PKPbc	09 29 16.7	+1.0	
	baz=319							
JSC	Jenkinsville	150.66	28	ePKPbc	PKPbc	09 29 15.7	0.0	
JSC	Jenkinsville	150.66	28	ePKIKP	PKPbc	09 29 15.7	0.0	
Z54A	Sparta	150.71	32	P	PKPbc	09 29 16.9	+1.1	
	baz=322							
352A	Blakely	150.86	37	ePKPbc	PKPbc	09 29 17.2	+0.9	
352A	Blakely	150.86	37	P	PKPbc	09 29 17.4	+1.2	
	baz=316							
253A	Americus	150.90	35	ePKPbc	PKPbc	09 29 16.3	-0.1	
253A	Americus	150.90	35	P	PKPbc	09 29 17.4	+1.0	
	baz=318							
451A	Vernon	150.97	39	P	PKPbc	09 29 17.7	+1.2	
	baz=314							
154A	Montrose	151.05	33	P	PKPbc	09 29 17.5	+0.8	
	baz=320							
PB11	IPOC Station P	151.07	171	ePKPbc	PKPbc	09 29 18.1	+0.9	
Z55A	Blythe	151.09	31	P	PKPbc	09 29 18.0	+1.3	
	baz=323							
452A	Marianna	151.16	38	P	PKPbc	09 29 18.0	+1.1	
	baz=315							
GO01	Chusmiza	151.23	172	ePKPbc	PKPbc	09 29 19.8	+1.7	
CNNC	Cliffs of the	151.27	23	P	PKPbc	09 29 17.8	+0.8	
	baz=333							
353A	Camilla	151.38	36	P	PKPbc	09 29 18.5	+1.0	
	baz=317							
155A	Kite	151.39	32	P	PKPbc	09 29 18.4	+0.9	
	baz=322							
453A	Whigham	151.67	37	P	PKPbc	09 29 19.3	+1.1	
	baz=316							
MNMC	Minye Minye	151.70	171	ePKPbc	PKPbc	09 29 17.4	-1.4	
LPAZ	La Paz	154.70	173	PKPbc	PKPbc	09 29 27.3	+1.4	
	comp=Z,2.1nm,0.5s,baz=208,slow=2.7,SNR=11							
LPAZ				PKPab	PKPab	09 29 42.1	+1.4	
	comp=Z,7.7nm,0.5s,baz=160,slow=3.1,SNR=19							
LPAZ	La Paz	154.70	173	ePKPbc	PKPbc	09 29 26.4	+0.5	
LPAZ				PKPab	PKPab	09 29 42.1	+1.4	
LPAZ	La Paz	154.70	173	ePKIKP	PKPbc	09 29 26.4	+0.5	
OTAV	Otavalo	163.95	122	ePKPdf	PKPdf	09 29 28.2	+0.2	
OTAV	Otavalo	163.95	122	ePKIKP	PKPdf	09 29 28.2	+0.2	

IDC **22** *09:10:36.9±1.1,37.˙59N×15.˙42E,h0km,mb3.6/7, mb1 3.7/10,mb1mx3.6/42,mbtmp3.6/10,ML3.4/3,MS3.1/7, Ms1 3.1/7,ms1mx2.7/44,Error ellipse: s-maj=22.8km s-min=9.1km az=159.0*

ISCJB **22** *09:10:41.4±0.2,37.˙81N±0.˙02×14.˙98E±0.˙03,h32km±2km, mb3.6/7,MS3.1/4, Error ellipse: s-maj=4.1km s-min=2.4km az=23.2*

PDG **22** *09:10:41.6±0.6,37.˙80N×14.˙95E,h20km,ML4.0/12, Error ellipse: s-maj=0.8km s-min=1.0km az=0.0*

ROM **22** *09:10:41.5±0.1,37.˙801N±0.˙004×14.˙960E±0.˙007, h24km,ML4.1/37*

BEO **22** *09:10:45.5±0.7,37.˙97N×15.˙17E, h9km,s3km, ML3.9/8*

ISC 22 09:10:41.4±0.7,37.79N±0.˙02×15.00E±0.˙03,h28km±5km, n103,σ1s61/124,mb3.9/7,MS3.1/4,10C-3D,Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESLN	Serra La Nave	0.09	191	*i* P	Pb	09 10 46.2	-0.4
ESLN				S	Sb	09 10 49.8	-0.4
ESLN				AML	AML		
	comp=E,87300μm,0.3s						
ESLN				AML	AML		
	comp=N,69600μm,0.4s						
ESLN				AML	AML		
	comp=E,87300μm,0.3s						
ESLN				AML	AML		
	comp=N,69600μm,0.4s						
ESLN				AML	AML		
	comp=E,87300μm,0.3s						
ESLN				AML	AML		
	comp=N,69600μm,0.4s						
NOV	Novara	0.27	25	*i* P	Pb	09 10 48.1	-0.2
NOV				S	Sb	09 10 53.1	+0.2
NOV				AML	AML		
	comp=E,45050μm,0.6s						
NOV				AML	AML		
	comp=N,25700μm,0.5s						
NOV				AML	AML		
	comp=E,45050μm,0.6s						
NOV				AML	AML		
	comp=N,25700μm,0.5s						
NOV				AML	AML		
	comp=E,45050μm,0.6s						
NOV				AML	AML		
	comp=N,25700μm,0.5s						
NOV				AML	AML		
	comp=E,45050μm,0.6s						
NOV				AML	AML		
	comp=N,25700μm,0.5s						
MUCR	Ucria	0.27	339	*i* P	Pb	09 10 47.7	-0.7
MUCR				S	Sb	09 10 52.6	-0.6
MUCR				AML	AML		
	comp=E,78250μm,1.1s						
MUCR				AML	AML		
	comp=N,44950μm,0.8s						
MUCR				AML	AML		
	comp=E,78250μm,1.1s						
MUCR				AML	AML		
	comp=N,44950μm,0.8s						
MUCR				AML	AML		
	comp=N,44950μm,0.8s						
MUCR				AML	AML		
	comp=E,78250μm,1.1s						
ECNV	Catenanuova	0.29	230	*e*P	Pb	09 10 48.8	+0.2
ECNV				AML	AML		
	comp=E,47650μm,0.5s						
ECNV				AML	AML		
	comp=N,50350μm,1.2s						
ECNV				AML	AML		
	comp=E,47650μm,0.5s						
ECNV				AML	AML		
	comp=N,50350μm,1.2s						
ECNV				AML	AML		
	comp=E,47650μm,0.5s						
ECNV				AML	AML		
	comp=N,50350μm,1.2s						
ECNV				AML	AML		
	comp=E,47650μm,0.5s						
ECNV				AML	AML		
	comp=N,50350μm,1.2s						
MCSR	Castroreale	0.34	36	*i* P	Pb	09 10 49.2	-0.1
MCSR				S	Sb	09 10 55.3	+0.6
MCSR				AML	AML		
	comp=E,93200μm,0.3s						
MCSR				AML	AML		
	comp=N,77250μm,0.4s						
MCSR				AML	AML		
	comp=E,93200μm,0.3s						
MCSR				AML	AML		
	comp=N,77250μm,0.4s						
MCSR				AML	AML		
	comp=E,93200μm,0.3s						
MCSR				AML	AML		
	comp=N,77250μm,0.4s						
GALF	Gagliano Caste	0.35	258	*i* P	Pb	09 10 49.3	-0.1
GALF				AML	AML		
	comp=E,37100μm,0.5s						
GALF				AML	AML		
	comp=N,33200μm,0.5s						
GALF				AML	AML		
	comp=E,37100μm,0.5s						
GALF				AML	AML		
	comp=N,33200μm,0.5s						
GALF				AML	AML		
	comp=E,37100μm,0.5s						
GALF				AML	AML		
	comp=N,33200μm,0.5s						
GALF				AML	AML		
	comp=E,37100μm,0.5s						
GALF				AML	AML		
	comp=N,33200μm,0.5s						
MSFR	San Fratello	0.41	308	P	Pb	09 10 49.6	-0.7
MSFR				S	Sb	09 10 55.9	-0.4
MSFR				AML	AML		
	comp=E,10270μm,1.4s						
MSFR				AML	AML		
	comp=N,9405μm,0.5s						
MSFR				AML	AML		
	comp=E,10270μm,1.4s						
MSFR				AML	AML		
	comp=N,9405μm,0.5s						
MSFR				AML	AML		
	comp=E,10270μm,1.4s						
MSFR				AML	AML		
	comp=N,9405μm,0.5s						
CAGR	Agira	0.43	248	P	Pb	09 10 51.1	+0.5
CAGR				AML	AML		
	comp=E,39400μm,0.9s						
CAGR				AML	AML		
	comp=N,33150μm,0.7s						
CAGR				AML	AML		
	comp=E,39400μm,0.9s						
CAGR				AML	AML		
	comp=N,33150μm,0.7s						
CAGR				AML	AML		
	comp=N,33150μm,0.7s						
CAGR				AML	AML		
	comp=E,39400μm,0.9s						
HLNI	Lentini	0.45	193	P	Pb	09 10 50.6	-0.3
HLNI				AML	AML		
	comp=E,19450μm,1.4s						
HLNI				AML	AML		
	comp=N,19050μm,1.3s						
HLNI				AML	AML		
	comp=E,19450μm,1.4s						
HLNI				AML	AML		
	comp=N,19050μm,1.3s						
HLNI				AML	AML		
	comp=E,19450μm,1.4s						
HLNI				AML	AML		
	comp=N,19050μm,1.3s						
MPNC	Port Mandanici	0.46	38	P	Pb	09 10 51.2	+0.2
MPNC				AML	AML		
	comp=E,97400μm,0.5s						
MPNC				AML	AML		
	comp=N,89850μm,0.6s						
MPNC				AML	AML		
	comp=E,97400μm,0.5s						
MPNC				AML	AML		
	comp=N,89850μm,0.6s						
MPNC				AML	AML		
	comp=E,97400μm,0.5s						
HCRL	Carlentini	0.50	177	P	Pb	09 10 51.8	0.0
HCRL				S	Sb	09 10 59.9	+1.1
HCRL				AML	AML		
	comp=E,36350μm,0.4s						
HCRL				AML	AML		
	comp=N,45350μm,0.4s						
HCRL				AML	AML		
	comp=E,36350μm,0.4s						
HCRL				AML	AML		
	comp=N,45350μm,0.4s						
HCRL				AML	AML		
	comp=N,45350μm,0.4s						
HCRL				AML	AML		
	comp=E,36350μm,0.4s						
HAGA	Augusta	0.52	166	P	Pb	09 10 52.0	+0.1
HAGA				S	Sn	09 11 00.9	+0.1
HAGA				AML	AML		
	comp=E,26950μm,0.7s						
HAGA				AML	AML		
	comp=N,34250μm,0.8s						
HAGA				AML	AML		
	comp=E,26950μm,0.7s						

HAGA AML AML
comp=N,34250µm,0.8s
HAGA AML AML
comp=E,26950µm,0.7s
HAGA AML AML
comp=N,34250µm,0.8s
HAGA AML AML
comp=E,26950µm,0.7s
HAGA AML AML
comp=N,34250µm,0.8s
MILZ Milazzo 0.52 21 P **Pb 09 10 52.1 +0.1**
MILZ AML AML
comp=E,32050µm,0.8s
MILZ AML AML
comp=N,25150µm,0.6s
MILZ AML AML
comp=E,32050µm,0.8s
MILZ AML AML
comp=N,25150µm,0.6s
MILZ AML AML
comp=E,32050µm,0.8s
MILZ AML AML
comp=N,25150µm,0.6s
MILZ AML AML
comp=E,32050µm,0.8s
MILZ AML AML
comp=N,25150µm,0.6s
VAE Valguarnera 0.56 237 Pg **Pn 09 10 54.1 +0.6**
comp=N,99nm,0.3s,baz=79,slow=0.8,SNR=142
VAE Lg Lg 09 11 05.7
comp=N,212nm,0.3s,baz=342,slow=11,SNR=14
AGST Augusta-Monte 0.56 161 P **Pb 09 10 52.7 +0.1**
AGST S **Sb 09 11 01.6 +1.3**
AGST AML AML
comp=E,29100µm,0.7s
AGST AML AML
comp=N,40900µm,0.5s
AGST AML AML
comp=E,29100µm,0.7s
AGST AML AML
comp=N,40900µm,0.5s
AGST AML AML
comp=N,40900µm,0.5s
AGST AML AML
comp=E,29100µm,0.7s
MTTG Motta San Giov 0.59 68 P **Pn 09 10 53.9 -0.1**
MTTG AML AML
comp=E,11650µm,0.8s
MTTG AML AML
comp=N,18550µm,0.5s
MTTG AML AML
comp=E,11650µm,0.8s
MTTG AML AML
comp=N,18550µm,0.5s
MTTG AML AML
comp=N,18550µm,0.5s
MTTG AML AML
comp=E,11650µm,0.8s
MSRU Castanea 0.62 40 P **Pb 09 10 54.0 +0.2**
MSRU AML AML
comp=E,18000µm,0.5s
MSRU AML AML
comp=N,20600µm,0.6s
MSRU AML AML
comp=E,18000µm,0.5s
MSRU AML AML
comp=N,20600µm,0.6s
MSRU AML AML
comp=E,18000µm,0.5s
MSRU AML AML
comp=N,20600µm,0.6s
HVZN Vizzini 0.65 200 P **Pb 09 10 53.7 -0.5**
HVZN S **Sb 09 11 03.7 +0.8**
HVZN AML AML
comp=E,41800µm,0.8s
HVZN AML AML
comp=N,39100µm,0.5s
HVZN AML AML
comp=E,41800µm,0.8s
HVZN AML AML
comp=N,39100µm,0.5s
HVZN AML AML
comp=E,41800µm,0.8s
LLI Lipari 0.66 357 P **Pb 09 10 54.2 -0.2**
PETRA Petralia Sopra 0.70 274 P **Pb 09 10 54.6 -0.5**
PETRA AML AML
comp=E,13125µm,0.6s
PETRA AML AML
comp=N,14000µm,1.2s
PETRA AML AML
comp=E,13125µm,0.6s
PETRA AML AML
comp=N,14000µm,1.2s
PETRA AML AML
comp=E,13125µm,0.6s
PETRA AML AML
comp=N,14000µm,1.2s
PLLN Pollina 0.71 287 P **Pb 09 10 54.6 -0.6**
PLLN AML AML
comp=E,27400µm,0.6s
PLLN AML AML
comp=N,41300µm,0.8s
PLLN AML AML
comp=E,27400µm,0.6s
PLLN AML AML
comp=N,41300µm,0.8s
PLLN AML AML
comp=N,41300µm,0.8s
PLLN AML AML
comp=E,27400µm,0.6s
MSCL Scilla 0.77 54 P **Pb 09 10 56.6 +0.3**
MSCL AML AML
comp=E,14050µm,0.6s
MSCL AML AML
comp=N,15100µm,0.6s
MSCL AML AML
comp=E,14100µm,0.6s
MSCL AML AML
comp=N,15100µm,0.6s
MSCL AML AML
comp=N,15100µm,0.6s
MSCL AML AML
comp=E,14100µm,0.6s
GIB Gibilmanna 0.79 285 P **Pb 09 10 56.2 -0.5**
GIB AML AML
comp=E,14450µm,0.9s
GIB AML AML
comp=N,18300µm,1.4s
GIB AML AML
comp=E,14450µm,0.9s
GIB AML AML
comp=N,18300µm,1.4s
GIB AML AML
comp=N,18300µm,1.4s
GIB AML AML
comp=E,14450µm,0.9s
MPAZ Palizzi 0.82 78 P **Pn 09 10 57.9 +0.8**
MPAZ AML AML
comp=E,8160µm,0.4s
MPAZ AML AML
comp=N,14350µm,1.4s
MPAZ AML AML
comp=E,8155µm,0.4s
MPAZ AML AML
comp=N,14350µm,1.4s
MPAZ AML AML
comp=E,8155µm,0.4s
MPAZ AML AML
comp=N,14350µm,1.4s
HAVL Avola 0.83 173 P **Pb 09 10 57.1 -0.2**
HAVL S **Sn 09 11 09.8 +1.2**
HAVL AML AML
comp=E,18950µm,0.4s
HAVL AML AML
comp=N,23750µm,0.3s
HAVL AML AML
comp=E,18950µm,0.4s
HAVL AML AML
comp=N,23750µm,0.3s
HAVL AML AML
comp=N,23750µm,0.3s
HAVL AML AML
comp=E,18950µm,0.4s
HMDC Modica 0.84 192 P **Pb 09 10 57.0 -0.5**
HMDC S **Sn 09 11 09.4 +0.4**
HMDC AML AML
comp=E,48600µm,1.1s
HMDC AML AML
comp=N,34900µm,1.1s
HMDC AML AML
comp=E,48600µm,1.1s
HMDC AML AML
comp=N,34900µm,1.1s
HMDC AML AML
comp=N,34900µm,1.1s
HMDC AML AML
comp=E,48600µm,1.1s
IFIL Filicudi I Eol 0.85 336 P **Pb 09 10 57.3 -0.3**
IFIL AML AML
comp=E,56050µm,0.4s
IFIL AML AML
comp=N,23500µm,0.8s
IFIL AML AML
comp=N,23500µm,0.8s
IFIL AML AML
comp=E,56050µm,0.4s
CEL Celeste 0.85 56 P **Pn 09 10 58.6 +1.0**
CEL AML AML
comp=E,4865µm,0.6s
CEL AML AML
comp=N,5070µm,0.8s
CEL AML AML
comp=N,5070µm,0.8s
CEL AML AML
comp=E,4865µm,0.6s
IACL Alicudi 0.90 326 P **Pb 09 10 57.4 -1.0**
IACL AML AML
comp=E,11280µm,1.3s
IACL AML AML
comp=N,13500µm,0.6s
IACL AML AML
comp=E,11280µm,1.3s
IACL AML AML
comp=N,13500µm,0.6s
IACL AML AML
comp=N,13500µm,0.6s
IACL AML AML
comp=E,11280µm,1.3s
JOPP Joppolo 1.08 40 P **Pb 09 11 00.7 -0.7**
JOPP AML AML
comp=E,4590µm,1.2s
JOPP AML AML
comp=N,4745µm,1.4s
JOPP AML AML
comp=E,4590µm,1.2s
JOPP AML AML
comp=N,4745µm,1.4s
FAVR Favara 1.18 244 P **Pb 09 11 03.9 +0.8**
FAVR AML AML
comp=E,3600µm,0.8s
FAVR AML AML
comp=N,3270µm,1.2s
FAVR AML AML
comp=N,3270µm,1.2s
FAVR AML AML
comp=E,3600µm,0.8s
SOLUN Solunto 1.20 285 P **Pn 09 11 02.5 +0.2**
SOLUN AML AML
comp=E,1930µm,1.2s
SOLUN AML AML
comp=N,1605µm,0.8s
SOLUN AML AML
comp=E,1930µm,1.2s
SOLUN AML AML
comp=N,1605µm,0.8s
PLAC Placanica 1.31 59 P **Pb 09 11 05.7 +0.2**
PLAC AML AML
comp=E,3400µm,0.8s
PLAC AML AML
comp=N,4555µm,0.6s
PLAC AML AML
comp=E,3400µm,0.8s
PLAC AML AML
comp=N,4555µm,0.6s
CORL Corleone 1.34 275 P **Pb 09 11 05.6 -0.4**
CORL AML AML
comp=E,5410µm,1.1s
CORL AML AML
comp=N,4545µm,1.1s
CORL AML AML
comp=N,4545µm,1.1s
CORL AML AML
comp=E,5410µm,1.1s
CLTB Caltabellotta 1.43 262 P **Pb 09 11 07.2 -0.2**
CLTB AML AML
comp=E,5365µm,0.5s
CLTB AML AML
comp=N,8705µm,0.7s
CLTB AML AML
comp=N,8705µm,0.7s
CLTB AML AML
comp=E,5365µm,0.5s
GRI Girifalco 1.52 47 P **Pb 09 11 09.2 +0.2**
GRI AML AML
comp=E,3055µm,0.6s
GRI AML AML
comp=N,2690µm,1.1s
GRI AML AML
comp=N,3055µm,0.6s
GRI AML AML
comp=N,2690µm,1.1s
SERS Sersale 1.82 46 P **Pn 09 11 12.4 +1.4**
CET2 Cetraro 1.90 23 P **Pn 09 11 12.2 +0.2**
CET2 AML AML
comp=E,3290µm,0.8s
CET2 AML AML
comp=N,3605µm,0.5s
CET2 AML AML
comp=E,3290µm,0.8s
CET2 AML AML
comp=N,3605µm,0.5s
TIP Timpagrande 1.96 44 P **Pb 09 11 15.0 -1.5**
TIP AML AML
comp=E,815µm,0.7s
TIP AML AML
comp=N,836µm,0.7s
TIP AML AML
comp=E,963µm,0.8s
TIP AML AML
comp=N,1053µm,0.7s
TIP AML AML
comp=N,836µm,0.7s
TIP AML AML
comp=E,815µm,0.7s
TIP AML AML
comp=E,963µm,0.8s
TIP AML AML
comp=N,1053µm,0.7s
CELI Celico 2.00 36 P **Pn 09 11 14.1 +0.6**
CELI AML AML
comp=E,2215µm,1.6s
CELI AML AML
comp=N,2790µm,0.9s
CELI AML AML
comp=N,2790µm,0.9s
CELI AML AML
comp=E,2215µm,1.6s
T0702 Acquaformosa (2.11 23 P **Pn 09 11 15.9 +1.0**
T0702 AML AML
comp=E,1810µm,0.9s
T0702 AML AML
comp=N,944µm,0.4s
T0702 AML AML
comp=N,944µm,0.4s
T0702 AML AML
comp=E,1810µm,0.9s
CUC Castrocucco 2.29 16 AML AML
comp=E,1075µm,0.7s
CUC AML AML
comp=E,1075µm,0.7s
CUC AML AML
comp=N,846µm,0.9s
CUC AML AML
comp=N,846µm,0.9s
BULG Bulgheria - Ca 2.31 7 AML AML
comp=E,518µm,0.5s
BULG AML AML
comp=E,518µm,0.5s
BULG AML AML
comp=N,792µm,0.4s
BULG AML AML
comp=N,792µm,0.4s
SALB San Lorenzo Be 2.34 26 AML AML
comp=N,1056µm,0.7s
SALB AML AML
comp=E,1172µm,0.4s
SALB AML AML
comp=N,1040µm,0.6s
SALB AML AML
comp=E,1210µm,0.4s
SALB AML AML
comp=N,1040µm,0.6s
SALB AML AML
comp=E,1210µm,0.4s
SALB AML AML
comp=E,1172µm,0.4s
SALB AML AML
comp=N,1056µm,0.7s
SIRI Monte Sirino - 2.49 16 AML AML
comp=E,849µm,0.4s
SIRI AML AML
comp=N,834µm,0.5s
SIRI AML AML
comp=E,876µm,0.4s
SIRI AML AML
comp=N,834µm,0.5s
SIRI AML AML
comp=N,834µm,0.5s
SIRI AML AML
comp=E,876µm,0.4s
SIRI AML AML
comp=E,849µm,0.4s
SIRI AML AML
comp=N,834µm,0.5s
MTSN Montesano sull 2.54 13 AML AML
comp=N,646µm,0.5s
MTSN AML AML
comp=E,636µm,0.5s
MTSN AML AML
comp=N,646µm,0.5s
MTSN AML AML
comp=E,636µm,0.5s
LTRZ Laterza 3.15 26 AML AML
comp=E,294µm,0.6s
LTRZ AML AML
comp=N,368µm,0.5s
LTRZ AML AML
comp=N,368µm,0.5s
LTRZ AML AML
comp=E,294µm,0.6s
MATE Matera 3.15 24 AML AML
comp=N,278µm,0.5s
MATE AML AML
comp=E,285µm,0.9s
MATE AML AML
comp=E,285µm,0.9s
MATE AML AML
comp=N,278µm,0.5s
TAR1 Taranto 3.26 32 *e*Pn **Pn 09 11 32.0 +1.3**
MASS Massafra 3.30 30 *e*Pn **Pn 09 11 32.6 +1.4**
SG1 Sgolgore (BA) 3.32 23 *e*Pn **Pn 09 11 32.7 +1.2**
MRVN Minervino Murg 3.40 15 AML AML
comp=N,115µm,0.5s
MRVN AML AML
comp=E,115µm,0.6s
MRVN AML AML
comp=E,115µm,0.6s
MRVN AML AML
comp=N,115µm,0.5s
FASA Fasano 3.54 30 *e*Pn **Pn 09 11 35.5 +1.1**
SCTE Santa Cesarea 3.54 49 AML AML
comp=N,92µm,1.4s
SCTE AML AML
comp=E,91µm,0.6s
SCTE AML AML
comp=E,91µm,0.6s
SCTE AML AML
comp=N,92µm,1.4s
BAI Bari 3.62 23 *e*Pn **Pn 09 11 36.4 +0.8**
KEST Kesra 4.98 247 Pn **Pn 09 11 56.0 +1.6**
comp=N,1.4nm,0.3s,baz=317,slow=3.6,SNR=11
KEST Sn **Sn 09 12 50.9 -0.2**
comp=N,0.9nm,0.3s,baz=223,slow=7.5,SNR=3.9
KEST LR LR 09 14 08.8
comp=N,108nm,19.6s,baz=314,slow=41
ULC Ulcinj 5.30 37 ⇑*i*Pn **Pn 09 12 01.3 +2.6**
ULC *e*Sn **Sn 09 13 01.4 +2.6**
HCY Herceg Novi 5.37 29 ⇑*i*Pn **Pn 09 12 02.4 +2.7**
HCY *e*Sn **Sn 09 13 03.4 +2.8**
HCY Herceg Novi 5.37 29 *e*Pn **Pn 09 12 00.3 +0.6**
BUM Brajici-Budva 5.41 32 ⇑*i*Pn **Pn 09 12 02.7 +2.4**
BUM *e*Sn **Sn 09 13 03.8 +2.2**
DRME Dracevica, Mon 5.45 35 ⇑*i*Pn **Pn 09 12 02.8 +2.1**
DRME *e*Sn **Sn 09 13 04.4 +2.0**
DRME Dracevica, Mon 5.45 35 *e*Pn **Pn 09 11 59.7 -1.0**
STON Ston 5.48 21 *e*Pn **Pn 09 12 03.0 +1.8**
STON *e*Sn **Sn 09 13 03.3 0.0**
STON Ston 5.48 21 *e*Pn **Pn 09 12 01.3 +0.1**
TREB Trebinje 5.55 26 *e*Pn **Pn 09 12 04.5 +2.3**
TREB *e*Sn **Sn 09 13 04.6 -0.4**
TREB Trebinje 5.55 26 *e*Pn **Pn 09 12 02.5 +0.3**
CEME Cevo 5.62 31 ⇓*i*Pn **Pn 09 12 03.3 +0.1**
CEME *e*Sn **Sn 09 13 09.1 +2.2**
PDG Podgorica 5.67 34 *e*Pn **Pn 09 12 07.0 +3.2**
PDG *e*Sn **Sn 09 13 07.6 -0.3**
PDG Podgorica 5.67 34 *e*Pn **Pn 09 12 03.4 -0.4**
TTG Podgorica 5.67 34 ⇑*i*Pn **Pn 09 12 06.9 +3.2**
TTG *e*Sn **Sn 09 13 10.9 +3.0**
BRY Bratogost 5.78 27 ⇓*i*Pn **Pn 09 12 06.5 +1.1**
BRY *e*Sn **Sn 09 13 13.1 +2.2**
BRY Bratogost 5.78 27 *e*Pn **Pn 09 12 05.6 +0.2**
NKME Niksic 5.82 30 ⇑*i*Pn **Pn 09 12 08.9 +3.0**
NKME *e*Sn **Sn 09 13 14.2 +2.5**
NKY Niksic 5.88 30 ⇑*i*Pn **Pn 09 12 08.4 +1.7**
NKY *e*Sn **Sn 09 13 15.3 +2.1**
PVY Plav 6.12 37 ⇑*i*Pn **Pn 09 12 12.8 +2.7**
PVY *e*Sn **Sn 09 13 21.1 +1.8**
KOME Kolasin 6.12 33 ⇑*i*Pn **Pn 09 12 13.0 +2.9**
KOME *e*Sn **Sn 09 13 21.3 +2.1**
UPM Unac-Piva 6.18 28 ⇑*i*Pn **Pn 09 12 13.1 +2.2**
UPM *e*Sn **Sn 09 13 23.1 +2.4**
UPM Unac-Piva 6.18 28 *e*Pn **Pn 09 12 11.5 +0.6**
IVA Berane 6.31 35 ⇓*i*Pn **Pn 09 12 14.9 +2.3**
IVA *e*Sn **Sn 09 13 25.2 +1.4**
SJES Sjenica 6.65 33 *e*Pn **Pn 09 12 19.7 +2.3**
SJES *e*Sn **Sn 09 13 29.7 -2.6**
BBLS Lazići 6.93 27 *e*Pn **Pn 09 12 23.6 +2.4**
BBLS *e*Sn **Sn 09 13 36.9 -2.2**
BBLS Lazići 6.93 27 *e*Pn **Pn 09 12 22.4 +1.2**
IVAS Ivanjica 6.98 32 *e*Pn **Pn 09 12 23.8 +1.9**
IVAS *e*Sn **Sn 09 13 38.0 -2.4**
SELS Selova 7.15 39 *e*Pn **Pn 09 12 26.5 +2.3**
DIVS Divibare 7.35 29 *e*Pn **Pn 09 12 28.8 +1.9**
DIVS *e*Sn **Sn 09 13 47.9 -1.5**
DIVS Divibare 7.35 29 *e*Pn **Pn 09 12 27.2 +0.3**
BOVS Bovan 7.75 39 *e*Pn **Pn 09 12 34.8 +2.5**
BOVS *e*Sn **Sn 09 13 56.2 -2.9**
CRES Cresnjev 8.04 2 *e*Pn **Pn 09 12 40.5 +4.2**
IDI Anoyia 8.34 104 Pn **Pn 09 12 38.7 -1.9**
comp=N,0.3nm,0.3s,baz=302,slow=15,SNR=2.0
IDI Sn **Sn 09 14 09.8 -4.1**
comp=N,3.7nm,0.3s,baz=343,slow=18,SNR=9.5
DAVOX Davos/Dischmat 9.75 339 Pn Pn 09 13 08.0 +8.1
comp=N,0.2nm,0.3s,baz=143,slow=20,SNR=2.1
DAVOX LR LR 09 17 09.8
comp=N,107nm,19.1s,baz=144,slow=39
GERES GERESS Array B 11.09 356 Pn **Pn 09 13 21.9 +3.6**
comp=N,0.2nm,0.3s,baz=174,slow=11,SNR=2.7
VRAC Vranov 11.58 5 LR LR 09 18 08.6
comp=N,65nm,19.3s,baz=196,slow=38
BRTR Keskin Array B 14.68 77 Pn **Pn 09 14 06.7 -0.5**
comp=N,0.0nm,0.3s,baz=253,slow=15,SNR=2.4
AKASG Malin Array Be 16.41 34 Pn **P 09 14 32.6 +0.5**
comp=N,1.0nm,0.3s,baz=215,slow=11,SNR=5.0
KVAR Kislovodsk Arr 21.77 65 P **P 09 15 29.6 -1.3**
comp=N,3.5nm,0.3s,baz=277,slow=19,SNR=2.1
HFS Hagfors 22.38 358 P **P 09 15 37.9 +0.7**
comp=N,5.4nm,1.1s,baz=144,slow=12,SNR=3.2
HFS LR LR 09 26 22.9
comp=N,36nm,18.2s,baz=214,slow=42
NOA NORSAR Array B 23.40 355 P **P 09 15 47.5 -0.2**
comp=N,0.3nm,0.6s,baz=172,slow=9.1,SNR=2.4
NOA LR LR 09 26 08.0
comp=N,37nm,19.2s,baz=185,slow=39
FINES FINESS Array B 24.67 13 P **P 09 15 59.5 -0.1**
comp=N,4.5nm,0.9s,baz=155,slow=6.3,SNR=4.0
TORD Torodi Ar. Bea 27.25 209 P **P 09 16 21.7 -1.6**
comp=N,0.1nm,0.4s,baz=34,slow=10,SNR=2.2

DBIC	**Dimbokro**	**35.84**	**215**	LR	LR	09 32 28.1		
	comp=N,47nm,18.6s,baz=359,slow=36							
ZALV	**Zalesovo Beam**	**49.18**	**47**	P	**P**	**09 19 24.8**	**-1.9**	
	comp=N,0.6nm,0.3s,baz=246,slow=6.1,SNR=2.3							
MKAR	**Makanchi Array**	**49.20**	**57**	P	**P**	**09 19 26.2**	**-0.8**	
	comp=N,0.4nm,0.6s,baz=290,slow=8.1,SNR=2.9							
KSRS	**Korea Array**	**82.89**	**48**	LR	LR	10 04 32.0		
	comp=N,14nm,18.1s,baz=65,slow=39							

ISK ***22*** *09:35:37.6, 36°.53N×25°.38E, h9km, ML3.5/17*
ATH ***22*** *09:35:39.1, 36°.49N×25°.46E, h19km, ML3.5/9, Error ellipse: s-maj=1.1km s-min=0.8km az=265.0*
ISCJB ***22*** *09:35:39.7±0.2, 36°.51N±0°.02×25°.49E±0°.02, h13km±1km, mb3.4/4, Error ellipse: s-maj=2.8km s-min=2.4km az=34.8*
THE ***22*** *09:35:40.1, 36°.52N×25°.50E, h8km, ML3.8/11, Error ellipse: s-maj=0.6km s-min=0.4km az=239.0*
IDC ***22*** *09:35:45.8±1.3, 36°.17N×25°.62E, h67km±18km, mb3.3/4, mb1 3.6/8, mb1mx3.3/45, mbtmp3.7/8, Error ellipse: s-maj=28.4km s-min=16.8km az=136.0*
DDA ***22*** *09:35:57.8, 36°.31N×25°.41E, h35km, Ml3.6*

ISC 22 09:35:40.4±0.7, 36°.50N±0°.02×25°.46E±0°.02, h13km±3km, n123, σ1§09/170, mb3.5/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBO	**Columbo, Santo**	**0.06**	**233**	P	**Pg**	**09 35 42.3**	**-0.5**
CMBO				S	**Sg**	**09 35 44.3**	**-0.3**
CMBO				AML	AML	09 35 44.6	
CMBO				AML	AML	09 35 45.0	
CMBO	**Columbo, Santo**	**0.06**	**233**	P	**Pg**	**09 35 42.3**	**-0.5**
CMBO				S	**Sg**	**09 35 44.2**	**-0.4**
THR2	**Thira island,**	**0.06**	**199**	P	**Pg**	**09 35 42.4**	**-0.5**
THR2	**Thira island,**	**0.06**	**199**	P	**Pg**	**09 35 42.4**	**-0.5**
THT2	**Imerovigli**	**0.07**	**204**	P	**Pg**	**09 35 43.0**	**-0.1**
THT2				S	**Sg**	**09 35 45.2**	**+0.1**
THT2	**Imerovigli**	**0.07**	**204**	P	**Pg**	**09 35 43.0**	**-0.1**
THT2				S	**Sg**	**09 35 45.1**	**+0.1**
SAP4	**Santorini-Oia**	**0.08**	**247**	P	**Pg**	**09 35 42.8**	**-0.3**
SAP4				S	**Sg**	**09 35 44.9**	**0.0**
SAP4	**Santorini-Oia**	**0.08**	**247**	P	**Pg**	**09 35 42.8**	**-0.3**
SAP4				S	**Sg**	**09 35 45.1**	**+0.1**
SFIR	**Foira Santorin**	**0.09**	**197**	P	**Pg**	**09 35 42.8**	**-0.4**
SFIR				S	**Sg**	**09 35 45.1**	**-0.1**
THR7	**Fira-Santorini**	**0.09**	**197**	P	**Pg**	**09 35 42.9**	**-0.3**
THR7	**Fira-Santorini**	**0.09**	**197**	P	**Pg**	**09 35 42.8**	**-0.3**
SAP2K	**Karterados**	**0.09**	**187**	P	**Pg**	**09 35 43.0**	**-0.3**
SAP2K				S	**Sg**	**09 35 45.6**	**+0.2**
SAP2K	**Karterados**	**0.09**	**187**	P	**Pg**	**09 35 42.9**	**-0.3**
SAP2K				S	**Sg**	**09 35 45.1**	**-0.2**
THR8	**Santorini-Mono**	**0.10**	**171**	P	**Pg**	**09 35 42.8**	**-0.6**
THR8	**Santorini-Mono**	**0.10**	**171**	P	**Pg**	**09 35 42.7**	**-0.6**
THR3	**Thira Island,**	**0.11**	**207**	P	**Pg**	**09 35 43.2**	**-0.3**
THR3	**Thira Island,**	**0.11**	**207**	P	**Pg**	**09 35 43.1**	**-0.3**
SAP3	**Santorini-Thir**	**0.12**	**234**	P	**Pg**	**09 35 43.4**	**-0.1**
SAP3				S	**Sb**	**09 35 46.3**	**-0.9**
SAP3	**Santorini-Thir**	**0.12**	**234**	P	**Pg**	**09 35 43.4**	**-0.1**
SAP3				S	**Sb**	**09 35 46.3**	**-0.9**
THT1	**Athinios (Pele**	**0.12**	**192**	P	**Pg**	**09 35 43.1**	**-0.5**
THT1				S	**Sg**	**09 35 45.4**	**-0.4**
THT1	**Athinios (Pele**	**0.12**	**192**	P	**Pg**	**09 35 43.1**	**-0.5**
THT1				S	**Sg**	**09 35 45.5**	**-0.4**
THR5	**Thira Island,**	**0.12**	**226**	P	**Pg**	**09 35 43.3**	**-0.4**
THR5	**Thira Island,**	**0.12**	**226**	P	**Pg**	**09 35 43.3**	**-0.4**
SANT	**Santorini**	**0.13**	**180**	PG	**Pg**	**09 35 41.6**	**-2.2**
SANT				SG	**Sg**	**09 35 44.6**	**-1.6**
SANT	**Santorini**	**0.13**	**180**	P	**Pg**	**09 35 43.4**	**-0.4**
SANT				S	**Sg**	**09 35 45.8**	**-0.4**
SANT				AML	AML	09 35 46.5	
SANT				AML	AML	09 35 46.6	
	comp=N,43482μm,0.3s						
SANT	**Santorini**	**0.13**	**180**	P	**Pg**	**09 35 43.3**	**-0.5**
SANT				S	**Sg**	**09 35 45.8**	**-0.4**
SAP1	**Santorini-Akro**	**0.15**	**200**	P	**Pg**	**09 35 44.0**	**0.0**
SAP1				S	**Sb**	**09 35 47.2**	**-1.1**
SAP1	**Santorini-Akro**	**0.15**	**200**	P	**Pg**	**09 35 44.1**	**0.0**
SAP1				S	**Sb**	**09 35 47.1**	**-1.2**
THR6	**Thira Island,**	**0.16**	**199**	P	**Pg**	**09 35 43.3**	**-0.8**
THR9	**Santorini-Faro**	**0.17**	**210**	P	**Pg**	**09 35 43.4**	**-0.9**
ANAF	**Anafi Island**	**0.29**	**120**	P	**Pg**	**09 35 45.9**	**-0.5**
ANAF				S	**Sg**	**09 35 49.9**	**-0.6**
ANAF				AML	AML	09 35 50.4	
ANAF				AML	AML	09 35 52.0	
	comp=E,80201μm,0.2s						
ANAF	**Anafi Island**	**0.29**	**120**	P	**Pg**	**09 35 45.8**	**-0.6**
ANAF				S	**Sg**	**09 35 50.2**	**-0.3**
AMGA	**Amorgos Island**	**0.48**	**47**	P	**Pg**	**09 35 48.7**	**-1.1**
AMGA				S	**Sg**	**09 35 56.2**	**0.0**
AMGA				AML	AML	09 35 56.4	
	comp=E,9301μm,0.2s						
AMGA				AML	AML	09 35 56.9	
	comp=N,11689μm,0.2s						
AMGA	**Amorgos Island**	**0.48**	**47**	P	**Pg**	**09 35 48.7**	**-1.1**
APE	**Apeiranthos**	**0.57**	**6**	PG	**Pg**	**09 35 48.9**	**-2.6**
APE				SG	**Sg**	**09 35 57.1**	**-2.0**
APE	**Apeiranthos**	**0.57**	**6**	P	**Pg**	**09 35 50.5**	**-1.1**
APE				S	**Sb**	**09 35 60.0**	**-0.3**
APE				AML	AML	09 36 00.2	
	comp=E,5234μm,0.2s						
APE				AML	AML	09 36 02.0	
	comp=N,7558μm,0.2s						
APE	**Apeiranthos**	**0.57**	**6**	P	**Pg**	**09 35 50.3**	**-1.2**
APE				S	**Sg**	**09 35 59.3**	**+0.2**
MHLA	**Plaka, Milos I**	**0.87**	**286**	P	**Pg**	**09 35 56.7**	**-0.5**
MHLA				S	**Sg**	**09 36 08.5**	**-0.1**
MHLA				AML	AML	09 36 14.6	
	comp=E,3978μm,0.7s						
MHLA				AML	AML	09 36 17.1	
	comp=N,4930μm,0.9s						
MHLO	**Agia Marina, M**	**0.87**	**283**	P	**Pg**	**09 35 55.8**	**-1.4**
MHLO	**Agia Marina, M**	**0.87**	**283**	P	**Pb**	**09 35 57.4**	**0.0**
MHLO				S	**Sn**	**09 36 10.1**	**-0.9**
SERI	**Serifos**	**1.02**	**310**	P	**Pb**	**09 35 59.1**	**-0.9**
SERI				S	**Sg**	**09 36 13.4**	**0.0**
TNSA	**Tinos**	**1.06**	**347**	P	**Pb**	**09 36 00.6**	**-0.1**
TNSA				S	**Sb**	**09 36 14.1**	**-0.3**
TNSA				AML	AML	09 36 16.4	
	comp=E,3720μm,0.2s						
TNSA				AML	AML	09 36 16.9	
	comp=N,6863μm,0.3s						
IACM	**Heraklion**	**1.24**	**195**	P	**Pn**	**09 36 03.0**	**-0.4**
NPS	**Neapolis**	**1.25**	**174**	P	**Pn**	**09 36 02.1**	**-1.5**
NPS				S	**Sb**	**09 36 18.3**	**-1.4**
NPS				AML	AML	09 36 23.2	
	comp=E,2589μm,0.3s						
NPS				AML	AML	09 36 24.6	
	comp=N,2377μm,0.4s						
NPS	**Neapolis**	**1.25**	**174**	P	**Pn**	**09 36 01.9**	**-1.7**
NPS				S	**Sg**	**09 36 20.4**	**-0.1**
IDI	**Anoyia**	**1.30**	**201**	PN	**Pn**	**09 36 01.9**	**-2.4**
IDI				SN	**Sb**	**09 36 20.6**	**-0.7**
IDI	**Anoyia**	**1.30**	**201**	P	**Pn**	**09 36 03.2**	**-1.1**
	comp=N,58nm,0.3s,baz=22,slow=11,SNR=282						
IDI				S	**Sb**	**09 36 19.7**	**-1.6**
	comp=N,73nm,0.3s,baz=289,slow=14,SNR=13						
IDI	**Anoyia**	**1.30**	**201**	P	**Pn**	**09 36 03.2**	**-1.1**
LAST	**Lasithi**	**1.34**	**179**	P	**Pn**	**09 36 03.4**	**-1.5**
LAST				S	**Sn**	**09 36 22.1**	**-0.6**
LAST				AML	AML	09 36 26.2	
	comp=E,1267μm,0.9s						
LAST				AML	AML	09 36 27.5	
	comp=N,1416μm,0.3s						
LAST	**Lasithi**	**1.34**	**179**	P	**Pn**	**09 36 03.4**	**-1.5**
LAST				S	**Sg**	**09 36 23.6**	**0.0**
NISR	**Nisiros**	**1.35**	**85**	P	**Pn**	**09 36 03.8**	**-1.1**
PRNS	**Prines Rethymn**	**1.38**	**215**	P	**Pg**	**09 36 06.3**	**-0.6**
NIS1	**Nisyros Isl.**	**1.39**	**85**	PN	**Pn**	**09 36 04.7**	**-0.8**
NIS1	**Nisyros Isl.**	**1.39**	**85**	P	**Pn**	**09 36 05.2**	**-0.3**
STIA	**Sitia Lasithi**	**1.40**	**158**	P	**Pn**	**09 36 05.0**	**-0.6**
VAM	**Vamos**	**1.50**	**223**	P	**Pn**	**09 36 06.3**	**-0.7**
VAM	**Vamos**	**1.50**	**223**	P	**Pn**	**09 36 06.3**	**-0.7**
ZKR	**Zakros**	**1.52**	**156**	P	**Pn**	**09 36 07.0**	**-0.3**
ZKR	**Zakros**	**1.52**	**156**	P	**Pn**	**09 36 06.6**	**-0.7**
ZKR				S	**Sn**	**09 36 26.1**	**-0.8**
SIVA	**Sivas**	**1.57**	**200**	P	**Pn**	**09 36 07.7**	**-0.3**
SIVA	**Sivas**	**1.57**	**200**	P	**Pn**	**09 36 07.8**	**-0.3**
BODT	**Bodrum**	**1.59**	**69**	PN	**Pn**	**09 36 07.4**	**-0.9**
BODT				SN	**Sb**	**09 36 29.0**	**-0.6**
BODT	**Bodrum**	**1.59**	**69**	P	**Pn**	**09 36 07.4**	**-0.9**
IMMV	**Iera Moni Meta**	**1.59**	**229**	P	**Pn**	**09 36 07.6**	**-0.7**
IMMV	**Iera Moni Meta**	**1.59**	**229**	P	**Pn**	**09 36 07.7**	**-0.6**
SMG	**Samos**	**1.63**	**42**	P	**Pn**	**09 36 08.9**	**+0.1**
SMG	**Samos**	**1.63**	**42**	P	**Pn**	**09 36 07.1**	**-1.8**
DAT	**Datca**	**1.72**	**82**	PN	**Pn**	**09 36 09.4**	**-0.8**
DAT	**Datca**	**1.72**	**82**	*i* P	**Pn**	**09 36 09.4**	**-0.8**
DAT				*i* S	**Sg**	**09 36 36.2**	**+0.5**
DATC	**Datca-Mugla**	**1.79**	**81**	PN	**Pn**	**09 36 10.3**	**-0.7**
ANKY	**Antikythira Is**	**1.86**	**251**	P	**Pn**	**09 36 11.7**	**-0.3**
ANKY	**Antikythira Is**	**1.86**	**251**	P	**Pn**	**09 36 11.7**	**-0.3**
ANKY				S	**Sn**	**09 36 35.9**	**+0.6**
VLY	**Voula,Athens**	**1.89**	**316**	P	**Pn**	**09 36 11.7**	**-0.8**
DGB	**˜zmir**	**1.92**	**36**	*i* P	**Pb**	**09 36 15.5**	**+0.3**
DGB				*i* S	**Sg**	**09 36 41.1**	**-1.0**
CHOS	**Chios island**	**1.94**	**14**	PN	**Pn**	**09 36 11.5**	**-1.7**
CHOS	**Chios island**	**1.94**	**14**	P	**Pn**	**09 36 11.8**	**-1.4**
CESE	**˜e˙me**	**1.94**	**20**	PN	**Pn**	**09 36 11.7**	**-1.4**
GMLD	**Gumuldur**	**1.95**	**36**	PN	**Pn**	**09 36 11.9**	**-1.4**
KYTH	**Kithira**	**1.96**	**264**	P	**Pn**	**09 36 13.5**	**+0.1**
ATHU	**Athens Univers**	**1.98**	**318**	P	**Pn**	**09 36 13.3**	**-0.4**
ATHU				S	**Sn**	**09 36 39.4**	**+1.0**
DION	**Dionisos Attik**	**1.99**	**323**	P	**Pn**	**09 36 14.0**	**+0.2**
KTHR	**Kythira**	**2.00**	**264**	P	**Pn**	**09 36 14.0**	**+0.1**
KTHR				S	**Sn**	**09 36 38.9**	**+0.1**
PTL	**Penteli**	**2.00**	**321**	P	**Pn**	**09 36 15.0**	**+1.0**
GVD	**Gavdhos**	**2.00**	**214**	P	**Pn**	**09 36 14.0**	**0.0**
MLSB	**Milas**	**2.02**	**66**	PN	**Pn**	**09 36 13.2**	**-1.0**
ATH	**Athens Observa**	**2.02**	**317**	P	**Pn**	**09 36 14.2**	**0.0**
VLI	**Veliai**	**2.04**	**277**	P	**Pn**	**09 36 14.4**	**-0.1**
VLI	**Veliai**	**2.04**	**277**	P	**Pn**	**09 36 14.1**	**-0.4**
URLA	**Izmir**	**2.06**	**26**	PN	**Pn**	**09 36 13.4**	**-1.4**
URLA	**Izmir**	**2.06**	**26**	*i* P	**Pb**	**09 36 18.1**	**+0.3**
URLA				*i* S	**Sg**	**09 36 47.5**	**+0.8**
ARG	**Arkhangelos**	**2.17**	**97**	PN	**Pn**	**09 36 15.9**	**-0.4**
MRSB	**Marmaris-Mugla**	**2.21**	**84**	PN	**Pn**	**09 36 16.4**	**-0.5**
AYDN	**Tasoluk**	**2.25**	**58**	*i* P	**Pb**	**09 36 20.4**	**-0.6**
AYDN				*i* S	**Sg**	**09 36 52.5**	**-0.4**
KRBN	**Karaburun**	**2.26**	**22**	PN	**Pn**	**09 36 16.2**	**-1.3**
VILL	**Villia**	**2.38**	**315**	P	**Pn**	**09 36 19.0**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**2.42**	**53**	PN	**Pn**	**09 36 19.1**	**-0.7**
FOCM	**Fo˘ça**	**2.42**	**24**	PN	**Pn**	**09 36 18.5**	**-1.3**
TURN	**Turunc**	**2.55**	**81**	PN	**Pn**	**09 36 17.3**	**-4.2**
TURN	**Turunc**	**2.55**	**81**	*i* P	**Pn**	**09 36 20.3**	**-1.2**
TURN				*i* S	**Sn**	**09 36 52.7**	**+0.3**
DALY	**Dalyan (Mu˘la**	**2.59**	**82**	PN	**Pn**	**09 36 21.9**	**-0.1**
DALY	**Dalyan (Mu˘la**	**2.59**	**82**	*i* P	**Pn**	**09 36 23.5**	**+1.5**
DALY				*i* S	**Sg**	**09 37 08.0**	**+4.5**
SIGR	**SIGRI**	**2.72**	**6**	PN	**Pn**	**09 36 22.4**	**-1.4**
DKL	**Dikili**	**2.81**	**24**	PN	**Pn**	**09 36 24.1**	**-0.9**
PRK	**Paraskevi**	**2.81**	**13**	P	**Pn**	**09 36 23.6**	**-1.5**
ITM	**Ithomi**	**2.91**	**284**	PN	**Pn**	**09 36 24.7**	**-1.8**
FETY	**Fethiye**	**2.92**	**86**	PN	**Pn**	**09 36 26.7**	**+0.1**
AOS	**Alonnisos**	**2.94**	**335**	PN	**Pn**	**09 36 25.3**	**-1.6**
AKHS	**Akhisar**	**3.02**	**38**	*i* P	**Pn**	**09 36 30.2**	**+2.2**
AKHS				*i* S	**Sg**	**09 37 16.0**	**-1.4**
MANT	**Manisa**	**3.16**	**50**	*i* P	**Pg**	**09 36 39.3**	**-1.8**
MANT				*i* S	**Sg**	**09 37 21.6**	**-0.4**
KULA	**Kula-Manisa**	**3.24**	**51**	PN	**Pn**	**09 36 30.6**	**-0.5**
AKAS	**Kas**	**3.36**	**93**	PN	**Pn**	**09 36 32.7**	**0.0**
AKAS	**Kas**	**3.36**	**93**	*i* P	**Pn**	**09 36 32.3**	**-0.4**
EZN	**Ezine**	**3.39**	**11**	PN	**Pn**	**09 36 32.3**	**-0.7**
ELL	**Elmali**	**3.59**	**85**	PN	**Pn**	**09 36 35.8**	**-0.1**
BRTR	**Keskin Array B**	**7.21**	**61**	P	**Pn**	**09 37 27.5**	**+1.9**
	comp=N,0.2nm,0.3s,baz=240,slow=14,SNR=6.3						
VRAC	**Vranov**	**14.34**	**336**	P	**P**	**09 39 11.3**	**+1.2**
	comp=N,0.8nm,0.3s,baz=127,slow=20,SNR=4.0						
AKASG	**Main Array Be**	**14.45**	**10**	P	**P**	**09 39 11.7**	**+0.4**
	comp=N,0.9nm,0.3s,baz=202,slow=11,SNR=3.4						
GERES	**GERESS Array B**	**15.04**	**329**	P	**P**	**09 39 19.5**	**+1.5**
	comp=N,0.2nm,0.3s,baz=144,slow=12,SNR=14						
KBZ	**Khabaz**	**15.15**	**56**	P	**P**	**09 39 22.2**	**+3.1**
	comp=N,0.2nm,0.3s,baz=257,slow=7.0,SNR=6.0						
ESDC	**Sonseca Array**	**23.33**	**287**	P	**P**	**09 40 48.5**	**+0.1**
	comp=N,0.7nm,0.4s,baz=85,slow=9.2,SNR=6.6						
EKA	**Eskdalemuir Ar**	**27.10**	**323**	P	**P**	**09 41 26.4**	**+3.7**
	comp=N,0.8nm,0.5s,baz=114,slow=8.6,SNR=2.9						
TORD	**Torodi Ar. Bea**	**31.55**	**229**	P	**P**	**09 42 00.4**	**-2.2**
	comp=N,0.2nm,0.4s,baz=33,slow=8.7,SNR=4.1						
MKAR	**Makanchi Array**	**42.84**	**58**	P	**P**	**09 43 38.4**	**+0.2**
	comp=N,0.5nm,0.6s,baz=292,slow=7.6,SNR=3.2						

IDC ***22*** *09:41:33.9±2.3, 18°.13S×178°.69W, h504km±26km, mb2.7/4, mb1 3.0/5, mb1mx2.8/26, mbtmp3.6/5, Error ellipse: s-maj=106.4km s-min=18.0km az=153.0*

ISC 22 09:41:34.6±2.6, 18°.7S±0°.9×178°.1W±0°.5, h550km, n6, σ1§76/7, mb3.2/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.71**	**53**	P	**P**	**09 43 29.0**	**-0.7**
	1.2nm,0.3s,baz=238,slow=9.5,SNR=2.8						
AFI				S	**S**	**09 45 03.8**	**0.0**
	1.2nm,0.3s,baz=252,slow=20,SNR=3.4						
WRA	**Warramunga Arr**	**44.78**	**260**	P	**P**	**09 48 59.3**	**-0.7**
	0.2nm,0.3s,baz=95,slow=7.8,SNR=19						
ASAR	**Alice Springs**	**44.86**	**255**	P	**P**	**09 48 59.5**	**-1.0**
	0.5nm,0.6s,baz=95,slow=8.4,SNR=7.2						
ASAR				PcP	**PcP**	**09 50 31.1**	**+0.6**
	0.2nm,0.5s,baz=104,slow=4.1,SNR=5.0						
TXAR	**Lajitas Array**	**86.17**	**57**	P	P	09 53 23.3	+5.0
	0.2nm,0.7s,baz=205,slow=5.5,SNR=3.8						
ILAR	**Eielson Array**	**86.57**	**13**	P	**P**	**09 53 18.7**	**-0.6**
	0.6nm,1.0s,baz=224,slow=6.3,SNR=3.1						
GERES	**GERESS Array B**	**148.43**	**345**	PKPbc	**PKPbc**	**10 00 22.7**	**+3.1**
	0.2nm,0.3s,baz=48,slow=1.5,SNR=3.6						

NIED ***22*** *10:10:00, 39°.60N×142°.00E, h29km, Mw3.6 Best double couple: M0 2.67000×10^14 NP1:φs177.00000°, δ26.00000°, λ-159.00000°. NP2:φs69.00000°, δ81.00000°, λ-65.00000°.*
ISCJB ***22*** *10:10:45.7±0.6, 39°.57N±0°.03×142°.02E±0°.07, h37km±5km, mb3.6/8, Error ellipse: s-maj=9.0km s-min=4.4km az=8.4*
JMA ***22*** *10:10:46.3, 39°.57N×141°.98E, h34km, M3.8*
JMA Felt II J1.
IDC ***22*** *10:10:48.6±2.1, 39°.57N×141°.98E, h49km±20km, mb3.4/8, mb1 3.5/12, mb1mx3.4/38, mbtmp3.6/12, ML3.3/3, MS2.6/3, Ms1 2.6/3, ms1mx2.2/24, Error ellipse: s-maj=22.7km s-min=14.0km az=112.0*

ISC 22 10:10:46.1±1.1, 39°.58N±0°.03×142°.04E±0°.07, h28km±7km, n32, σ1§78/38, mb3.6/8, 5C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.17**	**271**	⇓P	**Pb**	**10 10 52.1**	**+0.3**
MIYJ				S	**Sb**	**10 10 56.0**	**+0.3**
JTH	**Tanohata**	**0.39**	**339**	⇑P	**Pn**	**10 10 54.9**	**-1.0**
JTH				S	**Sn**	**10 11 01.0**	**-1.3**
OFUJ	**Ofunato**	**0.57**	**210**	⇓P	**Pb**	**10 10 57.1**	**-0.6**
OFUJ				S	**Sb**	**10 11 04.5**	**-1.0**
JOM	**Ohasama**	**0.59**	**260**	⇑P	**Pb**	**10 10 57.2**	**-0.7**
JOM				S	**Sb**	**10 11 04.7**	**-1.3**
JKZ	**Kuzumaki**	**0.68**	**307**	⇑P	**Pb**	**10 10 58.9**	**-0.7**
JKZ				S	**Sb**	**10 11 07.5**	**-1.2**
JKMT	**Kesennumamotoy**	**0.88**	**210**	P	**Pb**	**10 11 01.7**	**-1.1**
JKMT				S	**Sb**	**10 11 12.6**	**-1.6**
JMK	**Ichinoseki**	**0.89**	**226**	⇓P	**Pb**	**10 11 01.7**	**-1.3**
JMK				S	**Sb**	**10 11 12.9**	**-1.6**
JANG	**Nango**	**0.90**	**333**	⇑P	**Pb**	**10 11 01.8**	**-1.3**
JANG				S	**Sb**	**10 11 13.2**	**-1.4**
JRG	**Rokugo**	**1.10**	**261**	P	**Pn**	**10 11 05.5**	**-0.2**
JRG				S	**Sb**	**10 11 19.1**	**-1.5**
JIO	**Ouri**	**1.24**	**206**	P	**Pn**	**10 11 06.9**	**-0.7**
JIO				S	**Sn**	**10 11 22.3**	**-1.0**
JAH	**Hinai**	**1.24**	**300**	⇑P	**Pn**	**10 11 07.3**	**-0.3**
JAH				S	**Sb**	**10 11 23.1**	**-1.5**
MAT	**Matsushiro**	**4.28**	**226**	P	**Pn**	**10 11 52.2**	**+2.8**
MAT				*e*S	**Sn**	**10 12 44.5**	**+6.1**
MJAR	**Matsushiro Arr**	**4.28**	**226**	P	**Pn**	**10 11 51.9**	**+2.5**
	0.6nm,0.3s,baz=38,slow=15,SNR=7.5						
MJAR				LR	LR	10 13 50.1	
	comp=Z,53nm,19.2s,baz=50,slow=43						
ASAJ	**Asahikawa**	**4.56**	**5**	P	**Pn**	**10 11 54.9**	**+1.7**
	2.2nm,0.3s,baz=207,slow=13,SNR=16						
ASAJ				S	**Sn**	**10 12 46.2**	**+1.0**
	0.7nm,0.3s,baz=122,slow=9.9,SNR=1.4						
ASAJ				LR	LR	10 14 12.1	
	comp=Z,50nm,20.4s,baz=60,slow=44						
JHJ	**Hachijo jima 2**	**6.70**	**196**	S	**Sn**	**10 13 34.6**	**-3.3**
	2.8nm,0.3s,baz=78,slow=22,SNR=0.9						
USRK	**Ussuriysk Ar.**	**8.80**	**305**	P	**Pn**	**10 12 52.6**	**+1.1**
	0.2nm,0.3s,baz=85,slow=18,SNR=2.9						
KSRS	**Korea Array**	**11.26**	**264**	P	**Pn**	**10 13 28.2**	**+3.1**
	0.2nm,0.3s,baz=73,slow=14,SNR=3.1						
KLR	**Kul'dur**	**12.13**	**326**	LR	LR	10 18 07.6	
	comp=Z,45nm,19.4s,baz=138,slow=36						
SONM	**Songino Array**	**26.87**	**300**	P	**P**	**10 16 24.8**	**+0.4**
	0.2nm,0.4s,baz=76,slow=6.1,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**29.12**	**126**	T	T	10 47 13.5	
	baz=318,slow=75,SNR=293						
H11N1	**WAKE ISLAND Hy**	**29.13**	**126**	T	T	10 47 15.6	
	baz=318,slow=75,SNR=228						
H11N3	**WAKE ISLAND Hy**	**29.14**	**126**	T	T	10 47 16.5	
	baz=318,slow=75,SNR=145						
H11S1	**WAKE ISLAND Hy**	**29.92**	**127**	T	T	10 48 20.9	
	baz=320,slow=76,SNR=42						
H11S3	**WAKE ISLAND Hy**	**29.92**	**127**	T	T	10 48 22.3	
	baz=320,slow=76,SNR=39						
H11S2	**WAKE ISLAND Hy**	**29.93**	**127**	T	T	10 48 22.3	
	baz=320,slow=76,SNR=42						
ZALV	**Zalesovo Beam**	**40.61**	**310**	P	**P**	**10 18 22.5**	**-0.7**
	3.3nm,0.5s,baz=92,slow=8.6,SNR=6.9						
MKAR	**Makanchi Array**	**43.23**	**300**	P	**P**	**10 18 44.2**	**-0.6**
	0.5nm,0.6s,baz=84,slow=13,SNR=4.1						
ILAR	**Eielson Array**	**47.10**	**34**	P	**P**	**10 19 16.1**	**+1.0**
	0.6nm,0.6s,baz=266,slow=6.5,SNR=11						
WRA	**Warramunga Arr**	**59.64**	**188**	P	**P**	**10 20 46.5**	**-1.2**
	0.3nm,0.5s,baz=6.2,slow=6.9,SNR=9.6						
ASAR	**Alice Springs**	**63.37**	**188**	P	**P**	**10 21 12.1**	**-0.7**
	0.2nm,0.5s,baz=355,slow=4.8,SNR=4.5						
FINES	**FINESS Array B**	**66.80**	**332**	P	**P**	**10 21 34.4**	**-0.2**
	1.9nm,0.9s,baz=49,slow=7.0,SNR=2.8						
PDAR	**Pinedale Array**	**75.54**	**46**	P	**P**	**10 22 29.3**	**+1.1**
	0.2nm,0.5s,baz=319,slow=2.6,SNR=3.0						

IDC 22 10:23:42.0±1.3, 30°.13S×178°.74W, h223km±15km, mb2.7/2, mb1 3.0/3, mb1mx2.9/22, mbtmp3.4/3, Error ellipse: s-maj=49.9km s-min=21.8km az=112.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.13**	**40**	P	Pn	10 24 16.3	+1.3
	78nm,0.3s,baz=181,slow=24,SNR=6.6						
RAO				S	S	10 24 40.5	-0.2
	92nm,0.3s,baz=63,slow=21,SNR=1.9						
URZ	**Urewera**	**8.81**	**202**	P	Pn	10 25 45.9	+0.4
	0.1nm,0.3s,baz=21,slow=20,SNR=0.9						
URZ				S	S	10 27 24.3	-0.5
	1.6nm,0.3s,baz=349,slow=22,SNR=2.2						
ASAR	**Alice Springs**	**42.48**	**267**	P	P	10 31 15.6	0.0
	0.2nm,0.4s,baz=105,slow=7.8,SNR=6.4						
WRA	**Warramunga Arr**	**43.45**	**272**	P	P	10 31 23.1	-0.2
	0.3nm,0.6s,baz=111,slow=7.7,SNR=15						
FINES	**FINESS Array B**	**144.67**	**340**	PKP	PKPab	10 42 50.3	-0.4
	2.9nm,0.5s,baz=36,slow=2.9,SNR=21						

MOS ***22*** *10:24:30.6±0.0, 42°.59N×44°.52E, h18km, MPVA2.9*

ISC 22 10:24:33.6±1.3, 42°.72N±0°.04×44°.55E±0°.05, h16km±9km, n11, σ0§83/20, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LACR	**Lac**	**0.21**	**301**	*e*P

PCIG				*e*S	Sn	10 42 46.1	-1.6	
CCIG	**Comitan**	**2.50**	**4**	*i* P	Pn	10 42 28.1	+1.0	
CCIG				*e*P		10 42 30.6		
CCIG				*e*S	Sn	10 43 01.4	+4.4	

GUC 22 10:46:39.7±0.5, 16°00S×71°27W, h220km±13km, ML3.5, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB12	**IPOC Station P**	**2.75**	**161**	*e*P	Pn	10 47 28.6	+0.9
PB12				*e*S	S	10 48 05.8	+0.6
PB12				IAML		10 48 08.3	
	comp=E,107nm,0.2s						
PB16	**IPOC Station P**	**2.87**	**144**	*e*P	Pn	10 47 31.1	+1.6
PB16				*i* S	S	10 48 10.4	+2.2
PB16				IAML		10 48 13.7	
	comp=E,50nm,0.5s						
MNMC	**Minye Minye**	**3.50**	**153**	*e*P	Pn	10 47 38.2	+1.7
MNMC				*i* S	S	10 48 22.0	+1.1
PSGC	**Pisagua**	**3.74**	**163**	*e*P	Pn	10 47 40.3	+1.2
PSGC				*e*S	S	10 48 26.4	+0.6
PB11	**IPOC Station P**	**4.04**	**158**	*e*P	Pn	10 47 44.2	+1.3
PB11				*e*S	S	10 48 33.4	+0.8

*ISCJB **22** 11:00:44.7±0.2, 39°46N±0°02×15°72E±0°04, h253km±2km, mb3.7/16, Error ellipse: s-maj=6.0km s-min=2.9km az=29.2*
*ROM **22** 11:00:44.5±0.2, 39°418N±0°008×15°70E±0°02, h253km±1km, ML3.6/57*
*PDG **22** 11:00:44.4±0.9, 39°50N×15°72E, h253km±2km, ML3.6/10, Error ellipse: s-maj=1.1km s-min=1.6km az=0.0*
*IDC **22** 11:00:46.5±0.8, 39°58N×15°47E, h265km±8km, mb3.4/18, mb1 3.5/23, mb1mx3.4/41, mbtmp4.0/23, Error ellipse: s-maj=13.7km s-min=9.8km az=107.0*
ISC 22 11:00:44.6±0.6, 39°50N±0°05×15°74E±0°05, h248km±5km, n144, σ1§65/170, mb3.7/16, 33C-7D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CET2	**Cetraro**	**0.17**	**81**	P	**Pn**	**11 01 17.6**	**+1.0**
CET2				S	**S**	**11 01 41.7**	**0.0**
CET2				AML	AML		
	comp=E,2930μm,0.7s						
CET2				AML	AML		
	comp=N,3980μm,0.9s						
CET2				AML	AML		
	comp=E,2930μm,0.7s						
CET2				AML	AML		
	comp=N,3980μm,0.9s						
CET2				AML	AML		
	comp=N,3980μm,0.9s						
CET2				AML	AML		
	comp=E,2930μm,0.7s						
T0702	**Acquaformosa (**	**0.34**	**51**	P	**Pn**	**11 01 18.1**	**+1.2**
T0702				S	**S**	**11 01 42.5**	**+0.2**
T0702				AML	AML		
	comp=E,620μm,0.9s						
T0702				AML	AML		
	comp=N,950μm,0.5s						
T0702				AML	AML		
	comp=E,620μm,0.9s						
T0702				AML	AML		
	comp=N,950μm,0.5s						
CAR1	**CAROLEI**	**0.44**	**124**	P	**Pn**	**11 01 17.9**	**+0.8**
CAR1				S	**S**	**11 01 42.2**	**-0.5**
CAR1				AML	AML		
	comp=E,1775μm,0.3s						
CAR1				AML	AML		
	comp=N,970μm,0.4s						
CAR1				AML	AML		
	comp=E,1775μm,0.3s						
CAR1				AML	AML		
	comp=N,970μm,0.4s						
CUC	**Castrocucco**	**0.49**	**7**	P	**Pn**	**11 01 18.6**	**+1.3**
CUC				S	**S**	**11 01 43.4**	**+0.4**
CUC				AML	AML		
	comp=E,352μm,0.6s						
CUC				AML	AML		
	comp=N,222μm,0.9s						
CUC				AML	AML		
	comp=E,352μm,0.6s						
CUC				AML	AML		
	comp=N,222μm,0.9s						
CUC				AML	AML		
	comp=N,222μm,0.9s						
CUC				AML	AML		
	comp=E,352μm,0.6s						
SALB	**San Lorenzo Be**	**0.60**	**51**	P	**Pn**	**11 01 19.4**	**+1.7**
SALB				S	**S**	**11 01 44.7**	**+1.0**
SALB				AML	AML		
	comp=E,722μm,0.5s						
SALB				AML	AML		
	comp=N,702μm,0.6s						
SALB				AML	AML		
	comp=E,734μm,0.5s						
SALB				AML	AML		
	comp=N,713μm,0.9s						
SALB				AML	AML		
	comp=E,734μm,0.5s						
SALB				AML	AML		
	comp=N,712μm,0.9s						
SALB				AML	AML		
	comp=N,712μm,0.9s						
SALB				AML	AML		
	comp=E,734μm,0.5s						
CELI	**Celico**	**0.60**	**99**	AML	AML		
	comp=N,2870μm,0.5s						
CELI				AML	AML		
	comp=E,2545μm,1.0s						
CELI				AML	AML		
	comp=E,2545μm,1.0s						
CELI				AML	AML		
	comp=N,2870μm,0.5s						
BULG	**Bulgheria - Ca**	**0.64**	**334**	P	**Pn**	**11 01 19.3**	**+1.5**
BULG				S	**S**	**11 01 45.2**	**+1.3**
BULG				AML	AML		
	comp=E,306μm,0.8s						
BULG				AML	AML		
	comp=N,649μm,1.3s						
BULG				AML	AML		
	comp=E,306μm,0.8s						
BULG				AML	AML		
	comp=N,649μm,1.3s						
BULG				AML	AML		
	comp=N,649μm,1.3s						
BULG				AML	AML		
	comp=E,306μm,0.8s						
MGR	**Morigerati**	**0.65**	**347**	P	**Pn**	**11 01 19.1**	**+1.4**
MGR				S	**S**	**11 01 44.8**	**+1.0**
MGR				AML	AML		
	comp=E,248μm,0.5s						
MGR				AML	AML		
	comp=N,486μm,0.7s						
MGR				AML	AML		
	comp=E,248μm,0.5s						
MGR				AML	AML		
	comp=N,486μm,0.7s						
MTSN	**Montesano sull**	**0.76**	**1**	P	**Pn**	**11 01 19.7**	**+1.4**
MTSN				AML	AML		
	comp=E,396μm,0.8s						
MTSN				AML	AML		
	comp=N,323μm,0.7s						
MTSN				AML	AML		
	comp=E,396μm,0.8s						
MTSN				AML	AML		
	comp=N,323μm,0.7s						
MCEL	**Monticello**	**0.82**	**3**	P	**Pn**	**11 01 20.8**	**+2.2**
MCEL				S	**S**	**11 01 47.0**	**+1.7**
MCEL				AML	AML		
	comp=E,917μm,0.9s						
MCEL				AML	AML		
	comp=N,1750μm,1.2s						
MCEL				AML	AML		
	comp=E,926μm,0.9s						
MCEL				AML	AML		
	comp=N,1780μm,1.2s						
MCEL				AML	AML		
	comp=E,926μm,0.9s						
MCEL				AML	AML		
	comp=N,1780μm,1.2s						
MCEL				AML	AML		
	comp=E,926μm,0.9s						
TIP	**Timpagrande**	**0.85**	**112**	*i*P	**Pn**	**11 01 20.5**	**+1.7**
TIP	**Timpagrande**	**0.85**	**112**	P	**Pn**	**11 01 20.5**	**+1.7**
TIP				S	**S**	**11 01 46.3**	**+0.8**
TIP				AML	AML		
	comp=E,518μm,0.7s						
TIP				AML	AML		
	comp=N,468μm,0.7s						
TIP				AML	AML		
	comp=E,598μm,0.7s						
TIP				AML	AML		
	comp=N,590μm,0.7s						
TIP				AML	AML		
	comp=E,518μm,0.7s						
TIP				AML	AML		
	comp=N,468μm,0.7s						
TIP				AML	AML		
	comp=E,598μm,0.7s						
TIP				AML	AML		
	comp=N,590μm,0.7s						
TIP				AML	AML		
	comp=E,518μm,0.7s						
TIP				AML	AML		
	comp=E,598μm,0.7s						
TIP				AML	AML		
	comp=N,468μm,0.7s						
TIP				AML	AML		
	comp=N,590μm,0.7s						
GRI	**Girifalco**	**0.86**	**142**	P	**Pn**	**11 01 20.1**	**+1.4**
GRI				AML	AML		
	comp=E,523μm,0.4s						
GRI				AML	AML		
	comp=N,569μm,0.7s						
GRI				AML	AML		
	comp=E,523μm,0.4s						
GRI				AML	AML		
	comp=N,570μm,0.7s						
GRI				AML	AML		
	comp=N,570μm,0.7s						
GRI				AML	AML		
	comp=E,523μm,0.4s						
SERS	**Sersale**	**0.87**	**122**	P	**Pn**	**11 01 20.4**	**+1.5**
SERS				S	**S**	**11 01 46.3**	**+0.5**
SERS				AML	AML		
	comp=E,618μm,0.3s						
SERS				AML	AML		
	comp=N,422μm,1.6s						
SERS				AML	AML		
	comp=E,437μm,1.6s						
SERS				AML	AML		
	comp=N,642μm,0.3s						
SERS				AML	AML		
	comp=E,618μm,0.3s						
SERS				AML	AML		
	comp=N,422μm,1.6s						
SERS				AML	AML		
	comp=E,437μm,1.6s						
SERS				AML	AML		
	comp=N,642μm,0.3s						
SERS				AML	AML		
	comp=E,437μm,1.6s						
SERS				AML	AML		
	comp=E,618μm,0.3s						
SERS				AML	AML		
	comp=N,422μm,1.6s						
SERS				AML	AML		
	comp=N,642μm,0.3s						
CMPR	**Campora**	**0.88**	**338**	P	**Pn**	**11 01 20.3**	**+1.5**
CMPR				S	**S**	**11 01 47.0**	**+1.3**
CMPR				AML	AML		
	comp=E,432μm,0.9s						
CMPR				AML	AML		
	comp=N,362μm,0.9s						
CMPR				AML	AML		
	comp=E,432μm,0.9s						
CMPR				AML	AML		
	comp=N,362μm,0.9s						
CMPR				AML	AML		
	comp=N,362μm,0.9s						
CMPR				AML	AML		
	comp=E,432μm,0.9s						
SLCN	**Sala Consilina**	**0.89**	**355**	P	**Pn**	**11 01 20.8**	**+1.9**
SLCN				S	**S**	**11 01 47.4**	**+1.5**
SLCN				AML	AML		
	comp=E,580μm,1.2s						
SLCN				AML	AML		
	comp=N,432μm,0.6s						
SLCN				AML	AML		
	comp=E,562μm,0.4s						
SLCN				AML	AML		
	comp=N,450μm,0.6s						
SLCN				AML	AML		
	comp=E,580μm,1.2s						
SLCN				AML	AML		
	comp=N,432μm,0.6s						
SLCN				AML	AML		
	comp=E,562μm,0.4s						
SLCN				AML	AML		
	comp=N,450μm,0.6s						
SLCN				AML	AML		
	comp=N,450μm,0.6s						
SLCN				AML	AML		
	comp=N,432μm,0.6s						
SLCN				AML	AML		
	comp=E,562μm,0.4s						
SLCN				AML	AML		
	comp=E,580μm,1.2s						
JOPP	**Joppolo**	**0.90**	**173**	P	**Pn**	**11 01 19.4**	**+0.4**
JOPP				S	**S**	**11 01 44.9**	**-1.1**
JOPP				AML	AML		
	comp=E,358μm,1.4s						
JOPP				AML	AML		
	comp=N,458μm,0.7s						
JOPP				AML	AML		
	comp=E,358μm,1.4s						
JOPP				AML	AML		
	comp=N,458μm,0.7s						
JOPP				AML	AML		
	comp=N,458μm,0.7s						
JOPP				AML	AML		
	comp=E,358μm,1.4s						
LADO	**San Nicola del**	**0.98**	**102**	P	**Pn**	**11 01 20.9**	**+1.6**
CRAC	**Craco**	**1.01**	**32**	P	**Pn**	**11 01 21.3**	**+1.9**
CRAC				AML	AML		
	comp=E,1385μm,1.4s						
CRAC				AML	AML		
	comp=N,602μm,1.0s						
CRAC				AML	AML		
	comp=E,1385μm,1.4s						
CRAC				AML	AML		
	comp=N,602μm,1.0s						
CDRU	**Civita di Ruta**	**1.04**	**341**	P	**Pn**	**11 01 21.2**	**+1.5**
CDRU				AML	AML		
	comp=E,170μm,1.5s						
CDRU				AML	AML		
	comp=N,178μm,1.3s						
CDRU				AML	AML		
	comp=E,170μm,1.5s						
CDRU				AML	AML		
	comp=N,178μm,1.3s						
CDRU				AML	AML		
	comp=E,170μm,1.5s						
CDRU				AML	AML		
	comp=N,178μm,1.3s						
PTRP	**Pietrapertosa**	**1.05**	**14**	P	**Pn**	**11 01 21.5**	**+1.8**
PLAC	**Placanica**	**1.19**	**152**	P	**Pn**	**11 01 21.4**	**+0.7**
PLAC				AML	AML		
	comp=E,447μm,0.7s						
PLAC				AML	AML		
	comp=N,296μm,1.0s						
PLAC				AML	AML		
	comp=E,447μm,0.7s						
PLAC				AML	AML		
	comp=N,296μm,1.0s						
PLAC				AML	AML		
	comp=N,296μm,1.0s						
PLAC				AML	AML		
	comp=E,447μm,0.7s						
LLI	**Lipari**	**1.22**	**211**	P	**Pn**	**11 01 22.3**	**+1.5**
MIGL	**Miglionico**	**1.22**	**26**	P	**Pn**	**11 01 21.8**	**+1.0**
MIGL				S	**S**	**11 01 50.0**	**+0.8**
MIGL				AML	AML		
	comp=E,1495μm,0.5s						
MIGL				AML	AML		
	comp=N,1955μm,1.1s						
MIGL				AML	AML		
	comp=E,1500μm,0.5s						
MIGL				AML	AML		
	comp=N,1955μm,1.1s						
MIGL				AML	AML		
	comp=E,1500μm,0.5s						
MSRU	**Castanea**	**1.25**	**188**	P	**Pn**	**11 01 20.9**	**-0.1**
MSRU				S	**S**	**11 01 48.4**	**-1.2**
MSRU				AML	AML		
	comp=E,796μm,0.4s						
MSRU				AML	AML		
	comp=N,746μm,0.8s						
MSRU				AML	AML		
	comp=N,746μm,0.8s						
MSRU				AML	AML		
	comp=E,796μm,0.4s						
MRLC	**Muro Lucano**	**1.27**	**351**	P	**Pn**	**11 01 22.7**	**+1.7**
MRLC				AML	AML		
	comp=E,125μm,1.3s						
MRLC				AML	AML		
	comp=N,141μm,1.1s						
MRLC				AML	AML		
	comp=E,125μm,1.3s						
MRLC				AML	AML		
	comp=N,141μm,1.1s						
MRLC				AML	AML		
	comp=E,125μm,1.3s						
MRLC				AML	AML		
	comp=N,141μm,1.1s						
VPL	**Vulcano Piano**	**1.27**	**208**	P	**Pn**	**11 01 22.0**	**+0.9**
VPL				AML	AML		
	comp=E,2205μm,0.4s						
VPL				AML	AML		
	comp=N,2325μm,0.4s						
VPL				AML	AML		
	comp=N,2325μm,0.4s						
VPL				AML	AML		
	comp=E,2205μm,0.4s						
MSCL	**Scilla**	**1.27**	**178**	P	**Pn**	**11 01 21.0**	**-0.3**
MSCL				AML	AML		
	comp=E,1048μm,0.8s						
MSCL				AML	AML		
	comp=N,922μm,0.3s						
MSCL				AML	AML		
	comp=E,1048μm,0.8s						
MSCL				AML	AML		
	comp=N,922μm,0.3s						
MSCL				AML	AML		
	comp=N,922μm,0.3s						
MSCL				AML	AML		
	comp=E,1048μm,0.8s						
GMB	**Gambarie**	**1.33**	**177**	P	**Pn**	**11 01 22.6**	**+0.8**
GMB				AML	AML		
	comp=E,2530μm,1.0s						
GMB				AML	AML		
	comp=N,1680μm,0.4s						
GMB				AML	AML		
	comp=E,2530μm,1.0s						
GMB				AML	AML		
	comp=N,1680μm,0.4s						
GMB				AML	AML		
	comp=N,1680μm,0.4s						
GMB				AML	AML		
	comp=E,2530μm,1.0s						
MCRV	**Calabrutti - M**	**1.35**	**341**	P	**Pn**	**11 01 23.4**	**+1.7**
MCRV				AML	AML		
	comp=E,157μm,1.2s						
MCRV				AML	AML		
	comp=N,150μm,0.8s						
MCRV				AML	AML		
	comp=E,157μm,1.2s						
MCRV				AML	AML		
	comp=N,150μm,0.8s						
MATE	**Matera**	**1.36**	**33**	*i*P	**Pn**	**11 01 22.5**	**+0.9**
MATE	**Matera**	**1.36**	**33**	S	**S**	**11 01 50.9**	**+0.1**
LTRZ	**Laterza**	**1.38**	**37**	AML	AML		
	comp=N,871μm,1.2s						
LTRZ				AML	AML		
	comp=E,932μm,0.5s						
LTRZ				AML	AML		
	comp=N,871μm,1.2s						
LTRZ				AML	AML		
	comp=E,932μm,0.5s						
MCSR	**Castroreale**	**1.49**	**195**	P	**Pn**	**11 01 23.1**	**+0.3**
MCSR				AML	AML		
	comp=E,1002μm,0.3s						
MCSR				AML	AML		
	comp=N,1345μm,0.3s						
MCSR				AML	AML		
	comp=E,3065μm,0.4s						
MCSR				AML	AML		
	comp=N,1655μm,1.2s						
MCSR				AML	AML		
	comp=E,3065μm,0.4s						
MCSR				AML	AML		
	comp=N,1655μm,1.2s						
MTTG	**Motta San Giov**	**1.50**	**181**	P	**Pn**	**11 01 23.4**	**+0.6**
MTTG				S	**S**	**11 01 51.9**	**-0.9**
MTTG				AML	AML		
	comp=E,780μm,0.6s						
MTTG				AML	AML		
	comp=N,668μm,0.5s						
MTTG				AML	AML		
	comp=E,780μm,0.6s						
MTTG				AML	AML		
	comp=N,668μm,0.5s						
MTTG				AML	AML		
	comp=N,668μm,0.5s						
MTTG				AML	AML		
	comp=E,780μm,0.6s						
NOV	**Novara**	**1.55**	**198**	P	**Pn**	**11 01 24.0**	**+0.8**
NOV				AML	AML		
	comp=E,697μm,0.4s						
NOV				AML	AML		
	comp=N,758μm,0.6s						
NOV				AML	AML		
	comp=E,697μm,0.4s						
NOV				AML	AML		
	comp=N,758μm,0.6s						
MASS	**Massafra**	**1.56**	**43**	*e*Pn	**Pn**	**11 01 24.3**	**+1.2**
MASS				Sn	**S**	**11 01 49.0**	**-4.5**
MPAZ	**Palizzi**	**1.56**	**172**	P	**Pn**	**11 01 23.8**	**+0.5**
MPAZ				AML	AML		
	comp=E,525μm,0.4s						
MPAZ				AML	AML		
	comp=N,632μm,0.7s						
MPAZ				AML	AML		
	comp=E,525μm,0.4s						
MPAZ				AML	AML		
	comp=N,632μm,0.7s						
TAR1	**Taranto**	**1.56**	**49**	*e*Pn	**Pn**	**11 01 24.6**	**+1.5**
TAR1				Sn	**S**	**11 01 49.3**	**-4.2**
CAFE	**Carife**	**1.57**	**346**	P	**Pn**	**11 01 25.3**	**+2.0**
CAFE				AML	AML		
	comp=E,257μm,1.5s						
CAFE				AML	AML		
	comp=N,118μm,1.4s						
CAFE				AML	AML		
	comp=E,257μm,1.5s						
CAFE				AML	AML		
	comp=N,118μm,1.4s						
CAFE				AML	AML		
	comp=E,257μm,1.5s						
CAFE				AML	AML		
	comp=N,118μm,1.4s						
MUCR	**Ucria**	**1.61**	**205**	P	**Pn**	**11 01 24.2**	**+0.4**
MUCR				AML	AML		
	comp=E,416μm,1.1s						
MUCR				AML	AML		
	comp=N,460μm,0.5s						
MUCR				AML	AML		
	comp=N,460μm,0.5s						
MUCR				AML	AML		
	comp=E,416μm,1.1s						
NOCI	**Noci**	**1.64**	**38**	P	**Pn**	**11 01 24.9**	**+1.1**
NOCI				AML	AML		
	comp=E,1255μm,0.8s						
NOCI				AML	AML		
	comp=N,740μm,0.9s						
NOCI				AML	AML		
	comp=E,1255μm,0.8s						
NOCI				AML	AML		
	comp=N,740μm,0.9s						
MSFR	**San Fratello**	**1.72**	**212**	P	**Pn**	**11 01 25.4**	**+0.8**
MSFR				AML	AML		
	comp=E,120μm,1.6s						

MSFR					AML	AML		
	comp=N,149µm,0.6s							
MSFR					AML	AML		
	comp=N,149µm,0.6s							
MSFR					AML	AML		
	comp=E,120µm,1.6s							
MRB1	**Monte Rocchett**	**1.72**	**340**	P	**Pn**		**11 01 26.4**	**+1.9**
MRB1				AML	AML			
	comp=E,266µm,0.4s							
MRB1				AML	AML			
	comp=N,324µm,0.6s							
MRB1				AML	AML			
	comp=E,266µm,0.4s							
MRB1				AML	AML			
	comp=N,324µm,0.6s							
MRB1				AML	AML			
	comp=N,324µm,0.6s							
MRB1				AML	AML			
	comp=E,266µm,0.4s							
MNO	**Monte Soro**	**1.77**	**208**	P	**Pn**		**11 01 26.3**	**+1.1**
MNO				AML	AML			
	comp=E,484µm,1.2s							
MNO				AML	AML			
	comp=N,696µm,0.8s							
MNO				AML	AML			
	comp=N,696µm,0.8s							
MNO				AML	AML			
	comp=E,484µm,1.2s							
FASA	**Fasano**	**1.80**	**43**	*e*Pn	**Pn**		**11 01 26.4**	**+1.3**
FASA				Sn	**S**		**11 01 52.8**	**-4.2**
PLLN	**Pollina**	**1.96**	**220**	P	**Pn**		**11 01 27.2**	**+0.5**
GIB	**Gibilmanna**	**2.02**	**222**	P	**Pn**		**11 01 27.8**	**+0.6**
GIB				AML	AML			
	comp=E,408µm,1.0s							
GIB				AML	AML			
	comp=N,320µm,0.5s							
GIB				AML	AML			
	comp=E,408µm,1.0s							
GIB				AML	AML			
	comp=N,320µm,0.5s							
PTRJ	**Pietraroja**	**2.08**	**334**	P	**Pn**		**11 01 29.3**	**+1.7**
PTRJ				AML	AML			
	comp=E,458µm,0.8s							
PTRJ				AML	AML			
	comp=N,475µm,0.5s							
PTRJ				AML	AML			
	comp=N,475µm,0.5s							
PTRJ				AML	AML			
	comp=E,458µm,0.8s							
PETRA	**Petralia Sopra**	**2.10**	**218**	P	**Pn**		**11 01 28.8**	**+0.8**
PETRA				AML	AML			
	comp=E,220µm,1.3s							
PETRA				AML	AML			
	comp=N,268µm,0.8s							
PETRA				AML	AML			
	comp=E,220µm,1.3s							
PETRA				AML	AML			
	comp=N,268µm,0.8s							
GATE	**Gambatesa**	**2.10**	**343**	AML	AML			
	comp=N,102µm,1.2s							
GATE				AML	AML			
	comp=E,124µm,1.0s							
GATE				AML	AML			
	comp=E,124µm,1.0s							
GATE				AML	AML			
	comp=N,102µm,1.2s							
CAGR	**Agira**	**2.12**	**208**	AML	AML			
	comp=E,1405µm,1.2s							
CAGR				AML	AML			
	comp=N,493µm,1.0s							
CAGR				AML	AML			
	comp=N,493µm,1.0s							
CAGR				AML	AML			
	comp=E,1405µm,1.2s							
SCTE	**Santa Cesarea**	**2.18**	**74**	P	**Pn**		**11 01 30.3**	**+1.8**
SCTE				AML	AML			
	comp=E,224µm,0.5s							
SCTE				AML	AML			
	comp=N,176µm,0.5s							
SCTE				AML	AML			
	comp=N,176µm,0.5s							
SCTE				AML	AML			
	comp=E,224µm,0.5s							
MSAG	**Monte S. Angel**	**2.21**	**3**	AML	AML			
	comp=E,105µm,1.3s							
MSAG				AML	AML			
	comp=N,150µm,1.1s							
MSAG				AML	AML			
	comp=E,105µm,1.3s							
MSAG				AML	AML			
	comp=N,150µm,1.1s							
BSSO	**Busso**	**2.22**	**337**	AML	AML			
	comp=N,164µm,1.6s							
BSSO				AML	AML			
	comp=E,130µm,0.6s							
BSSO				AML	AML			
	comp=N,164µm,1.6s							
BSSO				AML	AML			
	comp=E,130µm,0.6s							
VAGA	**Valle Agricola**	**2.23**	**329**	P	**Pn**		**11 01 30.9**	**+1.9**
VAGA				AML	AML			
	comp=E,146µm,1.0s							
VAGA				AML	AML			
	comp=N,193µm,0.7s							
VAGA				AML	AML			
	comp=E,146µm,1.0s							
VAGA				AML	AML			
	comp=N,193µm,0.7s							
HLNI	**Lentini**	**2.26**	**198**	P	**Pn**		**11 01 29.8**	**+0.4**
HAGA	**Augusta**	**2.26**	**192**	P	**Pn**		**11 01 29.0**	**-0.5**
HAGA				AML	AML			
	comp=E,254µm,0.5s							
HAGA				AML	AML			
	comp=N,210µm,0.9s							
HAGA				AML	AML			
	comp=N,210µm,0.9s							
HAGA				AML	AML			
	comp=E,254µm,0.5s							
VAE	**Valguarnera**	**2.27**	**208**	P	**Pn**		**11 01 31.6**	**+1.9**
	comp=E,3.0nm,0.3s,baz=91,slow=0.8,SNR=4.3							
VAE				S	**S**		**11 02 10.9**	**+5.9**
	comp=E,6.0nm,0.3s,baz=106,slow=22,SNR=2.0							
HCRL	**Carlentini**	**2.29**	**194**	P	**Pn**		**11 01 30.2**	**+0.5**
HCRL				AML	AML			
	comp=E,301µm,0.7s							
HCRL				AML	AML			
	comp=N,274µm,0.7s							
HCRL				AML	AML			
	comp=N,274µm,0.7s							
HCRL				AML	AML			
	comp=E,301µm,0.7s							
MPG	**Monte Pellegri**	**2.29**	**235**	P	**Pn**		**11 01 30.5**	**+0.8**
HVZN	**Vizzini**	**2.46**	**199**	P	**Pn**		**11 01 32.0**	**+0.6**
HVZN				AML	AML			
	comp=E,658µm,0.6s							
HVZN				AML	AML			
	comp=N,724µm,1.2s							
HVZN				AML	AML			
	comp=N,724µm,1.2s							
HVZN				AML	AML			
	comp=E,658µm,0.6s							
MEU	**Monte Lauro**	**2.48**	**195**	P	**Pn**		**11 01 32.1**	**+0.4**
MEU				AML	AML			
	comp=E,308µm,1.1s							
MEU				AML	AML			
	comp=N,430µm,0.3s							
MEU				AML	AML			
	comp=E,308µm,1.1s							
MEU				AML	AML			
	comp=N,430µm,0.3s							
RNI2	**Rionero Sannit**	**2.51**	**332**	P	**Pn**		**11 01 34.4**	**+2.6**
RNI2				AML	AML			
	comp=E,274µm,1.0s							
RNI2				AML	AML			
	comp=N,266µm,0.7s							
RNI2				AML	AML			
	comp=N,266µm,0.7s							
RNI2				AML	AML			
	comp=E,274µm,1.0s							
HMDC	**Modica**	**2.65**	**197**	P	**Pn**		**11 01 33.8**	**+0.5**
HMDC				AML	AML			
	comp=E,206µm,0.4s							
HMDC				AML	AML			
	comp=N,221µm,0.6s							
HMDC				AML	AML			
	comp=N,221µm,0.6s							
HMDC				AML	AML			
	comp=E,206µm,0.4s							
MMGO	**Monte Magaggia**	**2.84**	**231**	P	**Pn**		**11 01 36.3**	**+1.0**
AQU	**L'Aquila**	**3.35**	**329**	⇑*i*Pn	**Pn**		**11 01 43.2**	**+2.4**
HCY	**Herceg Novi**	**3.60**	**34**	⇓*i*Pn	**Pn**		**11 01 45.5**	**+1.8**
HCY				*e*Sn	**S**		**11 02 31.2**	**+0.7**
HCY	**Herceg Novi**	**3.60**	**34**	⇑*i*Pn	**Pn**		**11 01 45.4**	**+1.8**
ULC	**Ulcinj**	**3.62**	**46**	⇓*i*Pn	**Pn**		**11 01 45.9**	**+2.0**
ULC				*e*Sn	**S**		**11 02 31.4**	**+0.5**
STON	**Ston**	**3.67**	**23**	*i* P	**Pn**		**11 01 46.0**	**+1.5**
STON	**Ston**	**3.67**	**23**	AML	AML			
	comp=E,35µm,1.5s							
STON				AML	AML			
	comp=E,35µm,1.5s							
STON				AML	AML			
	comp=N,32µm,0.8s							
STON				AML	AML			
	comp=N,32µm,0.8s							
STON	**Ston**	**3.67**	**23**	⇑*i*Pn	**Pn**		**11 01 45.9**	**+1.5**
BUM	**Brajici-Budva**	**3.68**	**40**	⇑*i*Pn	**Pn**		**11 01 47.0**	**+2.5**
BUM				*e*Sn	**S**		**11 02 32.8**	**+0.7**
DRME	**Dracevica, Mon**	**3.74**	**43**	⇑*i*Pn	**Pn**		**11 01 47.8**	**+2.5**
DRME				*e*Sn	**S**		**11 02 34.5**	**+1.2**
DRME	**Dracevica, Mon**	**3.74**	**43**	⇑*i*Pn	**Pn**		**11 01 47.7**	**+2.5**
TREB	**Trebinje**	**3.77**	**31**	⇑*i*Pn	**Pn**		**11 01 47.2**	**+1.7**
CEME	**Cevo**	**3.88**	**37**	⇑*i*Pn	**Pn**		**11 01 49.2**	**+2.4**
CEME				*e*Sn	**S**		**11 02 37.2**	**+1.0**
PDG	**Podgorica**	**3.95**	**41**	⇑*i*P	**Pn**		**11 01 50.1**	**+2.4**
PDG	**Podgorica**	**3.95**	**41**	⇑*i*Pn	**Pn**		**11 01 50.1**	**+2.4**
TTG	**Podgorica**	**3.95**	**41**	⇓*i*Pn	**Pn**		**11 01 49.7**	**+2.0**
TTG				*e*Sn	**S**		**11 02 38.6**	**+0.9**
BRY	**Bratogost**	**4.00**	**31**	⇑*i*Pn	**Pn**		**11 01 50.2**	**+1.9**
BRY				*e*Sn	**S**		**11 02 39.5**	**+0.5**
BRY	**Bratogost**	**4.00**	**31**	⇑*i*Pn	**Pn**		**11 01 50.1**	**+1.8**
NKME	**Niksic**	**4.06**	**36**	⇑*i*Pn	**Pn**		**11 01 51.1**	**+2.1**
NKME				*e*Sn	**S**		**11 02 40.9**	**+0.7**
NKY	**Niksic**	**4.12**	**36**	⇑*i*Pn	**Pn**		**11 01 52.1**	**+2.4**
NKY				*e*Sn	**S**		**11 02 41.9**	**+0.4**
GAG1	**Gagliole**	**4.24**	**333**	AML	AML			
	comp=E,2625µm,1.4s							
GAG1				AML	AML			
	comp=E,2625µm,1.4s							
GAG1				AML	AML			
	comp=N,1875µm,1.6s							
GAG1				AML	AML			
	comp=N,1875µm,1.6s							
KOME	**Kolasin**	**4.39**	**39**	⇑*i*Pn	**Pn**		**11 01 55.0**	**+2.0**
KOME				*e*Sn	**S**		**11 02 47.8**	**+0.5**
UPM	**Unac-Piva**	**4.40**	**32**	⇑*i*Pn	**Pn**		**11 01 55.0**	**+1.9**
UPM				*e*Sn	**S**		**11 02 47.7**	**+0.1**
UPM	**Unac-Piva**	**4.40**	**32**	⇑*i*Pn	**Pn**		**11 01 55.5**	**+2.4**
PVY	**Plav**	**4.44**	**45**	⇑*i*Pn	**Pn**		**11 01 56.5**	**+2.9**
PVY				*e*Sn	**S**		**11 02 49.1**	**+0.7**
IVA	**Berane**	**4.60**	**42**	⇑*i*Pn	**Pn**		**11 01 58.7**	**+3.3**
IVA				*e*Sn	**S**		**11 02 52.7**	**+0.9**
PLE	**Pljevlja**	**4.71**	**34**	⇑*i*Pn	**Pn**		**11 01 59.6**	**+2.8**
PLE				*e*Sn	**S**		**11 02 54.9**	**+0.7**
UDBI	**Udbina**	**5.02**	**0**	*i* P	**Pn**		**11 02 01.9**	**+1.3**
NVLJ	**Novalja**	**5.10**	**353**	*i* P	**Pn**		**11 02 02.3**	**+0.9**
BBLS	**Lazići**	**5.15**	**31**	⇑*i*Pn	**Pn**		**11 02 04.2**	**+2.1**
HAPS	**Han Pijesak,Bl**	**5.17**	**27**	⇑*i*Pn	**Pn**		**11 02 03.2**	**+0.8**
BLY	**Banja Luka**	**5.35**	**11**	⇑*i*P	**Pn**		**11 02 06.2**	**+1.7**
BLY	**Banja Luka**	**5.35**	**11**	⇑*i*Pn	**Pn**		**11 02 06.2**	**+1.7**
DIVS	**Divibare**	**5.58**	**33**	⇑*i*Pn	**Pn**		**11 02 09.1**	**+1.6**
RIY	**Rijeka**	**5.89**	**351**	⇑*i*Pn	**Pn**		**11 02 12.4**	**+1.2**
SKDS	**Skadanscina**	**6.17**	**349**	*i* P	**Pn**		**11 02 15.5**	**+0.7**
SKDS	**Skadanscina**	**6.17**	**349**	*i* P	**Pn**		**11 02 15.5**	**+0.7**
CEY	**Cerknica**	**6.31**	**352**	⇑*i*Pn	**Pn**		**11 02 17.2**	**+0.8**
KEST	**Kesra**	**6.32**	**235**	P	**Pn**		**11 02 17.9**	**+1.1**
	comp=N,0.7nm,0.3s,baz=47,slow=11,SNR=7.8							
CRES	**Cresnjev**	**6.32**	**358**	⇑*i*Pn	**Pn**		**11 02 17.3**	**+0.7**
VTS	**Vitosha**	**6.43**	**59**	⇑*i*P	**Pn**		**11 02 21.6**	**+3.4**
CRNS	**Crni Vrh**	**6.66**	**351**	*i* P	**Pn**		**11 02 22.3**	**+1.4**
CRNS	**Crni Vrh**	**6.66**	**351**	*i* P	**Pn**		**11 02 22.3**	**+1.4**
MDVR	**Moldovita**	**6.89**	**38**	⇑*i*P	**Pn**		**11 02 26.5**	**+2.7**
MORH	**M˜‡r˙gy, Hung**	**7.04**	**17**	⇑*i*Pn	**Pn**		**11 02 26.8**	**+1.2**
OBKA	**Obir**	**7.06**	**353**	*i* Pn	**Pn**		**11 02 27.5**	**+1.5**
	comp=N,21nm,0.5s,SNR=9.4							
SOKA	**Soboth**	**7.19**	**356**	*i* Pn	**Pn**		**11 02 28.8**	**+1.1**
	comp=N,5.3nm,0.4s,SNR=6.1							
MYKA	**Terra Mystica**	**7.29**	**349**	Pn	**Pn**		**11 02 30.9**	**+2.0**
	comp=N,4.2nm,0.5s							
HERR	**Herculane**	**7.31**	**41**	⇓*i*P	**Pn**		**11 02 31.0**	**+2.0**
BZS	**Buzias**	**7.49**	**33**	⇓*i*P	**Pn**		**11 02 34.2**	**+2.9**
ABTA	**Abfaltersbach**	**7.62**	**343**	*i* Pn	**Pn**		**11 02 34.0**	**+1.0**
	comp=N,6.7nm,0.8s							
ARSA	**Arzberg**	**7.75**	**359**	*i* Pn	**Pn**		**11 02 36.1**	**+1.5**
	comp=N,1.6nm,0.3s							
KBA	**Koelnbreinsper**	**7.77**	**348**	Pn	**Pn**		**11 02 36.6**	**+1.5**
	comp=N,24nm,1.4s							
SIRR	**Siria**	**8.03**	**31**	⇑*i*P	**Pn**		**11 02 39.8**	**+1.6**
FETA	**Feichten**	**8.35**	**336**	*e*Pn	**Pn**		**11 02 44.5**	**+2.1**
	comp=N,8.1nm,1.3s							
MOA	**Molln**	**8.41**	**353**	*e*Pn	**Pn**		**11 02 44.8**	**+1.8**
	comp=N,5.6nm,0.5s							
CONA	**Conrad Observa**	**8.42**	**1**	*i* Pn	**Pn**		**11 02 44.7**	**+1.5**
	comp=N,1.2nm,0.5s							
DAVOX	**Davos/Dischmat**	**8.44**	**331**	P	**Pn**		**11 02 44.9**	**+1.4**
	comp=N,0.3nm,0.3s,baz=150,slow=18,SNR=2.8							
VOIR		**9.08**	**46**	⇑*i*P	**Pn**		**11 02 54.3**	**+2.8**
GERES	**GERESS Array B**	**9.45**	**352**	P	**Pn**		**11 02 56.8**	**+0.5**
	comp=N,0.2nm,0.3s,baz=163,slow=14,SNR=9.7							
MLR	**Muntele Rosu**	**9.62**	**48**	P	**P**		**11 03 02.7**	**-2.1**
	comp=N,0.7nm,0.3s,baz=300,slow=20,SNR=3.0							
EKA	**Eskdalemuir Ar**	**20.25**	**328**	P	**P**		**11 04 58.6**	**-2.5**
	comp=N,1.2nm,0.3s,baz=118,slow=9.1,SNR=8.8							
HFS	**Hagfors**	**20.69**	**357**	P	**P**		**11 05 04.9**	**-0.9**
	comp=N,6.8nm,0.6s,baz=167,slow=10.0,SNR=26							
NOA	**NORSAR Array B**	**21.74**	**354**	P	**P**		**11 05 14.3**	**-1.8**
	comp=N,0.8nm,0.5s,baz=162,slow=8.8,SNR=5.2							
FINES	**FINESS Array B**	**22.87**	**13**	P	**P**		**11 05 26.7**	**+0.3**
	comp=N,6.3nm,0.5s,baz=183,slow=9.0,SNR=23							
TORD	**Torodi Ar. Bea**	**29.04**	**209**	P	**P**		**11 06 21.0**	**-1.0**
	comp=N,1.0nm,0.5s,baz=15,slow=9.6,SNR=12							
ARCES	**ARCESS Array B**	**30.54**	**7**	P	**P**		**11 06 34.3**	**-0.4**
	comp=N,1.4nm,0.6s,baz=189,slow=6.0,SNR=11							
DBIC	**Dimbokro**	**37.58**	**215**	P	**P**		**11 07 35.1**	**-0.5**
	comp=N,1.0nm,0.5s,baz=4.8,slow=12,SNR=4.4							
ZALV	**Zalesovo Beam**	**47.60**	**48**	P	**P**		**11 08 56.4**	**+0.9**
	comp=N,1.7nm,0.4s,baz=286,slow=9.7,SNR=6.0							
MKAR	**Makanchi Array**	**47.79**	**58**	P	**P**		**11 08 58.4**	**+1.3**
	comp=N,1.9nm,0.4s,baz=281,slow=7.3,SNR=29							
SCHQ	**Schefferville**	**54.93**	**315**	P	**P**		**11 09 48.3**	**-1.4**
	comp=N,1.5nm,0.3s,baz=68,slow=6.8,SNR=7.1							
SONM	**Songino Array**	**62.47**	**49**	P	**P**		**11 10 42.6**	**+0.8**
	comp=N,0.6nm,0.6s,baz=281,slow=6.3,SNR=5.1							
YKA	**Yellowknife Ar**	**70.82**	**338**	P	**P**		**11 11 33.9**	**0.0**
	comp=N,1.0nm,0.6s,baz=35,slow=5.6,SNR=12							
ULM	**Lac du Bonnet**	**72.37**	**321**	P	**P**		**11 11 42.9**	**-0.6**
	comp=N,4.6nm,0.6s,baz=44,slow=5.7,SNR=7.2							
CMAR	**Chiang Mai Arr**	**73.36**	**80**	P	**P**		**11 11 50.6**	**+0.9**
	comp=N,0.8nm,0.3s,baz=312,slow=9.5,SNR=3.6							
ILAR	**Eielson Array**	**75.17**	**352**	P	**P**		**11 11 59.9**	**+0.5**
	comp=N,0.4nm,0.9s,baz=337,slow=4.4,SNR=3.6							
KSRS	**Korea Array**	**81.30**	**48**	P	**P**		**11 12 34.3**	**+0.9**
	comp=N,1.0nm,0.9s,baz=312,slow=5.2,SNR=4.5							
PDAR	**Pinedale Array**	**84.29**	**323**	P	**P**		**11 12 49.0**	**0.0**
	comp=N,0.8nm,0.8s,baz=38,slow=4.6,SNR=5.3							
TXAR	**Lajitas Array**	**91.31**	**310**	P	**P**		**11 13 23.2**	**+0.7**
	comp=N,0.2nm,0.5s,baz=73,slow=4.5,SNR=6.0							

*ISCJB **22** 11:08:04.2±0.3, 44˚.47N±0˚.01×6˚.65E±0˚.02, h9km±2km, Error ellipse: s-maj=2.7km s-min=2.0km az=148.9*
*ROM **22** 11:08:05.1±0.1, 44˚.487N±0˚.004×6˚.704E±0˚.006, h11km, ML2.0/15*
*STR **22** 11:08:05.2±0.3, 44˚N±2˚×˚±˚, h10km±3km, M2.4/7, MLv2.4/7*
*GEN **22** 11:08:05.0, 44˚.47N×6˚.67E, h7km±1km, Ml2.0*
*LDG **22** 11:08:05.1±0.0, 44˚.48N×6˚.68E, h2km, Md2.7/1, Ml2.7/14, Error ellipse: s-maj=0.9km s-min=0.7km az=47.0*

ISC 22 11:08:04.8±0.8, 44˚.49N±0˚.01×6˚.69E±0˚.02, h15km±5km, n62, σ0˚.74/102, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SURF	**Saint Ours**	**0.09**	**96**	Pg	**Pg**	**11 08 07.7**	**-0.4**
SURF				Sg	**Sg**	**11 08 09.5**	**-0.8**
MBDF	**Montbardon**	**0.24**	**14**	*e*Pg	**Pg**	**11 08 10.3**	**+0.1**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**11 08 13.5**	**-0.4**
	143nm,0.3s						
PZZ	**Stroppo**	**0.30**	**87**	P	**Pg**	**11 08 11.4**	**+0.2**
PZZ				S	**Sg**	**11 08 15.5**	**-0.1**
PZZ	**Stroppo**	**0.30**	**87**	P	**Pg**	**11 08 11.4**	**+0.2**
PZZ				S	**Sg**	**11 08 15.7**	**+0.1**
PZZ				AML	AML		
	comp=E,2970µm,0.5s						
PZZ				AML	AML		
	comp=N,2340µm,0.6s						
PZZ				AML	AML		
	comp=E,2970µm,0.5s						
PZZ				AML	AML		
	comp=N,2340µm,0.6s						
PZZ				AML	AML		
	comp=N,2340µm,0.6s						
PZZ				AML	AML		
	comp=E,2970µm,0.5s						
DOI	**San Damiano**	**0.40**	**88**	P	**Pg**	**11 08 13.0**	**+0.1**
DOI				S	**Sg**	**11 08 18.6**	**+0.3**
DOI				AML	AML		
	comp=E,402µm,0.2s						
DOI				AML	AML		
	comp=N,617µm,0.6s						
DOI				AML	AML		
	comp=N,617µm,0.6s						
DOI				AML	AML		
	comp=E,402µm,0.2s						
ISO	**Isola**	**0.40**	**140**	Pg	**Pg**	**11 08 12.6**	**-0.3**
ISO				Sg	**Sg**	**11 08 17.6**	**-0.8**
RRL	**Rocca Remolon**	**0.44**	**9**	P	**Pg**	**11 08 13.9**	**+0.3**
RRL				S	**Sg**	**11 08 20.1**	**+0.5**
RRL	**Rocca Remolon**	**0.44**	**9**	P	**Pg**	**11 08 13.9**	**+0.3**
RRL				S	**Sg**	**11 08 20.3**	**+0.7**
RRL				AML	AML		
	comp=E,230µm,0.3s						
RRL				AML	AML		
	comp=N,186µm,0.4s						
RRL				AML	AML		
	comp=E,230µm,0.3s						
RRL				AML	AML		
	comp=N,186µm,0.4s						
RRL				AML	AML		
	comp=N,186µm,0.4s						
RRL				AML	AML		
	comp=E,230µm,0.3s						
OGDI	**Digne**	**0.47**	**217**	Pg	**Pb**	**11 08 15.9**	**+1.1**
OGDI				Sg	**Sb**	**11 08 22.9**	**+1.2**
STV	**Sant Anna di V**	**0.52**	**118**	P	**Pg**	**11 08 15.0**	**0.0**
STV				S	**Sg**	**11 08 21.6**	**-0.3**
STV	**Sant Anna di V**	**0.52**	**118**	P	**Pg**	**11 08 15.0**	**0.0**
STV				S	**Sg**	**11 08 22.0**	**0.0**
STV				AML	AML		
	comp=E,182µm,1.1s						
STV				AML	AML		
	comp=N,205µm,0.3s						
STV				AML	AML		
	comp=E,182µm,1.1s						
STV				AML	AML		
	comp=N,204µm,0.3s						
STV				AML	AML		
	comp=N,204µm,0.3s						
STV				AML	AML		
	comp=E,182µm,1.1s						
BHB	**Bricherasio**	**0.54**	**49**	P	**Pg**	**11 08 15.7**	**+0.3**
BHB				S	**Sg**	**11 08 22.7**	**+0.1**
BHB	**Bricherasio**	**0.54**	**49**	P	**Pg**	**11 08 15.6**	**+0.1**
BHB				S	**Sb**	**11 08 23.9**	**+0.3**
BHB				AML	AML		
	comp=E,116µm,1.4s						
BHB				AML	AML		
	comp=N,178µm,0.8s						
BHB				AML	AML		
	comp=E,117µm,1.4s						
BHB				AML	AML		
	comp=N,178µm,0.8s						
BHB				AML	AML		
	comp=E,117µm,1.4s						
BHB				AML	AML		
	comp=N,178µm,0.8s						
BNI	**Bardonecchia**	**0.56**	**359**	P	**Pg**	**11 08 16.3**	**+0.4**
BNI				AML	AML		
	comp=E,70µm,0.6s						
BNI				AML	AML		
	comp=N,56µm,0.5s						
BNI				AML	AML		
	comp=E,70µm,0.6s						
BNI				AML	AML		
	comp=N,56µm,0.5s						
BNI				AML	AML		
	comp=N,56µm,0.5s						
BNI				AML	AML		
	comp=E,70µm,0.6s						
ENR	**Entracque**	**0.59**	**117**	P	**Pg**	**11 08 16.1**	**-0.1**
ENR				S	**Sg**	**11 08 24.0**	**-0.1**
ENR	**Entracque**	**0.59**	**117**	P	**Pg**	**11 08 16.2**	**-0.1**
ENR				S	**Sg**	**11 08 24.2**	**0.0**
ENR				AML	AML		
	comp=E,298µm,1.1s						
ENR				AML	AML		
	comp=N,274µm,1.4s						
ENR				AML	AML		
	comp=E,298µm,1.1s						
ENR				AML	AML		
	comp=N,274µm,1.4s						
ENR				AML	AML		
	comp=E,298µm,1.1s						
ENR				AML	AML		
	comp=N,274µm,1.4s						
MVIF	**Mont Vial**	**0.68**	**151**	Pg	**Pg**	**11 08 18.1**	**0.0**
MVIF				Sg	**Sg**	**11 08 27.2**	**+0.1**
ORIF	**Oris-en-Rattie**	**0.72**	**307**	*e*Pg	**Pg**	**11 08 18.7**	**-0.1**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**11 08 28.4**	**+0.1**
	comp=N,28nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**0.72**	**307**	Pg	**Pg**	**11 08 18.8**	**-0.1**
ORIF	**Oris-en-Rattie**	**0.72**	**307**	P	**Pg**	**11 08 18.8**	**-0.1**
ORIF				AML	AML		
	comp=E,93µm,0.4s						
ORIF				AML	AML		
	comp=N,122µm,0.2s						
ORIF				AML	AML		
	comp=N,122µm,0.2s						
ORIF				AML	AML		
	comp=E,93µm,0.4s						
CALF	**Calern**	**0.76**	**167**	Pg	**Pg**	**11 08 19.7**	**+0.2**
CALF				Sg	**Sg**	**11 08 29.4**	**-0.1**
RSP	**Reno Superiore**	**0.77**	**32**	P	**Pb**	**11 08 20.2**	**+0.1**
RSP				S	**Sg**	**11 08 30.0**	**-0.1**
RSP	**Reno Superiore**	**0.77**	**32**	P	**Pb**	**11 08 20.2**	**+0.1**
RSP				AML	AML		
	comp=E,88µm,0.2s						
RSP				AML	AML		
	comp=N,67µm,0.2s						
RSP				AML	AML		
	comp=N,67µm,0.2s						
RSP				AML	AML		
	comp=E,88µm,0.2s						
SAOF	**Saorge**	**0.80**	**129**	P	**Pg**	**11 08 20.2**	**-0.1**
SAOF				S	**Sg**	**11 08 30.9**	**+0.1**
SAOF				AML	AML		
	comp=E,124µm,0.3s						
SAOF				AML	AML		
	comp=N,118µm,0.2s						
SAOF				AML	AML		
	comp=E,124µm,0.3s						
SAOF				AML	AML		
	comp=N,118µm,0.2s						
SAOF				AML	AML		
	comp=N,118µm,0.2s						
SAOF				AML	AML		
	comp=E,124µm,0.3s						
ESCA	**l'Escarene**	**0.82**	**143**	Pg	**Pg**	**11 08 20.6**	**-0.1**
ESCA				Sg	**Sg**	**11 08 31.3**	**-0.2**
SBF	**Sospel**	**0.82**	**139**	*e*Pg	**Pg**	**11 08 20.3**	**-0.5**
SBF	**Sospel**	**0.82**	**139**	*e*Pn	**Pn**	**11 08 22.0**	**0.0**
	SNR=1.0						

SMRF	**Simiane la Rot**	**0.95**	**238**	*e*Pn	**Pn**	**11 08 24.1**	**+0.4**
	SNR=1.0							
SMRF				*e*Sn	**Sn**	**11 08 37.0**	**-0.1**
	comp=E,61nm,0.3s,SNR=1.0							
NEGI	**Seborga**	**0.97**	**131**	P	**Pb**	**11 08 23.4**	**0.0**
NEGI				AML	AML			
	comp=E,138μm,0.4s							
NEGI				AML	AML			
	comp=N,158μm,0.2s							
NEGI				AML	AML			
	comp=E,138μm,0.4s							
NEGI				AML	AML			
	comp=N,158μm,0.2s							
LPG	**La Plagne**	**1.01**	**2**	*e*Pg	**Pb**	**11 08 24.2**	**0.0**
	SNR=1.0							
LPG	**La Plagne**	**1.01**	**2**	*e*Pn	**Pn**	**11 08 25.4**	**+0.7**
	SNR=1.0							
LPG				*e*Sg	**Sg**	**11 08 37.8**	**+0.3**
	comp=N,28nm,0.3s,SNR=1.0							
LSD	**Lago del Serru**	**1.02**	**18**	P	**Pb**	**11 08 24.4**	**+0.1**
LSD				S	**Sg**	**11 08 38.1**	**+0.2**
LSD				AML	AML			
	comp=E,91μm,0.2s							
LSD				AML	AML			
	comp=N,48μm,1.0s							
LSD				AML	AML			
	comp=E,91μm,0.2s							
LSD				AML	AML			
	comp=N,48μm,1.0s							
LPL	**La Plagne**	**1.03**	**2**	*e*Pg	**Pb**	**11 08 24.4**	**0.0**
LPL	**La Plagne**	**1.03**	**2**	*e*Pn	**Pn**	**11 08 25.4**	**+0.5**
	SNR=1.0							
LPL				*e*Sn	**Sn**	**11 08 39.5**	**+0.3**
	comp=N,25nm,0.4s							
IMI	**Imperia**	**1.04**	**123**	P	**Pb**	**11 08 24.5**	**0.0**
IMI				AML	AML			
	comp=E,152μm,0.3s							
IMI				AML	AML			
	comp=N,190μm,0.5s							
IMI				AML	AML			
	comp=E,152μm,0.3s							
IMI				AML	AML			
	comp=N,190μm,0.5s							
LMR	**La Mourre**	**1.16**	**187**	*e*Pg	**Pn**	**11 08 26.5**	**-0.1**
	SNR=1.0							
LMR	**La Mourre**	**1.16**	**187**	*e*P	**Pg**	**11 08 28.0**	**+0.8**
	SNR=1.0							
LMR				*e*Sg	**Sb**	**11 08 41.6**	**+0.1**
	comp=N,27nm,0.2s,SNR=1.0							
RSL	**Roselend**	**1.20**	**358**	Pg	**Pg**	**11 08 28.2**	**+0.2**
FINB	**Finale Ligure**	**1.21**	**104**	P	**Pb**	**11 08 27.7**	**+0.2**
FINB				AML	AML			
	comp=E,61μm,0.4s							
FINB				AML	AML			
	comp=N,69μm,0.3s							
FINB				AML	AML			
	comp=E,61μm,0.4s							
FINB				AML	AML			
	comp=N,69μm,0.3s							
CIRO	**Champorcher**	**1.27**	**29**	P	**Pn**	**11 08 28.7**	**+0.3**
PCP	**Piancastagn**	**1.33**	**87**	P	**Pb**	**11 08 29.6**	**+0.2**
PCP				S	**Sn**	**11 08 46.7**	**+0.4**
VIVF	**Saint-Julien-l**	**1.49**	**285**	*e*Pn	**Pn**	**11 08 31.4**	**+0.4**
	SNR=1.0							
VIVF	**Saint-Julien-l**	**1.49**	**285**	*e*Pg	**Pb**	**11 08 32.3**	**+0.2**
VIVF				*e*Sn	**Sn**	**11 08 49.6**	**-0.6**
	SNR=1.0							
VIVF				*e*Sg	**Sg**	**11 08 52.4**	**-0.3**
	comp=N,7.9nm,0.3s							
OG35	**Corcelles**	**1.74**	**333**	Pg	**Pg**	**11 08 38.6**	**+0.4**
LASF	**Ste Croix**	**2.08**	**259**	*e*Pn	**Pn**	**11 08 39.0**	**-0.2**
	SNR=1.0							
LASF	**Ste Croix**	**2.08**	**259**	*e*Pg	**Pb**	**11 08 43.4**	**+1.2**
LASF				*e*Sn	**Sn**	**11 09 04.1**	**-0.7**
CABF	**La Chapelle**	**2.16**	**349**	*e*P	**Pb**	**11 08 43.4**	**-0.3**
	SNR=1.0							
CABF				*e*Sg	**Sg**	**11 09 13.6**	**-0.7**
	comp=N,4.8nm,0.3s,SNR=1.0							
PGF	**Pioggiola**	**2.57**	**138**	*e*Pn	**Pn**	**11 08 46.5**	**+0.6**
	SNR=1.0							
PGF				*e*Sn	**Sn**	**11 09 15.1**	**-1.9**
	comp=N,5.2nm,0.2s,SNR=1.0							
PGF	**Pioggiola**	**2.57**	**138**	P	**Pn**	**11 08 46.5**	**+0.6**
SMF	**Signal de Mont**	**2.94**	**318**	*e*Pn	**Pn**	**11 08 51.1**	**+0.1**
	SNR=1.0							
SMF	**Signal de Mont**	**2.94**	**318**	*e*Pg	**Pg**	**11 08 59.6**	**-1.5**
SMF				*e*Sg	**Sg**	**11 09 37.6**	**-1.6**
	comp=N,3.3nm,0.3s							
SMPL	**Sampolo**	**3.05**	**141**	Pn	**Pn**	**11 08 53.9**	**+1.4**
AVF	**Avril sur Loir**	**3.28**	**316**	*e*P	**Pn**	**11 08 58.2**	**+2.5**
LOR	**Lormes**	**3.41**	**326**	*e*P	**Pn**	**11 08 59.7**	**+2.2**
LOR				*e*Sn	**Sn**	**11 09 35.9**	**-1.8**
LOR				*e*Sg	**Sg**	**11 09 52.1**	**-2.2**
	comp=N,4.0nm,0.5s							
MTLF	**Montolieu**	**3.43**	**252**	*e*Sn	**Sn**	**11 09 36.2**	**-2.0**
	comp=N,1.8nm,0.3s,SNR=1.0							
HAU	**Haudompre**	**3.52**	**356**	*e*Sn	**Sn**	**11 09 38.8**	**-1.7**
	comp=N,9.0nm,0.4s							
BAIF	**Baives**	**5.82**	**344**	*e*Sn	**Sn**	**11 10 35.9**	**-1.1**
	comp=N,3.1nm,0.5s,SNR=1.0							

*ISCJB **22** 11:09:00.5±1.8, 44°.64N±0°.09×82°.4E±0°.2, h3km±17km, Error ellipse: s-maj=27.9km s-min=7.3km az=27.8*
*NNC **22** 11:09:00.6±0.9, 44°.66N×82°.26E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=13.3km s-min=2.4km az=117.0*
*SOME **22** 11:09:01.1, 44°.80N×82°.00E, h15km*
ISC 22 11:08:58.2±1.8, 44°.70N±0°.05×82°.18E±0°.07, h2km±13km, n18, σ2s01/34, 2C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.75**	**259**	*e*P	**Pg**	**11 09 32.3**	**+0.5**
	5.8nm,0.2s						
DJR				*e*S	**Sg**	**11 09 54.5**	**0.0**
	28nm,0.2s						
KTMS	**Ketmen**	**1.82**	**227**	*e*P	**Pg**	**11 09 35.1**	**+1.9**
	6.5nm,0.1s						
KTMS				*e*S	**Sg**	**11 09 59.7**	**+2.9**
	25nm,0.2s						
KAPS	**Kapalarasan**	**2.09**	**287**	*e*P	**Pg**	**11 09 37.7**	**-0.6**
	4.3nm,0.1s						
KAPS				*e*S	**Sb**	**11 10 04.0**	**+0.8**
	27nm,0.2s						
MK31	**Makanchi Array**	**2.09**	**2**	⇓Pn	**Pg**	**11 09 37.6**	**-0.7**
	9.2nm,0.3s,baz=180,slow=13,SNR=403						
MK31					**Sg**	**11 10 05.7**	**+0.2**
	11nm,0.3s,baz=182,slow=27,SNR=26						
PDGK	**Podgornoye**	**2.38**	**236**	⇑Pn	**Pb**	**11 09 41.0**	**-0.8**
	1.3nm,0.2s						
PDGK				⇓Sn	**Sb**	**11 10 12.8**	**+1.1**
	36nm,0.7s						
SHLS	**Shalkode**	**2.50**	**233**	*e*P	**Pn**	**11 09 39.8**	**-0.2**
	18nm,0.3s						
SHLS				*e*S	**Sn**	**11 10 08.4**	**-2.7**
	73nm,0.3s						
UZB	**Uzynbulak**	**2.77**	**237**	*e*P	**Pb**	**11 09 47.6**	**-0.8**
	4.7nm,0.3s						
UZB				*e*S	**Sb**	**11 10 21.3**	**-1.4**
	9.0nm,0.2s						
MNBS	**Baschi**	**2.78**	**258**	*e*P	**Pg**	**11 09 50.4**	**-1.1**
	13nm,0.2s						
MNBS				*e*S	**Sg**	**11 10 26.3**	**-1.3**
	22nm,0.3s						
KPKS	**Kokpek**	**2.81**	**245**	*e*P	**Pb**	**11 09 48.1**	**-1.1**
	14nm,0.2s						
KPKS				*e*S	**Sb**	**11 10 21.6**	**-2.4**
	76nm,0.3s						
ZHN	**Zhinishke**	**3.11**	**242**	*e*P	**Pb**	**11 09 55.6**	**+1.3**
	5.7nm,0.1s						
ZHN				*e*S	**Sb**	**11 10 34.8**	**+2.0**
	16nm,0.2s						
ARXS	**Arharly**	**3.16**	**263**	*e*P	**Pb**	**11 09 55.7**	**+0.7**
	2.0nm,0.2s						
ARXS				*e*S	**Sb**	**11 10 34.8**	**+0.8**
	30nm,0.3s						
SATY	**Saty**	**3.19**	**240**	*e*P	**Pb**	**11 09 55.4**	**-0.3**
	7.0nm,0.2s						
SATY				*e*S	**Sb**	**11 10 34.5**	**-0.4**
	26nm,0.2s						
CHKK	**Chushkaly**	**3.83**	**259**	*e*P	**Pb**	**11 10 08.2**	**+1.8**
	2.4nm,0.2s						
CHKK				*e*S	**Sb**	**11 10 56.2**	**+3.0**
	8.9nm,0.2s						
KOTS	**Kotyrbulak**	**3.94**	**250**	*e*P	**Pb**	**11 10 10.4**	**+1.8**
	2.7nm,0.3s						
KOTS				*e*S	**Sb**	**11 10 59.8**	**+3.1**
	4.8nm,0.3s						
TNSS	**Tian-Shan**	**4.14**	**248**	*e*P	**Pg**	**11 10 15.8**	**-1.7**
	2.0nm,0.2s						
TNSS				*e*S	**Sg**	**11 11 09.1**	**-2.1**
	4.2nm,0.3s						
MTBS	**Maitube**	**4.45**	**251**	*e*P	**Pg**	**11 10 21.4**	**-2.0**
	3.8nm,0.2s						
MTBS				*e*S	**Sg**	**11 11 18.8**	**-2.2**
	10nm,0.3s						
DGS	**Degeres**	**4.85**	**255**	*e*P	**Pb**	**11 10 26.9**	**+3.0**
	1.8nm,0.3s						
DGS				*e*S	**Sb**	**11 11 28.2**	**+5.4**
	5.8nm,0.5s						
TKM2	**Tokmak 2**	**5.09**	**252**	⇑Lg	Lg	11 11 42.5	
	2.1nm,0.6s						

*ISCJB **22** 11:25:51.7±0.2, 37°.82N±0°.02×14°.99E±0°.03, h32km±2km, mb3.5/9, MS3.2/3, Error ellipse: s-maj=4.1km s-min=2.3km az=19.8*
*ROM **22** 11:25:51.7±0.1, 37°.801N±0°.004×14°.963E±0°.006, h27km, ML4.1/58*
*PDG **22** 11:25:51.8±0.6, 37°.79N×14°.99E, h22km, ML4.0/10, Error ellipse: s-maj=0.8km s-min=1.0km az=0.0*
*BEO **22** 11:25:52.9±0.6, 37°.88N×15°.06E, h3km±2km, ML3.9/7*
*IDC **22** 11:25:54.0±1.5, 37°.80N×14°.84E, h30km±16km, mb3.5/7, mb1 3.7/12, mb1mx3.5/59, mbtmp3.6/12, ML3.7/4, MS3.2/4, Ms1 3.2/4, ms1mx2.6/33, Error ellipse: s-maj=24.9km s-min=15.9km az=130.0*
ISC 22 11:25:52.6±0.8, 37°.80N±0°.02×14°.97E±0°.02, h23km±5km, n117, σ1s45/136, mb3.6/9, MS3.0/3, 6C-8D, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.10**	**178**	P	**Pb**	**11 25 56.7**	**-0.5**
ESLN				S	**Sb**	**11 26 00.4**	**+0.1**
ESLN				AML	AML		
	comp=E,81000μm,0.5s						
ESLN				AML	AML		
	comp=N,61600μm,0.3s						
ESLN				AML	AML		
	comp=E,81000μm,0.5s						
ESLN				AML	AML		
	comp=N,61600μm,0.3s						
ESLN				AML	AML		
	comp=E,81000μm,0.5s						
ESLN				AML	AML		
	comp=N,61600μm,0.3s						
ESLN				AML	AML		
	comp=E,81000μm,0.5s						
ESLN				AML	AML		
	comp=N,61600μm,0.3s						
MNO	**Monte Soro**	**0.26**	**303**	P	**Pb**	**11 25 58.0**	**-1.1**
MNO				S	**Sb**	**11 26 03.2**	**-0.2**
MNO				AML	AML		
	comp=E,65600μm,0.4s						
MNO				AML	AML		
	comp=N,91750μm,0.6s						
MNO				AML	AML		
	comp=E,65600μm,0.4s						
MNO				AML	AML		
	comp=N,91750μm,0.6s						
MNO				AML	AML		
	comp=E,65600μm,0.4s						
MNO				AML	AML		
	comp=N,91700μm,0.6s						
MNO				AML	AML		
	comp=N,91700μm,0.6s						
MNO				AML	AML		
	comp=E,65600μm,0.4s						
MUCR	**Ucria**	**0.26**	**343**	P	**Pb**	**11 25 58.3**	**-0.7**
MUCR				S	**Sb**	**11 26 03.3**	**0.0**
MUCR				AML	AML		
MUCR				AML	AML		
	comp=N,58400μm,0.5s						
MUCR				AML	AML		
MUCR				AML	AML		
	comp=N,58400μm,0.5s						
NOV	**Novara**	**0.27**	**30**	P	**Pb**	**11 25 58.1**	**-1.0**
NOV				S	**Sb**	**11 26 03.6**	**+0.1**
NOV				AML	AML		
	comp=E,80300μm,0.4s						
NOV				AML	AML		
	comp=N,35600μm,1.4s						
NOV				AML	AML		
	comp=E,80300μm,0.4s						
NOV				AML	AML		
	comp=N,35600μm,1.4s						
NOV				AML	AML		
	comp=N,35600μm,1.4s						
NOV				AML	AML		
	comp=E,80300μm,0.4s						
ECNV	**Catenanuova**	**0.28**	**226**	P	**Pb**	**11 25 59.5**	**+0.2**
ECNV				AML	AML		
	comp=E,33800μm,0.6s						
ECNV				AML	AML		
	comp=N,54750μm,0.9s						
ECNV				AML	AML		
	comp=E,33800μm,0.6s						
ECNV				AML	AML		
	comp=N,54750μm,0.9s						
ECNV				AML	AML		
	comp=E,33800μm,0.6s						
ECNV				AML	AML		
	comp=N,54750μm,0.9s						
GALF	**Gagliano Caste**	**0.33**	**255**	P	**Pb**	**11 25 59.9**	**-0.1**
GALF				AML	AML		
	comp=E,33700μm,0.5s						
GALF				AML	AML		
	comp=N,46000μm,0.6s						
GALF				AML	AML		
	comp=E,33700μm,0.5s						
GALF				AML	AML		
	comp=N,46000μm,0.6s						
GALF				AML	AML		
	comp=E,33700μm,0.5s						
GALF				AML	AML		
	comp=N,46000μm,0.6s						
GALF				AML	AML		
	comp=N,46000μm,0.6s						
GALF				AML	AML		
	comp=E,33700μm,0.5s						
MCSR	**Castroreale**	**0.35**	**39**	P	**Pb**	**11 25 59.3**	**-1.1**
MCSR				S	**Sb**	**11 26 05.4**	**-0.2**
MCSR				AML	AML		
MCSR				AML	AML		
MCSR				AML	AML		
MCSR				AML	AML		
MSFR	**San Fratello**	**0.38**	**309**	P	**Pb**	**11 25 59.6**	**-1.2**
MSFR				S	**Sb**	**11 26 06.7**	**+0.3**
MSFR				AML	AML		
	comp=E,10765μm,0.6s						
MSFR				AML	AML		
	comp=N,12500μm,0.6s						
MSFR				AML	AML		
	comp=N,12500μm,0.6s						
MSFR				AML	AML		
	comp=E,10765μm,0.6s						
CAGR	**Agira**	**0.41**	**245**	AML	AML		
	comp=N,35150μm,0.8s						
CAGR				AML	AML		
	comp=E,36650μm,1.1s						
CAGR				AML	AML		
	comp=N,35150μm,0.8s						
CAGR				AML	AML		
	comp=E,36650μm,1.1s						
CAGR				AML	AML		
	comp=N,35150μm,0.8s						
CAGR				AML	AML		
	comp=E,36650μm,1.1s						
HLNI	**Lentini**	**0.45**	**190**	P	**Pb**	**11 26 00.7**	**-1.2**
HLNI				S	**Sb**	**11 26 09.0**	**+0.7**
HLNI				AML	AML		
	comp=E,21750μm,0.5s						
HLNI				AML	AML		
	comp=N,32900μm,0.3s						
HLNI				AML	AML		
	comp=E,21750μm,0.5s						
HLNI				AML	AML		
	comp=N,32900μm,0.3s						
MPNC	**Port Mandanici**	**0.46**	**41**	P	**Pb**	**11 26 01.3**	**-0.8**
MPNC				AML	AML		
MPNC				AML	AML		
	comp=N,96850μm,0.8s						
MPNC				AML	AML		
MPNC				AML	AML		
	comp=N,96850μm,0.8s						
MPNC				AML	AML		
	comp=N,96850μm,0.8s						
MPNC				AML	AML		
HCRL	**Carlentini**	**0.51**	**174**	P	**Pb**	**11 26 02.1**	**-0.9**
HCRL				S	**Sb**	**11 26 10.0**	**0.0**
HCRL				AML	AML		
	comp=E,55050μm,0.5s						
HCRL				AML	AML		
	comp=N,63350μm,1.1s						
HCRL				AML	AML		
	comp=E,55050μm,0.5s						
HCRL				AML	AML		
	comp=N,63350μm,1.1s						
HCRL				AML	AML		
	comp=N,63350μm,1.1s						
HCRL				AML	AML		
	comp=E,55050μm,0.5s						
MILZ	**Milazzo**	**0.52**	**23**	P	**Pb**	**11 26 02.4**	**-0.7**
MILZ				AML	AML		
	comp=E,37500μm,1.1s						
MILZ				AML	AML		
	comp=N,42350μm,0.6s						
MILZ				AML	AML		
	comp=E,37500μm,1.1s						
MILZ				AML	AML		
	comp=N,42350μm,0.6s						
MILZ				AML	AML		
	comp=E,37500μm,1.1s						
MILZ				AML	AML		
	comp=N,42350μm,0.6s						
MILZ				AML	AML		
	comp=E,37500μm,1.1s						
MILZ				AML	AML		
	comp=N,42350μm,0.6s						
HAGA	**Augusta**	**0.53**	**164**	P	**Pb**	**11 26 02.2**	**-1.1**
HAGA				S	**Sb**	**11 26 11.0**	**+0.5**
HAGA				AML	AML		
	comp=E,33300μm,0.7s						
HAGA				AML	AML		
	comp=N,33950μm,0.5s						
HAGA				AML	AML		
	comp=E,33300μm,0.7s						
HAGA				AML	AML		
	comp=N,33950μm,0.5s						
HAGA				AML	AML		
	comp=E,33300μm,0.7s						
HAGA				AML	AML		
	comp=N,33950μm,0.5s						
ATN	**Antennamare**	**0.54**	**47**	P	**Pb**	**11 26 02.9**	**-0.5**
ATN				AML	AML		
	comp=E,1725μm,1.0s						
ATN				AML	AML		
	comp=N,274μm,0.6s						
ATN				AML	AML		
	comp=E,1725μm,1.0s						
ATN				AML	AML		
	comp=N,274μm,0.6s						
ATN				AML	AML		
	comp=E,1725μm,1.0s						
ATN				AML	AML		
	comp=N,274μm,0.6s						
VAE	**Valguarnera**	**0.54**	**235**	Pg	**Pn**	**11 26 04.7**	**-0.3**
	comp=N,152nm,0.3s,baz=37,slow=0.6,SNR=167						
AGST	**Augusta-Monte**	**0.57**	**159**	P	**Pb**	**11 26 02.8**	**-1.2**
AGST				AML	AML		
	comp=E,29050μm,0.7s						
AGST				AML	AML		
	comp=N,38500μm,1.0s						
AGST				AML	AML		
	comp=E,29050μm,0.7s						
AGST				AML	AML		
	comp=N,38500μm,1.0s						
AGST				AML	AML		
	comp=N,38500μm,1.0s						
AGST				AML	AML		
	comp=E,29050μm,0.7s						
VPL	**Vulcano Piano**	**0.58**	**1**	P	**Pb**	**11 26 03.2**	**-1.1**
VPL				AML	AML		
VPL				AML	AML		
	comp=N,86750μm,1.0s						
VPL				AML	AML		
	comp=N,86750μm,1.0s						
VPL				AML	AML		
MTTG	**Motta San Giov**	**0.61**	**70**	P	**Pb**	**11 26 04.3**	**-0.3**
MTTG				AML	AML		
	comp=E,12700μm,0.6s						
MTTG				AML	AML		
	comp=N,18650μm,0.6s						
MTTG				AML	AML		
	comp=E,12700μm,0.6s						
MTTG				AML	AML		
	comp=N,18650μm,0.6s						
MTTG				AML	AML		
	comp=E,12700μm,0.6s						
MTTG				AML	AML		
	comp=N,18650μm,0.6s						
MSRU	**Castanea**	**0.63**	**42**	P	**Pb**	**11 26 04.4**	**-0.7**
MSRU				AML	AML		
	comp=E,28250μm,0.3s						
MSRU				AML	AML		
	comp=N,25050μm,0.8s						
MSRU				AML	AML		
	comp=E,28250μm,0.3s						
MSRU				AML	AML		
	comp=N,25050μm,0.8s						
MSRU				AML	AML		
	comp=E,28250μm,0.3s						
MSRU				AML	AML		
	comp=N,25050μm,0.8s						
HVZN	**Vizzini**	**0.65**	**198**	P	**Pb**	**11 26 04.4**	**-0.9**
HVZN				AML	AML		
	comp=E,63350μm,0.6s						
HVZN				AML	AML		
	comp=N,44850μm,0.5s						
HVZN				AML	AML		
	comp=E,63350μm,0.6s						
HVZN				AML	AML		
	comp=N,44850μm,0.5s						
HVZN				AML	AML		
	comp=E,63350μm,0.6s						
HVZN				AML	AML		
	comp=N,44850μm,0.5s						
PETRA	**Petralia Sopra**	**0.68**	**274**	P	**Pb**	**11 26 04.8**	**-1.0**
PETRA				AML	AML		
	comp=E,19550μm,0.7s						
PETRA				AML	AML		
	comp=N,13340μm,0.7s						
PETRA				AML	AML		
	comp=E,19550μm,0.7s						
PETRA				AML	AML		
	comp=N,13340μm,0.7s						
PETRA				AML	AML		
	comp=N,13340μm,0.7s						
PETRA				AML	AML		
	comp=E,19550μm,0.7s						
PLLN	**Pollina**	**0.68**	**287**	P	**Pb**	**11 26 05.4**	**-0.5**
PLLN				AML	AML		
	comp=E,41750μm,0.6s						
PLLN				AML	AML		
	comp=N,54650μm,0.7s						
PLLN				AML	AML		
	comp=E,41750μm,0.6s						
PLLN				AML	AML		
	comp=N,54600μm,0.7s						
PLLN				AML	AML		
	comp=E,41750μm,0.6s						
PLLN				AML	AML		
	comp=N,54600μm,0.7s						
MEU	**Monte Lauro**	**0.69**	**183**	P	**Pb**	**11 26 05.0**	**-1.0**
MEU				S	**Sb**	**11 26 15.5**	**+0.3**
MEU				AML	AML		
	comp=E,73600μm,0.3s						
MEU				AML	AML		
	comp=N,62100μm,0.3s						
MEU				AML	AML		
	comp=E,73600μm,0.3s						
MEU				AML	AML		
	comp=N,62050μm,0.3s						
MEU				AML	AML		
	comp=N,62050μm,0.3s						
MEU				AML	AML		

comp=E,73600µm,0.3s
GIB Gibilmanna 0.77 285 P Pb 11 26 06.8 -0.6
GIB AML AML
comp=E,17950µm,0.7s
GIB AML AML
comp=N,19550µm,0.6s
GIB AML AML
comp=E,17950µm,0.7s
GIB AML AML
comp=N,19550µm,0.6s
GIB AML AML
comp=E,17950µm,0.7s
GIB AML AML
comp=N,19550µm,0.6s
GMB Gambarie 0.78 61 P Pb 11 26 07.1 -0.4
GMB AML AML
comp=E,28700µm,0.9s
GMB AML AML
comp=N,27550µm,0.3s
GMB AML AML
comp=E,28700µm,0.9s
GMB AML AML
comp=N,27550µm,0.3s
GMB AML AML
comp=E,28700µm,0.9s
GMB AML AML
comp=N,27550µm,0.3s
MSCL Scilla 0.78 56 P Pb 11 26 07.2 -0.3
MSCL AML AML
comp=E,17250µm,0.8s
MSCL AML AML
comp=N,17250µm,0.6s
MSCL AML AML
comp=E,17250µm,0.8s
MSCL AML AML
comp=N,17250µm,0.6s
MSCL AML AML
comp=N,17250µm,0.6s
MSCL AML AML
comp=E,17250µm,0.8s
IFIL Filicudi I Eol 0.83 338 P Pb 11 26 07.0 -1.3
IFIL AML AML
comp=E,62800µm,0.3s
IFIL AML AML
comp=N,24300µm,0.5s
IFIL AML AML
comp=E,62800µm,0.3s
IFIL AML AML
comp=N,24300µm,0.5s
IFIL AML AML
comp=N,24300µm,0.5s
IFIL AML AML
comp=E,62800µm,0.3s
MPAZ Palizzi 0.84 79 P Pb 11 26 08.0 -0.5
MPAZ AML AML
comp=E,7650µm,0.5s
MPAZ AML AML
comp=N,14750µm,0.5s
MPAZ AML AML
comp=E,7650µm,0.5s
MPAZ AML AML
comp=N,14750µm,0.5s
MPAZ AML AML
comp=N,14750µm,0.5s
MPAZ AML AML
comp=E,7650µm,0.5s
HAVL Avola 0.84 171 P Pb 11 26 07.6 -1.0
HAVL S Sb 11 26 19.9 +0.4
HAVL AML AML
comp=E,35050µm,0.3s
HAVL AML AML
comp=N,28400µm,1.5s
HAVL AML AML
comp=E,35050µm,0.3s
HAVL AML AML
comp=N,28400µm,1.5s
HAVL AML AML
comp=N,28400µm,1.5s
HAVL AML AML
comp=E,35050µm,0.3s
HMDC Modica 0.85 190 P Pb 11 26 07.5 -1.1
HMDC S Sb 11 26 19.9 +0.3
HMDC AML AML
comp=E,55150µm,1.1s
HMDC AML AML
comp=N,51050µm,0.9s
HMDC AML AML
comp=E,55150µm,1.1s
HMDC AML AML
comp=N,51050µm,0.9s
HMDC AML AML
comp=N,51050µm,0.9s
HMDC AML AML
comp=E,55150µm,1.1s
CEL Celeste 0.86 57 P Pb 11 26 08.4 -0.5
CEL AML AML
comp=E,5005µm,0.4s
CEL AML AML
comp=N,6060µm,0.4s
CEL AML AML
comp=E,5005µm,0.4s
CEL AML AML
comp=N,6060µm,0.4s
CEL AML AML
comp=N,6060µm,0.4s
CEL AML AML
comp=E,5005µm,0.4s
IACL Alicudi 0.88 327 P Pb 11 26 07.7 -1.5
JOPP Joppolo 1.09 41 P Pn 11 26 11.1 -1.3
JOPP AML AML
comp=E,4420µm,1.3s
JOPP AML AML
comp=N,4505µm,0.4s
JOPP AML AML
comp=N,4505µm,0.4s
JOPP AML AML
comp=E,4420µm,1.3s
FAVR Favara 1.16 243 AML AML
comp=E,3450µm,0.5s
FAVR AML AML
comp=N,3550µm,1.1s
FAVR AML AML
comp=E,3450µm,0.5s
FAVR AML AML
comp=N,3550µm,1.1s
SOLUN Solunto 1.17 285 P Pn 11 26 13.3 -0.3
SOLUN AML AML
comp=E,1985µm,0.7s
SOLUN AML AML
comp=N,1630µm,1.1s
SOLUN AML AML
comp=E,1985µm,0.7s
SOLUN AML AML
comp=N,1630µm,1.1s
SOLUN AML AML
comp=N,1630µm,1.1s
SOLUN AML AML
comp=E,1985µm,0.7s
CORL Corleone 1.32 275 AML AML
comp=N,6150µm,0.9s
CORL AML AML
comp=E,5640µm,0.9s
CORL AML AML
comp=N,6150µm,0.9s
CORL AML AML
comp=E,5640µm,0.9s
MPG Monte Pellegri 1.32 287 P Pn 11 26 14.8 -0.9
MPG AML AML
comp=E,1445µm,1.4s
MPG AML AML
comp=N,2350µm,1.2s
MPG AML AML
comp=N,2350µm,1.2s
MPG AML AML
comp=E,1445µm,1.4s
PLAC Placanica 1.33 60 P Pn 11 26 16.1 +0.3
PLAC AML AML
comp=E,5220µm,0.6s
PLAC AML AML
comp=N,5310µm,0.6s
PLAC AML AML
comp=E,5220µm,0.6s
PLAC AML AML
comp=N,5310µm,0.6s
CLTB Caltabellotta 1.41 262 AML AML
comp=N,17150µm,0.6s
CLTB AML AML
comp=E,6595µm,0.6s
CLTB AML AML
comp=E,6595µm,0.6s
CLTB AML AML
comp=N,17150µm,0.6s
GRI Girifalco 1.54 48 AML AML
comp=E,3495µm,0.6s
GRI AML AML
comp=N,3745µm,1.2s
GRI AML AML
comp=E,3495µm,0.6s
GRI AML AML
comp=N,3745µm,1.2s
MMGO Monte Magaggia 1.59 266 P Pn 11 26 18.9 -0.3
CAR1 CAROLEI 1.75 33 P Pn 11 26 20.4 -1.2
CAR1 AML AML
comp=E,5465µm,0.7s
CAR1 AML AML
comp=N,5920µm,0.6s
CAR1 AML AML
comp=E,5745µm,0.4s
CAR1 AML AML
comp=N,5780µm,0.6s
CAR1 AML AML
comp=E,5465µm,0.7s
CAR1 AML AML
comp=N,5780µm,0.6s
CAR1 AML AML
comp=N,5920µm,0.6s
CAR1 AML AML
comp=E,5745µm,0.4s
SERS Sersale 1.83 47 P Pn 11 26 22.9 +0.2
SERS AML AML
comp=E,855µm,0.7s
SERS AML AML
comp=N,1002µm,0.5s
SERS AML AML
comp=E,1051µm,0.5s
SERS AML AML
comp=N,860µm,0.7s
SERS AML AML
comp=N,1002µm,0.5s
SERS AML AML
comp=E,1051µm,0.5s
SERS AML AML
comp=N,860µm,0.7s
SERS AML AML
comp=E,855µm,0.7s
CET2 Cetraro 1.90 24 P Pn 11 26 22.5 -1.1
CET2 AML AML
comp=E,5880µm,0.6s
CET2 AML AML
comp=N,5075µm,0.5s
CET2 AML AML
comp=N,5075µm,0.5s
CET2 AML AML
comp=E,5880µm,0.6s
TIP Timpagrande 1.97 45 AML AML
comp=E,808µm,0.6s
TIP AML AML
comp=N,852µm,0.7s
TIP AML AML
comp=E,939µm,0.6s
TIP AML AML
comp=N,1088µm,0.7s
TIP AML AML
comp=E,808µm,0.6s
TIP AML AML
comp=E,939µm,0.6s
TIP AML AML
comp=N,852µm,0.7s
TIP AML AML
comp=N,1088µm,0.7s
CELI Celico 2.01 36 P Pn 11 26 24.8 -0.5
CELI AML AML
comp=E,1295µm,0.8s
CELI AML AML
comp=N,1086µm,0.6s
CELI AML AML
comp=E,3190µm,0.8s
CELI AML AML
comp=N,2705µm,0.6s
CELI AML AML
comp=E,1295µm,0.8s
CELI AML AML
comp=E,3190µm,0.8s
CELI AML AML
comp=N,2705µm,0.6s
CELI AML AML
comp=N,1086µm,0.6s
T0702 Acquaformosa (2.11 24 P Pn 11 26 25.9 -0.7
T0702 Acquaformosa (2.11 24 P Pn 11 26 26.1 -0.5
BULG Bulgheria - Ca 2.30 8 P Pn 11 26 28.6 -0.6
BULG AML AML
comp=E,731µm,0.7s
BULG AML AML
comp=N,1260µm,0.6s
BULG AML AML
comp=E,731µm,0.7s
BULG AML AML
comp=N,1260µm,0.6s
SALB San Lorenzo Be 2.34 27 AML AML
comp=N,1535µm,0.7s
SALB AML AML
comp=E,1118µm,0.5s
SALB AML AML
comp=N,1560µm,0.7s
SALB AML AML
comp=E,1171µm,1.6s
SALB AML AML
comp=E,1118µm,0.5s
SALB AML AML
comp=N,1535µm,0.7s
SALB AML AML
comp=N,1560µm,0.7s
SALB AML AML
comp=E,1171µm,1.6s
MGR Morigerati 2.38 11 P Pn 11 26 28.6 -1.6
MGR AML AML
comp=E,1125µm,0.5s
MGR AML AML
comp=N,672µm,0.5s
MGR AML AML
comp=E,1125µm,0.5s
MGR AML AML
comp=N,672µm,0.5s
CMPR Campora 2.53 6 P Pn 11 26 31.6 -0.8
CMPR AML AML
comp=E,344µm,0.5s
CMPR AML AML
comp=N,304µm,0.7s
CMPR AML AML
comp=N,304µm,0.7s
CMPR AML AML
comp=E,344µm,0.5s
SLCN Sala Consilina 2.64 11 P Pn 11 26 31.3 -2.6
SLCN AML AML
comp=E,1014µm,0.6s
SLCN AML AML
comp=N,904µm,0.6s
SLCN AML AML
comp=E,1055µm,0.6s
SLCN AML AML
comp=N,919µm,0.6s
SLCN AML AML
comp=N,919µm,0.6s
SLCN AML AML
comp=E,1055µm,0.6s
SLCN AML AML
comp=E,1014µm,0.6s
SLCN AML AML
comp=N,904µm,0.6s
CDRU Civita di Ruta 2.70 5 P Pn 11 26 34.7 0.0
CDRU AML AML
comp=E,290µm,0.4s
CDRU AML AML
comp=N,179µm,0.7s
CDRU AML AML
comp=E,290µm,0.4s
CDRU AML AML
comp=N,179µm,0.7s
MCRV Calabrutti - M 2.99 3 AML AML
comp=E,232µm,0.7s
MCRV AML AML
comp=N,232µm,0.5s
MCRV AML AML
comp=N,232µm,0.5s
MCRV AML AML
comp=E,232µm,0.7s
MATE Matera 3.15 25 AML AML
comp=N,364µm,0.5s
MATE AML AML
comp=E,404µm,0.8s
MATE AML AML
comp=N,364µm,0.5s
MATE AML AML
comp=E,404µm,0.8s
CAFE Carife 3.24 4 AML AML
comp=N,188µm,0.7s
CAFE AML AML
comp=E,275µm,0.8s
CAFE AML AML
comp=N,188µm,0.7s
CAFE AML AML
comp=E,275µm,0.8s
MASS Massafra 3.30 30 ePn Pn 11 26 43.0 +0.2
NOCI Noci 3.40 28 AML AML
comp=E,406µm,0.7s
NOCI AML AML
comp=E,406µm,0.7s
NOCI AML AML
comp=N,370µm,0.4s
NOCI AML AML
comp=N,370µm,0.4s
KEST Kesra 4.96 247 Pn Pn 11 27 06.2 +0.5
comp=N,1.6nm,0.3s,baz=1.5,slow=4.2,SNR=18
KEST Sn Sn 11 27 59.1 -3.4
comp=N,0.4nm,0.3s,baz=21,slow=22,SNR=1.1
KEST LR LR 11 29 21.4
comp=N,114nm,21.7s,baz=297,slow=43
ULC Ulcinj 5.30 37 ⇑iPn Pn 11 27 11.1 +0.7
ULC *e*Sn Sn 11 28 10.5 -0.3
HCY Herceg Novi 5.38 29 ⇓iPn Pn 11 27 11.4 +0.1
HCY *e*Sn Sn 11 28 12.5 0.0
HCY Herceg Novi 5.38 29 *e*Pn Pn 11 27 10.0 -1.3
BUM Brajici-Budva 5.41 33 ⇓iPn Pn 11 27 12.5 +0.5
BUM *e*Sn Sn 11 28 13.3 -0.3
DRME Dracevica, Mon 5.45 35 ⇑iPn Pn 11 27 11.8 -0.6
DRME *e*Sn Sn 11 28 14.5 +0.1
DRME Dracevica, Mon 5.45 35 *e*Pn Pn 11 27 11.4 -1.0
STON Ston 5.48 22 *e*Pn Pn 11 27 12.9 +0.1
STON *e*Sn Sn 11 28 13.9 -1.2
STON Ston 5.48 22 *e*Pn Pn 11 27 12.2 -0.6
TREB Trebinje 5.55 27 *e*Pn Pn 11 27 14.2 +0.4
TREB *e*Sn Sn 11 28 15.1 -1.8
TREB Trebinje 5.55 27 *e*Pn Pn 11 27 13.7 -0.1
CEME Cevo 5.63 31 ⇓iPn Pn 11 27 13.9 -1.0
CEME *e*Sn Sn 11 28 18.9 +0.1
PDG Podgorica 5.68 34 *e*Pn Pn 11 27 15.0 -0.5
PDG *e*Sn Sn 11 28 18.2 -1.7
PDG Podgorica 5.68 34 *e*Pn Pn 11 27 14.3 -1.2
TTG Podgorica 5.68 34 ⇓iPn Pn 11 27 16.7 +1.2
TTG *e*Sn Sn 11 28 20.2 +0.3
BRY Bratogost 5.78 27 ⇑iPn Pn 11 27 16.7 -0.4
BRY *e*Sn Sn 11 28 22.8 0.0
BRY Bratogost 5.78 27 *e*Pn Pn 11 27 15.8 -1.3
NKME Niksic 5.83 30 ⇑iPn Pn 11 27 18.0 +0.4
NKME *e*Sn Sn 11 28 23.8 +0.1
NKY Niksic 5.88 30 ⇓iPn Pn 11 27 18.6 +0.2
NKY *e*Sn Sn 11 28 25.0 -0.1
KOME Kolasin 6.13 33 ⇓iPn Pn 11 27 21.7 -0.1
KOME *e*Sn Sn 11 28 31.6 +0.4
PVY Plav 6.13 37 ⇓iPn Pn 11 27 22.4 +0.6
PVY *e*Sn Sn 11 28 30.8 -0.4
UPM Unac-Piva 6.18 28 ⇓iPn Pn 11 27 24.1 +1.5
UPM *e*Sn Sn 11 28 32.4 -0.2
UPM Unac-Piva 6.18 28 *e*Pn Pn 11 27 22.9 +0.3
IVA Berane 6.31 35 ⇑iPn Pn 11 27 25.2 +0.9
IVA *e*Sn Sn 11 28 35.8 +0.1
PLE Pljevlja 6.47 30 ⇑iPn Pn 11 27 27.5 +1.0
PLE *e*Sn Sn 11 28 38.6 -1.1
SJES Sjenica 6.66 33 *e*Pn Pn 11 27 29.7 +0.6
BBLS Lazići 6.93 28 *e*Pn Pn 11 27 34.0 +1.2
BBLS *e*Sn Sn 11 28 49.2 -1.8
BBLS Lazići 6.93 28 *e*Pn Pn 11 27 33.8 +1.0
HAPS Han Pijesak,Bl 6.97 24 *e*Pn Pn 11 27 34.1 +0.8
IVAS Ivanjica 6.99 33 *e*Pn Pn 11 27 33.0 -0.6
IVAS *e*Sn Sn 11 28 50.0 -2.3
SELS Selova 7.16 39 *e*Pn Pn 11 27 36.2 +0.3
SELS *e*Sn Sn 11 28 53.2 -3.3
DIVS Divibare 7.35 30 *e*Pn Pn 11 27 38.6 0.0
DIVS *e*Sn Sn 11 28 58.5 -2.8
DIVS Divibare 7.35 30 *e*Pn Pn 11 27 36.3 -2.3
GRUS Gruza 7.48 34 *e*Pn Pn 11 27 40.1 -0.2
TRUS Trudelj 7.62 31 *e*Sn Sn 11 29 04.6 -3.2
BOJS Bojanci 7.71 1 *i* Pn Pn 11 27 47.8 +4.5
BOJS Bojanci 7.71 1 *i* Pn Pn 11 27 47.8 +4.5
BOVS Bovan 7.76 39 *e*Pn Pn 11 27 44.2 +0.2
ZAPS Zavoj 8.00 44 *e*Pn Pn 11 27 47.8 +0.4
VISS Visnje 8.00 359 *e*Pn Pn 11 27 52.5 +5.1
VISS Visnje 8.00 359 *e*Pn Pn 11 27 52.5 +5.1
JAVS Javornik 8.12 356 *i* Pn Pn 11 27 51.9 +2.7
JAVS Javornik 8.12 356 *i* Pn Pn 11 27 51.9 +2.7
IDI Anoyia 8.37 104 Pn Pn 11 27 53.1 +0.6
comp=N,1.0nm,0.3s,baz=63,slow=18,SNR=1.6
IDI Sn Sn 11 29 17.4 -8.8
comp=N,1.6nm,0.3s,baz=281,slow=17,SNR=1.9
GERES GERESS Array B 11.08 356 Pn Pn 11 28 29.9 +0.2
comp=N,0.2nm,0.3s,baz=222,slow=14,SNR=3.0
MLR Muntele Rosu 11.24 43 Pn Pn 11 28 33.2 +1.3
comp=N,0.2nm,0.3s,baz=145,slow=6.6,SNR=3.9
AKASG Malin Array Be 16.42 34 Pn Pn 11 29 42.3 +1.0
baz=230,slow=11,SNR=2.4
KBZ Khabaz 21.91 65 P P 11 30 47.4 +3.4
comp=N,1.3nm,0.7s,baz=266,slow=13,SNR=3.1
HFS Hagfors 22.37 358 P P 11 30 48.6 -0.3
comp=N,5.4nm,0.9s,baz=184,slow=13,SNR=4.2
HFS LR LR 11 40 48.4
comp=N,66nm,20.2s,baz=186,slow=40
NOA NORSAR Array B 23.39 355 P P 11 31 01.1 +1.7
comp=N,0.6nm,0.7s,baz=183,slow=12,SNR=2.2
FINES FINESS Array B 24.67 13 P P 11 31 11.3 -0.1
comp=N,2.3nm,0.7s,baz=201,slow=7.3,SNR=4.2
FINES LR LR 11 43 06.3
comp=N,38nm,18.1s,baz=248,slow=42
TORD Torodi Ar. Bea 27.25 209 P P 11 31 34.8 -0.3
comp=N,0.2nm,0.4s,baz=9.9,slow=12,SNR=2.3
BVAR Borovoye Array 40.72 50 P P 11 33 38.3 +7.0
comp=N,1.2nm,0.7s,baz=262,slow=5.5,SNR=6.7
KURBB Kurchatov Arra 45.96 53 P P 11 34 14.5 +0.9
comp=N,0.1nm,0.4s,baz=289,slow=8.7,SNR=2.5
ZALV Zalesovo Beam 49.19 47 P P 11 34 45.0 +6.4
comp=N,1.1nm,0.5s,baz=282,slow=7.4,SNR=5.4
MKAR Makanchi Array 49.21 57 P P 11 34 39.8 +0.8
comp=N,0.3nm,0.5s,baz=279,slow=7.1,SNR=4.6
BOSA Boshof 66.76 170 LR LR 12 05 57.5
comp=N,36nm,18.3s,baz=30,slow=36

ROM 22 11:26:20.5±0.1, 39°.950N±0°.004×16°.017E±0°.006, h8km, ML2.5/6, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUC	**Castrocucco**	**0.16**	**286**	P	Pg	11 26 24.4	+0.5
CUC				S	Sg	11 26 27.0	+0.8
CUC				AML	AML		
	comp=E,3505µm,0.5s						
CUC				AML	AML		
	comp=N,3075µm,0.6s						
CUC				AML	AML		
	comp=E,3505µm,0.5s						
CUC				AML	AML		
	comp=N,3075µm,0.6s						
CUC				AML	AML		
	comp=N,3075µm,0.6s						
CUC				AML	AML		
	comp=E,3505µm,0.5s						
SCHR	**S. Chirico Rap**	**0.25**	**10**	P	Pg	11 26 26.2	+0.7
SCHR				S	Sb	11 26 30.5	-1.4
SCHR				AML	AML		
	comp=E,382µm,0.5s						
SCHR				AML	AML		
	comp=N,452µm,1.4s						
SCHR				AML	AML		
	comp=E,896µm,0.6s						
SCHR				AML	AML		
	comp=N,772µm,1.0s						
SCHR				AML	AML		
	comp=N,772µm,1.0s						
SCHR				AML	AML		
	comp=E,896µm,0.6s						
SIRI	**Monte Sirino -**	**0.26**	**334**	P	Pg	11 26 26.5	+0.8
SIRI				S	Sb	11 26 31.2	-0.9

SIRI				AML	AML			
	comp=E,1615μm,0.4s							
SIRI				AML	AML			
	comp=N,1340μm,1.5s							
SIRI				AML	AML			
	comp=E,1655μm,0.4s							
SIRI				AML	AML			
	comp=N,1390μm,1.5s							
SIRI				AML	AML			
	comp=E,1610μm,0.4s							
SIRI				AML	AML			
	comp=N,1340μm,1.5s							
SIRI				AML	AML			
	comp=E,1655μm,0.4s							
SIRI				AML	AML			
	comp=N,1390μm,1.5s							
SIRI				AML	AML			
	comp=N,1390μm,1.5s							
SIRI				AML	AML			
	comp=N,1340μm,1.5s							
SIRI				AML	AML			
	comp=E,1655μm,0.4s							
SIRI				AML	AML			
	comp=E,1610μm,0.4s							
SALB	**San Lorenzo Be**	**0.26**	**106**	P	Pg	11 26 26.5	+0.8	
MTSN	**Montesano sull**	**0.38**	**327**	P	Pg	11 26 28.5	+0.6	
MTSN				AML	AML			
	comp=E,520μm,0.5s							
MTSN				AML	AML			
	comp=N,432μm,0.5s							
MTSN				AML	AML			
	comp=E,766μm,0.6s							
MTSN				AML	AML			
	comp=N,841μm,0.8s							
MTSN				AML	AML			
	comp=E,766μm,0.6s							
MTSN				AML	AML			
	comp=N,841μm,0.8s							
MGR	**Morigerati**	**0.40**	**298**	AML	AML			
	comp=N,524μm,0.4s							
MGR				AML	AML			
	comp=E,1125μm,0.5s							
MCEL	**Monticello**	**0.41**	**336**	P	Pg	11 26 29.0	+0.5	
MCEL				S	Sb	11 26 36.1	-0.4	
MCEL				AML	AML			
	comp=E,427μm,0.7s							
MCEL				AML	AML			
	comp=N,400μm,0.8s							
MCEL				AML	AML			
	comp=E,622μm,0.6s							
MCEL				AML	AML			
	comp=N,574μm,0.6s							
MCEL				AML	AML			
	comp=N,574μm,0.6s							
MCEL				AML	AML			
	comp=E,622μm,0.6s							
SLCN	**Sala Consilina**	**0.53**	**326**	AML	AML			
	comp=N,476μm,0.5s							
SLCN				AML	AML			
	comp=E,709μm,1.6s							
SLCN				AML	AML			
	comp=N,526μm,0.5s							
SLCN				AML	AML			
	comp=E,651μm,1.6s							
MIGL	**Miglionico**	**0.73**	**26**	P	Pg	11 26 34.7	+0.2	
MIGL				AML	AML			
	comp=E,1740μm,0.8s							
MIGL				AML	AML			
	comp=N,1640μm,0.6s							
MIGL				AML	AML			
	comp=N,1640μm,0.6s							
MIGL				AML	AML			
	comp=E,1740μm,0.8s							

ROM 22 11:28:55.6±0.1,**37°.791N**±0°.003×**14°.949E**±0°.005,
h24km,**ML3.7**/15,**Sicily**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESLN	**Serra La Nave**	**0.10**	**168**	P	Pb	11 29 00.2	-0.2
ESLN				S	Sb	11 29 04.2	+0.5
ESLN				AML	AML		
	comp=E,40600μm,0.9s						
ESLN				AML	AML		
	comp=N,31850μm,0.9s						
ESLN				AML	AML		
	comp=E,40600μm,0.9s						
ESLN				AML	AML		
	comp=N,31850μm,0.9s						
ESLN				AML	AML		
	comp=E,40600μm,0.9s						
ESLN				AML	AML		
	comp=N,31850μm,0.9s						
ESLN				AML	AML		
	comp=N,31850μm,0.9s						
ESLN				AML	AML		
	comp=E,40600μm,0.9s						
MNO	**Monte Soro**	**0.25**	**305**	P	Pb	11 29 01.9	-0.1
MNO				S	Sb	11 29 07.0	+0.7
MNO				AML	AML		
	comp=E,46450μm,1.5s						
MNO				AML	AML		
	comp=N,49850μm,0.6s						
MNO				AML	AML		
	comp=E,46450μm,1.5s						
MNO				AML	AML		
	comp=N,49900μm,0.6s						
MNO				AML	AML		
	comp=E,46400μm,1.5s						
MNO				AML	AML		
	comp=N,49900μm,0.6s						
MNO				AML	AML		
	comp=E,46400μm,1.5s						
MNO				AML	AML		
	comp=N,49900μm,0.6s						
MUCR	**Ucria**	**0.26**	**347**	P	Pb	11 29 01.7	-0.4
MUCR				S	Sb	11 29 06.8	+0.3
MUCR				AML	AML		
	comp=E,38550μm,1.0s						
MUCR				AML	AML		
	comp=N,31800μm,0.9s						
MUCR				AML	AML		
	comp=E,38550μm,1.0s						
MUCR				AML	AML		
	comp=N,31800μm,0.9s						
MUCR				AML	AML		
	comp=E,38550μm,1.0s						
MUCR				AML	AML		
	comp=N,31800μm,0.9s						
MUCR				AML	AML		
	comp=E,38550μm,1.0s						
MUCR				AML	AML		
	comp=N,31800μm,0.9s						
ECNV	**Catenanuova**	**0.27**	**224**	P	Pb	11 29 02.9	+0.7
ECNV				AML	AML		
	comp=E,30900μm,0.7s						
ECNV				AML	AML		
	comp=N,35400μm,0.7s						
ECNV				AML	AML		
	comp=E,30900μm,0.7s						
ECNV				AML	AML		
	comp=N,35400μm,0.7s						
ECNV				AML	AML		
	comp=E,30900μm,0.7s						
ECNV				AML	AML		
	comp=N,35400μm,0.7s						
NOV	**Novara**	**0.28**	**32**	P	Pb	11 29 02.1	-0.2
NOV				S	Sb	11 29 07.6	+0.6
NOV				AML	AML		
	comp=E,14600μm,0.9s						
NOV				AML	AML		
	comp=N,9785μm,0.4s						
NOV				AML	AML		
	comp=E,14600μm,0.9s						
NOV				AML	AML		
	comp=N,9785μm,0.4s						
NOV				AML	AML		
	comp=E,14600μm,0.9s						
NOV				AML	AML		
	comp=N,9785μm,0.4s						
GALF	**Gagliano Caste**	**0.31**	**255**	P	Pb	11 29 03.2	+0.4
GALF				S	Sb	11 29 08.4	+0.6
GALF				AML	AML		
	comp=E,26100μm,0.6s						
GALF				AML	AML		
	comp=N,31200μm,1.0s						
GALF				AML	AML		
	comp=E,26100μm,0.6s						
GALF				AML	AML		
	comp=N,31200μm,1.0s						
GALF				AML	AML		
	comp=E,26100μm,0.6s						
GALF				AML	AML		
	comp=N,31200μm,1.0s						
GALF				AML	AML		
	comp=E,26100μm,0.6s						
MCSR	**Castroreale**	**0.36**	**41**	P	Pb	11 29 03.3	-0.3
MCSR				S	Sb	11 29 09.7	+0.6
MCSR				AML	AML		
	comp=E,54700μm,0.3s						
MCSR				AML	AML		
	comp=N,46200μm,1.0s						
MCSR				AML	AML		
	comp=E,54700μm,0.3s						
MCSR				AML	AML		
	comp=N,46200μm,1.0s						
MCSR				AML	AML		
	comp=N,46200μm,1.0s						
MCSR				AML	AML		
	comp=E,54700μm,0.3s						
MSFR	**San Fratello**	**0.37**	**311**	P	Pb	11 29 03.6	-0.2
MSFR				S	Sb	11 29 10.0	+0.7
MSFR				AML	AML		
	comp=E,8180μm,1.0s						
MSFR				AML	AML		
	comp=N,6760μm,1.4s						
MSFR				AML	AML		
	comp=E,8180μm,1.0s						
MSFR				AML	AML		
	comp=N,6760μm,1.4s						
MSFR				AML	AML		
	comp=E,8180μm,1.0s						
MSFR				AML	AML		
	comp=N,6760μm,1.4s						
MSFR				AML	AML		
	comp=N,6760μm,1.4s						
MSFR				AML	AML		
	comp=E,8180μm,1.0s						
CAGR	**Agira**	**0.39**	**245**	AML	AML		
	comp=N,22150μm,0.7s						
CAGR				AML	AML		
	comp=E,33600μm,0.6s						
CAGR				AML	AML		
	comp=N,22150μm,0.7s						
CAGR				AML	AML		
	comp=E,33600μm,0.6s						
HLNI	**Lentini**	**0.45**	**188**	P	Pb	11 29 04.6	-0.3
HLNI				S	Sb	11 29 12.1	+0.9
HLNI				AML	AML		
	comp=E,12050μm,1.6s						
HLNI				AML	AML		
	comp=N,11450μm,1.4s						
HLNI				AML	AML		
	comp=E,12050μm,1.6s						
HLNI				AML	AML		
	comp=N,11450μm,1.4s						
MPNC	**Port Mandanici**	**0.48**	**42**	P	Pb	11 29 05.3	-0.1
MPNC				S	Sb	11 29 13.1	+1.0
MPNC				AML	AML		
	comp=E,29300μm,0.5s						
MPNC				AML	AML		
	comp=N,22500μm,1.1s						
MPNC				AML	AML		
	comp=E,29300μm,0.5s						
MPNC				AML	AML		
	comp=N,22500μm,1.1s						
MPNC				AML	AML		
	comp=N,22500μm,1.1s						
MPNC				AML	AML		
	comp=E,29300μm,0.5s						
HCRL	**Carlentini**	**0.51**	**173**	P	Pb	11 29 05.8	-0.2
HCRL				S	Sb	11 29 14.0	+1.0
HCRL				AML	AML		
	comp=E,16300μm,0.7s						
HCRL				AML	AML		
	comp=N,19500μm,0.9s						
HCRL				AML	AML		
	comp=E,16300μm,0.7s						
HCRL				AML	AML		
	comp=N,19500μm,0.9s						
HCRL				AML	AML		
	comp=E,16300μm,0.7s						
HCRL				AML	AML		
	comp=N,19500μm,0.9s						
MILZ	**Milazzo**	**0.53**	**25**	P	Pb	11 29 06.1	-0.2
MILZ				S	Sb	11 29 14.1	+0.5
MILZ				AML	AML		
	comp=E,16350μm,1.1s						
MILZ				AML	AML		
	comp=N,11150μm,1.2s						
MILZ				AML	AML		
	comp=E,16350μm,1.1s						
MILZ				AML	AML		
	comp=N,11150μm,1.2s						
MILZ				AML	AML		
	comp=E,16350μm,1.1s						
MILZ				AML	AML		
	comp=N,11145μm,1.2s						
MILZ				AML	AML		
	comp=E,16350μm,1.1s						
MILZ				AML	AML		
	comp=N,11145μm,1.2s						
HAGA	**Augusta**	**0.53**	**162**	P	Pb	11 29 06.1	-0.2
HAGA				S	Sb	11 29 14.5	+0.9
HAGA				AML	AML		
	comp=E,15600μm,0.8s						
HAGA				AML	AML		
	comp=N,25100μm,0.8s						
HAGA				AML	AML		
	comp=E,15600μm,0.8s						
HAGA				AML	AML		
	comp=N,25100μm,0.8s						
HAGA				AML	AML		
	comp=E,15600μm,0.8s						
HAGA				AML	AML		
	comp=N,25100μm,0.8s						
HAGA				AML	AML		
	comp=N,25100μm,0.8s						
HAGA				AML	AML		
	comp=E,15600μm,0.8s						
AGST	**Augusta-Monte**	**0.58**	**157**	P	Pb	11 29 06.8	-0.3
AGST				S	Sb	11 29 15.8	+0.9
AGST				AML	AML		
	comp=E,14850μm,0.9s						
AGST				AML	AML		
	comp=N,28800μm,1.0s						
AGST				AML	AML		
	comp=E,14850μm,0.9s						
AGST				AML	AML		
	comp=N,28800μm,1.0s						
AGST				AML	AML		
	comp=E,14850μm,0.9s						
AGST				AML	AML		
	comp=N,28800μm,1.0s						
VPL	**Vulcano Piano**	**0.59**	**3**	P	Pb	11 29 07.1	-0.2
VPL				S	Sn	11 29 16.4	-0.9
VPL				AML	AML		
	comp=E,46850μm,1.1s						
VPL				AML	AML		
	comp=N,38800μm,0.5s						
VPL				AML	AML		
	comp=N,38800μm,0.5s						
VPL				AML	AML		
	comp=E,46850μm,1.1s						
MTTG	**Motta San Giov**	**0.63**	**70**	P	Pb	11 29 08.1	+0.1
MTTG				S	Sn	11 29 17.5	-0.7
MTTG				AML	AML		
	comp=E,3825μm,0.6s						
MTTG				AML	AML		
	comp=N,4680μm,0.6s						
MTTG				AML	AML		
	comp=E,3825μm,0.6s						
MTTG				AML	AML		
	comp=N,4680μm,0.6s						
MTTG				AML	AML		
	comp=N,4680μm,0.6s						
MTTG				AML	AML		
	comp=E,3825μm,0.6s						
HVZN	**Vizzini**	**0.64**	**197**	P	Pb	11 29 07.8	-0.4
HVZN				S	Sn	11 29 17.7	-0.8
HVZN				AML	AML		
	comp=E,19700μm,0.7s						
HVZN				AML	AML		
	comp=N,16400μm,0.5s						
HVZN				AML	AML		
	comp=E,19700μm,0.7s						
HVZN				AML	AML		
	comp=N,16400μm,0.5s						
HVZN				AML	AML		
	comp=E,19700μm,0.7s						
HVZN				AML	AML		
	comp=N,16400μm,0.5s						
MSRU	**Castanea**	**0.65**	**43**	P	Pb	11 29 08.1	-0.2
MSRU				S	Sn	11 29 18.1	-0.6
MSRU				AML	AML		
	comp=E,11450μm,1.1s						
MSRU				AML	AML		
	comp=N,9030μm,1.2s						
MSRU				AML	AML		
	comp=E,11450μm,1.1s						
MSRU				AML	AML		
	comp=N,9030μm,1.2s						
LLI	**Lipari**	**0.65**	**360**	P	Pb	11 29 08.7	+0.3
LLI				S	Sb	11 29 17.6	+0.5
LLI				AML	AML		
	comp=E,16600μm,0.7s						
LLI				AML	AML		
	comp=N,21050μm,0.7s						
LLI				AML	AML		
	comp=E,16600μm,0.7s						
LLI				AML	AML		
	comp=N,21050μm,0.7s						
LLI				AML	AML		
	comp=E,16600μm,0.7s						
LLI				AML	AML		
	comp=N,21050μm,0.7s						
PETRA	**Petralia Sopra**	**0.66**	**274**	P	Pb	11 29 08.8	+0.1
PETRA				AML	AML		
	comp=E,8150μm,0.8s						
PETRA				AML	AML		
	comp=N,8645μm,0.9s						
PETRA				AML	AML		
	comp=N,8645μm,0.9s						
PETRA				AML	AML		
	comp=E,8150μm,0.8s						
PLLN	**Pollina**	**0.67**	**288**	P	Pb	11 29 08.7	0.0
PLLN				S	Sb	11 29 18.3	+0.7
PLLN				AML	AML		
	comp=E,21750μm,1.0s						
PLLN				AML	AML		
	comp=N,27800μm,0.9s						
PLLN				AML	AML		
	comp=E,21750μm,1.0s						
PLLN				AML	AML		
	comp=N,27750μm,0.9s						
PLLN				AML	AML		
	comp=E,21750μm,1.0s						
PLLN				AML	AML		
	comp=N,27750μm,0.9s						
MEU	**Monte Lauro**	**0.69**	**181**	P	Pb	11 29 08.5	-0.5
MEU				S	Sb	11 29 18.9	+0.7
MEU				AML	AML		
	comp=E,22850μm,0.3s						
MEU				AML	AML		
	comp=N,25150μm,0.3s						
MEU				AML	AML		
	comp=E,22850μm,0.3s						
MEU				AML	AML		
	comp=N,25150μm,0.3s						
MEU				AML	AML		
	comp=N,25150μm,0.3s						
MEU				AML	AML		
	comp=E,22850μm,0.3s						
GIB	**Gibilmanna**	**0.76**	**286**	P	Pb	11 29 10.1	0.0
GIB				AML	AML		
	comp=E,11990μm,1.0s						
GIB				AML	AML		
	comp=N,13910μm,1.3s						
GIB				AML	AML		
	comp=E,11990μm,1.0s						
GIB				AML	AML		
	comp=N,13910μm,1.3s						
GIB				AML	AML		
	comp=E,11990μm,1.0s						
GIB				AML	AML		
	comp=N,13910μm,1.3s						
GMB	**Gambarie**	**0.79**	**61**	P	Pb	11 29 10.6	-0.2
GMB				AML	AML		
	comp=E,7445μm,0.3s						
GMB				AML	AML		
	comp=N,7970μm,0.4s						
GMB				AML	AML		
	comp=E,7445μm,0.3s						
GMB				AML	AML		
	comp=N,7970μm,0.4s						
GMB				AML	AML		
	comp=E,7445μm,0.3s						
GMB				AML	AML		
	comp=N,7970μm,0.4s						
IFIL	**Filicudi I Eol**	**0.83**	**339**	P	Pb	11 29 10.5	-0.8
IFIL				S	Sn	11 29 23.4	+0.2
IFIL				AML	AML		
	comp=E,44400μm,0.5s						
IFIL				AML	AML		
	comp=N,13900μm,0.8s						
IFIL				AML	AML		
	comp=E,44400μm,0.5s						
IFIL				AML	AML		
	comp=N,13900μm,0.8s						
IFIL				AML	AML		
	comp=N,13900μm,0.8s						
IFIL				AML	AML		
	comp=E,44400μm,0.5s						
HAVL	**Avola**	**0.84**	**170**	P	Pb	11 29 10.8	-0.7
HAVL				S	Sn	11 29 23.9	+0.4
HAVL				AML	AML		
	comp=E,16350μm,0.2s						
HAVL				AML	AML		
	comp=N,18500μm,0.3s						
HAVL				AML	AML		
	comp=E,16350μm,0.2s						
HAVL				AML	AML		
	comp=N,18500μm,0.3s						
HAVL				AML	AML		
	comp=E,16350μm,0.2s						
HAVL				AML	AML		
	comp=N,18500μm,0.3s						
HMDC	**Modica**	**0.84**	**189**	P	Pb	11 29 11.0	-0.6
HMDC				S	Sn	11 29 23.5	0.0
HMDC				AML	AML		
	comp=E,24000μm,1.1s						
HMDC				AML	AML		
	comp=N,18250μm,1.0s						
HMDC				AML	AML		
	comp=E,24000μm,1.1s						
HMDC				AML	AML		
	comp=N,18250μm,1.0s						
HMDC				AML	AML		
	comp=N,18250μm,1.0s						
HMDC				AML	AML		
	comp=E,24000μm,1.1s						
MPAZ	**Palizzi**	**0.85**	**79**	P	Pn	11 29 12.0	-0.1
MPAZ				AML	AML		
	comp=E,4715μm,1.2s						
MPAZ				AML	AML		
	comp=N,5465μm,1.5s						
MPAZ				AML	AML		
	comp=E,4715μm,1.2s						
MPAZ				AML	AML		
	comp=N,5465μm,1.5s						
IACL	**Alicudi**	**0.88**	**328**	P	Pb	11 29 11.3	-0.8
IACL				S	Sn	11 29 24.9	+0.6
IACL				AML	AML		
	comp=E,8460μm,0.9s						
IACL				AML	AML		
	comp=N,8495μm,1.0s						
IACL				AML	AML		
	comp=E,8460μm,0.9s						
IACL				AML	AML		
	comp=N,8495μm,1.0s						
CEL	**Celeste**	**0.88**	**58**	P	Pn	11 29 12.5	0.0
CEL				AML	AML		
	comp=E,2200μm,0.3s						
CEL				AML	AML		
	comp=N,1915μm,0.5s						
CEL				AML	AML		
	comp=E,2200μm,0.3s						
CEL				AML	AML		
	comp=N,1915μm,0.5s						

CEL					AML	AML		
	comp=E,2200μm,0.3s							
CEL					AML	AML		
	comp=N,1915μm,0.5s							
JOPP	**Joppolo**	**1.10**	**42**		P	Pn	11 29 15.3	-0.2
JOPP					S	Sn	11 29 31.1	+1.2
JOPP					AML	AML		
	comp=E,1955μm,1.1s							
JOPP					AML	AML		
	comp=N,1540μm,1.2s							
JOPP					AML	AML		
	comp=E,1955μm,1.1s							
JOPP					AML	AML		
	comp=N,1540μm,1.2s							
JOPP					AML	AML		
	comp=N,1540μm,1.2s							
JOPP					AML	AML		
	comp=E,1955μm,1.1s							
FAVR	**Favara**	**1.15**	**243**		AML	AML		
	comp=N,2710μm,1.6s							
FAVR					AML	AML		
	comp=E,2200μm,0.5s							
FAVR					AML	AML		
	comp=N,2710μm,1.6s							
FAVR					AML	AML		
	comp=E,2200μm,0.5s							
SOLUN	**Solunto**	**1.16**	**285**		P	Pn	11 29 16.3	+0.1
SOLUN					AML	AML		
	comp=E,1330μm,1.0s							
SOLUN					AML	AML		
	comp=N,1410μm,1.2s							
SOLUN					AML	AML		
	comp=N,1410μm,1.2s							
SOLUN					AML	AML		
	comp=E,1330μm,1.0s							
CORL	**Corleone**	**1.31**	**275**		P	Pb	11 29 19.6	+0.1
CORL					AML	AML		
	comp=E,3820μm,0.9s							
CORL					AML	AML		
	comp=N,3900μm,1.1s							
CORL					AML	AML		
	comp=N,3900μm,1.1s							
CORL					AML	AML		
	comp=E,3820μm,0.9s							
MPG	**Monte Pellegri**	**1.31**	**287**		P	Pn	11 29 18.7	+0.3
MPG					S	Sb	11 29 37.0	+1.1
MPG					AML	AML		
	comp=E,828μm,0.9s							
MPG					AML	AML		
	comp=N,1625μm,0.9s							
MPG					AML	AML		
	comp=N,1625μm,0.9s							
MPG					AML	AML		
	comp=E,828μm,0.9s							
PLAC	**Placanica**	**1.35**	**60**		P	Pb	11 29 20.4	+0.2
PLAC					AML	AML		
	comp=E,1360μm,0.8s							
PLAC					AML	AML		
	comp=N,1825μm,0.7s							
PLAC					AML	AML		
	comp=E,1360μm,0.8s							
PLAC					AML	AML		
	comp=N,1825μm,0.7s							
CLTB	**Caltabellotta**	**1.39**	**262**		P	Pb	11 29 21.2	+0.2
CLTB					AML	AML		
	comp=E,2510μm,0.5s							
CLTB					AML	AML		
	comp=N,5655μm,0.6s							
CLTB					AML	AML		
	comp=N,5655μm,0.6s							
CLTB					AML	AML		
	comp=E,2510μm,0.5s							
CAR1	**CAROLEI**	**1.77**	**34**		P	Pn	11 29 24.5	-0.2
CAR1					AML	AML		
	comp=E,2025μm,1.0s							
CAR1					AML	AML		
	comp=N,1590μm,0.9s							
CAR1					AML	AML		
	comp=E,1855μm,0.7s							
CAR1					AML	AML		
	comp=N,1645μm,1.1s							
CAR1					AML	AML		
	comp=N,1645μm,1.1s							
CAR1					AML	AML		
	comp=E,1855μm,0.7s							
CAR1					AML	AML		
	comp=E,2025μm,1.0s							
CAR1					AML	AML		
	comp=N,1590μm,0.9s							
SERS	**Sersale**	**1.85**	**47**		P	Pn	11 29 27.0	+1.2
SERS					AML	AML		
	comp=E,501μm,1.2s							
SERS					AML	AML		
	comp=N,355μm,1.2s							
SERS					AML	AML		
	comp=E,391μm,1.3s							
SERS					AML	AML		
	comp=N,506μm,1.3s							
SERS					AML	AML		
	comp=N,355μm,1.2s							
SERS					AML	AML		
	comp=N,506μm,1.3s							
SERS					AML	AML		
	comp=E,391μm,1.3s							
SERS					AML	AML		
	comp=E,501μm,1.2s							
CET2	**Cetraro**	**1.91**	**24**		P	Pn	11 29 26.6	0.0
CET2					AML	AML		
	comp=E,1930μm,1.2s							
CET2					AML	AML		
	comp=N,2950μm,0.3s							
CET2					AML	AML		
	comp=E,1930μm,1.2s							
CET2					AML	AML		
	comp=N,2950μm,0.3s							
TIP	**Timpagrande**	**1.98**	**45**		P	Pn	11 29 29.3	+1.6
TIP					AML	AML		
	comp=E,420μm,1.2s							
TIP					AML	AML		
	comp=N,254μm,1.5s							
TIP					AML	AML		
	comp=E,486μm,1.2s							
TIP					AML	AML		
	comp=N,310μm,1.3s							
TIP					AML	AML		
	comp=N,254μm,1.5s							
TIP					AML	AML		
	comp=N,310μm,1.3s							
TIP					AML	AML		
	comp=E,420μm,1.2s							
TIP					AML	AML		
	comp=E,486μm,1.2s							
CELI	**Celico**	**2.02**	**37**		P	Pn	11 29 28.8	+0.5
CELI					AML	AML		
	comp=E,1470μm,1.3s							
CELI					AML	AML		
	comp=N,1600μm,1.3s							
CELI					AML	AML		
	comp=N,1600μm,1.3s							
CELI					AML	AML		
	comp=E,1470μm,1.3s							
CUC	**Castrocucco**	**2.30**	**17**		AML	AML		
	comp=N,390μm,0.4s							
CUC					AML	AML		
	comp=E,438μm,0.7s							
CUC					AML	AML		
	comp=E,438μm,0.7s							
CUC					AML	AML		
	comp=N,390μm,0.4s							
SALB	**San Lorenzo Be**	**2.35**	**27**		AML	AML		
	comp=N,363μm,1.3s							
SALB					AML	AML		
	comp=E,452μm,1.5s							
SALB					AML	AML		
	comp=E,452μm,1.5s							
SALB					AML	AML		
	comp=N,363μm,1.3s							
MGR	**Morigerati**	**2.39**	**11**		AML	AML		
	comp=E,259μm,0.4s							
MGR					AML	AML		
	comp=E,259μm,0.4s							
MGR					AML	AML		
	comp=N,218μm,0.8s							
MGR					AML	AML		
	comp=N,218μm,0.8s							
SIRI	**Monte Sirino -**	**2.49**	**16**		AML	AML		
	comp=E,511μm,1.1s							
SIRI					AML	AML		
	comp=E,511μm,1.1s							
SIRI					AML	AML		
	comp=N,428μm,0.9s							
SIRI					AML	AML		
	comp=N,428μm,0.9s							
MTSN	**Montesano sull**	**2.55**	**14**		AML	AML		
	comp=N,270μm,1.2s							
MTSN					AML	AML		
	comp=E,275μm,1.3s							
MTSN					AML	AML		
	comp=N,270μm,1.2s							
MTSN					AML	AML		
	comp=E,275μm,1.3s							
SCHR	**S. Chirico Rap**	**2.56**	**20**		AML	AML		
	comp=N,202μm,0.3s							
SCHR					AML	AML		
	comp=E,252μm,0.4s							
SCHR					AML	AML		
	comp=N,202μm,0.3s							
SCHR					AML	AML		
	comp=E,252μm,0.4s							
CDRU	**Civita di Ruta**	**2.71**	**6**		AML	AML		
	comp=N,64μm,0.9s							
CDRU					AML	AML		
	comp=E,122μm,1.0s							
CDRU					AML	AML		
	comp=E,122μm,1.0s							
CDRU					AML	AML		
	comp=N,64μm,0.9s							
LTRZ	**Laterza**	**3.16**	**27**		AML	AML		
	comp=E,107μm,1.1s							
LTRZ					AML	AML		
	comp=N,158μm,1.0s							
LTRZ					AML	AML		
	comp=E,107μm,1.1s							
LTRZ					AML	AML		
	comp=N,158μm,1.0s							
NOCI	**Noci**	**3.41**	**28**		AML	AML		
	comp=E,145μm,1.0s							
NOCI					AML	AML		
	comp=E,145μm,1.0s							
NOCI					AML	AML		
	comp=N,148μm,0.4s							
NOCI					AML	AML		
	comp=N,148μm,0.4s							
VSL	**Villasalto**	**4.68**	**293**		AML	AML		
	comp=E,44μm,0.2s							
VSL					AML	AML		
	comp=E,44μm,0.2s							
VSL					AML	AML		
	comp=N,33μm,1.1s							
VSL					AML	AML		
	comp=N,33μm,1.1s							

IGQ 22 11:56:23.1±2.2, 7°S±41′×7°7W±3°2, h22km±77km, mB5.1/2, mb3.5/1, MLv4.5/2, Mw(mB)4.4/2, Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZUMB	**Zumba**	**3.04**	**304**	P	Pn	11 57 12.4	+2.4
ZUMB				S	Sn	11 57 48.9	+3.1
MCRA	**Macar˜¡, Loja**	**3.98**	**303**	P	Pn	11 57 22.7	-0.3
BPAT	**Tungurahua Vol**	**5.35**	**340**	P	Pn	11 57 41.0	-1.3
ARRY	**Arrayan**	**5.36**	**340**	P	Pn	11 57 42.3	+0.1
BULB	**Ulba Tungurahu**	**5.41**	**341**	P	Pn	11 57 41.9	-1.0
BULB				S	Sn	11 58 42.7	-2.0
ARDO	**Archidona, Ten**	**5.67**	**348**	P	Pn	11 57 49.1	+2.9
PIS1	**Pisayambo**	**5.76**	**342**	P	Pn	11 57 47.2	-0.6
BMOR	**Cotopaxi Volca**	**6.09**	**342**	P	Pn	11 57 53.4	+1.0
ANTG	**Antisana-Guama**	**6.25**	**345**	P	Pn	11 57 54.3	-0.3

IDC 22 12:33:10.0±12.0, 16°34S×173°42W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/25, mbtmp3.6/4, ML3.7/1, MS3.4/5, Ms1 3.4/5, ms1mx3.2/19, Error ellipse: s-maj=544.2km s-min=26.4km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.89**	**34**	Pn	Pn	12 33 55.5	-1.8
	11nm,0.3s,baz=66,slow=16,SNR=37						
AFI				Sn	Sn	12 34 23.7	-9.2
	13nm,0.3s,baz=343,slow=20,SNR=3.9						
AFI				LR	LR	12 34 57.2	
	comp=Z,732nm,18.8s,baz=266,slow=37						
DZM	**Mont Dzumac**	**19.85**	**250**	LR	LR	12 44 00.1	
	comp=Z,116nm,20.5s,baz=38,slow=33						
PPT	**Papeete**	**22.84**	**97**	LR	LR	12 46 17.9	
	comp=Z,35nm,18.1s,baz=319,slow=34						
STKA	**Stephens Creek**	**43.56**	**241**	LR	LR	12 56 35.8	
	comp=Z,56nn,19.7s,baz=29,slow=32						
WRA	**Warramunga Arr**	**49.62**	**258**	P	P	12 42 02.8	-0.9
	0.4nm,1.0s,baz=87,slow=7.2,SNR=2.5						
ASAR	**Alice Springs**	**49.81**	**253**	P	P	12 42 05.0	-0.1
	1.1nm,0.9s,baz=92,slow=8.1,SNR=9.4						
MJAR	**Matsushiro Arr**	**69.64**	**320**	LR	LR	13 08 10.4	
	comp=Z,50nm,22.0s,baz=105,slow=30						
ILAR	**Eielson Array**	**83.36**	**11**	P	P	12 45 39.6	+1.1
	0.5nm,1.0s,baz=220,slow=6.3,SNR=3.9						

MEX 22 12:50:09.6±0.5, 16°40N×98°41W, h8km±4km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.27**	**91**	*e*P	Pg	12 50 14.4	-0.6
PNIG				*i* S	Sg	12 50 18.6	+0.1
TLIG	**Tlapa**	**1.17**	**352**	*e*P	Pg	12 50 28.6	-3.5
TLIG				*e*S	Sg	12 50 43.6	-3.8

IDC 22 12:52:58.8±3.0, 3°01N×92°83E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/36, mbtmp3.6/5, Error ellipse: s-maj=99.6km s-min=28.2km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.48**	**21**	Pn	Pn	12 56 51.5	-0.1
	baz=212,slow=9.6,SNR=3.4						
H08S2	**Diego Garcia H**	**22.89**	**242**	T	T	13 22 31.6	
	baz=62						
H08S3	**Diego Garcia H**	**22.89**	**242**	T	T	13 22 23.5	
	baz=62						
H08S1	**Diego Carcia H**	**22.90**	**242**	T	T	13 22 27.1	
	baz=62						
MKAR	**Makanchi Array**	**44.57**	**350**	P	P	13 01 12.6	0.0
	0.8nm,0.7s,baz=168,slow=6.2,SNR=4.8						
SONM	**Songino Array**	**46.16**	**13**	P	P	13 01 25.3	0.0
	0.4nm,0.6s,baz=188,slow=9.9,SNR=2.9						
WRA	**Warramunga Arr**	**46.70**	**121**	P	P	13 01 29.7	-0.1
	0.3nm,0.7s,baz=297,slow=8.7,SNR=3.9						
ZALV	**Zalesovo Beam**	**51.20**	**354**	P	P	13 02 03.5	-0.3
	0.5nm,0.3s,baz=163,slow=5.3,SNR=2.6						

*PGC **22** 13:02:42.9±0.0, 52°.84N×132°.34W, h12km, ML3.8/16, ML3.8/16, 57km southwest of Sandspit, Bc Haida Gwaii Region*

*IDC **22** 13:02:42.3±1.6, 52°.83N×132°.68W, h0km, mb3.7/2, mb1 3.7/5, mb1mx3.5/47, mbtmp3.3/5, ML3.5/3, Error ellipse: s-maj=31.3km s-min=8.1km az=96.0*

ISC 22 13:02:43.8±0.9, 52°90N±0′.03×132°30W±0′.04, h14km±5km, n44, σ2°68/63, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HG1B	**Mitchell Dam**	**0.11**	**70**	**P**	**Pg**	**13 02 46.3**	**-0.7**
HG1B				S	**Sg**	**13 02 48.7**	**-0.5**
MOBC	**Moresby Island**	**0.32**	**38**	P	**Pg**	**13 02 50.3**	**-0.1**
MOBC				S	**Sg**	**13 02 55.6**	**+0.8**
DIB	**Dawson Inlet,**	**0.33**	**340**	P	**Pg**	**13 02 49.8**	**-0.7**
DIB				S	**Sg**	**13 02 54.6**	**-0.4**
H02S1	**DAWSON INLET T**	**0.33**	**340**	Pg	**Pg**	**13 02 49.7**	**-0.8**
H02S1				Lg	Lg	13 02 54.8	
H02N1	**VAN INLET T-PH**	**0.39**	**337**	Pg	**Pg**	**13 02 51.1**	**-0.5**
H02N1				Lg	Lg	13 02 56.6	
	SNR=6021						
VIB	**Van Inlet**	**0.39**	**337**	P	**Pg**	**13 02 50.9**	**-0.7**
VIB				S	**Sg**	**13 02 56.4**	**-0.5**
BNB	**Barry Inlet**	**0.46**	**134**	P	**Pg**	**13 02 51.3**	**-1.7**
BNB				S	**Sg**	**13 02 57.6**	**-1.6**
HG3B	**Hotspring**	**0.61**	**122**	P	**Pg**	**13 02 54.1**	**-1.7**
HG3B				S	**Sg**	**13 03 02.3**	**-1.5**
HG4B	**Hotspring**	**0.90**	**132**	P	**Pg**	**13 02 58.9**	**-2.4**
HG4B				S	**Sg**	**13 03 10.5**	**-2.5**
NDB	**Naden**	**1.13**	**340**	P	**Pb**	**13 03 03.6**	**-1.5**
NDB				S	**Sb**	**13 03 19.1**	**-0.6**
MASB	**Masset**	**1.13**	**8**	P	**Pb**	**13 03 04.8**	**-0.3**
MASB				S	**Sb**	**13 03 20.4**	**+0.7**
RUBB	**Prince Rupert**	**1.88**	**40**	Pn	**Pn**	**13 03 14.6**	**-0.9**
RUBB				Sg	**Sb**	**13 03 42.1**	**+0.9**
BBB	**Bella Bella**	**2.65**	**104**	Pn	**Pn**	**13 03 24.3**	**-1.8**
BBB				Sg	**Sb**	**13 04 02.1**	**-1.3**
PHC	**Port Hardy**	**3.73**	**124**	Pn	**Pn**	**13 03 37.9**	**-3.0**
PHC				Sn	**Sn**	**13 04 21.5**	**-3.1**
PACB	**Port Alice, BC**	**3.88**	**128**	Pn	**Pn**	**13 03 39.2**	**-3.7**
PACB				Sg	**Sb**	**13 04 40.1**	**+1.5**
MAYB	**Maynard**	**4.05**	**126**	Pn	**Pn**	**13 03 44.1**	**-1.4**
MAYB				Sn	**Sn**	**13 04 33.1**	**+0.3**
TLCB	**Telegraph Cove**	**4.13**	**123**	Pn	**Pn**	**13 03 44.5**	**-1.9**
TLCB				Sn	**Sn**	**13 04 32.6**	**-1.8**
WOSB	**Woss**	**4.50**	**125**	Pn	**Pn**	**13 03 50.4**	**-1.3**
NCRB	**Newcastle Ridg**	**4.62**	**120**	Pn	**Pn**	**13 03 52.9**	**-0.4**
FSB	**Fort Saint Jam**	**4.99**	**68**	Pn	**Pn**	**13 03 58.6**	**+0.3**
FSB				Pg	**Pb**	**13 04 12.7**	**+1.7**
FSB				Sg	**Sg**	**13 05 18.4**	**-5.5**
GDR	**Gold River**	**5.01**	**126**	Pn	**Pn**	**13 03 58.5**	**0.0**
SPLB	**Strathcona Par**	**5.13**	**123**	Pn	**Pn**	**13 04 00.1**	**-0.1**
CBB	**Campbell River**	**5.20**	**121**	Pn	**Pn**	**13 04 00.8**	**-0.2**
CBB				Sn	**Sn**	**13 04 59.2**	**-1.5**
CBB				Sg	**Sb**	**13 05 21.8**	**+5.2**
BTB	**Buttle Lake**	**5.47**	**126**	Pn	**Pn**	**13 04 04.5**	**-0.6**
DLBC	**Dease Lake**	**5.70**	**12**	Pn	**Pn**	**13 04 10.6**	**+2.6**
DLBC				Sn	**Sn**	**13 05 14.7**	**+1.5**
DLBC				Sg	**Sb**	**13 05 39.3**	**+8.2**
BESE	**Bessie Mountai**	**5.88**	**347**	Sg	**Sg**	**13 05 45.7**	**-6.5**
SHB	**Sechelt**	**6.23**	**119**	Sg	**Sb**	**13 05 50.3**	**+3.7**
WPB	**Watts Point**	**6.56**	**116**	Pn	**Pn**	**13 04 21.3**	**+1.5**
WPB				Sg	Sg	13 06 04.3	-10
BMBC	**Bull Mountain**	**6.71**	**58**	Pn	**Pn**	**13 04 22.6**	**+0.6**
BMBC				Sg	**Sg**	**13 06 12.4**	**-6.6**
WHY	**Whitehorse**	**7.91**	**351**	Pn	**Pn**	**13 04 38.5**	**0.0**
WHY				Sg	**Sg**	**13 06 49.7**	**-7.7**
FNBB	**Fort Nelson**	**7.95**	**37**	Pn	**Pn**	**13 04 39.4**	**+0.5**
FNBB				Sn	**Sn**	**13 06 06.8**	**-1.8**
FNBB				Sg	**Sg**	**13 06 53.5**	**-5.1**
JCW	**Jim Creek**	**8.11**	**121**	Pn	**Pn**	**13 04 42.8**	**+1.7**
YKA	**Yellowknife Ar**	**13.44**	**37**	Pn	**Pn**	**13 05 53.9**	**+0.1**
	0.1nm,0.3s,baz=220,slow=12,SNR=3.4						
ILAR	**Eielson Array**	**14.05**	**334**	Pn	**P**	**13 06 10.5**	**+0.6**
	0.0nm,0.3s,baz=153,slow=11,SNR=6.1						
NVAR	**Mina Array Bea**	**17.41**	**141**	P	**P**	**13 06 48.8**	**+1.1**
	0.0nm,0.3s,baz=331,slow=13,SNR=2.4						
PDAR	**Pinedale Array**	**18.25**	**115**	P	**P**	**13 06 58.5**	**+1.6**
	0.1nm,0.3s,baz=306,slow=7.6,SNR=3.2						
TXAR	**Lajitas Array**	**31.56**	**127**	P	**P**	**13 09 07.8**	**+2.1**
	0.7nm,0.8s,baz=329,slow=7.5,SNR=7.8						
H11N2	**WAKE ISLAND Hy**	**56.95**	**259**	T	T	14 14 09.7	
	baz=39,slow=76,SNR=1645						
H11N3	**WAKE ISLAND Hy**	**56.95**	**259**	T	T	14 14 09.9	
	baz=39,slow=76,SNR=1534						
H11N1	**WAKE ISLAND Hy**	**56.97**	**259**	T	T	14 14 11.5	
	baz=39,slow=76,SNR=1625						
H11S1	**WAKE ISLAND Hy**	**58.02**	**258**	T	T	14 15 29.8	
	baz=39,slow=75,SNR=100						
H11S2	**WAKE ISLAND Hy**	**58.03**	**258**	T	T	14 15 32.7	
	baz=39,slow=75,SNR=74						
H11S3	**WAKE ISLAND Hy**	**58.03**	**258**	T	T	14 15 31.3	
	baz=39,slow=75,SNR=63						
MKAR	**Makanchi Array**	**76.39**	**336**	P	**P**	**13 14 32.3**	**-0.1**
	0.6nm,0.7s,baz=20,slow=4.6,SNR=4.2						

*SJA **22** 13:07:05.6±0.9, 23°.10S×64°.11W, h596km±5km, ML5.9, MW5.7*

*NEIC **22** 13:07:05.0±0.0, 22°.67S×63°.70W, h510km, Moment Tensor Solution. s31 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.83; $M_{\theta\theta}$0.13; $M_{\phi\phi}$2.71; $M_{r\theta}$-2.25; $M_{r\phi}$4.98; $M_{\theta\phi}$6.09; Best double couple: $M_0$8.60000×10^{17} NP1:ϕ_s178.00000°, δ77.00000°, λ-128.00000°. NP2:ϕ_s72.00000°, δ41.00000°, λ-20.00000°. Principal axes: T 8.0000, Plg22.0000°, Azm296.0000°; N 1.1600, Plg37.0000°, Azm188.0000°; P -9.1600, Plg43.0000°, Azm49.0000°;*

*BJI **22** 13:07:06.0, 22°.39S×63°.35W, h465km, mB5.6/49*

*ISCJB **22** 13:07:09.1±0.2, 22°.62S±0′.02×63°.60W±0′.02, h509km±2km, mb5.5/504, Error ellipse: s-maj=3.8km s-min=2.7km az=143.2*

*MOS **22** 13:07:10.8±0.9, 22°.74S×63°.67W, h533km, mb5.8/69, Error ellipse: s-maj=7.5km s-min=5.3km az=89.2*

*NEIC **22** 13:07:10.4±0.2, 22°.74S×63°.57W, h517km±2km, mb5.6/293, MW6.0, MW5.9, MD5.9(SJA), MW5.8(GUC), Error ellipse: s-maj=3.6km s-min=2.5km az=71.0 Best double couple: NP1:ϕ_s60.00000°, δ36.00000°, λ-29.00000°. NP2: ϕ_s174.00000°, δ73.00000°, λ-123.00000°. Principal axes: T 1.1100, Plg22.0000°, Azm289.0000°; N -0.1200, Plg31.0000°, Azm185.0000°; P -0.9800, Plg51.0000°, Azm47.0000°;*

NEIC Felt [II] at Tocopilla, Chile.

*IDC **22** 13:07:12.9±0.3, 22°.70S×63°.60W, h542km±3km, mb5.2/35, mb1 5.3/40, mb1mx5.2/45, mbtmp6.1/40 Error ellipse: s-maj=7.3km s-min=5.1km az=76.0*

*GCMT **22** 13:07:13.4±0.1, 22°.86S±0′.01×63°.69W±0′.01, h544km, MW5.9/122, Moment Tensor Solution. s122, c241; s87, c101; Duration: 2^{2}2 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.22±.06; $M_{\theta\theta}$-0.56±.09; $M_{\phi\phi}$3.78±.11; $M_{r\theta}$-1.76±.09; $M_{\theta\phi}$5.33±.09; $M_{r\phi}$5.81±.09; Best double couple: $M_0$8.81700×10^{17} NP1:ϕ_s177.00000°, δ76.00000°, λ-130.00000°. NP2:ϕ_s71.00000°, δ42.00000°, λ-22.00000°. Principal axes: T 8.7950, Plg20.0000°, Azm296.0000°; N 0.0460, Plg39.0000°, Azm189.0000°; P -8.8400, Plg44.0000°, Azm47.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*

*GUC **22** 13:07:15.8±2.2, 22°.79S×63°.97W, h463km±149km, MW5.5*

ISC 22 13:07:11.9±0.3, 22°70S±0′.03×63°63W±0′.03, h535km±2km, h536km; pP-P, n1820, σ1°50/2000, mb5.6/518, 79C-64D, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALOL	**LOMAS DE OLMED**	**1.16**	**196**	*e*P	**P**	**13 08 17.7**	**+0.6**
ALOL				*e*S	**S**	**13 09 10.8**	**+0.6**
HJA	**Humahuaca**	**1.72**	**253**	*e*P	**P**	**13 08 19.9**	**+0.4**
HJA				*e*S	**S**	**13 09 14.6**	**+0.2**
HJA				IAML		13 09 17.4	
	comp=Z,3μm,1.4s						
YJA	**Yavi**	**1.82**	**286**	*e*P	**P**	**13 08 20.6**	**+0.5**
YJA				IAML		13 09 26.8	
	comp=Z,2μm,1.3s						
AZAP	**Zapla**	**2.01**	**221**	*e*P	**P**	**13 08 19.7**	**-0.8**
AZAP				*e*S	**S**	**13 09 15.8**	**-0.6**
AZAP				IAML		13 09 19.4	
	comp=Z,3μm,1.1s						
SLA	**San Lorenzo**	**2.65**	**220**	*e*P	**P**	**13 08 22.5**	**-1.2**
SLA				IAML		13 09 25.4	
	comp=Z,2μm,1.0s						
FSA	**Cafayete**	**4.02**	**212**	*e*P	**P**	**13 08 30.8**	**-2.2**
FSA				*e*S	**S**	**13 09 33.2**	**-6.0**
AHML	**Horco Molle**	**4.35**	**201**	*e*P	**P**	**13 08 33.6**	**-1.9**
AHML				*e*S	**S**	**13 09 37.1**	**-6.7**
AHML				IAML		13 09 42.5	
	comp=Z,842nm,2.8s						
LVC	**Limon Verde**	**4.88**	**270**	P	**P**	**13 08 38.1**	**-2.1**
	comp=Z,2μm,0.3s,baz=96,slow=5.7,SNR=7642						
LVC				S	**S**	**13 09 46.8**	**-5.6**
	comp=Z,1μm,0.3s,baz=256,slow=21,SNR=40						
LVC	**Limon Verde**	**4.88**	**270**	*e*P	**P**	**13 08 38.2**	**-2.1**
LVC				*e*S	S	13 09 38.7	-14
LVC				S	S	13 09 46.8	-5.6
LVC	**Limon Verde**	**4.88**	**270**	*e*P	**P**	**13 08 38.2**	**-2.1**
LVC				IAML		13 09 54.5	
	comp=Z,3μm,0.8s						
PB15	**IPOC Station P**	**5.41**	**264**	⇓*i*P	**P**	**13 08 42.2**	**-2.5**
PB01	**IPOC Station P**	**5.69**	**286**	*e*P	**P**	**13 08 45.6**	**-1.5**
PB01	**IPOC Station P**	**5.69**	**286**	*i* P	**P**	**13 08 45.4**	**-1.7**
PB01				*i* S	**S**	**13 09 58.0**	**-6.8**
PB03	**IPOC Station P**	**5.71**	**275**	⇓*i*P	**P**	**13 08 45.2**	**-2.2**
PB03				*i* S	**S**	**13 09 58.4**	**-6.9**
PB02	**IPOC Station P**	**5.98**	**282**	⇓*i*P	**P**	**13 08 47.9**	**-1.8**
PB02				*i* S	**S**	**13 10 03.1**	**-6.6**

GO02 **Mina Guanaco** 5.98 245 *e*P P 13 08 47.6 -2.3
GO02 **Mina Guanaco** 5.98 245 ⇓*i*P P 13 08 47.4 -2.5
GO02 *i* S S 13 10 04.0 -6.1
GO01 **Chusmiza** 6.01 299 *e*P P 13 08 49.9 -0.6
GO01 **Chusmiza** 6.01 299 ⇓*i*P P 13 08 49.7 -0.8
PB04 **IPOC Station P** 6.04 272 *e*P P 13 08 48.2 -2.2
PB04 **IPOC Station P** 6.04 272 ⇓*i*P P 13 08 48.1 -2.4
PB04 *i* S S 13 10 04.5 -6.5
CYA **Choya** 6.04 199 *e*P P 13 08 47.5 -2.7
CYA *e*S S 13 10 03.3 -7.3
CYA IAML 13 10 05.9
comp=Z,767nm,1.3s
PB11 **IPOC Station P** 6.34 296 *e*P P 13 08 52.0 -1.3
PB10 **IPOC Station P** 6.43 261 *e*P P 13 08 51.6 -2.2
PB10 *e*S S 13 10 13.5 -3.7
PB10 **IPOC Station P** 6.43 261 *e*P P 13 08 51.6 -2.2
PB10 **IPOC Station P** 6.43 261 ⇓*e*Pg P 13 08 51.4 -2.4
PB14 **IPOC Station P** 6.50 252 *e*P P 13 08 52.5 -2.4
MNMC **Minye Minye** 6.61 301 *e*P P 13 08 55.3 -0.7
MNMC *e*S S 13 10 16.7 -4.3
MNMC **Minye Minye** 6.61 301 ⇑*i*P P 13 08 55.3 -0.7
MNMC *i* S S 13 10 16.9 -4.2
CPUP **Villa Florida** 6.78 123 P P 13 08 57.2 +0.1
comp=Z,583nm,0.3s,baz=309,slow=8.6,SNR=8192
CPUP S S 13 10 23.0 -0.3
baz=30,slow=20,SNR=1.1
SIV **San Ignacio** 7.10 20 P P 13 09 01.8 +1.4
comp=Z,94nm,0.3s,baz=216,slow=9.7,SNR=2252
SIV S S 13 10 29.2 0.0
comp=Z,17nm,0.3s,baz=247,slow=18,SNR=7.9
ACLC **CERRO LA CRUZ** 7.33 203 *e*P P 13 08 58.7 -4.0
LPAZ **La Paz** 7.66 326 P P 13 09 06.9 +0.3
comp=Z,1µm,0.3s,baz=121,slow=4.6
LPAZ S S 13 10 38.3 -2.1
comp=Z,180nm,0.3s,baz=250,slow=22,SNR=6.6
LPAZ **La Paz** 7.66 326 *e*P P 13 09 07.0 +0.3
LPAZ **La Paz** 7.66 326 ⇑*i*P P 13 09 07.0 +0.3
LPAZ *i* S S 13 10 34.7 -5.8
GO03 **Copiap** 7.72 230 *e*P P 13 09 04.3 -2.1
I08BO **LAS PENAS INFR** 7.89 324 P P 13 09 09.6 +0.7
baz=131,slow=7.4,SNR=2.3
AGUA **GUANDACOL** 8.05 212 *e*P P 13 09 06.5 -3.3
APLL **PUNTA DE LOS L** 8.09 198 *e*P P 13 09 05.6 -4.5
ACDV **Cuesta del Vie** 8.92 212 *e*P P 13 09 16.8 -1.8
LCO **Las Campanas** 8.95 224 *e*P P 13 09 17.0 -2.0
LCO *e*S S 13 10 58.3 -5.1
LCO **Las Campanas** 8.95 224 *e*P P 13 09 17.1 -2.0
LCO *e*S S 13 10 57.3 -6.0
LCO IAML 13 11 08.2
comp=Z,2µm,1.7s
LCO **Las Campanas** 8.95 224 *e*P P 13 09 17.0 -2.0
LCO *e*S S 13 10 58.3 -5.1
AROD **Rodeo** 9.09 214 *e*P P 13 09 19.4 -1.1
ACCO **Cerro Coronel** 9.24 211 *e*P P 13 09 19.8 -2.3
AMOG **MOGNA** 9.28 207 *e*P P 13 09 19.7 -2.5
RTLL **Cerro Villicun** 9.62 206 *e*P P 13 09 22.8 -2.8
RTLL IAML 13 11 12.7
comp=Z,1µm,1.5s
SJA **San Juan** 9.83 205 *e*P P 13 09 26.0 -1.8
GO04 **Tololo Observa** 9.83 219 *e*P P 13 09 25.9 -2.2
GO04 **Tololo Observa** 9.83 219 *e*P P 13 09 25.9 -2.2
RTCV **Cerro Valdivia** 10.12 205 *e*P P 13 09 28.6 -2.2
RTLS **Leoncito** 10.37 208 *e*P P 13 09 32.1 -1.6
AUSP **Uspallata** 10.77 207 *e*P P 13 09 36.4 -1.5
ASAL **Salagasta** 10.88 204 *e*P P 13 09 37.2 -1.5
ARCO **CERRO ARCO** 11.14 204 *e*P P 13 09 38.2 -1.7
AAGR **Agrelo** 11.32 203 *e*P P 13 09 41.7 -1.6
PEL **Peldehue** 12.13 209 *e*P P 13 09 49.4 -2.3
PEL **Peldehue** 12.13 209 *e*P P 13 09 49.4 -2.3
ROC1 **El Roble** 12.14 211 *e*P P 13 09 49.4 -2.7
ROC1 **El Roble** 12.14 211 *e*P P 13 09 49.3 -2.7
RFA **San Rafael** 12.75 198 *e*P P 13 09 55.7 -2.4
RFA IAML 13 12 13.5
comp=Z,392nm,1.2s
LPA **La Plata** 13.14 159 *e*P P 13 10 02.0 -0.1
LPA *e*sP 13 11 45.0
LPA *e*sP 13 12 09.0
LPA *e*sP 13 12 19.0
LPA *e*S S 13 12 26.0 +3.6
LPA *e*PCP PcP 13 14 53.0 +4.3
LPA *e*SCS ScS 13 21 22.0 +14
LPA *e*PKIKP PKiKP 13 22 51.0 +5.6
LPA *e*SKIKP 13 25 42.0
SAML **Samuel** 13.68 2 *e*P P 13 10 08.2 +0.2
SAML **Samuel** 13.68 2 *e*P P 13 10 08.3 +0.2
GO05 **HualaæØ** 14.25 209 *e*P P 13 10 10.1 -3.6
GO05 **HualaæØ** 14.25 209 *e*P P 13 10 09.0 -4.7
SPB **Sao Paulo** 14.93 97 *e*P P 13 10 19.6 -1.3
TRQA **Tornquist** 15.37 175 *e*P P 13 10 20.3 -5.0
comp=Z,68nm,0.6s
TRQA **Tornquist** 15.37 175 *e*P P 13 10 20.3 -5.0
TRQA pmax pmax
comp=Z,68nm,0.6s
BDFB **Brasilia** 16.33 67 P P 13 10 34.8 -0.5
comp=Z,212nm,0.3s,baz=245,slow=9.7,SNR=2409
BDFB S S 13 13 22.0 +0.4
comp=Z,5.1nm,0.3s,baz=18,slow=19,SNR=1.8
BDFB **Brasilia** 16.33 67 *e*P P 13 10 35.2 -0.1
comp=Z,6µm,0.8s
BDFB S S 13 13 22.0 +0.4
NNA **Nana** 16.50 308 P P 13 10 36.5 -0.4
comp=Z,174nm,0.3s,baz=142,slow=8.8,SNR=548
NNA S S 13 13 25.2 +0.9
comp=Z,9.4nm,0.3s,baz=246,slow=20,SNR=3.4
NNA **Nana** 16.50 308 *e*P P 13 10 36.4 -0.4
comp=Z,7µm,0.9s
NNA S S 13 13 25.2 +0.9
NNA **Nana** 16.50 308 *e*P P 13 10 36.4 -0.4
NNA S S 13 13 25.2 +0.9
NNA pmax pmax
comp=Z,7µm,0.9s
GO06 **Curarrehue** 18.11 200 *e*P P 13 10 49.3 -2.2
comp=Z,1µm,1.0s
PLCA **Paso Flores** 18.91 196 P P 13 10 57.8 -0.9
comp=Z,8.8nm,0.3s,baz=38,slow=11,SNR=149
PLCA PcP PcP 13 14 58.2 +0.6
comp=Z,1.5nm,0.3s,baz=44,slow=2.9,SNR=3.8
PLCA **Paso Flores** 18.91 196 *e*P P 13 10 56.2 -2.5
comp=Z,78nm,0.6s
PLCA PcP PcP 13 14 58.2 +0.6
ATAH **Atahualpa** 21.02 315 P P 13 11 20.3 +1.7
comp=Z,303nm,1.1s,baz=146,slow=7.7,SNR=201
GO07 **Milladeo Hill,** 22.00 200 *e*P P 13 11 23.9 -2.7
comp=Z,274nm,0.5s
PTGA **Pitinga** 22.13 10 P P 13 11 28.2 +0.2
comp=Z,1µm,0.8s,baz=199,slow=11,SNR=1521
PTGA S S 13 14 52.7 -2.1
comp=Z,138nm,0.9s,baz=304,slow=21,SNR=14
PTGA **Pitinga** 22.13 10 *e*P P 13 11 28.2 +0.2
comp=Z,1µm,0.9s
PTGA S S 13 14 52.7 -2.1
CHRN **Cochrane** 25.54 194 *e*P P 13 11 55.4 -2.5
comp=Z,22nm,0.9s
GUVC **San Jose del G** 26.59 340 *e*P P 13 12 07.1 -0.5
FLOC **Florencia** 26.83 333 ⇑*i*P P 13 12 08.6 -1.2
OTAV **Otavalo** 26.98 326 *e*P P 13 12 12.2 +0.6
comp=Z,304nm,1.4s
OTAV **Otavalo** 26.98 326 ⇑*i*P P 13 12 12.2 +0.6
OTAV **Otavalo** 26.98 326 *e*P P 13 12 12.3 +0.6
OTAV pmax pmax
comp=Z,304nm,1.4s
CMBC **Cumbal** 27.27 328 ⇑*i*P P 13 12 15.3 +1.2
GCUF **Volcan Galeras** 27.28 329 ⇑*i*P P 13 12 15.2 +0.9
CRUC **La Cruz** 27.40 330 *i* P P 13 12 15.6 +0.5
BETC **Betania** 27.74 334 *i* P P 13 12 17.8 0.0
SOTA **Rioblanco** 27.74 331 ⇑*i*P P 13 12 18.4 +0.1
PCON **Cinco Dias** 27.82 332 ⇑*i*P P 13 12 19.1 0.0
MARP **Paez Belalcaza** 28.10 333 ⇑*i*P P 13 12 20.3 -0.9
POPC **Popayan, Colom** 28.14 331 ⇑*i*P P 13 12 21.3 -0.1
VILC **Villavicencio,** 28.41 338 *e*P P 13 12 24.0 +0.3
PRAC **Prado** 28.46 336 ⇑*i*P P 13 12 23.3 -0.8
TUMC **Tumaco** 28.48 327 ⇑*i*P P 13 12 24.9 +0.7
CHIC **Chingaza** 28.90 339 ⇑*i*P P 13 12 27.9 -0.4
CVER **Cruz Verde, Cu** 28.92 338 *e*P P 13 12 30.1 +1.5
GRGC **Isla de Gorgon** 29.23 329 *i* P P 13 12 30.2 -0.4
EFI **East Falkland** 29.24 173 *e*P P 13 12 28.3 -2.0
comp=Z,148nm,1.0s
EFI **East Falkland** 29.24 173 *e*P P 13 12 28.3 -2.0
EFI pmax pmax
comp=Z,147nm,1.0s
YOTC **Yotoco, Valle** 29.29 333 ⇑*i*P P 13 12 29.4 -1.9
ROSC **El Rosal** 29.30 338 P P 13 12 32.5 +0.8
comp=Z,152nm,0.6s,baz=173,slow=3.5,SNR=110
ROSC S S 13 16 48.2 +0.4
comp=Z,121nm,0.9s,baz=235,slow=22,SNR=11
ROSC **El Rosal** 29.30 338 *e*P P 13 12 32.6 +0.8
comp=Z,429nm,1.3s
ROSC S S 13 16 48.2 +0.4
ROSC **El Rosal** 29.30 338 ⇑*i*P P 13 12 32.5 +0.8
GO09 **Cerro Castillo** 29.31 191 *e*P P 13 12 29.8 -1.1
comp=Z,56nm,0.8s
ANIL **Santa Ana** 29.38 335 ⇑*i*P P 13 12 30.8 -1.5
TOLC **Tolima** 29.43 336 *e*P P 13 12 31.2 -1.6
MDP **Montagnes des** 29.65 23 P P 13 12 34.9 +0.6
comp=Z,2µm,0.8s,baz=197,slow=9.3,SNR=269
RREF **El Recreo** 29.73 336 ⇑*e*P P 13 12 35.5 -0.2
MALC **Bahia Malaga** 29.74 332 *e*P P 13 12 35.3 +0.2
RUSC **La Rusia** 29.89 341 ⇑*i*P P 13 12 36.0 -0.9
TAMC **Tame, Arauca** 30.04 344 ⇑*i*P P 13 12 36.8 -1.0
GUYC **Guyana, Colomb** 30.04 336 ⇑*i*P P 13 12 37.2 -1.0
PLMC **San Jos`` del** 30.10 334 ⇑*e*P P 13 12 36.6 -1.6
BARC **Barichara** 30.58 341 *e*P P 13 12 40.9 -1.7
GO10 **Punta Arenas** 30.93 189 *e*P P 13 12 45.5 +0.6
comp=Z,764nm,1.6s
PTBC **PUERTO BERRIO,** 30.93 339 ⇑*i*P P 13 12 42.3 -3.0
HELC **Santa Helena** 30.99 337 ⇑*i*P P 13 12 43.9 -2.4
GIRC **Giron, Santand** 31.04 341 ⇑*e*P P 13 12 44.1 -2.4
PAMC **Pamplona, Colo** 31.15 342 *e*P P 13 12 46.5 -1.3
RCBR **Riachuelo** 31.57 62 P P 13 12 52.5 +1.5
comp=Z,2µm,0.9s,baz=217,slow=8.4,SNR=205
RCBR S S 13 17 22.2 0.0
comp=Z,33nm,0.8s,baz=130,slow=17,SNR=2.9
RCBR **Riachuelo** 31.57 62 *e*P P 13 12 52.8 +1.8
comp=Z,2µm,0.8s
RCBR S S 13 17 22.2 0.0
SOLC **Bahia Solano** 31.75 333 *e*P P 13 12 51.9 -0.5
ZARC **Zaragoza, Cauc** 31.96 339 ⇑*i*P P 13 12 51.5 -2.6
SDV **Santo Domingo** 32.13 347 P P 13 12 54.9 -0.9
comp=Z,90nm,0.4s,baz=182,slow=7.7,SNR=132
SDV S S 13 17 25.8 -5.1
comp=Z,216nm,0.9s,baz=263,slow=22,SNR=14
SDV **Santo Domingo** 32.13 347 *e*P P 13 12 54.8 -1.1
comp=Z,148nm,0.6s
SDV S S 13 17 25.8 -5.1
SDV **Santo Domingo** 32.13 347 ⇑*e*P P 13 12 54.9 -0.9
OCAC **Ocana** 32.18 342 *e*P P 13 12 52.7 -3.5
USHA **Ushuaia** 32.29 185 P P 13 12 55.3 -1.1
comp=Z,77nm,0.6s,baz=18,slow=7.4,SNR=63
PTAC **Punta Ardita,** 32.75 333 *e*P P 13 13 00.5 -0.4
SMLC **San Mart`n de** 32.94 341 ⇑*e*P P 13 12 58.9 -3.6
MOTC **Monteria, Cord** 33.43 338 ⇑*i*P P 13 13 04.5 -2.1
CODC **Agust`n Codaz** 33.83 342 ⇑*e*P P 13 13 05.9 -4.1
PAYG **Puerto Ayora** 33.93 307 *e*P P 13 13 12.2 +1.2
comp=Z,880nm,0.9s
PAYG **Puerto Ayora** 33.93 307 ⇑*i*P P 13 13 12.1 +1.2
UPD2 **Meteti** 34.10 334 ⇑*e*P P 13 13 11.1 -1.2
AZU **Azuero** 34.41 330 ⇑*i*P P 13 13 16.8 +2.0
GRGR **Grenville** 34.67 3 *e*P P 13 13 17.4 +0.4
comp=Z,2µm,0.7s
UPA **Univ. de Panam** 35.13 332 ⇑*e*P P 13 13 21.0 +0.1
URIC **Uribia, Colomb** 35.16 346 ⇓*i*P P 13 13 18.1 -3.0
SMRC **Santa Marta, M** 35.22 342 *e*P P 13 13 19.0 -2.6
BCIP **Isla Baru Col** 35.43 332 *e*P P 13 13 23.4 +0.1
comp=Z,387nm,0.8s
BCIP **Isla Barro Col** 35.43 332 ⇑*i*P P 13 13 23.4 +0.1
SVB **Belmont** 35.83 4 *e*P P 13 13 26.0 -0.6
comp=Z,270nm,0.5s
SVB *e*PcP PcP 13 15 39.9 +0.5
BBGH **Gun Hill** 35.84 7 *e*P P 13 13 28.4 +1.7
comp=Z,2µm,1.6s
H05S1 **Guadeloupe/Mar** 37.00 4 P P 13 13 35.9 -0.3
FDF **Fort de France** 37.28 4 *e*P P 13 13 38.6 0.0
comp=Z,1µm,1.3s
FDF **Fort de France** 37.28 4 ⇓*i*P P 13 13 38.0 -0.6
FDF **Fort de France** 37.28 4 *e*P P 13 13 38.6 0.0
FDF pmax pmax
comp=Z,1µm,1.3s
HOPE **Hope Point** 37.56 154 *e*P P 13 13 39.6 -0.8
comp=Z,832nm,0.9s
BBL **Barber's Block** 38.05 3 ⇓*i*P P 13 13 44.1 -0.7
TDBA **Terre de Bas,** 38.36 3 ⇓*i*P P 13 13 45.7 -1.6
H05N1 **Guadeloupe/Mar** 38.86 4 P P 13 13 50.6 -0.8
JTS **JuntasAbangare** 38.88 325 P P 13 13 53.6 +1.9
comp=Z,769nm,0.9s,baz=205,slow=3.3,SNR=264
JTS ScP ScP 13 18 46.5 0.0
comp=Z,44nm,0.9s,baz=61,slow=6.2,SNR=5.0
JTS **JuntasAbangare** 38.88 325 *e*P P 13 13 53.4 +1.7
comp=Z,933nm,0.9s
JTS ScP ScP 13 18 46.5 0.0
JTS **JuntasAbangare** 38.88 325 *c i*P P 13 13 53.4 +1.7
ABD **La Joyeuse, An** 38.99 3 ⇓*i*P P 13 13 50.5 -1.9
PRVC **Isla de Provid** 39.84 332 ⇑*i*P P 13 13 59.4 +0.1
SEUS **St. Eustatius** 39.95 1 *e*P P 13 13 58.4 -1.7
comp=Z,508nm,1.1s
SABA **Saba** 40.08 1 *e*P P 13 14 00.6 -0.6
comp=Z,547nm,0.8s
SABA *e*PP PcP 13 15 51.5 -1.2
ANWB **Willy Bob** 40.16 3 *e*P P 13 14 00.1 -1.7
comp=Z,1µm,0.6s
ESPN **Las Esperanzas** 40.16 328 *e*P P 13 14 02.9 +1.0
comp=Z,731nm,1.0s
CDVI **St. Croix** 40.22 358 *e*P P 13 14 01.0 -1.3
comp=Z,431nm,0.6s
ICMP **Isla Caja de M** 40.44 356 *e*P P 13 14 03.5 -0.5
comp=Z,1µm,0.7s
SMRT **St. Maarten** 40.51 1 *e*P P 13 14 02.1 -2.5
comp=Z,294nm,0.6s
MTP **Monte Pirata** 40.59 357 *e*P P 13 14 03.8 -1.5
comp=Z,118nm,0.7s
OBIP **Obispado Ponce** 40.60 356 *e*P P 13 14 04.6 -0.7
comp=Z,595nm,0.8s
CRPR **Cabo Rojo, PR** 40.60 355 *e*P P 13 14 04.5 -0.8
comp=Z,914nm,0.8s
SJG **San Juan** 40.64 356 P P 13 14 04.7 -0.9
comp=Z,223nm,0.5s,baz=159,slow=8.3,SNR=190
SJG S S 13 19 30.9 -6.1
comp=Z,384nm,1.0s,baz=57,slow=22,SNR=106
SJG **San Juan** 40.64 356 *e*P P 13 14 04.2 -1.4
comp=Z,1µm,1.4s
SJG S S 13 19 30.9 -6.1
SJG **San Juan** 40.64 356 ⇓*i*P P 13 14 04.0 -1.6
HUMP **Col San Antoni** 40.65 357 *e*P P 13 14 04.3 -1.4
comp=Z,203nm,1.0s
CBYP **Canovanas** 40.78 357 *e*P P 13 14 05.6 -1.3
comp=Z,305nm,0.9s
CUPR **Culebra, Puert** 40.79 358 *e*P P 13 14 05.0 -1.8
comp=Z,272nm,0.9s
MPR **Mayaguez** 40.81 355 *e*P P 13 14 05.9 -1.0
comp=Z,1µm,1.3s
STVI **Saint Thomas** 40.82 358 *e*P P 13 14 05.2 -1.9
comp=Z,131nm,0.6s
AGP **Aguadilla** 41.00 355 *e*P P 13 14 07.5 -1.0
comp=Z,434nm,0.6s
BOAB **BOACO,BROADBAN** 41.07 326 *e*P P 13 14 10.0 +0.9
comp=Z,107nm,1.0s
ABVI **Anegada Island** 41.18 359 *e*P P 13 14 08.3 -1.6
comp=Z,2µm,1.6s
SDD **Santo Domingo** 41.37 351 *e*P P 13 14 10.3 -1.1
comp=Z,170nm,0.7s
RPN **Rapa Nui** 41.52 254 P P 13 14 12.7 +0.1
comp=Z,287nm,1.0s,baz=86,slow=4.0,SNR=18
RPN **Rapa Nui** 41.52 254 *e*P P 13 14 13.4 +0.8
RPN **Rapa Nui** 41.52 254 *e*P P 13 14 13.4 +0.8
LGNH **LOogne** 41.89 347 *e*P P 13 14 15.9 +0.3
comp=Z,260nm,1.2s
ESTN **Estel** 41.98 326 *e*P P 13 14 16.9 +0.4
comp=Z,2µm,1.3s
PMSA **Palmer Station** 42.06 180 P P 13 14 16.4 +0.1
comp=Z,40nm,0.7s,baz=11,slow=5.5,SNR=15
SDDR **Presa de Saban** 42.10 349 *e*P P 13 14 16.1 -1.2
comp=Z,72nm,0.6s
TGUH **Tegucigalpa,Un** 43.26 325 *e*P P 13 14 26.3 0.0
comp=Z,365nm,0.8s
GTBY **Guantanamo Bay** 43.83 344 *e*P P 13 14 28.6 -2.1
comp=Z,28nm,0.6s
GTBY **Guantanamo Bay** 43.83 344 *e*P P 13 14 29.4 -1.3
GRTK **Grand Turk** 44.55 350 *e*P P 13 14 35.8 -0.4
comp=Z,277nm,1.1s
APG **El Apazote** 45.77 322 P P 13 14 46.2 +0.2
comp=Z,209nm,0.8s,baz=153,slow=5.5,SNR=77
APG ScP ScP 13 19 15.2 +0.7
comp=Z,30nm,1.0s,baz=310,slow=2.1,SNR=3.8
H09W1 **TRISTAN DA CUN** 46.20 120 P P 13 14 49.7 +0.9
SNR=12
THIG 46.73 320 P P 13 14 53.3 +0.3
CCIG **Comitan** 47.75 322 *e*P P 13 15 00.5 -0.3
comp=Z,337nm,0.7s
PCIG 47.92 320 P P 13 15 02.2 +0.3
H10S3 **ASCENSION HYDR** 48.83 82 P P 13 15 09.4 +0.9
baz=237,slow=8.8,SNR=9.8
H10S2 **ASCENSION HYDR** 48.84 82 P P 13 15 09.2 +0.6
baz=237,slow=8.8,SNR=11
H10S1 **ASCENSION HYDR** 48.85 82 P P 13 15 09.6 +1.0
baz=237,slow=8.8,SNR=14
TEIG **Tepich** 48.98 329 *e*P P 13 15 09.4 -0.4
comp=Z,353nm,0.7s
H10N3 **ASCENSION HYDR** 49.40 81 P P 13 15 14.2 +1.5
baz=239,slow=6.9,SNR=11
H10N1 **ASCENSION HYDR** 49.42 81 P P 13 15 13.8 +1.0
baz=239,slow=6.9,SNR=17
H10N2 **ASCENSION HYDR** 49.42 81 P P 13 15 14.0 +1.1
baz=239,slow=6.9,SNR=16
ASCN **Ascension** 49.49 81 *e*P P 13 15 14.4 +0.7
comp=Z,717nm,0.8s
ASCN *e*PcP PcP 13 16 27.6 +1.7
CMIG **Matias Romero** 49.99 320 P P 13 15 17.1 -0.1
comp=Z,355nm,0.8s,baz=124,slow=5.6,SNR=242
CMIG PP PP 13 17 19.7 0.0
comp=Z,70nm,1.1s,baz=150,slow=9.9,SNR=4.3
CMIG ScP ScP 13 19 32.6 +0.5
comp=Z,25nm,1.0s,baz=145,slow=4.7,SNR=4.3
CMIG S S 13 21 48.1 -0.3
comp=Z,5.4nm,1.0s,baz=222,slow=22,SNR=16
MYIG **MÛrida** 50.32 328 *e*P P 13 15 17.9 -1.6
comp=Z,360nm,0.9s
061Z **Ochoppi** 51.10 340 *e*P P 13 15 25.9 +0.7
comp=Z,488nm,0.6s
061Z **Ochoppi** 51.10 340 P P 13 15 25.8 +0.7
baz=159,SNR=11
059Z **Ave Maria** 51.71 340 P P 13 15 30.4 +0.8
baz=159,SNR=16
060A **Indiantown** 52.03 341 P P 13 15 32.9 +1.1
baz=160
059A **Moore Haven** 52.20 340 P P 13 15 33.8 +0.7
baz=160,SNR=6.0
058A **Arcadia** 52.50 339 P P 13 15 36.0 +0.8
baz=159,SNR=16
TLIG **Tlapa** 52.62 317 *e*P P 13 15 37.4 +0.9
comp=Z,369nm,0.9s
959A **Okeechobee** 52.64 341 P P 13 15 37.2 +1.0
baz=160,SNR=5.9
958A **Wauchula** 52.97 340 P P 13 15 39.6 +1.0
baz=159,SNR=7.9
859A **Kempfer Cattle** 53.15 341 P P 13 15 40.6 +0.8
baz=160,SNR=5.7
957A **Wimauma** 53.20 339 P P 13 15 41.2 +0.9
baz=158,SNR=8.9
DWPF **Disney Wildern** 53.36 340 *e*P P 13 15 42.2 +0.9
comp=Z,233nm,1.1s
DWPF **Disney Wildern** 53.36 340 P P 13 15 42.2 +0.9
baz=159
857A **Zephyrhills** 53.76 340 P P 13 15 44.8 +0.6
baz=159,SNR=7.8
758A **Lake Helen** 54.08 341 P P 13 15 47.5 +1.1
baz=160,SNR=5.5
757A **Oxford** 54.33 340 P P 13 15 48.8 +0.7
baz=159,SNR=18
658A **Bunnell** 54.53 341 *e*P P 13 15 50.8 +1.2
comp=Z,877nm,1.7s
658A **Bunnell** 54.53 341 P P 13 15 50.6 +1.1
baz=160
SHEL **Horse Pasture** 54.75 94 *e*P P 13 15 52.9 +1.4
comp=Z,418nm,0.7s
SHEL **Horse Pasture** 54.75 94 *e*P P 13 15 52.9 +1.4
SHEL pmax pmax
comp=Z,418nm,0.7s
BBSR **BB Station** 54.77 359 *e*P P 13 15 51.3 +0.1
comp=Z,234nm,0.9s
657A **Interlachen** 54.87 341 P P 13 15 52.7 +0.8
baz=159,SNR=18
656A **Williston** 54.88 340 *e*P P 13 15 52.5 +0.5
comp=Z,413nm,1.1s
656A **Willston** 54.88 340 P P 13 15 52.6 +0.7
baz=159,SNR=14
557A **Orange Park** 55.23 341 P P 13 15 55.1 +0.6
baz=160,SNR=22
655A **Horseshoe Beac** 55.24 339 P P 13 15 54.9 +0.4
baz=158,SNR=17
556A **Lake Butler** 55.42 340 P P 13 15 56.3 +0.5
baz=159,SNR=17
555A **McAlpin** 55.71 340 *e*P P 13 15 58.3 +0.6
comp=Z,441nm,0.8s
555A **McAlpin** 55.71 340 P P 13 15 58.4 +0.6
baz=158,SNR=20
457A **Yulee** 55.74 341 P P 13 15 58.8 +0.8
baz=160
MOIG **Morelia** 55.85 316 *e*P P 13 15 59.5 +0.3
comp=Z,493nm,0.9s
554A **Perry** 55.91 339 P P 13 15 59.8 +0.6
baz=158,SNR=18
456A **Hilliard** 55.98 341 *e*P P 13 16 00.3 +0.7
comp=Z,915nm,0.8s
456A **Hilliard** 55.98 341 P P 13 16 00.7 +1.0
baz=160,SNR=38
JRQG **Juriquilla Cam** 56.14 317 *e*P P 13 16 02.0 +0.8
comp=Z,529nm,1.2s
553A **Crawfordville** 56.26 338 P P 13 16 02.3 +0.7
baz=157,SNR=35
455A **Stateville** 56.31 340 P P 13 16 02.3 +0.4
baz=158,SNR=17
357A **Townsend** 56.47 342 P P 13 16 03.7 +0.6
baz=160
454A **Quitman** 56.48 339 P P 13 16 03.5 +0.5
baz=158
552A **Lynn Haven** 56.51 337 P P 13 16 03.7 +0.4
baz=156,SNR=9.0
356A **Blackshear** 56.57 341 P P 13 16 04.2 +0.5
baz=160,SNR=34
355A **Pearson** 56.81 340 P P 13 16 06.0 +0.7
baz=159,SNR=13
453A **Whigham** 56.83 339 *e*P P 13 16 05.8 +0.3
comp=Z,485nm,0.9s
453A **Whigham** 56.83 339 P P 13 16 06.0 +0.5
baz=157,SNR=24
257A **Skidaway Islan** 56.86 342 P P 13 16 07.0 +1.3
baz=161,SNR=5.4
451A **Vernon** 57.11 337 P P 13 16 08.2 +0.8
baz=156,SNR=14
256A **Glennville** 57.11 342 P P 13 16 08.5 +1.1
baz=160,SNR=18
452A **Marianna** 57.12 338 P P 13 16 07.9 +0.4
baz=156,SNR=17
TIGA **Tifton** 57.13 340 P P 13 16 07.9 +0.3
baz=158,SNR=19
255A **Hazlehurst** 57.24 341 *e*P P 13 16 08.8 +0.6
comp=Z,633nm,1.1s
255A **Hazlehurst** 57.24 341 P P 13 16 09.0 +0.8
baz=159,SNR=25
353A **Camilla** 57.25 339 P P 13 16 08.7 +0.4
baz=157,SNR=41
VNA3 **Neumayer Olymp** 57.40 162 P P 13 16 08.9 0.0
VNA3 **Neumayer Olymp** 57.40 162 PcP PcP 13 16 55.9 +0.6
254A **Abbeville** 57.51 340 P P 13 16 10.4 +0.3
baz=158,SNR=29
RGRS **Roger Stewart** 57.52 343 *e*P P 13 16 10.8 +0.7
comp=Z,5µm,0.5s
VNA1 **Neumayer--Stat** 57.54 161 P P 13 16 10.2 +0.4
VNA1 **Neumayer--Stat** 57.54 161 PcP PcP 13 16 56.7 +0.9
352A **Blakely** 57.61 338 *e*P P 13 16 10.6 -0.2
comp=Z,454nm,0.8s
352A **Blakely** 57.61 338 P P 13 16 10.9 +0.1
baz=157,SNR=70
156A **Sylvania** 57.63 342 P P 13 16 12.1 +1.2
baz=160,SNR=11
351A **Pinckard** 57.66 338 P P 13 16 11.3 +0.1
baz=156,SNR=76
NHSC **New Hope** 57.70 344 *e*P P 13 16 12.2 +0.8
comp=Z,308nm,0.9s
NHSC **New Hope** 57.70 344 P P 13 16 12.2 +0.8
baz=162,SNR=9.0
449A **Pace** 57.78 336 P P 13 16 12.4 +0.4
baz=154,SNR=8.4
253A **Americus** 57.88 339 P P 13 16 12.7 0.0
baz=158,SNR=20
155A **Kite** 57.88 341 P P 13 16 13.2 +0.5
baz=159,SNR=21
VNA2 **Neumayer--Watz** 57.92 161 P P 13 16 12.5 +0.1
baz=291,slow=8.3
VNA2 **Neumayer--Watz** 57.92 161 PcP PcP 13 16 57.7 +0.3
VNA2 S S 13 23 32.9 +1.8
252A **Lumpkin** 58.02 339 P P 13 16 13.5 -0.1
baz=157,SNR=29
350A **Dozier** 58.05 337 P P 13 16 13.7 -0.1
baz=155,SNR=15
154A **Montrose** 58.07 341 *e*P P 13 16 14.1 +0.2
comp=Z,688nm,0.9s

154A	**Montrose**	58.07	341	P		P	13 16 14.1	+0.2
	baz=159,SNR=39							
BRAL	**Brewton**	58.08	336	*e*P		P	13 16 14.3	+0.3
	comp=Z,283nm,0.8s							
BRAL	**Brewton**	58.08	336	P		P	13 16 14.2	+0.2
	baz=154,SNR=17							
448A	**Bay Minette**	58.17	335	P		P	13 16 14.9	+0.2
	baz=154,SNR=7.3							
349A	**Repton**	58.30	336	P		P	13 16 15.4	-0.1
	baz=154,SNR=36							
153A	**Fort Valley**	58.33	340	P		P	13 16 15.7	0.0
	baz=158,SNR=20							
251A	**Midway**	58.33	338	P		P	13 16 15.3	-0.4
	baz=156,SNR=42							
Z55A	**Blythe**	58.34	342	P		P	13 16 16.2	+0.4
	baz=160,SNR=16							
447A	**Lucedale**	58.36	335	*e*P		P	13 16 15.8	-0.1
	comp=Z,182nm,0.6s							
447A	**Lucedale**	58.36	335	P		P	13 16 15.8	-0.1
	baz=153,SNR=22							
250A	**Grady**	58.53	337	*e*P		P	13 16 16.6	-0.5
	comp=Z,270nm,0.9s							
250A	**Grady**	58.53	337	P		P	13 16 16.8	-0.3
	baz=155,SNR=34							
Z54A	**Sparta**	58.57	341	P		P	13 16 17.5	+0.3
	baz=159,SNR=24							
348A	**Jackson**	58.62	336	*e*P		P	13 16 17.3	-0.4
	comp=Z,166nm,0.8s							
348A	**Jackson**	58.62	336	P		P	13 16 17.7	0.0
	baz=154,SNR=15							
152A	**Waverly Hall**	58.63	339	*e*P		P	13 16 17.2	-0.5
	comp=Z,126nm,0.8s							
446A	**Poplarville**	58.64	334	P		P	13 16 17.9	+0.1
	baz=152							
151A	**Opelika**	58.70	339	P		P	13 16 17.8	-0.4
	baz=156,SNR=29							
LNIG	**Linares**	58.72	322	*e*P		P	13 16 18.2	-0.3
	comp=Z,327nm,1.1s							
LNIG				*e*S		S	13 23 42.9	+0.3
249A	**Camden**	58.83	337	P		P	13 16 18.9	-0.2
	baz=155,SNR=52							
347A	**Saraland**	58.86	335	P		P	13 16 19.2	0.0
	baz=153,SNR=21							
GOGA	**Godfrey**	58.92	341	*e*P		P	13 16 19.6	0.0
	comp=Z,100nm,0.9s							
GOGA	**Godfrey**	58.92	341	*e*P		P	13 16 19.6	0.0
GOGA				pmax		pmax		
	comp=Z,100nm,0.9s							
GOGA	**Godfrey**	58.92	341	P		P	13 16 19.7	0.0
	baz=159,SNR=24							
ZAIG	**Zacatecas**	58.98	317	*e*P		P	13 16 21.9	+1.2
	comp=Z,350nm,1.0s							
445A	**Amite**	58.99	333	P		P	13 16 20.5	+0.4
	baz=151,SNR=15							
150A	**Eclectic**	59.01	338	P		P	13 16 20.2	-0.1
	baz=156,SNR=41							
JSC	**Jenkinsville**	59.10	343	*e*P		P	13 16 21.3	+0.5
	comp=Z,106nm,0.8s							
JSC				*e*S		S	13 23 46.1	-0.8
JSC	**Jenkinsville**	59.10	343	*e*P		P	13 16 21.3	+0.5
JSC				*e*S		S	13 23 46.1	-0.8
JSC				pmax		pmax		
	comp=Z,106nm,0.8s							
Y54A	**Tignall**	59.10	342	P		P	13 16 21.2	+0.3
	baz=160,SNR=24							
444A	**Pine Grove**	59.15	333	P		P	13 16 21.8	+0.6
	baz=151,SNR=5.8							
248A	**Dixon Mills**	59.17	336	P		P	13 16 21.4	+0.1
	baz=154,SNR=34							
346A	**Big Creek Wild**	59.21	334	*e*P		P	13 16 21.5	-0.1
	comp=Z,138nm,0.6s							
346A				*e*S		S	13 23 53.5	+5.1
346A	**Big Creek Wild**	59.21	334	P		P	13 16 21.5	-0.1
	baz=152,SNR=12							
149A	**Jones**	59.28	337	P		P	13 16 21.5	-0.5
	baz=155,SNR=38							
HODGE	**Hodges**	59.33	342	*e*P		P	13 16 23.0	+0.7
	comp=Z,159nm,1.2s							
Y53A	**Monroe**	59.37	341	P		P	13 16 22.7	0.0
	baz=159,SNR=39							
345A	**Thompson Farm,**	59.37	334	P		P	13 16 22.9	+0.2
	baz=152,SNR=7.9							
247A	**Quitman**	59.46	335	P		P	13 16 23.1	-0.2
	baz=153,SNR=12							
Y52A	**Lilburn**	59.52	340	*e*P		P	13 16 23.6	-0.1
	comp=Z,114nm,0.9s							
Y52A	**Lilburn**	59.52	340	P		P	13 16 23.6	-0.1
	baz=158,SNR=22							
SNAA	**Sanae**	59.56	161	P		P	13 16 23.4	-0.1
SNAA	**Sanae**	59.56	161	PcP		PcP	13 17 04.1	+0.1
SNAA				S		S	13 23 53.1	+1.0
SNAA	**Sanae**	59.56	161	P		P	13 16 23.0	-0.5
	comp=Z,90nm,0.8s,baz=290,slow=7.2,SNR=556							
SNAA				S		S	13 23 51.7	-0.3
	comp=Z,13nm,1.1s,baz=104,slow=22,SNR=14							
SNAA	**Sanae**	59.56	161	*e*P		P	13 16 23.1	-0.5
	comp=Z,131nm,0.9s							
SNAA				*e*S		S	13 23 52.8	+0.8
SNAA	**Sanae**	59.56	161	*d i*P		P	13 16 22.8	-0.7
Z50A	**Ashland**	59.57	338	*e*P		P	13 16 23.6	-0.4
	comp=Z,291nm,0.9s							
Z50A				*e*PcP		PcP	13 17 02.6	-1.9
Z50A	**Ashland**	59.57	338	P		P	13 16 23.9	-0.1
	baz=156,SNR=108							
148A	**Greensboro**	59.60	337	P		P	13 16 23.8	-0.4
	baz=154,SNR=17							
541A	**Lake Charles**	59.66	330	P		P	13 16 26.1	+1.5
	baz=148,SNR=12							
Z49A	**Columbiana**	59.72	338	P		P	13 16 24.7	-0.3
	baz=156,SNR=35							
LRAL	**Lakeview Retre**	59.74	337	*e*P		P	13 16 24.5	-0.6
	comp=Z,91nm,0.8s							
LRAL	**Lakeview Retre**	59.74	337	P		P	13 16 24.8	-0.3
	baz=155,SNR=37							
PAULI	**Pauline**	59.76	343	*e*P		P	13 16 25.2	0.0
	comp=Z,102nm,1.0s							
344A	**Westbrook Farm**	59.78	333	*e*P		P	13 16 25.6	+0.2
	comp=Z,104nm,0.9s							
344A	**Westbrook Farm**	59.78	333	P		P	13 16 25.3	-0.1
	baz=151,SNR=15							
Y51A	**Rockmart**	59.87	339	P		P	13 16 25.6	-0.4
	baz=157,SNR=39							
X53A	**Estanollee**	59.88	341	P		P	13 16 26.3	+0.2
	baz=159,SNR=22							
147A	**Livingston**	59.88	336	*e*P		P	13 16 25.8	-0.3
	comp=Z,66nm,0.8s							
147A	**Livingston**	59.88	336	P		P	13 16 25.8	-0.3
	baz=154,SNR=6.3							
KVTX	**Kingsville**	59.93	325	*e*P		P	13 16 28.0	+1.5
	comp=Z,628nm,0.8s							
KMSC	**Kings Mountain**	59.93	343	*e*P		P	13 16 26.9	+0.5
	comp=Z,149nm,1.0s							
KMSC	**Kings Mountain**	59.93	343	P		P	13 16 26.8	+0.5
	baz=161,SNR=32							
245A	**Little AP, Sta**	59.95	334	P		P	13 16 26.4	-0.1
	baz=152,SNR=47							
343A	**Vidalia**	60.01	332	P		P	13 16 27.1	+0.1
	baz=150							
Y50A	**Piedmont**	60.09	339	P		P	13 16 27.0	-0.4
	baz=156,SNR=35							
146A	**Union**	60.15	335	*e*P		P	13 16 27.6	-0.3
	comp=Z,160nm,0.7s							
146A	**Union**	60.15	335	P		P	13 16 27.7	-0.2
	baz=153,SNR=28							
X52A	**Dahlonega**	60.16	341	P		P	13 16 28.0	+0.1
	baz=158,SNR=28							
BG3	**Lake Jocassee**	60.23	342	*e*P		P	13 16 28.9	+0.5
	comp=Z,116nm,0.8s							
441A	**DeRidder**	60.24	331	P		P	13 16 29.7	+1.2
	baz=148,SNR=11							
Z48A	**Northport**	60.25	337	P		P	13 16 28.2	-0.3
	baz=154,SNR=44							
PTCN	**Pitcairn Islan**	60.26	253	*e*P		P	13 16 30.5	+1.6
244A	**Avery, Jackson**	60.28	334	P		P	13 16 29.0	+0.3
	baz=151,SNR=27							
Z47A	**Carrollton**	60.28	336	P		P	13 16 28.4	-0.3
	baz=154,SNR=31							
Y49A	**Blount Mountai**	60.28	338	*e*P		P	13 16 28.2	-0.6
	comp=Z,246nm,0.8s							
Y49A	**Blount Mountai**	60.28	338	P		P	13 16 28.4	-0.4
	baz=156,SNR=78							
VBMS	**Vicksburg**	60.36	334	*e*P		P	13 16 29.3	0.0
	comp=Z,194nm,1.4s							
342A	**Flagon Creek P**	60.39	332	*e*P		P	13 16 30.1	+0.6
	comp=Z,122nm,0.7s							
342A	**Flagon Creek P**	60.39	332	P		P	13 16 29.9	+0.5
	baz=149,SNR=22							
X51A	**Calhoun**	60.42	340	*e*P		P	13 16 29.6	0.0
	comp=Z,219nm,0.8s							
X51A	**Calhoun**	60.42	340	P		P	13 16 29.7	+0.1
	baz=157,SNR=35							
145A	**Houston Renfro**	60.46	335	P		P	13 16 30.2	+0.3
	baz=152,SNR=26							
W53A	**Cullowhee**	60.46	342	P		P	13 16 30.1	0.0
	baz=159,SNR=36							
243A	**Waterproof**	60.47	333	P		P	13 16 30.3	+0.3
	baz=150,SNR=5.6							
X50B	**Fort Payne**	60.58	339	P		P	13 16 30.3	-0.4
	baz=157,SNR=22							
Y48A	**Jasper**	60.60	338	P		P	13 16 30.3	-0.5
	baz=155,SNR=34							
Z46A	**Louisville**	60.60	336	P		P	13 16 30.8	0.0
	baz=153,SNR=28							
W52A	**Murphy**	60.62	341	*e*P		P	13 16 31.1	+0.1
	comp=Z,119nm,1.0s							
W52A	**Murphy**	60.62	341	P		P	13 16 30.9	0.0
	baz=158,SNR=26							
144A	**Alexander Plac**	60.68	334	P		P	13 16 31.3	-0.1
	baz=152,SNR=6.2							
HKT	**Hockley**	60.82	328	*e*P		P	13 16 33.0	+0.7
	comp=Z,215nm,1.1s							
HKT	**Hockley**	60.82	328	*e*P		P	13 16 33.0	+0.7
HKT				pmax		pmax		
	comp=Z,215nm,1.1s							
V53A	**Saluda**	60.83	342	*e*P		P	13 16 32.7	+0.3
	comp=Z,156nm,0.9s							
V53A	**Saluda**	60.83	342	P		P	13 16 32.3	0.0
	baz=160,SNR=41							
Y47A	**UCPARC, Winfie**	60.83	337	P		P	13 16 32.0	-0.4
	baz=154,SNR=124							
X49A	**Woodville**	60.85	339	P		P	13 16 32.3	-0.1
	baz=156,SNR=36							
W51A	**Cleveland**	60.94	340	P		P	13 16 32.9	-0.1
	baz=158,SNR=24							
X48A	**Hartselle**	61.04	338	*e*P		P	13 16 33.3	-0.4
	comp=Z,261nm,0.8s							
X48A	**Hartselle**	61.04	338	P		P	13 16 33.5	-0.2
	baz=155,SNR=80							
Z45A	**Winona**	61.05	335	*e*P		P	13 16 33.7	-0.1
	comp=Z,197nm,0.7s							
Z45A	**Winona**	61.05	335	P		P	13 16 33.7	-0.1
	baz=152,SNR=18							
TKL	**Tuckaleechee C**	61.10	341	*e*P		P	13 16 33.7	-0.4
	comp=Z,187nm,1.0s							
TKL	**Tuckaleechee C**	61.10	341	*e*P		P	13 16 33.7	-0.4
TKL				pmax		pmax		
	comp=Z,187nm,1.0s							
CPCT	**Cooper Cave**	61.13	341	*e*P		P	13 16 34.1	-0.2
	comp=Z,117nm,0.8s							
W50A	**Signal Mountai**	61.15	340	*e*P		P	13 16 34.3	-0.1
	comp=Z,128nm,0.8s							
W50A	**Signal Mountai**	61.15	340	P		P	13 16 34.3	-0.1
	baz=157,SNR=35							
143A	**Socs Landing,**	61.15	333	*e*P		P	13 16 34.2	-0.2
	comp=Z,194nm,0.8s							
143A	**Socs Landing,**	61.15	333	P		P	13 16 34.1	-0.3
	baz=151,SNR=22							
Y46A	**Houston**	61.18	336	P		P	13 16 33.8	-0.8
	baz=153,SNR=37							
241A	**Mo Tay, Goldon**	61.21	332	*e*P		P	13 16 35.6	+0.7
	comp=Z,212nm,0.8s							
241A	**Mo Tay, Goldon**	61.21	332	P		P	13 16 35.5	+0.7
	baz=149,SNR=13							
V52A	**Sevierville**	61.22	342	*e*P		P	13 16 34.6	-0.3
	comp=Z,151nm,0.9s							
V52A	**Sevierville**	61.22	342	P		P	13 16 34.8	-0.1
	baz=159,SNR=32							
Z44A	**Pea Ridge, Bel**	61.26	334	P		P	13 16 34.9	-0.2
	baz=152,SNR=24							
833A	**Chaparral WMA,**	61.35	324	*e*P		P	13 16 36.8	+0.9
	comp=Z,794nm,0.7s							
833A	**Chaparral WMA,**	61.35	324	P		P	13 16 36.4	+0.5
	baz=142,SNR=228							
SWET	**Sewanee**	61.36	339	*e*P		P	13 16 35.6	-0.3
	comp=Z,187nm,1.1s							
W49A	**Belvidere**	61.38	339	P		P	13 16 35.2	-0.7
	baz=156,SNR=31							
X47A	**Russelville**	61.39	337	P		P	13 16 35.4	-0.6
	baz=154,SNR=65							
V51A	**Loudon**	61.41	341	*e*P		P	13 16 35.7	-0.4
	comp=Z,60nm,0.8s							
V51A	**Loudon**	61.41	341	P		P	13 16 35.6	-0.5
	baz=158,SNR=22							
U53A	**Fall Branch**	61.41	343	P		P	13 16 35.9	-0.2
	baz=160,SNR=19							
Y45A	**Yeager Farm, C**	61.43	336	P		P	13 16 36.1	-0.1
	baz=153,SNR=49							
V50A	**Pikeville**	61.51	340	P		P	13 16 36.8	0.0
	baz=157,SNR=54							
240A	**Hunter Patters**	61.59	331	*e*P		P	13 16 38.7	+1.3
	comp=Z,208nm,0.9s							
240A	**Hunter Patters**	61.59	331	P		P	13 16 38.2	+0.8
	baz=148,SNR=11							
W48A	**Pulaski**	61.63	338	P		P	13 16 37.3	-0.2
	baz=156,SNR=82							
BLA	**Blacksburg**	61.66	345	*e*P		P	13 16 38.5	+0.8
	comp=Z,282nm,1.4s							
BLA	**Blacksburg**	61.66	345	*e*P		P	13 16 38.5	+0.8
BLA				pmax		pmax		
	comp=Z,282nm,1.4s							
BLA	**Blacksburg**	61.66	345	P		P	13 16 38.2	+0.5
	baz=162,SNR=17							
U52A	**Thorn Hill**	61.66	342	P		P	13 16 37.6	-0.2
	baz=159,SNR=14							
X46A	**Booneville**	61.68	337	P		P	13 16 37.5	-0.4
	baz=154,SNR=71							
NATX	**Nacogdoches**	61.77	330	*e*P		P	13 16 39.6	+1.0
	comp=Z,378nm,0.9s							
NATX	**Nacogdoches**	61.77	330	P		P	13 16 39.4	+0.9
	baz=147,SNR=51							
Y44A	**Strider, Charl**	61.77	335	P		P	13 16 38.2	-0.3
	baz=152,SNR=15							
U51A	**La Follette**	61.84	341	P		P	13 16 38.8	-0.2
	baz=159,SNR=12							
TZTN	**Tazewell**	61.86	342	*e*P		P	13 16 38.6	-0.4
	comp=Z,62nm,0.9s							
TZTN	**Tazewell**	61.86	342	P		P	13 16 39.0	0.0
	baz=159,SNR=14							
V49A	**McMinnville**	61.86	340	P		P	13 16 38.4	-0.6
	baz=157,SNR=66							
X45A	**UM Field Stati**	61.87	336	P		P	13 16 38.5	-0.6
	baz=153,SNR=24							
Z42A	**Norrel Spur, H**	61.87	333	P		P	13 16 39.0	-0.1
	baz=150,SNR=7.2							
PLAL	**Pickwick Lake**	61.88	337	*e*P		P	13 16 38.1	-1.1
	comp=Z,121nm,0.8s							
H06S1	**SOCORRO T**	61.92	308	P		P	13 16 41.9	+2.1
	SNR=12							
H06E1	**SOCORRO T-PHAS**	61.93	308	P		P	13 16 41.6	+1.8
	SNR=5.1							
CBN	**Corbin Frederi**	61.94	348	*e*P		P	13 16 40.2	+0.7
	comp=Z,113nm,0.6s							
CBN	**Corbin Frederi**	61.94	348	P		P	13 16 39.6	+0.1
	baz=166,SNR=10.0							
OXF	**Oxford**	61.95	336	*e*P		P	13 16 38.8	-0.8
	comp=Z,276nm,0.9s							
OXF	**Oxford**	61.95	336	*e*P		P	13 16 38.8	-0.8
OXF				pmax		pmax		
	comp=Z,276nm,0.9s							
OXF	**Oxford**	61.95	336	P		P	13 16 39.0	-0.6
	baz=153,SNR=30							
W47A	**Westpoint**	61.95	338	P		P	13 16 39.1	-0.6
	baz=155,SNR=105							
H06N1	**SOCORRO T-PHAS**	62.03	308	P		P	13 16 42.4	+1.9
	SNR=8.5							
U50A	**Jamestown**	62.12	341	P		P	13 16 40.3	-0.4
	baz=158,SNR=26							
W46A	**Michie**	62.13	337	P		P	13 16 40.0	-0.8
	baz=154,SNR=24							
V48A	**Smith Brothers**	62.13	339	*e*P		P	13 16 40.1	-0.7
	comp=Z,122nm,0.8s							
V48A	**Smith Brothers**	62.13	339	P		P	13 16 40.1	-0.7
	baz=156,SNR=61							
Z41A	**Richland Creek**	62.22	333	*e*P		P	13 16 41.8	+0.4
	comp=Z,53nm,0.8s							
Z41A	**Richland Creek**	62.22	333	P		P	13 16 41.5	+0.1
	baz=150,SNR=8.6							
X44A	**Crenshaw**	62.22	335	P		P	13 16 41.2	-0.2
	baz=152,SNR=9.1							
T52A	**Hallie**	62.23	343	P		P	13 16 41.4	0.0
	baz=160,SNR=18							
Y42A	**Garnett, Star**	62.29	334	P		P	13 16 41.6	-0.2
	baz=151,SNR=12							
T51A	**Gray**	62.36	342	P		P	13 16 42.1	-0.2
	baz=159,SNR=24							
435B	**Jarrell**	62.37	327	*e*P		P	13 16 42.9	+0.4
	comp=Z,168nm,0.8s							
435B	**Jarrell**	62.37	327	P		P	13 16 43.0	+0.6
	baz=144,SNR=39							
W45A	**Hickory Valley**	62.44	336	P		P	13 16 42.2	-0.6
	baz=153,SNR=25							
V47A	**Nunnelly**	62.45	338	P		P	13 16 41.9	-0.9
	baz=155,SNR=57							
U49A	**Red Boiling Sp**	62.50	340	P		P	13 16 42.6	-0.6
	baz=157,SNR=34							
X43A	**Marvell**	62.52	335	*e*P		P	13 16 43.5	+0.2
	comp=Z,268nm,0.8s							
X43A	**Marvell**	62.52	335	P		P	13 16 43.2	-0.1
	baz=152,SNR=25							
V46A	**Holladay**	62.63	338	P		P	13 16 43.1	-0.9
	baz=154,SNR=90							
Y41A	**Eaglette Beard**	62.67	333	P		P	13 16 44.4	+0.1
	baz=150,SNR=16							
T50A	**Nancy**	62.68	341	P		P	13 16 43.9	-0.4
	baz=158,SNR=36							
U48A	**Cassie Pea, Po**	62.74	339	P		P	13 16 44.3	-0.5
	baz=156,SNR=47							
S52A	**Salyersville**	62.79	343	P		P	13 16 44.8	-0.2
	baz=160,SNR=32							
WVT	**Waverly**	62.83	338	*e*P		P	13 16 44.2	-1.1
	comp=Z,274nm,0.8s							
WVT	**Waverly**	62.83	338	*e*P		P	13 16 44.2	-1.1
WVT				pmax		pmax		
	comp=Z,274nm,0.8s							
WVT	**Waverly**	62.83	338	P		P	13 16 44.9	-0.4
	baz=155							
X42A	**Stuttgart**	62.85	334	P		P	13 16 45.3	-0.1
	baz=151,SNR=16							
V45A	**Humboldt**	62.88	337	P		P	13 16 44.8	-0.8
	baz=154,SNR=76							
S51A	**Beattyville**	62.89	342	*e*P		P	13 16 45.5	-0.2
	comp=Z,107nm,1.1s							
S51A	**Beattyville**	62.89	342	P		P	13 16 45.3	-0.4
	baz=159,SNR=15							
U47A	**Clarksville**	62.93	339	P		P	13 16 45.1	-0.9
	baz=156,SNR=96							
T49A	**Edmonton**	62.97	340	*e*P		P	13 16 45.4	-0.8
	comp=Z,228nm,1.1s							
T49A	**Edmonton**	62.97	340	P		P	13 16 45.4	-0.8
	baz=157,SNR=61							
SDMD	**Soldier's Deli**	63.01	349	*e*P		P	13 16 47.1	+0.7
	comp=Z,107nm,1.4s							
S50A	**Richmond**	63.16	342	P		P	13 16 47.5	+0.1
	baz=158,SNR=28							
T48A	**Bowling Green**	63.24	340	P		P	13 16 47.3	-0.6
	baz=156,SNR=25							
JCT	**Junction City**	63.27	325	*e*P		P	13 16 48.5	+0.2
	comp=Z,261nm,0.8s							
JCT	**Junction City**	63.27	325	*e*P		P	13 16 48.5	+0.2
JCT				pmax		pmax		
	comp=Z,261nm,0.8s							
JCT	**Junction City**	63.27	325	P		P	13 16 48.6	+0.3
	baz=142,SNR=113							
PSUB	**Penn St. - Bra**	63.27	350	*e*P		P	13 16 48.5	+0.5
	comp=Z,195nm,1.3s							
R52A	**Catlettsburg**	63.29	343	P		P	13 16 48.2	0.0
	baz=160,SNR=21							
X40A	**Basin Creek Fa**	63.29	333	*e*P		P	13 16 47.3	-1.0
	comp=Z,14nm,0.6s							
WHTX	**Lake Whitney,**	63.29	328	*e*P		P	13 16 48.6	+0.2
	comp=Z,130nm,0.8s							
WHTX	**Lake Whitney,**	63.29	328	P		P	13 16 48.5	+0.2
	baz=145,SNR=54							
V44A	**Blytheville**	63.30	336	P		P	13 16 48.5	+0.2
	baz=153,SNR=7.7							
UALR	**University of**	63.33	334	*e*P		P	13 16 47.9	-0.7
	comp=Z,52nm,0.8s							
U45A	**Rockin P Farm,**	63.35	337	P		P	13 16 48.2	-0.4
	baz=154,SNR=10							
T47A	**Sharon Grove**	63.36	339	*e*P		P	13 16 47.6	-1.1
	comp=Z,236nm,0.8s							
T47A	**Sharon Grove**	63.36	339	P		P	13 16 48.0	-0.7
	baz=156,SNR=82							
UTMT	**University of**	63.38	337	*e*P		P	13 16 48.5	-0.4
	comp=Z,671nm,1.5s							
GLAT	**Glass**	63.47	337	*e*P		P	13 16 49.3	-0.1
	comp=Z,608nm,0.9s							
MVL	**Millersville**	63.49	349	*e*P		P	13 16 50.3	+0.8
	comp=Z,272nm,1.4s							
R51A	**Hillsboro**	63.51	343	P		P	13 16 49.5	-0.1
	baz=159,SNR=42							
V43A	**Jonesboro**	63.51	336	P		P	13 16 49.7	0.0
	baz=152,SNR=17							
S49A	**Springfield**	63.52	341	P		P	13 16 49.1	-0.6
	baz=158,SNR=19							
U44B	**Burton Farm, H**	63.55	337	P		P	13 16 50.0	+0.1
	baz=154,SNR=25							
W41B	**Gary Mavity, V**	63.64	334	*e*P		P	13 16 49.9	-0.6
	comp=Z,35nm,0.7s							
W41B	**Gary Mavity, V**	63.64	334	P		P	13 16 50.4	-0.1
	baz=150,SNR=18							
S48A	**Wiedeman Farm,**	63.64	340	P		P	13 16 50.1	-0.3
	baz=157,SNR=38							
MIAR	**Mount Ida**	63.65	333	*e*P		P	13 16 50.0	-0.6
	comp=Z,91nm,1.1s							
MIAR	**Mount Ida**	63.65	333	*e*P		P	13 16 50.0	-0.6
MIAR				pmax		pmax		
	comp=Z,91nm,1.1s							
MIAR	**Mount Ida**	63.65	333	P		P	13 16 50.7	+0.1
	baz=149,SNR=33							
T46A	**Princeton**	63.68	338	P		P	13 16 49.9	-0.8
	baz=155,SNR=33							
R50A	**Paris**	63.70	342	P		P	13 16 50.7	-0.2
	baz=159,SNR=44							
WHAR	**Wooly Hollow**	63.76	334	*e*P		P	13 16 50.5	-0.8
	comp=Z,39nm,0.8s							
Q52A	**Bidwell**	63.78	344	P		P	13 16 51.3	0.0
	baz=161,SNR=38							
PAGS	**Pennsylvania G**	63.78	349	*e*P		P	13 16 52.0	+0.7
	comp=Z,122nm,0.9s							
U44A	**Portageville**	63.83	337	P		P	13 16 52.0	+0.3
	baz=153,SNR=24							
S47A	**Hartford**	63.84	340	P		P	13 16 50.6	-1.2
	baz=156,SNR=73							
V42A	**Cord**	63.85	335	P		P	13 16 51.4	-0.5
	baz=151,SNR=36							

comp=Z,189nm,0.9s
WCI Wyandotte Cave 64.24 340 *e*P P 13 16 53.5 -0.8
WCI pmax pmax
comp=Z,189nm,0.9s
WCI Wyandotte Cave 64.24 340 P P 13 16 53.4 -0.9
baz=157
R48A Northridge Ran 64.27 341 P P 13 16 54.0 -0.5
baz=157,SNR=27
U42A Revenden 64.27 335 P P 13 16 53.9 -0.6
baz=152,SNR=72
ODNJ Ogdensburg 64.27 351 *e*P P 13 16 55.0 +0.5
comp=Z,400nm,1.7s
YLE Yale 64.27 352 *e*P P 13 16 55.2 +0.8
comp=Z,403nm,1.2s
N59A State Game Lan 64.29 350 *e*P P 13 16 55.5 +0.9
comp=Z,187nm,1.2s
N59A State Game Lan 64.29 350 P P 13 16 55.5 +0.9
baz=168,SNR=18
W39A Magazine 64.29 333 *e*P P 13 16 55.5 +0.8
comp=Z,79nm,0.6s
W39A Magazine 64.29 333 P P 13 16 54.8 +0.1
baz=149,SNR=69
TIC Toumodi 64.30 70 *e*PKP1 P 13 16 53.9 -1.3
PBMO Poplar Bluff 64.34 336 *e*P P 13 16 54.5 -0.5
comp=Z,260nm,0.9s
R47A Wooly Knot Far 64.37 340 P P 13 16 54.3 -0.9
baz=157
P52A Corning 64.38 344 P P 13 16 55.2 +0.1
baz=161,SNR=55
SSPA Standing Stone 64.39 348 *e*P P 13 16 56.0 +0.7
comp=Z,217nm,1.1s
SSPA Standing Stone 64.39 348 P P 13 16 56.1 +0.9
baz=165
KIC Kosan Boka 64.40 71 *e*PKP1 P 13 16 54.2 -1.7
comp=Z,790nm,0.7s
USIN University of 64.44 339 *e*P P 13 16 54.7 -0.9
comp=Z,129nm,0.8s
SLBS Sierra La Lagu 64.44 313 *e*P P 13 16 57.2 +1.2
comp=Z,404nm,1.4s
DBIC Dimbokro 64.45 70 P P 13 16 56.3 +0.2
comp=Z,948nm,0.7s,baz=217,slow=6.7,SNR=1226
X37A Clayton 64.47 331 *e*P P 13 16 56.5 +0.7
comp=Z,169nm,1.2s
P51A Williamsport 64.47 343 *e*P P 13 16 55.5 -0.1
comp=Z,160nm,0.9s
P51A Williamsport 64.47 343 P P 13 16 55.6 -0.1
baz=160,SNR=38
S45A Carrier Mills 64.48 338 P P 13 16 55.0 -0.9
baz=154,SNR=56
TXAR Lajitas Array 64.51 322 P P 13 16 56.5 +0.1
comp=Z,82nm,0.8s,baz=148,slow=8.3,SNR=571
TXAR PKP2bc 13 45 38.0
comp=Z,4.2nm,1.0s,baz=279,slow=2.4,SNR=8.9
TXAR PKP2ab 13 45 49.8
comp=Z,3.7nm,1.0s,baz=347,slow=3.9,SNR=8.4
TX31 Lajitas Ar. Si 64.51 322 *e*P P 13 16 56.7 +0.3
U41A Viola 64.53 335 P P 13 16 55.4 -0.8
baz=151,SNR=73
Q49A Aurora 64.53 342 P P 13 16 55.8 -0.3
baz=158,SNR=42
T43A Greenville 64.56 337 P P 13 16 55.4 -1.0
baz=153,SNR=61
R46A Gibon Southern 64.61 339 P P 13 16 55.4 -1.3
baz=156,SNR=27
BRYW Bryant College 64.71 353 *e*P P 13 16 57.9 +0.7
comp=Z,350nm,1.0s
Q48A North Vernon 64.71 341 P P 13 16 56.8 -0.5
baz=157,SNR=38
S44A Carbondale 64.73 338 P P 13 16 56.5 -0.9
baz=154,SNR=22
SIUC Southern Illin 64.74 338 *e*P P 13 16 56.6 -0.9
comp=Z,66nm,0.6s
O52A Adamsville 64.76 345 *e*P P 13 16 57.8 +0.3
comp=Z,145nm,0.9s
O52A Adamsville 64.76 345 P P 13 16 57.6 +0.1
baz=161,SNR=31
P50A Jamestown 64.79 343 P P 13 16 57.4 -0.3
baz=159,SNR=76
T42A Van Buren 64.81 336 *e*P P 13 16 57.2 -0.8
comp=Z,64nm,1.0s
T42A Van Buren 64.81 336 P P 13 16 57.3 -0.6
baz=152,SNR=31
ABTX Abilene, Hawle 64.89 327 *e*P P 13 16 58.6 0.0
comp=Z,139nm,1.0s
ABTX Abilene, Hawle 64.89 327 P P 13 16 58.4 -0.2
baz=143,SNR=34
U40A Yellville 64.91 334 P P 13 16 58.2 -0.4
baz=150,SNR=54
KSPA Keystone Colle 64.92 350 *e*P P 13 16 59.3 +0.8
comp=Z,376nm,1.4s
S43A Fulton Ridge, 64.92 337 P P 13 16 57.5 -1.1
baz=153,SNR=45
Q47A Bedord North L 64.93 341 P P 13 16 57.7 -0.9
baz=157,SNR=60
R45A Skylar, Fairfi 64.94 339 P P 13 16 57.3 -1.4
baz=155,SNR=56
LPIG La Paz 64.97 313 P P 13 17 00.2 +1.0
comp=Z,204nm,1.0s,baz=335,slow=1.9,SNR=16
P49A Miami Univ. Ec 64.97 342 P P 13 16 58.3 -0.6
baz=158,SNR=58
O51A Pataskala 64.98 344 P P 13 16 58.7 -0.2
baz=161,SNR=53
RKT Rikitea 65.06 254 *e*P P 13 17 01.0 +1.1
comp=Z,77nm,1.1s
P48A Milroy 65.11 342 P P 13 16 59.0 -0.8
baz=158,SNR=40
N54A Moraine State 65.14 346 *e*P P 13 17 00.8 +0.9
comp=Z,313nm,1.1s
N54A Moraine State 65.14 346 P P 13 17 00.7 +0.8
baz=163,SNR=46
WES Weston 65.15 354 *e*P P 13 17 00.4 +0.5
comp=Z,267nm,1.5s
QUA2 Belchertown 65.15 353 *e*P P 13 17 00.2 +0.3
comp=Z,186nm,1.3s
ACSO Alum Creek Sta 65.16 344 *e*P P 13 17 00.1 0.0
comp=Z,252nm,0.8s
ACSO Alum Creek Sta 65.16 344 P P 13 17 00.1 0.0
baz=160,SNR=72
R44A Waltonville 65.17 338 P P 13 16 59.4 -0.7
baz=154,SNR=35
BLO Bloomington 65.17 341 *e*P P 13 16 59.5 -0.7
comp=Z,219nm,0.8s
BLO Bloomington 65.17 341 *e*P P 13 16 59.5 -0.7
BLO pmax pmax
comp=Z,219nm,0.8s
O50A Cable 65.24 343 P P 13 17 00.3 -0.3
baz=160,SNR=28
OLIL Olney 65.28 339 *e*P P 13 16 59.7 -1.1
comp=Z,72nm,0.8s
HHAR Hobbs 65.29 333 *e*P P 13 17 00.5 -0.4
comp=Z,111nm,0.8s
HRV Adam Dziewonsk 65.29 354 *e*P P 13 17 01.5 +0.7
comp=Z,428nm,1.4s
HRV Adam Dziewonsk 65.29 354 P P 13 17 01.5 +0.7
baz=172
Q46A CEJHS Indians, 65.30 340 P P 13 17 00.1 -0.9
baz=156,SNR=5.3
S42A Caledonia 65.35 337 P P 13 17 00.1 -1.2
baz=152,SNR=61
P47A Martinsville 65.39 341 P P 13 17 00.7 -0.8
baz=157,SNR=53
FVM French Village 65.41 337 *e*P P 13 17 00.8 -0.9
comp=Z,111nm,0.6s
FVM French Village 65.41 337 *e*P P 13 17 00.8 -0.9
FVM pmax pmax
comp=Z,111nm,0.6s
Q45A Warren Harvey, 65.44 339 P P 13 17 00.7 -1.2
baz=155,SNR=47
O49A Covington 65.48 343 *e*P P 13 17 01.5 -0.6
comp=Z,201nm,0.8s
O49A Covington 65.48 343 P P 13 17 01.5 -0.6
baz=159,SNR=50
R43A Red Bud 65.49 337 P P 13 17 01.5 -0.7
baz=153,SNR=20
S41A Jillco Farms, 65.55 336 P P 13 17 02.0 -0.5
baz=152,SNR=142
BINY Binghamton 65.58 350 *e*P P 13 17 03.4 +0.7
comp=Z,412nm,1.2s
BINY Binghamton 65.58 350 P P 13 17 03.3 +0.7
baz=168,SNR=46
M54A Oil Creek Stat 65.59 347 *e*P P 13 17 03.3 +0.5
comp=Z,229nm,1.0s
M54A Oil Creek Stat 65.59 347 P P 13 17 03.3 +0.5
baz=164,SNR=46
N51A Ashland 65.65 344 *e*P P 13 17 03.2 0.0
comp=Z,243nm,1.0s
N51A Ashland 65.65 344 P P 13 17 03.0 -0.1
baz=161,SNR=30

N50A Nevada 65.71 344 P P 13 17 03.1 -0.3
baz=160,SNR=34
Q44A Meyer Farm, Va 65.74 338 P P 13 17 02.6 -1.1
baz=154,SNR=22
TRY Troy 65.76 352 *e*P P 13 17 04.6 +0.9
comp=Z,492nm,1.3s
TUL1 Leonard 65.76 332 *e*P P 13 17 04.0 +0.1
comp=Z,136nm,0.6s
TUL1 Leonard 65.76 332 P P 13 17 04.0 +0.1
baz=148,SNR=47
O48A Farmland 65.77 342 P P 13 17 03.4 -0.5
baz=158,SNR=81
CCM Cathedral Cave 65.77 336 *e*P P 13 17 03.1 -0.8
comp=Z,153nm,0.6s
CCM Cathedral Cave 65.77 336 *e*P P 13 17 03.1 -0.8
CCM pmax pmax
comp=Z,153nm,0.6s
CCM Cathedral Cave 65.77 336 P P 13 17 03.5 -0.4
baz=152
P46A Rosedale 65.79 340 P P 13 17 03.5 -0.5
baz=156,SNR=26
R42A Luebbering 65.81 337 P P 13 17 03.5 -0.6
baz=152,SNR=93
ALLY Alegheny Colle 65.83 346 *e*P P 13 17 04.7 +0.5
comp=Z,283nm,1.0s
P45A Graceland, Par 65.88 340 *e*P P 13 17 03.4 -1.2
comp=Z,268nm,0.9s
P45A Graceland, Par 65.88 340 P P 13 17 03.5 -1.1
baz=156,SNR=68
SLM Saint Louis 65.92 337 *e*P P 13 17 04.5 -0.3
comp=Z,62nm,0.6s
SLM Saint Louis 65.92 337 *e*P P 13 17 04.5 -0.3
SLM pmax pmax
comp=Z,62nm,0.6s
M51A Elyria 65.99 345 P P 13 17 05.3 +0.1
baz=161,SNR=32
Q43A New Douglas 66.00 338 P P 13 17 04.3 -1.1
baz=154,SNR=29
R41A Rosebud 66.03 336 P P 13 17 04.9 -0.7
baz=152,SNR=97
O47A Sheridan 66.05 341 P P 13 17 04.7 -0.9
baz=157,SNR=39
P44A Sand Creek, Wi 66.11 339 P P 13 17 05.1 -0.9
baz=155,SNR=22
N49A Columbus Grove 66.12 343 *e*P P 13 17 06.0 -0.1
comp=Z,357nm,0.8s
N49A Columbus Grove 66.12 343 P P 13 17 05.7 -0.3
baz=159,SNR=104
WMOK Wichita Mounta 66.16 329 *e*P P 13 17 06.0 -0.5
comp=Z,91nm,1.0s
WMOK Wichita Mounta 66.16 329 *e*P P 13 17 06.0 -0.5
WMOK pmax pmax
comp=Z,91nm,1.0s
WMOK Wichita Mounta 66.16 329 P P 13 17 05.9 -0.5
baz=145,SNR=86
ERPA Erie 66.24 347 *e*P P 13 17 07.4 +0.6
comp=Z,836nm,1.4s
ERPA Erie 66.24 347 P P 13 17 07.3 +0.5
baz=164,SNR=42
Q42A Golden Eagle 66.27 337 P P 13 17 06.2 -0.8
baz=153,SNR=72
M50A Fremont 66.27 344 *e*P P 13 17 06.9 -0.1
comp=Z,186nm,0.9s
M50A Fremont 66.27 344 P P 13 17 06.8 -0.2
baz=160,SNR=24
N48A Decatur 66.29 342 P P 13 17 06.5 -0.6
baz=158,SNR=40
ACCN Adirondack Com 66.40 352 *e*P P 13 17 08.3 +0.6
comp=Z,47nm,0.8s
MMNY Mt. Morris Dam 66.42 349 *e*P P 13 17 08.4 +0.5
comp=Z,512nm,1.3s
SFIN Lafayette 66.45 341 *e*P P 13 17 07.3 -0.8
comp=Z,238nm,0.7s
SFIN Lafayette 66.45 341 P P 13 17 07.0 -1.1
baz=156,SNR=52
N47A Urbana 66.50 342 P P 13 17 07.6 -0.8
baz=158,SNR=72
O45A Potomac 66.53 340 P P 13 17 07.4 -1.2
baz=156,SNR=34
HNH Hanover 66.56 353 *e*P P 13 17 09.9 +1.2
comp=Z,379nm,1.1s
Q41A Truxton 66.56 337 P P 13 17 07.9 -0.9
baz=152,SNR=64
P43A Skaggs, Pawnee 66.57 338 P P 13 17 07.9 -0.9
baz=154,SNR=49
M49A Liberty Center 66.58 343 P P 13 17 08.5 -0.3
baz=160,SNR=44
O44A Mansfield 66.68 339 P P 13 17 08.5 -1.0
baz=155,SNR=34
M48A Edgerton 66.79 343 *e*P P 13 17 09.8 -0.4
comp=Z,215nm,0.8s
M48A Edgerton 66.79 343 P P 13 17 09.5 -0.7
baz=159,SNR=11
P42A Winchester 66.80 338 *e*P P 13 17 09.2 -1.0
comp=Z,177nm,0.6s
P42A Winchester 66.80 338 P P 13 17 09.5 -0.8
baz=153,SNR=58
N46A Monticello 66.82 341 P P 13 17 09.5 -0.8
baz=157,SNR=38
M47A Cromwell 66.92 342 P P 13 17 10.4 -0.6
baz=158,SNR=52
MEDO Medina 66.94 348 P P 13 17 11.3 +0.3
baz=165,SNR=11
HAL Halifax 67.01 0 *e*P P 13 17 12.0 +0.6
comp=Z,304nm,1.1s
HAL Halifax 67.01 0 *e*P P 13 17 12.0 +0.6
HAL pmax pmax
comp=Z,304nm,1.1s
N45A Kentland 67.01 341 P P 13 17 10.9 -0.7
baz=156,SNR=24
LBNH Lisbon 67.05 354 *e*P P 13 17 12.4 +0.8
comp=Z,233nm,1.1s
LBNH Lisbon 67.05 354 *e*P P 13 17 12.5 +0.8
LBNH pmax pmax
comp=Z,233nm,1.1s
LBNH Lisbon 67.05 354 P P 13 17 12.6 +0.9
baz=172,SNR=33
NCB Newcomb 67.05 352 *e*P P 13 17 12.1 +0.3
comp=Z,149nm,1.1s
GDL2 Guadalupe Moun 67.06 323 *e*P P 13 17 12.7 +0.4
O43A Sugar Creek Fa 67.08 339 P P 13 17 11.3 -0.7
baz=154,SNR=14
L49A Milan 67.12 344 P P 13 17 12.2 0.0
baz=160,SNR=22
STCO Saint Catharin 67.13 348 P P 13 17 12.8 +0.6
baz=164,SNR=12
P41A Barry, Barry 67.14 337 P P 13 17 11.6 -0.8
baz=153,SNR=73
L48A N Adams 67.14 343 P P 13 17 11.9 -0.4
baz=159,SNR=42
TYNO Tyneside 67.16 347 P P 13 17 12.8 +0.5
baz=164,SNR=12
N44A Piper City 67.16 340 P P 13 17 11.6 -0.9
baz=156,SNR=23
WVL Waterville 67.16 355 *e*P P 13 17 13.2 +0.8
comp=Z,557nm,1.5s
EMMW East Machias 67.17 357 *e*P P 13 17 13.2 +0.7
comp=Z,310nm,1.0s
M46A Old House Fiel 67.18 342 *e*P P 13 17 12.1 -0.5
comp=Z,204nm,0.8s
M46A Old House Fiel 67.18 342 P P 13 17 11.9 -0.7
baz=157,SNR=30
VT1 Waterbury 67.23 353 *e*P P 13 17 13.5 +0.7
comp=Z,151nm,1.3s
MNTX Cornudas Mount 67.26 322 *e*P P 13 17 12.7 -0.6
comp=Z,178nm,0.9s
MNTX Cornudas Mount 67.26 322 P P 13 17 12.7 -0.6
baz=138,SNR=278
AAM Ann Arbor 67.27 344 *e*P P 13 17 12.9 -0.2
comp=Z,73nm,0.8s
AAM Ann Arbor 67.27 344 *e*P P 13 17 12.9 -0.2
AAM pmax pmax
comp=Z,73nm,0.8s
AAM Ann Arbor 67.27 344 P P 13 17 13.0 -0.2
baz=160,SNR=8.3
HDIL Hopedale 67.32 339 P P 13 17 12.7 -0.7
baz=154,SNR=53
L47A Sherwood 67.38 343 P P 13 17 13.2 -0.6
baz=158,SNR=41
O41A Passleys Farm, 67.46 338 P P 13 17 13.9 -0.5
baz=153,SNR=38
K50A Casco 67.46 345 P P 13 17 14.0 -0.3
baz=161,SNR=14
QSPA South Pole Qui 67.50 180 P P 13 17 14.7 +0.2
comp=Z,156nm,0.7s,baz=158,slow=2.1,SNR=398
QSPA S S 13 25 29.8 +1.4
comp=Z,4.7nm,1.0s,baz=85,slow=15,SNR=12
GGN Saint George 67.55 358 *e*P P 13 17 16.0 +1.2

comp=Z,222nm,0.9s
MSTX Muleshoe 67.56 325 *e*P P 13 17 15.5 +0.3
comp=Z,758nm,1.0s
MSTX Muleshoe 67.56 325 P P 13 17 16.0 +0.8
baz=141,SNR=289
ELFO Elginfield 67.56 346 P P 13 17 14.7 -0.1
baz=162,SNR=9.8
U32A Winter Ranch, 67.60 330 *e*P P 13 17 16.2 +0.8
comp=Z,107nm,0.9s
M44A Midewin, Midew 67.67 340 *e*P P 13 17 14.7 -0.9
comp=Z,87nm,0.7s
M44A Midewin, Midew 67.67 340 P P 13 17 14.8 -0.7
baz=156,SNR=11
WLVO Wesleyville 67.67 349 P P 13 17 15.8 +0.3
baz=165,SNR=20
K49A Clarkson 67.68 344 P P 13 17 15.2 -0.4
baz=160,SNR=8.9
DRCO St. Marys Ceme 67.68 348 P P 13 17 15.9 +0.3
baz=165,SNR=19
DRWO Darlington Wes 67.68 348 P P 13 17 16.0 +0.5
baz=165,SNR=6.8
ACTO Acton 67.69 347 P P 13 17 15.9 +0.2
baz=164,SNR=5.2
AMTX Amarillo 67.71 327 *e*P P 13 17 16.1 0.0
comp=Z,147nm,0.8s
AMTX Amarillo 67.71 327 P P 13 17 16.2 +0.1
baz=142
L46A Eue Claire 67.72 342 P P 13 17 15.3 -0.6
baz=157,SNR=19
LONY Lake Ozonia 67.74 352 *e*P P 13 17 16.5 +0.5
comp=Z,391nm,1.3s
LONY Lake Ozonia 67.74 352 P P 13 17 16.6 +0.7
baz=169,SNR=59
GBN Guysborough 67.81 2 *e*P P 13 17 16.6 +0.4
N42A Yates City 67.81 339 P P 13 17 15.9 -0.5
baz=154,SNR=58
FRNY Flat Rock 67.82 352 *e*P P 13 17 17.0 +0.6
comp=Z,235nm,1.5s
PKME Peaks-Kenny Pk 67.83 356 *e*P P 13 17 17.2 +0.8
comp=Z,767nm,1.5s
PKME Peaks-Kenny Pk 67.83 356 P P 13 17 17.2 +0.8
baz=174,SNR=52
PKRO Pickering 67.83 348 P P 13 17 17.0 +0.5
baz=165,SNR=7.3
K48A Perry 67.86 344 P P 13 17 16.3 -0.4
baz=160,SNR=20
K47A Vermontville 67.97 343 P P 13 17 16.8 -0.6
baz=159,SNR=21
N41A Harden Midland 67.98 338 *e*P P 13 17 17.0 -0.5
comp=Z,322nm,0.7s
N41A Harden Midland 67.98 338 P P 13 17 17.1 -0.5
baz=153,SNR=17
M43A Waltham Townsh 68.00 340 P P 13 17 16.9 -0.7
baz=155,SNR=69
MACI Morro de la Ar 68.06 44 *e*P P 13 17 19.7 +1.2
comp=Z,494nm,0.9s
DELO Deloro Mine 68.11 349 P P 13 17 18.5 +0.3
baz=166,SNR=20
MOQ Mont Orford 68.14 353 *e*P P 13 17 19.2 +0.8
J49A Marlette 68.14 345 P P 13 17 18.0 -0.4
baz=161,SNR=9.3
K46A Dorr 68.20 343 P P 13 17 17.8 -0.9
baz=158,SNR=8.1
LMN Caledonia Moun 68.23 359 *e*P P 13 17 19.0 +0.1
comp=Z,178nm,0.8s
J48A Bridge Port 68.24 344 P P 13 17 18.7 -0.3
baz=160,SNR=19
M42A Sheffield 68.28 339 P P 13 17 19.0 -0.3
baz=154,SNR=8.4
L44A Lake County Fo 68.35 341 P P 13 17 19.1 -0.5
baz=156,SNR=8.5
N40A Mertquake, Sal 68.39 338 P P 13 17 19.2 -0.8
baz=152,SNR=55
BWLO Walkerton 68.40 347 P P 13 17 19.9 0.0
baz=163,SNR=8.2
SRIG Santa Rosalia 68.41 314 *e*P P 13 17 21.3 +0.9
comp=Z,224nm,1.1s
BASO Ashfield 68.42 346 P P 13 17 20.3 +0.2
baz=162,SNR=7.6
J47A Sunmer 68.45 343 P P 13 17 19.8 -0.5
baz=159,SNR=20
M41A Milan 68.47 339 P P 13 17 19.7 -0.7
baz=153,SNR=38
PLVO Plevna 68.52 350 *e*P P 13 17 21.0 +0.4
comp=Z,240nm,1.1s
PLVO Plevna 68.52 350 P P 13 17 21.1 +0.4
baz=167,SNR=42
BRCO Bruce Peninsul 68.59 346 P P 13 17 21.6 +0.5
baz=162,SNR=7.2
L43A Garden Prairie 68.61 340 P P 13 17 21.0 -0.3
baz=153,SNR=52
I49A Point Hope 68.61 345 P P 13 17 20.9 -0.3
baz=161,SNR=5.3
SADO Sadowa 68.62 348 *e*P P 13 17 21.2 -0.1
comp=Z,115nm,0.9s
BANO Bancroft 68.64 349 P P 13 17 21.8 +0.3
baz=166,SNR=22
H52A Wyevale 68.65 348 P P 13 17 21.6 +0.2
baz=164,SNR=8.0
ORIO Orleans, Innes 68.68 351 P P 13 17 22.0 +0.4
baz=168,SNR=16
HSIG 68.71 316 *e*P P 13 17 22.8 +0.6
comp=Z,156nm,1.0s
N39A Derby Farms, D 68.71 337 *e*P P 13 17 21.2 -0.7
comp=Z,202nm,0.5s
N39A Derby Farms, D 68.71 337 P P 13 17 21.4 -0.5
baz=152,SNR=46
L42A Oliver, Polo 68.74 339 *e*P P 13 17 21.6 -0.4
comp=Z,100nm,0.6s
L42A Oliver, Polo 68.74 339 P P 13 17 21.6 -0.4
baz=154,SNR=26
ALFO Alfred 68.77 352 P P 13 17 22.6 +0.5
baz=169,SNR=29
KSU1 Kansas State U 68.80 333 *e*P P 13 17 21.7 -0.8
comp=Z,108nm,0.8s
KSU1 Kansas State U 68.80 333 P P 13 17 22.2 -0.3
baz=147,SNR=22
M40A Post Highland 68.83 338 P P 13 17 21.9 -0.7
baz=152,SNR=45
BMRO Meriville Lake 68.87 347 P P 13 17 23.1 +0.3
baz=163,SNR=11
K43A Burlington 68.95 341 *e*P P 13 17 23.2 -0.2
comp=Z,333nm,0.9s
K43A Burlington 68.95 341 P P 13 17 23.0 -0.3
baz=156,SNR=29
I48A Sherman Twp 69.06 345 P P 13 17 23.7 -0.2
baz=160,SNR=16
L41A Preston 69.08 339 P P 13 17 23.6 -0.5
baz=154,SNR=34
I47A Gladwin 69.10 344 P P 13 17 23.8 -0.4
baz=159,SNR=14
M39A Webster 69.12 337 P P 13 17 23.8 -0.6
baz=152,SNR=32
PQI Presque Isle 69.16 357 *e*P P 13 17 25.1 +0.6
comp=Z,507nm,1.4s
PEMO Pembroke 69.17 350 P P 13 17 24.9 +0.4
baz=166,SNR=26
121A Cookes Peak, D 69.25 321 P P 13 17 27.0 +1.4
baz=137,SNR=134
I46A Reed City 69.27 343 P P 13 17 24.7 -0.6
baz=158,SNR=24
L40A Anamosa 69.31 338 *e*P P 13 17 25.2 -0.3
comp=Z,350nm,1.1s
BUKO Buck Lake 69.32 348 P P 13 17 25.8 +0.3
baz=164,SNR=28
KLBO Killbear Provi 69.40 348 P P 13 17 25.1 -0.8
baz=164,SNR=18
H48A Harrisville 69.45 345 P P 13 17 26.1 -0.1
baz=161,SNR=9.6
K41A Shullsburg 69.49 339 P P 13 17 26.4 -0.2
baz=154,SNR=44
ROSA Rosais 69.52 29 *e*P P 13 17 28.6 +1.8
comp=Z,445nm,0.9s
TOBO Tobermory, Bru 69.54 347 P P 13 17 26.6 -0.1
baz=162
H47A Mio 69.57 344 P P 13 17 26.7 -0.3
baz=160,SNR=6.8
ALGO Algonquin Park 69.57 349 P P 13 17 27.1 +0.1
baz=166,SNR=29
J43A Natural Harves 69.60 341 P P 13 17 27.0 -0.2
baz=156,SNR=24
L39A Vinton 69.63 338 P P 13 17 27.1 -0.3
baz=152,SNR=59
F52A Sundridge 69.65 348 P P 13 17 27.5 +0.1
baz=165,SNR=25
BATG Bathurst New B 69.68 358 *e*P P 13 17 28.3 +0.7
comp=Z,668nm,1.4s
JFWS Jewell Farm 69.75 339 *e*P P 13 17 27.8 -0.3

comp=Z,218nm,0.8s
JFWS **Jewell Farm** 69.75 339 *e*P P 13 17 27.8 -0.3
JFWS pmax pmax
comp=Z,218nm,0.8s
JFWS **Jewell Farm** 69.75 339 P P 13 17 27.9 -0.3
baz=154,SNR=53
J42A **Columbus** 69.75 340 P P 13 17 28.1 -0.1
baz=155,SNR=28
H46A **Fife Lake** 69.76 344 P P 13 17 27.5 -0.6
baz=159,SNR=26
BNM **Barren Site** 69.78 323 *e*P P 13 17 29.9 +1.1
K40A **Colesburg** 69.85 339 P P 13 17 28.4 -0.3
baz=153,SNR=22
SCIA **State Center** 69.87 337 *e*P P 13 17 28.8 -0.1
comp=Z,119nm,0.8s
SCIA **State Center** 69.87 337 P P 13 17 28.9 0.0
baz=151,SNR=11
GLMI **Grayling** 69.88 344 *e*P P 13 17 29.2 +0.4
comp=Z,234nm,1.0s
GLMI **Grayling** 69.88 344 P P 13 17 28.9 0.0
baz=159,SNR=8.4
F51A **Arnstein** 69.89 348 P P 13 17 28.9 +0.1
baz=164,SNR=11
E54A **Lac Daplat, Po** 69.90 350 P P 13 17 29.1 +0.2
baz=167,SNR=44
LPM **Los Pinos Moun** 69.90 323 *e*P P 13 17 30.5 +1.1
E53A **Dumoine, Ponti** 69.92 350 P P 13 17 29.2 +0.2
baz=166,SNR=27
CBKS **Cedar Bluff** 69.92 331 P P 13 17 30.2 +0.9
baz=145,SNR=27
I43A **Langenfeld Bro** 69.97 341 P P 13 17 29.1 -0.3
baz=156,SNR=8.8
LENM **Lemitar** 69.98 323 *e*P P 13 17 31.1 +1.1
CMLA **Cha da Macela** 70.01 31 *e*P P 13 17 30.4 +0.6
comp=Z,283nm,0.8s
CMLA **Cha da Macela** 70.01 31 *i*P P 13 17 31.5 +1.7
G47A **Hillman** 70.02 345 P P 13 17 30.0 +0.3
baz=160,SNR=6.6
J41A **Loganville** 70.08 340 P P 13 17 29.8 -0.3
baz=154,SNR=36
K39A **Oelwein** 70.11 338 P P 13 17 29.6 -0.6
baz=152,SNR=75
F49A **Sandfield** 70.16 346 P P 13 17 30.2 -0.3
baz=162,SNR=8.5
I42A **Draeger Farm,** 70.21 341 *e*P P 13 17 30.9 0.0
comp=Z,195nm,1.1s
I42A **Draeger Farm,** 70.21 341 P P 13 17 30.6 -0.2
baz=155,SNR=17
LATQ **La Tuque** 70.24 353 P P 13 17 31.6 +0.7
baz=171,SNR=45
LAZ **Ladron** 70.25 323 *e*P P 13 17 32.8 +1.2
ANMO **Albuquerque** 70.27 324 *e*P P 13 17 32.8 +1.1
comp=Z,279nm,1.4s
ANMO **Albuquerque** 70.27 324 *c i*P P 13 17 32.5 +0.8
ANMO pmax pmax
comp=Z,130nm,1.0s
ANMO **Albuquerque** 70.27 324 P P 13 17 32.8 +1.1
baz=138
J40A **Soldiers Grove** 70.34 339 P P 13 17 31.4 -0.2
baz=154,SNR=30
G45A **Suttons Bay** 70.35 344 P P 13 17 31.5 -0.1
baz=158,SNR=6.3
F48A **Evansville** 70.35 346 P P 13 17 31.6 0.0
baz=161,SNR=8.2
E51A **G1948 Merrick** 70.39 348 P P 13 17 31.9 +0.1
baz=164,SNR=23
H43A **Windswept, Lux** 70.40 342 P P 13 17 31.7 -0.2
baz=156,SNR=7.1
G46A **Petoskey** 70.40 344 P P 13 17 31.9 -0.1
baz=159,SNR=12
D54A **Lac Fusel, La** 70.51 351 P P 13 17 32.1 -0.4
baz=167,SNR=27
E50A **Wahnapitae** 70.52 348 P P 13 17 32.6 0.0
baz=163,SNR=14
J39A **Decorah** 70.60 339 P P 13 17 32.8 -0.4
baz=153,SNR=59
D53A **Lac Vacive, Po** 70.61 350 P P 13 17 33.0 -0.1
baz=166,SNR=33
I41A **Arkdale** 70.66 340 *e*P P 13 17 33.3 -0.2
comp=Z,163nm,1.3s
I41A **Arkdale** 70.66 340 P P 13 17 33.3 -0.2
baz=154,SNR=14
H42A **Shiocton** 70.66 341 P P 13 17 33.3 -0.1
baz=156,SNR=6.9
PMOZ **Porto Moniz, M** 70.80 40⇓ *i*P P 13 17 35.3 +0.6
comp=Z,443nm,1.7s
F46A **Macinaw City C** 70.81 345 P P 13 17 34.4 +0.1
baz=159,SNR=20
T25A **Trinidad** 70.85 326 *e*P P 13 17 36.3 +1.2
comp=Z,120nm,0.8s
T25A **Trinidad** 70.85 326 P P 13 17 36.1 +1.1
baz=140,SNR=95
E48A **Lockeyer** 70.87 347 P P 13 17 34.8 +0.1
baz=162,SNR=22
TUC **Tucson** 70.88 319 *e*P P 13 17 35.9 +0.8
comp=Z,128nm,1.3s
TUC **Tucson** 70.88 319 *e*P P 13 17 35.9 +0.8
TUC pmax pmax
comp=Z,128nm,1.3s
TUC **Tucson** 70.88 319 P P 13 17 36.0 +0.8
baz=134
PMAR **Madeira** 70.90 40⇓ *i*P P 13 17 35.8 +0.4
comp=Z,478nm,1.1s
D51A **Lot 18 Range I** 70.91 349 P P 13 17 34.9 +0.1
baz=165
F45A **CMU Biological** 70.91 344 P P 13 17 35.0 +0.1
baz=159,SNR=8.4
I39A **Houston** 71.00 339 *e*P P 13 17 35.2 -0.3
comp=Z,355nm,1.5s
I39A **Houston** 71.00 339 P P 13 17 35.2 -0.3
baz=153,SNR=37
D50A **G1974 Best Tow** 71.06 348 P P 13 17 35.9 +0.1
baz=164,SNR=25
H41A **Junction City** 71.09 341 *e*P P 13 17 35.9 -0.1
comp=Z,86nm,0.9s
H41A **Junction City** 71.09 341 P P 13 17 35.9 -0.1
baz=155,SNR=25
E47A **Iron Bridge** 71.09 346 P P 13 17 35.9 0.0
baz=161,SNR=21
G43A **Wallace** 71.10 342 P P 13 17 35.8 -0.2
baz=157,SNR=7.1
E46A **Sault Ste Mari** 71.25 345 P P 13 17 36.7 -0.2
baz=160,SNR=16
H40A **Chili** 71.33 340 P P 13 17 37.4 0.0
baz=154,SNR=23
BGNE **Belgrade** 71.37 333 *e*P P 13 17 37.8 0.0
comp=Z,1000nm,0.9s
F44A **Big Bay de Noc** 71.42 343 P P 13 17 37.9 0.0
baz=158,SNR=8.4
KSCO **Kaye Shedlock'** 71.42 329 *e*P P 13 17 39.5 +1.2
comp=Z,339nm,0.9s
KSCO **Kaye Shedlock'** 71.42 329 P P 13 17 39.3 +1.1
baz=142,SNR=26
E45A **Wooded Hills,** 71.45 344 P P 13 17 38.4 +0.3
baz=159,SNR=20
D48A **Paudash Townsh** 71.46 347 P P 13 17 37.8 -0.3
baz=162,SNR=27
PMPS **Porto Santo** 71.48 41 *e*P P 13 17 40.0 +1.5
comp=Z,626nm,1.4s
F43A **Flat Rock, Esc** 71.48 343 P P 13 17 38.2 0.0
baz=157,SNR=8.2
G41A **Antigo** 71.49 341 P P 13 17 38.3 0.0
baz=155,SNR=8.3
VLDQ **Val d'Or** 71.57 350 *e*P P 13 17 39.1 +0.4
comp=Z,231nm,1.2s
D47A **Chapleau** 71.62 346 P P 13 17 38.7 -0.4
baz=161,SNR=12
D46A **Sault St. Mari** 71.68 345 P P 13 17 39.0 -0.4
baz=160
DRLN **Deer Lake** 71.84 4 *e*P P 13 17 40.5 +0.3
comp=Z,728nm,0.8s
G40A **Rib Lake** 71.85 341 *e*P P 13 17 40.5 0.0
comp=Z,96nm,1.4s
G40A **Rib Lake** 71.85 341 P P 13 17 40.7 +0.3
baz=154,SNR=14
SDCO **Great Sand Dun** 71.87 326 P P 13 17 42.2 +1.1
baz=140,SNR=146
214A **Organ Pipe Nat** 71.88 317 P P 13 17 42.1 +1.1
baz=133,SNR=77
E44A **Grand Marais A** 71.89 344 *e*P P 13 17 41.6 +1.0
comp=Z,435nm,1.1s
E44A **Grand Marais A** 71.89 344 P P 13 17 41.3 +0.7
baz=158,SNR=7.3
E43A **Lone Tree Farm** 71.94 343 *e*P P 13 17 41.1 +0.2
comp=Z,78nm,0.6s
E43A **Lone Tree Farm** 71.94 343 P P 13 17 41.1 +0.2
baz=157,SNR=13
F41A **Three Lakes** 71.94 342 *e*P P 13 17 41.2 +0.2
comp=Z,91nm,0.8s
F41A **Three Lakes** 71.94 342 P P 13 17 41.3 +0.2
baz=155,SNR=24
H38A **Maiden Rock** 71.98 339 P P 13 17 41.2 0.0
baz=152,SNR=16
G39A **Holcombe** 72.17 340 P P 13 17 42.2 -0.1
baz=153,SNR=36
W18A **Petrified Fore** 72.24 322 *e*P P 13 17 44.5 +1.3
comp=Z,217nm,1.0s
W18A **Petrified Fore** 72.24 322 P P 13 17 44.4 +1.2
baz=136,SNR=36
E42A **Champion** 72.24 343 P P 13 17 42.9 +0.2
baz=156,SNR=21
COWI **Conover** 72.28 342 *e*P P 13 17 43.1 +0.2
comp=Z,125nm,1.5s
F40A **Park Falls** 72.41 341 P P 13 17 43.9 +0.3
baz=154,SNR=37
LSQQ **Lebel-sur-Quev** 72.42 351 P P 13 17 43.8 +0.2
baz=167
S22A **4UR Ranch, Cre** 72.56 325 *e*P P 13 17 46.2 +1.1
comp=Z,47nm,0.9s
S22A **4UR Ranch, Cre** 72.56 325 P P 13 17 45.5 +0.4
baz=139,SNR=63
E41A **Kenton** 72.56 342 P P 13 17 45.0 +0.5
baz=156,SNR=6.9
Q24A **Divide** 72.62 327 *e*P P 13 17 46.3 +0.8
comp=Z,212nm,0.9s
Q24A **Divide** 72.62 327 P P 13 17 46.6 +1.2
baz=140,SNR=103
SPMN **Marine on St.** 72.64 339 *e*P P 13 17 44.5 -0.6
comp=Z,95nm,0.6s
F39A **Loretta** 72.65 340 P P 13 17 45.6 +0.5
baz=154
OGNE **Ogallala** 72.68 330 *e*P P 13 17 46.5 +1.0
comp=Z,245nm,0.7s
OGNE **Ogallala** 72.68 330 P P 13 17 46.5 +1.0
baz=143,SNR=61
ECSD **EROS Data Cent** 72.71 336 *e*P P 13 17 45.2 -0.3
comp=Z,183nm,1.3s
ECSD **EROS Data Cent** 72.71 336 P P 13 17 45.7 +0.2
baz=148,SNR=70
E40A **Wakefield** 72.82 341 P P 13 17 46.2 +0.2
baz=155,SNR=29
CHGQ **Chibougamau** 72.91 353 P P 13 17 46.7 +0.2
baz=170,SNR=50
E39A **Mellen** 72.95 341 P P 13 17 47.2 +0.5
baz=154,SNR=15
F38A **Pierce - Schro** 72.99 340 P P 13 17 47.2 +0.2
baz=153,SNR=29
D41A **Chassel** 73.00 342 *e*P P 13 17 47.6 +0.6
comp=Z,399nm,1.1s
D41A **Chassel** 73.00 342 P P 13 17 47.5 +0.5
baz=156,SNR=25
MVCO **Mesa Verde** 73.06 324 *e*P P 13 17 49.2 +1.3
comp=Z,253nm,1.3s
MVCO **Mesa Verde** 73.06 324 P P 13 17 49.0 +1.1
baz=137,SNR=128
MATQ **Matagami** 73.20 351 P P 13 17 47.9 -0.2
baz=166,SNR=24
TORD **Torodi Ar. Bea** 73.21 68 P P 13 17 48.6 -0.3
comp=Z,845nm,0.6s,baz=255,slow=5.5,SNR=1572
TORD pP **pP** 13 19 43.0 +2.0
comp=Z,83nm,0.9s,baz=259,slow=5.2,SNR=6.8
TORD S S 13 26 32.6 -1.8
comp=Z,9.4nm,1.0s,baz=250,slow=11,SNR=8.3
WUAZ **Wupatki** 73.46 321 *e*P P 13 17 51.7 +1.6
comp=Z,173nm,0.9s
WUAZ **Wupatki** 73.46 321 P P 13 17 51.7 +1.6
baz=135,SNR=166
E38A **The Farm, Brul** 73.47 340 *e*P P 13 17 49.6 -0.1
comp=Z,53nm,1.0s
ISCO **Idaho Springs** 73.49 327 *e*P P 13 17 51.6 +1.2
comp=Z,129nm,0.9s
ISCO **Idaho Springs** 73.49 327 *e*P P 13 17 51.6 +1.2
ISCO pmax pmax
comp=Z,129nm,0.9s
ISCO **Idaho Springs** 73.49 327 P P 13 17 51.6 +1.2
baz=140,SNR=175
WIN **Windhoek** 73.50 108 P P 13 17 50.6 -0.2
SYO **Syowa Base** 73.63 159⇓ *e*P P 13 17 49.2 -1.2
SYO **Syowa Base** 73.63 159⇓ *i*X P 13 17 55.2 +4.8
SMCO **Snowmass** 73.71 326 *e*P P 13 17 53.4 +1.6
comp=Z,134nm,0.8s
SUR **Sunderland** 73.73 119 *e*P P 13 17 52.1 +0.2
comp=Z,408nm,1.4s
PV01 **Paradox Valley** 73.77 325 *e*P P 13 17 53.4 +1.4
GLA **Glamis** 73.88 317 P P 13 17 53.7 +1.3
baz=132,SNR=31
PV02 **Paradox Valley** 73.91 324 *e*P P 13 17 54.1 +1.4
comp=Z,63nm,0.7s
PV13 **Radium Mtn., P** 73.92 324 *e*P P 13 17 54.0 +1.2
comp=Z,126nm,1.0s
PV03 **Paradox Valley** 74.01 324 *e*P P 13 17 54.3 +1.0
PV05 **Paradox Valley** 74.02 324 *e*P P 13 17 54.2 +0.9
PV12 **Saucer Basin,** 74.03 325 *e*P P 13 17 54.8 +1.4
comp=Z,105nm,0.8s
PV18 **Skein Mesa, Pa** 74.03 324 *e*P P 13 17 54.5 +1.1
comp=Z,69nm,0.9s
PV11 **David Mesa, Pa** 74.05 324 *e*P P 13 17 54.8 +1.3
comp=Z,63nm,0.9s
PV16 **Nyswonger Mesa** 74.09 324 *e*P P 13 17 54.8 +1.1
comp=Z,83nm,1.1s
PV17 **East Wray Mesa** 74.09 324 *e*P P 13 17 54.8 +1.0
comp=Z,66nm,0.8s
PV19 **Morning Glory** 74.12 324 *e*P P 13 17 55.1 +1.2
comp=Z,65nm,1.0s
PV20 **West Nyswonger** 74.14 324 *e*P P 13 17 55.4 +1.4
comp=Z,103nm,1.3s
Y12C **Blythe** 74.15 318 *e*P P 13 17 55.2 +1.4
comp=Z,189nm,1.1s
Y12C **Blythe** 74.15 318 P P 13 17 55.3 +1.4
baz=132,SNR=82
PV22 **Blue Mesa, Par** 74.18 325 *e*P P 13 17 55.6 +1.4
comp=Z,211nm,0.8s
PV14 **Lion Creek, Pa** 74.19 324 *e*P P 13 17 55.4 +1.1
comp=Z,94nm,0.9s
PV10 **Paradox Valley** 74.20 324 *e*P P 13 17 55.0 +0.6
SUSD **Miller** 74.22 335 P P 13 17 54.6 +0.5
baz=146,SNR=9.2
PV23 **Carpenter Ridg** 74.24 324 *e*P P 13 17 55.9 +1.2
comp=Z,93nm,0.9s
TAOE **Nuiva Isla** 74.25 267 *e*P P 13 17 56.0 +0.9
comp=Z,396nm,1.4s
PDMCI **Parker Dam,Lak** 74.29 318 P P 13 17 55.7 +1.1
baz=132,SNR=22
PV21 **Cone Mtn., Par** 74.30 325 *e*P P 13 17 56.3 +1.4
comp=Z,132nm,1.0s
PV09 **Paradox Valley** 74.34 324 *e*P P 13 17 56.5 +1.2
SWSC **Sam W. Stewart** 74.42 316 P P 13 17 56.5 +1.0
baz=131,SNR=25
IKP **In-Ko-Pah, Jac** 74.43 316 P P 13 17 56.9 +1.3
baz=131,SNR=30
N23A **Red Feather La** 74.49 328 *e*P P 13 17 57.2 +1.3
comp=Z,102nm,0.7s
N23A **Red Feather La** 74.49 328 P P 13 17 57.3 +1.3
baz=140,SNR=40
PHWY **Pilot Hill** 74.57 329 *e*P P 13 17 57.5 +1.1
comp=Z,142nm,1.3s
EYMN **Ely** 74.65 341 *e*P P 13 17 56.1 -0.2
comp=Z,54nm,0.9s
EYMN **Ely** 74.65 341 P P 13 17 56.5 +0.1
baz=153,SNR=12
BC3 **Big Chuckawall** 74.67 317 P P 13 17 58.1 +1.1
baz=131,SNR=98
MONP2 **Monument Peak** 74.79 316 P P 13 17 59.0 +1.2
baz=130,SNR=34
IRM **Iron Mountain** 74.81 318 P P 13 17 58.8 +1.2
baz=132,SNR=84
BAR **Barrett** 74.81 316 *e*P P 13 17 58.8 +1.1
comp=Z,114nm,0.8s
TSUM **Tsumeb** 75.00 105 *e*P P 13 17 59.1 -0.1
comp=Z,500nm,0.9s
O20A **White River Ci** 75.07 326 *e*P P 13 18 00.6 +1.4
comp=Z,212nm,0.9s
O20A **White River Ci** 75.07 326 P P 13 18 00.4 +1.2
baz=138,SNR=120
109C **Camp Elliot, M** 75.22 316 P P 13 18 01.0 +1.1
baz=130,SNR=8.9
CPE **Camp Elliot** 75.22 316 *e*P P 13 18 01.3 +1.4
comp=Z,112nm,1.4s
BELC **Belle Mtn. Jos** 75.24 317 P P 13 18 01.5 +1.3
baz=131,SNR=82
TPFO **Pinon Flats** 75.27 317 P P 13 18 01.6 +1.3
baz=131,SNR=41
XPFO **Piæon Flat** 75.27 317 *e*P P 13 18 01.6 +1.2
comp=Z,92nm,0.9s
PFO **Pinyon Flats O** 75.28 317 *e*P P 13 18 01.6 +1.2
comp=Z,92nm,0.9s
PFO **Pinyon Flats O** 75.28 317 *e*P P 13 18 01.6 +1.2
PFO pmax pmax
comp=Z,92nm,0.9s
PFO **Pinyon Flats O** 75.28 317 P P 13 18 01.7 +1.3
baz=131,SNR=44
FRD **Ford Ranch, An** 75.29 316 P P 13 18 01.8 +1.4
baz=130,SNR=61
KNB **Kanab** 75.35 321 *e*P P 13 18 02.6 +1.9
comp=Z,378nm,1.0s
PKCU **Pink Cliffs** 75.35 322 *e*P P 13 18 02.4 +1.4
comp=Z,78nm,0.9s
SBA **Scott Base** 75.51 190 *e*P P 13 18 02.3 +1.5
comp=Z,88nm,1.5s
SBA **Scott Base** 75.51 190 *e*P P 13 18 02.3 +1.5
SBA pmax pmax
comp=Z,88nm,1.5s
SRU **San Rafael Swe** 75.53 324 *e*P P 13 18 02.9 +1.1
comp=Z,203nm,0.8s
SRU **San Rafael Swe** 75.53 324 *e*P P 13 18 02.9 +1.1
SRU pmax pmax
comp=Z,203nm,0.8s
GMRC **Granite Mounta** 75.54 318 P P 13 18 03.3 +1.4
baz=131,SNR=197
LCMT **Little Creek M** 75.59 321 *e*P P 13 18 03.5 +1.4
comp=Z,84nm,0.9s
MTPU **Mount Pierson** 75.69 322 *e*P P 13 18 04.2 +1.3
comp=Z,93nm,0.8s
RWWY **Rawlins** 75.71 328 *e*P P 13 18 04.0 +1.2
comp=Z,227nm,1.0s
MURC **Murrieta** 75.74 316 P P 13 18 04.0 +1.1
baz=130,SNR=37
P18A **Preston Nutter** 75.75 325 *e*P P 13 18 04.6 +1.4
comp=Z,173nm,0.7s
P17A **Butcher Ranch,** 75.91 324 *e*P P 13 18 05.0 +1.2
comp=Z,178nm,0.9s
BBRC **Big Bear Solar** 75.99 317 P P 13 18 06.0 +1.5
baz=130,SNR=49
HEC **Hector,Ludlow** 75.99 318 P P 13 18 05.6 +1.4
baz=131,SNR=42
MSU **Marysvale** 76.02 323 *e*P P 13 18 06.0 +1.5
CCUT **Cedar City** 76.03 321 *e*P P 13 18 06.5 +2.0
comp=Z,160nm,1.0s
TMUT **Trail Mountain** 76.04 324 *e*P P 13 18 05.9 +1.2
comp=Z,74nm,0.7s
RSSD **Black Hills** 76.10 331 *e*P P 13 18 05.3 +0.5
comp=Z,66nm,1.0s
RSSD **Black Hills** 76.10 331 *e*P P 13 18 05.3 +0.5
RSSD pmax pmax
comp=Z,66nm,1.0s
RSSD **Black Hills** 76.10 331 P P 13 18 06.4 +1.6
baz=142
K22A **Casper** 76.11 329 *e*P P 13 18 05.9 +1.1
comp=Z,65nm,0.9s
K22A **Casper** 76.11 329 P P 13 18 05.7 +0.9
baz=140,SNR=33
TUQ **Turquoise Moun** 76.13 318 P P 13 18 06.3 +1.2
baz=131,SNR=67
AGMN **Agassiz Nation** 76.35 338 *e*P P 13 18 06.2 +0.3
comp=Z,104nm,1.0s
AGMN **Agassiz Nation** 76.35 338 P P 13 18 06.4 +0.5
baz=150,SNR=26
SHPR **Sheep Range** 76.38 320 *e*P P 13 18 07.8 +1.4
comp=Z,94nm,0.9s
CIS **Catalina Islan** 76.40 315 P P 13 18 07.7 +1.2
baz=129,SNR=11
RRX **Edison Barstow** 76.43 317 P P 13 18 08.2 +1.6
baz=130,SNR=8.0
BFSC **Mount Baldy Ra** 76.44 316 P P 13 18 07.7 +0.9
baz=130,SNR=34
VNDA **Vanda** 76.49 189 P P 13 18 07.1 +0.9
comp=Z,32nm,0.9s,baz=135,slow=4.2,SNR=84
VNDA **Vanda** 76.49 189 *e*P P 13 18 07.0 +0.7
comp=Z,44nm,0.9s
GSC **Goldstone, Bar** 76.59 318 *e*P P 13 18 08.8 +1.2
comp=Z,140nm,1.0s
GSC **Goldstone, Bar** 76.59 318 *e*P P 13 18 08.8 +1.2
GSC pmax pmax
comp=Z,140nm,1.0s
GSC **Goldstone, Bar** 76.59 318 P P 13 18 08.9 +1.4
baz=131,SNR=72
SHOC **Shoshone, Teco** 76.65 318 P P 13 18 09.0 +1.2
baz=131,SNR=28
MWC **Mount Wilson** 76.69 316 *e*P P 13 18 09.2 +0.9
comp=Z,131nm,1.0s
MWC **Mount Wilson** 76.69 316 *e*P P 13 18 09.2 +0.9
MWC pmax pmax
comp=Z,131nm,1.0s
PASC **Pasadena Art C** 76.74 316 *e*P P 13 18 09.4 +1.1
comp=Z,169nm,1.0s
MPU **Maple Canyon** 76.78 324 *e*P P 13 18 10.0 +1.4
comp=Z,101nm,0.9s
DECC **Green Verdugo** 76.88 316 P P 13 18 10.2 +1.1
baz=129,SNR=27
NLU **North Lily Min** 76.97 324 *e*P P 13 18 11.1 +1.3
comp=Z,78nm,1.0s
PSUT **Pine Spring** 76.98 322 *e*P P 13 18 11.3 +1.5
comp=Z,130nm,0.8s
EDW2 **Edwards Air Fo** 77.06 317 P P 13 18 10.9 +0.8
baz=130,SNR=50
LRMC **Laurel Mtn Rad** 77.25 317 P P 13 18 12.3 +1.0
baz=130,SNR=47
BLG **Laguna Peak, P** 77.26 316 P P 13 18 12.0 +0.8
baz=129,SNR=7.3
SCHQ **Schefferville** 77.26 358 P P 13 18 10.8 +0.2
comp=Z,126nm,1.0s,baz=164,slow=4.3,SNR=50
SCHQ S S 13 27 15.2 -1.5
comp=Z,32nm,1.3s,baz=270,slow=19,SNR=12
SCHQ **Schefferville** 77.26 358 *e*P P 13 18 10.9 +0.3
comp=Z,304nm,1.3s
SCHQ S S 13 27 15.2 -1.5
MDND **Maddock** 77.31 336 *e*P P 13 18 12.2 +1.2
comp=Z,404nm,1.0s
MDND **Maddock** 77.31 336 P P 13 18 12.3 +1.2
baz=146,SNR=16
CTU **Camp Tracy** 77.32 325 *e*P P 13 18 12.6 +1.1
comp=Z,65nm,1.1s
TPNV **Topopah Spring** 77.32 319 *e*P P 13 18 13.2 +1.6
comp=Z,120nm,0.9s
TPNV **Topopah Spring** 77.32 319 *e*P P 13 18 13.2 +1.6
TPNV pmax pmax
comp=Z,120nm,0.9s
TPNV **Topopah Spring** 77.32 319 P P 13 18 13.3 +1.6
baz=131,SNR=94
OSI **Osito Audit: C** 77.36 316 *e*P P 13 18 12.6 +0.8
comp=Z,102nm,0.8s
OSI **Osito Audit: C** 77.36 316 P P 13 18 12.8 +1.1
baz=129
FURC **Furnace Creek,** 77.38 319 P P 13 18 13.3 +1.6
baz=131,SNR=67
TCUT **Toone Canyon** 77.44 325 *e*P P 13 18 13.5 +1.2
comp=Z,119nm,0.7s
MPMC **Manual Prospec** 77.50 318 P P 13 18 13.5 +0.9
baz=130,SNR=54
DUG **Dugway, Tooele** 77.55 324 P P 13 18 13.9 +1.2
DUG pmax pmax
comp=Z,17nm,1.0s
DUG **Dugway, Tooele** 77.55 324 P P 13 18 14.1 +1.4
baz=134,SNR=86
SCZ2 **Santa Cruz Isl** 77.56 315 P P 13 18 14.2 +1.4
baz=128,SNR=5.5
BW06 **Boulder Array** 77.68 327 *e*P P 13 18 14.0 +0.5
comp=Z,50nm,0.8s
BW06 **Boulder Array** 77.68 327 P P 13 18 14.1 +0.6
baz=137,SNR=53
PD31 **Pinedale Array** 77.68 327 *e*P P 13 18 14.1 +0.5
PDAR **Pinedale Array** 77.68 327 P P 13 18 14.0 +0.5
comp=Z,32nm,0.5s,baz=123,slow=7.5,SNR=303
PDAR S S 13 27 23.5 +1.5
comp=Z,6.3nm,1.1s,baz=239,slow=26,SNR=14
PDAR PKKPbc **PKKPbc** 13 37 10.8 -2.0
comp=Z,0.6nm,0.7s,baz=180,slow=1.0,SNR=3.6
PDAR PKPPKP **P'P'df** 13 45 13.8 +1.3
comp=Z,1.1nm,1.0s,baz=96,slow=3.0,SNR=4.1
PDAR **Pinedale Array** 77.68 327 *e*P P 13 18 12.9 -0.6
PDAR S S 13 27 23.5 +1.5
PDAR PKKPbc **PKKPbc** 13 37 10.8 -2.0
PDAR P'P' 13 45 13.8
DAC **Darwin (Calif)** 77.71 318 *e*P P 13 18 14.7 +1.0
comp=Z,111nm,0.9s
DAC **Darwin (Calif)** 77.71 318 *e*P P 13 18 14.7 +1.0
DAC pmax pmax
comp=Z,111nm,0.9s
TBI **Tubuai** 77.71 250 *e*P P 13 18 14.5 +0.6
comp=Z,235nm,0.9s
TBI *e*pP **pP** 13 20 08.5 +0.9
comp=Z,298nm,1.3s
ARVC **Arvin** 77.75 316 P P 13 18 15.0 +1.3
baz=129,SNR=14

R11A Troy Canyon, C 77.86 321 eP P 13 18 16.0 +1.5
comp=Z,110nm,0.9s
R11A Troy Canyon, C 77.86 321 P P 13 18 16.1 +1.6
baz=132,SNR=205
ISA Isabella, Lake 77.86 317 eP P 13 18 15.2 +0.7
comp=Z,87nm,0.8s
ISA Isabella, Lake 77.86 317 P P 13 18 15.8 +1.3
baz=130,SNR=58
HWUT Hardware Ranch 77.87 325 eP P 13 18 15.2 +0.7
comp=Z,110nm,0.6s
GRAC Grapevine Rang 78.03 319 P P 13 18 16.7 +1.4
baz=130,SNR=26
ULM Lac du Bonnet 78.04 340 P P 13 18 15.0 +0.1
comp=Z,50nm,0.5s,baz=151,slow=5.8,SNR=102
ULM pP pP 13 20 10.1 +1.1
comp=Z,62nm,1.0s,baz=148,slow=6.0,SNR=8.9
ULM S S 13 27 21.9 -3.1
comp=Z,14nm,1.1s,baz=28,slow=20,SNR=15
ULM Lac du Bonnet 78.04 340 eP P 13 18 15.1 +0.1
comp=Z,313nm,1.5s
ULM pP pP 13 20 10.1 +1.1
ULM S S 13 27 21.9 -3.1
CWC Cottonwood Cre 78.11 318 P P 13 18 17.2 +1.3
baz=130
SPUT South Promonto 78.13 325 eP P 13 18 17.1 +1.3
comp=Z,132nm,0.8s
BGU Big Grassy Mou 78.17 324 eP P 13 18 17.1 +1.0
comp=Z,136nm,0.9s
PKM Mcpherson Peak 78.23 316 P P 13 18 17.8 +1.2
baz=128,SNR=39
VES Vestal, Richgr 78.36 317 P P 13 18 18.0 +1.0
baz=129,SNR=71
AHID Auburn Hatcher 78.46 326 eP P 13 18 18.4 +0.7
comp=Z,173nm,0.8s
BOSA Boshof 78.54 116 iP P 13 18 17.9 -0.6
BOSA Boshof 78.54 116 P P 13 18 18.1 -0.3
comp=Z,121nm,0.9s,baz=251,slow=5.0,SNR=152
BOSA S S 13 27 26.2 -5.4
comp=Z,16nm,1.1s,baz=16,slow=20,SNR=12
BOSA Boshof 78.54 116 eP P 13 18 17.6 -0.9
BOSA S S 13 27 26.2 -5.4
BOSA Boshof 78.54 116 iP P 13 18 17.9 -0.6
TIN Tinemaha, Big 78.60 318 P P 13 18 19.8 +1.4
baz=130,SNR=19
SMMC Simmler 78.61 316 P P 13 18 19.9 +1.4
baz=128,SNR=18
HVU Hansel Valley 78.63 325 eP P 13 18 19.2 +0.7
comp=Z,77nm,0.8s
HVU Hansel Valley 78.63 325 eP P 13 18 19.2 +0.7
HVU pmax pmax
comp=Z,77nm,0.8s
REDW Red Top Meadow 78.76 327 eP P 13 18 20.0 +0.7
comp=Z,88nm,1.0s
PFVI Vila Bisbo 78.77 42⇓iP P 13 18 20.3 +1.1
comp=Z,534nm,1.3s
SNOW Snow King Moun 78.79 327 eP P 13 18 20.4 +0.9
comp=Z,59nm,0.6s
LOHW Long Hollow 78.82 327 eP P 13 18 19.7 +0.1
comp=Z,93nm,0.9s
VAH Vaihoa 78.85 258 eP P 13 18 20.8 +0.7
comp=Z,320nm,1.1s
VAH epP pP 13 20 15.2 +0.9
comp=Z,100nm,1.1s
TPAW Teton Pass 78.91 327 eP P 13 18 21.3 +1.2
comp=Z,55nm,1.0s
IFR Ifrane 78.92 47 iP P 13 18 20.5 +0.2
MORF Marmelete 78.99 42 eP P 13 18 21.1 +0.7
MORF AMb AMB 13 18 23.1
comp=Z,513nm,1.3s
MORF Marmelete 78.99 42⇓iP P 13 18 21.7 +1.3
comp=Z,507nm,1.4s
MORF Marmelete 78.99 42 eP P 13 18 21.0 +0.7
MOOW Moose Ponds 78.99 327 eP P 13 18 21.1 +0.6
comp=Z,61nm,0.9s
PAGB Antelope Grade 79.03 316 eP P 13 18 21.8 +1.1
comp=Z,143nm,0.8s
FXWY Fox Creek 79.05 327 eP P 13 18 21.6 +0.7
comp=Z,37nm,0.9s
LAO LASA Array 79.07 332 eP P 13 18 21.0 +0.4
comp=Z,119nm,1.0s
LAO LASA Array 79.07 332 P P 13 18 22.0 +1.3
baz=140,SNR=22
PTEO Sao Teotonio 79.09 41⇓iP P 13 18 22.3 +1.4
comp=Z,1μm,1.1s
PMOR Pomariorio Ree 79.17 258 eP P 13 18 22.6 +0.8
comp=Z,272nm,1.1s
PMOR epP pP 13 20 17.0 +0.9
comp=Z,107nm,1.1s
FLWY Flagg Ranch 79.21 328 eP P 13 18 23.0 +1.3
comp=Z,84nm,0.8s
FLWY eS S 13 27 42.5 +4.6
RLMT Red Lodge 79.28 329 eP P 13 18 22.6 +0.7
comp=Z,61nm,0.7s
RLMT eS S 13 27 40.0 +1.5
RLMT Red Lodge 79.28 329 P P 13 18 23.3 +1.4
baz=138,SNR=56
MLAC Mammoth, Mammo 79.34 318 P P 13 18 24.0 +1.6
baz=130,SNR=22
H17A Grant Village 79.38 328 eP P 13 18 24.9 +2.3
comp=Z,33nm,0.8s
H17A Grant Village 79.38 328 P P 13 18 24.1 +1.6
baz=137,SNR=16
YPP Pitchstone Pla 79.40 328 eP P 13 18 24.3 +1.6
comp=Z,21nm,0.9s
LKWY Lake 79.41 328 eP P 13 18 25.4 +2.7
comp=Z,52nm,0.9s
LKWY Lake 79.41 328 eP P 13 18 25.4 +2.7
LKWY pmax pmax
comp=Z,52nm,0.9s
NV11 Mina Array Sit 79.44 319 eP P 13 18 23.6 +0.7
comp=Z,5.6nm,1.1s
MDPB Devils Postpil 79.49 318 eP P 13 18 24.2 +0.9
comp=Z,69nm,1.0s
NV01 Mina Array Sit 79.52 319 eP P 13 18 23.2 -0.3
NVAR Mina Array Bea 79.52 319 P P 13 18 24.3 +0.8
comp=Z,51nm,0.9s,baz=142,slow=4.9,SNR=174
NVAR pP pP 13 20 20.0 +2.0
comp=Z,8.0nm,1.0s,baz=142,slow=5.9,SNR=3.2
NVAR PKKPbc PKKPbc 13 37 08.4 +0.1
comp=Z,1.8nm,0.8s,baz=273,slow=1.7,SNR=7.6
LHV Little Huntoon 79.53 319 eP P 13 18 24.6 +1.5
YFT Old Faithful 79.54 328 eP P 13 18 25.8 +2.4
comp=Z,62nm,0.8s
PMST Lisbon--Monsan 79.58 40⇓iP P 13 18 24.8 +1.4
comp=Z,610nm,1.8s
LIS Lisbon 79.59 40 eP P 13 18 24.3 +0.9
LIS AMb AMB 13 18 27.2
comp=Z,419nm,1.6s
LIS Lisbon 79.59 40⇓eP P 13 18 24.9 +1.5
comp=Z,427nm,1.2s
LIS Lisbon 79.59 40 eP P 13 18 24.3 +0.9
MESJ Messejana 79.59 42 eP P 13 18 24.4 +0.9
MESJ AMb AMB 13 18 25.7
comp=Z,477nm,1.2s
MESJ Messejana 79.59 42⇓iP P 13 18 24.9 +1.4
comp=Z,487nm,0.9s
MESJ Messejana 79.59 42 eP P 13 18 24.3 +0.9
DGMT Dagmar 79.61 334 P P 13 18 24.9 +1.5
baz=142,SNR=37
PVAQ Vaqueiros 79.62 42⇓iP P 13 18 24.8 +1.1
comp=Z,530nm,1.5s
YNR Norris Junctio 79.66 328 eP P 13 18 25.8 +1.8
comp=Z,34nm,0.9s
PMAFR Mafra 79.66 40⇓iP P 13 18 25.0 +1.1
comp=Z,391nm,1.2s
PMPB Monarch Peak 79.68 316 eP P 13 18 25.9 +1.7
comp=Z,271nm,1.5s
PAE Paea 79.76 255 eP P 13 18 25.3 +0.4
comp=Z,17nm,1.0s
YMR Madison River 79.77 328 eP P 13 18 26.3 +1.8
comp=Z,135nm,0.9s
YMR eS S 13 27 50.0 +6.4
PPTF Pamatai, Papee 79.77 255 eP P 13 18 27.3 +2.3
comp=Z,172nm,1.1s
PPT2 Papeete2 79.78 255 eP P 13 18 25.7 +0.6
comp=Z,150nm,1.3s
PPT2 epP pP 13 20 20.6 +1.0
comp=Z,132nm,1.4s
RYN Ryan 79.78 319 eP P 13 18 25.6 +0.9
comp=Z,68nm,0.9s
PPT Papeete 79.78 255 P P 13 18 26.8 +1.7
comp=Z,112nm,1.1s,baz=88,slow=12,SNR=6.4
PPT pP pP 13 20 22.6 +3.0
comp=Z,32nm,0.7s,baz=93,slow=6.9,SNR=3.8
YHH Holmes Hill 79.80 328 eP P 13 18 25.9 +1.1
comp=Z,143nm,0.9s
KVN Kaiserville 79.80 320 eP P 13 18 25.5 +0.6
comp=Z,126nm,1.0s
KVN Kaiserville 79.80 320 eP P 13 18 25.5 +0.6
KVN pmax pmax
comp=Z,126nm,1.0s
PBEJ Beja 79.92 42⇓iP P 13 18 27.3 +2.0
comp=Z,342nm,1.0s
YHB Horse Butte 79.94 328 eP P 13 18 27.0 +1.5
comp=Z,73nm,0.9s
YHB eS S 13 27 52.6 +7.2
GCMT Greycliff 79.96 329 eP P 13 18 26.3 +0.8
SFS San Fernando 79.99 44 eP P 13 18 27.7 +2.1
comp=Z,385nm,1.4s
SFS San Fernando 79.99 44 eP P 13 18 27.7 +2.1
SFS pmax pmax
comp=Z,385nm,1.4s
CNIL Conil 80.03 44 eP P 13 18 28.0 +2.2
QLMT Earthquake Lak 80.11 328 eP P 13 18 28.0 +1.6
EVO Evora 80.16 41⇓iP P 13 18 29.4 +3.0
comp=Z,269nm,1.2s
EVO Evora 80.16 41 iP P 13 18 28.6 +2.2
CEU Ceuta 80.18 44 iP P 13 18 26.6 0.0
WAKR Walker 80.26 319 eP P 13 18 28.7 +1.5
comp=Z,80nm,1.0s
GIBL Gibalbin 80.37 43 eP P 13 18 29.0 +1.4
ALJ Aljibe 80.39 44 eP P 13 18 29.0 +1.3
SAO San Andreas Ge 80.43 316 eP P 13 18 29.0 +1.1
comp=Z,37nm,0.9s
YERR Yerington 80.44 319 eP P 13 18 29.3 +1.1
comp=Z,74nm,0.9s
PVLZ Peæn de 80.45 46 iP P 13 18 26.9 -1.2
CMB Columbia Colle 80.55 318 eP P 13 18 28.9 +0.4
comp=Z,36nm,1.1s
CMB Columbia Colle 80.55 318 eP P 13 18 28.9 +0.4
CMB pmax pmax
comp=Z,35nm,1.1s
PTOM Tomar 80.61 40⇓iP P 13 18 29.7 +0.9
comp=Z,915nm,1.1s
PESTR Estremoz 80.62 41⇓iP P 13 18 29.9 +1.0
comp=Z,466nm,1.2s
PESTR Estremoz 80.62 41 eP P 13 18 29.5 +0.6
comp=Z,208nm,1.1s
PNTR Pine Nut 80.72 319 eP P 13 18 30.9 +1.2
comp=Z,119nm,0.8s
HLID Hailey 80.74 325 eP P 13 18 30.9 +1.3
comp=Z,135nm,0.8s
HLID eS S 13 27 60.0 +6.4
HLID Hailey 80.74 325 P P 13 18 31.0 +1.4
baz=134,SNR=242
BOZ Bozeman (W) 80.76 328 eP P 13 18 30.1 +0.5
comp=Z,24nm,1.0s
BOZ Bozeman (W) 80.76 328 eP P 13 18 30.1 +0.5
BOZ pmax pmax
comp=Z,24nm,1.0s
BOZ Bozeman (W) 80.76 328 P P 13 18 31.1 +1.5
baz=136,SNR=26
LIJA Lijar 80.77 44 iP P 13 18 31.0 +1.2
MCMT McKenzie Canyo 80.82 327 eP P 13 18 31.2 +1.2
MCMT eS S 13 27 58.4 +4.0
PCAS Casmilo, Conde 80.83 40⇓iP P 13 18 31.1 +1.2
comp=Z,472nm,0.8s
VCNR Virginia City 80.89 319 eP P 13 18 31.6 +1.2
comp=Z,49nm,1.0s
PAHR Pah Rah Range 80.98 320 eP P 13 18 31.9 +1.0
comp=Z,88nm,1.0s
RUBR Rubicon Trail 81.04 319 eP P 13 18 33.6 +2.3
comp=Z,62nm,0.9s
TAM Tamanrasset 81.05 61 eP P 13 18 32.4 +0.8
comp=Z,609nm,1.1s
TAM Tamanrasset 81.05 61 eP P 13 18 32.4 +0.8
TAM pmax pmax
comp=Z,609nm,1.1s
DLMT Dillon 81.07 327 eP P 13 18 32.1 +0.9
comp=Z,78nm,1.0s
PCBR Castelo Branco 81.30 40⇓iP P 13 18 32.6 +0.3
comp=Z,243nm,0.9s
EMAL Malaga-Limoner 81.31 44 iP P 13 18 30.2 -2.2
MELI Melilla 81.43 46 iP P 13 18 31.6 -1.5
PTO Porto 81.47 39 eP P 13 18 34.5 +1.4
AFDM Forest Hills D 81.47 318 eP P 13 18 34.1 +0.8
comp=Z,45nm,0.9s
PVIS Viseu 81.61 39⇓eP P 13 18 34.5 +0.5
comp=Z,380nm,1.8s
MTE Manteigas 81.62 40⇓iP P 13 18 34.8 +0.8
comp=Z,472nm,1.4s
MTE Manteigas 81.62 40 eP P 13 18 34.1 +0.1
comp=Z,1μm,1.9s
EGMT Eagleton 81.65 331 eP P 13 18 34.5 +0.4
comp=Z,94nm,1.0s
HRY Holter Researc 81.66 329 eP P 13 18 35.3 +1.1
BEKR Beckworth 81.67 319 eP P 13 18 35.2 +0.7
comp=Z,49nm,1.1s
MAW Mawson 81.72 162 P P 13 18 34.1 +0.1
comp=Z,174nm,0.7s,baz=219,slow=5.8,SNR=264
MAW pP pP 13 20 29.3 0.0
comp=Z,102nm,1.1s,baz=218,slow=6.9,SNR=13
MAW PKKPbc PKKPbc 13 36 59.1 -4.3
comp=Z,3.6nm,0.9s,baz=312,slow=7.9,SNR=3.6
MAW Mawson 81.72 162 eP P 13 18 33.9 -0.1
comp=Z,43nm,0.8s
MAW pP pP 13 20 29.3 0.0
MAW PKKPbc PKKPbc 13 36 59.1 -4.3
POLO Lamas de Olo 82.09 39⇓iP P 13 18 37.4 +0.9
comp=Z,286nm,1.6s
ORV Oroville 82.17 319 eP P 13 18 37.4 +0.6
comp=Z,90nm,1.2s
ORV Oroville 82.17 319 eP P 13 18 37.4 +0.6
ORV pmax pmax
comp=Z,90nm,1.2s
PCAB Cabril 82.17 39⇓iP P 13 18 37.5 +0.7
comp=Z,664nm,1.3s
PGAV Gavieira, Arco 82.19 38⇓iP P 13 18 37.6 +0.6
comp=Z,603nm,1.9s
WVOR Wild Horse Val 82.30 322 eP P 13 18 38.0 +0.5
comp=Z,19nm,1.0s
WVOR Wild Horse Val 82.30 322 eP P 13 18 38.0 +0.5
WVOR pmax pmax
comp=Z,19nm,1.0s
MVO Moncorvo 82.40 39⇓iP P 13 18 38.9 +0.9
comp=Z,972nm,1.8s
OLHC Oulhaca 82.42 47 P P 13 18 39.8 +1.6
MSO Missoula 82.77 328 eP P 13 18 40.7 +0.9
comp=Z,25nm,1.1s
MSO Missoula 82.77 328 P P 13 18 40.9 +1.1
baz=134,SNR=11
HOPS Hopland Field 82.80 317 eP P 13 18 41.8 +1.8
comp=Z,76nm,1.2s
J08A Circle Bar Ran 82.80 323 eP P 13 18 41.3 +1.2
comp=Z,160nm,0.6s
O03E Paynes Creek 82.80 319 P P 13 18 41.1 +1.1
baz=128
OTSS Dipel Tessala 82.86 47 P P 13 18 42.7 +2.2
MOD Modoc Plateau 82.91 321 eP P 13 18 41.4 +0.7
comp=Z,32nm,0.8s
PBRG Braganca 82.97 39⇓iP P 13 18 41.9 +1.1
comp=Z,927nm,1.6s
PAB San Pablo 83.03 42 eP P 13 18 42.0 +0.8
comp=Z,650nm,0.9s
PAB San Pablo 83.03 42 eP P 13 18 42.0 +0.8
PAB pmax pmax
comp=Z,650nm,0.9s
BMO Blue Mountains 83.15 325 eP P 13 18 42.4 +0.6
comp=Z,260nm,2.0s
BMO eS S 13 28 15.0 -2.3
USTO Oran 83.28 47 P P 13 18 46.0 +3.6
ODJA Bouhanifia 83.32 47 P P 13 18 44.6 +1.8
O02D Mt. Diablo Mer 83.33 319 P P 13 18 43.7 +1.0
baz=127
ESDC Sonseca Array 83.34 42 P P 13 18 43.6 +0.9
comp=Z,290nm,0.9s,baz=240,slow=4.6,SNR=652
ESLA Sonseca Array 83.34 42 eP P 13 18 43.6 +0.8
comp=Z,494nm,1.0s
ES19 SONSECA Array 83.39 42 eP P 13 18 43.4 +0.4
WDC Whiskeytown Da 83.42 319 eP P 13 18 42.2 -0.9
comp=Z,26nm,0.9s
WDC Whiskeytown Da 83.42 319 eP P 13 18 42.2 -0.9
WDC pmax pmax
comp=Z,26nm,0.9s
KCPM Cahto Peak 83.53 318 eP P 13 18 46.0 +2.2
comp=Z,156nm,1.5s
JTMT Jette 83.57 328 eP P 13 18 44.6 +0.8
comp=Z,29nm,0.8s
M04C Macdoel 83.74 320 P P 13 18 45.4 +0.6
baz=128,SNR=28
N02D Trinity Center 83.76 319 P P 13 18 45.2 +0.4
baz=127
FFC Flin Flon 83.83 339 eP P 13 18 45.2 +0.5
comp=Z,47nm,1.2s
FFC Flin Flon 83.83 339 iP P 13 18 45.6 +0.9
I07A Izee 83.84 323 eP P 13 18 46.4 +1.2
comp=Z,29nm,0.9s
F10A Beach Ranch, E 83.85 326 eP P 13 18 45.6 +0.5
comp=Z,48nm,0.9s
KMRM Mail Ridge 83.92 318 eP P 13 18 47.3 +1.7
comp=Z,91nm,1.0s
CART Cartagena 84.02 45 eP P 13 18 45.0 -1.0
comp=Z,605nm,1.3s
CART Cartagena 84.02 45 iP P 13 18 45.6 -0.5
OJGS Djebel Guires 84.03 48 P P 13 18 48.5 +2.2
M02C Callahan 84.10 319 P P 13 18 47.4 +0.9
baz=127,SNR=8.4
UCM Universidad Co 84.16 42 iP P 13 18 53.9 +7.1
MATP Matopo 84.20 110 iP P 13 18 47.7 +0.1
MATP Matopo 84.20 110 iP P 13 18 47.7 +0.1
YBH Yreka Blue Hor 84.22 320 eP P 13 18 46.6 -0.5
comp=Z,25nm,0.8s
YBH Yreka Blue Hor 84.22 320 eP P 13 18 46.6 -0.5
YBH pmax pmax
comp=Z,25nm,0.8s
OKGL Djebel Kef Gue 84.25 47 P P 13 18 48.7 +1.4
L04D Klamath Falls 84.28 320 P P 13 18 48.0 +0.6
baz=128,SNR=12
J05D Fort Rock, OR 84.31 322 P P 13 18 48.8 +1.2
baz=128,SNR=24
G08A Pilot Rock 84.32 324 eP P 13 18 47.9 +0.4
comp=Z,62nm,1.3s
KHMM Horse Mountain 84.33 319 eP P 13 18 49.6 +1.9
comp=Z,44nm,0.9s
ETRT Tiaret 84.35 48 P P 13 18 49.4 +1.5
BLWY Bulawayo 84.41 109 iP P 13 18 48.8 +0.1
BLWY Bulawayo 84.41 109 iP P 13 18 48.8 +0.1
EANR `Ain N'Sour 84.51 47 P P 13 18 50.0 +1.4
IVI Ivigtut 84.54 7 eP P 13 18 49.0 +1.0
comp=Z,362nm,1.2s
E09A Wood Farm, Sta 84.68 326 eP P 13 18 49.6 +0.5
comp=Z,68nm,1.3s
ECHA Ech Chlef 84.80 47 P P 13 18 51.6 +1.7
NRS Narsarsuaq 84.85 9⇓iP P 13 18 50.2 +0.7
comp=Z,76nm,0.9s
NRS Narsarsuaq 84.85 9⇓iP P 13 18 50.2 +0.7
NRS pmax pmax
comp=Z,76nm,0.9s
HUMO Hull Mountain 84.90 320 eP P 13 18 50.0 -0.3
comp=Z,39nm,1.3s
EBNR Beni Rached 84.99 47 P P 13 18 52.7 +1.8
L02E Cave Junction 85.01 320 P P 13 18 52.1 +1.2
baz=127,SNR=8.6
I05D Terrebonne, OR 85.03 322 P P 13 18 52.5 +1.5
baz=128,SNR=21
E08A Dider Farm, El 85.15 325 eP P 13 18 51.8 +0.4
comp=Z,36nm,0.8s
G06A Carlson Farm, 85.20 324 eP P 13 18 52.9 +1.1
comp=Z,75nm,1.0s
F07A Phinny Hill Vi 85.23 324 eP P 13 18 53.0 +1.2
comp=Z,65nm,1.0s
NEW Newport 85.32 327 eP P 13 18 52.0 -0.3
comp=Z,17nm,0.8s
NEW Newport 85.32 327 eP P 13 18 52.0 -0.3
NEW pmax pmax
comp=Z,17nm,0.8s
K02D Willamette Mer 85.37 320 P P 13 18 54.0 +1.3
baz=127,SNR=20
D08A Wollman Farm, 85.44 326 eP P 13 18 53.5 +0.7
comp=Z,116nm,1.0s
C09A Chrisman Ranch 85.59 327 eP P 13 18 53.9 +0.4
comp=Z,154nm,0.8s
E07A Sunnyside 85.61 325 eP P 13 18 54.4 +0.7
comp=Z,46nm,1.1s
H04A Detroit Lake 85.72 322 eP P 13 18 54.6 +0.4
comp=Z,34nm,0.8s
LSZ Lusaka 85.86 105 eP P 13 18 57.1 +1.3
comp=Z,568nm,1.3s
LSZ Lusaka 85.86 105 eP P 13 18 57.1 +1.3
LSZ pmax pmax
comp=Z,568nm,1.3s
KEBM Edson Butte 85.87 320 eP P 13 18 56.9 +1.9
comp=Z,132nm,1.0s
EMHD Djebel Mahouad 85.91 48 P P 13 18 56.3 +0.8
ADJB Djebel Djouab 86.23 48 P P 13 18 52.2 -4.8
ABA Alger-Bouzarea 86.29 48 P P 13 18 58.4 +1.3
COR Corvallis 86.29 322 P P 13 18 57.2 +0.3
AKET Djebel Ketaf 86.47 49 P P 13 19 00.7 +2.5
LTY Liberty 86.49 325 eP P 13 18 58.2 +0.3
comp=Z,38nm,0.8s
B08A Colville Reser 86.50 326 eP P 13 18 57.9 +0.1
comp=Z,102nm,1.6s
ABMS Boumerdes 86.56 48 P P 13 18 58.7 +0.3
ATAF Djebel Tarf 86.66 49 P P 13 19 00.3 +1.3
LON Longmire 86.78 324 eP P 13 18 59.3 +0.1
comp=Z,29nm,1.1s
LON Longmire 86.78 324 eP P 13 18 59.3 +0.1
LON pmax pmax
comp=Z,29nm,1.1s
CKHR Kef el Ahmar 87.59 49 P P 13 19 00.4 -3.0
SET Setif 87.61 49 P P 13 19 05.0 +1.6
B06A Marblemount 87.71 326 eP P 13 19 02.9 -0.6
comp=Z,53nm,0.8s
VAL Valentia 87.73 30⇑iP P 13 19 05.6 +2.2
EPF Esparros 87.92 41 eP P 13 19 04.6 -0.1
EPF pmax pmax
comp=Z,83nm,0.8s
DFRA Djebel Bou Aff 88.11 49 P P 13 19 05.3 -0.5
CTEI Djebel Teioual 88.25 50 P P 13 19 05.5 -1.0
CASM Ain Smara 88.40 49 P P 13 19 06.3 -0.8
CKFL Kef-Lekhel 88.63 49 P P 13 19 07.5 -0.8
QUIF Quistinic 88.72 36 eP P 13 19 07.1 -1.1
QUIF pmax pmax
comp=Z,112nm,0.8s
MAHO Mahon 88.73 45 eP P 13 18 59.0 -9.4
PGC Sidney 88.82 325 eP P 13 19 09.4 +0.9
CAEH `Ain El Ouahch 88.91 49 P P 13 19 08.5 -0.9
ROSF Rostrenen 88.91 35 eP P 13 19 08.1 -1.0
ROSF pmax pmax
comp=Z,20nm,0.8s
ABSA Djebel Ababsia 89.10 50 P P 13 19 09.7 -0.7
LFF La Frestale 89.22 40 eP P 13 19 10.2 -0.4
LFF pmax pmax
comp=Z,238nm,0.8s
CMAH Djebel Manchou 89.23 50 P P 13 19 10.0 -1.0
SGMF Saint Gilles 89.25 36 eP P 13 19 09.4 -1.2
SGMF pmax pmax
comp=Z,76nm,0.8s
MFF Saint Martin d 89.64 38 eP P 13 19 11.9 -0.6
MFF pmax pmax
comp=Z,211nm,0.9s
RJF Les Rejaudoux 89.88 40 eP P 13 19 13.0 -0.7
RJF pmax pmax
comp=Z,240nm,1.2s
HTL Hartland 89.89 33 eP P 13 19 13.7 +0.2
HTL IAmb IAmb 13 19 14.4
comp=Z,165nm,0.9s
SFJD Kangerlussuaq 89.95 5 eP P 13 19 13.8 +0.3
comp=Z,609nm,2.1s
SFJD Kangerlussuaq 89.95 5⇓iP P 13 19 14.1 +0.7
comp=Z,121nm,1.1s
SFJD Kangerlussuaq 89.95 5⇓iP P 13 19 14.1 +0.7
SFJD pmax pmax
comp=Z,120nm,1.1s
CAF Calviac 90.00 40 eP P 13 19 13.8 -0.5
CAF pmax pmax
comp=Z,124nm,0.8s
KEST Kesra 90.18 51 P P 13 19 16.5 +1.1
comp=Z,123nm,0.9s,baz=149,slow=2.7,SNR=82
KEST Kesra 90.18 51 eP P 13 19 16.5 +1.1
comp=Z,155nm,0.9s
GRR Gorron 90.25 36 eP P 13 19 14.8 -0.5
GRR pmax pmax
comp=Z,233nm,0.8s
RSBS Rosebush, Pemb 90.35 32 eP P 13 19 15.3 -0.3
RSBS IAmb IAmb 13 19 16.1
comp=Z,72nm,0.8s
DSB Dublin 90.37 30 eP P 13 19 15.4 -0.3
comp=Z,340nm,1.0s
FLN La Foliniere 90.67 36 eP P 13 19 16.3 -0.9
FLN pmax pmax
comp=Z,215nm,1.1s
LDF La Druitiere 90.77 36 eP P 13 19 16.6 -1.1
LDF pmax pmax
comp=Z,203nm,0.9s
TCF Toulx Ste Croi 90.82 39 eP P 13 19 17.1 -0.9
TCF pmax pmax
comp=Z,97nm,1.0s
YRC Rhoscolyn 91.22 31 eP P 13 19 19.0 -0.6

MCH1 Michaelchurch 91.23 33 *e*P **P** **13 19 19.0 -0.7**
MCH1 IAmb IAmb 13 19 20.1
comp=Z,337nm,1.6s
WLF1 Llynfaes 91.33 31 *e*P **P** **13 19 18.8 -1.3**
WLF1 IAmb IAmb 13 19 20.8
comp=Z,380nm,1.1s
BGF Bois d'Agland 91.34 39 *e*P **P** **13 19 19.7 -0.7**
BGF pmax pmax
comp=Z,170nm,1.1s
YLL Llanberis 91.35 31 *e*P **P** **13 19 19.4 -0.8**
WME Myndd Eilian 91.44 31 *e*P **P** **13 19 20.4 -0.2**
VIVF Saint-Julien-l 91.54 41 *e*P **P** **13 19 21.2 -0.2**
VIVF pmax pmax
comp=Z,83nm,1.1s
WPM1 Penmaenmawr 91.55 31 *e*P **P** **13 19 20.6 -0.6**
HLM1 Long Mynd 91.60 32 *e*P **P** **13 19 20.6 -0.8**
HLM1 IAmb IAmb 13 19 21.9
comp=Z,181nm,1.7s
CLGH Cloghs, Cushen 91.65 29 *e*P **P** **13 19 21.7 +0.2**
CLGH IAmb IAmb 13 19 21.9
comp=Z,116nm,0.8s
FOEL Foel Wylfa 91.67 32 *e*P **P** **13 19 21.1 -0.6**
FOEL IAmb IAmb 13 19 22.5
comp=Z,242nm,1.2s
SSB Saint Sauveur 91.68 41 *e*P **P** **13 19 22.8 +0.8**
comp=Z,158nm,0.9s
SSB Saint Sauveur 91.68 41 *e*P **P** **13 19 22.8 +0.8**
SSB pmax pmax
comp=Z,158nm,0.9s
WIM Isle of Man 91.72 30 *e*P **P** **13 19 21.7 -0.3**
AVF Avril sur Loir 91.76 39 *e*P **P** **13 19 21.4 -0.9**
AVF pmax pmax
comp=Z,290nm,1.7s
FRF La Foret Royal 92.11 43 *e*P **P** **13 19 23.8 -0.2**
FRF pmax pmax
comp=Z,301nm,1.5s
LOR Lormes 92.30 39 *e*P **P** **13 19 23.7 -1.1**
LOR pmax pmax
comp=Z,124nm,1.2s
ORIF Oris-en-Rattie 92.31 42 *e*P **P** **13 19 25.2 +0.2**
ORIF pmax pmax
comp=Z,153nm,0.8s
LBWR Ladybower, Pea 92.69 32 *e*P **P** **13 19 26.7 +0.3**
LBWR IAmb IAmb 13 19 26.8
comp=Z,104nm,0.8s
LAWE Loch Awe, Argy 92.70 28 *e*P **P** **13 19 26.0 -0.3**
LAWE IAmb IAmb 13 19 26.9
comp=Z,102nm,1.0s
KESW Keswick, Cumbr 92.72 30 *e*P **P** **13 19 26.7 +0.2**
KESW IAmb IAmb 13 19 27.4
comp=Z,654nm,1.6s
SBF Sospel 92.76 43 *e*P **P** **13 19 26.9 -0.2**
SBF pmax pmax
comp=Z,350nm,1.1s
BNI Bardonecchia 92.87 42 *e*P **P** **13 19 27.1 -0.5**
comp=Z,126nm,1.2s
BNI Bardonecchia 92.87 42 *e*P **P** **13 19 27.2 -0.5**
BNI pmax pmax
comp=Z,126nm,1.2s
BHH Howats Hill 92.97 30 *e*P **P** **13 19 26.9 -0.8**
HPK Haverah Park 93.06 32 *e*P **P** **13 19 28.3 +0.2**
HPK IAmb IAmb 13 19 28.9
comp=Z,444nm,1.5s
ESK Eskdalemuir 93.11 30 *e*P **P** **13 19 28.2 -0.1**
comp=Z,250nm,1.4s
ESK Eskdalemuir 93.11 30 *e*P **P** **13 19 27.7 -0.6**
ESK IAmb IAmb 13 19 28.7
comp=Z,666nm,2.1s
ESK Eskdalemuir 93.11 30 *i* P **P** **13 19 28.7 +0.4**
EAB Aberfoyle 93.12 29 *e*P **P** **13 19 27.9 -0.4**
LPL La Plagne 93.13 42 *e*P **P** **13 19 29.1 +0.2**
LPL pmax pmax
comp=Z,200nm,1.0s
LPG La Plagne 93.13 42 *e*P **P** **13 19 29.3 +0.3**
LPG pmax pmax
comp=Z,208nm,1.0s
EKA Eskdalemuir Ar 93.14 30 P **P** **13 19 28.0 -0.4**
comp=Z,43nm,0.8s,baz=233,slow=3.9,SNR=19
RRH Rhenigidale 93.19 27 *e*P **P** **13 19 27.6 -0.9**
KPL Plockton 93.26 27 *e*P **P** **13 19 28.7 -0.2**
KPL IAmb IAmb 13 19 29.4
comp=Z,80nm,0.9s
CABF La Chapelle 93.28 40 *e*P **P** **13 19 28.9 -0.5**
INVG Invergeldie, C 93.40 29 *e*P **P** **13 19 28.6 -0.9**
INVG IAmb IAmb 13 19 30.0
comp=Z,35nm,0.8s
EDMD Edmundbyers 93.40 31 *e*P **P** **13 19 29.4 -0.2**
EDMD IAmb IAmb 13 19 30.5
comp=Z,170nm,1.2s
KAC Achnashellach 93.51 27 *e*P **P** **13 19 29.2 -0.8**
RRR Rubha Reidh 93.52 27 *e*P **P** **13 19 29.1 -0.9**
ESY Stoneypath 93.74 30 *e*P **P** **13 19 30.9 -0.2**
CLTB Caltabellotta 93.78 51 *e*P **P** **13 19 33.3 +1.4**
MBAR Mbarara 93.80 92 *d i*P **P** **13 19 34.1 +1.4**
SENIN Lac Senin/Sane 93.89 41 *e*P **P** **13 19 33.2 +0.8**
comp=Z,164nm,1.3s
EDU Dundee 93.93 29 *e*P **P** **13 19 31.7 -0.3**
BAIF Baives 93.95 37 *e*P **P** **13 19 31.2 -1.0**
BAIF pmax pmax
comp=Z,68nm,1.1s
YKA Yellowknife Ar 94.01 339 P **P** **13 19 32.2 0.0**
comp=Z,19nm,0.8s,baz=127,slow=4.7,SNR=115
YKA pP **pP** **13 21 32.7 +2.2**
comp=Z,5.2nm,0.8s,baz=123,slow=4.4,SNR=4.0
YKA sP **sP** **13 22 27.6 +3.3**
comp=Z,16nm,1.1s,baz=132,slow=5.6,SNR=2.7
YKA ScS **S** **13 29 56.6 +0.6**
comp=Z,3.8nm,1.2s,baz=119,slow=11,SNR=4.2
YKA PKKP **PKKPdf** **13 36 31.8 -1.2**
comp=Z,0.9nm,0.5s,baz=320,slow=3.2,SNR=12
YKA Yellowknife Ar 94.01 339 P **P** **13 19 32.2 0.0**
YKA *PP **pP** **13 21 32.7 +2.2**
YKA *SP **sP** **13 22 27.6 +3.3**
YKA 13 29 56.6
YKA 13 36 31.8
YKA pmax pmax
comp=Z,12nm,0.6s
YKB5 Yellowknife Ar 94.01 339 *e*P **P** **13 19 32.1 -0.1**
YKW3 Yellowknife Ar 94.06 339 *e*P **P** **13 19 31.8 -0.6**
comp=Z,56nm,1.3s
RSC Scourie 94.09 27 *e*P **P** **13 19 32.3 -0.4**
HAU Haudompre 94.13 39 *e*P **P** **13 19 32.0 -1.2**
HAU pmax pmax
comp=Z,61nm,0.8s
DOU Dourbes 94.18 37 ⇓P **P** **13 19 32.8 -0.5**
comp=Z,59nm,1.4s
SNF Seneffe 94.22 36 ⇓P **P** **13 19 33.3 -0.1**
comp=Z,89nm,1.3s
HINF Hinteralfeld 94.33 40 *e*P **P** **13 19 33.0 -1.1**
HINF pmax pmax
comp=Z,107nm,1.2s
UCC Uccle 94.41 36 *e*P **P** **13 19 34.8 +0.5**
UCC Uccle 94.41 36 *e*P **P** **13 19 34.8 +0.5**
UCC Uccle 94.41 36 ⇓P **P** **13 19 34.2 -0.1**
VAE Valguarnera 94.60 51 P **P** **13 19 36.8 +1.2**
comp=Z,18nm,0.8s,baz=55,slow=7.4,SNR=5.5
ECH Echery 94.70 39 *e*P **P** **13 19 35.6 -0.1**
comp=Z,159nm,1.2s
ECH Echery 94.70 39 *e*P **P** **13 19 35.6 -0.1**
ECH pmax pmax
comp=Z,159nm,1.2s
BCLA Clavier 94.73 37 ⇓P **P** **13 19 35.4 -0.4**
comp=Z,52nm,1.7s
VLC Villacollemand 94.78 44 *e*P **P** **13 19 36.5 +0.3**
WLF Walferdange 94.83 38 *e*P **P** **13 19 36.7 +0.4**
WLF Walferdange 94.83 38 *e*P **P** **13 19 36.7 +0.4**
WLF Walferdange 94.83 38 ⇑P **P** **13 19 36.9 +0.6**
comp=Z,178nm,1.4s
CDF Champ du Feu 94.87 39 *e*P **P** **13 19 35.6 -1.0**
CDF pmax pmax
comp=Z,147nm,1.2s
TUE Stuetta 95.19 42 *e*P **P** **13 19 38.5 +0.3**
comp=Z,187nm,1.2s
MEM Membach 95.22 37 P **P** **13 19 38.5 +0.5**
MEM pmax pmax
comp=Z,74nm,1.4s
MEM Membach 95.22 37 ⇑P **P** **13 19 38.4 +0.4**
comp=Z,41nm,1.1s
SLE Schleitheim 95.28 40 P **P** **13 19 38.7 +0.3**
SLE pmax pmax
comp=Z,160nm,1.5s
BFO Black Forest 95.44 40 *e*P **P** **13 19 38.8 -0.3**
comp=Z,174nm,1.4s
BFO Black Forest 95.44 40 *i* P **P** **13 19 39.4 +0.3**
DAVOX Davos/Dischmat 95.66 41 P **P** **13 19 41.0 +0.7**
comp=Z,70nm,0.8s,baz=232,slow=4.4,SNR=87
DAVOX PP **PP** **13 23 38.6 -2.6**
comp=Z,32nm,0.9s,baz=214,slow=5.9,SNR=12
FUORN Ofenpass-Fuorn 95.82 42 *e*P **P** **13 19 41.6 +0.4**
comp=Z,107nm,0.9s
DAVA Damuels 95.89 41 *i* PcP **P** **13 19 41.9 +0.6**
SNR=34
DAVA *i* PP **PP** **13 23 39.6 -3.3**
SNR=10
DAVA Damuels 95.89 41 *i* P **P** **13 19 41.9 +0.6**
SNR=34
DAVA *i* PP **PP** **13 23 39.6 -3.3**
SNR=10
AQU L'Aquila 95.96 47 *e*P **P** **13 19 43.0 +1.3**
AQU L'Aquila 95.96 47 P **P** **13 19 43.0 +1.3**
AQU pmax pmax
comp=Z,99nm,1.1s
STU Stuttgart 96.16 39 *e*P **P** **13 19 42.6 +0.3**
STU Stuttgart 96.16 39 *e*P **P** **13 19 42.6 +0.3**
FETA Feichten 96.28 42 *i* Pdiff **P** **13 19 43.6 +0.5**
SNR=47
FETA Feichten 96.28 42 *i* P **P** **13 19 43.6 +0.5**
SNR=47
BUG Bochum--Univer 96.32 37 P **P** **13 19 43.3 +0.4**
TNS Taunus Mts 96.40 38 P **P** **13 19 43.9 +0.5**
TNS pmax pmax
comp=Z,84nm,1.3s
RETA Reutte 96.51 41 *i* Pdiff **P** **13 19 44.6 +0.6**
SNR=30
RETA *i* PP **PP** **13 23 43.7 -3.8**
SNR=7.8
RETA Reutte 96.51 41 *i* Pdiff **P** **13 19 44.6 +0.6**
SNR=30
RETA *i* PP **PP** **13 23 43.7 -3.8**
SNR=7.8
SUMG Summit 96.55 7 *e*P **P** **13 19 44.6 +0.6**
comp=Z,77nm,1.3s
SUMG Summit 96.55 7 ⇓*i*P **P** **13 19 44.6 +0.6**
comp=Z,111nm,1.0s
SUMG Summit 96.55 7 *e*P **P** **13 19 44.6 +0.6**
SUMG pmax pmax
comp=Z,77nm,1.3s
MOTA Moosalm 96.66 41 *i* Pdiff **P** **13 19 45.2 +0.5**
SNR=25
MOTA Moosalm 96.66 41 *i* Pdiff **P** **13 19 45.2 +0.5**
SNR=25
SQTA Sankt Quirin 96.67 41 *i* Pdiff **P** **13 19 45.3 +0.5**
SNR=50
SQTA Sankt Quirin 96.67 41 *i* Pdiff **P** **13 19 45.3 +0.5**
SNR=50
WATA Walderalm 96.94 41 *i* Pdiff **P** **13 19 46.7 +0.7**
SNR=12
WATA Walderalm 96.94 41 *i* Pdiff **P** **13 19 46.7 +0.7**
SNR=12
WTTA Wattenberg 96.95 42 *i* Pdiff **P** **13 19 46.9 +0.8**
SNR=24
WTTA Wattenberg 96.95 42 *i* Pdiff **P** **13 19 46.9 +0.8**
SNR=24
TIP Timpagrande 96.98 51 *e*P **P** **13 19 46.1 -0.2**
comp=Z,67nm,1.5s
TIP Timpagrande 96.98 51⇑*i*P **P** **13 19 46.1 -0.2**
FUR Furstenfeldbru 97.12 41 P Pdif 13 19 48.2 +1.5
ABTA Abfaltersbach 97.27 42 *i* Pdiff **P** **13 19 47.8 +0.4**
SNR=39
ABTA Abfaltersbach 97.27 42 *i* Pdiff **P** **13 19 47.8 +0.4**
SNR=39
MATE Matera 97.53 49⇑*i*P Pdif 13 19 48.2 -0.4
TRI Trieste 97.61 44 *e*P **P** **13 19 49.3 +0.4**
comp=Z,108nm,1.3s
TRI Trieste 97.61 44 *e*P **P** **13 19 49.3 +0.4**
TRI pmax pmax
comp=Z,108nm,1.3s
GRC1 Grafenberg Arr 97.63 40 P **P** **13 19 49.5 +0.6**
GRFO Grafenberg 97.76 39 *e*P **P** **13 19 50.8 +1.4**
GRFO Grafenberg 97.76 39 *e*P **P** **13 19 50.8 +1.4**
GRF Grafenberg Arr 97.76 39 P **P** **13 19 50.8 +1.3**
GRF pmax pmax
comp=Z,109nm,1.2s
CADS Cadrg 97.81 43 *e*P **P** **13 19 50.5 +0.6**
CADS Cadrg 97.81 43 *e*P **P** **13 19 50.5 +0.6**
JAVS Javornik 97.88 44 *i* P **P** **13 19 50.7 +0.5**
JAVS *e* 13 23 53.8
JAVS *e*S **SKSac** **13 29 37.2 +1.2**
JAVS Javornik 97.88 44 *i* P **P** **13 19 50.7 +0.5**
JAVS *e* 13 23 53.8
JAVS *e*S **SKSac** **13 29 37.2 +1.2**
MYKA Terra Mystica 97.92 43 *i* Pdiff **P** **13 19 50.9 +0.6**
SNR=24
MYKA *i* PP **PP** **13 23 56.6 -1.6**
SNR=5.9
MYKA Terra Mystica 97.92 43 *i* Pdiff **P** **13 19 50.9 +0.6**
SNR=24
MYKA *i* PP **PP** **13 23 56.6 -1.6**
SNR=5.9
KBA Koelnbreinsper 97.92 42 *i* Pdiff **P** **13 19 50.5 0.0**
SNR=22
KBA Koelnbreinsper 97.92 42 *i* Pdiff **P** **13 19 50.5 0.0**
SNR=22
KBA Koelnbreinsper 97.92 42 P Pdif 13 19 50.4 0.0
VISS Visnje 98.34 44 *e*P **P** **13 19 52.6 +0.5**
VISS *i* 13 23 57.8
VISS Visnje 98.34 44 *e*P **P** **13 19 52.6 +0.5**
VISS *i* 13 23 57.8
MOX Moxa 98.40 38 P **P** **13 19 53.1 +0.8**
MOX pmax pmax
comp=Z,41nm,1.3s
OBKA Obir 98.44 43 *i* Pdiff **P** **13 19 53.6 +0.9**
SNR=24
OBKA Obir 98.44 43 *i* Pdiff **P** **13 19 53.6 +0.9**
SNR=24
BOJS Bojanci 98.48 44 *e*P **P** **13 19 53.3 +0.5**
BOJS *e* 13 23 59.0
BOJS *e*SKSac SKSac 13 29 03.6 -35
BOJS *e*S **SKSac** **13 29 39.7 +0.9**
BOJS Bojanci 98.48 44 *e*P **P** **13 19 53.3 +0.5**
BOJS *e* 13 23 59.0
BOJS *e*SKSac SKSac 13 29 03.6 -35
BOJS *e*S **SKSac** **13 29 39.7 +0.9**
WET Wettzell 98.50 40 P **P** **13 19 53.3 +0.4**
WET pmax pmax
comp=Z,40nm,1.5s
NKC Novy Kostel 98.71 39 *e*PDIFF **P** **13 19 55.4 +1.7**
NKC Novy Kostel 98.71 39 *e*P **P** **13 19 55.4 +1.7**
MOA Molln 98.81 42 *i* Pdiff **P** **13 19 54.4 +0.2**
SNR=21
MOA Molln 98.81 42 *i* Pdiff **P** **13 19 54.4 +0.2**
SNR=21
SOKA Soboth 98.81 43 *i* Pdiff **P** **13 19 54.8 +0.4**
SNR=14
SOKA Soboth 98.81 43 *i* Pdiff **P** **13 19 54.8 +0.4**
SNR=14
PERS Pernice 98.85 43 *i* P **P** **13 19 54.6 +0.1**
PERS *e* 13 24 00.5
PERS *e*S **SKSac** **13 29 40.7 -0.1**
PERS Pernice 98.85 43 *i* P **P** **13 19 54.6 +0.1**
PERS *e* 13 24 00.5
PERS *e*S **SKSac** **13 29 40.7 -0.1**
GERES GERESS Array B 98.87 41 P **P** **13 19 54.9 +0.3**
comp=Z,7.3nm,0.8s,baz=223,slow=3.3,SNR=43
GERES PP **PP** **13 24 01.0 -4.4**
comp=Z,6.9nm,1.0s,baz=206,slow=8.9,SNR=4.7
KHC Kasperske Hory 98.92 40 *e*Pdif **P** **13 19 55.1 +0.3**
KHC Kasperske Hory 98.92 40 *e*PDIFF **P** **13 19 55.3 +0.6**
KHC Kasperske Hory 98.92 40 *e*P **P** **13 19 55.3 +0.6**
ARSA Arzberg 99.35 43 *i* Pdiff **Pdif** **13 19 57.1 +0.5**
SNR=11
ARSA Arzberg 99.35 43 *i* Pdiff **Pdif** **13 19 57.1 +0.5**
SNR=11
BLY Banja Luka 99.45 45⇑*i*P **Pdif** **13 19 58.5 +1.5**
BLY Banja Luka 99.45 45⇑*i*P **PP** **13 24 07.7 -1.9**
CLL Collm 99.48 38 *e*Pdif **Pdif** **13 19 57.3 +0.3**
CLL Collm 99.48 38⇓*i*Pdif **Pdif** **13 19 57.6 +0.6**
comp=Z,51nm,1.1s
CLL *e*(pP) **pP** **13 21 49.0 -6.9**
CLL *e* 13 22 54.0
CLL *e*PP **PP** **13 24 03.0 -6.7**
comp=Z,54nm,1.4s
CLL *e* 13 26 54.0
CLL *e*SKSac **SKSac** **13 29 43.0 -0.4**
CLL *e*Sdif **ScS** **13 30 40.0 -2.7**
CLL *e*SP **SP** **13 32 15.0 -0.2**
CLL *e*PS **PS** **13 33 25.0 +0.8**
CLL *e*sS **sS** **13 34 18.0 +0.8**
CLL *e*SS **SS** **13 37 45.0 -4.5**
CLL *e*SS 13 40 48.0
CLL *e*SKKSacre 13 42 42.0
CLL *e* 13 44 12.0
CLL *e*SSSS 13 45 18.0
CLL *e* 13 48 12.0
CLL Collm 99.48 38⇓*i*P **Pdif** **13 19 57.6 +0.6**
CLL *e* 13 29 43.0
CLL *e*S **ScS** **13 30 40.0 -2.7**
CLL pmax pmax
comp=Z,51nm,1.1s
KMBO Kilima Mbogo 99.60 95 P **Pdif** **13 19 59.2 +0.4**
comp=Z,0.6nm,0.2s,baz=112,slow=3.6,SNR=6.5
KMBO Kilima Mbogo 99.60 95 *i* P **Pdif** **13 20 00.1 +1.3**
KMBO pmax pmax
comp=Z,1.0nm,0.2s
MUD Monsted U'grnd 99.64 33 *i* P **Pdif** **13 19 57.7 +0.1**
comp=Z,150nm,1.2s
MUD Monsted U'grnd 99.64 33 *i* P **Pdif** **13 19 57.7 +0.1**
MUD pmax pmax
comp=Z,150nm,1.2s
CONA Conrad Observa 99.83 42 *i* Pdiff **Pdif** **13 19 59.9 +1.1**
SNR=12
CONA Conrad Observa 99.83 42 *i* Pdiff **Pdif** **13 19 59.9 +1.1**
SNR=12
BEHE Becsehely 99.84 44⇓*ex* **Pdif** **13 20 00.1 +1.3**
BRG Berggiesshubel 99.84 39 *i* P **Pdif** **13 19 59.4 +0.7**
comp=Z,68nm,1.6s
BRG *e*pP **pP** **13 21 55.1 -2.5**
comp=Z,24nm,2.0s
BRG *e*PP PP 13 23 53.1 -19
comp=Z,78nm,1.7s
BRG SKS 13 29 46.0
BRG S **ScS** **13 30 40.0 -5.8**
BRG Berggiesshubel 99.84 39 P **Pdif** **13 19 59.5 +0.9**
BRG pmax pmax
comp=Z,33nm,1.4s
GOPC GO Pecny, Ondr 99.95 40 *e*PDIFF **Pdif** **13 20 00.6 +1.4**
GOPC GO Pecny, Ondr 99.95 40 *e*P **Pdif** **13 20 00.6 +1.4**
PDG Podgorica 99.97 48⇑*i*P **Pdif** **13 20 00.2 +0.8**
PDG Podgorica 99.97 48⇑*i*P **PP** **13 24 11.5 -2.1**
SOP Sopron 100.17 43⇓*ex* **Pdif** **13 20 01.0 +0.8**
SOP Sopron 100.17 43 P **Pdif** **13 20 01.9 +1.7**
SOP pmax pmax
comp=Z,30nm,1.3s
KRUC Moravsky 100.59 41 P **Pdif** **13 20 02.8 +0.8**
KRUC pmax pmax
comp=Z,23nm,1.3s
KRUC Moravsky 100.59 41 *e*PDIFF **Pdif** **13 20 02.5 +0.5**
KRUC *e*PP **PP** **13 24 12.3 -5.7**
VRAC Vranov 100.80 41 P **Pdif** **13 20 02.9 -0.1**
comp=Z,13nm,0.7s,baz=232,slow=6.2,SNR=8.8
VRAC Vranov 100.80 41⇑*i*P **Pdif** **13 20 04.2 +1.2**
VRAC Vranov 100.80 41⇑*i*P **PP** **13 24 12.8 -6.8**
VRAC Vranov 100.80 41 ⇑P **Pdif** **13 20 04.2 +1.2**
VRAC Vranov 100.80 41 *e*PDIFF **Pdif** **13 20 03.6 +0.6**
VRAC *e*PP **PP** **13 24 14.1 -5.5**
MODS Modra-Piesok 100.87 42 *e*P **Pdif** **13 20 03.0 -0.3**
MODS Modra-Piesok 100.87 42 *e*PDIFF **Pdif** **13 20 03.0 -0.3**
MODS *e*PP **PP** **13 24 14.7 -5.5**
MODS Modra-Piesok 100.87 42 *e*P PP 13 24 09.8 -10
UPC Upice 100.91 40 *e*PDIFF **Pdif** **13 20 04.7 +1.3**
UPC Upice 100.91 40 *e*P **Pdif** **13 20 04.7 +1.3**
MORH M¨‡r¨igy, Hung 100.95 44⇓*ex* **Pdif** **13 20 04.7 +1.0**
DPC Dobruska-Polom 101.03 40 *e*PDIFF **Pdif** **13 20 05.4 +1.4**
DPC Dobruska-Polom 101.03 40 *e*P **Pdif** **13 20 05.4 +1.4**
KSP Ksiaz 101.20 40 *e*PKP **Pdif** **13 20 06.0 +1.3**
KSP Ksiaz 101.20 40 *e*P **Pdif** **13 20 06.0 +1.3**
KRLC Kraliky 101.20 40 *e*PDIFF **Pdif** **13 20 06.2 +1.4**
KRLC Kraliky 101.20 40 *e*P **Pdif** **13 20 06.2 +1.4**
JAVC Velka Javorina 101.29 42 *e*PDIFF **Pdif** **13 20 06.5 +1.3**
MORC Moravsky Berou 101.55 41⇑*i*P **Pdif** **13 20 07.8 +1.4**
MORC Moravsky Berou 101.55 41 ⇑P **Pdif** **13 20 07.8 +1.4**
IDI Anoyia 101.60 57⇑*i*P **Pdif** **13 20 16.6 +10**
VYHS Vyhne 101.88 42 *e*P **Pdif** **13 20 08.7 +0.9**
VYHS Vyhne 101.88 42 *e*PDIFF **Pdif** **13 20 08.7 +0.9**
VYHS *e*PP **PKiKP** **13 24 21.4 -5.9**
VYHS Vyhne 101.88 42 *e*P PP 13 24 17.5 -10
PSZ Piszkesteto 102.35 43⇑*i*P **Pdif** **13 20 10.0 0.0**
PSZ Piszkesteto 102.35 43⇑*i*P PP 13 24 22.7 -8.5
PSZ Piszkesteto 102.35 43 ⇑P **Pdif** **13 20 10.0 0.0**
MDVR Moldovita 102.47 47⇑*i*P **Pdif** **13 20 11.9 +1.3**
NC204 NORSAR Array S 102.47 28 *e*Pdif **Pdif** **13 20 11.7 +1.5**
LANS Liptovska Anna 102.50 42 *e*P **Pdif** **13 20 12.2 +1.6**
LANS Liptovska Anna 102.50 42 *e*PDIFF **Pdif** **13 20 12.2 +1.6**
LANS *e*pP **PKiKP** **13 24 26.8 -1.7**
NB2 NORSAR Subarra 102.57 29 P **Pdif** **13 20 11.2 +0.6**
comp=Z,77nm,1.7s,baz=244,slow=4.3
NOA NORSAR Array B 102.57 29 P **Pdif** **13 20 10.4 -0.2**
comp=Z,3.4nm,0.8s,baz=244,slow=4.3,SNR=6.8
NOA NORSAR Array B 102.57 29 P **Pdif** **13 20 10.4 -0.2**
NOA pmax pmax
comp=Z,4.0nm,0.8s
BZS Buzias 102.68 46⇑*i*P **Pdif** **13 20 12.2 +0.8**
BZS Buzias 102.68 46⇑*i*P **PP** **13 24 29.5 -4.1**
BZS Buzias 102.68 46 ⇑P **Pdif** **13 20 12.2 +0.8**
DAG Danmarks Havn 102.88 10 *i* P **Pdif** **13 20 11.6 0.0**
comp=Z,14nm,1.1s
DAG Danmarks Havn 102.88 10 *i* P **Pdif** **13 20 11.6 0.0**
DAG pmax pmax
comp=Z,18nm,1.1s
KECS Kecovo 102.91 43 *e*P **Pdif** **13 20 12.7 +0.3**
KECS Kecovo 102.91 43 *e*PDIFF **Pdif** **13 20 12.7 +0.3**
SIRR Siria 102.93 45⇑*i*P **Pdif** **13 20 12.4 +0.9**
SIRR Siria 102.93 45 ⇑P PKiKP 13 24 20.9 -8.4
OJC Ojcow 103.07 41 *e*PKP **Pdif** **13 20 13.3 +0.3**
OJC Ojcow 103.07 41 *e*P **Pdif** **13 20 13.4 +0.3**
NIE Niedzica 103.11 42 *e*PKP **Pdif** **13 20 15.1 +1.8**
NIE Niedzica 103.11 42 *e*P **Pdif** **13 20 15.0 +1.8**
HFS Hagfors 103.34 30 Pdiff **Pdif** **13 20 13.9 -0.1**
comp=Z,9.2nm,1.0s,baz=163,slow=5.6,SNR=5.8
HFS PKiKP **PKiKP** **13 24 25.3 -4.3**
comp=Z,10nm,0.8s,baz=224,slow=6.2,SNR=5.8
DRGR 103.78 45⇑*i*P **Pdif** **13 20 17.6 +1.2**
DRGR 103.78 45⇑*i*P **PKiKP** **13 24 28.2 -2.7**
DRGR 103.78 45 ⇑P **Pdif** **13 20 17.6 +1.2**
ARR Arges 104.62 47⇑*i*P **Pdif** **13 20 22.4 +2.3**
KWP Kalwaria Pacla 104.66 42 *e*PKP **Pdif** **13 20 21.7 +1.5**
KWP Kalwaria Pacla 104.66 42 *e*P **Pdif** **13 20 21.7 +1.5**
VOIR 104.92 47⇑*i*P **Pdif** **13 20 23.9 +2.4**
VOIR 104.92 47 ⇑P **Pdif** **13 20 23.9 +2.4**
DOPR Dopca 105.30 46⇑*i*P **Pdif** **13 20 27.8 +4.7**
MLR Muntele Rosu 105.54 47 Pdiff **Pdif** **13 20 24.8 +0.5**
comp=Z,6.0nm,0.9s,baz=254,slow=19,SNR=2.5
MLR Muntele Rosu 105.54 47⇑*i*P **Pdif** **13 20 23.7 -0.6**
BUR08 Bucovina Ar. S 105.66 45 *e*Pdif **Pdif** **13 20 26.9 +2.1**
BUR04 Bucovina Ar. S 105.66 45 *e*Pdif **Pdif** **13 20 25.9 +1.1**
BURAR Bucovina Array 105.66 45⇑*i*P **Pdif** **13 20 27.0 +2.2**
BURAR Bucovina Array 105.66 45⇑*i*P **PKiKP** **13 24 30.4 -4.0**
BURAR Bucovina Array 105.66 45 ⇑P **Pdif** **13 20 27.0 +2.2**
PLOR Plostina 106.11 47⇑*i*P **Pdif** **13 20 31.4 +4.7**
PLOR Plostina 106.11 47 ⇑P **Pdif** **13 20 31.4 +4.7**
VRI Vrincioaia 106.17 47⇓*i*P **Pdif** **13 20 10.7 -16**
SUW Suwalki 106.22 38 *e*PKP **Pdif** **13 20 28.1 +1.2**
SUW Suwalki 106.22 38 *e*P **Pdif** **13 20 28.1 +1.2**
ILAR Eielson Array 107.47 334 PKiKP **PKiKP** **13 24 37.1 0.0**
comp=Z,2.7nm,1.1s,baz=125,slow=0.7,SNR=5.4
ILAR PP **PP** **13 25 06.5 -1.5**
comp=Z,14nm,0.9s,baz=110,slow=5.2,SNR=14
ILAR PKKPbc **PKKPbc** **13 35 53.0 -2.6**
comp=Z,1.8nm,0.8s,baz=286,slow=3.4,SNR=11
ANTO Ankara 108.93 54⇑*i*P **PKiKP** **13 24 41.6 +0.9**
AKASG Malin Array Be 108.99 42 Pdiff **Pdif** **13 20 38.7 -0.6**
comp=Z,0.5nm,0.4s,baz=261,slow=4.1,SNR=3.3
AKASG PKiKP **PKiKP** **13 24 40.0 -0.3**
comp=Z,9.4nm,0.8s,baz=264,slow=2.8,SNR=16
AKASG PKKPbc **PKKPbc** **13 35 49.7 -0.7**
comp=Z,1.4nm,0.6s,baz=58,slow=3.7,SNR=5.1
MIGM Minsk 109.02 38 *e* **PKiKP** **13 24 35.0 -5.3**
MMAI Mount Meron Ar 109.26 62 PKiKP **PKiKP** **13 24 41.1 -0.5**
comp=Z,6.3nm,0.8s,baz=229,slow=0.8,SNR=6.8
FINES FINESS Array B 109.53 31 PKiKP **PKiKP** **13 24 41.1 0.0**
comp=Z,5.0nm,1.0s,baz=293,slow=31,SNR=3.8
FINES PKKPbc **PKKPbc** **13 35 47.4 -1.6**
comp=Z,0.6nm,0.3s,baz=93,slow=4.0,SNR=5.6
FINES PKKPab **PKKPab** **13 35 59.0 -0.9**
comp=Z,3.7nm,0.9s,baz=52,slow=7.5,SNR=4.0
BRTR Keskin Array B 109.53 54 PKiKP **PKiKP** **13 24 42.3 +0.3**
comp=Z,9.2nm,0.8s,baz=169,slow=1.8,SNR=17
BRTR PP **PP** **13 25 18.8 -4.8**
comp=Z,17nm,0.9s,baz=220,slow=6.2,SNR=11
SPITS Spitsbergen Ar 110.02 12 PKKPbc PKKPbc 13 35 46.0 -1.7
comp=Z,7.9nm,0.9s,baz=85,slow=9.5,SNR=6.7
ASF Jabal al Asfar 110.27 63 PKiKP **PKiKP** **13 24 44.1 +0.6**
comp=Z,9.0nm,0.9s,baz=173,slow=7.6,SNR=9.2

ARCES ARCES Array B 110.75 22 PKKPbc PKKPbc 13 35 43.1 -2.1
comp=Z,4.2nm,0.7s,baz=88,slow=4.8,SNR=8.0
ARCES PKKPab **PKKPab 13 35 54.8 +0.3**
comp=Z,5.8nm,0.7s,baz=77,slow=5.5,SNR=10
URFA Urfa 113.00 58 *eP* **PKiKP 13 24 49.2 +0.7**
ANN Anapa 113.30 50 *i* PKIKP **PKiKP 13 24 48.4 -0.3**
ANN *e* 13 25 48.7
ANN *e* 13 26 46.2
ANN *ePPP* PPP 13 28 21.2
ANN *e* 13 30 46.2
ANN *eSSS* SSS 13 45 19.0
ANN pmax pmax
comp=Z,111nm,1.3s
PTK Pertek 113.72 56 *eP* **PKiKP 13 24 50.6 +0.6**
OBN Obninsk 114.08 38 PKP PKPdf 13 24 50.3 +0.4
comp=Z,7.9nm,0.6s,baz=23,slow=1.1,SNR=13
OBN Obninsk 114.08 38 *d* PKIKP PKPdf 13 24 50.1 +0.2
OBN *i* 13 25 54.3
OBN *eSS* SS 13 41 04.3 -0.3
OBN pmax pmax
comp=Z,129nm,1.7s
YEDI Yedisu-Bingol 114.70 56 *eP* PKPdf 13 24 51.7 -0.1
BNGB Bing¶ll 114.73 56 *eP* PKPdf 13 24 52.5 +0.7
MOS Moscow 114.73 38 *i* PKIKP PKPdf 13 24 50.6 -0.5
MOS *e* 13 26 48.5
MOS *e* 13 30 48.5
MOS pmax pmax
comp=Z,89nm,0.9s
CHOM Cayeli-Rize 115.13 54 *eP* **PKPdf 13 24 52.6 +0.2**
LPSR Galich'ya Gora 115.25 41 *e* PKIKP **PKPdf 13 24 52.0 -0.2**
LPSR pmax pmax
comp=Z,80nm,0.8s
VSR Storozhevoye 115.27 43 *e* PKIKP **PKPdf 13 24 51.3 -1.0**
VSR *e* 13 26 04.6
VSR pmax pmax
comp=Z,70nm,1.1s
VORD Divnogorie 115.33 43 *e* PKIKP **PKPdf 13 24 51.7 -0.7**
VORD *e* 13 26 04.2
VORD pmax pmax
comp=Z,50nm,1.0s
BCA Borcka 115.82 54 *eP* **PKPdf 13 24 53.7 -0.1**
KLMR Klimovskoe 115.94 32 *e* PKIKP **PKPdf 13 24 51.4 -1.9**
KLMR pmax pmax
comp=Z,94nm,1.1s
KLMR Klimovskoe 115.94 32 *e* PKPdf **PKPdf 13 24 51.5 -1.9**
KLMR AMP 13 24 55.0
comp=Z,94nm,1.1s
KLMR *ePP* **PP 13 26 03.0 -4.6**
AGRB Hanur-Agry 116.59 56 *eP* **PKPdf 13 24 57.1 +1.6**
KARS Kars 116.80 55 *eP* **PKPdf 13 24 56.7 +0.9**
NEY Neytrino 116.87 52 *i* PKIKP **PKPdf 13 24 55.4 -0.5**
VRH Novokhopyorsk 116.87 43 *e* PKIKP **PKPdf 13 24 54.9 -0.5**
VRH *e* 13 26 13.5
VRH pmax pmax
comp=Z,90nm,1.1s
KIV Kislovodsk 116.92 51 *e* PKPdf **PKPdf 13 24 56.4 +0.5**
KIV Kislovodsk 116.92 51 P **PKPdf 13 24 56.2 +0.3**
KIV Kislovodsk 116.92 51 PKPdf **PKPdf 13 24 55.9 0.0**
KIV Kislovodsk 116.92 51 *i* PKIKP **PKPdf 13 24 56.4 +0.5**
KIV *e* 13 26 14.9
KIV *ePPP* PPP 13 28 49.1
KIV *e* 13 31 00.6
KIV *ePS* **PS 13 36 06.3 -1.1**
KIV pmax pmax
comp=Z,114nm,1.1s
KVAR Kislovodsk Arr 116.92 51 PKP **PKPdf 13 24 56.5 +0.6**
comp=Z,21nm,0.9s,baz=83,slow=23,SNR=11
KBZ Khabaz 117.05 51 PKP **PKPdf 13 24 56.1 +0.1**
comp=Z,66nm,0.9s,baz=225,slow=2.7,SNR=36
GOF Gofitskoye 117.29 50 ǁ *i* PKIKP **PKPdf 13 24 56.9 +0.5**
GOF *eS* **SKSac 13 31 03.0 +4.1**
GOF pmax pmax
comp=Z,210nm,1.0s
GOF smax smax
comp=E,180nm,1.4s
NCK Nalchik 117.53 52 *i* PKIKP **PKPdf 13 24 57.0 0.0**
GNI Garni 118.00 55 *eP* **PKPdf 13 24 57.9 -0.3**
GNI Garni 118.00 55 PKP **PKPdf 13 24 57.7 -0.5**
comp=E,63nm,1.0s,baz=191,slow=1.3,SNR=9.0
GNI Garni 118.00 55 P **PKPdf 13 24 58.6 +0.5**
GNI Garni 118.00 55 PKPdf **PKPdf 13 24 58.7 +0.5**
GNI Garni 118.00 55 *d* PKIKP **PKPdf 13 24 58.7 +0.5**
STKA Stephens Creek 120.60 205 PKP **PKPdf 13 25 03.5 +0.2**
comp=E,15nm,0.8s,baz=102,slow=2.2,SNR=29
STKA SKP 13 27 49.0
comp=E,10nm,1.0s,baz=320,slow=2.3,SNR=7.2
STKA PKKPbc **PKKPbc 13 35 10.7 -0.7**
comp=E,9.0nm,0.8s,baz=3.7,slow=3.1,SNR=17
BBOO Buckleboo 121.69 199 *e* PKPdf **PKPdf 13 25 05.1 -0.3**
MZR Muzera 122.47 76 *i* PKPdf **PKPdf 13 25 07.6 +0.6**
SNR=6.7
AJN Ajban 124.15 75 PKPdf **PKPdf 13 25 10.6 +0.4**
ASUD Al Ashush, Dub 124.46 75 *i* PKPdf **PKPdf 13 25 11.3 +0.5**
SNR=7.5
NWAO Narrogin (SRO) 124.68 181 PKP **PKPdf 13 25 11.2 0.0**
comp=E,39nm,0.8s,baz=14,slow=3.2,SNR=16
FAQ Al Faqa, Dubai 124.72 75 P **PKPdf 13 25 11.0 -0.2**
SNR=8.5
FAQ Al Faqa, Dubai 124.72 75 *i* PKPdf **PKPdf 13 25 11.1 -0.2**
SNR=17
ALNE Al Ain 124.73 76 *i* PKPdf **PKPdf 13 25 11.8 +0.4**
SNR=12
ASHO Ashiyiah 125.13 75 P **PKPdf 13 25 11.6 -0.6**
ASHO Ashiyiah 125.13 75 PKPdf **PKPdf 13 25 11.8 -0.4**
HATD Hatta, Dubai 125.22 75 P **PKPdf 13 25 11.3 -1.0**
HATD Hatta, Dubai 125.22 75 *i* PKPdf **PKPdf 13 25 12.3 0.0**
SNR=6.4
UOSS Minazif 125.31 75 *e* PKPdf **PKPdf 13 25 11.8 -0.6**
UOSS Minazif 125.31 75 *i* PKPdf **PKPdf 13 25 11.4 -1.0**
SNR=7.5
MSFE Esma-Masafi 125.34 74 *i* PKPdf **PKPdf 13 25 12.3 -0.3**
SNR=7.5
BILL Bilibino 125.40 339 *e* PKPdf **PKPdf 13 25 11.9 +0.6**
BILL Bilibino 125.40 339 *d* PKIKP **PKPdf 13 25 11.4 +0.1**
BILL *i* 13 27 08.4
BILL *i* 13 27 19.9
BILL pmax pmax
comp=Z,64nm,1.7s
SHME Shamm 125.45 73 *i* PKPdf **PKPdf 13 25 12.7 -0.1**
SNR=24
MDH Madha 125.46 74 PKPdf **PKPdf 13 25 11.8 -0.9**
BANOM Banah 125.57 74 PKPdf **PKPdf 13 25 12.7 -0.3**
FORT Forrest 125.66 192 *e* PKPdf **PKPdf 13 25 12.8 -0.3**
ARU Arti 126.32 36 *e* PKPdf **PKPdf 13 25 14.1 +0.7**
ARU Arti 126.32 36 *i* PKIKP **PKPdf 13 25 14.1 +0.7**
ARU 13 27 15.6
ARU PPP PPP 13 30 01.8
ARU 13 31 37.2
BIDO Bidbid 126.75 77 PKPdf **PKPdf 13 25 14.9 -0.3**
SNR=5.2
BIDO Bidbid 126.75 77 P **PKPdf 13 25 14.9 -0.3**
SNR=5.2
WSAR Wadi Sarin 127.15 77 PKP **PKPdf 13 25 15.8 -0.2**
comp=Z,69nm,0.9s,baz=256,slow=2.7,SNR=44
WSAR PP **pPKPdf 13 27 22.0 +0.3**
comp=Z,33nm,1.2s,baz=294,slow=4.9,SNR=10
AKTO Aktyubinsk 127.22 43 PKP **PKPdf 13 25 15.9 +0.6**
comp=Z,52nm,0.9s,baz=229,slow=1.4,SNR=71
AKTO PP **pPKPdf 13 27 20.8 -0.3**
comp=Z,15nm,0.9s,baz=269,slow=7.3,SNR=5.1
SVE Sverdlovsk 127.33 35 *e* PKIKP **PKPdf 13 25 16.0 +0.7**
SVE pmax pmax
comp=Z,83nm,1.4s
GEYT Alibeck 128.25 59 PKP **PKPdf 13 25 17.2 -0.5**
comp=Z,27nm,1.0s,baz=264,slow=2.7,SNR=42
GEYT PP **pPKPdf 13 27 25.6 +2.1**
comp=Z,10nm,0.7s,baz=60,slow=3.6,SNR=8.7
GYA0B ALIBECK ARRAY 128.25 59 *e* PKPdf **PKPdf 13 25 18.4 +0.7**
CTA Charters Tower 128.43 217 PKP **PKPdf 13 25 18.8 +0.1**
comp=Z,32nm,1.0s,baz=215,slow=2.1,SNR=29
CTA SKPbc SKPbc 13 27 48.4
comp=Z,29nm,1.1s,baz=141,slow=5.7,SNR=8.5
CTAO Charters Tower 128.43 217 *e* PKPdf **PKPdf 13 25 19.1 +0.5**
NRIK Noril'sk 130.23 13 PKP **PKPdf 13 25 21.4 +0.9**
comp=Z,28nm,0.9s,baz=41,slow=1.6,SNR=21
NRIK PP **PP 13 27 39.7 -2.2**
comp=Z,29nm,1.3s,baz=306,slow=1.4,SNR=5.6
NRIK SKPbc **SKPab 13 27 54.1 0.0**
comp=Z,12nm,0.9s,baz=2.9,slow=3.2,SNR=12
ASAR Alice Springs 130.86 201 PKHKP PKPpre 13 25 04.8
comp=Z,1.5nm,0.6s,baz=141,slow=2.0,SNR=24
ASAR PKP **PKPdf 13 25 22.7 -0.5**
comp=Z,36nm,0.7s,baz=149,slow=2.1,SNR=87
ASAR SKPbc **SKPbc 13 27 56.9 -0.8**
comp=Z,66nm,0.7s,baz=148,slow=3.6,SNR=63
ASAR P5KPbc 14 00 56.0
comp=Z,0.2nm,0.7s,baz=168,slow=7.6,SNR=4.8
SEY Seymchan 133.07 338 *c i* PKIKP **PKPdf 13 25 27.5 +1.5**
BRVK Borovoye 133.83 37 *e* PKPdf **PKPdf 13 25 28.9 +1.2**
BRVK Borovoye 133.83 37 P **PKPdf 13 25 28.8 +1.1**
SNR=25
BRVK Borovoye 133.83 37 *i* PKIKP **PKPdf 13 25 27.3 -0.4**
BVAR Borovoye Array 133.90 37 PKHKP PKPpre 13 25 12.7
comp=Z,1.7nm,0.7s,baz=345,slow=3.4,SNR=7.0
BVAR PKP **PKPdf 13 25 28.3 +0.4**
comp=Z,36nm,0.8s,baz=280,slow=2.6,SNR=62
BVAR SKPab **SKPab 13 28 09.5 -1.0**
comp=Z,20nm,0.8s,baz=316,slow=4.1,SNR=10
WRA Warramunga Arr 134.13 204 PKHKP PKPpre 13 25 11.8
comp=Z,1.5nm,0.6s,baz=156,slow=2.4,SNR=36
WRA PKP **PKPdf 13 25 29.1 -0.3**
comp=Z,30nm,0.6s,baz=166,slow=1.5,SNR=77
WRA SKPbc **SKPbc 13 28 08.2 -0.6**
comp=Z,104nm,0.9s,baz=160,slow=2.7,SNR=41
WRAB Tennant Creek 134.13 204 *i* PKIKP **PKPdf 13 25 26.2 -3.2**
PMG Port Moresby 136.10 227 PKP **PKPdf 13 25 33.2 +0.1**
comp=Z,24nm,0.8s,baz=132,slow=3.8,SNR=3.8
PMG SKP 13 28 15.6
comp=Z,75nm,0.9s,baz=76,slow=3.2,SNR=20
PEA0B Petropavlovsk- 136.41 325 *e* PKPdf **PKPdf 13 25 34.1 +1.5**
PETK Petropavlovsk- 136.41 325 PKP **PKPdf 13 25 32.8 +0.3**
comp=Z,32nm,0.9s,baz=116,slow=5.1,SNR=20
PETK SKPbc **SKPbc 13 28 16.0 +1.3**
comp=Z,91nm,1.1s,baz=79,slow=9.4,SNR=22
PETK Petropavlovsk- 136.41 325 *e* PKPdf **PKPdf 13 25 33.6 +1.1**
PETK SKPbc **SKPbc 13 28 16.0 +1.3**
BHJ Bhuj 137.13 80 *eP* **PKPdf 13 25 31.8 -3.0**
BHJ IAMs_20 IAMs_20 14 04 09.1
comp=Z,176nm,3.3s
FITZ Fitzroy Crossi 138.45 193 *e* PKPpre PKPpre 13 25 27.7
BOM Bombay 139.21 87 *ex* PKPpre 13 25 28.8
NVS Novosibirsk 139.49 29 ǁ *i* PKHKP PKPpre 13 25 31.0
NVS pmax pmax
comp=N,39nm,1.5s
NVS pmax pmax
comp=E,83nm,1.5s
NVS pmax pmax
comp=Z,275nm,1.5s
KURBB Kurchatov Arra 139.49 37 PKHKP PKPpre 13 25 31.4
comp=Z,8.5nm,0.5s,baz=300,slow=3.3,SNR=34
KURBB PKP **PKPdf 13 25 39.2 +1.0**
comp=Z,64nm,0.8s,baz=296,slow=2.5,SNR=48
KURBB SKPbc **SKPbc 13 28 24.6 +1.1**
comp=Z,13nm,0.9s,baz=308,slow=3.2,SNR=7.8
KURK Kurchatov 139.50 37 *e* PKPpre PKPpre 13 25 30.7
KURK PKP **PKPdf 13 25 39.2 +0.9**
KURK SKPbc **SKPbc 13 28 24.6 +1.1**
KURK Kurchatov 139.50 37 *i* PKIKP **PKPdf 13 25 38.9 +0.7**
EKS2 Erkin-Say 139.51 50 P PKPpre 13 25 31.6
SNR=25
AML Almayashu 139.59 51 P PKPpre 13 25 32.5
SNR=32
USP Ospenovka 139.85 49 P PKPpre 13 25 32.4
SNR=16
AAK Ala-Archa 140.03 50 PKHKP PKPpre 13 25 33.7
comp=Z,31nm,0.8s,baz=220,slow=2.9,SNR=31
AAK PKP **PKPdf 13 25 40.2 +0.4**
comp=Z,73nm,0.9s,baz=139,slow=3.3,SNR=26
AAK SKPbc **SKiKP 13 28 27.7 -0.1**
comp=Z,22nm,0.9s,baz=187,slow=4.3,SNR=6.2
AAK Ala-Archa 140.03 50 P PKPpre 13 25 33.7
SNR=31
AAK Ala-Archa 140.03 50 *e* PKPpre PKPpre 13 25 32.9
AAK PKP **PKPdf 13 25 40.2 +0.4**
AAK SKPbc **SKiKP 13 28 27.7 -0.1**
AAK Ala-Archa 140.03 50 *i* PKIKP **PKPdf 13 25 40.5 +0.8**
FRU Bishkek 140.06 50 *e* PKHKP PKPpre 13 25 32.0
FRU pmax pmax
comp=Z,140nm,2.5s
POO Poona 140.08 88 *ex* PKPpre 13 25 33.6
CHMS Chumysh 140.10 49 P PKPpre 13 25 33.2
SNR=17
UCH Uchtor 140.15 51 P PKPpre 13 25 33.8
SNR=97
KBK Karagaybulak 140.34 50 P PKPpre 13 25 34.9
SNR=17
TKM2 Tokmak 2 140.72 49 P PKPpre 13 25 35.8
SNR=53
KZA Kyzart 140.72 51 P PKPpre 13 25 35.8
SNR=36
ZAA0 Zalesovo Array 140.77 29 *e* PKPpre PKPpre 13 25 35.2
ZALV Zalesovo Beam 140.77 29 PKHKP PKPpre 13 25 35.1
comp=Z,30nm,0.7s,baz=308,slow=5.1,SNR=91
ZALV PKP **PKPdf 13 25 39.5 -1.0**
comp=Z,78nm,0.8s,baz=281,slow=2.5,SNR=39
ZALV SKPbc **SKPbc 13 28 27.4 +0.7**
comp=Z,25nm,0.8s,baz=301,slow=3.1,SNR=9.4
ZALV Zalesovo Beam 140.77 29 *e* PKPpre PKPpre 13 25 34.5
ZALV SKPbc **SKPbc 13 28 27.4 +0.7**
ZALV Zalesovo Beam 140.77 29 *e* PKHKP PKPpre 13 25 34.6
ULHL Ulahol 141.38 50 P **PKPdf 13 25 38.9 -3.4**
SNR=12
NRN Naryn 141.44 51 *e* PKPpre PKPpre 13 25 38.0
NRN Naryn 141.44 51 *e* PKHKP PKPpre 13 25 38.0
KSH Kashi 141.92 54 PKP **PKPdf 13 25 38.8 -4.4**
KSH PP **PP 13 28 51.3 -4.3**
KSH PKS **PKSdf 13 29 12.8 -6.2**
KSH SS SS 13 46 42.8 -3.4
KDJ Kajisay 142.08 50 *e* PKPdf **PKPdf 13 25 41.4 -2.1**
KDJ Kajisay 142.08 50 *e* PKIKP **PKPdf 13 25 41.4 -2.1**
PALK Pallekele 142.42 108 PKP **PKPdf 13 25 42.7 -2.0**
comp=Z,73nm,0.9s,baz=284,slow=1.2,SNR=30
PALK SKKPab SKKPab 13 36 50.4 +0.4
comp=Z,3.8nm,0.6s,baz=108,slow=4.0,SNR=3.6
PALK Pallekele 142.42 108 *e* PKPdf **PKPdf 13 25 42.0 -2.6**
PALK SKKPab SKKPab 13 36 50.4 +0.4
PALK Pallekele 142.42 108 *i* PKPdf **PKPdf 13 25 42.4 -2.3**
SNR=33
PRZ Przheval'sk 142.81 49 *e* PKPdf **PKPdf 13 25 43.7 -1.1**
PRZ Przheval'sk 142.81 49 *e* PKIKP **PKPdf 13 25 43.7 -1.1**
DHRM DHARAMSHALA 143.37 66 *eP* PKPab 13 25 44.0 -0.3
DHRM IAMs_20 IAMs_20 13 59 10.4
comp=Z,186nm,5.6s
MK31 Makanchi Array 143.54 40 *e* PKPbc PKPbc 13 25 44.7 +0.3
MK31 Makanchi Array 143.54 40 *e* PKIKP PKPbc 13 25 44.7 +0.3
MKAR Makanchi Array 143.54 40 PKP PKPbc 13 25 44.8 +0.4
comp=Z,498nm,0.8s,baz=301,slow=3.8,SNR=1561
MKAR PP **PP 13 29 05.3 +0.8**
comp=Z,11nm,0.8s,baz=280,slow=4.8,SNR=4.2
MKAR SKKPbc SKKPbc 13 36 43.3 -2.3
comp=Z,28nm,1.1s,baz=111,slow=6.0,SNR=23
MKAR Makanchi Array 143.54 40 PKIKP PKPbc 13 25 44.8 +0.4
MKAR 13 29 05.4
MKAR pmax pmax
comp=Z,497nm,0.9s
HYB Hyderabad 144.15 91 ǁ *i* PKP PKPbc 13 25 47.0 -0.1
comp=Z,220nm,1.0s
HYB *ep*PKP pPKPdf 13 27 48.0 -5.5
HYB *e*SKP 13 28 37.5
HYB *e*PP **PP 13 29 05.0 -4.4**
HYB *e*SKKP 13 36 40.0
HYB Hyderabad 144.15 91 *eP* PKPbc 13 25 46.4 -0.7
HYB IAMs_20 IAMs_20 13 58 59.7
comp=Z,139nm,6.8s
SMLA Simla 144.19 68 *eP* **PKPab 13 25 47.2 0.0**
BHPL Bhopal 144.21 81 *eP* PKPbc 13 25 46.8 -0.4
BHPL IAMs_20 IAMs_20 13 58 36.5
comp=Z,184nm,3.8s
DGZ Jazzator, Alta 144.74 33 *d* PKIKP PKPbc 13 25 48.1 -0.1
BOD Bodaibo 144.88 2 ǁ *i* PKIKP **PKPdf 13 25 47.5 0.0**
BOD pmax pmax
comp=Z,491nm,1.8s
DDI Dehra Dun 145.01 69 *eP* **PKPbc 13 25 49.7 +0.2**
DDI IAMs_20 IAMs_20 13 58 48.0
comp=Z,183nm,9.8s
NGP Nagpur 145.40 85 *eP* **PKPdf 13 25 49.4 -0.2**
NGP IAMs_20 IAMs_20 14 09 29.3
comp=Z,4μm,39.3s
JAY Jayapura 145.48 227 PKPbc **PKPdf 13 25 50.1 +0.1**
comp=Z,89nm,0.9s,baz=251,slow=2.7,SNR=19
JAY pPKPbc **pPKPdf 13 27 56.2 +0.2**
comp=Z,37nm,1.0s,baz=243,slow=22,SNR=5.8
JAY Jayapura 145.48 227 PKP **PKPbc 13 25 51.3 0.0**
GENI Genyem 145.78 226 PKP **PKPbc 13 25 51.9 -0.2**
SAUI Saumlaki 146.18 207 PKP **PKPbc 13 25 53.2 0.0**
BATI Baumata 146.53 193 PKPbc **PKPbc 13 25 53.5 -0.7**
comp=Z,234nm,0.9s,baz=190,slow=0.9,SNR=56
BATI pPKPbc pPKPbc 13 27 58.8 +1.0
comp=Z,97nm,1.1s,baz=325,slow=1.2,SNR=5.4
BATI Baumata 146.53 193 PKP **PKPbc 13 25 53.1 -1.1**
HVS Khovu-Aksy 146.60 26 *i* PKIKP **PKPdf 13 25 50.8 0.0**
SOEI Soe 146.83 194 PKP **PKPbc 13 25 54.7 -0.4**
BASI Baing, Sumba 147.03 188 PKP **PKPbc 13 25 55.5 0.0**
WBSI Waikabubak, Su 147.72 186 PKP **PKPdf 13 25 55.0 +1.3**
WBSI PKP **PKPbc 13 25 57.7 +0.4**
YUK Yuzh-Kuril'sk 147.73 318 *e* PKP2 **PKPbc 13 25 56.9 +0.5**
YUK *i* 13 29 23.9
YSS Yuzh-Sakhalins 147.81 325 *e* PKPdf **PKPdf 13 25 52.7 -0.1**
YSS Yuzh-Sakhalins 147.81 325 ǁ *i* PKP2 **PKPbc 13 25 56.9 +0.4**
YSS pmax pmax
comp=Z,120nm,0.9s
GRNR Gornyy 147.92 336 *e* PKHKP PKPpre 13 25 53.0
GRNR pmax pmax
comp=Z,23nm,1.0s
ZEA Zeya 147.93 348 *e* PKHKP PKPpre 13 25 53.2
ZEA *e* 13 47 54.0
ZEA pmax pmax
comp=Z,900nm,2.0s
ZEA pmax pmax
comp=E,85nm,1.6s
ZEA pmax pmax
comp=N,120nm,1.4s
ZEA pmax pmax
comp=Z,370nm,1.4s
EDFI Ende, Flores 148.31 190 PKP **PKPdf 13 25 54.0 -0.8**
MMRI Maumere 148.33 191 PKP **PKPdf 13 25 54.7 0.0**
MMRI PKP **PKPbc 13 25 57.4 -1.4**
WMQ Urumqi 148.34 41 PKPbc **PKPdf 13 25 54.6 +0.7**
WMQ PKPab **PKPab 13 26 05.4 +2.1**
WMQ pPKP pPKPdf 13 27 45.8 -14
WMQ PP **PP 13 29 36.5 +3.9**
WMQ SKKS 13 35 30.3
WMQ AMB AMB
comp=Z,410nm,3.7s
PLAI Plampang 148.64 183 PKP **PKPdf 13 25 55.1 -0.1**
IGBI Denpasar 148.65 178 PKP **PKPbc 13 25 59.0 -0.6**
MOY Mondy 148.73 19 *e* PKHKP PKPpre 13 25 56.1
MOY pmax pmax
comp=Z,823nm,2.0s
TWSI Taliwang, Sumb 148.75 181 PKP **PKPdf 13 25 55.7 +0.4**
CISI Cisompet, Garu 148.78 163 PKP **PKPdf 13 25 55.4 -0.1**
CISI PKP **PKPbc 13 25 59.2 -0.8**
DNP Denpasar 148.79 178 PKP **PKPbc 13 25 58.0 -2.0**
SRPI Serui, Papua 148.83 221 PKP **PKPdf 13 25 57.2 +1.7**
PCJI Pacitan 148.88 170 PKP **PKPbc 13 26 00.6 +0.4**
JAGI Jajag, Banyuwa 148.94 176 PKP **PKPdf 13 25 55.8 +0.1**
SKJI Sukabumi 148.95 161 PKP **PKPdf 13 25 55.9 +0.2**
SKJI PKP **PKPbc 13 25 57.1 -3.3**
UGM Wanagama 149.04 169 PKP **PKPdf 13 25 57.1 +1.2**
UGM PKP **PKPbc 13 26 00.3 -0.3**
CGJI Cibinong 149.05 159 PKP **PKPdf 13 25 56.5 +0.7**
IRK Irkutsk 149.07 15 *e* PKHKP PKPpre 13 25 55.3
IRK pmax pmax
comp=Z,621nm,2.1s
WOJI Wonogiri, Jawa 149.19 169 PKP **PKPbc 13 26 00.2 -0.7**
JMP Maruseppu 149.25 320 P **PKPdf 13 25 55.6 +0.3**
KPJI Karang Pucung 149.28 165 PKP **PKPbc 13 26 00.0 -1.1**
KPJI PKP **PKiKP 13 26 00.8 -1.2**
JWK2 Keihoku 149.30 323 P **PKPbc 13 26 00.7 +0.4**
SRBI Singaraja 149.38 178 PKP **PKPbc 13 25 59.8 -1.6**
LEM Lembang 149.43 163 PKP **PKPdf 13 25 57.1 +0.5**
comp=Z,128nm,1.1s,baz=142,slow=5.5,SNR=11
LEM PKPbc **PKiKP 13 26 02.7 +0.2**
comp=Z,748nm,0.8s,baz=70,slow=0.2,SNR=103
LEM pPKPbc **pPKPab 13 28 08.1 -0.7**
comp=Z,259nm,0.9s,baz=131,slow=5.2,SNR=12
LEM Lembang 149.43 163 PKP **PKPdf 13 25 57.8 +1.2**
PYUN Piuthan 149.43 73 *eP* **PKPdf 13 25 56.4 +0.1**
DBJI Dramaga 149.44 161 PKP **PKPdf 13 25 56.8 +0.3**
TLY Talaya 149.44 16 PKP **PKPdf 13 25 56.1 +0.7**
comp=Z,10nm,1.0s,baz=214,slow=3.2,SNR=16
TLY PKPbc **PKiKP 13 26 00.9 -0.3**
comp=Z,68nm,1.0s,baz=273,slow=4.4,SNR=15
TLY Talaya 149.44 16 P **PKPdf 13 25 56.8 +1.4**
SNR=90
BLJI Banyuglugur 149.62 175 PKP **PKPdf 13 25 57.2 +0.5**
BLJI PKP **PKPbc 13 25 59.3 -2.7**
ASAJ Asahikawa 149.64 321 P **PKPdf 13 25 56.5 +0.7**
KASI Kota Agung 149.64 156 PKP **PKPdf 13 25 56.6 -0.2**
KASI PKP **PKPbc 13 25 58.7 -3.3**
SBJI Serang 149.65 160 PKP **PKPdf 13 25 56.8 0.0**
SBJI PKP **PKPbc 13 25 58.6 -3.5**
NGJI Ngawi 149.73 170 PKP **PKPbc 13 26 03.6 +1.4**
SMRI Semarang 149.87 168 PKP **PKPbc 13 26 03.2 +0.6**
BNDI Bandanaira 149.88 208 PKP **PKPdf 13 25 56.6 -0.5**
LWLI Liwa 149.94 155 PKP **PKPdf 13 25 57.6 +0.2**
KOLN Koldanda 149.98 73 *eP* **PKPdf 13 25 57.3 +0.1**
BLSI Bandar Lampung 150.06 157 PKP **PKPdf 13 25 57.5 +0.1**
PPSI Pulau Pagai 150.07 146 PKP **PKPdf 13 25 59.2 +1.8**
DANN Dangsing 150.09 72 *eP* **PKPdf 13 25 58.2 +0.8**
FAKI Fak Fak 150.19 213 PKP **PKPdf 13 25 58.2 +0.6**
FAKI PKP **PKPbc 13 26 03.2 -0.2**
GRJI Gresik 150.32 172 PKP **PKPdf 13 25 58.8 +1.0**
GRJI PKP **PKPbc 13 25 59.3 -4.3**
RKPI Ransiki, Papua 150.33 218 PKP **PKPbc 13 26 03.4 -0.3**
TBJI Tambak Boyo 150.33 171 PKP **PKPbc 13 26 02.1 -1.5**
KMMI Kalianget 150.34 175 PKP **PKPdf 13 25 59.2 +1.4**
KLI Kotabumi 150.38 156 PKP **PKPdf 13 25 57.9 0.0**
MDSI Maura Dua 150.47 155 PKP **PKPdf 13 25 57.6 -0.4**
ERM Erimo 150.48 317 *e* PKPbc **PKPbc 13 26 04.7 +1.5**
ZAK Zakamensk 150.53 17 *e* PKIKP **PKPdf 13 25 58.2 +1.0**
ZAK pmax pmax
comp=Z,138nm,1.1s
CIT Chita 150.65 4 *e* PKIKP **PKPdf 13 25 57.9 +0.7**
CIT *e* 13 26 13.8
CIT pmax pmax
comp=Z,536nm,1.1s
SISI Saibi 150.77 143 PKP **PKPdf 13 25 59.5 +1.0**
MASI Maura Aman, Be 150.84 150 PKP **PKPdf 13 25 59.0 +0.3**
KLR Kul'dur 150.86 339 PKP **PKPdf 13 25 57.9 +0.3**
comp=Z,24nm,1.1s,baz=2.1,slow=3.8,SNR=28
KLR PKPbc **PKiKP 13 26 04.0 -0.2**
comp=Z,110nm,0.9s,baz=64,slow=2.3,SNR=67
KLR pPKPbc **pPKPbc 13 28 09.8 +1.0**
comp=Z,21nm,0.9s,baz=359,slow=2.7,SNR=5.8
JEW Eniwo 151.06 320 P **PKPbc 13 26 04.4 -0.1**
DMN Daman 151.32 74 *eP* **PKPdf 13 25 59.6 +0.3**
PBSI Pulau Batu 151.33 140 PKP **PKPbc 13 26 00.8 +1.4**
BBSI Bau Bau 151.34 193 PKP **PKPdf 13 26 01.2 +1.8**
KRJI Kerinci 151.38 148 PKP **PKPbc 13 26 00.3 +0.7**
KKN Kakani 151.47 73 *eP* **PKPdf 13 25 59.6 +0.2**
BWNR Bhubaneshwar 151.48 89 *eP* **PKPdf 13 25 57.8 -1.5**
BWNR IAMs_20 IAMs_20 14 15 39.4
comp=Z,832nm,14.7s
PKIN Phulchoki 151.58 74 *eP* **PKPdf 13 25 59.5 -0.2**
PKI Pulchoki 151.59 74 *eP* **PKPdf 13 25 59.6 -0.2**
PDSI Padang 151.87 144 PKP **PKPdf 13 26 00.2 0.0**
BKSI Bulukumba 151.91 188 PKP **PKPdf 13 26 01.0 +0.8**
GSI Gunungsitoli 151.96 137 PKP **PKPdf 13 26 01.5 +1.2**
SNSI Sinabang, Aceh 151.98 133 PKP **PKPdf 13 26 01.5 +1.2**
BOK Bokaro 151.99 82 *eP* **PKPdf 13 26 00.5 +0.5**
BOK IAMs_20 IAMs_20 14 02 42.5
comp=Z,72nm,6.3s
GUN Gumba 151.99 73 *eP* **PKPdf 13 26 00.6 +0.2**
NLAI Namlea 152.17 203 PKP **PKPdf 13 25 59.9 -0.7**
PPI Padang Panjang 152.22 144 PKP **PKPdf 13 26 00.4 -0.3**
JIRN Jiri 152.28 73 *eP* **PKPdf 13 26 00.7 -0.1**
SDSI Sungai Dareh 152.36 146 PKP **PKPdf 13 25 59.5 -1.4**
SIJI Sorong 152.44 214 PKP **PKPdf 13 26 00.8 -0.2**
comp=Z,12nm,0.8s,baz=342,slow=6.8,SNR=5.2
SIJI PKPbc **PKiKP 13 26 08.8 +0.2**
comp=Z,120nm,0.7s,baz=29,slow=1.5,SNR=46
SIJI pPKPbc **pPKPbc 13 28 15.2 +1.7**
comp=Z,63nm,0.8s,baz=19,slow=4.5,SNR=15
RAMN Ramite 152.68 75 *eP* **PKPdf 13 26 01.7 +0.4**
MNSI Mandailing Nat 152.78 141 PKP **PKPdf 13 26 00.8 -0.7**
BNSI Bone 152.82 188 PKP **PKPdf 13 26 02.0 +0.5**
TPTI 153.18 133 PKP **PKPdf 13 26 01.4 -0.7**
BKNI Bangkinang 153.22 144 PKP **PKPdf 13 26 01.2 -0.9**
SPSI Sidrap Palu 153.29 188 PKP **PKPdf 13 26 01.9 -0.3**
RGRI Rengat 153.32 147 PKP **PKPdf 13 26 01.5 -0.8**
RGRI PKP **PKPdf 13 26 02.0 -0.3**
CMBY CAMPBELL BAY 153.34 122 *eP* **PKPdf 13 26 02.5 +0.3**
CMBY IAMs_20 IAMs_20 13 53 37.2
comp=Z,1μm,3.0s
PPBI Pangkal Pinang 153.35 157 PKP **PKPdf 13 26 01.8 -0.5**
MLSI Meulaboh, Aceh 153.37 131 PKP **PKPdf 13 26 02.4 +0.1**
ODAN Odare 153.39 75 *eP* **PKPdf 13 26 02.6 +0.3**
TAPN Taplejung 153.65 74 *eP* **PKPdf 13 26 03.0 +0.3**
SANI Sanana 153.67 202 PKP **PKPdf 13 26 02.4 -0.4**
SONM Songino Array 153.68 15 PKP **PKPdf 13 26 02.3 +0.3**
comp=Z,33nm,0.9s,baz=291,slow=1.0,SNR=140

SONM PKPbc **PKiKP** **13 26 10.7 +0.5**
comp=Z,49nm,0.9s,baz=293,slow=1.3,SNR=32
SONM PKPab **PKPab** **13 26 26.1 +0.4**
comp=Z,67nm,1.0s,baz=314,slow=2.7,SNR=3.6
SONM pPKPbc **pPKPbc** **13 28 17.5 +2.0**
comp=Z,32nm,1.0s,baz=280,slow=1.2,SNR=7.6
KCSI Kotacane, Aceh 153.77 134 PKP **PKPdf** **13 26 02.3 -0.6**
ULN Ulaanbaatar 153.80 14 *e*PKPdf **PKPdf** **13 26 03.0 +0.9**
ULN Ulaanbaatar 153.80 14 P **PKPdf** **13 26 03.0 +0.9**
SNR=21
ULN Ulaanbaatar 153.80 14 *e*PKIKP **PKPdf** **13 26 03.0 +0.9**
PSI Prapat 153.97 137 PKP **PKPdf** **13 26 03.1 -0.2**
comp=Z,25nm,0.7s,baz=180,slow=3.4,SNR=43
PSI PKPbc **PKPbc** **13 26 10.6 -1.3**
comp=Z,54nm,1.0s,baz=180,slow=3.8,SNR=20
PSI PKPab **PKPab** **13 26 27.5 -0.3**
comp=Z,64nm,0.9s,baz=180,slow=4.2,SNR=15
TTSI Tana Toraja 154.19 188 PKP **PKPdf** **13 26 03.9 +0.4**
DSRI Dabo 154.25 152 PKP **PKPdf** **13 26 03.4 -0.2**
TSI Tuntungan 154.27 135 PKP **PKPdf** **13 26 03.6 0.0**
LHMI Lhok Sumawe 154.43 130 PKP **PKPdf** **13 26 03.8 0.0**
GTK Tadong 154.44 74 *e*P **PKPdf** **13 26 02.5 -1.1**
USRK Ussuriysk Ar. 154.99 333 PKP **PKPdf** **13 26 03.5 -0.1**
comp=Z,18nm,1.0s,baz=263,slow=1.7,SNR=28
USRK PKPbc **PKPbc** **13 26 13.5 +0.6**
comp=Z,12nm,0.8s,baz=295,slow=1.8,SNR=11
TPRI Tanjung Pinang 155.47 150 PKP **PKPdf** **13 26 05.7 +0.5**
LUWI Luwuk 155.59 196 PKP **PKPdf** **13 26 06.2 +0.8**
MDJ Mudanjiang 155.59 337 PKP **PKPdf** **13 26 04.9 +0.5**
APSI Ampana 155.97 193 PKP **PKPdf** **13 26 06.9 +1.0**
TURI Tura 156.08 78 *e*P **PKPdf** **13 26 05.1 -0.5**
BKB Balikpapan 156.18 181 PKP **PKPdf** **13 26 08.1 +2.0**
LSA Lhasa 156.35 68 PKP **PKPdf** **13 26 07.4 +0.9**
LSA Lhasa 156.35 68 *e*PKPdf **PKPdf** **13 26 07.3 +0.9**
LSA Lhasa 156.35 68 PKPdf **PKPdf** **13 26 05.8 -0.7**
JRY Ryogami san 156.37 309 P **PKPdf** **13 26 05.7 -0.1**
MTKI Muara Teweh, K 156.46 176 PKP **PKPdf** **13 26 07.1 +0.6**
IPM Ipoh 156.58 138 *e*PKPdf **PKPdf** **13 26 06.4 -0.3**
IPM *e*PKPab **PKPab** **13 26 38.5 -0.4**
MJAR Matsushiro Arr 156.61 311 PKP **PKPdf** **13 26 06.4 +0.3**
comp=Z,6.4nm,1.0s,baz=251,slow=2.6,SNR=17
MJAR PKPab **PKPab** **13 26 38.2 -0.4**
comp=Z,14nm,0.9s,baz=64,slow=2.1,SNR=13
MAJO Matsushiro 156.61 311 *e*PKPab **PKPab** **13 26 38.5 -0.1**
MAT Matsushiro 156.61 311 PKP **PKPdf** **13 26 05.3 -0.7**
MJB9 Matsu-Tunnel 156.61 311 *e*PKPab **PKPab** **13 26 38.5 -0.1**
AGT Agartala 156.90 82 *e*P **PKPdf** **13 26 06.3 -0.4**
KULM Kulim 156.97 136 *e*PKPdf **PKPdf** **13 26 07.5 +0.4**
KULM *e*PKPab **PKPab** **13 26 40.2 -0.4**
SMKI Samarinda 156.98 182 PKP **PKPdf** **13 26 09.0 +1.8**
STKI Sintang 157.00 167 PKP **PKPdf** **13 26 07.4 +0.2**
BRDH Bariadhala 157.19 85 PKPab **PKPab** **13 26 42.8 +1.3**
comp=Z,178nm,0.5s,baz=66,slow=2.8,SNR=16
TAWA Tawang 157.30 73 *e*P **PKPdf** **13 26 07.2 -0.4**
JGN Niukaw 157.39 311 P **PKPdf** **13 26 07.5 +0.4**
SHL Shillong 157.48 78 *e*PKPab **PKPab** **13 26 42.9 -0.1**
SHL Shillong 157.48 78 *e*P **PKPdf** **13 26 06.9 -0.7**
MPSI Mapaga 157.51 189 PKP **PKPdf** **13 26 07.5 -0.3**
CN2 Changchun 157.66 343 PKP **PKPdf** **13 26 06.3 -0.8**
CN2 pPKP pPKPdf 13 28 01.8 -12
CN2 PP **PP** **13 30 25.9 +2.2**
CN2 SS SS 13 49 41.1 +4.6
CN2 AMB AMB
comp=Z,200nm,5.0s
KSM Kuching 158.09 164 *e*PKPab **PKPab** **13 26 45.8 +0.5**
GTA Gaotai 158.18 36 PKP **PKPdf** **13 26 08.3 +0.3**
GTA PKPab **PKPab** **13 26 46.0 +0.6**
GTA sPKP 13 28 49.6
GTA PP **PP** **13 30 24.9 -2.4**
GTA SS SS 13 49 42.4 -1.0
GTA AMB AMB
comp=Z,380nm,6.9s
TEZP TEZPUR 158.23 75 *e*P **PKPdf** **13 26 08.0 -0.3**
SILR SILCHAR 158.33 80 *e*P **PKPdf** **13 26 07.2 -1.3**
SAIH SAIHA 158.41 86 *e*P **PKPdf** **13 26 08.5 -0.3**
JIE Ise 158.72 308 P **PKPdf** **13 26 09.0 +0.4**
ITAN ITANAGAR 158.99 73 P **PKPdf** **13 26 09.2 0.0**
ZIRO ZIRO 159.06 72 *e*P **PKPdf** **13 26 09.4 -0.1**
JWT Wachi 159.21 311 P **PKPdf** **13 26 09.7 +0.5**
IMP Imphal 159.37 80 *e*P **PKPdf** **13 26 09.3 -0.5**
SBUM Sibu 159.47 168 *e*PKPdf **PKPdf** **13 26 10.4 +0.3**
SBUM *e*PKPab **PKPab** **13 26 51.7 +0.4**
KOHI KOHIMA 159.47 77 *e*P **PKPdf** **13 26 09.9 -0.1**
JORH JORHAT 159.51 74 *e*P **PKPdf** **13 26 09.4 -0.4**
MOKO MOKOCHONG 159.79 75 *e*P **PKPdf** **13 26 09.5 -0.8**
SNY Shenyang 159.99 344 ⇓PKP **PKPdf** **13 26 10.4 +0.6**
SNY PP **PP** **13 30 35.6 -0.5**
SNY AMB AMB
comp=Z,180nm,5.9s
JAD Aida 160.24 312 P **PKPdf** **13 26 11.1 +0.8**
LKP Lekhapani 160.84 72 *e*P **PKPdf** **13 26 10.5 -0.7**
JMN Monobe 161.09 309 P **PKPdf** **13 26 12.5 +1.5**
BTO Baotou 161.36 15 *e*PKP **PKPdf** **13 26 11.9 +0.4**
HHC Hu-ho-hao-te 161.46 12 *e*PKP **PKPdf** **13 26 12.4 +0.8**
HHC PKPab **PKPab** **13 27 00.1 +0.5**
HHC PP **PP** **13 30 42.9 -1.1**
HHC SS SS 13 50 14.3 -1.8
KS01 Wonju Array Si 162.24 329 *e*PKPdf **PKPdf** **13 26 12.4 +0.1**
KSRS Korea Array 162.25 329 PKP **PKPdf** **13 26 12.4 +0.1**
comp=Z,13nm,0.9s,baz=81,slow=1.4,SNR=40
KSRS PKPab **PKPab** **13 27 03.2 +0.2**
comp=Z,18nm,1.0s,baz=46,slow=3.9,SNR=17
KSAR Wonju Array Be 162.27 329 PKP **PKPdf** **13 26 12.4 +0.1**
KSAR PKPab **PKPab** **13 27 03.2 0.0**
KSAR Wonju Array Be 162.27 329 PKIKP **PKPdf** **13 26 12.5 +0.1**
KSAR 13 27 03.2
UTHA Uthaitani 162.51 111 P **PKPdf** **13 26 13.8 +0.6**
LZH Lanzhou 162.79 36 *e*PKP **PKPdf** **13 26 14.4 +1.2**
LZH PP **PP** **13 30 49.3 -2.4**
LZH SKS **SKSdf** **13 32 32.3 +4.8**
LZH SS **SS** **13 50 33.6 +2.5**
LZH AMB AMB
comp=Z,910nm,4.6s
CM31 Chiang Mai Arr 163.14 101 *e*PKPab **PKPab** **13 27 07.7 0.0**
CMAR Chiang Mai Arr 163.14 101 PKP **PKPdf** **13 26 13.8 +0.1**
comp=Z,27nm,0.9s,baz=262,slow=2.2,SNR=191
CMAR PKPab **PKPab** **13 27 07.5 -0.3**
comp=Z,30nm,0.8s,baz=252,slow=5.9,SNR=38
CMAR PP **PP** **13 30 55.8 +1.1**
comp=Z,10nm,1.0s,baz=273,slow=5.5,SNR=5.9
DL2 Dalian 163.23 346 ⇓PKP **PKPdf** **13 26 13.3 +0.1**
DL2 PP **PP** **13 30 58.3 +5.2**
DL2 AMB AMB
comp=Z,880nm,8.0s
CHTO Chiang Mai 163.25 100 *e*PKPdf **PKPdf** **13 26 13.9 +0.1**
CHTO *e*PKPab **PKPab** **13 27 07.2 -1.0**
CHTO Chiang Mai 163.25 100 P **PKPdf** **13 26 14.1 +0.3**
SNR=39
CHTO Chiang Mai 163.25 100 *e*PKIKP **PKPdf** **13 26 13.9 +0.1**
CHTO *e* 13 27 07.2
CHTO Chiang Mai 163.25 100 P **PKPdf** **13 26 14.0 +0.1**
comp=Z,325nm,1.3s,comp=Z,5μm
CMMT Chiang Mai 163.25 100 P **PKPdf** **13 26 14.0 +0.1**
comp=Z,73nm,1.3s,comp=Z,1μm
KKM Kota Kinabalu 163.44 179 *e*PKPdf **PKPdf** **13 26 14.4 +0.1**
KKM *e*PKPab **PKPab** **13 27 08.6 -0.2**
SUKH Sukhothai 163.44 105 P **PKPdf** **13 26 15.0 +1.0**
comp=Z,21nm,1.1s,comp=Z,553nm
LAMP Lampang 163.79 102 P **PKPdf** **13 26 15.3 +1.0**
comp=Z,35nm,1.1s,comp=Z,523nm
SRAK Srakaew 163.90 120 P **PKPdf** **13 26 15.5 +1.0**
comp=Z,67nm,1.3s,comp=Z,1μm
PBKT Sadao Pong 164.27 110 P **PKPdf** **13 26 15.1 +0.3**
comp=Z,86nm,1.6s,comp=Z,1μm
UTTA Uttaradit 164.36 106 P **PKPdf** **13 26 15.3 +0.5**
comp=Z,18nm,1.1s,comp=Z,427nm
TIY Taiyuan 164.66 12 *e*PKP **PKPdf** **13 26 15.0 +0.3**
TIY PKPab **PKPab** **13 27 14.6 +0.9**
TIY PP **PP** **13 30 59.4 -1.2**
TIY SS SS 13 50 50.3 +1.6
TIY AMB AMB
comp=Z,350nm,5.2s
JSU Suzuyama 164.71 308 P **PKPdf** **13 26 15.7 +0.9**
CHAI Chaiyaphum 164.84 114 P **PKPdf** **13 26 15.7 +0.4**
comp=Z,13nm,1.4s,comp=Z,152nm
CD2 Chengdu 166.09 51 PKP **PKPdf** **13 26 16.8 +0.8**
CD2 pPKP pPKPdf 13 28 07.8 -15
CD2 sPKP 13 28 53.3
CD2 PP **PP** **13 31 09.0 -0.2**
CD2 SKS **SKSdf** **13 32 36.8 +7.0**
CD2 SKKS **SKKSac** **13 37 09.8 +5.9**
CD2 SS **SS** **13 51 10.4 +5.1**
CD2 AMB AMB
comp=Z,2μm,5.9s
XAN Xi'an 166.94 28 PKP **PKPdf** **13 26 16.9 +0.3**
XAN PP **PP** **13 31 10.3 -2.3**
KMI Kunming 167.30 76 PKP **PKPdf** **13 26 17.8 +0.5**
ENH Enshi 170.26 38 *e*PKPdf **PKPdf** **13 26 19.0 +0.2**
ENH *e*PKPab **PKPab** **13 27 38.8 +0.1**
GYA Guiyang 170.41 65 *i* PKP **PKPdf** **13 26 18.8 -0.3**
GYA PKPab **PKPab** **13 27 40.0 +0.2**
GYA pPKP pPKPdf 13 28 11.3 -15
GYA sPKP 13 28 55.6
GYA PKS **PKSdf** **13 29 50.0 -1.7**
GYA PP **PP** **13 31 32.3 +1.0**
GYA AMB AMB
comp=Z,160nm,8.9s
NJ2 Nanjing 170.43 347 *e*PKP **PKPdf** **13 26 21.8 +3.1**
WHN Wuhan 171.98 13 PKP **PKPdf** **13 26 19.8 +0.2**
WHN PKPab **PKPab** **13 27 46.1 0.0**
WHN PP **PP** **13 31 33.3 -3.8**
WHN SS SS 13 51 59.4 -1.3
QZH Quanzhou 176.98 318 *i* PKP **PKPdf** **13 26 21.6 +0.3**
QZH PP **PP** **13 32 06.8 +5.0**
QZH SS SS 13 52 48.8 -1.0
GZH Guangzhou 177.18 82 PKP **PKPdf** **13 26 22.3 +0.9**
GZH PKPab PKPab 13 28 09.1 -0.8
GZH PP **PP** **13 32 02.1 -1.8**
GZH SKKS 13 37 57.6
GZH AMB AMB
comp=Z,1μm,11.6s

*NORS **22** 13:21:39.5±0.0, 41°.63N×44°.38E, h2km*
*MOS **22** 13:21:40.0±0.0, 41°.76N×44°.51E, h20km, MPVA4.0*
ISC 22 13:21:40.2±0.9, **41°.64N**±0°.02×**44°.43E**±0°.02, **h15**km±7km,
n52, σ0°.83/91, **3D, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TBLG	**Delisi**	**0.24**	**69**	P		**Pg**	**13 21 45.7**	**+0.1**
TBLG				S		**Sg**	**13 21 49.9**	**+0.1**
TBLG	**Delisi**	**0.24**	**69**	*e*PG		**Pg**	**13 21 45.7**	**+0.1**
TBLG				*e*S		**Sg**	**13 21 49.9**	**+0.6**
KZRT	**Kazreti**	**0.26**	**186**	P		**Pb**	**13 21 46.1**	**-0.4**
KZRT				S		**Sb**	**13 21 50.5**	**-0.3**
TRLG	**Trialeti**	**0.27**	**248**	P		**Pb**	**13 21 46.5**	**-0.3**
TRLG				S		**Sb**	**13 21 51.2**	**-0.1**
SEAG	**Tbilisi Sea**	**0.30**	**66**	P		**Pb**	**13 21 46.7**	**-0.6**
SEAG				S		**Sb**	**13 21 51.7**	**-0.4**
DUS	**Dusheti**	**0.49**	**24**	P		**Pb**	**13 21 50.3**	**-0.2**
DUS				S		**Sb**	**13 21 58.4**	**+0.8**
DUS	**Dusheti**	**0.49**	**24**	*e*PG		**Pb**	**13 21 50.3**	**-0.2**
DUS				*e*S		**Sb**	**13 21 58.4**	**+0.8**
BGD	**Bogdanovka**	**0.73**	**239**	P		**Pg**	**13 21 54.2**	**-0.4**
BGD				S		**Sg**	**13 22 04.1**	**-0.1**
AKH	**Akhalkalaki**	**0.74**	**252**	P		**Pg**	**13 21 53.9**	**-0.8**
AKH				S		**Sg**	**13 22 04.0**	**-0.6**
AKH	**Akhalkalaki**	**0.74**	**252**	*e*PG		**Pg**	**13 21 53.9**	**-0.8**
AKH				*e*S		**Sg**	**13 22 04.0**	**-0.6**
GUDG	**Gudauri**	**0.82**	**2**	P		**Pb**	**13 21 55.8**	**-0.5**
GUDG				S		**Sb**	**13 22 07.2**	**0.0**
LACR	**Lac**	**1.19**	**355**	*i* PG		**Pb**	**13 22 01.9**	**-0.5**
LACR				pmax	pmax			
comp=Z,137nm,0.2s								
LACR	**Lac**	**1.19**	**355**	*i* Pg		**Pb**	**13 22 01.9**	**-0.5**
LACR				*e*Sg		**Sg**	**13 22 17.9**	**-0.7**
ONI	**Oni**	**1.20**	**323**	P		**Pb**	**13 22 01.8**	**-0.7**
ONI				S		**Sg**	**13 22 18.3**	**-0.6**
ONI	**Oni**	**1.20**	**323**	*e*PG		**Pb**	**13 22 01.8**	**-0.7**
ONI				*e*S		**Sg**	**13 22 18.3**	**-0.6**
ZEI	**Tsey**	**1.21**	**341**	*e*PG		**Pb**	**13 22 02.1**	**-0.8**
ZEI				*e*S		**Sb**	**13 22 18.2**	**-0.2**
ZEI	**Tsey**	**1.21**	**341**	*i* Pg		**Pb**	**13 22 02.1**	**-0.8**
ZEI				*e*Sg		**Sb**	**13 22 18.2**	**-0.2**
DIGR	**Digorskoe uzhe**	**1.41**	**334**	*e*PG		**Pn**	**13 22 05.7**	**+0.3**
DIGR				pmax	pmax			
comp=Z,22nm,0.1s								
DIGR	**Digorskoe uzhe**	**1.41**	**334**	*e*Pg		**Pn**	**13 22 05.6**	**+0.2**
DIGR				*e*Sg		**Sn**	**13 22 24.4**	**+0.6**
VLKR	**Vladikavkaz**	**1.41**	**7**	*e*PG		**Pg**	**13 22 07.0**	**-0.4**
VLKR				*e*S		**Sg**	**13 22 27.2**	**+1.4**
VLKR	**Vladikavkaz**	**1.41**	**7**	*e*Pg		**Pn**	**13 22 05.1**	**-0.2**
VLKR				*e*Sg		**Sn**	**13 22 23.8**	**0.0**
KMGR	**Komgaron**	**1.45**	**13**	*e*PG		**Pg**	**13 22 07.3**	**-0.8**
KMGR				*e*S		**Sg**	**13 22 28.0**	**+1.1**
KMGR	**Komgaron**	**1.45**	**13**	*e*Pg		**Pn**	**13 22 05.7**	**-0.2**
KMGR				*e*Sg		**Sn**	**13 22 24.8**	**+0.1**
KORR	**Kora**	**1.47**	**349**	*i* PG		**Pg**	**13 22 07.8**	**-0.6**
KORR				pmax	pmax			
comp=Z,73nm,0.2s								
KORR	**Kora**	**1.47**	**349**	*e*Pg		**Pn**	**13 22 06.1**	**0.0**
KORR				*e*Sg		**Sb**	**13 22 25.5**	**-0.2**
GNI	**Garni**	**1.51**	**171**	*d*PG		**Pb**	**13 22 07.6**	**-0.4**
ARNR	**Ardon**	**1.54**	**356**	*e*PG		**Pg**	**13 22 09.8**	**0.0**
ARNR				*e*S		**Sg**	**13 22 31.2**	**+1.4**
ARNR	**Ardon**	**1.54**	**356**	*e*Pg		**Pn**	**13 22 07.3**	**+0.2**
ARNR				*e*Sg		**Sb**	**13 22 27.5**	**-0.2**
BTLR	**Botlikh**	**1.68**	**52**	*e*PN		**Pg**	**13 22 11.3**	**-1.1**
BTLR				*e*S		**Sg**	**13 22 33.2**	**-1.0**
BTLR	**Botlikh**	**1.68**	**52**	*e*Pg		**Pn**	**13 22 09.3**	**+0.3**
BTLR				*e*Sg		**Sb**	**13 22 31.0**	**-0.7**
LSNR	**Lesken**	**1.69**	**345**	*e*PN		**Pb**	**13 22 11.2**	**+0.1**
LSNR				pmax	pmax			
comp=Z,33nm,0.2s								
LSNR	**Lesken**	**1.69**	**345**	*e*Pg		**Pb**	**13 22 10.8**	**-0.3**
LSNR				*e*Sg		**Sb**	**13 22 32.6**	**+0.4**
BTKR	**Batakoyurt**	**1.73**	**3**	*e*Pg		**Pb**	**13 22 10.7**	**-1.0**
BTKR				*e*Sg		**Sb**	**13 22 32.8**	**-0.4**
STDR	**Stavd-Durt**	**1.75**	**351**	*e*PN		**Pg**	**13 22 13.4**	**-0.3**
STDR				*e*S		**Sg**	**13 22 36.9**	**+0.5**
STDR	**Stavd-Durt**	**1.75**	**351**	*e*Pg		**Pg**	**13 22 13.0**	**-0.7**
STDR				*e*Sg		**Sg**	**13 22 35.9**	**-0.6**
XNZR	**Khunzakh**	**1.91**	**61**	*e*Pg		**Pb**	**13 22 13.8**	**-1.1**
XNZR				*e*Sg		**Sg**	**13 22 40.1**	**-1.7**
NCK	**Nalchik**	**1.95**	**342**	*i* PN		**Pb**	**13 22 14.6**	**-0.8**
NCK	**Nalchik**	**1.95**	**342**	*e*Pg		**Pb**	**13 22 14.1**	**-1.3**
NCK				*e*Sg		**Sb**	**13 22 39.5**	**-0.1**
NEY	**Neytrino**	**2.04**	**322**	*e*PN		**Pb**	**13 22 16.3**	**-0.8**
NEY				*e*S		**Sb**	**13 22 43.0**	**+0.6**
NEY	**Neytrino**	**2.04**	**322**	*e*Pg		**Pb**	**13 22 16.0**	**-1.1**
NEY				*e*Sg		**Sb**	**13 22 42.9**	**+0.6**
PRTR	**Priterechnaya**	**2.11**	**357**	*e*Pg		**Pb**	**13 22 16.4**	**-1.7**
PRTR				*e*Sg		**Sb**	**13 22 43.2**	**-0.8**
DBC	**Dubki**	**2.25**	**51**	*e*PN		**Pb**	**13 22 20.4**	**-0.1**
DBC				*e*S		**Sg**	**13 22 50.8**	**-1.6**
KBTC	**Kuba-Taba**	**2.30**	**341**	*e*Pg		**Pn**	**13 22 19.3**	**+1.7**
KBTC				*e*Sg		**Sb**	**13 22 48.8**	**-0.8**
AKT	**Akhty**	**2.48**	**93**	*e*PN		**Pn**	**13 22 21.7**	**+1.6**
AKT				*e*S		**Sb**	**13 22 53.1**	**-1.7**
AKT	**Akhty**	**2.48**	**93**	*e*Pn		**Pn**	**13 22 21.7**	**+1.6**
AKT				*e*Sn		**Sb**	**13 22 53.1**	**-1.7**
KIV	**Kislovodsk**	**2.65**	**331**	*i* PN		**Pb**	**13 22 25.2**	**-2.1**
CFR	**Carcaliu**	**12.37**	**292**	⇓*i*P		**Pn**	**13 24 36.0**	**+0.5**
CFR	**Carcaliu**	**12.37**	**292**	⇓P		**Pn**	**13 24 36.0**	**+0.5**
ARU	**Arti**	**17.40**	**27**	*i* P		**P**	**13 25 43.1**	**-0.3**
ARU				pmax	pmax			
comp=Z,9.0nm,1.0s								
MODS	**Modra-Piesok**	**20.28**	**299**	*e*P		**P**	**13 26 16.0**	**+0.9**
BRVK	**Borovoye**	**20.78**	**48**	*i* P		**P**	**13 26 19.8**	**-0.7**
BRVK				pmax	pmax			
comp=Z,5.0nm,0.9s								
KURK	**Kurchatov**	**25.16**	**57**	*i* P		**P**	**13 27 05.9**	**+1.4**
KURK				pmax	pmax			
comp=Z,10.0nm,1.0s								

*ISCJB **22** 13:27:30.6±0.8, 43°.41N±0°.05×145°.71E±0°.06, h69km±7km,*
Error ellipse: s-maj=9.4km s-min=4.7km az=144.3
*JMA **22** 13:27:31.0±0.1, 43°.39N×145°.70E, h69km±1km, M2.9*
*SKHL **22** 13:27:31.0±1.2, 43°.30N×145°.69E, h57km±1km, mb4.1/6*
ISC 22 13:27:31.4±1.6, **43°.41N**±0°.06×**145°.71E**±0°.05, **h64**km±9km,
n14, σ0°.53/28, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.05**	**149**	P		**Pn**	**13 27 41.0**	**+0.1**
NEM2				*e*S		**Sn**	**13 27 48.4**	**+0.7**
GLVR	**Golovnino**	**0.36**	**338**	*i* P		**Pn**	**13 27 42.0**	**-0.4**
GLVR				AMB	AMB		13 27 43.0	
210nm,0.2s								
GLVR				AMB	AMB		13 27 43.0	
4μm,0.2s								
GLVR				*i* S		**Sn**	**13 27 51.1**	**+0.7**
GLVR				A	A		13 27 52.0	
2μm,0.2s								
GLVR				A	A		13 27 52.0	
879nm,0.2s								
JKHN	**Kushirohamanak**	**0.52**	**231**	P		**Pn**	**13 27 43.9**	**0.0**
JKHN				*e*S		**Sn**	**13 27 53.3**	**+0.4**
GRPR	**Tuman**	**0.59**	**4**	*e*P		**Pn**	**13 27 44.0**	**-0.7**
GRPR				AMB	AMB		13 27 44.0	
40nm,0.2s								
GRPR				AMB	AMB		13 27 44.0	
3μm,0.2s								
GRPR				*i* S		**Sn**	**13 27 54.0**	**-0.3**
GRPR				A	A		13 27 55.0	
2μm,0.4s								
GRPR				A	A		13 27 55.0	
919nm,0.4s								
YUK	**Yuzh-Kuril'sk**	**0.64**	**10**	*i* P		**Pn**	**13 27 45.0**	**-0.2**
YUK				AMB	AMB		13 27 47.0	
50nm,0.4s								
YUK				AMB	AMB		13 27 47.0	
80nm,0.4s								
YUK				AMB	AMB		13 27 47.0	
180nm,0.4s								
YUK				*i* S		**Sn**	**13 27 55.7**	**+0.4**
YUK				A	A		13 27 56.0	
800nm,0.4s								
YUK				A	A		13 27 56.0	
588nm,0.4s								
LAGR	**Lagunnoye**	**0.65**	**5**	*e*P		**Pn**	**13 27 45.0**	**-0.4**
LAGR				AMB	AMB		13 27 47.0	
150nm,0.3s								
LAGR				AMB	AMB		13 27 47.0	
4μm,0.3s								
LAGR				*e*S		**Sn**	**13 27 55.7**	**+0.1**
LAGR				A	A		13 27 57.0	
800nm,0.3s								
LAGR				A	A		13 27 57.0	
428nm,0.3s								
JRA	**Rausu**	**0.68**	**321**	P		**Pn**	**13 27 45.7**	**0.0**
JRA				*e*S		**Sn**	**13 27 56.7**	**+0.5**
JNK	**Nakash**	**0.74**	**284**	P		**Pn**	**13 27 45.9**	**-0.5**
JNK				*e*S		**Sn**	**13 27 56.4**	**-1.1**
JAK	**Akkeshi**	**0.85**	**241**	P		**Pn**	**13 27 47.2**	**-0.5**
JAK				*e*S		**Sn**	**13 27 59.5**	**-0.2**
SHO	**Shikotan**	**0.94**	**60**	*i* P		**Pn**	**13 27 48.0**	**-0.8**
SHO				AMB	AMB		13 27 49.0	
10.0nm,0.3s								
SHO				AMB	AMB		13 27 49.0	
20nm,0.3s								
SHO				AMB	AMB		13 27 49.0	
60nm,0.3s								
SHO				*i* S		**Sn**	**13 28 01.0**	**-0.7**
SHO				A	A		13 28 02.0	
370nm,0.3s								
SHO				A	A		13 28 02.0	
558nm,0.3s								
JAR	**Ashorobuto**	**1.42**	**266**	P		**Pn**	**13 27 55.1**	**0.0**
JAR				*e*S		**Sn**	**13 28 13.0**	**+0.1**
JTKR	**Abashiri--Toko**	**1.42**	**294**	P		**Pn**	**13 27 55.2**	**+0.1**
JTKR				*e*S		**Sn**	**13 28 13.4**	**+0.4**
JOB	**Onbets**	**1.46**	**250**	P		**Pn**	**13 27 55.7**	**0.0**
JOB				*e*S		**Sn**	**13 28 13.9**	**0.0**
KUR	**Kuril'sk**	**2.40**	**40**	*e*P		**Pn**	**13 28 09.4**	**+1.1**
KUR				AMB	AMB		13 28 18.0	
40nm,0.5s								
KUR				AMB	AMB		13 28 18.0	
4μm,0.5s								
KUR				*e*S		**Sn**	**13 28 36.4**	**-0.1**
KUR				A	A		13 28 43.0	
100nm,0.4s								
KUR				A	A		13 28 43.0	
180nm,0.4s								

*ISCJB **22** 13:36:36.9±1.1, 9°.91N±0°.06×85°.72W±0°.04, h20km±7km,*
mb3.6/5, MS3.9/1, Error ellipse: s-maj=10.3km
s-min=5.8km az=29.2
*IDC **22** 13:36:36.8±2.0, 11°.03N×84°.61W, h0km, mb3.7/5,*
mb1 4.1/5, mb1mx3.8/37, mbtmp3.7/5, MS3.8/1, Ms1 3.8/1,
ms1mx2.8/42, Error ellipse: s-maj=56.1km s-min=9.3km
az=104.0
*UCR **22** 13:36:38.2±1.4, 9°.96N×85°.66W, h19km±4km, MD3.7,*
ML3.5
ISC 22 13:36:36.7±1.6, **9°.91N**±0°.06×**85°.67W**±0°.05, **h17**km±8km,
n43, σ0°.91/54, **mb3.6**/5, **3C-5D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**0.22**	**10**	*e*P		**Pg**	**13 36 42.5**	**+0.5**
PLVR	**Palo Verde**	**0.54**	**36**	⇓*e*P		**Pg**	**13 36 47.7**	**+0.1**
PLVR				*e*S		**Sb**	**13 36 55.5**	**+0.2**
NY14	**Universidad de**	**0.75**	**10**	*i* P		**Pb**	**13 36 51.9**	**+0.6**
JTS	**JuntasAbangare**	**0.80**	**62**	LR		LR	13 36 48.3	
comp=Z,128nm,19.1s,baz=4.5,slow=14								
JTS				Pg		**Pg**	**13 36 52.3**	**-0.2**
293nm,0.3s,baz=330,slow=7.6,SNR=764								
JTS				Lg		Lg	13 37 03.7	
347nm,0.3s,baz=102,slow=20,SNR=41								
COLC	**Colonia**	**0.88**	**31**	*i* P		**Pg**	**13 36 53.5**	**-0.4**
LAPC	**Finca la Perla**	**0.89**	**15**	*i* P		**Pg**	**13 36 53.4**	**-0.6**
LIM1	**Limonal**	**0.89**	**28**	*i* P		**Pg**	**13 36 53.5**	**-0.5**
LIM1				*i* S		**Sg**	**13 37 05.5**	**-0.3**
GBS3	**Finca Las Im˜¡**	**0.89**	**14**	*i* P		**Pg**	**13 36 53.7**	**-0.5**
GBS3				*i* S		**Sg**	**13 37 05.0**	**-0.9**
GPS3	**Bodega del ICE**	**0.89**	**20**	*i* P		**Pg**	**13 36 53.9**	**-0.3**
GPS2	**Hotel Rinc˜‡n**	**0.90**	**20**	*i* P		**Pg**	**13 36 53.9**	**-0.3**
CUI	**Cuipilapa**	**0.90**	**34**	*i* P		**Pg**	**13 36 53.9**	**-0.3**
CUI				*i* S		**Sg**	**13 37 05.8**	**-0.3**
GUAB	**Guayabo de Bag**	**0.91**	**29**	*i* P		**Pg**	**13 36 53.9**	**-0.5**
GUAB				*i* S		**Sg**	**13 37 05.5**	**-0.8**
MICM	**Guayabo**	**0.91**	**30**	*i* P		**Pb**	**13 36 54.7**	**+0.5**
GPS1	**Guardaparques**	**0.92**	**20**	*i* P		**Pg**	**13 36 54.0**	**-0.6**
BUEV	**Buena Vista**	**0.92**	**16**	*i* P		**Pg**	**13 36 54.0**	**-0.7**
HORNC	**Hornillas**	**0.93**	**31**	*i* P		**Pg**	**13 36 54.3**	**-0.6**

*ISCJB **22** 13:38:27.3±0.3,24°.25N±0°.02×122°.12E±0°.02,h57km±4km, Error ellipse: s-maj=3.3km s-min=2.3km az=155.8*
*TAP **22** 13:38:27.1,24°.24N×122°.10E,h56km,ML2.9,B*
ISC 22 13:38:27.4±1.2,24°27N±0°.03×122°10E±0°.02,h60km±6km, n83,σ0s99/134,9C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.28**	**5**	*eP*	**Pn**	**13 38 37.3**	**0.0**
	baz=4.0						
EOS1				*eS*	**Sn**	**13 38 44.7**	**+0.4**
	baz=4.0						
NANB	**Nanao**	**0.36**	**295**	⇑P	**Pn**	**13 38 37.8**	**-0.1**
	baz=300						
NANB				*eS*	**Sn**	**13 38 45.7**	**+0.1**
	baz=300						
ENA	**Nanau**	**0.36**	**295**	⇑*iP*	**Pn**	**13 38 37.9**	**-0.1**
	baz=300						
ENA				*eS*	**Sn**	**13 38 45.9**	**+0.2**
	baz=300						
TWC	**Suao**	**0.41**	**325**	⇑*iP*	**Pn**	**13 38 38.2**	**-0.2**
	baz=329						
TWC				*eS*	**Sn**	**13 38 45.9**	**-0.4**
	baz=329						
NACB	**Ninganchiao**	**0.48**	**258**	⇑*eP*	**Pn**	**13 38 38.5**	**-0.6**
	baz=261						
NACB				*eS*	**Sn**	**13 38 47.0**	**-0.6**
	baz=261						
TWD	**Chiawan**	**0.50**	**248**	*i* P	**Pn**	**13 38 38.9**	**-0.4**
	baz=250						
TWD				*eS*	**Sn**	**13 38 47.8**	**-0.2**
	baz=250						
HWA	**Hwalien**	**0.54**	**237**	*eP*	**Pn**	**13 38 39.8**	**0.0**
	baz=239						
EGS		**0.59**	**345**	*eP*	**Pn**	**13 38 41.1**	**+0.7**
	baz=346						
EGS				*eS*	**Sn**	**13 38 50.1**	**+0.3**
	baz=346						
TWE	**Neicheng**	**0.60**	**318**	⇑*iP*	**Pn**	**13 38 40.6**	**+0.2**
	baz=321						
TWE				*eS*	**Sn**	**13 38 50.3**	**+0.3**
	baz=321						
ENTT	**Nioudou**	**0.61**	**307**	⇑*iP*	**Pn**	**13 38 40.7**	**+0.1**
	baz=309						
ENTT				*eS*	**Sn**	**13 38 50.3**	**0.0**
	baz=309						
NTC	**Toucheng**	**0.63**	**337**	P	**Pn**	**13 38 41.2**	**+0.4**
	baz=338						
NTC				*eS*	**Sn**	**13 38 51.3**	**+0.7**
	baz=338						
SLBB	**Yuanshan**	**0.64**	**318**	⇑*iP*	**Pn**	**13 38 41.4**	**+0.4**
	baz=320						
SLBB				*eS*	**Sn**	**13 38 51.9**	**+1.0**
	baz=320						
NNSB	**Datong**	**0.68**	**283**	*eP*	**Pn**	**13 38 41.3**	**-0.2**
	baz=286						
NNSB				*eS*	**Sn**	**13 38 51.7**	**0.0**
	baz=286						
NNS	**Nan Shan**	**0.69**	**284**	⇑*iP*	**Pn**	**13 38 41.4**	**-0.3**
	baz=286						
NNS				*eS*	**Sn**	**13 38 51.9**	**-0.1**
	baz=286						
TWB1	**Santiao Chiao**	**0.74**	**352**	*eP*	**Pn**	**13 38 41.7**	**-0.5**
	baz=353						
TWB1				*eS*	**Sn**	**13 38 51.8**	**-1.1**
	baz=353						
NWLT	**Wulai**	**0.74**	**313**	P	**Pn**	**13 38 42.4**	**+0.2**
	baz=314						
NWLT				*eS*	**Sn**	**13 38 53.6**	**+0.6**
	baz=314						
ESL	**Shilin**	**0.77**	**233**	P	**Pn**	**13 38 41.9**	**-0.6**
	baz=234						
ESL				*eS*	**Sn**	**13 38 53.0**	**-0.4**
	baz=234						
YHNB	**Yeheng**	**0.77**	**301**	⇑*eP*	**Pn**	**13 38 42.7**	**+0.1**
	baz=302						
YHNB				*eS*	**Sn**	**13 38 53.5**	**-0.2**
	baz=302						
WHF	**Hehuan Shan**	**0.78**	**261**	P	**Pn**	**13 38 42.8**	**-0.3**
	baz=262						
WHF				*eS*	**Sn**	**13 38 54.0**	**-0.4**
	baz=262						
JYNG	**Yonagunijimaku**	**0.79**	**77**	P	**Pn**	**13 38 42.6**	**-0.1**
JYNG				*eS*	**Sn**	**13 38 53.7**	**-0.2**
NSK	**Sanguang**	**0.79**	**301**	P	**Pn**	**13 38 42.9**	**+0.1**
	baz=302						
NWF	**Wu-fen Shan**	**0.85**	**340**	*eP*	**Pn**	**13 38 44.3**	**+0.7**
	baz=340						
NWF				*eS*	**Sn**	**13 38 55.1**	**-0.4**
	baz=340						
WFSB	**Wu-fen Shan**	**0.85**	**340**	*eP*	**Pn**	**13 38 44.3**	**+0.8**
	baz=340						
TWA	**Mucha**	**0.85**	**326**	*eP*	**Pn**	**13 38 44.3**	**+0.7**
	baz=327						
TWA				S	**Sn**	**13 38 56.3**	**+0.9**
	baz=327						
TWT	**Tachien**	**0.85**	**269**	*eP*	**Pn**	**13 38 44.5**	**+0.9**
	baz=270						
TWT				*eS*	**Sn**	**13 38 56.1**	**+0.5**
	baz=270						
YOJ	**Yonaguni jima**	**0.85**	**77**	*eP*	**Pn**	**13 38 43.3**	**-0.2**
	baz=74						
YOJ				*eS*	**Sn**	**13 38 55.3**	**0.0**
	baz=74						
YOJ	**Yonaguni jima**	**0.85**	**77**	P	**Pn**	**13 38 43.3**	**-0.2**
YOJ				*eS*	**Sn**	**13 38 55.5**	**+0.2**
EGFH	**Guangfu**	**0.86**	**226**	*eP*	**Pn**	**13 38 43.3**	**-0.4**
	baz=227						
EGFH				S	**Sn**	**13 38 55.5**	**-0.2**
	baz=227						
TDCB	**Techi**	**0.86**	**269**	*eP*	**Pn**	**13 38 44.3**	**+0.5**
	baz=270						
TDCB				*eS*	**Sn**	**13 38 56.0**	**0.0**
	baz=270						
CHGB	**Renai**	**0.88**	**256**	*eP*	**Pn**	**13 38 44.2**	**+0.1**
	baz=258						
CHGB				S	**Sn**	**13 38 56.2**	**-0.1**
	baz=258						
TATO	**Taipei**	**0.90**	**321**	*eP*	**Pn**	**13 38 44.8**	**+0.7**
	baz=323						
TATO				*eS*	**Sn**	**13 38 57.1**	**+0.7**
	baz=323						
YM01	**YM01**	**1.00**	**331**	*eP*	**Pn**	**13 38 46.9**	**+1.4**
	baz=331						
YM01				*eS*	**Sn**	**13 38 59.8**	**+1.0**
	baz=331						
HGSD	**Ruisui**	**1.00**	**219**	*eP*	**Pn**	**13 38 45.2**	**-0.2**
	baz=219						
HGSD				*eS*	**Sn**	**13 38 58.8**	**+0.1**
	baz=219						
YM07	**YM07**	**1.00**	**334**	*eP*	**Pn**	**13 38 45.8**	**+0.3**
	baz=334						
YM10	**YM10**	**1.01**	**331**	*eP*	**Pn**	**13 38 45.5**	**-0.1**
	baz=331						
YM10				*eS*	**Sn**	**13 38 59.2**	**+0.2**
	baz=331						
YM11	**YM11**	**1.01**	**332**	*eP*	**Pn**	**13 38 45.7**	**0.0**
	baz=332						
YM11				*eS*	**Sn**	**13 39 00.0**	**+0.8**
	baz=332						
YM05	**YM05**	**1.01**	**331**	P	**Pn**	**13 38 46.2**	**+0.5**
	baz=332						
YM04	**YM04**	**1.02**	**330**	*eP*	**Pn**	**13 38 46.1**	**+0.4**
	baz=330						
VWDT	**VWDT**	**1.02**	**240**	*eP*	**Pn**	**13 38 46.1**	**+0.4**
	baz=241						
VWDT				S	**Sn**	**13 38 59.4**	**+0.1**
	baz=241						
TWS1	**Kuangyinshan**	**1.03**	**323**	P	**Pn**	**13 38 46.4**	**+0.5**
	baz=324						
TWS1				S	**Sn**	**13 39 00.7**	**+1.2**
	baz=324						
EHY	**Hungye**	**1.05**	**223**	*eP*	**Pn**	**13 38 45.4**	**-0.7**
	baz=223						
LIOB	**Emei**	**1.06**	**291**	*eP*	**Pn**	**13 38 47.1**	**+0.9**
	baz=292						
LIOB				*eS*	**Sn**	**13 39 01.2**	**+1.0**
	baz=292						
NSTT	**Nanjuang**	**1.07**	**290**	*eP*	**Pn**	**13 38 47.2**	**+0.8**
	baz=291						
NSTT				S	**Sn**	**13 39 01.0**	**+0.6**
	baz=291						
YULB	**Yu-li**	**1.15**	**220**	*eP*	**Pn**	**13 38 46.7**	**-0.7**
	baz=221						
SSLB	**Suanglung**	**1.16**	**246**	*eP*	**Pn**	**13 38 48.2**	**+0.6**
	baz=246						
SSLB				*eS*	**Sn**	**13 39 03.1**	**+0.6**
	baz=246						
SMLT	**Sun Moon Lake**	**1.17**	**251**	*eP*	**Pn**	**13 38 48.5**	**+0.7**
	baz=251						
TYC	**Yuchr**	**1.20**	**252**	*eP*	**Pn**	**13 38 48.9**	**+0.8**
	baz=253						
TWQ1	**Liyutan**	**1.22**	**274**	*eP*	**Pn**	**13 38 49.7**	**+1.3**
	baz=275						
NMLH	**Miaoli**	**1.23**	**283**	*eP*	**Pn**	**13 38 47.8**	**-0.7**
	baz=283						
NMLH				*eS*	**Sn**	**13 39 05.1**	**+1.0**
	baz=283						
YUS	**Yu-Shan**	**1.31**	**234**	*eP*	**Pn**	**13 38 49.6**	**-0.4**
	baz=234						
WJS	**Zhushan**	**1.34**	**251**	*eP*	**Pn**	**13 38 51.8**	**+1.9**
	baz=251						
WJS				*eS*	**Sn**	**13 39 09.0**	**+2.3**
	baz=251						
CHKT	**Chengkung**	**1.35**	**210**	*eP*	**Pn**	**13 38 49.7**	**-0.4**
	baz=210						
CHKT				*eS*	**Sn**	**13 39 04.8**	**-2.2**
	baz=210						
WNT	**Mingjian**	**1.36**	**253**	*eS*	**Sn**	**13 39 09.8**	**+2.5**
	baz=254						
CHN5	**Tsauling**	**1.47**	**243**	*eP*	**Pn**	**13 38 53.8**	**+2.1**
	baz=243						
ELDTW	**Lidau**	**1.47**	**223**	*eP*	**Pn**	**13 38 51.6**	**-0.2**
	baz=223						
ELDTW				*eS*	**Sn**	**13 39 09.7**	**-0.5**
	baz=223						
IRIF	**Iriomote-Funau**	**1.48**	**87**	P	**Pn**	**13 38 52.0**	**+0.1**
IRIF				S	**Sn**	**13 39 09.7**	**-0.6**
HATJ	**Hateruma jima**	**1.57**	**98**	S	**Sn**	**13 39 13.0**	**+0.7**
STYT	**Tauyuan**	**1.66**	**228**	*eP*	**Pn**	**13 38 55.5**	**+1.2**
	baz=228						
CHN4	**Tsaushan**	**1.66**	**237**	*eP*	**Pn**	**13 38 56.1**	**+1.8**
	baz=237						
TPUB	**Ta-pu**	**1.66**	**235**	*eP*	**Pn**	**13 38 55.8**	**+1.4**
	baz=235						
WTP	**Ta-pu**	**1.71**	**233**	*eP*	**Pn**	**13 38 56.8**	**+1.8**
	baz=233						
TWGBT	**Beinan**	**1.73**	**213**	*eP*	**Pn**	**13 38 55.1**	**-0.1**
	baz=213						
TWGBT				*eS*	**Sn**	**13 39 15.3**	**-0.9**
	baz=213						
TWG	**Pinlang**	**1.73**	**213**	*eS*	**Sn**	**13 39 15.5**	**-0.7**
	baz=213						
JKRS	**Kuro-shima**	**1.74**	**91**	P	**Pn**	**13 38 55.8**	**+0.5**
JKRS				*eS*	**Sn**	**13 39 16.7**	**+0.2**
TWK	**Hsinying**	**1.79**	**236**	*eP*	**Pn**	**13 38 57.6**	**+1.5**
	baz=236						
CHN1	**Nanshi**	**1.81**	**233**	*eP*	**Pn**	**13 38 59.3**	**+3.0**
	baz=233						
SLGT	**Liugui**	**1.85**	**227**	*eP*	**Pn**	**13 38 58.8**	**+2.0**
	baz=227						
JIJ	**Ishigaki jima**	**1.86**	**87**	P	**Pn**	**13 38 57.1**	**+0.1**
JIJ				*eS*	**Sn**	**13 39 18.8**	**-0.7**
JISG	**Ishigakijimahi**	**2.04**	**81**	P	**Pn**	**13 38 59.2**	**-0.1**
JISG				*eS*	**Sn**	**13 39 23.0**	**-0.7**
MASBT	**Mashibuluo**	**2.14**	**220**	*eP*	**Pn**	**13 39 01.8**	**+1.0**
	baz=219						
EAST	**Anshuo**	**2.21**	**212**	*eP*	**Pn**	**13 39 04.0**	**+2.3**
	baz=211						
JTJ	**Tarama**	**2.40**	**81**	S	**Sn**	**13 39 32.0**	**-0.5**
PNG	**Penghu**	**2.44**	**254**	*eP*	**Pn**	**13 39 04.9**	**+0.1**
	baz=253						
PNG				*eS*	**Sn**	**13 39 32.7**	**-0.8**
	baz=253						
PHUB	**P'eng-hu**	**2.44**	**252**	*eP*	**Pn**	**13 39 05.0**	**+0.1**
	baz=252						
PHUB				*eS*	**Sn**	**13 39 31.7**	**-1.8**
	baz=252						
WDGT	**Dungji**	**2.46**	**246**	P	**Pn**	**13 39 05.5**	**+0.4**
	baz=246						
WDGT				*eS*	**Sn**	**13 39 33.7**	**-0.3**
	baz=246						
VWUC	**VWUC**	**2.52**	**287**	*eP*	**Pn**	**13 39 05.4**	**-0.5**
	baz=287						
VWUC				*eS*	**Sn**	**13 39 33.0**	**-2.5**
	baz=287						
VCHM	**Qimei**	**2.67**	**247**	*eS*	**Sn**	**13 39 39.3**	**+0.1**
	baz=247						
MATB	**Ma-tsu**	**2.71**	**314**	*eS*	**Sn**	**13 39 37.6**	**-2.5**
	baz=314						
PTMZ	**Houxiangcun**	**2.82**	**286**	*eP*	**Pn**	**13 39 09.6**	**-0.5**
	baz=286						
PTMZ				*eS*	**Sn**	**13 39 40.2**	**-2.6**
	baz=286						
JIRB	**Irabujima**	**2.85**	**78**	S	**Sn**	**13 39 44.5**	**+0.9**
JIKM	**Ikemajima**	**2.93**	**77**	*eS*	**Sn**	**13 39 46.7**	**+1.0**
XPSS	**Dashiqiu**	**3.16**	**327**	*eS*	**Sn**	**13 39 48.9**	**-2.3**
	baz=327						
MHZQ	**Yeshan**	**3.33**	**304**	*eS*	**Sn**	**13 39 52.5**	**-2.8**
	baz=303						

*ISCJB **22** 13:52:00.9±1.1,9°.87N±0°.04×85°.73W±0°.04,h6km±6km, mb3.4/5,MS3.9/2,Error ellipse: s-maj=7.7km s-min=6.6km az=136.1*
*IDC **22** 13:52:01.7±2.3,10°.93N×84°.41W,h0km,mb3.6/5, mb1 4.0/5,mb1mx3.7/39,mbtmp3.5/5,MS4.0/2,Ms1 4.0/2, ms1mx2.9/31,Error ellipse: s-maj=54.2km s-min=9.9km az=118.0*
*UCR **22** 13:52:03.4±1.5,9°.95N×85°.66W,h9km±6km,MD3.4,ML3.3*
ISC 22 13:52:02.5±1.9,9°99N±0°.06×85°68W±0°.06,h14km±10km, n39,σ0s92/46,mb3.6/5,2C-1D,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLVR	**Palo Verde**	**0.48**	**43**	‖*eP*	**Pb**	**13 52 13.3**	**+0.4**
PLVR				*eS*	**Sb**	**13 52 21.0**	**+1.2**
NY14	**Universidad de**	**0.67**	**13**	*i* P	**Pn**	**13 52 17.4**	**-0.2**
JTS	**JuntasAbangare**	**0.78**	**68**	Pg	**Pg**	**13 52 17.8**	**+0.3**
	364nm,0.3s,baz=332,slow=6.1,SNR=785						
JTS				Lg	Lg	13 52 29.1	
	350nm,0.3s,baz=102,slow=20,SNR=35						
LAPC	**Finca la Perla**	**0.81**	**18**	*i* P	**Pn**	**13 52 19.0**	**-0.5**
GBS3	**Finca Las Im¯¡**	**0.81**	**16**	*i* P	**Pn**	**13 52 19.2**	**-0.4**
GBS3				*i* S	**Sn**	**13 52 31.4**	**-0.1**
COLC	**Colonia**	**0.81**	**35**	*i* P	**Pn**	**13 52 19.1**	**-0.6**
GPS3	**Bodega del ICE**	**0.82**	**22**	*i* P	**Pn**	**13 52 19.3**	**-0.4**
LIM1	**Limonal**	**0.82**	**21**	*i* P	**Pn**	**13 52 19.1**	**-0.6**
GPS2	**Hotel Rinc¯‡n**	**0.82**	**23**	*i* P	**Pn**	**13 52 19.4**	**-0.3**
GPS2				*i* S	**Sn**	**13 52 30.9**	**-0.8**
CUI	**Cuipilapa**	**0.83**	**38**	*i* P	**Pn**	**13 52 19.4**	**-0.5**
GUAB	**Guayabo de Bag**	**0.84**	**32**	*i* P	**Pn**	**13 52 19.3**	**-0.6**
GPS1	**Guardaparques**	**0.84**	**23**	*i* P	**Pn**	**13 52 19.7**	**-0.4**
BUEV	**Buena Vista**	**0.84**	**19**	*i* P	**Pn**	**13 52 19.8**	**-0.3**
GB1A	**Borinquen Arri**	**0.86**	**19**	*i* P	**Pn**	**13 52 20.1**	**-0.3**
HORNC	**Hornillas**	**0.87**	**35**	*i* P	**Pn**	**13 52 19.9**	**-0.5**
MESS	**Mesas**	**0.88**	**33**	*eP*	**Pn**	**13 52 20.3**	**-0.3**
MESS				*i* P	**Pb**	**13 52 20.5**	**+0.8**
MESS				*eS*	**Sn**	**13 52 33.8**	**+0.5**
ACAL	**Aguas Claras**	**0.90**	**45**	*i* P	**Pn**	**13 52 20.5**	**-0.3**
AMAS	**Alto Masis**	**0.91**	**48**	*i* P	**Pb**	**13 52 20.4**	**+0.2**
AMAS				*i* S	**Sb**	**13 52 33.0**	**+0.7**
BUAI	**Buenos Aires**	**0.94**	**21**	*i* P	**Pn**	**13 52 21.3**	**-0.1**
PTEN	**Parque Tenorio**	**0.99**	**44**	*i* P	**Pn**	**13 52 22.3**	**+0.2**
ARE1	**Arenal 1**	**1.05**	**64**	‖*eP*	**Pg**	**13 52 23.1**	**+0.2**
CEDE	**Laguna Cede¯–o**	**1.08**	**63**	*i* P	**Pn**	**13 52 23.6**	**+0.3**
FORC	**Fortuna**	**1.10**	**65**	*i* P	**Pb**	**13 52 23.4**	**+0.1**
HDC	**Heredia**	**1.54**	**90**	‖*eP*	**Pn**	**13 52 30.8**	**+1.1**
HDC				*eS*	**Sb**	**13 52 51.8**	**+1.3**
CONN	**Concepcion**	**1.56**	**2**	*eP*	**Pg**	**13 52 31.9**	**-0.6**
LCR2	**La Lucha 2**	**1.67**	**98**	*eP*	**Pn**	**13 52 31.1**	**-0.5**
CVTR	**Volcan Turrial**	**1.89**	**89**	*eP*	**Pb**	**13 52 36.8**	**-0.3**
ACON	**Acoyapa**	**2.02**	**14**	*eP*	**Pn**	**13 52 36.9**	**+0.7**
ACON				*eS*	**Sg**	**13 53 06.3**	**-1.3**
ACON				IAML		13 53 07.1	
	comp=N,296nm,0.4s						
DRK0	**Durika**	**2.51**	**107**	*eS*	**Sn**	**13 53 12.5**	**-1.1**
MOMN	**Momotombo**	**2.54**	**341**	*eP*	**Pn**	**13 52 44.5**	**+1.1**
ESPN	**Las Esperanzas**	**2.57**	**32**	*eP*	**Pn**	**13 52 44.6**	**+0.9**
ESPN				*eS*	**Sb**	**13 53 20.8**	**+0.8**
PCRV	**Puerto La Cruz**	**20.72**	**88**	LR	LR	14 05 24.6	
	comp=N,184nm,20.7s,baz=322,slow=41						
TXAR	**Lajitas Array**	**25.56**	**321**	P	**P**	**13 57 33.4**	**+2.1**
	comp=N,1.2nm,0.8s,baz=139,slow=10,SNR=10						
PTGA	**Pitinga**	**27.72**	**111**	LR	LR	14 09 05.0	
	comp=N,923nm,21.5s,baz=42,slow=38						
PDAR	**Pinedale Array**	**38.74**	**332**	P	**P**	**13 59 26.6**	**-0.1**
	comp=N,0.1nm,0.3s,baz=122,slow=4.4,SNR=1.9						
NVAR	**Mina Array Bea**	**40.68**	**319**	P	**P**	**13 59 45.6**	**+2.7**
	comp=N,1.5nm,0.7s,baz=125,slow=7.3,SNR=9.2						
YKA	**Yellowknife Ar**	**56.43**	**344**	P	**P**	**14 01 41.1**	**-2.3**
	comp=N,0.2nm,0.4s,baz=133,slow=8.1,SNR=4.6						
ILAR	**Eielson Array**	**68.95**	**336**	P	**P**	**14 03 05.7**	**-1.3**
	comp=N,0.3nm,0.5s,baz=128,slow=4.1,SNR=5.6						
CMAR	**Chiang Mai Arr**	**151.36**	**351**	PKPbc	**PKPbc**	**14 11 56.5**	**-0.4**
	comp=N,0.9nm,0.8s,baz=332,slow=3.2,SNR=7.1						

*IDC **22** 13:53:09.0±2.2,10°.93N×84°.36W,h0km,mb3.7/5, mb1 4.2/5,mb1mx3.8/37,mbtmp3.7/5,MS3.4/4,Ms1 3.4/4, ms1mx3.0/42,Error ellipse: s-maj=51.8km s-min=10.3km az=120.0*
*ISCJB **22** 13:53:09.4±1.3,9°.88N±0°.04×85°.70W±0°.05,h13km±8km, mb3.6/5,MS3.2/1,Error ellipse: s-maj=8.8km s-min=6.1km az=140.4*
*UCR **22** 13:53:11.7±1.6,9°.97N×85°.62W,h22km±4km,MD3.7*
ISC 22 13:53:09.8±2.1,9°94N±0°.07×85°69W±0°.07,h17km±11km, n36,σ0s82/40,mb3.8/5,1C,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLVR	**Palo Verde**	**0.52**	**39**	*eP*	**Pb**	**13 53 20.7**	**0.0**
PLVR				*eS*	**Sb**	**13 53 28.5**	**+0.5**
NY14	**Universidad de**	**0.72**	**12**	*i* P	**Pn**	**13 53 24.7**	**-0.5**
JTS	**JuntasAbangare**	**0.80**	**64**	Pg	**Pg**	**13 53 25.2**	**-0.3**
	285nm,0.3s,baz=335,slow=8.1,SNR=9.2						
JTS				Lg	Lg	13 53 38.2	
	224nm,0.3s,baz=210,slow=18,SNR=8.7						
LAPC	**Finca la Perla**	**0.86**	**17**	*i* P	**Pb**	**13 53 26.1**	**-0.2**
COLC	**Colonia**	**0.86**	**33**	*i* P	**Pb**	**13 53 26.7**	**+0.3**
GBS3	**Finca Las Im¯¡**	**0.86**	**15**	*i* P	**Pn**	**13 53 26.7**	**-0.6**
GBS3				*i* S	**Sb**	**13 53 38.1**	**+0.3**
LIM1	**Limonal**	**0.86**	**30**	*i* P	**Pn**	**13 53 26.8**	**-0.6**
GPS3	**Bodega del ICE**	**0.87**	**21**	*i* P	**Pn**	**13 53 26.9**	**-0.4**
GPS3				*i* S	**Sb**	**13 53 38.6**	**+0.7**
GPS2	**Hotel Rinc¯‡n**	**0.87**	**22**	*i* P	**Pn**	**13 53 26.9**	**-0.6**
CUI	**Cuipilapa**	**0.88**	**36**	*i* P	**Pb**	**13 53 26.9**	**+0.2**
GUAB	**Guayabo de Bag**	**0.88**	**30**	*i* P	**Pb**	**13 53 26.9**	**+0.1**
GPS1	**Guardaparques**	**0.89**	**22**	*i* P	**Pb**	**13 53 27.1**	**+0.1**
BUEV	**Buena Vista**	**0.89**	**18**	*i* P	**Pb**	**13 53 26.9**	**-0.1**
HORNC	**Hornillas**	**0.91**	**33**	*i* P	**Pg**	**13 53 27.4**	**-0.2**
GB1A	**Borinquen Arri**	**0.92**	**18**	*i* P	**Pg**	**13 53 27.4**	**-0.3**
MESS	**Mesas**	**0.93**	**31**	⇑*iP*	**Pg**	**13 53 27.7**	**-0.2**
MESS				*i* P	**Pg**	**13 53 27.8**	**-0.2**
MESS				*eS*	**Sg**	**13 53 40.8**	**+0.6**
AMAS	**Alto Masis**	**0.95**	**46**	*i* P	**Pb**	**13 53 27.8**	**-0.2**
BUAI	**Buenos Aires**	**0.99**	**20**	*i* P	**Pg**	**13 53 28.6**	**-0.5**
ARE1	**Arenal 1**	**1.08**	**61**	*eP*	**Pn**	**13 53 30.5**	**+0.2**
FORC	**Fortuna**	**1.13**	**62**	*i* P	**Pb**	**13 53 31.1**	**+0.1**
HDC	**Heredia**	**1.55**	**88**	*eP*	**Pb**	**13 53 37.9**	**-0.3**
HDC				*eS*	**Sb**	**13 53 58.7**	**+1.1**
CONN	**Concepcion**	**1.61**	**2**	*eP*	**Pb**	**13 53 38.9**	**-0.4**
LCR2	**La Lucha 2**	**1.67**	**97**	*eP*	**Pn**	**13 53 37.9**	**-0.7**
LCR2				*eS*	**Sn**	**13 53 59.2**	**-0.5**
CVTR	**Volcan Turrial**	**1.90**	**88**	*eP*	**Pb**	**13 53 43.4**	**-1.0**
ACON	**Acoyapa**	**2.08**	**14**	*eP*	**Pb**	**13 53 47.0**	**-0.1**
DRK0	**Durika**	**2.50**	**105**	*eP*	**Pn**	**13 53 50.7**	**+0.8**
DRK0				*eS*	**Sn**	**13 54 19.9**	**-0.3**
CMIG	**Matias Romero**	**11.42**	**309**	LR	LR	14 00 59.2	
	comp=Z,165nm,19.3s,baz=134,slow=40						
SDV	**Santo Domingo**	**14.89**	**93**	LR	LR	14 03 52.7	
	comp=Z,138nm,18.4s,baz=4.0,slow=47						
ATAH	**Atahualpa**	**18.45**	**157**	LR	LR	14 03 26.8	
	comp=Z,207nm,18.4s,baz=10,slow=33						
TXAR	**Lajitas Array**	**25.60**	**321**	P	**P**	**13 58 39.9**	**+1.3**
	2.0nm,0.8s,baz=144,slow=10.0,SNR=9.8						
TKL	**Tuckaleechee C**	**25.66**	**4**	LR	LR	14 08 20.9	
	comp=Z,74nm,18.7s,baz=234,slow=37						
PDAR	**Pinedale Array**	**38.79**	**332**	P	**P**	**14 00 34.9**	**+0.9**
	0.3nm,0.7s,baz=112,slow=9.8,SNR=2.5						
NVAR	**Mina Array Bea**	**40.72**	**320**	P	**P**	**14 00 53.1**	**+3.0**
	2.8nm,0.7s,baz=132,slow=7.6,SNR=12						
YKA	**Yellowknife Ar**	**56.48**	**344**	P	**P**	**14 02 48.6**	**-2.0**
	0.5nm,0.7s,baz=138,slow=7.4,SNR=4.5						
ILAR	**Eielson Array**	**69.00**	**336**	P	**P**	**14 04 13.1**	**-1.1**
	0.6nm,0.7s,baz=114,slow=5.0,SNR=5.5						
CMAR	**Chiang Mai Arr**	**151.41**	**351**	PKPbc	**PKPbc**	**14 13 03.8**	**-0.1**
	2.3nm,0.9s,baz=346,slow=3.3,SNR=14						

MEX 22 13:59:45.9±0.4,16°.51N×98°.48W,h12km±3km,MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.36**	**109**	*eP*	**Pg**	13 59 52.6	-0.5
PNIG				*eS*	**Sg**	13 59 58.1	+0.2
TLIG	**Tlapa**	**1.05**	**355**	*i* P	**Pb**	14 00 02.8	-3.3
TLIG				*eS*	**Sg**	14 00 15.8	-4.0
MEIG	**Mezcala**	**1.78**	**322**	*i* P	**Pn**	14 00 13.0	-3.6
MEIG				*eS*	**Sn**	14 00 34.4	-4.8

*NEIC **22** 14:03:32.7±0.0,33°.90N×118°.46W,h10km,ML2.8(PAS), After PAS.*
NEIC Felt [III] at El Segundo, Inglewood, Manhattan Beach, Playa del Rey and Santa Monica; [II] at Culver City, Hawthorne, Hermosa Beach, Los Angeles, Marina del Rey, Redondo Beach, Torrance and Venice. Also felt at Carson, Harbor City, Palos Verdes Peninsula and Sunset Beach.
*PAS **22** 14:03:32.7,33°.90N×118°.46W,h10km,ML2.8*
*SCEDC **22** 14:03:32.7,33°.90N×118°.46W,h10km*
*ANF **22** 14:03:32.3±0.2,33°.90N×118°.43W,h10km±1km,ML2.8/28, Error ellipse: s-maj=1.6km s-min=1.3km az=80.0*
ISC 22 14:03:32.5±0.9,33°89N±0°.02×118°44W±0°.02,h11km±7km, n48,σ0s72/69,Southern California

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

ARVC	**Arvin**	**1.27**	**345**	P	**Pb**	**14 03 56.6**	**+0.1**
	baz=166,SNR=19						
ARVC				S	**Sn**	**14 04 13.9**	**+0.6**
	baz=166						
BBRC	**Big Bear Solar**	**1.31**	**73**	P	**Pn**	**14 03 56.7**	**-0.3**
	baz=255,SNR=18						
BBRC				S	**Sb**	**14 04 14.4**	**+0.2**
	baz=255						
109C	**Camp Elliot, M**	**1.50**	**132**	P	**Pn**	**14 03 58.9**	**-0.5**
	baz=312,SNR=8.6						
CPE	**Camp Elliot**	**1.50**	**132**	*e*Pn	**Pn**	**14 03 58.8**	**-0.5**
PKM	**Mcpherson Peak**	**1.51**	**311**	P	**Pn**	**14 03 59.6**	**-0.1**
	baz=131						
PKM				S	**Sb**	**14 04 20.0**	**+0.2**
	baz=131						
FRD	**Ford Ranch, An**	**1.58**	**104**	P	**Pn**	**14 04 00.5**	**-0.1**
	baz=285,SNR=14						
FRD				S	**Sn**	**14 04 22.2**	**+1.1**
	baz=285						
PFO	**Pinyon Flats O**	**1.67**	**99**	*e*Pn	**Pn**	**14 04 01.4**	**-0.5**
PFO				*e*Sn	**Sn**	**14 04 23.2**	**-0.1**
PFO	**Pinyon Flats O**	**1.67**	**99**	P	**Pn**	**14 04 01.8**	**-0.1**
	baz=280,SNR=13						
PFO				S	**Sn**	**14 04 23.9**	**+0.6**
	baz=280						
XPFO	**Pæon Flat**	**1.68**	**99**	*e*Pn	**Pn**	**14 04 01.4**	**-0.5**
XPFO				*e*Sn	**Sn**	**14 04 23.3**	**-0.2**
LRMC	**Laurel Mtn Rad**	**1.70**	**21**	P	**Pn**	**14 04 02.5**	**+0.2**
	baz=202,SNR=12						
ISA	**Isabella, Lake**	**1.77**	**359**	*e*Pn	**Pn**	**14 04 03.5**	**+0.4**
ISA				*e*Sn	**Sn**	**14 04 26.0**	**+0.5**
ISA	**Isabella, Lake**	**1.77**	**359**	P	**Pn**	**14 04 03.5**	**+0.4**
	baz=180,SNR=8.2						
BAR	**Barrett**	**1.91**	**129**	*e*Pn	**Pn**	**14 04 05.4**	**+0.3**
BAR				*e*Sn	**Sn**	**14 04 27.3**	**-1.8**
SMMC	**Simmler**	**1.91**	**318**	P	**Pn**	**14 04 05.5**	**+0.4**
	baz=138						
GSC	**Goldstone, Bar**	**1.94**	**43**	*e*Pn	**Pn**	**14 04 06.3**	**+0.7**
GSC	**Goldstone, Bar**	**1.94**	**43**	P	**Pn**	**14 04 05.8**	**+0.3**
	baz=225,SNR=14						
MONP2	**Monument Peak**	**1.96**	**120**	P	**Pn**	**14 04 05.6**	**-0.3**
	baz=301,SNR=5.5						
HEC	**Hector,Ludlow**	**1.97**	**61**	Pb	**Pb**	**14 04 08.7**	**+0.2**
	baz=243,SNR=9.0						
VES	**Vestal, Richgr**	**2.01**	**345**	P	**Pn**	**14 04 06.7**	**+0.3**
	baz=165						
BELC	**Belle Mtn. Jos**	**2.03**	**86**	Pb	**Pb**	**14 04 09.1**	**-0.3**
	baz=268,SNR=19						
MPMC	**Manual Prospec**	**2.29**	**20**	Pb	**Pb**	**14 04 14.2**	**+0.2**
	baz=200,SNR=9.5						
IKP	**In-Ko-Pah, Jac**	**2.31**	**122**	P	**Pn**	**14 04 10.5**	**0.0**
	baz=303						
SWSC	**Sam W. Stewart**	**2.40**	**113**	Pb	**Pb**	**14 04 15.7**	**0.0**
	baz=294						
TPNV	**Topopah Spring**	**3.53**	**30**	*e*Pn	**Pn**	**14 04 28.7**	**+1.3**
SHPR	**Sheep Range**	**3.74**	**45**	*e*Pn	**Pn**	**14 04 32.1**	**+1.8**
MDPB	**Devils Postpil**	**3.77**	**352**	*e*Pn	**Pn**	**14 04 33.1**	**+2.4**

MAN 22 14:14:34.6, 9.68N×122.28E, h34km, mb4.1, ML2.9, MS2.5, 1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.99**	**18**	*e*P	Pn	14 14 51.9	-0.2
GUIM				*e*S	Sn	14 15 05.4	+0.5
SNPH	**Sibulan**	**1.00**	**110**	*i*P	Pn	14 14 52.3	0.0
SNPH				*i*S	Sn	14 15 05.4	+0.1
CUYO	**Cuyo Island**	**1.70**	**313**	*e*P	Pn	14 15 02.9	+1.0
CUYO				*e*S	Sn	14 15 22.8	+0.3

*IDC **22** 14:16:39.8±1.1, 18.00S×178.50W, h574km±12km, mb4.0/25, mb1 4.1/27, mb1mx4.0/39, mbtmp4.8/27, Error ellipse: s-maj=12.4km s-min=8.0km az=144.0*
*MOS **22** 14:16:39.5±1.0, 17.87S×178.55W, h575km, mb5.1/5, Error ellipse: s-maj=11.6km s-min=8.7km az=150.1*
*NEIC **22** 14:16:41.0±0.7, 17.92S×178.53W, h583km±8km, mb4.1/6, Error ellipse: s-maj=9.2km s-min=4.4km az=153.0*

ISC 22 14:16:39.9±0.3, 18.07S±0.06×178.37W±0.05, h579km, n376, σ1§40/396, mb4.4/47, 17C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.56**	**58**	P	**P**	**14 18 33.7**	**-0.7**
	5.5nm,0.3s,baz=275,slow=2.2,SNR=16						
AFI				S	**S**	**14 20 04.3**	**-4.0**
	baz=210,slow=20,SNR=2.6						
AFI	**Afiamalu**	**7.56**	**58**	*e*P	**P**	**14 18 34.5**	**0.0**
AFI				S	**S**	**14 20 04.3**	**-4.0**
AFI	**Afiamalu**	**7.56**	**58**	*e*P	**P**	**14 18 34.5**	**0.0**
AFI				S	**S**	**14 20 04.3**	**-4.0**
NIUE	**Niue**	**8.07**	**98**	P	**P**	**14 18 41.7**	**+2.5**
	baz=8.1,SNR=7.7						
GLKZ	**Green Lake**	**11.15**	**178**	P	**P**	**14 19 09.5**	**-0.2**
DZM	**Mont Dzumac**	**14.82**	**252**	P	**P**	**14 19 47.4**	**+0.4**
	2.6nm,0.3s,baz=135,slow=20,SNR=26						
DZM	**Mont Dzumac**	**14.82**	**252**	*e*P	**P**	**14 19 47.1**	**0.0**
OUZ	**Omahuta**	**18.52**	**201**	*e*P	**P**	**14 20 23.7**	**+2.7**
OUZ	**Omahuta**	**18.52**	**201**	P	**P**	**14 20 25.0**	**+4.1**
GRZ	**Great Barrier**	**18.92**	**196**	P	**P**	**14 20 26.2**	**+1.6**
WCZ	**Waipu Caves**	**18.94**	**198**	P	**P**	**14 20 28.8**	**+4.1**
KUZ	**Kuaotunu**	**19.32**	**194**	P	**P**	**14 20 30.6**	**+2.4**
WIAZ	**Waiheke Island**	**19.52**	**196**	P	**P**	**14 20 33.8**	**+3.8**
MKAZ	**Moumakai**	**19.80**	**195**	P	**P**	**14 20 36.0**	**+3.4**
WMGZ	**Waiomatatini S**	**19.88**	**188**	P	**P**	**14 20 34.8**	**+1.5**
WMGZ				S	**S**	**14 23 36.9**	**-5.3**
AWAZ	**Awhitu Peninsu**	**19.90**	**197**	P	**P**	**14 20 37.2**	**+3.7**
HAZ	**Te Kaha**	**19.91**	**189**	P	**P**	**14 20 33.6**	**+0.1**
HAZ				S	**S**	**14 23 37.5**	**-5.1**
PUZ	**Puketiti**	**20.15**	**188**	P	**P**	**14 20 37.2**	**+1.4**
PUZ				S	**S**	**14 23 40.9**	**-5.7**
TWGZ	**Tauwhareparae**	**20.29**	**188**	P	**P**	**14 20 38.9**	**+1.8**
TWGZ				S	**S**	**14 23 44.7**	**-4.2**
KARZ	**Kaharoa**	**20.43**	**192**	P	**P**	**14 20 42.5**	**+4.2**
OMRZ	**Omania**	**20.49**	**192**	P	**P**	**14 20 41.0**	**+2.1**
URZ	**Urewera**	**20.50**	**190**	P	**P**	**14 20 37.9**	**-1.0**
	11nm,0.7s,baz=62,slow=1.6,SNR=11						
URZ				S	**S**	**14 23 46.0**	**-6.1**
	6.9nm,0.8s,baz=3.4,slow=19,SNR=3.5						
URZ	**Urewera**	**20.50**	**190**	P	**P**	**14 20 38.2**	**-0.7**
MWZ	**Matawai**	**20.51**	**189**	P	**P**	**14 20 39.6**	**+0.5**
RIGZ	**Rimuhau**	**20.84**	**189**	P	**P**	**14 20 43.3**	**+1.3**
BKZ	**Black Stump Fm**	**21.50**	**191**	P	**P**	**14 20 47.8**	**-0.1**
HNR	**Honiara**	**22.73**	**289**	P	**P**	**14 20 57.7**	**-1.5**
	53nm,0.6s,baz=207,slow=9.0,SNR=4.4						
EIDS	**Eidsvold**	**29.25**	**250**	P	**P**	**14 21 56.5**	**+0.2**
	baz=29,SNR=14						
EIDS	**Eidsvold**	**29.25**	**250**	*e*P	**P**	**14 21 56.6**	**+0.2**
ARMA	**Armidale**	**29.90**	**240**	P	**P**	**14 22 03.5**	**+1.5**
	baz=30,SNR=25						
ARMA	**Armidale**	**29.90**	**240**	*e*P	**P**	**14 22 03.6**	**+1.5**
MGCD	**Mangrove Creek**	**31.24**	**235**	P	**P**	**14 22 15.1**	**+1.8**
	baz=31,SNR=10						
RMQ	**Roma**	**31.48**	**249**	P	**P**	**14 22 16.5**	**+1.0**
	baz=32,SNR=32						
RABL	**Rabaul**	**31.96**	**292**	*e*P	**P**	**14 22 18.6**	**-1.1**
CNB	**Canberra Magne**	**33.36**	**233**	P	**P**	**14 22 33.0**	**+1.7**
	baz=34,SNR=83						
CTAO	**Charters Tower**	**33.46**	**261**	*e*P	**P**	**14 22 32.7**	**+0.4**
CTAO	**Charters Tower**	**33.46**	**261**	*e*P	**P**	**14 22 32.7**	**+0.4**
CAN	**Canberra**	**33.64**	**233**	*e*P	**P**	**14 22 34.8**	**+1.1**
CAN	**Canberra**	**33.64**	**233**	*e*P	**P**	**14 22 34.8**	**+1.1**
PMG	**Port Moresby**	**34.52**	**280**	*e*P	**P**	**14 22 42.1**	**+0.9**
PMG	**Port Moresby**	**34.52**	**280**	*e*P	**P**	**14 22 42.1**	**+0.9**
CMSA	**Cobar Meteorol**	**35.11**	**241**	P	**P**	**14 22 46.8**	**+0.9**
	baz=35,SNR=107						
MTSU	**Mount Surprise**	**35.43**	**264**	P	**P**	**14 22 48.7**	**-0.1**
	baz=35,SNR=74						
QLP	**Quilpie**	**35.52**	**249**	P	**P**	**14 22 49.7**	**+0.4**
	baz=36,SNR=72						
TOO	**Toolangi**	**37.10**	**231**	P	**P**	**14 23 03.7**	**+1.5**
	baz=37,SNR=19						
TOO	**Toolangi**	**37.10**	**231**	P	**P**	**14 23 03.9**	**+1.7**
TOO				pmax	pmax		
	comp=Z,52nm,0.9s						
COEN	**Coen**	**37.15**	**271**	P	**P**	**14 23 03.5**	**+0.7**
	baz=37,SNR=89						
COEN	**Coen**	**37.15**	**271**	*e*P	**P**	**14 23 03.6**	**+0.7**
MANU	**Manus Island**	**37.19**	**291**	*e*P	**P**	**14 23 03.8**	**+0.5**
STKA	**Stephens Creek**	**38.59**	**241**	P	**P**	**14 23 15.7**	**+1.3**
	comp=Z,42nm,0.6s,baz=92,slow=10,SNR=109						
STKA	**Stephens Creek**	**38.59**	**241**	P	**P**	**14 23 15.7**	**+1.3**
	baz=39,SNR=92						
STKA	**Stephens Creek**	**38.59**	**241**	*e*P	**P**	**14 23 16.0**	**+1.6**
STKA	**Stephens Creek**	**38.59**	**241**	*e*P	**P**	**14 23 16.0**	**+1.6**
ARPS	**Mount Arapiles**	**39.59**	**234**	P	**P**	**14 23 23.1**	**+0.8**
	baz=40,SNR=12						
QIS	**Mount Isa**	**39.66**	**259**	P	**P**	**14 23 22.7**	**-0.5**
	baz=40,SNR=12						
HTT	**Hallett**	**41.10**	**240**	P	**P**	**14 23 35.6**	**+1.1**
	baz=41,SNR=28						
JAY	**Jayapura**	**42.99**	**286**	P	**P**	**14 23 49.8**	**+0.3**
JAY				pmax	pmax		
	comp=Z,63nm,1.0s						
JAY	**Jayapura**	**42.99**	**286**	P	**P**	**14 23 49.8**	**+0.3**
BBOO	**Buckleboo**	**43.37**	**241**	P	**P**	**14 23 52.8**	**+0.6**
	baz=43,SNR=74						
BBOO	**Buckleboo**	**43.37**	**241**	*e*P	**P**	**14 23 53.0**	**+0.8**
GENI	**Genyem**	**43.45**	**286**	P	**P**	**14 23 53.6**	**+0.6**
HMH	**Humu'ula Sheep**	**43.66**	**32**	*e*P	**P**	**14 23 56.0**	**+1.1**
HPAH	**Hawaii Prepara**	**43.91**	**32**	*e*P	**P**	**14 23 56.8**	**+0.3**
KIP	**Kipapa**	**44.02**	**28**	*i* P	**P**	**14 23 57.6**	**+0.4**
KIP				pmax	pmax		
	comp=Z,207nm,1.0s						
WB2	**Warramunga Arr**	**44.63**	**260**	*e*P	**P**	**14 24 01.5**	**-0.6**
WRAB	**Tennant Creek**	**44.63**	**260**	*e*P	**P**	**14 24 01.5**	**-0.7**
	comp=Z,15nm,0.4s						
WRAB	**Tennant Creek**	**44.63**	**260**	*d* P	**P**	**14 24 01.2**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,34nm,0.9s						
WRA	**Warramunga Arr**	**44.64**	**260**	P	**P**	**14 24 01.8**	**-0.4**
	comp=Z,28nm,0.4s,baz=91,slow=7.4,SNR=483						
WRA				PcP	**PcP**	**14 25 32.2**	**-0.1**
	comp=Z,3.5nm,0.5s,baz=85,slow=4.1,SNR=4.6						
WRA				ScP	**ScP**	**14 28 30.9**	**+1.1**
	comp=Z,1.1nm,0.9s,baz=87,slow=5.1,SNR=3.6						
WRA				S	**S**	**14 29 51.6**	**-5.7**
	comp=Z,1.2nm,0.7s,baz=100,slow=13,SNR=3.3						
AS01	**Alice Springs**	**44.74**	**254**	*e*P	**P**	**14 24 03.1**	**+0.2**
AS31	**Alice Springs**	**44.79**	**254**	*e*P	**P**	**14 24 03.6**	**+0.4**
ASAR	**Alice Springs**	**44.79**	**254**	P	**P**	**14 24 03.8**	**+0.5**
	comp=Z,217nm,0.5s,baz=88,slow=8.5,SNR=4407						
ASAR				PcP	**PcP**	**14 25 32.8**	**0.0**
	comp=Z,7.8nm,0.6s,baz=97,slow=4.0,SNR=5.1						
ASAR				ScP	**ScP**	**14 28 31.4**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=92,slow=5.6,SNR=3.5						
ASAR				S	**S**	**14 29 56.5**	**-2.8**
	comp=Z,3.0nm,1.0s,baz=87,slow=16,SNR=11						
KDU	**Kakadu**	**47.59**	**269**	P	**P**	**14 24 24.1**	**-0.5**
	baz=48,SNR=57						
GUMO	**Guam**	**48.01**	**308**	P	**P**	**14 24 27.3**	**-0.2**
	comp=Z,88nm,0.6s,baz=152,slow=11,SNR=5.1						
MTN	**Manton Dam**	**48.84**	**269**	P	**P**	**14 24 32.9**	**-0.8**
	baz=49,SNR=39						
MTN	**Manton Dam**	**48.84**	**269**	*e*P	**P**	**14 24 32.9**	**-0.8**
WRKA	**Warakurna**	**49.84**	**252**	P	**P**	**14 24 41.2**	**+0.1**
	baz=50,SNR=193						
FORT	**Forrest**	**49.98**	**245**	P	**P**	**14 24 41.7**	**-0.2**
	baz=50,SNR=65						
FORT	**Forrest**	**49.98**	**245**	*e*P	**P**	**14 24 41.9**	**0.0**
KNRA	**Kununurra**	**50.51**	**264**	P	**P**	**14 24 45.6**	**-0.4**
	baz=50,SNR=29						
BNDI	**Bandanaira**	**52.30**	**278**	P	**P**	**14 24 57.8**	**-1.1**
SWI	**Sorong**	**52.32**	**283**	P	**P**	**14 24 59.1**	**0.0**
SWI				pmax	pmax		
	comp=Z,164nm,0.7s						
SWI	**Sorong**	**52.32**	**283**	P	**P**	**14 24 59.2**	**+0.1**
PALU	**Palau**	**52.95**	**294**	P	**P**	**14 25 04.0**	**+0.5**
	baz=53,SNR=5.8						
FITZ	**Fitzroy Crossi**	**53.04**	**261**	P	**P**	**14 25 04.2**	**+0.1**
	baz=53,SNR=127						
FITZ	**Fitzroy Crossi**	**53.04**	**261**	*e*P	**P**	**14 25 04.3**	**+0.1**
KMBL	**Kambalda**	**55.28**	**244**	P	**P**	**14 25 19.1**	**-0.6**
	baz=55,SNR=11						
NLAI	**Namlea**	**55.36**	**279**	P	**P**	**14 25 20.6**	**+0.1**
SOEI	**Soe**	**56.11**	**270**	*e*P	**P**	**14 25 27.1**	**+1.2**
SOEI	**Soe**	**56.11**	**270**	P	**P**	**14 25 26.9**	**+1.1**
BATI	**Baumata**	**56.57**	**270**	P	**P**	**14 25 30.0**	**+1.1**
SANI	**Sanana**	**56.81**	**280**	P	**P**	**14 25 29.5**	**-1.0**
MMRI	**Maumere**	**58.34**	**271**	P	**P**	**14 25 40.4**	**-0.5**
MEEK	**Meekatharra**	**58.42**	**249**	P	**P**	**14 25 40.7**	**-0.6**
	baz=58,SNR=20						
KLBR	**Kellerberrin**	**58.80**	**244**	P	**P**	**14 25 43.4**	**-0.3**
	baz=59,SNR=51						
EDFI	**Ende, Flores**	**58.83**	**271**	P	**P**	**14 25 43.4**	**-0.9**
NWAO	**Narrogin (SRO)**	**59.17**	**242**	P	**P**	**14 25 46.2**	**0.0**
	baz=59,SNR=17						
NWAO	**Narrogin (SRO)**	**59.17**	**242**	*e*P	**P**	**14 25 46.4**	**+0.3**
NWAO	**Narrogin (SRO)**	**59.17**	**242**	*e*P	**P**	**14 25 46.4**	**+0.3**
RKGY	**Rocky Gully**	**59.33**	**240**	P	**P**	**14 25 47.8**	**+0.6**
	baz=59,SNR=11						
KMSI	**Cibinong**	**59.61**	**282**	P	**P**	**14 25 48.9**	**-0.4**
BLDU	**Ballidu**	**59.75**	**245**	P	**P**	**14 25 49.7**	**-0.4**
	baz=60,SNR=44						
MUN	**Mundaring**	**60.09**	**243**	P	**P**	**14 25 52.6**	**+0.4**
	baz=60,SNR=7.8						
LUWI	**Luwuk**	**60.17**	**279**	P	**P**	**14 25 53.2**	**+0.1**
VNDA	**Vanda**	**60.29**	**185**	P	**P**	**14 25 53.5**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=341,slow=9.0,SNR=5.2						
MORW	**Morawa**	**60.45**	**246**	P	**P**	**14 25 54.6**	**-0.1**
	baz=60,SNR=17						
APSI	**Ampana**	**61.27**	**279**	P	**P**	**14 26 01.1**	**+0.8**
BKSI	**Bulukumba**	**61.30**	**274**	P	**P**	**14 25 59.6**	**-0.9**
MRSI	**Marisa**	**61.48**	**281**	P	**P**	**14 26 00.9**	**-0.7**
BNSI	**Bone**	**61.59**	**275**	P	**P**	**14 26 02.3**	**-0.1**
SPSI	**Sidrap Palu**	**62.05**	**275**	P	**P**	**14 26 04.3**	**-1.1**
PLAI	**Plampang**	**62.53**	**269**	P	**P**	**14 26 08.2**	**-0.3**
GIRL	**Giralia**	**62.89**	**253**	P	**P**	**14 26 11.8**	**+1.2**
	baz=63,SNR=12						
MPSI	**Mapaga**	**63.34**	**280**	P	**P**	**14 26 13.2**	**-0.5**
TWSI	**Tailiwang, Sumb**	**63.41**	**269**	P	**P**	**14 26 13.6**	**-0.5**
JHJ	**Hachijo jima 2**	**64.72**	**322**	P	**P**	**14 26 21.7**	**-0.3**
	comp=Z,32nm,0.3s,baz=181,slow=5.5,SNR=6.4						
DNP	**Denpasar**	**65.01**	**269**	P	**P**	**14 26 23.7**	**-0.5**
DNP				pmax	pmax		
	comp=Z,248nm,1.0s						
IGBI	**Denpasar**	**65.04**	**269**	P	**P**	**14 26 24.0**	**-0.4**
SRBI	**Singaraja**	**65.17**	**269**	P	**P**	**14 26 24.5**	**-0.7**
JAGI	**Jajag, Banyuwa**	**66.08**	**269**	*e*P	**P**	**14 26 29.5**	**-1.4**
JAGI	**Jajag, Banyuwa**	**66.08**	**269**	P	**P**	**14 26 29.2**	**-1.7**
KMMI	**Kalianget**	**66.65**	**270**	P	**P**	**14 26 34.7**	**+0.3**
BLJI	**Banyuglugur**	**66.81**	**269**	P	**P**	**14 26 34.9**	**-0.5**
MJAR	**Matsushiro Arr**	**68.06**	**323**	P	**P**	**14 26 41.7**	**-0.8**
	comp=Z,6.0nm,0.6s,baz=165,slow=6.0,SNR=9.5						
MAJO	**Matsushiro**	**68.06**	**323**	*d* P	**P**	**14 26 41.6**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MAT	**Matsushiro**	**68.06**	**323**	P	**P**	**14 26 41.7**	**-0.9**
MJB9	**Matsu-Tunnel**	**68.06**	**323**	*e*P	**P**	**14 26 42.3**	**-0.3**
PWJI	**Pagerwojo**	**68.43**	**268**	P	**P**	**14 26 44.2**	**-1.1**
KKM	**Kota Kinabalu**	**68.82**	**284**	P	**P**	**14 26 48.0**	**+0.3**
PCJI	**Pacitan**	**68.98**	**268**	P	**P**	**14 26 48.7**	**+0.1**
WOJI	**Wonogiri, Jawa**	**69.32**	**268**	P	**P**	**14 26 50.7**	**+0.1**
UGM	**Wanagama**	**69.68**	**268**	P	**P**	**14 26 52.6**	**-0.2**
JNU	**Nakatsue**	**70.28**	**316**	P	**P**	**14 26 55.2**	**-0.7**
	comp=Z,6.2nm,0.8s,baz=229,slow=3.2,SNR=4.9						
SBUM	**Sibu**	**71.27**	**279**	P	**P**	**14 27 03.0**	**+0.9**
KPJI	**Karang Pucung**	**71.36**	**268**	P	**P**	**14 27 02.4**	**-0.3**
ASAJ	**Asahikawa**	**71.43**	**331**	P	**P**	**14 27 02.8**	**+0.4**
	comp=Z,2.6nm,0.5s,baz=278,slow=6.3,SNR=5.5						
SSLB	**Suanglung**	**72.36**	**303**	*e*P	**P**	**14 27 07.1**	**-1.2**
TPUB	**Ta-pu**	**72.38**	**302**	*e*P	**P**	**14 27 07.1**	**-1.3**
KSM	**Kuching**	**72.75**	**277**	P	**P**	**14 27 11.0**	**+0.3**
LEM	**Lembang**	**72.75**	**268**	P	**P**	**14 27 11.3**	**+0.4**
LEM				pmax	pmax		
	comp=Z,61nm,0.8s						
LEM	**Lembang**	**72.75**	**268**	P	**P**	**14 27 10.9**	**0.0**
YSS	**Yuzh-Sakhalins**	**73.58**	**333**	*i* P	**P**	**14 27 16.3**	**+1.7**
YSS				pmax	pmax		
	comp=Z,21nm,1.3s						
PETK	**Petropavlovsk-**	**73.84**	**345**	P	**P**	**14 27 14.7**	**-1.3**
	comp=Z,3.0nm,0.7s,baz=118,slow=8.4,SNR=7.0						
CGJI	**Cibinong**	**74.64**	**268**	P	**P**	**14 27 20.3**	**-1.1**
KSRS	**Korea Array**	**74.84**	**318**	P	**P**	**14 27 22.4**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=131,slow=6.2,SNR=11						
KSAR	**Wonju Array Be**	**74.86**	**318**	P	**P**	**14 27 22.4**	**+0.4**
KSAR	**Wonju Array Be**	**74.86**	**318**	P	**P**	**14 27 22.5**	**+0.4**
PPBI	**Pangkal Pinang**	**75.55**	**272**	P	**P**	**14 27 26.8**	**+0.3**
KASI	**Kota Agung**	**76.10**	**269**	P	**P**	**14 27 28.3**	**-1.2**
MDSI	**Maura Dua**	**76.71**	**270**	P	**P**	**14 27 31.0**	**-1.8**
USRK	**Ussuriysk Ar.**	**76.77**	**326**	P	**P**	**14 27 32.8**	**+0.4**
	comp=Z,1.7nm,0.5s,baz=151,slow=3.3,SNR=6.6						
ARVC	**Arvin**	**77.36**	**46**	P	**P**	**14 27 37.5**	**+1.6**
	baz=237						
MWC	**Mount Wilson**	**77.42**	**48**	*e*P	**P**	**14 27 37.5**	**+1.0**
MWC	**Mount Wilson**	**77.42**	**48**	*e*P	**P**	**14 27 37.5**	**+1.0**
VES	**Vestal, Richgr**	**77.58**	**46**	P	**P**	**14 27 38.3**	**+1.2**
	baz=237,SNR=5.7						
O02D	**Mt. Diablo Mer**	**77.65**	**40**	P	**P**	**14 27 38.7**	**+1.2**
	baz=234						
MURC	**Murrieta**	**77.70**	**48**	P	**P**	**14 27 39.4**	**+1.6**
	baz=239						
BFSC	**Mount Baldy Ra**	**77.70**	**48**	P	**P**	**14 27 39.1**	**+1.1**
	baz=238						
EDW2	**Edwards Air Fo**	**77.81**	**47**	P	**P**	**14 27 40.0**	**+1.5**
	baz=238,SNR=8.9						
MONP2	**Monument Peak**	**77.89**	**49**	P	**P**	**14 27 40.7**	**+1.6**
	baz=239,SNR=8.9						
ISA	**Isabella, Lake**	**77.90**	**46**	*e*P	**P**	**14 27 40.3**	**+1.4**
ISA	**Isabella, Lake**	**77.90**	**46**	P	**P**	**14 27 40.3**	**+1.4**
ISA	**Isabella, Lake**	**77.90**	**46**	P	**P**	**14 27 40.5**	**+1.6**
	baz=237,SNR=11						
CMB	**Columbia Colle**	**77.93**	**43**	*e*P	**P**	**14 27 39.9**	**+0.9**
CMB	**Columbia Colle**	**77.93**	**43**	*e*P	**P**	**14 27 39.9**	**+0.9**
IKP	**In-Ko-Pah, Jac**	**77.99**	**50**	P	**P**	**14 27 41.3**	**+1.8**
	baz=240,SNR=5.0						
FRD	**Ford Ranch, An**	**78.07**	**49**	P	**P**	**14 27 41.5**	**+1.6**
	baz=239,SNR=6.0						
NJ2	**Nanjing**	**78.07**	**309**	*e*P	**P**	**14 27 41.5**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
N02D	**Trinity Center**	**78.17**	**40**	P	**P**	**14 27 42.0**	**+1.8**
	baz=234						
PFO	**Pinyon Flats O**	**78.23**	**49**	P	**P**	**14 27 42.1**	**+1.3**
	baz=239						
O03E	**Paynes Creek**	**78.33**	**41**	P	**P**	**14 27 42.1**	**+1.0**
	baz=234						
M02C	**Callahan**	**78.33**	**39**	P	**P**	**14 27 42.9**	**+1.8**
	baz=233						
LRMC	**Laurel Mtn Rad**	**78.34**	**47**	P	**P**	**14 27 43.0**	**+1.6**
	baz=238						
KDAK	**Kodiak Island**	**78.55**	**14**	P	**P**	**14 27 40.3**	**-1.4**
	comp=Z,8.7nm,0.9s,baz=115,slow=24,SNR=5.0						
MDPB	**Devils Postpil**	**78.56**	**44**	*e*P	**P**	**14 27 44.2**	**+1.5**
CWC	**Cottonwood Cre**	**78.58**	**46**	P	**P**	**14 27 44.2**	**+1.5**
	baz=238						
YBH	**Yreka Blue Hor**	**78.62**	**39**	P	**P**	**14 27 44.3**	**+1.7**
	comp=Z,1.1nm,0.7s,baz=192,slow=2.8,SNR=28						
YBH	**Yreka Blue Hor**	**78.62**	**39**	*e*P	**P**	**14 27 44.2**	**+1.6**
BELC	**Belle Mtn. Jos**	**78.76**	**49**	P	**P**	**14 27 45.2**	**+1.6**
	baz=239,SNR=6.2						
MPMC	**Manual Prospec**	**78.78**	**46**	P	**P**	**14 27 45.3**	**+1.5**
	baz=238,SNR=5.3						
WAKR	**Walker**	**78.81**	**43**	*e*P	**P**	**14 27 45.3**	**+1.5**
GSC	**Goldstone, Bar**	**78.86**	**47**	P	**P**	**14 27 45.4**	**+1.4**
	baz=239						
HEC	**Hector,Ludlow**	**78.94**	**48**	P	**P**	**14 27 45.8**	**+1.3**
	baz=239,SNR=5.1						
MYKOM	**Kota Tinggi**	**78.95**	**276**	P	**P**	**14 27 45.0**	**+0.1**
BC3	**Big Chuckawall**	**78.97**	**49**	P	**P**	**14 27 46.6**	**+1.9**
	baz=240						
BEKR	**Beckworth**	**78.98**	**42**	*e*P	**P**	**14 27 45.8**	**+1.1**
HUMO	**Hull Mountain**	**79.00**	**38**	*e*P	**P**	**14 27 46.4**	**+1.8**
PNTR	**Pine Nut**	**79.03**	**43**	*e*P	**P**	**14 27 46.4**	**+1.4**
GLA	**Glamis**	**79.12**	**50**	P	**P**	**14 27 47.0**	**+1.6**
	baz=240						
L04D	**Klamath Falls**	**79.15**	**39**	P	**P**	**14 27 46.6**	**+1.1**
	baz=234				

NEW	Newport	85.61	36	P		P	14 28 17.2	-0.6	
	comp=Z,3.3nm,0.7s,baz=224,slow=2.6,SNR=8.0								
NEW	Newport	85.61	36	P		P	14 28 18.4	+0.6	
	baz=237								
MNTX	Cornudas Mount	85.63	55	*e*P		P	14 28 19.9	+1.6	
MNTX	Cornudas Mount	85.63	55	P		P	14 28 19.8	+1.6	
	baz=246								
HDA	Harding Lake	85.70	13	*e*P		P	14 28 17.3	-0.5	
HDA	Harding Lake	85.70	13	P		P	14 28 17.5	-0.2	
	baz=210								
CCB	Clear Creek Bu	85.73	13	*e*P		P	14 28 16.8	-1.0	
TPTI		85.73	275	P		P	14 28 18.5	-0.6	
COLA	College	85.92	13	P		P	14 28 17.8	-0.9	
COLA				pmax	pmax				
	comp=Z,9.0nm,1.2s								
DLBC	Dease Lake	85.96	23	P		P	14 28 19.7	+0.5	
	comp=Z,3.6nm,0.9s,baz=93,slow=27,SNR=4.8								
IL1	Eielson Array	86.03	13	*e*P		P	14 28 18.0	-1.3	
ILAR	Eielson Array	86.03	13	P		P	14 28 18.4	-0.9	
	comp=Z,1.9nm,0.4s,baz=222,slow=5.1,SNR=46								
ILAR				PP		PP	14 31 53.2	+2.4	
	comp=Z,1.0nm,1.0s,baz=217,slow=8.5,SNR=4.1								
ILB	Eielson Array	86.03	13	*e*P		P	14 28 18.5	-0.9	
TX31	Lajitas Ar. Si	86.05	58	*e*P		P	14 28 22.5	+2.1	
TXAR	Lajitas Array	86.05	58	P		P	14 28 22.6	+2.2	
	comp=Z,7.2nm,0.8s,baz=218,slow=6.0,SNR=95								
ANMO	Albuquerque	86.16	52	*i* P		P	14 28 20.5	-0.4	
ANMO				pmax	pmax				
	comp=Z,4.0nm,1.0s								
ANMO	Albuquerque	86.16	52	P		P	14 28 21.8	+0.9	
	baz=245								
MCMT	McKenzie Canyo	86.33	40	*e*P		P	14 28 23.0	+1.5	
HIA	Hailar	86.52	325	*i* P		P	14 28 20.6	-1.4	
HIA				pmax	pmax				
	comp=Z,4.0nm,1.0s								
PBKT	Sadao Pong	86.52	289	P		P	14 28 24.4	+1.7	
MSO	Missoula	86.68	38	*e*P		P	14 28 23.5	+0.6	
MSO	Missoula	86.68	38	P		P	14 28 24.1	+1.1	
	baz=239								
DLMT	Dillon	86.75	40	*e*P		P	14 28 24.9	+1.5	
REDW	Red Top Meadow	86.88	42	*e*P		P	14 28 25.2	+1.1	
FXWY	Fox Creek	86.90	42	*e*P		P	14 28 25.3	+1.1	
SNOW	Snow King Moun	86.99	42	*e*P		P	14 28 26.1	+1.4	
S22A	4UR Ranch, Cre	87.08	49	P		P	14 28 26.9	+1.6	
	baz=245								
LOHW	Long Hollow	87.16	42	*e*P		P	14 28 26.5	+1.0	
QLMT	Earthquake Lak	87.21	41	*e*P		P	14 28 27.7	+2.0	
HHC	Hu-ho-hao-te	87.41	314	*e*P		P	14 28 25.3	-1.2	
HHC				pmax	pmax				
	comp=Z,29nm,0.7s								
HHC				pmax	pmax				
	comp=Z,390nm,5.2s								
BW06	Boulder Array	87.44	43	*e*P		P	14 28 27.3	+0.5	
	comp=Z,1.6nm,0.4s								
BW06	Boulder Array	87.44	43	P		P	14 28 27.4	+0.7	
	baz=243								
PD31	Pinedale Array	87.44	43	*e*P		P	14 28 27.1	+0.4	
PDAR	Pinedale Array	87.44	43	P		P	14 28 27.3	+0.5	
	comp=Z,4.0nm,0.5s,baz=217,slow=3.4,SNR=39								
PDAR	Pinedale Array	87.44	43	*e*P		P	14 28 27.2	+0.4	
BOZ	Bozeman (W)	87.46	40	P		P	14 28 27.7	+1.0	
	baz=241								
H17A	Grant Village	87.54	42	P		P	14 28 28.7	+1.4	
	baz=242								
UTHA	Uthaitani	87.57	287	P		P	14 28 29.9	+2.3	
KMI	Kunming	87.94	297	P		P	14 28 31.0	+1.5	
KMI				pmax	pmax				
	comp=Z,12nm,0.7s								
UMPA	Umpang Tak	88.31	288	P		P	14 28 33.2	+2.1	
BTO	Baotou	88.36	314	*e*P		P	14 28 32.3	+1.3	
MSTX	Muleshoe	88.55	54	P		P	14 28 33.2	+1.1	
	baz=247								
RLMT	Red Lodge	88.71	41	P		P	14 28 34.1	+1.5	
	baz=243								
CMAR	Chiang Mai Arr	88.97	290	P		P	14 28 35.2	+1.0	
	comp=Z,4.9nm,0.9s,baz=113,slow=2.8,SNR=35								
SYO	Syowa Base	89.01	193	*e*P		P	14 28 33.2	-0.1	
CMMT	Chiang Mai	89.09	290	P		P	14 28 35.5	+0.8	
CHTO	Chiang Mai	89.09	290	*e*P		P	14 28 35.4	+0.7	
CHTO	Chiang Mai	89.09	290	*e*P		P	14 28 35.4	+0.7	
CHTO	Chiang Mai	89.09	290	P		P	14 28 35.6	+0.9	
CD2	Chengdu	89.19	303	*e*P		P	14 28 35.0	0.0	
SNAA	Sanae	90.44	179	P		P	14 28 40.5	+0.5	
SNAA	Sanae	90.44	179	*i* P		P	14 28 40.6	+0.5	
VNA3	Neumayer Olymp	90.58	176	P		P	14 28 41.5	+0.9	
LZH	Lanzhou	91.02	308	*e*P		P	14 28 42.4	-1.1	
LZH				pP		pP	14 30 51.6	+2.1	
LZH				pmax	pmax				
	comp=Z,20nm,1.1s								
VNA2	Neumayer--Watz	91.02	177	P		P	14 28 44.1	+1.5	
	baz=194,slow=3.9								
VNA1	Neumayer--Stat	91.25	177	P		P	14 28 45.4	+1.8	
RSSD	Black Hills	91.65	44	*e*P		P	14 28 46.9	+0.7	
RSSD	Black Hills	91.65	44	*e*P		P	14 28 46.9	+0.7	
RSSD	Black Hills	91.65	44	P		P	14 28 46.9	+0.7	
	baz=246								
HKT	Hockley	92.63	59	*i* P		P	14 28 48.6	-2.1	
HKT				pmax	pmax				
	comp=Z,6.0nm,1.1s								
SONM	Songino Array	93.70	319	P		P	14 28 55.2	-0.2	
	comp=Z,1.0nm,0.8s,baz=132,slow=3.9,SNR=3.6								
YKA	Yellowknife Ar	94.46	25	P		P	14 28 58.0	-0.3	
	comp=Z,0.7nm,0.4s,baz=237,slow=4.5,SNR=12								
KSU1	Kansas State U	95.02	51	P		P	14 29 03.0	+1.5	
	baz=251								
ZALV	Zalesovo Beam	108.38	322	PKiKP		PKiKP	14 34 01.6	-1.2	
	comp=Z,0.9nm,0.6s,baz=90,slow=3.0,SNR=3.7								
MKAR	Makanchi Array	109.27	314	PKiKP		PKiKP	14 34 03.5	-1.3	
	comp=Z,1.0nm,0.5s,baz=140,slow=0.7,SNR=18								
KURK	Kurchatov	111.97	318	PKiKP		PKiKP	14 34 08.5	-1.2	
KURK	Kurchatov	111.97	318	PKiKP		PKiKP	14 34 08.5	-1.2	
KURBB	Kurchatov Arra	112.02	318	PKiKP		PKiKP	14 34 08.5	-1.3	
	comp=Z,1.0nm,0.6s,baz=100,slow=1.7,SNR=14								
KSH	Kashi	113.20	306	PKP		PKiKP	14 34 11.0	-1.6	
ARU	Arti	123.00	326	*i* PKiKP		PKPdf	14 34 29.4	-1.4	
ARU							14 36 16.5		
ARU				SS		SS	14 52 18.1	-1.9	
GEYT	Alibeck	127.16	304	PKP		PKPdf	14 34 39.0	-0.3	
	comp=Z,1.3nm,0.6s,baz=88,slow=4.5,SNR=4.3								
FINES	FINESS Array B	133.35	344	PKP		PKPdf	14 34 49.7	-0.6	
	comp=Z,4.2nm,0.9s,baz=128,slow=5.8,SNR=5.2								
NOA	NORSAR Array B	136.54	353	PKP		PKPdf	14 34 54.4	-1.9	
	comp=Z,0.8nm,0.8s,baz=16,slow=1.8,SNR=2.8								
AKASG	Malin Array Be	140.72	332	PKP		PKPdf	14 35 05.2	+1.1	
	comp=Z,0.6nm,0.3s,baz=45,slow=3.6,SNR=2.8								
BURAR	Bucovina Array	144.77	332	⇑*i* P		PKPab	14 35 13.0	+0.1	
BURAR	Bucovina Array	144.77	332	⇑PKiKP		PKPab	14 35 13.0	+0.1	
BIZ	Bicaz	144.87	330	⇑*i* P		PKPab	14 35 13.3	+0.1	
BRTR	Keskin Array B	144.92	315	PKP		PKPbc	14 35 12.7	-0.2	
	comp=Z,4.3nm,0.4s,baz=115,slow=3.6,SNR=19								
UZH	Uzhgorod	145.20	336	*e*PKiKP		PKPdf	14 35 11.9	-0.2	
VRI	Vrincioaia	145.33	329	⇑*i* P		PKPbc	14 35 13.9	+0.2	
VRI	Vrincioaia	145.33	329	⇑PKP2		PKPbc	14 35 13.9	+0.2	
TRPA	Tarpa	145.51	335	⇑*i* P		PKPbc	14 35 14.5	+0.4	
CLL	Collm	145.62	347	*e*PKPbc		PKPbc	14 35 14.0	-0.3	
	comp=Z,7.0nm,0.7s								
CLL	Collm	145.62	347	*e*PKiKP		PKPbc	14 35 14.0	-0.3	
CLL				pmax	pmax				
	comp=Z,7.0nm,0.7s								
DPC	Dobruska-Polom	145.71	343	*e*PKP		PKPbc	14 35 15.2	+0.5	
DPC	Dobruska-Polom	145.71	343	*e*PKP2		PKPbc	14 35 15.2	+0.5	
LANS	Liptovska Anna	145.80	339	*e*PKP2		PKPab	14 35 15.9	-0.9	
LANS	Liptovska Anna	145.80	339	*e*PKP		PKPab	14 35 15.9	-0.9	
DOPR	Dopca	145.91	330	⇑*i* P		PKPab	14 35 16.4	-0.9	
MLR	Muntele Rosu	145.99	329	⇓*i* P		PKPbc	14 35 15.2	-0.5	
MLR	Muntele Rosu	145.99	329	⇓PKiKP		PKPbc	14 35 15.2	-0.5	
KECS	Kecovo	146.01	337	*e*PKiKP		PKPbc	14 35 14.7	-0.8	
KECS	Kecovo	146.01	337	*e*PKP		PKPbc	14 35 14.7	-0.8	
VOIR		146.46	330	⇑*i* P		PKPbc	14 35 17.0	0.0	
VOIR		146.46	330	⇑PKP2		PKPbc	14 35 17.0	0.0	
DRGR		146.50	333	⇑*i* P		PKPbc	14 35 17.5	+0.5	
DRGR		146.50	333	⇑PKP2		PKPbc	14 35 17.5	+0.5	
VYHS	Vyhne	146.58	339	*e*PKP2		PKPbc	14 35 17.4	+0.3	
VYHS	Vyhne	146.58	339	*e*PKP		PKPbc	14 35 17.3	+0.2	
VYHS				*e*			14 35 20.2		
ARR	Arges	146.71	330	⇑*i* P		PKPbc	14 35 18.5	+0.9	
SIRR	Siria	147.36	334	⇓*i* P		PKPbc	14 35 19.5	+0.3	
KHC	Kasperske Hory	147.54	345	*e*PKP		PKPbc	14 35 20.1	+0.5	
KHC	Kasperske Hory	147.54	345	*e*PKP2		PKPbc	14 35 20.1	+0.5	
GERES	GERESS Array B	147.77	345	PKPbc		PKPbc	14 35 20.3	0.0	
	comp=Z,2.8nm,0.5s,baz=27,slow=3.2,SNR=20								
BZS	Buzias	147.89	333	⇑*i* P		PKPbc	14 35 20.6	0.0	
BZS	Buzias	147.89	333	⇑PKP2		PKPbc	14 35 20.7	+0.1	
CONA	Conrad Observa	148.03	342	*i* PKPbc		PKPbc	14 35 21.1	+0.1	
	comp=Z,3.8nm,0.7s								
HERR	Herculane	148.11	331	⇑*i* P		PKPbc	14 35 21.3	+0.2	
VTS	Vitosha	149.44	328	⇑*i* P		PKPbc	14 35 24.9	+0.2	
KBA	Koelnbreinsper	149.50	344	*i* PKPdf		PKPdf	14 35 20.4	+0.9	
	comp=Z,3.2nm,0.6s								
WTTA	Wattenberg	149.74	346	*i* PKiKP		PKPbc	14 35 25.5	+0.2	
	comp=Z,7.5nm,0.6s								
ABTA	Abfaltersbach	150.02	345	*i* PKPbc		PKPbc	14 35 25.2	-0.7	
	comp=Z,8.4nm,0.7s								
FETA	Feichten	150.17	347	*i* PKiKP		PKPbc	14 35 26.3	+0.1	
	comp=Z,11nm,1.6s								
VISS	Visnje	150.24	341	*e*PKPbc		PKPbc	14 35 26.3	+0.1	
VISS	Visnje	150.24	341	*e*PKPbc		PKPbc	14 35 26.3	+0.1	
BOJS	Bojanci	150.38	340	*e*PKPdf		PKPdf	14 35 20.0	-0.7	
BOJS				*e*PKPbc		PKPbc	14 35 26.7	+0.1	
BOJS	Bojanci	150.38	340	*e*PKPdf		PKPdf	14 35 20.0	-0.7	
BOJS				*e*PKPbc		PKPbc	14 35 26.7	+0.1	
PDG	Podgorica	151.46	332	⇑*i* P		PKPbc	14 35 28.2	-0.9	
ESDC	Sonseca Array	157.93	12	PKPab		PKPab	14 36 06.6	-1.5	
	comp=Z,0.5nm,0.4s,baz=3.5,slow=4.7,SNR=3.7								
TORD	Torodi Ar. Bea	175.11	181	PKP		PKPdf	14 35 44.2	-0.6	
	comp=Z,0.2nm,0.3s,baz=336,slow=3.3,SNR=3.9								
TORD				PKPab		PKPab	14 37 23.1	-1.2	
	comp=Z,0.3nm,0.5s,baz=197,slow=3.0,SNR=3.0								

NIED ***22*** *14:19:00.35˚.20N×140˚.10E,h71km,Mw4.3 Best double couple: M0 3.08000×10^15 NP1:φs=323.00000°,δ54.00000°, λ2.00000°. NP2:φs=232.00000°,δ88.00000°,λ144.00000°.*

BJI ***22*** *14:19:28.3,35˚.30N×140˚.40E,h78km,mb4.6/38,mB5.0/25, Ms4.1/5,Ms7 4.1/4*

MOS ***22*** *14:19:29.1±1.0,35˚.23N×140˚.35E,h79km,mb4.8/29,Error ellipse: s-maj=9.0km s-min=5.3km az=109.1*

ISCJB ***22*** *14:19:30.5±0.3,35˚.22N±0˚.03×140˚.16E±0˚.04,h87km±1km, mb4.4/55,Error ellipse: s-maj=5.3km s-min=4.1km az=164.2*

NEIC ***22*** *14:19:30.4±0.7,35˚.24N×140˚.34E,h75km±6km,mb4.8/8, Error ellipse: s-maj=9.4km s-min=6.0km az=81.0*

NEIC Felt [III] at Tokyo. Felt widely in the Tokyo area. Recorded [2 JMA] in Chiba, Kanagawa, Shizuoka, Tokyo and Yamanashi.

IDC ***22*** *14:19:31.7±1.1,35˚.17N×140˚.04E,h80km±9km,mb4.1/23, mb1 4.2/26,mb1mx4.0/55,mbtmp4.4/26,Error ellipse: s-maj=16.7km s-min=5.4km az=70.0*

JMA ***22*** *14:19:31.2±0.2,35˚.20N×140˚.08E,h85km±2km,M4.2 Broadband fault plane solution: P waves. NP1: φs=240.00000°,δ83.00000°,λ158.00000°. NP2: φs=333.00000°,δ68.00000°,λ8.00000°. Principal axes: T Plg21.0000°, Azm194.0000°; N Plg67.0000°, Azm42.0000°; P Plg10.0000°, Azm288.0000°;*

JMA Felt II J1.

ISC 22 14:19:30.9±0.6, 35˚.25N±0˚.04×140˚.21E±0˚.04, h78km±5km, n158,σ1=98/179, mb4.6/56, 9C-12D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKUC	kamogawauchiur	0.09	183	P	Pn	14 19 43.3	+1.2
JKUC				S	Sn	14 19 52.1	+1.8
KTR	Katsuura	0.14	138	⇓P	Pn	14 19 43.6	+1.4
KTR				S	Sn	14 19 52.5	+2.0
JCN	Nagara	0.17	359	⇑P	Pn	14 19 44.6	+2.2
JCN				*e*S	Sn	14 19 54.2	+3.5
BSO4	Boso 4	0.28	157	⇓P	Pn	14 19 44.4	+1.6
BSO4				X		14 19 52.9	
TATJ	Tateyama 2	0.34	230	⇑P	Pn	14 19 44.3	+1.1
TATJ				*e*S	Sn	14 19 53.6	+1.4
BSO3	Boso 3	0.51	151	⇓P	Pn	14 19 45.7	+1.4
JIM2	Oshima 3	0.83	230	⇑P	Pn	14 19 47.3	-0.6
JIM2				S	Sn	14 19 59.0	-1.4
BSO1	Boso 1	0.87	133	⇓P	Pn	14 19 49.3	+1.6
JOD2	Odawara 2	0.91	271	⇓P	Pn	14 19 48.3	-0.6
JOD2				S	Sn	14 20 00.7	-1.5
JIZS	Izushimoda	1.21	244	⇓P	Pn	14 19 52.1	-0.4
JIZS				S	Sn	14 20 07.1	-1.5
JRY	Ryogami san	1.31	306	⇓P	Pn	14 19 54.2	+0.5
JRY				S	Sn	14 20 10.9	0.0
JAG	Ashikaga	1.32	333	⇑P	Pn	14 19 54.8	+0.9
JAG				*e*S	Sn	14 20 12.2	+1.0
JYN	Shimob	1.38	281	⇓P	Pn	14 19 54.5	-0.2
JYN				S	Sn	14 20 11.3	-1.2
JMKN	Mikurajimanish	1.45	201	⇑P	Pn	14 19 55.5	0.0
JMKN				S	Sn	14 20 13.0	-0.9
SHZ3	Shizuoka 3	1.64	264	⇓P	Pn	14 19 58.2	+0.1
MJAR	Matsushiro Arr	2.07	309	P	Pn	14 20 03.5	-0.3
	97nm,0.3s,baz=225,slow=10,SNR=904						
MJAR				S	Sn	14 20 27.8	-1.0
	188nm,0.3s,baz=153,slow=18,SNR=23						
MJAR				LR		14 20 30.0	
	comp=Z,113nm,20.2s,baz=90,slow=29						
MAJO	Matsushiro	2.07	309	*e*Pn	Pn	14 20 05.1	+1.3
MAJO	Matsushiro	2.07	309	*d i* P	Pn	14 20 04.7	+0.9
MAT	Matsushiro	2.07	309	P	Pn	14 20 04.6	+0.8
MAT				*e*S	Sn	14 20 27.7	-1.1
MJB9	Matsu-Tunnel	2.08	309	*e*Pn	Pn	14 20 05.1	+1.3
JHJ	Hachijo jima 2	2.15	189	P	Pn	14 20 05.5	+0.6
	648nm,0.3s,baz=64,slow=22,SNR=602						
JHJ				S	Sn	14 20 29.9	-0.8
	2μm,0.3s,baz=73,slow=19,SNR=24						
JHJ2	Mitsune	2.16	189	*e*Pn	Pn	14 20 05.6	+0.8
INU	Inuyama	2.61	273	*e*Pn	Pn	14 20 11.5	+0.6
ERM	Erimo	7.14	18	*e*Pn	Pn	14 21 11.9	-0.7
ERM	Erimo	7.14	18	*e*P	Pn	14 21 11.9	-0.7
JNU	Nakatsue	8.01	257	P	Pn	14 21 25.2	+0.5
	1.7nm,0.3s,baz=50,slow=4.7,SNR=24						
JNU	Nakatsue	8.01	257	*e*Pn	Pn	14 21 27.0	+2.3
CBIJ	Chichi jima	8.30	168	*e*Pn	Pn	14 21 25.6	-3.0
CBIJ				*e*Sn	Sn	14 22 52.8	-8.0
JCJ	Chichijima	8.30	168	P	Pn	14 21 24.6	-4.0
	109nm,0.3s,baz=313,slow=19,SNR=73						
JCJ				S	Sn	14 22 51.1	-10
	52nm,0.3s,baz=28,slow=22,SNR=8.0						
ASAJ	Asahikawa	9.05	11	P	Pn	14 21 36.8	-1.9
	5.2nm,0.3s,baz=219,slow=10,SNR=82						
ASAJ				S	Sn	14 23 13.8	-5.0
	2.5nm,0.3s,baz=120,slow=20,SNR=3.7						
ASAJ	Asahikawa	9.05	11	*e*Pn	Pn	14 21 36.1	-2.6
YUK	Yuzh-Kuril'sk	9.80	25	*e*P	Pn	14 21 47.6	-1.2
YUK				*i* S	Sn	14 23 28.5	-8.5
YUK				pmax	pmax		
	comp=N,39nm,0.6s						
YUK				pmax	pmax		
	comp=Z,73nm,0.6s						
YUK				pmax	pmax		
	comp=E,23nm,0.5s						
SHO	Shikotan	10.01	29	*e*P	Pn	14 21 50.0	-1.8
SHO				*i* S	Sn	14 23 32.9	-9.4
SHO				pmax	pmax		
	comp=Z,22nm,0.5s						
SHO				pmax	pmax		
	comp=N,13nm,0.2s						
SHO				pmax	pmax		
	comp=E,18nm,0.2s						
KSRS	Korea Array	10.15	286	P	Pn	14 21 56.8	+3.1
	comp=E,0.8nm,0.3s,baz=91,slow=14,SNR=19						
KSAR	Wonju Array Be	10.18	286	P	Pn	14 21 56.8	+2.7
KSAR	Wonju Array Be	10.18	286	P	Pn	14 21 56.8	+2.7
TJN	Taejon	10.49	280	*ce*P	Pn	14 22 01.4	+3.0
USRK	Ussuriysk Ar.	10.95	327	P	Pn	14 22 06.3	+1.8
	comp=E,0.5nm,0.3s,baz=147,slow=12,SNR=5.8						
KUR	Kuril'sk	11.56	28	*e*P	Pn	14 22 12.8	0.0
KUR				*e*S	Sn	14 24 13.3	-6.7
KUR				smax	smax		
	comp=N,70nm,0.6s						
KUR				smax	smax		
	comp=E,23nm,0.6s						
YSS	Yuzh-Sakhalins	11.85	9	*e*Pn	Pn	14 22 14.0	-2.8
YSS	Yuzh-Sakhalins	11.85	9	*e*P	Pn	14 22 16.8	0.0
MDJ	Mudanjiang	12.39	322	P	P	14 22 29.1	-4.1
MDJ				pmax	pmax		
	comp=E,8.0nm,0.5s						
MDJ				pmax	pmax		
	comp=E,92nm,3.8s						
KLR	Kul'dur	15.29	339	P	Pn	14 23 00.2	-2.0
	comp=E,1.2nm,0.3s,baz=160,slow=14,SNR=11						
KLR	Kul'dur	15.29	339	*i* P	Pn	14 23 03.6	+1.4
TYV	Tymovskoe	15.71	6	*e*P	Pn	14 23 08.4	+1.0
TYV				*e*S	Sn	14 25 56.0	-4.6
TYV				smax	smax		
	comp=N,16nm,1.1s						
NJ2	Nanjing	18.06	266	*e*P	Pn	14 23 37.1	+0.5
NJ2				pmax	pmax		
	comp=N,7.0nm,0.6s						
ZEA	Zeya	20.61	338	*e*P	P	14 24 04.5	+0.9
ZEA				pmax	pmax		
	comp=Z,32nm,0.7s						
PETK	Petropavlovsk-	21.72	29	P	P	14 24 16.2	+0.7
	comp=Z,3.5nm,0.9s,baz=226,slow=9.8,SNR=2.6						
GUMO	Guam	21.97	168	P	P	14 24 19.1	+0.6
	comp=Z,142nm,1.0s,baz=47,slow=17,SNR=4.2						
WHN	Wuhan	22.18	265	P	P	14 24 20.0	-0.7
HHC	Hu-ho-hao-te	23.18	293	*e*P	P	14 24 31.9	+0.9
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
HHC				pmax	pmax		
	comp=Z,83nm,5.2s						
XAN	Xi'an	25.71	276	P	P	14 24 52.9	-1.1
XAN				pP	pP	14 25 11.3	-0.7
XAN				S	S	14 29 09.3	-7.9
XAN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ULN	Ulaanbaatar	27.60	307	*i* P	P	14 25 10.4	-0.6
ULN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONA1	Songino Array	28.02	307	*e*P	P	14 25 14.6	-0.1
SONM	Songino Array	28.02	307	P	P	14 25 14.2	-0.5
	comp=Z,2.7nm,0.4s,baz=104,slow=9.0,SNR=23						
H11N2	WAKE ISLAND Hy	28.16	116	T	T	14 54 37.9	
	baz=309,slow=75,SNR=80						
H11N1	WAKE ISLAND Hy	28.16	116	T	T	14 54 42.1	
	baz=309,slow=75,SNR=72						
H11N3	WAKE ISLAND Hy	28.18	116	T	T	14 54 39.7	
	baz=309,slow=75,SNR=92						
BOD	Bodaibo	28.55	330	*e*P	P	14 25 19.0	-0.1
BOD				pmax	pmax		
	comp=Z,15nm,1.5s						
H11S3	WAKE ISLAND Hy	28.79	119	T	T	14 55 32.6	
	baz=310,slow=75,SNR=57						
H11S1	WAKE ISLAND Hy	28.79	118	T	T	14 55 33.2	
	baz=310,slow=75,SNR=69						
H11S2	WAKE ISLAND Hy	28.81	119	T	T	14 55 33.8	
	baz=310,slow=75,SNR=48						
LZH	Lanzhou	29.45	282	*e*P	P	14 25 30.5	+3.0
LZH				pP	pP	14 25 49.0	+3.3
LZH				sP	sP	14 25 58.3	+3.5
LZH				PP	PP	14 26 31.8	-3.3
LZH				*e*S	S	14 30 19.3	+3.1
LZH				pmax	pmax		
	comp=Z,47nm,1.1s						
LZH				pmax	pmax		
	comp=Z,270nm,4.3s						
LZH				LR	LR		
	comp=Z,1μm,14.4s						
LZH				LR	LR		
	comp=Z,1μm,14.4s						
LZH				LR	LR		
	comp=Z,1μm,15.4s						
GYA	Guiyang	29.98	262	*e*P	P	14 25 33.8	+1.5
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CD2	Chengdu	30.73	272	*e*P	P	14 25 39.0	+0.2
GTA	Gaotai	32.20	290	*e*P	P	14 25 51.8	+0.2
GTA				pP	pP	14 26 09.0	-0.9
GTA				sP	sP	14 26 18.5	-0.5
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KMI	Kunming	33.75	263	P	P	14 26 07.6	+2.2
KMI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HVS	Khovu-Aksy	36.76	310	*i* P	P	14 26 32.3	+1.4
HVS				pmax	pmax		
	comp=Z,13nm,0.8s						
NONG	Nongkai	37.02	252	P	P	14 26 33.2	-0.1
	comp=Z,0.2nm,0.8s						
CHAI	Chaiyaphum	39.18	250	P	P	14 26 52.6	+1.2
	comp=Z,2.2nm,1.0s						
PBKT	Sadao Pong	39.57	252	*e*P	P	14 26 52.7	-2.0
	comp=Z,2.9nm,0.8s						
PBKT	Sadao Pong	39.57	252	P	P	14 26 55.5	+0.8
	comp=Z,4.1nm,1.0s						
CMAR	Chiang Mai Arr	40.11	256	*ce*P	P	14 26 57.5	-1.7
	comp=Z,0.5nm,0.4s,baz=48,slow=7.0,SNR=6.7						
CMAR	Chiang Mai Arr	40.11	256	*

	SNR=6.3							
KCSI	**Kotacane, Aceh**	**50.35**	**241**	P		**P**	**14 28 16.4**	**-3.9**
AAK	**Ala-Archa**	**50.49**	**299**	P		**P**	**14 28 21.9**	**+0.7**
	comp=Z,3.6nm,0.4s,baz=109,slow=3.8,SNR=18							
AAK	**Ala-Archa**	**50.49**	**299**	P		**P**	**14 28 21.9**	**+0.7**
	SNR=5.3							
AAK	**Ala-Archa**	**50.49**	**299**	*eP*		**P**	**14 28 22.0**	**+0.8**
	comp=Z,4.3nm,0.4s							
AAK	**Ala-Archa**	**50.49**	**299**	*eP*		**P**	**14 28 22.0**	**+0.8**
AAK				pmax		pmax		
	comp=Z,4.0nm,0.4s							
OTUK	**Ortayu**	**50.70**	**307**	P		**P**	**14 28 22.6**	**+0.1**
OTUK				pmax		pmax		
	comp=Z,6.0nm,0.9s							
MLSI	**Meulaboh, Aceh**	**50.83**	**243**	P		**P**	**14 28 23.7**	**-0.2**
EKS2	**Erkin-Say**	**51.00**	**300**	P		**P**	**14 28 25.5**	**+0.6**
	SNR=5.7							
BVAR	**Borovoye Array**	**51.06**	**313**	P		**P**	**14 28 25.8**	**+0.7**
	comp=Z,1.9nm,0.3s,baz=106,slow=9.7,SNR=23							
BRVK	**Borovoye**	**51.12**	**313**	*eP*		**P**	**14 28 26.7**	**+1.1**
	comp=Z,2.9nm,0.4s							
BRVK	**Borovoye**	**51.12**	**313**	*eP*		**P**	**14 28 26.7**	**+1.1**
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.4s							
AML	**Almayashu**	**51.20**	**299**	P		**P**	**14 28 27.9**	**+1.1**
	SNR=45							
KLI	**Kotabumi**	**51.91**	**227**	P		**P**	**14 28 31.9**	**0.0**
KLI				pmax		pmax		
	comp=Z,139nm,0.4s							
SFK	**Sufi-Kurgan**	**51.93**	**296**	P		**P**	**14 28 32.3**	**+0.2**
MNAS	**Manas**	**51.95**	**300**	P		**P**	**14 28 32.9**	**+0.8**
MNAS				pmax		pmax		
	comp=Z,7.0nm,0.7s							
WRAB	**Tennant Creek**	**55.16**	**187**	*eP*		**P**	**14 28 54.8**	**-0.7**
	comp=Z,24nm,1.1s							
WRAB	**Tennant Creek**	**55.16**	**187**	*ceP*		**P**	**14 28 54.7**	**-0.8**
WRAB				pmax		pmax		
	comp=Z,27nm,1.7s							
WB2	**Warramunga Arr**	**55.17**	**187**	*eP*		**P**	**14 28 54.9**	**-0.6**
WRA	**Warramunga Arr**	**55.17**	**187**	P		**P**	**14 28 54.8**	**-0.8**
	comp=Z,9.5nm,0.3s,baz=2.4,slow=7.6,SNR=73							
SVE	**Sverdlovsk**	**55.85**	**319**	*eP*		**P**	**14 28 59.4**	**-0.7**
ARU	**Arti**	**57.06**	**319**	*eP*		**P**	**14 29 07.9**	**-0.7**
	comp=Z,6.1nm,0.8s							
ARU	**Arti**	**57.06**	**319**	*d iP*		**P**	**14 29 07.9**	**-0.7**
ARU							14 31 14.3	
ARU				S		**S**	**14 36 59.4**	**+2.2**
ARU				SS		**SS**	**14 40 44.7**	**-1.7**
ARU				pmax		pmax		
	comp=Z,22nm,2.5s							
ABKAR	**Akbulak array**	**58.35**	**311**	*eP*		**P**	**14 29 18.1**	**+0.2**
AS01	**Alice Springs**	**58.89**	**187**	*eP*		**P**	**14 29 21.0**	**-0.8**
AS31	**Alice Springs**	**58.90**	**187**	*eP*		**P**	**14 29 21.6**	**-0.3**
	comp=Z,4.1nm,0.5s							
ASAR	**Alice Springs**	**58.90**	**187**	P		**P**	**14 29 21.4**	**-0.4**
	comp=Z,3.7nm,0.4s,baz=18,slow=11,SNR=42							
AKTO	**Aktyubinsk**	**59.15**	**312**	P		**P**	**14 29 23.6**	**+0.2**
	comp=Z,3.9nm,0.7s,baz=70,slow=11,SNR=12							
SPITS	**Spitsbergen Ar**	**62.08**	**349**	P		**P**	**14 29 43.5**	**+0.6**
	baz=63,slow=7.3							
DZM	**Mont Dzumac**	**62.20**	**152**	P		**P**	**14 29 45.0**	**+0.5**
	comp=Z,7.9nm,1.1s,baz=288,slow=19,SNR=3.9							
RES	**Resolute Bay**	**64.57**	**14**	P		**P**	**14 30 01.0**	**+1.7**
	comp=Z,2.0nm,0.9s,baz=290,slow=2.2,SNR=5.0							
RES	**Resolute Bay**	**64.57**	**14**	P		**P**	**14 30 01.0**	**+1.7**
RES				pmax		pmax		
	comp=Z,2.0nm,0.9s							
ARCES	**ARCESS Array B**	**65.32**	**339**	P		**P**	**14 30 05.4**	**+1.1**
	comp=Z,2.9nm,0.7s,baz=54,slow=7.2,SNR=9.9							
SGF	**Sodankyl**	**66.22**	**337**	*eP*		**P**	**14 30 11.1**	**+1.0**
SGF				pmax		pmax		
	comp=Z,28nm,2.2s							
MSF	**Maaselka**	**66.26**	**335**	*eP*		**P**	**14 30 11.2**	**+0.8**
STKA	**Stephens Creek**	**66.78**	**179**	P		**P**	**14 30 13.9**	**0.0**
	comp=Z,1.9nm,0.5s,baz=353,slow=6.4,SNR=8.4							
STKA	**Stephens Creek**	**66.78**	**179**	P		**P**	**14 30 14.0**	**0.0**
STKA				pmax		pmax		
	comp=Z,2.0nm,0.5s							
JOF	**Joensuu**	**67.07**	**332**	P		**P**	**14 30 15.9**	**+0.3**
DAG	**Danmarks Havn**	**67.46**	**355**	P		**P**	**14 30 18.6**	**+0.8**
DAG				pmax		pmax		
	comp=Z,6.0nm,2.7s							
OUL	**Oulu**	**67.81**	**335**	P		**P**	**14 30 20.9**	**+0.8**
SUF	**Sumiainen**	**69.13**	**333**	P		**P**	**14 30 28.5**	**0.0**
SUF				pmax		pmax		
	comp=Z,19nm,2.4s							
FINES	**FINESS Array B**	**69.93**	**332**	P		**P**	**14 30 34.0**	**+0.6**
	comp=Z,6.2nm,0.7s,baz=72,slow=6.0,SNR=21							
VAF	**Ylistaro**	**70.19**	**335**	P		**P**	**14 30 35.6**	**+0.7**
KBZ	**Khabaz**	**71.32**	**311**	P		**P**	**14 30 42.6**	**+0.5**
	comp=Z,4.8nm,0.8s,baz=42,slow=3.0,SNR=13							
KIV	**Kislovodsk**	**71.33**	**311**	*eP*		**P**	**14 30 42.7**	**+0.3**
KIV				pmax		pmax		
	comp=Z,16nm,1.1s							
NEY	**Neytrino**	**71.68**	**310**	*i* P		**P**	**14 30 45.6**	**+1.0**
NEY				pmax		pmax		
	comp=Z,1.0nm,0.9s							
AKASG	**Malin Array Be**	**75.11**	**322**	P		**P**	**14 31 04.0**	**-0.3**
	comp=Z,2.4nm,0.5s,baz=46,slow=6.1,SNR=9.6							
AKASG	**Malin Array Be**	**75.11**	**322**	*i* P		**P**	**14 31 02.9**	**-1.4**
AKASG				pmax		pmax		
	comp=Z,3.0nm,0.6s							
KIEV	**Kiev**	**75.12**	**322**	*eP*		**P**	**14 31 04.3**	**-0.1**
KIEV				pmax		pmax		
	comp=Z,2.0nm,0.7s							
NB2	**NORSAR Subarra**	**75.45**	**337**	P		**P**	**14 31 06.5**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=40,slow=5.9							
NOA	**NORSAR Array B**	**75.45**	**337**	P		**P**	**14 31 07.0**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=40,slow=5.7,SNR=7.9							
NOA	**NORSAR Array B**	**75.45**	**337**	P		**P**	**14 31 07.0**	**+0.8**
NOA				pmax		pmax		
	comp=Z,2.0nm,0.7s							
NVAR	**Mina Array Bea**	**76.85**	**52**	P		**P**	**14 31 17.6**	**+2.8**
	comp=Z,0.4nm,0.6s,baz=312,slow=7.2,SNR=2.5							
BRTR	**Keskin Array B**	**79.30**	**311**	P		**P**	**14 31 25.9**	**-2.3**
	comp=Z,0.7nm,0.6s,baz=40,slow=9.4,SNR=3.0							
CLL	**Collm**	**82.15**	**330**	*ep*	P	pP	14 32 05.0	+1.2
	comp=Z,7.0nm,1.2s							
GERES	**GERESS Array B**	**83.70**	**328**	P		**P**	**14 31 51.9**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=28,slow=9.1,SNR=3.4							
TXAR	**Lajitas Array**	**91.99**	**52**	P		**P**	**14 32 31.1**	**-0.3**
	comp=Z,0.1nm,0.4s,baz=254,slow=2.5,SNR=2.5							

*ISCJB **22** 14:24:28.1±0.6,39°46N±0°05×110°0E±0°1,h10km, mb4.0/6, Error ellipse: s-maj=11.7km s-min=7.0km az=176.4*
*IDC **22** 14:24:28.1±2.0,39°44N×110°09E,h0km,mb4.0/5, mb1 4.1/6,mb1mx3.6/50,mbtmp4.0/6,ML2.9/1, Error ellipse: s-maj=45.6km s-min=22.9km az=85.0*
*NEIC **22** 14:24:29.4±0.5,39°46N×110°09E,h10km,mb4.0/1, Error ellipse: s-maj=9.9km s-min=6.7km az=84.0*

ISC 22 14:24:29.6±0.8,39°46N±0°08×110°08E±0°08,h10km,n19, σ0s82/20,mb3.9/6,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTO	**Baotou**	**1.15**	**358**	*eP*	**Pn**	**14 24 51.9**	**+0.1**
BJT	**Baijiatuan**	**4.73**	**81**	*ePb*	**Pb**	**14 25 51.8**	**-0.6**
BJT				*eSn*	**Sb**	**14 26 49.9**	**+0.5**
XAN	**Xi'an**	**5.49**	**190**	P	**Pn**	**14 25 50.8**	**-0.6**
XAN				pP		14 27 41.1	
XAN				pmax	pmax		
	comp=Z,13nm,1.0s						
XAN				pmax	pmax		
	comp=Z,91nm,4.3s						
ULN	**Ulaanbaatar**	**8.69**	**346**	Pn	**Pn**	**14 26 35.4**	**0.0**
SONA0	**Songino Array**	**8.79**	**344**	*ePn*	**Pn**	**14 26 36.1**	**-0.6**
SONM	**Songino Array**	**8.79**	**344**	Pn	**Pn**	**14 26 36.1**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=162,slow=14,SNR=10						
SONM				Lg	Lg	14 29 06.7	
	comp=Z,0.1nm,0.3s,baz=163,slow=23,SNR=5.6						
SONA1	**Songino Array**	**8.80**	**344**	*ePn*	**Pn**	**14 26 37.1**	**+0.2**
ENH	**Enshi**	**9.18**	**183**	Pn	**Pn**	**14 26 43.2**	**+1.2**
MK32	**Makanchi Array**	**21.49**	**299**	*eP*	**P**	**14 29 17.5**	**-0.8**
MKAR	**Makanchi Array**	**21.49**	**299**	P	**P**	**14 29 17.5**	**-0.8**
	comp=Z,4.7nm,0.9s,baz=102,slow=11,SNR=7.3						
ZALV	**Zalesovo Beam**	**22.42**	**319**	P	**P**	**14 29 29.4**	**+1.2**
	comp=Z,2.6nm,0.8s,baz=121,slow=10,SNR=6.5						
ZALV	**Zalesovo Beam**	**22.42**	**319**	*eP*	**P**	**14 29 29.9**	**+1.7**
ZAA1	**Zalesovo Array**	**22.43**	**319**	*eP*	**P**	**14 29 29.4**	**+1.1**
CHTO	**Chiang Mai**	**22.72**	**208**	*eP*	**P**	**14 29 31.0**	**-0.6**
	comp=Z,5.5nm,1.0s						
CMAR	**Chiang Mai Arr**	**23.04**	**208**	P	**P**	**14 29 34.6**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=11,slow=9.8,SNR=16						
CM01	**Chiang Mai Arr**	**23.07**	**208**	*eP*	**P**	**14 29 34.8**	**-0.5**
KURK	**Kurchatov**	**24.71**	**307**	*eP*	**P**	**14 29 50.3**	**-0.5**
KURBB	**Kurchatov Arra**	**24.75**	**307**	P	**P**	**14 29 51.8**	**+0.7**
	comp=Z,3.1nm,0.9s,baz=108,slow=10.0,SNR=9.4						
ULM	**Lac du Bonnet**	**87.80**	**16**	P	**P**	**14 37 18.8**	**+0.1**
	comp=Z,4.9nm,0.9s,baz=326,slow=11,SNR=4.6						

IDC 22 14:32:03.6±11.0,31°60S×178°94W,h174km±118km, mb2.7/2,mb1 3.0/3,mb1mx2.9/30,mbtmp3.3/3,Error ellipse: s-maj=109.1km s-min=57.5km az=175.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.39**	**205**	P	Pn	14 33 49.9	+1.2
	0.2nm,0.3s,baz=205,slow=4.2,SNR=4.0						
URZ				S	Sn	14 35 10.6	-1.2
	0.8nm,0.3s,baz=164,slow=20,SNR=11						
ASAR	**Alice Springs**	**42.25**	**269**	P	P	14 39 40.4	+0.5
	0.2nm,0.8s,baz=106,slow=7.5,SNR=5.9						
WRA	**Warramunga Arr**	**43.35**	**274**	P	P	14 39 48.2	-0.5
	0.4nm,0.7s,baz=112,slow=8.0,SNR=6.3						
FINES	**FINESS Array B**	**145.98**	**339**	PKPbc	PKPdf	14 51 20.7	-0.2
	1.9nm,0.8s,baz=26,slow=3.5,SNR=3.2						

*ISCJB **22** 14:43:40.7±0.6,31°19N±0°05×130°3E±0°1,h175km±4km, mb3.4/3,Error ellipse: s-maj=17.4km s-min=7.9km az=8.1*
*IDC **22** 14:43:41.6±1.2,31°22N×129°99E,h169km±15km,mb3.2/3, mb1 3.3/5,mb1mx2.9/37,mbtmp3.7/5,MS3.0/1,Ms1 3.0/1, ms1mx2.3/27,Error ellipse: s-maj=42.2km s-min=16.4km az=94.0*
*JMA **22** 14:43:42.4±0.1,31°21N×130°29E,h166km±1km,M2.7*

ISC 22 14:43:41.4±1.0,31°17N±0°05×130°2E±0°1,h172km±7km, n14,σ1s32/23,mb3.3/3,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSU	**Suzuyama**	**0.42**	**36**	P	**Pn**	**14 44 05.1**	**+0.1**
JSU				S	**Sn**	**14 44 22.7**	**-0.5**
JSJ	**Shimokoshiki**	**0.64**	**323**	P	**Pn**	**14 44 05.9**	**-0.1**
JSJ				*eS*	**Sn**	**14 44 25.0**	**0.0**
JTSR	**Tashiro 2**	**0.65**	**90**	P	**Pn**	**14 44 05.9**	**-0.1**
JTSR				S	**Sn**	**14 44 23.2**	**-1.7**
JTN	**Tanegashima 3**	**0.86**	**126**	P	**Pn**	**14 44 07.4**	**0.0**
JTN				S	**Sn**	**14 44 26.5**	**-0.8**
JYAK	**Yakushimahirau**	**0.97**	**162**	P	**Pn**	**14 44 08.7**	**+0.6**
JYAK				S	**Sn**	**14 44 28.2**	**-0.5**
JMTN	**Minamitane**	**0.99**	**140**	P	**Pn**	**14 44 08.8**	**+0.5**
JMTN				*eS*	**Sn**	**14 44 28.9**	**-0.1**
JTZ	**Takazaki**	**1.07**	**47**	P	**Pn**	**14 44 08.6**	**-0.3**
JTZ				S	**Sn**	**14 44 29.1**	**-1.0**
JNN	**Nakanoshima**	**1.34**	**191**	P	**Pn**	**14 44 12.7**	**+1.4**
JNN				*eS*	**Sn**	**14 44 36.1**	**+1.8**
JNU	**Nakatsue**	**2.04**	**17**	P	**Pn**	**14 44 18.6**	**+0.2**
	3.4nm,0.3s,baz=198,slow=19,SNR=40						
JNU				S	**Sn**	**14 44 47.2**	**0.0**
	2.1nm,0.3s,baz=204,slow=21,SNR=8.8						
JOW	**Kunigami**	**4.63**	**201**	P	**Pn**	**14 44 50.5**	**+0.1**
	1.6nm,0.3s,baz=94,slow=18,SNR=9.4						
JOW				S	**Sn**	**14 45 39.9**	**-4.5**
	2.1nm,0.3s,baz=108,slow=19,SNR=6.5						
GUMO	**Guam**	**22.11**	**139**	LR	LR	14 55 17.7	
	comp=Z,42nm,20.0s,baz=294,slow=31						
WRA	**Warramunga Arr**	**50.97**	**175**	P	**P**	**14 52 26.2**	**+0.6**
	0.3nm,0.4s,baz=355,slow=8.1,SNR=8.2						
ASAR	**Alice Springs**	**54.64**	**176**	P	**P**	**14 52 53.5**	**+1.0**
	0.2nm,0.3s,baz=0.1,slow=6.5,SNR=22						
FINES	**FINESS Array B**	**69.43**	**330**	P	**P**	**14 54 30.2**	**-0.2**
	0.9nm,0.5s,baz=64,slow=4.4,SNR=4.8						

*ISK **22** 14:53:07.6,38°56N×30°81E,h4km,ML2.1/6*
*ISCJB **22** 14:53:08.8±0.4,38°58N±0°02×30°83E±0°03,h9km±4km, Error ellipse: s-maj=4.3km s-min=3.7km az=155.4*
*DDA **22** 14:53:08.8,38°59N×30°86E,h7km,Ml2.5*

ISC 22 14:53:08.4±1.0,38°56N±0°03×30°82E±0°03,h9km±10km, n16,σ0s51/27,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOLV	**Bolvadin**	**0.18**	**33**	*i* P	**Pg**	**14 53 12.7**	**+0.4**
BOLV				*i* S	**Sg**	**14 53 15.2**	**+0.1**
BAGO	**Egridir - ISPA**	**0.57**	**183**	*i* P	**Pb**	**14 53 21.3**	**+0.6**
BAGO				*i* S	**Sb**	**14 53 29.8**	**+0.9**
KZIL	**AFYON_Kizioren**	**0.62**	**240**	*i* P	**Pb**	**14 53 21.2**	**-0.3**
KZIL				*i* S	**Sb**	**14 53 31.2**	**+0.9**
ISP	**Isparta**	**0.78**	**198**	PG	**Pg**	**14 53 25.5**	**-0.9**
ISP				SG	**Sb**	**14 53 34.6**	**-0.3**
DOGA	**KONYA_Doganhis**	**0.81**	**124**	*i* P	**Pb**	**14 53 24.3**	**-0.4**
DOGA				*i* S	**Sb**	**14 53 35.7**	**-0.1**
KIZT	**Kizilcal**	**0.89**	**69**	PG	**Pb**	**14 53 25.6**	**-0.4**
KIZT				SG	**Sb**	**14 53 38.6**	**+0.6**
ESKT	**Eskisehir**	**0.95**	**1**	PG	**Pb**	**14 53 26.9**	**-0.3**
ESKT				SG	**Sb**	**14 53 40.6**	**+0.6**
KDHN	**Kadinhani**	**1.01**	**92**	*i* P	**Pg**	**14 53 27.7**	**-0.2**
KDHN				*i* S	**Sb**	**14 53 41.2**	**-0.5**
SVRH	**Sivrihisar-ESK**	**1.04**	**32**	PG	**Pg**	**14 53 28.1**	**-0.3**
KHAL	**Karahalli**	**1.06**	**260**	*i* P	**Pb**	**14 53 29.3**	**+0.2**
KHAL				*i* S	**Sb**	**14 53 43.2**	**+0.1**
SUTC	**Sutluce-Ispart**	**1.09**	**173**	PN	**Pg**	**14 53 29.5**	**+0.1**
GDZ	**Gediz**	**1.17**	**297**	*i* P	**Pb**	**14 53 31.1**	**+0.2**
GDZ				*i* S	**Sg**	**14 53 45.2**	**-1.0**
LADK	**Ladik-KONYA**	**1.27**	**106**	PN	**Pn**	**14 53 32.6**	**+0.2**
KONT	**Konya--Tatoy**	**1.36**	**117**	PN	**Pg**	**14 53 34.5**	**0.0**
KONT	**Konya--Tatoy**	**1.36**	**117**	*i* P	**Pg**	**14 53 35.1**	**+0.6**
KONT				*i* S	**Sb**	**14 53 51.6**	**+0.1**
TVSB	**Tavsanli**	**1.38**	**310**	PN	**Pb**	**14 53 34.4**	**-0.1**

*DDA **22** 15:01:41.8,37°31N×37°15E,h24km,Ml2.8*
*ISK **22** 15:01:41.3,37°35N×37°13E,h5km,ML2.3/4*

ISC 22 15:01:41.6±0.9,37°33N±0°03×37°13E±0°02,h10km±8km, n19,σ0s79/33,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.17**	**157**	PG	**Pg**	**15 01 45.3**	**-0.1**
GAZ				SG	**Sg**	**15 01 48.7**	**+0.7**
KMRS	**Kahramanmaras**	**0.25**	**314**	PG	**Pg**	**15 01 46.7**	**0.0**
KMRS				SG	**Sg**	**15 01 50.1**	**-0.1**
KUZU	**Kuzuini**	**0.56**	**184**	*i* P	**Pb**	**15 01 53.1**	**-0.4**
KUZU				*i* S	**Sb**	**15 02 01.8**	**+0.2**
ANDN	**Andirin**	**0.67**	**292**	*i* P	**Pg**	**15 01 52.7**	**-1.8**
ANDN				*i* S	**Sg**	**15 02 03.3**	**-0.1**
ATAB	**Bozova**	**0.94**	**81**	*i* P	**Pb**	**15 01 59.1**	**-0.9**
ATAB				*i* S	**Sg**	**15 02 12.5**	**+0.5**
ELBS	**KAHRAMANMARAS**	**0.99**	**0**	*i* P	**Pn**	**15 02 01.6**	**0.0**
ELBS				*i* S	**Sn**	**15 02 16.2**	**+0.5**
KOZT	**Kozan**	**1.05**	**279**	PG	**Pn**	**15 02 01.9**	**-0.4**
KOZT				SG	**Sn**	**15 02 16.9**	**-0.1**
SAIM	**ADANA**	**1.05**	**308**	*i* P	**Pg**	**15 02 02.4**	**+0.6**
SAIM				*i* S	**Sn**	**15 02 16.7**	**-0.5**
AKCD	**Akcadag**	**1.15**	**33**	*i* P	**Pg**	**15 02 04.0**	**+0.3**
AKCD				*i* S	**Sn**	**15 02 19.9**	**+0.2**
TAHT	**Tahtakopru-Hat**	**1.22**	**219**	PN	**Pg**	**15 02 05.7**	**+0.7**
DARE	**Darende-Malaty**	**1.27**	**13**	PN	**Pb**	**15 02 05.5**	**-0.1**
SURC	**SANLIURFA_SURC**	**1.27**	**110**	*i* P	**Pb**	**15 02 05.4**	**-0.2**
SURC				*i* S	**Sg**	**15 02 23.2**	**+0.7**
YURE	**YUREGIR**	**1.30**	**248**	PN	**Pg**	**15 02 07.1**	**+0.6**
URFA	**Urfa**	**1.35**	**85**	PN	**Pg**	**15 02 07.6**	**0.0**
SANL	**SANLIURFA_Merk**	**1.50**	**96**	*i* P	**Pg**	**15 02 10.1**	**-0.2**
SANL				*i* S	**Sg**	**15 02 28.8**	**-0.9**
HEKM	**Malatya_Hekimh**	**1.68**	**23**	*i* P	**Pg**	**15 02 14.6**	**+0.8**
HEKM				*i* S	**Sg**	**15 02 35.9**	**+0.3**
CUKAN	**kangal_SIVAS**	**2.00**	**8**	*i* P	**Pb**	**15 02 18.8**	**+0.7**
CUKAN				*i* S	**Sb**	**15 02 44.1**	**+1.0**
KEMA	**Kemaliye**	**2.21**	**29**	*i* P	**Pg**	**15 02 23.2**	**-0.8**
KEMA				*i* S	**Sb**	**15 02 50.5**	**+1.3**
PTK	**Pertek**	**2.37**	**48**	PN	**Pb**	**15 02 22.2**	**-2.3**

*IDC **22** 15:04:46.4±3.8,36°26N×76°00E,h0km,mb3.4/2, mb1 3.7/4,mb1mx3.3/39,mbtmp3.5/4,ML3.3/2,MS3.5/2, Ms1 3.5/2,ms1mx2.7/29,Error ellipse: s-maj=155.5km s-min=22.4km az=73.0*
*ISCJB **22** 15:04:51.0±1.1,36°50N±0°08×71°1E±0°2,h188km, mb3.1/2,Error ellipse: s-maj=19.3km s-min=9.6km az=14.8*

*NNC **22** 15:04:56.5±1.9,36°90N×70°83E,h190km±31km,mb2.5, mpv3.6,Error ellipse: s-maj=22.6km s-min=16.3km az=65.0*

ISC 22 15:04:51.7±1.5,36°6N±0°1×71°0E±0°1,h188km,n12, σ1s64/16,7C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.97**	**30**	⇓P	**Pn**	**15 05 54.6**	**+1.7**
	6.1nm,0.3s						
SFK				⇓S	**Sn**	**15 06 41.9**	**+0.9**
	5.4nm,0.3s						
MNAS	**Manas**	**6.02**	**11**	⇓P	**Pn**	**15 06 20.2**	**+1.0**
	2.2nm,0.4s						
MNAS				⇑S	**Sn**	**15 07 26.7**	**-1.5**
	11nm,0.5s						
KK31	**Karatay Array**	**6.52**	**357**	⇑P	**Pn**	**15 06 26.9**	**+1.4**
	1.3nm,0.5s						
KK31				⇑S	**Sn**	**15 07 36.8**	**-3.0**
	3.9nm,0.6s,baz=184,slow=23,SNR=3.3						
AAK	**Ala-Archa**	**6.64**	**23**	P	**Pn**	**15 06 28.8**	**+1.6**
	2.2nm,0.3s,baz=168,slow=3.8,SNR=28						
AAK				Sn	**Sn**	**15 07 41.2**	**-1.5**
	0.3nm,0.3s,baz=125,slow=22,SNR=7.4						
AAK	**Ala-Archa**	**6.64**	**23**	⇓P	**Pn**	**15 06 28.7**	**+1.5**
	1.5nm,0.3s						
AAK				⇑S	**Sn**	**15 07 42.8**	**+0.1**
	4.3nm,0.8s						
TKM2	**Tokmak 2**	**7.27**	**28**	⇑P	**Pn**	**15 06 36.6**	**+1.0**
	5.8nm,0.6s						
TKM2				⇑S	**Sn**	**15 07 57.0**	**-0.8**
	1.9nm,0.7s						
AB31	**Akbulak array**	**14.99**	**331**	⇑P	**P**	**15 08 16.8**	**+1.7**
	0.3nm,0.5s,baz=134,slow=12,SNR=5.8						
ZALV	**Zalesovo Beam**	**19.86**	**25**	P	**P**	**15 09 06.3**	**-1.8**
	0.1nm,0.3s,baz=213,slow=10,SNR=3.2						
KMBO	**Kilima Mbogo**	**48.85**	**227**	LR	LR	15 36 26.4	
	comp=Z,42nm,19.2s,baz=94,slow=37						
ILAR	**Eielson Array**	**74.71**	**16**	LR	LR	15 55 38.8	
	comp=Z,28nm,18.9s,baz=140,slow=41						
WRA	**Warramunga Arr**	**82.07**	**122**	P	**P**	**15 16 50.1**	**-1.2**
	0.4nm,0.8s,baz=325,slow=5.2,SNR=4.8						
ASAR	**Alice Springs**	**84.34**	**125**	P	**P**	**15 17 01.9**	**-0.9**
	0.2nm,0.6s,baz=302,slow=5.4,SNR=5.6						

MEX 22 15:08:33.7±0.6,16°48N×98°45W,h15km±10km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.32**	**106**	*eP*	Pg	15 08 39.5	-0.8
PNIG				*i* S	Sg	15 08 44.5	-0.4
TLIG	**Tlapa**	**1.08**	**354**	*eP*	Pb	15 08 50.3	-3.9
TLIG				*i* S	Sb	15 09 03.3	-5.0

IDC 22 15:26:33.4±2.3,50°16S×113°76E,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.6/24,mbtmp3.6/3,Error ellipse: s-maj=57.2km s-min=52.4km az=90.0,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.25**	**1**	T	T	15 45 42.4	
	baz=179,slow=74,SNR=59						
H01W1	**Cape Leeuwin H**	**15.26**	**1**	T	T	15 45 43.2	
	baz=179,slow=74,SNR=63						
H01W3	**Cape Leeuwin H**	**15.27**	**1**	T	T	15 45 42.9	
	baz=179,slow=74,SNR=72						
ASAR	**Alice Springs**	**30.76**	**38**	P	P	15 32 50.7	+0.3
	0.9nm,1.0s,baz=208,slow=7.0,SNR=5.2						
WRA	**Warramunga Arr**	**34.30**	**36**	P	P	15 33 20.9	-0.5
	1.2nm,1.0s,baz=205,slow=8.2,SNR=4.6						
CMAR	**Chiang Mai Arr**	**69.56**	**345**	P	P	15 37 44.0	+0.1
	0.3nm,0.7s,baz=188,slow=4.6,SNR=2.4						
TXAR	**Lajitas Array**	**145.01**	**112**	PKPbc	PKPbc	15 46 10.9	-0.9
	0.7nm,1.0s,baz=197,slow=2.8,SNR=4.0						

*ISCJB **22** 15:43:13.1±0.1,50°288N±0°009×7°45E±0°01,h0km,Error ellipse: s-maj=1.4km s-min=1.2km az=29.2*
*BUG **22** 15:43:15.4±0.0,50°36N×7°42E,h1km,ML2.7*
*LEDBW **22** 15:43:15.9±0.1,50°32N×7°41E,h10km,ML2.8/25,Error ellipse: s-maj=2.0km s-min=1.8km az=329.0*
*BGR **22** 15:43:15.3±0.2,50°32N×7°43E,h10km,ML2.9/20,Error ellipse: s-maj

comp=E,159nm,0.3s
WBB Darmstadt 0.96 118 S* Sb **15 43 46.7 +0.7**
DUP Duppenweiler 0.97 203 P* Pb **15 43 33.5 +0.5**
DUP PmP 15 43 34.6
WLF Walferdange 1.01 231 P* Pb **15 43 34.0 +0.3**
WLF PmP 15 43 36.0
WLF S* Sn **15 43 48.9 -0.7**
WLF Walferdange 1.01 231 P Pb **15 43 33.6 0.0**
WLF S Sb **15 43 48.4 +1.0**
comp=E,101nm,0.5s
HGN Heimansgroeve 1.02 297 *e*Pg Pn **15 43 35.4 +0.5**
HGN *e*Sn Sb **15 43 48.3 +0.4**
HGN *e*Sg Sn **15 43 49.8 -0.2**
HGN Heimansgroeve 1.02 297 *e*Pg Pn **15 43 35.1 +0.2**
HGN *e*Sg Sb **15 43 48.3 +0.4**
LAUG Laupendahl 1.08 346⇓*e*Pg Pn **15 43 35.7 -0.1**
KTD Kalmit 1.09 154 Pg Pn **15 43 36.4 +0.5**
KTD Sg Sn **15 43 51.6 -0.1**
KTD Kalmit 1.09 154 Pg Pn **15 43 36.6 +0.7**
SORT Sorpetalsperre 1.12 20 *e*Pg Pb **15 43 36.0 +0.5**
SORT *e*Sg Sb **15 43 50.3 -0.3**
comp=E,198nm,0.3s
BUG Bochum--Univer 1.14 357 *e*Pg Pn **15 43 36.5 0.0**
BUG *e*Sg Sb **15 43 51.8 +0.6**
WBA Furth 1.14 124 Pg Pn **15 43 38.1 +1.5**
TOD Tromm 1.17 126 Pg Pn **15 43 37.3 +0.4**
TOD Sg Sb **15 43 52.8 +0.8**
HKB Herkenbosch 1.17 320 P Pn **15 43 38.1 +1.2**
BLCH La Chartreuse 1.17 287 P Pn **15 43 37.6 +0.6**
BLCH S Sn **15 43 54.4 +0.7**
comp=E,74nm,0.3s
BSTI Sart Tilman 1.18 284 P Pn **15 43 37.8 +0.7**
BEBN Eben Emael 1.18 295 ⇓P Pn **15 43 37.7 +0.6**
BEBN S Sn **15 43 53.5 -0.4**
SWS Schriesheim-Wi 1.19 133 Pg Pn **15 43 38.0 +0.7**
SWS Sg Sb **15 43 52.7 -0.1**
PEB Petersbachel 1.26 169 ⇓Pg Pn **15 43 39.1 +0.9**
WBG Bieber 1.28 95 P Pg **15 43 38.1 +0.2**
BCLA Clavier 1.32 276 ⇑P Pn **15 43 40.1 +1.1**
BCLA S Sn **15 43 57.2 -0.1**
comp=E,58nm,0.4s
LANF Langenberg 1.36 167 Pg Pb **15 43 40.6 +1.0**
LANF Sg Sn **15 43 58.8 +0.5**
RCHB Rochefort 1.38 265 *e*Pg Pb **15 43 40.8 +0.9**
RCHB Rochefort 1.38 265 P Pb **15 43 40.9 +0.9**
RCHB S Sn **15 43 58.6 -0.1**
comp=N,72nm,0.2s
BGES Gesves 1.46 274 ⇑P Pb **15 43 42.0 +0.7**
BGES S Sn **15 44 02.0 +1.2**
comp=N,50nm,0.2s
BRET Bretten 1.55 146 Sg Sg **15 44 04.8 +1.6**
OPLO Oploo 1.62 323 *e*Sg Sg **15 44 07.0 +1.7**
GIVF Givet 1.64 264 *e*Pg Pg **15 43 45.4 +0.6**
SNR=1.0
GIVF *e*Sg Sg **15 44 07.5 +1.4**
comp=N,274nm,0.3s,SNR=1.0
BMRD Maredsous 1.66 271 ⇑P Pb **15 43 44.5 -0.3**
BMRD S Sg **15 44 07.2 +0.5**
comp=N,57nm,0.2s
WTSB Winterswijk 1.70 348 *e*Pg Pg **15 43 46.1 +0.1**
WTSB *e*Sg Sg **15 44 08.4 +0.4**
SIND Sindeldorf 1.74 122 P Pn **15 43 45.2 +0.4**
SIND Pg Pg **15 43 48.1 +1.5**
UBBA Unterbreizbach 1.76 72 *e*Pn Pn **15 43 44.7 -0.3**
UBBA *e*Pg Pg **15 43 47.0 -0.1**
UBBA *e*Sg Sn **15 44 08.5 +0.5**
DOU Dourbes 1.79 264 ⇑P Pb **15 43 46.6 -0.3**
DOU S Sb **15 44 10.2 +0.3**
comp=E,72nm,0.3s
OPP Oppenau 1.89 163 Pn Pn **15 43 47.0 +0.1**
OPP Oppenau 1.89 163 Pg Pg **15 43 50.3 +0.9**
OPP S Sn **15 44 08.2 -3.1**
OPP Sg Sg **15 44 14.5 +0.6**
WLS Welschbruch 1.89 180 Pn Pn **15 43 47.0 +0.1**
CDF Champ du Feu 1.89 182 *e*Pn Pn **15 43 46.7 -0.3**
SNR=1.0
CDF Champ du Feu 1.89 182 *e*Pg Pg **15 43 49.8 +0.2**
CDF *e*Sg Sg **15 44 14.5 +0.4**
comp=E,109nm,0.4s
STU Stuttgart 1.94 141 *e*Sg Sg **15 44 17.5 +1.7**
SNF Seneffe 1.98 277 P Pn **15 43 48.1 +0.1**
IBBN Ibbenburen 2.02 7 *e*Pg Pg **15 43 53.0 +0.9**
IBBN *e*Sg Sg **15 44 18.9 +0.6**
BRQR Ronqui˜¤re 2.03 280 P Pg **15 43 51.8 -0.4**
BAIF Baives 2.04 264 *e*Pn Pn **15 43 48.7 -0.2**
SNR=1.0
BAIF Baives 2.04 264 *e*Pg Pg **15 43 52.5 +0.1**
SNR=1.0
BAIF *e*Sg Sg **15 44 19.1 +0.2**
comp=E,70nm,0.3s,SNR=1.0
PAGF Fort de Pagny 2.05 212 *e*Pn Pn **15 43 49.1 0.0**
baz=34
PAGF Fort de Pagny 2.05 212 *e*Pg Pg **15 43 53.9 +1.3**
baz=27
PAGF *e*Sg Sg **15 44 20.2 +1.1**
comp=E,43nm,0.3s
GTTG Gvttingen 2.06 52 *e*Sg Sg **15 44 19.5 -0.1**
BFO Black Forest 2.08 162 *e*Pn Pn **15 43 50.1 +0.7**
BFO *e*Pg Pg **15 43 55.2 +2.1**
BFO *e*Sg Sg **15 44 19.4 -0.5**
ECH Echery 2.09 184 Pn Pn **15 43 49.4 -0.4**
ECH Sg Sg **15 44 22.2 +1.7**
ECH Echery 2.09 184 P Pn **15 43 49.3 -0.4**
ECH Pg Pg **15 43 55.1 +1.7**
ECH *e*Sg Sg **15 44 21.4 +0.8**
THEF They Montfort 2.27 204 Pn Pn **15 43 52.7 +0.7**
THEF Sg Sg **15 44 27.2 +1.1**
MEZF Maizieres J'vi 2.35 221 *e*Pn Pn **15 43 52.7 -0.5**
baz=38
MEZF Maizieres J'vi 2.35 221 *e*Pg Pg **15 43 58.8 +0.4**
baz=32,SNR=1.0
MEZF *e*Sn Sn **15 44 21.0 -1.7**
SNR=1.0
MEZF *e*Sg Sg **15 44 29.0 +0.2**
comp=E,35nm,0.3s,baz=39,SNR=1.0
KIZ Kirchzarten 2.38 171 Pn Pn **15 43 54.0 +0.4**
KIZ Kirchzarten 2.38 171 P Pn **15 43 53.9 +0.4**
KIZ Pg Pg **15 44 00.2 +1.3**
HAU Haudompre 2.39 196 *e*Pn Pn **15 43 53.9 +0.1**
SNR=1.0
HAU Haudompre 2.39 196 *e*Pg Pg **15 43 58.9 -0.3**
SNR=1.0
HAU *e*Sg Sg **15 44 29.5 -0.7**
comp=E,43nm,0.3s,SNR=1.0
CLZ Clausthal 2.45 50 *e*Pn Pn **15 43 53.9 -0.6**
CLZ *e*Pg Pg **15 43 59.6 -0.6**
CLZ *e*Sg Sb **15 44 30.5 +1.6**
POSS Possen 2.45 64 *e*Pg Pg **15 43 59.5 -0.8**
POSS *e*Sg Sg **15 44 30.9 -1.2**
MOF Molkenrain 2.46 184 Pn Pn **15 43 55.0 +0.3**
FELD Feldberg im Sc 2.47 170 P Pn **15 43 55.1 +0.2**
FELD Pg Pg **15 44 01.8 +1.2**
HINF Hinteralfeld 2.51 188 *e*Pn Pn **15 43 55.3 -0.1**
SNR=1.0
HINF Hinteralfeld 2.51 188 *e*Pg Pg **15 44 01.3 -0.1**
SNR=1.0
HINF *e*Sg Sg **15 44 34.0 0.0**
comp=E,35nm,0.3s,SNR=1.0
CHRS Christianenhau 2.55 58 *e*Pn Pn **15 43 56.3 +0.3**
CHRS *e*Pg Pg **15 44 01.6 -0.5**
CHRS *e*Sg Sg **15 44 34.8 -0.3**
GRF Grafenberg Arr 2.57 102 *e*Pg Pg **15 44 03.9 +1.4**
GRF *e*Sg Sg **15 44 36.0 +0.3**
SFTF Sexfontaines 2.59 217 *e*Pn Pn **15 43 56.5 0.0**
SFTF Sexfontaines 2.59 217 *e*Pg Pg **15 44 03.5 +0.5**
ENDD Endenburg 2.60 174 P Pn **15 43 57.0 +0.3**
ENDD Pg Pg **15 44 04.0 +0.8**
MOX Moxa 2.74 81 *e*Pn Pn **15 43 59.5 +0.9**
MOX *e*Pg Pg **15 44 06.2 +0.4**
MOX *e*Sg Sg **15 44 40.3 -1.0**
WIMM Wimmelburg 2.89 63 *e*Pg Pg **15 44 08.6 -0.2**
WIMM *e*Sg Sg **15 44 44.5 -1.8**
LOMF Lomont 2.98 187 Pn Pn **15 44 02.2 +0.4**
ROTZ Rotzenmuhle 3.17 98 *e*Pg Pg **15 44 14.0 -0.1**
ROTZ *e*Sg Sg **15 44 53.7 -1.5**
NKC Novy Kostel 3.27 89 *e*PN Pg **15 44 06.9 +1.1**
NKC *e*PG Pg **15 44 15.1 -0.8**
NKC *e*SG Sb **15 44 55.3 +2.9**
comp=E,26nm,0.8s
DAVA Damuels 3.45 150 *i* Sg Sg **15 45 08.6 +4.5**
comp=E,14nm,0.5s
CLL Collm 3.72 72 *e*Pg Pg **15 44 25.0 +0.4**
CLL *e*Sg Sb **15 45 09.0 +3.6**
comp=Z,17nm,0.5s
CLL Collm 3.72 72 *e*Pg Pg **15 44 23.6 -0.9**
CLL *e*Sg Sb **15 45 09.2 +3.8**
WET Wettzell 3.76 106 *e*Pn Pn **15 44 13.8 +1.2**
WET *e*Sg Sg **15 45 15.0 +0.8**
CABF La Chapelle 3.79 193 *e*Pn Pn **15 44 12.8 -0.3**
SNR=1.0
CABF La Chapelle 3.79 193 *e*Pg Pg **15 44 24.9 -1.1**
CABF *e*Sg Sg **15 45 13.9 -1.2**
comp=Z,12nm,0.4s,SNR=1.0
LOR Lormes 3.82 219 *e*Pn Pn **15 44 13.0 -0.4**
baz=43,SNR=1.0
LOR Lormes 3.82 219 *e*Pg Pg **15 44 26.0 -0.5**
baz=40
LOR *e*Sn Sn **15 44 55.9 -3.1**
LOR *e*Sg Sg **15 45 15.8 -0.2**
comp=Z,15nm,0.3s,baz=37,SNR=1.0
FETA Feichten 3.97 145 *i* Pn Pn **15 44 18.9 +3.2**
WATA Walderalm 4.07 135 *e*Pn Pn **15 44 18.7 +1.7**
comp=Z,2.3nm,0.2s
SSF Saint Saulge 4.13 220 *e*Pn Pn **15 44 17.3 -0.3**
SNR=1.0
SSF *e*Sn Sn **15 45 03.6 -3.0**
SNR=1.0
SSF *e*Sg Sg **15 45 24.7 -1.2**
comp=Z,18nm,0.4s,SNR=1.0
KHC Kasperske Hory 4.20 104 *e*PN Pn **15 44 19.8 +1.1**
KHC *e*SN Sn **15 45 07.4 -1.1**
KHC *e*SG Sg **15 45 26.9 -1.4**
comp=Z,6.2nm,0.5s
BRG Berggiesshubel 4.23 80 PG Pg **15 44 33.6 -0.8**
BRG SG Sg **15 45 27.4 -1.9**
comp=Z,4.4nm,0.5s
SMF Signal de Mont 4.34 214 *e*Pn Pn **15 44 20.0 -0.6**
SNR=1.0
SMF *e*Sn Sn **15 45 08.7 -3.2**
SNR=1.0
SMF *e*Sg Sg **15 45 32.9 +0.1**
comp=Z,10.0nm,0.3s,SNR=1.0
HYF Humbligny 4.35 228 *e*Pn Pn **15 44 20.5 -0.2**
HYF *e*Sn Sn **15 45 08.2 -4.0**
HYF *e*Sg Sg **15 45 31.5 -1.6**
GEC2 GERESS Array S 4.38 107 *e*Pn Pn **15 44 22.5 +1.3**
GEC2 *e*Sg Sg **15 45 35.0 +1.1**
AVF Avril sur Loir 4.41 219 *e*Pn Pn **15 44 22.0 +0.5**
SNR=1.0
AVF *e*Sn Sn **15 45 09.6 -3.9**
SNR=1.0
AVF *e*Sg Sg **15 45 33.3 -1.6**
comp=Z,1.1nm,0.2s,SNR=1.0
GOPC GO Pecny, Ondr 4.80 92 *e*SG Sg **15 45 45.2 -2.1**
LPG La Plagne 4.83 185 *e*Pn Pn **15 44 25.9 -1.6**
SNR=1.0
KBA Koelnbreinsper 5.11 127 *e*Pn Pn **15 44 33.6 +2.4**
comp=Z,5.4nm,0.3s
KBA *i* Sn Sn **15 45 27.7 -3.4**
comp=Z,3.6nm,0.3s
KBA *i* Sg Sg **15 46 01.2 +3.8**
comp=Z,4.4nm,0.6s
MOA Molln 5.16 116 *e*Pn Pn **15 44 33.6 +1.8**
comp=Z,0.7nm,0.1s
MOA *i* Sn Sn **15 45 28.8 -3.3**
comp=Z,1.1nm,0.1s
MOA *i* Sg Sg **15 46 00.5 +1.5**
comp=Z,1.6nm,0.3s
LDF La Druitiere 5.17 254 *e*Sn Sn **15 45 28.2 -4.1**
SNR=1.0
LDF *e*Sg Sg **15 45 55.7 -3.7**
comp=Z,8.6nm,0.3s,SNR=1.0
TCF Toulx Ste Croi 5.29 222 *e*Pn Pn **15 44 33.2 -0.4**
TCF Toulx Ste Croi 5.29 222 *e*Pg Pg **15 44 53.4 -1.2**
TCF *e*Sg Sg **15 46 01.5 -1.6**
comp=Z,4.7nm,0.4s
GRR Gorron 5.70 254 *e*Sn Sn **15 45 41.7 -3.6**
comp=Z,6.9nm,0.3s,SNR=1.0
DPC Dobruska-Polom 5.74 86 *e*SG Sg **15 46 16.1 -1.5**
CONA Conrad Observa 6.07 110 *i* Sg Sg **15 46 32.8 +4.7**
comp=Z,1.9nm,0.4s
MFF Saint Martin d 6.21 236 *e*Pn Pn **15 44 45.5 -0.8**
SNR=1.0
MFF *e*Sn Sn **15 45 52.9 -5.1**
comp=Z,1.0nm,0.2s
CAF Calviac 6.46 216 *e*Sn Sn **15 45 58.3 -5.8**
comp=Z,2.8nm,0.4s,SNR=1.0

IDC 22 16:15:31.2±2.0, 3°38N×125°03E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/35, mbtmp3.4/3, 1C, Error ellipse: s-maj=196.7km s-min=26.8km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**4.95**	**15**	⇑*i*P	Pn	16 16 39.6	-7.3
WRA	**Warramunga Arr**	**24.92**	**159**	P	P	16 20 55.5	-0.6
	1.2nm,0.8s,baz=337,slow=10,SNR=15						
ASAR	**Alice Springs**	**28.24**	**163**	P	P	16 21 26.9	+0.7
	0.2nm,0.7s,baz=340,slow=7.2,SNR=6.6						
MKAR	**Makanchi Array**	**56.88**	**326**	P	P	16 25 17.9	0.0
	0.2nm,0.4s,baz=124,slow=7.2,SNR=4.8						

IDC 22 16:37:05.7±1.8, 5°38S×131°02E, h0km, mb4.0/1, mb1 3.7/4, mb1mx3.4/30, mbtmp3.7/4, ML3.5/3, Error ellipse: s-maj=100.3km s-min=26.3km az=79.0
ISCJB 22 16:37:10.0±0.6, 5°49S±0°05×131°43E±0°09, h54km, mb4.6/6, Error ellipse: s-maj=13.2km s-min=6.9km az=174.0
NEIC 22 16:37:09.7±0.9, 5°26S×131°51E, h35km, mb4.4/7, Error ellipse: s-maj=17.6km s-min=13.8km az=71.0
ISC 22 16:37:11.3±0.6, 5°27S±0°06×131°6E±0°1, h54km, n22, σ2§30/24, mb4.7/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.38**	**356**	Pn	Pn	**16 38 15.7**	**+0.2**
	5.6nm,0.3s,baz=180,slow=20,SNR=30						
SIJI				Sn	Sn	**16 38 60.0**	**-5.3**
	12nm,0.3s,baz=180,slow=20,SNR=24						
MTN	**Manton Dam**	**7.53**	**183**	*e*Pn	Pn	**16 39 01.3**	**+2.7**
MTN				*e*Sn	Sn	**16 40 18.6**	**-4.1**
FITZ	**Fitzroy Crossi**	**14.00**	**204**	*e*Pn	Pn	**16 40 25.3**	**-1.6**
FITZ				*e*Sn	Sn	16 42 49.8	-11
COEN	**Coen**	**14.33**	**128**	*e*Pn	Pn	**16 40 31.2**	**-0.3**
WRAB	**Tennant Creek**	**14.82**	**170**	*e*Pn	Pn	**16 40 36.0**	**-1.8**
WRAB				*e*Sn	Sn	16 43 10.1	-11
WR1	**Warramunga Arr**	**14.83**	**170**	*e*Pn	Pn	**16 40 35.0**	**-2.9**
WR1				*e*Sn	Sn	16 43 09.8	-11
WRA	**Warramunga Arr**	**14.83**	**170**	Pn	Pn	**16 40 35.0**	**-2.9**
	0.1nm,0.3s,baz=350,slow=14,SNR=15						
WRA				Sn	Sn	16 43 09.8	-11
	0.7nm,0.3s,baz=354,slow=23,SNR=12						
WB2	**Warramunga Ar**	**14.83**	**170**	*e*Pn	Pn	**16 40 35.2**	**-2.7**
WB2				*e*Sn	Sn	16 43 08.8	-12
PMG	**Port Moresby**	**16.01**	**106**	*e*Pn	Pn	**16 40 53.4**	**+0.4**
	25nm,1.3s						
AS31	**Alice Springs**	**18.43**	**173**	*e*P	P	**16 41 22.5**	**+0.1**
	1.2nm,1.3s						
AS31				*e*S	Sn	16 44 36.1	-12
ASAR	**Alice Springs**	**18.43**	**173**	P	Pn	**16 41 23.4**	**+0.4**
	0.2nm,0.3s,baz=354,slow=13,SNR=17						
ASAR				S	Sn	16 44 37.0	-11
	0.2nm,0.3s,baz=359,slow=27,SNR=9.6						
AS01	**Alice Springs**	**18.43**	**173**	*e*P	Pn	**16 41 23.7**	**+0.7**
MBWA	**Maple Bar**	**19.52**	**215**	*e*P	Pn	**16 41 35.4**	**-0.6**
	52nm,1.9s						
CTAO	**Charters Tower**	**20.52**	**137**	*e*P	P	**16 41 47.1**	**+1.8**
	13nm,1.4s						
STKA	**Stephens Creek**	**28.09**	**162**	*e*P	P	**16 42 57.5**	**-0.5**
	2.6nm,1.3s						
TPUB	**Ta-pu**	**30.34**	**340**	*e*P	P	**16 43 21.5**	**+3.5**
	17nm,1.1s						
NWAO	**Narrogin (SRO)**	**30.59**	**204**	*e*P	P	**16 43 17.2**	**-2.9**
	51nm,1.6s						
DZM	**Mont Dzumac**	**37.65**	**120**	*e*P	P	**16 44 22.8**	**+1.3**
	9.6nm,1.1s						
TAU	**Tasmania Unive**	**40.00**	**162**	*e*P	P	**16 44 41.4**	**+0.6**
	171nm,1.8s						
MK32	**Makanchi Array**	**67.66**	**326**	*e*P	P	**16 48 03.1**	**+0.3**
MKAR	**Makanchi Array**	**67.66**	**326**	P	P	**16 48 03.1**	**+0.3**
	0.7nm,0.4s,baz=116,slow=7.7,SNR=15						
KBL	**Kabul**	**70.86**	**309**	*e*PcP	PcP	**16 48 42.2**	**-1.2**

SOME 22 16:45:32.3, 40°75N×73°30E, h0km
KRNET 22 16:45:34.6±0.1, 40°77N×73°21E, h22km, mb3.2

NNC 22 16:45:34.5±0.2, 40°75N×73°23E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=5.5km s-min=1.2km az=78.0
KNET 22 16:45:37.4±0.7, 40°92N×73°38E, h14km±4km, ml3.1, Error ellipse: s-maj=5.1km s-min=2.9km az=96.0
ISC 22 16:45:31.6±1.4, 40°73N±0°04×73°32E±0°02, h1km±15km, n46, σ1§47/75, 26C-16D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**0.64**	**337**	⇑*i*P	Pb	**16 45 45.6**	**-0.2**
	baz=43						
ARSB				⇑*i*S	Sb	**16 45 54.1**	**-1.2**
	baz=43						
SFK	**Sufi-Kurgan**	**0.73**	**169**	⇑P	Pn	**16 45 49.4**	**0.0**
	14nm,0.2s						
SFK				⇓S	Sb	**16 46 00.0**	**+2.1**
	113nm,0.3s						
SFK	**Sufi-Kurgan**	**0.73**	**169**	⇓*i*P	Pn	**16 45 49.5**	**+0.2**
	baz=63						
SFK				⇓*i*S	Sn	**16 46 00.6**	**-0.7**
	baz=63						
AML	**Almayashu**	**1.43**	**11**	P	Pg	**16 46 00.7**	**+1.7**
	84nm,0.1s,SNR=74						
AML				⇓S	Sg	**16 46 19.1**	**+1.7**
	451nm,0.4s						
ARK	**Arkit**	**1.48**	**317**	⇑*i*P	Pg	**16 46 00.2**	**+0.3**
	baz=18						
ARK				⇑*i*S	Sg	**16 46 18.8**	**-0.3**
	baz=18						
UCH	**Uchtor**	**1.74**	**31**	⇓P	Pg	**16 46 06.9**	**+1.9**
	25nm,0.2s,SNR=54						
UCH				⇓S	Sg	**16 46 29.7**	**+2.1**
	197nm,0.3s						
MNAS	**Manas**	**1.86**	**341**	⇓P	Pg	**16 46 07.4**	**+0.2**
	12nm,0.3s						
MNAS				⇑S	Sg	**16 46 31.6**	**+0.3**
	93nm,0.4s						
MNAS	**Manas**	**1.86**	**341**	⇓*i*P	Pg	**16 46 07.2**	**0.0**
	baz=43						
MNAS				⇓*i*S	Sg	**16 46 30.9**	**-0.4**
	baz=43						
EKS2	**Erkin-Say**	**1.96**	**10**	⇑P	Pg	**16 46 10.1**	**+1.0**
	28nm,0.1s,SNR=23						
EKS2				⇑S	Sg	**16 46 35.2**	**+0.7**
	28nm,0.2s						
KZA	**Kyzart**	**1.98**	**47**	⇑P	Pg	**16 46 11.0**	**+1.4**
	64nm,0.4s,SNR=75						
MRKS	**Merke**	**2.01**	**358**	*e*P	Pg	**16 46 10.4**	**+0.2**
	60nm,0.3s						
MRKS				*e*S	Sg	**16 46 37.3**	**+1.0**
	200nm,0.3s						
BTK	**Batken**	**2.03**	**251**	⇑*i*P	Pb	**16 46 09.2**	**-0.1**
	baz=49						
BTK				⇑*i*S	Sb	**16 46 35.2**	**+0.1**
	baz=49						
AAK	**Ala-Archa**	**2.10**	**24**	⇑Pn	Pb	**16 46 10.8**	**+0.3**
	23nm,0.5s						
AAK				⇑Lg	Lg	16 46 41.0	
	166nm,0.6s						
AAK	**Ala-Archa**	**2.10**	**24**	⇑P	Pg	**16 46 12.6**	**+0.8**
	18nm,0.2s,SNR=47						
NRN	**Naryn**	**2.14**	**70**	⇑*i*P	Pg	**16 46 12.7**	**0.0**
	baz=72						
NRN				⇑*i*S	Sg	**16 46 42.0**	**+1.5**
	baz=72						
KBK	**Karagaybulak**	**2.28**	**32**	⇑P	Pg	**16 46 15.7**	**+0.5**
	19nm,0.2s,SNR=75						
FRU1	**Bishkek**	**2.29**	**25**	⇑*i*P	Pg	**16 46 14.8**	**-0.8**
	baz=27						
FRU1				⇑*i*S	Sg	**16 46 44.1**	**-1.3**
	baz=27						
CHMS	**Chumysh**	**2.50**	**25**	⇑P	Pb	**16 46 18.1**	**+0.7**
	3.4nm,0.3s,SNR=12						
BOOM	**Boomskoye usch**	**2.63**	**47**	⇑*i*P	Pb	**16 46 20.0**	**+0.3**
	baz=49						
BOOM				⇑*i*S	Sb	**16 46 53.6**	**+1.0**
	baz=49						
ULHL	**Ulahol**	**2.66**	**54**	⇑P	Pb	**16 46 20.4**	**+0.1**
	16nm,0.2s,SNR=10						
USP	**Ospenovka**	**2.68**	**19**	⇑P	Pb	**16 46 20.3**	**-0.2**
	2.9nm,0.2s,SNR=8.5						
TKM2	**Tokmak 2**	**2.77**	**37**	⇑Pn	Pb	**16 46 22.0**	**0.0**
	4.1nm,0.3s						
TKM2				⇓Lg	Lg	16 47 02.8	
	25nm,0.5s						
TKM2	**Tokmak 2**	**2.77**	**37**	⇓P	Pb	**16 46 22.2**	**+0.1**
	2.3nm,0.3s,SNR=12						
IUG	**Iuzhnay**	**2.85**	**301**	*e*P	Pb	**16 46 24.6**	**+1.3**
	54nm,0.3s						
IUG				*e*S	Sg	**16 47 01.6**	**-1.5**
	125nm,0.4s						
KST	**Kastek**	**3.04**	**40**	*e*P	Pg	**16 46 28.9**	**-0.9**
	12nm,0.3s						
KST				*e*S	Sg	**16 47 09.2**	**0.0**
	26nm,0.5s						
DGS	**Degeres**	**3.10**	**35**	*e*P	Pg	**16 46 31.0**	**0.0**
	25nm,0.5s						
DGS				*e*S	Sg	**16 47 12.8**	**+1.5**
	51nm,0.5s						
KK31	**Karatay Array**	**3.16**	**319**	⇑Pg	Pg	**16 46 31.0**	**-1.3**
	0.5nm,0.3s,baz=133,slow=14,SNR=55						
KK31				Lg	Lg	16 47 12.9	
	28nm,0.6s,baz=141,slow=30,SNR=15						
MTBS	**Maitube**	**3.33**	**43**	*e*P	Pg	**16 46 34.9**	**-0.6**
	25nm,0.6s						
MTBS				*e*S	Sg	**16 47 19.7**	**+1.0**
	39nm,0.3s						
IZV	**Izvestkoviy**	**3.37**	**46**	*e*P	Pg	**16 46 35.9**	**-0.2**
	23nm,0.8s						
IZV				*e*S	Sg	**16 47 22.5**	**+2.7**
	35nm,0.6s						
BRLS	**Boroldday**	**3.47**	**313**	*e*P	Pb	**16 46 34.7**	**+0.8**
	0.9nm,0.7s						
BRLS				*e*S	Sb	**16 47 18.9**	**+2.4**
	6.0nm,0.3s						
TNSS	**Tian-Shan**	**3.55**	**48**	*e*P	Pg	**16 46 40.3**	**+0.5**
	18nm,0.4s						
TNSS				*e*S	Sg	**16 47 29.6**	**+3.8**
	43nm,0.7s						
MDOK	**Medeo**	**3.69**	**48**	*e*P	Pg	**16 46 41.5**	**-0.8**
	7.2nm,0.7s						
MDOK				*e*S	Sg	**16 47 31.0**	**+0.8**
	17nm,0.5s						
KOTS	**Kotyrbulak**	**3.77**	**47**	*e*P	Pg	**16 46 43.1**	**-0.8**
	11nm,0.5s						
KOTS				*e*S	Sg	**16 47 33.4**	**+0.6**
	29nm,0.7s						
KUU	**Kurty**	**3.87**	**34**	*e*P	Pg	**16 46 43.9**	**-1.9**
	7.3nm,0.4s						
KUU				*e*S	Sg	**16 47 35.0**	**-0.9**
	28nm,0.4s						
KTBS	**Karatobe**	**3.88**	**39**	*e*P	Pg	**16 46 44.3**	**-1.8**
	7.3nm,0.2s						
KTBS				*e*S	Sg	**16 47 36.4**	**0.0**
	22nm,0.5s						
CHKK	**Chushkaly**	**4.14**	**40**	*e*P	Pg	**16 46 49.2**	**-1.7**
	11nm,0.4s						
CHKK				*e*S	Sg	**16 47 44.9**	**+0.3**
	36nm,0.2s						
SATY	**Saty**	**4.45**	**57**	*e*P	Pg	**16 46 55.6**	**-1.3**
	7.4nm,0.4s						
SATY				*e*S	Sg	**16 47 55.1**	**+0.5**
	15nm,0.4s						
ARXS	**Arharly**	**4.82**	**42**	*e*P	Pg	**16 47 00.6**	**-3.3**
	4.8nm,0.5s						
ARXS				*e*S	Sg	**16 48 03.3**	**-3.0**
	15nm,0.5s						
KPKS	**Kokpek**	**4.83**	**54**	*e*P	Pg	**16 47 02.7**	**-1.5**
	10.0nm,0.4s						
KPKS				*e*S	Sg	**16 48 07.2**	**+0.3**
	18nm,0.4s						
UZB	**Uzynbulak**	**4.89**	**59**	*e*P	Pg	**16 47 02.6**	**-2.7**
	4.1nm,0.5s						
UZB				*e*S	Sg	**16 48 07.6**	**-1.1**
	9.4nm,0.4s						
MNBS	**Baschi**	**5.03**	**47**	*e*P	Pg	**16 47 05.8**	**-2.2**
	5.9nm,0.5s						
MNBS				*e*S	Sg	**16 48 13.4**	**+0.2**
	11nm,0.4s						
PDGK	**Podgornoye**	**5.28**	**59**	⇓Pg	Pg	**16 47 11.5**	**-1.2**
	6.1nm,1.0s						
PDGK				⇓Lg	Lg	16 48 23.1	
	9.7nm,0.6s						
KAPS	**Kapalarasan**	**6.34**	**42**	*e*P	Pg	**16 47 28.8**	**-4.3**
	1.1nm,0.4s						
KAPS				*e*S	Sg	**16 48 51.9**	**-3.4**
	2.8nm,0.5s						
OTUK	**Ortayu**	**7.54**	**355**	⇓Lg	Lg	16 49 32.3	

20nm,0.8s
MK31 Makanchi Array 8.87 44 ⇓Lg Lg 16 50 16.4
2.2nm,0.8s
KURBB Kurchatov Arra 10.54 18 ⇓Lg Lg 16 51 09.4
7.9nm,0.7s

MEX 22 16:45:52.7±0.6, 16°30N×96°12W, h90km±8km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.53**	**178**	*e*P	Pn	16 46 06.4	-1.3
HUIG				*e*S	Sn	16 46 17.4	-1.6
CMIG	**Matias Romero**	**1.42**	**56**	*e*P	Pn	16 46 13.2	-4.3
CMIG				*e*S	Sn	16 46 31.3	-4.9
PNIG	**Pinotepa**	**1.93**	**273**	*e*P	Pn	16 46 22.4	-1.5
PNIG				*i* S	Sn	16 46 46.3	-1.5

IDC 22 17:02:50.5±1.8, 9°74S×124°45E, h0km, mb3.5/1, mb1 3.4/3, mb1mx3.2/39, mbtmp3.2/3, ML2.7/2, Error ellipse: s-maj=32.4km s-min=22.3km az=140.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.91**	**239**	P*g*	P*g*	17 03 07.5	-0.4
	3.9nm,0.3s,baz=23,slow=1.6,SNR=8.2						
WRA	**Warramunga Arr**	**13.93**	**138**	Pn	Pn	17 06 08.9	-0.5
	0.0nm,0.3s,baz=318,slow=14,SNR=3.0						
ASAR	**Alice Springs**	**16.54**	**148**	Pn	Pn	17 06 44.7	+0.7
	0.1nm,0.3s,baz=332,slow=14,SNR=8.2						
MKAR	**Makanchi Array**	**67.67**	**330**	P	P	17 13 49.7	+0.2
	0.4nm,0.8s,baz=121,slow=5.4,SNR=2.6						

IDC 22 17:10:46.5±9.6, 67°70S×110°04E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.7/26, mbtmp3.6/4, ML2.7/1, Error ellipse: s-maj=249.8km s-min=42.9km az=80.0, Antarctica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**17.54**	**145**	P	Pn	17 14 52.0	0.0
	0.0nm,0.3s,baz=288,slow=10,SNR=2.9						
VNDA				S	Sn	17 17 54.7	-13
	0.1nm,0.3s,baz=241,slow=19,SNR=2.9						
STKA	**Stephens Creek**	**40.32**	**43**	P	P	17 18 24.6	-0.7
	1.6nm,0.9s,baz=170,slow=18,SNR=3.0						
ASAR	**Alice Springs**	**46.45**	**31**	P	P	17 19 15.2	+0.2
	0.7nm,0.6s,baz=195,slow=7.0,SNR=17						
WRA	**Warramunga Arr**	**50.16**	**30**	P	P	17 19 43.5	-0.1
	0.6nm,0.8s,baz=192,slow=6.6,SNR=6.2						

*ISCJB **22** 17:26:31.1±0.7, 31°.28N±0°.06×115°.66W±0°.04, h5km±9km, Error ellipse: s-maj=10.3km s-min=4.8km az=21.7*
*SCEDC **22** 17:26:31.9, 31°.28N×115°.67W, h6km*
*ANF **22** 17:26:31.6±1.1, 31°.33N×115°.60W, h5km, ML3.3/15, Error ellipse: s-maj=11.6km s-min=6.1km az=11.0*
*ECX **22** 17:26:32.3±0.6, 31°.24N×115°.68W, h5km, MD3.5, ML3.7, Fault plane solution: NP1:φs=30.00000°, δ90.00000°, λ0.00000°.*

ISC 22 17:26:31.3±1.3, 31°31N±0°.07×115°65W±0°.05, h2km±16km, n25, σ0°72/37, 1C-4D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.31**	**150**	*e*P	P*g*	**17 26 37.2**	**-0.1**
SPIG				*e*S	S*g*	**17 26 41.6**	**+0.2**
SPX	**San Pedro Mart**	**0.31**	**150**	⇓*e*P	P*g*	**17 26 37.5**	**+0.1**
SPX				⇓*e*		17 26 42.1	
SPX				IAML		17 26 42.1	
	comp=E,9μm,0.4s						
ZAX	**El Zacaton**	**0.57**	**291**	*e*P	P*g*	**17 26 42.2**	**-0.1**
ZAX				*e*S	S*g*	**17 26 50.4**	**+0.6**
ZAX				IAML		17 26 52.2	
	comp=E,4μm,0.9s						
ZAX				⇑*e*		17 26 52.2	
ECNX	**Esteban Cantu**	**0.88**	**293**	*e*P	P*g*	**17 26 48.0**	**-0.3**
ECNX				*e*P	P*n*	**17 26 50.7**	**-0.2**
ECNX				*e*S	S*g*	**17 26 59.7**	**0.0**
PBX	**Punta Banda**	**1.01**	**295**	*e*P	P*g*	**17 26 50.3**	**-0.6**
PBX				*e*S	S*g*	**17 27 03.7**	**-0.3**
CBX	**Cerro Bola**	**1.32**	**319**	*e*P	P*n*	**17 26 55.8**	**-1.2**
CBX				*e*S	S*b*	**17 27 13.8**	**-0.6**
CBX				⇓*e*		17 27 20.7	
CBX				IAML		17 27 20.7	
	comp=E,1μm,0.6s						
RMX	**La Rumorosa**	**1.34**	**344**	*e*P	P*n*	**17 26 56.0**	**-1.2**
RMX				*e*S	S*b*	**17 27 13.2**	**-1.7**
IKP	**In-Ko-Pah, Jac**	**1.39**	**344**	⇓*e*P	P*n*	**17 26 57.6**	**-0.2**
IKP	**In-Ko-Pah, Jac**	**1.39**	**344**	P	P*n*	**17 26 57.7**	**-0.2**
	baz=165,SNR=169						
IKP				S	S*n*	**17 27 16.3**	**-0.6**
	baz=165						
BAR	**Barrett**	**1.62**	**328**	*e*P	P*n*	**17 27 01.0**	**0.0**
SWSC	**Sam W. Stewart**	**1.63**	**355**	P	P*n*	**17 27 00.7**	**-0.4**
	baz=176,SNR=76						
MONP2	**Monument Peak**	**1.71**	**338**	P	P*n*	**17 27 02.6**	**+0.3**
	baz=158,SNR=68						
MONP2				S	S*b*	**17 27 25.7**	**+0.1**
	baz=158						
SDRC	**San Diego Road**	**1.79**	**323**	*e*P	P*n*	**17 27 03.8**	**+0.4**
GLA	**Glamis**	**1.87**	**22**	P	P*n*	**17 27 03.5**	**-0.9**
	baz=202,SNR=14						
GLA				S	S*n*	**17 27 30.0**	**+1.4**
	baz=202						
109C	**Camp Elliot, M**	**2.00**	**322**	P	P*n*	**17 27 06.4**	**+0.2**
	baz=143,SNR=21						
109C				S	S*b*	**17 27 32.9**	**-0.9**
	baz=143						
FRD	**Ford Ranch, An**	**2.32**	**340**	Pb	P*b*	**17 27 14.3**	**+0.3**
	baz=160						
FRD				Sb	S*b*	**17 27 44.8**	**+1.6**
	baz=160						
BC3	**Big Chuckawall**	**2.34**	**4**	P	P*n*	**17 27 10.7**	**-0.3**
	baz=184,SNR=7.5						
PFO	**Pinyon Flats O**	**2.39**	**344**	P	P*n*	**17 27 11.2**	**-0.5**
	baz=164,SNR=21						
214A	**Organ Pipe Nat**	**2.50**	**74**	P	P*n*	**17 27 11.9**	**-1.2**
	baz=255						
Y12C	**Blythe**	**2.61**	**21**	P	P*n*	**17 27 14.4**	**-0.2**
	baz=202						
BELC	**Belle Mtn. Jos**	**2.70**	**354**	P	P*n*	**17 27 16.0**	**+0.1**
	baz=174,SNR=18						
IRM	**Iron Mountain**	**2.87**	**8**	P	P*n*	**17 27 18.5**	**+0.3**
	baz=189,SNR=5.7						
BBRC	**Big Bear Solar**	**3.13**	**340**	P	P*n*	**17 27 22.7**	**+0.7**
	baz=160						
CIS	**Catalina Islan**	**3.13**	**312**	Pb	P*b*	**17 27 28.4**	**+0.6**
	baz=132						
PDMCI	**Parker Dam,Lak**	**3.24**	**23**	P	P*n*	**17 27 23.5**	**+0.2**
	baz=204						

*IDC **22** 17:27:26.9±1.1, 52°.71N×163°.12E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.4/37, mbtmp3.5/5, ML2.9/1, MS2.8/3, Ms1 2.8/3, ms1mx2.4/31, Error ellipse: s-maj=35.9km s-min=30.5km az=143.0*
*KRSC **22** 17:27:28.5±1.4, 52°.99N×162°.80E, h47km±23km, ML3.8*
*ISCJB **22** 17:27:30.2±0.7, 52°.97N±0°.04×162°.81E±0°.06, h33km, mb3.4/4, MS3.2/2, Error ellipse: s-maj=6.2km s-min=3.8km az=135.6*

ISC 22 17:27:31.2±1.2, 52°95N±0°.06×162°85E±0°.07, h35km, n38, σ0°82/53, mb3.4/4, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.72**	**276**	*e*P	P*n*	**17 27 57.4**	**-1.2**
SPN				*e*S	S*n*	**17 28 17.6**	**-1.7**
MKZ	**Mys Kozlova**	**1.74**	**338**	*e*P	P*n*	**17 27 57.3**	**-1.6**
MKZ				*e*S	S*n*	**17 28 18.4**	**-1.5**
NLC	**Nalytchevo**	**2.13**	**277**	*e*P	P*n*	**17 28 03.4**	**-0.8**
NLC				*e*S	S*n*	**17 28 27.8**	**-1.6**
KII	**Karymskiy**	**2.31**	**300**	*e*P	P*n*	**17 28 06.0**	**-0.8**
KII				*e*S	S*n*	**17 28 32.7**	**-1.3**
SDLR	**Sedlovina**	**2.42**	**279**	*e*P	P*n*	**17 28 08.0**	**-0.3**
UGLR	**Uglovaya**	**2.44**	**278**	*e*P	P*n*	**17 28 08.8**	**+0.1**
SMAR	**Somma**	**2.46**	**279**	*e*P	P*n*	**17 28 08.1**	**-0.9**
DALK	**Dalny**	**2.48**	**274**	*e*P	P*n*	**17 28 08.6**	**-0.5**
DALK				*e*S	S*n*	**17 28 36.7**	**-1.4**
AVH	**Avacha**	**2.50**	**279**	*e*P	P*n*	**17 28 09.6**	**+0.2**
AVH				*e*S	S*n*	**17 28 39.4**	**+0.7**
PET	**Petropavlovsk**	**2.54**	**273**	*e*P	P*n*	**17 28 09.4**	**-0.5**
PET				*e*S	S*n*	**17 28 39.0**	**-0.6**
KOK	**Koryaka**	**2.56**	**279**	*e*P	P*n*	**17 28 10.2**	**-0.1**
KRX	**Arik**	**2.56**	**281**	*e*P	P*n*	**17 28 10.2**	**-0.2**
KRX				*e*S	S*n*	**17 28 39.7**	**-0.7**
KZV	**Kizimen**	**2.64**	**326**	*i* P	P*n*	**17 28 11.4**	**0.0**
KZV				*e*S	S*n*	**17 28 42.4**	**+0.1**
RUS	**Russkaya**	**2.69**	**261**	*e*P	P*n*	**17 28 11.5**	**-0.5**
RUS				*e*S	S*n*	**17 28 42.2**	**-1.1**
TUMR	**Tumrok**	**2.83**	**327**	*e*P	P*n*	**17 28 14.1**	**+0.1**
MTVR	**Mutnovka**	**2.88**	**263**	*e*P	P*n*	**17 28 14.5**	**-0.2**
MTVR				*e*S	S*n*	**17 28 47.1**	**-1.1**
GNL	**Ganaly**	**3.04**	**286**	*e*P	P*n*	**17 28 17.2**	**+0.3**
GNL				*e*S	S*n*	**17 28 53.1**	**+1.0**
PETK	**Petropavlovsk-**	**3.12**	**275**	Pn	P*n*	**17 28 18.5**	**+0.6**
	6.4nm,0.3s,baz=99,slow=18,SNR=76						
PETK				Sn	S*n*	**17 28 54.7**	**+0.8**
	3.6nm,0.3s,baz=83,slow=24,SNR=7.0						
PETK				LR	LR	17 29 36.6	
	comp=Z,24nm,18.7s,baz=124,slow=39						
KMNR	**Kamenistaya**	**3.20**	**332**	*e*P	P*n*	**17 28 19.6**	**+0.5**
KMNR				*e*S	S*n*	**17 28 56.3**	**+0.3**
BZGR	**Bezymyannyi-Gr**	**3.25**	**338**	*e*P	P*n*	**17 28 19.9**	**+0.1**
KBTR	**Krutoberegovo**	**3.27**	**360**	*e*P	P*n*	**17 28 18.7**	**-1.8**
KBTR				*e*S	S*n*	**17 28 56.6**	**-0.8**
BZMR	**Bezymyannaya**	**3.29**	**336**	*e*P	P*n*	**17 28 20.5**	**+0.1**
ZLN	**Zelenaya**	**3.30**	**340**	*e*P	P*n*	**17 28 20.6**	**+0.2**
ZLN				*e*S	S*n*	**17 28 59.4**	**+1.0**
BZWR	**Bezymyannyi-We**	**3.32**	**336**	*e*P	P*n*	**17 28 21.0**	**+0.2**
LGNR	**Loginova**	**3.38**	**339**	*e*P	P*n*	**17 28 22.5**	**+0.7**
KPT	**Kopyto**	**3.39**	**334**	*e*P	P*n*	**17 28 22.6**	**+0.9**
CIRR	**Tsirk**	**3.40**	**340**	*e*P	P*n*	**17 28 21.9**	**0.0**
APC	**Apacha**	**3.45**	**272**	*e*P	P*n*	**17 28 23.2**	**+0.9**
APC				*e*S	S*n*	**17 29 02.2**	**+0.3**
KRSR	**Krestovskiy**	**3.54**	**339**	*e*P	P*n*	**17 28 24.0**	**+0.3**
KOZ	**Kozyrevsk**	**3.57**	**332**	*e*P	P*n*	**17 28 24.7**	**+0.7**
KLY	**Klyuchi**	**3.60**	**340**	*e*P	P*n*	**17 28 23.8**	**-0.7**
KLY				*e*S	S*n*	**17 29 05.9**	**+0.1**
BDR	**Baidarnaya**	**3.75**	**346**	*e*P	P*n*	**17 28 26.4**	**-0.2**
MKAR	**Makanchi Array**	**49.71**	**297**	LR	LR	17 57 50.1	
	comp=Z,20nm,20.3s,baz=21,slow=36						
FINES	**FINESS Array B**	**60.90**	**338**	P	P	17 37 43.4	+3.6
	1.1nm,0.7s,baz=40,slow=11,SNR=3.6						
TXAR	**Lajitas Array**	**69.15**	**69**	P	P	**17 38 34.1**	**+0.1**
	0.2nm,0.5s,baz=317,slow=5.6,SNR=5.0						
GERES	**GERESS Array B**	**75.25**	**339**	LR	LR	18 17 51.3	
	comp=Z,13nm,19.3s,baz=311,slow=40						
WRA	**Warramunga Arr**	**76.69**	**207**	P	P	**17 39 18.7**	**+0.3**
	0.3nm,0.9s,baz=19,slow=5.5,SNR=2.9						
ASAR	**Alice Springs**	**80.35**	**207**	P	P	**17 39 39.7**	**+1.1**
	0.1nm,0.6s,baz=17,slow=4.7,SNR=4.1						

*IDC **22** 17:31:45.7±1.7, 29°.94N×132°.27E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.4/38, mbtmp3.5/5, ML3.3/2, MS2.3/1, Ms1 2.3/1, ms1mx2.0/28, Error ellipse: s-maj=38.7km s-min=31.1km az=137.0*
*ISCJB **22** 17:31:47.1±1.8, 30°.04N±0°.03×132°.23E±0°.06, h33km±17km, mb3.6/3, Error ellipse: s-maj=8.1km s-min=5.5km az=9.6*
*JMA **22** 17:31:47.9±0.1, 30°.06N×132°.19E, h65km±4km, M3.4*

ISC 22 17:31:46.1±2.7, 30°07N±0°.04×132°24E±0°.06, h15km±16km, n20, σ1°75/33, mb3.8/3, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMTN	**Minamitane**	**1.20**	**286**	P	P*n*	**17 32 08.6**	**+0.2**
JMTN				*e*S	S*g*	**17 32 23.8**	**-1.1**
JTN	**Tanegashima 3**	**1.23**	**298**	P	P*n*	**17 32 09.0**	**+0.2**
JTN				*e*S	S*b*	**17 32 24.2**	**-0.6**
JYAK	**Yakushimahirau**	**1.50**	**277**	P	P*n*	**17 32 12.7**	**+0.2**
JTSR	**Tashiro 2**	**1.57**	**314**	P	P*n*	**17 32 13.6**	**+0.1**
JTSR				*e*S	S*n*	**17 32 33.3**	**-0.4**
JNAR	**Kushima--Naru**	**1.67**	**330**	P	P*n*	**17 32 15.7**	**+0.9**
JNAR				S	S*n*	**17 32 35.6**	**-0.4**
JKC	**Kuchinoerabu**	**1.81**	**283**	P	P*n*	**17 32 16.9**	**+0.2**
JKC				*e*S	S*n*	**17 32 38.8**	**-0.6**
JNN	**Nakanoshima**	**2.06**	**264**	P	P*n*	**17 32 20.7**	**+0.5**
JTZ	**Takazaki**	**2.07**	**332**	P	P*n*	**17 32 21.3**	**+0.9**
JTZ				S	S*n*	**17 32 45.6**	**-0.3**
JSJ	**Shimokoshiki**	**2.69**	**307**	P	P*n*	**17 32 28.2**	**-0.7**
JSJ				S	S*n*	**17 32 59.9**	**-1.4**
JTAJ	**Takarajima**	**2.79**	**252**	P	P*n*	**17 32 30.9**	**+0.6**
JTO	**Tosashimizu**	**2.82**	**10**	P	P*n*	**17 32 30.4**	**-0.3**
JTO				S	S*n*	**17 32 59.6**	**-4.8**
JAM	**Amami Oshima**	**2.83**	**235**	P	P*n*	**17 32 30.8**	**0.0**
JAM				S	S*n*	**17 33 02.9**	**-1.8**
JAMN	**Amaminishikomi**	**3.24**	**237**	P	P*n*	**17 32 36.5**	**+0.1**
JAMN				S	S*n*	**17 33 13.6**	**-1.1**
JNA	**Nagahama**	**3.48**	**3**	P	P*n*	**17 32 40.5**	**+0.8**
JNA				S	S*n*	**17 33 16.8**	**-3.9**
JTK	**Tokunoshima**	**3.67**	**232**	P	P*n*	**17 32 42.5**	**+0.2**
JTK				S	S*n*	**17 33 24.8**	**-0.6**
JOW	**Kunigami**	**4.75**	**228**	Pn	P*n*	**17 32 56.8**	**-0.4**
	3.2nm,0.3s,baz=93,slow=20,SNR=15						
JOW				Sn	S*n*	**17 33 47.0**	**-5.0**
	8.4nm,0.3s,baz=71,slow=27,SNR=15						
MJAR	**Matsushiro Arr**	**8.16**	**36**	Pn	P*n*	**17 33 46.5**	**+2.4**
	0.3nm,0.3s,baz=216,slow=14,SNR=6.8						
MJAR				LR	LR	17 36 03.5	
	comp=Z,18nm,18.4s,baz=300,slow=31						
CMAR	**Chiang Mai Arr**	**32.36**	**257**	P	P	**17 38 17.2**	**+2.0**
	0.2nm,0.6s,baz=51,slow=8.5,SNR=3.7						
WRA	**Warramunga Arr**	**49.77**	**177**	P	P	**17 40 38.3**	**+0.2**
	0.7nm,0.6s,baz=355,slow=7.9,SNR=8.8						
ASAR	**Alice Springs**	**53.45**	**178**	P	P	**17 41 07.2**	**+1.5**
	0.6nm,0.5s,baz=10,slow=13,SNR=32						

*ISCJB **22** 17:41:37.2±0.7, 55°.1S±0°.2×127°.2W±0°.3, h10km, mb4.2/7, MS3.2/2, Error ellipse: s-maj=31.0km s-min=18.3km az=144.5*
*IDC **22** 17:41:37.1±0.8, 55°.03S×127°.35W, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.9/28, mbtmp3.9/5, MS3.3/2, Ms1 3.2/2, ms1mx2.9/23, Error ellipse: s-maj=38.7km s-min=25.1km az=149.0*
*NEIC **22** 17:41:38.8±0.5, 55°.05S×127°.33W, h10km, mb4.8/3, Error ellipse: s-maj=27.0km s-min=16.5km az=152.0*

ISC 22 17:41:38.8±0.8, 55°0S±0°.2×127°3W±0°.2, h10km, n31, σ0°87/17, mb4.1/7, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**32.96**	**202**	LR	LR	17 58 34.3	
	comp=Z,20nm,18.7s,baz=16,slow=31						
QSPA	**South Pole Qui**	**35.16**	**180**	P	P	**17 48 33.1**	**+0.8**
	1.8nm,0.9s,baz=85,slow=6.8,SNR=5.5						
TBI	**Tubuai**	**35.68**	**324**	*e*T	T	18 26 04.5	
	9.5nm,0.3s						
PPT2	**Papeete2**	**41.08**	**327**	*e*LR	LR	18 00 28.7	
	136nm,26.0s						
PPT	**Papeete**	**41.10**	**327**	LR	LR	18 02 05.9	
	comp=Z,70nm,18.5s,baz=173,slow=30						
VAH	**Vaihoa**	**42.72**	**330**	*e*T	T	18 34 54.2	
	20nm,0.3s						
MNMC	**Minye Minye**	**56.13**	**74**	*e*P	P	**17 51 17.9**	**-0.8**
	10nm,0.8s						
LPAZ	**La Paz**	**59.25**	**74**	P	P	**17 51 39.9**	**-1.1**
	2.4nm,0.8s,baz=137,slow=3.2,SNR=8.0						
LPAZ	**La Paz**	**59.25**	**74**	*e*P	P	**17 51 40.2**	**-0.8**
	3.9nm,1.1s						
ASAR	**Alice Springs**	**75.79**	**249**	P	P	**17 53 23.9**	**-1.0**
	0.8nm,0.7s,baz=141,slow=6.6,SNR=12						
H01W1	**Cape Leeuwin H**	**76.15**	**228**	T	T	19 17 59.3	
	baz=148,slow=76,SNR=6.6						
H01W2	**Cape Leeuwin H**	**76.16**	**228**	T	T	19 17 57.1	
	baz=148,slow=76,SNR=7.7						
H01W3	**Cape Leeuwin H**	**76.17**	**228**	T	T	19 17 58.8	
	baz=148,slow=76,SNR=7.0						
WR1	**Warramunga Arr**	**78.56**	**252**	*e*P	P	**17 53 40.2**	**-0.2**
	20nm,1.8s						
WRA	**Warramunga Arr**	**78.56**	**252**	P	P	**17 53 40.2**	**-0.2**
	1.7nm,0.9s,baz=145,slow=5.1,SNR=10						
LTX	**Lajitas**	**86.44**	**21**	*e*P	P	**17 54 22.0**	**+0.8**
TXAR	**Lajitas Array**	**86.44**	**21**	P	P	**17 54 22.0**	**+0.8**
	0.4nm,1.0s,baz=195,slow=5.4,SNR=2.8						
H11S2	**WAKE ISLAND Hy**	**92.03**	**300**	T	T	19 36 52.8	
	baz=157						
H11S3	**WAKE ISLAND Hy**	**92.04**	**300**	T	T	19 36 55.6	
	baz=157						
H11S1	**WAKE ISLAND Hy**	**92.05**	**300**	T	T	19 36 53.3	
	baz=157						
H11N3	**WAKE ISLAND Hy**	**92.97**	**301**	T	T	19 38 00.0	
	baz=153						
H11N1	**WAKE ISLAND Hy**	**92.97**	**301**	T	T	19 38 00.0	
	baz=153						
H11N2	**WAKE ISLAND Hy**	**92.99**	**301**	T	T	19 38 00.6	
	baz=153						
ILAR	**Eielson Array**	**120.41**	**350**	PKP	**PKPdf**	**18 00 30.7**	**+1.9**
	0.3nm,0.9s,baz=193,slow=3.7,SNR=3.0						
SONA0	**Songino Array**	**146.50**	**280**	*e*PKPdf	**PKPdf**	**18 01 17.6**	**-0.3**
SONM	**Songino Array**	**146.50**	**280**	PKPbc	**PKPdf**	**18 01 17.6**	**-0.3**
	2.0nm,0.7s,baz=132,slow=3.3,SNR=15						
SONA1	**Songino Array**	**146.50**	**280**	*e*PKPdf	**PKPab**	**18 01 20.1**	**-0.3**
MK32	**Makanchi Array**	**159.73**	**258**	*e*PKPab	**PKPab**	**18 02 15.1**	**-0.8**
MKAR	**Makanchi Array**	**159.73**	**258**	PKPab	**PKPab**	**18 02 15.1**	**-0.8**
	1.0nm,0.8s,baz=142,slow=6.1,SNR=6.7						
ZALV	**Zalesovo Beam**	**161.40**	**280**	PKPab	**PKPab**	**18 02 22.8**	**0.0**
	0.3nm,0.4s,baz=108,slow=4.7,SNR=3.5						
ZAA1	**Zalesovo Array**	**161.40**	**280**	*e*PKPab	**PKPab**	**18 02 22.8**	**0.0**

IDC 22 17:44:07.2±7.7, 21°21S×178°16W, h462km±74km, mb2.8/5, mb1 3.1/5, mb1mx2.9/22, mbtmp3.6/5, Error ellipse: s-maj=111.1km s-min=26.7km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.21**	**257**	P	P	17 51 34.6	+0.2
	0.5nm,0.9s,baz=84,slow=8.3,SNR=6.7						
ASAR				PcP	PcP	17 53 09.5	+0.1
	0.2nm,0.6s,baz=106,slow=4.5,SNR=5.8						
WRA	**Warramunga Arr**	**44.36**	**263**	P	P	17 51 34.9	-0.6
	0.2nm,0.5s,baz=96,slow=7.5,SNR=10						
WRA				PcP	PcP	17 53 09.1	-0.9
	0.2nm,0.7s,baz=98,slow=4.8,SNR=3.3						
NVAR	**Mina Array Bea**	**81.64**	**43**	P	P	17 55 37.1	+0.6
	0.3nm,0.5s,baz=243,slow=9.0,SNR=2.1						
ILAR	**Eielson Array**	**89.04**	**13**	P	P	17 56 10.3	-1.2
	0.2nm,0.4s,baz=212,slow=5.8,SNR=6.0						
CMAR	**Chiang Mai Arr**	**90.21**	**290**	P	P	17 56 18.9	+0.9
	0.7nm,0.9s,baz=131,slow=2.2,SNR=5.6						
ARCES	**ARCESS Array B**	**129.59**	**349**	PKP	PKPdf	18 02 21.4	-0.8
	3.1nm,0.9s,baz=353,slow=2.2,SNR=3.2						
AKASG	**Malin Array Be**	**143.56**	**330**	PKP	PKPab	18 02 45.8	-0.9
	1.7nm,0.5s,baz=44,slow=4.4,SNR=9.1						
BRTR	**Keskin Array B**	**147.20**	**311**	PKPbc	PKPbc	18 02 58.4	+0.2
	0.3nm,0.4s,baz=32,slow=5.6,SNR=3.0						

*BJI **22** 18:01:07.4, 5°.28S×102°.76E, h78km, mb5.1/60, mB5.0/41, Ms4.4/31, Ms7 4.1/31*
*NEIC **22** 18:01:10.4±0.9, 4°.54S×102°.83E, h35km±8km, mb5.2/52, Error ellipse: s-maj=6.5km s-min=4.1km az=52.0*
*MOS **22** 18:01:12.7±1.0, 4°.34S×102°.90E, h63km, mb5.4/58, Error ellipse: s-maj=9.4km s-min=4.8km az=116.7*
*ISCJB **22** 18:01:14.2±0.3, 4°.53S±0°.03×102°.80E±0°.03, h81km±2km, mb5.0/129, Error ellipse: s-maj=5.6km s-min=2.5km az=41.1*
*IDC **22** 18:01:14.7±1.6, 4°.40S×102°.82E, h68km±13km, mb4.7/28, mb1 4.7/30, mb1mx4.7/34, mbtmp4.9/30, MS3.6/27, Ms1 3.6/27, ms1mx3.6/37, Error ellipse: s-maj=13.9km s-min=9.7km az=56.0*
*DJA **22** 18:01:14.6±0.2, 5°.5±2°×10°3E±°, h61km±2km, M4.7/66, mB5.2/36, mb5.1/66, MLv5.2/24, Mw(mB)4.5/36*
*GCMT **22** 18:01:16.4±0.4, 4°.74S±0°.02×102°.57E±0°.03, h69km±2km, MW4.8/60, Moment Tensor Solution. s28,c33; s60,c79; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr 1.97±.12; Mθθ -1.26±.10; Mφφ -0.71±.13; Mrθ 0.81±.07; Mrφ 1.44±.08; Mθφ -0.44±.09; Best double couple: Mo2.39700×10¹⁶ NP1:φs124.00000°, δ56.00000°, λ83.00000°. NP2: φs316.00000°, δ34.00000°, λ100.00000°. Principal axes: T 2.1640, Plg78.0000°, Azm12.0000°; N 0.4610, Plg6.0000°, Azm128.0000°; P -2.6300, Plg11.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 18:01:15.0±0.6, 4°54S±0°.04×102°79E±0°.04, h76km±4km, n646, σ1°25/667, mb5.1/133, 38C-10D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.24**	**43**	P	P*n*	**18 01 25.2**	**-1.3**
MNAI				S	S*n*	**18 01 33.4**	**-1.6**
LWLI	**Liwa**	**1.35**	**111**	P	P*n*	**18 01 36.8**	**-1.5**
LWLI				S	S*n*	**18 01 55.4**	**-0.4**
MDSI	**Maura Dua**	**1.38**	**88**	P	P*n*	**18 01 38.1**	**-0.5**
MDSI				S	S*n*	**18 01 57.7**	**+1.3**
MASI	**Maura Aman, Be**	**1.49**	**338**	P	P*n*	**18 01 40.8**	**+0.7**
MASI				S	S*n*	**18 02 00.3**	**+1.2**
KASI	**Kota Agung**	**1.96**	**120**	P	P*n*	**18 01 45.6**	**-0.7**
KLI	**Kotabumi**	**2.08**	**99**	P	P*n*	**18 01 47.7**	**-0.2**
BLSI	**Bandar Lampung**	**2.58**	**109**	P	P*n*	**18 01 55.7**	**+1.1**
KRJI	**Kerinci**	**2.77**	**331**	P	P*n*	**18 01 57.6**	**+0.3**
PPSI	**Pulau Pagai**	**3.29**	**302**	P	P*n*	**18 02 03.6**	**-0.7**
CGJI	**Cibinong**	**3.55**	**126**	P	P*n*	**18 02 06.8**	**-1.0**
SBJI	**Serang**	**3.67**	**115**	P	P*n*	**18 02 09.9**	**+0.4**
SDSI	**Sungai Dareh**	**3.83**	**339**	P	P*n*	**18 02 12.7**	**+1.1**
PPBI	**Pangkal Pinang**	**4.09**	**55**	P	P*n*	**18 02 15.8**	**+0.7**
RGRI	**Rengat**	**4.18**	**354**	P	P*n*	**18 02 18.5**	**+2.0**

TRTT Trang 12.67 346 P Pn 18 04 11.7 -0.7
12nm,1.0s
SRBI Singaraja 12.84 107 P Pn 18 04 15.2 +0.6
62nm,0.6s
KRAB Krabi 13.17 344 P Pn 18 04 17.8 -1.2
69nm,0.7s,488nm
BKB Balikpapan 14.45 77 P P 18 04 39.3 -1.2
281nm,0.8s,2µm
TWSI Taliwang, Sumb 14.60 107 P Pn 18 04 39.4 +1.6
45nm,0.6s
PLAI Plampang 15.48 107 P Pn 18 04 47.1 -1.9
208nm,0.7s,2µm
SPSI Sidrap Palu 16.94 89 P P 18 05 09.8 +1.7
44nm,1.0s,484nm
KKM Kota Kinabalu 17.03 52 *e*Pn P 18 05 10.7 +1.4
27nm,0.8s
TTSI Tana Toraja 17.05 86 P P 18 05 11.8 +2.4
64nm,0.7s,1µm
WBSI Waikabubak, Su 17.23 108 P P 18 05 12.2 +0.8
155nm,0.8s
BNSI Bone 17.26 90 P P 18 05 14.4 +2.7
69nm,0.8s,952nm
BKSI Bulukumba 17.28 93 P P 18 05 13.8 +1.9
73nm,0.8s,517nm
PATY Pattaya 17.45 354 P P 18 05 15.0 +1.3
13nm,0.7s
PHET Kaeng Krachan 17.61 350 P Pn 18 05 15.9 +0.3
5.9nm,0.8s,79nm
MPSI Mapaga 17.76 75 P Pn 18 05 20.9 +3.5
39nm,1.2s,365nm
SRAK Srakaew 18.44 358 P Pn 18 05 25.4 -0.2
98nm,0.8s,729nm
SRDT SRDT 19.11 349 P Pn 18 05 33.0 -0.6
24nm,1.1s
EDFI Ende, Flores 19.23 104 P P 18 05 32.9 -0.5
37nm,0.6s,591nm
BBSI Bau Bau 19.72 94 P Pn 18 05 40.7 -0.2
13nm,0.8s,261nm
MMRI Maumere 19.74 103 P Pn 18 05 40.2 -0.8
92nm,0.7s
MRSI Marisa 19.77 76 P Pn 18 05 41.5 +0.2
132nm,0.8s,1µm
UTHA Uthaitani 20.24 351 P P 18 05 44.3 +0.1
38nm,0.9s,263nm
LUWI Luwuk 20.25 81 P Pn 18 05 46.5 -0.5
111nm,0.9s,1µm
CHAI Chaiyaphum 20.32 358 P P 18 05 45.7 +0.6
13nm,0.7s,112nm
UMPA Umpang Tak 20.97 349 P P 18 05 50.2 -2.0
12nm,1.0s,106nm
PBKT Sadao Pong 21.05 355 P P 18 05 52.8 -0.1
19nm,0.8s
GIRL Giralia 21.13 149 P P 18 05 51.4 -2.5
baz=21,SNR=3.2
SKNT Sakonnakorn 21.41 3 P P 18 05 59.7 +2.9
6.8nm,0.8s
BATI Baumata 21.44 106 P P 18 05 55.3 -2.0
69nm,0.3s,baz=304,slow=0.8,SNR=55
BATI S **S** 18 09 44.5 -6.8
40nm,0.5s,baz=317,slow=4.8,SNR=6.1
BATI Baumata 21.44 106 P P 18 05 58.9 +1.6
93nm,0.7s,942nm
KMSI Cibinong 21.77 77 P P 18 06 03.3 +2.6
171nm,1.0s,2µm
SOEI Soe 21.92 105 P P 18 06 03.3 +0.8
114nm,0.7s,1µm
SUKH Sukhothai 22.10 352 P P 18 06 04.4 +0.2
10nm,1.0s
UTTA Uttaradit 22.25 354 P P 18 06 05.8 0.0
12nm,0.8s,81nm
NONG Nongkai 22.46 1 P P 18 06 08.3 +0.2
0.6nm,0.9s
CM01 Chiang Mai Arr 23.12 351 *e*P P 18 06 13.3 -1.5
LAMP Lampang 23.12 352 P P 18 06 15.0 +0.1
7.0nm,0.8s
CM31 Chiang Mai Arr 23.16 351 *e*P P 18 06 13.9 -1.3
CM31 *e*PcP **PcP** 18 10 03.2 +1.7
CM31 *e*ScP **ScP** 18 13 34.3 +1.3
CM31 *e* 18 14 59.4
CM31 Chiang Mai Arr 23.16 351 P P 18 06 14.5 -0.7
SNR=34
CMAR Chiang Mai Arr 23.16 351 P P 18 06 14.1 -1.2
18nm,0.8s,baz=185,slow=8.2,SNR=127
CMAR PcP **PcP** 18 10 02.8 +1.3
4.0nm,0.8s,baz=205,slow=3.1,SNR=12
CMAR ScP **ScP** 18 13 34.3 +1.3
1.2nm,0.9s,baz=203,slow=3.8,SNR=9.9
CMAR LR LR 18 14 59.4
comp=Z,213nm,21.3s,baz=174,slow=36
CMAR Chiang Mai Arr 23.16 351 *c e*P P 18 06 14.1 -1.2
CMAR pmax pmax
comp=Z,22nm,0.8s
IPIL Ipil 23.22 58 *e*P P 18 06 16.7 +0.9
SANI Sanana 23.29 85 P P 18 06 18.2 +1.7
comp=Z,67nm,0.9s,comp=Z,634nm
MBWA Marble Bar 23.32 137 *e*P P 18 06 16.4 -0.3
comp=Z,11nm,0.8s
CHTO Chiang Mai 23.51 351 *e*P P 18 06 17.3 -1.2
comp=Z,31nm,0.9s
CHTO Chiang Mai 23.51 351 P P 18 06 16.9 -1.6
SNR=18
CHTO Chiang Mai 23.51 351 *e*P P 18 06 17.3 -1.2
CHTO pmax pmax
comp=Z,31nm,0.9s
CHTO Chiang Mai 23.51 351 P P 18 06 17.5 -1.0
comp=Z,173nm,1.0s,comp=Z,2µm
NLAI Namlea 24.28 88 P P 18 06 30.2 +4.7
comp=Z,74nm,0.8s
QIZ Qiongzhong 24.43 16 P P 18 06 28.8 +2.1
QIZ S **S** 18 10 45.3 +3.9
QIZ pmax pmax
comp=Z,13nm,0.7s
QIZ LR LR
comp=Z,210nm,16.2s
QIZ LR LR
comp=Z,140nm,11.3s
QIZ LR LR
comp=Z,240nm,38.2s
QIZ Qiongzhong 24.43 16 *e*P P 18 06 28.1 +1.4
comp=Z,16nm,0.9s
GUIM Jordan 24.81 53 *e*P P 18 06 29.8 -0.4
PALK Pallekele 24.97 298 P P 18 06 35.4 +3.6
comp=Z,12nm,0.9s,baz=116,slow=8.4,SNR=8.9
PALK Pallekele 24.97 298 *e*P P 18 06 35.4 +3.6
comp=Z,17nm,0.9s
PALK Pallekele 24.97 298 P P 18 06 35.5 +3.6
TNTI Ternate 25.11 78 P P 18 06 34.2 +1.1
comp=Z,31nm,0.8s,comp=Z,542nm
DDMP Don Marcelino, 25.21 65 *e*P P 18 06 36.9 +3.0
BUKP Musuan 25.41 61 *e*P P 18 06 36.9 +1.1
FITZ Fitzroy Crossi 26.09 123 P P 18 06 41.7 -0.1
baz=26,SNR=44
FITZ Fitzroy Crossi 26.09 123 *e*P P 18 06 41.8 -0.1
comp=Z,20nm,0.6s
MEEK Meekatharra 26.68 147 P P 18 06 47.4 +0.2
baz=27,SNR=5.8
KNRA Kununurra 27.82 115 P P 18 06 56.6 -0.8
baz=28,SNR=16
SIJI Sorong 28.67 84 P P 18 07 06.0 +1.0
comp=Z,19nm,0.7s,baz=82,slow=3.6,SNR=11
MTN Manton Dam 29.18 108 P P 18 07 07.4 -2.1
baz=29,SNR=8.3
MTN Manton Dam 29.18 108 *e*P P 18 07 07.2 -2.3
comp=Z,14nm,0.4s
KMI Kunming 29.48 360 P P 18 07 13.6 +1.3
KMI pmax pmax
comp=Z,13nm,0.9s
KMI LR LR
comp=Z,390nm,15.9s
KMI LR LR
comp=Z,150nm,18.4s
KMI LR LR
comp=Z,330nm,16.9s
H08S2 Diego Garcia H 30.28 263 T T 18 37 57.4
baz=86,slow=74
H08S3 Diego Garcia H 30.29 263 T T 18 37 53.5
baz=86,slow=74
H08S1 Diego Carcia H 30.30 263 T T 18 37 58.9
baz=86
KDU Kakadu 30.41 107 P P 18 07 17.8 -2.6
baz=30,SNR=14
GYA Guiyang 31.04 7⇑ *i*P P 18 07 27.0 +1.1
GYA pP pP 18 07 47.4 +3.6
GYA PP **PP** 18 08 34.3 -3.1
GYA S **S** 18 12 28.8 +3.0
GYA sS sS 18 13 00.6 +4.1
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=Z,420nm,17.8s
GYA LR LR
comp=Z,410nm,17.6s
GYA LR LR
comp=Z,440nm,17.9s
SHL Shillong 31.74 341 *i*P P 18 07 33.0 +0.8
WRKA Warakurna 31.87 132 P P 18 07 30.9 -2.3
baz=32,SNR=21
H01W3 Cape Leeuwin H 31.97 162 T T 18 41 20.6
baz=339,slow=76,SNR=141
H01W2 Cape Leeuwin H 31.99 162 T T 18 41 21.8
baz=339,slow=76,SNR=109
H01W1 Cape Leeuwin H 31.99 162 T T 18 41 21.7
baz=339,slow=76,SNR=99
KMBL Kambalda 32.16 148 P P 18 07 34.3 -1.4
baz=32,SNR=8.8
WRA Warramunga Arr 34.32 119 P P 18 07 54.5 -0.1
comp=Z,26nm,0.8s,baz=308,slow=9.6,SNR=200
WRA PcP **PcP** 18 10 29.9 +0.5
comp=Z,4.3nm,0.8s,baz=298,slow=2.7,SNR=5.2
WRA S **S** 18 13 13.7 -3.2
comp=Z,2.3nm,0.8s,baz=294,slow=15,SNR=5.3
WRA P3KPbc 18 38 57.2
comp=Z,1.0nm,0.7s,baz=107,slow=4.5,SNR=12
WRA Warramunga Arr 34.32 119 *i*P P 18 07 54.0 -0.6
WRA pmax pmax
comp=Z,21nm,0.7s
WR1 Warramunga Arr 34.32 119 *e*P P 18 07 54.5 -0.1
comp=Z,38nm,0.8s
WR1 *e*PcP **PcP** 18 10 29.9 +0.5
WR1 *e*S **S** 18 13 13.7 -3.1
WR1 *e* 18 38 57.2
WRAB Tennant Creek 34.33 119 *e*P P 18 07 54.3 -0.4
comp=Z,44nm,0.8s
WRAB Tennant Creek 34.33 119 *c i*P P 18 07 53.9 -0.8
WRAB pmax pmax
comp=Z,49nm,0.8s
WB2 Warramunga Arr 34.33 119 *e*P P 18 07 54.0 -0.8
ODAN Odare 34.59 335 *e*P P 18 07 57.0 0.0
RAMN Ramite 35.00 334 *e*P P 18 08 00.8 +0.2
ENH Enshi 35.20 10 *e*P P 18 08 02.0 0.0
comp=Z,32nm,0.8s
CD2 Chengdu 35.26 1 P P 18 08 04.0 +1.5
CD2 S **S** 18 13 34.1 +3.1
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,740nm,15.7s
CD2 LR LR
comp=Z,770nm,17.2s
CD2 LR LR
comp=Z,820nm,17.6s
ASAR Alice Springs 35.52 125 P P 18 08 05.1 +0.2
comp=Z,15nm,0.7s,baz=298,slow=7.8,SNR=218
ASAR PcP **PcP** 18 10 33.5 +0.7
comp=Z,6.7nm,0.7s,baz=309,slow=2.3,SNR=12
ASAR S **S** 18 13 33.3 -1.9
comp=Z,1.5nm,0.8s,baz=301,slow=18,SNR=7.7
ASAR ScP **ScP** 18 14 13.7 +1.4
comp=Z,2.5nm,1.1s,baz=286,slow=3.4,SNR=5.3
ASAR LR LR 18 24 14.7
comp=Z,75nm,19.9s,baz=292,slow=39
ASAR P3KPbc 18 38 50.4
comp=Z,0.4nm,0.7s,baz=111,slow=3.2,SNR=7.5
ASAR Alice Springs 35.52 125 P P 18 08 05.1 +0.2
ASAR 18 10 33.6
ASAR S **S** 18 13 33.3 -1.9
ASAR pmax pmax
comp=Z,17nm,0.8s
ASAR smax smax
comp=N,2.0nm,0.8s
ASAR MLR MLR
comp=Z,75nm,19.9s
AS31 Alice Springs 35.52 125 *e*P P 18 08 05.2 +0.3
comp=Z,9.4nm,0.4s
AS31 *e*PcP **PcP** 18 10 33.5 +0.7
AS31 *e*S **S** 18 13 33.3 -1.9
AS31 *e*ScP **ScP** 18 14 13.7 +1.4
AS31 *e* 18 24 14.7
AS31 *e* 18 38 50.4
AS01 Alice Springs 35.55 125 *e*P P 18 08 04.5 -0.7
JIRN Jiri 35.80 334 *e*P P 18 08 07.8 +0.2
comp=Z,235nm,0.9s
LSA Lhasa 35.83 343 *e*P P 18 08 07.9 0.0
comp=Z,17nm,0.9s
LSA Lhasa 35.83 343 P P 18 08 08.3 +0.4
LSA Lhasa 35.83 343 *e*P P 18 08 07.9 0.0
LSA pmax pmax
comp=Z,17nm,0.9s
PKI Pulchoki 36.06 333 *e*P P 18 08 09.6 -0.2
PKIN Phulchoki 36.07 333 *e*P P 18 08 09.4 -0.5
comp=Z,25nm,0.5s
GUN Gumba 36.15 334 *e*P P 18 08 10.8 +0.2
comp=Z,87nm,0.4s
DMN Daman 36.23 333 *e*P P 18 08 11.2 0.0
KKN Kakani 36.31 333 *e*P P 18 08 11.8 0.0
comp=Z,68nm,0.5s
POO Poona 36.59 310 *ex* P 18 08 14.0 -0.1
WHN Wuhan 36.59 17 P P 18 08 14.8 +0.9
WHN S **S** 18 13 53.4 +2.2
WHN LR LR
comp=Z,820nm,25.0s
GKN Gorkha 36.78 333 *e*P P 18 08 15.9 +0.1
comp=Z,1.7nm,0.4s
KOLN Koldanda 37.08 331 *e*P P 18 08 18.7 +0.4
comp=Z,254nm,0.9s
DANN Dangsing 37.48 332 *e*P P 18 08 22.1 +0.2
comp=Z,379nm,0.9s
PYUN Piuthan 37.65 331 *e*P P 18 08 23.5 +0.4
comp=Z,255nm,0.9s
JAY Jayapura 37.89 88 LR LR 18 26 20.6
comp=Z,64nm,20.3s,baz=294,slow=40
XAN Xi'an 38.80 8 P P 18 08 32.4 -0.1
XAN pP pP 18 08 50.9 +0.1
XAN PP **PnPn** 18 10 07.8 +2.0
XAN S **S** 18 14 24.3 -0.5
XAN pmax pmax
comp=Z,66nm,0.9s
XAN pmax pmax
comp=Z,80nm,3.6s
XAN LR LR
comp=Z,240nm,14.1s
XAN LR LR
comp=Z,100nm,15.5s
XAN LR LR
comp=Z,240nm,17.2s
QIS Mount Isa 39.16 117 P P 18 08 35.7 -0.1
baz=39,SNR=32
NJ2 Nanjing 39.47 22 *e*P P 18 08 38.6 +0.6
NJ2 pmax pmax
comp=Z,4.0nm,0.6s
LZH Lanzhou 40.42 1 *e*P P 18 08 46.9 +0.8
LZH pP pP 18 09 04.5 0.0
LZH sP sP 18 09 12.0 -1.2
LZH PcP **PcP** 18 10 49.5 +1.6
LZH pmax pmax
comp=Z,23nm,1.0s
LZH LR LR
comp=Z,390nm,13.6s
LZH LR LR
comp=Z,290nm,14.9s
LZH LR LR
comp=Z,400nm,16.0s
COEN Coen 40.88 106 P P 18 08 48.7 -1.3
baz=41,SNR=9.7
COEN Coen 40.88 106 *e*P P 18 08 48.6 -1.5
comp=Z,13nm,0.8s
NDI New Delhi 41.19 325 *e*P P 18 08 53.0 +0.7
BBOO Buckleboo 41.90 136 P P 18 08 58.7 +0.6
baz=42,SNR=10
MTSU Mount Surprise 42.77 112 P P 18 09 05.6 +0.1
baz=43,SNR=55
GTA Gaotai 43.81 357 *e*P P 18 09 14.0 +0.4
GTA pP pP 18 09 32.3 +0.1
GTA sP sP 18 09 41.3 +0.4
GTA PcP **PcP** 18 10 59.8 +0.8
GTA S **S** 18 15 39.3 +0.3
GTA sS sS 18 16 11.5 +0.7
GTA SS **SS** 18 18 52.3 -5.5
GTA pmax pmax
comp=Z,23nm,0.8s
GTA pmax pmax
comp=Z,140nm,7.2s
GTA LR LR
comp=Z,250nm,18.9s
GTA LR LR
comp=Z,170nm,16.8s
GTA LR LR
comp=Z,360nm,17.5s
HTT Hallett 44.24 135 P P 18 09 18.0 +0.9
baz=44,SNR=23
PMG Port Moresby 44.28 99 LR LR 18 30 15.6
comp=Z,92nm,19.5s,baz=288,slow=39
PMG Port Moresby 44.28 99 *e*P P 18 09 16.0 -1.6
comp=Z,27nm,0.8s
PMG *e* 18 30 15.6
PMG Port Moresby 44.28 99 *e*P P 18 09 16.0 -1.6
PMG pmax pmax
comp=Z,27nm,0.8s
CTAO Charters Tower 45.01 114 *e*P P 18 09 23.7 +0.3
comp=Z,90nm,0.8s
CTAO Charters Tower 45.01 114 *e*P P 18 09 23.7 +0.3
CTAO pmax pmax
comp=Z,90nm,0.8s
STKA Stephens Creek 45.39 132 P P 18 09 27.0 +0.8
comp=Z,79nm,0.7s,baz=304,slow=7.7,SNR=176
STKA PcP **PcP** 18 11 05.6 +1.1
comp=Z,5.7nm,0.6s,baz=338,slow=5.5,SNR=3.2
STKA LR LR 18 31 08.6
comp=Z,41nm,20.1s,baz=257,slow=40
STKA Stephens Creek 45.39 132 P P 18 09 27.1 +0.8
baz=45,SNR=80
STKA Stephens Creek 45.39 132 *e*P P 18 09 26.9 +0.8
comp=Z,17nm,0.6s
STKA *e*PcP **PcP** 18 11 05.6 +1.1
STKA *e* 18 31 08.6
BTO Baotou 45.41 8 *e*P P 18 09 27.0 +0.7
GUMO Guam 45.48 66 LR LR 18 29 26.4
comp=Z,23nm,20.4s,baz=278,slow=37
HHC Hu-ho-hao-te 45.88 9 *e*P P 18 09 33.4 +3.4
HHC pmax pmax
comp=Z,30nm,0.8s
HHC pmax pmax
comp=Z,68nm,5.2s
JNU Nakatsue 45.94 33 *e*P P 18 09 30.5 0.0
comp=Z,26nm,0.9s
BJT Baijiatuao 46.01 14 *e*P P 18 09 30.9 0.0
comp=Z,32nm,0.7s
BJT Baijiatuao 46.01 14 *e*P P 18 09 30.9 0.0
BJT pmax pmax
comp=Z,32nm,0.7s
BJI Beijing 46.03 14⇓ *i*P P 18 09 31.6 +0.5
BJI pmax pmax
comp=Z,31nm,0.7s
NIL Nilore 47.15 326 *e*P P 18 09 39.7 -0.3
comp=Z,58nm,0.7s
NIL Nilore 47.15 326 *e*P P 18 09 39.7 -0.3
NIL pmax pmax
comp=Z,58nm,0.7s
KS15 Wonju Array Si 47.85 27 *e*P P 18 09 45.6 +0.3
KSAR Wonju Array Be 47.85 27 P P 18 09 45.6 +0.3
KSAR PcP **PcP** 18 11 12.9 0.0
KSAR Wonju Array Be 47.85 27 P P 18 09 45.6 +0.3
KSAR 18 11 13.0
KSRS Korea Array 47.88 27 P P 18 09 45.6 +0.1
comp=Z,6.7nm,0.7s,baz=230,slow=7.3,SNR=20
KSRS PcP **PcP** 18 11 12.9 -0.1
comp=Z,4.7nm,0.9s,baz=230,slow=3.4,SNR=8.4
KSRS LR LR 18 30 07.0
comp=Z,42nm,19.5s,baz=210,slow=36
KSRS Korea Array 47.88 27 P P 18 09 45.6 +0.1
KSRS 18 11 13.0
KSRS pmax pmax
comp=Z,6.0nm,0.7s
KSRS MLR MLR
comp=Z,43nm,19.5s
KS01 Wonju Array Si 47.89 27 *e*P P 18 09 44.3 -1.3
ARPS Mount Arapiles 48.05 137 P P 18 09 46.5 -0.4
baz=48,SNR=5.8
CMSA Cobar Meteorol 48.36 129 P P 18 09 50.3 +1.0
baz=48,SNR=80
RMQ Roma 49.01 121 P P 18 09 53.9 -0.6
baz=49,SNR=15
CBIJ Chichi jima 49.36 48 *e*P P 18 09 53.8 -3.3
comp=Z,86nm,1.1s
JCJ Chichijima 49.36 48 LR LR 18 30 44.6
comp=Z,43nm,21.3s,baz=274,slow=36
WMQ Urumqi 50.02 346 P P 18 10 02.8 +0.9
WMQ pP pP 18 10 22.6 +1.7
WMQ pmax pmax
comp=Z,220nm,1.1s
WMQ pmax pmax
comp=Z,260nm,3.7s
WMQ LR LR
comp=Z,98nm,20.1s
WMQ LR LR
comp=Z,130nm,18.7s
KBL Kabul 50.22 323 P P 18 10 03.8 +0.1
KBL pmax pmax
comp=Z,15nm,0.6s
KSH Kashi 50.33 333 P P 18 10 02.9 -1.5
KSH pP pP 18 10 21.1 -2.2
KSH PP **PP** 18 11 59.4 -1.2
KSH S **S** 18 17 05.3 -6.5
KSH SS **SS** 18 20 40.0 -6.5
KSH pmax pmax
comp=Z,69nm,0.7s
KSH pmax pmax
comp=Z,290nm,4.5s
KSH LR LR
comp=Z,200nm,5.9s
KSH LR LR
comp=Z,180nm,6.3s
KSH LR LR
comp=Z,250nm,7.4s
EIDS Eidsvold 50.69 119 P P 18 10 06.2 -1.0
baz=51,SNR=4.0
JHJ Hachijo jima 2 51.28 40 LR LR 18 34 43.5
comp=Z,18nm,19.2s,baz=228,slow=39
YNG Young 51.58 131 P P 18 10 15.2 +1.4
baz=52,SNR=13
PRZ Przheval'sk 51.78 337 *e*P P 18 10 15.3 +0.1
comp=Z,31nm,0.8s
PRZ Przheval'sk 51.78 337 *e*P P 18 10 15.3 +0.1
PRZ pmax pmax
comp=Z,31nm,0.8s
SFK Sufi-Kurgan 51.87 331 P P 18 10 16.4 +0.3
SFK pmax pmax
comp=Z,38nm,1.2s
NRN Naryn 51.88 334 *e*P P 18 10 16.0 -0.2
comp=Z,27nm,0.9s
NRN Naryn 51.88 334 *e*P P 18 10 16.0 -0.2
NRN pmax pmax
comp=Z,27nm,0.9s
KDJ Kajisay 51.96 336 *e*P P 18 10 18.2 +1.6
comp=Z,67nm,0.8s
KDJ Kajisay 51.96 336 *e*P P 18 10 18.2 +1.6
KDJ pmax pmax
comp=Z,67nm,0.8s
PDGK Podgornoye 52.09 339 P P 18 10 17.5 0.0
PDGK pmax pmax
comp=Z,72nm,1.0s
SONA0 Songino Array 52.25 3 *e*P P 18 10 19.2 +0.6
SONA0 *e*PcP **PcP** 18 11 29.1 0.0
SONA0 *e* 18 34 55.5
SONM Songino Array 52.25 3 P P 18 10 19.2 +0.6
comp=Z,73nm,0.7s,baz=182,slow=9.3,SNR=546
SONM PcP **PcP** 18 11 29.1 0.0
comp=Z,9.5nm,0.6s,baz=186,slow=4.2,SNR=7.7
SONM LR LR 18 34 55.5
comp=Z,86nm,19.8s,baz=184,slow=39
SONA1 Songino Array 52.26 3 *e*P P 18 10 19.1 +0.5
CN2 Changchun 52.27 21 *e*P P 18 10 17.5 -1.1
CN2 *es*P sP 18 10 45.3 -1.0
CN2 *e*S **S** 18 17 40.4 +2.3
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,200nm,17.0s
ULN Ulaanbaatar 52.31 4 *e*P P 18 10 19.6 +0.5

comp=Z,31nm,0.8s
ULN Ulaanbaatar 52.31 4 P **P 18 10 19.6 +0.5**
SNR=10
ULN Ulaanbaatar 52.31 4*c i*P **P 18 10 19.5 +0.5**
ULN pmax pmax
comp=Z,42nm,1.0s
CAN Canberra 52.45 132 *e*P **P 18 10 21.2 +1.0**
comp=Z,12nm,0.8s
MAJO Matsushiro 52.58 36 *e*P **P 18 10 19.5 -1.6**
comp=Z,15nm,0.9s
MAJO *e*PcP **PcP 18 11 30.6 +0.2**
MAJO *e*PKKPdf PKKPdf 18 33 18.4 +48
MAJO Matsushiro 52.58 36 *i* P **P 18 10 19.6 -1.5**
MAJO pmax pmax
comp=Z,15nm,1.0s
MAT Matsushiro 52.58 36 P **P 18 10 19.0 -2.1**
MAT *e*S **S 18 17 47.2 +4.6**
MJAR Matsushiro Arr 52.58 36 P **P 18 10 19.8 -1.2**
comp=Z,14nm,0.8s,baz=220,slow=7.9,SNR=46
MJAR PcP **PcP 18 11 30.6 +0.2**
comp=Z,4.6nm,0.8s,baz=209,slow=5.5,SNR=5.6
MJAR LR LR 18 33 18.4
comp=Z,41nm,20.1s,baz=205,slow=37
MJB9 Matsu-Tunnel 52.58 36 *e*P **P 18 10 19.5 -1.6**
comp=Z,15nm,0.9s
ARMA Armidale 52.67 125 P **P 18 10 20.5 -1.6**
baz=53,SNR=7.2
KZA Kyzart 52.73 334 P **P 18 10 22.9 +0.3**
SNR=19
UCH Uchtor 53.17 334 P **P 18 10 25.9 +0.1**
SNR=17
BTK Batken 53.22 330 P **P 18 10 26.0 +0.1**
BTK pmax pmax
comp=Z,13nm,0.7s
MGCD Mangrove Creek 53.23 129 P **P 18 10 26.5 +0.5**
baz=53,SNR=4.3
TKM2 Tokmak 2 53.27 335 P **P 18 10 26.3 -0.1**
SNR=56
KBK Karagaybulak 53.33 335 P **P 18 10 27.2 +0.5**
SNR=27
AML Almayashu 53.46 333 P **P 18 10 28.0 +0.1**
SNR=29
AAK Ala-Archa 53.51 334 P **P 18 10 28.3 +0.3**
SNR=9.2
AAK Ala-Archa 53.51 334 *e*P **P 18 10 28.2 +0.3**
comp=Z,8.2nm,0.8s
AAK Ala-Archa 53.51 334 P **P 18 10 28.3 +0.3**
SNR=7.3
AAK Ala-Archa 53.51 334 *i* P **P 18 10 28.2 +0.2**
SNR=15
AAK Ala-Archa 53.51 334*c i*P **P 18 10 27.4 -0.6**
AAK pmax pmax
comp=Z,12nm,1.2s
FRU1 Bishkek 53.59 334 *e*P **P 18 10 28.7 +0.2**
comp=Z,31nm,0.8s
FRU1 Bishkek 53.59 334 *e*P **P 18 10 28.7 +0.2**
FRU1 pmax pmax
comp=Z,31nm,0.8s
FRU Bishkek 53.62 334 *e*P **P 18 10 27.0 -1.6**
FRU *e* 18 10 53.0
FRU pmax pmax
comp=Z,50nm,1.2s
CHMS Chumysh 53.69 335 P **P 18 10 28.7 -0.5**
SNR=9.6
EKS2 Erkin-Say 53.84 334 P **P 18 10 30.7 +0.3**
SNR=61
ALNE Al Ain 53.90 304 *i* P **P 18 10 32.9 +1.9**
SNR=8.7
UOSS Minazif 53.92 305 P **P 18 10 32.4 +1.3**
ASHO Ashiyiah 53.92 305 P **P 18 10 31.4 +0.2**
HATD Hatta, Dubai 53.92 305 P **P 18 10 32.9 +1.7**
MDH Madha 54.00 306 P **P 18 10 31.0 -0.7**
USP Ospenovka 54.02 335 P **P 18 10 31.3 -0.3**
SNR=17
MSFE Esma-Masafi 54.14 306 P **P 18 10 34.6 +1.9**
MK32 Makanchi Array 54.23 343 *e*P **P 18 10 32.6 -0.4**
MK32 *e* 18 38 59.1
MKAR Makanchi Array 54.23 343 P **P 18 10 32.6 -0.4**
comp=Z,63nm,0.7s,baz=145,slow=7.9,SNR=377
MKAR LR LR 18 38 59.1
comp=Z,44nm,18.9s,baz=152,slow=42
MKAR Makanchi Array 54.23 343 *e*P **P 18 10 32.7 -0.4**
comp=Z,359nm,0.8s
MKAR Makanchi Array 54.23 343*ce*P **P 18 10 32.5 -0.6**
MKAR pmax pmax
comp=Z,63nm,0.7s
FAQ Al Faqa, Dubai 54.33 305 *i* P **P 18 10 35.5 +1.4**
SNR=11
ASUD Al Ashush, Dub 54.49 305 P **P 18 10 37.1 +1.8**
MDJ Mudanjiang 54.51 23 *e*P **P 18 10 34.5 -0.6**
comp=Z,14nm,1.0s
ZAK Zakamensk 54.70 0 *e*P **P 18 10 35.3 -1.1**
ZAK *e* 18 11 38.2
ZAK pmax pmax
comp=Z,15nm,0.9s
KNGR Kungurtug, Tuv 55.11 356 *i* P **P 18 10 39.2 -0.2**
USA0B Ussuriysk Arra 55.16 25 *e*P **P 18 10 39.4 -0.3**
comp=Z,37nm,0.8s
USRK Ussuriysk Ar. 55.16 25 P **P 18 10 39.4 -0.3**
comp=Z,33nm,0.7s,baz=218,slow=5.8,SNR=58
USRK LR LR 18 36 05.2
comp=Z,49nm,18.2s,baz=215,slow=38
MZR Muzera 55.37 302 *i* P **P 18 10 43.8 +2.1**
SNR=8.6
HIA Hailar 55.58 13 *e*P **P 18 10 42.0 -0.7**
comp=Z,22nm,0.8s
HIA Hailar 55.58 13 *e*P **P 18 10 42.0 -0.7**
HIA pmax pmax
comp=Z,22nm,0.8s
DGZ Jazzator, Alta 55.64 348*c i*P **P 18 10 43.5 +0.2**
DGZ pmax pmax
comp=Z,61nm,0.9s
KKAR Karatay Array 55.68 332 *e*P **P 18 10 42.5 -1.1**
KKAR Karatay Array 55.68 332 *e*P **P 18 10 42.5 -1.1**
HVS Khovu-Aksy 56.00 353*c i*P **P 18 10 45.3 -0.5**
HVS pmax pmax
comp=Z,18nm,1.0s
TLY Talaya 56.00 1 LR LR 18 36 15.5
comp=Z,75nm,19.4s,baz=168,slow=38
TLY Talaya 56.00 1 *e*P **P 18 10 46.6 +0.9**
comp=Z,32nm,0.8s
TLY *e*PKKSdf PKKSdf 18 36 15.5 +12
TLY Talaya 56.00 1*c i*P **P 18 10 46.1 +0.4**
TLY pmax pmax
comp=Z,28nm,0.8s
MOY Mondy 56.01 359 *e*P **P 18 10 46.2 +0.4**
KURK Kurchatov 58.83 342 *e*P **P 18 11 05.0 -0.5**
comp=Z,60nm,0.8s
KURK Kurchatov 58.83 342 P **P 18 11 05.5 -0.1**
SNR=22
KURK Kurchatov 58.83 342*c i*P **P 18 11 05.0 -0.5**
KURK pmax pmax
comp=Z,85nm,1.0s
KLR Kul'dur 59.17 22 LR LR 18 37 01.0
comp=Z,116nm,21.6s,baz=220,slow=36
KLR Kul'dur 59.17 22*c i*P **P 18 11 07.1 -0.8**
GEYT Alibeck 59.17 320 P **P 18 11 07.9 -0.3**
comp=Z,10nm,0.8s,baz=176,slow=4.5,SNR=34
GEYT LR LR 18 38 22.2
comp=Z,35nm,21.9s,baz=5.0,slow=38
GYA0B ALIBECK ARRAY 59.17 320 *e*P **P 18 11 08.2 0.0**
comp=Z,16nm,0.8s
ZAA0 Zalesovo Array 60.19 348 *e*P **P 18 11 14.3 -0.6**
comp=Z,122nm,0.8s
ZALV Zalesovo Beam 60.19 348 P **P 18 11 14.2 -0.6**
comp=Z,131nm,0.8s,baz=165,slow=4.8,SNR=347
ZALV LR LR 18 40 14.2
comp=Z,155nm,20.9s,baz=68,slow=39
ZAA1 Zalesovo Array 60.19 348 *e*P **P 18 11 14.2 -0.7**
ZAA1 *e* 18 40 14.2
NVS Novosibirsk 61.36 347 *i*P **P 18 11 22.0 -0.8**
NVS *e*S **S 18 19 35.1 -2.4**
NVS pmax pmax
comp=N,16nm,1.0s
NVS pmax pmax
comp=E,13nm,1.0s
NVS pmax pmax
comp=Z,27nm,1.0s
NVS smax smax
comp=N,14nm,2.1s
NVS smax smax
comp=E,17nm,2.1s
ZEA Zeya 61.58 16 *e*P **P 18 11 24.2 -0.1**
ZEA pmax pmax
comp=E,31nm,0.8s
ZEA pmax pmax
comp=N,47nm,1.0s
ZEA pmax pmax
comp=Z,70nm,0.9s
YSS Yuzh-Sakhalins 62.21 30 *e*P **P 18 11 28.5 -0.1**
comp=Z,40nm,0.8s
YSS Yuzh-Sakhalins 62.21 30 *e*P **P 18 11 28.2 -0.4**
YSS pmax pmax
comp=Z,40nm,0.8s
RAYN Ar Rayn 62.40 299 *e*P **P 18 11 31.4 +0.9**
comp=Z,12nm,0.9s
RAYN Ar Rayn 62.40 299 *i* P **P 18 11 31.4 +0.9**
SNR=17
RAYN Ar Rayn 62.40 299 *e*P **P 18 11 31.4 +0.9**
RAYN pmax pmax
comp=Z,12nm,0.9s
BOD Bodaibo 62.81 7 *i*P **P 18 11 31.6 -0.8**
BOD pmax pmax
comp=Z,36nm,0.9s
BRVK Borovoye 63.59 339 *e*P **P 18 11 36.8 -0.9**
comp=Z,21nm,0.8s
BRVK Borovoye 63.59 339 P **P 18 11 37.0 -0.7**
SNR=5.8
BRVK Borovoye 63.59 339*ce*P **P 18 11 36.8 -0.9**
BRVK pmax pmax
comp=Z,15nm,0.6s
DZM Mont Dzumac 63.91 112 LR LR 18 38 23.8
comp=Z,32nm,21.8s,baz=212,slow=35
DZM Mont Dzumac 63.91 112 *e*P **P 18 11 40.4 -0.2**
comp=Z,14nm,0.8s
DZM *e* 18 38 23.8
ABKAR Akbulak array 65.20 331 *e*P **P 18 11 47.6 -0.6**
KMBO Kilima Mbogo 65.53 271 P **P 18 11 52.2 +0.8**
comp=Z,2.6nm,0.8s,baz=54,slow=9.0,SNR=6.8
KMBO Kilima Mbogo 65.53 271 P **P 18 11 52.7 +1.2**
KMBO Kilima Mbogo 65.53 271 *i* P **P 18 11 52.9 +1.5**
KMBO pmax pmax
comp=Z,3.0nm,0.8s
MAW Mawson 68.56 195 P **P 18 12 11.5 +2.2**
comp=Z,2.5nm,0.8s,baz=0.0,slow=9.1,SNR=3.5
MAW LR LR 18 35 55.1
comp=Z,176nm,21.6s,baz=22,slow=30
GNI Garni 69.28 316 *e*P **P 18 12 14.9 +0.4**
comp=Z,74nm,0.8s
GNI Garni 69.28 316 P **P 18 12 14.8 +0.4**
GNI Garni 69.28 316*ce*P **P 18 12 14.5 0.0**
GNI pmax pmax
comp=Z,45nm,1.0s
GROC Groznyy 69.91 319 *e*P **P 18 12 16.8 -1.3**
GROC *e* 18 12 38.5
GROC *e*S **S 18 21 23.3 +1.0**
GROC pmax pmax
comp=Z,38nm,0.8s
SVE Sverdlovsk 70.08 337 *e*P **P 18 12 19.1 +0.2**
SVE pmax pmax
comp=Z,43nm,1.1s
AKH Akhalkalaki 70.67 317 *i*P **P 18 12 24.4 +1.4**
AKH Akhalkalaki 70.67 317 P **P 18 12 24.3 +1.3**
ZEI Tsey 70.98 318 *e*P P 18 12 18.4 -6.5
ZEI pmax pmax
comp=Z,14nm,0.8s
NCK Nalchik 71.48 319 *i* P **P 18 12 27.7 0.0**
NCK pmax pmax
comp=Z,17nm,0.9s
NEY Neytrino 71.95 318 *i* P **P 18 12 30.6 -0.1**
NEY pmax pmax
comp=Z,3.0nm,0.7s
KBZ Khabaz 72.04 319 P **P 18 12 31.1 +0.2**
comp=Z,17nm,0.8s,baz=120,slow=5.0,SNR=28
MBAR Mbarara 72.06 271 *i* P **P 18 12 31.8 -0.2**
KIV Kislovodsk 72.27 319 *e*P **P 18 12 32.0 -0.5**
comp=Z,17nm,0.9s
KIV Kislovodsk 72.27 319 P **P 18 12 32.1 -0.4**
KIV Kislovodsk 72.27 319 *e*P **P 18 12 31.9 -0.6**
KIV pmax pmax
comp=Z,17nm,1.1s
KIV MLR MLR
comp=Z,27nm,18.0s
PETK Petropavlovsk- 73.57 31 P **P 18 12 38.4 -1.5**
comp=Z,3.6nm,0.7s,baz=248,slow=1.3,SNR=6.2
PETK LR LR 18 46 14.7
comp=Z,26nm,20.0s,baz=229,slow=37
PEA1 Petropavlovsk- 73.57 31 *e*P **P 18 12 38.4 -1.5**
PEA1 *e* 18 46 14.7
LSZ Lusaka 73.98 255 *e*P **P 18 12 43.5 +0.3**
comp=Z,3.9nm,1.1s
LSZ Lusaka 73.98 255 *e*P **P 18 12 43.5 +0.3**
LSZ pmax pmax
comp=Z,4.0nm,1.1s
NRIK Noril'sk 74.46 354 P **P 18 12 44.1 -0.6**
comp=Z,18nm,0.8s,baz=163,slow=5.1,SNR=11
NRIK LR LR 18 47 46.1
comp=Z,69nm,20.2s,baz=199,slow=38
BKZ Black Stump Fm 74.52 129 *e*P **P 18 12 46.0 +0.2**
comp=Z,39nm,0.9s
VRH Novokhopyorsk 75.98 325 *e*P **P 18 12 53.3 -0.5**
VRH pmax pmax
comp=Z,30nm,0.7s
ANN Anapa 76.07 318 *e*P P 18 12 49.4 -5.0
ANN *e**PP **PcP 18 13 06.7 +0.3**
ANN *e*S **S 18 22 27.4 -4.7**
ANN *e*SS **SS 18 27 24.5 -2.3**
ANN pmax pmax
comp=Z,58nm,1.5s
SYO Syowa Base 76.39 199 *i e*PcP **PcP 18 13 10.0 +2.7**
BOSA Boshof 76.91 242 P **P 18 13 01.0 +1.3**
comp=Z,5.7nm,0.8s,baz=66,slow=4.6,SNR=7.0
BOSA LR LR 18 40 42.8
comp=Z,146nm,18.1s,baz=59,slow=31
SEY Seymchan 76.95 21 P **P 18 12 59.1 +0.1**
comp=Z,5.5nm,0.7s,baz=234,slow=6.6,SNR=8.3
BR101 Keskin Array S 77.08 312 *e*P **P 18 13 00.4 -0.1**
BR101 *e* 18 50 10.6
BR131 Keskin Array S 77.08 312 *e*P **P 18 13 00.5 -0.1**
BR131 Keskin Array S 77.08 312 P **P 18 12 60.0 -0.5**
SNR=5.5
BRTR Keskin Array B 77.08 312 P **P 18 13 00.4 -0.1**
comp=Z,14nm,0.8s,baz=132,slow=7.4,SNR=78
BRTR LR LR 18 50 10.6
comp=Z,19nm,18.5s,baz=105,slow=38
VORD Divnogorie 77.27 325 *e*P **P 18 13 00.1 -0.9**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 77.44 325 *e*P **P 18 13 01.2 -0.8**
VSR pmax pmax
comp=Z,30nm,0.8s
LPSR Galich'ya Gora 78.14 326 *e*P **P 18 13 05.7 -0.2**
LPSR pmax pmax
comp=Z,20nm,0.7s
VNDA Vanda 79.15 169 P **P 18 13 11.6 +0.5**
comp=Z,3.2nm,1.0s,baz=305,slow=4.7,SNR=11
VNDA LR LR 18 43 05.5
comp=Z,70nm,21.6s,baz=308,slow=32
VNDA Vanda 79.15 169 *e*P **P 18 13 12.1 +1.0**
VNDA Vanda 79.15 169 *e*P **P 18 13 12.1 +1.0**
MOS Moscow 80.10 329 *e*P **P 18 13 15.2 -1.3**
MOS pmax pmax
comp=Z,38nm,0.7s
OBN Obninsk 80.41 328*ce*P **P 18 13 16.7 -1.5**
OBN *e* 18 13 33.4
OBN pmax pmax
comp=Z,16nm,0.6s
KLMR Klimovskoe 81.32 334 *e*P **P 18 13 20.6 -2.3**
KLMR pmax pmax
comp=Z,22nm,1.1s
KLMR Klimovskoe 81.32 334 *e*P **P 18 13 20.7 -2.2**
KLMR AMP 18 13 24.8
comp=Z,22nm,1.1s
CFR Carcaliu 82.47 317 *i*P **P 18 13 29.9 +0.6**
CFR Carcaliu 82.47 317 P **P 18 13 29.9 +0.6**
HARR Harsova 82.50 316 *i*P **P 18 13 30.8 +1.3**
HARR Harsova 82.50 316 P **P 18 13 30.7 +1.3**
LEOM Leova 82.72 318 *i*P **P 18 13 31.9 +1.4**
LEOM Leova 82.72 318 P **P 18 13 31.9 +1.4**
AKASG Malin Array Be 83.18 322 P **P 18 13 32.5 -0.3**
comp=Z,6.5nm,0.7s,baz=86,slow=4.9,SNR=22
AKBB Malin Array Si 83.18 322 *e*P **P 18 13 32.6 -0.3**
comp=Z,11nm,0.8s
AKBB Malin Array Si 83.18 322 *e*P **P 18 13 32.6 -0.3**
AKBB pmax pmax
comp=Z,11nm,0.8s
KIEV Kiev 83.19 322 *i* P **P 18 13 32.4 -0.5**
SNR=6.2
KIEV Kiev 83.19 322 *i* P **P 18 13 32.2 -0.7**
KIEV pmax pmax
comp=Z,10.0nm,0.9s
VRI Vrincioaia 83.60 317 *i*P **P 18 13 36.0 +0.8**
VRI Vrincioaia 83.60 317 P **P 18 13 36.0 +0.8**
PLOR Plostina 83.65 317 *i*P **P 18 13 37.2 +1.8**
PLOR Plostina 83.65 317 P **P 18 13 37.1 +1.7**
MLR Muntele Rosu 84.05 316 *e*P **P 18 13 38.4 +0.8**
comp=Z,40nm,1.1s
MLR Muntele Rosu 84.05 316 *i*P **P 18 13 38.4 +0.8**
MLR Muntele Rosu 84.05 316 *e*P **P 18 13 38.4 +0.8**
MLR pmax pmax
comp=Z,40nm,1.1s
BIZ Bicaz 84.26 318 *i*P **P 18 13 39.4 +0.9**
PRAR RASCA 84.27 318 *i*P **P 18 13 39.8 +1.3**
AFI Afiamalu 84.50 103 P **P 18 13 41.8 +1.4**
comp=Z,21nm,0.8s,baz=349,slow=4.3,SNR=4.5
HUMR Humele 84.51 315 *i*P **P 18 13 40.9 +1.1**
DOPR Dopca 84.53 317 *i*P **P 18 13 40.6 +0.7**
BILL Bilíbino 84.57 20 *i* P **P 18 13 38.7 -0.9**
BILL pmax pmax
comp=Z,4.0nm,1.1s
VOIR 84.65 316 *i*P **P 18 13 41.1 +0.4**
VOIR 84.65 316 P **P 18 13 41.0 +0.4**
BURAR Bucovina Array 85.00 318 *i*P **P 18 13 43.6 +1.3**
BURAR Bucovina Array 85.00 318 P **P 18 13 43.6 +1.3**
BUR04 Bucovina Ar. S 85.00 318 *e*P **P 18 13 43.6 +1.3**
BUR08 Bucovina Ar. S 85.01 318 *e*P **P 18 13 43.6 +1.2**
VTS Vitosha 85.41 313 *e*P **P 18 13 44.9 +0.4**
comp=Z,13nm,0.8s
VTS Vitosha 85.41 313 *i*P **P 18 13 45.0 +0.4**
VTS Vitosha 85.41 313 P **P 18 13 44.9 +0.4**
VTS pmax pmax
comp=Z,13nm,0.8s
ARCR ARCALIA 85.46 318 *i*P **P 18 13 46.2 +1.7**
LIT Litokhoron 85.50 311 *e*P **P 18 13 44.6 -0.3**
comp=Z,31nm,0.8s
LIT Litokhoron 85.50 311 *e*P **P 18 13 44.6 -0.3**
LIT pmax pmax
comp=Z,31nm,0.8s
HERR Herculane 86.38 315 *i*P **P 18 13 50.1 +1.0**
DRGR 86.51 317 *i*P **P 18 13 50.8 +1.0**
DRGR 86.51 317 P **P 18 13 50.7 +1.0**
MDVR Moldovita 86.85 315 *i*P **P 18 13 52.6 +1.1**
TRPA Tarpa 86.86 319 *i*P **P 18 13 52.3 +0.9**
TRPA Tarpa 86.86 319 *e*P **P 18 13 52.6 +1.2**
BZS Buzias 87.06 316 *i*P **P 18 13 53.1 +0.7**
BZS Buzias 87.06 316 P **P 18 13 53.0 +0.7**
SUW Suwalki 87.56 324 *e*P **P 18 13 55.2 +0.7**
SUW Suwalki 87.56 324 *e*P **P 18 13 55.2 +0.7**
FIA0 FINESS Array S 87.64 332 *e*P **P 18 13 55.0 +0.2**
FIA0 FINESS Array S 87.64 332 *e*P **P 18 13 55.0 +0.2**
FINES FINESS Array B 87.64 332 P **P 18 13 55.0 +0.2**
comp=Z,9.5nm,0.9s,baz=111,slow=4.7,SNR=24
DIVS Divibare 87.97 314 *e*P **P 18 13 57.9 +1.0**
comp=Z,13nm,1.1s
PDG Podgorica 88.27 313 *i*P **P 18 13 58.8 +0.6**
KECS Kecovo 88.27 319 *e*P **P 18 13 57.6 -0.5**
KECS pmax pmax
comp=Z,17nm,0.8s
KECS Kecovo 88.27 319 *e*P **P 18 13 57.6 -0.5**
NIE Niedzica 88.54 320 *e*P **P 18 14 00.5 +1.1**
NIE Niedzica 88.54 320 *e*P **P 18 14 00.5 +1.1**
PSZ Piszkesteto 88.58 318 *i*P **P 18 14 01.2 +1.5**
PSZ Piszkesteto 88.58 318 *e*P **P 18 14 00.3 +0.6**
PSZ Piszkesteto 88.58 318 P **P 18 14 01.1 +1.4**
OJC Ojcow 88.97 320 *e*P **P 18 14 02.7 +1.3**
OJC Ojcow 88.97 320 *e*P **P 18 14 02.7 +1.3**
LANS Liptovska Anna 89.04 319 *e*P **P 18 14 02.2 +0.4**
LANS Liptovska Anna 89.04 319 *e*P **P 18 14 02.2 +0.4**
MORH M*tr'gy, Hung 89.20 316 *e*P **P 18 14 03.4 +0.9**
VYHS Vyhne 89.36 319 *e*P **P 18 14 04.1 +0.8**
VYHS pmax pmax
comp=Z,6.0nm,1.3s
VYHS Vyhne 89.36 319 *e*P **P 18 14 04.0 +0.8**
TIP Tímpagrande 89.76 309 *i*P **P 18 14 07.3 +1.9**
ARA0 ARCESS Array S 89.79 340 *e*P **P 18 14 04.8 0.0**
ARCES ARCESS Array B 89.79 340 P **P 18 14 04.8 0.0**
comp=Z,5.8nm,0.8s,baz=104,slow=5.4,SNR=17
MATE Matera 89.96 311 *i*P **P 18 14 07.6 +1.4**
BLY Banja Luka 90.04 315 *i*P **P 18 14 07.7 +1.2**
JAVC Velka Javorina 90.17 319 *e*P **P 18 14 08.1 +1.6**
MORC Moravsky Berou 90.36 320 *i*P **P 18 14 09.1 +1.1**
MORC Moravsky Berou 90.36 320 P **P 18 14 09.0 +1.1**
MORC Moravsky Berou 90.36 320 *e*P **P 18 14 08.9 +0.9**
MODS Modra-Piesok 90.38 318 *e*P **P 18 14 08.0 0.0**
MODS pmax pmax
comp=Z,19nm,1.2s
MODS Modra-Piesok 90.38 318 *e*P **P 18 14 08.0 0.0**
BEHE Becsehely 90.51 316 *e*P **P 18 14 10.6 +1.9**
CUC Castrocucco 90.57 310 *e*P **P 18 14 08.8 -0.3**
comp=Z,6.6nm,0.9s
SNAA Sanae 90.60 198 P **P 18 14 11.4 +2.8**
KRLC Kraliky 90.88 320 *e*P **P 18 14 12.0 +1.6**
KRLC Kraliky 90.88 320 *e*P **P 18 14 12.0 +1.6**
DPC Dobruska-Polom 91.20 320 *e*P **P 18 14 12.9 +1.0**
DPC Dobruska-Polom 91.20 320 *e*P **P 18 14 12.9 +1.0**
CONA Conrad Observa 91.28 318 *i* PcP **P 18 14 13.0 +0.7**
comp=Z,6.7nm,1.4s
BOJS Bojanci 91.48 315 *e*P **P 18 14 14.4 +1.2**
BOJS Bojanci 91.48 315 *e*P **P 18 14 14.4 +1.2**
PERS Pernice 91.67 316 *e*P **P 18 14 15.3 +1.2**
PERS Pernice 91.67 316 *e*P **P 18 14 15.3 +1.2**
SOKA Soboth 91.73 317 *i* PcP **P 18 14 15.7 +1.3**
comp=Z,8.3nm,0.9s
VISS Visnje 91.79 316 *i* P **P 18 14 15.9 +1.3**
VISS Visnje 91.79 316 *i* P **P 18 14 15.9 +1.3**
OBKA Obir 92.05 316 *i* PcP **P 18 14 17.1 +1.2**
comp=Z,9.2nm,1.3s
MYKA Terra Mystica 92.68 316 *i* PcP **P 18 14 19.5 +0.7**
comp=Z,1.3nm,0.5s
GEA0 GERESS Array S 92.78 319 *e*P **P 18 14 19.7 +0.5**
GERES GERESS Array B 92.78 319 P **P 18 14 19.8 +0.6**
comp=Z,1.7nm,0.7s,baz=93,slow=3.2,SNR=14
KHC Kasperske Hory 92.88 319 *e*P **P 18 14 20.8 +1.2**
KHC Kasperske Hory 92.88 319 *e*P **P 18 14 20.8 +1.2**
CLL Collm 93.38 321 *e*P **P 18 14 18.0 -3.8**
NB200 NORSAR Array S 94.70 331 *e*P **P 18 14 27.6 -0.2**
NB200 *e* 19 01 19.3
NOA NORSAR Array B 94.70 331 P **P 18 14 27.6 -0.2**
comp=Z,1.3nm,0.8s,baz=93,slow=4.3,SNR=3.4
NOA LR LR 19 01 19.3
comp=Z,26nm,18.9s,baz=75,slow=38
KEST Kesra 95.42 305 P **P 18 14 31.4 -0.3**
comp=Z,4.4nm,0.9s,baz=278,slow=7.1,SNR=4.4
KEST Kesra 95.42 305 *e*P **P 18 14 31.4 -0.3**
comp=Z,6.9nm,1.0s
TORD Torodi Ar. Bea 101.81 282 PKiKP **PKiKP 18 19 23.9 +0.2**
comp=Z,0.4nm,0.8s,baz=93,slow=2.9,SNR=2.6
TOA1 Torodi Ar. Sit 101.81 282 *e*PKiKP **PKiKP 18 19 23.9 +0.2**
ILAR Eielson Array 102.67 24 P **Pdif 18 15 02.5 -0.8**
comp=Z,0.3nm,0.7s,baz=290,slow=2.6,SNR=2.9
ILAR PP **PP 18 19 15.4 -2.0**
comp=Z,0.5nm,0.9s,baz=278,slow=6.3,SNR=4.8
ILAR PKKPbc **PKKPbc 18 31 04.8 -0.5**
comp=Z,0.1nm,0.3s,baz=139,slow=2.2,SNR=4.4
H09N1 TRISTAN DA CUN 106.93 229 T T 20 15 16.9
SNR=5.9
YKA Yellowknife Ar 115.93 18 PKP **PKPdf 18 19 47.8 -1.0**
comp=Z,1.4nm,0.8s,baz=332,slow=1.6,SNR=6.1
YKB5 Yellowknife Ar 115.93 18 *e*PKPdf **PKPdf 18 19 47.8 -1.0**
NEW Newport 124.70 31 PKP **PKPdf 18 20 06.3 +0.2**
comp=Z,3.0nm,0.8s,baz=101,slow=4.3,SNR=4.6
J04D Umpqua Nationa 124.72 39 P **PKPdf 18 20 07.1 +0.5**
baz=301
YBH Yreka Blue Hor 125.10 41 PKP **PKPdf 18 20 08.6 +1.4**
comp=Z,1.9nm,0.9s,baz=324,slow=6.9,SNR=3.9
L04D Klamath Falls 125.12 40 P **PKPdf 18 20 07.8 +0.5**
baz=300
M02C Callahan 125.18 41 P **PKPdf 18 20 07.7 +0.4**
baz=299
J05D Fort Rock, OR 125.25 38 P **PKPdf 18 20 07.4 -0.1**
baz=302
N02D Trinity Center 125.48 42 P **PKPdf 18 20 08.3 +0.4**
baz=299
O02D Mt. Diablo Mer 125.81 42 P **PKPdf 18 20 09.1 +0.5**
baz=299
O03E Paynes Creek 126.41 42 P **PKPdf 18 20 09.7 0.0**
baz=300
MSO Missoula 127.28 31 P **PKPdf 18 20 11.1 -0.2**
baz=312
SCHQ Schefferville 129.16 352 PKP **PKPdf 18 20 14.9 +0.5**
comp=Z,6.6nm,0.9s,baz=24,slow=10.0,SNR=3.1
BOZ Bozeman (W) 129.29 31 *e*PKPdf **PKPdf 18 20 14.2 -1.0**
BOZ Bozeman (W) 129.29 31 *e*PKiKP **PKPdf 18 20 14.2 -1.0**
BOZ Bozeman (W) 129.29 31 P **PKPdf 18 20 14.6 -0.6**
baz=313

NVAR	Mina Array Bea	129.69	42	PKP	PKPdf	18 20 16.9	+0.7	
	comp=Z,2.8nm,0.6s,baz=305,slow=2.0,SNR=21							
R11A	Troy Canyon, C	131.53	41	P	PKPdf	18 20 20.4	+0.8	
	baz=304,SNR=6.4							
ULM	Lac du Bonnet	131.80	16	PKP	PKPdf	18 20 19.0	-0.6	
	comp=Z,3.9nm,0.7s,baz=64,slow=3.0,SNR=4.4							
ULM	Lac du Bonnet	131.80	16	PKIKP	PKPdf	18 20 19.0	-0.6	
ULM				pmax	pmax			
	comp=Z,4.0nm,0.7s							
TPNV	Topopah Spring	131.86	43	P	PKPdf	18 20 20.4	+0.1	
	baz=303							
DUG	Dugway, Tooele	132.17	37	P	PKPdf	18 20 22.3	+1.5	
	baz=308							
PD31	Pinedale Array	132.32	32	*e*PKPpre	PKPpre	18 20 14.8		
PDAR	Pinedale Array	132.32	32	PKhKP	PKPpre	18 20 15.0		
	comp=Z,0.3nm,0.7s,baz=318,slow=1.2,SNR=3.3							
PDAR				PKP	PKPdf	18 20 20.3	-0.8	
	comp=Z,0.8nm,0.6s,baz=213,slow=2.4,SNR=6.5							
PDAR				SKPbc	SKPbc	18 23 41.1	-0.1	
	comp=Z,0.4nm,0.6s,baz=349,slow=1.8,SNR=2.9							
FRD	Ford Ranch, An	133.39	47	P	PKPdf	18 20 24.4	+1.2	
	baz=300							
GMRC	Granite Mounta	133.41	45	P	PKPdf	18 20 24.7	+1.4	
	baz=302,SNR=12							
TPFO	Pinon Flats	133.44	47	P	PKPdf	18 20 24.7	+1.3	
	baz=300							
BELC	Belle Mtn. Jos	133.57	46	P	PKPdf	18 20 24.1	+0.5	
	baz=300,SNR=5.9							
RSSD	Black Hills	134.04	27	P	PKPdf	18 20 24.5	+0.3	
	baz=321							
IRM	Iron Mountain	134.10	45	P	PKPdf	18 20 25.7	+1.2	
	baz=302							
BC3	Big Chuckawall	134.14	46	P	PKPdf	18 20 25.8	+1.2	
	baz=301							
Y12C	Blythe	134.75	45	P	PKPdf	18 20 26.5	+0.9	
	baz=302							
O20A	White River Ci	134.86	34	P	PKPdf	18 20 26.1	+0.2	
	baz=314							
WUAZ	Wupatki	135.92	41	P	PKPdf	18 20 28.6	+0.7	
	baz=306							
ECSD	EROS Data Cent	137.37	21	P	PKPdf	18 20 32.1	+1.8	
	baz=331							
TUC	Tucson	138.17	45	P	PKPdf	18 20 34.2	+2.1	
	baz=304							
T25A	Trinidad	139.09	34	P	PKPdf	18 20 35.1	+1.3	
	baz=316							
ANMO	Albuquerque	139.41	38	PKP	PKPdf	18 20 33.8	-0.6	
	comp=Z,2.0nm,0.9s,baz=198,slow=5.3,SNR=6.2							
ANMO	Albuquerque	139.41	38	*i* PKIKP	PKPdf	18 20 34.5	0.0	
ANMO	Albuquerque	139.41	38	P	PKPdf	18 20 36.1	+1.6	
	baz=312							
MNTX	Cornudas Mount	142.20	41	P	PKPdf	18 20 40.2	+0.8	
	baz=310							
N49A	Columbus Grove	143.24	9	P	PKPbc	18 20 37.8	-0.2	
	baz=348							
Q41A	Truxton	143.45	18	P	PKPab	18 20 37.9	+0.3	
	baz=336							
CPUP	Villa Florida	143.77	211	PKP	PKPdf	18 20 41.3	-0.9	
	comp=Z,4.2nm,0.6s,baz=37,slow=4.0,SNR=11							
WMOK	Wichita Mounta	143.91	31	*e*PKPpre	PKPab	18 20 39.6	0.0	
WMOK	Wichita Mounta	143.91	31	*e*PKIKP	PKPab	18 20 39.6	+0.1	
WMOK	Wichita Mounta	143.91	31	P	PKPab	18 20 39.6	+0.1	
	baz=322,SNR=24							
R41A	Rosebud	144.00	19	P	PKPab	18 20 39.5	-0.2	
	baz=336							
ACSO	Alum Creek Sta	144.08	8	P	PKPab	18 20 39.6	-0.4	
	baz=350,SNR=5.9							
R42A	Luebbering	144.20	18	P	PKPab	18 20 40.2	-0.3	
	baz=336							
O51A	Pataskala	144.22	7	P	PKPab	18 20 40.0	-0.5	
	baz=351,SNR=11							
P47A	Martinsville	144.25	12	P	PKPab	18 20 40.4	-0.2	
	baz=344							
CCM	Cathedral Cave	144.26	19	P	PKPab	18 20 40.9	+0.1	
	baz=336							
O52A	Adamsville	144.33	6	*e*PKPdf	PKPab	18 20 40.3	-0.6	
O52A	Adamsville	144.33	6	P	PKPab	18 20 40.3	-0.6	
	baz=352,SNR=5.7							
TUL1	Leonard	144.39	26	P	PKPab	18 20 41.2	-0.1	
	baz=327,SNR=17							
O56A	Blue Knob Stat	144.41	2	P	PKPab	18 20 41.1	-0.2	
	baz=358							
P48A	Milroy	144.45	11	P	PKPab	18 20 40.4	-1.0	
	baz=346,SNR=6.5							
R43A	Red Bud	144.47	17	P	PKPbc	18 20 41.7	0.0	
	baz=338							
P49A	Miami Univ. Ec	144.50	10	P	PKPab	18 20 40.9	-0.7	
	baz=347,SNR=7.2							
S41A	Jillco Farms,	144.52	20	P	PKPab	18 20 41.4	-0.3	
	baz=334,SNR=30							
P50A	Jamestown	144.58	9	P	PKPab	18 20 41.1	-0.7	
	baz=349,SNR=17							
S42A	Caledonia	144.67	19	P	PKPab	18 20 41.6	-0.7	
	baz=336,SNR=21							
MVL	Millersville	144.69	359	*e*PKPdf	PKPbc	18 20 42.4	0.0	
R44A	Waltonville	144.74	16	P	PKPab	18 20 42.5	0.0	
	baz=339,SNR=12							
Q47A	Bedord North L	144.75	13	P	PKPab	18 20 42.1	-0.4	
	baz=344,SNR=22							
P52A	Corning	144.78	7	P	PKPab	18 20 41.8	-0.8	
	baz=351,SNR=8.7							
P51A	Williamsport	144.81	8	*e*PKPdf	PKPab	18 20 41.8	-0.9	
P51A	Williamsport	144.81	8	P	PKPab	18 20 41.9	-0.8	
	baz=350,SNR=9.6							
BDFB	Brasilia	144.83	235	PKP	PKPdf	18 20 45.1	+0.6	
	comp=Z,12nm,0.6s,baz=139,slow=4.2,SNR=19							
LTX	Lajitas	144.84	43	*e*PKPdf	PKPdf	18 20 44.0	-0.2	
LTX	Lajitas	144.84	43	*e*PKIKP	PKPdf	18 20 44.0	-0.2	
TX31	Lajitas Ar. Si	144.84	43	*e*PKPdf	PKPbc	18 20 43.7	+0.3	
TXAR	Lajitas Array	144.84	43	PKP	PKPdf	18 20 44.0	-0.2	
	comp=Z,27nm,0.7s,baz=281,slow=1.4,SNR=222							
TXAR	Lajitas Array	144.84	43	PKIKP	PKPdf	18 20 44.0	-0.2	
TXAR				pmax	pmax			
	comp=Z,27nm,0.7s							
Q48A	North Vernon	144.90	12	P	PKPab	18 20 42.8	-0.2	
	baz=345,SNR=29							
R45A	Skylar, Fairfi	144.92	15	P	PKPab	18 20 42.9	-0.2	
	baz=341,SNR=19							
MCWV	Mont Chateau	144.96	4	*e*PKPbc	PKPab	18 20 43.1	-0.1	
MCWV	Mont Chateau	144.96	4	P	PKPab	18 20 43.2	-0.1	
	baz=355,SNR=11							
Q49A	Aurora	144.99	10	P	PKPbc	18 20 42.9	-0.5	
	baz=347,SNR=20							
T41A	Mountain View	145.00	21	P	PKPbc	18 20 42.8	-0.7	
	baz=334,SNR=44							
P53A	Whipple	145.00	6	*e*PKPbc	PKPbc	18 20 42.8	-0.6	
P53A	Whipple	145.00	6	P	PKPbc	18 20 42.9	-0.5	
	baz=353,SNR=19							
ABTX	Abilene, Hawle	145.06	34	P	PKPdf	18 20 44.3	0.0	
	baz=318,SNR=14							
S43A	Fulton Ridge,	145.08	18	P	PKPbc	18 20 42.5	-1.2	
	baz=337,SNR=11							
R46A	Gibson Southern	145.19	14	P	PKPab	18 20 44.2	0.0	
	baz=342,SNR=6.4							
S44A	Carbondale	145.21	17	P	PKPbc	18 20 43.9	-0.3	
	baz=339,SNR=23							
U40A	Yellville	145.22	22	P	PKPbc	18 20 43.8	-0.5	
	baz=332,SNR=70							
Q51A	Peebles	145.22	8	*e*PKPbc	PKPbc	18 20 43.6	-0.6	
Q51A	Peebles	145.22	8	P	PKPbc	18 20 43.8	-0.4	
	baz=349,SNR=30							
T42A	Van Buren	145.24	20	*e*PKPbc	PKPbc	18 20 43.8	-0.5	
T42A	Van Buren	145.24	20	P	PKPbc	18 20 43.7	-0.5	
	baz=335,SNR=80							
Q50A	Georgetown	145.30	9	P	PKPbc	18 20 43.9	-0.5	
	baz=348,SNR=14							
R47A	Wooly Knot Far	145.34	13	P	PKPbc	18 20 43.9	-0.6	
	baz=344,SNR=22							
R48A	Northridge Ran	145.38	12	P	PKPbc	18 20 44.5	-0.1	
	baz=345,SNR=29							
USIN	University of	145.38	15	*e*PKPbc	PKPbc	18 20 44.5	-0.1	
S45A	Carrier Mills	145.41	16	P	PKPdf	18 20 44.5	-0.2	
	baz=340,SNR=35							
Q52A	Bidwell	145.43	7	P	PKPdf	18 20 44.2	-0.6	
	baz=351,SNR=19							
WCI	Wyandotte Cave	145.46	13	*e*PKPbc	PKPdf	18 20 44.2	-0.6	
WCI	Wyandotte Cave	145.46	13	*e*PKIKP	PKPdf	18 20 44.2	-0.6	
WCI	Wyandotte Cave	145.46	13	P	PKPbc	18 20 44.9	0.0	
	baz=344							
T43A	Greenville	145.46	19	P	PKPdf	18 20 44.1	-0.7	
	baz=337,SNR=28							
U41A	Viola	145.57	21	P	PKPdf	18 20 44.9	-0.2	
	baz=333,SNR=33							
R49A	Shelbyville	145.63	11	P	PKPdf	18 20 45.2	+0.1	
	baz=346,SNR=27							
S46A	Don Dixon Farm	145.64	15	P	PKPdf	18 20 45.0	-0.2	
	baz=341,SNR=11							
T44A	Benton	145.67	18	P	PKPdf	18 20 45.3	+0.1	
	baz=338,SNR=9.2							
X37A	Clayton	145.68	27	*e*PKPdf	PKPdf	18 20 45.3	0.0	
PBMO	Poplar Bluff	145.69	19	*e*PKPdf	PKPdf	18 20 44.9	-0.4	
R50A	Paris	145.79	10	P	PKPdf	18 20 45.3	-0.1	
	baz=347,SNR=16							
U42A	Revenden	145.81	20	P	PKPbc	18 20 45.8	-0.2	
	baz=335,SNR=55							
R51A	Hillsboro	145.89	9	P	PKPbc	18 20 46.0	-0.3	
	baz=349,SNR=7.4							
S47A	Hartford	145.93	14	P	PKPbc	18 20 46.0	-0.4	
	baz=343,SNR=5.1							
V41A	Mountainview	145.98	22	P	PKPdf	18 20 45.9	0.0	
	baz=333,SNR=26							
R52A	Catlettsburg	145.99	8	P	PKPdf	18 20 46.1	+0.4	
	baz=350,SNR=10.0							
T45A	Paducah	146.01	16	P	PKPbc	18 20 46.8	+0.2	
	baz=339							
S48A	Wiedeman Farm,	146.06	13	P	PKPbc	18 20 46.4	-0.4	
	baz=344,SNR=25							
S49A	Springfield	146.09	12	P	PKPbc	18 20 46.4	-0.5	
	baz=345,SNR=18							
T46A	Princeton	146.20	15	P	PKPbc	18 20 47.0	-0.2	
	baz=341,SNR=15							
V42A	Cord	146.24	21	P	PKPdf	18 20 46.6	+0.3	
	baz=334,SNR=17							
S50A	Richmond	146.36	10	P	PKPdf	18 20 46.4	0.0	
	baz=347,SNR=10							
T47A	Sharon Grove	146.45	14	P	PKPbc	18 20 47.3	-0.7	
	baz=342,SNR=5.7							
W41B	Gary Mavity, V	146.49	23	P	PKPdf	18 20 47.4	+0.7	
	baz=332,SNR=6.7							
MIAR	Mount Ida	146.50	25	*e*PKPdf	PKPbc	18 20 47.7	-0.5	
MIAR	Mount Ida	146.50	25	*e*PKP2	PKPbc	18 20 47.7	-0.5	
MIAR	Mount Ida	146.50	25	P	PKPbc	18 20 48.4	+0.2	
	baz=330,SNR=27							
T48A	Bowling Green	146.50	13	P	PKPdf	18 20 47.1	+0.5	
	baz=343,SNR=12							
JCT	Junction City	146.53	37	*e*PKPdf	PKPbc	18 20 47.8	-0.7	
JCT	Junction City	146.53	37	*e*PKP2	PKPbc	18 20 47.8	-0.7	
JCT	Junction City	146.53	37	P	PKPbc	18 20 48.9	+0.4	
	baz=316							
S51A	Beattyville	146.54	9	P	PKPbc	18 20 47.6	-0.6	
	baz=348,SNR=10							
S52A	Salyersville	146.58	8	P	PKPbc	18 20 47.8	-0.6	
	baz=349,SNR=7.5							
T49A	Edmonton	146.70	12	P	PKPbc	18 20 48.9	+0.2	
	baz=345,SNR=9.5							
X40A	Basin Creek Fa	146.86	24	P	PKPbc	18 20 49.2	-0.1	
	baz=331,SNR=6.6							
T50A	Nancy	146.92	11	P	PKPdf	18 20 48.3	+1.0	
	baz=346,SNR=5.9							
U47A	Clarksville	146.92	15	P	PKPbc	18 20 48.7	-0.6	
	baz=341,SNR=8.6							
U48A	Cassie Pea, Po	147.04	14	P	PKPbc	18 20 49.3	-0.4	
	baz=343,SNR=9.5							
V45A	Humboldt	147.11	18	P	PKPbc	18 20 49.4	-0.4	
	baz=338,SNR=5.4							
T51A	Gray	147.14	10	P	PKPbc	18 20 50.5	+0.6	
	baz=348,SNR=11							
T52A	Hallie	147.15	9	P	PKPab	18 20 50.9	-0.8	
	baz=349,SNR=7.9							
U49A	Red Boiling Sp	147.22	13	P	PKPbc	18 20 50.0	-0.2	
	baz=344,SNR=5.8							
V46A	Holladay	147.30	17	P	PKPbc	18 20 49.9	-0.5	
	baz=340,SNR=14							
V47A	Nunnelly	147.44	16	P	PKPbc	18 20 50.6	-0.3	
	baz=341,SNR=6.2							
Y41A	Eaglette Beard	147.47	24	P	PKPbc	18 20 51.2	+0.3	
	baz=331,SNR=5.5							
U50A	Jamestown	147.50	12	P	PKPbc	18 20 50.3	-0.7	
	baz=346,SNR=14							
X43A	Marvell	147.58	21	P	PKPbc	18 20 51.9	+0.7	
	baz=334							
435B	Jarrell	147.59	34	*e*PKPdf	PKPdf	18 20 49.9	+1.2	
435B	Jarrell	147.59	34	P	PKPbc	18 20 52.0	+0.6	
	baz=320							
TZTN	Tazewell	147.62	10	P	PKPbc	18 20 51.9	+0.6	
	baz=348							
U51A	La Follette	147.70	10	P	PKPab	18 20 53.2	-0.7	
	baz=347,SNR=6.6							
V48A	Smith Brothers	147.71	15	P	PKPbc	18 20 51.2	-0.3	
	baz=342,SNR=10							
W46A	Michie	147.85	17	P	PKPbc	18 20 52.2	+0.3	
	baz=339,SNR=7.0							
X44A	Crenshaw	147.86	20	P	PKPbc	18 20 51.7	-0.3	
	baz=335							
V49A	McMinnville	147.90	13	P	PKPbc	18 20 50.9	-1.2	
	baz=344,SNR=5.7							
W47A	Westpoint	147.96	16	P	PKPbc	18 20 52.1	-0.1	
	baz=340,SNR=5.0							
OXF	Oxford	148.10	19	P	PKPbc	18 20 52.3	-0.3	
	baz=336,SNR=9.1							
V50A	Pikeville	148.17	12	P	PKPbc	18 20 52.5	-0.3	
	baz=345							
X45A	UM Field Stati	148.18	19	P	PKPbc	18 20 52.6	-0.2	
	baz=336							
V51A	Loudon	148.19	11	P	PKPbc	18 20 52.7	-0.1	
	baz=346							
W48A	Pulaski	148.25	15	P	PKPbc	18 20 52.2	-0.8	
	baz=341,SNR=15							
Z42A	Norrel Spur, H	148.27	24	P	PKPbc	18 20 53.2	+0.1	
	baz=331,SNR=6.0							
V52A	Sevierville	148.29	10	P	PKPbc	18 20 52.7	-0.4	
	baz=348,SNR=5.4							
833A	Chaparral WMA,	148.31	39	P	PKPbc	18 20 54.4	+1.1	
	baz=314							
X46A	Booneville	148.32	18	P	PKPbc	18 20 52.4	-0.8	
	baz=338,SNR=5.9							
W49A	Belvidere	148.43	14	P	PKPbc	18 20 52.8	-0.6	
	baz=343,SNR=6.7							
TKL	Tuckaleechee C	148.44	10	PKPbc	PKPbc	18 20 53.1	-0.4	
	comp=Z,5.1nm,0.8s,baz=113,slow=3.6,SNR=14							
X47A	Russelville	148.57	17	P	PKPbc	18 20 53.7	-0.2	
	baz=339,SNR=17							
W50A	Signal Mountai	148.58	13	P	PKPbc	18 20 53.6	-0.3	
	baz=344							
V53A	Saluda	148.59	9	P	PKPbc	18 20 53.8	-0.1	
	baz=349,SNR=7.2							
Y45A	Yeager Farm, C	148.64	20	P	PKPbc	18 20 53.9	-0.1	
	baz=336,SNR=6.0							
W51A	Cleveland	148.74	12	P	PKPbc	18 20 53.7	-0.6	
	baz=345,SNR=5.2							
Y46A	Houston	148.85	19	P	PKPbc	18 20 54.1	-0.4	
	baz=337,SNR=5.8							
X48A	Hartselle	148.86	16	P	PKPbc	18 20 53.5	-1.1	
	baz=341,SNR=8.6							
W52A	Murphy	148.96	11	P	PKPbc	18 20 54.8	-0.1	
	baz=347,SNR=5.0							
X49A	Woodville	149.00	15	P	PKPbc	18 20 54.1	-0.8	
	baz=342,SNR=7.7							
W53A	Cullowhee	149.02	10	P	PKPbc	18 20 54.0	-1.1	
	baz=348,SNR=7.3							
Y47A	UCPARC, Winfie	149.15	17	P	PKPbc	18 20 54.1	-1.2	
	baz=339							
X51A	Calhoun	149.29	12	P	PKPdf	18 20 53.2	+1.9	
	baz=345							
KMSC	Kings Mountain	149.31	7	P	PKPbc	18 20 55.2	-0.5	
	baz=352							
X52A	Dahlonega	149.45	11	P	PKPbc	18 20 56.1	0.0	
	baz=347							
Z46A	Louisville	149.46	20	P	PKPbc	18 20 55.3	-0.8	
	baz=336							
Y49A	Blount Mountai	149.59	15	P	PKPbc	18 20 56.1	-0.4	
	baz=342,SNR=9.4							
145A	Houston Renfro	149.65	22	P	PKPbc	18 20 54.9	-1.7	
	baz=334							
X53A	Estanollee	149.65	10	P	PKPbc	18 20 56.0	-0.5	
	baz=348							
Z48A	Northport	149.73	17	P	PKPbc	18 20 55.8	-1.0	
	baz=339							
Y50A	Piedmont	149.73	14	P	PKPbc	18 20 56.8	0.0	
	baz=343							
244A	Avery, Jackson	149.86	23	P	PKPbc	18 20 57.3	+0.2	
	baz=332							
146A	Union	149.93	20	P	PKPbc	18 20 57.7	+0.4	
	baz=336,SNR=8.7							
Y52A	Lilburn	150.13	12	P	PKPbc	18 20 58.3	+0.5	
	baz=346,SNR=5.3							
147A	Livingston	150.16	19	P	PKPbc	18 20 57.9	+0.1	
	baz=337,SNR=5.4							
245A	Little AP, Sta	150.17	22	P	PKPbc	18 20 58.7	+0.8	
	baz=334							
Z50A	Ashland	150.29	15	P	PKPbc	18 20 57.6	-0.5	
	baz=342							
Y54A	Tignall	150.38	9	P	PKPbc	18 20 58.4	+0.1	
	baz=349							
247A	Quitman	150.61	20	P	PKPbc	18 20 59.6	+0.7	
	baz=336							
GOGA	Godfrey	150.68	11	P	PKPbc	18 20 59.4	+0.3	
	baz=347							
Z52A	Williamson	150.71	12	P	PKPbc	18 20 59.7	+0.5	
	baz=345							
Z53A	Monticello	150.79	11	P	PKPbc	18 20 59.7	+0.3	
	baz=347							
248A	Dixon Mills	150.86	19	P	PKPbc	18 20 59.6	+0.1	
	baz=338							
Z54A	Sparta	150.97	10	P	PKPbc	18 20 59.8	+0.1	
	baz=348							
151A	Opelika	151.13	14	P	PKPbc	18 21 00.6	+0.4	
	baz=343							
249A	Camden	151.16	18	P	PKPbc	18 21 00.8	+0.6	
	baz=339							
347A	Saraland	151.23	20	P	PKPbc	18 21 01.0	+0.6	
	baz=336							
251A	Midway	151.53	15	P	PKPbc	18 21 01.5	+0.5	
	baz=343							
352A	Blakely	152.23	14	P	PKPbc	18 21 03.1	+0.4	
	baz=343							
LPAZ	La Paz	157.45	203	PKP	PKPdf	18 21 06.2	+1.9	
	comp=Z,2.1nm,0.9s,baz=70,slow=7.2,SNR=4.2							
LPAZ				PKPab	PKPab	18 21 37.2	+1.4	
	comp=Z,1.9nm,0.8s,baz=141,slow=2.9,SNR=4.6							

DDA 22 18:11:33.4, 36.68N×27.94E, h7km, Ml2.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAT	Datca	0.30	279	*i* P		Pg	18 11 39.1	-0.1
DAT				*i* S		Sg	18 11 44.6	+1.4
DALY	Dalyan (Mu˘la	0.59	77	*i* P		Pg	18 11 44.1	-0.5
DALY				*i* S		Sb	18 11 54.1	-0.3
AYDN	Tasoluk	0.98	357	*i* P		Pg	18 11 52.3	+0.2
AYDN				*i* S		Sn	18 12 07.3	-0.4

*ISCJB **22** 18:12:04.2±0.6, 44.17N±0.04×105.27W±0.06, h0km, Error ellipse: s-maj=6.3km s-min=5.5km az=16.6*
*NEIC **22** 18:12:06.0±0.7, 44.26N×105.36W, h0km, ML3.0, Error ellipse: s-maj=12.5km s-min=8.8km az=154.0, Suspected Mining explosion.*
NEIC 12 km [8 miles] ESE of Gillette.
*ANF **22** 18:12:06.2±0.4, 44.05N×105.38W, ML3.3/11, Error ellipse: s-maj=7.2km s-min=4.1km az=162.0*
*IDC **22** 18:12:06.3±1.0, 44.49N×105.78W, h0km, mb1 3.5/4, mb1mx3.3/51, mbtmp3.2/4, ML3.3/4, Error ellipse: s-maj=33.6km s-min=9.6km az=142.0*

ISC 22 18:12:05.7±0.9, 44.12N±0.05×105.31W±0.05, h0km, n27, σ1§36/31, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.92	90	*e*P		Pb	18 12 24.3	-0.4
RSSD	Black Hills	0.92	90	P		Pb	18 12 24.8	+0.1
	baz=279							
K22A	Casper	1.72	211	P		Pn	18 12 36.2	-0.8
	baz=27							
K22A				S		Sn	18 12 58.4	-1.3
	baz=27							
RLMT	Red Lodge	2.99	291	P		Pn	18 12 55.1	+0.4
	baz=106							
N23A	Red Feather La	3.26	188	Pb		Pb	18 13 03.0	-1.6
	baz=7.1							
N23A				Sb		Sb	18 13 45.8	+0.9
	baz=7.1							
PDAR	Pinedale Array	3.38	248	Pn		Pn	18 13 01.3	+1.4
	3.7nm,0.3s,baz=66,slow=18,SNR=36							
PDAR				Sn		Sn	18 13 43.3	+2.5
	2.0nm,0.3s,baz=79,slow=23,SNR=3.7							
BW06	Boulder Array	3.38	248	*e*P		Pn	18 13 03.0	+3.1
BW06	Boulder Array	3.38	248	Pb		Pb	18 13 05.3	-1.2
	baz=62							
BW06				Sb		Sb	18 13 48.4	+0.1
	baz=62							
H17A	Grant Village	3.79	276	P		Pn	18 13 07.0	+1.4
	baz=90							
ISCO	Idaho Springs	4.33	183	*e*P		Pn	18 13 14.2	+1.2
ISCO	Idaho Springs	4.33	183	P		Pn	18 13 13.1	+0.1
	baz=2.4							
DGMT	Dagmar	4.42	10	P		Pn	18 13 13.8	-0.2
AHID	Auburn Hatcher	4.43	254	*e*P		Pn	18 13 12.7	-1.6
O20A	White River Ci	4.54	210	P		Pn	18 13 16.5	+0.7
	baz=26							
BOZ	Bozeman (W)	4.73	290	*e*P		Pn	18 13 17.1	-1.3
BOZ	Bozeman (W)	4.73	290	P		Pn	18 13 17.6	-0.8
	baz=105							
EGMT	Eaglon	4.98	323	*e*P		Pn	18 13 18.8	-3.0
EGMT	Eagleton	4.98	323	P		Pn	18 13 22.6	+0.9
	baz=139							
Q24A	Divide	5.16	179	P		Pn	18 13 24.8	+0.3
	baz=358							
SDCO	Great Sand Dun	6.37	181	P		Pn	18 13 42.3	+1.1
	baz=0.9							
HLID	Hailey	6.61	268	P		Pn	18 13 45.9	+1.7
	baz=81							
MSO	Missoula	6.64	297	P		Pn	18 13 44.6	0.0
	baz=110							
DUG	Dugway, Tooele	6.81	237	*e*P		Pn	18 13 47.1	+0.1
	5.3nm,0.6s							
DUG	Dugway, Tooele	6.81	237	P		Pn	18 13 47.1	+0.1
	baz=51							
ULM	Lac du Bonnet	8.88	43	Pn		Pn	18 14 13.8	-1.3
	0.7nm,0.3s,baz=239,slow=10,SNR=16							
ULM				Lg		Lg	18 16 36.0	
	0.3nm,0.3s,baz=299,slow=19,SNR=1.2							
NVAR	Mina Array Bea	11.30	244	Pn		Pn	18 14 49.8	+1.1
	0.1nm,0.3s,baz=63,slow=14,SNR=2.0							
TXAR	Lajitas Array	14.82	174	Pn		P	18 15 43.4	+0.7

JSB			S	Sn	18 34 05.8	+1.0
JYT	**Yasato**	**0.95 230**	P	Pn	18 33 51.6	-0.7
JYT			*e*S	Sb	18 34 03.9	-1.0
JMM	**Marumori**	**1.04 347**	P	Pn	18 33 53.4	-0.1
JMM			S	Sn	18 34 06.7	-0.5
MAT	**Matsushiro**	**2.34 263**	P	Pn	18 34 13.4	+2.0
MAT			S	Sb	18 34 43.0	-1.7

TAP 22 18:45:31.7,21.12N×122.20E,h164km±1km,ML3.6,D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**1.09**	**327**	*e*P	Pn	18 46 01.3	+2.8
	baz=326						
LAY				*e*S	Sn	18 46 18.4	-0.9
	baz=326						
TSEB	**Hengchuen, Pin**	**1.43**	**303**	*e*P	Pn	18 46 01.9	+0.3
	baz=301						
TSEB				*e*S	Sn	18 46 25.4	+0.8
	baz=301						
TWKBT	**Hengchun**	**1.52**	**303**	*i* P	Pn	18 46 03.0	+0.5
	baz=302						
TWKBT				S	Sn	18 46 25.4	-0.9
	baz=302						
TWK1	**Hengchun**	**1.53**	**303**	P	Pn	18 46 03.1	+0.5
	baz=302						
TWK1				S	Sn	18 46 25.4	-1.0
	baz=302						
HEN	**Hengchun**	**1.62**	**303**	*e*P	Pn	18 46 03.9	+0.5
	baz=303						
HEN				*e*S	Sn	18 46 26.8	-1.2
	baz=303						
TAW	**Tawu**	**1.72**	**316**	*e*S	Sn	18 46 28.7	-1.3
	baz=315						
EAST	**Anshuo**	**1.77**	**315**	P	Pn	18 46 05.1	-0.1
	baz=315						
EAST				*e*S	Sn	18 46 29.5	-1.5
	baz=315						
ECL	**Taimali**	**1.87**	**322**	*e*P	Pn	18 46 05.6	-0.5
	baz=322						
ECL				*e*S	Sn	18 46 31.4	-1.4
	baz=322						
SCZT	**Fangliau**	**1.92**	**311**	*i* P	Pn	18 46 06.7	0.0
	baz=310						
SCZT				*e*S	Sn	18 46 32.7	-1.2
	baz=310						
TWGBT	**Beinan**	**1.98**	**329**	*e*P	Pn	18 46 07.5	+0.1
	baz=328						
TWGBT				*e*S	Sn	18 46 33.7	-1.4
	baz=328						
TWG	**Pinlang**	**1.99**	**329**	*e*P	Pn	18 46 07.2	-0.3
	baz=328						
TWG				*e*S	Sn	18 46 33.8	-1.4
	baz=328						
MASBT	**Mashibuluo**	**2.08**	**316**	*i* P	Pn	18 46 08.6	+0.1
	baz=315						
MASBT				*e*S	Sn	18 46 34.7	-2.3
	baz=315						
WLCH	**Liuqiu**	**2.08**	**306**	*e*P	Pn	18 46 09.2	+0.6
	baz=305						
WLCH				*e*S	Sn	18 46 36.4	-0.7
	baz=305						
TWP	**Hsiaoliuchiu**	**2.09**	**306**	*e*P	Pn	18 46 09.3	+0.7
	baz=305						
SSD	**Sandimen**	**2.17**	**318**	P	Pn	18 46 09.8	+0.2
	baz=318						
FULB	**Fuli**	**2.23**	**338**	*e*P	Pn	18 46 11.2	+0.9
	baz=337						
FULB				*e*S	Sn	18 46 39.6	-0.6
	baz=337						
ELDTW	**Lidau**	**2.33**	**332**	*e*P	Pn	18 46 11.7	+0.2
	baz=332						
ELDTW				*e*S	Sn	18 46 41.2	-1.3
	baz=332						
SLGT	**Liugui**	**2.35**	**323**	P	Pn	18 46 11.9	+0.2
	baz=322						
SLGT				*e*S	Sn	18 46 41.6	-1.1
	baz=322						
TWM1	**Shoushan**	**2.36**	**316**	*e*P	Pn	18 46 12.7	+0.9
	baz=315						
TWM1				*e*S	Sn	18 46 42.0	-0.9
	baz=315						
YULB	**Yu-li**	**2.41**	**340**	*e*P	Pn	18 46 13.1	+0.7
	baz=339						
YULB				*e*S	Sn	18 46 42.6	-1.4
	baz=339						
STYT	**Tauyuan**	**2.43**	**327**	*e*P	Pn	18 46 13.1	+0.4
	baz=326						
STYT				*e*S	Sn	18 46 43.7	-0.8
	baz=326						
SGST	**Jiashian**	**2.46**	**323**	*e*P	Pn	18 46 13.4	+0.4
	baz=322						
SGST				*e*S	Sn	18 46 44.0	-1.0
	baz=322						
CHN1	**Nanshi**	**2.57**	**323**	*e*P	Pn	18 46 14.5	+0.2
	baz=323						
CHN1				*e*S	Sn	18 46 46.7	-0.8
	baz=323						
WTP	**Ta-pu**	**2.57**	**326**	*e*P	Pn	18 46 14.5	+0.1
	baz=325						
WTP				*e*S	Sn	18 46 46.0	-1.5
	baz=325						
TPUB	**Ta-pu**	**2.61**	**327**	*e*P	Pn	18 46 14.7	-0.1
	baz=326						
TPUB				*e*S	Sn	18 46 47.0	-1.3
	baz=326						
TWK	**Hsinying**	**2.66**	**324**	*e*P	Pn	18 46 14.9	-0.5
	baz=323						
TWK				*e*S	Sn	18 46 47.8	-1.6
	baz=323						
CHN4	**Tsaushan**	**2.67**	**327**	*e*P	Pn	18 46 15.6	+0.1
	baz=326						
CHN4				*e*S	Sn	18 46 48.9	-0.7
	baz=326						
ALS	**Alishan**	**2.70**	**332**	*e*P	Pn	18 46 16.6	+0.4
	baz=331						
ALS				*e*S	Sn	18 46 49.1	-1.7
	baz=331						
CHN5	**Tsauling**	**2.83**	**331**	*e*P	Pn	18 46 17.7	+0.1
	baz=330						
CHN5				*e*S	Sn	18 46 51.5	-1.8
	baz=330						
CHN8	**Yiju**	**2.88**	**321**	*e*P	Pn	18 46 18.0	-0.1
	baz=320						
CHN8				*e*S	Sn	18 46 53.2	-0.8
	baz=320						
SSLB	**Suanglung**	**2.89**	**337**	*e*P	Pn	18 46 18.1	-0.2
	baz=336						
SSLB				*e*S	Sn	18 46 53.8	-0.7
	baz=336						
WLGB	**Puzi**	**2.93**	**324**	*e*S	Sn	18 46 54.3	-1.0
	baz=323						
SMLT	**Sun Moon Lake**	**3.00**	**337**	*e*S	Sn	18 46 55.7	-1.3
	baz=336						
TYC	**Yuchr**	**3.03**	**336**	*e*P	Pn	18 46 20.4	+0.5
	baz=336						
TYC				*e*S	Sn	18 46 56.9	-0.6
	baz=336						
WSF	**Szhu**	**3.10**	**324**	*e*S	Sn	18 46 57.7	-1.3
	baz=323						
WDGT	**Dungji**	**3.17**	**313**	*e*P	Pn	18 46 20.8	-0.9
	baz=312						
WDGT				*e*S	Sn	18 46 57.5	-3.0
	baz=312						
PHUB	**P'eng-hu**	**3.40**	**315**	*e*P	Pn	18 46 23.4	-1.2
	baz=314						
PHUB				*e*S	Sn	18 47 02.8	-3.0
	baz=314						
PNG	**Penghu**	**3.45**	**315**	*e*P	Pn	18 46 24.4	-0.9
	baz=314						
PNG				*e*S	Sn	18 47 04.3	-2.6
	baz=314						

*ISCJB **22** 19:13:39.2±0.3,23.83N±0.01×122.05E±0.01,h22km±2km, Error ellipse: s-maj=2.4km s-min=1.6km az=39.7*
*JMA **22** 19:13:39.5,23.83N×121.99E,h31km±2km,M2.8*
*TAP **22** 19:13:40.2,23.87N×122.00E,h37km,ML3.4,C*

ISC 22 19:13:39.0±1.0,23.82N±0.02×122.05E±0.02,h27km±10km, n112,σ0.975/200,1C-10D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.43**	**291**	*i* P	**Pn**	**19 13 49.1**	**-0.3**
	baz=279						
HWA				S	**Sn**	**19 13 56.6**	**+0.2**
	baz=279						
TWD	**Chiawan**	**0.48**	**302**	⇓*i*P	**Pb**	**19 13 49.4**	**+0.3**
	baz=294						
TWD				*i* S	**Sb**	**19 13 56.0**	**+0.1**
	baz=294						
NACB	**Ninganchiao**	**0.54**	**310**	⇓P	**Pb**	**19 13 50.0**	**0.0**
	baz=309						
NACB				S	**Sb**	**19 13 57.3**	**-0.2**
	baz=309						
ESL	**Shilin**	**0.56**	**269**	P	**Pb**	**19 13 50.4**	**0.0**
	baz=258						
ESL				S	**Sb**	**19 13 58.7**	**+0.6**
	baz=258						
EGFH	**Guangfu**	**0.59**	**255**	P	**Pb**	**19 13 51.1**	**+0.4**
	baz=242						
EGFH				S	**Sb**	**19 13 59.7**	**+1.0**
	baz=242						
HGSD	**Ruisui**	**0.66**	**240**	P	**Pb**	**19 13 52.3**	**+0.4**
	baz=228						
HGSD				S	**Sb**	**19 14 01.3**	**+0.5**
	baz=228						
NANB	**Nanao**	**0.66**	**336**	⇓*i*P	**Pn**	**19 13 52.2**	**-0.4**
	baz=327						
NANB				S	**Sb**	**19 14 01.1**	**+0.2**
	baz=327						
EOS1	**EOS1**	**0.73**	**6**	*e*P	**Pn**	**19 13 53.9**	**+0.4**
	baz=18						
EOS1				*e*S	**Sn**	**19 14 04.3**	**+0.6**
	baz=18						
EHY	**Hungye**	**0.73**	**245**	P	**Pb**	**19 13 53.2**	**0.0**
	baz=251						
EHY				S	**Sb**	**19 14 03.0**	**+0.1**
	baz=251						
WHF	**Hehuan Shan**	**0.78**	**294**	⇓*i*P	**Pb**	**19 13 53.7**	**-0.6**
	baz=284						
WHF				*i* S	**Sb**	**19 14 04.6**	**-0.2**
	baz=284						
TWC	**Suao**	**0.80**	**347**	P	**Pn**	**19 13 54.8**	**+0.2**
	baz=350						
TWC				S	**Sb**	**19 14 04.9**	**0.0**
	baz=350						
YULB	**Yu-li**	**0.81**	**238**	⇓P	**Pb**	**19 13 54.4**	**-0.1**
	baz=246						
YULB				S	**Sb**	**19 14 04.8**	**-0.2**
	baz=246						
VWDT	**VWDT**	**0.83**	**265**	⇓P	**Pn**	**19 13 55.0**	**+0.1**
	baz=261						
VWDT				S	**Sb**	**19 14 05.5**	**-0.2**
	baz=261						
CHGB	**Renai**	**0.83**	**287**	⇓P	**Pb**	**19 13 54.7**	**-0.3**
	baz=284						
CHGB				S	**Sb**	**19 14 05.2**	**-0.7**
	baz=284						
NNSB	**Datong**	**0.85**	**315**	P	**Pb**	**19 13 54.8**	**-0.5**
	baz=314						
NNSB				S	**Sb**	**19 14 05.5**	**-1.0**
	baz=314						
NNS	**Nan Shan**	**0.87**	**315**	P	**Pb**	**19 13 54.9**	**-0.7**
	baz=315						
NNS				S	**Sb**	**19 14 06.2**	**-0.8**
	baz=315						
TWT	**Tachien**	**0.90**	**299**	⇑*i*P	**Pb**	**19 13 56.2**	**0.0**
	baz=296						
TWT				S	**Sb**	**19 14 07.2**	**-0.7**
	baz=296						
TDCB	**Techi**	**0.92**	**298**	⇓P	**Pb**	**19 13 56.1**	**-0.3**
	baz=296						
TDCB				*e*S	**Sb**	**19 14 07.6**	**-0.7**
	baz=296						
ENTT	**Nioudou**	**0.92**	**332**	P	**Pn**	**19 13 56.5**	**+0.2**
	baz=333						
ENTT				S	**Sb**	**19 14 07.9**	**-0.4**
	baz=333						
FULB	**Fuli**	**0.93**	**228**	P	**Pb**	**19 13 56.0**	**-0.5**
	baz=213						
FULB				S	**Sb**	**19 14 08.3**	**-0.2**
	baz=213						
CHKT	**Chengkung**	**0.95**	**221**	P	**Pb**	**19 13 56.1**	**-0.8**
	baz=208						
CHKT				S	**Sb**	**19 14 07.5**	**-1.7**
	baz=208						
TWE	**Neicheng**	**0.96**	**339**	P	**Pn**	**19 13 56.8**	**+0.1**
	baz=341						
TWE				S	**Sb**	**19 14 08.8**	**-0.5**
	baz=341						
ILA	**Ilan**	**0.98**	**344**	*e*S	**Sn**	**19 14 10.3**	**+0.4**
	baz=346						
SSLB	**Suanglung**	**1.00**	**268**	*e*P	**Pb**	**19 13 56.7**	**-1.0**
	baz=265						
SSLB				*e*S	**Sb**	**19 14 09.1**	**-1.5**
	baz=265						
JYNG	**Yonagunijimaku**	**1.03**	**53**	P	**Pn**	**19 13 58.8**	**+1.1**
JYNG				*e*S	**Sn**	**19 14 12.3**	**+1.0**
YHNB	**Yeheng**	**1.04**	**324**	P	**Pb**	**19 13 58.0**	**-0.5**
	baz=313						
YHNB				*e*S	**Sb**	**19 14 10.4**	**-1.4**
	baz=313						
NTC	**Toucheng**	**1.05**	**349**	P	**Pn**	**19 13 58.8**	**+0.8**
	baz=5.0						
NTC				S	**Sn**	**19 14 12.0**	**+0.3**
	baz=5.0						
SMLT	**Sun Moon Lake**	**1.05**	**274**	P	**Pn**	**19 13 58.3**	**+0.2**
	baz=270						
SMLT				S	**Sb**	**19 14 11.8**	**-0.3**
	baz=270						
YUS	**Yu-Shan**	**1.06**	**252**	P	**Pb**	**19 13 58.8**	**-0.1**
	baz=248						
YUS				S	**Sb**	**19 14 11.8**	**-0.8**
	baz=248						
NWLT	**Wulai**	**1.07**	**333**	P	**Pn**	**19 13 58.4**	**+0.1**
	baz=321						
NWLT				S	**Sb**	**19 14 11.9**	**-0.8**
	baz=321						
YOJ	**Yonaguni jima**	**1.09**	**54**	P	**Pb**	**19 13 59.7**	**+0.4**
	baz=57						
YOJ				*e*S	**Sn**	**19 14 14.1**	**+1.5**
	baz=57						
YOJ	**Yonaguni jima**	**1.09**	**54**	P	**Pb**	**19 13 59.6**	**+0.4**
YOJ				*e*S	**Sn**	**19 14 13.7**	**+1.0**
TYC	**Yuchr**	**1.09**	**275**	⇓P	**Pn**	**19 13 58.7**	**+0.2**
	baz=271						
TYC				*e*S	**Sb**	**19 14 12.1**	**-1.0**
	baz=271						
ELDTW	**Lidau**	**1.14**	**236**	*e*P	**Pn**	**19 13 59.0**	**-0.2**
	baz=222						
ELDTW				*e*S	**Sb**	**19 14 12.8**	**-1.7**
	baz=222						
ALS	**Alishan**	**1.18**	**255**	*e*P	**Pb**	**19 14 00.7**	**-0.2**
	baz=251						
ALS				*e*S	**Sb**	**19 14 15.3**	**-0.7**
	baz=251						
TWB1	**Santiao Chiao**	**1.18**	**357**	*e*S	**Sb**	**19 14 14.8**	**-0.9**
	baz=360						
WJS	**Zhushan**	**1.21**	**270**	*e*P	**Pb**	**19 14 01.4**	**+0.2**
	baz=267						
WJS				*e*S	**Sb**	**19 14 16.7**	**+0.2**
	baz=267						
TWA	**Mucha**	**1.23**	**340**	P	**Pb**	**19 14 01.2**	**-0.4**
	baz=329						
TWA				*e*S	**Sn**	**19 14 16.2**	**+0.1**
	baz=329						
LIOB	**Emei**	**1.25**	**311**	P	**Pb**	**19 14 02.0**	**0.0**
	baz=310						
LIOB				S	**Sb**	**19 14 17.4**	**-0.2**
	baz=310						
NSTT	**Nanjuang**	**1.25**	**310**	⇓P	**Pb**	**19 14 01.8**	**-0.1**
	baz=309						
NSTT				S	**Sn**	**19 14 16.6**	**0.0**
	baz=309						
WNT	**Mingjian**	**1.25**	**273**	P	**Pb**	**19 14 02.2**	**+0.3**
	baz=270						
WNT				S	**Sb**	**19 14 18.2**	**+0.6**
	baz=270						
TATO	**Taipei**	**1.25**	**336**	*e*P	**Pb**	**19 14 01.5**	**-0.6**
	baz=337						
TATO				*e*S	**Sn**	**19 14 17.0**	**+0.2**
	baz=337						
WLTB	**Daxi**	**1.25**	**325**	*e*P	**Pb**	**19 14 02.1**	**+0.1**
	baz=325						
WLTB				*e*S	**Sb**	**19 14 18.5**	**+0.7**
	baz=325						
NWF	**Wu-fen Shan**	**1.27**	**349**	*e*P	**Pb**	**19 14 02.2**	**-0.1**
	baz=350						
NWF				*e*S	**Sb**	**19 14 18.4**	**+0.1**
	baz=350						
WFSB	**Wu-fen Shan**	**1.27**	**349**	*e*P	**Pb**	**19 14 02.1**	**-0.2**
	baz=350						
WFSB				*e*S	**Sb**	**19 14 18.2**	**0.0**
	baz=350						
CHN5	**Tsauling**	**1.27**	**260**	P	**Pb**	**19 14 02.2**	**-0.2**
	baz=249						
CHN5				*e*S	**Sn**	**19 14 18.0**	**+0.7**
	baz=249						
TWQ1	**Liyutan**	**1.27**	**294**	*e*P	**Pb**	**19 14 02.4**	**-0.1**
	baz=292						
TWQ1				*e*S	**Sb**	**19 14 18.6**	**+0.1**
	baz=292						
TCU	**Taichung**	**1.29**	**285**	P	**Pb**	**19 14 02.9**	**+0.2**
	baz=282						
TCU				S	**Sb**	**19 14 20.1**	**+1.2**
	baz=282						
TAP1	**Taipei**	**1.30**	**339**	*e*P	**Pb**	**19 14 03.4**	**+0.5**
	baz=328						
TAP1				*e*S	**Sb**	**19 14 18.7**	**-0.4**
	baz=328						
NSY	**Sanyi**	**1.31**	**297**	P	**Pb**	**19 14 03.0**	**-0.1**
	baz=296						
TWGBT	**Beinan**	**1.34**	**222**	*e*P	**Pn**	**19 14 01.7**	**-0.2**
	baz=228						
TWGBT				*e*S	**Sn**	**19 14 16.6**	**-2.2**
	baz=228						
TWG	**Pinlang**	**1.34**	**222**	*e*P	**Pn**	**19 14 01.9**	**-0.1**
	baz=228						
TWG				*e*S	**Sn**	**19 14 16.9**	**-2.0**
	baz=228						
NMLH	**Miaoli**	**1.35**	**302**	P	**Pb**	**19 14 04.6**	**+1.0**
	baz=287						
NMLH				S	**Sb**	**19 14 20.3**	**-0.2**
	baz=287						
STYT	**Tauyuan**	**1.35**	**241**	P	**Pn**	**19 14 03.1**	**+0.9**
	baz=231						
STYT				*e*S	**Sn**	**19 14 19.9**	**+0.6**
	baz=231						
WGK	**Gukeng**	**1.37**	**265**	*e*P	**Pb**	**19 14 03.9**	**0.0**
	baz=261						
WGK				*e*S	**Sb**	**19 14 21.7**	**+0.7**
	baz=261						
SBCB	**Hsinchu**	**1.37**	**315**	*e*S	**Sb**	**19 14 21.5**	**+0.5**
	baz=314						
PTSB	**Yuanli**	**1.37**	**297**	*e*P	**Pb**	**19 14 03.5**	**-0.5**
	baz=295						
PTSB				*e*S	**Sn**	**19 14 20.7**	**+1.0**
	baz=295						
NCUH	**Zhongli**	**1.38**	**326**	*e*P	**Pn**	**19 14 03.3**	**+0.7**
	baz=325						
NCUH				*e*S	**Sn**	**19 14 20.1**	**+0.1**
	baz=325						
WCHH	**Zhanghua**	**1.38**	**281**	P	**Pb**	**19 14 04.3**	**+0.1**
	baz=278						
WCHH				*e*S	**Sb**	**19 14 21.6**	**+0.1**
	baz=278						
NCU	**National Centr**	**1.39**	**326**	*e*P	**Pn**	**19 14 02.8**	**+0.2**
	baz=326						
NCU				*e*S	**Sn**	**19 14 20.8**	**+0.8**
	baz=326						
WDLH	**Douliu**	**1.39**	**265**	*e*P	**Pb**	**19 14 04.2**	**-0.1**
	baz=262						
WDLH				*e*S	**Sb**	**19 14 22.6**	**+1.0**
	baz=262						
YM01	**YM01**	**1.39**	**342**	*e*P	**Pb**	**19 14 04.5**	**+0.2**
	baz=327						
YM01				*e*S	**Sb**	**19 14 21.6**	**-0.1**
	baz=327						
TWS1	**Kuangyinshan**	**1.40**	**336**	*e*S	**Sn**	**19 14 20.9**	**+0.6**
	baz=337						
TPUB	**Ta-pu**	**1.40**	**248**	*e*P	**Pb**	**19 14 04.3**	**-0.2**
	baz=245						
TPUB				*e*S	**Sb**	**19 14 22.4**	**+0.4**
	baz=245						
YM10	**YM10**	**1.40**	**342**	*e*P	**Pb**	**19 14 04.0**	**-0.6**
	baz=326						
YM10				*e*S	**Sn**	**19 14 20.5**	**+0.1**
	baz=326						
YM07	**YM07**	**1.40**	**344**	*e*P	**Pb**	**19 14 03.9**	**-0.7**
	baz=345						
YM07				*e*S	**Sn**	**19 14 20.9**	**+0.4**
	baz=345						
YM04	**YM04**	**1.40**	**341**	*e*P	**Pb**	**19 14 03.6**	**-1.0**
	baz=326						
YM04				*e*S	**Sn**	**19 14 20.2**	**-0.3**
	baz=326						
CHN4	**Tsaushan**	**1.41**	**251**	P	**Pb**	**19 14 04.9**	**+0.1**
	baz=248						
CHN4				S	**Sb**	**19 14 23.2**	**+0.8**
	baz=248						
YM08	**YM08**	**1.42**	**343**	*e*P	**Pn**	**19 14 03.8**	**+0.7**
	baz=328						
YM08				*e*S	**Sn**	**19 14 20.1**	**-0.9**
	baz=328						
WTP	**Ta-pu**	**1.43**	**247**	P	**Pb**	**19 14 04.9**	**-0.2**
	baz=243						
WTP				*e*S	**Sb**	**19 14 23.7**	**+0.7**
	baz=243						
NTST	**Danshui**	**1.44**	**338**	*e*S	**Sn**	**19 14 22.1**	**+0.7**
	baz=339						
CHN2	**Minshiung**	**1.47**	**259**	*e*P	**Pb**	**19 14 05.5**	**-0.1**
	baz=256						
CHN2				*e*S	**Sb**	**19 14 25.3**	**+1.4**
	baz=256						
TWY	**Chenhua**	**1.50**	**344**	*e*P	**Pb**	**19 14 05.6**	**-0.7**
	baz=345						
TWY				*e*S	**Sb**	**19 14 24.7**	**-0.2**
	baz=345						
SLGT	**Liugui**	**1.53**	**238**	*e*P	**Pb**	**19 14 06.1**	**-0.6**
	baz=226						
SLGT				*e*S	**Sb**	**19 14 25.8**	**+0.1**
	baz=226						
CHN1	**Nanshi**	**1.53**	**246**	*e*P	**Pb**	**19 14 06.5**	**-0.3**
	baz=243						
CHN1				*e*S	**Sb**	**19 14 26.0**	**+0.3**
	baz=243						
SGST	**Jiashian**	**1.53**	**242**	P	**Pb**	**19 14 06.9**	**+0.1**
	baz=228						
SGST				S	**Sb**	**19 14 26.8**	**+1.1**
	baz=228						
TWK	**Hsinying**	**1.53**	**249**	*e*P	**Pb**	**19 14 06.4**	**-0.4**
	baz=246						
TWK				*e*S	**Sb**	**19 14 26.1**	**+0.2**
	baz=246						
RLNB	**Erlin**	**1.54**	**273**	*e*P	**Pb**	**19 14 06.3**	**-0.6**
	baz=270						
RLNB				*e*S	**Sb**	**19 14 26.3**	**+0.2**
	baz=270						
ECL	**Taimali**	**1.58**	**220**	*e*S	**Sn**	**19 14 23.4**	**-1.4**
	baz=216						
WTCT	**Ta-ch'eng**	**1.62**	**272**	*e*S	**Sb**	**19 14 28.9**	**+0.7**
	baz=269						
IRIF	**Iriomote-Funau**	**1.62**	**71**	P	**Pb**	**19 14 07.2**	**-1.1**
IRIF				S	**Sb**	**19 14 27.8**	**-0.5**
HATJ	**Hateruma jima**	**1.63**	**81**	P	**Pb**	**19 14 07.4**	**-1.0**
HATJ				*e*S	**Sb**	**19 14 27.4**	**-1.1**
WLGB	**Puzi**	**1.64**	**258**	*e*P	**Pb**	**19 14 07.8**	**-0.8**
	baz=255						
WLGB				*e*S	**Sb**	**19 14 29.4**	**+0.7**
	baz=255						
WSF	**Szhu**	**1.68**	**264**	*e*P	**Pb**	**19 14 08.3**	**-1.0**
	baz=261						
WSF				*e*S	**Sb**	**19 14 30.1**	**+0.1**
	baz=261						
SSD	**Sandimen**	**1.68**	**231**	*e*P	**Pb**	**19 14 08.7**	**-0.7**
	baz=223						
SSD				*e*S	**Sn**	**19 14 29.1**	**+1.7**
	baz=223						
CHN8	**Yiju**	**1.75**	**255**	*e*P	**Pb**	**19 14 09.2**	**-1.3**
	baz=251						
CHN8				*e*S	**Sn**	**19 14 30.8**	**+1.9**
	baz=251						
MASBT	**Mashibuluo**	**1.77**	**227**	*e*P	**Pn**	**19 14 08.8**	**+0.9**
	baz=222						
MASBT				*e*S	**Sb**	**19 14 32.8**	**+0.2**
	baz=222						
PCYT	**Pengchaiyu**	**1.80**	**1**	*e*P	**Pn**	**19 14 08.5**	**+0.2**
	baz=3.0						
EAST	**Anshuo**	**1.81**	**218**	*e*P	**Pn**	**19 14 09.6**	**+1.1**
	baz=215						
JKRS	**Kuro-shima**	**1.84**	**77**	P	**Pb**	**19 14 10.5**	**-1.5**
JKRS				S	**Sb**	**19 14 33.7**	**-1.0**
SCZT	**Fangliau**	**1.95**	**223**	*e*P	**Pb**	**19 14 12.5**	**-1.4**
	baz=216						
SCZT				*e*S	**Sb**	**19 14 36.7**	**-1.1**
	baz=216						
JIJ	**Ishigaki jima**	**1.99**	**74**	P	**Pn**	**19 14 12.0**	**+1.1**
JIJ				S	**Sn**	**19 14 35.3**	**+0.3**
WLCH	**Liuqiu**	**2.12**	**227**	*e*P	**Pb**	**19 14 16.9**	**+0.1**
	baz=224						
TWP	**Hsiaoliuchiu**	**2.14**	**227**	*e*S	**Sb**	**19 14 44.4**	**+1.3**

	baz=224						
HEN	**Hengchun**	**2.17**	**214**	*e*S	**Sn**	**19 14 40.0**	**+0.6**
	baz=203						
TSEB	**Hengchuen, Pin**	**2.19**	**209**	*e*S	**Sn**	**19 14 41.0**	**+1.3**
	baz=208						
TWKBT	**Hengchun**	**2.19**	**212**	*e*P	**Pn**	**19 14 14.4**	**+0.7**
	baz=209						
TWKBT				*e*S	**Sn**	**19 14 40.3**	**+0.4**
	baz=209						
TWK1	**Hengchun**	**2.19**	**212**	*e*S	**Sn**	**19 14 39.5**	**-0.5**
	baz=209						
JISG	**Ishigakijimahi**	**2.20**	**69**	P	**Pn**	**19 14 14.8**	**+1.0**
JISG				*e*S	**Sn**	**19 14 40.3**	**+0.1**
WDGT	**Dungji**	**2.26**	**256**	*e*P	**Pn**	**19 14 15.4**	**+0.8**
	baz=253						
WDGT				*e*S	**Sn**	**19 14 40.9**	**-0.7**
	baz=253						
PHUB	**P'eng-hu**	**2.29**	**263**	*e*P	**Pn**	**19 14 15.8**	**+0.8**
	baz=260						
PHUB				*e*S	**Sn**	**19 14 41.8**	**-0.5**
	baz=260						
PNG	**Penghu**	**2.30**	**264**	P	**Pn**	**19 14 15.8**	**+0.6**
	baz=261						
PNG				*e*S	**Sn**	**19 14 42.1**	**-0.4**
	baz=261						
VCHM	**Qimei**	**2.48**	**256**	*e*P	**Pn**	**19 14 18.5**	**+0.9**
	baz=253						
VCHM				*e*S	**Sn**	**19 14 46.6**	**-0.3**
	baz=253						
JTJ	**Tarama**	**2.56**	**71**	S	**Sn**	**19 14 50.4**	**+1.4**
VWUC	**VWUC**	**2.64**	**297**	*e*P	**Pn**	**19 14 19.5**	**-0.3**
	baz=296						
PTMZ	**Houxiangcun**	**2.93**	**295**	*e*P	**Pn**	**19 14 23.5**	**-0.3**
	baz=294						
MATB	**Ma-tsu**	**3.00**	**321**	*e*P	**Pn**	**19 14 24.6**	**-0.2**
	baz=321						
KNM	**Kinmen**	**3.35**	**281**	*e*P	**Pn**	**19 14 31.3**	**+1.6**
	baz=279						
KNMB	**Chin-men Tao**	**3.40**	**282**	*e*P	**Pn**	**19 14 30.0**	**-0.3**
	baz=280						
LYJJ	**Jianjiangzhen**	**3.42**	**323**	*e*S	**Sn**	**19 15 07.1**	**-3.0**
	baz=323						
AXDP	**Jialang**	**3.87**	**287**	*e*P	**Pn**	**19 14 36.6**	**-0.1**
	baz=285						
ZPLA	**Ao Xicun**	**3.93**	**272**	*e*P	**Pn**	**19 14 37.8**	**+0.2**
	baz=270						

IDC 22 19:16:20.6±5.8, 7°45S×151°69E, h0km, mb3.1/4, mb1 3.3/4, mb1mx3.2/23, mbtmp3.2/4, Error ellipse: s-maj=172.9km s-min=31.4km az=110.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.91**	**232**	P	P	19 21 06.0	+1.2
	0.1nm,0.5s,baz=55,slow=10,SNR=1.7						
ASAR	**Alice Springs**	**23.48**	**225**	P	P	19 21 31.1	-1.0
	0.3nm,0.6s,baz=58,slow=9.2,SNR=7.6						
SONM	**Songino Array**	**67.99**	**329**	P	P	19 27 22.7	+1.0
	0.1nm,0.4s,baz=123,slow=5.3,SNR=1.7						
MKAR	**Makanchi Array**	**81.60**	**319**	P	P	19 28 40.0	-0.5
	0.3nm,0.4s,baz=112,slow=7.9,SNR=8.1						

MEX 22 19:16:42.9±0.5, 18°43N×100°96W, h5km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.60**	**105**	*e*P	Pg	19 16 53.5	-0.9
ARIG				*e*S	Sg	19 17 02.3	+0.1
ZIIG	**Zihuatanejo**	**0.95**	**211**	*i* P	Pg	19 16 58.7	-2.5
ZIIG				*e*S	Sg	19 17 11.7	-2.0
MEIG	**Mezcala**	**1.37**	**111**	*e*P	Pn	19 17 04.7	-4.0
MEIG				*i* S	Sb	19 17 22.3	-4.5
PLIG	**Platanillo**	**1.38**	**91**	*e*P	Pn	19 17 06.0	-3.0
PLIG				*i* S	Sb	19 17 23.4	-3.9

JMA 22 19:30:10.7±0.2, 27°74N×138°37E, h575km, M3.4
ISCJB 22 19:30:11.6±0.5, 27°74N±0°08×138°26E±0°08, h550km, mb3.3/6, Error ellipse: s-maj=12.3km s-min=7.7km az=37.7
IDC 22 19:30:11.5±1.4, 27°66N×137°97E, h519km±34km, mb2.8/6, mb1 3.0/9, mb1mx2.8/33, mbtmp3.8/9, Error ellipse: s-maj=64.2km s-min=12.1km az=67.0
ISC 22 19:30:12.7±0.7, 27°8N±0°1×138°4E±0°1, h550km, n17, σ0s92/22, mb3.3/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.47**	**101**	P	**P**	**19 31 30.8**	**0.0**
CBIJ				S	**S**	**19 32 33.2**	**-1.2**
JCJ	**Chichijima**	**3.47**	**101**	P	**P**	**19 31 30.7**	**0.0**
	5.0nm,0.3s,baz=12,slow=21,SNR=14						
JCJ				S	**S**	**19 32 33.4**	**-1.0**
	12nm,0.3s,baz=261,slow=22,SNR=8.4						
JHHJ	**Haha-jima-NKT**	**3.59**	**108**	P	**P**	**19 31 32.1**	**+0.5**
JHHJ				*e*S	**S**	**19 32 36.0**	**+0.1**
JHJ2	**Mitsune**	**5.44**	**13**	P	**P**	**19 31 46.5**	**+0.4**
JTNC	**Tanabenakahech**	**6.45**	**339**	P	**P**	**19 31 56.1**	**+0.8**
JIE	**Ise**	**6.72**	**348**	P	**P**	**19 31 59.3**	**+1.5**
JAMN	**Amaminishikomi**	**8.13**	**275**	P	**P**	**19 32 11.1**	**-0.5**
JRY	**Ryogami san**	**8.20**	**3**	P	**P**	**19 32 11.6**	**-0.7**
JSJ	**Shimokoshiki**	**8.45**	**299**	P	**P**	**19 32 13.8**	**-1.0**
MJAR	**Matsushiro Arr**	**8.71**	**359**	P	**P**	**19 32 15.4**	**-1.9**
	0.5nm,0.3s,baz=179,slow=11,SNR=7.8						
USRK	**Uesurisyk Ar.**	**17.15**	**344**	P	**P**	**19 33 44.2**	**+1.7**
	0.2nm,0.3s,baz=149,slow=12,SNR=3.1						
SONM	**Songino Array**	**31.88**	**318**	P	**P**	**19 35 52.8**	**-0.3**
	0.2nm,0.5s,baz=123,slow=8.1,SNR=1.9						
ZALV	**Zalesovo Beam**	**46.73**	**319**	P	**P**	**19 37 52.2**	**-0.1**
	0.4nm,0.5s,baz=87,slow=8.8,SNR=1.8						
MKAR	**Makanchi Array**	**47.40**	**309**	P	**P**	**19 37 57.0**	**-0.5**
	0.5nm,0.5s,baz=90,slow=9.2,SNR=12						
WRA	**Warramunga Arr**	**47.62**	**185**	P	**P**	**19 37 58.9**	**-0.4**
	1.9nm,0.7s,baz=0.6,slow=7.8,SNR=31						
WRA				PcP	**PcP**	**19 39 18.8**	**+0.7**
	0.1nm,0.4s,baz=358,slow=4.1,SNR=5.3						
ASAR	**Alice Springs**	**51.35**	**185**	P	**P**	**19 38 26.3**	**-0.4**
	0.4nm,0.4s,baz=15,slow=12,SNR=17						
ASAR				PcP	**PcP**	**19 39 32.8**	**+0.9**
	0.2nm,0.5s,baz=358,slow=2.9,SNR=2.5						
STKA	**Stephens Creek**	**59.43**	**177**	P	**P**	**19 39 23.1**	**+0.4**
	1.6nm,0.6s,baz=337,slow=13,SNR=5.5						

JMA 22 19:36:04.5±0.1, 39°29N×143°83E, h47km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.58**	**281**	P	Pn	19 36 30.9	+0.8
MIYJ				S	Sn	19 36 50.0	+0.6
JTH	**Tanohata**	**1.65**	**294**	P	Pn	19 36 31.7	+0.7
JTH				S	Sn	19 36 51.9	+0.8
OFUJ	**Ofunato**	**1.69**	**264**	P	Pn	19 36 32.3	+0.7
OFUJ				S	Sn	19 36 52.9	+0.8
JOM	**Ohasama**	**1.98**	**276**	P	Pn	19 36 36.6	+1.1
JOM				S	Sn	19 37 00.3	+1.3
JMK	**Ichinoseki**	**2.06**	**261**	P	Pn	19 36 37.5	+0.9
JMK				S	Sn	19 37 02.3	+1.3
JANG	**Nango**	**2.08**	**302**	P	Pn	19 36 37.6	+0.6
JANG				S	Sn	19 37 01.8	+0.1
JRG	**Rokugo**	**2.48**	**273**	P	Pn	19 36 43.9	+1.5
JRG				S	Sn	19 37 13.0	+1.6
JTM	**Tenmabayashi**	**2.59**	**306**	P	Pn	19 36 45.2	+1.3
JTM				S	Sn	19 37 14.7	+0.5
JAH	**Hinai**	**2.62**	**291**	P	Pn	19 36 45.9	+1.6
JAH				*e*S	Sn	19 37 16.9	+2.0
JOU	**Okura**	**2.64**	**251**	P	Pn	19 36 45.2	+0.6
JOU				S	Sn	19 37 16.2	+0.8
JYK	**Kaneyama**	**2.73**	**263**	P	Pn	19 36 47.2	+1.4
JYK				*e*S	Sn	19 37 19.0	+1.5
JOT	**Ohata**	**2.98**	**315**	*e*S	Sn	19 37 23.1	-0.6
JNBK	**Urakawa-nobuka**	**3.10**	**345**	P	Pn	19 36 50.9	+0.1
JNBK				*e*S	Sn	19 37 26.9	+0.3

NNC 22 19:41:51.7±2.9, 36°48N×69°85E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=26.7km s-min=21.2km az=140.0
ISC 22 19:41:49.2±3.2, 36°3N±0°2×69°8E±0°1, h10km, n12, σ1s39/16, 3C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.75**	**37**	⇓P	**Pn**	**19 43 01.9**	**+0.9**
	5.3nm,0.3s						
SFK				⇓S	**Sn**	**19 43 58.0**	**+1.7**
	7.4nm,0.3s						
MNAS	**Manas**	**6.57**	**18**	⇑P	**Pn**	**19 43 26.7**	**+0.7**
	2.7nm,0.4s						
MNAS				⇓S	**Sn**	**19 44 38.6**	**-2.4**
	3.6nm,0.4s						
AML	**Almayashu**	**6.60**	**26**	P	**Pn**	**19 43 26.6**	**0.0**
	SNR=23						
KK31	**Karatay Array**	**6.87**	**4**	P	**Pn**	**19 43 31.3**	**+1.3**
	2.1nm,0.3s,baz=194,slow=15,SNR=40						
KK31				⇑S	**Sn**	**19 44 49.9**	**+1.7**
	2.0nm,0.4s,baz=189,slow=22,SNR=3.6						
UCH	**Uchtor**	**6.99**	**30**	P	**Pn**	**19 43 31.9**	**-0.2**
	SNR=6.7						
EKS2	**Erkin-Say**	**7.10**	**24**	P	**Pn**	**19 43 33.7**	**+0.5**
	SNR=7.8						
AAK	**Ala-Archa**	**7.33**	**28**	⇓P	**Pn**	**19 43 36.1**	**-0.4**
	2.3nm,0.6s						
AAK				⇑S	**Sn**	**19 44 58.4**	**-1.4**
	6.5nm,0.6s						
CHMS	**Chumysh**	**7.74**	**28**	P	**Pn**	**19 43 41.6**	**-0.3**
	SNR=6.2						
TKM2	**Tokmak 2**	**8.02**	**32**	P	**Pn**	**19 43 45.2**	**-0.7**
	SNR=6.2						
MK31	**Makanchi Array**	**14.06**	**38**	P	**Pn**	**19 45 11.0**	**+2.6**
	1.8nm,0.9s,baz=219,slow=12,SNR=5.0						
AB31	**Akbulak array**	**14.87**	**334**	P	**Pn**	**19 45 18.7**	**-0.7**
	0.9nm,0.4s,baz=154,slow=13,SNR=34						
BVA0	**Borovoye Array**	**16.78**	**1**	P	**P**	**19 45 46.3**	**-0.1**
	2.0nm,1.1s,baz=172,slow=13,SNR=4.6						

PGC 22 19:54:41.0±65.0, 48°91N×128°76W, h10km, MLSn2.9/10, Mw3.5/10, 209km west of Tofino, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BPBC	**Brooks Peninsu**	**1.40**	**27**	Pn	Pn	19 55 00.1	-6.6
EDB	**Eliza Dome**	**1.44**	**48**	Pn	Pn	19 55 04.5	-2.6
PACB	**Port Alice, BC**	**1.73**	**28**	Pn	Pn	19 55 07.8	-3.3
PACB					Sn	19 55 28.8	-4.4
TOFB	**Tofino**	**1.89**	**82**		Sn	19 55 33.9	-3.4
WOSB	**Woss**	**1.90**	**48**	Pn	Pn	19 55 11.8	-1.7
OZB	**Mount Ozzard**	**2.15**	**88**	Pn	Pn	19 55 11.5	-5.6
OZB					Sn	19 55 39.5	-4.3
BTB	**Buttle Lake**	**2.20**	**74**	Pn	Pn	19 55 15.9	-1.8
B928	**Bamfield**	**2.40**	**91**	Pn	Pn	19 55 16.0	-4.2
B928					Sn	19 55 45.5	-4.1
CBB	**Campbell River**	**2.48**	**62**		Sn	19 55 50.1	-1.7
MGB	**Mount Grey**	**2.68**	**87**	Pn	Pn	19 55 22.1	-2.3
MGB					Sn	19 55 53.1	-3.9
PFB	**Port Renfrew**	**2.88**	**95**		Sn	19 55 57.5	-4.1
B926	**Mesachie Lake**	**3.06**	**90**		Sn	19 56 03.5	-2.4
NLLB	**Nanaimo Lost L**	**3.15**	**82**		Sn	19 56 08.1	-0.3
SHB	**Sechelt**	**3.27**	**76**	Pn	Pn	19 55 33.3	+0.9
SHB					Sn	19 56 11.6	+0.1
BBB	**Bella Bella**	**3.30**	**7**	Pn	Pn	19 55 31.0	-1.7

MEX 22 19:55:45.1±0.4, 13°58N×90°23W, h10km, MD3.8, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**2.37**	**304**	*i* P	Pn	19 56 21.8	-2.3
THIG				*i* S	Sn	19 56 48.7	-4.6
PCIG		**3.58**	**307**	*e*P	Pn	19 56 38.5	-2.2
PCIG				*e*S	Sn	19 57 20.0	-3.1

IDC 22 19:55:50.8±0.8, 32°46N×88°20E, h0km, mb3.7/9, mb1 3.9/13, mb1mx3.6/40, mbtmp3.7/13, ML3.4/4, MS3.2/13, Ms1 3.2/13, ms1mx3.1/39, Error ellipse: s-maj=32.6km s-min=15.8km az=54.0
ISCJB 22 19:55:54.9±0.4, 32°78N±0°04×88°36E±0°07, h33km, mb3.8/10, MS3.3/12, Error ellipse: s-maj=8.4km s-min=5.7km az=173.5
ISC 22 19:55:56.9±0.7, 32°77N±0°08×88°30E±0°10, h35km, n41, σ1s69/31, mb3.9/10, MS3.1/12, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUN	**Gumba**	**5.28**	**204**	*e*P	**Pn**	**19 57 14.9**	**+1.3**
	20nm,0.6s						
JIRN	**Jiri**	**5.41**	**200**	*e*P	**Pn**	**19 57 17.5**	**+2.0**
	41nm,0.5s						
KKN	**Kakani**	**5.61**	**209**	*e*P	**Pn**	**19 57 19.2**	**+1.1**
	12nm,0.5s						
PKI	**Pulchoki**	**5.76**	**207**	*e*P	**Pn**	**19 57 21.5**	**+1.3**
	16nm,0.5s						
PKIN	**Phulchoki**	**5.76**	**207**	*e*P	**Pn**	**19 57 21.4**	**+1.3**
	8.4nm,0.4s						
DMN	**Daman**	**5.84**	**209**	*e*P	**Pn**	**19 57 22.5**	**+1.2**
	11nm,0.3s						
DANN	**Dangsing**	**5.90**	**223**	*e*P	**Pn**	**19 57 22.0**	**0.0**
	10nm,0.3s						
RAMN	**Ramite**	**5.99**	**195**	*e*P	**Pn**	**19 57 24.8**	**+1.5**
	46nm,0.5s						
KOLN	**Koldanda**	**6.43**	**220**	*e*P	**Pn**	**19 57 29.1**	**-0.2**
	6.7nm,0.3s						
PYUN	**Piuthan**	**6.54**	**226**	*e*P	**Pn**	**19 57 29.8**	**-0.9**
	15nm,0.5s						
SHL	**Shillong**	**7.83**	**156**	*e*P	**Pn**	**19 57 48.0**	**-0.5**
AAK	**Ala-Archa**	**14.69**	**316**	Pn	**Pn**	**19 59 20.3**	**-1.9**
	0.1nm,0.3s,baz=285,slow=16,SNR=2.1						
MKAR	**Makanchi Array**	**14.74**	**344**	Pn	**Pn**	**19 59 22.7**	**0.0**
	0.2nm,0.3s,baz=156,slow=12,SNR=14						
MKAR				LR	LR	20 06 18.2	
	comp=Z,115nm,18.7s,baz=155,slow=42						
CHTO	**Chiang Mai**	**16.87**	**143**	P	**Pn**	**19 59 50.8**	**+0.5**
	19nm,0.9s						
CMMT	**Chiang Mai**	**16.87**	**143**	P	**Pn**	**19 59 50.8**	**+0.4**
	4.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**17.17**	**144**	Pn	**Pn**	**19 59 49.5**	**-4.5**
	0.1nm,0.3s,baz=332,slow=13,SNR=9.6						
CMAR				LR	LR	20 06 27.6	
	comp=Z,34nm,19.4s,baz=295,slow=38						
KURBB	**Kurchatov Arra**	**19.24**	**341**	P	**Pn**	**20 00 19.2**	**+0.1**
	0.0nm,0.3s,baz=156,slow=12,SNR=9.4						
PBKT	**Sadao Pong**	**19.79**	**142**	P	**P**	**20 00 24.0**	**-0.2**
	7.3nm,1.0s,1μm						
NONG	**Nongkai**	**19.82**	**134**	P	**P**	**20 00 24.8**	**+0.2**
	0.2nm,0.9s						
UTHA	**Uthaitani**	**19.90**	**147**	P	**P**	**20 00 25.6**	**+0.1**
	4.0nm,0.8s						
SONM	**Songino Array**	**20.34**	**37**	P	Pn	20 00 32.4	+0.1
	1.2nm,0.9s,baz=220,slow=13,SNR=9.2						
SRDT	**SRDT**	**20.82**	**149**	P	**P**	**20 00 35.2**	**-0.3**
	9.4nm,1.6s,1μm						
SKNT	**Sakolnakorn**	**21.17**	**134**	P	**P**	**20 00 42.4**	**+3.2**
	3.0nm,1.6s						
ZALV	**Zalesovo Beam**	**21.31**	**354**	P	**P**	**20 00 40.9**	**+0.5**
	2.6nm,0.8s,baz=173,slow=9.8,SNR=10						
ZALV				LR	LR	20 10 09.5	
	comp=Z,67nm,21.2s,baz=252,slow=40						
SRAK	**Srakaew**	**22.49**	**143**	P	**P**	**20 00 57.5**	**+4.1**
	20nm,0.7s						
BVAR	**Borovoye Array**	**24.00**	**333**	P	**P**	**20 01 09.2**	**+1.1**
	0.5nm,0.6s,baz=145,slow=11,SNR=6.3						
BVAR				LR	LR	20 11 55.2	
	comp=Z,72nm,18.4s,baz=136,slow=40						
PALK	**Pallekele**	**25.34**	**197**	LR	LR	20 11 33.8	
	comp=Z,48nm,18.4s,baz=302,slow=36						
AKTO	**Aktyubinsk**	**28.43**	**317**	LR	LR	20 14 33.9	
	comp=Z,55nm,18.7s,baz=120,slow=39						
KSRS	**Korea Array**	**32.58**	**70**	LR	LR	20 15 51.3	
	comp=Z,16nm,21.3s,baz=257,slow=37						
NRIK	**Noril'sk**	**36.62**	**360**	LR	LR	20 19 18.9	
	comp=Z,72nm,19.2s,baz=42,slow=38						
MJAR	**Matsushiro Arr**	**40.86**	**70**	LR	LR	20 21 38.3	
	comp=Z,23nm,18.9s,baz=280,slow=38						
DAV	**Davao City (W)**	**43.01**	**118**	LR	LR	20 21 34.4	
	comp=Z,24nm,18.6s,baz=75,slow=36						
BRTR	**Keskin Array B**	**44.05**	**295**	LR	LR	20 26 48.2	
	comp=Z,19nm,18.1s,baz=43,slow=42						
AKASG	**Malin Array Be**	**46.28**	**311**	P	**P**	**20 04 19.6**	**+0.8**
	0.5nm,0.3s,baz=80,slow=7.0,SNR=5.2						
FINES	**FINESS Array B**	**48.61**	**325**	P	**P**	**20 04 38.5**	**+1.8**
	2.6nm,0.8s,baz=127,slow=8.9,SNR=2.8						
NOA	**NORSAR Array B**	**55.79**	**325**	LR	LR	20 32 04.4	
	comp=Z,28nm,18.2s,baz=290,slow=39						

GERES	**GERESS Array B**	**56.48**	**310**	P	**P**	**20 05 35.1**	**-0.2**
	0.8nm,0.6s,baz=65,slow=6.3,SNR=7.2						
GERES				LR	LR	20 35 34.4	
	comp=Z,59nm,18.4s,baz=64,slow=42						
WRA	**Warramunga Arr**	**68.44**	**133**	P	**P**	**20 06 53.7**	**-1.7**
	1.0nm,0.7s,baz=324,slow=6.2,SNR=12						
ASAR	**Alice Springs**	**71.01**	**136**	P	**P**	**20 07 09.6**	**-1.7**
	0.8nm,0.7s,baz=325,slow=5.5,SNR=6.9						
KDAK	**Kodiak Island**	**76.39**	**29**	LR	LR	20 42 21.0	
	comp=Z,265nm,19.8s,baz=132,slow=36						
TORD	**Torodi Ar. Bea**	**80.19**	**279**	P	**P**	**20 08 03.1**	**-1.0**
	0.3nm,0.7s,baz=49,slow=4.4,SNR=2.7						

SOME 22 20:05:31.3, 44°30N×82°17E, h25km
NNC 22 20:05:32.9±1.5, 44°56N×82°11E, h25km±9km, mb3.4, mpv2.9, Error ellipse: s-maj=17.7km s-min=5.3km az=112.0
ISC 22 20:05:25.8±1.5, 44°33N±0°05×82°26E±0°05, h0km±11km, n26, σ1s85/47, 9C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.64**	**238**	*e*P	**Pg**	**20 05 58.6**	**+1.5**
	46nm,0.1s						
KTMS				*e*S	**Sg**	**20 06 19.2**	**+0.9**
	145nm,0.2s						
DJR	**Jarkent**	**1.77**	**271**	*e*P	**Pg**	**20 06 01.5**	**+1.8**
	15nm,0.2s						
DJR				*e*S	**Sg**	**20 06 23.3**	**+0.6**
	50nm,0.3s						
PDGK	**Podgornoye**	**2.24**	**244**	⇓Pn	**Pb**	**20 06 07.9**	**+0.7**
	3.5nm,0.4s						
PDGK				⇑Sn	**Sg**	**20 06 37.0**	**-0.7**
	31nm,0.4s						
KAPS	**Kapalarasan**	**2.27**	**296**	*e*P	**Pg**	**20 06 09.9**	**+0.5**
	2.3nm,0.2s						
KAPS				*e*S	**Sg**	**20 06 37.6**	**-1.3**
	31nm,0.2s						
SHLS	**Shalkode**	**2.34**	**241**	*e*P	**Pb**	**20 06 06.7**	**-2.2**
	27nm,0.2s						
SHLS				*e*S	**Sn**	**20 06 32.3**	**-2.8**
	206nm,0.4s						
MK31	**Makanchi Array**	**2.47**	**1**	⇑Pg	**Pg**	**20 06 14.5**	**+1.4**
	1.6nm,0.3s,baz=182,slow=13,SNR=8.3						
MK31				⇑Lg	Lg	20 06 44.9	
	3.4nm,0.3s,baz=180,slow=31,SNR=12						
UZB	**Uzynbulak**	**2.62**	**244**	*e*P	**Pb**	**20 06 14.7**	**+1.0**
	3.9nm,0.2s						
UZB				*e*S	**Sb**	**20 06 46.4**	**-0.2**
	21nm,0.2s						
KPKS	**Kokpek**	**2.72**	**253**	*e*P	**Pb**	**20 06 16.1**	**+0.7**
	6.6nm,0.3s						
KPKS				*e*S	**Sb**	**20 06 47.9**	**-1.4**
	147nm,0.5s						
MNBS	**Baschi**	**2.78**	**266**	*e*P	**Pg**	**20 06 18.3**	**-0.9**
	2.8nm,0.1s						
MNBS				*e*S	**Sg**	**20 06 52.7**	**-2.5**
	36nm,0.3s						
TDK	**Taldyqorghan**	**2.83**	**285**	*e*P	**Pg**	**20 06 19.1**	**-0.9**
	12nm,0.4s						
TDK				*e*S	**Sb**	**20 06 53.7**	**+1.4**
	62nm,0.3s						
ZHN	**Zhinishke**	**3.00**	**249**	*e*P	**Pb**	**20 06 21.5**	**+1.3**
	1.8nm,0.1s						
ZHN				*e*S	**Sb**	**20 06 57.6**	**+0.1**
	24nm,0.3s						
SATY	**Saty**	**3.07**	**247**	*e*P	**Pg**	**20 06 23.4**	**-1.1**
	6.8nm,0.3s						
SATY				*e*S	**Sb**	**20 07 00.6**	**+1.3**
	58nm,0.2s						
KURS	**Kuram**	**3.07**	**256**	*e*P	**Pg**	**20 06 23.2**	**-1.4**
	3.9nm,0.5s						
KURS				*e*S	**Sb**	**20 07 01.4**	**+2.1**
	5.2nm,0.4s						
ARXS	**Arharly**	**3.18**	**269**	*e*P	**Pg**	**20 06 25.6**	**-1.2**
	5.1nm,0.2s						
ARXS				*e*S	**Sb**	**20 07 04.2**	**+1.6**
	11nm,0.2s						
ZSN	**Zaisan**	**3.62**	**29**	*e*P	**Pg**	**20 06 34.6**	**-0.5**
	1.3nm,0.8s						
ZSN				*e*S	**Sg**	**20 07 21.3**	**-0.6**
	5.0nm,0.7s						
CHKK	**Chushkaly**	**3.83**	**265**	*e*P	**Pg**	**20 06 36.8**	**-2.3**
	1.1nm,0.1s						
CHKK				*e*S	**Sb**	**20 07 23.7**	**+2.7**
	18nm,0.2s						
KOTS	**Kotyrbulak**	**3.88**	**255**	*e*P	**Pb**	**20 06 37.5**	**+2.3**
	3.3nm,0.5s						
KOTS				*e*S	**Sb**	**20 07 25.2**	**+2.4**
	9.0nm,0.3s						
MDOK	**Medeo**	**3.95**	**255**	*e*P	**Pg**	**20 06 40.9**	**-0.6**
	2.1nm,0.3s						
MDOK				*e*S	**Sg**	**20 07 31.6**	**-1.0**
	7.6nm,0.7s						
KTBS	**Karatobe**	**4.07**	**263**	*e*P	**Pg**	**20 06 42.3**	**-1.4**
	1.3nm,0.3s						
KTBS				*e*S	**Sg**	**20 07 32.9**	**-3.6**
	9.5nm,0.5s						
KUU	**Kurty**	**4.28**	**266**	*e*P	**Pb**	**20 06 44.6**	**+2.7**
	1.0nm,0.2s						
KUU				*e*S	**Sb**	**20 07 37.0**	**+2.8**
	9.0nm,0.2s						
IZV	**Izvestkoviy**	**4.29**	**254**	*e*P	**Pg**	**20 06 48.2**	**+0.1**
	3.9nm,0.5s						
IZV				*e*S	**Sg**	**20 07 43.6**	**-0.1**
	13nm,0.8s						
KST	**Kastek**	**4.74**	**256**	*e*P	**Pg**	**20 06 54.9**	**-1.7**
	2.3nm,0.1s						
KST				*e*S	**Sg**	**20 07 54.6**	**-3.5**
	5.9nm,0.4s						
TKM2	**Tokmak 2**	**5.04**	**256**	⇑Pg	**Pg**	**20 07 05.1**	**+2.8**
	2.8nm,0.9s						
TKM2				⇑Sn	**Sn**	**20 07 43.4**	**+1.8**
	2.2nm,0.6s						
TKM2				⇑Lg	Lg	20 08 09.6	
	5.2nm,0.6s						
AAK	**Ala-Archa**	**5.89**	**256**	⇑Lg	Lg	20 08 38.9	

	comp=E,135nm,0.3s								
MTZV	**Met**	**3.27**	**27**	*e*Pg		**Pg**	**20 32 37.6**	**-0.7**
MTZV				IAML			20 33 22.8	
	comp=E,68nm,0.5s								
MTZV				IAML			20 33 28.6	
	comp=N,49nm,0.3s								
BCVB	**Bac Can**	**3.38**	**16**	*e*Pg		**Pg**	**20 32 38.8**	**-1.8**
BCVB				IAML			20 33 26.9	
	comp=E,67nm,0.4s								
BCVB				IAML			20 33 29.4	
	comp=N,54nm,0.4s								
LSVB	**Lang Son stati**	**3.71**	**30**	IAML			20 33 43.2		
	comp=E,30nm,0.7s								
LSVB				IAML			20 33 50.5		
	comp=N,36nm,0.4s								
SPV	**Sa-pa**	**3.80**	**347**	*e*Pg		**Pg**	**20 32 47.7**	**-0.9**
CBVB	**Cao Bang**	**4.23**	**18**	*e*Pg		**Pg**	**20 32 54.5**	**-2.2**
CBVB				IAML			20 33 57.8	
	comp=N,37nm,0.4s								
CBVB				IAML			20 34 03.8		
	comp=E,47nm,0.5s								
PAYA	**Payao**	**4.69**	**280**	P		**Pb**	**20 32 55.4**	**-2.7**
	comp=E,5.9nm,0.6s,comp=E,132nmcomp=E,0.1nm								
LAMP	**Lampang**	**4.87**	**270**	P		**Pb**	**20 33 04.0**	**+2.8**
	comp=E,4.6nm,0.6s,comp=E,193nmcomp=E,0.1nm								
LAMP	**Lampang**	**4.87**	**270**	P		**Sb**	**20 33 58.6**	**-1.2**
SUKH	**Sukhothai**	**5.01**	**258**	P		**Pb**	**20 33 03.1**	**-0.5**
SUKH	**Sukhothai**	**5.01**	**258**	P		**Sb**	**20 34 00.8**	**-3.2**
SRAK	**Srakaew**	**5.28**	**210**	P		**Pb**	**20 33 05.4**	**-2.7**
	comp=E,42nm,0.7s,comp=E,1µmcomp=E,0.8nm								
CMMT	**Chiang Mai**	**5.52**	**273**	P		**Pb**	**20 33 15.4**	**+3.2**
	comp=E,6.3nm,0.6s,comp=E,0.1nm								
CMMT	**Chiang Mai**	**5.52**	**273**	P		**Sb**	**20 34 24.1**	**+5.6**
CHTO	**Chiang Mai**	**5.52**	**273**	P		**Pb**	**20 33 15.5**	**+3.2**
	comp=E,27nm,0.7s,comp=E,0.3nm								
CHTO	**Chiang Mai**	**5.52**	**273**	P		**Sb**	**20 34 24.1**	**+5.5**
UTHA	**Uthaitani**	**5.93**	**240**	P		**Pb**	**20 33 17.2**	**-2.0**
	comp=E,3.1nm,0.6s,comp=E,46nmcomp=E,0.0nm								
UTHA	**Uthaitani**	**5.93**	**240**	P		**Sb**	**20 34 31.5**	**+1.2**
UMPA	**Umpang Tak**	**6.13**	**248**	P		**Pb**	**20 33 26.2**	**+3.6**
UMPA	**Umpang Tak**	**6.13**	**248**	P		**Sb**	**20 34 39.2**	**+3.1**
PATY	**Pattaya**	**6.80**	**214**	P		**Sg**	**20 35 10.6**	**-3.4**
SRDT	**SRDT**	**6.88**	**233**	P		**Sb**	**20 35 02.4**	**+4.7**

*ISCJB **22** 20:38:07.8±0.3,53˚.02N±0˚.02×9˚.10E±0˚.04, h0km, Error ellipse: s-maj=3.5km s-min=2.5km az=38.5*
*IDC **22** 20:38:10.5±1.4,52˚.97N×9˚.19E,h0km, mb1 3.5/6, mb1mx3.2/49, mbtmp3.3/6, ML2.6/4, Error ellipse: s-maj=27.3km s-min=10.2km az=82.0*
*BGR **22** 20:38:11.7±0.3,52˚.98N×9˚.24E, h5km, ML2.8/16, Error ellipse: s-maj=2.2km s-min=2.2km az=67.0*
*PRU **22** 20:38:11.8±0.0,52˚.75N×8˚.93E, h0km*
*GDNRW **22** 20:38:12.0±0.3,52˚.97N×9˚.15E, h5km, ML3.0*
*BNS **22** 20:38:12.5±0.4,52˚.90N×9˚.19E, h2km, ML2.7*
*LDG **22** 20:38:13.0±0.1,52˚.98N×9˚.13E, h10km, Ml2.7/13, Error ellipse: s-maj=3.4km s-min=2.2km az=166.0*
*UPP **22** 20:38:14.7±2.2,53˚.32N×9˚.39E, h0km, ML2.3*

ISC 22 20:38:08.6±0.7,52˚.99N±0˚.03×9˚.17E±0˚.03,h0km,n82,
σ2s10/127,Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRDL	**Niedersach Rie**	**0.76**	**131**	*e*Pg	**Pn**	**20 38 26.8**	**+0.3**
IBBN	**Ibbenburen**	**1.10**	**232**	*e*Pg	**Pn**	**20 38 33.2**	**+2.0**
IBBN				*e*Sg	**Sn**	**20 38 49.5**	**+2.4**
BSEG	**Bad Segeberg**	**1.17**	**36**	*e*Pn	**Pn**	**20 38 33.0**	**+0.8**
BSEG				*e*Pg	**Pb**	**20 38 33.9**	**+2.2**
BSEG				*e*Sg	**Sn**	**20 38 50.8**	**+2.0**
ASSE	**Asse, Remlinge**	**1.26**	**133**	*e*Pn	**Pn**	**20 38 34.1**	**+0.7**
ASSE				*e*Sg	**Sn**	**20 38 52.1**	**+1.1**
CLZ	**Clausthal**	**1.37**	**147**	*e*Pn	**Pb**	**20 38 36.0**	**+0.8**
CLZ				*e*Sg	**Sb**	**20 38 53.7**	**+0.6**
GTTG	**Gvttingen**	**1.53**	**161**	*e*Pn	**Pg**	**20 38 38.4**	**+0.4**
GTTG				*e*Sg	**Sb**	**20 38 58.4**	**+0.7**
CHRS	**Christianenhau**	**1.72**	**143**	*e*Pn	**Pn**	**20 38 40.6**	**+0.8**
CHRS				*e*Sg	**Sn**	**20 39 01.7**	**-0.8**
SORT	**Sorpetalsperre**	**1.80**	**205**	*e*Pn	**Pb**	**20 38 43.0**	**+0.5**
SORT				*e*Sn	**Sn**	**20 39 04.3**	**-0.2**
	131nm,0.3s						
BUG	**Bochum--Univer**	**1.94**	**218**	*e*Pn	**Pn**	**20 38 43.9**	**+1.1**
BUG				*e*Sg	**Sg**	**20 39 15.4**	**+4.4**
POSS	**Possen**	**1.96**	**147**	*e*Pn	**Pn**	**20 38 43.9**	**+0.7**
POSS				*e*Sg	**Sn**	**20 39 08.4**	**-0.1**
WIMM	**Wimmelburg**	**2.06**	**135**	*e*Pn	**Pn**	**20 38 45.0**	**+0.5**
ENTS	**Ennepetalsperr**	**2.06**	**212**	*e*Pn	**Pb**	**20 38 46.2**	**-0.7**
ENTS				*e*Sn	**Sn**	**20 39 10.5**	**-0.4**
	38nm,0.4s						
LAUG	**Laupendahl**	**2.14**	**221**	*e*Pn	**Pn**	**20 38 46.9**	**+1.4**
LAUG				*e*Sn	**Sn**	**20 39 12.9**	**+0.1**
	58nm,0.7s						
VITZ	**Vitzeroda**	**2.19**	**164**	*e*Pn	**Pn**	**20 38 47.2**	**+1.0**
VITZ				*e*Sg	**Sn**	**20 39 13.7**	**-0.3**
UBBA	**Unterbreizbach**	**2.24**	**166**	*e*Pn	**Pn**	**20 38 47.9**	**+1.0**
HOBG	**Hohbusch**	**2.31**	**210**	*e*Pn	**Pn**	**20 38 49.1**	**+1.2**
PLH	**Pulheim**	**2.46**	**217**	*e*Pn	**Pn**	**20 38 51.7**	**+1.7**
PLH				*e*Sn	**Sn**	**20 39 20.1**	**-0.7**
	359nm,0.5s						
WBS	**Wahnbachtalspe**	**2.48**	**209**	*e*Sn	**Sn**	**20 39 20.1**	**-1.1**
	100nm,0.6s						
KOE	**Koeppel**	**2.72**	**200**	*e*Pn	**Pn**	**20 38 54.8**	**+1.2**
AHRW	**Bad Neuenahr-A**	**2.78**	**209**	*e*Pn	**Pn**	**20 38 55.9**	**+1.6**
AHRW				*e*Sg	**Sg**	**20 39 39.2**	**+1.5**
TDN	**Todenfeld**	**2.79**	**211**	*e*Pn	**Pn**	**20 38 56.7**	**+2.2**
TDN				*e*Sn	**Sn**	**20 39 27.8**	**-1.0**
	40nm,0.2s						
MOX	**Moxa**	**2.80**	**146**	*e*Pn	**Pn**	**20 38 55.1**	**+0.5**
MOX				*e*Sg	**Sg**	**20 39 39.6**	**+1.2**
STB	**Steinbach**	**2.80**	**212**	*e*Pn	**Pn**	**20 38 55.8**	**+1.1**
TNS	**Taunus Mts**	**2.81**	**189**	*e*Pn	**Pn**	**20 38 55.9**	**+1.1**
GSH	**Grosshau**	**2.84**	**219**	*e*Pn	**Pn**	**20 38 57.3**	**+2.0**
GSH				*e*Sn	**Sn**	**20 39 29.0**	**-1.2**
	66nm,0.5s						
CLL	**Collm**	**2.90**	**124**	*e*Pn	**Pn**	**20 38 58.0**	**+2.0**
CLL				*e*		20 39 04.0	
CLL				*e*Pg	**Pg**	**20 39 06.0**	**+1.8**
CLL				*e*		20 39 11.0	
CLL				*e*Sg	**Sg**	**20 39 40.0**	**-1.8**
	comp=Z,14nm,0.6s						
CLL	**Collm**	**2.90**	**124**	*e*Pn	**Pn**	**20 38 57.5**	**+1.4**
KLL	**Kalltalsperre**	**2.94**	**218**	*e*Pn	**Pn**	**20 38 57.6**	**+1.0**
DREG	**Dreilaegerbach**	**2.96**	**219**	*e*Pn	**Pn**	**20 38 58.2**	**+1.4**
BGG	**Burgeitz**	**3.02**	**203**	*e*Pn	**Pn**	**20 38 58.6**	**+1.0**
SCHF	**Schoenfels**	**3.07**	**138**	*e*Pn	**Pn**	**20 38 59.6**	**+1.2**
HILG	**Hillesheim**	**3.12**	**211**	*e*Pn	**Pn**	**20 39 00.5**	**+1.5**
GUNZ	**Gunzen**	**3.29**	**142**	*e*Pn	**Pn**	**20 39 02.7**	**+1.3**
TANN	**Tannenbergstha**	**3.29**	**140**	*e*Pn	**Pn**	**20 39 02.9**	**+1.4**
WERN	**Wernitzgruen**	**3.37**	**142**	*e*Pn	**Pn**	**20 39 04.4**	**+1.9**
NKC	**Novy Kostel**	**3.44**	**142**	*e*PN	**Pn**	**20 39 05.2**	**+1.8**
NKC				*e*SG	**Sg**	**20 39 57.7**	**-1.3**
	comp=Z,40nm,1.0s						
BCLA	**Clavier**	**3.52**	**225**	P	**Pn**	**20 39 05.9**	**+1.3**
GRF	**Grafenberg Arr**	**3.55**	**158**	*e*Pn	**Pn**	**20 39 06.3**	**+1.3**
BRG	**Berggiesshubel**	**3.64**	**124**	PN	**Pn**	**20 39 07.7**	**+1.6**
BRG				SN	**Sn**	**20 39 47.3**	**-2.4**
BRG				SG	**Sg**	**20 40 04.3**	**-1.1**
	comp=Z,4.7nm,0.6s						
BRG	**Berggiesshubel**	**3.64**	**124**	*e*Pn	**Pn**	**20 39 07.8**	**+1.6**
LUNU	**Lund**	**3.64**	**42**	P	**Pn**	**20 39 07.2**	**+0.9**
LUNU				S	**Sn**	**20 39 47.7**	**-2.2**
ROTZ	**Rotzenmuhle**	**3.75**	**148**	*e*Pn	**Pn**	**20 39 09.4**	**+1.7**
GIVF	**Givet**	**3.96**	**225**	*e*Pn	**Pn**	**20 39 11.8**	**+1.1**
GIVF				*e*Sn	**Sn**	**20 39 56.0**	**-1.8**
	comp=Z,7.2nm,0.3s						
BSD	**Bornholm Skovb**	**4.00**	**56**	*i* P	**Pn**	**20 39 11.2**	**+0.1**
BSD				*i* S	**Sn**	**20 39 56.3**	**-2.3**
DOU	**Dourbes**	**4.07**	**226**	P	**Pn**	**20 39 13.6**	**+1.6**
BAIF	**Baives**	**4.27**	**228**	*e*Pn	**Pn**	**20 39 15.7**	**+0.9**
BAIF				*e*Sn	**Sn**	**20 40 03.2**	**-2.1**
	comp=Z,2.0nm,0.3s						
DEL	**Delary**	**4.42**	**36**	P	**Pn**	**20 39 18.5**	**+1.5**
DEL				S	**Sn**	**20 40 05.8**	**-3.2**
FABU	**Falkenberg**	**4.51**	**26**	P	**Pn**	**20 39 18.2**	**+0.2**
FABU				S	**Sn**	**20 40 07.0**	**-4.1**
WET	**Wettzell**	**4.51**	**147**	*e*Pn	**Pn**	**20 39 20.1**	**+1.9**
CDF	**Champ du Feu**	**4.74**	**195**	*e*Pn	**Pn**	**20 39 21.8**	**+0.4**
CDF				*e*Sn	**Sn**	**20 40 12.7**	**-4.4**
	comp=Z,0.5nm,0.2s						
KHC	**Kasperske Hory**	**4.76**	**143**	*e*PN	**Pn**	**20 39 22.8**	**+1.2**
KHC				*e*SG	**Sg**	**20 40 41.1**	**-0.4**
PAGF	**Fort de Pagny**	**4.95**	**208**	*e*Pn	**Pn**	**20 39 24.8**	**+0.6**
PAGF				*e*Sn	**Sn**	**20 40 18.5**	**-3.6**
	comp=Z,2.1nm,0.3s						
GEC2	**GERESS Array S**	**5.05**	**144**	*e*Pn	**Pn**	**20 39 27.3**	**+1.7**
GERES	**GERESS Array B**	**5.05**	**144**	Pn	**Pn**	**20 39 27.5**	**+1.9**
	comp=Z,0.8nm,0.3s,baz=325,slow=13,SNR=27						
GERES				Lg	Lg	20 40 49.6	
	comp=Z,0.4nm,0.3s,baz=332,slow=27,SNR=2.8						
BORU	**Boraas**	**5.09**	**22**	P	**Pn**	**20 39 26.7**	**+0.7**
BORU				S	**Sn**	**20 40 21.4**	**-4.0**
BLEU	**Blekinge**	**5.09**	**47**	P	**Pn**	**20 39 26.8**	**+0.8**
BLEU				S	**Sn**	**20 40 21.1**	**-4.4**
VXJU	**Vaexsjoe**	**5.15**	**38**	P	**Pn**	**20 39 27.9**	**+0.9**
VXJU				S	**Sn**	**20 40 23.0**	**-4.0**
DPC	**Dobruska-Polom**	**5.18**	**118**	*e*SG	**Sg**	**20 40 56.6**	**+1.7**
MEZF	**Maizieres J'vi**	**5.20**	**212**	*e*Pn	**Pn**	**20 39 28.5**	**+0.9**
	baz=34						
MEZF				*e*Sn	**Sn**	**20 40 25.0**	**-3.2**
	comp=Z,0.7nm,0.2s,baz=34						
TJOU	**Tjoern**	**5.24**	**14**	P	**Pn**	**20 39 28.6**	**+0.4**
TJOU				S	**Sn**	**20 40 23.9**	**-5.3**
HAU	**Haudompre**	**5.31**	**201**	*e*Pn	**Pn**	**20 39 29.3**	**+0.2**
HAU				*e*Sn	**Sn**	**20 40 27.1**	**-3.8**
	comp=Z,1.3nm,0.2s						
HINF	**Hinteralfeld**	**5.39**	**197**	*e*Pn	**Pn**	**20 39 30.2**	**-0.1**
HINF				*e*Sn	**Sn**	**20 40 28.3**	**-4.7**
	comp=Z,0.6nm,0.2s						
SFTF	**Sexfontaines**	**5.47**	**210**	*e*Pn	**Pn**	**20 39 31.3**	**0.0**
SFTF				*e*Sn	**Sn**	**20 40 30.0**	**-4.8**
	comp=Z,0.6nm,0.1s						
MOTA	**Moosalm**	**5.79**	**167**	*i* Pn	**Pn**	**20 39 36.6**	**+0.8**
	comp=Z,0.7nm,0.1s,SNR=5.9						
OSKU	**Oskarshamn**	**5.79**	**41**	P	**Pn**	**20 39 36.4**	**+0.7**
OSKU				S	**Sn**	**20 40 38.8**	**-4.0**
SQTA	**Sankt Quirin**	**5.92**	**166**	*i* Pn	**Pn**	**20 39 39.2**	**+1.5**
	comp=Z,1.6nm,0.2s,SNR=5.2						
VRAC	**Vranov**	**5.95**	**125**	Lg	Lg	20 41 15.9	
	comp=Z,0.2nm,0.3s,baz=266,slow=19,SNR=1.4						
DAVOX	**Davos/Dischmat**	**6.24**	**175**	Pn	**Pn**	**20 39 43.6**	**+1.5**
KBA	**Koelnbreinsper**	**6.50**	**154**	*e*Pn	**Pn**	**20 39 47.6**	**+1.9**
	comp=Z,0.6nm,0.2s						
ABTA	**Abfaltersbach**	**6.61**	**160**	*i* Pn	**Pn**	**20 39 49.8**	**+2.6**
	comp=Z,2.2nm,0.3s,SNR=7.0						
LOR	**Lormes**	**6.67**	**213**	*e*Pn	**Pn**	**20 39 47.9**	**+0.1**
	baz=38						
LOR				*e*Sn	**Sn**	**20 41 00.0**	**-4.4**
	comp=Z,1.1nm,0.3s						
CABF	**La Chapelle**	**6.69**	**199**	*e*Pn	**Pn**	**20 39 48.7**	**+0.5**
SSF	**Saint Saulge**	**6.97**	**214**	*e*Pn	**Pn**	**20 39 51.6**	**-0.3**
SMF	**Signal de Mont**	**7.22**	**211**	*e*Pn	**Pn**	**20 39 55.5**	**+0.1**
LDF	**La Druitiere**	**7.35**	**237**	*e*Pn	**Pn**	**20 39 57.7**	**+0.6**
LDF				*e*Sn	**Sn**	**20 41 17.3**	**-3.9**
	comp=Z,0.3nm,0.2s						
OBKA	**Obir**	**7.36**	**150**	*e*Pn	**Pn**	**20 40 00.0**	**+2.6**
	comp=Z,2.1nm,0.3s						
SOKA	**Soboth**	**7.37**	**147**	*i* Pn	**Pn**	**20 40 00.4**	**+3.0**
	comp=Z,0.3nm,0.1s						
HFS	**Hagfors**	**7.58**	**17**	Pn	**Pn**	**20 39 59.8**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=206,slow=12,SNR=6.9						
HFS				*e*Sn	**Sn**	**20 41 22.4**	**-4.4**
	comp=Z,0.4nm,0.3s,baz=198,slow=27,SNR=6.2						
HFS				Lg	Lg	20 42 14.1	
	comp=Z,0.2nm,0.3s,baz=222,slow=23,SNR=2.1						
EKA	**Eskdalemuir Ar**	**7.61**	**293**	Pn	**Pn**	**20 40 01.5**	**+0.9**
	baz=105,slow=13,SNR=8.7						
EKA				*e*Sn	**Sn**	**20 41 21.5**	**-5.9**
	baz=107,slow=26,SNR=1.0						
BGF	**Bois d'Agland**	**7.63**	**215**	*e*Pn	**Pn**	**20 40 01.3**	**+0.4**
BGF				*e*Sn	**Sn**	**20 41 22.9**	**-5.1**
	comp=Z,0.3nm,0.2s						
NOA	**NORSAR Array B**	**8.15**	**7**	Pn	**Pn**	**20 40 07.6**	**-0.4**
	comp=Z,0.0nm,0.3s,baz=195,slow=12,SNR=4.4						
FINES	**FINESS Array B**	**12.44**	**40**	Pn	**Pn**	**20 41 05.6**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=219,slow=20,SNR=2.1						

*IDC **22** 21:10:24.5±2.2,40˚.73N×51˚.80E, h0km, mb3.0/1, mb1 3.2/3, mb1mx3.1/29, mbtmp3.1/3, ML2.9/2, Error ellipse: s-maj=57.7km s-min=16.1km az=17.0*
*AZER **22** 21:10:31.6±0.5,40˚.49N×51˚.85E, h53km, ml3.4/21, Error ellipse: s-maj=1.6km s-min=1.0km az=235.0*
*NNC **22** 21:10:32.9±2.4,40˚.74N×53˚.90E, h0km, mb3.6, mpv2.9, Error ellipse: s-maj=27.0km s-min=7.8km az=75.0*

ISC 22 21:10:23.9±1.6,40˚.75N±0˚.05×51˚.90E±0˚.04,h4km±11km,
n29,σ2s37/52,27C-19D,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATGJ	**Altiaghaj**	**2.25**	**274**	⇓Pn	**Pg**	**21 11 07.7**	**+0.7**
ATGJ				⇑Sn	**Sg**	**21 11 37.7**	**+1.4**
GBS	**Qobustan**	**2.26**	**265**	⇑Pn	**Pg**	**21 11 06.6**	**-0.7**
	SNR=12						
GBS				⇓Sn	**Sg**	**21 11 34.6**	**-2.0**
SIZA	**Siyzn**	**2.30**	**279**	⇓Pn	**Pg**	**21 11 09.2**	**+1.2**
	SNR=14						
SIZA				⇓Sn	**Sg**	**21 11 39.6**	**+1.9**
ALIB	**Äli-Bayra**	**2.35**	**251**	⇓Sn	**Sb**	**21 11 35.8**	**-0.4**
PQL	**Pirkuli**	**2.51**	**272**	⇑Pn	**Pg**	**21 11 11.0**	**-1.1**
PQL				⇑Sn	**Sg**	**21 11 42.0**	**-2.6**
QUBA	**Quba, Azerbaij**	**2.65**	**284**	⇑Sn	**Sg**	**21 11 45.8**	**-3.1**
IML	**Ismayilli**	**2.83**	**272**	⇓Pn	**Pb**	**21 11 14.5**	**-0.4**
IML				⇑Sn	**Sb**	**21 11 49.2**	**-0.8**
QSAR	**Qusar**	**2.85**	**287**	Pn	**Pb**	**21 11 15.7**	**+0.3**
	SNR=19						
QSAR				⇓Sn	**Sb**	**21 11 50.7**	**0.0**
XNQ	**Khinaliq**	**2.88**	**280**	Pn	**Pb**	**21 11 15.7**	**-0.2**
	SNR=10.0						
XNQ				⇓Sn	**Sb**	**21 11 49.7**	**-2.0**
GLBA	**Clilabad**	**3.09**	**242**	⇑Pn	**Pb**	**21 11 17.4**	**-2.0**
GLBA				⇑Sn	**Sn**	**21 11 51.5**	**+0.6**
LKRN	**Lenkeran, Azer**	**3.16**	**231**	⇓Pn	**Pb**	**21 11 17.8**	**-2.8**
	SNR=4.0						
LKRN				⇑Sn	**Sn**	**21 11 52.7**	**+0.2**
ASTR	**Astara**	**3.25**	**229**	⇑Pn	**Pn**	**21 11 18.6**	**+2.9**
ASTR				⇑Sn	**Sn**	**21 11 54.3**	**-0.5**
LRK	**Lerik**	**3.46**	**234**	⇓Pn	**Pn**	**21 11 21.8**	**+3.0**
LRK				⇓Sn	**Sn**	**21 11 59.1**	**-1.3**
SEKA	**Sheki**	**3.59**	**279**	Pn	**Pb**	**21 11 25.2**	**-2.8**
	SNR=7.0						
SEKA				⇑Sn	**Sb**	**21 12 07.6**	**-4.3**
BRDA	**Brd**	**3.63**	**264**	⇓Pn	**Pb**	**21 11 26.0**	**-2.7**
BRDA				⇓Sn	**Sn**	**21 12 07.0**	**+2.8**
ZKTA	**Zakatala**	**4.08**	**284**	⇑Pn	**Pb**	**21 11 35.1**	**-1.3**
ZKTA				⇑Sn	**Sn**	**21 12 18.8**	**+3.4**
GANJ	**Ganja**	**4.24**	**270**	⇑Pn	**Pn**	**21 11 32.8**	**+3.4**
GANJ				⇓Sn	**Sn**	**21 12 19.0**	**-0.4**
GDB	**GEDABAY**	**4.67**	**272**	⇑Pn	**Pn**	**21 11 39.4**	**+4.0**
GDB				⇑Sn	**Sn**	**21 12 28.9**	**-1.2**
ORD	**Ordubad**	**4.90**	**250**	⇑Pn	**Pn**	**21 11 42.4**	**+4.0**
ORD				⇑Sn	**Sn**	**21 12 35.9**	**+0.3**
QZX	**Qazax, Azerbai**	**4.96**	**276**	⇓Pn	**Pn**	**21 11 42.4**	**+3.3**
	SNR=5.2						
QZX				⇓Sn	**Sn**	**21 12 37.4**	**+0.4**
SBZ	**Shahbuz**	**5.05**	**257**	⇓Pn	**Pn**	**21 11 44.4**	**+3.8**
SBZ				⇓Sn	**Sn**	**21 12 40.5**	**+1.0**
GEYT	**Alibeck**	**5.58**	**118**	Pn	**Pn**	**21 11 50.7**	**+2.9**
	0.6nm,0.3s,baz=299,slow=16,SNR=5.1						
GEYT				Sn	**Sn**	**21 12 50.1**	**-2.3**
	1.7nm,0.3s,baz=4.1,slow=21,SNR=10						
GYA0B	**ALIBECK ARRAY**	**5.58**	**118**	⇓Pg	**Pn**	**21 11 50.7**	**+3.0**
	1.7nm,0.8s						
GYA0B				⇑Lg	Lg	21 12 50.1	
	14nm,0.6s						
KBZ	**Khabaz**	**7.31**	**297**	Pn	**Pn**	**21 12 13.7**	**+2.2**
	0.1nm,0.3s,baz=326,slow=11,SNR=1.6						
KBZ				Sn	**Sn**	**21 13 34.0**	**-0.8**
	0.5nm,0.3s,baz=139,slow=23,SNR=6.3						
AB31	**Akbulak array**	**10.23**	**31**	⇓Pn	**Pn**	**21 12 51.7**	**+0.3**
	0.2nm,0.3s						
AB31				⇑Sn	**Sn**	**21 14 41.0**	**-5.4**
	2.0nm,0.3s,baz=206,slow=18,SNR=9.9						
AKTO	**Aktyubinsk**	**10.58**	**22**	⇑Pn	**Pn**	**21 12 59.1**	**+2.8**
	2.4nm,0.7s						
AKTO				⇑Sn	**Sn**	**21 14 52.5**	**-2.7**
	17nm,0.8s						
BRVK	**Borovoye**	**17.52**	**39**	⇑Pn	**Pn**	**21 14 28.2**	**-0.8**
	0.6nm,0.5s						
BRVK				⇑Sn	Sn	21 17 32.1	-12
	1.7nm,0.6s						
BVA0	**Borovoye Array**	**17.55**	**39**	Pn	**Pn**	**21 14 28.4**	**-1.0**
	1.7nm,0.7s,baz=233,slow=12,SNR=11						
BVA0				⇑Sn	Sn	21 17 34.1	-11
	2.8nm,0.9s,baz=242,slow=25,SNR=8.1						
MKAR	**Makanchi Array**	**22.67**	**64**	P	**P**	**21 15 27.2**	**+1.0**
	0.2nm,0.4s,baz=259,slow=8.8,SNR=4.7						

*NEIC **22** 21:12:09.0±0.0, 14˚.63S×76˚.08W, h40km, mb4.2/7, ML4.6(ARE), After ARE.*
NEIC Felt [III] at Ica. Also felt at Los Aquijes and Santiago.
*IDC **22** 21:12:14.7±2.7, 14˚.58S×75˚.87W, h46km±24km, mb3.8/10, mb1 4.0/13, mb1mx3.8/36, mbtmp4.1/13, ML3.7/3, MS3.6/13, Ms1 3.6/13, ms1mx3.4/31, Error ellipse: s-maj=31.1km s-min=15.2km az=45.0*

ISC 22 21:12:11.1±0.8,14˚.55S±0˚.08×76˚.1W±0˚.1,h29km,n41,
σ2s43/32,mb4.2/15,MS3.6/9,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.64**	**345**	P	**Pb**	**21 12 56.7**	**-1.0**
	23nm,0.3s,baz=166,slow=8.8,SNR=31						
NNA				S	**Sn**	**21 13 22.9**	**-0.1**
	60nm,0.3s,baz=176,slow=5.1,SNR=10						
NNA	**Nana**	**2.64**	**345**	Pn	**Pn**	**21 12 52.4**	**+0.6**
NNA				S	**Sn**	**21 13 22.9**	**-0.1**
NNA				*e*Sn	**Sb**	**21 13 23.5**	**-6.3**
ATAH	**Atahualpa**	**7.70**	**343**	P	Pn	21 14 07.7	+6.0
	0.7nm,0.3s,baz=120,slow=16,SNR=2.1						
ATAH				S	**Sn**	**21 15 33.2**	**+5.0**
	0.9nm,0.3s,baz=133,slow=19,SNR=1.9						
ATAH				LR	LR	21 17 32.7	
	comp=Z,157nm,20.4s,baz=185,slow=41						
LPAZ	**La Paz**	**7.91**	**104**	P	**Pn**	**21 14 08.6**	**+3.9**
	4.9nm,0.3s,baz=283,slow=7.7,SNR=128						
LPAZ				LR	LR	21 17 26.4	
	comp=Z,409nm,20.1s,baz=260,slow=41						
LVC	**Limon Verde**	**10.54**	**141**	LR	LR	21 18 30.7	
	comp=Z,124nm,21.8s,baz=316,slow=36						
LVC	**Limon Verde**	**10.54**	**141**	*e*Pn	**Pn**	**21 14 36.8**	**-3.9**
SIV	**San Ignacio**	**14.60**	**98**	P	**Pn**	**21 15 33.2**	**-2.7**
	0.3nm,0.3s,baz=304,slow=11,SNR=8.3						
SIV				LR	LR	21 21 38.0	
	comp=Z,765nm,18.7s,baz=289,slow=39						
OTAV	**Otavalo**	**14.87**	**351**	Pn	**Pn**	**21 15 39.5**	**-0.5**
	3.0nm,1.4s						
PTGA	**Pitinga**	**21.07**	**51**	P	**P**	**21 16 53.4**	**+0.2**
	8.6nm,0.7s,baz=222,slow=13,SNR=16						
PTGA				LR	LR	21 25 40.0	
	comp=Z,304nm,20.3s,baz=240,slow=38						
CPUP	**Villa Florida**	**21.13**	**127**	P	**P**	**21 16 52.5**	**-1.2**
	3.7nm,0.7s						
CPUP				LR	LR	21 26 39.0	
	comp=Z,120nm,18.2s,slow=41						
SDV	**Santo Domingo**	**23.91**	**14**	P	**P**	**21 17 24.5**	**+1.6**
	6.6nm,0.7s,baz=190,slow=9.1,SNR=11						
SDV				LR	LR	21 27 52.5	
	comp=Z,190nm,18.8s,baz=216,slow=39						
SDV	**Santo Domingo**	**23.91**	**14**	*e*P	**P**	**21 17 21.6**	**-1.3**
	5.8nm,0.6s						
JTS	**JuntasAbangare**	**26.18**	**340**	LR	LR	21 27 54.8	
	comp=Z,100nm,18.8s,baz=208,slow=36						
PLCA	**Paso Flores**	**26.54**	**170

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.33**	**303**	P	Pn	21 24 53.1	+1.2
JIKH				S	Sn	21 25 20.6	+1.3
JFK	**Kawauchi**	**2.48**	**278**	P	Pn	21 24 55.1	+1.2
JFK				*e*S	Sn	21 25 24.1	+1.1
JIO	**Ouri**	**2.49**	**305**	P	Pn	21 24 55.4	+1.4
JIO				*e*S	Sn	21 25 24.2	+1.1
ONAJ	**Iwakimizuishiy**	**2.53**	**272**	P	Pn	21 24 56.0	+1.4
ONAJ				S	Sn	21 25 25.5	+1.3
JKMT	**Kesennumamotoy**	**2.62**	**312**	P	Pn	21 24 57.0	+1.2
JKMT				*e*S	Sn	21 25 27.4	+1.0
JMM	**Marumori**	**2.64**	**288**	P	Pn	21 24 57.5	+1.4
JMM				*e*S	Sn	21 25 29.1	+2.2
JMK	**Ichinoseki**	**2.87**	**312**	P	Pn	21 25 00.6	+1.4
JMK				*e*S	Sn	21 25 34.8	+2.4
JFT	**Otama**	**2.92**	**280**	P	Pn	21 25 02.6	+2.6
JFT				S	Sn	21 25 36.3	+2.4
JOM	**Ohasama**	**3.19**	**320**	P	Pn	21 25 05.5	+1.9
JOM				S	Sn	21 25 41.4	+1.0
JYK	**Kaneyama**	**3.39**	**304**	P	Pn	21 25 09.0	+2.6
BSO1	**Boso 1**	**3.42**	**226**	P	Pn	21 25 06.1	-0.2
JRY	**Ryogami san**	**4.21**	**257**	P	Pn	21 25 18.6	+1.0
JRY				*e*S	Sn	21 26 05.3	-0.2
JOD2	**Odawara 2**	**4.33**	**247**	P	Pn	21 25 20.1	+0.7
JOD2				S	Sn	21 26 08.0	-0.6
JCH	**Churui**	**5.56**	**355**	P	Pn	21 25 35.5	-0.6
JCH				*e*S	Sn	21 26 35.1	-3.5
NEM2	**Nemuro 2**	**6.43**	**12**	P	Pn	21 25 45.2	-2.9
NEM2				*e*S	Sn	21 26 53.5	-6.7
JTKR	**Abashiri--Toko**	**6.89**	**360**	P	Pn	21 25 53.4	-1.0
JTKR				*e*S	Sn	21 27 07.1	-4.4

IDC ***22*** *21:29:20.0±0.5, 11°.38S×117°.89E, h0km, mb4.5/16, mb1 4.5/20, mb1mx4.4/39, mbtmp4.5/20, ML4.7/4, MS3.5/15, Ms1 3.5/15, ms1mx3.3/37, Error ellipse: s-maj=20.8km s-min=13.1km az=62.0*

NEIC ***22*** *21:29:20.1±1.8, 11°.45S×117°.93E, h5km±11km, mb4.8/26, Error ellipse: s-maj=7.3km s-min=3.9km az=225.0*

MOS ***22*** *21:29:21.9±1.0, 11°.35S×118°.05E, h29km, mb4.9/30, Error ellipse: s-maj=15.1km s-min=6.8km az=122.1*

ISCJB ***22*** *21:29:22.3±0.2, 11°.55S±0°.03×117°.96E±0°.03, h36km, mb4.7/58, MS3.5/13, Error ellipse: s-maj=4.4km s-min=3.1km az=37.8*

DJA ***22*** *21:29:22.4±0.2, 12°.S±3°×11°.8E±°, h10km, M5.1/24, mb5.2/20, mB5.5/19, MLv5.4/24, Mw(mB)5.0/19*

ISC 22 21:29:24.4±0.3**, 11°.51S**±0°.05×**118°.02E**±0°.05**, h36**km**, n217,** σ1**974**/225**, mb4.7**/58**, MS3.6**/14**, 2C-1D, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**2.29**	**36**	P	**Pn**	**21 30 00.4**	**+0.7**
PLAI	**Plampang**	**2.67**	**355**	P	**Pn**	**21 30 05.1**	**+0.1**
TWSI	**Taliwang, Sumb**	**2.97**	**338**	P	**Pn**	**21 30 08.7**	**-0.3**
IGBI	**Denpasar**	**3.89**	**313**	P	**Pn**	**21 30 20.9**	**-0.8**
DNP	**Denpasar**	**3.95**	**315**	P	**Pn**	**21 30 21.9**	**-0.5**
SRBI	**Singaraja**	**4.38**	**321**	P	**Pn**	**21 30 29.0**	**+0.5**
EDFI	**Ende, Flores**	**4.54**	**53**	P	**Pn**	**21 30 31.0**	**+0.4**
JAGI	**Jajag, Banyuwa**	**4.86**	**308**	P	**Pn**	**21 30 33.3**	**-1.7**
MMRI	**Maumere** 133nm,0.4s,12µm3.1nm	**5.04**	**56**	P	**Pn**	**21 30 39.0**	**+1.5**
BATI	**Baumata** 65nm,0.3s,baz=278,slow=5.4,SNR=45	**5.69**	**77**	Pn	**Pn**	**21 30 48.5**	**+2.0**
BATI				Sn	**Sn**	**21 31 52.2**	**+1.6**
	67nm,0.3s,baz=6.0,slow=19,SNR=12						
BATI				LR	LR	21 32 54.3	
	comp=Z,130nm,20.5s,baz=302,slow=37						
BATI	**Baumata**	**5.69**	**77**	P	**Pn**	**21 30 48.8**	**+2.3**
BLJI	**Banyuglugur**	**5.75**	**310**	P	**Pn**	**21 30 46.4**	**-0.8**
KMMI	**Kalianget** 77nm,0.8s,1µm0.7nm	**5.97**	**318**	P	**Pn**	**21 30 53.2**	**+3.0**
SOEI	**Soe** 154nm,0.7s,2µm1.6nm	**6.38**	**75**	P	**Pn**	**21 30 58.9**	**+2.8**
BKSI	**Bulukumba** 209nm,0.6s,3µm0.8nm	**6.49**	**19**	P	**Pn**	**21 30 59.6**	**+2.2**
PWJI	**Pagerwojo** 272nm,0.6s,10µm2.2nm	**7.04**	**299**	P	**Pn**	**21 31 05.1**	**+0.2**
BNSI	**Bone** 179nm,1.0s,1µm0.5nm	**7.36**	**16**	P	**Pn**	**21 31 13.3**	**+4.0**
BBSI	**Bau Bau**	**7.49**	**37**	P	Pn	21 31 22.8	+12
PCJI	**Pacitan** 460nm,0.5s,7µm2.1nm	**7.50**	**295**	P	**Pn**	**21 31 10.9**	**-0.4**
NGJI	**Ngawi** 190nm,0.8s,0.9nm	**7.67**	**302**	P	**Pn**	**21 31 16.7**	**+3.1**
SPSI	**Sidrap Palu** 25nm,0.5s,648nm0.2nm	**7.69**	**13**	P	**Pn**	**21 31 16.5**	**+2.6**
WOJI	**Wonogiri, Jawa** 124nm,0.7s,3µm1.1nm	**7.89**	**297**	P	**Pn**	**21 31 16.8**	**+0.2**
UGM	**Wanagama** 350nm,0.7s,1.9nm	**8.21**	**295**	P	**Pn**	**21 31 21.5**	**+0.5**
TTSI	**Tana Toraja** 136nm,0.6s,2µm0.6nm	**8.60**	**12**	P	**Pn**	**21 31 30.4**	**+4.1**
SMRI	**Semarang** 80nm,0.8s,0.7nm	**8.69**	**300**	P	**Pn**	**21 31 28.0**	**+0.3**
MBWA	**Marble Bar**	**9.73**	**171**	*e*Pn	**Pn**	**21 31 40.5**	**-1.4**
FITZ	**Fitzroy Crossi** baz=10.0,SNR=115	**9.86**	**133**	P	**Pn**	**21 31 43.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**9.86**	**133**	*e*Pn	**Pn**	**21 31 43.7**	**+0.1**
KPJI	**Karang Pucung**	**9.88**	**294**	P	**Pn**	**21 31 43.5**	**-0.4**
CISI	**Cisompet, Garu** 118nm,0.5s,3µm	**10.80**	**290**	P	**Pn**	**21 31 59.0**	**+2.3**
KNRA	**Kununurra** baz=11,SNR=17	**11.23**	**113**	P	**Pn**	**21 32 02.7**	**+0.2**
LEM	**Lembang** 6.1nm,0.3s,baz=270,slow=20,SNR=3.0	**11.27**	**293**	Pn	**Pn**	**21 31 59.8**	**-3.4**
LEM				Sn	**Sn**	**21 34 02.9**	**-5.2**
	2.8nm,0.3s,baz=270,slow=20,SNR=3.3						
LUWI	**Luwuk** 39nm,1.2s,3µm	**11.42**	**25**	P	**Pn**	**21 32 09.5**	**+4.5**
GIRL	**Giralia** baz=12,SNR=148	**11.65**	**198**	P	**Pn**	**21 32 07.1**	**-1.0**
MPSI	**Mapaga**	**11.92**	**9**	P	Pn	21 32 20.7	+8.9
XMIS	**Christmas Isla**	**12.19**	**274**	*e*Pn	**Pn**	**21 32 12.8**	**-2.7**
MRSI	**Marisa** 21nm,1.2s,236nm	**12.53**	**18**	P	**Pn**	**21 32 24.2**	**+4.0**
MTN	**Manton Dam** baz=13,SNR=13	**12.89**	**97**	P	**Pn**	**21 32 25.8**	**+0.6**
MTN	**Manton Dam**	**12.89**	**97**	*e*Pn	**Pn**	**21 32 25.3**	**+0.2**
CGJI	**Cibinong** 128nm,0.6s,2µm	**13.11**	**291**	P	**Pn**	**21 32 26.9**	**-1.2**
KDU	**Kakadu** baz=14,SNR=9.2	**14.18**	**96**	P	**Pn**	**21 32 42.8**	**0.0**
KSM	**Kuching**	**15.00**	**329**	*e*Pn	**Pn**	**21 32 52.7**	**-1.2**
SBUM	**Sibu**	**15.02**	**337**	*e*Pn	**Pn**	**21 32 52.2**	**-1.9**
TNTI	**Ternate**	**15.33**	**38**	P	**Pn**	**21 33 00.2**	**+2.0**
MDSI	**Maura Dua** 25nm,1.2s	**15.37**	**296**	P	**P**	**21 33 03.6**	**+0.6**
WRKA	**Warakurna** baz=17,SNR=191	**16.61**	**146**	P	**Pn**	**21 33 13.5**	**-1.0**
SIJI	**Sorong** 3.0nm,0.3s,baz=215,slow=5.5,SNR=13	**16.87**	**52**	Pn	**Pn**	**21 33 16.4**	**-1.5**
SIJI				Sn	**Sn**	**21 36 17.7**	**-6.8**
	0.1nm,0.3s,baz=287,slow=14,SNR=2.6						
KKM	**Kota Kinabalu** 66nm,1.4s	**17.53**	**354**	*e*Pn	**Pn**	**21 33 21.0**	**-5.2**
MORW	**Morawa** baz=18,SNR=222	**17.57**	**186**	P	**Pn**	**21 33 24.6**	**-1.9**
WRA	**Warramunga Arr** 0.7nm,0.3s,baz=291,slow=13,SNR=40	**17.79**	**120**	P	**Pn**	**21 33 28.3**	**-1.1**
WRA				S	Sn	21 36 34.9	-12
	1.5nm,0.3s,baz=288,slow=24,SNR=7.0						
WRA				LR	LR	21 40 38.3	
	comp=Z,284nm,19.9s,baz=300,slow=38						
WR1	**Warramunga Arr** 8.0nm,0.8s	**17.80**	**120**	*e*Pn	**Pn**	**21 33 28.3**	**-1.1**
WR1				*e*Sn	Sn	21 36 34.9	-12
WRAB	**Tennant Creek** 8.6nm,0.7s	**17.80**	**120**	*e*Pn	**Pn**	**21 33 29.2**	**-0.2**
WRAB	**Tennant Creek**	**17.80**	**120**	*e*P	**Pn**	**21 33 29.2**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WB2	**Warramunga Arr**	**17.80**	**120**	*e*Pn	**Pn**	**21 33 28.9**	**-0.6**
BLDU	**Ballidu** baz=19,SNR=176	**19.05**	**183**	P	**P**	**21 33 43.6**	**0.0**
MYKOM	**Kota Tinggi** comp=Z,114nm,1.8s	**19.31**	**312**	*e*P	**P**	**21 33 45.7**	**-0.8**
AS31	**Alice Springs** comp=Z,5.8nm,0.8s	**19.35**	**131**	*e*P	**Pn**	**21 33 49.6**	**+1.3**
AS31				*e*Sn	**S**	**21 37 14.8**	**-9.3**
ASAR	**Alice Springs** comp=Z,0.6nm,0.3s,baz=316,slow=14,SNR=45	**19.35**	**131**	P	**Pn**	**21 33 49.4**	**+1.1**
ASAR				S	**S**	**21 37 14.8**	**-9.3**
	comp=Z,1.4nm,0.3s,baz=314,slow=26,SNR=10.0						
ASAR				LR	LR	21 41 18.5	
	comp=Z,195nm,19.8s,baz=301,slow=37						
AS01	**Alice Springs**	**19.39**	**131**	*e*P	**Pn**	**21 33 49.4**	**+0.8**
KMBL	**Kambalda** baz=20,SNR=54	**20.08**	**170**	P	**P**	**21 33 56.6**	**+1.8**
MUN	**Mundaring** baz=21,SNR=19	**20.44**	**184**	P	Pn	21 34 00.9	-0.1
FORT	**Forrest** baz=22,SNR=7.1	**21.32**	**156**	P	**P**	**21 34 10.0**	**+1.9**
FORT	**Forrest** comp=Z,49nm,0.7s	**21.32**	**156**	*e*P	**P**	**21 34 10.1**	**+1.9**
NWAO	**Narrogin (SRO)** comp=Z,24nm,0.6s,baz=72,slow=20,SNR=5.9	**21.33**	**182**	P	**P**	**21 34 09.0**	**+0.7**
NWAO				S	S	21 37 48.9	-14
	comp=Z,19nm,0.4s,baz=162,slow=20,SNR=4.4						
NWAO				LR	LR	21 42 35.0	
	comp=Z,258nm,21.1s,baz=298,slow=37						
NWAO	**Narrogin (SRO)** baz=21,SNR=14	**21.33**	**182**	P	**P**	**21 34 09.3**	**+1.0**
RKGY	**Rocky Gully** baz=23,SNR=28	**23.02**	**182**	P	**P**	**21 34 27.4**	**+1.2**
IPM	**Ipoh** comp=Z,14nm,0.7s	**23.20**	**312**	*e*P	**P**	**21 34 28.1**	**-0.1**
PSI	**Prapat** comp=Z,16nm,0.9s,baz=180,slow=10,SNR=14	**23.72**	**306**	P	**P**	**21 34 31.9**	**-1.6**
PSI				S	**S**	**21 38 49.1**	**+2.6**
	comp=Z,3.5nm,0.4s,baz=180,slow=15,SNR=4.1						
PSI				LR	LR	21 43 40.6	
	comp=Z,159nm,20.7s,baz=90,slow=37						
PSI	**Prapat** comp=Z,32nm,0.9s	**23.72**	**306**	*e*P	**P**	**21 34 32.3**	**-1.2**
PSI				*e*S	**S**	**21 38 49.1**	**+2.6**
KULM	**Kulim** comp=Z,10nm,0.8s	**24.02**	**313**	*e*P	**P**	**21 34 35.4**	**-0.8**
SKLT	**Songkhla**	**25.38**	**316**	P	P	21 35 00.1	+12
MTSU	**Mount Surprise** baz=26,SNR=4.9	**26.24**	**108**	P	**P**	**21 34 55.4**	**-0.9**
TRTT	**Trang**	**26.49**	**316**	P	P	21 35 11.0	+12
STKA	**Stephens Creek** comp=Z,1.9nm,0.8s,baz=277,slow=2.9,SNR=4.1	**29.72**	**137**	P	**P**	**21 35 29.1**	**+1.9**
STKA				LR	LR	21 48 21.3	
	comp=Z,216nm,19.4s,baz=293,slow=38						
STKA	**Stephens Creek** comp=Z,7.5nm,1.9s	**29.72**	**137**	*e*P	**P**	**21 35 29.1**	**+1.9**
STKA	**Stephens Creek**	**29.72**	**137**	*e*P	**P**	**21 35 29.1**	**+1.9**
STKA				pmax	pmax		
	comp=Z,8.0nm,1.9s						
SRDT	**SRDT** comp=Z,4.7nm,0.7s	**31.80**	**323**	P	**P**	**21 35 48.3**	**+2.6**
UTHA	**Uthaitani** comp=Z,3.1nm,1.2s	**32.58**	**325**	P	**P**	**21 35 53.3**	**+0.7**
PBKT	**Sadao Pong** comp=Z,6.1nm,1.2s	**32.60**	**329**	P	**P**	**21 35 52.8**	**+0.1**
CM01	**Chiang Mai Arr**	**35.19**	**327**	*e*P	**P**	**21 36 14.6**	**-0.6**
CMAR	**Chiang Mai Arr** comp=Z,1.9nm,0.8s,baz=155,slow=6.5,SNR=20	**35.23**	**327**	P	**P**	**21 36 15.1**	**-0.5**
CMAR				PcP	**PcP**	**21 38 48.4**	**+2.3**
	comp=Z,0.8nm,0.4s,baz=185,slow=2.5,SNR=7.1						
CMAR				LR	LR	21 51 02.1	
	comp=Z,94nm,20.5s,baz=154,slow=37						
CHTO	**Chiang Mai**	**35.52**	**328**	P	**P**	**21 36 17.2**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,4.0nm,1.3s						
CHTO	**Chiang Mai** comp=Z,18nm,1.3s	**35.52**	**328**	P	**P**	**21 36 18.8**	**+0.7**
GYA	**Guiyang**	**39.32**	**344**	*e*P	**P**	**21 36 53.0**	**+2.7**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KMI	**Kunming**	**39.34**	**338**	P	**P**	**21 36 52.1**	**+1.5**
KMI				pP	pP	21 36 55.8	-5.3
KMI				sP	sP	21 36 57.3	-8.1
KMI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
JOW	**Kunigami** comp=Z,30nm,19.6s,baz=174,slow=38	**39.39**	**15**	LR	LR	21 54 17.5	
PALK	**Pallekele** comp=Z,74nm,18.2s,baz=116,slow=38	**41.55**	**295**	LR	LR	21 55 26.7	
PALK	**Pallekele** comp=Z,7.8nm,1.0s	**41.55**	**295**	*e*P	**P**	**21 37 08.6**	**-0.3**
PALK	**Pallekele**	**41.55**	**295**	*e*P	**P**	**21 37 08.6**	**-0.3**
PALK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ENH	**Enshi** comp=Z,10nm,0.8s	**42.34**	**349**	*e*P	**P**	**21 37 14.6**	**-0.5**
NJ2	**Nanjing**	**43.32**	**1**	*e*P	**P**	**21 37 22.1**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CD2	**Chengdu**	**44.35**	**342**	*e*P	**P**	**21 37 32.0**	**+0.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
JNU	**Nakatsue** comp=Z,25nm,19.0s,baz=120,slow=38	**46.05**	**15**	LR	LR	21 58 49.6	
XAN	**Xi'an**	**46.12**	**350**	P	**P**	**21 37 44.0**	**-1.2**
XAN				pP	pP	21 37 51.8	-4.1
XAN				pmax	pmax		
	comp=Z,16nm,1.0s						
XAN				pmax	pmax		
	comp=Z,130nm,3.6s						
LSA	**Lhasa** comp=Z,33nm,1.6s	**48.47**	**328**	*e*P	**P**	**21 38 04.4**	**+0.2**
LSA	**Lhasa** SNR=9.8	**48.47**	**328**	*i* P	**P**	**21 38 04.5**	**+0.4**
LSA	**Lhasa**	**48.47**	**328**	*e*P	**P**	**21 38 04.4**	**+0.2**
LSA				pmax	pmax		
	comp=Z,33nm,1.6s						
RAMN	**Ramite** comp=Z,28nm,0.8s	**48.91**	**322**	*e*P	**P**	**21 38 06.8**	**-0.5**
LZH	**Lanzhou**	**49.19**	**345**	*e*P	**P**	**21 38 09.6**	**+0.3**
LZH				pP	pP	21 38 13.9	-6.1
LZH				sP	sP	21 38 16.4	-7.8
LZH				PP	**PP**	**21 40 07.1**	**+3.7**
LZH				*e*S	**S**	**21 45 14.9**	**+2.2**
LZH				sS	sS	21 45 22.5	-7.8
LZH				pmax	pmax		
	comp=Z,26nm,1.1s						
LZH				pmax	pmax		
	comp=Z,120nm,4.9s						
KS15	**Wonju Array Si**	**49.56**	**10**	*e*P	**P**	**21 38 12.1**	**+0.2**
KSAR	**Wonju Array Be**	**49.56**	**10**	P	**P**	**21 38 12.1**	**+0.3**
KSAR	**Wonju Array Be**	**49.56**	**10**	P	**P**	**21 38 12.1**	**+0.3**
KSRS	**Korea Array** comp=Z,1.8nm,0.8s,baz=207,slow=6.8,SNR=2.9	**49.58**	**10**	P	**P**	**21 38 12.1**	**+0.1**
KSRS				LR	LR	22 00 31.1	
	comp=Z,25nm,19.1s,baz=197,slow=38						
KSRS	**Korea Array**	**49.58**	**10**	P	**P**	**21 38 12.1**	**+0.1**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KSRS				MLR	MLR		
	comp=Z,25nm,19.1s						
KS01	**Wonju Array Si**	**49.60**	**10**	*e*P	**P**	**21 38 10.6**	**-1.5**
JIRN	**Jiri** comp=Z,52nm,0.4s	**49.68**	**322**	*e*P	**P**	**21 38 12.8**	**-0.5**
GUN	**Gumba** comp=Z,35nm,0.7s	**50.05**	**322**	*e*P	**P**	**21 38 15.7**	**-0.4**
PKI	**Pulchoki** comp=Z,17nm,0.8s	**50.09**	**321**	*e*P	**P**	**21 38 15.3**	**-1.1**
PKIN	**Phulchoki** comp=Z,13nm,0.8s	**50.10**	**321**	*e*P	**P**	**21 38 15.3**	**-1.1**
DMN	**Daman**	**50.30**	**321**	*e*P	**P**	**21 38 17.2**	**-0.7**
KKN	**Kakani** comp=Z,16nm,0.8s	**50.32**	**321**	*e*P	**P**	**21 38 17.4**	**-0.7**
GKN	**Gorkha**	**50.87**	**321**	*e*P	**P**	**21 38 21.5**	**-0.6**
KOLN	**Koldanda** comp=Z,12nm,0.3s	**51.35**	**320**	*e*P	**P**	**21 38 24.9**	**-0.9**
DANN	**Dangsing** comp=Z,42nm,0.6s	**51.66**	**321**	*e*P	**P**	**21 38 27.5**	**-0.7**
HHC	**Hu-ho-hao-te**	**52.44**	**354**	*e*P	**P**	**21 38 35.6**	**+2.1**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,99nm,5.2s						
GTA	**Gaotai**	**53.42**	**342**	*e*P	**P**	**21 38 40.8**	**0.0**
GTA				pP	pP	21 38 44.8	-6.8
GTA				sP	sP	21 38 48.3	-7.6
GTA				S	**S**	**21 46 09.8**	**-1.0**
GTA				sS	pS	21 46 18.8	-4.8
GTA				SS	**SS**	**21 49 49.4**	**-2.2**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,100nm,6.9s						
GTA				LR	LR		
	comp=Z,250nm,18.6s						
GTA				LR	LR		
	comp=Z,140nm,16.2s						
GTA				LR	LR		
	comp=Z,79nm,14.8s						
ULN	**Ulaanbaatar** comp=Z,4.4nm,0.8s	**59.91**	**351**	*e*P	**P**	**21 39 26.6**	**-0.2**
ULN	**Ulaanbaatar**	**59.91**	**351**	*e*P	**P**	**21 39 26.6**	**-0.2**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SONA0	**Songino Array**	**59.98**	**351**	*e*P	**P**	**21 39 26.8**	**-0.5**
SONM	**Songino Array** comp=Z,3.3nm,0.8s,baz=168,slow=8.3,SNR=28	**59.98**	**351**	P	**P**	**21 39 26.8**	**-0.5**
SONM				LR	LR	22 09 23.9	
	comp=Z,45nm,18.2s,baz=320,slow=40						
SONA1	**Songino Array**	**59.99**	**351**	*e*P	**P**	**21 39 26.7**	**-0.6**
RER	**Riviere de l'E** comp=Z,112nm,1.3s	**60.21**	**252**	*e*P	**P**	**21 39 29.5**	**0.0**
HIA	**Hailar**	**60.53**	**1**	*i* P	**P**	**21 39 29.6**	**-1.3**
HIA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WMQ	**Urumqi**	**61.60**	**335**	*e*P	**P**	**21 39 38.8**	**+0.5**
WMQ				sP	pP	21 39 50.4	+1.1
WMQ				pmax	pmax		
	comp=Z,34nm,0.9s						
WMQ				LR	LR		
	comp=Z,130nm,18.3s						
KLR	**Kul'dur**	**61.68**	**10**	*i* P	**P**	**21 39 36.9**	**-1.7**
NIL	**Nilore** comp=Z,5.5nm,0.9s	**61.89**	**318**	*e*P	**P**	**21 39 39.4**	**-1.1**
NIL	**Nilore**	**61.89**	**318**	*e*P	**P**	**21 39 39.4**	**-1.1**
NIL				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KSH	**Kashi**	**64.06**	**325**	P	**P**	**21 39 54.3**	**-0.6**
KSH				sP	pP	21 40 01.3	-4.6
KSH				PP	**PP**	**21 42 17.4**	**+1.2**
KSH				S	**S**	**21 48 25.3**	**-3.9**
KSH				SS	**SS**	**21 52 35.5**	**-3.4**
KSH				pmax	pmax		
	comp=Z,27nm,0.7s						
KSH				pmax	pmax		
	comp=Z,250nm,5.2s						
KSH				LR	LR		
	comp=Z,200nm,6.1s						
KSH				LR	LR		
	comp=Z,250nm,9.5s						
KSH				LR	LR		
	comp=Z,330nm,6.7s						
TLY	**Talaya** comp=Z,29nm,1.7s	**64.15**	**350**	*e*P	**P**	**21 39 54.3**	**-0.8**
TLY	**Talaya**	**64.15**	**350**	*e*P	**P**	**21 39 54.3**	**-0.8**
TLY				pmax	pmax		
	comp=Z,29nm,1.7s						
PDGK	**Podgornoye**	**64.91**	**330**	P	**P**	**21 40 00.5**	**+0.1**
PDGK				pmax	pmax		
	comp=Z,12nm,1.0s						
KBL	**Kabul** comp=Z,11nm,0.8s	**65.22**	**317**	*e*P	**P**	**21 40 01.6**	**-1.0**
KBL	**Kabul**	**65.22**	**317**	*e*P	**P**	**21 40 01.6**	**-1.0**
KBL				pmax	pmax		
	comp=Z,11nm,0.8s						
NRN	**Naryn** comp=Z,6.6nm,1.0s	**65.36**	**326**	*e*P	**P**	**21 40 03.3**	**-0.3**
NRN	**Naryn**	**65.36**	**326**	*e*P	**P**	**21 40 03.3**	**-0.3**
NRN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SFK	**Sufi-Kurgan**	**65.81**	**324**	P	**P**	**21 40 07.0**	**+0.6**
SFK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
HVS	**Khovu-Aksy**	**65.87**	**343**	*i* P	**P**	**21 40 05.2**	**-1.1**
HVS				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KZA	**Kyzart** SNR=11	**66.22**	**326**	P	**P**	**21 40 09.5**	**+0.3**
MK01	**Makanchi Array**	**66.23**	**334**	*e*P	**P**	**21 40 08.2**	**-0.5**
MK31	**Makanchi Array**	**66.26**	**334**	*e*P	**P**	**21 40 08.5**	**-0.3**
MK31	**Makanchi Array**	**66.26**	**334**	*e*P	**P**	**21 40 08.5**	**-0.3**
MK32	**Makanchi Array**	**66.26**	**334**	*e*P	**P**	**21 40 08.6**	**-0.3**
MKAR	**Makanchi Array** comp=Z,5.2nm,0.4s,baz=145,slow=6.9,SNR=188	**66.26**	**334**	P	**P**	**21 40 08.6**	**-0.3**
MKAR				LR	LR	22 13 09.1	
	comp=Z,18nm,19.4s,baz=144,slow=40						
MKAR	**Makanchi Array** comp=Z,52nm,0.6s	**66.26**	**334**	*e*P	**P**	**21 40 08.5**	**-0.3**
DGZ	**Jazzator, Alta**	**66.60**	**339**	*d* P	**P**	**21 40 11.0**	**-0.2**
DGZ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TKM2	**Tokmak 2** SNR=5.8	**66.61**	**327**	P	**P**	**21 40 11.2**	**-0.2**
KBK	**Karagaybulak** SNR=6.9	**66.78**	**327**	P	**P**	**21 40 12.7**	**+0.2**
AAK	**Ala-Archa** comp=Z,6.2nm,0.8s,baz=152,slow=5.2,SNR=13	**67.01**	**326**	P	**P**	**21 40 14.0**	**+0.1**
AAK	**Ala-Archa** SNR=6.0	**67.01**	**326**	P	**P**	**21 40 14.5**	**+0.6**
AAK	**Ala-Archa** SNR=8.6	**67.01**	**326**	*i* P	**P**	**21 40 14.2**	**+0.3**
AAK	**Ala-Archa**	**67.01**	**326**	*i* P	**P**	**21 40 13.5**	**-0.4**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
AML	**Almayashu** SNR=7.9	**67.10**	**326**	P	**P**	**21 40 15.0**	**+0.2**
EKS2	**Erkin-Say** SNR=6.8	**67.41**	**326**	P	**P**	**21 40 17.1**	**+0.7**
MNAS	**Manas**	**68.00**	**325**	P	**P**	**21 40 20.3**	**+0.1**
MNAS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BOD	**Bodaibo**	**69.16**	**358**	*e*P	**P**	**21 40 25.4**	**-1.4**
BOD				pmax	pmax		
	comp=Z,14nm,1.3s						
VNDA	**Vanda** comp=Z,2.0nm,1.1s,baz=326,slow=4.6,SNR=4.9	**69.68**	**171**	P	**P**	**21 40 31.7**	**+1.8**
VNDA				LR	LR	22 08 24.1	
	comp=Z,45nm,22.0s,baz=330,slow=34						
VNDA	**Vanda**	**69.68**	**171**	*e*P	**P**	**21 40 31.9**	**+2.0**
ASHO	**Ashiyiah**	**70.32**	**301**	P	**P**	**21 40 34.7**	**-0.1**
MDH	**Madha**	**70.36**	**302**	P	**P**	**21 40 33.7**	**-1.3**
MSFE	**Esma-Masafi**	**70.50**	**302**	P	**P**	**21 40 34.7**	**-1.2**
FAQ	**Al Faqa, Dubai** SNR=9.9	**70.73**	**301**	*i* P	**P**	**21 40 37.0**	**-0.2**
KURK	**Kurchatov** comp=Z,11nm,0.9s	**70.82**	**335**	*e*P	**P**	**21 40 36.9**	**-0.3**
KURK	**Kurchatov**	**70.82**	**335**	*e*P	**P**	**21 40 36.9**	**-0.3**
KURK				pmax	pmax		
	comp=Z,11nm,0.9s						
ASUD	**Al Ashush, Dub**	**70.91**	**301**	P

comp=Z,5.0nm,1.7s
GNI Garni 84.90 313 *i* P **P** **21 41 53.6 -2.4**
GNI pmax pmax
comp=Z,13nm,1.1s
TBLG Delisi 85.44 314 *e*P **P** **21 41 59.3 +0.8**
comp=Z,63nm,1.9s
TBLG Delisi 85.44 314 *e*P **P** **21 41 59.3 +0.8**
TBLG pmax pmax
comp=Z,63nm,1.9s
AKH Akhalkalaki 86.21 313 *e*P **P** **21 42 02.3 -0.2**
comp=Z,5.0nm,0.9s
AKH Akhalkalaki 86.21 313 *e*P **P** **21 42 02.3 -0.2**
AKH pmax pmax
comp=Z,5.0nm,0.9s
LSZ Lusaka 86.86 255 *e*P **P** **21 42 05.8 -0.4**
comp=Z,19nm,1.8s
LSZ Lusaka 86.86 255 *e*P **P** **21 42 05.8 -0.4**
LSZ pmax pmax
comp=Z,19nm,1.8s
MBAR Mbarara 87.22 270 *i* P **P** **21 42 07.5 -0.5**
SNAA Sanae 88.34 196 P **P** **21 42 13.4 +1.3**
comp=Z,3.1nm,1.0s,baz=204,slow=5.2,SNR=9.7
SNAA Sanae 88.34 196 *e*P **P** **21 42 12.8 +0.7**
comp=Z,14nm,1.6s
SNAA Sanae 88.34 196 *e*P **P** **21 42 12.8 +0.7**
SNAA pmax pmax
comp=Z,14nm,1.6s
BR101 Keskin Array S 92.99 310 *e*P **P** **21 42 34.2 -0.2**
BR131 Keskin Array S 92.99 310 *e*P **P** **21 42 35.0 +0.6**
BRTR Keskin Array B 92.99 310 P **P** **21 42 34.2 -0.2**
comp=Z,1.9nm,0.9s,baz=123,slow=5.7,SNR=9.7
BRTR Keskin Array B 92.99 310 *i* P **P** **21 42 35.0 +0.6**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
YKA Yellowknife Ar 116.86 24 PKP **PKPdf** **21 48 05.5 +0.8**
comp=Z,0.6nm,0.8s,baz=318,slow=2.4,SNR=3.4
YKB5 Yellowknife Ar 116.86 24 *e*PKPdf **PKPdf** **21 48 05.5 +0.8**
TORD Torodi Ar. Bea 117.92 279 PKP **PKPdf** **21 48 07.3 -0.8**
comp=Z,0.8nm,0.9s,baz=4.3,slow=2.9,SNR=4.3
TOA1 Torodi Ar. Sit 117.92 279 *e*PKPdf **PKPdf** **21 48 07.3 -0.8**
NV01 Mina Array Sit 123.34 51 *e*PKPdf **PKPdf** **21 48 17.6 -0.7**
NVAR Mina Array Bea 123.34 51 PKP **PKPdf** **21 48 20.8 +2.6**
comp=Z,0.4nm,0.7s,baz=261,slow=4.2,SNR=2.8
LTX Lajitas 137.37 59 *e*PKPdf **PKPdf** **21 48 44.4 -0.5**
LTX Lajitas 137.37 59 *e*PKIKP **PKPdf** **21 48 44.4 -0.5**
TXAR Lajitas Array 137.37 59 PKP **PKPdf** **21 48 44.4 -0.5**
comp=Z,0.4nm,1.0s,baz=310,slow=4.6,SNR=2.7
MOQ Mont Orford 145.19 13 *e*PKPbc **PKPdf** **21 48 59.4 +1.0**
OXF Oxford 146.12 43 *e*PKPdf **PKPab** **21 49 02.0 +0.2**
OXF Oxford 146.12 43 PKP2 **PKPab** **21 49 02.0 +0.2**
WVT Waverly 146.15 39 *e*PKPdf **PKPdf** **21 49 01.0 +0.8**
WVT Waverly 146.15 39 *e*PKP2 **PKPdf** **21 49 01.0 +0.8**
BDFB Brasilia 149.69 207 PKPbc **PKPbc** **21 49 13.6 +2.1**
comp=Z,3.5nm,0.9s,baz=53,slow=8.6,SNR=3.9
LPAZ La Paz 151.72 167 PKPbc **PKPbc** **21 49 19.3 +2.4**
comp=Z,3.5nm,0.9s,baz=156,slow=4.0,SNR=11
LPAZ PKPab **sPKPdf** **21 49 27.4 +1.0**
comp=Z,0.6nm,0.5s,baz=253,slow=2.5,SNR=4.2
LPAZ La Paz 151.72 167 *e*PKPbc **PKPbc** **21 49 18.6 +1.7**
LPAZ *e*PKPab **sPKPdf** **21 49 27.4 +1.0**
LPAZ La Paz 151.72 167 *e*PKIKP **PKPbc** **21 49 18.6 +1.7**
LPAZ *e* 21 49 27.4

SOME ***22*** *21:43:51.8, 39°.93N×70°.13E, h0km*
IDC ***22*** *21:43:51.5±0.7, 39°.75N×70°.26E, h0km, mb3.8/14, mb1 4.0/22, mb1mx3.8/50, mbtmp3.8/22, ML3.3/7, MS3.3/3, Ms1 3.3/3, ms1mx2.5/45, Error ellipse: s-maj=16.8km s-min=9.8km az=154.0*
ISCJB ***22*** *21:43:52.5±0.9, 39°.70N±0°.03×70°.13E±0°.03, h15km±5km, mb3.9/18, MS3.4/2, Error ellipse: s-maj=4.7km s-min=3.3km az=156.5*
KRNET ***22*** *21:43:52.9±0.1, 39°.89N×70°.23E, h10km, mb4.0*
NNC ***22*** *21:43:54.0±0.8, 39°.96N×69°.97E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=7.5km s-min=5.3km az=6.0*
NEIC ***22*** *21:43:56.7±0.5, 39°.89N×70°.26E, h35km, mb4.1/6, Error ellipse: s-maj=11.7km s-min=8.4km az=159.0*

ISC 22 21:43:52.2±1.4, 39°.82N±0°.04×70°.10E±0°.03, h2km±8km, n95, σ2≥07/131, mb4.0/18, 51C-21D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**0.60**	**67**	⇑*i*P	**Pg**	**21 44 02.6**	**-1.1**
	baz=70						
BTK				⇑*i*S	**Sg**	**21 44 09.5**	**-2.0**
	baz=70						
DRK	**Karamyk**	**1.36**	**104**	⇑*i*P	**Pn**	**21 44 17.8**	**-0.6**
	baz=8.0						
DRK				⇑*i*S	**Sb**	**21 44 35.5**	**-0.9**
	baz=8.0						
TAS	**Tashkent**	**1.63**	**338**	⇓*i*P	**Pb**	**21 44 23.5**	**+0.5**
	baz=34						
TAS				⇓*i*S	**Sg**	**21 44 45.3**	**+0.8**
	baz=34						
IUG	**Iuzhnay**	**2.33**	**359**	*e*P	**Pn**	**21 44 33.5**	**+1.9**
	572nm,0.6s						
IUG				*e*S	**Sb**	**21 45 02.9**	**-1.2**
	937nm,0.5s						
ARK	**Arkit**	**2.43**	**35**	⇑*i*P	**Pn**	**21 44 34.7**	**+1.7**
	baz=35						
ARK				⇑*i*S	**Sn**	**21 45 05.7**	**+2.3**
	baz=35						
CHM	**Chimkent**	**2.52**	**352**	*e*P	**Pb**	**21 44 38.3**	**+0.1**
	105nm,0.3s						
CHM				*e*S	**Sg**	**21 45 12.7**	**-0.6**
	1μm,0.4s						
SFK	**Sufi-Kurgan**	**2.62**	**85**	⇓Pn	**Pn**	**21 44 38.8**	**+3.1**
	14nm,0.5s						
SFK				⇑Pg	**Pg**	**21 44 44.2**	**+1.8**
	50nm,0.6s						
SFK				⇑Lg	Lg	21 45 19.1	
	227nm,0.6s						
SFK	**Sufi-Kurgan**	**2.62**	**85**	⇑*i*P	**Pn**	**21 44 37.5**	**+1.7**
	baz=86						
SFK				⇑*i*S	**Sn**	**21 45 09.9**	**+1.6**
	baz=86						
ARSB	**Arslanbob**	**2.66**	**55**	⇑*i*P	**Pn**	**21 44 37.7**	**+1.5**
	baz=55						
ARSB				⇑*i*S	**Sn**	**21 45 10.1**	**+1.0**
	baz=55						
BRLS	**Borolday**	**3.21**	**357**	*e*P	**Pn**	**21 44 46.2**	**+2.6**
	0.3nm,0.4s						
BRLS				*e*S	**Sn**	**21 45 25.5**	**+2.9**
	26nm,0.8s						
MNAS	**Manas**	**3.22**	**33**	⇓Pn	**Pn**	**21 44 44.9**	**+1.0**
	2.7nm,0.3s						
MNAS				⇑Pg	**Pb**	**21 44 50.3**	**+0.1**
	50nm,1.0s						
MNAS				⇑Lg	Lg	21 45 32.3	
	166nm,0.7s						
MNAS	**Manas**	**3.22**	**33**	⇑*i*P	**Pn**	**21 44 45.3**	**+1.4**
	baz=33						
MNAS				⇑*i*S	**Sn**	**21 45 24.1**	**+1.1**
	baz=33						
KK31	**Karatay Array**	**3.29**	**5**	Pn	**Pn**	**21 44 46.2**	**+1.4**
	3.2nm,0.4s,baz=196,slow=13,SNR=215						
KK31				⇓Pg	**Pb**	**21 44 51.9**	**+0.6**
	9.5nm,0.3s,baz=207,slow=18,SNR=8.9						
KK31				⇑Lg	Lg	21 45 34.0	
	51nm,0.4s,baz=0.0,slow=0.1,SNR=5.0						
AML	**Almayashu**	**3.57**	**49**	P	**Pn**	**21 44 50.3**	**+1.4**
	SNR=38						
AML	**Almayashu**	**3.57**	**49**	⇑*i*P	**Pn**	**21 44 50.3**	**+1.4**
	baz=48						
AML				⇑*i*S	**Sn**	**21 45 32.4**	**+0.6**
	baz=48						
MRKS	**Merke**	**3.75**	**38**	*e*P	**Pb**	**21 44 57.3**	**-1.9**
	43nm,0.4s						
MRKS				*e*S	**Sb**	**21 45 44.5**	**-0.6**
	171nm,0.3s						
EKS2	**Erkin-Say**	**3.97**	**43**	P	**Pn**	**21 44 55.7**	**+1.6**
	SNR=21						
EKS2	**Erkin-Say**	**3.97**	**43**	⇑*i*P	**Pn**	**21 44 55.9**	**+1.8**
	baz=43						
EKS2				⇑*i*S	**Sn**	**21 45 41.6**	**+0.3**
	baz=43						
UCH	**Uchtor**	**4.11**	**53**	P	**Pn**	**21 44 57.9**	**+1.4**
	SNR=17						
UCH	**Uchtor**	**4.11**	**53**	⇑*i*P	**Pn**	**21 44 57.9**	**+1.4**
	baz=53						
UCH				⇑*i*S	**Sn**	**21 45 45.7**	**+0.3**
	baz=53						
AAK	**Ala-Archa**	**4.35**	**48**	Pn	**Pn**	**21 45 01.4**	**+2.0**
	4.6nm,0.3s,baz=195,slow=3.7,SNR=57						
AAK				Sn	**Sn**	**21 45 48.9**	**-1.8**
	7.9nm,0.3s,baz=238,slow=8.7,SNR=4.4						
AAK				Lg	Lg	21 46 06.6	
	6.1nm,0.3s,baz=0.0,slow=20,SNR=3.2						
AAK	**Ala-Archa**	**4.35**	**48**	⇓Pn	**Pn**	**21 45 01.6**	**+2.2**
	14nm,0.4s						
AAK				⇑Pg	**Pg**	**21 45 14.0**	**-1.4**
	53nm,0.8s						
AAK				⇓Sn	**Sn**	**21 45 54.4**	**+3.7**
	34nm,0.5s						
AAK				⇓Lg	Lg	21 46 11.6	
	152nm,0.9s						
AAK	**Ala-Archa**	**4.35**	**48**	P	**Pn**	**21 45 02.1**	**+2.7**
	SNR=27						
AAK	**Ala-Archa**	**4.35**	**48**	*e*Pn	**Pn**	**21 45 00.2**	**+0.8**
AAK				*e*Sn	**Sn**	**21 45 48.0**	**-2.7**
AAK	**Ala-Archa**	**4.35**	**48**	⇓*i*P	**Pn**	**21 45 01.2**	**+1.8**
	baz=48						
AAK				⇓*i*S	**Sn**	**21 45 50.8**	**+0.1**
	baz=48						
KZA	**Kyzart**	**4.50**	**58**	P	**Pn**	**21 45 03.7**	**+1.9**
	SNR=48						
KZA	**Kyzart**	**4.50**	**58**	⇑*i*P	**Pn**	**21 45 03.6**	**+1.8**
	baz=58						
KZA				⇑*i*S	**Sn**	**21 45 55.1**	**+0.2**
	baz=58						
FRU1	**Bishkek**	**4.53**	**47**	⇑*i*P	**Pn**	**21 45 03.6**	**+1.7**
	baz=47						
FRU1				⇑*i*S	**Sn**	**21 45 55.2**	**0.0**
	baz=47						
KBK	**Karagaybulak**	**4.62**	**51**	P	**Pn**	**21 45 05.3**	**+2.1**
	SNR=77						
KBK	**Karagaybulak**	**4.62**	**51**	⇓*i*P	**Pn**	**21 45 05.2**	**+2.0**
	baz=51						
KBK				⇓*i*S	**Sn**	**21 45 57.5**	**-0.1**
	baz=51						
CHMS	**Chumysh**	**4.72**	**46**	P	**Pn**	**21 45 05.9**	**+1.4**
	SNR=23						
CHMS	**Chumysh**	**4.72**	**46**	⇑*e*P	**Pn**	**21 45 05.8**	**+1.4**
	baz=46						
CHMS				⇑*i*S	**Sn**	**21 46 00.2**	**+0.4**
	baz=46						
NRN	**Naryn**	**4.77**	**68**	⇑*i*P	**Pn**	**21 45 06.0**	**+0.7**
	baz=69						
NRN				⇑*i*S	**Sn**	**21 46 00.7**	**-0.7**
	baz=69						
USP	**Ospenovka**	**4.77**	**42**	P	**Pn**	**21 45 06.2**	**+1.2**
	SNR=11						
USP	**Ospenovka**	**4.77**	**42**	⇑*i*P	**Pn**	**21 45 06.5**	**+1.4**
	baz=42						
USP				⇑*i*S	**Sn**	**21 46 00.6**	**-0.4**
	baz=42						
TKM2	**Tokmak 2**	**5.17**	**51**	⇑Pn	**Pn**	**21 45 11.6**	**+0.9**
	15nm,0.5s						
TKM2				⇓Pg	**Pb**	**21 45 27.8**	**+4.4**
	27nm,0.6s						
TKM2				⇑Sn	**Sn**	**21 46 14.8**	**+3.9**
	34nm,0.8s						
TKM2				⇑Lg	Lg	21 46 37.6	
	100nm,0.9s						
TKM2	**Tokmak 2**	**5.17**	**51**	P	**Pn**	**21 45 12.4**	**+1.7**
	SNR=16						
TKM2	**Tokmak 2**	**5.17**	**51**	⇓*i*P	**Pn**	**21 45 12.2**	**+1.5**
	baz=51						
TKM2				⇓*i*S	**Sn**	**21 46 10.6**	**-0.4**
	baz=51						
ULHL	**Ulahol**	**5.24**	**60**	P	**Pn**	**21 45 13.8**	**+2.2**
	SNR=7.0						
ULHL	**Ulahol**	**5.24**	**60**	⇓*i*P	**Pn**	**21 45 13.3**	**+1.6**
	baz=61						
ULHL				⇓*i*S	**Sn**	**21 46 12.0**	**-0.7**
	baz=61						
KST	**Kastek**	**5.46**	**52**	*e*P	**Pb**	**21 45 30.2**	**+2.0**
	16nm,1.2s						
KST				*e*S	**Sb**	**21 46 41.4**	**+7.2**
	83nm,0.7s						
DGS	**Degeres**	**5.46**	**49**	*e*P	**Pb**	**21 45 31.9**	**+3.6**
	21nm,0.6s						
DGS				*e*S	**Sg**	**21 46 44.0**	**-3.4**
	88nm,0.6s						
CEP	**Cherat**	**6.16**	**166**	P	Pn	21 45 30.1	+5.8
CEP				S	**Sn**	**21 46 44.0**	**+8.7**
KNDC	**Almaty**	**6.17**	**54**	⇑Pn	**Pn**	**21 45 26.2**	**+1.9**
	33nm,0.7s						
KNDC				⇑Lg	Lg	21 47 08.2	
	246nm,1.4s						
CHCP	**Chirah Chowk**	**6.65**	**157**	P	Pn	21 45 36.9	+5.9
THW	**Thamme Wali**	**7.14**	**169**	P	Pn	21 45 42.7	+5.1
PDGK	**Podgornoye**	**7.86**	**60**	⇓Pn	**Pn**	**21 45 47.9**	**+0.3**
	5.0nm,0.8s						
PDGK				⇑Pg	**Pg**	**21 46 17.8**	**-4.9**
	6.8nm,0.8s						
PDGK				⇓Lg	Lg	21 48 06.3	
	58nm,1.1s						
OTUK	**Ortayu**	**8.57**	**10**	⇑Pn	**Pn**	**21 45 59.9**	**+2.6**
	4.7nm,1.0s						
OTUK				⇑Lg	Lg	21 48 20.9	
	54nm,1.2s						
GEYT	**Alibeck**	**9.53**	**262**	Pn	**Pn**	**21 46 11.3**	**+0.9**
	0.3nm,0.3s,baz=91,slow=15,SNR=4.3						
GEYT				Sn	**Sn**	**21 47 56.8**	**-1.4**
	0.6nm,0.3s,baz=92,slow=20,SNR=3.3						
GYA0B	**ALIBECK ARRAY**	**9.53**	**262**	⇑Pn	**Pn**	**21 46 12.3**	**+1.8**
	2.8nm,0.6s						
GYA0B				⇑Sn	**Sn**	**21 47 58.5**	**+0.3**
	19nm,0.8s						
MK31	**Makanchi Array**	**11.28**	**48**	⇑Pn	**Pn**	**21 46 36.5**	**+2.1**
	2.5nm,0.7s,baz=235,slow=9.9,SNR=23						
MK31				⇑Lg	Lg	21 49 48.2	
	4.5nm,0.8s,baz=253,slow=26,SNR=2.6						
MKAR	**Makanchi Array**	**11.28**	**48**	Pn	**Pn**	**21 46 34.1**	**-0.2**
	0.2nm,0.3s,baz=237,slow=9.8,SNR=14						
MKAR				Lg	Lg	21 49 47.7	
	0.2nm,0.3s,baz=234,slow=25,SNR=4.1						
AB31	**Akbulak array**	**11.88**	**326**	⇑Pn	**Pn**	**21 46 41.4**	**-1.1**
	2.0nm,0.4s						
AB31				⇑Sn	**Sn**	**21 48 53.0**	**-2.7**
	4.6nm,0.5s						
KURBB	**Kurchatov Arra**	**12.32**	**26**	Pn	**Pn**	**21 46 45.6**	**-2.8**
	0.0nm,0.3s,baz=212,slow=12,SNR=4.0						
KURBB				Lg	Lg	21 50 21.9	
	0.1nm,0.3s,baz=214,slow=29,SNR=6.5						
KURBB	**Kurchatov Arra**	**12.32**	**26**	⇑Pn	**Pn**	**21 46 47.0**	**-1.5**
	2.1nm,0.8s						
KURBB				⇑Lg	Lg	21 50 25.2	
	30nm,0.8s						
KURK	**Kurchatov**	**12.43**	**26**	Pn	Pn	21 46 45.6	-4.3
BVA0	**Borovoye Array**	**13.21**	**1**	Pn	**Pn**	**21 46 59.6**	**-1.0**
	3.3nm,0.9s,baz=162,slow=10,SNR=6.4						
BVAR	**Borovoye Array**	**13.21**	**1**	Pn	**Pn**	**21 46 59.6**	**-1.0**
	0.2nm,0.3s,baz=163,slow=10,SNR=6.4						
BVAR				Sn	**Sn**	**21 49 28.2**	**+0.2**
	0.1nm,0.3s,baz=179,slow=22,SNR=2.8						
AKTO	**Aktyubinsk**	**13.60**	**325**	Pn	**Pn**	**21 47 05.8**	**-0.2**
	0.2nm,0.3s,baz=116,slow=16,SNR=3.9						
AKTO				Sn	**Sn**	**21 49 29.8**	**-7.7**
	0.4nm,0.3s,baz=342,slow=20,SNR=4.5						
AKTO				LR	LR	21 52 53.0	
	comp=Z,81nm,20.9s,baz=130,slow=39						
AKTO	**Aktyubinsk**	**13.60**	**325**	⇑Pn	**Pn**	**21 47 05.3**	**-0.6**
	6.6nm,0.9s						
AKTO				⇓Sn	**Sn**	**21 49 36.4**	**-1.1**
	7.1nm,0.8s						
DANN	**Dangsing**	**16.07**	**131**	*e*P	**Pn**	**21 47 38.2**	**-1.3**
	22nm,0.6s						
KOLN	**Koldanda**	**16.42**	**133**	*e*P	**Pn**	**21 47 42.4**	**-1.5**
	12nm,0.7s						
ZAA0	**Zalesovo Array**	**17.29**	**30**	⇓Pn	**P**	**21 47 58.6**	**+2.5**
	2.1nm,0.7s						
ZALV	**Zalesovo Beam**	**17.29**	**30**	P	**Pn**	**21 47 52.5**	**-2.1**
	0.3nm,0.3s,baz=230,slow=11,SNR=8.0						
KKN	**Kakani**	**17.38**	**129**	*e*P	**Pn**	**21 47 53.6**	**-2.5**
	12nm,0.5s						
PKIN	**Phulchoki**	**17.61**	**129**	*e*P	**Pn**	**21 47 56.6**	**-2.3**
	10nm,0.6s						
PKI	**Pulchoki**	**17.62**	**129**	*e*P	**Pn**	**21 47 56.6**	**-2.5**
	17nm,0.8s						
GUN	**Gumba**	**17.66**	**127**	*e*P	**Pn**	**21 47 56.9**	**-2.7**
	11nm,0.5s						
JIRN	**Jiri**	**18.03**	**127**	*e*P	**Pn**	**21 48 01.9**	**-2.3**
	22nm,0.5s						
RAMN	**Ramite**	**18.79**	**128**	*e*P	**P**	**21 48 11.2**	**-1.9**
	11nm,0.7s						
GNI	**Garni**	**19.42**	**279**	P	**Pn**	**21 48 22.3**	**+1.4**
	0.2nm,0.3s,baz=24,slow=20,SNR=2.1						
GNI	**Garni**	**19.42**	**279**	P	**Pn**	**21 48 22.3**	**+1.4**
	1.9nm,0.8s						
LSA	**Lhasa**	**19.98**	**114**	*e*P	**P**	**21 48 23.4**	**-2.9**
	4.4nm,0.8s						
KBZ	**Khabaz**	**20.62**	**290**	P	**P**	**21 48 33.7**	**+1.1**
	0.8nm,0.6s,baz=129,slow=14,SNR=2.6						
KIV	**Kislovodsk**	**20.78**	**290**	*e*P	**P**	**21 48 35.6**	**+1.1**
RAYN	**Ar Rayn**	**26.38**	**239**	*e*P	**P**	**21 49 31.4**	**+1.5**
	4.3nm,1.1s						
SONM	**Songino Array**	**27.18**	**61**	P	**P**	**21 49 36.9**	**-0.2**
	0.2nm,0.4s,baz=254,slow=10,SNR=2.2						
BRTR	**Keskin Array B**	**27.90**	**282**	P	**P**	**21 49 45.3**	**+1.6**
	1.1nm,0.8s,baz=98,slow=8.9,SNR=6.6						
FINES	**FINESS Array B**	**34.36**	**324**	P	**P**	**21 50 40.4**	**+0.3**
	1.8nm,0.9s,baz=81,slow=12,SNR=6.2						
ARCES	**ARCESS Array B**	**37.82**	**336**	P	**P**	**21 51 11.1**	**+1.5**
	2.4nm,0.7s,baz=108,slow=6.9,SNR=9.4						
NOA	**NORSAR Array B**	**41.33**	**321**	P	**P**	**21 51 40.0**	**+1.0**
	0.7nm,0.8s,baz=109,slow=7.7,SNR=2.7						
NOA				LR	LR	22 09 52.2	
	comp=Z,18nm,18.7s,baz=215,slow=38						
NOA	**NORSAR Array B**	**41.33**	**321**	P	**P**	**21 51 40.0**	**+1.0**
ESDC	**Sonseca Array**	**55.33**	**296**	P	**P**	**21 53 28.3**	**+0.9**
	0.4nm,0.5s,baz=70,slow=7.4,SNR=4.5						
TORD	**Torodi Ar. Bea**	**65.15**	**267**	P	**P**	**21 54 34.5**	**-0.3**
	2.0nm,0.8s,baz=26,slow=7.3,SNR=12						
SIJI	**Sorong**	**68.79**	**110**	LR	LR	22 28 28.2	
	comp=Z,56nm,19.0s,slow=39						
ILAR	**Eielson Array**	**71.78**	**16**	P	**P**	**21 55 15.0**	**-0.6**
	0.9nm,0.9s,baz=303,slow=4.0,SNR=6.6						
DBIC	**Dimbokro**	**74.21**	**265**	P	**P**	**21 55 30.2**	**-0.6**
	2.5nm,0.7s,baz=0.0,slow=10,SNR=2.8						
TSUM	**Tsumeb**	**76.44**	**230**	P	**P**	**21 55 43.5**	**0.0**
	0.6nm,0.6s						
YKA	**Yellowknife Ar**	**77.96**	**2**	P	**P**	**21 55 51.4**	**+0.1**
	1.3nm,0.8s,baz=350,slow=4.5,SNR=6.2						
WRA	**Warramunga Arr**	**84.34**	**122**	P	**P**	**21 56 25.8**	**-0.1**
	0.4nm,0.6s,baz=321,slow=4.7,SNR=5.6						
SUR	**Sutherland**	**85.12**	**220**	P	**P**	**21 56 28.3**	**-1.5**
	9.0nm,0.9s						
ASAR	**Alice Springs**	**86.72**	**125**	P	**P**	**21 56 38.0**	**+0.2**
	0.6nm,0.9s,baz=316,slow=4.7,SNR=4.2						
ULM	**Lac du Bonnet**	**89.46**	**351**	P	**P**	**21 56 49.4**	**-1.1**
	2.2nm,0.7s,baz=279,slow=13,SNR=2.2						
NEW	**Newport**	**92.06**	**5**	P	**P**	**21 57 03.3**	**+0.6**
	0.4nm,0.6s						
STKA	**Stephens Creek**	**97.31**	**126**	P	**P**	**21 57 25.5**	**-1.3**
	0.5nm,0.2s,baz=310,slow=16,SNR=3.5						

MEX 22 21:57:07.2±1.0, 16°.69N×95°.16W, h94km±9km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.48**	**34**	*e*P	Pn	21 57 21.1	-1.1
CMIG				*e*S	Sn	21 57 31.9	-1.6
HUIG	**Huatulco**	**1.29**	**225**	*e*P	Pn	21 57 29.3	-1.3
HUIG				*e*S	Sn	21 57 47.0	-1.3
TUIG	**Tuzandepetl**	**1.51**	**28**	*e*P	Pn	21 57 32.4	-0.9
TUIG				*i* S	Sn	21 57 50.7	-2.3
VHO	**Vista Hermosa**	**1.55**	**284**	*e*P	Pn	21 57 33.5	-0.5
VHO				*e*S	Sn	21 57 53.0	-1.3
PCIG		**2.11**	**117**	*e*P	Pn	21 57 40.6	-0.4

ISCJB ***22*** *22:23:13.0±0.6, 20°.05S±0°.1×177°.6W±0°.1, h500km, mb3.7/7, Error ellipse: s-maj=18.5km s-min=9.5km az=137.2*
IDC ***22*** *22:23:14.2±2.4, 20°.00S×177°.67W, h494km±33km, mb3.3/7, mb1 3.5/9, mb1mx3.3/28, mbtmp4.2/9, Error ellipse: s-maj=21.4km s-min=18.3km az=148.0*

ISC 22 22:23:13.8±0.7, 19°.95S±0°.1×177°.7W±0°.1, h500km, n12, σ2≥07/15, mb3.8/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.23**	**44**	P	**P**	**22 25 13.8**	**+1.0**
	4.7nm,0.3s,baz=46,slow=20,SNR=9.6						
AFI				S	**S**	**22 26 46.7**	**-3.7**
	11nm,0.3s,baz=134,slow=1.7,SNR=6.2						
URZ	**Urewera**	**18.82**	**193**	P	**P**	**22 27 00.3**	**-1.3**
	0.7nm,0.3s,baz=252,slow=6.1,SNR=6.2						
CTA	**Charters Tower**	**33.84**	**263**	P	**P**	**22 29 15.1**	**+0.8**
	3.7nm,0.4s,baz=88,slow=12,SNR=6.3						
STKA	**Stephens Creek**	**38.30**	**244**	P	**P**	**22 29 52.0**	**+0.9**
	1.9nm,0.6s,baz=91,slow=10,SNR=5.7						
ASAR	**Alice Springs**	**44.94**	**256**	P	**P**	**22 30 45.1**	**+1.3**
	2.6nm,0.7s,baz=88,slow=8.8,SNR=29						
ASAR				S	**S**	**22 36 42.1**	**-3.1**
	1.0nm,0.8s,baz=93,slow=16,SNR=8.3						
WRA	**Warramunga Arr**	**44.97**	**261**	P	**P**	**22 30 44.8**	**+0.7**
	2.0nm,0.3s,baz=97,slow=7.0,SNR=133						
WRA				S	**S**	**22 36 41.6**	**-4.1**
	0.7nm,1.0s,baz=93,slow=15,SNR=3.1						
SIJI	**Sorong**	**53.37**	**284**	P	**P**	**22 31 47.0**	**+0.5**
	baz=338,slow=4.6,SNR=4.4						
VNDA	**Vanda**	**58.51**	**185**	P	**P**	**22 32 21.5**	**+0.5**
	0.9nm,0.9s,baz=16,slow=7.0,SNR=6.9						
MJAR	**Matsushiro Arr**	**69.92**	**323**	P	**P**	**22 33 35.0**	**+0.7**
	1.7nm,0.7s,baz=167,slow=7.2,SNR=4.1						
TXAR	**Lajitas Array**	**86.50**	**57**	P	**P**	**22 35 05.0**	**+1.4**
	0.3nm,0.6s,baz=217,slow=6.1,SNR=5.6						
VNA3	**Neumayer Olymp**	**88.70**	**176**	P	**P**	**22 35 12.2**	**-0.9**
VNA2	**Neumayer--Watz**	**89.14**	**177**	P	**P**	**22 35 14.2**	**-1.0**
	baz=232,slow=3.0						

TIR ***22*** *22:24:34.9, 41°.28N×20°.01E, h15km, Md2.9/8*
BEO ***22*** *22:24:35.6±0.7, 41°.20N×19°.90E, h1km±2km, ML2.3/9*
PDG ***22*** *22:24:35.4±0.3, 41°.30N×20°.03E, h11km, ML2.5/10, Error ellipse: s-maj=0.5km s-min=0.8km az=0.0*
SKO ***22*** *22:24:36.3, 41°.32N×19°.99E, h7km, M1.9, ML2.3*

ISC 22 22:24:35.3±0.9, 41°.28N±0°.02×20°.01E±0°.02, h11km±6km, n51, σ1≥19/88, 5C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res

HCY	**Herceg Novi**	**1.63**	**316**	*e*Pn		**Pb**	**22 25 05.0**	**-0.4**
NKME	**Niksic**	**1.68**	**333**	ǁ*i*Pn		**Pb**	**22 25 05.9**	**-0.5**
NKME				*e*Sn		**Sg**	**22 25 29.7**	**+0.2**
STIP	**Stip**	**1.69**	**75**	*e*Pn		**Pg**	**22 25 08.9**	**+1.1**
NKY	**Niksic**	**1.71**	**334**	ǁ*i*Pn		**Pn**	**22 25 06.0**	**+0.8**
NKY				*e*Sn		**Sg**	**22 25 30.5**	**+0.1**
TREB	**Trebinje**	**1.90**	**320**	*e*Pn		**Pn**	**22 25 08.8**	**+1.1**
TREB				*e*Sn		**Sb**	**22 25 33.6**	**-0.1**
TREB	**Trebinje**	**1.90**	**320**	*e*Pn		**Pn**	**22 25 08.4**	**+0.7**
BRY	**Bratogost**	**1.96**	**327**	ǁ*i*Pn		**Pn**	**22 25 09.6**	**+1.0**
BRY				*e*Sn		**Sb**	**22 25 36.4**	**+0.8**
BRY	**Bratogost**	**1.96**	**327**	*e*Pn		**Pb**	**22 25 10.6**	**-0.5**
SJES	**Sjenica**	**1.98**	**359**	*e*Pn		**Pb**	**22 25 10.7**	**-0.8**
SJES				*e*Sg		**Sg**	**22 25 41.4**	**+2.3**
BARS	**Barje**	**2.04**	**41**	*e*Pn		**Pb**	**22 25 13.4**	**+0.9**
BARS				*e*Sn		**Sg**	**22 25 39.9**	**-1.2**
UPM	**Unac-Piva**	**2.09**	**337**	ǁ*i*Pn		**Pn**	**22 25 11.6**	**+1.1**
UPM				*e*Sn		**Sb**	**22 25 39.4**	**-0.1**
UPM	**Unac-Piva**	**2.09**	**337**	*e*Pn		**Pb**	**22 25 12.9**	**-0.5**
SELS	**Selova**	**2.11**	**23**	*e*Pn		**Pb**	**22 25 13.3**	**-0.3**
SELS				*e*Sn		**Sg**	**22 25 41.4**	**-1.8**
IVAS	**Ivanjica**	**2.30**	**3**	*e*Pn		**Pb**	**22 25 15.3**	**-1.6**
IVAS				*e*Sn		**Sb**	**22 25 45.6**	**+0.2**
STON	**Ston**	**2.34**	**314**	*e*Pn		**Pn**	**22 25 15.1**	**+1.3**
STON				*e*Sn		**Sb**	**22 25 45.2**	**-1.3**
STON	**Ston**	**2.34**	**314**	*e*Pn		**Pn**	**22 25 14.5**	**+0.8**
STON	**Ston**	**2.34**	**314**	*e*Pn		**Pn**	**22 25 14.3**	**+0.5**
BBLS	**Lazići**	**2.63**	**350**	*e*Pn		**Pn**	**22 25 19.1**	**+1.3**
BBLS				*e*Sn		**Sb**	**22 25 52.8**	**-2.0**
BBLS	**Lazići**	**2.63**	**350**	*e*Pn		**Pb**	**22 25 20.1**	**-2.4**
GRUS	**Gruza**	**2.66**	**11**	*e*Pn		**Pb**	**22 25 21.0**	**-2.0**
GRUS				*e*Sn		**Sb**	**22 25 54.3**	**-1.4**
VTS	**Vitosha**	**2.73**	**60**	*e*Pn		**Pb**	**22 25 22.3**	**-1.9**
VTS				*e*Sn		**Sb**	**22 25 56.8**	**-0.9**
ZAPS	**Zavoj**	**2.79**	**43**	*e*Pg		**Pb**	**22 25 26.9**	**+1.7**
ZAPS				*e*Sn		**Sb**	**22 25 58.2**	**-1.2**
DIVS	**Divibare**	**2.82**	**360**	*e*Pn		**Pb**	**22 25 23.1**	**-2.7**
DIVS				*e*Sn		**Sb**	**22 25 58.8**	**-1.6**
DIVS	**Divibare**	**2.82**	**360**	*e*Pn		**Pn**	**22 25 21.7**	**+1.2**
TRUS	**Trudelj**	**2.96**	**6**	*e*Pn		**Pn**	**22 25 25.0**	**+2.7**
NVLJ	**Novalja**	**5.00**	**313**	*e*Pn		**Pn**	**22 25 50.4**	**+0.1**

IDC 22 22:35:15.4±6.0, 5°52S×151°38E, *h*75$^{km}_{\pm 49}$km, mb3.3/3, mb1 3.6/4, mb1mx3.3/30, mbtmp3.7/4, ML2.2/1, Error ellipse: s-maj=112.2km s-min=32.4km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.70**	**227**	P			Pn	22 36 38.4	+0.9
	4.1nm,0.3s,baz=124,slow=3.6,SNR=4.7								
PMG				S			Sn	22 37 42.5	+1.0
	4.2nm,0.3s,baz=83,slow=16,SNR=3.2								
WRA	**Warramunga Arr**	**21.92**	**228**	P			P	22 40 01.1	-1.7
	0.8nm,0.5s,baz=53,slow=10,SNR=12								
ASAR	**Alice Springs**	**24.68**	**221**	P			P	22 40 29.9	+0.5
	0.7nm,0.4s,baz=57,slow=9.2,SNR=13								
ILAR	**Eielson Array**	**83.35**	**22**	P			P	22 47 33.4	-0.6
	0.7nm,0.9s,baz=252,slow=5.2,SNR=3.7								
TORD	**Torodi Ar. Bea**	**149.17**	**286**	PKPbc		PKPbc		22 54 57.1	+0.7
	0.8nm,0.9s,baz=103,slow=3.3,SNR=4.2								

*IDC **22** 22:44:24.1±0.5, 22°.40S×174°.10E, h0^{km}, mb4.6/22, mb1 4.7/24, mb1mx4.6/38, mbtmp4.6/24, ML4.2/2, MS4.3/17, Ms1 4.3/17, ms1mx4.0/35, Error ellipse: s-maj=17.3km s-min=13.2km az=99.0*

*BJI **22** 22:44:28.7, 21°.90S×174°.29E, h25^{km}, mb4.9/29, mB5.1/19, Ms5.1/7, Ms7 4.8/4*

*MOS **22** 22:44:29.4±1.4, 22°.41S×173°.92E, h36^{km}, mb5.1/15, Error ellipse: s-maj=10.5km s-min=10.1km az=145.6*

*ISCJB **22** 22:44:29.1±0.1, 22°.38S±0°.03×173°.91E±0°.03, h35^{km}, mb5.0/103, MS4.4/17, Error ellipse: s-maj=4.7km s-min=3.5km az=40.9*

*NEIC **22** 22:44:31.9±0.8, 22°.35S×173°.92E, h50$^{km}_{\pm 7km}$, mb5.0/81, Error ellipse: s-maj=5.1km s-min=4.4km az=123.0*

*GCMT **22** 22:44:31.9±0.2, 22°.44S±0°.01×174°.08E±0°.02, h15^{km}, MW5.1/88, Moment Tensor Solution. s51,c79; s88,c139; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.08±.18; $M_{\theta\theta}$-5.02±.13; $M_{\phi\phi}$0.94±.12; $M_{r\theta}$3.90±.42; $M_{\theta\phi}$0.34±.09; $M_{\phi r}$-1.18±.42; Best double couple: M_o6.13200×10^{16} NP1:ϕ_s103.00000°, δ66.00000°, λ100.00000°. NP2: ϕ_s260.00000°, δ26.00000°, λ69.00000°. Principal axes: T 5.7290, Plg67.0000°, Azm32.0000°; N 0.8070, Plg9.0000°, Azm279.0000°; P -6.5340, Plg21.0000°, Azm186.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 22:44:30.0±0.3, 22°.44S±0°.05×174°.09E±0°.05, h35^{km}, n338, σ1^{s}26/343, mb5.0/103, MS4.5/18, 3C-3D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.09**	**272**	Pn			**Pn**	**22 46 11.1**	**-0.3**
	5.1nm,0.3s,baz=130,slow=11,SNR=25								
DZM				Sn			**Sn**	**22 47 31.6**	**+0.8**
	9.7nm,0.3s,baz=173,slow=21,SNR=3.9								
DZM	**Mont Dzumac**	**7.09**	**272**	*e*Pn			**Pn**	**22 46 12.5**	**+1.2**
	147nm,1.0s								
DZM				*e*Sn			**Sn**	**22 47 28.5**	**-2.2**
	311nm,1.0s								
DZM				*e*LR		LR	LR	22 47 51.0	
	3μm,22.9s								
DZM	**Mont Dzumac**	**7.09**	**272**	*e*Pn			**Pn**	**22 46 11.4**	**+0.1**
DZM				Sn			**Sn**	**22 47 31.6**	**+0.8**
OUZ	**Omahuta**	**12.74**	**182**	*e*Pn			**Pn**	**22 47 31.0**	**+2.3**
FUNA	**Funafuti**	**14.68**	**20**	*e*Pn			**Pn**	**22 47 55.5**	**+0.3**
MXZ	**Matakaoa Point**	**15.50**	**167**	*e*Pn			**P**	**22 48 08.4**	**-1.6**
	48nm,0.7s								
AFI	**Afiamalu**	**15.88**	**60**	LR		LR	LR	22 53 05.0	
	comp=Z,1μm,18.8s,baz=228,slow=33								
AFI	**Afiamalu**	**15.88**	**60**	*e*Pn			**Pn**	**22 48 11.2**	**+0.2**
	47nm,1.1s								
AFI	**Afiamalu**	**15.88**	**60**	*e*P			**Pn**	**22 48 11.2**	**+0.2**
AFI				pmax		pmax			
	comp=Z,47nm,1.1s								
URZ	**Urewera**	**15.98**	**171**	Pn			**Pn**	**22 48 11.6**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=360,slow=8.5,SNR=11								
URZ				LR		LR	LR	22 52 58.2	
	comp=Z,1μm,22.0s,baz=11,slow=32								
URZ	**Urewera**	**15.98**	**171**	*e*Pn			**P**	**22 48 15.1**	**-0.1**
HIZ	**Hauiti**	**16.03**	**178**	*e*Pn			**P**	**22 48 14.7**	**-1.2**
	comp=Z,201nm,1.5s								
LHI	**Lord Howe Isla**	**16.14**	**233**	*e*Pn			**Pn**	**22 48 13.4**	**-0.8**
	comp=Z,35nm,0.8s								
BKZ	**Black Stump Fm**	**16.80**	**174**	*e*Pn			**P**	**22 48 25.4**	**+1.0**
	comp=Z,107nm,1.6s								
BFZ	**Birch Farm**	**18.28**	**175**	*e*P			**Pn**	**22 48 41.7**	**+0.9**
	comp=Z,81nm,0.9s								
HNR	**Honiara**	**18.74**	**311**	P			**Pn**	**22 48 47.4**	**+0.8**
	comp=Z,13nm,0.3s,baz=234,slow=3.8,SNR=7.7								
SNZO	**South Karori**	**18.82**	**179**	*e*P			**Pn**	**22 48 48.2**	**+0.8**
	comp=Z,83nm,0.9s								
THZ	**Tophouse**	**19.29**	**183**	*e*P			**Pn**	**22 48 53.6**	**+0.5**
	comp=Z,43nm,0.7s								
KHZ	**Kahutara**	**19.92**	**181**	*e*P			**Pn**	**22 49 00.5**	**0.0**
	comp=Z,54nm,1.0s								
LTZ	**Lake Taylor**	**20.34**	**184**	*e*P			Pn	22 49 05.1	-0.3
	comp=Z,174nm,1.6s								
OXZ	**Oxford**	**20.90**	**184**	*e*P			**P**	**22 49 10.4**	**+1.2**
	comp=Z,92nm,0.8s								
EIDS	**Eidsvold**	**21.23**	**258**	P			**P**	**22 49 15.8**	**+2.8**
	baz=22,SNR=7.5								
EIDS	**Eidsvold**	**21.23**	**258**	*e*P			**P**	**22 49 13.3**	**+0.4**
	comp=Z,32nm,0.8s								
FOZ	**Fox Glacier**	**21.33**	**189**	*e*P			**P**	**22 49 15.5**	**+1.7**
	comp=Z,130nm,1.5s								
RPZ	**Rata Peaks**	**21.36**	**186**	P			**P**	**22 49 14.4**	**+0.1**
	comp=Z,36nm,0.6s,baz=334,slow=1.9,SNR=9.7								
RPZ				LR			LR	22 57 08.8	
	comp=Z,2μm,18.1s,baz=359,slow=36								
RPZ	**Rata Peaks**	**21.36**	**186**	*e*P			**P**	**22 49 16.2**	**+1.9**
ARMA	**Armidale**	**21.60**	**244**	P			**P**	**22 49 20.4**	**+3.4**
	baz=22,SNR=4.4								
ARMA	**Armidale**	**21.60**	**244**	*e*P			**P**	**22 49 18.3**	**+1.3**
	comp=Z,24nm,1.0s								
LBZ	**Lake Benmore**	**22.12**	**187**	*e*P			**P**	**22 49 24.4**	**+2.0**
	comp=Z,32nm,0.9s								
ODZ	**Otahua Downs**	**22.72**	**186**	*e*P			**P**	**22 49 31.7**	**+2.9**
	comp=Z,185nm,1.9s								
MLZ	**Mavora Lakes**	**23.38**	**191**	*e*P			**P**	**22 49 37.9**	**+2.4**
	comp=Z,32nm,0.8s								
RMQ	**Roma**	**23.39**	**255**	P			**P**	**22 49 36.9**	**+1.2**
	baz=24,SNR=20								
DCZ	**Deep Cove**	**23.66**	**192**	*e*P			**P**	**22 49 40.3**	**+2.2**
	comp=Z,42nm,1.3s								
WHZ	**Wether Hill Ro**	**23.92**	**191**	*e*P			**P**	**22 49 43.0**	**+2.4**
	comp=Z,341nm,1.9s								
RAR	**Rarotonga**	**24.29**	**92**	LR		LR	LR	22 59 07.3	
	comp=Z,188nm,18.1s,baz=290,slow=36								
PYZ	**Puysegur Point**	**24.42**	**193**	*e*P			**P**	**22 49 46.3**	**+1.1**
	comp=Z,77nm,1.1s								
CNB	**Canberra Magne**	**25.08**	**234**	P			**P**	**22 49 53.0**	**+1.6**
	baz=26,SNR=11								
CAN	**Canberra**	**25.36**	**234**	*e*P			**P**	**22 49 55.1**	**+1.2**
	comp=Z,44nm,1.2s								
CAN	**Canberra**	**25.36**	**234**	*e*P			**P**	**22 49 55.1**	**+1.2**
CAN				pmax		pmax			
	comp=Z,44nm,1.2s								
CTA	**Charters Tower**	**26.03**	**270**	P			**P**	**22 50 00.1**	**+0.1**
	comp=Z,3.5nm,0.3s,baz=118,slow=13,SNR=5.7								
CTAO	**Charters Tower**	**26.03**	**270**	*e*P			**P**	**22 49 60.0**	**-0.1**
	comp=Z,7.6nm,0.6s								
CTAO	**Charters Tower**	**26.03**	**270**	*e*P			**P**	**22 50 00.0**	**-0.1**
CTAO				pmax		pmax			
	comp=Z,8.0nm,0.6s								
MTSU	**Mount Surprise**	**28.22**	**273**	P			**P**	**22 50 19.7**	**-0.1**
	baz=28,SNR=10								
TOO	**Toolangi**	**28.85**	**232**	P			**P**	**22 50 26.4**	**+1.2**
	baz=29,SNR=5.3								
STKA	**Stephens Creek**	**30.30**	**245**	P			**P**	**22 50 37.9**	**-0.2**
	comp=Z,3.1nm,0.6s,baz=84,slow=10,SNR=7.0								
STKA				LR			LR	23 01 41.4	
	comp=Z,1μm,20.2s,baz=70,slow=34								
STKA	**Stephens Creek**	**30.30**	**245**	P			**P**	**22 50 38.5**	**+0.3**
	baz=31,SNR=5.4								
STKA	**Stephens Creek**	**30.30**	**245**	*e*P			**P**	**22 50 38.4**	**+0.3**
	comp=Z,7.7nm,1.8s								
STKA	**Stephens Creek**	**30.30**	**245**	*e*P			**P**	**22 50 38.4**	**+0.3**
STKA				pmax		pmax			
	comp=Z,8.0nm,1.8s								
COEN	**Coen**	**30.50**	**281**	*e*P			**P**	**22 50 38.7**	**-1.4**
	comp=Z,12nm,1.3s								
ARPS	**Mount Arapiles**	**31.29**	**236**	P			**P**	**22 50 47.4**	**+0.6**
	baz=32,SNR=5.4								
KWAJ	**Kwajalein Atol**	**31.69**	**348**	*e*P			**P**	**22 50 51.2**	**+0.8**
	comp=Z,582nm,1.4s								
KWAJ	**Kwajalein Atol**	**31.69**	**348**	*e*P			**P**	**22 50 51.2**	**+0.8**
KWAJ				pmax		pmax			
	comp=Z,582nm,1.4s								
HTT	**Hallett**	**32.80**	**243**	P			**P**	**22 51 00.1**	**0.0**
	baz=33,SNR=5.7								
TBI	**Tubuai**	**33.54**	**99**	*e*LQ			LQ	22 58 36.2	
	comp=Z,397nm,30.2s								
TBI				*e*LR			LR	23 00 01.3	
	comp=Z,414nm,30.0s,baz=266								
PPT2	**Papeete2**	**34.43**	**89**	*e*S			**S**	**22 56 43.0**	**+2.4**
	comp=Z,76nm,24.0s								
PPT2				*e*LR			LR	23 00 27.7	
	comp=Z,680nm,27.0s,baz=260								
PPT	**Papeete**	**34.43**	**89**	LR			LR	23 04 26.3	
	comp=Z,136nm,18.6s,baz=193,slow=35								
BBOO	**Buckleboo**	**35.07**	**245**	*e*P			**P**	**22 51 20.1**	**+0.2**
	comp=Z,19nm,0.8s								
AS01	**Alice Springs**	**36.87**	**260**	*e*P			**P**	**22 51 34.4**	**-1.0**
AS31	**Alice Springs**	**36.91**	**260**	*e*P			**P**	**22 51 34.6**	**-1.1**
	comp=Z,5.5nm,0.8s								
ASAR	**Alice Springs**	**36.91**	**260**	P			**P**	**22 51 34.5**	**-1.2**
	comp=Z,4.6nm,0.8s,baz=87,slow=8.7,SNR=42								
ASAR				LR			LR	23 06 44.2	
	comp=Z,567nm,19.6s,baz=101,slow=36								
WC3	**Warramunga Arr**	**37.04**	**266**	*e*P			**P**	**22 51 36.4**	**-0.4**
	comp=Z,36nm,1.9s								
WB2	**Warramunga Arr**	**37.06**	**266**	*e*P			**P**	**22 51 36.3**	**-0.6**
WRAB	**Tennant Creek**	**37.06**	**266**	*i*P			**P**	**22 51 34.6**	**-2.4**
WRAB				pmax			pmax		
	comp=Z,4.0nm,1.0s								
WR1	**Warramunga Arr**	**37.07**	**266**	*e*P			**P**	**22 51 34.8**	**-2.2**
	comp=Z,7.7nm,1.0s								
WRA	**Warramunga Arr**	**37.07**	**266**	P			**P**	**22 51 34.8**	**-2.3**
	comp=Z,1.5nm,0.7s,baz=98,slow=8.3,SNR=15								
WRA				LR			LR	23 07 13.8	
	comp=Z,1μm,18.4s,baz=100,slow=37								
FORT	**Forrest**	**41.74**	**248**	P			**P**	**22 52 15.2**	**-0.7**
	baz=42,SNR=10.0								
FORT	**Forrest**	**41.74**	**248**	*e*P			**P**	**22 52 15.2**	**-0.7**
FORT				*e*pP			**P**	**22 52 15.9**	**0.0**
WRKA	**Warakurna**	**41.84**	**257**	P			**P**	**22 52 16.1**	**-0.8**
	baz=42,SNR=12								
JOHN	**Johnston Islan**	**42.11**	**24**	*e*P			**P**	**22 52 19.5**	**+0.6**
	comp=Z,175nm,1.3s								
FITZ	**Fitzroy Crossi**	**45.50**	**266**	P			**P**	**22 52 46.0**	**-0.3**
	baz=46,SNR=9.5								
FITZ	**Fitzroy Crossi**	**45.50**	**266**	*e*P			**P**	**22 52 46.0**	**-0.3**
	comp=Z,15nm,0.9s								
TAOE	**Nuku Hiva Isla**	**45.91**	**80**	*e*LR			LR	23 05 49.7	
	comp=Z,657nm,23.5s								
RKT	**Rikitea**	**46.77**	**101**	*e*LR			LR	23 06 02.0	
	comp=Z,269nm,29.8s								
SARN	**Sarigan**	**47.76**	**322**	*e*P			**P**	**22 53 03.7**	**-0.2**
	comp=Z,224nm,1.9s								
MBWA	**Marble Bar**	**50.25**	**261**	*e*P			**P**	**22 53 22.4**	**-0.7**
	comp=Z,28nm,0.7s								
MEEK	**Meekatharra**	**50.31**	**253**	P			**P**	**22 53 22.4**	**-1.1**
	baz=51,SNR=6.2								
KLBR	**Kellerberrin**	**50.54**	**247**	P			**P**	**22 53 26.2**	**+1.0**
	baz=51,SNR=6.3								
NWAO	**Narrogin (SRO)**	**50.89**	**245**	P			**P**	**22 53 27.3**	**-0.5**
	comp=Z,7.3nm,0.8s,baz=12,slow=9.3,SNR=3.1								
NWAO				LR			LR	23 13 58.7	
	comp=Z,335nm,22.0s,baz=332,slow=35								
NWAO	**Narrogin (SRO)**	**50.89**	**245**	*e*P			**P**	**22 53 27.1**	**-0.7**
	comp=Z,40nm,1.1s								
NWAO	**Narrogin (SRO)**	**50.89**	**245**	*e*P			**P**	**22 53 27.1**	**-0.7**
NWAO				pmax		pmax			
	comp=Z,40nm,1.1s								
HMH	**Humu'ula Sheep**	**51.28**	**38**	*e*P			**P**	**22 53 31.2**	**+0.1**
	comp=Z,124nm,1.3s								
MUN	**Mundaring**	**51.82**	**246**	P			**P**	**22 53 35.4**	**+0.6**
	baz=52,SNR=3.4								
VNDA	**Vanda**	**55.45**	**183**	P			**P**	**22 54 00.7**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=353,slow=8.9,SNR=6.7								
VNDA				LR			LR	23 15 06.7	
	comp=Z,221nm,19.4s,baz=12,slow=33								
VNDA	**Vanda**	**55.45**	**183**	*e*P			**P**	**22 54 01.5**	**+0.9**
VNDA	**Vanda**	**55.45**	**183**	*e*P			**P**	**22 54 01.5**	**+0.9**
SBA	**Scott Base**	**55.58**	**182**	*e*P			**P**	**22 54 03.2**	**+1.7**
	comp=Z,13nm,0.8s								
SBA	**Scott Base**	**55.58**	**182**	*e*P			**P**	**22 54 03.2**	**+1.7**
SBA				pmax			pmax		
	comp=Z,13nm,0.8s								
JCJ	**Chichijima**	**58.11**	**326**	P			**P**	**22 54 20.1**	**-0.1**
	comp=Z,41nm,1.0s,baz=270,slow=12,SNR=3.3								
CBIJ	**Chichi jima**	**58.11**	**326**	*e*P			**P**	**22 54 18.4**	**-1.7**
	comp=Z,91nm,1.3s								
CASY	**Casey**	**59.08**	**205**	*e*P			**P**	**22 54 25.9**	**-0.5**
	comp=Z,22nm,1.1s								
QSPA	**South Pole Qui**	**67.63**	**180**	P			**P**	**22 55 23.0**	**-0.1**
	comp=Z,17nm,1.0s,baz=10,slow=1.4,SNR=29								
QSPA	**South Pole Qui**	**67.63**	**180**	*e*P			**P**	**22 55 23.2**	**0.0**
MJAR	**Matsushiro Arr**	**67.75**	**329**	P			**P**	**22 55 23.7**	**-0.4**
	comp=Z,8.9nm,0.9s,baz=167,slow=6.0,SNR=18								
MAJO	**Matsushiro**	**67.75**	**329**	*e*P			**P**	**22 55 23.7**	**-0.4**
MAJO	**Matsushiro**	**67.75**	**329**	*e*P			**P**	**22 55 23.7**	**-0.4**
MAT	**Matsushiro**	**67.75**	**329**	P			**P**	**22 55 23.8**	**-0.3**
MAT				S			**S**	**23 04 20.2**	**+0.7**
ASAJ	**Asahikawa**	**72.25**	**337**	P			**P**	**22 55 50.6**	**-0.8**
	comp=Z,9.8nm,0.8s,baz=252,slow=6.4,SNR=5.6								
ASAJ	**Asahikawa**	**72.25**	**337**	*e*P			**P**	**22 55 50.6**	**-0.8**
	comp=Z,146nm,1.8s								
KSRS	**Korea Array**	**73.73**	**323**	P			**P**	**22 56 00.7**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=144,slow=6.1,SNR=4.2								
KS15	**Wonju Array Si**	**73.75**	**323**	*e*P			**P**	**22 56 00.7**	**+0.1**
KSAR	**Wonju Array Be**	**73.75**	**323**	P			**P**	**22 56 00.7**	**+0.2**
KSAR	**Wonju Array Be**	**73.75**	**323**	P			**P**	**22 56 00.7**	**+0.2**
YSS	**Yuzh-Sakhalins**	**74.64**	**338**	*e*P			**P**	**22 56 05.1**	**-0.4**
	comp=Z,33nm,0.7s								
YSS	**Yuzh-Sakhalins**	**74.64**	**338**	ǁ*i*P			**P**	**22 56 06.8**	**+1.3**
YSS				pmax			pmax		
	comp=Z,40nm,0.8s								
NJ2	**Nanjing**	**75.67**	**314**	*e*P			**P**	**22 56 13.5**	**+1.7**
NJ2				pmax			pmax		
	comp=Z,9.0nm,0.7s								
MSHR	**Mys Shultsa**	**75.85**	**329**	*i*P			**P**	**22 56 12.3**	**-0.3**
PETK	**Petropavlovsk-**	**76.57**	**350**	P			**P**	**22 56 15.8**	**-0.6**
	comp=Z,14nm,0.7s,baz=150,slow=8.2,SNR=18								
PETK				LR			LR	23 26 18.5	
	comp=Z,303nm,19.2s,baz=154,slow=33								
PETK	**Petropavlovsk-**	**76.57**	**350**	*e*P			**P**	**22 56 17.1**	**+0.7**
PETK	**Petropavlovsk-**	**76.57**	**350**	*e*P			**P**	**22 56 17.1**	**+0.7**
PEA1	**Petropavlovsk-**	**76.57**	**350**	*e*P			**P**	**22 56 15.8**	**-0.7**
USRK	**Ussuriysk Ar.**	**76.70**	**330**	P			**P**	**22 56 17.4**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=153,slow=6.4,SNR=5.5								
MAW	**Mawson**	**77.16**	**201**	P			**P**	**22 56 20.0**	**+0.3**
	comp=Z,16nm,0.8s,baz=121,slow=6.8,SNR=26								
MAW				LR			LR	23 27 55.4	
	comp=Z,237nm,18.2s,baz=86,slow=34								
MAW	**Mawson**	**77.16**	**201**	P			**P**	**22 56 20.2**	**+0.5**
	baz=77,SNR=11								
MAW	**Mawson**	**77.16**	**201**	*e*P			**P**	**22 56 20.2**	**+0.5**
	comp=Z,3.7nm,0.8s								
MAW	**Mawson**	**77.16**	**201**	*e*P			**P**	**22 56 20.2**	**+0.5**
MAW				pmax			pmax		
	comp=Z,4.0nm,0.8s								
WHN	**Wuhan**	**77.86**	**310**	P			**P**	**22 56 23.9**	**-0.3**
KLR	**Kul'dur**	**80.69**	**333**	P			**P**	**22 56 39.2**	**0.0**
	comp=Z,3.1nm,0.8s,baz=66,slow=1.7,SNR=8.3								
KLR	**Kul'dur**	**80.69**	**333**	*i*P			**P**	**22 56 39.4**	**+0.2**
ENH	**Enshi**	**81.20**	**308**	*e*P			**P**	**22 56 42.0**	**-0.5**
	comp=Z,12nm,0.8s								
GYA	**Guiyang**	**81.36**	**303**	*e*P			**P**	**22 56 45.5**	**+2.0**
GYA				pP			sP	22 56 56.8	-1.7
GYA				PP			**PP**	**22 59 53.0**	**+3.1**
GYA				S			**S**	**23 06 53.3**	**+1.0**
GYA				SKS			**SKSac**	**23 06 57.4**	**-3.2**
GYA				pmax			pmax		
	comp=Z,20nm,1.0s								
GYA				pmax			pmax		
	comp=Z,100nm,6.9s								
SYO	**Syowa Base**	**83.08**	**195**	ǁ*e*X			**P**	**22 56 49.8**	**-1.8**
KMI	**Kunming**	**83.80**	**300**	P			**P**	**22 56 58.6**	**+2.2**
KMI				pP			pP	22 57 08.1	+0.7
KMI				sP			sP	22 57 12.4	+1.0
KMI				pmax			pmax		
	comp=Z,5.0nm,0.5s								
CM01	**Chiang Mai Arr**	**83.90**	**293**	*e*P			**P**	**22 56 56.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**83.93**	**293**	P			**P**	**22 56 56.9**	**0.0**
	comp=Z,0.7nm,0.3s,baz=136,slow=3.7,SNR=7.1								
CHTO	**Chiang Mai**	**84.08**	**293**	*e*P			**P**	**22 56 58.4**	**+0.8**
	comp=Z,6.0nm,1.1s								
CHTO	**Chiang Mai**	**84.08**	**293**	*e*P			**P**	**22 56 58.4**	**+0.8**
CHTO				pmax			pmax		
	comp=Z,6.0nm,1.1s								
CHTO	**Chiang Mai**	**84.08**	**293**	P			**P**	**22 56 59.2**	**+1.5**
	comp=Z,26nm,1.1s								
PKM	**Mcpherson Peak**	**84.72**	**49**	P			**P**	**22 57 01.2**	**+0.5**
	baz=238								
ARVC	**Arvin**	**85.53**	**49**	P			**P**	**22 57 05.9**	**+1.3**
	baz=239								
HHC	**Hu-ho-hao-te**	**85.61**	**318**	*e*P			**P**	**22 57 07.8**	**+2.8**
HHC				pmax			pmax		
	comp=Z,12nm,0.7s								

RYN	**Ryan**	**87.56**	**46**	*eP*		**P**		**22 57 15.8**	**+1.1**
	comp=Z,11nm,1.4s								
NVAR	**Mina Array Bea**	**87.60**	**47**	P		**P**		**22 57 14.7**	**-0.2**
	comp=Z,4.7nm,1.0s,baz=227,slow=8.6,SNR=18								
NVAR				LR		LR		23 28 36.2	
	comp=Z,148nm,21.0s,baz=250,slow=30								
GMRC	**Granite Mounta**	**87.61**	**51**	P		**P**		**22 57 15.6**	**+0.7**
	baz=241								
IRM	**Iron Mountain**	**87.67**	**52**	P		**P**		**22 57 16.0**	**+0.8**
	baz=241								
NV11	**Mina Array Sit**	**87.70**	**47**	*eP*		**P**		**22 57 16.4**	**+1.1**
	comp=Z,1.0nm,1.4s								
Y12C	**Blythe**	**87.93**	**52**	*eP*		**P**		**22 57 17.8**	**+1.4**
	comp=Z,6.5nm,1.0s								
Y12C	**Blythe**	**87.93**	**52**	P		**P**		**22 57 17.2**	**+0.8**
	baz=241								
KVN	**Kaiserville**	**88.06**	**46**	*eP*		**P**		**22 57 18.1**	**+1.0**
	comp=Z,8.3nm,1.1s								
KVN	**Kaiserville**	**88.06**	**46**	*eP*		**P**		**22 57 18.1**	**+1.0**
KVN				pmax		pmax			
	comp=Z,8.0nm,1.1s								
H04D	**Lebanon**	**88.09**	**40**	P		**P**		**22 57 18.2**	**+1.4**
	baz=236								
MOD	**Modoc Plateau**	**88.13**	**43**	*eP*		**P**		**22 57 18.4**	**+1.1**
	comp=Z,9.3nm,1.0s								
LZH	**Lanzhou**	**88.24**	**310**	*eP*		P		22 57 23.6	+5.7
LZH				pP		sP		22 57 32.3	-0.8
LZH				sP		pP		22 57 36.8	+7.7
LZH				*eS*		**S**		**23 08 05.5**	**+5.1**
LZH				sS		sS		23 08 16.8	-2.0
LZH				SS		**SS**		**23 13 49.5**	**-1.1**
LZH				pmax		pmax			
	comp=Z,15nm,1.3s								
LZH				pmax		pmax			
	comp=Z,78nm,4.3s								
LZH				LR		LR			
	comp=Z,310nm,13.6s								
LZH				LR		LR			
	comp=Z,230nm,14.1s								
LZH				LR		LR			
	comp=Z,240nm,14.9s								
TPNV	**Topopah Spring**	**88.26**	**49**	*eP*		**P**		**22 57 18.9**	**+0.9**
	comp=Z,4.6nm,0.8s								
TPNV	**Topopah Spring**	**88.26**	**49**	*eP*		**P**		**22 57 18.9**	**+0.9**
TPNV				pmax		pmax			
	comp=Z,5.0nm,0.8s								
TPNV	**Topopah Spring**	**88.26**	**49**	P		**P**		**22 57 18.9**	**+0.9**
	baz=240								
J05D	**Fort Rock, OR**	**88.30**	**41**	P		**P**		**22 57 19.3**	**+1.2**
	baz=237								
214A	**Organ Pipe Nat**	**88.36**	**54**	P		**P**		**22 57 19.6**	**+1.2**
	baz=242								
PDMCI	**Parker Dam,Lak**	**88.47**	**52**	P		**P**		**22 57 19.6**	**+0.7**
	baz=242								
SHPR	**Sheep Range**	**88.80**	**50**	*eP*		**P**		**22 57 22.1**	**+1.5**
	comp=Z,5.7nm,1.4s								
I05D	**Terrebonne, OR**	**88.82**	**40**	P		**P**		**22 57 21.0**	**+0.7**
	baz=237								
R11A	**Troy Canyon, C**	**89.41**	**48**	*eP*		**P**		**22 57 24.3**	**+0.9**
	comp=Z,14nm,1.9s								
R11A	**Troy Canyon, C**	**89.41**	**48**	P		**P**		**22 57 24.3**	**+0.9**
	baz=241								
WVOR	**Wild Horse Val**	**89.46**	**43**	*eP*		**P**		**22 57 24.9**	**+1.4**
	comp=Z,23nm,1.5s								
WVOR	**Wild Horse Val**	**89.46**	**43**	*eP*		**P**		**22 57 24.9**	**+1.4**
WVOR				pmax		pmax			
	comp=Z,23nm,1.5s								
J08A	**Circle Bar Ran**	**90.04**	**42**	*eP*		**P**		**22 57 27.4**	**+1.2**
	comp=Z,11nm,1.0s								
TUC	**Tucson**	**90.05**	**55**	*eP*		**P**		**22 57 27.5**	**+1.1**
	comp=Z,22nm,1.8s								
TUC	**Tucson**	**90.05**	**55**	P		**P**		**22 57 27.2**	**+0.8**
	baz=243								
BILL	**Bilibino**	**90.40**	**357**	*eP*		**P**		**22 57 26.9**	**-0.1**
	comp=Z,32nm,1.7s								
BILL	**Bilibino**	**90.40**	**357**	*i* P		**P**		**22 57 27.3**	**+0.2**
BILL				*e*				22 57 36.2	
BILL				*e*				23 01 01.0	
BILL				pmax		pmax			
	comp=Z,6.0nm,1.0s								
LCMT	**Little Creek M**	**90.40**	**50**	*eP*		**P**		**22 57 28.6**	**+0.5**
	comp=Z,24nm,1.8s								
B05A	**Bryant**	**90.55**	**37**	P		**P**		**22 57 29.4**	**+1.2**
	baz=236								
G08A	**Pilot Rock**	**90.76**	**41**	*eP*		**P**		**22 57 30.5**	**+1.0**
	comp=Z,8.7nm,0.9s								
E07A	**Sunnyside**	**90.90**	**39**	*eP*		**P**		**22 57 30.9**	**+0.9**
	comp=Z,9.3nm,1.0s								
HAWA	**Hanford**	**91.00**	**39**	*eP*		**P**		**22 57 31.5**	**+1.1**
	comp=Z,59nm,1.9s								
WUAZ	**Wupatki**	**91.05**	**52**	*eP*		**P**		**22 57 31.6**	**+0.5**
	comp=Z,32nm,1.9s								
WUAZ	**Wupatki**	**91.05**	**52**	P		**P**		**22 57 32.3**	**+1.2**
	baz=243								
E08A	**Dider Farm, El**	**91.33**	**39**	*eP*		**P**		**22 57 33.0**	**+1.1**
	comp=Z,40nm,1.8s								
BMO	**Blue Mountains**	**91.53**	**41**	*eP*		**P**		**22 57 34.1**	**+1.0**
	comp=Z,28nm,2.0s								
MTPU	**Mount Pierson**	**91.62**	**49**	*eP*		**P**		**22 57 34.6**	**+0.6**
	comp=Z,27nm,1.6s								
CCB	**Clear Creek Bu**	**91.67**	**15**	*eP*		**P**		**22 57 31.9**	**-1.2**
	comp=Z,6.6nm,0.8s								
HDA	**Harding Lake**	**91.69**	**16**	*eP*		**P**		**22 57 32.3**	**-0.9**
	comp=Z,13nm,0.4s								
HDA	**Harding Lake**	**91.69**	**16**	P		**P**		**22 57 33.3**	**+0.1**
	baz=216								
DOT	**Dot Lake**	**91.84**	**17**	*eP*		**P**		**22 57 33.6**	**-0.4**
	comp=Z,10nm,1.0s								
TCOL	**CIGO, UAF Yank**	**91.84**	**15**	P		**P**		**22 57 33.0**	**-0.8**
	baz=215								
COLA	**College**	**91.85**	**15**	P		**P**		**22 57 33.2**	**-0.6**
COLA				pmax		pmax			
	comp=Z,18nm,2.4s								
IL1	**Eielson Array**	**92.00**	**16**	*eP*		**P**		**22 57 33.1**	**-1.5**
ILAR	**Eielson Array**	**92.00**	**16**	P		**P**		**22 57 33.1**	**-1.5**
	comp=Z,4.4nm,0.8s,baz=235,slow=5.6,SNR=36								
ILAR				LR		LR		23 31 52.8	
	comp=Z,191nm,20.8s,baz=222,slow=31								
ILB	**Eielson Array**	**92.00**	**16**	*eP*		**P**		**22 57 33.4**	**-1.2**
POKR	**Poker Plat Res**	**92.15**	**15**	P		**P**		**22 57 34.6**	**-0.7**
	baz=215								
SONA0	**Songino Array**	**92.51**	**321**	*eP*		**P**		**22 57 36.2**	**-1.4**
SONM	**Songino Array**	**92.51**	**321**	P		**P**		**22 57 36.2**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=134,slow=5.6,SNR=3.5								
GTA	**Gaotai**	**92.62**	**312**	*eP*		**P**		**22 57 38.0**	**-0.3**
GTA				pP		pP		22 57 48.3	-1.1
GTA				sP		sP		22 57 52.9	-0.5
GTA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
GTA				LR		LR			
	comp=Z,370nm,24.7s								
GTA				LR		LR			
	comp=Z,210nm,24.0s								
PLCA	**Paso Flores**	**93.12**	**137**	LR		LR		23 32 42.5	
	comp=Z,40nm,18.5s,baz=292,slow=31								
MNTX	**Cornudas Mount**	**93.94**	**57**	*eP*		**P**		**22 57 45.2**	**+0.8**
	comp=Z,2.5nm,0.9s								
MNTX	**Cornudas Mount**	**93.94**	**57**	P		**P**		**22 57 44.8**	**+0.4**
	baz=246								
LTX	**Lajitas**	**94.36**	**60**	*eP*		**P**		**22 57 46.9**	**+0.4**
LTX	**Lajitas**	**94.36**	**60**	*eP*		**P**		**22 57 46.9**	**+0.4**
TX31	**Lajitas Ar. Si**	**94.36**	**60**	*eP*		**P**		**22 57 47.1**	**+0.6**
TXAR	**Lajitas Array**	**94.36**	**60**	P		**P**		**22 57 46.9**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=214,slow=5.5,SNR=11								
TXAR				LR		LR		23 32 55.4	
	comp=Z,163nm,19.4s,baz=0.0,slow=31								
ANMO	**Albuquerque**	**94.44**	**54**	*eP*		**P**		**22 57 47.5**	**+0.6**
	comp=Z,13nm,1.9s								
ANMO	**Albuquerque**	**94.44**	**54**	*eP*		**P**		**22 57 47.5**	**+0.6**
ANMO				pmax		pmax			
	comp=Z,13nm,1.9s								
ANMO	**Albuquerque**	**94.44**	**54**	P		**P**		**22 57 47.2**	**+0.4**
	baz=246								
S22A	**4UR Ranch, Cre**	**95.31**	**51**	P		**P**		**22 57 51.3**	**+0.5**
	baz=246								
PDAR	**Pinedale Array**	**95.51**	**46**	LR		LR		23 33 36.9	
	comp=Z,129nm,20.0s,baz=268,slow=31								
TLY	**Talaya**	**95.98**	**324**	*i* P		**P**		**22 57 52.8**	**-0.4**
TLY				pmax		pmax			
	comp=Z,5.0nm,0.9s								
RWWY	**Rawlins**	**96.65**	**48**	*eP*		**P**		**22 57 54.5**	**-2.4**
	comp=Z,14nm,0.9s								
WMQ	**Urumqi**	**102.69**	**312**	*eP*		**Pdif**		**22 58 25.3**	**+1.7**
WMQ				LR		LR			
	comp=Z,120nm,19.5s								
KSH	**Kashi**	**109.97**	**305**	*e*PKP		**PKiKP**		**23 02 59.3**	**+1.3**
GEYT	**Alibeck**	**123.55**	**301**	PKP		**PKPdf**		**23 03 22.7**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=117,slow=1.6,SNR=3.3								
ARA0	**ARCESS Array S**	**129.27**	**346**	*e*PKPdf		**PKPdf**		**23 03 31.9**	**-2.0**
ARCES	**ARCESS Array B**	**129.27**	**346**	PKP		**PKPdf**		**23 03 31.9**	**-1.9**
	comp=Z,3.9nm,0.6s,baz=45,slow=2.1,SNR=17								
ARCES	**ARCESS Array B**	**129.27**	**346**	PKIKP		**PKPdf**		**23 03 32.0**	**-1.9**
NEY	**Neytrino**	**134.90**	**309**	*i* PKIKP		**PKPdf**		**23 03 44.4**	**-1.1**
FIA0	**FINESS Array S**	**135.23**	**339**	*e*PKPdf		**PKPdf**		**23 03 43.7**	**-1.6**
FIA0	**FINESS Array S**	**135.23**	**339**	*e*PKIKP		**PKPdf**		**23 03 43.7**	**-1.6**
FINES	**FINESS Array B**	**135.23**	**339**	PKP		**PKPdf**		**23 03 43.7**	**-1.6**
	comp=Z,1.7nm,0.8s,baz=20,slow=6.1,SNR=5.5								
VSU	**Vasula**	**137.08**	**335**	*i* PKIKP		**PKPdf**		**23 03 49.0**	**+0.2**
NB200	**NORSAR Array S**	**139.63**	**347**	*e*PKPdf		**PKPdf**		**23 03 51.7**	**-1.9**
NOA	**NORSAR Array B**	**139.63**	**347**	PKP		**PKPdf**		**23 03 51.7**	**-1.9**
	comp=Z,0.7nm,0.7s,baz=28,slow=2.0,SNR=3.7								
BR101	**Keskin Array S**	**142.35**	**306**	*e*PKPpre		PKPpre		23 03 53.2	
BRTR	**Keskin Array B**	**142.35**	**306**	PKhKP		PKPpre		23 03 53.2	
	comp=Z,0.4nm,0.7s,baz=109,slow=3.7,SNR=2.9								
BEL	**Belsk**	**144.14**	**332**	*e*PKP		PKPbc		23 04 00.1	+0.1
BEL	**Belsk**	**144.14**	**332**	*e*PKIKP		PKPbc		23 04 00.1	+0.2
BUR08	**Bucovina Ar. S**	**144.61**	**323**	*e*PKPdf		**PKPab**		**23 04 01.4**	**-0.2**
BUR04	**Bucovina Ar. S**	**144.62**	**323**	*e*PKPdf		**PKPab**		**23 04 01.1**	**-0.5**
KWP	**Kalwaria Pacla**	**144.73**	**327**	*e*PKP		**PKPab**		**23 04 01.1**	**-0.6**
KWP	**Kalwaria Pacla**	**144.73**	**327**	*e*PKIKP		**PKPab**		**23 04 01.2**	**-0.6**
UZH	**Uzhgorod**	**145.57**	**326**	⇓PKIKP		**PKPdf**		**23 04 04.0**	**-0.4**
UZH				*i*				23 04 05.2	
UZH				*i*				23 04 12.8	
NIE	**Niedzica**	**146.04**	**329**	*e*PKP		**PKPdf**		**23 04 05.1**	**-0.1**
NIE	**Niedzica**	**146.04**	**329**	*e*PKP2		**PKPdf**		**23 04 05.1**	**-0.1**
KECS	**Kecovo**	**146.59**	**328**	*e*PKP2		**PKPbc**		**23 04 07.2**	**-0.5**
KECS	**Kecovo**	**146.59**	**328**	*e*PKP		**PKPbc**		**23 04 07.2**	**-0.5**
KECS				*e*				23 04 19.0	
LANS	**Liptovska Anna**	**146.62**	**329**	*e*PKP2		**PKPbc**		**23 04 07.7**	**-0.1**
LANS	**Liptovska Anna**	**146.62**	**329**	*e*PKP		**PKPbc**		**23 04 07.7**	**-0.1**
LANS				*e*				23 04 19.0	
KSP	**Ksiaz**	**146.78**	**334**	*e*PKP		**PKPbc**		**23 04 07.6**	**-0.6**
KSP	**Ksiaz**	**146.78**	**334**	*e*PKP2		**PKPbc**		**23 04 07.6**	**-0.6**
MORC	**Moravsky Berou**	**147.06**	**332**	*e*PKPdf		**PKPbc**		**23 04 08.2**	**-0.8**
MORC	**Moravsky Berou**	**147.06**	**332**	*e*PKP2		**PKPbc**		**23 04 08.2**	**-0.8**
MORC	**Moravsky Berou**	**147.06**	**332**	*e*PKP		**PKPdf**		**23 04 07.7**	**+0.7**
DPC	**Dobruska-Polom**	**147.15**	**333**	*e*PKP		**PKPbc**		**23 04 08.3**	**-1.0**
DPC				*e*				23 04 19.2	
DPC	**Dobruska-Polom**	**147.15**	**333**	*e*PKP2		**PKPbc**		**23 04 08.3**	**-1.0**
KRLC	**Kraliky**	**147.16**	**333**	*e*PKP		**PKPbc**		**23 04 08.4**	**-0.9**
KRLC				*ep*PKP		**pPKPbc**		**23 04 20.2**	**-0.5**
KRLC	**Kraliky**	**147.16**	**333**	*e*PKP2		**PKPbc**		**23 04 08.4**	**-0.9**
VYHS	**Vyhne**	**147.38**	**329**	*e*PKP2		**PKPbc**		**23 04 08.7**	**-1.3**
VYHS	**Vyhne**	**147.38**	**329**	*e*PKP		**PKPbc**		**23 04 08.7**	**-1.3**
VYHS				*e*				23 04 20.5	
CLL	**Collm**	**147.65**	**338**	*e*PKPdf		**PKPbc**		**23 04 09.2**	**-1.3**
CLL	**Collm**	**147.65**	**338**	⇓*i*PKPbc		**PKPbc**		**23 04 09.2**	**-1.3**
	comp=Z,14nm,0.9s								
CLL				*i* PKPab		**PKiKP**		**23 04 11.1**	**-1.5**
	comp=Z,10.0nm,1.0s								
CLL				*i*				23 04 20.5	
CLL				*e*PSKS				23 17 54.0	
CLL				*e*SSS		SSS		23 32 30.0	
CLL				LmV				00 04 00.0	
	comp=Z,100nm,21.0s								
CLL	**Collm**	**147.65**	**338**	*e*PKP2		**PKPbc**		**23 04 09.3**	**-1.3**
BRG	**Berggiesshubel**	**147.67**	**336**	*i* PKP		**PKPbc**		**23 04 09.4**	**-1.3**
	comp=Z,14nm,0.9s								
BRG				*i*				23 04 20.5	
	comp=Z,13nm,1.0s								
JAVC	**Velka Javorina**	**147.67**	**330**	*e*PKP		**PKPbc**		**23 04 10.9**	**+0.1**
PVCC	**Panska Ves**	**147.71**	**335**	*e*PKP		**PKPbc**		**23 04 10.0**	**-0.8**
PVCC				*ep*PKP		**pPKPbc**		**23 04 21.4**	**-0.8**
PVCC	**Panska Ves**	**147.71**	**335**	*e*PKP2		**PKPbc**		**23 04 10.0**	**-0.8**
VRAC	**Vranov**	**147.82**	**332**	*e*PKP		**PKPbc**		**23 04 09.9**	**-1.2**
KRUC	**Moravsky**	**148.09**	**332**	*e*PKP		**PKPbc**		**23 04 10.7**	**-1.1**
GOPC	**GO Pecny, Ondr**	**148.11**	**334**	*e*PKP		**PKPbc**		**23 04 10.7**	**-1.2**
GOPC				*ep*PKP		**pPKPbc**		**23 04 22.6**	**-0.7**
GOPC	**GO Pecny, Ondr**	**148.11**	**334**	*e*PKP2		**PKPbc**		**23 04 10.7**	**-1.2**
PRA	**Prague**	**148.12**	**335**	*e*PKP		**PKPbc**		**23 04 10.3**	**-1.6**
PRA				*ep*PKP		**pPKPbc**		**23 04 22.5**	**-0.8**
PRA	**Prague**	**148.12**	**335**	*e*PKIKP		**PKPbc**		**23 04 10.3**	**-1.6**
PRA				*e*				23 04 22.5	
NKC	**Novy Kostel**	**148.74**	**337**	*e*PKP		**PKPbc**		**23 04 12.7**	**-0.8**
NKC				*ep*PKP		**pPKPbc**		**23 04 23.9**	**-1.0**
NKC	**Novy Kostel**	**148.74**	**337**	*e*PKP2		**PKPbc**		**23 04 12.7**	**-0.8**
CONA	**Conrad Observa**	**149.17**	**331**	*i* PKPbc		**PKPbc**		**23 04 13.5**	**-1.3**
	comp=Z,3.7nm,0.7s								
KHC	**Kasperske Hory**	**149.21**	**335**	*e*PKPdf		**PKPbc**		**23 04 12.6**	**-2.2**
KHC	**Kasperske Hory**	**149.21**	**335**	*e*PKP		**PKPbc**		**23 04 13.8**	**-1.0**
KHC	**Kasperske Hory**	**149.21**	**335**	*e*PKIKP		**PKPbc**		**23 04 12.6**	**-2.2**
GEC2	**GERESS Array S**	**149.39**	**334**	*e*PKPbc		**PKPbc**		**23 04 14.2**	**-1.1**
GEC2	**GERESS Array S**	**149.39**	**334**	*e*PKP2		**PKPbc**		**23 04 14.2**	**-1.1**
GERES	**GERESS Array B**	**149.39**	**334**	PKPbc		**PKPbc**		**23 04 13.8**	**-1.4**
	comp=Z,3.5nm,0.7s,baz=45,slow=2.7,SNR=31								
GEA0	**GERESS Array S**	**149.40**	**334**	*e*PKPdf		**PKPbc**		**23 04 13.8**	**-1.5**
MEM	**Membach**	**150.38**	**345**	⇓PKP		**PKPbc**		**23 04 16.4**	**-1.1**
PERS	**Pernice**	**150.47**	**330**	*i* PKPdf		**PKPbc**		**23 04 16.0**	**-1.9**
PERS	**Pernice**	**150.47**	**330**	*i* PKPdf		**PKPbc**		**23 04 16.0**	**-1.9**
SOKA	**Soboth**	**150.48**	**330**	*i* PKPbc		**PKPbc**		**23 04 15.9**	**-2.1**
	comp=Z,4.7nm,0.8s,SNR=4.7								
OBKA	**Obir**	**150.83**	**330**	*i* PKPbc		**PKPdf**		**23 04 15.8**	**+2.6**
	comp=Z,3.2nm,0.8s								
KBA	**Koelnbreinsper**	**150.93**	**332**	*i* PKPbc		**PKPbc**		**23 04 16.7**	**-2.5**
	comp=Z,6.8nm,1.1s								
MYKA	**Terra Mystica**	**151.14**	**331**	*i* PKPbc		**PKPbc**		**23 04 17.4**	**-2.2**
	comp=Z,6.4nm,0.8s,SNR=5.0								
VISS	**Visnje**	**151.21**	**329**	*e*PKPdf		**PKPbc**		**23 04 18.2**	**-1.4**
VISS	**Visnje**	**151.21**	**329**	*e*PKPdf		**PKPbc**		**23 04 18.2**	**-1.4**
BOJS	**Bojanci**	**151.23**	**328**	*e*PKPdf		**PKPbc**		**23 04 18.3**	**-1.4**
BOJS	**Bojanci**	**151.23**	**328**	*e*PKPdf		**PKPbc**		**23 04 18.3**	**-1.4**
WATA	**Walderalm**	**151.45**	**335**	*i* PKPbc		**PKPbc**		**23 04 19.1**	**-1.3**
	comp=Z,5.6nm,0.6s								
WTTA	**Wattenberg**	**151.49**	**335**	*i* PKPbc		**PKPbc**		**23 04 18.8**	**-1.7**
	comp=Z,5.8nm,0.6s								
JAVS	**Javornik**	**151.51**	**330**	*i* PKPdf		**PKPbc**		**23 04 18.4**	**-2.1**
JAVS	**Javornik**	**151.51**	**330**	*i* PKPdf		**PKPbc**		**23 04 18.4**	**-2.1**
ABTA	**Abfaltersbach**	**151.54**	**333**	*i* PKPbc		**PKPbc**		**23 04 18.1**	**-2.4**
	comp=Z,6.7nm,0.7s								
MOTA	**Moosalm**	**151.63**	**335**	*i* PKPbc		**PKPbc**		**23 04 18.7**	**-2.1**
	comp=Z,5.2nm,0.7s								
SQTA	**Sankt Quirin**	**151.69**	**335**	*i* PKPbc		**PKPbc**		**23 04 19.0**	**-1.9**
	comp=Z,5.4nm,0.5s								
FETA	**Feichten**	**152.04**	**335**	*i* PKPbc		**PKPbc**		**23 04 20.1**	**-1.6**
	comp=Z,5.4nm,0.9s								
FUORN	**Ofenpass-Fuorn**	**152.55**	**335**	*e*PKPbc		**PKPbc**		**23 04 21.8**	**-1.2**
FUORN				*e*PKPab		**PKPab**		**23 04 33.1**	**-0.3**
ES19	**SONSECA Array**	**162.71**	**355**	*e*PKPab		**PKPab**		**23 05 16.8**	**-0.3**
ESDC	**Sonseca Array**	**162.74**	**355**	PKPab		**PKPab**		**23 05 16.6**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=5.8,slow=3.6,SNR=5.1								
DBIC	**Dimbokro**	**164.29**	**184**	PKPab		**PKPab**		**23 05 23.9**	**-0.6**
	comp=Z,3.6nm,0.8s,baz=214,slow=6.6,SNR=3.9								
TORD	**Torodi Ar. Bea**	**168.26**	**219**	PKP		**PKPdf**		**23 04 32.1**	**-1.7**
	comp=Z,0.4nm,0.8s,baz=149,slow=2.5,SNR=2.5								
TORD				PKPab		**PKPab**		**23 05 40.0**	**-2.1**
	comp=Z,0.8nm,0.9s,baz=109,slow=3.3,SNR=4.3								
TOA1	**Torodi Ar. Sit**	**168.26**	**219**	*e*PKPdf		**PKPdf**		**23 04 32.1**	**-1.7**
TOA1				*e*PKPab		**PKPab**		**23 05 40.0**	**-2.1**

*IDC **22** 22:51:07.4±0.9,22.˚30S×173.˚94E, h0km, mb3.9/8, mb1 4.2/11, mb1mx4.0/36, mbtmp4.1/11, ML3.7/2, Error ellipse: s-maj=23.6km s-min=22.6km az=110.0*
*ISCJB **22** 22:51:10.8±0.6, 22.˚42S±0.˚08×173.˚91E±0.˚08, h35km, mb4.1/14, Error ellipse: s-maj=12.6km s-min=9.3km az=30.6*
*NEIC **22** 22:51:12.4±0.5, 22.˚40S×173.˚96E, h35km, mb4.4/6, Error ellipse: s-maj=12.7km s-min=8.9km az=65.0*

ISC 22 22:51:12.3±0.7, 22.˚4S±0.˚1×173.˚98E±0.˚09, h35km, n20, σ0s90/21, mb4.1/14, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.99**	**271**	Pn	Pn	**Pn**	**22 52 52.6**	**+0.3**
	2.0nm,0.3s,baz=113,slow=15,SNR=13							
DZM				Sn	Sn	**Sn**	**22 54 11.2**	**+0.6**
	3.4nm,0.3s,baz=35,slow=23,SNR=5.9							
URZ	**Urewera**	**16.06**	**171**	Pn	Pn	**Pn**	**22 54 53.7**	**-1.7**
	0.2nm,0.3s,baz=21,slow=9.8,SNR=2.0							
HNR	**Honiara**	**18.63**	**312**	P	Pn	**Pn**	**22 55 26.5**	**-1.0**
	12nm,0.3s,baz=198,slow=6.4,SNR=1.6							
SNZO	**South Karori**	**18.89**	**178**	*eP*		**P**	**22 55 28.6**	**-1.1**
	18nm,0.6s							
RPZ	**Rata Peaks**	**21.42**	**186**	P		**P**	**22 55 58.5**	**+1.4**
	9.8nm,0.5s,baz=59,slow=4.5,SNR=4.6							
CTAO	**Charters Tower**	**25.93**	**270**	P		**P**	**22 56 40.9**	**-0.6**
	3.4nm,0.3s							
TAU	**Tasmania Unive**	**30.17**	**221**	P		**P**	**22 57 19.3**	**+0.2**
	2.1nm,0.8s							
ASAR	**Alice Springs**	**36.82**	**260**	P		**P**	**22 58 16.1**	**-1.3**
	1.6nm,0.8s,baz=82,slow=8.0,SNR=9.3							
WRA	**Warramunga Arr**	**36.97**	**266**	P		**P**	**22 58 18.6**	**0.0**
	0.2nm,0.4s,baz=100,slow=8.7,SNR=4.0							
MBWA	**Marble Bar**	**50.16**	**261**	P		**P**	**23 00 05.0**	**+0.2**
	4.8nm,0.8s							
NWAO	**Narrogin (SRO)**	**50.83**	**245**	P		**P**	**23 00 09.6**	**-0.1**
	4.9nm,0.6s							
MJAR	**Matsushiro Arr**	**67.64**	**329**	P		**P**	**23 02 06.1**	**+0.3**
	1.0nm,0.8s,baz=186,slow=7.3,SNR=3.8							
MAJO	**Matsushiro**	**67.64**	**329**	P		**P**	**23 02 06.3**	**+0.5**
	0.8nm,0.5s							
MAW	**Mawson**	**77.18**	**202**	P		**P**	**23 03 03.7**	**+1.5**
	1.6nm,0.7s,baz=124,slow=7.3,SNR=2.8							
PMSA	**Palmer Station**	**82.42**	**158**	P		**P**	**23 03 31.1**	**+0.5**
	16nm,0.7s							
CMAR	**Chiang Mai Arr**	**83.81**	**293**	P		**P**	**23 03 38.1**	**-0.5**
	0.3nm,0.4s,baz=123,slow=3.3,SNR=3.0							
NVAR	**Mina Array Bea**	**87.63**	**47**	P		**P**	**23 03 58.4**	**+0.9**
	0.3nm,0.7s,baz=231,slow=5.7,SNR=2.9							
ILAR	**Eielson Array**	**91.97**	**16**	P		**P**	**23 04 16.4**	**-0.4**
	1.0nm,0.9s,baz=232,slow=4.1,SNR=5.1							
CLL	**Collm**	**147.56**	**338**	*e*PKPbc		**PKPbc**	**23 10 52.0**	**-0.6**
GERES	**GERESS Array B**	**149.29**	**334**	PKPbc		**PKPbc**	**23 10 56.6**	**-0.7**
	0.2nm,0.3s,baz=52,slow=2.2,SNR=4.9							

*MOS **22** 22:58:26.0±1.1, 55.˚08N×161.˚69E, h68km, mb4.3/1, Error ellipse: s-maj=13.1km s-min=5.0km az=77.1*

KRSC 22 22:58:26.0±0.5, 55.˚08N×161.˚69E, h68km±9km, ML4.2, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.53**	**177**	*eP*		Pn	22 58 40.1	+1.2
MKZ				*eS*		Sn	22 58 49.7	+1.4
MKZ	**Mys Kozlova**	**0.53**	**177**	PN		Pn	22 58 40.1	+1.2
MKZ				S		Sn	22 58 49.7	+1.4
TUMR

H11S1	**WAKE ISLAND Hy**	**19.45**	**93**	T		T		23 26 58.8	
	baz=280,slow=74,SNR=6.2								
H11N2	**WAKE ISLAND Hy**	**19.45**	**90**	T		T		23 27 01.9	
	baz=276,slow=74,SNR=8.9								
H11S2	**WAKE ISLAND Hy**	**19.45**	**93**	T		T		23 27 02.1	
	baz=280,slow=74,SNR=5.2								
H11N3	**WAKE ISLAND Hy**	**19.46**	**90**	T		T		23 27 03.4	
	baz=276,slow=74,SNR=6.8								
KSRS	**Korea Array**	**22.91**	**320**	P		**P**		**23 07 29.9**	**+0.5**
	2.5nm,0.7s,baz=146,slow=9.4,SNR=5.4								
SONM	**Songino Array**	**41.78**	**320**	P		**P**		**23 10 14.2**	**-0.5**
	0.5nm,0.5s,baz=136,slow=7.6,SNR=5.4								
WRA	**Warramunga Arr**	**42.18**	**197**	P		**P**		**23 10 16.7**	**-1.3**
	0.5nm,0.7s,baz=19,slow=8.8,SNR=4.7								
CMAR	**Chiang Mai Arr**	**44.44**	**275**	P		**P**		**23 10 38.2**	**+1.8**
	0.6nm,0.3s,baz=54,slow=2.5,SNR=6.4								
ASAR	**Alice Springs**	**45.85**	**196**	P		**P**		**23 10 47.6**	**+0.1**
	0.2nm,0.4s,baz=15,slow=6.8,SNR=2.9								
ZALV	**Zalesovo Beam**	**56.61**	**322**	P		**P**		**23 12 06.9**	**-0.9**
	0.5nm,0.4s,baz=134,slow=8.4,SNR=3.2								
MKAR	**Makanchi Array**	**57.33**	**313**	P		**P**		**23 12 12.5**	**-0.6**
	0.3nm,0.5s,baz=96,slow=8.4,SNR=5.4								
ILAR	**Eielson Array**	**61.51**	**27**	P		**P**		**23 12 41.4**	**-0.3**
	0.6nm,0.9s,baz=237,slow=4.5,SNR=4.6								
YKA	**Yellowknife Ar**	**75.87**	**28**	P		**P**		**23 14 10.2**	**-0.9**
	0.6nm,0.8s,baz=277,slow=5.1,SNR=3.8								
NVAR	**Mina Array Bea**	**81.45**	**52**	P		**P**		**23 14 44.7**	**+2.1**
	1.1nm,0.7s,baz=270,slow=5.6,SNR=7.9								
FINES	**FINESS Array B**	**85.13**	**335**	P		**P**		**23 15 00.1**	**-0.7**
	1.3nm,0.5s,baz=90,slow=4.6,SNR=10								

UCR 22 23:03:18.8±1.7,9.23N×84.07W,h18km±6km,MD3.8,
1C-5D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	**0.52**	**8**	⇓*i*P	Pg	23 03 28.9	-0.4
LCR2				*e*S	Sb	23 03 37.1	+0.4
HDC	**Heredia**	**0.77**	**357**	*i* P	Pb	23 03 33.1	-0.7
HDC				*e*S	Sg	23 03 44.3	+0.1
EDBA	**Buenos Aires**	**0.79**	**94**	*e*S	Sg	23 03 45.3	+0.5
DRK0	**Durika**	**0.82**	**87**	⇓*i*P	Pb	23 03 33.8	-0.8
DRK0				*e*S	Sg	23 03 45.7	-0.1
CVTR	**Volcan Turrial**	**0.85**	**21**	⇓*i*P	Pb	23 03 34.7	-0.6
CVTR				*e*S	Sg	23 03 46.8	0.0
PTJ1	**Puerto Jim˜ne**	**1.02**	**132**	*e*S	Sn	23 03 52.2	0.0
ARE1	**Arenal 1**	**1.38**	**333**	⇓*i*P	Pn	23 03 42.6	-0.6
ARE1				*e*S	Sb	23 04 02.3	+0.8
CEDE	**Laguna Cede˜–o**	**1.40**	**334**	*i* P	Pn	23 03 43.8	+0.3
BRU2	**Volcan**	**1.43**	**107**	⇓*i*P	Pn	23 03 43.4	-0.6
BRU2				*i* S	Sb	23 04 03.0	0.0
PLVR	**Palo Verde**	**1.68**	**312**	⇑*i*P	Pn	23 03 46.2	-1.3
CUI	**Cuipilapa**	**1.78**	**323**	*i* P	Pn	23 03 48.2	-0.6
MESS	**Mesas**	**1.87**	**324**	*e*P	Pn	23 03 49.1	-0.8
MESS				*e*S	Sb	23 04 14.6	-0.9
AZU	**Azuero**	**4.02**	**110**	*e*P	Pn	23 04 15.6	-3.8

ISK 22 23:03:24.8,38.61N×43.15E,h5km,ML1.8/3
ISCJB 22 23:03:25.8±0.5,38.65N±0.04×43.14E±0.03,h15km±6km,
Error ellipse: s-maj=6.8km s-min=4.5km az=174.6
DDA 22 23:03:26.2,38.68N×43.17E,h7km,Ml2.5
ISC 22 23:03:25.9±1.1,38.66N±0.03×43.14E±0.04,h7km±12km,
n12,σ1§34/21,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**107**	PG	**Pg**	**23 03 29.6**	**-0.5**
TVAN	**Van**	**0.24**	**121**	*i* P	**Pg**	**23 03 30.8**	**0.0**
TVAN				*i* S	**Sg**	**23 03 35.5**	**+1.4**
GEVA	**Gevas**	**0.35**	**190**	*i* P	**Pg**	**23 03 33.0**	**+0.2**
GEVA				*i* S	**Sb**	**23 03 40.0**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.36**	**295**	*i* P	**Pg**	**23 03 33.5**	**+0.5**
ADCV				*i* S	**Sb**	**23 03 40.6**	**-0.1**
VMUR	**Van-Muradiye**	**0.48**	**45**	*i* P	**Pg**	**23 03 35.2**	**0.0**
VMUR				*i* S	**Sg**	**23 03 43.1**	**+1.6**
CLDR	**Caldiran**	**0.78**	**51**	PG	**Pg**	**23 03 40.9**	**0.0**
CLDR				SG	**Sg**	**23 03 52.3**	**+1.2**
CLDR	**Caldiran**	**0.78**	**51**	*i* P	**Pg**	**23 03 39.5**	**-1.5**
CLDR				*i* S	**Sg**	**23 03 52.1**	**+1.0**
TUTA	**Tutak**	**0.79**	**341**	*i* P	**Pg**	**23 03 40.6**	**-0.5**
TUTA				*i* S	**Sg**	**23 03 51.2**	**-0.2**
GURO	**Guroymak-BITLI**	**0.87**	**264**	PG	**Pb**	**23 03 42.8**	**-0.7**
GURO				SG	**Sb**	**23 03 54.9**	**-0.5**
AGRB	**Hanur-Agry**	**0.93**	**353**	PG	**Pg**	**23 03 43.4**	**-0.4**
EKAR	**Karacoban**	**1.03**	**306**	*i* P	**Pn**	**23 03 48.0**	**+1.0**
SRTM	**Siirt_Merkez**	**1.16**	**236**	*i* P	**Pb**	**23 03 44.8**	**-3.6**
SRTM				*i* S	**Sn**	**23 04 07.2**	**+2.3**

ISCJB 22 23:20:52.9±0.6,15.49S±0.08×74.44W±0.10,h54km,
mb3.8/9,MS2.3/1,Error ellipse: s-maj=16.3km
s-min=6.4km az=142.1
IDC 22 23:20:55.2±1.9,15.41S×74.42W,h59km±18km,mb3.5/5,
mb1 3.6/9,mb1mx3.4/33,mbtmp3.7/9,ML3.1/4,MS2.5/3,
Ms1 2.5/3,ms1mx2.4/25,Error ellipse: s-maj=28.6km
s-min=12.8km az=49.0
NEIC 22 23:20:55.0±0.0,15.78S×74.79W,h45km,mb3.8/6,
ML4.2(ARE),After ARE.
NEIC Felt [II] at Acari and Chala.
ISC 22 23:20:54.8±0.8,15.48S±0.10×74.4W±0.1,h54km,n17,
σ0§98/20,mb3.8/9,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.19**	**326**	P	**Pn**	**23 21 55.8**	**-0.5**
	4.8nm,0.3s,baz=152,slow=12,SNR=11						
NNA				S	**Sn**	**23 22 43.4**	**-0.6**
	26nm,0.3s,baz=276,slow=17,SNR=7.7						
NNA				LR	LR	23 23 20.1	
	comp=Z,61nm,20.1s,baz=127,slow=35						
NNA	**Nana**	**4.19**	**326**	*e*Pn	**Pn**	**23 21 57.4**	**+1.1**
NNA				*e*Sn	**Sn**	**23 22 45.0**	**+0.9**
LPAZ	**La Paz**	**6.11**	**98**	P	**Pn**	**23 22 24.8**	**+1.7**
	0.1nm,0.3s,baz=308,slow=8.8,SNR=2.2						
LVC	**Limon Verde**	**8.80**	**145**	P	**Pn**	**23 23 01.7**	**+1.9**
	0.7nm,0.3s,baz=356,slow=7.7,SNR=13						
LVC				S	**Sn**	**23 24 36.2**	**-1.6**
	1.2nm,0.3s,baz=60,slow=19,SNR=8.8						
LVC				LR	LR	23 26 32.6	
	comp=Z,31nm,19.5s,baz=266,slow=38						
SIV	**San Ignacio**	**12.86**	**94**	P	**Pn**	**23 23 55.3**	**+0.3**
	0.1nm,0.3s,baz=221,slow=18,SNR=2.6						
PTGA	**Pitinga**	**20.45**	**46**	P	**P**	**23 25 27.4**	**-0.6**
	2.6nm,0.7s,baz=311,slow=19,SNR=4.0						
PTGA				LR	LR	23 33 14.4	
	comp=Z,12nm,18.2s,baz=183,slow=36						
SDV	**Santo Domingo**	**24.50**	**9**	P	**P**	**23 26 08.8**	**-0.6**
	2.6nm,0.8s,baz=236,slow=11,SNR=4.3						
SDV	**Santo Domingo**	**24.50**	**9**	*e*P	**P**	**23 26 10.3**	**+0.9**
	3.0nm,1.0s						
TRQA	**Tornquist**	**25.03**	**156**	P	**P**	**23 26 14.0**	**+0.1**
	4.4nm,1.1s						
PLCA	**Paso Flores**	**25.39**	**173**	P	**P**	**23 26 17.0**	**-0.2**
	1.7nm,0.8s,baz=7.7,slow=10,SNR=3.7						
TXAR	**Lajitas Array**	**52.75**	**328**	P	**P**	**23 30 04.3**	**-0.2**
	0.5nm,0.8s,baz=141,slow=6.8,SNR=5.1						
MIAR	**Mount Ida**	**52.98**	**340**	*e*P	**P**	**23 30 06.1**	**+0.1**
	0.6nm,0.6s						
SDCO	**Great Sand Dun**	**60.47**	**332**	*e*P	**P**	**23 30 59.6**	**+0.2**
	1.8nm,0.9s						
HWUT	**Hardware Ranch**	**66.36**	**330**	*e*P	**P**	**23 31 37.3**	**-0.9**
	0.7nm,0.6s						
HLID	**Hailey**	**69.22**	**330**	*e*P	**P**	**23 31 56.5**	**+0.4**
	0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**80.48**	**74**	P	**P**	**23 33 00.3**	**-1.3**
	1.0nm,0.8s,baz=263,slow=5.5,SNR=5.8						
SONM	**Songino Array**	**147.73**	**359**	PKPbc	**PKPbc**	**23 40 34.0**	**+0.3**
	1.2nm,0.7s,baz=354,slow=1.1,SNR=7.9						

NIED 22 23:26:00,39.10N×142.30E,h50km,Mw4.4 Best double
couple: M0 5.00000×10^15 NP1:φs224.00000°,δ44.00000°,
λ66.00000°. NP2:φs75.00000°,δ51.00000°,λ111.00000°.
BJI 22 23:26:46.5,39.21N×142.68E,h59km,mb4.7/52,mB5.0/34,
Ms4.3/10,Ms7 4.0/6
JMA 22 23:26:47.9,39.15N×142.30E,h47km±1km,M4.7
Broadband fault plane solution: P waves. NP1:
φs82.00000°,δ65.00000°,λ115.00000°. NP2:
φs215.00000°,δ35.00000°,λ49.00000°. Principal axes: T
Plg62.0000°, Azm31.0000°; N Plg22.0000°,
Azm251.0000°; P Plg16.0000°, Azm154.0000°;
JMA Felt III J1.
MOS 22 23:26:47.9±0.9,39.24N×142.17E,h55km,mb4.9/65 Error
ellipse: s-maj=6.6km s-min=4.8km az=99.3
ISCJB 22 23:26:48.2±0.3,39.17N±0.02×142.19E±0.03,h57km±2km,
mb4.7/204,MS3.6/10,Error ellipse: s-maj=4.6km
s-min=2.9km az=146.5
IDC 22 23:26:49.5±1.8,39.07N×142.17E,h64km±15km,mb4.2/23,
mb1 4.3/30,mb1mx4.2/40,mbtmp4.4/30,MS3.4/12,
Ms1 3.4/12,ms1mx3.1/41,Error ellipse: s-maj=13.5km
s-min=12.3km az=124.0
NEIC 22 23:26:49.8±0.4,39.14N×142.11E,h60km±3km,mb4.8/145,
Error ellipse: s-maj=4.1km s-min=2.6km az=148.0
NEIC Recorded [3 JMA] in Iwate and Miyagi.
ISC 22 23:26:47.6±0.6,39.10N±0.04×142.37E±0.04,h45km±5km,
n447,σ1§39/464,mb4.7/205,MS3.6/11,31C-10D,Near
east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.55**	**268**	P	**Pn**	**23 26 59.0**	**-0.1**
OFUJ				S	**Sn**	**23 27 06.8**	**-0.5**
MIYJ	**Miyakonagasawa**	**0.64**	**318**	⇓P	**Pn**	**23 26 59.8**	**-0.5**
MIYJ				S	**Sn**	**23 27 08.2**	**-1.3**
JKMT	**Kesennumamotoy**	**0.76**	**248**	P	**Pn**	**23 27 01.9**	**0.0**
JKMT				S	**Sn**	**23 27 11.7**	**-0.5**
JMK	**Ichinoseki**	**0.91**	**261**	⇑P	**Pn**	**23 27 03.8**	**-0.1**
JMK				S	**Sn**	**23 27 15.3**	**-0.6**
JOM	**Ohasama**	**0.92**	**294**	⇓P	**Pn**	**23 27 03.8**	**-0.2**
JOM				S	**Sn**	**23 27 15.3**	**-0.8**
JTH	**Tanohata**	**0.93**	**335**	⇓P	**Pn**	**23 27 03.7**	**-0.5**
JTH				*e*S	**Sn**	**23 27 15.5**	**-0.8**
JIO	**Ouri**	**1.03**	**231**	⇑P	**Pn**	**23 27 05.6**	**+0.1**
JIO				S	**Sn**	**23 27 18.1**	**-0.6**
JKZ	**Kuzumaki**	**1.20**	**318**	⇓P	**Pn**	**23 27 07.9**	**0.0**
JKZ				S	**Sn**	**23 27 22.4**	**-0.6**
JRG	**Rokugo**	**1.38**	**283**	⇓P	**Pn**	**23 27 10.3**	**-0.1**
JRG				S	**Sn**	**23 27 27.3**	**-0.1**
JANG	**Nango**	**1.43**	**333**	⇓P	**Pn**	**23 27 10.7**	**-0.4**
JANG				S	**Sn**	**23 27 28.1**	**-0.6**
JOU	**Okura**	**1.52**	**242**	⇑P	**Pn**	**23 27 12.6**	**+0.3**
JYK	**Kaneyama**	**1.58**	**264**	P	**Pn**	**23 27 13.5**	**+0.4**
ERM	**Erimo**	**2.97**	**11**	*e*Pn	**Pn**	**23 27 32.8**	**+0.6**
ERM				*e*Sn	**Sn**	**23 28 07.8**	**+1.2**
ERM	**Erimo**	**2.97**	**11**	*e*P	**Pn**	**23 27 32.8**	**+0.6**
ERM				*e*		23 28 07.8	
MJAR	**Matsushiro Arr**	**4.17**	**234**	P	**Pn**	**23 27 50.3**	**+1.6**
	16nm,0.3s,baz=38,slow=11,SNR=165						
MJAR				LR	LR	23 29 39.7	
	comp=Z,416nm,20.9s,baz=40,slow=42						
MAJO	**Matsushiro**	**4.17**	**234**	*e*Pn	**Pn**	**23 27 50.7**	**+2.0**
MAJO	**Matsushiro**	**4.17**	**234**	*d*/*i*P	**Pn**	**23 27 50.9**	**+2.2**
MAT	**Matsushiro**	**4.17**	**234**	P	**Pn**	**23 27 51.0**	**+2.3**
MAT				*e*S	**Sn**	**23 28 43.0**	**+6.9**
MJB9	**Matsu-Tunnel**	**4.17**	**234**	*e*Pn	**Pn**	**23 27 51.0**	**+2.4**
ASAJ	**Asahikawa**	**5.01**	**2**	*e*Pn	**Pn**	**23 28 00.9**	**+0.7**
YUK	**Yuzh-Kuril'sk**	**5.58**	**27**	⇑*i*P	**Pn**	**23 28 07.2**	**-0.8**
YUK				*i* S	**Sn**	**23 29 06.0**	**-4.8**
YUK				pmax	pmax		
	comp=N,171nm,0.4s						
YUK				pmax	pmax		
	comp=Z,525nm,0.4s						
YUK				pmax	pmax		
	comp=E,87nm,0.2s						
YUK				smax	smax		
	comp=N,1μm,0.4s						
YUK				smax	smax		
	comp=E,897nm,0.4s						
INU	**Inuyama**	**5.68**	**230**	*e*Pn	**Pn**	**23 28 10.8**	**+1.4**
SHO	**Shikotan**	**5.82**	**34**	⇓*i*P	**Pn**	**23 28 10.0**	**-1.3**
SHO				*i* S	**Sn**	**23 29 11.0**	**-5.7**
SHO				pmax	pmax		
	comp=E,24nm,0.3s						
SHO				pmax	pmax		
	comp=Z,103nm,0.3s						
SHO				pmax	pmax		
	comp=N,27nm,0.2s						
SHO				smax	smax		
	comp=E,568nm,0.3s						
SHO				smax	smax		
	comp=N,440nm,0.5s						
JHJ2	**Mitsune**	**6.32**	**200**	*e*Pn	**Pn**	**23 28 17.8**	**-0.5**
JHJ	**Hachijo jima 2**	**6.33**	**200**	P	**Pn**	**23 28 17.4**	**-0.9**
	comp=N,108nm,0.3s,baz=46,slow=20,SNR=15						
JHJ				S	**Sn**	**23 29 25.7**	**-3.4**
	comp=N,69nm,0.3s,baz=78,slow=20,SNR=3.9						
KUR	**Kuril'sk**	**7.36**	**32**	*e*P	**Pn**	**23 28 31.9**	**-0.5**
KUR				*e*S	**Sn**	**23 29 50.0**	**-4.5**
KUR				pmax	pmax		
	comp=Z,44nm,0.2s						
YSS	**Yuzh-Sakhalins**	**7.86**	**2**	*e*Pn	**Pn**	**23 28 40.2**	**+1.0**
YSS	**Yuzh-Sakhalins**	**7.86**	**2**	*e*P	**Pn**	**23 28 40.0**	**+0.9**
YSS				*e*S	**Sn**	**23 30 05.6**	**-1.1**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
VLA	**Vladivostok**	**8.87**	**300**	*i* P	**Pn**	**23 28 55.8**	**+2.7**
VLA				pmax	pmax		
	comp=Z,75nm,0.9s						
MSHR	**Mys Shultsa**	**9.18**	**296**	*i* P	**Pn**	**23 28 57.8**	**+0.5**
USA0B	**Ussuriysk Arra**	**9.29**	**307**	*e*Pn	**Pn**	**23 28 59.8**	**+1.0**
USRK	**Ussuriysk Ar.**	**9.29**	**307**	P	**Pn**	**23 28 59.1**	**+0.2**
	comp=Z,3.9nm,0.3s,baz=115,slow=14,SNR=37						
USRK				LR	LR	23 32 20.6	
	comp=Z,265nm,20.2s,baz=114,slow=36						
UGL	**Uglegorsk**	**9.98**	**359**	P	Pn	23 29 01.2	-7.0
UGL				pmax	pmax		
	comp=Z,99nm,1.3s						
MDJ	**Mudanjiang**	**11.01**	**304**	P	**Pn**	**23 29 26.8**	**+4.5**
MDJ				pmax	pmax		
	comp=Z,44nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,110nm,4.1s						
MDJ	**Mudanjiang**	**11.01**	**304**	*e*Pn	**Pn**	**23 29 22.7**	**+0.4**
JNU	**Nakatsue**	**11.04**	**241**	P	**Pn**	**23 29 23.6**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=59,slow=12,SNR=3.1						
JNU	**Nakatsue**	**11.04**	**241**	*e*Pn	**Pn**	**23 29 24.2**	**+1.4**
KSRS	**Korea Array**	**11.48**	**266**	P	**Pn**	**23 29 29.3**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=78,slow=14,SNR=2.5						
KSRS				S	**Sn**	**23 31 38.4**	**+2.8**
	baz=72,slow=25,SNR=2.4						
KSRS				LR	LR	23 33 32.8	
	comp=Z,72nm,18.9s,baz=72,slow=36						
KS01	**Wonju Array Si**	**11.49**	**266**	*e*Pn	**Pn**	**23 29 26.9**	**-2.1**
KS15	**Wonju Array Si**	**11.51**	**266**	*e*Pn	**Pn**	**23 29 29.4**	**+0.2**
KS15				*e*Sn	**Sn**	**23 31 38.4**	**+2.0**
KSAR	**Wonju Array Be**	**11.51**	**266**	P	**Pn**	**23 29 29.3**	**+0.1**
KSAR				S	**Sn**	**23 31 38.4**	**+2.1**
KSAR	**Wonju Array Be**	**11.51**	**266**	P	**Pn**	**23 29 29.3**	**+0.1**
KSAR				S	**Sn**	**23 31 38.4**	**+2.1**
CBIJ	**Chichi jima**	**11.97**	**181**	*e*Pn	**Pn**	**23 29 32.6**	**-3.0**
CBIJ				*e*Sn	Sn	23 31 37.1	-11
JCJ	**Chichijima**	**11.97**	**181**	P	**Pn**	**23 29 32.6**	**-3.0**
	comp=Z,15nm,0.3s,baz=82,slow=21,SNR=10						
JCJ				S	Sn	23 31 37.1	-11
	comp=Z,8.4nm,0.3s,baz=270,slow=20,SNR=3.5						
KLR	**Kul'dur**	**12.66**	**327**	P	**Pn**	**23 29 44.0**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=130,slow=16,SNR=4.9						
KLR				LR	LR	23 34 31.3	
	comp=Z,207nm,20.6s,baz=183,slow=37						
JOW	**Kunigami**	**16.99**	**228**	P	**Pn**	**23 30 40.9**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=320,slow=13,SNR=2.1						
JOW				LR	LR	23 37 37.3	
	comp=Z,74nm,18.1s,baz=98,slow=38						
JOW	**Kunigami**	**16.99**	**228**	*e*Pn	**Pn**	**23 30 40.9**	**-1.1**
	comp=Z,85nm,1.6s						
PETK	**Petropavlovsk-**	**17.53**	**32**	P	**Pn**	**23 30 47.9**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=196,slow=14,SNR=3.1						
PETK				LR	LR	23 38 04.3	
	comp=Z,204nm,18.6s,baz=215,slow=38						
PEA1	**Petropavlovsk-**	**17.53**	**32**	*e*Pn	**Pn**	**23 30 47.9**	**-0.7**
ZEA	**Zeya**	**17.91**	**330**	*e*P	**Pn**	**23 30 50.0**	**-3.2**
ZEA				pmax	pmax		
	comp=Z,29nm,1.0s						
BJI	**Beijing**	**20.20**	**281**	P	**P**	**23 31 18.8**	**+0.4**
BJI				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BJT	**Baijiatuan**	**20.20**	**281**	*e*P	**P**	**23 31 17.5**	**-1.0**
	comp=Z,14nm,0.6s						
BJT	**Baijiatuan**	**20.20**	**281**	*e*P	**P**	**23 31 17.5**	**-1.0**
BJT				pmax	pmax		
	comp=Z,13nm,0.6s						
NJ2	**Nanjing**	**20.35**	**257**	*e*P	Pn	23 31 22.3	-0.2
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
MA2	**Magadan**	**21.18**	**12**	*e*P	**P**	**23 31 30.5**	**+1.6**
	comp=Z,88nm,1.2s						
MA2	**Magadan**	**21.18**	**12**	*e*P	**P**	**23 31 30.5**	**+1.6**
MA2				pmax	pmax		
	comp=Z,88nm,1.2s						
YOJ	**Yonaguni jima**	**21.93**	**234**	*e*P	**P**	**23 31 34.1**	**-3.1**
	comp=Z,119nm,1.4s						
YOJ	**Yonaguni jima**	**21.93**	**234**	*e*P	**P**	**23 31 34.1**	**-3.1**
YOJ				pmax	pmax		
	comp=Z,119nm,1.4s						
NACB	**Ninganchiao**	**23.04**	**236**	*e*P	**P**	**23 31 46.2**	**-2.7**
	comp=Z,19nm,0.9s						
HHC	**Hu-ho-hao-te**	**23.62**	**284**	*e*P	**P**	**23 31 54.1**	**-0.5**
HHC				pmax	pmax		
	comp=Z,28nm,0.9s						
HHC				pmax	pmax		
	comp=Z,150nm,6.1s						
SSLB	**Suanglung**	**23.72**	**236**	*e*P	**P**	**23 31 52.8**	**-2.8**
	comp=Z,34nm,1.6s						
YULB	**Yu-li**	**23.78**	**235**	*e*P	**P**	**23 31 55.8**	**-0.3**
	comp=Z,20nm,1.1s						
WHN	**Wuhan**	**24.46**	**258**	P	**P**	**23 32 04.1**	**+1.8**
SEY	**Seymchan**	**24.62**	**11**	*ce*P	**P**	**23 32 01.5**	**-1.9**
GUMO	**Guam**	**25.51**	**174**	LR	LR	23 41 50.0	
	comp=Z,37nm,21.5s,baz=118,slow=35						
SMY	**Shemya**	**25.70**	**48**	*e*P	**P**	**23 32 14.3**	**+1.1**
	comp=Z,660nm,1.9s						
SMY	**Shemya**	**25.70**	**48**	*e*P	**P**	**23 32 14.3**	**+1.1**
BOD	**Bodaibo**	**26.23**	**325**	*e*P	**P**	**23 32 16.2**	**-1.9**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ULN	**Ulaanbaatar**	**26.89**	**301**	*e*P	**P**	**23 32 22.1**	**-2.2**
	comp=Z,3.3nm,1.0s						
ULN	**Ulaanbaatar**	**26.89**	**301**	*i* P	**P**	**23 32 24.1**	**-0.2**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
XAN	**Xi'an**	**27.24**	**270**	P	**P**	**23 32 27.8**	**+0.3**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,110nm,3.8s						
SONA1	**Songino Array**	**27.32**	**300**	*e*P	**P**	**23 32 26.3**	**-1.8**
SONA0	**Songino Array**	**27.32**	**300**	*e*P	**P**	**23 32 27.6**	**-0.6**
SONA0				*e*PcP	**PcP**	**23 35 45.3**	**-1.3**
SONM	**Songino Array**	**27.32**	**300**	P	**P**	**23 32 27.6**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=102,slow=8.9,SNR=12						
SONM				PcP	**PcP**	**23 35 45.3**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=131,slow=5.0,SNR=4.1						
SONM				LR	LR	23 42 56.4	
	comp=Z,106nm,19.3s,baz=149,slow=36						
ENH	**Enshi**	**28.32**	**262**	*e*P	**P**	**23 32 36.5**	**-0.6**
	comp=Z,22nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.64**	**125**	T	T	00 03 04.0	
	baz=318,slow=75,SNR=8492						
H11N1	**WAKE ISLAND Hy**	**28.65**	**125**	T	T	00 03 08.1	
	baz=318,slow=75,SNR=9285						
H11N3	**WAKE ISLAND Hy**	**28.66**	**125**	T	T	00 03 10.6	
	baz=318,slow=75,SNR=8815						
H11S1	**WAKE ISLAND Hy**	**29.43**	**127**	T	T	00 04 05.1	
	baz=319,slow=76,SNR=1336						
H11S3	**WAKE ISLAND Hy**	**29.43**	**127**	T	T	00 04 14.8	
	baz=319,slow=76,SNR=2203						
H11S2	**WAKE ISLAND Hy**	**29.44**	**127**	T	T	00 04 04.0	
	baz=319,slow=76,SNR=1288						
TLY	**Talaya**	**29.60**	**308**	LR	LR	23 45 15.4	
	comp=Z,98nm,18.5s,baz=82,slow=38						
TLY	**Talaya**	**29.60**	**308**	*e*P	**P**	**23 32 46.6**	**-1.7**
	comp=Z,8.1nm,1.2s						
TLY	**Talaya**	**29.60**	**308**	*e*P	**P**	**23 32 46.6**	**-1.7**
TLY				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ZAK	**Zakamensk**	**29.64**	**305**	*e*P	**P**	**23 32 51.0**	**+2.3**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
LZH	**Lanzhou**	**30.52**	**277**	*e*P	**P**	**23 32 58.1**	**+1.3**
LZH				pP	sP	23 33 13.0	-1.0
LZH				sP	pP	23 33 18.8	+10
LZH				*e*S	**S**	**23 37 55.3**	**0.0**
LZH				sS	sS	23 38 20.4	+5.2
LZH				SS	**SnSn**	**23 39 40.9**	**+6.5**
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
LZH				pmax	pmax		
	comp=Z,140nm,5.2s						
LZH				LR	LR		
	comp=Z,1μm,14.9s						
LZH				LR	LR		
	comp=Z,1μm,16.0s						
LZH				LR	LR		
	comp=Z,1μm,17.1s						
BILL	**Bilibino**	**31.83**	**17**	*ce*P	**P**	**23 33 08.9**	**+1.2**
BILL				*e*		23 34 13.8	
BILL				pmax	pmax		
	comp=Z,17nm,2.5s						
BILL				MLR	MLR		
	comp=

comp=Z,2.4nm,0.7s,comp=Z,167nm
CMMT Chiang Mai 42.55 254 P P 23 34 48.2 +9.1
comp=Z,7.0nm,0.8s,comp=Z,326nm
CHTO Chiang Mai 42.55 254 *e*P **P 23 34 39.7 +0.6**
comp=Z,5.2nm,0.8s
CHTO Chiang Mai 42.55 254 P **P**
CHTO pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 42.55 254 P P 23 34 48.2 +9.1
comp=Z,31nm,0.8s
CMAR Chiang Mai Arr 42.77 254 P **P 23 34 38.9 -2.0**
CMAR LR LR 23 51 51.3
comp=Z,1.2nm,0.7s,baz=42,slow=6.9,SNR=9.0
comp=Z,34nm,21.1s,baz=170,slow=35
CMAR Chiang Mai Arr 42.77 254*ce*P **P 23 34 40.7 -0.2**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CM01 Chiang Mai Arr 42.78 254 *e*P **P 23 34 40.0 -1.0**
SVW2 Sparrevohn 43.43 39 *e*P **P 23 34 47.0 +1.3**
comp=Z,18nm,0.8s
MK01 Makanchi Array 43.69 300 *e*P **P 23 34 47.3 -0.7**
MK31 Makanchi Array 43.69 300 *e*P **P 23 34 47.6 -0.4**
MK31 Makanchi Array 43.69 300 *e*P **P 23 34 47.6 -0.4**
MK32 Makanchi Array 43.69 300 *e*P **P 23 34 47.4 -0.6**
MKAR Makanchi Array 43.69 300 P **P 23 34 47.4 -0.6**
comp=Z,6.7nm,0.7s,baz=87,slow=9.8,SNR=33
MKAR Makanchi Array 43.69 300 *e*P **P 23 34 47.5 -0.5**
comp=Z,48nm,0.8s
IM3 Indian Mountai 44.49 32 *e*P **P 23 34 54.8 +0.7**
RSO Redoubt South 44.82 40 *e*P **P 23 34 57.5 +0.4**
PPLA Purkeypile 45.05 36 *e*P **P 23 35 01.0 +2.2**
comp=Z,42nm,1.6s
KDAK Kodiak Island 45.07 43 P **P 23 34 59.5 +0.7**
comp=Z,21nm,0.6s,baz=270,slow=6.1,SNR=14
CAST Castle Rocks 45.10 35 *e*P **P 23 35 00.7 +1.7**
comp=Z,8.9nm,0.6s
KURK Kurchatov 45.28 307 *e*P **P 23 34 59.7 -0.8**
comp=Z,16nm,0.6s
KURK Kurchatov 45.28 307*ce*P **P 23 34 59.5 -1.1**
KURK pmax pmax
comp=Z,12nm,0.6s
HOM Homer 45.42 41 *e*P **P 23 35 01.8 +0.3**
comp=Z,253nm,1.0s
BPAW Bear Paw Mtn. 45.59 34 *e*P **P 23 35 04.0 +1.2**
comp=Z,13nm,0.7s
CNPM China Poot 45.63 41 *e*P **P 23 35 04.7 +1.4**
comp=Z,171nm,1.6s
MLY Manley 45.70 33 *e*P **P 23 35 05.0 +1.2**
comp=Z,12nm,0.9s
SUA Susitna One 45.76 38 *e*P **P 23 35 04.2 -0.2**
comp=Z,33nm,0.9s
BRLK Bradley Lake 45.79 40 *e*P **P 23 35 06.5 +2.0**
comp=Z,182nm,1.8s
TRF Thorofare Moun 45.91 35 *e*P **P 23 35 05.7 +0.2**
comp=Z,59nm,1.9s
COLD Coldfoot 45.98 30 *e*P **P 23 35 07.7 +1.8**
comp=Z,12nm,1.6s
BWN Browne 46.26 34 *e*P **P 23 35 10.0 +1.9**
comp=Z,44nm,0.9s
TOLK Toolik Lake Re 46.29 28 *e*P **P 23 35 08.8 +0.4**
comp=Z,5.9nm,0.6s
SEW Seward 46.49 40 *e*P **P 23 35 10.0 +0.1**
comp=Z,227nm,2.0s
MCK McKinley 46.50 35 *e*P **P 23 35 10.6 +0.5**
comp=Z,12nm,0.8s
MCK McKinley 46.50 35 *e*P **P 23 35 10.6 +0.5**
MCK pmax pmax
comp=Z,12nm,0.8s
PDGK Podgornoye 46.50 296 P **P 23 35 13.2 +2.7**
PDGK pmax pmax
comp=Z,10.0nm,0.9s
PMR Palmer 46.52 38 *e*P **P 23 35 11.3 +1.1**
comp=Z,33nm,1.3s
RND Reindeer 46.55 35 *e*P **P 23 35 10.6 +0.1**
comp=Z,15nm,0.9s
RND Reindeer 46.55 35 *e*P **P 23 35 10.6 +0.1**
RND pmax pmax
comp=Z,15nm,0.9s
GHO Glory Hole Cre 46.61 38 *e*P **P 23 35 12.3 +1.3**
comp=Z,25nm,0.7s
MDM Murphy Dome 46.77 33 *e*P **P 23 35 12.9 +0.8**
comp=Z,23nm,1.2s
WRH Wood River Hil 46.85 34 *e*P **P 23 35 14.2 +1.5**
comp=Z,5.6nm,0.7s
SML Sawmill 46.89 37 *e*P **P 23 35 14.8 +1.7**
comp=Z,121nm,1.9s
SML Sawmill 46.89 37 *e*P **P 23 35 14.8 +1.7**
SML pmax pmax
comp=Z,121nm,1.9s
COLA College 46.94 33 P **P 23 35 15.5 +2.2**
COLA pmax pmax
comp=Z,16nm,1.4s
CCB Clear Creek Bu 46.96 34 *e*P **P 23 35 13.9 +0.3**
comp=Z,36nm,2.0s
DHY Denali Highway 47.24 36 *e*P **P 23 35 17.1 +1.1**
comp=Z,7.1nm,0.8s
HDA Harding Lake 47.34 34 *e*P **P 23 35 17.7 +1.1**
comp=Z,3nm,0.6s
ILAR Eielson Array 47.35 33 P **P 23 35 17.4 +0.7**
comp=Z,12nm,0.6s,baz=264,slow=6.2,SNR=191
ILB Eielson Array 47.35 33 *e*P **P 23 35 17.7 +1.0**
IL1 Eielson Array 47.35 33 *e*P **P 23 35 17.2 +0.5**
SCM Sheep Creek Mo 47.36 37 *e*P **P 23 35 17.8 +0.9**
comp=Z,21nm,0.8s
SCM Sheep Creek Mo 47.36 37 *e*P **P 23 35 17.8 +0.9**
SCM pmax pmax
comp=Z,21nm,0.8s
GLI Glacier Island 47.57 39 *e*P **P 23 35 19.7 +1.3**
comp=Z,71nm,1.3s
JIRN Jiri 47.61 274 *e*P **P 23 35 19.8 +0.2**
comp=Z,19nm,0.4s
RAMN Ramite 47.63 273 *e*P **P 23 35 19.1 -0.6**
comp=Z,16nm,0.4s
GUN Gumba 47.73 274 *e*P **P 23 35 20.2 -0.3**
comp=Z,26nm,0.4s
FID Port Fidalgo 47.88 39 *e*P **P 23 35 22.3 +1.5**
comp=Z,161nm,1.9s
FYU Fort Yukon 47.95 31 *e*P **P 23 35 23.0 +1.8**
comp=Z,77nm,2.0s
KLU Klutina 48.07 38 *e*P **P 23 35 23.4 +1.1**
comp=Z,18nm,0.5s
PAX Paxson 48.11 36 *e*P **P 23 35 24.4 +1.7**
comp=Z,28nm,1.6s
PAX Paxson 48.11 36 *e*P **P 23 35 24.4 +1.7**
PAX pmax pmax
comp=Z,28nm,1.6s
DIV Divide 48.18 38 *e*P **P 23 35 24.6 +1.4**
comp=Z,20nm,0.7s
KKN Kakani 48.25 274 *e*P **P 23 35 24.1 -0.3**
comp=Z,25nm,0.5s
PKI Pulchoki 48.26 274 *e*P **P 23 35 24.6 0.0**
comp=Z,10nm,0.4s
PKIN Phulchoki 48.27 274 *e*P **P 23 35 24.5 0.0**
comp=Z,9.4nm,0.5s
DMN Daman 48.48 274 *e*P **P 23 35 26.4 +0.2**
comp=Z,8.1nm,0.4s
SCRK Sand Creek 48.67 34 *e*P **P 23 35 27.7 +0.7**
comp=Z,16nm,0.6s
DOT Dot Lake 48.67 35 *e*P **P 23 35 27.9 +0.9**
comp=Z,22nm,1.4s
BMRM Bremner River 48.77 38 *e*P **P 23 35 28.3 +0.6**
comp=Z,28nm,1.0s
DANN Dangsing 49.16 276 *e*P **P 23 35 31.2 -0.3**
comp=Z,79nm,0.4s
KOLN Koldanda 49.56 275 *e*P **P 23 35 33.6 -0.8**
comp=Z,12nm,0.4s
TGL Tana Glacier 49.66 38 *e*P **P 23 35 36.5 +1.9**
comp=Z,67nm,1.5s
EGAK Eagle 49.79 33 *e*P **P 23 35 36.9 +1.5**
comp=Z,59nm,2.0s
BRVK Borovoye 49.82 311 *e*P **P 23 35 35.5 -0.2**
comp=Z,4.7nm,0.4s
BRVK Borovoye 49.82 311*ce*P **P 23 35 34.7 -1.0**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
OTUK Ortayu 49.85 305 P **P 23 35 36.8 +0.7**
OTUK pmax pmax
comp=Z,5.0nm,0.8s
PYUN Piuthan 49.88 276 *e*P **P 23 35 36.3 -0.5**
comp=Z,30nm,0.7s
AAK Ala-Archa 50.20 297 *e*P **P 23 35 38.7 -0.3**
comp=Z,3.0nm,0.7s
AAK Ala-Archa 50.20 297 *i* P **P 23 35 38.1 -0.9**
AAK pmax pmax
comp=Z,2.0nm,1.1s
KSH Kashi 50.28 293 *e*P **P 23 35 42.6 +3.0**
DAWY Dawson 50.66 34 *e*P **P 23 35 43.5 +1.4**
comp=Z,29nm,2.0s
SFK Sufi-Kurgan 51.85 294 P **P 23 35 52.4 +0.9**
SFK pmax pmax
comp=Z,6.0nm,0.8s
HYT Haines Junctio 52.20 38 *e*P **P 23 35 55.2 +1.6**
comp=Z,28nm,0.9s
INK Inuvik 52.21 28 *e*P **P 23 35 54.8 +1.3**
comp=Z,5.8nm,0.6s
INK Inuvik 52.21 28 *e*P **P 23 35 54.8 +1.3**
INK pmax pmax
comp=Z,6.0nm,0.6s
KK31 Karatay Array 52.76 299 *e*P **P 23 35 57.4 -0.6**
KK31 Karatay Array 52.76 299 *e*P **P 23 35 57.4 -0.6**
KKAR Karatay Array 52.76 299 *e*P **P 23 35 57.4 -0.6**
KKAR Karatay Array 52.76 299 *e*P **P 23 35 57.4 -0.6**
NIL Nilore 54.71 287 *e*P **P 23 36 11.7 -0.6**
comp=Z,26nm,1.4s
NIL Nilore 54.71 287 *e*P **P 23 36 11.7 -0.6**
NIL pmax pmax
comp=Z,26nm,1.4s
ARU Arti 55.33 318 *e*P **P 23 36 15.5 -1.0**
comp=Z,14nm,0.6s
ARU Arti 55.33 318*d i*P **P 23 36 15.7 -0.7**
ARU *PP **pP** 23 36 30.1 +1.1
ARU 23 37 15.6
ARU 23 38 20.6
ARU SS **SS** 23 47 43.2 +1.8
ARU pmax pmax
comp=Z,12nm,0.6s
HLP Hilina Pali 56.79 91 *e*P **P 23 36 28.9 +1.4**
comp=Z,130nm,0.9s
ABKAR Akbulak array 57.20 309 *e*P **P 23 36 29.0 -0.9**
KBL Kabul 57.40 290 *e*P **P 23 36 31.2 -0.6**
comp=Z,3.7nm,0.6s
KBL Kabul 57.40 290 *e*P **P 23 36 31.2 -0.6**
KBL pmax pmax
comp=Z,4.0nm,0.6s
SPA0 Spitsbergen Ar 58.65 349 *e*P **P 23 36 40.2 +0.6**
WRAB Tennant Creek 59.20 189 *i* P **P 23 36 43.8 -0.3**
WRAB pmax pmax
comp=Z,4.0nm,1.2s
WB2 Warramunga Arr 59.21 189 *e*P **P 23 36 44.1 0.0**
WR1 Warramunga Arr 59.21 189 *e*P **P 23 36 43.4 -0.7**
comp=Z,7.3nm,0.5s
WRA Warramunga Arr 59.21 189 P **P 23 36 43.4 -0.7**
comp=Z,1.9nm,0.5s,baz=7.1,slow=7.0,SNR=28
RES Resolute Bay 60.41 15 *e*P **P 23 36 52.5 +0.7**
comp=Z,12nm,1.1s
RES Resolute Bay 60.41 15 *e*P **P 23 36 52.5 +0.7**
RES pmax pmax
comp=Z,12nm,1.1s
YKA Yellowknife Ar 61.65 31 P **P 23 37 00.3 0.0**
comp=Z,2.1nm,0.7s,baz=303,slow=6.6,SNR=11
YKB5 Yellowknife Ar 61.65 31 *e*P **P 23 37 00.3 0.0**
ARA0 ARCESS Array S 62.33 339 *e*P **P 23 37 04.5 -0.4**
ARCES ARCESS Array B 62.33 339 P **P 23 37 04.5 -0.4**
comp=Z,7.2nm,1.0s,baz=52,slow=7.9,SNR=8.1
ARCES ARCESS Array B 62.33 339 *e*P **P 23 37 05.3 +0.4**
ARCES ARCESS Array B 62.33 339 *e*P **P 23 37 05.3 +0.4**
AS01 Alice Springs 62.93 189 *e*P **P 23 37 09.3 -0.1**
ASAR Alice Springs 62.94 189 P **P 23 37 09.1 -0.4**
comp=Z,1.1nm,0.7s,baz=8.8,slow=6.4,SNR=12
GEYT Alibeck 63.51 298 P **P 23 37 10.8 -2.4**
comp=Z,1.3nm,0.5s,baz=69,slow=8.1,SNR=8.1
DAG Danmarks Havn 63.78 355⇑ *i*P **P 23 37 13.9 -0.4**
comp=Z,8.5nm,1.0s
DAG Danmarks Havn 63.78 355⇑ *i*P **P 23 37 13.9 -0.4**
DAG pmax pmax
comp=Z,9.0nm,1.0s
B08A Colville Reser 66.85 46 *e*P **P 23 37 35.9 +1.1**
comp=Z,5.1nm,0.7s
OBN Obninsk 66.90 323*ce*P **P 23 37 33.9 -0.9**
OBN *e* 23 40 05.7
OBN pmax pmax
comp=Z,33nm,2.5s
OBN MLR MLR
comp=Z,46nm,16.0s
FIA1 FINESS Array S 67.34 332 *e*P **P 23 37 36.8 -0.7**
FIA0 FINESS Array S 67.34 332 *e*P **P 23 37 36.8 -0.7**
FIA0 FINESS Array S 67.34 332 *e*P **P 23 37 36.8 -0.7**
FINES FINESS Array B 67.34 332 P **P 23 37 36.8 -0.7**
comp=Z,6.1nm,0.6s,baz=40,slow=10.0,SNR=25
E07A Sunnyside 67.54 48 *e*P **P 23 37 41.0 +1.9**
comp=Z,9.4nm,1.0s
D08A Wollman Farm, 67.80 47 *e*P **P 23 37 42.0 +1.3**
comp=Z,11nm,0.9s
F07A Phinny Hill Vi 67.87 48 *e*P **P 23 37 43.2 +2.0**
comp=Z,12nm,0.8s
E08A Dider Farm, El 68.04 47 *e*P **P 23 37 43.6 +1.4**
comp=Z,7.5nm,0.7s
NEW Newport 68.13 45 *e*P **P 23 37 44.0 +1.2**
comp=Z,8.3nm,0.8s
NEW Newport 68.13 45 *e*P **P 23 37 44.0 +1.2**
NEW pmax pmax
comp=Z,8.0nm,0.8s
E09A Wood Farm, Sta 68.55 47 *e*P **P 23 37 47.2 +1.8**
comp=Z,7.1nm,0.8s
SUMG Summit 68.62 0 *e*P **P 23 37 46.6 +0.7**
comp=Z,7.5nm,0.6s
SUMG Summit 68.62 0 *i* P **P 23 37 46.3 +0.4**
comp=Z,19nm,0.6s
SUMG Summit 68.62 0 *e*P **P 23 37 46.6 +0.7**
SUMG pmax pmax
comp=Z,8.0nm,0.6s
NCK Nalchik 69.85 310 *i* P **P 23 37 52.9 -0.7**
NCK pmax pmax
comp=Z,5.0nm,1.3s
KIV Kislovodsk 70.13 311 *e*P **P 23 37 55.1 -0.2**
comp=Z,14nm,1.0s
KIV Kislovodsk 70.13 311 *e*P **P 23 37 54.9 -0.4**
KIV pmax pmax
comp=Z,11nm,1.1s
KBZ Khabaz 70.14 311 P **P 23 37 54.8 -0.4**
comp=Z,3.0nm,0.7s,baz=53,slow=8.6,SNR=8.4
J08A Circle Bar Ran 70.16 50 *e*P **P 23 37 57.6 +2.0**
comp=Z,9.9nm,1.3s
ORV Oroville 70.48 55 *e*P **P 23 37 58.2 +0.8**
comp=Z,4.6nm,0.7s
ORV Oroville 70.48 55 *e*P **P 23 37 58.2 +0.8**
ORV pmax pmax
comp=Z,5.0nm,0.7s
BEKR Beckworth 71.02 54 *e*P **P 23 38 02.5 +1.5**
comp=Z,9.2nm,0.8s
GNI Garni 71.08 307 *i* P **P 23 38 00.4 -0.9**
GNI pmax pmax
comp=Z,23nm,1.1s
FFC Flin Flon 71.56 33 *i* P **P 23 38 05.0 +1.3**
PAHR Pah Rah Range 71.72 54 *e*P **P 23 38 06.8 +1.7**
comp=Z,7.7nm,0.9s
VCNR Virginia City 71.80 54 *e*P **P 23 38 07.6 +1.9**
comp=Z,4.9nm,0.7s
HRY Holter Researc 71.94 44 *e*P **P 23 38 07.8 +1.5**
PNTR Pine Nut 71.95 54 *e*P **P 23 38 08.5 +1.9**
comp=Z,5.8nm,0.8s
CMB Columbia Colle 72.06 55 *e*P **P 23 38 08.7 +1.6**
comp=Z,4.4nm,0.8s
CMB Columbia Colle 72.06 55 *e*P **P 23 38 08.7 +1.6**
CMB pmax pmax
comp=Z,4.0nm,0.8s
YERR Yerington 72.24 54 *e*P **P 23 38 09.9 +1.6**
comp=Z,9.8nm,0.8s
DLMT Dillon 72.35 46 *e*P **P 23 38 10.5 +1.7**
comp=Z,8.5nm,0.8s
WAKR Walker 72.39 55 *e*P **P 23 38 11.3 +2.0**
comp=Z,28nm,1.9s
HLID Hailey 72.42 48 *e*P **P 23 38 11.0 +1.7**
comp=Z,3.6nm,0.9s
NB2 NORSAR Subarra 72.57 337 P **P 23 38 08.6 -1.1**
comp=Z,1.1nm,0.4s,baz=36,slow=6.2
NB2 NORSAR Subarra 72.57 337 P **P 23 38 09.1 -0.6**
NB2 pmax pmax
comp=Z,1.0nm,0.4s
NB200 NORSAR Array S 72.57 337 *e*P **P 23 38 09.1 -0.6**
NOA NORSAR Array B 72.57 337 P **P 23 38 09.1 -0.6**
comp=Z,2.4nm,0.6s,baz=38,slow=6.0,SNR=13
BMN Battle Mountai 72.63 52 *e*P **P 23 38 12.4 +1.8**
BOZ Bozeman (W) 72.74 45 *e*P **P 23 38 11.2 0.0**
comp=Z,8.4nm,0.7s
BOZ Bozeman (W) 72.74 45 *e*P **P 23 38 11.2 0.0**
BOZ pmax pmax
comp=Z,8.0nm,0.7s
RYN Ryan 72.90 54 *e*P **P 23 38 14.0 +1.8**
comp=Z,4.7nm,0.9s
KVN Kaiserville 72.91 53 *e*P **P 23 38 13.9 +1.6**
comp=Z,8.9nm,0.8s
KVN Kaiserville 72.91 53 *e*P **P 23 38 13.9 +1.6**
KVN pmax pmax
comp=Z,9.0nm,0.8s
AKASG Malin Array Be 73.13 322 P **P 23 38 12.3 -0.8**
comp=Z,6.3nm,0.4s,baz=45,slow=6.3,SNR=32
AKBB Malin Array Si 73.13 322 *e*P **P 23 38 12.4 -0.6**
comp=Z,7.7nm,0.7s
KIEV Kiev 73.14 322 *e*P **P 23 38 12.4 -0.7**
comp=Z,7.6nm,0.7s
KIEV Kiev 73.14 322 *i* P **P 23 38 12.0 -1.2**
KIEV pmax pmax
comp=Z,4.0nm,0.8s
NV01 Mina Array Sit 73.16 54 *e*P **P 23 38 15.2 +1.4**
NVAR Mina Array Bea 73.16 54 P **P 23 38 15.3 +1.5**
comp=Z,5.3nm,0.8s,baz=287,slow=6.2,SNR=40
AK11 Malin Array Si 73.17 322 *e*P **P 23 38 12.7 -0.7**
NV11 Mina Array Sit 73.25 54 *e*P **P 23 38 16.0 +1.7**
comp=Z,0.3nm,1.0s
YHB Horse Butte 73.51 45 *e*P **P 23 38 17.6 +1.8**
comp=Z,7.0nm,0.8s
YHH Holmes Hill 73.68 45 *e*P **P 23 38 18.5 +1.6**
comp=Z,3.0nm,0.8s
YPP Pitchstone Pla 74.03 46 *e*P **P 23 38 20.3 +1.4**
comp=Z,2.8nm,0.8s
H17A Grant Village 74.08 45 *e*P **P 23 38 21.2 +2.1**
comp=Z,8.9nm,0.8s
IMW Indian Meadow 74.19 46 *e*P **P 23 38 22.2 +2.3**
comp=Z,5.5nm,0.8s
FXWY Fox Creek 74.30 46 *e*P **P 23 38 22.6 +2.1**
comp=Z,5.2nm,1.0s
RLMT Red Lodge 74.33 44 *e*P **P 23 38 22.1 +1.5**
comp=Z,24nm,1.8s
MOOW Moose Ponds 74.39 46 *e*P **P 23 38 23.1 +2.1**
comp=Z,4.2nm,1.0s
TPAW Teton Pass 74.44 46 *e*P **P 23 38 23.2 +1.9**
comp=Z,6.9nm,0.6s
HVU Hansel Valley 74.47 49 *e*P **P 23 38 23.3 +1.9**
comp=Z,4.6nm,0.8s
HVU Hansel Valley 74.47 49 *e*P **P 23 38 23.3 +1.9**
HVU pmax pmax
comp=Z,5.0nm,0.8s
R11A Troy Canyon, C 74.90 53 *e*P **P 23 38 25.2 +1.2**
comp=Z,4.9nm,0.9s
LAO LASA Array 74.92 42 *e*P **P 23 38 25.4 +1.6**
comp=Z,69nm,2.0s
HWUT Hardware Ranch 75.28 48 *e*P **P 23 38 27.9 +1.8**
comp=Z,6.6nm,1.1s
TPNV Topopah Spring 75.35 54 *e*P **P 23 38 27.8 +1.2**
comp=Z,9.0nm,0.9s
DUG Dugway, Tooele 75.44 50 *e*P **P 23 38 27.8 +0.8**
comp=Z,6.3nm,0.8s
DUG Dugway, Tooele 75.44 50 *e*P **P 23 38 27.8 +0.8**
DUG pmax pmax
comp=Z,6.0nm,0.8s
TCUT Toone Canyon 75.68 48 *e*P **P 23 38 30.3 +1.8**
comp=Z,11nm,0.7s
BW06 Boulder Array 75.69 46 *e*P **P 23 38 29.2 +0.8**
comp=Z,4.3nm,0.8s
PD31 Pinedale Array 75.69 46 *e*P **P 23 38 29.3 +0.9**
PDAR Pinedale Array 75.69 46 P **P 23 38 29.2 +0.7**
comp=Z,3.8nm,0.6s,baz=271,slow=1.2,SNR=38
PDAR Pinedale Array 75.69 46 *e*P **P 23 38 29.1 +0.6**
PSUT Pine Spring 75.85 52 *e*P **P 23 38 31.1 +1.7**
comp=Z,5.2nm,0.9s
NLU North Lily Min 76.03 50 *e*P **P 23 38 32.2 +1.7**
comp=Z,4.2nm,0.8s
MPU Maple Canyon 76.25 49 *e*P **P 23 38 33.5 +1.8**
comp=Z,7.8nm,0.9s
SHPR Sheep Range 76.31 54 *e*P **P 23 38 34.0 +1.9**
comp=Z,4.5nm,0.9s
KWP Kalwaria Pacla 76.89 325 *e*P **P 23 38 35.1 +0.2**
KWP Kalwaria Pacla 76.89 325 *e*P **P 23 38 35.1 +0.2**
SZCU Shurtz Canyon 76.91 52 *e*P **P 23 38 35.5 0.0**
comp=Z,2.7nm,0.8s
TMUT Trail Mountain 76.97 50 *e*P **P 23 38 37.5 +1.7**
comp=Z,3.2nm,0.7s
GIRR Girov 77.00 321⇑ *i*P **P 23 38 35.3 -0.2**
P17A Butcher Ranch, 77.13 49 *e*P **P 23 38 37.5 +0.9**
comp=Z,10nm,0.7s
BURAR Bucovina Array 77.16 322⇑ *i*P **P 23 38 36.4 -0.1**
BURAR Bucovina Array 77.16 322 P **P 23 38 36.3 -0.2**
MTPU Mount Pierson 77.18 51 *e*P **P 23 38 38.7 +1.5**
comp=Z,4.9nm,0.8s
LCMT Little Creek M 77.19 53 *e*P **P 23 38 39.0 +2.0**
comp=Z,5.8nm,0.9s
BIZ Bicaz 77.20 321⇑ *i*P **P 23 38 34.8 -1.9**
P18A Preston Nutter 77.32 49 *e*P **P 23 38 39.6 +1.7**
comp=Z,19nm,1.5s
ULM Lac du Bonnet 77.37 34 P **P 23 38 37.1 -0.4**
comp=Z,5.8nm,0.9s,baz=243,slow=2.6,SNR=3.6
KNB Kanab 77.44 52 *e*P **P 23 38 40.0 +1.6**
comp=Z,7.2nm,1.0s
KNB Kanab 77.44 52 P **P 23 38 40.0 +1.6**
KNB pmax pmax
comp=Z,7.0nm,1.0s
SRU San Rafael Swe 77.49 50 *e*P **P 23 38 39.8 +1.1**
comp=Z,12nm,0.7s
SRU San Rafael Swe 77.49 50 *e*P **P 23 38 39.8 +1.1**
SRU pmax pmax
comp=Z,12nm,0.7s
PLOR Plostina 77.69 320⇑ *i*P **P 23 38 38.7 -0.7**
PLOR Plostina 77.69 320 P **P 23 38 38.6 -0.8**
OJC Ojcow 77.74 326 *e*P **P 23 38 39.9 +0.3**
OJC Ojcow 77.74 326 *e*P **P 23 38 39.9 +0.3**
RSSD Black Hills 77.79 42 *e*P **P 23 38 41.1 +0.8**
comp=Z,9.8nm,1.0s
RSSD Black Hills 77.79 42 *e*P **P 23 38 41.1 +0.8**
RSSD pmax pmax
comp=Z,10.0nm,1.0s
ARCR ARCAIA 77.95 322⇑ *i*P **P 23 38 41.7 +0.9**
BR101 Keskin Array S 78.05 312 *e*P **P 23 38 41.2 -0.5**
BRTR Keskin Array B 78.05 312 P **P 23 38 41.2 -0.5**
comp=Z,0.9nm,0.7s,baz=125,slow=3.7,SNR=6.2
TRPA Tarpa 78.05 324⇑ *i*P **P 23 38 41.7 +0.4**
NIE Niedzica 78.12 326 *e*P **P 23 38 42.0 +0.2**
NIE Niedzica 78.12 326 *e*P **P 23 38 42.0 +0.2**
O20A White River Ci 78.16 48 *e*P **P 23 38 43.5 +1.1**
comp=Z,4.4nm,0.8s
DOPR Dopca 78.24 321⇑ *i*P **P 23 38 42.4 -0.1**
MLR Muntele Rosu 78.30 320⇑ *i*P **P 23 38 42.5 -0.5**
MLR Muntele Rosu 78.30 320 P **P 23 38 42.4 -0.5**
Y12C Blythe 78.44 56 *e*P **P 23 38 45.3 +1.5**
comp=Z,5.2nm,0.8s
PV09 Paradox Valley 78.71 49 *e*P **P 23 38 47.2 +1.6**
KSP Ksiaz 78.74 329 *e*P **P 23 38 45.3 +0.2**
KSP Ksiaz 78.74 329 *e*P **P 23 38 45.3 +0.2**
PV21 Cone Mtn., Par 78.77 49 *e*P **P 23 38 47.5 +1.7**
comp=Z,13nm,0.7s
VOIR 78.78 320⇑ *i*P **P 23 38 45.3 -0.3**
VOIR 78.78 320 P **P 23 38 45.2 -0.3**
PV23 Carpenter Ridg 78.82 49 *e*P **P 23 38 47.8 +1.7**
comp=Z,10nm,0.7s
PV10 Paradox Valley 78.85 49 *e*P **P 23 38 47.9 +1.6**
PV14 Lion Creek, Pa 78.86 49 *e*P **P 23 38 47.7 +1.4**
comp=Z,13nm,0.7s
PV22 Blue Mesa, Par 78.89 49 *e*P **P 23 38 48.0 +1.6**
comp=Z,7.8nm,0.9s
PV20 West Nyswonger 78.92 49 *e*P **P 23 38 48.4 +1.8**
comp=Z,17nm,0.7s
PV19 Morning Glory 78.93 49 *e*P **P 23 38 48.2 +1.6**
comp=Z,12nm,0.8s
DRGR 78.94 323⇑ *i*P **P 23 38 46.4 0.0**
DRGR 78.94 323 P **P 23 38 46.4 0.0**
N23A Red Feather La 78.95 46 *e*P **P 23 38 48.6 +1.8**
comp=Z,14nm,1.5s
PV17 East Wray Mesa 78.96 49 *e*P **P 23 38 47.8 +1.0**
comp=Z,16nm,0.7s
PV16 Nyswonger Mesa 78.97 49 *e*P **P 23 38 48.5 +1.6**
comp=Z,8.8nm,0.7s
PV11 David Mesa, Pa 79.00 49 *e*P **P 23 38 48.9 +1.9**
comp=Z,12nm,0.6s
PV05 Paradox Valley 79.01 50 *e*P **P 23 38 48.9 +1.8**
PV18 Skein Mesa, Pa 79.01 49 *e*P **P 23 38 48.8 +1.7**
comp=Z,9.1nm,0.7s
PV12 Saucer Basin, 79.03 49 *e*P **P 23 38 48.7 +1.5**
comp=Z,5.4nm,0.7s
MORC Moravsky Berou 79.04 327⇑ *i*P **P 23 38 47.2 +0.4**
MORC Moravsky Berou 79.04 327 P **P 23 38 47.5 +0.7**
MORC Moravsky Berou 79.04 327 *e*P **P 23 38 46.7 -0.1**
PV03 Paradox Valley 79.04 49 *e*P **P 23 38 48.7 +1.4**
DPC Dobruska-Polom 79.11 328 *e*P **P 23 38 47.6 +0.4**
DPC *ex* x 23 39 02.0
DPC Dobruska-Polom 79.11 328 *e*P **P 23 38 47.6 +0.4**
DPC *e* 23 39 02.0
UPC Upice 79.11 328 *e*P **P 23 38 47.5 +0.3**
UPC *ex* x 23 38 56.4
UPC Upice 79.11 328 *e*P **P 23 38 47.5 +0.3**

UPC				*e*			23 38 56.4				
PV13	**Radium Mtn., P**	**79.12**	**49**	*e*P		**P**	**23 38 49.4**	**+1.6**			
	comp=Z,9.7nm,0.8s										
PV02	**Paradox Valley**	**79.14**	**49**	*e*P		**P**	**23 38 49.7**	**+1.9**			
	comp=Z,6.6nm,0.7s										
WUAZ	**Wupatki**	**79.30**	**53**	*e*P		**P**	**23 38 50.1**	**+1.5**			
	comp=Z,5.5nm,0.9s										
VYHS	**Vyhne**	**79.45**	**326**	*e*P		**P**	**23 38 49.3**	**+0.2**			
VYHS	**Vyhne**	**79.45**	**326**	*e*P		**P**	**23 38 49.3**	**+0.2**			
CLL	**Collm**	**79.68**	**330**	*e*P		**P**	**23 38 49.8**	**-0.4**			
	comp=Z,6.1nm,0.7s										
CLL	**Collm**	**79.68**	**330**⇑	*i*P		**P**	**23 38 49.6**	**-0.6**			
	comp=Z,6.0nm,0.7s										
CLL				*e*pP		**sP**	**23 39 08.0**	**-0.4**			
CLL	**Collm**	**79.68**	**330**	*e*P		**P**	**23 38 49.8**	**-0.4**			
CLL				pmax		pmax					
	comp=Z,6.0nm,0.7s										
PVCC	**Panska Ves**	**79.68**	**329**	*e*P		**P**	**23 38 51.0**	**+0.8**			
PVCC	**Panska Ves**	**79.68**	**329**	*e*P		**P**	**23 38 51.0**	**+0.8**			
JAVC	**Velka Javorina**	**79.68**	**327**	*e*P		**P**	**23 38 51.4**	**+1.0**			
VRAC	**Vranov**	**79.80**	**327**⇑	*i*P		**P**	**23 38 51.1**	**+0.1**			
VRAC	**Vranov**	**79.80**	**327**	P		**P**	**23 38 51.0**	**+0.1**			
VRAC	**Vranov**	**79.80**	**327**	*e*P		**P**	**23 38 51.1**	**+0.1**			
SIRR	**Siria**	**79.82**	**323**⇑	*i*P		**P**	**23 38 52.2**	**+1.1**			
MVCO	**Mesa Verde**	**79.94**	**50**	*e*P		**P**	**23 38 53.8**	**+1.5**			
	comp=Z,5.0nm,0.8s										
KRUC	**Moravsky**	**80.07**	**327**	*e*P		**P**	**23 38 52.4**	**0.0**			
GOPC	**GO Pecny, Ondr**	**80.07**	**329**	*e*P		**P**	**23 38 52.5**	**+0.1**			
GOPC	**GO Pecny, Ondr**	**80.07**	**329**	*e*P		**P**	**23 38 52.5**	**+0.1**			
TREC	**Trest**	**80.27**	**328**	*e*P		**P**	**23 38 54.0**	**+0.5**			
TREC	**Trest**	**80.27**	**328**	*e*P		**P**	**23 38 54.0**	**+0.5**			
BZS	**Buzias**	**80.32**	**322**⇑	*i*P		**P**	**23 38 53.2**	**-0.6**			
BZS	**Buzias**	**80.32**	**322**	P		**P**	**23 38 53.2**	**-0.6**			
RAYN	**Ar Rayn**	**80.57**	**293**	*e*P		**P**	**23 38 54.6**	**-0.9**			
	comp=Z,16nm,1.9s										
RAYN	**Ar Rayn**	**80.57**	**293**	*e*P		**P**	**23 38 54.6**	**-0.9**			
RAYN				pmax		pmax					
	comp=Z,16nm,1.9s										
S22A	**4UR Ranch, Cre**	**80.57**	**49**	*e*P		**P**	**23 38 57.2**	**+1.6**			
	comp=Z,6.0nm,1.2s										
RAR	**Rarotonga**	**80.77**	**127**	LR		LR	00 12 09.8				
	comp=Z,38nm,19.3s,baz=306,slow=34										
MDVR	**Moldovita**	**80.89**	**322**⇑	*i*P		**P**	**23 38 56.9**	**0.0**			
SOP	**Sopron**	**81.06**	**326**	P		**P**	**23 39 01.1**	**+3.4**			
SOP				pmax		pmax					
	comp=Z,8.0nm,1.9s										
CONA	**Conrad Observa**	**81.17**	**327**	*i*P		**P**	**23 38 58.8**	**+0.4**			
	comp=Z,2.6nm,0.6s										
KHC	**Kasperske Hory**	**81.17**	**329**	*e*P		**P**	**23 38 58.6**	**+0.2**			
	comp=Z,2.2nm,0.7s										
KHC	**Kasperske Hory**	**81.17**	**329**	*e*P		**P**	**23 38 58.6**	**+0.2**			
KHC				*ex*		x	23 39 01.0				
KHC				*ex*		x	23 39 11.6				
KHC	**Kasperske Hory**	**81.17**	**329**	*e*P		**P**	**23 38 58.6**	**+0.2**			
KHC				pmax		pmax					
	comp=Z,2.0nm,0.7s										
MORH	**M˙r˙igy, Hung**	**81.26**	**324**	*e*P		**P**	**23 38 57.5**	**-1.3**			
SDCO	**Great Sand Dun**	**81.34**	**48**	*e*P		**P**	**23 39 00.7**	**+0.9**			
	comp=Z,5.7nm,1.5s										
GERES	**GERESS Array B**	**81.35**	**329**	P		**P**	**23 38 59.0**	**-0.3**			
	comp=Z,1.5nm,0.5s,baz=38,slow=5.9,SNR=21										
GEA0	**GERESS Array S**	**81.36**	**329**	*e*P		**P**	**23 38 58.9**	**-0.5**			
VTS	**Vitosha**	**81.75**	**319**	*e*P		**P**	**23 39 01.4**	**-0.2**			
	comp=Z,5.7nm,0.7s										
VTS	**Vitosha**	**81.75**	**319**⇓	*i*P		**P**	**23 39 01.9**	**+0.3**			
VTS	**Vitosha**	**81.75**	**319**	*e*P		**P**	**23 39 01.4**	**-0.2**			
VTS				pmax		pmax					
	comp=Z,6.0nm,0.7s										
ECSD	**EROS Data Cent**	**81.83**	**39**	*e*P		**P**	**23 39 01.8**	**-0.1**			
	comp=Z,5.2nm,0.6s										
DIVS	**Divibare**	**82.22**	**322**	*e*P		**P**	**23 39 02.8**	**-1.2**			
SOKA	**Soboth**	**82.50**	**326**	*i*P		**P**	**23 39 05.2**	**-0.2**			
	comp=Z,7.9nm,0.9s										
BBLS	**Lazići**	**82.67**	**322**	*e*P		**P**	**23 39 05.8**	**-0.6**			
ANMO	**Albuquerque**	**82.69**	**51**	*e*P		**P**	**23 39 08.2**	**+1.5**			
	comp=Z,4.1nm,1.0s										
ANMO	**Albuquerque**	**82.69**	**51**	*ce*P		**P**	**23 39 06.8**	**0.0**			
ANMO				pmax		pmax					
	comp=Z,3.0nm,1.3s										
HAPS	**Han Pijesak,Bl**	**82.72**	**323**	*e*P		**P**	**23 39 05.7**	**-1.0**			
OBKA	**Obir**	**82.84**	**327**	*i*P		**P**	**23 39 06.2**	**-1.0**			
	comp=Z,3.5nm,0.8s										
KBA	**Koelnbreinsper**	**82.90**	**328**	*i*P		**P**	**23 39 07.7**	**+0.1**			
	comp=Z,4.2nm,0.6s,SNR=5.9										
KBA	**Koelnbreinsper**	**82.90**	**328**	P		**P**	**23 39 08.9**	**+1.3**			
KBA				pmax		pmax					
	comp=Z,7.0nm,0.8s										
CRES	**Cresnjev**	**82.98**	**326**	*e*P		**P**	**23 39 07.4**	**-0.4**			
MYKA	**Terra Mystica**	**83.13**	**327**	*i*P		**P**	**23 39 07.9**	**-0.8**			
	comp=Z,4.3nm,0.5s										
SCHQ	**Schefferville**	**83.14**	**17**	P		**P**	**23 39 07.8**	**-0.7**			
	comp=Z,5.3nm,1.0s,baz=291,slow=8.6,SNR=3.4										
UPM	**Unac-Piva**	**83.41**	**322**	*e*P		**P**	**23 39 09.3**	**-1.1**			
WATA	**Walderalm**	**83.42**	**329**	*i*P		**P**	**23 39 09.8**	**-0.4**			
	comp=Z,3.4nm,0.9s										
CEY	**Cerknica**	**83.50**	**326**	*e*P		**P**	**23 39 09.2**	**-1.3**			
ABTA	**Abfaltersbach**	**83.50**	**328**	*i*P		**P**	**23 39 09.3**	**-1.3**			
	comp=Z,2.6nm,0.8s										
MOTA	**Moosalm**	**83.60**	**329**	*i* PcP		**P**	**23 39 11.3**	**+0.1**			
	comp=Z,7.1nm,0.9s,SNR=4.3										
RETA	**Reutte**	**83.62**	**329**	*i*P		**P**	**23 39 10.8**	**-0.4**			
	comp=Z,6.6nm,0.9s										
BRY	**Bratogost**	**83.82**	**322**	*e*P		**P**	**23 39 11.2**	**-1.2**			
PDG	**Podgorica**	**83.83**	**321**⇑	*i*P		**P**	**23 39 11.0**	**-1.2**			
PDG	**Podgorica**	**83.83**	**321**	*e*P		**P**	**23 39 11.8**	**-0.4**			
FETA	**Feichten**	**84.01**	**329**	*i*P		**P**	**23 39 12.7**	**-0.6**			
	comp=Z,5.2nm,1.1s,SNR=5.1										
DRME	**Dracevica, Mon**	**84.05**	**321**	*e*P		**P**	**23 39 11.9**	**-1.5**			
HCY	**Herceg Novi**	**84.18**	**322**	*e*P		**P**	**23 39 12.9**	**-1.2**			
STON	**Ston**	**84.24**	**323**	*e*P		**P**	**23 39 12.1**	**-2.2**			
FUORN	**Ofenpass-Fuorn**	**84.52**	**329**	*e*P		**P**	**23 39 15.4**	**-0.6**			
	comp=Z,11nm,0.6s										
PPT	**Papeete**	**84.89**	**117**	LR		LR	00 09 34.2				
	comp=Z,25nm,21.3s,baz=354,slow=30										
TX31	**Lajitas Ar. Si**	**88.27**	**53**	*e*P		**P**	**23 39 35.5**	**+0.9**			
LTX	**Lajitas**	**88.27**	**53**	*e*P		**P**	**23 39 35.1**	**+0.6**			
LTX	**Lajitas**	**88.27**	**53**	*e*P		**P**	**23 39 35.1**	**+0.6**			
TXAR	**Lajitas Array**	**88.27**	**53**	P		**P**	**23 39 35.1**	**+0.6**			
	comp=Z,1.1nm,0.6s,baz=293,slow=3.1,SNR=23										
CCM	**Cathedral Cave**	**88.78**	**39**	*e*P		**P**	**23 39 36.9**	**+0.2**			
	comp=Z,11nm,0.9s										
CCM	**Cathedral Cave**	**88.78**	**39**	*e*P		**P**	**23 39 36.9**	**+0.2**			
CCM				pmax		pmax					
	comp=Z,11nm,0.9s										
TOA1	**Torodi Ar. Sit**	**116.38**	**316**	*e*PKPdf		**PKPdf**	**23 45 23.9**	**-2.8**			
TORD	**Torodi Ar. Bea**	**116.39**	**316**	PKP		**PKPdf**	**23 45 23.9**	**-2.8**			
	comp=Z,0.3nm,0.5s,baz=20,slow=1.6,SNR=5.2										
SDV	**Santo Domingo**	**123.26**	**40**	*e*PKPdf		**PKPdf**	**23 45 40.4**	**+0.1**			
DBIC	**Dimbokro**	**125.27**	**319**	PKP		**PKPdf**	**23 45 43.0**	**-0.8**			
	comp=Z,2.0nm,0.7s,baz=312,slow=3.0,SNR=5.6										
LPAZ	**La Paz**	**144.98**	**58**	PKPbc		PKPbc	23 46 20.4	+0.1			
	comp=Z,1.7nm,0.5s,baz=37,slow=3.4,SNR=10										
MNMC	**Minye Minye**	**145.97**	**63**	*e*PKPdf		**PKPab**	**23 46 24.0**	**+0.4**			
PB11	**IPOC Station P**	**146.35**	**64**	*e*PKPdf		**PKPbc**	**23 46 24.1**	**+0.1**			
GO01	**Chusmiza**	**146.61**	**64**	*e*PKPdf		**PKPbc**	**23 46 25.6**	**+0.4**			

IDC 22 23:42:18.2±1.8,**7˚.17S**×**129˚.87E, h0**km**, mb3.4**/1**, mb1 4.3**/4**, mb1mx3.7**/32**, mbtmp4.1**/4**, ML4.2**/3**, Error ellipse: s-maj=81.6km s-min=28.4km az=79.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.42**	**13**	Pn	Pn	23 43 53.4	-0.6
	12nm,0.3s,baz=240,slow=24,SNR=39						
SIJI				Sn	Sn	23 44 55.5	-13
	1.3nm,0.3s,baz=221,slow=19,SNR=2.7						
WRA	**Warramunga Arr**	**13.41**	**162**	Pn	Pn	23 45 29.4	-0.7
	1.0nm,0.3s,baz=334,slow=14,SNR=27						
WRA				Sn	Sn	23 47 50.0	-10
	0.8nm,0.3s,baz=332,slow=23,SNR=4.7						
ASAR	**Alice Springs**	**16.85**	**167**	Pn	Pn	23 46 16.1	+0.4
	0.8nm,0.3s,baz=340,slow=9.4,SNR=30						
ASAR				Sn	Sn	23 49 14.1	-10
	0.2nm,0.3s,baz=355,slow=27,SNR=5.6						
MKAR	**Makanchi Array**	**68.30**	**327**	P	P	23 53 21.4	+0.2
	0.4nm,0.8s,baz=112,slow=7.3,SNR=2.8						

*ISCJB **23** 00:15:35.3±1.3,52˚.37N±0˚.05×132˚.43W±0˚.10, h11km±6km, mb3.4/2, MS3.1/2, Error ellipse: s-maj=11.3km s-min=5.9km az=144.3*
*IDC **23** 00:15:35.0±1.7,53˚.54N×131˚.31W, h0km, mb3.4/2, mb1 3.6/5, mb1mx3.3/34, mbtmp3.2/5, ML3.5/3, MS3.0/4, Ms1 3.0/4, ms1mx2.7/32, Error ellipse: s-maj=125.0km s-min=13.9km az=37.0*
*PGC **23** 00:15:36.5±0.0, 52˚.36N×132˚.36W, h37km±11km, ML3.4/9, ML3.4/9, 105km Ssw of Sandspit, Bc Haida Gwaii Region*
ISC 23 00:15:36.2±1.7,**52˚.39N**±0˚.06×**132˚.40W**±0˚.06, **h13**km±10km,**n24**,σ2**s24**/27,**Queen Charlotte Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.43**	**65**	P	**Pb**	**00 15 46.3**	**+0.5**
HG1B	**Mitchell Dam**	**0.57**	**16**	P	**Pg**	**00 15 45.7**	**-1.6**
HG1B				S	**Sb**	**00 15 56.9**	**+0.9**
HG3B	**Hotspring**	**0.61**	**72**	P	**Pg**	**00 15 48.5**	**+0.4**
HG3B				S	**Sb**	**00 15 56.9**	**-0.4**
HG4B	**Hotspring**	**0.74**	**97**	P	**Pg**	**00 15 49.9**	**-0.7**
HG4B				S	**Sg**	**00 15 59.3**	**-1.0**
MOBC	**Moresby Island**	**0.80**	**19**	P	**Pg**	**00 15 51.9**	**+0.2**
MOBC				S	**Sg**	**00 16 02.6**	**+0.5**
DIB	**Dawson Inlet,**	**0.81**	**357**	P	**Pg**	**00 15 51.5**	**-0.4**
DIB				S	**Sg**	**00 16 02.1**	**-0.5**
H02S1	**DAWSON INLET T**	**0.81**	**357**	Pg	**Pg**	**00 15 51.6**	**-0.4**
H02S1				Lg	Lg	00 16 01.0	
H02N1	**VAN INLET T-PH**	**0.87**	**354**	Pg	**Pg**	**00 15 52.7**	**-0.3**
H02N1				Lg	Lg	00 16 02.5	
	SNR=1007						
VIB	**Van Inlet**	**0.87**	**354**	P	**Pg**	**00 15 52.4**	**-0.6**
RUBB	**Prince Rupert**	**2.33**	**33**	Pn	**Pn**	**00 16 13.6**	**-0.5**
BBB	**Bella Bella**	**2.64**	**93**	Pn	**Pn**	**00 16 16.9**	**-1.5**
	1.3nm,0.3s,baz=285,slow=16,SNR=4.8						
BBB				LR	LR	00 16 45.8	
	comp=Z,289nm,19.2s,baz=258,slow=30						
BBB				Lg	Lg	00 16 47.7	
	15nm,0.3s,baz=267,slow=18,SNR=8.2						
BBB	**Bella Bella**	**2.64**	**93**	Pn	**Pn**	**00 16 18.0**	**-0.5**
PHC	**Port Hardy**	**3.53**	**117**	Pn	**Pb**	**00 16 35.5**	**-3.0**
PHC				Sn	**Sn**	**00 17 06.1**	**-6.2**
PACB	**Port Alice, BC**	**3.64**	**121**	Pn	**Pn**	**00 16 34.5**	**+2.3**
WOSB	**Woss**	**4.29**	**119**	Pg	**Pn**	**00 16 44.1**	**+2.9**
FSB	**Fort Saint Jam**	**5.25**	**63**	Pg	**Pg**	**00 17 20.1**	**+3.3**
NEW	**Newport**	**10.60**	**107**	LR	LR	00 22 12.4	
	comp=Z,67nm,21.6s,baz=294,slow=38						
ILAR	**Eielson Array**	**14.48**	**335**	Pn	**P**	**00 19 10.1**	**+2.8**
	0.0nm,0.3s,baz=150,slow=9.1,SNR=4.5						
NVAR	**Mina Array Bea**	**17.07**	**139**	P	**P**	**00 19 39.7**	**+3.2**
	0.1nm,0.3s,baz=336,slow=13,SNR=2.5						
PDAR	**Pinedale Array**	**18.10**	**113**	P	**P**	**00 19 48.5**	**+0.6**
	0.1nm,0.3s,baz=308,slow=6.3,SNR=3.1						
TXAR	**Lajitas Array**	**31.31**	**126**	P	**P**	**00 21 58.2**	**+2.0**
	0.6nm,1.0s,baz=334,slow=8.3,SNR=4.2						
ASAJ	**Asahikawa**	**54.09**	**298**	LR	LR	00 49 27.6	
	comp=Z,12nm,18.0s,baz=146,slow=38						
KLR	**Kul'dur**	**56.24**	**308**	LR	LR	00 48 23.1	
	comp=Z,18nm,19.2s,baz=6.0,slow=35						
SONM	**Songino Array**	**68.29**	**322**	P	**P**	**00 26 33.3**	**-3.5**
	0.2nm,0.4s,baz=23,slow=4.7,SNR=4.0						

*ISCJB **23** 00:37:40.7±0.6, 10˚.22N±0˚.10×57˚.6E±0˚.1, h10km, mb4.1/13, MS3.2/2, Error ellipse: s-maj=17.6km s-min=12.3km az=31.4*
*IDC **23** 00:37:40.6±1.1, 10˚.24N×57˚.63E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.7/44, mbtmp3.9/8, MS3.3/2, Ms1 3.1/2, ms1mx2.6/29, Error ellipse: s-maj=39.0km s-min=19.3km az=148.0*
*NEIC **23** 00:37:42.3±0.6, 10˚.29N×57˚.61E, h10km, mb4.4/6, Error ellipse: s-maj=16.7km s-min=10.7km az=130.0*
ISC 23 00:37:42.4±0.7,**10˚.2N**±0˚.1×**57˚.7E**±0˚.1,**h10**km**,n26,** σ1**s72**/18,**mb4.2**/13,**2C-1D, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAYN	**Ar Rayn**	**17.62**	**320**	*e*Pn	**Pn**	**00 41 46.6**	**-1.6**
	2.2nm,0.3s						
H08N2	**Diego Garcia H**	**21.11**	**141**	T	T	01 03 46.4	
	baz=320,slow=76,SNR=29						
H08N3	**Diego Garcia H**	**21.12**	**141**	T	T	01 03 50.6	
	baz=320,slow=76,SNR=27						
H08N1	**Diego Carcia H**	**21.14**	**141**	T	T	01 03 48.1	
	baz=320,slow=76,SNR=20						
KMBO	**Kilima Mbogo**	**23.25**	**242**	P	**P**	**00 42 54.2**	**+3.7**
	1.2nm,0.7s,baz=50,slow=12,SNR=4.6						
KMBO	**Kilima Mbogo**	**23.25**	**242**	P	**P**	**00 42 51.1**	**+0.6**
	1.8nm,0.9s						
ABPO	**Ambohimpanom**	**30.82**	**200**	P	**P**	**00 43 58.9**	**0.0**
	42nm,1.3s						
KBZ	**Khabaz**	**35.77**	**342**	LR	LR	01 00 17.2	
	comp=Z,29nm,21.3s,baz=188,slow=38						
CMAR	**Chng Mai Arr**	**40.72**	**74**	P	**P**	**00 45 24.6**	**+0.9**
	2.2nm,0.3s,baz=265,slow=9.6,SNR=4.4						
MKAR	**Makanchi Array**	**42.02**	**25**	P	**P**	**00 45 35.5**	**+1.5**
	0.6nm,0.7s,baz=209,slow=8.7,SNR=6.8						
VRI	**Vrincioaia**	**44.29**	**329**⇓	*i*P	**P**	**00 45 55.3**	**+2.9**
PLOR	**Plostina**	**44.32**	**329**⇑	*i*P	P	00 45 44.5	-8.1
BURAR	**Bucovina Array**	**46.24**	**330**⇑	*i*P	**P**	**00 46 10.1**	**+2.1**
ZALV	**Zalesovo Beam**	**48.70**	**21**	P	**P**	**00 46 26.8**	**0.0**
	1.1nm,0.5s,baz=230,slow=7.7,SNR=4.7						
TSUM	**Tsumeb**	**49.16**	**234**	P	**P**	**00 46 31.1**	**+0.1**
	6.3nm,1.2s						
BOSA	**Boshof**	**49.72**	**218**	P	**P**	**00 46 35.0**	**-0.1**
	2.7nm,0.9s,baz=89,slow=14,SNR=2.3						
BOSA				LR	LR	01 03 55.2	
	comp=Z,49nm,21.6s,baz=20,slow=32						
TORD	**Torodi Ar. Bea**	**54.82**	**279**	P	**P**	**00 47 12.2**	**-1.0**
	0.9nm,0.9s,baz=86,slow=7.4,SNR=6.3						
SUR	**Sutherland**	**55.09**	**218**	P	**P**	**00 47 15.3**	**+0.2**
	4.0nm,0.9s						
SONM	**Songino Array**	**55.40**	**38**	P	**P**	**00 47 15.1**	**-1.9**
	0.4nm,0.7s,baz=230,slow=8.7,SNR=3.1						
ESDC	**Sonseca Array**	**61.79**	**310**	P	**P**	**00 48 01.0**	**-0.6**
	0.3nm,0.6s,baz=96,slow=6.1,SNR=4.9						
DBIC	**Dimbokro**	**61.89**	**272**	P	**P**	**00 48 02.8**	**+0.1**
	3.1nm,1.1s,baz=107,slow=14,SNR=2.9						
SHEL	**Horse Pasture**	**67.96**	**248**	P	**P**	**00 48 40.1**	**-2.0**
	2.2nm,0.4s						
H01W3	**Cape Leeuwin H**	**69.70**	**133**	T	T	02 04 37.1	
	baz=299						
H01W2	**Cape Leeuwin H**	**69.70**	**133**	T	T	02 04 39.5	
	baz=299						
H01W1	**Cape Leeuwin H**	**69.72**	**133**	T	T	02 04 43.8	
	baz=299						
PDAR	**Pinedale Array**	**126.00**	**348**	PKP	**PKPdf**	**00 56 44.1**	**-1.4**
	0.3nm,0.7s,baz=58,slow=3.6,SNR=2.5						

*BJI **23** 00:40:19.7, 1˚.60N×125˚.90E, h58km, mb5.0/57, mB5.1/43, Ms4.4/19, Ms7 4.4/8*
*KLM **23** 00:40:20.0, 1˚.48N×126˚.07E, h60km, mb5.0*
*MOS **23** 00:40:21.6±1.1, 1˚.68N×125˚.83E, h89km, mb5.1/41, Error ellipse: s-maj=10.9km s-min=5.4km az=121.3*
*NEIC **23** 00:40:21.2±0.6, 1˚.62N×125˚.82E, h73km±5km, mb5.0/78, Error ellipse: s-maj=4.8km s-min=3.0km az=64.0*
*ISCJB **23** 00:40:23.9±0.3, 1˚.65N±0˚.02×125˚.91E±0˚.03, h112km±3km, mb4.9/142, Error ellipse: s-maj=4.4km s-min=2.6km az=164.5*
*IDC **23** 00:40:23.6±1.5, 1˚.63N×125˚.80E, h93km±14km, mb4.4/30, mb1 4.5/33, mb1mx4.4/41, mbtmp4.8/33, MS3.4/11, Ms1 3.4/11, ms1mx3.1/35, Error ellipse: s-maj=13.9km s-min=8.3km az=72.0*
*GCMT **23** 00:40:24.2±0.4, 1˚.73N±0˚.02×125˚.87E±0˚.03, h82km±3km, MW4.9/66, Moment Tensor Solution. s27,c29; s66,c88; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.80±.13; Mθθ-2.83±.11; Mφφ2.02±.16; Mrθ0.42±.07; Mθφ-1.37±.17; Mφr1.19±.10; Best double couple: M₀3.11700×10¹⁶ NP1:φs34.00000°, δ79.00000°, λ27.00000°. NP2: φs298.00000°, δ63.00000°, λ167.00000°. Principal axes: T 2.9160, Plg27.0000°, Azm259.0000°; N 0.3940, Plg61.0000°, Azm55.0000°; P -3.3190, Plg10.0000°, Azm163.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **23** 00:40:26.0±0.3, 2˚.N±3˚×12˚.6E±˚, h53km±19km, M4.9/19, mb5.2/16, mB5.2/11, MLv5.2/19, Mw(mB)4.5/11*
ISC 23 00:40:24.9±0.6,**1˚.64N**±0˚.03×**125˚.91E**±0˚.05,**h105**km±5km, **n440,** σ1**s42**/467,**mb4.9**/142,**20C-13D, Northern Molucca Sea**

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

TNTI	**Ternate**	**1.69**	**120**	P		**Pn**	**00 40 53.2**	**-0.7**			
SGSI	**Sangihe**	**2.07**	**350**	P		**Pn**	**00 40 59.0**	**+0.3**			
KMSI	**Cibinong**	**2.19**	**241**	P		**Pn**	**00 41 01.4**	**+1.1**			
SANI	**Sanana**	**3.66**	**179**	P		**Pn**	**00 41 17.1**	**-2.6**			
LUWI	**Luwuk**	**4.11**	**230**	P		**Pn**	**00 41 26.5**	**+0.8**			
MRSI	**Marisa**	**4.13**	**254**	P		**Pn**	**00 41 27.3**	**+1.3**			
GSPH	**General Santos**	**4.52**	**348**⇓	*i*P		**Pn**	**00 41 32.1**	**+0.7**			
NLAI	**Namlea**	**4.99**	**166**	P		**Pn**	**00 41 36.3**	**-1.3**			
SKMP	**Bagumbayan, Su**	**5.04**	**344**	*e*P		**Pn**	**00 41 38.5**	**+0.2**			
SKMP				*e*S		**Sn**	**00 42 35.0**	**-0.3**			
DAV	**Davao City (W)**	**5.41**	**357**	P		**Pn**	**00 41 42.1**	**-1.1**			
	63nm,0.3s,baz=189,slow=14,SNR=3.3										
DAV				S		**Sn**	**00 42 46.3**	**+2.0**			
	49nm,0.3s,baz=66,slow=6.5,SNR=3.6										
DAV	**Davao City (W)**	**5.41**	**357**	*e*Pn		**Pn**	**00 41 39.2**	**-4.1**			
DAV				S		**Sn**	**00 42 46.3**	**+2.0**			
DAV	**Davao City (W)**	**5.41**	**357**	P		**Pn**	**00 41 45.8**	**+2.5**			
	SNR=7.6										
CTBH	**Cotabato--PC H**	**5.79**	**343**⇑	*i*P		**Pn**	**00 41 49.6**	**+1.1**			
SIJI	**Sorong**	**5.91**	**115**	P		**Pn**	**00 41 50.3**	**+0.2**			
	16nm,0.3s,baz=48,slow=4.2,SNR=35										
MPSI	**Mapaga**	**6.14**	**258**	P		**Pn**	**00 41 54.7**	**+1.4**			
	101nm,1.0s,1μm0.3nm										
BUKP	**Musuan**	**6.26**	**352**	*e*P		**Pn**	**00 41 53.0**	**-1.8**			
BIPH	**Bislig**	**6.52**	**4**⇑	*i*P		**Pn**	**00 42 01.0**	**+2.6**			
BIPH				*i* S		**Sn**	**00 43 10.7**	**-0.6**			
PAGZ	**Pagadian**	**6.66**	**338**	*e*P		**Pn**	**00 42 00.4**	**0.0**			
CGP	**Cagayan de Oro**	**6.88**	**350**⇓	*e*P		**Pn**	**00 42 04.4**	**+1.1**			
IPIL	**Ipil**	**6.96**	**332**	*e*P		**Pn**	**00 42 04.8**	**+0.5**			
BUTP	**Butuan**	**7.29**	**358**	*e*P		**Pn**	**00 42 09.8**	**+1.0**			
BNDI	**Bandanaira**	**7.31**	**147**	P		**Pn**	**00 42 08.8**	**-0.3**			
	630nm,0.7s,7μm2.1nm										
TTSI	**Tana Toraja**	**7.66**	**233**	P		**Pn**	**00 42 14.0**	**+0.1**			
	167nm,0.9s,0.5nm										
FAKI	**Fak Fak**	**7.79**	**126**	P		**Pn**	**00 42 16.6**	**+0.9**			
	126nm,0.8s,1μm0.4nm										
BBSI	**Bau Bau**	**7.82**	**205**	P		**Pn**	**00 42 16.8**	**+0.7**			
	85nm,0.8s,833nm0.3nm										
SCPH	**Surigao**	**8.10**	**357**⇑	*e*P		**Pn**	**00 42 22.4**	**+2.5**			
SPSI	**Sidrap Palu**	**8.28**	**228**	P		**Pn**	**00 42 22.9**	**+0.6**			
	65nm,0.8s,632nm0.2nm										
BNSI	**Bone**	**8.34**	**224**	P		**Pn**	**00 42 22.8**	**-0.3**			
	88nm,0.7s,832nm0.4nm										
SGKI	**Sangatta, Kali**	**8.58**	**256**	P		**Pn**	**00 42 28.2**	**+1.9**			
	137nm,0.8s,0.4nm										
BKSI	**Bulukumba**	**9.01**	**220**	P		**Pn**	**00 42 31.7**	**-0.5**			
	40nm,0.7s,435nm0.2nm										
PALU	**Palau**	**

ASAR	**Alice Springs**	**26.33**	**163**	P		**P**		**00 45 50.8**	**-0.4**
	comp=Z,18nm,0.6s,baz=343,slow=6.7,SNR=205								
ASAR				S		**S**		**00 50 13.5**	**-3.1**
	comp=Z,4.3nm,0.8s,baz=350,slow=21,SNR=5.9								
AS01	**Alice Springs**	**26.34**	**163**	*e*P		**P**		**00 45 50.4**	**-0.9**
SKNT	**Sakolnakorn**	**26.41**	**307**	P		**P**		**00 45 53.4**	**+1.4**
	comp=Z,7.7nm,0.9s,comp=Z,895nm								
SRAK	**Srakaew**	**26.60**	**299**	P		**P**		**00 45 49.1**	**-4.6**
	comp=Z,51nm,0.7s,comp=Z,499nm								
WRKA	**Warakurna**	**26.62**	**175**	P		**P**		**00 45 53.7**	**0.0**
	baz=27,SNR=36								
TRTT	**Trang**	**26.83**	**284**	P		**P**		**00 45 56.3**	**+0.5**
	comp=Z,9.7nm,1.1s								
PSI	**Prapat**	**26.99**	**273**	P		**P**		**00 45 55.9**	**-1.5**
	comp=Z,39nm,1.0s,baz=179,slow=1.4,SNR=34								
PSI				LR		LR		00 59 06.5	
	comp=Z,88nm,18.1s,baz=279,slow=42								
PSI	**Prapat**	**26.99**	**273**	*e*P		**P**		**00 45 56.3**	**-1.0**
	comp=Z,59nm,1.0s								
PSI	**Prapat**	**26.99**	**273**	*e*P		**P**		**00 45 56.3**	**-1.0**
PSI				pmax		pmax			
	comp=Z,59nm,1.0s								
KRAB	**Krabi**	**27.39**	**285**	P		**P**		**00 46 00.7**	**-0.1**
	comp=Z,35nm,0.6s,comp=Z,1µm								
CHAI	**Chaiyaphum**	**27.51**	**302**	P		**P**		**00 46 01.0**	**-0.8**
	comp=Z,10nm,0.7s,comp=Z,91nm								
NONG	**Nongkai**	**27.67**	**308**	P		**P**		**00 46 04.1**	**+0.9**
	comp=Z,0.1nm,0.5s								
PKDT	**Phuket**	**28.16**	**284**	P		**P**		**00 46 07.7**	**+0.1**
	comp=Z,16nm,1.3s								
PHET	**Kaeng Krachan**	**28.33**	**295**	P		**P**		**00 46 09.7**	**+0.6**
	comp=Z,5.6nm,0.9s,comp=Z,73nm								
MEEK	**Meekatharra**	**28.98**	**194**	P		**P**		**00 46 14.6**	**-0.2**
	baz=29,SNR=20								
SRDT	**SRDT**	**29.33**	**297**	P		**P**		**00 46 18.4**	**+0.4**
	comp=Z,11nm,0.9s								
CTA	**Charters Tower**	**29.40**	**138**	P		**P**		**00 46 18.3**	**-0.3**
	comp=Z,2.0nm,0.4s,baz=325,slow=12,SNR=5.1								
CTAO	**Charters Tower**	**29.40**	**138**	*e*P		**P**		**00 46 18.4**	**-0.3**
	comp=Z,12nm,0.9s								
CTAO	**Charters Tower**	**29.40**	**138**	*e*P		**P**		**00 46 18.4**	**-0.2**
CTAO				pmax		pmax			
	comp=Z,12nm,0.9s								
UTHA	**Uthaitani**	**29.53**	**299**	P		**P**		**00 46 19.3**	**-0.5**
	comp=Z,7.6nm,0.7s,comp=Z,91nm								
CBIJ	**Chichi jima**	**29.74**	**30**	*e*P		**P**		**00 46 20.3**	**-1.2**
	comp=Z,55nm,1.0s								
NANT	**Nan**	**30.02**	**306**	P		**P**		**00 46 24.4**	**+0.3**
	comp=Z,10nm,0.5s,comp=Z,433nm								
SUKH	**Sukhothai**	**30.24**	**303**	P		**P**		**00 46 27.1**	**+1.1**
	comp=Z,3.9nm,0.7s								
UMPA	**Umpang Tak**	**30.32**	**300**	P		**P**		**00 46 26.3**	**-0.5**
	comp=Z,3.6nm,0.6s								
NJ2	**Nanjing**	**30.98**	**348**	*e*P		**P**		**00 46 33.0**	**+0.7**
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CM01	**Chiang Mai Arr**	**31.25**	**304**	*e*P		**P**		**00 46 34.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**31.28**	**304**	P		**P**		**00 46 34.7**	**-0.5**
	comp=Z,1.5nm,0.3s,baz=126,slow=7.7,SNR=16								
CMAR				PcP		**PcP**		**00 49 28.8**	**+1.5**
	comp=Z,0.9nm,0.4s,baz=152,slow=2.2,SNR=5.0								
CMAR				LR		LR		01 01 12.2	
	comp=Z,44nm,18.9s,baz=123,slow=40								
CMMT	**Chiang Mai**	**31.45**	**305**	P		**P**		**00 46 36.9**	**+0.2**
	comp=Z,8.1nm,0.6s								
CHTO	**Chiang Mai**	**31.46**	**305**	*e*P		**P**		**00 46 35.7**	**-1.1**
	comp=Z,12nm,1.1s								
CHTO	**Chiang Mai**	**31.46**	**305**	P		**P**		**00 46 36.4**	**-0.4**
	SNR=5.4								
CHTO	**Chiang Mai**	**31.46**	**305**	*e*P		**P**		**00 46 35.7**	**-1.1**
CHTO				pmax		pmax			
	comp=Z,11nm,1.1s								
CHTO	**Chiang Mai**	**31.46**	**305**	P		**P**		**00 46 37.1**	**+0.3**
	comp=Z,55nm,1.2s								
MORW	**Morawa**	**31.96**	**196**	P		**P**		**00 46 41.2**	**+0.2**
	baz=32,SNR=4.3								
FORT	**Forrest**	**32.30**	**177**	P		**P**		**00 46 44.0**	**+0.1**
	baz=32,SNR=8.1								
FORT	**Forrest**	**32.30**	**177**	*e*P		**P**		**00 46 44.0**	**+0.1**
	comp=Z,35nm,0.8s								
KMI	**Kunming**	**32.32**	**318**	P		**P**		**00 46 45.6**	**+1.1**
KMI				pmax		pmax			
	comp=Z,22nm,0.6s								
KMI				LR		LR			
	comp=Z,120nm,5.8s								
KMI				LR		LR			
	comp=Z,93nm,5.2s								
ENH	**Enshi**	**32.46**	**333**	*e*P		**P**		**00 46 45.2**	**-0.2**
	comp=Z,21nm,0.8s								
KMBL	**Kambalda**	**33.05**	**186**	P		**P**		**00 46 50.7**	**+0.2**
	baz=33,SNR=5.9								
QLP	**Quilpie**	**33.17**	**149**	P		**P**		**00 46 51.0**	**-0.6**
	baz=33,SNR=11								
BLDU	**Balldu**	**33.25**	**195**	P		**P**		**00 46 52.3**	**+0.1**
	baz=33,SNR=12								
KLBR	**Kellerberrin**	**33.94**	**193**	P		**P**		**00 46 58.4**	**+0.2**
	baz=34,SNR=22								
INU	**Inuyama**	**35.10**	**16**	*e*P		**P**		**00 47 07.6**	**-0.6**
	comp=Z,38nm,1.1s								
NWAO	**Narrogin (SRO)**	**35.34**	**193**	P		**P**		**00 47 10.2**	**0.0**
	comp=Z,14nm,0.7s,baz=249,slow=8.5,SNR=7.4								
NWAO	**Narrogin (SRO)**	**35.34**	**193**	P		**P**		**00 47 10.8**	**+0.5**
	baz=36,SNR=5.0								
NWAO	**Narrogin (SRO)**	**35.34**	**193**	*e*P		**P**		**00 47 09.9**	**-0.4**
	comp=Z,16nm,0.8s								
NWAO	**Narrogin (SRO)**	**35.34**	**193**	*e*P		**P**		**00 47 09.9**	**-0.4**
NWAO				pmax		pmax			
	comp=Z,16nm,0.8s								
BBOO	**Buckleboo**	**35.58**	**165**	P		**P**		**00 47 12.0**	**-0.3**
	baz=36,SNR=54								
BBOO	**Buckleboo**	**35.58**	**165**	*e*P		**P**		**00 47 12.3**	**0.0**
	comp=Z,30nm,0.6s								
BBOO				eS		**S**		**00 52 42.1**	**+1.4**
KS15	**Wonju Array Si**	**35.68**	**3**	*e*P		**P**		**00 47 13.2**	**+0.1**
KS15				*e*PcP		**PcP**		**00 49 40.4**	**+1.1**
KSAR	**Wonju Array Be**	**35.68**	**3**	P		**P**		**00 47 13.2**	**+0.1**
KSAR				PcP		**PcP**		**00 49 40.4**	**+1.1**
KSAR	**Wonju Array Be**	**35.68**	**3**	P		**P**		**00 47 13.2**	**+0.1**
KSAR								00 49 40.4	
KSRS	**Korea Array**	**35.69**	**3**	P		**P**		**00 47 13.2**	**0.0**
	comp=Z,1.3nm,0.4s,baz=180,slow=9.8,SNR=3.1								
KSRS				PcP		**PcP**		**00 49 40.4**	**+1.1**
	comp=Z,2.9nm,0.7s,baz=170,slow=3.7,SNR=4.6								
KSRS				LR		LR		01 04 29.8	
	comp=Z,21nm,18.8s,baz=198,slow=40								
CD2	**Chengdu**	**35.88**	**326**	P		**P**		**00 47 14.5**	**-0.5**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CD2				pmax		pmax			
	comp=Z,140nm,4.8s								
XAN	**Xi'an**	**35.94**	**336**	P		**P**		**00 47 14.3**	**-1.1**
XAN				pmax		pmax			
	comp=Z,10.0nm,0.9s								
XAN				pmax		pmax			
	comp=Z,61nm,4.9s								
EIDS	**Eidsvold**	**36.26**	**139**	P		**P**		**00 47 17.4**	**-0.9**
	baz=36,SNR=4.5								
EIDS	**Eidsvold**	**36.26**	**139**	*e*P		**P**		**00 47 18.0**	**-0.3**
	comp=Z,16nm,0.8s								
STKA	**Stephens Creek**	**36.50**	**157**	P		**P**		**00 47 20.4**	**+0.2**
	comp=Z,48nm,0.7s,baz=329,slow=9.1,SNR=105								
STKA	**Stephens Creek**	**36.50**	**157**	P		**P**		**00 47 20.4**	**+0.2**
	baz=37,SNR=27								
STKA	**Stephens Creek**	**36.50**	**157**	*e*P		**P**		**00 47 20.3**	**+0.1**
	comp=Z,12nm,0.8s								
STKA	**Stephens Creek**	**36.50**	**157**	*e*P		**P**		**00 47 20.3**	**+0.1**
STKA				pmax		pmax			
	comp=Z,12nm,0.8s								
MJAR	**Matsushiro Arr**	**36.55**	**17**	P		**P**		**00 47 20.7**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=201,slow=10,SNR=5.4								
MAJO	**Matsushiro**	**36.55**	**17**	*e*P		**P**		**00 47 20.7**	**+0.1**
MAJO	**Matsushiro**	**36.55**	**17**	*e*P		**P**		**00 47 20.7**	**+0.1**
HTT	**Hallett**	**36.98**	**162**	P		**P**		**00 47 24.5**	**+0.2**
	baz=37,SNR=9.8								
RKGY	**Rocky Gully**	**37.02**	**192**	P		**P**		**00 47 26.1**	**+1.5**
	baz=37,SNR=14								
CMSA	**Cobar Meteorol**	**37.97**	**152**	P		**P**		**00 47 32.7**	**+0.1**
	baz=38,SNR=18								
LZH	**Lanzhou**	**39.91**	**332**	*e*P		**P**		**00 47 49.3**	**+0.3**
LZH				pP		pP		00 48 04.1	-9.0
LZH				sP		sP		00 48 11.0	-14
LZH				*e*PP		**PnPn**		**00 49 26.3**	**-0.8**
LZH				pmax		pmax			
	comp=Z,23nm,1.2s								
LZH				pmax		pmax			
	comp=Z,85nm,5.4s								
LZH				LR		LR			
	comp=Z,330nm,13.2s								
LZH				LR		LR			
	comp=Z,330nm,13.5s								
LZH				LR		LR			
	comp=Z,450nm,16.9s								
SNY	**Shenyang**	**40.06**	**357**	⇓P		**P**		**00 47 50.8**	**+0.9**
SNY				pmax		pmax			
	comp=Z,32nm,0.8s								
ARMA	**Armidale**	**40.22**	**145**	P		**P**		**00 47 52.4**	**+0.9**
	baz=40,SNR=31								
ARMA	**Armidale**	**40.22**	**145**	*e*P		**P**		**00 47 52.2**	**+0.7**
	comp=Z,56nm,0.8s								
SHL	**Shillong**	**40.49**	**309**	*e*P		**P**		**00 47 53.2**	**-0.8**
	comp=Z,21nm,0.8s								
SHL	**Shillong**	**40.49**	**309**	*e*P		**P**		**00 47 53.2**	**-0.8**
SHL				pmax		pmax			
	comp=Z,21nm,0.8s								
ARPS	**Mount Arapiles**	**40.98**	**160**	P		**P**		**00 47 58.4**	**+0.8**
	baz=41,SNR=6.6								
HHC	**Hu-ho-hao-te**	**41.14**	**343**	*e*P		**P**		**00 47 59.5**	**+0.6**
HHC				pP		pP		00 48 14.8	-8.4
HHC				sP		sP		00 48 22.0	-13
HHC				S		**S**		**00 54 08.5**	**+4.1**
HHC				sS		sS		00 54 35.8	-10
HHC				pmax		pmax			
	comp=Z,12nm,0.8s								
HHC				pmax		pmax			
	comp=Z,69nm,4.4s								
HHC				LR		LR			
	comp=Z,110nm,15.6s								
HHC				LR		LR			
	comp=Z,130nm,18.1s								
HHC				LR		LR			
	comp=Z,710nm,18.1s								
YNG	**Young**	**41.52**	**151**	P		**P**		**00 48 03.0**	**+0.9**
	baz=42,SNR=10								
CN2	**Changchun**	**41.98**	**360**	*e*P		**P**		**00 48 05.3**	**-0.3**
CAN	**Canberra**	**42.64**	**152**	*e*P		**P**		**00 48 12.1**	**+0.9**
	comp=Z,30nm,0.8s								
CAN	**Canberra**	**42.64**	**152**	*e*P		**P**		**00 48 12.1**	**+0.9**
CAN				pmax		pmax			
	comp=Z,30nm,0.8s								
USA0B	**Ussuriysk Arra**	**42.72**	**6**	*e*P		**P**		**00 48 11.7**	**+0.1**
	comp=Z,14nm,1.1s								
USRK	**Ussuriysk Ar.**	**42.72**	**6**	P		**P**		**00 48 12.2**	**+0.5**
	comp=Z,4.5nm,0.8s,baz=176,slow=5.0,SNR=5.4								
CNB	**Canberra Magne**	**42.81**	**151**	P		**P**		**00 48 13.6**	**+1.0**
	baz=43,SNR=8.9								
MDJ	**Mudanjiang**	**42.92**	**4**	P		**P**		**00 48 16.3**	**+3.1**
MDJ				pmax		pmax			
	comp=Z,18nm,0.7s								
MDJ				pmax		pmax			
	comp=Z,190nm,3.9s								
TOO	**Toolangi**	**43.02**	**157**	P		**P**		**00 48 14.6**	**+0.3**
	baz=43,SNR=5.9								
LSA	**Lhasa**	**43.24**	**314**	*e*P		**P**		**00 48 16.4**	**-0.2**
	comp=Z,18nm,0.8s								
LSA	**Lhasa**	**43.24**	**314**	P		**P**		**00 48 17.0**	**+0.4**
LSA	**Lhasa**	**43.24**	**314**	*e*P		**P**		**00 48 16.4**	**-0.2**
LSA				pmax		pmax			
	comp=Z,18nm,0.8s								
H11S3	**WAKE ISLAND Hy**	**43.34**	**65**	T		T		01 35 02.4	
	baz=253,slow=75,SNR=118								
H11S2	**WAKE ISLAND Hy**	**43.36**	**65**	T		T		01 35 22.1	
	baz=253,slow=75,SNR=67								
H11S1	**WAKE ISLAND Hy**	**43.36**	**65**	T		T		01 35 23.6	
	baz=253,slow=75,SNR=24								
WAKE	**Wake Island**	**43.56**	**63**	*e*P		**P**		**00 48 19.1**	**+0.3**
	comp=Z,84nm,1.0s								
H11N1	**WAKE ISLAND Hy**	**43.91**	**63**	T		T		01 35 42.5	
	baz=253,slow=75,SNR=8.4								
H11N3	**WAKE ISLAND Hy**	**43.93**	**63**	T		T		01 35 42.4	
	baz=259,slow=75,SNR=6.8								
GTA	**Gaotai**	**44.49**	**331**	*e*P		**P**		**00 48 25.8**	**-0.2**
GTA				pP		pP		00 48 40.8	-10
GTA				sP		sP		00 48 47.6	-15
GTA				PcP		**PcP**		**00 50 09.1**	**+1.3**
GTA				S		**S**		**00 54 56.9**	**+3.3**
GTA				sS		sS		00 55 24.4	-11
GTA				SS		**ScS**		**00 58 10.3**	**-3.4**
GTA				pmax		pmax			
	comp=Z,10.0nm,0.8s								
GTA				pmax		pmax			
	comp=Z,52nm,7.2s								
GTA				LR		LR			
	comp=Z,460nm,23.4s								
GTA				LR		LR			
	comp=Z,340nm,22.0s								
RAMN	**Ramite**	**45.31**	**307**	*e*P		**P**		**00 48 32.5**	**-0.5**
	comp=Z,42nm,0.7s								
PALK	**Pallekele**	**45.39**	**279**	P		**P**		**00 48 32.3**	**-1.2**
	comp=Z,14nm,1.1s,baz=115,slow=5.9,SNR=7.7								
PALK	**Pallekele**	**45.39**	**279**	*e*P		**P**		**00 48 33.4**	**-0.1**
	comp=Z,47nm,1.5s								
PALK	**Pallekele**	**45.39**	**279**	*i* P		**P**		**00 48 33.3**	**-0.1**
	SNR=6.5								
PALK	**Pallekele**	**45.39**	**279**	*e*P		**P**		**00 48 33.4**	**-0.1**
PALK				pmax		pmax			
	comp=Z,47nm,1.5s								
LHI	**Lord Howe Isla**	**45.58**	**139**	*e*P		**P**		**00 48 34.6**	**0.0**
	comp=Z,81nm,1.4s								
JIRN	**Jiri**	**45.96**	**308**	*e*P		**P**		**00 48 37.2**	**-1.0**
	comp=Z,43nm,0.6s								
DZM	**Mont Dzumac**	**46.05**	**123**	*e*P		**P**		**00 48 37.3**	**-1.3**
	comp=Z,29nm,1.4s								
GUN	**Gumba**	**46.32**	**308**	*e*P		**P**		**00 48 40.0**	**-1.0**
	comp=Z,56nm,0.8s								
PKI	**Pulchoki**	**46.54**	**307**	*e*P		**P**		**00 48 41.3**	**-1.4**
	comp=Z,17nm,0.7s								
PKIN	**Phulchoki**	**46.55**	**307**	*e*P		**P**		**00 48 41.1**	**-1.6**
	comp=Z,13nm,0.6s								
KKN	**Kakani**	**46.74**	**308**	*e*P		**P**		**00 48 42.8**	**-1.3**
	comp=Z,53nm,1.2s								
DMN	**Daman**	**46.80**	**307**	*e*P		**P**		**00 48 43.4**	**-1.2**
	comp=Z,53nm,1.1s								
KLR	**Kul'dur**	**47.68**	**5**	P		**P**		**00 48 51.1**	**+0.4**
	comp=Z,3.0nm,0.6s,baz=195,slow=3.5,SNR=9.8								
KLR	**Kul'dur**	**47.68**	**5**	*i* P		**P**		**00 48 49.4**	**-1.3**
HIA	**Hailar**	**47.74**	**355**	*e*P		**P**		**00 48 52.4**	**+1.1**
	comp=Z,19nm,0.9s								
HIA	**Hailar**	**47.74**	**355**	*e*P		**P**		**00 48 52.4**	**+1.1**
HIA				pmax		pmax			
	comp=Z,19nm,0.9s								
KOLN	**Koldanda**	**48.07**	**307**	*e*P		**P**		**00 48 53.5**	**-0.9**
	comp=Z,115nm,1.1s								
DANN	**Dangsing**	**48.19**	**307**	*e*P		**P**		**00 48 54.3**	**-1.1**
	comp=Z,35nm,0.5s								
PYUN	**Piuthan**	**48.70**	**307**	*e*P		**P**		**00 48 58.2**	**-1.0**
	comp=Z,142nm,1.1s								
ULN	**Ulaanbaatar**	**48.86**	**343**	*e*P		**P**		**00 48 59.8**	**-0.2**
ULN	**Ulaanbaatar**	**48.86**	**343**	*e*P		**P**		**00 48 59.8**	**-0.2**
SONA0	**Songino Array**	**49.02**	**343**	*e*P		**P**		**00 49 01.2**	**0.0**
SONM	**Songino Array**	**49.02**	**343**	P		**P**		**00 49 01.2**	**0.0**
	comp=Z,2.8nm,0.5s,baz=162,slow=7.3,SNR=21								
SONA1	**Songino Array**	**49.03**	**343**	*e*P		**P**		**00 49 00.8**	**-0.5**
HYB	**Hyderabad**	**49.08**	**292**	*i* P		**P**		**00 49 00.0**	**-2.1**
TLY	**Talaya**	**53.26**	**343**	*e*P		**P**		**00 49 32.7**	**0.0**
	comp=Z,8.6nm,1.1s								
TLY	**Talaya**	**53.26**	**343**	*e*P		**P**		**00 49 33.0**	**+0.3**
TLY				pmax		pmax			
	comp=Z,6.0nm,0.9s								
TLY				MLR		MLR			
	comp=Z,51nm,16.0s								
WMQ	**Urumqi**	**53.98**	**326**	P		**P**		**00 49 38.5**	**+0.3**
WMQ				pP		pP		00 49 53.9	-10
WMQ				sP		sP		00 50 01.3	-14
WMQ				pmax		pmax			
	comp=Z,48nm,0.7s								
WMQ				pmax		pmax			
	comp=Z,220nm,4.7s								
WMQ				LR		LR			
	comp=Z,120nm,28.1s								
WMQ				LR		LR			
	comp=Z,100nm,15.9s								
KNGR	**Kungurtug, Tuv**	**54.39**	**338**	*i* P		**P**		**00 49 37.7**	**-3.4**
HVS	**Khovu-Aksy**	**56.29**	**336**	*i* P		**P**		**00 49 53.6**	**-1.1**
HVS				pmax		pmax			
	comp=Z,28nm,0.9s								
BOD	**Bodaibo**	**56.81**	**352**	*e*P		**P**		**00 49 58.4**	**+0.3**
BOD				pmax		pmax			
	comp=Z,28nm,1.0s								
PETK	**Petropavlovsk-**	**57.66**	**22**	P		**P**		**00 50 05.3**	**+1.0**
	comp=Z,6.4nm,0.9s,baz=188,slow=9.9,SNR=4.6								
PETK	**Petropavlovsk-**	**57.66**	**22**	*e*P		**P**		**00 50 04.9**	**+0.6**
PETK	**Petropavlovsk-**	**57.66**	**22**	*e*P		**P**		**00 50 04.9**	**+0.6**
PEA1	**Petropavlovsk-**	**57.67**	**22**	*e*P		**P**		**00 50 05.3**	**+1.0**
DGZ	**Jazzator, Alta**	**58.01**	**332**	*c i*P		**P**		**00 50 04.8**	**-2.2**
DGZ				pmax		pmax			
	comp=Z,7.0nm,1.0s								
MK01	**Makanchi Array**	**58.79**	**326**	*e*P		**P**		**00 50 11.7**	**-0.6**
MK31	**Makanchi Array**	**58.81**	**326**	*e*P		**P**		**00 50 11.8**	**-0.5**
MK31	**Makanchi Array**	**58.81**	**326**	*e*P		**P**		**00 50 11.9**	**-0.5**
MK32	**Makanchi Array**	**58.81**	**326**	*e*P		**P**		**00 50 11.7**	**-0.7**
MKAR	**Makanchi Array**	**58.81**	**326**	P		**P**		**00 50 11.7**	**-0.7**
	comp=Z,7.8nm,0.4s,baz=120,slow=7.4,SNR=209								
MKAR				LR		LR		01 16 49.5	
	comp=Z,50nm,20.8s,baz=118,slow=37								
MKAR	**Makanchi Array**	**58.81**	**326**	*e*P		**P**		**00 50 11.8**	**-0.6**
MKAR	**Makanchi Array**	**58.81**	**326**	*ce*P		**P**		**00 50 11.6**	**-0.8**
MKAR				pmax		pmax			
	comp=Z,8.0nm,0.4s								
KSH	**Kashi**	**58.96**	**316**	P		**P**		**00 50 13.8**	**+0.1**
KSH				sP		pP		00 50 38.6	-0.8
KSH				PcP		**PcP**		**00 51 00.8**	**-1.0**
KSH				S		**S**		**00 58 10.5**	**-1.6**
KSH				pmax		pmax			
	comp=Z,45nm,1.0s								
KSH				pmax		pmax			
	comp=Z,330nm,5.4s								
KSH				LR		LR			
	comp=Z,220nm,10.9s								
KSH				LR		LR			
	comp=Z,240nm,8.0s								
KSH				LR		LR			
	comp=Z,220nm,8.7s								
KDJ	**Kajisay**	**59.37**	**319**	*e*P		**P**		**00 50 16.8**	**+0.2**
	comp=Z,23nm,0.8s								
KDJ	**Kajisay**	**59.37**	**319**	*e*P		**P**		**00 50 16.8**	**+0.2**
KDJ				pmax		pmax			
	comp=Z,23nm,0.8s								
NRN	**Naryn**	**59.81**	**318**	*e*P		**P**		**00 50 19.2**	**-0.5**
	comp=Z,12nm,0.8s								
NRN	**Naryn**	**59.81**	**318**	*e*P		**P**		**00 50 19.3**	**-0.5**
NRN				pmax		pmax			
	comp=Z,12nm,0.8s								
LBZ	**Lake Benmore**	**60.44**	**145**	*e*P		**P**		**00 50 23.7**	**+0.1**
	comp=Z,92nm,1.7s								
THZ	**Tophouse**	**60.58**	**141**	*e*P		**P**		**00 50 24.7**	**0.0**
	comp=Z,127nm,1.9s								
KZA	**Kyzart**	**60.61**	**319**	P		**P**		**00 50 25.4**	**0.0**
	SNR=12								
TKM2	**Tokmak 2**	**60.78**	**320**	P		**P**		**00 50 25.6**	**-0.6**
	SNR=15								
KBK	**Karagaybulak**	**61.08**	**319**	P		**P**		**00 50 28.6**	**+0.5**
	SNR=13								
UCH	**Uchtor**	**61.17**	**319**	P		**P**		**00 50 29.4**	**+0.3**
	SNR=29								
CHMS	**Chumysh**	**61.36**	**319**	P		**P**		**00 50 29.3**	**-0.7**
	SNR=5.5								
AAK	**Ala-Archa**	**61.37**	**319**	P		**P**		**00 50 30.4**	**+0.3**
	SNR=7.2								
AAK	**Ala-Archa**	**61.37**	**319**	*e*P		**P**		**00 50 30.0**	**-0.1**
	comp=Z,19nm,1.4s								
AAK	**Ala-Archa**	**61.37**	**319**	P		**P**		**00 50 29.2**	**-0.9**
	SNR=6.5								
AAK	**Ala-Archa**	**61.37**	**319**	*i* P		**P**		**00 50 29.9**	**-0.2**
	SNR=10								
AAK	**Ala-Archa**	**61.37**	**319**	*i* P		**P**		**00 50 27.3**	**-2.8**
AAK				pmax		pmax			
	comp=Z,11nm,1.1s								
BKZ	**Black Stump Fm**	**61.61**	**137**	*e*P		**P**		**00 50 31.9**	**+0.3**
	comp=Z,49nm,1.8s								
URZ	**Urewera**	**61.61**	**136**	*e*P		**P**		**00 50 31.2**	**-0.3**
	comp=Z,13nm,1.0s								
USP	**Ospenovka**	**61.65**	**320**	P		**P**		**00 50 32.1**	**+0.3**
	SNR=18								
AML	**Almayashu**	**61.67**	**318**	P		**P**		**00 50 32.2**	**-0.3**
	SNR=29								
EKS2	**Erkin-Say**	**61.85**	**319**	P		**P**		**00 50 34.0**	**+0.7**
	SNR=15								
ZAA0	**Zalesovo Array**	**62.08**	**334**	*e*P		**P**		**00 50 33.1**	**-1.3**
	comp=Z,6.8nm,0.6s								
ZALV	**Zalesovo Beam**	**62.08**	**334**	P		**P**		**00 50 33.1**	**-1.4**
	comp=Z,5.5nm,0.5s,baz=123,slow=5.3,SNR=25								
ZALV	**Zalesovo Beam**	**62.08**	**334**	*e*P		**P**		**00 50 32.9**	**-1.5**
ZALV	**Zalesovo Beam**	**62.08**	**334**	*i* P		**P**		**00 50 33.4**	**-1.0**
ZALV				pmax		pmax			
	comp=Z,6.0nm,0.5s								
ZAA1	**Zalesovo Array**	**62.08**	**334**	*e*P		**P**		**00 50 33.1**	**-1.4**
MXZ	**Matakaoa Point**	**62.13**	**135**	*e*P		**P**		**00 50 33.9**	**-1.2**
	comp=Z,47nm,1.0s								
KBL	**Kabul**	**62.15**	**309**	*e*P		**P**		**00 50 34.6**	**

RAYN	**Ar Rayn**	**80.55**	**293**	*i* P		**P**	**00 52 25.2**	**-1.2**
	SNR=30							
RAYN	**Ar Rayn**	**80.55**	**293**	*e*P		**P**	**00 52 25.1**	**-1.2**
RAYN				pmax	pmax			
	comp=Z,24nm,1.0s							
VNDA	**Vanda**	**81.47**	**173**	P		**P**	**00 52 30.9**	**+0.9**
	comp=Z,2.2nm,0.4s,baz=316,slow=7.2,SNR=42							
VNDA				LR	LR		01 29 11.4	
	comp=Z,20nm,19.1s,baz=316,slow=36							
VNDA	**Vanda**	**81.47**	**173**	*e*P		**P**	**00 52 30.5**	**+0.5**
VNDA	**Vanda**	**81.47**	**173**	*e*P		**P**	**00 52 30.5**	**+0.5**
MAW	**Mawson**	**81.52**	**200**	P		**P**	**00 52 30.5**	**+0.1**
	comp=Z,4.1nm,1.1s,baz=31,slow=5.9,SNR=5.1							
MAW	**Mawson**	**81.52**	**200**	*e*P		**P**	**00 52 30.5**	**+0.1**
	comp=Z,2.3nm,1.1s							
MAW	**Mawson**	**81.52**	**200**	*e*P		**P**	**00 52 30.5**	**+0.1**
MAW				pmax	pmax			
	comp=Z,2.0nm,1.1s							
RDOG	**Red Dog Mine**	**81.52**	**21**	*e*P		**P**	**00 52 32.2**	**+1.7**
	comp=Z,9.7nm,0.6s							
GNI	**Garni**	**82.19**	**310**	*e*P		**P**	**00 52 34.8**	**0.0**
	comp=Z,11nm,0.8s							
GNI	**Garni**	**82.19**	**310**	*e*P		**P**	**00 52 34.8**	**0.0**
GNI				pmax	pmax			
	comp=Z,11nm,0.8s							
TBLG	**Delisi**	**82.32**	**312**	*e*P		**P**	**00 52 35.6**	**+0.4**
	comp=Z,17nm,0.9s							
TBLG	**Delisi**	**82.32**	**312**	*e*P		**P**	**00 52 35.7**	**+0.4**
TBLG				pmax	pmax			
	comp=Z,17nm,0.9s							
SBA	**Scott Base**	**82.39**	**172**	*e*P		**P**	**00 52 36.8**	**+2.0**
	comp=Z,6.6nm,1.1s							
SBA	**Scott Base**	**82.39**	**172**	*e*P		**P**	**00 52 36.8**	**+2.0**
SBA				pmax	pmax			
	comp=Z,7.0nm,1.1s							
ZEI	**Tsey**	**83.02**	**313**	*e*P		**P**	**00 52 38.2**	**-0.9**
ZEI				pmax	pmax			
	comp=Z,22nm,0.7s							
AKH	**Akhalkalaki**	**83.22**	**311**	*e*P		**P**	**00 52 41.3**	**+1.1**
	comp=Z,17nm,0.7s							
AKH	**Akhalkalaki**	**83.22**	**311**	⇑*i*P		**P**	**00 52 40.7**	**+0.5**
AKH	**Akhalkalaki**	**83.22**	**311**	*e*P		**P**	**00 52 41.3**	**+1.1**
AKH				pmax	pmax			
	comp=Z,17nm,0.7s							
NCK	**Nalchik**	**83.29**	**313**	*i* P		**P**	**00 52 37.9**	**-2.4**
NCK				pmax	pmax			
	comp=Z,15nm,0.9s							
KARS	**Kars**	**83.49**	**311**	P		**P**	**00 52 42.6**	**+1.1**
KARS				pmax	pmax			
	comp=Z,63nm,0.9s							
TUTA	**Tutak**	**83.62**	**309**	*i* P		**P**	**00 52 42.6**	**+0.3**
KBZ	**Khabaz**	**83.81**	**314**	P		**P**	**00 52 42.5**	**-0.4**
	comp=Z,8.6nm,0.8s,baz=106,slow=5.0,SNR=15							
EATA	**Eleskirt**	**83.89**	**310**	*i* P		**P**	**00 52 44.7**	**+0.9**
NEY	**Neytrino**	**83.91**	**313**	*i* P		**P**	**00 52 42.2**	**-1.4**
NEY				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KIV	**Kislovodsk**	**83.98**	**314**	*e*P		**P**	**00 52 44.3**	**+0.5**
	comp=Z,14nm,0.9s							
KIV	**Kislovodsk**	**83.98**	**314**	*e*P		**P**	**00 52 41.8**	**-2.1**
KIV				pmax	pmax			
	comp=Z,12nm,1.1s							
EKAR	**Karacoban**	**84.19**	**309**	*i* P		**P**	**00 52 46.5**	**+1.3**
ARTV	**Artvin**	**84.39**	**311**	*i* P		**P**	**00 52 46.4**	**+0.3**
DAGI	**Agillar**	**84.39**	**311**	*i* P		**P**	**00 52 46.3**	**+0.3**
DDEM	**Demirkent**	**84.51**	**311**	*i* P		**P**	**00 52 44.7**	**-1.9**
DBAD	**Bademkaya**	**84.56**	**311**	*i* P		**P**	**00 52 47.5**	**+0.6**
IM3	**Indian Mountai**	**84.58**	**24**	*e*P		**P**	**00 52 47.8**	**+1.5**
DBOC	**Borcka**	**84.59**	**311**	*i* P		**P**	**00 52 46.8**	**-0.2**
VRTB	**Varto-Mus**	**84.66**	**309**	*i* P		**P**	**00 52 48.4**	**+0.9**
VRH	**Novokhopyorsk**	**85.08**	**321**	*e*P		**P**	**00 52 47.9**	**-1.2**
VRH				pmax	pmax			
	comp=Z,120nm,0.7s							
KOPT	**Kop Dagi**	**85.43**	**310**	*i* P		**P**	**00 52 53.7**	**+2.2**
BAYB	**BAYBURT**	**85.62**	**310**	*i* P		**P**	**00 52 53.2**	**+0.9**
MLY	**Manley**	**85.71**	**25**	*e*P		**P**	**00 52 53.5**	**+1.5**
	comp=Z,31nm,1.9s							
MACK	**Trabzon**	**86.01**	**311**	*i* P		**P**	**00 52 54.4**	**+0.4**
COLD	**Coldfoot**	**86.13**	**23**	*e*P		**P**	**00 52 56.1**	**+2.1**
	comp=Z,5.5nm,1.0s							
TOLK	**Toolik Lake Re**	**86.48**	**21**	*e*P		**P**	**00 52 57.1**	**+1.4**
	comp=Z,9.4nm,0.8s							
VORD	**Divnogorie**	**86.60**	**321**	*e*P		**P**	**00 52 55.9**	**-0.7**
VORD				pmax	pmax			
	comp=Z,70nm,0.7s							
VSR	**Storozhevoye**	**86.69**	**321**	*e*P		**P**	**00 52 56.1**	**-0.9**
VSR				pmax	pmax			
	comp=Z,90nm,1.0s							
KLMR	**Klimovskoe**	**86.81**	**331**	*e*P		**P**	**00 52 53.6**	**-3.8**
KLMR				pmax	pmax			
	comp=Z,21nm,0.6s							
KLMR	**Klimovskoe**	**86.81**	**331**	*e*P		**P**	**00 52 53.6**	**-3.8**
KLMR				AMP			00 53 01.2	
	comp=Z,21nm,0.7s							
LPSR	**Galich'ya Gora**	**86.87**	**322**	*e*P		**P**	**00 52 57.5**	**-0.3**
LPSR				pmax	pmax			
	comp=Z,90nm,0.8s							
CCB	**Clear Creek Bu**	**86.94**	**25**	*e*P		**P**	**00 52 58.4**	**+0.5**
	comp=Z,11nm,1.3s							
IL1	**Eielson Array**	**87.33**	**25**	*e*P		**P**	**00 52 58.7**	**-1.2**
ILAR	**Eielson Array**	**87.33**	**25**	P		**P**	**00 52 59.4**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=239,slow=5.0,SNR=11							
ILAR				PKKPbc	**PKKPbc**		**01 10 57.5**	**+4.9**
	comp=Z,0.2nm,0.6s,baz=36,slow=6.3,SNR=4.6							
ILB	**Eielson Array**	**87.33**	**25**	*e*P		**P**	**00 52 59.4**	**-0.5**
ILB				*e*PKKPbc	**PKKPbc**		**01 10 57.5**	**+4.9**
ANN	**Anapa**	**87.77**	**315**	*e*P		**P**	**00 53 01.3**	**-1.0**
ANN				pmax	pmax			
	comp=Z,58nm,0.7s							
OBN	**Obninsk**	**88.29**	**325**	*e*P		**P**	**00 53 04.2**	**-0.4**
	comp=Z,35nm,0.7s							
OBN	**Obninsk**	**88.29**	**325**	⇑*i*P		**P**	**00 53 03.1**	**-1.4**
OBN				pmax	pmax			
	comp=Z,47nm,1.0s							
ASF	**Jabal al Asfar**	**88.30**	**302**	P		**P**	**00 53 06.0**	**+0.7**
	comp=Z,28nm,0.9s,baz=58,slow=3.1,SNR=49							
ASF	**Jabal al Asfar**	**88.30**	**302**	*e*P		**P**	**00 53 06.0**	**+0.7**
KMBO	**Kilima Mbogo**	**88.69**	**269**	P		**P**	**00 53 08.6**	**+0.9**
	comp=Z,15nm,1.0s,baz=68,slow=5.6,SNR=37							
KMBO	**Kilima Mbogo**	**88.69**	**269**	*e*P		**P**	**00 53 08.5**	**+0.9**
	comp=Z,21nm,1.0s							
KMBO	**Kilima Mbogo**	**88.69**	**269**	P		**P**	**00 53 08.6**	**+0.9**
	SNR=11							
KMBO	**Kilima Mbogo**	**88.69**	**269**	*i* P		**P**	**00 53 08.3**	**+0.7**
	SNR=24							
KMBO	**Kilima Mbogo**	**88.69**	**269**	*e*P		**P**	**00 53 08.5**	**+0.9**
KMBO				pmax	pmax			
	comp=Z,21nm,1.0s							
NAI	**Nairobi**	**89.14**	**269**	*e*P		**P**	**00 53 10.4**	**+0.6**
	comp=Z,52nm,1.0s							
NAI	**Nairobi**	**89.14**	**269**	*e*P		**P**	**00 53 10.4**	**+0.6**
NAI				pmax	pmax			
	comp=Z,52nm,1.0s							
SIM	**Simferopol'**	**90.12**	**315**	*e*P		**P**	**00 53 12.8**	**-0.6**
SIM				pmax	pmax			
	comp=Z,24nm,0.8s							
SYO	**Syowa Base**	**90.19**	**201**	⇓*e*P		**P**	**00 53 14.0**	**+0.8**
ILGA	**Ilgaz**	**90.59**	**311**	*e*P		**P**	**00 53 15.9**	**-0.1**
	comp=Z,13nm,0.8s							
BR101	**Keskin Array S**	**90.71**	**310**	*e*P		**P**	**00 53 15.2**	**-1.2**
BR131	**Keskin Array S**	**90.71**	**310**	*e*P		**P**	**00 53 15.2**	**-1.3**
BR131	**Keskin Array S**	**90.71**	**310**	P		**P**	**00 53 15.2**	**-1.3**
BRTR	**Keskin Array B**	**90.71**	**310**	P		**P**	**00 53 15.2**	**-1.3**
	comp=Z,5.3nm,0.9s,baz=120,slow=5.0,SNR=31							
BRTR				LR	LR		01 40 59.0	
	comp=Z,17nm,18.1s,baz=87,slow=40							
CSS	**Mathiatis**	**91.19**	**305**	*e*P		**P**	**00 53 18.4**	**-0.2**
	comp=Z,26nm,0.8s							
ARA0	**ARCESS Array S**	**92.11**	**340**	*e*P		**P**	**00 53 21.2**	**-0.9**
ARCES	**ARCESS Array B**	**92.11**	**340**	P		**P**	**00 53 21.2**	**-0.9**
	comp=Z,3.9nm,0.8s,baz=73,slow=4.2,SNR=8.6							
INK	**Inuvik**	**92.40**	**21**	P		**P**	**00 53 23.7**	**+0.3**
	comp=Z,3.4nm,0.9s,baz=281,slow=5.6,SNR=8.5							
INK	**Inuvik**	**92.40**	**21**	*e*P		**P**	**00 53 24.1**	**+0.7**
	comp=Z,8.0nm,1.1s							
INK	**Inuvik**	**92.40**	**21**	*e*P		**P**	**00 53 24.2**	**+0.7**
INK				pmax	pmax			
	comp=Z,8.0nm,1.1s							
AKASG	**Malin Array Be**	**92.98**	**321**	P		**P**	**00 53 25.5**	**-1.0**
	comp=Z,2.9nm,0.6s,baz=75,slow=4.0,SNR=14							
AKBB	**Malin Array Si**	**92.98**	**321**	*e*P		**P**	**00 53 25.4**	**-1.1**
	comp=Z,5.3nm,0.8s							
KIEV	**Kiev**	**93.00**	**321**	*e*P		**P**	**00 53 25.4**	**-1.2**
	comp=Z,4.9nm,0.8s							
KIEV	**Kiev**	**93.00**	**321**	*i* P		**P**	**00 53 25.5**	**-1.1**
KIEV				pmax	pmax			
	comp=Z,5.0nm,0.9s							
AK11	**Malin Array Si**	**93.02**	**321**	*e*P		**P**	**00 53 25.6**	**-1.2**
FIA0	**FINESS Array S**	**93.27**	**332**	*e*P		**P**	**00 53 26.5**	**-1.1**
FIA0	**FINESS Array S**	**93.27**	**332**	*e*P		**P**	**00 53 26.5**	**-1.1**
FINES	**FINESS Array B**	**93.27**	**332**	P		**P**	**00 53 26.5**	**-1.1**
	comp=Z,6.5nm,0.6s,baz=44,slow=5.8,SNR=20							
FINES				LR	LR		01 39 36.4	
	comp=Z,40nm,18.5s,baz=283,slow=38							
VRI	**Vrincioaia**	**95.28**	**316**	⇑*i*P		**P**	**00 53 37.5**	**+0.5**
GIRR	**Girov**	**95.23**	**317**	⇓*i*P		**P**	**00 53 36.5**	**-0.5**
PLOR	**Plostina**	**95.28**	**316**	⇑*i*P		**P**	**00 53 37.0**	**-0.3**
BIZ	**Bicaz**	**95.50**	**317**	⇑*i*P		**P**	**00 53 38.5**	**+0.3**
MLR	**Muntele Rosu**	**95.82**	**316**	*e*P		**P**	**00 53 39.6**	**-0.3**
	comp=Z,12nm,1.0s							
MLR	**Muntele Rosu**	**95.82**	**316**	⇑*i*P		**P**	**00 53 39.4**	**-0.5**
MLR	**Muntele Rosu**	**95.82**	**316**	*e*P		**P**	**00 53 39.6**	**-0.3**
MLR				pmax	pmax			
	comp=Z,12nm,1.0s							
BURAR	**Bucovina Array**	**96.00**	**318**	⇓*i*P		**P**	**00 53 40.7**	**+0.1**
BUR04	**Bucovina Ar. S**	**96.00**	**318**	*e*P		**P**	**00 53 40.2**	**-0.4**
BUR08	**Bucovina Ar. S**	**96.01**	**318**	*e*P		**P**	**00 53 40.7**	**+0.1**
DOPR	**Dopca**	**96.14**	**316**	⇓*i*P		**P**	**00 53 40.9**	**-0.2**
VOIR		**96.45**	**316**	⇑*i*P		**P**	**00 53 41.6**	**-1.1**
ARCR	**ARCALIA**	**96.67**	**318**	⇓*i*P		**P**	**00 53 43.8**	**+0.3**
VLAD	**Vladila**	**97.14**	**315**	⇑*i*P		**P**	**00 53 45.5**	**-0.1**
TRPA	**Tarpa**	**97.69**	**319**	⇑*i*P		**P**	**00 53 47.6**	**-0.4**
UZH	**Uzhgorod**	**97.75**	**319**	⇓*i*P		**P**	**00 53 48.2**	**-0.1**
UZH				*e*			00 54 08.1	
DRGR		**97.83**	**318**	⇓*i*P		**P**	**00 53 48.4**	**-0.4**
VTS	**Vitosha**	**98.23**	**313**	*e*P		**P**	**00 53 49.5**	**-1.3**
	comp=Z,5.5nm,0.9s							
VTS	**Vitosha**	**98.23**	**313**	⇑*i*P		**P**	**00 53 49.8**	**-1.0**
VTS	**Vitosha**	**98.23**	**313**	*e*P		**P**	**00 53 49.5**	**-1.3**
VTS				pmax	pmax			
	comp=Z,6.0nm,0.9s							
SIRR	**Siria**	**98.64**	**317**	⇓*i*P		Pdif	00 53 52.5	+0.1
BZS	**Buzias**	**98.80**	**317**	⇑*i*P		**P**	**00 53 52.8**	**-0.3**
KECS	**Kecovo**	**98.95**	**320**	*e*P		**P**	**00 53 52.5**	**-1.2**
KECS	**Kecovo**	**98.95**	**320**	*e*PDIF		**P**	**00 53 52.5**	**-1.2**
VYHS	**Vyhne**	**100.02**	**320**	*e*P		**Pdif**	**00 53 58.8**	**+0.3**
VYHS	**Vyhne**	**100.02**	**320**	*e*PDIF		**Pdif**	**00 53 58.8**	**+0.3**
NB2	**NORSAR Subarra**	**100.28**	**333**	P		**Pdif**	**00 53 57.6**	**-1.8**
	comp=Z,1.6nm,0.7s,baz=70,slow=4.4							
NB2	**NORSAR Array S**	**100.28**	**333**	*e*P		**Pdif**	**00 53 57.6**	**-1.8**
	baz=70,slow=4.4							
NB200	**NORSAR Array S**	**100.28**	**333**	*e*Pdif		**Pdif**	**00 53 58.0**	**-1.4**
NOA	**NORSAR Array B**	**100.28**	**333**	P		**Pdif**	**00 53 58.0**	**-1.4**
	comp=Z,1.5nm,1.1s,baz=72,slow=7.2,SNR=3.6							
NOA	**NORSAR Array B**	**100.28**	**333**	P		**Pdif**	**00 53 58.0**	**-1.4**
YKA	**Yellowknife Ar**	**101.73**	**24**	P		**Pdif**	**00 54 05.9**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=302,slow=4.6,SNR=3.7							
CLL	**Collm**	**102.83**	**324**	*e*P		**Pdif**	**00 54 08.0**	**-2.9**
GERES	**GERESS Array B**	**103.19**	**321**	Pdiff		**Pdif**	**00 54 10.6**	**-2.1**
	comp=Z,0.2nm,0.4s,baz=43,slow=2.0,SNR=4.2							
PD31	**Pinedale Array**	**113.46**	**41**	*e*PKKPab	PKKPab		01 09 43.2	-0.9
PDAR	**Pinedale Array**	**113.46**	**41**	PKKPab	PKKPab		01 09 43.2	-0.9
	comp=Z,0.7nm,0.7s,baz=115,slow=6.1,SNR=6.2							
RSSD	**Black Hills**	**116.33**	**38**	*e*PKPdf		**PKPdf**	**00 58 57.3**	**+0.5**
ULM	**Lac du Bonnet**	**117.18**	**29**	PKP		**PKPdf**	**00 58 56.8**	**-1.2**
	comp=Z,5.5nm,0.6s,baz=289,slow=3.1,SNR=4.2							
ESDC	**Sonseca Array**	**118.46**	**318**	PKP		**PKPdf**	**00 59 00.9**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=66,slow=3.0,SNR=4.4							
ANMO	**Albuquerque**	**119.03**	**48**	*i* PKIKP		**PKPdf**	**00 59 03.1**	**+0.9**
ECSD	**EROS Data Cent**	**120.96**	**35**	*e*PKPdf		**PKPdf**	**00 59 06.2**	**+0.7**
MNTX	**Cornudas Mount**	**121.20**	**51**	*e*PKPdf		**PKPdf**	**00 59 08.4**	**+2.1**
SCHQ	**Schefferville**	**122.75**	**9**	PKP		**PKPdf**	**00 59 09.2**	**+0.6**
	comp=Z,7.8nm,0.9s,baz=314,slow=0.8,SNR=7.7							
TOA0	**Torodi Ar. Sit**	**122.76**	**287**	*e*PKPdf		**PKPdf**	**00 59 08.1**	**-1.5**
TOA0				*e*PKPdf		**PKiKP**	**00 59 09.4**	**-0.4**
TORD	**Torodi Ar. Bea**	**122.76**	**287**	PKP		**PKPdf**	**00 59 08.0**	**-1.6**
	comp=Z,4.6nm,0.8s,baz=50,slow=2.3,SNR=29							
TORD				PP		**PP**	**01 00 51.2**	**+2.5**
	comp=Z,1.5nm,1.0s,baz=57,slow=5.5,SNR=5.3							
TOA1	**Torodi Ar. Sit**	**122.76**	**287**	*e*PKPdf		**PKPdf**	**00 59 08.0**	**-1.6**
TOA1				*e*PP		**PP**	**01 00 51.2**	**+2.4**
LTX	**Lajitas**	**123.52**	**53**	*e*PKPdf		**PKPdf**	**00 59 11.8**	**+0.9**
LTX				*e*PKKPbc		**PKKPbc**	**01 09 01.8**	**+1.5**
LTX	**Lajitas**	**123.52**	**53**	*e*PKIKP		**PKPdf**	**00 59 11.8**	**+0.9**
TXAR	**Lajitas Array**	**123.52**	**53**	PKP		**PKPdf**	**00 59 11.8**	**+0.9**
	comp=Z,0.9nm,0.9s,baz=215,slow=2.3,SNR=8.6							
TXAR				PKKPab		**PKKPbc**	**01 09 01.8**	**+1.5**
	comp=Z,0.2nm,0.7s,baz=122,slow=6.4,SNR=3.4							
L40A	**Anamosa**	**126.07**	**33**	*e*PKPdf		**PKPdf**	**00 59 13.9**	**+0.6**
JCT	**Junction City**	**126.03**	**50**	*e*PKPdf		**PKPdf**	**00 59 17.2**	**+1.6**
JCT	**Junction City**	**126.03**	**50**	*e*PKIKP		**PKPdf**	**00 59 17.2**	**+1.6**
MIAR	**Mount Ida**	**128.38**	**42**	*e*PKPdf		**PKPdf**	**00 59 21.6**	**+1.7**
MIAR	**Mount Ida**	**128.38**	**42**	*e*PKIKP		**PKPdf**	**00 59 21.6**	**+1.7**
KIC	**Kosan Boka**	**130.09**	**280**	*e*PKIKP		**PKPdf**	**00 59 24.5**	**+0.8**
	comp=Z,68nm,1.6s							
DBIC	**Dimbokro**	**130.17**	**280**	PKP		**PKPdf**	**00 59 24.4**	**+0.6**
	comp=Z,2.5nm,0.6s,baz=85,slow=4.1,SNR=5.8							
DBIC				SKPbc		**SKPbc**	**01 02 37.8**	**+0.3**
	comp=Z,7.0nm,0.9s,baz=51,slow=5.1,SNR=5.7							
TIC	**Toumodi**	**130.33**	**280**	*e*PKIKP		**PKPdf**	**00 59 24.5**	**+0.3**
LIC	**Lamto**	**130.40**	**280**	*e*PKIKP		**PKPdf**	**00 59 25.0**	**+0.7**
	comp=Z,54nm,1.4s							
PLCA	**Paso Flores**	**138.33**	**161**	PKP		**PKPdf**	**00 59 37.8**	**-0.7**
	comp=Z,2.0nm,0.9s,baz=219,slow=6.5,SNR=2.8							
CPUP	**Villa Florida**	**155.25**	**173**	PKP		**PKPdf**	**01 00 05.3**	**-1.4**
	comp=Z,2.3nm,0.9s,baz=131,slow=9.8,SNR=3.3							
CPUP				PKPab		**PKPab**	**01 00 31.6**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=202,slow=8.3,SNR=3.1							
LPAZ	**La Paz**	**159.92**	**137**	*e*PKPdf		**PKPdf**	**01 00 13.4**	**-0.1**
	comp=Z,2.4nm,0.9s,baz=313,slow=1.8,SNR=9.0							
LPAZ	**La Paz**	**159.92**	**137**	*e*PKPdf		**PKPdf**	**01 00 15.4**	**+1.9**
LPAZ	**La Paz**	**159.92**	**137**	*e*PKIKP		**PKPdf**	**01 00 15.4**	**+1.9**
SDV	**Santo Domingo**	**160.48**	**57**	PKP		**PKPdf**	**01 00 13.9**	**+0.2**
	comp=Z,5.3nm,0.8s,baz=333,slow=3.5,SNR=12							
SDV	**Santo Domingo**	**160.48**	**57**	*e*PKPdf		**PKPdf**	**01 00 14.4**	**+0.7**

GUC ***23*** *00:49:58.2±0.4, 35.°62S×73.°06W, h23km±4km, ML3.5*

ISC 23 00:49:57.0±2.7, 35.°59S±0.°05×72.°9W±0.°1, h13km±13km, n14, σ2°30/23, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO05	**HualaæØ**	**0.97**	**54**	*e*P	**Pg**	**00 50 16.9**	**+1.1**
GO05				*i* S	**Sn**	**00 50 31.6**	**+1.5**
GO05				IAML		00 50 35.6	
	comp=E,2μm,0.3s						
CCHI	**Chillan**	**1.20**	**147**	*e*P	**Pn**	**00 50 19.8**	**+0.3**
CCHI				*i* S	**Sn**	**00 50 35.7**	**0.0**
CCHI				IAML		00 50 44.9	
	comp=E,2μm,0.5s						
LMEL	**Las Melosas**	**2.81**	**53**	*e*P	**Pb**	**00 50 47.5**	**+0.4**
LMEL				*i* S	**Sg**	**00 51 25.8**	**-1.6**
CLCH	**Cerro Calan**	**2.93**	**42**	*e*P	**Pb**	**00 50 49.5**	**+0.5**
CLCH				*i* S	**Sg**	**00 51 29.7**	**-1.3**
ROCH	**El Roble**	**3.04**	**31**	*e*P	**Pn**	**00 50 47.5**	**+2.5**
ROCH				*i* S	**Sg**	**00 51 36.1**	**+1.4**
PEL	**Peldehue**	**3.05**	**37**	*e*P	**Pn**	**00 50 47.5**	**+2.6**
PEL				*i* S	**Sg**	**00 51 35.8**	**+1.0**
FCH	**Farellones**	**3.11**	**44**	*e*P	**Pn**	**00 50 48.8**	**+2.7**
FCH				*i* S	**Sb**	**00 51 27.4**	**-3.0**
RFA	**San Rafael**	**3.71**	**79**	*e*P	**Pb**	**00 51 02.3**	**-0.2**
RFA				*e*S	**Sg**	**00 51 58.6**	**+2.4**
AAGR	**Agrelo**	**4.19**	**54**	*e*P	**Pb**	**00 51 08.1**	**-2.5**
ARCO	**CERRO ARCO**	**4.27**	**51**	*e*P	**Pb**	**00 51 08.8**	**-3.3**
ARCO				IAML		00 51 20.7	
	comp=Z,39nm,0.5s						
AUSP	**Uspallata**	**4.44**	**42**	*e*P	**Pb**	**00 51 11.6**	**-3.4**
AUSP				*e*S	**Sg**	**00 52 16.6**	**-3.1**
ASAL	**Salagasta**	**4.50**	**49**	*e*P	**Pb**	**00 51 12.3**	**-3.6**
CMCH	**Combarbala**	**4.68**	**20**	*e*P	**Pn**	**00 51 09.2**	**+1.7**
CMCH				*i* S	**Sn**	**00 52 01.5**	**-0.1**
RTLS	**Leoncito**	**4.82**	**39**	*e*P	Pb	00 51 15.7	-5.9

MEX 23 00:52:43.2±0.7, 16.°35N×98.°04W, h5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.10**	**296**	*i* P	Pg	00 52 44.6	-0.7
PNIG				*e*S	Sg	00 52 47.1	+0.4
TLIG	**Tlapa**	**1.31**	**337**	*e*P	Pn	00 53 04.2	-4.1
TLIG				*e*S	Sg	00 53 21.7	-3.7
VHO	**Vista Hermosa**	**1.44**	**60**	*e*P	Pn	00 53 07.2	-3.0
VHO				*i* S	Sb	00 53 24.7	-4.7
MEIG	**Mezcala**	**2.18**	**316**	*e*P	Pn	00 53 17.1	-3.2
MEIG				*e*S	Sn	00 53 43.8	-3.9

IDC 23 01:04:32.7±59.0, 21.°00S×167.°93W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.8/41, mbtmp4.3/3, Error ellipse: s-maj=1196.0km s-min=202.4km az=87.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**46.12**	**246**	P	P	01 12 58.1	-0.9
	2.0nm,0.4s,baz=89,slow=10,SNR=6.3						
ASAR	**Alice Springs**	**53.55**	**256**	P	P	01 13 56.0	+0.2
	1.9nm,0.4s,baz=96,slow=8.1,SNR=29						
WRA	**Warramunga Arr**	**53.83**	**260**	P	P	01 13 58.0	+0.2
	3.3nm,0.7s,baz=90,slow=5.8,SNR=118						

ISCJB ***23*** *01:20:24.4±1.0, 11.°8S±0.°1×117.°9E±0.°1, h33km, mb3.8/3, MS3.2/1, Error ellipse: s-maj=21.8km s-min=8.8km az=136.2*

IDC ***23*** *01:20:25.3±2.8, 10.°98S×118.°22E, h0km, mb3.8/3, mb1 3.6/5, mb1mx3.5/21, mbtmp3.5/5, ML3.2/2, MS3.4/1, Ms1 3.3/1, ms1mx2.5/22, Error ellipse: s-maj=156.9km s-min=25.2km az=49.0*

ISC 23 01:20:24.4±1.3, 12.°0S±0.°1×118.°0E±0.°1, h35km, n12, σ1°31/10, mb3.8/3, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**2.67**	**30**	P	**Pn**	**01 21 04.7**	**-0.3**
PLAI	**Plampang**	**3.13**	**356**	P	**Pn**	**01 21 10.2**	**-1.1**
TWSI	**Taliwang, Sumb**	**3.40**	**341**	P	**Pn**	**01 21 14.1**	**-0.9**
SRBI	**Singaraja**	**4.75**	**324**	P	**Pn**	**01 21 33.7**	**+0.2**
EDFI	**Ende, Flores**	**4.82**	**49**	P	Pn	01 21 27.6	-7.0
	4.0nm,0.5s,637nm						
JAGI	**Jajag, Banyuwa**	**5.16**	**312**	P	**Pn**	**01 21 37.6**	**-1.6**
WRA	**Warramunga Arr**	**17.57**	**119**	P	P	01 24 34.7	+7.3
	0.1nm,0.3s,baz=294,slow=13,SNR=3.0						
WRA				S	**Sn**	**01 27 39.3**	**-2.1**
	0.1nm,0.3s,baz=295,slow=24,SNR=4.7						
ASAR	**Alice Springs**	**19.06**	**130**	P	Pn	01 24 55.9	+11
	0.2nm,0.3s,baz=316,slow=14,SNR=5.8						
ASAR				S	**S**	**01 28 19.5**	**+1.2**
	0.1nm,0.3s,baz=312,slow=25,SNR=5.7						
STKA	**Stephens Creek**	**29.39**	**136**	LR	LR	01 40 06.2	
	comp=Z,60nm,18.7s,baz=207,slow=39						
SONM	**Songino Array**	**60.43**	**351**	P	**P**	**01 30 30.9**	**+0.5**
	0.3nm

*STR **23** 03:03:58.0±0.9, 49°N±4″×°±°, h5km, M1.6/7, MLv1.6/7*

LDG 23 03:03:58.6±0.1, 49°14′N×8°13′E, h10km, Md2.0/1, Ml1.6/4, Error ellipse: s-maj=1.6km s-min=1.2km az=124.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANF	**Langenberg**	**0.27**	**233**	Pg	Pg	03 04 03.9	-0.1
LANF				Sg	Sg	03 04 08.0	+0.3
OPP	**Oppenau**	**0.65**	**177**	Pg	Pg	03 04 10.7	-0.5
OPP				Sg	Sb	03 04 21.2	+0.1
CDF	**Champ du Feu**	**0.92**	**218**	*e*Pg	Pg	03 04 15.9	-0.5
CDF	**Champ du Feu**	**0.92**	**218**	*e*Pn	Pn	03 04 17.6	-0.1
CDF				*e*Sg	Sg	03 04 27.7	-0.7
	1.9nm,0.3s						
HINF	**Hinteralfeld**	**1.57**	**213**	*e*Pn	Pn	03 04 25.0	-1.6
HINF				*e*Sn	Sn	03 04 44.4	-2.7
HINF				*e*Sg	Sb	03 04 48.5	+0.7
	0.9nm,0.2s						
HAU	**Haudompre**	**1.64**	**227**	*e*Pn	Pn	03 04 26.1	-1.4
HAU	**Haudompre**	**1.64**	**227**	*e*Pg	Pb	03 04 29.2	+0.3
HAU				*e*Sn	Sn	03 04 45.9	-2.8
	0.5nm,0.2s						
LOR	**Lormes**	**3.42**	**238**	*e*Pn	Pn	03 04 50.2	-1.7
LOR				*e*Sn	Sn	03 05 28.5	-4.0
	0.2nm,0.2s						

*IDC **23** 03:08:10.2±3.7, 4°15′S×102°04′E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/36, mbtmp3.9/7, Error ellipse: s-maj=147.9km s-min=18.2km az=55.0*

*ISCJB **23** 03:08:19.4±0.9, 4°20′S±0°07″×102°09′E±0°07, h58km, mb3.9/7, Error ellipse: s-maj=13.7km s-min=5.4km az=42.9*

*DJA **23** 03:08:22.1±0.4, 4°S±4″×10°2E±°, h55km±5km, M4.0/11, MLv4.0/11*

ISC 23 03:08:19.5±0.9, 4°07′S±0°09″×102°22′E±0°08, h58km, n24, σ26°39/22, mb3.9/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.79**	**111**	P	**Pn**	**03 08 37.2**	**+2.5**
MNAI				S	**Sn**	**03 08 48.4**	**+2.4**
MASI	**Maura Aman, Be**	**0.92**	**1**	P	**Pn**	**03 08 39.1**	**+2.6**
MASI				S	**Sn**	**03 08 52.4**	**+3.4**
MDSI	**Maura Dua**	**2.00**	**102**	P	**Pn**	**03 08 52.8**	**+1.9**
MDSI				S	**Sn**	**03 09 17.1**	**+2.3**
LWLI	**Liwa**	**2.06**	**117**	P	**Pn**	**03 08 54.7**	**+2.8**
LWLI				S	**Sn**	**03 09 19.4**	**+2.8**
PPSI	**Pulau Pagai**	**2.56**	**300**	P	**Pn**	**03 09 02.3**	**+3.8**
KASI	**Kota Agung**	**2.69**	**123**	P	**Pn**	**03 09 02.6**	**+2.2**
SDSI	**Sungai Dareh**	**3.22**	**346**	P	**Pn**	**03 09 09.2**	**+1.7**
PDSI	**Padang**	**3.59**	**331**	P	**Pn**	**03 09 15.3**	**+2.5**
SISI	**Saibi**	**4.15**	**311**	P	**Pn**	**03 09 22.8**	**+2.5**
CGJI	**Cibinong**	**4.29**	**126**	P	**Pn**	**03 09 24.4**	**+2.2**
CMAR	**Chiang Mai Arr**	**22.62**	**352**	P	**P**	**03 13 13.9**	**-1.7**
	0.6nm,0.3s,baz=188,slow=8.2,SNR=5.3						
H08S2	**Diego Garcia H**	**29.77**	**262**	T	T	03 44 22.1	
	baz=86						
H08S3	**Diego Garcia H**	**29.78**	**262**	T	T	03 44 25.4	
	baz=86						
H08S1	**Diego Carcia H**	**29.79**	**262**	T	T	03 44 36.4	
	baz=86						
H01W3	**Cape Leeuwin H**	**32.59**	**162**	T	T	03 48 50.0	
	baz=338,slow=76,SNR=8.4						
H01W2	**Cape Leeuwin H**	**32.60**	**162**	T	T	03 48 51.1	
	baz=338,slow=76,SNR=7.7						
H01W1	**Cape Leeuwin H**	**32.61**	**162**	T	T	03 48 49.2	
	baz=338,slow=76,SNR=6.4						
WRA	**Warramunga Arr**	**35.05**	**119**	P	**P**	**03 15 05.7**	**-1.4**
	0.5nm,0.3s,baz=297,slow=11,SNR=25						
ASAR	**Alice Springs**	**36.25**	**125**	P	**P**	**03 15 16.7**	**-0.7**
	0.7nm,0.3s,baz=301,slow=7.5,SNR=8.6						
CTA	**Charters Tower**	**45.73**	**114**	P	**P**	**03 16 34.1**	**-1.2**
	1.3nm,0.5s,baz=324,slow=8.7,SNR=3.1						
SONM	**Songino Array**	**51.82**	**4**	P	**P**	**03 17 20.5**	**-1.2**
	0.8nm,0.8s,baz=178,slow=7.2,SNR=5.5						
MKAR	**Makanchi Array**	**53.62**	**343**	P	**P**	**03 17 33.2**	**-1.7**
	0.5nm,0.5s,baz=156,slow=8.5,SNR=5.1						
ZALV	**Zalesovo Beam**	**59.62**	**348**	P	**P**	**03 18 15.9**	**-1.4**
	0.9nm,0.3s,baz=188,slow=10.0,SNR=4.7						
TXAR	**Lajitas Array**	**144.88**	**42**	PKPbc	**PKPab**	**03 27 49.2**	**-0.9**
	0.4nm,0.5s,baz=296,slow=1.3,SNR=10.0						

*ISCJB **23** 03:17:56.6±0.9, 24°56′N±0°07′×122°73′E±0°02, h100km±7km, Error ellipse: s-maj=11.4km s-min=3.5km az=179.2*

*JMA **23** 03:17:56.3±0.2, 24°53′N×122°73′E, h108km±1km, M1.8*

*TAP **23** 03:17:57.1, 24°63′N×122°65′E, h109km, ML2.8, C*

ISC 23 03:17:56.2±1.9, 24°57′N±0°09′×122°73′E±0°03, h107km±13km, n24, σ0961/41, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.23**	**120**	P	**Pn**	**03 18 11.6**	**+0.2**
JYNG				S	**Sn**	**03 18 23.1**	**+0.4**
EOS1	**EOS1**	**0.54**	**268**	*e*P	**Pn**	**03 18 13.6**	**+0.6**
	baz=255						
EOS1				*e*S	**Sn**	**03 18 25.7**	**+0.1**
	baz=255						
TWC	**Suao**	**0.80**	**273**	*e*P	**Pn**	**03 18 15.2**	**0.0**
	baz=266						
TWC				*e*S	**Sn**	**03 18 28.5**	**-0.9**
	baz=266						
NANB	**Nanao**	**0.90**	**261**	*e*P	**Pn**	**03 18 16.5**	**+0.4**
	baz=252						
NANB				*e*S	**Sn**	**03 18 31.4**	**+0.2**
	baz=252						
TIPB	**Shuangxi**	**0.91**	**296**	*e*P	**Pn**	**03 18 16.6**	**+0.3**
	baz=289						
TIPB				*e*S	**Sn**	**03 18 30.4**	**-1.1**
	baz=289						
IRIF	**Iriomote-Funau**	**0.94**	**104**	P	**Pn**	**03 18 16.9**	**+0.3**
IRIF				S	**Sn**	**03 18 31.2**	**-0.8**
ENTT	**Nioudou**	**1.06**	**274**	*e*P	**Pn**	**03 18 18.6**	**+0.8**
	baz=267						
NACB	**Ninganchiao**	**1.10**	**249**	*e*P	**Pn**	**03 18 17.9**	**-0.3**
	baz=244						
NACB				*e*S	**Sn**	**03 18 34.0**	**-0.9**
	baz=244						
HATJ	**Hateruma jima**	**1.11**	**117**	*e*S	**Sn**	**03 18 35.5**	**+0.5**
TWD	**Chiawan**	**1.14**	**245**	*e*P	**Pn**	**03 18 18.7**	**+0.1**
	baz=235						
TWD				*e*S	**Sn**	**03 18 34.7**	**-1.0**
	baz=235						
JKRS	**Kuro-shima**	**1.22**	**105**	*e*S	**Sn**	**03 18 37.7**	**+0.6**
YHNB	**Yeheng**	**1.23**	**275**	*e*P	**Pn**	**03 18 20.5**	**+0.7**
	baz=266						
YHNB				*e*S	**Sn**	**03 18 37.6**	**0.0**
	baz=266						
NSK	**Sanguang**	**1.25**	**275**	*e*S	**Sn**	**03 18 37.8**	**-0.2**
	baz=266						
JIJ	**Ishigaki jima**	**1.31**	**99**	P	**Pn**	**03 18 21.0**	**+0.4**
JIJ				S	**Sn**	**03 18 38.3**	**-0.7**
WHF	**Hehuan Shan**	**1.40**	**253**	*e*P	**Pn**	**03 18 22.6**	**+0.5**
	baz=248						
WHF				*e*S	**Sn**	**03 18 41.2**	**-0.4**
	baz=248						
JISG	**Ishigakijimahi**	**1.44**	**89**	P	**Pn**	**03 18 22.3**	**+0.1**
JISG				S	**Sn**	**03 18 41.1**	**-0.8**
TDCB	**Techi**	**1.46**	**258**	*e*P	**Pn**	**03 18 23.1**	**+0.5**
	baz=254						
TDCB				*e*S	**Sn**	**03 18 41.9**	**-0.7**
	baz=254						
CHGB	**Renai**	**1.50**	**251**	*e*P	**Pn**	**03 18 24.0**	**+0.9**
	baz=241						
CHGB				*e*S	**Sn**	**03 18 43.5**	**-0.1**
	baz=241						
LIOB	**Emei**	**1.56**	**273**	*e*S	**Sn**	**03 18 44.0**	**-0.4**
	baz=270						
NSTT	**Nanjuang**	**1.57**	**273**	*e*S	**Sn**	**03 18 44.3**	**-0.4**
	baz=270						
VWDT	**VWDT**	**1.66**	**241**	*e*P	**Pn**	**03 18 25.7**	**+0.9**
	baz=232						
VWDT				*e*S	**Sn**	**03 18 46.1**	**-0.4**
	baz=232						
YULB	**Yu-li**	**1.75**	**228**	*e*P	**Pn**	**03 18 25.9**	**-0.1**
	baz=230						
YULB				*e*S	**Sn**	**03 18 47.7**	**-1.0**
	baz=230						
SSLB	**Suanglung**	**1.79**	**245**	*e*P	**Pn**	**03 18 27.1**	**+0.5**
	baz=238						
SSLB				*e*S	**Sn**	**03 18 49.8**	**+0.1**
	baz=238						
JTJ	**Tarama**	**1.80**	**87**	*e*S	**Sn**	**03 18 48.8**	**-0.9**

IDC 23 03:20:33.4±1.6, 8°19′S×130°21′E, h0km, mb3.7/2, mb1 3.7/5, mb1mx3.5/29, mbtmp3.6/5, ML3.6/3, Error ellipse: s-maj=79.8km s-min=24.7km az=75.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**7.35**	**8**	Pn	Pn	03 22 21.9	-0.2
	1.4nm,0.3s,baz=180,slow=20,SNR=1.9						
SIJI				Sn	Sn	03 23 28.2	-18
	1.5nm,0.3s,baz=308,slow=22,SNR=4.5						
WRA	**Warramunga Arr**	**12.35**	**162**	Pn	Pn	03 23 29.6	-1.0
	0.3nm,0.3s,baz=344,slow=13,SNR=18						
WRA				Sn	Sn	03 25 43.0	-6.2
	0.5nm,0.3s,baz=352,slow=23,SNR=6.4						
ASAR	**Alice Springs**	**15.79**	**167**	Pn	Pn	03 24 16.6	-0.7
	0.2nm,0.3s,baz=346,slow=8.6,SNR=8.1						
ASAR				Sn	Sn	03 27 06.5	-6.6
	0.1nm,0.3s,baz=359,slow=26,SNR=1.8						
STKA	**Stephens Creek**	**25.84**	**157**	P	P	03 26 07.3	+0.6
	1.4nm,0.8s,baz=328,slow=9.5,SNR=2.8						
MKAR	**Makanchi Array**	**69.33**	**327**	P	P	03 31 42.8	0.0
	0.6nm,0.7s,baz=120,slow=8.1,SNR=2.7						

GUC 23 03:28:08.6±0.5, 23°95S×67°64W, h212km±6km, ML3.6, 4C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.77**	**319**	*i* P	Pn	03 28 47.6	+1.3
LVC				*e*S	S	03 29 16.8	+1.6
PB15	**IPOC Station P**	**1.83**	**293**	↑ *i* P	Pn	03 28 47.8	+1.1
PB15				*i* S	S	03 29 17.9	+2.0
PB06	**IPOC Station P**	**2.16**	**305**	↑ *i* P	Pn	03 28 51.5	+1.6
PB06				*i* S	S	03 29 24.2	+2.6
PB06				IAML		03 29 26.7	
	comp=N,192nm,0.3s						
PB05	**IPOC Station P**	**2.59**	**294**	*e*P	Pn	03 28 56.0	+1.6
PB05				*i* S	S	03 29 31.8	+2.0
PB05				IAML		03 29 35.7	
	comp=N,42nm,0.2s						
PB09	**IPOC Station P**	**2.60**	**325**	*e*P	Pn	03 28 56.8	+2.2
PB09				*e*S	S	03 29 32.9	+2.7
PB09				IAML		03 29 34.9	
	comp=N,77nm,0.4s						
PB03	**IPOC Station P**	**2.71**	**314**	↓ *i* P	Pn	03 28 57.9	+2.0
PB03				*i* S	S	03 29 35.1	+2.7
PB03				IAML		03 29 36.8	
	comp=N,110nm,0.2s						
PB04	**IPOC Station P**	**2.81**	**304**	↓ *i* P	Pn	03 28 59.0	+2.0
PB04				*i* S	S	03 29 37.1	+2.8
PB04				IAML		03 29 38.8	
	comp=N,128nm,0.7s						
PB07	**IPOC Station P**	**3.03**	**316**	*e*P	Pn	03 29 01.4	+2.0
PB07				*i* S	S	03 29 41.6	+2.7
PB07				IAML		03 29 43.2	
	comp=E,110nm,0.3s						
PB02	**IPOC Station P**	**3.34**	**321**	*e*P	Pn	03 29 05.2	+2.1
PB02				*i* S	S	03 29 48.0	+2.6
PB01	**IPOC Station P**	**3.36**	**329**	↑ *i* P	Pn	03 29 05.0	+1.7
PB01				*i* S	S	03 29 48.0	+2.3
PB01				IAML		03 29 48.7	
	comp=E,63nm,0.2s						

MAN 23 03:32:15.5, 10°59N×125°57E, h48km, mb4.3, ML3.1, MS2.9, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.81**	**186**	↓ *e*P	Pn	03 32 31.6	+1.0
SCPH				*e*S	Sn	03 32 43.9	+2.3
PLP	**Palo**	**0.82**	**314**	↑ *e*P	Pn	03 32 30.6	-0.2
PLP				*i* S	Sn	03 32 41.5	-0.3
MSLP	**Maasin**	**0.84**	**237**	*e*P	Pn	03 32 32.4	+1.4
MSLP				*e*S	Sn	03 32 45.0	+2.7
BESP	**Borongan**	**1.01**	**352**	*e*P	Pn	03 32 34.3	+0.9
BESP				*e*S	Sn	03 32 48.2	+1.6

*IDC **23** 03:38:39.7±1.2, 12°51N×87°76W, h0km, mb3.9/8, mb1 4.1/10, mb1mx3.9/37, mbtmp3.9/10, ML3.1/3, MS3.0/2, Ms1 3.0/2, ms1mx2.5/33, Error ellipse: s-maj=48.5km s-min=16.9km az=45.0*

*UCR **23** 03:38:40.7±1.3, 11°98N×88°32W, h22km±20km, MD4.1, ML3.5, mb4.3(NEIC)*

*ISCJB **23** 03:38:41.7±0.7, 11°96N±0°05×88°26W±0°05, h39km±6km, mb4.1/24, MS3.0/1, Error ellipse: s-maj=11.3km s-min=4.1km az=41.3*

*NEIC **23** 03:38:44.3±0.8, 12°13N×88°07W, h45km±8km, mb4.3/21, Error ellipse: s-maj=13.6km s-min=6.0km az=216.0*

ISC 23 03:38:41.4±0.8, 12°05N±0°07×88°19W±0°06, h22km±5km, n65, σ1837/76, mb4.2/24, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**1.11**	**33**	*e*Pn	**Pb**	**03 39 03.0**	**+1.0**
CSGN				*e*Sn	**Sb**	**03 39 11.9**	**-4.1**
CSGN	**Cosiguina Volc**	**1.11**	**33**	*e*P	**Pb**	**03 39 02.8**	**+0.9**
CSGN				*e*S	**Sn**	**03 39 20.9**	**+4.5**
CNCH	**Conchagua**	**1.27**	**16**	*e*P	**Pb**	**03 39 04.7**	**-0.1**
CRIN	**San Cristobal**	**1.29**	**60**	*e*P	**Pb**	**03 39 05.2**	**+0.2**
LCY	**Lacayo**	**1.37**	**356**	*e*P	**Pn**	**03 39 05.4**	**0.0**
LCY				*e*S	**Sb**	**03 39 24.5**	**+0.9**
VSM	**San Miguel**	**1.38**	**356**	*e*P	**Pn**	**03 39 05.8**	**+0.3**
PACA	**Pacayal**	**1.42**	**355**	↑ *e*P	**Pn**	**03 39 06.1**	**0.0**
PACA				*e*S	**Sb**	**03 39 25.5**	**+0.5**
PACA				IAML		03 39 32.5	
	comp=E,3μm,0.4s						
TECA	**Tecapa**	**1.47**	**348**	*e*P	**Pn**	**03 39 06.7**	**-0.2**
TECA				*e*S	**Sb**	**03 39 26.5**	**-0.1**
CNGN	**Cerro Negro**	**1.52**	**73**	*e*P	**Pb**	**03 39 08.8**	**-0.2**
COPN	**Copaltepe**	**1.56**	**85**	*e*P	**Pn**	**03 39 08.7**	**+0.8**
MOMN	**Momotombo**	**1.65**	**77**	*e*P	**Pn**	**03 39 09.7**	**+0.6**
LFRS	**El Faro**	**1.79**	**331**	*e*P	**Pn**	**03 39 10.2**	**-0.8**
LFRS				*e*S	**Sn**	**03 39 34.1**	**+0.9**
MGAN	**Managua**	**1.90**	**87**	*e*P	**Pn**	**03 39 13.4**	**+0.9**
MGAN				IAML		03 39 44.5	
	comp=N,113nm,1.1s						
BOQS	**Boqueron**	**1.99**	**328**	*e*P	**Pn**	**03 39 13.8**	**-0.1**
BOQS				*e*S	**Sn**	**03 39 38.5**	**+0.2**
ESTN	**Estel**	**2.06**	**59**	*e*Pn	**Pn**	**03 39 14.9**	**+0.1**
ESTN	**Estel**	**2.06**	**59**	*e*P	**Pn**	**03 39 15.7**	**+0.8**
SBLS	**San Blas**	**2.27**	**322**	*e*P	**Pn**	**03 39 17.7**	**-0.2**
MATN	**Matagalpa**	**2.38**	**68**	*e*P	**Pn**	**03 39 19.9**	**+0.7**
BOAB	**BOACO BROADBAN**	**2.50**	**80**	*e*Pn	**Pn**	**03 39 22.3**	**+1.6**
BOAB	**BOACO BROADBAN**	**2.50**	**80**	*e*P	**Pn**	**03 39 22.1**	**+1.3**
CONN	**Concepcion**	**2.55**	**101**	*e*P	**Pn**	**03 39 22.0**	**+0.5**
ACON	**Acoyapa**	**2.95**	**91**	*e*P	**Pn**	**03 39 29.4**	**+2.4**
JTS	**JuntasAbangare**	**3.62**	**118**	Pn	**Pn**	**03 39 37.9**	**+1.6**
	comp=N,2.7nm,0.3s,baz=358,slow=23,SNR=11						
JTS				Sn	**Sn**	**03 40 19.2**	**+0.8**
	comp=N,3.0nm,0.3s,baz=24,slow=17,SNR=4.8						
JTS				LR	LR	03 41 19.4	
	comp=N,134nm,20.1s,baz=16,slow=45						
JTS	**JuntasAbangare**	**3.62**	**118**	*e*Pn	**Pn**	**03 39 38.6**	**+2.4**
JTS				Sn	**Sn**	**03 40 19.2**	**+0.8**
APG	**El Apazote**	**3.68**	**323**	Pn	**Pn**	**03 39 38.0**	**+0.7**
	comp=N,0.5nm,0.3s,baz=304,slow=6.7,SNR=8.9						
HDC	**Heredia**	**4.48**	**117**	*e*Pn	**Pn**	**03 39 47.6**	**-0.7**
CCIG	**Comitan**	**5.69**	**318**	*e*Pn	**Pn**	**03 40 06.5**	**+1.7**
CMIG	**Matias Romero**	**8.20**	**309**	Pn	**Pn**	**03 40 40.3**	**+1.2**
	comp=N,0.5nm,0.3s,baz=137,slow=10,SNR=8.8						
CMIG				Sn	**Sn**	**03 42 11.0**	**-0.1**
	comp=N,0.1nm,0.3s,baz=350,slow=7.8,SNR=1.6						
OTAV	**Otavalo**	**15.20**	**140**	*e*Pn	**Pn**	**03 42 15.8**	**+0.5**
	comp=N,0.6nm,0.6s						
LNIG	**Linares**	**16.66**	**322**	*e*Pn	**Pn**	**03 42 33.8**	**+0.2**
	comp=N,9.4nm,0.8s						
ZAIG	**Zacatecas**	**17.36**	**310**	*e*Pn	**P**	**03 42 45.0**	**+0.9**
	comp=N,3.7nm,1.1s						
833A	**Chaparral WMA,**	**19.29**	**329**	*e*P	**Pn**	**03 43 06.3**	**+0.3**
	comp=N,40nm,0.8s						
241A	**Mo Tay, Goldon**	**20.35**	**348**	*e*P	**P**	**03 43 14.4**	**-2.0**
	comp=N,13nm,0.7s						
435B	**Jarrell**	**20.58**	**336**	*e*P	**P**	**03 43 19.2**	**+0.3**
	comp=N,9.1nm,0.6s						
JCT	**Junction City**	**21.27**	**331**	*e*P	**P**	**03 43 26.6**	**+0.2**
	comp=N,6.7nm,0.7s						
TXAR	**Lajitas Array**	**22.44**	**322**	P	**P**	**03 43 39.0**	**-0.1**
	comp=N,1.8nm,0.7s,baz=144,slow=11,SNR=25						
TX31	**Lajitas Ar. Si**	**22.44**	**322**	*e*P	**P**	**03 43 38.9**	**-0.2**
MIAR	**Mount Ida**	**22.93**	**349**	*e*P	**P**	**03 43 44.3**	**+0.3**
	comp=N,14nm,0.9s						
UALR	**University of**	**22.94**	**351**	*e*P	**P**	**03 43 45.4**	**+1.3**
	comp=N,12nm,0.9s						
ABTX	**Abilene, Hawle**	**23.02**	**335**	*e*P	**P**	**03 43 45.8**	**+0.7**
	comp=N,9.3nm,0.9s						
STVI	**Saint Thomas**	**23.27**	**72**	*e*P	**P**	**03 43 45.2**	**-2.5**
	comp=N,14nm,1.0s						
TKL	**Tuckaleechee C**	**23.84**	**9**	P	**P**	**03 43 50.2**	**-2.9**
	comp=N,6.5nm,0.9s,baz=157,slow=7.1,SNR=3.7						
LPIG	**La Paz**	**24.17**	**303**	LR	LR	03 54 18.5	
	comp=N,47nm,20.2s,baz=26,slow=39						
HHAR	**Hobbs**	**24.68**	**349**	*e*P	**P**	**03 44 01.1**	**+0.2**
	comp=N,6.3nm,1.1s						
MNTX	**Cornudas Mount**	**25.17**	**324**	*e*P	**P**	**03 44 06.2**	**+0.8**
	comp=N,2.2nm,0.9s						
MSTX	**Muleshoe**	**25.56**	**331**	*e*P	**P**	**03 44 09.2**	**+0.2**
	comp=N,13nm,1.0s						
AMTX	**Amarillo**	**25.83**	**334**	*e*P	**P**	**03 44 11.4**	**0.0**
	comp=N,14nm,1.1s						
WCI	**Wyandotte Cave**	**26.13**	**3**	*e*P	**P**	**03 44 12.5**	**-1.5**
	comp=N,14nm,0.6s						
SDCO	**Great Sand Dun**	**29.92**	**332**	*e*P	**P**	**03 44 49.9**	**+1.7**
	comp=N,2.2nm,1.0s						
O20A	**White River Ci**	**33.11**	**331**	*e*P	**P**	**03 45 19.9**	**+3.8**
	comp=N,3.0nm,0.9s						
RSSD	**Black Hills**	**34.75**	**340**	*e*P	**P**	**03 45 31.3**	**+0.9**
	comp=N,1.7nm,0.6s						
PDAR	**Pinedale Array**	**35.79**	**333**	P	**P**	**03 45 39.4**	**0.0**
	comp=N,0.7nm,0.9s,baz=122,slow=5.4,SNR=4.8						
PDAR				PcP	**PcP**	**03 48 07.7**	**+0.7**
	comp=N,0.4nm,0.7s,baz=129,slow=4.7,SNR=3.7						
REDW	**Red Top Meadow**	**36.85**	**332**	*e*P	**P**	**03 45 48.9**	**+0.5**
	comp=N,6.6nm,1.0s						
SNOW	**Snow King Moun**	**36.88**	**332**	*e*P	**P**	**03 45 49.7**	**+1.0**
	comp=N,6.6nm,0.9s						
NVAR	**Mina Array Bea**	**37.54**	**320**	P	**P**	**03 45 55.8**	**+1.5**
	comp=N,0.6nm,0.8s,baz=138,slow=9.6,SNR=3.4						
NVAR				PcP	**PcP**	**03 48 14.2**	**+2.0**
	comp=N,0.9nm,0.9s,baz=167,slow=2.9,SNR=4.8						
ULM	**Lac du Bonnet**	**38.61**	**352**	P	**P**	**03 46 00.8**	**-2.1**
	comp=N,8.7nm,0.7s,baz=173,slow=10,SNR=8.8						
MCMT	**McKenzie Canyo**	**38.89**	**332**	*e*P	**P**	**03 46 06.8**	**+1.2**
BOZ	**Bozeman (W)**	**38.94**	**334**	*e*P	**P**	**03 46 07.8**	**+1.8**
	comp=N,2.1nm,0.9s						
BDFB	**Brasilia**	**48.35**	**124**	P	**P**	**03 47 22.0**	**0.0**
	comp=N,1.9nm,0.8s,baz=167,slow=21,SNR=3.4						
YKA	**Yellowknife Ar**	**53.81**	**345**	P	**P**	**03 48 00.8**	**-1.4**
	comp=N,1.0nm,0.7s,baz=133,slow=8.7,SNR=9.9						
INK	**Inuvik**	**63.37**	**343**	P	**P**	**03 49 08.3**	**-0.4**
	comp=N,1.4nm,0.9s,baz=148,slow=9.5,SNR=3.5						
WMQ	**Urumqi**	**124.28**	**4**	*e*P	**PKPdf**	**03 57 39.3**	**+0.3**
KSH	**Kashi**	**126.62**	**15**	*e*PKP	**PKPdf**	**03 57 43.8**	**+0.1**
LZH	**Lanzhou**	**130.80**	**347**	*e*PKP	**PKPdf**	**03 57 50.1**	**-1.7**
LZH				pPKP	pPKPdf	03 58 01.8	+2.6
LZH				sPKP		03 58 06.0	
CMAR	**Chiang Mai Arr**	**148.88**	**347**	PKPbc	**PKPbc**	**03 58 27.9**	**-0.5**
	comp=N,1.5nm,0.6s,baz=337,slow=3.2,SNR=5.5						

*NIED **23** 03:45:00, 39°20N×142°10E, h47km, Mw3.7 Best double couple: M0 4.35000×10^14 NP1: φ=203.00000°, δ=36.00000°, λ=-99.00000°. NP2: φ=34.00000°, δ=54.00000°, λ=-83.00000°.*

*ISCJB **23** 03:45:29.9±0.8, 39°23N±0°04×142°1E±0°1, h52km±6km, mb3.6/7, Error ellipse: s-maj=14.7km s-min=5.6km az=15.6*

*JMA **23** 03:45:31.4, 39°24N×142°08E, h43km±1km, M3.6*

JMA Felt I J1.

*IDC **23** 03:45:34.4±2.6, 39°23N×142°07E, h80km±23km, mb3.4/7, mb1 3.5/10, mb1mx3.3/40, mbtmp3.6/10, MS2.4/4, Ms1 2.4/4, ms1mx2.3/23, Error ellipse: s-maj=27.3km s-min=17.5km az=121.0*

ISC 23 03:45:30.8±1.2, 39°21N±0°05×142°12E±0°09, h44km±10km, n29, σ1934/30, mb3.6/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.37**	**250**	P	**Pn**	**03 45 40.4**	**+0.3**
OFUJ				S	**Sn**	**03 45 46.8**	**+0.1**
MIYJ	**Miyakonagasawa**	**0.43**	**328**	P	**Pn**	**03 45 40.9**	**0.0**
MIYJ				S	**Sn**	**03 45 47.3**	**-0.7**
JKMT	**Kesennumamotoy**	**0.64**	**232**	P	**Pn**	**03 45 43.8**	**+0.3**
JKMT				*i* S	**Sn**	**03 45 52.6**	**0.0**
JOM	**Ohasama**	**0.69**	**293**	P	**Pn**	**03 45 44.3**	**+0.1**
JOM				S	**Sn**	**03 45 53.7**	**-0.2**
JMK	**Ichinoseki**	**0.74**	**250**	P	**Pn**	**03 45 45.1**	**+0.2**
JMK				S	**Sn**	**03 45 54.7**	**-0.4**
JTH	**Tanohata**	**0.75**	**345**	P	**Pn**	**03 45 45.0**	**-0.1**
JTH				*e*S	**Sn**	**03 45 54.4**	**-1.0**
JIO	**Ouri**	**0.96**	**219**	P	**Pn**	**03 45 48.3**	**+0.4**
JIO				S	**Sn**	**03 46 00.3**	**-0.1**
JKZ	**Kuzumaki**	**0.98**	**322**	P	**Pn**	**03 45 48.6**	**+0.4**
JKZ				S	**Sn**	**03 46 01.1**	**+0.1**
JRG	**Rokugo**	**1.17**	**280**	P	**Pn**	**03 45 50.9**	**+0.3**
JANG	**Nango**	**1.25**	**338**	P	**Pn**	**03 45 51.8**	**0.0**
JYK	**Kaneyama**	**1.40**	**258**	P	**Pn**	**

LCO				*e*S		**Sn**	**03 47 54.6**	**+0.4**
LCO				IAML			03 47 58.9	
	comp=E,405nm,0.5s							
RTLS	**Leoncito**	**1.64**	**178**	*i* P		**Pb**	**03 47 34.9**	**-0.6**
RTLS				*i* S		**Sb**	**03 47 56.9**	**+1.1**
RTLS				IAML			03 48 00.2	
	comp=Z,225nm,0.4s							
LSCH	**La Serena**	**1.65**	**278**	*e*P		**Pn**	**03 47 33.2**	**-0.4**
CMCH	**Combarbala**	**1.74**	**234**	*e*P		**Pn**	**03 47 35.6**	**+0.7**
CMCH				IAML			03 48 04.2	
	comp=E,1μm,0.6s							
RTCV	**Cerro Valdivia**	**1.84**	**158**	*i* P		**Pn**	**03 47 37.1**	**+0.8**
RTCV				*i* S		**Sb**	**03 48 01.3**	**-0.2**
GO03	**Copiap**	**2.67**	**343**⇑	*i*P		**Pn**	**03 47 48.8**	**+1.2**
ACAN	**Cantantal**	**2.81**	**139**	*i* P		**Pn**	**03 47 50.6**	**+0.9**
FCH	**Farellones**	**3.26**	**194**⇑	*i*P		**Pn**	**03 47 59.0**	**+3.0**
FCH				IAML			03 48 48.2	
	comp=E,75nm,0.3s							
GO02	**Mina Guanaco**	**4.98**	**358**	*e*P		**Pn**	**03 48 21.8**	**+2.1**

*ISCJB **23** 03:50:15.7±0.8,27.°1N±0.°2×140.°4E±0.°2, h400km, mb3.8/2, Error ellipse: s-maj=23.5km s-min=16.1km az=41.5*

*IDC **23** 03:50:15.8±0.8,27.°21N×140.°19E, h378km±8km, mb3.0/9, mb1 3.2/10, mb1mx3.0/39, mbtmp3.7/10, Error ellipse: s-maj=21.1km s-min=16.9km az=73.0*

ISC 23 03:50:17.1±0.9,27.°1N±0.°2×140.°4E±0.°2, h400km, n11, σ1s71/12, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**1.62**	**91**	P		**Pn**	**03 51 09.8**	**-1.0**
	14nm,0.3s,baz=338,slow=21,SNR=19							
JCJ				S		**S**	**03 51 50.5**	**-3.8**
	37nm,0.3s,baz=260,slow=22,SNR=15							
USRK	**Ussuriysk Ar.**	**18.32**	**341**	P		**P**	**03 54 05.3**	**+0.5**
	0.3nm,0.3s,baz=168,slow=12,SNR=6.2							
SONM	**Songino Array**	**33.58**	**317**	P		**P**	**03 56 21.0**	**-0.7**
	0.2nm,0.5s,baz=127,slow=8.8,SNR=2.2							
WRA	**Warramunga Arr**	**47.16**	**188**	P		**P**	**03 58 12.6**	**+1.1**
	0.3nm,0.8s,baz=7.2,slow=8.6,SNR=11							
MKAR	**Makanchi Array**	**49.20**	**310**	P		**P**	**03 58 25.6**	**-1.1**
	0.6nm,0.7s,baz=106,slow=9.7,SNR=3.2							
ILAR	**Eielson Array**	**58.45**	**29**	P		**P**	**03 59 33.3**	**+0.9**
	0.2nm,0.5s,baz=255,slow=5.6,SNR=2.9							
YKA	**Yellowknife Ar**	**72.87**	**28**	P		**P**	**04 01 04.3**	**+0.9**
	0.4nm,0.4s,baz=297,slow=6.1,SNR=8.1							
ARCES	**ARCESS Array B**	**72.97**	**341**	P		**P**	**04 01 03.5**	**-0.3**
	4.9nm,1.1s,baz=352,slow=7.4,SNR=4.0							
FINES	**FINESS Array B**	**77.19**	**333**	P		**P**	**04 01 27.6**	**-0.2**
	0.8nm,0.3s,baz=72,slow=5.0,SNR=10							
NVAR	**Mina Array Bea**	**81.76**	**51**	P		**P**	**04 01 55.2**	**+2.3**
	0.4nm,0.6s,baz=319,slow=4.2,SNR=4.4							
NOA	**NORSAR Array B**	**82.97**	**338**	P		**P**	**04 01 57.4**	**-1.0**
	1.6nm,1.0s,baz=29,slow=3.5,SNR=2.4							

UCR 23 04:07:09.5±1.0,12.°03N×88.°26W, h59km±158km, MD3.8, ML2.9,1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CSGN	**Cosiguina Volc**	**1.16**	**36**	*e*P		Pn	04 07 30.4	+0.6
CNCH	**Conchagua**	**1.31**	**18**	*e*P		Pn	04 07 31.9	+0.2
LCY	**Lacayo**	**1.39**	**358**	*e*P		Pn	04 07 33.0	+0.2
PACA	**Pacayal**	**1.43**	**357**⇑	*e*P		Pn	04 07 33.5	+0.1
PACA				*e*S		Sn	04 07 52.8	+1.5
TECA	**Tecapa**	**1.48**	**351**	*e*P		Pn	04 07 34.1	+0.1
TECA				*e*S		Sn	04 07 53.3	+0.8
COPN	**Copaltepe**	**1.63**	**85**	*e*P		Pn	04 07 36.1	+0.1
COPN				*e*S		Sn	04 07 51.9	-4.1
COPN				IAML			04 07 56.1	
	comp=Z,140nm,0.3s							
MOMN	**Momotombo**	**1.72**	**77**	*e*P		Pn	04 07 36.9	-0.3
LFRS	**El Faro**	**1.77**	**334**	*e*P		Pn	04 07 37.8	-0.2
LFRS				*e*S		Sn	04 08 00.1	+0.6
LBRS	**Las Brisas**	**1.86**	**336**	*e*P		Pn	04 07 39.2	0.0
SBLS	**San Blas**	**2.24**	**324**	*e*P		Pn	04 07 45.1	+0.6

IDC 23 04:16:56.6±412.0, 51.°37N×117.°61E, h0km, Error ellipse: s-maj=162.2km s-min=145.2km az=115.0, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I34MN	**SONGINO INFRAS**	**8.11**	**248**	*i*			05 08 50.0	
	baz=60,slow=323,SNR=0.4							
I45RU	**USSURIYSK INFR**	**12.02**	**121**	*i*			05 28 40.0	
	baz=311,slow=324,SNR=1.1							
I44RU	**PETROPAVLOVSK24.40**		**70**	*i*			06 47 00.0	
	baz=288,slow=312,SNR=0.9							

*ISCJB **23** 04:36:54.8±0.4, 45.°59S±0.°07×14.°5W±0.°1, h10km, mb4.3/16, MS4.0/15, Error ellipse: s-maj=12.2km s-min=10.1km az=1.6*

*IDC **23** 04:36:55.1±0.6, 45.°53S×14.°49W, h0km, mb4.2/13, mb1 4.2/13, mb1mx4.0/32, mbtmp4.2/13, MS4.0/15, Ms1 4.0/15, ms1mx3.9/20, Error ellipse: s-maj=19.0km s-min=16.9km az=63.0*

*GCMT **23** 04:36:55.5±0.4, 45.°80S±0.°04×14.°33W±0.°05, h13km±1km, MW4.9/61, Moment Tensor Solution. s18,c19; s61,c82; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.03±.22; Mθθ=0.95±.15; Mϕϕ=1.08±.13; Mrθ=0.88±.42; Mϕθ=-0.63±.07; Mϕr=1.42±.36; Best double couple: M○2.48400×10^16 NP1:ϕs324.00000°, δ66.00000°, λ-86.00000°. NP2: ϕs135.00000°, δ24.00000°, λ-99.00000°. Principal axes: T 2.2840, Plg21.0000°, Azm51.0000°; N 0.3980, Plg4.0000°, Azm143.0000°; P -2.6840, Plg69.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **23** 04:36:56.5±0.3, 45.°53S×14.°55W, h10km, mb4.4/3 Error ellipse: s-maj=10.2km s-min=9.4km az=139.0*

ISC 23 04:36:56.6±0.5, 45.°6S±0.°1×14.°5W±0.°1, h10km, n48, σ0s91/33, mb4.3/16, MS4.0/15, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNA2	**Neumayer--Watz**	**25.66**	**175**	P		**P**	**04 42 24.2**	**-1.9**
	baz=344,slow=11							
VNA3	**Neumayer Olymp**	**25.85**	**176**	P		**P**	**04 42 26.9**	**-0.9**
SNAA	**Sanae**	**26.76**	**172**	P		**P**	**04 42 37.8**	**+1.7**
	3.4nm,0.9s,baz=281,slow=9.6,SNR=5.5							
SNAA				LR		LR	04 50 31.9	
	comp=Z,122nm,19.4s,baz=340,slow=30							
SNAA	**Sanae**	**26.76**	**172**	*e*P		**P**	**04 42 36.8**	**+0.6**
	8.2nm,1.1s							
SUR	**Sutherland**	**30.22**	**77**	LR		LR	04 52 14.3	
	comp=Z,708nm,20.9s,baz=227,slow=30							
H10S2	**ASCENSION HYDR**	**36.48**	**360**	T		T	05 22 56.1	
	baz=180,slow=75,SNR=15							
H10S3	**ASCENSION HYDR**	**36.49**	**360**	T		T	05 22 46.7	
	baz=180,slow=75,SNR=16							
H10S1	**ASCENSION HYDR**	**36.50**	**360**	T		T	05 22 46.5	
	baz=180,slow=75,SNR=16							
LBTB	**Lobatse**	**38.14**	**71**	P		**P**	**04 44 16.8**	**+0.8**
	2.4nm,0.6s,baz=209,slow=9.4,SNR=3.7							
CPUP	**Villa Florida**	**39.06**	**285**	LR		LR	04 57 33.3	
	comp=Z,132nm,20.8s,baz=154,slow=32							
PLCA	**Paso Flores**	**40.45**	**256**	P		**P**	**04 44 36.0**	**+0.9**
	2.0nm,1.0s,baz=119,slow=10,SNR=2.7							
PLCA				LR		LR	05 00 33.2	
	comp=Z,170nm,18.6s,baz=142,slow=35							
PLCA	**Paso Flores**	**40.45**	**256**	*e*P		**P**	**04 44 36.0**	**+0.9**
	55nm,2.0s							
BDFB	**Brasilia**	**40.97**	**306**	P		**P**	**04 44 40.0**	**+0.3**
	2.6nm,0.8s,baz=155,slow=9.0,SNR=5.5							
BDFB				LR		LR	04 58 42.0	
	comp=Z,208nm,18.5s,baz=215,slow=32							
MATP	**Matopo**	**43.24**	**69**	P		**P**	**04 44 58.1**	**-0.2**
	4.6nm,0.7s,baz=226,slow=8.1,SNR=10							
MAW	**Mawson**	**44.26**	**148**	P		**P**	**04 45 04.8**	**-0.9**
	2.8nm,0.8s,baz=251,slow=8.3,SNR=8.8							
QSPA	**South Pole Qui**	**44.68**	**180**	P		**P**	**04 45 09.5**	**+0.1**
	4.9nm,1.0s,baz=214,slow=4.0,SNR=11							
LCO	**Las Campanas**	**46.69**	**271**	*e*P		**P**	**04 45 24.6**	**-1.2**
LSZ	**Lusaka**	**46.81**	**64**	*e*P		**P**	**04 45 27.3**	**+0.6**
	8.2nm,1.2s							
SIV	**San Ignacio**	**48.73**	**292**	P		**P**	**04 45 41.3**	**-0.2**
	2.0nm,0.8s,baz=150,slow=6.1,SNR=8.3							

DBIC	**Dimbokro**	**52.73**	**12**	LR		LR	05 02 56.5	
	comp=Z,77nm,18.7s,baz=166,slow=30							
LPAZ	**La Paz**	**53.22**	**285**	LR		LR	05 08 55.0	
	comp=Z,113nm,18.2s,baz=120,slow=36							
SBA	**Scott Base**	**56.84**	**180**	*e*P		**P**	**04 46 41.4**	**+0.8**
	13nm,1.3s							
VNDA	**Vanda**	**57.16**	**179**	P		**P**	**04 46 43.1**	**+0.3**
	1.7nm,1.1s,baz=222,slow=6.9,SNR=5.8							
VNDA				LR		LR	05 09 35.6	
	comp=Z,104nm,18.1s,baz=180,slow=34							
VNDA	**Vanda**	**57.16**	**179**	*e*P		**P**	**04 46 43.1**	**+0.3**
	9.5nm,1.5s							
PTGA	**Pitinga**	**59.88**	**305**	P		**P**	**04 47 02.8**	**+0.1**
	1.0nm,0.3s,baz=136,slow=10,SNR=4.6							
TOA0	**Torodi Ar. Sit**	**60.26**	**18**	*e*P		**P**	**04 47 04.3**	**-0.8**
TORD	**Torodi Ar. Bea**	**60.26**	**18**	P		**P**	**04 47 04.0**	**-1.1**
	1.7nm,1.1s,baz=236,slow=2.4,SNR=6.0							
TORD				LR		LR	05 07 21.7	
	comp=Z,121nm,22.0s,baz=260,slow=30							
TOA1	**Torodi Ar. Sit**	**60.27**	**18**	*e*P		**P**	**04 47 04.0**	**-1.1**
NNA	**Nana**	**62.21**	**282**	LR		LR	05 12 04.9	
	comp=Z,124nm,19.9s,baz=143,slow=34							
KMBO	**Kilima Mbogo**	**63.37**	**61**	LR		LR	05 11 59.4	
	comp=Z,186nm,21.5s,baz=270,slow=33							
OTAV	**Otavalo**	**72.19**	**289**	*e*P		**P**	**04 48 22.8**	**+0.5**
	1.6nm,0.7s							
ROSC	**El Rosal**	**72.99**	**296**	LR		LR	05 18 47.0	
	comp=Z,69nm,19.6s,baz=106,slow=34							
H08S1	**Diego Garcia H**	**82.51**	**93**	T		T	06 19 37.6	
H08S2	**Diego Garcia H**	**82.52**	**93**	T		T	06 19 37.3	
	baz=83,slow=74,SNR=4.4							
H08S3	**Diego Garcia H**	**82.53**	**93**	T		T	06 19 35.3	
	baz=222,slow=74,SNR=8.3							
KEST	**Kesra**	**83.76**	**19**	LR		LR	05 22 56.3	
	comp=Z,93nm,19.4s,baz=272,slow=33							
ESDC	**Sonseca Array**	**85.40**	**8**	P		**P**	**04 49 34.1**	**+0.3**
	1.8nm,0.9s,baz=183,slow=5.5,SNR=5.7							
ES19	**SONSECA Array**	**85.43**	**8**	*e*P		**P**	**04 49 34.8**	**+0.8**
BRTR	**Keskin Array B**	**95.27**	**35**	P		**P**	**04 50 20.6**	**+0.2**
	1.8nm,1.1s,baz=205,slow=2.6,SNR=4.9							
BRTR				LR		LR	05 33 57.1	
	comp=Z,37nm,18.7s,baz=256,slow=36							
BR101	**Keskin Array S**	**95.27**	**35**	*e*P		**P**	**04 50 20.6**	**+0.2**
GERES	**GERESS Array B**	**97.22**	**18**	LR		LR	05 30 52.7	
	comp=Z,72nm,20.1s,baz=263,slow=33							
SONA0	**Songino Array**	**140.28**	**65**	*e*PKPdf		**PKPdf**	**04 56 24.4**	**-0.8**
SONM	**Songino Array**	**140.28**	**65**	PKP		**PKPdf**	**04 56 24.4**	**-0.8**
	0.4nm,0.6s,baz=174,slow=1.4,SNR=3.5							
TOLK	**Toolik Lake Re**	**147.61**	**331**	*e*PKPbc		**PKPbc**	**04 56 39.3**	**-0.7**
IL1	**Eielson Array**	**147.77**	**324**	*e*PKPbc		**PKPdf**	**04 56 39.0**	**+1.5**
ILAR	**Eielson Array**	**147.77**	**324**	PKPbc		**PKPbc**	**04 56 39.4**	**-1.0**
	1.6nm,0.8s,baz=72,slow=0.9,SNR=16							
ILB	**Eielson Array**	**147.77**	**324**	*e*PKPdf		**PKPdf**	**04 56 38.8**	**+1.3**
COLA	**College**	**148.15**	**324**	*e*PKPab		**PKPab**	**04 56 43.5**	**-0.8**

IDC 23 04:38:51.8±2.5, 6.°39S×130.°48E, h0km, mb3.8/1, mb1 3.7/3, mb1mx3.4/28, mbtmp3.6/3, ML3.5/2, MS3.7/5, Ms1 3.7/5, ms1mx3.1/38, Error ellipse: s-maj=140.3km s-min=33.5km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.98**	**165**	Pn		Pn	04 42 10.7	-0.8
	0.2nm,0.3s,baz=348,slow=13,SNR=10							
WRA				Sn		Sn	04 44 35.4	-12
	0.4nm,0.3s,baz=334,slow=22,SNR=9.6							
ASAR	**Alice Springs**	**17.49**	**169**	P		Pn	04 42 57.9	+0.6
	0.2nm,0.3s,baz=354,slow=12,SNR=6.7							
ASAR				S		Sn	04 45 58.7	-14
	0.1nm,0.3s,baz=354,slow=26,SNR=2.9							
USRK	**Ussuriysk Ar.**	**50.37**	**1**	LR		LR	05 07 12.4	
	comp=Z,47nm,20.6s,baz=331,slow=34							
MKAR	**Makanchi Array**	**67.98**	**326**	P		P	04 49 52.8	0.0
	1.0nm,0.9s,baz=129,slow=3.9,SNR=2.0							
MKAR				LR		LR	05 20 11.9	
	comp=Z,50nm,21.2s,baz=92,slow=36							
AAK	**Ala-Archa**	**70.39**	**320**	LR		LR	05 23 11.2	
	comp=Z,62nm,21.1s,baz=75,slow=38							
BVAR	**Borovoye Array**	**77.80**	**328**	LR		LR	05 26 36.9	
	comp=Z,57nm,19.9s,baz=88,slow=37							
KBZ	**Khabaz**	**92.62**	**314**	LR		LR	05 41 30.5	
	comp=Z,35nm,18.1s,baz=258,slow=41							

PGC 23 04:47:18.4±1.2, 52.°23N×132.°14W, h31km, ML3.5/10, ML3.4/10, 116km Ssw of Sandspit, Bc Haida Gwaii Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BNB	**Barry Inlet**	**0.42**	**34**	P		Pb	04 47 28.0	+0.2
BNB				S		Sb	04 47 34.4	+0.3
HG3B	**Hotspring**	**0.56**	**50**	P		Pb	04 47 29.7	-0.1
HG3B				S		Sb	04 47 36.4	-1.1
HG4B	**Hotspring**	**0.58**	**83**	P		Pb	04 47 29.5	-0.8
HG4B				S		Sb	04 47 35.8	-2.5
HG1B	**Mitchell Dam**	**0.71**	**1**	P		Pb	04 47 32.2	-0.2
HG1B				S		Sb	04 47 41.4	-0.4
MOBC	**Moresby Island**	**0.93**	**6**	P		Pn	04 47 35.7	+0.3
MOBC				S		Sb	04 47 47.9	-0.1
DIB	**Dawson Inlet,**	**1.00**	**348**	P		Pn	04 47 36.2	-0.1
DIB				S		Sn	04 47 48.4	-1.0
VIB	**Van Inlet**	**1.06**	**347**	P		Pn	04 47 37.1	-0.1
VIB				S		Sn	04 47 50.2	-0.8
RUBB	**Prince Rupert**	**2.39**	**28**	Pn		Pn	04 47 57.0	+1.5
BBB	**Bella Bella**	**2.48**	**89**	Pn		Pn	04 47 57.0	+0.3
BBB				S		Sn	04 48 24.0	-1.8
PHC	**Port Hardy**	**3.31**	**115**	Pn		Pn	04 48 07.4	-0.7
PHC				S		Sn	04 48 42.3	-4.1
PACB	**Port Alice, BC**	**3.42**	**120**	S		Sn	04 48 47.0	-2.1
MAYB	**Maynard**	**3.61**	**118**	Pn		Pn	04 48 13.0	+0.6
MAYB				S		Sn	04 48 49.8	-4.2
WOSB	**Woss**	**4.07**	**118**	Pn		Pn	04 48 19.6	+1.0
WOSB				S		Sn	04 49 02.6	-2.6
FSB	**Fort Saint Jam**	**5.20**	**61**	Pn		Pn	04 48 36.5	+2.5
FSB				Sg		Sb	04 50 02.9	+13

*BJI **23** 04:52:38.6, 14.°01N×120.°92E, h218km, mb5.0/59, mB4.7/42*

*KLM **23** 04:52:38.0, 14.°05N×120.°99E, h209km, mb5.1*

*ISCJB **23** 04:52:39.6±0.2, 14.°13N±0.°01×120.°74E±0.°02, h215km±1km, mb5.0/220, Error ellipse: s-maj=3.3km s-min=2.3km az=172.4*

*MAN **23** 04:52:39.6, 14.°15N×120.°57E, h196km, mb5.7, ML4.7, MS5.0*

*MOS **23** 04:52:39.2±0.9, 14.°10N×120.°73E, h212km, mb5.1/82, Error ellipse: s-maj=8.1km s-min=4.3km az=120.5*

*NEIC **23** 04:52:40.0±0.3, 14.°07N×120.°71E, h209km±2km, mb5.1/111, Error ellipse: s-maj=2.6km s-min=2.1km az=78.0*

NEIC Felt [II PIVS] at Nasugbu. Also felt at Dinalupihan.

*IDC **23** 04:52:40.7±0.3, 14.°05N×120.°76E, h214km±2km, mb4.6/41, mb1 4.7/43, mb1mx4.6/49, mbtmp5.2/43, Error ellipse: s-maj=8.1km s-min=4.9km az=64.0*

*GCMT **23** 04:52:40.0±0.2, 14.°18N±0.°02×120.°77E±0.°02, h203km±1km, MW5.0/96, Moment Tensor Solution. s48,c54; s96,c135; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=4.19±.12; Mθθ=-4.41±.14; Mϕϕ=0.21±.16; Mrθ=-0.25±.12; Mϕθ=0.42±.14; Mϕr=-2.07±.14; Best double couple: M○4.76900×10^16 NP1:ϕs254.00000°, δ50.00000°, λ59.00000°. NP2:ϕs117.00000°, δ49.00000°, λ122.00000°. Principal axes: T 5.0890, Plg67.0000°, Azm96.0000°; N -0.6440, Plg23.0000°, Azm275.0000°; P -4.4490, Plg0.0000°, Azm5.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **23** 04:52:42.0±0.5, 14.°N±3.°×12.°E±.°, h225km±6km, M4.8/66, mB5.3/36, mb5.1/66, Mw(mB)4.7/36, Mwp5.8/1*

ISC 23 04:52:40.4±0.3, 14.°11N±0.°03×120.°70E±0.°03, h210km±2km, h211km:pP-P, n755, σ1s10/866, mb5.0/232, 43C-17D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TGY	**Tagaytay City**	**0.23**	**91**	P		**Pn**	**04 53 07.7**	**-0.3**
	2μm,0.3s,baz=236,slow=1.3,SNR=314							
TGY				S		**S**	**04 53 31.6**	**+2.1**
	1μm,0.3s,baz=46,slow=18,SNR=7.2							
TGY	**Tagaytay City**	**0.23**	**91**	⇓*i*P		**Pn**	**04 53 07.4**	**-0.6**

LUBP	**Lubang**	**0.57**	**230**	*e*P		**Pn**	**04 53 07.2**	**-1.8**
LUBP				*e*S		**S**	**04 53 27.9**	**-3.3**
BOAC	**Boac**	**1.29**	**120**	*e*P		Pn	**04 53 12.8**	**-0.4**
BOAC				*e*S		**S**	**04 53 39.1**	**+0.6**
POLP	**Polilio Island**	**1.35**	**63**	*e*P		**Pn**	**04 53 13.8**	**+0.1**
PCPH	**Palayan**	**1.50**	**15**⇑	*i*P		Pn	**04 53 13.8**	**-1.1**
PCPH				*e*S		**S**	**04 53 40.0**	**-1.7**
SJMP	**San Jose**	**1.69**	**166**	*e*P		Pn	**04 53 15.5**	**-1.2**
SJMP				*e*S		**S**	**04 53 41.9**	**-2.8**
GQP	**Guinayangan**	**1.71**	**97**⇑	*i*P		Pn	**04 53 17.1**	**+0.2**
GQP				*i* S		**S**	**04 53 45.2**	**+0.4**
SCZP	**Santa Cruz**	**1.82**	**335**	*e*P		Pn	**04 53 16.3**	**-1.6**
BALP	**Baler**	**1.83**	**28**	*e*P		Pn	**04 53 18.0**	**0.0**
AUOP	**San Andres**	**2.07**	**112**	*e*P		Pn	**04 53 22.0**	**+1.6**
BUSP	**Coron**	**2.15**	**193**	*e*P		Pn	**04 53 20.1**	**-1.1**
BUSP				*e*S		**S**	**04 53 49.9**	**-2.8**
OTRP	**Odiongan**	**2.16**	**143**	*e*P		Pn	**04 53 20.6**	**-0.8**
OTRP				*e*S		**S**	**04 53 51.3**	**-1.6**
BOLP	**Bolinao**	**2.38**	**342**	*e*P		Pn	**04 53 22.4**	**-1.2**
BOLP				*e*S		**S**	**04 53 52.6**	**-4.5**
CAUP	**Cauayan**	**3.02**	**21**	*e*P		Pn	**04 53 30.9**	**+0.1**
CAUP				*e*S		S	04 54 20.4	+10
ENPP	**El Nido**	**3.14**	**203**	*e*P		Pn	**04 53 32.2**	**0.0**
ENPP				*e*S		**S**	**04 54 11.5**	**-0.9**
CUYO	**Cuyo Island**	**3.25**	**174**	*e*P		Pn	**04 53 33.0**	**-0.5**
PALP	**Palanan**	**3.38**	**29**	*e*P		Pn	**04 53 35.2**	**+0.2**
PVCP	**Virac**	**3.40**	**98**	*e*P		Pn	**04 53 36.6**	**+1.4**
ABRA	**Dolores**	**3.52**	**0**	*e*P		Pn	**04 53 34.6**	**-2.1**
ABRA				*e*S		**S**	**04 54 17.4**	**-3.2**
JAP	**San Jose, Anti**	**3.56**	**160**⇑	*e*P		Pn	**04 53 38.2**	**+1.0**
JAP				*e*S		S	04 53 59.6	-22
APYP	**Conner**	**3.77**	**8**	*e*P		Pn	**04 53 39.1**	**-0.6**
APYP				*e*S		**S**	**04 54 24.1**	**-1.9**
GUIM	**Jordan**	**3.92**	**152**	*e*P		Pn	**04 53 42.6**	**+1.0**
SGCP	**Mt. Cagua**	**4.31**	**17**	*e*P		Pn	**04 53 44.9**	**-1.5**
LLP	**Lapu-Lapu**	**4.94**	**139**⇓	*e*P		Pn	**04 53 54.8**	**+0.4**
LLP				*e*S		**S**	**04 54 57.2**	**+4.8**
PLP	**Palo**	**5.10**	**125**⇓	*i*P		Pn	**04 53 57.5**	**+1.1**
BESP	**Borongan**	**5.25**	**118**	*e*P		Pn	**04 53 59.6**	**+1.3**
SNPH	**Sibulan**	**5.35**	**152**⇑	*i*P		Pn	**04 54 01.1**	**+1.5**
MSLP	**Maasin**	**5.67**	**134**	*e*P		Pn	**04 54 05.1**	**+1.5**
BATP	**Bataraza**	**5.99**	**209**	*e*P		Pn	**04 54 07.6**	**-0.2**
DCPH	**Dipolog City**	**6.08**	**154**⇓	*e*P		Pn	**04 54 10.3**	**+1.5**
BBP	**Basco**	**6.41**	**11**	*e*P		Pn	**04 54 11.0**	**-2.1**
IPIL	**Ipil**	**6.54**	**163**	*e*P		Pn	**04 54 14.9**	**0.0**
PAGZ	**Pagadian**	**6.76**	**157**	*e*P		Pn	**04 54 18.5**	**+0.9**
CGP	**Cagayan de Oro**	**6.85**	**145**	*e*P		Pn	**04 54 19.9**	**+1.1**
BUKP	**Musuan**	**7.53**	**145**	*e*P		Pn	**04 54 29.6**	**+1.9**
CTBH	**Cotabato--PC H**	**7.68**	**153**⇓	*e*P		Pn	**04 54 29.7**	**+0.1**
KDM	**Kudat**	**8.09**	**208**	P		Pn	**04 54 35.0**	**+0.1**
SKMP	**Bagumbayan, Su**	**8.44**	**153**	*e*P		Pn	**04 54 39.9**	**+0.5**
DAV	**Davao City (W)**	**8.48**	**145**	P		Pn	**04 54 41.1**	**+1.2**
	62nm,0.3s,baz=3.4,slow=3.6,SNR=6.4							
TPUB	**Ta-pu**	**9.14**	**360**	*e*Pn		Pn	**04 54 48.4**	**-0.1**
KKM	**Kota Kinabalu**	**9.15**	**209**	*e*Pn		Pn	**04 54 48.2**	**-0.5**
KKM	**Kota Kinabalu**	**9.15**	**209**	P		Pn	**04 54 48.0**	**-0.7**
YULB	**Yu-li**	**9.25**	**3**	*e*Pn		Pn	**04 54 48.8**	**-1.1**
SSLB	**Suanglung**	**9.63**	**1**	*e*Pn		Pn	**04 54 54.4**	**-0.4**
SSLB				*e*Sn		S	04 57 04.5	+22
NACB	**Ninganchiao**	**10.05**	**5**	*e*Pn		Pn	**04 54 59.1**	**-1.0**
MCO	**Taipa Grande**	**10.47**	**321**	P		Pn	**04 55 06.0**	**+0.5**
YHNB	**Yeheng**	**10.53**	**3**	*e*Pn		Pn	**04 55 05.9**	**-0.4**
TATO	**Taipei**	**10.84**	**4**	*e*Pn		Pn	**04 55 10.3**	**+0.1**
QZH	**Quanzhou**	**10.96**	**350**⇓	*i*P		Pn	**04 55 11.5**	**-0.3**
QZH				S		**S**	**04 57 13.0**	**-1.4**
QZH				pmax		pmax		
	comp=Z,100nm,0.7s							
GZH	**Guangzhou**	**11.33**	**323**	P		**P**	**04 55 20.8**	**-1.1**
GZH				S		S	04 57 32.5	+11
GZH				LR		LR		
	comp=N,850nm,13.8s							
GZH				LR		LR		
	comp=E,920nm,13.0s							
SGSI	**Sangihe**	**11.40**	**155**	P		**Pn**	**04 55 18.3**	**+0.8**
	297nm,0.6s							
QIZ	**Qiongzhong**	**11.50**	**297**	P		**Pn**	**04 55 18.4**	**-0.3**
QIZ				S		**S**	**04 57 27.8**	**+1.7**

MYKOM **Kota Tinggi** **20.67 235** *e*P **P** **04 57 03.8 -0.6**
comp=Z,54nm,0.8s
MYKOM **Kota Tinggi** **20.67 235** P **P** **04 57 05.0 +0.6**
TPRI **Tanjung Pinang** **20.68 232** P **P** **04 57 06.8 +2.3**
LAMP **Lampang** **20.68 285** P **P** **04 57 05.9 +1.4**
comp=Z,44nm,0.8s,comp=Z,320nm
SKLT **Songkhla** **20.89 253** P **P** **04 57 07.0 +0.3**
comp=Z,59nm,1.1s,comp=Z,3μm
SRDT **SRDT** **20.92 273** P **P** **04 57 08.7 +1.7**
comp=Z,61nm,1.1s
JNU **Nakatsue** **21.08 24** P **P** **04 57 08.4 -0.2**
comp=Z,5.9nm,0.7s,baz=190,slow=11,SNR=3.1
JNU PcP **PcP** **05 01 07.2 +1.1**
comp=Z,1.5nm,0.4s,baz=86,slow=2.8,SNR=4.2
UMPA **Umpang Tak** **21.18 278** P **P** **04 57 11.0 +1.2**
comp=Z,47nm,0.9s
CM01 **Chiang Mai Arr** **21.30 285** *e*P **P** **04 57 11.2 +0.3**
CM01 *e*PcP **PcP** **05 01 07.1 +0.4**
CM31 **Chiang Mai Arr** **21.32 285** *e*P **P** **04 57 11.4 +0.2**
CM31 *e*PcP **PcP** **05 01 08.5 +1.7**
CM31 **Chiang Mai Arr** **21.32 285** P **P** **04 57 12.3 +1.1**
SNR=48
CMAR **Chiang Mai Arr** **21.32 285** P **P** **04 57 12.2 +1.0**
comp=Z,58nm,0.9s,baz=96,slow=7.7,SNR=198
CMAR S **S** **05 00 55.7 +1.0**
comp=Z,0.7nm,0.3s,baz=85,slow=14,SNR=4.8
CMAR PcP **PcP** **05 01 08.0 +1.2**
comp=Z,4.1nm,0.5s,baz=119,slow=0.6,SNR=10
CMAR ScP **ScP** **05 04 23.8 -0.1**
comp=Z,0.5nm,0.3s,baz=62,slow=1.9,SNR=4.5
CMAR P3KPbc 05 31 04.6
comp=Z,1.1nm,0.8s,baz=282,slow=6.0,SNR=6.9
CMAR **Chiang Mai Arr** **21.32 285***c**e*P **P** **04 57 12.1 +0.9**
CMAR pmax pmax
comp=Z,58nm,0.9s
CHTO **Chiang Mai** **21.37 286** *e*P **P** **04 57 12.7 +1.0**
comp=Z,59nm,1.1s
CHTO **Chiang Mai** **21.37 286** P **P** **04 57 12.4 +0.6**
SNR=15
CHTO **Chiang Mai** **21.37 286** *e*P **P** **04 57 12.7 +1.0**
CHTO pmax pmax
comp=Z,59nm,1.1s
KULM **Kulim** **21.60 248** *e*P **P** **04 57 13.8 -0.3**
comp=Z,65nm,1.2s
KULM **Kulim** **21.60 248** P **P** **04 57 14.0 0.0**
IPM **Ipoh** **21.62 246** *e*P **P** **04 57 13.4 -0.9**
comp=Z,75nm,0.9s
PPBI **Pangkal Pinang** **21.67 223** P **P** **04 57 16.6 +1.9**
SRPI **Serui, Papua** **22.12 135** P **P** **04 57 20.2 +1.1**
comp=Z,533nm,0.9s
XAN **Xi'an** **22.53 334** P **P** **04 57 22.6 -0.1**
XAN S **S** **05 01 08.3 -5.6**
XAN PcP **PcP** **05 01 13.9 +4.9**
XAN pmax pmax
comp=Z,21nm,0.5s
XAN pmax pmax
comp=Z,63nm,3.5s
XAN LR LR
comp=Z,240nm,14.1s
XAN LR LR
comp=Z,300nm,13.6s
XAN LR LR
comp=Z,190nm,13.8s
MMRI **Maumere** **22.65 176** P **P** **04 57 26.9 +3.0**
comp=Z,63nm,0.5s
SRBI **Singaraja** **22.71 194** P **P** **04 57 25.1 +0.7**
comp=Z,76nm,0.8s
EDFI **Ende, Flores** **22.73 177** P **P** **04 57 24.5 -0.2**
comp=Z,288nm,0.7s,comp=Z,μm
CD2 **Chengdu** **22.85 320** P **P** **04 57 26.1 +0.5**
CD2 sP **sP** 04 58 28.8 -0.7
CD2 S **S** **05 01 21.3 +2.2**
CD2 pmax pmax
comp=Z,100nm,0.6s
CD2 pmax pmax
comp=Z,160nm,4.5s
CD2 LR LR
comp=Z,1μm,13.1s
CD2 LR LR
comp=Z,1μm,12.9s
CD2 LR LR
comp=Z,710nm,8.4s
TJN **Taejon** **22.97 14***c**e*P **P** **04 57 26.6 +0.1**
PLAI **Plampang** **22.97 187** P **P** **04 57 26.9 +0.2**
TWSI **Taliwang, Sumb** **23.01 190** P **P** **04 57 27.9 +0.8**
comp=Z,88nm,0.8s,comp=Z,1μm
NGJI **Ngawi** **23.22 204** P **P** **04 57 32.1 +3.1**
comp=Z,58nm,0.8s
DNP **Denpasar** **23.28 194** P **P** **04 57 30.9 +1.3**
comp=Z,622nm,0.8s
JAGI **Jajag, Banyuwa** **23.35 197** P **P** **04 57 31.4 +1.2**
comp=Z,121nm,0.9s
IGBI **Denpasar** **23.43 194** P **P** **04 57 31.5 +0.6**
WBSI **Waikabubak, Su** **23.63 183** P **P** **04 57 32.7 -0.1**
BKNI **Bangkinang** **23.79 237** P **P** **04 57 35.1 +0.9**
comp=Z,250nm,0.8s,comp=Z,6μm
CBIJ **Chichi jima** **23.86 54** *e*P **P** **04 57 34.2 -0.6**
comp=Z,136nm,0.9s
JCJ **Chichijima** **23.86 54** P **P** **04 57 34.2 -0.5**
comp=Z,106nm,0.4s,baz=261,slow=3.3,SNR=16
WOJI **Wonogiri, Jawa** **23.86 205** P **P** **04 57 36.5 +1.6**
comp=Z,72nm,1.6s,comp=Z,2μm
SOEI **Soe** **23.97 171** P **P** **04 57 36.6 +0.6**
comp=Z,108nm,0.8s
KSAR **Wonju Array Be** **24.11 14** P **P** **04 57 37.0 +0.2**
KSAR PcP **PcP** **05 01 12.1 -0.1**
KSAR **Wonju Array Be** **24.11 14** P **P** **04 57 37.1 +0.2**
KSAR 05 01 12.1
KSRS **Korea Array** **24.13 14** P **P** **04 57 37.0 0.0**
comp=Z,10nm,0.9s,baz=193,slow=10.0,SNR=12
KSRS PcP **PcP** **05 01 12.1 -0.2**
comp=Z,3.0nm,0.8s,baz=162,slow=3.3,SNR=5.0
KS01 **Wonju Array Si** **24.14 14** *e*P **P** **04 57 37.4 +0.2**
ANA2 **Anatahan** **24.23 82** *e*P **P** **04 57 38.3 0.0**
comp=Z,108nm,0.8s
TSI **Tuntungan** **24.25 246** P **P** **04 57 41.9 +3.5**
comp=Z,226nm,1.1s
PSI **Prapat** **24.26 244** P **P** **04 57 39.1 +0.5**
comp=Z,76nm,0.7s,baz=0.5,slow=4.2,SNR=57
PSI **Prapat** **24.26 244** *e*P **P** **04 57 39.2 +0.5**
comp=Z,90nm,0.7s
PSI **Prapat** **24.26 244** *e*P **P** **04 57 39.2 +0.5**
PSI pmax pmax
comp=Z,90nm,0.7s
KPJI **Karang Pucung** **24.29 209** P **P** **04 57 41.4 +2.6**
comp=Z,70nm,0.8s
BATI **Baumata** **24.34 173** P **P** **04 57 38.4 -0.8**
comp=Z,216nm,0.7s,baz=340,slow=1.3,SNR=27
BATI PcP **PcP** **05 01 14.2 +1.1**
comp=Z,22nm,0.4s,baz=216,slow=0.5,SNR=3.6
BATI **Baumata** **24.34 173** P **P** **04 57 38.3 -0.9**
comp=Z,120nm,0.8s,comp=Z,1μm
LEM **Lembang** **24.52 213** P **P** **04 57 42.4 +1.4**
comp=Z,84nm,0.7s,baz=15,slow=4.5,SNR=14
TIY **Taiyuan** **24.63 344** *e*P **P** **04 57 42.6 +0.9**
TIY pP **pP** **04 58 26.9 +4.7**
TIY sP **sP** **04 58 46.8 -1.1**
TIY S **S** **05 01 49.1 +1.7**
TIY sS **sS** **05 02 56.5 -5.1**
TIY SS SS 05 03 12.5 -27
TIY LR LR
comp=Z,260nm,13.6s
TIY LR LR
comp=Z,110nm,6.2s
TIY LR LR
comp=Z,95nm,11.3s
MDSI **Maura Dua** **24.69 223** P **P** **04 57 42.9 +0.5**
comp=Z,27nm,1.0s
MNSI **Mandailing Nat** **24.73 239** P **P** **04 57 42.9 +0.2**
comp=Z,102nm,0.8s,comp=Z,10μm
SBJI **Serang** **24.75 217** P **P** **04 57 45.0 +2.0**
comp=Z,141nm,1.0s,comp=Z,8μm
KCSI **Kotacane, Aceh** **24.95 247** P **P** **04 57 44.2 -0.6**
comp=Z,53nm,1.1s,comp=Z,458nm
PDSI **Padang** **24.99 235** P **P** **04 57 46.3 +1.2**
comp=Z,54nm,0.8s
LHMI **Lhok Sumawe** **25.00 252** P **P** **04 57 48.8 +3.6**
comp=Z,127nm,0.8s
CISI **Cisompet, Garu** **25.03 211** P **P** **04 57 47.1 +1.5**
comp=Z,82nm,1.3s,comp=Z,4μm
LWLI **Liwa** **25.17 222** P **P** **04 57 48.5 +1.6**
comp=Z,40nm,0.6s,comp=Z,8μm
KASI **Kota Agung** **25.27 221** P **P** **04 57 48.8 +1.1**
comp=Z,56nm,0.9s
GENI **Genyem** **25.45 129** P **P** **04 57 50.5 +1.2**
comp=Z,219nm,1.4s,comp=Z,3μm
JAY **Jayapura** **25.81 128** P **P** **04 57 52.1 -0.5**
comp=Z,29nm,0.9s,baz=306,slow=5.7,SNR=4.3
MLSI **Meulaboh, Aceh** **25.87 250** P **P** **04 57 52.2 -0.9**
comp=Z,77nm,0.9s
BJI **Beijing** **26.14 352** P **P** **04 57 56.3 +1.2**
BJI pmax pmax
comp=Z,7.0nm,1.0s
GSI **Gunungsitoli** **26.16 243** P **P** **04 57 55.2 -0.5**
comp=Z,122nm,1.0s
SISI **Saibi** **26.33 236** P **P** **04 57 57.6 +0.4**
comp=Z,50nm,1.0s
LZH **Lanzhou** **26.60 328** ⇑P **P** **04 58 01.3 +1.8**
LZH pP pP 04 58 41.4 -0.2
LZH PP **PnPn** **04 58 55.8 +2.0**
LZH sP sP 04 59 05.3 -0.8
LZH PcP **PcP** **05 01 19.1 +1.0**
LZH S **S** **05 02 19.0 +0.3**
LZH SS SS 05 03 50.9 -29
LZH ScP **ScP** **05 04 39.1 +0.8**
LZH pmax pmax
comp=Z,120nm,1.1s
LZH pmax pmax
comp=Z,270nm,4.7s
LZH LR LR
comp=Z,690nm,12.3s
LZH LR LR
comp=Z,610nm,12.0s
LZH LR LR
comp=Z,750nm,15.2s
MAT **Matsushiro** **27.29 32** P **P** **04 58 06.1 +0.6**
MAT S **S** **05 02 24.8 -4.4**
MJAR **Matsushiro Arr** **27.29 32** P **P** **04 58 04.8 -0.6**
comp=Z,2.0nm,0.8s,baz=219,slow=9.6,SNR=4.2
MJAR PP **PnPn** **04 59 04.2 +1.7**
comp=Z,3.4nm,1.0s,baz=225,slow=14,SNR=5.1
MJAR PcP **PcP** **05 01 19.7 +0.1**
comp=Z,8.2nm,0.8s,baz=196,slow=2.9,SNR=14
HHC **Hu-ho-hao-te** **27.81 345** *e*P **P** **04 58 11.8 +1.6**
HHC pmax pmax
comp=Z,14nm,1.0s
HHC pmax pmax
comp=Z,100nm,6.0s
BRDH **Bariadhala** **28.81 291** P **P** **04 58 20.6 +1.5**
comp=Z,74nm,0.3s,baz=87,slow=9.1,SNR=10.0
SHL **Shillong** **29.34 297** *e*P **P** **04 58 24.0 0.0**
comp=Z,98nm,0.8s
SHL *e*S **S** **05 03 03.2 +1.2**
SHL **Shillong** **29.34 297** *e*P **P** **04 58 24.0 0.0**
SHL *e*S **S** **05 03 03.2 +1.2**
SHL pmax pmax
comp=Z,98nm,0.8s
SHL **Shillong** **29.34 297** *i*P **P** **04 58 24.0 0.0**
GTA **Gaotai** **31.19 328** *e*P **P** **04 58 41.0 +0.9**
GTA PcP **PcP** **05 01 30.8 +1.1**
GTA S **S** **05 03 30.3 -0.3**
GTA ScP **ScP** **05 04 53.8 +1.1**
GTA PcS **PcS** **05 05 13.4 -0.8**
GTA pmax pmax
comp=Z,9.0nm,0.8s
GTA pmax pmax
comp=Z,66nm,7.2s
GTA LR LR
comp=Z,260nm,18.2s
GTA LR LR
comp=Z,280nm,15.1s
GTA LR LR
comp=Z,220nm,19.9s
LSA **Lhasa** **31.38 305** *e*P **P** **04 58 42.4 +0.2**
comp=Z,25nm,0.6s
LSA **Lhasa** **31.38 305** P **P** **04 58 44.0 +1.8**
LSA **Lhasa** **31.38 305** *e*P **P** **04 58 42.4 +0.2**
LSA pmax pmax
comp=Z,25nm,0.6s
USRK **Ussuriysk Ar.** **31.50 16** P **P** **04 58 43.5 +0.9**
comp=Z,5.0nm,0.6s,baz=207,slow=6.8,SNR=12
USRK PcP **PcP** **05 01 29.6 -0.6**
comp=Z,3.5nm,0.7s,baz=197,slow=6.0,SNR=4.8
FITZ **Fitzroy Crossi** **32.37 171** *e*P **P** **04 58 49.2 -1.2**
comp=Z,22nm,0.8s
ODAN **Odare** **33.57 297** *e*P **P** **04 59 01.6 +0.5**
comp=Z,229nm,0.7s
RAMN **Ramite** **34.27 297** *e*P **P** **04 59 08.0 +0.9**
comp=Z,131nm,0.7s
JIRN **Jiri** **34.81 298** *e*P **P** **04 59 12.6 +0.7**
comp=Z,162nm,0.4s
MBWA **Marble Bar** **35.06 182** *e*P **P** **04 59 12.2 -1.3**
MBWA *e*PcP **PcP** **05 01 40.4 -0.2**
PMG **Port Moresby** **35.14 130** *e*P **P** **04 59 13.3 -1.1**
comp=Z,85nm,0.8s
PMG **Port Moresby** **35.14 130** *e*P **P** **04 59 13.3 -1.1**
PMG pmax pmax
comp=Z,85nm,0.8s
GUN **Gumba** **35.15 299** *e*P **P** **04 59 15.3 +0.6**
comp=Z,267nm,0.8s
PKI **Puhoki** **35.46 298** *e*P **P** **04 59 17.3 -0.1**
comp=Z,72nm,0.5s
PKIN **Phulchoki** **35.47 298** *e*P **P** **04 59 17.4 0.0**
comp=Z,58nm,0.5s
ULN **Ulaanbaatar** **35.52 344** *e*P **P** **04 59 17.7 +0.3**
comp=Z,7.5nm,0.5s
ULN *e*PcP **PcP** **05 01 41.9 +0.2**
ULN **Ulaanbaatar** **35.52 344***c**e*P **P** **04 59 17.9 +0.5**
ULN pmax pmax
comp=Z,5.0nm,0.8s
KKN **Kakani** **35.63 298** *e*P **P** **04 59 18.9 +0.2**
comp=Z,110nm,0.8s
SONM **Songino Array** **35.67 343** P **P** **04 59 19.2 +0.5**
comp=Z,7.3nm,0.6s,baz=163,slow=9.7,SNR=68
SONM PcP **PcP** **05 01 42.1 0.0**
comp=Z,5.0nm,0.6s,baz=166,slow=3.8,SNR=12
SONM ScP **ScP** **05 05 08.5 +0.3**
comp=Z,3.2nm,0.9s,baz=156,slow=4.5,SNR=8.4
COEN **Coen** **35.68 140** *e*P **P** **04 59 17.6 -1.3**
comp=Z,86nm,0.8s
SONA1 **Songino Array** **35.68 343** *e*P **P** **04 59 19.2 +0.5**
SONA1 *e*PcP **PcP** **05 01 42.1 -0.1**
DMN **Daman** **35.73 298** *e*P **P** **04 59 19.6 0.0**
comp=Z,60nm,0.6s
KLR **Kul'dur** **36.18 12***c* *i*P **P** **04 59 23.2 +0.4**
WRAB **Tennant Creek** **36.40 158** *e*P **P** **04 59 23.6 -1.3**
comp=Z,59nm,0.7s
WRAB *e*S **S** **05 04 45.1 -5.6**
WRAB **Tennant Creek** **36.40 158***c**e*P **P** **04 59 23.2 -1.7**
WRAB pmax pmax
comp=Z,53nm,0.9s
WRA **Warramunga Arr** **36.40 158** P **P** **04 59 23.5 -1.5**
comp=Z,45nm,0.7s,baz=341,slow=9.2,SNR=209
WRA PcP **PcP** **05 01 44.3 -0.4**
comp=Z,4.7nm,0.8s,baz=339,slow=3.5,SNR=5.8
WRA S **S** **05 04 44.6 -6.2**
comp=Z,5.8nm,0.9s,baz=336,slow=15,SNR=6.6
WB2 **Warramunga Arr** **36.41 158** *e*P **P** **04 59 22.5 -2.5**
KOLN **Koldanda** **37.06 298** *e*P **P** **04 59 30.9 +0.1**
comp=Z,65nm,0.9s
DANN **Dangsing** **37.07 299** *e*P **P** **04 59 31.0 +0.1**
comp=Z,130nm,0.7s
YSS **Yuzh-Sakhalins** **37.59 25** *i*P **P** **04 59 34.1 -0.5**
YSS pmax pmax
comp=Z,12nm,0.9s
PATS **Pohnpei** **37.65 97** *e*P **P** **04 59 34.9 -0.7**
comp=Z,362nm,1.1s
PYUN **Piuthan** **37.66 298** *e*P **P** **04 59 36.2 +0.3**
comp=Z,178nm,0.8s
GRNR **Gornyy** **38.73 16** *e*P P 04 59 36.0 -8.1
ZAK **Zakamensk** **38.86 342** *e*P **P** **04 59 45.4 +0.1**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
AS31 **Alice Springs** **39.70 161** *e*P **P** **04 59 51.9 -0.7**
comp=Z,11nm,0.6s
AS31 *e*S **S** **05 05 38.8 -1.5**
ASAR **Alice Springs** **39.70 161** P **P** **04 59 51.6 -0.9**
comp=Z,28nm,0.6s,baz=336,slow=7.3,SNR=210
ASAR PcP **PcP** **05 01 54.6 -0.2**
comp=Z,7.8nm,0.5s,baz=348,slow=3.2,SNR=11
ASAR ScP **ScP** **05 05 22.7 -1.1**
comp=Z,2.3nm,1.0s,baz=354,slow=4.5,SNR=4.6
ASAR S **S** **05 05 35.9 -4.4**
comp=Z,2.3nm,0.7s,baz=356,slow=22,SNR=8.7
AS01 **Alice Springs** **39.72 161** *e*P **P** **04 59 51.4 -1.2**
PALK **Pallekele** **39.84 264** *e*P **P** **04 59 53.8 -0.1**
comp=Z,11nm,0.8s
PALK *e*PcP **PcP** **05 01 55.9 +0.3**
PALK **Pallekele** **39.84 264** P **P** **04 59 54.8 +0.9**
PALK **Pallekele** **39.84 264** *e*P **P** **04 59 53.8 -0.1**
PALK *e* 05 01 55.9
PALK pmax pmax
comp=Z,11nm,0.8s
HYB **Hyderabad** **40.64 280** *i*P **P** **05 00 01.5 +1.1**
MOY **Mondy** **40.68 341** *e*P **P** **05 00 01.1 +0.8**
WMQ **Urumqi** **40.88 323** *e*P **P** **05 00 04.5 +2.5**
WMQ PcP **PcP** **05 01 58.8 +0.3**
WMQ pmax pmax
comp=Z,57nm,1.1s
WMQ pmax pmax
comp=Z,230nm,5.9s
WMQ LR LR
comp=Z,350nm,19.3s
WMQ LR LR
comp=Z,260nm,20.1s
KNGR **Kungurtug, Tuv** **40.98 338** *i*P **P** **05 00 02.7 -0.1**
CTA **Charters Tower** **42.27 143** PcP **PcP** **05 02 04.0 +0.7**
comp=Z,9.6nm,0.6s,baz=338,slow=6.1,SNR=5.3
CTAO **Charters Tower** **42.27 143** *e*P **P** **05 00 13.6 +0.1**
comp=Z,90nm,0.9s
CTAO *e*PcP **PcP** **05 02 03.5 +0.2**
CTAO **Charters Tower** **42.27 143** *e*P **P** **05 00 13.6 +0.1**
CTAO *e* 05 02 03.5
CTAO pmax pmax
comp=Z,90nm,0.9s
DGZ **Jazzator, Alta** **44.69 330***c* *i*P **P** **05 00 33.5 +0.9**
DGZ pmax pmax
comp=Z,7.0nm,0.9s
POO **Poona** **45.08 282** ⇓ *i*P **P** **05 00 35.0 -1.0**
comp=Z,182nm,1.2s
FORT **Forrest** **45.19 171** *e*P **P** **05 00 35.5 -1.0**
comp=Z,116nm,0.6s
MK01 **Makanchi Array** **45.69 323** *e*P **P** **05 00 40.0 -0.3**
MK31 **Makanchi Array** **45.70 323** *e*P **P** **05 00 40.8 +0.3**
MK31 **Makanchi Array** **45.70 323** *e*P **P** **05 00 40.8 +0.3**
MKAR **Makanchi Array** **45.70 323** P **P** **05 00 41.5 +1.0**
comp=Z,22nm,0.7s,baz=129,slow=8.8,SNR=106
MKAR PcP **PcP** **05 02 14.9 +0.2**
comp=Z,13nm,0.7s,baz=111,slow=4.6,SNR=11
MKAR **Makanchi Array** **45.70 323** *e*P **P** **05 00 40.8 +0.3**
comp=Z,175nm,0.7s
MKAR PcP **PcP** **05 02 14.9 +0.2**
PDGK **Podgornoye** **45.71 318** P **P** **05 00 41.4 +0.7**
PDGK pmax pmax
comp=Z,65nm,0.8s
KSH **Kashi** **46.63 312** P **P** **05 00 50.3 +2.4**
KSH pP pP 05 01 34.3 +0.9
KSH PP **PP** **05 02 42.3 +2.2**
KSH S **S** **05 07 23.1 +2.1**
KSH SS **SS** **05 10 48.1 -1.9**
KSH pmax pmax
comp=Z,84nm,1.2s
KSH pmax pmax
comp=Z,380nm,5.2s
KSH LR LR
comp=Z,210nm,8.0s
KSH LR LR
comp=Z,220nm,7.6s
KSH LR LR
comp=Z,340nm,10.9s
NWAO **Narrogin (SRO)** **46.88 184** PcP **PcP** **05 02 18.9 -0.1**
comp=Z,16nm,0.6s,baz=57,slow=5.5,SNR=5.0
MNCI **Minicoy** **47.02 268** *e*P **P** **05 00 50.7 -0.5**
comp=Z,61nm,0.8s
NRN **Naryn** **47.29 314** *e*P **P** **05 00 53.4 +0.1**
comp=Z,39nm,0.9s
NRN **Naryn** **47.29 314** *e*P **P** **05 00 53.4 +0.1**
NRN pmax pmax
comp=Z,39nm,0.9s
ULHL **Ulahol** **47.43 315** P **P** **05 00 55.6 +1.4**
SNR=13
KZA **Kyzart** **48.05 314** P **P** **05 01 01.0 +1.8**
SNR=15
TKM2 **Tokmak 2** **48.13 316** P **P** **05 01 00.6 +1.1**
SNR=22
KBK **Karagaybulak** **48.47 315** P **P** **05 01 03.7 +1.6**
SNR=20
UCH **Uchtor** **48.62 314** P **P** **05 01 05.3 +1.7**
SNR=9.0
PETK **Petropavlovsk-** **48.67 29** P **P** **05 01 04.0 +0.8**
comp=Z,5.7nm,0.7s,baz=207,slow=9.3,SNR=7.6
PETK PcP **PcP** **05 02 24.8 -0.3**
comp=Z,7.8nm,0.6s,baz=221,slow=4.9,SNR=7.1
PETK **Petropavlovsk-** **48.67 29** *e*P **P** **05 01 03.4 +0.2**
PETK PcP **PcP** **05 02 24.8 -0.3**
ZAA0 **Zalesovo Array** **48.70 333** *e*P **P** **05 01 03.5 +0.1**
comp=Z,19nm,0.6s
ZAA0 *e*S **S** **05 07 48.8 -0.6**
ZALV **Zalesovo Beam** **48.70 333** P **P** **05 01 03.5 +0.1**
comp=Z,16nm,0.4s,baz=131,slow=6.8,SNR=70
ZALV PcP **PcP** **05 02 24.2 -0.9**
comp=Z,5.5nm,0.6s,baz=120,slow=3.8,SNR=5.6
ZALV S **S** **05 07 48.2 -1.2**
comp=Z,6.1nm,1.0s,baz=122,slow=14,SNR=12
CHMS **Chumysh** **48.74 315** P **P** **05 01 04.8 +0.9**
SNR=13
FRU **Bishkek** **48.77 315** *i*P **P** **05 01 04.5 +0.3**
FRU pmax pmax
comp=Z,50nm,1.0s
AAK **Ala-Archa** **48.78 315** P **P** **05 01 05.7 +1.3**
comp=Z,9.2nm,0.5s,baz=95,slow=5.2,SNR=26
AAK **Ala-Archa** **48.78 315** P **P** **05 01 05.7 +1.3**
SNR=9.7
AAK **Ala-Archa** **48.78 315** *e*P **P** **05 01 04.5 +0.1**
comp=Z,12nm,0.6s
AAK *e*PcP **PcP** **05 02 26.2 +0.2**
AAK **Ala-Archa** **48.78 315** *i*P **P** **05 01 05.7 +1.3**
SNR=13
AAK **Ala-Archa** **48.78 315** *e*P **P** **05 01 04.5 +0.1**
AAK *e* 05 02 26.2
AAK pmax pmax
comp=Z,12nm,0.6s
BBOO **Buckleboo** **48.91 163** *e*P **P** **05 01 03.9 -1.3**
comp=Z,36nm,0.6s
USP **Ospenovka** **49.01 316** P **P** **05 01 07.0 +1.0**
SNR=22
AML **Almayashu** **49.15 314** P **P** **05 01 09.1 +1.5**
SNR=18
EIDS **Eidsvold** **49.16 143** *e*P **P** **05 01 06.8 -0.5**
comp=Z,38nm,0.8s
EIDS *e*PcP **PcP** **05 02 27.2 -0.1**
EKS2 **Erkin-Say** **49.28 315** P **P** **05 01 09.7 +1.5**
SNR=18
KURBB **Kurchatov Arra** **49.85 326** P **P** **05 01 13.0 +0.8**
comp=Z,68nm,0.8s,baz=127,slow=7.5,SNR=384
KURBB PcP **PcP** **05 02 29.4 -0.1**
comp=Z,11nm,0.8s,baz=121,slow=3.7,SNR=8.2
KURK **Kurchatov** **49.85 326** *e*P **P** **05 01 12.8 +0.6**
KURK *e*PcP **PcP** **05 02 28.9 -0.6**
KURK **Kurchatov** **49.85 326** P **P** **05 01 13.3 +1.1**
SNR=33
KURK **Kurchatov** **49.85 326** P **P** **05 01 13.0 +0.8**
KURK 05 02 29.4
KURK pmax pmax
comp=Z,68nm,0.8s
STKA **Stephens Creek** **49.92 157** P **P** **05 01 11.8 -1.1**
comp=Z,5.9nm,0.4s,baz=331,slow=7.7,SNR=30
STKA PcP **PcP** **05 02 29.6 -0.4**
comp=Z,9.4nm,0.7s,baz=13,slow=3.2,SNR=6.1
STKA **Stephens Creek** **49.92 157** *e*P **P** **05 01 12.3 -0.6**
comp=Z,4.7nm,1.3s
STKA PcP **PcP** **05 02 29.6 -0.4**
STKA **Stephens Creek** **49.92 157** *e*P **P** **05 01 12.3 -0.6**
STKA 05 02 29.6
STKA pmax pmax
comp=Z,5.0nm,1.3s
NVS **Novosibirsk** **49.98 333** *e*P **P** **05 01 13.5 +0.4**
NVS *e* 05 01 59.2
NVS *i*S **S** **05 08 07.5 +0.3**
NVS pmax pmax
comp=E,11nm,0.5s
NVS pmax pmax
comp=Z,13nm,0.5s
NVS pmax pmax
comp=N,8.0nm,0.4s
NVS smax smax
comp=N,12nm,0.8s
NVS smax smax
comp=E,12nm,0.6s
MNAS **Manas** **50.10 314** P **P** **05 01 15.5 +1.1**
MNAS pmax pmax
comp=Z,38nm,1.1s
KBL **Kabul** **50.68 303** *e*P **P** **05 01 19.1 +0.1**
comp=Z,44nm,0.9s
KBL **Kabul** **50.68 303** *e*P **P** **05 01 19.1 +0.1**
KBL pmax pmax
comp=Z,44nm,0.9s
KK31 **Karatay Array** **51.69 314** *e*P **P** **05 01 26.6 +0.5**
KK31 **Karatay Array** **51.69 314** *e*P **P** **05 01 26.6 +0.5**

KKAR **Karatay Array** 51.69 314 *e*P P 05 01 26.6 +0.5
KKAR **Karatay Array** 51.69 314 *e*P P 05 01 26.6 +0.5
OTUK **Ortayu** 52.33 321 P P 05 01 31.2 +0.5
OTUK pmax pmax
comp=Z,30nm,0.9s
DGAR **Diego Garcia** 52.43 249 *i* P P 05 01 31.6 -0.3
H08S2 **Diego Garcia H** 52.49 249 P P 05 01 32.6 +0.6
baz=32,slow=10,SNR=17
H08S3 **Diego Garcia H** 52.49 249 P P 05 01 32.6 +0.5
baz=32,slow=10,SNR=32
H08S1 **Diego Garcia H** 52.50 249 P P 05 01 32.8 +0.7
baz=32,slow=10,SNR=5.2
ARMA **Armidale** 53.35 146 *e*P P 05 01 38.1 -0.3
comp=Z,26nm,0.8s
SEY **Seymchan** 53.62 17 *ce*P P 05 01 40.9 +1.1
BVAR **Borovoye Array** 55.44 326 P P 05 01 53.6 +0.6
comp=Z,20nm,0.8s,baz=120,slow=8.7,SNR=77
BVAR PcP PcP 05 02 50.7 +0.1
comp=Z,15nm,0.7s,baz=131,slow=4.1,SNR=12
BRVK **Borovoye** 55.51 326 *e*P P 05 01 54.3 +0.7
BRVK *e*PcP PcP 05 02 50.8 -0.1
BRVK *e*S S 05 09 24.1 +2.0
BRVK **Borovoye** 55.51 326 P P 05 01 54.4 +0.9
SNR=23
BRVK **Borovoye** 55.51 326 *c i*P P 05 01 54.1 +0.5
BRVK pmax pmax
comp=Z,55nm,0.9s
CAN **Canberra** 56.00 152 *e*P P 05 01 56.7 -0.6
comp=Z,72nm,1.8s
CAN **Canberra** 56.00 152 *e*P P 05 01 56.7 -0.6
CAN pmax pmax
comp=Z,72nm,1.8s
TOO **Toolangi** 56.44 156 P P 05 01 59.8 -0.6
TOO pmax pmax
comp=Z,18nm,1.6s
DZM **Mont Dzumac** 57.48 128 *e*P P 05 02 07.5 -0.5
comp=Z,46nm,0.6s
TIXI **Tiksi** 57.73 3 P P 05 02 08.4 -0.4
comp=Z,46nm,0.8s,baz=166,slow=4.8,SNR=20
TIXI PcP PcP 05 02 58.9 -0.3
comp=Z,13nm,0.3s,baz=140,slow=0.9,SNR=4.0
TIXI **Tiksi** 57.73 3 *c i*P P 05 02 08.5 -0.4
TIXI pmax pmax
comp=Z,50nm,1.0s
NRIK **Noril'sk** 59.02 347 P P 05 02 18.1 +0.3
comp=Z,32nm,0.7s,baz=129,slow=6.0,SNR=20
NRIK PcP PcP 05 03 04.8 +0.5
comp=Z,30nm,0.6s,baz=138,slow=4.6,SNR=10.0
WSAR **Wadi Sarin** 59.13 289 P P 05 02 19.0 -0.4
GEYT **Alibeck** 59.90 306 P P 05 02 24.7 +0.3
comp=Z,18nm,0.9s,baz=112,slow=6.6,SNR=24
GEYT PcP PcP 05 03 08.9 +0.3
comp=Z,11nm,1.1s,baz=197,slow=1.5,SNR=4.7
GYA0B **ALIBECK ARRAY** 59.90 306 *e*P P 05 02 25.0 +0.5
comp=Z,39nm,1.0s
ABKAR **Akbulak array** 60.43 319 *e*P P 05 02 28.1 +0.3
MDH **Madha** 61.16 291 P P 05 02 32.0 -1.1
UOSS **Minazif** 61.26 291 P P 05 02 33.4 -0.4
SHME **Shamm** 61.27 292 P P 05 02 34.7 +0.8
MSFE **Esma-Masafi** 61.28 291 P P 05 02 35.3 +1.3
BILL **Bilibino** 61.32 18 *e*P P 05 02 33.9 +0.5
comp=Z,40nm,0.7s
BILL **Bilibino** 61.32 18 *ce*P P 05 02 33.8 +0.4
BILL pmax pmax
comp=Z,34nm,0.9s
HATD **Hatta, Dubai** 61.33 291 P P 05 02 34.4 +0.1
ASHO **Ashiyiah** 61.40 291 P P 05 02 34.6 -0.2
ALNE **Al Ain** 61.72 290 *i* P P 05 02 36.7 -0.2
SNR=8.7
FAQ **Al Faqa, Dubai** 61.82 291 P P 05 02 37.6 0.0
AKTO **Aktyubinsk** 61.90 320 P P 05 02 37.9 +0.2
comp=Z,18nm,0.7s,baz=97,slow=8.7,SNR=47
SVE **Sverdlovsk** 62.06 327 *e*P P 05 02 39.0 +0.4
SVE pmax pmax
comp=Z,75nm,0.9s
ASUD **Al Ashush, Dub** 62.07 291 P P 05 02 39.3 +0.1
ARU **Arti** 63.04 327 *e*P P 05 02 44.3 -0.8
ARU **Arti** 63.04 327 *c i*P P 05 02 44.6 -0.5
ARU 05 03 18.6
ARU 05 05 03.9
ARU S S 05 10 57.0 -1.6
ARU SS SS 05 15 06.1 -1.9
ARU pmax pmax
comp=Z,37nm,0.7s
MZR **Muzera** 63.88 289 P P 05 02 51.0 -0.2
ABTO **Aybut** 64.67 283 P P 05 02 56.1 -0.3
SNR=5.6
TBLG **Delisi** 70.32 310 *e*P P 05 03 31.5 +0.1
comp=Z,22nm,0.8s
TBLG **Delisi** 70.32 310 *e*P P 05 03 31.5 +0.1
TBLG pmax pmax
comp=Z,22nm,0.8s
GNI **Garni** 70.36 308 P P 05 03 32.3 +0.4
comp=Z,11nm,0.7s,baz=179,slow=4.6,SNR=6.3
GNI **Garni** 70.36 308 *e*P P 05 03 32.2 +0.4
comp=Z,21nm,0.8s
GNI **Garni** 70.36 308 P P 05 03 32.8 +0.9
GNI **Garni** 70.36 308 *ce*P P 05 03 32.9 +1.0
GNI pmax pmax
comp=Z,55nm,1.0s
ANM **Nome** 70.46 26 *e*P P 05 03 31.9 +0.1
comp=Z,28nm,1.0s
ANM **Nome** 70.46 26 *e*P P 05 03 31.9 +0.1
ANM pmax pmax
comp=Z,28nm,1.0s
NCK **Nalchik** 71.11 311 *i* P P 05 03 35.9 -0.2
NCK pmax pmax
comp=Z,17nm,0.8s
RAYN **Ar Rayn** 71.11 290 *e*P P 05 03 36.7 +0.2
comp=Z,54nm,0.9s
RAYN **Ar Rayn** 71.11 290 *i* P P 05 03 36.8 +0.2
SNR=51
RAYN **Ar Rayn** 71.11 290 *e*P P 05 03 36.7 +0.2
RAYN pmax pmax
comp=Z,54nm,0.9s
AKH **Akhalkalaki** 71.26 309 *e*P P 05 03 37.8 +0.5
comp=Z,23nm,0.9s
AKH **Akhalkalaki** 71.26 309 ⇓*i*P P 05 03 38.8 +1.5
AKH **Akhalkalaki** 71.26 309 *e*P P 05 03 37.8 +0.5
AKH pmax pmax
comp=Z,23nm,0.9s
KBZ **Khabaz** 71.61 312 P P 05 03 39.1 +0.1
comp=Z,14nm,0.9s,baz=115,slow=4.7,SNR=16
KVAR **Kislovodsk Arr** 71.75 312 P P 05 03 41.0 +1.0
comp=Z,16nm,0.7s,baz=88,slow=23,SNR=6.8
KIV **Kislovodsk** 71.75 312 *e*P P 05 03 40.6 +0.5
comp=Z,47nm,0.7s
KIV **Kislovodsk** 71.75 312 P P 05 03 40.3 +0.3
SNR=6.2
KIV **Kislovodsk** 71.75 312 *i* P P 05 03 40.6 +0.5
SNR=7.1
KIV **Kislovodsk** 71.75 312 *e*P P 05 03 40.4 +0.4
KIV pmax pmax
comp=Z,62nm,1.0s
KIV MLR MLR
comp=Z,58nm,18.0s
NEY **Neytrino** 71.76 311 *i* P P 05 03 41.1 +0.9
NEY pmax pmax
comp=Z,3.0nm,0.9s
RDOG **Red Dog Mine** 71.93 23 *e*P P 05 03 40.8 +0.3
comp=Z,14nm,0.7s
VRH **Novokhopyorsk** 72.24 320 *e*P P 05 03 41.8 -0.8
VRH pmax pmax
comp=Z,70nm,0.6s
ARTV **Artvin** 72.45 309 *i* P P 05 03 44.5 +0.2
DAGI **Agillar** 72.47 309 *i* P P 05 03 44.8 +0.4
DDEM **Demirkent** 72.60 309 *i* P P 05 03 45.2 +0.1
DDEM *i* S PcP 05 04 05.0 +3.5
DBAD **Bademkaya** 72.64 309 *i* P P 05 03 46.1 +0.7
HIZ **Hauiti** 72.81 138 *e*P P 05 03 46.8 +0.6
comp=Z,53nm,0.8s
CHGN **Chignik** 73.34 35 *e*P P 05 03 49.1 +0.1
comp=Z,249nm,1.0s
KLMR **Klimovskoe** 73.50 330 *e*P P 05 03 47.8 -2.0
KLMR *e**PP pP 05 04 37.1 -2.4
KLMR pmax pmax
comp=Z,38nm,0.6s
KLMR **Klimovskoe** 73.50 330 *e*P P 05 03 47.8 -2.0
KLMR AMP 05 03 49.9
comp=Z,38nm,0.7s
KLMR epP pP 05 04 37.1 -2.4
LBZ **Lake Benmore** 73.56 145 *e*P P 05 03 50.0 -0.4
comp=Z,50nm,0.8s
DAMY **Dhamar** 73.56 281 *e*P P 05 03 51.6 +0.1
comp=Z,39nm,1.0s

RPZ **Rata Peaks** 73.62 144 P P 05 03 50.3 -0.5
comp=Z,39nm,0.7s,baz=293,slow=3.3,SNR=24
RPZ **Rata Peaks** 73.62 144 *e*P P 05 03 50.3 -0.5
comp=Z,44nm,0.7s
LTZ **Lake Taylor** 73.74 143 *e*P P 05 03 51.3 -0.2
comp=Z,28nm,1.0s
VORD **Divnogorie** 73.78 319 *e*P P 05 03 50.7 -0.9
VORD pmax pmax
comp=Z,20nm,0.6s
VSR **Storozhevoye** 73.85 320 *e*P P 05 03 51.1 -0.9
VSR pmax pmax
comp=Z,40nm,0.6s
LPSR **Galich'ya Gora** 73.94 321 *e*P P 05 03 52.0 -0.5
LPSR pmax pmax
comp=Z,70nm,0.6s
URZ **Urewera** 74.15 137 P P 05 03 53.1 -0.8
comp=Z,15nm,0.8s,baz=228,slow=2.4,SNR=9.9
URZ **Urewera** 74.15 137 *e*P P 05 03 53.8 -0.1
comp=Z,20nm,1.0s
BKZ **Black Stump Fm** 74.24 138 *e*P P 05 03 54.4 -0.1
comp=Z,62nm,0.7s
MOS **Moscow** 74.58 324 *e*P P 05 03 54.5 -1.6
MOS pmax pmax
comp=Z,66nm,0.8s
SVW2 **Sparrevohn** 74.74 30 *e*P P 05 03 57.5 +0.5
comp=Z,16nm,0.8s
OBN **Obninsk** 75.21 324 P P 05 03 59.2 -0.6
comp=Z,6.6nm,0.4s,baz=43,slow=4.4,SNR=6.2
OBN **Obninsk** 75.21 324 ⇑*i*P P 05 03 59.0 -0.8
OBN *e* 05 04 50.4
OBN *e* 05 06 49.8
OBN pmax pmax
comp=Z,24nm,0.8s
IM3 **Indian Mountai** 75.42 25 *e*P P 05 04 01.2 +0.4
ANN **Anapa** 75.46 313 *e*P P 05 03 59.9 -1.5
ANN pmax pmax
comp=Z,74nm,1.4s
ATD **Arta Tunnel** 75.63 278 *e*P P 05 04 03.4 +0.4
comp=Z,29nm,0.9s
ATD *ep*P pP 05 04 55.1 +2.1
APA **Apatity** 76.04 337 ⇓*i*P P 05 04 01.5 -2.8
APA pmax pmax
comp=Z,17nm,0.6s
APA MLR MLR
comp=Z,1μm,16.0s
RSO **Redoubt South** 76.15 31 *e*P P 05 04 06.1 +0.8
PPLA **Purkeypile** 76.25 28 *e*P P 05 04 05.8 0.0
comp=Z,28nm,0.9s
CAST **Castle Rocks** 76.26 28 *e*P P 05 04 06.2 +0.5
comp=Z,89nm,0.8s
BPAW **Bear Paw Mtn.** 76.70 27 *e*P P 05 04 08.4 +0.4
comp=Z,77nm,0.8s
MLY **Manley** 76.72 26 *e*P P 05 04 08.9 +0.7
comp=Z,46nm,0.8s
COLD **Coldfoot** 76.76 24 *e*P P 05 04 09.0 +0.6
comp=Z,10nm,1.1s
TOLK **Toolik Lake Re** 76.88 22 *e*P P 05 04 09.2 +0.1
comp=Z,22nm,0.8s
TOLK **Toolik Lake Re** 76.88 22 P P 05 04 09.9 +0.8
baz=275
SUA **Susitna One** 77.05 30 *e*P P 05 04 10.5 +0.3
comp=Z,52nm,0.8s
TRF **Thorofare Moun** 77.06 27 *e*P P 05 04 11.2 +0.9
comp=Z,24nm,0.8s
BRLK **Bradley Lake** 77.15 31 *e*P P 05 04 11.0 +0.3
comp=Z,370nm,2.0s
JOF **Joensuu** 77.28 332 P P 05 04 10.9 -0.4
JOF pmax pmax
comp=Z,52nm,2.5s
BWN **Browne** 77.35 27 *e*P P 05 04 11.9 +0.2
comp=Z,224nm,0.7s
MCK **McKinley** 77.64 27 *e*P P 05 04 13.0 -0.3
comp=Z,77nm,0.8s
MCK **McKinley** 77.64 27 *e*P P 05 04 13.0 -0.3
MCK pmax pmax
comp=Z,77nm,0.8s
RND **Reindeer** 77.71 27 *e*P P 05 04 13.1 -0.7
comp=Z,113nm,1.5s
RND **Reindeer** 77.71 27 *e*P P 05 04 13.1 -0.7
RND pmax pmax
comp=Z,113nm,1.5s
SIM **Simferopol'** 77.78 314 *ce*P P 05 04 14.2 -0.3
SIM pmax pmax
comp=Z,37nm,0.8s
MDM **Murphy Dome** 77.79 26 *e*P P 05 04 14.2 +0.1
comp=Z,30nm,0.8s
PMR **Palmer** 77.80 29 *e*P P 05 04 14.0 -0.2
comp=Z,45nm,1.0s
PMR **Palmer** 77.80 29 *e*P P 05 04 14.0 -0.2
PMR pmax pmax
comp=Z,45nm,1.0s
SEW **Seward** 77.83 31 *e*P P 05 04 14.7 +0.3
comp=Z,193nm,1.8s
WRH **Wood River Hil** 77.91 26 *e*P P 05 04 15.3 +0.5
comp=Z,82nm,1.7s
MSF **Maaselka** 77.92 335 P P 05 04 14.5 -0.3
MSF pmax pmax
comp=Z,43nm,0.7s
TCOL **CIO, UAF Yank** 77.96 26 P P 05 04 14.7 -0.3
baz=277
COLA **College** 77.96 26 *e*P P 05 04 15.1 +0.1
comp=Z,29nm,0.8s
COLA **College** 77.96 26 *e*P P 05 04 15.1 +0.1
COLA pmax pmax
comp=Z,29nm,0.8s
CCB **Clear Creek Bu** 78.01 26 *e*P P 05 04 15.3 0.0
comp=Z,24nm,1.2s
POKR **Poker Plat Res** 78.11 26 P P 05 04 16.2 +0.4
baz=278
SML **Sawmill** 78.15 29 *e*P P 05 04 16.8 +0.6
comp=Z,63nm,1.0s
KEV **Kevo** 78.15 339 *e*P P 05 04 15.3 -0.7
comp=Z,102nm,1.6s
KEV **Kevo** 78.15 339 *e*P P 05 04 15.3 -0.7
KEV pmax pmax
comp=Z,102nm,1.6s
IL1 **Eielson Array** 78.39 26 *e*P P 05 04 16.2 -1.1
ILAR **Eielson Array** 78.39 26 P P 05 04 16.2 -1.1
comp=Z,6.1nm,0.8s,baz=274,slow=3.4,SNR=37
ILAR PKKPbc **PKKPbc** 05 23 12.0 -3.4
comp=Z,0.7nm,0.6s,baz=117,slow=1.8,SNR=8.8
ILB **Eielson Array** 78.39 26 *e*P P 05 04 17.0 -0.4
HDA **Harding Lake** 78.41 26 *e*P P 05 04 16.5 -1.1
comp=Z,23nm,0.8s
HDA **Harding Lake** 78.41 26 P P 05 04 17.1 -0.4
baz=278
DHY **Denali Highway** 78.42 28 *e*P P 05 04 17.9 +0.1
comp=Z,16nm,0.8s
SCM **Sheep Creek Mo** 78.62 29 *e*P P 05 04 18.7 -0.1
comp=Z,63nm,1.1s
SCM **Sheep Creek Mo** 78.62 29 *e*P P 05 04 18.7 -0.1
SCM pmax pmax
comp=Z,63nm,1.1s
SGF **Sodankyl** 78.68 337 *e*P P 05 04 18.7 -0.2
SGF pmax pmax
comp=Z,25nm,1.2s
ARCES **ARCESS Array B** 78.70 339 P P 05 04 19.1 0.0
comp=Z,15nm,0.5s,baz=75,slow=7.1,SNR=186
ARE0 **ARCESS Array S** 78.70 339 *e*P P 05 04 18.7 -0.4
comp=Z,1.2nm,0.6s
ARE0 **ARCESS Array S** 78.70 339 *e*P P 05 04 19.2 +0.1
FYU **Fort Yukon** 78.79 24 *e*P P 05 04 21.2 +1.7
comp=Z,34nm,1.0s
BR131 **Keskin Array S** 78.90 308 *e*P P 05 04 20.7 -0.1
BRTR **Keskin Array B** 78.90 308 P P 05 04 20.4 -0.5
comp=Z,5.8nm,0.9s,baz=125,slow=4.7,SNR=26
BRTR **Keskin Array B** 78.90 308 *i* P P 05 04 20.3 -0.6
BRTR pmax pmax
comp=Z,6.0nm,0.9s
HAMF **Hammerfest** 79.11 340 *e*P P 05 04 21.6 +0.4
SPA0 **Spitsbergen Ar** 79.19 348 *e*P P 05 04 22.3 +0.7
SPA0 **Spitsbergen Ar** 79.19 348 *e*P P 05 04 21.7 +0.1
SPITS **Spitsbergen Ar** 79.19 348 PKKP PKKPdf 05 22 52.2 -8.7
comp=Z,7.5nm,0.9s,baz=48,slow=11,SNR=5.0
PAX **Paxson** 79.29 28 *e*P P 05 04 22.7 +0.2
comp=Z,14nm,0.8s
PAX **Paxson** 79.29 28 *e*P P 05 04 22.7 +0.2
PAX pmax pmax
comp=Z,14nm,0.8s
KLU **Kulina** 79.34 29 *e*P P 05 04 22.6 -0.1
comp=Z,60nm,1.5s
OUL **Oulu** 79.34 335 P P 05 04 21.9 -0.6
OUL pmax pmax
comp=Z,45nm,1.4s
RIDG **Independ'e Rid** 79.44 27 *e*P P 05 04 23.6 +0.5
comp=Z,61nm,0.9s
ABPO **Ambohimpanom** 79.47 247 *e*P P 05 04 23.9 -0.4
comp=Z,33nm,1.2s
ABPO **Ambohimpanom** 79.47 247 *e*P P 05 04 23.9 -0.4
ABPO pmax pmax
comp=Z,33nm,1.2s
ANTO **Ankara** 79.52 309 *e*P P 05 04 24.5 +0.4
comp=Z,12nm,0.9s
ANTO **Ankara** 79.52 309 *e*P P 05 04 24.5 +0.4
ANTO pmax pmax
comp=Z,12nm,0.9s
KTK1 **Kautokeino** 79.60 339 *e*P P 05 04 23.9 0.0
SUF **Sumiainen** 79.66 332 P P 05 04 23.5 -0.8
SUF pmax pmax
comp=Z,26nm,0.6s
KBS **Kingsbay** 79.79 349 *ce*P P 05 04 24.8 +0.1
KBS pmax pmax
comp=Z,91nm,1.0s
DOT **Dot Lake** 79.79 27 *e*P P 05 04 25.0 -0.1
comp=Z,32nm,1.1s
FIA1 **FINESS Array S** 79.93 331 *e*P P 05 04 25.2 -0.5
FINES **FINESS Array B** 79.93 331 P P 05 04 25.4 -0.4
comp=Z,7.5nm,0.5s,baz=58,slow=5.6,SNR=73
FINES pP pP 05 05 17.0 +0.7
comp=Z,7.9nm,0.9s,baz=132,slow=5.4,SNR=3.2
FINES **FINESS Array B** 79.93 331 *i* P P 05 04 25.3 -0.5
FINES pmax pmax
comp=Z,8.0nm,0.5s
CSS **Mathiatis** 79.93 304 *e*P P 05 04 26.2 -0.2
comp=Z,46nm,0.9s
AKASG **Malin Array Be** 80.15 320 P P 05 04 26.1 -1.1
comp=Z,2.9nm,0.5s,baz=65,slow=5.6,SNR=20
AKASG pP pP 05 05 18.8 +1.0
comp=Z,4.6nm,1.0s,baz=67,slow=5.5,SNR=2.6
AKBB **Malin Array Si** 80.15 320 *e*P P 05 04 26.2 -1.0
comp=Z,10nm,0.8s
KIEV **Kiev** 80.16 320 *e*P P 05 04 26.0 -1.2
comp=Z,9.8nm,0.8s
KIEV **Kiev** 80.16 320 *i* P P 05 04 26.1 -1.1
SNR=8.7
KIEV **Kiev** 80.16 320 *i* P P 05 04 26.1 -1.1
KIEV pmax pmax
comp=Z,11nm,1.0s
VSU **Vasula** 80.17 328 *e*P P 05 04 26.2 -0.8
VSU IAmb IAmb 05 04 27.2
comp=Z,163nm,0.7s
VSU **Vasula** 80.17 328 *ce*P P 05 04 26.3 -0.8
VSU pmax pmax
comp=Z,140nm,0.9s
AK11 **Malin Array Si** 80.19 320 *e*P P 05 04 26.5 -0.9
CASY **Casey** 80.51 184 *e*P P 05 04 27.7 -0.9
comp=Z,31nm,1.0s
IDID **Didziasalis** 80.77 325 *e*P P 05 04 30.2 -0.2
IDID IAmb IAmb 05 04 31.5
comp=Z,14nm,0.7s
EGAK **Eagle** 80.80 25 *e*P P 05 04 30.9 +0.5
comp=Z,28nm,0.7s
TRO **Tromso** 80.93 340 *e*P P 05 04 31.3 +0.3
IZAR **Zarasai** 80.96 325 *e*P P 05 04 31.2 -0.1
IZAR IAmb IAmb 05 04 32.5
comp=Z,20nm,1.1s
IIGN **Ignalina** 81.05 325 *e*P P 05 04 31.5 -0.4
IIGN IAmb IAmb 05 04 33.0
comp=Z,9.8nm,0.9s
ISAL **Salakas** 81.06 325 *e*P P 05 04 31.8 -0.1
ISAL IAmb IAmb 05 04 34.0
comp=Z,9.0nm,0.9s
VAF **Ylistaro** 81.15 333 P P 05 04 31.8 -0.4
VAF pmax pmax
comp=Z,34nm,2.0s
TLCR 81.45 314 ⇓*i*P P 05 04 34.3 +0.2
ISP **Isparta** 81.63 307 *e*P P 05 04 34.9 -0.5
comp=Z,23nm,0.8s
ISP **Isparta** 81.63 307 ⇑*i*P P 05 04 34.6 -0.8
ISP **Isparta** 81.63 307 *e*P P 05 04 34.9 -0.5
ISP pmax pmax
comp=Z,23nm,0.8s
DAWY **Dawson** 81.72 26 *e*P P 05 04 35.7 +0.4
comp=Z,27nm,0.9s
TIRR **Tirgusor** 81.87 314 ⇑*i*P P 05 04 35.7 -0.7
TIRR **Tirgusor** 81.87 314 P P 05 04 35.6 -0.8
CFR **Carcaliu** 81.92 314 ⇑*i*P P 05 04 37.6 +1.0
CFR **Carcaliu** 81.92 314 P P 05 04 36.3 -0.3
CFR pmax pmax
comp=Z,10.0nm,0.7s
EPYK **Eagle Plains** 82.16 23 P P 05 04 38.0 +0.5
baz=287
INK **Inuvik** 82.72 21 PKiKP **PKiKP** 05 09 58.1 -0.4
comp=Z,0.9nm,0.8s,baz=329,slow=5.1,SNR=5.3
INK **Inuvik** 82.72 21 *e*P P 05 04 40.5 +0.2
comp=Z,40nm,0.9s
INK PKiKP **PKiKP** 05 09 58.1 -0.4
INK **Inuvik** 82.72 21 *e*P P 05 04 40.5 +0.2
INK pmax pmax
comp=Z,40nm,0.9s
STEI **Steigen** 82.73 338 *e*P P 05 04 40.1 -0.2
VRI **Vrincioaia** 82.74 315 ⇑*i*P P 05 04 42.1 +1.1
VRI **Vrincioaia** 82.74 315 P P 05 04 42.0 +1.1
PLOR **Plostina** 82.80 315 ⇓*i*P P 05 04 42.1 +0.9
PLOR **Plostina** 82.80 315 P P 05 04 42.1 +0.9
BIZ **Bicaz** 82.92 317 ⇑*i*P P 05 04 41.6 -0.2
SUW **Suwalki** 83.07 324 *e*P P 05 04 41.7 -0.7
SUW **Suwalki** 83.07 324 *e*P P 05 04 41.5 -0.9
comp=Z,47nm,0.9s
SUW **Suwalki** 83.07 324 *e*P P 05 04 41.7 -0.7
BURAR **Bucovina Array** 83.36 317 ⇑*i*P P 05 04 44.4 +0.3
BURAR **Bucovina Array** 83.36 317 P P 05 04 44.4 +0.3
BUR04 **Bucovina Ar. S** 83.36 317 *e*P P 05 04 44.1 0.0
BUR04 *ep*P pP 05 05 38.8 +3.6
MLR **Muntele Rosu** 83.36 315 *e*P P 05 04 43.9 -0.3
comp=Z,23nm,0.9s
MLR **Muntele Rosu** 83.36 315 ⇑*i*P P 05 04 43.6 -0.6
MLR **Muntele Rosu** 83.36 315 *e*P P 05 04 43.9 -0.3
MLR pmax pmax
comp=Z,23nm,0.9s
BUR08 **Bucovina Ar. S** 83.36 317 *e*P P 05 04 44.2 0.0
HYT **Haines Junctio** 83.46 29 *e*P P 05 04 44.8 +0.4
comp=Z,28nm,0.9s
LVV **L'vov** 83.59 320 *e*P P 05 04 45.3 +0.1
DOPR **Dopca** 83.63 316 ⇑*i*P P 05 04 45.5 0.0
MOR8 **Moi Rana** 83.63 337 *e*P P 05 04 43.5 -1.5
KMBO **Kilima Mbogo** 83.92 267 P P 05 04 49.0 +1.2
comp=Z,9.5nm,0.8s,baz=55,slow=7.5,SNR=29
KMBO pP pP 05 05 39.8 +1.0
comp=Z,2.7nm,0.8s,baz=44,slow=6.5,SNR=2.8
KMBO **Kilima Mbogo** 83.92 267 *e*P P 05 04 48.4 +0.6
comp=Z,14nm,0.9s
KMBO *ep*P pP 05 05 39.7 +0.9
KMBO **Kilima Mbogo** 83.92 267 P P 05 04 49.1 +1.2
SNR=8.5
KMBO **Kilima Mbogo** 83.92 267 *i* P P 05 04 49.0 +1.2
SNR=15
VOIR 83.99 315 ⇑*i*P P 05 04 46.5 -0.9
VOIR 83.99 315 P P 05 04 46.9 -0.5
VOIR pmax pmax
comp=Z,9.0nm,1.4s
KONS **Konsvik** 84.01 337 *e*P P 05 04 46.5 -0.3
ARCR **ARCALIA** 84.06 317 ⇓*i*P P 05 04 48.3 +0.7
HUMR **Humele** 84.25 314 ⇑*i*P P 05 04 48.2 -0.4
KWP **Kalwaria Pacla** 84.47 320 *e*P P 05 04 49.8 +0.2
KWP **Kalwaria Pacla** 84.47 320 *e*P P 05 04 49.8 +0.2
CJR **Cluj-Napoca** 84.65 317 ⇑*i*P P 05 04 51.3 +0.6
CJR **Cluj-Napoca** 84.65 317 P P 05 04 51.2 +0.6
WHY **Whitehorse** 84.73 29 *e*P P 05 04 51.1 +0.3
comp=Z,43nm,0.8s
TRPA **Tarpa** 84.97 318 ⇑*i*P P 05 04 52.2 +0.1
UZH **Uzhgorod** 85.00 319 ⇓*i*P P 05 04 52.7 +0.5
UZH *e* 05 05 44.4
BEL **Belsk** 85.05 322 *e*P P 05 04 52.6 +0.2
BEL **Belsk** 85.05 322 *e*P P 05 04 52.6 +0.2
NSS **Namsos** 85.20 336 *e*P P 05 04 52.0 -0.9
DRGR 85.22 317 ⇑*i*P P 05 04 53.5 0.0
DRGR 85.22 317 P P 05 04 53.4 0.0
RAR **Rarotonga** 85.56 113 P P 05 04 56.3 +0.9
comp=Z,18nm,1.0s,baz=244,slow=4.9,SNR=4.3
PUNG **Punghina** 85.74 314 ⇓*i*P P 05 04 56.1 +0.1
VTS **Vitosha** 85.99 313 *e*P P 05 04 56.6 -0.9
comp=Z,13nm,0.9s
VTS **Vitosha** 85.99 313 ⇓*i*P P 05 04 57.2 -0.3
VTS **Vitosha** 85.99 313 *e*P P 05 04 56.6 -0.9
VTS pmax pmax
comp=Z,13nm,0.9s
NIE **Niedzica** 86.04 320 *e*P P 05 04 58.1 +0.7
NIE **Niedzica** 86.04 320 *e*P P 05 04 58.1 +0.7
SIRR **Siria** 86.06 317 ⇑*i*P P 05 04 57.5 -0.1
OJC **Ojcow** 86.11 321 *e*P P 05 04 57.8 +0.1

OJC	Ojcow	86.11	321	eP		P	05 04 57.5	-0.3
	comp=Z,30nm,0.8s							
OJC	Ojcow	86.11	321	eP		P	05 04 57.8	+0.1
KECS	Kecovo	86.19	319	eP		P	05 04 57.2	-0.9
KECS				pmax	pmax			
	comp=Z,31nm,0.7s							
KECS	Kecovo	86.19	319	eP		P	05 04 57.2	-0.9
BZS	Buzias	86.27	316	⇑iP		P	05 04 58.5	-0.1
BZS	Buzias	86.27	316	P		P	05 04 58.5	-0.1
TBLU	Trondheim	86.41	335	eP		P	05 04 57.8	-1.1
LANS	Liptovska Anna	86.64	320	eP		P	05 05 01.0	+0.7
LANS	Liptovska Anna	86.64	320	eP		P	05 05 01.0	+0.7
NC405	NORSAR Array S	86.65	333	eP		P	05 04 59.6	-0.5
GKP	Gorka Klasztor	86.67	324	eP		P	05 05 00.1	-0.2
GKP	Gorka Klasztor	86.67	324	eP		P	05 05 00.1	-0.2
PSZ	Piszkesteto	86.74	319	eP		P	05 05 00.6	-0.3
	comp=Z,17nm,1.4s							
PSZ	Piszkesteto	86.74	319	P		P	05 05 02.2	+1.3
NC303	NORSAR Array S	86.76	333	eP		P	05 05 00.0	-0.6
VAY	Valandovo	86.79	312	iP		P	05 05 00.0	-1.1
NB201	NORSAR Array S	86.86	333	eP		P	05 05 00.2	-0.9
NB2	NORSAR Subarra	86.90	333	P		P	05 05 00.1	-1.3
	comp=Z,28nm,0.9s,baz=68,slow=5.1							
NB2	NORSAR Subarra	86.90	333	P		P	05 05 00.1	-1.3
	baz=68,slow=5.1							
NOA	NORSAR Array B	86.90	333	P		P	05 05 00.1	-1.3
	comp=Z,18nm,0.8s,baz=67,slow=4.6,SNR=38							
NOA				pP		pP	05 05 53.4	+0.7
	comp=Z,6.1nm,0.9s,baz=66,slow=5.0,SNR=5.4							
STIP	Stip	86.96	312	iP		P	05 05 00.2	-1.8
NC204	NORSAR Array S	87.00	333	eP		P	05 05 01.3	-0.6
NAO01	NORSAR Array S	87.12	333	eP		P	05 05 01.4	-1.0
VYHS	Vyhne	87.24	319	eP		P	05 05 03.5	+0.3
VYHS				pmax	pmax			
	comp=Z,7.0nm,1.5s							
VYHS	Vyhne	87.24	319	eP		P	05 05 03.5	+0.3
OKC	Ostrava-Krasne	87.24	321	eP		P	05 05 03.4	+0.2
OKC	Ostrava-Krasne	87.24	321	eP		P	05 05 03.4	+0.2
SKO	Skopje	87.42	313	iP		P	05 05 03.7	-0.5
MORC	Moravsky Berou	87.64	321	eP		P	05 05 04.8	-0.3
	comp=Z,40nm,1.7s							
MORC	Moravsky Berou	87.64	321	⇑iP		P	05 05 04.9	-0.3
MORC	Moravsky Berou	87.64	321	eP		P	05 05 04.8	-0.3
MORC				pmax	pmax			
	comp=Z,40nm,1.7s							
MORC	Moravsky Berou	87.64	321	eP		P	05 05 04.8	-0.3
KRUS	Krusevo	87.73	312	iP		P	05 05 04.1	-1.7
BIA	Bitola	87.78	312	iP		P	05 05 05.3	-0.7
DIVS	Divibare	87.82	315	eP		P	05 05 05.6	-0.6
	comp=Z,5.2nm,0.9s							
JAVC	Velka Javorina	87.85	320	eP		P	05 05 07.2	+1.0
KSP	Ksiaz	88.03	322	eP		P	05 05 06.9	0.0
KSP	Ksiaz	88.03	322	eP		P	05 05 06.9	0.0
DPC	Dobruska-Polom	88.19	322	eP		P	05 05 08.3	+0.6
DPC	Dobruska-Polom	88.19	322	eP		P	05 05 08.3	+0.6
UPC	Upice	88.32	322	eP		P	05 05 08.4	+0.2
UPC	Upice	88.32	322	eP		P	05 05 08.4	+0.2
VRAC	Vranov	88.37	321	⇑iP		P	05 05 08.7	+0.2
VRAC	Vranov	88.37	321	P		P	05 05 08.6	+0.1
VRAC	Vranov	88.37	321	eP		P	05 05 08.8	+0.2
ITM	Ithomi	88.42	308	eP		P	05 05 07.9	-1.1
	comp=Z,104nm,1.8s							
KRUC	Moravsky	88.58	320	eP		P	05 05 09.6	+0.1
RES	Resolute Bay	88.63	9	eP		P	05 05 09.3	+0.1
	comp=Z,34nm,0.9s							
RES	Resolute Bay	88.63	9	eP		P	05 05 09.3	+0.1
RES				pmax	pmax			
	comp=Z,34nm,0.9s							
PDG	Podgorica	88.84	313	⇑iP		P	05 05 10.0	-0.8
TTG	Podgorica	88.84	313	eP		P	05 05 10.0	-0.8
	comp=Z,17nm,0.8s							
TTG	Podgorica	88.84	313	eP		P	05 05 10.0	-0.8
TTG				pmax	pmax			
	comp=Z,17nm,0.8s							
PVCC	Panska Ves	89.17	322	eP		P	05 05 12.7	+0.5
PVCC	Panska Ves	89.17	322	eP		P	05 05 12.7	+0.5
GOPC	GO Pecny, Ondr	89.26	322	eP		P	05 05 12.8	+0.1
GOPC	GO Pecny, Ondr	89.26	322	eP		P	05 05 12.8	+0.1
CONA	Conrad Observa	89.30	319	iPcP		P	05 05 13.7	+0.6
	comp=Z,7.1nm,1.6s							
BRG	Berggiesshubel	89.42	323	iPKP		P	05 05 13.1	-0.3
	comp=Z,23nm,1.3s							
BRG	Berggiesshubel	89.42	323	iP		P	05 05 13.1	-0.3
BRG				pmax	pmax			
	comp=Z,23nm,1.3s							
BLS5	Blasjo	89.74	332	eP		P	05 05 13.9	-0.9
CLL	Collm	89.80	323	eP		P	05 05 15.0	-0.2
	comp=Z,32nm,1.5s							
CLL	Collm	89.80	323	⇓iP		P	05 05 14.9	-0.2
	comp=Z,19nm,1.2s							
CLL				LmV			07 30 00.0	
	comp=Z,100nm,19.2s							
CLL	Collm	89.80	323	eP		P	05 05 15.0	-0.2
CLL				pmax	pmax			
	comp=Z,32nm,1.5s							
SOKA	Soboth	90.27	318	iP		P	05 05 16.8	-0.7
	comp=Z,5.2nm,0.9s							
KHC	Kasperske Hory	90.28	321	eP		P	05 05 17.8	+0.2
	comp=Z,9.5nm,1.6s							
KHC	Kasperske Hory	90.28	321	eP		P	05 05 17.6	+0.1
KHC	Kasperske Hory	90.28	321	eP		P	05 05 17.6	+0.1
CRES	Cresnjev	90.30	318	iP		P	05 05 17.3	-0.3
CRES	Cresnjev	90.30	318	iP		P	05 05 17.3	-0.3
GEC2	GERESS Array S	90.32	321	eP		P	05 05 17.9	+0.2
	comp=Z,6.3nm,0.9s							
GEC2	GERESS Array S	90.32	321	eP		P	05 05 17.9	+0.2
GEC2				pmax	pmax			
	comp=Z,6.0nm,0.9s							
GERES	GERESS Array B	90.32	321	P		P	05 05 17.6	-0.2
	comp=Z,4.3nm,0.8s,baz=73,slow=5.1,SNR=32							
GEA0	GERESS Array S	90.32	321	eP		P	05 05 17.4	-0.4
MOA	Molln	90.33	320	iPcP		P	05 05 18.0	+0.3
	comp=Z,11nm,0.7s,SNR=10.0							
OBKA	Obir	90.64	318	iPcP		P	05 05 18.9	-0.4
	comp=Z,9.3nm,1.1s							
CEY	Cerknica	91.00	318	iP		P	05 05 20.5	-0.4
CEY	Cerknica	91.00	318	iP		P	05 05 20.5	-0.4
MYKA	Terra Mystica	91.18	319	iP		P	05 05 20.8	-1.0
	comp=Z,3.7nm,0.8s							
KBA	Koelnbreinsper	91.20	319	iP		P	05 05 19.1	-2.9
	comp=Z,4.8nm,0.8s							
ROBS	Robic	91.41	318	iP		P	05 05 21.7	-1.0
ROBS	Robic	91.41	318	iP		P	05 05 21.7	-1.0
MAW	Mawson	91.47	199	P		P	05 05 22.1	-0.2
	comp=Z,7.4nm,0.5s,baz=78,slow=3.0,SNR=22							
TIP	Timpagrande	91.68	311	eP		P	05 05 23.9	-0.4
	comp=Z,16nm,1.1s							
TIP	Timpagrande	91.68	311	⇑iP		P	05 05 23.8	-0.4
ABTA	Abfaltersbach	91.86	319	iP		P	05 05 23.7	-1.2
	comp=Z,14nm,1.5s,SNR=5.1							
WTTA	Wattenberg	92.20	320	iPcP		P	05 05 26.8	+0.2
	comp=Z,8.0nm,0.6s							
WATA	Walderalm	92.21	320	iPcP		P	05 05 26.0	-0.6
	comp=Z,7.1nm,0.6s							
YKW3	Yellowknife Ar	92.36	22	eP		P	05 05 27.1	+0.4
	comp=Z,18nm,0.9s							
YKA	Yellowknife Ar	92.40	22	P		P	05 05 27.3	+0.4
	comp=Z,12nm,0.8s,baz=307,slow=4.2,SNR=57							
YKA				PKiKP		PKiKP	05 10 14.5	-0.2
	comp=Z,0.5nm,0.5s,baz=319,slow=1.5,SNR=6.8							
YKA				PKKP		PKKPdf	05 22 38.1	-0.3
	comp=Z,1.6nm,0.4s,baz=132,slow=2.8,SNR=49							
YKB5	Yellowknife Ar	92.40	22	eP		P	05 05 26.8	-0.1
SUMG	Summit	92.42	354	eP		P	05 05 27.9	+0.5
	comp=Z,18nm,1.2s							
SUMG	Summit	92.42	354	iP		P	05 05 27.7	+0.3
	comp=Z,18nm,0.9s							
SUMG	Summit	92.42	354	eP		P	05 05 27.9	+0.5
SUMG				pmax	pmax			
	comp=Z,18nm,1.2s							
SQTA	Sankt Quirin	92.49	320	iPcP		P	05 05 27.3	-0.5
	comp=Z,17nm,0.9s,SNR=5.8							
MOTA	Moosalm	92.50	320	iPcP		P	05 05 27.1	-0.9
	comp=Z,10.0nm,0.9s,SNR=6.8							
FETA	Feichten	92.87	320	iPcP		P	05 05 29.3	-0.4
	comp=Z,18nm,1.3s,SNR=11							
FUORN	Ofenpass-Fuorn	93.33	320	eP		P	05 05 31.9	0.0
	comp=Z,14nm,1.0s							
VNDA	Vanda	94.44	172	P		P	05 05 35.1	-0.7
	comp=Z,7.0nm,0.9s,baz=299,slow=5.6,SNR=24							
VNDA				PKKP		PKKPdf	05 22 34.0	-2.9
	comp=Z,0.7nm,0.7s,baz=136,slow=0.9,SNR=6.8							
VNDA	Vanda	94.44	172	eP		P	05 05 35.2	-0.7
	comp=Z,9.2nm,1.0s							
VNDA				PKKP		PKKPdf	05 22 34.0	-2.9

LSZ	Lusaka	95.99	256	eP		P	05 05 44.5	0.0
	comp=Z,15nm,1.4s							
LSZ	Lusaka	95.99	256	eP		P	05 05 44.5	0.0
LSZ				pmax	pmax			
	comp=Z,15nm,1.4s							
NVAR	Mina Array Bea	104.04	44	Pdiff		Pdif	05 06 20.9	+0.7
	comp=Z,0.5nm,0.6s,baz=286,slow=4.3,SNR=3.5							
NVAR				PKiKP		PKiKP	05 10 36.7	+0.3
	comp=Z,0.6nm,0.7s,baz=284,slow=2.9,SNR=4.8							
NVAR				PKKP		PKKPbc	05 22 09.0	-0.6
	comp=Z,0.7nm,0.7s,baz=158,slow=2.8,SNR=5.7							
PDAR	Pinedale Array	107.03	36	PKiKP		PKiKP	05 10 41.4	-0.4
	comp=Z,0.6nm,0.6s,baz=242,slow=0.2,SNR=5.3							
PDAR				PKKPbc		PKKPbc	05 21 59.0	-1.8
	comp=Z,0.5nm,0.5s,baz=114,slow=5.5,SNR=8.4							
SCHQ	Schefferville	111.03	5	PKiKP		PKiKP	05 10 48.2	-0.5
	comp=Z,5.4nm,1.1s,baz=1.7,slow=2.6,SNR=3.8							
ECSD	EROS Data Cent	113.11	29	ePKP		PKiKP	05 10 52.5	-0.5
SNAA	Sanae	113.54	197	PKKPbc		PKKPbc	05 21 36.8	-3.6
	comp=Z,2.1nm,1.1s,baz=184,slow=23,SNR=5.1							
TORD	Torodi Ar. Bea	113.80	291	PKiKP		PKiKP	05 10 53.4	-1.6
	comp=Z,0.6nm,0.4s,baz=57,slow=2.2,SNR=18							
TORD				PKKPbc		PKKPbc	05 21 37.4	-0.3
	comp=Z,1.0nm,0.9s,baz=277,slow=2.5,SNR=5.6							
VNA2	Neumayer--Watz	115.18	197	PKP		PKPdf	05 10 55.7	-0.4
	baz=124,slow=1.0							
I39A	Houston	115.25	25	ePKPdf		PKPdf	05 10 55.6	-1.5
VNA3	Neumayer Olymp	115.62	196	PKP		PKPdf	05 10 56.2	-0.7
MNTX	Cornudas Mount	116.55	43	ePKPdf		PKPdf	05 10 59.9	-0.1
L40A	Anamosa	116.84	26	ePKPdf		PKPdf	05 10 59.2	-1.0
N39A	Derby Farms, D	117.24	28	ePKPdf		PKPdf	05 11 00.5	-0.5
TX31	Lajitas Ar. Si	119.18	44	ePKPdf		PKPdf	05 11 05.0	-0.2
TXAR	Lajitas Array	119.18	44	PKP		PKPdf	05 11 05.5	+0.3
	comp=Z,5.9nm,0.7s,baz=199,slow=0.7,SNR=96							
TXAR				PKKPbc		PKKPbc	05 21 19.0	-0.5
	comp=Z,0.1nm,0.4s,baz=141,slow=6.5,SNR=6.7							
TUL1	Leonard	119.46	34	ePKPdf		PKPdf	05 11 05.4	0.0
ABTX	Abilene, Hawle	119.61	39	ePKPdf		PKPdf	05 11 06.1	+0.3
CCM	Cathedral Cave	120.08	29	ePKPdf		PKPdf	05 11 06.1	-0.4
CCM	Cathedral Cave	120.08	29	ePKIKP		PKPdf	05 11 06.1	-0.4
HHAR	Hobbs	120.15	32	ePKPdf		PKPdf	05 11 06.2	-0.6
P45A	Graceland, Par	120.42	25	ePKPdf		PKPdf	05 11 06.7	-0.4
FVM	French Village	120.52	28	ePKPdf		PKPdf	05 11 06.9	-0.5
FVM	French Village	120.52	28	ePKIKP		PKPdf	05 11 06.9	-0.5
X37A	Clayton	120.67	34	ePKPdf		PKPdf	05 11 07.9	+0.2
JCT	Junction City	120.98	41	ePKPdf		PKPdf	05 11 08.5	0.0
JCT	Junction City	120.98	41	ePKIKP		PKPdf	05 11 08.5	0.0
T42A	Van Buren	120.98	29	ePKPdf		PKPdf	05 11 07.5	-0.8
W39A	Magazine	121.07	33	ePKPdf		PKPdf	05 11 08.1	-0.4
BLO	Bloomington	121.22	25	ePKPdf		PKPdf	05 11 08.6	-0.1
BLO	Bloomington	121.22	25	ePKIKP		PKPdf	05 11 08.6	-0.1
SIUC	Southern Illin	121.29	28	ePKPdf		PKPdf	05 11 08.8	0.0
WHTX	Lake Whitney,	121.37	38	ePKPdf		PKPdf	05 11 09.1	-0.1
PBMO	Poplar Bluff	121.50	29	ePKPdf		PKPdf	05 11 08.8	-0.5
ACSO	Alum Creek Sta	121.63	21	ePKPdf		PKPdf	05 11 09.0	-0.4
MIAR	Mount Ida	121.67	33	ePKPdf		PKPdf	05 11 09.8	+0.2
MIAR	Mount Ida	121.67	33	ePKIKP		PKPdf	05 11 09.9	+0.2
BINY	Binghamton	121.90	15	ePKPdf		PKPdf	05 11 10.1	+0.1
WCI	Wyandotte Cave	122.11	25	ePKPdf		PKPdf	05 11 10.4	-0.1
WCI	Wyandotte Cave	122.11	25	ePKIKP		PKPdf	05 11 10.4	-0.1
T45A	Paducah	122.12	28	ePKPdf		PKPdf	05 11 10.6	+0.1
O52A	Adamsville	122.13	20	ePKPdf		PKPdf	05 11 09.8	-0.6
UALR	University of	122.14	32	ePKPdf		PKPdf	05 11 10.4	-0.1
DBIC	Dimbokro	122.17	287	PKP		PKPdf	05 11 10.6	-0.6
	comp=Z,3.3nm,0.6s,baz=76,slow=2.6,SNR=11							
KIC	Kosan Boka	122.17	287	ePKIKP		PKPdf	05 11 10.3	-0.9
	comp=Z,12nm,0.5s							
P51A	Williamsport	122.27	22	ePKPdf		PKPdf	05 11 10.1	-0.6
TIC	Toumodi	122.33	287	ePKIKP		PKPdf	05 11 10.3	-1.2
GLAT	Glass	122.44	29	ePKPdf		PKPdf	05 11 11.3	+0.2
LIC	Lamto	122.49	287	ePKIKP		PKPdf	05 11 10.4	-1.4
	comp=Z,16nm,0.5s							
833A	Chaparral WMA,	122.69	42	ePKPdf		PKPdf	05 11 12.8	+1.0
T47A	Sharon Grove	122.83	26	ePKPdf		PKPdf	05 11 11.7	-0.2
P53A	Whipple	122.84	20	ePKPdf		PKPdf	05 11 11.2	-0.6
SSPA	Standing Stone	122.87	17	ePKPdf		PKPdf	05 11 11.8	0.0
NATX	Nacogdoches	123.17	36	ePKPdf		PKPdf	05 11 13.2	+0.6
WVT	Waverly	123.22	28	ePKPdf		PKPdf	05 11 12.5	-0.1
WVT	Waverly	123.22	28	ePKIKP		PKPdf	05 11 12.5	-0.1
240A	Hunter Patters	123.47	35	ePKPdf		PKPdf	05 11 13.5	+0.3
S51A	Beattyville	123.69	23	ePKPdf		PKPdf	05 11 13.4	-0.1
HKT	Hockley	123.80	38	ePKPdf		PKPdf	05 11 13.9	+0.1
OXF	Oxford	123.81	30	ePKPdf		PKPdf	05 11 13.6	-0.2
OXF	Oxford	123.81	30	ePKIKP		PKPdf	05 11 13.6	-0.2
V48A	Smith Brothers	124.00	27	ePKPdf		PKPdf	05 11 13.5	-0.6
PLAL	Pickwick Lake	124.06	28	ePKPdf		PKPdf	05 11 13.6	-0.7
Z45A	Winona	124.59	31	ePKPdf		PKPdf	05 11 15.7	+0.4
SWET	Sewanee	124.83	27	ePKPdf		PKPdf	05 11 15.5	-0.3
LNIG	Linares	124.89	46	ePKPdf		PKPdf	05 11 15.2	-0.9
X48A	Yaselle	124.97	28	ePKPdf		PKPdf	05 11 15.3	-0.7
VBMS	Vicksburg	125.09	32	ePKPdf		PKPdf	05 11 17.1	+0.8
W50A	Signal Mountai	125.11	26	ePKPdf		PKPdf	05 11 16.1	-0.3
CPCT	Cooper Cave	125.22	25	ePKPdf		PKPdf	05 11 16.6	+0.1
V52A	Sevierville	125.26	24	ePKPdf		PKPdf	05 11 16.7	+0.1
TKL	Tuckaleechee C	125.35	24	ePKPdf		PKPdf	05 11 17.0	+0.2
TKL	Tuckaleechee C	125.35	24	ePKIKP		PKPdf	05 11 17.0	+0.2
146A	Union	125.50	31	ePKPdf		PKPdf	05 11 17.6	+0.5
344A	Westbrook Farm	125.58	33	ePKPdf		PKPdf	05 11 17.9	+0.6
V53A	Saluda	125.72	24	ePKPdf		PKPdf	05 11 17.8	+0.2
Y49A	Blount Mountai	125.76	28	ePKPdf		PKPdf	05 11 16.8	-0.8
W52A	Murphy	125.78	25	ePKPdf		PKPdf	05 11 17.7	+0.1
LRAL	Lakeview Retre	126.17	29	ePKPdf		PKPdf	05 11 18.7	+0.4
BG3	Lake Jocassee	126.27	24	ePKPdf		PKPdf	05 11 19.3	+0.8
Z50A	Ashland	126.48	28	ePKPdf		PKPdf	05 11 18.8	-0.2
KMSC	Kings Mountain	126.75	23	ePKPdf		PKPdf	05 11 19.4	0.0
PAULI	Pauline	126.85	23	ePKPdf		PKPdf	05 11 20.1	+0.5
250A	Grady	127.39	29	ePKPdf		PKPdf	05 11 21.5	+0.8
BRAL	Brewton	127.68	30	ePKPdf		PKPdf	05 11 21.9	+0.6
USHA	Ushuaia	138.74	172	PKP		PKPdf	05 11 42.7	+1.5
	comp=Z,9.2nm,0.8s,baz=108,slow=3.2,SNR=4.7							
JTS	JuntasAbangare	144.86	48	ePKPbc		PKPbc	05 11 52.2	-0.8
JTS	JuntasAbangare	144.86	48	ePKIKP		PKPbc	05 11 52.2	-0.8
SDDR	Presa de Saban	145.06	20	ePKPbc		PKPdf	05 11 53.6	-0.1
CHRN	Cochrane	145.14	164	ePKPdf		PKPab	05 11 53.1	+0.1
SDD	Santo Domingo	145.99	18	ePKPdf		PKPdf	05 11 55.6	+0.5
AGP	Aguadilla	146.78	14	ePKPdf		PKPdf	05 11 57.4	+0.8
EMPR	Esperanza - Ma	146.85	13	ePKPdf		PKPbc	05 11 57.8	-0.9
MPR	Mayaguez	146.97	14	ePKPdf		PKPbc	05 11 57.9	-1.1
CRPR	Cabo Rojo, PR	147.17	14	ePKPdf		PKPdf	05 11 57.7	+0.5
CBYP	Canovanas	147.18	12	ePKPdf		PKPdf	05 11 58.1	+0.9
OBIP	Obispado Ponce	147.25	13	ePKPdf		PKPdf	05 11 58.1	+0.8
CUPR	Culebra, Puert	147.25	11	ePKPdf		PKPdf	05 11 58.4	+1.1
STVI	Saint Thomas	147.27	10	ePKPbc		PKPbc	05 11 59.2	-0.9
SJG	San Juan	147.28	12	ePKPbc		PKPbc	05 11 59.4	-0.5
SJG	San Juan	147.28	12	ePKP2		PKPbc	05 11 59.4	-0.5
HUMP	Col San Antoni	147.31	12	ePKPdf		PKPbc	05 11 58.7	-1.3
MTP	Monte Pirata	147.41	11	ePKPbc		PKPbc	05 11 59.2	-1.1
ICMP	Isla Caja de M	147.42	13	ePKPbc		PKPbc	05 11 59.2	-1.1
CDVI	St. Croix	147.89	10	ePKPbc		PKPbc	05 12 00.3	-1.2
SABA	Saba	148.24	7	ePKPbc		PKPbc	05 12 01.6	-0.8
GO07	Milladeo Hill,	148.56	160	ePKPbc		PKPbc	05 12 02.2	-0.4
BCIP	Isla Barro Col	149.18	43	ePKPbc		PKPbc	05 12 04.4	-0.6
SMRC	Santa Marta, M	150.86	31	eP		PKPbc	05 12 08.9	-0.1
FDF	Fort de France	151.29	4	ePKPbc		PKPbc	05 12 08.9	-1.1
URIC	Uribia, Colomb	151.44	27	eP		PKPbc	05 12 10.8	+0.5
PLCA	Paso Flores	151.71	162	PKP		PKPdf	05 12 02.5	-1.3
	comp=Z,2.1nm,0.8s,baz=239,slow=5.6,SNR=5.0							
PLCA				PKPbc		PKPbc	05 12 10.4	+0.1
	comp=Z,17nm,0.7s,baz=221,slow=2.8,SNR=62							
PLCA				PKPab		PKPab	05 12 19.6	-0.2
	comp=Z,9.0nm,0.8s,baz=255,slow=6.6,SNR=6.7							
PLCA	Paso Flores	151.71	162	PKP		PKPdf	05 12 02.5	-1.3
PLCA				ePKPbc		PKPbc	05 12 10.0	-0.3
PLCA				PKPab		PKPab	05 12 19.6	-0.2
MOTC	Monteria, Cord	152.06	36	⇑eP		PKPbc	05 12 11.5	-0.2
CODC	Agust`›n Codaz	152.30	31	⇑eP		PKPbc	05 12 12.2	-0.1
GO06	Curarrehue	152.46	159	ePKPdf		PKPdf	05 12 05.0	0.0
GO06				ePKPbc		PKPbc	05 12 12.1	0.0
SMLC	San Mart`›n de	152.93	34	eP		PKPbc	05 12 13.4	-0.3
ZARC	Zaragoza, Cauc	153.56	37	eP		PKPbc	05 12 14.8	-0.3
OCAC	Ocana	153.80	33	eP		PKPbc	05 12 15.9	+0.2
HELC	Santa Helena	154.19	40	eP		PKPbc	05 12 16.1	-0.8
SDV	Santo Domingo	154.54	27	ePKPdf		PKPdf	05 12 08.9	0.0
SDV				ePKPbc		PKPbc	05 12 16.8	-0.6
SDV				ePKPab		PKPab	05 12 32.8	+0.2
PTBC	PUERTO BERRIO	154.56	37	eP		PKPbc	05 12 16.4	-0.8
PLMC	San Jos`' del	154.69	43	eP		PKPbc	05 12 18.6	+0.9
GIRC	Giron, Santand	154.84	34	eP		PKPbc	05 12 18.5	+0.5
PAMC	Pamplona, Colo	154.88	33	eP		PKPbc	05 12 18.6	+0.1
GUYC	Guyana, Colomb	155.03	41	eP		PKPbc	05 12 18.7	
BARC	Barichara	155.25	35	eP		PKPdf	05 12 10.0	+0.1

RREF	El Recreo	155.30	41	eP		PKPdf	05 12 19.9	+9.4
YOTC	Yotoco, Valle	155.33	44	eP		PKPdf	05 12 10.0	+0.1
RUSC	La Rusia	155.88	35	eP		PKPdf	05 12 10.8	-0.2
ROSC	El Rosal	155.99	39	PKP		PKPdf	05 12 11.3	+0.3
	comp=Z,4.7nm,0.6s,baz=130,slow=22,SNR=8.1							
ROSC	El Rosal	155.99	39	ePKPdf		PKPdf	05 12 10.8	-0.3
TRQA	Tornquist	156.03	175	ePKPab		PKPab	05 12 37.9	-0.3
POPC	Popayan, Colom	156.12	47	eP		PKPdf	05 12 11.2	+0.1
OTAV	Otavalo	156.28	55	ePKPdf		PKPdf	05 12 12.3	+0.8
OTAV				ePKPab		PKPab	05 12 40.7	+0.1
OTAV	Otavalo	156.28	55	ePKIKP		PKPdf	05 12 12.3	+0.8
PRAC	Prado	156.50	42	eP		PKPdf	05 12 20.9	+10
GCUF	Volcan Galeras	156.51	51	eP		PKPab	05 11 41.6	0.0
CHIC	Chingaza	156.52	39	eP		PKPdf	05 12 11.6	-0.2
VILC	Villavicencio,	156.95	39	eP		PKPdf	05 12 12.6	+0.6
FLOC	Florencia	157.52	47	eP		PKPab	05 12 45.2	-0.1
LVC	Limon Verde	167.57	134	PKPab		PKPab	05 13 31.0	+1.4
	comp=Z,15nm,1.0s,baz=238,slow=6.5,SNR=6.2							
LVC	Limon Verde	167.57	134	ePKPab		PKPab	05 13 28.3	-1.3
LVC	Limon Verde	167.57	134	PKP2		PKPab	05 13 31.0	+1.4
LVC				pmax	pmax			
	comp=Z,15nm,1.0s							
CPUP	Villa Florida	167.70	188	PKP		PKPdf	05 12 21.3	-0.8
	comp=Z,1.2nm,0.6s,baz=128,slow=11,SNR=3.0							
CPUP				PKPab		PKPab	05 13 29.1	-0.3
	comp=Z,6.8nm,0.7s,baz=164,slow=3.5,SNR=15							
CPUP	Villa Florida	167.70	188	PKP		PKPdf	05 12 21.3

SANI	**Sanana**	**6.46**	**297**	P	Pn	06 01 02.1	-0.1

*IDC **23** 06:00:19.0±2.0, 52°.23N×169°.65W, h0km, mb3.4/4, mb1 3.7/7, mb1mx3.5/60, mbtmp3.5/7, ML3.1/3, Error ellipse: s-maj=46.3km s-min=28.9km az=174.0*
*ISCJB **23** 06:00:23.7±0.8, 52°.21N±0°.10×169°.6W±0°.1, h40km, mb3.3/4, Error ellipse: s-maj=16.1km s-min=5.5km az=148.3*
*NEIC **23** 06:00:24.1±0.0, 52°.26N×169°.53W, h33km, ML3.1(AEIC), After AEIC.*
ISC 23 06:00:25.6±1.1,**52°.4N**±0°.2×**169°.59W**±0°.09,**h40**km,**n23,** σ1**80**/26,**mb3.3**/4,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.75**	**37**	*e*Pn	**Pn**	**06 00 39.1**	**-0.6**
NIKH				*e*Sn	**Sn**	**06 00 50.6**	**+0.7**
OKSP	**Okmok Steeple**	**1.18**	**42**	P	**Pn**	**06 00 45.3**	**-0.4**
OKCE	**Okmok Cone E**	**1.36**	**39**	*e*Pn	**Pn**	**06 00 48.9**	**+0.7**
OKCE				*e*Sn	**Sn**	**06 01 07.2**	**+2.1**
OKTU	**Okmok Mt. Tuli**	**1.38**	**42**	*e*Pn	**Pn**	**06 00 47.9**	**-0.5**
OKNC	**Okmok New Cone**	**1.40**	**39**	*e*Pn	**Pn**	**06 00 49.3**	**+0.6**
MREP	**Makushin Rep't**	**2.24**	**49**	P	**Pn**	**06 01 00.2**	**0.0**
MSW	**Makushin Switc**	**2.29**	**47**	*e*Pn	**Pn**	**06 01 01.2**	**+0.4**
MSW				*e*Sn	**Sn**	**06 01 30.1**	**+2.2**
MNAT	**Makushin Natee**	**2.31**	**48**	P	**Pn**	**06 01 01.9**	**+0.7**
MTBL	**Makushin Table**	**2.37**	**47**	*e*Pn	**Pn**	**06 01 02.9**	**+0.9**
UNV	**Unalaska Valle**	**2.38**	**50**	*e*Pn	**Pn**	**06 01 00.3**	**-1.7**
UNV				*e*Sn	**Sn**	**06 01 32.0**	**+2.1**
AKRB	**Akutan Reef Bi**	**2.75**	**49**	*e*Pn	**Pn**	**06 01 08.6**	**+1.4**
ATKA	**Atka Island**	**2.83**	**268**	*e*Pn	**Pn**	**06 01 09.8**	**+1.6**
AKUT	**Akutan**	**2.89**	**51**	*e*Pn	**Pn**	**06 01 12.7**	**+3.6**
GSMY	**Great Sitkin M**	**3.99**	**268**	*e*Pn	**Pn**	**06 01 23.9**	**-0.3**
ADK	**Adak**	**4.40**	**266**	*e*Pn	**Pn**	**06 01 31.4**	**+1.6**
KDAK	**Kodiak Island**	**11.14**	**54**	Pn	**Pn**	**06 03 06.7**	**+4.6**
	0.3nm,0.3s,baz=225,slow=6.6,SNR=3.5						
ILAR	**Eielson Array**	**17.02**	**34**	P	**Pn**	**06 04 18.2**	**-2.2**
	0.0nm,0.3s,baz=238,slow=10,SNR=3.7						
PETK	**Petropavlovsk-**	**19.73**	**285**	P	**P**	**06 04 50.8**	**-0.8**
	0.2nm,0.3s,baz=88,slow=14,SNR=5.2						
H02S1	**DAWSON INLET T**	**22.30**	**73**	T	T	06 28 27.3	
	SNR=43						
INK	**Inuvik**	**23.42**	**33**	P	**P**	**06 05 28.6**	**-2.0**
	0.6nm,0.4s,baz=249,slow=7.9,SNR=5.9						
YKA	**Yellowknife Ar**	**30.34**	**49**	P	**P**	**06 06 33.7**	**+0.7**
	0.3nm,0.5s,baz=273,slow=7.8,SNR=4.0						
PDAR	**Pinedale Array**	**40.54**	**79**	P	**P**	**06 08 00.7**	**-0.3**
	0.2nm,0.4s,baz=318,slow=4.2,SNR=3.8						
TXAR	**Lajitas Array**	**52.88**	**89**	P	**P**	**06 09 36.2**	**-1.3**
	0.3nm,0.8s,baz=316,slow=5.1,SNR=3.2						

PGC 23 06:14:46.1±2.4,**48°.69N**×**129°.03W**,**h10**km,**MLSn3.3**/16, **Mw3.9**/16,**Mw3.9**/16,**233km west of Tofino, Bc Vancouver Island, Canada Region, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEMF	**NEPTUNE Canada**	**0.74**	**184**	P	Pg	06 14 59.4	-0.9
PACB	**Port Alice, BC**	**2.02**	**29**	Pn	Pn	06 15 18.3	-1.8
PACB				Sn	Sn	06 15 40.5	-4.9
MAYB	**Maynard**	**2.10**	**34**	Pn	Pn	06 15 20.0	-1.5
MAYB				Sn	Sn	06 15 42.9	-4.8
WOSB	**Woss**	**2.18**	**47**	Pn	Pn	06 15 21.3	-1.2
WOSB				Sn	Sn	06 15 45.5	-4.1
GDR	**Gold River**	**2.25**	**60**	Pn	Pn	06 15 21.8	-1.6
GDR				Sn	Sn	06 15 46.1	-5.1
PHC	**Port Hardy**	**2.27**	**27**	Pn	Pn	06 15 22.4	-1.3
PHC				Sn	Sn	06 15 46.9	-4.8
TLCB	**Telegraph Cove**	**2.35**	**37**	Pn	Pn	06 15 24.7	0.0
TLCB				Sn	Sn	06 15 49.9	-3.6
BTB	**Buttle Lake**	**2.44**	**70**	Pn	Pn	06 15 24.7	-1.4
BTB				Sn	Sn	06 15 52.9	-3.1
SPLB	**Strathcona Par**	**2.52**	**60**	Pn	Pn	06 15 26.2	-0.8
SPLB				Sn	Sn	06 15 55.7	-2.1
B928	**Bamfield**	**2.58**	**85**	Pn	Pn	06 15 26.3	-1.6
B928				Sn	Sn	06 15 54.7	-4.6
MWAB	**Mount Washingt**	**2.66**	**65**	Pn	Pn	06 15 28.3	-0.8
MWAB				Sn	Sn	06 15 59.1	-2.4
CBB	**Campbell River**	**2.75**	**59**	Pn	Pn	06 15 30.2	-0.1
CBB				Sn	Sn	06 16 00.6	-2.9
MGB	**Mount Grey**	**2.88**	**82**	Pn	Pn	06 15 30.2	-2.0
MGB				Sn	Sn	06 16 02.6	-4.3
TXB	**Texada**	**3.18**	**70**	Pn	Pn	06 15 35.5	-0.7
GHNB	**Nanoose**	**3.22**	**77**	Pn	Pn	06 15 36.5	-0.2
GHNB				Sn	Sn	06 16 13.3	-1.6
B926	**Mesachie Lake**	**3.24**	**86**	Pn	Pn	06 15 35.5	-1.6
B926				Sn	Sn	06 16 11.2	-4.5
NLLB	**Nanaimo Lost L**	**3.37**	**79**	Pn	Pn	06 15 38.7	-0.1
SHB	**Sechelt**	**3.50**	**73**	Pn	Pn	06 15 40.5	-0.2
SHB				Sn	Sn	06 16 20.1	-2.1
BBB	**Bella Bella**	**3.55**	**9**	Pn	Pn	06 15 41.4	+0.2
BBB				Sn	Sn	06 16 19.4	-3.8
BIB	**Bowen Island**	**3.83**	**77**	Pn	Pn	06 15 44.9	-0.2
WPB	**Watts Point**	**3.94**	**74**	Pn	Pn	06 15 45.8	-0.8
VDB	**Vedder Mountai**	**4.59**	**83**	Pn	Pn	06 15 54.7	-0.8
RPW	**Rockport**	**5.00**	**90**	Pn	Pn	06 16 01.1	-0.1
FMW	**Mount Fremont**	**5.26**	**107**	Pn	Pn	06 16 06.3	+1.4
FMW				Sn	Sn	06 16 50.1	-16
LTY	**Liberty**	**5.79**	**101**	Pn	Pn	06 16 14.2	+2.1

*ASRS **23** 06:19:42.8, 53°.74N×91°.09E, M3.1, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
NNC 23 06:19:44.6±7.2,**53°.14N**×**91°.23E**,**h0**km,**mb4.1, mpv3.8, 5C-6D, Error ellipse: s-maj=56.7km s-min=48.9km az=69.0, Suspected Mining explosion., Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**3.91**	**284**	⇓Pn	Pn	06 20 46.0	+0.1
	14nm,0.7s						
ZAA0				⇑Lg	Lg	06 21 46.0	
	71nm,0.8s						
KURK	**Kurchatov**	**8.16**	**258**	⇓Pn	Pn	06 21 42.4	-1.8
	5.4nm,1.2s						
KURK				⇓Sn	Sn	06 23 16.5	-0.6
	13nm,1.1s						
KURK				⇑Lg	Lg	06 24 02.0	
	23nm,0.9s						
KURBB	**Kurchatov Arra**	**8.25**	**257**	⇓Pn	Pn	06 21 45.4	-0.1
	2.2nm,0.4s						
KURBB				⇑Sn	Sn	06 23 19.6	+0.3
	14nm,0.7s						
KURBB				⇓Lg	Lg	06 24 04.5	
	61nm,1.1s						
MK31	**Makanchi Array**	**8.57**	**226**	⇓Pn	Pn	06 21 53.3	+3.4
	4.9nm,0.9s,baz=37,slow=14,SNR=14						
MK31				⇑Sn	Sn	06 23 31.0	+3.7
	8.2nm,1.0s,baz=41,slow=26,SNR=4.6						
MK31				⇑Lg	Lg	06 24 18.9	
	24nm,1.1s,baz=48,slow=28,SNR=4.9						

*IDC **23** 06:21:03.1±0.6, 3°.39S×146°.25E, h0km, mb4.2/19, mb1 4.3/23, mb1mx4.2/51, mbtmp4.3/23, ML3.1/3, MS3.9/32, Ms1 3.9/32, ms1mx3.9/37, Error ellipse: s-maj=20.0km s-min=12.3km az=80.0*
*BJI **23** 06:21:03.5, 3°.41S×146°.00E, h21km, mb4.7/21, mB5.1/14, Ms4.5/12, Ms7 4.3/13*
*ISCJB **23** 06:21:04.2±0.3, 3°.37S±0°.04×146°.18E±0°.04, h20km, mb4.5/42, MS4.0/32, Error ellipse: s-maj=6.3km s-min=5.1km az=168.4*
*NEIC **23** 06:21:07.9±2.7, 3°.37S×146°.14E, h32km±20km, mb4.8/18, Error ellipse: s-maj=9.1km s-min=7.0km az=94.0*
*GCMT **23** 06:21:07.9±0.2, 3°.32S±0°.01×146°.04E±0°.02, h17km±1km, MW5.0/94, Moment Tensor Solution. s32,c36; s94,c135; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.34±.13; Mθθ0.34±.11; Mφφ0.00±.11; Mrθ-1.01±.32; Mrφ3.09±.09; Mθφ0.86±.26; Best double couple: Mo3.37600×10¹⁶ NP1:ϕs184.00000°, δ72.00000°, λ-165.00000°. Principal axes: T 3.2720, Plg2.0000°, Azm137.0000°; N 0.2090, Plg67.0000°, Azm233.0000°; P -3.4800, Plg23.0000°, Azm46.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **23** 06:21:12.5±1.6, 4°.S±11°.×14°.6E±1°.2, h61km±10km, M4.6/18, mB5.2/9, mb4.7/18, MLv4.7/1, Mw(mB)4.5/9*
ISC 23 06:21:05.9±0.4,**3°.28S**±0°.06×**146°.27E**±0°.06,**h20**km,**n101,** σ1**79**/91,**mb4.6**/42,**MS3.9**/32,**1C, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**1.65**	**42**	*e*Pn	**Pn**	**06 21 33.2**	**-0.6**
JAY	**Jayapura**	**5.61**	**278**	Pn	**Pn**	**06 22 28.9**	**+0.6**
	0.6nm,0.3s,baz=139,slow=9.3,SNR=2.4						
JAY				Sn	**Sn**	**06 23 37.7**	**+5.5**
	0.4nm,0.3s,baz=312,slow=18,SNR=2.6						
JAY				LR	LR	06 24 21.8	
	comp=Z,935nm,21.8s,baz=48,slow=35						
PMG	**Port Moresby**	**6.15**	**172**	Pn	**Pn**	**06 22 35.4**	**-0.2**
	9.0nm,0.3s,baz=8.3,slow=4.9,SNR=12						
PMG				LR	LR	06 24 45.1	
	comp=Z,625nm,21.6s,baz=351,slow=37						
PMG	**Port Moresby**	**6.15**	**172**	*e*Pn	**Pn**	**06 22 35.5**	**-0.1**
COEN	**Coen**	**11.04**	**196**	*e*Pn	**Pn**	**06 23 43.3**	**+0.5**
HNR	**Honiara**	**14.90**	**115**	*e*Pn	**Pn**	**06 24 35.5**	**-0.1**
	7.8nm,0.3s,baz=203,slow=7.7,SNR=2.1						
HNR				LR	LR	06 30 30.8	
	comp=Z,510nm,18.1s,baz=280,slow=38						
HNR	**Honiara**	**14.90**	**115**	*e*Pn	**P**	**06 24 40.5**	**-0.6**
SIJI	**Sorong**	**15.18**	**279**	Pn	**Pn**	**06 24 40.0**	**+0.6**
	0.3nm,0.3s,baz=73,slow=8.9,SNR=4.9						
SIJI				LR	LR	06 30 59.4	
	comp=Z,366nm,18.7s,slow=39						
BNDI	**Bandanaira**	**16.37**	**265**	P	**Pn**	**06 24 56.4**	**+1.7**
CTA	**Charters Tower**	**16.70**	**180**	Pn	**P**	**06 25 01.9**	**+0.8**
	0.2nm,0.3s,baz=356,slow=11,SNR=8.1						
CTAO	**Charters Tower**	**16.70**	**180**	*e*Pn	**P**	**06 25 00.7**	**-0.4**
	17nm,1.0s						
GUMO	**Guam**	**16.82**	**355**	LR	LR	06 31 02.9	
	comp=Z,262nm,18.6s,baz=172,slow=35						
WRAB	**Tennant Creek**	**20.23**	**214**	*e*P	**P**	**06 25 38.1**	**-1.8**
	117nm,0.9s						
WB2	**Warramunga Arr**	**20.23**	**214**	*e*P	**P**	**06 25 37.7**	**-2.3**
	114nm,0.9s						
WR1	**Warramunga Arr**	**20.23**	**214**	*e*P	**P**	**06 25 38.4**	**-1.6**
	134nm,0.9s						
WRA	**Warramunga Arr**	**20.24**	**214**	P	**P**	**06 25 38.4**	**-1.6**
	95nm,0.9s,baz=39,slow=12,SNR=125						
WRA				LR	LR	06 33 31.3	
	comp=Z,526nm,18.3s,baz=50,slow=37						
SANI	**Sanana**	**20.29**	**273**	P	**P**	**06 25 40.2**	**-0.5**
	18nm,1.6s						
EIDS	**Eidsvold**	**22.44**	**169**	*e*P	**P**	**06 26 03.6**	**-0.1**
	17nm,0.8s						
SOEI	**Soe**	**22.77**	**253**	P	**P**	**06 26 04.9**	**-2.6**
	103nm,1.0s,1μm						
DAV	**Davao City (W)**	**23.07**	**297**	LR	LR	06 32 59.3	
	comp=Z,146nm,20.5s,baz=92,slow=31						
BATI	**Baumata**	**23.46**	**252**	P	**P**	**06 26 13.7**	**-0.8**
	61nm,0.7s,baz=120,slow=15,SNR=9.2						
BATI				LR	LR	06 37 30.1	
	comp=Z,268nm,18.8s,baz=86,slow=42						
BATI	**Baumata**	**23.46**	**252**	P	**P**	**06 26 12.1**	**-2.3**
	36nm,0.9s						
AS01	**Alice Springs**	**23.50**	**209**	*e*P	**P**	**06 26 12.6**	**-2.1**
AS31	**Alice Springs**	**23.52**	**209**	*e*P	**P**	**06 26 13.2**	**-1.7**
	5.4nm,0.8s						
ASAR	**Alice Springs**	**23.52**	**209**	P	**P**	**06 26 13.2**	**-1.8**
	22nm,0.9s,baz=41,slow=8.9,SNR=170						
ASAR				PcP	**PcP**	**06 30 03.4**	**+2.9**
	0.5nm,0.6s,baz=39,slow=2.2,SNR=2.7						
ASAR				LR	LR	06 36 23.3	
	comp=Z,469nm,18.1s,baz=38,slow=39						
LUWI	**Luwuk**	**23.58**	**275**	P	**P**	**06 26 14.1**	**-1.5**
MRSI	**Marisa**	**24.60**	**278**	P	**P**	**06 26 24.0**	**-1.1**
APSI	**Ampana**	**24.71**	**275**	P	**P**	**06 26 27.1**	**+1.0**
FITZ	**Fitzroy Crossi**	**25.00**	**232**	*e*P	**P**	**06 26 26.3**	**-2.3**
	41nm,0.8s						
EDFI	**Ende, Flores**	**25.03**	**256**	P	**P**	**06 26 25.5**	**-3.6**
BNSI	**Bone**	**26.12**	**267**	P	**P**	**06 26 38.9**	**0.0**
BKSI	**Bukukumba**	**26.15**	**265**	P	**P**	**06 26 37.9**	**-1.2**
	7.2nm,0.9s,282nm						
TTSI	**Tana Toraja**	**26.41**	**270**	P	**P**	**06 26 41.7**	**+0.2**
	22nm,1.2s,1μm						
SPSI	**Sidrap Palu**	**26.45**	**268**	P	**P**	**06 26 42.1**	**+0.2**
DZM	**Mont Dzumac**	**27.06**	**135**	P	**P**	**06 26 46.4**	**-1.0**
	20nm,1.1s,baz=3.9,slow=22,SNR=6.8						
DZM				LR	LR	06 36 16.8	
	comp=Z,574nm,18.6s,baz=318,slow=34						
DZM	**Mont Dzumac**	**27.06**	**135**	*e*P	**P**	**06 26 49.3**	**+1.9**
	61nm,1.3s						
DZM				*e*S	**S**	**06 31 20.5**	**-4.1**
	254nm,25.8s						
DZM				*e*LR	LR	06 33 33.4	
	1μm,27.9s						
STKA	**Stephens Creek**	**28.78**	**188**	P	**P**	**06 27 01.7**	**-0.8**
	12nm,0.9s,baz=350,slow=9.0,SNR=26						
STKA				LR	LR	06 39 47.4	
	comp=Z,322nm,19.9s,baz=7.7,slow=39						
STKA	**Stephens Creek**	**28.78**	**188**	*e*P	**P**	**06 27 05.4**	**+2.9**
	2.7nm,0.8s						
BBOO	**Buckleboo**	**30.89**	**197**	*e*P	**P**	**06 27 19.5**	**-1.8**
	10nm,0.9s						
CAN	**Canberra**	**31.98**	**176**	*e*P	**P**	**06 27 31.8**	**+0.9**
	6.3nm,1.0s						
FORT	**Forrest**	**32.30**	**210**	*e*P	**P**	**06 27 31.9**	**-1.8**
	15nm,0.8s						
JNU	**Nakatsue**	**39.03**	**339**	LR	LR	06 45 12.3	
	comp=Z,94nm,18.4s,baz=300,slow=37						
MJAR	**Matsushiro Arr**	**40.33**	**350**	P	**P**	**06 28 42.9**	**+0.8**
	0.7nm,0.4s,baz=140,slow=9.6,SNR=2.8						
MJAR				LR	LR	06 45 08.3	
	comp=Z,82nm,18.1s,baz=155,slow=36						
MAJO	**Matsushiro**	**40.33**	**350**	*e*P	**P**	**06 28 42.9**	**+0.8**
OUZ	**Omahuta**	**40.64**	**145**	*e*P	**P**	**06 28 46.6**	**+1.9**
	10nm,0.9s						
QIZ	**Qiongzhong**	**42.14**	**303**	P	**P**	**06 28 53.4**	**-3.9**
QIZ				S	**S**	**06 35 11.1**	**-5.2**
QIZ				LR	LR		
	comp=Z,210nm,23.0s						
NJ2	**Nanjing**	**43.73**	**326**	*e*P	**P**	**06 29 07.3**	**-2.7**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KSRS	**Korea Array**	**43.97**	**339**	P	**P**	**06 29 12.0**	**+0.2**
	3.5nm,0.8s,baz=153,slow=9.3,SNR=6.0						
KSRS				LR	LR	06 45 03.2	
	comp=Z,149nm,19.4s,baz=167,slow=33						
KSAR	**Wonju Array Be**	**43.97**	**339**	P	**P**	**06 29 12.0**	**+0.1**
URZ	**Urewera**	**44.77**	**145**	P	**P**	**06 29 18.9**	**+0.6**
	4.0nm,0.8s,baz=157,slow=7.7,SNR=3.5						
OXZ	**Oxford**	**45.97**	**154**	*e*P	**P**	**06 29 27.9**	**+0.1**
	6.1nm,0.8s						
SKNT	**Sakolnakorn**	**46.34**	**297**	P	**P**	**06 29 34.2**	**+3.2**
	4.7nm,1.9s,1μm						
GYA	**Guiyang**	**48.37**	**310**	*e*P	**P**	**06 29 45.4**	**-1.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
USRK	**Ussuriysk Ar.**	**48.98**	**346**	P	**P**	**06 29 52.1**	**+1.1**
	2.4nm,0.7s,baz=179,slow=6.2,SNR=5.3						
USRK				LR	LR	06 47 40.5	
	comp=Z,46nm,18.1s,baz=152,slow=33						
KMI	**Kunming**	**50.79**	**306**	P	**P**	**06 30 06.4**	**+1.0**
KMI				pmax	pmax		
	comp=Z,16nm,0.5s						
PAYA	**Payao**	**50.85**	**298**	P	P	06 30 12.7	+6.9
	4.1nm,0.5s						
CM01	**Chiang Mai Arr**	**51.33**	**297**	*e*P	**P**	**06 30 10.5**	**+1.2**
CMAR	**Chiang Mai Arr**	**51.36**	**297**	P	**P**	**06 30 11.2**	**+1.6**
	1.4nm,0.3s,baz=112,slow=5.0,SNR=11						
CMAR				LR	LR	06 48 55.4	
	comp=Z,50nm,22.0s,baz=114,slow=32						
MCQ	**Macquarie Isla**	**52.09**	**171**	*e*P	**P**	**06 30 16.2**	**+1.8**
	54nm,1.0s						
CD2	**Chengdu**	**52.88**	**313**	*e*P	**P**	**06 30 17.0**	**-3.7**
KLR	**Kul'dur**	**53.80**	**348**	P	**P**	**06 30 28.3**	**+1.2**
	0.8nm,0.5s,baz=194,slow=4.2,SNR=3.6						
KLR				LR	LR	06 52 19.0	
	comp=Z,56nm,18.6s,baz=152,slow=35						
HHC	**Hu-ho-hao-te**	**54.16**	**328**	*e*P	**P**	**06 30 28.0**	**-2.0**
HHC				S	**S**	**06 38 01.9**	**-4.2**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,5.6s						
HHC				LR	LR		
	comp=N,170nm,17.3s						
HHC				LR	LR		
	comp=E,190nm,18.1s						
HHC				LR	LR		
	comp=Z,360nm,17.3s						
LZH	**Lanzhou**	**55.69**	**319**	*e*P	**P**	**06 30 41.5**	**+0.2**
LZH				pP	pP	06 30 45.0	-2.7
LZH				sP	sP	06 30 56.6	+6.5
LZH				*e*PP	**PP**	**06 32 46.8**	**+1.0**
LZH				pmax	pmax		
	comp=Z,22nm,1.3s						
LZH				pmax	pmax		
	comp=Z,87nm,6.9s						
LZH				LR	LR		
	comp=N,320nm,14.9s						
LZH				LR	LR		
	comp=E,340nm,15.2s						
LZH				LR	LR		
	comp=Z,450nm,18.0s						
XMAS	**Kiritimati**	**56.51**	**85**	*e*P	**P**	**06 30 48.8**	**+1.5**
	76nm,1.0s						
PETK	**Petropavlovsk-**	**57.01**	**8**	P	**P**	**06 30 51.9**	**+1.8**
	1.2nm,0.6s,baz=186,slow=13,SNR=2.6						
PETK				LR	LR	06 51 32.0	
	comp=Z,59nm,21.2s,baz=187,slow=32						
PEA1	**Petropavlovsk-**	**57.01**	**8**	*e*P	**P**	**06 30 51.9**	**+1.8**
BRDH	**Bariadhala**	**59.20**	**299**	LR	LR	06 54 21.3	
	comp=Z,65nm,21.3s,baz=114,slow=34						
GTA	**Gaotai**	**60.20**	**320**	*e*P	**P**	**06 31 11.9**	**-1.0**
GTA				pP	pP	06 31 16.0	-3.3
GTA				sP	sP	06 31 19.6	-2.1
GTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GTA				pmax	pmax		
	comp=Z,110nm,6.2s						
GTA				LR	LR		
	comp=N,170nm,17.5s						
GTA				LR	LR		
	comp=E,160nm,15.8s						
GTA				LR	LR		
	comp=Z,110nm,16.8s						
SONA0	**Songino Array**	**61.69**	**331**	*e*P	**P**	**06 31 23.8**	**+1.0**
SONM	**Songino Array**	**61.69**	**331**	P	**P**	**06 31 23.8**	**+1.0**
	1.0nm,0.8s,baz=144,slow=5.9,SNR=5.7						
SONM				LR	LR	06 57 25.5	
	comp=Z,213nm,19.7s,baz=167,slow=35						
PPT2	**Papeete2**	**64.39**	**108**	*e*S	**S**	**06 40 19.7**	**+0.4**
	62nm,32.5s						
PPT2	**Papeete2**	**64.39**	**108**	*e*LR	LR	06 50 52.5	
	138nm,30.5s						
TBI	**Tubuai**	**65.12**	**114**	*e*S	**S**	**06 40 28.8**	**+0.9**
	157nm,30.0s						
TBI	**Tubuai**	**65.12**	**114**	*e*LR	LR	06 51 09.3	
	229nm,38.8s						
WMQ	**Urumqi**	**70.27**	**319**	*e*P	**P**	**06 32 17.1**	**-0.9**
WMQ				LR	LR		
	comp=E,150nm,27.9s						
WMQ				LR	LR		
	comp=Z,130nm,25.7s						
TAOE	**Nuku Hiva Isla**	**73.29**	**98**	*e*LR	LR	06 55 11.2	
	131nm,25.7s						
VNDA	**Vanda**	**74.65**	**177**	P	**P**	**06 32 42.5**	**-0.9**
	0.9nm,0.8s,baz=316,slow=4.5,SNR=3.7						
VNDA				LR	LR	07 03 20.9	
	comp=Z,79nm,19.3s,baz=347,slow=34						
VNDA	**Vanda**	**74.65**	**177**	*e*P	**P**	**06 32 43.0**	**-0.5**
	1.6nm,0.9s						
MK01	**Makanchi Array**	**74.94**	**320**	*e*P	**P**	**06 32 46.9**	**+1.2**
MK32	**Makanchi Array**	**74.95**	**320**	*e*P	**P**	**06 32 46.7**	**+0.9**
MKAR	**Makanchi Array**	**74.95**	**320**	P	**P**	**06 32 46.7**	**+0.9**
	1.4nm,1.0s,baz=92,slow=7.5,SNR=5.3						
MKAR				LR	LR	07 03 55.3	
	comp=Z,65nm,21.8s,baz=94,slow=34						
ZALV	**Zalesovo Beam**	**76.34**	**328**	LR	LR	07 04 59.7	
	comp=Z,149nm,21.6s,baz=80,slow=34						
KSH	**Kashi**	**77.03**	**312**	*e*P	**P**	**06 32 58.1**	**+0.2**
KDAK	**Kodiak Island**	**77.88**	**29**	LR	LR	06 59 38.0	
	comp=Z,224nm,21.7s,baz=278,slow=30						
KURK	**Kurchatov**	**78.61**	**323**	*e*P	**P**	**06 33 06.3**	**0.0**
KURBB	**Kurchatov Arra**	**78.63**	**323**	P	**P**	**06 33 06.3**	**-0.1**
	0.3nm,0.2s,baz=118,slow=3.4,SNR=4.6						
SKT	**Skwentna**	**80.23**	**25**	*e*P	**P**	**06 33 14.3**	**-0.6**
	29nm,1.0s						
NRIK	**Noril'sk**	**82.48**	**342**	P	**P**	**06 33 27.5**	**+0.9**
	4.0nm,0.7s,baz=119,slow=4.9,SNR=7.9						
NRIK				LR	LR	07 08 30.2	
	comp=Z,92nm,21.9s,baz=80,slow=34						
ILAR	**Eielson Array**	**83.29**	**23**	P	**P**	**06 33 31.2**	**+0.2**
	1.1nm,0.7s,baz=241,slow=6.3,SNR=6.7						
ILAR				LR	LR	07 02 57.4	
	comp=Z,57nm,21.4s,baz=238,slow=30						
BVAR	**Borovoye Array**	**84.16**	**324**	P	**P**	**06 33 35.6**	**-0.1**
	1.8nm,0.7s,baz=161,slow=6.3,SNR=4.9						
MAW	**Mawson**	**84.46**	**202**	P	**P**	**06 33 36.0**	**-0.8**
	1.3nm,0.7s,baz=94,slow=9.3,SNR=2.3						
MAW				LR	LR	07 08 17.5	
	comp=Z,51nm,19.1s,baz=69,slow=34						
HYT	**Haines Junctio**	**86.17**	**28**	*e*P	**P**	**06 33 46.5**	**+0.8**
	10nm,1.1s						
BBB	**Bella Bella**	**89.88**	**38**	LR	LR	07 08 29.4	
	comp=Z,55nm,19.5s,baz=266,slow=32						
GEYT	**Alibeck**	**90.53**	**308**	LR	LR	07 16 16.3	
	comp=Z,74nm,21.9s,baz=235,slow=37						
SYO	**Syowa Base**	**92.87**	**200**	*e*X	P	06 34 25.8	+8.8
YBH	**Yreka Blue Hor**	**92.93**	**49**	LR	LR	07 09 20.3	
	comp=Z,142nm,19.5s,baz=308,slow=31						
NVAR	**Mina Array Bea**	**96.28**	**52**	LR	LR	07 08 55.5	
	comp=Z,153nm,21.8s,

ARK	**Arkit**	**0.89**	**55**	⇑*i*P	**Pg**	**07 15 16.5**	**-1.2**
	baz=63							
ARK				⇑*i*S	**Sg**	**07 15 29.6**	**+0.3**
	baz=63							
IUG	**luzhnay**	**1.12**	**321**	*e*P	**Pb**	**07 15 21.8**	**-1.0**
	5.2nm,0.2s							
IUG				*e*S	**Sb**	**07 15 38.0**	**0.0**
	20nm,0.4s							
BTK	**Batken**	**1.23**	**186**	⇑*e*P	**Pn**	**07 15 24.2**	**-0.8**
	baz=83							
BTK				⇑*i*S	**Sg**	**07 15 43.3**	**+3.1**
	baz=83							
ARSB	**Arslanbob**	**1.50**	**88**	⇑*i*P	**Pn**	**07 15 27.7**	**-1.1**
	baz=92							
ARSB				⇑*i*S	**Sb**	**07 15 49.2**	**+0.2**
	baz=92							
MNAS	**Manas**	**1.65**	**43**	⇓Pn	**Pn**	**07 15 30.5**	**-0.4**
	1.1nm,0.4s							
MNAS				⇑Sn	**Sg**	**07 15 55.7**	**+2.0**
	2.1nm,0.4s							
MNAS	**Manas**	**1.65**	**43**	⇓*i*P	**Pn**	**07 15 29.6**	**-1.3**
	baz=46							
MNAS				⇓*i*S	**Sn**	**07 15 51.9**	**-0.9**
	baz=46							
KK31	**Karatay Array**	**1.85**	**349**	⇑Pn	**Pb**	**07 15 35.1**	**-0.1**
	2.0nm,0.3s,baz=148,slow=14,SNR=39							
KK31				⇑Sn	**Sg**	**07 16 02.2**	**+2.1**
	5.9nm,0.5s,baz=158,slow=25,SNR=13							
BRLS	**Borolday**	**1.94**	**334**	*e*P	**Pn**	**07 15 34.9**	**+0.1**
	0.7nm,0.2s							
BRLS				*e*S	**Sb**	**07 16 00.5**	**-1.1**
	7.4nm,0.4s							
AML	**Almayashu**	**2.20**	**66**	⇓*i*P	**Pn**	**07 15 39.5**	**+0.9**
	baz=69							
AML				⇓*i*S	**Sb**	**07 16 08.8**	**-0.4**
	baz=69							
MRKS	**Merke**	**2.22**	**48**	*e*P	**Pb**	**07 15 41.4**	**-0.1**
	5.2nm,0.3s							
MRKS				*e*S	**Sg**	**07 16 11.8**	**0.0**
	4.3nm,0.3s							
SFK	**Sufi-Kurgan**	**2.30**	**123**	⇑Pn	**Pb**	**07 15 41.4**	**-1.5**
	0.2nm,0.3s							
SFK				⇓Lg	Lg	07 16 11.6	
	1.6nm,0.4s							
SFK	**Sufi-Kurgan**	**2.30**	**123**	⇑*i*P	**Pb**	**07 15 41.4**	**-1.5**
	baz=24							
SFK				⇑*i*S	**Sb**	**07 16 12.8**	**+0.9**
	baz=24							
EKS2	**Erkin-Say**	**2.49**	**56**	⇑*e*P	**Pn**	**07 15 42.3**	**-0.1**
	baz=58							
EKS2				⇑*i*S	**Sn**	**07 16 14.3**	**+0.8**
	baz=58							
UCH	**Uchtor**	**2.80**	**69**	⇑*i*P	**Pn**	**07 15 47.6**	**+0.7**
	baz=71							
UCH				⇑*i*S	**Sn**	**07 16 23.0**	**+1.4**
	baz=71							
AAK	**Ala-Archa**	**2.94**	**61**	⇑Pn	**Pb**	**07 15 53.2**	**-0.7**
	0.9nm,0.4s							
AAK				⇓Lg	Lg	07 16 34.4	
	1.4nm,0.5s							
TKM2	**Tokmak 2**	**3.80**	**63**	⇓Pn	**Pn**	**07 16 03.4**	**+3.0**
	1.4nm,0.7s							
TKM2				⇓Lg	Lg	07 16 58.5	
	1.3nm,0.8s							

*BER **23** 07:17:57.3±0.6, 70.97N×6.87W, h3km±419km, ML3.1*
ISC 23 07:17:58.7±3.7, 71.2N±0.1×7.2W±0.2, h16km, n5, σ0.79/8, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
JNE	**Jan Mayen East**	**0.39**	**243**	*e*P		**Pb**	**07 18 06.7**	**-0.5**
JNE				IAML			07 18 16.6	
	comp=Z,2μm,0.2s							
JNW	**Jan Mayen West**	**0.41**	**250**	*e*P		**Pg**	**07 18 06.9**	**-0.1**
JNW				IAML			07 18 15.1	
	comp=Z,3μm,0.2s							
JMIC	**Jan Mayen**	**0.46**	**246**	*e*P		**Pg**	**07 18 07.5**	**-0.3**
JMIC				*e*S		**Sb**	**07 18 15.2**	**+0.5**
JMIC				IAML			07 18 15.7	
	comp=Z,566nm,0.2s							
JMI	**Jan Mayen**	**0.55**	**244**	*e*P		**Pg**	**07 18 08.9**	**-0.5**
JMI				*e*S		**Sg**	**07 18 17.3**	**+0.5**
JMI				IAML			07 18 20.0	
	comp=Z,464nm,0.4s							
DAG	**Danmarks Havn**	**6.44**	**336**	*i* P		**Pn**	**07 19 33.5**	**+0.9**
DAG				*e*S		**Sn**	**07 20 44.5**	**-1.1**

*DRS **23** 07:32:19.7±0.0, 42.01N×47.65E, h4km*
MOS 23 07:32:18.5±0.0, 42.18N×47.72E, h24km±1km, MPVA3.5, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
URKR	**Urkarakh**	**0.07**	**261**	*i* Pg		Pb	07 32 24.0	+1.0
URKR				*e*Sg		Sb	07 32 27.2	+1.1
KMKR	**Kumukh**	**0.47**	**265**	*e*Pg		Pn	07 32 30.3	+0.5
KMKR				*e*Sg		Sn	07 32 37.8	+0.4
DRN	**Derbent**	**0.47**	**108**	*e*Pg		Pn	07 32 29.9	+0.2
DRN				*e*Sg		Sn	07 32 37.5	+0.2
KSMR	**Kasumkent**	**0.65**	**152**	*e*Pg		Pn	07 32 33.0	+0.8
KSMR				*e*Sg		Sn	07 32 42.5	+0.8
AKT	**Akhty**	**0.70**	**180**	*i* Pg		Pn	07 32 33.6	+0.7
AKT				*e*Sg		Sn	07 32 43.4	+0.5
XNZR	**Khunzakh**	**0.84**	**296**	*e*Pg		Pn	07 32 36.2	+1.3
XNZR				*e*Sg		Sn	07 32 47.9	+1.3
KRNR	**Karanay**	**0.89**	**317**	*e*Pg		Pn	07 32 39.0	+3.5
KRNR				*e*Sg		Sn	07 32 49.0	+1.3
DBC	**Dubki**	**1.07**	**322**	*e*Pg		Pb	07 32 40.1	+1.7
DBC				*e*Sg		Sn	07 32 54.9	+2.7
BTLR	**Botlikh**	**1.21**	**294**	*e*Pg		Pb	07 32 42.5	+1.6
BTLR				*e*Sg		Sb	07 32 59.0	+2.9

IDC 23 08:10:46.2±5.2, 27.00S×141.33E, h0km, mb1 2.9/3, mb1mx2.9/33, mbtmp2.7/3, ML2.5/3, Error ellipse: s-maj=98.1km s-min=25.6km az=65.0, Queensland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
STKA	**Stephens Creek**	**4.87**	**177**	Pn		Pn	08 12 01.5	+0.8
	0.1nm,0.3s,baz=1.9,slow=16,SNR=3.3							
STKA				Sn		Sn	08 12 55.9	-1.9
	0.3nm,0.3s,baz=250,slow=23,SNR=3.6							
ASAR	**Alice Springs**	**7.49**	**295**	Pn		Pn	08 12 36.9	0.0
	0.1nm,0.3s,baz=118,slow=12,SNR=5.1							
WRA	**Warramunga Arr**	**9.51**	**316**	Pn		Pn	08 13 05.2	+0.7
	0.1nm,0.3s,baz=132,slow=12,SNR=3.8							
WRA				Sn		Sn	08 14 50.8	-1.5
	0.0nm,0.3s,baz=140,slow=22,SNR=3.1							

KRSC 23 08:13:49.8±1.2, 49.00N×156.52E, h7km±21km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.70**	**351**	*e*P		Pn	08 14 20.2	+0.4
SKR				*e*S		Sn	08 14 42.2	+0.3
PAU	**Pauzhetka**	**2.47**	**4**	*e*S		Sb	08 15 03.4	-1.8
KDTR	**Khodutka, Kamc**	**2.98**	**19**	*e*P		Pb	08 14 40.6	-2.6
KDTR				*e*S		Sb	08 15 17.4	-2.4
MTVR	**Mutnovka**	**3.64**	**16**	*e*P		Pn	08 14 50.3	+3.6
MTVR				*e*S		Sb	08 15 34.9	-4.0
RUS	**Russkaya**	**3.66**	**20**	P		Pn	08 14 49.2	+2.4
RUS				*e*S		Sn	08 15 33.8	+3.6
UGLR	**Uglovaya**	**4.46**	**18**	*e*P		Pn	08 15 01.9	+4.1
AVH	**Avacha**	**4.49**	**17**	*e*P		Pn	08 15 02.9	+4.6
KOK	**Koryaka**	**4.50**	**16**	*e*P		Pn	08 15 02.3	+3.9
SDLR	**Sedlovina**	**4.53**	**18**	*e*P		Pn	08 15 02.6	+3.7

KRSC 23 08:19:46.1±2.4, 48.96N×156.57E, h6km±35km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.75**	**351**	*e*S		Sn	08 20 38.9	-0.6
PAU	**Pauzhetka**	**2.51**	**3**	*e*S		Sb	08 21 02.1	-0.6
KDTR	**Khodutka, Kamc**	**3.01**	**18**	*e*S		Sb	08 21 15.0	-2.0
MTVR	**Mutnovka**	**3.67**	**16**	*e*S		Sb	08 21 32.5	-3.7
RUS	**Russkaya**	**3.69**	**19**	P		Pn	08 20 47.1	+3.5
RUS				S		Sn	08 21 31.3	+4.0

MEX 23 08:52:28.6±0.9, 13.57N×92.88W, h20km±999km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
PCIG		**2.15**	**351**	*e*P		Pn	08 53 00.5	-2.9
PCIG				*i* S		Sn	08 53 25.9	-3.5

*ISCJB **23** 08:56:05.5±0.5, 24.14S±0.05×67.22W±0.03, h185km±5km, mb3.7/2, Error ellipse: s-maj=8.4km s-min=4.6km az=16.9*
*SJA **23** 08:56:05.1±0.5, 24.20S×67.20W, h181km±11km, ML3.0, MW2.9*
*IDC **23** 08:56:05.8±1.5, 24.09S×66.93W, h159km±14km, mb3.7/2, mb1 3.5/8, mb1mx3.3/32, mbtmp3.9/8, Error ellipse: s-maj=20.8km s-min=16.2km az=9.0*
*GUC **23** 08:56:07.1±0.7, 23.99S×67.52W, h218km±12km, ML4.1*
ISC 23 08:56:06.5±0.9, 24.10S±0.06×67.16W±0.04, h176km±8km, n24, σ1.50/40, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
HJA	**Humahuaca**	**1.83**	**62**	*e*P		**Pn**	**08 56 42.8**	**+0.9**
HJA				IAML			08 56 44.7	
	comp=Z,70nm,0.4s							
HJA				*e*S		**Sn**	**08 57 10.9**	**+1.6**
AZAP	**Zapla**	**1.92**	**94**	*e*P		**Pn**	**08 56 42.7**	**+0.1**
AZAP				*e*S		**Sn**	**08 57 10.7**	**+0.1**
LVC	**Limon Verde**	**2.18**	**312**	P		**Pn**	**08 56 46.7**	**+1.0**
	comp=Z,37nm,0.3s,baz=153,slow=7.5,SNR=292							
LVC				S		**Sn**	**08 57 16.7**	**+0.6**
	comp=Z,28nm,0.3s,baz=270,slow=20,SNR=15							
FSA	**Cafayete**	**2.27**	**152**	*e*P		**Pn**	**08 56 45.6**	**-0.9**
PB15	**IPOC Station P**	**2.29**	**292**	*e*P		**Pn**	**08 56 47.4**	**+0.6**
PB15				*i* S		**Sn**	**08 57 18.2**	**+0.2**
YJA	**Yavi**	**2.44**	**39**	*e*P		**Pn**	**08 56 49.9**	**+1.2**
YJA				*e*S		**Sn**	**08 57 23.7**	**+2.3**
PB06	**IPOC Station P**	**2.61**	**302**	*e*P		**Pn**	**08 56 51.1**	**+0.7**
PB06				*i* S		**Sn**	**08 57 24.1**	**-0.4**
PB06				IAML			08 57 26.5	
	comp=E,460nm,0.2s							
ALOL	**LOMAS DE OLMED**	**2.92**	**85**	*e*P		**Pn**	**08 56 54.2**	**+0.2**
PB09	**IPOC Station P**	**2.99**	**320**	*e*P		**Pn**	**08 56 56.1**	**+1.1**
PB09				*i* S		**Sn**	**08 57 33.4**	**+0.7**
PB09				IAML			08 57 35.9	
	comp=N,208nm,0.3s							
PB05	**IPOC Station P**	**3.05**	**293**	*e*P		**Pn**	**08 56 55.6**	**-0.2**
PB05				*i* S		**Sn**	**08 57 32.0**	**-2.0**
PB05				IAML			08 57 38.3	
	comp=E,152nm,0.2s							
PB03	**IPOC Station P**	**3.14**	**310**	*e*P		**Pn**	**08 56 57.1**	**+0.3**
PB03				*i* S		**Sn**	**08 57 34.8**	**-1.2**
PB10	**IPOC Station P**	**3.16**	**280**	*e*P		**Pn**	**08 56 56.7**	**-0.2**
PB10				*i* S		**Sn**	**08 57 34.0**	**-2.2**
PB10				IAML			08 57 40.0	
	comp=E,173nm,0.1s							
PB04	**IPOC Station P**	**3.26**	**302**	*e*P		**Pn**	**08 56 58.4**	**+0.1**
PB04				*i* S		**Sn**	**08 57 37.2**	**-1.5**
PB04				IAML			08 57 41.0	
	comp=N,290nm,0.4s							
PB07	**IPOC Station P**	**3.45**	**313**	*e*P		**Pn**	**08 57 00.7**	**+0.1**
PB07				*i* S		**Sn**	**08 57 41.2**	**-1.6**
PB07				IAML			08 57 43.7	
	comp=N,319nm,0.7s							
PB01	**IPOC Station P**	**3.72**	**324**	*e*P		**Pn**	**08 57 03.9**	**-0.1**
PB01				*i* S		**Sn**	**08 57 47.8**	**-1.2**
PB01				IAML			08 57 50.2	
	comp=N,214nm,0.3s							
PB02	**IPOC Station P**	**3.74**	**317**	*e*P		**Pn**	**08 57 04.1**	**-0.3**
PB02				*i* S		**Sn**	**08 57 47.1**	**-2.4**
PB02				IAML			08 57 52.0	
	comp=E,323nm,0.4s							
LPAZ	**La Paz**	**7.82**	**353**	P		**Pn**	**08 57 58.7**	**+0.6**
	comp=E,0.5nm,0.3s,baz=171,slow=8.0,SNR=16							
LPAZ				S		**Sn**	**08 59 26.6**	**+0.4**
	comp=E,0.1nm,0.3s,baz=109,slow=22,SNR=2.5							
CPUP	**Villa Florida**	**9.18**	**106**	P		**Pn**	**08 58 12.0**	**-3.2**
	comp=E,0.2nm,0.3s,baz=270,slow=20,SNR=3.1							
SIV	**San Ignacio**	**9.88**	**36**	P		**Pn**	**08 58 22.8**	**-1.9**
	comp=E,0.6nm,0.3s,baz=243,slow=11,SNR=12							
SIV				S		**Sn**	**09 00 10.4**	**-4.3**
	comp=E,0.1nm,0.3s,baz=257,slow=21,SNR=2.1							
PLCA	**Paso Flores**	**16.83**	**189**	P		**Pn**	**08 59 52.4**	**+0.5**
	comp=E,0.0nm,0.3s,baz=28,slow=15,SNR=2.3							
BDFB	**Brasilia**	**19.86**	**68**	P		**P**	**09 00 23.3**	**-1.0**
	comp=E,0.4nm,0.3s,baz=241,slow=12,SNR=9.4							
TORD	**Torodi Ar. Bea**	**76.74**	**69**	P		**P**	**09 07 37.9**	**-1.0**
	comp=E,0.6nm,0.6s,baz=256,slow=6.1,SNR=4.7							
ULM	**Lac du Bonnet**	**78.27**	**342**	P		**P**	**09 07 48.6**	**+2.0**
	comp=E,3.4nm,0.9s,baz=127,slow=5.1,SNR=1.8							
MKAR	**Makanchi Array**	**146.69**	**39**	PKPbc		**PKPdf**	**09 15 27.5**	**+1.9**
	comp=E,0.5nm,0.6s,baz=290,slow=3.5,SNR=4.3							

*KRNET **23** 09:08:01.3±0.1, 39.43N×74.62E, mb3.6*
*NNC **23** 09:08:03.7±4.1, 39.59N×74.65E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=36.5km s-min=15.3km az=178.0*
ISC 23 09:08:05.3±2.1, 39.6N±0.1×74.63E±0.04, h10km, n26, σ2.9/24/44, 30C-11D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.95**	**294**	⇓P		**Pg**	**09 08 21.0**	**-2.6**
	7.4nm,0.3s							
SFK				⇑S		**Sb**	**09 08 36.5**	**-0.3**
	41nm,0.5s							
SFK	**Sufi-Kurgan**	**0.95**	**294**	⇑*i*P		**Pg**	**09 08 21.1**	**-2.6**
	baz=5.0							
SFK				⇑*i*S		**Sg**	**09 08 35.4**	**-0.6**
	baz=5.0							
NRN	**Naryn**	**2.09**	**30**	⇑*i*P		**Pb**	**09 08 41.5**	**-1.9**
	baz=27							
NRN				⇑*i*S		**Sb**	**09 09 10.4**	**+0.9**
	baz=27							
ARSB	**Arslanbob**	**2.11**	**324**	⇑*i*P		**Pb**	**09 08 41.8**	**-2.0**
	baz=27							
ARSB				⇑*i*S		**Sb**	**09 09 10.9**	**+0.8**
	baz=27							
KZA	**Kyzart**	**2.49**	**11**	⇑*i*P		**Pb**	**09 08 48.0**	**-2.4**
	baz=10.0							
KZA				⇑*i*S		**Sb**	**09 09 21.6**	**+0.2**
	baz=10.0							
UCH	**Uchtor**	**2.60**	**358**	P		**Pn**	**09 08 49.6**	**+1.8**
	SNR=50							
UCH	**Uchtor**	**2.60**	**358**	⇑*i*P		**Pn**	**09 08 49.7**	**+1.8**
	baz=58							
UCH				⇑*i*S		**Sb**	**09 09 24.6**	**+0.1**
	baz=58							
AML	**Almayashu**	**2.60**	**344**	P		**Pb**	**09 08 49.9**	**-2.4**
	SNR=36							
AML	**Almayashu**	**2.60**	**344**	⇓*i*P		**Pb**	**09 08 49.6**	**-2.7**
	baz=46							
AML				⇓*i*S		**Sb**	**09 09 24.4**	**0.0**
	baz=46							
ULHL	**Ulahol**	**2.89**	**24**	P		**Pb**	**09 08 57.0**	**0.0**
	SNR=7.3							
ULHL	**Ulahol**	**2.89**	**24**	⇑*e*P		**Pn**	**09 08 53.3**	**+1.7**
	baz=23							
ULHL				⇑*i*S		**Sb**	**09 09 30.4**	**-2.1**
	baz=23							
AAK	**Ala-Archa**	**3.01**	**358**	Pn		**Pb**	**09 08 55.9**	**-3.2**
	7.6nm,0.5s							
AAK				⇑Lg		Lg	09 09 39.1	
	22nm,1.1s							
AAK	**Ala-Archa**	**3.01**	**358**	P		**Pb**	**09 08 56.1**	**-3.0**
	SNR=12							
AAK	**Ala-Archa**	**3.01**	**358**	⇑*e*P		**Pn**	**09 08 55.4**	**+2.2**
	baz=58							
AAK				⇑*i*S		**Sb**	**09 09 34.1**	**-1.9**
	baz=58							
BOOM	**Boomskoye usch**	**3.03**	**19**	⇑*e*P		**Pn**	**09 08 54.8**	**+1.3**
	baz=18							
BOOM				⇑*i*S		**Sb**	**09 09 33.9**	**-2.6**
	baz=18							
KBK	**Karagaybulak**	**3.04**	**4**	P		**Pb**	**09 08 56.9**	**-2.7**
	SNR=14							
KBK	**Karagaybulak**	**3.04**	**4**	⇑*e*P		**Pn**	**09 08 55.7**	**+2.1**
	baz=4.0							
KBK				⇑*i*S		**Sb**	**09 09 34.6**	**-2.2**
	baz=4.0							
EKS2	**Erkin-Say**	**3.10**	**348**	⇑*e*P		**Pn**	**09 08 56.4**	**+2.0**
	baz=49							
EKS2				⇑*i*S		**Sb**	**09 09 35.9**	**-2.6**
	baz=49							
KDJ	**Kajisay**	**3.16**	**37**	⇑*e*P		**Pn**	**09 08 56.4**	**+1.1**
	baz=35							
KDJ				⇑*e*S		**Sn**	**09 09 36.1**	**+2.9**
	baz=35							
MNAS	**Manas**	**3.28**	**331**	⇑Pn		**Pn**	**09 08 58.5**	**+1.7**
	0.5nm,0.5s							
MNAS				⇓Pg		**Pb**	**09 09 03.2**	**-0.5**
	3.1nm,0.6s							
MNAS				⇓Lg		Lg	09 09 47.9	
	11nm,0.6s							
MNAS	**Manas**	**3.28**	**331**	⇑*i*P		**Pn**	**09 08 58.0**	**+1.1**
	baz=33							
MNAS				⇑*i*S		**Sn**	**09 09 39.8**	**+3.8**
	baz=33							
CHMS	**Chumysh**	**3.37**	**2**	P		**Pn**	**09 09 01.1**	**+3.0**
	SNR=6.2							
TKM2	**Tokmak 2**	**3.37**	**12**	⇓Pn		**Pn**	**09 09 00.4**	**+2.2**
	7.1nm,0.4s							
TKM2				⇓Lg		Lg	09 09 52.0	
	11nm,0.5s							
TKM2	**Tokmak 2**	**3.37**	**12**	⇑P		**Pn**	**09 09 00.9**	**+2.7**
	SNR=9.8							
TKM2	**Tokmak 2**	**3.37**	**12**	⇓*i*P		**Pn**	**09 09 00.2**	**+2.0**
	baz=12							
TKM2				⇓*i*S		**Sn**	**09 09 42.7**	**+4.3**
	baz=12							
KK31	**Karatay Array**	**4.66**	**320**	⇓Pn		**Pn**	**09 09 16.4**	**+0.7**
	0.3nm,0.3s,baz=127,slow=13,SNR=7.7							
KK31				⇑Pg		**Pb**	**09 09 28.5**	**+1.4**
	1.8nm,0.7s,baz=127,slow=16,SNR=4.1							
KK31				⇓Sn		**Sn**	**09 10 13.2**	**+3.4**
	1.4nm,0.5s,baz=130,slow=20							
KK31				⇑Lg		Lg	09 10 31.4	
	1.9nm,0.5s,baz=128,slow=29							

*ISCJB **23** 09:13:28.8±0.5, 8.50N±0.05×82.86W±0.04, h38km±11km, Error ellipse: s-maj=10.0km s-min=4.3km az=27.3*
*UCR **23** 09:13:29.1±1.8, 8.53N×82.88W, h31km±3km, MD4.1*
ISC 23 09:13:28.4±1.2, 8.53N±0.06×82.92W±0.05, h20km±7km, n29, σ1.93/37, 8C-5D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
EDSV	**San Vito**	**0.29**	**349**	⇓*i*P		**Pn**	**09 13 37.5**	**-0.1**
BRU2	**Volcan**	**0.34**	**41**	⇓*i*P		**Pn**	**09 13 37.2**	**-1.1**
BRU2				*e*S		**Sn**	**09 13 44.1**	**-0.6**
PTJ1	**Puerto Jim˜ne**	**0.38**	**270**	⇓*i*P		**Pn**	**09 13 38.0**	**-0.7**
PTJ1				*e*S		**Sn**	**09 13 45.2**	**-0.2**
EDPN	**Palmar Norte**	**0.68**	**309**	⇓*i*P		**Pn**	**09 13 42.4**	**-0.5**
EDBA	**Buenos Aires**	**0.72**	**331**	⇑*i*P		**Pn**	**09 13 43.2**	**-0.2**
DRK0	**Durika**	**0.79**	**336**	⇑*i*P		**Pb**	**09 13 43.7**	**+0.1**
DRK0				*e*S		**Sn**	**09 13 55.9**	**0.0**
EDLM	**Las Mercedes**	**0.99**	**318**	⇑*i*P		**Pb**	**09 13 46.8**	**-0.1**
EDLM				*e*S		**Sn**	**09 14 01.2**	**+0.5**
LCR2	**La Lucha 2**	**1.61**	**318**	⇑*i*P		**Pn**	**09 13 55.6**	**-0.2**
LCR2				*e*S		**Sb**	**09 14 17.0**	**-0.5**
CVTR	**Volcan Turrial**	**1.69**	**331**	⇑*e*P		**Pn**	**09 13 56.8**	**-0.4**
CVTR				*e*S		**Sb**	**09 14 20.8**	**+0.6**
HDC	**Heredia**	**1.88**	**321**	⇑*i*P		**Pn**	**09 14 00.1**	**+0.7**
PNME	**Penonome**	**2.56**	**91**	*e*P		**Pn**	**09 14 08.7**	**0.0**
PNME				*e*S		**Sn**	**09 14 39.6**	**+0.3**
ARE1	**Arenal 1**	**2.61**	**317**	⇑*i*P		**Pn**	**09 14 11.0**	**+1.5**
AZU	**Azuero**	**2.72**	**106**	*e*P		**Pn**	**09 14 09.6**	**-1.2**
AZU				*e*S		**Sn**	**09 14 42.6**	**-0.5**
PLVR	**Palo Verde**	**3.00**	**307**	⇑*i*P		**Pn**	**09 14 16.6**	**+1.7**
BCIP	**Isla Barro Col**	**3.11**	**78**	*e*P		**Pn**	**09 14 15.0**	**-1.3**
MESS	**Mesas**	**3.14**	**315**	*e*P		**Pn**	**09 14 18.5**	**+1.8**
FRIJ	**El Hiral**	**3.23**	**78**	*e*P		**Pn**	**09 14 16.0**	**-1.9**
ESPN	**Las Esperanzas**	**3.88**	**340**	⇓*i*P		**Pn**	**09 14 26.7**	**-0.2**
UPD2	**Meteti**	**4.85**	**89**	*e*P		**Pn**	**09 14 40.0**	**-0.2**
PRVC	**Isla de Provid**	**5.05**	**17**	*e*P		**Pn**	**09 14 42.5**	**-0.4**
SOLC	**Bahia Solano**	**5.92**	**112**	*e*P		**Pn**	**09 14 52.0**	**-3.0**
HELC	**Santa Helena**	**7.69**	**107**	*e*P		**Pn**	**09 15 19.0**	**-0.6**
YOTC	**Yotoco, Valle**	**7.94**	**124**	*e*P		**Pn**	**09 15 19.8**	**-3.1**
ZARC	**Zaragoza, Cauc**	**8.05**	**97**	*e*P		**Pn**	**09 15 23.8**	**-0.4**
GUYC	**Guyana, Colomb**	**8.16**	**113**	*e*P		**Pn**	**09 15 27.4**	**+1.2**
RREF	**El Recreo**	**8.34**	**115**	*e*P		**Pn**	**09 15 29.7**	**+1.0**
POPC	**Popayan, Colom**	**8.60**	**133**	*e*P		**Pn**	**09 15 35.6**	**+3.6**
SOTA	**Rioblanco**	**8.94**	**135**	*e*P		**Pn**	**09 15 38.8**	**+2.0**
PRAC	**Prado**	**9.31**	**120**	*e*P		**Pn**	**09 15 42.4**	**+0.8**

*IDC **23** 09:28:51.2±1.1, 35.66N×142.80E, h0km, mb3.5/5, mb1 3.7/8, mb1mx3.5/49, mbtmp3.6/8, ML3.4/3, MS2.3/2, Ms1 2.3/2, ms1mx2.1/49, Error ellipse: s-maj=29.2km s-min=20.9km az=82.0*
*ISCJB **23** 09:28:54.7±0.7, 35.80N±0.04×142.62E±0.06, h35km, mb3.5/5, Error ellipse: s-maj=7.4km s-min=6.1km az=28.7*
*JMA **23** 09:28:56.3±0.2, 35.80N×142.46E, h85km±5km, M3.0*
ISC 23 09:28:56.3±1.0, 35.76N±0.06×142.63E±0.08, h35km, n21, σ1.9/10/28, mb3.7/5, Off east of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
CHOJ	**Chosi**	**1.44**	**268**	P		**Pn**	**09 29 19.8**	**-0.1**
JHYU	**Hitachinakayam**	**1.75**	**290**	P		**Pn**	**09 29 23.9**	**-0.2**
JHYU				*e*S		**Sn**	**09 29 43.6**	**-1.6**
JHO	**Hitachi**	**1.87**	**298**	P		**Pn**	**09 29 25.1**	**-0.7**
BSO3	**

0.6nm,1.0s,baz=316,slow=6.5,SNR=3.3

ISC 23 09:32:13.4±1.2, 49°02'N±0".05×18°35'E±0".05, h0km, n6, σ0^{6}62/9, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KOLL	**Kolacno**	**0.44**	**176**	*e*PG		**Pg**	**09 32 21.3**	**-0.6**
KOLL				*e*SG		**Sg**	**09 32 28.2**	**+0.6**
JAVC	**Velka Javorina**	**0.48**	**251**	*e*PG		**Pg**	**09 32 22.0**	**-0.6**
JAVC				*e*SG		**Sb**	**09 32 32.7**	**+0.4**
VYHS	**Vyhne**	**0.62**	**148**	*e*PG		**Pg**	**09 32 24.5**	**-0.7**
VYHS				*e*SG		**Sg**	**09 32 33.6**	**+0.4**
VYHS				*e*LG		Lg	09 32 34.1	
LANS	**Liptovska Anna**	**0.74**	**79**	*e*PG		**Pb**	**09 32 29.2**	**-0.1**
MORC	**Moravsky Berou**	**0.93**	**325**	*e*PG		**Pg**	**09 32 30.8**	**-0.4**
KECS	**Kecovo**	**1.51**	**110**	*e*SG		**Sn**	**09 33 02.7**	**+0.6**

*IDC **23** 09:39:18.1±1.5, 18°.32S×172°.55W, h0km, mb3.9/3, mb1 4.1/5, mb1mx3.7/43, mbtmp4.1/5, ML3.5/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/46, Error ellipse: s-maj=36.8km s-min=28.5km az=130.0*

*ISCJB **23** 09:39:20.4±0.9, 18°.22S±0°.07×172°.4W±0°.1, h41km, mb4.0/3, Error ellipse: s-maj=17.6km s-min=10.1km az=12.4*

ISC 23 09:39:21.9±1.0, 18°.27S±0°.09×172°.26W±0°.10, h41km, n6, σ2^{9}07/8, mb4.0/3, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.36**	**6**	Pn		**Pn**	**09 40 27.0**	**+1.2**
	3.2nm,0.3s,baz=184,slow=15,SNR=7.5							
AFI				Sn		**Sn**	**09 41 14.5**	**-1.0**
	8.3nm,0.3s,baz=51,slow=16,SNR=4.6							
RAR	**Rarotonga**	**12.12**	**106**	Pn		**Pn**	**09 42 14.5**	**+2.4**
	1.9nm,0.3s,baz=282,slow=10,SNR=7.2							
RAR				Sn		**Sn**	**09 44 22.8**	**-3.1**
	0.4nm,0.3s,baz=30,slow=20,SNR=3.2							
RAR				LR		LR	09 45 37.6	
	comp=Z,62nm,18.5s,baz=282,slow=31							
URZ	**Urewera**	**21.97**	**203**	P		**P**	**09 44 12.6**	**+0.3**
	5.6nm,0.7s,baz=31,slow=5.9,SNR=3.5							
WRA	**Warramunga Arr**	**50.31**	**259**	P		**P**	**09 48 14.2**	**-0.7**
	0.4nm,0.3s,baz=97,slow=7.2,SNR=16							
ASAR	**Alice Springs**	**50.32**	**254**	P		**P**	**09 48 14.8**	**-0.1**
	1.2nm,0.7s,baz=86,slow=8.4,SNR=18							
BRTR	**Keskin Array B**	**149.05**	**319**	PKPbc		**PKPab**	**09 59 08.6**	**-1.7**
	0.5nm,0.6s,baz=48,slow=2.1,SNR=4.0							

*ISCJB **23** 09:53:09.1±0.4, 17°.78S±0°.10×178°.44W±0°.08, h547km, mb3.9/15, Error ellipse: s-maj=13.8km s-min=8.8km az=151.3*

*IDC **23** 09:53:11.2±1.3, 17°.69S×178°.30W, h564km±17km, mb3.4/14, mb1 3.5/17, mb1mx3.3/44, mbtmp4.3/17, Error ellipse: s-maj=16.1km s-min=11.0km az=147.0*

ISC 23 09:53:09.9±0.5, 17°.7S±0°.1×178°.33W±0°.09, h547km, n24, σ0^{9}97/27, mb3.9/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.37**	**60**	P		**P**	**09 55 02.8**	**+1.3**
	11nm,0.3s,baz=143,slow=2.5,SNR=26							
AFI				S		**S**	**09 56 34.3**	**+1.6**
	2.4nm,0.3s,baz=229,slow=20,SNR=3.0							
DZM	**Mont Dzumac**	**14.95**	**251**	P		**P**	**09 56 21.0**	**+2.0**
	0.4nm,0.3s,baz=132,slow=16,SNR=3.7							
RAR	**Rarotonga**	**17.83**	**104**	P		**P**	**09 56 46.9**	**+0.5**
	0.9nm,0.3s,baz=292,slow=9.4,SNR=4.4							
URZ	**Urewera**	**20.83**	**190**	P		**P**	**09 57 11.4**	**-2.0**
	4.8nm,0.5s,baz=23,slow=7.7,SNR=6.4							
CTA	**Charters Tower**	**33.55**	**260**	P		**P**	**09 59 05.6**	**+0.6**
	4.0nm,0.7s,baz=86,slow=8.8,SNR=6.6							
STKA	**Stephens Creek**	**38.78**	**241**	P		**P**	**09 59 48.6**	**+0.7**
	5.3nm,0.3s,baz=52,slow=6.1,SNR=9.6							
WRA	**Warramunga Arr**	**44.74**	**259**	P		**P**	**10 00 35.0**	**-0.1**
	5.4nm,0.4s,baz=92,slow=7.4,SNR=119							
WRA				PcP		**PcP**	**10 02 04.9**	**-0.7**
	0.7nm,0.4s,baz=95,slow=3.8,SNR=4.7							
ASAR	**Alice Springs**	**44.91**	**254**	P		**P**	**10 00 36.9**	**+0.4**
	41nm,0.6s,baz=88,slow=8.3,SNR=4.8							
ASAR				PcP		**PcP**	**10 02 05.6**	**-0.6**
	3.2nm,0.8s,baz=105,slow=4.0,SNR=4.9							
SIJI	**Sorong**	**52.27**	**283**	P		**P**	**10 01 31.6**	**+0.5**
	15nm,0.6s,baz=83,slow=6.9,SNR=8.7							
NWAO	**Narrogin (SRO)**	**59.36**	**242**	P		**P**	**10 02 19.8**	**-0.1**
	3.8nm,0.6s,baz=68,slow=5.4,SNR=3.3							
VNDA	**Vanda**	**60.62**	**185**	P		**P**	**10 02 28.1**	**+0.6**
	1.7nm,0.9s,baz=12,slow=6.2,SNR=5.9							
MJAR	**Matsushiro Arr**	**67.82**	**323**	P		**P**	**10 03 13.2**	**-0.6**
	1.0nm,0.7s,baz=157,slow=5.8,SNR=4.2							
QSPA	**South Pole Qui**	**72.31**	**180**	P		**P**	**10 03 40.1**	**0.0**
	baz=338,slow=1.4							
PETK	**Petropavlovsk-**	**73.54**	**345**	P		**P**	**10 03 46.5**	**-0.5**
	1.8nm,0.7s,baz=149,slow=5.9,SNR=3.5							
NVAR	**Mina Array Bea**	**79.25**	**44**	P		**P**	**10 04 19.0**	**-0.1**
	0.4nm,0.7s,baz=219,slow=5.6,SNR=3.1							
SEY	**Seymchan**	**83.63**	**347**	P		**P**	**10 04 39.7**	**-0.8**
	1.6nm,0.5s,baz=181,slow=5.8,SNR=7.7							
MAW	**Mawson**	**84.04**	**200**	P		**P**	**10 04 42.2**	**-0.5**
	3.1nm,0.7s,baz=135,slow=7.4,SNR=4.3							
ILAR	**Eielson Array**	**85.71**	**13**	P		**P**	**10 04 49.0**	**-1.7**
	0.5nm,0.9s,baz=222,slow=5.3,SNR=7.5							
TXAR	**Lajitas Array**	**85.84**	**58**	P		**P**	**10 04 52.8**	**+0.5**
	0.4nm,0.7s,baz=220,slow=7.0,SNR=6.9							
CMAR	**Chiang Mai Arr**	**88.90**	**290**	P		**P**	**10 05 07.4**	**+0.6**
	0.8nm,0.4s,baz=104,slow=3.8,SNR=4.6							
VNA3	**Neumayer Olymp**	**90.90**	**176**	P		**P**	**10 05 14.0**	**-1.0**
VNA2	**Neumayer--Watz**	**91.34**	**177**	P		**P**	**10 05 16.9**	**-0.1**
	baz=202,slow=5.0							
BRTR	**Keskin Array B**	**144.72**	**315**	PKP		**PKPdf**	**10 11 44.1**	**-0.8**
	1.8nm,0.7s,baz=126,slow=3.8,SNR=10.0							
GERES	**GERESS Array B**	**147.47**	**345**	PKPbc		**PKPbc**	**10 11 51.6**	**-1.0**
	1.5nm,0.5s,baz=30,slow=3.6,SNR=11							

*DDA **23** 09:53:15.5, 37°.28N×31°.92E, h7km, Ml2.7*

*ISK **23** 09:53:15.6, 37°.34N×31°.90E, h13km, ML2.6/4*

*ISCJB **23** 09:53:17.0±0.5, 37°.30N±0°.03×31°.86E±0°.06, h17km±9km, Error ellipse: s-maj=7.5km s-min=4.8km az=4.9*

ISC 23 09:53:16.9±1.2, 37°.33N±0°.03×31°.81E±0°.04, h19km±4km, n16, σ1^{9}38/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KEPZ	**Antalya-Kepez**	**0.46**	**201**	*i* P		**Pg**	**09 53 24.3**	**-2.1**
KEPZ				*i* S		**Sg**	**09 53 31.9**	**-0.8**
SUTC	**Sutluce-Ispart**	**0.66**	**283**	PG		**Pb**	**09 53 30.2**	**+0.3**
SUTC				SG		**Sg**	**09 53 40.7**	**+1.6**
KONT	**Konya--Tatoy**	**0.75**	**35**	PG		**Pb**	**09 53 30.2**	**-1.2**
KONT				SG		**Sb**	**09 53 40.0**	**-1.3**
KONT	**Konya--Tatoy**	**0.75**	**35**	*i* P		**Pb**	**09 53 30.3**	**-1.2**
KONT				*i* S		**Sb**	**09 53 41.2**	**-0.1**
DOGA	**KONYA_Doganhis**	**0.78**	**352**	*i* P		**Pb**	**09 53 31.3**	**-0.7**
DOGA				*i* S		**Sg**	**09 53 44.3**	**+1.4**
LADK	**Ladik-KONYA**	**0.97**	**27**	PG		**Pb**	**09 53 34.9**	**-0.3**
ERMK	**Ermenek**	**1.12**	**128**	*i* P		**Pn**	**09 53 35.0**	**-2.8**
ERMK				*i* S		**Sg**	**09 53 54.1**	**+0.7**
GAZI	**Gazipasa**	**1.17**	**160**	PN		**Pn**	**09 53 38.9**	**+0.7**
GAZI				SN		**Sb**	**09 53 54.1**	**+1.0**
GAZI	**Gazipasa**	**1.17**	**160**	*i* P		**Pg**	**09 53 40.4**	**+0.9**
GAZI				*i* S		**Sg**	**09 53 58.0**	**+3.2**
KDHN	**Kadinhani**	**1.21**	**11**	*i* P		**Pn**	**09 53 39.4**	**+0.5**
KDHN				*i* S		**Sg**	**09 53 57.5**	**+1.1**
KIZT	**Kizilcal**	**1.55**	**2**	PN		**Pn**	**09 53 43.5**	**-0.1**
TEKE	**Tekeli-Mersin**	**1.58**	**138**	PN		**Pn**	**09 53 42.9**	**-1.0**
TEVE	**Tevekalti-Mers**	**1.58**	**124**	PN		**Pn**	**09 53 43.2**	**-0.8**
AKKU	**Akkuyu-Mersin**	**1.82**	**129**	PN		**Pn**	**09 53 46.9**	**-0.3**
KERG	**Konya-Eregli**	**1.84**	**87**	*i* P		**Pn**	**09 53 48.4**	**+0.8**
KERG				*i* S		**Sb**	**09 54 14.6**	**+1.8**
IKL	**Isikli**	**1.86**	**125**	PN		**Pn**	**09 53 47.2**	**-0.5**

*ISCJB **23** 09:56:44.8±1.3, 67°.54N±0°.04×33°.9E±0°.2, h0km, Error ellipse: s-maj=9.5km s-min=5.2km az=8.8*

*HEL **23** 09:56:45.6±0.5, 67°.56N×34°.30E, h0km, ML2.5, Explosion*

*KOLA **23** 09:56:46.3, 67°.68N×34°.13E, M1.8, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

*NAO **23** 09:56:51.5±1.8, 67°.57N×33°.15E, ML2.7*

ISC 23 09:56:46.5±1.8, 67°.61N±0°.05×34°.1E±0°.1, h0km, n22, σ1^{8}78/37, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	**1.72**	**277**	PG		**Pn**	**09 57 17.6**	**0.0**
VRF				MSG			09 57 39.5	
	comp=Z,42nm,0.2s							
VRF				SG		**Sn**	**09 57 40.6**	**+0.3**
KU6	**Riekki**	**2.30**	**228**	PG		**Pb**	**09 57 27.2**	**-1.7**
	baz=51							
KU6				MSG			09 57 54.5	
	comp=Z,21nm,0.2s							
KU6				SG		**Sb**	**09 57 58.6**	**+0.8**
MSF	**Maaselka**	**2.63**	**232**	PG		**Pb**	**09 57 33.5**	**-1.0**
	baz=47							
MSF				SG		**Sb**	**09 58 08.2**	**+0.9**
SGF	**Sodankyl**	**2.91**	**270**	PB		**Pn**	**09 57 36.4**	**+2.3**
SGF				SB		**Sb**	**09 58 14.6**	**-0.8**
RNF	**Rovaniemi**	**3.31**	**256**	PN		**Pn**	**09 57 40.8**	**+1.3**
KEV	**Kevo**	**3.37**	**313**	PN		**Pn**	**09 57 41.1**	**+0.8**
KEV				SN		**Sn**	**09 58 21.3**	**+0.5**
ARA0	**ARCESS Array S**	**3.69**	**305**	Pn		**Pn**	**09 57 44.8**	**0.0**
	baz=122,slow=16							
ARA0				Sn		**Sn**	**09 58 27.7**	**-1.3**
	baz=133,slow=28							
ARA0				Lg		Lg	09 58 40.3	
	baz=129,slow=37							
ARA0	**ARCESS Array S**	**3.69**	**305**	Pn		**Pn**	**09 57 44.8**	**0.0**
	baz=122,slow=16							
ARA0				Sn		**Sn**	**09 58 27.7**	**-1.3**
	baz=133,slow=28							
ARA0				Lg		Lg	09 58 40.3	
	baz=129,slow=37							
ARE0	**ARCESS Array S**	**3.69**	**305**	PN		**Pn**	**09 57 44.8**	**0.0**
ARE0				SN		**Sn**	**09 58 29.0**	**0.0**
HEF	**Hetta**	**4.00**	**286**	PN		**Pn**	**09 57 51.0**	**+1.9**
	baz=101							
HEF				SN		**Sn**	**09 58 37.3**	**+0.7**
HEF	**Hetta**	**4.00**	**286**	*e*P		**Pn**	**09 57 51.0**	**+1.9**
HEF				*e*S		**Sn**	**09 58 37.2**	**+0.7**
OUL	**Oulu**	**4.16**	**236**	PG		**Pb**	**09 57 59.8**	**-0.7**
KTK1	**Kautokeino**	**4.27**	**294**	*e*P		**Pn**	**09 57 53.3**	**+0.6**
KTK1				*e*Sg		**Sb**	**09 58 56.8**	**+2.5**
KTK1				IAML			09 58 59.2	
	comp=Z,9.6nm,0.3s							
KALU	**Kalix**	**4.61**	**253**	PG		**Pb**	**09 58 07.8**	**-0.2**
	baz=61							
HAMF	**Hammerfest**	**4.80**	**314**	*e*S		**Sn**	**09 58 55.4**	**-0.8**
HAMF				IAML			09 59 17.5	
	comp=Z,12nm,0.4s							
KIF	**Kilpisjarvi**	**5.12**	**292**	Pn		**Pn**	**09 58 06.0**	**+1.6**
KIF				Sn		**Sn**	**09 59 01.2**	**-2.8**
KIF	**Kilpisjarvi**	**5.12**	**292**	Pn		**Pn**	**09 58 06.0**	**+1.6**
KIF				Sn		**Sn**	**09 59 01.2**	**-2.8**
TRO	**Tromso**	**5.90**	**297**	*e*S		**Sn**	**09 59 22.9**	**-0.3**
TRO				IAML			10 00 10.8	
	comp=Z,9.8nm,0.5s							
FIA0	**FINESS Array S**	**7.08**	**213**	Pn		**Pn**	**09 58 34.0**	**+2.7**
	baz=33,slow=16							
FIA0				Sn		**Sn**	**09 59 48.0**	**-4.3**
	baz=30,slow=22							
FIA0				Lg		Lg	10 00 18.4	
FIA0	**FINESS Array S**	**7.08**	**213**	Pn		**Pn**	**09 58 34.0**	**+2.7**
	baz=33,slow=16							
FIA0				Sn		**Sn**	**09 59 48.0**	**-4.3**
	baz=30,slow=22							
FIA0				Lg		Lg	10 00 18.4	
SPA0	**Spitsbergen Ar**	**11.73**	**342**	Pn		**Pn**	**09 59 34.3**	**-0.6**
	baz=142,slow=14							
SPA0	**Spitsbergen Ar**	**11.73**	**342**	Pn		**Pn**	**09 59 34.3**	**-0.6**
	baz=142,slow=14							

IDC 23 09:58:05.9±3.9, 27°.17S×140°.88E, h0km, mb1 3.7/3, mb1mx3.5/38, mbtmp3.5/3, ML3.4/3, Error ellipse: s-maj=72.5km s-min=23.1km az=62.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**4.73**	**173**	Pn		Pn	09 59 18.4	-0.1
	0.8nm,0.3s,baz=344,slow=16,SNR=6.2							
STKA				Sn		Sn	10 00 14.5	+0.5
	2.4nm,0.3s,baz=120,slow=12,SNR=3.9							
ASAR	**Alice Springs**	**7.21**	**297**	Pn		Pn	09 59 52.5	-0.1
	0.8nm,0.3s,baz=120,slow=13,SNR=26							
ASAR				Sn		Sn	10 01 14.8	-0.5
	baz=117,slow=22,SNR=2.8							
WRA	**Warramunga Arr**	**9.37**	**319**	Pn		Pn	10 00 22.9	+0.7
	0.5nm,0.3s,baz=138,slow=13,SNR=30							
WRA				Sn		Sn	10 02 09.8	+1.4
	0.3nm,0.3s,baz=142,slow=25,SNR=4.5							

*ISCJB **23** 09:59:26.4±1.1, 23°.8S±0°.1×180°.0E±0°.2, h526km, mb4.0/6, Error ellipse: s-maj=21.3km s-min=14.0km az=163.7*

*IDC **23** 09:59:30.5±2.8, 23°.92S×179°.98E, h566km±34km, mb3.5/6, mb1 3.6/7, mb1mx3.2/34, mbtmp4.4/7, Error ellipse: s-maj=28.2km s-min=17.3km az=12.0*

ISC 23 09:59:27.5±1.2, 23°.9S±0°.1×180°.0E±0°.2, h526km, n7, σ1^{8}34/9, mb4.0/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.49**	**189**	P		**P**	**10 02 33.2**	**+1.4**
	0.3nm,0.3s,baz=0.0,slow=7.1,SNR=3.5							
URZ				S		**S**	**10 05 02.2**	**-1.6**
	0.2nm,0.3s,baz=109,slow=6.8,SNR=3.1							
CTA	**Charters Tower**	**31.45**	**270**	P		**P**	**10 05 07.2**	**+1.2**
	6.0nm,0.3s,baz=92,slow=11,SNR=14							
ASAR	**Alice Springs**	**42.01**	**261**	P		**P**	**10 06 33.2**	**+0.4**
	2.7nm,0.8s,baz=96,slow=7.6,SNR=20							
WRA	**Warramunga Arr**	**42.38**	**266**	P		**P**	**10 06 35.8**	**0.0**
	3.6nm,0.5s,baz=96,slow=8.4,SNR=55							
WRA				S		**S**	**10 12 17.3**	**-1.9**
	0.2nm,0.7s,baz=98,slow=13,SNR=2.5							
SIJI	**Sorong**	**52.42**	**289**	P		**P**	**10 07 51.1**	**-0.2**
	8.4nm,0.6s,baz=81,slow=12,SNR=5.2							
QSPA	**South Pole Qui**	**66.15**	**180**	P		**P**	**10 09 22.5**	**0.0**
	2.1nm,0.7s,baz=335,slow=2.7,SNR=6.9							
TXAR	**Lajitas Array**	**90.47**	**58**	P		**P**	**10 11 32.5**	**-0.9**
	0.6nm,0.7s,baz=226,slow=6.8,SNR=8.9							

IDC 23 10:00:33.0±2.9, 53°.54N×87°.92E, h0km, mb1 2.9/2, mb1mx2.8/46, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=26.1km s-min=16.0km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**284**	*i*			10 15 21.5	
	baz=103,slow=340,SNR=2.6							
ZALV	**Zalesovo Beam**	**1.89**	**284**	Pn		Pn	10 01 06.0	-0.5
	2.3nm,0.3s,baz=100,slow=14,SNR=23							
ZALV				Lg		Lg	10 01 32.6	
	5.6nm,0.3s,baz=102,slow=26,SNR=25							
KURBB	**Kurchatov Arra**	**6.48**	**247**	Pn		Pn	10 02 10.2	+0.6
	0.1nm,0.3s,baz=64,slow=14,SNR=9.7							
KURBB				Lg		Lg	10 03 58.8	
	0.1nm,0.3s,baz=61,slow=31,SNR=4.1							
MKAR	**Makanchi Array**	**7.66**	**210**	Pn		Pn	10 02 26.9	+1.2
	0.1nm,0.3s,baz=30,slow=15,SNR=5.8							
MKAR				Sn		Sn	10 03 53.2	0.0
	0.1nm,0.3s,baz=25,slow=29,SNR=2.6							

*BJI **23** 10:24:23.3, 22°.20N×95°.92E, h10km, mb4.5/20, mB4.6/18, ML4.3/3, Ms4.2/15, Ms7 4.1/14*

*ISCJB **23** 10:24:25.7±0.2, 22°.53N±0°.03×95°.92E±0°.03, h10km, mb4.1/24, MS3.5/14, Error ellipse: s-maj=5.9km s-min=2.9km az=135.6*

*NEIC **23** 10:24:26.9±0.3, 22°.40N×95°.74E, h10km, mb4.4/6, Error ellipse: s-maj=10.0km s-min=4.5km az=49.0*

*IDC **23** 10:24:26.5±0.6, 22°.58N×95°.97E, h0km, mb4.0/17, mb1 4.2/19, mb1mx3.9/66, mbtmp4.1/19, ML4.4/2, MS3.5/14, Ms1 3.5/14, ms1mx3.2/47, Error ellipse: s-maj=21.0km s-min=10.8km az=60.0*

*NDI **23** 10:24:28.9±2.4, 22°.58N×96°.05E, h10km, ML3.5*

ISC 23 10:24:28.9±0.5, 22°.65N±0°.04×95°.91E±0°.04, h10km, n84, σ2^{9}60/89, mb4.2/24, MS3.4/15, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SAIH	**SAIHA**	**2.70**	**267**	*e*P		**Pn**	**10 25 14.8**	**+2.2**
SAIH				*e*S		**Sn**	**10 25 48.3**	**+2.9**
SAIH				IAML			10 25 57.2	
	comp=N,686nm,0.8s							
SAIH				IAML			10 25 58.4	
	comp=E,605nm,0.3s							
IMP	**Imphal**	**2.82**	**321**	*e*P		**Pn**	**10 25 17.2**	**+3.1**
IMP				*e*S		**Sn**	**10 25 52.0**	**+3.8**
IMP				IAML			10 25 59.5	
	comp=N,130nm,0.7s							
IMP				IAML			10 26 01.5	
	comp=E,98nm,0.4s							
KOHI	**KOHIMA**	**3.47**	**332**	*e*P		**Pn**	**10 25 22.9**	**-0.2**
KOHI				*e*S		**Sn**	**10 26 00.5**	**-4.0**
KOHI				IAML			10 26 17.3	
	comp=E,190nm,0.6s							
KOHI				IAML			10 26 20.6	
	comp=N,441nm,0.8s							
MOKO	**MOKOCHONG**	**3.87**	**341**	*e*P		**Pn**	**10 25 31.4**	**+2.8**
MOKO				*e*S		**Sn**	**10 26 15.7**	**+1.5**
MOKO				IAML			10 26 41.0	
	comp=N,183nm,0.5s							
MOKO				IAML			10 26 42.0	
	comp=E,180nm,0.8s							
BRDH	**Bariadhala**	**3.94**	**271**	Pn		**Pb**	**10 25 38.4**	**-0.1**
	comp=E,43nm,0.3s,baz=90,slow=20,SNR=2.3							
BRDH				Sn		**Sn**	**10 26 17.0**	**+1.2**
	comp=E,43nm,0.3s,baz=65,slow=21,SNR=6.4							
AGT	**Agartala**	**4.45**	**287**	*ex*		Sn	10 26 21.9	-6.6
AGT				IAML			10 27 38.5	
	comp=E,74nm,0.2s							
AGT				IAML			10 27 38.9	
	comp=N,140nm,0.9s							
SHL	**Shillong**	**4.68**	**309**	*e*Pn		**Pn**	**10 25 39.5**	**-0.4**
SHL	**Shillong**	**4.68**	**309**	*e*P		**Pn**	**10 25 40.4**	**+0.5**
SHL				*e*S		**Sn**	**10 26 36.8**	**+2.3**
SHL				IAML			10 26 42.9	
	comp=E,51nm,0.2s							
SHL				IAML			10 26 43.0	
	comp=N,59nm,0.2s							
CHTO	**Chiang Mai**	**4.76**	**143**	*e*Pn		Pn	10 25 37.2	-3.6
CHTO	**Chiang Mai**	**4.76**	**143**	P		Pn	10 25 37.3	-3.5
CHTO				Sg		**Sb**	**10 26 52.8**	**+2.9**
CMMT	**Chiang Mai**	**4.76**	**143**	P		Pn	10 25 37.2	-3.6
CMMT				Sg		**Sb**	**10 26 52.7**	**+2.7**
PAYA	**Payao**	**4.94**	**131**	P		Pn	10 25 39.7	-3.6
CM31	**Chiang Mai Arr**	**5.05**	**145**	*e*Pn		**Pn**	**10 25 41.9**	**-2.9**
CM31				*e*Lg		Lg	10 27 01.5	
CMAR	**Chiang Mai Arr**	**5.05**	**145**	Pn		**Pn**	**10 25 41.9**	**-2.8**
	comp=N,5.6nm,0.3s,baz=322,slow=14,SNR=94							
CMAR				Pg		**Pb**	**10 25 58.0**	**+0.6**
	comp=N,19nm,0.3s,baz=320,slow=16,SNR=62							
CMAR				Lg		Lg	10 27 02.4	
	comp=N,29nm,0.3s,baz=321,slow=30,SNR=6.5							
CMAR				LR		LR	10 28 02.3	
	comp=N,352nm,19.1s,baz=333,slow=44							
CM01	**Chiang Mai Arr**	**5.09**	**145**	*e*Pn		**Pn**	**10 25 41.9**	**-3.4**
CM01				*e*Lg		Lg	10 27 04.9	
GUWA	**GUWAHATI**	**5.21**	**313**	*e*P		**Pn**	**10 25 48.0**	**+1.0**
GUWA				*e*S		**Sn**	**10 26 45.9**	**-1.4**
GUWA				IAML			10 26 51.0	
	comp=E,29nm,0.8s							
GUWA				IAML			10 26 51.0	
	comp=N,48nm,0.7s							
LAMP	**Lampang**	**5.39**	**139**	P		**Pn**	**10 25 47.2**	**-2.2**
LAMP				Sg		**Sb**	**10 27 11.6**	**+3.6**
TURI	**Tura**	**5.85**	**301**	*e*P		**Pn**	**10 25 57.6**	**+1.8**
TURI				*e*S		**Sn**	**10 27 03.5**	**+0.5**
TURI				IAML			10 27 10.0	
	comp=N,112nm,0.2s							
TURI				IAML			10 27 10.0	
	comp=E,120nm,0.6s							
NANT	**Nan**	**5.90**	**130**	P		Pn	10 25 52.2	-4.3
	comp=E,31nm,0.8s,comp=E,255nmcomp=E,0.5nm							
SUKH	**Sukhothai**	**6.22**	**145**	P		**Pn**	**10 25 58.1**	**-2.7**
	comp=E,53nm,0.9s,comp=E,370nmcomp=E,0.4nm							
KMI	**Kunming**	**6.72**	**67**	Pg		**Pg**	**10 26 36.5**	**-1.2**
KMI				Sg		**Sg**	**10 28 01.0**	**-3.8**
KMI				smax		smax		
	comp=N,230nm,1.2s							
KMI				smax		smax		
	comp=E,140nm,1.0s							
KMI				LR		LR		
	comp=N,3μm,5.3s							
KMI				LR		LR		
	comp=E,2μm,5.8s							
KMI				LR		LR		
	comp=Z,2μm,8.3s							
UMPA	**Umpang Tak**	**6.99**	**156**	P		**Pn**	**10 26 11.7**	**+0.2**
	comp=Z,18nm,0.8s,comp=Z,368nmcomp=Z,0.7nm							
PBKT	**Sadao Pong**	**7.70**	**141**	*e*Pn		**Pn**	**10 26 18.0**	**-3.2**
PBKT	**Sadao Pong**	**7.70**	**141**	P		**Pn**	**10 26 18.5**	**-2.7**
	comp=Z,32nm,1.1s,comp=Z,824nmcomp=Z,0.8nm							
TAPN	**Taplejung**	**8.78**	**304**	*e*Pn		**Pn**	**10 26 36.8**	**+0.5**
TAPN				*e*Sn		**Sn**	**10 28 16.9**	**+1.3**
	comp=Z,100nm,0.7s							
ODAN	**Odare**	**8.80**	**300**	*e*Pn		**Pn**	**10 26 36.0**	**-0.5**
ODAN				*e*Sn		**Sn**	**10 28 14.2**	**-1.7**
	comp=Z,111nm,0.7s							
CHAI	**Chaiyaphum

WMQ					LR	LR		
	comp=Z,180nm,24.5s							
HHC	**Hu-ho-hao-te**	**22.44**	**32**	*eP*	**P**	**10 29 26.3**	**-1.9**
HHC				pP	pP	10 29 30.4	-0.6
HHC				sP	sP	10 29 33.3	+1.0
HHC				S	**S**	**10 33 27.3**	**-7.4**
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,5.5s						
HHC				LR	LR		
	comp=Z,240nm,11.2s						
HHC				LR	LR		
	comp=Z,160nm,12.1s						
HHC				LR	LR		
	comp=Z,600nm,13.0s						
KSH	**Kashi**	**23.87**	**319**	P	**P**	**10 29 42.8**	**0.0**
KSH				pP	pP	10 29 46.9	+1.1
KSH				PP	**PnPn**	**10 30 17.1**	**+6.3**
KSH				S	**S**	**10 33 55.3**	**-3.7**
KSH				sS	pS	10 34 02.3	+0.2
KSH				pmax	pmax		
	comp=Z,20nm,0.7s						
KSH				pmax	pmax		
	comp=Z,270nm,4.9s						
KSH				LR	LR		
	comp=Z,250nm,7.3s						
KSH				LR	LR		
	comp=Z,320nm,6.5s						
KSH				LR	LR		
	comp=Z,460nm,6.6s						
MK01	**Makanchi Array**	**26.46**	**339**	*eP*	**P**	**10 30 05.2**	**-0.9**
MK31	**Makanchi Array**	**26.48**	**339**	*eP*	**P**	**10 30 06.0**	**-0.3**
MK32	**Makanchi Array**	**26.48**	**339**	*eP*	**P**	**10 30 06.0**	**-0.3**
MKAR	**Makanchi Array**	**26.48**	**339**	P	**P**	**10 30 06.0**	**-0.3**
	comp=Z,4.5nm,0.7s,baz=138,slow=13,SNR=31						
MKAR	**Makanchi Array**	**26.48**	**339**	*eP*	**P**	**10 30 06.0**	**-0.3**
	comp=Z,31nm,0.8s						
SONA0	**Songino Array**	**26.50**	**16**	*eP*	**P**	**10 30 06.7**	**+0.1**
SONM	**Songino Array**	**26.50**	**16**	P	**P**	**10 30 06.7**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=201,slow=8.2,SNR=11						
SONM				LR	LR	10 42 26.4	
	comp=Z,172nm,19.4s,baz=190,slow=41						
AAK	**Ala-Archa**	**26.74**	**323**	P	**P**	**10 30 08.9**	**0.0**
	comp=Z,4.4nm,0.7s,baz=154,slow=8.5,SNR=7.1						
AAK				LR	LR	10 41 15.5	
	comp=Z,38nm,20.1s,baz=110,slow=38						
KURBB	**Kurchatov Arra**	**31.05**	**338**	P	**P**	**10 30 46.4**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=149,slow=8.4,SNR=9.1						
KURK	**Kurchatov**	**31.09**	**339**	*eP*	**P**	**10 30 46.4**	**-0.9**
ZALV	**Zalesovo Beam**	**32.36**	**348**	P	**P**	**10 30 57.5**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=142,slow=7.3,SNR=1.9						
ZAA1	**Zalesovo Array**	**32.36**	**348**	*eP*	**P**	**10 30 57.5**	**-0.9**
DAV	**Davao City (W)**	**32.49**	**114**	LR	LR	10 43 45.7	
	comp=Z,35nm,18.6s,baz=320,slow=36						
GEYT	**Alibeck**	**35.74**	**304**	P	**P**	**10 31 28.2**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=226,slow=9.8,SNR=3.3						
GEYT				LR	LR	10 50 39.0	
	comp=Z,47nm,18.3s,baz=215,slow=44						
BVAR	**Borovoye Array**	**36.03**	**334**	P	**P**	**10 31 30.4**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=157,slow=12,SNR=4.0						
USRK	**Ussuriysk Ar.**	**36.58**	**45**	P	**P**	**10 31 33.8**	**-1.3**
	comp=Z,2.3nm,0.8s,baz=248,slow=9.5,SNR=4.3						
USRK				LR	LR	10 47 11.7	
	comp=Z,57nm,19.6s,baz=181,slow=37						
ABKAR	**Akbulak array**	**38.82**	**322**	*eP*	**P**	**10 31 53.5**	**-0.5**
MAJO	**Matsushiro**	**38.99**	**59**	*eP*	**P**	**10 31 55.6**	**0.0**
MJAR	**Matsushiro Arr**	**38.99**	**59**	P	**P**	**10 31 55.6**	**0.0**
	comp=Z,2.2nm,0.9s,baz=265,slow=12,SNR=3.7						
MJAR				LR	LR	10 49 38.7	
	comp=Z,131nm,18.3s,baz=255,slow=39						
AKTO	**Aktyubinsk**	**40.48**	**323**	P	**P**	**10 32 06.9**	**-0.9**
	comp=Z,2.3nm,0.8s,baz=96,slow=8.8,SNR=8.0						
KBZ	**Khabaz**	**48.19**	**309**	LR	LR	10 55 59.0	
	comp=Z,37nm,19.3s,baz=332,slow=39						
TIXI	**Tiksi**	**52.51**	**13**	*eP*	**P**	**10 33 41.0**	**-0.8**
	comp=Z,2.1nm,0.6s						
BRTR	**Keskin Array B**	**54.88**	**303**	LR	LR	11 00 37.0	
	comp=Z,27nm,18.5s,baz=90,slow=40						
WR1	**Warramunga Arr**	**56.57**	**136**	*eP*	**P**	**10 34 09.9**	**-2.2**
	comp=Z,6.4nm,1.0s						
WRA	**Warramunga Arr**	**56.57**	**136**	P	**P**	**10 34 09.9**	**-2.2**
	comp=Z,1.7nm,0.6s,baz=324,slow=7.8,SNR=33						
WRAB	**Tennant Creek**	**56.57**	**135**	*eP*	**P**	**10 34 09.8**	**-2.3**
	comp=Z,4.1nm,1.1s						
WB2	**Warramunga Arr**	**56.58**	**136**	*eP*	P	10 34 08.9	-3.2
AKASG	**Malin Array Be**	**58.13**	**317**	LR	LR	11 05 12.3	
	comp=Z,28nm,19.2s,baz=290,slow=42						
ASAR	**Alice Springs**	**59.03**	**139**	P	**P**	**10 34 27.5**	**-1.8**
	comp=Z,1.4nm,0.6s,baz=321,slow=7.0,SNR=31						
FINES	**FINESS Arra B**	**60.73**	**329**	LR	LR	11 01 56.7	
	comp=Z,67nm,18.6s,baz=224,slow=37						
NB200	**NORSAR Array S**	**67.91**	**328**	*eP*	**P**	**10 35 27.8**	**+0.2**
NOA	**NORSAR Array B**	**67.91**	**328**	P	**P**	**10 35 27.8**	**+0.2**
	comp=Z,2.3nm,1.1s,baz=106,slow=6.5,SNR=2.2						
NOA				LR	LR	11 08 02.1	
	comp=Z,27nm,19.8s,baz=295,slow=38						
GERES	**GERESS Array B**	**68.27**	**315**	LR	LR	11 09 47.4	
	comp=Z,65nm,18.5s,baz=324,slow=40						
STKA	**Stephens Creek**	**57.42**	**140**	P	**P**	**10 35 38.2**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=318,slow=6.0,SNR=5.4						
TOLK	**Toolik Lake Re**	**77.54**	**20**	*eP*	**P**	**10 36 23.9**	**-0.8**
	comp=Z,2.4nm,1.0s						
ILAR	**Eielson Array**	**80.51**	**23**	P	**P**	**10 36 40.6**	**-0.4**
	comp=Z,0.6nm,1.1s,baz=312,slow=5.9,SNR=3.5						
INK	**Inuvik**	**82.41**	**17**	P	**P**	**10 36 49.9**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=332,slow=5.7,SNR=5.7						
INK	**Inuvik**	**82.41**	**17**	*eP*	**P**	**10 36 49.9**	**-1.1**
	comp=Z,3.7nm,1.1s						

NIED ***23*** *10:31:00,25˚.60N×143˚.00E,h5km,Mw4.2 Best double couple: M₀2.10000×10¹⁵ NP1:φs184.00000°,δ10.00000°, λ105.00000°. NP2:φs349.00000°,δ80.00000°,λ87.00000°.*
JMA ***23*** *10:31:09.5±0.1,25˚.64N×143˚.00E,h92km,M3.8*
IDC ***23*** *10:31:09.1±0.6,25˚.83N×142˚.75E,h0km,mb4.0/17, mb1 4.1/18,mb1mx4.0/59,mbtmp4.0/18,ML3.7/1,MS2.9/2, Ms1 2.9/2,ms1mx2.5/52,Error ellipse: s-maj=22.9km s-min=14.6km az=78.0*
NEIC ***23*** *10:31:13.1±2.2,25˚.82N×142˚.72E,h26km±15km,mb4.0/2, Error ellipse: s-maj=9.5km s-min=6.2km az=83.0*

ISC 23 10:31:13.5±0.6,25˚.85N±0˚.08×143˚.0E±0˚.1,h35km,n47, σ1s48/45,mb3.9/17,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res ISC
				Op			h m s	
JHHJ	**Haha-jima-NKT**	**1.08**	**316**	P		**Pn**	**10 31 32.3**	**+0.1**
JHHJ				S		**Sn**	**10 31 49.4**	**+3.4**
CBIJ	**Chichi jima**	**1.45**	**329**	*e*Pn		**Pn**	**10 31 37.5**	**+0.2**
CBIJ	**Chichi jima**	**1.45**	**329**	P		**Pn**	**10 31 37.4**	**+0.2**
CBIJ				S		**Sn**	**10 31 58.4**	**+3.4**
JHU	**Hanno**	**10.47**	**343**	P		**Pn**	**10 33 39.7**	**-1.4**
JHU				*e*S		**Sn**	**10 35 33.0**	**-4.2**
JHO	**Hitachi**	**10.93**	**350**	P		**Pn**	**10 33 45.5**	**-1.8**
JAG	**Ashikaga**	**10.97**	**345**	P		**Pn**	**10 33 45.6**	**-2.4**
MJAR	**Matsushiro Arr**	**11.42**	**340**	Pn		**Pn**	**10 33 53.2**	**-1.0**
	0.5nm,0.3s,baz=164,slow=11,SNR=5.8							
MJAR				Sn		**Sn**	**10 36 00.1**	**-0.3**
	0.3nm,0.3s,baz=95,slow=14,SNR=3.6							
MAJO	**Matsushiro**	**11.42**	**340**	*e*Pn		**Pn**	**10 33 53.2**	**-1.0**
MAJO				*e*Sn		**Sn**	**10 36 00.1**	**-0.4**
GUMO	**Guam**	**12.32**	**172**	LR		LR	10 38 04.7	
	comp=Z,64nm,18.2s,baz=72,slow=34							
KSRS	**Korea Array**	**17.27**	**316**	LR		LR	10 41 25.1	
	comp=Z,32nm,19.7s,baz=235,slow=36							
USRK	**Ussuriysk Ar.**	**20.38**	**337**	P		Pn	10 35 48.2	-1.1
	1.5nm,0.7s,baz=154,slow=14,SNR=2.9							
H11N2	**WAKE ISLAND Hy**	**22.82**	**101**	T		T	10 59 52.9	
	baz=291,slow=74,SNR=18							
H11N1	**WAKE ISLAND Hy**	**22.82**	**101**	T		T	10 59 53.5	
	baz=291,slow=74,SNR=13							
H11N3	**WAKE ISLAND Hy**	**22.83**	**101**	T		T	10 59 58.8	
	baz=291,slow=74,SNR=11							
H11S3	**WAKE ISLAND Hy**	**23.08**	**104**	T		T	11 00 11.5	
	baz=293,slow=74,SNR=3.6							
H11S1	**WAKE ISLAND Hy**	**23.09**	**104**	T		T	11 00 20.1	
	baz=293,slow=74,SNR=4.8							
H11S2	**WAKE ISLAND Hy**	**23.10**	**104**	T		T	11 00 13.0	
	baz=293,slow=74,SNR=4.1							
KLR	**Kul'dur**	**24.93**	**342**	P		**P**	**10 36 33.8**	**+0.5**
	4.2nm,0.8s,baz=135,slow=5.8,SNR=9.0							
SONA0	**Songino Array**	**36.13**	**317**	*eP*		**P**	**10 38 11.0**	**-1.4**
SONM	**Songino Array**	**36.13**	**317**	P		**P**	**10 38 11.0**	**-1.4**
	0.9nm,0.9s,baz=118,slow=8.3,SNR=4.1							
CMAR	**Chiang Mai Arr**	**41.34**	**269**	P		**P**	**10 38 55.7**	**-0.5**
	0.4nm,0.3s,baz=58,slow=7.6,SNR=6.2							
WR1	**Warramunga Arr**	**46.30**	**191**	*e*P		**P**	**10 39 36.0**	**+0.1**
	7.7nm,0.8s							
WRA	**Warramunga Arr**	**46.30**	**191**	P		**P**	**10 39 36.0**	**+0.1**
	3.7nm,0.8s,baz=11,slow=8.6,SNR=25							
ASAR	**Alice Springs**	**50.02**	**191**	P		**P**	**10 40 04.6**	**0.0**
	0.5nm,0.7s,baz=14,slow=12,SNR=7.6							
ZALV	**Zalesovo Beam**	**50.92**	**320**	P		**P**	**10 40 10.4**	**-0.7**
	0.5nm,0.3s,baz=111,slow=11,SNR=3.8							
ZALV				PcP		**PcP**	**10 41 27.2**	**0.0**
	0.8nm,0.6s,baz=114,slow=3.6,SNR=3.4							
ZAA1	**Zalesovo Array**	**50.92**	**320**	*e*P		**P**	**10 40 10.4**	**-0.7**
ZAA1				*e*PcP		**PcP**	**10 41 27.2**	**0.0**
MK32	**Makanchi Array**	**51.85**	**310**	*e*P		**P**	**10 40 17.8**	**-0.4**
MKAR	**Makanchi Array**	**51.85**	**310**	P		**P**	**10 40 17.8**	**-0.4**
	0.9nm,0.7s,baz=90,slow=9.7,SNR=3.1							
STKA	**Stephens Creek**	**57.42**	**181**	P		**P**	**10 40 59.0**	**+0.3**
	0.6nm,0.6s,baz=346,slow=11,SNR=2.9							
STKA	**Stephens Creek**	**57.42**	**181**	*e*P		**P**	**10 40 59.0**	**+0.3**
	0.4nm,1.0s							
ILAR	**Eielson Array**	**58.44**	**28**	P		**P**	**10 41 06.8**	**+1.3**
	0.8nm,0.8s,baz=258,slow=5.9,SNR=5.7							
BVAR	**Borovoye Array**	**59.47**	**318**	P		**P**	**10 41 12.7**	**-0.1**
	3.2nm,0.6s,baz=94,slow=8.0,SNR=14							
KK31	**Karatay Array**	**60.42**	**307**	*e*P		**P**	**10 41 19.1**	**-0.5**
KKAR	**Karatay Array**	**60.42**	**307**	*e*P		**P**	**10 41 19.1**	**-0.5**
INK	**Inuvik**	**63.84**	**24**	P		**P**	**10 41 44.0**	**+2.0**
	0.7nm,0.7s,baz=276,slow=1.8,SNR=3.7							
ABKAR	**Akbulak array**	**66.50**	**315**	*e*P		**P**	**10 41 59.4**	**-0.2**
ARA0	**ARCESS Array S**	**74.95**	**341**	*e*P		**P**	**10 42 51.5**	**+0.8**
ARCES	**ARCESS Array B**	**74.95**	**341**	P		**P**	**10 42 51.5**	**+0.8**
	3.6nm,0.8s,baz=54,slow=9.1,SNR=4.2							
FIA0	**FINESS Array S**	**79.39**	**334**	*e*P		**P**	**10 43 16.1**	**+0.5**
FINES	**FINESS Array B**	**79.39**	**334**	P		**P**	**10 43 16.1**	**+0.5**
	2.6nm,0.5s,baz=80,slow=4.5,SNR=11							
KBZ	**Khabaz**	**79.40**	**313**	P		**P**	**10 43 16.4**	**+0.3**
	2.7nm,0.8s,baz=129,slow=6.5,SNR=4.0							
NVAR	**Mina Array Bea**	**80.69**	**52**	P		**P**	**10 43 25.9**	**+2.5**
	0.4nm,0.7s,baz=280,slow=5.4,SNR=3.3							
NV01	**Mina Array Sit**	**80.69**	**52**	*e*P		**P**	**10 43 25.9**	**+2.5**
NB200	**NORSAR Array S**	**85.04**	**339**	*e*P		**P**	**10 43 45.6**	**+0.3**
NOA	**NORSAR Array B**	**85.04**	**339**	P		**P**	**10 43 45.6**	**+0.3**
	1.5nm,0.9s,baz=27,slow=7.0,SNR=2.5							
PLCA	**Paso Flores**	**148.47**	**127**	PKPbc		**PKPab**	**10 50 58.4**	**-1.7**
	2.2nm,1.1s,baz=205,slow=4.0,SNR=2.1							
LPAZ	**La Paz**	**149.47**	**78**	PKPbc		**PKPab**	**10 51 02.5**	**-3.0**
	0.8nm,0.6s,baz=0.0,slow=4.0,SNR=2.4							

JMA ***23*** *10:33:14.4±0.1,23˚.40N×122˚.02E,h12km,M3.0*
TAP ***23*** *10:33:15.7,23˚.35N×121˚.97E,h28km,ML3.1,C*

ISC 23 10:33:14.4±1.1,23˚.35N±0˚.03×121˚.98E±0˚.02,h24km±12km, n64,σ0s70/114,6D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res ISC
				Op			h m s	
HGSD	**Ruisui**	**0.53**	**286**	*i*	P	**Pb**	**10 33 25.5**	**+0.4**
	baz=286							
HGSD				*e*	S	**Sb**	**10 33 33.1**	**+0.8**
	baz=286							
EGFH	**Guangfu**	**0.60**	**302**	*e*	P	**Pn**	**10 33 27.0**	**-0.4**
	baz=314							
EGFH				*e*	S	**Sn**	**10 33 35.5**	**-0.8**
	baz=314							
CHKT	**Chengkung**	**0.62**	**246**	*e*	P	**Pb**	**10 33 26.6**	**+0.1**
	baz=238							
CHKT				*e*	S	**Sb**	**10 33 34.4**	**-0.4**
	baz=238							
EHY	**Hungye**	**0.62**	**284**	P		**Pn**	**10 33 27.1**	**-0.5**
	baz=285							
EHY				*e*	S	**Sn**	**10 33 36.2**	**-0.7**
	baz=285							
TWF1	**Yuli**	**0.63**	**270**	*i*	P	**Pb**	**10 33 27.2**	**+0.5**
	baz=263							
TWF1				S		**Sb**	**10 33 35.8**	**+0.7**
	baz=263							
YULB	**Yu-li**	**0.63**	**274**	*i*	P	**Pb**	**10 33 27.2**	**+0.5**
	baz=269							
YULB				*e*	S	**Sn**	**10 33 36.4**	**-0.7**
	baz=269							
FULB	**Fuli**	**0.65**	**257**	P		**Pb**	**10 33 27.0**	**-0.1**
	baz=248							
FULB				*e*	S	**Sb**	**10 33 35.5**	**-0.2**
	baz=248							
ESL	**Shilin**	**0.68**	**313**	*i*	P	**Pb**	**10 33 27.7**	**+0.1**
	baz=314							
ESL				*e*	S	**Sb**	**10 33 36.4**	**-0.2**
	baz=314							
HWA	**Hwalien**	**0.71**	**331**	*e*	P	**Pn**	**10 33 28.6**	**-0.3**
	baz=332							
HWA				*e*	S	**Sn**	**10 33 39.1**	**+0.1**
	baz=332							
TWD	**Chiawan**	**0.81**	**334**	*e*	P	**Pn**	**10 33 29.9**	**-0.3**
	baz=335							
TWD				*e*	S	**Sb**	**10 33 39.9**	**-0.3**
	baz=335							
VWDT	**VWDT**	**0.87**	**298**	*i*	P	**Pn**	**10 33 31.4**	**+0.3**
	baz=298							
VWDT				*e*	S	**Sn**	**10 33 42.8**	**-0.2**
	baz=298							
NACB	**Ninganchiao**	**0.89**	**337**	*e*	P	**Pb**	**10 33 30.9**	**-0.3**
	baz=337							
NACB				*e*	S	**Sb**	**10 33 41.6**	**-1.1**
	baz=337							
ELDTW	**Lidau**	**0.90**	**260**	*e*	P	**Pb**	**10 33 30.9**	**-0.5**
	baz=249							
ELDTW				*e*	S	**Sb**	**10 33 41.5**	**-1.5**
	baz=249							
YUS	**Yu-Shan**	**0.95**	**279**	*e*	P	**Pn**	**10 33 32.8**	**+0.2**
	baz=289							
YUS				*e*	S	**Sb**	**10 33 44.9**	**0.0**
	baz=289							
TWG	**Pinlang**	**0.99**	**238**	*e*	P	**Pb**	**10 33 32.2**	**-0.6**
	baz=231							
TWG				*e*	S	**Sb**	**10 33 44.3**	**-1.2**
	baz=231							
CHGB	**Renai**	**1.02**	**314**	*i*	P	**Pn**	**10 33 33.6**	**+0.2**
	baz=314							
CHGB				*e*	S	**Sb**	**10 33 46.4**	**-0.3**
	baz=314							
WHF	**Hehuan Shan**	**1.03**	**320**	*e*	P	**Pn**	**10 33 33.5**	**-0.2**
	baz=321							
WHF				*e*	S	**Sb**	**10 33 46.2**	**-0.8**
	baz=321							
SSLB	**Suanglung**	**1.04**	**295**	*e*	P	**Pn**	**10 33 33.7**	**+0.3**
	baz=295							
ALS	**Alishan**	**1.09**	**279**	*i*	P	**Pb**	**10 33 35.2**	**+0.5**
	baz=288							
ALS				*e*	S	**Sn**	**10 33 49.0**	**+0.1**
	baz=288							
NANB	**Nanao**	**1.09**	**349**	*i*	P	**Pb**	**10 33 34.3**	**-0.3**
	baz=349							
NANB				*e*	S	**Sb**	**10 33 47.1**	**-1.3**
	baz=349							
ENA	**Nanau**	**1.09**	**349**	*e*	P	**Pb**	**10 33 34.4**	**-0.3**
	baz=349							
ENA				*e*	S	**Sn**	**10 33 48.1**	**-0.5**
	baz=349							
SMLT	**Sun Moon Lake**	**1.12**	**298**	*e*	P	**Pb**	**10 33 35.3**	**+0.1**
	baz=307							
SMLT				*e*	S	**Sn**	**10 33 49.2**	**-0.2**
	baz=307							
STYT	**Tauyuan**	**1.14**	**261**	*e*	P	**Pn**	**10 33 35.2**	**+0.4**
	baz=255							
STYT				*e*	S	**Sb**	**10 33 48.7**	**-1.2**
	baz=255							
TYC	**Yuchr**	**1.17**	**298**	*e*	P	**Pb**	**10 33 35.9**	**0.0**
	baz=299							
TYC				*e*	S	**Sn**	**10 33 51.2**	**+0.9**
	baz=299							
TDCB	**Techi**	**1.17**	**320**	P		**Pb**	**10 33 36.2**	**+0.1**
	baz=320							
TDCB				*e*	S	**Sb**	**10 33 50.0**	**-0.9**
	baz=320							
EOS1	**EOS1**	**1.20**	**6**	*e*	P	**Pb**	**10 33 36.5**	**+0.1**
	baz=17							
EOS1				*e*	S	**Sn**	**10 33 51.6**	**+0.6**
	baz=17							
NNSB	**Datong**	**1.20**	**333**	*e*	P	**Pb**	**10 33 36.4**	**-0.2**
	baz=333							
NNSB				*e*	S	**Sb**	**10 33 50.6**	**-1.2**
	baz=333							
ECL	**Taimali**	**1.21**	**232**	*e*	P	**Pn**	**10 33 34.9**	**-0.8**
	baz=231							
ECL				*e*	S	**Sn**	**10 33 49.5**	**-1.8**
	baz=231							
NNS	**Nan Shan**	**1.22**	**333**	*e*	P	**Pb**	**10 33 37.0**	**+0.1**
	baz=333							
NNS				*e*	S	**Sn**	**10 33 51.6**	**-0.2**
	baz=333							
CHN5	**Tsauling**	**1.22**	**282**	*e*	P	**Pb**	**10 33 37.5**	**+0.7**
	baz=289							
CHN5				*e*	S	**Sb**	**10 33 53.7**	**+1.5**
	baz=289							
WJS	**Zhushan**	**1.24**	**292**	*e*	P	**Pb**	**10 33 38.1**	**+1.0**
	baz=292							
TPUB	**Ta-pu**	**1.24**	**268**	*e*	P	**Pn**	**10 33 37.5**	**+0.4**
	baz=268							
TPUB				*e*	S	**Sb**	**10 33 53.4**	**+0.6**
	baz=268							
TWC	**Suao**	**1.26**	**355**	*e*	P	**Pb**	**10 33 37.4**	**0.0**
	baz=355							
TWC				*e*	S	**Sb**	**10 33 52.8**	**-0.4**
	baz=355							
WTP	**Ta-pu**	**1.26**	**266**	*e*	P	**Pb**	**10 33 37.8**	**+0.4**
	baz=258							
WTP				*e*	S	**Sb**	**10 33 54.1**	**+0.8**
	baz=258							
CHN4	**Tsaushan**	**1.27**	**270**	*e*	P	**Pb**	**10 33 38.2**	**+0.5**
	baz=270							
CHN4				*e*	S	**Sb**	**10 33 55.5**	**+1.8**
	baz=270							
SLGT	**Liugui**	**1.28**	**254**	*e*	P	**Pb**	**10 33 37.6**	**-0.2**
	baz=258							
SLGT				*e*	S	**Sn**	**10 33 52.9**	**-0.2**
	baz=258							
WNT	**Mingjian**	**1.30**	**294**	*e*	P	**Pb**	**10 33 39.4**	**+1.2**
	baz=294							
SGST	**Jiashian**	**1.31**	**259**	*e*	P	**Pb**	**10 33 38.7**	**+0.3**
	baz=255							
SGST				*e*	S	**Sb**	**10 33 55.2**	**+0.4**
	baz=255							
ENTT	**Nioudou**	**1.34**	**344**	*e*	P	**Pb**	**10 33 38.5**	**-0.3**
	baz=344							
ENTT				*e*	S	**Sb**	**10 33 54.5**	**-1.0**
	baz=344							
CHN1	**Nanshi**	**1.34**	**263**	*e*	P	**Pb**	**10 33 39.3**	**+0.4**
	baz=257							
CHN1				*e*	S	**Sb**	**10 33 57.1**	**+1.3**
	baz=257							
LAY	**Lan-yu**	**1.36**	**197**	*e*	P	**Pn**	**10 33 37.1**	**-0.7**
	baz=196							
WDLH	**Douliu**	**1.37**	**285**	*e*	P	**Pb**	**10 33 40.5**	**+1.3**
	baz=284							
TWK	**Hsinying**	**1.37**	**267**	*e*	P	**Pb**	**10 33 39.9**	**+0.4**
	baz=267							
TWK				*e*	S	**Sb**	**10 33 57.5**	**+0.9**
	baz=267							
SSD	**Sandimen**	**1.38**	**244**	*e*	P	**Pn**	**10 33 38.5**	**+0.4**
	baz=237							
TWE	**Neicheng**	**1.39**	**348**	*e*	P	**Pb**	**10 33 39.3**	**-0.4**
	baz=349							
TWE				*e*	S	**Sb**	**10 33 56.1**	**-1.0**
	baz=349							
EAST	**Anshuo**	**1.42**	**228**	*e*	P	**Pn**	**10 33 38.0**	**-0.7**
	baz=236							
YHNB	**Yeheng**	**1.43**	**337**	*e*	P	**Pb**	**10 33 40.0**	**-0.3**
	baz=337							
YHNB				*e*	S	**Sn**	**10 33 55.4**	**-1.4**
	baz=337							
NSK	**Sanguang**	**1.44**	**337**	*e*	P	**Pb**	**10 33 40.2**	**-0.3**
	baz=347							
MASBT	**Mashibuluo**	**1.44**	**240**	*e*	P	**Pn**	**10 33 39.3**	**+0.3**
	baz=233							
MASBT				*e*	S	**Sn**	**10 33 56.3**	**-0.8**
	baz=233							
YOJ	**Yonaguni jima**	**1.45**	**40**	P		**Pb**	**10 33 40.9**	**+0.2**
YOJ				*e*	S	**Sb**	**10 33 58.7**	**-0.1**
TWQ1	**Liyutan**	**1.48**	**312**	*e*	P	**Pb**	**10 33 41.9**	**+0.6**
	baz=313							
TWQ1				*e*	S	**Sb**	**10 34 00.8**	**+1.0**
	baz=313							
WCHH	**Zhanghua**	**1.49**	**299**	*e*	P	**Pb**	**10 33 42.1**	**+0.7**
	baz=299							
NSY	**Sanyi**	**1.54**	**314**	*e*	P	**Pb**	**10 33 42.9**	**+0.7**
	baz=314							
NSTT	**Nanjuang**	**1.56**	**325**	*e*	S	**Sb**	**10 34 01.5**	**-0.3**
	baz=335							
LIOB	**Emei**	**1.56**	**326**	*e*	P	**Pb**	**10 33 42.9**	**+0.3**
	baz=309							
SCZT	**Fangliau**	**1.59**	**232**	*e*	P	**Pn**	**10 33 41.7**	**+0.8**
	baz=225							
CHN8	**Yiju**	**1.63**	**270**	*e*	P	**Pb**	**10 33 43.4**	**-0.3**
	baz=270							
CHN8				*e*	S	**Sb**	**10 34 04.6**	**+0.8**
	baz=270							
HATJ	**Hateruma jima**	**1.81**	**67**	P		**Pn**	**10 33 44.6**	**+0.6**
HATJ				S		**Sn**	**10 34 06.0**	**-0.3**
IRIF	**Iriomote-Funau**	**1.88**	**58**	P		**Pn**	**10 33 46.2**	**+1.3**
IRIF				*e*S		**Sn**	**10 34 08.6**	**+0.8**
JKRS	**Kuro-shima**	**2.06**	**64**	P		**Pn**	**10 33 48.4**	**+1.0**
JKRS				*e*S		**Sn**	**10 34 12.6**	**+0.3**
JIJ	**Ishigaki jima**	**2.22**	**63**	P		**Pn**	**10 33 50.4**	**+0.7**
JIJ				S		**Sn**	**10 34 15.7**	**-0.7**
JISG	**Ishigakijimahi**	**2.46**	**60**	P		**Pn**	**10 33 53.3**	**+0.3**
JISG				S		**Sn**	**10 34 21.7**	**-0.6

NACB	**Ninganchiao**	**1.13 234**	*i* P		**Pb**	**10 46 45.5**	**-0.1**
	baz=233							
NSK	**Sanguang**	**1.14 262**	*e*P		**Pg**	**10 46 45.3**	**-1.1**
	baz=262							
NNSB	**Datong**	**1.18 250**	*e*P		**Pn**	**10 46 46.8**	**+0.4**
	baz=250							
NNS	**Nan Shan**	**1.19 250**	*e*P		**Pn**	**10 46 46.7**	**+0.3**
	baz=250							
TWD	**Chiawan**	**1.19 230**	*e*P		**Pn**	**10 46 46.9**	**+0.5**
	baz=229							
HATJ	**Hateruma jima**	**1.35 125**	P		**Pn**	**10 46 47.0**	**-1.6**
WHF	**Hehuan Shan**	**1.40 240**	*e*P		**Pb**	**10 46 50.3**	**-0.1**
	baz=240							
TDCB	**Techi**	**1.44 246**	*e*P		**Pb**	**10 46 50.9**	**0.0**
	baz=246							
LIOB	**Emei**	**1.45 262**	*e*P		**Pg**	**10 46 51.6**	**-0.7**
	baz=263							
JIJ	**Ishigaki jima**	**1.49 109**	P		**Pn**	**10 46 50.3**	**-0.1**
JIJ			*e*S		**Sn**	**10 47 07.6**	**-1.9**
CHGB	**Renai**	**1.52 239**	*e*P		**Pb**	**10 46 52.3**	**0.0**
	baz=239							
JISG	**Ishigakijimahi**	**1.58 99**	S		**Sn**	**10 47 09.8**	**-2.0**
VWDT	**VWDT**	**1.72 231**	*e*P		**Pn**	**10 46 54.1**	**+0.5**
	baz=230							
TWQ1	**Liyutan**	**1.73 254**	*e*P		**Pb**	**10 46 55.1**	**-0.8**
	baz=253							
SMLT	**Sun Moon Lake**	**1.82 239**	*e*P		**Pb**	**10 46 57.4**	**-0.1**
	baz=238							
YULB	**Yu-li**	**1.87 220**	*e*P		**Pb**	**10 46 57.1**	**-1.1**
	baz=219							
CHN5	**Tsauling**	**2.15 235**	*e*P		**Pn**	**10 47 01.3**	**+1.6**
	baz=234							
TWK	**Hsinying**	**2.49 231**	*e*P		**Pn**	**10 47 05.7**	**+1.3**
	baz=230							
CHN1	**Nanshi**	**2.52 229**	*e*P		**Pn**	**10 47 06.2**	**+1.5**
	baz=228							
SGST	**Jiashian**	**2.55 227**	*e*P		**Pn**	**10 47 06.6**	**+1.5**
	baz=226							
WRA	**Warramunga Arr**	**45.96 165**	P		**P**	**10 54 47.8**	**+0.9**
	0.4nm,0.9s,baz=345,slow=8.1,SNR=3.2							

IDC ***23*** *10:46:35.3±1.5,23˚.02N×121˚.86E,h0km,mb3.4/3, mb1 3.6/4,mb1mx3.4/45,mbtmp3.5/4,ML3.2/1,MS3.5/1, Ms1 3.5/1,ms1mx2.6/29,Error ellipse: s-maj=75.9km s-min=24.9km az=69.0*

ISCJB ***23*** *10:46:50.1±0.8,24˚.83N±0˚.05×122˚.51E±0˚.04,h10km, mb3.3/2,MS3.5/1,Error ellipse: s-maj=7.9km s-min=5.3km az=13.6*

TAP ***23*** *10:46:51.4,24˚.70N×122˚.48E,h20km±1km,ML3.2,C*

ISC 23 10:46:50.5±1.0,**24˚.78N**±0˚.06×**122˚.50E**±0˚.04,**h10**km,**n12,** σ0**s80/13,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.41 235**		P		**Pb**		**10 46 59.2**	**-0.6**
	baz=237								
EOS1					*e*S		**Sb**	**10 47 05.2**	**-0.8**
	baz=237								
TWB1	**Santiao Chiao**	**0.51 296**		*e*P		**Pg**		**10 46 59.8**	**-0.7**
	baz=304								
YOJ	**Yonaguni jima**	**0.57 124**		*e*P		**Pg**		**10 47 01.8**	**+0.2**
	baz=116								
YOJ					*e*S		**Sb**	**10 47 10.0**	**-0.7**
	baz=116								
NTC	**Toucheng**	**0.61 277**		*e*P		**Pg**		**10 47 03.3**	**+1.0**
	baz=285								
TWC	**Suao**	**0.61 254**		*e*P		**Pg**		**10 47 02.7**	**+0.3**
	baz=260								
TWC					*e*S		**Sg**	**10 47 11.2**	**+0.7**
	baz=260								
TIPB	**Shuangxi**	**0.64 287**		*e*P		**Pg**		**10 47 02.5**	**-0.4**
	baz=294								
TWE	**Neicheng**	**0.76 265**		*e*P		**Pg**		**10 47 05.9**	**+0.8**
	baz=272								
PCYT	**Pengchaiyu**	**0.93 336**		*e*P		**Pg**		**10 47 08.6**	**+0.3**
	baz=338								
KSRS	**Korea Array**	**13.45 19**		Pn		**P**		**10 50 12.0**	**+1.1**
	0.1nm,0.3s,baz=197,slow=12,SNR=4.7								
SONM	**Songino Array**	**26.30 335**		P		**P**		**10 52 25.5**	**-0.9**
	0.2nm,0.4s,baz=157,slow=7.8,SNR=3.0								
MKAR	**Makanchi Array**	**38.75 315**		P		P		10 54 08.2	-6.9
	0.7nm,0.5s,baz=160,slow=14,SNR=9.5								
GEYT	**Alibeck**	**55.53 300**		LR		LR		11 24 24.2	
	comp=Z,38nm,18.2s,baz=235,slow=41								

TAP ***23*** *10:48:59.9,24˚.90N×122˚.57E,h2km,ML3.5,D*

ISCJB ***23*** *10:49:00.3±0.7,24˚.91N±0˚.04×122˚.63E±0˚.02,h10km±5km, mb3.5/5,MS3.4/6,Error ellipse: s-maj=6.3km s-min=3.1km az=21.1*

IDC ***23*** *10:49:01.2±1.1,24˚.58N×121˚.96E,h0km,mb3.6/6, mb1 3.7/7,mb1mx3.6/45,mbtmp3.7/7,ML2.1/1,MS3.4/8, Ms1 3.4/8,ms1mx3.0/46,Error ellipse: s-maj=44.9km s-min=19.5km az=81.0*

JMA ***23*** *10:49:02.8±0.3,24˚.74N×122˚.61E,h37km,M3.0*

ISC 23 10:49:00.8±1.2,**24˚.90N**±0˚.04×**122˚.61E**±0˚.03,**h6**km±9km, **n73,**σ1**s08/68,mb3.5/5,MS3.4/6,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.54 145**		P		**Pg**		**10 49 12.5**	**+1.3**
JYNG					*e*S		**Sg**	**10 49 17.9**	**-0.3**
EOS1	**EOS1**	**0.55 232**		*i* P		**Pg**		**10 49 11.2**	**-0.3**
	baz=228								
EOS1					S		**Sg**	**10 49 19.5**	**+0.8**
	baz=228								
YOJ	**Yonaguni jima**	**0.57 139**		*i* P		**Pg**		**10 49 12.2**	**+0.5**
	baz=136								
YOJ					S		**Sb**	**10 49 22.2**	**+0.7**
	baz=136								
YOJ	**Yonaguni jima**	**0.57 139**		P		**Pg**		**10 49 12.6**	**+0.8**
YOJ					*e*S		**Sg**	**10 49 19.3**	**+0.1**
TWB1	**Santiao Chiao**	**0.57 281**		*i* P		**Pg**		**10 49 11.1**	**-0.8**
	baz=281								
TWB1					S		**Sg**	**10 49 20.6**	**+1.3**
	baz=281								
EGS		**0.61 265**		*e*P		**Pg**		**10 49 12.4**	**-0.3**
	baz=264								
NTC	**Toucheng**	**0.71 267**		*e*P		**Pg**		**10 49 14.5**	**+0.1**
	baz=266								
TWC	**Suao**	**0.74 248**		*e*P		**Pg**		**10 49 14.0**	**-1.2**
	baz=245								
NWF	**Wu-fen Shan**	**0.77 283**		*e*P		**Pg**		**10 49 15.1**	**-0.5**
	baz=283								
WFSB	**Wu-fen Shan**	**0.77 283**		*e*P		**Pg**		**10 49 15.2**	**-0.4**
	baz=283								
ILA	**Ilan**	**0.79 261**		*e*P		**Pg**		**10 49 15.7**	**-0.3**
	baz=259								
TWE	**Neicheng**	**0.87 259**		*e*P		**Pg**		**10 49 16.9**	**-0.7**
	baz=257								
PCYT	**Pengchaiyu**	**0.88 327**		*e*P		**Pg**		**10 49 17.9**	**+0.2**
	baz=328								
NANB	**Nanao**	**0.91 239**		*e*P		**Pg**		**10 49 17.8**	**-0.5**
	baz=237								
ENA	**Nanau**	**0.91 240**		*e*P		**Pg**		**10 49 17.9**	**-0.5**
	baz=237								
YM07	**YM07**	**0.94 288**		*e*P		**Pb**		**10 49 18.4**	**-1.1**
	baz=287								
YM08	**YM08**	**0.97 288**		*e*P		**Pb**		**10 49 19.2**	**-0.8**
	baz=288								
YM01	**YM01**	**0.97 285**		*e*P		**Pb**		**10 49 19.4**	**-0.7**
	baz=285								
YM11	**YM11**	**0.97 286**		*e*P		**Pb**		**10 49 19.7**	**-0.5**
	baz=286								
ENTT	**Nioudou**	**0.98 255**		*e*P		**Pb**		**10 49 19.1**	**-1.1**
	baz=254								
YM05	**YM05**	**0.98 286**		*e*P		**Pb**		**10 49 19.6**	**-0.7**
	baz=286								
YM10	**YM10**	**0.98 286**		*e*P		**Pb**		**10 49 19.2**	**-1.1**
	baz=285								
TWY	**Chenhua**	**0.99 293**		*e*P		**Pb**		**10 49 19.5**	**-0.9**
	baz=293								
YM04	**YM04**	**1.00 285**		*e*P		**Pb**		**10 49 20.2**	**-0.4**
	baz=285								
YM03	**YM03**	**1.01 287**		*e*P		**Pb**		**10 49 19.9**	**-0.8**
	baz=286								
TATO	**Taipei**	**1.02 275**		*e*P		**Pb**		**10 49 20.0**	**-0.8**
	baz=274								
YHNB	**Yeheng**	**1.14 259**		*e*P		**Pb**		**10 49 21.8**	**-1.2**
	baz=258								
YHNB					S		**Sb**	**10 49 38.3**	**+0.2**
	baz=258								
NSK	**Sanguang**	**1.16 259**		*e*P		**Pb**		**10 49 22.1**	**-1.1**
	baz=258								
IRIF	**Iriomote-Funau**	**1.17 118**		P		**Pb**		**10 49 21.9**	**-1.5**
IRIF					*e*S		**Sb**	**10 49 35.7**	**-3.0**
NACB	**Ninganchiao**	**1.17 232**		*e*P		Pn		10 49 22.2	-1.5
	baz=230								
NNSB	**Datong**	**1.21 248**		*e*P		Pn		10 49 23.4	-1.0
	baz=246								
NNS	**Nan Shan**	**1.21 248**		*e*P		**Pn**		**10 49 23.6**	**-0.8**
	baz=246								
NCU	**National Centr**	**1.29 274**		*e*P		**Pn**		**10 49 24.6**	**-0.8**
	baz=273								
ENLB	**Shoufeng**	**1.35 223**		*e*P		**Pn**		**10 49 26.0**	**-0.1**
	baz=221								
HATJ	**Hateruma jima**	**1.38 127**		P		Pn		10 49 24.5	-2.0
WHF	**Hehuan Shan**	**1.43 239**		*e*P		**Pn**		**10 49 27.1**	**-0.6**
	baz=237								
TDCB	**Techi**	**1.47 244**		*e*P		**Pn**		**10 49 27.5**	**-0.5**
	baz=243								
LIOB	**Emei**	**1.47 261**		*e*P		**Pn**		**10 49 28.0**	**+0.1**
	baz=259								
NSTT	**Nanjuang**	**1.48 260**		*e*P		**Pn**		**10 49 27.8**	**-0.2**
	baz=259								
JIJ	**Ishigaki jima**	**1.50 110**		P		**Pn**		**10 49 28.0**	**-0.2**
ESL	**Shilin**	**1.52 225**		*e*P		**Pn**		**10 49 27.9**	**-0.6**
	baz=223								
CHGB	**Renai**	**1.55 238**		*e*P		Pn		10 49 27.8	-1.3
	baz=236								
JISG	**Ishigakijimahi**	**1.58 101**		P		**Pn**		**10 49 28.9**	**-0.5**
JISG					S		**Sn**	**10 49 47.6**	**-2.5**
EGFH	**Guangfu**	**1.63 222**		*e*P		**Pn**		**10 49 29.9**	**-0.1**
	baz=220								
VWDT	**VWDT**	**1.75 230**		*e*P		**Pn**		**10 49 32.0**	**+0.3**
	baz=228								
HGSD	**Ruisui**	**1.77 218**		*e*P		**Pn**		**10 49 31.9**	**0.0**
	baz=216								
SMLT	**Sun Moon Lake**	**1.85 237**		*e*P		Pn		10 49 32.2	-1.1
	baz=236								
SSLB	**Suanglung**	**1.87 234**		*e*P		**Pn**		**10 49 33.2**	**-0.1**
	baz=233								
TYC	**Yuchr**	**1.88 239**		*e*P		Pn		10 49 31.0	-2.4
	baz=237								
YULB	**Yu-li**	**1.92 219**		*e*P		**Pn**		**10 49 34.4**	**+0.4**
	baz=217								
TWF1	**Yuli**	**1.95 218**		*e*P		**Pn**		**10 49 34.1**	**-0.3**
	baz=216								
FULB	**Fuli**	**2.07 216**		*e*P		**Pn**		**10 49 35.9**	**-0.2**
	baz=214								
CHN4	**Tsaushan**	**2.40 231**		*e*P		**Pn**		**10 49 39.9**	**-0.7**
	baz=229								
TPUB	**Ta-pu**	**2.40 229**		*e*P		**Pn**		**10 49 41.0**	**+0.2**
	baz=228								
STYT	**Tauyuan**	**2.42 225**		*e*P		**Pn**		**10 49 41.3**	**+0.4**
	baz=223								
WTP	**Ta-pu**	**2.45 228**		*e*P		**Pn**		**10 49 42.0**	**+0.6**
	baz=227								
TWK	**Hsinying**	**2.52 230**		*e*P		**Pn**		**10 49 43.6**	**+1.2**
	baz=229								
MASBT	**Mashibsluo**	**2.90 219**		*e*P		**Pn**		**10 49 48.5**	**+0.9**
	baz=217								
EAST	**Anshuo**	**2.98 213**		*e*P		**Pn**		**10 49 50.1**	**+1.5**
	baz=212								
SCZT	**Fangliau**	**3.10 216**		*e*P		**Pn**		**10 49 51.2**	**+0.9**
	baz=215								
KSRS	**Korea Array**	**13.32 19**		Pn		**P**		**10 52 19.2**	**-1.1**
	0.0nm,0.3s,baz=196,slow=11,SNR=3.6								
KSRS						LR	LR	10 58 14.9	
	comp=Z,123nm,20.0s,baz=199,slow=40								
DAV	**Davao City (W)**	**17.95 170**		LR		LR		10 59 54.8	
	comp=Z,73nm,21.5s,baz=328,slow=37								
USRK	**Ussuriysk Ar.**	**20.72 19**		P		Pn		10 53 48.5	+4.2
	3.8nm,0.8s,baz=202,slow=9.1,SNR=5.0								
KLR	**Kul'dur**	**25.32 14**		P		**P**		**10 54 33.4**	**+5.1**
	2.0nm,0.9s,baz=232,slow=7.1,SNR=3.7								
SONM	**Songino Array**	**26.25 335**		P		**P**		**10 54 37.8**	**+1.0**
	0.6nm,0.7s,baz=133,slow=6.5,SNR=3.6								
SONM						LR	LR	11 05 56.2	
	comp=Z,127nm,21.6s,baz=174,slow=39								
SIJI	**Sorong**	**26.95 161**		LR		LR		11 02 49.2	
	comp=Z,72nm,21.2s,slow=31								
JAY	**Jayapura**	**32.42 145**		LR		LR		11 05 34.8	
	comp=Z,69nm,20.8s,slow=31								
PETK	**Petropavlovsk-**	**38.56 34**		LR		LR		11 13 20.5	
	comp=Z,39nm,18.4s,baz=267,slow=37								
MKAR	**Makanchi Array**	**38.74 315**		P		**P**		**10 56 25.8**	**-0.1**
	0.5nm,0.5s,baz=103,slow=6.5,SNR=5.2								
WRA	**Warramunga Arr**	**46.01 165**		P		**P**		**10 57 25.0**	**-0.2**
	0.4nm,0.7s,baz=348,slow=8.6,SNR=4.7								
ASAR	**Alice Springs**	**49.50 166**		P		**P**		**10 57 52.6**	**+0.3**
	0.4nm,0.9s,baz=354,slow=8.4,SNR=4.5								
AKASG	**Malin Array Be**	**73.20 318**		LR		LR		11 35 25.6	
	comp=Z,25nm,19.9s,baz=255,slow=38								
GERES	**GERESS Array B**	**83.11 321**		LR		LR		11 39 41.6	
	comp=Z,55nm,19.5s,baz=313,slow=37								

ISCJB ***23*** *10:51:14.4±0.5,24˚.93N±0˚.04×122˚.68E±0˚.02,h17km±4km, mb3.5/5,MS3.5/1,Error ellipse: s-maj=7.2km s-min=2.9km az=17.5*

IDC ***23*** *10:51:14.8±1.2,24˚.43N×121˚.47E,h0km,mb3.5/5, mb1 3.6/6,mb1mx3.5/44,mbtmp3.6/6,ML3.6/1,MS3.5/1, Ms1 3.5/1,ms1mx2.6/40,Error ellipse: s-maj=70.9km s-min=19.4km az=68.0*

TAP ***23*** *10:51:14.7,24˚.86N×122˚.57E,h7km±2km,ML3.4,D*

JMA ***23*** *10:51:16.1±0.3,24˚.80N×122˚.62E,h38km,M2.6*

ISC 23 10:51:14.0±1.2,**24˚.86N**±0˚.04×**122˚.67E**±0˚.02,**h6**km±9km, **n49,**σ0**s98/61,mb3.4/5,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.48 148**		P		**Pn**		**10 51 26.3**	**-1.1**
JYNG					S		**Sb**	**10 51 31.9**	**-0.2**
YOJ	**Yonaguni jima**	**0.51 141**		*i* P		**Pn**		**10 51 26.6**	**-1.2**
	baz=134								
YOJ					S		**Sb**	**10 51 35.0**	**+2.1**
	baz=134								
YOJ	**Yonaguni jima**	**0.51 141**		P		**Pb**		**10 51 26.3**	**+1.0**
EOS1	**EOS1**	**0.58 238**		*i* P		**Pb**		**10 51 25.9**	**-0.6**
	baz=232								
EOS1					S		**Sb**	**10 51 33.8**	**-1.1**
	baz=232								
TWB1	**Santiao Chiao**	**0.63 284**		*e*P		**Pg**		**10 51 25.5**	**-0.7**
	baz=286								
TWB1					*e*S		**Sg**	**10 51 34.0**	**-0.3**
	baz=286								
EGS		**0.67 269**		*e*P		**Pg**		**10 51 27.0**	**+0.2**
	baz=268								
NTC	**Toucheng**	**0.76 270**		*e*P		**Pg**		**10 51 28.6**	**0.0**
	baz=269								
TWC	**Suao**	**0.78 252**		*i* P		**Pg**		**10 51 28.8**	**-0.2**
	baz=249								
TWC					S		**Sg**	**10 51 39.4**	**+0.1**
	baz=249								
NWF	**Wu-fen Shan**	**0.83 285**		*e*P		**Pg**		**10 51 29.2**	**-0.7**
	baz=286								
WFSB	**Wu-fen Shan**	**0.83 285**		*e*P		**Pg**		**10 51 30.3**	**+0.4**
	baz=286								
WFSB					S		**Sb**	**10 51 41.6**	**-0.6**
	baz=286								
TWE	**Neicheng**	**0.92 262**		*e*P		**Pg**		**10 51 31.1**	**-0.5**
	baz=260								
TWE					*e*S		**Sg**	**10 51 43.9**	**+0.4**
	baz=260								
ENA	**Nanau**	**0.94 243**		*e*P		**Pg**		**10 51 31.7**	**-0.4**
	baz=240								
YM07	**YM07**	**1.00 289**		*e*P		**Pg**		**10 51 32.9**	**-0.3**
	baz=290								
ENTT	**Nioudou**	**1.02 258**		*e*P		**Pg**		**10 51 33.3**	**-0.3**
	baz=256								
ENTT					*e*S		**Sb**	**10 51 47.4**	**-0.4**
	baz=256								
YM08	**YM08**	**1.03 289**		*e*P		**Pg**		**10 51 33.9**	**+0.1**
	baz=290								
YM01	**YM01**	**1.03 286**		*e*P		**Pg**		**10 51 33.9**	**0.0**
	baz=287								
YM11	**YM11**	**1.04 287**		*e*P		**Pg**		**10 51 34.1**	**+0.3**
	baz=288								
YM05	**YM05**	**1.04 287**		*e*P		**Pg**		**10 51 34.3**	**+0.3**
	baz=288								
YM10	**YM10**	**1.04 287**		*e*P		**Pb**		**10 51 34.5**	**0.0**
	baz=287								
IRIF	**Iriomote-Funau**	**1.10 118**		P		**Pg**		**10 51 35.3**	**+0.2**
IRIF					*e*S		**Sg**	**10 51 49.2**	**-0.2**
YHNB	**Yeheng**	**1.19 261**		*e*P		**Pb**		**10 51 36.5**	**-0.5**
	baz=260								
NACB	**Ninganchiao**	**1.19 235**		*e*P		**Pb**		**10 51 36.7**	**-0.2**
	baz=232								
NSK	**Sanguang**	**1.20 262**		*e*P		**Pb**		**10 51 35.8**	**-1.4**
	baz=260								
NNSB	**Datong**	**1.24 250**		*e*P		**Pn**		**10 51 37.1**	**-0.9**
	baz=248								
TWD	**Chiawan**	**1.25 232**		*e*P		**Pg**		**10 51 38.2**	**+0.4**
	baz=228								
NNS	**Nan Shan**	**1.25 251**		*e*P		**Pn**		**10 51 36.7**	**-1.4**
	baz=248								
HATJ	**Hateruma jima**	**1.31 127**		P		**Pb**		**10 51 39.1**	**+0.1**
HATJ					*e*S		**Sb**	**10 51 53.8**	**-2.3**
JKRS	**Kuro-shima**	**1.37 117**		P		**Pb**		**10 51 39.8**	**-0.3**
JKRS					*e*S		**Sb**	**10 51 55.4**	**-2.4**
JIJ	**Ishigaki jima**	**1.43 110**		P		**Pn**		**10 51 40.3**	**-0.2**
JIJ					*e*S		**Sn**	**10 51 57.9**	**-1.8**
WHF	**Hehuan Shan**	**1.46 241**		P		**Pb**		**10 51 41.6**	**-0.3**
	baz=239								
TDCB	**Techi**	**1.50 247**		*e*P		**Pb**		**10 51 42.4**	**+0.1**
	baz=245								
LIOB	**Emei**	**1.52 262**		*e*P		**Pg**		**10 51 43.3**	**+0.2**
	baz=261								
JISG	**Ishigakijimahi**	**1.52 100**		P		**Pb**		**10 51 42.3**	**-0.3**
JISG					S		**Sn**	**10 52 00.3**	**-1.5**
ESL	**Shilin**	**1.53 227**		*e*P		**Pb**		**10 51 42.6**	**-0.2**
	baz=224								
CHGB	**Renai**	**1.57 240**		*e*P		**Pb**		**10 51 43.4**	**-0.3**
	baz=238								
VWDT	**VWDT**	**1.77 232**		*e*P		**Pb**		**10 51 46.1**	**-0.8**
	baz=229								
SMLT	**Sun Moon Lake**	**1.88 239**		*e*P		**Pn**		**10 51 46.8**	**0.0**
	baz=237								
TYC	**Yuchr**	**1.90 240**		*e*P		**Pn**		**10 51 47.8**	**+0.8**
	baz=238								
CHN4	**Tsaushan**	**2.42 232**		*e*P		**Pn**		**10 51 54.9**	**+0.8**
	baz=230								
TPUB	**Ta-pu**	**2.42 231**		*e*P		**Pn**		**10 51 54.9**	**+0.7**
	baz=228								
STYT	**Tauyuan**	**2.43 226**		*e*P		**Pn**		**10 51 55.6**	**+1.3**
	baz=224								
WTP	**Ta-pu**	**2.47 230**		*e*P		**Pn**		**10 51 56.0**	**+1.2**
	baz=228								
KSRS	**Korea Array**	**13.33 18**		Pn		**P**		**10 54 37.0**	**+3.4**
	0.3nm,0.3s,baz=199,slow=12,SNR=4.0								
SONM	**Songino Array**	**26.30 335**		P		**P**		**10 56 50.7**	**+0.2**
	0.7nm,0.9s,baz=152,slow=9.9,SNR=4.3								
MKAR	**Makanchi Array**	**38.81 315**		P		**P**		**10 58 38.3**	**-1.3**
	0.9nm,0.7s,baz=102,slow=12,SNR=5.3								
ZALV	**Zalesovo Beam**	**40.43 326**		P		**P**		**10 58 52.2**	**-0.7**
	0.4nm,0.4s,baz=99,slow=8.9,SNR=3.3								
AAK	**Ala-Archa**	**43.18 307**		LR		LR		11 18 41.9	
	comp=Z,59nm,20.1s,baz=43,slow=39								
WRA	**Warramunga Arr**	**45.96 165**		P		**P**		**10 59 38.4**	**+0.4**
	0.5nm,0.6s,baz=347,slow=8.2,SNR=5.4								
ASAR	**Alice Springs**	**49.45 166**		P		**P**		**11 00 05.9**	**+0.7**
	0.1nm,0.3s,baz=342,slow=5.2,SNR=3.0								

ISCJB ***23*** *11:05:06.4±0.5,6˚.00S±0˚.03×131˚.80E±0˚.04,h77km±7km, mb4.5/6,Error ellipse: s-maj=6.6km s-min=4.9km az=176.8*

IDC ***23*** *11:05:06.9±3.1,5˚.92S×131˚.98E,h66km±27km,mb3.7/3, mb1 4.3/6,mb1mx3.7/36,mbtmp4.3/6,ML4.7/4,Error ellipse: s-maj=48.5km s-min=23.4km az=83.0*

NEIC ***23*** *11:05:08.8±1.0,6˚.02S×131˚.89E,h84km±13km,mb4.6/2, Error ellipse: s-maj=16.7km s-min=10.4km az=79.0*

DJA ***23*** *11:05:09.9±0.3,6˚S±2˚×13˚2E±˚,h91km±12km,M4.8/9, mB5.3/6,mb4.6/9,MLv4.9/9,Mw(mB)4.7/6*

ISC 23 11:05:08.5±0.8,**5˚.88S**±0˚.04×**131˚.74E**±0˚.06,**h75**km±12km, **n41,**σ1**s71/49,mb4.5/6,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.14 192**		*e*Pn		**Pn**		**11 05 43.1**	**+0.9**
SAUI					*e*Sn		**Sn**	**11 06 09.0**	**+1.2**
SAUI	**Saumlaki**	**2.14 192**		P		**Pn**		**11 05 45.0**	**+2.8**
SAUI					S		**Sn**	**11 06 12.2**	**+4.4**
BNDI	**Bandanaira**	**2.27 306**		P		**Pn**		**11 05 45.0**	**+1.1**
BNDI					S		**Sn**	**11 06 13.2**	**+2.2**
FAKI	**Fak Fak**	**2.98 10**		*e*Pn		**Pn**		**11 05 54.3**	**+0.8**
FAKI					*e*Sn		**Sn**	**11 06 29.4**	**+1.1**
FAKI	**Fak Fak**	**2.98 10**		P		**Pn**		**11 05 54.4**	**+0.8**
FAKI					S		**Sn**	**11 06 27.8**	**-0.5**
RKPI	**Ransiki, Papua**	**4.97 29**		P		**Pn**		**11 06 22.5**	**+1.7**
SIJI	**Sorong**	**5.00 355**		P		**Pn**		**11 06 20.5**	**-0.6**
	35nm,0.3s,baz=214,slow=3.6,SNR=141								
SIJI					S		**Sn**	**11 07 12.8**	**-4.8**
	39nm,0.3s,baz=30,slow=24,SNR=18								
SWI	**Sorong**	**5.00 355**		P		**Pn**		**11 06 21.3**	**+0.1**
NLAI	**Namlea**	**5.31 299**		P		**Pn**		**11 06 26.4**	**+1.0**
SANI	**Sanana**	**6.88 303**		P		**Pn**		**11 06 46.7**	**-0.1**
	62nm,0.5s,2µm0.4nm								
MTN	**Manton Dam**	**6.95 185**		*e*Pn		**Pn**		**11 06 48.5**	**+0.7**
MTN					*e*Sn		**Sn**	**11 08 03.2**	**-2.1**
SOEI	**Soe**	**8.34 242**		*e*Pn		**Pn**		**11 07 08.4**	**+1.5**
SOEI					*e*Sn		**Sn**	**11 08 36.8**	**-2.9**
SOEI	**Soe**	**8.34 242**		P		**Pn**		**11 07 07.5**	**+0.6**
	30nm,0.8s								
BATI	**Baumata**	**9.08 241**		P		**Pn**		**11 07 18.5**	**+1.6**
	11nm,0.3s,baz=73,slow

KRSC 23 11:11:04.6±2.4, 49°58N×157°17E, h49km±39km, ML4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR				eS	Sn	11 11 41.9	-0.4
PAU	**Pauzhetka**	**1.90**	**353**	eP	Pn	11 11 37.0	+2.5
PAU				eS	Sn	11 12 00.0	+2.8
KDTR	**Khodutka, Kamc**	**2.30**	**14**	eP	Pn	11 11 43.2	+3.2
KDTR				eS	Sn	11 12 11.3	+4.2
MTVR	**Mutnovka**	**2.97**	**12**	eP	Pn	11 11 53.2	+3.9
MTVR				eS	Sn	11 12 28.1	+4.3
RUS	**Russkaya**	**2.98**	**16**	eP	Pn	11 11 52.5	+3.3
RUS				eS	Sn	11 12 27.2	+3.5
KRMR	**Karymshinskiy**	**3.31**	**10**	eP	Pn	11 11 58.2	+4.4
KRMR				eS	Sn	11 12 39.3	+7.5
PET	**Petropavlovsk**	**3.57**	**15**	eS	Sn	11 12 42.9	+4.7
DALK	**Dalny**	**3.59**	**15**	eP	Pn	11 12 01.5	+3.8
DALK				eS	Sn	11 12 43.0	+4.2
UGLR	**Uglovaya**	**3.78**	**15**	eP	Pn	11 12 05.4	+5.1
AVH	**Avacha**	**3.82**	**14**	eP	Pn	11 12 05.9	+5.1
KOK	**Koryaka**	**3.83**	**13**	eP	Pn	11 12 06.1	+5.1
SDLR	**Sedlovina**	**3.85**	**16**	eP	Pn	11 12 05.1	+3.7
SPN	**Mys Shipunski**	**3.95**	**26**	eS	Sn	11 12 52.4	+4.8
GNL	**Ganaly**	**4.15**	**6**	eP	Pn	11 12 09.7	+4.3
MKZ	**Mys Kozlova**	**5.72**	**28**	eP	Pn	11 12 29.9	+3.1
MKZ				eS	Sn	11 13 32.7	+1.6
KBTR	**Krutoberegovo**	**7.46**	**25**	eP	Pn	11 12 53.8	+3.1

*ISK **23** 11:15:37.4, 37°.53N×40°.11E, h5km, ML1.9/3*
*DDA **23** 11:15:37.0, 37°.19N×40°.16E, h6km, Ml2.7*

ISC 23 11:15:36.8±1.9, 37°30N±0°.10×40°14E±0°.05, h2km±18km, n7, σ1°19/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAZI	**Mazidag**	**0.29**	**56**	PG	**Pb**	**11 15 44.1**	**-0.9**
MAZI				SG	**Sb**	**11 15 49.2**	**-1.2**
MARD	**Mardin**	**0.51**	**88**	*i* P	**Pg**	**11 15 47.2**	**+0.6**
MARD				*i* S	**Sb**	**11 15 56.7**	**0.0**
URFA	**Urfa**	**1.06**	**278**	PG	**Pb**	**11 15 58.0**	**0.0**
URFA				SG	**Sn**	**11 16 13.8**	**-0.4**
HANI	**Diyarbakir_Han**	**1.14**	**10**	*i* P	**Pn**	**11 16 00.3**	**+0.4**
HANI				*i* S	**Sn**	**11 16 18.5**	**+2.3**
SVAN	**Silvan-Diyarba**	**1.20**	**44**	*i* P	**Pn**	**11 16 00.8**	**+0.1**
SURC	**SANLIURFA_SURC**	**1.29**	**252**	*i* P	**Pn**	**11 16 01.6**	**-0.4**
SURC				*i* S	**Sb**	**11 16 19.4**	**+0.5**
PTK	**Pertek**	**1.70**	**340**	PN	**Pn**	**11 16 06.2**	**-1.6**

*ISCJB **23** 11:17:33.1±1.1, 36°.5N±0°.2×33°.5W±0°.1, h10km, mb3.8/10, MS3.8/13, Error ellipse: s-maj=35.8km s-min=17.2km az=3.8*
*IDC **23** 11:17:33.5±1.3, 36°.48N×33°.47W, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.7/62, mbtmp3.8/10, MS3.8/13, Ms1 3.8/13, ms1mx3.3/46, Error ellipse: s-maj=46.4km s-min=20.0km az=0.0*

ISC 23 11:17:34.9±1.2, 36°.5N±0°.3×33°.5W±0°.1, h10km, n19, σ0°45/10, mb3.8/10, MS3.8/13, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**23.40**	**73**	P	**P**	**11 22 44.1**	**+0.1**
	1.3nm,0.7s,baz=274,slow=9.3,SNR=8.4						
SCHQ	**Schefferville**	**29.29**	**319**	LR	LR	11 34 02.6	
	comp=Z,407nm,20.9s,baz=112,slow=34						
TORD	**Torodi Ar. Bea**	**39.13**	**117**	P	**P**	**11 25 02.6**	**-0.1**
	0.8nm,0.9s,baz=312,slow=8.3,SNR=3.7						
TORD				LR	LR	11 40 22.3	
	comp=Z,61nm,18.2s,baz=315,slow=35						
DBIC	**Dimbokro**	**39.53**	**132**	LR	LR	11 40 35.2	
	comp=Z,152nm,18.1s,baz=310,slow=35						
PTGA	**Pitinga**	**44.44**	**220**	LR	LR	11 41 12.6	
	comp=Z,48nm,18.9s,baz=334,slow=32						
ULM	**Lac du Bonnet**	**46.10**	**308**	LR	LR	11 44 36.2	
	comp=Z,116nm,18.9s,baz=50,slow=35						
AKASG	**Malin Array Be**	**46.23**	**51**	P	**P**	**11 25 59.5**	**-0.5**
	1.0nm,0.6s,baz=274,slow=7.7,SNR=4.0						
SPITS	**Spitsbergen Ar**	**46.67**	**13**	LR	LR	11 41 46.4	
	comp=Z,61nm,18.2s,baz=25,slow=31						
BRTR	**Keskin Array B**	**51.80**	**65**	P	**P**	**11 26 43.4**	**+0.3**
	1.2nm,0.8s,baz=308,slow=6.1,SNR=4.3						
PDAR	**Pinedale Array**	**57.11**	**302**	P	**P**	**11 27 21.3**	**-0.5**
	1.0nm,0.9s,baz=65,slow=8.4,SNR=6.1						
PDAR				LR	LR	11 51 29.7	
	comp=Z,73nm,18.9s,baz=67,slow=36						
TXAR	**Lajitas Array**	**58.20**	**285**	P	**P**	**11 27 29.9**	**+0.4**
	2.2nm,1.0s,baz=77,slow=6.8,SNR=13						
TXAR				LR	LR	11 51 17.8	
	comp=Z,49nm,19.5s,baz=0.0,slow=35						
AKTO	**Aktyubinsk**	**63.80**	**45**	P	**P**	**11 28 07.3**	**+0.2**
	2.2nm,0.8s,baz=292,slow=7.1,SNR=4.2						
AKTO				LR	LR	11 54 33.7	
	comp=Z,25nm,19.9s,baz=274,slow=35						
NVAR	**Mina Array Bea**	**64.96**	**300**	LR	LR	11 55 17.8	
	comp=Z,59nm,18.8s,baz=19,slow=35						
ILAR	**Eielson Array**	**66.59**	**335**	LR	LR	11 55 42.6	
	comp=Z,115nm,18.1s,baz=171,slow=34						
BVAR	**Borovoye Array**	**69.21**	**39**	P	**P**	**11 28 42.4**	**+0.7**
	0.4nm,0.6s,baz=350,slow=7.3,SNR=2.9						
KURBB	**Kurchatov Arra**	**74.71**	**38**	P	**P**	**11 29 14.5**	**-0.2**
	0.8nm,0.8s,baz=312,slow=6.1,SNR=7.7						
MKAR	**Makanchi Array**	**79.09**	**39**	P	**P**	**11 29 39.2**	**-0.3**
	0.6nm,0.8s,baz=318,slow=4.9,SNR=4.4						
PLCA	**Paso Flores**	**84.02**	**207**	LR	LR	12 06 46.4	
	comp=Z,40nm,18.1s,baz=126,slow=35						
OPO	**Ambohidratompo**	**93.62**	**110**	LR	LR	12 12 50.2	
	comp=Z,129nm,19.0s,baz=182,slow=35						

IDC 23 11:24:02.8±6.1, 27°11S×141°12E, h0km, mb1 2.8/3, mb1mx2.7/29, mbtmp2.5/3, ML2.4/3, Error ellipse: s-maj=132.3km s-min=27.1km az=65.0, Queensland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**4.77**	**175**	Pn	Pn	11 25 16.0	+0.1
	0.1nm,0.3s,baz=0.0,slow=14,SNR=1.9						
STKA				Sn	Sn	11 26 12.8	+0.8
	0.2nm,0.3s,baz=69,slow=23,SNR=3.1						
ASAR	**Alice Springs**	**7.37**	**296**	Pn	Pn	11 25 51.5	-0.3
	0.1nm,0.3s,baz=121,slow=13,SNR=8.5						
WRA	**Warramunga Arr**	**9.46**	**318**	Pn	Pn	11 26 20.7	+0.2
	0.1nm,0.3s,baz=138,slow=13,SNR=4.1						

MEX 23 11:27:08.7±1.0, 18°.50N×103°.81W, h10km±12km, MD3.6, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.49**	**115**	eP	Pg	11 27 17.1	-1.1
MMIG				eS	Sg	11 27 24.8	+0.1
R15V		**0.69**	**346**	eP	Pg	11 27 19.5	-2.5
R15V				eS	Sg	11 27 28.8	-2.3
EZ5V		**1.00**	**11**	eP	Pg	11 27 25.3	-2.7
EZ5V				*i* S	Sg	11 27 38.0	-2.9
CJM	**Chamela**	**1.53**	**311**	eP	Pn	11 27 33.6	-2.5
CJM				*i* S	Sn	11 27 52.6	-3.6

IDC 23 11:30:19.8±2.7, 11°.02S×162°.77E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/42, mbtmp3.6/4, ML4.1/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/24, Error ellipse: s-maj=49.6km s-min=37.6km az=94.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.19**	**299**	Pn	Pn	11 31 11.8	+0.5
	21nm,0.3s,baz=170,slow=11,SNR=6.3						
HNR				Sn	Sn	11 31 51.0	+0.9
	65nm,0.3s,baz=176,slow=23,SNR=10						
HNR				LR	LR	11 32 34.2	
	comp=Z,144nm,21.7s,baz=128,slow=42						
HNR	**Honiara**	**3.19**	**299**	eP	Pn	11 31 13.0	+1.7
HNR				eS	Sn	11 31 52.0	+1.9
WRA	**Warramunga Arr**	**28.76**	**249**	P	P	11 36 19.4	0.0
	0.3nm,0.6s,baz=79,slow=9.2,SNR=7.1						
ASAR	**Alice Springs**	**30.21**	**242**	P	P	11 36 32.2	-0.1
	0.3nm,0.7s,baz=66,slow=9.7,SNR=3.7						
SONM	**Songino Array**	**76.94**	**325**	P	P	11 42 14.3	0.0
	0.7nm,0.8s,baz=129,slow=4.1,SNR=3.4						

*DDA **23** 11:38:01.9, 38°.18N×38°.15E, h7km, Ml2.5, Suspected Mining explosion.*
*ISCJB **23** 11:38:03.4±0.7, 38°.26N±0°.04×38°.16E±0°.04, h0km, Error ellipse: s-maj=5.9km s-min=4.3km az=40.9*
*ISK **23** 11:38:03.0, 38°.29N×38°.13E, h5km, ML1.5/3, Suspected Mining explosion.*

ISC 23 11:38:02.3±1.1, 38°25N±0°.05×38°20E±0°.05, h0km, n7, σ0°39/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.22**	**283**	*i* P	**Pg**	**11 38 07.0**	**+0.4**
AKCD				*i* S	**Sg**	**11 38 09.5**	**0.0**
DARE	**Darende-Malaty**	**0.65**	**300**	PG	**Sg**	**11 38 14.9**	**+0.1**
DARE				SG	**Sg**	**11 38 23.3**	**+0.2**
HEKM	**Malatya_Hekimh**	**0.66**	**344**	*i* P	**Pg**	**11 38 15.8**	**+0.8**
HEKM				*i* S	**Sb**	**11 38 26.0**	**-0.6**
URFA	**Urfa**	**0.94**	**148**	PG	**Pn**	**11 38 22.8**	**-0.2**
URFA				SG	**Sn**	**11 38 37.2**	**0.0**
KEMA	**Kemaliye**	**1.05**	**13**	*i* P	**Pg**	**11 38 22.8**	**+0.4**
KEMA				*i* S	**Sn**	**11 38 39.2**	**-0.5**
PTK	**Pertek**	**1.14**	**55**	PN	**Pn**	**11 38 25.5**	**-0.2**
PTK				SN	**Sn**	**11 38 42.2**	**+0.1**
CUKAN	**kangal_SIVAS**	**1.21**	**332**	*i* P	**Pn**	**11 38 26.6**	**-0.1**
CUKAN				*i* S	**Sn**	**11 38 43.8**	**-0.1**

*IDC **23** 12:02:01.8±1.2, 1°.89N×96°.55E, h0km, mb4.0/9, mb1 4.1/11, mb1mx3.9/40, mbtmp4.0/11, ML3.8/2, MS3.6/6, Ms1 3.6/6, ms1mx3.1/43, Error ellipse: s-maj=31.7km s-min=18.3km az=48.0*
*ISCJB **23** 12:02:04.6±0.7, 1°.95N±0°.06×96°.54E±0°.07, h28km, mb4.0/10, MS3.7/4, Error ellipse: s-maj=11.1km s-min=7.4km az=142.4*
*DJA **23** 12:02:05.5±2.9, 2°N±5°×9°7E±°, h17km±28km, M4.1/9, mb4.3/3, MLv3.9/9*

ISC 23 12:02:06.7±0.9, 1°96N±0°.06×96°60E±0°.08, h28km, n31, σ0°99/23, mb4.0/10, MS3.7/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.52**	**329**	P	**Pn**	**12 02 18.5**	**+0.2**
GSI	**Gunungsitoli**	**1.17**	**124**	P	**Pn**	**12 02 26.9**	**-0.4**
TPTI		**1.42**	**24**	P	**Pn**	**12 02 29.3**	**-1.3**
KCSI	**Kotacane, Aceh**	**1.94**	**37**	P	**Pn**	**12 02 36.9**	**-1.0**
MLSI	**Meulaboh, Aceh**	**2.30**	**355**	P	**Pn**	**12 02 41.9**	**-0.9**
PSI	**Prapat**	**2.47**	**70**	Pn	**Pn**	**12 02 43.6**	**-1.7**
PSI	2.7nm,0.3s,baz=354,slow=0.9,SNR=6.0			Sn	**Sn**	**12 03 15.6**	**+1.0**
	5.6nm,0.3s,baz=360,slow=18,SNR=6.9			LR	LR	12 03 34.6	
PSI	comp=Z,440nm,21.8s,baz=270,slow=37						
PBSI	**Pulau Batu**	**2.61**	**140**	P	**Pn**	**12 02 47.1**	**0.0**
MNSI	**Mandailing Nat**	**3.20**	**111**	P	**Pn**	**12 02 55.1**	**-0.1**
LHMI	**Lhok Sumawe**	**3.27**	**6**	P	**Pn**	**12 02 55.1**	**-1.0**
TRTT	**Trang**	**6.60**	**28**	P	Pb	12 03 52.7	-8.1
KRAB	**Krabi**	**6.74**	**22**	P	**Pb**	**12 04 05.7**	**+2.5**
PBKT	**Sadao Pong**	**15.14**	**16**	P	**P**	**12 05 43.8**	**+0.1**
	4.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**16.55**	**8**	Pn	**Pn**	**12 05 58.0**	**+1.0**
	0.4nm,0.3s,baz=197,slow=12,SNR=24						
CMAR				LR	LR	12 12 20.4	
	comp=Z,117nm,18.2s,baz=207,slow=37						
H08S2	**Diego Garcia H**	**25.87**	**248**	T	T	12 34 23.4	
	baz=69,slow=76,SNR=602						
H08S3	**Diego Garcia H**	**25.87**	**248**	T	T	12 34 26.4	
	baz=69,slow=76,SNR=2117						
H08S1	**Diego Garcia H**	**25.89**	**248**	T	T	12 34 29.6	
	baz=69,slow=76,SNR=420						
GTA	**Gaotai**	**37.39**	**4**	eP	**P**	**12 09 16.6**	**-0.8**
GTA				pP	pP	12 09 20.8	-4.9
GTA				sP	sP	12 09 24.0	-5.1
GTA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
H01W3	**Cape Leeuwin H**	**40.17**	**157**	T	T	12 52 22.7	
	baz=332,slow=76,SNR=30						
H01W2	**Cape Leeuwin H**	**40.19**	**157**	T	T	12 52 35.5	
	baz=332,slow=76,SNR=40						
H01W1	**Cape Leeuwin H**	**40.19**	**157**	T	T	12 52 24.4	
	baz=332,slow=76,SNR=26						
WRA	**Warramunga Arr**	**42.95**	**122**	P	**P**	**12 10 02.6**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=301,slow=9.2,SNR=17						
ASAR	**Alice Springs**	**44.33**	**127**	P	**P**	**12 10 14.5**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=299,slow=8.1,SNR=15						
KSRS	**Korea Array**	**45.57**	**35**	P	**P**	**12 10 23.9**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=239,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**46.37**	**346**	P	**P**	**12 10 30.6**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=157,slow=8.9,SNR=15						
MKAR				LR	LR	12 33 51.1	
	comp=Z,48nm,19.3s,baz=156,slow=41						
SONM	**Songino Array**	**46.48**	**9**	P	**P**	**12 10 31.6**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=189,slow=9.6,SNR=5.9						
SONM				LR	LR	12 32 48.3	
	comp=Z,58nm,18.4s,baz=194,slow=40						
MJAR	**Matsushiro Arr**	**51.54**	**43**	P	**P**	**12 11 10.6**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=228,slow=6.3,SNR=4.0						
ZALV	**Zalesovo Beam**	**52.72**	**351**	P	**P**	**12 11 18.5**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=170,slow=6.4,SNR=14						
DZM	**Mont Dzumac**	**72.14**	**114**	LR	LR	12 48 10.7	
	comp=Z,62nm,19.5s,baz=348,slow=38						
FINES	**FINESS Array B**	**79.05**	**333**	P	**P**	**12 14 06.9**	**-1.3**
	comp=Z,0.9nm,0.5s,baz=120,slow=7.5,SNR=4.3						
RPZ	**Rata Peaks**	**80.17**	**135**	LR	LR	12 52 34.2	
	comp=Z,73nm,18.6s,baz=262,slow=38						
ARCES	**ARCESS Array B**	**81.62**	**340**	P	**P**	**12 14 21.9**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=93,slow=5.1,SNR=6.7						

PGC 23 12:13:22.5±3.5, 49°.03N×128°.83W, h10km, MLSn3.0/21, Mw3.7/21, Mw3.7/21, 210km Wsw of Gold R., Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMF	**NEPTUNE Canada**	**1.10**	**189**	P	Pb	12 13 41.0	-2.4
EDB	**Eliza Dome**	**1.40**	**52**	P	Pn	12 13 45.8	-2.3
EDB				S	Sn	12 14 01.4	-5.2
PACB	**Port Alice, BC**	**1.65**	**31**	Pn	Pn	12 13 49.4	-2.2
PACB				Sn	Sn	12 14 07.3	-5.5
WOSB	**Woss**	**1.86**	**52**	Pn	Pn	12 13 52.9	-1.5
WOSB				Sn	Sn	12 14 13.9	-4.1
NCBC	**Barkley Canyon**	**1.86**	**108**	Sn	Sn	12 14 14.8	-3.1
PHC	**Port Hardy**	**1.91**	**28**	Pn	Pn	12 13 53.2	-1.9
PHC				Sn	Sn	12 14 13.8	-5.3
GDR	**Gold River**	**1.98**	**67**	Pn	Pn	12 13 54.1	-1.9
GDR				Sn	Sn	12 14 18.2	-2.6
BTB	**Buttle Lake**	**2.21**	**77**	Pn	Pn	12 13 57.9	-1.5
BTB				Sn	Sn	12 14 22.8	-4.1
NCRB	**Newcastle Ridg**	**2.27**	**52**	Pn	Pn	12 13 59.1	-1.0
NCRB				Sn	Sn	12 14 24.7	-3.5
MWAB	**Mount Washingt**	**2.41**	**72**	Pn	Pn	12 14 01.4	-0.7
MWAB				Sn	Sn	12 14 29.1	-2.6
B928	**Bamfield**	**2.45**	**93**	Pn	Pn	12 14 01.0	-1.4
B928				Sn	Sn	12 14 27.1	-5.2
CBB	**Campbell River**	**2.47**	**65**	Pn	Pn	12 14 01.6	-1.2
CBB				Sn	Sn	12 14 29.7	-3.3
B927	**Port Alberni**	**2.65**	**84**	Pn	Pn	12 14 04.1	-1.0
MGB	**Mount Grey**	**2.73**	**89**	Pn	Pn	12 14 05.0	-1.4
MGB				Sn	Sn	12 14 34.5	-5.0
TXB	**Texada**	**2.95**	**75**	Pn	Pn	12 14 09.0	-0.4
GHNB	**Nanoose**	**3.03**	**83**	Pn	Pn	12 14 10.7	+0.3
B926	**Mesachie Lake**	**3.11**	**92**	Pn	Pn	12 14 10.1	-1.4
B926				Sn	Sn	12 14 44.0	-4.7
NLLB	**Nanaimo Lost L**	**3.19**	**85**	Pn	Pn	12 14 12.6	0.0
NLLB				Sn	Sn	12 14 48.8	-1.9
BBB	**Bella Bella**	**3.19**	**8**	Pn	Pn	12 14 11.9	-0.8
BBB				Sn	Sn	12 14 46.4	-4.3
SHB	**Sechelt**	**3.29**	**78**	Pn	Pn	12 14 13.5	-0.7
LZB	**Mount Lazard**	**3.34**	**95**	Pn	Pn	12 14 13.6	-1.1
LZB				Sn	Sn	12 14 49.9	-4.6
B010	**North Saanich**	**3.58**	**94**	Sn	Sn	12 14 55.5	-4.7
PGC	**Sidney**	**3.58**	**94**	Pn	Pn	12 14 17.1	-0.8
PGC				Sn	Sn	12 14 55.7	-4.5
B011	**North Saanich**	**3.58**	**94**	Pn	Pn	12 14 17.0	-0.9
BCBC	**Bella Coola**	**3.60**	**21**	Pn	Pn	12 14 18.8	+0.6
BCBC				Sn	Sn	12 14 58.6	-2.2
BIB	**Bowen Island**	**3.64**	**82**	Pn	Pn	12 14 18.2	-0.7
BIB				Sn	Sn	12 14 57.5	-4.3
WPB	**Watts Point**	**3.73**	**78**	Pn	Pn	12 14 19.2	-0.9
VDB	**Vedder Mountai**	**4.43**	**88**	Pn	Pn	12 14 29.2	-0.5
A05A	**Maple Falls**	**4.44**	**88**	Pn	Pn	12 14 30.4	+0.6

*NIED **23** 12:16:00, 39°.10N×142°.30E, h47km, Mw3.9 Best double couple: M0 7.17000×10^14 NP1:φ0=238.00000°, δ0=40.00000°, λ=81.00000° NP2:φ0=69.00000°, δ=51.00000°, λ=97.00000°.*
*ISCJB **23** 12:16:46.7±0.8, 39°.09N±0°.04×142°.33E±0°.09, h52km±7km, mb3.7/13, MS3.6/2, Error ellipse: s-maj=11.6km s-min=5.4km az=17.7*
*JMA **23** 12:16:47.6, 39°.15N×142°.31E, h47km±1km, M4.0*
JMA Felt II J1.
*IDC **23** 12:16:48.0±0.8, 39°.04N×142°.48E, h49km±7km, mb3.5/13, mb1 3.8/17, mb1mx3.6/38, mbtmp3.8/17, MS3.3/3, Ms1 3.3/3, ms1mx2.7/36, Error ellipse: s-maj=15.4km s-min=9.6km az=118.0*

ISC 23 12:16:47.5±0.9, 39°09N±0°.04×142°35E±0°.08, h43km±8km, n36, σ1°71/46, mb3.8/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.53**	**269**	P	**Pn**	**12 16 58.7**	**0.0**
OFUJ				S	**Sn**	**12 17 06.5**	**-0.2**
MIYJ	**Miyakonagasawa**	**0.63**	**320**	P	**Pn**	**12 16 59.4**	**-0.7**
MIYJ				S	**Sn**	**12 17 07.9**	**-1.2**
JKMT	**Kesennumamotoy**	**0.74**	**248**	P	**Pn**	**12 17 01.5**	**0.0**
JKMT				S	**Sn**	**12 17 11.3**	**-0.3**
JMK	**Ichinoseki**	**0.89**	**261**	P	**Pn**	**12 17 03.5**	**-0.1**
JMK				S	**Sn**	**12 17 14.8**	**-0.5**
JOM	**Ohasama**	**0.90**	**295**	P	**Pn**	**12 17 03.4**	**-0.4**
JOM				S	**Sn**	**12 17 14.7**	**-0.9**
JTH	**Tanohata**	**0.92**	**336**	P	**Pn**	**12 17 03.2**	**-0.8**
JTH				S	**Sn**	**12 17 15.3**	**-0.8**
JIO	**Ouri**	**1.01**	**231**	P	**Pn**	**12 17 05.2**	**0.0**
JIO				S	**Sn**	**12 17 17.7**	**-0.5**
JKZ	**Kuzumaki**	**1.19**	**319**	P	**Pn**	**12 17 07.5**	**-0.2**
JKZ				S	**Sn**	**12 17 21.9**	**-0.8**
JRG	**Rokugo**	**1.36**	**283**	P	**Pn**	**12 17 10.0**	**-0.1**
JRG				S	**Sn**	**12 17 27.7**	**+0.7**
JANG	**Nango**	**1.43**	**334**	P	**Pn**	**12 17 10.3**	**-0.7**
JOU	**Okura**	**1.50**	**242**	P	**Pn**	**12 17 12.3**	**+0.3**
JYK	**Kaneyama**	**1.56**	**264**	P	**Pn**	**12 17 13.1**	**+0.4**
MAT	**Matsushiro**	**4.15**	**233**	P	**Pn**	**12 17 51.1**	**+2.7**
MAT				eS	**Sn**	**12 18 36.5**	**+0.9**
MJAR	**Matsushiro Arr**	**4.15**	**233**	P	**Pn**	**12 17 48.6**	**+0.3**
	3.8nm,0.3s,baz=38,slow=12,SNR=45						
MJAR				S	**Sn**	**12 18 42.5**	**+6.9**
	0.8nm,0.3s,baz=44,slow=14,SNR=2.7						
ASAJ	**Asahikawa**	**5.02**	**2**	P	**Pn**	**12 18 01.0**	**+0.7**
	3.4nm,0.3s,baz=198,slow=17,SNR=21						
ASAJ				S	**Sn**	**12 19 02.3**	**+5.3**
	1.6nm,0.3s,baz=252,slow=19,SNR=2.5						
ASAJ				LR	LR	12 19 57.3	
	comp=Z,69nm,19.1s,baz=304,slow=37						
JHJ	**Hachijo jima 2**	**6.31**	**200**	P	**Pn**	**12 18 16.9**	**-1.2**
	13nm,0.3s,baz=59,slow=18,SNR=5.6						
JHJ				S	**Sn**	**12 19 24.8**	**-4.0**
	12nm,0.3s,baz=253,slow=19,SNR=4.2						
USRK	**Ussuriysk Ar.**	**9.28**	**307**	P	**Pn**	**12 19 01.2**	**+2.6**
	0.8nm,0.3s,baz=122,slow=13,SNR=10						
SEY	**Seymchan**	**24.63**	**11**	P	**P**	**12 22 03.9**	**+0.3**
	1.7nm,0.8s,baz=1.0,slow=18,SNR=3.7						
SONM	**Songino Array**	**27.31**	**300**	P	**P**	**12 22 28.7**	**+0.5**
	0.2nm,0.5s,baz=78,slow=8.5,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**28.65**	**125**	T	T	12 53 04.8	
	baz=318,slow=75,SNR=1342						
H11N1	**WAKE ISLAND Hy**	**28.66**	**125**	T	T	12 53 06.9	
	baz=318,slow=75,SNR=1103						
H11N3	**WAKE ISLAND Hy**	**28.67**	**125**	T	T	12 53 07.5	
	baz=318,slow=75,SNR=991						
H11S1	**WAKE ISLAND Hy**	**29.44**	**127**	T	T	12 54 03.4	
	baz=319,slow=76,SNR=143						
H11S3	**WAKE ISLAND Hy**	**29.44**	**127**	T	T	12 54 02.0	
	baz=319,slow=76,SNR=148						
H11S2	**WAKE ISLAND Hy**	**29.45**	**127**	T	T	12 54 04.5	
	baz=319,slow=76,SNR=125						
ZALV	**Zalesovo Beam**	**41.10**	**311**	P	**P**	**12 24 26.4**	**-0.5**
	1.1nm,0.5s,baz=88,slow=9.1,SNR=5.3						
CMAR	**Chiang Mai Arr**	**42.75**	**254**	P	**P**	**12 24 40.1**	**-0.6**
	0.4nm,0.3s,baz=57,slow=8.7,SNR=3.5						
CMAR				LR	LR	12 43 57.8	
	comp=Z,46nm,19.3s,baz=210,slow=38						
MKAR	**Makanchi Array**	**43.68**	**300**	P	**P**	**12 24 47.2**	**-0.8**
	0.9nm,0.7s,baz=79,slow=9.8,SNR=6.4						
MKAR				pP	**pP**	**12 25 00.6**	**+0.6**
	0.7nm,0.7s,baz=78,slow=7.1,SNR=3.6						
ILAR	**Eielson Array**	**47.37**	**33**	P	**P**	**12 25 17.3**	**+0.4**
	1.7nm,0.6s,baz=264,slow=6.1,SNR=30						
INK	**Inuvik**	**52.22**	**28**	P	**P**	**12 25 54.2**	**+0.6**
	1.2nm,0.7s,baz=294,slow=4.5,SNR=3.1						
INK				LR	LR	12 49 09.4	
	comp=Z,71nm,18.3s,baz=104,slow=37						
WRA	**Warramunga Arr**	**59.20**	**189**	P	**P**	**12 26 43.1**	**-1.1**

MOBC	**Moresby Island**	**0.41**	**40**	P	Pb	12 35 18.1	-0.1
MOBC				S	Sb	12 35 23.3	-0.8
VIB	**Van Inlet**	**0.43**	**349**	P	Pb	12 35 18.1	-0.4
VIB				S	Sb	12 35 23.6	-1.0
BNB	**Barry Inlet**	**0.47**	**122**	S	Sb	12 35 26.4	+0.6
HG3B	**Hotspring**	**0.64**	**113**	S	Sb	12 35 30.4	0.0
HG4B	**Hotspring**	**0.91**	**126**	P	Pb	12 35 26.4	-0.3
HG4B				S	Sb	12 35 38.4	0.0
RUBB	**Prince Rupert**	**1.97**	**40**	Pn	Pn	12 35 41.3	-0.2
RUBB				Sn	Sn	12 36 06.5	+1.1
BBB	**Bella Bella**	**2.70**	**102**	Pn	Pn	12 35 51.3	-0.2
BBB				Sn	Sn	12 36 21.8	-1.6
BBB				Sg	Sb	12 36 31.0	+1.3
BCBC	**Bella Coola**	**3.48**	**95**	Sn	Sn	12 36 42.1	-0.4
PHC	**Port Hardy**	**3.75**	**123**	Pn	Pn	12 36 04.9	-1.0
PHC				Sn	Sn	12 36 46.3	-3.0
PACB	**Port Alice, BC**	**3.89**	**126**	Sn	Sn	12 36 52.6	-0.1
TLCB	**Telegraph Cove**	**4.15**	**121**	Sn	Sn	12 36 58.3	-0.9
WOSB	**Woss**	**4.52**	**124**	Pn	Pn	12 36 17.7	+1.1
WOSB				Sn	Sn	12 37 09.3	+0.9
FSB	**Fort Saint Jam**	**5.08**	**68**	Pg	Pb	12 36 39.2	+1.6
FSB				Sg	Sb	12 37 45.7	+7.5

NIED ***23*** *12:36:00,37.˚10N×142.˚00E,h32km,Mw4.0 Best double couple: M₀1.20000×10¹⁵ NP1:φ=259.00000°,δ23.00000°, λ146.00000°. NP2:φ=21.00000°,δ77.00000°,λ70.00000°.*
JMA ***23*** *12:36:37.6±0.2,37.˚13N×142.˚00E,h41km±4km,M4.3*
JMA Felt I J1.
IDC ***23*** *12:36:40.3±2.8,37.˚10N×141.˚95E,h36km±23km,mb3.6/14, mb1 3.9/21,mb1mx3.8/50,mbtmp4.0/21,ML3.7/5,MS3.1/8, Ms1 3.1/8,ms1mx2.9/38,Error ellipse: s-maj=19.1km s-min=13.2km az=95.0*

ISC 23 12:36:34.9±1.9, 37.˚10N±0.˚04×142.˚06E±0.˚06, h3km±11km, n51, σ1=66/56, mb3.8/14, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.98**	**286**	P	**Pb**	**12 36 54.5**	**-0.1**
JFK				*eS*	**Sg**	**12 37 05.8**	**-0.7**
ONAJ	**Iwakimizuishiy**	**1.01**	**271**	P	**Pg**	**12 36 54.7**	**+0.5**
JFFD	**Fukushimafurud**	**1.20**	**270**	P	**Pg**	**12 36 57.4**	**-0.5**
JFFD				*eS*	**Sg**	**12 37 11.3**	**-2.1**
JMM	**Marumori**	**1.27**	**308**	P	**Pn**	**12 36 58.5**	**-1.0**
JMM				*eS*	**Sg**	**12 37 13.3**	**-2.3**
JHO	**Hitachi**	**1.29**	**248**	P	**Pn**	**12 36 58.7**	**-1.1**
JFT	**Otama**	**1.44**	**287**	P	**Pn**	**12 37 02.0**	**+0.2**
JFT				*eS*	**Sb**	**12 37 19.4**	**-1.6**
JIO	**Ouri**	**1.47**	**338**	P	**Pn**	**12 37 01.3**	**-0.9**
JIO				*eS*	**Sn**	**12 37 18.3**	**-3.6**
JOU	**Okura**	**1.68**	**319**	P	**Pn**	**12 37 05.3**	**+0.1**
JOU				*eS*	**Sn**	**12 37 25.6**	**-1.7**
JFY	**Yanaizu**	**1.90**	**280**	P	**Pn**	**12 37 08.9**	**+0.6**
JFY				S	**Sn**	**12 37 31.9**	**-0.9**
JYS	**Shirataka**	**1.94**	**306**	P	**Pn**	**12 37 09.3**	**+0.6**
JYS				S	**Sn**	**12 37 32.7**	**-0.9**
JMK	**Ichinoseki**	**1.97**	**341**	P	**Pn**	**12 37 09.2**	**+0.1**
MJAR	**Matsushiro Arr**	**3.14**	**261**	Pn	**Pn**	**12 37 26.3**	**+1.0**
	28nm,0.3s,baz=85,slow=14,SNR=200						
MJAR				Sn	**Sn**	**12 38 04.8**	**+1.5**
	15nm,0.3s,baz=90,slow=28,SNR=5.6						
MJAR				LR	LR	12 38 55.0	
	comp=Z,464nm,19.1s,baz=80,slow=44						
MAT	**Matsushiro**	**3.14**	**261**	P	**Pn**	**12 37 27.2**	**+1.9**
MAT				S	**Sn**	**12 38 04.5**	**+1.2**
JHJ	**Hachijo jima 2**	**4.39**	**206**	Pn	**Pn**	**12 37 43.7**	**+1.4**
	53nm,0.3s,baz=332,slow=21,SNR=36						
JHJ				Sn	**Sn**	**12 38 31.4**	**-2.6**
	131nm,0.3s,baz=253,slow=19,SNR=11						
ASAJ	**Asahikawa**	**7.02**	**3**	Pn	**Pn**	**12 38 19.1**	**+0.6**
	1.5nm,0.3s,baz=230,slow=12,SNR=14						
ASAJ				Sn	**Sn**	**12 39 38.2**	**-0.7**
	0.6nm,0.3s,baz=60,slow=20,SNR=2.7						
ASAJ				LR	LR	12 41 17.2	
	comp=Z,86nm,19.7s,baz=170,slow=39						
JCJ	**Chichijima**	**9.97**	**179**	Pn	**Pn**	**12 38 59.1**	**0.0**
	7.4nm,0.3s,baz=90,slow=21,SNR=6.4						
JCJ				Sn	**Sn**	**12 40 44.3**	**-7.2**
	5.4nm,0.3s,baz=285,slow=20,SNR=4.2						
JNU	**Nakatsue**	**9.98**	**250**	Pn	**Pn**	**12 39 01.6**	**+2.4**
	0.5nm,0.3s,baz=84,slow=6.2,SNR=6.8						
JNU				LR	LR	12 43 03.5	
	comp=Z,60nm,20.7s,baz=106,slow=39						
USRK	**Ussuriysk Ar.**	**10.43**	**316**	Pn	**Pn**	**12 39 08.5**	**+3.2**
	0.3nm,0.3s,baz=124,slow=14,SNR=11						
USRK				LR	LR	12 42 51.1	
	comp=Z,148nm,19.5s,baz=144,slow=36						
KSRS	**Korea Array**	**11.27**	**276**	Pn	**Pn**	**12 39 20.6**	**+3.7**
	0.3nm,0.3s,baz=91,slow=13,SNR=10						
KSRS				LR	LR	12 43 20.5	
	comp=Z,136nm,20.6s,baz=82,slow=36						
KLR	**Kul'dur**	**14.25**	**332**	Pn	**Pn**	**12 39 58.2**	**+0.7**
	0.1nm,0.3s,baz=142,slow=14,SNR=2.9						
KLR				LR	LR	12 45 13.2	
	comp=Z,92nm,20.0s,baz=157,slow=36						
PETK	**Petropavlovsk-**	**19.38**	**29**	LR	LR	12 48 02.0	
	comp=Z,49nm,19.2s,baz=197,slow=35						
YAK	**Yakutsk**	**26.12**	**347**	LR	LR	12 52 23.4	
	comp=Z,36nm,20.9s,baz=118,slow=36						
H11N2	**WAKE ISLAND Hy**	**27.74**	**122**	T	T	13 11 55.4	
	baz=314,slow=75,SNR=57						
H11N1	**WAKE ISLAND Hy**	**27.75**	**122**	T	T	13 11 51.4	
	baz=314,slow=75,SNR=58						
H11N3	**WAKE ISLAND Hy**	**27.76**	**122**	T	T	13 11 49.0	
	baz=314,slow=75,SNR=36						
SONM	**Songino Array**	**28.18**	**304**	P	**P**	**12 42 28.6**	**0.0**
	2.2nm,0.7s,baz=103,slow=9.6,SNR=15						
H11S1	**WAKE ISLAND Hy**	**28.46**	**124**	T	T	13 12 47.4	
	baz=316,slow=76,SNR=102						
H11S3	**WAKE ISLAND Hy**	**28.46**	**124**	T	T	13 12 29.3	
	baz=316,slow=76,SNR=75						
H11S2	**WAKE ISLAND Hy**	**28.48**	**124**	T	T	13 12 50.3	
	baz=316,slow=76,SNR=60						
CMAR	**Chiang Mai Arr**	**42.01**	**256**	P	**P**	**12 44 28.2**	**+0.6**
	0.8nm,0.5s,baz=52,slow=6.7,SNR=4.7						
ZALV	**Zalesovo Beam**	**42.25**	**312**	P	**P**	**12 44 28.8**	**-0.4**
	1.2nm,0.5s,baz=91,slow=8.9,SNR=7.6						
MKAR	**Makanchi Array**	**44.52**	**302**	P	**P**	**12 44 47.3**	**-0.4**
	2.3nm,0.6s,baz=86,slow=9.5,SNR=21						
RAMN	**Ramite**	**47.51**	**274**	*eP*	**P**	**12 45 11.9**	**+0.1**
	9.7nm,0.5s						
JIRN	**Jiri**	**47.53**	**275**	*eP*	**P**	**12 45 12.8**	**+0.8**
	16nm,0.5s						
GUN	**Gumba**	**47.66**	**276**	*eP*	**P**	**12 45 13.5**	**+0.5**
	17nm,0.7s						
PKIN	**Phulchoki**	**48.19**	**276**	*eP*	**P**	**12 45 16.9**	**-0.2**
DMN	**Daman**	**48.41**	**276**	*eP*	**P**	**12 45 18.8**	**+0.1**
DANN	**Dangsing**	**49.15**	**278**	*eP*	**P**	**12 45 24.7**	**+0.2**
	24nm,0.5s						
ILAR	**Eielson Array**	**49.16**	**32**	P	**P**	**12 45 24.8**	**+1.1**
	0.5nm,0.8s,baz=285,slow=7.1,SNR=4.4						
KOLN	**Koldanda**	**49.54**	**277**	*eP*	**P**	**12 45 27.6**	**+0.3**
PYUN	**Piuthan**	**49.87**	**278**	*eP*	**P**	**12 45 29.8**	**-0.1**
	23nm,0.9s						
INK	**Inuvik**	**54.09**	**27**	P	**P**	**12 46 01.9**	**+1.5**
	1.0nm,1.0s,baz=322,slow=2.9,SNR=2.8						
WRA	**Warramunga Arr**	**57.20**	**189**	P	**P**	**12 46 22.9**	**-0.3**
	0.5nm,0.5s,baz=4.3,slow=7.3,SNR=16						
ASAR	**Alice Springs**	**60.93**	**189**	P	**P**	**12 46 50.1**	**+1.0**
	0.4nm,0.8s,baz=15,slow=6.3,SNR=11						
FINES	**FINESS Array B**	**69.00**	**332**	P	**P**	**12 47 40.6**	**-0.6**
	2.9nm,0.8s,baz=49,slow=6.3,SNR=3.6						
NB2	**NORSAR Subarra**	**74.33**	**338**	P	**P**	**12 48 13.3**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**74.33**	**338**	P	**P**	**12 48 13.1**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=39,slow=6.0,SNR=3.3						
NVAR	**Mina Array Bea**	**74.53**	**53**	P	**P**	**12 48 16.1**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=291,slow=7.6,SNR=2.7						
AKASG	**Malin Array Be**	**74.56**	**323**	P	**P**	**12 48 14.4**	**-0.4**
	comp=Z,1.7nm,0.5s,baz=46,slow=5.9,SNR=7.4						
PDAR	**Pinedale Array**	**77.25**	**46**	P	**P**	**12 48 31.8**	**+1.1**
	comp=Z,0.1nm,0.6s,baz=12,slow=9.3,SNR=2.3						
GERES	**GERESS Array B**	**82.93**	**329**	P	**P**	**12 49 01.2**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=46,slow=7.0,SNR=2.5						

ISCJB ***23*** *12:47:38.6±0.5,24.˚89N±0.˚03×122.˚58E±0.˚02,h16km±4km, mb3.6/5,MS3.4/4,Error ellipse: s-maj=4.9km s-min=3.4km az=4.0*
JMA ***23*** *12:47:39.4±0.1,24.˚83N×122.˚58E,h39km±3km,M3.4*
TAP ***23*** *12:47:39.4,24.˚85N×122.˚44E,h7km±1km,ML3.6,D*
IDC ***23*** *12:48:11.5±14.0,25.˚30N×122.˚97E,h359km±176km, mb2.9/6,mb1 3.1/7,mb1mx2.9/36,mbtmp3.7/7,MS3.4/9,*

Ms1 3.4/9,ms1mx3.3/14,Error ellipse: s-maj=62.2km s-min=16.4km az=57.0

ISC 23 12:47:37.5±1.1, 24.˚91N±0.˚04×122.˚59E±0.˚03, h11km±8km, n74, σ=84/85, mb3.6/5, MS3.4/4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.55**	**230**	*eP*	**Pg**	**12 47 48.4**	**+0.2**
	baz=222						
EOS1				*eS*	**Sg**	**12 47 55.8**	**+0.3**
	baz=222						
JYNG	**Yonagunijimaku**	**0.56**	**144**	P	**Pb**	**12 47 50.1**	**+0.8**
TWB1	**Santiao Chiao**	**0.56**	**281**	*eP*	**Pg**	**12 47 48.3**	**-0.1**
	baz=290						
TWB1				*eS*	**Sg**	**12 47 56.0**	**+0.2**
	baz=290						
YOJ	**Yonaguni jima**	**0.58**	**139**	P	**Pb**	**12 47 50.4**	**+0.6**
YOJ				S	**Sb**	**12 47 58.1**	**0.0**
EGS		**0.60**	**264**	*eP*	**Pg**	**12 47 49.6**	**+0.4**
	baz=268						
NTC	**Toucheng**	**0.69**	**266**	*eP*	**Pb**	**12 47 52.0**	**+0.3**
	baz=270						
TWC	**Suao**	**0.74**	**247**	*eP*	**Pg**	**12 47 51.5**	**-0.3**
	baz=245						
TWC				*eS*	**Sg**	**12 48 00.7**	**-0.7**
	baz=245						
NWF	**Wu-fen Shan**	**0.75**	**283**	*eP*	**Pg**	**12 47 52.4**	**+0.3**
	baz=289						
NWF				*eS*	**Sg**	**12 48 02.6**	**+0.6**
	baz=289						
WFSB	**Wu-fen Shan**	**0.75**	**283**	*eP*	**Pg**	**12 47 52.5**	**+0.4**
	baz=289						
WFSB				*eS*	**Sb**	**12 48 02.9**	**-0.1**
	baz=289						
ILA	**Ilan**	**0.78**	**260**	*eP*	**Pg**	**12 47 52.6**	**+0.1**
	baz=261						
TWE	**Neicheng**	**0.86**	**258**	*eP*	**Pg**	**12 47 54.1**	**0.0**
	baz=258						
TWE				S	**Sg**	**12 48 04.3**	**-1.0**
	baz=258						
PCYT	**Pengchaiyu**	**0.86**	**327**	*eP*	**Pn**	**12 47 55.9**	**+0.3**
	baz=337						
NANB	**Nanao**	**0.90**	**238**	*eP*	**Pg**	**12 47 54.5**	**-0.4**
	baz=235						
NANB				*eS*	**Sg**	**12 48 06.1**	**-0.5**
	baz=235						
ENA	**Nanau**	**0.91**	**239**	*eP*	**Pg**	**12 47 54.9**	**-0.1**
	baz=235						
TWA	**Mucha**	**0.92**	**275**	*eP*	**Pg**	**12 47 55.0**	**-0.2**
	baz=279						
YM07	**YM07**	**0.92**	**287**	*eP*	**Pg**	**12 47 55.6**	**+0.3**
	baz=293						
YM07				*eS*	**Sg**	**12 48 07.5**	**+0.2**
	baz=293						
YM08	**YM08**	**0.95**	**287**	*eP*	**Pn**	**12 47 57.0**	**+0.1**
	baz=293						
ENTT	**Nioudou**	**0.97**	**254**	*eP*	**Pg**	**12 47 56.1**	**-0.1**
	baz=254						
ENTT				*eS*	**Sg**	**12 48 08.0**	**-0.8**
	baz=254						
TWY	**Chenhua**	**0.97**	**293**	*eP*	**Pg**	**12 47 56.5**	**+0.3**
	baz=298						
TWS1	**Kuangyinshan**	**1.08**	**281**	*eP*	**Pn**	**12 47 59.1**	**+0.5**
	baz=284						
YHNB	**Yeheng**	**1.13**	**258**	*eP*	**Pb**	**12 47 59.0**	**-0.1**
	baz=259						
YHNB				*eS*	**Sg**	**12 48 13.6**	**-0.3**
	baz=259						
NSK	**Sanguang**	**1.14**	**259**	*eP*	**Pb**	**12 47 59.3**	**-0.1**
	baz=259						
NACB	**Ninganchiao**	**1.16**	**231**	*eP*	**Pb**	**12 47 58.7**	**-1.0**
	baz=228						
NACB				*eS*	**Sb**	**12 48 13.6**	**-1.2**
	baz=228						
IRIF	**Iriomote-Funau**	**1.18**	**118**	P	**Pb**	**12 47 59.8**	**-0.2**
NNSB	**Datong**	**1.20**	**247**	*eP*	**Pb**	**12 48 00.1**	**-0.2**
	baz=246						
NNSB				*eS*	**Sb**	**12 48 15.3**	**-0.6**
	baz=246						
NNS	**Nan Shan**	**1.20**	**248**	*eP*	**Pb**	**12 48 00.2**	**-0.2**
	baz=246						
NNS				*eS*	**Sb**	**12 48 15.2**	**-0.8**
	baz=246						
TWD	**Chiawan**	**1.22**	**228**	*eP*	**Pn**	**12 48 00.4**	**-0.2**
	baz=224						
HATJ	**Hateruma jima**	**1.39**	**127**	P	**Pn**	**12 48 03.0**	**+0.1**
WHF	**Hehuan Shan**	**1.43**	**238**	*eP*	**Pb**	**12 48 04.6**	**+0.2**
	baz=236						
TWT	**Tachien**	**1.44**	**244**	*eP*	**Pb**	**12 48 04.8**	**+0.2**
	baz=242						
JKRS	**Kuro-shima**	**1.45**	**117**	P	**Pn**	**12 48 03.7**	**0.0**
LIOB	**Emei**	**1.46**	**260**	*eP*	**Pb**	**12 48 04.8**	**+0.1**
	baz=260						
LIOB				*eS*	**Sn**	**12 48 21.6**	**-1.4**
	baz=260						
TDCB	**Techi**	**1.46**	**244**	*eP*	**Pb**	**12 48 04.6**	**-0.2**
	baz=242						
NSTT	**Nanjuang**	**1.47**	**260**	*eP*	**Pb**	**12 48 05.5**	**+0.6**
	baz=260						
JIJ	**Ishigaki jima**	**1.51**	**111**	P	**Pn**	**12 48 04.3**	**-0.3**
ESL	**Shilin**	**1.52**	**224**	*eP*	**Pb**	**12 48 05.4**	**-0.3**
	baz=221						
CHGB	**Renai**	**1.54**	**237**	*eP*	**Pb**	**12 48 06.3**	**0.0**
	baz=235						
JISG	**Ishigakijimahi**	**1.59**	**101**	P	**Pn**	**12 48 05.8**	**+0.1**
VWDT	**VWDT**	**1.75**	**229**	*eP*	**Pb**	**12 48 09.0**	**-0.7**
	baz=227						
HGSD	**Ruisui**	**1.77**	**217**	*eP*	**Pn**	**12 48 08.9**	**+0.8**
	baz=214						
EHY	**Hungye**	**1.81**	**220**	*eP*	**Pn**	**12 48 09.6**	**+0.9**
	baz=216						
SMLT	**Sun Moon Lake**	**1.85**	**237**	*eP*	**Pb**	**12 48 11.2**	**-0.2**
	baz=235						
SMLT				*eS*	**Sn**	**12 48 31.4**	**-1.3**
	baz=235						
SSLB	**Suanglung**	**1.86**	**234**	*eP*	**Pb**	**12 48 10.9**	**-0.7**
	baz=231						
SSLB				*eS*	**Sn**	**12 48 32.5**	**-0.5**
	baz=231						
TYC	**Yuchr**	**1.87**	**238**	*eP*	**Pb**	**12 48 11.2**	**-0.5**
	baz=236						
YULB	**Yu-li**	**1.92**	**218**	*eP*	**Pn**	**12 48 09.6**	**-0.6**
	baz=215						
JTJ	**Tarama**	**1.94**	**97**	P	**Pb**	**12 48 11.9**	**-1.0**
TWF1	**Yuli**	**1.95**	**218**	*eP*	**Pn**	**12 48 11.0**	**+0.4**
	baz=214						
FULB	**Fuli**	**2.07**	**215**	*eP*	**Pn**	**12 48 13.0**	**+0.7**
	baz=212						
ALS	**Alishan**	**2.14**	**230**	*eP*	**Pn**	**12 48 15.0**	**+1.5**
	baz=227						
CHN5	**Tsauling**	**2.18**	**234**	*eP*	**Pb**	**12 48 15.7**	**-1.4**
	baz=232						
ELDTW	**Lidau**	**2.23**	**220**	*eP*	**Pn**	**12 48 15.0**	**+0.3**
	baz=217						
TPUB	**Ta-pu**	**2.40**	**229**	*eP*	**Pn**	**12 48 17.9**	**+1.0**
	baz=226						
TPUB				*eS*	**Sn**	**12 48 45.7**	**-0.6**
	baz=226						
STYT	**Tauyuan**	**2.41**	**224**	*eP*	**Pn**	**12 48 18.7**	**+1.7**
	baz=222						
WTP	**Ta-pu**	**2.45**	**228**	*eP*	**Pn**	**12 48 19.6**	**+2.1**
	baz=226						
TWK	**Hsinying**	**2.52**	**230**	*eP*	**Pn**	**12 48 20.3**	**+1.8**
	baz=228						
CHN1	**Nanshi**	**2.55**	**228**	*eP*	**Pn**	**12 48 20.4**	**+1.5**
	baz=226						
ECL	**Taimali**	**2.74**	**213**	*eP*	**Pn**	**12 48 22.9**	**+1.3**
	baz=211						
SSD	**Sandimen**	**2.80**	**220**	*eP*	**Pn**	**12 48 23.8**	**+1.4**
	baz=218						
MASBT	**Mashibuluo**	**2.90**	**219**	*eP*	**Pn**	**12 48 26.0**	**+2.2**
	baz=216						
EAST	**Anshuo**	**2.98**	**213**	*eP*	**Pn**	**12 48 26.0**	**+1.2**
	baz=210						
SCZT	**Fangliau**	**3.10**	**216**	*eP*	**Pn**	**12 48 28.3**	**+1.8**
	baz=213						
SCZT				*eS*	**Sn**	**12 49 03.1**	**-0.5**
	baz=213						
JNU	**Nakatsue**	**10.93**	**40**	LR	LR	12 54 52.5	
	comp=Z,61nm,18.4s,baz=143,slow=38						
KSRS	**Korea Array**	**13.31**	**19**	P	P	12 51 01.9	+5.6
	0.4nm,0.3s,baz=189,slow=12,SNR=15						
KSRS				LR	LR	12 56 45.0	
	comp=Z,324nm,18.4s,baz=200,slow=40						
JHJ	**Hachijo jima 2**	**17.11**	**57**	LR	LR	12 58 10.6	
	comp=Z,54nm,20.7s,baz=40,slow=36						
MJAR	**Matsushiro Arr**	**17.72**	**45**	LR	LR	12 59 23.2	
	comp=Z,108nm,18.2s,baz=255,slow=39						
DAV	**Davao City (W)**	**17.96**	**170**	LR	LR	12 58 32.8	
	comp=Z,152nm,21.7s,baz=334,slow=34						
USRK	**Ussuriysk Ar.**	**20.72**	**19**	P	Pn	12 52 21.0	+0.7
	1.8nm,0.7s,baz=209,slow=11,SNR=5.2						
USRK				LR	LR	12 59 25.0	
	comp=Z,91nm,21.5s,baz=176,slow=33						
KLR	**Kul'dur**	**25.32**	**14**	LR	LR	13 04 11.6	
	comp=Z,161nm,18.9s,baz=199,slow=39						
SONM	**Songino Array**	**26.23**	**335**	P	**P**	**12 53 12.3**	**-0.4**
	1.6nm,1.0s,baz=155,slow=9.0,SNR=9.0						
SONM				LR	LR	13 04 09.6	
	comp=Z,191nm,21.8s,baz=170,slow=37						
BRDH	**Bariadhala**	**28.38**	**272**	LR	LR	13 06 33.2	
	comp=Z,71nm,21.3s,baz=190,slow=38						
MKAR	**Makanchi Array**	**38.73**	**315**	P	**P**	**12 55 02.7**	**+1.0**
	0.7nm,0.5s,baz=98,slow=11,SNR=11						
ZALV	**Zalesovo Beam**	**40.35**	**326**	P	**P**	**12 55 13.8**	**-1.3**
	1.0nm,0.8s,baz=110,slow=8.1,SNR=6.5						
WRA	**Warramunga Arr**	**46.02**	**165**	P	**P**	**12 56 01.9**	**+0.6**
	0.7nm,0.8s,baz=346,slow=8.5,SNR=6.9						
ASAR	**Alice Springs**	**49.51**	**166**	P	**P**	**12 56 30.1**	**+1.7**
	0.4nm,0.8s,baz=342,slow=7.6,SNR=5.2						

MEX 23 12:50:48.2±0.6, 16.˚23N×98.˚25W, h11km±2km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.20**	**37**	*i* P	Pg	12 50 52.1	-0.4
PNIG				*i* S	Sg	12 50 55.1	-0.3
TLIG	**Tlapa**	**1.36**	**347**	*i* P	Pn	12 51 10.1	-3.2
TLIG				*eS*	Sb	12 51 25.6	-5.6
VHO	**Vista Hermosa**	**1.68**	**60**	*i* P	Pn	12 51 14.3	-3.5
VHO				*eS*	Sn	12 51 34.5	-5.0
MEIG	**Mezcala**	**2.13**	**322**	*i* P	Pn	12 51 21.5	-2.4
MEIG				*i* S	Sn	12 51 45.8	-4.6

KLM ***23*** *13:12:35.0,3.˚77N×123.˚23E,h562km,mb4.5*
BJI ***23*** *13:12:35.4,3.˚59N×122.˚87E,h547km,mb4.4/21,mB4.6/12*
DJA ***23*** *13:12:37.0±1.1,4.˚1N±15.˚1×12.˚3E±.˚1,h561km,M4.3/8, mb4.3/7,mB4.7/4,MLv4.4/8,Mw(mB)3.9/4*
ISCJB ***23*** *13:12:37.9±0.2,3.˚83N±0.˚04×122.˚90E±0.˚04,h573km, mb4.3/37,Error ellipse: s-maj=6.9km s-min=3.7km az=142.5*
NEIC ***23*** *13:12:38.1±0.4,3.˚89N×122.˚86E,h554km±6km,mb4.6/18, Error ellipse: s-maj=9.8km s-min=5.5km az=50.0*
IDC ***23*** *13:12:39.2±0.9,3.˚90N×122.˚97E,h572km±10km,mb3.4/12, mb1 3.6/16,mb1mx3.3/54,mbtmp4.5/16,Error ellipse: s-maj=20.5km s-min=7.2km az=63.0*

ISC 23 13:12:39.1±0.4, 3.˚83N±0.˚06×122.˚90E±0.˚07, h573km, n89, σ1=20/99, mb4.2/37, 1C-1D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**3.41**	**161**	P	**P**	**13 13 56.8**	**-1.8**
MRSI	**Marisa**	**3.47**	**196**	P	**P**	**13 13 57.2**	**-1.8**
CTBH	**Cotabato--PC H**	**3.62**	**22**	*i*P	**P**	**13 13 57.8**	**-2.2**
DAV	**Davao City (W)**	**4.18**	**40**	P	**P**	**13 14 03.4**	**-0.5**
	165nm,0.3s,baz=65,slow=0.9,SNR=23						
DAV				S	**S**	**13 15 12.3**	**-0.8**
	47nm,0.3s,baz=286,slow=22,SNR=3.7						
DAV	**Davao City (W)**	**4.18**	**40**	*eP*	**P**	**13 14 02.0**	**-1.9**
MPSI	**Mapaga**	**4.59**	**221**	P	**P**	**13 14 04.9**	**-2.1**
LUWI	**Luwuk**	**4.84**	**181**	*eP*	**P**	**13 14 07.4**	**-1.7**
APSI	**Ampana**	**4.87**	**195**	P	**P**	**13 14 07.8**	**-1.5**
	37nm,0.4s,628nm0.2nm						
TNTI	**Ternate**	**5.40**	**124**	*eP*	**P**	**13 14 11.6**	**-2.1**
TNTI				*eS*	**S**	**13 15 28.0**	**-2.9**
TNTI	**Ternate**	**5.40**	**124**	P	**P**	**13 14 11.4**	**-2.3**
	176nm,1.0s,3µm0.8nm						
SANI	**Sanana**	**6.61**	**152**	P	**P**	**13 14 21.5**	**-2.9**
KDM	**Kudat**	**6.77**	**297**	P	**P**	**13 14 24.0**	**-1.9**
SIJI	**Sorong**	**9.58**	**119**	P	**P**	**13 14 53.0**	**-0.3**
	1.3nm,0.3s,baz=337,slow=14,SNR=5.8						
SBUM	**Sibu**	**10.75**	**263**	P	**P**	**13 15 04.0**	**-1.0**
FAKI	**Fak Fak**	**11.50**	**126**	*eP*	**P**	**13 15 12.3**	**-0.4**
EDFI	**Ende, Flores**	**12.56**	**185**	P	**P**	**13 15 23.4**	**-0.2**
	5.0nm,0.7s						
PLAI	**Plampang**	**13.57**	**202**	P	**P**	**13 15 32.8**	**-1.2**
	12nm,0.5s						
BATI	**Baumata**	**13.97**	**177**	P	**P**	**13 15 38.1**	**+0.1**
	6.1nm,0.3s,baz=282,slow=2.2,SNR=6.7						
JAGI	**Jajag, Banyuwa**	**15.01**	**215**	*eP*	**P**	**13 15 48.6**	**+0.3**
	37nm,0.9s						
MTN	**Manton Dam**	**18.48**	**154**	*eP*	**P**	**13 16 20.3**	**0.0**
	24nm,0.3s						
CISI	**Cisompet, Garu**	**18.83**	**233**	*eP*	**P**	**13 16 23.0**	**-0.7**
	172nm,1.8s						
JAY	**Jayapura**	**18.88**	**109**	P	**P**	**13 16 25.2**	**+1.0**
	3.2nm,0.3s,baz=237,slow=7.1,SNR=15				

LZH				pmax	pmax			
	comp=Z,20nm,1.3s							
LZH				pmax	pmax			
	comp=Z,67nm,4.9s							
HHC	**Hu-ho-hao-te**	**38.24**	**346**	*eP*	**P**		**13 19 13.3**	**+2.2**
HHC				pmax	pmax			
	comp=Z,18nm,0.9s							
HHC				pmax	pmax			
	comp=Z,74nm,5.8s							
STKA	**Stephens Creek**	**39.72**	**155**	P	**P**		**13 19 24.6**	**+1.6**
	7.3nm,0.6s,baz=333,slow=8.9,SNR=30							
STKA				ScP	**ScP**		**13 24 10.6**	**+0.6**
	1.2nm,0.8s,baz=329,slow=3.0,SNR=3.3							
STKA	**Stephens Creek**	**39.72**	**155**	*eP*	**P**		**13 19 24.2**	**+1.2**
	1.9nm,0.8s							
TAPN	**Taplejung**	**40.91**	**309**	*eP*	**P**		**13 19 33.2**	**+0.2**
	12nm,0.6s							
ODAN	**Odare**	**40.94**	**308**	*eP*	**P**		**13 19 33.4**	**+0.3**
	27nm,0.8s							
GTA	**Gaotai**	**41.14**	**333**	*eP*	**P**		**13 19 34.9**	**+0.5**
GTA				pP	pP		13 21 10.8	-3.6
GTA				sP	sP		13 22 11.5	-7.6
GTA				pmax	pmax			
	comp=Z,4.0nm,0.8s							
RAMN	**Ramite**	**41.60**	**307**	*eP*	**P**		**13 19 38.9**	**+0.5**
	25nm,0.8s							
JIRN	**Jiri**	**42.25**	**308**	*eP*	**P**		**13 19 43.9**	**+0.3**
GUN	**Gumba**	**42.61**	**308**	*eP*	**P**		**13 19 46.7**	**+0.3**
	41nm,0.7s							
PKI	**Pulchoki**	**42.83**	**307**	*eP*	**P**		**13 19 47.9**	**-0.2**
	8.4nm,0.4s							
PKIN	**Phulchoki**	**42.84**	**307**	*eP*	**P**		**13 19 47.8**	**-0.3**
	6.6nm,0.4s							
KKN	**Kakani**	**43.03**	**308**	*eP*	**P**		**13 19 49.5**	**0.0**
	13nm,0.5s							
DMN	**Daman**	**43.09**	**307**	*eP*	**P**		**13 19 50.1**	**+0.1**
	35nm,1.1s							
ARMA	**Armidale**	**43.75**	**143**	*eP*	**P**		**13 19 58.3**	**+3.4**
	13nm,0.9s							
KOLN	**Koldanda**	**44.36**	**307**	*eP*	**P**		**13 20 00.1**	**+0.4**
	60nm,0.7s							
DANN	**Dangsing**	**44.48**	**307**	*eP*	**P**		**13 20 01.0**	**+0.2**
	60nm,0.7s							
PYUN	**Piuthan**	**44.99**	**307**	*eP*	**P**		**13 20 05.1**	**+0.5**
	57nm,0.6s							
CAN	**Canberra**	**46.01**	**150**	*eP*	**P**		**13 20 14.8**	**+2.8**
	17nm,0.6s							
SONM	**Songino Array**	**46.08**	**345**	P	**P**		**13 20 12.5**	**0.0**
	1.2nm,0.5s,baz=158,slow=8.8,SNR=15							
WMQ	**Urumqi**	**50.51**	**327**	*eP*	**P**		**13 20 46.9**	**+1.6**
KSH	**Kashi**	**55.30**	**317**	*eP*	**P**		**13 21 22.6**	**+3.0**
MK01	**Makanchi Array**	**55.32**	**327**	*eP*	**P**		**13 21 19.6**	**+0.3**
MK31	**Makanchi Array**	**55.34**	**327**	*eP*	**P**		**13 21 19.9**	**+0.4**
MKAR	**Makanchi Array**	**55.34**	**327**	P	**P**		**13 21 19.9**	**+0.3**
	4.8nm,0.3s,baz=125,slow=7.7,SNR=150							
MKAR				ScP	**ScP**		**13 25 16.1**	**+0.5**
	0.8nm,0.8s,baz=116,slow=3.4,SNR=5.6							
KBL	**Kabul**	**58.45**	**309**	*eP*	**P**		**13 21 41.1**	**-0.1**
	21nm,0.8s							
ZALV	**Zalesovo Beam**	**58.81**	**335**	P	**P**		**13 21 41.9**	**-1.2**
	1.4nm,0.6s,baz=148,slow=5.0,SNR=6.9							
ZALV	**Zalesovo Beam**	**58.81**	**335**	*eP*	**P**		**13 21 42.2**	**-0.8**
KURK	**Kurchatov**	**59.64**	**329**	*eP*	**P**		**13 21 48.4**	**-0.2**
	10nm,0.5s							
KK31	**Karatay Array**	**60.58**	**318**	*eP*	**P**		**13 21 55.0**	**-0.1**
KKAR	**Karatay Array**	**60.58**	**318**	*eP*	**P**		**13 21 55.2**	**+0.2**
URZ	**Urewera**	**65.27**	**135**	P	**P**		**13 22 25.6**	**+0.5**
	2.5nm,0.4s,baz=270,slow=6.3,SNR=10							
GEYT	**Ailbeck**	**67.86**	**309**	P	**P**		**13 22 41.6**	**+0.3**
	0.6nm,0.4s,baz=235,slow=5.1,SNR=4.2							
ABKAR	**Akbulak array**	**69.67**	**322**	*eP*	**P**		**13 22 51.6**	**-0.2**
RAYN	**Ar Rayn**	**76.92**	**293**	*eP*	**P**		**13 23 33.5**	**-0.2**
	4.9nm,1.1s							
FINES	**FINESS Array B**	**89.93**	**332**	P	**P**		**13 24 36.4**	**-1.1**
	0.9nm,0.6s,baz=45,slow=6.7,SNR=3.4							
CLL	**Collm**	**99.29**	**323**	*e*Pdif	**Pdif**		**13 25 19.0**	**-1.2**

*IDC **23** 13:19:44.2±1.1, 10°.80S×162°.76E, h0km, mb3.9/6, mb1 4.1/9, mb1mx3.9/43, mbtmp4.0/9, ML3.9/3, MS3.2/4, Ms1 3.2/4, ms1mx2.9/44, Error ellipse: s-maj=32.2km s-min=23.7km az=138.0*

*ISCJB **23** 13:19:47.7±0.8, 10°.96S±0°.08×162°.79E±0°.09, h34km, mb3.8/6, MS3.1/2, Error ellipse: s-maj=15.0km s-min=7.4km az=141.6*

ISC 23 13:19:49.4±0.8, 10°.86S±0°.10×162°.8E±0°.1, h34km, n19, σ0s95/14, mb3.9/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
HNR	**Honiara**	**3.16**	**296**	Pn		**Pn**	**13 20 36.2**	**-0.6**
	70nm,0.3s,baz=188,slow=4.3,SNR=26							
HNR				Sn		**Sn**	**13 21 14.6**	**+1.3**
	146nm,0.3s,baz=184,slow=20,SNR=12							
HNR				LR		LR	13 21 46.1	
	comp=Z,320nm,20.8s,baz=130,slow=40							
HNR	**Honiara**	**3.16**	**296**	*e*P		**Pn**	**13 20 37.0**	**+0.2**
HNR				*e*S		**Sn**	**13 21 14.0**	**+0.7**
DZM	**Mont Dzumac**	**11.68**	**163**	Pn		**Pn**	**13 22 35.1**	**+1.3**
	0.2nm,0.3s,baz=35,slow=9.8,SNR=11							
DZM				Sn		**Sn**	**13 24 42.4**	**-0.7**
	0.2nm,0.3s,baz=292,slow=19,SNR=3.4							
DZM				LR		LR	13 26 11.6	
	comp=Z,174nm,19.3s,baz=16,slow=33							
CTA	**Charters Tower**	**18.39**	**238**	P		**Pn**	**13 24 02.6**	**+0.7**
	0.3nm,0.3s,baz=99,slow=9.2,SNR=6.2							
WRA	**Warramunga Arr**	**28.86**	**248**	P		**P**	**13 25 43.5**	**-1.5**
	1.6nm,0.7s,baz=79,slow=9.5,SNR=16							
H11S2	**WAKE ISLAND Hy**	**29.41**	**8**	T		T	13 56 31.2	
	baz=188,slow=76,SNR=477							
H11S3	**WAKE ISLAND Hy**	**29.42**	**7**	T		T	13 56 29.1	
	baz=188,slow=76,SNR=350							
H11S1	**WAKE ISLAND Hy**	**29.43**	**8**	T		T	13 56 36.4	
	baz=188,slow=76,SNR=381							
GUMO	**Guam**	**30.12**	**323**	LR		LR	13 37 18.4	
	comp=Z,29nm,19.1s,baz=125,slow=35							
URZ	**Urewera**	**30.14**	**157**	LR		LR	13 37 54.0	
	comp=Z,66nm,18.2s,baz=334,slow=36							
ASAR	**Alice Springs**	**30.33**	**241**	P		**P**	**13 25 57.2**	**-0.8**
	0.5nm,0.5s,baz=64,slow=9.8,SNR=8.3							
H11N1	**WAKE ISLAND Hy**	**30.64**	**8**	T		T	13 58 15.2	
	baz=188,slow=76,SNR=138							
H11N3	**WAKE ISLAND Hy**	**30.65**	**8**	T		T	13 58 17.8	
	baz=188,slow=76,SNR=213							
H11N2	**WAKE ISLAND Hy**	**30.66**	**8**	T		T	13 58 04.7	
	baz=188,slow=76,SNR=202							
SONM	**Songino Array**	**76.84**	**325**	P		**P**	**13 31 38.3**	**+0.3**
	1.1nm,0.8s,baz=140,slow=5.3,SNR=6.5							
ILAR	**Eielson Array**	**84.27**	**19**	P		**P**	**13 32 17.1**	**-0.2**
	0.3nm,0.6s,baz=254,slow=6.3,SNR=2.6							
NVAR	**Mina Array Bea**	**88.11**	**50**	P		**P**	**13 32 37.9**	**+0.7**
	0.4nm,0.6s,baz=230,slow=5.6,SNR=4.0							
MKAR	**Makanchi Array**	**91.43**	**317**	P		**P**	**13 32 51.4**	**-0.8**
	0.7nm,0.7s,baz=97,slow=6.2,SNR=6.2							
FINES	**FINESS Array B**	**120.52**	**338**	PKP		**PKPdf**	**13 38 36.4**	**-0.7**
	6.2nm,1.1s,baz=134,slow=5.5,SNR=3.5							

IDC 23 13:23:27.6±1.7, 5°.19S×148°.05E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.3/37, mbtmp3.3/4, ML2.4/2, Error ellipse: s-maj=111.0km s-min=26.3km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
PMG	**Port Moresby**	**4.28**	**192**	Pn		Pn	13 24 33.3	-0.8
	3.5nm,0.3s,baz=2.6,slow=5.6,SNR=12							
PMG				Sn		Sn	13 25 16.0	-8.9
	7.0nm,0.3s,baz=147,slow=23,SNR=14							
WRA	**Warramunga Arr**	**19.83**	**221**	P		Pn	13 28 01.0	-0.6
	0.0nm,0.3s,baz=42,slow=10,SNR=3.2							
ASAR	**Alice Springs**	**22.88**	**215**	P		P	13 28 32.8	-0.3
	0.2nm,0.4s,baz=41,slow=11,SNR=4.3							
ILAR	**Eielson Array**	**84.33**	**23**	P		P	13 36 01.3	0.0
	0.3nm,0.7s,baz=242,slow=5.7,SNR=3.8							

*ISCJB **23** 13:31:32.9±1.3, 24°.94N±0°.03×122°.72E±0°.03, h12km±10km, mb3.6/6, Error ellipse: s-maj=5.7km s-min=3.2km az=25.7*

*TAP **23** 13:31:32.4, 24°.93N×122°.64E, h3km±1km, ML3.4, D*

*IDC **23** 13:31:33.9±1.1, 24°.40N×121°.60E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/43, mbtmp3.7/7, ML3.3/1, Error ellipse: s-maj=70.3km s-min=18.4km az=68.0*

*JMA **23** 13:31:35.3±0.3, 24°.76N×122°.63E, h37km, M2.6*

ISC 23 13:31:32.4±1.4, 24°.92N±0°.04×122°.65E±0°.03, h6km±10km, n76, σ1s33/85, mb3.6/6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
JYNG	**Yonaguni jima**	**0.53**	**150**	P		**Pb**	**13 31 44.8**	**+0.6**
JYNG				S		**Sg**	**13 31 50.1**	**+0.5**
YOJ	**Yonaguni jima**	**0.56**	**144**	*i* P		**Pb**	**13 31 44.7**	**+0.1**
	baz=144							
YOJ				S		**Sb**	**13 31 54.1**	**+1.3**
	baz=144							
YOJ	**Yonaguni jima**	**0.56**	**144**	P		**Pb**	**13 31 45.2**	**+0.6**
EOS1	**EOS1**	**0.60**	**233**	P		**Pb**	**13 31 45.8**	**+0.4**
	baz=230							
EOS1				*e*S		**Sn**	**13 31 55.3**	**-2.2**
	baz=230							
TWB1	**Santiao Chiao**	**0.61**	**279**	P		**Pb**	**13 31 45.6**	**+0.1**
	baz=277							
TWB1				*e*S		**Sb**	**13 31 54.6**	**+0.2**
	baz=277							
EGS		**0.66**	**264**	*e*P		**Pb**	**13 31 46.6**	**+0.2**
	baz=262							
NTC	**Toucheng**	**0.75**	**265**	*e*P		**Pb**	**13 31 48.0**	**+0.1**
	baz=264							
TWC	**Suao**	**0.79**	**247**	*i* P		**Pb**	**13 31 48.5**	**-0.2**
	baz=245							
TWC				*e*S		**Sn**	**13 32 00.6**	**-1.7**
	baz=245							
NWF	**Wu-fen Shan**	**0.81**	**281**	P		**Pn**	**13 31 49.2**	**-1.2**
	baz=280							
WFSB	**Wu-fen Shan**	**0.81**	**281**	*e*P		**Pb**	**13 31 48.7**	**-0.2**
	baz=280							
PCYT	**Pengchaiyu**	**0.89**	**323**	P		**Pn**	**13 31 50.4**	**-1.0**
	baz=323							
PCYT				*e*S		**Sn**	**13 32 03.0**	**-1.6**
	baz=323							
TWE	**Neicheng**	**0.92**	**258**	*e*P		**Pb**	**13 31 50.3**	**-0.5**
	baz=256							
TWE				*e*S		**Sn**	**13 32 03.5**	**-1.9**
	baz=256							
SLBB	**Yuanshan**	**0.94**	**260**	*e*P		**Pn**	**13 31 51.9**	**-0.4**
	baz=259							
NANB	**Nanao**	**0.96**	**240**	P		**Pb**	**13 31 51.0**	**-0.4**
	baz=238							
ENA	**Nanau**	**0.96**	**240**	*e*P		**Pn**	**13 31 51.7**	**-0.8**
	baz=238							
YM07	**YM07**	**0.97**	**286**	*e*P		**Pn**	**13 31 51.6**	**-1.0**
	baz=284							
TWA	**Mucha**	**0.97**	**274**	*e*P		**Pb**	**13 31 51.5**	**-0.3**
	baz=272							
YM08	**YM08**	**1.00**	**286**	*e*P		**Pn**	**13 31 52.0**	**-1.1**
	baz=285							
YM01	**YM01**	**1.01**	**283**	*e*P		**Pn**	**13 31 52.9**	**-0.3**
	baz=282							
YM11	**YM11**	**1.01**	**284**	*e*P		**Pn**	**13 31 52.7**	**-0.5**
	baz=283							
YM05	**YM05**	**1.02**	**284**	*e*P		**Pn**	**13 31 53.2**	**-0.1**
	baz=283							
YM10	**YM10**	**1.02**	**284**	*e*P		**Pn**	**13 31 52.3**	**-1.0**
	baz=282							
TWY	**Chenhua**	**1.02**	**291**	*e*P		**Pn**	**13 31 52.7**	**-0.6**
	baz=290							
ENTT	**Nioudou**	**1.03**	**255**	*e*P		**Pn**	**13 31 52.7**	**-0.7**
	baz=253							
YM03	**YM03**	**1.04**	**285**	*e*P		**Pn**	**13 31 53.4**	**-0.3**
	baz=284							
TWS1	**Kuangyinshan**	**1.14**	**280**	*e*P		**Pn**	**13 31 55.3**	**+0.4**
	baz=278							
IRIF	**Iriomote-Funau**	**1.14**	**120**	P		**Pg**	**13 31 54.5**	**+0.3**
YHNB	**Yeheng**	**1.19**	**258**	*e*P		**Pg**	**13 31 55.4**	**+0.2**
	baz=257							
NSK	**Sanguang**	**1.20**	**259**	*e*P		**Pb**	**13 31 55.1**	**-0.6**
	baz=257							
NACB	**Ninganchiao**	**1.22**	**233**	*e*P		**Pg**	**13 31 55.6**	**-0.1**
	baz=231							
NNSB	**Datong**	**1.25**	**247**	*e*P		**Pg**	**13 31 56.3**	**-0.2**
	baz=246							
NNS	**Nan Shan**	**1.26**	**248**	*e*P		**Pg**	**13 31 56.5**	**-0.1**
	baz=246							
TWD	**Chiawan**	**1.27**	**229**	P		**Pg**	**13 31 57.7**	**+0.8**
	baz=228							
HATJ	**Hateruma jima**	**1.35**	**129**	P		**Pn**	**13 31 56.9**	**-1.0**
HATJ				*e*S		**Sb**	**13 32 12.4**	**-3.4**
JKRS	**Kuro-shima**	**1.41**	**118**	P		**Pn**	**13 31 58.1**	**-0.5**
JKRS				S		**Sn**	**13 32 12.9**	**-4.6**
JIJ	**Ishigaki jima**	**1.46**	**112**	P		**Pn**	**13 31 58.8**	**-0.6**
JIJ				*e*S		**Sn**	**13 32 17.1**	**-1.8**
WHF	**Hehuan Shan**	**1.48**	**239**	*e*P		**Pg**	**13 32 00.9**	**+0.1**
	baz=237							
TWT	**Tachien**	**1.50**	**244**	*e*P		**Pg**	**13 32 01.1**	**-0.1**
	baz=243							
LIOB	**Emei**	**1.51**	**260**	*e*P		**Pb**	**13 32 00.2**	**-0.8**
	baz=259							
TDCB	**Techi**	**1.51**	**244**	*e*P		**Pb**	**13 32 00.8**	**-0.2**
	baz=243							
NSTT	**Nanjuang**	**1.53**	**260**	*e*P		**Pg**	**13 32 01.1**	**-0.6**
	baz=258							
ESL	**Shilin**	**1.56**	**226**	*e*P		**Pn**	**13 32 00.8**	**0.0**
	baz=224							
CHGB	**Renai**	**1.60**	**238**	*e*P		**Pg**	**13 32 02.5**	**-0.5**
	baz=237							
NSY	**Sanyi**	**1.79**	**254**	*e*P		**Pb**	**13 32 04.9**	**-0.8**
	baz=253							
VWDT	**VWDT**	**1.80**	**230**	*e*P		**Pb**	**13 32 04.9**	**-0.9**
	baz=229							
HGSD	**Ruisui**	**1.81**	**219**	*e*P		**Pb**	**13 32 05.1**	**-0.9**
	baz=217							
EHY	**Hungye**	**1.86**	**221**	*e*P		**Pb**	**13 32 05.7**	**-1.1**
	baz=220							
SMLT	**Sun Moon Lake**	**1.90**	**238**	*e*P		**Pb**	**13 32 06.7**	**-0.9**
	baz=236							
SSLB	**Suanglung**	**1.92**	**234**	*e*P		**Pb**	**13 32 06.8**	**-1.0**
	baz=233							
TYC	**Yuchr**	**1.92**	**239**	*e*P		**Pb**	**13 32 06.9**	**-1.0**
	baz=237							
YULB	**Yu-li**	**1.96**	**220**	*e*P		**Pn**	**13 32 06.9**	**+0.7**
	baz=218							
TWF1	**Yuli**	**1.99**	**219**	*e*P		**Pb**	**13 32 07.7**	**-1.3**
	baz=217							
WJS	**Zhushan**	**2.07**	**239**	*e*P		**Pb**	**13 32 08.8**	**-1.6**
	baz=237							
WNT	**Mingjian**	**2.07**	**240**	*e*P		**Pb**	**13 32 09.1**	**-1.4**
	baz=239							
FULB	**Fuli**	**2.12**	**216**	*e*P		**Pn**	**13 32 09.0**	**+0.6**
	baz=215							
ALS	**Alishan**	**2.19**	**231**	*e*P		**Pb**	**13 32 11.3**	**-1.4**
	baz=229							
CHN5	**Tsauling**	**2.23**	**234**	*e*P		**Pb**	**13 32 11.8**	**-1.5**
	baz=233							
CHN4	**Tsaushan**	**2.44**	**231**	*e*P		**Pb**	**13 32 14.7**	**-2.1**
	baz=229							
TPUB	**Ta-pu**	**2.45**	**229**	P		**Pb**	**13 32 15.1**	**-1.9**
	baz=228							
STYT	**Tauyuan**	**2.46**	**225**	P		**Pb**	**13 32 15.2**	**-1.9**
	baz=224							
WTP	**Ta-pu**	**2.50**	**229**	P		**Pb**	**13 32 15.7**	**-2.0**
	baz=227							
TWG	**Pinlang**	**2.54**	**215**	*e*P		**Pn**	**13 32 15.2**	**+1.0**
	baz=214							
TWK	**Hsinying**	**2.57**	**231**	*e*P		**Pn**	**13 32 16.1**	**+1.4**
	baz=229							
CHN1	**Nanshi**	**2.60**	**229**	*e*P		**Pb**	**13 32 16.9**	**-2.6**
	baz=228							
SGST	**Jiashian**	**2.63**	**226**	*e*P		**Pb**	**13 32 17.3**	**-2.7**
	baz=225							
SLGT	**Liugui**	**2.65**	**224**	*e*P		**Pb**	**13 32 18.1**	**-2.2**
	baz=223							
SSD	**Sandimen**	**2.85**	**221**	*e*P		**Pb**	**13 32 20.9**	**-2.8**
	baz=220							
MASBT	**Mashibuluo**	**2.95**	**219**	*e*P		**Pn**	**13 32 21.9**	**+2.0**
	baz=218							
EAST	**Anshuo**	**3.02**	**214**	*e*P		**Pn**	**13 32 22.4**	**+1.6**
	baz=212							
KSRS	**Korea Array**	**13.28**	**19**	Pn		P	13 34 55.9	+4.4
	0.1nm,0.3s,baz=186,slow=12,SNR=8.2							
SONM	**Songino Array**	**26.25**	**335**	P		**P**	**13 37 10.2**	**+1.8**
	0.6nm,0.8s,baz=163,slow=10,SNR=2.9							
MKAR	**Makanchi Array**	**38.76**	**315**	P		**P**	**13 38 58.3**	**+0.7**
	1.0nm,0.8s,baz=108,slow=9.4,SNR=3.9							
ZALV	**Zalesovo Beam**	**40.37**	**326**	P		**P**	**13 39 12.6**	**+1.6**
	1.0nm,0.6s,baz=115,slow=6.8,SNR=5.0							
WRA	**Warramunga Arr**	**46.02**	**165**	P		**P**	**13 39 56.8**	**-0.1**
	0.8nm,0.6s,baz=346,slow=8.7,SNR=7.0							
ASAR	**Alice Springs**	**49.51**	**166**	P		**P**	**13 40 24.4**	**+0.3**
	0.3nm,0.8s,baz=350,slow=6.4,SNR=4.4							
STKA	**Stephens Creek**	**59.30**	**161**	P		**P**	**13 41 37.0**	**+1.9**
	1.2nm,0.9s,baz=354,slow=9.2,SNR=3.0							

*ISCJB **23** 13:38:43.7±0.7, 24°.86N±0°.04×122°.61E±0°.03, h11km±5km, mb3.5/5, MS3.4/12, Error ellipse: s-maj=6.6km s-min=4.1km az=15.4*

*TAP **23** 13:38:43.4, 24°.83N×122°.55E, h6km±2km, ML3.5, D*

*IDC **23** 13:38:43.5±1.2, 24°.31N×121°.14E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/43, mbtmp3.6/6, ML3.5/1, MS3.4/15, Ms1 3.4/15, ms1mx3.2/49, Error ellipse: s-maj=69.0km s-min=20.3km az=67.0*

*JMA **23** 13:38:44.8±0.2, 24°.84N×122°.59E, h30km±4km, M3.1*

ISC 23 13:38:43.4±1.5, 24°.83N±0°.04×122°.57E±0°.03, h7km±12km, n71, σ0s81/65, mb3.5/5, MS3.4/12, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
EOS1	**EOS1**	**0.49**	**236**	P		**Pb**	**13 38 54.2**	**-0.1**
	baz=233							
EOS1				*e*S		**Sb**	**13 39 01.5**	**-0.2**
	baz=233							
JYNG	**Yonagunijimaku**	**0.51**	**138**	P		**Pb**	**13 38 55.0**	**+0.4**
YOJ	**Yonaguni jima**	**0.54**	**132**	*i* P		**Pb**	**13 38 55.0**	**-0.1**
	baz=131							
YOJ	**Yonaguni jima**	**0.54**	**132**	P		**Pb**	**13 38 55.4**	**+0.2**
TWB1	**Santiao Chiao**	**0.56**	**289**	*e*P		**Pg**	**13 38 54.4**	**+0.2**
	baz=289							
EGS		**0.58**	**272**	*e*P		**Pb**	**13 38 55.3**	**-0.6**
	baz=271							
NTC	**Toucheng**	**0.68**	**272**	*e*P		**Pb**	**13 38 57.2**	**-0.2**
	baz=271							
TWC	**Suao**	**0.69**	**252**	*e*P		**Pg**	**13 38 56.9**	**+0.2**
	baz=250							
TWC				*e*S		**Sb**	**13 39 06.8**	**-0.7**
	baz=250							
ILA	**Ilan**	**0.75**	**265**	*e*P		**Pb**	**13 38 59.0**	**+0.2**
	baz=264							
NWF	**Wu-fen Shan**	**0.76**	**289**	*e*P		**Pb**	**13 38 58.6**	**-0.4**
	baz=288							
WFSB	**Wu-fen Shan**	**0.76**	**289**	*e*P		**Pb**	**13 38 58.4**	**-0.5**
	baz=288							
WFSB				*e*S		**Sb**	**13 39 09.5**	**+0.1**
	baz=288							
TWE	**Neicheng**	**0.83**	**263**	*e*P		**Pb**	**13 38 59.7**	**-0.4**
	baz=261							
TWE				*e*S		**Sb**	**13 39 11.2**	**-0.3**
	baz=261							
NANB	**Nanao**	**0.85**	**242**	*e*P		**Pb**	**13 39 00.5**	**+0.1**
	baz=241							
ENA	**Nanau**	**0.86**	**242**	*e*P		**Pb**	**13 39 00.2**	**-0.3**
	baz=241							
SLBB	**Yuanshan**	**0.86**	**265**	*e*P		**Pb**	**13 39 00.7**	**+0.2**
	baz=264							
TWA	**Mucha**	**0.91**	**280**	*e*P		**Pb**	**13 39 01.5**	**0.0**
	baz=279							
PCYT	**Pengchaiyu**	**0.92**	**330**	*e*P		**Pb**	**13 39 01.6**	**-0.1**
	baz=331							
YM07	**YM07**	**0.93**	**292**	*e*P		**Pb**	**13 39 01.8**	**-0.1**
	baz=292							
ENTT	**Nioudou**	**0.94**	**259**	*e*P		**Pb**	**13 39 01.9**	**-0.1**
	baz=257							
ENTT				*e*S		**Sb**	**13 39 15.0**	**+0.5**
	baz=257							
YM08	**YM08**	**0.96**	**292**	*e*P		**Pb**	**13 39 02.1**	**-0.2**
	baz=292							
YM01	**YM01**	**0.96**	**289**	*e*P		**Pb**	**13 39 02.4**	**0.0**
	baz=289							
YM11	**YM11**	**0.97**	**291**	*e*P		**Pb**	**13 39 02.9**	**+0.4**
	baz=290							
YM05	**YM05**	**0.97**	**290**	*e*P		**Pb**	**13 39 02.7**	**0.0**
	baz=290							
YM10	**YM10**	**0.97**	**290**	*e*P		**Pn**	**13 39 03.1**	**-0.4**
	baz=289							
TWY	**Chenhua**	**0.99**	**297**	*e*P		**Pb**	**13 39 02.7**	**-0.2**
	baz=297							
YM04	**YM04**	**0.99**	**289**	*e*P		**Pn**	**13 39 03.6**	**-0.2**
	baz=289							
TATO	**Taipei**	**1.00**	**279**	*e*P		**Pb**	**13 39 02.8**	**-0.1**
	baz=278							
TWS1	**Kuangyinshan**	**1.08**	**285**	*e*P		**Pn**	**13 39 05.0**	**+0.1**
	baz=284							
YHNB	**Yeheng**	**1.10**	**262**	*e*P		**Pb**	**13 39 04.7**	**-0.1**
	baz=261							
NACB	**Ninganchiao**	**1.10**	**234**	*e*P		**Pg**	**13 39 04.5**	**-0.1**
	baz=233							
NSK	**Sanguang**	**1.11**	**262**	*e*P		**Pg**	**13 39 03.9**	**-0.9**
	baz=261							
NNSB	**Datong**	**1.16**	**250**	*e*P		**Pb**	**13 39 05.7**	**0.0**
	baz=249							
NNS	**Nan Shan**	**1.16**	**251**	*e*P		**Pn**	**13 39 06.2**	**0.0**
	baz=249							
IRIF	**Iriomote-Funau**	**1.16**	**115**	P		**Pg**	**13 39 05.2**	**-0.5**
TWD	**Chiawan**	**1.16**	**230**	*e*P		**Pn**	**13 39 06.9**	**+0.8**
	baz=229							
HATJ	**Hateruma jima**	**1.36**	**124**	P		**Pn**	**13 39 08.0**	**-0.8**
WHF	**Hehuan Shan**	**1.37**	**241**	*e*P		**Pg**	**13 39 09.5**	**-0.3**
	baz=239							
TDCB	**Techi**	**1.41**	**246**	*e*P		**Pg**	**13 39 10.6**	**+0.2**
	baz=245							
LIOB	**Emei**	**1.43**	**263**	*e*P		**Pg**	**13 39 10.7**	**-0.1**
	baz=262							
JKRS	**Kuro-shima**	**1.43**	**114**	P		**Pn**	**13 39 10.5**	**+0.7**
NSTT	**Nanjuang**	**1.44**	**262**	*e*P		**Pg**	**13 39 10.9**	**-0.1**
	baz=261					

NOA	**NORSAR Array B**	**78.25**	**332**	LR	LR	14 28 53.3
	comp=Z,48nm,18.9s,baz=340,slow=38					

*TAP **23** 13:52:22.3,24˚.89N×122˚.56E,h12km,ML3.2,D*
*ISCJB **23** 13:52:23.3±1.6,24˚.89N±0˚.05×122˚.64E±0˚.03,*
h15km±14km, Error ellipse: s-maj=8.4km s-min=3.4km az=23.9
*JMA **23** 13:52:23.0±0.3,24˚.81N×122˚.59E,h30km,M2.2*
ISC 23 13:52:22.4±1.1,24˚.83N±0˚.05×122˚.61E±0˚.03,h27km±12km, n52,σ0§86/60,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.48**	**140**	P	**Pb**	**13 52 33.1**	**+0.6**
JYNG				S	**Sb**	**13 52 39.4**	**+0.1**
EOS1	**EOS1** baz=219	**0.51**	**238**	*eP*	**Pb**	**13 52 33.5**	**+0.6**
YOJ	**Yonaguni jima** baz=136	**0.52**	**134**	P	**Pn**	**13 52 34.0**	**0.0**
YOJ	**Yonaguni jima**	**0.52**	**134**	P	**Pb**	**13 52 33.0**	**0.0**
YOJ				S	**Sb**	**13 52 39.8**	**-0.4**
TWB1	**Santiao Chiao** baz=282	**0.59**	**288**	P	**Pb**	**13 52 33.5**	**-0.7**
TWB1	baz=282			S	**Sb**	**13 52 41.8**	**-0.5**
NTC	**Toucheng** baz=267	**0.71**	**273**	*eP*	**Pb**	**13 52 36.6**	**+0.4**
TWC	**Suao** baz=246	**0.72**	**253**	P	**Pb**	**13 52 35.8**	**-0.6**
TIPB	**Shuangxi** baz=276	**0.72**	**282**	P	**Pb**	**13 52 36.1**	**-0.4**
TIPB	baz=276			*eS*	**Sb**	**13 52 45.5**	**-0.6**
WFSB	**Wu-fen Shan** baz=284	**0.79**	**288**	*eP*	**Pb**	**13 52 37.1**	**-0.5**
TWE	**Neicheng** baz=258	**0.86**	**263**	P	**Pb**	**13 52 38.4**	**-0.4**
NANB	**Nanao** baz=231	**0.87**	**243**	*eP*	**Pb**	**13 52 38.7**	**-0.3**
ENA	**Nanau** baz=237	**0.88**	**244**	*eP*	**Pb**	**13 52 38.9**	**-0.3**
ENA	baz=237			*eS*	**Sb**	**13 52 50.5**	**0.0**
SLBB	**Yuanshan** baz=252	**0.89**	**266**	*eP*	**Pb**	**13 52 39.4**	**+0.1**
YM07	**YM07** baz=287	**0.96**	**291**	*eP*	**Pb**	**13 52 40.0**	**-0.5**
YM07	baz=287			*eS*	**Sb**	**13 52 51.6**	**-1.2**
ENTT	**Nioudou** baz=254	**0.96**	**259**	P	**Pn**	**13 52 41.3**	**+1.1**
YM08	**YM08** baz=288	**0.99**	**292**	*eP*	**Pb**	**13 52 42.1**	**+1.1**
YM01	**YM01** baz=285	**0.99**	**289**	*eP*	**Pn**	**13 52 41.1**	**+0.5**
YM11	**YM11** baz=286	**1.00**	**290**	*eP*	**Pb**	**13 52 41.6**	**+0.5**
YM11	baz=286			*eS*	**Sb**	**13 52 53.4**	**-0.5**
YM05	**YM05** baz=286	**1.00**	**290**	*eP*	**Pb**	**13 52 41.9**	**+0.7**
NWLT	**Wulai** baz=263	**1.00**	**267**	*eP*	**Pn**	**13 52 40.6**	**-0.1**
YM10	**YM10** baz=286	**1.00**	**289**	*eP*	**Pb**	**13 52 42.2**	**+1.0**
TATO	**Taipei** baz=275	**1.03**	**279**	*eP*	**Pn**	**13 52 41.6**	**+0.6**
NACB	**Ninganchiao** baz=220	**1.13**	**235**	*eP*	**Pb**	**13 52 44.2**	**+0.9**
YHNB	**Yeheng** baz=274	**1.13**	**262**	*eP*	**Pb**	**13 52 43.5**	**+0.2**
IRIF	**Iriomote-Funau**	**1.13**	**115**	P	**Pn**	**13 52 42.9**	**+0.4**
IRIF				*eS*	**Sn**	**13 52 56.7**	**-0.5**
NNSB	**Datong** baz=247	**1.18**	**251**	*eP*	**Pb**	**13 52 44.4**	**+0.1**
TWD	**Chiawan** baz=235	**1.18**	**231**	*eP*	**Pb**	**13 52 45.8**	**+1.6**
NNS	**Nan Shan** baz=247	**1.19**	**251**	P	**Pb**	**13 52 45.0**	**+0.6**
HATJ	**Hateruma jima**	**1.33**	**125**	P	**Pn**	**13 52 45.5**	**+0.2**
WHF	**Hehuan Shan** baz=238	**1.40**	**241**	*eP*	**Pb**	**13 52 49.2**	**+1.0**
TDCB	**Techi** baz=243	**1.44**	**247**	*eP*	**Pb**	**13 52 49.2**	**+0.5**
ESL	**Shilin** baz=205	**1.47**	**227**	*eP*	**Pb**	**13 52 49.5**	**+0.4**
NSTT	**Nanjuang** baz=259	**1.47**	**263**	*eP*	**Pb**	**13 52 49.2**	**0.0**
JIJ	**Ishigaki jima**	**1.47**	**108**	P	**Pb**	**13 52 48.9**	**-0.3**
CHGB	**Renai** baz=218	**1.51**	**240**	*eP*	**Pb**	**13 52 51.1**	**+1.2**
JISG	**Ishigakijimahi**	**1.57**	**98**	P	**Pn**	**13 52 49.8**	**+1.3**
VWDT	**VWDT** baz=212	**1.71**	**232**	*eP*	**Pb**	**13 52 52.6**	**-0.6**
HGSD	**Ruisui** baz=201	**1.71**	**219**	*eP*	**Pn**	**13 52 52.3**	**+1.8**
TWQ1	**Liyutan** baz=268	**1.73**	**254**	*eP*	**Pb**	**13 52 53.9**	**+0.2**
EHY	**Hungye** baz=218	**1.76**	**222**	*eP*	**Pb**	**13 52 53.4**	**-0.7**
SMLT	**Sun Moon Lake** baz=218	**1.82**	**239**	*eP*	**Pb**	**13 52 55.5**	**+0.4**
SSLB	**Suanglung** baz=216	**1.83**	**236**	*eP*	**Pb**	**13 52 54.5**	**-0.7**
TYC	**Yuchr** baz=218	**1.84**	**240**	*eP*	**Pb**	**13 52 56.1**	**+0.7**
YULB	**Yu-li** baz=216	**1.86**	**220**	*eP*	**Pn**	**13 52 53.4**	**+0.8**
TWF1	**Yuli** baz=202	**1.89**	**219**	*eP*	**Pn**	**13 52 54.4**	**+1.4**
CHN5	**Tsauling** baz=214	**2.14**	**236**	*eP*	**Pb**	**13 53 01.0**	**+0.3**
CHN4	**Tsaushan** baz=211	**2.35**	**232**	*eP*	**Pb**	**13 53 03.4**	**-0.8**
TPUB	**Ta-pu** baz=210	**2.36**	**230**	*eP*	**Pb**	**13 53 02.7**	**-1.6**
WTP	**Ta-pu** baz=209	**2.41**	**230**	*eP*	**Pb**	**13 53 03.7**	**-1.4**
TWK	**Hsinying** baz=211	**2.48**	**232**	*eP*	**Pb**	**13 53 04.8**	**-1.5**
SLGT	**Liugui** baz=221	**2.56**	**225**	*eP*	**Pb**	**13 53 05.5**	**-2.2**
MASBT	**Mashibuluo** baz=204	**2.85**	**220**	*eP*	**Pb**	**13 53 11.0**	**-1.7**

GUC 23 13:55:02.7±0.4,19˚.05S×69˚.44W,h118km±2km,ML3.6,7C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNMC	**Minye Minye**	**0.17**	**240**	*i*P	Pn	13 55 19.9	+0.6
MNMC				*i* S	Sn	13 55 33.0	+1.1
MNMC	comp=E,4μm,0.1s			IAML		13 55 36.9	
GO01	**Chusmiza**	**0.66**	**159**	*i*P	Pn	13 55 22.9	+0.8
GO01				*i* S	Sn	13 55 38.2	+1.5
GO01	comp=E,4μm,0.1s			IAML		13 55 38.7	
PB16	**IPOC Station P**	**0.71**	**355**	*i*P	Pn	13 55 23.5	+0.9
PB16				*i* S	Sn	13 55 39.1	+1.6
PB16	comp=E,2μm,0.6s			IAML		13 55 40.0	
PB11	**IPOC Station P**	**0.74**	**196**	*i*P	Pn	13 55 22.9	+0.5
PB11				*i* S	Sn	13 55 38.0	+0.8
PB11	comp=E,3μm,0.1s			IAML		13 55 38.7	
PSGC	**Pisagua**	**0.84**	**230**	*i*P	Pn	13 55 23.6	+0.4
PSGC				*i* S	Sn	13 55 39.2	+0.5
PSGC	comp=N,3μm,0.5s			IAML		13 55 40.1	
PB12	**IPOC Station P**	**0.94**	**297**	*i*P	Pn	13 55 24.4	+0.3
PB12				*i* S	Sn	13 55 41.2	+1.0
PB08	**IPOC Station P**	**1.12**	**166**	*i*P	Pn	13 55 26.9	+0.7
PB08				*i* S	Sn	13 55 45.3	+1.3
PB08	comp=E,1μm,0.1s			IAML		13 55 46.2	
PB01	**IPOC Station P** comp=E,271nm,0.3s	**1.99**	**181**	IAML		13 56 03.8	
PB02	**IPOC Station P** comp=N,283nm,0.3s	**2.30**	**191**	IAML		13 56 10.5	

*ISK **23** 14:05:16.8,37˚.23N×42˚.56E,h8km,ML2.8/3*
*ISN **23** 14:05:16.4±0.3,37˚.17N×42˚.67E,h0km,ML2.7*

*ISCJB **23** 14:05:18.2±0.9,37˚.31N±0˚.06×42˚.66E±0˚.05,h0km, Error ellipse: s-maj=9.9km s-min=5.1km az=21.9*
*DDA **23** 14:05:19.3,37˚.32N×42˚.58E,h7km,Ml2.6,Suspected Mining explosion.*
ISC 23 14:05:17.4±1.1,37˚.25N±0˚.08×42˚.65E±0˚.03,h0km,n12, σ1§06/19,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRT	**Sirnak**	**0.30**	**326**	PG	**Pg**	**14 05 22.8**	**-0.4**
SIRT				SG	**Sg**	**14 05 27.6**	**+0.5**
SIRN	**S˜–rnak**	**0.31**	**322**	*i* P	**Pg**	**14 05 22.8**	**-0.6**
SIRN				*i* S	**Sg**	**14 05 27.4**	**0.0**
CUKT	**Cukurca**	**0.76**	**90**	PG	**Pb**	**14 05 33.5**	**-0.1**
CUKT				SG	**Sb**	**14 05 45.4**	**+0.8**
CUKT	**Cukurca**	**0.76**	**90**	*i* P	**Pn**	**14 05 34.9**	**-0.6**
CUKT				*i* S	**Sn**	**14 05 47.9**	**+0.1**
SRTM	**Siirt_Merkez**	**0.94**	**322**	*i* P	**Pg**	**14 05 34.9**	**-0.5**
SRTM				*i* S	**Sg**	**14 05 49.1**	**+1.5**
GEVA	**Gevas**	**1.11**	**17**	*i* P	**Pg**	**14 05 39.1**	**+0.5**
BTMN	**Batman**	**1.27**	**301**	*i* P	**Pb**	**14 05 42.5**	**+0.2**
BTMN				*i* S	**Sn**	**14 06 01.3**	**+1.0**
GURO	**Guroymak-BITLI**	**1.39**	**340**	PN	**Pg**	**14 05 42.8**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.46**	**308**	PN	**Pn**	**14 05 43.5**	**-1.6**
SVAN	**Silvan-Diyarba**	**1.46**	**308**	*i* P	**Pg**	**14 05 45.7**	**+0.3**
MARD	**Mardin**	**1.50**	**273**	*i* P	**Pb**	**14 05 46.2**	**+0.1**
MARD				*i* S	**Sn**	**14 06 08.3**	**+2.4**
MAZI	**Mazidag**	**1.77**	**277**	PN	**Pn**	**14 05 47.7**	**-1.7**

*TAP **23** 14:08:39.6,24˚.93N×122˚.61E,h3km±1km,ML3.6,D*
*JMA **23** 14:08:41.9±0.3,24˚.80N×122˚.66E,h42km±4km,M3.0*
*IDC **23** 14:08:57.0±9.0,24˚.90N×122˚.59E,h161km±95km,mb3.3/7, mb1 3.4/8,mb1mx3.2/61,mbtmp3.8/8,MS3.2/12, Ms1 3.2/12,ms1mx3.0/27,Error ellipse: s-maj=45.7km s-min=16.2km az=66.0*
ISC 23 14:08:38.9±1.3,24˚.96N±0˚.04×122˚.70E±0˚.02,h1km±10km, n84,σ1§06/85,mb3.7/6,MS3.2/9,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.55**	**156**	P	**Pb**	**14 08 51.6**	**+0.3**
JYNG				S	**Sb**	**14 08 59.0**	**-0.7**
YOJ	**Yonaguni jima** baz=141	**0.57**	**150**	*eP*	**Pb**	**14 08 52.0**	**+0.3**
YOJ	baz=141			*eS*	**Sn**	**14 09 01.7**	**-2.4**
YOJ	**Yonaguni jima**	**0.57**	**150**	P	**Pb**	**14 08 52.2**	**+0.5**
TWB1	**Santiao Chiao** baz=277	**0.65**	**275**	P	**Pb**	**14 08 52.0**	**-0.9**
TWB1	baz=277			*eS*	**Sb**	**14 09 00.8**	**-1.7**
EOS1	**EOS1** baz=229	**0.66**	**232**	P	**Pb**	**14 08 52.5**	**-0.7**
EOS1	baz=229			*eS*	**Sg**	**14 09 01.7**	**+1.6**
EGS	baz=261	**0.70**	**261**	*eP*	**Pb**	**14 08 53.5**	**-0.5**
TIPB	**Shuangxi** baz=273	**0.79**	**271**	*eP*	**Pg**	**14 08 53.9**	**-0.2**
NTC	**Toucheng** baz=264	**0.80**	**263**	*eP*	**Pb**	**14 08 55.0**	**-0.5**
NWF	**Wu-fen Shan** baz=280	**0.84**	**278**	*eP*	**Pb**	**14 08 56.0**	**-0.4**
WFSB	**Wu-fen Shan** baz=280	**0.84**	**278**	*eP*	**Pb**	**14 08 55.2**	**-1.1**
TWC	**Suao** baz=244	**0.85**	**246**	*eP*	**Pg**	**14 08 54.9**	**-0.2**
TWC	baz=244			*eS*	**Sg**	**14 09 06.9**	**+0.8**
PCYT	**Pengchaiyu** baz=325	**0.88**	**320**	*eP*	**Pn**	**14 08 57.1**	**-1.2**
TWE	**Neicheng** baz=256	**0.97**	**256**	P	**Pg**	**14 08 57.3**	**-0.1**
SLBB	**Yuanshan** baz=258	**0.99**	**258**	*eP*	**Pb**	**14 08 58.5**	**-0.3**
YM07	**YM07** baz=285	**1.00**	**283**	*eP*	**Pn**	**14 08 58.7**	**-1.4**
NANB	**Nanao** baz=237	**1.01**	**239**	*eP*	**Pg**	**14 08 58.0**	**-0.3**
TWA	**Mucha** baz=273	**1.01**	**271**	*eP*	**Pg**	**14 08 57.9**	**-0.4**
ENA	**Nanau** baz=237	**1.02**	**239**	*eP*	**Pg**	**14 08 58.0**	**-0.4**
YM08	**YM08** baz=285	**1.03**	**283**	*eP*	**Pn**	**14 08 59.0**	**-1.4**
YM01	**YM01** baz=282	**1.04**	**281**	*eP*	**Pn**	**14 08 59.5**	**-1.1**
YM11	**YM11** baz=284	**1.04**	**282**	*eP*	**Pn**	**14 08 59.8**	**-0.9**
YM05	**YM05** baz=283	**1.05**	**282**	*eP*	**Pn**	**14 08 59.8**	**-0.9**
YM10	**YM10** baz=283	**1.05**	**281**	*eP*	**Pn**	**14 08 59.4**	**-1.4**
YM04	**YM04** baz=282	**1.07**	**281**	*eP*	**Pn**	**14 08 59.3**	**-0.9**
YM03	**YM03** baz=284	**1.07**	**282**	*eP*	**Pn**	**14 09 00.1**	**-1.0**
ENTT	**Nioudou** baz=252	**1.08**	**253**	*eP*	**Pb**	**14 08 59.4**	**-0.9**
TATO	**Taipei** baz=272	**1.10**	**271**	*eP*	**Pn**	**14 09 00.5**	**-0.9**
NWLT	**Wulai** baz=261	**1.10**	**261**	*eP*	**Pb**	**14 08 59.4**	**-1.4**
IRIF	**Iriomote-Funau**	**1.12**	**123**	P	**Pn**	**14 09 00.8**	**-0.9**
IRIF				*eS*	**Sg**	**14 09 15.6**	**+0.5**
YHNB	**Yeheng** baz=257	**1.24**	**257**	*eP*	**Pg**	**14 09 02.9**	**+0.3**
NSK	**Sanguang** baz=257	**1.25**	**257**	*eP*	**Pn**	**14 09 02.3**	**-1.3**
NACB	**Ninganchiao** baz=230	**1.27**	**232**	*eP*	**Pn**	**14 09 02.7**	**-1.1**
NNSB	**Datong** baz=245	**1.31**	**246**	*eP*	**Pn**	**14 09 03.3**	**-1.1**
NNS	**Nan Shan** baz=246	**1.31**	**247**	*eP*	**Pb**	**14 09 03.7**	**-0.7**
WLTB	**Daxi** baz=266	**1.32**	**266**	*eP*	**Pb**	**14 09 03.6**	**-0.8**
TWD	**Chiawan** baz=227	**1.33**	**229**	*eP*	**Pb**	**14 09 04.3**	**-0.3**
HATJ	**Hateruma jima**	**1.35**	**131**	P	**Pn**	**14 09 03.0**	**-1.8**
HATJ				*eS*	**Sb**	**14 09 19.6**	**-3.1**
JKRS	**Kuro-shima**	**1.39**	**121**	P	**Pb**	**14 09 04.6**	**-1.1**
JKRS				S	**Sn**	**14 09 22.7**	**-1.7**
JIJ	**Ishigaki jima**	**1.44**	**114**	P	**Pb**	**14 09 05.5**	**-1.0**
JIJ				S	**Sb**	**14 09 24.1**	**-1.3**
JISG	**Ishigakijimahi**	**1.51**	**104**	P	**Pg**	**14 09 08.6**	**+0.7**
JISG				S	**Sg**	**14 09 26.9**	**-0.6**
WHF	**Hehuan Shan** baz=237	**1.54**	**238**	*eP*	**Pb**	**14 09 07.6**	**-0.8**
TWT	**Tachien** baz=242	**1.55**	**243**	*eP*	**Pb**	**14 09 08.0**	**-0.5**
LIOB	**Emei** baz=259	**1.56**	**259**	*eP*	**Pb**	**14 09 08.3**	**-0.3**
TDCB	**Techi** baz=243	**1.57**	**244**	*eP*	**Pb**	**14 09 08.2**	**-0.6**
NSTT	**Nanjuang** baz=258	**1.58**	**258**	*eP*	**Pb**	**14 09 08.3**	**-0.5**
ESL	**Shilin** baz=223	**1.62**	**226**	*eP*	**Pb**	**14 09 08.7**	**-0.9**
CHGB	**Renai** baz=236	**1.65**	**238**	*eP*	**Pb**	**14 09 09.2**	**-1.0**
VWDT	**VWDT** baz=228	**1.86**	**230**	*eP*	**Pn**	**14 09 11.9**	**+0.1**
HGSD	**Ruisui** baz=217	**1.87**	**219**	*eP*	**Pb**	**14 09 12.4**	**-1.4**
EHY	**Hungye** baz=219	**1.92**	**221**	*eP*	**Pn**	**14 09 12.1**	**-0.6**
SSLB	**Suanglung** baz=233	**1.97**	**234**	*eP*	**Pn**	**14 09 13.5**	**+0.1**
TYC	**Yuchr** baz=237	**1.98**	**238**	*eP*	**Pb**	**14 09 14.2**	**-1.5**
YULB	**Yu-li** baz=218	**2.02**	**220**	*eP*	**Pn**	**14 09 13.8**	**-0.3**
TWF1	**Yuli** baz=217	**2.05**	**219**	*eP*	**Pn**	**14 09 14.5**	**0.0**
CHN5	**Tsauling** baz=233	**2.29**	**234**	*eP*	**Pb**	**14 09 18.9**	**-2.1**
ELDTW	**Lidau** baz=219	**2.34**	**221**	*eP*	**Pn**	**14 09 19.1**	**+0.5**
CHN4	**Tsaushan** baz=229	**2.50**	**231**	*eP*	**Pn**	**14 09 21.5**	**+0.8**
TPUB	**Ta-pu** baz=228	**2.51**	**229**	*eP*	**Pn**	**14 09 21.3**	**+0.5**
STYT	**Tauyuan** baz=223	**2.52**	**225**	*eP*	**Pn**	**14 09 21.0**	**0.0**
WTP	**Ta-pu** baz=227	**2.56**	**229**	*eP*	**Pn**	**14 09 21.1**	**-0.4**
TWK	**Hsinying** baz=229	**2.63**	**231**	*eP*	**Pn**	**14 09 23.1**	**+0.5**
CHN1	**Nanshi** baz=227	**2.66**	**229**	*eP*	**Pn**	**14 09 22.9**	**+0.1**
SGST	**Jiashian** baz=225	**2.69**	**226**	*eP*	**Pn**	**14 09 23.5**	**+0.2**
SLGT	**Liugui** baz=222	**2.71**	**224**	*eP*	**Pn**	**14 09 24.2**	**+0.6**
SSD	**Sandimen** baz=219	**2.90**	**221**	*eP*	**Pn**	**14 09 26.5**	**+0.2**
MASBT	**Mashibuluo** baz=218	**3.01**	**219**	*eP*	**Pn**	**14 09 28.4**	**+0.7**
EAST	**Anshuo** baz=212	**3.07**	**214**	*eP*	**Pn**	**14 09 29.2**	**+0.6**
SCZT	**Fangliau** baz=215	**3.20**	**217**	*eP*	**Pn**	**14 09 31.1**	**+0.8**
KSRS	**Korea Array** 0.1nm,0.3s,baz=190,slow=12,SNR=15	**13.23**	**18**	P	**P**	**14 11 59.7**	**+1.7**
KSRS	comp=Z,152nm,19.2s,baz=189,slow=39			LR	LR	14 17 37.0	
MJAR	**Matsushiro Arr** comp=Z,29nm,18.8s,baz=245,slow=37	**17.61**	**45**	LR	LR	14 19 48.9	
DAV	**Davao City (W)** comp=Z,58nm,20.9s,baz=2.5,slow=35	**18.00**	**171**	LR	LR	14 19 33.3	
USRK	**Ussuriysk Ar.** 1.8nm,0.6s,baz=218,slow=9.1,SNR=4.1	**20.64**	**19**	P	Pn	14 13 24.5	+2.5
CMAR	**Chiang Mai Arr** comp=Z,51nm,18.4s,baz=99,slow=38	**22.98**	**258**	LR	LR	14 23 18.7	
ASAJ	**Asahikawa** comp=Z,77nm,18.9s,baz=266,slow=36	**25.06**	**35**	LR	LR	14 24 12.7	
KLR	**Kul'dur** 1.0nm,0.5s,baz=342,slow=20,SNR=2.7	**25.24**	**14**	P	**P**	**14 14 08.6**	**+2.3**
KLR	comp=Z,79nm,21.3s,baz=215,slow=35			LR	LR	14 23 50.5	
SONM	**Songino Array** 1.0nm,0.8s,baz=155,slow=11,SNR=4.9	**26.23**	**335**	P	**P**	**14 14 17.8**	**+2.4**
SONM	comp=Z,74nm,19.8s,baz=174,slow=38			LR	LR	14 25 35.5	
SIJI	**Sorong** comp=Z,7.7nm,20.0s,baz=346,slow=33	**26.98**	**161**	LR	LR	14 23 47.4	
PETK	**Petropavlovsk-** 1.0nm,0.8s,baz=96,slow=8.9,SNR=4.6	**38.46**	**34**	LR	LR	14 31 35.3	
MKAR	**Makanchi Array** comp=Z,38nm,20.2s,baz=264,slow=35	**38.76**	**315**	P	**P**	**14 16 05.0**	**+0.2**
ZALV	**Zalesovo Beam** 2.0nm,0.7s,baz=112,slow=6.4,SNR=2.3	**40.36**	**326**	P	**P**	**14 16 18.4**	**+0.3**
ZALV	comp=Z,32nm,20.7s,baz=70,slow=37			LR	LR	14 33 41.2	
WRA	**Warramunga Arr** 1.4nm,0.7s,baz=344,slow=8.4,SNR=7.3	**46.05**	**165**	P	**P**	**14 17 03.9**	**-0.5**
NRIK	**Noril'sk** comp=Z,55nm,19.1s,baz=58,slow=37	**49.02**	**344**	LR	LR	14 39 33.8	
ASAR	**Alice Springs** 0.4nm,0.6s,baz=347,slow=11,SNR=10	**49.54**	**166**	P	**P**	**14 17 31.8**	**+0.3**
NOA	**NORSAR Array B** comp=Z,21nm,18.1s,baz=265,slow=36	**78.18**	**332**	LR	LR	14 56 29.8	

*TAP **23** 14:13:43.4,24˚.90N×122˚.62E,h2km,ML3.5,D*
*IDC **23** 14:13:43.2±1.2,24˚.35N×121˚.36E,h0km,mb3.4/5, mb1 3.6/6,mb1mx3.4/56,mbtmp3.5/6,ML3.2/1,Error ellipse: s-maj=69.2km s-min=19.6km az=68.0*
*ISCJB **23** 14:13:44.5±0.5,24˚.94N±0˚.04×122˚.68E±0˚.02,h17km±4km, mb3.3/5,Error ellipse: s-maj=6.3km s-min=3.4km az=16.3*
*JMA **23** 14:13:45.8±0.2,24˚.79N×122˚.63E,h41km±4km,M2.5*
ISC 23 14:13:43.6±1.4,24˚.97N±0˚.04×122˚.67E±0˚.03,h13km±10km, n77,σ0§90/82,mb3.2/5,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.58**	**154**	P	**Pb**	**14 13 55.8**	**+0.2**
YOJ	**Yonaguni jima** baz=140	**0.60**	**149**	*eP*	**Pb**	**14 13 55.9**	**-0.1**
YOJ	baz=140			*eS*	**Sb**	**14 14 04.7**	**+0.5**
YOJ	**Yonaguni jima**	**0.60**	**149**	P	**Pb**	**14 13 56.0**	**+0.1**
TWB1	**Santiao Chiao** baz=280	**0.62**	**273**	*eP*	**Pb**	**14 13 56.3**	**0.0**
TWB1	baz=280			*eS*	**Sb**	**14 14 05.7**	**+0.8**
EOS1	**EOS1** baz=232	**0.65**	**229**	*eP*	**Pg**	**14 13 56.5**	**+0.2**
EOS1	baz=232			*eS*	**Sg**	**14 14 05.5**	**+0.6**
NTC	**Toucheng** baz=266	**0.77**	**261**	*eP*	**Pn**	**14 13 59.2**	**-1.0**
NWF	**Wu-fen Shan** baz=282	**0.81**	**277**	*eP*	**Pn**	**14 14 00.2**	**-0.7**
WFSB	**Wu-fen Shan** baz=282	**0.81**	**277**	*eP*	**Pn**	**14 14 00.1**	**-0.7**
TWC	**Suao** baz=247	**0.83**	**244**	P	**Pg**	**14 13 59.0**	**-0.7**
TWC	baz=247			*eS*	**Sb**	**14 14 11.3**	**+0.4**
PCYT	**Pengchaiyu** baz=326	**0.85**	**320**	*eP*	**Pn**	**14 14 01.7**	**+0.4**
ILA	**Ilan** baz=260	**0.86**	**256**	*eP*	**Pb**	**14 14 00.1**	**-0.3**
TWE	**Neicheng** baz=258	**0.94**	**255**	*eP*	**Pb**	**14 14 01.6**	**-0.3**
SLBB	**Yuanshan** baz=260	**0.96**	**257**	*eP*	**Pn**	**14 14 02.3**	**-0.6**
YM07	**YM07** baz=286	**0.97**	**282**	*eP*	**Pn**	**14 14 02.1**	**-0.9**
TWA	**Mucha** baz=274	**0.99**	**271**	*eP*	**Pn**	**14 14 02.8**	**-0.4**
NANB	**Nanao** baz=239	**1.00**	**237**	*eP*	**Pb**	**14 14 01.6**	**-1.2**
YM08	**YM08** baz=287	**1.00**	**283**	*eP*	**Pn**	**14 14 03.1**	**-0.3**
ENA	**Nanau** baz=239	**1.00**	**237**	*eP*	**Pb**	**14 14 01.8**	**-1.1**
YM01	**YM01** baz=284	**1.01**	**280**	*eP*	**Pn**	**14 14 04.2**	**+0.6**
YM11	**YM11** baz=285	**1.01**	**281**	*eP*	**Pn**	**14 14 03.3**	**-0.3**
TWY	**Chenhua** baz=292	**1.02**	**287**	*eP*	**Pn**	**14 14 04.5**	**+0.9**
YM05	**YM05** baz=285	**1.02**	**281**	*eP*	**Pn**	**14 14 04.4**	**+0.7**
YM10	**YM10** baz=284	**1.02**	**280**	*eP*	**Pn**	**14 14 03.4**	**-0.3**
YM04	**YM04** baz=284	**1.04**	**280**	*eP*	**Pn**	**14 14 04.0**	**0.0**
YM03	**YM03** baz=285	**1.04**	**282**	*eP*	**Pn**	**14 14 03.6**	**-0.4**
ENTT	**Nioudou** baz=254	**1.06**	**252**	*eP*	**Pb**	**14 14 03.4**	**-0.4**
TATO	**Taipei** baz=274	**1.07**	**270**	*eP*	**Pn**	**14 14 03.9**	**-0.4**
NWLT	**Wulai** baz=263	**1.08**	**260**	*eP*	**Pn**	**14 14 04.2**	**-0.2**
TWS1	**Kuangyinshan** baz=280	**1.14**	**277**	*eP*	**Pg**	**14 14 05.9**	**+0.2**
IRIF	**Iriomote-Funau**	**1.16**	**123**	P	**Pb**	**14 14 05.0**	**-0.4**
YHNB	**Yeheng** baz=258	**1.21**	**256**	*eP*	**Pb**	**14 14 06.3**	**-0.2**
NSK	**Sanguang** baz=258	**1.23**	**256**	*eP*	**Pg**	**14 14 06.6**	**-0.7**
NACB	**Ninganchiao** baz=232	**1.26**	**231**	*eP*	**Pn**	**14 14 06.3**	**-0.6**
NNSB	**Datong** baz=247	**1.29**	**245**	*eP*	**Pn**	**14 14 07.3**	**-0.1**
NNS	**Nan Shan** baz=247	**1.29**	**246**	*eP*	**Pb**	**14 14 07.6**	**-0.3**
TWD	**Chiawan** baz=228	**1.32**	**228**	*eP*	**Pb**	**14 14 08.4**	**+0.1**
HATJ	**Hateruma jima**	**1.38**	**131**	P	**Pn**	**14 14 07.5**	**-1.0**
JKRS	**Kuro-shima**	**1.42**	**121**	P	**Pg**	**14 14 11.2**	**+0.2**
JKRS				*eS*	**Sn**	**14 14 27.0**	**-0.7**
JIJ	**Ishigaki jima**	**1.47**	**114**	P	**Pg**	**14 14 11.4**	**-0.5**
WHF	**Hehuan Shan** baz=238	**1.52**	**237**	*eP*	**Pb**	**14 14 11.6**	**-0.4**
TWT	**Tachien** baz=244	**1.54**	**243**	*eP*	**Pb**	**14 14 11.9**	**-0.2**
LIOB	**Emei** baz=260	**1.54**	**258**	*eP*	**Pb**	**14 14 11.4**	**-0.6**
JISG	**Ishigakijimahi**	**1.54**	**104**	P	**Pb**	**14 14 11.7**	**-0.3**
JISG				S	**Sn**	**14 14 30.6**	**0.0**
TDCB	**Techi** baz=244	**1.55**	**243**	*eP*	**Pb**	**14 14 11.9**	**-0.4**
NSTT	**Nanjuang** baz=259	**1.56**	**258**	*eP*	**Pb**	**14 14 12.2**	**-0.1**
ESL	**Shilin** baz=224	**1.61**	**225**	*eP*	**Pn**	**14 14 11.3**	**-0.4**

CHGB	**Renai** baz=237	**1.64 237**	*e*P	**Pb**	**14 14 13.4 -0.4**
NSY	**Sanyi** baz=254	**1.82 253**	*e*P	**Pb**	**14 14 15.5 -1.3**
TWQ1	**Liyutan** baz=251	**1.83 251**	*e*P	**Pb**	**14 14 16.3 -0.8**
VWDT	**VWDT** baz=229	**1.85 229**	*e*P	**Pn**	**14 14 14.9 -0.1**
HGSD	**Ruisui** baz=218	**1.86 218**	*e*P	**Pn**	**14 14 14.9 -0.3**
EHY	**Hungye** baz=220	**1.91 220**	*e*P	**Pn**	**14 14 15.4 -0.5**
SMLT	**Sun Moon Lake** baz=237	**1.94 236**	*e*P	**Pn**	**14 14 17.6 +1.1**
SSLB	**Suanglung** baz=234	**1.96 233**	*e*P	**Pb**	**14 14 18.0 -1.2**
TYC	**Yuchr** baz=238	**1.97 238**	*e*P	**Pn**	**14 14 17.5 +0.9**
YULB	**Yu-li** baz=218	**2.01 219**	*e*P	**Pn**	**14 14 17.0 -0.3**
FULB	**Fuli** baz=215	**2.17 216**	*e*P	**Pn**	**14 14 19.7 +0.2**
CHN5	**Tsauling** baz=233	**2.28 233**	*e*P	**Pb**	**14 14 22.8 -1.8**
ELDTW	**Lidau** baz=220	**2.33 221**	*e*P	**Pn**	**14 14 21.6 -0.2**
CHN4	**Tsaushan** baz=230	**2.49 230**	*e*P	**Pn**	**14 14 25.3 +1.4**
TPUB	**Ta-pu** baz=228	**2.50 229**	*e*P	**Pn**	**14 14 25.6 +1.5**
STYT	**Tauyuan** baz=224	**2.51 225**	*e*P	**Pn**	**14 14 25.4 +1.2**
WTP	**Ta-pu** baz=227	**2.55 228**	*e*P	**Pn**	**14 14 25.7 +1.0**
TWK	**Hsinying** baz=230	**2.62 230**	*e*P	**Pn**	**14 14 27.1 +1.4**
CHN1	**Nanshi** baz=228	**2.65 228**	*e*P	**Pn**	**14 14 27.7 +1.6**
SGST	**Jiashian** baz=225	**2.68 226**	*e*P	**Pn**	**14 14 28.2 +1.7**
SLGT	**Liugui** baz=223	**2.70 224**	*e*P	**Pn**	**14 14 28.9 +2.1**
SSD	**Sandimen** baz=220	**2.90 220**	*e*P	**Pn**	**14 14 30.8 +1.3**
MASBT	**Mashibuluo** baz=218	**3.00 219**	*e*P	**Pn**	**14 14 33.0 +2.1**
EAST	**Anshuo** baz=212	**3.07 213**	*e*P	**Pn**	**14 14 32.8 +0.9**
SCZT	**Fangliau** baz=216	**3.20 216**	*e*P	**Pn**	**14 14 35.2 +1.6**
KSRS	**Korea Array** 0.1nm,0.3s,baz=197,slow=12,SNR=6.1	**13.22 19**	Pn	P	14 17 05.7 +4.8
SONM	**Songino Array** 0.3nm,0.7s,baz=156,slow=7.9,SNR=2.8	**26.20 335**	P	**P**	**14 19 20.7 +2.6**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=96,slow=11,SNR=2.9	**38.73 315**	P	**P**	**14 21 06.0 -1.5**
ZALV	**Zalesovo Beam** 0.3nm,0.4s,baz=113,slow=11,SNR=2.9	**40.34 326**	P	**P**	**14 21 20.6 -0.1**
WRA	**Warramunga Arr** 0.8nm,0.8s,baz=348,slow=8.9,SNR=3.8	**46.07 165**	P	**P**	**14 22 06.1 -1.2**
ASAR	**Alice Springs** 0.2nm,0.8s,baz=345,slow=9.6,SNR=4.3	**49.56 166**	P	**P**	**14 22 34.6 +0.2**

TAP ***23*** *14:18:35.5,24.˚69N×122.˚23E,h11km,ML2.9,C*
JMA ***23*** *14:18:36.1±0.1,24.˚63N×122.˚22E,h39km,M2.9*
ISC 23 14:18:35.6±0.9,24.˚65N±0.˚02×122.˚24E±0.˚02,h18km±5km, n76,σ0s71/139,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EOS1	**EOS1** baz=221	**0.14 227**		P		**Pg**		**14 18 39.8**	**+0.2**
EOS1				S		**Sg**		**14 18 43.1**	**+0.8**
EGS	baz=221	**0.34 305**		*e*P		**Pg**		**14 18 42.3**	**-0.6**
EGS	baz=300			*e*S		**Sg**		**14 18 47.1**	**-0.7**
TWC	**Suao** baz=264	**0.36 264**		*i* P		**Pg**		**14 18 42.5**	**-0.6**
TWC	baz=264			*e*S		**Sg**		**14 18 48.2**	**+0.1**
NTC	**Toucheng** baz=293	**0.43 299**		*e*P		**Pg**		**14 18 44.1**	**-0.2**
NTC	baz=293			*e*S		**Sb**		**14 18 50.7**	**-0.1**
TWB1	**Santiao Chiao** baz=325	**0.43 328**		*e*P		**Pg**		**14 18 43.8**	**-0.5**
TWB1	baz=325			*e*S		**Sg**		**14 18 49.1**	**-1.1**
ILA	**Ilan** baz=270	**0.46 285**		P		**Pg**		**14 18 44.8**	**-0.2**
ILA	baz=270			*e*S		**Sb**		**14 18 52.3**	**+0.4**
NANB	**Nanao** baz=239	**0.50 244**		*e*P		**Pg**		**14 18 45.2**	**-0.4**
NANB	baz=239			*e*S		**Sb**		**14 18 52.6**	**-0.2**
ENA	**Nanau** baz=239	**0.50 245**		P		**Pg**		**14 18 45.2**	**-0.5**
ENA	baz=239			*e*S		**Sb**		**14 18 52.9**	**-0.1**
TWE	**Neicheng** baz=265	**0.53 278**		*i* P		**Pb**		**14 18 45.7**	**-0.7**
TWE	baz=265			*e*S		**Sb**		**14 18 53.7**	**+0.1**
SLBB	**Yuanshan** baz=276	**0.56 281**		P		**Pb**		**14 18 46.6**	**-0.4**
SLBB	baz=276			*e*S		**Sg**		**14 18 54.9**	**+0.5**
NWF	**Wu-fen Shan** baz=304	**0.59 316**		*e*P		**Pg**		**14 18 47.8**	**+0.3**
NWF	baz=304			*e*S		**Sg**		**14 18 56.5**	**+1.0**
WFSB	**Wu-fen Shan** baz=304	**0.59 316**		*e*P		**Pg**		**14 18 47.8**	**+0.4**
WFSB	baz=304			*e*S		**Sg**		**14 18 55.9**	**+0.5**
ENTT	**Nioudou** baz=265	**0.61 270**		P		**Pb**		**14 18 47.2**	**-0.7**
ENTT	baz=265			*e*S		**Sg**		**14 18 56.6**	**+0.6**
JYNG	**Yonagunijimaku**	**0.67 107**		P		**Pg**		**14 18 49.1**	**+0.3**
JYNG				S		**Sn**		**14 19 00.3**	**0.0**
NWLT	**Wulai** baz=270	**0.68 281**		*e*P		**Pb**		**14 18 48.6**	**-0.5**
TWA	**Mucha** baz=286	**0.68 299**		*e*P		**Pg**		**14 18 49.2**	**+0.1**
TWA	baz=286			*e*S		**Sg**		**14 18 57.9**	**-0.3**
YOJ	**Yonaguni jima** baz=108	**0.72 104**		*e*P		**Pg**		**14 18 49.9**	**+0.1**
YOJ	baz=108			*e*S		**Sn**		**14 19 00.7**	**-1.0**
YOJ	**Yonaguni jima**	**0.72 104**		P		**Pg**		**14 18 50.0**	**+0.1**
YOJ				*e*S		**Sg**		**14 19 00.5**	**+1.0**
NACB	**Ninganchiao** baz=228	**0.75 232**		*e*P		**Pb**		**14 18 49.9**	**-0.3**
TATO	**Taipei** baz=284	**0.76 296**		*e*P		**Pg**		**14 18 50.5**	**+0.1**
TATO	baz=284			*e*S		**Sg**		**14 19 00.2**	**-0.4**
TAP1	**Taipei** baz=289	**0.76 301**		*e*P		**Pn**		**14 18 51.1**	**-0.4**
TAP1	baz=289			*e*S		**Sg**		**14 19 00.7**	**+0.1**
YM07	**YM07** baz=310	**0.77 313**		*e*P		**Pn**		**14 18 51.2**	**-0.5**
YM07	baz=310			*e*S		**Sn**		**14 19 02.4**	**-0.5**
YHNB	**Yeheng** baz=268	**0.79 272**		*e*P		**Pb**		**14 18 50.4**	**-0.5**
YHNB	baz=268			*e*S		**Sg**		**14 19 01.2**	**-0.2**
YM01	**YM01** baz=297	**0.79 309**		*e*P		**Pn**		**14 18 51.6**	**-0.3**
YM11	**YM11** baz=299	**0.80 311**		*e*P		**Pn**		**14 18 51.8**	**-0.3**
YM10	**YM10** baz=306	**0.80 310**		*e*P		**Pn**		**14 18 51.8**	**-0.3**
YM10	baz=306			*e*S		**Sg**		**14 19 02.0**	**+0.1**
YM08	**YM08** baz=301	**0.80 313**		*e*P		**Pn**		**14 18 51.8**	**-0.3**
YM05	**YM05** baz=307	**0.80 310**		*e*P		**Pn**		**14 18 51.9**	**-0.3**
YM05				*e*S		**Sn**		**14 19 03.2**	**-0.5**
NNSB	**Datong** baz=251	**0.81 255**		*e*P		**Pb**		**14 18 50.8**	**-0.5**
NNSB	baz=251			*e*S		**Sg**		**14 19 02.0**	**-0.2**
TWD	**Chiawan** baz=232	**0.81 226**		*e*P		**Pg**		**14 18 51.5**	**0.0**
TWD	baz=232			*e*S		**Sn**		**14 19 03.2**	**-0.6**
YM04	**YM04** baz=306	**0.81 309**		*e*P		**Pn**		**14 18 52.1**	**-0.2**
YM04	baz=306			*e*S		**Sn**		**14 19 03.5**	**-0.4**
NNS	**Nan Shan** baz=252	**0.82 256**		*e*P		**Pb**		**14 18 50.8**	**-0.6**
NNS	baz=252			*e*S		**Sg**		**14 19 02.8**	**+0.4**
YM03	**YM03** baz=306	**0.83 310**		*e*P		**Pn**		**14 18 52.9**	**+0.4**
TWS1	**Kuangyinshan** baz=289	**0.87 301**		*e*P		**Pn**		**14 18 53.6**	**+0.5**
TWS1	baz=289			*e*S		**Sn**		**14 19 05.9**	**+0.5**
WLTB	**Daxi** baz=287	**0.92 283**		*e*P		**Pg**		**14 18 53.8**	**+0.2**
WLTB	baz=287			*e*S		**Sb**		**14 19 05.0**	**0.0**
NCUH	**Zhongli** baz=286	**1.01 289**		*e*P		**Pg**		**14 18 56.1**	**+0.9**
NCUH	baz=286			*e*S		**Sg**		**14 19 10.2**	**+1.7**
WHF	**Hehuan Shan** baz=238	**1.02 241**		P		**Pb**		**14 18 54.9**	**-0.1**
WHF	baz=238			*e*S		**Sn**		**14 19 09.2**	**-0.4**
TWT	**Tachien** baz=246	**1.04 248**		*e*P		**Pg**		**14 18 56.7**	**+0.8**
TWT	baz=246			*e*S		**Sg**		**14 19 10.2**	**+0.5**
TDCB	**Techi** baz=246	**1.06 249**		*e*P		**Pn**		**14 18 55.8**	**0.0**
TDCB	baz=246			*e*S		**Sg**		**14 19 10.6**	**+0.5**
ESL	**Shilin** baz=225	**1.11 222**		*e*P		**Pg**		**14 18 57.3**	**+0.2**
ESL	baz=225			*e*S		**Sg**		**14 19 13.9**	**+2.3**
LIOB	**Emei** baz=260	**1.11 270**		*e*P		**Pg**		**14 18 57.8**	**+0.6**
LIOB	baz=260			*e*S		**Sg**		**14 19 13.1**	**+1.3**
NSTT	**Nanjuang** baz=259	**1.13 270**		*e*P		**Pg**		**14 18 57.7**	**+0.2**
NSTT	baz=259			*e*S		**Sg**		**14 19 13.0**	**+0.8**
CHGB	**Renai** baz=237	**1.13 239**		*e*P		**Pg**		**14 18 57.1**	**-0.5**
CHGB	baz=237			*e*S		**Sg**		**14 19 12.4**	**-0.1**
SBCB	**Hsinchu** baz=295	**1.15 278**		*e*P		**Pg**		**14 18 58.7**	**+0.8**
SBCB	baz=295			*e*S		**Sg**		**14 19 14.3**	**+1.3**
EGFH	**Guangfu** baz=195	**1.22 218**		*e*P		**Pg**		**14 18 58.8**	**-0.5**
EGFH	baz=195			*e*S		**Sg**		**14 19 16.3**	**+1.0**
NMLH	**Miaoli** baz=257	**1.32 266**		*e*P		**Pg**		**14 19 01.6**	**+0.4**
NMLH	baz=257			*e*S		**Sg**		**14 19 20.0**	**+1.6**
VWDT	**VWDT** baz=234	**1.34 229**		*e*P		**Pg**		**14 19 01.5**	**+0.1**
VWDT	baz=234			*e*S		**Sg**		**14 19 19.9**	**+0.9**
NSY	**Sanyi** baz=258	**1.37 261**		*e*P		**Pg**		**14 19 03.0**	**+1.1**
HGSD	**Ruisui** baz=194	**1.37 213**		*e*P		**Pb**		**14 19 00.8**	**0.0**
HGSD	baz=194			*e*S		**Sg**		**14 19 20.1**	**+0.2**
TWQ1	**Liyutan** baz=256	**1.37 258**		*e*P		**Pg**		**14 19 02.7**	**+0.6**
TWQ1	baz=256			*e*S		**Sg**		**14 19 21.0**	**+1.1**
IRIF	**Iriomote-Funau**	**1.39 103**		P		**Pn**		**14 18 59.9**	**-0.3**
IRIF				S		**Sb**		**14 19 18.5**	**-0.1**
EHY	**Hungye** baz=214	**1.41 217**		*e*P		**Pb**		**14 19 00.8**	**-0.6**
SMLT	**Sun Moon Lake** baz=238	**1.44 238**		*e*P		**Pg**		**14 19 03.4**	**0.0**
SMLT	baz=238			*e*S		**Sg**		**14 19 22.6**	**+0.4**
SSLB	**Suanglung** baz=240	**1.45 234**		*e*P		**Pg**		**14 19 03.0**	**-0.6**
SSLB	baz=240			*e*S		**Sg**		**14 19 22.5**	**-0.1**
TYC	**Yuchr** baz=239	**1.46 240**		*e*P		**Pg**		**14 19 04.1**	**+0.3**
TYC	baz=239			*e*S		**Sg**		**14 19 23.1**	**+0.3**
YULB	**Yu-li** baz=210	**1.52 215**		*e*P		**Pn**		**14 19 02.4**	**+0.5**
YULB	baz=210			*e*S		**Sg**		**14 19 23.9**	**-0.7**
HATJ	**Hateruma jima**	**1.54 112**		S		**Sn**		**14 19 20.8**	**-1.1**
TWF1	**Yuli** baz=198	**1.55 214**		*e*P		**Pb**		**14 19 03.8**	**-0.1**
WJS	**Zhushan** baz=232	**1.60 240**		*e*P		**Pg**		**14 19 07.6**	**+1.1**
JKRS	**Kuro-shima**	**1.66 104**		P		**Pn**		**14 19 04.3**	**+0.4**
JKRS				S		**Sn**		**14 19 25.0**	**+0.2**
FULB	**Fuli** baz=190	**1.68 211**		*e*P		**Pn**		**14 19 04.5**	**+0.3**
FULB	baz=190			*e*S		**Sg**		**14 19 29.3**	**-0.6**
JIJ	**Ishigaki jima**	**1.76 99**		P		**Pn**		**14 19 05.0**	**-0.2**
JIJ				S		**Sn**		**14 19 26.5**	**-0.7**
CHN5	**Tsauling** baz=235	**1.77 234**		*e*P		**Pg**		**14 19 09.4**	**-0.2**
CHN5	baz=235			*e*S		**Sg**		**14 19 34.6**	**+2.0**
WDLH	**Douliu** baz=259	**1.82 239**		*e*P		**Pg**		**14 19 10.3**	**-0.4**
WDLH	baz=259			*e*S		**Sg**		**14 19 36.0**	**+1.6**
JISG	**Ishigakijimahi**	**1.89 91**		P		**Pn**		**14 19 07.1**	**+0.1**
JISG				*e*S		**Sn**		**14 19 30.9**	**+0.6**
CHN4	**Tsaushan** baz=231	**1.98 230**		*e*P		**Pb**		**14 19 12.2**	**+0.9**
CHN4	baz=231			*e*S		**Sg**		**14 19 39.8**	**+0.4**
TPUB	**Ta-pu** baz=206	**1.99 228**		*e*P		**Pb**		**14 19 11.8**	**+0.5**
TPUB	baz=206			*e*S		**Sg**		**14 19 39.4**	**-0.4**
STYT	**Tauyuan** baz=202	**2.00 223**		*e*P		**Pb**		**14 19 11.8**	**+0.2**
STYT	baz=202			*e*S		**Sg**		**14 19 38.5**	**-1.8**
WTP	**Ta-pu** baz=205	**2.04 227**		*e*P		**Pb**		**14 19 12.9**	**+0.7**
WTP	baz=205			*e*S		**Sg**		**14 19 40.2**	**-1.0**
TWK	**Hsinying** baz=206	**2.11 230**		*e*P		**Pb**		**14 19 13.7**	**+0.3**
TWK	baz=206			*e*S		**Sg**		**14 19 42.4**	**-1.2**
CHN1	**Nanshi** baz=206	**2.14 227**		*e*P		**Pb**		**14 19 14.0**	**+0.2**
CHN1	baz=206			*e*S		**Sg**		**14 19 43.5**	**-1.0**
SGST	**Jiashian** baz=203	**2.17 225**		*e*P		**Pb**		**14 19 14.8**	**+0.3**
SGST	baz=203			*e*S		**Sg**		**14 19 44.0**	**-1.5**
SLGT	**Liugui** baz=202	**2.20 222**		*e*P		**Pb**		**14 19 14.9**	**0.0**
SLGT	baz=202			*e*S		**Sg**		**14 19 44.4**	**-2.0**
JTJ	**Tarama**	**2.24 90**		S		**Sn**		**14 19 40.1**	**+1.0**
SSD	**Sandimen** baz=201	**2.40 218**		*e*P		**Pb**		**14 19 17.6**	**-0.6**
MASBT	**Mashibuluo** baz=198	**2.50 216**		*e*P		**Pb**		**14 19 19.1**	**-1.0**
MASBT	baz=198			*e*S		**Sb**		**14 19 51.5**	**+0.8**

ISCJB ***23*** *14:21:35.3±0.5,24.˚92N±0.˚04×122.˚64E±0.˚04,h16km, mb3.3/4,Error ellipse: s-maj=6.2km s-min=3.7km az=35.0*
IDC ***23*** *14:21:35.5±1.3,24.˚38N×121.˚54E,h0km,mb3.3/4, mb1 3.5/5,mb1mx3.3/40,mbtmp3.4/5,ML3.2/1,MS2.8/1, Ms1 2.8/1,ms1mx2.3/21,Error ellipse: s-maj=69.0km s-min=21.3km az=69.0*
TAP ***23*** *14:21:36.3,24.˚94N×122.˚55E,h23km,ML3.3,C*
JMA ***23*** *14:21:36.5±0.3,24.˚81N×122.˚56E,h20km,M2.6*
ISC 23 14:21:36.4±0.7,24.˚82N±0.˚03×122.˚55E±0.˚03,h16km,n66, σ1s05/69,mb3.4/4,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EOS1	**EOS1** baz=215	**0.47 236**		P		**Pn**		**14 21 47.3**	**-1.1**
EOS1	baz=215			S		**Sn**		**14 21 56.2**	**-0.1**
JYNG	**Yonagunijimaku**	**0.51 135**		P		**Pg**		**14 21 46.1**	**-0.4**
JYNG				S		**Sg**		**14 21 52.9**	**-0.5**
YOJ	**Yonaguni jima**	**0.55 130**		P		**Pb**		**14 21 47.1**	**-0.5**
TWB1	**Santiao Chiao** baz=278	**0.55 291**		*e*P		**Pg**		**14 21 47.0**	**-0.3**
NTC	**Toucheng** baz=263	**0.66 274**		*e*P		**Pb**		**14 21 49.7**	**+0.2**
TWC	**Suao** baz=243	**0.67 252**		*e*P		**Pb**		**14 21 49.5**	**-0.2**
TIPB	**Shuangxi** baz=273	**0.68 283**		P		**Pg**		**14 21 49.1**	**-0.6**
TIPB	baz=273			S		**Sg**		**14 21 58.0**	**-0.7**
ILA	**Ilan** baz=257	**0.73 266**		*e*P		**Pb**		**14 21 50.3**	**-0.4**
WFSB	**Wu-fen Shan** baz=281	**0.74 290**		*e*P		**Pg**		**14 21 50.3**	**-0.6**
TWE	**Neicheng** baz=255	**0.81 264**		P		**Pg**		**14 21 52.1**	**-0.1**
NANB	**Nanao** baz=235	**0.82 242**		*e*P		**Pg**		**14 21 52.3**	**-0.2**
ENA	**Nanau** baz=235	**0.83 243**		P		**Pg**		**14 21 52.4**	**-0.2**
SLBB	**Yuanshan** baz=258	**0.83 266**		*e*P		**Pg**		**14 21 52.5**	**-0.2**
TWA	**Mucha** baz=273	**0.89 281**		*e*P		**Pb**		**14 21 53.1**	**-0.5**
ENTT	**Nioudou** baz=251	**0.91 259**		P		**Pn**		**14 21 54.1**	**-0.5**
YM07	**YM07** baz=286	**0.92 293**		*e*P		**Pb**		**14 21 52.8**	**-1.1**
PCYT	**Pengchaiyu** baz=313	**0.92 332**		*e*P		**Pb**		**14 21 51.9**	**-2.1**
YM08	**YM08** baz=286	**0.95 293**		*e*P		**Pb**		**14 21 53.1**	**-1.4**
YM01	**YM01** baz=283	**0.95 291**		*e*P		**Pg**		**14 21 54.5**	**-0.4**
YM11	**YM11** baz=284	**0.95 292**		*e*P		**Pn**		**14 21 54.8**	**-0.5**
NWLT	**Wulai** baz=260	**0.95 268**		*e*P		**Pg**		**14 21 54.4**	**-0.5**
YM05	**YM05** baz=284	**0.96 291**		*e*P		**Pb**		**14 21 54.1**	**-0.6**
YM10	**YM10** baz=284	**0.96 291**		*e*P		**Pb**		**14 21 53.9**	**-0.8**
TATO	**Taipei** baz=272	**0.98 280**		*e*P		**Pb**		**14 21 54.3**	**-0.7**
YM04	**YM04** baz=283	**0.98 290**		*e*P		**Pb**		**14 21 54.2**	**-0.8**
YM03	**YM03** baz=285	**0.99 292**		*e*P		**Pb**		**14 21 54.9**	**-0.3**
YHNB	**Yeheng** baz=268	**1.08 263**		*e*P		**Pb**		**14 21 56.3**	**-0.4**
NACB	**Ninganchiao** baz=228	**1.08 234**		*e*P		**Pn**		**14 21 56.5**	**-0.4**
NNSB	**Datong** baz=244	**1.13 250**		*e*P		**Pg**		**14 21 57.5**	**-0.8**
NNS	**Nan Shan** baz=245	**1.14 251**		*e*P		**Pb**		**14 21 57.8**	**-0.6**
TWD	**Chiawan** baz=225	**1.14 230**		*e*P		**Pg**		**14 21 58.5**	**+0.2**
IRIF	**Iriomote-Funau**	**1.17 114**		P		**Pb**		**14 21 57.8**	**-0.5**
WHF	**Hehuan Shan** baz=235	**1.35 241**		*e*P		**Pg**		**14 22 01.9**	**-0.5**
HATJ	**Hateruma jima**	**1.37 123**		P		**Pn**		**14 21 59.5**	**-1.3**
TWT	**Tachien** baz=241	**1.37 246**		*e*P		**Pg**		**14 22 02.5**	**-0.4**
TDCB	**Techi** baz=241	**1.39 247**		*e*P		**Pb**		**14 22 02.0**	**0.0**
LIOB	**Emei** baz=258	**1.41 263**		*e*P		**Pb**		**14 22 01.7**	**-0.6**
ESL	**Shilin** baz=221	**1.43 226**		*e*P		**Pb**		**14 22 01.8**	**-0.9**
CHGB	**Renai** baz=220	**1.46 239**		*e*P		**Pg**		**14 22 03.8**	**-0.8**
EGFH	**Guangfu** baz=204	**1.54 222**		*e*P		**Pb**		**14 22 03.5**	**-1.0**
VWDT	**VWDT** baz=214	**1.67 231**		*e*P		**Pb**		**14 22 05.9**	**-0.8**
HGSD	**Ruisui** baz=203	**1.67 218**		*e*P		**Pb**		**14 22 06.0**	**-0.8**
TWQ1	**Liyutan** baz=249	**1.69 254**		*e*P		**Pb**		**14 22 06.8**	**-0.2**
EHY	**Hungye** baz=218	**1.72 221**		*e*P		**Pn**		**14 22 05.7**	**0.0**
SMLT	**Sun Moon Lake** baz=219	**1.77 239**		*e*P		**Pb**		**14 22 08.5**	**-0.1**
SSLB	**Suanglung** baz=216	**1.78 235**		*e*P		**Pb**		**14 22 08.1**	**-0.6**
TYC	**Yuchr** baz=221	**1.79 240**		*e*P		**Pb**		**14 22 08.1**	**-0.7**
YULB	**Yu-li** baz=216	**1.82 219**		*e*P		**Pn**		**14 22 06.7**	**-0.4**
TWF1	**Yuli** baz=215	**1.85 218**		*e*P		**Pn**		**14 22 07.5**	**0.0**
CHN5	**Tsauling** baz=217	**2.10 235**		*e*P		**Pb**		**14 22 13.2**	**-0.9**
ELDTW	**Lidau** baz=207	**2.14 221**		*e*P		**Pn**		**14 22 12.0**	**+0.4**
CHN4	**Tsaushan** baz=215	**2.31 231**		*e*P		**Pb**		**14 22 16.6**	**-1.1**
TPUB	**Ta-pu** baz=214	**2.31 230**		*e*P		**Pb**		**14 22 16.3**	**-1.5**
STYT	**Tauyuan** baz=211	**2.32 225**		*e*P		**Pb**		**14 22 15.7**	**-2.3**
WTP	**Ta-pu** baz=213	**2.36 229**		*e*P		**Pb**		**14 22 16.9**	**-1.7**
TWK	**Hsinying** baz=214	**2.44 231**		*e*P		**Pb**		**14 22 18.0**	**-1.9**
CHN1	**Nanshi** baz=226	**2.46 229**		*e*P		**Pb**		**14 22 18.6**	**-1.7**
SGST	**Jiashian** baz=212	**2.49 227**		*e*P		**Pb**		**14 22 18.6**	**-2.3**
SLGT	**Liugui** baz=221	**2.52 224**		*e*P		**Pb**		**14 22 18.9**	**-2.4**
SSD	**Sandimen** baz=218	**2.71 221**		*e*P		**Pn**		**14 22 21.2**	**+2.0**
MASBT	**Mashibuluo** baz=208	**2.81 219**		*e*P		**Pn**		**14 22 22.6**	**+1.9**
KSRS	**Korea Array** 0.1nm,0.3s,baz=197,slow=11,SNR=3.8	**13.41 19**	Pn			**P**		**14 24 58.5**	**+3.1**
KSRS	comp=Z,38nm,19.2s,baz=200,slow=38				LR	LR		14 30 31.3	
SONM	**Songino Array** 0.1nm,0.3s,baz=141,slow=7.4,SNR=2.4	**26.30 335**	P			**P**		**14 27 12.0**	**+0.7**
MKAR	**Makanchi Array** 0.6nm,0.8s,baz=99,slow=9.3,SNR=3.5	**38.77 315**	P			**P**		**14 28 59.4**	**-0.7**
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=348,slow=9.0,SNR=5.2	**45.94 164**	P			**P**		**14 29 58.4**	**-0.4**
ASAR	**Alice Springs** 0.2nm,0.6s,baz=344,slow=12,SNR=5.3	**49.44 166**	P			**P**		**14 30 26.4**	**+0.6**

IDC ***23*** *14:45:17.8±0.9,9.˚92S×124.˚46E,h0km,mb3.8/5, mb1 3.9/7,mb1mx3.7/27,mbtmp3.8/7,ML3.8/2,MS3.1/1, Ms1 3.1/1,ms1mx2.5/29,Error ellipse: s-maj=19.1km s-min=10.9km az=158.0*
ISCJB ***23*** *14:45:19.7±0.5,10.˚33S±0.˚06×124.˚42E±0.˚05,h33km, mb3.6/5,MS3.1/1,Error ellipse: s-maj=10.8km s-min=4.9km az=38.0*
DJA ***23*** *14:45:22.2±0.4,10.˚5S±4.˚×12.˚4E±.˚,h10km,M4.4/12, mb4.6/6,mB5.0/2,MLv4.3/12,Mw(mB)4.3/2*
ISC 23 14:45:22.2±0.7,10.˚30S±0.˚07×124.˚38E±0.˚07,h35km,n20, σ1s96/24,mb3.6/5,Timor region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.55 348**		P		**Pn**		**14 45 30.5**	**-3.2**

BATI	**Baumata**	**0.71**	**277**	LR	LR	14 45 33.4	
	comp=Z,112nm,19.3s,baz=54,slow=19						
BATI				Pg	**Pn**	**14 45 33.7**	**-2.1**
	504nm,0.3s,baz=91,slow=3.7,SNR=722						
BATI				Lg	Lg	14 45 45.8	
	365nm,0.3s,baz=16,slow=20,SNR=53						
BATI	**Baumata**	**0.71**	**277**	P	**Pn**	**14 45 33.8**	**-2.1**
MMRI	**Maumere**	**2.69**	**308**	P	**Pn**	**14 46 03.9**	**+0.9**
MMRI				S	**Sn**	**14 46 36.2**	**+1.9**
EDFI	**Ende, Flores**	**3.07**	**300**	P	**Pn**	**14 46 07.9**	**-0.5**
EDFI				S	**Sn**	**14 46 43.5**	**-0.5**
WBSI	**Waikabubak, Su**	**4.96**	**277**	P	**Pn**	**14 46 34.9**	**+0.6**
WBSI				S	**Sn**	**14 47 31.6**	**+1.0**
BKSI	**Bulukumba**	**6.50**	**319**	P	**Pn**	**14 46 56.0**	**+0.5**
PLAI	**Plampang**	**6.68**	**282**	P	**Pn**	**14 46 58.0**	**+0.1**
	125nm,0.6s,1µm						
BNSI	**Bone**	**7.23**	**324**	P	**Pn**	**14 47 06.2**	**+0.7**
TWSI	**Taliwang, Sumb**	**7.56**	**281**	P	**Pn**	**14 47 10.9**	**+0.9**
	32nm,0.7s						
SANI	**Sanana**	**8.35**	**11**	P	**Pn**	**14 47 23.6**	**+2.8**
WRA	**Warramunga Arr**	**13.57**	**136**	Pn	**Pn**	**14 48 34.0**	**+1.7**
	0.4nm,0.3s,baz=321,slow=14,SNR=12						
WRA				Sn	**Sn**	**14 51 00.5**	**-1.4**
	0.9nm,0.3s,baz=312,slow=24,SNR=6.2						
ASAR	**Alice Springs**	**16.10**	**147**	Pn	**Pn**	**14 49 07.2**	**+1.1**
	0.4nm,0.3s,baz=322,slow=12,SNR=48						
ASAR				Sn	**Sn**	**14 51 59.7**	**-3.9**
	0.3nm,0.3s,baz=319,slow=23,SNR=8.8						
STKA	**Stephens Creek**	**26.73**	**146**	P	**P**	**14 51 02.0**	**+3.4**
	0.3nm,0.4s,baz=336,slow=16,SNR=2.6						
CMAR	**Chiang Mai Arr**	**38.04**	**319**	P	**P**	**14 52 35.4**	**-2.1**
	0.3nm,0.5s,baz=134,slow=5.2,SNR=3.6						
KSRS	**Korea Array**	**47.62**	**4**	LR	LR	15 15 25.8	
	comp=Z,21nm,19.2s,baz=186,slow=38						
SONM	**Songino Array**	**60.04**	**346**	P	**P**	**14 55 24.6**	**-1.1**
	0.5nm,0.6s,baz=156,slow=7.3,SNR=2.4						
MKAR	**Makanchi Array**	**68.12**	**330**	P	**P**	**14 56 18.1**	**-0.6**
	1.7nm,0.5s,baz=134,slow=7.6,SNR=14						
ZALV	**Zalesovo Beam**	**72.23**	**337**	P	**P**	**14 56 42.3**	**-1.3**
	0.3nm,0.4s,baz=89,slow=3.5,SNR=3.9						
LPAZ	**La Paz**	**150.82**	**155**	PKPbc	**PKPbc**	**15 05 15.0**	**+2.2**
	0.6nm,0.5s,baz=225,slow=2.9,SNR=3.9						

*IDC **23** 14:51:04.3±1.1, 13°.54N×92°.41W, h0km, mb4.0/9, mb1 4.1/14, mb1mx3.9/41, mbtmp4.0/14, ML3.5/5, MS3.3/6, Ms1 3.3/6, ms1mx3.0/39, Error ellipse: s-maj=29.8km s-min=13.6km az=40.0*

*ISCJB **23** 14:51:08.4±0.7, 13°.75N±0°.07×92°.33W±0°.09, h35km, mb4.0/9, MS3.4/4, Error ellipse: s-maj=15.0km s-min=5.2km az=141.4*

*MEX **23** 14:51:10.2±0.4, 13°.84N×92°.25W, h102km±16km, MD3.8*

ISC 23 14:51:09.6±0.8, 13°.67N±0°.09×92°.40W±0°.08, h35km, n27, σ2°32/26, mb4.0/9, MS3.2/4, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCIG		**2.17**	**339**	*e*P		**Pn**	**14 51 42.6**	**-0.6**
PCIG				*i* S		**Sn**	**14 52 08.4**	**-0.5**
APG	**El Apazote**	**2.30**	**54**	Pn		**Pn**	**14 51 46.2**	**+1.0**
	6.4nm,0.3s,baz=221,slow=7.5,SNR=82							
APG				Sn		**Sn**	**14 52 16.1**	**+3.7**
	12nm,0.3s,baz=284,slow=19,SNR=4.9							
APG				LR		LR	14 52 48.2	
	comp=Z,405nm,20.9s,baz=159,slow=44							
CCIG	**Comitan**	**2.61**	**6**	*e*P		**Pn**	**14 51 47.6**	**-1.9**
CCIG				*i* S		**Sn**	**14 52 16.6**	**-3.5**
CMIG	**Matias Romero**	**4.16**	**325**	Pn		**Pn**	**14 52 09.4**	**-1.2**
	1.0nm,0.3s,baz=136,slow=11,SNR=11							
CMIG				Sn		**Sn**	**14 52 55.6**	**-2.5**
	1.8nm,0.3s,baz=116,slow=15,SNR=4.5							
CMIG				LR		LR	14 53 49.3	
	comp=Z,86nm,21.8s,baz=16,slow=39							
JTS	**JuntasAbangare**	**8.02**	**114**	Pn		**Pn**	**14 53 02.4**	**-1.3**
	1.9nm,0.3s,baz=355,slow=7.0,SNR=7.6							
JTS				Sn		**Sn**	**14 54 29.1**	**-4.2**
	1.0nm,0.3s,baz=341,slow=18,SNR=2.4							
ZARC	**Zaragoza, Cauc**	**18.30**	**108**	*e*P		**Pn**	**14 55 21.0**	**+0.2**
TXAR	**Lajitas Array**	**18.76**	**328**	P		**Pn**	**14 55 27.8**	**+1.4**
	0.1nm,0.3s,baz=153,slow=11,SNR=4.5							
PTBC	**PUERTO BERRIO,**	**19.02**	**110**	*e*P		**P**	**14 55 28.3**	**-0.4**
SOTA	**Rioblanco**	**19.37**	**125**	*e*P		**Pn**	**14 55 40.9**	**+6.6**
MARP	**Paez Belalcaza**	**19.49**	**122**	*e*P		**Pn**	**14 55 35.6**	**+0.1**
ROSC	**El Rosal**	**19.87**	**115**	P		**P**	**14 55 38.5**	**+0.2**
	1.3nm,0.3s,baz=299,slow=5.3,SNR=4.4							
BARC	**Barichara**	**20.17**	**109**	*e*P		Pn	14 55 42.9	-0.6
CHIC	**Chingaza**	**20.48**	**114**	*e*P		Pn	14 55 46.9	-0.5
RUSC	**La Rusia**	**20.53**	**110**	*e*P		Pn	14 55 48.2	+0.2
SDV	**Santo Domingo**	**21.86**	**100**	P		**P**	**14 55 57.8**	**-1.9**
	13nm,0.8s,baz=278,slow=3.7,SNR=11							
TKL	**Tuckaleechee C**	**23.23**	**18**	P		**P**	**14 56 13.3**	**-0.4**
	5.8nm,0.6s,baz=179,slow=8.5,SNR=11							
TKL				LR		LR	15 05 31.8	
	comp=Z,78nm,18.7s,baz=223,slow=37							
ANMO	**Albuquerque**	**24.70**	**331**	P		**P**	**14 56 28.4**	**+0.6**
	0.8nm,0.5s,baz=142,slow=7.0,SNR=4.2							
ATAH	**Atahualpa**	**24.91**	**145**	LR		LR	15 04 32.0	
	comp=Z,41nm,18.2s,baz=14,slow=33							
SJG	**San Juan**	**25.62**	**77**	LR		LR	15 07 54.3	
	comp=Z,78nm,18.4s,baz=274,slow=39							
PDAR	**Pinedale Array**	**32.56**	**336**	P		**P**	**14 57 38.2**	**+0.5**
	0.3nm,0.7s,baz=147,slow=4.1,SNR=3.4							
NVAR	**Mina Array Bea**	**33.69**	**322**	P		**P**	**14 57 49.7**	**+2.1**
	2.1nm,0.9s,baz=140,slow=7.1,SNR=9.9							
PTGA	**Pitinga**	**35.18**	**111**	P		**P**	**14 58 01.5**	**+0.9**
	13nm,0.7s,baz=305,slow=9.1,SNR=24							
SIV	**San Ignacio**	**42.75**	**133**	P		**P**	**14 59 01.1**	**-2.9**
	0.8nm,0.7s,baz=319,slow=6.5,SNR=4.4							
BBB	**Bella Bella**	**47.86**	**331**	LR		LR	15 20 38.8	
	comp=Z,179nm,18.1s,baz=174,slow=37							
YKA	**Yellowknife Ar**	**51.26**	**347**	P		**P**	**15 00 09.7**	**0.0**
	1.1nm,0.6s,baz=148,slow=7.5,SNR=6.0							
ILAR	**Eielson Array**	**62.99**	**337**	P		**P**	**15 01 33.6**	**+0.9**
	0.6nm,0.9s,baz=139,slow=4.5,SNR=5.1							
CMAR	**Chiang Mai Arr**	**146.18**	**340**	PKPbc		**PKPdf**	**15 10 46.8**	**+0.7**
	0.9nm,0.6s,baz=332,slow=3.1,SNR=5.7							

GUC 23 15:21:16.9±0.6, 34°.38S×70°.77W, h89km±6km, ML3.6, 4C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LMEL	**Las Melosas**	**0.71**	**42**	⇓*i*P		Pn	15 21 33.2	-0.5
LMEL				*i* S		Sn	15 21 46.4	+0.3
LMEL				IAML			15 21 54.5	
	comp=N,3µm,0.2s							
CLCH	**Cerro Calan**	**1.00**	**11**	⇑*i*P		Pn	15 21 36.5	-0.1
CLCH				*e*S		Sn	15 21 51.4	0.0
CLCH				IAML			15 21 54.1	
	comp=E,4µm,0.4s							
FCH	**Farellones**	**1.12**	**21**	*e*P		Pn	15 21 38.2	-0.1
FCH				*e*S		Sn	15 21 54.5	+0.1
FCH				IAML			15 21 56.4	
	comp=N,1µm,0.3s							
GO05	**HualaæØ**	**1.14**	**236**	⇑*i*P		Pn	15 21 38.2	0.0
GO05				*e*S		Sn	15 21 53.9	-0.4
GO05				IAML			15 21 58.2	
	comp=E,986nm,0.2s							
PEL	**Peldehue**	**1.24**	**3**	⇑*i*P		Pn	15 21 39.4	0.0
PEL				*e*S		Sn	15 21 56.1	-0.3
PEL				IAML			15 21 59.4	
	comp=N,2µm,0.4s							
ROCH	**El Roble**	**1.42**	**352**	⇑*i*P		Pn	15 21 41.9	+0.1
ROCH				*i* S		Sn	15 22 00.7	+0.1
ROCH				IAML			15 22 08.0	
	comp=N,966nm,0.6s							

PGC 23 15:33:37.4±0.0, 52°.73N×132°.23W, h21km, ML3.7/11, ML3.7/11, 63km southwest of Sandspit, Bc Haida Gwaii Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HG1B	**Mitchell Dam**	**0.21**	**17**	P		Pb	15 33 42.5	-0.8
HG1B				S		Sb	15 33 46.1	-1.3
BNB	**Barry Inlet**	**0.33**	**118**	P		Pb	15 33 44.5	-0.2
BNB				S		Sb	15 33 48.7	-0.9
MOBC	**Moresby Island**	**0.44**	**21**	P		Pb	15 33 46.3	-0.1
MOBC				S		Sb	15 33 51.8	-0.8
DIB	**Dawson Inlet,**	**0.49**	**343**	P		Pb	15 33 46.8	-0.5
DIB				S		Sb	15 33 53.3	-0.7
HG3B	**Hotspring**	**0.51**	**108**	P		Pb	15 33 47.1	-0.5
HG3B				S		Sb	15 33 54.2	-0.3
VIB	**Van Inlet**	**0.55**	**340**	P		Pb	15 33 47.9	-0.6
VIB				S		Sb	15 33 55.2	-0.8
HG4B	**Hotspring**	**0.77**	**124**	P		Pb	15 33 51.5	-0.6
HG4B				S		Sb	15 34 02.2	+0.1
RUBB	**Prince Rupert**	**1.99**	**36**	Pn		Pn	15 34 09.5	-0.2
RUBB				Sg		Sb	15 34 37.9	+0.8
BBB	**Bella Bella**	**2.58**	**101**	Pn		Pn	15 34 17.3	-0.5
BBB				Sn		Sn	15 34 46.4	-2.2
BBB				Sg		Sb	15 34 54.8	+0.6
PHC	**Port Hardy**	**3.61**	**122**	Pn		Pn	15 34 29.0	-3.0
PHC				Sn		Sn	15 35 09.8	-4.1
PACB	**Port Alice, BC**	**3.75**	**126**	Pn		Pn	15 34 33.6	-0.2
PACB				Sn		Sn	15 35 15.6	-1.6
TLCB	**Telegraph Cove**	**4.01**	**121**	Pn		Pn	15 34 36.2	-1.3
TLCB				Sn		Sn	15 35 21.7	-2.1
WOSB	**Woss**	**4.38**	**124**	Pn		Pn	15 34 41.4	-1.2
WOSB				Sn		Sn	15 35 34.0	+0.9
FSB	**Fort Saint Jam**	**5.02**	**67**	Pg		Pb	15 35 06.8	+2.3
FSB				Sg		Sb	15 36 11.5	+7.1
CBB	**Campbell River**	**5.08**	**119**	Sn		Sn	15 35 49.9	-0.3

*NIED **23** 15:37:00, 42°.40N×144°.40E, h38km, Mw4.0 Best double couple: M0 1.14000×10^15 NP1:φs147.00000°, δ26.00000°, λ-8.00000°. NP2:φs244.00000°, δ87.00000°, λ-116.00000°.*

*JMA **23** 15:37:22.7±0.1, 42°.37N×144°.39E, h58km±2km, M4.2*

JMA Felt I J1.

*ISCJB **23** 15:37:22.8±0.5, 42°.35N±0°.04×144°.38E±0°.04, h55km±4km, mb3.7/16, MS3.6/1, Error ellipse: s-maj=7.1km s-min=3.5km az=147.2*

*MOS **23** 15:37:22.4±0.8, 42°.32N×144°.32E, h57km, mb4.0/11, Error ellipse: s-maj=14.5km s-min=8.0km az=75.0*

*SKHL **23** 15:37:24.8±0.1, 42°.41N×144°.26E, h71km±2km, mb4.9/5*

*IDC **23** 15:37:26.6±2.2, 42°.27N×144°.12E, h68km±18km, mb3.4/12, mb1 3.6/16, mb1mx3.5/44, mbtmp3.7/16, MS2.9/4, Ms1 2.9/4, ms1mx2.6/30, Error ellipse: s-maj=19.5km s-min=14.3km az=95.0*

ISC 23 15:37:23.6±1.0, 42°.36N±0°.05×144°.39E±0°.04, h47km±10km, n75, σ1°00/85, mb3.8/16, 8C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAK	**Akkeshi**	**0.68**	**19**	⇑P		**Pn**	**15 37 36.4**	**-0.6**
JAK				*e*S		**Sn**	**15 37 46.9**	**+0.3**
JOB	**Onbets**	**0.69**	**323**	⇓P		**Pn**	**15 37 36.7**	**-0.4**
JOB				*e*S		**Sn**	**15 37 47.1**	**+0.3**
JCH	**Churui**	**0.81**	**289**	⇓P		**Pn**	**15 37 38.2**	**-0.5**
JCH				*e*S		**Sn**	**15 37 49.3**	**-0.3**
JTHR	**Tokachihiroo**	**0.81**	**266**	⇓P		**Pn**	**15 37 38.4**	**-0.4**
JTHR				*e*S		**Sn**	**15 37 50.0**	**+0.2**
MYR	**Moyori**	**0.82**	**266**	*e*P		**Pn**	**15 37 38.6**	**-0.3**
JKHN	**Kushirohamanak**	**0.92**	**38**	P		**Pn**	**15 37 40.3**	**+0.1**
JKHN				*e*S		**Sn**	**15 37 53.8**	**+1.4**
ERM	**Erimo**	**0.98**	**250**	*e*P		**Pn**	**15 37 41.0**	**0.0**
ERM	**Erimo**	**0.98**	**250**	*i* PN		**Pn**	**15 37 41.0**	**0.0**
JEM	**Erimo**	**0.98**	**250**	P		**Pn**	**15 37 40.9**	**-0.1**
JAR	**Ashorobuto**	**1.05**	**334**	⇑P		**Pn**	**15 37 41.3**	**-0.6**
JAR				*e*S		**Sn**	**15 37 54.8**	**-0.7**
JNBK	**Urakawa-nobuka**	**1.22**	**267**	P		**Pn**	**15 37 43.4**	**-0.9**
JNK	**Nakash**	**1.25**	**11**	⇑P		**Pn**	**15 37 43.6**	**-1.1**
JNK				*e*S		**Sn**	**15 37 59.2**	**-1.3**
NEM2	**Nemuro 2**	**1.42**	**44**	P		**Pn**	**15 37 46.4**	**-0.5**
NEM2				*e*S		**Sn**	**15 38 04.0**	**-0.4**
HRK	**Horoka**	**1.45**	**321**	*e*P		**Pn**	**15 37 46.8**	**-0.7**
JFR	**Furan**	**1.55**	**302**	P		**Pn**	**15 37 48.3**	**-0.5**
JFR				*e*S		**Sn**	**15 38 06.9**	**-0.9**
JBT2	**Biratori 2**	**1.56**	**286**	P		**Pn**	**15 37 47.6**	**-1.3**
GLVR	**Golovnino**	**1.61**	**30**	*i* P		**Pn**	**15 37 50.0**	**+0.4**
GLVR				AMB	AMB		15 37 50.0	
	90nm,0.3s							
GLVR				AMB	AMB		15 37 50.0	
	110nm,0.3s							
GLVR				AMB	AMB		15 37 50.0	
	530nm,0.3s							
GLVR				*e*S		**Sn**	**15 38 09.0**	**-0.2**
GLVR				A	A		15 38 16.0	
	2µm,0.4s							
GLVR				A	A		15 38 16.0	
	3µm,0.4s							
GLVR	**Golovnino**	**1.61**	**30**	*c i* PN		**Pn**	**15 37 50.0**	**+0.4**
GLVR				*e*S		**Sn**	**15 38 09.5**	**+0.3**
GLVR				pmax	pmax			
	comp=N,89nm,0.1s							
GLVR				pmax	pmax			
	comp=E,105nm,0.1s							
GLVR				pmax	pmax			
	comp=Z,530nm,0.1s							
GLVR				smax	smax			
	comp=N,2µm,0.2s							
GLVR				smax	smax			
	comp=E,3µm,0.2s							
JTKR	**Abashiri--Toko**	**1.65**	**348**	⇑P		**Pn**	**15 37 50.7**	**+0.5**
JTKR				*e*S		**Sn**	**15 38 11.0**	**+0.8**
JRA	**Rausu**	**1.67**	**18**	P		**Pn**	**15 37 50.3**	**-0.1**
JRA				*e*S		**Sn**	**15 38 10.7**	**+0.1**
JMP	**Maruseppu**	**1.82**	**336**	⇑P		**Pn**	**15 37 52.4**	**-0.1**
JMP				*e*S		**Sn**	**15 38 14.5**	**+0.2**
JIAM	**Iburiatsuma**	**1.85**	**279**	P		**Pn**	**15 37 54.8**	**+2.0**
GRPR	**Tuman**	**1.92**	**31**	*i* P		**Pn**	**15 37 54.0**	**+0.1**
GRPR				AMB	AMB		15 37 55.0	
	comp=E,100nm,0.2s							
GRPR				AMB	AMB		15 37 55.0	
	comp=E,80nm,0.2s							
GRPR				AMB	AMB		15 37 55.0	
	comp=E,340nm,0.2s							
GRPR				*e*S		**Sn**	**15 38 16.0**	**-0.9**
GRPR				A	A		15 38 21.0	
	comp=E,1µm,0.5s							
GRPR				A	A		15 38 21.0	
	comp=E,2µm,0.5s							
GRPR	**Tuman**	**1.92**	**31**	*c i* PN		**Pn**	**15 37 54.3**	**+0.4**
GRPR				*e*S		**Sn**	**15 38 16.7**	**-0.2**
GRPR				pmax	pmax			
	comp=E,78nm,0.2s							
GRPR				pmax	pmax			
	comp=Z,335nm,0.2s							
GRPR				pmax	pmax			
	comp=N,101nm,0.1s							
GRPR				smax	smax			
	comp=N,1µm,0.5s							
GRPR				smax	smax			
	comp=E,2µm,0.6s							
YUK	**Yuzh-Kuril'sk**	**1.99**	**32**	*i* P		**Pn**	**15 37 55.5**	**+0.7**
YUK				AMB	AMB		15 37 56.3	
	comp=E,40nm,0.2s							
YUK				AMB	AMB		15 37 56.3	
	comp=E,80nm,0.2s							
YUK				AMB	AMB		15 37 56.3	
	comp=E,400nm,0.2s							
YUK				*e*S		**Sn**	**15 38 18.5**	**-0.1**
YUK				A	A		15 38 20.8	
	comp=E,860nm,0.4s							
YUK				A	A		15 38 20.8	
	comp=E,2µm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.99**	**32**	*c i* PN		**Pn**	**15 37 54.9**	**+0.1**
YUK				*e*S		**Sn**	**15 38 18.0**	**-0.6**
YUK				pmax	pmax			
	comp=N,44nm,0.2s							
YUK				pmax	pmax			
	comp=E,79nm,0.2s							
YUK				pmax	pmax			
	comp=Z,403nm,0.2s							
YUK				smax	smax			
	comp=N,859nm,0.3s							
YUK				smax	smax			
	comp=E,2µm,0.4s							
ASAJ	**Asahikawa**	**2.20**	**324**	P		**Pn**	**15 37 58.5**	**+0.9**
	comp=E,6.1nm,0.3s,baz=177,slow=15,SNR=65							
ASAJ				S		**Sn**	**15 38 26.9**	**+3.4**
	comp=E,49nm,0.3s,baz=49,slow=19,SNR=14							
ASAJ				LR	LR		15 38 33.7	
	comp=E,77nm,19.6s,baz=128,slow=31							
SHO	**Shikotan**	**2.34**	**49**	*i* P		**Pn**	**15 38 00.4**	**+0.8**
SHO				AMB	AMB		15 38 01.0	
	comp=E,30nm,0.3s							
SHO				AMB	AMB		15 38 01.0	
	comp=E,80nm,0.3s							
SHO				AMB	AMB		15 38 01.0	
	comp=E,150nm,0.3s							
SHO				*e*S		**Sn**	**15 38 27.0**	**-0.1**
SHO				A	A		15 38 32.0	
	comp=E,510nm,0.4s							
SHO				A	A		15 38 32.0	
	comp=E,689nm,0.4s							
SHO	**Shikotan**	**2.34**	**49**	*d i* PN		**Pn**	**15 37 59.9**	**+0.3**
SHO				*e*S		**Sn**	**15 38 26.9**	**-0.1**
SHO				pmax	pmax			
	comp=E,75nm,0.3s							
SHO				pmax	pmax			
	comp=Z,151nm,0.3s							
SHO				pmax	pmax			
	comp=N,34nm,0.4s							
SHO				smax	smax			
	comp=N,456nm,0.4s							
SHO				smax	smax			
	comp=E,663nm,0.3s							
KUR	**Kuril'sk**	**3.82**	**40**	*e*P		**Pn**	**15 38 22.4**	**+2.5**
KUR				AMB	AMB		15 38 23.0	
	comp=E,100nm,0.7s							
KUR				AMB	AMB		15 38 23.0	
	comp=E,4µm,0.7s							
KUR				*e*S		**Sn**	**15 39 05.0**	**+1.4**
KUR				A	A		15 39 14.7	
	comp=E,140nm,0.5s							
KUR				A	A		15 39 14.7	
	comp=E,119nm,0.5s							
KUR	**Kuril'sk**	**3.82**	**40**	*e*PN		**Pn**	**15 38 21.6**	**+1.7**
KUR				*e*S		**Sn**	**15 39 04.9**	**+1.4**
KUR				pmax	pmax			
	comp=E,23nm,0.3s							
KUR				pmax	pmax			
	comp=Z,57nm,0.3s							
KUR				pmax	pmax			
	comp=N,16nm,0.2s							
KUR				smax	smax			
	comp=N,93nm,0.6s							
KUR				smax	smax			
	comp=E,115nm,0.5s							
YSS	**Yuzh-Sakhalins**	**4.75**	**346**	*e*P		**Pn**	**15 38 33.9**	**+1.3**
YSS	**Yuzh-Sakhalins**	**4.75**	**346**	*e*PN		Pn	15 38 23.8	-8.8
YSS				MLR	MLR			
	comp=Z,400nm,15.0s							
MAJO	**Matsushiro**	**7.52**	**222**	*e*P		**Pn**	**15 39 12.0**	**+1.3**
MAJO	**Matsushiro**	**7.52**	**222**	*i* PN		**Pn**	**15 39 10.0**	**-0.7**
MJAR	**Matsushiro Arr**	**7.52**	**222**	P		**Pn**	**15 39 10.4**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=27,slow=14,SNR=12							
MJAR				LR	LR		15 42 34.5	
	comp=Z,73nm,20.5s,baz=30,slow=42							
KLR	**Kul'dur**	**11.18**	**312**	P		**Pn**	**15 40 04.1**	**+3.4**
	comp=Z,0.1nm,0.3s,baz=110,slow=16,SNR=3.6							
KLR	**Kul'dur**	**11.18**	**312**	*e*P		**Pn**	**15 40 01.3**	**+0.6**
KLR	**Kul'dur**	**11.18**	**312**	*i* PN		**Pn**	**15 40 01.3**	**+0.6**
KSRS	**Korea Array**	**13.55**	**254**	LR		LR	15 44 55.9	
	comp=Z,34nm,18.1s,baz=46,slow=34							
PETK	**Petropavlovsk-**	**13.97**	**35**	P		**P**	**15 40 42.7**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=329,slow=14,SNR=5.7							
YAK	**Yakutsk**	**21.57**	**341**	*e*P		**P**	**15 42 08.5**	**-0.3**
YAK	**Yakutsk**	**21.57**	**341**	*i* P		**P**	**15 42 08.5**	**-0.3**
YAK				pmax	pmax			
	comp=Z,3.0nm,0.7s							
SONM	**Songino Array**	**27.18**	**295**	P		**P**	**15 43 02.5**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=85,slow=8.5,SNR=6.4							
BILL	**Bilibino**	**28.28**	**17**	*e*P		**P**	**15 43 12.1**	**0.0**
BILL	**Bilibino**	**28.28**	**17**	*i* P		**P**	**15 43 12.1**	**0.0**
BILL				pmax	pmax			
	comp=Z,2.0nm,1.2s							
H11N2	**WAKE ISLAND Hy**	**29.50**	**133**	T		T	16 14 59.6	
	baz=324,slow=75,SNR=208							
H11N1	**WAKE ISLAND Hy**	**29.51**	**133**	T		T	16 15 09.5	
	baz=324,slow=75,SNR=314							
H11N3	**WAKE ISLAND Hy**	**29.52**	**133**	T		T	16 14 59.3	
	baz=324,slow=75,SNR=192							
H11S1	**WAKE ISLAND Hy**	**30.40**	**135**	T		T	16 16 01.7	
	baz=326,slow=76,SNR=293							
H11S3	**WAKE ISLAND Hy**	**30.40**	**135**	T		T	16 16 01.3	
	baz=326,slow=76,SNR=178							
H11S2	**WAKE ISLAND Hy**	**30.41**	**135**	T		T	16 16 03.1	
	baz=326,slow=76,SNR=227							
ZALV	**Zalesovo Beam**	**40.24**	**308**	P		**P**	**15 44 55.5**	**0.0**
	comp=Z,1.0nm,0.6s,baz=82,slow=9.6,SNR=5.1							
ZALV	**Zalesovo Beam**	**40.24**	**308**	*i* P		**P**	**15 44 56.0**	**+0.5**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**43.45**	**298**	P		**P**	**15 45 20.9**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=80,slow=10.0,SNR=4.6							
MKAR	**Makanchi Array**	**43.45**	**298**	*e*P		**P**	**15 45 21.6**	**-0.2**
MKAR	**Makanchi Array**	**43.45**	**298**	*i* P		**P**	**15 45 21.7**	**-0.1**
ILAR	**Eielson Array**	**43.80**	**35**	P		**P**	**15 45 25.4**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=253,slow=5.5,SNR=9.8							
BRVK	**Borovoye**	**48.88**	**310**	*i* P		P	15 46 07.1	+2.8
BRVK				pmax	pmax			
	comp=Z,1.0nm,1.0s							
ARU	**Arti**	**53.98**	**317**	LR		LR	16 11 44.4	
	comp=Z,56nm,18.6s,baz=216,slow=38							
YKA	**Yellowknife Ar**	**58.07**	**32**	P		P	15 47 15.1	+3.5
	comp=Z,0.6nm,0.7s,baz=294,slow=6.7,SNR=2.7							
WRA	**Warramunga Arr**	**62.67**	**191**	P		**P**	**15 47 42.9**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=9.9,slow=6.9,SNR=6.9							
WRA	**Warramunga Arr**	**62.67**	**191**	*e*P		**P**	**15 47 44.0**	**+0.6**
WRA	**Warramunga Arr**	**62.67**	**191**	*i* P		**P**	**15 47 44.0**	**+0.6**
WRA				pmax	pmax			
	com

s-maj=63.8km s-min=22.7km az=72.0

ISCJB ***23*** *15:46:38.2±2.2, 19°.36N±0°.04×121°.21E±0°.08, h3^{km}±16^{km}, mb3.2/3, Error ellipse: s-maj=12.7km s-min=6.2km az=9.5*

MAN ***23*** *15:46:40.5, 19°.34N×121°.34E, h16^{km}, mb4.8, ML3.7, MS3.6*

ISC 23 15:46:39.6±2.1, 19°.37N±0°.05×121°.29E±0°.09, h17^{km}±15km, n19, σ1§69/19, mb3.3/3, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BBP	**Basco**	**1.24**	**31**	*eP*		**Pb**		**15 47 02.5**	**0.0**
BBP				*eS*		**Sg**		**15 47 19.8**	**+0.1**
SGCP	**Mt. Cagua**	**1.33**	**147**	*eP*		**Pn**		**15 47 03.5**	**+0.2**
SGCP				*eS*		**Sn**		**15 47 20.9**	**+0.3**
APYP	**Conner**	**1.50**	**182**	*eP*		**Pn**		**15 47 05.4**	**-0.2**
APYP				*eS*		**Sn**		**15 47 24.3**	**-0.5**
CVP	**Callao Caves**	**1.73**	**163**	*ie*P		**Pn**		**15 47 09.1**	**+0.2**
CVP				*i* S		**Sn**		**15 47 31.7**	**+1.2**
ABRA	**Dolores**	**1.80**	**198**	*eP*		**Pn**		**15 47 09.4**	**-0.4**
ABRA				*eS*		**Sn**		**15 47 33.7**	**+1.5**
CAUP	**Cauayan**	**2.46**	**168**	*eP*		**Pn**		**15 47 21.7**	**+2.8**
CAUP				*eS*		**Sg**		**15 47 57.9**	**-0.9**
PALP	**Palanan**	**2.53**	**155**	*eP*		**Pn**		**15 47 21.5**	**+1.6**
PALP				*eS*		**Sb**		**15 47 56.2**	**+0.8**
SMPP	**San Manuel, Pa**	**3.25**	**190**	*eP*		**Pn**		**15 47 31.7**	**+1.9**
BALP	**Baler**	**3.62**	**176**	*eP*		**Pn**		**15 47 37.4**	**+2.5**
KSRS	**Korea Array**	**18.93**	**16**	P		Pn		15 51 08.4	+8.2
	baz=192,slow=11,SNR=2.9								
WRA	**Warramunga Arr**	**41.11**	**161**	P		**P**		**15 54 19.3**	**-3.4**
	0.2nm,0.5s,baz=342,slow=9.3,SNR=3.2								
MKAR	**Makanchi Array**	**41.96**	**320**	P		**P**		**15 54 30.5**	**+0.9**
	0.5nm,0.8s,baz=105,slow=9.9,SNR=3.1								
H11S3	**WAKE ISLAND Hy**	**42.85**	**83**	T		T		16 40 17.5	
	baz=279,slow=75,SNR=4.2								
H11S1	**WAKE ISLAND Hy**	**42.86**	**83**	T		T		16 40 14.7	
	baz=279,slow=75,SNR=7.4								
H11S2	**WAKE ISLAND Hy**	**42.87**	**83**	T		T		16 40 19.0	
	baz=279,slow=75,SNR=5.5								
H11N1	**WAKE ISLAND Hy**	**42.87**	**82**	T		T		16 40 16.2	
	baz=277,slow=75,SNR=38								
H11N2	**WAKE ISLAND Hy**	**42.88**	**82**	T		T		16 40 16.5	
	baz=277,slow=75,SNR=44								
H11N3	**WAKE ISLAND Hy**	**42.89**	**82**	T		T		16 40 17.5	
	baz=277,slow=75,SNR=27								
ASAR	**Alice Springs**	**44.51**	**163**	P		**P**		**15 54 48.4**	**-1.9**
	0.2nm,0.4s,baz=349,slow=7.1,SNR=7.6								

NIED ***23*** *15:51:00, 36°.10N×139°.90E, h53^{km}, Mw4.4 Best double couple: M$_o$4.58000×10^{15} NP1:φ$_s$260.00000°, δ17.00000°, λ124.00000°. NP2:φ$_s$45.00000°, δ76.00000°, λ80.00000°.*

ISCJB ***23*** *15:51:46.3±0.3, 36°.06N±0°.03×139°.91E±0°.03, h59^{km}±2^{km}, mb4.5/75, MS3.7/16, Error ellipse: s-maj=4.7km s-min=4.2km az=23.5*

NEIC ***23*** *15:51:47.7±0.5, 36°.00N×139°.83E, h58^{km}±4^{km}, mb4.9/3, Error ellipse: s-maj=5.7km s-min=4.9km az=100.0*

NEIC Felt [III] at Saitama and [II] at Tokyo. Felt in much of east-central Honshu. Recorded [3 JMA] in Ibaraki, Saitama and Tochigi.

JMA ***23*** *15:51:47.8±0.1, 36°.07N×139°.88E, h45^{km}±1^{km}, M4.4 Broadband fault plane solution: P waves. NP1: φ$_s$45.00000°, δ68.00000°, λ84.00000°. NP2:φ$_s$242.00000°, δ23.00000°, λ106.00000°. Principal axes: T Plg66.0000°, Azm304.0000°; N Plg6.0000°, Azm47.0000°; P Plg23.0000°, Azm140.0000°;*

JMA Felt III J1.

IDC ***23*** *15:51:49.0±1.0, 35°.99N×139°.80E, h68^{km}±9^{km}, mb4.1/37, mb1 4.2/40, mb1mx4.1/56, mbtmp4.4/40, MS3.4/15, Ms1 3.4/15, ms1mx3.3/38 Error ellipse: s-maj=11.8km s-min=7.2km az=65.0*

MOS ***23*** *15:51:49.9±1.0, 36°.49N×139°.72E, h68^{km}, mb4.8/42, Error ellipse: s-maj=8.1km s-min=5.2km az=107.4*

ISC 23 15:51:47.3±0.6, 36°.06N±0°.04×139°.91E±0°.04, h54^{km}±5km, n199, σ1§62/210, mb4.6/76, MS3.7/16, 23C-15D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.28**	**54**	⇑P			**Pn**	**15 51 56.5**	**-0.2**
JYT				S			**Sn**	**15 52 02.8**	**-0.6**
JAG	**Ashikaga**	**0.52**	**314**	⇓P			**Pn**	**15 51 58.8**	**-0.2**
JAG				S			**Sn**	**15 52 06.5**	**-1.0**
JRY	**Ryogami san**	**0.82**	**267**	⇓P			**Pn**	**15 52 02.5**	**-0.3**
JRY				S			**Sn**	**15 52 13.1**	**-1.0**
JKT	**Katashina**	**0.88**	**323**	⇓P			**Pn**	**15 52 03.4**	**-0.3**
JKT				S			**Sn**	**15 52 14.8**	**-0.9**
JOD2	**Odawara 2**	**1.04**	**220**	P			**Pn**	**15 52 05.8**	**+0.1**
JOD2				S			**Sn**	**15 52 19.5**	**+0.2**
JYN	**Shimob**	**1.25**	**244**	⇑P			**Pn**	**15 52 09.2**	**+0.7**
BSO3	**Boso 3**	**1.35**	**159**	⇓P			**Pn**	**15 52 09.8**	**+0.2**
JFY	**Yanaizu**	**1.35**	**353**	⇓P			**Pn**	**15 52 10.5**	**+0.6**
JFY				S			**Sn**	**15 52 28.1**	**+1.3**
JHK	**Hiroka**	**1.39**	**329**	⇓P			**Pn**	**15 52 10.7**	**+0.4**
JIM2	**Oshima 3**	**1.40**	**196**	⇓P			**Pn**	**15 52 10.2**	**-0.3**
MJAR	**Matsushiro Arr**	**1.46**	**290**	P			**Pn**	**15 52 11.4**	**+0.1**
	209nm,0.3s,baz=102,slow=8.1,SNR=1794								
MJAR				S			**Sn**	**15 52 29.9**	**+0.6**
	132nm,0.3s,baz=63,slow=34,SNR=11								
MJAR				LR		LR		15 52 57.9	
	comp=Z,1μm,19.4s,baz=115,slow=51								
MJAR	**Matsushiro Arr**	**1.46**	**290**	P			**Pn**	**15 52 11.4**	**+0.1**
MJAR				S			**Sn**	**15 52 29.9**	**+0.6**
MJAR				pmax		pmax			
	comp=Z,209nm,0.3s								
MJAR				smax		smax			
	comp=N,133nm,0.3s								
MAJO	**Matsushiro**	**1.46**	**290**	*e*Pn			**Pn**	**15 52 11.1**	**-0.2**
MAJO				*e*Sn			**Sn**	**15 52 29.1**	**-0.3**
MAJO	**Matsushiro**	**1.46**	**290**	*d i*P			**Pn**	**15 52 11.8**	**+0.5**
MAT	**Matsushiro**	**1.46**	**290**	P			**Pn**	**15 52 10.7**	**-0.6**
MAT				S			**Sn**	**15 52 28.4**	**-0.9**
MJB9	**Matsu-Tunnel**	**1.46**	**290**	*e*Pn			**Pn**	**15 52 11.1**	**-0.3**
INU	**Inuyama**	**2.46**	**254**	*e*Pn			**Pn**	**15 52 26.2**	**+1.3**
JHJ	**Hachijo jima 2**	**2.94**	**182**	P			**Pn**	**15 52 31.0**	**-0.5**
	comp=N,76nm,0.3s,baz=324,slow=23,SNR=46								
JHJ				S			**Sn**	**15 53 05.3**	**-0.2**
	comp=N,104nm,0.3s,baz=45,slow=19,SNR=4.2								
JHJ2	**Mitsune**	**2.94**	**182**	*e*Pn			**Pn**	**15 52 31.2**	**-0.4**
ERM	**Erimo**	**6.46**	**22**	*e*Pn			**Pn**	**15 53 20.8**	**+1.1**
ERM	**Erimo**	**6.46**	**22**	*ji*P			**Pn**	**15 53 20.2**	**+0.5**
JNU	**Nakatsue**	**8.01**	**251**	P			**Pn**	**15 53 42.1**	**+1.1**
	comp=N,0.6nm,0.3s,baz=211,slow=1.5,SNR=7.0								
JNU				LR		LR		15 57 17.2	
	comp=N,253nm,18.0s,baz=106,slow=42								
ASAJ	**Asahikawa**	**8.30**	**14**	P			**Pn**	**15 53 44.7**	**-0.2**
	comp=N,4.4nm,0.3s,baz=218,slow=12,SNR=42								
ASAJ				S			**Sn**	**15 55 14.2**	**-3.1**
	baz=214,slow=18,SNR=2.0								
ASAJ				LR		LR		15 57 21.0	
	comp=N,117nm,21.6s,baz=180,slow=40								
ASAJ	**Asahikawa**	**8.30**	**14**	*e*Pn			**Pn**	**15 53 47.1**	**+2.2**
CBIJ	**Chichi jima**	**9.15**	**167**	*e*Pn			**Pn**	**15 53 53.6**	**-2.9**
JCJ	**Chichijima**	**9.15**	**167**	P			**Pn**	**15 53 53.9**	**-2.7**
	comp=N,21nm,0.3s,baz=292,slow=21,SNR=8.8								
SHO	**Shikotan**	**9.43**	**32**	*e*P			**Pn**	**15 53 59.8**	**-0.6**
SHO				*e*S			**Sn**	**15 55 36.7**	**-8.2**
SHO				pmax		pmax			
	comp=Z,24nm,0.7s								
SHO				pmax		pmax			
	comp=E,13nm,0.4s								
SHO				pmax		pmax			
	comp=N,10.0nm,0.3s								
KSRS	**Korea Array**	**9.72**	**282**	P			**Pn**	**15 54 08.0**	**+3.6**
	comp=N,0.9nm,0.3s,baz=94,slow=14,SNR=10								
KSRS				LR		LR		15 57 44.4	
	comp=N,265nm,19.7s,baz=84,slow=37								
KSRS	**Korea Array**	**9.72**	**282**	P			**Pn**	**15 54 08.0**	**+3.6**
KSRS				pmax		pmax			
	comp=Z,1.0nm,0.3s								
KSRS				MLR		MLR			
	comp=Z,265nm,19.7s								
KSAR	**Wonju Array Be**	**9.75**	**282**	P			**Pn**	**15 54 08.0**	**+3.2**
KSAR	**Wonju Array Be**	**9.75**	**282**	P			**Pn**	**15 54 08.0**	**+3.2**
USRK	**Ussuriysk Ar.**	**10.14**	**326**	P			Pn	15 54 14.9	+4.9
	comp=Z,0.7nm,0.3s,baz=138,slow=13,SNR=27								
USRK				LR		LR		15 57 51.1	
	comp=Z,138nm,20.6s,baz=135,slow=36								
KUR	**Kuril'sk**	**10.97**	**31**	*e*P			**Pn**	**15 54 20.8**	**-0.6**
KUR				*e*S			**Sn**	**15 56 17.0**	**-5.5**
KUR				pmax		pmax			
	comp=N,44nm,0.8s								
KUR				pmax		pmax			
	comp=E,22nm,0.8s								
KUR				pmax		pmax			
	comp=Z,49nm,0.8s								
YSS	**Yuzh-Sakhalins**	**11.09**	**10**	*e*P			**Pn**	**15 54 21.6**	**-1.4**
YSS				MLR		MLR			
	comp=Z,400nm,16.0s								
MDJ	**Mudanjiang**	**11.61**	**321**	P			**Pn**	**15 54 34.3**	**+4.1**
MDJ				sP				15 54 51.8	
MDJ				pmax		pmax			
	comp=Z,25nm,1.1s								
MDJ				pmax		pmax			
	comp=Z,200nm,6.4s								
CN2	**Changchun**	**13.51**	**309**	*e*P			**P**	**15 55 01.9**	**-1.8**
KLR	**Kul'dur**	**14.45**	**338**	P			**Pn**	**15 55 08.7**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=128,slow=19,SNR=3.5								
KLR				LR		LR		16 00 15.2	
	comp=Z,120nm,21.6s,baz=142,slow=35								
KLR	**Kul'dur**	**14.45**	**338**	*i* P			**Pn**	**15 55 06.7**	**-2.0**
NJ2	**Nanjing**	**17.90**	**263**	*e*P			**P**	**15 55 52.6**	**+0.3**
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
ZEA	**Zeya**	**19.77**	**337**	*e*P			**P**	**15 56 10.1**	**-2.5**
ZEA				pmax		pmax			
	comp=Z,20nm,1.0s								
PETK	**Petropavlovsk-**	**21.14**	**31**	P			**P**	**15 56 28.1**	**+0.6**
	comp=Z,4.2nm,1.0s,baz=318,slow=52,SNR=3.1								
HHC	**Hu-ho-hao-te**	**22.66**	**291**	*e*P			**P**	**15 56 42.9**	**-1.1**
HHC				pP		pP		15 56 57.0	+0.7
HHC				sP		sP		15 57 04.6	+1.5
HHC				S		**S**		**16 00 41.8**	**-6.5**
HHC				sS		Sn		16 01 05.3	-0.2
HHC				pmax		pmax			
	comp=Z,24nm,1.0s								
HHC				pmax		pmax			
	comp=Z,100nm,6.0s								
HHC				LR		LR			
	comp=Z,90nm,14.7s								
HHC				LR		LR			
	comp=Z,98nm,15.6s								
GUMO	**Guam**	**22.82**	**167**	LR		LR		16 05 05.6	
	comp=Z,92nm,20.6s,baz=36,slow=35								
XAN	**Xi'an**	**25.40**	**275**	P			**P**	**15 57 08.3**	**-1.4**
XAN				pmax		pmax			
	comp=Z,4.0nm,0.6s								
XAN				pmax		pmax			
	comp=Z,93nm,5.3s								
YAK	**Yakutsk**	**26.78**	**349**	P			**P**	**15 57 20.9**	**-0.8**
	comp=Z,11nm,0.5s,baz=351,slow=1.7,SNR=7.7								
YAK				LR		LR		16 08 06.4	
	comp=Z,96nm,19.2s,baz=97,slow=36								
YAK	**Yakutsk**	**26.78**	**349**	*i* P			**P**	**15 57 21.2**	**-0.5**
YAK				pmax		pmax			
	comp=Z,17nm,0.8s								
ULN	**Ulaanbaatar**	**26.93**	**306**	*ce*P			**P**	**15 57 23.7**	**+0.2**
ULN				pmax		pmax			
	comp=Z,5.0nm,1.3s								
SONA1	**Songino Array**	**27.35**	**306**	*e*P			**P**	**15 57 26.6**	**-0.6**
SONM	**Songino Array**	**27.35**	**306**	P			**P**	**15 57 27.1**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=106,slow=8.3,SNR=13								
SONM				LR		LR		16 08 49.3	
	comp=Z,68nm,18.2s,baz=54,slow=37								
SEY	**Seymchan**	**27.98**	**12**	*i* P			**P**	**15 57 34.3**	**+1.7**
	comp=Z,4.1nm,0.9s,baz=192,slow=8.6,SNR=8.0								
SEY	**Seymchan**	**27.98**	**12**	*i* P			**P**	**15 57 33.2**	**+0.7**
H11N2	**WAKE ISLAND Hy**	**28.73**	**117**	T			T	16 27 52.0	
	baz=312,slow=75,SNR=73								
H11N1	**WAKE ISLAND Hy**	**28.74**	**117**	T			T	16 27 51.3	
	baz=312,slow=75,SNR=90								
H11N3	**WAKE ISLAND Hy**	**28.75**	**117**	T			T	16 27 51.7	
	baz=312,slow=75,SNR=74								
LZH	**Lanzhou**	**29.05**	**281**	*e*P			**P**	**15 57 43.5**	**+1.0**
LZH				pP		pP		15 57 57.4	+1.2
LZH				sP		sP		15 58 04.6	+1.9
LZH				pmax		pmax			
	comp=Z,23nm,1.1s								
LZH				pmax		pmax			
	comp=Z,92nm,5.2s								
LZH				LR		LR			
	comp=Z,320nm,12.9s								
LZH				LR		LR			
	comp=Z,340nm,13.2s								
LZH				LR		LR			
	comp=Z,470nm,16.5s								
H11S1	**WAKE ISLAND Hy**	**29.39**	**119**	T			T	16 28 44.0	
	baz=314,slow=76,SNR=146								
H11S3	**WAKE ISLAND Hy**	**29.39**	**119**	T			T	16 28 43.9	
	baz=314,slow=76,SNR=103								
H11S2	**WAKE ISLAND Hy**	**29.41**	**119**	T			T	16 28 43.9	
	baz=314,slow=76,SNR=84								
GYA	**Guiyang**	**29.87**	**261**	*e*P			**P**	**15 57 51.0**	**+1.2**
GYA				pmax		pmax			
	comp=Z,10.0nm,0.8s								
CD2	**Chengdu**	**30.47**	**271**	*e*P			**P**	**15 57 53.6**	**-1.4**
CD2				S			**S**	**16 02 50.8**	**-1.7**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CD2				pmax		pmax			
	comp=Z,120nm,5.0s								
CD2				LR		LR			
	comp=Z,810nm,8.3s								
CD2				LR		LR			
	comp=Z,1μm,15.7s								
CD2				LR		LR			
	comp=Z,390nm,11.3s								
GTA	**Gaotai**	**31.71**	**288**	*e*P			**P**	**15 58 05.3**	**-0.6**
GTA				pP		pP		15 58 20.0	+0.3
GTA				sP		sP		15 58 27.6	+1.5
GTA				pmax		pmax			
	comp=Z,1.0nm,0.6s								
GTA				LR		LR			
	comp=Z,250nm,20.6s								
GTA				LR		LR			
	comp=Z,190nm,19.9s								
KMI	**Kunming**	**33.62**	**262**	P			**P**	**15 58 23.6**	**+0.7**
KMI				pmax		pmax			
	comp=Z,11nm,0.5s								
BILL	**Bilibino**	**35.30**	**17**	*ce*P			**P**	**15 58 38.2**	**+1.5**
BILL				pmax		pmax			
	comp=Z,20nm,2.5s								
TIXI	**Tiksi**	**36.12**	**354**	P			**P**	**15 58 43.2**	**-0.4**
	comp=Z,3.6nm,0.4s,baz=137,slow=5.8,SNR=8.7								
TIXI	**Tiksi**	**36.12**	**354**	*ce*P			**P**	**15 58 43.0**	**-0.6**
TIXI				pmax		pmax			
	comp=Z,4.0nm,0.7s								
DGZ	**Jazzator, Alta**	**39.99**	**307**	*i* P			**P**	**15 59 17.4**	**+0.7**
DGZ				pmax		pmax			
	comp=Z,9.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**40.08**	**255**	P			**P**	**15 59 16.7**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=64,slow=6.1,SNR=4.9								
CMAR				PcP			**PcP**	**16 01 21.3**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=42,slow=1.5,SNR=4.7								
CMAR	**Chiang Mai Arr**	**40.08**	**255**	*i* P			P	15 59 25.2	+7.6
WMQ	**Urumqi**	**40.21**	**298**	*e*P			**P**	**15 59 21.1**	**+2.6**
WMQ				pP		pP		15 59 34.0	+1.5
WMQ				pmax		pmax			
	comp=Z,18nm,0.9s								
WMQ				pmax		pmax			
	comp=Z,240nm,5.7s								
ZAA0	**Zalesovo Array**	**41.69**	**313**	*e*P			**P**	**15 59 29.8**	**-0.5**
	comp=Z,18nm,0.6s								
ZALV	**Zalesovo Beam**	**41.69**	**313**	P			**P**	**15 59 30.6**	**+0.2**
	comp=Z,17nm,0.6s,baz=93,slow=6.2,SNR=67								
ZALV				PcP			**PcP**	**16 01 25.8**	**-0.3**
	comp=Z,2.9nm,0.5s,baz=111,slow=2.4,SNR=5.7								
ZALV				LR		LR		16 16 00.0	
	comp=Z,27nm,19.6s,baz=70,slow=35								
ZALV	**Zalesovo Beam**	**41.69**	**313**	*e*P			**P**	**15 59 29.7**	**-0.7**
ZALV				PcP			**PcP**	**16 01 25.8**	**-0.3**
NVS	**Novosibirsk**	**42.65**	**314**	*ji*P			**P**	**15 59 38.4**	**+0.2**
NVS				pmax		pmax			
	comp=Z,12nm,0.5s								
NVS				pmax		pmax			
	comp=N,4.0nm,0.7s								
NVS				pmax		pmax			
	comp=E,7.0nm,0.4s								
MK01	**Makanchi Array**	**43.61**	**303**	*e*P			**P**	**15 59 46.0**	**-0.1**
MK31	**Makanchi Array**	**43.62**	**303**	*e*P			**P**	**15 59 46.0**	**-0.2**
MK31	**Makanchi Array**	**43.62**	**303**	*e*P			**P**	**15 59 46.0**	**-0.2**
MKAR	**Makanchi Array**	**43.62**	**303**	P			**P**	**15 59 46.1**	**-0.1**
	comp=E,5.0nm,0.6s,baz=86,slow=9.3,SNR=62								
MKAR				PcP			**PcP**	**16 01 32.1**	**-0.7**
	comp=E,0.8nm,0.7s,baz=62,slow=3.4,SNR=2.5								
MKAR				LR		LR		16 18 01.0	
	comp=E,39nm,20.0s,baz=69,slow=36								
NRIK	**Noril'sk**	**43.65**	**336**	P			**P**	**15 59 45.7**	**-0.4**
	comp=E,4.1nm,0.5s,baz=108,slow=12,SNR=13								
NRIK				PcP			**PcP**	**16 01 33.1**	**+0.8**
	comp=E,2.5nm,0.6s,baz=116,slow=3.3,SNR=3.2								
NRIK				LR		LR		16 17 17.8	
	comp=E,55nm,20.2s,baz=69,slow=35								
KURK	**Kurchatov**	**45.59**	**309**	*ce*P			**P**	**16 00 01.6**	**-0.1**
KURK				pmax		pmax			
	comp=Z,45nm,1.3s								
RAMN	**Ramite**	**45.87**	**274**	*e*P			**P**	**16 00 04.2**	**-0.4**
	comp=Z,31nm,0.7s								
JIRN	**Jiri**	**45.90**	**275**	*e*P			**P**	**16 00 05.1**	**+0.1**
	comp=Z,72nm,1.1s								
GUN	**Gumba**	**46.05**	**276**	*e*P			**P**	**16 00 06.1**	**0.0**
	comp=Z,13nm,0.6s								
PDGK	**Podgornoye**	**46.16**	**298**	P			**P**	**16 00 06.6**	**0.0**
PDGK				pmax		pmax			
	comp=Z,16nm,0.8s								
PKI	**Pulchoki**	**46.57**	**276**	*e*P			**P**	**16 00 09.7**	**-0.5**
	comp=Z,23nm,1.1s								
PKIN	**Phulchoki**	**46.58**	**276**	*e*P			**P**	**16 00 09.7**	**-0.5**
	comp=Z,5.3nm,0.5s								
KKN	**Kakani**	**46.58**	**276**	*e*P			**P**	**16 00 09.9**	**-0.3**
	comp=Z,30nm,1.1s								
DMN	**Daman**	**46.80**	**276**	*e*P			**P**	**16 00 11.7**	**-0.2**
	comp=Z,6.5nm,0.7s								
DANN	**Dangsing**	**47.57**	**277**	*e*P			**P**	**16 00 18.1**	**+0.1**
	comp=Z,106nm,0.8s								
KOLN	**Koldanda**	**47.94**	**277**	*e*P			**P**	**16 00 20.7**	**0.0**
	comp=Z,23nm,0.9s								
PYUN	**Piuthan**	**48.30**	**277**	*e*P			**P**	**16 00 23.6**	**+0.1**
	comp=Z,127nm,1.1s								
KDAK	**Kodiak Island**	**48.63**	**41**	P			**P**	**16 00 26.1**	**+0.9**
	comp=Z,10nm,0.6s,baz=136,slow=10,SNR=3.9								
TKM2	**Tokmak 2**	**49.03**	**299**	P			**P**	**16 00 29.8**	**+0.9**
	SNR=7.8								
KZA	**Kyzart**	**49.50**	**298**	P			**P**	**16 00 34.2**	**+1.5**
	SNR=5.9								
KBK	**Karagaybulak**	**49.56**	**299**	P			**P**	**16 00 33.1**	**+0.2**
	SNR=13								
KSH	**Kashi**	**49.70**	**294**	P			**P**	**16 00 38.0**	**+4.0**
KSH				pP		sP		16 00 53.9	-0.8
KSH				PP		**PP**		**16 02 34.4**	**+5.7**
KSH				S		**S**		**16 07 42.3**	**+3.3**
KSH				sS		sS		16 08 09.1	+5.8
KSH				pmax		pmax			
	comp=Z,17nm,0.7s								
KSH				pmax		pmax			
	comp=Z,200nm,6.7s								
KSH				LR		LR			
	comp=Z,220nm,9.6s								
KSH				LR		LR			
	comp=Z,220nm,8.6s								
KSH				LR		LR			
	comp=Z,170nm,12.8s								
AAK	**Ala-Archa**	**49.89**	**299**	P			**P**	**16 00 36.0**	**+0.6**
	SNR=5.0								
AAK	**Ala-Archa**	**49.89**	**299**	*i* P			**P**	**16 00 35.7**	**+0.3**
AAK				pmax		pmax			
	comp=Z,8.0nm,0.9s								
OTUK	**Ortayu**	**50.02**	**306**	P			**P**	**16 00 36.3**	**+0.1**
OTUK				pmax		pmax			
	comp=Z,29nm,0.9s								
BVAR	**Borovoye Array**	**50.34**	**313**	P			**P**	**16 00 38.2**	**-0.2**
	comp=Z,3.0nm,0.5s,baz=81,slow=6.4,SNR=5.2								
BRVK	**Borovoye**	**50.39**	**313**	*ce*P			**P**	**16 00 39.5**	**+0.6**
BRVK				pmax		pmax			
	comp=Z,5.0nm,1.0s								
AML	**Almayashu**	**50.60**	**298**	P			**P**	**16 00 42.0**	**+0.9**
	SNR=30								
IL1	**Eielson Array**	**50.96**	**32**	*e*P			**P**	**16 00 42.9**	**0.0**
ILAR	**Eielson Array**	**50.96**	**32**	P			**P**	**16 00 44.0**	**+1.0**
	comp=Z,2.9nm,0.6s,baz=270,slow=5.6,SNR=43								
ILAR	**Eielson Array**	**50.96**	**32**	P			**P**	**16 00 44.0**	**+1.0**
ILAR				pmax		pmax			
	comp=Z,3.0nm,0.6s								
ILB	**Eielson Array**	**50.96**	**32**	*e*P			**P**	**16 00 43.1**	**+0.2**
MNAS	**Manas**	**51.34**	**299**	P			**P**	**16 00 47.2**	**+0.8**
MNAS				pmax		pmax			
	comp=Z,16nm,0.8s								
SFK	**Sufi-Kurgan**	**51.36**	**296**	P			**P**	**16 00 46.9**	**+0.3**
SFK				pmax		pmax			
	comp=Z,12nm,0.8s								
KK31	**Karatay Array**	**52.57**	**300**	*e*P			**P**	**16 00 55.8**	**+0.5**
KK31	**Karatay Array**	**52.57**	**300**	*e*P			**P**	**16 00 55.8**	**+0.5**
KKAR	**Karatay Array**	**52.57**	**300**	*e*P			**P**	**16 00 55.8**	**+0.5**
KKAR	**Karatay Array**	**52.57**	**300**	*e*P			**P**	**16 00 55.8**	**+0.5**
BTK	**Batken**	**53.30**	**297**	P			**P**	**16 01 00.9**	**+0.1**
BTK				pmax		pmax			
	comp=Z,5.0nm,0.9s								
INK	**Inuvik**	**55.80**	**27**	P			**P**	**16 01 19.7**	**+1.3**
	comp=Z,4.2nm,0.9s,baz=306,slow=6.3,SNR=16								
WRAB	**Tennant Creek**	**55.94**	**186**	*ce*P			P	16 01 29.2	+9.3
WRAB				pmax		pmax			
	comp=

	comp=Z,7.0nm,0.9s								
HFS	**Hagfors**	**74.47**	**335**	P		**P**		**16 03 19.3**	**-0.2**
	comp=Z,2.5nm,0.6s,baz=73,slow=5.1,SNR=7.6								
NC204	**NORSAR Array S**	**74.57**	**337**	*e*P		**P**		**16 03 20.4**	**+0.3**
NB2	**NORSAR Subarra**	**74.61**	**337**	P		**P**		**16 03 20.3**	**0.0**
	comp=Z,1.6nm,0.5s,baz=42,slow=5.9								
NB2	**NORSAR Subarra**	**74.61**	**337**	P		**P**		**16 03 20.3**	**0.0**
NB2					pmax	pmax			
	comp=Z,2.0nm,0.5s								
NOA	**NORSAR Array B**	**74.61**	**337**	P		**P**		**16 03 20.3**	**0.0**
	comp=Z,2.0nm,0.5s,baz=40,slow=5.8,SNR=10								
NOA					LR	LR		16 39 06.6	
	comp=Z,43nm,18.9s,baz=280,slow=38								
NV01	**Mina Array Sit**	**76.54**	**52**	*e*P		**P**		**16 03 33.5**	**+1.4**
NVAR	**Mina Array Bea**	**76.54**	**52**	P		**P**		**16 03 34.4**	**+2.4**
	comp=Z,3.5nm,0.8s,baz=283,slow=5.9,SNR=21								
BIZ	**Bicaz**	**78.30**	**320**	⇑*i*P		**P**		**16 03 41.8**	**+0.4**
BURAR	**Bucovina Array**	**78.31**	**321**	⇑*i*P		**P**		**16 03 42.1**	**+0.5**
BURAR	**Bucovina Array**	**78.31**	**321**	⇑P		**P**		**16 03 42.1**	**+0.5**
CFR	**Carcaliu**	**78.36**	**318**	⇓*i*P		P		16 03 35.6	-6.2
CFR	**Carcaliu**	**78.36**	**318**	⇓P		P		16 03 35.6	-6.2
BORG	**Borgarnes**	**78.44**	**352**	P		**P**		**16 03 43.4**	**+1.6**
	comp=Z,16nm,1.0s,baz=262,slow=14,SNR=2.2								
BRTR	**Keskin Array B**	**78.58**	**311**	P		**P**		**16 03 43.5**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=101,slow=2.5,SNR=5.6								
VRI	**Vrincioaia**	**78.67**	**319**	⇑*i*P		**P**		**16 03 43.3**	**-0.2**
VRI	**Vrincioaia**	**78.67**	**319**	⇑P		**P**		**16 03 43.3**	**-0.2**
TLB	**Topalu**	**78.79**	**317**	⇑*i*P		P		16 03 37.7	-6.4
TLB	**Topalu**	**78.79**	**317**	⇑P		P		16 03 37.7	-6.4
GRER		**78.86**	**319**	⇑*i*P		**P**		**16 03 46.2**	**+1.7**
DUG	**Dugway, Tooele**	**78.90**	**48**	P		**P**		**16 03 48.4**	**+3.3**
DUG					pmax	pmax			
	comp=Z,7.0nm,1.1s								
OJC	**Ojcow**	**79.16**	**326**	*e*P		**P**		**16 03 47.0**	**+0.9**
OJC	**Ojcow**	**79.16**	**326**	*e*P		**P**		**16 03 47.0**	**+0.9**
PDAR	**Pinedale Array**	**79.21**	**45**	P		**P**		**16 03 48.1**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=248,slow=1.4,SNR=8.4								
PDAR	**Pinedale Array**	**79.21**	**45**	*e*P		**P**		**16 03 47.5**	**+0.7**
TRPA	**Tarpa**	**79.31**	**323**	⇓*i*P		**P**		**16 03 47.9**	**+1.0**
NIE	**Niedzica**	**79.49**	**325**	P		**P**		**16 03 50.9**	**+3.0**
KSP	**Ksiaz**	**80.28**	**328**	*e*P		**P**		**16 03 52.7**	**+0.5**
KSP	**Ksiaz**	**80.28**	**328**	*e*P		**P**		**16 03 52.7**	**+0.5**
MORC	**Moravsky Berou**	**80.50**	**326**	⇑*i*P		**P**		**16 03 54.0**	**+0.6**
MORC	**Moravsky Berou**	**80.50**	**326**	⇑P		**P**		**16 03 54.0**	**+0.6**
DPC	**Dobruska-Polom**	**80.63**	**327**	*e*P		**P**		**16 03 55.1**	**+1.0**
DPC	**Dobruska-Polom**	**80.63**	**327**	*e*P		**P**		**16 03 55.1**	**+1.0**
VRAC	**Vranov**	**81.27**	**326**	P		**P**		**16 03 57.7**	**+0.2**
	comp=Z,2.3nm,0.5s,baz=31,slow=5.9,SNR=3.4								
CLL	**Collm**	**81.33**	**329**	*i* P		**P**		**16 03 57.8**	**+0.1**
	comp=Z,5.0nm,0.6s								
CLL	**Collm**	**81.33**	**329**	*i* P		**P**		**16 03 57.8**	**+0.1**
CLL					pmax	pmax			
	comp=Z,5.0nm,0.6s								
BZS	**Buzias**	**81.49**	**321**	⇓*i*P		**P**		**16 03 54.8**	**-3.9**
BZS	**Buzias**	**81.49**	**321**	⇓P		**P**		**16 03 54.8**	**-3.9**
GOPC	**GO Pecny, Ondr**	**81.62**	**328**	*e*P		**P**		**16 03 59.6**	**+0.3**
GOPC	**GO Pecny, Ondr**	**81.62**	**328**	*e*P		**P**		**16 03 59.6**	**+0.3**
CONA	**Conrad Observa**	**82.61**	**326**	*i* PcP		**P**		**16 04 06.1**	**+1.5**
	comp=Z,6.6nm,1.4s								
KHC	**Kasperske Hory**	**82.73**	**328**	*e*P		**P**		**16 04 03.2**	**-2.0**
KHC	**Kasperske Hory**	**82.73**	**328**	*e*P		**P**		**16 04 03.2**	**-2.0**
GERES	**GERESS Array B**	**82.89**	**328**	P		**P**		**16 04 05.8**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=34,slow=6.2,SNR=7.4								
GERES					LR	LR		16 43 42.0	
	comp=Z,42nm,18.9s,baz=306,slow=38								
GEA0	**GERESS Array S**	**82.89**	**328**	*e*P		**P**		**16 04 04.5**	**-1.6**
EKA	**Eskdalemuir Ar**	**83.63**	**340**	P		**P**		**16 04 09.5**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=47,slow=4.9,SNR=5.2								
SOKA	**Soboth**	**83.92**	**325**	*i* P		**P**		**16 04 11.6**	**+0.2**
	comp=Z,4.5nm,0.9s								
MYKA	**Terra Mystica**	**84.59**	**326**	*i* P		**P**		**16 04 14.4**	**-0.4**
	comp=Z,1.8nm,0.4s								
PDG	**Podgorica**	**84.95**	**320**	⇑*i*P		**P**		**16 04 16.7**	**+0.2**
TUC	**Tucson**	**85.13**	**53**	P		**P**		**16 04 20.9**	**+3.1**
PPT	**Papeete**	**85.30**	**116**	LR		LR		16 34 18.8	
	comp=Z,32nm,21.6s,baz=2.0,slow=30								
DAVOX	**Davos/Dischmat**	**86.12**	**328**	P		**P**		**16 04 23.1**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=168,slow=9.3,SNR=2.4								
ANMO	**Albuquerque**	**86.14**	**49**	*e*P		**P**		**16 04 26.0**	**+3.1**
ANMO					pmax	pmax			
	comp=Z,2.0nm,1.3s								
TXAR	**Lajitas Array**	**91.67**	**51**	P		**P**		**16 04 50.4**	**+1.4**
	comp=Z,1.2nm,0.5s,baz=306,slow=2.9,SNR=8.4								
TORD	**Torodi Ar. Bea**	**117.14**	**313**	PKP		**PKPdf**		**16 10 26.4**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=340,slow=3.8,SNR=2.9								
LPAZ	**La Paz**	**148.23**	**59**	PKPbc		**PKPbc**		**16 11 27.3**	**-1.2**
	comp=Z,1.7nm,0.7s,baz=314,slow=3.2,SNR=7.0								

MEX 23 15:58:18.8±0.4, 16°.10N×98°.64W, h2km±3km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.57**	**60**	*e*P		Pg	15 58 29.4	-0.4
PNIG				*e*S		Sg	15 58 37.6	+0.4
TLIG	**Tlapa**	**1.45**	**3**	*e*P		Pn	15 58 42.3	-4.0
TLIG				*i* S		Sg	15 59 00.7	-4.9
MEIG	**Mezcala**	**2.04**	**333**	*i* P		Pn	15 58 03.4	-3.9
MEIG				*e*S		Sn	15 59 15.6	-4.8
VHO	**Vista Hermosa**	**2.07**	**62**	*e*P		Pn	15 58 52.1	-2.7
VHO				*i* S		Sn	15 59 17.1	-4.1

IDC ***23*** *16:15:30.4±2.2,6°.72S×129°.28E, h0km, mb3.6/1, mb1 4.0/3, mb1mx3.5/28, mbtmp3.8/3, ML3.8/2, Error ellipse: s-maj=148.5km s-min=31.4km az=68.0*

ISCJB ***23*** *16:15:45.4±0.8,7°.45S±0°.08×128°.65E±0°.06, h151km, mb3.4/1, Error ellipse: s-maj=10.8km s-min=8.4km az=2.9*

DJA ***23*** *16:15:45.6±0.6,7°.5S×12°.9E±°, h177km±18km, M3.9/7, mb3.5/3, MLv4.1/7*

ISC 23 16:15:46.1±1.0, 7°.54S±0°.10×128°.68E±0°.08, h151km, n8, σ2°.37/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.64**	**100**	P		**Pn**	**16 16 29.7**	**+0.7**
SAUI				S		**Sn**	**16 17 04.8**	**+2.8**
SOEI	**Soe**	**4.88**	**243**	P		**Pn**	**16 16 59.4**	**+1.3**
BATI	**Baumata**	**5.62**	**242**	P		**Pn**	**16 17 08.9**	**+1.1**
FAKI	**Fak Fak**	**5.81**	**38**	P		**Pn**	**16 17 08.6**	**-1.8**
	4.9nm,0.6s,0.1nm							
EDFI	**Ende, Flores**	**7.02**	**260**	P		**Pn**	**16 17 26.7**	**+0.1**
WRA	**Warramunga Arr**	**13.49**	**157**	Pn		**Pn**	**16 18 50.9**	**-0.7**
	0.4nm,0.3s,baz=343,slow=12,SNR=11							
WRA				Sn		Sn	16 21 11.1	-10
	1.3nm,0.3s,baz=334,slow=23,SNR=11							
ASAR	**Alice Springs**	**16.80**	**163**	P		**Pn**	**16 19 34.9**	**+2.3**
	0.4nm,0.3s,baz=340,slow=10.0,SNR=68							
ASAR				S		**S**	**16 22 35.1**	**-4.4**
	0.4nm,0.3s,baz=351,slow=26,SNR=6.5							
MKAR	**Makanchi Array**	**67.97**	**328**	P		**P**	**16 26 29.1**	**+0.3**
	0.3nm,0.4s,baz=117,slow=8.0,SNR=6.3							

IDC ***23*** *16:20:11.4±0.6,2°.10N×96°.68E, h0km, mb4.2/19, mb1 4.3/21, mb1mx4.1/37, mbtmp4.2/21, ML4.1/2, MS3.9/24, Ms1 3.9/24, ms1mx3.7/46, Error ellipse: s-maj=16.1km s-min=11.7km az=24.0*

ISCJB ***23*** *16:20:13.6±0.3,2°.00N±0°.04×96°.65E±0°.04, h28km, mb4.3/31, MS3.9/25, Error ellipse: s-maj=6.8km s-min=4.3km az=138.3*

BJI ***23*** *16:20:13.7, 1°.91N×96°.64E, h32km, mb4.7/31, mB4.9/19, Ms4.4/14, Ms7 4.1/13*

NEIC ***23*** *16:20:15.5±2.3,2°.04N×96°.67E, h28km±16km, mb4.3/9, Error ellipse: s-maj=10.2km s-min=4.7km az=61.0*

DJA ***23*** *16:20:15.5±0.7,2°N±4°×9°.7E±°, h29km±11km, M4.5/16, mb4.5/5, mB4.8/4, MLv4.7/16, Mw(mB)4.0/4*

ISC 23 16:20:15.8±0.5, 2°.06N±0°.05×96°.64E±0°.05, h28km, n124, σ1°.58/114, mb4.4/33, MS4.0/26, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.47**	**317**	P		**Pn**	**16 20 26.8**	**+0.2**
GSI	**Gunungsitoli**	**1.20**	**129**	*e*Pn		**Pn**	**16 20 35.3**	**-1.5**
GSI	**Gunungsitoli**	**1.20**	**129**	P		**Pn**	**16 20 36.0**	**-0.7**
TPTI		**1.30**	**24**	P		**Pn**	**16 20 37.3**	**-0.8**
KCSI	**Kotacane, Aceh**	**1.83**	**38**	P		**Pn**	**16 20 45.4**	**-0.1**
MLSI	**Meulaboh, Aceh**	**2.20**	**354**	P		**Pn**	**16 20 50.2**	**-0.3**
TSI	**Tuntungan**	**2.39**	**53**	P		**Pn**	**16 20 52.1**	**-1.0**
PSI	**Prapat**	**2.39**	**72**	Pn		**Pn**	**16 20 52.5**	**-0.7**
	8.3nm,0.3s,baz=180,slow=5.9,SNR=25							
PSI				Lg		Lg	16 21 24.1	
	28nm,0.3s,baz=360,slow=4.0,SNR=8.1							
PSI				LR		LR	16 21 42.7	
	comp=Z,1μm,21.7s,baz=270,slow=39							
PBSI	**Pulau Batu**	**2.67**	**142**	P		**Pn**	**16 20 56.3**	**-0.6**
LHMI	**Lhok Sumawe**	**3.16**	**6**	*e*Pn		**Pn**	**16 21 03.9**	**+0.2**
LHMI	**Lhok Sumawe**	**3.16**	**6**	P		**Pn**	**16 21 03.7**	**0.0**
MNSI	**Mandailing Nat**	**3.19**	**113**	P		**Pn**	**16 21 03.4**	**-0.8**
IPM	**Ipoh**	**4.99**	**61**	*e*Pn		**Pn**	**16 21 28.7**	**-0.2**
KULM	**Kulim**	**5.12**	**51**	*e*Pn		**Pn**	**16 21 30.5**	**-0.2**
CMBY	**CAMPBELL BAY**	**5.61**	**331**	*e*P		**Pn**	**16 21 35.1**	**-2.3**
CMBY				ex		**Sn**	**16 22 39.3**	**-1.7**
PKDT	**Phuket**	**6.03**	**16**	P		**Pn**	**16 21 44.9**	**+1.7**
	18nm,0.5s,374nm0.1nm							
SKLT	**Songkhla**	**6.44**	**38**	P		Pn	16 21 54.9	+6.1
TRTT	**Trang**	**6.49**	**28**	P		**Pn**	**16 21 49.0**	**-0.5**
	21nm,0.8s,268nm0.2nm							
MNAI	**Manna**	**8.97**	**135**	*e*Pn		**Pn**	**16 22 21.7**	**-1.9**
SRAK	**Srakaew**	**13.02**	**24**	P		**P**	**16 23 26.7**	**-2.4**
KSM	**Kuching**	**13.67**	**92**	*e*Pn		**Pn**	**16 23 28.8**	**+0.9**
UTHA	**Uthaitani**	**13.69**	**11**	P		**P**	**16 23 37.1**	**+0.5**
LEM	**Lembang**	**14.07**	**129**	LR		LR	16 30 22.4	
	comp=Z,422nm,18.3s,baz=292,slow=43							
CHAI	**Chaiyaphum**	**14.72**	**21**	P		**P**	**16 23 51.2**	**+3.1**
PBKT	**Sadao Pong**	**15.03**	**16**	P		**P**	**16 23 49.4**	**-2.1**
	16nm,0.7s							
SBUM	**Sibu**	**15.57**	**88**	*e*Pn		**Pn**	**16 23 52.8**	**-0.7**
	11nm,1.3s							
SUKH	**Sukhothai**	**15.60**	**11**	P		**P**	**16 23 57.6**	**-0.2**
	8.6nm,0.7s							
UTTA	**Uttaradit**	**16.05**	**14**	P		**P**	**16 24 03.1**	**+0.3**
	6.1nm,0.7s							
CM01	**Chiang Mai Arr**	**16.41**	**8**	*e*Pn		**Pn**	**16 24 04.8**	**+0.5**
CM31	**Chiang Mai Arr**	**16.45**	**8**	*e*Pn		**Pn**	**16 24 05.4**	**+0.7**
CMAR	**Chiang Mai Arr**	**16.45**	**8**	Pn		**Pn**	**16 24 04.0**	**-0.8**
	0.8nm,0.3s,baz=198,slow=11,SNR=39							
CMAR						Lg	16 29 13.5	
	0.1nm,0.3s,baz=180,slow=27,SNR=3.6							
CMAR						LR	16 30 40.1	
	comp=Z,329nm,21.1s,baz=198,slow=38							
LAMP	**Lampang**	**16.62**	**10**	P		**Pn**	**16 24 07.6**	**+0.7**
	4.5nm,0.8s							
CHTO	**Chiang Mai**	**16.80**	**8**	*e*Pn		**Pn**	**16 24 08.2**	**-1.0**
	5.2nm,0.7s							
CHTO	**Chiang Mai**	**16.80**	**8**	P		**Pn**	**16 24 10.0**	**+0.8**
	34nm,1.6s							
PAYA	**Payao**	**17.48**	**10**	P		**P**	**16 24 18.4**	**-0.3**
	4.9nm,0.8s							
KKM	**Kota Kinabalu**	**19.91**	**78**	*e*P		**P**	**16 24 45.2**	**-0.4**
	21nm,0.9s							
SAIH	**SAIHA**	**20.61**	**350**	*e*P		**P**	**16 24 52.4**	**-0.8**
BWNR	**Bhubaneshwar**	**20.98**	**330**	*e*P		**P**	**16 24 54.6**	**-2.4**
BRDH	**Bariadhala**	**21.06**	**347**	LR		LR	16 35 36.8	
	comp=Z,334nm,18.7s,baz=180,slow=44							
HYB	**Hyderabad**	**23.42**	**312**	*e*P		**P**	**16 25 22.3**	**-0.6**
KOHI	**KOHIMA**	**23.65**	**354**	*e*P		**P**	**16 25 23.7**	**-1.3**
KMI	**Kunming**	**23.67**	**14**	P		**P**	**16 25 26.3**	**+0.9**
KMI					pmax	pmax		
	comp=Z,13nm,0.5s							
SHL	**Shillong**	**23.81**	**349**	*e*P		**P**	**16 25 23.8**	**-2.9**
SHL					IAmb	IAmb	16 25 25.7	
	comp=Z,8.7nm,0.8s							
BOK	**Bokaro**	**23.98**	**335**	*e*P		**P**	**16 25 27.8**	**-0.3**
MOKO	**MOKOCHONG**	**24.20**	**355**	*e*P		**P**	**16 25 29.0**	**-1.3**
GUWA	**GUWAHATI**	**24.46**	**349**	*e*P		**P**	**16 25 32.4**	**-0.1**
TEZP	**TEZPUR**	**24.69**	**352**	*e*P		**P**	**16 25 33.0**	**-1.6**
ITAN	**ITANAGAR**	**25.09**	**354**	*e*P		**P**	**16 25 38.2**	**-1.0**
LKP	**Lekhapani**	**25.14**	**358**	*e*P		**P**	**16 25 38.6**	**0.0**
ZIRO	**ZIRO**	**25.46**	**354**	*e*P		**P**	**16 25 40.4**	**-1.4**
TAWA	**Tawang**	**25.79**	**350**	*e*P		**P**	**16 25 45.3**	**+0.3**
H08S2	**Diego Garcia H**	**25.95**	**248**	T		T	16 52 44.7	
	baz=69,slow=76,SNR=817							
H08S3	**Diego Garcia H**	**25.95**	**248**	T		T	16 52 40.3	
	baz=69,slow=76,SNR=1092							
H08S1	**Diego Garcia H**	**25.97**	**248**	T		T	16 52 36.3	
	baz=69,slow=76,SNR=704							
ODAN	**Odare**	**26.20**	**341**	*e*P		**P**	**16 25 49.6**	**+1.0**
	comp=Z,31nm,0.8s							
GTK	**Tadong**	**26.27**	**344**	*e*P		**P**	**16 25 49.6**	**+0.5**
RAMN	**Ramite**	**26.55**	**340**	*e*P		**P**	**16 25 52.9**	**+1.2**
	comp=Z,24nm,0.8s							
JIRN	**Jiri**	**27.35**	**339**	*e*P		**P**	**16 25 59.7**	**+0.7**
	comp=Z,39nm,0.7s							
PKI	**Pulchoki**	**27.55**	**338**	*e*P		**P**	**16 26 01.4**	**+0.6**
	comp=Z,9.2nm,0.6s							
PKIN	**Phulchoki**	**27.56**	**338**	*e*P		**P**	**16 26 01.7**	**+0.9**
	comp=Z,8.5nm,0.7s							
GUN	**Gumba**	**27.69**	**339**	*e*P		**P**	**16 26 02.7**	**+0.7**
	comp=Z,37nm,0.6s							
DMN	**Daman**	**27.70**	**338**	*e*P		**P**	**16 26 03.5**	**+1.5**
	comp=Z,12nm,0.7s							
KKN	**Kakani**	**27.80**	**338**	*e*P		**P**	**16 26 03.6**	**+0.7**
	comp=Z,12nm,0.6s							
LSA	**Lhasa**	**27.98**	**350**	*e*P		**P**	**16 26 05.4**	**+0.7**
	comp=Z,6.0nm,0.6s							
KOLN	**Kolkanda**	**28.44**	**335**	*e*P		**P**	**16 26 09.6**	**+1.0**
	comp=Z,21nm,0.8s							
DANN	**Dangsing**	**28.89**	**336**	*e*P		**P**	**16 26 13.0**	**+0.3**
	comp=Z,18nm,0.7s							
PYUN	**Piuthan**	**28.99**	**335**	*e*P		**P**	**16 26 14.9**	**+1.4**
	comp=Z,12nm,0.7s							
BATI	**Baumata**	**29.53**	**115**	P		**P**	**16 26 19.3**	**+1.0**
	comp=Z,8.6nm,0.7s,baz=270,slow=11,SNR=2.3							
BATI						LR	16 39 51.8	
	comp=Z,518nm,21.1s,baz=252,slow=40							
DDI	**Dehra Dun**	**33.17**	**330**	*e*P		**P**	**16 26 49.1**	**-1.0**
DDI						IAmb	IAmb	16 26 57.1	
XAN	**Xi'an**	**33.82**	**18**	P		P	16 27 02.3	+6.6
XAN						pP	sP	16 27 08.6	+1.2
XAN						S	S	16 32 56.8	+39
XAN						sS	ScP	16 33 03.8	-14
XAN						pmax	pmax		
	comp=Z,10.0nm,0.7s								
XAN						pmax	pmax		
	comp=Z,91nm,4.3s								
XAN						LR	LR		
	comp=N,250nm,11.9s								
XAN						LR	LR		
	comp=E,270nm,13.6s								
XAN						LR	LR		
	comp=Z,260nm,15.7s								
SMLA	**Simla**	**34.27**	**329**	*e*P		**P**	**16 26 59.2**	**-0.5**
LZH	**Lanzhou**	**34.50**	**10**	*e*P		**P**	**16 27 05.8**	**+4.0**
LZH						pP	sP	16 27 14.3	+0.8
LZH						sP	pP	16 27 17.8	+7.7
LZH						*e*PP	**PP**	**16 28 23.8**	**+3.5**
LZH						pmax	pmax		
	comp=Z,19nm,1.0s								
LZH						pmax	pmax		
	comp=Z,52nm,5.1s								
LZH						LR	LR		
	comp=Z,120nm,13.0s								
LZH						LR	LR		
	comp=Z,130nm,13.3s								
LZH						LR	LR		
	comp=Z,170nm,16.8s								
DHRM	**DHARAMSHALA**	**35.61**	**330**	*e*P		**P**	**16 27 11.3**	**-0.2**
DHRM						IAmb	IAmb	16 27 15.4	
	comp=Z,14nm,0.2s								
GTA	**Gaotai**	**37.28**	**4**	*e*P		**P**	**16 27 24.9**	**-0.6**
GTA						pP	pP	16 27 33.4	-0.5
GTA						sP	sP	16 27 38.8	+1.5
GTA						pmax	pmax		
	comp=Z,10.0nm,0.8s								
TIY	**Taiyuan**	**38.33**	**20**	*e*P		**P**	**16 27 35.8**	**+1.5**
TIY						PP	**PnPn**	**16 29 08.5**	**+4.3**
TIY						S	**S**	**16 33 24.8**	**-2.4**
TIY						sS	**sS**	**16 33 42.9**	**+2.0**
TIY						SS	**SnSn**	**16 36 04.0**	**-10**
TIY						pmax	pmax		
	comp=Z,95nm,4.6s								
TIY						LR	LR		
	comp=Z,280nm,7.3s								
TIY						LR	LR		
	comp=Z,200nm,14.7s								
TIY						LR	LR		
	comp=Z,400nm,17.8s								
H01W3	**Cape Leeuwin H**	**40.25**	**158**	T		T	17 10 35.7		
	baz=333,slow=76,SNR=20								
H01W2	**Cape Leeuwin H**	**40.26**	**158**	T		T	17 10 36.7		
	baz=333,slow=76,SNR=21								
H01W1	**Cape Leeuwin H**	**40.27**	**158**	T		T	17 10 36.9		
	baz=333,slow=76,SNR=21								
HHC	**Hu-ho-hao-te**	**40.90**	**17**	*e*P		**P**	**16 27 57.3**	**+1.6**
HHC						pP	sP	16 28 07.3	-0.2
HHC						sP	pP	16 28 11.0	+6.9
HHC						S	**S**	**16 34 08.4**	**+2.7**
HHC						pmax	pmax		
	comp=Z,14nm,0.9s								
HHC						pmax	pmax		
	comp=Z,110nm,6.2s								
HHC						LR	LR		
	comp=Z,180nm,14.7s								
HHC						LR	LR		
	comp=Z,250nm,14.7s								
HHC						LR	LR		
	comp=Z,470nm,16.4s								
KSH	**Kashi**	**41.76**	**336**	*e*P		**P**	**16 28 03.5**	**+0.7**
WMQ	**Urumqi**	**42.33**	**350**	*e*P		**P**	**16 28 09.4**	**+2.0**
WMQ					pmax	pmax		
	comp=Z,12nm,0.7s								
WMQ					LR	LR			
	comp=Z,310nm,25.3s								
WMQ					LR	LR			
	comp=Z,180nm,19.5s								
WRA	**Warramunga Arr**	**42.96**	**122**	P		**P**	**16 28 10.8**	**-2.0**
	comp=Z,2.9nm,0.6s,baz=301,slow=9.2,SNR=26								
WRA					LR	LR	16 46 16.4		
	comp=Z,125nm,21.0s,baz=295,slow=36								
WB2	**Warramunga Arr**	**42.97**	**122**	*e*P		**P**	**16 28 11.8**	**-1.1**
	comp=Z,7.5nm,1.0s								
AS31	**Alice Springs**	**44.36**	**127**	*e*P		**P**	**16 28 22.7**	**-1.3**
	comp=Z,2.6nm,1.5s								
ASAR	**Alice Springs**	**44.36**	**127**	P		**P**	**16 28 22.9**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=298,slow=8.1,SNR=33								
ASAR					PcP	**PP**	**16 30 07.0**	**-0.8**	
	comp=Z,0.5nm,0.7s,baz=305,slow=3.3,SNR=3.7								
AS01	**Alice Springs**	**44.39**	**127**	*e*P		**P**	**16 28 22.9**	**-1.4**
KSAR	**Wonju Array Be**	**45.43**	**35**	P		**P**	**16 28 31.6**	**-0.6**
KS01	**Wonju Array Si**	**45.46**	**35**	*e*P		**P**	**16 28 30.8**	**-1.8**
KSRS	**Korea Array**	**45.46**	**35**	P		**P**	**16 28 31.6**	**-0.9**
	comp=Z,2.7nm,0.7s,baz=233,slow=8.8,SNR=10								
KSRS					LR	LR	16 48 41.5		
	comp=Z,180nm,19.8s,baz=218,slow=38								
MK01	**Makanchi Array**	**46.25**	**346**	*e*P		**P**	**16 28 37.7**	**-1.0**
MK31	**Makanchi Array**	**46.27**	**346**	*e*P		**P**	**16 28 38.6**	**-0.3**
MKAR	**Makanchi Array**	**46.27**	**346**	P		**P**	**16 28 38.9**	**0.0**
	comp=Z,6.8nm,0.6s,baz=163,slow=7.3,SNR=63								
MKAR					LR	LR	16 51 58.6		
	comp=Z,103nm,20.5s,baz=160,slow=41								
SONM	**Songino Array**	**46.37**	**9**	P		**P**	**16 28 40.1**	**+0.4**
	comp=Z,2.9nm,0.6s,baz=188,slow=9.2,SNR=24								
SONM					PcP	**PcP**	**16 30 14.6**	**+0.2**	
	comp=Z,0.6nm,0.5s,baz=195,slow=2.8,SNR=3.7								
SONM					LR	LR	16 51 19.0		
	comp=Z,129nm,19.9s,baz=182,slow=40								
SONA1	**Songino Array**	**46.38**	**9**	*e*P		**P**	**16 28 39.5**	**-0.3**
ULN	**Ulaanbaatar**	**46.50**	**10**	*e*P		**P**	**16 28 40.6**	**-0.1**
	comp=Z,6.5nm,1.4s								
GUMO	**Guam**	**49.02**	**74**	LR		LR	16 49 24.7		
	comp=Z,65nm,19.7s,baz=284,slow=36								
GEYT	**Alibeck**	**50.20**	**320**	P		**P**	**16 29 09.2**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=256,slow=5.3,SNR=3.7								
GEYT					LR	LR	16 52 38.6		
	comp=Z,76nm,20.8s,baz=0.0,slow=39								
MJAR	**Matsushiro Ar**	**51.44**	**43**	P		**P**	**16 29 17.8**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=204,slow=8.0,SNR=6.0								
MJAR					LR	LR	16 52 19.6		
	comp=Z,68nm,19.1s,baz=220,slow=38								
USRK	**Ussuriysk Ar.**	**52.33**	**32**	P		**P**	**16 29 24.7**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=244

	3.6nm,0.6s,baz=213,slow=17,SNR=2.5						
PPT	**Papeete**	**27.44**	**94**	P	**P**	**16 42 33.3**	**+0.8**
	22nm,0.7s,baz=116,slow=7.0,SNR=4.4						
FOZ	**Fox Glacier**	**27.51**	**199**	P	**P**	**16 42 32.8**	**+0.2**
LBZ	**Lake Benmore**	**28.18**	**198**	P	**P**	**16 42 37.0**	**-1.5**
JCZ	**Jackson Bay**	**28.32**	**200**	P	**P**	**16 42 39.8**	**0.0**
EIDS	**Eidsvold**	**29.32**	**250**	*eP*	**P**	**16 42 48.2**	**-0.4**
	15nm,0.7s						
MLZ	**Mavora Lakes**	**29.69**	**199**	P	**P**	**16 42 52.7**	**+1.1**
TUZ	**Tuapeka**	**29.77**	**197**	P	**P**	**16 42 52.2**	**0.0**
ARMA	**Armidale**	**30.00**	**240**	*eP*	**P**	**16 42 55.0**	**+0.4**
	20nm,0.7s						
CTAO	**Charters Tower**	**33.48**	**260**	*eP*	**P**	**16 43 24.0**	**-0.2**
	19nm,0.8s						
CAN	**Canberra**	**33.77**	**232**	*eP*	**P**	**16 43 27.0**	**+0.5**
	20nm,0.9s						
PMG	**Port Moresby**	**34.46**	**279**	*eP*	**P**	**16 43 33.3**	**+0.9**
	63nm,0.8s						
COEN	**Coen**	**37.12**	**270**	*eP*	**P**	**16 43 54.7**	**+0.3**
	56nm,0.7s						
STKA	**Stephens Creek**	**38.69**	**241**	P	**P**	**16 44 07.8**	**+0.9**
	32nm,0.8s,baz=90,slow=9.8,SNR=79						
STKA	**Stephens Creek**	**38.69**	**241**	*eP*	**P**	**16 44 07.9**	**+0.9**
	9.2nm,1.0s						
BBOO	**Buckleboo**	**43.47**	**241**	*eP*	**P**	**16 44 44.8**	**+0.2**
	36nm,0.8s						
WB2	**Warramunga Arr**	**44.66**	**259**	*eP*	**P**	**16 44 53.1**	**-0.9**
WRAB	**Tennant Creek**	**44.66**	**259**	*eP*	**P**	**16 44 52.9**	**-1.1**
	26nm,0.6s						
WRA	**Warramunga Arr**	**44.67**	**259**	P	**P**	**16 44 53.2**	**-0.8**
	17nm,0.5s,baz=93,slow=7.2,SNR=316						
WRA				PcP	**PcP**	**16 46 23.4**	**-0.6**
	1.6nm,0.7s,baz=90,slow=3.1,SNR=3.7						
WRA				ScP	**ScP**	**16 49 22.3**	**+0.6**
	1.1nm,1.1s,baz=90,slow=3.9,SNR=4.9						
WRA				S	S	16 50 38.9	-10
	0.8nm,0.9s,baz=96,slow=14,SNR=4.2						
AS01	**Alice Springs**	**44.79**	**254**	*eP*	**P**	**16 44 54.7**	**-0.3**
AS31	**Alice Springs**	**44.83**	**254**	*eP*	**P**	**16 44 55.3**	**0.0**
	37nm,0.6s						
ASAR	**Alice Springs**	**44.83**	**254**	P	**P**	**16 44 55.3**	**-0.1**
	136nm,0.6s,baz=88,slow=8.4,SNR=3145						
ASAR				PcP	**PcP**	**16 46 24.4**	**-0.2**
	1.9nm,0.6s,baz=105,slow=3.2,SNR=3.4						
ASAR				ScP	**ScP**	**16 49 23.4**	**+1.1**
	1.1nm,0.8s,baz=123,slow=3.3,SNR=5.4						
ASAR				S	**S**	**16 50 48.3**	**-3.3**
	1.1nm,1.0s,baz=87,slow=16,SNR=7.1						
MTN	**Manton Dam**	**48.82**	**268**	*eP*	**P**	**16 45 24.5**	**-0.9**
	24nm,0.8s						
FORT	**Forrest**	**50.06**	**245**	*eP*	**P**	**16 45 33.6**	**-0.6**
	60nm,0.6s						
FITZ	**Fitzroy Crossi**	**53.06**	**260**	*eP*	**P**	**16 45 55.8**	**-0.3**
	8.6nm,1.2s						
SOEI	**Soe**	**56.09**	**270**	*eP*	**P**	**16 46 18.5**	**+1.1**
	48nm,0.8s						
MBWA	**Marble Bar**	**58.12**	**256**	*eP*	**P**	**16 46 30.3**	**-0.6**
	13nm,0.6s						
MJAR	**Matsushiro Arr**	**67.85**	**323**	P	**P**	**16 47 32.3**	**-0.6**
	1.3nm,0.5s,baz=154,slow=5.2,SNR=3.9						
QSPA	**South Pole Qui**	**72.23**	**180**	P	**P**	**16 47 58.7**	**0.0**
	1.5nm,0.7s,baz=329,slow=0.3,SNR=5.6						
KSM	**Kuching**	**72.69**	**277**	*eP*	**P**	**16 48 01.9**	**-0.2**
	23nm,0.8s						
PETK	**Petropavlovsk-**	**73.60**	**345**	P	**P**	**16 48 06.1**	**-0.2**
	1.4nm,0.7s,baz=152,slow=6.5,SNR=3.6						
ISA	**Isabella, Lake**	**77.74**	**46**	*eP*	**P**	**16 48 30.7**	**+0.9**
	6.5nm,0.9s						
NJ2	**Nanjing**	**77.90**	**309**	*eP*	**P**	**16 48 30.3**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
OMMB	**Old Mammoth Mi**	**78.44**	**44**	*eP*	**P**	**16 48 34.5**	**+0.8**
	8.7nm,1.2s						
YBH	**Yreka Blue Hor**	**78.44**	**39**	P	**P**	**16 48 34.1**	**+0.7**
	4.5nm,0.8s,baz=178,slow=2.1,SNR=14						
BEKR	**Beckworth**	**78.81**	**42**	*eP*	**P**	**16 48 35.9**	**+0.3**
	3.8nm,0.6s						
NV01	**Mina Array Sit**	**79.35**	**44**	*eP*	**P**	**16 48 38.7**	**+0.2**
NVAR	**Mina Array Bea**	**79.35**	**44**	P	**P**	**16 48 39.0**	**+0.5**
	5.4nm,0.8s,baz=224,slow=8.9,SNR=32						
NV11	**Mina Array Sit**	**79.44**	**44**	*eP*	**P**	**16 48 39.0**	**+0.1**
	0.9nm,1.2s						
KVN	**Kaiserville**	**79.82**	**43**	*eP*	**P**	**16 48 41.3**	**+0.5**
	8.8nm,1.2s						
TPNV	**Topopah Spring**	**79.94**	**46**	*eP*	**P**	**16 48 41.2**	**-0.3**
	3.1nm,0.8s						
MOD	**Modoc Plateau**	**80.00**	**40**	*eP*	**P**	**16 48 42.2**	**+0.4**
	6.9nm,0.7s						
TUC	**Tucson**	**81.63**	**52**	*eP*	**P**	**16 48 51.9**	**+1.7**
	6.9nm,1.0s						
SEY	**Seymchan**	**83.69**	**347**	P	**P**	**16 48 58.7**	**-1.0**
	1.2nm,0.5s,baz=175,slow=7.0,SNR=6.3						
MAW	**Mawson**	**83.95**	**200**	P	**P**	**16 49 01.5**	**+0.5**
	2.2nm,0.7s,baz=120,slow=8.9,SNR=5.1						
TRTT	**Trang**	**84.75**	**280**	P	**P**	**16 49 08.0**	**+1.9**
NEW	**Newport**	**85.43**	**36**	P	**P**	**16 49 07.8**	**-0.9**
	2.2nm,0.7s,baz=192,slow=8.9,SNR=4.9						
ILAR	**Eielson Array**	**85.80**	**13**	P	**P**	**16 49 08.4**	**-1.5**
	1.0nm,0.5s,baz=223,slow=4.9,SNR=16						
TX31	**Lajitas Ar. Si**	**85.93**	**58**	*eP*	**P**	**16 49 13.1**	**+1.5**
TXAR	**Lajitas Array**	**85.93**	**58**	P	**P**	**16 49 13.0**	**+1.4**
	5.2nm,0.8s,baz=220,slow=5.4,SNR=23						
XAN	**Xi'an**	**86.22**	**307**	P	**P**	**16 49 09.3**	**-3.4**
XAN				pmax	pmax		
	comp=Z,4.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,76nm,6.2s						
HHC	**Hu-ho-hao-te**	**87.22**	**314**	*eP*	**P**	**16 49 19.5**	**+2.1**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PDAR	**Pinedale Array**	**87.27**	**43**	P	**P**	**16 49 17.9**	**+0.1**
	2.1nm,0.6s,baz=215,slow=3.5,SNR=25						
PDAR	**Pinedale Array**	**87.27**	**43**	*eP*	**P**	**16 49 17.4**	**-0.3**
KMI	**Kunming**	**87.81**	**297**	P	**P**	**16 49 21.8**	**+1.2**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**88.87**	**290**	P	**P**	**16 49 26.5**	**+1.0**
	2.0nm,0.9s,baz=116,slow=2.8,SNR=16						
CD2	**Chengdu**	**89.04**	**303**	*eP*	**P**	**16 49 27.0**	**+1.0**
SYO	**Syowa Base**	**89.25**	**193**	*eX*	P	16 49 20.0	-6.1
LZH	**Lanzhou**	**90.85**	**308**	*P*	**P**	**16 49 33.9**	**-0.5**
LZH				pP	pP	16 51 37.6	-2.9
LZH				sP	sP	16 52 32.9	-5.3
LZH				PP	**PP**	**16 53 24.1**	**+2.9**
LZH				pmax	pmax		
	comp=Z,21nm,1.4s						
LZH				pmax	pmax		
	comp=Z,76nm,9.3s						
PLCA	**Paso Flores**	**91.38**	**134**	P	**P**	**16 49 36.6**	**-0.2**
	2.7nm,0.9s,baz=251,slow=3.4,SNR=2.8						
INK	**Inuvik**	**91.80**	**15**	P	**P**	**16 49 36.5**	**-1.2**
	2.2nm,1.0s,baz=156,slow=3.6,SNR=4.0						
ARCES	**ARCESS Array B**	**126.23**	**350**	PKP	**PKPdf**	**16 55 27.1**	**-1.3**
	1.6nm,0.8s,baz=27,slow=1.0,SNR=3.8						
BRTR	**Keskin Array B**	**144.73**	**315**	PKP	**PKPdf**	**16 56 03.2**	**-0.3**
	1.1nm,0.8s,baz=59,slow=2.4,SNR=5.0						
CLL	**Collm**	**145.38**	**347**	*e*PKPbc	**PKPbc**	**16 56 05.0**	**-0.3**
	comp=Z,5.0nm,1.0s						
DPC	**Dobruska-Polom**	**145.47**	**343**	*e*PKP	**PKPbc**	**16 56 06.2**	**+0.5**
KHC	**Kasperske Hory**	**147.29**	**345**	*e*PKP	**PKPbc**	**16 56 10.7**	**0.0**
GERES	**GERESS Array B**	**147.53**	**345**	PKPbc	**PKPbc**	**16 56 11.2**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=22,slow=3.1,SNR=13						

*ISCJB **23** 16:39:54.8±1.0, 37.98N±0.04×144.55E±0.07, h66km±13km, mb3.4/3, Error ellipse: s-maj=10.0km s-min=5.9km az=26.0*
*JMA **23** 16:39:55.2±0.1, 37.99N×144.51E, h44km, M3.6*
*IDC **23** 16:39:57.7±3.5, 37.99N×144.48E, h69km±32km, mb3.1/3, mb1 3.5/6, mb1mx3.1/36, mbtmp3.7/6, ML3.5/3, Error ellipse: s-maj=35.0km s-min=16.9km az=108.0*

ISC 23 16:39:54.4±2.4, 37.95N±0.07×144.7E±0.1, h43km±25km, n22, σ1s71/39, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakiboku**	**2.56**	**279**	P	**Pn**	**16 40 33.4**	**+0.1**
JIKH				S	**Sn**	**16 41 01.8**	**-1.3**
OFUJ	**Ofunato**	**2.62**	**297**	P	**Pn**	**16 40 34.5**	**+0.4**
OFUJ				S	**Sn**	**16 41 03.9**	**-0.7**
JKMT	**Kesennumamotoy**	**2.66**	**290**	P	**Pn**	**16 40 35.0**	**+0.3**
JKMT				S	**Sn**	**16 41 05.1**	**-0.6**
JIO	**Ouri**	**2.67**	**282**	P	**Pn**	**16 40 35.2**	**+0.4**
JIO				S	**Sn**	**16 41 04.8**	**-1.1**
JMK	**Ichinoseki**	**2.89**	**291**	P	**Pn**	**16 40 38.6**	**+0.7**
JMK				*e*S	**Sn**	**16 41 11.1**	**-0.3**
JOM	**Ohasama**	**3.05**	**301**	P	**Pn**	**16 40 40.9**	**+0.8**
JANG	**Nango**	**3.45**	**316**	S	**Sn**	**16 41 24.1**	**-1.1**
JFT	**Otama**	**3.46**	**264**	P	**Pn**	**16 40 47.2**	**+1.4**
JFT				S	**Sn**	**16 41 24.9**	**-0.7**
JYK	**Kaneyama**	**3.52**	**287**	P	**Pn**	**16 40 48.2**	**+1.6**
JYK				*e*S	**Sn**	**16 41 27.5**	**+0.5**
JCH	**Churui**	**4.77**	**348**	P	**Pn**	**16 41 04.3**	**+0.6**
JCH				*e*S	**Sn**	**16 41 56.3**	**-1.3**
JKB	**Kayabe**	**4.83**	**326**	P	**Pn**	**16 41 06.9**	**+2.4**
JKB				*e*S	**Sn**	**16 42 00.3**	**+1.2**
JRY	**Ryogami san**	**5.01**	**249**	P	**Pn**	**16 41 07.5**	**+0.5**
JRY				S	**Sn**	**16 42 00.7**	**-2.9**
JOD2	**Odawara 2**	**5.23**	**241**	P	**Pn**	**16 41 11.8**	**+1.8**
JOD2				*e*S	**Sn**	**16 42 09.1**	**0.0**
MJAR	**Matsushiro Arr**	**5.34**	**257**	P	**Pn**	**16 41 13.6**	**+2.0**
	2.2nm,0.3s,baz=75,slow=9.7,SNR=33						
MJAR				S	**Sn**	**16 42 12.1**	**+0.3**
	0.4nm,0.3s,baz=153,slow=35,SNR=2.8						
MAT	**Matsushiro**	**5.35**	**257**	P	**Pn**	**16 41 13.8**	**+2.2**
MAT				*e*S	**Sn**	**16 42 11.3**	**-0.6**
NEM2	**Nemuro 2**	**5.47**	**8**	P	**Pn**	**16 41 11.8**	**-1.5**
NEM2				S	**Sn**	**16 42 11.5**	**-3.5**
JTKR	**Abashiri--Toko**	**6.05**	**355**	P	**Pn**	**16 41 21.8**	**+0.6**
JTKR				S	**Sn**	**16 42 25.6**	**-3.5**
JHJ	**Hachijo jima 2**	**6.25**	**221**	P	**Pn**	**16 41 24.4**	**+0.4**
	4.4nm,0.3s,baz=252,slow=20,SNR=2.7						
JHJ				S	**Sn**	**16 42 30.3**	**-3.9**
	11nm,0.3s,baz=60,slow=20,SNR=2.8						
ASAJ	**Asahikawa**	**6.36**	**346**	P	**Pn**	**16 41 26.8**	**+1.3**
	0.8nm,0.3s,baz=209,slow=22,SNR=9.7						
ASAJ				S	**Sn**	**16 42 40.2**	**+3.4**
	0.8nm,0.3s,baz=72,slow=20,SNR=4.2						
MKAR	**Makanchi Array**	**45.84**	**302**	P	**P**	**16 48 10.2**	**-1.8**
	0.6nm,0.9s,baz=86,slow=12,SNR=2.4						
WRA	**Warramunga Arr**	**58.39**	**191**	P	**P**	**16 49 46.5**	**+1.0**
	0.4nm,0.8s,baz=15,slow=7.4,SNR=2.0						
ASAR	**Alice Springs**	**62.12**	**191**	P	**P**	**16 50 12.0**	**+1.1**
	0.2nm,0.6s,baz=10,slow=7.7,SNR=2.9						

*ISK **23** 16:56:35.2, 38.46N×27.15E, h23km, ML2.3/4*
*DDA **23** 16:56:35.9, 38.49N×27.08E, h7km, Ml2.7*
*ISCJB **23** 16:56:36.2±0.7, 38.47N±0.04×27.14E±0.06, h23km±19km, Error ellipse: s-maj=7.4km s-min=6.4km az=170.3*

ISC 23 16:56:35.6±1.4, 38.48N±0.04×27.14E±0.04, h17km±13km, n9, σ0s44/15, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GMLD	**Gumuldur**	**0.44**	**204**	PG	**Pg**	**16 56 44.4**	**-0.1**
GMLD				SG	**Sb**	**16 56 51.1**	**-0.1**
URLA	**Izmir**	**0.45**	**254**	PG	**Pb**	**16 56 45.1**	**+0.1**
URLA				SG	**Sb**	**16 56 51.9**	**+0.5**
DGB	**˜zmir**	**0.47**	**205**	*i* P	**Pb**	**16 56 45.4**	**0.0**
DGB				*i* S	**Sb**	**16 56 52.0**	**-0.1**
DKL	**Dikili**	**0.62**	**343**	PG	**Pb**	**16 56 48.4**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**0.80**	**132**	PG	**Pg**	**16 56 51.0**	**-0.1**
CHOS	**Chios island**	**0.86**	**264**	PG	**Pn**	**16 56 52.5**	**-0.4**
CHOS				SG	**Sn**	**16 57 04.9**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.00**	**27**	*i* P	**Pb**	**16 56 54.5**	**+0.1**
STEP				*i* S	**Sb**	**16 57 07.5**	**+0.1**
AYDN	**Tasoluk**	**1.00**	**144**	*i* P	**Pn**	**16 56 55.9**	**+0.9**
AYDN				*i* S	**Sb**	**16 57 07.5**	**0.0**
KULA	**Kula-Manisa**	**1.19**	**88**	PN	**Pn**	**16 56 56.9**	**-0.7**

*ISCJB **23** 17:03:56.4±0.6, 28.61S±0.05×137.79E±0.08, h10km, Error ellipse: s-maj=11.0km s-min=5.3km az=154.5*
*AUST **23** 17:03:58.5±0.0, 28.60S×137.80E, h10km, Error ellipse: s-maj=0.2km s-min=0.1km az=233.0*
*IDC **23** 17:03:59.6±1.9, 28.54S×137.75E, h0km, mb1 3.0/3, mb1mx3.0/36, mbtmp2.8/3, ML2.6/3, Error ellipse: s-maj=92.0km s-min=17.2km az=51.0*

ISC 23 17:03:58.1±0.9, 28.55S±0.06×137.83E±0.08, h10km, n11, σ2s69/19, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBOO	**Buckleboo**	**4.51**	**199**	P	**Pn**	**17 05 07.5**	**+1.0**
	baz=4.5						
BBOO				S	**Sn**	**17 05 56.7**	**-2.4**
	baz=4.5						
STKA	**Stephens Creek**	**4.64**	**136**	Pn	**Pn**	**17 05 10.1**	**+1.7**
	0.1nm,0.3s,baz=315,slow=20,SNR=2.4						
STKA				Sn	**Sn**	**17 05 59.6**	**-2.8**
	0.7nm,0.3s,baz=314,slow=13,SNR=4.0						
STKA				Lg	Lg	17 06 28.1	
	1.1nm,0.3s,baz=4.4,slow=12,SNR=5.3						
STKA	**Stephens Creek**	**4.64**	**136**	P	**Pn**	**17 05 09.9**	**+1.5**
	baz=4.6						
STKA				S	**Sn**	**17 06 00.1**	**-2.3**
	baz=4.6						
HTT	**Hallett**	**4.95**	**169**	P	**Pn**	**17 05 14.4**	**+1.7**
	baz=4.9						
HTT				S	**Sn**	**17 06 08.5**	**-1.4**
	baz=4.9						
AS19	**Alice Springs**	**5.95**	**323**	P	**Pn**	**17 05 28.3**	**+1.9**
	baz=6.0						
AS19				S	**Sn**	**17 06 34.1**	**-0.6**
	baz=6.0						
ASAR	**Alice Springs**	**6.01**	**323**	Pn	**Pn**	**17 05 29.4**	**+2.1**
	0.2nm,0.3s,baz=144,slow=13,SNR=16						
ASAR				Sn	**Sn**	**17 06 32.8**	**-3.4**
	0.2nm,0.3s,baz=144,slow=22,SNR=5.2						
ASAR				Lg	Lg	17 07 06.7	
	0.2nm,0.3s,baz=148,slow=21,SNR=4.8						
CMSA	**Cobar Meteorol**	**7.43**	**116**	P	**Pn**	**17 05 47.2**	**+0.6**
	baz=7.4						
FORT	**Forrest**	**8.79**	**253**	P	**Pn**	**17 06 05.5**	**+0.2**
	baz=8.7						
ARPS	**Mount Arapiles**	**8.86**	**159**	P	**Pn**	**17 06 07.2**	**+0.9**
	baz=8.8						
ARPS				S	**Sn**	**17 07 41.9**	**-4.3**
	baz=8.8						
WRA	**Warramunga Arr**	**9.14**	**339**	Pn	**Pn**	**17 06 10.8**	**+0.5**
	0.1nm,0.3s,baz=167,slow=13,SNR=4.0						
WRA				Sn	**Sn**	**17 07 48.0**	**-5.4**
	0.1nm,0.3s,baz=160,slow=23,SNR=2.9						
ARCES	**ARCESS Array B**	**124.24**	**337**	PKP	**PKPdf**	**17 23 00.5**	**+4.2**
	4.6nm,1.2s,baz=72,slow=2.9,SNR=5.7						

IDC 23 17:05:21.7±4.4, 13.92S×171.65E, h626km±32km, mb3.3/8, mb1 3.4/9, mb1mx3.0/38, mbtmp4.3/9, Error ellipse: s-maj=56.6km s-min=25.2km az=45.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.50**	**211**	P	P	17 07 37.2	+1.0
	0.1nm,0.3s,baz=349,slow=16,SNR=3.6						
CTA	**Charters Tower**	**25.04**	**252**	P	P	17 09 59.2	+0.2
	0.8nm,0.4s,baz=60,slow=8.1,SNR=3.1						
STKA	**Stephens Creek**	**32.79**	**232**	P	P	17 11 06.7	+1.0
	6.9nm,0.3s,baz=64,slow=8.7,SNR=10						
WRA	**Warramunga Arr**	**36.14**	**255**	P	P	17 11 32.8	-0.8
	2.8nm,0.4s,baz=87,slow=8.5,SNR=35						
ASAR	**Alice Springs**	**36.93**	**249**	P	P	17 11 39.8	-0.3
	3.7nm,0.4s,baz=76,slow=9.5,SNR=59						
ASAR				ScP	ScP	17 16 33.4	+0.9
	0.6nm,0.8s,baz=67,slow=3.8,SNR=5.5						
BATI	**Baumata**	**47.02**	**269**	P	P	17 13 00.2	+1.3
	9.6nm,0.5s,baz=88,slow=4.0,SNR=3.1						
NWAO	**Narrogin (SRO)**	**52.81**	**239**	P	P	17 13 40.2	-0.6
	8.1nm,0.5s,baz=326,slow=6.6,SNR=15						
VNDA	**Vanda**	**63.80**	**182**	P	P	17 14 53.4	-0.2
	1.4nm,1.0s,baz=0.0,slow=4.0,SNR=3.2						
CMAR	**Chiang Mai Arr**	**78.54**	**292**	P	P	17 16 20.4	-0.1
	0.5nm,0.7s,baz=104,slow=3.8,SNR=4.1						

MEX 23 17:56:36.7±0.5, 13.99N×92.35W, h64km±38km, MD3.7, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.91**	**5**	*i* P	Pn	17 56 52.7	-1.1
THIG				*i* S	Sn	17 57 05.1	-1.4
PCIG		**1.90**	**334**	*e*P	Pn	17 57 05.6	-1.3
PCIG				*i* S	Sn	17 57 28.0	-1.8

*ISCJB **23** 18:08:03.6±0.5, 39.89N±0.03×38.78E±0.04, h3km±7km, Error ellipse: s-maj=5.7km s-min=3.8km az=33.6*

*DDA **23** 18:08:03.3, 39.85N×38.80E, h14km, Ml2.9*
*ISK **23** 18:08:03.4, 39.93N×38.79E, h5km, ML2.3/9*

ISC 23 18:08:03.1±1.2, 39.89N±0.03×38.79E±0.03, h7km±12km, n15, σ0s52/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KELT	**Kelkit**	**0.44**	**54**	*i* P	**Pb**	**18 08 13.2**	**-0.3**
KELT				*i* S	**Sb**	**18 08 19.9**	**-0.6**
ILIC	**ilic-Erzincan**	**0.47**	**201**	PG	**Pb**	**18 08 13.9**	**+0.1**
ILIC				SG	**Sb**	**18 08 20.8**	**-0.2**
REFA	**Refahiye_ERZ˜**	**0.49**	**182**	*i* P	Pg	18 08 06.4	-6.3
REFA				*i* S	Sg	18 08 08.0	-11
SUSE	**Susehri**	**0.55**	**306**	*i* P	**Pb**	**18 08 15.1**	**-0.2**
SUSE				*i* S	**Sb**	**18 08 23.1**	**-0.3**
KEMA	**Kemaliye**	**0.66**	**200**	*i* P	**Pg**	**18 08 15.4**	**-0.5**
KEMA				*i* S	**Sg**	**18 08 24.5**	**0.0**
GUMT	**Gumushane**	**0.78**	**43**	PG	**Pg**	**18 08 18.4**	**+0.3**
GUMT				SG	**Sg**	**18 08 29.0**	**+0.7**
CUZAR	**Zara_SIVAS**	**0.78**	**270**	*i* P	**Pb**	**18 08 19.3**	**+0.1**
CUZAR				*i* S	**Sg**	**18 08 28.4**	**+0.1**
ERZN	**Erzincan**	**0.78**	**112**	PG	**Pb**	**18 08 19.6**	**+0.4**
ESPY	**Espiye-Giresun**	**1.03**	**358**	PG	**Pg**	**18 08 23.2**	**+0.3**
ESPY				SG	**Sb**	**18 08 36.8**	**-0.2**
PTK	**Pertek**	**1.10**	**155**	PN	**Pn**	**18 08 25.1**	**-0.2**
BAYT	**Ayd˜–ntepe-Bay**	**1.16**	**64**	PN	**Pn**	**18 08 25.8**	**-0.2**
MACK	**Trabzon**	**1.29**	**35**	*i* P	**Pn**	**18 08 27.1**	**-0.7**
MACK				*i* S	**Sn**	**18 08 46.5**	**+1.2**
KTUT	**Trabzon**	**1.33**	**34**	PN	**Pg**	**18 08 28.9**	**+0.3**
DARE	**Darende-Malaty**	**1.66**	**218**	PN	**Pb**	**18 08 34.6**	**+0.4**
CHOM	**Cayeli-Rize**	**1.93**	**51**	PN	**Pb**	**18 08 37.7**	**-1.0**

KRSC 23 18:12:37.2±2.0, 50.72N×160.30E, h63km±38km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.77**	**309**	*e*P	Pn	18 13 07.2	+1.6
KDTR				*e*S	Sn	18 13 28.8	+1.7
RUS	**Russkaya**	**2.04**	**328**	*i* P	Pn	18 13 11.1	+1.8
RUS				*e*S	Sn	18 13 35.6	+1.9
MTVR	**Mutnovka**	**2.20**	**324**	*e*P	Pn	18 13 13.8	+2.2
MTVR				*e*S	Sn	18 13 40.5	+2.7
PAU	**Pauzhetka**	**2.32**	**290**	S	Sn	18 13 42.6	+2.1
SPN	**Mys Shipunski**	**2.38**	**356**	*e*P	Pn	18 13 15.9	+2.0
SPN				*e*S	Sn	18 13 43.5	+1.5
DALK	**Dalny**	**2.50**	**338**	*e*P	Pn	18 13 18.1	+2.6
DALK				*e*S	Sn	18 13 47.0	+2.1
KRMR	**Karymshinskiy**	**2.50**	**328**	*e*P	Pn	18 13 18.1	+2.6
KRMR				*e*S	Sn	18 13 47.9	+3.0
PET	**Petropavlovsk**	**2.52**	**337**	*i* P	Pn	18 13 18.2	+2.4
PET				*e*S	Sn	18 13 47.5	+2.2
NLC	**Nalytchevo**	**2.52**	**347**	*e*S	Sn	18 13 48.5	+3.2
UGLR	**Uglovaya**	**2.65**	**340**	*i* P	Pn	18 13 21.1	+3.4
SDLR	**Sedlovina**	**2.70**	**342**	*i* P	Pn	18 13 21.4	+3.0
SMAR	**Somma**	**2.71**	**341**	*e*P	Pn	18 13 22.4	+3.9
AVH	**Avacha**	**2.72**	**340**	*i* P	Pn	18 13 22.1	+3.5
KOK	**Koryaka**	**2.77**	**339**	*i* P	Pn	18 13 23.1	+3.8
KRX	**Arik**	**2.83**	**339**	S	Sn	18 13 56.3	+3.2
APC	**Apacha**	**2.94**	**320**	*e*P	Pn	18 13 25.5	+4.0
APC				*e*S	Sn	18 14 01.6	+5.9
GNL	**Ganaly**	**3.31**	**335**	*i* P	Pn	18 13 30.2	+3.5
KII	**Karymskiy**	**3.36**	**351**	*e*P	Pn	18 13 31.2	+3.9
KII				*e*S	Sn	18 14 09.6	+3.7
MKZ	**Mys Kozlova**	**3.94**	**12**	*e*P	Pn	18 13 37.1	+2.0
MKZ				*e*S	Sn	18 14 20.3	+0.4
KZV	**Kizimen**	**4.40**	**360**	*i* P	Pn	18 13 45.2	+3.7
KZV				*e*S	Sn	18 14 34.9	+3.4
KMNR	**Kamenistaya**	**5.04**	**360**	*e*P	Pn	18 13 55.4	+5.1
KBTR	**Krutoberegovo**	**5.70**	**14**	*i* P	Pn	18 14 01.9	+2.8

*DDA **23** 18:13:45.2, 38.68N×43.60E, h7km, Ml2.5*
*ISK **23** 18:13:45.9, 38.79N×43.43E, h13km, ML2.0/3*

ISC 23 18:13:44.7±1.4, 38.69N±0.07×43.59E±0.09, h34km±2km, n7, σ1s10/13, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.19**	**240**	PG	**Pb**	**18 13 51.7**	**+0.2**
VANB				SG	**Sb**	**18 13 57.0**	**+0.9**

FINES	**FINESS Array B**	**43.44**	**325**	P		**P**		**18 52 39.5**	**+1.9**
	2.8nm,1.0s,baz=78,slow=10,SNR=3.3								
ASAR	**Alice Springs**	**76.94**	**131**	P		**P**		**18 56 28.1**	**+0.6**
	0.2nm,0.8s,baz=325,slow=5.6,SNR=3.7								

MAN 23 18:51:50.2, 10°.52N×122°.23E, h0km, mb4.0, ML2.8, MS2.4, 2D, Panay

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUIM	**Jordan**	**0.37**	**73**	*e*P		Pg	18 51 57.5	+0.2
GUIM				*e*S		Sg	18 52 02.0	0.0
RCP	**Roxas**	**1.15**	**26**	⇓*e*P		Pg	18 52 12.7	+0.3
CUYO	**Cuyo Island**	**1.24**	**286**	*e*P		Pn	18 52 15.5	+0.7
CUYO				*e*S		Sn	18 52 31.9	-0.3
SNPH	**Sibulan**	**1.53**	**140**	⇓*i*P		Pn	18 52 18.9	0.0
SNPH				*i* S		Sn	18 52 39.9	+0.4
SJMP	**San Jose**	**2.22**	**331**	*e*P		Pn	18 52 28.3	0.0
SJMP				*e*S		Sn	18 52 53.2	-3.1
BUSP	**Coron**	**2.48**	**307**	*e*P		Pn	18 52 32.5	+0.6

MEX 23 18:52:28.7±0.5, 18°.14N×103°.43W, h5km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MMIG	**Aquila**	**0.17**	**29**	*i* P		Pg	18 52 31.6	-0.4
MMIG				*i* S		Sg	18 52 34.3	0.0
R15V		**1.15**	**333**	*e*P		Pg	18 52 47.5	-3.2
R15V				*e*S		Sg	18 53 02.8	-2.9
EZ5V		**1.34**	**353**	*e*P		Pn	18 52 50.9	-3.4
EZ5V				*e*S		Sg	18 53 07.5	-4.3

MEX 23 19:21:27.2±0.3, 18°.18N×101°.49W, h30km±10km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.57**	**178**	*e*P		Pb	19 21 36.9	-1.8
ZIIG				*e*S		Sb	19 21 44.4	-2.3
ARIG	**Puente Sto Nin**	**1.09**	**85**	*e*P		Pn	19 21 44.1	-2.4
ARIG				*i* S		Sn	19 21 57.8	-2.8
MEIG	**Mezcala**	**1.79**	**98**	*i* P		Pn	19 21 54.2	-2.1
PLIG	**Platanillo**	**1.90**	**83**	*i* P		Pn	19 21 55.8	-1.9
PLIG				*i* S		Sn	19 22 18.0	-2.7

DJA 23 19:22:50.0±0.6, 6°S±3°×113°E±°, h137km±9km, M3.6/6, mb3.5/2, mB4.7/1, MLv3.6/6, Mw(mB)4.0/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SAUI	**Saumlaki**	**1.75**	**161**	P		Pn	19 23 21.6	+0.1
SAUI				S		Sn	19 23 46.3	+0.7
BNDI	**Bandanaira**	**1.96**	**336**	P		Pn	19 23 24.0	+0.1
BNDI				S		Sn	19 23 50.2	+0.4
FAKI	**Fak Fak**	**3.71**	**24**	P		Pn	19 23 46.2	0.0
FAKI				S		Sn	19 24 30.1	+0.4

*ISCJB **23** 19:54:11.8±0.2, 15°.28N±0°.02×61°.05W±0°.04, h139km±1km, mb4.3/67, Error ellipse: s-maj=6.2km s-min=2.4km az=154.4*
*TRN **23** 19:54:12.8, 15°.28N×61°.01W, h124km, MD4.0*
*IDC **23** 19:54:12.3±0.4, 15°.25N×61°.06W, h131km±3km, mb3.7/13, mb1 3.9/15, mb1mx3.7/39, mbtmp4.1/15, Error ellipse: s-maj=15.7km s-min=6.8km az=77.0*
*NEIC **23** 19:54:13.2±0.0, 15°.25N×61°.11W, h125km, mb4.5/55, MD4.0(TRN), After TRN.*
NEIC Felt at Le Lamentin, Martinique.

ISC 23 19:54:12.7±0.6, 15°.29N±0°.03×61°.06W±0°.05, h133km±4km, n173, σ1s09/233, mb4.4/67, 7C-5D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DLPL	**La Plaine**	**0.18**	**283**	*e*P		**Pn**	**19 54 31.0**	**+0.1**
DLPL				*e*S		**Sn**	**19 54 44.2**	**-0.5**
DLPL	**La Plaine**	**0.18**	**283**	*e*P		**Pn**	**19 54 31.0**	**+0.1**
DLPL				*e*S		**Sn**	**19 54 44.2**	**-0.5**
BBL	**Barber's Block**	**0.46**	**301**	*e*P		**Pn**	**19 54 32.7**	**+0.7**
BBL				*e*S		**Sn**	**19 54 45.7**	**-0.9**
BBL	**Barber's Block**	**0.46**	**301**	*e*P		**Pn**	**19 54 32.7**	**+0.7**
BBL				*e*S		**Sn**	**19 54 45.7**	**-0.9**
MDVC	**Dominica, Viel**	**0.46**	**314**	*e*S		**Sn**	**19 54 46.8**	**+0.3**
MDPO	**Dominica; Chan**	**0.47**	**307**	*e*P		**Pn**	**19 54 33.1**	**+1.1**
MDPO				*e*S		**Sn**	**19 54 47.6**	**+1.0**
BAMF	**Morne Balai**	**0.48**	**190**	⇓*e*P		**Pn**	**19 54 32.4**	**+0.2**
MDPV	**Dominica, Penn**	**0.48**	**314**	*e*P		**Pn**	**19 54 32.8**	**+0.7**
MDPV				*e*S		**Sn**	**19 54 47.4**	**+0.6**
CXM	**Morne La Croix**	**0.49**	**192**	⇓*e*P		**Pn**	**19 54 32.6**	**+0.3**
CXM				*e*S		**Sn**	**19 54 46.9**	**-0.2**
PCM	**Pelee Case Pet**	**0.49**	**197**	⇓*e*P		**Pn**	**19 54 32.3**	**+0.1**
GBMF	**Grand Be**	**0.50**	**191**	⇓*e*P		**Pn**	**19 54 32.5**	**+0.1**
PML	**Morne Lenard**	**0.52**	**193**	*e*P		**Pn**	**19 54 32.6**	**+0.2**
FDF	**Fort de France**	**0.56**	**189**	*e*Pn		**Pn**	**19 54 33.0**	**+0.3**
FDF				*e*Sn		**Sn**	**19 54 47.5**	**-0.2**
FDF	**Fort de France**	**0.56**	**189**	*e*P		**Pn**	**19 54 32.9**	**+0.3**
FDF				*e*S		**Sn**	**19 54 47.5**	**-0.2**
MGG	**Marie-Galante**	**0.67**	**339**	*e*P		**Pn**	**19 54 33.8**	**+0.6**
MGG				*e*S		**Sn**	**19 54 48.7**	**-0.1**
MGG	**Marie-Galante**	**0.67**	**339**	*e*P		**Pn**	**19 54 33.8**	**+0.6**
MGG				*e*S		**Sn**	**19 54 48.7**	**-0.1**
MAGL	**Barre de l'ile**	**0.69**	**342**	⇓*e*P		**Pn**	**19 54 33.9**	**+0.5**
MAGL				*e*S		**Sn**	**19 54 49.3**	**+0.3**
ZAM	**Aeronautique**	**0.71**	**177**	⇓*e*P		**Pn**	**19 54 33.3**	**-0.3**
LPMF	**Morne Lapointe**	**0.72**	**173**	⇑*e*P		**Pn**	**19 54 33.4**	**-0.2**
MVM	**Montagne Vaucl**	**0.75**	**168**	⇑*e*P		**Pn**	**19 54 33.9**	**0.0**
TRMF	**Trois Ilets**	**0.75**	**179**	*e*P		**Pn**	**19 54 33.8**	**-0.1**
TDBA	**Terre de Bas,**	**0.78**	**315**	⇑*e*P		**Pn**	**19 54 34.7**	**+0.6**
TDBA				*e*S		**Sn**	**19 54 50.5**	**+0.2**
TBG	**Guadaloupe-3**	**0.79**	**315**	*e*P		**Pn**	**19 54 35.1**	**+0.9**
TBG				*e*S		**Sn**	**19 54 51.7**	**+1.3**
H05S1	**Guadeloupe/Mar**	**0.89**	**166**	P		**Pn**	**19 54 35.0**	**0.0**
H05S1				S		**Sn**	**19 54 50.9**	**-0.9**
CBE	**F"f", Capest**	**0.94**	**326**	⇑*e*P		**Pn**	**19 54 35.9**	**+0.5**
CBE				*e*S		**Sn**	**19 54 54.0**	**+1.4**
H05N1	**Guadeloupe/Mar**	**1.02**	**0**	P		**Pn**	**19 54 36.5**	**+0.4**
H05N1				S		**Sn**	**19 54 53.7**	**-0.2**
ABD	**La Joyeuse, An**	**1.25**	**341**	⇑*e*P		**Pn**	**19 54 38.8**	**+0.5**
ABD				*e*S		**Sn**	**19 54 57.9**	**0.0**
SLW	**Petit Monier**	**1.27**	**175**	*e*P		**Pn**	**19 54 38.4**	**-0.3**
SLW				*e*S		**Sn**	**19 54 58.0**	**-0.4**
SLW	**Petit Monier**	**1.27**	**175**	*e*P		**Pn**	**19 54 38.4**	**-0.3**
SLW				*e*S		**Sn**	**19 54 58.0**	**-0.4**
SLPA	**Patience**	**1.44**	**174**	*e*P		**Pn**	**19 54 40.5**	**+0.1**
SLPA				*e*S		**Sn**	**19 55 00.8**	**-0.7**
SLPA	**Patience**	**1.44**	**174**	*e*P		**Pn**	**19 54 40.5**	**+0.1**
SLPA				*e*S		**Sn**	**19 55 00.8**	**-0.7**
SLB	**Belfond**	**1.46**	**179**	*e*P		**Pn**	**19 54 41.4**	**+0.7**
SLB				*e*S		**Sn**	**19 55 01.3**	**-0.6**
SLB	**Belfond**	**1.46**	**179**	*e*P		**Pn**	**19 54 41.4**	**+0.7**
SLB				*e*S		**Sn**	**19 55 01.3**	**-0.6**
SLDE	**Delcer**	**1.48**	**180**	*e*P		**Pn**	**19 54 40.9**	**0.0**
SLDE				*e*S		**Sn**	**19 55 02.5**	**+0.2**
SLDE	**Delcer**	**1.48**	**180**	*e*P		**Pn**	**19 54 40.9**	**0.0**
SLDE				*e*S		**Sn**	**19 55 02.5**	**+0.2**
MCLT	**Moule a Chique**	**1.58**	**176**	*e*P		**Pn**	**19 54 42.7**	**+0.7**
MCLT				*e*S		**Sn**	**19 55 04.8**	**+0.6**
MCLT	**Moule a Chique**	**1.58**	**176**	*e*P		**Pn**	**19 54 42.7**	**+0.7**
MCLT				*e*S		**Sn**	**19 55 04.8**	**+0.6**
MLYT	**Lee's Yard**	**1.79**	**323**	⇑*i*P		**Pn**	**19 54 45.1**	**+0.7**
MLYT				*e*S		**Sn**	**19 55 09.6**	**+0.9**
SFAN	**Fancy Village**	**1.90**	**183**	*e*P		**Pn**	**19 54 46.5**	**+0.7**
SFAN				*e*S		**Sn**	**19 55 11.4**	**+0.4**
SFAN	**Fancy Village**	**1.90**	**183**	*e*P		**Pn**	**19 54 46.5**	**+0.7**
SFAN				*e*S		**Sn**	**19 55 11.4**	**+0.4**
BPA	**Boggy Peak**	**1.91**	**336**	*e*P		**Pn**	**19 54 46.8**	**+1.0**
BPA				*e*S		**Sn**	**19 55 12.1**	**+1.0**
BPA	**Boggy Peak**	**1.91**	**336**	*e*P		**Pn**	**19 54 46.8**	**+1.0**
BPA				*e*S		**Sn**	**19 55 12.1**	**+1.0**
SSV	**Crater Summit**	**1.96**	**184**	*e*P		**Pn**	**19 54 47.4**	**+0.9**
SSV	**Crater Summit**	**1.96**	**184**	*e*P		**Pn**	**19 54 47.4**	**+0.9**
SVV	**Soufriere Volc**	**1.97**	**184**	*e*P		**Pn**	**19 54 47.7**	**+1.1**
SVV				*e*S		**Sn**	**19 55 12.6**	**+0.2**
SVV	**Soufriere Volc**	**1.97**	**184**	*e*P		**Pn**	**19 54 47.7**	**+1.1**
SVV				*e*S		**Sn**	**19 55 12.6**	**+0.2**
SVB	**Belmont**	**2.02**	**185**	*e*Pn		**Pn**	**19 54 47.1**	**0.0**
SVB				*e*Sn		**Sn**	**19 55 12.6**	**-0.9**
SVB	**Belmont**	**2.02**	**185**	*e*P		**Pn**	**19 54 47.1**	**0.0**
SVB				*e*S		**Sn**	**19 55 12.9**	**-0.6**
FCV	**Fort Charlotte**	**2.13**	**185**	*e*P		**Pn**	**19 54 49.1**	**+0.6**
FCV				*e*S		**Sn**	**19 55 15.8**	**-0.1**
FCV	**Fort Charlotte**	**2.13**	**185**	*e*P		**Pn**	**19 54 49.1**	**+0.6**
FCV				*e*S		**Sn**	**19 55 15.8**	**-0.1**
NEV	**Hard Times**	**2.34**	**322**	*e*P		**Pn**	**19 54 53.7**	**+2.6**
NEV				*e*S		**Sn**	**19 55 23.4**	**+2.8**
ANWB	**Willy Bob**	**2.46**	**344**	*e*Pn		**Pn**	**19 54 51.9**	**-0.7**
ANWB				*e*Sn		**Sn**	**19 55 19.2**	**-4.1**
ANWB	**Willy Bob**	**2.46**	**344**	*e*P		**Pn**	**19 54 53.6**	**+1.0**
ANWB				*e*S		**Sn**	**19 55 21.9**	**-1.4**
BBGH	**Gun Hill**	**2.58**	**145**	*e*Pn		**Pn**	**19 54 55.7**	**+1.5**
BBGH				*e*S		**Sn**	**19 55 26.8**	**+0.8**
BBGH	**Gun Hill**	**2.58**	**145**	*e*P		**Pn**	**19 54 55.8**	**+1.5**
BBGH				*e*S		**Sn**	**19 55 26.8**	**+0.8**
BBSP	**Saint Philip**	**2.67**	**144**	*e*P		**Pn**	**19 54 57.4**	**+2.1**
BBSP				*e*S		**Sn**	**19 55 29.2**	**+1.1**
BBSP	**Saint Philip**	**2.67**	**144**	*e*P		**Pn**	**19 54 57.4**	**+2.1**
BBSP				*e*S		**Sn**	**19 55 26.4**	**-1.7**
SEUS	**St. Eustatius**	**2.86**	**320**	*e*Pn		**Pn**	**19 54 58.2**	**+0.5**
SEUS				*e*Sn		**Sn**	**19 55 32.7**	**+0.4**
SEUS	**St. Eustatius**	**2.86**	**320**	*e*P		**Pn**	**19 54 59.4**	**+1.8**
SEUS				*e*S		**Sn**	**19 55 33.0**	**+0.7**
SABA	**Saba**	**3.12**	**318**	*e*Pn		**Pn**	**19 55 01.8**	**+0.7**
SABA				*e*S		**Sn**	**19 55 39.1**	**+0.7**
SABA	**Saba**	**3.12**	**318**	*e*P		**Pn**	**19 55 02.3**	**+1.2**
SABA				*e*S		**Sn**	**19 55 39.1**	**+0.7**
GRGR	**Grenville**	**3.19**	**190**	*e*Pn		**Pn**	**19 55 02.0**	**-0.1**
SMRT	**St. Maarten**	**3.35**	**325**	*e*Pn		**Pn**	**19 55 03.4**	**-0.7**
SMRT				*e*Sn		**Sn**	**19 55 40.5**	**-3.4**
SMRT	**St. Maarten**	**3.35**	**325**	*e*P		**Pn**	**19 55 03.6**	**+2.2**
SMRT				*e*S		**Sn**	**19 55 40.4**	**-3.4**
TOSP	**Speyside**	**4.00**	**173**	*e*P		**Pn**	**19 55 14.1**	**+1.5**
TOSP				*e*S		**Sn**	**19 55 57.2**	**-1.9**
TOSP	**Speyside**	**4.00**	**173**	*e*P		**Pn**	**19 55 14.1**	**+1.5**
TOSP				*e*S		**Sn**	**19 55 57.2**	**-1.9**
CDVI	**St. Croix**	**4.31**	**305**	*e*Pn		**Pn**	**19 55 16.0**	**-0.7**
TRN	**Trinidad (W)**	**4.63**	**184**	*e*P		**Pn**	**19 55 22.7**	**+1.8**
TRN				*e*S		**Sn**	**19 56 12.0**	**-2.0**
TRN	**Trinidad (W)**	**4.63**	**184**	*e*P		**Pn**	**19 55 22.7**	**+1.8**
ABVI	**Anegada Island**	**4.63**	**318**	*e*Pn		**Pn**	**19 55 20.7**	**-0.3**
ABVI				*e*Sn		**Sn**	**19 56 09.7**	**-4.4**
STVI	**Saint Thomas**	**4.81**	**310**	*e*Pn		**Pn**	**19 55 23.9**	**+0.5**
STVI				*e*Sn		**Sn**	**19 56 16.9**	**-1.4**
CUPR	**Culebra, Puert**	**5.03**	**307**	*e*Pn		**Pn**	**19 55 26.9**	**+0.6**
CUPR				*e*Sn		**Sn**	**19 56 22.8**	**-0.9**
MTP	**Monte Pirata**	**5.13**	**304**	*e*Pn		**Pn**	**19 55 28.3**	**+0.7**
HUMP	**Col San Antoni**	**5.39**	**302**	*e*Pn		**Pn**	**19 55 31.6**	**+0.4**
CBYP	**Canovanas**	**5.46**	**304**	*e*Pn		**Pn**	**19 55 32.4**	**+0.2**
CBYP				*e*Sn		**Sn**	**19 56 30.1**	**+0.9**
SJG	**San Juan**	**5.62**	**301**	P		**Pn**	**19 55 35.2**	**+0.9**
	2.7nm,0.3s,baz=71,slow=9.7,SNR=5.1							
SJG				S		**Sn**	**19 56 40.0**	**+2.2**
	8.4nm,0.3s,baz=293,slow=22,SNR=16							
SJG	**San Juan**	**5.62**	**301**	*e*Pn		**Pn**	**19 55 33.6**	**-0.6**
SJG				*e*Sn		**Sn**	**19 56 41.1**	**+3.2**
ICMP	**Isla Caja de M**	**5.84**	**297**	*e*Pn		**Pn**	**19 55 38.2**	**+1.1**
ICMP				*e*Sn		Sn	19 56 52.4	+9.4
OBIP	**Obispado Ponce**	**5.98**	**298**	*e*Pn		**Pn**	**19 55 39.4**	**+0.5**
OBIP				*e*Sn		**Sn**	**19 56 48.8**	**+2.4**
EMPR	**Esperanza - Ma**	**6.12**	**302**	*e*Pn		**Pn**	**19 55 37.5**	**-3.4**
AOPR	**Arecibo Observ**	**6.24**	**300**	*e*Pn		**Pn**	**19 55 42.6**	**0.0**
CRPR	**Cabo Rojo, PR**	**6.39**	**296**	*e*Pn		**Pn**	**19 55 44.4**	**-0.2**
CRPR				*e*Sn		**Sn**	**19 56 56.3**	**-0.1**
MPR	**Mayaguez**	**6.51**	**297**	*e*Pn		**Pn**	**19 55 46.5**	**+0.4**
MPR				*e*Sn		**Sn**	**19 57 01.2**	**+2.2**
AGP	**Aguadilla**	**6.59**	**299**	*e*Pn		**Pn**	**19 55 47.1**	**-0.2**
AGP				*e*Sn		**Sn**	**19 56 56.7**	**-4.5**
SDD	**Santo Domingo**	**9.04**	**292**	*e*Pn		**Pn**	**19 56 21.8**	**+1.6**
SDDR	**Presa de Saban**	**10.44**	**292**	*e*Pn		**Pn**	**19 56 39.5**	**+0.4**
SDDR				*e*Sn		**Sn**	**19 58 34.6**	**+0.3**
GRTK	**Grand Turk**	**11.38**	**304**	*e*Pn		**Pn**	**19 56 52.5**	**+1.0**
PTGA	**Pitinga**	**15.96**	**176**	P		**Pn**	**19 57 49.0**	**-0.9**
	1.5nm,0.3s,baz=3.9,slow=15,SNR=16							
PTGA				S		Sn	20 00 32.5	-15
	1.5nm,0.3s,baz=268,slow=11,SNR=15							
PTGA	**Pitinga**	**15.96**	**176**	*e*Pn		**Pn**	**19 57 48.5**	**-1.4**
	7.2nm,0.7s							
PTGA				*e*Sn		Sn	20 00 32.8	-15
ROSC	**El Rosal**	**16.67**	**233**	*e*P		**P**	**19 57 59.6**	**+0.5**
	6.6nm,0.6s							
KMSC	**Kings Mountain**	**26.86**	**321**	*e*P		**P**	**19 59 41.0**	**0.0**
	35nm,1.8s							
S51A	**Beattyville**	**29.89**	**322**	*e*P		**P**	**20 00 08.4**	**+0.5**
	67nm,2.0s							
ALLY	**Alegheny Colle**	**31.02**	**332**	*e*P		**P**	**20 00 18.7**	**+0.9**
	58nm,1.1s							
PLAL	**Pickwick Lake**	**31.18**	**314**	*e*P		**P**	**20 00 19.0**	**-0.2**
	4.9nm,0.7s							
LPAZ	**La Paz**	**32.15**	**193**	P		**P**	**20 00 28.2**	**-0.4**
	0.5nm,0.4s,baz=46,slow=7.9,SNR=3.6							
SCHQ	**Schefferville**	**39.71**	**355**	P		**P**	**20 01 32.7**	**+0.8**
	3.2nm,0.5s,baz=187,slow=6.0,SNR=6.5							
ECSD	**EROS Data Cent**	**41.44**	**320**	*e*P		**P**	**20 01 45.9**	**-0.3**
	5.3nm,0.7s							
CPUP	**Villa Florida**	**41.53**	**175**	P		**P**	**20 01 45.9**	**-1.2**
	1.2nm,0.6s,baz=333,slow=6.9,SNR=3.3							
TXAR	**Lajitas Array**	**41.59**	**297**	P		**P**	**20 01 47.3**	**-0.5**
	0.4nm,0.5s,baz=133,slow=6.7,SNR=4.2							
MSTX	**Muleshoe**	**41.88**	**304**	*e*P		**P**	**20 01 49.5**	**-0.7**
	9.2nm,1.0s							
MNTX	**Cornudas Mount**	**43.48**	**300**	*e*P		**P**	**20 02 02.7**	**-0.3**
	3.8nm,0.5s							
ULM	**Lac du Bonnet**	**44.80**	**329**	P		**P**	**20 02 11.9**	**-1.2**
	1.9nm,0.5s,baz=164,slow=7.4,SNR=2.9							
PV13	**Radium Mtn., P**	**47.73**	**308**	*e*P		**P**	**20 02 37.3**	**+0.7**
	3.2nm,0.8s							
SRU	**San Rafael Swe**	**49.26**	**309**	*e*P		**P**	**20 02 48.9**	**+0.7**
	12nm,1.7s							
BW06	**Boulder Array**	**49.59**	**314**	*e*P		**P**	**20 02 50.5**	**-0.3**
	4.7nm,0.8s							
PD31	**Pinedale Array**	**49.59**	**314**	*e*P		**P**	**20 02 50.6**	**-0.1**
PDAR	**Pinedale Array**	**49.59**	**314**	P		**P**	**20 02 50.8**	**+0.1**
	3.2nm,0.6s,baz=110,slow=9.3,SNR=34							
PDAR	**Pinedale Array**	**49.59**	**314**	*e*P		**P**	**20 02 50.6**	**-0.1**
TMUT	**Trail Mountain**	**49.82**	**309**	*e*P		**P**	**20 02 52.4**	**-0.2**
	5.3nm,0.8s							
RLMT	**Red Lodge**	**50.17**	**317**	*e*P		**P**	**20 02 55.4**	**+0.3**
	3.7nm,0.6s							
MTPU	**Mount Pierson**	**50.28**	**307**	*e*P		**P**	**20 02 56.7**	**+0.6**
	8.3nm,1.5s							
MSU	**Marysvale**	**50.37**	**308**	*e*P		**P**	**20 02 58.6**	**+1.9**
TCUT	**Toone Canyon**	**50.43**	**311**	*e*P		**P**	**20 02 56.9**	**-0.3**
	7.1nm,0.6s							
KNB	**Kanab**	**50.56**	**306**	*e*P		**P**	**20 02 59.3**	**+1.2**
	16nm,1.9s							
CTU	**Camp Tracy**	**50.57**	**310**	*e*P		**P**	**20 02 57.9**	**-0.2**
	4.7nm,0.7s							
LOHW	**Long Hollow**	**50.58**	**314**	*e*P		**P**	**20 02 57.8**	**-0.4**
	7.7nm,1.7s							
AHID	**Auburn Hatcher**	**50.67**	**313**	*e*P		**P**	**20 02 58.4**	**-0.5**
	13nm,1.3s							
REDW	**Red Top Meadow**	**50.68**	**314**	*e*P		**P**	**20 02 59.1**	**+0.2**
	11nm,1.5s							
HWUT	**Hardware Ranch**	**50.68**	**312**	*e*P		**P**	**20 02 58.7**	**-0.2**
	3.1nm,0.8s							
MOOW	**Moose Ponds**	**50.72**	**314**	*e*P		**P**	**20 02 59.6**	**+0.4**
	10nm,2.0s							
TPAW	**Teton Pass**	**50.78**	**314**	*e*P		**P**	**20 02 59.9**	**+0.1**
	7.3nm,1.3s							
FXWY	**Fox Creek**	**50.88**	**314**	*e*P		**P**	**20 03 00.1**	**-0.3**
	17nm,2.0s							
YHH	**Holmes Hill**	**51.12**	**316**	*e*P		**P**	**20 03 02.6**	**+0.3**
	2.9nm,0.8s							
YMR	**Madison River**	**51.16**	**316**	*e*P		**P**	**20 03 03.3**	**+0.8**
	5.2nm,1.1s							
DUG	**Dugway, Tooele**	**51.24**	**310**	*e*P		**P**	**20 03 02.9**	**-0.1**
	3.7nm,0.8s							
SPUT	**South Promonto**	**51.24**	**311**	*e*P		**P**	**20 03 03.0**	**-0.1**
	2.9nm,0.8s							
YHB	**Horse Butte**	**51.34**	**316**	*e*P		**P**	**20 03 05.2**	**+1.4**
	9.3nm,0.7s							
QLMT	**Earthquake Lak**	**51.53**	**316**	*e*P		**P**	**20 03 06.6**	**+1.4**
H10N3	**ASCENSION HYDR**	**51.54**	**113**	T		T	20 58 44.3	
	baz=296,slow=75,SNR=32							
H10N2	**ASCENSION HYDR**	**51.55**	**113**	T		T	20 58 45.3	
	baz=296,slow=75,SNR=29							
H10N1	**ASCENSION HYDR**	**51.56**	**113**	T		T	20 58 46.0	
	baz=296,slow=75,SNR=38							
BGU	**Big Grassy Mou**	**51.57**	**310**	*e*P		**P**	**20 03 05.7**	**+0.1**
	6.5nm,0.6s							
HVU	**Hansel Valley**	**51.60**	**311**	*e*P		**P**	**20 03 05.6**	**-0.2**
	3.7nm,0.7s							
PSUT	**Pine Spring**	**51.66**	**307**	*e*P		**P**	**20 03 07.1**	**+0.7**
	4.6nm,0.7s							
H10S3	**ASCENSION HYDR**	**51.90**	**115**	T		T	20 59 12.9	
	baz=297,slow=74,SNR=14							
H10S1	**ASCENSION HYDR**	**51.91**	**115**	T		T	20 59 13.3	
	baz=297,slow=74,SNR=12							
H10S2	**ASCENSION HYDR**	**51.92**	**115**	T		T	20 59 06.9	
	baz=297,slow=74,SNR=12							
HLID	**Hailey**	**53.22**	**313**	*e*P		**P**	**20 03 18.4**	**+0.7**
	1.9nm,0.6s							
JTMT	**Jette**	**54.31**	**318**	*e*P		**P**	**20 03 25.2**	**-0.3**
	13nm,1.7s							
NV11	**Mina Array Sit**	**54.97**	**306**	*e*P		**P**	**20 03 30.3**	**-0.1**
	0.2nm,0.9s							
NV01	**Mina Array Sit**	**55.09**	**306**	*e*P		**P**	**20 03 31.5**	**+0.2**
NVAR	**Mina Array Bea**	**55.09**	**306**	P		**P**	**20 03 31.6**	**+0.3**
	2.3nm,0.8s,baz=99,slow=6.5,SNR=17							
BMO	**Blue Mountains**	**55.55**	**314**	*e*P		**P**	**20 03 33.8**	**-0.7**
	7.1nm,1.6s							
WAKR	**Walker**	**55.98**	**306**	*e*P		**P**	**20 03 38.7**	**+1.0**
	8.4nm,1.4s							
J08A	**Circle Bar Ran**	**56.05**	**312**	*e*P		**P**	**20 03 38.0**	**0.0**
	20nm,2.0s							
NEW	**Newport**	**56.29**	**318**	*e*P		**P**	**20 03 39.1**	**-0.4**
	11nm,0.7s							
PLCA	**Paso Flores**	**56.43**	**189**	P		**P**	**20 03 39.2**	**-1.3**
	2.1nm,1.0s,baz=27,slow=8.6,SNR=4.2							
PLCA	**Paso Flores**	**56.43**	**189**	*e*P		**P**	**20 03 39.9**	**-0.7**
	13nm,1.4s							
ORV	**Oroville**	**57.70**	**307**	*e*P		**P**	**20 03 49.9**	**+0.3**
	3.2nm,0.8s							
G06A	**Carlson Farm,**	**57.94**	**314**	*e*P		**P**	**20 03 52.4**	**+1.2**
	63nm,2.0s							
LTY	**Liberty**	**58.37**	**316**	*e*P		**P**	**20 03 54.4**	**+0.2**
	36nm,1.8s							
YBH	**Yreka Blue Hor**	**58.88**	**310**	*e*P		**P**	**20 03 56.6**	**-1.2**
	17nm,1.8s							
H04A	**Detroit Lake**	**58.93**	**313**	*e*P		**P**	**20 03 57.9**	**-0.2**
	75nm,2.0s							
HUMO	**Hull Mountain**	**59.17**	**311**	*e*P		**P**	**20 03 59.2**	**-0.5**
	24nm,1.6s							
KCPM	**Cahto Peak**	**59.31**	**307**	*e*P		**P**	**20 04 01.2**	**+0.3**
	39nm,1.5s							
KMRM	**Mail Ridge**	**59.46**	**308**	*e*P		**P**	**20 04 02.6**	**+0.7**
	36nm,1.6s							
KRMB	**Red Mountain**	**59.75**	**309**	*e*P		**P**	**20 04 03.2**	**-0.7**
	81nm,2.0s							
YKA	**Yellowknife Ar**	**60.11**	**334**	P		**P**	**20 04 04.8**	**-0.9**
	1.6nm,0.7s,baz=105,slow=7.3,SNR=6.0							
E03A	**Lebam**	**60.19**	**315**	*e*P		**P**	**20 04 06.5**	**-

	33nm,0.3s							
KTBS	**Karatobe**	**4.86**	**266**	*e*P	**Pb**	**19**	**58**	**20.5 +2.4**
	15nm,0.8s							
KTBS				*e*S	**Sg**	**19**	**59**	**24.0 -4.9**
	67nm,0.4s							
IZV	**Izvestkoviy**	**5.06**	**258**	*e*P	**Pb**	**19**	**58**	**21.3 -0.3**
	15nm,0.7s							
IZV				*e*S	**Sb**	**19**	**59**	**24.8 +2.3**
	31nm,0.9s							
KUU	**Kurty**	**5.08**	**268**	*e*P	**Pb**	**19**	**58**	**24.6 +2.7**
	9.7nm,0.6s							
KUU				*e*S	**Sg**	**19**	**59**	**30.6 -5.4**
	79nm,0.6s							
MTBS	**Maitube**	**5.16**	**260**	*e*P	**Pb**	**19**	**58**	**24.7 +1.4**
	8.6nm,0.5s							
MTBS				*e*S	**Sb**	**19**	**59**	**31.3 +5.9**
	18nm,0.5s							
KST	**Kastek**	**5.51**	**260**	*e*P	**Pb**	**19**	**58**	**30.0 +0.7**
	31nm,0.7s							
KST				*e*S	**Sb**	**19**	**59**	**39.8 +4.3**
	16nm,0.7s							
DGS	**Degeres**	**5.60**	**262**	*e*P	**Pb**	**19**	**58**	**34.2 +3.4**
	11nm,0.8s							
DGS				*e*S	**Sg**	**19**	**59**	**47.5 -5.2**
	46nm,0.5s							
TKM2	**Tokmak 2**	**5.81**	**259**	⇑Pn	**Pn**	**19**	**58**	**22.6 +3.4**
	3.8nm,0.7s							
TKM2				⇓Pg	**Pg**	**19**	**58**	**40.7 -3.4**
	11nm,0.5s							
TKM2				⇑Lg	Lg	20	00	03.6
	15nm,0.6s							
AAK	**Ala-Archa**	**6.67**	**259**	⇓Pg	Pg	19	58	55.7 -4.8
	7.3nm,0.6s							
AAK				Lg	Lg	20	00	32.8
	16nm,0.6s							
KURBB	**Kurchatov Arra**	**7.15**	**334**	⇑Pn	**Pn**	**19**	**58**	**36.4 -1.1**
	1.8nm,0.5s							
KURBB				Lg	Lg	20	00	41.2
	40nm,0.6s							
KURK	**Kurchatov**	**7.20**	**335**	⇑Pn	**Pn**	**19**	**58**	**38.1 -0.1**
	1.8nm,0.8s							
KURK				⇓Lg	Lg	20	00	46.9
	55nm,1.2s							
MNAS	**Manas**	**8.12**	**261**	⇑Pg	Pb	19	59	21.7 +8.0
	4.2nm,1.1s							
MNAS				Lg	Lg	20	01	22.3
	8.3nm,0.8s							
SFK	**Sufi-Kurgan**	**8.48**	**243**	⇓Pg	Pb	19	59	25.8 +5.9
	0.7nm,0.5s							
SFK				Lg	Lg	20	01	24.4
	1.9nm,0.8s							

BEO ***23*** *20:04:03.9±0.2, 43.66N×21.16E, h0km, ML1.5/11*
ISC 23 20:04:03.5±1.2, 43.66N±0.03×21.16E±0.02, h2km±13km, n16, σ1s15/29, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOVS	**Bovan**	**0.40**	**93**	*e*Pg	**Pg**	**20 04 10.8**	**-0.3**
BOVS				*e*Sg	**Sg**	**20 04 15.9**	**-0.3**
GRUS	**Gruza**	**0.40**	**305**	*e*Pg	**Pg**	**20 04 10.6**	**-0.5**
GRUS				*e*Sg	**Sg**	**20 04 16.1**	**-0.2**
SELS	**Selova**	**0.44**	**184**	*e*Pg	**Pg**	**20 04 12.5**	**+0.5**
SVIS	**Svilajnac**	**0.61**	**4**	*e*Pg	**Pg**	**20 04 15.5**	**+0.4**
IVAS	**Ivanjica**	**0.74**	**264**	*e*Pg	**Pg**	**20 04 16.6**	**-1.0**
IVAS				*e*Sg	**Sg**	**20 04 26.3**	**-0.9**
TRUS	**Trudelj**	**0.78**	**316**	*e*Pg	**Pg**	**20 04 18.9**	**+0.4**
TRUS				*e*Sg	**Sg**	**20 04 29.1**	**+0.4**
ZAGS	**Zajecar**	**0.79**	**79**	*e*Sg	**Sg**	**20 04 29.1**	**+0.2**
KUBS	**Kucevo**	**0.84**	**26**	*e*Pg	**Pg**	**20 04 18.2**	**-1.4**
KUBS				*e*Sg	**Sg**	**20 04 30.8**	**+0.4**
DIVS	**Divibare**	**0.95**	**298**	*e*Pg	**Pg**	**20 04 21.2**	**-0.6**
DIVS				*e*Sg	**Sg**	**20 04 34.2**	**+0.1**
SJES	**Sjenica**	**0.95**	**246**	*e*Pg	**Pg**	**20 04 21.5**	**-0.3**
SJES				*e*Sg	**Sg**	**20 04 34.6**	**+0.5**
BARS	**Barje**	**0.97**	**150**	*e*Pg	**Pg**	**20 04 21.4**	**-0.7**
BARS				*e*Sg	**Sg**	**20 04 33.8**	**-0.8**
ZAPS	**Zavoj**	**1.14**	**109**	*e*Pg	**Pg**	**20 04 24.7**	**-0.6**
ZAPS				*e*Sg	**Sg**	**20 04 39.7**	**-0.4**
MDVR	**Moldovita**	**1.19**	**19**	⇑*i*P	**Pn**	**20 04 29.0**	**+1.8**
MDVR				S	**Sg**	**20 04 40.4**	**-1.3**
BBLS	**Lazići**	**1.29**	**280**	*e*Pg	**Pg**	**20 04 27.2**	**-1.0**
BBLS				*e*Sg	**Sg**	**20 04 44.3**	**-0.6**
BZS	**Buzias**	**1.98**	**9**	*e*Pg	**Pn**	**20 04 39.7**	**+1.7**
BZS				*e*Sg	**Sb**	**20 05 06.5**	**+1.1**
BZS	**Buzias**	**1.98**	**9**	⇑*i*P	**Sn**	**20 04 59.7**	**-3.8**
BZS				S	**Sb**	**20 05 06.7**	**+1.3**

IDC 23 20:07:53.6±2.1, 2.14N×126.27E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/32, mbtmp3.2/3, Error ellipse: s-maj=178.6km s-min=25.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.33**	**161**	P	P	20 13 02.1	-1.6
	0.3nm,0.5s,baz=339,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**26.71**	**164**	P	P	20 13 36.3	+1.5
	0.2nm,0.3s,baz=346,slow=12,SNR=3.7						
MKAR	**Makanchi Array**	**58.60**	**326**	P	P	20 17 52.2	-0.2
	0.1nm,0.3s,baz=115,slow=8.0,SNR=6.3						

IDC 23 20:14:44.8±3.1, 15.82S×172.05W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.7/42, mbtmp3.6/4, MS2.8/1, Ms1 2.8/1, ms1mx2.5/28, Error ellipse: s-maj=173.3km s-min=26.9km az=146.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**21.26**	**250**	LR	LR	20 25 39.3	
	comp=Z,24nm,19.5s,baz=324,slow=31						
WRA	**Warramunga Arr**	**51.02**	**257**	P	P	20 23 49.1	+0.1
	0.2nm,0.6s,baz=94,slow=7.0,SNR=5.9						
ASAR	**Alice Springs**	**51.22**	**252**	P	P	20 23 50.3	-0.3
	0.7nm,0.5s,baz=91,slow=7.9,SNR=12						
NVAR	**Mina Array Bea**	**73.77**	**41**	P	P	20 26 21.5	+0.1
	0.3nm,0.6s,baz=218,slow=10,SNR=3.4						
ILAR	**Eielson Array**	**82.61**	**11**	P	P	20 27 09.4	-0.1
	0.4nm,0.6s,baz=214,slow=6.2,SNR=3.4						

NIED ***23*** *20:21:00, 38.20N×141.80E, h56km, Mw5.0 Best double couple: M0 3.98000×10^16 NP1:φs 45.00000°, δ 34.00000°, λ 129.00000°. NP2:φs 181.00000°, δ 64.00000°, λ 67.00000°.*
BJI ***23*** *20:21:24.4, 38.16N×141.87E, h41km, mb5.4/72, mB5.1/50, Ms4.5/74, MS7 4.3/74*
ISCJB ***23*** *20:21:28.9±0.2, 38.21N±0.02×141.73E±0.02, h65km±1km, mb5.2/489, Error ellipse: s-maj=2.8km s-min=2.0km az=151.5*
MOS ***23*** *20:21:28.3±0.9, 38.36N×141.76E, h56km, mb5.5/136, Error ellipse: s-maj=5.3km s-min=3.5km az=101.4*
JMA ***23*** *20:21:29.3, 38.21N×141.79E, h57km±1km, MS5.2 Broadband fault plane solution: P waves. NP1: φs 46.00000°, δ 70.00000°, λ 159.00000°. NP2: φs 144.00000°, δ 70.00000°, λ 21.00000°. Principal axes: T Plg29.0000°, Azm5.0000°; N Plg61.0000°, Azm185.0000°; P Plg0.0000°, Azm95.0000°;*
JMA Felt IV J1.
IDC ***23*** *20:21:29.5±1.3, 38.21N×141.74E, h60km±11km, mb4.7/38, mb1 4.8/45, mb1mx4.7/57, mbtmp5.0/45, MS4.1/32, Ms1 4.1/32, ms1mx4.0/52 Error ellipse: s-maj=9.9km s-min=8.4km az=105.0*
NEIC ***23*** *20:21:30.4±0.3, 38.21N×141.69E, h69km±3km, mb5.3/296, Error ellipse: s-maj=2.8km s-min=1.9km az=137.0*
NEIC Felt [V] at Sendai and [IV] at Fukushima. Felt in much of eastern Honshu from Kasukabe to Hachinohe. Recorded [4 JMA] in Miyagi.
GCMT ***23*** *20:21:31.5±0.2, 38.33N±0.02×141.70E±0.02, h55km±1km, MW5.0/105, Moment Tensor Solution. s59,c81; s105,c164; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr 3.17±.16; Mθθ 0.35±.12; Mϕϕ -3.52±.12; Mrθ 0.66±.09; Mθϕ -1.93±.10; Mϕr -2.63±.10; Best double couple: M0 4.71300×10^16 NP1:φs 180.00000°, δ 65.00000°, λ 64.00000°. NP2:φs 48.00000°, δ 36.00000°, λ 132.00000°. Principal axes: T 4.4900, Plg61.0000°, Azm50.0000°; N 0.4450, Plg23.0000°, Azm191.0000°; P -4.9360, Plg16.0000°, Azm288.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 20:21:28.4±0.4, 38.24N±0.03×141.82E±0.03, h53km±3km, h53km:pP-P, n1264, σ1s38/1344, mb5.3/497, MS4.1/43, 81C-74D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.29**	**285**	P	**Pn**	**20 21 39.0**	**+1.3**
JIKH				S	**Sn**	**20 21 45.8**	**+1.4**
JIO	**Ouri**	**0.43**	**300**	⇓P	**Pn**	**20 21 40.3**	**+1.2**
JIO				S	**Sn**	**20 21 48.0**	**+1.2**
JKMT	**Kesennumamotoy**	**0.64**	**334**	P	**Pn**	**20 21 42.8**	**+1.3**
JKMT				*e*S	**Sn**	**20 21 52.4**	**+1.5**
JOFO	**Osakifurukawao**	**0.80**	**297**	P	**Pn**	**20 21 44.8**	**+1.2**
JOFO				*e*S	**Sn**	**20 21 56.7**	**+2.0**
OFUJ	**Ofunato**	**0.85**	**352**	⇑P	**Pn**	**20 21 45.6**	**+1.4**
JMK	**Ichinoseki**	**0.86**	**327**	⇓P	**Pn**	**20 21 45.7**	**+1.4**
JMK				S	**Sn**	**20 21 57.7**	**+1.8**
JMM	**Marumori**	**0.89**	**246**	⇓P	**Pn**	**20 21 45.1**	**+0.3**
JMM				*e*S	**Sn**	**20 21 56.7**	**-0.1**
JOU	**Okura**	**0.92**	**278**	⇓P	**Pn**	**20 21 46.1**	**+0.9**
JOU				S	**Sn**	**20 21 58.5**	**+1.0**
JFK	**Kawauchi**	**1.15**	**221**	⇑P	**Pn**	**20 21 48.6**	**+0.3**
JFK				*e*S	**Sn**	**20 22 02.8**	**-0.2**
JOM	**Ohasama**	**1.30**	**342**	⇑P	**Pn**	**20 21 51.8**	**+1.5**
JOM				*e*S	**Sn**	**20 22 08.2**	**+1.6**
JYK	**Kaneyama**	**1.33**	**301**	⇓P	**Pn**	**20 21 51.8**	**+1.1**
MIYJ	**Miyakonagasawa**	**1.34**	**360**	⇑P	**Pn**	**20 21 51.8**	**+1.0**
JFT	**Otama**	**1.38**	**239**	⇓P	**Pn**	**20 21 52.3**	**+1.0**
JFT				*e*S	**Sn**	**20 22 09.0**	**+0.5**
JYS	**Shirataka**	**1.39**	**270**	⇓P	**Pn**	**20 21 52.4**	**+1.0**
JYS				*e*S	**Sn**	**20 22 09.9**	**+1.3**
ONAJ	**Iwakimizuishiy**	**1.40**	**216**	⇑P	**Pn**	**20 21 51.8**	**+0.2**
JRG	**Rokugo**	**1.48**	**322**	P	**Pn**	**20 21 54.5**	**+1.8**
JRG				*e*S	**Sn**	**20 22 13.5**	**+2.5**
JYA	**Atsumi**	**1.69**	**283**	⇓P	**Pn**	**20 21 56.7**	**+1.1**
JKZ	**Kuzumaki**	**1.79**	**348**	⇑P	**Pn**	**20 21 58.3**	**+1.4**
JYW	**Yuwa**	**1.81**	**316**	⇓P	**Pn**	**20 21 59.1**	**+1.9**
JFY	**Yanaizu**	**1.87**	**244**	⇓P	**Pn**	**20 21 59.3**	**+1.2**
JFY				*e*S	**Sn**	**20 22 21.5**	**+1.0**
JHO	**Hitachi**	**1.91**	**212**	⇑P	**Pn**	**20 21 58.4**	**-0.1**
JNS	**Sasagawa**	**2.02**	**259**	⇓P	**Pn**	**20 22 01.2**	**+1.1**
JAW	**Awa shima**	**2.04**	**277**	⇓P	**Pn**	**20 22 01.6**	**+1.3**
JANG	**Nango**	**2.15**	**354**	⇑P	**Pn**	**20 22 02.7**	**+0.9**
JAH	**Hinai**	**2.16**	**335**	⇑P	**Pn**	**20 22 04.0**	**+2.1**
JHK	**Hiroka**	**2.43**	**247**	⇓P	**Pn**	**20 22 07.1**	**+1.4**
JTM	**Tenmabayashi**	**2.61**	**347**	⇑P	**Pn**	**20 22 09.7**	**+1.6**
JOG3	**Oga3**	**2.72**	**309**	P	**Pn**	**20 22 05.3**	**-4.3**
JSD	**Sado**	**2.82**	**267**	⇓P	**Pn**	**20 22 11.5**	**+0.6**
JSI2	**Shiura 2**	**3.02**	**339**	⇑P	**Pn**	**20 22 15.9**	**+2.2**
JJN	**Nakama**	**3.12**	**250**	⇓P	**Pn**	**20 22 17.3**	**+2.2**
MJAR	**Matsushiro Arr**	**3.34**	**241**	P	**Pn**	**20 22 20.0**	**+1.9**
	70nm,0.3s,baz=29,slow=13,SNR=424						
MJAR				LR	LR	20 23 55.0	
	comp=Z,6μm,21.1s,baz=60,slow=45						
MAJO	**Matsushiro**	**3.34**	**241**	*e*Pn	**Pn**	**20 22 20.4**	**+2.2**
MAJO				*e*		20 23 55.0	
MAJO	**Matsushiro**	**3.34**	**241**	*d i*P	**Pn**	**20 22 20.4**	**+2.2**
MAT	**Matsushiro**	**3.34**	**241**	P	**Pn**	**20 22 20.4**	**+2.2**
MAT				S	**Sn**	**20 23 03.1**	**+6.5**
MAT	**Matsushiro**	**3.34**	**241**	P	**Pn**	**20 22 20.4**	**+2.2**
MJB9	**Matsu-Tunnel**	**3.34**	**241**	*e*Pn	**Pn**	**20 22 20.4**	**+2.3**
JYN	**Shimob**	**3.79**	**225**	⇓P	**Pn**	**20 22 26.5**	**+2.1**
ERM	**Erimo**	**3.91**	**15**	*e*Pn	**Pn**	**20 22 26.0**	**+0.1**
ERM				*e*Sn	**Sn**	**20 23 08.1**	**-2.4**
ERM	**Erimo**	**3.91**	**15**	*c e*P	**Pn**	**20 22 26.1**	**+0.2**
ERM				pmax	pmax		
	comp=Z,355nm,1.0s						
JTHR	**Tokachihiroo**	**4.20**	**15**	⇑P	**Pn**	**20 22 30.1**	**+0.2**
JGF	**Kuroka**	**4.44**	**235**	⇓P	**Pn**	**20 22 35.8**	**+2.5**
JCH	**Churui**	**4.53**	**15**	⇑P	**Pn**	**20 22 34.2**	**-0.2**
JBT2	**Biratori 2**	**4.55**	**5**	P	**Pn**	**20 22 35.6**	**+0.8**
INU	**Inuyama**	**4.81**	**235**	*e*Pn	**Pn**	**20 22 40.5**	**+2.1**
JAR	**Ashorobuto**	**5.26**	**16**	⇑P	**Pn**	**20 22 43.7**	**-0.8**
JHJ2	**Mitsune**	**5.37**	**198**	*e*Pn	**Pn**	**20 22 45.5**	**-0.5**
JHJ2				*e*Sn	**Sn**	**20 23 42.3**	**-4.1**
JHJ	**Hachijo jima 2**	**5.37**	**199**	P	**Pn**	**20 22 45.4**	**-0.6**
	comp=Z,102nm,0.3s,baz=331,slow=21,SNR=19						
JHJ				S	**Sn**	**20 23 43.4**	**-3.1**
	comp=Z,162nm,0.3s,baz=90,slow=20,SNR=4.2						
JHJ				LR	LR	20 25 07.2	
	comp=Z,2μm,20.8s,baz=75,slow=41						
ASAJ	**Asahikawa**	**5.90**	**5**	P	**Pn**	**20 22 53.2**	**0.0**
	comp=Z,24nm,0.3s,baz=210,slow=10,SNR=211						
ASAJ				S	**Sn**	**20 23 59.1**	**-0.4**
	comp=Z,13nm,0.3s,baz=114,slow=20,SNR=4.3						
YUK	**Yuzh-Kuril'sk**	**6.54**	**26**	*e*P	**Pn**	**20 23 01.2**	**-0.8**
YUK				*e*S	**Sn**	**20 24 10.7**	**-4.5**
YUK				pmax	pmax		
	comp=E,67nm,0.2s						
YUK				pmax	pmax		
	comp=Z,315nm,0.2s						
YUK				pmax	pmax		
	comp=N,77nm,0.1s						
YUK				smax	smax		
	comp=E,1μm,0.3s						
YUK				smax	smax		
	comp=N,2μm,0.5s						
YUK				MLR	MLR		
	comp=Z,766nm,12.0s						
SHO	**Shikotan**	**6.78**	**32**	*d i*P	**Pn**	**20 23 03.9**	**-1.3**
SHO				*e*S	**Sn**	**20 24 14.8**	**-6.2**
SHO				pmax	pmax		
	comp=Z,79nm,0.3s						
SHO				pmax	pmax		
	comp=N,16nm,0.1s						
SHO				MLR	MLR		
	comp=Z,1μm,17.0s						
SHO				MLR	MLR		
	comp=N,1μm,18.0s						
SHO				MLR	MLR		
	comp=E,399nm,10.0s						
TEY	**Ternei**	**7.83**	**332**	⇑*e*P	Pn	20 23 25.0	+5.3
TEY				pmax	pmax		
	comp=E,310nm,0.9s						
TEY				pmax	pmax		
	comp=Z,460nm,0.9s						
TEY				pmax	pmax		
	comp=N,480nm,0.8s						
KUR	**Kuril'sk**	**8.32**	**31**	*c i*P	**Pn**	**20 23 26.2**	**-0.1**
KUR				*e*S	**Sn**	**20 24 54.6**	**-4.2**
KUR				pmax	pmax		
	comp=E,54nm,0.5s						
KUR				pmax	pmax		
	comp=Z,114nm,0.5s						
KUR				pmax	pmax		
	comp=N,56nm,0.1s						
KUR				MLR	MLR		
	comp=Z,781nm,13.0s						
KUR				MLR	MLR		
	comp=N,2μm,20.0s						
YSS	**Yuzh-Sakhalins**	**8.74**	**4**	*e*Pn	**Pn**	**20 23 32.5**	**+0.5**
YSS	**Yuzh-Sakhalins**	**8.74**	**4**	⇓*e*P	**Pn**	**20 23 33.3**	**+1.3**
YSS				*e*S	**Sn**	**20 25 04.1**	**-4.9**
YSS				pmax	pmax		
	comp=Z,50nm,1.9s						
YSS				MLR	MLR		
	comp=Z,600nm,10.0s						
YSS				MLR	MLR		
	comp=N,600nm,12.0s						
YSS				MLR	MLR		
	comp=E,600nm,16.0s						
VLA	**Vladivostok**	**8.99**	**306**	*d i*P	**Pn**	**20 23 37.3**	**+1.9**
VLA				pmax	pmax		
	comp=Z,461nm,1.0s						
MSHR	**Mys Shultsa**	**9.22**	**301**	*d i*P	**Pn**	**20 23 39.9**	**+1.3**
USA0B	**Ussuriysk Arra**	**9.50**	**312**	*e*Pn	**Pn**	**20 23 44.4**	**+1.9**
USRK	**Ussuriysk Ar.**	**9.50**	**312**	P	**Pn**	**20 23 44.6**	**+2.1**
	comp=Z,12nm,0.3s,baz=123,slow=14,SNR=116						
USRK				LR	LR	20 27 08.4	
	comp=Z,2μm,21.5s,baz=115,slow=36						
JNU	**Nakatsue**	**10.26**	**243**	P	**Pn**	**20 23 54.2**	**+1.3**
	comp=Z,2.4nm,0.3s,baz=6.2,slow=2.8,SNR=35						
JNU				LR	LR	20 28 06.6	
	comp=Z,3μm,21.0s,baz=50,slow=39						
KSRS	**Korea Array**	**11.02**	**270**	P	**Pn**	**20 24 06.7**	**+3.4**
	comp=Z,5.5nm,0.3s,baz=80,slow=14,SNR=79						
KSRS				LR	LR	20 28 04.2	
	comp=Z,1μm,21.3s,baz=70,slow=36						
KS01	**Wonju Array Si**	**11.04**	**270**	*e*Pn	**Pn**	**20 24 06.3**	**+2.7**
KS15	**Wonju Array Si**	**11.05**	**270**	*e*Pn	**Pn**	**20 24 06.3**	**+2.6**
KS15				*e*		20 28 04.2	
KSAR	**Wonju Array Be**	**11.05**	**270**	P	**Pn**	**20 24 06.7**	**+2.9**
KSAR	**Wonju Array Be**	**11.05**	**270**	P	**Pn**	**20 24 06.7**	**+2.9**
CBIJ	**Chichi jima**	**11.12**	**178**	*e*Pn	**Pn**	**20 24 02.7**	**-1.9**
CBIJ				*e*Sn	Sn	20 25 57.0	-10
JCJ	**Chichijima**	**11.12**	**178**	P	**Pn**	**20 24 01.7**	**-2.9**
JCJ				S	Sn	20 25 54.0	-13
MDJ	**Mudanjiang**	**11.17**	**309**	P	**Pn**	**20 24 07.1**	**+1.8**
MDJ				sP		20 24 22.3	
MDJ				S	**Sn**	**20 26 10.9**	**+2.3**
MDJ				sS		20 26 24.3	
MDJ				pmax	pmax		
	comp=Z,29nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,1μm,3.6s						
MDJ				LR	LR		
	comp=Z,930nm,21.6s						
MDJ				LR	LR		
	comp=Z,1μm,17.9s						
MDJ				LR	LR		
	comp=Z,2μm,20.8s						
MDJ	**Mudanjiang**	**11.17**	**309**	*e*Pn	**Pn**	**20 24 07.5**	**+2.2**
TJN	**Taejon**	**11.67**	**265**	*d i*P	**Pn**	**20 24 15.3**	**+3.2**
TYV	**Tymovskoe**	**12.64**	**2**	*e*P	**Pn**	**20 24 25.7**	**+0.4**
TYV				pmax	pmax		
	comp=Z,14nm,1.1s						
TYV				pmax	pmax		
	comp=Z,300nm,2.8s						
GRNR	**Gornyy**	**13.10**	**345**	*e*P	**Pn**	**20 24 30.0**	**-1.7**
GRNR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KLR	**Kul'dur**	**13.17**	**330**	P	**Pn**	**20 24 32.9**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=152,slow=13,SNR=18						
KLR				LR	LR	20 29 38.5	
	comp=Z,888nm,19.2s,baz=140,slow=37						
KLR	**Kul'dur**	**13.17**	**330**	*i* P	**Pn**	**20 24 31.6**	**-0.9**
CN2	**Changchun**	**13.55**	**299**	⇓P	**Pn**	**20 24 38.0**	**+0.2**
CN2				*e*S	**Sn**	**20 27 10.8**	**+4.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,700nm,18.0s						
CN2				LR	LR		
	comp=Z,950nm,18.0s						
CN2				LR	LR		
	comp=Z,1μm,18.0s						
SNY	**Shenyang**	**14.43**	**290**	⇑P	**Pn**	**20 24 45.4**	**-4.2**
SNY				S	**Sn**	**20 27 36.4**	**+8.3**
SNY				pmax	pmax		
	comp=Z,63nm,0.7s						
SNY				pmax	pmax		
	comp=Z,400nm,10.0s						
SNY				LR	LR		
	comp=Z,1μm,17.1s						
SNY				LR	LR		
	comp=Z,2μm,16.5s						
SNY				LR	LR		
	comp=Z,3μm,20.6s						
DL2	**Dalian**	**15.81**	**279**	P	**P**	**20 25 09.1**	**-1.3**
DL2				S	**Sn**	**20 28 03.8**	**+2.1**
DL2				pmax	pmax		
	comp=Z,260nm,1.0s						
DL2				LR	LR		
	comp=Z,640nm,14.9s						
DL2				LR	LR		
	comp=Z,760nm,17.3s						
DL2				LR	LR		
	comp=Z,1μm,28.8s						
JOW	**Kunigami**	**16.10**	**229**	LR	LR	20 31 05.8	
	comp=Z,327nm,21.5s,baz=296,slow=36						
JOW	**Kunigami**	**16.10**	**229**	*e*Pn	**Pn**	**20 25 09.5**	**-1.8**
	comp=Z,58nm,1.0s						
JOW				*e*		20 31 05.8	
ZEA	**Zeya**	**18.46**	**332**	*e*P	**P**	**20 25 38.1**	**-1.4**
ZEA				*e*S	**S**	**20 29 07.0**	**-0.3**
ZEA				pmax	pmax		
	comp=N,64nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,100nm,0.8s						
ZEA				smax	smax		
	comp=N,500nm,4.0s						
ZEA				MLR	MLR		
	comp=N,500nm,15.0s						
ZEA				MLR	MLR		
	comp=E,500nm,15.0s						
ZEA				MLR	MLR		
	comp=Z,600nm,15.0s						
PEA0B	**Petropavlovsk-**	**18.49**	**31**	*e*P	**P**	**20 25 39.8**	**-0.1**
	comp=Z,221nm,1.3s						
PETK	**Petropavlovsk-**	**18.49**	**31**	P	**P**	**20 25 39.7**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=202,slow=7.5,SNR=22						
PETK				LR	LR	20 32 44.3	
	comp=Z,248nm,20.2s,baz=216,slow=36						
PETK	**Petropavlovsk-**	**18.49**	**31**	*e*P	**P**	**20 25 39.4**	**-0.5**
PEA1	**Petropavlovsk-**	**18.49**	**31**	*e*P	**P**	**20 25 39.7**	**-0.3**
PEA1				*e*		20 32 44.3	
PET	**Petropavlovsk**	**18.83**	**33**	*e*P	**Pn**	**20 25 44.4**	**-0.2**
PET				*e*S	**S**	**20 29 15.3**	**+0.6**
PET				pmax	pmax		
	comp=Z,200nm,10.6s						
PET				pmax	pmax		
	comp=Z,600nm,10.9s						
PET				pmax	pmax		
	comp=Z,92nm,1.1s						
PET				MLR	MLR		
	comp=Z,500nm,16.0s						
PET				MLR	MLR		
	comp=Z,400nm,19.0s						
HIA	**Hailar**	**19.32**	**312**	*e*P	**P**	**20 25 46.0**	**-3.1**
	comp=Z,29nm,0.7s						
HIA	**Hailar**	**19.32**	**312**	*e*P	**P**	**20 25 46.0**	**-3.1**
HIA				pmax	pmax		
	comp=Z,29nm,0.7s						
NJ2	**Nanjing**	**19.75**	**259**	*e*P	**Pn**	**20 25 55.1**	**-0.6**
NJ2				S	**S**	**20 29 34.3**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,150nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,380nm,4.5s						
NJ2				LR	LR		
	comp=Z,580nm,20.3s						
NJ2				LR	LR		
	comp=Z,1μm,16.0s						
NJ2				LR	LR		
	comp=Z,1μm,17.7s						
TIA	**Tai'an**	**19.76**	**272**	P	**P**	**20 25 52.4**	**-1.6**
TIA				S	**S**	**20 29 26.8**	**-7.0**
TIA				pmax	pmax		
	comp=Z,35nm,1.0s						
TIA				LR	LR		
	comp=Z,420nm,12.0s						
TIA				LR	LR		
	comp=Z,520nm,17.0s					

TIY				SS	SnSn	20 31 16.9	+2.3	GYA			sS	sS	20 33 17.8	+0.8
TIY				pmax	pmax			GYA			ScP	ScP	20 34 19.0	+2.1
	comp=Z,56nm,0.5s							GYA			SS	SnSn	20 34 47.6	+2.4
TIY				LR	LR			GYA			pmax	pmax		
	comp=Z,180nm,5.2s								comp=Z,130nm,0.7s					
TIY				LR	LR			GYA			pmax	pmax		
	comp=Z,310nm,10.3s								comp=Z,140nm,4.9s					
TIY				LR	LR			GYA			LR	LR		
	comp=Z,430nm,12.7s								comp=Z,330nm,13.3s					
HHC	**Hu-ho-hao-te**	**23.43**	**286**	*e*P	**P**	**20 26 28.3**	**-4.6**	GYA			LR	LR		
HHC				pP	pP	20 26 39.8	-5.8		comp=Z,500nm,19.1s					
HHC				sP	sP	20 26 45.3	-6.8	GYA			LR	LR		
HHC				S	**S**	**20 30 34.5**	**-7.8**		comp=Z,500nm,16.7s					
HHC				sS	sS	20 30 53.5	-11	**CD2**	**Chengdu**	**32.01**	**268**	P	**P**	**20 27 48.8**	**-1.0**
HHC				pmax	pmax			CD2				pP	pP	20 28 03.3	-0.1
	comp=Z,260nm,6.5s							CD2				PP	**PP**	**20 29 01.6**	**-1.2**
HHC				LR	LR			CD2				S	**S**	**20 32 56.0**	**-1.9**
	comp=Z,410nm,14.7s							CD2				pmax	pmax		
HHC				LR	LR				comp=Z,150nm,0.6s						
	comp=Z,530nm,14.7s							CD2				pmax	pmax		
HHC				LR	LR				comp=Z,140nm,5.0s						
	comp=Z,770nm,16.4s							CD2				LR	LR		
TPUB	**Ta-pu**	**23.44**	**237**	*e*P	**P**	**20 26 29.8**	**-3.2**		comp=Z,1μm,13.7s						
	comp=Z,52nm,0.7s							CD2				LR	LR		
WHN	**Wuhan**	**23.88**	**260**	⇑P	**P**	**20 26 36.4**	**-0.6**		comp=Z,970nm,17.6s						
WHN				S	**S**	**20 30 43.4**	**-6.0**	CD2				LR	LR		
WHN				pmax	pmax				comp=Z,920nm,15.7s						
	comp=Z,140nm,0.7s							**GTA**	**Gaotai**	**32.54**	**285**	*e*P	**P**	**20 27 53.4**	**-1.1**
WHN				LR	LR			GTA				pP	pP	20 28 04.4	-3.6
	comp=Z,2μm,17.6s							GTA				sP	sP	20 28 10.6	-3.7
CIT	**Chita**	**24.05**	**314**	*e*P	**P**	**20 26 38.6**	**+0.1**	GTA				PcP	**PcP**	**20 30 40.8**	**+0.8**
CIT				*e*		20 26 50.1		GTA				S	**S**	**20 33 05.9**	**-0.2**
CIT				*e*		20 27 20.3		GTA				sS	sS	20 33 24.1	-4.9
CIT				pmax	pmax			GTA				SS	**SnSn**	**20 35 06.8**	**+3.0**
	comp=Z,415nm,0.9s							GTA				ScS	**ScS**	**20 38 16.1**	**-2.9**
BTO	**Baotou**	**24.61**	**286**	*e*P	**P**	**20 26 42.1**	**-1.7**	GTA				pmax	pmax		
BTO				S	**S**	**20 30 57.3**	**-4.1**		comp=Z,7.0nm,0.9s						
GUMO	**Guam**	**24.70**	**173**	*e*P	**P**	**20 26 44.8**	**+0.2**	GTA				pmax	pmax		
	comp=Z,155nm,1.0s								comp=Z,120nm,8.6s						
GUMO	**Guam**	**24.70**	**173**	*e*P	**P**	**20 26 44.8**	**+0.2**	GTA				LR	LR		
GUMO				pmax	pmax				comp=Z,260nm,17.9s						
	comp=Z,155nm,1.0s							GTA				LR	LR		
YAK	**Yakutsk**	**24.97**	**346**	P	**P**	**20 26 45.9**	**-0.8**		comp=Z,730nm,19.6s						
	comp=Z,24nm,0.4s,baz=235,slow=0.3,SNR=11							GTA				LR	LR		
YAK				LR	LR	20 37 49.9			comp=Z,1μm,19.9s						
	comp=Z,198nm,18.2s,baz=116,slow=39							**BILL**	**Bilibino**	**32.78**	**17**	*e*P	**P**	**20 27 55.9**	**-0.2**
YAK	**Yakutsk**	**24.97**	**346**	*e*P	**P**	**20 26 46.3**	**-0.4**		comp=Z,48nm,1.2s						
	comp=Z,101nm,0.7s							**BILL**	**Bilibino**	**32.78**	**17**	*d*iP	**P**	**20 27 56.7**	**+0.6**
YAK				*e*ScS	ScS	20 37 49.9	+7.1	BILL				pmax	pmax		
YAK	**Yakutsk**	**24.97**	**346**	*d*iP	**P**	**20 26 46.1**	**-0.6**		comp=Z,49nm,1.2s						
YAK				*e**PP	**pP**	**20 26 55.2**	**-4.8**	**ATKA**	**Atka Island**	**33.43**	**51**	*e*P	**P**	**20 28 02.4**	**+0.5**
YAK				*e*		20 30 20.5			comp=Z,116nm,1.0s						
YAK				*e*S	**S**	**20 31 04.2**	**-2.2**	**QIZ**	**Qiongzhong**	**33.73**	**244**	P	**P**	**20 28 08.4**	**+3.5**
YAK				*e*		20 37 42.7		QIZ				LR	LR		
YAK				pmax	pmax				comp=Z,450nm,21.1s						
	comp=Z,32nm,0.9s							QIZ				LR	LR		
YAK				pmax	pmax				comp=Z,350nm,24.9s						
	comp=E,4.0nm,0.9s							**QIZ**	**Qiongzhong**	**33.73**	**244**	*e*P	**P**	**20 28 04.1**	**-0.8**
YAK				pmax	pmax				comp=Z,160nm,1.7s						
	comp=N,16nm,1.0s							**TIXI**	**Tiksi**	**34.14**	**353**	P	**P**	**20 28 07.4**	**-0.4**
YAK				pmax	pmax				comp=Z,3.3nm,0.5s,baz=272,slow=23,SNR=10						
	comp=Z,97nm,1.0s							**TIXI**	**Tiksi**	**34.14**	**353**	*e*P	**P**	**20 28 07.0**	**-0.7**
YAK				pmax	pmax				comp=Z,8.3nm,0.7s						
	comp=E,36nm,1.4s							**TIXI**	**Tiksi**	**34.14**	**353**	*ce*P	**P**	**20 28 07.2**	**-0.6**
YAK				pmax	pmax			**KMI**	**Kunming**	**35.48**	**260**	P	**P**	**20 28 20.6**	**+0.4**
	comp=N,30nm,0.9s							KMI				pP	pP	20 28 34.0	+0.2
YAK				smax	smax			KMI				sP	sP	20 28 40.3	+0.2
	comp=N,545nm,2.8s							KMI				PP	**PnPn**	**20 29 39.1**	**-1.2**
YAK				smax	smax			KMI				S	**S**	**20 33 52.5**	**+0.6**
	comp=E,193nm,2.5s							KMI				SS	**SnSn**	**20 36 13.0**	**-2.5**
YAK				MLR	MLR			KMI				pmax	pmax		
	comp=Z,609nm,16.0s								comp=Z,98nm,0.8s						
YAK				MLR	MLR			KMI				pmax	pmax		
	comp=N,635nm,14.0s								comp=Z,140nm,3.1s						
YAK				MLR	MLR			KMI				LR	LR		
	comp=E,219nm,13.0s								comp=Z,400nm,15.3s						
SEY	**Seymchan**	**25.55**	**11**	P	**P**	**20 26 53.2**	**+1.3**	KMI				LR	LR		
	comp=E,49nm,0.9s,baz=198,slow=7.2,SNR=33								comp=Z,410nm,17.0s						
SEY	**Seymchan**	**25.55**	**11**	P	**P**	**20 26 53.2**	**+1.3**	KMI				LR	LR		
SEY				pmax	pmax				comp=Z,520nm,18.1s						
	comp=Z,57nm,1.0s							**HVS**	**Khovu-Aksy**	**35.92**	**307**	*c*iP	**P**	**20 28 24.2**	**+0.7**
BOD	**Bodaibo**	**26.70**	**326**	*e*P	**P**	**20 27 01.3**	**-1.0**	HVS				pmax	pmax		
BOD				pmax	pmax				comp=Z,28nm,0.6s						
	comp=Z,54nm,0.7s							**KDM**	**Kudat**	**38.52**	**222**	P	**P**	**20 28 46.0**	**+0.2**
XAN	**Xi'an**	**26.82**	**271**	P	**P**	**20 27 02.1**	**-1.6**	**NONG**	**Nongkai**	**39.21**	**250**	P	**P**	**20 28 53.5**	**+1.9**
XAN				pP	pP	20 27 13.8	-3.3		comp=Z,1.4nm,0.8s,comp=Z,90nm						
XAN				sP	sP	20 27 19.5	-3.9	**SKNT**	**Sakolnakorn**	**39.29**	**248**	P	P	20 28 57.2	+5.0
XAN				PP	**PnPn**	**20 27 47.6**	**+0.1**		comp=Z,11nm,0.7s						
XAN				S	**S**	**20 31 34.8**	**-1.5**	**TNTI**	**Ternate**	**39.58**	**203**	*e*P	**P**	**20 28 54.2**	**-0.4**
XAN				sS	sS	20 31 54.8	-4.3		comp=Z,21nm,0.9s						
XAN				SS	**SnSn**	**20 32 49.8**	**+5.2**	**KKM**	**Kota Kinabalu**	**39.58**	**222**	*e*P	**P**	**20 28 55.1**	**+0.4**
XAN				pmax	pmax				comp=Z,36nm,1.2s						
	comp=Z,11nm,0.6s							**KKM**	**Kota Kinabalu**	**39.58**	**222**	P	**P**	**20 28 55.0**	**+0.2**
XAN				pmax	pmax			**SlJl**	**Sorong**	**40.11**	**197**	P	**P**	**20 28 58.6**	**-0.4**
	comp=Z,130nm,3.7s								comp=Z,11nm,0.7s,baz=34,slow=3.6,SNR=9.5						
XAN				LR	LR			**ANM**	**Nome**	**40.40**	**32**	*e*P	**P**	**20 29 02.7**	**+1.8**
	comp=Z,460nm,17.9s								comp=Z,53nm,1.2s						
XAN				LR	LR			**ANM**	**Nome**	**40.40**	**32**	*e*P	**P**	**20 29 02.7**	**+1.8**
	comp=Z,430nm,17.3s							ANM				pmax	pmax		
XAN				LR	LR				comp=Z,53nm,1.2s						
	comp=Z,440nm,19.5s							**MANU**	**Manus Island**	**40.41**	**171**	*e*P	**P**	**20 29 01.0**	**-0.5**
ULN	**Ulaanbaatar**	**26.97**	**302**	*e*P	**P**	**20 27 05.0**	**-0.1**		comp=Z,42nm,1.1s						
	comp=Z,25nm,0.7s							**WMQ**	**Urumqi**	**40.60**	**296**	P	**P**	**20 29 04.0**	**+1.1**
ULN	**Ulaanbaatar**	**26.97**	**302**	P	**P**	**20 27 04.1**	**-1.0**	WMQ				sP	sP	20 29 20.6	-2.4
	SNR=13							WMQ				S	**S**	**20 35 07.4**	**-1.3**
ULN	**Ulaanbaatar**	**26.97**	**302**	*ce*P	**P**	**20 27 05.2**	**+0.1**	WMQ				pmax	pmax		
ULN				pmax	pmax				comp=Z,920nm,3.7s						
	comp=Z,47nm,1.3s							WMQ				LR	LR		
SONA1	**Songino Array**	**27.40**	**302**	*e*P	**P**	**20 27 08.6**	**-0.3**		comp=Z,960nm,18.5s						
SONA0	**Songino Array**	**27.41**	**302**	*e*P	**P**	**20 27 08.2**	**-0.7**	WMQ				LR	LR		
SONA0				*e*PcP	**PcP**	**20 30 26.7**	**+0.1**		comp=Z,760nm,16.1s						
SONA0				*e*ScP	**ScP**	**20 34 02.0**	**-0.5**	WMQ				LR	LR		
SONA0				*e*		20 38 22.3			comp=Z,790nm,25.9s						
SONM	**Songino Array**	**27.41**	**302**	P	**P**	**20 27 08.2**	**-0.7**	**PAYA**	**Payao**	**40.89**	**255**	P	**P**	**20 29 06.0**	**+0.5**
	comp=Z,16nm,0.7s,baz=106,slow=8.4,SNR=95								comp=Z,21nm,0.8s,comp=Z,162nm						
SONM				PcP	**PcP**	**20 30 26.7**	**+0.1**	**UTTA**	**Uttaradit**	**41.34**	**252**	P	**P**	**20 29 10.3**	**+1.1**
	comp=Z,3.6nm,1.0s,baz=128,slow=2.3,SNR=3.6								comp=Z,7.3nm,0.8s,comp=Z,61nm						
SONM				ScP	**ScP**	**20 34 02.0**	**-0.5**	**ZAA0**	**Zalesovo Array**	**41.35**	**311**	*e*P	**P**	**20 29 09.3**	**+0.4**
	comp=Z,2.0nm,1.0s,baz=71,slow=3.9,SNR=4.7								comp=Z,51nm,0.9s						
SONM				LR	LR	20 38 22.3		**ZAA1**	**Zalesovo Array**	**41.35**	**311**	*e*P	**P**	**20 29 09.2**	**+0.3**
	comp=Z,498nm,18.5s,baz=113,slow=37							ZAA1				*e*PcP	**PcP**	**20 31 06.1**	**-0.2**
ENH	**Enshi**	**27.78**	**263**	*e*P	**P**	**20 27 11.1**	**-1.2**	ZAA1				*e*ScP	**ScP**	**20 34 49.8**	**-1.9**
	comp=Z,267nm,0.7s							ZAA1				*e*		20 47 07.6	
H11N2	**WAKE ISLAND Hy**	**28.51**	**123**	T	T	20 57 36.3		**ZALV**	**Zalesovo Beam**	**41.35**	**311**	P	**P**	**20 29 09.2**	**+0.3**
	baz=316,slow=75,SNR=2411								comp=Z,33nm,0.6s,baz=85,slow=7.7,SNR=171						
H11N1	**WAKE ISLAND Hy**	**28.52**	**123**	T	T	20 57 36.4		ZALV				PcP	**PcP**	**20 31 06.1**	**-0.2**
	baz=316,slow=75,SNR=2748								comp=Z,7.9nm,0.8s,baz=116,slow=2.9,SNR=4.7						
H11N3	**WAKE ISLAND Hy**	**28.53**	**123**	T	T	20 57 33.4		ZALV				ScP	**ScP**	**20 34 49.8**	**-1.9**
	baz=316,slow=75,SNR=1896								comp=Z,1.3nm,0.6s,baz=100,slow=3.5,SNR=3.7						
WAKE	**Wake Island**	**28.67**	**124**	*e*P	**P**	**20 27 18.9**	**-1.4**	ZALV				LR	LR	20 47 07.6	
	comp=Z,269nm,1.6s								comp=Z,443nm,18.2s,baz=70,slow=37						
H11S1	**WAKE ISLAND Hy**	**29.26**	**125**	T	T	20 58 33.3		**CHAI**	**Chaiyaphum**	**41.44**	**249**	P	**P**	**20 29 09.9**	**-0.1**
	baz=318,slow=76,SNR=2156								comp=Z,15nm,0.8s,comp=Z,137nm						
H11S3	**WAKE ISLAND Hy**	**29.26**	**125**	T	T	20 58 30.3		**LAMP**	**Lampang**	**41.56**	**254**	P	**P**	**20 29 11.6**	**+0.6**
	baz=318,slow=76,SNR=3338								comp=Z,14nm,0.7s,comp=Z,132nm						
H11S2	**WAKE ISLAND Hy**	**29.28**	**125**	T	T	20 58 30.8		**PBKT**	**Sadao Pong**	**41.76**	**250**	*e*P	**P**	**20 29 11.9**	**-0.7**
	baz=318,slow=76,SNR=2187								comp=Z,13nm,0.8s						
ZAK	**Zakamensk**	**29.80**	**307**	*e*P	**P**	**20 27 30.3**	**+0.1**	**PBKT**	**Sadao Pong**	**41.76**	**250**	P	**P**	**20 29 13.0**	**+0.4**
ZAK				pmax	pmax				comp=Z,17nm,0.8s,comp=Z,1μm						
	comp=Z,26nm,1.0s							**MRSI**	**Marisa**	**41.79**	**211**	P	**P**	**20 29 16.7**	**+3.9**
LZH	**Lanzhou**	**30.21**	**278**	⇓P	**P**	**20 27 34.0**	**0.0**		comp=Z,43nm,0.9s,comp=Z,339nm						
LZH				pP	pP	20 27 46.9	-0.6	**FAKI**	**Fak Fak**	**41.90**	**194**	*e*P	**P**	**20 29 12.4**	**-1.3**
LZH				sP	sP	20 27 51.0	-2.8		comp=Z,29nm,0.8s						
LZH				PP	**PnPn**	**20 28 33.5**	**+0.3**	**FAKI**	**Fak Fak**	**41.90**	**194**	P	**P**	**20 29 14.7**	**+1.0**
LZH				*e*S	**S**	**20 32 28.0**	**-1.8**		comp=Z,38nm,0.8s						
LZH				sS	sS	20 32 48.6	-4.0	**CHTO**	**Chiang Mai**	**41.91**	**255**	*e*P	**P**	**20 29 13.2**	**-0.7**
LZH				SS	**SnSn**	**20 34 08.0**	**+0.7**		comp=Z,34nm,0.8s						
LZH				pmax	pmax			**CHTO**	**Chiang Mai**	**41.91**	**255**	*e*P	**P**	**20 29 13.2**	**-0.7**
	comp=Z,200nm,1.3s							CHTO				pmax	pmax		
LZH				pmax	pmax				comp=Z,34nm,0.8s						
	comp=Z,350nm,4.9s							**CHTO**	**Chiang Mai**	**41.91**	**255**	P	**P**	**20 29 13.6**	**-0.3**
LZH				LR	LR				comp=Z,200nm,0.8s,comp=Z,2μm						
	comp=Z,750nm,13.4s							**ZSN**	**Zaisan**	**41.92**	**302**	⇓*i*P	**P**	**20 29 14.7**	**+1.0**
LZH				LR	LR				comp=Z,19nm,0.8s						
	comp=Z,1μm,13.2s							ZSN				*e*S	**S**	**20 35 27.1**	**-1.0**
LZH				LR	LR			**CM31**	**Chiang Mai Arr**	**42.12**	**254**	*e*P	**P**	**20 29 15.5**	**-0.1**
	comp=Z,1μm,17.0s							CM31				*e*ScP	**ScP**	**20 34 53.4**	**-1.9**
MOY	**Mondy**	**31.43**	**309**	*e*P	**P**	**20 27 44.4**	**-0.1**	CM31				*e*		20 47 38.6	
MOY				pmax	pmax			**CMAR**	**Chiang Mai Arr**	**42.12**	**254**	P	**P**	**20 29 15.5**	**-0.1**
	comp=Z,20nm,1.1s								comp=Z,6.2nm,0.7s,baz=45,slow=7.8,SNR=84						
GYA	**Guiyang**	**31.76**	**259**	⇓*i*P	**P**	**20 27 46.6**	**-1.1**	CMAR				ScP	**ScP**	**20 34 53.4**	**-1.9**
GYA				pP	pP	20 28 03.4	+2.2		comp=Z,1.3nm,1.0s,baz=6.6,slow=4.0,SNR=5.6						
GYA				sP	sP	20 28 08.3	+0.8	CMAR				LR	LR	20 47 38.6	
GYA				PP	**PnPn**	**20 28 56.0**	**+2.6**		comp=Z,82nm,19.9s,baz=64,slow=37						
GYA				PcP	**PcP**	**20 30 41.6**	**+3.5**	**CM01**	**Chiang Mai Arr**	**42.13**	**254**	*e*P	**P**	**20 29 14.6**	**-1.1**
GYA				S	**S**	**20 32 49.8**	**-4.3**	**SUKH**	**Sukhothai**	**42.20**	**253**	P	**P**	**20 29 16.9**	**+0.7**

	comp=Z,9.5nm,0.8s							
NVS	**Novosibirsk**	**42.25**	**313**	⇑*i*P	**P**	**20 29 16.9**	**+0.7**
NVS				*i*		20 29 30.7	
NVS				*e*S	**S**	**20 35 31.8**	**-0.9**
NVS				pmax	pmax		
	comp=Z,25nm,0.7s						
NVS				pmax	pmax		
	comp=N,2.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,15nm,0.5s						
NVS				smax	smax		
	comp=N,1.0nm,0.4s						
NVS				smax	smax		
	comp=E,6.0nm,0.5s						
RDOG	**Red Dog Mine**	**42.29**	**27**	*e*P	**P**	**20 29 17.3**	**+1.0**
	comp=E,51nm,1.1s						
NRIK	**Noril'sk**	**42.32**	**335**	P	**P**	**20 29 16.2**	**-0.3**
	comp=E,9.1nm,0.5s,baz=130,slow=8.9,SNR=5.9						
NRIK				LR	LR	20 48 23.7	
	comp=E,383nm,19.4s,baz=92,slow=38						
LSA	**Lhasa**	**42.44**	**274**	P	**P**	**20 29 20.8**	**+2.2**
LSA				pmax	pmax		
	comp=E,28nm,0.9s						
LSA	**Lhasa**	**42.44**	**274**	*e*P	**P**	**20 29 20.4**	**+1.8**
	comp=E,151nm,1.6s						
LSA	**Lhasa**	**42.44**	**274**	P	**P**	**20 29 21.1**	**+2.5**
LSA	**Lhasa**	**42.44**	**274**	*e*P	**P**	**20 29 20.4**	**+1.8**
LSA				pmax	pmax		
	comp=Z,151nm,1.6s						
SRAK	**Srakaew**	**42.63**	**246**	P	**P**	**20 29 16.9**	**-2.8**
	comp=Z,86nm,0.6s,comp=Z,713nm						
SANI	**Sanana**	**42.67**	**204**	P	**P**	**20 29 20.2**	**+0.2**
	comp=Z,62nm,0.7s,comp=Z,513nm						
MPSI	**Mapaga**	**42.77**	**213**	P	**P**	**20 29 22.8**	**+2.0**
	comp=Z,14nm,1.0s,comp=Z,200nm						
LUWI	**Luwuk**	**42.85**	**209**	*e*P	**P**	**20 29 19.9**	**-1.6**
	comp=Z,67nm,1.0s						
APSI	**Ampana**	**43.17**	**210**	P	**P**	**20 29 27.3**	**+3.3**
	comp=Z,47nm,1.0s,comp=Z,379nm						
UTHA	**Uthaitani**	**43.53**	**251**	P	**P**	**20 29 27.8**	**+0.8**
	comp=Z,7.5nm,0.8s,comp=Z,56nm						
UMPA	**Umpang Tak**	**43.56**	**252**	P	**P**	**20 29 28.8**	**+1.5**
	comp=Z,15nm,0.8s,comp=Z,111nm						
SHL	**Shillong**	**43.76**	**268**	*e*P	**P**	**20 29 28.2**	**-0.8**
	comp=Z,64nm,0.7s						
SHL	**Shillong**	**43.76**	**268**	*e*P	**P**	**20 29 28.2**	**-0.8**
SHL				pmax	pmax		
	comp=Z,64nm,0.7s						
SHL	**Shillong**	**43.76**	**268**	*e*P	**P**	**20 29 30.0**	**+1.0**
MK01	**Makanchi Array**	**43.76**	**301**	*e*P	**P**	**20 29 28.0**	**-0.6**
MK01				*e*S	**S**	**20 35 55.9**	**+0.7**
MK31	**Makanchi Array**	**43.77**	**301**	*e*P	**P**	**20 29 28.5**	**-0.1**
MK31	**Makanchi Array**	**43.77**	**301**	*e*P	**P**	**20 29 28.5**	**-0.1**
MK32	**Makanchi Array**	**43.77**	**301**	*e*P	**P**	**20 29 28.8**	**+0.1**
MK32				*e*S	**S**	**20 35 55.6**	**+0.4**
MK32				*e*		20 48 54.7	
MKAR	**Makanchi Array**	**43.77**	**301**	P	**P**	**20 29 28.8**	**+0.1**
	comp=Z,37nm,0.6s,baz=86,slow=9.8,SNR=251						
MKAR				S	**S**	**20 35 55.6**	**+0.4**
	comp=Z,6.5nm,1.2s,baz=82,slow=20,SNR=5.8						
MKAR				LR	LR	20 48 54.7	
	comp=Z,239nm,18.5s,baz=76,slow=38						
MKAR	**Makanchi Array**	**43.77**	**301**	*e*P	**P**	**20 29 28.7**	**+0.1**
	comp=Z,347nm,0.6s						
MKAR				S	**S**	**20 35 55.6**	**+0.4**
PATY	**Pattaya**	**44.21**	**246**	P	P	20 29 41.7	+9.3
SVW2	**Sparrevohn**	**44.37**	**38**	*e*P	**P**	**20 29 34.3**	**+1.1**
	comp=Z,55nm,1.0s						
SRDT	**SRDT**	**44.55**	**250**	P	**P**	**20 29 35.6**	**+0.5**
	comp=Z,17nm,0.8s						
SBUM	**Sibu**	**44.75**	**225**	*e*P	**P**	**20 29 35.6**	**-1.1**
	comp=Z,6.6nm,1.1s						
SBUM	**Sibu**	**44.75**	**225**	P	**P**	**20 29 38.0**	**+1.3**
PHET	**Kaeng Krachan**	**45.12**	**248**	P	**P**	**20 29 41.7**	**+2.1**
	comp=Z,13nm,0.7s,comp=Z,131nm						
IM3	**Indian Mountai**	**45.45**	**31**	*e*P	**P**	**20 29 42.3**	**+0.5**
KURK	**Kurchatov**	**45.45**	**307**	*e*P	**P**	**20 29 41.6**	**-0.3**
	comp=Z,171nm,0.8s						
KURK				*e*S	**S**	**20 36 16.2**	**-3.3**
KURK	**Kurchatov**	**45.45**	**307**	P	**P**	**20 29 42.0**	**0.0**
	SNR=46						
KURK	**Kurchatov**	**45.45**	**307**	*de*P	**P**	**20 29 41.9**	**0.0**
KURK				pmax	pmax		
	comp=Z,120nm,0.8s						
KURBB	**Kurchatov Arra**	**45.53**	**307**	P	**P**	**20 29 42.6**	**+0.1**
	comp=Z,130nm,0.7s,baz=82,slow=8.1,SNR=309						
OHAK	**Old Harbor**	**45.66**	**44**	*e*P	**P**	**20 29 43.9**	**+0.4**
	comp=Z,221nm,1.8s						
KDAK	**Kodiak Island**	**45.99**	**43**	P	**P**	**20 29 46.7**	**+0.6**
	comp=Z,36nm,0.9s,baz=329,slow=4.7,SNR=12						
PPLA	**Purkeypile**	**46.00**	**36**	*e*P	**P**	**20 29 48.0**	**+1.8**
	comp=Z,89nm,1.2s						
CAST	**Castle Rocks**	**46.05**	**35**	*e*P	**P**	**20 29 45.5**	**-1.0**
	comp=Z,26nm,0.9s						
TARA	**Tarawa**	**46.48**	**135**	*e*P	**P**	**20 29 50.8**	**+0.4**
	comp=Z,179nm,1.1s						
PDGK	**Podgornoye**	**46.51**	**297**	P	**P**	**20 29 50.6**	**+0.1**
PDGK				pmax	pmax		
	comp=Z,67nm,1.3s						
BPAW	**Bear Paw Mtn.**	**46.54**	**34**	*e*P	**P**	**20 29 51.7**	**+1.3**
	comp=Z,118nm,2.0s						
CNPM	**China Poot**	**46.57**	**40**	*e*P	**P**	**20 29 50.9**	**+0.3**
	comp=Z,295nm,1.9s						
SHLS	**Shalkode**	**46.58**	**297**	⇓*i*P	**P**	**20 29 48.8**	**-2.3**
	comp=Z,16nm,0.7s						
SHLS				*i* S	**S**	**20 36 29.7**	**-6.4**
KSM	**Kuching**	**46.62**	**226**	*e*P	**P**	**20 29 51.8**	**+0.3**
	comp=Z,15nm,0.7s						
MLY	**Manley**	**46.66**	**33**	*e*P	**P**	**20 29 52.8**	**+1.5**
	comp=Z,38nm,1.1s						
SUA	**Susitna One**	**46.70**	**38**	*e*P	**P**	**20 29 52.4**	**+0.6**
	comp=Z,41nm,1.0s						
BRLK	**Bradley Lake**	**46.73**	**40**	*e*P	**P**	**20 29 53.0**	**+1.1**
	comp=Z,270nm,1.9s						
TDK	**Taldygorghan**	**46.81**	**300**	*e*P	**P**	**20 29 53.2**	**+0.5**
	comp=Z,29nm,1.0s						
TDK				*e*S	**S**	**20 36 37.5**	**-1.7**
TDK				LR	LR	20 48 49.5	
	comp=Z,233nm,16.5s						
TRF	**Thorofare Moun**	**46.86**	**35**	*e*P	**P**	**20 29 54.0**	**+1.0**
	comp=Z,28nm,0.9s						
UZB	**Uzynbulak**	**46.89**	**297**	⇓*i*P	**P**	**20 29 53.5**	**0.0**
	comp=Z,6.2nm,0.7s						
COLD	**Coldfoot**	**46.95**	**30**	*e*P	**P**	**20 29 54.6**	**+1.2**
	comp=Z,8.4nm,1.0s						
BNSI	**Bone**	**46.96**	**210**	P	**P**	**20 29 55.9**	**+1.8**
KPKS	**Kokpek**	**47.03**	**297**	*i* P	**P**	**20 29 54.8**	**+0.2**
	comp=Z,10nm,0.6s						
BWN	**Browne**	**47.21**	**34**	*e*P	**P**	**20 29 57.4**	**+1.9**
	comp=Z,244nm,1.2s						
JIRN	**Jiri**	**47.24**	**274**	⇓*i*P	**P**	**20 29 57.1**	**+0.4**
	comp=Z,137nm,0.6s						
RAMN	**Ramite**	**47.25**	**273**	⇓*i*P	**P**	**20 29 56.8**	**+0.1**
	comp=Z,283nm,0.8s						
TOLK	**Toolik Lake Re**	**47.25**	**28**	*e*P	**P**	**20 29 56.8**	**+0.9**
	comp=Z,48nm,1.0s						
TOLK	**Toolik Lake Re**	**47.25**	**28**	P	**P**	**20 29 57.3**	**+1.4**
	baz=267						
GUN	**Gumba**	**47.37**	**275**	⇓*i*P	**P**	**20 29 57.9**	**+0.2**
	comp=Z,230nm,0.6s						
MCK	**McKinley**	**47.45**	**34**	*e*P	**P**	**20 29 58.1**	**+0.7**
	comp=Z,35nm,1.0s						
PMR	**Palmer**	**47.47**	**37**	*e*P	**P**	**20 29 57.0**	**-0.5**
	comp=Z,39nm,1.0s						
PMR	**Palmer**	**47.47**	**37**	*e*P	**P**	**20 29 57.0**	**-0.5**
PMR				pmax	pmax		
	comp=Z,39nm,1.0s						
RND	**Reindeer**	**

COLA College 47.89 33 *e*P P **20 30 02.2 +1.4**
comp=Z,17nm,0.8s
COLA College 47.89 33 *e*P P **20 30 02.2 +1.4**
COLA pmax pmax
comp=Z,17nm,0.8s
KKN Kakani 47.90 275⇓ *i*P P **20 30 01.9 +0.3**
comp=Z,224nm,0.6s
PKI Pulchoki 47.90 275⇓ *i*P P **20 30 01.6 -0.2**
comp=Z,104nm,0.7s
PKIN Phulchoki 47.90 275⇓ *i*P P **20 30 01.5 -0.3**
comp=Z,77nm,0.6s
CCB Clear Creek Bu 47.92 33 *e*P P **20 30 01.9 +0.9**
comp=Z,21nm,1.2s
CCB *e*PcP **PcP 20 31 28.0 -0.6**
POKR Poker Plat Res 48.06 32 P P **20 30 03.8 +1.6**
baz=272,SNR=41
DMN Daman 48.12 275⇓ *i*P P **20 30 03.5 +0.1**
comp=Z,102nm,0.8s
DHY Denali Highway 48.19 35 *e*P P **20 30 03.9 +0.5**
comp=Z,26nm,1.1s
MDOK Medeo 48.27 297 *i* P P **20 30 04.8 +0.6**
comp=Z,444nm,0.6s
MDOK *e*S **S 20 36 58.5 -1.6**
MDOK LR LR 20 48 43.3
comp=Z,222nm,19.9s
HDA Harding Lake 48.30 33 *e*P P **20 30 04.8 +0.8**
comp=Z,40nm,1.0s
HDA Harding Lake 48.30 33 P P **20 30 04.8 +0.8**
baz=273,SNR=21
GKN Gorkha 48.30 276⇓ *i*P P **20 30 04.8 +0.1**
comp=Z,2.3nm,0.5s
IL1 Eielson Array 48.31 33 *e*P P **20 30 04.5 +0.5**
ILAR Eielson Array 48.31 33 P P **20 30 04.7 +0.7**
comp=Z,18nm,0.8s,baz=269,slow=6.2,SNR=149
ILAR LR LR 20 52 11.2
comp=Z,150nm,18.3s,baz=278,slow=38
ILB Eielson Array 48.31 33 *e*P P **20 30 04.5 +0.5**
SCM Sheep Creek Mo 48.31 37 *e*P P **20 30 04.9 +0.7**
comp=Z,36nm,0.8s
SCM Sheep Creek Mo 48.31 37 *e*P P **20 30 04.9 +0.7**
SCM pmax pmax
comp=Z,36nm,0.8s
KDJ Kajisay 48.49 296 *e*P P **20 30 07.2 +1.2**
comp=Z,36nm,0.6s
KDJ Kajisay 48.49 296 *e*P P **20 30 07.2 +1.2**
KDJ pmax pmax
comp=Z,36nm,0.6s
GLI Glacier Island 48.51 38 *e*P P **20 30 07.0 +1.4**
comp=Z,138nm,1.5s
TRTT Trang 48.54 242 P P 20 30 12.9 +6.5
KUU Kurty 48.54 299⇓ *i*P P **20 30 06.0 -0.2**
comp=Z,35nm,0.7s
KRAB Krabi 48.62 243 P P **20 30 08.3 +1.3**
comp=Z,45nm,0.8s,comp=Z,518nm
FID Port Fidalgo 48.83 38 *e*P P **20 30 08.7 +0.7**
comp=Z,71nm,1.2s
DANN Dangsing 48.83 276⇓ *i*P P **20 30 09.5 +0.6**
comp=Z,670nm,0.6s
FYU Fort Yukon 48.91 30 *e*P P **20 30 10.2 +1.6**
comp=Z,104nm,1.2s
KLU Klutina 49.01 37 *e*P P **20 30 10.4 +0.9**
comp=Z,38nm,1.0s
MID Middleton Isla 49.06 40 *e*P P **20 30 11.1 +1.3**
comp=Z,3μm,2.0s
MID Middleton Isla 49.06 40 *e*P P **20 30 11.1 +1.3**
MID pmax pmax
comp=Z,3μm,2.0s
PAX Paxson 49.06 35 *e*P P **20 30 11.4 +1.4**
PAX *e*PcP **PcP 20 31 33.8 +0.8**
PAX Paxson 49.06 35 *e*P P **20 30 11.4 +1.4**
PAX *e* 20 31 33.8
DIV Divide 49.12 38 *e*P P **20 30 11.7 +1.2**
comp=Z,63nm,1.0s
EYAK Cordova Ski Ar 49.21 38 *e*P P **20 30 12.7 +1.8**
comp=Z,211nm,2.0s
KOLN Koldanda 49.22 276⇓ *i*P P **20 30 12.1 +0.3**
comp=Z,163nm,0.8s
HARP HAARP 49.27 36 *e*P P **20 30 12.8 +1.3**
comp=Z,101nm,1.4s
RIDG Independ'e Rid 49.27 34 *e*P P **20 30 11.8 +0.3**
RIDG *e*PcP **PcP 20 31 33.8 +0.2**
BRZS Berezniki 49.33 307⇓ *i*P P **20 30 11.9 -0.2**
comp=Z,18nm,0.7s
TKM2 Tokmak 2 49.35 298 P P **20 30 13.6 +0.9**
SNR=92
PKDT Phuket 49.45 244 P P **20 30 15.0 +1.6**
comp=Z,18nm,0.8s
PYUN Piuthan 49.55 277⇓ *i*P P **20 30 14.6 +0.3**
comp=Z,547nm,1.0s
SCRK Sand Creek 49.62 34 *e*P P **20 30 15.4 +1.1**
comp=Z,64nm,1.2s
DOT Dot Lake 49.63 34 *e*P P **20 30 12.5 -1.7**
comp=Z,18nm,1.0s
KULM Kulim 49.71 239 *e*P P **20 30 15.1 -0.2**
comp=Z,32nm,1.2s
KULM Kulim 49.71 239 P P **20 30 16.0 +0.7**
BMRM Bremner River 49.71 38 *e*P P **20 30 16.1 +1.3**
comp=Z,42nm,1.0s
RAGM Ragged Mountai 49.76 39 *e*P P **20 30 15.6 +0.3**
comp=Z,270nm,1.9s
KZA Kyzart 49.87 297 P P **20 30 18.2 +1.4**
SNR=34
KBK Karagaybulak 49.89 297 P P **20 30 17.3 +0.6**
SNR=112
CHMS Chumysh 49.92 298 P P **20 30 17.0 +0.3**
SNR=16
OTUK Ortayu 49.99 305 P P **20 30 17.6 +0.4**
OTUK pmax pmax
comp=Z,39nm,1.1s
USP Ospenovka 50.01 298 P P **20 30 17.8 +0.4**
SNR=22
IPM Ipoh 50.05 238 *e*P P **20 30 18.8 +0.8**
comp=Z,16nm,0.7s
FRU1 Bishkek 50.06 298 *e*P P **20 30 18.1 +0.2**
comp=Z,52nm,1.0s
FRU Bishkek 50.06 298 *e*P P **20 30 17.5 -0.3**
FRU *i* 20 30 32.0
FRU *e* 20 30 39.0
BRVK Borovoye 50.06 312 *e*P P **20 30 17.3 -0.3**
comp=Z,31nm,0.9s
BRVK Borovoye 50.06 312 P P **20 30 17.6 0.0**
SNR=12
BRVK Borovoye 50.06 312 *ce*P P **20 30 17.8 +0.2**
BRVK pmax pmax
comp=Z,48nm,0.8s
MMRI Maumere 50.08 206 *e*P P **20 30 17.7 -0.4**
comp=Z,104nm,0.6s
AAK Ala-Archa 50.21 298 P P **20 30 20.4 +1.3**
SNR=28
AAK Ala-Archa 50.21 298 *e*P P **20 30 18.9 -0.2**
comp=Z,25nm,0.8s
AAK Ala-Archa 50.21 298 P P **20 30 19.8 +0.7**
SNR=8.7
AAK Ala-Archa 50.21 298 *i* P P **20 30 19.4 +0.2**
SNR=36
AAK Ala-Archa 50.21 298 *ce*P P **20 30 19.3 +0.2**
AAK pmax pmax
comp=Z,53nm,0.7s
KSH Kashi 50.22 293 P P **20 30 23.3 +4.1**
KSH pP pP 20 30 36.3 +2.9
KSH PcP **PcP 20 31 41.1 +3.5**
KSH S **S 20 37 31.0 +3.4**
KSH sS sS 20 37 52.0 +0.6
KSH SS **SS 20 41 02.8 +1.6**
KSH pmax pmax
comp=Z,58nm,0.8s
KSH pmax pmax
comp=Z,490nm,4.8s
KSH LR LR
comp=Z,430nm,7.9s
KSH LR LR
comp=Z,330nm,11.2s
KSH LR LR
comp=Z,720nm,16.8s
MYKOM Kota Tinggi 50.24 233 *e*P P **20 30 20.0 +0.7**
comp=Z,56nm,1.5s
MYKOM Kota Tinggi 50.24 233 P P **20 30 20.0 +0.7**
UCH Uchtor 50.33 297 P P **20 30 21.1 +0.7**
SNR=18
SOEI Soe 50.48 203 *e*P P **20 30 20.9 -0.4**
comp=Z,58nm,0.8s
EKS2 Erkin-Say 50.70 298 P P **20 30 23.4 +0.6**
SNR=34
EGAK Eagle 50.75 33 *e*P P **20 30 23.5 +0.9**
comp=Z,13nm,0.9s
AML Almayashu 50.94 297 P P **20 30 25.8 +0.9**
SNR=53
PBA Port Blair 51.02 252 *e*P P 20 30 25.7 +0.4
comp=Z,44nm,0.8s
BATI Baumata 51.09 203 P P **20 30 26.0 +0.3**
comp=Z,14nm,0.6s,baz=213,slow=12,SNR=5.1
MNAS Manas 51.65 298 P P **20 30 30.4 +0.5**
MNAS pmax pmax
comp=Z,65nm,0.9s
MTN Manton Dam 51.79 193 *e*P P **20 30 30.4 -0.5**
comp=Z,50nm,1.2s
SFK Sufi-Kurgan 51.82 295 P P **20 30 31.5 +0.2**
SFK pmax pmax
comp=Z,52nm,0.7s
COEN Coen 51.93 178 *e*P P **20 30 32.6 +0.7**
comp=Z,35nm,0.8s
LHMI Lhok Sumawe 52.30 243 *e*P P **20 30 33.9 -1.0**
comp=Z,49nm,1.0s
EPYK Eagle Plains 52.32 30 P P **20 30 35.3 +0.9**
baz=280
PSI Prapat 52.69 239 *e*P P **20 30 37.6 -0.3**
comp=Z,15nm,0.7s
PSI Prapat 52.69 239 *e*P P **20 30 37.6 -0.3**
PSI pmax pmax
comp=Z,15nm,0.7s
KK31 Karatay Array 52.81 299 *e*P P **20 30 38.0 -0.4**
KK31 Karatay Array 52.81 299 *e*P P **20 30 38.0 -0.4**
KKAR Karatay Array 52.81 299 *e*P P **20 30 38.0 -0.4**
KKAR Karatay Array 52.81 299 *e*P P **20 30 38.0 -0.4**
HYT Haines Junctio 53.14 37 *e*P P **20 30 42.4 +1.7**
comp=Z,96nm,1.2s
BKNI Bangkinang 53.15 235 *e*P P **20 30 42.0 +0.9**
comp=Z,66nm,0.8s
INK Inuvik 53.17 28 P P **20 30 42.0 +1.5**
comp=Z,32nm,1.0s,baz=288,slow=7.6,SNR=18
INK LR LR 20 55 36.2
comp=Z,201nm,18.5s,baz=290,slow=38
INK Inuvik 53.17 28 *e*P P **20 30 41.3 +0.8**
comp=Z,44nm,1.0s
INK *e*PKKSdf PKKSdf 20 55 36.2 -36
INK Inuvik 53.17 28 P P **20 30 42.0 +1.5**
INK pmax pmax
comp=Z,32nm,1.0s
INK MLR MLR
comp=Z,201nm,18.5s
IUG luzhnay 53.48 298⇓ *e*P P **20 30 43.9 +0.4**
comp=Z,16nm,1.3s
IUG *e*S **S 20 38 10.6 -1.7**
SMRI Semarang 53.69 220 *e*P P **20 30 45.5 +0.4**
comp=Z,84nm,1.2s
BTK Batken 53.71 296 P P **20 30 45.9 +0.8**
NDI New Delhi 53.77 280 *e*P P **20 30 43.0 -2.5**
OPA Opana 53.79 90 *e*P P **20 30 46.5 +0.8**
comp=Z,128nm,1.5s
OPA Opana 53.79 90 *e*P P **20 30 46.5 +0.8**
OPA pmax pmax
comp=Z,128nm,1.5s
KIP Kipapa 53.92 90 *ce*P P **20 30 47.7 +1.0**
KIP pmax pmax
comp=Z,587nm,2.5s
UGM Wanagama 54.39 219 *e*P P **20 30 51.0 +0.8**
comp=Z,262nm,1.4s
WHY Whitehorse 54.43 37 *e*P P **20 30 52.2 +2.2**
comp=Z,16nm,0.9s
SVE Sverdlovsk 54.47 318 *e*P P **20 30 51.0 +0.8**
SVE pmax pmax
comp=Z,44nm,0.8s
NIL Nilore 54.55 288 *e*P P **20 30 52.1 +0.9**
comp=Z,93nm,0.7s
NIL Nilore 54.55 288 *e*P P **20 30 52.1 +0.9**
NIL pmax pmax
comp=Z,93nm,0.7s
GSI Gunungsitoli 54.70 239 *e*P P **20 30 52.1 -0.3**
comp=Z,105nm,1.1s
LEM Lembang 54.98 223 P P **20 30 55.7 +1.2**
MDSI Maura Dua 54.99 228 P P **20 30 54.8 +0.4**
comp=Z,28nm,1.0s
ARU Arti 55.68 318 *e*P P **20 30 58.9 0.0**
comp=Z,64nm,0.8s
ARU Arti 55.68 318 *c i*P P **20 30 59.0 0.0**
ARU *PP **pP** **20 31 12.6 -0.7**
ARU 20 33 03.5
ARU S **S** **20 38 43.6 +2.5**
ARU SS **SS** **20 42 29.8 +3.5**
ARU pmax pmax
comp=Z,31nm,0.8s
KBL Kabul 57.30 290 *e*P P **20 31 10.4 -0.6**
comp=Z,80nm,0.9s
KBL Kabul 57.30 290 *e*P P **20 31 10.4 -0.6**
KBL pmax pmax
comp=Z,80nm,0.9s
ABKAR Akbulak array 57.42 310 *e*P P **20 31 10.8 -0.6**
DLBC Dease Lake 57.48 39 *e*P P **20 31 13.3 +1.5**
comp=Z,30nm,1.1s
FITZ Fitzroy Crossi 58.06 198 *e*P P **20 31 16.3 +0.2**
comp=Z,17nm,0.9s
CTA Charters Tower 58.16 175 P P **20 31 16.7 -0.2**
comp=Z,2.6nm,0.8s,baz=292,slow=4.7,SNR=3.2
WRAB Tennant Creek 58.29 188 *e*P P **20 31 16.8 -0.9**
comp=Z,41nm,0.9s
WRAB Tennant Creek 58.29 188 *ce*P P **20 31 17.2 -0.5**
WRAB pmax pmax
comp=Z,31nm,0.8s
WB2 Warramunga Arr 58.30 188 *e*P P **20 31 16.0 -1.7**
WR1 Warramunga Arr 58.30 188 *e*P P **20 31 17.3 -0.5**
comp=Z,35nm,0.8s
WRA Warramunga Arr 58.30 188 P P **20 31 17.3 -0.5**
comp=Z,16nm,0.6s,baz=6.2,slow=7.3,SNR=100
HYB Hyderabad 58.57 268 *i* P P **20 31 20.0 +0.1**
SPA0 Spitsbergen Ar 59.41 349 *e*P P **20 31 25.7 +0.8**
KBS Kingsbay 59.53 350 *e*P P **20 31 26.7 +1.1**
LVZ Lovozero 61.15 336 *ce*P P **20 31 37.3 +0.4**
RES Resolute Bay 61.36 15 P P **20 31 38.5 +0.4**
comp=Z,27nm,0.9s,baz=311,slow=6.6,SNR=30
RES Resolute Bay 61.36 15 *e*P P **20 31 38.3 +0.2**
comp=Z,33nm,1.0s
APA Apatity 61.73 336⇓ *i*P P **20 31 40.4 -0.3**
APA pmax pmax
comp=Z,21nm,0.8s
APA MLR MLR
comp=Z,1μm,16.0s
AS01 Alice Springs 62.02 188 *e*P P **20 31 42.9 -0.3**
AS31 Alice Springs 62.02 188 *e*P P **20 31 42.8 -0.5**
comp=Z,5.8nm,0.7s
ASAR Alice Springs 62.02 188 P P **20 31 43.1 -0.1**
comp=Z,15nm,0.8s,baz=10,slow=6.8,SNR=146
ASAR Alice Springs 62.02 188 P P **20 31 43.2 -0.1**
ASAR pmax pmax
comp=Z,16nm,0.8s
YKA Yellowknife Ar 62.61 31 P P **20 31 47.2 +0.5**
comp=Z,11nm,0.9s,baz=296,slow=6.5,SNR=19
YKA LR LR 20 59 49.8
comp=Z,10nm,20.7s,baz=294,slow=37
YKB5 Yellowknife Ar 62.61 31 *e*P P **20 31 45.9 -0.8**
YKB5 *e* 20 59 49.8
MBWA Marble Bar 62.62 203 *e*P P **20 31 46.9 -0.4**
comp=Z,22nm,0.8s
HAMF Hammerfest 62.79 341 *e*P P **20 31 47.9 +0.1**
KLMR Klimovskoe 62.92 328 *e*P P **20 31 47.5 -1.2**
KLMR pmax pmax
comp=Z,22nm,0.9s
KLMR Klimovskoe 62.92 328 *e*P P **20 31 47.6 -1.2**
KLMR AMP 20 32 04.1
comp=Z,22nm,0.9s
PALK Pallekele 62.95 257 P P **20 31 50.3 +0.6**
ARA0 ARCESS Array S 62.99 339 *e*P P **20 31 49.5 +0.3**
ARA0 *e* 21 04 17.2
ARCES ARCESS Array B 62.99 339 P P **20 31 49.5 +0.3**
comp=Z,5.3nm,0.6s,baz=52,slow=7.1,SNR=36
ARCES LR LR 21 04 17.2
comp=Z,7.3nm,18.3s,baz=7.0,slow=41
ARE0 ARCESS Array S 62.99 339 *e*P P **20 31 49.8 +0.6**
GEYT Alibeck 63.54 299 P P **20 31 54.0 +0.6**
comp=Z,5.8nm,0.7s,baz=277,slow=12,SNR=12
GEYT LR LR 21 01 29.4
comp=Z,117nm,18.1s,baz=345,slow=38
GYA0B ALIBECK ARRAY 63.54 299 *e*P P **20 31 53.5 +0.1**
comp=Z,29nm,1.1s
EIDS Eidsvold 63.87 171 *e*P P **20 31 55.6 +0.2**
comp=Z,12nm,0.9s
KTK1 Kautokeino 63.95 339 *e*P P **20 31 56.1 +0.6**
SGF Sodankyl 63.97 337 P P **20 31 57.0 +1.3**
SGF pmax pmax
comp=Z,60nm,2.5s
MSF Maaselka 64.09 335 P P **20 31 57.9 +1.4**
MSF pmax pmax
comp=Z,25nm,1.0s
DZM Mont Dzumac 64.29 155 *e*LR LR 20 51 14.1
comp=Z,326nm,32.5s
DZM Mont Dzumac 64.29 155 *e*P P **20 31 59.4 +1.0**
comp=Z,48nm,1.1s
DAG Danmarks Havn 64.61 355⇑ *i*P P **20 31 59.9 +0.2**
comp=Z,39nm,1.1s
DAG Danmarks Havn 64.61 355⇑ *i*P P **20 31 59.9 +0.2**
DAG pmax pmax
comp=Z,49nm,1.1s
TRO Tromso 64.68 341 *e*P P **20 31 59.5 -0.7**
JOF Joensuu 65.06 332 P P **20 32 04.3 +1.5**
JOF pmax pmax
comp=Z,25nm,1.8s
OUL Oulu 65.64 335 P P **20 32 07.8 +1.3**
OUL pmax pmax
comp=Z,26nm,1.1s
D03D Eldon 66.05 48 P P **20 32 11.3 +1.9**
baz=301,SNR=8.9
B05A Bryant 66.25 47 P P **20 32 13.0 +2.3**
baz=301,SNR=7.5
B06A Marblemount 66.46 46 *e*P P **20 32 13.3 +1.2**
comp=Z,52nm,1.0s
MOS Moscow 66.48 323 *e*P P **20 32 11.2 -0.9**
MOS *i* *PP **pP** **20 32 24.7 -2.1**
MOS *e* 20 32 42.5
MOS *e*S **S 20 40 55.9 -2.4**
MOS pmax pmax
comp=Z,48nm,1.1s
STEI Steigen 66.84 341 *e*P P **20 32 14.2 +0.1**
E04D Cinebar 66.86 48 P P **20 32 17.5 +2.8**
baz=302,SNR=5.8
VRH Novokhopyorsk 66.91 318 *e*P P **20 32 14.8 -0.1**
VRH pmax pmax
comp=Z,40nm,1.1s
SUF Sumiainen 67.06 333 P P **20 32 16.6 +1.0**
LON Longmire 67.20 48 *e*P P **20 32 18.2 +1.3**
comp=Z,26nm,1.5s
LON Longmire 67.20 48 *e*P P **20 32 18.3 +1.3**
LON pmax pmax
comp=Z,27nm,1.5s
OBN Obninsk 67.33 323 *e*P P **20 32 18.1 +0.6**
comp=Z,29nm,0.8s
OBN Obninsk 67.33 323 *ce*P P **20 32 18.3 +0.8**
OBN *i* 20 32 32.3
OBN *e* 20 34 45.1
OBN *i*S **S 20 41 16.2 +7.6**
OBN *e*SS **SS 20 45 31.2 +3.0**
OBN pmax pmax
comp=Z,25nm,1.2s
OBN MLR MLR
comp=Z,93nm,14.0s
COR Corvallis 67.46 50 *e*P P **20 32 20.9 +2.4**
comp=Z,203nm,1.4s
COR Corvallis 67.46 50 *e*P P **20 32 20.9 +2.4**
COR pmax pmax
comp=Z,203nm,1.4s
LPSR Galich'ya Gora 67.59 320 *e*P P **20 32 19.1 -0.1**
LPSR pmax pmax
comp=Z,30nm,0.8s
LTY Liberty 67.59 47 *e*P P **20 32 20.2 +0.8**
comp=Z,36nm,1.3s
KEBM Edson Butte 67.73 52 *e*P P **20 32 23.5 +3.2**
comp=Z,76nm,1.0s
B08A Colville Reser 67.76 45 *e*P P **20 32 21.5 +1.1**
comp=Z,61nm,1.3s
B08A *e*S **S 20 41 11.4 -2.8**
I03D Drain, OR 67.90 51 P P **20 32 24.0 +2.7**
baz=302
FIA1 FINESS Array S 67.90 332 *e*P P **20 32 20.3 -0.6**
FIA0 FINESS Array S 67.90 332 *e*P P **20 32 21.1 +0.1**
FIA0 *e* 21 05 33.1
FIA0 FINESS Array S 67.90 332 *e*P P **20 32 21.1 +0.1**
FINES FINESS Array B 67.90 332 P P **20 32 21.1 +0.1**
comp=Z,18nm,0.8s,baz=46,slow=8.1,SNR=43
FINES LR LR 21 05 33.1
comp=Z,133nm,18.5s,baz=42,slow=39
H04A Detroit Lake 68.08 50 *e*P P **20 32 23.8 +1.3**
comp=Z,61nm,1.2s
K02D Willamette Mer 68.24 52 P P **20 32 25.7 +2.1**
baz=302,SNR=6.0
VSR Storozhevoye 68.24 319 *e*P P **20 32 23.0 -0.3**
VSR pmax pmax
comp=Z,20nm,0.7s
VORD Divnogorie 68.32 318 *e*P P **20 32 23.7 -0.1**
VORD pmax pmax
comp=Z,10.0nm,0.8s
MOR8 Moi Rana 68.35 340 *e*P P **20 32 22.6 -1.1**
I04A Tendick Farm, 68.42 51 P P **20 32 26.8 +2.2**
baz=303,SNR=8.3
E07A Sunnyside 68.44 47 *e*P P **20 32 26.4 +1.8**
comp=Z,44nm,1.2s
L02E Cave Junction 68.56 53 P P **20 32 27.3 +1.8**
baz=303
C09A Chrisman Ranch 68.66 45 *e*P P **20 32 27.3 +1.2**
comp=Z,58nm,1.1s
D08A Wollman Farm, 68.70 46 *e*P P **20 32 27.1 +0.8**
comp=Z,34nm,1.1s
G06A Carlson Farm, 68.71 49 *e*P P **20 32 27.8 +1.4**
comp=Z,83nm,1.5s
HAWA Hanford 68.72 47 *e*P P **20 32 28.0 +1.6**
comp=Z,36nm,1.3s
HUMO Hull Mountain 68.72 52 *e*P P **20 32 28.5 +2.0**
comp=Z,47nm,1.8s
F07A Phinny Hill Vi 68.76 48 *e*P P **20 32 28.9 +2.2**
comp=Z,35nm,1.1s
I05D Terrebonne, OR 68.78 50 P P **20 32 29.0 +2.1**
baz=303
GROC Groznyy 68.90 309 *e*P P **20 32 25.8 -1.8**
GROC *e* 20 35 01.7
GROC *e*S **S 20 41 20.0 -7.8**
GROC pmax pmax
comp=Z,23nm,0.8s
ARMA Armidale 68.91 171 *e*P P **20 32 28.8 +1.1**
comp=Z,41nm,1.4s
E08A Dider Farm, El 68.94 47 *e*P P **20 32 28.9 +1.1**
comp=Z,33nm,1.3s
NEW Newport 69.04 45 LR LR 21 01 08.2
comp=Z,10.0nm,21.4s,baz=300,slow=34
NEW Newport 69.04 45 *e*P P **20 32 29.0 +0.5**
comp=Z,46nm,1.1s
NEW Newport 69.04 45 *e*P P **20 32 29.0 +0.5**
NEW pmax pmax
comp=Z,46nm,1.1s
NEW Newport 69.04 45 P P **20 32 29.9 +1.5**
baz=304,SNR=18
KHMM Horse Mountain 69.17 54 *e*P P **20 32 31.8 +2.3**
comp=Z,59nm,1.4s
L04D Klamath Falls 69.34 52 P P **20 32 32.3 +1.8**
baz=303,SNR=20
YBH Yreka Blue Hor 69.35 53 P P **20 32 32.6 +2.0**
comp=Z,22nm,1.1s,baz=326,slow=2.9,SNR=33
YBH LR LR 20 58 46.5
comp=Z,66nm,21.9s,baz=310,slow=32
YBH Yreka Blue Hor 69.35 53 *e*P P **20 32 32.4 +1.8**
comp=Z,26nm,1.0s
J05D Fort Rock, OR 69.42 51 P P **20 32 33.3 +2.3**
baz=304,SNR=16
E09A Wood Farm, Sta 69.45 47 *e*P P **20 32 32.4 +1.5**
comp=Z,59nm,1.3s
M02C Callahan 69.45 53 P P **20 32 32.6 +1.5**
baz=303,SNR=12
K04D Chiloquin, OR 69.46 52 P P **20 32 33.0 +1.8**
baz=304
SUMG Summit 69.48 0 *e*P P **20 32 31.9 +0.8**
comp=Z,63nm,1.1s
SUMG Summit 69.48 0⇑ *i*P P **20 32 32.3 +1.1**
comp=Z,98nm,0.9s
SUMG Summit 69.48 0⇑ *i*P P **20 32 32.3 +1.1**
SUMG pmax pmax
comp=Z,98nm,0.9s
GOF Gofitskoye 69.54 312 *e*P P **20 32 32.4 +0.9**
GOF pmax pmax
comp=Z,40nm,0.8s
VSU Vasula 69.58 329 *e*P P **20 32 31.8 +0.3**
VSU IAmb IAmb 20 32 33.5
comp=Z,106nm,1.0s
VSU Vasula 69.58 329 *ce*P P **20 32 32.5 +1.0**
G08A Pilot Rock 69.66 48 *e*P P **20 32 33.9 +1.5**
comp=Z,17nm,1.2s
STKA Stephens Creek 69.75 180 P P **20 32 33.0 +0.3**
comp=Z,6.9nm,1.0s,baz=348,slow=8.7,SNR=7.2
STKA Stephens Creek 69.75 180 *e*P P **20 32 33.0 +0.3**
comp=Z,1.6nm,0.8s
N02D Trinity Center 69.77 53 P P **20 32 35.0 +1.9**
baz=304,SNR=11
FORT Forrest 69.85 193 *e*P P **20 32 33.5 +0.1**
comp=Z,67nm,0.8s

M04C Macdoel 69.87 52 P P 20 32 35.3 +1.5
baz=304,SNR=25
KCPM Cahto Peak 69.92 55 *e*P P 20 32 36.0 +1.9
comp=Z,46nm,1.1s
NCK Nalchik 70.08 310⇑ *i*P P 20 32 36.1 +1.2
NCK pmax pmax
comp=Z,9.0nm,0.9s
WDC Whiskeytown Da 70.09 54 *e*P P 20 32 36.0 +1.0
comp=Z,33nm,1.1s
WDC Whiskeytown Da 70.09 54 *e*P P 20 32 36.0 +1.0
WDC pmax pmax
comp=Z,33nm,1.1s
O02D Mt. Diablo Mer 70.16 54 P P 20 32 37.8 +2.3
baz=304,SNR=14
NSS Namsos 70.27 339 *e*P P 20 32 36.4 +0.8
F10A Beach Ranch, E 70.28 47 *e*P P 20 32 37.5 +1.3
comp=Z,32nm,1.6s
TBLG Delisi 70.36 308 *e*P P 20 32 37.5 +0.8
comp=Z,23nm,0.8s
TBLG Delisi 70.36 308 *e*P P 20 32 37.5 +0.8
TBLG pmax pmax
comp=Z,23nm,0.8s
KIV Kislovodsk 70.37 311 *e*P P 20 32 37.5 +0.8
comp=Z,81nm,0.9s
KIV Kislovodsk 70.37 311 P P 20 32 37.9 +1.1
SNR=12
KIV Kislovodsk 70.37 311 *i* P P 20 32 37.7 +1.0
SNR=18
KIV Kislovodsk 70.37 311 *e*P P 20 32 37.7 +1.0
KIV pmax pmax
comp=Z,68nm,1.0s
KIV MLR MLR
comp=Z,148nm,18.0s
KBZ Khabaz 70.37 311 P P 20 32 37.8 +1.2
comp=Z,17nm,0.8s,baz=61,slow=4.1,SNR=25
KBZ LR LR 21 06 03.1
comp=Z,105nm,19.1s,baz=44,slow=38
HOPS Hopland Field 70.63 55 *e*P P 20 32 39.7 +1.4
comp=Z,31nm,1.2s
O03E Paynes Creek 70.72 54 P P 20 32 40.0 +1.1
baz=304,SNR=21
NEY Neytrino 70.74 310 *e*P P 20 32 40.1 +1.0
NEY pmax pmax
comp=Z,2.0nm,0.8s
MOD Modoc Plateau 70.76 52 *e*P P 20 32 40.8 +1.6
comp=Z,25nm,1.0s
WSAR Wadi Sarin 70.87 285 LR LR 21 05 43.4
comp=Z,105nm,21.5s,baz=78,slow=38
WSAR Wadi Sarin 70.87 285 P P 20 32 41.4 +1.4
BMO Blue Mountains 70.88 48 *e*P P 20 32 41.1 +1.3
comp=Z,22nm,1.0s
BMO Blue Mountains 70.88 48 *e*P P 20 32 41.1 +1.3
BMO pmax pmax
comp=Z,22nm,1.0s
BBOO Buckleboo 70.89 185 *e*P P 20 32 39.9 +0.2
comp=Z,26nm,0.9s
JTMT Jette 70.90 44 *e*P P 20 32 41.3 +1.3
comp=Z,41nm,0.9s
J08A Circle Bar Ran 71.04 49 *e*P P 20 32 42.5 +1.6
comp=Z,49nm,1.1s
SHME Shamm 71.18 289 P P 20 32 42.4 +0.5
AKH Akhalkalaki 71.32 308 *e*P P 20 32 44.0 +1.3
comp=Z,14nm,0.8s
AKH Akhalkalaki 71.32 308⇑ *i*P P 20 32 44.0 +1.3
ORV Oroville 71.33 54 *e*P P 20 32 43.0 +0.5
comp=Z,33nm,1.1s
ORV Oroville 71.33 54 *e*P P 20 32 43.0 +0.5
ORV pmax pmax
comp=Z,33nm,1.1s
WVOR Wild Horse Val 71.47 50 *e*P P 20 32 44.6 +1.1
comp=Z,39nm,1.2s
WVOR Wild Horse Val 71.47 50 *e*P P 20 32 44.6 +1.1
WVOR pmax pmax
comp=Z,39nm,1.2s
MDH Madha 71.48 288 P P 20 32 44.2 +0.5
MSFE Esma-Masafi 71.56 288 P P 20 32 45.1 +0.9
IZAR Zarasai 71.57 327 *e*P P 20 32 44.1 +0.5
IZAR IAmb IAmb 20 32 45.6
comp=Z,14nm,0.6s
MSO Missoula 71.63 45 *e*P P 20 32 44.7 +0.4
comp=Z,27nm,1.1s
MSO Missoula 71.63 45 P P 20 32 45.2 +0.9
baz=307,SNR=12
IDID Didziasalis 71.65 327 *e*P P 20 32 44.7 +0.6
IDID IAmb IAmb 20 32 46.2
comp=Z,14nm,0.9s
ISAL Salakas 71.74 327 *e*P P 20 32 45.4 +0.7
ISAL IAmb IAmb 20 32 46.8
comp=Z,14nm,0.6s
UOSS Minazif 71.75 288 *e*P P 20 32 45.5 +0.2
comp=Z,53nm,0.8s
UOSS Minazif 71.75 288 P P 20 32 45.5 +0.2
IIGN Ignalina 71.84 327 *e*P P 20 32 46.0 +0.7
IIGN IAmb IAmb 20 32 47.4
comp=Z,15nm,0.6s
HATD Hatta, Dubai 71.87 288 P P 20 32 46.1 +0.1
SNR=5.8
HATD Hatta, Dubai 71.87 288 *i* P P 20 32 47.2 +1.2
SNR=12
BEKR Beckworth 71.88 53 *e*P P 20 32 47.0 +0.9
comp=Z,42nm,1.0s
NACGM Naroch 71.90 327 *e* P 20 32 45.0 -0.6
AFDM Forest Hills D 72.01 54 *e*P P 20 32 47.6 +1.0
comp=Z,28nm,1.3s
ASHO Ashiyiah 72.01 287 P P 20 32 51.7 +4.8
SNR=5.5
ASHO Ashiyiah 72.01 287 P P 20 32 47.3 +0.4
BSY Bisya 72.24 285 P P 20 32 52.5 +4.2
SNR=5.5
FAQ Al Faqa, Dubai 72.32 288 P P 20 32 48.9 +0.2
RUBR Rubicon Trail 72.47 54 *e*P P 20 32 50.7 +1.0
comp=Z,30nm,0.9s
FFC Flin Flon 72.52 33 *e*P P 20 32 49.6 +0.3
comp=Z,47nm,1.0s
FFC Flin Flon 72.52 33 *i* P P 20 32 50.3 +0.9
MFID Camas Ranch 72.58 48 *e*P P 20 32 50.6 +0.5
comp=Z,32nm,1.1s
PAHR Pah Rah Range 72.58 53 *e*P P 20 32 51.2 +1.0
comp=Z,45nm,1.1s
ASUD Al Ashush, Dub 72.59 288 P P 20 32 50.9 +0.7
ALNE Al Ain 72.59 287 *i* P P 20 32 50.6 +0.3
SNR=12
VCNR Virginia City 72.65 54 *e*P P 20 32 52.3 +1.6
comp=Z,26nm,1.0s
PNTR Pine Nut 72.80 54 *e*P P 20 32 53.5 +1.8
comp=Z,34nm,1.1s
HRY Holter Researc 72.86 44 *e*P P 20 32 52.9 +1.2
CMB Columbia Colle 72.91 55 *e*P P 20 32 53.1 +1.1
comp=Z,40nm,1.1s
CMB Columbia Colle 72.91 55 *e*P P 20 32 53.1 +1.1
CMB pmax pmax
comp=Z,40nm,1.1s
ANN Anapa 72.93 314 *e*P P 20 32 52.0 0.0
ANN pmax pmax
comp=Z,59nm,1.3s
NC405 NORSAR Array S 72.99 337 *e*P P 20 32 52.3 +0.2
NC303 NORSAR Array S 73.01 337 *e*P P 20 32 52.7 +0.5
DOMB Dombas 73.04 339 *e*P P 20 32 52.6 +0.2
YERR Yerington 73.09 54 *e*P P 20 32 54.5 +1.2
comp=Z,58nm,1.1s
NC204 NORSAR Array S 73.15 338 *e*P P 20 32 53.4 +0.3
EGMT Eagleton 73.16 42 *e*P P 20 32 54.3 +1.0
comp=Z,77nm,0.9s
EGMT Eagleton 73.16 42 P P 20 32 54.4 +1.0
baz=309,SNR=29
NB201 NORSAR Array S 73.17 337 *e*P P 20 32 53.5 +0.3
NB2 NORSAR Subarra 73.20 337 P P 20 32 53.3 -0.1
comp=Z,5.2nm,0.6s,baz=39,slow=6.2
NB2 NORSAR Subarra 73.20 337 P P 20 32 53.3 -0.1
baz=39,slow=6.2
NB200 NORSAR Array S 73.20 337 *e*P P 20 32 53.6 +0.2
NB200 *e* 21 07 46.7
NOA NORSAR Array B 73.20 337 P P 20 32 53.6 +0.2
comp=Z,14nm,0.7s,baz=38,slow=6.0,SNR=28
NOA LR LR 21 07 46.7
comp=Z,251nm,22.0s,baz=35,slow=38
WAKR Walker 73.25 54 *e*P P 20 32 55.8 +1.6
comp=Z,27nm,1.1s
DLMT Dillon 73.26 45 *e*P P 20 32 55.4 +1.2
comp=Z,47nm,1.0s
HLID Hailey 73.32 47 *e*P P 20 32 55.7 +1.1
comp=Z,25nm,1.0s
HLID Hailey 73.32 47 P P 20 32 56.4 +1.9
baz=307,SNR=24
NORES NORESS Array B 73.34 337 P P 20 32 55.4 +1.3
NBO00 NORSAR Array S 73.34 337 *e*P P 20 32 54.5 +0.3

MCMT McKenzie Canyo 73.45 46 *e*P P 20 32 54.4 -0.9
NAO01 NORSAR Array S 73.46 337 *e*P P 20 32 55.0 +0.2
NAO01 NORSAR Array S 73.46 337 *e*P P 20 32 55.0 +0.2
CAN Canberra 73.49 174 *e*P P 20 32 55.9 +0.6
comp=Z,13nm,0.9s
BMN Battle Mountai 73.50 51 *e*P P 20 32 56.9 +1.2
comp=Z,46nm,1.1s
BMN Battle Mountai 73.50 51 *e*P P 20 32 56.9 +1.2
BMN pmax pmax
comp=Z,46nm,1.1s
AKASG Malin Array Be 73.55 322 P P 20 32 55.4 -0.1
comp=Z,11nm,0.5s,baz=46,slow=6.1,SNR=62
AKASG LR LR 21 08 38.0
comp=Z,94nm,19.0s,baz=50,slow=38
AKBB Malin Array Si 73.55 322 *e*P P 20 32 55.0 -0.5
comp=Z,30nm,0.8s
AKBB *e* 21 08 38.0
AKBB Malin Array Si 73.55 322 *e*P P 20 32 55.0 -0.5
AKBB pmax pmax
comp=Z,30nm,0.8s
KIEV Kiev 73.56 322 *e*P P 20 32 55.1 -0.5
comp=Z,27nm,0.8s
KIEV Kiev 73.56 322 *i* P P 20 32 55.4 -0.1
SNR=13
KIEV Kiev 73.56 322 *d i*P P 20 32 54.3 -1.2
KIEV pmax pmax
comp=Z,22nm,1.0s
AK11 Malin Array Si 73.59 322 *e*P P 20 32 55.3 -0.4
BOZ Bozeman (W) 73.65 45 *e*P P 20 32 57.8 +1.4
comp=Z,47nm,1.1s
BOZ Bozeman (W) 73.65 45 *e*P P 20 32 57.8 +1.4
BOZ pmax pmax
comp=Z,47nm,1.1s
BOZ Bozeman (W) 73.65 45 P P 20 32 57.9 +1.4
baz=308,SNR=16
RYN Ryan 73.75 54 *e*P P 20 32 58.2 +1.1
comp=Z,31nm,1.1s
KVN Kaiserville 73.77 53 *e*P P 20 32 58.5 +1.2
comp=Z,54nm,1.0s
KVN Kaiserville 73.77 53 *e*P P 20 32 58.5 +1.2
KVN pmax pmax
comp=Z,54nm,1.0s
MDPB Devils Postpil 73.98 55 *e*P P 20 32 59.9 +1.2
comp=Z,18nm,1.0s
NV01 Mina Array Sit 74.01 54 *e*P P 20 32 59.3 +0.6
NV01 *e* 20 58 21.5
NVAR Mina Array Bea 74.01 54 P P 20 33 00.4 +1.6
comp=Z,26nm,0.9s,baz=283,slow=6.1,SNR=116
NVAR LR LR 20 58 21.5
comp=Z,84nm,21.5s,baz=282,slow=30
OMMB Old Mammoth Mi 74.05 55 *e*P P 20 33 00.5 +1.4
comp=Z,25nm,1.2s
SUW Suwalki 74.05 327 *e*P P 20 32 58.9 +0.5
SUW Suwalki 74.05 327 *e*P P 20 32 58.7 +0.4
comp=Z,73nm,1.3s
SUW Suwalki 74.05 327 *e*P P 20 32 58.9 +0.5
NV11 Mina Array Sit 74.10 54 *e*P P 20 33 00.7 +1.5
comp=Z,2.6nm,1.2s
MLAC Mammoth, Mammo 74.14 55 P P 20 33 01.5 +1.9
baz=306
QLMT Earthquake Lak 74.24 45 *e*P P 20 33 01.1 +1.1
PAGB Antelope Grade 74.34 57 *e*P P 20 33 01.9 +1.5
comp=Z,61nm,0.9s
NWAO Narrogin (SRO) 74.41 201 *e*P P 20 33 00.2 -0.3
comp=Z,40nm,1.0s
NWAO Narrogin (SRO) 74.41 201 *e*P P 20 33 00.2 -0.3
NWAO pmax pmax
comp=Z,40nm,1.0s
YHB Horse Butte 74.42 45 *e*P P 20 33 02.4 +1.4
comp=Z,32nm,0.9s
YHH Holmes Hill 74.59 45 *e*P P 20 33 03.3 +1.2
comp=Z,24nm,1.1s
YMR Madison River 74.60 45 *e*P P 20 33 03.5 +1.4
comp=Z,40nm,1.2s
GCMT Greycliff 74.61 43 *e*P P 20 33 03.4 +1.4
SIM Simferopol' 74.70 315 *de*P P 20 33 03.2 +0.9
SIM *e**PP pP 20 33 17.0 -0.3
SIM pmax pmax
comp=Z,26nm,0.9s
SIM MLR MLR
comp=Z,70nm,16.8s
YNR Norris Junctio 74.73 45 *e*P P 20 33 04.6 +1.8
comp=Z,52nm,1.4s
YFT Old Faithful 74.81 45 *e*P P 20 33 05.5 +2.2
comp=Z,46nm,1.3s
YPP Pitchstone Pla 74.94 45 *e*P P 20 33 06.2 +2.1
comp=Z,18nm,1.0s
H17A Grant Village 74.99 45 *e*P P 20 33 07.2 +2.8
comp=Z,73nm,1.0s
H17A Grant Village 74.99 45 P P 20 33 07.4 +3.1
baz=305,SNR=33
VES Vestal, Richgr 75.04 56 P P 20 33 05.6 +1.2
baz=307,SNR=9.7
IMW Indian Meadow 75.10 46 *e*P P 20 33 07.0 +2.0
comp=Z,40nm,0.9s
FLWY Flagg Ranch 75.11 45 *e*P P 20 33 07.1 +2.1
comp=Z,66nm,1.3s
PKM Mcpherson Peak 75.12 57 P P 20 33 07.0 +1.8
baz=306,SNR=9.2
FXWY Fox Creek 75.21 46 *e*P P 20 33 07.2 +1.6
comp=Z,32nm,1.0s
RLMT Red Lodge 75.25 44 *e*P P 20 33 06.8 +1.0
comp=Z,77nm,1.4s
RLMT Red Lodge 75.25 44 P P 20 33 06.6 +0.8
baz=310,SNR=18
MOOW Moose Ponds 75.30 46 *e*P P 20 33 07.5 +1.4
comp=Z,38nm,1.1s
CWC Cottonwood Cre 75.33 55 P P 20 33 08.0 +1.7
baz=307
TPAW Teton Pass 75.35 46 *e*P P 20 33 08.0 +1.6
comp=Z,31nm,1.0s
HVU Hansel Valley 75.36 48 *e*P P 20 33 07.7 +1.3
comp=Z,33nm,1.0s
LOHW Long Hollow 75.47 46 *e*P P 20 33 08.4 +1.4
comp=Z,22nm,1.1s
SNOW Snow King Moun 75.47 46 *e*P P 20 33 08.9 +1.7
comp=Z,28nm,0.9s
REDW Red Top Meadow 75.48 46 *e*P P 20 33 08.9 +1.8
comp=Z,38nm,1.1s
ISA Isabella, Lake 75.54 56 *e*P P 20 33 07.5 0.0
comp=Z,22nm,1.0s
ISA Isabella, Lake 75.54 56 *e*P P 20 33 07.5 0.0
ISA pmax pmax
comp=Z,22nm,1.0s
ISA Isabella, Lake 75.54 56 P P 20 33 08.3 +0.8
baz=307,SNR=19
ARVC Arvin 75.63 57 P P 20 33 09.1 +1.3
baz=307
DGMT Dagmar 75.70 39 *e*P P 20 33 08.7 +0.6
comp=Z,82nm,1.2s
DGMT Dagmar 75.70 39 P P 20 33 09.0 +1.0
baz=312,SNR=7.0
AHID Auburn Hatcher 75.72 47 *e*P P 20 33 09.5 +1.0
comp=Z,21nm,0.9s
BGU Big Grassy Mou 75.74 49 *e*P P 20 33 10.0 +1.4
comp=Z,23nm,1.2s
DAC Darwin (Calif) 75.75 55 *e*P P 20 33 09.7 +1.0
comp=Z,23nm,1.0s
DAC Darwin (Calif) 75.75 55 *e*P P 20 33 09.7 +1.0
DAC pmax pmax
comp=Z,23nm,1.0s
R11A Troy Canyon, C 75.77 52 *e*P P 20 33 09.9 +1.0
comp=Z,42nm,1.1s
R11A Troy Canyon, C 75.77 52 P P 20 33 10.3 +1.5
baz=308,SNR=48
SPUT South Promonto 75.85 48 *e*P P 20 33 10.9 +1.7
comp=Z,37nm,1.3s
LAO LASA Array 75.85 41 *e*P P 20 33 10.2 +1.2
comp=Z,67nm,0.9s
LAO LASA Array 75.85 41 P P 20 33 10.2 +1.2
baz=311,SNR=16
MPMC Manual Prospec 75.94 55 P P 20 33 11.1 +1.2
baz=307,SNR=30
FURC Furnace Creek, 76.10 55 P P 20 33 12.3 +1.8
baz=308,SNR=21
LRMC Laurel Mtn Rad 76.17 56 P P 20 33 12.1 +1.0
baz=307,SNR=21
HWUT Hardware Ranch 76.18 48 *e*P P 20 33 12.5 +1.4
comp=Z,66nm,1.1s
TPNV Topopah Spring 76.20 54 *e*P P 20 33 12.3 +1.1
comp=Z,42nm,0.9s
TPNV Topopah Spring 76.20 54 *e*P P 20 33 12.3 +1.1
TPNV pmax pmax
comp=Z,42nm,0.9s
TPNV Topopah Spring 76.20 54 P P 20 33 12.4 +1.1
baz=308,SNR=40
CUKAN kangal_SIVAS 76.26 309 *i* P P 20 33 12.5 +0.9

SNCC San Nicolas Is 76.29 59 P P 20 33 13.2 +1.5
baz=307
DUG Dugway, Tooele 76.32 49 *e*P P 20 33 13.3 +1.4
comp=Z,50nm,1.1s
DUG Dugway, Tooele 76.32 49 *e*P P 20 33 13.3 +1.4
DUG pmax pmax
comp=Z,50nm,1.1s
DUG Dugway, Tooele 76.32 49 P P 20 33 13.6 +1.7
baz=309,SNR=33
EDW2 Edwards Air Fo 76.32 56 P P 20 33 13.3 +1.4
baz=307,SNR=28
BSD Bornholm Skovb 76.54 332 *i* P P 20 33 13.1 +0.5
BSD Bornholm Skovb 76.54 332 *i* P P 20 33 13.1 +0.5
TCUT Toone Canyon 76.58 48 *e*P P 20 33 14.8 +1.3
comp=Z,67nm,1.0s
BW06 Boulder Array 76.59 46 *e*P P 20 33 14.2 +0.7
comp=Z,25nm,0.9s
BW06 Boulder Array 76.59 46 P P 20 33 14.4 +0.8
baz=310,SNR=16
PD31 Pinedale Array 76.59 46 *e*P P 20 33 13.8 +0.3
PD31 *e* 21 05 14.0
PDAR Pinedale Array 76.59 46 P P 20 33 14.4 +0.9
comp=Z,15nm,0.8s,baz=270,slow=2.6,SNR=112
PDAR LR LR 21 05 14.0
comp=Z,47nm,21.2s,baz=335,slow=34
PDAR Pinedale Array 76.59 46 *e*P P 20 33 14.0 +0.5
LVV L'vov 76.60 324 *e*P P 20 33 14.0 +0.9
PASC Pasadena Art C 76.62 57 *e*P P 20 33 13.2 -0.3
comp=Z,26nm,1.1s
CTU Camp Tracy 76.64 49 *e*P P 20 33 15.4 +1.6
comp=Z,30nm,1.1s
MWC Mount Wilson 76.68 57 *e*P P 20 33 14.8 +0.7
comp=Z,35nm,1.1s
MWC Mount Wilson 76.68 57 *e*P P 20 33 14.8 +0.7
MWC pmax pmax
comp=Z,35nm,1.1s
PSUT Pine Spring 76.72 51 *e*P P 20 33 15.6 +1.3
comp=Z,41nm,1.1s
GSC Goldstone, Bar 76.84 55 *e*P P 20 33 15.7 +0.8
comp=Z,26nm,1.0s
GSC Goldstone, Bar 76.84 55 *e*P P 20 33 15.7 +0.8
GSC pmax pmax
comp=Z,26nm,1.0s
GSC Goldstone, Bar 76.84 55 P P 20 33 16.2 +1.4
baz=308,SNR=23
JLU Jordanelle 76.88 48 *e*P P 20 33 16.5 +1.3
comp=Z,45nm,1.2s
NLU North Lily Min 76.92 49 *e*P P 20 33 16.3 +0.9
comp=Z,30nm,1.0s
BFSC Mount Baldy Ra 76.93 57 P P 20 33 16.9 +1.5
baz=308
CIS Catalina Islan 76.94 58 P P 20 33 16.5 +1.2
baz=307
CUSAR Sarkisla-SIVAS 76.94 310 *i* P P 20 33 16.4 +1.0
CTAK Corum_Osmancik 77.03 312 *i* P P 20 33 16.9 +0.9
MPU Maple Canyon 77.14 49 *e*P P 20 33 17.9 +1.3
comp=Z,44nm,1.0s
SHPR Sheep Range 77.16 54 *e*P P 20 33 18.3 +1.6
comp=Z,36nm,1.0s
COAL Corum-Alaca 77.16 311 *i* P P 20 33 17.8 +1.2
PRAR RASCA 77.25 321⇑ *i*P P 20 33 17.7 +0.9
TUQ Turquoise Moun 77.33 55 P P 20 33 19.4 +1.7
baz=308,SNR=9.6
KWP Kalwaria Pacla 77.34 324 *e*P P 20 33 18.6 +1.3
KWP Kalwaria Pacla 77.34 324 *e*P P 20 33 18.6 +1.3
ILGA Ilgaz 77.40 313 *e*P P 20 33 19.0 +1.0
comp=Z,35nm,0.8s
HEC Hector,Ludlow 77.44 56 P P 20 33 19.4 +1.2
baz=308,SNR=27
BUR08 Bucovina Ar. S 77.56 322 *e*P P 20 33 19.1 +0.5
BUR04 Bucovina Ar. S 77.57 322 *e*P P 20 33 18.8 +0.1
BURAR Bucovina Array 77.57 322⇑ *i*P P 20 33 19.4 +0.7
BURAR Bucovina Array 77.57 322⇑ P P 20 33 19.4 +0.7
BIZ Bicaz 77.60 321⇑ *i*P P 20 33 19.6 +0.8
MURC Murrieta 77.62 57 P P 20 33 20.7 +1.5
baz=308,SNR=5.8
CCUT Cedar City 77.64 52 *e*P P 20 33 21.0 +1.5
comp=Z,33nm,1.1s
CFR Carcaliu 77.76 318⇓ *i*P P 20 33 19.8 +0.1
CFR Carcaliu 77.76 318⇓ P P 20 33 19.8 +0.1
MSU Marysvale 77.76 51 *e*P P 20 33 21.9 +1.7
MSU Marysvale 77.76 51 *e*P P 20 33 21.9 +1.7
SZCU Shurtz Canyon 77.78 52 *e*P P 20 33 21.4 +1.2
comp=Z,22nm,1.1s
TMUT Trail Mountain 77.85 49 *e*P P 20 33 21.8 +1.1
comp=Z,46nm,1.4s
PETR Petresti 77.86 319⇑ *i*P P 20 33 21.2 +1.0
GMRC Granite Mounta 77.90 55 P P 20 33 21.8 +0.9
baz=308,SNR=20
CDAG Cicekdag 77.93 311 *i* P P 20 33 21.4 +0.5
SAIM ADANA 77.94 309 *i* P P 20 33 22.9 +1.9
P17A Butcher Ranch, 78.02 49 *e*P P 20 33 22.6 +1.1
comp=Z,66nm,1.0s
VRI Vrincioaia 78.02 320⇑ *i*P P 20 33 21.4 +0.2
VRI Vrincioaia 78.02 320⇑ P P 20 33 21.4 +0.2
LCMT Little Creek M 78.05 52 *e*P P 20 33 23.2 +1.5
comp=Z,39nm,1.1s
MTPU Mount Pierson 78.06 51 *e*P P 20 33 23.8 +1.8
comp=Z,32nm,1.0s
PLOR Plostina 78.07 320⇓ *i*P P 20 33 22.7 +1.2
PLOR Plostina 78.07 320⇓ P P 20 33 22.7 +1.2
FRD Ford Ranch, An 78.08 57 P P 20 33 22.8 +1.0
baz=308,SNR=12
PFO Pinyon Flats O 78.10 57 *e*P P 20 33 22.5 +0.5
comp=Z,36nm,1.2s
PFO Pinyon Flats O 78.10 57 *e*P P 20 33 22.5 +0.5
PFO pmax pmax
comp=Z,36nm,1.2s
PFO Pinyon Flats O 78.10 57 P P 20 33 22.9 +0.9
baz=308,SNR=15
TIRR Tirgusor 78.10 318⇑ *i*P P 20 33 22.4 +0.8
TIRR Tirgusor 78.10 318⇑ P P 20 33 22.4 +0.8
XPFO Piæon Flat 78.11 57 *e*P P 20 33 22.3 +0.3
comp=Z,33nm,1.1s
TPFO Pinon Flats 78.11 57 P P 20 33 23.0 +1.0
baz=308
CPE Camp Elliot 78.12 58 *e*P P 20 33 22.8 +0.8
comp=Z,32nm,1.1s
BELC Belle Mtn. Jos 78.17 56 P P 20 33 23.5 +1.2
baz=308,SNR=15
HARR Harsova 78.20 318⇓ *i*P P 20 33 22.4 +0.3
HARR Harsova 78.20 318⇓ P P 20 33 22.4 +0.3
P18A Preston Nutter 78.21 49 *e*P P 20 33 24.1 +1.4
comp=Z,56nm,1.3s
OJC Ojcow 78.22 326 *e*P P 20 33 22.9 +0.7
OJC Ojcow 78.22 326 *e*P P 20 33 22.4 +0.2
comp=Z,32nm,1.0s
OJC Ojcow 78.22 326 *e*P P 20 33 22.9 +0.7
UZH Uzhgorod 78.25 324 *e*P P 20 33 22.1 -0.2
UZH *e* 20 33 35.0
BR101 Keskin Array S 78.30 312 *e*P P 20 33 23.1 +0.1
BR101 *e*PP PP 20 36 20.0 +0.1
BR101 *e* 21 13 08.5
BR131 Keskin Array S 78.30 312 *e*P P 20 33 23.0 +0.1
BR131 Keskin Array S 78.30 312 P P 20 33 23.3 +0.3
BRTR Keskin Array B 78.30 312 P P 20 33 23.1 +0.1
comp=Z,3.8nm,0.7s,baz=56,slow=3.3,SNR=22
BRTR PP PP 20 36 20.0 +0.1
comp=Z,2.3nm,0.9s,baz=54,slow=7.0,SNR=4.4
BRTR LR LR 21 13 08.5
comp=Z,50nm,18.4s,baz=63,slow=40
KNB Kanab 78.31 52 *e*P P 20 33 24.9 +1.8
comp=Z,72nm,1.3s
ULM Lac du Bonnet 78.32 34 P P 20 33 22.9 +0.2
comp=Z,14nm,0.9s,baz=322,slow=8.3,SNR=9.1
ULM Lac du Bonnet 78.32 34 *e*P P 20 33 22.8 +0.2
comp=Z,27nm,1.0s
MDND Maddock 78.35 37 *e*P P 20 33 23.9 +1.0
comp=Z,67nm,1.0s
MDND Maddock 78.35 37 P P 20 33 23.8 +0.8
baz=315,SNR=8.3
PKCU Pink Cliffs 78.36 51 *e*P P 20 33 25.6 +2.0
comp=Z,38nm,1.3s
SRU San Rafael Swe 78.38 49 *e*P P 20 33 24.6 +1.1
comp=Z,50nm,0.9s
SRU San Rafael Swe 78.38 49 *e*P P 20 33 24.6 +1.1
SRU pmax pmax
comp=Z,50nm,0.9s
TRPA Tarpa 78.49 323⇑ *i*P P 20 33 24.6 +0.9
TRPA Tarpa 78.49 323⇑ *e*P P 20 33 24.5 +0.9
BAR Barrett 78.53 57 *e*P P 20 33 24.9 +0.7
comp=Z,20nm,1.0s
PGOR Pogoanele 78.55 319⇑ *i*P P 20 33 25.3 +1.3
MONP2 Monument Peak 78.57 57 P P 20 33 25.2 +0.6
baz=308,SNR=8.8
NIE Niedzica 78.59 325 *e*P P 20 33 25.3 +1.1

NIE Niedzica 78.59 325 eP P 20 33 25.3 +1.1
RWWY Rawlins 78.62 46 eP P 20 33 25.9 +1.1
comp=Z,48nm,1.0s
IRM Iron Mountain 78.62 55 P P 20 33 25.8 +1.0
baz=309,SNR=29
DOPR Dopca 78.63 320⇑ iP P 20 33 26.3 +1.8
ISR Istrita 78.63 319⇑ iP P 20 33 26.3 +1.7
ISR Istrita 78.63 319 ⇑P P 20 33 26.3 +1.7
MLR Muntele Rosu 78.68 320 eP P 20 33 25.4 +0.5
comp=Z,19nm,1.1s
MLR Muntele Rosu 78.68 320⇓ iP P 20 33 25.5 +0.5
MLR Muntele Rosu 78.68 320 ⇓P P 20 33 25.5 +0.5
ANTO Ankara 78.70 312 eP P 20 33 25.5 +0.5
comp=Z,22nm,0.9s
ANTO Ankara 78.70 312⇑ iP P 20 33 25.6 +0.5
ANTO Ankara 78.70 312 ⇑P P 20 33 25.6 +0.5
BC3 Big Chuckawall 78.74 56 P P 20 33 26.3 +0.8
baz=309,SNR=16
IKP In-Ko-Pah, Jac 78.93 57 P P 20 33 27.6 +1.1
baz=308,SNR=20
LEHL Lehliu 78.93 319⇑ iP P 20 33 27.2 +1.1
SWSC Sam W. Stewart 78.95 57 P P 20 33 27.3 +0.8
baz=309,SNR=5.3
CJR Cluj-Napoca 78.99 322⇑ iP P 20 33 28.1 +1.6
CJR Cluj-Napoca 78.99 322 ⇑P P 20 33 28.2 +1.7
O20A White River Ci 79.05 47 P P 20 33 28.2 +1.0
baz=311,SNR=14
KKUL Konya-Kulu 79.08 312 i P P 20 33 28.4 +1.1
LANS Liptovska Anna 79.15 326 eP P 20 33 28.8 +1.4
LANS Liptovska Anna 79.15 326 eP P 20 33 28.8 +1.4
LANS ePP PP 20 36 21.8 -4.8
VOIR 79.17 320⇑ iP P 20 33 28.5 +0.9
VOIR 79.17 320 ⇑P P 20 33 28.5 +0.9
PDMCI Parker Dam,Lak 79.18 55 P P 20 33 29.2 +1.5
baz=309
KECS Kecovo 79.18 325 eP P 20 33 26.6 -0.9
KECS pmax pmax
comp=Z,18nm,1.5s
KECS Kecovo 79.18 325 eP P 20 33 26.6 -0.9
KSP Ksiaz 79.25 328 eP P 20 33 28.6 +0.8
KSP Ksiaz 79.25 328 eP P 20 33 28.6 +0.8
Y12C Blythe 79.28 55 eP P 20 33 29.4 +1.1
comp=Z,46nm,1.0s
Y12C Blythe 79.28 55 P P 20 33 29.8 +1.5
baz=309,SNR=17
DRGR 79.36 322⇑ iP P 20 33 29.2 +0.6
DRGR 79.36 322 ⇑P P 20 33 29.2 +0.6
ARR Arges 79.43 320⇑ iP P 20 33 30.1 +1.1
GLA Glamis 79.52 56 eP P 20 33 31.3 +1.6
comp=Z,38nm,1.0s
GLA Glamis 79.52 56 eP P 20 33 31.3 +1.6
GLA pmax pmax
comp=Z,38nm,1.0s
GLA Glamis 79.52 56 P P 20 33 30.8 +1.2
baz=309,SNR=8.0
MORC Moravsky Berou 79.53 327 eP P 20 33 29.8 +0.4
comp=Z,18nm,1.0s
MORC Moravsky Berou 79.53 327⇑ iP P 20 33 30.2 +0.8
MORC Moravsky Berou 79.53 327 ⇑P P 20 33 30.2 +0.8
MORC Moravsky Berou 79.53 327 eP P 20 33 30.1 +0.7
PV09 Paradox Valley 79.60 49 eP P 20 33 31.7 +1.4
DPC Dobruska-Polom 79.61 328 eP P 20 33 31.1 +1.3
DPC ex x 20 33 33.6
DPC Dobruska-Polom 79.61 328 eP P 20 33 31.1 +1.3
DPC e 20 33 33.6
UPC Upice 79.62 328 eP P 20 33 30.8 +1.0
UPC ex x 20 33 33.8
UPC Upice 79.62 328 eP P 20 33 30.8 +1.0
UPC e 20 33 33.8
PV21 Cone Mtn., Par 79.65 49 eP P 20 33 31.6 +1.0
comp=Z,54nm,1.0s
PV23 Carpenter Rid 79.70 49 eP P 20 33 32.3 +1.4
comp=Z,90nm,1.1s
PV10 Paradox Valley 79.74 49 eP P 20 33 32.7 +1.7
PV14 Lion Creek, Pa 79.75 49 eP P 20 33 32.2 +1.2
comp=Z,90nm,1.0s
AGMN Agassiz Nation 79.76 35 eP P 20 33 30.7 +0.1
comp=Z,32nm,1.1s
AGMN Agassiz Nation 79.76 35 P P 20 33 30.9 +0.3
baz=318,SNR=7.4
PV22 Blue Mesa, Par 79.78 49 eP P 20 33 32.4 +1.2
comp=Z,61nm,1.1s
PV20 West Nyswonger 79.80 49 eP P 20 33 32.8 +1.5
comp=Z,84nm,1.0s
PV19 Morning Glory 79.81 49 eP P 20 33 32.9 +1.5
comp=Z,72nm,1.0s
PV17 East Wray Mesa 79.85 49 eP P 20 33 32.9 +1.3
comp=Z,112nm,1.0s
PV16 Nyswonger Mesa 79.85 49 eP P 20 33 32.8 +1.2
comp=Z,60nm,1.0s
PHWY Pilot Hill 79.86 45 eP P 20 33 32.8 +1.2
comp=Z,30nm,1.2s
N23A Red Feather La 79.86 45 eP P 20 33 33.4 +1.7
comp=Z,61nm,1.1s
N23A Red Feather La 79.86 45 P P 20 33 33.0 +1.3
baz=312,SNR=9.4
PSZ Piszkesteto 79.87 325 eP P 20 33 31.9 +0.6
comp=Z,26nm,1.1s
PSZ Piszkesteto 79.87 325⇓ iP P 20 33 31.5 +0.2
PSZ Piszkesteto 79.87 325⇓ ex P 20 33 32.0 +0.6
PSZ Piszkesteto 79.87 325 eP P 20 33 31.9 +0.6
PSZ pmax pmax
comp=Z,26nm,1.1s
PV11 David Mesa, Pa 79.89 49 eP P 20 33 33.2 +1.5
comp=Z,90nm,1.2s
PV05 Paradox Valley 79.90 49 eP P 20 33 33.0 +1.2
PV18 Skein Mesa, Pa 79.90 49 eP P 20 33 33.0 +1.2
comp=Z,67nm,1.1s
PV12 Saucer Basin, 79.92 49 eP P 20 33 33.4 +1.5
comp=Z,120nm,1.6s
VYHS Vyhne 79.92 325 eP P 20 33 32.4 +0.9
VYHS pmax pmax
comp=Z,9.0nm,1.2s
VYHS Vyhne 79.92 325 eP P 20 33 32.4 +0.9
VYHS ePP PP 20 36 32.4 -0.5
PV03 Paradox Valley 79.93 49 eP P 20 33 33.1 +1.1
PV13 Radium Mtn., P 80.01 49 eP P 20 33 33.6 +1.2
comp=Z,88nm,1.1s
PV02 Paradox Valley 80.03 49 eP P 20 33 34.0 +1.4
comp=Z,56nm,1.3s
JAVC Velka Javorina 80.16 326 eP P 20 33 34.5 +1.6
WUAZ Wupatki 80.17 52 eP P 20 33 34.8 +1.5
comp=Z,52nm,1.0s
WUAZ Wupatki 80.17 52 P P 20 33 34.9 +1.6
baz=310,SNR=36
PV01 Paradox Valley 80.17 49 eP P 20 33 34.4 +1.0
BRG Berggiesshubel 80.18 330 eP P 20 33 33.0 +0.1
comp=Z,13nm,0.9s
BRG i 20 33 35.7
comp=Z,20nm,1.2s
BRG epP pP 20 33 48.2 +0.2
comp=Z,9.6nm,0.9s
BRG ePP PP 20 36 31.5 -3.5
comp=Z,10nm,1.3s
BRG ePKKP PKKPdf 20 52 08.5 +5.8
comp=Z,10nm,1.6s
BRG Berggiesshubel 80.18 330 eP P 20 33 33.0 +0.1
BRG e*PP pP 20 33 48.2 +0.2
BRG e 20 36 31.5
BRG e 20 52 08.5
BRG pmax pmax
comp=Z,13nm,0.9s
PVCC Panska Ves 80.20 329 eP P 20 33 34.2 +1.3
PVCC Panska Ves 80.20 329 eP P 20 33 34.2 +1.3
CLL Collm 80.22 330 eP P 20 33 32.6 -0.4
comp=Z,23nm,0.8s
CLL Collm 80.22 330 i P P 20 33 32.8 -0.2
comp=Z,57nm,1.6s
CLL i Pmax 20 33 36.1
comp=Z,23nm,0.7s
CLL i pP pP 20 33 47.9 -0.2
CLL i 20 33 57.4
CLL ePP PP 20 36 38.0 +2.8
CLL eS S 20 43 32.0 -1.8
CLL LmV 21 12 00.0
comp=Z,100nm,20.1s
CLL Collm 80.22 330 i P P 20 33 32.8 -0.2
CLL i *PP pP 20 33 47.9 -0.2
CLL i *SP sP 20 33 53.9 -0.1
CLL pmax pmax
comp=Z,23nm,0.7s
SIRR Siria 80.25 323⇓ iP P 20 33 33.8 +0.5
VRAC Vranov 80.29 327⇓ iP P 20 33 34.7 +1.2
VRAC Vranov 80.29 327 ⇓P P 20 33 34.7 +1.2
VRAC Vranov 80.29 327 eP P 20 33 34.3 +0.8

SMCO Snowmass 80.42 47 eP P 20 33 35.7 +0.8
comp=Z,33nm,1.2s
RAYN Ar Rayn 80.50 292 eP P 20 33 35.1 0.0
comp=Z,26nm,0.8s
RAYN Ar Rayn 80.50 292 i P P 20 33 35.3 +0.2
SNR=12
RAYN Ar Rayn 80.50 292 eP P 20 33 35.1 0.0
RAYN pmax pmax
comp=Z,26nm,0.8s
VLAD Vladila 80.51 319⇓ iP P 20 33 34.3 -0.4
SMOL Smolenice 80.53 326 eP P 20 33 36.1 +1.3
SMOL Smolenice 80.53 326 eP P 20 33 36.1 +1.3
KRUC Moravsky 80.56 327 eP P 20 33 35.6 +0.7
GOPC GO Pecny, Ondr 80.58 328 eP P 20 33 36.0 +0.9
GOPC ex x 20 33 39.0
GOPC GO Pecny, Ondr 80.58 328 eP P 20 33 36.0 +0.9
SRE Strehaia 80.64 321⇑ iP P 20 33 36.3 +0.9
SRE Strehaia 80.64 321 ⇑P P 20 33 36.3 +0.9
MODS Modra-Piesok 80.70 326 eP P 20 33 36.0 +0.3
MODS pmax pmax
comp=Z,23nm,1.2s
MODS Modra-Piesok 80.70 326 eP P 20 33 36.0 +0.3
BZS Buzias 80.74 322⇓ iP P 20 33 35.7 -0.2
BZS Buzias 80.74 322 ⇓P P 20 33 35.7 -0.2
TREC Trest 80.77 328 eP P 20 33 38.5 +2.4
TREC Trest 80.77 328 eP P 20 33 38.5 +2.4
ISCO Idaho Springs 80.78 46 eP P 20 33 37.8 +1.1
comp=Z,18nm,1.0s
ISCO Idaho Springs 80.78 46 eP P 20 33 37.8 +1.1
ISCO pmax pmax
comp=Z,18nm,1.0s
ISCO Idaho Springs 80.78 46 P P 20 33 38.0 +1.3
baz=313,SNR=11
MVCO Mesa Verde 80.83 50 eP P 20 33 38.0 +1.1
comp=Z,55nm,1.3s
MVCO Mesa Verde 80.83 50 P P 20 33 38.4 +1.5
baz=312,SNR=17
HERR Herculane 80.88 321⇓ iP P 20 33 36.9 +0.2
PUNG Punghina 81.05 320⇓ iP P 20 33 38.2 +0.6
MOX Moxa 81.28 331 P P 20 33 39.7 +1.0
MOX pmax pmax
comp=Z,17nm,1.3s
NKC Novy Kostel 81.28 330 eP P 20 33 42.7 +3.9
NKC Novy Kostel 81.28 330 eP P 20 33 42.7 +3.9
MDVR Moldovita 81.30 321⇑ iP P 20 33 39.1 +0.1
S22A 4UR Ranch, Cre 81.46 48 eP P 20 33 41.8 +1.5
comp=Z,344nm,1.1s
S22A 4UR Ranch, Cre 81.46 48 P P 20 33 41.6 +1.3
baz=312,SNR=27
214A Organ Pipe Nat 81.53 56 P P 20 33 41.5 +1.0
baz=310
SOP Sopron 81.54 326⇓ ex P 20 33 41.5 +1.4
SOP Sopron 81.54 326 P P 20 33 42.9 +2.8
SOP pmax pmax
comp=Z,22nm,0.7s
CSS Mathiatis 81.58 308 eP P 20 33 40.5 -0.2
comp=Z,19nm,0.9s
Q24A Divide 81.61 46 eP P 20 33 42.1 +0.9
comp=Z,18nm,1.0s
Q24A Divide 81.61 46 P P 20 33 42.5 +1.4
baz=313,SNR=5.4
CONA Conrad Observa 81.66 327 eP P 20 33 42.0 +1.1
comp=Z,21nm,1.1s,SNR=8.6
KHC Kasperske Hory 81.69 329 eP P 20 33 40.8 -0.1
comp=Z,7.2nm,0.9s
KHC Kasperske Hory 81.69 329 eP P 20 33 41.6 +0.6
KHC ex x 20 33 56.8
KHC Kasperske Hory 81.69 329 eP P 20 33 41.6 +0.6
KHC e 20 33 56.8
MORH M¨ţr¨igy, Hung 81.70 324⇑ ePKPPKPdP 20 33 40.8 -0.3
MORH M¨ţr¨igy, Hung 81.70 324 eP P 20 33 40.7 -0.3
GEC2 GERESS Array S 81.86 328 eP P 20 33 42.0 +0.1
comp=Z,12nm,1.1s
GEC2 GERESS Array S 81.86 328 eP P 20 33 42.0 +0.1
GEC2 pmax pmax
comp=Z,12nm,1.1s
GERES GERESS Array B 81.86 328 P P 20 33 41.9 -0.1
comp=Z,6.3nm,0.7s,baz=36,slow=5.0,SNR=30
GERES LR LR 21 12 41.6
comp=Z,178nm,20.9s,baz=55,slow=38
GEA0 GERESS Array S 81.87 328 eP P 20 33 41.6 -0.3
FRGS Fruska Gora 81.94 323 eP P 20 33 42.5 +0.2
EYMN Ely 81.95 33 eP P 20 33 42.5 +0.1
comp=Z,50nm,1.2s
EYMN Ely 81.95 33 P P 20 33 42.7 +0.4
baz=320
WET Wettzell 81.96 329 P P 20 33 43.4 +1.0
WET pmax pmax
comp=Z,15nm,1.3s
OGNE Ogallala 81.98 43 eP P 20 33 42.5 -0.2
comp=Z,65nm,1.1s
OGNE Ogallala 81.98 43 P P 20 33 44.1 +1.4
baz=315
VTS Vitosha 82.12 319 eP P 20 33 43.7 +0.2
comp=Z,13nm,0.7s
VTS Vitosha 82.12 319⇑ iP P 20 33 44.3 +0.8
VTS Vitosha 82.12 319 P P 20 33 44.1 +0.6
VTS Vitosha 82.12 319 ⇑P P 20 33 44.3 +0.8
GRF Grafenberg Arr 82.19 330 P P 20 33 45.4 +1.8
GRF pmax pmax
comp=Z,49nm,1.0s
GRFO Grafenberg 82.19 330 eP P 20 33 44.4 +0.9
comp=Z,30nm,0.9s
GRFO Grafenberg 82.19 330 eP P 20 33 44.4 +0.9
GRFO pmax pmax
comp=Z,30nm,0.9s
SDCO Great Sand Dun 82.24 48 eP P 20 33 44.8 +0.4
comp=Z,19nm,1.1s
SDCO Great Sand Dun 82.24 48 P P 20 33 45.6 +1.2
baz=313,SNR=21
ARSA Arzberg 82.32 326 i P P 20 33 44.1 -0.2
comp=Z,13nm,1.1s,SNR=6.7
MOA Molln 82.40 327 i P P 20 33 45.2 +0.5
comp=Z,18nm,1.3s,SNR=5.3
TUC Tucson 82.61 55 eP P 20 33 46.5 +0.3
comp=Z,34nm,1.4s
TUC Tucson 82.61 55 eP P 20 33 46.5 +0.3
TUC pmax pmax
comp=Z,34nm,1.4s
TUC Tucson 82.61 55 P P 20 33 47.8 +1.6
baz=311
DIVS Divibare 82.64 322 eP P 20 33 45.1 -1.0
comp=Z,51nm,1.8s
DIVS Divibare 82.64 322⇑ iP P 20 33 46.1 0.0
URZ Urewera 82.77 153 P P 20 33 45.5 -0.9
comp=Z,15nm,0.9s,baz=344,slow=4.4,SNR=5.0
ECSD EROS Data Cent 82.77 39 eP P 20 33 46.9 +0.2
comp=Z,34nm,1.0s
ECSD EROS Data Cent 82.77 39 P P 20 33 47.1 +0.4
baz=318,SNR=15
E38A The Farm, Brul 82.96 34 P P 20 33 48.1 +0.5
baz=321
SOKA Soboth 82.98 326 i P P 20 33 48.1 +0.3
comp=Z,36nm,1.2s,SNR=24
KSCO Kaye Shedlock' 83.00 45 eP P 20 33 48.9 +0.8
comp=Z,44nm,1.1s
KSCO Kaye Shedlock' 83.00 45 P P 20 33 49.4 +1.2
baz=314
BBLS Lazići 83.09 322⇑ iP P 20 33 49.0 +0.6
HAPS Han Pijesak,Bl 83.15 322 eP P 20 33 49.1 +0.3
T25A Trinidad 83.28 47 eP P 20 33 50.8 +1.0
comp=Z,33nm,1.0s
T25A Trinidad 83.28 47 P P 20 33 51.0 +1.3
baz=314,SNR=6.9
F38A Pierce - Schro 83.31 34 P P 20 33 50.0 +0.5
baz=320,SNR=12
OBKA Obir 83.32 326 eP P 20 33 49.4 -0.2
comp=Z,8.9nm,0.8s
MEM Membach 83.38 333 ⇓P P 20 33 49.9 +0.2
MEM Membach 83.38 333 ⇓pP pP 20 34 05.4 +0.5
KBA Koelnbreinsper 83.39 327 i P P 20 33 50.1 0.0
comp=Z,18nm,0.8s,SNR=13
LEGS Legarje 83.41 326 i P P 20 33 49.7 -0.2
LEGS Legarje 83.41 326 i P P 20 33 49.7 -0.2
CRES Cresnjev 83.45 325 i P P 20 33 50.0 -0.1
CRES Cresnjev 83.45 325 i P P 20 33 50.0 -0.1
CRES Cresnjev 83.45 325 eP P 20 33 49.8 -0.3
SPMN Marine on St. 83.46 35 eP P 20 33 50.3 +0.1
comp=Z,21nm,1.0s
BLY Banja Luka 83.48 324 eP P 20 33 49.9 -0.4
comp=Z,9.7nm,0.8s
BLY Banja Luka 83.48 324⇓ iP P 20 33 49.4 -0.9
BLY Banja Luka 83.48 324 eP P 20 33 49.9 -0.4
LAZ Ladron 83.52 51 eP P 20 33 52.9 +2.0
ANMO Albuquerque 83.56 50 P P 20 33 52.9 +1.8
comp=Z,24nm,1.1s,baz=307,slow=6.8,SNR=13
ANMO LR LR 21 04 48.3
comp=Z,83nm,21.9s,baz=316,slow=31
ANMO Albuquerque 83.56 50 eP P 20 33 52.4 +1.2
comp=Z,46nm,1.2s
ANMO e 21 04 48.3
ANMO Albuquerque 83.56 50 P P 20 33 52.7 +1.5
baz=313
MYKA Terra Mystica 83.62 327 i P P 20 33 50.6 -0.4
comp=Z,11nm,0.5s,SNR=10
BGNE Belgrade 83.70 41 eP P 20 33 52.1 +0.5
comp=Z,84nm,0.8s
BGNE Belgrade 83.70 41 P P 20 33 51.7 +0.1
baz=317
F39A Loretta 83.77 34 P P 20 33 52.5 +0.6
baz=321
LENM Lemitar 83.78 51 eP P 20 33 53.7 +1.4
BCLA Clavier 83.79 334 ⇓P P 20 33 51.9 +0.1
comp=Z,12nm,1.4s
BCLA ⇓pP pP 20 34 06.8 -0.1
E40A Wakefield 83.80 33 P P 20 33 53.1 +1.1
baz=322,SNR=5.0
LPM Los Pinos Moun 83.89 51 eP P 20 33 54.4 +1.6
WATA Walderalm 83.93 329 i P P 20 33 52.6 -0.2
comp=Z,6.3nm,0.7s
WTTA Wattenberg 83.96 328 i P P 20 33 51.6 -1.4
comp=Z,6.5nm,0.6s
CEY Cerknica 83.97 326 i P P 20 33 52.4 -0.4
CEY Cerknica 83.97 326 i P P 20 33 52.4 -0.4
CEY Cerknica 83.97 326⇑ iP P 20 33 52.2 -0.6
BNM Barren Site 84.00 51 eP P 20 33 54.8 +1.4
ABTA Abfaltersbach 84.00 328 i P P 20 33 52.2 -0.8
comp=Z,11nm,1.2s
SNF Seneffe 84.06 334 ⇑PcP PcP 20 33 56.2 -0.7
SCHQ Schefferville 84.09 16 P P 20 33 53.3 +0.1
comp=Z,15nm,1.0s,baz=341,slow=6.2,SNR=6.1
SCHQ Schefferville 84.09 16 eP P 20 33 53.5 +0.2
comp=Z,30nm,1.1s
MOTA Moosalm 84.11 329 i P P 20 33 53.8 0.0
comp=Z,11nm,0.8s,SNR=9.8
WLF Walferdange 84.12 333 ⇓P P 20 33 55.0 +1.5
WLF ⇑pP pP 20 34 10.2 +1.6
RETA Reutte 84.14 329 i PcP P 20 33 54.2 +0.5
comp=Z,39nm,1.3s,SNR=13
SQTA Sankt Quirin 84.17 329 i P P 20 33 54.2 +0.2
comp=Z,15nm,1.2s
PDG Podgorica 84.23 321⇑ iP P 20 33 54.2 0.0
PDG Podgorica 84.23 321⇑ iP P 20 33 54.2 0.0
TTG Podgorica 84.23 321 eP P 20 33 53.4 -0.8
comp=Z,27nm,0.8s
TTG Podgorica 84.23 321 eP P 20 33 53.4 -0.8
TTG pmax pmax
comp=Z,27nm,0.8s
LIT Litokhoron 84.29 318 eP P 20 33 53.9 -0.6
comp=Z,25nm,0.7s
LIT Litokhoron 84.29 318 eP P 20 33 53.9 -0.6
LIT pmax pmax
comp=Z,25nm,0.7s
DOU Dourbes 84.31 334 ⇓P P 20 33 54.6 +0.2
PMOR Pomariorio Ree 84.36 114 eT T 22 07 02.0
comp=Z,62nm,0.2s
121A Cookes Peak, D 84.37 53 P P 20 33 56.8 +1.5
baz=312,SNR=24
FNA Florina 84.37 319 eP P 20 33 54.9 -0.1
comp=Z,8.2nm,0.8s
FNA Florina 84.37 319 P P 20 33 55.6 +0.6
BFO Black Forest 84.41 331 eP P 20 33 54.2 -0.8
comp=Z,38nm,1.2s
BFO Black Forest 84.41 331 i P P 20 33 55.5 +0.5
FETA Feichten 84.53 329 i PcP P 20 33 56.0 +0.2
comp=Z,15nm,0.7s,SNR=9.7
H39A Augusta 84.57 35 P P 20 33 56.6 +0.8
baz=321,SNR=5.2
G40A Rib Lake 84.59 34 P P 20 33 55.2 -0.7
baz=322
HCY Herceg Novi 84.59 322 eP P 20 33 54.8 -1.2
HSIG 84.65 57 eP P 20 33 56.9 +0.4
comp=Z,24nm,1.0s
DAVA Damuels 84.66 329 i PcP P 20 33 56.7 +0.3
comp=Z,33nm,1.1s,SNR=9.1
CBKS Cedar Bluff 84.73 44 eP P 20 33 56.8 -0.1
comp=Z,37nm,1.0s
CBKS Cedar Bluff 84.73 44 eP P 20 33 56.8 -0.1
CBKS pmax pmax
comp=Z,37nm,1.0s
CBKS Cedar Bluff 84.73 44 P P 20 33 57.1 +0.2
baz=316,SNR=5.6
NEST Nestorio 84.81 319 P P 20 33 57.2 -0.1
SLE Schleitheim 84.81 330 P P 20 33 58.5 +1.4
PPT Papeete 84.88 117 LR LR 21 06 03.1
comp=Z,86nm,21.4s,baz=356,slow=32
PPT2 Papeete2 84.90 117 eLR LR 21 00 39.6
comp=Z,448nm,25.0s
PPT2 Papeete2 84.90 117 eT T 22 07 43.0
comp=Z,9.4nm,0.3s
ECH Echery 84.95 331 eP P 20 33 57.5 -0.3
comp=Z,14nm,0.8s
ECH Echery 84.95 331 eP P 20 33 57.5 -0.3
ECH pmax pmax
comp=Z,15nm,0.8s
ATAL Atalanti 85.02 317 eP P 20 33 57.1 -1.1
ATAL Atalanti 85.02 317 P P 20 33 57.1 -1.1
TIAR Tiarei 85.04 117 eT T 22 07 52.5
comp=Z,4.0nm,0.3s
FUORN Ofenpass-Fuorn 85.04 329 eP P 20 33 58.6 +0.1
comp=Z,32nm,0.6s
I39A Houston 85.10 36 P P 20 33 58.9 +0.4
baz=321
AGG Agios Georgios 85.15 317 eP P 20 33 58.3 -0.7
comp=Z,21nm,1.4s
AGG Agios Georgios 85.15 317 eP P 20 33 58.3 -0.7
AGG pmax pmax
comp=Z,21nm,1.4s
H41A Junction City 85.34 34 P P 20 33 59.6 -0.1
baz=322
J39A Decorah 85.41 36 P P 20 34 00.4 +0.2
baz=321,SNR=5.4
HAU Haudompre 85.43 332 eP P 20 33 59.1 -1.0
I40A Norwalk 85.48 35 P P 20 34 00.9 +0.5
baz=321
TUE Stuetta 85.53 329 eP P 20 34 00.9 0.0
comp=Z,12nm,0.8s
ANX Ano Chora 85.68 317 P P 20 34 00.9 -0.8
I41A Arkdale 85.69 35 eP P 20 34 01.0 -0.5
comp=Z,36nm,0.9s
I41A Arkdale 85.69 35 P P 20 34 02.0 +0.6
baz=322
OXZ Oxford 85.69 158 eP P 20 34 01.2 +0.1
comp=Z,35nm,1.1s
MATQ Matagami 85.71 24 P P 20 34 01.1 -0.3
baz=330
RPZ Rata Peaks 85.77 159 P P 20 34 01.7 +0.2
comp=Z,15nm,1.0s,baz=321,slow=14,SNR=4.6
J40A Soldiers Grove 85.81 35 P P 20 34 02.4 +0.3
baz=321
K39A Oelwein 85.82 37 P P 20 34 02.2 0.0
baz=321,SNR=8.1
LAKA Lakka 85.91 317 eP P 20 34 02.3 -0.4
LAKA Lakka 85.91 317 P P 20 34 02.3 -0.4
KEK Kerkira 85.98 319 P P 20 34 01.2 -1.8
KEK Kerkira 85.98 319 P P 20 34 01.2 -1.8
D47A Chapleau 86.07 29 P P 20 34 03.7 +0.4
baz=326
LBZ Lake Benmore 86.15 160 eP P 20 34 04.3 +1.0
comp=Z,38nm,0.9s
TAOE Nuku Hiva Isla 86.15 104 eT T 22 09 14.5
comp=Z,20nm,0.2s
J41A Loganville 86.17 35 P P 20 34 04.3 +0.5
baz=322
K40A Colesburg 86.17 36 P P 20 34 04.1 +0.3
baz=321,SNR=6.5
KSU1 Kansas State U 86.19 42 eP P 20 34 03.8 -0.3
comp=Z,38nm,0.8s
KSU1 Kansas State U 86.19 42 P P 20 34 04.4 +0.4
baz=318,SNR=6.6
L39A Vinton 86.21 37 P P 20 34 04.2 +0.1
baz=321,SNR=7.5
IDI Anoyia 86.41 313⇑ iP P 20 34 04.3 -1.0
JFWS Jewell Farm 86.41 35 P P 20 34 05.5 +0.4
baz=322
SENIN Lac Senin/Sane 86.43 330 eP P 20 34 05.1 -0.3
comp=Z,8.7nm,0.9s
MNTX Cornudas Mount 86.43 52 eP P 20 34 06.0 +0.6
comp=Z,18nm,1.0s
MNTX Cornudas Mount 86.43 52 P P 20 34 06.2 +0.8
baz=314,SNR=12
AMTX Amarillo 86.44 47 eP P 20 34 06.5 +1.0

		comp=Z,40nm,0.9s										
AMTX	Amarillo	baz=315	86.44	47	P		P	20 34 06.6	+1.1
MSTX	Muleshoe	comp=Z,31nm,1.2s	86.44	49	*e*P		P	20 34 06.1	+0.5
MSTX	Muleshoe	baz=315	86.44	49	P		P	20 34 06.0	+0.5
LSQQ	Lebel-sur-Quev	baz=330	86.53	24	P		P	20 34 05.4	-0.1
CHGQ	Chibougamau	baz=332,SNR=5.3	86.60	22	P		P	20 34 05.6	-0.2
L40A	Anamosa	comp=Z,75nm,1.1s	86.62	37	*e*P		P	20 34 06.2	0.0
L40A	Anamosa	baz=321,SNR=7.2	86.62	37	P		P	20 34 06.6	+0.5
K41A	Shullsburg	baz=322	86.63	36	P		P	20 34 06.4	+0.3
CABF	La Chapelle		86.69	331	*e*P		P	20 34 05.5	-1.0
CABF		comp=Z,11nm,0.9s			pmax		pmax		
ITM	Ithomi		86.71	316	*e*P		P	20 34 06.0	-0.7
ITM	Ithomi	comp=Z,31nm,0.7s	86.71	316	P		P	20 34 05.9	-0.7
GDL2	Guadalupe Moun		86.71	51	*e*P		P	20 34 07.5	+0.6
MATE	Matera		86.83	321	*i*P		P	20 34 07.0	-0.1
ODZ	Otahua Downs		86.88	160	*e*P		P	20 34 08.3	+1.4
N39A	Derby Farms, D	comp=Z,33nm,1.2s	86.93	38	*e*P		P	20 34 07.6	0.0
N39A	Derby Farms, D	comp=Z,64nm,1.0s	86.93	38	P		P	20 34 08.1	+0.5
K42A	Prairie Point,	baz=320,SNR=6.3	86.93	35	P		P	20 34 08.0	+0.4
L41A	Preston	baz=322	86.95	36	P		P	20 34 08.3	+0.6
LOR	Lormes		86.96	333	*e*P		P	20 34 06.8	-0.9
LOR		comp=Z,25nm,0.9s			pmax		pmax		
M40A	Post Highland	baz=321	87.00	37	P		P	20 34 08.4	+0.4
AQU	L'Aquila	comp=Z,18nm,1.0s	87.08	324	*e*P		P	20 34 07.4	-1.0
AQU	L'Aquila	comp=Z,18nm,1.0s	87.08	324	*e*P		P	20 34 07.4	-1.0
AQU					pmax		pmax		
VLDQ	Val d'Or	comp=Z,41nm,1.1s	87.19	25	*e*P		P	20 34 07.9	-0.8
LPL	La Plagne		87.35	330	*e*P		P	20 34 10.1	+0.2
LPL		comp=Z,9.0nm,0.8s			pmax		pmax		
LPG	La Plagne		87.36	330	*e*P		P	20 34 10.1	+0.1
LPG		comp=Z,8.0nm,0.6s			pmax		pmax		
N40A	Mertquake, Sal	baz=321	87.37	38	P		P	20 34 10.3	+0.6
L42A	Oliver, Polo	baz=322	87.39	36	P		P	20 34 10.5	+0.7
M41A	Milan	baz=322,SNR=5.2	87.48	37	P		P	20 34 10.8	+0.5
SMF	Signal de Mont		87.50	333	*e*P		P	20 34 10.6	+0.3
SMF		comp=Z,25nm,1.3s			pmax		pmax		
AVF	Avril sur Loir		87.55	333	*e*P		P	20 34 09.8	-0.7
AVF		comp=Z,18nm,0.7s			pmax		pmax		
GRR	Gorron		87.59	336	*e*P		P	20 34 10.9	+0.2
GRR		comp=Z,22nm,1.0s			pmax		pmax		
N41A	Harden Midland	comp=Z,72nm,1.1s	87.85	37	*e*P		P	20 34 12.2	+0.1
N41A	Harden Midland	baz=321	87.85	37	P		P	20 34 12.7	+0.6
TIP	Timpagrande	comp=Z,24nm,1.4s	87.93	320	*e*P		P	20 34 12.3	-0.3
TIP	Timpagrande		87.93	320	*i*P		P	20 34 11.2	-1.3
D53A	Lac Vacive, Po	baz=330	88.00	26	P		P	20 34 12.9	+0.2
N42A	Yates City	baz=322,SNR=6.8	88.14	37	P		P	20 34 13.9	+0.4
M43A	Waltham Townsh	baz=323,SNR=6.6	88.17	36	P		P	20 34 13.8	+0.3
ORIF	Oris-en-Rattie		88.19	330	*e*P		P	20 34 13.9	+0.2
ORIF		comp=Z,9.0nm,0.7s			pmax		pmax		
WMOK	Wichita Mounta	comp=Z,28nm,1.2s	88.21	46	*e*P		P	20 34 14.6	+0.7
WMOK	Wichita Mounta	comp=Z,28nm,1.2s	88.21	46	*e*P		P	20 34 14.6	+0.7
WMOK					pmax		pmax		
WMOK	Wichita Mounta	baz=317,SNR=12	88.21	46	P		P	20 34 14.5	+0.7
D54A	Lac Fusel, La	baz=331,SNR=6.1	88.30	25	P		P	20 34 14.0	0.0
O41A	Passleys Farm,	baz=321,SNR=6.6	88.30	38	P		P	20 34 14.5	+0.4
LPIG	La Paz	comp=Z,37nm,18.4s,baz=230,slow=32	88.31	60	LR		LR	21 09 13.6	
TCF	Toulx Ste Croi		88.39	333	*e*P		P	20 34 15.1	+0.6
TCF		comp=Z,44nm,1.8s			pmax		pmax		
SBF	Sospel		88.44	329	*e*P		P	20 34 16.7	+1.8
SBF		comp=Z,6.0nm,0.7s			pmax		pmax		
J47A	Sunmer	baz=325	88.53	32	P		P	20 34 16.6	+1.4
P41A	Barry, Barry	baz=321,SNR=11	88.56	38	P		P	20 34 16.3	+0.9
VIVF	Saint-Julien-l		88.70	331	*e*P		P	20 34 16.3	+0.2
VIVF		comp=Z,4.0nm,0.8s			pmax		pmax		
HDIL	Hopedale	comp=Z,75nm,1.0s	88.71	36	*e*P		P	20 34 16.2	+0.1
QUIF	Quistinic		88.73	337	*e*P		P	20 34 18.4	+2.4
E54A	Lac Daplat, Po	baz=330	88.74	26	P		P	20 34 16.5	+0.4
SLBS	Sierra La Lagu	comp=Z,22nm,1.1s	88.83	61	*e*P		P	20 34 17.5	+0.4
ALGO	Algonquin Park	baz=330	88.86	27	P		P	20 34 17.0	+0.3
TBI	Tubuai		88.86	121	*e*LR		LR	21 02 21.1	
TBI	Tubuai	comp=Z,281nm,26.5s	88.86	121	*e*T		T	22 12 38.8	
PGF	Pioggiola	comp=Z,167nm,0.3s	88.87	327	*e*P		P	20 34 19.3	+2.3
PGF		comp=Z,17nm,1.3s			pmax		pmax		
J48A	Bridge Port	baz=326	88.91	31	P		P	20 34 18.4	+1.4
MFF	Saint Martin d		88.93	335	*e*P		P	20 34 16.7	-0.3
MFF		comp=Z,15nm,1.0s			pmax		pmax		
P42A	Winchester	comp=Z,89nm,1.1s	88.97	38	*e*P		P	20 34 17.1	-0.3
P42A	Winchester	baz=322,SNR=9.9	88.97	38	P		P	20 34 18.0	+0.6
TUL1	Leonard	comp=Z,50nm,1.4s	89.00	43	*e*P		P	20 34 18.0	+0.5
TUL1	Leonard	baz=318	89.00	43	P		P	20 34 18.8	+1.2
Q41A	Truxton	baz=321,SNR=11	89.03	39	P		P	20 34 18.6	+0.9
TX31	Lajitas Ar. Si		89.13	53	*e*P		P	20 34 18.9	+0.5
LTX	Lajitas		89.13	53	*e*P		P	20 34 19.2	+0.8
LTX	Lajitas		89.13	53	*e*P		P	20 34 19.2	+0.8
TXAR	Lajitas Array	comp=Z,10nm,0.8s,baz=290,slow=3.6,SNR=48	89.13	53	P		P	20 34 19.2	+0.8
K48A	Perry	baz=326	89.18	32	P		P	20 34 19.4	+1.1
ABTX	Abilene, Hawle	comp=Z,42nm,1.1s	89.24	48	*e*P		P	20 34 19.2	+0.4
ABTX	Abilene, Hawle	baz=316,SNR=7.8	89.24	48	P		P	20 34 19.8	+1.0
N45A	Kentland	baz=324	89.30	35	P		P	20 34 19.4	+0.6
P43A	Skaggs, Pawnee	baz=322	89.32	37	P		P	20 34 19.2	+0.2
M46A	Old House Fiel	comp=Z,61nm,1.0s	89.36	34	*e*P		P	20 34 20.0	+0.8
L47A	Sherwood	baz=325	89.40	33	P		P	20 34 19.7	+0.4
Q42A	Golden Eagle	baz=322,SNR=7.0	89.41	38	P		P	20 34 20.0	+0.6
R41A	Rosebud	baz=321,SNR=14	89.47	39	P		P	20 34 20.2	+0.5
RJF	Les Rejaudoux		89.48	333	*e*P		P	20 34 19.2	-0.5
RJF		comp=Z,22nm,1.3s			pmax		pmax		
HPIG		comp=Z,14nm,0.9s	89.51	56	*e*P		P	20 34 20.0	-0.4
CAF	Calviac		89.61	333	*e*P		P	20 34 21.2	+0.9
CAF		comp=Z,9.0nm,0.7s			pmax		pmax		
O45A	Potomac	baz=323,SNR=5.2	89.68	36	P		P	20 34 21.7	+1.1
HHAR	Hobbs	comp=Z,16nm,0.9s	89.70	42	*e*P		P	20 34 20.9	0.0
BANO	Bancroft	baz=330	89.71	27	P		P	20 34 20.9	+0.2
CCM	Cathedral Cave	comp=Z,61nm,1.0s	89.72	39	*e*P		P	20 34 21.1	+0.2
CCM	Cathedral Cave	comp=Z,61nm,1.0s	89.72	39	*e*P		P	20 34 21.1	+0.2
CCM					pmax		pmax		
CCM	Cathedral Cave	baz=321	89.72	39	P		P	20 34 21.6	+0.7
M47A	Cromwell	baz=325	89.72	34	P		P	20 34 21.6	+0.7
L48A	N Adams	baz=326,SNR=7.6	89.76	33	P		P	20 34 21.6	+0.6
SLM	Saint Louis	comp=Z,60nm,1.0s	89.77	38	*e*P		P	20 34 21.9	+0.8
SLM	Saint Louis	comp=Z,60nm,1.0s	89.77	38	*e*P		P	20 34 21.9	+0.8
SLM					pmax		pmax		
R42A	Lunering	baz=321,SNR=9.5	89.77	39	P		P	20 34 22.0	+0.8
S41A	Jillco Farms,	baz=321	89.83	40	P		P	20 34 22.0	+0.5
SFIN	Lafayette	baz=324	89.86	35	P		P	20 34 22.2	+0.7
P44A	Sand Creek, Wi	baz=323,SNR=5.3	89.88	37	P		P	20 34 22.5	+0.8
L49A	Milan	baz=326	89.90	32	P		P	20 34 22.5	+0.9
PLVO	Plevna	baz=330	89.99	26	P		P	20 34 22.1	+0.1
LFF	La Frestale		90.07	334	*e*P		P	20 34 22.9	+0.5
LFF		comp=Z,12nm,0.8s			pmax		pmax		
N47A	Urbana	baz=325	90.08	34	P		P	20 34 22.6	+0.1
Q44A	Meyer Farm, Va	baz=323,SNR=5.6	90.14	37	P		P	20 34 23.5	+0.7
ORIO	Orleans, Innes	baz=332	90.17	25	P		P	20 34 22.9	+0.1
S42A	Caledonia	baz=321,SNR=18	90.17	39	P		P	20 34 23.7	+0.6
FVM	French Village	comp=Z,31nm,1.0s	90.18	39	*e*P		P	20 34 23.2	+0.1
FVM	French Village	comp=Z,31nm,1.0s	90.18	39	*e*P		P	20 34 23.2	+0.1
FVM					pmax		pmax		
R43A	Red Bud	baz=322,SNR=6.4	90.20	38	P		P	20 34 23.4	+0.2
U40A	Yellville	baz=320,SNR=20	90.22	41	P		P	20 34 23.5	+0.2
ALFO	Alfred	baz=332,SNR=5.2	90.22	25	P		P	20 34 23.3	+0.2
T41A	Mountain View	baz=321,SNR=7.8	90.25	40	P		P	20 34 23.6	+0.2
DELO	Deloro Mine	baz=330	90.25	27	P		P	20 34 23.3	0.0
M49A	Liberal Center	baz=326	90.34	33	P		P	20 34 24.6	+0.8
N48A	Decatur	baz=325,SNR=5.5	90.39	34	P		P	20 34 24.7	+0.7
Q45A	Warren Harvey,	baz=323,SNR=6.5	90.56	37	P		P	20 34 25.5	+0.8
T42A	Van Buren	comp=Z,51nm,1.3s	90.59	40	*e*P		P	20 34 25.1	+0.1
T42A	Van Buren	baz=321,SNR=12	90.59	40	P		P	20 34 25.2	+0.3
W39A	Magazine	comp=Z,34nm,1.4s	90.61	43	*e*P		P	20 34 25.6	+0.5
W39A	Magazine	baz=320	90.61	43	P		P	20 34 25.6	+0.5
R44A	Waltonville	baz=322,SNR=6.2	90.63	38	P		P	20 34 25.7	+0.6
S43A	Fulton Ridge,	baz=322	90.68	39	P		P	20 34 25.5	+0.1
JCT	Junction City	comp=Z,18nm,0.9s	90.69	49	*e*P		P	20 34 25.8	+0.2
JCT	Junction City	comp=Z,18nm,0.9s	90.69	49	*e*P		P	20 34 25.8	+0.2
JCT					pmax		pmax		
JCT	Junction City	baz=316,SNR=7.2	90.69	49	P		P	20 34 26.3	+0.7
N49A	Columbus Grove	baz=326,SNR=5.0	90.70	33	P		P	20 34 26.1	+0.7
U41A	Viola	baz=321	90.71	41	P		P	20 34 26.1	+0.5
OLIL	Olney	comp=Z,49nm,1.0s	90.71	37	*e*P		P	20 34 26.4	+0.9
O48A	Farmland	baz=325,SNR=6.6	90.83	34	P		P	20 34 26.5	+0.5
T43A	Greenville	baz=322,SNR=7.1	90.96	39	P		P	20 34 27.2	+0.5
R45A	Skylar, Fairfi	baz=323	90.98	37	P		P	20 34 26.6	-0.1
S44A	Carbondale	baz=322,SNR=8.7	90.98	38	P		P	20 34 27.5	+0.8
SIUC	Southern Illin	comp=Z,47nm,1.0s	90.99	38	*e*P		P	20 34 27.5	+0.7
V41A	Mountainview	baz=321,SNR=9.8	91.02	41	P		P	20 34 27.2	+0.2
U42A	Revenden	baz=321	91.05	40	P		P	20 34 26.7	-0.4
BLO	Bloomington	comp=Z,46nm,1.3s	91.09	36	*e*P		P	20 34 28.1	+0.8
BLO	Bloomington	comp=Z,46nm,1.3s	91.09	36	*e*P		P	20 34 28.1	+0.8
BLO					pmax		pmax		
PBMO	Poplar Bluff	comp=Z,43nm,1.1s	91.12	39	*e*P		P	20 34 27.7	+0.2
LONY	Lake Ozonia	baz=332	91.21	25	P		P	20 34 27.7	0.0
MIAR	Mount Ida	comp=Z,32nm,0.9s	91.21	43	*e*P		P	20 34 28.4	+0.4
MIAR	Mount Ida	comp=Z,32nm,0.9s	91.21	43	*e*P		P	20 34 28.4	+0.4
MIAR					pmax		pmax		
MIAR	Mount Ida	baz=320,SNR=13	91.21	43	P		P	20 34 28.8	+0.9
O49A	Covington	baz=326	91.24	34	P		P	20 34 28.3	+0.3
N50A	Nevada	baz=326	91.27	32	P		P	20 34 28.8	+0.8
S45A	Carrier Mills	baz=323	91.32	38	P		P	20 34 29.2	+0.8
WHAR	Wooly Hollow	comp=Z,38nm,0.9s	91.33	42	*e*P		P	20 34 28.7	+0.3
Q47A	Bedord North L	baz=324,SNR=6.5	91.33	36	P		P	20 34 29.1	+0.7
MOQ	Mont Orford		91.35	23	*e*P		P	20 34 28.9	+0.5
V42A	Cord	baz=321,SNR=6.4	91.39	41	P		P	20 34 28.9	+0.2
R46A	Gibon Southern	baz=324	91.41	37	P		P	20 34 29.3	+0.6
W41B	Gary Mavity, V	comp=Z,20nm,1.0s	91.44	42	*e*P		P	20 34 29.1	+0.2
W41B	Gary Mavity, V	baz=321,SNR=6.2	91.44	42	P		P	20 34 29.3	+0.4
O50A	Cable	baz=326,SNR=6.2	91.58	33	P		P	20 34 30.3	+0.7
P49A	Miami Univ. Ec	baz=325,SNR=6.8	91.61	34	P		P	20 34 30.4	+0.8
Q48A	North Vernon	baz=325	91.65	35	P		P	20 34 30.7	+0.8
X40A	Basin Creek Fa	comp=Z,22nm,1.0s	91.65	42	*e*P		P	20 34 30.8	+0.9
X40A	Basin Creek Fa	baz=320,SNR=7.6	91.65	42	P		P	20 34 31.2	+1.2
435B	Jarrell	comp=Z,34nm,1.1s	91.78	48	*e*P		P	20 34 31.2	+0.6
ACSO	Alum Creek Sta	comp=Z,31nm,0.9s	91.79	33	*e*P		P	20 34 31.0	+0.5
ACSO	Alum Creek Sta	baz=326	91.79	33	P		P	20 34 30.5	0.0
R47A	Wooly Knot Far	baz=324	91.80	36	P		P	20 34 30.8	+0.2
NCB	Newcomb	comp=Z,14nm,1.0s	91.91	25	*e*P		P	20 34 31.0	0.0
P50A	Jamestown	baz=326	91.95	34	P		P	20 34 31.8	+0.6
WCI	Wyandotte Cave		91.96	36	*e*P		P	20 34 31.5	+0.2
WCI		comp=Z,28nm,1.1s			pmax		pmax		
WCI	Wyandotte Cave	comp=Z,28nm,1.1s	91.96	36	P		P	20 34 31.9	+0.6
Q49A	Aurora	baz=324	91.97	35	P		P	20 34 32.4	+1.1
R48A	Northridge Ran	baz=325	92.02	36	P		P	20 34 32.4	+0.9
VT1	Waterbury	baz=324	92.07	24	*e*P		P	20 34 32.3	+0.6
WLAR	White Oak Lake	comp=Z,24nm,1.1s	92.12	43	*e*P		P	20 34 32.8	+0.7
T46A	Princeton	comp=Z,69nm,1.2s	92.16	38	P		P	20 34 33.1	+0.8
ETSF	Etsaut	baz=323,SNR=5.6	92.31	333	*e*P		P	20 34 33.0	+0.1
ETSF		comp=Z,15nm,1.4s			pmax		pmax		
R49A	Shelbyville	baz=325	92.42	35	P		P	20 34 33.9	+0.4
833A	Chaparral WMA,	comp=Z,49nm,1.5s	92.48	51	*e*P		P	20 34 34.8	+0.9
833A	Chaparral WMA,	baz=316	92.48	51	P		P	20 34 34.8	+0.9
Q50A	Georgetown	baz=326	92.50	34	P		P	20 34 34.5	+0.6
S48A	Wiedeman Farm,	baz=324	92.53	36	P		P	20 34 34.6	+0.6
T47A	Sharon Grove	comp=Z,19nm,0.9s	92.58	37	*e*P		P	20 34 34.5	+0.3
T47A	Sharon Grove	baz=324	92.58	37	P		P	20 34 35.0	+0.8
Q51A	Peebles	comp=Z,40nm,0.9s	92.63	34	*e*P		P	20 34 34.6	+0.2
Q51A	Peebles	baz=326,SNR=7.9	92.63	34	P		P	20 34 35.0	+0.6
Y42A	Garnett, Star	baz=321	92.71	42	P		P	20 34 35.9	+1.1
S49A	Springfield	baz=325,SNR=6.3	92.78	36	P		P	20 34 35.9	+0.8
R50A	Paris	baz=326,SNR=6.0	92.81	35	P		P	20 34 36.2	+0.9
T48A	Bowling Green	baz=324	92.82	37	P		P	20 34 36.0	+0.7
WVT	Waverly	comp=Z,15nm,1.0s	92.92	38	*e*P		P	20 34 36.5	+0.8
WVT	Waverly	comp=Z,15nm,1.0s	92.92	38	*e*P		P	20 34 36.5	+0.8
WVT					pmax		pmax		
WVT	Waverly	baz=323	92.92	38	P		P	20 34 36.6	+0.8
V46A	Holladay	baz=323	93.04	39	P		P	20 34 36.3	0.0
R51A	Hillsboro	baz=326	93.13	34	P		P	20 34 37.2	+0.5
Q52A	Bidwell	baz=327	93.15	33	P		P	20 34 36.9	+0.2
T49A	Edmonton	comp=Z,25nm,1.2s	93.22	36	*e*P		P	20 34 37.9	+0.7
T49A	Edmonton	baz=325,SNR=5.1	93.22	36	P		P	20 34 38.0	+0.8
U48A	Cassie Pea, Po	baz=324	93.23	37	P		P	20 34 37.8	+0.6
S50A	Richmond	baz=326,SNR=6.4	93.27	35	P		P	20 34 38.1	+0.7
V47A	Nunnelly	baz=323,SNR=6.7	93.31	38	P		P	20 34 38.1	+0.5
HKT	Hockley	comp=Z,23nm,1.4s	93.41	47	*e*P		P	20 34 39.0	+1.0
HKT	Hockley	comp=Z,23nm,1.4s	93.41	47	*e*P		P	20 34 39.0	+1.0
HKT					pmax		pmax		
OXF	Oxford	comp=Z,42nm,1.1s	93.41	40	*e*P		P	20 34 37.8	-0.3
OXF	Oxford	comp=Z,42nm,1.1s	93.41	40	*e*P		P	20 34 37.8	-0.3
OXF					pmax		pmax		
OXF	Oxford	baz=322	93.41	40	P		P	20 34 38.5	+0.4
R52A	Catlettsburg	baz=327	93.51	33	P		P	20 34 39.0	+0.5
U49A	Red Boiling Sp	baz=325,SNR=5.4	93.59	37	P		P	20 34 39.5	+0.6
T50A	Nancy	baz=325,SNR=5.7	93.61	36	P		P	20 34 39.6	+0.6
S51A	Beattyville	comp=Z,16nm,0.8s	93.67	35	*e*P		P	20 34 39.3	+0.1
S51A	Beattyville	baz=326	93.67	35	P		P	20 34 39.8	+0.6
V48A	Smith Brothers	comp=Z,13nm,0.9s	93.72	38	*e*P		P	20 34 39.2	-0.2
V48A	Smith Brothers	baz=324,SNR=5.2	93.72	38	P		P	20 34 40.2	+0.7
W47A	Westpoint	baz=323	93.73	39	P		P	20 34 39.8	+0.3
S52A	Salyersville	baz=326	93.86	34	P		P	20 34 40.8	+0.6
T51A	Gray	baz=326	94.07	35	P		P	20 34 41.8	+0.7
U50A	Jamestown	baz=325	94.11	36	P		P	20 34 42.0	+0.7
W48A	Pulaski	baz=324,SNR=9.7	94.15	38	P		P	20 34 42.1	+0.6
X47A	Russelville	baz=323	94.19	39	P		P	20 34 42.3	+0.6
KEST	Kesra	comp=Z,162nm,18.9s,baz=249,slow=39	94.26	323	LR		LR	21 22 16.0	
KEST	Kesra	comp=Z,11nm,1.3s	94.26	323	*e*P		P	20 34 42.4	+0.3
KEST					*e*			21 22 15.9	
ZAIG	Zacatecas	comp=Z,28nm,1.2s	94.42	57	*e*P		P	20 34 44.5	+1.2
W49A	Belvidere	baz=324,SNR=5.9	94.49	38	P		P	20 34 43.7	+0.7
SWET	Sewanee	comp=Z,22nm,1.0s	94.57	37	*e*P		P	20 34 43.3	-0.2
TZTN	Tazewell	comp=Z,15nm,1.1s	94.59	35	*e*P		P	20 34 43.9	+0.4
U52A	Thorn Hill	baz=326,SNR=5.8	94.80	35	P		P	20 34 44.7	+0.2
V51A	Loudon	comp=Z,18nm,1.1s	94.83	36	*e*P		P	20 34 44.8	+0.2
V51A	Loudon	baz=325	94.83	36	P		P	20 34 45.2	+0.6
W50A	Signal Mountai	baz=325	94.88	37	P		P	20 34 44.7	-0.2
LNIG	Linares	comp=Z,10nm,1.0s	94.90	53	*e*P		P	20 34 44.5	-0.6
X49A	Woodville	baz=324	94.95	38	P		P	20 34 45.3	+0.1
CPCT	Cooper Cave	comp=Z,13nm,1.0s	95.05	36	*e*P		P	20 34 45.9	+0.3
V52A	Sevierville	comp=Z,20nm,1.3s	95.15	36	*e*P		P	20 34 45.7	-0.4
V52A	Sevierville	baz=326	95.15	36	P		P	20 34 46.4	+0.3
W51A	Cleveland	baz=325	95.17	37	P		P	20 34 46.4	+0.2
TKL	Tuckaleechee C	comp=Z,12nm,0.8s	95.22	36	*e*P		P	20 34 46.2	-0.1
TKL	Tuckaleechee C	comp=Z,12nm,0.8s	95.22	36	*e*P		P	20 34 46.3	-0.1
TKL					pmax		pmax		
BLA	Blacksburg	baz=328	95.41	33	P		P	20 34 47.5	+0.3
BG3	Lake Jocassee	comp=Z,18nm,0.9s	96.16	36	*e*P		P	20 34 50.9	+0.3
Z50A	Ashland	comp=Z,15nm,0.9s	96.16	39	*e*P		P	20 34 50.4	-0.3
Z50A	Ashland	baz=324	96.16	39	P		P	20 34 51.1	+0.4
ES19	SONSECA Array		96.31	334	*e*P		P	20 34 50.3	-1.0
ESDC	Sonseca Array	comp=Z,0.7nm,0.7s,baz=18,slow=4.0,SNR=3.9	96.35	334	P		P	20 34 51.2	-0.3
ESDC		comp=Z,147nm,18.1s,baz=50,slow=39			LR		LR	21 23 33.1	
Y54A	Tignall	baz=326,SNR=6.1	97.20	36	P		Pdif	20 34 56.3	+0.8
RKT	Rikitea	comp=Z,301nm,28.0s	98.91	112	*e*LR		LR	21 07 10.2	
KMBO	Kilima Mbogo	comp=Z,1.3nm,0.8s,baz=280,slow=8.3,SNR=3.7	102.13	278	P		Pdif	20 35 17.9	-0.1
KMBO	Kilima Mbogo	comp=Z,1.0nm,0.4s	102.13	278	*i* P		Pdif	20 35 21.1	+3.1
KMBO					pmax		pmax		
TOA1	Torodi Ar. Sit		116.70	316	*e*PKPdf		PKPdf	20 40 05.3	-1.9
TOA1					*e*PP		PP	20 41 05.2	-10

TOA0	**Torodi Ar. Sit**	**116.71**	**316**	*e*PKPdf	**PKPdf**	**20 40 05.3**	**-1.9**
TORD	**Torodi Ar. Bea**	**116.71**	**316**	PKP	**PKPdf**	**20 40 05.3**	**-1.9**
	comp=Z,0.5nm,0.4s,baz=9.6,slow=2.4,SNR=7.4						
TORD				PP	PP	20 41 05.2	-10
	comp=Z,1.1nm,0.9s,baz=33,slow=6.2,SNR=4.7						
SDV	**Santo Domingo**	**124.19**	**40**	*e*PKPdf	**PKPdf**	**20 40 21.4**	**-0.5**
DBIC	**Dimbokro**	**125.63**	**318**	PKP	**PKPdf**	**20 40 22.1**	**-2.3**
	comp=Z,4.0nm,0.9s,baz=90,slow=3.0,SNR=3.1						
BOSA	**Boshof**	**127.11**	**260**	PKP	**PKPdf**	**20 40 27.1**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=57,slow=4.0,SNR=5.7						
QSPA	**South Pole Qui**	**127.98**	**180**	*e*PKPdf	**PKPdf**	**20 40 26.5**	**-0.8**
PTGA	**Pitinga**	**137.64**	**33**	*e*PKPdf	**PKPdf**	**20 40 46.8**	**-0.3**
SNAA	**Sanae**	**141.99**	**197**	PKP	PKPpre	20 40 48.0	
SNAA	**Sanae**	**141.99**	**197**	*e*PKPpre	PKPpre	20 40 47.3	
SNAA	**Sanae**	**141.99**	**197**	*e*PKHKP	PKPpre	20 40 47.3	
VNA2	**Neumayer--Watz**	**143.56**	**196**	PKP	PKPbc	20 40 53.2	-0.3
	baz=131,slow=2.3						
VNA3	**Neumayer Olymp**	**143.81**	**195**	PKP	PKPab	20 40 53.5	0.0
VNA1	**Neumayer--Stat**	**143.96**	**196**	PKP	PKPbc	20 40 54.6	-0.1
LPAZ	**La Paz**	**145.80**	**59**	PKPbc	**PKPab**	**20 41 03.0**	**-0.2**
	comp=Z,43nm,0.9s,baz=341,slow=3.7,SNR=102						
LPAZ	**La Paz**	**145.80**	**59**	*e*PKPdf	**PKPbc**	**20 41 02.6**	**-0.2**
MNMC	**Minye Minye**	**146.73**	**64**	*e*PKPdf	**PKPdf**	**20 41 03.8**	**+0.4**
PB11	**IPOC Station P**	**147.10**	**65**	*e*PKPdf	**PKPdf**	**20 41 03.6**	**-0.2**
GO01	**Chusmiza**	**147.37**	**64**	*e*PKPdf	**PKPdf**	**20 41 05.5**	**+0.9**
RCBR	**Riachuelo**	**147.67**	**356**	*e*PKPdf	**PKPdf**	**20 41 04.5**	**-0.3**
RCBR	**Riachuelo**	**147.67**	**356**	*e*PKIKP	**PKPdf**	**20 41 04.5**	**-0.3**
PB01	**IPOC Station P**	**148.05**	**67**	*e*PKPdf	**PKPdf**	**20 41 06.1**	**+0.8**
LVC	**Limon Verde**	**149.44**	**68**	*e*PKPdf	**PKPdf**	**20 41 07.5**	**-0.3**
LVC				*e*PKPbc	**PKiKP**	**20 41 13.2**	**-0.2**
GO02	**Mina Guanaco**	**150.42**	**73**	*e*PKPbc	**PKPbc**	**20 41 15.1**	**+0.5**
LCO	**Las Campanas**	**151.52**	**81**	*e*PKPbc	**PKPbc**	**20 41 17.4**	**+0.4**
BDFB	**Brasilia**	**155.88**	**24**	PKPab	**PKPab**	**20 41 44.7**	**+0.7**
	comp=Z,7.0nm,0.8s,baz=335,slow=2.8,SNR=6.1						
BDFB	**Brasilia**	**155.88**	**24**	*e*PKPdf	**PKPdf**	**20 41 15.4**	**-1.7**
BDFB				*e*PKPab	**PKPab**	**20 41 43.6**	**-0.3**
BDFB				*e*PKPab	pPKPbc	20 41 44.7	+2.2
CPUP	**Villa Florida**	**159.97**	**59**	PKPab	**PKPab**	**20 42 01.7**	**+0.2**
	comp=Z,4.9nm,0.9s,baz=352,slow=3.3,SNR=6.6						
CPUP	**Villa Florida**	**159.97**	**59**	*e*PKPab	**PKPab**	**20 42 01.4**	**0.0**

TRN 23 20:23:10.5, 10˚.68N×62˚.99W, h3km, MD3.7, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TPP	**Pointe-a-Pierr**	**1.56**	**103**	*e*P		Pn	20 23 38.5	-0.7
TPP				*e*S		Sg	20 24 01.4	+0.9
TRN	**Trinidad (W)**	**1.56**	**91**	*e*P		Pn	20 23 38.3	-0.8
TRN				*e*S		Sg	20 24 00.9	+0.2
TBH	**Brigand Hill**	**1.90**	**96**	*e*P		Pn	20 23 43.9	0.0
TBH				*e*S		Sb	20 24 09.8	-0.2
GRHS	**Sauteurs**	**2.02**	**41**	*e*P		Pn	20 23 45.2	-0.4
GRHS				*e*S		Sn	20 24 12.0	+0.7
GRSS	**Sisters**	**2.10**	**40**	*e*P		Pn	20 23 46.9	+0.3
GRSS				*e*S		Sn	20 24 14.3	+1.2
TPR	**Prospect**	**2.23**	**77**	*e*P		Pn	20 23 49.2	+0.8
TPR				*e*S		Sn	20 24 17.2	+0.7
BOT	**Bacolet**	**2.28**	**78**	*e*P		Pn	20 23 49.9	+0.8
BOT				*e*S		Sn	20 24 17.8	+0.1
TOSP	**Speyside**	**2.48**	**76**	*e*S		Sn	20 24 23.9	+1.2
FCV	**Fort Charlotte**	**2.99**	**35**	*e*P		Pn	20 23 58.6	-0.3
FCV				*e*S		Sn	20 24 35.4	+0.1
SVB	**Belmont**	**3.08**	**33**	*e*P		Pn	20 23 59.8	-0.4
SVB				*e*S		Sn	20 24 35.5	-2.0
SVV	**Soufriere Volc**	**3.14**	**33**	*e*P		Pn	20 24 00.7	-0.3
SVV				*e*S		Sn	20 24 42.2	+3.3
SSV	**Crater Summit**	**3.16**	**34**	*e*P		Pn	20 24 01.5	+0.2
SSV				*e*S		Sn	20 24 37.2	-2.4
MCLT	**Moule a Chique**	**3.61**	**33**	*e*P		Pn	20 24 07.5	0.0
SLDE	**Delcer**	**3.63**	**31**	*e*P		Pn	20 24 07.1	-0.6
SLDE	**Delcer**	**3.63**	**31**	*e*S		Sn	20 24 52.5	+1.5
SLB	**Belfond**	**3.66**	**31**	*e*P		Pn	20 24 07.5	-0.7
SLB				*e*S		Sn	20 24 50.0	-1.9
SLW	**Petit Monier**	**3.87**	**31**	*e*P		Pn	20 24 10.2	-0.8
TRMF	**Trois Ilets**	**4.27**	**26**	*e*P		Pn	20 24 18.8	+2.3
MVM	**Montagne Vaucl**	**4.36**	**28**	*e*P		Pn	20 24 20.9	+3.2
FDF	**Fort de France**	**4.41**	**24**	*e*P		Pn	20 24 18.0	-0.5
FDF	**Fort de France**	**4.41**	**24**	*e*S		Sn	20 25 09.9	-0.4
PML	**Morne Lenard**	**4.44**	**23**	*e*P		Pn	20 24 22.0	+3.2
PCM	**Pelee Case Pet**	**4.46**	**23**	*e*P		Pn	20 24 21.9	+2.8
GBMF	**Grand Be**	**4.46**	**23**	*e*P		Pn	20 24 22.1	+2.9
CXM	**Morne La Croix**	**4.47**	**23**	*e*P		Pn	20 24 23.1	+3.7
BAMF	**Morne Balai**	**4.48**	**23**	*e*P		Pn	20 24 22.1	+2.7
MDN	**Morne-Daniel**	**4.86**	**18**	*e*S		Sn	20 25 05.2	-16
MGG	**Marie-Galante**	**5.45**	**17**	*e*P		Pn	20 24 33.0	+0.3
MGG	**Marie-Galante**	**5.45**	**17**	*e*S		Sn	20 25 28.3	-7.7
CBE	**F˜f˜, Capest**	**5.52**	**14**	*e*P		Pn	20 24 36.3	+2.6
CBE	**F˜f˜, Capest**	**5.52**	**14**	*e*S		Sb	20 25 46.1	-8.2

*GCMT **23** 20:50:45.8±0.3, 10˚.74S±0˚.02×162˚.78E±0˚.02, h16km±1km, MW4.8/72, Moment Tensor Solution. s15,c18; s72,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.43±.10; $M_{\theta\theta}$0.14±.10; $M_{\phi\phi}$0.28±.09; $M_{r\theta}$-0.17±.29; $M_{\theta\phi}$2.24±.09; $M_{\phi r}$-0.01±.27; Best double couple: $M_0$2.24800×10^{16} NP1:ϕ_s89.00000°, δ89.00000°, λ-5.00000°. NP2: ϕ_s179.00000°, δ85.00000°, λ-179.00000°. Principal axes: T 2.4610, Plg2.0000°, Azm134.0000°; N -0.4260, Plg85.0000°, Azm254.0000°; P -2.0350, Plg4.0000°, Azm44.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BJI **23** 20:50:46.9, 10˚.47S×162˚.72E, h25km, mb4.8/48, mB5.1/33, Ms4.8/13, Ms7 4.5/11*

*ISCJB **23** 20:50:46.8±0.2, 10˚.84S±0˚.03×162˚.63E±0˚.03, h34km, mb5.0/99, MS4.1/23, Error ellipse: s-maj=5.2km s-min=4.4km az=148.8*

*NEIC **23** 20:50:46.8±2.0, 10˚.79S×162˚.74E, h25km±14km, mb5.0/69, Error ellipse: s-maj=5.5km s-min=5.0km az=115.0*

*MOS **23** 20:50:46.7±1.1, 10˚.75S×162˚.69E, h33km, mb5.0/24, Error ellipse: s-maj=10.1km s-min=9.0km az=154.2*

*IDC **23** 20:50:50.8±2.6, 10˚.87S×162˚.69E, h55km±22km, mb4.2/23, mb1 4.3/27, mb1mx4.2/51, mbtmp4.5/27, ML4.2/2, MS3.9/20, Ms1 4.0/20, ms1mx3.9/27, Error ellipse: s-maj=18.7km s-min=10.9km az=78.0*

ISC 23 20:50:48.0±0.3, 10˚.82S±0˚.05×162˚.80E±0˚.05, h34km, n236, σ1s50/234, mb4.9/99, MS4.1/23, 6C, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.13**	**296**	P		**Pn**	**20 51 35.0**	**+0.1**
	93nm,0.3s,baz=171,slow=3.4,SNR=104							
HNR				S		**Sn**	**20 52 13.6**	**+2.4**
	340nm,0.3s,baz=20,slow=17,SNR=6.8							
HNR				LR		LR	20 53 08.3	
	comp=Z,4μm,20.5s,baz=130,slow=45							
HNR	**Honiara**	**3.13**	**296**	*i* P		**Pn**	**20 51 35.0**	**+0.1**
HNR				*i* S		**Sn**	**20 52 15.5**	**+4.3**
HNR	**Honiara**	**3.13**	**296**	*e*Pn		**Pn**	**20 51 35.0**	**+0.1**
HNR				*e*Sn		**Sn**	**20 52 11.5**	**+0.3**
HNR				*e*Sn		**Sn**	**20 52 13.6**	**+2.4**
HNR	**Honiara**	**3.13**	**296**	*e*P		**Pn**	**20 51 35.0**	**+0.1**
HNR				*e*			20 52 11.5	
DZM	**Mont Dzumac**	**11.72**	**163**	P		**Pn**	**20 53 33.4**	**+0.4**
	0.7nm,0.3s,baz=9.8,slow=15,SNR=16							
DZM				LR		LR	20 57 30.7	
	comp=Z,1μm,18.5s,baz=8.0,slow=34							
DZM	**Mont Dzumac**	**11.72**	**163**	*e*Pn		**Pn**	**20 53 34.2**	**+1.2**
	3.1nm,0.2s							
DZM				*e*Sn		**Sn**	**20 55 41.2**	**-1.6**
	1.2nm,0.2s							
DZM				*e*LR		LR	20 56 21.2	
	2μm,23.4s							
DZM	**Mont Dzumac**	**11.72**	**163**	*e*Pn		**Pn**	**20 53 34.2**	**+1.2**
RABL	**Rabaul**	**12.43**	**301**	*e*Pn		**Pn**	**20 53 41.1**	**-1.5**
PMG	**Port Moresby**	**15.47**	**274**	P		**Pn**	**20 54 25.5**	**+1.8**
	0.3nm,0.3s,baz=11,slow=16,SNR=2.6							
PMG				LR		LR	20 59 20.5	
	comp=Z,385nm,19.1s,baz=108,slow=33							
PMG	**Port Moresby**	**15.47**	**274**	*e*Pn		**Pn**	**20 54 24.2**	**+0.4**
	37nm,1.0s							
PMG	**Port Moresby**	**15.47**	**274**	*e*P		**Pn**	**20 54 24.2**	**+0.4**
PMG				pmax		pmax		
	comp=Z,37nm,1.0s							
TARA	**Tarawa**	**15.73**	**40**	*e*Pn		**Pn**	**20 54 25.7**	**-1.5**
	comp=Z,181nm,1.1s							
MANU	**Manus Island**	**17.63**	**299**	*e*Pn		**Pn**	**20 54 48.3**	**-2.8**
	comp=Z,32nm,0.8s							
PATS	**Pohnpei**	**18.10**	**346**	*e*Pn		**Pn**	**20 54 54.9**	**-1.9**
	comp=Z,204nm,1.4s							
EIDS	**Eidsvold**	**18.25**	**216**	*e*P		**P**	**20 55 00.1**	**+1.6**
	comp=Z,19nm,1.1s							
CTA	**Charters Tower**	**18.41**	**238**	P		**Pn**	**20 55 01.0**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=70,slow=12,SNR=22							
CTAO	**Charters Tower**	**18.41**	**238**	*e*P		**Pn**	**20 55 01.8**	**+1.2**
	comp=Z,32nm,0.8s							
CTAO	**Charters Tower**	**18.41**	**238**	*e*P		**Pn**	**20 55 01.8**	**+1.2**
CTAO				pmax		pmax		
	comp=Z,32nm,0.8s							
COEN	**Coen**	**19.42**	**259**	*e*P		**Pn**	**20 55 13.6**	**+0.7**
	comp=Z,53nm,0.9s							
ARMA	**Armidale**	**22.10**	**206**	*e*P		**P**	**20 55 40.9**	**+0.4**
	comp=Z,40nm,1.0s							
JAY	**Jayapura**	**23.43**	**289**	LR		LR	21 06 06.5	
	comp=Z,392nm,18.6s,slow=39							
JAY	**Jayapura**	**23.43**	**289**	P		**P**	**20 55 52.7**	**-1.7**
	comp=Z,154nm,1.0s,comp=Z,6μm							
KNTN	**Kanton**	**26.51**	**74**	*e*P		**P**	**20 56 23.3**	**+0.7**
	comp=Z,196nm,1.5s							
CAN	**Canberra**	**27.44**	**205**	*e*P		**P**	**20 56 31.9**	**+1.1**
	comp=Z,36nm,1.5s							
CAN	**Canberra**	**27.44**	**205**	*e*P		**P**	**20 56 31.9**	**+1.1**
CAN				pmax		pmax		
	comp=Z,36nm,1.5s							
STKA	**Stephens Creek**	**28.69**	**220**	P		**P**	**20 56 42.1**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=30,slow=15,SNR=3.3							
STKA				LR		LR	21 07 28.5	
	comp=Z,666nm,20.3s,baz=33,slow=35							
STKA	**Stephens Creek**	**28.69**	**220**	*e*P		**P**	**20 56 42.0**	**0.0**
	comp=Z,2.2nm,1.1s							
WC3	**Warramunga Arr**	**28.84**	**248**	*e*P		**P**	**20 56 42.7**	**-0.8**
	comp=Z,12nm,0.8s							
WRAB	**Tennant Creek**	**28.85**	**248**	*e*P		**P**	**20 56 41.7**	**-1.9**
	comp=Z,12nm,0.8s							
WRAB	**Tennant Creek**	**28.85**	**248**	*ce*P		**P**	**20 56 42.3**	**-1.3**
WRAB				pmax		pmax		
	comp=Z,17nm,1.3s							
WB2	**Warramunga Arr**	**28.85**	**248**	*e*P		**P**	**20 56 42.1**	**-1.5**
WR1	**Warramunga Arr**	**28.86**	**248**	*e*P		**P**	**20 56 42.4**	**-1.3**
	comp=Z,16nm,1.0s							
WRA	**Warramunga Arr**	**28.86**	**248**	P		**P**	**20 56 42.4**	**-1.3**
	comp=Z,12nm,0.9s,baz=79,slow=9.4,SNR=65							
WRA				LR		LR	21 07 24.5	
	comp=Z,467nm,19.3s,baz=80,slow=35							
WRA	**Warramunga Arr**	**28.86**	**248**	*ce*P		**P**	**20 56 42.7**	**-1.0**
WRA				pmax		pmax		
	comp=Z,12nm,0.9s							
H11S2	**WAKE ISLAND Hy**	**29.37**	**8**	T		T	21 27 27.8	
	baz=188,slow=76,SNR=1066							
H11S3	**WAKE ISLAND Hy**	**29.38**	**8**	T		T	21 27 28.5	
	baz=188,slow=76,SNR=497							
H11S1	**WAKE ISLAND Hy**	**29.39**	**8**	T		T	21 27 29.7	
	baz=188,slow=76,SNR=997							
URZ	**Urewera**	**30.18**	**157**	*e*P		**P**	**20 56 54.9**	**-0.2**
	comp=Z,19nm,1.2s							
AS01	**Alice Springs**	**30.30**	**241**	*e*P		**P**	**20 56 54.9**	**-1.5**
AS31	**Alice Springs**	**30.34**	**241**	*e*P		**P**	**20 56 55.5**	**-1.3**
	comp=Z,2.6nm,1.1s							
ASAR	**Alice Springs**	**30.34**	**241**	P		**P**	**20 56 55.1**	**-1.6**
	comp=Z,6.3nm,0.9s,baz=70,slow=9.3,SNR=34							
ASAR				LR		LR	21 07 54.4	
	comp=Z,344nm,20.4s,baz=67,slow=34							
H11N1	**WAKE ISLAND Hy**	**30.60**	**8**	T		T	21 29 00.6	
	baz=188,slow=76,SNR=342							
H11N3	**WAKE ISLAND Hy**	**30.61**	**8**	T		T	21 29 06.9	
	baz=188,slow=76,SNR=380							
H11N2	**WAKE ISLAND Hy**	**30.62**	**8**	T		T	21 29 02.0	
	baz=188,slow=76,SNR=361							
BKZ	**Black Stump Fm**	**30.76**	**159**	*e*P		**P**	**20 56 58.8**	**-1.4**
	comp=Z,80nm,1.9s							
TOO	**Toolangi**	**30.85**	**207**	P		**P**	**20 57 02.7**	**+1.6**
TOO				pmax		pmax		
	comp=Z,23nm,1.0s							
MTN	**Manton Dam**	**31.05**	**263**	*e*P		**P**	**20 57 02.5**	**-0.6**
	comp=Z,8.8nm,1.1s							
BFZ	**Birch Farm**	**32.03**	**161**	*e*P		**P**	**20 57 10.8**	**-0.6**
	comp=Z,55nm,1.4s							
BBOO	**Buckleboo**	**32.92**	**224**	*e*P		**P**	**20 57 18.0**	**-1.3**
	comp=Z,17nm,1.0s							
FOZ	**Fox Glacier**	**33.16**	**171**	*e*P		**P**	**20 57 22.7**	**+1.5**
	comp=Z,27nm,1.0s							
OXZ	**Oxford**	**33.37**	**168**	*e*P		**P**	**20 57 23.4**	**+0.4**
	comp=Z,18nm,1.1s							
RPZ	**Rata Peaks**	**33.55**	**169**	P		**P**	**20 57 25.9**	**+1.2**
	comp=Z,11nm,0.8s,baz=55,slow=17,SNR=7.3							
RPZ	**Rata Peaks**	**33.55**	**169**	*e*P		**P**	**20 57 25.8**	**+1.2**
	comp=Z,17nm,0.9s							
CRLZ	**Canterbury Las**	**33.73**	**167**	*e*P		**P**	**20 57 26.8**	**+0.6**
	comp=Z,134nm,1.8s							
FITZ	**Fitzroy Crossi**	**36.65**	**254**	*e*P		**P**	**20 57 50.2**	**-1.5**
	comp=Z,9.8nm,0.8s							
TNTI	**Ternate**	**37.07**	**286**	*e*P		**P**	**20 57 50.8**	**-4.5**
	comp=Z,60nm,0.8s							
SANI	**Sanana**	**37.56**	**281**	P		P	20 58 10.3	+11
FORT	**Forrest**	**37.84**	**233**	*e*P		**P**	**20 58 00.3**	**-1.3**
	comp=Z,65nm,1.3s							
BATI	**Baumata**	**38.47**	**267**	P		**P**	**20 58 07.8**	**+0.6**
MMRI	**Maumere**	**40.02**	**269**	*e*P		**P**	**20 58 17.2**	**-2.9**
	comp=Z,22nm,0.8s							
MMRI	**Maumere**	**40.02**	**269**	P		**P**	**20 58 19.7**	**-0.4**
LUWI	**Luwuk**	**40.93**	**281**	*e*P		**P**	**20 58 24.8**	**-2.9**
	comp=Z,74nm,1.1s							
MBWA	**Marble Bar**	**42.54**	**251**	*e*P		**P**	**20 58 39.9**	**-0.8**
	comp=Z,10nm,0.9s							
PPT	**Papeete**	**46.56**	**104**	LR		LR	21 15 10.0	
	comp=Z,66nm,19.1s,baz=278,slow=31							
PPT2	**Papeete2**	**46.56**	**104**	*e*LQ		LQ	21 10 34.3	
	comp=Z,606nm,27.8s							
PPT2				*e*LR		LR	21 12 17.2	
	comp=Z,148nm,26.0s							
TBI	**Tubuai**	**47.10**	**112**	*e*LQ		LQ	21 11 01.2	
	comp=Z,599nm,30.0s							
TBI				*e*LR		LR	21 12 59.5	
	comp=Z,460nm,29.2s							
NWAO	**Narrogin (SRO)**	**47.21**	**235**	P		**P**	**20 59 16.5**	**-1.3**
	comp=Z,13nm,1.0s,baz=292,slow=6.4,SNR=4.2							
AIN	**Ainahou**	**50.90**	**54**	*e*P		**P**	**20 59 46.8**	**+0.4**
	comp=Z,138nm,1.2s							
HMH	**Humu'ula Sheep**	**51.01**	**54**	*e*P		**P**	**20 59 48.4**	**+1.0**
	comp=Z,378nm,1.9s							
MLH	**Mauna Loa**	**51.03**	**54**	*e*P		**P**	**20 59 45.0**	**-2.4**
	comp=Z,287nm,1.7s							
MLH	**Mauna Loa**	**51.03**	**54**	*e*P		**P**	**20 59 45.0**	**-2.4**
HLK	**Haleakala**	**51.04**	**52**	*e*P		**P**	**20 59 46.2**	**-1.3**
	comp=Z,415nm,2.0s							
SDHHI	**Sand Hill**	**51.04**	**54**	*e*P		**P**	**20 59 45.5**	**-1.9**
	comp=Z,468nm,1.1s							
POHA	**Pohakuloa**	**51.05**	**54**	*e*P		**P**	**20 59 46.0**	**-1.6**
	comp=Z,204nm,1.6s							
OBL	**Observatory Le**	**51.07**	**54**	*e*P		**P**	**20 59 47.2**	**-0.4**
	comp=Z,463nm,0.8s							
MJAR	**Matsushiro Arr**	**52.49**	**335**	P		**P**	**20 59 56.2**	**-1.5**
	comp=Z,4.0nm,1.0s,baz=172,slow=9.7,SNR=5.8							
MJAR				LR		LR	21 22 43.4	
	comp=Z,53nm,19.9s,baz=150,slow=36							
MAJO	**Matsushiro**	**52.49**	**335**	*e*P		**P**	**20 59 57.0**	**-0.8**
	comp=Z,40nm,1.6s							
MAJO	**Matsushiro**	**52.49**	**335**	*i* P		**P**	**20 59 56.6**	**-1.2**
MAJO				pmax		pmax		
	comp=Z,7.0nm,1.1s							
MJB9	**Matsu-Tunnel**	**52.49**	**335**	*e*P		**P**	**20 59 56.7**	**-1.1**
	comp=Z,39nm,1.6s							
JNU	**Nakatsue**	**53.25**	**326**	P		**P**	**21 00 04.0**	**+0.6**
	comp=Z,26nm,1.2s,baz=84,slow=9.2,SNR=3.7							
JNU	**Nakatsue**	**53.25**	**326**	*e*P		**P**	**21 00 03.6**	**+0.1**
	comp=Z,183nm,1.9s							
SSLB	**Suanglung**	**53.44**	**310**	*e*P		**P**	**21 00 04.7**	**-0.3**
	comp=Z,123nm,1.8s							
YHNB	**Yeheng**	**53.64**	**312**	*e*P		**P**	**21 00 07.1**	**+0.5**
	comp=Z,251nm,1.8s							
ASAJ	**Asahikawa**	**57.67**	**343**	*e*P		**P**	**21 00 36.9**	**+1.9**
	comp=Z,28nm,0.9s							
KSRS	**Korea Array**	**58.10**	**328**	P		**P**	**21 00 39.0**	**+1.0**
	comp=Z,2.7nm,1.0s,baz=144,slow=5.9,SNR=4.1							
KSRS				LR		LR	21 23 36.0	
	comp=Z,162nm,19.9s,baz=124,slow=34							
KS15	**Wonju Array Si**	**58.11**	**328**	*e*P		**P**	**21 00 38.8**	**+0.6**
KSAR	**Wonju Array Be**	**58.11**	**328**	P		**P**	**21 00 39.0**	**+0.9**
KSAR	**Wonju Array Be**	**58.11**	**328**	P		**P**	**21 00 39.1**	**+0.9**
KS01	**Wonju Array Si**	**58.13**	**328**	*e*P		**P**	**21 00 38.3**	**-0.1**
NJ2	**Nanjing**	**59.86**	**317**	*e*P		**P**	**21 00 50.9**	**+0.5**
NJ2				pmax		pmax		
	comp=Z,15nm,0.5s							
RKT	**Rikitea**	**60.38**	**110**	*e*LR		LR	21 19 10.3	
	comp=Z,414nm,26.8s							
USA0B	**Ussuriysk Arra**	**61.49**	**335**	*e*P		**P**	**21 01 02.2**	**+0.9**
	comp=Z,41nm,1.3s							
USRK	**Ussuriysk Ar.**	**61.49**	**335**	P		**P**	**21 01 02.7**	**+1.4**
	comp=Z,23nm,1.1s,baz=148,slow=6.2,SNR=16							
USRK				LR		LR	21 24 12.7	
	comp=Z,73nm,21.2s,baz=142,slow=33							
MDJ	**Mudanjiang**	**62.84**	**334**	P		**P**	**21 01 11.8**	**+1.5**
MDJ				pP		pP	21 01 21.8	+1.0
MDJ				sP		sP	21 01 25.4	+0.6
MDJ				S		**S**	**21 09 43.3**	**+5.9**
MDJ				pmax		pmax		
	comp=Z,17nm,1.0s							
MDJ				pmax		pmax		
	comp=Z,100nm,5.2s							
MDJ	**Mudanjiang**	**62.84**	**334**	*e*P		**P**	**21 01 10.2**	**-0.1**
	comp=Z,13nm,1.0s							
PETK	**Petropavlovsk-**	**63.82**	**357**	P		**P**	**21 01 17.7**	**+1.0**
	comp=Z,7.0nm,1.0s,baz=140,slow=7.6,SNR=3.2							
PETK				LR		LR	21 25 39.9	
	comp=Z,74nm,19.8s,baz=179,slow=33							
PETK	**Petropavlovsk-**	**63.82**	**357**	*e*P		**P**	**21 01 16.5**	**-0.2**
PETK	**Petropavlovsk-**	**63.82**	**357**	*e*P		**P**	**21 01 16.5**	**-0.2**
PEA1	**Petropavlovsk-**	**63.82**	**357**	*e*P		**P**	**21 01 17.7**	**+1.0**
CN2	**Changchun**	**64.10**	**331**	*e*P		**P**	**21 01 19.3**	**+0.6**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.8s							
ENH	**Enshi**	**65.53**	**310**	*e*P		**P**	**21 01 27.2**	**-1.2**
	comp=Z,7.4nm,0.8s							
KLR	**Kul'dur**	**65.73**	**338**	P		**P**	**21 01 30.1**	**+0.8**
	comp=Z,2.2nm,0.7s,baz=120,slow=7.3,SNR=7.0							
KLR	**Kul'dur**	**65.73**	**338**	*i* P		**P**	**21 01 29.4**	**+0.1**
GYA	**Guiyang**	**65.91**	**305**	*e*P		**P**	**21 01 33.0**	**+1.9**
GYA				pP		pP	21 01 43.3	+1.7
GYA				PP		**PP**	**21 04 00.8**	**+4.2**
GYA				S		**S**	**21 10 16.0**	**-0.4**
GYA				SKS		**SKSac**	**21 11 22.3**	**-2.6**
GYA				SS		**SS**	**21 14 33.6**	**+1.5**
GYA				pmax		pmax		
	comp=Z,20nm,1.0s							
GYA				pmax		pmax		
	comp=Z,120nm,5.4s							
GYA				LR		LR		
	comp=Z,430nm,18.3s							
GYA				LR		LR		
	comp=Z,420nm,19.1s							
GYA				LR		LR		
	comp=Z,400nm,19.0s							
VNDA	**Vanda**	**66.69**	**180**	P		**P**	**21 01 36.8**	**+1.8**
	comp=Z,3.3nm,1.0s,baz=27,slow=4.4,SNR=4.5							
VNDA	**Vanda**	**66.69**	**180**	*e*P		**P**	**21 01 36.2**	**+1.2**
VNDA	**Vanda**	**66.69**	**180**	*e*P		**P**	**21 01 36.2**	**+1.2**
XAN	**Xi'an**	**67.85**	**314**	P		**P**	**21 01 43.0**	**-0.1**
XAN				pmax		pmax		
	comp=Z,9.0nm,0.8s							
XAN				pmax		pmax		
	comp=Z,50nm,3.7s							
KMI	**Kunming**	**68.55**	**302**	P		**P**	**21 01 49.0**	**+1.1**
KMI				pmax		pmax		
	comp=Z,5.0nm,0.7s							
CM01	**Chiang Mai Arr**	**69.35**	**294**	*e*P		**P**	**21 01 51.2**	**-1.6**
CM31	**Chiang Mai Arr**	**69.38**	**294**	*e*P		**P**	**21 01 52.2**	**-0.7**
CMAR	**Chiang Mai Arr**	**69.38**	**294**	P

ZAK pmax pmax
comp=Z,8.0nm,1.3s
IM3 Indian Mountai 83.00 16 *eP* **P 21 03 09.6 +0.2**
MLY Manley 83.20 18 *eP* **P 21 03 12.0 +1.6**
comp=Z,21nm,1.6s
JIRN Jiri 83.36 300 *eP* **P 21 03 11.5 -1.0**
PALK Pallekele 83.66 279 *i P* **P 21 03 13.8 -0.1**
GUN Gumba 83.69 300 *eP* **P 21 03 13.5 -0.7**
comp=Z,37nm,1.5s
MAW Mawson 83.84 202 P **P 21 03 14.4 +0.6**
comp=Z,9.8nm,0.7s,baz=61,slow=4.4,SNR=16
MAW LR LR 21 35 24.1
comp=Z,67nm,21.7s,baz=64,slow=32
MAW Mawson 83.84 202 *eP* **P 21 03 14.0 +0.3**
comp=Z,2.5nm,0.9s
MAW Mawson 83.84 202 *eP* **P 21 03 14.0 +0.3**
MAW pmax pmax
comp=Z,3.0nm,0.9s
HDA Harding Lake 83.98 20 *eP* **P 21 03 14.2 -0.3**
comp=Z,18nm,1.2s
HDA Harding Lake 83.98 20 P **P 21 03 15.3 +0.9**
baz=230
PKI Pulchoki 84.00 299 *eP* **P 21 03 14.3 -1.5**
comp=Z,11nm,0.9s
PKIN Phulchoki 84.01 299 *eP* **P 21 03 15.1 -0.7**
comp=Z,6.5nm,0.7s
KKN Kakani 84.17 300 *eP* **P 21 03 15.6 -0.9**
comp=Z,11nm,0.8s
IL1 Eielson Array 84.23 19 *eP* **P 21 03 16.0 +0.3**
ILAR Eielson Array 84.23 19 P **P 21 03 15.2 -0.5**
comp=Z,2.2nm,0.9s,baz=229,slow=4.1,SNR=7.2
ILB Eielson Array 84.23 19 *eP* **P 21 03 14.9 -0.8**
DMN Daman 84.27 299 *eP* **P 21 03 16.3 -0.8**
comp=Z,15nm,0.8s
POKR Poker Plat Res 84.29 19 P **P 21 03 18.9 +2.9**
baz=229
O02D Mt. Diablo Mer 85.27 48 P **P 21 03 23.7 +2.1**
baz=252
TIXI Tiksi 85.33 350 P **P 21 03 21.7 +0.6**
comp=Z,1.5nm,0.8s,baz=127,slow=6.9,SNR=5.4
TIXI Tiksi 85.33 350 *ceP* **P 21 03 21.3 +0.2**
TIXI pmax pmax
comp=Z,17nm,2.5s
K02D Willamette Mer 85.45 45 P **P 21 03 22.8 +0.3**
baz=251
N02D Trinity Center 85.58 47 P **P 21 03 24.7 +1.6**
baz=252
KOLN Koldanda 85.60 299 *eP* **P 21 03 22.6 -1.1**
comp=Z,14nm,1.0s
M02C Callahan 85.60 47 P **P 21 03 25.2 +1.9**
baz=252
DANN Dangsing 85.61 300 *eP* **P 21 03 22.8 -1.1**
comp=Z,8.0nm,0.7s
YBH Yreka Blue Hor 85.81 46 P **P 21 03 25.7 +1.4**
comp=Z,4.5nm,1.0s,baz=272,slow=5.6,SNR=7.3
YBH Yreka Blue Hor 85.81 46 *eP* **P 21 03 25.4 +1.2**
comp=Z,7.7nm,1.1s
ORV Oroville 86.02 49 *eP* **P 21 03 24.4 -0.8**
comp=Z,5.2nm,1.1s
ORV Oroville 86.02 49 *eP* **P 21 03 24.5 -0.8**
ORV pmax pmax
comp=Z,5.0nm,1.1s
O03E Paynes Creek 86.02 48 P **P 21 03 26.7 +1.3**
baz=252
EGAK Eagle 86.17 21 *eP* **P 21 03 27.9 +2.5**
comp=Z,55nm,1.6s
PYUN Piuthan 86.21 299 *eP* **P 21 03 25.5 -1.2**
comp=Z,12nm,0.9s
AFDM Forest Hills D 86.23 49 *eP* **P 21 03 27.1 +0.8**
comp=Z,6.9nm,1.1s
L04D Klamath Falls 86.25 46 P **P 21 03 27.8 +1.3**
baz=252
DAWY Dawson 86.40 22 *eP* **P 21 03 27.4 +0.8**
comp=Z,45nm,1.9s
M04C Macdoel 86.45 46 P **P 21 03 31.0 +3.5**
baz=252
WMQ Urumqi 86.90 316 *eP* **P 21 03 30.3 +0.7**
WMQ pmax pmax
comp=Z,23nm,0.7s
WMQ pmax pmax
comp=Z,330nm,4.1s
WMQ LR LR
comp=Z,160nm,27.9s
WMQ LR LR
comp=Z,240nm,24.3s
MWC Mount Wilson 87.19 55 *eP* **P 21 03 31.2 -0.2**
comp=Z,9.5nm,0.9s
MWC Mount Wilson 87.19 55 *eP* **P 21 03 31.2 -0.2**
MWC pmax pmax
comp=Z,10.0nm,0.9s
MDPB Devils Postpil 87.29 51 *eP* **P 21 03 31.6 -0.2**
comp=Z,4.1nm,1.0s
J05D Fort Rock, OR 87.33 45 P **P 21 03 33.0 +1.3**
baz=253
EDW2 Edwards Air Fo 87.41 54 P **P 21 03 33.4 +1.1**
baz=255
I05D Terrebonne, OR 87.57 44 P **P 21 03 34.6 +1.8**
baz=252
PAHR Pah Rah Range 87.63 49 *eP* **P 21 03 33.5 +0.2**
comp=Z,10nm,1.5s
CWC Cottonwood Cre 87.75 52 P **P 21 03 35.2 +1.2**
baz=255
RYN Ryan 87.98 50 *eP* **P 21 03 35.8 +0.7**
comp=Z,3.6nm,0.8s
NV01 Mina Array Sit 88.10 50 *eP* **P 21 03 36.2 +0.5**
NVAR Mina Array Bea 88.10 50 P **P 21 03 36.9 +1.2**
comp=Z,2.5nm,0.8s,baz=234,slow=7.8,SNR=14
NVAR LR LR 21 38 20.6
comp=Z,106nm,18.2s,baz=287,slow=32
MPMC Manual Prospec 88.11 53 P **P 21 03 36.5 +0.8**
baz=255
FRD Ford Ranch, An 88.18 56 P **P 21 03 36.8 +0.9**
baz=256
MONP2 Monument Peak 88.18 56 P **P 21 03 37.2 +1.1**
baz=256
PFO Pinyon Flats O 88.33 55 P **P 21 03 37.7 +1.0**
baz=256
IKP In-Ko-Pah, Jac 88.38 56 P **P 21 03 38.5 +1.6**
baz=256
KVN Kaiserville 88.41 50 *eP* **P 21 03 37.8 +0.7**
comp=Z,17nm,2.0s
KVN Kaiserville 88.41 50 *eP* **P 21 03 37.8 +0.7**
KVN pmax pmax
comp=Z,17nm,2.0s
EPYK Eagle Plains 88.59 21 P **P 21 03 39.6 +2.5**
baz=239
FURC Furnace Creek, 88.70 53 P **P 21 03 40.0 +1.8**
baz=256
HEC Hector,Ludlow 88.72 54 P **P 21 03 39.6 +1.1**
baz=256
BELC Belle Mtn. Jos 88.79 55 P **P 21 03 39.9 +0.9**
baz=256
WVOR Wild Horse Val 88.92 47 *eP* **P 21 03 40.4 +1.1**
comp=Z,22nm,1.8s
WVOR Wild Horse Val 88.92 47 *eP* **P 21 03 40.4 +1.1**
WVOR pmax pmax
comp=Z,23nm,1.8s
BC3 Big Chuckawall 89.15 56 P **P 21 03 42.3 +1.7**
baz=256
GMRC Granite Mounta 89.25 55 P **P 21 03 42.0 +1.0**
baz=256
TPNV Topopah Spring 89.30 52 P **P 21 03 42.3 +1.0**
baz=256
IRM Iron Mountain 89.52 55 P **P 21 03 43.2 +1.1**
baz=257
Y12C Blythe 89.93 56 P **P 21 03 45.6 +1.5**
baz=257
SHPR Sheep Range 90.05 53 *eP* **P 21 03 46.1 +1.3**
comp=Z,5.2nm,1.1s
R11A Troy Canyon, C 90.14 51 *eP* **P 21 03 45.4 +0.1**
comp=Z,4.0nm,1.2s
R11A Troy Canyon, C 90.14 51 P **P 21 03 46.0 +0.8**
baz=256
BMO Blue Mountains 90.48 44 *eP* **P 21 03 47.4 +0.9**
comp=Z,18nm,1.8s
BMO Blue Mountains 90.48 44 *eP* **P 21 03 47.4 +0.9**
BMO pmax pmax
comp=Z,18nm,1.8s
SYO Syowa Base 91.14 198 *ieX* **P 21 03 44.8 -4.2**
MK01 Makanchi Array 91.37 317 *eP* **P 21 03 49.8 -0.7**
MK31 Makanchi Array 91.39 317 *eP* **P 21 03 50.2 -0.4**
MK31 Makanchi Array 91.39 317 *eP* **P 21 03 50.2 -0.4**
MK32 Makanchi Array 91.39 317 *eP* **P 21 03 50.7 +0.1**
MKAR Makanchi Array 91.39 317 P **P 21 03 50.7 +0.1**
comp=Z,4.0nm,0.8s,baz=101,slow=5.6,SNR=25
MKAR LR LR 21 47 38.0
comp=Z,30nm,18.8s,baz=92,slow=37
MKAR Makanchi Array 91.39 317 *eP* **P 21 03 49.9 -0.7**
comp=Z,23nm,0.8s
CCUT Cedar City 91.68 52 *eP* **P 21 03 52.7 +0.3**
comp=Z,3.0nm,0.5s
ZALV Zalesovo Beam 91.69 325 P **P 21 03 50.7 -1.1**
comp=Z,1.7nm,0.8s,baz=121,slow=7.1,SNR=7.4
ZALV LR LR 21 43 08.8
comp=Z,58nm,21.4s,baz=68,slow=34
ZALV Zalesovo Beam 91.69 325 *eP* **P 21 03 50.3 -1.4**
ZALV Zalesovo Beam 91.69 325 *i P* **P 21 03 51.0 -0.8**
ZALV pmax pmax
comp=Z,2.0nm,0.8s
ZAA1 Zalesovo Array 91.69 325 *eP* **P 21 03 50.7 -1.1**
HLID Hailey 92.20 46 *eP* **P 21 03 55.5 +0.9**
comp=Z,24nm,2.0s
HVU Hansel Valley 93.00 48 *eP* **P 21 03 59.7 +1.3**
comp=Z,19nm,0.8s
HVU Hansel Valley 93.00 48 *eP* **P 21 03 59.7 +1.3**
HVU pmax pmax
comp=Z,19nm,0.8s
KURK Kurchatov 94.62 321 *eP* **P 21 04 04.5 -0.9**
KURK Kurchatov 94.62 321 *i P* **P 21 04 03.8 -1.6**
KURK pmax pmax
comp=Z,2.0nm,0.9s
KURBB Kurchatov Arra 94.66 321 P **P 21 04 04.5 -1.0**
comp=Z,1.2nm,0.9s,baz=106,slow=2.6,SNR=7.0
NRIK Noril'sk 94.91 340 LR LR 21 47 30.1
comp=Z,78nm,20.5s,baz=51,slow=36
TXAR Lajitas Array 98.26 62 LR LR 21 39 51.3
comp=Z,47nm,21.3s,baz=0.0,slow=30
JSC Jenkinsville 117.41 57 *ePKPdf* **PKPdf 21 09 31.8 +1.2**
JSC Jenkinsville 117.41 57 *ePKIKP* **PKPdf 21 09 31.8 +1.2**
KIV Kislovodsk 119.01 314 *ePKIKP* **PKPdf 21 09 35.8 +2.3**
KIV pmax pmax
comp=Z,5.0nm,1.1s
OBN Obninsk 119.09 328 *i PKIKP* **PKPdf 21 09 34.6 +1.5**
OBN *e* 21 10 50.1
OBN *i PS* PKKPdf 21 20 30.0 +11
OBN pmax pmax
comp=Z,4.0nm,1.1s
OBN MLR MLR
comp=Z,114nm,16.0s
KIEV Kiev 125.08 326 *i PKIKP* **PKPdf 21 09 42.6 -2.2**
KIEV pmax pmax
comp=Z,2.0nm,1.1s
KEST Kesra 145.44 320 PKPbc **PKPbc 21 10 23.1 +0.1**
comp=Z,10nm,0.9s,baz=280,slow=2.0,SNR=15
KEST Kesra 145.44 320 *ePKPbc* **PKPdf 21 10 23.3 +0.2**

*ISCJB **23** 21:03:20.4±0.3, 43.83N±0.03×105.21W±0.04, h0km, mb4.3/2, Error ellipse: s-maj=4.5km s-min=3.5km az=26.6*
*NEIC **23** 21:03:20.9±0.6, 43.95N×105.35W, h0km, ML3.0, Error ellipse: s-maj=11.2km s-min=6.8km az=149.0, Suspected Mining explosion.*
NEIC 42 km [26 miles] SSE of Gillette.
*IDC **23** 21:03:21.7±1.7, 44.06N×105.67W, h0km, mb4.2/2, mb1 4.1/5, mb1mx3.6/37, mbtmp3.9/5, ML3.5/3, Error ellipse: s-maj=65.3km s-min=7.7km az=146.0*
*ANF **23** 21:03:22.0±0.4, 43.78N×105.25W, ML3.9/14, Error ellipse: s-maj=5.2km s-min=4.4km az=129.0*
ISC 23 21:03:22.7±0.6, 43.82N±0.03×105.30W±0.04, h0km, n41, σ1995/59, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.96**	**71**	*ePg*		**Pg**	**21 03 39.6**	**-1.6**
RSSD	**Black Hills**	**0.96**	**71**	P		**Pg**	**21 03 39.7**	**-1.4**
baz=260								
K22A	**Casper**	**1.47**	**218**	P		**Pn**	**21 03 48.4**	**-2.3**
baz=33								
K22A				S		**Sg**	**21 04 09.3**	**-0.7**
baz=33								
LAO	**LASA Array**	**2.94**	**348**	P		**Pn**	**21 04 10.1**	**-0.7**
baz=167								
N23A	**Red Feather La**	**2.96**	**189**	P		**Pn**	**21 04 10.8**	**-0.5**
baz=7.9								
N23A				S		**Sn**	**21 04 47.3**	**-0.3**
baz=7.9								
RLMT	**Red Lodge**	**3.12**	**296**	P		**Pn**	**21 04 13.4**	**-0.1**
baz=111								
BW06	**Boulder Array**	**3.28**	**253**	*eP*		**Pn**	**21 04 11.5**	**-4.1**
BW06	**Boulder Array**	**3.28**	**253**	P		**Pn**	**21 04 15.9**	**+0.3**
baz=67								
BW06				S		**Sn**	**21 04 56.9**	**+1.5**
baz=67								
PDAR	**Pinedale Array**	**3.28**	**253**	Pn		**Pn**	**21 04 15.5**	**-0.1**
5.4nm,0.3s,baz=69,slow=16,SNR=69								
PDAR				Pg		**Pb**	**21 04 20.9**	**-1.1**
26nm,0.3s,baz=73,slow=19,SNR=88								
PDAR				Lg		Lg	21 04 59.4	
9.2nm,0.3s,baz=79,slow=28,SNR=5.0								
OGNE	**Ogallala**	**3.76**	**139**	*ePn*		**Pn**	**21 04 21.7**	**-0.3**
OGNE				S		**Sg**	**21 05 21.3**	**-2.1**
OGNE	**Ogallala**	**3.76**	**139**	P		**Pn**	**21 04 21.5**	**-0.5**
baz=322								
H17A	**Grant Village**	**3.84**	**280**	P		**Pn**	**21 04 24.3**	**+1.0**
baz=95								
H17A				Sb		**Sb**	**21 05 22.2**	**+3.5**
baz=95								
ISCO	**Idaho Springs**	**4.02**	**183**	*ePn*		**Pn**	**21 04 25.2**	**-0.7**
ISCO				*ePb*		**Pb**	**21 04 33.5**	**-1.2**
ISCO				*eSn*		**Sn**	**21 05 16.9**	**+3.1**
ISCO				*eSb*		**Sb**	**21 05 25.6**	**+1.6**
ISCO	**Idaho Springs**	**4.02**	**183**	P		**Pn**	**21 04 25.2**	**-0.7**
baz=2.6								
O20A	**White River Ci**	**4.29**	**212**	P		**Pn**	**21 04 28.8**	**-0.6**
baz=28								
O20A				S		**Sn**	**21 05 20.0**	**-0.2**
baz=28								
DGMT	**Dagmar**	**4.71**	**9**	*ePn*		**Pn**	**21 04 30.7**	**-4.4**
DGMT				*ePb*		**Pn**	**21 04 35.6**	**+0.5**
DGMT				*eSg*		**Sb**	**21 05 47.7**	**+4.2**
DGMT	**Dagmar**	**4.71**	**9**	P		**Pn**	**21 04 35.0**	**-0.1**
baz=190								
Q24A	**Divide**	**4.85**	**179**	P		**Pn**	**21 04 36.4**	**-0.9**
baz=358								
Q24A				S		**Sn**	**21 05 34.0**	**-0.3**
baz=358								
KSCO	**Kaye Shedlock'**	**5.21**	**156**	P		**Pn**	**21 04 40.3**	**-1.7**
baz=338								
KSCO				S		**Sn**	**21 05 41.8**	**-1.0**
baz=338								
EGMT	**Eagleton**	**5.23**	**325**	P		**Pn**	**21 04 42.0**	**-0.2**
baz=142								
MDND	**Maddock**	**5.66**	**43**	P		**Pn**	**21 04 47.2**	**-0.9**
baz=228								
MDND				S		**Sn**	**21 05 53.8**	**0.0**
baz=228								
BGNE	**Belgrade**	**5.80**	**112**	P		**Pn**	**21 04 48.8**	**-1.2**
baz=298								
SDCO	**Great Sand Dun**	**6.07**	**182**	*ePn*		**Pn**	**21 04 53.3**	**-0.7**
3.1nm,0.6s								
SDCO				*eSb*		**Sb**	**21 06 29.0**	**+6.2**
SDCO	**Great Sand Dun**	**6.07**	**182**	P		**Pn**	**21 04 52.9**	**-1.0**
baz=1.0								
S22A	**4UR Ranch, Cre**	**6.18**	**191**	P		**Pn**	**21 04 55.6**	**+0.1**
baz=9.7								
ECSD	**EROS Data Cent**	**6.29**	**88**	*ePn*		**Pn**	**21 04 55.9**	**-0.8**
9.4nm,0.4s								
ECSD				*ePb*		**Pb**	**21 05 15.1**	**+2.0**
ECSD				S		**Sb**	**21 06 33.1**	**+4.2**
ECSD	**EROS Data Cent**	**6.29**	**88**	P		**Pn**	**21 04 56.4**	**-0.3**
baz=275								
CBKS	**Cedar Bluff**	**6.52**	**138**	P		**Pn**	**21 04 59.4**	**-0.5**
baz=322								
HLID	**Hailey**	**6.61**	**271**	P		**Pn**	**21 05 02.6**	**+1.3**
baz=84								
DUG	**Dugway, Tooele**	**6.67**	**240**	*ePn*		**Pn**	**21 05 00.3**	**-1.7**
5.7nm,0.7s								
DUG	**Dugway, Tooele**	**6.67**	**240**	P		**Pn**	**21 05 01.3**	**-0.7**
baz=53								
T25A	**Trinidad**	**6.71**	**174**	P		**Pn**	**21 05 01.5**	**-1.2**
baz=354								
MSO	**Missoula**	**6.79**	**299**	P		**Pn**	**21 05 03.3**	**-0.4**
baz=112								
MVCO	**Mesa Verde**	**7.04**	**201**	P		**Pn**	**21 05 07.7**	**+0.5**
baz=18								
AGMN	**Agassiz Nation**	**7.94**	**52**	P		**Pn**	**21 05 18.8**	**-0.6**
baz=240								
ULM	**Lac du Bonnet**	**9.09**	**42**	Pn		**Pn**	**21 05 32.2**	**-2.9**
1.6nm,0.3s,baz=233,slow=10,SNR=13								
ULM				Pg			21 06 02.0	
0.7nm,0.3s,baz=241,slow=18,SNR=2.7								
ULM				Lg		Lg	21 08 02.2	
0.7nm,0.3s,baz=319,slow=20,SNR=2.3								
WUAZ	**Wupatki**	**9.52**	**211**	*ePn*		**Pn**	**21 05 40.7**	**-0.5**
4.6nm,0.5s								
NVAR	**Mina Array Bea**	**11.18**	**246**	Pn		**Pn**	**21 06 03.9**	**-0.1**
0.2nm,0.3s,baz=60,slow=13,SNR=6.0								
YBH	**Yreka Blue Hor**	**12.96**	**267**	Pn		**Pn**	**21 06 32.2**	**+4.0**
0.1nm,0.3s,baz=48,slow=7.1,SNR=4.0								
ARCES	**ARCESS Array B**	**61.35**	**18**	P		**P**	**21 13 37.2**	**-2.5**
4.3nm,1.0s,baz=314,slow=8.4,SNR=3.8								
MKAR	**Makanchi Array**	**89.52**	**355**	P		**P**	**21 16 20.1**	**-1.7**
0.8nm,0.7s,baz=18,slow=4.2,SNR=4.9								

*ISCJB **23** 21:10:10.7±0.8, 33.18N±0.04×140.84E±0.08, h65km±9km, mb3.8/3, Error ellipse: s-maj=11.7km s-min=6.1km az=7.6*
*JMA **23** 21:10:11.2±0.1, 33.20N×140.85E, h57km, M3.8*
*IDC **23** 21:10:14.6±4.5, 32.93N×140.13E, h62km±74km, mb3.4/3, mb1 3.7/4, mb1mx3.2/27, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=184.4km s-min=26.8km az=64.0*
ISC 23 21:10:11.2±1.6, 33.15N±0.05×140.87E±0.09, h51km±16km, n23, σ0.93/27, mb3.8/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.88**	**268**	P		**Pn**	**21 10 27.8**	**+0.4**
JHCJ	**Hachijojimakas**	**0.90**	**265**	P		**Pn**	**21 10 27.6**	**0.0**
JHCJ				S		**Sn**	**21 10 38.9**	**-0.8**
JAOM	**Aogashimamukai**	**1.15**	**234**	P		**Pn**	**21 10 31.4**	**+0.3**
JAOM				*eS*		**Sn**	**21 10 46.5**	**+0.7**
JMKN	**Mikurajimanish**	**1.30**	**305**	P		**Pn**	**21 10 32.9**	**-0.1**
BSO1	**Boso 1**	**1.50**	**4**	P		**Pn**	**21 10 35.4**	**+0.1**
BSO1				*eS*		**Sn**	**21 10 53.0**	**-0.4**
BSO3	**Boso 3**	**1.67**	**350**	P		**Pn**	**21 10 38.1**	**+0.3**
BSO3				*eS*		**Sn**	**21 10 58.2**	**+0.2**
JKO	**Kozu shima**	**1.77**	**306**	P		**Pn**	**21 10 39.9**	**+0.4**
JKO				*eS*		**Sn**	**21 11 00.6**	**-0.3**
BSO4	**Boso 4**	**1.89**	**347**	P		**Pn**	**21 10 40.9**	**0.0**
JTHY	**Toshimahigashi**	**1.90**	**317**	P		**Pn**	**21 10 41.7**	**+0.5**
JIM2	**Oshima 3**	**1.97**	**323**	P		**Pn**	**21 10 42.2**	**+0.1**
JIM2				*eS*		**Sn**	**21 11 03.6**	**-2.0**
JIZS	**Izushimoda**	**2.27**	**314**	P		**Pn**	**21 10 47.0**	**+0.7**
JIZS				*eS*		**Sn**	**21 11 13.2**	**+0.1**
JOD2	**Odawara 2**	**2.57**	**326**	P		**Pn**	**21 10 50.6**	**+0.2**
JOD2				S		**Sn**	**21 11 19.4**	**-1.1**
MJAR	**Matsushiro Arr**	**4.03**	**328**	P		**Pn**	**21 11 13.0**	**+2.6**
4.9nm,0.3s,baz=153,slow=11,SNR=38								
MJAR				S		**Sn**	**21 11 56.8**	**+0.6**
1.6nm,0.3s,baz=132,slow=27,SNR=4.8								
MAT	**Matsushiro**	**4.03**	**328**	P		**Pn**	**21 11 12.4**	**+2.0**
MAT				S		**Sn**	**21 11 56.8**	**+0.5**
H11N2	**WAKE ISLAND Hy**	**26.78**	**113**	T		T	21 44 37.0	
baz=306,slow=75,SNR=22								
H11N1	**WAKE ISLAND Hy**	**26.79**	**113**	T		T	21 44 37.8	
baz=306,slow=75,SNR=28								
H11N3	**WAKE ISLAND Hy**	**26.80**	**113**	T		T	21 44 49.1	
baz=306,slow=75,SNR=18								
H11S3	**WAKE ISLAND Hy**	**27.35**	**116**	T		T	21 45 24.2	
baz=308,slow=75,SNR=4.4								
H11S1	**WAKE ISLAND Hy**	**27.35**	**116**	T		T	21 45 20.6	
baz=308,slow=75,SNR=3.6								
H11S2	**WAKE ISLAND Hy**	**27.36**	**116**	T		T	21 45 27.3	
baz=308,slow=75,SNR=4.9								
MKAR	**Makanchi Array**	**45.90**	**305**	P		**P**	**21 18 28.0**	**-0.6**
0.5nm,0.8s,baz=96,slow=7.4,SNR=3.4								
WRA	**Warramunga Arr**	**53.16**	**188**	P		**P**	**21 19 23.9**	**-0.2**
1.2nm,0.4s,baz=4.5,slow=7.6,SNR=22								
ASAR	**Alice Springs**	**56.89**	**188**	P		**P**	**21 19 51.0**	**0.0**
0.5nm,0.6s,baz=4.6,slow=7.0,SNR=12								

*PRE **23** 21:19:18.8±1.1, 28.04S×26.66E, h2km, ML2.5*
*EAF **23** 21:19:18.8±1.8, 28.14S×26.99E, h0km±999km, MD3.8*
*BUL **23** 21:19:18.2±2.4, 27.31S×24.05E, h0km±999km, MD3.8*
ISC 23 21:19:17.9±2.4, 28.06S±0.04×26.86E±0.06, h8km±17km, n15, σ2.37/29, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**1.52**	**248**	*i* P		**Pn**	**21 19 48.0**	**+2.5**
BOSA				*i* S		**Sn**	**21 20 07.8**	**+2.3**
BOSA	**Boshof**	**1.52**	**248**	*i* P		**Pn**	**21 19 48.0**	**+2.5**
BOSA				*i* S		**Sn**	**21 20 07.8**	**+2.3**
SWZ	**Schweizer**	**1.62**	**303**	*eP*		**Pn**	**21 19 46.5**	**-0.3**
SWZ				*eS*		**Sn**	**21 20 07.2**	**-0.7**
SWZ				AML		AML	21 20 11.0	
comp=Z,178nm,0.3s								
ERPM	**east rand prop**	**2.11**	**36**	*eP*		**Pb**	**21 19 57.6**	**+1.1**
ERPM				*eS*		**Sg**	**21 20 26.4**	**+0.7**
ERPM				AML		AML	21 20 35.8	
comp=Z,60nm,0.4s								
KSR	**Koster**	**2.20**	**1**	*eP*		**Pn**	**21 19 57.4**	**+2.4**
KSR				*eS*		**Sn**	**21 20 25.3**	**+2.8**
KSR				AML		AML	21 20 29.1	
comp=Z,59nm,0.2s								
SLR	**Silverton**	**2.64**	**29**	*eP*		**Pn**	**21 20 03.1**	**+2.1**
SLR				*eS*		**Sn**	**21 20 37.8**	**+4.5**
SLR				AML		AML	21 20 49.0	
comp=Z,60nm,0.3s								
HVD	**Gariep Dam**	**2.80**	**205**	*eP*		**Pn**	**21 20 04.7**	**+1.6**
HVD				*eS*		**Sn**	**21 20 38.2**	**+1.1**
HVD				AML		AML	21 20 53.3	
comp=Z,25nm,0.7s								
KSD	**Kokstad**	**3.33**	**139**	*eP*		**Pb**	**21 20 14.5**	**-2.8**
KSD				*eS*		**Sb**	**21 20 55.1**	**-2.9**
KSD				AML		AML	21 21 03.8	
comp=Z,11nm,0.3s								
PKA	**Prieska**	**3.94**	**245**	*eP*		**Pn**	**21 20 19.3**	**+0.6**
PKA				*eS*		**Sn**	**21 21 02.2**	**-3.0**
PKA				AML		AML	21 21 23.1	
comp=Z,7.4nm,0.5s								
SOE	**Somerset East**	**4.77**	**193**	*eP*		**Pn**	**21 20 31.5**	**+1.4**
SOE				*eS*		**Sn**	**21 21 25.6**	**+0.1**
SOE				AML		AML	21 21 49.7	
comp=Z,13nm,0.4s								
MATP	**Matopo**	**7.75**	**11**	*i* P		**Pn**	**21 21 12.3**	**+1.1**
MATP				*i* S		**Sn**	**21 22 35.4**	**-3.8**
MATP	**Matopo**	**7.75**	**11**	*i* P		**Pn**	**21 21 12.3**	**+1.1**
MATP				*i* S		**Sn**	**21 22 35.4**	**-3.8**
BLWY	**Bulawayo**	**8.05**	**12**	*i* P		**Pn**	**21 21 14.6**	**-0.7**
BLWY				*i* S		**Sn**	**21 22 44.2**	**-2.3**
BLWY	**Bulawayo**	**8.05**	**12**	*i* P		**Pn**	**21 21 14.6**	**-0.7**
BLWY				*i* S		**Sn**	**21 22 44.2**	**-2.3**
KOMG	**Komaggas**	**8.40**	**256**	*eP*		**Pn**	**21 21 20.6**	**+0.7**
KOMG				*eS*		Sn	21 22 48.9	-6.1
KOMG				AML		AML	21 22 57.6	
comp=Z,2.2nm,0.6s								

IDC 23 21:30:40.3±2.3, 11.03S×162.73E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/35, mbtmp3.9/5, ML4.3/1, MS3.3/4, Ms1 3.3/4, ms1mx2.9/30, Error ellipse: s-maj=45.6km s-min=36.0km az=105.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.17**	**300**	Pn		Pn	21 31 31.2	-0.2
31nm,0.3s,baz=124,slow=1.9,SNR=15								
HNR				Sn		Sn	21 32 11.0	+1.0
56nm,0.3s,baz=176,slow=19,SNR=4.3								
HNR				LR		LR	21 33 04.7	
comp=Z,258nm,18.8s,baz=133,slow=46								
HNR	**Honiara**	**3.17**	**300**	*eP*		Sn	21 32 06.0	-4.0
CTA	**Charters Tower**	**18.24**	**238**	P		P	21 34 59.0	+3.6
0.3nm,0.3s,baz=65,slow=14,SNR=4.3								
WRA	**Warramunga Arr**	**28.73**	**249**	P		P	21 36 40.5	+0.8
1.4nm,1.0s,baz=79,slow=9.5,SNR=6.3								
ASAR	**Alice Springs**	**30.18**	**242**	P		P	21 36 52.0	-0.6
0.3nm,0.6s,baz=67,slow=10.0,SNR=5.0								
TGY	**Tagaytay City**	**48.38**	**300**	LR		LR	21 59 17.7	
comp=Z,23nm,19.8s,baz=251,slow=36								
JNU	**Nakatsue**	**53.38**	**327**	LR		LR	21 59 47.3	
comp=Z,26nm,19.2s,baz=190,slow=33								
SONM	**Songino Array**	**76.92**	**325**	P		P	21 42 35.0	+0.2
1.9nm,1.1s,baz=132,slow=4.3,SNR=7.0								
MKAR	**Makanchi Array**	**91.49**	**317**	P		P	21 43 48.5	-0.4
0.4nm,0.6s,baz=106,slow=4.8,SNR=2.8								
ZALV	**Zalesovo Beam**	**91.82**	**325**	LR		LR	22 27 31.9	
comp=Z,22nm,18.1s,baz=70,slow=37								

MAN 23 21:30:56.7, 6.06N×124.76E, h0km, mb4.1, ML2.9, MS2.6, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.19**	**81**	⇓*iP*	Pg	21 31 05.8	+5.5
DDMP	**Don Marcelino,**	**0.94**	**87**	*eP*	Pg	21 31 14.4	-0.4
DDMP				*eS*	Sg	21 31 26.9	-0.2
CTBH	**Cotabato--PC H**	**1.27**	**336**	⇓*iP*	Pg	21 31 21.1	+0.1
CTBH				*i* S	Sb	21 31 38.3	0.0
BUKP	**Musuan**	**1.83**	**9**	*eP*	Pn	21 31 29.6	0.0
BUKP				*eS*	Sn	21 31 53.8	+0.3

*KRNET **23** 21:34:17.3±0.1,39°.22N×71°.13E,mb2.9*
*NNC **23** 21:34:27.8±10.0,39°.64N×71°.25E,h0km,mb2.3,mpv2.0,*
Error ellipse: s-maj=103.8km s-min=41.9km az=18.0
ISC 23 21:34:19.9±3.0,**39°.4N**±0°.2×**71°.10E**±0°.08,**h1**km±16km,**n7,**
σ2s06/12,10C-4D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.55**	**79**	⇓*eP*	**Pg**	**21 34 28.9**	**-1.5**
	baz=63						
DRK				⇓*eS*	**Sg**	**21 34 37.4**	**-0.2**
	baz=63						
BTK	**Batken**	**0.72**	**342**	⇑*iP*	**Pg**	**21 34 34.2**	**+0.6**
	baz=44						
BTK				⇑*iS*	**Sb**	**21 34 46.6**	**+1.0**
	baz=44						
SFK	**Sufi-Kurgan**	**1.96**	**70**	⇑P	**Pg**	**21 35 01.4**	**+4.0**
	0.4nm,0.4s						
SFK				⇑S	**Sg**	**21 35 22.9**	**+0.2**
	1.0nm,0.3s						
SFK	**Sufi-Kurgan**	**1.96**	**70**	⇑*iP*	**Pn**	**21 34 54.8**	**+0.4**
	baz=66						
SFK				⇑*iS*	**Sb**	**21 35 21.8**	**+0.3**
	baz=66						
ARSB	**Arslanbob**	**2.42**	**36**	⇑*eP*	**Pn**	**21 35 01.6**	**+0.9**
	baz=33						
ARSB				⇑*iS*	**Sb**	**21 35 34.5**	**-0.1**
	baz=33						
MNAS	**Manas**	**3.28**	**18**	⇑Pn	**Pb**	**21 35 15.5**	**-3.5**
	0.7nm,0.7s						
MNAS				⇓Lg	Lg	21 36 00.3	
	1.1nm,0.7s						
KK31	**Karatay Array**	**3.75**	**353**	⇑Pn	**Pb**	**21 35 26.1**	**-0.8**
	0.3nm,0.6s,baz=177,slow=16,SNR=3.7						
KK31				⇓Lg	Lg	21 36 20.1	
	0.3nm,0.4s,baz=183,slow=29,SNR=5.2						

IDC 23 21:42:29.2±1.9,**55°.41S**×**29°.11W,h0**km,**mb3.8/2,**
mb1 4.0/2,mb1mx3.6/24,mbtmp3.8/2,Error ellipse:
s-maj=85.7km s-min=43.6km az=13.0,South Sandwich
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**49.12**	**307**	P	P	21 51 19.4	+0.3
	2.2nm,0.6s,baz=160,slow=6.7,SNR=8.9						
TORD	**Torodi Ar. Bea**	**73.05**	**31**	P	P	21 54 00.7	-0.1
	0.2nm,0.5s,baz=206,slow=6.4,SNR=4.2						
ILAR	**Eielson Array**	**148.88**	**313**	PKPbc	PKPbc	22 02 15.8	-1.4
	1.4nm,0.8s,baz=132,slow=1.3,SNR=15						
SONM	**Songino Array**	**151.78**	**87**	PKPbc	PKPbc	22 02 25.2	+0.3
	0.4nm,0.6s,baz=209,slow=3.0,SNR=3.9						

*MOS **23** 21:48:18.8±0.0,42°.41N×43°.72E,h15km,MPVA2.7*
*TIF **23** 21:48:18.4,42°.45N×43°.79E,h6km±4km*
*NORS **23** 21:48:19.1±0.0,42°.52N×43°.79E,h15km,MPVA3.1*
ISC 23 21:48:18.9±0.9,**42°.42N**±0°.02×**43°.76E**±0°.04,**h13**km±9km,
n17,σ1s22/33,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.28**	**307**	P	**Pg**	**21 48 24.8**	**0.0**
ONI				S	**Sg**	**21 48 29.1**	**+0.3**
ONI	**Oni**	**0.28**	**307**	*e*Pg	**Pg**	**21 48 24.8**	**0.0**
ONI				*e*Sg	**Sg**	**21 48 29.1**	**+0.3**
DIGR	**Digorskoe uzhe**	**0.49**	**345**	*e*Pg	**Pg**	**21 48 28.1**	**-0.6**
DIGR				*e*Sg	**Sg**	**21 48 35.2**	**-0.2**
GUDG	**Gudauri**	**0.54**	**85**	P	**Pg**	**21 48 29.0**	**-0.4**
GUDG				S	**Sb**	**21 48 37.0**	**-0.9**
LACR	**Lac**	**0.57**	**44**	*i* Pg	**Pg**	**21 48 29.3**	**-0.8**
LACR				*i* Sg	**Sb**	**21 48 37.3**	**-1.5**
KORR	**Kora**	**0.70**	**19**	*e*Pg	**Pb**	**21 48 32.3**	**-0.7**
KORR				*e*Sg	**Sn**	**21 48 43.5**	**-1.8**
ARNR	**Ardon**	**0.85**	**27**	*e*Pg	**Pn**	**21 48 36.7**	**+0.1**
ARNR				*e*Sg	**Sn**	**21 48 49.1**	**+0.2**
LSNR	**Lesken**	**0.86**	**3**	*e*Pg	**Pb**	**21 48 35.3**	**-0.4**
LSNR				*e*Sg	**Sn**	**21 48 48.2**	**-0.9**
TRLG	**Trialeti**	**0.92**	**164**	P	**Pb**	**21 48 36.5**	**-0.2**
TRLG				S	**Sn**	**21 48 50.5**	**-0.3**
VLKR	**Vladikavkaz**	**0.92**	**47**	*i* Pg	**Pn**	**21 48 37.0**	**-0.5**
VLKR				*e*Sg	**Sn**	**21 48 50.2**	**-0.5**
STDR	**Stavd-Durt**	**0.97**	**13**	*e*Pg	**Pn**	**21 48 39.3**	**+1.0**
STDR				*i* Sg	**Sn**	**21 48 53.5**	**+1.5**
AKH	**Akhalkalaki**	**1.03**	**191**	P	**Pb**	**21 48 38.0**	**-0.6**
AKH				S	**Sg**	**21 48 53.1**	**+0.9**
AKH	**Akhalkalaki**	**1.03**	**191**	*e*Pg	**Pb**	**21 48 38.0**	**-0.6**
AKH				*e*Sg	**Sg**	**21 48 53.1**	**+0.9**
KMGR	**Komgaron**	**1.03**	**52**	*e*Pg	**Pn**	**21 48 43.1**	**+4.0**
KMGR				*e*Sg	**Sn**	**21 48 56.3**	**+2.8**
NCK	**Nalchik**	**1.08**	**354**	*e*Pg	**Pg**	**21 48 39.7**	**-0.1**
NCK				*e*Sg	**Sn**	**21 48 55.5**	**+0.9**
NEY	**Neytrino**	**1.12**	**318**	*i* Pg	**Pg**	**21 48 40.8**	**+0.3**
BGD	**Bogdanovka**	**1.16**	**186**	P	**Pn**	**21 48 40.1**	**-0.9**
BGD				S	**Sg**	**21 48 58.0**	**+1.6**

RSNC 23 21:55:02.7±1.1,**2°.77N**×**79°.53W,h4**km±19km,**ML2.8,**
Mw3.6,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRGC	**Isla de Gorgon**	**1.38**	**80**	*eP*	Pn	21 55 26.1	-2.7
GRGC				*i*		21 55 26.7	
	comp=Z,39nm,0.1s						
GRGC				*eS*	Sb	21 55 45.3	-1.8
MALC	**Bahia Malaga**	**2.52**	**61**	*eP*	Pn	21 55 42.8	-1.6
GCUF	**Volcan Galeras**	**2.67**	**125**	*eP*	Pn	21 55 45.2	-1.8
GCUF				*eS*	Sn	21 56 18.8	-1.2
GCUF				*i*		21 56 20.6	
	comp=N,36nm,0.2s						
CRUC	**La Cruz**	**2.84**	**115**	*eP*	Pn	21 55 48.6	-0.6
CRUC				*i*		21 55 49.5	
	comp=Z,31nm,0.3s						
POPC	**Popayan, Colom**	**2.86**	**95**	*eP*	Pn	21 55 47.4	-2.0
SOTA	**Rioblanco**	**2.99**	**102**	*eP*	Pn	21 55 50.8	-0.6
SOTA				*i*		21 55 52.4	
	comp=Z,34nm,0.2s						
SOTA				*eS*	Sn	21 56 27.3	-0.6
PCON	**Cinco Dias**	**3.16**	**98**	*eP*	Pn	21 55 53.7	-0.1
PCON				*i*		21 55 55.7	
	comp=Z,93nm,0.2s						

*ISK **23** 21:57:53.9,37°.29N×37°.10E,h12km,ML2.3/3*
*DDA **23** 21:57:55.1,37°.37N×37°.20E,h7km,Ml2.8*
ISC 23 21:57:54.4±1.0,**37°.32N**±0°.04×**37°.12E**±0°.03,**h10**km±8km,
n12,σ0s54/20,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.16**	**152**	PG	**Pg**	**21 57 57.7**	**-0.3**
GAZ				SG	**Sg**	**21 58 00.5**	**+0.1**
KUZU	**Kuzuini**	**0.54**	**184**	*i* P	**Pg**	**21 58 05.9**	**+0.9**
KUZU				*i* S	**Sn**	**21 58 16.9**	**-0.6**
ANDN	**Andirin**	**0.67**	**293**	*i* P	**Pg**	**21 58 07.0**	**-0.4**
ANDN				*i* S	**Sn**	**21 58 20.1**	**-0.6**
KOZT	**Kozan**	**1.04**	**279**	PG	**Pg**	**21 58 14.1**	**-0.3**
KOZT				SG	**Sg**	**21 58 28.7**	**+0.7**
SAIM	**ADANA**	**1.05**	**309**	*i* P	**Pb**	**21 58 15.1**	**+0.3**
SAIM				*i* S	**Sn**	**21 58 30.4**	**+0.2**
AKCD	**Akcadag**	**1.17**	**33**	*i* P	**Pg**	**21 58 16.2**	**-0.6**
AKCD				*i* S	**Sb**	**21 58 31.8**	**-0.3**
TAHT	**Tahtakopru-Hat**	**1.20**	**219**	PN	**Pn**	**21 58 16.6**	**-0.7**
SURC	**SANLIURFA_SURC**	**1.27**	**110**	*i* P	**Pg**	**21 58 18.9**	**0.0**
SURC				*i* S	**Sn**	**21 58 35.7**	**+0.2**
DARE	**Darende-Malaty**	**1.29**	**13**	PN	**Pb**	**21 58 18.7**	**-0.1**
DARE				SN	**Sn**	**21 58 36.7**	**+0.7**
URFA	**Urfa**	**1.36**	**84**	PN	**Pb**	**21 58 19.7**	**-0.4**
BNN	**Bunyan**	**1.83**	**327**	PN	**Pn**	**21 58 26.5**	**+0.4**
PTK	**Pertek**	**2.39**	**48**	PN	**Pn**	**21 58 34.4**	**+0.6**

*ISCJB **23** 22:03:47.5±0.3,23°.81N×0°.01×121°.89E±0°.01,h26km±2km,*
Error ellipse: s-maj=2.7km s-min=1.8km az=140.7
*JMA **23** 22:03:47.3±0.1,23°.80N×121°.85E,h27km±4km,M3.6*
*TAP **23** 22:03:48.3,23°.83N×121°.82E,h36km,ML4.0,B*
ISC 23 22:03:47.8±0.9,**23°.81N**±0°.02×**121°.84E**±0°.02,**h32**km±9km,
n115,σ0s56/179,12C-24D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.27**	**307**	⇑*iP*	**Pn**	**22 03 55.8**	**+0.2**
	baz=302						
TWD	**Chiawan**	**0.35**	**320**	⇑*iP*	**Pn**	**22 03 56.4**	**-0.2**
	baz=318						
TWD				*i* S	**Sn**	**22 04 02.2**	**-0.2**
	baz=318						
ESL	**Shilin**	**0.37**	**270**	⇑*iP*	**Pn**	**22 03 56.7**	**-0.3**
	baz=263						
ESL				S	**Sn**	**22 04 02.7**	**-0.4**
	baz=263						
EGFH	**Guangfu**	**0.40**	**249**	⇑P	**Pn**	**22 03 57.4**	**0.0**
	baz=245						
EGFH				*eS*	**Sn**	**22 04 04.6**	**+0.7**
	baz=245						
NACB	**Ninganchiao**	**0.42**	**328**	⇑P	**Pb**	**22 03 57.2**	**0.0**
	baz=330						
NACB				S	**Sb**	**22 04 03.5**	**-0.2**
	baz=330						
HGSD	**Ruisui**	**0.50**	**230**	⇑P	**Pn**	**22 03 58.5**	**-0.1**
	baz=221						
EHY	**Hungye**	**0.56**	**237**	P	**Pb**	**22 03 59.3**	**-0.1**
	baz=246						
EHY				*eS*	**Sb**	**22 04 07.2**	**-0.2**
	baz=246						
NANB	**Nanao**	**0.62**	**352**	⇑P	**Pb**	**22 04 00.1**	**-0.1**
	baz=345						
NANB				*eS*	**Sb**	**22 04 08.8**	**0.0**
	baz=345						
ENA	**Nanau**	**0.62**	**352**	⇑*iP*	**Pb**	**22 04 00.1**	**-0.2**
	baz=345						
ENA				*eS*	**Sb**	**22 04 08.6**	**-0.2**
	baz=345						
WHF	**Hehuan Shan**	**0.62**	**302**	⇓P	**Pb**	**22 04 00.4**	**-0.2**
	baz=302						
WHF				S	**Sb**	**22 04 09.1**	**-0.2**
	baz=302						
VWDT	**VWDT**	**0.64**	**265**	⇓P	**Pn**	**22 04 01.0**	**+0.4**
	baz=263						
VWDT				S	**Sn**	**22 04 09.5**	**-0.2**
	baz=263						
YULB	**Yu-li**	**0.65**	**230**	P	**Pb**	**22 04 00.6**	**-0.3**
	baz=239						
YULB				*eS*	**Sb**	**22 04 09.2**	**-0.5**
	baz=239						
CHGB	**Renai**	**0.66**	**292**	⇑P	**Pn**	**22 04 01.2**	**+0.1**
	baz=291						
CHGB				S	**Sb**	**22 04 09.8**	**-0.3**
	baz=291						
TWF1	**Yuli**	**0.68**	**227**	*eP*	**Pb**	**22 04 01.1**	**-0.2**
	baz=237						
TWF1				S	**Sb**	**22 04 10.1**	**-0.3**
	baz=237						
NNSB	**Datong**	**0.74**	**326**	⇓P	**Pn**	**22 04 02.2**	**0.0**
	baz=319						
NNSB				S	**Sb**	**22 04 11.9**	**-0.4**
	baz=319						
TWT	**Tachien**	**0.75**	**306**	P	**Pb**	**22 04 02.7**	**+0.1**
	baz=305						
TWT				S	**Sb**	**22 04 12.3**	**-0.3**
	baz=305						
NNS	**Nan Shan**	**0.76**	**326**	⇓*iP*	**Pn**	**22 04 02.4**	**0.0**
	baz=319						
NNS				S	**Sb**	**22 04 12.3**	**-0.5**
	baz=319						
TDCB	**Techi**	**0.76**	**305**	⇓P	**Pb**	**22 04 02.8**	**0.0**
	baz=305						
TDCB				S	**Sb**	**22 04 12.3**	**-0.6**
	baz=305						
EOS1	**EOS1**	**0.78**	**20**	*eP*	**Pb**	**22 04 03.3**	**+0.4**
	baz=33						
TWC	**Suao**	**0.79**	**1**	P	**Pb**	**22 04 03.1**	**-0.1**
	baz=14						
TWC				*eS*	**Sb**	**22 04 13.8**	**+0.1**
	baz=14						
SSLB	**Suanglung**	**0.81**	**268**	⇓*eP*	**Pn**	**22 04 03.1**	**+0.1**
	baz=266						
ENTT	**Nioudou**	**0.86**	**343**	P	**Pn**	**22 04 04.0**	**+0.3**
	baz=345						
ENTT				*eS*	**Sb**	**22 04 15.4**	**-0.1**
	baz=345						
SMLT	**Sun Moon Lake**	**0.86**	**275**	⇓*iP*	**Pb**	**22 04 04.3**	**-0.1**
	baz=274						
SMLT				S	**Sn**	**22 04 15.5**	**+0.1**
	baz=274						
YUS	**Yu-Shan**	**0.87**	**249**	P	**Pb**	**22 04 04.7**	**-0.2**
	baz=246						
YUS				S	**Sn**	**22 04 15.5**	**-0.7**
	baz=246						
TYC	**Yuchr**	**0.90**	**276**	⇓*iP*	**Pb**	**22 04 04.8**	**-0.2**
	baz=280						
TYC				*eS*	**Sb**	**22 04 16.9**	**+0.2**
	baz=280						
TWE	**Neicheng**	**0.92**	**350**	⇑P	**Pb**	**22 04 05.0**	**-0.3**
	baz=345						
ILA	**Ilan**	**0.95**	**355**	*eP*	**Pb**	**22 04 06.1**	**+0.2**
	baz=350						
YHNB	**Yeheng**	**0.95**	**334**	⇓P	**Pn**	**22 04 05.4**	**+0.4**
	baz=334						
YHNB				*eS*	**Sn**	**22 04 16.3**	**-1.3**
	baz=334						
NSK	**Sanguang**	**0.96**	**333**	⇓P	**Pn**	**22 04 05.5**	**+0.3**
	baz=334						
NSK				*eS*	**Sn**	**22 04 17.1**	**-0.7**
	baz=334						
ELDTW	**Lidau**	**0.98**	**231**	*eP*	**Pn**	**22 04 05.1**	**-0.3**
	baz=227						
ALS	**Alishan**	**0.99**	**253**	⇓*iP*	**Pb**	**22 04 06.8**	**0.0**
	baz=251						
ALS				S	**Sn**	**22 04 18.8**	**-0.1**
	baz=251						
WJS	**Zhushan**	**1.02**	**271**	*eP*	**Pb**	**22 04 07.4**	**+0.4**
	baz=269						
WJS				*eS*	**Sb**	**22 04 21.1**	**+1.1**
	baz=269						
EGS		**1.03**	**5**	*eP*	**Pb**	**22 04 07.3**	**+0.1**
	baz=8.0						
NTC	**Toucheng**	**1.04**	**360**	*eP*	**Pb**	**22 04 07.1**	**-0.2**
	baz=2.0						
WNT	**Mingjian**	**1.06**	**274**	⇓P	**Pb**	**22 04 08.1**	**+0.5**
	baz=273						
WNT				*eS*	**Sb**	**22 04 21.9**	**+0.8**
	baz=273						
CHN5	**Tsauling**	**1.08**	**259**	⇓P	**Pb**	**22 04 08.3**	**+0.1**
	baz=257						
TWQ1	**Liyutan**	**1.11**	**299**	⇓*iP*	**Pb**	**22 04 08.9**	**+0.4**
	baz=298						
TWQ1				*eS*	**Sb**	**22 04 23.1**	**+0.4**
	baz=298						
TCU	**Taichung**	**1.11**	**288**	*eP*	**Pb**	**22 04 09.2**	**+0.6**
	baz=286						
NSTT	**Nanjuang**	**1.12**	**317**	⇓*iP*	**Pb**	**22 04 08.9**	**+0.3**
	baz=317						
NSTT				S	**Sb**	**22 04 22.7**	**-0.2**
	baz=317						
LIOB	**Emei**	**1.12**	**318**	⇓P	**Pb**	**22 04 09.0**	**+0.3**
	baz=318						
LIOB				*eS*	**Sb**	**22 04 23.1**	**+0.2**
	baz=318						
NSY	**Sanyi**	**1.15**	**302**	*eP*	**Pb**	**22 04 09.6**	**+0.3**
	baz=301						
NSY				*eS*	**Sb**	**22 04 24.6**	**+0.7**
	baz=301						
TIPB	**Shuangxi**	**1.15**	**359**	*eP*	**Pb**	**22 04 08.9**	**-0.3**
	baz=16						
WLTB	**Daxi**	**1.16**	**333**	*eP*	**Pb**	**22 04 09.4**	**0.0**
	baz=342						
WLTB				*eS*	**Sb**	**22 04 24.4**	**+0.2**
	baz=342						
WGK	**Gukeng**	**1.18**	**264**	*eP*	**Pb**	**22 04 09.0**	**-0.6**
	baz=262						
STYT	**Tauyuan**	**1.19**	**237**	*eP*	**Pb**	**22 04 09.5**	**-0.3**
	baz=235						
STYT				*eS*	**Sn**	**22 04 24.0**	**+0.7**
	baz=235						
TWA	**Mucha**	**1.19**	**349**	*eP*	**Pb**	**22 04 09.3**	**-0.5**
	baz=341						
TWA				*eS*	**Sb**	**22 04 24.3**	**-0.5**
	baz=341						
JYNG	**Yonagunijimaku**	**1.19**	**58**	P	**Pb**	**22 04 09.2**	**-0.7**
JYNG				*eS*	**Sn**	**22 04 24.2**	**+0.8**
NMLH	**Miaoli**	**1.20**	**307**	*eP*	**Pb**	**22 04 09.9**	**-0.1**
	baz=306						
TWB1	**Santiao Chiao**	**1.20**	**7**	*eP*	**Pb**	**22 04 09.4**	**-0.5**
	baz=9.0						
TWB1				*eS*	**Sb**	**22 04 25.0**	**-0.1**
	baz=9.0						
WDLH	**Douliu**	**1.20**	**264**	*eP*	**Pb**	**22 04 10.1**	**+0.2**
	baz=263						
TATO	**Taipei**	**1.20**	**345**	*eP*	**Pb**	**22 04 09.2**	**-0.8**
	baz=346						
TATO				*eS*	**Sb**	**22 04 24.5**	**-0.7**
	baz=346						
WCHH	**Zhanghua**	**1.20**	**283**	*eP*	**Pb**	**22 04 10.5**	**+0.5**
	baz=282						
WCHH				*eS*	**Sb**	**22 04 26.8**	**+1.5**
	baz=282						
PTSB	**Yuanli**	**1.21**	**302**	*eP*	**Pb**	**22 04 09.9**	**-0.3**
	baz=301						
PTSB				*eS*	**Sb**	**22 04 25.8**	**+0.2**
	baz=301						
TWG	**Pinlang**	**1.21**	**216**	*eP*	**Pn**	**22 04 08.0**	**-0.5**
	baz=212						
TPUB	**Ta-pu**	**1.22**	**246**	*eP*	**Pb**	**22 04 10.0**	**-0.4**
	baz=244						
TPUB				*eS*	**Sb**	**22 04 26.6**	**+0.7**
	baz=244						
CHN4	**Tsaushan**	**1.23**	**248**	⇓*eP*	**Pb**	**22 04 10.3**	**-0.2**
	baz=247						
CHN4				*eS*	**Sb**	**22 04 27.6**	**+1.4**
	baz=247						
SBCB	**Hsinchu**	**1.25**	**322**	*eP*	**Pb**	**22 04 10.5**	**-0.3**
	baz=330						
YOJ	**Yonaguni jima**	**1.25**	**59**	*eP*	**Pn**	**22 04 09.1**	**+0.1**
	baz=61						
YOJ				*eS*	**Sn**	**22 04 25.1**	**+0.3**
	baz=61						
YOJ	**Yonaguni jima**	**1.25**	**59**	P	**Pn**	**22 04 09.9**	**+0.9**
YOJ				*eS*	**Sn**	**22 04 25.1**	**+0.3**
NWF	**Wu-fen Shan**	**1.25**	**358**	*eP*	**Pb**	**22 04 10.4**	**-0.5**
	baz=346						
NWF				*eS*	**Sb**	**22 04 26.4**	**-0.5**
	baz=346						
WFSB	**Wu-fen Shan**	**1.25**	**358**	*eP*	**Pb**	**22 04 10.6**	**-0.4**
	baz=346						
WFSB				*eS*	**Sb**	**22 04 26.7**	**0.0**
	baz=346						
WTP	**Ta-pu**	**1.26**	**244**	⇓P	**Pb**	**22 04 10.8**	**-0.2**
	baz=242						
WTP				*eS*	**Sb**	**22 04 26.5**	**-0.4**
	baz=242						
CHN2	**Minshiung**	**1.28**	**258**	*eP*	**Pb**	**22 04 11.8**	**+0.5**
	baz=257						
CHN2				*eS*	**Sb**	**22 04 29.0**	**+1.5**
	baz=257						
NCUH	**Zhongli**	**1.29**	**333**	*eP*	**Pb**	**22 04 10.8**	**-0.8**
	baz=333						
NCUH				*eS*	**Sb**	**22 04 28.7**	**+0.8**
	baz=333						
NCU	**National Centr**	**1.29**	**333**	*eP*	**Pb**	**22 04 11.0**	**-0.6**
	baz=334						
NCU				*eS*	**Sb**	**22 04 28.1**	**+0.1**
	baz=334						
CHY	**Chiayi**	**1.33**	**257**	*eP*	**Pb**	**22 04 12.4**	**+0.2**
	baz=255						
TWS1	**Kuangyinshan**	**1.34**	**343**	⇑*eP*	**Pb**	**22 04 11.3**	**-1.1**
	baz=345						
TWS1				*eS*	**Sb**	**22 04 28.4**	**-0.8**
	baz=345						
YM01	**YM01**	**1.35**	**350**	⇓*eP*	**Pb**	**22 04 12.2**	**-0.3**
	baz=335						
TWK	**Hsinying**	**1.35**	**247**	⇓P	**Pb**	**22 04 12.4**	**-0.2**
	baz=245						
TWK				S	**Sb**	**22 04 29.8**	**+0.2**
	baz=245						
CHN1	**Nanshi**	**1.36**	**243**	*eP*	**Pb**	**22 04 12.2**	**-0.4**
	baz=241						
CHN1				*eS*	**Sb**	**22 04 30.1**	**+0.4**
	baz=241						
RLNB	**Erlin**	**1.36**	**274**	⇓P	**Pb**	**22 04 12.4**	**-0.2**
	baz=264						
RLNB				*eS*	**Sb**	**22 04 29.0**	**-0.7**
	baz=264						
YM10	**YM10**	**1.36**	**349**	*eP*	**Pn**	**22 04 11.4**	**+0.8**
	baz=336						
YM04	**YM04**	**1.36**	**348**	⇑*eP*	**Pn**	**22 04 11.4**	**+0.8**
	baz=350						
SGST	**Jiashian**	**1.36**	**238**	⇓*eP*	**Pb**	**22 04 12.6**	**-0.2**
	baz=236						
SGST				*eS*	**Sb**	**22 04 30.6**	**+0.7**
	baz=236						
YM05	**YM05**	**1.37**	**350**	*eP*	**Pn**	**22 04 11.3**	**+0.5**
	baz=337						
YM11	**YM11**	**1.37**	**350**	*eP*	**Pn**	**22 04 11.3**	**+0.6**
	baz=336						
YM07	**YM07**	**1.37**	**352**	*eP*	**Pn**	**22 04 11.4**	**+0.6**
	baz=337						
YM03	**YM03**	**1.39**	**349**	*eP*	**Pn**	**22 04 11.5**	**+0.5**
	baz=350						
YM08	**YM08**	**1.39**	**351**	*eP*	**Pn**	**22 04 11.2**	**+0.2**
	baz=336						
WTCT	**Ta-ch'eng**	**1.43**	**272**	*eP*	**Pb**	**22 04 13.3**	**-0.6**
	baz=271						
WTCT				S	**Sb**	**22 04 32.0**	**+0.3**
	baz=271						
WLGB	**Puzi**	**1.45**	**257**	*eP*	**Pn**	**22 04 12.4**	**+0.6**
	baz=255						
WMLT	**Mailiao**	**1.48**	**270**	*eP*	**Pb**	**22 04 14.2**	**-0.5**
	baz=268						
WSF	**Szhu**	**1.49**	**264**	*eP*	**Pb**	**22 04 13.9**	**-1.0**
	baz=263						
WSF				*eS*	**Sb**	**22 04 33.8**	**+0.3**
	baz=263						
SSD	**Sandimen**	**1.54**	**226**	*eP*	**Pb**	**22 04 14.6**	**-1.1**
	baz=217						
CHN8	**Yiju**	**1.56**	**253**	*eP*	**Pb**	**22 04 14.8**	**-1.3**
	baz=252						
CHN8				*eS*	**Sb**	**22 04 34.6**	**-1.0**
	baz=252						
MASBT	**Mashibuluo**	**1.63**	**223**	*eP*	**Pn**	**22 04 14.9**	**+0.6**
	baz=218						
MASBT				*eS*	**Sb**	**22 04 37.6**	**+0.1**
	baz=218						
TWM1	**Shoushan**	**1.63**	**233**	*eP*	**Pb**	**22 04 17.0**	**-0.3**
	baz=230						
EAST	**Anshuo**	**1.69**	**213**	*eP*	**Pn**	**22 04 15.1**	**-0.1**
	baz=198						
IRIF	**Iriomote-Funau**	**1.81**	**73**	P	**Pn**	**22 04 17.4**	**+0.7**
HATJ	**Hateruma jima**	**1.82**	**82**	P	**Pn**	**22 04 17.5**	**+0.7**
HATJ				*eS*	**Sn**	**22 04 39.1**	**+0.4**
SCZT	**Fangliau**	**1.82**	**218**	*eP*	**Pb**	**22 04 18.9**	**-1.6**
	baz=208						
JKRS	**Kuro-shima**	**2.03**	**78**	P	**Pn**	**22 04 21.1**	**+1.3**
JKRS				S	**Sn**	**22 04 45.4**	**+1.4**
WDGT	**Dungji**	**2.07**	**255**	*eP*	**Pn**	**22 04 20.7**	**+0.4**
	baz=253						
TWKBT	**Hengchun**	**2.09**	**207**	*eP*	**Pn**	**22 04 20.3**	**-0.3**
	baz=194						
PHUB	**P'eng-hu**	**2.10**	**262**	P	**Pn**	**22 04 21.8**	**+1.1**
	baz=248						
PHUB				*eS*	**Sn**	**22 04 46.2

JIKM	**Ikemajima**	**3.30**	**70**	S	**Sn**	**22 05 15.1**	**-0.3**
LYJJ	**Jianjiangzhen** baz=334	**3.31**	**326**	*e*P	**Pn**	**22 04 37.4**	**0.0**
JOGS	**Gusukube**	**3.39**	**73**	S	**Sn**	**22 05 17.4**	**-0.2**
MHZQ	**Yeshan** baz=310	**3.42**	**312**	*e*P	**Pn**	**22 04 39.0**	**+0.1**
XPSS	**Dashiqiu** baz=332	**3.44**	**335**‖	*e*P	**Pn**	**22 04 38.8**	**-0.4**
AXDP	**Jialang** baz=286	**3.69**	**288**	*e*P	**Pn**	**22 04 42.9**	**+0.3**
ZPLA	**Ao Xicun** baz=271	**3.74**	**273**	*e*P	**Pn**	**22 04 44.0**	**+0.6**
ZZJH	**Jiuhuzhen** baz=279	**3.90**	**280**	*e*P	**Pn**	**22 04 45.9**	**+0.4**

*ISCJB **23** 22:15:52.3±0.5, 17°.25S±0°.07×173°.88W±0°.08, h10km, mb4.2/15, MS3.2/3, Error ellipse: s-maj=13.1km s-min=7.7km az=39.3*

*IDC **23** 22:15:52.9±0.6, 17°.27S×173°.82W, h0km, mb4.2/10, mb1 4.4/12, mb1mx4.1/37, mbtmp4.1/12, ML3.8/2, MS3.2/6, Ms1 3.2/6, ms1mx3.0/35, Error ellipse: s-maj=26.6km s-min=15.4km az=139.0*

*NEIC **23** 22:15:53.7±0.4, 17°.32S×173°.74W, h10km, mb4.5/5, Error ellipse: s-maj=11.4km s-min=9.1km az=147.0*

ISC 23 22:15:53.3±0.5, 17°.24S±0°.07×173°.70W±0°.08, h10km, n38, σ2℘07/32, mb4.2/15, MS3.2/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.80**	**30**	Pn	**Pn**	**22 16 53.4**	**+1.4**
	9.6nm,0.3s,baz=78,slow=9.6,SNR=7.7						
AFI				Sn	**Sn**	**22 17 31.0**	**-5.8**
	34nm,0.3s,baz=41,slow=22,SNR=12						
AFI				LR	LR	22 18 10.0	
	comp=Z,130nm,21.3s,baz=206,slow=35						
AFI	**Afiamalu**	**3.80**	**30**	*e*Pn	**Pn**	**22 16 53.6**	**+1.6**
AFI				*e*Pg	**Pg**	**22 17 08.9**	**+2.7**
AFI				S	**Sn**	**22 17 31.2**	**-5.6**
FUNA	**Funafuti**	**11.09**	**321**	Pn	**Pn**	**22 18 32.5**	**+0.5**
RAO	**Raoul Island**	**12.56**	**197**	Pn	**Pn**	**22 18 52.8**	**+0.6**
	48nm,0.3s,baz=317,slow=23,SNR=4.5						
RAR	**Rarotonga**	**13.74**	**109**	LR	LR	22 23 18.9	
	comp=Z,61nm,18.6s,baz=271,slow=32						
RAR	**Rarotonga**	**13.74**	**109**	Pn	**Pn**	**22 19 05.4**	**-2.9**
DZM	**Mont Dzumac**	**19.30**	**252**	P	**Pn**	**22 20 17.9**	**-1.8**
	0.2nm,0.3s,baz=120,slow=20,SNR=2.7						
DZM				LR	LR	22 26 41.0	
	comp=Z,171nm,18.1s,baz=72,slow=34						
DZM	**Mont Dzumac**	**19.30**	**252**	*e*LR	LR	22 25 20.9	
	401nm,27.4s						
URZ	**Urewera**	**22.43**	**199**	P	**P**	**22 20 52.2**	**-0.2**
	3.7nm,0.3s,baz=316,slow=2.8,SNR=9.6						
PPT2	**Papeete2**	**23.02**	**94**	*e*LR	LR	22 26 15.4	
	117nm,26.0s						
PPT	**Papeete**	**23.02**	**94**	P	**P**	**22 20 59.9**	**+1.1**
	14nm,0.6s,baz=350,slow=12,SNR=1.5						
PPT				LR	LR	22 27 24.2	
	comp=Z,51nm,20.3s,baz=6.5,slow=30						
TBI	**Tubuai**	**23.52**	**109**	*e*T	T	22 44 39.9	
	4.7nm,0.3s						
CTAO	**Charters Tower**	**37.98**	**259**	*e*P	**P**	**22 23 10.7**	**-1.0**
	4.5nm,0.4s						
H11S2	**WAKE ISLAND Hy**	**40.40**	**331**	T	T	23 06 30.5	
	baz=150						
H11S3	**WAKE ISLAND Hy**	**40.41**	**331**	T	T	23 06 38.6	
	baz=150						
H11S1	**WAKE ISLAND Hy**	**40.42**	**331**	T	T	23 06 26.1	
	baz=150						
H11N3	**WAKE ISLAND Hy**	**41.37**	**332**	T	T	23 07 57.8	
	baz=151						
H11N1	**WAKE ISLAND Hy**	**41.38**	**332**	T	T	23 07 58.5	
	baz=151						
H11N2	**WAKE ISLAND Hy**	**41.39**	**332**	T	T	23 07 49.8	
	baz=151						
STKA	**Stephens Creek**	**42.89**	**242**	P	**P**	**22 23 52.3**	**+0.1**
	0.8nm,0.4s,baz=98,slow=7.7,SNR=4.8						
WRAB	**Tennant Creek**	**49.15**	**258**	*e*P	**P**	**22 24 41.0**	**-0.8**
	1.4nm,0.6s						
WRA	**Warramunga Arr**	**49.16**	**258**	P	**P**	**22 24 41.1**	**-0.7**
	1.9nm,0.4s,baz=97,slow=6.7,SNR=30						
WRA				PcP	**PcP**	**22 26 06.0**	**+0.7**
	0.5nm,0.7s,baz=96,slow=3.1,SNR=3.5						
ASAR	**Alice Springs**	**49.28**	**253**	P	**P**	**22 24 42.6**	**-0.2**
	18nm,0.6s,baz=88,slow=8.5,SNR=222						
ASAR				PcP	**PcP**	**22 26 06.5**	**+0.9**
	1.1nm,0.6s,baz=109,slow=3.4,SNR=4.8						
VNDA	**Vanda**	**61.52**	**186**	P	**P**	**22 26 11.5**	**+1.5**
	1.2nm,0.8s,baz=21,slow=5.9,SNR=3.2						
MBWA	**Marble Bar**	**62.58**	**255**	P	**P**	**22 26 18.0**	**-0.1**
	3.3nm,0.6s						
NWAO	**Narrogin (SRO)**	**63.48**	**241**	P	**P**	**22 26 21.6**	**-2.2**
	3.6nm,0.5s						
CASY	**Casey**	**68.62**	**205**	P	**P**	**22 26 56.9**	**+0.6**
	0.4nm,0.5s						
MJAR	**Matsushiro Arr**	**70.16**	**320**	LR	LR	22 52 10.8	
	comp=Z,15nm,21.6s,baz=340,slow=31						
PETK	**Petropavlovsk-**	**74.29**	**343**	LR	LR	22 58 24.7	
	comp=Z,25nm,19.7s,baz=54,slow=34						
NVAR	**Mina Array Bea**	**75.89**	**42**	P	**P**	**22 27 41.4**	**+0.9**
	1.3nm,0.8s,baz=224,slow=9.3,SNR=9.4						
TXAR	**Lajitas Array**	**81.88**	**56**	P	**P**	**22 28 15.5**	**+2.1**
	0.3nm,0.4s,baz=213,slow=6.5,SNR=3.6						
ILAR	**Eielson Array**	**84.30**	**11**	P	**P**	**22 28 27.1**	**+2.1**
	0.9nm,1.0s,baz=225,slow=6.8,SNR=5.9						
CMAR	**Chiang Mai Arr**	**92.91**	**288**	P	**P**	**22 29 08.0**	**+0.8**
	0.4nm,0.8s,baz=107,slow=4.8,SNR=3.8						
KMBO	**Kilima Mbogo**	**144.45**	**242**	PKP	**PKPdf**	**22 35 31.4**	**+0.1**
	1.4nm,0.6s,baz=72,slow=5.6,SNR=8.2						
KMBO	**Kilima Mbogo**	**144.45**	**242**	PKP	**PKPdf**	**22 35 31.4**	**+0.1**
KMBO				*e*PKPdf	**pPKPdf**	**22 35 31.6**	**-3.2**
CLL	**Collm**	**145.59**	**353**	*e*PKPbc	**PKPab**	**22 35 32.0**	**-0.2**
BRTR	**Keskin Array B**	**147.37**	**319**	PKPbc	**PKPab**	**22 35 39.0**	**-0.7**
	1.8nm,0.9s,baz=131,slow=3.4,SNR=7.5						
GERES	**GERESS Array B**	**147.91**	**351**	PKPbc	**PKPab**	**22 35 40.1**	**-1.3**
	0.7nm,0.6s,baz=20,slow=4.3,SNR=6.1						

*IDC **23** 22:28:57.3±0.6, 37°.15N×143°.74E, h0km, mb3.9/14, mb1 4.2/19, mb1mx4.0/37, mbtmp4.0/19, ML4.1/4, MS3.1/6, Ms1 3.1/6, ms1mx2.8/39, Error ellipse: s-maj=18.0km s-min=14.8km az=103.0*

*ISCJB **23** 22:29:00.5±0.4, 37°.25N±0°.03×143°.60E±0°.04, h33km, mb4.0/18, MS3.8/2, Error ellipse: s-maj=4.5km s-min=4.1km az=168.2*

*NIED **23** 22:29:00, 37°.30N×143°.50E, h5km, Mw3.9 Best double couple: M0 8.63000×10^14 NP1:φs 61.00000°, δ29.00000°, λ-95.00000°. NP2:φs 246.00000°, δ61.00000°, λ-87.00000°.*

*NEIC **23** 22:29:02.5±0.4, 37°.24N×143°.66E, h35km, mb4.3/4, Error ellipse: s-maj=7.8km s-min=6.8km az=79.0*

*JMA **23** 22:29:02.1±0.2, 37°.30N×143°.51E, h68km, M4.1*

ISC 23 22:29:02.4±0.6, 37°.26N±0°.04×143°.63E±0°.06, h35km, n59, σ1℘93/71, mb4.1/18, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakibobu**	**2.01**	**302**	P	**Pn**	**22 29 33.1**	**-0.7**
JIKH				*e*S	**Sn**	**22 29 56.4**	**-1.2**
JIO	**Ouri**	**2.16**	**304**	P	**Pn**	**22 29 35.4**	**-0.5**
JIO				*e*S	**Sn**	**22 30 00.0**	**-1.4**
JFK	**Kawauchi**	**2.20**	**274**	P	**Pn**	**22 29 36.0**	**-0.4**
JFK				*e*S	**Sn**	**22 30 00.9**	**-1.5**
ONAJ	**Iwakimizuishiy**	**2.27**	**267**	P	**Pn**	**22 29 36.4**	**-1.0**
ONAJ				*e*S	**Sn**	**22 30 02.1**	**-2.0**
JKMT	**Kesennumamotoy**	**2.30**	**313**	P	**Pn**	**22 29 37.1**	**-0.7**
JKMT				S	**Sn**	**22 30 03.0**	**-1.8**
JMM	**Marumori**	**2.33**	**286**	P	**Pn**	**22 29 37.6**	**-0.6**
JMM				*e*S	**Sn**	**22 30 04.3**	**-1.3**
JMK	**Ichinoseki**	**2.54**	**312**	P	**Pn**	**22 29 40.5**	**-0.6**
JMK				*e*S	**Sn**	**22 30 08.9**	**-1.9**
JFT	**Otama**	**2.63**	**277**	P	**Pn**	**22 29 42.9**	**+0.5**
JFT				*e*S	**Sn**	**22 30 12.9**	**-0.2**
JOM	**Ohasama**	**2.87**	**321**	P	**Pn**	**22 29 45.1**	**-0.5**
JOM				*e*S	**Sn**	**22 30 17.6**	**-1.3**
JYK	**Kaneyama**	**3.06**	**304**	P	**Pn**	**22 29 48.7**	**+0.4**
BSO1	**Boso 1**	**3.38**	**220**	P	**Pn**	**22 29 50.9**	**-1.2**
JAG	**Ashikaga**	**3.45**	**257**	P	**Pn**	**22 29 53.5**	**-0.1**
JAG				*e*S	**Sn**	**22 30 31.7**	**-1.6**
JANG	**Nango**	**3.52**	**333**	P	**Pn**	**22 29 53.8**	**-0.7**
JANG				*e*S	**Sn**	**22 30 32.0**	**-2.9**
JRY	**Ryogami san**	**4.00**	**253**	P	**Pn**	**22 30 00.7**	**-0.5**
JRY				*e*S	**Sn**	**22 30 43.8**	**-3.1**
JOD2	**Odawara 2**	**4.18**	**243**	P	**Pn**	**22 30 03.3**	**-0.3**
JOD2				*e*S	**Sn**	**22 30 48.1**	**-3.1**
MJAR	**Matsushiro Arr**	**4.40**	**262**	Pn	**Pn**	**22 30 07.7**	**+1.0**
	6.5nm,0.3s,baz=89,slow=14,SNR=28						
MJAR				Sn	**Sn**	**22 30 58.2**	**+1.4**
	1.9nm,0.3s,baz=85,slow=8.9,SNR=4.7						
MJAR				LR	LR	22 32 16.3	
	comp=Z,80nm,18.1s,baz=80,slow=45						
MAJO	**Matsushiro**	**4.40**	**262**	*e*Pn	**Pn**	**22 30 06.6**	**-0.2**
MAT	**Matsushiro**	**4.40**	**262**	P	**Pn**	**22 30 08.1**	**+1.3**
MAT				S	**Sn**	**22 30 57.8**	**+1.0**
ERM	**Erimo**	**4.76**	**356**	*e*Pn	**Pn**	**22 30 10.4**	**-1.2**
JKB	**Kayabe**	**5.03**	**337**	P	**Pn**	**22 30 15.3**	**-0.1**
JKB				*e*S	**Sn**	**22 31 08.0**	**-4.3**
JHJ2	**Mitsune**	**5.18**	**218**	P	**Pn**	**22 30 15.2**	**-2.3**
JHJ2				*e*S	**Sn**	**22 31 10.0**	**-6.1**
JHJ	**Hachijo jima 2**	**5.20**	**218**	Pn	**Pn**	**22 30 15.2**	**-2.4**
	40nm,0.3s,baz=132,slow=23,SNR=11						
JHJ				Sn	**Sn**	**22 31 10.1**	**-6.3**
	44nm,0.3s,baz=79,slow=19,SNR=1.7						
JCH	**Churui**	**5.35**	**358**	P	**Pn**	**22 30 17.9**	**-1.8**
JCH				*e*S	**Sn**	**22 31 14.3**	**-5.7**
ASAJ	**Asahikawa**	**6.89**	**354**	Pn	**Pn**	**22 30 40.2**	**-0.6**
	4.6nm,0.3s,baz=217,slow=9.3,SNR=12						
ASAJ				Sn	**Sn**	**22 31 53.3**	**-4.7**
	2.3nm,0.3s,baz=220,slow=30,SNR=1.8						
USRK	**Ussuriysk Ar.**	**11.22**	**312**	Pn	**Pn**	**22 31 40.1**	**0.0**
	0.2nm,0.3s,baz=122,slow=16,SNR=4.3						
USRK				LR	LR	22 35 31.8	
	comp=Z,83nm,18.4s,baz=0.9,slow=35						
JNU	**Nakatsue**	**11.22**	**252**	LR	LR	22 36 26.6	
	comp=Z,28nm,20.6s,baz=7.5,slow=40						
KSRS	**Korea Array**	**12.50**	**276**	Pn	**Pn**	**22 31 59.7**	**+2.0**
	0.3nm,0.3s,baz=89,slow=14,SNR=3.1						
KSRS				LR	LR	22 37 24.6	
	comp=Z,60nm,18.1s,baz=6.0,slow=40						
KSAR	**Wonju Array Be**	**12.53**	**276**	Pn	**Pn**	**22 31 59.7**	**+1.5**
MDJ	**Mudanjiang**	**12.89**	**309**	Pn	**Pn**	**22 32 03.5**	**+0.4**
KLR	**Kul'dur**	**14.74**	**328**	Pn	**Pn**	**22 32 26.5**	**-1.7**
	0.2nm,0.3s,baz=136,slow=12,SNR=6.4						
MA2	**Magadan**	**22.80**	**9**	P	**P**	**22 34 02.1**	**+0.3**
	5.8nm,0.5s						
GUMO	**Guam**	**23.60**	**177**	P	**P**	**22 34 09.6**	**-0.5**
	3.4nm,0.4s						
SEY	**Seymchan**	**26.25**	**9**	P	**P**	**22 34 35.0**	**+1.1**
	3.0nm,0.8s,baz=200,slow=15,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**26.78**	**124**	T	T	23 01 41.0	
	baz=317,slow=75,SNR=10.0						
H11N1	**WAKE ISLAND Hy**	**26.79**	**124**	T	T	23 01 41.9	
	baz=317,slow=75,SNR=6.6						
H11N3	**WAKE ISLAND Hy**	**26.80**	**124**	T	T	23 02 09.8	
	baz=317,slow=75,SNR=7.5						
H11S1	**WAKE ISLAND Hy**	**27.54**	**126**	T	T	23 02 34.5	
	baz=318,slow=75,SNR=3.7						
H11S3	**WAKE ISLAND Hy**	**27.54**	**126**	T	T	23 02 49.3	
	baz=318,slow=75,SNR=2.5						
H11S2	**WAKE ISLAND Hy**	**27.55**	**126**	T	T	23 02 31.8	
	baz=318,slow=75,SNR=3.9						
SONM	**Songino Array**	**29.13**	**303**	P	**P**	**22 35 01.9**	**+1.8**
	0.9nm,0.9s,baz=102,slow=7.1,SNR=2.8						
ZALV	**Zalesovo Beam**	**43.07**	**312**	P	**P**	**22 36 59.5**	**+0.8**
	0.5nm,0.5s,baz=97,slow=5.8,SNR=3.4						
ZALV				PcP	**PcP**	**22 38 49.1**	**+0.9**
	1.4nm,0.6s,baz=90,slow=3.0,SNR=5.2						
MKAR	**Makanchi Array**	**45.49**	**302**	P	**P**	**22 37 19.5**	**+1.3**
	0.8nm,0.7s,baz=94,slow=9.9,SNR=6.0						
PMG	**Port Moresby**	**46.54**	**175**	P	**P**	**22 37 25.4**	**-1.2**
	1.5nm,0.4s						
KURK	**Kurchatov**	**47.18**	**308**	*e*P	**P**	**22 37 31.9**	**+0.5**
	2.9nm,0.3s						
ILAR	**Eielson Array**	**48.35**	**32**	P	**P**	**22 37 41.0**	**+0.8**
	1.7nm,0.8s,baz=265,slow=6.5,SNR=19						
ARU	**Arti**	**57.35**	**319**	LR	LR	23 05 33.9	
	comp=Z,80nm,19.1s,slow=38						
WRA	**Warramunga Arr**	**57.57**	**190**	P	**P**	**22 38 47.6**	**-1.0**
	1.7nm,0.5s,baz=8.5,slow=7.2,SNR=34						
ASAR	**Alice Springs**	**61.29**	**190**	P	**P**	**22 39 13.9**	**-0.3**
	1.4nm,0.8s,baz=12,slow=6.9,SNR=16						
STKA	**Stephens Creek**	**68.81**	**182**	P	**P**	**22 40 02.5**	**-0.5**
	1.1nm,0.5s,baz=340,slow=9.2,SNR=4.9						
FINES	**FINESS Array B**	**69.42**	**333**	P	**P**	**22 40 07.5**	**+1.0**
	3.5nm,0.8s,baz=38,slow=9.6,SNR=11						
KVAR	**Kislovodsk Arr**	**72.08**	**312**	LR	LR	23 13 44.3	
	comp=Z,59nm,21.3s,baz=96,slow=37						
NVAR	**Mina Array Bea**	**73.43**	**54**	P	**P**	**22 40 31.6**	**+0.2**
	0.5nm,0.7s,baz=282,slow=5.4,SNR=2.9						
NB2	**NORSAR Subarra**	**74.64**	**338**	P	**P**	**22 40 38.8**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**74.64**	**338**	P	**P**	**22 40 38.6**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=38,slow=5.9,SNR=3.7						
PDAR	**Pinedale Array**	**76.23**	**47**	P	**P**	**22 40 48.0**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=333,slow=0.3,SNR=4.3						
GERES	**GERESS Array B**	**83.43**	**329**	P	**P**	**22 41 27.3**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=55,slow=5.1,SNR=3.7						
TXAR	**Lajitas Array**	**88.57**	**54**	P	**P**	**22 41 52.5**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=282,slow=3.6,SNR=6.0						
TORD	**Torodi Ar. Bea**	**118.40**	**217**	PKP	**PKPdf**	**22 47 46.6**	**-0.1**
	comp=Z,0.1nm,0.6s,baz=14,slow=0.7,SNR=2.7						
LPAZ	**La Paz**	**145.04**	**62**	PKPbc	**PKPdf**	**22 48 37.1**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=225,slow=1.4,SNR=6.4						

*ISCJB **23** 22:29:26.7±0.4, 49°.89N±0°.03×18°.45E±0°.03, h0km, Error ellipse: s-maj=4.0km s-min=2.6km az=11.9*

*VIE **23** 22:29:28.9±1.3, 49°.71N×18°.43E, h0km, mb2.1/3, ml2.5/4, Error ellipse: s-maj=10.2km s-min=8.8km az=15.0 19 km SE of Ostrava Suspected Mining induced.*

*IPEC **23** 22:29:28.8±0.2, 49°.86N×18°.51E, h0km±3km, ML2.0/3, Error ellipse: s-maj=1.8km s-min=1.1km az=165.0*

*PRU **23** 22:29:29.1±0.0, 49°.87N×18°.42E, h0km*

ISC 23 22:29:27.1±0.9, 49°.89N±0°.03×18°.54E±0°.03, h0km, n31, σ1℘00/55, 3C-6D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.26**	**258**	‖*i*Pg	**Pb**	**22 29 33.4**	**-1.3**
OKC				*e*SG	**Sg**	**22 29 36.1**	**+0.7**
	comp=Z,288nm,0.3s						
MORC	**Moravsky Berou**	**0.65**	**260**	‖*i*P	**Pg**	**22 29 40.2**	**+0.6**
MORC				S	**Sg**	**22 29 49.1**	**+1.0**
MORC	**Moravsky Berou**	**0.65**	**260**	*e*PG	**Pb**	**22 29 40.8**	**-0.7**
MORC				*e*SG	**Sg**	**22 29 48.6**	**+0.5**
MORC	**Moravsky Berou** baz=82	**0.65**	**260**	*e*Pg	**Pb**	**22 29 40.7**	**-0.7**
MORC				*e*Sg	**Sg**	**22 29 48.6**	**+0.5**
	41nm,0.3s,baz=82						
OJC	**Ojcow**	**0.88**	**68**	*e*Pg	**Pn**	**22 29 46.3**	**-0.4**
OJC				*e*Sg	**Sn**	**22 29 59.0**	**-1.2**
JAVC	**Velka Javorina**	**1.18**	**209**	*e*PG	**Pn**	**22 29 51.1**	**+0.2**
JAVC	**Velka Javorina** baz=28	**1.18**	**209**	*e*Pg	**Pn**	**22 29 51.1**	**+0.2**
NIE	**Niedzica**	**1.24**	**112**	*e*Pg	**Pn**	**22 29 53.4**	**+1.6**
NIE				*e*Sg	**Sn**	**22 30 11.3**	**+2.1**
VRAC	**Vranov**	**1.39**	**246**	‖*i*P	**Pn**	**22 29 53.1**	**-0.7**
VRAC	**Vranov**	**1.39**	**246**	S	**Sg**	**22 30 12.2**	**+0.4**
VRAC	**Vranov**	**1.39**	**246**	*e*PG	**Pg**	**22 29 53.9**	**+0.1**
VRAC				*e*SG	**Sg**	**22 30 11.5**	**-0.3**
VRAC	**Vranov** baz=65	**1.39**	**246**	*e*Pg	**Pg**	**22 29 53.9**	**+0.1**
VRAC				*e*Sg	**Sg**	**22 30 11.5**	**-0.3**
	21nm,0.4s,baz=65						
VYHS	**Vyhne**	**1.41**	**172**	*e*PN	**Pb**	**22 29 54.7**	**+0.4**
VYHS				*e*SN	**Sn**	**22 30 13.4**	**0.0**
VYHS				*e*LG	Lg	22 30 15.2	
DPC	**Dobruska-Polom**	**1.50**	**289**	*e*PG	**Pb**	**22 29 55.8**	**0.0**
DPC				*e*SG	**Sn**	**22 30 15.7**	**+0.1**
	comp=Z,15nm,0.3s						
SMOL	**Smolenice**	**1.56**	**208**	*e*PG	**Pb**	**22 29 56.5**	**-0.3**
SMOL				*e*SN	**Sg**	**22 30 17.3**	**+0.2**
KRUC	**Moravsky**	**1.62**	**240**	*e*PG	**Pb**	**22 29 57.6**	**-0.4**
KRUC				*e*SG	**Sn**	**22 30 18.7**	**+0.1**
KRUC	**Moravsky** baz=59	**1.62**	**240**	*e*Pg	**Pb**	**22 29 57.5**	**-0.4**
KRUC				*e*Sg	**Sn**	**22 30 18.7**	**+0.1**
	16nm,0.3s,baz=59						
KSP	**Ksiaz**	**1.72**	**304**	*e*Pg	**Pg**	**22 29 59.9**	**-0.2**
KSP				*e*Sg	**Sg**	**22 30 22.9**	**+0.4**
MODS	**Modra-Piesok**	**1.73**	**209**	*e*PG	**Pn**	**22 29 57.9**	**-0.6**
MODS				*e*SN	**Sn**	**22 30 20.3**	**-0.9**
MODS				*e*LG	Lg	22 30 21.0	
UPC	**Upice**	**1.73**	**292**‖	*e*PG	**Pg**	**22 30 00.2**	**-0.2**
UPC				*e*SG	**Sg**	**22 30 23.3**	**+0.4**
TREC	**Trest**	**2.07**	**254**‖	*e*PG	**Pb**	**22 30 05.1**	**-0.5**
TREC				*e*SG	**Sb**	**22 30 31.8**	**-0.1**
PSZ	**Piszkesteto**	**2.17**	**155**‖	*i*P	**Pn**	**22 30 03.7**	**-0.8**
PVCC	**Panska Ves**	**2.63**	**286**‖	*e*PG	**Pg**	**22 30 16.4**	**-1.1**
PVCC				*e*SG	**Sg**	**22 30 51.8**	**+0.3**
	comp=Z,9.0nm,0.3s						
CONA	**Conrad Observa** 1.2nm,0.3s	**2.64**	**223**	*e*Pn	**Pn**	**22 30 10.7**	**-0.3**
CONA				*e*Sn	**Sn**	**22 30 40.7**	**-3.1**
	1.4nm,0.2s						
BRG	**Berggiesshubel**	**3.10**	**290**	PG	**Pb**	**22 30 24.7**	**+1.6**
BRG				SG	**Sg**	**22 31 05.1**	**-1.5**
	4.4nm,0.4s						
TRPA	**Tarpa**	**3.17**	**122**‖	*i*P	**Pn**	**22 30 16.5**	**-1.7**
TRPA	**Tarpa**	**3.17**	**122**	S	**Sn**	**22 30 56.0**	**-0.7**
KHC	**Kasperske Hory**	**3.32**	**259**	*e*PN	**Pn**	**22 30 20.7**	**+0.4**
KHC				*e*PG	**Pb**	**22 30 27.4**	**+0.5**
KHC				*e*SG	**Sb**	**22 31 10.7**	**+2.9**
	comp=Z,6.6nm,0.5s						
MOA	**Molln** 0.5nm,0.2s	**3.48**	**236**	*i* Pn	**Pn**	**22 30 22.9**	**+0.4**
MOA				*e*Sn	**Sn**	**22 31 05.2**	**+0.7**
	4.0nm,0.4s						
CLL	**Collm**	**3.80**	**294**	*e*Pg	**Pg**	**22 30 40.0**	**+0.1**
CLL				*e*Sg	**Sg**	**22 31 27.0**	**-2.1**
	comp=Z,7.0nm,0.6s						
SIRR	**Siria**	**4.19**	**149**‖	*i*P	**Pn**	**22 30 31.4**	**-0.8**

*ISCJB **23** 22:48:45.1±0.6, 13°.7N±0°.1×121°.1E±0°.1, h200km, mb3.7/15, Error ellipse: s-maj=20.6km s-min=10.2km az=137.3*

*IDC **23** 22:48:45.2±0.6, 13°.64N×121°.10E, h188km±4km, mb3.5/13, mb1 3.6/13, mb1mx3.3/55, mbtmp4.0/13, MS3.3/1, Ms1 3.3/1, ms1mx2.6/21, Error ellipse: s-maj=35.9km s-min=12.0km az=64.0*

ISC 23 22:48:46.5±0.7, 13°.7N±0°.2×121°.0E±0°.2, h200km, n25, σ0℘99/26, mb3.6/15, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.41**	**347**	P	**Pn**	**22 49 12.1**	**-1.3**
	64nm,0.3s,baz=54,slow=18,SNR=5.3						
TGY				S	**Sn**	**22 49 31.6**	**-2.8**
	155nm,0.3s,baz=182,slow=2.5,SNR=4.9						
RCP	**Roxas**	**2.71**	**142**‖	*e*P	**Pn**	**22 49 33.4**	**+0.6**
PAYA	**Payao**	**21.05**	**288**	P	**P**	**22 53 16.3**	**+1.1**
	5.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**21.74**	**285**	P	**P**	**22 53 22.7**	**+0.4**
	2.6nm,0.8s,baz=98,slow=8.1,SNR=25						
CHTO	**Chiang Mai**	**21.80**	**286**	P	**P**	**22 53 23.4**	**+0.5**
	16nm,1.1s						
RAMN	**Ramite**	**34.75**	**298**	*e*P	**P**	**22 55 18.1**	**-0.1**
	10nm,0.6s						
JIRN	**Jiri**	**35.29**	**299**	*e*P	**P**	**22 55 23.0**	**0.0**
	22nm,0.4s						
GUN	**Gumba**	**35.63**	**299**	*e*P	**P**	**22 55 25.6**	**-0.2**
	12nm,0.4s						
WRA	**Warramunga Arr**	**35.91**	**158**	P	**P**	**22 55 26.7**	**-1.1**
	0.6nm,0.3s,baz=332,slow=10,SNR=17						
PKI	**Pulchoki**	**35.94**	**298**	*e*P	**P**	**22 55 27.4**	**-1.0**
	8.5nm,0.5s						
PKIN	**Phulchoki**	**35.95**	**298**	*e*P	**P**	**22 55 27.7**	**-0.8**
	5.7nm,0.4s						
KKN	**Kakani**	**36.10**	**299**	*e*P	**P**	**22 55 29.0**	**-0.7**
SONM	**Songino Array**	**36.15**	**343**	P	**P**	**22 55 30.6**	**+0.9**
	0.9nm,0.5s,baz=163,slow=9.8,SNR=11						
SONM				LR	LR	23 12 37.5	
	comp=Z,44nm,19.2s,baz=178,slow=40						
DMN	**Daman**	**36.21**	**299**	*e*P	**P**	**22 55 28.8**	**-1.9**
PYUN	**Puthan**	**38.14**	**298**	*e*P	**P**	**22 55 46.4**	**-0.5**
ASAR	**Alice Springs**	**39.22**	**161**	P	**P**	**22 55 54.7**	**-0.8**
	0.4nm,0.5s,baz=336,slow=6.9,SNR=8.9						
MKAR	**Makanchi Array**	**46.22**	**323**	P	**P**	**22 56 52.3**	**+0.7**
	0.9nm,0.8s,baz=98,slow=8.5,SNR=6.5						
ZALV	**Zalesovo Be

IGAR	**Gharneh**	**3.15**	**52**	*e*Pn		**Pn**	**22 50 21.1**	**+2.5**
IGAR				IAMB		IAmb	22 51 05.7	
	comp=N,1µm,0.4s							
IGAR				IAMB		IAmb	22 51 21.9	
	comp=Z,881nm,0.6s							
IKFM	**Kafar-mosalman**	**3.19**	**341**	*e*Pn		**Pn**	**22 50 19.9**	**+1.1**
IKFM				IAMB		IAmb	22 51 20.0	
	comp=Z,0.0nm,0.6s							
IKFM				IAMB		IAmb	22 51 23.7	
	comp=N,0.0nm,1.0s							
IKFM				IAMB		IAmb	22 51 25.1	
	comp=E,0.0nm,0.7s							
KHMZ	**Khomeyn**	**3.31**	**13**	*e*Pn		**Pn**	**22 50 22.3**	**+1.6**
KHMZ				IAML			22 51 13.0	
	comp=E,84nm,0.5s							
KHMZ				IAML			22 51 23.3	
	comp=N,78nm,0.6s							
KHMZ	**Khomeyn**	**3.31**	**13**	*e*Pn		**Pn**	**22 50 22.3**	**+1.6**
IPAR	**Pars**	**3.49**	**100**	*e*Pn		**Pn**	**22 50 26.6**	**+3.3**
IPAR				IAMB		IAmb	22 51 36.2	
	comp=Z,721nm,0.9s							
IPAR				IAMB		IAmb	22 51 50.1	
	comp=E,920nm,1.0s							
IPAR				IAMB		IAmb	22 51 50.4	
	comp=N,1µm,0.8s							
IKLH	**Kolahrood**	**3.51**	**36**	*e*Pn		**Pn**	**22 50 25.0**	**+1.4**
IKLH				IAMB		IAmb	22 51 15.9	
	comp=N,2µm,0.4s							
IKLH				IAMB		IAmb	22 51 25.8	
	comp=E,2µm,0.6s							
IKLH				IAMB		IAmb	22 51 25.8	
	comp=Z,1µm,0.5s							
IZEF	**Zefreh**	**3.65**	**48**	*e*Pn		**Pn**	**22 50 27.2**	**+1.8**
IZEF				IAMB		IAmb	22 50 40.1	
	comp=Z,456nm,0.6s							
IZEF				IAMB		IAmb	22 51 32.5	
	comp=E,674nm,0.7s							
IZEF				IAMB		IAmb	22 51 37.8	
	comp=N,485nm,0.6s							
HSAM	**Samen**	**3.72**	**354**	*e*Pn		**Pn**	**22 50 27.8**	**+1.4**
IKOM	**Komasi**	**3.89**	**340**	*e*Pn		**Pn**	**22 50 30.0**	**+1.3**
IKOM				IAMB		IAmb	22 51 49.8	
	comp=Z,0.0nm,1.1s							
IKOM				IAMB		IAmb	22 51 51.2	
	comp=N,0.0nm,0.8s							
IKOM				IAMB		IAmb	22 52 07.2	
	comp=E,0.0nm,1.1s							
ISAD	**Sadrabad**	**4.18**	**69**	*e*Pn		**Pn**	**22 50 34.7**	**+1.9**
ISAD				IAMB		IAmb	22 50 50.8	
	comp=Z,482nm,0.7s							
ISAD				IAMB		IAmb	22 51 28.8	
	comp=E,760nm,0.8s							
ISAD				IAMB		IAmb	22 51 48.8	
	comp=N,900nm,0.8s							
HAGD	**Aghdareh**	**4.30**	**1**	*e*Pn		**Pn**	**22 50 36.2**	**+1.8**
IVIS	**Veis**	**4.43**	**335**	*e*Pn		**Pn**	**22 50 37.0**	**+0.9**
IVIS				IAMB		IAmb	22 51 28.6	
	comp=N,2µm,0.6s							
IVIS				IAMB		IAmb	22 52 32.1	
	comp=Z,954nm,0.2s							
IVIS				IAMB		IAmb	22 51 35.4	
	comp=E,2µm,0.5s							
ILIN	**Lien**	**4.75**	**338**	*e*Pn		**Pn**	**22 50 41.9**	**+1.3**
ILIN				IAMB		IAmb	22 51 38.9	
	comp=Z,2µm,0.3s							
IMEH	**Mehriz**	**4.83**	**78**	*e*Pn		**Pn**	**22 50 42.9**	**+1.3**
IMEH				IAMB		IAmb	22 51 48.9	
	comp=Z,216nm,0.6s							
IMEH				IAMB		IAmb	22 52 08.0	
	comp=N,349nm,0.7s							
ICHK	**Chekchek**	**4.87**	**68**	*e*Pn		**Pn**	**22 50 44.0**	**+1.9**
ICHK				IAMB		IAmb	22 51 42.2	
	comp=Z,355nm,0.6s							
ICHK				IAMB		IAmb	22 51 49.9	
	comp=E,397nm,0.4s							
ICHK				IAMB		IAmb	22 51 52.1	
	comp=N,308nm,0.6s							
YZKH	**Yazd**	**5.06**	**67**	*e*Pn		**Pn**	**22 50 46.5**	**+1.8**
YZKH	**Yazd**	**5.06**	**67**	*e*Pn		**Pn**	**22 50 46.5**	**+1.8**
IDMV	**Damavand**	**5.63**	**25**	*e*Pn		**Pn**	**22 50 53.2**	**+0.6**
IDMV				IAMB		IAmb	22 51 17.4	
	comp=Z,314nm,0.6s							
IPRN	**Peran**	**6.33**	**25**	IAMB		IAmb	22 51 29.6	
	comp=N,466nm,0.6s							
IPRN				IAMB		IAmb	22 51 37.9	
	comp=E,521nm,0.6s							
IPRN				IAMB		IAmb	22 51 42.3	
	comp=Z,373nm,0.6s							
BANOM	**Banah**	**7.83**	**124**	P		**Pn**	**22 51 22.0**	**-0.7**
MSFE	**Esma-Masafi**	**8.09**	**128**	P		**Pn**	**22 51 27.6**	**+1.4**
MSFE				S		**Sn**	**22 52 53.4**	**-4.3**
MDH	**Madha**	**8.22**	**127**	P		**Pn**	**22 51 28.5**	**+0.5**
ISHB	**Shabestar**	**8.27**	**341**	*e*Pn		**Pn**	**22 51 31.3**	**+2.4**
ISHB				IAMB		IAmb	22 53 15.7	
	comp=Z,82nm,0.5s							
UOSS	**Minazif**	**8.39**	**130**	P		**Pn**	**22 51 31.2**	**+0.8**
HATD	**Hatta, Dubai**	**8.43**	**131**	P		**Pn**	**22 51 33.2**	**+2.4**
ASHO	**Ashiyiah**	**8.48**	**132**	P		**Pn**	**22 51 32.7**	**+1.1**
ALNE	**Al Ain**	**8.74**	**136**	P		**Pn**	**22 51 36.6**	**+1.4**
GEYT	**Alibeck**	**10.51**	**43**	Pn		**Pn**	**22 51 56.9**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=236,slow=10,SNR=3.1							
ASF	**Jabal al Asfar**	**10.56**	**282**	Pn		**Pn**	**22 51 59.3**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=60,slow=16,SNR=12							
ASF				Sn		**Sn**	**22 53 55.9**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=335,slow=23,SNR=1.6							
ASF				Lg		Lg	22 55 17.4	
	comp=Z,0.3nm,0.3s,baz=301,slow=17,SNR=1.6							
MMAI	**Mount Meron Ar**	**11.91**	**286**	Pn		**Pn**	**22 52 18.8**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=104,slow=18,SNR=4.1							
MMAI				Lg		Lg	22 56 02.2	
	baz=91,slow=37,SNR=3.0							
EIL	**Elat**	**12.28**	**270**	Lg		Lg	22 56 06.3	
	comp=Z,0.2nm,0.3s,baz=35,slow=12,SNR=1.4							
BRTR	**Keskin Array B**	**15.62**	**310**	Pn		**Pn**	**22 53 07.4**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=119,slow=12,SNR=3.1							
IDI	**Anoyia**	**20.85**	**290**	P		**P**	**22 54 11.5**	**+0.7**
	comp=Z,7.5nm,0.9s,baz=111,slow=14,SNR=3.4							
TIRR	**Tirgusor**	**21.44**	**316**	⇑*i*P		**P**	**22 54 19.1**	**+2.2**
CFR	**Carcaliu**	**22.01**	**318**	⇓*i*P		**P**	**22 54 24.2**	**+1.2**
RASA	**Rasa**	**22.08**	**314**	⇑*i*P		**P**	**22 54 25.5**	**+1.8**
VOIR		**23.99**	**315**	⇑*i*P		**P**	**22 54 44.7**	**+1.3**
DOPR	**Dopca**	**24.05**	**317**	⇑*i*P		**P**	**22 54 45.6**	**+1.6**
ARR	**Arges**	**24.21**	**315**	⇑*i*P		**P**	**22 54 46.7**	**+1.2**
LOT	**Lotru**	**24.78**	**314**	⇑*i*P		**P**	**22 54 52.9**	**+2.2**
AKASG	**Malin Array Be**	**25.04**	**329**	P		**P**	**22 54 52.0**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=122,slow=7.0,SNR=5.2							
BURAR	**Bucovina Array**	**25.05**	**320**	⇓*i*P		**P**	**22 54 55.1**	**+2.0**
MDVR	**Moldovita**	**25.79**	**311**	⇑*i*P		**P**	**22 55 00.9**	**+1.1**
DRGR		**26.07**	**316**	⇑*i*P		**P**	**22 55 03.3**	**+0.9**
SIRR	**Siria**	**26.46**	**314**	⇑*i*P		**P**	**22 55 07.9**	**+2.0**
KURBB	**Kurchatov Arra**	**29.76**	**39**	P		**P**	**22 55 35.2**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=240,slow=9.8,SNR=2.7							
KOLN	**Koldanda**	**30.20**	**86**	*e*P		**P**	**22 55 40.9**	**+1.3**
DANN	**Dangsing**	**30.20**	**85**	*e*P		**P**	**22 55 41.2**	**+1.4**
	comp=Z,7.0nm,0.5s							
MKAR	**Makanchi Array**	**30.32**	**48**	P		**P**	**22 55 40.5**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=251,slow=8.4,SNR=2.9							
GERES	**GERESS Array B**	**32.43**	**314**	P		**P**	**22 55 57.7**	**-1.2**
	comp=Z,0.1nm,0.4s,baz=134,slow=6.9,SNR=2.6							
FINES	**FINESS Array B**	**34.44**	**341**	P		**P**	**22 56 15.3**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=151,slow=8.5,SNR=14							
ZALV	**Zalesovo Beam**	**34.76**	**37**	P		**P**	**22 56 18.3**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=243,slow=9.5,SNR=3.4							
HFS	**Hagfors**	**37.87**	**332**	P		**P**	**22 56 44.8**	**-0.7**
	comp=Z,1.6nm,0.4s,baz=119,slow=8.9,SNR=14							
NOA	**NORSAR Array B**	**39.39**	**332**	P		**P**	**22 56 57.5**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=119,slow=9.1,SNR=3.1							
ARCES	**ARCESS Array B**	**41.32**	**348**	P		**P**	**22 57 13.5**	**-0.6**
	comp=Z,2.3nm,1.0s,baz=150,slow=9.4,SNR=2.4							
EKA	**Eskdalemuir Ar**	**44.24**	**320**	P		**P**	**22 57 37.3**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=114,slow=6.6,SNR=2.7							
SONM	**Songino Array**	**46.58**	**51**	P		**P**	**22 57 56.6**	**-0.3**
	comp=Z,0.5nm,1.0s,baz=270,slow=10,SNR=3.0							
TORD	**Torodi Ar. Bea**	**46.90**	**259**	P		**P**	**22 58 00.2**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=56,slow=8.4,SNR=6.4							
YKA	**Yellowknife Ar**	**86.40**	**352**	P		**P**	**23 02 10.0**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=25,slow=5.8,SNR=3.3							

IDC 23 23:07:11.0±2.5, 6°40S×130°37E, h0km, mb3.5/1, mb1 3.4/3, mb1mx3.2/30, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=135.1km s-min=34.0km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.01**	**164**	Pn	Pn	23 10 30.5	-0.4
	0.2nm,0.3s,baz=347,slow=14,SNR=12						
WRA				Sn	Sn	23 12 54.5	-13
	0.1nm,0.3s,baz=329,slow=22,SNR=5.3						
ASAR	**Alice Springs**	**17.50**	**169**	P	Pn	23 11 17.0	+0.3
	0.1nm,0.3s,baz=355,slow=10,SNR=2.2						
MKAR	**Makanchi Array**	**67.93**	**327**	P	P	23 18 11.7	0.0
	0.4nm,0.8s,baz=131,slow=5.9,SNR=2.2						

*ISCJB **23** 23:09:21.2±0.4, 38°.70N±0°.02×28°.06E±0°.03, h4km±5km, Error ellipse: s-maj=4.0km s-min=4.0km az=15.4*
*DDA **23** 23:09:21.1, 38°.70N×28°.08E, h8km, Ml2.7*
*ISK **23** 23:09:21.1, 38°.70N×28°.04E, h7km, ML2.5/11*

ISC 23 23:09:21.2±0.9, 38°.71N±0°.03×28°.06E±0°.02, h8km±8km, n23, σ0°.33/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GOMA	**Golmarmara-Man**	**0.11**	**270**	PG	**Pg**	**23 09 23.8**	**+0.1**
GOMA				SG	**Sg**	**23 09 25.4**	**-0.1**
AKHS	**Akhisar**	**0.26**	**312**	*i* P	**Pg**	**23 09 26.4**	**+0.1**
MANT	**Manisa**	**0.45**	**119**	*i* P	**Pg**	**23 09 30.3**	**+0.3**
MANT				*i* S	**Sg**	**23 09 36.0**	**+0.1**
KULA	**Kula-Manisa**	**0.51**	**112**	PG	**Pg**	**23 09 31.3**	**+0.2**
DEMI	**Demirci**	**0.61**	**57**	*i* P	**Pg**	**23 09 33.4**	**+0.3**
DEMI				*i* S	**Sg**	**23 09 41.0**	**-0.2**
STEP	**BALIKESIR_Sava**	**0.72**	**339**	*i* P	**Pb**	**23 09 36.0**	**-0.1**
STEP				*i* S	**Sb**	**23 09 46.1**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.77**	**190**	PG	**Pg**	**23 09 36.1**	**0.0**
AYDB				SG	**Sb**	**23 09 47.3**	**-0.3**
SMAA	**Simav-Kutahya**	**0.82**	**61**	PG	**Pb**	**23 09 37.5**	**-0.3**
BALB	**Balikesir**	**0.94**	**352**	PG	**Pn**	**23 09 40.4**	**-0.4**
DURS	**Dursunbey**	**0.95**	**20**	*i* P	**Pn**	**23 09 40.6**	**-0.4**
DURS				*i* S	**Sb**	**23 09 52.9**	**+0.1**
DKL	**Dikili**	**0.97**	**292**	PG	**Pb**	**23 09 40.1**	**-0.2**
DKL				SG	**Sb**	**23 09 53.5**	**+0.3**
DST	**Dursunbey**	**1.00**	**26**	PG	**Pb**	**23 09 41.2**	**+0.4**
FOCM	**Fo˘ça**	**1.04**	**271**	PG	**Pg**	**23 09 41.1**	**-0.1**
AYDN	**Tasoluk**	**1.05**	**188**	*i* P	**Pn**	**23 09 42.3**	**-0.1**
AYDN				*i* S	**Sg**	**23 09 55.2**	**+0.1**
GEDZ	**Gediz**	**1.11**	**72**	PN	**Pn**	**23 09 43.2**	**0.0**
URLA	**Izmir**	**1.20**	**254**	PN	**Pb**	**23 09 44.1**	**-0.1**
TVSB	**Tavsanli**	**1.32**	**55**	PN	**Pg**	**23 09 46.7**	**+0.1**
KCTX	**Karacabey (Bur**	**1.57**	**8**	PN	**Pb**	**23 09 50.3**	**-0.3**
CHOS	**Chios island**	**1.60**	**259**	PN	**Pn**	**23 09 50.3**	**+0.4**
EDC	**Edincik**	**1.64**	**355**	PN	**Pb**	**23 09 51.4**	**-0.4**
EZN	**Ezine**	**1.75**	**310**	PN	**Pn**	**23 09 52.3**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.78**	**21**	PN	**Pb**	**23 09 53.4**	**-0.7**
ARMT	**Armutlu**	**1.96**	**18**	PN	**Pn**	**23 09 55.6**	**+0.8**

PGC 23 23:13:16.6±15.0, 48°.86N×129°.03W, h10km, MLSn2.8/5, Mw3.5/5, 229km west of Tofino, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PACB	**Port Alice, BC**	**1.86**	**32**	Pn	Pn	23 13 45.8	-2.7
MAYB	**Maynard**	**1.96**	**37**	Pn	Pn	23 13 48.0	-2.0
WOSB	**Woss**	**2.06**	**50**	Pn	Pn	23 13 49.5	-1.8
BTB	**Buttle Lake**	**2.38**	**74**	Pn	Pn	23 13 54.2	-1.6
BTB				Sn	Sn	23 14 20.3	-4.8
NCRB	**Newcastle Ridg**	**2.47**	**50**	Pn	Pn	23 13 56.1	-0.9
NCRB				Sn	Sn	23 14 23.9	-3.4
MGB	**Mount Grey**	**2.86**	**86**	Sn	Sn	23 14 31.2	-5.7
BBB	**Bella Bella**	**3.38**	**10**	Pn	Pn	23 14 10.3	+1.0
BBB				Sn	Sn	23 14 46.3	-3.1

*STR **23** 23:19:10.8±0.5, 49°.2N×2°.3E, h5km, M1.7/6, MLv1.7/6*
*LDG **23** 23:19:10.8±0.1, 49°.14N×8°.16E, h6km, Md2.2/1, Ml1.9/5, Error ellipse: s-maj=1.1km s-min=1.0km az=115.0*

ISC 23 23:19:10.2±1.8, 49°.13N±0°.05×8°.22E±0°.10, h11km, n10, σ1°.04/14, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LANF	**Langenberg**	**0.31**	**241**	Pg	**Pg**	**23 19 16.3**	**-0.1**
OPP	**Oppenau**	**0.64**	**182**	Pg	**Pg**	**23 19 22.7**	**+0.1**
ABH	**Alteburg**	**0.87**	**330**	Pg	**Pg**	**23 19 26.9**	**-0.1**
CDF	**Champ du Feu**	**0.95**	**221**	*e*Pg	**Pg**	**23 19 28.2**	**-0.4**
CDF	**Champ du Feu**	**0.95**	**221**	*e*Pn	**Pg**	**23 19 28.9**	**+0.3**
CDF	**Champ du Feu**	**0.95**	**221**	*e*P	**Pn**	**23 19 30.2**	**+0.6**
CDF				*e*Sg	**Sg**	**23 19 40.5**	**-0.5**
	3.2nm,0.2s						
HAU	**Haudompre**	**1.68**	**228**	*e*Pn	**Pn**	**23 19 38.8**	**-0.7**
HAU	**Haudompre**	**1.68**	**228**	*e*Pg	**Pb**	**23 19 41.5**	**+0.4**
HAU				*e*Sn	**Sn**	**23 19 58.7**	**-2.3**
	0.8nm,0.2s						
HAU				*e*Sg	**Sb**	**23 20 03.0**	**+0.8**
	2.5nm,0.2s						
PAGF	**Fort de Pagny**	**1.75**	**252**	*e*Pg	**Pb**	**23 19 42.6**	**+0.4**
PAGF				*e*Sg	**Sb**	**23 20 04.7**	**+0.6**
	0.9nm,0.2s						
SFTF	**Sexfontaines**	**2.30**	**247**	*e*Sg	**Sb**	**23 20 22.2**	**+2.0**
	1.4nm,0.2s						

*ISK **23** 23:43:31.9, 37°.31N×37°.08E, h9km, ML2.3/3*
*ISCJB **23** 23:43:32.7±0.5, 37°.30N±0°.04×37°.11E±0°.05, h6km±6km, Error ellipse: s-maj=8.4km s-min=4.1km az=39.6*
*DDA **23** 23:43:33.2, 37°.42N×37°.16E, h7km, Ml2.9*

ISC 23 23:43:32.5±1.0, 37°.32N±0°.03×37°.11E±0°.03, h9km±8km, n14, σ0°.60/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.17**	**151**	PG	**Pg**	**23 43 36.0**	**-0.2**
GAZ				SG	**Sg**	**23 43 39.0**	**+0.3**
KMRS	**Kahramanmaras**	**0.25**	**318**	PG	**Pg**	**23 43 37.5**	**-0.1**
KMRS				SG	**Sg**	**23 43 41.4**	**+0.4**
KUZU	**Kuzuini**	**0.55**	**183**	*i* P	**Pg**	**23 43 43.8**	**+0.7**
KUZU				*i* S	**Sn**	**23 43 55.7**	**-0.1**
ANDN	**Andirin**	**0.66**	**293**	*i* P	**Pg**	**23 43 45.6**	**+0.3**
ANDN				*i* S	**Sb**	**23 43 55.9**	**+0.3**
ELBS	**KAHRAMANMARAS**	**1.00**	**1**	*i* P	**Pg**	**23 43 51.3**	**-0.6**
KOZT	**Kozan**	**1.03**	**279**	PG	**Pg**	**23 43 52.2**	**-0.2**
SAIM	**ADANA**	**1.04**	**309**	*i* P	**Pn**	**23 43 53.2**	**-0.2**
SAIM				*i* S	**Sn**	**23 44 09.0**	**+0.8**
AKCD	**Akcadag**	**1.17**	**33**	*i* P	**Pn**	**23 43 55.2**	**0.0**
AKCD				*i* S	**Sn**	**23 44 12.0**	**+0.7**
TAHT	**Tahtakopru-Hat**	**1.20**	**218**	PN	**Pn**	**23 43 54.8**	**-0.7**
SURC	**SANLIURFA_SURC**	**1.28**	**110**	*i* P	**Pg**	**23 43 57.8**	**+0.6**
SURC				*i* S	**Sb**	**23 44 12.0**	**-1.4**
DARE	**Darende-Malaty**	**1.28**	**13**	PN	**Pg**	**23 43 56.8**	**-0.4**
URFA	**Urfa**	**1.37**	**84**	PN	**Pb**	**23 43 58.1**	**-0.3**
SANL	**SANLIURFA_Merk**	**1.51**	**95**	*i* P	**Pb**	**23 44 00.3**	**-0.4**
SANL				*i* S	**Sb**	**23 44 19.8**	**-0.2**
PTK	**Pertek**	**2.39**	**48**	PN	**Pn**	**23 44 12.9**	**+0.9**

*IDC **24** 00:13:51.0±2.7, 36°.19N×70°.66E, h183km±23km, mb3.2/10, mb1 3.4/15, mb1mx3.1/47, mbtmp3.9/15, Error ellipse: s-maj=20.9km s-min=14.7km az=168.0*
*ISCJB **24** 00:13:53.2±0.4, 36°.46N±0°.03×70°.68E±0°.05, h204km, mb3.3/9, Error ellipse: s-maj=6.1km s-min=3.8km az=167.4*
*NNC **24** 00:13:59.5±2.1, 36°.88N×70°.77E, h219km±24km, mb3.0, mpv4.1, Error ellipse: s-maj=21.2km s-min=18.0km az=55.0*

ISC 24 00:13:53.9±0.6, 36°.46N±0°.05×70°.65E±0°.06, h204km, n47, σ1°.35/55, mb3.1/9, 6C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.83**	**158**	P	**Pn**	**00 14 43.2**	**+1.3**
CEP				S	**S**	**00 15 19.0**	**+0.2**
CHCP	**Chirah Chowk**	**3.52**	**142**	P	**Pn**	**00 14 51.2**	**+1.1**
THW	**Thamme Wali**	**3.77**	**166**	P	**Pn**	**00 14 53.8**	**+0.8**
SFK	**Sufi-Kurgan**	**4.20**	**31**	⇑P	**Pn**	**00 14 59.3**	**+0.8**
	33nm,0.4s						
SFK				⇓S	**S**	**00 15 48.1**	**-0.7**
	34nm,0.3s						
SARP	**Sargodha**	**4.83**	**159**	P	**Pn**	**00 15 06.4**	**+0.1**
AML	**Almayashu**	**6.14**	**22**	P	**Pn**	**00 15 23.5**	**+0.2**
	SNR=154						
MNAS	**Manas**	**6.19**	**13**	⇓P	**Pn**	**00 15 24.3**	**+0.5**
	5.9nm,0.4s						
MNAS				⇓S	**S**	**00 16 32.2**	**-2.5**
	176nm,0.5s						
UCH	**Uchtor**	**6.49**	**26**	P	**Pn**	**00 15 28.4**	**+0.4**
	SNR=60						
KK31	**Karatay Array**	**6.64**	**359**	⇑P	**Pn**	**00 15 29.8**	**+0.4**
	6.2nm,0°.3s,baz=176,slow=13						
KK31				⇑S	**S**	**00 16 41.4**	**-3.6**
	36nm,0.5s,baz=189,slow=19,SNR=17						
EKS2	**Erkin-Say**	**6.65**	**20**	P	**Pn**	**00 15 30.4**	**+0.8**
	SNR=33						
KZA	**Kyzart**	**6.65**	**31**	P	**Pn**	**00 15 30.2**	**+0.3**
	SNR=12						
AAK	**Ala-Archa**	**6.85**	**25**	P	**Pn**	**00 15 32.6**	**+0.3**
	5.8nm,0.3s,baz=81,slow=2.2,SNR=65						
AAK				S	**S**	**00 16 47.2**	**-3.0**
	5.9nm,0.3s,baz=304,slow=22,SNR=24						
AAK	**Ala-Archa**	**6.85**	**25**	⇓P	**Pn**	**00 15 33.0**	**+0.8**
	6.6nm,0.5s						
AAK				⇑S	**S**	**00 16 48.5**	**-1.7**
	39nm,0.6s						
AAK	**Ala-Archa**	**6.85**	**25**	P	**Pn**	**00 15 33.0**	**+0.8**
	SNR=12						
KBK	**Karagaybulak**	**7.02**	**27**	P	**Pn**	**00 15 35.5**	**+1.0**
	SNR=15						
ULHL	**Ulahol**	**7.22**	**35**	P	**Pn**	**00 15 37.3**	**+0.2**
	SNR=8.7						
CHMS	**Chumysh**	**7.25**	**25**	P	**Pn**	**00 15 38.2**	**+0.8**
	SNR=7.5						
TKM2	**Tokmak 2**	**7.50**	**29**	⇑P	**Pn**	**00 15 41.0**	**+0.3**
	9.0nm,0.5s						
TKM2				⇓S	**S**	**00 17 00.7**	**-4.9**
	20nm,0.9s						
TKM2	**Tokmak 2**	**7.50**	**29**	P	**Pn**	**00 15 41.5**	**+0.8**
	SNR=16						
GEYT	**Alibeck**	**10.11**	**282**	P	**Pn**	**00 16 13.9**	**-0.5**
	0.2nm,0.3s,baz=96,slow=15,SNR=3.9						
GEYT				S	**S**	**00 18 05.8**	**-2.1**
	0.1nm,0.3s,baz=89,slow=17,SNR=3.4						
PYUN	**Piuthan**	**13.35**	**125**	*e*P	**Pn**	**00 16 54.5**	**-1.4**
MK31	**Makanchi Array**	**13.49**	**36**	⇓P	**Pn**	**00 16 57.1**	**-0.2**
	3.0nm,0.5s						
MKAR	**Makanchi Array**	**13.49**	**36**	P	**Pn**	**00 16 56.7**	**-0.5**
	0.5nm,0.3s,baz=207,slow=10.0,SNR=30						
DANN	**Dangsing**	**13.70**	**122**	*e*P	**Pn**	**00 16 59.9**	**-0.4**
	22nm,0.7s						
KOLN	**Koldanda**	**13.97**	**125**	*e*P	**Pn**	**00 17 02.6**	**-1.0**
	6.8nm,0.5s						
AB31	**Akbulak array**	**14.98**	**332**	P	**Pn**	**00 17 16.1**	**+0.5**
	2.9nm,0.6s,baz=146,slow=12,SNR=37						
DMN	**Daman**	**15.09**	**122**	*e*P	**Pn**	**00 17 16.8**	**-0.6**
	18nm,0.8s						
KKN	**Kakani**	**15.10**	**121**	*e*P	**Pn**	**00 17 16.9**	**-0.5**
	12nm,0.4s						
KURBB	**Kurchatov Arra**	**15.25**	**19**	P	**Pn**	**00 17 18.3**	**-0.5**
	0.2nm,0.3s,baz=210,slow=11,SNR=16						
PKIN	**Phulchoki**	**15.31**	**121**	*e*P	**Pn**	**00 17 18.9**	**-1.1**
	10nm,0.4s						
PKI	**Pulchoki**	**15.32**	**121**	*e*P	**Pn**	**00 17 19.5**	**-0.8**
	31nm,0.9s						
GUN	**Gumba**	**15.44**	**119**	*e*P	**Pn**	**00 17 21.3**	**-0.4**
	12nm,0.6s						
JIRN	**Jiri**	**15.81**	**119**	*e*P	**P**	**00 17 25.7**	**-0.2**
	33nm,0.6s						
RAMN	**Ramite**	**16.54**	**120**	*e*P	**P**	**00 17 34.1**	**+0.3**
	16nm,0.6s						
BVA0	**Borovoye Array**	**16.57**	**359**	⇑P	**Pn**	**00 17 36.3**	**+1.7**
	0.7nm,0.4s,baz=168,slow=12,SNR=8.3						
BVAR	**Borovoye Array**	**16.57**	**359**	P	**P**	**00 17 35.1**	**+1.5**
	0.6nm,0.3s,baz=164,slow=11,SNR=8.2						
ZALV	**Zalesovo Beam**	**20.07**	**25**	P	**P**	**00 18 12.3**	**+0.9**
	11nm,0.5s,baz=216,slow=11,SNR=54						
SONM	**Songino Array**	**28.59**	**55**	P	**P**	**00 19 31.9**	**+0.8**
	0.3nm,0.7s,baz=280,slow=10,SNR=3.6						
NRIK	**Noril'sk**	**34.22**	**11**	P	**P**	**00 20 21.3**	**+1.6**
	3.3nm,0.5s,baz=198,slow=7.6,SNR=7.3						
ARCES	**ARCESS Array B**	**41.08**	**338**	P	**P**	**00 21 18.7**	**+1.6**
	2.5nm,0.8s,baz=108,slow=6.9,SNR=7.9						
NB2	**NORSAR Subarra**	**44.24**	**323**	P	**P**	**00 21 43.9**	**+1.2**

WOJI	**Wonogiri, Jawa**	**3.36**	**114**	P	**Pn**	**00 35 50.0**	**-2.0**
KASI	**Kota Agung**	**3.44**	**286**	P	**Pn**	**00 35 52.0**	**-0.9**
PCJI	**Pacitan**	**3.73**	**117**	P	**Pn**	**00 35 53.1**	**-2.9**
PWJI	**Pagerwojo**	**4.23**	**111**	P	**Pn**	**00 35 59.2**	**-2.3**
MNAI	**Manna**	**5.29**	**293**	P	**Pn**	**00 36 13.6**	**0.0**
CMAR	**Chiang Mai Arr**	**26.30**	**341**	P	**P**	**00 40 00.6**	**-1.0**
	1.8nm,0.5s,baz=178,slow=8.7,SNR=11						
WRA	**Warramunga Arr**	**29.01**	**120**	P	**P**	**00 40 26.5**	**+0.9**
	1.5nm,0.7s,baz=297,slow=10.0,SNR=14						
WRA				ScP	**ScP**	**00 46 42.3**	**+3.6**
	0.7nm,0.6s,baz=310,slow=2.9,SNR=5.8						
ASAR	**Alice Springs**	**30.33**	**127**	P	**P**	**00 40 38.3**	**+1.1**
	1.1nm,0.3s,baz=303,slow=8.3,SNR=18						
ASAR				ScP	**ScP**	**00 46 47.1**	**+4.1**
	0.6nm,0.7s,baz=306,slow=3.2,SNR=3.9						
STKA	**Stephens Creek**	**40.38**	**133**	P	**P**	**00 42 04.7**	**+2.6**
	4.0nm,0.5s,baz=306,slow=8.8,SNR=15						
SONM	**Songino Array**	**54.11**	**359**	P	**P**	**00 43 46.7**	**-0.5**
	0.2nm,0.3s,baz=163,slow=5.9,SNR=4.5						
MKAR	**Makanchi Array**	**57.70**	**339**	P	**P**	**00 44 11.6**	**-0.8**
	1.2nm,0.5s,baz=155,slow=8.2,SNR=24						
VNDA	**Vanda**	**76.31**	**170**	P	**P**	**00 46 11.9**	**+3.6**
	0.6nm,0.4s,baz=322,slow=5.9,SNR=9.2						

*ISCJB **24** 00:39:03.4±0.7,6.07S±0.08×149.6E±0.2,h58km, mb4.1/12,MS3.0/6,Error ellipse: s-maj=25.3km s-min=7.6km az=22.1*
*NEIC **24** 00:39:04.2±2.3,6.06S×149.59E,h49km±19km,mb4.2/4, Error ellipse: s-maj=25.7km s-min=12.3km az=94.0*
*IDC **24** 00:39:04.0±1.8,6.06S×149.65E,h47km±14km,mb3.8/10, mb1 4.0/11,mb1mx3.8/35,mbtmp4.1/11,ML2.2/1,MS3.1/8, Ms1 3.1/8,ms1mx2.9/26,Error ellipse: s-maj=30.6km s-min=11.1km az=114.0*

ISC 24 00:39:05.2±0.7,6.09S±0.09×149.7E±0.2,h58km,n28, σ0.93/28,mb4.0/12,MS3.1/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.12**	**217**	P		**Pn**	**00 40 06.7**	**+1.1**
	12nm,0.3s,baz=24,slow=7.5,SNR=32							
PMG				S		**Sn**	**00 40 52.0**	**-0.6**
	24nm,0.3s,baz=63,slow=17,SNR=14							
PMG	**Port Moresby**	**4.12**	**217**	*e*Pn		**Pn**	**00 40 05.1**	**-0.5**
PMG				*e*Sn		**Sn**	**00 40 51.7**	**-0.9**
JAY	**Jayapura**	**9.60**	**291**	LR	LR	LR	00 45 52.6	
	comp=Z,82nm,18.6s,baz=262,slow=43							
HNR	**Honiara**	**10.73**	**109**	LR	LR	LR	00 44 29.8	
	comp=Z,51nm,21.1s,baz=276,slow=30							
CTAO	**Charters Tower**	**14.30**	**193**	Pn		**Pn**	**00 42 23.9**	**-0.9**
GUMO	**Guam**	**20.12**	**346**	LR	LR	LR	00 50 21.8	
	comp=Z,27nm,21.3s,baz=128,slow=34							
WRAB	**Tennant Creek**	**20.26**	**226**	*e*Pn		**P**	**00 43 36.0**	**-0.1**
	0.9nm,0.4s							
WRA	**Warramunga Arr**	**20.27**	**226**	P		**P**	**00 43 36.2**	**0.0**
	5.2nm,0.7s,baz=49,slow=11,SNR=50							
WRA				PcP		**PcP**	**00 47 47.9**	**-0.3**
	1.2nm,0.7s,baz=46,slow=2.4,SNR=7.4							
WRA				ScP		**ScP**	**00 51 21.4**	**+1.5**
	0.2nm,0.6s,baz=50,slow=2.9,SNR=4.7							
DZM	**Mont Dzumac**	**22.71**	**136**	LR	LR	LR	00 50 42.6	
	comp=Z,66nm,19.7s,baz=92,slow=31							
ASAR	**Alice Springs**	**23.13**	**219**	P		**P**	**00 44 06.7**	**0.0**
	2.0nm,0.8s,baz=50,slow=8.8,SNR=17							
ASAR				PcP		**PcP**	**00 47 53.8**	**-0.1**
	0.9nm,0.6s,baz=55,slow=2.0,SNR=8.9							
ASAR				S		**S**	**00 48 15.1**	**+1.3**
	0.8nm,0.9s,baz=34,slow=20,SNR=7.0							
ASAR				ScP		**ScP**	**00 51 28.6**	**+1.5**
	0.4nm,0.9s,baz=46,slow=4.0,SNR=3.6							
ASAR				LR		LR	00 53 15.1	
	comp=Z,78nm,18.1s,baz=15,slow=37							
STKA	**Stephens Creek**	**26.74**	**195**	LR	LR	LR	00 55 31.4	
	comp=Z,74nm,18.3s,baz=8.2,slow=37							
MJAR	**Matsushiro Arr**	**43.74**	**347**	LR	LR	LR	01 05 00.0	
	comp=Z,24nm,18.3s,baz=265,slow=36							
MAJO	**Matsushiro**	**43.74**	**347**	P		**P**	**00 47 04.8**	**-0.2**
	1.1nm,0.4s							
KSRS	**Korea Array**	**47.83**	**337**	LR	LR	LR	01 06 34.2	
	comp=Z,18nm,19.0s,baz=152,slow=34							
PETK	**Petropavlovsk-**	**59.36**	**6**	P		**P**	**00 49 01.3**	**0.0**
	4.4nm,0.6s,baz=170,slow=8.1,SNR=20							
MA2	**Magadan**	**65.46**	**1**	P		**P**	**00 49 41.7**	**-0.2**
	1.3nm,0.3s							
SONM	**Songino Array**	**65.79**	**330**	P		**P**	**00 49 46.0**	**+1.6**
	0.8nm,0.5s,baz=158,slow=4.1,SNR=8.1							
VNDA	**Vanda**	**71.68**	**177**	P		**P**	**00 50 21.2**	**+0.8**
	1.0nm,0.7s,baz=360,slow=6.0,SNR=4.4							
MKAR	**Makanchi Array**	**79.25**	**320**	P		**P**	**00 51 03.1**	**-1.3**
	0.4nm,0.7s,baz=97,slow=8.6,SNR=6.6							
ZALV	**Zalesovo Beam**	**80.50**	**327**	P		**P**	**00 51 10.2**	**-0.7**
	0.8nm,0.5s,baz=116,slow=6.3,SNR=4.5							
MAW	**Mawson**	**83.18**	**203**	P		**P**	**00 51 24.4**	**-0.4**
	2.2nm,0.9s,baz=112,slow=5.4,SNR=3.3							
QSPA	**South Pole Qui**	**83.88**	**180**	*e*P		**P**	**00 51 28.6**	**-0.1**
	8.4nm,0.9s							
ILAR	**Eielson Array**	**84.53**	**23**	P		**P**	**00 51 29.9**	**-1.8**
	0.9nm,0.6s,baz=250,slow=5.1,SNR=17							
NRIK	**Noril'sk**	**86.18**	**342**	P		**P**	**00 51 40.0**	**+0.1**
	0.7nm,0.3s,baz=144,slow=5.9,SNR=4.3							
GERES	**GERESS Array B**	**123.45**	**327**	PKP		**PKPdf**	**00 57 55.8**	**-0.4**
	0.2nm,0.5s,baz=90,slow=2.0,SNR=3.5							
CPUP	**Villa Florida**	**138.49**	**142**	PKP		**PKPdf**	**00 58 26.7**	**+1.5**
	2.1nm,0.8s,baz=212,slow=4.0,SNR=5.6							
TORD	**Torodi Ar. Bea**	**147.66**	**285**	PKPbc		**PKPbc**	**00 58 44.9**	**+0.6**
	1.1nm,0.7s,baz=76,slow=3.0,SNR=12							
BDFB	**Brasilia**	**152.21**	**141**	PKPbc		**PKPbc**	**00 58 56.0**	**+0.4**
	7.8nm,0.7s,baz=174,slow=2.1,SNR=14							

*DDA **24** 00:43:42.8,38.83N×43.84E,h5km,Ml2.8*
*ISCJB **24** 00:43:43.2±0.9,38.87N±0.03×43.85E±0.06,h3km±6km, Error ellipse: s-maj=8.2km s-min=4.8km az=29.8*
*ISK **24** 00:43:43.1,38.88N×43.79E,h6km,ML2.7/10*

ISC 24 00:43:43.1±1.5,38.86N±0.04×43.84E±0.04,h1km±12km, n21,σ1.48/30,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.25**	**303**	*i*P		**Pg**	**00 43 47.4**	**-0.4**
VMUR				*i*S		**Sg**	**00 43 53.2**	**+2.2**
CLDR	**Caldiran**	**0.29**	**12**	PG		**Pg**	**00 43 49.1**	**+0.4**
CLDR	**Caldiran**	**0.29**	**12**	*i*P		**Pg**	**00 43 49.4**	**+0.7**
ERCV	**ERCIS-VAN**	**0.42**	**293**	PG		**Pg**	**00 43 50.8**	**-0.4**
VANB	**Van**	**0.44**	**233**	PG		**Pb**	**00 43 52.5**	**-1.2**
VANB				SG		**Sb**	**00 44 00.6**	**-0.3**
DYDN	**Diyadin**	**0.69**	**351**	*i*P		**Pg**	**00 43 56.5**	**0.0**
DYDN				*i*S		**Sb**	**00 44 06.8**	**-1.6**
GEVA	**Gevas**	**0.82**	**229**	*i*P		**Pb**	**00 43 59.1**	**-1.1**
ADCV	**BITLIS_Adilcev**	**0.87**	**267**	*i*P		**Pg**	**00 43 59.6**	**-0.2**
ADCV				*i*S		**Sb**	**00 44 13.1**	**-0.3**
TUTA	**Tutak**	**0.96**	**305**	*i*P		**Pg**	**00 44 00.6**	**-1.0**
AGRB	**Hanur-Agry**	**0.97**	**318**	PG		**Pg**	**00 44 01.1**	**-0.7**
AGRB				SG		**Sb**	**00 44 14.9**	**-1.5**
IGDI	**IGDIR**	**1.03**	**10**	*i*P		**Pg**	**00 44 02.9**	**+0.1**
IGDI				*i*S		**Sn**	**00 44 19.8**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.17**	**15**	PN		**Pb**	**00 44 05.6**	**-0.6**
EKAR	**Karacoban**	**1.44**	**287**	*i*P		**Pg**	**00 44 10.7**	**+0.1**
EKAR				*i*S		**Sn**	**00 44 35.4**	**+5.1**
GURO	**Guroymak-BITLI**	**1.45**	**258**	PN		**Pn**	**00 44 09.2**	**-1.4**
GURO				SN		**Sg**	**00 44 29.8**	**+0.3**
GNI	**Garni**	**1.47**	**28**	PN		**Pg**	**00 44 11.2**	**-0.1**
CUKT	**Cukurca**	**1.62**	**187**	PN		**Pb**	**00 44 13.4**	**-0.5**
SRTM	**Siirt_Merkez**	**1.73**	**241**	*i*P		**Pb**	**00 44 14.9**	**-1.0**
SRTM				*i*S		**Sg**	**00 44 41.8**	**+3.0**
SIRT	**Sirnak**	**1.75**	**220**	PN		**Pb**	**00 44 14.7**	**-1.3**
VRTB	**Varto-Mus**	**1.88**	**280**	PN		**Pn**	**00 44 16.0**	**-0.6**
SVAN	**Silvan-Diyarba**	**2.19**	**252**	PN		**Pn**	**00 44 20.4**	**-0.3**
SVAN	**Silvan-Diyarba**	**2.19**	**252**	*i*P		**Pb**	**00 44 22.4**	**-1.1**

IDC 24 00:54:27.6±3.7,5.75S×152.15E,h0km,mb3.4/2, mb1 3.8/2,mb1mx3.4/29,mbtmp3.5/2,Error ellipse: s-maj=161.2km s-min=48.5km az=121.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.34**	**229**	P		P	00 59 27.8	+0.5
	0.4nm,0.5s,baz=55,slow=10,SNR=9.2							
ASAR	**Alice Springs**	**25.02**	**223**	P		P	00 59 52.8	-0.7
	0.5nm,0.7s,baz=51,slow=8.8,SNR=5.8							
TORD	**Torodi Ar. Bea**	**149.97**	**286**	PKPbc		PKPbc	01 14 20.9	-0.2
	0.5nm,1.0s,baz=66,slow=3.1,SNR=3.3							

IDC 24 01:03:52.2±48.0,23.24S×176.05W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.7/25,mbtmp4.0/3,Error ellipse: s-maj=887.0km s-min=166.0km az=87.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.33**	**248**	P		P	01 11 13.6	-1.3
	0.8nm,0.4s,baz=100,slow=12,SNR=3.2							
ASAR	**Alice Springs**	**45.72**	**259**	P		P	01 12 15.4	0.0
	1.1nm,0.4s,baz=97,slow=7.6,SNR=19							
WRA	**Warramunga Arr**	**46.07**	**264**	P		P	01 12 18.7	+0.5
	0.6nm,0.3s,baz=101,slow=8.1,SNR=39							

*ISCJB **24** 01:18:39.5±0.7,42.62N±0.03×78.91E±0.03,h2km±3km, Error ellipse: s-maj=5.2km s-min=3.0km az=141.9*
*NNC **24** 01:18:39.3±1.5,42.64N×78.89E,h0km,mb3.2,mpv2.9, Error ellipse: s-maj=14.1km s-min=3.5km az=153.0*
*KRNET **24** 01:18:39.7±0.1,42.62N×78.91E,h21km,mb3.5*
*SOME **24** 01:18:40.2,42.67N×78.82E,h5km*

ISC 24 01:18:39.5±1.3,42.62N±0.04×78.92E±0.02,h3km±10km, n61,σ1.02/118,32C-15D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.41**	**250**	⇑*i*P		**Pg**	**01 18 47.3**	**0.0**
	baz=50							
PRZ				⇑*i*S		**Sg**	**01 18 53.4**	**+0.8**
	baz=50							
UZB	**Uzunbulak**	**0.53**	**8**	*e*P		**Pg**	**01 18 50.3**	**+0.6**
	baz=9.0							
UZB				*e*S		**Sg**	**01 18 57.7**	**+1.1**
	baz=9.0							
UZB	**Uzunbulak**	**0.53**	**8**	*e*P		**Pg**	**01 18 50.3**	**+0.6**
	101nm,0.1s							
UZB				*e*S		**Sg**	**01 18 57.7**	**+1.1**
	237nm,0.1s							
SATY	**Saty**	**0.57**	**320**	*e*P		**Pg**	**01 18 50.9**	**+0.4**
	181nm,0.1s							
SATY				*e*S		**Sg**	**01 18 58.7**	**+0.7**
	752nm,0.1s							
ZHN	**Zhinishke**	**0.65**	**327**	*e*P		**Pg**	**01 18 52.3**	**+0.4**
	baz=28							
ZHN				*e*S		**Sg**	**01 19 01.1**	**+0.7**
	baz=28							
ZHN	**Zhinishke**	**0.65**	**327**	*e*P		**Pg**	**01 18 52.3**	**+0.4**
	164nm,0.2s							
ZHN				*e*S		**Sg**	**01 19 01.2**	**+0.7**
	348nm,0.2s							
SHLS	**Shalkode**	**0.67**	**37**	*e*P		**Pn**	**01 18 56.7**	**+0.6**
	baz=53							
SHLS				*e*S		**Sn**	**01 19 08.6**	**+1.5**
	baz=53							
SHLS	**Shalkode**	**0.67**	**37**	*e*P		**Pn**	**01 18 56.7**	**+0.6**
	50nm,0.2s							
SHLS				*e*S		**Sn**	**01 19 08.6**	**+1.5**
	372nm,0.3s							
PDGK	**Podgornoye**	**0.82**	**31**	⇑P		**Pg**	**01 18 55.2**	**0.0**
	8.1nm,0.2s							
PDGK				⇑S		**Sg**	**01 19 06.8**	**+0.8**
	110nm,0.4s							
PDGK	**Podgornoye**	**0.82**	**31**	⇓*i*P		**Pg**	**01 18 55.4**	**+0.1**
	baz=31							
PDGK				⇓*i*S		**Sb**	**01 19 07.1**	**-1.0**
	baz=31							
KPKS	**Kokpek**	**0.86**	**349**	*e*P		**Pg**	**01 18 56.1**	**+0.1**
	baz=48							
KPKS				*e*S		**Sg**	**01 19 07.4**	**+0.3**
	baz=48							
KPKS	**Kokpek**	**0.86**	**349**	*e*P		**Pg**	**01 18 56.1**	**+0.1**
	144nm,0.2s							
KPKS				*e*S		**Sg**	**01 19 07.4**	**+0.3**
	97nm,0.3s							
KURS	**Kuram**	**1.02**	**328**	*e*P		**Pg**	**01 18 59.2**	**+0.1**
	baz=28							
KURS				*e*S		**Sb**	**01 19 12.7**	**-1.1**
	baz=28							
KURS	**Kuram**	**1.02**	**328**	*e*P		**Pg**	**01 18 59.2**	**+0.1**
	50nm,0.3s							
KURS				*e*S		**Sb**	**01 19 12.7**	**-1.1**
	22nm,0.2s							
KTMS	**Ketmen**	**1.34**	**52**	*e*P		**Pn**	**01 19 04.1**	**-1.2**
	baz=51							
KTMS				*e*S		**Sg**	**01 19 21.3**	**-1.2**
	baz=51							
KTMS	**Ketmen**	**1.34**	**52**	*e*P		**Pn**	**01 19 04.1**	**-1.2**
	15nm,0.1s							
KTMS				*e*S		**Sg**	**01 19 21.3**	**-1.2**
	84nm,0.2s							
KDJ	**Kajisay**	**1.38**	**250**	⇑*i*P		**Pn**	**01 19 04.9**	**-0.9**
	baz=50							
KDJ				⇑*i*S		**Sg**	**01 19 23.0**	**-0.7**
	baz=50							
KOTS	**Kotyrbulak**	**1.46**	**295**	*e*P		**Pn**	**01 19 06.4**	**-0.5**
	13nm,0.2s							
KOTS				*e*S		**Sb**	**01 19 25.2**	**-1.3**
	106nm,0.4s							
MDOK	**Medeo**	**1.47**	**292**	P		**Pn**	**01 19 06.5**	**-0.7**
	4.2nm,0.3s							
MDOK				⇓S		**Sb**	**01 19 26.2**	**-0.7**
	105nm,0.5s							
MDOK	**Medeo**	**1.47**	**292**	*e*P		**Pn**	**01 19 06.5**	**-0.7**
	baz=92							
MDOK				*e*S		**Sb**	**01 19 24.8**	**-2.1**
	baz=92							
MDOK	**Medeo**	**1.47**	**292**	*e*P		**Pn**	**01 19 06.5**	**-0.7**
	12nm,0.2s							
MDOK				*e*S		**Sb**	**01 19 24.8**	**-2.1**
	158nm,0.4s							
TNSS	**Tian-Shan**	**1.51**	**287**	⇓*i*P		**Pn**	**01 19 07.0**	**-0.8**
	baz=87							
TNSS				⇓*e*S		**Sb**	**01 19 26.8**	**-1.2**
	baz=87							
TNSS	**Tian-Shan**	**1.51**	**287**	⇓*i*P		**Pn**	**01 19 07.0**	**-0.8**
	7.6nm,0.1s							
TNSS				*e*S		**Sb**	**01 19 26.8**	**-1.2**
	87nm,0.3s							
KNDC	**Almaty**	**1.55**	**293**	⇓S		**Sg**	**01 19 29.0**	**-0.3**
	27nm,0.4s							
AAA	**Alma-Ata**	**1.58**	**292**	*e*P		**Pb**	**01 19 09.2**	**-0.3**
	baz=93							
AAA				*e*S		**Sg**	**01 19 30.3**	**0.0**
	baz=93							
AAA	**Alma-Ata**	**1.58**	**292**	*e*P		**Pb**	**01 19 09.2**	**-0.3**
	25nm,0.1s							
AAA				*e*S		**Sg**	**01 19 30.2**	**0.0**
	191nm,0.2s							
IZV	**Izvestkoviy**	**1.74**	**284**	*e*P		**Pn**	**01 19 11.0**	**+0.2**
	baz=85							
IZV				*e*S		**Sb**	**01 19 33.5**	**-1.1**
	baz=85							
IZV	**Izvestkoviy**	**1.74**	**284**	*e*P		**Pn**	**01 19 11.0**	**+0.2**
	39nm,0.3s							
IZV				*e*S		**Sb**	**01 19 33.5**	**-1.1**
	99nm,0.4s							
ARXS	**Arharly**	**1.78**	**334**	*e*P		**Pb**	**01 19 12.3**	**-0.5**
	18nm,0.2s							
ARXS				*e*S		**Sb**	**01 19 35.1**	**-0.4**
	106nm,0.3s							
DJR	**Jarkent**	**1.82**	**20**	*e*P		**Pb**	**01 19 12.9**	**-0.6**
	23nm,0.2s							
DJR				*e*S		**Sb**	**01 19 36.2**	**-0.6**
	48nm,0.2s							
CHKK	**Chushkaly**	**1.87**	**312**	⇑*i*P		**Pb**	**01 19 13.9**	**-0.4**
	baz=12							
CHKK				⇑*e*S		**Sg**	**01 19 39.2**	**-0.4**
	baz=12							
CHKK	**Chushkaly**	**1.87**	**312**	⇑*i*P		**Pb**	**01 19 13.9**	**-0.4**
	22nm,0.3s							
CHKK				*e*S		**Sg**	**01 19 39.1**	**-0.4**
	470nm,0.3s							
MTBS	**Maitube**	**1.90**	**286**	*e*P		**Pb**	**01 19 13.9**	**-0.9**
	baz=87							
MTBS				*e*S		**Sb**	**01 19 37.9**	**-1.0**
	baz=87							
MTBS	**Maitube**	**1.90**	**286**	*e*P		**Pb**	**01 19 13.9**	**-0.9**
	16nm,0.2s							
MTBS				*e*S		**Sb**	**01 19 37.9**	**-1.0**
	62nm,0.2s							
KTBS	**Karatobe**	**1.96**	**304**	*e*P		**Pb**	**01 19 15.2**	**-0.7**
	baz=3.0							
KTBS				*e*S		**Sb**	**01 19 40.2**	**-0.6**
	baz=3.0							
KTBS	**Karatobe**	**1.96**	**304**	*e*P		**Pb**	**01 19 15.2**	**-0.7**
	19nm,0.4s							
KTBS				*e*S		**Sb**	**01 19 40.2**	**-0.6**
	91nm,0.3s							
ULHL	**Ulahol**	**2.02**	**260**	⇑*i*P		**Pn**	**01 19 15.0**	**+0.4**
	baz=60							
ULHL				⇑*i*S		**Sn**	**01 19 40.9**	**+0.5**
	baz=60							
BOOM	**Boomskoye usch**	**2.20**	**268**	⇑*i*P		**Pn**	**01 19 17.6**	**+0.4**
	baz=68							
BOOM				⇑*i*S		**Sn**	**01 19 45.5**	**+0.5**
	baz=68							
KST	**Kastek**	**2.21**	**282**	*e*P		**Pb**	**01 19 18.8**	**-1.4**
	baz=82							
KST				*e*S		**Sb**	**01 19 46.3**	**-1.8**
	baz=82							
KST	**Kastek**	**2.21**	**282**	*e*P		**Pb**	**01 19 18.8**	**-1.4**
	26nm,0.4s							
KST				*e*S		**Sb**	**01 19 46.3**	**-1.8**
	49nm,0.2s							
KUU	**Kurty**	**2.27**	**305**	*e*P		**Pb**	**01 19 20.3**	**-0.8**
	baz=5.0							
KUU				*e*S		**Sb**	**01 19 48.8**	**-0.8**
	baz=5.0							
KUU	**Kurty**	**2.27**	**305**	*e*P		**Pb**	**01 19 20.3**	**-0.8**
	10nm,0.2s							
KUU				*e*S		**Sb**	**01 19 48.8**	**-0.8**
	227nm,0.3s							
DGS	**Degeres**	**2.39**	**286**	*e*P		**Pb**	**01 19 21.9**	**-1.3**
	baz=86							
DGS				*e*S		**Sb**	**01 19 51.6**	**-1.6**
	baz=86							
DGS	**Degeres**	**2.39**	**286**	*e*P		**Pb**	**01 19 21.9**	**-1.3**
	12nm,0.4s							
DGS				*e*S		**Sb**	**01 19 51.6**	**-1.6**
	92nm,0.3s							
TDK	**Taldyqorghan**	**2.41**	**351**	*e*P		**Pb**	**01 19 23.7**	**+0.2**
	26nm,0.3s							
TDK				*e*S		**Sg**	**01 19 55.0**	**-1.9**
	122nm,0.4s							
TKM2	**Tokmak 2**	**2.46**	**278**	⇓Pn		**Pb**	**01 19 22.7**	**-1.8**
	5.0nm,0.5s							
TKM2				⇑Lg		Lg	01 19 56.1	
	34nm,0.5s							
TKM2	**Tokmak 2**	**2.46**	**278**	⇑*i*P		**Pn**	**01 19 21.4**	**+0.6**
	baz=78							
TKM2				⇑*i*S		**Sn**	**01 19 52.2**	**+0.7**
	baz=78							
NRN	**Naryn**	**2.48**	**242**	⇑*i*P		**Pn**	**01 19 22.3**	**+1.3**
	baz=42							
NRN				⇑*i*S		**Sn**	**01 19 52.9**	**+0.9**
	baz=42							
KAPS	**Kapalarasan**	**2.68**	**7**	*e*P		**Pb**	**01 19 27.3**	**-0.8**
	12nm,0.3s							
KAPS				*e*S		**Sb**	**01 20 00.9**	**-0.6**
	28nm,0.2s							
KZA	**Kyzart**	**2.77**	**260**	⇑*i*P		**Pn**	**01 19 26.1**	**+0.9**
	baz=60							
KZA				⇑*i*S		**Sn**	**01 19 59.8**	**+0.4**
	baz=60							
KBK	**Karagaybulak**	**2.93**	**272**	⇑*i*P		**Pn**	**01 19 27.9**	**+0.8**
	baz=72							
KBK				⇑*i*S		**Sn**	**01 20 03.2**	**+0.3**
	baz=72							
CHMS	**Chumysh**	**3.09**	**278**	⇓*i*P		**Pn**	**01 19 29.9**	**+0.7**
	baz=79							
CHMS				⇓*i*S		**Sn**	**01 20 06.8**	**+0.2**
	baz=79							
AAK	**Ala-Archa**	**3.26**	**272**	⇑Pg		**Pb**	**01 19 38.1**	**0.0**
	1.0nm,0.3s							
AAK				⇑Lg		Lg	01 20 17.7	
	11nm,0.6s							
AAK	**Ala-Archa**	**3.26**	**272**	⇑*i*P		**Pn**	**01 19 32.5**	**+0.8**
	baz=72							
AAK				⇑*i*S		**Sn**	**01 20 11.0**	**-0.1**
	baz=72							
UCH	**Uchtor**	**3.28**	**265**	⇑*i*P		**Pn**	**01 19 32.9**	**+0.6**
	baz=65							
UCH				⇑*i*S		**Sn**	**01 20 11.8**	**-0.3**
	baz=65							
USP	**Ospenovka**	**3.31**	**283**	⇓*i*P		**Pn**	**01 19 33.1**	**+0.9**
	baz=83							
USP				⇓*i*S		**Sn**	**01 20 12.2**	**+0.2**
	baz=83							
MRKS	**Merke**	**4.20**	**274**	*e*P		**Pb**	**01 19 54.2**	**+0.2**
	baz=74							
MRKS				*e*S		**Sb**	**01 20 47.3**	**+2.2**
	baz=74							
MRKS	**Merke**	**4.20**	**274**	*e*P		**Pb**	**01 19 54.2**	**+0.2**
	3.6nm,0.5s							
MRKS				*e*S		**Sb**	**01 20 47.3**	**+2.2**
	11nm,0.4s							
MNAS	**Manas**	**4.74**	**271**	⇑Pg		**Pb**	**01 20 03.4**	**+0.1**
	1.8nm,1.0s							
MNAS				⇑Lg		Lg	01 21 06.3	
	1.4nm,0.5s							
MK31	**Makanchi Array**	**4.81**	**29**	⇑Pn		**Pn**	**01 19 54.2**	**+1.3**
	baz=304,slow=21,SNR=3.9							
MK31				⇓Pg		**Pb**	**01 20 02.8**	**-1.7**
	baz=201,slow=14,SNR=2.6							
MK31				⇓Sn		**Sn**	**01 20 50.3**	**+1.1**
	1.0nm,0.4s,baz=209,slow=25,SNR=5.3							
MK31				⇑Lg		Lg	01 21 08.5	
	0.5nm,0.3s,baz=206,slow=28,SNR=4.2							
KK31	**Karatay Array**	**6.20**	**277**	⇓Pg		**Pb**	**01 20 32.1**	**+4.1**
	0.3nm,0.4s							
KK31				Lg		Lg	01 21 55.3	
	1.0nm,0.4s,baz=85,slow=29,SNR=7.7							

*ISCJB **24** 01:19:23.6±0.4,23.69S±0.02×67.76W±0.04,h106km±3km, mb4.8/194,

comp=E,15µm,0.4s
PB05 IPOC Station P 2.35 294 *e*P **Pn** **01 20 02.5 +0.5**
PB05 *i* S **Sn** **01 20 29.6 -1.1**
PB09 IPOC Station P 2.38 328 *e*P **Pn** **01 20 04.6 +2.1**
PB09 *i* S **Sn** **01 20 31.2 -0.3**
PB09 IAML 01 20 42.6
comp=N,4µm,0.5s
PB14 IPOC Station P 2.45 250 *e*P **Pn** **01 20 04.4 +0.8**
PB14 *i* S **Sn** **01 20 33.0 -0.3**
PB14 IAML 01 20 49.4
comp=N,4µm,0.4s
PB03 IPOC Station P 2.48 315 *e*P **Pn** **01 20 04.8 +1.0**
PB03 *i* S **Sn** **01 20 33.3 -0.5**
PB03 IAML 01 20 40.6
comp=N,7µm,0.4s
PB10 IPOC Station P 2.48 277 *e*Pn **Pn** **01 20 04.3 +0.6**
PB10 *e*Sn **Sn** **01 20 31.5 -2.1**
PB10 IPOC Station P 2.48 277 *e*P **Pn** **01 20 03.4 -0.3**
PB10 *i* S **Sn** **01 20 31.5 -2.1**
PB10 IAML 01 20 43.9
comp=N,5µm,0.5s
PB04 IPOC Station P 2.57 305 *e*Pn **Pn** **01 20 05.3 +0.3**
PB04 *e*Sn **Sn** **01 20 34.1 -1.9**
PB04 IPOC Station P 2.57 305 *e*P **Pn** **01 20 05.4 +0.4**
PB04 *i* S **Sn** **01 20 34.6 -1.4**
PB04 IAML 01 20 45.5
comp=N,6µm,0.5s
PB07 IPOC Station P 2.80 318 *e*P **Pn** **01 20 09.0 +0.9**
PB07 *i* S **Sn** **01 20 39.3 -2.0**
PB07 IAML 01 20 52.1
comp=N,5µm,0.5s
PB02 IPOC Station P 3.12 323 *e*P **Pn** **01 20 12.9 +0.7**
PB01 IPOC Station P 3.15 331 *e*Pn **Pn** **01 20 13.9 +1.3**
PB01 *e*Sn **Sn** **01 20 45.5 -4.0**
PB01 IPOC Station P 3.15 331 *e*P **Pn** **01 20 13.7 +1.1**
GO01 Chusmiza 4.32 343 *e*Pn **Pn** **01 20 30.0 +1.3**
GO01 *e*Sn Sn 01 21 05.3 -13
GO03 Copiap 4.32 209 *e*Pn **Pn** **01 20 28.3 0.0**
PB11 IPOC Station P 4.37 337 *e*Pn **Pn** **01 20 29.0 -0.1**
PB11 *e*Sn Sn 01 21 04.7 -14
MNMC Minye Minye 4.94 341 *e*Pn **Pn** **01 20 37.1 +0.2**
MNMC *e*Sn Sn 01 21 18.4 -15
LCO Las Campanas 5.76 206 *e*Pn **Pn** **01 20 46.9 -1.1**
LCO *e*Sn **Sn** **01 21 49.7 -3.1**
LCO Las Campanas 5.76 206 *ce*P **Pn** **01 20 47.1 -0.9**
GO04 Tololo Observa 6.84 202 *e*Pn **Pn** **01 21 01.1 -1.5**
GO04 *e*Sn **Sn** **01 22 15.5 -3.7**
LPAZ La Paz 7.50 358 P **Pn** **01 21 12.9 +0.9**
comp=N,0.8nm,0.3s,baz=165,slow=9.9,SNR=21
LPAZ LR LR 01 24 22.4
comp=N,227nm,18.2s,baz=166,slow=40
LPAZ La Paz 7.50 358 *e*Pn **Pn** **01 21 13.2 +1.2**
ROC1 El Roble 9.53 196 *e*Pn **Pn** **01 21 35.9 -3.3**
ROC1 *e*Sn **Sn** **01 23 18.0 -6.6**
PEL Peldehue 9.61 194 *e*Pn **Pn** **01 21 38.2 -1.9**
PEL Peldehue 9.61 194 *e*P **Pn** **01 21 38.2 -1.9**
CPUP Villa Florida 9.87 107 P **Pn** **01 21 45.4 +1.7**
comp=N,1.7nm,0.3s,baz=284,slow=11,SNR=24
CPUP LR LR 01 25 43.7
comp=N,373nm,20.9s,baz=300,slow=38
CPUP Villa Florida 9.87 107 *e*Pn **Pn** **01 21 43.6 0.0**
SIV San Ignacio 10.07 41 P **Pn** **01 21 45.9 -0.6**
comp=N,68nm,0.3s,baz=232,slow=14,SNR=374
SIV S **Sn** **01 23 31.7 -6.0**
baz=283,slow=16,SNR=2.7
GO05 HualaæØ 11.70 197 *e*Pn Pn 01 22 03.9 -4.4
TRQA Tornquist 15.05 162 *e*Pn **Pn** **01 22 51.1 -0.9**
comp=N,98nm,0.8s
TRQA Tornquist 15.05 162 *e*P **Pn** **01 22 51.1 -0.9**
TRQA pmax pmax
comp=Z,98nm,0.8s
GO06 Curarrehue 16.01 190 *e*Pn **Pn** **01 23 04.0 +0.1**
comp=Z,54nm,0.9s
PLCA Paso Flores 17.01 187 P **P** **01 23 17.3 +0.8**
comp=Z,0.4nm,0.3s,baz=25,slow=12,SNR=16
PLCA PcP **PcP** **01 27 56.6 +0.4**
comp=Z,0.2nm,0.3s,baz=32,slow=3.0,SNR=4.9
PLCA Paso Flores 17.01 187 *e*P **Pn** **01 23 16.2 -0.1**
comp=Z,33nm,0.6s
PLCA PcP **PcP** **01 27 56.6 +0.4**
SPB Sao Paulo 18.71 93 *e*P **P** **01 23 35.2 -0.1**
comp=Z,37nm,0.8s
GO07 Milladeo Hill, **19.83 193** *e*P **P** **01 23 48.0 +0.8**
comp=Z,312nm,0.5s
BDFB Brasilia 20.36 70 P **P** **01 23 53.2 -0.2**
comp=Z,112nm,0.5s,baz=246,slow=11,SNR=194
BDFB Brasilia 20.36 70 *e*P **P** **01 23 53.6 +0.2**
comp=Z,239nm,1.1s
BDFB Brasilia 20.36 70 *e*P **P** **01 23 53.6 +0.2**
BDFB pmax pmax
comp=Z,239nm,1.1s
CHRN Cochrane 23.68 188 *e*P **P** **01 24 26.3 -0.6**
comp=Z,14nm,0.8s
PTGA Pitinga 24.20 20 P **P** **01 24 30.7 -1.2**
comp=Z,29nm,0.5s,baz=198,slow=11,SNR=56
PTGA Pitinga 24.20 20 *e*P **P** **01 24 30.8 -1.1**
comp=Z,36nm,0.8s
OTAV Otavalo 26.03 335 *e*P **P** **01 24 47.9 -1.1**
comp=Z,9.4nm,0.9s
OTAV Otavalo 26.03 335 *e*P **P** **01 24 47.9 -1.1**
OTAV pmax pmax
comp=Z,9.0nm,0.9s
EFI East Falkland 28.81 167 *i* P **P** **01 25 13.3 +0.4**
EFI pmax pmax
comp=Z,42nm,0.9s
ROSC El Rosal 29.18 347 LR LR 01 38 48.4
comp=Z,139nm,18.1s,baz=228,slow=40
USHA Ushuaia 30.97 181 P **P** **01 25 34.1 +2.1**
comp=Z,14nm,0.7s,baz=5.3,slow=9.4,SNR=3.6
MDP Montagnes des 32.36 29 P **P** **01 25 43.6 -0.9**
comp=Z,19nm,0.6s,baz=204,slow=9.0,SNR=39
SDV Santo Domingo 32.62 355 LR LR 01 41 10.0
comp=Z,72nm,20.0s,baz=207,slow=40
SDV Santo Domingo 32.62 355 *e*P **P** **01 25 46.6 -0.4**
comp=Z,4.7nm,0.8s
RCBR Riachuelo 35.56 65 *e*P **P** **01 26 12.5 +0.1**
comp=Z,18nm,0.8s
RCBR Riachuelo 35.56 65 *e*P **P** **01 26 12.5 +0.1**
RCBR pmax pmax
comp=Z,18nm,0.8s
GRGR Grenville 36.25 10 *e*P **P** **01 26 18.4 +0.3**
comp=Z,80nm,0.7s
JTS JuntasAbangare 37.80 332 P **P** **01 26 32.3 +1.0**
comp=Z,4.9nm,0.7s,baz=197,slow=11,SNR=4.1
JTS JuntasAbangare 37.80 332 *e*P **P** **01 26 32.3 +1.0**
comp=Z,8.4nm,0.7s
JTS JuntasAbangare 37.80 332 *e*P **P** **01 26 32.3 +1.0**
JTS pmax pmax
comp=Z,8.0nm,0.7s
FDF Fort de France 38.88 10 *e*P P 01 26 46.0 +5.7
comp=Z,137nm,1.6s
FDF Fort de France 38.88 10 *e*P P 01 26 46.0 +5.7
FDF pmax pmax
comp=Z,137nm,1.6s
ANWB Willy Bob 41.66 9 *e*P **P** **01 27 02.3 -0.9**
comp=Z,69nm,0.6s
SJG San Juan 41.71 2 LR LR 01 46 23.7
comp=Z,48nm,18.4s,baz=191,slow=39
TLIG Tlapa 50.90 321 *e*P **P** **01 28 15.4 -0.3**
comp=Z,15nm,1.0s
ZAIG Zacatecas 57.29 321 *e*P **P** **01 29 02.1 -0.2**
comp=Z,17nm,1.0s
LNIG Linares 57.30 326 *e*P **P** **01 29 01.4 -0.6**
comp=Z,20nm,1.2s
351A Pinckard 57.36 342 P **P** **01 29 01.7 -0.5**
baz=161
352A Blakely 57.36 343 *e*P **P** **01 29 01.9 -0.4**
comp=Z,34nm,0.9s
352A Blakely 57.36 343 P **P** **01 29 01.8 -0.5**
baz=161,SNR=6.3
VNA3 Neumayer Olymp 57.58 161 P **P** **01 29 04.5 +1.2**
VNA1 Neumayer--Stat 57.78 160 P **P** **01 29 06.4 +1.6**
NHSC New Hope 57.82 348 P **P** **01 29 06.2 +0.8**
baz=167
349A Repton 57.90 340 P **P** **01 29 05.8 -0.2**
baz=159
154A Montrose 57.98 345 *e*P **P** **01 29 05.4 -1.1**
comp=Z,36nm,1.0s
154A Montrose 57.98 345 P **P** **01 29 06.2 -0.3**
baz=164
251A Midway 58.08 342 P **P** **01 29 06.4 -0.8**
baz=161,SNR=8.0
VNA2 Neumayer--Watz 58.15 160 P **P** **01 29 08.5 +1.1**
baz=286,slow=8.2
250A Grady 58.21 342 *e*P **P** **01 29 07.5 -0.7**
comp=Z,61nm,1.5s
250A Grady 58.21 342 P **P** **01 29 07.5 -0.7**
baz=160
347A Saraland 58.37 339 P **P** **01 29 08.8 -0.5**
baz=158
249A Camden 58.46 341 P **P** **01 29 09.4 -0.5**
baz=159
Z54A Sparta 58.51 345 P **P** **01 29 09.6 -0.6**
baz=164
150A Eclectic 58.73 342 P **P** **01 29 10.9 -0.9**
baz=160,SNR=6.1
248A Dixon Mills 58.76 340 P **P** **01 29 11.4 -0.6**
baz=159
GOGA Godfrey 58.83 345 *e*P **P** **01 29 10.8 -1.6**
comp=Z,29nm,1.6s
GOGA Godfrey 58.83 345 *e*P **P** **01 29 10.8 -1.6**
GOGA pmax pmax
comp=Z,29nm,1.6s
GOGA Godfrey 58.83 345 P **P** **01 29 11.6 -0.8**
baz=163
Y54A Tignall 59.08 346 P **P** **01 29 13.6 -0.5**
baz=164,SNR=5.4
JSC Jenkinsville 59.17 347 *e*P **P** **01 29 14.3 -0.5**
comp=Z,12nm,0.8s
JSC Jenkinsville 59.17 347 *e*P **P** **01 29 14.3 -0.5**
JSC pmax pmax
comp=Z,12nm,0.8s
Y53A Monroe 59.28 345 P **P** **01 29 15.0 -0.6**
baz=163,SNR=5.0
Z50A Ashland 59.31 342 *e*P **P** **01 29 14.8 -1.1**
comp=Z,21nm,0.8s
Z50A Ashland 59.31 342 P **P** **01 29 15.0 -0.8**
baz=161,SNR=9.4
245A Little AP, Sta 59.40 338 P **P** **01 29 16.0 -0.4**
baz=156
Y52A Lilburn 59.40 344 *e*P **P** **01 29 15.9 -0.5**
comp=Z,13nm,0.8s
Y52A Lilburn 59.40 344 P **P** **01 29 15.9 -0.5**
baz=163
LRAL Lakeview Retre 59.41 341 *e*P **P** **01 29 15.6 -0.9**
comp=Z,7.3nm,0.7s
LRAL Lakeview Retre 59.41 341 P **P** **01 29 15.5 -0.9**
baz=160,SNR=5.2
Z49A Columbiana 59.43 342 P **P** **01 29 15.9 -0.7**
baz=160
147A Livingston 59.46 340 *e*P **P** **01 29 16.7 -0.1**
comp=Z,118nm,2.0s
342A Flagon Creek P 59.67 336 *e*P **P** **01 29 18.8 +0.5**
comp=Z,44nm,0.8s
342A Flagon Creek P 59.67 336 P **P** **01 29 18.8 +0.5**
baz=154,SNR=7.5
Y51A Rockmart 59.69 343 P **P** **01 29 17.6 -0.8**
baz=162,SNR=7.7
SNAA Sanae 59.78 161 P **P** **01 29 19.6 +0.9**
SNAA Sanae 59.78 161 P **P** **01 29 19.7 +0.9**
comp=Z,8.9nm,0.6s,baz=280,slow=8.0,SNR=136
SNAA PcP **PcP** **01 30 04.8 +0.5**
comp=Z,5.8nm,0.5s,baz=256,slow=8.5,SNR=11
SNAA Sanae 59.78 161 *e*P **P** **01 29 19.6 +0.9**
comp=Z,48nm,1.5s
SNAA PcP **PcP** **01 30 04.8 +0.5**
SNAA Sanae 59.78 161 *i* P **P** **01 29 18.3 -0.4**
X53A Estanollee 59.83 345 P **P** **01 29 18.9 -0.4**
baz=164
HKT Hockley 59.84 332 *e*P **P** **01 29 18.3 -1.1**
comp=Z,8.1nm,1.0s
HKT Hockley 59.84 332 *e*P **P** **01 29 18.3 -1.1**
HKT pmax pmax
comp=Z,8.0nm,1.0s
Y50A Piedmont 59.86 343 P **P** **01 29 18.8 -0.8**
baz=161
Z47A Carrollton 59.89 340 P **P** **01 29 18.8 -0.9**
baz=159
Z48A Northport 59.90 341 P **P** **01 29 18.6 -1.2**
baz=159,SNR=5.1
145A Houston Renfro 59.93 339 P **P** **01 29 19.5 -0.6**
baz=157
Y49A Blount Mountai 60.02 342 *e*P **P** **01 29 19.7 -1.0**
comp=Z,9.6nm,0.8s
Y49A Blount Mountai 60.02 342 P **P** **01 29 19.7 -1.0**
baz=160
KMSC Kings Mountain 60.02 347 *e*P **P** **01 29 20.5 -0.1**
comp=Z,26nm,1.1s
KMSC Kings Mountain 60.02 347 P **P** **01 29 19.7 -0.9**
baz=166,SNR=5.4
833A Chaparral WMA, 60.09 328 *e*P **P** **01 29 21.3 0.0**
comp=Z,56nm,0.8s
833A Chaparral WMA, 60.09 328 P **P** **01 29 21.3 0.0**
baz=147,SNR=15
BG3 Lake Jocassee 60.22 346 *e*P **P** **01 29 22.1 +0.1**
comp=Z,15nm,0.9s
X51A Calhoun 60.27 344 *e*P **P** **01 29 22.0 -0.3**
comp=Z,34nm,0.8s
X51A Calhoun 60.27 344 P **P** **01 29 21.9 -0.5**
baz=162,SNR=7.4
Y48A Jasper 60.28 342 P **P** **01 29 21.2 -1.2**
baz=160
X50B Fort Payne 60.38 343 P **P** **01 29 23.0 -0.1**
baz=161
W53A Cullowhee 60.44 346 P **P** **01 29 23.3 -0.4**
baz=164,SNR=6.0
241A Mo Tay, Goldon 60.48 336 *e*P **P** **01 29 24.5 +0.7**
comp=Z,42nm,0.8s
X49A Woodville 60.61 343 P **P** **01 29 23.8 -0.8**
baz=161,SNR=6.0
X48A Hartselle 60.75 342 *e*P **P** **01 29 24.8 -0.9**
comp=Z,21nm,0.8s
X48A Hartselle 60.75 342 P **P** **01 29 24.7 -0.9**
baz=160,SNR=12
Y46A Houston 60.76 340 P **P** **01 29 24.5 -1.2**
baz=158,SNR=5.1
W51A Cleveland 60.81 344 P **P** **01 29 25.7 -0.3**
baz=162,SNR=5.6
240A Hunter Patters 60.81 335 *e*P **P** **01 29 24.9 -1.2**
comp=Z,26nm,0.7s
V53A Saluda 60.84 346 P **P** **01 29 25.9 -0.4**
baz=164
W50A Signal Mountai 60.99 344 *e*P **P** **01 29 26.6 -0.6**
comp=Z,24nm,0.8s
W50A Signal Mountai 60.99 344 P **P** **01 29 27.0 -0.3**
baz=162,SNR=9.6
CPCT Cooper Cave 61.02 344 *e*P **P** **01 29 27.0 -0.5**
comp=Z,15nm,0.9s
TKL Tuckaleechee C 61.05 345 *e*P **P** **01 29 26.8 -0.8**
comp=Z,18nm,0.9s
TKL Tuckaleechee C 61.05 345 *e*P **P** **01 29 26.8 -0.8**
TKL pmax pmax
comp=Z,18nm,0.9s
X47A Russelville 61.05 341 P **P** **01 29 26.4 -1.2**
baz=159,SNR=7.3
W49A Belvidere 61.16 343 P **P** **01 29 27.4 -1.0**
baz=161
SWET Sewanee 61.16 343 *e*P **P** **01 29 27.9 -0.6**
comp=Z,30nm,0.7s
V52A Sevierville 61.18 345 *e*P **P** **01 29 27.7 -0.9**
comp=Z,12nm,0.8s
V52A Sevierville 61.18 345 P **P** **01 29 27.6 -0.9**
baz=164
435B Jarrell 61.32 331 *e*P **P** **01 29 29.6 +0.1**
comp=Z,12nm,0.7s
V51A Loudon 61.32 345 *e*P **P** **01 29 28.0 -1.5**
comp=Z,22nm,1.4s
V51A Loudon 61.32 345 P **P** **01 29 28.7 -0.8**
baz=163
W48A Pulaski 61.36 342 P **P** **01 29 29.1 -0.7**
baz=160,SNR=8.4
V50A Pikevile 61.38 344 P **P** **01 29 29.2 -0.6**
baz=162,SNR=9.6
X45A UM Field Stati 61.43 340 P **P** **01 29 29.2 -1.0**
baz=158
OXF Oxford 61.52 340 *e*P **P** **01 29 28.5 -2.3**
OXF Oxford 61.52 340 *e*P **P** **01 29 28.5 -2.3**
OXF Oxford 61.52 340 P **P** **01 29 29.3 -1.4**
baz=158,SNR=5.7
PLAL Pickwick Lake 61.55 341 *e*P **P** **01 29 29.8 -1.2**
W47A Westpoint 61.66 342 P **P** **01 29 30.5 -1.2**
baz=160,SNR=6.9
V49A McMinnville 61.67 343 P **P** **01 29 30.9 -1.0**
baz=161,SNR=10.0
BLA Blacksburg 61.85 349 *e*P **P** **01 29 32.5 -0.6**
BLA Blacksburg 61.85 349 *e*P **P** **01 29 32.5 -0.6**
V48A Smith Brothers 61.90 343 *e*P **P** **01 29 32.8 -0.5**
comp=Z,20nm,0.8s
U50A Jamestown 62.02 345 P **P** **01 29 33.3 -0.9**
baz=162,SNR=5.8
JCT Junction City 62.08 329 *e*P **P** **01 29 34.3 -0.4**
comp=Z,32nm,0.8s
JCT Junction City 62.08 329 *e*P **P** **01 29 34.3 -0.4**
JCT pmax pmax
comp=Z,32nm,0.8s
JCT Junction City 62.08 329 P **P** **01 29 34.2 -0.5**
baz=147,SNR=21
HPIG 62.29 322 *e*P **P** **01 29 36.7 +0.3**
comp=Z,9.8nm,0.6s
WHTX Lake Whitney, **62.30 332** *e*P **P** **01 29 35.7 -0.3**
comp=Z,16nm,0.9s
WHTX Lake Whitney, **62.30 332** P **P** **01 29 35.2 -0.8**
baz=149
V46A Holladay 62.32 341 P **P** **01 29 35.1 -1.1**
baz=159
U49A Red Boiling Sp 62.35 344 P **P** **01 29 35.3 -1.1**
baz=162
V45A Humboldt 62.51 341 P **P** **01 29 36.2 -1.2**
baz=158
WVT Waverly 62.54 342 *e*P **P** **01 29 36.1 -1.5**
comp=Z,22nm,0.7s
WVT Waverly 62.54 342 *e*P **P** **01 29 36.1 -1.5**
WVT pmax pmax
comp=Z,22nm,0.7s
WVT Waverly 62.54 342 P **P** **01 29 36.4 -1.2**
baz=159
U48A Cassie Pea, Po 62.55 343 P **P** **01 29 36.7 -0.9**
baz=161
T50A Nancy 62.60 345 P **P** **01 29 36.8 -1.2**
baz=162
U47A Clarksville 62.68 342 P **P** **01 29 37.3 -1.2**
baz=160,SNR=9.1
T49A Edmonton 62.85 344 *e*P **P** **01 29 38.6 -1.0**
comp=Z,16nm,0.9s
T49A Edmonton 62.85 344 P **P** **01 29 38.6 -1.0**
baz=162,SNR=7.0
MIAR Mount Ida 62.98 336 *e*P **P** **01 29 40.0 -0.5**
comp=Z,15nm,1.1s
MIAR Mount Ida 62.98 336 *e*P **P** **01 29 40.0 -0.5**
MIAR pmax pmax
comp=Z,15nm,1.1s
MIAR Mount Ida 62.98 336 P **P** **01 29 40.1 -0.5**
baz=154,SNR=6.3
W41B Gary Mavity, V 63.06 338 *e*P **P** **01 29 39.8 -1.3**
comp=Z,25nm,1.7s
T48A Bowling Green 63.07 343 P **P** **01 29 39.9 -1.2**
baz=161
TX31 Lajitas Ar. Si 63.08 325 *e*P **P** **01 29 41.2 -0.3**
TXAR Lajitas Array 63.08 325 P **P** **01 29 41.3 -0.2**
comp=Z,3.7nm,0.6s,baz=149,slow=8.2,SNR=22
S50A Richmond 63.12 345 P **P** **01 29 40.8 -0.6**
baz=163
T47A Sharon Grove 63.15 343 *e*P **P** **01 29 40.3 -1.3**
comp=Z,23nm,0.9s
T47A Sharon Grove 63.15 343 P **P** **01 29 40.7 -0.9**
baz=160,SNR=12
T46A Princeton 63.41 342 P **P** **01 29 42.3 -1.1**
baz=160
S49A Springfield 63.43 345 P **P** **01 29 42.4 -1.1**
baz=162
S48A Wiedeman Farm, 63.50 344 P **P** **01 29 42.4 -1.6**
baz=161,SNR=6.1
V41A Mountainview 63.59 338 P **P** **01 29 43.6 -1.0**
baz=155
T45A Paducah 63.61 342 *e*P **P** **01 29 43.6 -1.0**
comp=Z,55nm,0.9s
W39A Magazine 63.63 336 P **P** **01 29 44.7 -0.1**
baz=154
S47A Hartford 63.66 343 P **P** **01 29 43.5 -1.4**
baz=161,SNR=7.3
X37A Clayton 63.69 335 *e*P **P** **01 29 44.1 -1.2**
comp=Z,17nm,0.9s
U42A Revenden 63.79 339 P **P** **01 29 44.9 -0.9**
baz=156
ABTX Abilene, Hawle 63.80 330 *e*P **P** **01 29 45.8 -0.3**
comp=Z,22nm,1.0s
ABTX Abilene, Hawle 63.80 330 P **P** **01 29 45.7 -0.3**
baz=148,SNR=10
R49A Shelbyville 63.89 345 P **P** **01 29 45.5 -0.9**
baz=162
PBMO Poplar Bluff 63.92 340 *e*P **P** **01 29 46.0 -0.7**
comp=Z,12nm,0.4s
S46A Don Dixon Farm 63.97 343 P **P** **01 29 45.6 -1.4**
baz=160
U41A Viola 64.01 339 P **P** **01 29 46.3 -1.0**
baz=156
WCI Wyandotte Cave 64.10 344 *e*P **P** **01 29 46.7 -1.2**
comp=Z,15nm,0.7s
WCI Wyandotte Cave 64.10 344 *e*P **P** **01 29 46.7 -1.2**
WCI pmax pmax
comp=Z,15nm,0.7s
WCI Wyandotte Cave 64.10 344 P **P** **01 29 46.6 -1.3**
baz=161
MCWV Mont Chateau 64.14 350 *e*P **P** **01 29 47.8 -0.3**
comp=Z,21nm,1.3s
MCWV Mont Chateau 64.14 350 P **P** **01 29 48.3 +0.3**
baz=168
R48A Northridge Ran 64.16 344 P **P** **01 29 47.1 -1.1**
baz=162
T43A Greenville 64.16 340 P **P** **01 29 47.4 -0.9**
baz=157,SNR=8.3
S45A Carrier Mills 64.20 342 P **P** **01 29 47.4 -1.1**
baz=159
NVL N'lazarevskaya 64.33 159 ⇓ *i* P **P** **01 29 50.8 +1.8**
NVL *e*S S 01 38 33.0 +14
NVL pmax pmax
comp=Z,15nm,0.7s
U40A Yellville 64.34 338 P **P** **01 29 48.9 -0.6**
baz=155
T42A Van Buren 64.37 340 P **P** **01 29 48.3 -1.3**
baz=156
S43A Fulton Ridge, 64.55 341 P **P** **01 29 49.7 -1.1**
baz=158,SNR=8.2
T41A Mountain View 64.60 339 P **P** **01 29 50.2 -1.0**
baz=156
Q48A North Vernon 64.63 345 P **P** **01 29 50.1 -1.2**
baz=162
HHAR Hobbs 64.66 337 *e*P **P** **01 29 51.0 -0.5**
comp=Z,14nm,1.0s
R45A Skylar, Fairfi 64.69 342 P **P** **01 29 50.4 -1.3**
baz=159
O52A Adamsville 64.93 348 P **P** **01 29 52.7 -0.5**
baz=166
S42A Caledonia 64.95 340 P **P** **01 29 52.1 -1.3**
baz=157,SNR=8.0
P49A Miami Univ. Ec 64.97 346 P **P** **01 29 52.2 -1.3**
baz=163
TUL1 Leonard 65.02 335 *e*P **P** **01 29 53.5 -0.4**
comp=Z,42nm,1.6s
TUL1 Leonard 65.02 335 P **P** **01 29 53.4 -0.5**
baz=152
FVM French Village 65.03 340 *e*P **P** **01 29 53.1 -0.8**
comp=Z,29nm,0.6s
FVM French Village 65.03 340 *e*P **P** **01 29 53.1 -0.8**
FVM pmax pmax
comp=Z,29nm,0.6s
S41A Jillco Farms, 65.08 339 P **P** **01 29 53.4 -0.9**
baz=156,SNR=9.9
O51A Pataskala 65.11 348 P **P** **01 29 53.7 -0.7**
baz=165
WMOK Wichita Mounta 65.21 332 *e*P **P** **01 29 53.8 -1.4**
WMOK Wichita Mounta 65.21 332 *e*P **P** **01 29 53.8 -1.4**
Q45A Warren Harvey, 65.22 343 P **P** **01 29 53.7 -1.4**
baz=160
ACSO Alum Creek Sta 65.26 347 *e*P **P** **01 29 54.3 -1.1**
comp=Z,8.5nm,0.5s
P47A Martinsville 65.29 344 P **P** **01 29 54.2 -1.3**
baz=162
CCM Cathedral Cave 65.35 340 *e*P **P** **01 29 55.1 -0.9**
comp=Z,23nm,0.8s
CCM Cathedral Cave 65.35 340 *e*P **P** **01 29 55.1 -0.9**
CCM pmax pmax
comp=Z,23nm,0.8s
CCM Cathedral Cave 65.35 340 P **P** **01 29 55.1 -0.9**
baz=156
R42A Luebbering 65.42 340 P **P** **01 29 55.5 -0.9**
baz=157,SNR=9.7
R41A Rosebud 65.62 340 P **P** **01 29 56.7 -1.0**
baz=156,SNR=11
GDL2 Guadalupe Moun 65.72 326 *e*P **P** **01 29 59.3 +0.6**
O48A Farmland 65.75 346 P **P** **01 29 57.4 -1.1**
baz=163
MNTX Cornudas Mount 65.85 325 *e*P **P** **01 29 58.5 -0.9**
comp=Z,8.9nm,0.9s
MNTX Cornudas Mount 65.85 325 P **P** **01 29 58.5 -0.9**
baz=142,SNR=14
Q42A Golden Eagle 65.92 341 P **P** **01 29 58.8 -0.8**
baz=157
Q41A Truxton 66.17 340 P **P** **01 30 00.4 -0.8**
baz=157
N49A Columbus Grove 66.18 347 *e*P **P** **01 29 59.8 -1.4**
comp=Z,35nm,1.2s

N49A	Columbus Grove	66.18	347	P		P	01 30 00.2	-1.1		
	baz=164									
MSTX	Muleshoe	66.37	329	*e*P		P	01 30 02.3	-0.5		
	comp=Z,41nm,1.1s									
MSTX	Muleshoe	66.37	329	P		P	01 30 02.2	-0.5		
	baz=145,SNR=21									
QSPA	South Pole Qui	66.38	180	*e*P		P	01 30 04.0	+1.5		
	comp=Z,37nm,0.6s									
AMTX	Amarillo	66.62	330	*e*P		P	01 30 03.5	-0.8		
P41A	Barry, Barry	66.78	341	P		P	01 30 04.1	-1.0		
	baz=157									
N43A	Stutzman Famil	67.41	343	P		P	01 30 08.0	-1.0		
	baz=159,SNR=6.0									
121A	Cookes Peak, D	67.77	324	P		P	01 30 12.9	+1.2		
	baz=141,SNR=5.3									
N40A	Mertquake, Sal	68.05	341	P		P	01 30 12.1	-1.0		
	baz=157									
KSU1	Kansas State U	68.13	336	*e*P		P	01 30 12.2	-1.5		
	comp=Z,7.0nm,0.6s									
KSU1	Kansas State U	68.13	336	P		P	01 30 12.9	-0.7		
	baz=152									
LIC	Lamto	68.14	72	*e*P		P	01 30 14.4	+0.2		
	comp=Z,59nm,0.7s									
M41A	Milan	68.19	342	P		P	01 30 12.8	-1.2		
	baz=158									
TIC	Toumodi	68.34	72	*e*P		P	01 30 15.5	-0.1		
BNM	Barren Site	68.42	326	*e*P		P	01 30 15.8	-0.1		
KIC	Kosan Boka	68.45	72	*e*P		P	01 30 16.6	+0.4		
	comp=Z,89nm,0.6s									
L43A	Garden Prairie	68.45	343	P		P	01 30 14.8	-0.8		
	baz=160									
DBIC	Dimbokro	68.50	72	P		P	01 30 17.0	+0.5		
	comp=Z,38nm,0.7s,baz=218,slow=6.5,SNR=67									
DBIC					LR	LR	02 00 11.9			
	comp=Z,13nm,18.4s,baz=244,slow=36									
DBIC	Dimbokro	68.50	72	P		P	01 30 17.0	+0.5		
M40A	Post Highland	68.50	341	P		P	01 30 14.9	-1.0		
	baz=157									
LPM	Los Pinos Moun	68.55	326	*e*P		P	01 30 16.9	+0.3		
LAZ	Ladron	68.88	326	*e*P		P	01 30 18.6	-0.1		
ANMO	Albuquerque	68.96	327	*e*P		P	01 30 19.6	+0.5		
	comp=Z,12nm,0.8s									
ANMO	Albuquerque	68.96	327	*de*P		P	01 30 19.7	+0.5		
ANMO					pmax	pmax				
	comp=Z,14nm,0.9s									
ANMO	Albuquerque	68.96	327	P		P	01 30 19.7	+0.5		
	baz=142									
L40A	Anamosa	69.02	342	P		P	01 30 18.8	-0.3		
	baz=157									
SADO	Sadowa	69.03	351	P		P	01 30 18.4	-0.6		
	comp=Z,11nm,0.7s,baz=206,slow=6.2,SNR=7.0									
CBKS	Cedar Bluff	69.09	334	*e*P		P	01 30 19.9	+0.2		
	comp=Z,19nm,0.6s									
CBKS	Cedar Bluff	69.09	334	*e*P		P	01 30 19.9	+0.2		
CBKS					pmax	pmax				
	comp=Z,19nm,0.6s									
CBKS	Cedar Bluff	69.09	334	P		P	01 30 20.0	+0.3		
	baz=149,SNR=7.6									
K42A	Prairie Point,	69.17	343	P		P	01 30 19.6	-0.4		
	baz=159									
TUC	Tucson	69.25	322	*e*P		P	01 30 20.8	-0.1		
	comp=Z,12nm,1.1s									
TUC	Tucson	69.25	322	*e*P		P	01 30 20.8	-0.1		
TUC					pmax	pmax				
	comp=Z,12nm,1.1s									
TUC	Tucson	69.25	322	P		P	01 30 21.8	+0.9		
	baz=138									
K41A	Shullsburg	69.27	342	P		P	01 30 19.8	-0.8		
	baz=158									
J43A	Natural Harves	69.49	344	P		P	01 30 21.3	-0.7		
	baz=160									
JFWS	Jewell Farm	69.54	343	*e*P		P	01 30 21.4	-0.9		
	comp=Z,21nm,0.6s									
JFWS	Jewell Farm	69.54	343	*e*P		P	01 30 21.4	-0.9		
JFWS					pmax	pmax				
	comp=Z,21nm,0.6s									
JFWS	Jewell Farm	69.54	343	P		P	01 30 21.8	-0.5		
	baz=158									
K40A	Colesburg	69.59	342	P		P	01 30 21.7	-0.8		
	baz=157									
T25A	Trinidad	69.73	330	*e*P		P	01 30 24.4	+0.6		
	comp=Z,40nm,1.7s									
T25A	Trinidad	69.73	330	P		P	01 30 24.5	+0.6		
	baz=144									
J41A	Loganville	69.89	343	P		P	01 30 24.1	-0.4		
	baz=158									
J40A	Soldiers Grove	70.12	342	P		P	01 30 25.9	+0.1		
	baz=158									
214A	Organ Pipe Nat	70.16	320	P		P	01 30 27.3	+0.9		
	baz=137									
J39A	Decorah	70.33	342	P		P	01 30 26.2	-0.9		
	baz=157									
BGNE	Belgrade	70.72	336	*e*P		P	01 30 29.2	-0.3		
	comp=Z,74nm,0.9s									
BGNE	Belgrade	70.72	336	P		P	01 30 29.4	-0.1		
	baz=151,SNR=11									
SDCO	Great Sand Dun	70.73	329	*e*P		P	01 30 29.9	-0.2		
SDCO	Great Sand Dun	70.73	329	P		P	01 30 30.7	+0.7		
	baz=144,SNR=13									
W18A	Petrified Fore	70.79	325	*e*P		P	01 30 30.2	-0.1		
	comp=Z,16nm,1.0s									
W18A	Petrified Fore	70.79	325	P		P	01 30 31.1	+0.8		
	baz=140,SNR=8.5									
S22A	4UR Ranch, Cre	71.36	328	*e*P		P	01 30 34.2	+0.4		
	comp=Z,3.7nm,0.8s									
S22A	4UR Ranch, Cre	71.36	328	P		P	01 30 34.5	+0.7		
	baz=143,SNR=6.1									
Q24A	Divide	71.55	330	*e*P		P	01 30 34.6	-0.3		
	comp=Z,15nm,0.8s									
Q24A	Divide	71.55	330	P		P	01 30 35.4	+0.4		
	baz=144,SNR=7.6									
MVCO	Mesa Verde	71.76	327	*e*P		P	01 30 36.5	+0.3		
	comp=Z,11nm,0.8s									
MVCO	Mesa Verde	71.76	327	P		P	01 30 36.7	+0.5		
	baz=141,SNR=11									
WUAZ	Wupatki	71.97	324	*e*P		P	01 30 37.9	+0.5		
	comp=Z,14nm,0.8s									
WUAZ	Wupatki	71.97	324	P		P	01 30 38.6	+1.2		
	baz=139,SNR=16									
ECSD	EROS Data Cent	72.22	339	*e*P		P	01 30 37.9	-0.6		
ECSD	EROS Data Cent	72.22	339	P		P	01 30 38.0	-0.5		
	baz=152,SNR=5.9									
SPMN	Marine on St.	72.38	342	*e*P		P	01 30 38.5	-1.0		
	comp=Z,13nm,0.7s									
SPMN	Marine on St.	72.38	342	P		P	01 30 38.7	-0.7		
	baz=156									
ISCO	Idaho Springs	72.44	330	*e*P		P	01 30 40.1	-0.2		
	comp=Z,6.5nm,0.8s									
ISCO	Idaho Springs	72.44	330	*e*P		P	01 30 40.1	-0.2		
ISCO					pmax	pmax				
	comp=Z,7.0nm,0.8s									
ISCO	Idaho Springs	72.44	330	P		P	01 30 40.8	+0.5		
	baz=144,SNR=9.2									
Y12C	Blythe	72.45	321	*e*P		P	01 30 40.8	+0.7		
	comp=Z,26nm,1.2s									
PV01	Paradox Valley	72.51	327	*e*P		P	01 30 41.0	+0.3		
SMCO	Snowmass	72.56	329	*e*P		P	01 30 42.2	+1.0		
	comp=Z,12nm,0.8s									
IKP	In-Ko-Pah, Jac	72.61	319	P		P	01 30 42.3	+1.1		
	baz=134									
PV02	Paradox Valley	72.65	327	*e*P		P	01 30 41.4	-0.1		
	comp=Z,5.1nm,0.9s									
PV13	Radium Mtn., P	72.66	327	*e*P		P	01 30 42.5	+1.0		
	comp=Z,13nm,1.0s									
E40A	Wakefield	72.73	344	P		P	01 30 41.4	-0.1		
	baz=159									
PV05	Paradox Valley	72.73	327	*e*P		P	01 30 42.7	+0.8		
PV03	Paradox Valley	72.74	327	*e*P		P	01 30 42.8	+0.8		
PV12	Saucer Basin,	72.77	327	*e*P		P	01 30 43.2	+1.0		
	comp=Z,5.4nm,0.8s									
F37A	Hinrichs Farm,	72.79	342	P		P	01 30 41.6	-0.2		
	baz=156									
PV11	David Mesa, Pa	72.79	327	*e*P		P	01 30 43.2	+0.9		
	comp=Z,19nm,1.5s									
PV17	East Wray Mesa	72.82	327	*e*P		P	01 30 42.7	+0.2		
	comp=Z,6.6nm,0.9s									
PV14	Lion Creek, Pa	72.92	327	*e*P		P	01 30 42.8	-0.3		
	comp=Z,8.5nm,0.9s									
BC3	Big Chuckawall	72.92	320	P		P	01 30 44.0	+0.9		
	baz=135,SNR=12									
PV22	Blue Mesa, Par	72.93	327	*e*P		P	01 30 43.3	+0.2		
	comp=Z,11nm,1.0s									
PV10	Paradox Valley	72.93	327	*e*P		P	01 30 43.9	+0.7		
MONP2	Monument Peak	72.97	319	P		P	01 30 44.3	+0.8		
	baz=134									
BAR	Barrett	72.97	318	*e*P		P	01 30 43.9	+0.7		
	comp=Z,13nm,0.9s									
PV21	Cone Mtn., Par	73.05	327	*e*P		P	01 30 44.8	+0.9		
	comp=Z,4.7nm,0.7s									
IRM	Iron Mountain	73.10	320	P		P	01 30 45.0	+1.0		
	baz=135,SNR=11									
N23A	Red Feather La	73.47	331	*e*P		P	01 30 46.6	+0.4		
	comp=Z,13nm,0.9s									
N23A	Red Feather La	73.47	331	P		P	01 30 47.2	+0.9		
	baz=144,SNR=6.7									
BELC	Belle Mtn. Jos	73.49	320	P		P	01 30 47.4	+1.0		
	baz=135,SNR=6.4									
XPFO	Pæon Flat	73.49	319	*e*P		P	01 30 47.7	+1.3		
	comp=Z,6.7nm,0.8s									
PFO	Pinyon Flats O	73.49	319	*e*P		P	01 30 46.8	+0.4		
	comp=Z,6.5nm,0.8s									
PFO	Pinyon Flats O	73.49	319	*e*P		P	01 30 46.8	+0.4		
PFO					pmax	pmax				
	comp=Z,7.0nm,0.8s									
PFO	Pinyon Flats O	73.49	319	P		P	01 30 47.4	+1.0		
	baz=134									
FRD	Ford Ranch, An	73.50	319	P		P	01 30 47.7	+1.4		
	baz=134,SNR=5.7									
PHWY	Pilot Hill	73.58	331	*e*P		P	01 30 47.6	+0.6		
	comp=Z,5.5nm,0.7s									
GMRC	Granite Mounta	73.84	321	P		P	01 30 49.7	+1.2		
	baz=135,SNR=21									
KNB	Kanab	73.86	324	*e*P		P	01 30 49.4	+0.8		
	comp=Z,33nm,1.1s									
KNB	Kanab	73.86	324	*e*P		P	01 30 49.4	+0.8		
KNB					pmax	pmax				
	comp=Z,33nm,1.1s									
PKCU	Pink Cliffs	73.91	325	*e*P		P	01 30 49.4	+0.4		
	comp=Z,4.3nm,0.8s									
O20A	White River Ci	73.92	329	*e*P		P	01 30 49.3	+0.4		
	comp=Z,21nm,0.8s									
O20A	White River Ci	73.92	329	P		P	01 30 49.7	+0.9		
	baz=142,SNR=17									
MURC	Murrita	73.92	319	P		P	01 30 50.2	+1.3		
	baz=134									
SYO	Syowa Base	74.00	159	*i*P		P	01 30 49.6	+0.9		
SYO	Syowa Base	74.00	159	*i*sP		sP	01 31 25.0	-0.9		
LCMT	Little Creek M	74.09	324	*e*P		P	01 30 50.3	+0.4		
	comp=Z,6.6nm,0.9s									
SRU	San Rafael Swe	74.24	327	*e*P		P	01 30 51.3	+0.6		
	comp=Z,16nm,0.7s									
SRU	San Rafael Swe	74.24	327	*e*P		P	01 30 51.3	+0.6		
SRU					pmax	pmax				
	comp=Z,16nm,0.7s									
HEC	Hector,Ludlow	74.27	320	P		P	01 30 52.0	+1.2		
	baz=135,SNR=8.5									
MTPU	Mount Pierson	74.28	325	*e*P		P	01 30 51.2	0.0		
	comp=Z,7.1nm,0.8s									
SZCU	Shurtz Canyon	74.43	324	*e*P		P	01 30 52.1	+0.2		
	comp=Z,20nm,1.7s									
CCUT	Cedar City	74.55	324	*e*P		P	01 30 53.2	+0.6		
	comp=Z,17nm,0.9s									
P17A	Butcher Ranch,	74.62	327	*e*P		P	01 30 53.7	+0.8		
	comp=Z,16nm,1.0s									
MSU	Marysvale	74.63	325	*e*P		P	01 30 54.2	+1.1		
MSU	Marysvale	74.63	325	*e*P		P	01 30 54.2	+1.1		
BFSC	Mount Baldy Ra	74.64	319	P		P	01 30 54.1	+1.0		
	baz=134,SNR=8.2									
TMUT	Trail Mountain	74.72	326	*e*P		P	01 30 54.7	+1.0		
	comp=Z,3.8nm,0.8s									
VNDA	Vanda	74.74	190	P		P	01 30 54.5	+1.6		
	comp=Z,7.4nm,0.9s,baz=144,slow=4.9,SNR=13									
VNDA	Vanda	74.74	190	*e*P		P	01 30 54.3	+1.4		
	comp=Z,14nm,1.1s									
SHPR	Sheep Range	74.78	322	*e*P		P	01 30 54.2	+0.4		
	comp=Z,10nm,1.1s									
GSC	Goldstone, Bar	74.87	320	*e*P		P	01 30 55.3	+1.0		
	comp=Z,20nm,1.3s									
GSC	Goldstone, Bar	74.87	320	P		P	01 30 55.5	+1.1		
	baz=134,SNR=8.1									
MWC	Mount Wilson	74.87	319	*e*P		P	01 30 55.2	+0.7		
	comp=Z,22nm,1.3s									
MWC	Mount Wilson	74.87	319	*e*P		P	01 30 55.2	+0.7		
MWC					pmax	pmax				
	comp=Z,22nm,1.3s									
K22A	Casper	75.14	332	*e*P		P	01 30 56.8	+1.0		
	comp=Z,15nm,1.3s									
EDW2	Edwards Air Fo	75.28	319	P		P	01 30 57.3	+0.6		
	baz=134,SNR=11									
RSSD	Black Hills	75.30	334	*e*P		P	01 30 57.5	+0.7		
	comp=Z,8.3nm,0.8s									
RSSD	Black Hills	75.30	334	*e*P		P	01 30 57.5	+0.7		
RSSD					pmax	pmax				
	comp=Z,8.0nm,0.8s									
RSSD	Black Hills	75.30	334	P		P	01 30 57.7	+0.9		
	baz=146									
MPU	Maple Canyon	75.48	327	*e*P		P	01 30 58.3	+0.4		
	comp=Z,9.4nm,1.1s									
LRMC	Laurel Mtn Rad	75.51	320	P		P	01 30 59.2	+1.1		
	baz=134,SNR=7.7									
PSUT	Pine Spring	75.53	324	*e*P		P	01 30 58.1	-0.1		
	comp=Z,9.5nm,0.9s									
NLU	North Lily Min	75.66	326	*e*P		P	01 31 00.1	+1.2		
	comp=Z,16nm,1.6s									
TPNV	Topopah Spring	75.71	322	*e*P		P	01 30 59.6	+0.4		
TPNV	Topopah Spring	75.71	322	*e*P		P	01 30 59.6	+0.4		
TPNV	Topopah Spring	75.71	322	P		P	01 31 00.3	+1.1		
	baz=135,SNR=16									
JLU	Jordanelle	75.83	327	*e*P		P	01 31 00.3	+0.4		
	comp=Z,37nm,1.6s									
DAC	Darwin (Calif)	76.01	321	*e*P		P	01 31 01.3	+0.3		
	comp=Z,15nm,1.0s									
DAC	Darwin (Calif)	76.01	321	*e*P		P	01 31 01.3	+0.3		
DAC					pmax	pmax				
	comp=Z,15nm,1.0s									
AGMN	Agassiz Nation	76.06	341	*e*P		P	01 30 59.7	-1.0		
	comp=Z,8.6nm,0.8s									
ISA	Isabella, Lake	76.11	320	*e*P		P	01 31 01.7	+0.3		
	comp=Z,14nm,0.8s									
ISA	Isabella, Lake	76.11	320	*e*P		P	01 31 01.7	+0.3		
ISA					pmax	pmax				
	comp=Z,14nm,0.8s									
ISA	Isabella, Lake	76.11	320	P		P	01 31 02.6	+1.2		
	baz=133,SNR=19									
TCUT	Toone Canyon	76.21	328	*e*P		P	01 31 02.1	0.0		
	comp=Z,8.7nm,0.8s									
DUG	Dugway, Tooele	76.22	326	*e*P		P	01 31 02.1	+0.1		
DUG	Dugway, Tooele	76.22	326	*e*P		P	01 31 02.1	+0.1		
DUG	Dugway, Tooele	76.22	326	P		P	01 31 03.1	+1.1		
	baz=138,SNR=11									
R11A	Troy Canyon, C	76.33	323	*e*P		P	01 31 03.9	+1.1		
	comp=Z,14nm,1.4s									
R11A	Troy Canyon, C	76.33	323	P		P	01 31 03.9	+1.1		
	baz=136,SNR=14									
PKM	Mcpherson Peak	76.39	318	P		P	01 31 04.4	+1.2		
	baz=132,SNR=12									
SUR	Sutherland	76.59	120	*e*P		P	01 31 06.4	+1.8		
	comp=Z,15nm,0.8s									
BW06	Boulder Array	76.59	330	*e*P		P	01 31 04.4	+0.2		
BW06	Boulder Array	76.59	330	P		P	01 31 04.4	+0.2		
	baz=141									
PD31	Pinedale Array	76.59	330	*e*P		P	01 31 04.3	+0.1		
PDAR	Pinedale Array	76.59	330	P		P	01 31 04.2	+0.1		
	comp=Z,1.5nm,0.5s,baz=132,slow=6.9,SNR=26									
PDAR	Pinedale Array	76.59	330	*e*P		P	01 31 03.8	-0.4		
HWUT	Hardware Ranch	76.65	328	*e*P		P	01 31 04.9	+0.4		
	comp=Z,7.8nm,0.6s									
MDND	Maddock	76.83	339	*e*P		P	01 31 04.7	-0.5		
	comp=Z,43nm,0.8s									
SPUT	South Promonto	76.86	327	*e*P		P	01 31 06.2	+0.6		
	comp=Z,9.1nm,0.7s									
BGU	Big Grassy Mou	76.87	327	*e*P		P	01 31 06.4	+0.8		
	comp=Z,15nm,1.4s									
PAGB	Antelope Grade	77.22	319	*e*P		P	01 31 07.6	0.0		
	comp=Z,23nm,1.2s									
TOA0	Torodi Ar. Sit	77.25	69	*e*P		P	01 31 06.5	-1.6		
TORD	Torodi Ar. Bea	77.25	69	P		P	01 31 07.1	-1.0		
	comp=Z,17nm,0.4s,baz=251,slow=4.4,SNR=177									
TORD					LR	LR	02 04 25.3			
	comp=Z,29nm,18.7s,baz=320,slow=35									
AHID	Auburn Hatcher	77.31	329	*e*P		P	01 31 08.6	+0.4		
	comp=Z,16nm,0.6s									
HVU	Hansel Valley	77.38	327	*e*P		P	01 31 08.7	+0.2		
	comp=Z,3.0nm,0.8s									
HVU	Hansel Valley	77.38	327	*e*P		P	01 31 08.7	+0.2		
HVU					pmax	pmax				
	comp=Z,3.0nm,0.8s									
REDW	Red Top Meadow	77.66	329	*e*P		P	01 31 10.5	+0.4		
	comp=Z,8.3nm,0.9s									
SNOW	Snow King Moun	77.69	330	*e*P		P	01 31 10.5	+0.2		
	comp=Z,8.6nm,0.8s									
LOHW	Long Hollow	77.73	330	*e*P		P	01 31 11.0	+0.5		
	comp=Z,6.9nm,0.6s									
OMMB	Old Mammoth Mi	77.75	321	*e*P		P	01 31 11.6	+0.7		
	comp=Z,16nm,0.4s									
TPAW	Teton Pass	77.80	329	*e*P		P	01 31 11.3	+0.4		
	comp=Z,7.5nm,0.8s									
ULM	Lac du Bonnet	77.81	342	P		P	01 31 09.8	-0.6		
	comp=Z,15nm,0.6s,baz=151,slow=6.4,SNR=33									
ULM	Lac du Bonnet	77.81	342	*e*P		P	01 31 10.2	-0.3		
	comp=Z,16nm,0.6s									
ULM	Lac du Bonnet	77.81	342	*e*P		P	01 31 10.2	-0.3		
ULM					pmax	pmax				
	comp=Z,16nm,0.6s									
NV11	Mina Array Sit	77.83	322	*e*P		P	01 31 10.8	-0.2		
	comp=Z,0.6nm,1.3s									
MOOW	Moose Ponds	77.90	330	*e*P		P	01 31 11.9	+0.4		
	comp=Z,3.7nm,0.8s									
NV01	Mina Array Sit	77.91	322	*e*P		P	01 31 12.1	+0.5		
NVAR	Mina Array Bea	77.91	322	P		P	01 31 12.2	+0.7		
	comp=Z,4.9nm,1.0s,baz=143,slow=6.1,SNR=17									
FXWY	Fox Creek	77.95	329	*e*P		P	01 31 12.2	+0.5		
	comp=Z,15nm,1.5s									
IMW	Indian Meadow	78.11	330	*e*P		P	01 31 13.4	+0.8		
	comp=Z,9.1nm,0.9s									
FLWY	Flagg Ranch	78.14	330	*e*P		P	01 31 13.2	+0.4		
	comp=Z,14nm,0.8s									
RYN	Ryan	78.17	322	*e*P		P	01 31 13.2	+0.2		
	comp=Z,4.7nm,1.0s									
KVN	Kaiserville	78.22	322	*e*P		P	01 31 13.8	+0.5		
	comp=Z,11nm,0.9s									
KVN	Kaiserville	78.22	322	*e*P		P	01 31 13.8	+0.5		
KVN					pmax	pmax				
	comp=Z,11nm,0.9s									
LAO	LASA Array	78.29	334	*e*P		P	01 31 13.6	+0.3		
	comp=Z,13nm,0.8s									
LAO	LASA Array	78.29	334	P		P	01 31 13.8	+0.5		
	baz=145,SNR=7.3									
RLMT	Red Lodge	78.31	331	*e*P		P	01 31 14.4	+0.7		
	comp=Z,7.6nm,0.6s									
RLMT	Red Lodge	78.31	331	P		P	01 31 14.5	+0.8		
	baz=142,SNR=6.7									
H17A	Grant Village	78.32	330	*e*P		P	01 31 14.0	+0.2		
	comp=Z,4.1nm,0.8s									
SCHQ	Schefferville	78.34	1	P		P	01 31 12.9	-0.3		
	comp=Z,5.5nm,0.8s,baz=192,slow=6.8,SNR=5.0									
TSUM	Tsumeb	78.47	106	*e*P		P	01 31 15.3	+0.3		
	comp=Z,22nm,0.6s									
YFT	Old Faithful	78.49	330	*e*P		P	01 31 15.4	+0.7		
	comp=Z,7.9nm,1.0s									
WAKR	Walker	78.61	321	*e*P		P	01 31 16.1	+0.6		
	comp=Z,20nm,1.4s									
YMR	Madison River	78.71	330	*e*P		P	01 31 16.6	+0.7		
	comp=Z,13nm,0.9s									
YHH	Holmes Hill	78.75	330	*e*P		P	01 31 17.2	+1.0		
	comp=Z,15nm,1.0s									
YERR	Yerington	78.82	322	*e*P		P	01 31 16.9	+0.3		
	comp=Z,6.5nm,0.8s									
CMB	Columbia Colle	78.84	320	*e*P		P	01 31 17.1	+0.6		
	comp=Z,3.6nm,0.6s									
CMB	Columbia Colle	78.84	320	*e*P		P	01 31 17.1	+0.6		
CMB					pmax	pmax				
	comp=Z,4.0nm,0.6s									
YHB	Horse Butte	78.88	330	*e*P		P	01 31 17.4	+0.6		
	comp=Z,11nm,0.8s									
DGMT	Dagmar	78.98	336	*e*P		P	01 31 17.8	+0.8		
	comp=Z,16nm,0.6s									
DGMT	Dagmar	78.98	336	P		P	01 31 18.0	+1.0		
	baz=146,SNR=5.1									
GCMT	Greycliff	79.01	332	*e*P		P	01 31 17.0	-0.4		
PNTR	Pine Nut	79.10	322	*e*P		P	01 31 18.3	+0.1		
	comp=Z,14nm,0.8s									
VCNR	Virginia City	79.27	322	*e*P		P	01 31 19.4	+0.3		
	comp=Z,7.7nm,1.1s									
PAHR	Pah Rah Range	79.39	322	*e*P		P	01 31 21.0	+1.4		
	comp=Z,24nm,1.0s									
HLID	Hailey	79.51	328	*e*P		P	01 31 20.5	+0.3		
	comp=Z,15nm,0.8s									
HLID	Hailey	79.51	328	P		P	01 31 21.6	+1.4		
	baz=138,SNR=26									
MCMT	McKenzie Canyo	79.70	329	*e*P		P	01 31 22.4	+1.1		
AFDM	Forest Hills D	79.79	321	*e*P		P	01 31 22.2	+0.6		
	comp=Z,7.7nm,1.1s									
DLMT	Dillon	79.99	330	*e*P		P	01 31 23.5	+0.8		
	comp=Z,5.7nm,0.7s									
BEKR	Beckworth	80.06	322	*e*P		P	01 31 23.9	+0.7		
	comp=Z,10nm,0.9s									
MFID	Camas Ranch	80.11	327	*e*P		P	01 31 24.5	+1.2

	comp=Z,6.0nm,1.1s							
KIV	**Kislovodsk**	**120.66**	**52**	*e*PKIKP	**PKPdf**	**01 38 03.3**	**-1.4**	
KIV				pmax	pmax			
	comp=Z,7.0nm,1.1s							
KBZ	**Khabaz**	**120.80**	**52**	PKP	**PKPdf**	**01 38 03.6**	**-1.1**	
	comp=Z,2.8nm,0.9s,baz=180,slow=7.1,SNR=4.1							
PRGR	**Permogore**	**121.82**	**31**	*e*PKIKP	**PKPdf**	**01 38 06.1**	**-0.1**	
PRGR				pmax	pmax			
	comp=Z,11nm,1.1s							
BILL	**Bilibino**	**125.03**	**338**	*i* PKIKP	**PKPdf**	**01 38 11.7**	**-0.5**	
BILL				pmax	pmax			
	comp=Z,3.0nm,1.0s							
CTAO	**Charters Tower**	**125.13**	**220**	*e*PKPdf	**PKPdf**	**01 38 13.4**	**-0.5**	
CTAO	**Charters Tower**	**125.13**	**220**	*e*PKIKP	**PKPdf**	**01 38 13.4**	**-0.5**	
AS01	**Alice Springs**	**128.26**	**206**	*e*PKPdf	**PKPdf**	**01 38 19.5**	**-0.4**	
AS31	**Alice Springs**	**128.28**	**206**	*e*PKPdf	**PKPdf**	**01 38 19.6**	**-0.4**	
ASAR	**Alice Springs**	**128.28**	**206**	PKhKP	PKPpre	01 38 14.6		
	comp=Z,0.3nm,0.6s,baz=145,slow=1.2,SNR=6.0							
ASAR				PKP	**PKPdf**	**01 38 19.5**	**-0.4**	
	comp=Z,9.1nm,0.7s,baz=140,slow=2.1,SNR=76							
ARU	**Arti**	**129.50**	**35**	PKIKP	**PKPdf**	**01 38 21.0**	**0.0**	
TIXI	**Tiksi**	**131.21**	**353**	*i* PKIKP	**PKPdf**	**01 38 23.0**	**-0.8**	
TIXI				pmax	pmax			
	comp=Z,3.0nm,1.0s							
WRA	**Warramunga Arr**	**131.41**	**208**	PKhKP	PKPpre	01 38 20.5		
	comp=Z,1.2nm,0.5s,baz=243,slow=1.1,SNR=19							
WRA				PKP	**PKPdf**	**01 38 25.9**	**0.0**	
	comp=Z,8.8nm,0.5s,baz=152,slow=1.7,SNR=137							
WRAB	**Tennant Creek**	**131.42**	**208**	*e*PKPdf	**PKPdf**	**01 38 26.1**	**+0.2**	
WRAB	**Tennant Creek**	**131.42**	**208**	*e*PKIKP	**PKPdf**	**01 38 26.1**	**+0.2**	
ABKAR	**Akbulak array**	**132.16**	**44**	*e*PKPdf	**PKPdf**	**01 38 27.3**	**+1.0**	
MBWA	**Marble Bar**	**134.68**	**190**	*e*PKPdf	**PKPdf**	**01 38 31.9**	**-0.1**	
PETK	**Petropavlovsk-**	**134.99**	**323**	PKP	**PKPdf**	**01 38 32.0**	**+0.5**	
	comp=Z,4.1nm,0.8s,baz=145,slow=2.2,SNR=4.5							
PETK	**Petropavlovsk-**	**134.99**	**323**	PKIKP	**PKPdf**	**01 38 32.0**	**+0.5**	
FITZ	**Fitzroy Crossi**	**136.30**	**199**	*e*PKPdf	**PKPdf**	**01 38 35.6**	**+0.6**	
BRVK	**Borovoye**	**137.05**	**36**	*e*PKPdf	**PKPdf**	**01 38 35.7**	**+0.3**	
BVAR	**Borovoye Array**	**137.12**	**36**	PKP	**PKPdf**	**01 38 35.6**	**+0.1**	
	comp=Z,1.6nm,0.7s,baz=256,slow=4.8,SNR=8.2							
ZALV	**Zalesovo Beam**	**143.60**	**27**	PKP	PKPbc	01 38 45.5	+0.6	
	comp=Z,5.7nm,0.5s,baz=279,slow=2.4,SNR=8.3							
SOEI	**Soe**	**144.58**	**201**	*e*PKPdf	**PKPdf**	**01 38 50.3**	**0.0**	
NIL	**Nilore**	**144.70**	**65**	*e*PKPdf	PKPbc	01 38 48.9	0.0	
NIL	**Nilore**	**144.70**	**65**	*e*PKIKP	PKPbc	01 38 48.9	0.0	
PALK	**Pallekele**	**145.66**	**113**	*e*PKPbc	**PKPdf**	**01 38 51.9**	**-0.1**	
PALK	**Pallekele**	**145.66**	**113**	*e*PKP2	**PKPdf**	**01 38 51.9**	**-0.1**	
BOD	**Bodaibo**	**146.01**	**358**	*e*PKP2	**PKPdf**	**01 38 51.2**	**0.0**	
BOD				pmax	pmax			
	comp=Z,18nm,1.2s							
YSS	**Yuzh-Sakhalins**	**146.35**	**321**	*e*PKPbc	**PKPbc**	**01 38 52.9**	**-0.6**	
YSS	**Yuzh-Sakhalins**	**146.35**	**321**	*e*PKP2	**PKPbc**	**01 38 52.9**	**-0.6**	
MKAR	**Makanchi Array**	**146.89**	**39**	PKPbc	**PKPdf**	**01 38 53.5**	**+0.4**	
	comp=Z,8.4nm,0.6s,baz=288,slow=4.2,SNR=13							
FAKI	**Fak Fak**	**146.98**	**219**	*e*PKPbc	**PKPbc**	**01 38 56.5**	**+0.2**	
GUMO	**Guam**	**147.44**	**258**	PKPbc	**PKPdf**	**01 38 56.0**	**+1.1**	
	comp=Z,155nm,1.0s,baz=167,slow=9.2,SNR=5.0							
GUMO	**Guam**	**147.44**	**258**	PKP2	**PKPdf**	**01 38 56.0**	**+1.1**	
ASAJ	**Asahikawa**	**147.91**	**317**	PKPbc	**PKPbc**	**01 38 57.5**	**-0.4**	
	comp=Z,15nm,0.8s,baz=48,slow=1.8,SNR=6.1							
CISI	**Cisompet, Garu**	**148.53**	**172**	*e*PKPbc	**PKPbc**	**01 38 59.9**	**-0.7**	
SIJI	**Sorong**	**149.21**	**220**	PKPbc	**PKPbc**	**01 39 01.9**	**-0.4**	
	comp=Z,42nm,0.7s,baz=182,slow=3.6,SNR=16							
KLR	**Kul'dur**	**150.32**	**334**	PKPbc	**PKPbc**	**01 39 03.6**	**-0.2**	
	comp=Z,7.5nm,0.6s,baz=64,slow=2.7,SNR=10							
WMQ	**Urumqi**	**151.72**	**39**	*e*PKPbc	**PKPdf**	**01 39 00.4**	**-0.6**	
USRK	**Ussuriysk Ar.**	**153.97**	**326**	PKPbc	**PKPbc**	**01 39 12.4**	**+0.2**	
	comp=Z,1.9nm,0.6s,baz=42,slow=5.0,SNR=4.9							
USRK				PKPab	**PKPab**	**01 39 25.1**	**-0.8**	
	comp=Z,1.8nm,0.6s,baz=38,slow=4.8,SNR=4.2							
MJAR	**Matsushiro Arr**	**154.23**	**305**	PKPbc	**PKPbc**	**01 39 12.9**	**-0.2**	
	comp=Z,1.2nm,0.4s,baz=139,slow=1.4,SNR=4.2							
MJAR				PKPab	**PKPab**	**01 39 27.1**	**-0.2**	
	comp=Z,4.0nm,0.8s,baz=90,slow=2.3,SNR=5.8							
MAJO	**Matsushiro**	**154.23**	**305**	*e*PKPdf	**PKPdf**	**01 39 04.9**	**+0.1**	
MAJO				*e*PKPab	**PKPab**	**01 39 27.2**	**-0.1**	
MAJO	**Matsushiro**	**154.23**	**305**	*e*PKIKP	**PKPdf**	**01 39 04.9**	**+0.1**	
MAJO				*e*		01 39 27.2		
SONM	**Songino Array**	**155.60**	**9**	PKP	**PKPdf**	**01 39 05.6**	**-0.8**	
	comp=Z,1.6nm,0.8s,baz=307,slow=1.5,SNR=4.7							
SONM				PKPab	**PKPab**	**01 39 32.2**	**-0.7**	
	comp=Z,1.4nm,0.8s,baz=328,slow=3.9,SNR=3.5							
ULN	**Ulaanbaatar**	**155.67**	**8**	*e*PKPdf	**PKPdf**	**01 39 06.3**	**-0.2**	
ULN				*e*PKPab	**pPKPdf**	**01 39 34.2**	**-0.6**	
ULN	**Ulaanbaatar**	**155.67**	**8**	*e*PKIKP	**PKPdf**	**01 39 06.3**	**-0.2**	
ULN				*e*		01 39 34.2		
KS01	**Wonju Array Si**	**160.83**	**319**	*e*PKPdf	**PKPdf**	**01 39 12.5**	**-0.4**	
HHC	**Hu-ho-hao-te**	**163.01**	**1**	*e*PKP	**PKPdf**	**01 39 13.9**	**-1.3**	
LZH	**Lanzhou**	**165.83**	**28**	*e*PKP	**PKPdf**	**01 39 17.3**	**-0.6**	
LZH				pPKP	pPKPdf	01 39 50.5	+4.3	
LZH				LR	LR			
	comp=Z,62nm,18.1s							
LZH				LR	LR			
	comp=Z,70nm,18.2s							
LZH				LR	LR			
	comp=Z,98nm,20.3s							
CMAR	**Chiang Mai Arr**	**166.59**	**111**	PKPab	**PKPab**	**01 40 21.6**	**0.0**	
	comp=Z,1.4nm,0.5s,baz=251,slow=5.1,SNR=5.1							
CHTO	**Chiang Mai**	**166.74**	**110**	*e*PKPdf	**PKPdf**	**01 39 18.7**	**-0.2**	
CHTO	**Chiang Mai**	**166.74**	**110**	*e*PKIKP	**PKPdf**	**01 39 18.7**	**-0.2**	
NJ2	**Nanjing**	**169.88**	**326**	*e*PKP	**PKPdf**	**01 39 20.0**	**-0.6**	

IDC ***24*** *01:23:58.4±2.3, 11.71°N×129.25°E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/44, mbtmp3.7/5, Error ellipse: s-maj=175.4km s-min=21.9km az=70.0*

ISCJB ***24*** *01:24:05.4±1.0, 10.8°N±0.1°×126.9°E±0.1, h33km, mb3.7/5, Error ellipse: s-maj=19.7km s-min=12.5km az=41.4*

ISC 24 01:24:07.6±1.2, 10.7°N±0.1°×126.8°E±0.2, h35km, n6, σ0≡98/7, mb3.8/5, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.57**	**233**	⇓*e*P	**Pn**	**01 24 32.6**	**-0.3**
SCPH				*e*S	**Sn**	**01 24 52.4**	**+0.3**
WRA	**Warramunga Arr**	**31.38**	**166**	P	**P**	**01 30 26.4**	**+1.0**
	0.4nm,0.9s,baz=353,slow=9.1,SNR=3.8						
ASAR	**Alice Springs**	**34.89**	**169**	P	**P**	**01 30 55.2**	**-0.8**
	0.4nm,0.8s,baz=349,slow=6.9,SNR=4.3						
MKAR	**Makanchi Array**	**51.96**	**322**	P	**P**	**01 33 14.5**	**+1.2**
	0.8nm,0.7s,baz=120,slow=7.4,SNR=5.2						
KURBB	**Kurchatov Arra**	**55.98**	**325**	P	**P**	**01 33 42.0**	**-0.4**
	0.6nm,0.6s,baz=123,slow=7.0,SNR=7.9						
FINES	**FINESS Array B**	**85.72**	**332**	P	**P**	**01 36 42.3**	**-0.5**
	2.3nm,0.9s,baz=56,slow=5.2,SNR=5.8						

MEX 24 01:24:18.9±1.0, 15.39°N×91.84°W, h163km±15km, MD3.7, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.63**	**220**	*e*P	Pn	01 24 41.5	-0.9
THIG				*i* S	Sn	01 24 57.5	-2.9
CCIG	**Comitan**	**0.93**	**342**	*i* P	Pn	01 24 40.2	-4.4
PCIG		**1.36**	**283**	*i* P	Pn	01 24 47.5	-0.6
PCIG				*i* S	Sn	01 25 08.2	-2.3
TGIG		**1.85**	**318**	*e*P	Pn	01 24 51.2	-1.9
TGIG				*i* S	Sn	01 25 17.8	-1.9

BJI ***24*** *01:29:53.9, 38.07°N×141.99E, h38km, mb4.9/68, mB4.9/49, Ms4.2/51, Ms7 4.0/50*

MOS ***24*** *01:29:58.3±0.8, 38.39°N×141.74E, h46km, mb5.2/104, Error ellipse: s-maj=5.9km s-min=4.0km az=94.7*

ISCJB ***24*** *01:29:59.8±0.2, 38.23°N±0.02°×141.72°E±0.02, h65km±2km, mb5.0/336, Error ellipse: s-maj=3.5km s-min=2.5km az=156.4*

JMA ***24*** *01:30:00.1, 38.22°N×141.79E, h56km±1km, M4.8 Broadband fault plane solution: P waves. NP1: ϕs175.00000°, δ72.00000°, λ47.00000°. NP2: ϕs67.00000°, δ46.00000°, λ155.00000°. Principal axes: T Plg45.0000°, Azm41.0000°; N Plg41.0000°, Azm191.0000°; P Plg16.0000°, Azm295.0000°;*

JMA Felt IV J1.

NIED ***24*** *01:30:00, 38.20°N×141.80E, h62km, Mw4.8 Best double couple: M01.76000×10^16 NP1: ϕs50.00000°, δ37.00000°, λ133.00000°. NP2: ϕs180.00000°, δ64.00000°, λ63.00000°.*

NEIC ***24*** *01:30:00.6±0.3, 38.23°N×141.70E, h60km±2km, mb5.1/247, Error ellipse: s-maj=2.7km s-min=1.9km az=145.0*

NEIC Felt in Fukushima, Iwate, Kanagawa, Miyagi, Tochigi, Tokyo and Yamagata. Recorded [4 JMA] in Miyagi.

IDC ***24*** *01:30:01.1±1.2, 38.27°N×141.74E, h65km±11km, mb4.5/40, mb1 4.6/49, mb1mx4.5/65, mbtmp4.8/49, MS3.7/24, Ms1 3.7/24, ms1mx3.5/48, Error ellipse: s-maj=10.4km s-min=7.6km az=124.0*

GCMT ***24*** *01:30:02.6±0.4, 38.46°N±0.03°×141.60°E±0.04, h63km±4km, MW4.8/65, Moment Tensor Solution. s18,c21; s65,c94; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr 1.25±.19; Mθθ 0.19±.14; Mϕϕ -1.44±.12; Mrθ 0.47±.09; Mϕθ -0.73±.11; Mrϕ -1.31±.09; Best double couple: M0 2.07400×10^16 NP1: ϕs174.00000°, δ69.00000°, λ63.00000°. NP2: ϕs48.00000°, δ34.00000°, λ139.00000°. Principal axes: T 2.0590, Plg58.0000°, Azm47.0000°; N 0.0310, Plg25.0000°, Azm185.0000°; P -2.0900, Plg19.0000°, Azm284.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 01:29:59.7±0.4, 38.26°N±0.03°×141.81°E±0.03, h55km±3km, h55km:pP-P, n903, σ1≡32/956, mb5.0/341, MS3.9/28, 51C-32D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.28**	**280**	P	**Pn**	**01 30 09.7**	**+0.6**
JIKH				S	**Sn**	**01 30 16.4**	**+0.6**
JIO	**Ouri**	**0.41**	**298**	⇑P	**Pn**	**01 30 11.1**	**+0.8**
JIO				S	**Sn**	**01 30 18.7**	**+0.8**
JKMT	**Kesennumamotoy**	**0.61**	**334**	P	**Pn**	**01 30 13.5**	**+1.0**
JKMT				*e*S	**Sn**	**01 30 23.1**	**+1.3**
JOFO	**Osakifurukawao**	**0.78**	**296**	P	**Pn**	**01 30 15.6**	**+0.9**
JOFO				*e*S	**Sn**	**01 30 27.3**	**+1.6**
JMK	**Ichinoseki**	**0.83**	**326**	⇓P	**Pn**	**01 30 16.4**	**+1.1**
JMK				*e*S	**Sn**	**01 30 28.0**	**+1.3**
JMM	**Marumori**	**0.90**	**244**	⇑P	**Pn**	**01 30 15.9**	**-0.2**
JMM				*e*S	**Sn**	**01 30 27.7**	**-0.6**
JOU	**Okura**	**0.91**	**277**	⇓P	**Pn**	**01 30 16.9**	**+0.6**
JOU				S	**Sn**	**01 30 29.2**	**+0.6**
JFK	**Kawauchi**	**1.16**	**220**	⇑P	**Pn**	**01 30 19.4**	**-0.3**
JFK				*e*S	**Sn**	**01 30 33.8**	**-0.8**
JOM	**Ohasama**	**1.27**	**342**	⇓P	**Pn**	**01 30 22.5**	**+1.3**
JOM				*e*S	**Sn**	**01 30 39.1**	**+1.8**
JYK	**Kaneyama**	**1.31**	**300**	⇓P	**Pn**	**01 30 22.5**	**+0.8**
JYK				*e*S	**Sn**	**01 30 40.1**	**+1.9**
JYS	**Shirataka**	**1.37**	**269**	⇓P	**Pn**	**01 30 23.2**	**+0.6**
JYS				*e*S	**Sn**	**01 30 40.6**	**+0.9**
JFT	**Otama**	**1.38**	**238**	⇑P	**Pn**	**01 30 23.2**	**+0.5**
JFT				S	**Sn**	**01 30 39.8**	**-0.1**
JRG	**Rokugo**	**1.46**	**321**	⇓P	**Pn**	**01 30 25.1**	**+1.4**
JRG				*e*S	**Sn**	**01 30 43.7**	**+2.0**
JYA	**Atsumi**	**1.68**	**282**	⇓P	**Pn**	**01 30 27.4**	**+0.7**
JYA				*e*S	**Sn**	**01 30 48.5**	**+1.4**
JFY	**Yanaizu**	**1.87**	**243**	⇑P	**Pn**	**01 30 30.2**	**+0.8**
JFY				*e*S	**Sn**	**01 30 51.6**	**-0.3**
MJAR	**Matsushiro Arr**	**3.34**	**240**	P	**Pn**	**01 30 50.1**	**+0.6**
	31nm,0.3s,baz=45,slow=12,SNR=121						
MJAR				S	**Sn**	**01 31 30.6**	**+2.7**
	30nm,0.3s,baz=60,slow=17,SNR=5.6						
MJAR				LR	LR	01 32 25.4	
	comp=Z,3μm,20.9s,baz=60,slow=44						
MAJO	**Matsushiro**	**3.34**	**240**	*e*Pn	**Pn**	**01 30 50.4**	**+0.9**
MAJO	**Matsushiro**	**3.34**	**240**	*d i* P	**Pn**	**01 30 51.3**	**+1.8**
MAT	**Matsushiro**	**3.34**	**240**	P	**Pn**	**01 30 51.2**	**+1.7**
MAT				S	**Sn**	**01 31 34.1**	**+6.2**
MJB9	**Matsu-Tunnel**	**3.34**	**240**	*e*Pn	**Pn**	**01 30 50.2**	**+0.7**
ERM	**Erimo**	**3.89**	**15**	*e*Pn	**Pn**	**01 30 56.5**	**-0.4**
ERM				*e*Sn	**Sn**	**01 31 41.0**	**-0.2**
ERM	**Erimo**	**3.89**	**15**	*c e*P	**Pn**	**01 30 57.0**	**+0.1**
ERM				pmax	pmax		
	comp=Z,301nm,1.0s						
INU	**Inuyama**	**4.82**	**234**	*e*Pn	**Pn**	**01 31 11.6**	**+1.9**
JHJ2	**Mitsune**	**5.39**	**198**	*e*Pn	**Pn**	**01 31 17.1**	**-0.4**
JHJ2				*e*Sn	**Sn**	**01 32 14.8**	**-3.4**
JHJ	**Hachijo jima 2**	**5.39**	**198**	P	**Pn**	**01 31 16.8**	**-0.7**
	comp=Z,102nm,0.3s,baz=315,slow=22,SNR=13						
JHJ				S	**Sn**	**01 32 13.8**	**-4.4**
	comp=Z,96nm,0.3s,baz=90,slow=20,SNR=4.7						
JHJ				LR	LR	01 33 38.2	
	comp=Z,650nm,21.7s,baz=91,slow=40						
ASAJ	**Asahikawa**	**5.88**	**6**	P	**Pn**	**01 31 24.5**	**+0.4**
	comp=Z,22nm,0.3s,baz=213,slow=10.0,SNR=46						
ASAJ				S	**Sn**	**01 32 29.1**	**-1.0**
	comp=Z,12nm,0.3s,baz=100,slow=25,SNR=6.4						
ASAJ	**Asahikawa**	**5.88**	**6**	*e*Pn	**Pn**	**01 31 24.2**	**0.0**
ASAJ				S	**Sn**	**01 32 29.1**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**6.53**	**27**	*e*P	**Pn**	**01 31 31.7**	**-1.3**
YUK				*e*S	**Sn**	**01 32 41.4**	**-4.6**
YUK				pmax	pmax		
	comp=Z,362nm,0.2s						
YUK				smax	smax		
	comp=E,2μm,0.6s						
YUK				smax	smax		
	comp=N,2μm,0.5s						
YUK				MLR	MLR		
	comp=Z,363nm,12.0s						
SHO	**Shikotan**	**6.76**	**33**	*c i* P	**Pn**	**01 31 34.4**	**-1.9**
SHO				*e*S	**Sn**	**01 32 45.5**	**-6.3**
SHO				pmax	pmax		
	comp=Z,95nm,0.3s						
SHO				pmax	pmax		
	comp=N,50nm,0.2s						
SHO				pmax	pmax		
	comp=E,45nm,0.2s						
SHO				MLR	MLR		
	comp=Z,704nm,18.0s						
SHO				MLR	MLR		
	comp=N,439nm,16.0s						
TEY	**Ternei**	**7.81**	**332**	⇑*e*P	Pn	01 31 55.6	+5.1
TEY				pmax	pmax		
	comp=N,100nm,0.8s						
TEY				pmax	pmax		
	comp=E,70nm,0.8s						
TEY				pmax	pmax		
	comp=Z,110nm,0.8s						
KUR	**Kuril'sk**	**8.30**	**31**	*e*P	**Pn**	**01 31 56.1**	**-1.2**
KUR				*e*S	**Sn**	**01 33 25.2**	**-4.4**
KUR				pmax	pmax		
	comp=Z,27nm,0.3s						
KUR				pmax	pmax		
	comp=N,29nm,0.2s						
KUR				pmax	pmax		
	comp=E,93nm,0.5s						
YSS	**Yuzh-Sakhalins**	**8.71**	**4**	*e*Pn	**Pn**	**01 32 02.8**	**-0.1**
YSS	**Yuzh-Sakhalins**	**8.71**	**4**	⇓*e*P	**Pn**	**01 32 03.1**	**+0.2**
YSS				*e*S	**Sn**	**01 33 35.6**	**-4.0**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS				smax	smax		
	comp=N,40nm,0.7s						
YSS				MLR	MLR		
	comp=N,200nm,15.0s						
YSS				MLR	MLR		
	comp=Z,300nm,15.0s						
VLA	**Vladivostok**	**8.96**	**306**	*i* P	**Pn**	**01 32 07.3**	**+0.9**
MSHR	**Mys Shultsa**	**9.20**	**301**	*c i* P	**Pn**	**01 32 10.3**	**+0.8**
USA0B	**Ussuriysk Arra**	**9.48**	**312**	*e*Pn	**Pn**	**01 32 15.4**	**+2.0**
USRK	**Ussuriysk Ar.**	**9.48**	**312**	P	**Pn**	**01 32 14.9**	**+1.5**
	comp=Z,11nm,0.3s,baz=122,slow=14,SNR=77						
USRK				LR	LR	01 35 38.7	
	comp=Z,743nm,21.3s,baz=116,slow=36						
JNU	**Nakatsue**	**10.26**	**243**	P	**Pn**	**01 32 25.2**	**+1.0**
	comp=Z,1.0nm,0.3s,baz=61,slow=11,SNR=13						
JNU	**Nakatsue**	**10.26**	**243**	*e*Pn	**Pn**	**01 32 25.9**	**+1.7**
KSRS	**Korea Array**	**11.01**	**270**	P	**Pn**	**01 32 36.2**	**+1.8**
	comp=Z,3.2nm,0.3s,baz=83,slow=13,SNR=23						
KSRS				LR	LR	01 36 34.6	
	comp=Z,467nm,21.4s,baz=72,slow=36						
KS01	**Wonju Array Si**	**11.03**	**270**	*e*Pn	**Pn**	**01 32 35.4**	**+0.7**
KS15	**Wonju Array Si**	**11.04**	**270**	*e*Pn	**Pn**	**01 32 36.3**	**+1.5**
KSAR	**Wonju Array Be**	**11.04**	**270**	P	**Pn**	**01 32 36.2**	**+1.4**
KSAR	**Wonju Array Be**	**11.04**	**270**	P	**Pn**	**01 32 36.2**	**+1.4**
CBIJ	**Chichi jima**	**11.14**	**178**	*e*Pn	**Pn**	**01 32 35.1**	**-1.1**
CBIJ				S	Sn	01 34 28.9	-10
JCJ	**Chichijima**	**11.14**	**178**	P	**Pn**	**01 32 36.3**	**+0.1**
JCJ				S	Sn	01 34 28.9	-10
MDJ	**Mudanjiang**	**11.15**	**309**	P	**Pn**	**01 32 37.8**	**+1.6**
MDJ				pP		01 32 45.1	
MDJ				sP		01 32 52.9	
MDJ				S	**Sn**	**01 34 39.4**	**+0.2**
MDJ				sS		01 34 52.3	
MDJ				pmax	pmax		
	comp=Z,350nm,1.8s						
MDJ				LR	LR		
	comp=Z,430nm,15.4s						
MDJ				LR	LR		
	comp=Z,550nm,15.1s						
MDJ				LR	LR		
	comp=Z,920nm,25.9s						
MDJ	**Mudanjiang**	**11.15**	**309**	*e*Pn	**Pn**	**01 32 36.4**	**+0.2**
GRNR	**Gornyy**	**13.08**	**345**	*e*P	**Pn**	**01 33 02.1**	**-0.4**
GRNR				pmax	pmax		
	comp=Z,21nm,1.0s						
KLR	**Kul'dur**	**13.14**	**330**	P	**Pn**	**01 33 03.7**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=127,slow=14,SNR=5.8						
KLR				LR	LR	01 38 09.1	
	comp=Z,347nm,19.0s,baz=140,slow=37						
KLR	**Kul'dur**	**13.14**	**330**	*i* P	**Pn**	**01 33 03.6**	**+0.2**
CN2	**Changchun**	**13.53**	**299**	*e*P	**Pn**	**01 33 09.6**	**+0.9**
CN2				*e*S	**Sn**	**01 35 38.6**	**+1.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.3s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,300nm,12.0s						
CN2				LR	LR		
	comp=Z,400nm,12.0s						
CN2				LR	LR		
	comp=Z,500nm,21.0s						
SNY	**Shenyang**	**14.41**	**290**	⇓P	**Pn**	**01 33 20.8**	**+0.3**
SNY				S	**Sn**	**01 35 53.8**	**-5.0**
SNY				pmax	pmax		
	comp=Z,250nm,9.8s						
SNY				LR	LR		
	comp=Z,340nm,12.2s						
SNY				LR	LR		
	comp=Z,970nm,21.0s						
SNY				LR	LR		
	comp=Z,1μm,18.6s						
DL2	**Dalian**	**15.80**	**279**	P	**P**	**01 33 40.3**	**-1.1**
DL2				S	**Sn**	**01 36 34.8**	**+2.3**
DL2				pmax	pmax		
	comp=Z,73nm,1.0s						
DL2				pmax	pmax		
	comp=Z,160nm,4.3s						
DL2				LR	LR		
	comp=Z,290nm,8.3s						
DL2				LR	LR		
	comp=Z,390nm,12.1s						
DL2				LR	LR		
	comp=Z,600nm,24.9s						
JOW	**Kunigami**	**16.11**	**229**	LR	LR	01 40 54.1	
	comp=Z,104nm,18.1s,baz=199,slow=41						
ZEA	**Zeya**	**18.43**	**332**	*e*P	**P**	**01 34 08.6**	**-1.7**
ZEA				pmax	pmax		
	comp=Z,36nm,0.8s						
ZEA				MLR	MLR		
	comp=N,200nm,16.0s						
ZEA				MLR	MLR		
	comp=Z,400nm,16.0s						
PEA0B	**Petropavlovsk-**	**18.47**	**31**	*e*P	**Pn**	**01 34 11.6**	**+0.1**
	comp=Z,103nm,1.2s						
PETK	**Petropavlovsk-**	**18.47**	**31**	P	**P**	**01 34 10.8**	**0.0**
	comp=Z,0.5nm,0.3s,baz=205,slow=6.6,SNR=15						
PETK				LR	LR	01 42 00.9	
	comp=Z,101nm,19.0s,baz=220,slow=39						
PETK	**Petropavlovsk-**	**18.47**	**31**	*e*P	**Pn**	**01 34 12.4**	**+0.9**
PETK	**Petropavlovsk-**	**18.47**	**31**	*e*P	**Pn**	**01 34 12.4**	**+0.9**
PET	**Petropavlovsk**	**18.81**	**33**	*e*P	**Pn**	**01 34 15.9**	**+0.4**
PET				*e*S	**Sn**	**01 37 38.7**	**-6.4**
PET				pmax	pmax		
	comp=Z,68nm,1.5s						
PET				MLR	MLR		
	comp=Z,400nm,11.0s						
HIA	**Hailar**	**19.29**	**312**	*e*P	**P**	**01 34 19.7**	**-0.2**
	comp=Z,7.5nm,0.5s						
HIA	**Hailar**	**19.29**	**312**	*e*P	**P**	**01 34 19.7**	**-0.2**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NJ2	**Nanjing**	**19.74**	**259**	*e*P	**Pn**	**01 34 26.0**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,58nm,1.1s						
NJ2				LR	LR		
	comp=Z,400nm,12.3s						
NJ2				LR	LR		
	comp=Z,460nm,11.8s						
NJ2				LR	LR		
	comp=Z,800nm,16.1s						
TIA	**Tai'an**	**19.75**	**272**	P	**P**	**01 34 23.4**	**-1.5**
TIA				pmax	pmax		
	comp=Z,19nm,1.2s						
BJI	**Beijing**	**19.94**	**283**	P	**P**	**01 34 25.0**	**-2.0**
BJI				S	**S**	**01 38 07.3**	**-1.0**
BJI				pmax	pmax		
	comp=Z,23nm,1.4s						
BJI				LR	LR		
	comp=Z,160nm,11.4s						
BJI				LR	LR		
	comp=Z,270nm,12.4s						
BJT	**Baijiatuao**	**19.95**	**283**	*e*P	**P**	**01 34 25.4**	**-1.7**
	comp=Z,34nm,0.8s

comp=Z,94nm,3.6s
ULN Ulaanbaatar 26.95 302 *e*P **P 01 35 36.1 +0.2**
comp=Z,12nm,0.9s
ULN Ulaanbaatar 26.95 302*ce*P **P 01 35 36.6 +0.6**
ULN pmax pmax
comp=Z,18nm,1.3s
SONA1 Songino Array 27.38 302 *e*P **P 01 35 39.6 -0.2**
SONM Songino Array 27.38 302 P **P 01 35 40.2 +0.4**
comp=Z,5.7nm,0.6s,baz=92,slow=8.9,SNR=38
ENH Enshi 27.77 263 *e*P **P 01 35 42.7 -0.7**
comp=Z,137nm,0.9s
H11N2 WAKE ISLAND Hy 28.53 123 T T 02 06 03.2
baz=316,slow=75,SNR=2281
H11N1 WAKE ISLAND Hy 28.54 123 T T 02 06 08.9
baz=316,slow=75,SNR=3274
H11N3 WAKE ISLAND Hy 28.55 123 T T 02 06 04.4
baz=316,slow=75,SNR=2150
H11S1 WAKE ISLAND Hy 29.29 125 T T 02 07 03.7
baz=318,slow=76,SNR=1246
H11S3 WAKE ISLAND Hy 29.29 125 T T 02 07 03.8
baz=318,slow=76,SNR=2149
H11S2 WAKE ISLAND Hy 29.30 125 T T 02 07 05.0
baz=318,slow=76,SNR=1640
ZAK Zakamensk 29.77 307 *e*P **P 01 35 58.6 -2.4**
ZAK pmax pmax
comp=Z,13nm,1.0s
LZH Lanzhou 30.19 278 *e*P **P 01 36 03.8 -1.1**
LZH pP pP 01 36 16.8 -2.0
LZH sP sP 01 36 22.9 -2.4
LZH PP **PnPn 01 37 03.0 -1.2**
LZH *e*S **S 01 40 59.0 -1.5**
LZH sS sS 01 41 19.0 -5.0
LZH *e*SS **SnSn 01 42 37.5 -0.6**
LZH pmax pmax
comp=Z,70nm,1.1s
LZH LR LR
comp=Z,370nm,13.2s
LZH LR LR
comp=Z,600nm,13.0s
LZH LR LR
comp=Z,680nm,15.7s
GYA Guiyang 31.75 259⇑ *i*P **P 01 36 17.6 -1.1**
GYA pP pP 01 36 33.0 +0.3
GYA PP **PnPn 01 37 26.8 +2.3**
GYA S **S 01 41 25.5 +0.6**
GYA SS **SnSn 01 43 16.6 +0.4**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=Z,530nm,17.3s
GYA LR LR
comp=Z,520nm,17.1s
GYA LR LR
comp=Z,550nm,18.0s
CD2 Chengdu 32.00 268 P **P 01 36 19.8 -1.0**
CD2 S **S 01 41 27.0 -1.6**
CD2 pmax pmax
comp=Z,50nm,0.6s
CD2 pmax pmax
comp=Z,120nm,4.8s
CD2 LR LR
comp=Z,630nm,11.3s
CD2 LR LR
comp=Z,460nm,11.8s
GTA Gaotai 32.52 285 *e*P **P 01 36 25.0 -0.4**
GTA pP pP 01 36 35.3 -4.0
GTA sP sP 01 36 42.3 -3.5
GTA PcP **PcP 01 39 12.0 +1.0**
GTA S **S 01 41 34.8 -1.9**
GTA pmax pmax
comp=Z,15nm,0.8s
GTA pmax pmax
comp=Z,85nm,8.6s
GTA LR LR
comp=Z,220nm,20.6s
GTA LR LR
comp=Z,330nm,16.8s
GTA LR LR
comp=Z,470nm,18.9s
BILL Bilibino 32.76 17 *e*P **P 01 36 27.4 +0.4**
comp=Z,15nm,1.0s
BILL Bilibino 32.76 17*ce*P **P 01 36 27.8 +0.8**
BILL pmax pmax
comp=Z,22nm,1.3s
ATKA Atka Island 33.42 51 *e*P **P 01 36 33.6 +0.7**
comp=Z,105nm,1.0s
QIZ Qiongzhong 33.73 244 P **P 01 36 36.3 +0.4**
QIZ S **S 01 41 55.9 +0.4**
QIZ LR LR
comp=Z,170nm,18.6s
TIXI Tiksi 34.11 353 P **P 01 36 38.5 -0.2**
comp=Z,2.1nm,0.5s,baz=152,slow=5.6,SNR=4.7
TIXI LR LR 01 52 09.9
comp=Z,112nm,18.3s,baz=165,slow=39
TIXI Tiksi 34.11 353 *e*P **P 01 36 38.6 0.0**
comp=Z,6.5nm,1.2s
TIXI Tiksi 34.11 353*ce*P **P 01 36 38.9 +0.3**
TIXI pmax pmax
comp=Z,4.0nm,1.3s
KMI Kunming 35.47 260 P **P 01 36 51.6 +0.4**
KMI pmax pmax
comp=Z,37nm,0.8s
KMI pmax pmax
comp=Z,130nm,4.9s
KMI LR LR
comp=Z,160nm,8.2s
KMI LR LR
comp=Z,180nm,8.9s
KMI LR LR
comp=Z,280nm,16.9s
HVS Khovu-Aksy 35.90 307 *i*P **P 01 36 55.0 +0.6**
HVS pmax pmax
comp=Z,25nm,1.5s
NONG Nongkai 39.21 250 P **P 01 37 25.8 +3.2**
comp=Z,0.4nm,0.8s
SIJI Sorong 40.14 196 P **P 01 37 29.9 -0.4**
baz=162,slow=19,SNR=2.2
ANM Nome 40.39 32 *e*P **P 01 37 33.0 +1.1**
comp=Z,30nm,1.3s
ANM Nome 40.39 32 *e*P **P 01 37 33.0 +1.1**
ANM pmax pmax
comp=Z,31nm,1.3s
WMQ Urumqi 40.58 296 P **P 01 37 34.4 +0.6**
WMQ pP pP 01 37 44.6 -3.5
WMQ sP sP 01 37 52.6 -1.9
WMQ PP **PnPn 01 39 12.6 +0.3**
WMQ pmax pmax
comp=Z,33nm,1.5s
WMQ pmax pmax
comp=Z,250nm,3.7s
WMQ LR LR
comp=Z,280nm,30.1s
WMQ LR LR
comp=Z,380nm,27.9s
PAYA Payao 40.88 255 P P 01 37 43.2 +6.7
ZAA0 Zalesovo Array 41.33 311 *e*P **P 01 37 40.0 +0.2**
comp=Z,17nm,1.0s
ZALV Zalesovo Beam 41.33 311 P **P 01 37 39.6 -0.1**
comp=Z,12nm,0.7s,baz=86,slow=7.3,SNR=41
ZALV PcP **PcP 01 39 36.6 -0.6**
comp=Z,6.0nm,0.9s,baz=75,slow=1.6,SNR=3.4
ZALV ScP **ScP 01 43 19.7 -2.7**
comp=Z,1.3nm,0.7s,baz=64,slow=3.4,SNR=4.0
ZALV Zalesovo Beam 41.33 311 *e*P **P 01 37 39.3 -0.5**
ZALV PcP **PcP 01 39 36.6 -0.6**
ZALV ScP **ScP 01 43 19.7 -2.7**
ZALV Zalesovo Beam 41.33 311 *i*P **P 01 37 40.0 +0.3**
ZALV pmax pmax
comp=Z,12nm,0.7s
LAMP Lampang 41.56 254 P **P 01 37 43.6 +1.5**
comp=Z,5.0nm,0.9s
PBKT Sadao Pong 41.76 250 P **P 01 37 44.9 +1.2**
comp=Z,4.9nm,1.0s,comp=Z,1μm
CHTO Chiang Mai 41.91 255 *e*P **P 01 37 44.9 0.0**
comp=Z,7.9nm,0.8s
CHTO Chiang Mai 41.91 255 *e*P **P 01 37 44.9 0.0**
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CHTO Chiang Mai 41.91 255 P **P 01 37 45.1 +0.2**
comp=Z,42nm,0.9s
FAKI Fak Fak 41.92 194 *e*P **P 01 37 44.5 -0.5**
comp=Z,40nm,0.8s
CMAR Chiang Mai Arr 42.12 254 P **P 01 37 46.8 +0.1**
comp=Z,2.4nm,0.7s,baz=43,slow=5.2,SNR=13
CMAR LR LR 01 56 29.1
comp=Z,62nm,18.8s,baz=96,slow=38
CMAR Chiang Mai Arr 42.12 254*ce*P **P 01 37 46.7 +0.1**
CMAR pmax pmax
comp=Z,4.0nm,0.9s
CM01 Chiang Mai Arr 42.13 254 *e*P **P 01 37 46.5 -0.2**
SUKH Sukhothai 42.19 253 P **P 01 37 48.1 +0.9**
comp=Z,4.3nm,1.1s
NVS Novosibirsk 42.23 313⇓ *i*P **P 01 37 47.3 +0.2**
NVS *e* 01 38 01.6
NVS *e*S **S 01 44 02.5 -0.7**
NVS pmax pmax
comp=Z,22nm,1.6s
NVS pmax pmax
comp=E,18nm,1.3s
NVS smax smax
comp=E,15nm,1.9s
RDOG Red Dog Mine 42.27 27 *e*P **P 01 37 49.0 +1.8**
comp=E,23nm,1.0s
NRIK Noril'sk 42.29 335 LR LR 01 56 54.0
comp=E,156nm,19.2s,baz=88,slow=38
LSA Lhasa 42.42 274 *e*P **P 01 37 50.9 +1.4**
comp=E,45nm,1.6s
LSA Lhasa 42.42 274 *e*P **P 01 37 50.9 +1.4**
LSA pmax pmax
comp=Z,45nm,1.6s
SRAK Srakaew 42.63 246 P **P 01 37 49.8 -1.0**
comp=Z,31nm,0.7s,comp=Z,301nm
UMPA Umpang Tak 43.56 252 P **P 01 38 00.1 +1.8**
comp=Z,2.9nm,1.1s,comp=Z,2μm
MK01 Makanchi Array 43.74 301 *e*P **P 01 37 59.4 -0.1**
MK31 Makanchi Array 43.74 301 *e*P **P 01 37 59.5 0.0**
MK31 Makanchi Array 43.74 301 *e*P **P 01 37 59.5 0.0**
MKAR Makanchi Array 43.74 301 P **P 01 37 59.5 0.0**
comp=Z,17nm,0.9s,baz=87,slow=9.0,SNR=72
MKAR Makanchi Array 43.74 301 *e*P **P 01 37 59.5 0.0**
comp=Z,94nm,0.8s
SHL Shillong 43.75 268 *e*P **P 01 38 00.0 +0.1**
comp=Z,21nm,0.4s
SHL Shillong 43.75 268 P **P 01 38 01.1 +1.2**
SHL pmax pmax
comp=Z,28nm,0.4s
SVW2 Sparrevohn 44.36 38 *e*P **P 01 38 05.1 +0.9**
comp=Z,24nm,0.9s
PHET Kaeng Krachan 45.11 248 P **P 01 38 14.2 +3.5**
comp=Z,4.4nm,0.8s
KURK Kurchatov 45.43 307 *e*P **P 01 38 12.6 -0.3**
KURK S **S 01 44 47.5 -2.6**
KURK Kurchatov 45.43 307*de*P **P 01 38 12.5 -0.3**
KURK pmax pmax
comp=Z,30nm,0.9s
IM3 Indian Mountai 45.44 31 *e*P **P 01 38 13.6 +1.0**
IM3 *e*PcP **PcP 01 39 52.0 +1.2**
KURBB Kurchatov Arra 45.50 307 P **P 01 38 13.2 -0.2**
comp=Z,14nm,0.4s,baz=81,slow=7.9,SNR=159
KURBB S **S 01 44 47.5 -3.6**
comp=Z,1.1nm,0.8s,baz=87,slow=14,SNR=6.2
KDAK Kodiak Island 45.98 43 P **P 01 38 17.5 +0.5**
comp=Z,23nm,0.6s,baz=270,slow=3.6,SNR=15
KDAK Kodiak Island 45.98 43 P **P 01 38 17.5 +0.5**
KDAK pmax pmax
comp=Z,25nm,0.7s
PPLA Purkeypile 45.98 36 *e*P **P 01 38 18.6 +1.4**
comp=Z,25nm,1.1s
CAST Castle Rocks 46.04 35 *e*P **P 01 38 18.5 +1.1**
comp=Z,23nm,1.0s
PDGK Podgornoye 46.49 297 P **P 01 38 23.3 +1.9**
PDGK pmax pmax
comp=Z,18nm,1.2s
MLY Manley 46.64 33 *e*P **P 01 38 23.1 +0.9**
comp=Z,18nm,0.9s
MLY *e*PcP **PcP 01 39 56.8 +1.6**
SUA Susitna One 46.69 38 *e*P **P 01 38 23.6 +0.8**
comp=Z,32nm,1.0s
TRF Thorofare Moun 46.84 35 *e*P **P 01 38 25.7 +1.8**
comp=Z,18nm,0.8s
COLD Coldfoot 46.93 30 *e*pP pP 01 38 38.7 -0.1
RC01 Rabbit Creek A 47.20 38 *e*P **P 01 38 27.3 +0.8**
comp=Z,31nm,1.0s
JIRN Jiri 47.23 274 *e*P **P 01 38 28.0 +0.3**
comp=Z,56nm,0.6s
TOLK Toolik Lake Re 47.24 28 *e*P **P 01 38 27.7 +0.9**
comp=Z,21nm,0.9s
TOLK Toolik Lake Re 47.24 28 P **P 01 38 28.8 +2.0**
baz=267
RAMN Ramite 47.24 273 *e*P **P 01 38 27.1 -0.5**
comp=Z,160nm,1.1s
GUN Gumba 47.36 275 *e*P **P 01 38 28.8 +0.1**
comp=Z,48nm,0.4s
MCK McKinley 47.44 34 *e*P **P 01 38 29.0 +0.6**
comp=Z,24nm,0.9s
PMR Palmer 47.46 37 *e*P **P 01 38 28.6 +0.2**
comp=Z,22nm,0.9s
PMR Palmer 47.46 37 *e*P **P 01 38 28.7 +0.2**
PMR pmax pmax
comp=Z,22nm,0.9s
RND Reindeer 47.49 35 *e*P **P 01 38 29.4 +0.5**
comp=Z,22nm,0.8s
RND Reindeer 47.49 35 *e*P **P 01 38 29.4 +0.5**
RND pmax pmax
comp=Z,22nm,0.8s
MDM Murphy Dome 47.71 33 *e*P **P 01 38 31.1 +0.6**
comp=Z,32nm,1.0s
WRH Wood River Hil 47.79 33 *e*P **P 01 38 32.4 +1.4**
WRH *e*PcP **PcP 01 39 59.9 +0.7**
SML Sawmill 47.82 37 *e*P **P 01 38 32.8 +1.4**
comp=Z,28nm,0.8s
SML Sawmill 47.82 37 *e*P **P 01 38 32.8 +1.4**
SML pmax pmax
comp=Z,28nm,0.8s
COLA College 47.88 33 *e*P **P 01 38 33.6 +1.9**
comp=Z,72nm,0.3s
COLA College 47.88 33 *e*P **P 01 38 33.6 +1.9**
COLA pmax pmax
comp=Z,72nm,0.3s
KKN Kakani 47.88 275 *e*P **P 01 38 32.6 0.0**
comp=Z,77nm,0.7s
PKI Pulchoki 47.88 275 *e*P **P 01 38 32.3 -0.4**
comp=Z,47nm,1.0s
PKIN Phulchoki 47.89 275 *e*P **P 01 38 32.3 -0.4**
comp=Z,25nm,0.7s
CCB Clear Creek Bu 47.90 33 *e*P **P 01 38 33.1 +1.2**
comp=Z,6.1nm,0.8s
POKR Poker Plat Res 48.04 32 P **P 01 38 34.8 +1.8**
baz=272
DMN Daman 48.10 275 *e*P **P 01 38 34.3 0.0**
DHY Denali Highway 48.18 35 *e*P **P 01 38 34.7 +0.4**
comp=Z,12nm,1.0s
HDA Harding Lake 48.28 33 *e*P **P 01 38 35.8 +0.9**
comp=Z,20nm,0.8s
HDA Harding Lake 48.28 33 P **P 01 38 35.9 +1.0**
baz=273
GKN Gorkha 48.29 276 *e*P **P 01 38 36.4 +0.8**
IL1 Eielson Array 48.29 33 *e*P **P 01 38 35.0 0.0**
ILAR Eielson Array 48.29 33 P **P 01 38 35.5 +0.6**
comp=Z,15nm,0.7s,baz=269,slow=6.5,SNR=164
ILAR LR LR 02 00 10.1
comp=Z,54nm,19.1s,baz=282,slow=37
ILB Eielson Array 48.29 33 *e*P **P 01 38 35.6 +0.6**
SCM Sheep Creek Mo 48.29 37 *e*P **P 01 38 36.7 +1.6**
comp=Z,143nm,1.9s
SCM Sheep Creek Mo 48.29 37 *e*P **P 01 38 36.7 +1.6**
SCM pmax pmax
comp=Z,143nm,1.9s
KRAB Krabi 48.62 243 P **P 01 38 39.4 +1.3**
comp=Z,19nm,0.6s
DANN Dangsing 48.81 276 *e*P **P 01 38 40.2 +0.4**
comp=Z,198nm,0.7s
FYU Fort Yukon 48.89 30 *e*P **P 01 38 40.6 +1.2**
comp=Z,46nm,1.2s
KLU Kluina 49.00 37 *e*P **P 01 38 42.0 +1.5**
comp=Z,29nm,1.0s
PAX Paxson 49.05 35 *e*P **P 01 38 42.5 +1.6**
comp=Z,9.4nm,0.8s
PAX Paxson 49.05 35 *e*P **P 01 38 42.5 +1.6**
PAX pmax pmax
comp=Z,9.0nm,0.8s
DIV Divide 49.11 38 *e*P **P 01 38 42.6 +1.3**
comp=Z,56nm,1.1s
KOLN Koldanda 49.21 276 *e*P **P 01 38 42.8 0.0**
comp=Z,48nm,0.8s
HARP HAARP 49.25 36 *e*P **P 01 38 43.0 +0.6**
comp=Z,253nm,2.0s
TKM2 Tokmak 2 49.33 298 P **P 01 38 44.2 +0.7**
SNR=20
PKDT Phuket 49.46 244 P P 01 38 50.9 +6.4
PYUN Piuthan 49.53 277 *e*P **P 01 38 45.4 +0.2**
comp=Z,204nm,1.1s
SCRK Sand Creek 49.61 34 *e*P **P 01 38 45.1 -0.1**
comp=Z,22nm,0.9s
DOT Dot Lake 49.61 34 *e*P **P 01 38 46.1 +1.0**
comp=Z,53nm,1.7s
BMRM Bremner River 49.70 38 *e*P **P 01 38 46.5 +0.7**
comp=Z,20nm,0.8s
KZA Kyzart 49.84 297 P **P 01 38 49.1 +1.5**
SNR=11
KBK Karagaybulak 49.87 297 P **P 01 38 48.1 +0.5**
SNR=29
BVAR Borovoye Array 49.98 312 P **P 01 38 47.9 -0.2**
comp=Z,2.0nm,0.4s,baz=73,slow=9.3,SNR=14
BVAR PcP **PcP 01 40 07.3 -0.1**
comp=Z,3.4nm,0.6s,baz=54,slow=2.6,SNR=5.0
BVAR S **S 01 45 51.6 -3.0**
comp=Z,0.6nm,0.8s,baz=85,slow=18,SNR=3.3
USP Ospenovka 49.98 298 P **P 01 38 49.0 +0.7**
SNR=5.8
BRVK Borovoye 50.04 312 *e*P **P 01 38 48.9 +0.5**
comp=Z,9.9nm,1.0s
BRVK Borovoye 50.04 312*ce*P **P 01 38 49.1 +0.6**
BRVK pmax pmax
comp=Z,8.0nm,1.3s
AAK Ala-Archa 50.19 298 P **P 01 38 48.7 -1.2**
comp=Z,3.6nm,0.3s,baz=102,slow=4.7,SNR=16
AAK Ala-Archa 50.19 298 *e*P **P 01 38 48.3 -1.7**
comp=Z,8.9nm,0.8s
AAK Ala-Archa 50.19 298 *i*P **P 01 38 50.4 +0.4**
AAK pmax pmax
comp=Z,8.0nm,0.9s
KSH Kashi 50.20 293 P **P 01 38 52.6 +2.5**
KSH pP pP 01 39 04.6 -0.1
KSH S **S 01 45 59.1 +0.9**
KSH pmax pmax
comp=Z,33nm,0.9s
KSH pmax pmax
comp=Z,220nm,5.3s
KSH LR LR
comp=Z,330nm,7.6s
KSH LR LR
comp=Z,290nm,12.7s
KSH LR LR
comp=Z,440nm,16.6s
HNR Honiara 50.38 157 LR LR 01 59 17.4
comp=Z,78nm,19.2s,baz=342,slow=35
AML Almayashu 50.92 297 P **P 01 38 56.5 +0.7**
SNR=8.9
DAWY Dawson 51.60 33 *e*P **P 01 39 00.9 +0.8**
comp=Z,21nm,1.8s
COEN Coen 51.96 178 *e*P **P 01 39 02.9 -0.3**
comp=Z,16nm,0.9s
EPYK Eagle Plains 52.31 30 P **P 01 39 07.1 +1.7**
baz=280
PSI Prapat 52.70 239 *e*P **P 01 39 09.2 +0.3**
comp=Z,6.0nm,0.7s
PSI Prapat 52.70 239 *e*P **P 01 39 09.2 +0.3**
PSI pmax pmax
comp=Z,6.0nm,0.7s
KK31 Karatay Array 52.79 299 *e*P **P 01 39 09.3 +0.1**
KK31 Karatay Array 52.79 299 *e*P **P 01 39 09.3 +0.1**
KKAR Karatay Array 52.79 299 *e*P **P 01 39 09.3 +0.1**
KKAR Karatay Array 52.79 299 *e*P **P 01 39 09.3 +0.1**
HYT Haines Junctio 53.13 37 *e*P **P 01 39 13.4 +1.8**
comp=Z,44nm,1.0s
INK Inuvik 53.15 28 P **P 01 39 12.4 +1.0**
comp=Z,21nm,0.8s,baz=284,slow=6.9,SNR=30
INK Inuvik 53.15 28 *e*P **P 01 39 12.8 +1.4**
comp=Z,24nm,0.9s
INK Inuvik 53.15 28 *e*P **P 01 39 12.8 +1.4**
INK pmax pmax
comp=Z,24nm,0.9s
SVE Sverdlovsk 54.44 318 *e*P **P 01 39 21.5 +0.5**
SVE pmax pmax
comp=Z,22nm,0.9s
GSI Gunungsitoli 54.70 239 *e*P **P 01 39 23.5 0.0**
comp=Z,163nm,2.0s
ARU Arti 55.65 318 *e*P **P 01 39 29.3 -0.5**
comp=Z,21nm,1.0s
ARU Arti 55.65 318*c i*P **P 01 39 30.3 +0.5**
ARU *PP **pP 01 39 43.6 -1.0**
ARU 01 41 32.2
ARU S **S 01 47 14.3 +2.7**
ARU SS **SS 01 50 54.3 -2.5**
ARU pmax pmax
comp=Z,11nm,0.7s
KBL Kabul 57.28 290 *e*P **P 01 39 41.5 -0.5**
comp=Z,18nm,0.9s
KBL Kabul 57.28 290 *e*P **P 01 39 41.5 -0.5**
KBL pmax pmax
comp=Z,18nm,0.9s
ABKAR Akbulak array 57.39 310 *e*P **P 01 39 41.9 -0.3**
DLBC Dease Lake 57.47 39 P **P 01 39 44.9 +2.2**
comp=Z,10nm,0.9s,baz=297,slow=5.6,SNR=11
DLBC Dease Lake 57.47 39 *e*P **P 01 39 44.3 +1.5**
comp=Z,36nm,1.3s
FITZ Fitzroy Crossi 58.08 198 *e*P **P 01 39 46.8 -0.5**
comp=Z,9.4nm,1.0s
CTAO Charters Tower 58.19 175 *e*P **P 01 39 48.4 +0.3**
WRAB Tennant Creek 58.31 188 *e*P **P 01 39 48.2 -0.7**
comp=Z,12nm,0.9s
WRAB Tennant Creek 58.31 188*ce*P **P 01 39 48.4 -0.5**
WRAB pmax pmax
comp=Z,11nm,0.8s
WB2 Warramunga Arr 58.32 188 *e*P **P 01 39 47.5 -1.4**
WRA Warramunga Arr 58.32 188 P **P 01 39 48.1 -0.8**
comp=Z,8.5nm,0.6s,baz=5.7,slow=7.0,SNR=49
WRA LR LR 02 02 41.6
comp=Z,56nm,20.8s,baz=265,slow=34
WC3 Warramunga Arr 58.33 188 *e*P **P 01 39 47.9 -1.2**
comp=Z,24nm,1.3s
SPITS Spitsbergen Ar 59.38 349 P **P 01 39 56.5 +0.8**
comp=Z,2.6nm,0.5s,baz=72,slow=8.0,SNR=7.2
SPITS Spitsbergen Ar 59.38 349 P **P 01 39 56.5 +0.8**
SPITS pmax pmax
comp=Z,6.0nm,0.7s
KBS Kingsbay 59.50 350 *e*P **P 01 39 57.4 +0.9**
comp=Z,20nm,0.8s
KBS Kingsbay 59.50 350*ce*P **P 01 39 58.6 +2.1**
KBS pmax pmax
comp=Z,112nm,1.7s
PRGR Permogore 59.91 327 *e*P **P 01 39 59.5 0.0**
PRGR *e*PP **pP 01 40 13.3 -1.2**
PRGR pmax pmax
comp=Z,12nm,0.9s
RES Resolute Bay 61.33 15 P **P 01 40 09.2 +0.2**
comp=Z,20nm,0.7s,baz=309,slow=6.8,SNR=61
RES PcP **PcP 01 40 51.5 +0.7**
comp=Z,5.0nm,0.7s,baz=320,slow=7.2,SNR=3.7
RES Resolute Bay 61.33 15 *e*P **P 01 40 09.4 +0.4**
comp=Z,22nm,0.7s
RES PcP **PcP 01 40 51.5 +0.7**
RES Resolute Bay 61.33 15 *e*P **P 01 40 09.4 +0.4**
RES 01 40 51.5
RES pmax pmax
comp=Z,22nm,0.7s
APA Apatity 61.70 336⇓ *i*P **P 01 40 11.4 -0.2**
APA pmax pmax
comp=Z,13nm,0.9s
AS01 Alice Springs 62.04 188 *e*P **P 01 40 13.8 -0.6**
AS31 Alice Springs 62.05 188 *e*P **P 01 40 14.3 -0.1**
comp=Z,2.2nm,0.8s
AS31 *epP **pP 01 40 27.8 -1.7**
ASAR Alice Springs 62.05 188 P **P 01 40 14.1 -0.3**
comp=Z,7.2nm,0.7s,baz=11,slow=6.5,SNR=52
ASAR Alice Springs 62.05 188 P **P 01 40 14.1 -0.3**
ASAR pmax pmax
comp=Z,13nm,0.9s
ASAR pmax pmax
comp=Z,7.0nm,0.7s
YKA Yellowknife Ar 62.59 31 P **P 01 40 18.1 +0.5**
comp=Z,7.5nm,0.8s,baz=299,slow=5.7,SNR=15
YKA PcP **PcP 01 40 57.2 +1.0**
comp=Z,2.5nm,0.6s,baz=298,slow=3.8,SNR=6.4
YKB5 Yellowknife Ar 62.59 31 *e*P **P 01 40 17.3 -0.3**
MBWA Marble Bar 62.64 203 *e*P **P 01 40 17.8 -0.6**
KLMR Klimovskoe 62.89 327 *e*P **P 01 40 18.9 -0.7**
KLMR pmax pmax
comp=Z,11nm,1.3s
KLMR Klimovskoe 62.89 327 *e*P **P 01 40 19.0 -0.7**
KLMR AMP 01 40 35.4
comp=Z,11nm,1.3s
PALK Pallekele 62.94 257 *e*P **P 01 40 18.3 -2.5**
comp=Z,18nm,1.4s
PALK Pallekele 62.94 257 *i*P **P 01 40 20.1 -0.6**
ARCES ARCESS Array B 62.96 339 P **P 01 40 20.5 +0.5**

comp=Z,4.3nm,0.5s,baz=55,slow=7.8,SNR=40
ARCES ARCESS Array B 62.96 339 *e*P **P 01 40 19.1 -1.0**
GEYT Alibeck 63.52 299 P **P 01 40 24.2 0.0**
comp=Z,1.6nm,0.8s,baz=273,slow=5.5,SNR=4.2
GEYT LR LR 02 09 17.4
comp=Z,86nm,20.7s,baz=5.0,slow=37
GYA0B ALIBECK ARRAY 63.52 299 *e*P **P 01 40 24.2 -0.1**
comp=Z,6.3nm,0.9s
EIDS Eidsvold 63.89 171 *e*P **P 01 40 26.2 -0.4**
comp=Z,5.5nm,0.6s
MSF Maaselka 64.07 335 P **P 01 40 29.3 +1.9**
DZM Mont Dzumac 64.32 155 LR LR 02 05 39.9
comp=Z,104nm,19.8s,baz=48,slow=33
DZM Mont Dzumac 64.32 155 *e*LR LR 01 59 44.9
comp=Z,134nm,21.6s
DZM Mont Dzumac 64.32 155 *e*P **P 01 40 28.8 -0.8**
comp=Z,41nm,1.4s
DAG Danmarks Havn 64.58 355⇑ *i*P **P 01 40 30.6 +0.1**
comp=Z,19nm,0.8s
DAG Danmarks Havn 64.58 355⇑ *i*P **P 01 40 30.6 +0.1**
DAG pmax pmax
comp=Z,14nm,0.8s
OUL Oulu 65.61 335 P **P 01 40 38.6 +1.2**
OUL pmax pmax
comp=Z,21nm,0.9s
D03D Eldon 66.04 48 P **P 01 40 42.1 +1.6**
baz=301,SNR=5.4
B05A Bryant 66.23 47 P **P 01 40 43.6 +1.9**
baz=301
B06A Marblemount 66.45 46 *e*P **P 01 40 44.8 +1.7**
comp=Z,34nm,1.1s
E04D Cinebar 66.85 48 P **P 01 40 47.3 +1.7**
baz=302
VRH Novokhopyorsk 66.88 318 *e*P **P 01 40 44.9 -0.8**
VRH pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 67.30 323⇓ *e*P **P 01 40 48.1 -0.2**
OBN *e**PP **pP 01 41 02.6 -0.9**
OBN *SP **sP 01 41 11.0 +1.2**
OBN 01 41 16.0
OBN 01 43 25.0
OBN *e*S **S 01 49 42.9 +3.8**
OBN *e*SS **SS 01 54 06.4 +7.7**
OBN pmax pmax
comp=Z,22nm,2.5s
LPSR Galich'ya Gora 67.56 320 *e*P **P 01 40 49.7 -0.3**
LPSR pmax pmax
comp=Z,8.0nm,0.6s
LTY Liberty 67.58 47 *e*P **P 01 40 51.6 +1.2**
comp=Z,21nm,1.3s
AFI Afiamalu 67.69 131 LR LR 02 05 10.3
comp=Z,40nm,20.8s,baz=22,slow=31
B08A Colville Reser 67.75 45 *e*P **P 01 40 52.6 +1.2**
comp=Z,35nm,1.4s
FIA1 FINESS Array S 67.87 332 *e*P **P 01 40 52.1 +0.2**
FINES FINESS Array B 67.88 332 P **P 01 40 52.0 +0.1**
comp=Z,9.7nm,0.6s,baz=44,slow=8.2,SNR=36
FINES LR LR 02 13 41.0
comp=Z,78nm,18.3s,baz=34,slow=39
FINES FINESS Array B 67.88 332*ce*P **P 01 40 52.0 +0.1**
FINES pmax pmax
comp=Z,10.0nm,0.6s
I03D Drain, OR 67.89 51 P **P 01 40 53.6 +1.3**
baz=302
H04A Detroit Lake 68.07 50 *e*P **P 01 40 54.2 +0.7**
VSR Storozhevoye 68.22 319 *e*P **P 01 40 51.8 -2.4**
VSR pmax pmax
comp=Z,10.0nm,0.5s
K02D Willamette Mer 68.23 52 P **P 01 40 56.6 +2.0**
baz=302
VORD Divnogorie 68.29 318 *e*P **P 01 40 53.4 -1.2**
VORD pmax pmax
comp=Z,7.0nm,0.7s
I04A Tendick Farm, 68.41 51 P **P 01 40 57.4 +1.8**
baz=303,SNR=5.1
E07A Sunnyside 68.43 47 *e*P **P 01 40 57.3 +1.6**
comp=Z,25nm,1.3s
L02E Cave Junction 68.56 53 P **P 01 40 58.7 +2.2**
baz=303
C09A Chrisman Ranch 68.65 45 *e*P **P 01 40 58.2 +1.2**
comp=Z,33nm,1.3s
HAWA Hanford 68.71 47 *e*P **P 01 40 59.0 +1.7**
comp=Z,29nm,1.5s
F07A Phinny Hill Vi 68.75 48 *e*P **P 01 40 58.6 +0.9**
comp=Z,94nm,1.8s
I05D Terrebonne, OR 68.77 50 P **P 01 40 58.3 +0.4**
baz=303
J04D Umpqua Nationa 68.90 51 P **P 01 41 00.5 +1.6**
baz=303
E08A Dider Farm, El 68.93 47 *e*P **P 01 40 59.6 +0.9**
comp=Z,20nm,1.4s
ARMA Armidale 68.94 171 *e*P **P 01 40 59.1 +0.2**
comp=Z,20nm,1.4s
NEW Newport 69.03 45 P **P 01 41 00.3 +0.8**
comp=Z,14nm,0.9s,baz=303,slow=5.8,SNR=34
NEW Newport 69.03 45 *e*P **P 01 41 00.6 +1.2**
comp=Z,21nm,1.0s
NEW Newport 69.03 45 *e*P **P 01 41 00.6 +1.2**
NEW pmax pmax
comp=Z,21nm,1.0s
NEW Newport 69.03 45 P **P 01 41 00.7 +1.2**
baz=304,SNR=12
KHMM Horse Mountain 69.17 54 *e*P **P 01 41 02.0 +1.5**
comp=Z,91nm,1.6s
L04D Klamath Falls 69.33 52 P **P 01 41 03.4 +1.9**
baz=303,SNR=12
YBH Yreka Blue Hor 69.35 53 *e*P **P 01 41 02.9 +1.4**
comp=Z,13nm,0.9s
YBH Yreka Blue Hor 69.35 53 *e*P **P 01 41 02.9 +1.4**
YBH pmax pmax
comp=Z,13nm,0.9s
J05D Fort Rock, OR 69.41 51 P **P 01 41 02.9 +0.9**
baz=304,SNR=8.1
E09A Wood Farm, Sta 69.44 47 *e*P **P 01 41 03.2 +1.3**
comp=Z,27nm,1.3s
M02C Callahan 69.44 53 P **P 01 41 03.9 +1.8**
baz=303,SNR=5.9
K04D Chiloquin, OR 69.45 52 P **P 01 41 03.5 +1.3**
baz=304
SUMG Summit 69.46 0 *e*P **P 01 41 03.2 +1.1**
comp=Z,23nm,0.8s
SUMG Summit 69.46 0 *i* P **P 01 41 03.1 +1.1**
comp=Z,57nm,0.8s
SUMG Summit 69.46 0 *e*P **P 01 41 03.2 +1.1**
SUMG pmax pmax
comp=Z,23nm,0.8s
G08A Pilot Rock 69.65 48 *e*P **P 01 41 04.7 +1.3**
N02D Trinity Center 69.77 53 P **P 01 41 06.3 +2.2**
baz=304,SNR=9.9
STKA Stephens Creek 69.78 180 P **P 01 41 03.7 -0.3**
comp=Z,3.8nm,0.8s,baz=355,slow=9.6,SNR=7.8
M04C Macdoel 69.86 52 P **P 01 41 06.6 +1.9**
baz=304,SNR=13
NCK Nalchik 70.05 310 *i* P **P 01 41 06.5 +0.7**
NCK pmax pmax
comp=Z,4.0nm,0.8s
WDC Whiskeytown Da 70.09 54 *e*P **P 01 41 07.1 +1.1**
comp=Z,14nm,1.0s
WDC Whiskeytown Da 70.09 54 *e*P **P 01 41 07.1 +1.1**
WDC pmax pmax
comp=Z,14nm,1.0s
O02D Mt. Diablo Mer 70.15 54 P **P 01 41 08.3 +1.9**
baz=304,SNR=9.0
KIV Kislovodsk 70.34 311 *e*P **P 01 41 08.0 +0.4**
comp=Z,25nm,1.0s
KIV Kislovodsk 70.34 311 *e*P **P 01 41 08.0 +0.4**
KIV pmax pmax
comp=Z,25nm,1.0s
KBZ Khabaz 70.34 310 P **P 01 41 07.5 +0.1**
comp=Z,6.1nm,0.8s,baz=348,slow=1.6,SNR=8.9
O03E Paynes Creek 70.71 54 P **P 01 41 10.8 +0.9**
baz=304,SNR=16
NEY Neytrino 70.72 310 *i* P **P 01 41 10.9 +0.9**
NEY pmax pmax
comp=Z,1.0nm,0.8s
MOD Modoc Plateau 70.75 52 *e*P **P 01 41 11.6 +1.4**
comp=Z,14nm,0.8s
WSAR Wadi Sarin 70.86 285 P **P 01 41 11.2 +0.3**
comp=Z,4.9nm,0.8s,baz=83,slow=8.1,SNR=5.1
BMO Blue Mountains 70.87 48 *e*P **P 01 41 12.2 +1.4**
comp=Z,9.6nm,0.8s
BMO Blue Mountains 70.87 48 *e*P **P 01 41 12.2 +1.4**
BMO pmax pmax
comp=Z,10.0nm,0.8s
JTMT Jette 70.89 44 *e*P **P 01 41 11.8 +0.9**
comp=Z,27nm,0.8s
J08A Circle Bar Ran 71.03 49 *e*P **P 01 41 13.7 +1.8**
comp=Z,31nm,1.1s
AKH Akhalkalaki 71.29 308⇑ *i*P **P 01 41 14.6 +1.1**
ORV Oroville 71.32 54 *e*P **P 01 41 13.7 +0.2**
comp=Z,13nm,1.0s
ORV Oroville 71.32 54 *e*P **P 01 41 13.7 +0.2**
ORV pmax pmax
comp=Z,13nm,1.0s
WVOR Wild Horse Val 71.47 50 *e*P **P 01 41 15.9 +1.5**
comp=Z,20nm,1.1s
WVOR Wild Horse Val 71.47 50 *e*P **P 01 41 16.0 +1.5**
WVOR pmax pmax
comp=Z,20nm,1.1s
MSO Missoula 71.62 45 *e*P **P 01 41 16.5 +1.1**
comp=Z,14nm,1.0s
MSO Missoula 71.62 45 P **P 01 41 16.0 +0.7**
baz=307,SNR=10
UOSS Minazif 71.73 288 *e*P **P 01 41 16.7 +0.5**
comp=Z,14nm,0.8s
UOSS *epP **pP 01 41 30.8 -0.8**
BEKR Beckworth 71.87 53 *e*P **P 01 41 18.2 +1.2**
comp=Z,22nm,0.9s
AFDM Forest Hills D 72.00 54 *e*P **P 01 41 18.6 +0.9**
comp=Z,16nm,1.4s
RUBR Rubicon Trail 72.47 54 *e*P **P 01 41 22.0 +1.4**
comp=Z,20nm,0.9s
FFC Flin Flon 72.50 33 *e*P **P 01 41 20.5 +0.2**
comp=Z,17nm,0.7s
FFC Flin Flon 72.50 33*ce*P **P 01 41 21.2 +0.9**
MFID Camas Ranch 72.57 48 *e*P **P 01 41 22.6 +1.5**
comp=Z,13nm,0.7s
PAHR Pah Rah Range 72.58 53 *e*P **P 01 41 22.5 +1.3**
comp=Z,25nm,1.0s
VCNR Virginia City 72.64 54 *e*P **P 01 41 22.7 +1.0**
comp=Z,12nm,0.9s
PNTR Pine Nut 72.80 54 *e*P **P 01 41 23.1 +0.5**
comp=Z,14nm,0.9s
HRY Holter Researc 72.85 44 *e*P **P 01 41 23.9 +1.3**
CMB Columbia Colle 72.90 55 *e*P **P 01 41 24.3 +1.2**
comp=Z,16nm,0.8s
CMB Columbia Colle 72.90 55 *e*P **P 01 41 24.3 +1.2**
CMB pmax pmax
comp=Z,16nm,0.8s
NC405 NORSAR Array S 72.97 337 *e*P **P 01 41 23.8 +0.9**
YERR Yerington 73.08 54 *e*P **P 01 41 25.8 +1.5**
comp=Z,30nm,1.0s
NC204 NORSAR Array S 73.13 338 *e*P **P 01 41 24.9 +0.9**
EGMT Eagleton 73.14 42 *e*P **P 01 41 25.5 +1.1**
comp=Z,41nm,0.8s
EGMT Eagleton 73.14 42 P **P 01 41 25.4 +1.1**
baz=309,SNR=22
NB201 NORSAR Array S 73.14 337 *e*P **P 01 41 23.8 -0.2**
NB2 NORSAR Subarra 73.17 337 P **P 01 41 24.3 +0.1**
comp=Z,2.7nm,0.6s,baz=39,slow=6.2
NOA NORSAR Array B 73.17 337 P **P 01 41 24.7 +0.4**
comp=Z,7.6nm,0.8s,baz=38,slow=5.9,SNR=19
NOA LR LR 02 16 17.0
comp=Z,102nm,22.0s,baz=30,slow=38
WAKR Walker 73.24 54 *e*P **P 01 41 26.1 +0.9**
comp=Z,11nm,1.0s
DLMT Dillon 73.25 45 *e*P **P 01 41 26.5 +1.4**
comp=Z,22nm,0.9s
HLID Hailey 73.31 47 *e*P **P 01 41 26.4 +0.9**
comp=Z,12nm,0.9s
HLID Hailey 73.31 47 P **P 01 41 26.8 +1.3**
baz=307,SNR=20
NAO01 NORSAR Array S 73.43 337 *e*P **P 01 41 25.5 -0.2**
BMN Battle Mountai 73.50 51 *e*P **P 01 41 27.7 +1.0**
comp=Z,30nm,1.2s
AKASG Malin Array Be 73.52 322 P **P 01 41 26.4 0.0**
comp=Z,4.2nm,0.5s,baz=44,slow=6.4,SNR=25
AKBB Malin Array Si 73.52 322 *e*P **P 01 41 25.7 -0.6**
comp=Z,10nm,0.8s
KIEV Kiev 73.53 322 *e*P **P 01 41 25.7 -0.7**
comp=Z,5.3nm,0.6s
KIEV Kiev 73.53 322 *e*P **P 01 41 25.7 -0.7**
KIEV pmax pmax
comp=Z,5.0nm,0.6s
AK11 Malin Array Si 73.56 322 *e*P **P 01 41 26.8 +0.2**
BOZ Bozeman (W) 73.64 45 *e*P **P 01 41 27.6 +0.2**
comp=Z,18nm,0.8s
BOZ Bozeman (W) 73.64 45 *e*P **P 01 41 27.6 +0.2**
BOZ pmax pmax
comp=Z,18nm,0.8s
BOZ Bozeman (W) 73.64 45 P **P 01 41 27.6 +0.2**
baz=308,SNR=5.9
RYN Ryan 73.75 54 *e*P **P 01 41 29.6 +1.4**
comp=Z,15nm,1.0s
KVN Kaiserville 73.77 53 *e*P **P 01 41 29.2 +0.9**
comp=Z,26nm,0.9s
KVN Kaiserville 73.77 53 *e*P **P 01 41 29.2 +0.9**
KVN pmax pmax
comp=Z,26nm,0.9s
MDPB Devils Postpil 73.98 55 *e*P **P 01 41 31.3 +1.7**
comp=Z,10.0nm,0.8s
NVAR Mina Array Bea 74.00 54 P **P 01 41 31.2 +1.5**
comp=Z,15nm,0.8s,baz=283,slow=6.1,SNR=88
NVAR LR LR 02 13 32.5
comp=Z,32nm,18.2s,baz=308,slow=35
NV01 Mina Array Sit 74.00 54 *e*P **P 01 41 31.1 +1.3**
OMMB Old Mammoth Mi 74.04 55 *e*P **P 01 41 31.8 +1.7**
comp=Z,15nm,1.3s
NV11 Mina Array Sit 74.10 54 *e*P **P 01 41 31.6 +1.4**
comp=Z,1.2nm,1.1s
QLMT Earthquake Lak 74.23 45 *e*P **P 01 41 32.6 +1.7**
PAGB Antelope Grade 74.33 57 *e*P **P 01 41 33.4 +2.0**
comp=Z,41nm,0.9s
YHB Horse Butte 74.41 45 *e*P **P 01 41 33.6 +1.6**
comp=Z,21nm,0.9s
YHH Holmes Hill 74.58 45 *e*P **P 01 41 33.8 +0.8**
comp=Z,13nm,1.1s
YMR Madison River 74.59 45 *e*P **P 01 41 34.4 +1.3**
comp=Z,14nm,0.8s
GCMT Greycliff 74.59 43 *e*P **P 01 41 33.9 +1.0**
SFJD Kangerlussuaq 74.64 5 P **P 01 41 32.1 -0.5**
comp=Z,8.5nm,0.8s,baz=258,slow=1.9,SNR=3.9
SFJD Kangerlussuaq 74.64 5 *i* P **P 01 41 31.6 -1.0**
comp=Z,12nm,0.9s
YNR Norris Junctio 74.72 45 *e*P **P 01 41 35.3 +1.5**
comp=Z,22nm,1.3s
YFT Old Faithful 74.80 45 *e*P **P 01 41 36.1 +1.8**
comp=Z,15nm,0.8s
YPP Pitchstone Pla 74.93 45 *e*P **P 01 41 36.8 +1.7**
comp=Z,8.9nm,0.8s
LKWY Lake 74.97 45 *e*P **P 01 41 37.5 +2.2**
comp=Z,23nm,1.0s
LKWY Lake 74.97 45 *e*P **P 01 41 37.5 +2.2**
LKWY pmax pmax
comp=Z,23nm,1.0s
H17A Grant Village 74.98 45 *e*P **P 01 41 37.3 +1.9**
comp=Z,36nm,0.9s
IMW Indian Meadow 75.09 46 *e*P **P 01 41 38.1 +2.1**
comp=Z,24nm,0.8s
FLWY Flagg Ranch 75.11 45 *e*P **P 01 41 37.4 +1.3**
comp=Z,45nm,1.4s
PKM Mcpherson Peak 75.11 57 P **P 01 41 38.2 +2.0**
baz=306,SNR=6.7
FXWY Fox Creek 75.20 46 *e*P **P 01 41 37.9 +1.3**
comp=Z,17nm,0.9s
RLMT Red Lodge 75.24 44 *e*P **P 01 41 37.5 +0.7**
comp=Z,54nm,1.6s
RLMT Red Lodge 75.24 44 P **P 01 41 37.6 +0.9**
baz=310,SNR=12
MOOW Moose Ponds 75.29 46 *e*P **P 01 41 38.1 +1.0**
comp=Z,15nm,0.9s
CWC Cottonwood Cre 75.33 55 P **P 01 41 38.4 +1.0**
baz=307
TPAW Teton Pass 75.34 46 *e*P **P 01 41 38.7 +1.3**
comp=Z,17nm,0.7s
HVU Hansel Valley 75.35 48 *e*P **P 01 41 38.1 +0.7**
comp=Z,19nm,0.9s
LOHW Long Hollow 75.45 46 *e*P **P 01 41 39.4 +1.3**
comp=Z,8.1nm,0.9s
SNOW Snow King Moun 75.47 46 *e*P **P 01 41 39.4 +1.3**
comp=Z,20nm,0.8s
REDW Red Top Meadow 75.47 46 *e*P **P 01 41 38.5 +0.3**
comp=Z,15nm,0.9s
FRB Frobisher Bay 75.51 13 P **P 01 41 38.0 +0.4**
comp=Z,26nm,0.7s,baz=324,slow=5.4,SNR=17
FRB Frobisher Bay 75.51 13 *e*P **P 01 41 38.0 +0.4**
FRB pmax pmax
comp=Z,26nm,0.7s
ISA Isabella, Lake 75.54 56 *e*P **P 01 41 39.1 +0.6**
comp=Z,8.9nm,0.8s
ISA Isabella, Lake 75.54 56 *e*P **P 01 41 39.1 +0.6**
ISA pmax pmax
comp=Z,9.0nm,0.8s
ISA Isabella, Lake 75.54 56 P **P 01 41 38.7 +0.3**
baz=307,SNR=12
ARVC Arvin 75.62 57 P **P 01 41 39.3 +0.5**
baz=307
DGMT Dagmar 75.68 39 *e*P **P 01 41 39.9 +0.9**
comp=Z,29nm,0.8s
DGMT Dagmar 75.68 39 P **P 01 41 39.3 +0.3**
baz=312,SNR=7.0
AHID Auburn Hatcher 75.71 47 *e*P **P 01 41 39.8 +0.4**
comp=Z,15nm,0.8s
BGU Big Grassy Mou 75.73 49 *e*P **P 01 41 40.5 +0.9**
comp=Z,7.4nm,0.9s
DAC Darwin (Calif) 75.74 55 *e*P **P 01 41 40.0 +0.3**
comp=Z,12nm,0.8s
DAC Darwin (Calif) 75.74 55 *e*P **P 01 41 40.0 +0.3**
DAC pmax pmax
comp=Z,12nm,0.8s
R11A Troy Canyon, C 75.76 52 *e*P **P 01 41 40.6 +0.8**
comp=Z,23nm,1.1s
R11A Troy Canyon, C 75.76 52 P **P 01 41 41.1 +1.3**
baz=308,SNR=28
SPUT South Promonto 75.84 48 *e*P **P 01 41 40.9 +0.7**
comp=Z,16nm,1.2s
LAO LASA Array 75.84 41 *e*P **P 01 41 41.1 +1.1**
comp=Z,45nm,0.9s
LAO LASA Array 75.84 41 P **P 01 41 41.1 +1.1**
baz=311,SNR=9.6
MPMC Manual Prospec 75.94 55 P **P 01 41 41.9 +1.0**
baz=307,SNR=23
LRMC Laurel Mtn Rad 76.16 56 P **P 01 41 43.1 +1.0**
baz=307,SNR=13
HWUT Hardware Ranch 76.17 48 *e*P **P 01 41 43.5 +1.4**
comp=Z,35nm,1.1s
TPNV Topopah Spring 76.19 54 *e*P **P 01 41 43.4 +1.1**
comp=Z,27nm,0.9s
TPNV Topopah Spring 76.19 54 *e*P **P 01 41 43.4 +1.1**
TPNV pmax pmax
comp=Z,27nm,0.9s
TPNV Topopah Spring 76.19 54 P **P 01 41 43.4 +1.1**
baz=308,SNR=26
SNCC San Nicolas Is 76.28 59 P **P 01 41 43.5 +0.8**
baz=307
DUG Dugway, Tooele 76.32 49 *e*P **P 01 41 43.5 +0.6**
comp=Z,24nm,1.0s
DUG Dugway, Tooele 76.32 49 *e*P **P 01 41 43.5 +0.6**
DUG pmax pmax
comp=Z,25nm,1.0s
DUG Dugway, Tooele 76.32 49 P **P 01 41 44.3 +1.4**
baz=309,SNR=29
EDW2 Edwards Air Fo 76.32 56 P **P 01 41 43.9 +1.0**
baz=307,SNR=25
TCUT Toone Canyon 76.57 48 *e*P **P 01 41 46.2 +1.7**
comp=Z,33nm,0.8s
BW06 Boulder Array 76.58 46 *e*P **P 01 41 45.2 +0.7**
comp=Z,16nm,0.8s
BW06 Boulder Array 76.58 46 P **P 01 41 45.1 +0.6**
baz=310,SNR=18
PD31 Pinedale Array 76.58 46 *e*P **P 01 41 45.2 +0.7**
PDAR Pinedale Array 76.58 46 P **P 01 41 45.2 +0.7**
comp=Z,14nm,0.6s,baz=262,slow=2.3,SNR=150
PDAR LR LR 02 13 45.0
comp=Z,11nm,20.7s,baz=324,slow=34
PDAR Pinedale Array 76.58 46 *e*P **P 01 41 44.6 +0.1**
CTU Camp Tracy 76.64 49 *e*P **P 01 41 46.5 +1.7**
comp=Z,12nm,0.9s
MWC Mount Wilson 76.67 57 *e*P **P 01 41 46.3 +1.2**
comp=Z,14nm,1.0s
MWC Mount Wilson 76.67 57 *e*P **P 01 41 46.3 +1.2**
MWC pmax pmax
comp=Z,14nm,1.0s
PSUT Pine Spring 76.72 51 *e*P **P 01 41 46.7 +1.4**
comp=Z,16nm,1.0s
SHOC Shoshone, Teco 76.82 55 P **P 01 41 46.9 +1.2**
baz=308,SNR=6.3
GSC Goldstone, Bar 76.84 55 *e*P **P 01 41 47.0 +1.1**
comp=Z,11nm,0.8s
GSC Goldstone, Bar 76.84 55 *e*P **P 01 41 47.0 +1.1**
GSC pmax pmax
comp=Z,11nm,0.8s
GSC Goldstone, Bar 76.84 55 P **P 01 41 47.2 +1.4**
baz=308,SNR=12
JLU Jordanelle 76.87 48 *e*P **P 01 41 47.0 +0.8**
comp=Z,19nm,1.1s
NLU North Lily Min 76.91 49 *e*P **P 01 41 46.8 +0.5**
comp=Z,16nm,0.9s
BFSC Mount Baldy Ra 76.93 57 P **P 01 41 47.5 +1.0**
baz=308,SNR=9.1
MPU Maple Canyon 77.13 49 *e*P **P 01 41 49.1 +1.5**
comp=Z,24nm,0.9s
SHPR Sheep Range 77.16 54 *e*P **P 01 41 49.3 +1.6**
comp=Z,18nm,0.9s
KWP Kalwaria Pacla 77.31 324 *e*P **P 01 41 49.7 +1.5**
KWP Kalwaria Pacla 77.31 324 *e*P **P 01 41 48.1 0.0**
comp=Z,28nm,1.3s
KWP Kalwaria Pacla 77.31 324 *e*P **P 01 41 49.7 +1.5**
TUQ Turquoise Moun 77.33 55 P **P 01 41 50.3 +1.6**
baz=308,SNR=12
HEC Hector,Ludlow 77.43 56 P **P 01 41 50.7 +1.5**
baz=308,SNR=14
BUR08 Bucovina Ar. S 77.53 322 *e*P **P 01 41 50.3 +0.8**
BUR04 Bucovina Ar. S 77.54 322 *e*P **P 01 41 50.2 +0.6**
BURAR Bucovina Array 77.54 322⇑ *i*P **P 01 41 50.5 +0.9**
BURAR Bucovina Array 77.54 322⇑⇑P **P 01 41 50.5 +0.9**
BIZ Bicaz 77.57 321⇓ *i*P **P 01 41 50.6 +0.9**
MURC Murrieta 77.62 57 P **P 01 41 51.3 +1.0**
baz=308
CCUT Cedar City 77.63 52 *e*P **P 01 41 52.1 +1.7**
comp=Z,15nm,1.0s
CFR Carcaliu 77.74 318⇓ *i*P **P 01 41 52.1 +1.6**
CFR Carcaliu 77.74 318⇓⇓P **P 01 41 52.1 +1.6**
MSU Marysvale 77.76 50 *e*P **P 01 41 53.0 +1.9**
MSU Marysvale 77.76 50 *e*P **P 01 41 53.1 +1.9**
SZCU Shurtz Canyon 77.78 52 *e*P **P 01 41 52.7 +1.5**
PETR Petresti 77.83 319⇑ *i*P **P 01 41 52.4 +1.3**
TMUT Trail Mountain 77.84 49 *e*P **P 01 41 52.7 +1.0**
comp=Z,37nm,1.6s
GMRC Granite Mounta 77.90 55 P **P 01 41 52.8 +1.0**
baz=308,SNR=21
VRI Vrincioaia 77.99 320⇑ *i*P **P 01 41 53.4 +1.4**
VRI Vrincioaia 77.99 320⇑⇑P **P 01 41 53.4 +1.4**
P17A Butcher Ranch, 78.01 49 *e*P **P 01 41 53.3 +0.8**
comp=Z,32nm,0.8s
PLOR Plostina 78.04 320⇑ *i*P **P 01 41 53.7 +1.4**
PLOR Plostina 78.04 320⇑⇑P **P 01 41 53.7 +1.4**
LCMT Little Creek M 78.05 52 *e*P **P 01 41 53.3 +0.7**
comp=Z,19nm,0.9s
MTPU Mount Pierson 78.05 51 *e*P **P 01 41 54.1 +1.2**
comp=Z,19nm,0.8s
LDFC Landfair 78.07 55 *e*P **P 01 41 54.2 +1.4**
comp=Z,36nm,1.1s
FRD Ford Ranch, An 78.08 57 P **P 01 41 53.9 +1.1**
baz=308
TIRR Tirgusor 78.08 318⇑ *i*P **P 01 41 53.5 +1.0**
TIRR Tirgusor 78.08 318⇑⇑P **P 01 41 53.5 +1.0**
PFO Pinyon Flats O 78.10 57 *e*P **P 01 41 54.2 +1.2**
comp=Z,16nm,1.0s
PFO Pinyon Flats O 78.10 57 P **P 01 41 54.0 +1.0**
baz=308,SNR=8.4
XPFO Piæon Flat 78.10 57 *e*P **P 01 41 54.2 +1.2**
comp=Z,18nm,1.1s
TPFO Pinon Flats 78.11 57 P **P 01 41 53.5 +0.4**
baz=308
BELC Belle Mtn. Jos 78.16 56 P **P 01 41 54.2 +0.9**
baz=308,SNR=9.9
HARR Harsova 78.17 318⇓ *i*P **P 01 41 53.6 +0.6**
HARR Harsova 78.17 318⇓⇓P **P 01 41 53.6 +0.6**
OJC Ojcow 78.19 326 *e*P **P 01 41 53.6 +0.5**
OJC Ojcow 78.19 326 *e*P **P 01 41 53.5 +0.5**
comp=Z,28nm,1.3s
OJC Ojcow 78.19 326 *e*P **P 01 41 53.6 +0.5**
P18A Preston Nutter 78.20 49 *e*P **P 01 41 54.5 +0.8**
comp=Z,43nm,1.4s
BR131 Keskin Array S 78.27 312 *e*P **P 01 41 53.9 +0.1**
BRTR Keskin Array B 78.27 312 P **P 01 41 54.2 +0.3**
comp=Z,1.1nm,0.4s,baz=108,slow=3.2,SNR=15
KNB Kanab 78.30 52 *e*P **P 01 41 55.0 +0.9**
comp=Z,26nm,1.2s
KNB Kanab 78.30 52 *e*P **P 01 41 55.0 +0.9**
KNB pmax pmax
comp=Z,26nm,1.2s
ULM Lac du Bonnet 78.31 34 P **P 01 41 53.5 -0.1**
comp=Z,9.0nm,0.8s,baz=315,slow=6.6,SNR=8.7
ULM Lac du Bonnet 78.31 34 *e*P **P 01 41 54.1 +0.4**
comp=Z,12nm,0.8s
ULM Lac du Bonnet 78.31 34 *e*P **P 01 41 54.1 +0.4**
ULM pmax pmax
comp=Z,12nm,0.8s
MDND Maddock 78.34 37 P **P 01 41 54.8 +0.8**

baz=315
PKCU Pink Cliffs 78.35 51 *e*P P 01 41 55.9 +1.3
comp=Z,9.4nm,1.0s
K22A Casper 78.35 44 *e*P P 01 41 55.4 +1.1
comp=Z,14nm,0.9s
K22A Casper 78.35 44 P P 01 41 55.4 +1.1
baz=312,SNR=7.4
SRU San Rafael Swe 78.37 49 *e*P P 01 41 55.7 +1.2
comp=Z,30nm,0.8s
SRU San Rafael Swe 78.37 49 *e*P P 01 41 55.7 +1.2
SRU pmax pmax
comp=Z,31nm,0.8s
TRPA Tarpa 78.46 323⇑*i*P P 01 41 55.1 +0.6
PGOR Pogoanele 78.52 319⇓*i*P P 01 41 56.4 +1.5
BAR Barrett 78.53 57 *e*P P 01 41 56.5 +1.2
comp=Z,16nm,1.1s
NIE Niedzica 78.56 325 *e*P P 01 41 56.4 +1.3
NIE Niedzica 78.56 325 *e*P P 01 41 56.4 +1.3
MONP2 Monument Peak 78.57 57 P P 01 41 56.8 +1.1
baz=308,SNR=7.4
DOPR Dopca 78.60 320⇑*i*P P 01 41 57.1 +1.7
ISR Istrita 78.60 319⇓*i*P P 01 41 57.0 +1.5
ISR Istrita 78.60 319 ⇓P P 01 41 57.0 +1.5
IRM Iron Mountain 78.62 55 P P 01 41 56.6 +0.9
baz=309,SNR=20
MLR Muntele Rosu 78.65 320⇓*i*P P 01 41 56.6 +0.8
MLR Muntele Rosu 78.65 320 ⇓P P 01 41 56.6 +0.8
RSSD Black Hills 78.70 42 *e*P P 01 41 56.8 +0.5
comp=Z,11nm,0.8s
RSSD Black Hills 78.70 42 *e*P P 01 41 56.8 +0.5
RSSD pmax pmax
comp=Z,11nm,0.8s
RSSD Black Hills 78.70 42 P P 01 41 57.4 +1.1
baz=313
BC3 Big Chuckawall 78.73 56 P P 01 41 57.5 +1.0
baz=309,SNR=11
IKP In-Ko-Pah, Jac 78.92 57 P P 01 41 59.0 +1.5
baz=308,SNR=5.3
SWSC Sam W. Stewart 78.94 57 P P 01 41 58.9 +1.4
baz=309
CJR Cluj-Napoca 78.96 322⇓*i*P P 01 41 58.2 +0.8
CJR Cluj-Napoca 78.96 322 ⇓P P 01 41 58.2 +0.8
O20A White River Ci 79.04 47 *e*P P 01 41 59.0 +0.8
comp=Z,20nm,0.9s
O20A White River Ci 79.04 47 P P 01 41 59.5 +1.3
baz=311,SNR=13
LANS Liptovska Anna 79.13 326 *e*P P 01 41 59.9 +1.7
LANS Liptovska Anna 79.13 326 *e*P P 01 41 59.9 +1.7
VOIR 79.14 320⇓*i*P P 01 41 59.7 +1.3
VOIR 79.14 320 ⇓P P 01 41 59.7 +1.3
PDMCI Parker Dam,Lak 79.18 55 P P 01 42 00.3 +1.6
baz=309,SNR=14
KSP Ksiaz 79.22 328 *e*P P 01 41 60.0 +1.3
KSP Ksiaz 79.22 328 *e*P P 01 42 00.0 +1.3
Y12C Blythe 79.28 55 *e*P P 01 42 00.6 +1.4
comp=Z,20nm,0.8s
Y12C Blythe 79.28 55 P P 01 42 00.9 +1.6
baz=309,SNR=8.2
DRGR 79.34 322⇑*i*P P 01 42 00.4 +0.9
DRGR 79.34 322 ⇑P P 01 42 00.4 +0.9
ARR Arges 79.40 320⇑*i*P P 01 42 01.4 +1.6
MORC Moravsky Berou 79.50 327 *e*P P 01 42 00.3 +0.1
comp=Z,9.9nm,1.1s
MORC Moravsky Berou 79.50 327⇑*i*P P 01 42 01.3 +1.0
MORC Moravsky Berou 79.50 327 ⇑P P 01 42 01.3 +1.0
MORC Moravsky Berou 79.50 327 *e*P P 01 42 01.0 +0.7
GLA Glamis 79.52 56 *e*P P 01 42 01.3 +0.7
comp=Z,19nm,0.8s
GLA Glamis 79.52 56 *e*P P 01 42 01.3 +0.7
GLA pmax pmax
comp=Z,19nm,0.8s
GLA Glamis 79.52 56 P P 01 42 01.8 +1.1
baz=309,SNR=6.5
DPC Dobruska-Polom 79.58 328 *e*P P 01 42 01.8 +1.1
DPC Dobruska-Polom 79.58 328 *e*P P 01 42 01.8 +1.1
PV09 Paradox Valley 79.59 49 *e*P P 01 42 02.8 +1.5
UPC Upice 79.59 328 *e*P P 01 42 01.9 +1.2
UPC Upice 79.59 328 *e*P P 01 42 01.9 +1.2
PV21 Cone Mtn., Par 79.65 49 *e*P P 01 42 03.0 +1.4
comp=Z,32nm,0.8s
PV23 Carpenter Ridg 79.70 49 *e*P P 01 42 03.3 +1.5
comp=Z,42nm,1.0s
PV10 Paradox Valley 79.73 49 *e*P P 01 41 59.4 -2.6
PV14 Lion Creek, Pa 79.74 49 *e*P P 01 42 02.5 +0.5
comp=Z,46nm,0.9s
AGMN Agassiz Nation 79.75 35 *e*P P 01 42 01.5 -0.1
comp=Z,15nm,1.0s
AGMN Agassiz Nation 79.75 35 P P 01 42 02.0 +0.4
baz=318
PV22 Blue Mesa, Par 79.77 49 *e*P P 01 42 03.4 +1.2
comp=Z,28nm,1.0s
PV20 West Nyswonger 79.79 49 *e*P P 01 42 03.5 +1.2
comp=Z,48nm,0.9s
PV19 Morning Glory 79.81 49 *e*P P 01 42 04.0 +1.7
comp=Z,41nm,0.9s
PV17 East Wray Mesa 79.84 49 *e*P P 01 42 03.9 +1.3
comp=Z,54nm,0.9s
PSZ Piszkesteto 79.84 325 *e*P P 01 42 03.1 +0.9
comp=Z,6.9nm,0.9s
PSZ Piszkesteto 79.84 325⇓*i*P P 01 42 03.8 +1.6
PSZ Piszkesteto 79.84 325 *e*P P 01 42 03.1 +0.9
PSZ pmax pmax
comp=Z,7.0nm,0.9s
PHWY Pilot Hill 79.84 45 *e*P P 01 42 03.7 +1.1
comp=Z,14nm,1.3s
PV16 Nyswonger Mesa 79.84 49 *e*P P 01 42 04.0 +1.4
comp=Z,31nm,0.9s
N23A Red Feather La 79.85 45 *e*P P 01 42 04.0 +1.4
comp=Z,32nm,1.1s
N23A Red Feather La 79.85 45 P P 01 42 04.0 +1.4
baz=312,SNR=12
PV11 David Mesa, Pa 79.88 49 *e*P P 01 42 03.8 +1.0
comp=Z,40nm,1.1s
PV05 Paradox Valley 79.89 49 *e*P P 01 42 04.4 +1.5
PV18 Skein Mesa, Pa 79.89 49 *e*P P 01 42 04.6 +1.7
comp=Z,31nm,0.9s
VYHS Vyhne 79.89 325 *e*P P 01 42 03.4 +1.0
VYHS pmax pmax
comp=Z,11nm,1.7s
VYHS Vyhne 79.89 325 *e*P P 01 42 03.4 +1.0
PV12 Saucer Basin, 79.91 49 *e*P P 01 42 03.8 +0.8
comp=Z,67nm,1.7s
PV03 Paradox Valley 79.92 49 *e*P P 01 42 04.2 +1.2
PV13 Radium Mtn., P 80.00 49 *e*P P 01 42 05.2 +1.7
comp=Z,41nm,1.0s
PV02 Paradox Valley 80.02 49 *e*P P 01 42 05.2 +1.6
comp=Z,16nm,0.9s
JAVC Velka Javorina 80.14 326 *e*P P 01 42 05.3 +1.6
BRG Berggiesshubel 80.16 329 *e*PKP P 01 42 04.4 +0.7
comp=Z,8.4nm,1.2s
BRG Berggiesshubel 80.16 329 *e*P P 01 42 04.4 +0.7
BRG pmax pmax
comp=Z,8.0nm,1.2s
WUAZ Wupatki 80.16 52 *e*P P 01 42 05.2 +0.9
comp=Z,26nm,0.9s
WUAZ Wupatki 80.16 52 P P 01 42 05.8 +1.5
baz=310,SNR=23
PV01 Paradox Valley 80.17 49 *e*P P 01 42 05.6 +1.3
CLL Collm 80.19 330 *e*P P 01 42 04.4 +0.5
comp=Z,9.1nm,0.9s
CLL Collm 80.19 330⇑*i*P P 01 42 03.8 -0.1
comp=Z,12nm,1.0s
CLL *e* 01 42 18.0
CLL *e*pP pP 01 42 21.0 +1.5
CLL *e*(PP) 01 45 02.0
CLL Collm 80.19 330 *e*P P 01 42 04.4 +0.5
CLL pmax pmax
comp=Z,9.0nm,0.9s
SIRR Siria 80.22 323⇑*i*P P 01 42 05.1 +0.9
VRAC Vranov 80.26 327⇓*i*P P 01 42 05.0 +0.7
VRAC Vranov 80.26 327 ⇓P P 01 42 05.0 +0.7
VRAC Vranov 80.26 327 *e*P P 01 42 05.1 +0.7
SMCO Snowmass 80.41 47 *e*P P 01 42 07.2 +1.3
comp=Z,13nm,1.0s
VLAD Vladila 80.48 319⇑*i*P P 01 42 06.1 +0.5
RAYN Ar Rayn 80.48 292 *e*P P 01 42 05.6 -0.4
comp=Z,17nm,1.3s
RAYN Ar Rayn 80.48 292 *e*P P 01 42 05.6 -0.4
RAYN pmax pmax
comp=Z,17nm,1.3s
KRUC Moravsky 80.53 327 *e*P P 01 42 06.2 +0.4
GOPC GO Pecny, Ondr 80.56 328 *e*P P 01 42 06.7 +0.8
GOPC GO Pecny, Ondr 80.56 328 *e*P P 01 42 06.7 +0.8
RAR Rarotonga 80.63 126 LR LR 02 09 37.7
comp=Z,82nm,21.5s,baz=304,slow=30

MODS Modra-Piesok 80.67 326 *e*P P 01 42 07.3 +0.7
MODS pmax pmax
comp=Z,20nm,1.7s
MODS Modra-Piesok 80.67 326 *e*P P 01 42 07.3 +0.7
BZS Buzias 80.71 322⇑*i*P P 01 42 07.3 +0.5
BZS Buzias 80.71 322 ⇑P P 01 42 07.3 +0.5
ISCO Idaho Springs 80.77 46 *e*P P 01 42 09.1 +1.5
comp=Z,8.1nm,0.8s
ISCO Idaho Springs 80.77 46 *e*P P 01 42 09.1 +1.5
ISCO pmax pmax
comp=Z,8.0nm,0.8s
ISCO Idaho Springs 80.77 46 P P 01 42 08.3 +0.6
baz=313,SNR=11
MVCO Mesa Verde 80.82 50 *e*P P 01 42 09.1 +1.3
comp=Z,34nm,1.4s
MVCO Mesa Verde 80.82 50 P P 01 42 09.1 +1.3
baz=312,SNR=12
SUSD Miller 81.09 39 P P 01 42 09.6 +0.7
baz=316,SNR=5.6
MDVR Moldovita 81.27 321⇓*i*P P 01 42 10.3 +0.4
W18A Petrified Fore 81.44 52 *e*P P 01 42 11.9 +0.8
comp=Z,12nm,1.0s
W18A Petrified Fore 81.44 52 P P 01 42 12.5 +1.4
baz=311,SNR=6.6
S22A 4UR Ranch, Cre 81.45 48 *e*P P 01 42 12.0 +0.7
comp=Z,16nm,1.0s
S22A 4UR Ranch, Cre 81.45 48 P P 01 42 13.2 +1.9
baz=312,SNR=18
214A Organ Pipe Nat 81.53 56 P P 01 42 12.6 +1.1
baz=310
Q24A Divide 81.60 46 *e*P P 01 42 13.6 +1.5
comp=Z,9.2nm,0.8s
Q24A Divide 81.60 46 P P 01 42 13.4 +1.3
baz=313
CONA Conrad Observa 81.63 327 *e*P P 01 42 13.1 +1.4
comp=Z,8.2nm,1.0s,SNR=5.0
KHC Kasperske Hory 81.66 329 *e*P P 01 42 12.2 +0.4
comp=Z,6.1nm,1.3s
KHC Kasperske Hory 81.66 329 *e*P P 01 42 12.8 +1.0
KHC Kasperske Hory 81.66 329 *e*P P 01 42 12.8 +1.0
GEC2 GERESS Array S 81.83 328 *e*P P 01 42 13.8 +1.0
comp=Z,14nm,1.4s
GEC2 GERESS Array S 81.83 328 *e*P P 01 42 13.8 +1.0
GEC2 pmax pmax
comp=Z,14nm,1.4s
GERES GERESS Array B 81.83 328 P P 01 42 13.3 +0.4
comp=Z,1.4nm,0.6s,baz=38,slow=6.1,SNR=16
GEA0 GERESS Array S 81.84 328 *e*P P 01 42 12.9 0.0
EYMN Ely 81.94 33 P P 01 42 13.7 +0.4
baz=320
VTS Vitosha 82.09 319 *e*P P 01 42 14.1 -0.3
comp=Z,11nm,1.2s
VTS Vitosha 82.09 319⇑*i*P P 01 42 15.2 +0.8
VTS Vitosha 82.09 319 ⇑P P 01 42 15.2 +0.8
GRFO Grafenberg 82.16 330 *e*P P 01 42 14.9 +0.5
comp=Z,6.5nm,0.8s
GRFO Grafenberg 82.16 330 *e*P P 01 42 14.9 +0.5
GRFO pmax pmax
comp=Z,6.0nm,0.8s
SDCO Great Sand Dun 82.23 48 *e*P P 01 42 16.6 +1.3
comp=Z,9.4nm,1.0s
SDCO Great Sand Dun 82.23 48 P P 01 42 16.6 +1.3
baz=313,SNR=12
MOA Molln 82.37 327 *e*P P 01 42 15.8 +0.2
comp=Z,5.8nm,1.4s
DIVS Divibare 82.61 322 *e*P P 01 42 17.5 +0.5
comp=Z,7.2nm,1.4s
TUC Tucson 82.61 55 *e*P P 01 42 18.3 +1.1
comp=Z,27nm,1.6s
TUC Tucson 82.61 55 *e*P P 01 42 18.3 +1.1
TUC pmax pmax
comp=Z,27nm,1.6s
TUC Tucson 82.61 55 P P 01 42 18.1 +0.9
baz=311
ECSD EROS Data Cent 82.76 38 *e*P P 01 42 18.0 +0.3
comp=Z,17nm,0.8s
ECSD EROS Data Cent 82.76 38 P P 01 42 17.8 +0.2
baz=318,SNR=17
PERS Pernice 82.94 326 *e*P P 01 42 19.1 +0.5
PERS Pernice 82.94 326 *e*P P 01 42 19.1 +0.5
SOKA Soboth 82.95 326 *i*P P 01 42 19.4 +0.7
comp=Z,15nm,1.6s,SNR=7.1
T25A Trinidad 83.28 47 *e*P P 01 42 21.9 +1.2
comp=Z,18nm,0.9s
T25A Trinidad 83.28 47 P P 01 42 21.9 +1.2
baz=314,SNR=10
OBKA Obir 83.29 326 *i*P P 01 42 21.1 +0.7
comp=Z,4.7nm,1.0s
F38A Pierce - Schro 83.30 34 P P 01 42 21.0 +0.6
baz=320,SNR=7.3
KBA Koelnbreinsper 83.36 327 *e*P P 01 42 21.4 +0.4
comp=Z,4.2nm,0.8s,SNR=4.0
LAZ Ladron 83.51 51 *e*P P 01 42 23.8 +1.9
E39A Mellen 83.56 33 P P 01 42 21.9 +0.2
baz=321
ANMO Albuquerque 83.56 50 P P 01 42 23.5 +1.4
comp=Z,13nm,1.0s,baz=313,slow=6.9,SNR=34
ANMO Albuquerque 83.56 50 *e*P P 01 42 23.6 +1.4
comp=Z,20nm,1.0s
ANMO Albuquerque 83.56 50 *ce*P P 01 42 22.3 +0.1
ANMO pmax pmax
comp=Z,16nm,1.1s
ANMO Albuquerque 83.56 50 P P 01 42 23.2 +1.0
baz=313
MYKA Terra Mystica 83.59 327 *i*P P 01 42 22.1 +0.1
comp=Z,3.7nm,0.5s
BGNE Belgrade 83.69 41 *e*P P 01 42 22.9 +0.4
comp=Z,50nm,0.8s
BGNE Belgrade 83.69 41 P P 01 42 22.9 +0.4
baz=317,SNR=5.9
VISS Visnje 83.71 326 *e*P P 01 42 22.1 -0.4
VISS Visnje 83.71 326 *e*P P 01 42 22.1 -0.4
BOJS Bojanci 83.76 325 *e*P P 01 42 23.2 +0.4
BOJS Bojanci 83.76 325 *e*P P 01 42 23.2 +0.4
LENM Lemitar 83.77 51 *e*P P 01 42 24.4 +1.1
E40A Wakefield 83.79 33 P P 01 42 23.6 +0.7
baz=322
LPM Los Pinos Moun 83.88 51 *e*P P 01 42 25.2 +1.4
ABTA Abfaltersbach 83.98 328 *e*P P 01 42 23.6 -0.4
comp=Z,4.4nm,1.0s
JAVS Javnik 83.98 326 *e*P P 01 42 23.3 -0.7
JAVS Javornik 83.98 326 *e*P P 01 42 23.3 -0.7
BNM Barren Site 83.99 51 *e*P P 01 42 25.9 +1.4
SCHQ Schefferville 84.07 16 P P 01 42 24.8 +0.6
comp=Z,9.2nm,0.8s,baz=1.7,slow=6.5,SNR=6.5
MOTA Moosalm 84.09 329 *i*PcP P 01 42 25.2 +0.6
comp=Z,8.5nm,1.3s
RETA Reutte 84.11 329 *i*PcP P 01 42 25.4 +0.8
comp=Z,15nm,1.2s,SNR=9.0
SQTA Sankt Quirin 84.14 329 *i*PcP P 01 42 25.4 +0.6
comp=Z,2.6nm,0.7s
GIVF Givet 84.19 334 *e*P P 01 42 26.2 +1.3
GIVF pmax pmax
comp=Z,69nm,2.0s
PDG Podgorica 84.20 321⇑*i*P P 01 42 25.4 +0.3
TTG Podgorica 84.20 321 *e*P P 01 42 25.2 +0.2
comp=Z,12nm,0.9s
TTG Podgorica 84.20 321 *e*P P 01 42 25.2 +0.2
TTG pmax pmax
comp=Z,12nm,0.9s
121A Cookes Peak, D 84.36 53 P P 01 42 27.7 +1.4
baz=312,SNR=12
BFO Black Forest 84.39 331 *e*P P 01 42 26.6 +0.6
comp=Z,10nm,0.9s
BFO Black Forest 84.39 331 *ce*P P 01 42 26.9 +1.0
PMOR Pomariorio Ree 84.39 114 *e*T T 03 15 35.3
comp=Z,62nm,0.2s
FETA Feichten 84.50 329 *i*PcP P 01 42 27.3 +0.6
comp=Z,9.2nm,1.2s,SNR=6.3
H39A Augusta 84.55 35 P P 01 42 27.2 +0.4
baz=321
DAVA Damuels 84.63 329 *i*PcP P 01 42 28.0 +0.7
comp=Z,14nm,1.1s
CDF Champ du Feu 84.72 332 *e*P P 01 42 27.7 0.0
CDF pmax pmax
comp=Z,17nm,1.2s
CBKS Cedar Bluff 84.72 44 *e*P P 01 42 27.8 0.0
comp=Z,21nm,0.9s
CBKS Cedar Bluff 84.72 44 *e*P P 01 42 27.8 0.0
CBKS pmax pmax
comp=Z,21nm,0.9s
CBKS Cedar Bluff 84.72 44 P P 01 42 28.1 +0.3
baz=316
PPT Papeete 84.91 117 LR LR 02 16 16.1
comp=Z,38nm,20.0s,baz=347,slow=33
PPT2 Papeete2 84.92 117 *e*LR LR 02 09 09.8
comp=Z,183nm,24.8s

PPT2 Papeete2 84.92 117 *e*T T 03 16 14.5
comp=Z,6.3nm,0.3s
PAE Paea 84.97 117 *e*T T 03 16 16.8
comp=Z,1.5nm,0.3s
H40A Chili 85.00 35 P P 01 42 29.5 +0.4
baz=322
FUORN Ofenpass-Fuorn 85.01 329 *e*P P 01 42 29.0 -0.4
comp=Z,13nm,0.7s
TIAR Tiarei 85.06 117 *e*T T 03 16 24.6
comp=Z,4.4nm,0.3s
I39A Houston 85.08 36 *e*P P 01 42 29.8 +0.3
comp=Z,28nm,0.8s
I39A Houston 85.08 36 P P 01 42 29.5 0.0
baz=321,SNR=5.0
J39A Decorah 85.40 36 P P 01 42 31.1 0.0
baz=321
HAU Haudompre 85.40 332 *e*P P 01 42 30.7 -0.3
HAU pmax pmax
comp=Z,6.0nm,0.8s
MATQ Matagami 85.69 24 P P 01 42 31.8 -0.5
baz=330
J40A Soldiers Grove 85.80 35 P P 01 42 33.2 +0.1
baz=321
K39A Oelwein 85.80 37 P P 01 42 32.9 -0.2
baz=321
D46A Sault St. Mari 85.83 30 P P 01 42 33.5 +0.4
baz=326
D47A Chapleau 86.05 29 P P 01 42 34.2 -0.1
baz=326
J41A Loganville 86.15 35 P P 01 42 34.3 -0.5
baz=322
K40A Colesburg 86.16 36 P P 01 42 35.3 +0.5
baz=321
KSU1 Kansas State U 86.18 42 *e*P P 01 42 35.3 +0.2
comp=Z,27nm,0.8s
KSU1 Kansas State U 86.18 42 P P 01 42 35.2 +0.2
baz=318,SNR=10
L39A Vinton 86.20 37 P P 01 42 35.5 +0.4
baz=321,SNR=6.0
IDI Anoyia 86.38 313 P P 01 42 35.2 -1.0
comp=Z,6.2nm,0.5s,baz=33,slow=11,SNR=9.0
MNTX Cornudas Mount 86.42 52 *e*P P 01 42 37.2 +0.9
comp=Z,7.5nm,0.8s
MNTX Cornudas Mount 86.42 52 P P 01 42 37.1 +0.7
baz=314,SNR=9.9
AMTX Amarillo 86.43 47 *e*P P 01 42 37.6 +1.2
comp=Z,29nm,1.0s
AMTX Amarillo 86.43 47 P P 01 42 37.6 +1.2
baz=315
MSTX Muleshoe 86.43 49 *e*P P 01 42 37.4 +0.9
comp=Z,26nm,1.4s
LSQQ Lebel-sur-Quev 86.51 24 P P 01 42 36.6 +0.1
baz=330
CHGQ Chibougamau 86.58 22 P P 01 42 36.4 -0.4
baz=332
L40A Anamosa 86.61 37 *e*P P 01 42 37.5 +0.4
comp=Z,21nm,0.8s
L40A Anamosa 86.61 37 P P 01 42 37.4 +0.4
baz=321
M39A Webster 86.61 38 P P 01 42 37.3 +0.2
baz=320,SNR=5.5
K41A Shullsburg 86.61 36 P P 01 42 37.0 -0.1
baz=322
CABF La Chapelle 86.66 331 *e*P P 01 42 40.3 +2.9
CABF pmax pmax
comp=Z,36nm,1.8s
GDL2 Guadalupe Moun 86.71 51 *e*P P 01 42 38.2 +0.3
LOR Lormes 86.93 333 *e*P P 01 42 38.5 -0.1
LOR pmax pmax
comp=Z,18nm,1.2s
L41A Preston 86.94 36 P P 01 42 38.8 +0.1
baz=322
M40A Post Highland 86.98 37 P P 01 42 39.4 +0.5
baz=321
FLN La Foliniere 87.12 336 *e*P P 01 42 43.1 +3.7
FLN pmax pmax
comp=Z,107nm,2.2s
LDF La Druitiere 87.15 336 *e*P P 01 42 40.0 +0.4
LDF pmax pmax
comp=Z,67nm,1.8s
VLDQ Val d'Or 87.17 25 *e*P P 01 42 39.3 -0.4
comp=Z,52nm,1.5s
LPL La Plagne 87.33 330 *e*P P 01 42 41.0 +0.2
LPL pmax pmax
comp=Z,4.0nm,0.7s
LPG La Plagne 87.33 330 *e*P P 01 42 41.1 +0.2
LPG pmax pmax
comp=Z,4.0nm,0.7s
N40A Mertquake, Sal 87.35 38 P P 01 42 41.4 +0.7
baz=321,SNR=5.1
M41A Milan 87.47 37 P P 01 42 41.4 +0.1
baz=322,SNR=6.5
AVF Avril sur Loir 87.52 333 *e*P P 01 42 41.5 +0.1
AVF pmax pmax
comp=Z,8.0nm,0.8s
N41A Harden Midland 87.84 37 *e*P P 01 42 43.8 +0.7
comp=Z,38nm,1.1s
N41A Harden Midland 87.84 37 P P 01 42 43.9 +0.9
baz=321
MBDF Montbardon 87.97 330 *e*P P 01 42 43.5 -0.3
MBDF pmax pmax
comp=Z,13nm,1.4s
M43A Waltham Townsh 88.15 36 P P 01 42 45.0 +0.5
baz=323,SNR=5.2
WMOK Wichita Mounta 88.20 46 *e*P P 01 42 45.7 +0.8
comp=Z,11nm,1.0s
WMOK Wichita Mounta 88.20 46 *e*P P 01 42 45.7 +0.8
WMOK pmax pmax
comp=Z,11nm,1.0s
WMOK Wichita Mounta 88.20 46 P P 01 42 45.5 +0.6
baz=317,SNR=9.0
O41A Passleys Farm, 88.29 38 P P 01 42 45.7 +0.5
baz=321,SNR=5.7
TCF Toulx Ste Croi 88.36 333 *e*P P 01 42 46.2 +0.8
TCF pmax pmax
comp=Z,42nm,1.9s
N43A Stutzman Famil 88.45 36 P P 01 42 46.3 +0.4
baz=322
P41A Barry, Barry 88.54 38 P P 01 42 47.0 +0.6
baz=321
BUKO Buck Lake 88.79 28 P P 01 42 46.5 -1.0
baz=329
ALGO Algonquin Park 88.84 27 P P 01 42 47.6 0.0
baz=330
TBI Tubuai 88.89 121 *e*T T 03 21 07.9
comp=Z,165nm,0.3s
P42A Winchester 88.96 38 *e*P P 01 42 48.6 +0.3
comp=Z,30nm,0.8s
P42A Winchester 88.96 38 P P 01 42 48.6 +0.3
baz=322,SNR=9.4
TUL1 Leonard 88.98 43 P P 01 42 49.5 +1.0
baz=318
Q41A Truxton 89.02 39 P P 01 42 49.3 +0.6
baz=321,SNR=8.8
N44A Piper City 89.04 36 P P 01 42 49.2 +0.5
baz=323
TX31 Lajitas Ar. Si 89.12 53 *e*P P 01 42 50.1 +0.7
TXAR Lajitas Array 89.12 53 P P 01 42 50.3 +0.8
comp=Z,9.6nm,0.6s,baz=300,slow=3.3,SNR=67
TXAR LR LR 02 21 16.4
comp=Z,22nm,19.2s,baz=0.0,slow=34
ABTX Abilene, Hawle 89.23 48 *e*P P 01 42 50.8 +1.0
comp=Z,28nm,1.3s
ABTX Abilene, Hawle 89.23 48 P P 01 42 50.6 +0.8
baz=316,SNR=6.1
PEMO Pembroke 89.36 26 P P 01 42 49.8 -0.2
baz=330
Q42A Golden Eagle 89.39 38 P P 01 42 51.7 +1.3
baz=322,SNR=7.8
O44A Mansfield 89.40 36 P P 01 42 50.8 +0.4
baz=323
R41A Rosebud 89.45 39 P P 01 42 51.3 +0.6
baz=321,SNR=10
HPIG 89.50 56 *e*P P 01 42 51.5 +0.1
comp=Z,9.2nm,0.9s
CAF Calviac 89.58 333 *e*P P 01 42 51.9 +0.7
CAF pmax pmax
comp=Z,22nm,1.7s
O45A Potomac 89.66 36 P P 01 42 52.5 +0.9
baz=323,SNR=5.2
BANO Bancroft 89.69 27 P P 01 42 51.6 -0.1
baz=330
HHAR Hobbs 89.69 42 *e*P P 01 42 52.1 +0.2
comp=Z,10nm,0.9s
CCM Cathedral Cave 89.71 39 *e*P P 01 42 52.7 +0.8
comp=Z,31nm,0.9s
CCM Cathedral Cave 89.71 39 *e*P P 01 42 52.7 +0.8
CCM pmax pmax

comp=Z,31nm,0.9s
CCM Cathedral Cave 89.71 39 P P 01 42 52.4 +0.5
baz=321
L48A N Adams 89.74 33 P P 01 42 52.6 +0.6
baz=326
R42A Luebbering 89.76 39 P P 01 42 52.9 +0.8
baz=321
S41A Jillco Farms, 89.82 40 P P 01 42 52.9 +0.5
baz=321
SFIN Lafayette 89.84 35 P P 01 42 53.2 +0.7
baz=324
P44A Sand Creek, Wi 89.87 37 P P 01 42 53.4 +0.8
baz=323,SNR=5.2
L49A Milan 89.89 32 P P 01 42 53.9 +1.3
baz=326
PLVO Plevna 89.97 26 P P 01 42 53.1 +0.2
baz=330
LFF La Frestale 90.04 333 *e*P P 01 42 53.7 +0.4
LFF pmax pmax
comp=Z,7.0nm,0.7s
N47A Urbana 90.07 34 P P 01 42 54.2 +0.7
baz=325
Q44A Meyer Farm, Va 90.13 37 P P 01 42 54.4 +0.6
baz=323
ORIO Orleans, Innes 90.15 25 P P 01 42 53.9 +0.2
baz=332
S42A Caledonia 90.16 39 P P 01 42 54.7 +0.7
baz=321,SNR=11
R43A Red Bud 90.18 38 P P 01 42 54.6 +0.5
baz=322
ALFO Alfred 90.20 25 P P 01 42 54.3 +0.3
baz=332
U40A Yellville 90.20 41 P P 01 42 54.5 +0.3
baz=320,SNR=12
P45A Graceland, Par 90.23 36 P P 01 42 54.2 -0.1
baz=323
T41A Mountain View 90.23 40 P P 01 42 54.6 +0.2
baz=321,SNR=5.9
N48A Decatur 90.38 34 P P 01 42 54.7 -0.2
baz=325
O47A Sheridan 90.38 35 P P 01 42 54.9 -0.1
baz=324
P46A Rosedale 90.41 36 P P 01 42 56.2 +1.1
baz=324,SNR=5.1
Q45A Warren Harvey, 90.54 37 P P 01 42 56.3 +0.6
baz=323
T42A Van Buren 90.58 40 *e*P P 01 42 56.6 +0.6
comp=Z,20nm,1.1s
T42A Van Buren 90.58 40 P P 01 42 56.5 +0.6
baz=321,SNR=9.5
R44A Waltonville 90.62 38 P P 01 42 56.3 +0.2
baz=322
S43A Fulton Ridge, 90.67 39 P P 01 42 56.6 +0.3
baz=322
JCT Junction City 90.68 49 *e*P P 01 42 57.1 +0.5
comp=Z,14nm,0.6s
JCT Junction City 90.68 49 *e*P P 01 42 57.1 +0.5
JCT pmax pmax
comp=Z,14nm,0.6s
JCT Junction City 90.68 49 P P 01 42 56.8 +0.2
baz=316,SNR=5.5
U41A Viola 90.69 41 P P 01 42 57.0 +0.5
baz=321
O48A Farmland 90.81 34 P P 01 42 57.6 +0.7
baz=325
P47A Martinsville 90.94 35 P P 01 42 58.4 +0.8
baz=324
T43A Greenville 90.94 39 P P 01 42 57.8 +0.2
baz=322
WHTX Lake Whitney, 90.96 47 *e*P P 01 42 59.0 +1.2
comp=Z,23nm,0.8s
WHTX Lake Whitney, 90.96 47 P P 01 42 58.1 +0.3
baz=318,SNR=6.3
S44A Carbondale 90.97 38 P P 01 42 57.6 -0.2
baz=322
SIUC Southern Illin 90.97 38 *e*P P 01 42 58.7 +0.9
comp=Z,26nm,0.8s
V41A Mountainview 91.00 41 P P 01 42 58.4 +0.4
baz=321,SNR=11
PBMO Poplar Bluff 91.11 39 *e*P P 01 42 58.9 +0.5
comp=Z,17nm,0.9s
MIAR Mount Ida 91.20 43 *e*P P 01 42 59.8 +0.9
comp=Z,21nm,0.8s
MIAR Mount Ida 91.20 43 *e*P P 01 42 59.8 +0.9
MIAR pmax pmax
comp=Z,21nm,0.8s
MIAR Mount Ida 91.20 43 P P 01 42 59.6 +0.7
baz=320,SNR=13
Q47A Bedord North L 91.31 36 P P 01 43 00.1 +0.8
baz=324,SNR=5.4
WHAR Wooly Hollow 91.31 42 *e*P P 01 43 00.1 +0.7
comp=Z,24nm,0.8s
MOQ Mont Orford 91.33 23 *e*P P 01 43 00.5 +1.1
H06E1 SOCORRO T-PHAS 91.38 65 T T 03 24 57.1
SNR=7.8
W41B Gary Mavity, V 91.42 42 *e*P P 01 42 59.6 -0.2
comp=Z,11nm,0.8s
W41B Gary Mavity, V 91.42 42 P P 01 42 59.7 -0.2
baz=321
O50A Cable 91.57 33 P P 01 43 00.8 +0.2
baz=326
P49A Miami Univ. Ec 91.60 34 P P 01 43 00.5 -0.1
baz=325
Q48A North Vernon 91.64 35 P P 01 43 01.4 +0.6
baz=325
X40A Basin Creek Fa 91.64 42 *e*P P 01 43 02.0 +1.1
comp=Z,8.0nm,0.8s
X40A Basin Creek Fa 91.64 42 P P 01 43 01.8 +0.9
baz=320
R47A Wooly Knot Far 91.78 36 P P 01 43 01.5 0.0
baz=324
X41A Kaden, Bauxite 91.81 42 P P 01 43 02.6 +0.9
baz=320
WCI Wyandotte Cave 91.95 36 P P 01 43 02.4 +0.1
baz=324
R48A Northridge Ran 92.00 36 P P 01 43 02.9 +0.4
baz=324
T46A Princeton 92.15 38 P P 01 43 04.1 +0.9
baz=323,SNR=6.2
Y41A Eaglette Beard 92.22 43 P P 01 43 04.0 +0.4
baz=320
S48A Wiedeman Farm, 92.52 36 P P 01 43 04.8 -0.1
baz=324
T47A Sharon Grove 92.57 37 *e*P P 01 43 06.2 +1.0
comp=Z,13nm,0.7s
T47A Sharon Grove 92.57 37 P P 01 43 05.7 +0.5
baz=324,SNR=6.2
Q51A Peebles 92.62 34 *e*P P 01 43 06.3 +1.0
comp=Z,23nm,0.7s
Q51A Peebles 92.62 34 P P 01 43 06.2 +0.8
baz=326,SNR=7.0
S49A Springfield 92.77 36 P P 01 43 06.8 +0.7
baz=325
R50A Paris 92.80 35 P P 01 43 06.3 +0.1
baz=326
WVT Waverly 92.91 38 *e*P P 01 43 07.0 +0.3
comp=Z,9.1nm,0.9s
WVT Waverly 92.91 38 *e*P P 01 43 07.0 +0.3
WVT pmax pmax
comp=Z,9.0nm,0.9s
WVT Waverly 92.91 38 P P 01 43 07.3 +0.6
baz=323
U47A Clarksville 92.92 38 P P 01 43 07.2 +0.4
baz=324
V46A Holladay 93.03 39 P P 01 43 07.3 0.0
baz=323
T49A Edmonton 93.21 36 P P 01 43 08.6 +0.5
baz=325
U48A Cassie Pea, Po 93.22 37 P P 01 43 08.6 +0.4
baz=324
S50A Richmond 93.26 35 P P 01 43 08.3 0.0
baz=326
V47A Nunnelly 93.30 38 P P 01 43 08.5 0.0
baz=323,SNR=5.2
OXF Oxford 93.40 40 *e*P P 01 43 09.7 +0.7
comp=Z,24nm,1.0s
OXF Oxford 93.40 40 *e*P P 01 43 09.7 +0.7
OXF pmax pmax
comp=Z,24nm,1.0s
OXF Oxford 93.40 40 P P 01 43 09.0 0.0
baz=322
U49A Red Boiling Sp 93.58 37 P P 01 43 10.3 +0.5
baz=325,SNR=5.2
T50A Nancy 93.60 36 P P 01 43 10.4 +0.5
baz=325,SNR=6.9
S51A Beattyville 93.65 35 P P 01 43 10.1 0.0
baz=326
S52A Salyersville 93.85 34 P P 01 43 11.2 +0.1
baz=326
U50A Jamestown 94.09 36 P P 01 43 12.1 -0.1
baz=325
V49A McMinnville 94.12 37 P P 01 43 12.2 -0.2
baz=324
W48A Pulaski 94.13 38 P P 01 43 12.4 0.0
baz=324,SNR=5.8
ZAIG Zacatecas 94.41 57 *e*P P 01 43 15.2 +0.9
comp=Z,12nm,1.1s
W49A Belvidere 94.47 38 P P 01 43 14.2 +0.2
baz=324
SWET Sewanee 94.55 37 *e*P P 01 43 14.6 +0.2
comp=Z,9.5nm,0.9s
TZTN Tazewell 94.58 35 P P 01 43 14.3 -0.1
baz=326
V50A Pikeville 94.58 37 P P 01 43 14.6 +0.1
baz=325
U52A Thorn Hill 94.78 35 P P 01 43 15.4 -0.1
baz=326
V51A Loudon 94.82 36 P P 01 43 15.4 -0.1
baz=325
LNIG Linares 94.90 53 *e*P P 01 43 16.1 0.0
comp=Z,5.2nm,0.8s
X49A Woodville 94.93 38 P P 01 43 16.1 0.0
baz=324
V52A Sevierville 95.14 36 P P 01 43 17.0 0.0
baz=326
TKL Tuckaleechee C 95.21 36 *e*P P 01 43 17.9 +0.6
comp=Z,11nm,0.7s
TKL Tuckaleechee C 95.21 36 *e*P P 01 43 18.0 +0.6
TKL pmax pmax
comp=Z,11nm,0.7s
BG3 Lake Jocassee 96.14 36 *e*P P 01 43 22.6 +0.9
comp=Z,13nm,0.8s
Z50A Ashland 96.15 39 *e*P P 01 43 22.0 +0.3
comp=Z,12nm,0.9s
Z50A Ashland 96.15 39 P P 01 43 21.6 -0.1
baz=324
ESDC Sonseca Array 96.33 334 P P 01 43 21.9 -0.6
comp=Z,0.1nm,0.4s,baz=12,slow=3.9,SNR=3.0
ESDC LR LR 02 31 42.3
comp=Z,51nm,18.5s,baz=305,slow=38
Y54A Tignall 97.19 36 P P 01 43 26.3 -0.1
baz=326
TORD Torodi Ar. Bea 116.68 316 PKP **PKPdf** 01 48 36.7 -1.5
comp=Z,0.2nm,0.5s,baz=38,slow=1.7,SNR=7.7
SDV Santo Domingo 124.18 40 *e*PKPdf **PKPdf** 01 48 52.9 0.0
SNAA Sanae 142.01 197 PKP PKPpre 01 49 18.0
VNA2 Neumayer--Watz 143.59 196 PKP PKPbc 01 49 24.2 -0.4
VNA3 Neumayer Olymp 143.83 195 PKP PKPab 01 49 24.3 -0.3
VNA1 Neumayer--Stat 143.98 196 PKP PKPbc 01 49 25.5 -0.2
LPAZ La Paz 145.79 58 PKPbc **PKPbc** 01 49 33.9 +0.1
comp=Z,28nm,0.8s,baz=343,slow=3.3,SNR=79
LPAZ PKKP **PKKPdf** 01 58 34.0 -1.4
comp=Z,1.4nm,0.4s,baz=332,slow=5.1,SNR=5.9
LPAZ La Paz 145.79 58 *e*PKPdf **PKPdf** 01 49 33.0 -0.2
LPAZ PKKP **PKKPdf** 01 58 34.0 -1.4
LPAZ La Paz 145.79 58 *e*PKP2 **PKPdf** 01 49 33.1 -0.2
MNMC Minye Minye 146.73 64 *e*PKPdf **PKPbc** 01 49 36.3 +0.1
PB11 IPOC Station P 147.10 65 *e*PKPdf **PKPbc** 01 49 36.7 -0.3
GO01 Chusmiza 147.37 64 *e*PKPbc **PKPbc** 01 49 38.3 +0.1
PB01 IPOC Station P 148.05 66 *e*PKPbc **PKPbc** 01 49 39.6 +0.1
LVC Limon Verde 149.44 68 *e*PKPbc **PKPbc** 01 49 43.9 +0.6
LVC Limon Verde 149.44 68 *e*PKP2 **PKPbc** 01 49 43.9 +0.6
LCO Las Campanas 151.52 81 *e*PKPbc **PKPbc** 01 49 48.0 0.0
LCO Las Campanas 151.52 81 *e*PKIKP **PKPbc** 01 49 48.0 0.0
PLCA Paso Flores 154.98 106 PKPbc **PKPbc** 01 49 55.0 0.0
comp=Z,3.3nm,1.1s,baz=263,slow=8.6,SNR=4.0
PLCA PKPab **pPKPbc** 01 50 11.5 +0.1
comp=Z,0.8nm,0.7s,baz=326,slow=4.5,SNR=3.2
BDFB Brasilia 155.86 24 PKPab **PKPab** 01 50 15.4 +0.5
comp=Z,5.0nm,0.6s,baz=322,slow=1.6,SNR=8.1
BDFB Brasilia 155.86 24 *e*PKPab **PKPab** 01 50 16.1 +1.2
BDFB Brasilia 155.86 24 *e*PKP2 **PKPab** 01 50 16.1 +1.2
CPUP Villa Florida 159.96 59 PKPab **PKPab** 01 50 32.2 -0.2
comp=Z,2.6nm,0.9s,baz=279,slow=6.8,SNR=5.3
TRQA Tornquist 161.30 97 *e*PKPab **PKPab** 01 50 38.2 +0.1
TRQA Tornquist 161.30 97 *e*PKP2 **PKPab** 01 50 38.2 +0.1

*ISCJB **24** 01:38:13.4±0.6, 12°.94N±0°.07×88°.86W±0°.04, h71km±5km, mb3.8/7, Error ellipse: s-maj=13.0km s-min=3.6km az=29.0*
*UCR **24** 01:38:14.2±1.3, 12°.91N×88°.89W, h44km±19km, MD4.3, ML4.3*
*IDC **24** 01:38:16.3±2.0, 13°.07N×88°.70W, h79km±15km, mb3.6/7, mb1 3.9/11,mb1mx3.6/40,mbtmp3.9/11,MS2.3/1, Ms1 2.3/1,ms1mx2.2/30,Error ellipse: s-maj=36.4km s-min=14.9km az=40.0*
ISC 24 01:38:14.4±1.2, 12°.98N±0°.09×88°.84W±0°.05, h61km±9km, n50, σ0°97/70, mb3.5/7, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TECA	**Tecapa**	**0.61**	**33**	*e*P		**Pn**	**01 38 28.0**	**+0.2**
SNVI	**San Vicente**	**0.63**	**0**	*e*P		**Pn**	**01 38 28.1**	**+0.1**
SNVI				*e*S		**Sn**	**01 38 38.8**	**+0.9**
LFRS	**El Faro**	**0.67**	**341**	*e*P		**Pn**	**01 38 28.1**	**-0.4**
LCY	**Lacayo**	**0.69**	**50**	*e*P		**Pn**	**01 38 28.9**	**+0.2**
PACA	**Pacayal**	**0.70**	**46**	*e*P		**Pn**	**01 38 29.4**	**+0.6**
PACA				*e*S		**Sn**	**01 38 40.6**	**+1.2**
VSM	**San Miguel**	**0.71**	**51**	*e*P		**Pn**	**01 38 29.4**	**+0.3**
PAVA	**Las Pavas**	**0.73**	**353**	*e*P		**Pn**	**01 38 29.7**	**+0.4**
PAVA				*e*S		**Sn**	**01 38 41.3**	**+1.2**
SOYA	**Soyapango**	**0.78**	**337**	*e*P		**Pn**	**01 38 29.8**	**+0.1**
SOYA				*e*S		**Sn**	**01 38 41.1**	**+0.2**
LBRS	**Las Brisas**	**0.78**	**345**	*e*P		**Pn**	**01 38 30.1**	**+0.4**
SNET	**Serv Nac Est T**	**0.80**	**332**	*e*P		**Pn**	**01 38 29.7**	**-0.3**
SNET				*e*S		**Sn**	**01 38 41.2**	**-0.2**
SNET				*e*S			01 38 41.2	
UDBS	**Soyapango**	**0.80**	**337**	*e*P		**Pn**	**01 38 30.1**	**0.0**
UDBS				*e*S		**Sn**	**01 38 42.0**	**+0.6**
LFU	**La Fuente**	**0.81**	**341**	*e*P		**Pn**	**01 38 30.2**	**+0.1**
LFU				*e*S		**Sn**	**01 38 43.0**	**+1.3**
OPAM	**San Salvador**	**0.81**	**334**	*e*P		**Pn**	**01 38 30.2**	**+0.1**
OPAM				*e*S		**Sn**	**01 38 41.6**	**-0.1**
CUSC	**San Salvador**	**0.82**	**336**	*e*P		**Pn**	**01 38 30.4**	**+0.1**
CUSC				*e*S		**Sn**	**01 38 41.8**	**-0.1**
CUSC				IAML			01 38 44.7	
comp=Z,8μm,0.2s								
CLUB	**San Salvador**	**0.82**	**330**	*e*P		**Pn**	**01 38 30.2**	**-0.2**
CLUB				*e*S		**Sn**	**01 38 42.1**	**+0.1**
CLUB				AML		AML	01 38 45.3	
comp=Z,9μm,0.3s								
UEES	**San Salvador**	**0.84**	**332**	*e*P		**Pn**	**01 38 30.3**	**-0.2**
UEES				*e*S		**Sn**	**01 38 42.6**	**+0.2**
BOQS	**Boqueron**	**0.86**	**330**	*e*P		**Pn**	**01 38 30.9**	**0.0**
LCND	**La Ca¯–ada**	**0.98**	**70**	*e*P		**Pn**	**01 38 32.5**	**+0.3**
LCND				*e*S		**Sn**	**01 38 46.6**	**+1.2**
LCND				IAML			01 38 48.4	
comp=Z,7μm,0.3s								
CAHU	**Cacacuatique**	**1.00**	**38**	*e*P		**Pn**	**01 38 33.4**	**+0.7**
CNCH	**Conchagua**	**1.02**	**73**	*e*P		**Pn**	**01 38 33.1**	**+0.2**
CEVE	**Cerro Verde**	**1.14**	**318**	*e*P		**Pn**	**01 38 34.7**	**+0.2**
CEVE				*e*S		**Sn**	**01 38 50.1**	**+0.7**
CEVE				IAML			01 38 58.5	
comp=Z,13μm,0.3s								
SBLS	**San Blas**	**1.14**	**318**	*e*P		**Pn**	**01 38 34.8**	**+0.2**
SNJE	**San Jose**	**1.15**	**320**	*e*P		**Pn**	**01 38 34.9**	**+0.2**
LLGN	**La Laguna**	**1.19**	**355**	*e*P		**Pn**	**01 38 35.7**	**+0.6**
RTR	**El Retiro**	**1.20**	**319**	*e*P		**Pn**	**01 38 35.7**	**+0.4**
UNIC	**Santa Ana**	**1.22**	**325**	*e*P		**Pn**	**01 38 35.7**	**+0.2**
UNIC				*e*S		**Sn**	**01 38 51.5**	**+0.3**
UNIC				IAML			01 38 53.6	
comp=Z,2μm,0.1s								
CSGN	**Cosiguina Volc**	**1.25**	**90**	*e*P		**Pn**	**01 38 36.4**	**+0.6**
CSGN				*e*S		**Sn**	**01 38 54.0**	**+2.1**
MTO3	**Montecristo**	**1.50**	**340**	*e*P		**Pn**	**01 38 40.0**	**+0.7**
CRIN	**San Cristobal**	**1.77**	**99**	*e*P		**Pn**	**01 38 43.2**	**+0.3**
TGUH	**Tegucigalpa,Un**	**1.86**	**55**	*e*P		**Pn**	**01 38 45.1**	**+1.1**
IXG	**Ixpaco**	**1.97**	**307**	*e*P		**Pn**	**01 38 45.6**	**0.0**
CNGN	**Cerro Negro**	**2.14**	**103**	*e*P		**Pn**	**01 38 46.4**	**-1.5**
MOMN	**Momotombo**	**2.32**	**104**	*e*P		**Pn**	**01 38 49.6**	**-0.6**
COPN	**Copaltepe**	**2.34**	**110**	*e*P		**Pn**	**01 38 49.6**	**-0.9**
ESTN	**Estel**	**2.41**	**87**	*e*P		**Pn**	**01 38 51.9**	**+0.3**
APG	**El Apazote**	**2.56**	**322**	P		**Pn**	**01 38 54.8**	**+1.1**
comp=Z,6.2nm,0.3s,baz=114,slow=11,SNR=28								
APG				*e*S		**Sn**	**01 39 27.7**	**+3.9**
comp=Z,9.1nm,0.3s,baz=357,slow=12,SNR=6.9								
APG				LR		LR	01 39 31.8	
comp=Z,49nm,18.6s,baz=90,slow=29								
MGAN	**Managua**	**2.67**	**108**	*e*P		**Pn**	**01 38 55.8**	**+0.9**
MATN	**Matagalpa**	**2.84**	**91**	*e*P		**Pn**	**01 38 57.4**	**-0.1**
BOAB	**BOACO BROADBAN**	**3.14**	**99**	*e*P		**Pn**	**01 39 00.9**	**-0.5**
JTS	**JuntasAbangare**	**4.65**	**125**	P		**Pn**	**01 39 24.0**	**+1.7**
comp=Z,2.3nm,0.3s,baz=126,slow=21,SNR=7.3								
JTS				S		**Sn**	**01 40 12.6**	**-2.3**
comp=Z,6.3nm,0.3s,baz=189,slow=13,SNR=2.3								
CMIG	**Matias Romero**	**7.12**	**306**	P		**Pn**	**01 39 58.4**	**+2.3**
comp=Z,0.7nm,0.3s,baz=150,slow=10,SNR=9.8								
CMIG				S		**Sn**	**01 41 15.2**	**-0.5**
comp=Z,0.7nm,0.3s,baz=7.1,slow=16,SNR=2.4								
SDV	**Santo Domingo**	**18.33**	**101**	P		**P**	**01 42 23.3**	**-0.9**
comp=Z,0.5nm,0.3s,baz=315,slow=13,SNR=5.3								
TXAR	**Lajitas Array**	**21.32**	**322**	P		**P**	**01 42 57.9**	**+1.5**
comp=Z,1.4nm,0.6s,baz=150,slow=12,SNR=6.0								
TKL	**Tuckaleechee C**	**23.04**	**11**	P		**P**	**01 43 14.9**	**+0.3**
comp=Z,10nm,0.7s,baz=197,slow=8.3,SNR=20								
SADO	**Sadowa**	**32.75**	**13**	P		**P**	**01 44 39.6**	**-1.8**
comp=Z,14nm,1.0s,baz=202,slow=10,SNR=3.4								
PDAR	**Pinedale Array**	**34.67**	**333**	P		**P**	**01 44 58.8**	**+0.3**
comp=Z,0.2nm,0.5s,baz=129,slow=7.1,SNR=2.5								
PDAR				PcP		**PcP**	**01 47 30.4**	**-1.1**
comp=Z,0.3nm,0.5s,baz=142,slow=3.1,SNR=3.8								
NVAR	**Mina Array Bea**	**36.42**	**319**	P		**P**	**01 45 13.3**	**-0.2**
comp=Z,0.5nm,0.7s,baz=125,slow=7.8,SNR=3.8								
NVAR				PcP		**PcP**	**01 47 36.8**	**+0.1**
comp=Z,0.6nm,0.6s,baz=126,slow=4.6,SNR=5.4								
YKA	**Yellowknife Ar**	**52.75**	**345**	P		**P**	**01 47 22.3**	**-0.6**
comp=Z,1.4nm,0.4s,baz=131,slow=8.6,SNR=4.2								
ILAR	**Eielson Array**	**64.99**	**336**	P		**P**	**01 48 46.9**	**-0.9**
comp=Z,0.4nm,0.9s,baz=178,slow=4.6,SNR=5.9								
WRA	**Warramunga Arr**	**138.11**	**255**	PKP		**PKPdf**	**01 57 34.5**	**+1.1**
comp=Z,0.4nm,0.6s,baz=90,slow=2.7,SNR=5.7								

*ISCJB **24** 02:27:58.4±0.5, 51°.15N±0°.03×6°.02E±0°.05, h23km±3km, Error ellipse: s-maj=5.3km s-min=4.6km az=14.6*
*LDG **24** 02:27:59.4±0.1, 51°.13N×5°.97E, h6km, Md2.5/1, Ml2.2/14, Error ellipse: s-maj=1.0km s-min=0.7km az=162.0*
ISC 24 02:27:58.5±1.0, 51°.13N±0°.03×5°.96E±0°.03, h18km±4km, n35, σ0°92/70, 4C-1D, The Netherlands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HKB	**Herkenbosch**	**0.14**	**67**	⇑P		**Pg**	**02 28 02.5**	**-0.2**
HKB				S		**Sg**	**02 28 05.3**	**-0.2**
HGN	**Heimansgroeve**	**0.37**	**182**	*e*Pg		**Pg**	**02 28 06.5**	**+0.3**
baz=14								
HGN				*e*Sg		**Sg**	**02 28 11.5**	**+0.1**
BEBN	**Eben Emael**	**0.38**	**208**	⇑P		**Pg**	**02 28 06.8**	**+0.4**
BEBN				S		**Sg**	**02 28 12.2**	**+0.5**
comp=N,12nm,0.3s								
MEM	**Membach**	**0.53**	**177**	⇑P		**Pg**	**02 28 09.3**	**+0.3**
MEM				S		**Sg**	**02 28 16.4**	**+0.3**
comp=E,14nm,0.2s								
BLCH	**La Chartreuse**	**0.54**	**205**	P		**Pg**	**02 28 09.5**	**+0.2**
BLCH				S		**Sg**	**02 28 17.2**	**+0.6**
BMOL	**Mol**	**0.55**	**279**	P		**Pb**	**02 28 10.0**	**+0.3**
BMOL				S		**Sb**	**02 28 17.8**	**+0.6**
BSTI	**Sart Tilman**	**0.60**	**204**	P		**Pb**	**02 28 11.6**	**+1.1**
BHOU	**Houvegnez**	**0.78**	**178**	P		**Pb**	**02 28 14.1**	**+0.6**
BHOU				S		**Sb**	**02 28 24.3**	**+0.6**
comp=N,1.4nm,0.1s								
BCLA	**Clavier**	**0.83**	**210**	⇓P		**Pb**	**02 28 15.0**	**+0.8**
BCLA				S		**Sb**	**02 28 26.1**	**+1.0**
comp=N,9.2nm,0.1s								
BGES	**Gesves**	**0.93**	**217**	P		**Pb**	**02 28 16.8**	**+0.7**
BGES				S		**Sb**	**02 28 29.0**	**+0.9**
WTSB	**Winterswijk**	**0.99**	**32**	*e*Sn		**Sg**	**02 28 30.2**	**-0.4**
LKLB	**Kalborn**	**1.04**	**175**	P		**Pb**	**02 28 18.6**	**+0.7**
LKLB				S		**Sb**	**02 28 31.8**	**+0.6**
comp=E,10nm,0.2s								
UCC	**Uccle**	**1.06**	**252**	P		**Pb**	**02 28 18.7**	**+0.3**
UCC				S		**Sn**	**02 28 32.8**	**+0.1**
RCHB	**Rochefort**	**1.08**	**206**	P		**Pb**	**02 28 19.0**	**+0.4**
RCHB				S		**Sb**	**02 28 33.4**	**+1.0**
BMRD	**Maredsous**	**1.12**	**223**	⇑P		**Pn**	**02 28 19.7**	**+0.4**
BMRD				S		**Sn**	**02 28 35.2**	**+1.0**
comp=N,6.3nm,0.2s								
BRQR	**Ronqui¯ere**	**1.22**	**245**	P		**Pb**	**02 28 21.2**	**+0.3**
SNF	**Seneffe**	**1.23**	**240**	P		**Pb**	**02 28 21.7**	**+0.5**
GIVF	**Givet**	**1.26**	**215**	*e*Pn		**Pn**	**02 28 21.9**	**+0.7**
GIVF	**Givet**	**1.26**	**215**	*e*Pg		**Pg**	**02 28 23.1**	**+0.3**
GIVF				*e*Sn		**Sb**	**02 28 37.8**	**+0.3**
GIVF				*e*Sg		**Sg**	**02 28 39.4**	**+0.2**
comp=N,14nm,0.2s								
BSKQ	**Steenkerk**	**1.28**	**249**	P		**Pn**	**02 28 22.0**	**+0.5**
DOU	**Dourbes**	**1.35**	**220**	P		**Pn**	**02 28 23.1**	**+0.7**
DOU				S		**Sn**	**02 28 40.7**	**+0.8**
comp=N,3.5nm,0.2s								
WLF	**Walferdange**	**1.48**	**175**	P		**Pn**	**02 28 25.4**	**+1.2**
WLF				S		**Sb**	**02 28 44.4**	**+0.7**
comp=E,4.0nm,0.3s								
BAIF	**Baives**	**1.55**	**227**	*e*Pn		**Pn**	**02 28 25.9**	**+0.8**
BAIF	**Baives**	**1.55**	**227**	*e*Pg		**Pg**	**02 28 28.2**	**-0.1**
BAIF				*e*Sn		**Sn**	**02 28 45.0**	**+0.3**
BAIF				*e*Sg		**Sg**	**02 28 48.6**	**+0.2**
comp=E,1.7nm,0.2s								
PAGF	**Fort de Pagny**	**2.58**	**183**	*e*Pn		**Pn**	**02 28 40.2**	**+0.8**
PAGF				*e*Sn		**Sn**	**02 29 10.0**	**-0.3**
comp=E,0.7nm,0.2s,baz=1.5								
MEZF	**Maizieres J'vi**	**2.70**	**193**	*e*Pn		**Pn**	**02 28 40.8**	**-0.1**
MEZF				*e*Sn		**Sn**	**02 29 11.9**	**-1.2**
MEZF				*e*Sg		**Sg**	**02 29 24.0**	**-1.1**
comp=E,2.7nm,0.2s								
CDF	**Champ du Feu**	**2.85**	**162**	*e*Pn		**Pn**	**02 28 43.7**	**+0.5**
CDF				*e*Sn		**Sn**	**02 29 16.5**	**-0.6**
CDF				*e*Sg		**Sg**	**02 29 28.8**	**-1.4**
comp=E,0.6nm,0.2s								
SFTF	**Sexfontaines**	**2.99**	**192**	*e*Pn		**Pn**	**02 28 45.7**	**+0.7**
SFTF				*e*Sn		**Sn**	**02 29 19.8**	**-0.6**
SFTF				*e*Sg		**Sg**	**02 29 33.2**	**-1.3**
comp=E,1.3nm,0.2s								
HAU	**Haudompre**	**3.14**	**175**	*e*Pn		**Pn**	**02 28 47.7**	**+0.6**
HAU				*e*Sn		**Sn**	**02 29 22.3**	**-1.8**
HAU				*e*Sg		**Sg**	**02 29 38.5**	**-0.8**
comp=E,2.0nm,0.2s								
LOR	**Lormes**	**4.11**	**200**	*e*Pn		**Pn**	**02 29 00.7**	**+0.4**
LOR				*e*Sn		**Sn**	**02 29 46.5**	**-1.4**
comp=E,0.5nm,0.2s								
LOR				*e*Sg		**Sg**	**02 30 08.5**	**-1.7**
comp=E,1.1nm,0.2s,baz=19								
SSF	**Saint Saulge**	**4.38**	**203**	*e*Pn		**Pn**	**02 29 04.4**	**+0.3**
SSF	**Saint Saulge**	**4.38**	**203**	*e*Pg		**Pg**	**02 29 20.8**	**-1.5**
SSF				*e*Sn		**Sn**	**02 29 53.1**	**-1.5**
SSF				*e*Sg		**Sg**	**02 30 17.2**	**-1.9**
comp=E,1.1nm,0.3s								
LDF	**La Druitiere**	**4.68**	**239**	*e*Pn		**Pn**	**02 29 09.0**	**+0.8**
LDF				*e*Sn		**Sn**	**02 29 59.7**	**-2.3**
comp=E,0.7nm,0.3s								
FLN	**La Foliniere**	**4.79**	**243**	*e*Pn		**Pn**	**02 29 10.2**	**+0.6**
FLN				*e*Sn		**Sn**	**02 30 02.7**	**-1.9**
comp=E,0.7nm,0.2s								
GRR	**Gorron**	**5.20**	**241**	*e*Pn		**Pn**	**02 29 15.7**	**+0.4**
GRR				*e*Sn		**Sn**	**02 30 12.5**	**-2.3**
comp=E,1.5nm,0.2s								

*IDC **24** 02:28:22.0±2.6, 67°.57N×34°.36E, h0km, mb1 3.5/5, mb1mx3.1/46, mbtmp3.5/5, ML2.5/5, Error ellipse: s-maj=33.4km s-min=10.7km az=92.0*
*KOLA **24** 02:28:24.6, 67°.68N×33°.77E, M1.6, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*HEL **24** 02:28:24.0±0.6, 67°.56N×33°.77E, h0km, ML1.9, Explosion*
*NAO **24** 02:28:25.9±1.9, 67°.55N×33°.20E, ML2.6*
ISC 24 02:28:23.7±1.8, 67°.51N±0°.04×33°.52E±0°.10, h0km, n32, σ1§35/48, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
VRF	**Varrio**	**1.52**	**281**	PG		**Pb**	**02 28 52.8**	**+0.2**
VRF				MSG			02 29 11.9	
comp=Z,12nm,0.2s								
VRF				SN		**Sn**	**02 29 13.5**	**+1.1**
**KU6

KEV	**Kevo**	**3.28 316**	Pn	**Pn**	**02 29 17.1**	**+0.9**		
KEV			Sn	**Sn**	**02 29 55.1**	**-0.9**		
KEV			Lg	Lg	02 30 03.0			
KEV	**Kevo**	**3.28 316**	PN	**Pn**	**02 29 16.8**	**+0.6**		
	baz=128							
KEV			SB	**Sb**	**02 30 02.6**	**-0.6**		
KEV	**Kevo**	**3.28 316**	Pn	**Pn**	**02 29 17.1**	**+0.9**		
KEV			Sn	**Sn**	**02 29 55.1**	**-0.9**		
KEV			Lg	Lg	02 30 03.0			
ARA0	**ARCESS Array S**	**3.58 308**	Pn	**Pn**	**02 29 20.8**	**+0.4**		
	baz=122,slow=16							
ARA0			Pg	**Pb**	**02 29 29.4**	**+1.6**		
	baz=121,slow=16							
ARA0			Sn	**Sn**	**02 30 02.0**	**-1.3**		
	baz=117,slow=28							
ARA0			Lg	Lg	02 30 13.1			
	baz=109,slow=37							
ARA0	**ARCESS Array S**	**3.58 308**	Pn	**Pn**	**02 29 20.8**	**+0.4**		
	baz=122,slow=16							
ARA0			Pg	**Pb**	**02 29 29.4**	**+1.6**		
	baz=121,slow=16							
ARA0			Sn	**Sn**	**02 30 02.0**	**-1.3**		
	baz=117,slow=28							
ARA0			Lg	Lg	02 30 13.1			
	baz=109,slow=37							
ARCES	**ARCESS Array B**	**3.58 308**	Pn	**Pn**	**02 29 20.8**	**+0.4**		
	comp=Z,2.4nm,0.3s,baz=120,slow=15,SNR=112							
ARCES			Pg	**Pb**	**02 29 29.5**	**+1.7**		
	comp=Z,2.9nm,0.3s,baz=119,slow=15,SNR=23							
ARCES			Sn	**Sn**	**02 30 02.1**	**-1.3**		
	comp=Z,1.1nm,0.3s,baz=116,slow=25,SNR=13							
ARCES			Lg	Lg	02 30 13.0			
	comp=Z,3.7nm,0.3s,baz=112,slow=33,SNR=12							
ARE0	**ARCESS Array S**	**3.58 308**	PN	**Pn**	**02 29 20.6**	**+0.2**		
	baz=122							
ARE0			SN	**Sn**	**02 30 02.0**	**-1.4**		
ARE0	**ARCESS Array S**	**3.58 308**	*eP*	**Pn**	**02 29 20.9**	**+0.5**		
HEF	**Hetta**	**3.83 288**	PN	**Pn**	**02 29 24.7**	**+1.0**		
	baz=101							
HEF	**Hetta**	**3.83 288**	*eP*	**Pn**	**02 29 24.9**	**+1.1**		
OUL	**Oulu**	**3.92 235**	PB	**Pb**	**02 29 33.4**	**-0.1**		
	baz=50							
KALU	**Kalix**	**4.36 252**	PN	**Pn**	**02 29 35.0**	**+4.0**		
ERTU	**Ertsjaerv**	**4.54 263**	PN	**Pn**	**02 29 35.0**	**+1.4**		
ERTU			SN	**Sn**	**02 30 29.0**	**+2.1**		
KIF	**Kilpisjarvi**	**4.96 293**	Pn	**Pn**	**02 29 39.6**	**+0.3**		
KIF			Sn	**Sn**	**02 30 34.6**	**-2.6**		
KIF	**Kilpisjarvi**	**4.96 293**	Pn	**Pn**	**02 29 39.6**	**+0.3**		
KIF			Sn	**Sn**	**02 30 34.6**	**-2.6**		
FIA0	**FINESS Array S**	**6.88 211**	Pn	**Pn**	**02 30 05.7**	**+0.1**		
	baz=24,slow=14							
FIA0			Sn	**Sn**	**02 31 24.0**	**-0.5**		
FIA0			Lg	Lg	02 31 52.9			
	baz=11,slow=28							
FIA0	**FINESS Array S**	**6.88 211**	Pn	**Pn**	**02 30 05.7**	**+0.1**		
	baz=24,slow=14							
FIA0			Sn	**Sn**	**02 31 24.0**	**-0.5**		
FIA0			Lg	Lg	02 31 52.9			
	baz=11,slow=28							
FINES	**FINESS Array B**	**6.88 211**	Pn	**Pn**	**02 30 04.8**	**-0.8**		
	comp=Z,0.0nm,0.3s,baz=24,slow=12,SNR=2.9							
FINES			Sn	**Sn**	**02 31 25.1**	**+0.6**		
	comp=Z,0.1nm,0.3s,baz=28,slow=24,SNR=2.5							
FINES			Lg	Lg	02 31 58.7			
	comp=Z,0.6nm,0.3s,baz=32,slow=28,SNR=9.7							
HFS	**Hagfors**	**11.40 239**	Pn	**Pn**	**02 31 06.3**	**-1.3**		
	comp=Z,0.1nm,0.3s,baz=72,slow=16,SNR=2.8							
HFS			Lg	Lg	02 34 23.9			
	comp=Z,0.1nm,0.3s,baz=59,slow=25,SNR=2.9							
NB2	**NORSAR Subarra**	**11.60 247**	Pn	**Pn**	**02 31 10.0**	**-0.3**		
NB2	**NORSAR Subarra**	**11.60 247**	Pn	**Pn**	**02 31 10.0**	**-0.3**		
NOA	**NORSAR Array B**	**11.60 247**	Pn	**Pn**	**02 31 08.7**	**-1.6**		
	comp=Z,0.0nm,0.3s,baz=45,slow=11,SNR=2.9							
NRA0	**NORESS Array S**	**11.70 245**	Pn	**Pn**	**02 31 12.3**	**+0.7**		
	baz=51,slow=16							
NRA0	**NORESS Array S**	**11.70 245**	Pn	**Pn**	**02 31 12.3**	**+0.7**		
	baz=51,slow=16							
SPA0	**Spitsbergen Ar**	**11.77 343**	Pn	Pn	02 31 08.7	-3.8		
	baz=140,slow=14							
SPA0	**Spitsbergen Ar**	**11.77 343**	Pn	Pn	02 31 08.7	-3.8		
	baz=140,slow=14							
SPITS	**Spitsbergen Ar**	**11.77 343**	Pn	Pn	02 31 08.4	-4.1		
	baz=141,slow=16,SNR=4.4							

IDC 24 02:34:59.0±4.3, 4°81S×148°10E, h0km, mb3.1/2, mb1 3.5/2, mb1mx3.3/23, mbtmp3.2/2, MS3.3/1, Ms1 3.3/1, ms1mx2.4/38, Error ellipse: s-maj=109.2km s-min=51.9km az=106.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.66 192**		Sn	Sn	02 37 08.2	+2.8
	1.4nm,0.3s,baz=237,slow=17,SNR=4.8						
WRA	**Warramunga Arr**	**20.14 221**		P	P	02 39 35.2	+0.3
	0.7nm,0.8s,baz=48,slow=12,SNR=13						
ASAR	**Alice Springs**	**23.21 215**		P	P	02 40 07.7	-0.1
	0.4nm,0.5s,baz=45,slow=9.2,SNR=4.6						
BATI	**Baumata**	**24.80 256**		P	P	02 40 22.9	-0.2
	17nm,0.4s,baz=101,slow=10,SNR=2.4						
DAV	**Davao City (W)**	**25.39 298**		LR	LR	02 50 15.6	
	comp=Z,62nm,20.0s,baz=346,slow=36						
TORD	**Torodi Ar. Bea**	**145.84 286**		PKPbc	PKPdf	02 54 40.5	-0.3
	0.2nm,0.6s,baz=71,slow=3.2,SNR=3.2						

*ISCJB **24** 02:37:04.9±0.7, 24°.86N±0°.04×122°.51E±0°.02, h12km±5km, Error ellipse: s-maj=6.2km s-min=3.4km az=14.3*
*JMA **24** 02:37:05.5±0.1, 24°.84N×122°.52E, h26km±3km, M2.5*
*TAP **24** 02:37:06.8, 24°.86N×122°.42E, h8km, ML3.3, D*
ISC 24 02:37:04.7±1.1, 24°.86N±0°.05×122°.51E±0°.03, h17km±10km, n32, σ0s39/49, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.47 228**		P	**Pb**	**02 37 14.7**	**+0.2**
	baz=220						
EOS1				*eS*	**Sg**	**02 37 20.5**	**+0.1**
	baz=220						
TWB1	**Santiao Chiao**	**0.49 287**		*eP*	**Pg**	**02 37 15.1**	**+0.5**
	baz=291						
TWB1				*eS*	**Sg**	**02 37 20.5**	**-0.8**
	baz=291						
JYNG	**Yonagunijimaku**	**0.57 136**		P	**Pg**	**02 37 16.2**	**+0.1**
JYNG				*eS*	**Sg**	**02 37 24.1**	**+0.3**
YOJ	**Yonaguni jima**	**0.61 131**		P	**Pb**	**02 37 16.7**	**-0.2**
YOJ				*eS*	**Sg**	**02 37 24.7**	**-0.2**
TIPB	**Shuangxi**	**0.63 280**		*eP*	**Pg**	**02 37 17.1**	**0.0**
	baz=281						
TIPB				*eS*	**Sg**	**02 37 25.1**	**-0.4**
	baz=281						
TWC	**Suao**	**0.65 247**		*eP*	**Pb**	**02 37 17.4**	**-0.2**
	baz=243						
TWC				*eS*	**Sg**	**02 37 25.4**	**-0.8**
	baz=243						
NWF	**Wu-fen Shan**	**0.69 287**		P	**Pb**	**02 37 18.6**	**+0.2**
	baz=290						
WFSB	**Wu-fen Shan**	**0.69 287**		*eP*	**Pb**	**02 37 18.4**	**+0.1**
	baz=290						
WFSB				*eS*	**Sb**	**02 37 27.0**	**-0.6**
	baz=290						
TWE	**Neicheng**	**0.78 260**		P	**Pb**	**02 37 19.8**	**0.0**
	baz=258						
TWE				*eS*	**Sb**	**02 37 29.4**	**-0.7**
	baz=258						
SLBB	**Yuanshan**	**0.80 262**		*eP*	**Pg**	**02 37 20.6**	**+0.2**
	baz=261						
NANB	**Nanao**	**0.81 238**		*eP*	**Pb**	**02 37 20.2**	**-0.2**
	baz=234						
NANB				*eS*	**Sb**	**02 37 31.1**	**-0.1**
	baz=234						
ENA	**Nanau**	**0.82 238**		*eP*	**Pb**	**02 37 20.5**	**-0.1**
	baz=234						
ENA				*eS*	**Sb**	**02 37 31.4**	**0.0**
	baz=234						
YM07	**YM07**	**0.86 291**		*eP*	**Pb**	**02 37 21.6**	**+0.3**
	baz=293						
ENTT	**Nioudou**	**0.88 256**		*eP*	**Pb**	**02 37 21.9**	**+0.2**
	baz=254						
ENTT				*eS*	**Sb**	**02 37 33.4**	**+0.2**
	baz=254						
YM01	**YM01**	**0.90 288**		*eP*	**Pn**	**02 37 22.8**	**+0.2**
	baz=290						
YM05	**YM05**	**0.91 289**		*eP*	**Pb**	**02 37 22.4**	**+0.4**
	baz=291						
YM10	**YM10**	**0.91 289**		*eP*	**Pg**	**02 37 22.5**	**+0.2**
	baz=290						
TWY	**Chenhua**	**0.92 297**		*eP*	**Pb**	**02 37 22.7**	**+0.4**
	baz=299						
TATO	**Taipei**	**0.93 277**		*eP*	**Pb**	**02 37 22.8**	**+0.3**
	baz=277						
YM03	**YM03**	**0.93 290**		*eP*	**Pb**	**02 37 22.9**	**+0.4**
	baz=291						
YHNB	**Yeheng**	**1.05 260**		*eP*	**Pb**	**02 37 24.2**	**-0.2**
	baz=258						
YHNB				*eS*	**Sb**	**02 37 37.3**	**-0.7**
	baz=258						
NSK	**Sanguang**	**1.06 260**		P	**Pn**	**02 37 25.1**	**+0.2**
	baz=259						
NSK				*eS*	**Sb**	**02 37 37.5**	**-0.9**
	baz=259						
NACB	**Ninganchiao**	**1.08 231**		*eP*	**Pb**	**02 37 24.7**	**-0.3**
	baz=227						
NACB				*eS*	**Sb**	**02 37 39.0**	**+0.2**
	baz=227						
NNSB	**Datong**	**1.11 247**		*eP*	**Pb**	**02 37 25.8**	**+0.2**
	baz=245						
NNSB				*eS*	**Sb**	**02 37 40.2**	**+0.4**
	baz=245						
NNS	**Nan Shan**	**1.11 248**		P	**Pn**	**02 37 26.0**	**+0.2**
	baz=246						
IRIF	**Iriomote-Funau**	**1.23 115**		P	**Pn**	**02 37 26.5**	**-0.7**
WHF	**Hehuan Shan**	**1.34 238**		*eP*	**Pb**	**02 37 29.9**	**+0.2**
	baz=235						
TDCB	**Techi**	**1.37 244**		*eP*	**Pb**	**02 37 30.4**	**+0.3**
	baz=242						
TDCB				*eS*	**Sb**	**02 37 47.2**	**-0.1**
	baz=242						
HATJ	**Hateruma jima**	**1.43 124**		P	**Pn**	**02 37 30.4**	**+0.5**
CHGB	**Renai**	**1.46 237**		*eP*	**Pb**	**02 37 32.0**	**+0.5**
	baz=234						
CHGB				*eS*	**Sb**	**02 37 49.8**	**-0.1**
	baz=234						
JKRS	**Kuro-shima**	**1.50 114**		P	**Pn**	**02 37 31.2**	**+0.3**
SSLB	**Suanglung**	**1.78 233**		*eP*	**Pb**	**02 37 37.1**	**+0.2**
	baz=231						

IDC 24 02:44:15.1±8.6, 5°54S×150°97E, h90km±60km, mb3.2/2, mb1 3.5/3, mb1mx3.2/36, mbtmp3.6/3, ML1.9/1, Error ellipse: s-maj=118.1km s-min=55.5km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.39 224**		P	Pn	02 45 33.0	0.0
	2.3nm,0.3s,baz=49,slow=11,SNR=3.7						
PMG				S	Sn	02 46 35.0	+1.2
	7.2nm,0.3s,baz=252,slow=8.2,SNR=6.1						
WRA	**Warramunga Arr**	**21.60 227**		P	P	02 48 57.4	-0.5
	1.0nm,0.5s,baz=53,slow=10,SNR=12						
ASAR	**Alice Springs**	**24.39 221**		P	P	02 49 25.0	-0.2
	0.8nm,0.5s,baz=55,slow=9.1,SNR=12						
TORD	**Torodi Ar. Bea**	**148.78 286**		PKPbc	PKPbc	03 03 53.0	-0.3
	1.1nm,0.6s,baz=108,slow=3.2,SNR=9.3						

*NIED **24** 02:48:00, 34°.90N×137°.90E, h35km, Mw3.5 Best double couple: M₀2.11000×10¹⁴ NP1:φs120.00000°, δ77.00000°, λ172.00000°. NP2:φs212.00000°, δ82.00000°, λ13.00000°.*
JMA 24 02:48:57.7, 34°.86N×137°.89E, h33km, M3.6, 3C-3D Broadband fault plane solution: P waves. NP1: φs213.00000°, δ76.00000°, λ14.00000°. **NP2:** φs119.00000°, δ76.00000°, λ166.00000°. **Principal axes:** T Plg20.0000°, Azm76.0000°; N Plg70.0000°, Azm256.0000°; P Plg0.0000°, Azm346.0000°; **Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKKG	**Kakegawa**	**0.10 137**		P	Pb	02 49 03.1	-0.3
JKKG				S	Sb	02 49 07.1	-0.1
JHMK	**Hamakita**	**0.12 248**		P	Pb	02 49 03.2	-0.2
JHMK				S	Sb	02 49 07.1	-0.2
JKKS	**Kakegawashinom**	**0.13 144**		P	Pb	02 49 03.7	0.0
JKKS				S	Sb	02 49 08.4	+0.6
HMMJ	**Hamamatsu 2**	**0.14 268**		⇑P	Pb	02 49 03.6	-0.1
HMMJ				S	Sb	02 49 07.7	-0.2
JYZW	**Yoshizawa**	**0.19 317**		P	Pb	02 49 04.0	-0.2
SHZ3	**Shizuoka 3**	**0.33 52**		⇑P	Pb	02 49 05.7	-0.3
SHZ3				S	Sb	02 49 11.4	-0.2
TK04	**Tokai 4**	**0.47 182**		⇓P	Pb	02 49 07.7	-0.1
JNY	**Yasuok**	**0.50 357**		⇓P	Pb	02 49 08.1	-0.2
JNY				*eS*	Sn	02 49 15.9	-0.2
JIZS	**Izushimoda**	**0.83 100**		P	Pn	02 49 12.1	-0.9
JIZS				*eS*	Sn	02 49 22.7	-1.3
JYN	**Shimob**	**0.83 40**		⇑P	Pn	02 49 13.1	-0.1
TK02	**Tokai 2**	**0.92 187**		⇓P	Pn	02 49 13.0	-1.1
JOD2	**Odawara 2**	**1.06 67**		P	Pn	02 49 15.9	-0.4
JOD2				*eS*	Sn	02 49 30.2	+0.3
JIE	**Ise**	**1.08 245**		P	Pn	02 49 17.1	+0.6
JYTA	**Yamagatataniai**	**1.20 308**		P	Pn	02 49 18.7	+0.6
JYTA				S	Sb	02 49 34.4	-0.6
MAT	**Matsushiro**	**1.70 9**		P	Pn	02 49 26.4	+1.3
MAT				S	Sb	02 49 49.4	0.0

*ISCJB **24** 02:50:29.8±0.5, 10°.98S±0°.07×162°.68E±0°.07, h46km, mb4.2/14, MS3.3/8 Error ellipse: s-maj=10.7km s-min=9.2km az=33.6*
*NEIC **24** 02:50:30.4±0.5, 10°.88S×162°.70E, h35km, mb4.2/7, Error ellipse: s-maj=11.1km s-min=9.1km az=130.0*
*IDC **24** 02:50:32.5±3.1, 10°.94S×162°.64E, h54km±25km, mb3.9/9, mb1 4.1/12, mb1mx3.9/39, mbtmp4.2/12, ML4.0/3, MS3.3/10, Ms1 3.3/10, ms1mx3.1/32, Error ellipse: s-maj=23.4km s-min=16.4km az=77.0*
ISC 24 02:50:31.6±0.7, 10°.89S±0°.10×162°.71E±0°.10, h46km, n39, σ0s78/28, mb4.2/14, MS3.3/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.08 298**		P	**Pn**	**02 51 17.9**	**+0.2**
	36nm,0.3s,baz=356,slow=13,SNR=6.7						
HNR				S	**Sn**	**02 51 54.0**	**+0.7**
	127nm,0.3s,baz=266,slow=15,SNR=8.2						
HNR				LR	LR	02 52 49.1	
	comp=Z,563nm,21.4s,baz=127,slow=45						
DZM	**Mont Dzumac**	**11.69 163**		P	**Pn**	**02 53 16.9**	**+1.0**
	0.4nm,0.3s,baz=345,slow=19,SNR=7.0						
DZM				LR	LR	02 57 13.6	
	comp=Z,210nm,18.5s,baz=322,slow=34						
PMG	**Port Moresby**	**15.38 274**		*ePn*	**Pn**	**02 54 06.2**	**+0.6**
	27nm,1.1s						
CTA	**Charters Tower**	**18.29 238**		P	**Pn**	**02 54 42.5**	**+0.4**
	0.3nm,0.3s,baz=70,slow=11,SNR=10						
CTAO	**Charters Tower**	**18.29 238**		*eP*	**Pn**	**02 54 42.7**	**+0.6**
	9.4nm,0.9s						
AFI	**Afiamalu**	**25.10 100**		LR	LR	03 03 26.1	
	comp=Z,54nm,21.5s,baz=338,slow=31						
STKA	**Stephens Creek**	**28.58 220**		P	**P**	**02 56 22.4**	**-0.9**
	1.6nm,0.8s,baz=21,slow=8.6,SNR=2.5						
WRAB	**Tennant Creek**	**28.74 248**		*eP*	**P**	**02 56 23.4**	**-1.6**
	4.7nm,0.8s						
WB2	**Warramunga Arr**	**28.74 248**		*eP*	**P**	**02 56 24.8**	**-0.2**
	3.8nm,0.8s						
WR1	**Warramunga Arr**	**28.75 248**		*eP*	**P**	**02 56 23.9**	**-1.2**
	3.2nm,0.8s						
WRA	**Warramunga Arr**	**28.75 248**		P	**P**	**02 56 23.9**	**-1.2**
	3.5nm,0.7s,baz=78,slow=9.3,SNR=40						
H11S2	**WAKE ISLAND Hy**	**29.45 8**		T	T	03 27 11.5	
	baz=189,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.46 8**		T	T	03 27 13.2	
	baz=189,slow=76						
H11S1	**WAKE ISLAND Hy**	**29.47 8**		T	T	03 27 14.7	
	baz=189,slow=76						
URZ	**Urewera**	**30.16 157**		LR	LR	03 07 51.2	
	comp=Z,88nm,18.1s,baz=322,slow=34						
ASAR	**Alice Springs**	**30.22 241**		P	**P**	**02 56 37.3**	**-0.8**
	2.0nm,0.9s,baz=69,slow=9.5,SNR=15						
H11N1	**WAKE ISLAND Hy**	**30.68 8**		T	T	03 28 45.6	
	baz=188,slow=76						
H11N3	**WAKE ISLAND Hy**	**30.69 8**		T	T	03 28 44.4	
	baz=188,slow=76						
H11N2	**WAKE ISLAND Hy**	**30.70 8**		T	T	03 28 46.8	
	baz=188,slow=76						
FITZ	**Fitzroy Crossi**	**36.54 254**		*eP*	**P**	**02 57 32.5**	**-0.7**
	3.7nm,0.6s						
MBWA	**Marble Bar**	**42.43 251**		*eP*	**P**	**02 58 22.2**	**+0.1**
MJAR	**Matsushiro Arr**	**52.51 335**		LR	LR	03 19 26.0	
	comp=Z,21nm,21.9s,baz=50,slow=33						
JNU	**Nakatsue**	**53.25 326**		LR	LR	03 19 18.2	
	comp=Z,26nm,20.4s,baz=110,slow=32						
KSRS	**Korea Array**	**58.10 328**		LR	LR	03 23 45.8	
	comp=Z,40nm,19.1s,baz=143,slow=34						
USRK	**Ussuriysk Ar.**	**61.51 335**		P	**P**	**03 00 43.6**	**-0.1**
	3.9nm,0.9s,baz=164,slow=9.5,SNR=6.3						
PETK	**Petropavlovsk-**	**63.88 357**		LR	LR	03 24 48.4	
	comp=Z,17nm,20.3s,baz=143,slow=32						
ULN	**Ulaanbaatar**	**76.44 325**		*eP*	**P**	**03 02 17.1**	**+0.5**
	2.3nm,0.5s						
SONA0	**Songino Array**	**76.80 325**		*eP*	**P**	**03 02 19.6**	**+1.0**
SONM	**Songino Array**	**76.80 325**		P	**P**	**03 02 19.6**	**+1.0**
	4.9nm,0.9s,baz=133,slow=5.4,SNR=19						
SONM				LR	LR	03 36 38.8	
	comp=Z,16nm,18.1s,baz=95,slow=36						
SONA1	**Songino Array**	**76.80 325**		*eP*	**P**	**03 02 18.6**	**0.0**
ILAR	**Eielson Array**	**84.33 19**		P	**P**	**03 02 58.4**	**0.0**
	0.5nm,0.8s,baz=254,slow=4.9,SNR=7.3						
ILB	**Eielson Array**	**84.33 19**		*eP*	**P**	**03 02 58.4**	**0.0**
NV01	**Mina Array Sit**	**88.21 50**		*eP*	**P**	**03 03 18.4**	**0.0**
NVAR	**Mina Array Bea**	**88.21 50**		P	**P**	**03 03 18.4**	**0.0**
	1.0nm,0.8s,baz=238,slow=6.8,SNR=7.2						
MK32	**Makanchi Array**	**91.37 317**		*eP*	**P**	**03 03 32.8**	**+0.1**
MKAR	**Makanchi Array**	**91.37 317**		P	**P**	**03 03 32.8**	**+0.1**
	1.3nm,0.8s,baz=98,slow=6.2,SNR=6.4						
ZALV	**Zalesovo Beam**	**91.69 325**		P	**P**	**03 03 32.7**	**-1.2**
	0.7nm,0.6s,baz=110,slow=6.3,SNR=3.4						
ZALV				LR	LR	03 43 52.8	
	comp=Z,21nm,20.5s,baz=68,slow=35						
ZAA1	**Zalesovo Array**	**91.69 325**		*eP*	**P**	**03 03 32.7**	**-1.2**
KEST	**Kesra**	**145.43 320**		PKPbc	**PKPab**	**03 10 05.3**	**0.0**
	3.6nm,1.0s,baz=349,slow=5.2,SNR=4.2						

*KRSC **24** 02:54:14.2±1.0, 54°.90N×161°.05E, h115km±12km, ML4.1*
*MOS **24** 02:54:14.2±1.4, 54°.90N×161°.05E, h115km, mb4.4/1, Error ellipse: s-maj=12.8km s-min=4.8km az=78.7*
*ISCJB **24** 02:54:15.5±0.3, 54°.94N±0°.03×160°.81E±0°.09, h119km±3km, mb3.5/8, Error ellipse: s-maj=8.8km s-min=3.2km az=23.7*
*IDC **24** 02:54:17.2±2.4, 55°.05N×160°.45E, h122km±23km, mb3.2/8, mb1 3.5/11, mb1mx3.2/45, mbtmp3.7/11, Error ellipse: s-maj=25.8km s-min=17.4km az=147.0*
ISC 24 02:54:15.7±0.7, 54°.91N±0°.03×160°.99E±0°.04, h114km±5km, n89, σ1s17/120, mb3.4/8, 1C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZV	**Kizimen**	**0.45 298**		*eP*	**Pn**	**02 54 32.4**	**-0.5**
KZV				*eS*	**Sn**	**02 54 44.5**	**-1.2**
KZV	**Kizimen**	**0.45 298**		PN	**Pn**	**02 54 32.4**	**-0.5**
KZV				S	**Sn**	**02 54 44.5**	**-1.2**
TUMD	**Tumrok D**	**0.45 311**		*eP*	**Pn**	**02 54 31.8**	**-0.9**
TUMD				*eS*	**Sn**	**02 54 44.3**	**-1.2**
MKZ	**Mys Kozlova**	**0.56 129**		*eP*	**Pn**	**02 54 34.7**	**+1.4**
MKZ				*eS*	**Sn**	**02 54 48.2**	**+1.7**
MKZ	**Mys Kozlova**	**0.56 129**		PN	**Pn**	**02 54 34.7**	**+1.4**
MKZ				S	**Sn**	**02 54 48.2**	**+1.7**
TUMR	**Tumrok**	**0.61 308**		*eP*	**Pn**	**02 54 33.7**	**-0.2**
TUMR				*eS*	**Sn**	**02 54 46.4**	**-1.2**
TUMR	**Tumrok**	**0.61 308**		PN	**Pn**	**02 54 33.7**	**-0.2**
TUMR				S	**Sn**	**02 54 46.4**	**-1.2**
KMNR	**Kamenistaya**	**0.95 334**		*eP*	**Pn**	**02 54 36.7**	**-0.1**
KMNR	**Kamenistaya**	**0.95 334**		PN	**Pn**	**02 54 36.7**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**1.05 351**		*eP*	**Pn**	**02 54 37.7**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**1.05 351**		PN	**Pn**	**02 54 37.7**	**-0.1**
BZMR	**Bezymyannaya**	**1.07 345**		*eP*	**Pn**	**02 54 38.3**	**+0.2**
BZMR	**Bezymyannaya**	**1.07 345**		PN	**Pn**	**02 54 38.3**	**+0.2**
BZWR	**Bezymyannyi-We**	**1.09 345**		*eP*	**Pn**	**02 54 38.3**	**-0.1**
BZWR	**Bezymyannyi-We**	**1.09 345**		PN	**Pn**	**02 54 38.3**	**-0.1**
ZLN	**Zelenaya**	**1.12 355**		*eP*	**Pn**	**02 54 39.0**	**+0.5**
ZLN				*eS*	**Sn**	**02 54 55.9**	**+0.1**
ZLN	**Zelenaya**	**1.12 355**		PN	**Pn**	**02 54 39.0**	**+0.5**
ZLN				S	**Sn**	**02 54 55.9**	**+0.1**
KPT	**Kopyto**	**1.15 338**		*i* P	**Pn**	**02 54 38.5**	**-0.3**
KPT	**Kopyto**	**1.15 338**		PN	**Pn**	**02 54 38.5**	**-0.3**
LGNR	**Loginova**	**1.19 352**		*eP*	**Pn**	**02 54 40.0**	**+0.5**
LGNR	**Loginova**	**1.19 352**		PN	**Pn**	**02 54 40.0**	**+0.5**
CIRR	**Tsirk**	**1.22 354**		*eP*	**Pn**	**02 54 39.9**	**+0.2**
CIRR	**Tsirk**	**1.22 354**		PN	**Pn**	**02 54 39.9**	**+0.2**
KII	**Karymskiy**	**1.25 226**		*eP*	**Pn**	**02 54 40.3**	**+0.3**
KII				*eS*	**Sn**	**02 54 58.5**	**+0.2**
KII	**Karymskiy**	**1.25 226**		PN	**Pn**	**02 54 40.3**	**+0.3**
KII				S	**Sn**	**02 54 58.5**	**+0.2**
KOZ	**Kozyrevsk**	**1.32 332**		*i* P	**Pn**	**02 54 40.3**	**-0.3**
KOZ	**Kozyrevsk**	**1.32 332**		PN	**Pn**	**02 54 40.3**	**-0.3**
KRSR	**Krestovskiy**	**1.33 350**		*eP*	**Pn**	**02 54 40.6**	**-0.3**
KRSR	**Krestovskiy**	**1.33 350**		PN	**Pn**	**02 54 40.6**	**-0.3**
KLY	**Klyuchi**	**1.42 352**		*i* P	**Pn**	**02 54 42.0**	**+0.2**
KLY				*eS*	**Sn**	**02 55 01.3**	**-0.3**
KLY	**Klyuchi**	**1.42 352**		PN	**Pn**	**02 54 42.0**	**+0.2**
KLY				S	**Sn**	**02 55 01.3**	**-0.3**
ESO	**Esso**	**1.66 309**		*i* P	**Pn**	**02 54 43.7**	**-0.9**
ESO	**Esso**	**1.66 309**		PN	**Pn**	**02 54 43.7**	**-0.9**
KBG	**Krutoberegovo**	**1.67 35**		*eP*	**

MTVR			S	**Sn**	02 55 37.5	+1.3
APC	**Apacha**	**3.01 230**	*e*P	**Pn**	02 55 02.2	+0.3
APC	**Apacha**	**3.01 230**	PN	**Pn**	02 55 02.2	+0.3
KDTR	**Khodutka, Kamc**	**3.56 211**	*e*P	**Pn**	02 55 08.8	-0.4
KDTR			*e*S	**Sn**	02 55 49.4	-1.1
ASAJ	**Asahikawa**	**16.05 235**	P	**Pn**	02 57 52.8	-1.9
	comp=N,0.2nm,0.3s,baz=32,slow=13,SNR=2.1					
KLR	**Kul'dur**	**18.77 264**	P	**P**	02 58 24.6	-1.1
	comp=N,0.4nm,0.3s,baz=48,slow=12,SNR=5.6					
ILAR	**Eielson Array**	**27.19 48**	P	**P**	02 59 48.9	+0.7
	comp=N,0.3nm,0.7s,baz=277,slow=7.1,SNR=4.1					
H11N2	**WAKE ISLAND Hy 35.40 170**		T	T	03 38 30.8	
	baz=355,slow=76,SNR=59					
H11N3	**WAKE ISLAND Hy 35.42 170**		T	T	03 38 38.5	
	baz=355,slow=76,SNR=53					
H11N1	**WAKE ISLAND Hy 35.42 170**		T	T	03 38 36.0	
	baz=355,slow=76,SNR=38					
H11S1	**WAKE ISLAND Hy 36.60 171**		T	T	03 39 57.2	
	baz=354,slow=74,SNR=6.2					
H11S3	**WAKE ISLAND Hy 36.61 171**		T	T	03 40 01.3	
	baz=91,slow=74,SNR=4.2					
MKAR	**Makanchi Array**	**47.86 295**	P	**P**	03 02 39.8	-1.9
	comp=N,0.4nm,0.4s,baz=69,slow=9.4,SNR=5.3					
PDAR	**Pinedale Array**	**56.19 62**	P	**P**	03 03 46.4	+2.6
	comp=N,0.3nm,0.6s,baz=333,slow=5.3,SNR=2.9					
FINES	**FINESS Array B**	**58.66 337**	P	**P**	03 03 58.4	-2.0
	comp=N,2.6nm,0.9s,baz=30,slow=8.5,SNR=4.4					
TXAR	**Lajitas Array**	**69.45 68**	P	**P**	03 05 14.0	+2.3
	comp=N,0.4nm,0.6s,baz=304,slow=6.4,SNR=3.2					
TXAR	**Lajitas Array**	**69.45 68**	P	**P**	03 05 14.0	+2.3
WRA	**Warramunga Arr**	**77.95 206**	P	**P**	03 06 00.7	-0.4
	comp=N,0.2nm,0.4s,baz=25,slow=6.2,SNR=5.1					
ASAR	**Alice Springs**	**81.63 205**	P	**P**	03 06 21.5	+0.7
	comp=N,0.2nm,0.5s,baz=17,slow=5.4,SNR=3.2					
ESDC	**Sonseca Array**	**84.91 348**	P	**P**	03 06 37.5	-0.2
	comp=N,1.0nm,0.8s,baz=8.2,slow=4.7,SNR=4.6					

*NEIC **24** 03:02:46.0±4.0, 26.˝14S×179.˚02W, h514km±21km, mb4.2/5, Error ellipse: s-maj=69.1km s-min=15.6km az=56.0*
*ISCJB **24** 03:02:51.7±0.4, 26.˝47S±0.˚03×179.˚94E±0.˝06, h500km, mb4.2/20, Error ellipse: s-maj=6.9km s-min=3.9km az=176.1*
*IDC **24** 03:02:52.3±1.8, 26.˝49S×179.˚82E, h480km±20km, mb3.6/9, mb1 3.8/13, mb1mx3.6/35, mbtmp4.5/13, Error ellipse: s-maj=17.8km s-min=13.5km az=155.0*
*WEL **24** 03:02:54.4±0.8, 27.˚5±7.˝×17.˚9W±2.˚3, h528km±13km*

ISC 24 03:02:52.6±0.5, 26.˚49S±0.˝06×179.˚99W±0.˝07, h500km, n91, σ1§64/113, mb4.5/20, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**3.29**	**147**	P	**P**	**03 04 08.3**	**+2.8**
RIZ				S	**S**	**03 05 04.5**	**-0.5**
RAO	**Raoul Island**	**3.31**	**147**	P	**P**	**03 04 08.5**	**+2.9**
	149nm,0.3s,baz=77,slow=11,SNR=11						
RAO				S	**S**	**03 05 04.4**	**-0.7**
	169nm,0.3s,baz=73,slow=19,SNR=5.0						
GLKZ	**Green Lake**	**3.31**	**147**	P	**P**	**03 04 08.2**	**+2.6**
GLKZ				S	**S**	**03 05 04.0**	**-1.2**
OUZ	**Omahuta**	**10.30**	**211**	P	**P**	**03 05 14.6**	**+1.7**
GRZ	**Great Barrier**	**10.48**	**201**	P	**P**	**03 05 15.9**	**+1.1**
WCZ	**Waipu Caves**	**10.59**	**206**	P	**P**	**03 05 18.2**	**+2.2**
KUZ	**Kuaotunu**	**10.86**	**199**	P	**P**	**03 05 20.2**	**+1.4**
WIAZ	**Waiheke Island**	**11.08**	**201**	P	**P**	**03 05 22.9**	**+1.7**
MXZ	**Matakaoa Point**	**11.13**	**187**	*e*P	**P**	**03 05 21.3**	**-0.5**
MXZ	**Matakaoa Point**	**11.13**	**187**	P	**P**	**03 05 21.0**	**-0.7**
HAZ	**Te Kaha**	**11.39**	**189**	P	**P**	**03 05 24.6**	**+0.2**
RUGZ	**Raukumara Rang**	**11.61**	**189**	P	**P**	**03 05 26.5**	**-0.5**
RUGZ				S	**S**	**03 07 30.9**	**-3.2**
PUZ	**Puketiti**	**11.64**	**187**	P	**P**	**03 05 27.2**	**-0.1**
OPRZ	**Ohinepanea**	**11.69**	**194**	P	**P**	**03 05 28.8**	**+1.1**
OPRZ				S	**S**	**03 07 31.7**	**-3.9**
KMRZ	**Kaimai**	**11.83**	**196**	P	**P**	**03 05 31.2**	**+1.9**
TOZ	**Tahuroa Road**	**11.84**	**198**	P	**P**	**03 05 30.3**	**+1.1**
EDRZ	**Edgecumbe**	**11.91**	**193**	P	**P**	**03 05 31.1**	**+1.0**
URZ	**Urewera**	**11.99**	**191**	P	**P**	**03 05 28.3**	**-2.5**
	7.2nm,0.3s,baz=23,slow=2.7,SNR=52						
URZ				S	**S**	**03 07 37.8**	**-3.5**
	2.2nm,0.3s,baz=229,slow=23,SNR=16						
URZ	**Urewera**	**11.99**	**191**	*e*P	**P**	**03 05 29.0**	**-1.8**
URZ	**Urewera**	**11.99**	**191**	P	**P**	**03 05 28.4**	**-2.4**
URZ				S	**S**	**03 07 39.4**	**-1.9**
MWZ	**Matawai**	**11.99**	**189**	P	**P**	**03 05 30.7**	**-0.3**
MWZ				S	**S**	**03 07 40.1**	**-1.4**
TKGZ	**Te Karaka**	**12.05**	**188**	P	**P**	**03 05 30.6**	**-0.9**
TARZ	**Mount Tarawera**	**12.08**	**193**	P	**P**	**03 05 32.1**	**+0.1**
UTU	**Utuhina**	**12.09**	**195**	P	**P**	**03 05 33.9**	**+2.0**
RAGZ	**Rawiri**	**12.17**	**190**	P	**P**	**03 05 32.3**	**-0.5**
RIGZ	**Rimuhau**	**12.33**	**188**	P	**P**	**03 05 33.4**	**-1.0**
RIGZ				S	**S**	**03 07 46.1**	**-1.8**
RTZ	**Ruatahuna**	**12.36**	**191**	P	**P**	**03 05 34.3**	**-0.5**
TLZ	**Tolley Road**	**12.39**	**197**	P	**P**	**03 05 36.5**	**+1.3**
SNGZ	**Shannon Statio**	**12.46**	**190**	P	**P**	**03 05 35.8**	**-0.1**
SNGZ				S	**S**	**03 07 50.7**	**+0.1**
PRGZ	**Paritu Road**	**12.53**	**188**	P	**P**	**03 05 37.8**	**+1.2**
PRGZ				S	**S**	**03 07 50.7**	**-1.0**
MTHZ	**Maungataniwha**	**12.61**	**191**	P	**P**	**03 05 36.2**	**-1.3**
MTHZ				S	**S**	**03 07 54.1**	**+0.6**
RAHZ	**Arahi**	**12.63**	**190**	P	**P**	**03 05 36.3**	**-1.3**
RAHZ				S	**S**	**03 07 51.5**	**-2.4**
KNZ	**Kokohu**	**12.65**	**188**	P	**P**	**03 05 37.0**	**-0.8**
KNZ				S	**S**	**03 07 50.9**	**-3.1**
HIZ	**Hauiti**	**12.75**	**199**	*e*P	**P**	**03 05 39.8**	**+0.9**
HIZ	**Hauiti**	**12.75**	**199**	P	**P**	**03 05 40.3**	**+1.4**
MHGZ	**Mahia Peninsul**	**12.75**	**187**	P	**P**	**03 05 39.2**	**+0.3**
MHGZ				S	**S**	**03 07 56.4**	**+0.3**
NMHZ	**Naumai**	**12.86**	**191**	P	**P**	**03 05 37.7**	**-2.4**
BKZ	**Black Stump Fm**	**12.98**	**192**	*e*P	**P**	**03 05 39.1**	**-2.3**
BKZ	**Black Stump Fm**	**12.98**	**192**	P	**P**	**03 05 40.0**	**-1.4**
BKZ				S	**S**	**03 07 58.6**	**-2.0**
ARHZ	**Aropaoanui**	**12.99**	**190**	P	**P**	**03 05 41.0**	**-0.4**
ARHZ				S	**S**	**03 08 01.1**	**+0.5**
DZM	**Mont Dzumac**	**13.13**	**287**	P	**P**	**03 05 43.0**	**-0.3**
	0.7nm,0.3s,baz=108,slow=16,SNR=6.6						
MCHZ	**McNeill Hill**	**13.21**	**191**	P	**P**	**03 05 41.7**	**-2.1**
KWHZ	**Kaweka Forest**	**13.24**	**192**	P	**P**	**03 05 43.3**	**-0.9**
VRZ	**Vera Road**	**13.35**	**198**	P	**P**	**03 05 46.9**	**+1.6**
PKVZ	**Pokaka**	**13.35**	**196**	P	**P**	**03 05 44.3**	**-1.0**
CKHZ	**Cape Kidnapper**	**13.36**	**190**	P	**P**	**03 05 45.3**	**0.0**
MOVZ	**Moawhango**	**13.37**	**194**	P	**P**	**03 05 44.4**	**-1.1**
BHHZ	**Black Hill Sta**	**13.38**	**193**	P	**P**	**03 05 42.3**	**-3.3**
KRHZ	**Kereru**	**13.47**	**192**	P	**P**	**03 05 44.9**	**-1.6**
KAHZ	**Kahuranaki**	**13.53**	**190**	P	**P**	**03 05 46.2**	**-0.9**
PXZ	**Pawanui**	**13.76**	**190**	P	**P**	**03 05 47.8**	**-1.7**
TSZ	**Takapari Road**	**13.95**	**193**	P	**P**	**03 05 49.5**	**-2.0**
AFI	**Afiamalu**	**14.69**	**33**	P	**P**	**03 05 59.1**	**-0.6**
	4.0nm,0.3s,baz=258,slow=14,SNR=3.2						
AFI				S	**S**	**03 08 29.0**	**-5.1**
	2.5nm,0.3s,baz=240,slow=20,SNR=4.8						
KHZ	**Kahutara**	**16.75**	**197**	*e*P	**P**	**03 06 19.4**	**-1.4**
	15nm,0.5s						
LTZ	**Lake Taylor**	**17.44**	**199**	*e*P	**P**	**03 06 26.6**	**-1.1**
	13nm,0.7s						
OXZ	**Oxford**	**18.01**	**199**	*e*P	**P**	**03 06 30.9**	**-1.9**
	18nm,1.0s						
RPZ	**Rata Peaks**	**18.66**	**201**	P	**P**	**03 06 37.4**	**-1.4**
	2.6nm,0.3s,baz=33,slow=3.2,SNR=13						
RPZ				S	**S**	**03 09 41.5**	**-1.7**
	0.4nm,0.3s,baz=0.0,slow=16,SNR=2.6						
RPZ	**Rata Peaks**	**18.66**	**201**	*e*P	**P**	**03 06 37.5**	**-1.4**
	20nm,1.0s						
ARMA	**Armidale**	**25.23**	**254**	*e*P	**P**	**03 07 39.0**	**+0.7**
	16nm,1.0s						
EIDS	**Eidsvold**	**26.02**	**266**	*e*P	**P**	**03 07 45.1**	**-0.1**
	44nm,0.6s						
CAN	**Canberra**	**27.94**	**244**	*e*P	**P**	**03 08 03.0**	**+1.0**
	57nm,1.8s						
CTAO	**Charters Tower**	**31.59**	**274**	*e*P	**P**	**03 08 33.8**	**-0.1**
STKA	**Stephens Creek**	**33.84**	**252**	P	**P**	**03 08 53.2**	**+0.4**
	11nm,0.4s,baz=96,slow=11,SNR=78						
STKA	**Stephens Creek**	**33.84**	**252**	*e*P	**P**	**03 08 53.5**	**+0.6**
	3.3nm,0.5s						
BBOO	**Buckleboo**	**38.50**	**250**	*e*P	**P**	**03 09 31.1**	**-0.3**
	30nm,1.1s						
AS01	**Alice Springs**	**41.65**	**263**	*e*P	**P**	**03 09 56.5**	**-0.3**
AS31	**Alice Springs**	**41.69**	**263**	*e*P	**P**	**03 09 56.8**	**-0.4**
	4.1nm,0.9s						
ASAR	**Alice Springs**	**41.69**	**263**	P	**P**	**03 09 57.0**	**-0.2**
	16nm,0.9s,baz=108,slow=8.3,SNR=111						
ASAR				PcP	**PcP**	**03 11 42.6**	**+0.2**
	0.7nm,0.8s,baz=100,slow=2.9,SNR=3.6						
ASAR				S	**S**	**03 15 37.6**	**+0.1**
	1.0nm,0.8s,baz=98,slow=14,SNR=6.2						
WB2	**Warramunga Arr**	**42.30**	**269**	*e*P	**P**	**03 10 00.9**	**-1.0**
WRAB	**Tennant Creek**	**42.30**	**269**	*e*P	**P**	**03 10 01.5**	**-0.5**
	4.8nm,0.5s						
WRA	**Warramunga Arr**	**42.31**	**269**	P	**P**	**03 10 01.2**	**-0.8**
	13nm,0.7s,baz=105,slow=7.8,SNR=146						
WRA				PcP	**PcP**	**03 11 44.8**	**+0.3**
	1.1nm,0.8s,baz=98,slow=3.6,SNR=4.9						
WRA				S	**S**	**03 15 45.0**	**-1.5**
	0.5nm,1.1s,baz=107,slow=14,SNR=3.7						
FORT	**Forrest**	**45.47**	**252**	*e*P	**P**	**03 10 26.1**	**-0.4**
	44nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.69**	**268**	*e*P	**P**	**03 11 05.0**	**-0.7**
	6.6nm,0.8s						
MBWA	**Marble Bar**	**54.98**	**262**	*e*P	**P**	**03 11 34.5**	**-1.9**
QSPA	**South Pole Qui**	**63.60**	**180**	P	**P**	**03 12 36.1**	**+2.4**
	2.8nm,0.7s,baz=100,slow=1.5,SNR=8.6						
MJAR	**Matsushiro Arr**	**74.04**	**326**	P	**P**	**03 13 37.5**	**+0.6**
	1.6nm,0.7s,baz=163,slow=5.2,SNR=5.0						
KSRS	**Korea Array**	**80.24**	**320**	P	**P**	**03 14 12.4**	**+1.8**
	1.1nm,0.6s,baz=138,slow=5.9,SNR=4.0						
PETK	**Petropavlovsk-**	**81.61**	**347**	P	**P**	**03 14 19.3**	**+1.9**
	2.0nm,0.6s,baz=117,slow=10,SNR=4.5						
NJ2	**Nanjing**	**82.37**	**311**	*e*P	P	03 14 16.0	-5.8
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
NVAR	**Mina Array Bea**	**86.60**	**44**	P	**P**	**03 14 44.9**	**+2.1**
	comp=Z,0.5nm,0.7s,baz=224,slow=7.5,SNR=4.2						
GYA	**Guiyang**	**88.07**	**301**	*e*P	P	03 14 45.4	-4.4
GYA				pP	pP	03 16 36.8	-4.0
GYA				sP	sP	03 17 26.0	-5.6
GYA				PP	**PP**	**03 18 25.4**	**-0.4**
GYA				SKS	**SKSac**	**03 24 26.3**	**-4.3**
GYA	**Guiyang**	**88.07**	**301**	S	**S**	**03 24 49.6**	**-2.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,110nm,5.6s						
ILAR	**Eielson Array**	**94.53**	**14**	P	**P**	**03 15 18.2**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=195,slow=6.5,SNR=3.1						
LZH	**Lanzhou**	**94.97**	**308**	⇓P	P	03 15 15.5	-5.9
LZH				pP	pP	03 17 07.3	-5.9
LZH				sP	sP	03 17 56.4	-7.3
LZH				PP	**PP**	**03 19 17.6**	**-1.7**
LZH				pmax	pmax		
	comp=Z,18nm,1.4s						
LZH				pmax	pmax		
	comp=Z,79nm,9.5s						
FINES	**FINESS Array B**	**140.89**	**340**	PKhKP	PKPpre	03 21 20.1	
	comp=Z,1.8nm,0.6s,baz=48,slow=2.1,SNR=11						
NB2	**NORSAR Subarra**	**144.63**	**351**	PKP	**PKPab**	**03 21 33.1**	**+1.2**
	comp=Z,5.2nm,1.0s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**144.63**	**351**	PKP	**PKPab**	**03 21 32.8**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=22,slow=3.3,SNR=6.8						
AKASG	**Malin Array Be**	**147.12**	**325**	PKPbc	**PKPbc**	**03 21 40.1**	**+1.3**
	comp=Z,1.3nm,0.4s,baz=46,slow=4.1,SNR=6.7						
BRTR	**Keskin Array B**	**149.08**	**304**	PKPbc	**PKPbc**	**03 21 44.7**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=89,slow=0.7,SNR=11						
CLL	**Collm**	**153.32**	**342**	*e*PKPbc	**PKPdf**	**03 21 48.0**	**+2.7**
CLL				*e*		03 21 55.0	
TORD	**Torodi Ar. Bea**	**166.83**	**187**	PKP	**PKPdf**	**03 22 02.0**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=252,slow=0.9,SNR=3.8						

MEX 24 03:03:35.2±0.4, 13.˚70N×92.˚87W, h10km±81km, MD4.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.34**	**26**	*i* P	Pn	03 03 56.6	-3.3
THIG				*i* S	Sb	03 04 12.6	-5.0
PCIG		**2.03**	**350**	*e*P	Pn	03 04 05.7	-3.7
PCIG				*i* S	Sn	03 04 29.6	-5.1
CCIG	**Comitan**	**2.67**	**15**	*e*P	Pn	03 04 15.5	-2.9
CCIG				*e*S	Sn	03 04 47.1	-3.8
TGIG		**3.08**	**355**	*i* P	Pn	03 04 21.4	-2.5
TGIG				*e*S	Sn	03 04 57.4	-3.4

*IDC **24** 03:16:44.7±1.3, 11.˚55S×72.˚36W, h0km, mb3.8/3, mb1 3.9/8, mb1mx3.7/35, mbtmp3.8/8, ML3.6/5, MS3.2/3, Ms1 3.2/3, ms1mx2.7/32, Error ellipse: s-maj=41.3km s-min=16.2km az=27.0*
*ISCJB **24** 03:16:46.9±0.7, 11.˚67S±0.˚08×72.˚41W±0.˝05, h33km, mb3.8/3, MS3.4/1, Error ellipse: s-maj=11.6km s-min=6.4km az=1.2*

ISC 24 03:16:49.1±0.9, 11.˚7S±0.˚1×72.˚37W±0.˝07, h35km, n9, σ1§50/11, mb3.8/3, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.39**	**265**	Pn	**Pn**	**03 17 52.5**	**-0.8**
	12nm,0.3s,baz=122,slow=8.2,SNR=24						
NNA				Sn	**Sn**	**03 18 41.8**	**-1.5**
	16nm,0.3s,baz=154,slow=22,SNR=5.9						
NNA				Lg	Lg	03 18 58.6	
	6.5nm,0.3s,baz=223,slow=19,SNR=2.8						
NNA				LR	LR	03 19 48.2	
	comp=Z,172nm,18.1s,baz=111,slow=42						
LPAZ	**La Paz**	**6.17**	**139**	Pn	**Pn**	**03 18 19.7**	**+1.4**
	0.3nm,0.3s,baz=326,slow=6.7,SNR=9.2						
LPAZ				Lg	Lg	03 19 56.5	
	4.6nm,0.3s,baz=188,slow=18,SNR=13						
ATAH	**Atahualpa**	**7.45**	**307**	Pn	**Pn**	**03 18 34.9**	**-0.9**
	0.3nm,0.3s,baz=132,slow=12,SNR=2.2						
ATAH				Sn	**Sn**	**03 20 02.1**	**+2.7**
	0.6nm,0.3s,baz=111,slow=17,SNR=2.2						
ATAH				Lg	Lg	03 20 38.8	
	0.7nm,0.3s,baz=90,slow=11,SNR=2.1						
SIV	**San Ignacio**	**11.79**	**113**	Pn	**Pn**	**03 19 33.8**	**-1.0**
	0.7nm,0.3s,baz=299,slow=11,SNR=15						
PTGA	**Pitinga**	**16.42**	**49**	Pn	**Pn**	**03 20 36.5**	**-0.6**
	0.6nm,0.3s,baz=260,slow=18,SNR=3.5						
PTGA				Sn	**Sn**	**03 23 37.4**	**-1.0**
	0.7nm,0.3s,baz=322,slow=19,SNR=4.2						
PTGA				LR	LR	03 27 31.9	
	comp=Z,72nm,18.9s,baz=207,slow=40						
PCRV	**Puerto La Cruz**	**23.02**	**20**	LR	LR	03 31 44.1	
	comp=Z,136nm,19.6s,baz=297,slow=39						
BDFB	**Brasilia**	**23.99**	**102**	P	**P**	**03 22 02.4**	**+1.6**
	4.1nm,0.8s,baz=255,slow=12,SNR=6.0						
TXAR	**Lajitas Array**	**50.73**	**324**	P	**P**	**03 25 46.2**	**+0.4**
	0.4nm,0.5s,baz=153,slow=8.1,SNR=3.4						
TORD	**Torodi Ar. Bea**	**77.50**	**74**	P	**P**	**03 28 41.6**	**-0.2**
	0.8nm,0.8s,baz=235,slow=5.1,SNR=5.4						

GUC 24 03:17:34.1±0.6, 20.˚09S×69.˚41W, h90km±2km, ML3.6, 8C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB11	**IPOC Station P**	**0.40**	**325**	⇓*i*P	Pn	03 17 48.4	+0.2
PB11				*i* S	Sn	03 17 59.3	+0.6
GO01	**Chusmiza**	**0.46**	**27**	⇓*i*P	Pn	03 17 48.7	-0.4
GO01				*e*S	Sn	03 18 00.0	-0.2
GO01				IAML		03 18 00.7	
	comp=N,8μm,0.3s						
PSGC	**Pisagua**	**0.82**	**306**	⇑*i*P	Pn	03 17 52.3	+0.3
PSGC				*i* S	Sn	03 18 06.0	+0.7
PB01	**IPOC Station P**	**0.96**	**184**	⇑*i*P	Pn	03 17 53.7	+0.3
PB01				*i* S	Sn	03 18 08.4	+0.6
PB01				IAML		03 18 09.4	
	comp=N,3μm,0.2s						
MNMC	**Minye Minye**	**0.96**	**350**	⇓*i*P	Pn	03 17 54.1	+0.5
MNMC				*i* S	Sn	03 18 09.2	+0.9
MNMC				IAML		03 18 11.6	
	comp=N,4μm,0.2s						
PB02	**IPOC Station P**	**1.31**	**200**	⇑*i*P	Pn	03 17 58.2	+0.6
PB02				*i* S	Sn	03 18 16.4	+1.1
PB07	**IPOC Station P**	**1.69**	**195**	⇑*i*P	Pn	03 18 03.0	+0.6
PB07				*i* S	Sn	03 18 25.6	+1.6
PB07				IAML		03 18 31.8	
	comp=E,632nm,0.6s						
PB12	**IPOC Station P**	**1.70**	**329**	⇑*i*P	Pn	03 18 03.2	+0.7
PB12				*i* S	Sn	03 18 25.2	+1.2
PB09	**IPOC Station P**	**1.71**	**175**	⇑*i*P	Pn	03 18 03.5	+0.8
PB09				*i* S	Sn	03 18 26.2	+1.8
PB09				IAML		03 18 30.3	
	comp=E,440nm,0.3s						
PB03	**IPOC Station P**	**1.98**	**189**	⇓*i*P	Pn	03 18 06.5	+0.3
PB03				*i* S	Sn	03 18 32.2	+1.6
PB03				IAML		03 18 39.5	
	comp=E,372nm,0.3s						
PB04	**IPOC Station P**	**2.34**	**197**	⇑*i*P	Pn	03 18 12.2	+1.2
PB04				IAML		03 18 52.0	
	comp=N,345nm,0.3s						
LVC	**Limon Verde**	**2.56**	**169**	*i* P	Pn	03 18 15.5	+1.5
LVC				*i* S	Sn	03 18 46.5	+1.9
PB06	**IPOC Station P**	**2.61**	**183**	*e*P	Pn	03 18 14.6	0.0
PB06				*e*S	Sn	03 18 46.4	+0.7
PB06				IAML		03 18 53.8	
	comp=E,475nm,0.5s						
PB05	**IPOC Station P**	**2.85**	**195**	⇑*i*P	Pn	03 18 18.3	+0.5
PB05				*i* S	Sn	03 18 53.1	+1.8
PB05				IAML		03 19 04.6	
	comp=E,148nm,0.6s						

IDC 24 03:40:55.8±9.1, 30.˚79S×179.˚66W, h140km±78km, mb3.6/4, mb1 3.7/5, mb1mx3.4/29, mbtmp3.9/5, Error ellipse: s-maj=69.3km s-min=26.9km az=24.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.91**	**199**	P	Pn	03 42 49.4	+1.5
	0.2nm,0.3s,baz=30,slow=20,SNR=6.0						
URZ				S	Sn	03 44 14.1	-1.8
	2.1nm,0.3s,baz=345,slow=16,SNR=7.6						
STKA	**Stephens Creek**	**32.99**	**258**	P	P	03 47 18.6	+1.1
	0.8nm,0.4s,baz=102,slow=12,SNR=4.0						
ASAR	**Alice Springs**	**41.66**	**268**	P	P	03 48 30.3	-0.3
	0.5nm,0.4s,baz=106,slow=7.3,SNR=8.5						
WRA	**Warramunga Arr**	**42.68**	**273**	P	P	03 48 38.7	-0.3
	0.9nm,0.3s,baz=111,slow=8.1,SNR=41						
PLCA	**Paso Flores**	**83.28**	**134**	P	P	03 53 08.2	+1.2
	2.0nm,0.8s,baz=234,slow=8.7,SNR=3.7						
FINES	**FINESS Array B**	**145.00**	**339**	PKPbc	PKPbc	04 00 12.6	-2.6
	1.7nm,0.9s,baz=73,slow=4.7,SNR=6.5						

IDC 24 03:41:18.6±3.3, 17.˚99S×173.˚71W, h401km±38km, mb3.3/4, mb1 3.3/4, mb1mx3.0/32, mbtmp4.1/4, Error ellipse: s-maj=94.7km s-min=40.4km az=175.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.85**	**260**	P	P	03 47 58.5	-0.7
	3.0nm,0.9s,baz=97,slow=13,SNR=3.5						
PMG	**Port Moresby**	**38.90**	**277**	P	P	03 48 07.6	-0.2
	4.8nm,0.4s,baz=94,slow=15,SNR=2.8						
WRA	**Warramunga Arr**	**49.02**	**259**	P	P	03 49 27.6	+0.4
	0.3nm,0.3s,baz=97,slow=7.4,SNR=12						
WRA				S	S	03 56 01.2	+0.4
	0.1nm,0.3s,baz=191,slow=29,SNR=7.3						
ASAR	**Alice Springs**	**49.08**	**254**	P	P	03 49 27.4	-0.2
	0.8nm,0.7s,baz=98,slow=7.6,SNR=7.5						
TORD	**Torodi Ar. Bea**	**173.46**	**137**	PKP	PKPdf	04 00 40.8	-0.7
	0.8nm,1.2s,baz=222,slow=2.0,SNR=3.7						

*NIED **24** 04:17:00, 41.˚10N×143.˚00E, h35km, Mw3.8 Best double couple: M0 5.90000×10^14 NP1:φ=166.00000°, δ21.00000°, λ23.00000°. NP2:φ=54.00000°, δ82.00000°, λ110.00000°.*
*IDC **24** 04:17:31.3±1.0, 41.˚14N×143.˚94E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.6/37, mbtmp3.6/9, ML3.4/2, MS3.2/2, Ms1 3.2/2, ms1mx2.5/37, Error ellipse: s-maj=33.1km s-min=18.7km az=88.0*
*JMA **24** 04:17:37.5±0.1, 41.˚05N×142.˚98E, h31km, M3.5*

ISC 24 04:17:34.7±1.6, 41.˚05N±0.˚03×143.˚04E±0.˝05, h9km±10km, n25, σ1§42/34, mb3.6/8, 1C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**0.97**	**5**	⇑P	**Pn**	**04 17 55.0**	**+0.5**
JEM				S	**Sb**	**04 18 07.7**	**+1.2**
JNBK	**Urakawa-nobuka**	**1.24**	**350**	P	**Pg**	**04 17 59.1**	**+0.5**
JTHR	**Tokachihiroo**	**1.25**	**9**	P	**Pg**	**04 17 59.4**	**+0.6**
JTHR				*e*S	**Sn**	**04 18 15.7**	**+0.3**
JARK	**Aomorirokkasho**	**1.27**	**268**	P	**Pg**	**04 17 58.8**	**-0.2**
JARK				S	**Sb**	**04 18 14.5**	**-0.7**
JANG	**Nango**	**1.34**	**240**	P	**Pg**	**04 18 00.1**	**-0.4**
JOT	**

LBNH	**Lisbon**	**1.98**	**267**	*e*Pn	**Pn**	**04 25 59.6**	**+0.5**
LBNH				*e*Sn	**Sn**	**04 26 25.3**	**+1.1**
LBNH	**Lisbon**	**1.98**	**267**	PN	**Pn**	**04 26 00.1**	**+1.0**
LBNH				SN	**Sb**	**04 26 26.0**	**-0.3**
LBNH				Trac		04 26 27.4	
	comp=Z,5.3nm,0.1s						
FFD	**Franklin Falls**	**2.00**	**244**	*e*Pn	**Pn**	**04 25 56.0**	**-3.4**
FFD				*e*Pg	**Pg**	**04 26 03.6**	**+0.3**
FFD				*e*Sn	**Sn**	**04 26 25.5**	**+0.8**
HNH	**Hanover**	**2.34**	**255**	*e*Pn	**Pn**	**04 26 03.7**	**-0.4**
HNH				*e*Sn	**Sn**	**04 26 33.7**	**+0.6**
MOQ	**Mont Orford**	**2.38**	**294**	*e*Pn	**Pn**	**04 26 04.2**	**-0.5**
MOQ				*e*Sn	**Sn**	**04 26 34.4**	**0.0**
MOQ	**Mont Orford**	**2.38**	**294**	Pn	**Pn**	**04 26 04.5**	**-0.2**
MOQ				SN	**Sn**	**04 26 34.4**	**0.0**
MOQ				Trac		04 26 42.5	
	comp=Z,4.6nm,0.1s						
PQI	**Presque Isle**	**2.44**	**19**	*e*Pn	**Pn**	**04 26 05.4**	**-0.1**
PQI				*e*Sn	**Sn**	**04 26 33.8**	**-2.0**
WES	**Weston**	**2.52**	**219**	*e*Pn	**Pn**	**04 26 08.6**	**+2.1**
WES				*e*Sn	**Sn**	**04 26 36.9**	**-0.8**
HRV	**Adam Dziewonsk**	**2.54**	**224**	*e*Pn	**Pb**	**04 26 09.7**	**-1.4**
VT1	**Waterbury**	**2.56**	**270**	*e*Pn	**Pn**	**04 26 08.8**	**+1.6**
VT1				*e*Sn	**Sn**	**04 26 39.7**	**+1.0**
VT1				*e*Sg	**Sg**	**04 26 46.9**	**-0.5**
BCLQ	**Boischatel**	**2.92**	**332**	SN	**Sn**	**04 26 45.6**	**-1.8**
FRNY	**Flat Rock**	**3.19**	**280**	PN	**Pn**	**04 26 16.9**	**+1.2**
FRNY				SN	**Sn**	**04 26 55.2**	**+1.2**
FRNY				LG	Lg	04 27 06.8	
ELNB	**Elgin, New Bru**	**3.22**	**61**	PN	**Pn**	**04 26 16.8**	**+0.7**
ELNB				SN	**Sn**	**04 26 53.6**	**-1.2**
ELNB				LG	Lg	04 27 08.3	
ELNB				Trac		04 27 12.4	
	comp=Z,1.0nm,0.1s						
LMQ	**La Malbaie**	**3.28**	**346**	SN	**Sn**	**04 26 56.2**	**-0.2**
LMQ				LG	Lg	04 27 10.0	
LMN	**Caledonia Moun**	**3.43**	**63**	PN	**Pn**	**04 26 21.5**	**+2.3**
LMN				SN	**Sn**	**04 26 58.9**	**-1.2**
LMN				Trac		04 27 13.7	
	comp=Z,6.1nm,0.3s						
LMN				LG	Lg	04 27 14.3	
DAQ	**Lac Daran**	**3.87**	**339**	PN	**Pn**	**04 26 26.4**	**+1.1**
DAQ				SN	**Sn**	**04 27 12.0**	**+0.9**
DAQ				Trac		04 27 25.0	
	comp=Z,2.0nm,0.2s						

*DDA **24** 04:37:15.9, 40°.66N×35°.70E, h6km, Ml3.3*
*ISK **24** 04:37:16.7, 40°.53N×35°.72E, h3km, ML2.6/13*
ISC 24 04:37:17.0±1.3, 40°.58N±0°.03×35°.70E±0°.03, h4km±12km, n20, σ1s07/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COAL	**Corum-Alaca**	**0.63**	**239**	*i* P	**Pg**	**04 37 28.7**	**-0.5**
COAL				*i* S	**Sb**	**04 37 39.1**	**-1.0**
TOKA	**Tokat**	**0.65**	**113**	*i* P	**Pg**	**04 37 28.7**	**-0.7**
TOKA				*i* S	**Sb**	**04 37 39.1**	**-1.3**
TOKT	**Tokat**	**0.70**	**112**	PG	**Pb**	**04 37 30.5**	**-1.3**
TOKT				SG	**Sb**	**04 37 40.1**	**-1.7**
ERBA	**Erbaa**	**0.81**	**83**	*i* P	**Pb**	**04 37 32.6**	**-1.1**
ERBA				*i* S	**Sg**	**04 37 43.0**	**-0.1**
CORM	**Corum**	**0.91**	**244**	PG	**Pg**	**04 37 33.9**	**-0.5**
CORM				SG	**Sb**	**04 37 47.9**	**-0.1**
YOZ	**Yozgat**	**0.98**	**197**	PG	**Pg**	**04 37 35.9**	**0.0**
YOZ				SG	**Sb**	**04 37 49.7**	**-0.4**
DIKM	**Dikmen**	**1.12**	**343**	PN	**Pn**	**04 37 40.1**	**+0.6**
SVSK	**Karacayir**	**1.20**	**123**	PN	**Pg**	**04 37 39.3**	**-0.6**
SVSK				SN	**Sn**	**04 37 56.8**	**-0.4**
CUSAR	**Sarkisla-SIVAS**	**1.23**	**160**	*i* P	**Pn**	**04 38 45.7**	**+0.4**
CUSAR				*i* S	**Sn**	**04 37 59.8**	**+1.4**
SNOP	**Sinop**	**1.48**	**346**	PN	**Pg**	**04 37 45.9**	**+0.5**
CUALT	**Altinyayla-SIV**	**1.54**	**148**	*i* P	**Pb**	**04 37 45.6**	**-0.6**
CUALT				*i* S	**Sg**	**04 38 07.6**	**+1.2**
CANT	**Cankiri**	**1.58**	**272**	PN	**Pg**	**04 37 46.9**	**-0.4**
CUZAR	**Zara_SIVAS**	**1.73**	**113**	*i* P	**Pg**	**04 37 53.3**	**+3.2**
BNN	**Bunyan**	**1.73**	**176**	PN	**Pn**	**04 37 47.9**	**-0.1**
BZK	**Bozkurt**	**1.88**	**318**	PN	**Pb**	**04 37 51.3**	**-0.6**
AVNS	**Nevsehir-Avano**	**1.89**	**201**	*i* P	**Pg**	**04 37 53.3**	**+0.1**
AVNS				*i* S	**Sg**	**04 38 18.0**	**+0.3**
AFSR	**Afˇar-Bala (A**	**2.31**	**242**	PN	**Pn**	**04 37 57.1**	**+1.1**
SERE	**Sereflikochisa**	**2.32**	**226**	PN	**Pn**	**04 37 57.0**	**+0.9**
ANTO	**Ankara**	**2.33**	**253**	PN	**Pn**	**04 37 57.3**	**+1.0**
KULU	**Kulu**	**2.58**	**234**	PN	**Pn**	**04 38 00.9**	**+1.2**

*ISK **24** 04:38:32.4, 37°.33N×37°.13E, h8km, ML1.8/5*
*ISCJB **24** 04:38:33.1±0.5, 37°.32N±0°.04×37°.09E±0°.05, h8km±7km, Error ellipse: s-maj=9.0km s-min=4.8km az=136.8*
*DDA **24** 04:38:33.9, 37°.44N×37°.12E, h7km, Ml2.7*
ISC 24 04:38:32.9±1.0, 37°.34N±0°.03×37°.12E±0°.03, h9km±8km, n14, σ0s43/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.18**	**158**	PG	**Pg**	**04 38 36.5**	**-0.3**
GAZ				SG	**Sg**	**04 38 39.4**	**-0.1**
KMRS	**Kahramanmaras**	**0.24**	**312**	PG	**Pg**	**04 38 38.0**	**+0.2**
KMRS				SG	**Sg**	**04 38 41.9**	**+0.8**
KUZU	**Kuzuini**	**0.57**	**184**	*i* P	**Pb**	**04 38 44.6**	**-0.4**
KUZU				*i* S	**Sn**	**04 38 56.5**	**-0.2**
KUZU	**Kuzuini**	**0.57**	**184**	*i* P	**Pg**	**04 38 44.5**	**+0.6**
KUZU				*i* S	**Sn**	**04 38 56.7**	**0.0**
ANDN	**Andirin**	**0.66**	**291**	*i* P	**Pg**	**04 38 45.7**	**0.0**
ANDN				*i* S	**Sg**	**04 38 54.3**	**-0.2**
ANDN	**Andirin**	**0.66**	**291**	*i* P	**Pg**	**04 38 46.0**	**+0.3**
ANDN				*i* S	**Sb**	**04 38 55.6**	**-0.5**
KOZT	**Kozan**	**1.04**	**278**	PG	**Pg**	**04 38 53.2**	**+0.3**
AKCD	**Akcadag**	**1.14**	**33**	*i* P	**Pn**	**04 38 55.6**	**+0.4**
AKCD				*i* S	**Sn**	**04 39 11.2**	**+0.1**
AKCD	**Akcadag**	**1.14**	**33**	*i* P	**Pg**	**04 38 54.3**	**-0.6**
AKCD				*i* S	**Sn**	**04 39 11.2**	**+0.1**
TAHT	**Tahtakopru-Hat**	**1.23**	**218**	PN	**Pn**	**04 38 56.1**	**-0.1**
DARE	**Darende-Malaty**	**1.26**	**13**	PN	**Pg**	**04 38 57.0**	**-0.1**
SURC	**SANLIURFA_SURC**	**1.28**	**111**	*i* P	**Pg**	**04 38 58.2**	**+0.8**
SURC				*i* S	**Sn**	**04 39 15.0**	**+0.9**
SURC	**SANLIURFA_SURC**	**1.28**	**111**	*i* P	**Pn**	**04 38 56.9**	**0.0**
SURC				*i* S	**Sg**	**04 39 13.8**	**-0.2**
URFA	**Urfa**	**1.35**	**85**	PN	**Pn**	**04 38 58.0**	**0.0**

*ISCJB **24** 04:49:11.1±1.4, 11°.82N±0°.05×88°.56W±0°.03, h22km±13km, mb3.7/7, Error ellipse: s-maj=8.8km s-min=3.9km az=29.6*
*IDC **24** 04:49:12.7±2.0, 12°.30N×88°.13W, h0km, mb3.7/7, mb1 4.0/11, mb1mx3.8/38, mbtmp3.7/11, ML3.2/4, Error ellipse: s-maj=61.0km s-min=16.1km az=34.0*
*UCR **24** 04:49:12.6±1.5, 11°.84N×88°.58W, h51km±107km, MD3.9, ML3.7*
ISC 24 04:49:11.8±2.0, 11°.99N±0°.06×88°.46W±0°.05, h4km±11km, n45, σ1s44/57, mb3.8/7, 1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CSGN	**Cosiguina Volc**	**1.32**	**42**	*e*P	**Pb**	**04 49 38.1**	**+0.8**
CNCH	**Conchagua**	**1.42**	**26**	*e*P	**Pg**	**04 49 38.6**	**-0.5**
LCND	**La Caˇ–ada**	**1.43**	**23**	*e*P	**Pg**	**04 49 38.6**	**-0.6**
LCND				*e*S	**Sn**	**04 49 59.2**	**+1.4**
LCY	**Lacayo**	**1.44**	**7**	*e*P	**Pg**	**04 49 39.2**	**-0.3**
VSM	**San Miguel**	**1.45**	**7**	*e*P	**Pg**	**04 49 39.1**	**-0.4**
BLLM	**Bellamira**	**1.47**	**9**	*e*P	**Pg**	**04 49 39.4**	**-0.6**
PACA	**Pacayal**	**1.48**	**5**	*e*P	**Pb**	**04 49 39.4**	**-0.6**
CRIN	**San Cristobal**	**1.55**	**63**	*e*P	**Pb**	**04 49 40.9**	**-0.3**
CRIN				*e*S	**Sg**	**04 50 03.4**	**+1.7**
CRIN				IAML		04 50 07.7	
	comp=N,2μm,0.3s						
LFRS	**El Faro**	**1.73**	**340**	*e*P	**Pn**	**04 49 42.4**	**-0.4**
PAVA	**Las Pavas**	**1.78**	**345**	*e*P	**Pn**	**04 49 43.1**	**-0.3**
PAVA				*e*S	**Sn**	**04 50 05.9**	**-0.7**
CAHU	**Cacacuatique**	**1.79**	**8**	*e*P	**Pb**	**04 49 44.5**	**-0.8**
CNGN	**Cerro Negro**	**1.80**	**73**	*e*P	**Pn**	**04 49 42.3**	**-1.3**
LBRS	**Las Brisas**	**1.83**	**342**	*e*P	**Pn**	**04 49 43.7**	**-0.4**
COPN	**Copaltepe**	**1.84**	**84**	*i* P	**Pn**	**04 49 43.8**	**-0.4**
LFU	**La Fuente**	**1.86**	**340**	*e*P	**Pn**	**04 49 44.6**	**0.0**
LFU				*e*S	**Sn**	**04 50 07.7**	**-0.9**
OPAM	**San Salvador**	**1.87**	**337**	*e*P	**Pn**	**04 49 43.7**	**-0.9**
OPAM				*e*S	**Sn**	**04 50 06.8**	**-1.8**
BOQS	**Boqueron**	**1.91**	**335**	*e*P	**Pn**	**04 49 44.8**	**-0.6**
MOMN	**Momotombo**	**1.93**	**77**	*e*P	**Pn**	**04 49 44.7**	**-0.7**
SBLS	**San Blas**	**2.16**	**329**	*e*P	**Pn**	**04 49 48.1**	**-0.7**
MGAN	**Managua**	**2.17**	**86**	*e*P	**Pn**	**04 49 48.0**	**-0.7**
MGAN				*e*S	**Sn**	**04 50 16.0**	**-0.1**
SNJE	**San Jose**	**2.18**	**329**	*e*P	**Pn**	**04 49 48.4**	**-0.7**
RTR	**El Retiro**	**2.22**	**329**	*e*P	**Pn**	**04 49 49.1**	**-0.5**
RTR				*e*S	**Sn**	**04 50 16.5**	**-1.1**
ESTN	**Estel**	**2.33**	**61**	*e*P	**Pn**	**04 49 51.0**	**+0.1**
ESTN				*e*S	**Sb**	**04 50 21.6**	**-1.9**
TGUH	**Tegucigalpa,Un**	**2.36**	**29**	*e*P	**Pn**	**04 49 52.3**	**+0.9**
MATN	**Matagalpa**	**2.65**	**69**	*e*P	**Pn**	**04 49 55.0**	**-0.4**
MATN				*e*S	**Sn**	**04 50 28.6**	**+0.6**
BOAB	**BOACO BROADBAN**	**2.77**	**80**	||*e*P	**Pn**	**04 49 55.9**	**-1.1**
CONN	**Concepcion**	**2.81**	**98**	*e*P	**Pn**	**04 49 56.1**	**-1.5**
ACON	**Acoyapa**	**3.22**	**90**	*e*P	**Pn**	**04 50 00.3**	**-2.9**
APG	**El Apazote**	**3.58**	**327**	Pn	**Pn**	**04 50 08.5**	**+0.2**
	comp=N,1.6nm,0.3s,baz=115,slow=14,SNR=9.8						
APG				Sn	**Sn**	**04 50 51.9**	**+0.8**
	comp=N,1.9nm,0.3s,baz=153,slow=14,SNR=2.5						
JTS	**JuntasAbangare**	**3.83**	**116**	Pn	**Pn**	**04 50 11.3**	**-0.4**
	comp=N,8.5nm,0.3s,baz=163,slow=20,SNR=26						
JTS				Sn	**Sn**	**04 50 54.9**	**-2.3**
	comp=N,5.9nm,0.3s,baz=49,slow=18,SNR=2.8						
CMIG	**Matias Romero**	**8.03**	**310**	Pn	**Pn**	**04 51 09.4**	**+0.1**
	comp=N,0.3nm,0.3s,baz=150,slow=10,SNR=6.4						
CMIG				Sn	**Sn**	**04 52 39.4**	**-1.1**
	comp=N,0.2nm,0.3s,baz=13,slow=18,SNR=2.3						
POPC	**Popayan, Colom**	**14.98**	**128**	*e*P	**P**	**04 52 54.7**	**+4.3**
SOTA	**Rioblanco**	**15.29**	**129**	*e*P	**P**	**04 52 58.7**	**+4.5**
ROSC	**El Rosal**	**15.68**	**116**	*e*P	**P**	**04 53 00.7**	**+2.3**
CHIC	**Chingaza**	**16.30**	**115**	*e*P	**P**	**04 53 07.0**	**+1.8**
RUSC	**La Rusia**	**16.35**	**110**	*e*P	**P**	**04 53 06.5**	**+0.7**
FLOC	**Florencia**	**16.38**	**128**	*e*P	**P**	**04 53 06.0**	**+0.3**
SDV	**Santo Domingo**	**17.80**	**98**	P	**Pn**	**04 53 19.1**	**-1.7**
	comp=N,0.3nm,0.3s,baz=261,slow=6.7,SNR=6.3						
TXAR	**Lajitas Array**	**22.32**	**323**	P	**P**	**04 54 12.0**	**+1.3**
	comp=N,0.9nm,0.6s,baz=145,slow=13,SNR=7.9						
PCRV	**Puerto La Cruz**	**23.45**	**92**	P	**P**	**04 54 21.3**	**-1.2**
	comp=N,5.0nm,0.6s,baz=306,slow=10,SNR=3.7						
TKL	**Tuckaleechee C**	**23.95**	**9**	P	**P**	**04 54 25.1**	**-2.0**
	comp=N,7.6nm,0.8s,baz=176,slow=12,SNR=6.8						
PDAR	**Pinedale Array**	**35.72**	**333**	P	**P**	**04 56 11.9**	**+0.1**
	comp=N,0.2nm,0.5s,baz=123,slow=9.9,SNR=2.6						
NVAR	**Mina Array Bea**	**37.41**	**320**	P	**P**	**04 56 29.0**	**+2.7**
	comp=N,0.3nm,0.6s,baz=124,slow=9.0,SNR=2.7						
YKA	**Yellowknife Ar**	**53.80**	**345**	P	**P**	**04 58 34.9**	**-0.4**
	comp=N,0.5nm,0.5s,baz=150,slow=6.5,SNR=4.0						
ILAR	**Eielson Array**	**66.05**	**330**	P	**P**	**05 00 00.2**	**+0.7**
	comp=N,1.0nm,1.1s,baz=141,slow=4.4,SNR=4.6						

*IDC **24** 05:04:38.4±1.7, 43°.22N×87°.63E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.2/47, mbtmp3.4/4, ML3.0/3, MS3.3/1, Ms1 3.3/1, ms1mx2.3/36, Error ellipse: s-maj=68.5km s-min=18.7km az=52.0*
ISC 24 05:04:42.9±1.5, 43°.11N±0°.10×87°.3E±0°.1, h35km, n7, σ2s55/11, 3C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**5.14**	**318**	Pn	**Pn**	**05 05 59.0**	**+1.7**
	0.8nm,0.3s,baz=132,slow=14,SNR=105						
MK31				⇓Sn	**Sn**	**05 06 59.6**	**+4.2**
	2.5nm,0.5s						
MK31				⇑Lg	Lg	05 07 20.6	
	3.6nm,0.5s,baz=131,slow=30,SNR=4.7						
MKAR	**Makanchi Array**	**5.14**	**318**	Pn	**Pn**	**05 05 58.7**	**+1.4**
	1.6nm,0.3s,baz=132,slow=14,SNR=62						
MKAR				Sn	**Sn**	**05 06 56.7**	**+1.3**
	0.6nm,0.3s,baz=129,slow=13,SNR=2.2						
MKAR				Lg	Lg	05 07 18.5	
	1.2nm,0.3s,baz=132,slow=26,SNR=5.3						
PDGK	**Podgornoye**	**5.74**	**275**	⇑Pn	**Pn**	**05 06 07.1**	**+1.3**
	4.3nm,0.6s						
PDGK				⇑Sn	**Sn**	**05 07 06.9**	**-3.5**
	2.0nm,0.5s						
PDGK				⇓Lg	Lg	05 07 38.4	
	13nm,1.0s						
KURBB	**Kurchatov Arra**	**9.63**	**324**	Pn	**Pn**	**05 06 58.0**	**-0.9**
	0.1nm,0.3s,baz=133,slow=13,SNR=6.6						
KURBB				Sn	**Sn**	**05 08 42.7**	**-3.0**
	0.0nm,0.3s,baz=128,slow=20,SNR=2.9						
ZALV	**Zalesovo Beam**	**10.97**	**352**	Pn	**Pn**	**05 07 17.2**	**0.0**
	0.2nm,0.3s,baz=170,slow=16,SNR=3.0						
ZALV				Sn	**Sn**	**05 09 16.8**	**-1.8**
	0.2nm,0.3s,baz=163,slow=25,SNR=3.3						
KLR	**Kul'dur**	**31.00**	**63**	LR	LR	05 24 10.0	
	comp=Z,53nm,18.6s,baz=334,slow=38						
WRA	**Warramunga Arr**	**76.18**	**135**	P	**P**	**05 16 27.7**	**+0.2**
	0.3nm,0.9s,baz=312,slow=7.0,SNR=4.8						

SJA 24 05:22:35.1±0.3, 23°.82S×64°.48W, h30km±1km, ML3.5, MW3.6, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AZAP	**Zapla**	**0.67**	**233**	*e*P	Pn	05 22 49.2	+0.4
AZAP				IAML		05 22 49.7	
	comp=Z,2μm,0.2s						
AZAP				*e*S	Sn	05 22 59.9	+1.5
SLA	**San Lorenzo**	**1.29**	**226**	*e*P	Pb	05 22 59.5	+0.6
SLA				*e*S	Sb	05 23 17.4	+2.1
SLA				IAML		05 23 22.5	
	comp=Z,756nm,0.3s						
YJA	**Yavi**	**1.89**	**330**	*e*P	Pb	05 23 08.7	-0.6
FSA	**Cafayete**	**2.65**	**210**	*e*P	Pn	05 23 18.9	+2.8
AHML	**Horco Molle**	**3.05**	**194**	*e*P	Pn	05 23 24.1	+2.7
CYA	**Choya**	**4.75**	**194**	*e*P	Pn	05 23 48.6	+3.8

MEX 24 05:40:51.4±0.4, 14°.45N×92°.56W, h54km±13km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.54**	**32**	*e*P	Pn	05 41 02.3	-1.1
THIG				*e*S	Sn	05 41 10.3	-1.8
PCIG		**1.40**	**333**	*e*P	Pn	05 41 13.1	-1.6
PCIG				*i* S	Sn	05 41 30.3	-1.7
CCIG	**Comitan**	**1.87**	**13**	*e*P	Pn	05 41 20.1	-1.1
CCIG				*i* P		05 41 22.7	
CCIG				*i* S	Sn	05 41 42.7	-1.1

NNC 24 06:03:32.9±7.7, 36°.88N×70°.42E, h0km, mb3.6, mpv3.3, 3C-2D, Error ellipse: s-maj=67.3km s-min=49.2km az=158.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.96**	**37**	⇑Pn	Pn	06 04 34.5	-0.6
SFK				⇓Sn	Sn	06 05 23.2	+0.9
	1.7nm,0.2s						
MNAS	**Manas**	**5.83**	**15**	⇑Pn	Pn	06 05 00.8	+0.1
	1.0nm,0.5s						
MNAS				⇑Sn	Sn	06 06 08.6	+0.3
	1.0nm,0.3s						
KK31	**Karatay Array**	**6.22**	**1**	Pn	Pn	06 05 07.6	+1.7
	1.2nm,0.3s,baz=179,slow=13,SNR=45						
KK31				⇓Sn	Sn	06 06 22.9	+5.1
	0.6nm,0.5s,baz=185,slow=24,SNR=4.8						

*IDC **24** 06:09:53.5±11.0, 23°.25S×179°.70W, h453km±109km, mb3.1/3, mb1 3.4/4, mb1mx3.1/28, mbtmp4.2/4, Error ellipse: s-maj=91.9km s-min=38.0km az=26.0*
ISC 24 06:09:59.6±2.2, 23°.6S±0°.1×179°.8W±0°.3, h526km, n6, σ0s64/7, mb3.7/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.82**	**190**	P	**P**	**06 13 07.3**	**0.0**
	2.8nm,0.3s,baz=99,slow=2.3,SNR=19						
URZ				S	**S**	**06 15 42.0**	**-0.2**
	0.2nm,0.3s,baz=348,slow=19,SNR=5.1						
STKA	**Stephens Creek**	**35.03**	**248**	P	**P**	**06 16 08.5**	**+0.4**
	0.7nm,0.3s,baz=97,slow=8.1,SNR=3.1						
ASAR	**Alice Springs**	**42.30**	**260**	P	**P**	**06 17 07.2**	**-0.1**
	1.2nm,0.5s,baz=96,slow=7.2,SNR=26						
WRA	**Warramunga Arr**	**42.65**	**266**	P	**P**	**06 17 09.3**	**-0.6**
	0.7nm,0.3s,baz=95,slow=8.3,SNR=19						
AKASG	**Malin Array Be**	**144.88**	**328**	PKP	**PKPdf**	**06 28 35.8**	**-0.6**
	1.3nm,0.5s,baz=44,slow=3.9,SNR=6.4						
MMAI	**Mount Meron Ar**	**147.80**	**295**	PKPbc	**PKPbc**	**06 28 46.5**	**+0.8**
	2.1nm,0.5s,baz=72,slow=4.7,SNR=8.0						

*ISCJB **24** 06:29:10.0±1.2, 17°.6S±0°.9×178°.8W±0°.4, h539km, mb3.6/5, Error ellipse: s-maj=128.7km s-min=15.5km az=154.9*
*IDC **24** 06:29:10.0±2.2, 17°.46S×178°.88W, h521km±31km, mb3.1/5, mb1 3.5/6, mb1mx3.2/27, mbtmp4.1/6, Error ellipse: s-maj=104.4km s-min=15.7km az=154.0*
ISC 24 06:29:10.8±1.3, 17°.6S±0°.7×178°.8W±0°.4, h539km, n7, σ0s75/7, mb3.6/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.67**	**62**	P	**P**	**06 31 04.1**	**-0.9**
	3.3nm,0.3s,baz=90,slow=12,SNR=4.8						
STKA	**Stephens Creek**	**38.48**	**241**	P	**P**	**06 35 47.0**	**0.0**
	1.5nm,0.4s,baz=106,slow=12,SNR=5.7						
WRA	**Warramunga Arr**	**44.36**	**259**	P	**P**	**06 36 33.3**	**-0.3**
	1.0nm,0.5s,baz=94,slow=7.1,SNR=17						
ASAR	**Alice Springs**	**44.55**	**254**	P	**P**	**06 36 34.9**	**-0.3**
	12nm,0.6s,baz=89,slow=8.2,SNR=255						
NVAR	**Mina Array Bea**	**79.45**	**44**	P	**P**	**06 40 22.1**	**+0.4**
	0.4nm,0.7s,baz=225,slow=7.4,SNR=3.7						
TXAR	**Lajitas Array**	**86.13**	**58**	P	**P**	**06 40 56.3**	**+1.0**
	0.3nm,0.7s,baz=235,slow=7.6,SNR=3.1						
GERES	**GERESS Array B**	**147.26**	**345**	PKPbc	**PKPbc**	**06 47 53.8**	**-0.1**
	0.5nm,0.5s,baz=34,slow=5.0,SNR=5.9						

*ISK **24** 06:42:14.8, 38°.67N×43°.03E, h5km, ML2.1/3*
*DDA **24** 06:42:15.4, 38°.65N×43°.06E, h7km, Md2.5*
ISC 24 06:42:14.9±1.2, 38°.70N±0°.04×43°.05E±0°.03, h8km±12km, n10, σ0s47/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ADCV	**BITLIS_Adilcev**	**0.28**	**294**	*i* P	**Pb**	**06 42 21.9**	**-0.3**
ADCV				*i* S	**Sb**	**06 42 26.8**	**-0.3**
VANB	**Van**	**0.29**	**110**	PG	**Pb**	**06 42 21.9**	**-0.5**
VANB				SG	**Sb**	**06 42 27.1**	**-0.3**
TVAN	**Van**	**0.33**	**120**	*i* S	**Sg**	**06 42 26.4**	**+0.7**
GEVA	**Gevas**	**0.38**	**178**	*i* P	**Pg**	**06 42 22.3**	**-0.1**
VMUR	**Van-Muradiye**	**0.51**	**54**	*i* P	**Pg**	**06 42 24.5**	**-0.2**
VMUR				*i* S	**Sb**	**06 42 33.8**	**0.0**
TUTA	**Tutak**	**0.73**	**346**	*i* P	**Pb**	**06 42 29.9**	**-0.1**
GURO	**Guroymak-BITLI**	**0.81**	**260**	PG	**Pg**	**06 42 30.7**	**+0.3**
GURO				SG	**Sb**	**06 42 41.9**	**-0.5**
CLDR	**Caldiran**	**0.81**	**56**	PG	**Pb**	**06 42 31.2**	**-0.2**
CLDR				SG	**Sb**	**06 42 43.5**	**+0.8**
CLDR	**Caldiran**	**0.81**	**56**	*i* S	**Sg**	**06 42 40.9**	**-0.2**
SRTM	**Siirt_Merkez**	**1.13**	**232**	*i* S	**Sn**	**06 42 53.4**	**+0.5**

KRSC 24 06:51:09.4±1.5, 49°.21N×156°.56E, h30km±20km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.50**	**349**	*e*P	Pb	06 51 35.4	-1.1
SKR				*e*S	Sb	06 51 54.6	-0.5
PAU	**Pauzhetka**	**2.26**	**4**	*e*P	Pn	06 51 45.8	+1.1
PAU				*e*S	Sn	06 52 12.9	+1.3
KDTR	**Khodutka, Kamc**	**2.77**	**20**	*e*P	Pb	06 51 55.0	-3.2
KDTR				*e*S	Sb	06 52 28.8	-2.9
MTVR	**Mutnovka**	**3.43**	**17**	*e*P	Pn	06 52 04.8	+3.9
MTVR				*e*S	Sb	06 52 45.9	-4.9
RUS	**Russkaya**	**3.45**	**20**	*e*P	Pn	06 52 04.6	+3.5
RUS				*e*S	Sn	06 52 45.6	+4.7
KRMR	**Karymshinskiy**	**3.76**	**15**	*e*P	Pb	06 52 10.2	-4.7
KRMR				*e*S	Sn	06 52 53.0	+4.7
AVH	**Avacha**	**4.28**	**18**	*e*P	Pn	06 52 18.1	+5.6
KOK	**Koryaka**	**4.29**	**17**	*e*P	Pn	06 52 17.2	+4.6
SMAR	**Somma**	**4.29**	**18**	*e*P	Pn	06 52 16.7	+3.9
SDLR	**Sedlovina**	**4.33**	**19**	*e*P	Pn	06 52 17.3	+4.1
GNL	**Ganaly**	**4.57**	**10**	*e*P	Pn	06 52 21.0	+4.5
KBTR	**Krutoberegovo**	**7.97**	**26**	*e*P	Pn	06 53 07.6	+4.6

*JMA **24** 07:11:07.4±0.3, 43°.33N×146°.87E, h48km±5km, M2.8*
*SKHL **24** 07:11:08.0±0.6, 43°.33N×146°.85E, h51

mb2.8/2, Error ellipse: s-maj=11.5km s-min=8.1km az=144.6

JMA ***24*** *08:09:48.0±0.4, 37.°31N×135.°18E, h387km±4km, M3.1*

IDC ***24*** *08:09:49.0±1.3, 37.°33N×135.°23E, h369km±15km, mb2.7/2, mb1 3.1/5, mb1mx2.7/38, mbtmp3.6/5, Error ellipse: s-maj=30.9km s-min=17.9km az=121.0*

ISC 24 08:09:48.9±1.1, 37.°40N±0.°09×135.°24E±0.°10, h378km, n15, σ1§42/19, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JOI	**OKI**	**1.94**	**236**	P		**Pn**	**08 10 42.0**	**-0.5**
JWT	**Wachi**	**2.11**	**176**	P		**Pn**	**08 10 43.4**	**-0.3**
JWT				S		**S**	**08 11 25.6**	**-2.2**
JSD	**Sado**	**2.48**	**74**	P		**Pn**	**08 10 46.7**	**+0.6**
MAT	**Matsushiro**	**2.52**	**109**	P		**Pn**	**08 10 46.9**	**+0.3**
MAT	**Matsushiro**	**2.52**	**109**	P		**Pn**	**08 10 47.4**	**+0.8**
MJAR	**Matsushiro Arr**	**2.52**	**109**	P		**Pn**	**08 10 47.5**	**+0.9**
	2.4nm,0.3s,baz=282,slow=10.0,SNR=48							
JAG	**Ashikaga**	**3.51**	**105**	P		**Pn**	**08 10 54.9**	**-0.1**
JAG				S		**S**	**08 11 48.4**	**0.0**
JFT	**Otama**	**4.05**	**87**	P		**Pn**	**08 11 00.5**	**+0.4**
JMM	**Marumori**	**4.43**	**82**	P		**Pn**	**08 11 04.6**	**+0.7**
JFK	**Kawauchi**	**4.49**	**89**	P		**Pn**	**08 11 04.4**	**-0.1**
JFK				S		**S**	**08 12 04.1**	**-1.6**
JRG	**Rokugo**	**4.68**	**63**	P		**Pn**	**08 11 06.9**	**+0.5**
KSRS	**Korea Array**	**5.83**	**273**	P		**Pn**	**08 11 18.8**	**0.0**
	0.2nm,0.3s,baz=93,slow=12,SNR=9.1							
ASAJ	**Asahikawa**	**8.72**	**37**	P		**Pn**	**08 11 52.0**	**+0.2**
	2.1nm,0.3s,baz=231,slow=13,SNR=16							
ASAJ				S		**S**	**08 13 28.7**	**-3.9**
	0.5nm,0.3s,baz=167,slow=33,SNR=6.9							
ILAR	**Eielson Array**	**51.82**	**32**	P		**P**	**08 18 21.9**	**+2.5**
	0.3nm,0.7s,baz=290,slow=8.3,SNR=4.9							
WRA	**Warramunga Arr**	**57.04**	**181**	P		**P**	**08 18 56.6**	**-0.3**
	0.3nm,0.4s,baz=356,slow=7.4,SNR=7.7							

NIED ***24*** *08:59:00, 35.°60N×140.°10E, h74km, Mw4.9 Best double couple: M0 2.74000×10^16 NP1:φs154.00000°, δ26.00000°, λ50.00000°. NP2:φs17.00000°, δ71.00000°, λ107.00000°.*

BJI ***24*** *08:59:39.7, 35.°42N×140.°53E, h56km, mb5.0/62, mB4.9/41, Ms4.2/49, Ms7 4.0/46*

JMA ***24*** *08:59:47.2±0.2, 35.°64N×140.°02E, h72km±2km, M4.8 Broadband fault plane solution: P waves. NP1: φs2.00000°, δ62.00000°, λ85.00000°. NP2:φs193.00000°, δ28.00000°, λ100.00000°. Principal axes: T Plg72.0000°, Azm260.0000°; N Plg5.0000°, Azm5.0000°; P Plg17.0000°, Azm96.0000°;*

JMA Felt IV J1.

ISCJB ***24*** *08:59:47.2±0.2, 35.°53N±0.°02×139.°87E±0.°02, h80km±1km, mb4.8/308 Error ellipse: s-maj=3.0km s-min=2.6km az=165.8*

IDC ***24*** *08:59:48.2±0.6, 35.°53N×139.°94E, h81km±4km, mb4.6/37, mb1 4.7/41, mb1mx4.7/48, mbtmp4.9/41, MS3.6/31, Ms1 3.6/31, ms1mx3.6/40, Error ellipse: s-maj=10.3km s-min=8.3km az=99.0*

NEIC ***24*** *08:59:49.0±0.3, 35.°53N×139.°85E, h83km±2km, mb4.8/196, Error ellipse: s-maj=2.3km s-min=1.8km az=133.0*

NEIC Felt [V] at Chiba and Tokyo; [IV] at Saitama, Tsuchiura and Yokohama; [III] at Ichihara, Mito, Narita and Yokosuka. Widely felt in east-central Honshu. Recorded [4 JMA] in Kanagawa and Tokyo.

GCMT ***24*** *08:59:49.0±0.2, 35.°59N±0.°02×140.°11E±0.°02, h64km±1km, MW5.0/100, Moment Tensor Solution. s57,c71; s100,c150; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.47±.13; Mθθ0.21±.11; Mϕϕ-3.67±.09; Mrθ0.31±.07; Mrϕ-0.61±.08; Mθϕ1.48±.08; Best double couple: M0 3.92100×10^16 NP1:φs10.00000°, δ56.00000°, λ92.00000°. NP2:φs187.00000°, δ34.00000°, λ88.00000°. Principal axes: T 3.7750, Plg79.0000°, Azm286.0000°; N 0.3000, Plg1.0000°, Azm189.0000°; P -4.0680, Plg11.0000°, Azm99.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MOS ***24*** *08:59:50.1±0.9, 36.°00N×139.°86E, h88km, mb5.0/118 Error ellipse: s-maj=6.1km s-min=3.5km az=109.5*

ISC 24 08:59:47.6±0.3, 35.°56N±0.°03×140.°00E±0.°03, h73km±2km, h73km:pP-P, n805, σ1§33/859, mb4.9/319, 53C-28D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JCN	**Nagara**	**0.22**	**132**	⇑P		**Pn**	**08 59 59.1**	**+0.4**
JCN				*e*S		Sn	**09 00 08.2**	**+1.4**
TOK	**Tokyo**	**0.23**	**302**	⇑P		**Pn**	**08 59 59.0**	**+0.3**
TOK				S		**Sn**	**09 00 08.2**	**+1.3**
JSMT	**Sammumatsuo**	**0.37**	**78**	P		**Pn**	**08 59 59.6**	**0.0**
JOD2	**Odawara 2**	**0.80**	**248**	⇓P		**Pn**	**09 00 03.7**	**-0.3**
JOD2				S		**Sn**	**09 00 15.4**	**-0.7**
BSO3	**Boso 3**	**0.87**	**151**	⇑P		**Pn**	**09 00 04.3**	**-0.1**
JIM2	**Oshima 3**	**0.96**	**209**	⇓P		**Pn**	**09 00 05.4**	**-0.5**
JIM2				S		**Sn**	**09 00 19.4**	**-0.1**
JAG	**Ashikaga**	**0.97**	**333**	⇓P		**Pn**	**09 00 05.1**	**-0.8**
JAG				S		**Sn**	**09 00 17.8**	**-1.7**
JRY	**Ryogami san**	**1.00**	**297**	⇓P		**Pn**	**09 00 06.3**	**-0.1**
JRY				S		**Sn**	**09 00 20.5**	**+0.2**
JYN	**Shimob**	**1.19**	**267**	⇓P		**Pn**	**09 00 08.7**	**-0.1**
JYN				*e*S		**Sn**	**09 00 24.7**	**+0.1**
BSO1	**Boso 1**	**1.21**	**138**	⇑P		**Pn**	**09 00 08.0**	**-0.4**
JIZS	**Izushimoda**	**1.25**	**228**	⇓P		**Pn**	**09 00 09.5**	**+0.1**
JIZS				S		**Sn**	**09 00 25.7**	**-0.1**
JKT	**Katashina**	**1.35**	**333**	⇓P		**Pn**	**09 00 09.8**	**-1.0**
JKT				S		**Sn**	**09 00 26.5**	**-1.7**
MJAR	**Matsushiro Arr**	**1.75**	**304**	P		**Pn**	**09 00 15.5**	**-0.5**
	667nm,0.3s,baz=144,slow=14,SNR=5063							
MJAR				LR		LR	09 00 55.8	
	comp=Z,3μm,19.7s,baz=125,slow=40							
MAJO	**Matsushiro**	**1.75**	**304**	*e*Pn		**Pn**	**09 00 16.4**	**+0.3**
MAJO	**Matsushiro**	**1.75**	**304**	*d*iP		**Pn**	**09 00 16.0**	**-0.1**
MAT	**Matsushiro**	**1.75**	**304**	P		**Pn**	**09 00 16.2**	**+0.1**
MAT				*e*S		**Sn**	**09 00 36.3**	**-1.3**
MJB9	**Matsu-Tunnel**	**1.76**	**304**	*e*Pn		**Pn**	**09 00 16.4**	**+0.3**
JHJ	**Hachijo jima 2**	**2.44**	**184**	P		**Pn**	**09 00 25.7**	**+0.3**
	609nm,0.3s,baz=330,slow=18,SNR=36							
JHJ				S		**Sn**	**09 00 53.9**	**-0.4**
	802nm,0.3s,baz=62,slow=23,SNR=9.6							
INU	**Inuyama**	**2.45**	**266**	*e*Pn		**Pn**	**09 00 26.2**	**+0.9**
JHJ2	**Mitsune**	**2.45**	**184**	*e*Pn		**Pn**	**09 00 26.0**	**+0.6**
ERM	**Erimo**	**6.90**	**20**	*e*Pn		**Pn**	**09 01 24.2**	**-1.8**
ERM				*e*Sn		**Sn**	**09 02 36.9**	**-6.0**
ERM	**Erimo**	**6.90**	**20**	*ce*P		**Pn**	**09 01 23.7**	**-2.3**
ERM				pmax	pmax			
	comp=Z,77nm,0.7s							
JNU	**Nakatsue**	**7.93**	**255**	P		**Pn**	**09 01 41.6**	**+1.5**
	comp=Z,7.9nm,0.3s,baz=53,slow=5.1,SNR=49							
CBIJ	**Chichi jima**	**8.64**	**167**	*e*Pn		**Pn**	**09 01 46.8**	**-3.2**
CBIJ				*e*Sn		**Sn**	**09 03 19.5**	**-6.4**
JCJ	**Chichijima**	**8.64**	**167**	P		**Pn**	**09 01 47.3**	**-2.7**
	comp=Z,219nm,0.3s,baz=8.9,slow=5.8,SNR=42							
JCJ				S		**Sn**	**09 03 18.1**	**-7.8**
	comp=Z,72nm,0.3s,baz=315,slow=20,SNR=4.0							
JCJ				LR		LR	09 05 32.5	
	comp=Z,352nm,19.4s,baz=355,slow=40							
ASAJ	**Asahikawa**	**8.77**	**12**	P		**Pn**	**09 01 48.4**	**-3.2**
	comp=Z,6.8nm,0.3s,baz=196,slow=14,SNR=50							
ASAJ				S		**Sn**	**09 03 24.7**	**-4.1**
	comp=Z,6.8nm,0.3s,baz=114,slow=29,SNR=5.3							
ASAJ				LR		LR	09 06 17.2	
	comp=Z,101nm,18.1s,baz=222,slow=44							
ASAJ	**Asahikawa**	**8.77**	**12**	*e*Pn		**Pn**	**09 01 49.0**	**-2.6**
ASAJ				*e*Sn		**Sn**	**09 03 25.1**	**-3.7**
ASAJ	**Asahikawa**	**8.77**	**12**	P		**Pn**	**09 01 48.4**	**-3.2**
ASAJ				S		**Sn**	**09 03 24.7**	**-4.1**
ASAJ				pmax	pmax			
	comp=Z,7.0nm,0.3s							
ASAJ				smax	smax			
	comp=N,7.0nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**9.58**	**26**	*e*P		**Pn**	**09 02 00.3**	**-2.3**
YUK				*e*S		Sn	09 03 39.1	-9.5
YUK				pmax	pmax			
	comp=Z,235nm,0.2s							
YUK				pmax	pmax			
	comp=E,67nm,0.1s							
YUK				pmax	pmax			
	comp=N,113nm,0.4s							
YUK				MLR	MLR			
	comp=Z,461nm,15.0s							
TEY	**Ternei**		**9.81**	**346**	*e*P		**Pn**	**09 02 05.9**	**+0.2**
MSHR	**Mys Shultsa**		**9.81**	**318**	⇓*e*P		**Pn**	**09 02 06.7**	**+0.9**
VLA	**Vladivostok**		**9.82**	**323**	*d*iP		**Pn**	**09 02 07.2**	**+1.4**
SHO	**Shikotan**		**9.82**	**30**	*e*P		**Pn**	**09 02 02.5**	**-3.4**
SHO					*e*S		Sn	09 03 42.9	-11
SHO					pmax	pmax			
	comp=E,18nm,0.2s								
SHO					pmax	pmax			
	comp=Z,19nm,0.2s								
SHO					pmax	pmax			
	comp=N,58nm,0.4s								
KSRS	**Korea Array**		**9.91**	**285**	P		**Pn**	**09 02 09.1**	**+2.0**
	comp=N,4.9nm,0.3s,baz=100,slow=14,SNR=174								
KSRS					LR		LR	09 05 52.0	
	comp=N,1μm,21.0s,baz=134,slow=37								
KS01	**Wonju Array Si**		**9.93**	**285**	*e*Pn		**Pn**	**09 02 09.7**	**+2.2**
KS15	**Wonju Array Si**		**9.94**	**284**	*e*Pn		**Pn**	**09 02 09.9**	**+2.5**
KSAR	**Wonju Array Be**		**9.94**	**284**	P		**Pn**	**09 02 09.1**	**+1.6**
KSAR	**Wonju Array Be**		**9.94**	**284**	P		**Pn**	**09 02 09.1**	**+1.6**
TJN	**Taejon**		**10.28**	**278**	⇑*e*P		**Pn**	**09 02 14.5**	**+2.3**
USRK	**Ussuriysk Ar.**		**10.59**	**327**	P		**Pn**	**09 02 18.4**	**+1.9**
	comp=N,1.1nm,0.3s,baz=141,slow=13,SNR=33								
USRK					LR		LR	09 06 31.9	
	comp=N,154nm,19.9s,baz=142,slow=38								
USA0B	**Ussuriysk Arra**		**10.59**	**327**	*e*Pn		**Pn**	**09 02 18.8**	**+2.4**
KUR	**Kuril'sk**		**11.36**	**29**	*e*P		**Pn**	**09 02 26.7**	**-0.2**
KUR					*e*S		Sn	09 04 21.1	-11
KUR					pmax	pmax			
	comp=Z,26nm,0.2s								
KUR					pmax	pmax			
	comp=N,74nm,0.4s								
KUR					pmax	pmax			
	comp=E,30nm,0.4s								
YSS	**Yuzh-Sakhalins**		**11.57**	**9**	*e*Pn		**Pn**	**09 02 27.1**	**-2.6**
YSS	**Yuzh-Sakhalins**		**11.57**	**9**	*e*P		**Pn**	**09 02 27.7**	**-2.0**
YSS					*e*S		**Sn**	**09 04 33.3**	**-3.6**
YSS					pmax	pmax			
	comp=N,40nm,0.7s								
YSS					pmax	pmax			
	comp=Z,50nm,0.7s								
YSS					MLR	MLR			
	comp=Z,400nm,13.0s								
MDJ	**Mudanjiang**		**12.04**	**322**	P		**Pn**	**09 02 36.9**	**+0.7**
MDJ					*s*P		P	09 02 55.8	+9.5
MDJ					S		**Sn**	**09 04 49.8**	**+1.2**
MDJ					pmax	pmax			
	comp=Z,120nm,0.9s								
MDJ					pmax	pmax			
	comp=Z,310nm,3.4s								
MDJ					LR	LR			
	comp=Z,650nm,14.7s								
MDJ					LR	LR			
	comp=Z,420nm,13.0s								
MDJ					LR	LR			
	comp=Z,770nm,22.4s								
MDJ	**Mudanjiang**		**12.04**	**322**	*e*Pn		**Pn**	**09 02 35.9**	**-0.3**
JOW	**Kunigami**		**13.28**	**232**	P		**Pn**	**09 02 55.1**	**+2.1**
	comp=Z,6.7nm,0.3s,baz=58,slow=9.0,SNR=5.5								
JOW					LR		LR	09 07 36.2	
	comp=Z,221nm,20.0s,baz=74,slow=35								
JOW	**Kunigami**		**13.28**	**232**	*e*Pn		**Pn**	**09 02 52.2**	**-0.8**
CN2	**Changchun**		**13.89**	**311**	*e*P		**Pn**	**09 03 03.6**	**+2.6**
CN2					*e*S		**Sn**	**09 05 33.5**	**0.0**
CN2					pmax	pmax			
	comp=Z,20nm,1.2s								
CN2					pmax	pmax			
	comp=Z,100nm,3.0s								
CN2					LR	LR			
	comp=Z,400nm,21.0s								
CN2					LR	LR			
	comp=Z,300nm,21.0s								
CN2					LR	LR			
	comp=Z,400nm,25.0s								
KLR	**Kul'dur**		**14.94**	**339**	P		**Pn**	**09 03 12.1**	**-2.5**
	comp=Z,1.6nm,0.3s,baz=142,slow=9.3,SNR=26								
KLR					LR		LR	09 08 44.5	
	comp=Z,192nm,22.0s,baz=147,slow=36								
KLR	**Kul'dur**		**14.94**	**339**	*de*P		**Pn**	**09 03 12.7**	**-1.9**
DL2	**Dalian**		**15.01**	**288**	P		**P**	**09 03 19.0**	**-0.3**
DL2					S		**S**	**09 06 11.3**	**-2.8**
DL2					pmax	pmax			
	comp=Z,89nm,0.9s								
DL2					pmax	pmax			
	comp=Z,120nm,4.1s								
DL2					LR	LR			
	comp=Z,300nm,14.4s								
DL2					LR	LR			
	comp=Z,790nm,19.0s								
DL2					LR	LR			
	comp=Z,730nm,23.5s								
TYV	**Tymovskoe**		**15.41**	**6**	*e*P		**Pn**	**09 03 17.6**	**-3.0**
TYV					pmax	pmax			
	comp=Z,63nm,1.4s								
GRNR	**Gornyy**		**15.42**	**351**	*e*P		**Pn**	**09 03 15.8**	**-4.9**
GRNR					pmax	pmax			
	comp=Z,10.0nm,0.9s								
NJ2	**Nanjing**		**17.92**	**265**	*e*P		**P**	**09 03 50.9**	**-0.6**
NJ2					pmax	pmax			
	comp=Z,20nm,0.5s								
NJ2					LR	LR			
	comp=Z,330nm,15.0s								
NJ2					LR	LR			
	comp=Z,330nm,12.8s								
NJ2					LR	LR			
	comp=Z,1μm,17.1s								
TIA	**Tai'an**		**18.55**	**279**	P		Pn	09 04 07.6	+8.2
TIA					S		**Sn**	**09 07 35.9**	**+10**
TIA					pmax	pmax			
	comp=Z,190nm,4.2s								
TIA					LR	LR			
	comp=N,390nm,15.5s								
TIA					LR	LR			
	comp=E,370nm,10.4s								
TIA					LR	LR			
	comp=Z,460nm,16.2s								
BJI	**Beijing**		**19.33**	**290**	P		**P**	**09 04 06.1**	**-0.8**
BJI					S		**S**	**09 07 33.3**	**-8.5**
BJI					pmax	pmax			
	comp=Z,25nm,1.3s								
BJI					LR	LR			
	comp=Z,230nm,23.0s								
BJI					LR	LR			
	comp=Z,260nm,27.5s								
BJI					LR	LR			
	comp=Z,430nm,37.0s								
BJT	**Baijiatuao**		**19.34**	**290**	*e*P		**P**	**09 04 06.6**	**-0.4**
	comp=Z,138nm,1.5s								
BJT	**Baijiatuao**		**19.34**	**290**	*e*P		**P**	**09 04 06.6**	**-0.4**
BJT					pmax	pmax			
	comp=Z,138nm,1.5s								
YHNB	**Yeheng**		**19.40**	**241**	*e*P		**P**	**09 04 07.2**	**-0.6**
	comp=Z,29nm,0.9s								
SARN	**Sarigan**		**19.48**	**163**	*e*P		**P**	**09 04 09.0**	**+0.3**
	comp=Z,72nm,1.1s								
NACB	**Ninganchiao**		**19.55**	**240**	*e*P		**P**	**09 04 08.2**	**-1.2**
	comp=Z,34nm,0.9s								
HIA	**Hailar**		**20.19**	**319**	*e*P		**P**	**09 04 14.5**	**-1.8**
	comp=Z,28nm,0.8s								
HIA	**Hailar**		**20.19**	**319**	*e*P		**P**	**09 04 14.5**	**-1.8**
HIA					pmax	pmax			
	comp=Z,28nm,0.8s								
SSLB	**Suanglung**		**20.25**	**240**	*e*P		**P**	**09 04 15.2**	**-1.8**
	comp=Z,20nm,0.8s								
ZEA	**Zeya**		**20.25**	**338**	*e*P		**P**	**09 04 13.8**	**-3.0**
ZEA					pmax	pmax			
	comp=E,59nm,1.0s								
ZEA					pmax	pmax			
	comp=N,100nm,0.8s								
ZEA					pmax	pmax			
	comp=Z,130nm,0.8s								
ZEA					MLR	MLR			
	comp=Z,300nm,13.0s								
ZEA					MLR	MLR			
	comp=E,200nm,12.0s								
YULB	**Yu-li**		**20.26**	**238**	*e*P		**P**	**09 04 15.6**	**-1.5**
	comp=E,23nm,1.0s								
TPUB	**Ta-pu**		**20.79**	**239**	*e*P		**P**	**09 04 21.4**	**-1.4**
	comp=E,34nm,0.8s								
PEA0B	**Petropavlovsk-**		**21.53**	**30**	*e*P		**P**	**09 04 31.0**	**+0.5**
	comp=E,58nm,1.2s								
PETK	**Petropavlovsk-**		**21.53**	**30**	P		**P**	**09 04 30.7**	**+0.2**
	comp=E,6.6nm,0.9s,baz=25,slow=19,SNR=6.7								
PETK					LR		LR	09 12 39.7	
	comp=E,86nm,20.7s,baz=221,slow=36								
PETK	**Petropavlovsk-**		**21.53**	**30**	P		**P**	**09 04 30.7**	**+0.2**
PETK					pmax	pmax			
	comp=Z,10.0nm,0.9s								
PETK					MLR	MLR			
	comp=Z,86nm,20.7s								
PEA1	**Petropavlovsk-**		**21.53**	**30**	*e*P		**P**	**09 04 30.7**	**+0.2**
PET	**Petropavlovsk**		**21.86**	**31**	*e*P		**P**	**09 04 40.0**	**+6.0**
PET					*e*S		**S**	**09 08 31.8**	**+0.4**
PET					MLR	MLR			
	comp=Z,400nm,20.0s								
GUMO	**Guam**		**22.32**	**167**	P		**P**	**09 04 39.3**	**+0.1**
	comp=Z,67nm,0.6s,baz=340,slow=11,SNR=5.7								
GUMO					LR		LR	09 10 54.1	
	comp=Z,67nm,20.5s,baz=3.0,slow=30								
HHC	**Hu-ho-hao-te**		**22.91**	**292**	*e*P		**P**	**09 04 43.0**	**-2.4**
HHC					S		**S**	**09 08 41.0**	**-8.7**
HHC					pmax	pmax			
	comp=Z,14nm,0.8s								
HHC					pmax	pmax			
	comp=Z,130nm,5.0s								
HHC					LR	LR			
	comp=Z,200nm,10.2s								
HHC					LR	LR			
	comp=Z,260nm,9.5s								
HHC					LR	LR			
	comp=Z,280nm,10.0s								
MA2	**Magadan**		**25.03**	**13**	*e*P		**P**	**09 05 05.2**	**+0.6**
	comp=Z,61nm,0.8s								
MA2	**Magadan**		**25.03**	**13**	*e*P		**P**	**09 05 05.2**	**+0.6**
MA2					pmax	pmax			
	comp=Z,61nm,0.8s								
XAN	**Xi'an**		**25.52**	**276**	P		**P**	**09 05 08.5**	**-0.8**
XAN					pP		pP	09 05 22.8	-3.6
XAN					sP		sP	09 05 30.6	-4.5
XAN					PP		**PnPn**	**09 05 48.9**	**+0.2**
XAN					S		**S**	**09 09 28.8**	**-2.7**
XAN					sS		sS	09 09 54.6	-6.5
XAN					pmax	pmax			
	comp=Z,14nm,0.8s								
XAN					pmax	pmax			
	comp=Z,95nm,4.1s								
XAN					LR	LR			
	comp=Z,270nm,13.0s								
XAN					LR	LR			
	comp=Z,260nm,17.4s								
XAN					LR	LR			
	comp=Z,310nm,16.3s								
ENH	**Enshi**		**26.09**	**267**	*e*P		**P**	**09 05 13.7**	**-0.8**
	comp=Z,29nm,0.9s								
YAK	**Yakutsk**		**27.28**	**349**	P		**P**	**09 05 24.3**	**-0.5**
	comp=Z,24nm,0.4s,baz=194,slow=4.1,SNR=7.4								
YAK					LR		LR	09 16 53.0	
	comp=Z,126nm,18.3s,baz=86,slow=38								
YAK	**Yakutsk**		**27.28**	**349**	*e*P		**P**	**09 05 21.8**	**-3.0**
YAK					*e**PP		**pP**	**09 05 38.6**	**-3.4**
YAK					*e*			09 08 38.8	
YAK					pmax	pmax			
	comp=Z,22nm,1.0s								
YAK					pmax	pmax			
	comp=N,17nm,1.4s								
YAK					pmax	pmax			
	comp=Z,36nm,1.0s								
YAK					pmax	pmax			
	comp=N,26nm,0.9s								
YAK					pmax	pmax			
	comp=E,103nm,2.7s								
ULN	**Ulaanbaatar**		**27.28**	**307**	*e*P		**P**	**09 05 24.2**	**-1.0**
	comp=E,12nm,0.7s								
ULN	**Ulaanbaatar**		**27.28**	**307**	*ce*P		**P**	**09 05 23.6**	**-1.6**
ULN					pmax	pmax			
	comp=Z,12nm,0.7s								
SONA1	**Songino Array**		**27.70**	**307**	*e*P		**P**	**09 05 27.9**	**-1.1**
SONA0	**Songino Array**		**27.70**	**307**	*e*P		**P**	**09 05 28.1**	**-0.8**
SONM	**Songino Array**		**27.70**	**307**	P		**P**	**09 05 28.1**	**-0.8**
	comp=Z,9.3nm,0.6s,baz=111,slow=9.8,SNR=29								
SONM					PcP		**PcP**	**09 08 44.3**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=128,slow=3.1,SNR=3.7								
SONM					LR		LR	09 16 53.6	
	comp=Z,482nm,18.1s,baz=151,slow=37								
BOD	**Bodaibo**		**28.20**	**330**	*e*P		**P**	**09 05 32.6**	**-0.5**
BOD					pmax	pmax			
	comp=Z,44nm,1.4s								
H11N2	**WAKE ISLAND Hy**		**28.45**	**117**	T		T	09 35 26.9	
	baz=308,slow=75,SNR=117								
H11N1	**WAKE ISLAND Hy**		**28.45**	**117**	T		T	09 35 24.4	
	baz=308,slow=75,SNR=115								
SEY	**Seymchan**		**28.46**	**12**	P		**P**	**09 05 35.6**	**+0.4**
	comp=Z,7.3nm,0.7s,baz=205,slow=6.7,SNR=22								
H11N3	**WAKE ISLAND Hy**		**28.46**	**117**	T		T	09 35 28.2	
	baz=308,slow=75,SNR=127								
LZH	**Lanzhou**		**29.22**	**282**	*e*P		**P**	**09 05 41.6**	**-1.0**
LZH					pP		pP	09 05 57.5	-2.4
LZH					sP		sP	09 06 05.8	-2.7
LZH					*e*PP		**PnPn**	**09 06 37.5**	**-1.3**
LZH					pmax	pmax			
	comp=Z,22nm,1.1s								
LZH					pmax	pmax			
	comp=Z,86nm,5.2s								
LZH					LR	LR			
	comp=Z,320nm,12.7s								
LZH					LR	LR			
	comp=Z,340nm,13.0s								
LZH					LR	LR			
	comp=Z,410nm,16.5s								
GYA	**Guiyang**		**29.86**	**262**	P		**P**	**09 05 46.9**	**-1.4**
GYA					pmax	pmax			
	comp=Z,20nm,0.8s								
ZAK	**Zakamensk**		**30.32**	**311**	*e*P		**P**	**09 05 50.5**	**-1.6**
ZAK					pmax	pmax			
	comp=Z,5.0nm,0.9s								
CD2	**Chengdu**		**30.56**	**272**	P		**P**	**09 05 54.0**	**-0.3**
CD2					S		**S**	**09 10 51.3**	**+0.4**
CD2					pmax	pmax			
	comp=Z,10.0nm,0.5s								
CD2					pmax	pmax			
	comp=Z,120nm,5.0s								
CD2					LR	LR			
	comp=Z,1μm,15.7s								
CD2					LR	LR			
	comp=Z,1μm,13.7s								
GTA	**Gaotai**		**31.93**	**289**	*e*P		**P**	**09 06 05.3**	**-1.2**
GTA					PcP		**PcP**	**09 08 55.9**	**+0.7**
GTA					pmax	pmax			
	comp=Z,9.0nm,0.6s								
GTA					pmax	pmax			
	comp=Z,74nm,7.2s								
GTA					LR	LR			
	comp=Z,180nm,23.7s								
GTA					LR	LR			
	comp=Z,250nm,20.6s								
GTA					LR	LR			
	comp=Z,300nm,20.4s								
MOY	**Mondy**		**32.05**	**312**	*e*P		**P**	**09 06 09.8**	**+2.5**
KMI

LKP **Lekhapani** 38.30 270 *e*P P 09 06 59.4 -1.7
FAKI **Fak Fak** 38.97 192 *e*P P 09 07 06.2 -0.5
comp=Z,22nm,0.8s
CHAI **Chaiyaphum** 39.13 250 P P 09 07 07.0 -1.1
comp=Z,18nm,0.9s,comp=Z,152nm
LAMP **Lampang** 39.45 255 P P 09 07 15.8 +5.0
MOKO **MOKOCHONG** 39.79 270 *e*P P 09 07 12.8 -0.9
CHTO **Chiang Mai** 39.83 256 *e*P P 09 07 12.7 -1.3
comp=Z,8.0nm,0.9s
CHTO **Chiang Mai** 39.83 256 *e*P P 09 07 12.7 -1.3
CHTO pmax pmax
comp=Z,8.0nm,0.9s
CHTO **Chiang Mai** 39.83 256 P P 09 07 15.6 +1.6
comp=Z,40nm,0.8s
CM31 **Chiang Mai Arr** 40.03 256 *e*P P 09 07 14.9 -0.7
CMAR **Chiang Mai Arr** 40.03 256 P P 09 07 14.0 -1.6
comp=Z,1.9nm,0.3s,baz=48,slow=7.4,SNR=14
CMAR PcP PcP 09 09 19.3 -0.1
comp=Z,2.0nm,0.6s,baz=13,slow=1.9,SNR=9.6
CMAR LR LR 09 25 42.4
comp=Z,201nm,18.6s,baz=66,slow=39
SUKH **Sukhothai** 40.03 254 P P 09 07 15.9 +0.3
comp=Z,4.5nm,0.9s
CM01 **Chiang Mai Arr** 40.03 256 *e*P P 09 07 14.7 -1.0
CM01 *e*PcP PcP 09 09 19.3 -0.1
ITAN **ITANAGAR** 40.10 271 *e*P P 09 07 15.5 -0.6
SRAK **Srakaew** 40.25 248 P P 09 07 13.2 -4.2
comp=Z,110nm,0.8s,comp=Z,871nm
KOHI **KOHIMA** 40.38 269 *ex* P 09 07 08.7 -10
WMQ **Urumqi** 40.51 298 *e*P P 09 07 20.3 +0.9
WMQ sP sP 09 07 43.6 -2.1
WMQ PcP PcP 09 09 21.6 +1.0
WMQ pmax pmax
comp=Z,65nm,0.9s
WMQ pmax pmax
comp=Z,200nm,3.7s
WMQ LR LR
comp=Z,2µm,23.9s
WMQ LR LR
comp=Z,280nm,27.3s
WMQ LR LR
comp=Z,330nm,24.9s
IMP **Imphal** 40.90 268 *e*P P 09 07 20.2 -2.6
TEZP **TEZPUR** 41.07 271 *e*P P 09 07 21.3 -2.8
LSA **Lhasa** 41.22 276 *e*P P 09 07 25.2 -0.7
comp=Z,9.3nm,0.8s
LSA **Lhasa** 41.22 276 *e*P P 09 07 25.2 -0.7
LSA pmax pmax
comp=Z,9.0nm,0.8s
UMPA **Umpang Tak** 41.37 253 P P 09 07 27.5 +0.8
comp=Z,8.2nm,1.0s
TAWA **Tawang** 41.44 273 *e*P P 09 07 27.8 +0.3
ZAA0 **Zalesovo Array** 42.08 314 *e*P P 09 07 31.6 -0.4
comp=Z,41nm,0.8s
ZAA0 *e*PcP PcP 09 09 25.5 0.0
ZAA1 **Zalesovo Array** 42.08 314 *e*P P 09 07 31.1 -1.0
ZAA1 *e*PcP PcP 09 09 24.6 -0.8
ZALV **Zalesovo Beam** 42.08 314 P P 09 07 31.1 -1.0
comp=Z,33nm,0.5s,baz=93,slow=6.4,SNR=144
ZALV PcP PcP 09 09 24.6 -0.8
comp=Z,9.5nm,0.5s,baz=110,slow=3.3,SNR=12
ZALV **Zalesovo Beam** 42.08 314 *e*P P 09 07 31.6 -0.3
ZALV *e*PcP PcP 09 09 25.4 0.0
ZALV **Zalesovo Beam** 42.08 314 *e*P P 09 07 31.7 -0.3
ZALV *e* 09 09 25.4
GUWA **GUWAHATI** 42.15 271 *e*P P 09 07 31.6 -1.3
SHL **Shillong** 42.26 270 *e*P P 09 07 33.1 -1.0
comp=Z,21nm,1.0s
SHL **Shillong** 42.26 270 *e*P P 09 07 33.1 -1.0
SHL pmax pmax
comp=Z,21nm,1.0s
SHL **Shillong** 42.26 270 *e*P P 09 07 33.0 -1.0
SHL *e*P P 09 07 33.1 -1.0
SRDT **SRDT** 42.26 251 P P 09 07 34.5 +0.5
comp=Z,22nm,0.9s,comp=Z,3µm
SAIH **SAIHA** 42.75 265 *e*P P 09 07 36.6 -1.5
SAIH IAmb IAmb 09 07 38.2
PHET **Kaeng Krachan** 42.76 248 P P 09 07 37.7 -0.3
comp=Z,17nm,0.9s
NVS **Novosibirsk** 43.05 315 *e*P P 09 07 39.9 +0.1
NVS pmax pmax
comp=Z,56nm,1.0s
NVS pmax pmax
comp=N,9.0nm,1.0s
NVS pmax pmax
comp=E,40nm,1.0s
ANM **Nome** 43.44 31 *e*P P 09 07 43.7 +0.8
comp=E,6.0nm,0.8s
ANM **Nome** 43.44 31 *e*P P 09 07 43.7 +0.8
ANM pmax pmax
comp=Z,6.0nm,0.8s
TURI **Tura** 43.53 271 *e*P P 09 07 41.4 -2.7
KSM **Kuching** 43.71 226 *e*P P 09 07 45.2 -0.5
comp=Z,11nm,0.8s
MK01 **Makanchi Array** 43.95 303 *e*P P 09 07 47.4 +0.2
MK31 **Makanchi Array** 43.95 303 *e*P P 09 07 47.4 +0.1
MK31 **Makanchi Array** 43.95 303 *e*P P 09 07 47.4 +0.1
MK32 **Makanchi Array** 43.95 303 *e*P P 09 07 47.5 +0.2
MKAR **Makanchi Array** 43.95 303 P P 09 07 47.5 +0.2
comp=Z,38nm,0.7s,baz=90,slow=10.0,SNR=238
MKAR LR LR 09 26 37.3
comp=Z,269nm,18.8s,baz=88,slow=37
MKAR **Makanchi Array** 43.95 303 *e*P P 09 07 47.4 +0.2
comp=Z,279nm,0.8s
NRIK **Noril'sk** 44.14 336 P P 09 07 48.0 -0.3
comp=Z,25nm,0.7s,baz=112,slow=8.9,SNR=21
NRIK LR LR 09 28 44.4
comp=Z,54nm,19.3s,baz=73,slow=39
GTK **Tadong** 44.20 274 *e*P P 09 07 48.9 -0.8
PMG **Port Moresby** 45.23 170 LR LR 09 25 09.5
comp=Z,111nm,21.8s,baz=15,slow=34
RDOG **Red Dog Mine** 45.33 26 *e*P P 09 07 59.0 +1.1
comp=Z,8.9nm,1.0s
KURK **Kurchatov** 45.96 309 *e*P P 09 08 03.5 +0.4
comp=Z,6.7nm,0.8s
KURK **Kurchatov** 45.96 309 *c i*P P 09 08 02.7 -0.4
KURK pmax pmax
comp=Z,90nm,0.8s
RAMN **Ramite** 45.98 275 *e*P P 09 08 03.5 -0.4
comp=Z,146nm,0.7s
TRTT **Trang** 46.02 243 P P 09 08 04.2 +0.2
comp=Z,6.7nm,0.8s
KURBB **Kurchatov Arra** 46.02 309 P P 09 08 03.5 -0.1
comp=Z,54nm,0.7s,baz=85,slow=7.8,SNR=222
JIRN **Jiri** 46.02 276 *e*P P 09 08 04.5 +0.1
comp=Z,153nm,0.8s
KRAB **Krabi** 46.12 244 P P 09 08 04.6 -0.2
comp=Z,55nm,0.7s,comp=Z,4µm
GUN **Gumba** 46.17 276 *e*P P 09 08 05.6 +0.1
comp=Z,112nm,0.9s
PDGK **Podgornoye** 46.47 299 P P 09 08 07.3 -0.1
PDGK pmax pmax
comp=Z,92nm,0.8s
PKI **Pulchoki** 46.69 276 *e*P P 09 08 09.0 -0.6
comp=Z,39nm,0.7s
PKIN **Phulchoki** 46.70 276 *e*P P 09 08 08.9 -0.7
comp=Z,28nm,0.5s
KKN **Kakani** 46.71 276 *e*P P 09 08 09.4 -0.2
comp=Z,68nm,0.8s
DMN **Daman** 46.92 276 *e*P P 09 08 11.0 -0.3
comp=Z,48nm,0.8s
PKDT **Phuket** 46.97 244 P P 09 08 11.6 +0.2
comp=Z,16nm,0.9s,comp=Z,2µm
KULM **Kulim** 47.09 240 P P 09 08 11.0 -1.4
GKN **Gorkha** 47.14 277 *e*P P 09 08 13.5 +0.6
comp=Z,0.8nm,0.3s
IPM **Ipoh** 47.40 238 *e*P P 09 08 13.7 -1.1
comp=Z,22nm,0.8s
SOEI **Soe** 47.46 201 *e*P P 09 08 15.2 -0.1
comp=Z,38nm,0.7s
MYKOM **Kota Tinggi** 47.47 233 P P 09 08 15.0 -0.3
DANN **Dangsing** 47.71 278 *e*P P 09 08 17.7 +0.2
comp=Z,146nm,0.4s
BOK **Bokaro** 47.93 271 *e*P P 09 08 17.2 -1.6
KOLN **Koldanda** 48.08 277 *e*P P 09 08 20.3 +0.1
comp=Z,34nm,0.6s
PYUN **Piuthan** 48.44 278 *e*P P 09 08 23.0 +0.1
comp=Z,110nm,0.5s
IM3 **Indian Mountai** 48.49 30 *e*P P 09 08 23.4 +0.8
IM3 *e*PcP PcP 09 09 49.3 +1.8
OHAK **Old Harbor** 48.61 42 *e*P P 09 08 24.1 +0.5
comp=Z,47nm,1.4s
MTN **Manton Dam** 48.87 192 *e*P P 09 08 25.6 -0.4
comp=Z,39nm,0.5s
KDAK **Kodiak Island** 48.95 41 P P 09 08 25.0 -1.2
comp=Z,16nm,0.6s,baz=270,slow=3.5,SNR=20
KDAK **Kodiak Island** 48.95 41 P P 09 08 25.0 -1.2
KDAK pmax pmax
comp=Z,16nm,0.6s
PPLA **Purkeypile** 49.02 34 *e*P P 09 08 28.2 +1.3
comp=Z,26nm,1.3s
TKM2 **Tokmak 2** 49.34 299 P P 09 08 30.7 +1.0
SNR=38
COEN **Coen** 49.34 176 *e*P P 09 08 29.6 +0.1
comp=Z,26nm,1.0s
MLY **Manley** 49.70 31 *e*P P 09 08 33.4 +1.5
comp=Z,8.9nm,1.0s
MLY *e*PcP PcP 09 09 53.9 +1.9
BRLK **Bradley Lake** 49.72 38 *e*P P 09 08 33.5 +1.4
comp=Z,35nm,1.4s
KZA **Kyzart** 49.80 298 P P 09 08 35.0 +1.6
SNR=14
KBK **Karagaybulak** 49.87 299 P P 09 08 34.5 +0.8
SNR=30
TRF **Thorofare Moun** 49.89 33 *e*P P 09 08 34.6 +1.1
comp=Z,6.2nm,1.0s
CHMS **Chumysh** 49.92 299 P P 09 08 34.2 +0.4
SNR=10
KSH **Kashi** 49.97 295 P P 09 08 38.1 +3.7
KSH pP pP 09 08 53.1 +0.3
KSH PP PP 09 10 35.1 +5.3
KSH S S 09 15 43.0 +3.3
KSH sS sS 09 16 10.1 -0.9
KSH SS SS 09 19 14.0 +0.9
KSH pmax pmax
comp=Z,44nm,0.7s
KSH pmax pmax
comp=Z,270nm,5.2s
KSH LR LR
comp=Z,300nm,6.5s
KSH LR LR
comp=Z,240nm,9.5s
KSH LR LR
comp=Z,280nm,13.0s
COLD **Coldfoot** 49.99 28 *e*P P 09 08 35.6 +1.6
comp=Z,14nm,0.6s
USP **Ospenovka** 50.03 300 P P 09 08 35.1 +0.4
SNR=15
PSI **Prapat** 50.06 239 P P 09 08 34.3 -1.0
comp=Z,19nm,0.8s,baz=0.8,slow=2.4,SNR=16
PSI **Prapat** 50.06 239 *e*P P 09 08 34.7 -0.6
comp=Z,17nm,0.8s
PSI *e*PcP PcP 09 09 55.2 +1.0
PSI **Prapat** 50.06 239 *e*P P 09 08 34.7 -0.6
PSI *e* 09 09 55.2
PSI pmax pmax
comp=Z,17nm,0.8s
AAK **Ala-Archa** 50.19 299 P P 09 08 35.2 -0.9
comp=Z,18nm,0.7s,baz=110,slow=5.1,SNR=48
AAK **Ala-Archa** 50.19 299 P P 09 08 36.5 +0.4
SNR=14
AAK **Ala-Archa** 50.19 299 *i* P P 09 08 36.5 +0.4
SNR=18
AAK **Ala-Archa** 50.19 299 *c i*P P 09 08 36.2 +0.1
AAK pmax pmax
comp=Z,19nm,0.9s
RC01 **Rabbit Creek A** 50.22 37 *e*P P 09 08 36.3 +0.6
comp=Z,19nm,1.3s
BWN **Browne** 50.24 32 *e*P P 09 08 38.0 +2.1
comp=Z,38nm,1.1s
UCH **Uchtor** 50.29 299 P P 09 08 38.0 +0.8
SNR=12
TOLK **Toolik Lake Re** 50.30 27 *e*P P 09 08 36.9 +0.6
comp=Z,8.1nm,0.9s
TOLK **Toolik Lake Re** 50.30 27 P P 09 08 38.1 +1.8
baz=267
OTUK **Ortayu** 50.37 307 P P 09 08 37.2 0.0
OTUK pmax pmax
comp=Z,47nm,0.9s
BKNI **Bangkinang** 50.41 235 *e*P P 09 08 37.3 -0.5
comp=Z,92nm,0.6s
SEW **Seward** 50.42 38 *e*P P 09 08 38.5 +1.2
comp=Z,50nm,1.2s
PMR **Palmer** 50.48 36 *e*P P 09 08 38.3 +0.6
comp=Z,12nm,1.1s
PMR **Palmer** 50.48 36 *e*P P 09 08 38.3 +0.6
PMR pmax pmax
comp=Z,12nm,1.1s
MCK **McKinley** 50.48 33 *e*P P 09 08 38.6 +0.9
comp=Z,13nm,1.1s
MCK **McKinley** 50.48 33 *e*P P 09 08 38.7 +0.9
MCK pmax pmax
comp=Z,13nm,1.1s
RND **Reindeer** 50.53 33 *e*P P 09 08 38.9 +0.7
comp=Z,21nm,1.5s
RND **Reindeer** 50.53 33 *e*P P 09 08 38.9 +0.7
RND pmax pmax
comp=Z,21nm,1.5s
GHO **Glory Hole Cre** 50.57 36 *e*P P 09 08 39.2 +0.7
comp=Z,15nm,1.2s
EKS2 **Erkin-Say** 50.70 299 P P 09 08 40.1 +0.2
SNR=11
BRVK **Borovoye** 50.78 313 *e*P P 09 08 39.9 -0.3
comp=Z,34nm,1.2s
BRVK **Borovoye** 50.78 313 *ce*P P 09 08 39.9 -0.3
BRVK pmax pmax
comp=Z,25nm,1.0s
WRH **Wood River Hil** 50.84 32 *e*P P 09 08 40.7 +0.4
comp=Z,5.8nm,0.8s
WRH *e*PcP PcP 09 09 56.6 +0.5
SML **Sawmill** 50.85 36 *e*P P 09 08 42.0 +1.4
comp=Z,15nm,0.8s
SML **Sawmill** 50.85 36 *e*P P 09 08 42.0 +1.4
SML pmax pmax
comp=Z,15nm,0.8s
AML **Almayashu** 50.90 299 P P 09 08 42.8 +1.1
SNR=53
COLA **College** 50.93 32 *e*P P 09 08 42.0 +1.0
comp=Z,12nm,0.8s
COLA **College** 50.93 32 *e*P P 09 08 42.0 +1.0
COLA pmax pmax
comp=Z,12nm,0.8s
CCB **Clear Creek Bu** 50.95 32 *e*P P 09 08 41.9 +0.6
comp=Z,8.9nm,1.4s
CCB *e*PcP PcP 09 09 56.9 +0.4
POKR **Poker Plat Res** 51.10 31 P P 09 08 43.8 +1.4
baz=272,SNR=6.9
DHY **Denali Highway** 51.22 34 *e*P P 09 08 44.8 +1.3
comp=Z,5.8nm,0.8s
SCM **Sheep Creek Mo** 51.32 35 *e*P P 09 08 45.2 +1.0
comp=Z,32nm,1.3s
HDA **Harding Lake** 51.33 32 *e*P P 09 08 44.5 +0.4
comp=Z,8.7nm,0.8s
IL1 **Eielson Array** 51.34 32 *e*P P 09 08 44.7 +0.5
ILAR **Eielson Array** 51.34 32 P P 09 08 44.4 +0.2
comp=Z,3.5nm,0.7s,baz=266,slow=5.9,SNR=47
ILAR LR LR 09 30 53.8
comp=Z,31nm,19.6s,baz=270,slow=36
ILB **Eielson Array** 51.34 32 *e*P P 09 08 44.8 +0.6
DDI **Dehra Dun** 51.51 283 *e*P P 09 08 46.0 +0.1
SFK **Sufi-Kurgan** 51.65 296 P P 09 08 47.3 +0.2
SFK pmax pmax
comp=Z,22nm,0.6s
MNAS **Manas** 51.65 299 P P 09 08 47.6 +0.6
MNAS pmax pmax
comp=Z,24nm,0.8s
FID **Port Fidalgo** 51.83 37 *e*P P 09 08 48.3 +0.4
comp=Z,44nm,1.4s
SMLA **Simla** 51.90 284 *e*P P 09 08 48.2 -0.6
KLU **Klutina** 52.02 36 *e*P P 09 08 50.2 +0.8
comp=Z,15nm,1.2s
LEM **Lembang** 52.02 222 P P 09 08 49.2 -0.8
comp=Z,30nm,0.6s,baz=180,slow=23,SNR=6.0
GSI **Gunungsitoli** 52.07 239 *e*P P 09 08 49.4 -0.8
comp=Z,97nm,1.1s
DIV **Divide** 52.13 36 *e*P P 09 08 51.2 +1.0
comp=Z,30nm,1.3s
DHRM **DHARAMSHALA** 52.15 286 *e*P P 09 08 50.3 -0.7
HARP **HAARP** 52.29 35 *e*P P 09 08 52.6 +1.3
comp=Z,24nm,1.0s
SCRK **Sand Creek** 52.66 33 *e*P P 09 08 54.8 +0.6
comp=Z,7.3nm,0.8s
BMRM **Bremner River** 52.72 36 *e*P P 09 08 55.8 +1.3
comp=Z,17nm,0.8s
NDI **New Delhi** 52.84 281 *e*P P 09 08 55.0 -0.8
KK31 **Karatay Array** 52.88 301 *e*P P 09 08 55.8 -0.2
KK31 **Karatay Array** 52.88 301 *e*P P 09 08 55.8 -0.2
KKAR **Karatay Array** 52.88 301 *e*P P 09 08 55.9 -0.1
KKAR **Karatay Array** 52.88 301 *e*P P 09 08 55.9 -0.1
EGAK **Eagle** 53.79 31 *e*P P 09 09 02.5 +0.2
comp=Z,14nm,1.4s
NIL **Nilore** 54.00 289 *e*P P 09 09 04.5 +0.2
comp=Z,40nm,0.8s
NIL **Nilore** 54.00 289 *e*P P 09 09 04.5 +0.2
NIL pmax pmax
comp=Z,41nm,0.8s
DAWY **Dawson** 54.65 32 *e*P P 09 09 09.7 +1.2
comp=Z,11nm,1.5s
NGP **Nagpur** 54.74 272 *e*P P 09 09 09.4 -0.4
BHPL **Bhopal** 55.07 275 *e*P P 09 09 11.7 -0.5
BHPL IAmb IAmb 09 09 13.3
comp=Z,10nm,0.7s
FITZ **Fitzroy Crossi** 55.08 197 *e*P P 09 09 12.0 0.0
comp=Z,41nm,1.0s
EPYK **Eagle Plains** 55.36 29 P P 09 09 15.2 +1.6
baz=280,SNR=13
WRAB **Tennant Creek** 55.45 186 *e*P P 09 09 14.3 -0.4
comp=Z,33nm,0.6s
WRAB **Tennant Creek** 55.45 186 *c i*P P 09 09 14.0 -0.7
WRAB pmax pmax
comp=Z,42nm,1.0s
WB2 **Warramunga Arr** 55.46 186 *e*P P 09 09 14.4 -0.4
WR1 **Warramunga Arr** 55.46 186 *e*P P 09 09 14.2 -0.7
comp=Z,39nm,0.5s
WRA **Warramunga Arr** 55.46 186 P P 09 09 14.2 -0.7
comp=Z,27nm,0.5s,baz=0.4,slow=7.6,SNR=242
WRA S S 09 16 51.5 -2.8
comp=Z,1.2nm,0.9s,baz=3.4,slow=13,SNR=5.6
WRA LR LR 09 31 07.2
comp=Z,60nm,20.4s,baz=275,slow=34
WC3 **Warramunga Arr** 55.48 186 *e*P P 09 09 14.5 -0.4
comp=Z,28nm,0.7s
SVE **Sverdlovsk** 55.50 319 *e*P P 09 09 15.2 +0.5
SVE pmax pmax
comp=Z,31nm,0.8s
CTAO **Charters Tower** 55.66 173 *e*P P 09 09 16.2 0.0
comp=Z,8.6nm,1.1s
CTAO **Charters Tower** 55.66 173 *e*P P 09 09 16.2 0.0
CTAO pmax pmax
comp=Z,9.0nm,1.1s
HYT **Haines Junctio** 56.16 36 *e*P P 09 09 20.4 +0.9
comp=Z,10.0nm,0.7s
INK **Inuvik** 56.21 27 P P 09 09 19.5 -0.1
comp=Z,3.6nm,0.6s,baz=313,slow=7.2,SNR=17
INK **Inuvik** 56.21 27 *e*P P 09 09 19.9 +0.3
comp=Z,6.3nm,0.8s
INK **Inuvik** 56.21 27 *e*P P 09 09 19.9 +0.3
INK pmax pmax
comp=Z,6.0nm,0.8s
ARU **Arti** 56.71 319 *e*P P 09 09 23.3 0.0
comp=Z,37nm,0.7s
ARU **Arti** 56.71 319 *c i*P P 09 09 23.2 -0.2
ARU *PP pP 09 09 43.8 +1.7
ARU 09 11 29.9
ARU S S 09 17 12.2 +2.0
ARU SS SS 09 20 58.5 +0.1
ARU pmax pmax
comp=Z,41nm,0.8s
KBL **Kabul** 56.88 291 *e*P P 09 09 24.2 -1.0
comp=Z,14nm,0.6s
KBL **Kabul** 56.88 291 *e*P P 09 09 24.2 -1.0
KBL pmax pmax
comp=Z,14nm,0.6s
HYB **Hyderabad** 57.02 269 *i* P P 09 09 27.0 +0.8
HYB **Hyderabad** 57.02 269 *e*P P 09 09 25.7 -0.5
HYB IAmb IAmb 09 09 26.9
comp=Z,10nm,0.8s
WHY **Whitehorse** 57.45 36 *e*P P 09 09 30.4 +1.8
comp=Z,8.3nm,0.9s
ABKAR **Akbulak array** 58.02 310 *e*P P 09 09 32.4 -0.3
AS01 **Alice Springs** 59.18 186 *e*P P 09 09 40.6 -0.3
AS31 **Alice Springs** 59.19 187 *e*P P 09 09 40.8 -0.2
comp=Z,5.2nm,0.4s
ASAR **Alice Springs** 59.19 187 P P 09 09 40.6 -0.4
comp=Z,8.4nm,0.4s,baz=18,slow=10.0,SNR=106
ASAR S S 09 17 44.2 +1.1
comp=Z,0.9nm,1.1s,baz=19,slow=17,SNR=4.4
ASAR PKP2bc 09 39 24.4
comp=Z,1.7nm,0.8s,baz=167,slow=1.9,SNR=16
MBWA **Marble Bar** 59.60 202 *e*P P 09 09 43.6 -0.2
comp=Z,52nm,0.6s
POO **Poona** 60.29 272 *e*P P 09 09 47.8 -1.0
PALK **Pallekele** 60.94 257 *e*P P 09 09 53.4 +0.1
comp=Z,14nm,0.8s
PALK **Pallekele** 60.94 257 P P 09 09 53.6 +0.3
PALK **Pallekele** 60.94 257 *e*P P 09 09 53.4 +0.1
PALK pmax pmax
comp=Z,14nm,0.8s
BHJ **Bhuj** 61.35 279 *e*P P 09 09 54.7 -1.2
PRGR **Permogore** 61.38 327 *e*P P 09 09 54.8 -0.7
PRGR pmax pmax
comp=Z,23nm,0.7s
EIDS **Eidsvold** 61.50 169 *e*P P 09 09 57.5 +0.8
comp=Z,7.1nm,0.9s
SPA0 **Spitsbergen Ar** 61.74 349 *e*P P 09 09 58.7 +0.9
SPA0 **Spitsbergen Ar** 61.74 349 *e*P P 09 09 58.5 +0.7
KBS **Kingsbay** 61.91 350 *e*P P 09 09 59.8 +0.9
comp=Z,32nm,0.8s
KBS **Kingsbay** 61.91 350 *ce*P P 09 09 58.8 0.0
KBS pmax pmax
comp=Z,185nm,1.7s
KBS **Kingsbay** 61.91 350 *e*P P 09 09 60.0 +1.1
DZM **Mont Dzumac** 62.56 152 *e*LR LR 09 28 47.4
comp=Z,260nm,33.0s
HSPB **Hornsund (broa** 62.64 348 *e*P P 09 10 04.8 +1.0
LVZ **Lovozero** 62.98 336 *e*P P 09 10 06.2 +0.1
comp=Z,14nm,0.8s
LVZ **Lovozero** 62.98 336 *e*P P 09 10 06.3 +0.1
LVZ pmax pmax
comp=Z,14nm,0.8s
GEYT **Alibeck** 63.55 299 P P 09 10 10.3 -0.2
comp=Z,2.3nm,0.6s,baz=9.5,slow=4.5,SNR=6.7
GEYT LR LR 09 39 45.7
comp=Z,93nm,18.8s,baz=225,slow=38
GYA0B **ALIBECK ARRAY** 63.55 299 *e*P P 09 10 10.7 +0.2
comp=Z,8.9nm,0.7s
RES **Resolute Bay** 64.30 14 *e*P P 09 10 15.0 +0.3
comp=Z,18nm,0.8s
RES **Resolute Bay** 64.30 14 *e*P P 09 10 15.0 +0.3
RES pmax pmax
comp=Z,18nm,0.8s
KLMR **Klimovskoe** 64.39 328 *e*P P 09 10 14.1 -1.4
KLMR pmax pmax
comp=Z,22nm,0.7s
KLMR **Klimovskoe** 64.39 328 *e*P P 09 10 14.1 -1.4
KLMR AMP 09 10 15.9
comp=Z,22nm,0.7s
KEV **Kevo** 64.41 339 *e*P P 09 10 15.2 -0.2
comp=Z,20nm,0.8s
KEV **Kevo** 64.41 339 *e*P P 09 10 15.3 -0.2
KEV pmax pmax
comp=Z,20nm,0.8s
ARA0 **ARCESS Array S** 64.97 339 *e*P P 09 10 19.3 +0.1
ARCES **ARCESS Array B** 64.97 339 P P 09 10 19.3 +0.1
comp=Z,14nm,0.7s,baz=59,slow=7.3,SNR=66
ARCES **ARCESS Array B** 64.97 339 *e*P P 09 10 19.1 -0.1
ARE0 **ARCESS Array S** 64.97 339 *e*P P 09 10 19.5 +0.3
comp=Z,7.7nm,0.8s
ARE0 **ARCESS Array S** 64.97 339 *e*P P 09 10 19.3 +0.2
YKA **Yellowknife Ar** 65.65 29 P P 09 10 23.9 +0.3
comp=Z,1.4nm,0.6s,baz=305,slow=4.5,SNR=11
YKB5 **Yellowknife Ar** 65.65 29 *e*P P 09 10 24.1 +0.4
SGF **Sodankyl** 65.87 337 P P 09 10 25.2 +0.2
SGF pmax pmax
comp=Z,83nm,0.7s
MSF **Maaselka** 65.90 335 P P 09 10 25.4 +0.1
MSF pmax pmax
comp=Z,52nm,0.8s
KTK1 **Kautokeino** 65.93 339 *e*P P 09 10 25.7 +0.3
JOF **Joensuu** 66.72 332 P P 09 10 30.1 -0.4
JOF pmax pmax
comp=Z,48nm,1.4s
TRO **Tromso** 66.73 341 *e*P P 09 10 30.5 0.0
FORT **Forrest** 66.94 191 *e*P P 09 10 32.3 +0.1
comp=Z,88nm,0.6s
AFI **Afiamalu** 67.10 128 LR LR 09 37 52.3
comp=Z,55nm,18.9s,baz=299,slow=34
STKA **Stephens Creek** 67.10 179 P P 09 10 33.2 +0.1
comp=Z,7.9nm,0.7s,baz=356,slow=5.5,SNR=20
STKA LR LR 09 39 30.3
comp=Z,37nm,19.9s,baz=24,slow=36
STKA **Stephens Creek** 67.10 179 *e*P P 09 10 33.3 +0.1
comp=Z,2.6nm,1.0s
STKA **Stephens Creek** 67.10 179 *e*P P 09 10 33.3 +0.1
STKA pmax pmax
comp=Z,3.0nm,1.0s
DAG **Danmarks Havn** 67.14 355⇑ *i*P P 09 10 33.1 +0.2
comp=Z,20nm,0.6s
DAG **Danmarks Havn** 67.14 355⇑ *i*P P 09 10 33.1 +0.2

DAG pmax pmax
comp=Z,14nm,0.6s
OUL Oulu 67.45 335 P **P** 09 10 35.2 +0.1
OUL pmax pmax
comp=Z,58nm,1.2s
MOS Moscow 67.75 323 *eP* **P** 09 10 35.4 -1.7
MOS pmax pmax
comp=Z,38nm,1.1s
VRH Novokhopyorsk 67.90 318 *eP* **P** 09 10 37.4 -0.8
VRH pmax pmax
comp=Z,30nm,0.7s
BBOO Buckleboo 68.12 184 *eP* **P** 09 10 39.7 +0.1
comp=Z,18nm,1.0s
OBN Obninsk 68.59 323 P **P** 09 10 42.1 -0.3
comp=Z,5.3nm,0.4s,baz=214,slow=19,SNR=4.4
OBN Obninsk 68.59 323⇑ *eP* **P** 09 10 42.2 -0.1
OBN *PP **pP** 09 11 02.0 +0.4
OBN 09 11 06.0
OBN *SP **sP** 09 11 11.0 +1.2
OBN *eS* **S** 09 19 31.6 -7.3
OBN pmax pmax
comp=Z,21nm,0.9s
OBN MLR MLR
comp=Z,107nm,16.0s
LPSR Galich'ya Gora 68.69 320 *eP* **P** 09 10 42.5 -0.6
LPSR pmax pmax
comp=Z,50nm,1.0s
SUF Sumiainen 68.78 333 P **P** 09 10 43.2 -0.2
SUF pmax pmax
comp=Z,53nm,1.1s
PUL Pulkovo 68.87 329*de* **P** 09 10 44.9 +0.8
PUL pmax pmax
comp=Z,54nm,0.6s
STEI Steigen 68.88 341 *eP* **P** 09 10 44.0 +0.1
VSR Storozhevoye 69.28 319 *eP* **P** 09 10 46.1 -0.7
VSR pmax pmax
comp=Z,40nm,0.9s
VORD Divnogorie 69.34 318 *eP* **P** 09 10 46.5 -0.6
VORD pmax pmax
comp=Z,20nm,1.1s
KULLO Kullorsuaq 69.54 5 *i* P **P** 09 10 48.2 +0.2
comp=Z,18nm,0.6s
KULLO Kullorsuaq 69.54 5 *i* P **P** 09 10 48.2 +0.2
KULLO pmax pmax
comp=Z,18nm,0.6s
FIA1 FINESS Array S 69.58 332 *eP* **P** 09 10 48.0 -0.4
FIA0 FINESS Array S 69.58 332 *eP* **P** 09 10 48.1 -0.2
FIA0 FINESS Array S 69.58 332 *eP* **P** 09 10 48.2 -0.2
FINES FINESS Array B 69.58 332 P **P** 09 10 48.1 -0.2
comp=Z,31nm,0.7s,baz=84,slow=5.9,SNR=116
FINES LR LR 09 43 05.5
comp=Z,61nm,20.6s,baz=60,slow=37
VAF Ylistaro 69.83 334 P **P** 09 10 50.5 +0.6
VAF pmax pmax
comp=Z,57nm,0.9s
MOR8 Moi Rana 70.34 339 *eP* **P** 09 10 51.6 -1.4
LTY Liberty 70.49 45 *eP* **P** 09 10 55.1 +0.7
comp=Z,5.4nm,1.0s
BANOM Banah 70.59 288 P **P** 09 10 55.8 +0.5
SHME Shamm 70.65 289 *i* P **P** 09 10 56.1 +0.4
SNR=8.2
B08A Colville Reser 70.68 44 *eP* **P** 09 10 56.1 +0.6
comp=Z,5.9nm,0.9s
ZEI Tsey 70.85 309 *eP* **P** 09 10 55.4 -1.4
ZEI pmax pmax
comp=Z,8.0nm,1.0s
MDH Madha 70.91 288 P **P** 09 10 57.9 +0.7
MSFE Esma-Masafi 70.99 288 P **P** 09 10 58.4 +0.7
KBZ Khabaz 70.99 310 P **P** 09 10 57.1 -0.2
comp=Z,17nm,0.9s,baz=69,slow=3.5,SNR=25
KBZ LR LR 09 45 16.6
comp=Z,86nm,19.8s,baz=57,slow=38
KVAR Kislovodsk Arr 71.00 311 P **P** 09 10 57.4 -0.1
comp=Z,11nm,0.9s,baz=255,slow=20,SNR=5.0
KIV Kislovodsk 71.00 311 *eP* **P** 09 10 57.7 +0.1
comp=Z,30nm,0.8s
KIV Kislovodsk 71.00 311 *i* P **P** 09 10 59.2 +1.6
SNR=5.3
KIV Kislovodsk 71.00 311 *eP* **P** 09 10 58.2 +0.6
KIV pmax pmax
comp=Z,40nm,1.0s
KIV MLR MLR
comp=Z,68nm,18.0s
VSU Vasula 71.14 329 *eP* **P** 09 10 57.9 0.0
VSU IAmb IAmb 09 10 58.5
comp=Z,98nm,0.7s
VSU Vasula 71.14 329*ce* **P** 09 10 57.7 -0.2
VSU pmax pmax
comp=Z,122nm,1.7s
UOSS Minazif 71.17 288 *eP* **P** 09 10 58.5 -0.2
comp=Z,14nm,1.0s
UOSS Minazif 71.17 288 P **P** 09 10 59.0 +0.3
HATD Hatta, Dubai 71.28 287 *i* P **P** 09 10 60.0 +0.5
SNR=6.1
NEY Neytrino 71.35 310⇓ *eP* **P** 09 11 00.6 +0.8
NEY pmax pmax
comp=Z,3.0nm,1.0s
NWAO Narrogin (SRO) 71.40 200 *eP* **P** 09 10 59.7 0.0
comp=Z,17nm,0.7s
NWAO Narrogin (SRO) 71.40 200 *eP* **P** 09 10 59.7 0.0
NWAO pmax pmax
comp=Z,17nm,0.7s
ASHO Ashiyiah 71.42 287 P **P** 09 11 00.6 +0.3
D08A Wollman Farm, 71.61 45 *eP* **P** 09 11 01.9 +0.8
comp=Z,7.4nm,0.8s
GNI Garni 71.67 306⇓ *eP* **P** 09 11 03.0 +1.3
GNI pmax pmax
comp=Z,36nm,1.3s
FAQ Al Faqa, Dubai 71.75 288 P **P** 09 11 02.2 0.0
AKH Akhalkalaki 71.82 308 *eP* **P** 09 11 03.2 +0.6
comp=Z,27nm,1.5s
AKH Akhalkalaki 71.82 308 *eP* **P** 09 11 03.2 +0.6
AKH pmax pmax
comp=Z,27nm,1.5s
NEW Newport 71.98 43 *eP* **P** 09 11 03.9 +0.6
comp=Z,16nm,1.4s
NEW Newport 71.98 43 *eP* **P** 09 11 03.9 +0.6
NEW pmax pmax
comp=Z,16nm,1.4s
NEW Newport 71.98 43 P **P** 09 11 03.9 +0.6
baz=303,SNR=5.4
ASUD Al Ashush, Dub 72.01 288 P **P** 09 11 04.3 +0.5
SUMG Summit 72.15 360 *eP* **P** 09 11 05.2 +1.0
comp=Z,40nm,0.7s
SUMG Summit 72.15 360 *i* P **P** 09 11 05.3 +1.0
comp=Z,97nm,0.7s
SUMG Summit 72.15 360 *i* P **P** 09 11 05.3 +1.0
SUMG pmax pmax
comp=Z,97nm,0.7s
YBH Yreka Blue Hor 72.15 51 *eP* **P** 09 11 05.6 +1.1
comp=Z,8.8nm,1.3s
YBH Yreka Blue Hor 72.15 51 *eP* **P** 09 11 05.6 +1.1
YBH pmax pmax
comp=Z,9.0nm,1.3s
L04D Klamath Falls 72.15 51 P **P** 09 11 06.1 +1.5
baz=302
AJN Ajban 72.31 288 P **P** 09 11 06.0 +0.4
E09A Wood Farm, Sta 72.36 45 *eP* **P** 09 11 06.4 +0.9
comp=Z,17nm,1.1s
N02D Trinity Center 72.55 52 P **P** 09 11 08.0 +1.1
baz=302
KCPM Cahto Peak 72.66 53 *eP* **P** 09 11 09.1 +1.5
comp=Z,20nm,1.1s
M04C Macdoel 72.67 51 P **P** 09 11 08.7 +1.1
baz=302
O02D Mt. Diablo Mer 72.92 53 P **P** 09 11 10.9 +1.8
baz=302
IZAR Zarasai 73.03 327 *eP* **P** 09 11 09.6 +0.3
IZAR IAmb IAmb 09 11 10.8
comp=Z,15nm,0.6s
MICGM Minsk 73.07 326 *e* **P** 09 11 09.0 -0.5
MNK Minsk 73.07 326 *eP* **P** 09 11 09.0 -0.5
IDID Didziasalis 73.08 327 *eP* **P** 09 11 10.1 +0.5
IDID IAmb IAmb 09 11 11.2
comp=Z,18nm,0.8s
ISAL Salakas 73.19 327 *eP* **P** 09 11 10.7 +0.4
ISAL IAmb IAmb 09 11 12.0
comp=Z,23nm,0.9s
IIGN Ignalina 73.29 327 *eP* **P** 09 11 11.4 +0.5
IIGN IAmb IAmb 09 11 12.4
comp=Z,14nm,0.7s
SCO Scoresbysund 73.45 354 *i* P **P** 09 11 12.9 +1.4
comp=Z,19nm,0.7s
SCO Scoresbysund 73.45 354 *i* P **P** 09 11 12.9 +1.4
SCO pmax pmax
comp=Z,19nm,0.7s
SLIT Slitere, Latvi 73.49 330 *eP* **P** 09 11 11.4 -0.5
SLIT IAmb IAmb 09 11 12.0
comp=Z,222nm,0.6s
O03E Paynes Creek 73.50 52 P **P** 09 11 13.5 +1.0
baz=303
MOD Modoc Plateau 73.57 50 *eP* **P** 09 11 14.1 +1.1
comp=Z,5.2nm,0.9s
BMO Blue Mountains 73.77 46 *eP* **P** 09 11 14.9 +0.9
comp=Z,9.8nm,1.1s
BMO Blue Mountains 73.77 46 *eP* **P** 09 11 14.9 +0.9
BMO pmax pmax
comp=Z,10.0nm,1.1s
JTMT Jette 73.84 43 *eP* **P** 09 11 14.5 0.0
comp=Z,16nm,0.7s
ORV Oroville 74.09 53 *eP* **P** 09 11 16.7 +0.8
comp=Z,4.4nm,1.0s
ORV Oroville 74.09 53 *eP* **P** 09 11 16.7 +0.8
ORV pmax pmax
comp=Z,4.0nm,1.0s
WVOR Wild Horse Val 74.31 49 *eP* **P** 09 11 18.0 +0.7
comp=Z,6.5nm,1.0s
WVOR Wild Horse Val 74.31 49 *eP* **P** 09 11 18.0 +0.7
WVOR pmax pmax
comp=Z,7.0nm,1.0s
MSO Missoula 74.57 43 *eP* **P** 09 11 19.1 +0.5
comp=Z,9.3nm,1.1s
MSO Missoula 74.57 43 P **P** 09 11 19.4 +0.7
baz=306
BEKR Beckworth 74.66 52 *eP* **P** 09 11 19.5 +0.2
comp=Z,7.7nm,0.8s
AKASG Malin Array Be 74.75 322 P **P** 09 11 19.1 -0.4
comp=Z,7.9nm,0.4s,baz=50,slow=6.1,SNR=47
AKASG LR LR 09 46 23.2
comp=Z,86nm,19.4s,baz=55,slow=37
AKBB Malin Array Si 74.75 322 *eP* **P** 09 11 18.9 -0.6
comp=Z,32nm,0.9s
AKBB Malin Array Si 74.75 322 *eP* **P** 09 11 18.9 -0.6
AKBB pmax pmax
comp=Z,32nm,0.9s
KIEV Kiev 74.77 322 *eP* **P** 09 11 19.2 -0.3
comp=Z,29nm,0.9s
KIEV Kiev 74.77 322 *i* P **P** 09 11 19.1 -0.4
SNR=16
KIEV Kiev 74.77 322*c i* P **P** 09 11 18.9 -0.6
KIEV pmax pmax
comp=Z,27nm,0.9s
AK11 Malin Array Si 74.80 322 *eP* **P** 09 11 19.4 -0.4
NC405 NORSAR Array S 74.88 337 *eP* **P** 09 11 20.1 0.0
NC303 NORSAR Array S 74.90 337 *eP* **P** 09 11 20.4 +0.2
DOMB Dombas 74.99 338 *eP* **P** 09 11 21.0 +0.2
NC204 NORSAR Array S 75.06 337 *eP* **P** 09 11 21.2 +0.1
NB201 NORSAR Array S 75.06 337 *eP* **P** 09 11 21.0 -0.1
NB2 NORSAR Subarra 75.09 337 P **P** 09 11 20.9 -0.4
comp=Z,21nm,0.8s,baz=41,slow=5.9
NB2 NORSAR Subarra 75.09 337 P **P** 09 11 20.9 -0.4
baz=41,slow=5.9
NB200 NORSAR Array S 75.09 337 *eP* **P** 09 11 21.2 -0.1
NOA NORSAR Array B 75.09 337 P **P** 09 11 21.2 -0.1
comp=Z,18nm,0.8s,baz=40,slow=5.8,SNR=70
NOA pP **pP** 09 11 43.2 +2.4
comp=Z,9.0nm,0.7s,baz=41,slow=5.9,SNR=5.6
NOA LR LR 09 47 55.8
comp=Z,34nm,18.2s,baz=40,slow=38
NC602 NORSAR Array S 75.22 337 *eP* **P** 09 11 22.0 0.0
NORES NORESS Array B 75.22 337 P **P** 09 11 21.6 -0.4
RUBR Rubicon Trail 75.24 53 *eP* **P** 09 11 23.0 +0.2
comp=Z,4.8nm,0.8s
NBO00 NORSAR Array S 75.24 337 *eP* **P** 09 11 22.3 +0.2
NAO01 NORSAR Array S 75.35 337 *eP* **P** 09 11 23.2 +0.5
PAHR Pah Rah Range 75.37 52 *eP* **P** 09 11 24.6 +1.1
comp=Z,5.4nm,0.9s
VCNR Virginia City 75.43 52 *eP* **P** 09 11 24.8 +0.9
comp=Z,2.7nm,0.8s
MFID Camas Ranch 75.46 47 *eP* **P** 09 11 24.9 +1.1
comp=Z,6.0nm,0.7s
SUW Suwalki 75.50 327 *eP* **P** 09 11 24.4 +0.7
SUW Suwalki 75.50 327 *eP* **P** 09 11 24.4 +0.7
FFC Flin Flon 75.55 32 *eP* **P** 09 11 24.7 +0.7
comp=Z,15nm,1.0s
FFC Flin Flon 75.55 32 *eP* **P** 09 11 24.7 +0.7
FFC pmax pmax
comp=Z,15nm,1.0s
PNTR Pine Nut 75.58 52 *eP* **P** 09 11 26.0 +1.2
comp=Z,7.1nm,1.1s
CMB Columbia Colle 75.65 53 *eP* **P** 09 11 26.1 +1.1
comp=Z,3.4nm,0.7s
HRY Holter Researc 75.81 42 *eP* **P** 09 11 27.1 +1.3
FCC Fort Churchill 75.82 26 *eP* **P** 09 11 26.0 +0.6
comp=Z,38nm,1.2s
FCC Fort Churchill 75.82 26 *eP* **P** 09 11 26.0 +0.6
FCC pmax pmax
comp=Z,38nm,1.2s
YERR Yerington 75.87 52 *eP* **P** 09 11 27.6 +1.3
comp=Z,6.0nm,0.9s
WAKR Walker 76.01 53 *eP* **P** 09 11 28.6 +1.4
comp=Z,5.2nm,0.9s
EGMT Eagleton 76.13 40 *eP* **P** 09 11 28.6 +1.0
comp=Z,14nm,0.9s
EGMT Eagleton 76.13 40 P **P** 09 11 28.4 +0.9
baz=308
HLID Hailey 76.21 46 *eP* **P** 09 11 29.2 +1.0
comp=Z,3.3nm,0.8s
HLID Hailey 76.21 46 P **P** 09 11 29.6 +1.4
baz=306,SNR=7.9
BMN Battle Mountai 76.32 50 *eP* **P** 09 11 30.2 +1.3
comp=Z,22nm,1.5s
BMN Battle Mountai 76.32 50 *eP* **P** 09 11 30.2 +1.3
BMN pmax pmax
comp=Z,22nm,1.5s
RYN Ryan 76.53 52 *eP* **P** 09 11 31.6 +1.5
comp=Z,4.6nm,0.8s
KVN Kaiserville 76.56 52 *eP* **P** 09 11 31.5 +1.2
comp=Z,17nm,1.4s
KVN Kaiserville 76.56 52 *eP* **P** 09 11 31.5 +1.2
KVN pmax pmax
comp=Z,17nm,1.4s
BOZ Bozeman (W) 76.59 43 *eP* **P** 09 11 31.3 +1.0
comp=Z,5.2nm,0.8s
BOZ Bozeman (W) 76.59 43 *eP* **P** 09 11 31.3 +1.0
BOZ pmax pmax
comp=Z,5.0nm,0.8s
KONO Kongsberg 76.68 337 *eP* **P** 09 11 30.7 +0.4
comp=Z,10.0nm,0.9s
KONO Kongsberg 76.68 337 *eP* **P** 09 11 30.7 +0.4
KONO pmax pmax
comp=Z,10.0nm,0.9s
MDPB Devils Postpil 76.73 53 *eP* **P** 09 11 32.6 +1.3
comp=Z,4.3nm,1.0s
NV01 Mina Array Sit 76.78 52 *eP* **P** 09 11 32.6 +1.0
NVAR Mina Array Bea 76.78 52 P **P** 09 11 33.1 +1.5
comp=Z,4.5nm,0.7s,baz=293,slow=5.4,SNR=40
NV11 Mina Array Sit 76.88 52 *eP* **P** 09 11 33.1 +1.1
comp=Z,0.3nm,0.8s
PAGB Antelope Grade 77.04 55 *eP* **P** 09 11 33.6 +0.8
comp=Z,7.6nm,0.8s
YHB Horse Butte 77.35 44 *eP* **P** 09 11 36.2 +1.5
comp=Z,6.8nm,0.8s
ELK Elko 77.37 49 *eP* **P** 09 11 36.1 +1.2
comp=Z,3.9nm,0.6s
ELK Elko 77.37 49 *eP* **P** 09 11 36.1 +1.2
ELK pmax pmax
comp=Z,4.0nm,0.6s
SFJD Kangerlussuaq 77.44 4 *eP* **P** 09 11 34.9 +0.5
comp=Z,13nm,0.8s
SFJD Kangerlussuaq 77.44 4 *i* P **P** 09 11 35.0 +0.6
comp=Z,9.8nm,0.6s
SFJD Kangerlussuaq 77.44 4 *i* P **P** 09 11 35.0 +0.6
SFJD pmax pmax
comp=Z,10.0nm,0.6s
YHH Holmes Hill 77.52 44 *eP* **P** 09 11 36.5 +0.8
comp=Z,3.2nm,0.9s
BLS5 Blasjo 77.85 338 *eP* **P** 09 11 36.8 -0.1
LVV L'vov 77.89 323 *eP* **P** 09 11 37.4 +0.2
H17A Grant Village 77.92 44 P **P** 09 11 40.9 +3.0
baz=308
FLWY Flagg Ranch 78.04 44 *eP* **P** 09 11 39.4 +0.9
comp=Z,5.8nm,0.8s
BEL Belsk 78.04 326 *eP* **P** 09 11 38.8 +0.8
BEL Belsk 78.04 326 *eP* **P** 09 11 38.8 +0.8
CWC Cottonwood Cre 78.07 54 P **P** 09 11 40.0 +1.2
baz=306
FXWY Fox Creek 78.13 45 *eP* **P** 09 11 39.8 +0.7
comp=Z,2.8nm,0.8s
BSD Bornholm Skovb 78.19 331 *i* P **P** 09 11 38.4 -0.4
comp=Z,31nm,0.8s
BSD Bornholm Skovb 78.19 331 *i* P **P** 09 11 38.4 -0.4
BSD pmax pmax
comp=Z,31nm,0.8s
MOOW Moose Ponds 78.22 44 *eP* **P** 09 11 40.8 +1.3
comp=Z,3.1nm,0.8s
HVU Hansel Valley 78.24 47 *eP* **P** 09 11 41.2 +1.6
comp=Z,8.3nm,0.8s
HVU Hansel Valley 78.24 47 *eP* **P** 09 11 41.2 +1.6
HVU pmax pmax
comp=Z,8.0nm,0.8s
ISA Isabella, Lake 78.26 55 P **P** 09 11 40.0 +0.3
baz=306
TPAW Teton Pass 78.26 45 *eP* **P** 09 11 40.8 +0.9
comp=Z,7.7nm,0.6s
LOHW Long Hollow 78.39 44 *eP* **P** 09 11 41.7 +1.2
comp=Z,2.2nm,0.8s
SNOW Snow King Moun 78.39 45 *eP* **P** 09 11 41.8 +1.3
comp=Z,4.7nm,0.8s
DAC Darwin (Calif) 78.49 54 *eP* **P** 09 11 41.8 +0.7
comp=Z,2.6nm,0.8s
DAC Darwin (Calif) 78.49 54 *eP* **P** 09 11 41.8 +0.7
DAC pmax pmax
comp=Z,3.0nm,0.8s
R11A Troy Canyon, C 78.57 51 *eP* **P** 09 11 42.6 +1.1
comp=Z,3.7nm,0.8s
R11A Troy Canyon, C 78.57 51 P **P** 09 11 42.8 +1.3
baz=306,SNR=9.1
KWP Kalwaria Pacla 78.65 324 *eP* **P** 09 11 42.3 +0.8
KWP Kalwaria Pacla 78.65 324 *eP* **P** 09 11 42.3 +0.8
MPMC Manual Prospec 78.68 54 P **P** 09 11 43.1 +0.9
baz=306
COP Copenhagen 78.72 333 *i* P **P** 09 11 41.9 +0.2
comp=Z,45nm,0.9s
COP Copenhagen 78.72 333 *i* P **P** 09 11 41.9 +0.2
COP pmax pmax
comp=Z,45nm,0.9s
BIZ Bicaz 78.73 320⇑ *iP* **P** 09 11 42.3 +0.3
BUR08 Bucovina Ar. S 78.74 321 *eP* **P** 09 11 42.4 +0.3
BUR04 Bucovina Ar. S 78.75 321 *eP* **P** 09 11 42.5 +0.3
BURAR Bucovina Array 78.75 321⇑ *iP* **P** 09 11 42.6 +0.4
BURAR Bucovina Array 78.75 321⇑ *P* **P** 09 11 42.6 +0.4
CFR Carcaliu 78.78 318⇑ *iP* **P** 09 11 42.6 +0.4
CFR Carcaliu 78.78 318⇑ *P* **P** 09 11 42.6 +0.4
FURC Furnace Creek, 78.85 53 P **P** 09 11 44.1 +1.3
baz=306,SNR=6.7
BR101 Keskin Array S 78.96 311 *eP* **P** 09 11 43.6 +0.1
BR131 Keskin Array S 78.96 311 *eP* **P** 09 11 43.9 +0.3
BRTR Keskin Array B 78.96 311 P **P** 09 11 43.6 +0.1
comp=Z,3.6nm,0.7s,baz=104,slow=5.2,SNR=16
BRTR pP **pP** 09 12 05.3 +2.0
comp=Z,4.9nm,0.9s,baz=85,slow=4.3,SNR=4.6
BRTR PP **PP** 09 14 41.5 -1.2
comp=Z,1.2nm,0.8s,baz=92,slow=7.4,SNR=3.8
BRTR LR LR 09 49 01.4
comp=Z,19nm,21.1s,baz=45,slow=37
TPNV Topopah Spring 78.97 52 *eP* **P** 09 11 44.5 +0.9
comp=Z,7.5nm,0.8s
TPNV Topopah Spring 78.97 52 *eP* **P** 09 11 44.6 +0.9
TPNV pmax pmax
comp=Z,8.0nm,0.8s
TPNV Topopah Spring 78.97 52 P **P** 09 11 44.8 +1.1
baz=306,SNR=10.0
EDW2 Edwards Air Fo 79.03 55 P **P** 09 11 45.2 +1.3
baz=306,SNR=5.7
VRI Vrincioaia 79.10 319⇓ *iP* **P** 09 11 44.7 +0.7
VRI Vrincioaia 79.10 319⇓ *P* **P** 09 11 44.7 +0.7
DUG Dugway, Tooele 79.18 48 *eP* **P** 09 11 45.6 +0.8
comp=Z,6.4nm,0.7s
DUG Dugway, Tooele 79.18 48 *eP* **P** 09 11 45.6 +0.8
DUG pmax pmax
comp=Z,6.0nm,0.7s
DUG Dugway, Tooele 79.18 48 P **P** 09 11 46.0 +1.3
baz=308,SNR=12
BW06 Boulder Array 79.51 45 *eP* **P** 09 11 47.3 +0.7
comp=Z,3.8nm,0.6s
BW06 Boulder Array 79.51 45 P **P** 09 11 47.5 +0.8
baz=309
PD31 Pinedale Array 79.51 45 *eP* **P** 09 11 47.0 +0.4
PDAR Pinedale Array 79.51 45 P **P** 09 11 47.2 +0.6
comp=Z,3.0nm,0.5s,baz=261,slow=1.6,SNR=40
PDAR PKKPbc **PKKPbc** 09 30 34.0 +0.2
comp=Z,0.3nm,0.6s,baz=120,slow=5.3,SNR=3.7
PDAR LR LR 09 45 57.3
comp=Z,17nm,18.7s,baz=351,slow=35
UZH Uzhgorod 79.53 323 *eP* **P** 09 11 46.9 +0.6
UZH *e* 09 11 52.7
ARCR ARCALIA 79.54 321⇓ *iP* **P** 09 11 48.3 +1.9
PSUT Pine Spring 79.55 50 *eP* **P** 09 11 47.9 +1.0
comp=Z,4.7nm,0.9s
GSC Goldstone, Bar 79.58 54 *eP* **P** 09 11 47.8 +0.8
comp=Z,5.4nm,1.0s
GSC Goldstone, Bar 79.58 54 *eP* **P** 09 11 47.8 +0.8
GSC pmax pmax
comp=Z,5.0nm,1.0s
GSC Goldstone, Bar 79.58 54 P **P** 09 11 47.7 +0.8
baz=306,SNR=5.4
PGOR Pogoanele 79.58 318⇑ *iP* **P** 09 11 49.2 +2.6
CIS Catalina Islan 79.61 56 P **P** 09 11 48.0 +1.0
baz=306
OJC Ojcow 79.61 326 *eP* **P** 09 11 47.1 +0.3
OJC Ojcow 79.61 326 *eP* **P** 09 11 47.3 +0.6
comp=Z,34nm,0.9s
OJC Ojcow 79.61 326 *eP* **P** 09 11 47.3 +0.6
OJC pmax pmax
comp=Z,34nm,0.9s
BFSC Mount Baldy Ra 79.63 55 P **P** 09 11 48.5 +1.2
baz=306
DOPR Dopca 79.74 320⇓ *iP* **P** 09 11 48.8 +1.3
TRPA Tarpa 79.75 323⇑ *iP* **P** 09 11 48.1 +0.7
TRPA Tarpa 79.75 323⇑ *eP* **P** 09 11 47.8 +0.4
SHPR Sheep Range 79.94 52 *eP* **P** 09 11 50.1 +1.2
comp=Z,5.3nm,0.8s
NIE Niedzica 79.94 325 *eP* **P** 09 11 49.4 +0.8
NIE Niedzica 79.94 325 *eP* **P** 09 11 49.4 +0.8
MPU Maple Canyon 80.00 48 *eP* **P** 09 11 50.5 +1.2
comp=Z,6.9nm,0.7s
TUQ Turquoise Moun 80.08 54 P **P** 09 11 50.7 +1.0
baz=307,SNR=8.7
RAYN Ar Rayn 80.15 292 *eP* **P** 09 11 50.2 0.0
comp=Z,17nm,0.6s
RAYN Ar Rayn 80.15 292 *i* P **P** 09 11 50.3 +0.2
SNR=18
RAYN Ar Rayn 80.15 292 *eP* **P** 09 11 50.2 0.0
RAYN pmax pmax
comp=Z,17nm,0.6s
HEC Hector,Ludlow 80.17 54 P **P** 09 11 51.2 +1.1
baz=307,SNR=6.0
CJR Cluj-Napoca 80.17 321⇑ *iP* **P** 09 11 50.7 +0.8
CJR Cluj-Napoca 80.17 321⇑ *P* **P** 09 11 50.7 +0.8
RAR Rarotonga 80.24 125 LR LR 09 42 06.7
comp=Z,15nm,21.5s,baz=84,slow=32
VOIR 80.27 320⇓ *iP* **P** 09 11 47.6 -2.9
VOIR 80.27 320⇓ *P* **P** 09 11 47.6 -2.9
MURC Murrieta 80.32 56 P **P** 09 11 51.9 +1.0
baz=306
CCUT Cedar City 80.45 51 *eP* **P** 09 11 53.0 +1.3
comp=Z,3.8nm,0.9s
KECS Kecovo 80.50 324 *eP* **P** 09 11 51.3 -0.2
KECS pmax pmax
comp=Z,8.0nm,0.7s
KECS Kecovo 80.50 324 *eP* **P** 09 11 51.3 -0.2
LANS Liptovska Anna 80.52 325 *eP* **P** 09 11 52.7 +1.0
LANS Liptovska Anna 80.52 325 *eP* **P** 09 11 52.7 +1.0
ARR Arges 80.54 320⇓ *iP* **P** 09 11 53.2 +1.3
DRGR 80.57 322⇑ *iP* **P** 09 11 52.2 +0.2
DRGR 80.57 322⇑ *P* **P** 09 11 52.2 +0.2
SZCU Shurtz Canyon 80.60 50 *eP* **P** 09 11 53.5 +1.0
comp=Z,5.6nm,1.2s
MSU Marysvale 80.60 49 *eP* **P** 09 11 54.2 +1.6
GMRC Granite Mounta 80.64 54 P **P** 09 11 53.9 +1.2
baz=307,SNR=14
TMUT Trail Mountain 80.71 48 *eP* **P** 09 11 54.4 +1.2
comp=Z,3.2nm,0.8s
KSP Ksiaz 80.74 328 *eP* **P** 09 11 53.1 +0.3
KSP Ksiaz 80.74 328 *eP* **P** 09 11 53.1 +0.3
FRD Ford Ranch, An 80.78 55 P **P** 09 11 54.1 +0.7
baz=307
109C Camp Elliot, M 80.80 56 P **P** 09 11 54.1 +0.7
baz=307
PFO Pinyon Flats O 80.81 55 *eP* **P** 09 11 54.1 +0.5
comp=Z,7.7nm,0.9s
PFO Pinyon Flats O 80.81 55 *eP* **P** 09 11 54.1 +0.5
PFO pmax pmax
comp=Z,8.0nm,0.9s
PFO Pinyon Flats O 80.81 55 P **P** 09 11 54.5 +0.9
baz=307,SNR=7.0
XPFO Piæon Flat 80.81 55 *eP* **P** 09 11 54.8 +1.1

	comp=Z,7.6nm,0.9s								
TPFO	**Pinon Flats**	**80.81**	**55**	P		**P**	**09 11 54.5**	**+0.8**
	baz=307								
P17A	**Butcher Ranch,**	**80.88**	**48**	*e*P		**P**	**09 11 55.3**	**+1.3**
	comp=Z,12nm,0.6s								
BELC	**Belle Mtn. Jos**	**80.88**	**55**	P		**P**	**09 11 54.8**	**+0.7**
	baz=307,SNR=11								
MTPU	**Mount Pierson**	**80.89**	**50**	*e*P		**P**	**09 11 55.5**	**+1.2**
	comp=Z,6.0nm,0.8s								
LOT	**Lotru**	**80.94**	**320**	⇓*i*P		**P**	**09 11 53.8**	**-0.3**
MORC	**Moravsky Berou**	**80.96**	**326**	*e*P		**P**	**09 11 54.4**	**+0.5**
MORC	**Moravsky Berou**	**80.96**	**326**	⇑*i*P		**P**	**09 11 54.5**	**+0.5**
MORC	**Moravsky Berou**	**80.96**	**326**	⇑P		**P**	**09 11 54.5**	**+0.5**
MORC	**Moravsky Berou**	**80.96**	**326**	*e*P		**P**	**09 11 54.3**	**+0.3**
P18A	**Preston Nutter**	**81.08**	**47**	*e*P		**P**	**09 11 56.6**	**+1.4**
	comp=Z,8.8nm,0.8s								
DPC	**Dobruska-Polom**	**81.09**	**327**	*e*P		**P**	**09 11 55.6**	**+0.9**
DPC				*e*PCP		**PcP**	**09 12 00.5**	**-0.4**
DPC	**Dobruska-Polom**	**81.09**	**327**	*e*P		**P**	**09 11 55.6**	**+0.9**
KNB	**Kanab**	**81.12**	**51**	*e*P		**P**	**09 11 57.1**	**+1.8**
	comp=Z,15nm,1.0s								
PSZ	**Piszkesteto**	**81.18**	**324**	*e*P		**P**	**09 11 55.8**	**+0.5**
	comp=Z,18nm,0.9s								
PSZ	**Piszkesteto**	**81.18**	**324**	⇓*i*P		**P**	**09 11 56.1**	**+0.8**
PSZ	**Piszkesteto**	**81.18**	**324**	⇑*e*P		**P**	**09 11 56.0**	**+0.8**
PSZ	**Piszkesteto**	**81.18**	**324**	⇓P		**P**	**09 11 56.1**	**+0.8**
BAR	**Barrett**	**81.22**	**56**	*e*P		**P**	**09 11 56.4**	**+0.7**
	comp=Z,8.4nm,0.8s								
SRU	**San Rafael Swe**	**81.24**	**48**	*e*P		**P**	**09 11 56.9**	**+1.0**
	comp=Z,12nm,0.6s								
MONP2	**Monument Peak**	**81.26**	**56**	P		**P**	**09 11 57.4**	**+1.3**
	baz=307								
VYHS	**Vyhne**	**81.28**	**325**	*e*P		**P**	**09 11 56.3**	**+0.6**
VYHS				*e*			09 12 20.3		
VYHS				pmax		pmax			
	comp=Z,7.0nm,1.0s								
VYHS	**Vyhne**	**81.28**	**325**	*e*P		**P**	**09 11 56.2**	**+0.6**
VYHS				*e*pP		**pP**	**09 12 20.3**	**+4.8**
ULM	**Lac du Bonnet**	**81.35**	**33**	P		**P**	**09 11 55.5**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=317,slow=6.8,SNR=8.1								
IRM	**Iron Mountain**	**81.36**	**54**	P		**P**	**09 11 57.6**	**+1.2**
	baz=307,SNR=8.7								
BC3	**Big Chuckawall**	**81.45**	**55**	P		**P**	**09 11 57.9**	**+0.9**
	baz=307,SNR=8.5								
SIRR	**Siria**	**81.46**	**322**	⇑*i*P		**P**	**09 11 57.6**	**+0.9**
JAVC	**Velka Javorina**	**81.56**	**326**	*e*P		**P**	**09 11 58.6**	**+1.4**
IKP	**In-Ko-Pah, Jac**	**81.62**	**56**	P		**P**	**09 11 59.0**	**+1.1**
	baz=307								
BKZ	**Black Stump Fm**	**81.64**	**152**	*e*P		**P**	**09 11 57.6**	**+0.1**
	comp=Z,10nm,0.9s								
RSSD	**Black Hills**	**81.68**	**41**	*e*P		**P**	**09 11 58.6**	**+0.4**
	comp=Z,9.9nm,1.4s								
RSSD	**Black Hills**	**81.68**	**41**	*e*P		**P**	**09 11 58.6**	**+0.4**
RSSD				pmax		pmax			
	comp=Z,10.0nm,1.4s								
RSSD	**Black Hills**	**81.68**	**41**	P		**P**	**09 11 58.4**	**+0.2**
	baz=312								
PVCC	**Panska Ves**	**81.72**	**328**	*e*P		**P**	**09 11 59.0**	**+1.1**
PVCC	**Panska Ves**	**81.72**	**328**	*e*P		**P**	**09 11 59.0**	**+1.1**
VRAC	**Vranov**	**81.72**	**326**	⇑*i*P		**P**	**09 11 58.9**	**+0.9**
VRAC	**Vranov**	**81.72**	**326**	⇑P		**P**	**09 11 58.9**	**+0.9**
VRAC	**Vranov**	**81.72**	**326**	*e*P		**P**	**09 11 58.5**	**+0.5**
BRG	**Berggiesshubel**	**81.73**	**329**	*i* P		**P**	**09 11 58.1**	**+0.1**
	comp=Z,12nm,0.8s								
BRG				*e*			09 12 10.5		
	comp=Z,5.2nm,1.0s								
BRG				*e*			09 12 23.8		
	comp=Z,12nm,1.1s								
BRG	**Berggiesshubel**	**81.73**	**329**	*i* P		**P**	**09 11 58.1**	**+0.1**
BRG				*e*			09 12 23.8		
BRG				pmax		pmax			
	comp=Z,12nm,0.8s								
CLL	**Collm**	**81.79**	**330**	*e*P		**P**	**09 11 58.0**	**-0.3**
	comp=Z,27nm,0.9s								
CLL	**Collm**	**81.79**	**330**	⇑*i*P		**P**	**09 11 58.2**	**-0.1**
	comp=Z,30nm,0.9s								
CLL				*e*PcP		**PcP**	**09 12 02.0**	**-1.9**
CLL				*e*			09 12 16.0		
CLL				*i* (pP)		**sP**	**09 12 23.7**	**-2.4**
CLL				*e*PP		**PP**	**09 15 05.0**	**-0.5**
CLL	**Collm**	**81.79**	**330**	⇑*i*P		**P**	**09 11 58.2**	**-0.1**
CLL				*i* *SP		**sP**	**09 12 23.7**	**-2.4**
CLL				pmax		pmax			
	comp=Z,30nm,0.9s								
BZS	**Buzias**	**81.93**	**321**	⇑*i*P		**P**	**09 11 59.1**	**0.0**
BZS	**Buzias**	**81.93**	**321**	⇑P		**P**	**09 11 59.1**	**0.0**
PDMCI	**Parker Dam,Lak**	**81.93**	**54**	P		**P**	**09 12 00.6**	**+1.2**
	baz=308								
O20A	**White River Ci**	**81.95**	**46**	P		**P**	**09 12 00.5**	**+0.9**
	baz=310								
KRUC	**Moravsky**	**81.99**	**326**	*e*P		**P**	**09 11 59.7**	**+0.3**
Y12C	**Blythe**	**82.01**	**54**	*e*P		**P**	**09 12 01.3**	**+1.5**
	comp=Z,6.7nm,0.8s								
Y12C	**Blythe**	**82.01**	**54**	P		**P**	**09 12 01.5**	**+1.7**
	baz=308,SNR=6.4								
HERR	**Herculane**	**82.02**	**320**	⇓*i*P		**P**	**09 11 59.1**	**-0.6**
CSS	**Mathiatis**	**82.06**	**307**	*e*P		**P**	**09 12 00.2**	**+0.1**
	comp=Z,13nm,1.0s								
GOPC	**GO Pecny, Ondr**	**82.08**	**328**	*e*P		**P**	**09 12 00.7**	**+0.8**
GOPC	**GO Pecny, Ondr**	**82.08**	**328**	*e*P		**P**	**09 12 00.7**	**+0.8**
MODS	**Modra-Piesok**	**82.09**	**326**	*e*P		**P**	**09 12 00.2**	**+0.2**
MODS				pmax		pmax			
	comp=Z,15nm,1.1s								
MODS	**Modra-Piesok**	**82.09**	**326**	*e*P		**P**	**09 12 00.1**	**+0.1**
PRA	**Prague**	**82.11**	**328**	*e*P		**P**	**09 12 01.0**	**+1.0**
PRA	**Prague**	**82.11**	**328**	*e*P		**P**	**09 12 01.0**	**+1.0**
PUNG	**Punghina**	**82.16**	**320**	⇑*i*P		**P**	**09 12 01.9**	**+1.5**
TREC	**Trest**	**82.23**	**327**	*e*P		**P**	**09 12 01.2**	**+0.5**
TREC	**Trest**	**82.23**	**327**	*e*P		**P**	**09 12 01.2**	**+0.5**
GLA	**Glamis**	**82.23**	**55**	*e*P		**P**	**09 12 02.4**	**+1.3**
	comp=Z,8.3nm,0.8s								
GLA	**Glamis**	**82.23**	**55**	*e*P		**P**	**09 12 02.4**	**+1.3**
GLA				pmax		pmax			
	comp=Z,8.0nm,0.8s								
MDVR	**Moldovita**	**82.45**	**321**	⇓*i*P		**P**	**09 12 00.9**	**-1.1**
PV09	**Paradox Valley**	**82.47**	**48**	*e*P		**P**	**09 12 04.0**	**+1.5**
PV21	**Cone Mtn., Par**	**82.52**	**48**	*e*P		**P**	**09 12 04.3**	**+1.6**
	comp=Z,13nm,0.6s								
PV23	**Carpenter Ridg**	**82.57**	**48**	*e*P		**P**	**09 12 04.6**	**+1.6**
	comp=Z,13nm,0.7s								
PV10	**Paradox Valley**	**82.60**	**48**	*e*P		**P**	**09 12 04.9**	**+1.8**
PV14	**Lion Creek, Pa**	**82.61**	**48**	*e*P		**P**	**09 12 04.2**	**+1.0**
	comp=Z,16nm,0.6s								
PV20	**West Nyswonger**	**82.67**	**48**	*e*P		**P**	**09 12 04.8**	**+1.4**
	comp=Z,16nm,0.7s								
PV19	**Morning Glory**	**82.68**	**48**	*e*P		**P**	**09 12 04.7**	**+1.2**
	comp=Z,12nm,0.9s								
PV17	**East Wray Mesa**	**82.71**	**48**	*e*P		**P**	**09 12 05.1**	**+1.4**
	comp=Z,16nm,0.7s								
PV11	**David Mesa, Pa**	**82.75**	**48**	*e*P		**P**	**09 12 05.3**	**+1.4**
	comp=Z,40nm,1.5s								
PV05	**Paradox Valley**	**82.76**	**48**	*e*P		**P**	**09 12 05.3**	**+1.4**
N23A	**Red Feather La**	**82.78**	**44**	*e*P		**P**	**09 12 05.3**	**+1.3**
	comp=Z,13nm,1.2s								
N23A	**Red Feather La**	**82.78**	**44**	P		**P**	**09 12 05.5**	**+1.4**
	baz=312,SNR=5.2								
PV12	**Saucer Basin,**	**82.78**	**48**	*e*P		**P**	**09 12 05.1**	**+1.1**
	comp=Z,10nm,0.8s								
PV03	**Paradox Valley**	**82.80**	**48**	*e*P		**P**	**09 12 05.2**	**+1.1**
MOX	**Moxa**	**82.87**	**330**	P		**P**	**09 12 04.3**	**+0.3**
MOX				pmax		pmax			
	comp=Z,10.0nm,1.8s								
PV13	**Radium Mtn., P**	**82.87**	**48**	*e*P		**P**	**09 12 05.7**	**+1.1**
	comp=Z,14nm,0.9s								
SOP	**Sopron**	**82.92**	**325**	⇑*e*P		**P**	**09 12 05.0**	**+0.7**
SOP	**Sopron**	**82.92**	**325**	P		**P**	**09 12 05.0**	**+0.7**
SOP				pmax		pmax			
	comp=Z,20nm,1.5s								
WUAZ	**Wupatki**	**82.97**	**51**	*e*P		**P**	**09 12 05.9**	**+0.9**
	comp=Z,11nm,0.9s								
WUAZ	**Wupatki**	**82.97**	**51**	P		**P**	**09 12 06.4**	**+1.4**
	baz=309,SNR=7.6								
MORH	**M˙r˙igy, Hung**	**82.99**	**323**	⇑*e*P		**P**	**09 12 04.1**	**-0.5**
MORH	**M˙r˙igy, Hung**	**82.99**	**323**	*e*P		**P**	**09 12 04.1**	**-0.5**
PV01	**Paradox Valley**	**83.04**	**48**	*e*P		**P**	**09 12 06.5**	**+1.1**
CONA	**Conrad Observa**	**83.06**	**326**	*e*PcP		**P**	**09 12 05.9**	**+0.7**
	comp=Z,16nm,1.5s,SNR=7.3								
VTS	**Vitosha**	**83.16**	**318**	*e*P		**P**	**09 12 06.0**	**+0.1**
	comp=Z,15nm,0.9s								
KHC	**Kasperske Hory**	**83.19**	**328**	*e*P		**P**	**09 12 05.9**	**+0.2**
	comp=Z,4.2nm,0.9s								
KHC	**Kasperske Hory**	**83.19**	**328**	*e*P		**P**	**09 12 05.8**	**+0.1**
KHC				*e*PCP		**PcP**	**09 12 12.8**	**+2.7**
KHC				*e*pP		**sP**	**09 12 30.5**	**-3.0**
KHC	**Kasperske Hory**	**83.19**	**328**	*e*P		**P**	**09 12 05.9**	**+0.2**
KHC				pmax		pmax			
	comp=Z,4.0nm,0.9s								
SMCO	**Snowmass**	**83.31**	**46**	*e*P		**P**	**09 12 08.3**	**+1.3**
	comp=Z,5.9nm,1.0s								
IVI	**Ivigtut**	**83.34**	**4**	*e*P		**P**	**09 12 06.8**	**+0.7**
	comp=Z,21nm,0.7s								
GEC2	**GERESS Array S**	**83.35**	**328**	*e*P		**P**	**09 12 06.6**	**0.0**
	comp=Z,6.9nm,0.9s								
GEC2	**GERESS Array S**	**83.35**	**328**	*e*P		**P**	**09 12 06.6**	**0.0**
GEC2				pmax		pmax			
	comp=Z,7.0nm,0.9s								
GERES	**GERESS Array B**	**83.35**	**328**	P		**P**	**09 12 06.6**	**0.0**
	comp=Z,6.3nm,0.9s,baz=38,slow=5.0,SNR=28								
GERES				pP		**pP**	**09 12 27.9**	**+1.4**
	comp=Z,2.6nm,0.7s,baz=46,slow=6.0,SNR=4.7								
GERES				LR		LR	09 52 52.2		
	comp=Z,44nm,18.3s,baz=52,slow=38								
GEA0	**GERESS Array S**	**83.35**	**328**	*e*P		**P**	**09 12 06.3**	**-0.3**
MVCO	**Mesa Verde**	**83.68**	**48**	*e*P		**P**	**09 12 09.2**	**+0.5**
	comp=Z,8.1nm,0.8s								
MVCO	**Mesa Verde**	**83.68**	**48**	P		**P**	**09 12 09.9**	**+1.2**
	baz=310,SNR=7.6								
ISCO	**Idaho Springs**	**83.69**	**45**	*e*P		**P**	**09 12 09.7**	**+0.9**
	comp=Z,2.7nm,0.9s								
ISCO	**Idaho Springs**	**83.69**	**45**	*e*P		**P**	**09 12 09.7**	**+0.9**
ISCO				pmax		pmax			
	comp=Z,3.0nm,0.9s								
ISCO	**Idaho Springs**	**83.69**	**45**	P		**P**	**09 12 10.1**	**+1.3**
	baz=312								
ARSA	**Arzberg**	**83.72**	**326**	*e*P		**P**	**09 12 08.5**	**+0.1**
	comp=Z,7.9nm,1.1s								
GRF	**Grafenberg Arr**	**83.76**	**329**	P		**P**	**09 12 09.5**	**+0.9**
GRF				pmax		pmax			
	comp=Z,30nm,1.1s								
GRFO	**Grafenberg**	**83.76**	**329**	*e*P		**P**	**09 12 08.7**	**+0.1**
	comp=Z,21nm,0.9s								
GRFO	**Grafenberg**	**83.76**	**329**	*e*P		**P**	**09 12 08.7**	**+0.1**
GRFO				pmax		pmax			
	comp=Z,21nm,0.9s								
DIVS	**Divibare**	**83.81**	**321**	*e*P		**P**	**09 12 09.1**	**0.0**
	comp=Z,15nm,0.9s								
DIVS	**Divibare**	**83.81**	**321**	⇑*i*P		**P**	**09 12 08.9**	**-0.2**
MOA	**Molln**	**83.84**	**327**	*i* P		**P**	**09 12 09.2**	**+0.1**
	comp=Z,9.6nm,1.0s								
SRS	**Serrai**	**83.95**	**317**	P		**P**	**09 12 09.7**	**0.0**
SRS				pmax		pmax			
	comp=Z,14nm,1.0s								
ESK	**Eskdalemuir**	**84.15**	**340**	*e*P		**P**	**09 12 10.8**	**+0.4**
	comp=Z,40nm,1.3s								
ESK	**Eskdalemuir**	**84.15**	**340**	*e*P		**P**	**09 12 10.8**	**+0.4**
ESK				pmax		pmax			
	comp=Z,40nm,1.3s								
LBZ	**Lake Benmore**	**84.16**	**159**	*e*P		**P**	**09 12 11.3**	**+0.9**
	comp=Z,9.9nm,0.9s								
BBLS	**Lazići**	**84.28**	**321**	⇑*i*P		**P**	**09 12 11.7**	**+0.3**
KNT	**Kendrikon**	**84.31**	**318**	P		**P**	**09 12 12.6**	**+1.1**
KNT				pmax		pmax			
	comp=Z,10.0nm,1.2s								
S22A	**4UR Ranch, Cre**	**84.34**	**47**	*e*P		**P**	**09 12 13.6**	**+1.5**
	comp=Z,6.5nm,0.8s								
S22A	**4UR Ranch, Cre**	**84.34**	**47**	P		**P**	**09 12 13.7**	**+1.6**
	baz=311,SNR=9.2								
HAPS	**Han Pijesak,Bl**	**84.35**	**322**	*e*P		**P**	**09 12 11.3**	**-0.5**
PERS	**Pernice**	**84.36**	**325**	*i* P		**P**	**09 12 11.7**	**0.0**
PERS	**Pernice**	**84.36**	**325**	*i* P		**P**	**09 12 11.7**	**0.0**
SOKA	**Soboth**	**84.37**	**325**	*i* P		**P**	**09 12 11.9**	**+0.1**
	comp=Z,29nm,1.0s,SNR=15								
PMOR	**Pomariorio Ree**	**84.65**	**113**	*e*T		T	10 44 52.1		
	comp=Z,6.7nm,0.2s								
OBKA	**Obir**	**84.72**	**326**	*i* P		**P**	**09 12 13.3**	**-0.3**
	comp=Z,5.4nm,0.8s								
GRG	**Griva**	**84.72**	**318**	P		**P**	**09 12 14.4**	**+0.8**
GRG				pmax		pmax			
	comp=Z,10.0nm,1.3s								
BLY	**Banja Luka**	**84.76**	**323**	*e*P		**P**	**09 12 13.3**	**-0.4**
	comp=Z,11nm,1.1s								
CRES	**Cresnjev**	**84.80**	**325**	⇑*i*P		**P**	**09 12 13.5**	**-0.4**
KBA	**Koelnbreinsper**	**84.84**	**327**	*i* P		**P**	**09 12 14.0**	**-0.3**
	comp=Z,6.7nm,0.7s								
KBA	**Koelnbreinsper**	**84.84**	**327**	P		**P**	**09 12 14.9**	**+0.6**
KBA				pmax		pmax			
	comp=Z,12nm,0.8s								
UPM	**Unac-Piva**	**85.01**	**321**	*e*P		**P**	**09 12 15.1**	**-0.1**
PPT	**Papeete**	**85.01**	**116**	LR		LR	09 42 03.1		
	comp=Z,48nm,21.8s,baz=328,slow=30								
PPT2	**Papeete2**	**85.03**	**116**	*e*S		S	09 22 48.4	+9.4
	comp=Z,49nm,24.2s								
PPT2	**Papeete2**	**85.03**	**116**	*e*LR		LR	09 38 54.5		
	comp=Z,505nm,34.0s,baz=310								
PPT2	**Papeete2**	**85.03**	**116**	*e*T		T	10 45 21.1		
	comp=Z,1.9nm,0.3s								
MYKA	**Terra Mystica**	**85.04**	**326**	*i* P		**P**	**09 12 14.5**	**-0.7**
	comp=Z,8.3nm,0.8s								
MEM	**Membach**	**85.10**	**333**	P		**P**	**09 12 15.8**	**+0.5**
MEM				pmax		pmax			
	comp=Z,28nm,1.0s								
MEM	**Membach**	**85.10**	**333**	⇑P		**P**	**09 12 14.9**	**-0.4**
VISS	**Visnje**	**85.11**	**325**	*i* P		**P**	**09 12 14.9**	**-0.5**
VISS	**Visnje**	**85.11**	**325**	*i* P		**P**	**09 12 14.9**	**-0.5**
SDCO	**Great Sand Dun**	**85.13**	**46**	*e*P		**P**	**09 12 17.2**	**+1.1**
	comp=Z,8.8nm,0.9s								
SDCO	**Great Sand Dun**	**85.13**	**46**	P		**P**	**09 12 17.6**	**+1.5**
	baz=312,SNR=7.0								
BOJS	**Bojanci**	**85.13**	**325**	*e*P		**P**	**09 12 15.3**	**-0.3**
BOJS	**Bojanci**	**85.13**	**325**	*e*P		**P**	**09 12 15.3**	**-0.3**
LIT	**Litokhoron**	**85.26**	**317**	*e*P		**P**	**09 12 16.4**	**0.0**
	comp=Z,21nm,0.8s								
LIT	**Litokhoron**	**85.26**	**317**	*e*P		**P**	**09 12 16.4**	**0.0**
LIT				pmax		pmax			
	comp=Z,21nm,0.8s								
CEY	**Cerknica**	**85.35**	**325**	⇑*i*P		**P**	**09 12 16.0**	**-0.7**
TUC	**Tucson**	**85.36**	**53**	*e*P		**P**	**09 12 18.1**	**+1.0**
	comp=Z,4.8nm,0.9s								
TUC	**Tucson**	**85.36**	**53**	*e*P		**P**	**09 12 18.1**	**+1.0**
TUC				pmax		pmax			
	comp=Z,5.0nm,0.9s								
TUC	**Tucson**	**85.36**	**53**	P		**P**	**09 12 18.0**	**+1.0**
	baz=310								
PDG	**Podgorica**	**85.38**	**320**	⇓*i*P		**P**	**09 12 17.0**	**+0.2**
PDG	**Podgorica**	**85.38**	**320**	⇑*i*P		**P**	**09 12 16.5**	**-0.3**
TTG	**Podgorica**	**85.38**	**320**	*e*P		**P**	**09 12 17.0**	**+0.2**
	comp=Z,23nm,1.0s								
TTG	**Podgorica**	**85.38**	**320**	*e*P		**P**	**09 12 17.0**	**+0.2**
TTG				pmax		pmax			
	comp=Z,23nm,1.0s								
JAVS	**Javornik**	**85.40**	**325**	*i* P		**P**	**09 12 16.1**	**-1.0**
JAVS	**Javornik**	**85.40**	**325**	*i* P		**P**	**09 12 16.1**	**-1.0**
FNA	**Florina**	**85.40**	**318**	*e*P		**P**	**09 12 17.3**	**+0.2**
	comp=Z,4.9nm,0.8s								
FNA	**Florina**	**85.40**	**318**	*e*P		**P**	**09 12 17.3**	**+0.2**
FNA				pmax		pmax			
	comp=Z,5.0nm,0.8s								
BRY	**Bratogosti**	**85.41**	**321**	*e*P		**P**	**09 12 16.5**	**-0.7**
ABTA	**Abfaltersbach**	**85.46**	**327**	*i* P		**P**	**09 12 15.9**	**-1.4**
	comp=Z,9.2nm,0.9s								
DRME	**Dracevica, Mon**	**85.58**	**320**	*e*P		**P**	**09 12 16.4**	**-1.5**
RETA	**Reutte**	**85.66**	**328**	*i* PcP		**P**	**09 12 18.3**	**0.0**
	comp=Z,7.9nm,0.8s								
HCY	**Herceg Novi**	**85.76**	**321**	*e*P		**P**	**09 12 18.4**	**-0.3**
ECSD	**EROS Data Cent**	**85.78**	**37**	*e*P		**P**	**09 12 19.2**	**+0.4**
	comp=Z,4.9nm,0.8s								
ECSD	**EROS Data Cent**	**85.78**	**37**	P		**P**	**09 12 18.8**	**0.0**
	baz=317								
WLF	**Walferdange**	**85.81**	**332**	⇑P		**P**	**09 12 19.1**	**+0.3**
BFO	**Black Forest**	**86.02**	**330**	*e*P		**P**	**09 12 19.6**	**-0.3**
	comp=Z,11nm,0.9s								
BFO	**Black Forest**	**86.02**	**330**	*e*P		**P**	**09 12 19.6**	**-0.3**
BFO				pmax		pmax			
	comp=Z,11nm,0.9s								
FETA	**Feichten**	**86.03**	**328**	*i* PcP		**P**	**09 12 19.9**	**-0.3**
	comp=Z,5.9nm,0.9s								
T25A	**Trinidad**	**86.17**	**46**	P		**P**	**09 12 21.5**	**+0.3**
	baz=313,SNR=5.9								
DAVA	**Damuels**	**86.19**	**329**	*i* PcP		**P**	**09 12 20.9**	**-0.1**
	comp=Z,7.1nm,0.8s								
BAIF	**Baives**	**86.22**	**333**	*e*P		**P**	**09 12 20.1**	**-0.7**
BAIF				pmax		pmax			
	comp=Z,10.0nm,1.0s								
F38A	**Pierce - Schro**	**86.34**	**33**	P		**P**	**09 12 22.1**	**+0.6**
	baz=320								
CDF	**Champ du Feu**	**86.38**	**331**	*e*P		**P**	**09 12 21.1**	**-0.7**
CDF				pmax		pmax			
	comp=Z,13nm,0.9s								
ANMO	**Albuquerque**	**86.41**	**49**	*e*P		**P**	**09 12 23.7**	**+1.4**
	comp=Z,6.6nm,1.3s								
ANMO	**Albuquerque**	**86.41**	**49**	⇑*e*P		**P**	**09 12 22.7**	**+0.3**
ANMO				pmax		pmax			
	comp=Z,4.0nm,1.3s								
ANMO	**Albuquerque**	**86.41**	**49**	P		**P**	**09 12 23.8**	**+1.4**
	baz=312								
FUORN	**Ofenpass-Fuorn**	**86.55**	**328**	*e*P		**P**	**09 12 23.1**	**+0.3**
	comp=Z,16nm,0.9s								
ECH	**Echery**	**86.58**	**331**	*e*P		**P**	**09 12 22.7**	**0.0**
	comp=Z,9.5nm,0.8s								
ECH	**Echery**	**86.58**	**331**	*e*P		**P**	**09 12 22.7**	**0.0**
ECH				pmax		pmax			
	comp=Z,10.0nm,0.8s								
DSB	**Dublin**	**86.86**	**341**	*e*P		**P**	**09 12 24.2**	**+0.3**
	comp=Z,29nm,1.4s								
TAOE	**Nuku Hiva Isla**	**86.94**	**103**	*e*LR		LR	09 40 05.3		
	comp=Z,274nm,28.3s								
SCHQ	**Schefferville**	**87.06**	**15**	P		**P**	**09 12 24.5**	**-0.4**
	comp=Z,12nm,0.7s,baz=351,slow=6.3,SNR=14								
SCHQ	**Schefferville**	**87.06**	**15**	*e*P		**P**	**09 12 25.7**	**+0.9**
	comp=Z,15nm,0.8s								
TUE	**Stuetta**	**87.06**	**328**	*e*P		**P**	**09 12 25.9**	**+0.6**
	comp=Z,7.5nm,0.8s								
HAU	**Haudompre**	**87.07**	**331**	*e*P		**P**	**09 12 24.0**	**-1.1**
HAU				pmax		pmax			
	comp=Z,9.0nm,1.0s								
ITM	**Ithomi**	**87.60**	**315**	*e*P		**P**	**09 12 28.9**	**+1.1**
	comp=Z,11nm,0.7s								
I39A	**Houston**	**88.12**	**35**	P		**P**	**09 12 30.0**	**-0.2**
	baz=320								
MATQ	**Matagami**	**88.74**	**23**	P		**P**	**09 12 32.8**	**-0.1**
	baz=330								
TBI	**Tubuai**	**88.77**	**120**	*e*T		T	10 50 02.1		
	comp=Z,6.2nm,0.3s								
LPG	**La Plagne**	**88.93**	**329**	*e*P		**P**	**09 12 33.5**	**-0.8**
LPG				pmax		pmax			
	comp=Z,5.0nm,0.7s								
SSF	**Saint Saulge**	**88.95**	**332**	*e*P		**P**	**09 12 33.4**	**-0.6**
SSF				pmax		pmax			
	comp=Z,28nm,1.8s								
FLN	**La Foliniere**	**88.97**	**335**	*e*P		**P**	**09 12 35.0**	**+0.9**
FLN				pmax		pmax			
	comp=Z,36nm,1.5s								
LDF	**La Druitiere**	**88.99**	**335**	*e*P		**P**	**09 12 33.9**	**-0.3**
LDF				pmax		pmax			
	comp=Z,80nm,1.8s								
KSU1	**Kansas State U**	**89.16**	**41**	P		**P**	**09 12 35.4**	**+0.2**
	baz=317								
AVF	**Avril sur Loir**	**89.24**	**332**	*e*P		**P**	**09 12 35.1**	**-0.2**
AVF				pmax		pmax			
	comp=Z,13nm,0.9s								
LSQQ	**Lebel-sur-Quev**	**89.56**	**23**	P		**P**	**09 12 36.7**	**-0.1**
	baz=331								
CHGQ	**Chibougamau**	**89.62**	**21**	P		**P**	**09 12 36.8**	**-0.3**
	baz=333								
SGMF	**Saint Gilles**	**90.11**	**336**	*e*P		**P**	**09 12 39.1**	**-0.3**
SGMF				pmax		pmax			
	comp=Z,153nm,2.0s								
ROSF	**Rostrenen**	**90.27**	**336**	*e*P		**P**	**09 12 39.9**	**-0.3**
ROSF				pmax		pmax			
	comp=Z,227nm,1.9s								
VIVF	**Saint-Julien-l**	**90.31**	**330**	*e*P		**P**	**09 12 39.7**	**-0.8**
VIVF				pmax		pmax			
	comp=Z,14nm,1.3s								
RJF	**Les Rejaudoux**	**91.18**	**332**	*e*P		**P**	**09 12 44.2**

2.0nm,0.8s,baz=286,slow=18,SNR=3.0
TXAR Lajitas Array 30.89 127 P P 09 50 05.1 -0.7
0.3nm,0.8s,baz=341,slow=11,SNR=3.4

*NEIC **24** 09:51:35.2±0.0, 16°.23N×94°.96W, h56km, mb4.0/4, MD4.2(MEX), After MEX.*
MEX 24 09:51:34.5±0.8, 16°24N×94°98W, h68km±11km, MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.85**	**6**	*e*Pn	Pn	09 51 49.3	-1.9
CMIG				*e*Sn	Sn	09 52 01.6	-1.8
CMIG	**Matias Romero**	**0.85**	**6**	*e*P	Pn	09 51 49.3	-1.8
CMIG				*i* S	Sn	09 52 01.6	-1.8
HUIG	**Huatulco**	**1.18**	**247**	*e*Pn	Pn	09 51 53.2	-2.1
HUIG				*e*Sn	Sn	09 52 09.5	-1.3
HUIG	**Huatulco**	**1.18**	**247**	*i* P	Pn	09 51 53.3	-2.0
HUIG				*i* S	Sn	09 52 09.5	-1.3
PCIG		**1.77**	**107**	*e*Pn	Pn	09 52 01.7	-1.4
PCIG				*e*Sn	Sn	09 52 23.2	-1.5
PCIG		**1.77**	**107**	*i* P	Pn	09 52 01.7	-1.4
PCIG				*i* S	Sn	09 52 23.2	-1.5
VHO	**Vista Hermosa**	**1.88**	**296**	*e*Pn	Pn	09 52 05.1	+0.4
VHO				*e*Sn	Sn	09 52 28.4	+0.8
VHO	**Vista Hermosa**	**1.88**	**296**	*e*P	Pn	09 52 03.7	-0.9
VHO				*i* S	Sn	09 52 26.6	-0.9
CCIG	**Comitan**	**2.73**	**89**	*e*Pn	Pn	09 52 14.7	-1.5
PNIG	**Pinotepa**	**3.03**	**273**	*e*Pn	Pn	09 52 18.3	-1.8
PNIG				*e*Sn	Sn	09 52 51.2	-4.1
PNIG	**Pinotepa**	**3.03**	**273**	*e*P	Pn	09 52 18.6	-1.5
PNIG				*i* S	Sn	09 52 53.4	-1.9
TLIG	**Tlapa**	**3.68**	**291**	*e*Pn	Pn	09 52 30.1	+1.0
TLIG				*e*Sn	Sn	09 53 10.2	-1.2
TLIG	**Tlapa**	**3.68**	**291**	*e*P	Pn	09 52 28.6	-0.5
TLIG				*e*S	Sn	09 53 10.3	-1.1
LVIG	**Laguna Verde**	**3.73**	**339**	*e*Pn	Pn	09 52 27.1	-2.6
LVIG				*e*Sn	Sn	09 53 06.6	-5.7
TEIG	**Tepich**	**7.50**	**57**	*e*Pn	Pn	09 53 18.2	-3.0
TEIG				*e*Sn	Sn	09 54 39.1	-5.7
WHTX	**Lake Whitney,** 7.3nm,0.6s	**15.85**	**352**	*e*Pn	P	09 55 16.4	+0.5
ABTX	**Abilene, Hawle** 15nm,1.6s	**16.86**	**346**	*e*Pn	P	09 55 28.5	+1.4
MIAR	**Mount Ida** 20nm,1.8s	**18.27**	**4**	*e*P	Pn	09 55 47.0	+3.6
X37A	**Clayton** 39nm,1.9s	**18.28**	**359**	*e*P	Pn	09 55 48.9	+5.5
456A	**Hilliard** 415nm,1.9s	**18.66**	**37**	*e*P	P	09 55 47.2	+0.2

*ISK **24** 10:07:50.6, 37°.25N×27°.88E, h30km±1km, ML1.9/5, Suspected Mining explosion.*
*ISCJB **24** 10:07:51.7±0.7, 37°.12N±0°.04×27°.97E±0°.05, h0km, Error ellipse: s-maj=6.7km s-min=4.4km az=35.1*
*DDA **24** 10:07:52.2, 37°.16N×27°.80E, h7km, Md2.5, Suspected Mining explosion.*
ISC 24 10:07:51.0±1.0, 37°08N±0°.05×27°94E±0°.03, h0km, n8, σ0°79/13, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSB	**Milas**	**0.25**	**328**	PG	**Pg**	**10 07 56.1**	**+0.3**
MLSB				SG	**Sg**	**10 08 00.4**	**+1.4**
DAT	**Datca**	**0.46**	**219**	PG	**Pb**	**10 08 02.0**	**-0.1**
DAT	**Datca**	**0.46**	**219**	*i* P	**Pb**	**10 08 01.6**	**-0.4**
BODT	**Bodrum**	**0.50**	**268**	PG	**Pg**	**10 08 01.3**	**+0.6**
BODT				SG	**Sb**	**10 08 09.5**	**-1.2**
TURN	**Turunc**	**0.57**	**111**	PG	**Pg**	**10 08 02.5**	**+0.5**
TURN				SG	**Sb**	**10 08 11.5**	**-1.1**
TURN	**Turunc**	**0.57**	**111**	*i* P	**Pg**	**10 08 01.9**	**-0.1**
TURN				*i* S	**Sg**	**10 08 10.3**	**+0.9**
AYDN	**Tasoluk**	**0.58**	**355**	*i* P	**Pg**	**10 08 02.0**	**-0.1**
AYDN				*i* S	**Sg**	**10 08 09.4**	**-0.2**
DALY	**Dalyan (Mu¨la**	**0.63**	**115**	PG	**Pb**	**10 08 05.0**	**+0.1**

JMA 24 10:09:50.0±0.2, 25°.17N×124°.92E, h4km, M3.5, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKM	**Ikemajima**	**0.39**	**129**	P	Pg	10 09 57.5	+0.1
JIKM				S	Sg	10 10 03.1	+0.6
JIRB	**Irabujima**	**0.41**	**146**	P	Pg	10 09 58.0	+0.1
JIRB				S	Sg	10 10 03.4	+0.1
JMJ	**Miyako jima 2**	**0.49**	**136**	P	Pg	10 09 59.9	+0.5
JMJ				S	Sg	10 10 06.2	+0.4
JTJ	**Tarama**	**0.56**	**201**	P	Pg	10 10 01.2	+0.4
JTJ				S	Sg	10 10 08.9	+0.8
JOGS	**Gusukube**	**0.60**	**133**	P	Pg	10 10 01.8	+0.2
JOGS				S	Sg	10 10 10.0	+0.6
JISG	**Ishigakijimahi**	**0.80**	**224**	P	Pg	10 10 05.4	0.0
JISG				S	Sg	10 10 16.3	+0.5
JIJ	**Ishigaki jima**	**1.07**	**222**	P	Pg	10 10 09.9	-0.6
JIJ				S	Sg	10 10 24.1	-0.3
JKRS	**Kuro-shima**	**1.24**	**222**	P	Pg	10 10 12.9	-1.0
JKRS				S	Sb	10 10 30.3	-0.1

*IDC **24** 10:12:45.2±1.1, 13°.93N×92°.37W, h0km, mb4.3/7, mb1 4.6/11, mb1mx4.2/43, mbtmp4.3/11, ML3.7/3, MS3.6/8, Ms1 3.6/8, ms1mx3.2/28, Error ellipse: s-maj=34.1km s-min=16.0km az=40.0*
*MEX **24** 10:12:50.3±0.6, 13°.87N×92°.57W, h16km±6km, MD3.8*
*NEIC **24** 10:12:50.4±2.0, 13°.96N×92°.29W, h30km±13km, mb4.4/83, MD3.8(MEX), Error ellipse: s-maj=10.1km s-min=5.7km az=194.0*
ISC 24 10:12:51.2±0.6, 13°91N±0°.07×92°48W±0°.06, h46km, n212, σ1§54/209, mb4.4/80, MS3.7/8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.01**	**12**	*e*P	**Pn**	**10 13 07.6**	**-1.4**
THIG				*e*S	**Sn**	**10 13 19.8**	**-2.3**
THIG		**1.01**	**12**	*e*P	**Pn**	**10 13 07.6**	**-1.4**
THIG				*e*S	**Sn**	**10 13 19.8**	**-2.3**
PCIG		**1.92**	**338**	*e*P	**Pn**	**10 13 19.1**	**-2.4**
PCIG		**1.92**	**338**	*e*P	**Pn**	**10 13 19.1**	**-2.4**
PCIG				*i* S	**Sn**	**10 13 41.7**	**-2.7**
APG	**El Apazote** 24nm,0.3s,baz=242,slow=7.3,SNR=208	**2.24**	**61**	Pn	**Pn**	**10 13 24.3**	**-1.6**
APG	87nm,0.3s,baz=9.6,slow=9.3,SNR=8.3			Lg	Lg	10 13 57.5	
APG	comp=Z,502nm,20.0s,baz=205,slow=47			LR	LR	10 14 24.9	
CCIG	**Comitan**	**2.38**	**8**	*e*Pn	**Pn**	**10 13 28.8**	**+0.8**
CCIG	**Comitan**	**2.38**	**8**	*i* P	**Pn**	**10 13 26.7**	**-1.3**
CCIG				*e*P		10 13 29.1	
CCIG				*i* S	**Sn**	**10 13 55.3**	**-0.8**
CMIG	**Matias Romero** 6.4nm,0.3s,baz=140,slow=12,SNR=28	**3.92**	**324**	Pn	**Pn**	**10 13 46.3**	**-2.6**
CMIG	**Matias Romero**	**3.92**	**324**	*e*P	**Pn**	**10 13 47.0**	**-1.9**
CMIG				*i* S	**Sn**	**10 14 31.8**	**-1.9**
HUIG	**Huatulco**	**3.96**	**298**	*i* P	**Pn**	**10 13 45.7**	**-3.8**
HUIG				*i* S	**Sn**	**10 14 29.8**	**-4.9**
ESTN	**Estel**	**6.00**	**97**	*e*Pn	**Pn**	**10 14 15.4**	**-2.1**
TLIG	**Tlapa**	**6.89**	**303**	*e*Pn	**Pn**	**10 14 29.0**	**-0.8**
TEIG	**Tepich**	**7.46**	**32**	*e*Pn	**Pn**	**10 14 36.5**	**-1.0**
JTS	**JuntasAbangare** 0.7nm,0.3s,baz=199,slow=22,SNR=7.9	**8.19**	**115**	Lg	Lg	10 17 00.3	
MOIG	**Morelia**	**10.12**	**306**	*e*Pn	**Pn**	**10 15 16.5**	**+2.3**
LNIG	**Linares**	**12.76**	**330**	*e*Pn	**P**	**10 16 02.2**	**+2.2**
833A	**Chaparral WMA,** 12nm,0.8s	**15.72**	**337**	*e*Pn	**P**	**10 16 33.4**	**+0.5**
435B	**Jarrell** 7.4nm,0.6s	**17.44**	**345**	*e*Pn	**P**	**10 16 54.8**	**+2.9**
JCT	**Junction City** 10nm,0.9s	**17.82**	**339**	*e*P	**P**	**10 16 57.6**	**+1.5**
JCT	**Junction City** baz=156	**17.82**	**339**	P	**P**	**10 16 57.9**	**+1.8**
HPIG	34nm,2.0s	**17.89**	**318**	*e*P	**P**	**10 16 58.3**	**+1.2**
TX31	**Lajitas Ar. Si**	**18.52**	**328**	*e*P	**Pn**	**10 17 05.9**	**+1.4**
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=153,slow=12,SNR=25	**18.52**	**328**	P	**Pn**	**10 17 05.0**	**+0.6**
143A	**Socs Landing,** 18nm,0.9s	**18.73**	**3**	*e*P	**Pn**	**10 17 07.8**	**+1.0**
PTBC	**PUERTO BERRIO,**	**19.18**	**111**	*e*P	**P**	**10 17 10.6**	**-0.6**
251A	**Midway**	**19.22**	**19**	P	**P**	**10 17 12.5**	**+1.0**
	baz=201						
POPC	**Popayan, Colom**	**19.27**	**124**	*e*P	**Pn**	**10 17 14.6**	**+0.9**
149A	**Jones** baz=196	**19.32**	**15**	P	**P**	**10 17 13.4**	**+0.9**
150A	**Eclectic** baz=198	**19.53**	**17**	P	**P**	**10 17 15.3**	**+0.5**
SOTA	**Rioblanco**	**19.57**	**125**	*e*P	**P**	**10 17 12.4**	**-3.5**
Z47A	**Carrollton** baz=192	**19.62**	**11**	P	**P**	**10 17 15.7**	**-0.1**
LPIG	**La Paz** 13nm,0.3s,baz=40,slow=2.2,SNR=9.2	**19.65**	**304**	P	**Pn**	**10 17 18.0**	**+0.1**
151A	**Opelika** baz=200,SNR=6.4	**19.65**	**18**	P	**P**	**10 17 16.8**	**+0.7**
LRAL	**Lakeview Retre**	**19.68**	**14**	*e*P	**P**	**10 17 15.9**	**-0.6**
ABTX	**Abilene, Hawle** 53nm,1.7s	**19.75**	**342**	*e*P	**Pn**	**10 17 18.6**	**-0.4**
ABTX	**Abilene, Hawle** baz=158,SNR=9.0	**19.75**	**342**	P	**Pn**	**10 17 18.6**	**-0.4**
Z49A	**Columbiana** baz=197	**19.95**	**15**	P	**Pn**	**10 17 21.3**	**0.0**
152A	**Waverly Hall** 106nm,1.9s	**19.97**	**19**	*e*P	**P**	**10 17 20.8**	**+1.1**
152A	**Waverly Hall** baz=202	**19.97**	**19**	P	**P**	**10 17 20.4**	**+0.7**
Y46A	**Houston** baz=190	**20.16**	**9**	P	**P**	**10 17 21.7**	**0.0**
Z50A	**Ashland** baz=198	**20.16**	**16**	P	**P**	**10 17 20.9**	**-0.8**
Y48A	**Jasper** baz=194	**20.49**	**13**	P	**P**	**10 17 24.8**	**-0.5**
MIAR	**Mount Ida** 12nm,0.9s	**20.57**	**357**	*e*P	**P**	**10 17 26.4**	**+0.3**
MIAR	**Mount Ida** baz=176	**20.57**	**357**	P	**P**	**10 17 26.6**	**+0.5**
CHIC	**Chingaza**	**20.66**	**115**	*e*P	**P**	**10 17 29.1**	**+1.5**
FLOC	**Florencia**	**20.66**	**125**	*e*P	Pn	10 17 29.2	-0.8
RUSC	**La Rusia**	**20.69**	**111**	*e*P	**P**	**10 17 29.8**	**+1.7**
155A	**Kite** baz=208	**20.75**	**24**	P	**P**	**10 17 27.2**	**-0.9**
X37A	**Clayton** 18nm,1.0s	**20.76**	**353**	*e*P	**P**	**10 17 29.9**	**+1.8**
UALR	**University of**	**20.78**	**0**	*e*P	Pn	10 17 33.9	+2.7
X47A	**Russelville** baz=192	**20.94**	**11**	P	**P**	**10 17 29.8**	**-0.3**
X48A	**Hartselle** baz=194	**21.04**	**13**	P	**P**	**10 17 30.3**	**-0.8**
GOGA	**Godfrey** baz=204	**21.08**	**21**	P	**P**	**10 17 31.5**	**-0.1**
W41B	**Gary Mavity, V** baz=180	**21.18**	**1**	P	**P**	**10 17 32.9**	**+0.3**
GDL2	**Guadalupe Moun**	**21.21**	**331**	*e*P	**P**	**10 17 35.0**	**+1.8**
X49A	**Woodville** baz=196	**21.26**	**14**	P	**P**	**10 17 32.1**	**-1.4**
Y52A	**Lilburn** baz=202	**21.29**	**20**	P	**P**	**10 17 32.2**	**-1.6**
MNTX	**Cornudas Mount** 8.4nm,0.9s	**21.29**	**328**	*e*P	**P**	**10 17 34.7**	**+0.7**
MNTX	**Cornudas Mount** baz=143,SNR=11	**21.29**	**328**	P	**P**	**10 17 35.1**	**+1.1**
X50B	**Fort Payne** baz=198	**21.38**	**16**	P	**P**	**10 17 34.3**	**-0.5**
Z55A	**Blythe** baz=208	**21.41**	**24**	P	**P**	**10 17 36.0**	**+0.8**
WMOK	**Wichita Mounta** 5.5nm,0.9s	**21.51**	**346**	*e*P	**P**	**10 17 36.1**	**-0.1**
WMOK	**Wichita Mounta** baz=163,SNR=7.5	**21.51**	**346**	P	**P**	**10 17 36.7**	**+0.5**
Y54A	**Tignall** baz=206	**21.76**	**22**	P	**P**	**10 17 37.9**	**-1.1**
W49A	**Belvidere** baz=196	**21.85**	**14**	P	**P**	**10 17 39.1**	**-0.8**
MSTX	**Muleshoe** baz=152	**22.05**	**337**	P	**P**	**10 17 43.2**	**+1.1**
TUL1	**Leonard** 9.4nm,0.8s	**22.11**	**353**	*e*P	**P**	**10 17 41.6**	**-1.0**
X53A	**Estenollee** baz=204	**22.12**	**20**	P	**P**	**10 17 42.0**	**-0.8**
HHAR	**Hobbs**	**22.32**	**357**	*e*P	**P**	**10 17 45.7**	**+0.8**
V48A	**Smith Brothers** 9.7nm,0.9s	**22.33**	**12**	*e*P	**P**	**10 17 43.5**	**-1.5**
V48A	**Smith Brothers** baz=194	**22.33**	**12**	P	**P**	**10 17 43.7**	**-1.3**
U40A	**Yellville** baz=179	**22.36**	**359**	P	**P**	**10 17 44.1**	**-1.2**
U42A	**Revenden** baz=183	**22.38**	**3**	P	**P**	**10 17 44.3**	**-1.2**
AMTX	**Amarillo** 42nm,0.8s	**22.48**	**340**	*e*P	**P**	**10 17 46.8**	**+0.1**
AMTX	**Amarillo** baz=156	**22.48**	**340**	P	**P**	**10 17 47.1**	**+0.4**
WVT	**Waverly** baz=191	**22.52**	**10**	P	**P**	**10 17 45.9**	**-1.2**
V49A	**McMinnville** baz=196	**22.55**	**14**	P	**P**	**10 17 46.1**	**-1.3**
PBMO	**Pope Bluff** 8.5nm,0.8s	**22.85**	**4**	*e*P	**P**	**10 17 49.5**	**-1.0**
TKL	**Tuckaleechee C** 12nm,1.0s,baz=213,slow=10,SNR=6.5	**23.03**	**18**	P	**P**	**10 17 50.5**	**-1.9**
TKL	**Tuckaleechee C** 37nm,1.4s	**23.03**	**18**	*e*P	**P**	**10 17 51.4**	**-1.0**
T41A	**Mountain View** baz=181	**23.05**	**1**	P	**P**	**10 17 52.1**	**-0.4**
T42A	**Van Buren** baz=183	**23.06**	**3**	P	**P**	**10 17 51.7**	**-0.9**
T43A	**Greenville** baz=185	**23.16**	**4**	P	**P**	**10 17 53.4**	**-0.2**
121A	**Cookes Peak, D** baz=139,SNR=9.6	**23.22**	**326**	P	**P**	**10 17 56.0**	**+1.5**
V53A	**Saluda** baz=204	**23.35**	**20**	P	**P**	**10 17 54.7**	**-0.8**
KMSC	**Kings Mountain** baz=208	**23.41**	**24**	P	**P**	**10 17 54.9**	**-1.2**
U50A	**Jamestown** baz=198,SNR=5.7	**23.43**	**16**	P	**P**	**10 17 55.2**	**-1.1**
U51A	**La Follette** baz=200,SNR=5.9	**23.63**	**17**	P	**P**	**10 17 57.3**	**-0.8**
U52A	**Thorn Hill** baz=202	**23.83**	**18**	P	**P**	**10 17 59.2**	**-0.9**
S44A	**Carbondale** baz=187	**23.86**	**6**	P	**P**	**10 17 59.4**	**-0.9**
BNM	**Barren Site**	**23.89**	**330**	*e*P	**P**	**10 18 02.2**	**+1.3**
SIUC	**Southern Illin** 19nm,0.8s	**23.89**	**6**	*e*P	**P**	**10 17 59.1**	**-1.4**
TZTN	**Tazewell** 29nm,1.3s	**23.92**	**18**	*e*P	**P**	**10 17 59.5**	**-1.4**
T49A	**Edmonton** 57nm,1.8s	**23.92**	**14**	*e*P	**P**	**10 17 58.8**	**-2.1**
T49A	**Edmonton** baz=196	**23.92**	**14**	P	**P**	**10 17 59.5**	**-1.3**
LPM	**Los Pinos Moun**	**24.02**	**330**	*e*P	**P**	**10 18 03.9**	**+1.9**
LENM	**Lemitar**	**24.07**	**329**	*e*P	**P**	**10 18 04.0**	**+1.5**
CCM	**Cathedral Cave** baz=182	**24.07**	**2**	P	**P**	**10 18 00.9**	**-1.3**
S47A	**Hartford** baz=193	**24.11**	**11**	P	**P**	**10 18 01.2**	**-1.4**
T51A	**Gray** baz=200	**24.20**	**17**	P	**P**	**10 18 02.1**	**-1.3**
R41A	**Rosebud** baz=182	**24.31**	**2**	P	**P**	**10 18 03.3**	**-1.1**
S48A	**Wiedeman Farm,** baz=195	**24.33**	**12**	P	**P**	**10 18 03.0**	**-1.6**
LAZ	**Ladron**	**24.34**	**329**	*e*P	**P**	**10 18 07.3**	**+2.3**
ANMO	**Albuquerque** 1.5nm,0.7s,baz=148,slow=12,SNR=4.1	**24.45**	**331**	P	**P**	**10 18 06.1**	**+0.1**
ANMO	**Albuquerque** 10nm,1.8s	**24.45**	**331**	*e*P	**P**	**10 18 07.5**	**+1.5**
R45A	**Skylar, Fairfi** baz=189	**24.57**	**8**	P	**P**	**10 18 05.3**	**-1.4**
S49A	**Springfield** baz=196	**24.63**	**14**	P	**P**	**10 18 05.6**	**-1.7**
S50A	**Richmond** baz=199	**24.74**	**15**	P	**P**	**10 18 07.0**	**-1.4**
TUC	**Tucson** 4.6nm,1.0s	**24.81**	**321**	*e*P	**P**	**10 18 12.5**	**+3.4**
WCI	**Wyandotte Cave** 22nm,0.8s	**24.84**	**12**	*e*P	**P**	**10 18 07.8**	**-1.4**
WCI	**Wyandotte Cave** baz=194	**24.84**	**12**	P	**P**	**10 18 08.1**	**-1.1**
R47A	**Wooly Knot Far** baz=193	**24.86**	**11**	P	**P**	**10 18 08.8**	**-0.6**
Q41A	**Truxton** baz=182	**24.97**	**2**	P	**P**	**10 18 10.7**	**+0.3**
OLIL	**Olney** 19nm,0.8s	**25.03**	**8**	*e*P	**P**	**10 18 10.8**	**-0.1**
R48A	**Northridge Ran** baz=195	**25.09**	**12**	P	**P**	**10 18 11.0**	**-0.5**
R49A	**Shelbyville** baz=196	**25.14**	**14**	P	**P**	**10 18 10.6**	**-1.3**
KSU1	**Kansas State U** 8.2nm,0.7s	**25.36**	**352**	*e*P	**P**	**10 18 13.6**	**-0.3**
KSU1	**Kansas State U** baz=170	**25.36**	**352**	P	**P**	**10 18 13.9**	**0.0**
T25A	**Trinidad** 9.2nm,0.8s	**25.47**	**337**	*e*P	**P**	**10 18 16.5**	**+1.3**
T25A	**Trinidad** baz=152,SNR=11	**25.47**	**337**	P	**P**	**10 18 17.5**	**+2.3**
CBKS	**Cedar Bluff** 20nm,0.9s	**25.62**	**347**	*e*P	**P**	**10 18 17.6**	**+1.2**
CBKS	**Cedar Bluff** baz=163	**25.62**	**347**	P	**P**	**10 18 17.2**	**+0.8**
P42A	**Winchester** 27nm,1.4s	**25.65**	**4**	*e*P	**P**	**10 18 16.7**	**+0.2**
P46A	**Rosedale** baz=191	**26.03**	**9**	P	**P**	**10 18 18.8**	**-1.2**
Q51A	**Peebles** 13nm,0.9s	**26.29**	**16**	*e*P	**P**	**10 18 20.3**	**-2.1**
SDCO	**Great Sand Dun** 7.1nm,1.1s	**26.42**	**336**	*e*P	**P**	**10 18 25.3**	**+1.5**
SDCO	**Great Sand Dun** baz=150,SNR=8.7	**26.42**	**336**	P	**P**	**10 18 25.8**	**+1.9**
KSCO	**Kaye Shedlock'** 12nm,1.0s	**26.56**	**342**	*e*P	**P**	**10 18 26.1**	**+1.1**
S22A	**4UR Ranch, Cre** 8.3nm,1.0s	**26.95**	**334**	*e*P	**P**	**10 18 29.7**	**+1.0**
S22A	**4UR Ranch, Cre** baz=148,SNR=11	**26.95**	**334**	P	**P**	**10 18 31.0**	**+2.2**
O49A	**Covington** 22nm,1.2s	**27.14**	**14**	*e*P	**P**	**10 18 30.3**	**+0.3**
MVCO	**Mesa Verde** 14nm,1.1s	**27.25**	**331**	*e*P	**P**	**10 18 32.5**	**+1.1**
MVCO	**Mesa Verde** baz=144	**27.25**	**331**	P	**P**	**10 18 33.7**	**+2.4**
WUAZ	**Wupatki** 4.1nm,1.0s	**27.42**	**325**	*e*P	**P**	**10 18 34.9**	**+2.1**
WUAZ	**Wupatki** baz=137	**27.42**	**325**	P	**P**	**10 18 35.0**	**+2.2**
PV01	**Paradox Valley**	**28.04**	**332**	*e*P	**P**	**10 18 40.3**	**+1.9**
PV13	**Radium Mtn., P** 11nm,1.2s	**28.17**	**332**	*e*P	**P**	**10 18 41.1**	**+1.5**
PV02	**Paradox Valley** 11nm,1.2s	**28.17**	**332**	*e*P	**P**	**10 18 41.9**	**+2.3**
SMCO	**Snowmass** 6.6nm,1.0s	**28.23**	**336**	*e*P	**P**	**10 18 40.2**	**-0.1**
ISCO	**Idaho Springs** 9.4nm,1.5s	**28.26**	**338**	*e*P	**P**	**10 18 41.2**	**+0.9**
PV03	**Paradox Valley**	**28.26**	**332**	*e*P	**P**	**10 18 41.9**	**+1.6**
PV18	**Skein Mesa, Pa** 8.4nm,1.0s	**28.28**	**332**	*e*P	**P**	**10 18 42.4**	**+1.8**
PV12	**Saucer Basin,** 16nm,1.0s	**28.29**	**332**	*e*P	**P**	**10 18 43.2**	**+2.6**
PV11	**David Mesa, Pa** 10.0nm,0.9s	**28.31**	**332**	*e*P	**P**	**10 18 43.2**	**+2.4**
PV17	**East Wray Mesa** 7.1nm,0.9s	**28.33**	**332**	*e*P	**P**	**10 18 43.6**	**+2.7**
PV16	**Nyswonger Mesa** 11nm,1.2s	**28.34**	**332**	*e*P	**P**	**10 18 43.4**	**+2.4**
PV14	**Lion Creek, Pa** 11nm,1.2s	**28.44**	**332**	*e*P	**P**	**10 18 44.4**	**+2.5**
PV10	**Paradox Valley**	**28.45**	**332**	*e*P	**P**	**10 18 43.8**	**+1.8**
PV22	**Blue Mesa, Par** 7.7nm,1.0s	**28.46**	**332**	*e*P	**P**	**10 18 44.5**	**+2.3**
PV23	**Carpenter Ridg** 8.2nm,0.8s	**28.50**	**332**	*e*P	**P**	**10 18 45.1**	**+2.6**
KNB	**Kanab** 11nm,1.6s	**29.31**	**325**	*e*P	**P**	**10 18 51.8**	**+2.2**
SZCU	**Shurtz Canyon** 3.6nm,0.9s	**29.88**	**326**	*e*P	**P**	**10 18 56.5**	**+1.8**
CCUT	**Cedar City** 2.6nm,0.9s	**30.00**	**325**	*e*P	**P**	**10 18 57.9**	**+2.1**
P17A	**Butcher Ranch,** 4.4nm,0.9s	**30.12**	**331**	*e*P	**P**	**10 18 58.1**	**+1.4**
RWWY	**Rawlins** 14nm,0.6s	**30.50**	**338**	*e*P	**P**	**10 19 00.0**	**-0.1**
GSC	**Goldstone, Bar** 13nm,1.9s	**30.55**	**318**	*e*P	**P**	**10 19 01.8**	**+1.2**
MPU	**Maple Canyon** 4.6nm,1.2s	**30.97**	**331**	*e*P	**P**	**10 19 06.0**	**+1.8**
PSUT	**Pine Spring** 3.5nm,0.9s	**30.98**	**326**	*e*P	**P**	**10 19 06.6**	**+2.2**
MPMC	**Manual Prospec** baz=128	**31.45**	**319**	P	**P**	**10 19 10.4**	**+1.8**
TCUT	**Toone Canyon** 28nm,1.4s	**31.74**	**332**	*e*P	**P**	**10 19 13.3**	**+2.3**
ISA	**Isabella, Lake** 8.8nm,1.8s	**31.85**	**317**	*e*P	**P**	**10 19 14.1**	**+2.1**
HWUT	**Hardware Ranch** 11nm,1.4s	**32.20**	**333**	*e*P	**P**	**10 19 16.7**	**+1.7**
PD31	**Pinedale Array**	**32.31**	**336**	*e*P	**P**	**10 19 16.8**	**+0.7**
PDAR	**Pinedale Array** 1.3nm,0.9s,baz=126,slow=7.5,SNR=7.6	**32.31**	**336**	P	**P**	**10 19 15.2**	**-0.8**
PDAR	**Pinedale Array**	**32.31**	**336**	*e*P	**P**	**10 19 16.8**	**+0.7**
BGU	**Big Grassy Mou** 2.4nm,0.9s	**32.34**	**330**	*e*P	**P**	**10 19 17.5**	**+1.1**
SPUT	**South Promonto** 4.1nm,1.3s	**32.37**	**331**	*e*P	**P**	**10 19 17.7**	**+1.2**
REDW	**Red Top Meadow** 23nm,1.0s	**33.33**	**335**	*e*P	**P**	**10 19 26.5**	**+1.5**
NV11	**Mina Array Sit** 0.4nm,0.9s	**33.36**	**322**	*e*P	**P**	**10 19 27.5**	**+2.3**
OMMB	**Old Mammoth Mi** 11nm,1.8s	**33.37**	**320**	*e*P	**P**	**10 19 27.6**	**+2.1**
SNOW	**Snow King Moun** 25nm,0.8s	**33.37**	**335**	*e*P	**P**	**10 19 26.6**	**+1.2**
MDPB	**Devils Postpil** 2.7nm,1.0s	**33.43**	**320**	*e*P	**P**	**10 19 28.1**	**+2.1**
LOHW	**Long Hollow** 8.8nm,0.9s	**33.44**	**336**	*e*P	**P**	**10 19 26.9**	**+1.0**
NV01	**Mina Array Sit**	**33.45**	**322**	*e*P	**P**	**10 19 28.2**	**+2.1**
NVAR	**Mina Array Bea** 4.5nm,0.8s,baz=139,slow=9.0,SNR=34	**33.45**	**322**	P	**P**	**10 19 28.0**	**+1.9**
TPAW	**Teton Pass** 18nm,1.3s	**33.47**	**335**	*e*P	**P**	**10 19 27.5**	**+1.2**
MOOW	**Moose Ponds** 8.7nm,1.4s	**33.61**	**336**	*e*P	**P**	**10 19 28.5**	**+1.1**
FXWY	**Fox Creek** 3.6nm,0.9s	**33.63**	**335**	*e*P	**P**	**10 19 28.3**	**+0.7**
RYN	**Ryan** 9.8nm,1.8s	**33.71**	**322**	*e*P	**P**	**10 19 29.9**	**+1.6**
PMPB	**Monarch Peak** 40nm,1.4s	**33.72**	**316**	*e*P	**P**	**10 19 30.2**	**+1.9**
KVN	**Kaiserville** 3.7nm,1.0s	**33.73**	**323**	*e*P	**P**	**10 19 30.9**	**+2.4**
IMW	**Indian Meadow** 8.8nm,1.3s	**33.81**	**336**	*e*P	**P**	**10 19 30.3**	**+1.1**
YMR	**Madison River** 7.7nm,1.0s	**34.46**	**336**	*e*P	**P**	**10 19 35.9**	**+1.1**
YHH	**Holmes Hill** 4.9nm,1.1s	**34.52**	**337**	*e*P	**P**	**10 19 37.4**	**+2.1**
HLID	**Hailey** 5.6nm,1.0s	**35.03**	**332**	*e*P	**P**	**10 19 40.9**	**+1.2**
PTGA	**Pitinga** 3.1nm,0.7s,baz=310,slow=7.1,SNR=8.7	**35.34**	**112**	P	**P**	**10 19 41.7**	**-0.7**
PTGA	**Pitinga** 4.0nm,0.8s	**35.34**	**112**	*e*P	**P**	**10 19 42.1**	**-0.3**
MCMT	**McKenzie Canyo**	**35.35**	**335**	*e*P	**P**	**10 19 45.0**	**+2.5**
BEKR	**Beckworth** 2.5nm,1.0s	**35.60**	**322**	*e*P	**P**	**10 19 43.4**	**-1.2**
DLMT	**Dillon** 14nm,1.2s	**35.69**	**335**	*e*P	**P**	**10 19 47.0**	**+1.8**
ULM	**Lac du Bonnet** comp=Z,44nm,18.2s,baz=318,slow=38	**36.35**	**356**	LR	LR	10 35 31.7	
HRY	**Holter

4.4nm,1.0s,baz=133,slow=4.3,SNR=22
ILB Eielson Array 62.74 337 *e*P **P 10 23 12.4 +1.1**
MLY Manley 64.33 336 *e*P **P 10 23 22.5 +0.6**
30nm,1.8s
TOLK Toolik Lake Re 65.45 340 P **P 10 23 30.3 +1.2**
baz=116
NOA NORSAR Array B 84.45 28 LR LR 11 03 09.7
comp=Z,16nm,18.1s,baz=290,slow=36
FINES FINESS Array B 90.78 25 LR LR 11 06 47.4
comp=Z,20nm,18.1s,baz=285,slow=36
NRIK Noril'sk 96.97 360 LR LR 11 14 05.4
comp=Z,49nm,19.3s,baz=53,slow=38
LZH Lanzhou 127.94 343 *e*PKP **PKPdf 10 31 53.0 +0.3**
LZH pPKP sPKPdf 10 32 11.5 -0.4
LZH sPKP 10 32 19.3
LZH LR LR
comp=N,32nm,18.1s
LZH LR LR
comp=E,39nm,18.2s
LZH LR LR
comp=Z,52nm,20.0s
CMAR Chiang Mai Arr 145.92 340 PKPbc **PKPdf 10 32 26.7 +0.8**
comp=Z,5.3nm,0.8s,baz=343,slow=3.8,SNR=19

GUC 24 10:34:36.8±0.8, 22°81'S×70°43'W, h34km±2km, ML3.5, 3C-7D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB05	**IPOC Station P**	**0.21**	**100**	⇓ *i* P	Pb	10 34 43.6	-0.1
PB05				*i* S	Sb	10 34 48.1	-0.4
PB05				IAML		10 34 48.4	
	comp=E,11μm,0.2s						
PB04	**IPOC Station P**	**0.55**	**29**	⇓ *i* P	Pb	10 34 48.2	-0.1
PB04				*i* S	Sb	10 34 56.1	0.0
PB04				IAML		10 34 57.9	
	comp=E,7μm,0.2s						
PB10	**IPOC Station P**	**0.70**	**189**	⇑ *i* P	Pn	10 34 49.8	-0.6
PB10				*i* S	Sn	10 34 59.4	-0.7
PB06	**IPOC Station P**	**0.80**	**82**	⇓ *i* P	Pn	10 34 51.9	+0.1
PB06				*i* S	Sn	10 35 02.6	-0.1
PB06				IAML		10 35 03.0	
	comp=N,3μm,0.4s						
PB15	**IPOC Station P**	**0.97**	**114**	⇓ *i* P	Pn	10 34 54.3	+0.1
PB15				*i* S	Sn	10 35 06.8	-0.2
PB03	**IPOC Station P**	**0.99**	**40**	⇓ *i* P	Pn	10 34 55.0	+0.5
PB03				*i* S	Sb	10 35 08.0	-0.4
PB03				IAML		10 35 10.6	
	comp=N,2μm,0.5s						
PB07	**IPOC Station P**	**1.19**	**25**	⇓ *i* P	Pn	10 34 58.1	+0.8
PB07				*i* S	Sb	10 35 13.7	-0.6
PB07				IAML		10 35 15.6	
	comp=E,2μm,0.1s						
LVC	**Limon Verde**	**1.42**	**82**	*e*P	Pb	10 35 02.1	-0.8
PB09	**IPOC Station P**	**1.50**	**48**	⇓ *i* P	Pb	10 35 03.3	-0.9
PB09				*i* S	Sb	10 35 22.6	-0.3
PB09				IAML		10 35 26.8	
	comp=N,694nm,0.5s						
PB02	**IPOC Station P**	**1.57**	**19**	⇑ *i* P	Pn	10 35 03.5	+1.1
PB02				*i* S	Sb	10 35 24.4	-0.4
PB01	**IPOC Station P**	**1.97**	**27**	⇑ *i* P	Pn	10 35 09.5	+1.6
PB01				*i* S	Sb	10 35 34.8	-1.5
PB01				IAML		10 35 40.5	
	comp=E,495nm,0.4s						

NEIC ***24*** *10:36:55.0±0.0, 57.17°N×136.22°W, h3km, ML3.1(AEIC), ML3.6(OTT), After AEIC.*
OTT ***24*** *10:36:57.5±1.1, 57.31°N×136.40°W, h18km, ML3.6/3, 297km southwest from Atlin, Bc Fairweather - Yakutat Seismic Zone.*

ISC 24 10:36:55.7±1.5, 57°16'N±0.05°×136°16'W±0.05, h16km±11km, n40, σ1§18/53, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIT	**Sitka**	**0.47**	**103**	P	**Pg**	**10 37 05.4**	**+0.3**
SIT				S	**Sb**	**10 37 12.7**	**+0.5**
JIS	**Juneau Island**	**1.47**	**40**	P	**Pn**	**10 37 20.9**	**-0.6**
JIS				S	**Sn**	**10 37 40.2**	**-0.1**
BESE	**Bessie Mountai**	**1.58**	**26**	P	**Pn**	**10 37 21.7**	**-1.5**
BESE				S	**Sn**	**10 37 42.8**	**-0.5**
DHAK	**Deception Hill**	**2.22**	**331**	P	**Pn**	**10 37 30.4**	**-1.5**
DHAK				S	**Sn**	**10 38 00.2**	**+1.2**
WRAK	**Wrangell Islan**	**2.23**	**108**	*e*Pn	**Pb**	**10 37 36.0**	**+0.4**
WRAK				*e*Sn	**Sg**	**10 38 07.1**	**-0.2**
SKAG	**Skagway**	**2.35**	**10**	P	**Pn**	**10 37 33.3**	**-0.2**
SKAG				S	**Sn**	**10 38 02.6**	**+0.6**
CRAG	**Craig**	**2.40**	**134**	P	**Pn**	**10 37 34.0**	**-0.3**
PNL	**Peninsula**	**3.04**	**327**	P	**Pn**	**10 37 41.6**	**-1.4**
PNL				S	**Sn**	**10 38 19.8**	**+0.7**
DLBC	**Dease Lake**	**3.52**	**66**	P	**Pn**	**10 37 49.1**	**-0.7**
DLBC	**Dease Lake**	**3.52**	**66**	PN	**Pn**	**10 37 50.8**	**+1.0**
DLBC				SG	**Sg**	**10 38 48.0**	**-0.7**
DLBC				Trac		10 38 50.5	
	comp=Z,121nm,0.9s						
YUK7	**Dusty Glacier**	**3.53**	**344**	Pn	**Pn**	**10 37 50.1**	**+0.1**
YUK7	**Dusty Glacier**	**3.53**	**344**	PN	**Pn**	**10 37 50.1**	**+0.1**
YUK7				SG	**Sb**	**10 38 41.0**	**+0.4**
YUK7				Trac		10 38 57.4	
	comp=Z,184nm,1.5s						
WHY	**Whitehorse**	**3.57**	**10**	P	**Pn**	**10 37 49.2**	**-1.3**
WHY	**Whitehorse**	**3.57**	**10**	PN	**Pn**	**10 37 49.1**	**-1.4**
WHY				SN	**Sn**	**10 38 30.8**	**-1.6**
WHY				LG	Lg	10 38 42.0	
WHY				Trac		10 38 46.0	
	comp=Z,100nm,1.1s						
PCA	**Pinnacle**	**3.64**	**326**	P	**Pn**	**10 37 49.4**	**-2.0**
HYT	**Haines Junctio**	**3.74**	**350**	Pn	**Pn**	**10 37 51.2**	**-1.6**
HYT				Sg	**Sb**	**10 38 48.5**	**+2.1**
HYT	**Haines Junctio**	**3.74**	**350**	PN	**Pn**	**10 37 51.2**	**-1.6**
HYT				SG	**Sb**	**10 38 48.5**	**+2.1**
CHX	**Chaix Hills**	**3.90**	**320**	P	**Pn**	**10 37 53.6**	**-1.3**
YUK6	**Outpost Mounta**	**3.96**	**344**	Pn	**Pn**	**10 37 54.3**	**-1.7**
YUK6	**Outpost Mounta**	**3.96**	**344**	PN	**Pn**	**10 37 54.3**	**-1.7**
YUK6				SG	**Sb**	**10 38 53.6**	**+0.7**
YUK5	**Granite Creek**	**4.08**	**348**	Pn	**Pn**	**10 37 56.1**	**-1.4**
YUK5	**Granite Creek**	**4.08**	**348**	PN	**Pn**	**10 37 56.1**	**-1.4**
TABL	**Table Mountain**	**4.19**	**324**	P	**Pn**	**10 37 57.5**	**-1.6**
RUBB	**Prince Rupert**	**4.38**	**128**	SN	**Sn**	**10 38 53.2**	**+1.0**
RUBB				LG	Lg	10 39 15.3	
YUK4	**Talbot Arm**	**4.38**	**344**	Pn	**Pn**	**10 38 01.8**	**0.0**
YUK4	**Talbot Arm**	**4.38**	**344**	PN	**Pn**	**10 38 01.8**	**0.0**
ISLE	**Juniper Island**	**4.71**	**320**	P	**Pn**	**10 38 04.5**	**-1.7**
KHIT	**Khitrov Hills**	**4.94**	**315**	P	**Pn**	**10 38 08.0**	**-1.3**
TGL	**Tana Glacier**	**4.99**	**319**	*e*Pn	**Pn**	**10 38 08.6**	**-1.4**
RAGM	**Ragged Mountai**	**5.48**	**310**	*e*Pn	**Pn**	**10 38 15.9**	**-0.8**
BMRM	**Bremner River**	**5.79**	**315**	*e*Pn	**Pn**	**10 38 21.1**	**+0.2**
KLU	**Klutina**	**6.62**	**315**	*e*Pn	**Pn**	**10 38 30.9**	**-1.3**
HARP	**HAARP**	**6.94**	**323**	*e*Pn	**Pn**	**10 38 36.4**	**-0.3**
DAWY	**Dawson**	**7.11**	**348**	*e*Pn	**Pn**	**10 38 37.6**	**-1.4**
SCM	**Sheep Creek Mo**	**7.36**	**314**	*e*Pn	**Pn**	**10 38 41.4**	**-1.1**
PAX	**Paxson**	**7.45**	**325**	*e*Pn	**Pn**	**10 38 44.0**	**+0.3**
DOT	**Dot Lake**	**7.59**	**332**	*e*Pn	**Pn**	**10 38 46.4**	**+0.8**
DHY	**Denali Highway**	**8.15**	**321**	*e*Pn	**Pn**	**10 38 53.1**	**-0.2**
TRF	**Thorofare Moun**	**9.41**	**318**	*e*Pn	**Pn**	**10 39 10.8**	**+0.1**
CHGN	**Chignik**	**12.24**	**275**	*e*Pn	**Pn**	**10 39 47.1**	**-2.1**

NIED ***24*** *10:46:00, 37.20°N×141.70°E, h77km, Mw3.7 Best double couple: M0=4.09000×10^14 NP1:φs=356.00000°, δ=25.00000°, λ=-134.00000°. NP2:φs=223.00000°, δ=72.00000°, λ=-72.00000°.*

JMA 24 10:46:27.9±0.1, 37°20'N×141°71'E, h75km±2km, M3.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.69**	**284**	P	Pn	10 46 43.0	-0.1
JFK				S	Sn	10 46 53.8	-0.5
ONAJ	**Iwakimizuishiy**	**0.73**	**263**	P	Pn	10 46 43.7	+0.1
ONAJ				*e*S	Sn	10 46 55.2	-0.1
JFFD	**Fukushimafurud**	**0.92**	**264**	P	Pn	10 46 46.0	+0.2
JFFD				S	Sn	10 46 59.0	-0.1
JMM	**Marumori**	**0.99**	**313**	P	Pn	10 46 46.7	+0.2
JMM				S	Sn	10 47 00.4	+0.1
JFT	**Otama**	**1.14**	**287**	P	Pn	10 46 49.3	+0.9
JFT				S	Sn	10 47 04.6	+0.8
JIO	**Ouri**	**1.28**	**347**	P	Pn	10 46 50.4	+0.2
JIO				S	Sn	10 47 06.6	-0.4
JOU	**Okura**	**1.43**	**325**	P	Pn	10 46 52.2	+0.1
JOU				*e*S	Sn	10 47 10.1	-0.3
JFY	**Yanaizu**	**1.61**	**278**	P	Pn	10 46 55.0	+0.5
JFY				*e*S	Sn	10 47 15.1	+0.4
JYS	**Shirataka**	**1.66**	**309**	P	Pn	10 46 55.7	+0.6
JYS				S	Sn	10 47 16.8	+1.1
JMK	**Ichinoseki**	**1.79**	**348**	P	Pn	10 46 57.2	+0.3
JMK				S	Sn	10 47 18.9	+0.1
JAG	**Ashikaga**	**1.97**	**248**	P	Pn	10 46 59.5	+0.3
JAG				S	Sn	10 47 22.8	-0.3
JKT	**Katashina**	**2.02**	**258**	P	Pn	10 47 01.0	+1.0
JYK	**Kaneyama**	**2.02**	**329**	P	Pn	10 47 00.6	+0.7
MAT	**Matsushiro**	**2.88**	**258**	P	Pn	10 47 12.9	+1.3
MAT				*e*S	Sn	10 47 48.6	+3.3

BJI ***24*** *10:51:28.8, 0.45°N×97.63°E, h28km, mb4.6/19, mB4.7/14, Ms4.2/5, Ms7 4.0/3*
IDC ***24*** *10:51:29.5±1.1, 0.95°N×97.20°E, h0km, mb4.3/11, mb1 4.3/13, mb1mx4.0/57, mbtmp4.3/13, ML4.0/2, MS3.5/3, Ms1 3.6/3, ms1mx3.0/37, Error ellipse: s-maj=32.5km s-min=15.8km az=59.0*
ISCJB ***24*** *10:51:31.4±0.5, 0.96°N±0.04°×97.11°E±0.05, h25km, mb4.4/19, MS3.7/1, Error ellipse: s-maj=8.0km s-min=5.4km az=144.6*
NEIC ***24*** *10:51:33.6±1.7, 0.97°N×97.19°E, h27km±10km, mb4.5/5, Error ellipse: s-maj=12.7km s-min=5.3km az=53.0*
DJA ***24*** *10:51:34.3±0.9, 1.1°N±5.9°×97.7°E±.6°, h26km±6km, M4.4/10, mb4.8/1, mB4.6/1, MLv4.2/10, Mw(mB)3.9/1*
KLM ***24*** *10:51:39.0, 1.32°N×97.50E, h35km, mb4.2*

ISC 24 10:51:33.7±0.6, 1°01'N±0.05°×97°21'E±0.06, h25km, n68, σ1§15/64, mb4.5/19, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.47**	**51**	*e*Pg	**Pn**	**10 51 44.1**	**-0.6**
GSI	**Gunungsitoli**	**0.47**	**51**	P	**Pb**	**10 51 43.7**	**+0.4**
GSI				S	**Sn**	**10 51 52.7**	**+0.5**
PBSI	**Pulau Batu**	**1.50**	**135**	P	**Pn**	**10 51 58.7**	**-0.3**
SNSI	**Sinabang, Aceh**	**1.65**	**327**	P	**Pb**	**10 52 04.6**	**+1.2**
SNSI				S	**Sn**	**10 52 20.1**	**-1.4**
TPTI		**2.23**	**359**	P	**Pn**	**10 52 07.4**	**-1.7**
TPTI				S	**Sn**	**10 52 34.9**	**-1.1**
MNSI	**Mandailing Nat**	**2.38**	**95**	P	**Pn**	**10 52 11.4**	**+0.4**
PSI	**Prapat**	**2.47**	**44**	Pn	**Pn**	**10 52 10.8**	**-1.6**
	8.7nm,0.3s,baz=180,slow=5.2,SNR=22						
PSI	**Prapat**	**2.47**	**44**	*e*Pn	**Pn**	**10 52 11.9**	**-0.6**
KCSI	**Kotacane, Aceh**	**2.56**	**19**	P	**Pn**	**10 52 12.9**	**-0.7**
TSI	**Tuntungan**	**2.82**	**29**	P	**Pn**	**10 52 18.1**	**+0.9**
SISI	**Saibi**	**2.98**	**141**	P	**Pb**	**10 52 27.9**	**+1.7**
MLSI	**Meulaboh, Aceh**	**3.33**	**346**	P	**Pb**	**10 52 35.0**	**+2.8**
PDSI	**Padang**	**3.77**	**120**	P	**Pb**	**10 52 38.4**	**-1.1**
BKNI	**Bangkinang**	**3.88**	**100**	*e*Pn	**Pn**	**10 52 31.6**	**-0.3**
BKNI	**Bangkinang**	**3.88**	**100**	P	Pb	10 52 51.1	+10
LHMI	**Lhok Sumawe**	**4.20**	**356**	*e*Pn	**Pn**	**10 52 37.1**	**+1.0**
IPM	**Ipoh**	**5.13**	**48**	*e*Pn	**Pn**	**10 52 49.9**	**+0.8**
KULM	**Kulim**	**5.46**	**39**	*e*Pn	**Pn**	**10 52 53.2**	**-0.3**
KULM	**Kulim**	**5.46**	**39**	P	**Pn**	**10 52 53.0**	**-0.5**
MYKOM	**Kota Tinggi**	**6.68**	**83**	*e*Pn	**Pn**	**10 53 11.1**	**+0.8**
MYKOM	**Kota Tinggi**	**6.68**	**83**	P	**Pn**	**10 53 10.0**	**-0.3**
SKLT	**Songkhla**	**7.00**	**29**	P	Pb	10 53 27.1	-7.5
TRTT	**Trang**	**7.22**	**20**	P	Pb	10 53 29.2	-9.1
MDSI	**Maura Dua**	**8.85**	**128**	P	**Pn**	**10 53 44.5**	**+4.5**
KLSI		**9.40**	**127**	P	Pn	10 53 53.9	+6.2
SRAK	**Srakaew**	**13.77**	**22**	P	P	10 55 00.6	+4.8
UTHA	**Uthaitani**	**14.62**	**9**	P	**P**	**10 55 07.4**	**+2.2**
CHAI	**Chaiyaphum**	**15.53**	**17**	P	**P**	**10 55 16.2**	**+0.9**
	6.2nm,0.9s						
SUKH	**Sukhothai**	**16.54**	**8**	P	**P**	**10 55 26.9**	**+0.4**
	6.7nm,0.8s						
CM01	**Chiang Mai Arr**	**17.39**	**6**	*e*Pn	**Pn**	**10 55 34.9**	**+0.1**
CM31	**Chiang Mai Arr**	**17.42**	**5**	*e*Pn	**Pn**	**10 55 35.3**	**+0.1**
CM31				*e*Sn	Sn	10 58 35.3	-13
CMAR	**Chiang Mai Arr**	**17.42**	**5**	P	**Pn**	**10 55 34.0**	**-1.2**
	0.5nm,0.3s,baz=198,slow=11,SNR=18						
CMAR					LR	LR	11 03 33.1
	comp=Z,160nm,19.3s,baz=202,slow=41						
PALK	**Pallekele**	**17.60**	**291**		LR	LR	11 01 35.2
	comp=Z,122nm,18.7s,baz=117,slow=34						
CHTO	**Chiang Mai**	**17.77**	**5**	*e*Pn	**Pn**	**10 55 38.3**	**-1.2**
	4.3nm,1.0s						
PAYA	**Payao**	**18.42**	**8**	P	**Pn**	**10 55 50.1**	**+2.6**
	5.3nm,0.9s						
SHL	**Shillong**	**24.95**	**349**	*e*P	**P**	**10 56 55.3**	**-0.1**
	14nm,0.8s						
H08S2	**Diego Garcia H**	**26.11**	**250**	T	T	11 24 08.0	
	baz=72,slow=76,SNR=1767						
H08S3	**Diego Garcia H**	**26.11**	**250**	T	T	11 24 07.6	
	baz=72,slow=76,SNR=2212						
H08S1	**Diego Carcia H**	**26.13**	**250**	T	T	11 24 09.1	
	baz=72,slow=76,SNR=1254						
BATI	**Baumata**	**28.58**	**114**	P	**P**	**10 57 28.5**	**+0.4**
	22nm,0.6s,baz=48,slow=11,SNR=4.2						
XAN	**Xi'an**	**34.64**	**17**	P	**P**	**10 58 19.9**	**-1.2**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,46nm,4.3s						
LZH	**Lanzhou**	**35.44**	**9**	*e*P	**P**	**10 58 29.6**	**+1.5**
LZH				*e*PP	**PP**	**10 59 50.4**	**+1.5**
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
LZH				pmax	pmax		
	comp=Z,46nm,5.4s						
LZH				LR	LR		
	comp=N,140nm,12.9s						
LZH				LR	LR		
	comp=E,160nm,13.2s						
LZH				LR	LR		
	comp=Z,230nm,16.7s						
GTA	**Gaotai**	**38.29**	**3**	*e*P	**P**	**10 58 52.3**	**-0.1**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**41.73**	**16**	*e*P	**P**	**10 59 22.0**	**+1.1**
HHC				pmax	pmax		
	comp=Z,19nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,4.9s						
WRA	**Warramunga Arr**	**41.92**	**122**	P	**P**	**10 59 21.8**	**-0.9**
	1.3nm,0.6s,baz=300,slow=9.0,SNR=12						
ASAR	**Alice Springs**	**43.27**	**127**	P	**P**	**10 59 33.1**	**-0.4**
	0.8nm,0.5s,baz=303,slow=7.2,SNR=12						
WMQ	**Urumqi**	**43.46**	**350**	*e*P	**P**	**10 59 36.3**	**+1.5**
WMQ				LR	LR		
	comp=E,99nm,20.3s						
KSAR	**Wonju Array Be**	**45.97**	**34**	P	**P**	**10 59 54.5**	**-0.3**
KS01	**Wonju Array Si**	**45.99**	**34**	*e*P	**P**	**10 59 54.8**	**-0.3**
KSRS	**Korea Array**	**46.00**	**34**	P	**P**	**10 59 54.5**	**-0.5**
	3.1nm,0.8s,baz=233,slow=8.4,SNR=11						
SONM	**Songino Array**	**47.32**	**8**	P	**P**	**11 00 05.7**	**+0.3**
	3.8nm,0.7s,baz=192,slow=9.5,SNR=12						
SONM				PcP	**PcP**	**11 01 36.0**	**-0.1**
	1.2nm,0.7s,baz=194,slow=3.0,SNR=4.1						
SONA1	**Songino Array**	**47.33**	**8**	*e*P	**P**	**11 00 05.7**	**+0.2**
MK01	**Makanchi Array**	**47.40**	**346**	*e*P	**P**	**11 00 06.5**	**+0.6**
MK31	**Makanchi Array**	**47.43**	**346**	*e*P	**P**	**11 00 06.1**	**-0.1**
MKAR	**Makanchi Array**	**47.43**	**346**	P	**P**	**11 00 06.9**	**+0.7**
	4.2nm,0.8s,baz=163,slow=7.5,SNR=15						
MKAR	**Makanchi Array**	**47.43**	**346**	*e*P	**P**	**11 00 06.1**	**-0.1**
	17nm,0.6s						
ULN	**Ulaanbaatar**	**47.45**	**9**	*e*P	**P**	**11 00 07.2**	**+0.8**
	4.5nm,0.9s						
KURK	**Kurchatov**	**51.98**	**345**	*e*P	**P**	**11 00 41.2**	**+0.5**
	4.3nm,1.0s						
USRK	**Ussuriysk Ar.**	**52.92**	**31**	P	**P**	**11 00 47.7**	**-0.1**
	5.0nm,0.9s,baz=224,slow=4.3,SNR=7.6						
STKA	**Stephens Creek**	**53.22**	**132**	P	**P**	**11 00 49.1**	**-1.2**
	2.8nm,0.7s,baz=324,slow=9.1,SNR=5.6						
STKA					LR	LR	11 25 17.8
	comp=Z,69nm,20.0s,baz=213,slow=38						
ZAA0	**Zalesovo Array**	**53.75**	**351**	*e*P	**P**	**11 00 53.8**	**+0.1**
	6.0nm,0.8s						
ZALV	**Zalesovo Beam**	**53.75**	**351**	P	**P**	**11 00 53.7**	**0.0**
	6.2nm,0.7s,baz=171,slow=8.2,SNR=19						
ZALV	**Zalesovo Beam**	**53.75**	**351**	*e*P	**P**	**11 00 53.5**	**-0.2**
ABKAR	**Akbulak array**	**57.69**	**332**	*e*P	**P**	**11 01 21.0**	**-1.1**
FINES	**FINESS Array B**	**80.17**	**333**	P	**P**	**11 03 40.8**	**-0.8**
	2.5nm,1.0s,baz=126,slow=14,SNR=3.3						
GERES	**GERESS Array B**	**84.96**	**319**	P	**P**	**11 04 07.3**	**+0.3**
	0.2nm,0.3s,baz=1.6,slow=6.9,SNR=3.7						
TXAR	**Lajitas Array**	**143.82**	**32**	PKP	**PKPdf**	**11 11 06.7**	**-1.0**
	0.4nm,0.8s,baz=356,slow=1.9,SNR=4.1						
JCT	**Junction City**	**144.74**	**26**	*e*PKPdf	**PKPdf**	**11 11 09.2**	**0.0**

OMAN ***24*** *10:52:12.4±3.0, 27.76°N×52.18°E, h22km, Error ellipse: s-maj=33.2km s-min=22.6km az=137.0*
THR ***24*** *10:52:18.5±0.3, 27.13°N×52.91°E, h18km±5km, ML3.6*
IDC ***24*** *10:52:18.8±1.4, 27.24°N×52.85°E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/46, mbtmp3.7/7, ML4.1/1, MS2.9/3, Ms1 2.9/3, ms1mx2.5/49, Error ellipse: s-maj=28.6km s-min=22.9km az=13.0*
ISCJB ***24*** *10:52:20.5±0.5, 27.26°N±0.03°×52.74°E±0.06, h20km, mb3.6/5, MS3.0/1, Error ellipse: s-maj=8.6km s-min=3.5km az=153.9*
TEH ***24*** *10:52:21.5, 27.32°N×52.82E, h22km, ML3.7*
DSN ***24*** *10:52:23.9±0.7, 27.34°N×53.05E, h15km, ML3.8/8, Error ellipse: s-maj=12.0km s-min=5.8km az=23.0*

ISC 24 10:52:22.2±0.9, 27°29'N±0.05°×52°83'E±0.08, h20km, n62, σ1§00/60, mb3.5/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**1.01**	**8**	*e*Pg	**Pb**	**10 52 40.0**	**-1.0**
GHIR				*e*Sg	**Sn**	**10 52 55.7**	**+0.7**
GHIR				IAML		10 52 58.7	
	comp=N,2μm,0.6s						
GHIR				IAML		10 53 02.7	
	comp=E,2μm,0.4s						
GHIR	**Ghir-Karzin**	**1.01**	**8**	*e*Pg	**Pb**	**10 52 40.0**	**-1.0**
JHRM	**Jahrom**	**1.38**	**28**	*e*Pn	**Pn**	**10 52 47.3**	**+0.8**
JHRM				IAMB	IAmb	10 53 11.1	
	comp=N,0.0nm,0.4s						
JHRM				IAMB	IAmb	10 53 14.3	
	comp=Z,0.0nm,0.3s						
JHRM				IAMB	IAmb	10 53 18.4	
	comp=E,0.0nm,0.6s						
SHI	**Shiraz**	**2.37**	**353**	IAMB	IAmb	10 53 45.1	
	comp=N,4μm,0.7s						
SHI				IAMB	IAmb	10 53 52.3	
	comp=Z,2μm,0.5s						
IPAR	**Pars**	**2.56**	**4**	IAMB	IAmb	10 53 54.5	
	comp=Z,2μm,0.6s						
IPAR				IAMB	IAmb	10 53 54.7	
	comp=E,6μm,0.6s						
IPAR				IAMB	IAmb	10 53 55.0	
	comp=N,6μm,0.8s						
GENO	**Geno**	**2.98**	**87**	IAMB	IAmb	10 53 59.1	
	comp=N,0.0nm,0.3s						
GENO				*e*Pn	**Pn**	**10 53 09.1**	**+0.7**
GENO				IAMB	IAmb	10 54 07.0	
	comp=Z,0.0nm,0.3s						
GENO				IAMB	IAmb	10 54 11.7	
	comp=E,0.0nm,0.6s						
SHME	**Shamm**	**3.21**	**112**	*i* P	**Pn**	**10 53 11.5**	**0.0**
	SNR=9.0						
SHME	**Shamm**	**3.21**	**112**	*e*Pn	**Pn**	**10 53 11.1**	**-0.4**
AJN	**Ajban**	**3.33**	**144**	*e*Pn	**Pn**	**10 53 15.2**	**+2.0**
BANOM	**Banah**	**3.39**	**113**	P	**Pn**	**10 53 13.9**	**-0.1**
	SNR=50						
BANOM	**Banah**	**3.39**	**113**	*i* P	**Pn**	**10 53 14.7**	**+0.7**
	SNR=50						
ASUD	**Al Ashush, Dub**	**3.47**	**139**	P	**Pn**	**10 53 16.9**	**+1.7**
	SNR=47						
ASUD	**Al Ashush, Dub**	**3.47**	**139**	*i* P	**Pn**	**10 53 16.6**	**+1.5**
	SNR=48						
ASUD	**Al Ashush, Dub**	**3.47**	**139**	*e*Pn	**Pn**	**10 53 17.0**	**+1.9**
FAQ	**Al Faqa, Dubai**	**3.54**	**135**	P	**Pn**	**10 53 17.5**	**+1.3**
FAQ	**Al Faqa, Dubai**	**3.54**	**135**	*e*Pn	**Pn**	**10 53 17.1**	**+1.0**
MSFE	**Esma-Masafi**	**3.55**	**122**	*i* P	**Pn**	**10 53 16.7**	**+0.5**
	SNR=17						
MSFE				S	**Sn**	**10 53 58.0**	**+0.4**
MSFE	**Esma-Masafi**	**3.55**	**122**	*e*Pn	**Pn**	**10 53 17.0**	**+0.8**
MDH	**Madha**	**3.69**	**122**	*e*Pn	**Pn**	**10 53 18.7**	**+0.6**
UOSS	**Minazif**	**3.82**	**127**	P	**Pn**	**10 53 20.3**	**+0.3**
UOSS	**Minazif**	**3.82**	**127**	*i* P	**Pn**	**10 53 20.2**	**+0.3**
	SNR=34						
UOSS	**Minazif**	**3.82**	**127**	*e*Pn	**Pn**	**10 53 20.2**	**+0.3**
HATD	**Hatta, Dubai**	**3.85**	**129**	P	**Pn**	**10 53 20.7**	**+0.4**
	SNR=5.8						
HATD	**Hatta, Dubai**	**3.85**	**129**	*i* P	**Pn**	**10 53 21.2**	**+0.9**
	SNR=7.1						
HATD	**Hatta, Dubai**	**3.85**	**129**	*e*Pn	**Pn**	**10 53 21.8**	**+1.5**
KLNJ	**Kolanjah**	**3.87**	**344**	*e*Pn	**Pn**	**10 53 20.5**	**-0.3**
KLNJ				IAMB	IAmb	10 54 13.8	
	comp=Z,0.0nm,0.4s						
KLNJ				IAMB	IAmb	10 54 29.9	
	comp=E,0.0nm,0.5s						
KLNJ				IAMB	IAmb	10 54 41.1	
	comp=N,0.0nm,0.7s						
ASHO	**Ashiyiah**	**3.89**	**131**	P	**Pn**	**10 53 21.8**	**+0.9**
	SNR=8.8						
ASHO	**Ashiyiah**	**3.89**	**131**	*i* P	**Pn**	**10 53 21.6**	**+0.7**
	SNR=8.9						
ASHO	**Ashiyiah**	**3.89**	**131**	*e*Pn	**Pn**	**10 53 21.8**	**+0.9**
ALNE	**Al Ain**	**4.16**	**140**	*i* P	**Pn**	**10 53 25.9**	**+1.3**
	SNR=7.7						
ALNE	**Al Ain**	**4.16**	**140**	*e*Pn	**Pn**	**10

WSAR	**Wadi Sarin**	**6.62**	**126**	Pn		**Pn**	**10 53 57.2**	**-1.2**
	comp=E,3.6nm,0.3s,baz=313,slow=9.3,SNR=33							
WSAR				Sn		**Sn**	**10 55 12.3**	**-1.0**
	comp=E,2.0nm,0.3s,baz=117,slow=15,SNR=4.3							
WSAR	**Wadi Sarin**	**6.62**	**126**	P		**Pn**	**10 53 58.9**	**+0.5**
JMDO	**Jabal Madar**	**6.85**	**134**	P		**Pn**	**10 54 01.5**	**-0.1**
WBK	**Wadi Bani Khal**	**7.26**	**129**	P		**Pn**	**10 54 08.5**	**+1.3**
TABS	**Tabas**	**7.34**	**29**	*e*Pn		**Pn**	**10 54 08.6**	**+0.2**
TABS	**Tabas**	**7.34**	**29**	*e*Pn		**Pn**	**10 54 08.6**	**+0.2**
GNI	**Garni**	**14.48**	**334**	LR		LR	11 01 36.2	
	comp=E,31nm,21.2s,baz=134,slow=38							
ATD	**Arta Tunnel**	**18.27**	**213**	LR		LR	11 03 20.2	
	comp=E,37nm,20.0s,baz=20,slow=36							
BRTR	**Keskin Array B**	**20.20**	**313**	P		**P**	**10 56 55.2**	**-0.6**
	comp=E,1.1nm,0.5s,baz=138,slow=13,SNR=8.4							
AAK	**Ala-Archa**	**23.35**	**43**	LR		LR	11 08 10.7	
	comp=E,49nm,20.7s,baz=216,slow=41							
AKTO	**Aktyubinsk**	**23.45**	**8**	P		**P**	**10 57 32.2**	**+2.0**
	comp=E,0.6nm,0.6s,baz=200,slow=15,SNR=3.2							
MKAR	**Makanchi Array**	**30.26**	**42**	P		**P**	**10 58 31.6**	**-0.1**
	comp=E,0.4nm,0.6s,baz=226,slow=7.8,SNR=3.7							
ZALV	**Zalesovo Beam**	**35.51**	**33**	P		**P**	**10 59 16.7**	**-0.7**
	comp=E,0.7nm,0.5s,baz=247,slow=11,SNR=3.3							
FINES	**FINESS Array B**	**38.58**	**340**	P		**P**	**10 59 42.5**	**-0.9**
	comp=E,2.7nm,0.9s,baz=151,slow=8.9,SNR=7.5							
TORD	**Torodi Ar. Bea**	**49.68**	**264**	P		**P**	**11 01 13.3**	**+0.3**
	comp=E,0.2nm,0.4s,baz=55,slow=7.4,SNR=3.1							

*UCR **24** 11:21:00.6±1.7, 13°.53N×92°.83W, h35km, ML4.0, mb4.9(NEIC)*
*IDC **24** 11:21:06.6±3.3, 13°.97N×92°.27W, h33km±24km, mb4.2/22, mb1 4.4/26, mb1mx4.4/36, mbtmp4.4/26, ML3.9/4, MS4.1/23, Ms1 4.1/23, ms1mx3.9/39, Error ellipse: s-maj=20.2km s-min=10.3km az=55.0*
*GCMT **24** 11:21:06.5±0.4, 13°.87N±0°.03×92°.73W±0°.04, h12km±1km, MW4.8/68, Moment Tensor Solution. s26,c31; s68,c92; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr 1.91±.15; Mθθ -1.39±.10; Mϕϕ -0.51±.10; Mrθ 0.64±.27; Mrϕ 0.86±.06; Mθϕ -0.84±.35; Best double couple: M◎2.18500×10¹⁶ NP1:ϕs131.00000°,δ59.00000°,λ100.00000°. NP2: ϕs292.00000°,δ32.00000°,λ74.00000°. Principal axes: T 2.2110, Plg74.0000°, Azm67.0000°; N -0.0500, Plg9.0000°, Azm306.0000°; P -2.1590, Plg14.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MEX **24** 11:21:06.0±0.4, 13°.83N×92°.60W, h20km±28km, MD4.0*
*MOS **24** 11:21:07.0±0.9, 14°.03N×92°.16W, h48km, mb4.9/35, Error ellipse: s-maj=11.8km s-min=4.7km az=112.7*
*NEIC **24** 11:21:07.5±0.2, 13°.98N×92°.21W, h35km, mb4.9/246, Error ellipse: s-maj=4.2km s-min=3.1km az=220.0*
*ISCJB **24** 11:21:08.9±0.4, 14°.04N±0°.02×92°.15W±0°.02, h65km±3km, mb4.7/229, Error ellipse: s-maj=4.5km s-min=2.8km az=42.3*

ISC 24 11:21:06.0±1.6, **13°.91N**±0°.05×**92°.49W**±0°.04, **h30**km±10km, **n694**, σ1**s69**/683, **mb4.9**/231, **MS4.1**/24, **5C-1D, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
THIG		**1.01**	**12**	*e*P		**Pn**	**11 21 23.6**	**-0.5**
THIG				*i* S		**Sb**	**11 21 36.7**	**-1.2**
THIG		**1.01**	**12**	*e*P		**Pn**	**11 21 23.6**	**-0.5**
THIG				*i* S		**Sb**	**11 21 36.7**	**-1.2**
PCIG		**1.92**	**339**	*e*P		**Pn**	**11 21 35.2**	**-1.4**
PCIG		**1.92**	**339**	*e*P		**Pn**	**11 21 35.2**	**-1.4**
PCIG				*i* S		**Sn**	**11 21 58.5**	**-1.2**
APG	**El Apazote**	**2.24**	**61**	Pn		**Pn**	**11 21 40.5**	**-0.9**
	36nm,0.3s,baz=231,slow=10.0,SNR=473							
APG				Lg		Lg	11 22 14.3	
	169nm,0.3s,baz=334,slow=17,SNR=7.4							
CCIG	**Comitan**	**2.38**	**8**	*e*Pn		**Pn**	**11 21 45.7**	**+2.5**
CCIG	**Comitan**	**2.38**	**8**	*i* P		**Pn**	**11 21 43.4**	**+0.2**
CCIG				*i* S		**Sn**	**11 22 11.8**	**+0.4**
CEVE	**Cerro Verde**	**2.79**	**91**	*e*P		**Pn**	**11 21 49.9**	**+1.0**
CEVE				*e*S		**Sn**	**11 22 28.4**	**+6.8**
CEVE				IAML			11 22 36.5	
	comp=Z,3μm,0.7s							
SBLS	**San Blas**	**2.79**	**91**	*e*P		**Pn**	**11 21 47.9**	**-0.9**
BOQS	**Boqueron**	**3.12**	**93**	*e*P		**Pn**	**11 21 52.1**	**-1.4**
UEES	**San Salvador**	**3.16**	**93**	*e*P		**Pn**	**11 21 53.8**	**0.6**
UEES				*e*S		**Sn**	**11 22 34.2**	**+3.6**
SNET	**Serv Nac Est T**	**3.17**	**94**	*e*P		**Pn**	**11 21 52.0**	**-2.0**
SNET				*e*S		Sn	11 22 25.1	-5.9
PAVA	**Las Pavas**	**3.46**	**93**	*e*P		**Pn**	**11 21 56.7**	**-1.3**
CMIG	**Matias Romero**	**3.91**	**324**	Pn		**Pn**	**11 22 03.6**	**-0.5**
	comp=Z,5.2nm,0.3s,baz=146,slow=11,SNR=70							
CMIG	**Matias Romero**	**3.91**	**324**	*e*P		**Pn**	**11 22 03.3**	**-0.8**
CMIG				*e*S		**Sn**	**11 22 47.2**	**-1.9**
HUIG	**Huatulco**	**3.95**	**298**	*e*P		Pn	11 21 59.0	-5.7
HUIG	**Huatulco**	**3.95**	**298**	*e*P		**Pn**	**11 22 03.0**	**-1.7**
HUIG				*i* S		**Sn**	**11 22 47.0**	**-3.1**
VSM	**San Miguel**	**4.13**	**96**	*e*P		**Pn**	**11 22 06.8**	**-0.5**
CAHU	**Cacacuatique**	**4.16**	**91**	*e*P		Pn	11 22 06.6	-1.1
TUIG	**Tuzandepetl**	**4.50**	**336**	*e*P		Pn	11 22 03.8	-8.3
TUIG	**Tuzandepetl**	**4.50**	**336**	*e*P		**Pn**	**11 22 11.2**	**-1.0**
LCND	**La Ca˜–ada**	**4.51**	**97**	*e*P		**Pn**	**11 22 11.2**	**-1.2**
LCND				*e*S		**Sn**	**11 23 04.1**	**+0.2**
CSGN	**Cosiguina Volc**	**4.89**	**100**	*e*Pn		**Pn**	**11 22 19.5**	**+1.9**
CSGN	**Cosiguina Volc**	**4.89**	**100**	*e*P		**Pn**	**11 22 15.8**	**-1.8**
COPN	**Copaltepe**	**6.00**	**106**	*e*P		**Pn**	**11 22 31.7**	**-1.1**
COPN				IAML			11 22 42.2	
	comp=Z,121nm,0.6s							
ESTN	**Estel**	**6.01**	**97**	*e*Pn		**Pn**	**11 22 33.3**	**+0.3**
ESTN	**Estel**	**6.01**	**97**	*e*P		**Pn**	**11 22 31.1**	**-1.9**
MATN	**Matagalpa**	**6.46**	**98**	*e*P		**Pn**	**11 22 37.9**	**-1.4**
BOAB	**BOACO BROADBAN**	**6.80**	**102**	*e*Pn		**Pn**	**11 22 43.6**	**-0.2**
TLIG	**Tlapa**	**6.88**	**303**	*e*Pn		**Pn**	**11 22 46.4**	**+1.3**
LVIG	**Laguna Verde**	**6.89**	**327**	*e*Pn		Pn	11 22 50.6	+5.6
LVIG				*e*Sn		**Sn**	**11 24 10.1**	**+7.6**
TEIG	**Tepich**	**7.46**	**32**	*e*Pn		**Pn**	**11 22 53.5**	**+0.7**
MYIG	**MÓrida**	**7.48**	**20**	*e*Pn		**Pn**	**11 22 55.6**	**+2.4**
ESPN	**Las Esperanzas**	**8.16**	**101**	*e*Pn		**Pn**	**11 23 03.0**	**+0.6**
ESPN				*e*Sn		**Sn**	**11 24 30.6**	**+3.2**
JTS	**JuntasAbangare**	**8.20**	**115**	Pn		**Pn**	**11 23 02.3**	**-0.8**
	comp=Z,1.2nm,0.3s,baz=11,slow=19,SNR=4.0							
JTS				Lg		Lg	11 25 14.5	
	comp=Z,0.9nm,0.3s,baz=192,slow=19,SNR=8.1							
JTS	**JuntasAbangare**	**8.20**	**115**	*e*Pn		**Pn**	**11 23 03.9**	**+0.8**
JTS				Lg		Lg	11 25 14.5	
JTS	**JuntasAbangare**	**8.20**	**115**	*e*P		**Pn**	**11 23 03.9**	**+0.8**
UNM	**Universidad Na**	**8.37**	**311**	*e*Pn		Pn	11 23 10.1	+4.5
UNM	**Universidad Na**	**8.37**	**311**	*e*P		Pn	11 23 10.1	+4.5
MOIG	**Morelia**	**10.11**	**306**	*e*Pn		**Pn**	**11 23 32.4**	**+3.0**
JRQG	**Juriquilla Cam**	**10.16**	**313**	*e*Pn		**Pn**	**11 23 32.6**	**+2.4**
LNIG	**Linares**	**12.75**	**330**	*e*Pn		**Pn**	**11 24 09.0**	**+3.7**
ZAIG	**Zacatecas**	**13.00**	**314**	*e*Pn		**Pn**	**11 24 11.9**	**+2.9**
PAYG	**Puerto Ayora**	**14.66**	**171**	*e*Pn		**P**	**11 24 34.9**	**-2.4**
833A	**Chaparral WMA,**	**15.71**	**337**	*e*Pn		**Pn**	**11 24 46.1**	**+0.9**
	comp=Z,59nm,1.0s							
833A	**Chaparral WMA,**	**15.71**	**337**	P		**Pn**	**11 24 47.2**	**+2.0**
	baz=154							
HKT	**Hockley**	**16.26**	**350**	*e*Pn		**Pn**	**11 24 52.6**	**+0.5**
	comp=Z,26nm,1.2s							
HKT	**Hockley**	**16.26**	**350**	*e*P		**Pn**	**11 24 52.6**	**+0.5**
HKT				pmax		pmax		
	comp=Z,26nm,1.2s							
058A	**Arcadia**	**16.45**	**36**	P		**Pn**	**11 24 56.4**	**+1.7**
	baz=219							
447A	**Lucedale**	**17.17**	**11**	*e*Pn		**Pn**	**11 25 03.4**	**-0.3**
	comp=Z,169nm,1.0s							
060A	**Indiantown**	**17.29**	**39**	*e*Pn		**Pn**	**11 25 04.8**	**-0.5**
	comp=Z,155nm,0.9s							
342A	**Flagon Creek P**	**17.38**	**0**	*e*Pn		**Pn**	**11 25 06.6**	**+0.2**
	comp=Z,86nm,1.3s							
435B	**Jarrell**	**17.43**	**345**	*e*Pn		**Pn**	**11 25 08.7**	**+1.7**
	comp=Z,21nm,0.8s							
435B	**Jarrell**	**17.43**	**345**	P		**P**	**11 25 11.0**	**+2.9**
	baz=162,SNR=5.8							
345A	**Thompson Farm,**	**17.46**	**7**	P		**P**	**11 25 10.2**	**+1.9**
	baz=187							
DWPF	**Disney Wildern**	**17.48**	**34**	*e*Pn		**P**	**11 25 11.6**	**+3.0**
	comp=Z,273nm,1.6s							
344A	**Westbrook Farm**	**17.53**	**5**	*e*Pn		**Pn**	**11 25 10.4**	**+2.1**
	comp=Z,105nm,1.2s							
344A	**Westbrook Farm**	**17.53**	**5**	P		**P**	**11 25 11.0**	**+1.8**
	baz=185,SNR=8.6							
346A	**Big Creek Wild**	**17.61**	**9**	*e*Pn		**Pn**	**11 25 10.5**	**+1.2**
	comp=Z,67nm,0.8s							
346A	**Big Creek Wild**	**17.61**	**9**	P		**P**	**11 25 13.7**	**+3.7**
	baz=189							
859A	**Kempfer Cattle**	**17.74**	**36**	P		**Pn**	**11 25 11.6**	**+0.8**
	baz=219							
347A	**Saraland**	**17.78**	**11**	P		**P**	**11 25 17.7**	**+5.8**
	baz=192							
757A	**Oxford**	**17.81**	**31**	P		**Pn**	**11 25 11.9**	**+0.2**
	baz=214							
JCT	**Junction City**	**17.81**	**339**	*e*P		**P**	**11 25 14.0**	**+1.7**
	comp=Z,31nm,0.9s							
JCT	**Junction City**	**17.81**	**339**	*e*P		**P**	**11 25 14.0**	**+1.7**
JCT				pmax		pmax		
	comp=Z,31nm,0.9s							
JCT	**Junction City**	**17.81**	**339**	P		**P**	**11 25 14.4**	**+2.1**
	baz=155,SNR=18							
NATX	**Nacogdoches**	**17.88**	**354**	*e*P		**Pn**	**11 25 14.0**	**+1.5**
	comp=Z,31nm,0.8s							
NATX	**Nacogdoches**	**17.88**	**354**	P		**P**	**11 25 14.9**	**+2.0**
	baz=172							
HPIG		**17.88**	**318**	*e*P		**P**	**11 25 14.9**	**+1.7**
	comp=Z,46nm,1.4s							
BRAL	**Brewton**	**17.89**	**15**	P		**Pn**	**11 25 15.1**	**+2.5**
	baz=197							
348A	**Jackson**	**17.92**	**13**	*e*Pn		**Pn**	**11 25 13.1**	**+0.1**
	comp=Z,133nm,1.0s							
348A	**Jackson**	**17.92**	**13**	P		**P**	**11 25 15.7**	**+2.2**
	baz=194							
656A	**Willston**	**17.93**	**29**	*e*Pn		**Pn**	**11 25 11.4**	**-1.8**
	comp=Z,211nm,1.4s							
656A	**Willston**	**17.93**	**29**	P		**P**	**11 25 17.2**	**+3.6**
	baz=212							
349A	**Repton**	**18.02**	**15**	P		**Pn**	**11 25 15.8**	**+1.5**
	baz=196							
241A	**Mo Tay, Goldon**	**18.03**	**359**	*e*P		**Pn**	**11 25 15.6**	**+1.2**
	comp=Z,117nm,1.1s							
241A	**Mo Tay, Goldon**	**18.03**	**359**	P		**P**	**11 25 16.6**	**+2.0**
	baz=178,SNR=7.3							
240A	**Hunter Patters**	**18.08**	**357**	*e*P		**Pn**	**11 25 16.2**	**+1.2**
	comp=Z,32nm,0.8s							
240A	**Hunter Patters**	**18.08**	**357**	P		**P**	**11 25 18.4**	**+3.2**
	baz=175							
244A	**Avery, Jackson**	**18.12**	**5**	P		**P**	**11 25 18.4**	**+2.8**
	baz=185							
245A	**Little AP, Sta**	**18.19**	**7**	P		**Pn**	**11 25 18.3**	**+2.0**
	baz=187							
VBMS	**Vicksburg**	**18.31**	**5**	*e*P		**P**	**11 25 18.2**	**+0.5**
	comp=Z,54nm,0.9s							
H06S1	**SOCORRO T**	**18.36**	**288**	T		T	11 45 31.8	
	SNR=19							
555A	**McAlpin**	**18.37**	**27**	*e*P		**Pn**	**11 25 23.0**	**+4.4**
	comp=Z,94nm,0.9s							
351A	**Pinckard**	**18.40**	**19**	P		**P**	**11 25 20.9**	**+2.1**
	baz=201							
ZARC	**Zaragoza, Cauc**	**18.46**	**108**	*e*P		**P**	**11 25 16.4**	**-3.0**
453A	**Whigham**	**18.46**	**23**	P		**P**	**11 25 21.5**	**+2.1**
	baz=205							
TXAR	**Lajitas Array**	**18.51**	**328**	P		**Pn**	**11 25 22.5**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=152,slow=14,SNR=82							
TX31	**Lajitas Ar. Si**	**18.51**	**328**	*e*P		**Pn**	**11 25 22.4**	**+2.1**
556A	**Lake Butler**	**18.52**	**29**	P		**P**	**11 25 19.8**	**-0.3**
	baz=212							
WHTX	**Lake Whitney,**	**18.56**	**347**	*e*P		**P**	**11 25 21.5**	**+1.0**
	comp=Z,25nm,0.8s							
WHTX	**Lake Whitney,**	**18.56**	**347**	P		**P**	**11 25 22.1**	**+1.7**
	baz=164							
454A	**Quitman**	**18.61**	**25**	P		**P**	**11 25 20.9**	**-0.1**
	baz=207							
249A	**Camden**	**18.64**	**14**	P		**P**	**11 25 21.9**	**+0.5**
	baz=196							
143A	**Socs Landing,**	**18.73**	**3**	*e*P		**P**	**11 25 22.5**	**+0.2**
	comp=Z,60nm,0.9s							
143A	**Socs Landing,**	**18.73**	**3**	P		**P**	**11 25 23.2**	**+0.9**
	baz=182							
352A	**Blakely**	**18.81**	**20**	*e*P		**P**	**11 25 24.9**	**+1.6**
	comp=Z,95nm,1.3s							
352A	**Blakely**	**18.81**	**20**	P		**P**	**11 25 25.5**	**+2.2**
	baz=202							
250A	**Grady**	**18.86**	**17**	*e*P		**Pn**	**11 25 28.0**	**+3.5**
	comp=Z,198nm,1.5s							
250A	**Grady**	**18.86**	**17**	P		**P**	**11 25 26.0**	**+2.2**
	baz=198							
146A	**Union**	**18.90**	**9**	*e*P		**P**	**11 25 25.7**	**+1.5**
	comp=Z,134nm,1.4s							
353A	**Camilla**	**18.94**	**22**	P		**P**	**11 25 26.3**	**+1.6**
	baz=205							
147A	**Livingston**	**19.07**	**11**	*e*P		**P**	**11 25 26.0**	**-0.1**
	comp=Z,258nm,1.4s							
147A	**Livingston**	**19.07**	**11**	P		**P**	**11 25 28.4**	**+2.4**
	baz=192							
RREF	**El Recreo**	**19.12**	**116**	*e*P		**Pn**	**11 25 30.1**	**+1.7**
SLBS	**Sierra La Lagu**	**19.15**	**303**	*e*P		**Pn**	**11 25 30.5**	**+2.3**
	comp=Z,56nm,1.4s							
148A	**Grensboro**	**19.18**	**13**	P		**P**	**11 25 28.9**	**+1.6**
	baz=194							
PTBC	**PUERTO BERRIO,**	**19.19**	**111**	*e*P		**P**	**11 25 27.4**	**-0.2**
251A	**Midway**	**19.22**	**19**	P		**P**	**11 25 29.1**	**+1.4**
	baz=200,SNR=7.0							
Z41A	**Richland Creek**	**19.26**	**359**	*e*P		**P**	**11 25 29.2**	**+1.1**
	comp=Z,56nm,0.9s							
Z41A	**Richland Creek**	**19.26**	**359**	P		**P**	**11 25 28.7**	**+0.6**
	baz=178,SNR=6.8							
TIGA	**Tifton**	**19.26**	**24**	P		**P**	**11 25 28.5**	**+0.3**
	baz=206							
Z42A	**Norrel Spur, H**	**19.28**	**1**	P		**P**	**11 25 29.7**	**+1.3**
	baz=181							
POPC	**Popayan, Colom**	**19.28**	**124**	*e*P		**P**	**11 25 29.6**	**+0.8**
149A	**Jones**	**19.32**	**15**	P		**P**	**11 25 29.6**	**+0.9**
	baz=196,SNR=8.4							
252A	**Lumpkin**	**19.35**	**20**	P		**P**	**11 25 29.5**	**+0.4**
	baz=202							
Z44A	**Pea Ridge, Bel**	**19.37**	**5**	P		**P**	**11 25 29.6**	**+0.3**
	baz=185							
OTAV	**Otavalo**	**19.44**	**133**	*e*P		**P**	**11 25 31.2**	**+0.5**
	comp=Z,13nm,1.0s							
OTAV	**Otavalo**	**19.44**	**133**	*e*P		**P**	**11 25 31.2**	**+0.5**
OTAV				pmax		pmax		
	comp=Z,13nm,1.0s							
Z46A	**Louisville**	**19.46**	**9**	P		**P**	**11 25 30.8**	**+0.4**
	baz=190,SNR=6.3							
150A	**Eclectic**	**19.52**	**17**	P		**P**	**11 25 31.6**	**+0.6**
	baz=198,SNR=11							
Z45A	**Winona**	**19.54**	**7**	*e*P		**P**	**11 25 31.3**	**+0.1**
	comp=Z,196nm,1.6s							
Z45A	**Winona**	**19.54**	**7**	P		**P**	**11 25 32.0**	**+0.8**
	baz=187							
SOTA	**Rioblanco**	**19.58**	**125**	*e*P		**P**	**11 25 33.8**	**+1.5**
Z47A	**Carrollton**	**19.62**	**11**	P		**P**	**11 25 31.9**	**-0.1**
	baz=192,SNR=14							
PCON	**Cinco Dias**	**19.63**	**124**	*e*P		**P**	**11 25 33.9**	**+0.9**
LPIG	**La Paz**	**19.64**	**304**	LR		LR	11 33 04.4	
	comp=Z,354nm,18.3s,baz=117,slow=36							
151A	**Opelika**	**19.65**	**18**	P		**P**	**11 25 32.8**	**+0.4**
	baz=200,SNR=12							
LRAL	**Lakeview Retre**	**19.68**	**14**	*e*P		**P**	**11 25 33.0**	**+0.2**
	comp=Z,26nm,0.9s							
LRAL	**Lakeview Retre**	**19.68**	**14**	P		**P**	**11 25 33.0**	**+0.2**
	baz=195,SNR=12							
MARP	**Paez Belalcaza**	**19.69**	**122**	*e*P		**Pn**	**11 25 36.5**	**+1.6**
ABTX	**Abilene, Hawle**	**19.74**	**342**	*e*P		**P**	**11 25 34.9**	**+1.5**
	comp=Z,39nm,0.8s							
ABTX	**Abilene, Hawle**	**19.74**	**342**	P		**P**	**11 25 34.8**	**+1.4**
	baz=158,SNR=32							
356A	**Blackshear**	**19.77**	**27**	P		**P**	**11 25 33.6**	**-0.1**
	baz=210							
254A	**Abbeville**	**19.83**	**24**	P		**P**	**11 25 34.1**	**-0.3**
	baz=206							
Y42A	**Garnett, Star**	**19.84**	**2**	P		**P**	**11 25 35.0**	**+0.5**
	baz=181							
Y41A	**Eaglette Beard**	**19.88**	**360**	P		**P**	**11 25 35.6**	**+0.7**
	baz=179							
Z48A	**Nonport**	**19.89**	**12**	P		**P**	**11 25 35.1**	**0.0**
	baz=193							
Z49A	**Columbiana**	**19.95**	**15**	P		**P**	**11 25 35.5**	**-0.2**
	baz=196							
152A	**Waverly Hall**	**19.97**	**20**	*e*P		**P**	**11 25 36.2**	**+0.2**
	comp=Z,53nm,0.8s							
152A	**Waverly Hall**	**19.97**	**20**	P		**P**	**11 25 36.3**	**+0.3**
	baz=202,SNR=27							
Y45A	**Yeager Farm, C**	**20.04**	**7**	P		**P**	**11 25 37.3**	**+0.6**
	baz=186							
ROSC	**El Rosal**	**20.05**	**115**	P		**P**	**11 25 38.2**	**+0.8**
	comp=Z,2.9nm,0.3s,baz=323,slow=5.3,SNR=18							
ROSC	**El Rosal**	**20.05**	**115**	*e*P		Pn	11 25 40.6	+1.4
	comp=Z,101nm,1.4s							
ROSC	**El Rosal**	**20.05**	**115**	*e*P		Pn	11 25 40.5	+1.3
Y44A	**Strider, Charl**	**20.07**	**6**	P		**P**	**11 25 37.4**	**+0.4**
	baz=186							
Y46A	**Houston**	**20.15**	**9**	P		**P**	**11 25 37.9**	**0.0**
	baz=190,SNR=8.4							
Z50A	**Ashland**	**20.16**	**16**	*e*P		**P**	**11 25 38.6**	**+0.6**
	comp=Z,34nm,0.8s							
Z50A	**Ashland**	**20.16**	**16**	P		**P**	**11 25 38.3**	**+0.3**
	baz=198							
BARC	**Barichara**	**20.33**	**109**	*e*P		**P**	**11 25 41.2**	**+0.9**
Y47A	**UCPARC, Winfie**	**20.34**	**11**	P		**P**	**11 25 40.2**	**+0.3**
	baz=192,SNR=15							
Z51A	**Franklin**	**20.43**	**18**	P		**P**	**11 25 40.9**	**0.0**
	baz=200							
X40A	**Basin Creek Fa**	**20.49**	**359**	*e*P		**P**	**11 25 42.9**	**+1.4**
	comp=Z,34nm,1.0s							
X40A	**Basin Creek Fa**	**20.49**	**359**	P		**P**	**11 25 44.2**	**+2.8**
	baz=178							
Y48A	**Jasper**	**20.49**	**13**	P		**P**	**11 25 41.1**	**-0.5**
	baz=194							
X41A	**Kaden, Bauxite**	**20.49**	**360**	P		**P**	**11 25 42.5**	**+1.0**
	baz=179							
154A	**Montrose**	**20.49**	**23**	*e*P		**P**	**11 25 42.5**	**+0.9**
	comp=Z,115nm,0.9s							
154A	**Montrose**	**20.49**	**23**	P		**P**	**11 25 42.5**	**+0.9**
	baz=206,SNR=7.0							
PAMC	**Pamplona, Colo**	**20.51**	**107**	*e*P		**P**	**11 25 41.6**	**-0.8**
Z52A	**Williamson**	**20.55**	**20**	P		**P**	**11 25 42.0**	**-0.2**
	baz=202,SNR=14							
X42A	**Stuttgart**	**20.57**	**2**	P		**P**	**11 25 44.2**	**+1.9**
	baz=182							
MIAR	**Mount Ida**	**20.57**	**357**	*e*P		**P**	**11 25 42.7**	**+0.3**
	comp=Z,66nm,1.0s							
MIAR	**Mount Ida**	**20.57**	**357**	*e*P		**P**	**11 25 42.7**	**+0.3**
MIAR				pmax		pmax		
	comp=Z,66nm,1.0s							
MIAR	**Mount Ida**	**20.57**	**357**	P		**P**	**11 25 43.2**	**+0.8**
	baz=176,SNR=19							
X43A	**Marvell**	**20.57**	**4**	*e*P		Pn	11 25 45.8	+1.1
	comp=Z,79nm,0.9s							
X43A	**Marvell**	**20.57**	**4**	P		**P**	**11 25 44.8**	**+2.4**
	baz=184							
Y49A	**Blount Mountai**	**20.61**	**14**	*e*P		**P**	**11 25 42.8**	**0.0**
	comp=Z,25nm,0.8s							
Y49A	**Blount Mountai**	**20.61**	**14**	P		**P**	**11 25 42.5**	**-0.4**
	baz=196							
X45A	**UM Field Stati**	**20.61**	**7**	P		**P**	**11 25 43.9**	**+1.0**
	baz=188							
CHIC	**Chingaza**	**20.67**	**115**	*e*P		**P**	**11 25 45.7**	**+1.6**
FLOC	**Florencia**	**20.67**	**125**	*e*P		**P**	**11 25 45.6**	**+1.8**
OXF	**Oxford**	**20.70**	**7**	*e*P		**P**	**11 25 43.1**	**-0.7**
	comp=Z,55nm,1.0s							
OXF	**Oxford**	**20.70**	**7**	*e*P		**P**	**11 25 43.1**	**-0.7**
OXF				pmax		pmax		
	comp=Z,55nm,1.0s							
OXF	**Oxford**	**20.70**	**7**	P		**P**	**11 25 43.2**	**-0.7**
	baz=188							
X37A	**Clayton**	**20.75**	**353**	*e*P		**P**	**11 25 45.1**	**+0.7**
	comp=Z,89nm,1.3s							
155A	**Kite**	**20.75**	**24**	P		**P**	**11 25 44.0**	**-0.4**
	baz=208							
UALR	**University of**	**20.77**	**0**	*e*P		**P**	**11 25 45.6**	**+1.0**
	comp=Z,89nm,0.9s							
Y50A	**Piedmont**	**20.81**	**16**	P		**P**	**11 25 45.9**	**+0.8**
	baz=198							
X46A	**Booneville**	**20.86**	**9**	P		**P**	**11 25 46.3**	**+0.8**
	baz=190,SNR=7.3							
Z53A	**Monticello**	**20.92**	**21**	P		**P**	**11 25 46.3**	**+0.1**
	baz=204,SNR=6.4							
X47A	**Russellville**	**20.94**	**11**	P		**P**	**11 25 47.5**	**+1.1**
	baz=192,SNR=8.0							
Y51A	**Rockmart**	**21.01**	**17**	P		**P**	**11 25 47.7**	**+0.5**
	baz=200,SNR=8.3							
X48A	**Hartselle**	**21.04**	**13**	*e*P		**P**	**11 25 46.4**	**-1.0**
	comp=Z,41nm,0.8s							
X48A	**Hartselle**	**21.04**	**13**	P		**P**	**11 25 47.1**	**-0.4**
	baz=194,SNR=12							
GOGA	**Godfrey**	**21.08**	**21**	*e*P		**P

comp=Z,41nm,1.0s
V47A Nunnelly 22.27 11 P P 11 25 59.1 -1.6
baz=192
W51A Cleveland 22.28 17 P P 11 26 00.0 -0.7
baz=199
HHAR Hobbs 22.31 357 eP P 11 26 00.5 -0.7
comp=Z,25nm,1.0s
V48A Smith Brothers 22.32 12 eP P 11 25 59.5 -1.7
comp=Z,37nm,1.0s
V48A Smith Brothers 22.32 12 P P 11 26 00.0 -1.3
baz=194,SNR=15
U41A Viola 22.34 1 P P 11 26 00.9 -0.6
baz=181
U40A Yellville 22.35 359 P P 11 26 01.2 -0.4
baz=178
U42A Revenden 22.37 3 P P 11 26 01.0 -0.8
baz=182,SNR=13
U43A Rector 22.44 4 P P 11 26 02.4 -0.1
baz=185
W52A Murphy 22.46 19 eP P 11 26 03.0 +0.2
comp=Z,29nm,1.0s
W52A Murphy 22.46 19 P P 11 26 02.5 -0.2
baz=202
AMTX Amarillo 22.47 340 eP P 11 26 03.2 +0.3
comp=Z,166nm,0.8s
AMTX Amarillo 22.47 340 P P 11 26 03.5 +0.5
baz=155
WVT Waverly 22.52 10 eP P 11 26 01.3 -2.0
comp=Z,12nm,0.8s
WVT Waverly 22.52 10 eP P 11 26 01.3 -2.0
WVT pmax pmax
comp=Z,12nm,0.8s
WVT Waverly 22.52 10 P P 11 26 03.2 -0.1
baz=191
V49A McMinnville 22.55 14 P P 11 26 02.2 -1.6
baz=196,SNR=9.8
CPCT Cooper Cave 22.61 17 eP P 11 26 03.9 -0.5
comp=Z,24nm,0.9s
V50A Pikevile 22.66 16 P P 11 26 03.8 -1.1
baz=198,SNR=6.6
U46A Springville 22.68 9 P P 11 26 03.6 -1.5
baz=190,SNR=11
JSC Jenkinsville 22.69 25 eP P 11 26 04.1 -1.0
comp=Z,24nm,0.9s
JSC Jenkinsville 22.69 25 eP P 11 26 04.1 -1.0
JSC pmax pmax
comp=Z,24nm,0.9s
BG3 Lake Jocassee 22.69 21 eP P 11 26 05.0 -0.2
comp=Z,33nm,1.1s
W53A Cullowhee 22.78 20 P P 11 26 06.6 +0.4
baz=203,SNR=7.2
PARMO Parma 22.79 6 eP P 11 26 05.4 -0.8
comp=Z,53nm,0.8s
PBMO Poplar Bluff 22.84 4 eP P 11 26 05.1 -1.7
comp=Z,25nm,0.8s
U47A Clarksville 22.91 11 P P 11 26 05.3 -2.1
baz=192
PAULI Pauline 22.94 23 eP P 11 26 07.5 -0.3
comp=Z,22nm,0.9s
V51A Loudon 22.99 17 eP P 11 26 07.3 -1.0
comp=Z,40nm,1.0s
V51A Loudon 22.99 17 P P 11 26 06.9 -1.4
baz=200,SNR=6.9
TKL Tuckaleechee C 23.03 18 P P 11 26 07.9 -0.8
comp=Z,22nm,0.9s,baz=185,slow=9.8,SNR=15
TKL LR LR 11 36 47.7
comp=Z,971nm,18.3s,baz=207,slow=41
TKL Tuckaleechee C 23.03 18 eP P 11 26 07.9 -0.8
comp=Z,96nm,1.4s
TKL Tuckaleechee C 23.03 18 eP P 11 26 07.9 -0.8
TKL pmax pmax
comp=Z,96nm,1.4s
T41A Mountain View 23.04 1 P P 11 26 07.6 -1.3
baz=181,SNR=9.3
T42A Van Buren 23.06 3 eP P 11 26 07.1 -1.8
comp=Z,9.9nm,0.8s
T42A Van Buren 23.06 3 P P 11 26 07.6 -1.3
baz=183,SNR=7.0
U32A Winter Ranch, 23.12 347 eP P 11 26 09.4 -0.3
comp=Z,42nm,0.8s
U48A Cassie Pea, Po 23.13 12 P P 11 26 07.8 -1.9
baz=194
T43A Greenville 23.16 4 P P 11 26 10.1 +0.1
baz=185,SNR=9.3
121A Cookes Peak, D 23.21 326 P P 11 26 12.7 +2.0
baz=139,SNR=23
V52A Sevierville 23.25 19 eP P 11 26 09.8 -1.1
comp=Z,91nm,1.4s
V52A Sevierville 23.25 19 P P 11 26 10.1 -0.9
baz=202,SNR=11
T45A Paducah 23.27 8 eP P 11 26 09.8 -1.3
comp=Z,52nm,0.6s
U49A Red Boiling Sp 23.30 14 P P 11 26 09.4 -2.0
baz=196,SNR=17
V53A Saluda 23.35 20 eP P 11 26 11.1 -0.8
comp=Z,37nm,0.9s
V53A Saluda 23.35 20 P P 11 26 10.8 -1.1
baz=204,SNR=7.9
T46A Princeton 23.40 9 P P 11 26 10.4 -2.0
baz=191,SNR=9.1
KMSC Kings Mountain 23.41 24 eP P 11 26 11.5 -1.0
comp=Z,48nm,1.1s
KMSC Kings Mountain 23.41 24 P P 11 26 11.8 -0.8
baz=208,SNR=8.7
U50A Jamestown 23.43 16 P P 11 26 11.2 -1.6
baz=198,SNR=24
T47A Sharon Grove 23.48 11 eP P 11 26 11.1 -2.1
comp=Z,29nm,0.8s
T47A Sharon Grove 23.48 11 P P 11 26 11.3 -1.8
baz=192,SNR=9.5
S41A Jillco Farms, 23.59 1 P P 11 26 13.3 -0.9
baz=181
U51A La Follette 23.63 17 P P 11 26 13.3 -1.3
baz=200,SNR=22
T48A Bowling Green 23.73 12 P P 11 26 13.7 -1.9
baz=194
S42A Caledonia 23.81 3 P P 11 26 15.3 -1.0
baz=183
U52A Thorn Hill 23.83 18 P P 11 26 15.5 -1.1
baz=202,SNR=5.5
S44A Carbondale 23.86 6 P P 11 26 15.6 -1.1
baz=187,SNR=16
BNM Barren Site 23.88 330 eP P 11 26 19.3 +2.0
SIUC Southern Illin 23.88 6 eP P 11 26 15.8 -1.2
comp=Z,64nm,0.8s
TZTN Tazewell 23.92 18 eP P 11 26 16.0 -1.4
comp=Z,36nm,0.9s
TZTN Tazewell 23.92 18 P P 11 26 15.4 -1.9
baz=201
T49A Edmonton 23.92 14 eP P 11 26 15.1 -2.3
comp=Z,47nm,1.0s
T49A Edmonton 23.92 14 P P 11 26 15.9 -1.4
baz=196,SNR=19
S45A Carrier Mills 23.92 8 P P 11 26 15.7 -1.7
baz=189,SNR=5.8
T50A Nancy 24.01 15 P P 11 26 16.0 -2.2
baz=198,SNR=7.1
LPM Los Pinos Moun 24.01 330 eP P 11 26 20.3 +1.8
S46A Don Dixon Farm 24.05 9 P P 11 26 17.3 -1.3
baz=191,SNR=9.5
LENM Lemitar 24.06 329 eP P 11 26 20.7 +1.8
U53A Fall Branch 24.06 20 P P 11 26 17.2 -1.6
baz=204
CCM Cathedral Cave 24.07 2 eP P 11 26 16.1 -2.6
comp=Z,19nm,1.0s
CCM Cathedral Cave 24.07 2 eP P 11 26 16.1 -2.6
CCM pmax pmax
comp=Z,19nm,1.0s
CCM Cathedral Cave 24.07 2 P P 11 26 16.6 -2.1
baz=182
S47A Hartford 24.11 11 P P 11 26 18.0 -1.1
baz=193,SNR=8.9
T51A Gray 24.19 17 P P 11 26 18.8 -1.1
baz=200,SNR=7.9
R41A Rosebud 24.31 2 P P 11 26 20.1 -0.9
baz=182
R42A Luebbering 24.32 3 P P 11 26 20.0 -1.0
baz=183,SNR=5.6
LAZ Ladron 24.33 330 eP P 11 26 23.6 +2.1
S48A Wiedeman Farm, 24.33 12 P P 11 26 21.0 -0.2
baz=195
USIN University of 24.34 9 eP P 11 26 19.8 -1.4
comp=Z,77nm,1.1s
R43A Red Bud 24.37 5 P P 11 26 21.1 -0.4
baz=185,SNR=6.6
ANMO Albuquerque 24.44 331 P P 11 26 23.9 +1.4
comp=Z,4.6nm,0.7s,baz=141,slow=11,SNR=18
ANMO Albuquerque 24.44 331 eP P 11 26 23.8 +1.4
comp=Z,12nm,1.1s
ANMO Albuquerque 24.44 331 iP P 11 26 23.7 +1.2
ANMO pmax pmax
comp=Z,16nm,1.9s
ANMO Albuquerque 24.44 331 P P 11 26 23.9 +1.4
baz=145
R45A Skylar, Fairfi 24.57 8 P P 11 26 21.6 -1.7
baz=189,SNR=8.6
R46A Gibon Southern 24.60 9 P P 11 26 22.4 -1.3
baz=191
T52A Hallie 24.61 18 P P 11 26 22.3 -1.5
baz=202
S49A Springfield 24.62 14 P P 11 26 22.1 -1.7
baz=196,SNR=14
SLM Saint Louis 24.71 4 eP P 11 26 24.1 -0.5
comp=Z,36nm,0.7s
SLM Saint Louis 24.71 4 eP P 11 26 24.1 -0.5
SLM pmax pmax
comp=Z,36nm,0.7s
S50A Richmond 24.74 15 P P 11 26 23.2 -1.7
baz=198,SNR=9.2
TUC Tucson 24.80 321 eP P 11 26 27.5 +1.9
comp=Z,16nm,1.1s
TUC Tucson 24.80 321 eP P 11 26 27.5 +1.9
TUC pmax pmax
comp=Z,16nm,1.1s
TUC Tucson 24.80 321 P P 11 26 27.0 +1.4
baz=133
WCI Wyandotte Cave 24.84 12 eP P 11 26 24.4 -1.3
comp=Z,68nm,0.8s
WCI Wyandotte Cave 24.84 12 eP P 11 26 24.4 -1.3
WCI pmax pmax
comp=Z,68nm,0.8s
WCI Wyandotte Cave 24.84 12 P P 11 26 24.6 -1.2
baz=194
R47A Wooly Knot Far 24.86 11 P P 11 26 24.7 -1.2
baz=193
S51A Beattyville 24.92 17 eP P 11 26 25.2 -1.4
comp=Z,27nm,0.8s
S51A Beattyville 24.92 17 P P 11 26 25.2 -1.4
baz=200
Q42A Golden Eagle 24.96 4 P P 11 26 26.3 -0.5
baz=184
Q41A Truxton 24.97 2 P P 11 26 26.8 -0.1
baz=182,SNR=11
OLIL Olney 25.03 8 eP P 11 26 26.1 -1.4
comp=Z,58nm,0.9s
Q43A New Douglas 25.05 5 P P 11 26 26.3 -1.4
baz=186
R48A Northridge Ran 25.09 12 P P 11 26 26.5 -1.5
baz=195,SNR=8.9
S52A Salyersville 25.11 18 P P 11 26 26.7 -1.6
baz=201
R49A Shelbyville 25.14 14 P P 11 26 26.2 -2.2
baz=196,SNR=8.7
ATAH Atahualpa 25.16 145 P P 11 26 30.4 +1.1
comp=Z,10nm,0.9s,baz=345,slow=7.0,SNR=5.5
ATAH LR LR 11 33 59.0
comp=Z,198nm,21.0s,baz=331,slow=31
Q45A Warren Harvey, 25.18 8 P P 11 26 27.7 -1.1
baz=189,SNR=6.7
R50A Paris 25.33 15 P P 11 26 28.3 -1.9
baz=198,SNR=7.2
KSU1 Kansas State U 25.35 353 eP P 11 26 29.3 -1.1
comp=Z,25nm,0.6s
KSU1 Kansas State U 25.35 353 P P 11 26 30.2 -0.3
baz=170,SNR=13
T25A Trinidad 25.46 337 eP P 11 26 33.9 +2.2
comp=Z,41nm,0.9s
T25A Trinidad 25.46 337 P P 11 26 33.6 +1.9
baz=152,SNR=33
Q47A Bedord North L 25.50 11 P P 11 26 29.8 -1.9
baz=193,SNR=6.2
R51A Hillsboro 25.54 16 P P 11 26 29.9 -2.2
baz=200
BLA Blacksburg 25.58 23 P P 11 26 30.5 -2.1
baz=207
CBKS Cedar Bluff 25.62 347 eP P 11 26 32.6 -0.3
comp=Z,52nm,0.8s
CBKS Cedar Bluff 25.62 347 eP P 11 26 32.6 -0.3
CBKS pmax pmax
comp=Z,52nm,0.8s
CBKS Cedar Bluff 25.62 347 P P 11 26 32.7 -0.1
baz=163,SNR=16
Q48A North Vernon 25.62 12 P P 11 26 31.3 -1.6
baz=195,SNR=10
P42A Winchester 25.64 4 eP P 11 26 32.1 -1.0
comp=Z,17nm,0.9s
P42A Winchester 25.64 4 P P 11 26 32.6 -0.4
baz=184
SJG San Juan 25.65 77 LR LR 11 37 33.2
comp=Z,864nm,19.1s,baz=257,slow=39
BLO Bloomington 25.71 11 eP P 11 26 31.5 -2.1
comp=Z,26nm,0.8s
BLO Bloomington 25.71 11 eP P 11 26 31.5 -2.1
BLO pmax pmax
comp=Z,26nm,0.8s
P45A Graceland, Par 25.86 8 eP P 11 26 33.7 -1.3
comp=Z,29nm,0.8s
Q49A Aurora 25.88 14 P P 11 26 33.3 -1.9
baz=196,SNR=5.6
Q50A Georgetown 25.95 15 P P 11 26 34.1 -1.7
baz=198
P46A Rosedale 26.02 9 P P 11 26 34.7 -1.8
baz=191,SNR=8.8
P47A Martinsville 26.06 11 P P 11 26 35.2 -1.7
baz=193
P48A Milroy 26.20 12 P P 11 26 36.2 -1.9
baz=195,SNR=6.1
W18A Petrified Fore 26.22 327 eP P 11 26 41.1 +2.5
comp=Z,25nm,1.3s
W18A Petrified Fore 26.22 327 P P 11 26 41.0 +2.4
baz=139
Q51A Peebles 26.29 16 eP P 11 26 37.3 -1.7
comp=Z,39nm,0.9s
Q51A Peebles 26.29 16 P P 11 26 37.2 -1.7
baz=200,SNR=12
SDCO Great Sand Dun 26.41 336 eP P 11 26 41.9 +1.5
comp=Z,27nm,1.1s
SDCO Great Sand Dun 26.41 336 P P 11 26 41.6 +1.2
baz=150,SNR=28
Q52A Bidwell 26.54 18 P P 11 26 39.4 -1.7
baz=202
KSCO Kaye Shedlock' 26.55 342 eP P 11 26 42.1 +0.6
comp=Z,42nm,1.0s
KSCO Kaye Shedlock' 26.55 342 P P 11 26 42.3 +0.8
baz=157,SNR=10
P50A Jamestown 26.72 15 P P 11 26 41.2 -1.5
baz=198
SFIN Lafayette 26.79 9 eP P 11 26 41.8 -1.5
comp=Z,22nm,0.8s
P51A Williamsport 26.79 16 eP P 11 26 42.0 -1.4
comp=Z,23nm,0.8s
P51A Williamsport 26.79 16 P P 11 26 43.1 -0.4
baz=200
O47A Sheridan 26.80 11 P P 11 26 42.7 -0.8
baz=193
S22A 4UR Ranch, Cre 26.95 334 eP P 11 26 47.0 +1.7
comp=Z,64nm,1.4s
S22A 4UR Ranch, Cre 26.95 334 P P 11 26 47.2 +1.9
baz=148,SNR=30
O48A Farmland 27.02 12 P P 11 26 44.4 -1.1
baz=195
O49A Covington 27.14 14 eP P 11 26 44.5 -2.0
comp=Z,20nm,1.0s
O49A Covington 27.14 14 P P 11 26 45.6 -0.9
baz=197
MVCO Mesa Verde 27.24 331 eP P 11 26 50.0 +2.2
comp=Z,58nm,1.1s
MVCO Mesa Verde 27.24 331 P P 11 26 49.5 +1.7
baz=144,SNR=44
O50A Cable 27.27 15 P P 11 26 46.7 -1.1
baz=198
P53A Whipple 27.29 19 eP P 11 26 46.4 -1.5
comp=Z,45nm,1.4s
P53A Whipple 27.29 19 P P 11 26 46.2 -1.7
baz=204
WUAZ Wupatki 27.41 325 eP P 11 26 51.6 +2.3
comp=Z,14nm,1.0s
WUAZ Wupatki 27.41 325 P P 11 26 50.9 +1.6
baz=136,SNR=8.0
ACSO Alum Creek Sta 27.51 16 P P 11 26 48.2 -1.7
baz=200
O51A Pataskala 27.54 17 P P 11 26 48.6 -1.5
baz=200
N48A Decatur 27.63 12 P P 11 26 49.1 -1.9
baz=195
O52A Adamsville 27.73 18 eP P 11 26 50.0 -1.9
comp=Z,24nm,0.9s
O52A Adamsville 27.73 18 P P 11 26 49.9 -1.9
baz=202
GLA Glamis 27.87 317 eP P 11 26 55.5 +2.3
comp=Z,11nm,1.0s
GLA Glamis 27.87 317 eP P 11 26 55.5 +2.3
GLA pmax pmax
comp=Z,11nm,1.0s
GLA Glamis 27.87 317 P P 11 26 55.3 +2.0
baz=128
PV01 Paradox Valley 28.03 332 eP P 11 26 57.0 +2.2
Y12C Blythe 28.10 318 eP P 11 26 57.4 +2.1
comp=Z,6.1nm,0.9s
Y12C Blythe 28.10 318 P P 11 26 57.4 +2.1
baz=129
PV13 Radium Mtn., P 28.16 332 eP P 11 26 58.4 +2.4
comp=Z,67nm,1.2s
PV02 Paradox Valley 28.16 332 eP P 11 26 58.2 +2.2
comp=Z,91nm,1.4s
PDMCI Parker Dam,Lak 28.22 320 P P 11 26 58.5 +2.2
baz=130,SNR=6.3
PV05 Paradox Valley 28.23 332 eP P 11 26 58.7 +2.1
SMCO Snowmass 28.23 336 eP P 11 26 58.6 +1.8
comp=Z,33nm,1.4s
ISCO Idaho Springs 28.25 338 eP P 11 26 58.4 +1.5
comp=Z,9.6nm,1.0s
ISCO Idaho Springs 28.25 338 eP P 11 26 58.4 +1.5
ISCO pmax pmax
comp=Z,10.0nm,1.0s
ISCO Idaho Springs 28.25 338 P P 11 26 58.6 +1.7
baz=152
PV03 Paradox Valley 28.25 332 eP P 11 26 58.8 +2.0
PV18 Skein Mesa, Pa 28.27 332 eP P 11 26 59.3 +2.3
comp=Z,66nm,1.3s
PV12 Saucer Basin, 28.28 332 eP P 11 26 59.4 +2.2
comp=Z,107nm,1.2s
PV11 David Mesa, Pa 28.30 332 eP P 11 26 59.2 +1.9
comp=Z,106nm,1.4s
PV17 East Wray Mesa 28.32 332 eP P 11 26 59.6 +2.2
comp=Z,58nm,1.3s
PV16 Nyswonger Mesa 28.33 332 eP P 11 26 59.8 +2.3
comp=Z,72nm,1.3s
PV19 Morning Glory 28.36 332 eP P 11 27 00.2 +2.4
comp=Z,107nm,1.6s
PV20 West Nyswonger 28.38 332 eP P 11 27 00.0 +2.1
comp=Z,55nm,1.3s
PV14 Lion Creek, Pa 28.43 332 eP P 11 27 00.6 +2.2
comp=Z,86nm,1.4s
PV22 Blue Mesa, Par 28.45 332 eP P 11 27 00.8 +2.2
comp=Z,65nm,1.4s
PV23 Carpenter Ridg 28.49 332 eP P 11 27 01.2 +2.3
comp=Z,72nm,1.4s
IKP In-Ko-Pah, Jac 28.50 315 P P 11 27 01.2 +2.4
baz=125
PV21 Cone Mtn., Par 28.56 332 eP P 11 27 01.8 +2.2
comp=Z,59nm,1.7s
PV09 Paradox Valley 28.58 332 eP P 11 27 02.0 +2.2
BC3 Big Chuckawall 28.65 317 P P 11 27 02.5 +2.2
baz=127,SNR=14
IRM Iron Mountain 28.76 318 P P 11 27 03.1 +1.9
baz=129,SNR=7.3
MONP2 Monument Peak 28.85 315 P P 11 27 04.1 +1.9
baz=125
O56A Blue Knob Stat 28.95 22 eP P 11 27 01.6 -1.2
comp=Z,18nm,1.1s
N54A Moraine State 29.07 20 eP P 11 27 02.0 -1.9
comp=Z,64nm,1.4s
N54A Moraine State 29.07 20 P P 11 27 02.2 -1.6
baz=205
BELC Belle Mtn. Jos 29.22 317 P P 11 27 07.3 +1.9
baz=127,SNR=5.2
KNB Kanab 29.30 325 eP P 11 27 08.4 +2.2
comp=Z,13nm,1.0s
KNB Kanab 29.30 325 eP P 11 27 08.4 +2.2
KNB pmax pmax
comp=Z,13nm,1.0s
FRD Ford Ranch, An 29.32 316 P P 11 27 08.4 +2.2
baz=126
PKCU Pink Cliffs 29.34 327 eP P 11 27 09.5 +2.9
comp=Z,39nm,1.5s
GMRC Granite Mounta 29.48 319 P P 11 27 09.9 +2.2
baz=129,SNR=5.4
LCMT Little Creek M 29.54 325 eP P 11 27 10.5 +2.4
comp=Z,7.7nm,1.2s
O20A White River Ci 29.55 335 eP P 11 27 10.5 +2.2
comp=Z,26nm,1.3s
O20A White River Ci 29.55 335 P P 11 27 10.5 +2.2
baz=147,SNR=7.5
MTPU Mount Pierson 29.72 328 eP P 11 27 12.7 +2.7
comp=Z,8.9nm,1.1s
SRU San Rafael Swe 29.72 331 eP P 11 27 11.8 +2.0
comp=Z,20nm,1.2s
SRU San Rafael Swe 29.72 331 eP P 11 27 11.8 +2.0
SRU pmax pmax
comp=Z,20nm,1.2s
SZCU Shurtz Canyon 29.87 326 eP P 11 27 13.9 +2.7
comp=Z,12nm,1.0s
ECSD EROS Data Cent 29.93 354 eP P 11 27 11.1 -0.3
comp=Z,10.0nm,1.2s
CCUT Cedar City 29.99 325 eP P 11 27 15.2 +2.9
comp=Z,11nm,1.0s
P18A Preston Nutter 30.00 332 eP P 11 27 14.6 +2.1
comp=Z,31nm,1.4s
TUQ Turquoise Moun 30.06 320 P P 11 27 14.8 +2.0
baz=129
P17A Butcher Ranch, 30.11 331 eP P 11 27 15.0 +1.8
comp=Z,13nm,0.8s
TMUT Trail Mountain 30.19 330 eP P 11 27 16.3 +2.2
comp=Z,19nm,1.4s
SHPR Sheep Range 30.29 322 eP P 11 27 17.3 +2.4
comp=Z,4.8nm,0.9s
CIS Catalina Islan 30.52 314 P P 11 27 18.9 +2.2
baz=123
MWC Mount Wilson 30.73 316 eP P 11 27 19.9 +1.1
comp=Z,9.3nm,1.0s
MWC Mount Wilson 30.73 316 eP P 11 27 19.9 +1.1
MWC pmax pmax
comp=Z,9.0nm,1.0s
MPU Maple Canyon 30.96 331 eP P 11 27 22.9 +2.2
comp=Z,8.7nm,0.9s
PSUT Pine Spring 30.97 326 eP P 11 27 23.6 +2.7
comp=Z,9.2nm,0.9s
EDW2 Edwards Air Fo 31.07 317 P P 11 27 23.6 +1.9
baz=126
K22A Casper 31.09 340 eP P 11 27 23.1 +1.2
comp=Z,13nm,0.9s
K22A Casper 31.09 340 P P 11 27 23.0 +1.2
baz=152
NLU North Lily Min 31.12 330 eP P 11 27 24.6 +2.3
comp=Z,9.5nm,1.3s
SPMN Marine on St. 31.21 360 eP P 11 27 23.0 +0.3
comp=Z,9.0nm,0.8s
LRMC Laurel Mtn Rad 31.22 318 P P 11 27 25.3 +2.3
baz=127
TPNV Topopah Spring 31.24 322 eP P 11 27 26.1 +2.8
comp=Z,5.3nm,1.0s
TPNV Topopah Spring 31.24 322 eP P 11 27 26.1 +2.8
TPNV pmax pmax
comp=Z,5.0nm,1.0s
TPNV Topopah Spring 31.24 322 P P 11 27 26.3 +3.0
baz=131
FURC Furnace Creek, 31.31 320 P P 11 27 26.3 +2.7
baz=129
JLU Jordanelle 31.34 332 eP P 11 27 26.2 +2.1
comp=Z,26nm,1.5s
STCO Saint Catharin 31.36 19 P P 11 27 21.3 -2.7
baz=205
MPMC Manual Prospec 31.45 319 P P 11 27 26.7 +1.6
baz=128,SNR=9.6
CTU Camp Tracy 31.55 331 eP P 11 27 28.2 +2.3
comp=Z,26nm,1.3s
BINY Binghamton 31.60 24 P P 11 27 24.6 -1.6
baz=211
DAC Darwin (Calif) 31.65 319 eP P 11 27 28.9 +2.0
comp=Z,7.1nm,1.0s
DAC Darwin (Calif) 31.65 319 eP P 11 27 28.9 +2.0
DAC pmax pmax
comp=Z,7.0nm,1.0s
DUG Dugway, Tooele 31.67 330 eP P 11 27 29.4 +2.4
comp=Z,5.5nm,1.0s
DUG Dugway, Tooele 31.67 330 P P 11 27 29.7 +2.7
DUG pmax pmax
comp=Z,10.0nm,1.3s
DUG Dugway, Tooele 31.67 330 P P 11 27 29.2 +2.3
baz=140
RSSD Black Hills 31.68 344 eP P 11 27 27.8 +0.7
comp=Z,8.0nm,0.8s
RSSD Black Hills 31.68 344 eP P 11 27 27.8 +0.7

RSSD pmax pmax
comp=Z,8.0nm,0.8s
RSSD Black Hills 31.68 344 P **P** 11 27 28.1 +1.0
baz=158
TCUT Toone Canyon 31.73 332 *eP* **P** 11 27 29.8 +2.2
comp=Z,123nm,1.4s
ARVC Arvin 31.77 316 P **P** 11 27 30.0 +2.3
baz=125
R11A Troy Canyon, C 31.80 324 *eP* **P** 11 27 30.4 +2.3
comp=Z,4.9nm,1.0s
R11A Troy Canyon, C 31.80 324 P **P** 11 27 30.9 +2.8
baz=133
ISA Isabella, Lake 31.84 317 *eP* **P** 11 27 30.4 +1.9
comp=Z,5.1nm,1.2s
ISA Isabella, Lake 31.84 317 *eP* **P** 11 27 30.4 +1.9
ISA pmax pmax
comp=Z,5.0nm,1.2s
GRAC Grapevine Rang 31.95 320 P **P** 11 27 32.0 +2.6
baz=129
CWC Cottonwood Cre 32.06 319 P **P** 11 27 32.0 +1.6
baz=128
HWUT Hardware Ranch 32.19 333 *eP* **P** 11 27 33.4 +1.8
comp=Z,34nm,1.4s
PKM Mcpherson Peak 32.30 315 P **P** 11 27 34.7 +2.1
baz=123
BW06 Boulder Array 32.30 336 *eP* **P** 11 27 33.6 +1.0
comp=Z,8.0nm,1.1s
BW06 Boulder Array 32.30 336 P **P** 11 27 33.6 +1.0
baz=147
PD31 Pinedale Array 32.30 336 *eP* **P** 11 27 33.5 +0.9
PDAR Pinedale Array 32.30 336 P **P** 11 27 33.5 +0.9
comp=Z,4.7nm,1.0s,baz=132,slow=8.8,SNR=22
PDAR PcP **PcP** 11 30 20.8 +0.5
comp=Z,0.7nm,0.7s,baz=121,slow=5.7,SNR=4.1
PDAR Pinedale Array 32.30 336 *eP* **P** 11 27 33.1 +0.5
PDAR PcP **PcP** 11 30 20.8 +0.5
BGU Big Grassy Mou 32.34 330 *eP* **P** 11 27 35.0 +2.2
comp=Z,7.9nm,1.0s
VES Vestal, Richgr 32.35 317 P **P** 11 27 35.6 +2.8
baz=125
SPUT South Promonto 32.36 331 *eP* **P** 11 27 35.2 +2.2
comp=Z,19nm,1.3s
TOBO Tobermory, Bru 32.57 14 P **P** 11 27 33.9 -0.7
baz=200
AHID Auburn Hatcher 32.93 334 *eP* **P** 11 27 39.4 +1.4
comp=Z,33nm,1.1s
DELO Delore Mine 33.03 20 P **P** 11 27 36.7 -2.0
baz=207
REDW Red Top Meadow 33.32 335 *eP* **P** 11 27 42.9 +1.4
comp=Z,82nm,1.1s
BUKO Buck Lake 33.33 17 P P 11 27 38.4 -2.8
baz=203
NV11 Mina Array Sit 33.35 322 *eP* **P** 11 27 44.2 +2.5
comp=Z,1.4nm,1.0s
OMMB Old Mammoth Mi 33.36 320 *eP* **P** 11 27 44.5 +2.5
comp=Z,8.8nm,1.1s
SNOW Snow King Moun 33.36 335 *eP* **P** 11 27 43.5 +1.6
comp=Z,78nm,0.8s
BANO Bancroft 33.38 19 P **P** 11 27 39.4 -2.3
baz=206
MDPB Devils Postpil 33.42 320 *eP* **P** 11 27 45.0 +2.6
comp=Z,9.2nm,1.0s
LOHW Long Hollow 33.43 336 *eP* **P** 11 27 43.8 +1.3
comp=Z,26nm,0.9s
NV01 Mina Array Sit 33.44 322 *eP* **P** 11 27 44.8 +2.2
NV01 PcP **PcP** 11 30 24.6 +1.0
NVAR Mina Array Bea 33.44 322 P **P** 11 27 45.1 +2.5
comp=Z,13nm,0.8s,baz=138,slow=8.8,SNR=99
NVAR PcP **PcP** 11 30 24.6 +1.0
comp=Z,2.9nm,0.9s,baz=134,slow=3.9,SNR=5.9
NVAR LR LR 11 42 58.0
comp=Z,432nm,18.9s,baz=134,slow=39
TPAW Teton Pass 33.47 335 *eP* **P** 11 27 44.2 +1.4
comp=Z,64nm,1.2s
MOOW Moose Ponds 33.60 336 *eP* **P** 11 27 45.2 +1.3
comp=Z,18nm,1.0s
FXWY Fox Creek 33.62 335 *eP* **P** 11 27 45.4 +1.3
comp=Z,14nm,1.0s
PLVO Plevna 33.68 20 P **P** 11 27 41.8 -2.5
baz=207
RYN Ryan 33.70 322 *eP* **P** 11 27 47.5 +2.7
comp=Z,6.8nm,1.0s
KVN Kaiserville 33.72 323 *eP* **P** 11 27 47.2 +2.2
comp=Z,8.9nm,1.0s
KVN Kaiserville 33.72 323 *eP* **P** 11 27 47.2 +2.2
KVN pmax pmax
comp=Z,9.0nm,1.0s
IMW Indian Meadow 33.80 336 *eP* **P** 11 27 46.8 +1.1
comp=Z,16nm,0.9s
FLWY Flagg Ranch 33.86 336 *eP* **P** 11 27 48.0 +1.8
comp=Z,13nm,0.9s
H17A Grant Village 34.08 337 *eP* **P** 11 27 50.7 +2.6
comp=Z,28nm,1.3s
H17A Grant Village 34.08 337 P **P** 11 27 50.4 +2.4
baz=147
BMN Battle Mountai 34.15 325 *eP* **P** 11 27 50.3 +1.7
comp=Z,5.1nm,1.4s
BMN Battle Mountai 34.15 325 *eP* **P** 11 27 50.3 +1.7
BMN pmax pmax
comp=Z,5.0nm,1.4s
WAKR Walker 34.18 321 *eP* **P** 11 27 51.9 +2.9
comp=Z,9.8nm,1.3s
ALGO Algonquin Park 34.19 18 P **P** 11 27 46.2 -2.5
baz=205
PEMO Pembroke 34.19 19 P P 11 27 46.0 -2.7
baz=206
YFT Old Faithful 34.22 336 *eP* **P** 11 27 52.4 +3.0
comp=Z,24nm,1.1s
MDND Maddock 34.35 352 *eP* **P** 11 27 48.9 -1.2
comp=Z,73nm,0.9s
MDND Maddock 34.35 352 P **P** 11 27 49.8 -0.3
baz=167
YERR Yerington 34.36 322 *eP* **P** 11 27 53.2 +2.6
comp=Z,15nm,1.2s
YNR Norris Junctio 34.38 337 *eP* **P** 11 27 52.9 +2.2
comp=Z,27nm,1.4s
AGMN Agassiz Nation 34.40 356 *eP* **P** 11 27 49.9 -0.6
comp=Z,9.2nm,0.9s
YMR Madison River 34.45 336 *eP* **P** 11 27 53.6 +2.3
comp=Z,30nm,1.0s
CMB Columbia Colle 34.48 319 *eP* **P** 11 27 53.2 +1.7
comp=Z,4.6nm,1.0s
CMB Columbia Colle 34.48 319 *eP* **P** 11 27 53.2 +1.7
CMB pmax pmax
comp=Z,5.0nm,1.0s
YHH Holmes Hill 34.51 337 *eP* **P** 11 27 53.9 +2.0
comp=Z,17nm,1.3s
ORIO Orleans, Innes 34.57 21 P **P** 11 27 49.7 -2.3
baz=210
YHB Horse Butte 34.61 336 *eP* **P** 11 27 54.9 +2.1
comp=Z,10nm,1.1s
PNTR Pine Nut 34.64 321 *eP* **P** 11 27 55.8 +2.8
comp=Z,11nm,0.9s
LAO LASA Array 34.65 343 *eP* **P** 11 27 53.1 +0.3
comp=Z,7.9nm,0.8s
LAO LASA Array 34.65 343 P **P** 11 27 53.4 +0.7
baz=156
QLMT Earthquake Lak 34.77 336 *eP* **P** 11 27 56.6 +2.5
VCNR Virginia City 34.80 322 *eP* **P** 11 27 57.1 +2.7
comp=Z,7.6nm,1.1s
E54A Lac Daplat, Po 34.88 19 P **P** 11 27 52.5 -2.2
baz=206
PAHR Pah Rah Range 34.90 322 *eP* **P** 11 27 57.7 +2.5
comp=Z,11nm,1.1s
GCMT Greycliff 34.93 339 *eP* **P** 11 27 56.1 +0.8
ALFO Alfred 34.95 22 P P 11 27 52.2 -3.0
baz=210
RUBR Rubicon Trail 34.96 321 *eP* **P** 11 27 58.8 +3.0
comp=Z,20nm,1.0s
HLID Hailey 35.02 332 *eP* **P** 11 27 57.8 +1.6
comp=Z,18nm,1.0s
HLID Hailey 35.02 332 P **P** 11 27 57.9 +1.7
baz=140
D53A Lac Vacive, Po 35.31 18 P **P** 11 27 56.3 -2.0
baz=205
MCMT McKenzie Canyo 35.34 335 *eP* **P** 11 28 01.4 +2.4
PTGA Pitinga 35.35 112 *eP* **P** 11 27 58.9 -0.2
comp=Z,14nm,0.9s
MFID Camas Ranch 35.58 330 *eP* **P** 11 28 02.6 +1.7
comp=Z,11nm,1.0s
BEKR Beckworth 35.59 322 *eP* **P** 11 28 03.6 +2.5
comp=Z,11nm,1.0s
DLMT Dillon 35.68 335 *eP* **P** 11 28 04.1 +2.4
comp=Z,42nm,1.1s
D54A Lac Fusel, La 35.69 19 P **P** 11 27 59.6 -2.0
baz=206
DGMT Dagmar 35.79 347 *eP* **P** 11 28 02.9 +0.3
comp=Z,15nm,0.8s

ORV Oroville 36.09 320 *eP* **P** 11 28 07.7 +2.5
comp=Z,6.3nm,1.1s
ORV Oroville 36.09 320 P **P** 11 28 07.7 +2.5
WVOR Wild Horse Val 36.30 327 *eP* **P** 11 28 08.9 +1.8
comp=Z,16nm,1.1s
WVOR Wild Horse Val 36.30 327 *eP* **P** 11 28 08.9 +1.8
WVOR pmax pmax
comp=Z,16nm,1.1s
ULM Lac du Bonnet 36.34 356 P **P** 11 28 05.4 -1.8
comp=Z,6.2nm,0.8s,baz=178,slow=12,SNR=7.5
ULM PcP **PcP** 11 30 30.9 -0.5
comp=Z,3.1nm,0.8s,baz=214,slow=3.6,SNR=3.1
ULM LR LR 11 45 14.5
comp=Z,116nm,18.3s,baz=214,slow=40
HRY Holter Researc 36.50 337 *eP* **P** 11 28 10.2 +1.4
MOD Modoc Plateau 36.86 325 *eP* **P** 11 28 13.4 +1.5
comp=Z,8.9nm,1.1s
J08A Circle Bar Ran 36.86 328 *eP* **P** 11 28 13.5 +1.7
comp=Z,22nm,0.8s
EGMT Eagleton 36.91 341 *eP* **P** 11 28 13.3 +1.1
comp=Z,13nm,0.8s
LATQ La Tuque 37.20 22 P P 11 28 11.7 -2.9
baz=212
LSQQ Lebel-sur-Quev 37.30 17 P P 11 28 12.6 -2.7
baz=205
BMO Blue Mountains 37.36 331 *eP* **P** 11 28 16.8 +0.7
comp=Z,12nm,1.1s
BMO Blue Mountains 37.36 331 *eP* **P** 11 28 16.8 +0.7
BMO pmax pmax
comp=Z,12nm,1.1s
MSO Missoula 37.41 336 *eP* **P** 11 28 17.9 +1.3
comp=Z,20nm,1.0s
MSO Missoula 37.41 336 P **P** 11 28 18.1 +1.6
baz=144
MATQ Matagami 37.76 16 P P 11 28 16.5 -2.8
baz=204
F10A Beach Ranch, E 38.16 332 *eP* **P** 11 28 23.6 +0.9
comp=Z,27nm,0.8s
JTMT Jette 38.30 336 *eP* **P** 11 28 25.7 +1.7
comp=Z,19nm,1.0s
LPAZ La Paz 38.47 140 P **P** 11 28 25.6 -0.7
comp=Z,1.4nm,0.5s,baz=321,slow=7.9,SNR=7.1
LPAZ La Paz 38.47 140 *eP* **P** 11 28 25.0 -1.3
comp=Z,4.3nm,1.0s
LPAZ La Paz 38.47 140 *eP* **P** 11 28 25.0 -1.3
LPAZ pmax pmax
comp=Z,4.0nm,1.0s
CHGQ Chibougamau 38.84 19 P P 11 28 25.2 -3.1
baz=208
E09A Wood Farm, Sta 38.99 332 *eP* **P** 11 28 30.8 +1.2
comp=Z,13nm,1.0s
H04A Detroit Lake 39.72 326 *eP* **P** 11 28 37.1 +1.3
comp=Z,21nm,0.8s
E07A Sunnyside 39.82 330 *eP* **P** 11 28 38.7 +2.1
comp=Z,6.6nm,0.8s
MNMC Minye Minye 39.83 145 *eP* **P** 11 28 36.7 -0.5
comp=Z,27nm,1.0s
NEW Newport 39.87 334 *eP* **P** 11 28 37.7 +0.7
comp=Z,7.5nm,1.0s
NEW Newport 39.87 334 *eP* **P** 11 28 37.7 +0.7
NEW pmax pmax
comp=Z,8.0nm,1.0s
C09A Chrisman Ranch 40.01 333 *eP* **P** 11 28 39.6 +1.4
comp=Z,20nm,0.8s
GO01 Chusmiza 40.49 145 *eP* **P** 11 28 42.7 -0.2
comp=Z,17nm,1.1s
LTY Liberty 40.72 330 *eP* **P** 11 28 45.5 +1.4
comp=Z,20nm,1.2s
GBN Guysborough 40.88 34 *eP* **P** 11 28 43.3 -2.0
comp=Z,29nm,1.0s
B08A Colville Reser 40.90 333 *eP* **P** 11 28 46.6 +1.1
comp=Z,5.4nm,0.9s
LON Longmire 40.92 329 *eP* **P** 11 28 47.6 +1.9
comp=Z,15nm,1.0s
LON Longmire 40.92 329 *eP* **P** 11 28 47.6 +1.9
LON pmax pmax
comp=Z,15nm,1.0s
B06A Marblemount 42.00 331 *eP* **P** 11 28 55.1 +0.6
comp=Z,16nm,0.8s
LVC Limon Verde 43.03 147 P **P** 11 29 02.6 -1.0
comp=Z,5.6nm,0.8s,baz=262,slow=10,SNR=4.7
SCHQ Schefferville 45.47 21 P **P** 11 29 20.0 -2.4
comp=Z,8.7nm,1.0s,baz=202,slow=6.6,SNR=4.5
SCHQ LR LR 11 49 24.6
comp=Z,828nm,19.4s,baz=220,slow=37
YKA Yellowknife Ar 51.00 347 P **P** 11 30 04.9 0.0
comp=Z,26nm,0.7s,baz=150,slow=7.4,SNR=76
YKA PcP **PcP** 11 31 20.7 +0.1
comp=Z,1.7nm,0.7s,baz=147,slow=4.5,SNR=2.8
YKA LR LR 11 57 03.7
comp=Z,24nm,18.1s,baz=196,slow=42
YKB5 Yellowknife Ar 51.00 347 *eP* **P** 11 30 04.8 -0.1
YKW3 Yellowknife Ar 51.06 347 *eP* **P** 11 30 05.6 +0.3
comp=Z,33nm,0.8s
DLBC Deadlake 52.54 336 *eP* **P** 11 30 19.1 +2.6
comp=Z,36nm,1.0s
CPUP Villa Florida 52.63 139 P **P** 11 30 16.4 -1.0
comp=Z,4.6nm,1.0s,baz=321,slow=10,SNR=6.6
CPUP LR LR 11 52 08.9
comp=Z,90nm,18.4s,baz=348,slow=36
CPUP Villa Florida 52.63 139 *eP* **P** 11 30 17.1 -0.4
comp=Z,12nm,1.4s
CPUP Villa Florida 52.63 139 *eP* **P** 11 30 17.1 -0.4
CPUP pmax pmax
comp=Z,13nm,1.4s
BDFB Brasilia 52.88 122 P **P** 11 30 18.8 -0.9
comp=Z,2.8nm,0.6s,baz=246,slow=4.3,SNR=4.6
BDFB LR LR 11 52 51.6
comp=Z,86nm,19.0s,baz=240,slow=36
RKT Rikitea 55.53 229 *eT* T 12 30 06.3
comp=Z,1.3nm,0.3s
HYT Haines Junctio 57.00 336 *eP* **P** 11 30 50.9 +2.0
comp=Z,21nm,1.2s
PLCA Paso Flores 58.05 160 P **P** 11 30 55.8 -0.6
comp=Z,3.3nm,1.0s,baz=347,slow=7.5,SNR=4.9
PLCA LR LR 11 51 13.6
comp=Z,124nm,18.4s,baz=2.0,slow=31
DAWY Dawson 59.58 338 *eP* **P** 11 31 07.0 +0.3
comp=Z,11nm,1.1s
BMRM Bremner River 60.03 334 *eP* **P** 11 31 11.9 +1.9
comp=Z,46nm,1.3s
INK Inuvik 60.39 344 *eP* **P** 11 31 12.6 +0.5
comp=Z,44nm,1.3s
INK Inuvik 60.39 344 *eP* **P** 11 31 12.6 +0.5
INK pmax pmax
comp=Z,44nm,1.3s
EGAK Eagle 60.62 338 *eP* **P** 11 31 13.6 -0.2
comp=Z,13nm,1.0s
KLU Klutina 60.84 334 *eP* **P** 11 31 17.1 +1.7
comp=Z,18nm,1.0s
HARP HAARP 60.94 335 *eP* **P** 11 31 18.1 +2.0
comp=Z,29nm,1.0s
DOT Dot Lake 61.11 336 *eP* **P** 11 31 18.5 +1.3
comp=Z,17nm,1.0s
PAX Paxson 61.34 335 *eP* **P** 11 31 19.8 +1.0
comp=Z,11nm,0.7s
PAX Paxson 61.34 335 *eP* **P** 11 31 19.8 +1.0
PAX pmax pmax
comp=Z,11nm,0.7s
RIDG Independ'e Rid 61.46 336 *eP* **P** 11 31 21.1 +1.5
comp=Z,15nm,0.8s
SML Sawmill 62.02 334 *eP* **P** 11 31 25.6 +2.2
comp=Z,35nm,1.2s
SML Sawmill 62.02 334 P **P** 11 31 25.6 +2.2
GHO Glory Hole Cre 62.26 333 *eP* **P** 11 31 25.7 +0.6
comp=Z,37nm,0.9s
PMR Palmer 62.28 333 *eP* **P** 11 31 25.5 +0.5
comp=Z,29nm,1.2s
PMR Palmer 62.28 333 *eP* **P** 11 31 25.5 +0.5
PMR pmax pmax
comp=Z,29nm,1.2s
RC01 Rabbit Creek A 62.35 333 *eP* **P** 11 31 26.6 +1.1
comp=Z,25nm,0.9s
BRLK Bradley Lake 62.38 331 *eP* **P** 11 31 28.7 +2.9
comp=Z,41nm,1.0s
KIP Kipapa 62.51 287⇑ *eP* **P** 11 31 27.3 0.0
KIP pmax pmax
comp=Z,87nm,1.0s
HDA Harding Lake 62.59 337 *eP* **P** 11 31 27.7 +0.6
comp=Z,9.9nm,0.8s
HDA Harding Lake 62.59 337 P **P** 11 31 27.7 +0.6
baz=117
IL1 Eielson Array 62.73 337 *eP* **P** 11 31 27.6 -0.4
ILAR Eielson Array 62.73 337 P **P** 11 31 28.1 +0.1
comp=Z,12nm,0.9s,baz=144,slow=4.2,SNR=61
ILB Eielson Array 62.73 337 *eP* **P** 11 31 28.6 +0.5
SUA Susitna One 62.94 333 *eP* **P** 11 31 32.2 +2.6
comp=Z,18nm,0.9s

CCB Clear Creek Bu 63.03 337 *eP* **P** 11 31 29.6 -0.3
comp=Z,11nm,1.0s
WRH Wood River Hil 63.06 336 *eP* **P** 11 31 30.8 +0.6
comp=Z,13nm,1.2s
POKR Poker Flat Res 63.10 337 P **P** 11 31 31.2 +0.7
baz=117
COLA College 63.15 337 *eP* **P** 11 31 31.0 +0.3
comp=Z,17nm,0.9s
COLA College 63.15 337 *eP* **P** 11 31 31.0 +0.3
COLA pmax pmax
comp=Z,17nm,0.9s
TRF Thorofare Moun 63.51 335 *eP* **P** 11 31 31.8 -1.6
comp=Z,24nm,0.8s
PPLA Purkeypile 64.10 334 *eP* **P** 11 31 37.8 +0.5
comp=Z,24nm,0.9s
CAST Castle Rocks 64.25 334 *eP* **P** 11 31 38.3 +0.2
comp=Z,16nm,1.0s
MLY Manley 64.33 336 *eP* **P** 11 31 39.0 +0.4
comp=Z,21nm,0.8s
PPT Papeete 64.43 243 LR LR 11 51 16.6
comp=Z,118nm,21.0s,baz=45,slow=28
PPT2 Papeete2 64.44 243 *eS* **S** 11 40 24.2 +6.8
comp=Z,42nm,24.8s
PPT2 Papeete2 64.44 243 *e*LR LR 11 50 34.3
comp=Z,179nm,27.0s
SVW2 Sparrevohn 65.02 331 *eP* **P** 11 31 45.6 +2.5
comp=Z,10nm,0.9s
COLD Coldfoot 65.04 339 *eP* **P** 11 31 44.9 +1.7
comp=Z,10nm,1.1s
TOLK Toolik Lake Re 65.44 340 *eP* **P** 11 31 46.6 +0.8
comp=Z,13nm,0.9s
TOLK Toolik Lake Re 65.44 340 P **P** 11 31 46.9 +1.1
baz=116
IM3 Indian Mountai 65.85 337 *eP* **P** 11 31 47.7 -0.8
TBI Tubuai 66.90 237 *e*LR LR 11 52 01.2
comp=Z,194nm,27.5s
ANM Nome 70.19 334 *eP* **P** 11 32 18.4 +2.7
comp=Z,10nm,1.0s
ANM Nome 70.19 334 *eP* **P** 11 32 18.4 +2.7
ANM pmax pmax
comp=Z,10.0nm,1.0s
JMIC Jan Mayen 74.98 20 LR LR 12 06 11.8
comp=Z,238nm,19.9s,baz=250,slow=36
ESDC Sonseca Array 80.14 52 P **P** 11 33 11.1 -2.6
comp=Z,2.3nm,0.8s,baz=284,slow=5.5,SNR=7.0
ES19 SONSECA Array 80.19 52 *eP* **P** 11 33 11.5 -2.4
SPITS Spitsbergen Ar 80.27 11 LR LR 12 12 10.7
comp=Z,451nm,18.2s,baz=15,slow=38
BILL Bilibino 81.36 338 *eP* **P** 11 33 20.1 +0.6
comp=Z,16nm,0.8s
BILL Bilibino 81.36 338*c iP* **P** 11 33 19.8 +0.3
BILL pmax pmax
comp=Z,18nm,0.8s
NOA NORSAR Array B 84.45 28 P **P** 11 33 34.2 -1.5
comp=Z,0.9nm,0.8s,baz=289,slow=5.2,SNR=5.1
NOA LR LR 12 13 45.8
comp=Z,47nm,18.6s,baz=290,slow=38
TIC Toumodi 85.98 84 *eP* **P** 11 33 43.5 -0.8
LIC Lamto 86.07 85 *eP* **P** 11 33 44.0 -0.7
comp=Z,51nm,1.4s
DBIC Dimbokro 86.14 84 P **P** 11 33 43.0 -1.9
comp=Z,3.6nm,0.7s,baz=288,slow=8.2,SNR=4.4
DBIC LR LR 12 08 20.0
comp=Z,61nm,19.5s,baz=265,slow=33
KIC Kosan Boka 86.32 84 *eP* **P** 11 33 45.3 -0.6
comp=Z,68nm,1.5s
ARCES ARCESS Array B 86.37 18 P **P** 11 33 43.7 -1.4
comp=Z,2.4nm,0.8s,baz=291,slow=3.6,SNR=5.4
SENIN Lac Senin/Sane 86.67 43 *eP* **P** 11 33 45.9 -1.4
comp=Z,10nm,1.1s
TUE Stuetta 87.99 43 *eP* **P** 11 33 52.5 -1.2
comp=Z,7.0nm,1.0s
DAVOX Davos/Dischmat 88.25 42 LR LR 12 07 05.1
comp=Z,82nm,21.2s,baz=264,slow=31
SEY Seymchan 88.63 336⇑ *eP* **P** 11 33 56.4 +0.3
CLL Collm 88.67 37 *e*(S) **S** 11 44 42.0 +0.7
GERES GERESS Array B 89.97 39 P **P** 11 34 00.7 -2.1
comp=Z,0.2nm,0.3s,baz=298,slow=2.9,SNR=4.0
GERES LR LR 12 12 43.7
comp=Z,149nm,20.2s,baz=296,slow=34
TIXI Tiksi 90.24 348 *eP* **P** 11 34 03.0 -0.4
comp=Z,11nm,0.8s
TIXI Tiksi 90.24 348⇓ *iP* **P** 11 34 02.8 -0.6
TIXI pmax pmax
comp=Z,8.0nm,0.9s
FINES FINESS Array B 90.78 25 P **P** 11 34 04.0 -2.1
comp=Z,2.8nm,1.0s,baz=22,slow=7.8,SNR=3.5
FINES LR LR 12 16 04.2
comp=Z,87nm,19.1s,baz=308,slow=36
TORD Torodi Ar. Bea 90.86 76 P **P** 11 34 05.2 -2.2
comp=Z,0.7nm,0.8s,baz=293,slow=4.0,SNR=4.4
TORD LR LR 12 14 18.6
comp=Z,60nm,18.8s,baz=290,slow=35
NRIK Noril'sk 96.96 360 LR LR 12 22 51.3
comp=Z,38nm,19.2s,baz=32,slow=34
AKASG Malin Array Be 98.06 33 LR LR 12 21 06.9
comp=Z,50nm,19.1s,baz=285,slow=37
CN2 Changchun 112.94 331 *e*PKP **PKiKP** 11 39 36.4 -4.0
KURK Kurchatov 115.18 6 PKP **PKPdf** 11 39 44.5 0.0
KURK Kurchatov 115.18 6 PKIKP **PKPdf** 11 39 44.5 0.0
KURBB Kurchatov Arra 115.26 6 PKP **PKPdf** 11 39 44.5 -0.2
comp=Z,1.0nm,0.7s,baz=340,slow=2.2,SNR=8.9
SONM Songino Array 116.26 346 PKP **PKPdf** 11 39 47.4 +0.5
comp=Z,0.8nm,0.8s,baz=11,slow=1.5,SNR=3.7
MKAR Makanchi Array 119.39 4 PKP **PKPdf** 11 39 52.1 -0.7
comp=Z,0.8nm,0.8s,baz=32,slow=3.2,SNR=5.7
BOSA Boshof 120.75 115 PKP **PKPdf** 11 39 57.3 +1.3
comp=Z,7.6nm,1.1s,baz=0.1,slow=1.3,SNR=3.8
HHC Hu-ho-hao-te 121.13 339 *e*PKP **PKPdf** 11 39 55.1 -1.3
AAK Ala-Archa 122.47 11 PKP **PKPdf** 11 39 58.8 -0.2
comp=Z,1.7nm,0.8s,baz=219,slow=8.2,SNR=3.8
AAK Ala-Archa 122.47 11⇑ *i*PKIKP **PKPdf** 11 39 57.3 -1.7
WMQ Urumqi 122.55 360 *e*PKP **PKPdf** 11 39 59.3 +0.3
WMQ LR LR
comp=Z,100nm,25.9s
WMQ LR LR
comp=Z,130nm,29.1s
NJ2 Nanjing 125.31 327 *e*PKP **PKPdf** 11 40 05.1 +0.6
STKA Stephens Creek 127.60 240 PKP **PKPdf** 11 40 07.9 -0.9
comp=Z,2.2nm,0.9s,baz=215,slow=1.6,SNR=2.9
LZH Lanzhou 127.93 343 *e*PKP **PKPdf** 11 40 09.6 -0.1
LZH sPKP 11 40 36.0
LZH LR LR
comp=Z,120nm,18.1s
LZH LR LR
comp=Z,120nm,17.9s
LZH LR LR
comp=Z,170nm,20.2s
CD2 Chengdu 132.78 341 PKP **PKPdf** 11 40 18.0 -0.8
WRA Warramunga Arr 134.91 256 PKP **PKPdf** 11 40 22.6 -0.4
comp=Z,0.6nm,0.8s,baz=135,slow=4.0,SNR=8.9
ASAR Alice Springs 135.19 250 PKP **PKPdf** 11 40 23.1 -0.3
comp=Z,0.7nm,0.8s,baz=114,slow=2.0,SNR=7.7
CMAR Chiang Mai Arr 145.92 340 PKPbc **PKPdf** 11 40 43.7 +0.8
comp=Z,18nm,0.8s,baz=342,slow=4.0,SNR=67
HYB Hyderabad 147.64 16 *i* PKP **PKPdf** 11 40 48.0 +2.1
PSI Prapat 159.90 325 PKPab **PKPab** 11 41 42.6 +0.1
comp=Z,3.1nm,0.5s,baz=356,slow=1.3,SNR=12

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*ISCJB **24** 11:24:45.3±0.4, 2.38S±0.04×125.95E±0.04, h20km, mb4.5/5, Error ellipse: s-maj=5.4km s-min=5.1km az=162.1*
*DJA **24** 11:24:47.8±0.4, 2.S±4.×12.6E±.°, h23km±3km, M4.1/13, mb4.3/5, mB4.9/3, MLv4.1/13, Mw(mB)4.1/3*
*NEIC **24** 11:24:48.4±0.6, 2.30S×125.99E, h35km, mb4.0/4, Error ellipse: s-maj=9.9km s-min=8.7km az=60.0*
NEIC Felt [III] at Sanana.
*IDC **24** 11:24:50.8±6.9, 2.43S×126.05E, h57km±76km, mb3.4/2, mb1 3.8/5, mb1mx3.4/41, mbtmp3.8/5, ML3.8/3, Error ellipse: s-maj=48.7km s-min=21.2km az=98.0*

ISC 24 11:24:47.1±0.7, **2.31S**±0.06×**125.96E**±0.06, **h20**km, **n28**, σ1.9**28**/31, **mb3.8/5**, **Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANI	**Sanana**	**0.26**	**6**	P	**Pb**	**11 24 53.7**	**+0.6**
SANI				S	**Sb**	**11 24 58.5**	**+1.3**
NLAI	**Namlea**	**1.47**	**129**	P	**Pn**	**11 25 12.7**	**+0.3**
TNTI	**Ternate**	**3.37**	**25**	*e*Pn	**Pn**	**11 25 37.8**	**-0.8**
LUWI	**Luwuk**	**3.43**	**291**	*e*Pn	**Pn**	**11 25 38.8**	**-0.6**
KMSI	**Cibinong**	**3.48**	**325**	P	**Pn**	**11 25 39.8**	**-0.4**
BNDI	**Bandanaira**	**4.51**	**119**	P	**Pn**	**11 25 56.7**	**+2.4**
APSI	**Ampana**	**4.53**	**288**	P	**Pn**	**11 25 53.9**	**-0.7**
MRSI	**Marisa**	**4.88**	**304**	P	**Pn**	**11 25 59.5**	**+0.1**

SWI	**Sorong**	**5.49**	**75**	P		**Pn**	**11 26 09.5**	**+1.7**
	45nm,0.6s,0.2nm								
SIJI	**Sorong**	**5.49**	**75**	P		**Pn**	**11 26 08.9**	**+1.1**
	6.6nm,0.3s,baz=4.5,slow=22,SNR=25								
SIJI				S		**Sn**	**11 27 11.5**	**+1.0**
	1.9nm,0.3s,baz=202,slow=22,SNR=6.2								
BNSI	**Bone**	**6.20**	**250**	P		**Pn**	**11 26 17.7**	**+0.1**
FAKI	**Fak Fak**	**6.31**	**96**	*e*Pn		**Pn**	**11 26 20.0**	**+0.9**
FAKI				eSn		**Sn**	**11 27 27.5**	**-3.4**
SPSI	**Sidrap Palu**	**6.40**	**255**	P		**Pn**	**11 26 20.6**	**+0.3**
BKSI	**Bulukumba**	**6.55**	**243**	P		**Pn**	**11 26 23.5**	**+1.1**
MMRI	**Maumere**	**7.30**	**210**	*e*Pn		**Pn**	**11 26 34.4**	**+1.7**
EDFI	**Ende, Flores**	**7.68**	**213**	P		**Pn**	**11 26 38.8**	**+0.7**
FITZ	**Fitzroy Crossi**	**15.70**	**181**	P		**Pn**	**11 28 28.2**	**+0.9**
	0.1nm,0.3s,baz=6.0,slow=9.8,SNR=3.9								
FITZ	**Fitzroy Crossi**	**15.70**	**181**	*e*Pn		**Pn**	**11 28 28.6**	**+1.4**
	10nm,1.6s								
WRAB	**Tennant Creek**	**19.34**	**156**	*e*P		**P**	**11 29 10.5**	**-1.0**
	6.9nm,1.2s								
WRA	**Warramunga Arr**	**19.34**	**156**	P		**P**	**11 29 10.2**	**-1.4**
	0.4nm,0.3s,baz=332,slow=11,SNR=28								
WB2	**Warramunga Arr**	**19.35**	**156**	*e*P		**P**	**11 29 10.3**	**-1.3**
	24nm,2.0s								
COEN	**Coen**	**20.57**	**125**	*e*P		**P**	**11 29 24.1**	**-0.9**
	33nm,1.8s								
AS31	**Alice Springs**	**22.58**	**161**	*e*P		**P**	**11 29 45.3**	**-1.2**
	1.1nm,0.8s								
ASAR	**Alice Springs**	**22.58**	**161**	P		**P**	**11 29 45.0**	**-1.6**
	1.4nm,0.4s,baz=346,slow=12,SNR=38								
AS01	**Alice Springs**	**22.60**	**161**	*e*P		**P**	**11 29 45.2**	**-1.5**
COCO	**West Island**	**30.48**	**250**	*e*P		**P**	**11 30 58.5**	**-0.4**
	412nm,0.5s								
HNR	**Honiara**	**34.52**	**103**	*e*P		**P**	**11 31 34.1**	**-0.3**
	69nm,1.1s								
MKAR	**Makanchi Array**	**62.13**	**328**	P		**P**	**11 35 07.1**	**+0.2**
	0.6nm,0.9s,baz=120,slow=8.5,SNR=3.2								

DDA ***24*** *11:32:01.1, 39˚.47N×28˚.19E, h7km, Md2.7*
ISCJB ***24*** *11:32:02.6±0.6, 39˚.45N±0˚.03×28˚.17E±0˚.05, h11km, Error ellipse: s-maj=6.1km s-min=4.8km az=7.5*
ISK ***24*** *11:32:04.0, 39˚.40N×28˚.30E, h20km, ML1.9/5*
ISC 24 11:32:02.3±0.9, 39˚.41N±0˚.04×28˚.18E±0˚.04, h11km, n10, σ0§87/15, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DURS	**Dursunbey**	**0.30**	**50**	*i* P		**Pg**	**11 32 06.7**	**-1.7**
BALB	**Balikesir**	**0.33**	**315**	PG		**Pn**	**11 32 13.3**	**+0.2**
STEP	**BALIKESIR_Sava**	**0.36**	**265**	*i* P		**Pg**	**11 32 08.1**	**-1.4**
STEP				*i* S		**Sg**	**11 32 15.2**	**+0.9**
DEMI	**Demirci**	**0.56**	**131**	*i* P		**Pg**	**11 32 12.4**	**-0.7**
MANT	**Manisa**	**0.96**	**162**	*i* P		**Pn**	**11 32 22.6**	**+0.6**
MANT				*i* S		**Sn**	**11 32 35.2**	**-0.6**
KULA	**Kula-Manisa**	**0.97**	**157**	PG		**Pn**	**11 32 22.2**	**+0.2**
KULA				SG		**Sn**	**11 32 36.1**	**+0.3**
TVSB	**Tavsanli**	**0.99**	**87**	PG		**Pn**	**11 32 22.4**	**+0.1**
ARMT	**Armutlu**	**1.27**	**24**	PN		**Pg**	**11 32 26.9**	**+0.2**
ARMT				SN		**Sg**	**11 32 43.6**	**+0.4**
SBT5	**Esenkoy-Cinarc**	**1.33**	**24**	PN		**Pb**	**11 32 27.6**	**+0.3**
AYDN	**Tasoluk**	**1.76**	**188**	*i* P		**Sn**	**11 32 54.5**	**-0.8**
AYDN				*i* S		**Sb**	**11 32 57.8**	**+1.0**

IDC ***24*** *11:32:59.5±1.6, 0˚.53N×97˚.04E, h0km, mb3.7/6, mb1 3.7/8, mb1mx3.5/52, mbtmp3.6/8, ML3.4/2, Error ellipse: s-maj=51.7km s-min=20.4km az=59.0*
ISCJB ***24*** *11:33:00.8±1.0, 0˚.54N±0˚.08×97˚.0E±0˚.1, h23km, mb3.6/6, Error ellipse: s-maj=16.5km s-min=9.3km az=149.6*
DJA ***24*** *11:33:00.1±3.8, 1˚.1N±10˚×9˚.7E±1˚.7, h17km±28km, M3.6/7, MLv3.6/7*
ISC 24 11:33:02.0±1.3, 0˚.56N±0˚.09×97˚.0E±0˚.1, h23km, n17, σ1§52/17, mb3.8/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.94**	**38**	P		**Pb**	**11 33 19.9**	**+0.2**
PBSI	**Pulau Batu**	**1.43**	**115**	P		**Pn**	**11 33 26.3**	**-0.2**
SNSI	**Sinabang, Aceh**	**1.96**	**340**	P		**Sn**	**11 33 53.5**	**-4.2**
MNSI	**Mandailing Nat**	**2.60**	**85**	P		**Pn**	**11 33 42.8**	**+0.1**
TPTI		**2.69**	**4**	P		**Pn**	**11 33 43.2**	**-0.7**
PSI	**Prapat**	**2.95**	**41**	Pn		**Pn**	**11 33 46.7**	**-0.9**
	2.8nm,0.3s,baz=360,slow=3.0,SNR=14							
KCSI	**Kotacane, Aceh**	**3.05**	**15**	P		**Pn**	**11 33 48.8**	**-0.1**
TSI	**Tuntungan**	**3.32**	**28**	P		**Pn**	**11 33 53.8**	**+1.2**
PPI	**Padang Panjang**	**3.55**	**106**	P		**Pn**	**11 33 56.1**	**+0.3**
PDSI	**Padang**	**3.77**	**113**	P		**Pb**	**11 34 05.8**	**-2.1**
CMAR	**Chiang Mai Arr**	**17.89**	**6**	P		**P**	**11 37 10.8**	**+0.8**
	0.1nm,0.3s,baz=196,slow=11,SNR=7.0							
WRA	**Warramunga Arr**	**41.88**	**121**	P		**P**	**11 40 51.5**	**+0.6**
	0.4nm,0.7s,baz=300,slow=9.0,SNR=6.1							
ASAR	**Alice Springs**	**43.18**	**126**	P		**P**	**11 41 01.9**	**+0.4**
	0.2nm,0.7s,baz=301,slow=7.5,SNR=3.6							
MKAR	**Makanchi Array**	**47.81**	**346**	P		**P**	**11 41 39.5**	**+1.8**
	1.3nm,0.7s,baz=160,slow=9.0,SNR=9.4							
KURBB	**Kurchatov Arra**	**52.29**	**345**	P		**P**	**11 42 12.9**	**+1.3**
	0.3nm,0.5s,baz=164,slow=6.9,SNR=8.6							
ZALV	**Zalesovo Beam**	**54.16**	**351**	P		**P**	**11 42 26.7**	**+1.4**
	0.9nm,0.4s,baz=157,slow=7.8,SNR=5.7							
TIXI	**Tiksi**	**73.85**	**10**	P		**P**	**11 44 34.5**	**0.0**
	0.5nm,0.3s,baz=222,slow=4.3,SNR=3.7							

KRSC ***24*** *11:52:23.0±2.3, 51˚.44N×159˚.48E, h61km±27km, ML5.2, FELT [III] at lighthouse Krugliy.*
MOS ***24*** *11:52:25.4±0.9, 51˚.47N×159˚.22E, h70km, mb5.1/87, Error ellipse: s-maj=7.1km s-min=2.8km az=90.3*
ISCJB ***24*** *11:52:26.0±0.3, 51˚.51N±0˚.02×159˚.23E±0˚.03, h75km±2km, mb4.7/238, Error ellipse: s-maj=4.3km s-min=2.5km az=155.5*
BJI ***24*** *11:52:25.8, 51˚.86N×159˚.12E, h79km, mb4.7/38, mB4.8/31, Ms4.6/19, Ms7 4.2/12*
NEIC ***24*** *11:52:28.4±0.6, 51˚.62N×159˚.08E, h79km±5km, mb4.9/135, Error ellipse: s-maj=4.4km s-min=2.4km az=162.0*
IDC ***24*** *11:52:28.2±0.5, 51˚.59N×159˚.10E, h80km±3km, mb4.4/52, mb1 4.5/56, mb1mx4.4/82, mbtmp4.7/56, MS3.4/12, Ms1 3.4/12, ms1mx3.2/44, Error ellipse: s-maj=9.4km s-min=7.0km az=149.0*
ISC 24 11:52:27.4±0.4, 51˚.51N±0˚.04×159˚.22E±0˚.04, h77km±3km, h77km:pP-P,n751,σ1§13/826,mb4.8/242,54C-12D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**0.77**	**293**	*i* P		**Pn**	**11 52 42.0**	**-1.5**
KDTR				*e*S		**Sn**	**11 52 54.0**	**-1.5**
RUS	**Russkaya**	**1.02**	**335**	*i* P		**Pn**	**11 52 45.4**	**-1.1**
RUS				*e*S		**Sn**	**11 52 59.8**	**-0.9**
RUS	**Russkaya**	**1.02**	**335**	PN		**Pn**	**11 52 45.4**	**-1.1**
RUS				S		**Sn**	**11 52 59.8**	**-0.9**
MTVR	**Mutnovka**	**1.16**	**327**	*i* P		**Pn**	**11 52 47.6**	**-0.8**
MTVR	**Mutnovka**	**1.16**	**327**	PN		**Pn**	**11 52 47.6**	**-0.8**
GRL	**Gorelyy**	**1.26**	**326**	*e*P		**Pn**	**11 52 48.9**	**-0.7**
GRL				*e*S		**Sn**	**11 53 06.5**	**+0.3**
GRL	**Gorelyy**	**1.26**	**326**	PN		**Pn**	**11 52 48.9**	**-0.7**
GRL				S		**Sn**	**11 53 06.5**	**+0.3**
KRMR	**Karymshinskiy**	**1.48**	**334**	*i* P		**Pn**	**11 52 52.0**	**-0.3**
KRMR				*e*S		**Sn**	**11 53 11.2**	**+0.1**
KRMR	**Karymshinskiy**	**1.48**	**334**	PN		**Pn**	**11 52 52.0**	**-0.3**
KRMR				S		**Sn**	**11 53 11.2**	**+0.1**
PAU	**Pauzhetka**	**1.51**	**269**	*i* P		**Pn**	**11 52 51.7**	**-0.9**
PAU				*e*S		**Sn**	**11 53 11.2**	**-0.5**
PAU	**Pauzhetka**	**1.51**	**269**	PN		**Pn**	**11 52 51.7**	**-0.9**
PAU				S		**Sn**	**11 53 11.2**	**-0.5**
DALK	**Dalny**	**1.55**	**350**	*i* P		**Pn**	**11 52 52.2**	**-1.0**
DALK				*e*S		**Sn**	**11 53 11.3**	**-1.3**
DALK	**Dalny**	**1.55**	**350**	PN		**Pn**	**11 52 52.2**	**-1.0**
DALK				S		**Sn**	**11 53 11.3**	**-1.3**
PET	**Petropavlovsk**	**1.55**	**347**	*e*P		**Pn**	**11 52 52.3**	**-0.9**
PET				*e*S		**Sn**	**11 53 12.1**	**-0.7**
PET	**Petropavlovsk**	**1.55**	**347**	*i* PN		**Pn**	**11 52 51.8**	**-1.4**
PET				*e*S		**Sn**	**11 53 12.1**	**-0.7**
PET				pmax	pmax			
	comp=Z,1μm,0.2s							
PET				pmax	pmax			
	comp=Z,752nm,0.3s							
PET				smax	smax			
	comp=N,6μm,0.5s							
PET				smax	smax			
	comp=E,4μm,0.6s							
PET				smax	smax			
	comp=E,4μm,0.5s							
PET				smax	smax			
	comp=N,9μm,0.6s							
NLC	**Nalytchevo**	**1.66**	**3**	*i* P		**Pn**	**11 52 53.2**	**-1.5**
NLC				*e*S		**Sn**	**11 53 14.3**	**-1.0**
NLC	**Nalytchevo**	**1.66**	**3**	PN		**Pn**	**11 52 53.2**	**-1.5**
NLC				S		**Sn**	**11 53 14.3**	**-1.0**
SPN	**Mys Shipunski**	**1.66**	**17**	*i* P		**Pn**	**11 52 53.4**	**-1.3**
SPN				*i* S		**Sn**	**11 53 13.4**	**-2.0**
SPN	**Mys Shipunski**	**1.66**	**17**	PN		**Pn**	**11 52 53.4**	**-1.3**
SPN				S		**Sn**	**11 53 13.4**	**-2.0**
UGLR	**Uglovaya**	**1.72**	**352**	*i* P		**Pn**	**11 52 54.8**	**-0.7**
UGLR	**Uglovaya**	**1.72**	**352**	PN		**Pn**	**11 52 54.8**	**-0.7**
SMAR	**Somma**	**1.77**	**352**	*e*P		**Pn**	**11 52 55.4**	**-1.0**
SMAR	**Somma**	**1.77**	**352**	PN		**Pn**	**11 52 55.4**	**-1.0**
AVH	**Avacha**	**1.78**	**351**	*i* P		**Pn**	**11 52 55.9**	**-0.4**
AVH	**Avacha**	**1.78**	**351**	PN		**Pn**	**11 52 55.9**	**-0.4**
SDLR	**Sedlovina**	**1.78**	**354**	*i* P		**Pn**	**11 52 55.2**	**-1.2**
SDLR	**Sedlovina**	**1.78**	**354**	PN		**Pn**	**11 52 55.2**	**-1.2**
KOK	**Koryaka**	**1.82**	**349**	*e*P		**Pn**	**11 52 56.6**	**-0.2**
KOK	**Koryaka**	**1.82**	**349**	PN		**Pn**	**11 52 56.6**	**-0.2**
PEA0B	**Petropavlovsk-**	**1.85**	**330**	*e*Pn		**Pn**	**11 52 57.2**	**0.0**
PETK	**Petropavlovsk-**	**1.85**	**330**	P		**Pn**	**11 52 57.2**	**0.0**
	comp=N,74nm,0.3s,baz=120,slow=18,SNR=3088							
PETK				LR		LR	11 53 41.0	
	comp=N,466nm,19.1s,baz=131,slow=42							
PETK	**Petropavlovsk-**	**1.85**	**330**	*e*Pn		**Pn**	**11 52 57.0**	**-0.2**
KRX	**Arik**	**1.88**	**350**	*e*P		**Pn**	**11 52 57.2**	**-0.5**
KRX	**Arik**	**1.88**	**350**	PN		**Pn**	**11 52 57.2**	**-0.5**
APC	**Apacha**	**1.90**	**319**	*e*P		**Pn**	**11 52 57.6**	**-0.2**
APC				*e*S		**Sn**	**11 53 21.9**	**+1.0**
APC	**Apacha**	**1.90**	**319**	PN		**Pn**	**11 52 57.6**	**-0.2**
APC				S		**Sn**	**11 53 21.9**	**+1.0**
SKR	**Severo-Kuril's**	**2.12**	**248**	*i* P		**Pn**	**11 52 59.3**	**-1.5**
SKR				*e*S		**Sn**	**11 53 24.5**	**-1.9**
SKR	**Severo-Kuril's**	**2.12**	**248**	*i* PN		**Pn**	**11 52 59.4**	**-1.4**
SKR				*e*S		**Sn**	**11 53 24.4**	**-1.9**
SKR				pmax	pmax			
	comp=Z,4μm,0.4s							
SKR				pmax	pmax			
	comp=Z,4μm,4.9s							
SKR				pmax	pmax			
	comp=Z,800nm,5.1s							
SKR				smax	smax			
	comp=E,13μm,0.7s							
SKR				smax	smax			
	comp=N,13μm,0.7s							
SKR				MLR	MLR			
	comp=Z,2μm,11.0s							
GNL	**Ganaly**	**2.32**	**341**	*e*P		**Pn**	**11 53 03.8**	**+0.2**
GNL	**Ganaly**	**2.32**	**341**	PN		**Pn**	**11 53 03.8**	**+0.2**
KII	**Karymskiy**	**2.53**	**3**	*e*P		**Pn**	**11 53 06.3**	**-0.1**
KII				*e*S		**Sn**	**11 53 36.5**	**+0.2**
KII	**Karymskiy**	**2.53**	**3**	PN		**Pn**	**11 53 06.3**	**-0.1**
KII				S		**Sn**	**11 53 36.5**	**+0.2**
MKZ	**Mys Kozlova**	**3.41**	**25**	*i* P		**Pn**	**11 53 16.5**	**-1.6**
MKZ				*e*S		**Sn**	**11 53 53.8**	**-3.5**
MKZ	**Mys Kozlova**	**3.41**	**25**	PN		**Pn**	**11 53 16.5**	**-1.6**
MKZ				S		**Sn**	**11 53 53.8**	**-3.5**
KZV	**Kizimen**	**3.67**	**10**	*e*P		**Pn**	**11 53 21.7**	**-0.1**
KZV				*e*S		**Sn**	**11 54 03.1**	**-0.8**
KZV	**Kizimen**	**3.67**	**10**	PN		**Pn**	**11 53 21.7**	**-0.1**
KZV				S		**Sn**	**11 54 03.1**	**-0.8**
TUMR	**Tumrok**	**3.82**	**8**	*e*P		**Pn**	**11 53 24.4**	**+0.5**
TUMR				*e*S		**Sn**	**11 54 07.9**	**+0.3**
TUMR	**Tumrok**	**3.82**	**8**	PN		**Pn**	**11 53 24.4**	**+0.5**
TUMR				S		**Sn**	**11 54 07.9**	**+0.3**
KMNR	**Kamenistaya**	**4.29**	**8**	*e*P		**Pn**	**11 53 31.5**	**+1.2**
KMNR				*e*S		**Sn**	**11 54 19.6**	**+0.4**
KMNR	**Kamenistaya**	**4.29**	**8**	PN		**Pn**	**11 53 31.5**	**+1.2**
KMNR				S		**Sn**	**11 54 19.6**	**+0.4**
ESO	**Esso**	**4.43**	**356**	*i* P		**Pn**	**11 53 32.8**	**+0.7**
ESO	**Esso**	**4.43**	**356**	PN		**Pn**	**11 53 32.8**	**+0.7**
BZMR	**Bezymyannaya**	**4.50**	**9**	*e*P		**Pn**	**11 53 34.1**	**+1.0**
BZMR	**Bezymyannaya**	**4.50**	**9**	PN		**Pn**	**11 53 34.1**	**+1.0**
KPT	**Kopyto**	**4.50**	**7**	*e*P		**Pn**	**11 53 33.8**	**+0.7**
KPT	**Kopyto**	**4.50**	**7**	PN		**Pn**	**11 53 33.8**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**4.52**	**11**	*e*P		**Pn**	**11 53 33.9**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**4.52**	**11**	PN		**Pn**	**11 53 33.9**	**+0.5**
BZWR	**Bezymyannyi-We**	**4.53**	**9**	*e*P		**Pn**	**11 53 34.5**	**+1.0**
BZWR	**Bezymyannyi-We**	**4.53**	**9**	PN		**Pn**	**11 53 34.5**	**+1.0**
KOZ	**Kozyrevsk**	**4.57**	**5**	*e*P		**Pn**	**11 53 35.1**	**+1.1**
KOZ	**Kozyrevsk**	**4.57**	**5**	PN		**Pn**	**11 53 35.1**	**+1.1**
ZLN	**Zelenaya**	**4.61**	**11**	*i* P		**Pn**	**11 53 35.6**	**+1.0**
ZLN	**Zelenaya**	**4.61**	**11**	PN		**Pn**	**11 53 35.6**	**+1.0**
LGNR	**Loginova**	**4.66**	**10**	*e*P		**Pn**	**11 53 36.5**	**+1.0**
LGNR	**Loginova**	**4.66**	**10**	PN		**Pn**	**11 53 36.5**	**+1.0**
CIRR	**Tsirk**	**4.70**	**11**	*e*P		**Pn**	**11 53 37.1**	**+1.2**
CIRR	**Tsirk**	**4.70**	**11**	PN		**Pn**	**11 53 37.1**	**+1.2**
KRSR	**Krestovskiy**	**4.78**	**9**	*e*P		**Pn**	**11 53 37.2**	**+0.3**
KRSR	**Krestovskiy**	**4.78**	**9**	PN		**Pn**	**11 53 37.2**	**+0.3**
KLY	**Klyuchi**	**4.88**	**9**	*e*P		**Pn**	**11 53 39.4**	**+1.2**
KLY				*e*S		**Sn**	**11 54 34.1**	**+0.7**
KLY	**Klyuchi**	**4.88**	**9**	PN		**Pn**	**11 53 39.4**	**+1.2**
KLY				S		**Sn**	**11 54 34.1**	**+0.7**
KBTR	**Krutoberegovo**	**5.17**	**23**	*e*P		**Pn**	**11 53 41.0**	**-1.1**
KBTR				*e*S		**Sn**	**11 54 37.4**	**-2.8**
KBTR	**Krutoberegovo**	**5.17**	**23**	PN		**Pn**	**11 53 41.0**	**-1.1**
KBTR				S		**Sn**	**11 54 37.4**	**-2.8**
BDR	**Baidarnaya**	**5.20**	**12**	*e*P		**Pn**	**11 53 43.3**	**+0.7**
BDR	**Baidarnaya**	**5.20**	**12**	PN		**Pn**	**11 53 43.3**	**+0.7**
SMKR	**Semkarok**	**5.25**	**14**	*e*P		**Pn**	**11 53 43.7**	**+0.4**
SMKR	**Semkarok**	**5.25**	**14**	PN		**Pn**	**11 53 43.7**	**+0.4**
SRKR	**Sorokina**	**5.28**	**12**	*e*P		**Pn**	**11 53 44.3**	**+0.6**
SRKR				*e*S		**Sn**	**11 54 43.2**	**+0.1**
SRKR	**Sorokina**	**5.28**	**12**	PN		**Pn**	**11 53 44.3**	**+0.6**
SRKR				S		**Sn**	**11 54 43.2**	**+0.1**
BKI	**Bering**	**5.48**	**45**	*i* P		Pn	11 53 39.3	-7.0
BKI				*e*S		Sn	11 54 36.0	-12
BKI	**Bering**	**5.48**	**45**	PN		Pn	11 53 39.3	-7.0
OSSR	**Ossora**	**8.06**	**14**	*e*P		**Pn**	**11 54 21.0**	**-0.5**
OSSR	**Ossora**	**8.06**	**14**	PN		**Pn**	**11 54 21.0**	**-0.5**
SMY	**Shemya**	**9.24**	**77**	*e*Pn		**Pn**	**11 54 35.7**	**-1.9**
SMY				*e*Sn		**Sn**	**11 56 11.7**	**-8.1**
SMY	**Shemya**	**9.24**	**77**	*e*PN		**Pn**	**11 54 35.7**	**-1.9**
TILK	**Tilichiki**	**9.75**	**21**	*e*P		**Pn**	**11 54 44.2**	**-0.4**
TILK	**Tilichiki**	**9.75**	**21**	PN		**Pn**	**11 54 44.2**	**-0.4**
KUR	**Kuril'sk**	**9.82**	**235**	*e*PN		**Pn**	**11 54 45.9**	**+0.3**
KUR				pmax	pmax			
	comp=Z,81nm,0.4s							
KUR				pmax	pmax			
	comp=E,27nm,0.3s							
UGL	**Uglegorsk**	**11.24**	**264**	*e*PN		**Pn**	**11 55 07.0**	**+2.1**
UGL				pmax	pmax			
	comp=Z,123nm,1.1s							
UGL				MLR	MLR			
	comp=Z,1μm,14.0s							
SHO	**Shikotan**	**11.31**	**232**	*e*PN		Pn	11 55 00.5	-5.4
SHO				pmax	pmax			
	comp=E,55nm,0.5s							
SHO				pmax	pmax			
	comp=Z,52nm,0.5s							
SHO				pmax	pmax			
	comp=N,21nm,0.3s							
KMSK	**Kamenskaya**	**11.62**	**16**	*e*P		**Pn**	**11 55 10.6**	**+0.7**
KMSK	**Kamenskaya**	**11.62**	**16**	PN		**Pn**	**11 55 10.6**	**+0.7**
YUK	**Yuzh-Kuril'sk**	**11.68**	**235**	*i* ePN		**Pn**	**11 55 07.3**	**-3.6**
YSS	**Yuzh-Sakhalins**	**11.68**	**253**	*e*Pn		**Pn**	**11 55 11.8**	**+0.9**
YSS	**Yuzh-Sakhalins**	**11.68**	**253**	*i* ePN		**Pn**	**11 55 11.4**	**+0.4**
YSS				pmax	pmax			
	comp=Z,40nm,0.8s							
YSS				MLR	MLR			
	comp=Z,300nm,16.0s							
ASAJ	**Asahikawa**	**13.38**	**243**	P		**Pn**	**11 55 33.0**	**-0.9**
	comp=Z,9.1nm,0.3s,baz=65,slow=12,SNR=86							
ASAJ	**Asahikawa**	**13.38**	**243**	*e*Pn		**Pn**	**11 55 32.5**	**-1.3**
ASAJ	**Asahikawa**	**13.38**	**243**	PN		**Pn**	**11 55 33.0**	**-0.9**
ASAJ				pmax	pmax			
	comp=Z,9.0nm,0.3s							
GRNR	**Gornyy**	**14.32**	**276**	*e*P		**Pn**	**11 55 46.8**	**+0.6**
GRNR				pmax	pmax			
	comp=Z,16nm,1.0s							
ERM	**Erimo**	**14.51**	**235**	*ce*P		Pn	11 55 43.4	-5.2
ADK	**Adak**	**14.93**	**79**	*e*Sn		**Sn**	**11 58 34.9**	**-3.4**
BILL	**Bilibino**	**16.93**	**9**	*e*Pn		**Pn**	**11 56 18.8**	**-0.2**
	comp=Z,18nm,0.7s							
BILL	**Bilibino**	**16.93**	**9**	*de*P		**Pn**	**11 56 19.4**	**+0.3**
BILL				pmax	pmax			
	comp=Z,4.0nm,0.8s							
BILL				MLR	MLR			
	comp=Z,278nm,21.0s							
KLR	**Kul'dur**	**17.63**	**273**	P		**Pn**	**11 56 28.1**	**+0.4**
KLR				LR		LR	12 03 32.7	
	comp=Z,87nm,20.9s,baz=73,slow=38							
KLR	**Kul'dur**	**17.63**	**273**	*i* eP		**P**	**11 56 24.1**	**-3.6**
YAK	**Yakutsk**	**19.12**	**315**	P		**P**	**11 56 42.4**	**-1.5**
	comp=Z,0.0nm,0.3s,baz=237,slow=7.4,SNR=28							
YAK				LR		LR	12 04 29.5	
	comp=Z,71nm,18.5s,baz=94,slow=38							
YAK	**Yakutsk**	**19.12**	**315**	*e*P		**P**	**11 56 42.1**	**-1.8**
	comp=Z,73nm,0.6s							
YAK	**Yakutsk**	**19.12**	**315**	*ce*P		**P**	**11 56 42.0**	**-1.9**
YAK				*e*S		**S**	**12 00 15.4**	**-1.0**
YAK				pmax	pmax			
	comp=Z,63nm,1.1s							
YAK				pmax	pmax			
	comp=E,31nm,1.1s							
YAK				pmax	pmax			
	comp=N,12nm,1.2s							
YAK				smax	smax			
	comp=E,206nm,2.8s							
YAK				smax	smax			
	comp=N,41nm,1.7s							
ZEA	**Zeya**	**19.45**	**289**	*e*P		**Pn**	**11 56 51.6**	**+2.2**
USA0B	**Ussuriysk Arra**	**19.60**	**259**	*e*P		**P**	**11 56 48.1**	**-1.1**
	comp=N,15nm,0.8s							
USRK	**Ussuriysk Ar.**	**19.60**	**259**	P		**P**	**11 56 47.5**	**-1.8**
	comp=N,1.6nm,0.3s,baz=63,slow=12,SNR=15							
USRK				LR		LR	12 04 57.3	
	comp=N,119nm,18.3s,baz=45,slow=38							
VLA	**Vladivostok**	**20.25**	**256**	*i* eP		**P**	**11 56 53.5**	**-2.8**
VLA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
MDJ	**Mudanjiang**	**20.87**	**262**	P		**P**	**11 57 00.5**	**-2.4**
MDJ				S		**S**	**12 00 44.3**	**-6.9**
MDJ				PcS		**PcS**	**12 04 48.8**	**+2.8**
MDJ				ScS		**ScS**	**12 08 23.9**	**+2.7**
MDJ				pmax	pmax			
	comp=Z,20nm,0.9s							
MDJ				pmax	pmax			
	comp=Z,200nm,4.2s							
MDJ				LR	LR			
	comp=Z,120nm,4.4s							
MDJ				LR	LR			
	comp=Z,160nm,5.7s							
MDJ				LR	LR			
	comp=Z,230nm,11.9s							
MSHR	**Mys Shultsa**	**21.00**	**256**	*i* eP		**P**	**11 57 00.9**	**-3.4**
MJB9	**Matsu-Tunnel**	**21.15**	**233**	*e*P		**P**	**11 57 07.4**	**+1.3**
	comp=Z,46nm,0.7s							
MAJO	**Matsushiro**	**21.15**	**233**	*e*P		**P**	**11 57 07.4**	**+1.3**
	comp=Z,46nm,0.6s							
MAJO	**Matsushiro**	**21.15**	**233**	*ce*P		**P**	**11 57 06.2**	**+0.1**
MAJO				pmax	pmax			
	comp=Z,35nm,0.7s							
MAT	**Matsushiro**	**21.15**	**233**	P		**P**	**11 57 06.0**	**-0.1**
MAT				*e*S		Sn	12 01 02.8	-5.4
MJAR	**Matsushiro Arr**	**21.15**	**233**	P		**P**	**11 57 06.3**	**+0.2**
	comp=Z,26nm,0.6s,baz=22,slow=12,SNR=57							
MJAR				LR		LR	12 06 07.4	
	comp=Z,126nm,21.5s,baz=50,slow=39							
MJAR	**Matsushiro Arr**	**21.15**	**233**	P		**P**	**11 57 06.3**	**+0.2**
MJAR				pmax	pmax			
	comp=Z,18nm,0.8s							
MJAR				MLR	MLR			
	comp=Z,126nm,21.5s							
ANM	**Nome**	**22.47**	**41**	*e*P		**P**	**11 57 20.6**	**+0.7**

H11S2 WAKE ISLAND Hy 33.48 167 T T 12 34 28.6
baz=350,slow=76,SNR=458

DAWY Dawson 33.62 44 *e*P **P** **11 59 00.1 0.0**
comp=Z,6.5nm,0.8s

SONA1 Songino Array 33.76 285 *e*P **P** **11 59 02.0 +0.5**
SONA1 *e*PcP **PcP** **12 01 39.5 +0.3**

SONM Songino Array 33.77 285 P **P** **11 59 01.3 -0.3**
comp=Z,0.6nm,0.3s,baz=61,slow=7.8,SNR=6.0
SONM PcP **PcP** **12 01 38.5 -0.7**
comp=Z,2.1nm,0.6s,baz=97,slow=1.9,SNR=8.8
SONM LR LR 12 13 46.4
comp=Z,103nm,20.4s,baz=36,slow=38

JOW Kunigami 33.96 235 LR LR 12 12 58.4
comp=Z,97nm,21.5s,baz=22,slow=36

HHC Hu-ho-hao-te 34.11 271 *e*P **P** **11 59 04.3 -0.3**
HHC S **S** **12 04 19.8 -5.2**
HHC pmax pmax
comp=Z,24nm,0.9s
HHC pmax pmax
comp=Z,49nm,4.4s
HHC LR LR
comp=Z,160nm,10.1s
HHC LR LR
comp=Z,140nm,12.7s
HHC LR LR
comp=Z,490nm,11.2s

EPYK Eagle Plains 34.45 40 P **P** **11 59 07.6 +0.4**
baz=277,SNR=7.9

ZAK Zakamensk 34.53 291 *e*P **P** **11 59 08.0 -0.2**
ZAK pmax pmax
comp=Z,6.0nm,1.1s

HYT Haines Junctio 35.09 50 *e*P **P** **11 59 13.9 +1.0**
comp=Z,43nm,1.8s

NJ2 Nanjing 35.25 252 *e*P **P** **11 59 15.4 +1.0**
NJ2 pmax pmax
comp=Z,16nm,0.6s

INK Inuvik 35.46 36 P **P** **11 59 16.1 +0.3**
comp=Z,7.1nm,0.8s,baz=283,slow=6.3,SNR=14

INK Inuvik 35.46 36 *e*P **P** **11 59 16.2 +0.5**
comp=Z,15nm,1.1s

DLBC Dease Lake 39.44 51 P **P** **11 59 51.1 +1.5**
comp=Z,3.4nm,0.6s,baz=293,slow=5.6,SNR=14

HVS Khovu-Aksy 39.70 296⇑ *e*P **P** **11 59 48.6 -3.3**
HVS pmax pmax
comp=Z,10.0nm,0.6s

XAN Xi'an 39.96 264 P **P** **11 59 53.3 -0.9**
XAN pmax pmax
comp=Z,4.0nm,0.9s
XAN pmax pmax
comp=Z,87nm,4.9s

LZH Lanzhou 41.80 271 *e*P **P** **12 00 10.3 +0.8**
LZH pP pP 12 00 29.8 +1.8
LZH sP sP 12 00 39.5 +2.7
LZH *e*PP **PnPn** **12 01 50.8 -2.1**
LZH pmax pmax
comp=Z,22nm,1.1s
LZH pmax pmax
comp=Z,78nm,5.4s
LZH LR LR
comp=Z,260nm,13.2s
LZH LR LR
comp=Z,280nm,13.5s
LZH LR LR
comp=Z,400nm,16.9s

GTA Gaotai 42.26 277 *e*P **P** **12 00 13.0 -0.1**
GTA pP pP 12 00 31.3 -0.4
GTA sP sP 12 00 40.5 0.0
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA pmax pmax
comp=Z,53nm,8.2s
GTA LR LR
comp=Z,460nm,19.2s
GTA LR LR
comp=Z,180nm,18.5s
GTA LR LR
comp=Z,99nm,16.8s

ZAA0 Zalesovo Array 43.19 304 *e*P **P** **12 00 18.4 -1.9**
comp=Z,3.3nm,0.6s
ZAA0 *e*PP **PcP** **12 02 08.2 -0.1**

ZALV Zalesovo Beam 43.19 304 P **P** **12 00 18.4 -1.9**
comp=Z,4.1nm,0.5s,baz=54,slow=7.2,SNR=17
ZALV PcP **PcP** **12 02 08.8 +0.5**
comp=Z,3.8nm,0.6s,baz=46,slow=4.3,SNR=11

ZALV Zalesovo Beam 43.19 304 *e*P **P** **12 00 18.0 -2.3**
ZALV *e*PP **PcP** **12 02 08.6 +0.3**

NVS Novosibirsk 43.58 306 *e*P **P** **12 00 22.2 -1.2**
NVS pmax pmax
comp=Z,14nm,0.8s
NVS pmax pmax
comp=N,4.0nm,0.7s
NVS pmax pmax
comp=E,8.0nm,0.7s

YKA Yellowknife Ar 44.70 41 P **P** **12 00 32.9 +0.7**
comp=E,5.9nm,0.6s,baz=298,slow=7.5,SNR=29
YKA pP **pP** **12 00 51.5 +0.5**
comp=E,2.3nm,0.7s,baz=298,slow=7.8,SNR=3.4

RES Resolute Bay 44.99 21 P **P** **12 00 34.2 -0.2**
comp=E,5.3nm,0.8s,baz=288,slow=4.6,SNR=13
RES pP **pP** **12 00 54.0 +0.8**
comp=E,7.8nm,0.8s,baz=326,slow=8.1,SNR=7.3

RES Resolute Bay 44.99 21 *e*P **P** **12 00 35.2 +0.7**
comp=E,7.1nm,0.8s
RES pP **pP** **12 00 54.0 +0.8**

CD2 Chengdu 45.28 265 *e*P **P** **12 00 36.6 -0.8**
CD2 pmax pmax
comp=E,10.0nm,0.5s
CD2 pmax pmax
comp=E,120nm,4.8s

GYA Guiyang 46.64 258 *e*P **P** **12 00 48.6 +0.5**
GYA pmax pmax
comp=E,10.0nm,1.0s

WMQ Urumqi 47.00 290 P **P** **12 00 50.9 +0.2**
WMQ pP pP 12 01 12.3 +2.8
WMQ PcP **PcP** **12 02 23.1 +1.3**
WMQ pmax pmax
comp=E,23nm,0.7s
WMQ pmax pmax
comp=E,210nm,3.7s
WMQ LR LR
comp=E,210nm,32.1s

KURK Kurchatov 48.12 303 *e*P **P** **12 00 57.9 -1.3**
comp=E,16nm,0.6s
KURK *e*PcP **PcP** **12 02 25.6 0.0**

KURK Kurchatov 48.12 303*ce*P **P** **12 00 57.3 -1.9**
KURK pmax pmax
comp=Z,13nm,0.6s

KURBB Kurchatov Arra 48.22 303 P **P** **12 00 58.6 -1.3**
comp=Z,5.8nm,0.4s,baz=62,slow=7.8,SNR=58
KURBB PcP **PcP** **12 02 26.1 +0.3**
comp=Z,4.5nm,0.8s,baz=58,slow=3.2,SNR=10

MK31 Makanchi Array 48.37 296 *e*P **P** **12 01 00.3 -0.9**
MK31 Makanchi Array 48.37 296 *e*P **P** **12 01 00.3 -0.9**

MKAR Makanchi Array 48.37 296 P **P** **12 01 00.1 -1.0**
comp=Z,2.0nm,0.4s,baz=58,slow=6.4,SNR=48
MKAR pP **pP** **12 01 20.9 +0.7**
comp=Z,1.7nm,0.5s,baz=61,slow=13,SNR=4.8

MKAR Makanchi Array 48.37 296 *e*P **P** **12 01 00.3 -0.9**
comp=Z,33nm,0.5s
MKAR pP **pP** **12 01 20.9 +0.7**

KBS Kingsbay 48.37 352⇑ *e*P **P** **12 00 56.5 -4.2**
MK01 Makanchi Array 48.38 296 *e*P **P** **12 01 00.0 -1.2**
SPA0 Spitsbergen Ar 48.61 350 *e*P **P** **12 01 03.4 +0.8**

SPITS Spitsbergen Ar 48.61 350 P **P** **12 01 03.2 +0.6**
comp=Z,16nm,0.6s,baz=62,slow=7.7,SNR=26
SPITS pP **pP** **12 01 21.9 +0.4**
comp=Z,6.5nm,0.5s,baz=57,slow=8.1,SNR=3.1

B08A Colville Reser 49.93 60 *e*P **P** **12 01 13.2 +0.1**
comp=Z,6.5nm,0.8s

KMI Kunming 50.02 260 P **P** **12 01 15.3 +1.0**
KMI pmax pmax
comp=Z,14nm,0.5s
KMI pmax pmax
comp=Z,96nm,4.3s

BVAR Borovoye Array 50.96 309 P **P** **12 01 19.3 -1.4**
comp=Z,14nm,0.4s,baz=56,slow=6.6,SNR=101
BVAR PcP **PcP** **12 02 36.0 +0.1**
comp=Z,3.1nm,0.6s,baz=82,slow=3.1,SNR=5.2

BRVK Borovoye 50.99 309 *e*P **P** **12 01 19.4 -1.5**
comp=Z,17nm,0.6s
BRVK *e*PcP **PcP** **12 02 36.1 +0.1**

BRVK Borovoye 50.99 309*c iP* **P** **12 01 19.4 -1.5**
BRVK pmax pmax
comp=Z,14nm,0.6s

NEW Newport 51.17 58 P **P** **12 01 21.3 -1.1**
comp=Z,2.5nm,0.9s,baz=57,slow=2.5,SNR=5.6

NEW PcP **PcP** **12 02 37.3 +0.5**
comp=Z,0.6nm,0.5s,baz=313,slow=4.4,SNR=4.4

OTUK Ortayu 52.89 303 P **P** **12 01 34.6 -0.6**
OTUK pmax pmax
comp=Z,6.0nm,0.9s

MOD Modoc Plateau 53.37 67 *e*P **P** **12 01 40.6 +1.6**
comp=Z,6.3nm,1.0s

WVOR Wild Horse Val 53.98 65 *e*P **P** **12 01 44.7 +1.4**
comp=Z,3.8nm,0.9s
WVOR *e*PcP **PcP** **12 02 48.7 +1.1**

ARU Arti 54.20 318 *e*P **P** **12 01 43.8 -0.8**
comp=Z,9.9nm,0.8s

ARU Arti 54.20 318 *e*P **P** **12 01 43.8 -0.8**
ARU pmax pmax
comp=Z,10.0nm,0.8s

FFC Flin Flon 54.52 45 *e*P **P** **12 01 48.0 +1.0**
comp=Z,13nm,0.8s

FFC Flin Flon 54.52 45 *i* P **P** **12 01 48.3 +1.4**

ARCES ARCESS Array B 54.62 342 P **P** **12 01 46.5 -1.0**
comp=Z,5.9nm,0.6s,baz=42,slow=6.4,SNR=29

ARE0 ARCESS Array S 54.62 342 *e*P **P** **12 01 47.6 +0.2**

BEKR Beckworth 54.66 68 *e*P **P** **12 01 49.3 +0.9**
comp=Z,3.4nm,0.9s

HRY Holter Researc 54.95 57 *e*P **P** **12 01 51.6 +1.3**

FCC Fort Churchill 55.06 38 *e*P **P** **12 01 51.2 +0.5**

FCC Fort Churchill 55.06 38 *e*P **P** **12 01 51.2 +0.5**

AAK Ala-Archa 55.30 297 P **P** **12 01 52.1 -0.8**
comp=Z,2.8nm,0.5s,baz=167,slow=7.4,SNR=6.5

AAK Ala-Archa 55.30 297 *e*P **P** **12 01 52.6 -0.3**
comp=Z,20nm,1.8s

AAK Ala-Archa 55.30 297 *e*P **P** **12 01 52.6 -0.3**
AAK pmax pmax
comp=Z,20nm,1.8s

VCNR Virginia City 55.45 69 *e*P **P** **12 01 55.5 +1.4**
comp=Z,3.3nm,0.8s

PRGR Permogore 55.49 328 *e*P **P** **12 01 53.2 -0.6**
PRGR pmax pmax
comp=Z,14nm,0.6s

KTK1 Kautokeino 55.50 342 *e*P **P** **12 01 54.0 +0.2**

HLID Hailey 55.60 62 *e*P **P** **12 01 56.0 +0.9**
HLID *e*PcP **PcP** **12 02 55.4 +1.4**

PNTR Pine Nut 55.61 69 *e*pP pP 12 02 08.6 -6.0

TRO Tromso 55.74 344 *e*P **P** **12 01 55.6 +0.2**

YERR Yerington 55.89 69 *e*P **P** **12 01 58.3 +1.0**
comp=Z,3.4nm,0.7s

JAY Jayapura 56.08 202 LR LR 12 22 45.0
comp=Z,32nm,21.7s,baz=116,slow=32

WAKR Walker 56.09 69 *e*P **P** **12 01 59.3 +0.6**
comp=Z,30nm,2.0s

MNAS Manas 56.51 298 P **P** **12 02 03.1 +1.6**
MNAS pmax pmax
comp=Z,3.0nm,1.1s

KVN Kaiserville 56.51 68 *e*P **P** **12 02 03.1 +1.4**
comp=Z,8.1nm,1.3s

KVN Kaiserville 56.51 68 *e*P **P** **12 02 03.1 +1.4**
KVN pmax pmax
comp=Z,8.0nm,1.3s

KSH Kashi 56.52 293 *e*P P 12 02 06.5 +4.8

YHB Horse Butte 56.57 59 *e*P **P** **12 02 03.7 +1.6**
comp=Z,7.2nm,0.9s

YHH Holmes Hill 56.73 58 *e*P **P** **12 02 04.5 +1.3**
comp=Z,5.3nm,0.8s

YMR Madison River 56.74 59 *e*P **P** **12 02 04.0 +0.7**
comp=Z,5.0nm,0.9s

NV01 Mina Array Sit 56.80 69 *e*P **P** **12 02 04.5 +0.6**
NV01 *e*PcP **PcP** **12 02 59.7 +1.0**

NVAR Mina Array Bea 56.80 69 P **P** **12 02 04.8 +1.0**
comp=Z,1.3nm,0.6s,baz=299,slow=7.0,SNR=11
NVAR pP **pP** **12 02 25.9 +2.7**
comp=Z,1.6nm,0.6s,baz=302,slow=8.0,SNR=6.7
NVAR PcP **PcP** **12 02 59.7 +1.0**
comp=Z,1.5nm,0.7s,baz=291,slow=5.5,SNR=4.3

LAMP Lampang 56.86 258 P **P** **12 02 06.2 +2.1**
comp=Z,3.1nm,0.8s

MSF Maaselka 56.88 338 P **P** **12 02 04.6 +1.0**
MSF pmax pmax
comp=Z,38nm,0.9s

YFT Old Faithful 56.96 59 *e*P **P** **12 02 07.0 +2.1**
YFT *e*PcP **PcP** **12 03 01.9 +2.7**

CHTO Chiang Mai 57.06 259 *e*P **P** **12 02 07.3 +1.7**
comp=Z,9.7nm,0.6s

CHTO Chiang Mai 57.06 259 *e*P **P** **12 02 07.3 +1.7**
CHTO pmax pmax
comp=Z,10.0nm,0.6s

CHTO Chiang Mai 57.06 259 P **P** **12 02 07.2 +1.7**
comp=Z,57nm,1.0s

H17A Grant Village 57.13 59 *e*P **P** **12 02 09.1 +3.0**
comp=Z,5.7nm,0.8s

FLWY Flagg Ranch 57.28 59 *e*P **P** **12 02 08.8 +1.7**
FLWY *e*PcP **PcP** **12 03 02.6 +2.1**

SIJI Sorong 57.30 214 P **P** **12 02 08.1 +0.8**
comp=Z,4.9nm,0.5s,baz=164,slow=7.2,SNR=4.7
SIJI pP **pP** **12 02 27.9 +1.2**
comp=Z,13nm,0.9s,baz=166,slow=6.9,SNR=4.0

CMAR Chiang Mai Arr 57.33 258 P **P** **12 02 09.2 +1.7**
comp=Z,3.4nm,0.6s,baz=30,slow=6.8,SNR=21
CMAR LR LR 12 27 28.3
comp=Z,67nm,18.9s,baz=162,slow=37

CM01 Chiang Mai Arr 57.35 258 *e*P **P** **12 02 09.1 +1.5**

FXWY Fox Creek 57.40 60 *e*P **P** **12 02 09.7 +1.8**
comp=Z,4.8nm,0.9s

MOOW Moose Ponds 57.48 59 *e*P **P** **12 02 10.2 +1.7**
comp=Z,2.7nm,0.8s

LOHW Long Hollow 57.64 59 *e*P **P** **12 02 11.6 +2.0**
comp=Z,4.1nm,0.8s

SNOW Snow King Moun 57.66 60 *e*P **P** **12 02 11.9 +2.1**
comp=Z,5.9nm,0.9s

REDW Red Top Meadow 57.68 60 *e*P **P** **12 02 11.7 +1.8**
comp=Z,8.0nm,1.0s

LAO LASA Array 57.85 54 *e*P **P** **12 02 12.6 +1.7**
LAO *e*PcP **PcP** **12 03 02.8 +0.2**

STEI Steigen 57.87 345 *e*P **P** **12 02 10.6 +0.1**

AHID Auburn Hatcher 57.95 60 *e*P **P** **12 02 13.2 +1.4**

KLMR Klimovskoe 58.05 330 *e*P **P** **12 02 10.5 -1.3**
KLMR pmax pmax
comp=Z,18nm,1.1s

KLMR Klimovskoe 58.05 330 *e*P **P** **12 02 10.6 -1.3**
KLMR AMP 12 02 13.6
comp=Z,18nm,1.1s

SPUT South Promonto 58.19 62 *e*P **P** **12 02 15.2 +1.7**
comp=Z,3.8nm,1.0s

OUL Oulu 58.29 339 P **P** **12 02 14.1 +0.6**
OUL pmax pmax
comp=Z,29nm,2.2s

ABKAR Akbulak array 58.41 311 *e*P **P** **12 02 13.5 -1.1**

R11A Troy Canyon, C 58.43 67 *e*P **P** **12 02 15.9 +0.8**
comp=Z,2.3nm,1.0s

R11A Troy Canyon, C 58.43 67 P **P** **12 02 15.7 +0.5**
baz=313

HWUT Hardware Ranch 58.48 62 *e*P **P** **12 02 17.0 +1.5**
comp=Z,5.4nm,1.0s

AKTO Aktyubinsk 58.50 313 P **P** **12 02 14.2 -1.0**
comp=Z,4.7nm,0.5s,baz=79,slow=8.6,SNR=24
AKTO PcP **PcP** **12 03 05.0 +0.1**
comp=Z,3.4nm,0.7s,baz=8.2,slow=5.8,SNR=4.9

JIRN Jiri 58.51 276 *e*P **P** **12 02 16.7 +0.6**
comp=Z,11nm,0.3s

GUN Gumba 58.53 276 *e*P **P** **12 02 16.4 +0.2**
comp=Z,12nm,0.3s

DUG Dugway, Tooele 58.74 64 *e*P **P** **12 02 18.9 +1.6**
comp=Z,6.9nm,1.0s

DUG Dugway, Tooele 58.74 64 P **P** **12 02 18.9 +1.6**
DUG pmax pmax
comp=Z,7.0nm,1.0s

DUG Dugway, Tooele 58.74 64 P **P** **12 02 18.2 +0.9**
baz=313

RAMN Ramite 58.76 275 *e*P **P** **12 02 17.9 +0.2**
comp=Z,28nm,0.4s

BW06 Boulder Array 58.78 59 *e*P **P** **12 02 18.5 +0.9**
comp=Z,7.3nm,0.8s
BW06 *e*PcP **PcP** **12 03 06.9 +0.4**

BW06 Boulder Array 58.78 59 P **P** **12 02 18.2 +0.7**
baz=313

PD31 Pinedale Array 58.78 59 *e*P **P** **12 02 18.8 +1.2**
PD31 *e*PcP **PcP** **12 03 06.3 -0.1**

PDAR Pinedale Array 58.78 59 P **P** **12 02 18.8 +1.2**
comp=Z,5.5nm,0.7s,baz=308,slow=3.1,SNR=56

PDAR Pinedale Array 58.78 59 *e*P **P** **12 02 18.3 +0.7**

SRAK Srakaew 58.89 252 P P 12 02 29.4 +11

KKN Kakani 58.99 277 *e*P **P** **12 02 19.8 +0.6**
comp=Z,19nm,0.5s

TPNV Topopah Spring 59.01 68 *e*P **P** **12 02 20.8 +1.6**
comp=Z,21nm,2.0s

TPNV Topopah Spring 59.01 68 P **P** **12 02 20.1 +1.0**
baz=314

PKI Pulchoki 59.06 276 *e*P **P** **12 02 20.3 +0.5**
comp=Z,10.0nm,0.4s

PKIN Phulchoki 59.06 276 *e*P **P** **12 02 20.3 +0.5**
comp=Z,9.3nm,0.4s

FRB Frobisher Bay 59.17 23 P **P** **12 02 18.8 -0.8**
comp=Z,17nm,1.0s,baz=315,slow=8.2,SNR=11

DMN Daman 59.22 277 *e*P **P** **12 02 21.6 +0.7**
comp=Z,16nm,0.5s

NLU North Lily Min 59.32 63 *e*P **P** **12 02 23.2 +1.8**
comp=Z,3.8nm,0.9s

MPU Maple Canyon 59.53 63 *e*P **P** **12 02 24.7 +1.9**
comp=Z,3.4nm,0.8s
MPU *e*PcP **PcP** **12 03 10.1 +0.7**

DANN Dangsing 59.53 278 *e*P **P** **12 02 23.8 +0.8**
comp=Z,12nm,0.5s

MOR8 Moi Rana 59.60 344 *e*P **P** **12 02 21.7 -0.9**

KOLN Koldanda 60.04 278 *e*P **P** **12 02 26.7 +0.3**
comp=Z,4.6nm,0.3s

PYUN Piuthan 60.18 279 *e*P **P** **12 02 27.8 +0.4**
comp=Z,13nm,0.4s

CCUT Cedar City 60.25 66 *e*P **P** **12 02 28.7 +0.9**
comp=Z,2.1nm,0.9s

TMUT Trail Mountain 60.26 63 *e*P **P** **12 02 29.2 +1.3**
comp=Z,5.5nm,0.8s

MDND Maddock 60.30 50 *e*P **P** **12 02 29.5 +1.8**
comp=Z,38nm,0.8s

ULM Lac du Bonnet 60.31 46 P **P** **12 02 28.2 +0.6**
comp=Z,6.8nm,0.4s,baz=315,slow=6.6,SNR=17
ULM pP **pP** **12 02 48.9 +1.6**
comp=Z,5.1nm,0.5s,baz=303,slow=6.2,SNR=5.3

LCMT Little Creek M 60.70 66 *e*P **P** **12 02 32.2 +1.5**

RSSD Black Hills 60.74 55 *e*P **P** **12 02 31.9 +0.9**
comp=Z,38nm,1.3s

RSSD Black Hills 60.74 55 *e*P **P** **12 02 31.9 +0.9**
RSSD pmax pmax
comp=Z,37nm,1.3s

RSSD Black Hills 60.74 55 P **P** **12 02 31.5 +0.5**
baz=315

SRU San Rafael Swe 60.77 63 *e*P **P** **12 02 32.5 +1.3**
comp=Z,6.1nm,0.8s

SRU San Rafael Swe 60.77 63 *e*P **P** **12 02 32.5 +1.3**
SRU pmax pmax
comp=Z,6.0nm,0.8s

VAF Ylistaro 60.78 339 P **P** **12 02 33.2 +2.6**
VAF pmax pmax
comp=Z,30nm,2.5s

PHET Kaeng Krachan 61.20 254 P **P** **12 02 36.9 +2.8**
comp=Z,4.7nm,0.8s,comp=Z,131nm

FIA1 FINESS Array S 61.36 336 *e*P **P** **12 02 34.5 -0.1**

FINES FINESS Array B 61.36 336 P **P** **12 02 34.7 +0.1**
comp=Z,13nm,0.6s,baz=40,slow=7.0,SNR=95

NSS Namsos 61.53 345 *e*P **P** **12 02 36.0 +0.3**

PUL Pulkovo 61.66 333⇑ *e*P **P** **12 02 32.6 -4.0**

AGMN Agassiz Nation 61.73 47 *e*P **P** **12 02 37.8 +0.5**
comp=Z,16nm,1.0s

AGMN Agassiz Nation 61.73 47 P **P** **12 02 37.6 +0.3**
baz=317,SNR=5.2

PV21 Cone Mtn., Par 62.02 63 *e*P **P** **12 02 40.9 +1.2**
comp=Z,5.4nm,0.8s

N23A Red Feather La 62.02 59 *e*P **P** **12 02 41.1 +1.4**
comp=Z,6.9nm,0.6s

N23A Red Feather La 62.02 59 P **P** **12 02 40.7 +1.0**
baz=315

PV23 Carpenter Ridg 62.08 63 *e*P **P** **12 02 41.7 +1.5**
comp=Z,8.5nm,1.0s

PV10 Paradox Valley 62.11 63 *e*P **P** **12 02 41.9 +1.5**
PV10 *e*PcP **PcP** **12 03 21.5 +1.5**

PV14 Lion Creek, Pa 62.12 63 *e*P **P** **12 02 41.8 +1.4**
PV14 *e*PcP **PcP** **12 03 21.1 +1.3**

PV22 Blue Mesa, Par 62.14 62 *e*P **P** **12 02 42.0 +1.5**
PV22 *e*PcP **PcP** **12 03 21.7 +1.7**

PV17 East Wray Mesa 62.23 63 *e*P **P** **12 02 42.3 +1.2**
comp=Z,8.5nm,0.8s
PV17 *e*PcP **PcP** **12 03 21.4 +1.0**

PV16 Nyswonger Mesa 62.23 63 *e*P **P** **12 02 42.6 +1.5**
PV16 *e*PcP **PcP** **12 03 20.6 +0.2**

PV11 David Mesa, Pa 62.26 63 *e*P **P** **12 02 42.5 +1.2**
PV11 *e*PcP **PcP** **12 03 21.9 +1.4**

PV18 Skein Mesa, Pa 62.28 63 *e*P **P** **12 02 43.0 +1.5**
PV18 *e*PcP **PcP** **12 03 21.9 +1.3**

PV12 Saucer Basin, 62.29 63 *e*P **P** **12 02 43.1 +1.6**
comp=Z,26nm,1.8s

PV05 Paradox Valley 62.29 63 *e*P **P** **12 02 42.9 +1.4**
PV05 *e*PcP **PcP** **12 03 21.5 +0.8**

PV03 Paradox Valley 62.30 63 *e*P **P** **12 02 42.6 +1.0**

PV13 Radium Mtn., P 62.39 63 *e*P **P** **12 02 43.3 +1.1**
comp=Z,8.6nm,0.9s

SMCO Snowmass 62.68 61 *e*P **P** **12 02 45.4 +1.1**
comp=Z,5.3nm,0.8s

MOS Moscow 62.70 327 *e*P **P** **12 02 42.7 -0.9**

ISCO Idaho Springs 62.98 59 *e*P **P** **12 02 47.9 +1.7**
comp=Z,6.3nm,0.8s

ISCO Idaho Springs 62.98 59 *e*P **P** **12 02 47.9 +1.7**
ISCO pmax pmax
comp=Z,6.0nm,0.8s

ISCO Idaho Springs 62.98 59 P **P** **12 02 47.2 +1.0**
baz=316

MVCO Mesa Verde 63.24 63 *e*P **P** **12 02 48.9 +1.0**
comp=Z,16nm,1.5s

OBN Obninsk 63.56 327⇑ *i*P **P** **12 02 47.9 -1.4**
OBN *SP **sP** **12 03 16.0 -1.6**
OBN 12 03 23.0
OBN S **S** **12 11 14.0 -2.6**
OBN pmax pmax
comp=Z,9.0nm,0.8s
OBN MLR MLR
comp=Z,70nm,18.0s

VSU Vasula 63.75 334 *e*P **P** **12 02 50.8 +0.2**
VSU IAmb IAmb 12 02 52.0
comp=Z,79nm,0.7s

VSU Vasula 63.75 334*c iP* **P** **12 02 50.7 +0.2**
VSU pmax pmax
comp=Z,74nm,0.9s

S22A 4UR Ranch, Cre 63.78 62 *e*P **P** **12 02 53.2 +1.7**
comp=Z,3.9nm,0.9s

EYMN Ely 63.95 45 P **P** **12 02 52.3 +0.2**
baz=319

MOL Molde 64.08 346 *e* **P** **12 02 53.6 +1.0**

SDCO Great Sand Dun 64.51 61 *e*P **P** **12 02 57.5 +1.2**
comp=Z,5.8nm,1.4s

SDCO Great Sand Dun 64.51 61 P **P** **12 02 56.5 +0.2**
baz=317

NC303 NORSAR Array S 64.71 343 *e*P **P** **12 02 57.1 +0.3**

ECSD EROS Data Cent 64.73 51 *e*P **P** **12 02 57.5 +0.2**
comp=Z,17nm,0.8s

ECSD EROS Data Cent 64.73 51 P **P** **12 02 57.5 +0.2**
baz=318,SNR=11

NC405 NORSAR Array S 64.75 343 *e*P **P** **12 02 57.6 +0.5**

NC204 NORSAR Array S 64.77 344 *e*P **P** **12 02 57.7 +0.4**

NB201 NORSAR Array S 64.89 343 *e*P **P** **12 02 58.5 +0.5**

NB2 NORSAR Subarra 64.91 343 P **P** **12 02 58.4 +0.3**
comp=Z,8.1nm,0.5s,baz=22,slow=6.5

NB2 NORSAR Subarra 64.91 343 P **P** **12 02 58.4 +0.3**
baz=22,slow=6.5

NOA NORSAR Array B 64.91 343 P **P** **12 02 58.5 +0.3**
comp=Z,13nm,0.7s,baz=21,slow=6.6,SNR=63
NOA LR LR 12 35 43.6
comp=Z,14nm,18.1s,baz=30,slow=40

E38A The Farm, Brul 64.94 46 P **P** **12 02 58.8 +0.2**
baz=320

F37A Hinrichs Farm, 65.12 47 P **P** **12 03 00.0 +0.3**
baz=319

NORES NORESS Array B 65.14 343 P **P** **12 02 59.9 +0.3**
NORES pmax pmax
comp=Z,3.0nm,0.4s

F38A Pierce - Schro 65.28 47 P **P** **12 03 01.0 +0.2**
baz=320,SNR=12

HFS Hagfors 65.29 342 P **P** **12 03 00.8 +0.2**
comp=Z,26nm,0.5s,baz=57,slow=5.5,SNR=148

HFS Hagfors 65.29 342 P **P** **12 03 00.8 +0.2**
HFS pmax pmax
comp=Z,25nm,0.5s

SPMN Marine on St. 65.42 48 *e*P **P** **12 03 02.4 +0.7**
comp=Z,22nm,0.8s

SPMN Marine on St. 65.42 48 P **P** **12 03 02.0 +0.3**
baz=319,SNR=6.3

E39A Mellen 65.56 46 P **P** **12 03 02.3 -0.3**
baz=320

F39A Loretta 65.75 46 P **P** **12 03 04.1 +0.3**
baz=320

E40A Wakefield 65.80 45 P **P** **12 03 04.6 +0.5**
baz=320,SNR=5.7

G38A Ridgeland 65.89 47 P **P** **12 03 04.7 0.0**
baz=320,SNR=8.4

ANMO Albuquerque 66.02 64 P **P** **12 03 07.1 +1.2**
comp=Z,1.8nm,0.8s,baz=317,slow=7.7,SNR=9.7

ANMO Albuquerque 66.02 64 *e*P **P** **12 03 07.0 +1.1**

ANMO **Albuquerque** 66.02 64 P P 12 03 06.0 +0.1
baz=317
H38A **Maiden Rock** 66.07 48 P P 12 03 06.2 +0.3
baz=320
IZAR **Zarasai** 66.23 333 eP P 12 03 07.0 +0.3
IZAR IAmb IAmb 12 03 08.0
comp=Z,11nm,0.6s
ASK **Askoy** 66.42 346 e 12 00 02.1
ISAL **Salakas** 66.42 333 eP P 12 03 08.2 +0.4
ISAL IAmb IAmb 12 03 08.8
comp=Z,6,6nm,0.7s
IDID **Didziasalis** 66.47 333 eP P 12 03 08.6 +0.4
IDID IAmb IAmb 12 03 09.8
comp=Z,12nm,1.0s
IIGN **Ignalina** 66.58 333 eP P 12 03 09.3 +0.4
IIGN IAmb IAmb 12 03 10.6
comp=Z,21nm,0.7s
MICGM **Minsk** 66.83 332 e P 12 03 10.0 -0.5
MNK **Minsk** 66.83 332 eP P 12 03 10.0 -0.5
I39A **Houston** 67.05 48 eP P 12 03 12.2 +0.1
comp=Z,27nm,0.8s
I39A **Houston** 67.05 48 P P 12 03 11.7 -0.4
baz=320,SNR=6.4
SCHQ **Schefferville** 67.30 27 P P 12 03 13.6 +0.1
comp=Z,5.4nm,0.5s,baz=350,slow=5.8,SNR=13
SCHQ pP pP 12 03 34.0 +0.6
comp=Z,4.0nm,0.7s,baz=286,slow=9.5,SNR=1.9
H41A **Junction City** 67.32 46 P P 12 03 13.6 -0.2
baz=321
J39A **Decorah** 67.37 48 P P 12 03 13.7 -0.5
baz=320,SNR=9.9
GEYT **Alibeck** 67.50 303 P P 12 03 15.5 +0.4
comp=Z,6.5nm,0.7s,baz=75,slow=7.8,SNR=15
GYA0B **ALIBECK ARRAY** 67.50 303 eP P 12 03 15.6 +0.5
comp=Z,12nm,0.8s
SCIA **State Center** 67.75 50 eP P 12 03 17.1 +0.6
comp=Z,113nm,0.6s
SCIA **State Center** 67.75 50 P P 12 03 17.0 +0.5
baz=320
K39A **Oelwein** 67.77 49 P P 12 03 16.1 -0.6
baz=321
MATQ **Matagami** 68.12 36 P P 12 03 18.5 -0.3
baz=326
K40A **Colesburg** 68.12 48 P P 12 03 18.6 -0.3
baz=321
J41A **Loganville** 68.13 47 P P 12 03 18.7 -0.2
baz=321
L39A **Vinton** 68.16 49 P P 12 03 19.1 0.0
baz=321,SNR=5.2
KSU1 **Kansas State U** 68.20 54 eP P 12 03 18.8 -0.7
comp=Z,10nm,0.9s
J42A **Columbus** 68.57 47 P P 12 03 21.5 -0.2
baz=322
L40A **Anamosa** 68.57 49 eP P 12 03 21.6 -0.1
comp=Z,20nm,0.8s
L40A **Anamosa** 68.57 49 P P 12 03 21.4 -0.3
baz=321
M39A **Webster** 68.57 50 P P 12 03 21.9 +0.2
baz=321,SNR=18
K41A **Shullsburg** 68.58 48 P P 12 03 21.4 -0.4
baz=321
SUW **Suwalki** 68.61 334 eP P 12 03 22.0 +0.3
SUW **Suwalki** 68.61 334 eP P 12 03 22.0 +0.3
MSTX **Muleshoe** 68.79 62 eP P 12 03 23.8 +0.5
comp=Z,6.9nm,0.9s
N39A **Derby Farms, D** 68.88 51 P P 12 03 23.7 0.0
baz=321
K42A **Prairie Point,** 68.89 47 P P 12 03 23.4 -0.2
baz=322
LSQQ **Lebel-sur-Quev** 68.94 36 P P 12 03 22.9 -0.9
baz=326
M40A **Post Highland** 68.94 50 P P 12 03 24.0 0.0
baz=321,SNR=7.7
MNTX **Cornudas Mount** 69.02 65 eP P 12 03 25.6 +0.9
comp=Z,4.3nm,1.0s
MNTX **Cornudas Mount** 69.02 65 P P 12 03 25.1 +0.4
baz=318
CHGQ **Chibougamau** 69.16 34 P P 12 03 24.5 -0.7
baz=328
N40A **Mertquake, Sal** 69.32 50 P P 12 03 26.4 +0.1
baz=321,SNR=10
M41A **Milan** 69.43 49 P P 12 03 26.8 -0.2
baz=322,SNR=8.4
AKASG **Malin Array Be** 69.69 329 P P 12 03 28.1 -0.3
comp=Z,9.0nm,0.3s,baz=31,slow=6.4,SNR=48
AKASG pP pP 12 03 47.9 -0.6
comp=Z,1.2nm,0.3s,baz=32,slow=6.1,SNR=2.6
AKBB **Malin Array Si** 69.69 329 eP P 12 03 28.1 -0.3
comp=Z,24nm,0.6s
KIEV **Kiev** 69.70 329 eP P 12 03 26.7 -1.8
comp=Z,22nm,0.7s
KIEV **Kiev** 69.70 329 i P P 12 03 28.2 -0.3
SNR=17
KIEV **Kiev** 69.70 329 c iP P 12 03 27.8 -0.7
KIEV pmax pmax
comp=Z,23nm,0.9s
AK11 **Malin Array Si** 69.73 329 eP P 12 03 28.1 -0.6
N41A **Harden Midland** 69.80 50 eP P 12 03 29.8 +0.4
comp=Z,78nm,0.9s
N42A **Yates City** 70.09 49 P P 12 03 30.8 -0.3
baz=322,SNR=7.6
O41A **Passleys Farm,** 70.25 50 P P 12 03 32.0 0.0
baz=322,SNR=11
KBZ **Khabaz** 70.31 316 P P 12 03 33.1 +0.7
comp=Z,4.5nm,0.8s,baz=7.5,slow=6.4,SNR=5.6
WMOK **Wichita Mounta** 70.38 59 eP P 12 03 33.6 +0.6
comp=Z,18nm,1.3s
WMOK **Wichita Mounta** 70.38 59 eP P 12 03 33.6 +0.6
WMOK pmax pmax
comp=Z,18nm,1.3s
WMOK **Wichita Mounta** 70.38 59 P P 12 03 33.1 +0.1
baz=320
P41A **Barry, Barry** 70.51 50 P P 12 03 33.9 +0.2
baz=322,SNR=14
HDIL **Hopedale** 70.66 49 eP P 12 03 34.9 +0.4
comp=Z,46nm,0.8s
HDIL **Hopedale** 70.66 49 P P 12 03 34.8 +0.2
baz=322,SNR=9.2
HYB **Hyderabad** 70.79 274 i P P 12 03 36.0 +0.3
GKP **Gorka Klasztor** 70.82 337 eP P 12 03 35.8 +0.5
GKP **Gorka Klasztor** 70.82 337 eP P 12 03 35.8 +0.5
P42A **Winchester** 70.92 50 eP P 12 03 36.3 +0.1
comp=Z,22nm,0.8s
P42A **Winchester** 70.92 50 P P 12 03 36.2 +0.1
baz=322,SNR=8.3
Q41A **Truxton** 70.99 51 P P 12 03 36.7 +0.2
baz=322,SNR=14
TUL1 **Leonard** 71.06 56 eP P 12 03 37.4 +0.4
comp=Z,24nm,1.2s
TUL1 **Leonard** 71.06 56 P P 12 03 37.4 +0.4
baz=321
BEL **Belsk** 71.21 334 eP P 12 03 39.7 +2.1
BEL **Belsk** 71.21 334 eP P 12 03 39.7 +2.1
P43A **Skaggs, Pawnee** 71.27 49 P P 12 03 38.5 +0.3
baz=322
R41A **Rosebud** 71.43 52 P P 12 03 39.2 -0.1
baz=322,SNR=11
K49A **Clarkson** 71.51 44 P P 12 03 40.4 +0.7
baz=324
ABTX **Abilene, Hawle** 71.52 61 eP P 12 03 40.7 +0.8
comp=Z,9.1nm,0.9s
ABTX **Abilene, Hawle** 71.52 61 P P 12 03 40.5 +0.6
baz=320
O45A **Potomac** 71.63 48 P P 12 03 40.6 +0.2
baz=323
PEMO **Pembroke** 71.66 38 P P 12 03 39.4 -1.1
baz=327
CCM **Cathedral Cave** 71.68 52 eP P 12 03 40.8 0.0
comp=Z,12nm,0.8s
CCM **Cathedral Cave** 71.68 52 eP P 12 03 40.8 0.0
CCM pmax pmax
comp=Z,12nm,0.8s
CCM **Cathedral Cave** 71.68 52 P P 12 03 40.7 -0.1
baz=322
HHAR **Hobbs** 71.72 55 eP P 12 03 41.0 -0.1
comp=Z,11nm,0.7s
R42A **Luebbering** 71.73 51 P P 12 03 41.2 +0.1
baz=322,SNR=9.7
Q43A **New Douglas** 71.74 50 P P 12 03 41.0 -0.1
baz=322
TX31 **Lajitas Ar. Si** 71.76 66 eP P 12 03 42.1 +0.5
TXAR **Lajitas Array** 71.76 66 P P 12 03 42.0 +0.5
comp=Z,5.4nm,0.6s,baz=298,slow=4.3,SNR=67
S41A **Jillco Farms,** 71.80 52 P P 12 03 41.2 -0.4
baz=322,SNR=12
SFIN **Lafayette** 71.82 47 P P 12 03 41.2 -0.3
baz=323
P44A **Sand Creek, Wi** 71.83 49 P P 12 03 41.6 -0.1
baz=323,SNR=5.3
BANO **Bancroft** 71.94 39 P P 12 03 41.5 -0.7
baz=327
LVV **L'vov** 72.08 331 eP P 12 03 43.1 +0.1
Q44A **Meyer Farm, Va** 72.09 50 P P 12 03 43.2 0.0
baz=323
S42A **Caledonia** 72.13 51 P P 12 03 43.3 -0.2
baz=322,SNR=11
FVM **French Village** 72.14 51 eP P 12 03 43.9 +0.4
comp=Z,14nm,0.7s
FVM **French Village** 72.14 51 eP P 12 03 43.9 +0.4
FVM pmax pmax
comp=Z,14nm,0.7s
R43A **Red Bud** 72.15 51 P P 12 03 43.3 -0.2
baz=322
CTA **Charters Tower** 72.19 193 P P 12 03 44.0 +0.2
comp=Z,5.5nm,0.5s,baz=352,slow=7.6,SNR=6.9
U40A **Yellville** 72.21 54 P P 12 03 43.6 -0.4
baz=322,SNR=20
T41A **Mountain View** 72.22 53 P P 12 03 43.6 -0.5
baz=322,SNR=14
GNI **Garni** 72.36 313⇑ eP P 12 03 41.2 -3.8
GNI pmax pmax
comp=Z,12nm,1.4s
N48A **Decatur** 72.37 46 P P 12 03 44.8 -0.1
baz=324
P46A **Rosedale** 72.38 48 P P 12 03 45.0 +0.1
baz=323,SNR=5.8
Q45A **Warren Harvey,** 72.51 49 P P 12 03 45.5 -0.1
baz=323,SNR=6.8
EKA **Eskdalemuir Ar** 72.52 350 P P 12 03 45.2 -0.2
comp=Z,1.8nm,0.4s,baz=20,slow=5.5,SNR=22
T42A **Van Buren** 72.56 52 eP P 12 03 45.7 -0.4
comp=Z,9.9nm,0.8s
T42A **Van Buren** 72.56 52 P P 12 03 45.7 -0.4
baz=322,SNR=6.9
R44A **Waltonville** 72.58 50 P P 12 03 46.0 -0.2
baz=323,SNR=6.9
S43A **Fulton Ridge,** 72.64 51 P P 12 03 46.5 0.0
baz=322,SNR=10
KWP **Kalwaria Pacla** 72.64 332 eP P 12 03 47.4 +1.1
KWP **Kalwaria Pacla** 72.64 332 eP P 12 03 47.4 +1.1
OLIL **Olney** 72.66 49 eP P 12 03 47.1 +0.5
comp=Z,41nm,1.3s
U41A **Viola** 72.69 53 P P 12 03 46.4 -0.5
baz=322,SNR=7.1
O48A **Farmland** 72.80 46 P P 12 03 47.0 -0.4
baz=324
P47A **Martinsville** 72.91 47 P P 12 03 47.7 -0.4
baz=324
T43A **Greenville** 72.92 52 P P 12 03 48.1 0.0
baz=322,SNR=8.5
R45A **Skylar, Fairfi** 72.93 50 P P 12 03 48.1 0.0
baz=323
S44A **Carbondale** 72.94 51 P P 12 03 48.5 +0.2
baz=323,SNR=8.9
OJC **Ojcow** 72.94 334 eP P 12 03 48.9 +0.8
OJC **Ojcow** 72.94 334 eP P 12 03 48.7 +0.6
comp=Z,62nm,1.6s
OJC **Ojcow** 72.94 334 eP P 12 03 48.7 +0.6
OJC pmax pmax
comp=Z,62nm,1.6s
SIUC **Southern Illin** 72.94 50 eP P 12 03 48.5 +0.3
comp=Z,23nm,0.7s
V41A **Mountainview** 73.01 54 P P 12 03 48.1 -0.7
baz=322,SNR=12
U42A **Revenden** 73.02 53 P P 12 03 48.6 -0.1
baz=322
JCT **Junction City** 73.07 62 eP P 12 03 49.7 +0.5
comp=Z,20nm,1.5s
JCT **Junction City** 73.07 62 eP P 12 03 49.7 +0.5
JCT pmax pmax
comp=Z,20nm,1.5s
JCT **Junction City** 73.07 62 P P 12 03 49.6 +0.4
baz=320
PBMO **Poplar Bluff** 73.09 52 eP P 12 03 49.2 0.0
comp=Z,22nm,0.8s
O49A **Covington** 73.23 46 P P 12 03 49.8 -0.1
baz=324
MIAR **Mount Ida** 73.26 55 eP P 12 03 50.5 +0.3
comp=Z,8.2nm,0.8s
MIAR **Mount Ida** 73.26 55 eP P 12 03 50.5 +0.3
MIAR pmax pmax
comp=Z,8.0nm,0.8s
MIAR **Mount Ida** 73.26 55 P P 12 03 50.1 -0.1
baz=322,SNR=5.4
S45A **Carrier Mills** 73.27 50 P P 12 03 50.4 +0.2
baz=323,SNR=9.5
KSP **Ksiaz** 73.28 336 eP P 12 03 50.8 +0.7
KSP **Ksiaz** 73.28 336 eP P 12 03 50.8 +0.7
Q47A **Bedord North L** 73.28 48 P P 12 03 50.2 0.0
baz=324,SNR=5.5
P48A **Milroy** 73.32 47 P P 12 03 50.3 -0.2
baz=324
WHAR **Wooly Hollow** 73.33 54 eP P 12 03 50.7 +0.1
comp=Z,32nm,1.5s
R46A **Gibon Southern** 73.36 49 P P 12 03 51.1 +0.4
baz=323
W41B **Gary Mavity, V** 73.44 54 eP P 12 03 51.3 0.0
comp=Z,13nm,0.8s
W41B **Gary Mavity, V** 73.44 54 P P 12 03 51.2 0.0
baz=322,SNR=6.9
USIN **University of** 73.48 49 eP P 12 03 52.1 +0.6
comp=Z,35nm,0.8s
PARMO **Parma** 73.51 52 eP P 12 03 52.5 +0.9
comp=Z,147nm,0.7s
NIE **Niedzica** 73.52 333 eP P 12 03 52.6 +1.1
NIE **Niedzica** 73.52 333 eP P 12 03 52.6 +1.1
P49A **Miami Univ. Ec** 73.58 46 P P 12 03 51.9 -0.2
baz=324
CLL **Collm** 73.64 339 eP P 12 03 52.6 +0.5
comp=Z,13nm,0.9s
CLL **Collm** 73.64 339⇑ iP P 12 03 52.4 +0.3
comp=Z,14nm,1.0s
CLL **Collm** 73.64 339⇑ iP P 12 03 52.4 +0.3
CLL pmax pmax
comp=Z,14nm,1.0s
BUR08 **Bucovina Ar. S** 73.65 330 eP P 12 03 52.9 +0.4
UZH **Uzhgorod** 73.66 332 eP P 12 03 52.3 0.0
UZH i 12 04 02.8
UPC **Upice** 73.66 337 eP P 12 03 53.5 +1.2
UPC **Upice** 73.66 337 eP P 12 03 53.5 +1.2
BUR04 **Bucovina Ar. S** 73.67 330 eP P 12 03 52.9 +0.3
BURAR **Bucovina Array** 73.67 330⇑ iP P 12 03 52.9 +0.4
BURAR **Bucovina Array** 73.67 330⇑ P P 12 03 52.9 +0.4
S46A **Don Dixon Farm** 73.68 50 P P 12 03 52.2 -0.4
baz=324
X40A **Basin Creek Fa** 73.68 55 P P 12 03 52.9 +0.2
baz=322
OKC **Ostrava-Krasne** 73.73 335 eP P 12 03 53.8 +1.1
OKC **Ostrava-Krasne** 73.73 335 eP P 12 03 53.8 +1.1
DPC **Dobruska-Polom** 73.73 336 eP P 12 03 54.1 +1.3
DPC **Dobruska-Polom** 73.73 336 eP P 12 03 54.1 +1.3
BRG **Berggiesshubel** 73.82 338 eP P 12 03 53.5 +0.2
comp=Z,5.5nm,0.8s
BRG **Berggiesshubel** 73.82 338 eP P 12 03 53.5 +0.2
BRG pmax pmax
comp=Z,6.0nm,0.9s
WCI **Wyandotte Cave** 73.91 48 eP P 12 03 54.5 +0.5
comp=Z,19nm,0.8s
WCI ePcP PcP 12 04 11.3 +2.3
WCI **Wyandotte Cave** 73.91 48 eP P 12 03 54.5 +0.5
WCI e 12 04 11.3
WCI pmax pmax
comp=Z,19nm,0.8s
WCI **Wyandotte Cave** 73.91 48 P P 12 03 54.4 +0.4
baz=324
MORC **Moravsky Berou** 73.94 335 eP P 12 03 55.0 +0.9
comp=Z,18nm,0.8s
MORC **Moravsky Berou** 73.94 335⇑ iP P 12 03 55.0 +0.9
MORC **Moravsky Berou** 73.94 335⇑ P P 12 03 55.1 +1.1
MORC **Moravsky Berou** 73.94 335 eP P 12 03 54.9 +0.9
BIZ **Bicaz** 73.98 329⇑ iP P 12 03 54.8 +0.6
LANS **Liptovska Anna** 74.00 334 eP P 12 03 56.0 +1.7
LANS **Liptovska Anna** 74.00 334 eP P 12 03 56.0 +1.7
TRPA **Tarpa** 74.03 331⇑ iP P 12 03 55.5 +1.0
S47A **Hartford** 74.15 49 P P 12 03 55.3 -0.1
baz=324,SNR=5.3
KECS **Kecovo** 74.32 333 eP P 12 03 55.9 -0.3
KECS pmax pmax
comp=Z,18nm,0.7s
KECS **Kecovo** 74.32 333 eP P 12 03 55.9 -0.3
R49A **Shelbyville** 74.38 47 P P 12 03 56.6 -0.1
baz=324
O52A **Adamsville** 74.39 44 P P 12 03 56.4 -0.3
baz=326
WRAB **Tennant Creek** 74.41 204 eP P 12 03 56.9 +0.1
comp=Z,14nm,0.9s
WRAB ePcP PcP 12 04 06.2 -4.9
WRAB **Tennant Creek** 74.41 204 c iP P 12 03 56.5 -0.4
WRAB i *PP PcP 12 04 14.0 +2.9
WRAB pmax pmax
comp=Z,11nm,0.9s
WB2 **Warramunga Arr** 74.41 204 eP P 12 03 57.0 +0.1
WRA **Warramunga Arr** 74.42 204 P P 12 03 57.0 0.0
comp=Z,12nm,0.8s,baz=20,slow=6.2,SNR=95
WRA **Warramunga Arr** 74.42 204 P P 12 03 57.0 0.0
WRA pmax pmax
comp=Z,9.0nm,0.6s
Q50A **Georgetown** 74.48 46 P P 12 03 57.3 0.0
baz=325
N54A **Moraine State** 74.48 42 P P 12 03 57.1 -0.2
baz=326
S48A **Wiedeman Farm,** 74.48 48 P P 12 03 57.5 +0.2
baz=324
GOPC **GO Pecny, Ondr** 74.51 337 eP P 12 03 58.5 +1.2
GOPC **GO Pecny, Ondr** 74.51 337 eP P 12 03 58.5 +1.2
T47A **Sharon Grove** 74.53 50 eP P 12 03 58.1 +0.6
comp=Z,17nm,0.8s
T47A **Sharon Grove** 74.53 50 P P 12 03 58.0 +0.5
baz=324,SNR=8.4
TLCR 74.60 326⇑ iP P 12 03 58.3 +0.5
TLCR 74.60 326⇑ P P 12 03 58.3 +0.5
Q51A **Peebles** 74.61 46 P P 12 03 58.1 0.0
baz=325
VRAC **Vranov** 74.62 336 P P 12 03 58.5 +0.6
comp=Z,15nm,0.7s,baz=29,slow=5.3,SNR=26
VRAC **Vranov** 74.62 336⇑ iP P 12 03 58.8 +0.9
VRAC **Vranov** 74.62 336 eP P 12 03 59.0 +1.1
VRI **Vrincioaia** 74.72 328⇓ iP P 12 04 02.1 +3.5
VRI **Vrincioaia** 74.72 328⇓ P P 12 04 02.1 +3.5
S49A **Springfield** 74.74 48 P P 12 03 59.3 +0.6
baz=324,SNR=6.3
JAVC **Velka Javorina** 74.75 335 eP P 12 04 00.5 +1.8
PLOR **Plostina** 74.76 328⇓ iP P 12 03 58.2 -0.6
PLOR **Plostina** 74.76 328⇓ P P 12 03 58.2 -0.6
T48A **Bowling Green** 74.77 49 P P 12 03 59.3 +0.4
baz=324
VYHS **Vyhne** 74.77 334 eP P 12 03 59.8 +1.0
VYHS pmax pmax
comp=Z,7.0nm,0.8s
VYHS **Vyhne** 74.77 334 eP P 12 03 59.8 +1.0
CFR **Carcaliu** 74.84 326⇑ iP P 12 03 59.5 +0.3
CFR **Carcaliu** 74.84 326⇑ P P 12 03 59.5 +0.3
NATX **Nacogdoches** 74.86 58 P P 12 04 00.2 +0.6
baz=322
WVT **Waverly** 74.87 51 eP P 12 03 60.0 +0.4
comp=Z,16nm,0.9s
WVT **Waverly** 74.87 51 eP P 12 04 00.0 +0.4
WVT pmax pmax
comp=Z,16nm,0.9s
WVT **Waverly** 74.87 51 P P 12 03 59.9 +0.4
baz=324
U47A **Clarksville** 74.88 50 P P 12 03 59.8 +0.2
baz=324,SNR=5.5
KRUC **Moravsky** 74.90 336 eP P 12 04 00.4 +0.9
TREC **Trest** 74.91 336 eP P 12 04 00.7 +1.1
TREC **Trest** 74.91 336 eP P 12 04 00.7 +1.1
V46A **Holladay** 74.99 51 P P 12 04 00.4 +0.1
baz=324,SNR=6.2
PSZ **Piszkesteto** 75.00 333 eP P 12 04 01.1 +0.9
comp=Z,11nm,0.9s
PSZ **Piszkesteto** 75.00 333⇓ iP P 12 04 01.4 +1.2
PSZ **Piszkesteto** 75.00 333⇓ eP P 12 04 01.7 +1.5
PSZ **Piszkesteto** 75.00 333 ⇓P P 12 04 01.4 +1.2
X44A **Crenshaw** 75.03 53 P P 12 04 00.7 +0.2
baz=323
DOPR **Dopca** 75.07 329⇑ iP P 12 04 01.5 +0.9
R51A **Hillsboro** 75.10 46 P P 12 04 00.7 -0.1
baz=325
SMOL **Smolenice** 75.13 335 P P 12 04 02.9 +2.0
T49A **Edmonton** 75.17 48 eP P 12 04 01.9 +0.6
comp=Z,8.9nm,0.6s
DRGR 75.18 331⇑ iP P 12 04 02.0 +0.7
DRGR 75.18 331⇑ P P 12 04 02.0 +0.7
V47A **Nunnelly** 75.26 51 P P 12 04 01.7 -0.1
baz=324,SNR=5.2
FITZ **Fitzroy Crossi** 75.28 213 P P 12 04 02.0 +0.2
comp=Z,5.4nm,0.9s,baz=17,slow=6.2,SNR=10
FITZ **Fitzroy Crossi** 75.28 213 eP P 12 04 02.7 +0.8
comp=Z,6.6nm,0.9s
MODS **Modra-Piesok** 75.30 335 eP P 12 04 02.4 +0.5
MODS pmax pmax
comp=Z,14nm,1.0s
MODS **Modra-Piesok** 75.30 335 eP P 12 04 02.4 +0.5
MLR **Muntele Rosu** 75.31 328 P P 12 04 02.4 +0.3
comp=Z,16nm,0.5s,baz=333,slow=3.7,SNR=38
MLR **Muntele Rosu** 75.31 328 eP P 12 04 02.2 +0.1
comp=Z,19nm,0.6s
MLR **Muntele Rosu** 75.31 328⇑ iP P 12 04 03.1 +1.0
MLR **Muntele Rosu** 75.31 328 eP P 12 04 02.2 +0.1
MLR pmax pmax
comp=Z,19nm,0.6s
TIRR **Tirgusor** 75.38 326 eP P 12 04 03.0 +0.7
comp=Z,21nm,1.0s
TIRR **Tirgusor** 75.38 326⇑ iP P 12 04 02.9 +0.7
TIRR **Tirgusor** 75.38 326 P P 12 04 03.0 +0.7
TIRR pmax pmax
comp=Z,21nm,1.0s
OXF **Oxford** 75.39 53 eP P 12 04 02.8 +0.2
comp=Z,33nm,1.0s
OXF **Oxford** 75.39 53 eP P 12 04 02.8 +0.2
OXF pmax pmax
comp=Z,33nm,1.0s
OXF **Oxford** 75.39 53 P P 12 04 02.8 +0.2
baz=323
X45A **UM Field Stati** 75.47 53 P P 12 04 03.1 +0.1
baz=323
KHC **Kasperske Hory** 75.53 337 eP P 12 04 03.8 +0.6
comp=Z,6.1nm,0.9s
KHC **Kasperske Hory** 75.53 337 eP P 12 04 04.5 +1.3
KHC ex x 12 04 20.8
KHC **Kasperske Hory** 75.53 337 eP P 12 04 04.5 +1.3
KHC e 12 04 20.8
U49A **Red Boiling Sp** 75.54 49 P P 12 04 03.6 +0.2
baz=324
T50A **Nancy** 75.57 48 P P 12 04 03.8 +0.2
baz=325,SNR=5.7
241A **Mo Tay, Goldon** 75.57 57 eP P 12 04 04.9 +1.3
comp=Z,25nm,1.0s
SSPA **Standing Stone** 75.63 41 P P 12 04 03.8 -0.1
baz=327
VOIR 75.65 329⇑ iP P 12 04 04.9 +0.9
VOIR 75.65 329⇑ P P 12 04 04.9 +0.9
O56A **Blue Knob Stat** 75.66 42 P P 12 04 03.9 -0.2
baz=327
V48A **Smith Brothers** 75.67 50 eP P 12 04 04.6 +0.4
comp=Z,15nm,0.8s
V48A **Smith Brothers** 75.67 50 P P 12 04 04.3 +0.2
baz=324,SNR=5.3
PLAL **Pickwick Lake** 75.67 51 eP P 12 04 04.1 -0.1
comp=Z,11nm,0.6s
W47A **Westpoint** 75.69 51 P P 12 04 04.4 +0.1
baz=324
MEM **Membach** 75.74 343 ⇑P P 12 04 05.1 +0.8
comp=Z,20nm,0.8s
GEC2 **GERESS Array S** 75.77 337 eP P 12 04 05.7 +1.0
comp=Z,8.4nm,0.8s
GEC2 **GERESS Array S** 75.77 337 eP P 12 04 05.7 +1.0
GEC2 pmax pmax
comp=Z,8.0nm,0.8s
GERES **GERESS Array B** 75.77 337 P P 12 04 05.3 +0.6
comp=Z,4.7nm,0.5s,baz=36,slow=5.7,SNR=45
GEA0 **GERESS Array S** 75.78 337 eP P 12 04 05.1 +0.5
S52A **Salyersville** 75.84 46 P P 12 04 05.0 -0.1
baz=326
ARR **Arges** 75.85 329⇑ iP P 12 04 06.6 +1.5
SULR 75.92 327⇑ iP P 12 04 05.8 +0.4
SIRR **Siria** 75.97 331⇓ iP P 12 04 06.8 +1.1
T51A **Gray** 76.03 47 P P 12 04 05.9 -0.3
baz=325
LOT **Lotru** 76.05 329⇑ iP P 12 04 06.4 +0.1
U50A **Jamestown** 76.06 48 P P 12 04 06.4 0.0
baz=325,SNR=6.5
CONA **Conrad Observa** 76.08 336 i P P 12 04 07.8 +1.4
comp=Z,10.0nm,0.7s,SNR=7.1
V49A **McMinnville** 76.08 49 P P 12 04 06.5 0.0
baz=324
W48A **Pulaski** 76.10 51 P P 12 04 06.6 0.0
baz=324,SNR=9.2

SOP	Sopron	76.12	335	‖	*eP*		**P**	12 04 08.4	+1.9
SOP	Sopron	76.12	335		P		**P**	12 04 08.8	+2.3
X47A	Russelville	76.15	52		P		**P**	12 04 06.6	-0.4
	baz=324								
Z45A	Winona	76.16	54		*eP*		**P**	12 04 08.0	+1.0
	comp=Z,34nm,0.9s								
Y46A	Houston	76.17	53		P		**P**	12 04 07.3	+0.3
	baz=324,SNR=7.8								
DOU	Dourbes	76.49	344	⇑	P		**P**	12 04 09.1	+0.6
SWET	Swanee	76.52	50		*eP*		**P**	12 04 09.1	+0.1
	comp=Z,15nm,0.8s								
V50A	Pikevile	76.54	49		P		**P**	12 04 08.9	-0.2
	baz=325,SNR=5.3								
MOA	Molln	76.56	337		*iP*		**P**	12 04 09.6	+0.6
	comp=Z,4.9nm,0.7s								
BZS	Buzias	76.57	331	⇑	*iP*		**P**	12 04 09.4	+0.3
BZS	Buzias	76.57	331	⇑	P		**P**	12 04 09.5	+0.3
BAIF	Baives	76.59	344		*eP*		**P**	12 04 09.5	+0.4
BAIF						pmax	pmax		
	comp=Z,6.0nm,1.0s								
X48A	Hartselle	76.60	51		P		**P**	12 04 09.3	-0.1
	baz=324								
Y47A	UCPARC, Winfie	76.65	52		P		**P**	12 04 09.6	-0.1
	baz=324,SNR=5.6								
244A	Avery, Jackson	76.71	55		P		**P**	12 04 10.5	+0.4
	baz=323								
U52A	Thorn Hill	76.76	47		P		**P**	12 04 10.6	+0.2
	baz=326								
V51A	Loudon	76.79	48		P		**P**	12 04 10.6	+0.1
	baz=325								
ARSA	Arzberg	76.80	336		*eP*		**P**	12 04 11.8	+1.4
	comp=Z,9.1nm,1.1s								
W50A	Signal Mountai	76.83	49		*eP*		**P**	12 04 10.2	-0.6
	comp=Z,16nm,0.9s								
W50A	Signal Mountai	76.83	49		P		**P**	12 04 10.4	-0.4
	baz=325								
X49A	Woodville	76.90	51		P		**P**	12 04 11.3	+0.2
	baz=324,SNR=7.8								
MORH	M˙r˙igy, Hung	76.90	333	⇑	*eP*		**P**	12 04 11.1	+0.2
SRE	Strehaia	76.94	329	⇑	*iP*		**P**	12 04 12.1	+0.9
SRE	Strehaia	76.94	329	⇑	P		**P**	12 04 12.1	+0.9
Y48A	Jasper	76.97	51		P		**P**	12 04 11.6	0.0
	baz=324								
HERR	Herculane	76.99	330	⇑	*iP*		**P**	12 04 11.2	-0.3
146A	Union	77.06	54		*eP*		**P**	12 04 13.1	+1.0
	comp=Z,42nm,0.9s								
146A	Union	77.06	54		P		**P**	12 04 12.9	+0.8
	baz=324,SNR=6.1								
Z47A	Carrollton	77.11	53		P		**P**	12 04 12.5	+0.2
	baz=324								
V52A	Sevierville	77.11	48		P		**P**	12 04 12.1	-0.2
	baz=326								
W51A	Cleveland	77.12	49		P		**P**	12 04 12.2	-0.2
	baz=325								
U53A	Fall Branch	77.14	47		P		**P**	12 04 12.5	-0.1
	baz=326								
344A	Westbrook Farm	77.16	55		P		**P**	12 04 13.5	+0.9
	baz=323								
TKL	Tuckaleechee C	77.17	48		P		**P**	12 04 12.5	-0.2
	comp=Z,2.4nm,0.8s,baz=255,slow=1.9,SNR=6.2								
TKL						pP	**pP**	12 04 33.1	+0.1
	comp=Z,3.1nm,0.6s,baz=141,slow=3.9,SNR=2.5								
PALK	Pallekele	77.20	266		*iP*		P	12 04 05.9	-7.2
Z48A	Northport	77.22	52		P		**P**	12 04 12.7	-0.2
	baz=324								
X50B	Fort Payne	77.27	50		P		**P**	12 04 13.0	-0.2
	baz=325								
MDVR	Moldovita	77.30	330	⇑	*iP*		**P**	12 04 13.2	-0.1
Y49A	Blount Mountai	77.39	51		P		**P**	12 04 13.9	0.0
	baz=325								
147A	Livingston	77.43	53		P		**P**	12 04 14.7	+0.6
	baz=324								
SOKA	Soboth	77.45	336		*iP*		**P**	12 04 15.2	+1.1
	comp=Z,19nm,1.2s,SNR=7.7								
BFO	Black Forest	77.46	341		*iP*		**P**	12 04 15.3	+1.2
BR131	Keskin Array S	77.49	320		*eP*		**P**	12 04 15.3	+0.8
BRTR	Keskin Array B	77.49	320		P		**P**	12 04 15.1	+0.5
	comp=Z,8.5nm,0.9s,baz=31,slow=2.9,SNR=24								
CDF	Champ du Feu	77.60	341		*eP*		**P**	12 04 15.2	+0.3
CDF						pmax	pmax		
	comp=Z,7.0nm,0.8s								
SHME	Shamm	77.66	296		P		**P**	12 04 15.4	-0.2
BANOM	Banah	77.67	296		*iP*		**P**	12 04 15.8	+0.2
	SNR=8.4								
WATA	Walderalm	77.69	338		*iP*		**P**	12 04 17.1	+1.5
	comp=Z,2.9nm,0.5s								
Y50A	Piedmont	77.69	50		P		**P**	12 04 15.4	-0.1
	baz=325								
RETA	Reutte	77.73	339		*iP*		**P**	12 04 17.3	+1.7
	comp=Z,7.9nm,1.0s								
OBKA	Obir	77.73	336		*iP*		**P**	12 04 16.7	+0.9
	comp=Z,11nm,1.3s								
WTTA	Wattenberg	77.74	338		*eP*		**P**	12 04 17.5	+1.7
	comp=Z,11nm,0.9s								
LRAL	Lakeview Retre	77.77	52		P		**P**	12 04 15.7	-0.3
	baz=324								
MOTA	Moosalm	77.79	338		*eP*		**P**	12 04 17.3	+1.2
	comp=Z,8.0nm,0.8s,SNR=5.4								
ECH	Echery	77.81	341		*eP*		**P**	12 04 16.6	+0.6
	comp=Z,15nm,1.1s								
ECH	Echery	77.81	341		*eP*		**P**	12 04 16.6	+0.6
ECH						pmax	pmax		
	comp=Z,15nm,1.1s								
Z49A	Columbiana	77.87	51		P		**P**	12 04 16.6	+0.1
	baz=325								
SQTA	Sankt Quirin	77.88	338		*iP*		**P**	12 04 17.9	+1.4
	comp=Z,15nm,1.1s								
ABTA	Abfaltersbach	78.02	337		*iP*		**P**	12 04 18.2	+0.9
	comp=Z,15nm,1.2s,SNR=6.4								
AS01	Alice Springs	78.08	204		*eP*		**P**	12 04 18.2	+0.6
AS31	Alice Springs	78.09	204		*eP*		**P**	12 04 18.6	+0.8
	comp=Z,3.0nm,0.5s								
ASAR	Alice Springs	78.09	204		P		**P**	12 04 18.5	+0.8
	comp=Z,7.3nm,0.6s,baz=17,slow=5.1,SNR=180								
BG3	Lake Jocassee	78.11	48		*eP*		**P**	12 04 19.1	+1.2
	comp=Z,25nm,1.0s								
Z50A	Ashland	78.11	51		*eP*		**P**	12 04 17.9	-0.1
	comp=Z,18nm,0.8s								
Z50A	Ashland	78.11	51		P		**P**	12 04 17.8	-0.1
	baz=325,SNR=8.1								
DAVA	Damuels	78.12	339		*iP*		**P**	12 04 19.4	+1.5
	comp=Z,8.7nm,1.0s								
HAU	Haudompre	78.17	342		*eP*		**P**	12 04 19.1	+1.1
HAU						pmax	pmax		
	comp=Z,13nm,1.1s								
FETA	Feichten	78.18	339		*iP*		**P**	12 04 19.5	+1.2
	comp=Z,11nm,1.5s								
WSAR	Wadi Sarin	78.42	293		P		**P**	12 04 20.0	+0.2
	comp=Z,8.3nm,0.8s,baz=65,slow=6.3,SNR=6.0								
DIVS	Divibare	78.44	331		*eP*		**P**	12 04 19.8	+0.2
	comp=Z,15nm,0.8s								
UOSS	Minazif	78.48	295		*eP*		**P**	12 04 19.9	-0.2
	comp=Z,55nm,1.3s								
UOSS	Minazif	78.48	295		*iP*		**P**	12 04 19.9	-0.2
	SNR=7.0								
DAVOX	Davos/Dischmat	78.60	339		P		**P**	12 04 21.0	+0.4
	comp=Z,2.8nm,0.5s,baz=143,slow=4.2,SNR=9.3								
FLN	La Foliniere	78.61	346		*eP*		**P**	12 04 20.8	+0.4
FLN						pmax	pmax		
	comp=Z,99nm,2.0s								
HATD	Hatta, Dubai	78.61	295		P		**P**	12 04 20.0	-0.8
VTS	Vitosha	78.79	328		*eP*		**P**	12 04 21.8	+0.2
	comp=Z,14nm,0.8s								
VTS	Vitosha	78.79	328	⇑	*iP*		**P**	12 04 21.9	+0.2
VTS	Vitosha	78.79	328		*eP*		**P**	12 04 21.8	+0.2
VTS						pmax	pmax		
	comp=Z,14nm,0.8s								
TUE	Stuetta	79.01	339		*eP*		**P**	12 04 24.3	+1.4
	comp=Z,6.5nm,0.8s								
GRR	Gorron	79.03	347		*eP*		**P**	12 04 22.9	+0.2
GRR						pmax	pmax		
	comp=Z,184nm,2.0s								
Y54A	Tignall	79.16	48		P		**P**	12 04 24.2	+0.5
	baz=326,SNR=6.0								
UDBI	Udbina	79.25	334		P		**P**	12 04 23.8	-0.3
LOR	Lormes	79.35	343		*eP*		**P**	12 04 24.7	+0.2
LOR						pmax	pmax		
	comp=Z,13nm,1.0s								
NVLJ	Novalja	79.46	335		P		**P**	12 04 24.8	-0.3
CABF	La Chapelle	79.56	342		*eP*		**P**	12 04 26.3	+0.6
CABF						pmax	pmax		
	comp=Z,84nm,2.1s								
SSF	Saint Saulge	79.61	343		*eP*		**P**	12 04 26.1	+0.2
SSF						pmax	pmax		
	comp=Z,72nm,2.1s								
SRS	Serrai	79.98	328		*eP*		**P**	12 04 28.7	+0.7
PDG	Podgorica	80.18	331	⇑	*iP*		**P**	12 04 29.0	0.0
TTG	Podgorica	80.18	331		*eP*		**P**	12 04 29.0	0.0
	comp=Z,29nm,1.3s								
TTG	Podgorica	80.18	331		*eP*		**P**	12 04 29.0	0.0
TTG						pmax	pmax		
	comp=Z,29nm,1.3s								
LPL	La Plagne	80.47	341		*eP*		**P**	12 04 31.8	+0.9
LPL						pmax	pmax		
	comp=Z,190nm,2.8s								
LPG	La Plagne	80.49	341		*eP*		**P**	12 04 32.1	+1.1
LPG						pmax	pmax		
	comp=Z,24nm,1.5s								
TCF	Toulx Ste Croi	80.59	344		*eP*		**P**	12 04 31.8	+0.6
TCF						pmax	pmax		
	comp=Z,48nm,1.8s								
FNA	Florina	81.01	329		*eP*		**P**	12 04 33.8	+0.2
	comp=Z,5.5nm,0.8s								
FNA	Florina	81.01	329		*eP*		**P**	12 04 33.8	+0.2
FNA						pmax	pmax		
	comp=Z,6.0nm,0.8s								
CSS	Mathiatis	81.69	318		*eP*		**P**	12 04 37.3	+0.1
	comp=Z,20nm,0.7s								
SBF	Sospel	81.91	340		*eP*		**P**	12 04 39.3	+1.0
SBF						pmax	pmax		
	comp=Z,29nm,1.4s								
CAF	Calviac	81.93	344		*eP*		**P**	12 04 39.4	+1.0
CAF						pmax	pmax		
	comp=Z,63nm,1.9s								
MMAI	Mount Meron Ar	82.46	315		P		**P**	12 04 42.2	+0.9
	comp=Z,3.2nm,0.4s,baz=36,slow=7.2,SNR=26								
ASF	Jabal al Asfar	82.51	314		P		**P**	12 04 41.9	+0.3
	comp=Z,2.4nm,0.5s,baz=79,slow=5.1,SNR=6.8								
ASF	Jabal al Asfar	82.51	314		P		**P**	12 04 41.9	+0.3
ASF						pmax	pmax		
	comp=Z,4.0nm,0.8s								
TIP	Timpagrande	83.91	332		*eP*		**P**	12 04 49.5	+0.8
	comp=Z,27nm,1.6s								
EPF	Esparros	84.07	345		*eP*		**P**	12 04 50.3	+0.9
EPF						pmax	pmax		
	comp=Z,10.0nm,1.2s								
STKA	Stephens Creek	84.47	195		P		**P**	12 04 51.8	+0.6
	comp=Z,2.8nm,0.8s,baz=331,slow=7.6,SNR=6.6								
IDI	Anoyia	84.74	324		P		**P**	12 04 51.5	-1.5
	comp=Z,8.5nm,0.7s,baz=27,slow=8.2,SNR=6.2								
RAYN	Ar Rayn	85.46	303		*eP*		**P**	12 04 56.9	+0.1
	comp=Z,3.9nm,0.7s								
RAYN						*e*pP	**pP**	12 05 17.9	+0.5
RAYN	Ar Rayn	85.46	303		*eP*		**P**	12 04 56.9	+0.1
RAYN						*e**PP	**pP**	12 05 17.9	+0.5
RAYN						pmax	pmax		
	comp=Z,4.0nm,0.7s								
ES19	SONSECA Array	87.97	347		*eP*		**P**	12 05 08.9	+0.2
ESDC	Sonseca Array	88.01	347		P		**P**	12 05 08.2	-0.7
	comp=Z,2.1nm,0.7s,baz=1.9,slow=3.9,SNR=8.9								
KEST	Kesra	89.19	336		P		**P**	12 05 14.3	-0.2
	comp=Z,3.5nm,0.8s,baz=333,slow=7.2,SNR=3.6								
TORD	Torodi Ar. Bea	112.71	336		PP		PP	12 11 41.0	-1.4
	comp=Z,0.6nm,0.8s,baz=3.8,slow=4.5,SNR=4.3								
DBIC	Dimbokro	120.45	342		PKP		**PKPdf**	12 11 09.5	-0.6
	comp=Z,1.5nm,0.5s,baz=325,slow=2.5,SNR=4.3								
LPAZ	La Paz	128.62	65		PKP		**PKPdf**	12 11 26.7	+0.3
	comp=Z,1.2nm,0.7s,baz=39,slow=4.3,SNR=5.3								
VNDA	Vanda	128.77	179		PKP		**PKPdf**	12 11 24.4	+0.3
	comp=Z,1.1nm,0.6s,baz=301,slow=4.7,SNR=7.6								
BOSA	Boshof	138.88	286		PKP		**PKPdf**	12 11 46.7	+2.0
	comp=Z,1.1nm,0.5s,baz=7.1,slow=5.7,SNR=3.5								
QSPA	South Pole Qui	141.25	180		*e*PKPdf		**PKPdf**	12 11 48.2	+0.5
PLCA	Paso Flores	144.51	92		PKP		PKPbc	12 11 53.4	+0.2
	comp=Z,5.8nm,0.6s,baz=322,slow=3.9,SNR=30								
PLCA	Paso Flores	144.51	92		*e*PKPdf		PKPbc	12 11 53.5	+0.4
PLCA	Paso Flores	144.51	92		*e*PKIKP		PKPbc	12 11 53.5	+0.4

JMA 24 11:58:06.6±0.2, 37.70N×143.96E, h48km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	Ishinomakikobu	2.06	288	P	Pn	11 58 40.0	+1.2
JIKH				S	Sn	11 59 04.5	+1.2
JIO	Ouri	2.19	291	P	Pn	11 58 42.0	+1.4
JIO				S	Sn	11 59 08.0	+1.5
JKMT	Kesennumamotoy	2.25	300	P	Pn	11 58 42.6	+1.3
JKMT				*e*S	Sn	11 59 09.2	+1.4
OFUJ	Ofunato	2.27	308	P	Pn	11 58 42.6	+1.0
OFUJ				*e*S	Sn	11 59 09.4	+1.1
JMK	Ichinoseki	2.49	301	P	Pn	11 58 46.2	+1.6
JMK				*e*S	Sn	11 59 15.7	+1.9
JOM	Ohasama	2.74	311	P	Pn	11 58 49.6	+1.6
JOM				S	Sn	11 59 21.7	+1.8
JFT	Otama	2.88	267	P	Pn	11 58 52.1	+2.1
JFT				*e*S	Sn	11 59 25.9	+2.4
JYK	Kaneyama	3.08	294	P	Pn	11 58 55.0	+2.2
JYK				*e*S	Sn	11 59 30.9	+2.5
BSO1	Boso 1	3.88	219	P	Pn	11 59 02.6	-0.6
BSO1				*e*S	Sn	11 59 46.6	-0.7
JRY	Ryogami san	4.39	249	P	Pn	11 59 11.6	+0.9
JRY				S	Sn	11 59 59.5	-1.1
JOD2	Odawara 2	4.62	240	*e*S	Sn	12 00 03.8	-2.4
JCH	Churui	4.93	355	P	Pn	11 59 18.0	-0.1

*IDC **24** 12:01:23.4±1.1, 25.46N×142.89E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/55, mbtmp3.7/7, Error ellipse: s-maj=45.7km s-min=16.6km az=84.0*
*ISCJB **24** 12:01:26.7±1.0, 25.41N±0.09×143.1E±0.3, h40km, mb3.8/7, Error ellipse: s-maj=35.2km s-min=10.1km az=165.4*

ISC 24 12:01:28.9±1.1, 25.5N±0.1×143.0E±0.3, h40km, n8, σ1°04/9, mb3.9/7, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	Chichijima	1.79	337	Pn	**Pn**	12 01 56.4	-0.9
	34nm,0.3s,baz=247,slow=11,SNR=8.5						
JCJ				Sn	**Sn**	12 02 20.6	+1.9
	58nm,0.3s,baz=290,slow=23,SNR=13						
WRA	Warramunga Arr	45.89	191	P	**P**	12 09 47.7	+0.1
	0.7nm,0.4s,baz=8.6,slow=8.6,SNR=7.6						
FITZ	Fitzroy Crossi	46.46	203	P	**P**	12 09 53.1	+1.1
	0.9nm,0.6s,baz=41,slow=6.2,SNR=3.5						
ASAR	Alice Springs	49.61	191	P	**P**	12 10 16.2	-0.2
	0.3nm,0.6s,baz=19,slow=12,SNR=3.9						
MKAR	Makanchi Array	52.07	311	P	**P**	12 10 34.2	-0.6
	0.3nm,0.5s,baz=91,slow=10,SNR=5.4						
ILAR	Eielson Array	58.82	28	P	**P**	12 11 23.4	+0.4
	0.4nm,0.8s,baz=263,slow=5.4,SNR=4.8						
BVAR	Borovoye Array	59.73	318	P	**P**	12 11 28.9	-0.6
	1.1nm,0.5s,baz=77,slow=6.5,SNR=6.8						
FINES	FINESS Array B	79.73	334	P	**P**	12 13 31.9	-0.4
	1.7nm,0.8s,baz=75,slow=6.5,SNR=6.9						

*ISCJB **24** 12:21:57.4±0.6, 23.94N±0.02×122.31E±0.02, h9km±4km, Error ellipse: s-maj=3.2km s-min=2.2km az=151.9*
*JMA **24** 12:21:58.6±0.1, 23.96N×122.27E, h24km±4km, M2.5*
*TAP **24** 12:21:58.3, 24.01N×122.36E, h36km, ML2.9, D*

ISC 24 12:21:57.7±1.2, 23.95N±0.02×122.32E±0.02, h18km±3km, n62, σ0°53/108, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	EOS1	0.62	344	P	**Pb**	12 22 09.8	-0.1
	baz=333						
EOS1				S	**Sg**	12 22 19.1	+0.8
	baz=333						
TWD	Chiawan	0.67	281	*e*P	**Pb**	12 22 11.1	+0.2
	baz=276						
TWD				*e*S	**Sb**	12 22 20.2	+0.4
	baz=276						
NACB	Ninganchiao	0.70	289	*e*P	**Pb**	12 22 11.3	0.0
	baz=272						
NACB				*e*S	**Sg**	12 22 21.2	+0.5
	baz=272						
NANB	Nanao	0.70	313	*e*P	**Pb**	12 22 11.0	-0.4
	baz=316						
NANB				*e*S	**Sb**	12 22 20.8	+0.1
	baz=316						
ENA	Nanau	0.71	312	P	**Pb**	12 22 11.9	+0.4
	baz=316						
ENA				*e*S	**Sb**	12 22 21.1	+0.2
	baz=316						
JYNG	Yonagunijimaku	0.76	49	P	**Pn**	12 22 13.3	-0.2
JYNG				*e*S	**Sg**	12 22 22.8	+0.1
TWC	Suao	0.78	327	*e*P	**Pb**	12 22 12.0	-0.8
	baz=322						
TWC				*e*S	**Sb**	12 22 22.7	-0.3
	baz=322						
YOJ	Yonaguni jima	0.81	51	*e*P	**Pn**	12 22 14.3	+0.1
	baz=63						
YOJ				*e*S	**Sb**	12 22 23.6	-0.2
	baz=63						
YOJ	Yonaguni jima	0.81	51	P	**Pn**	12 22 14.4	+0.1
YOJ				*e*S	**Sb**	12 22 24.3	+0.4
ESL	Shilin	0.82	261	*e*P	**Pb**	12 22 13.0	-0.5
	baz=251						
ESL				*e*S	**Sb**	12 22 24.7	+0.6
	baz=251						
EGFH	Guangfu	0.86	251	*e*P	**Pb**	12 22 14.2	0.0
	baz=249						
EGFH				S	**Sg**	12 22 26.2	+0.2
	baz=249						
HGSD	Ruisui	0.94	241	*e*P	**Pb**	12 22 15.4	0.0
	baz=239						
HGSD				S	**Sb**	12 22 28.1	+0.6
	baz=239						
ENTT	Nioudou	0.97	315	P	**Pb**	12 22 15.9	-0.1
	baz=300						
TWE	Neicheng	0.97	322	P	**Pb**	12 22 15.9	-0.1
	baz=318						
TWE				*e*S	**Sb**	12 22 29.2	+0.8
	baz=318						
NNSB	Datong	0.98	299	*e*P	**Pb**	12 22 16.0	-0.1
	baz=286						
NNSB				*e*S	**Sb**	12 22 28.8	0.0
	baz=286						
WHF	Hehuan Shan	0.98	282	P	**Pb**	12 22 15.8	-0.7
	baz=268						
WHF				*e*S	**Sb**	12 22 29.8	+0.6
	baz=268						
NNS	Nan Shan	0.99	300	P	**Pb**	12 22 16.1	-0.3
	baz=287						
NNS				*e*S	**Sb**	12 22 30.0	+0.8
	baz=287						
NTC	Toucheng	1.00	334	*e*P	**Pb**	12 22 16.6	0.0
	baz=340						
EHY	Hungye	1.01	244	P	**Pb**	12 22 16.4	-0.3
	baz=243						
EHY				*e*S	**Sb**	12 22 30.3	+0.6
	baz=243						
CHGB	Renai	1.05	276	P	**Pb**	12 22 17.1	-0.3
	baz=264						
CHGB				*e*S	**Sb**	12 22 31.7	+0.7
	baz=264						
TWT	Tachien	1.09	286	*e*P	**Pb**	12 22 18.2	+0.2
	baz=273						
TWT				*e*S	**Sn**	12 22 32.8	0.0
	baz=273						
YULB	Yu-li	1.09	240	P	**Pb**	12 22 17.7	-0.3
	baz=253						
YULB				S	**Sb**	12 22 32.0	+0.1
	baz=253						
VWDT	VWDT	1.09	260	P	**Pn**	12 22 18.0	-0.1
	baz=258						
VWDT				*e*S	**Sb**	12 22 32.1	+0.1
	baz=258						
TDCB	Techi	1.10	286	P	**Pn**	12 22 18.1	-0.3
	baz=274						
TDCB				*e*S	**Sb**	12 22 32.8	+0.5
	baz=274						
NWLT	Wulai	1.11	318	*e*P	**Pn**	12 22 17.9	-0.4
	baz=304						
TWF1	Yuli	1.11	238	P	**Pn**	12 22 18.2	-0.1
	baz=227						
TWF1				S	**Sb**	12 22 32.8	+0.3
	baz=227						
TIPB	Shuangxi	1.11	336	*e*P	**Pn**	12 22 18.1	-0.3
	baz=332						
TIPB				*e*S	**Sb**	12 22 31.3	-1.2
	baz=332						
YHNB	Yeheng	1.12	310	P	**Pn**	12 22 18.3	-0.2
	baz=297						
YHNB				*e*S	**Sb**	12 22 33.3	+0.5
	baz=297						
NSK	Sanguang	1.14	310	*e*P	**Pn**	12 22 18.5	-0.2
	baz=297						
NSK				*e*S	**Sb**	12 22 32.4	-0.9
	baz=297						
FULB	Fuli	1.20	232	*e*P	**Pn**	12 22 19.1	-0.5
	baz=221						
FULB				*e*S	**Sb**	12 22 35.4	+0.3
	baz=221						
CHKT	Chengkung	1.22	226	*e*S	**Sb**	12 22 34.3	-1.2
	baz=217						
TWA	Mucha	1.22	327	*e*P	**Pb**	12 22 21.1	+0.8
	baz=323						
TWA				*e*S	**Sb**	12 22 36.1	+0.4
	baz=323						
SSLB	Suanglung	1.26	263	*e*P	**Pn**	12 22 20.5	+0.1
	baz=261						
SMLT	Sun Moon Lake	1.30	267	*e*P	**Pn**	12 22 20.6	-0.4
	baz=257						
YUS	Yu-Shan	1.33	250	*e*P	**Pn**	12 22 21.2	-0.6
	baz=249						
YUS				S	**Sn**	12 22 38.8	-0.5
	baz=249						
TYC	Yuchr	1.34	268	*e*P	**Pn**	12 22 21.2	-0.2
	baz=266						
TYC				*e*S	**Sn**	12 22 38.6	-0.2
	baz=266						
IRIF	Iriomote-Funau	1.35	73	P	**Pb**	12 22 23.2	+0.8
IRIF				*e*S	**Sg**	12 22 41.4	+0.1
YM01	YM01	1.37	330	*e*P	**Pn**	12 22 22.0	0.0
	baz=342						
LIOB	Emei	1.38	300	*e*P	**Pb**	12 22 23.1	+0.2
	baz=298						
YM07	YM07	1.38	333	*e*P	**Pn**	12 22 22.0	0.0
	baz=330						
NSTT	Nanjuang	1.38	300	*e*P	**Pb**	12 22 23.3	+0.3
	baz=296						
NSTT				*e*S	**Sb**	12 22 40.7	+0.4
	baz=296						
ELDTW	Lidau	1.41	238	*e*P	**Pn**	12 22 22.4	-0.2
	baz=237						
ELDTW				S	**Sn**	12 22 39.5	-1.3
	baz=237						
WJS	Zhushan	1.46	265	*e*P	**Pg**	12 22 25.4	-0.5
	baz=264						
TW

baz=231
WTCT Ta-ch'eng 1.87 268 *e*S **Sb 12 22 54.2 0.0**
baz=278
JISG Ishigakijimahi 1.93 70 P **Pn 12 22 30.6 +1.1**
JISG *e*S **Sb 12 22 54.7 -1.3**
SSD Sandimen 1.96 233 *e*P **Pn 12 22 30.9 +0.9**
baz=228
SSD *e*S **Sn 12 22 55.1 +1.0**
baz=228
MASBT Mashibuluo 2.04 230 *e*P **Pn 12 22 32.2 +1.1**
baz=227
MASBT *e*S **Sn 12 22 56.8 +0.6**
baz=227

IDC 24 12:34:00.5±2.5, 17°59S×175°06W, h226km±33km, mb3.4/4, mb1 3.7/5, mb1mx3.2/35, mbtmp4.1/5, Error ellipse: s-maj=39.9km s-min=22.2km az=116.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.84**	**41**	P	Pn	12 35 13.6	0.0
	11nm,0.3s,baz=181,slow=2.7,SNR=28						
AFI				S	S	12 36 06.1	-5.4
	26nm,0.3s,baz=63,slow=19,SNR=14						
URZ	**Urewera**	**21.70**	**197**	P	P	12 38 33.6	+0.1
	2.8nm,0.4s,baz=269,slow=1.7,SNR=8.5						
WRA	**Warramunga Arr**	**47.83**	**259**	P	P	12 42 15.5	-0.4
	0.8nm,0.5s,baz=97,slow=6.8,SNR=31						
ASAR	**Alice Springs**	**47.95**	**254**	P	P	12 42 16.9	+0.1
	7.1nm,0.7s,baz=89,slow=8.5,SNR=133						
ILAR	**Eielson Array**	**84.90**	**12**	P	P	12 46 09.5	0.0
	0.2nm,0.5s,baz=221,slow=5.7,SNR=6.2						

IDC 24 12:34:51.5±1.9, 1°91N×127°46E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/38, mbtmp3.5/4, ML3.2/1, Error ellipse: s-maj=103.6km s-min=24.5km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.96**	**185**	P	P	12 39 24.8	-0.6
	0.1nm,0.3s,baz=354,slow=10,SNR=3.5						
WRA	**Warramunga Arr**	**22.74**	**163**	P	P	12 39 55.9	+0.5
	0.6nm,0.5s,baz=344,slow=11,SNR=18						
ASAR	**Alice Springs**	**26.18**	**167**	P	P	12 40 27.6	-0.3
	0.2nm,0.3s,baz=343,slow=7.4,SNR=15						
MKAR	**Makanchi Array**	**59.46**	**326**	P	P	12 44 56.4	+0.1
	0.2nm,0.3s,baz=122,slow=7.3,SNR=5.3						

*ISCJB **24** 12:50:19.1±0.4, 22°03S±0°03×68°58W±0°05, h101km±3km, mb4.3/58, Error ellipse: s-maj=6.9km s-min=4.5km az=176.1*
*IDC **24** 12:50:19.4±0.7, 21°91S×68°58W, h88km±7km, mb4.0/10, mb1 4.1/13, mb1mx3.9/24, mbtmp4.3/13, MS2.9/1, Ms1 2.9/1, ms1mx2.5/20, Error ellipse: s-maj=17.2km s-min=13.5km az=135.0*
*GUC **24** 12:50:20.6±0.4, 22°00S×68°82W, h106km±3km, ML4.1*
*NEIC **24** 12:50:20.0±0.0, 22°00S×68°82W, h106km, mb4.4/51, ML4.1(GUC), After GUC.*
ISC 24 12:50:20.9±0.5, 22°03S±0°04×68°64W±0°05, h105km±4km, n106, σ1°43/139, mb4.4/58, 6C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.61**	**292**	⇓*i*P	**Pn**	**12 50 37.3**	**-0.9**
PB09				*e*S	**Sn**	**12 50 49.6**	**-1.6**
PB09				IAML		12 50 50.9	
	comp=N,14μm,0.4s						
LVC	**Limon Verde**	**0.63**	**204**	P	**Pn**	**12 50 37.9**	**-0.7**
	comp=N,372nm,0.3s,baz=343,slow=5.5,SNR=6052						
LVC				S	**Sn**	**12 50 50.6**	**-1.2**
	comp=N,1μm,0.3s,baz=199,slow=18,SNR=290						
LVC	**Limon Verde**	**0.63**	**204**	*e*Pn	**Pn**	**12 50 37.9**	**-0.7**
LVC				*e*Sn	**Sn**	**12 50 50.1**	**-1.8**
PB03	**IPOC Station P**	**1.04**	**269**	⇑*i*P	**Pn**	**12 50 40.6**	**-1.6**
PB03				*e*S	**Sn**	**12 50 55.8**	**-2.5**
PB06	**IPOC Station P**	**1.10**	**232**	⇑*i*P	**Pn**	**12 50 42.1**	**-0.8**
PB06				*e*S	**Sn**	**12 50 58.2**	**-1.3**
PB06				IAML		12 50 59.3	
	comp=N,5μm,0.1s						
PB07	**IPOC Station P**	**1.20**	**284**	⇑*i*P	**Pn**	**12 50 42.5**	**-1.5**
PB07				*e*S	**Sn**	**12 50 59.0**	**-2.6**
PB01	**IPOC Station P**	**1.26**	**321**	*e*Pn	**Pn**	**12 50 43.4**	**-1.3**
PB01				*e*Sn	**Sn**	**12 51 01.2**	**-1.5**
PB01	**IPOC Station P**	**1.26**	**321**	*e*P	**Pn**	**12 50 43.4**	**-1.3**
PB01				*e*S	**Sn**	**12 51 00.8**	**-1.8**
PB01				IAML		12 51 01.8	
	comp=E,5μm,0.5s						
PB02	**IPOC Station P**	**1.37**	**301**	⇑*i*P	**Pn**	**12 50 44.3**	**-1.6**
PB02				*e*S	**Sn**	**12 51 02.3**	**-2.6**
PB02				IAML		12 51 02.8	
	comp=N,7μm,0.2s						
PB15	**IPOC Station P**	**1.40**	**213**	*e*P	**Pn**	**12 50 46.0**	**-0.4**
PB15				*e*S	**Sn**	**12 51 05.9**	**+0.1**
PB04	**IPOC Station P**	**1.44**	**258**	*e*Pn	**Pn**	**12 50 45.2**	**-1.6**
PB04				*e*Sn	**Sn**	**12 51 04.5**	**-1.9**
PB04	**IPOC Station P**	**1.44**	**258**	⇑*i*P	**Pn**	**12 50 45.1**	**-1.6**
PB04				*e*S	**Sn**	**12 51 04.2**	**-2.2**
PB04				IAML		12 51 06.3	
	comp=E,5μm,0.8s						
PB05	**IPOC Station P**	**1.67**	**240**	⇑*i*P	**Pn**	**12 50 48.0**	**-1.6**
PB05				*e*S	**Sn**	**12 51 10.6**	**-0.8**
PB05				IAML		12 51 13.5	
	comp=E,2μm,0.5s						
PB10	**IPOC Station P**	**2.31**	**230**	*e*Pn	**Pn**	**12 50 56.4**	**-1.2**
GO01	**Chusmiza**	**2.41**	**347**	*e*Pn	**Pn**	**12 50 59.3**	**-0.1**
GO01				*e*Sn	**Sn**	**12 51 29.6**	**+0.7**
MNMC	**Minye Minye**	**3.02**	**343**	*e*Pn	**Pn**	**12 51 06.1**	**-1.2**
MNMC				*e*Sn	**Sn**	**12 51 42.6**	**-0.5**
GO02	**Mina Guanaco**	**3.24**	**196**	*e*Pn	**Pn**	**12 51 09.2**	**-1.0**
LPAZ	**La Paz**	**5.73**	**5**	P	**Pn**	**12 51 45.5**	**+1.3**
	comp=E,11nm,0.3s,baz=195,slow=7.6,SNR=161						
LPAZ	**La Paz**	**5.73**	**5**	*e*Pn	**Pn**	**12 51 45.4**	**+1.2**
LCO	**Las Campanas**	**7.20**	**195**	*e*Pn	**Pn**	**12 52 02.1**	**-1.6**
LCO				*e*Sn	**Sn**	**12 53 19.5**	**-4.5**
GO04	**Tololo Observa**	**8.34**	**193**	*e*Pn	**Pn**	**12 52 19.2**	**0.0**
SIV	**San Ignacio**	**9.34**	**51**	P	**Pn**	**12 52 30.0**	**-2.7**
	comp=E,14nm,0.3s,baz=243,slow=12,SNR=247						
SIV				S	**Sn**	**12 54 12.9**	**-3.1**
	comp=E,0.4nm,0.3s,baz=336,slow=20,SNR=3.1						
CPUP	**Villa Florida**	**11.17**	**115**	P	**Pn**	**12 52 57.0**	**-0.4**
	comp=E,0.2nm,0.3s,baz=287,slow=8.6,SNR=3.8						
CPUP				LR	LR	12 58 07.2	
	comp=E,65nm,19.7s,baz=223,slow=42						
GO06	**Curarrehue**	**17.66**	**187**	*e*P	**P**	**12 54 18.6**	**-1.1**
	comp=E,12nm,1.1s						
PLCA	**Paso Flores**	**18.72**	**185**	P	**P**	**12 54 32.0**	**+0.8**
	comp=E,0.2nm,0.3s,baz=37,slow=14,SNR=8.1						
PLCA				PcP	**PcP**	**12 58 56.4**	**+1.5**
	comp=E,0.1nm,0.3s,baz=303,slow=4.1,SNR=4.4						
BDFB	**Brasilia**	**20.52**	**76**	P	**P**	**12 54 49.9**	**-1.1**
	comp=E,4.2nm,0.5s,baz=234,slow=12,SNR=5.7						
PTGA	**Pitinga**	**22.79**	**23**	P	**P**	**12 55 12.9**	**-2.0**
	comp=E,5.3nm,0.4s,baz=191,slow=18,SNR=10.0						
PTGA	**Pitinga**	**22.79**	**23**	*e*P	**P**	**12 55 12.2**	**-2.6**
	comp=E,5.5nm,0.7s						
OTAV	**Otavalo**	**24.11**	**335**	*e*P	**P**	**12 55 28.5**	**+0.9**
	comp=E,3.7nm,0.7s						
CBYP	**Canovanas**	**40.15**	**4**	*e*P	**P**	**12 57 45.2**	**-1.6**
	comp=E,26nm,0.9s						
ZAIG	**Zacatecas**	**55.45**	**321**	*e*P	**P**	**12 59 46.2**	**+1.1**
	comp=E,11nm,1.2s						
VNA3	**Neumayer Olymp**	**59.49**	**161**	P	**P**	**13 00 13.5**	**+0.9**
VNA1	**Neumayer--Stat**	**59.70**	**160**	P	**P**	**13 00 15.3**	**+1.3**
VNA2	**Neumayer--Watz**	**60.07**	**161**	P	**P**	**13 00 17.4**	**+0.9**
	baz=288,slow=8.2						
JCT	**Junction City**	**60.19**	**329**	*e*P	**P**	**13 00 17.1**	**-0.7**
	comp=E,7.1nm,0.6s						
TXAR	**Lajitas Array**	**61.21**	**325**	P	**P**	**13 00 24.7**	**-0.2**
	comp=E,0.9nm,0.6s,baz=152,slow=7.9,SNR=16						
SNAA	**Sanae**	**61.70**	**161**	P	**P**	**13 00 28.4**	**+0.8**
MNTX	**Cornudas Mount**	**63.98**	**325**	*e*P	**P**	**13 00 42.4**	**-0.8**
	comp=E,2.2nm,0.7s						
ANMO	**Albuquerque**	**67.08**	**327**	*e*P	**P**	**13 01 02.7**	**-0.6**
	comp=E,2.9nm,0.7s						
DBIC	**Dimbokro**	**68.64**	**73**	P	**P**	**13 01 13.4**	**+0.2**
	comp=E,2.1nm,0.4s,baz=217,slow=9.1,SNR=5.5						
SDCO	**Great Sand Dun**	**68.83**	**329**	*e*P	**P**	**13 01 13.9**	**-0.4**
	comp=E,4.7nm,1.0s						
Q24A	**Divide**	**69.65**	**330**	*e*P	**P**	**13 01 19.8**	**+0.5**
	comp=E,9.0nm,1.0s						
MVCO	**Mesa Verde**	**69.88**	**327**	*e*P	**P**	**13 01 21.3**	**+0.6**
	comp=E,5.3nm,0.8s						
WUAZ	**Wupatki**	**70.11**	**324**	*e*P	**P**	**13 01 23.0**	**+0.9**
	comp=E,6.5nm,0.9s						
PV01	**Paradox Valley**	**70.63**	**328**	*e*P	**P**	**13 01 25.7**	**+0.4**
PV01				*e*pP	**pP**	**13 01 54.3**	**+2.6**
SMCO	**Snowmass**	**70.67**	**329**	*e*P	**P**	**13 01 25.7**	**0.0**
	comp=E,2.9nm,0.6s						
PV13	**Radium Mtn., P**	**70.77**	**327**	*e*P	**P**	**13 01 26.9**	**+0.8**
	comp=E,7.1nm,1.1s						
PV12	**Saucer Basin,**	**70.89**	**328**	*e*P	**P**	**13 01 27.6**	**+0.8**
	comp=E,3.0nm,1.0s						
PV22	**Blue Mesa, Par**	**71.05**	**328**	*e*P	**P**	**13 01 28.6**	**+0.8**
	comp=E,3.6nm,0.8s						
PV10	**Paradox Valley**	**71.05**	**327**	*e*P	**P**	**13 01 28.1**	**+0.2**
KNB	**Kanab**	**72.00**	**324**	*e*P	**P**	**13 01 34.8**	**+1.3**
	comp=E,9.6nm,1.0s						
KNB				*e*pP	**pP**	**13 02 03.3**	**+3.3**
O20A	**White River Ci**	**72.03**	**329**	*e*P	**P**	**13 01 34.3**	**+0.7**
	comp=E,11nm,0.9s						
SRU	**San Rafael Swe**	**72.36**	**327**	*e*P	**P**	**13 01 35.9**	**+0.3**
	comp=E,7.4nm,0.8s						
MTPU	**Mount Pierson**	**72.42**	**325**	*e*P	**P**	**13 01 37.0**	**+0.9**
	comp=E,1.4nm,0.6s						
P18A	**Preston Nutter**	**72.61**	**327**	*e*P	**P**	**13 01 38.1**	**+0.9**
	comp=E,8.2nm,0.8s						
CCUT	**Cedar City**	**72.69**	**324**	*e*P	**P**	**13 01 39.2**	**+1.6**
	comp=E,8.1nm,0.9s						
CCUT				*e*pP	**pP**	**13 02 07.7**	**+3.5**
P17A	**Butcher Ranch,**	**72.74**	**327**	*e*P	**P**	**13 01 38.2**	**+0.4**
	comp=E,9.9nm,0.9s						
MSU	**Marysvale**	**72.76**	**326**	*e*P	**P**	**13 01 38.4**	**+0.3**
MSU				*e*pP	**pP**	**13 02 07.5**	**+2.9**
RSSD	**Black Hills**	**73.38**	**334**	*e*P	**P**	**13 01 41.8**	**+0.2**
	comp=E,4.9nm,0.8s						
MPU	**Maple Canyon**	**73.60**	**327**	*e*P	**P**	**13 01 43.5**	**+0.5**
	comp=E,3.5nm,0.9s						
PSUT	**Pine Spring**	**73.67**	**325**	*e*P	**P**	**13 01 43.9**	**+0.5**
	comp=E,3.2nm,0.7s						
NLU	**North Lily Min**	**73.78**	**327**	*e*P	**P**	**13 01 45.2**	**+1.2**
	comp=E,2.9nm,1.0s						
DUG	**Dugway, Tooele**	**74.34**	**326**	*e*P	**P**	**13 01 47.9**	**+0.8**
	comp=E,5.0nm,1.0s						
DUG				*e*pP	**pP**	**13 02 16.5**	**+2.7**
R11A	**Troy Canyon, C**	**74.48**	**323**	*e*P	**P**	**13 01 48.8**	**+0.8**
	comp=E,1.0nm,1.1s						
BW06	**Boulder Array**	**74.69**	**330**	*e*P	**P**	**13 01 48.8**	**-0.4**
	comp=E,2.6nm,1.0s						
PD31	**Pinedale Array**	**74.69**	**330**	*e*P	**P**	**13 01 49.2**	**-0.1**
PDAR	**Pinedale Array**	**74.69**	**330**	P	**P**	**13 01 49.4**	**+0.1**
	comp=E,0.8nm,0.6s,baz=132,slow=7.2,SNR=12						
SPUT	**South Promonto**	**74.98**	**327**	*e*P	**P**	**13 01 51.6**	**+0.8**
	comp=E,4.9nm,0.8s						
BGU	**Big Grassy Mou**	**74.99**	**327**	*e*P	**P**	**13 01 51.5**	**+0.6**
	comp=E,4.6nm,1.2s						
AHID	**Auburn Hatcher**	**75.42**	**329**	*e*P	**P**	**13 01 51.9**	**-1.5**
	comp=E,11nm,0.8s						
HVU	**Hansel Valley**	**75.49**	**327**	*e*P	**P**	**13 01 54.4**	**+0.6**
	comp=E,3.8nm,0.9s						
REDW	**Red Top Meadow**	**75.76**	**330**	*e*P	**P**	**13 01 55.8**	**+0.5**
	comp=E,5.1nm,0.8s						
SNOW	**Snow King Moun**	**75.79**	**330**	*e*P	**P**	**13 01 56.0**	**+0.4**
	comp=E,6.9nm,0.8s						
LOHW	**Long Hollow**	**75.83**	**330**	*e*P	**P**	**13 01 56.2**	**+0.5**
	comp=E,4.6nm,0.7s						
ULM	**Lac du Bonnet**	**75.90**	**342**	P	**P**	**13 01 55.0**	**-0.6**
	comp=E,2.1nm,0.7s,baz=144,slow=4.4,SNR=4.0						
TPAW	**Teton Pass**	**75.90**	**330**	*e*P	**P**	**13 01 55.9**	**-0.3**
	comp=E,5.5nm,0.7s						
TPAW				*e*pP	**pP**	**13 02 25.4**	**+2.4**
SYO	**Syowa Base**	**75.92**	**159**	⇓*e*P	**P**	**13 01 55.2**	**-0.4**
MOOW	**Moose Ponds**	**76.00**	**330**	*e*P	**P**	**13 01 56.7**	**-0.1**
	comp=E,2.6nm,0.6s						
FXWY	**Fox Creek**	**76.05**	**330**	*e*P	**P**	**13 01 56.9**	**-0.1**
	comp=E,2.6nm,0.8s						
NVAR	**Mina Array Bea**	**76.07**	**322**	P	**P**	**13 01 58.3**	**+1.1**
	comp=E,1.2nm,0.9s,baz=153,slow=6.8,SNR=7.4						
FLWY	**Flagg Ranch**	**76.24**	**330**	*e*P	**P**	**13 01 58.2**	**+0.1**
	comp=E,11nm,0.8s						
KVN	**Kaiserville**	**76.38**	**322**	*e*P	**P**	**13 01 59.3**	**-0.4**
	comp=E,4.6nm,1.0s						
YMR	**Madison River**	**76.81**	**330**	*e*P	**P**	**13 02 02.5**	**+1.2**
	comp=E,7.4nm,0.9s						
YHH	**Holmes Hill**	**76.85**	**331**	*e*P	**P**	**13 02 02.7**	**+1.1**
	comp=E,10nm,1.1s						
YHH				*e*pP	**pP**	**13 02 31.5**	**+3.1**
YHB	**Horse Butte**	**76.98**	**330**	*e*P	**P**	**13 02 03.0**	**+0.8**
	comp=E,7.4nm,0.8s						
TOA0	**Torodi Ar. Sit**	**77.29**	**70**	*e*P	**P**	**13 02 03.2**	**-1.1**
TOA0				*e*pP	**pP**	**13 02 31.4**	**+0.3**
TOA0				*e*pP	**pP**	**13 02 31.6**	**+0.5**
TORD	**Torodi Ar. Bea**	**77.29**	**70**	P	**P**	**13 02 03.8**	**-0.5**
	comp=E,1.8nm,0.4s,baz=259,slow=5.7,SNR=18						
PAHR	**Pah Rah Range**	**77.55**	**322**	*e*P	**P**	**13 02 06.3**	**+0.9**
	comp=E,6.3nm,0.9s						
HLID	**Hailey**	**77.62**	**328**	*e*P	**P**	**13 02 06.7**	**+0.9**
	comp=E,7.7nm,0.8s						
HLID				*e*pP	**pP**	**13 02 35.5**	**+2.8**
MCMT	**McKenzie Canyo**	**77.81**	**329**	*e*P	**P**	**13 02 07.7**	**+0.8**
MCMT				*e*pP	**pP**	**13 02 36.2**	**+2.5**
MOD	**Modoc Plateau**	**79.55**	**323**	*e*P	**P**	**13 02 16.8**	**+0.5**
	comp=E,3.7nm,0.9s						
MOD				*e*pP	**pP**	**13 02 45.5**	**+2.2**
BMO	**Blue Mountains**	**80.00**	**327**	*e*P	**P**	**13 02 18.7**	**+0.1**
	comp=E,5.4nm,0.9s						
BMO				*e*pP	**pP**	**13 02 47.2**	**+1.5**
F10A	**Beach Ranch, E**	**80.75**	**328**	*e*P	**P**	**13 02 23.5**	**+0.8**
	comp=E,3.7nm,0.8s						
C09A	**Chrisman Ranch**	**82.55**	**329**	*e*P	**P**	**13 02 31.8**	**-0.1**
	comp=E,12nm,0.6s						
C09A				*e*pP	**pP**	**13 03 01.5**	**+2.5**
MAW	**Mawson**	**83.75**	**163**	P	**P**	**13 02 39.0**	**+1.1**
	comp=E,2.3nm,0.5s,baz=197,slow=8.8,SNR=11						
YKA	**Yellowknife Ar**	**91.77**	**340**	P	**P**	**13 03 16.2**	**0.0**
	comp=E,2.5nm,0.6s,baz=136,slow=4.1,SNR=21						
ASAR	**Alice Springs**	**129.56**	**207**	PKP	**PKPdf**	**13 09 18.4**	**+0.1**
	comp=E,1.6nm,0.9s,baz=132,slow=1.9,SNR=13						
WRA	**Warramunga Arr**	**132.63**	**210**	PKP	**PKPdf**	**13 09 24.7**	**+0.6**
	comp=E,1.0nm,0.6s,baz=154,slow=1.7,SNR=21						
FITZ	**Fitzroy Crossi**	**137.74**	**200**	PKP	**PKPdf**	**13 09 35.5**	**+1.9**
	comp=E,1.8nm,0.9s,baz=225,slow=8.6,SNR=3.4						
ZALV	**Zalesovo Beam**	**142.32**	**26**	PKP	**PKPdf**	**13 09 41.8**	**+1.0**
	comp=E,1.5nm,0.6s,baz=291,slow=2.3,SNR=8.4						
MKAR	**Makanchi Array**	**145.91**	**37**	PKPbc	**PKPbc**	**13 09 48.2**	**+0.1**
	comp=E,2.9nm,0.7s,baz=329,slow=2.5,SNR=22						
SIJI	**Sorong**	**150.08**	**223**	PKPbc	**PKPbc**	**13 10 01.1**	**+0.8**
	comp=E,12nm,0.7s,baz=18,slow=5.0,SNR=8.3						
USRK	**Ussuriysk Ar.**	**152.09**	**327**	PKPbc	**PKPbc**	**13 10 04.2**	**+0.2**
	comp=E,2.8nm,0.6s,baz=62,slow=3.6,SNR=8.1						
MJAR	**Matsushiro Arr**	**152.60**	**308**	PKPbc	**PKPbc**	**13 10 04.1**	**-1.3**
	comp=E,1.8nm,0.5s,baz=102,slow=0.7,SNR=6.8						
SONM	**Songino Array**	**153.95**	**8**	PKPbc	**PKPbc**	**13 10 08.2**	**+0.1**
	comp=E,0.8nm,0.4s,baz=241,slow=0.7,SNR=4.4						
LZH	**Lanzhou**	**164.54**	**23**	*e*PKP	**PKPdf**	**13 10 13.4**	**+0.7**
LZH				pPKP	pPKPdf	13 10 41.9	+0.3
LZH				sPKP		13 10 53.0	
LZH				PKP	**PKPab**	**13 11 11.5**	**+3.5**

*IDC **24** 13:32:27.8±2.4, 13°29N×92°30W, h0km, mb3.6/6, mb1 3.9/8, mb1mx3.7/35, mbtmp3.5/8, ML3.2/2, MS2.6/3, Ms1 2.6/3, ms1mx2.5/33, Error ellipse: s-maj=47.8km s-min=34.0km az=169.0*
*ISCJB **24** 13:32:35.6±2.0, 13°9N±0°1×92°5W±0°1, h35km±15km, mb3.7/7, MS2.8/1, Error ellipse: s-maj=18.6km s-min=15.4km az=33.4*
*MEX **24** 13:32:37.3±0.3, 13°83N×92°55W, h15km±123km, MD4.0*
*NEIC **24** 13:32:49.8±3.1, 14°91N×92°78W, h35km, mb4.1/1, MD4.0(MEX), Error ellipse: s-maj=51.0km s-min=16.5km az=210.0*
ISC 24 13:32:37.7±3.0, 13°9N±0°2×92°58W±0°09, h44km±23km, n18, σ2°24/23, mb3.8/7, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.07**	**17**	*e*P	**Pn**	**13 33 00.6**	**+4.2**
THIG		**1.07**	**17**	*i*P	**Pn**	**13 32 54.2**	**-2.1**
THIG				*i*S	**Sn**	**13 33 07.8**	**-2.2**
PCIG			**1.92**	**341**	*e*P	**Pn**	**13 33 07.0**	**-1.0**
PCIG			**1.92**	**341**	*e*P	**Pn**	**13 33 07.0**	**-1.0**
PCIG				*i*S	**Sn**	**13 33 29.9**	**-1.0**
APG	**El Apazote**	**2.34**	**61**	Pn	**Pn**	**13 33 11.3**	**-2.7**
	2.1nm,0.3s,baz=208,slow=7.4,SNR=20						
APG				Sn	**Sn**	**13 33 45.4**	**+3.8**
	8.0nm,0.3s,baz=291,slow=21,SNR=12						
APG				LR	LR	13 33 51.0	
	comp=Z,77nm,19.0s,baz=238,slow=34						
CCIG	**Comitan**	**2.43**	**10**	*e*P	**Pn**	**13 33 14.2**	**-0.9**
CCIG				*e*S	**Sn**	**13 33 41.1**	**-2.7**
CCIG	**Comitan**	**2.43**	**10**	*e*P	**Pn**	**13 33 14.2**	**-0.9**
CCIG				*e*S	**Sn**	**13 33 43.6**	**-0.2**
CMIG	**Matias Romero**	**3.89**	**326**	Pn	**Pn**	**13 33 34.2**	**-0.9**
	1.4nm,0.3s,baz=146,slow=12,SNR=6.9						
CMIG				LR	LR	13 34 57.7	
	comp=Z,40nm,20.2s,baz=106,slow=33						
TXAR	**Lajitas Array**	**18.50**	**328**	P	**Pn**	**13 36 54.2**	**+3.3**
	0.0nm,0.3s,baz=148,slow=13,SNR=3.8						
AMTX	**Amarillo**	**22.48**	**340**	P	**P**	**13 37 33.8**	**+0.4**
	5.8nm,0.6s						
TKL	**Tuckaleechee C**	**23.09**	**19**	P	**P**	**13 37 38.8**	**-1.0**
	3.9nm,0.7s,baz=186,slow=7.9,SNR=4.7						
TKL				LR	LR	13 47 26.5	
	comp=Z,36nm,19.0s,baz=28,slow=38						
ANMO	**Albuquerque**	**24.44**	**332**	P	**P**	**13 37 54.8**	**+2.2**
	0.4nm,0.4s,baz=92,slow=8.5,SNR=2.8						
PDAR	**Pinedale Array**	**32.30**	**336**	P	**P**	**13 39 03.5**	**+0.7**
	0.1nm,0.4s,baz=134,slow=6.4,SNR=3.3						
NVAR	**Mina Array Bea**	**33.42**	**322**	P	**P**	**13 39 14.8**	**+2.2**
	0.9nm,0.7s,baz=138,slow=7.9,SNR=7.4						
YKA	**Yellowknife Ar**	**51.02**	**347**	P	**P**	**13 41 35.0**	**0.0**
	0.7nm,0.6s,baz=150,slow=7.5,SNR=4.8						
ILAR	**Eielson Array**	**62.73**	**337**	P	**P**	**13 42 58.1**	**0.0**
	0.7nm,1.0s,baz=161,slow=4.5,SNR=5.3						
WRA	**Warramunga Arr**	**134.81**	**256**	PKP	**PKPdf**	**13 51 49.5**	**-3.2**
	0.2nm,0.7s,baz=88,slow=1.7,SNR=4.0						
CMAR	**Chiang Mai Arr**	**145.92**	**340**	PKPbc	**PKPdf**	**13 52 11.5**	**-1.3**
	0.7nm,0.5s,baz=341,slow=3.0,SNR=7.1						

*NIED **24** 14:00:00, 30°10N×131°30E, h23km, Mw3.9 Best double couple: M0=6.86000×10^14 NP1:φs=219.00000°, δ30.00000°, λ101.00000°. NP2:φs=26.00000°, δ61.00000°, λ84.00000°.*
*ISCJB **24** 14:00:02.2±1.0, 30°10N±0°03×131°34E±0°07, h30km±5km, mb3.8/7, Error ellipse: s-maj=9.9km s-min=4.0km az=17.0*
*JMA **24** 14:00:02.7±0.2, 30°10N×131°30E, h25km±1km, M3.6*
*IDC **24** 14:00:18.7±32.0, 31°25N×130°96E, h105km±139km, mb3.5/7, mb1 3.6/7, mb1mx3.2/44, mbtmp3.9/7, Error ellipse: s-maj=420.2km s-min=59.0km az=169.0*
ISC 24 14:00:05.0±1.2, 30°17N±0°04×131°20E±0°08, h36km±2km, n26, σ1°06/40, mb3.9/7, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMTN	**Minamitane**	**0.34**	**312**	P	**Pn**	**14 00 12.0**	**-1.5**
JMTN				*e*S	**Sn**	**14 00 18.8**	**-1.1**
JTN	**Tanegashima 3**	**0.52**	**339**	P	**Pn**	**14 00 14.9**	**-1.1**
JTN				*e*S	**Sn**	**14 00 23.3**	**-0.3**
JYAK	**Yakushimahirau**	**0.60**	**277**	P	**Pn**	**14 00 16.1**	**-1.1**
JYAK				*e*S	**Sn**	**14 00 25.1**	**-0.5**
JKC	**Kuchinoerabu**	**0.92**	**289**	P	Pn	14 00 21.6	+0.2
JKC				*e*S	**Sn**	**14 00 35.4**	**+2.1**
JTSR	**Tashiro 2**	**1.02**	**347**	P	**Pn**	**14 00 22.5**	**-0.4**
JTSR				*e*S	**Sn**	**14 00 36.1**	**+0.1**
JNN	**Nakanoshima**	**1.19**	**255**	P	**Pn**	**14 00 25.5**	**+0.3**
JNN				*e*S	**Sn**	**14 00 42.0**	**+1.8**
JNAR	**Kushima--Naru**	**1.36**	**3**	P	**Pn**	**14 00 27.5**	**+0.1**
JNAR				*e*S	**Sn**	**14 00 46.7**	**+2.5**
JSU	**Suzuyama**	**1.48**	**335**	P	**Pn**	**14 00 29.1**	**-0.1**
JSU				*e*S	**Sn**	**14 00 48.9**	**+1.6**
JTAJ	**Takarajima**	**2.01**	**240**	P	**Pn**	**14 00 36.2**	**-0.2**
JZK	**Kikaishima**	**2.13**	**210**	P	**Pn**	**14 00 39.9**	**+1.8**
JZK				*e*S	**Sn**	**14 01 05.0**	**+1.6**
JAM	**Amami Oshima**	**2.23**	**219**	P	**Pn**	**14 00 39.1**	**-0.4**
JAM				*e*S	**Sn**	**14 01 05.7**	**-0.2**
JAMN	**Amaminishikomi**	**2.61**	**223**	P	**Pn**	**14 00 44.6**	**0.0**
JAMN				*e*S	**Sn**	**14 01 15.7**	**+0.6**
JNU	**Nakatsue**	**2.96**	**355**	P	**Pn**	**14 00 49.7**	**+0.2**
	3.0nm,0.3s,baz=4.4,slow=1.3,SNR=16						
JTK	**Tokunoshima**	**3.08**	**220**	P	**Pn**

BRDA	**Brd**	**1.92**	**14**	⇑P		**Pb**	**14 03 50.3**	**-0.7**
BRDA				⇓S		**Sg**	**14 04 18.0**	**+1.0**
ZRD	**Zardab**	**2.06**	**24**	⇓P		**Pb**	**14 03 53.7**	**+0.2**
	SNR=4.5							
ZRD				⇑S		**Sg**	**14 04 22.8**	**+1.1**
GANJ	**Ganja**	**2.25**	**355**	P		**Pb**	**14 03 55.2**	**-1.4**
	SNR=31							
GANJ				⇑S		**Sb**	**14 04 23.4**	**-1.5**
GDB	**GEDABAY**	**2.40**	**345**	⇓P		**Pb**	**14 03 57.7**	**-1.6**
	SNR=27							
GDB				⇓S		**Sb**	**14 04 30.2**	**+0.8**
ZNJK	**Zanjan**	**2.41**	**135**	*e*Pn		**Pb**	**14 03 58.8**	**-0.8**
ALIB	**Äli-Bayra**	**2.45**	**50**	⇓P		**Pb**	**14 03 57.8**	**-2.3**
IML	**Ismayilli**	**2.69**	**27**	⇑P		**Pb**	**14 04 01.6**	**-2.7**
IML				⇑S		**Sb**	**14 04 35.8**	**-1.9**
QZX	**Qazax, Azerbai**	**2.81**	**341**	⇑Pg		**Pb**	**14 04 04.6**	**-1.6**
QZX				⇓Sg		**Sb**	**14 04 42.8**	**+1.8**
GBS	**Qobustan**	**2.81**	**40**	⇑P		**Pn**	**14 04 02.5**	**+1.2**
GBS				⇓S		**Sb**	**14 04 40.0**	**-1.1**
SEKA	**Sheki**	**2.84**	**10**	⇑P		**Pn**	**14 04 03.6**	**+1.9**
SEKA				⇓S		**Sb**	**14 04 40.0**	**-2.0**
PQL	**Pirkuli**	**2.85**	**33**	⇑P		**Pb**	**14 04 04.1**	**-2.9**
PQL				⇓S		**Sb**	**14 04 40.8**	**-1.5**
XNQ	**Khinaliq**	**3.02**	**23**	⇑P		**Pn**	**14 04 05.5**	**+1.2**
XNQ				⇑S		**Sn**	**14 04 42.8**	**+1.8**
DDFL	**Dedoflistskaro**	**3.06**	**354**	P		**Pb**	**14 04 09.8**	**-0.7**
DDFL				S		**Sb**	**14 04 50.5**	**+2.3**
SIZA	**Siyzn**	**3.22**	**33**	⇓P		**Pn**	**14 04 08.5**	**+1.6**
LGD	**Lagodekhi**	**3.44**	**356**	P		**Pb**	**14 04 16.6**	**-0.4**
LGD				S		**Sb**	**14 04 56.0**	**-3.0**
IGZV	**Ghazvin**	**3.54**	**124**	IAMB	IAmb		14 05 15.8	
	comp=N,1μm,0.3s							
IGZV				IAMB	IAmb		14 05 15.8	
	comp=Z,488nm,0.3s							
IGZV				IAMB	IAmb		14 05 23.6	
	comp=E,886nm,0.4s							
HKZM	**Kohzaman**	**3.55**	**148**	*e*Pn		**Pb**	**14 04 15.6**	**-3.5**
QABG	**Abgarm-Qazvin**	**3.61**	**137**	*e*Pn		**Pn**	**14 04 15.4**	**+2.9**
TRLG	**Trialeti**	**3.66**	**330**	P		**Pn**	**14 04 14.9**	**+1.9**
QALM	**Alamut, Qazvin**	**3.80**	**120**	*e*Pn		**Pb**	**14 04 18.8**	**-4.4**
IVIS	**Veis**	**3.88**	**177**	IAMB	IAmb		14 05 33.9	
	comp=Z,271nm,1.0s							
IVIS				IAMB	IAmb		14 05 34.1	
	comp=E,275nm,0.8s							
IVIS				IAMB	IAmb		14 05 35.9	
	comp=N,316nm,0.9s							

*ISCJB **24** 14:15:34.0±0.5, 37.°18N±0.°03×37.°25E±0.°04, h0km, Error ellipse: s-maj=5.0km s-min=4.2km az=5.4*
*ISK **24** 14:15:33.7, 37.°18N×37.°19E, h9km, ML1.8/4, Suspected Mining explosion.*
*DDA **24** 14:15:33.7, 37.°15N×37.°23E, h7km, Md2.5*

ISC 24 14:15:33.9±0.9, 37.°22N±0.°03×37.°23E±0.°03, h0km, n11, σ0§82/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.04**	**194**	PG	**Pg**	**14 15 35.0**	**+0.2**
GAZ				SG	**Sg**	**14 15 37.3**	**+2.0**
KMRS	**Kahramanmaras**	**1.11**	**356**	*i* PG	**Pb**	**14 15 42.9**	**-0.9**
KMRS				SG	**Sg**	**14 15 47.8**	**+1.4**
KUZU	**Kuzuini**	**0.46**	**195**	*i* P	**Pg**	**14 15 41.5**	**-1.2**
ANDN	**Andirin**	**0.79**	**298**	*i* P	**Pb**	**14 15 50.2**	**-0.4**
ANDN				*i* S	**Sb**	**14 16 01.6**	**-0.3**
ATAB	**Bozova**	**0.89**	**73**	*i* P	**Pb**	**14 15 52.3**	**0.0**
ATAB				*i* S	**Sn**	**14 16 07.3**	**-0.1**
ELBS	**KAHRAMANMARAS**			*i* P	**Pg**	**14 15 55.1**	**-0.1**
ELBS				*i* S	**Sn**	**14 16 12.8**	**-0.1**
SURC	**SANLIURFA_SURC**	**1.16**	**106**	*i* P	**Pg**	**14 15 55.0**	**-1.2**
SURC				*i* S	**Sb**	**14 16 12.6**	**+0.1**
TAHT	**Tahtakopru-Hat**	**1.18**	**225**	PN	**Pg**	**14 15 56.1**	**-0.5**
AKCD	**Akcadag**	**1.21**	**27**	*i* P	**Pb**	**14 15 57.7**	**-0.1**
AKCD				*i* S	**Sb**	**14 16 14.2**	**+0.1**
URFA	**Urfa**	**1.29**	**79**	PN	**Pg**	**14 15 58.4**	**-0.3**
DARE	**Darende-Malaty**	**1.37**	**9**	PN	**Pb**	**14 16 00.6**	**+0.1**

*MOS **24** 14:17:32.7±0.0, 43.°39N×44.°21E, h59km±1km, MPVA3.2*
*NORS **24** 14:17:33.7±0.0, 43.°37N×44.°22E, h61km±1km, MPVA3.8*
*ISCJB **24** 14:17:34.1±0.4, 43.°40N±0.°03×44.°20E±0.°04, h59km±3km, mb3.1/1, Error ellipse: s-maj=5.4km s-min=4.4km az=146.6*

ISC 24 14:17:35.3±0.8, 43.°40N±0.°03×44.°21E±0.°03, h56km±5km, n43, σ1§17/78, 7C-4D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STDR	**Stavd-Durt**	**0.11**	**257**	*e*P	**Pn**	**14 17 43.6**	**-0.3**
STDR				*e*S	**Sn**	**14 17 50.5**	**+0.5**
STDR	**Stavd-Durt**	**0.11**	**257**	*e*Pg	**Pn**	**14 17 43.4**	**-0.5**
STDR				*e*Sg	**Sn**	**14 17 50.1**	**+0.1**
ARNR	**Ardon**	**0.22**	**166**	*e*Pg	**Pn**	**14 17 43.7**	**-0.7**
ARNR				*e*Sg	**Sn**	**14 17 50.2**	**-0.8**
LSNR	**Lesken**	**0.30**	**248**	*i* P	**Pn**	**14 17 44.5**	**-0.6**
LSNR				*e*S	**Sn**	**14 17 51.7**	**-0.4**
LSNR				pmax	pmax		
	comp=Z,39nm,0.2s						
LSNR				smax	smax		
	comp=N,329nm,0.1s						
LSNR	**Lesken**	**0.30**	**248**	*i* Pg	**Pn**	**14 17 44.3**	**-0.8**
LSNR				*i* Sg	**Sn**	**14 17 52.0**	**-0.1**
KORR	**Kora**	**0.33**	**199**	*i* P	**Pn**	**14 17 44.2**	**-1.1**
KORR				*e*S	**Sn**	**14 17 52.1**	**-0.3**
KORR				pmax	pmax		
	comp=Z,54nm,0.3s						
KORR				smax	smax		
	comp=E,108nm,0.4s						
KORR	**Kora**	**0.33**	**199**	*i* Pg	**Pn**	**14 17 44.1**	**-1.1**
KORR				*i* Sg	**Sn**	**14 17 52.2**	**-0.3**
PRTR	**Priterechnaya**	**0.36**	**8**	*i* P	**Pn**	**14 17 44.4**	**-1.2**
PRTR				*e*S	**Sn**	**14 17 52.9**	**0.0**
PRTR				pmax	pmax		
	comp=Z,108nm,0.2s						
PRTR				smax	smax		
	comp=N,605nm,0.2s						
PRTR	**Priterechnaya**	**0.36**	**8**	*e*Pg	**Pn**	**14 17 44.3**	**-1.2**
PRTR				*e*Sg	**Sn**	**14 17 52.7**	**-0.2**
NCK	**Nalchik**	**0.46**	**283**	⇑*i*P	**Pn**	**14 17 46.1**	**-0.5**
NCK				*i* S	**Sn**	**14 17 54.2**	**-0.5**
NCK	**Nalchik**	**0.46**	**283**	*e*Pg	**Pn**	**14 17 46.4**	**-0.1**
NCK				*i* Sg	**Sn**	**14 17 54.7**	**0.0**
VLKR	**Vladikavkaz**	**0.49**	**136**	*e*P	**Pn**	**14 17 46.0**	**-0.9**
VLKR				*e*S	**Sn**	**14 17 55.5**	**+0.3**
VLKR	**Vladikavkaz**	**0.49**	**136**	*e*Pg	**Pn**	**14 17 48.3**	**+1.4**
VLKR				*e*Sg	**Sn**	**14 17 55.2**	**0.0**
TRKR	**Terskaya**	**0.50**	**49**	*i* P	**Pn**	**14 17 45.7**	**-1.2**
TRKR				*e*S	**Sn**	**14 17 55.1**	**-0.3**
TRKR				pmax	pmax		
	comp=Z,330nm,0.1s						
TRKR				smax	smax		
	comp=N,464nm,0.2s						
TRKR	**Terskaya**	**0.50**	**49**	*i* Pg	**Pn**	**14 17 45.8**	**-1.2**
TRKR				*e*Sg	**Sn**	**14 17 55.1**	**-0.3**
LACR	**Lac**	**0.57**	**174**	*i* P	**Pn**	**14 17 46.7**	**-1.2**
LACR				*e*S	**Sn**	**14 17 55.6**	**-1.4**
LACR				pmax	pmax		
	comp=Z,104nm,0.2s						
LACR				smax	smax		
	comp=N,630nm,0.4s						
LACR	**Lac**	**0.57**	**174**	*i* Pg	**Pn**	**14 17 46.6**	**-1.3**
LACR				*e*Sg	**Sn**	**14 17 55.7**	**-1.3**
KMGR	**Komgaron**	**0.58**	**125**	*e*P	**Pn**	**14 17 46.9**	**-1.1**
KMGR				*e*S	**Sn**	**14 17 54.8**	**-2.4**
KMGR	**Komgaron**	**0.58**	**125**	*i* Pg	**Pn**	**14 17 47.1**	**-0.8**
KMGR				*e*Sg	**Sn**	**14 17 53.2**	**-4.0**
ZEI	**Tsey**	**0.65**	**201**	*i* P	**Pn**	**14 17 47.4**	**-1.5**
ZEI				*e*S	**Sn**	**14 17 57.3**	**-1.5**
ZEI				pmax	pmax		
	comp=Z,201nm,0.1s						
ZEI				smax	smax		
	comp=N,232nm,0.2s						
ZEI	**Tsey**	**0.65**	**201**	*i* Pg	**Pn**	**14 17 47.2**	**-1.7**
ZEI				*i* Sg	**Sn**	**14 17 57.0**	**-1.7**
DIGR	**Digorskoe uzhe**	**0.68**	**223**	*i* P	**Pn**	**14 17 47.9**	**-1.4**
DIGR				*e*S	**Sn**	**14 17 57.5**	**-1.8**
DIGR				pmax	pmax		
	comp=Z,158nm,0.1s						
DIGR				smax	smax		
	comp=N,92nm,0.1s						
DIGR	**Digorskoe uzhe**	**0.68**	**223**	*e*Pg	**Pn**	**14 17 47.9**	**-1.4**
DIGR				*e*Sg	**Sn**	**14 17 57.6**	**-1.8**
KBTC	**Kuba-Taba**	**0.72**	**306**	⇓*i*P	**Pn**	**14 17 48.8**	**-0.8**
KBTC				*e*S	**Sn**	**14 17 59.5**	**-0.6**
KBTC	**Kuba-Taba**	**0.72**	**306**	*e*Pg	**Pn**	**14 17 48.5**	**-1.1**
KBTC				*e*Sg	**Sn**	**14 17 59.6**	**-0.5**
GUDG	**Gudauri**	**0.95**	**168**	P	**Pn**	**14 17 52.0**	**-0.8**
GUDG				S	**Sn**	**14 18 04.0**	**-1.5**
ONI	**Oni**	**0.98**	**215**	P	**Pn**	**14 17 52.6**	**-0.4**
ONI				S	**Sn**	**14 18 06.9**	**+0.9**
ONI	**Oni**	**0.98**	**215**	*e*P	**Pn**	**14 17 52.6**	**-0.4**
ONI				*e*S	**Sn**	**14 18 06.9**	**+0.9**
ONI	**Oni**	**0.98**	**215**	*e*Pg	**Pn**	**14 17 52.6**	**-0.4**
ONI				*e*Sg	**Sn**	**14 18 06.9**	**+0.9**
PYA1	**Pyatigorsk**	**1.05**	**310**	⇑*i*P	**Pn**	**14 17 52.7**	**-1.2**
PYA1				*e*S	**Sn**	**14 18 06.1**	**-1.5**
PYA1	**Pyatigorsk**	**1.05**	**310**	*e*Pg	**Pn**	**14 17 52.4**	**-1.5**
PYA1				*e*Sg	**Sn**	**14 18 05.9**	**-1.7**
NEY	**Neytrino**	**1.10**	**263**	⇑*e*P	**Pn**	**14 17 53.3**	**-1.4**
NEY				*e*S	**Sn**	**14 18 07.8**	**-1.2**
NEY				pmax	pmax		
	comp=Z,7.0nm,1.0s						
NEY				smax	smax		
	comp=N,112nm,0.4s						
NEY	**Neytrino**	**1.10**	**263**	*e*Pg	**Pn**	**14 17 54.0**	**-0.6**
NEY				*e*Sg	**Sn**	**14 18 07.9**	**-1.1**
KIV	**Kislovodsk**	**1.24**	**297**	⇓*i*P	**Pn**	**14 17 55.3**	**-1.2**
KIV				*i* S	**Sn**	**14 18 10.8**	**-1.5**
KIV	**Kislovodsk**	**1.24**	**297**	*e*Pg	**Pn**	**14 17 54.9**	**-1.6**
KIV				*e*Sg	**Sn**	**14 18 11.1**	**-1.2**
TRLG	**Trialeti**	**1.86**	**183**	P	**Pn**	**14 18 04.0**	**-0.9**
GNI	**Garni**	**3.27**	**173**	⇑*e*P	**Pn**	**14 18 23.9**	**-0.3**
KIEV	**Kiev**	**12.56**	**311**	⇑*e*P	**Pn**	**14 20 31.7**	**+0.7**
ARU	**Arti**	**15.94**	**30**	⇑*e*P	**Pn**	**14 21 15.4**	**-0.4**
ARU				pmax	pmax		
	comp=Z,3.0nm,1.4s						
VSU	**Vasula**	**18.59**	**330**	⇑*e*P	**P**	**14 21 47.5**	**-0.1**
AAK	**Ala-Archa**	**22.10**	**81**	⇓*e*P	**P**	**14 22 26.7**	**+0.7**
AAK				pmax	pmax		
	comp=Z,1.0nm,1.2s						
HVS	**Khovu-Aksy**	**33.91**	**59**	⇓*e*P	**P**	**14 24 13.4**	**+0.6**
SHEL	**Horse Pasture**	**74.69**	**230**	*i* P	**P**	**14 29 10.5**	**+1.4**

IDC 24 14:40:25.1±6.9, 3.°14N×127.°05E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/49, mbtmpg3.4/3, Error ellipse: s-maj=159.0km s-min=109.9km az=76.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.03**	**163**	P	P	14 45 41.4	-0.6
	0.2nm,0.5s,baz=343,slow=10,SNR=7.9						
ASAR	**Alice Springs**	**27.46**	**166**	P	P	14 46 13.2	0.0
	0.6nm,1.1s,baz=352,slow=8.7,SNR=3.1						
STKA	**Stephens Creek**	**37.47**	**159**	P	P	14 47 40.9	+0.4
	1.1nm,0.6s,baz=342,slow=8.9,SNR=4.9						

*ISCJB **24** 14:47:30.5±1.4, 3.°7N±0.°2×128.°9E±0.°2, h33km, mb3.5/5, MS2.7/1, Error ellipse: s-maj=41.7km s-min=10.3km az=143.3*
*IDC **24** 14:47:33.2±4.9, 3.°65N×128.°85E, h40km±50km, mb3.1/4, mb1 3.3/5, mb1mx3.1/55, mbtmp3.3/5, ML3.1/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/26, Error ellipse: s-maj=49.4km s-min=22.1km az=56.0*

ISC 24 14:47:33.2±1.5, 3.°6N±0.°2×128.°7E±0.°3, h35km, n7, σ0§63/7, mb3.4/5, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.12**	**150**	P	**Pn**	**14 48 48.2**	**+0.7**
	0.8nm,0.3s,baz=332,slow=23,SNR=2.0						
SIJI				S	**Sn**	**14 49 44.7**	**-0.7**
	1.1nm,0.3s,baz=344,slow=23,SNR=7.5						
LEM	**Lembang**	**23.48**	**244**	P	**P**	**14 52 40.2**	**+0.1**
	8.1nm,0.3s,baz=292,slow=22,SNR=3.5						
WRA	**Warramunga Arr**	**24.04**	**167**	P	**P**	**14 52 45.5**	**+0.2**
	0.6nm,0.6s,baz=347,slow=10,SNR=12						
ASAR	**Alice Springs**	**27.57**	**170**	P	**P**	**14 53 16.6**	**-0.7**
	0.2nm,0.8s,baz=358,slow=8.2,SNR=5.8						
CMAR	**Chiang Mai Arr**	**32.66**	**299**	P	**P**	**14 54 02.4**	**+0.1**
	0.4nm,0.8s,baz=103,slow=7.6,SNR=3.8						
ASAJ	**Asahikawa**	**42.17**	**15**	LR	LR	15 11 06.2	
	comp=Z,11nm,21.5s,baz=142,slow=34						
MKAR	**Makanchi Array**	**58.80**	**324**	P	**P**	**14 57 27.9**	**-0.3**
	0.2nm,0.4s,baz=110,slow=9.0,SNR=5.5						

*ISCJB **24** 14:58:49.8±0.9, 35.°14S±0.°07×71.°2W±0.°2, h137km±10km, Error ellipse: s-maj=22.7km s-min=7.0km az=23.5*
*GUC **24** 14:58:52.7±0.4, 35.°12S×71.°22W, h118km±3km, ML3.5*
*SJA **24** 14:59:09.5±0.4, 33.°67S×70.°35W, h33km, ML2.7, MW2.6*

ISC 24 14:58:50.4±2.0, 35.°11S±0.°07×71.°2W±0.°1, h137km±17km, n18, σ1§32/25, 1C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**HualaæØ**	**0.58**	**279**	⇑*i*P	**Pn**	**14 59 11.0**	**+0.2**
GO05				*e*S	**Sn**	**14 59 24.5**	**-1.7**
LMEL	**Las Melosas**	**1.52**	**34**	⇓*i*P	**Pn**	**14 59 20.1**	**+0.8**
LMEL				*e*S	**Sn**	**14 59 41.4**	**-0.1**
LMEL				IAML		14 59 44.3	
	comp=N,788nm,0.2s						
CCHI	**Chillan**	**1.65**	**204**	*e*P	**Pn**	**14 59 21.3**	**+0.7**
CCHI				*e*S	**Sn**	**14 59 43.1**	**-0.6**
CCHI				IAML		14 59 44.4	
	comp=E,512nm,0.6s						
CLCH	**Cerro Calan**	**1.80**	**19**	*e*P	**Pn**	**14 59 23.8**	**+1.2**
CLCH				*e*S	**Sn**	**14 59 47.3**	**+0.3**
CLCH				IAML		14 59 52.0	
	comp=E,613nm,0.8s						
FCH	**Farellones**	**1.94**	**24**	⇓*i*P	**Pn**	**14 59 25.4**	**+1.0**
FCH				*e*S	**Sn**	**14 59 50.6**	**+0.3**
FCH				IAML		14 59 54.7	
	comp=N,309nm,0.5s						
PEL	**Peldehue**	**2.01**	**13**	*e*P	**Pn**	**14 59 22.0**	**-3.0**
PEL	**Peldehue**	**2.01**	**13**	*e*Pn	**Pn**	**14 59 26.2**	**+1.3**
PEL				*e*S	**Sn**	**14 59 51.4**	**0.0**
PEL				IAML		14 59 57.4	
	comp=E,267nm,0.3s						
ROC1	**El Roble**	**2.13**	**5**	*e*P	**Pn**	**14 59 27.5**	**+0.9**
ROCH	**El Roble**	**2.14**	**5**	*e*P	**Pn**	**14 59 28.3**	**+1.6**
ROCH				*e*S	**Sn**	**14 59 55.0**	**+0.6**
ROCH				IAML		14 59 57.4	
ASAL	**Salagasta**	**3.20**	**39**	*e*P	**Pn**	**14 59 38.6**	**-1.5**
AUSP	**Uspallata**	**3.26**	**29**	*e*P	**Pn**	**14 59 38.7**	**-2.3**
RTLS	**Leoncito**	**3.67**	**27**	*e*P	**Pn**	**14 59 44.9**	**-1.5**
RTLS				IAML		14 59 50.2	
	comp=Z,58nm,0.2s						
RTCV	**Cerro Valdivia**	**3.94**	**36**	*e*P	**Pn**	**14 59 48.4**	**-1.3**
RTCV				IAML		14 59 51.3	
ACAN	**Cantantal**	**4.40**	**51**	*e*P	**Pn**	**14 59 57.4**	**+1.8**
AMOG	**MOGNA**	**4.75**	**30**	*e*P	**Pn**	**14 59 59.8**	**-0.6**
ACCO	**Cerro Coronel**	**4.86**	**23**	*e*P	**Pn**	**15 00 02.1**	**0.0**
AROD	**Rodeo**	**5.14**	**17**	*e*P	**Pn**	**15 00 06.4**	**+0.6**
AGUA	**GUANDACOL**	**6.06**	**23**	*e*P	**Pn**	**15 00 18.3**	**+0.3**

*ISCJB **24** 15:05:26.2±0.7, 11.°83N±0.°05×125.°37E±0.°08, h59km±5km, mb3.7/6, Error ellipse: s-maj=13.2km s-min=8.2km az=165.9*
*MAN **24** 15:05:27.4, 11.°85N×125.°31E, h31km, mb4.5, ML3.4, MS3.3*
*IDC **24** 15:05:29.3±13.0, 11.°76N×125.°38E, h72km±116km, mb3.4/6, mb1 3.5/6, mb1mx3.1/48, mbtmp3.7/6, Error ellipse: s-maj=191.0km s-min=18.2km az=65.0*

ISC 24 15:05:27.1±1.0, 11.°86N±0.°04×125.°38E±0.°09, h49km±8km, n18, σ1§98/23, mb3.9/6, 2C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.26**	**167**	*e*P	**Pn**	**15 05 35.9**	**+0.1**
BESP				*e*S	**Sn**	**15 05 42.4**	**+0.4**
PLP	**Palo**	**0.79**	**210**	⇑*e*P	**Pn**	**15 05 41.6**	**-0.5**
PLP				*i* S	**Sn**	**15 05 51.3**	**-1.6**
CNP	**Catarman**	**0.96**	**313**	*e*P	**Pn**	**15 05 43.9**	**-0.3**
CNP				*e*S	**Sn**	**15 05 56.7**	**-0.1**
OCLP	**Ormoc**	**1.10**	**223**	*e*P	**Pn**	**15 05 46.4**	**+0.2**
OCLP				*e*S	**Sn**	**15 05 59.3**	**-1.0**
MSLP	**Maasin**	**1.79**	**197**	*e*P	**Pn**	**15 05 57.4**	**+1.8**
MSLP				*e*S	**Sn**	**15 06 22.2**	**+5.1**
PVCP	**Virac**	**2.10**	**326**	*e*P	**Pn**	**15 05 59.9**	**0.0**
PVCP				*e*S	**Sn**	**15 06 30.1**	**+5.2**
RCP	**Roxas**	**2.60**	**264**	⇑*e*P	**Pn**	**15 06 07.0**	**+0.3**
GUIM	**Jordan**	**3.00**	**246**	*e*P	**Pn**	**15 06 12.2**	**0.0**
CGP	**Cagayan de Oro**	**3.44**	**191**	*e*P	**Sn**	**15 07 00.8**	**+2.9**
WRA	**Warramunga Arr**	**32.81**	**164**	P	**P**	**15 11 54.7**	**-1.3**
	0.2nm,0.7s,baz=345,slow=9.5,SNR=2.6						
WRA				PcP	**PcP**	**15 14 39.3**	**-1.1**
	0.4nm,1.1s,baz=344,slow=3.0,SNR=3.0						
ASAR	**Alice Springs**	**36.27**	**167**	P	**P**	**15 12 25.2**	**-0.8**
	0.2nm,0.5s,baz=346,slow=6.9,SNR=11						
ASAR				PcP	**PcP**	**15 14 49.0**	**-1.4**
	0.2nm,0.4s,baz=340,slow=3.0,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	**40.62**	**74**	T	T	15 56 26.3	
	baz=265,slow=75,SNR=9.9						
H11N2	**WAKE ISLAND Hy**	**40.63**	**74**	T	T	15 56 23.9	
	baz=265,slow=75,SNR=5.9						
H11N3	**WAKE ISLAND Hy**	**40.63**	**74**	T	T	15 56 27.6	
	baz=265,slow=75,SNR=8.4						
MKAR	**Makanchi Array**	**50.24**	**322**	P	**P**	**15 14 18.8**	**+0.4**
	0.7nm,0.8s,baz=111,slow=7.9,SNR=3.3						
KURBB	**Kurchatov Arra**	**54.28**	**325**	P	**P**	**15 14 48.4**	**+0.2**
	1.1nm,0.7s,baz=126,slow=7.3,SNR=6.9						
ARCES	**ARCESS Array B**	**82.41**	**340**	P	**P**	**15 17 43.8**	**0.0**
	2.2nm,0.8s,baz=79,slow=6.3,SNR=6.0						
FINES	**FINESS Array B**	**84.09**	**332**	P	**P**	**15 17 52.0**	**-0.6**
	1.4nm,0.9s,baz=100,slow=16,SNR=1.4						

*ANF **24** 15:44:33.2±1.1, 36.°47N×121.°47W, h5km, ML3.5/18, Error ellipse: s-maj=11.0km s-min=6.3km az=118.0*
*ISCJB **24** 15:44:34.8±0.3, 36.°57N±0.°02×121.°28W±0.°04, h9km±3km, Error ellipse: s-maj=5.1km s-min=2.6km az=158.9*
*NEIC **24** 15:44:35.3±0.0, 36.°62N×121.°22W, h6km, MW3.3(BRK), After NCEDC.*
NEIC Felt [II] at Paicines. Also felt at Atascadero, Greenfield and Soledad.
*NCEDC **24** 15:44:35.3, 36.°62N×121.°22W, h6km, MW3.3(BRK)*

ISC 24 15:44:34.6±1.1, 36.°60N±0.°02×121.°25W±0.°02, h6km±9km, n78, σ1§19/94, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSRM	**Salinas Radio**	**0.23**	**288**	*e*Pg	**Pg**	**15 44 40.2**	**+1.1**
SAO	**San Andreas Ge**	**0.23**	**317**	*e*Pg	**Pg**	**15 44 40.0**	**+0.8**
SAO				*e*Sg	**Sg**	**15 44 41.9**	**-0.4**
FRP	**Fremont Peak**	**0.25**	**309**	*e*Pg	**Pg**	**15 44 40.3**	**+0.8**
BSMM	**Soledad Missio**	**0.26**	**214**	*e*Pg	**Pb**	**15 44 41.1**	**-0.6**
LRV	**Little Rabbit**	**0.26**	**132**	*e*Pg	**Pb**	**15 44 40.9**	**-0.7**
BPCNC	**Pine Canyon**	**0.30**	**266**	*e*Pg	**Pb**	**15 44 41.9**	**-0.6**
BCWM	**Chews Ridge**	**0.38**	**221**	*e*Pg	**Pb**	**15 44 43.5**	**-0.4**
HTUM	**Tustin Road**	**0.39**	**306**	*e*Pg	**Pg**	**15 44 43.0**	**+0.8**
BRMM	**Rolling Bench**	**0.42**	**55**	*e*Pg	**Pb**	**15 44 44.5**	**+0.1**
HPCM	**Pacheco Lake**	**0.46**	**358**	*e*Pg	**Pb**	**15 44 44.8**	**-0.5**
SLD	**San Luis Dam**	**0.48**	**3**	*e*Pg	**Pb**	**15 44 44.9**	**-0.5**
HSLM	**San Luis Dam**	**0.50**	**15**	*e*Pg	**Pg**	**15 44 45.4**	**+0.3**
PMPB	**Monarch Peak**	**0.53**	**136**	*e*Pg	**Pb**	**15 44 45.7**	**-0.6**
PMPB				*e*Sg	**Sg**	**15 44 51.1**	**-0.5**
BPOM	**Post Ranch**	**0.55**	**229**	*e*Pg	**Pb**	**15 44 46.4**	**-0.3**
PJUM	**Juniper Ridge**	**0.65**	**125**	*e*Pg	**Pb**	**15 44 48.1**	**-0.2**
PAPM	**Alder Peak**	**0.69**	**187**	*e*Pg	**Pb**	**15 44 49.0**	**-0.1**
PHSB	**Hesperia Broad**	**0.79**	**168**	*e*Pg	**Pb**	**15 44 50.5**	**-0.2**
PHPM	**Hope Ranch**	**0.81**	**140**	*e*Pg	**Pg**	**15 44 50.4**	**+0.3**
JJOM	**Saint Joseph's**	**0.84**	**317**	*e*Pg	**Pg**	**15 44 50.9**	**+0.1**
PPO	**Portuguese Can**	**0.89**	**145**	*e*Pg	**Pb**	**15 44 52.5**	**0.0**
PSTM	**Stockdale Moun**	**0.90**	**138**	*e*Pg	**Pg**	**15 44 52.0**	**+0.1**
PHCM	**Hearst Castle**	**0.92**	**175**	*e*Pg	**Pb**	**15 44 52.9**	**0.0**
MYLM	**Yosemite Lake**	**1.03**	**40**	*e*Pg	**Pg**	**15 44 54.6**	**+0.2**
PSRM	**Scobie Ranch**	**1.08**	**133**	*e*Pg	**Pb**	**15 44 55.8**	**+0.2**
PCBM	**Cambria**	**1.09**	**172**	*e*Pg	**Pg**	**15 44 55.4**	**-0.1**
BLDC	**Black Mountain**	**1.10**	**165**	*e*Pg	**Pn**	**15 44 56.1**	**-0.4**
ARDC	**Alexander Ranc**	**1.15**	**169**	*e*Pg	**Pb**	**15 44 56.3**	**-0.6**
PAGB	**Antelope Grade**	**1.18**	**137**	*e*Pg	**Pb**	**15 44 56.9**	**-0.6**
PAGB				*e*Sg	**Sn**	**15 45 17.8**	**+3.6**
PTAM	**Tassajara Cree**	**1.28**	**160**	*e*Pn	**Pb**	**15 44 58.5**	**-0.6**
PIRM	**Iverson Ranch**	**1.33**	**141**	*e*Pn	**Pb**	**15 45 00.1**	**0.0**
MCUB	**Copperopolis B**	**1.47**	**20**	*e*Pn	**Pn**	**15 45 01.1**	**-0

IDC 24 15:49:14.2±4.8, 4°69S×138°49E, h40km±76km, mb3.4/1, mb1 3.4/5, mb1mx3.2/35, mbtmp3.3/5, ML3.1/4, Error ellipse: s-maj=56.3km s-min=17.3km az=112.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**3.10**	**46**	P		Pn	15 50 02.5	+1.9
	0.8nm,0.3s,baz=213,slow=9.1,SNR=12						
JAY				S		Sn	15 50 36.1	-0.3
	1.2nm,0.3s,baz=244,slow=22,SNR=6.5						
WRA	**Warramunga Arr**	**15.69**	**195**	P		Pn	15 52 53.3	+0.8
	0.1nm,0.3s,baz=15,slow=12,SNR=12						
WRA				S		Sn	15 55 43.5	-1.9
	0.0nm,0.3s,baz=11,slow=24,SNR=3.1						
FITZ	**Fitzroy Crossi**	**18.31**	**222**	P		P	15 53 24.0	-1.1
	0.0nm,0.3s,baz=42,slow=12,SNR=2.0						
ASAR	**Alice Springs**	**19.38**	**193**	P		P	15 53 35.9	-0.9
	0.1nm,0.3s,baz=18,slow=9.5,SNR=8.9						
CMAR	**Chiang Mai Arr**	**45.26**	**302**	P		P	15 57 28.7	+0.6
	0.3nm,0.3s,baz=102,slow=7.1,SNR=5.4						

*AZER **24** 15:49:31.7±0.1, 38°67N×43°36E, h28km±18km, ml3.6/8, Error ellipse: s-maj=75.0km s-min=9.9km az=237.0*
*DDA **24** 15:49:32.8, 38°83N×43°56E, h5km, Ml3.7*
*ISK **24** 15:49:32.6, 38°87N×43°54E, h5km, ML3.8/13*
*TEH **24** 15:49:33.0, 38°87N×43°54E, h8km, ML3.6*
ISC 24 15:49:34.4±1.1, 38°86N±0°02×43°49E±0°02, h5km±12km, n95, σ1s27/106, 7C-6D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.15**	**24**	*i* P		**Pg**	**15 49 36.1**	**-1.4**
VMUR	**Van-Muradiye**	**0.15**	**24**	*e*Pg		**Pg**	**15 49 36.0**	**-1.4**
ERCV	**ERCIS-VAN**	**0.20**	**323**	PG		**Pg**	**15 49 37.7**	**-0.7**
ERCV	**ERCIS-VAN**	**0.20**	**323**	*e*Pg		**Pg**	**15 49 37.7**	**-0.7**
VANB	**Van**	**0.27**	**197**	PG		**Pb**	**15 49 40.8**	**-1.1**
VANB				SG		**Sb**	**15 49 47.8**	**+1.0**
VANB	**Van**	**0.27**	**197**	*e*Pg		**Pb**	**15 49 40.8**	**-1.1**
TVAN	**Van**	**0.33**	**192**	*i* P		**Pg**	**15 49 40.6**	**-0.3**
TVAN	**Van**	**0.33**	**192**	*e*Pg		**Pg**	**15 49 40.6**	**-0.3**
CLDR	**Caldiran**	**0.44**	**49**	PG		**Pg**	**15 49 41.5**	**-1.4**
CLDR	**Caldiran**	**0.44**	**49**	*i* P		**Pg**	**15 49 41.1**	**-1.8**
CLDR	**Caldiran**	**0.44**	**49**	*e*Pg		**Pg**	**15 49 41.0**	**-1.8**
ADCV	**BITLIS_Adilcev**	**0.60**	**266**	*i* P		**Pg**	**15 49 45.9**	**-0.1**
ADCV				*i* S		**Sb**	**15 49 55.8**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.60**	**266**	*e*Pg		**Pg**	**15 49 45.9**	**-0.1**
GEVA	**Gevas**	**0.64**	**212**	*i* P		**Pg**	**15 49 45.5**	**-1.2**
GEVA				*i* S		**Sb**	**15 49 57.0**	**-0.5**
GEVA	**Gevas**	**0.64**	**212**	*e*Pg		**Pg**	**15 49 45.5**	**-1.2**
DYDN	**Diyadin**	**0.70**	**12**	*i* P		**Pg**	**15 49 46.7**	**-1.3**
DYDN	**Diyadin**	**0.70**	**12**	*e*Pg		**Pg**	**15 49 46.6**	**-1.3**
TUTA	**Tutak**	**0.76**	**316**	*i* P		**Pg**	**15 49 47.5**	**-1.5**
TUTA				*i* S		**Sb**	**15 49 59.6**	**-1.4**
TUTA	**Tutak**	**0.76**	**316**	*e*Pg		**Pg**	**15 49 47.5**	**-1.5**
AGRB	**Hanur-Agry**	**0.82**	**332**	PG		**Pg**	**15 49 49.3**	**-0.8**
AGRB				SG		**Sb**	**15 50 02.2**	**-0.4**
AGRB	**Hanur-Agry**	**0.82**	**332**	*e*Pn		**Pg**	**15 49 48.8**	**-1.3**
EKAR	**Karacoban**	**1.18**	**290**	*i* P		**Pg**	**15 49 56.7**	**-0.4**
EKAR	**Karacoban**	**1.18**	**290**	*e*Pg		**Pg**	**15 49 56.6**	**-0.4**
GURO	**Guroymak-BITLI**	**1.18**	**256**	PN		**Pb**	**15 49 55.4**	**-2.0**
GURO	**Guroymak-BITLI**	**1.18**	**256**	*e*Pg		**Pb**	**15 49 55.3**	**-2.1**
TASB	**TASBURUN-IGDIR**	**1.27**	**27**	PN		**Pn**	**15 49 57.7**	**-1.1**
TASB	**TASBURUN-IGDIR**	**1.27**	**27**	*e*Pg		**Pn**	**15 49 57.8**	**-1.1**
EATA	**Eleskirt**	**1.27**	**323**	*i* P		**Pn**	**15 49 57.1**	**-2.1**
EATA	**Eleskirt**	**1.27**	**323**	*e*Pg		**Pn**	**15 49 57.0**	**-2.1**
HYR	**Heyderabad**	**1.36**	**50**	⇓P		**Pn**	**15 49 58.8**	**-1.3**
HYR				⇑S		**Sg**	**15 50 22.2**	**+4.0**
YOVA	**Hakkari_Y¨…kse**	**1.41**	**153**	*i* P		**Pn**	**15 49 59.2**	**-1.8**
YOVA	**Hakkari_Y¨…kse**	**1.41**	**153**	*e*Pn		**Pn**	**15 49 59.2**	**-1.8**
SRTM	**Siirt_Merkez**	**1.51**	**236**	*i* P		**Pb**	**15 50 02.2**	**-0.7**
SRTM				*i* S		**Sg**	**15 50 24.8**	**+2.0**
SRTM	**Siirt_Merkez**	**1.51**	**236**	*e*Pn		**Pb**	**15 50 02.1**	**-0.7**
DIGO	**Kars**	**1.56**	**357**	*i* P		**Pb**	**15 50 03.1**	**-0.8**
DIGO	**Kars**	**1.56**	**357**	*e*Pn		**Pb**	**15 50 03.1**	**-0.8**
SIRT	**Sirnak**	**1.59**	**212**	PN		**Pb**	**15 50 03.8**	**-0.5**
SIRT	**Sirnak**	**1.59**	**212**	*e*Pn		**Pb**	**15 50 03.8**	**-0.5**
NAX	**Nakhchivan**	**1.59**	**78**	⇓P		**Pn**	**15 50 02.6**	**-0.7**
	SNR=46						
NAX				⇑S		**Sg**	**15 50 27.2**	**+1.7**
SIRN	**S¨–rnak**	**1.60**	**212**	*i* P		**Pb**	**15 50 04.4**	**-0.2**
SIRN	**S¨–rnak**	**1.60**	**212**	*e*Pn		**Pb**	**15 50 04.3**	**-0.2**
CUKT	**Cukurca**	**1.61**	**177**	PN		**Pn**	**15 50 03.5**	**-0.1**
CUKT	**Cukurca**	**1.61**	**177**	*i* P		**Pn**	**15 50 01.9**	**-1.7**
CUKT	**Cukurca**	**1.61**	**177**	*e*Pn		**Pn**	**15 50 01.9**	**-1.7**
GNI	**Garni**	**1.61**	**36**	PN		**Pn**	**15 50 03.1**	**-0.6**
GNI	**Garni**	**1.61**	**36**	*e*Pn		**Pn**	**15 50 03.0**	**-0.6**
VRTB	**Varto-Mus**	**1.62**	**281**	PN		**Pb**	**15 50 04.3**	**-0.6**
VRTB	**Varto-Mus**	**1.62**	**281**	*i* P		**Pb**	**15 50 04.5**	**-0.3**
VRTB	**Varto-Mus**	**1.62**	**281**	*e*Pn		**Pb**	**15 50 04.2**	**-0.6**
SBZ	**Shahbuz**	**1.69**	**71**	⇑P		**Pn**	**15 50 04.0**	**-0.7**
SBZ				⇑S		**Sg**	**15 50 28.9**	**+0.2**
HOMI	**Horasan**	**1.71**	**315**	*i* P		**Pb**	**15 50 06.0**	**-0.5**
IMRD	**Marand**	**1.73**	**94**	IAMB	IAmb		15 50 37.0	
	comp=E,29µm,1.1s						
IMRD				*e*Pn		**Pn**	**15 50 04.5**	**-0.8**
IMRD				IAMB	IAmb		15 50 43.9	
	comp=Z,9µm,0.6s						
ISHB	**Shabestar**	**1.76**	**108**	IAMB	IAmb		15 50 09.5	
	comp=Z,10µm,0.8s						
ISHB				*e*Pn		**Pn**	**15 50 04.8**	**-1.0**
ISHB				IAMB	IAmb		15 50 12.4	
	comp=E,9µm,0.4s						
ISHB				IAMB	IAmb		15 50 17.3	
	comp=N,8µm,0.6s						
KARS	**Kars**	**1.80**	**350**	PN		**Pn**	**15 50 05.9**	**-0.3**
EAK	**Akyaka**	**1.83**	**3**	*i* P		**Pg**	**15 50 09.2**	**-0.3**
BNGL	**BINGOL**	**1.83**	**274**	*i* P		**Pb**	**15 50 08.5**	**0.0**
SVAN	**Silvan-Diyarba**	**1.93**	**249**	PN		**Pb**	**15 50 08.7**	**-1.4**
SVAN	**Silvan-Diyarba**	**1.93**	**249**	*i* P		**Pb**	**15 50 10.1**	**0.0**
ORD	**Ordubad**	**1.95**	**87**	⇓P		**Pn**	**15 50 08.5**	**+0.2**
ORD				⇑S		**Sb**	**15 50 34.5**	**-0.6**
BTMN	**Batman**	**2.00**	**242**	*i* P		**Pb**	**15 50 10.7**	**-0.6**
ECAT	**Cat-ERZURUM**	**2.10**	**292**	*i* P		**Pb**	**15 50 12.3**	**-0.7**
ITBZ	**Tabriz**	**2.17**	**106**	*e*Pn		**Pn**	**15 50 11.4**	**0.0**
ITBZ				IAMB	IAmb		15 50 50.3	
	comp=Z,2µm,0.8s						
ITBZ				IAMB	IAmb		15 50 57.3	
	comp=N,2µm,0.8s						
ITBZ				IAMB	IAmb		15 51 12.7	
	comp=E,4µm,1.0s						
BNGB	**Bing¨ll**	**2.20**	**274**	PN		**Pn**	**15 50 12.6**	**+0.9**
YEDI	**Yedisu-Bingol**	**2.37**	**285**	PN		**Pn**	**15 50 14.8**	**+0.8**
BGD	**Bogdanovka**	**2.41**	**2**	P		**Pg**	**15 50 19.8**	**-0.8**
DDEM	**Demirkent**	**2.44**	**327**	*i* P		**Pb**	**15 50 19.1**	**+0.4**
HANI	**Diyarbakir_Han**	**2.46**	**261**	*i* P		**Pb**	**15 50 16.8**	**-2.4**
DAGI	**Agillar**	**2.53**	**332**	*i* P		**Pg**	**15 50 21.2**	**-1.6**
GDB	**GEDABAY**	**2.55**	**42**	⇑P		**Pn**	**15 50 17.4**	**+0.8**
AKH	**Akhalkalaki**	**2.55**	**360**	PN		**Pn**	**15 50 16.6**	**0.0**
AKH	**Akhalkalaki**	**2.55**	**360**	P		**Pg**	**15 50 24.4**	**+1.1**
DBAD	**Bademkaya**	**2.56**	**328**	*i* P		**Pg**	**15 50 22.2**	**-1.3**
KOPT	**Kop Dagi**	**2.59**	**298**	*i* P		**Pg**	**15 50 23.3**	**-0.8**
KZRT	**Kazreti**	**2.62**	**15**	P		**Pb**	**15 50 21.6**	**-0.3**
QZX	**Qazax, Azerbai**	**2.63**	**33**	⇓P		**Pn**	**15 50 18.8**	**+1.2**
QZX				⇓S		**Sb**	**15 50 55.0**	**+0.4**
MARD	**Mardin**	**2.64**	**235**	*i* P		**Pn**	**15 50 16.7**	**-1.0**
TRLG	**Trialeti**	**2.72**	**10**	P		**Pg**	**15 50 24.6**	**-1.9**
MAZI	**Mazidag**	**2.78**	**241**	PN		**Pn**	**15 50 20.6**	**+1.0**
DIYA	**Diyarbakir**	**2.81**	**252**	*i* P		**Pb**	**15 50 24.2**	**-0.9**
GANJ	**Ganja**	**2.82**	**50**	⇑P		**Pn**	**15 50 20.2**	**+0.1**
BAYB	**BAYBURT**	**2.87**	**300**	*i* P		**Pb**	**15 50 27.2**	**+1.0**
BCA	**Borcka**	**2.96**	**332**	PN		**Pn**	**15 50 22.7**	**+0.7**
BAYT	**Ayd¨–ntepe-Bay**	**3.01**	**302**	PN		**Pn**	**15 50 23.9**	**+1.0**
ERZN	**Erzincan**	**3.02**	**285**	PN		**Pn**	**15 50 24.3**	**+1.3**
TBLG	**Delisi**	**3.02**	**18**	P		**Pg**	**15 50 36.6**	**+4.2**
PTK	**Pertek**	**3.20**	**272**	PN		**Pn**	**15 50 26.7**	**+1.2**
DDFL	**Dedoflistskaro**	**3.28**	**37**	P		**Pg**	**15 50 38.1**	**+0.9**
ISRB	**Sarab**	**3.44**	**106**	*e*Pn		**Pn**	**15 50 29.7**	**+0.9**
ISRB				IAMB	IAmb		15 50 35.5	
	comp=Z,828nm,0.5s						
ISRB				IAMB	IAmb		15 51 30.2	
	comp=E,2µm,1.0s						
ISRB				IAMB	IAmb		15 51 57.5	
	comp=N,1µm,0.8s						
KELT	**Kelkit**	**3.52**	**293**	*i* P		**Pb**	**15 50 36.8**	**-0.5**
LGD	**Lagodekhi**	**3.64**	**34**	P		**Pg**	**15 50 41.6**	**-2.5**
ONI	**Oni**	**3.73**	**360**	P		**Pg**	**15 50 45.7**	**-0.1**
LRK	**Lerik**	**3.79**	**92**	⇓P		**Pn**	**15 50 33.8**	**+0.2**
KEMA	**Kemaliye**	**3.91**	**278**	*i* P		**Pb**	**15 50 41.5**	**-2.5**
IKOM	**Komasi**	**5.68**	**144**	*e*Pn		**Pn**	**15 51 01.8**	**+2.2**
IKFM	**Kafar-mosalman**	**6.38**	**145**	*e*Pn		**Pn**	**15 51 10.0**	**+1.0**

*AZER **24** 16:04:23.9±99.0, 38°62N×43°40E, h5km±13km, ml4.5/14, Error ellipse: s-maj=66.5km s-min=8.4km az=239.0*
*NEIC **24** 16:04:27.0±0.0, 38°83N×43°61E, h5km, mb4.1/5, ML4.5(ISK), After ISK.*
*ISK **24** 16:04:28.1, 38°84N×43°56E, h5km, ML4.5/12*
*IDC **24** 16:04:28.8±0.7, 38°79N×43°60E, h0km, mb4.1/19, mb1 4.1/24, mb1mx4.0/44, mbtmp4.1/24, ML3.4/4, MS3.5/24, Ms1 3.5/24, ms1mx3.4/38, Error ellipse: s-maj=12.5km s-min=8.8km az=160.0*
*MOS **24** 16:04:28.5±1.2, 38°65N×43°56E, h8km, mb4.5/28, Error ellipse: s-maj=6.3km s-min=3.7km az=91.5*
*TEH **24** 16:04:28.8, 38°85N×43°55E, h4km, ML4.3*
*DDA **24** 16:04:28.4, 38°83N×43°57E, h18km, Ml4.5*
ISC 24 16:04:30.4±1.0, 38°82N±0°02×43°57E±0°02, h3km±6km, n321, σ1s80/350, mb4.3/49, MS3.6/20, 41C-47D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.17**	**0**	⇑*i* P		**Pg**	**16 04 31.6**	**-2.3**
VMUR				*i* S		**Sg**	**16 04 35.9**	**-0.3**
VANB	**Van**	**0.26**	**213**	PG		**Pg**	**16 04 36.3**	**+0.8**
VANB				SG		**Sb**	**16 04 42.4**	**-0.4**
VANB	**Van**	**0.26**	**213**	*e*Pg		**Pg**	**16 04 35.7**	**+0.2**
ERCV	**ERCIS-VAN**	**0.27**	**318**	PG		**Pg**	**16 04 33.7**	**-2.0**
ERCV				SG		**Sg**	**16 04 38.9**	**-0.4**
ERCV	**ERCIS-VAN**	**0.27**	**318**	*e*Pg		**Pg**	**16 04 33.7**	**-2.0**
TVAN	**Van**	**0.31**	**204**	⇓*i*P		**Pg**	**16 04 35.6**	**-1.0**
TVAN				*i* S		**Sg**	**16 04 42.1**	**+1.4**
TVAN	**Van**	**0.31**	**204**	*e*Pg		**Pg**	**16 04 35.6**	**-1.0**
CLDR	**Caldiran**	**0.42**	**40**	PG		**Pg**	**16 04 37.6**	**-1.1**
CLDR	**Caldiran**	**0.42**	**40**	⇑*i*P		**Pg**	**16 04 36.5**	**-2.1**
CLDR				*i* S		**Sg**	**16 04 44.6**	**+0.4**
CLDR	**Caldiran**	**0.42**	**40**	*e*Pg		**Pg**	**16 04 36.5**	**-2.1**
GEVA	**Gevas**	**0.64**	**219**	⇑*i*P		**Pg**	**16 04 40.8**	**-2.0**
GEVA				*i* S		**Sg**	**16 04 51.8**	**+0.6**
GEVA	**Gevas**	**0.64**	**219**	*e*Pg		**Pg**	**16 04 40.9**	**-1.9**
ADCV	**BITLIS_Adilcev**	**0.66**	**270**	⇑*i*P		**Pg**	**16 04 41.4**	**-1.7**
ADCV				*i* S		**Sg**	**16 04 52.1**	**+0.4**
ADCV	**BITLIS_Adilcev**	**0.66**	**270**	*e*Pg		**Pg**	**16 04 41.4**	**-1.7**
DYDN	**Diyadin**	**0.73**	**7**	⇑*i*P		**Pg**	**16 04 42.0**	**-2.5**
DYDN				*i* S		**Sg**	**16 04 53.9**	**-0.2**
DYDN	**Diyadin**	**0.73**	**7**	*e*Pg		**Pg**	**16 04 42.1**	**-2.4**
TUTA	**Tutak**	**0.83**	**315**	⇓*i*P		**Pg**	**16 04 42.9**	**-3.4**
TUTA				*i* S		**Sb**	**16 04 58.4**	**-0.9**
AGRB	**Hanur-Agry**	**0.88**	**330**	PG		**Pg**	**16 04 44.5**	**-2.9**
AGRB	**Hanur-Agry**	**0.88**	**330**	*e*Pg		**Pg**	**16 04 44.4**	**-2.9**
GURO	**Guroymak-BITLI**	**1.23**	**258**	PN		**Pg**	**16 04 51.1**	**-3.0**
EKAR	**Karacoban**	**1.25**	**291**	⇓*i*P		**Pg**	**16 04 51.8**	**-2.7**
EKAR				*i* S		**Sn**	**16 05 14.9**	**+2.4**
EKAR	**Karacoban**	**1.25**	**291**	*e*Pg		**Pg**	**16 04 51.9**	**-2.6**
TASB	**TASBURUN-IGDIR**	**1.28**	**24**	PN		**Pg**	**16 04 53.2**	**-1.7**
TASB	**TASBURUN-IGDIR**	**1.28**	**24**	*e*Pg		**Pg**	**16 04 53.2**	**-1.7**
EATA	**Eleskirt**	**1.34**	**322**	⇓*i*P		**Pg**	**16 04 52.7**	**-3.5**
EATA				*i* S		**Sn**	**16 05 16.5**	**+1.7**
HYR	**Heyderabad**	**1.34**	**47**	⇓P		**Pg**	**16 04 54.7**	**-1.6**
HYR				⇓S		**Sn**	**16 05 18.2**	**+3.6**
HYR	**Heyderabad**	**1.34**	**47**	*e*Pg		**Pg**	**16 04 54.6**	**-1.6**
YOVA	**Hakkari_Y¨…kse**	**1.35**	**155**	⇓*i*P		**Pg**	**16 04 53.8**	**-2.5**
YOVA				*i* S		**Sn**	**16 05 18.4**	**+3.4**
SRTM	**Siirt_Merkez**	**1.53**	**238**	⇑*i*P		**Pn**	**16 04 57.2**	**-1.6**
SRTM				*i* S		**Sg**	**16 05 21.3**	**+1.6**
SRTM	**Siirt_Merkez**	**1.53**	**238**	*e*Pn		**Pn**	**16 04 57.1**	**-1.6**
NAX	**Nakhchivan**	**1.54**	**76**	P		**Pn**	**16 04 57.6**	**-1.3**
NAX	**Nakhchivan**	**1.54**	**76**	⇑P		**Pn**	**16 04 57.6**	**-1.3**
	SNR=444						
NAX				⇑S		**Sg**	**16 05 23.0**	**+3.0**
NAX	**Nakhchivan**	**1.54**	**76**	*e*Pn		**Pn**	**16 04 57.6**	**-1.3**
CUKT	**Cukurca**	**1.57**	**179**	PN		**Pn**	**16 04 58.2**	**-1.1**
CUKT	**Cukurca**	**1.57**	**179**	⇓*i*P		**Pn**	**16 04 57.5**	**-1.8**
CUKT				*i* S		**Sg**	**16 05 22.7**	**+1.9**
CUKT	**Cukurca**	**1.57**	**179**	*e*Pn		**Pn**	**16 04 57.9**	**-1.4**
SIRT	**Sirnak**	**1.59**	**215**	PN		**Pn**	**16 04 58.9**	**-0.6**
SIRT	**Sirnak**	**1.59**	**215**	*e*Pn		**Pn**	**16 04 58.8**	**-0.7**
SIRN	**S¨–rnak**	**1.60**	**215**	⇓*i*P		**Pn**	**16 04 58.4**	**-1.4**
SIRN				*i* S		**Sg**	**16 05 23.5**	**+1.6**
SIRN	**S¨–rnak**	**1.60**	**215**	*e*Pn		**Pn**	**16 04 59.7**	**-0.1**
DIGO	**Kars**	**1.60**	**355**	⇑*i*P		**Pn**	**16 04 59.2**	**-0.7**
DIGO				*i* S		**Sg**	**16 05 24.2**	**+2.2**
DIGO	**Kars**	**1.60**	**355**	*e*Pn		**Pn**	**16 04 58.8**	**-1.1**
GNI	**Garni**	**1.61**	**34**	PN		**Pn**	**16 04 58.4**	**-1.6**
GNI	**Garni**	**1.61**	**34**	Pg		**Pn**	**16 04 58.9**	**-1.1**
	340nm,0.3s,baz=255,slow=2.7,SNR=473						
GNI				Lg		Lg	16 05 21.7	
	113nm,0.3s,baz=66,slow=22,SNR=5.4						
GNI				LR		LR	16 05 42.4	
	comp=Z,797nm,20.6s,baz=212,slow=45						
GNI	**Garni**	**1.61**	**34**	*e*Pn		**Pn**	**16 04 59.4**	**-0.6**
GNI				*e*Sn		**Sb**	**16 05 21.7**	**0.0**
GNI	**Garni**	**1.61**	**34**	*c i*P		**Pn**	**16 04 58.7**	**-1.3**
GNI				pmax		pmax		
	comp=Z,10µm,1.0s						
GNI	**Garni**	**1.61**	**34**	*e*Pn		**Pn**	**16 04 58.4**	**-1.6**
SBZ	**Shahbuz**	**1.65**	**69**	⇓P		**Pn**	**16 04 59.8**	**-0.7**
SBZ				⇓S		**Sg**	**16 05 26.8**	**+3.4**
SBZ	**Shahbuz**	**1.65**	**69**	*e*Pn		**Pn**	**16 04 59.7**	**-0.7**
IMRD	**Marand**	**1.67**	**93**	*e*Pn		**Pn**	**16 04 59.3**	**-1.5**
IMRD				IAMB	IAmb		16 05 37.4	
	comp=E,47µm,1.0s						
IMRD				IAMB	IAmb		16 05 40.2	
	comp=N,27nm,0.6s						
IMRD				IAMB	IAmb		16 05 44.4	
	comp=Z,49µm,0.6s						
VRTB	**Varto-Mus**	**1.68**	**282**	PN		**Pn**	**16 04 59.8**	**-1.1**
VRTB	**Varto-Mus**	**1.68**	**282**	⇓*i*P		**Pn**	**16 04 59.3**	**-1.6**
VRTB				*i* S		**Sg**	**16 05 24.8**	**+0.2**
VRTB	**Varto-Mus**	**1.68**	**282**	*e*Pn		**Pn**	**16 05 00.1**	**-0.8**
ISHB	**Shabestar**	**1.69**	**108**	*e*Pn		**Pn**	**16 04 59.9**	**-1.2**
ISHB				IAMB	IAmb		16 05 02.9	
	comp=Z,30µm,0.6s						
ISHB				IAMB	IAmb		16 05 29.7	
	comp=E,75µm,0.9s						
ISHB				IAMB	IAmb		16 05 39.6	
	comp=N,85µm,1.1s						
HOMI	**Horasan**	**1.78**	**314**	*i* P		**Pn**	**16 05 01.1**	**-1.2**
HOMI				*i* S		**Sg**	**16 05 34.0**	**+6.4**
KARS	**Kars**	**1.85**	**348**	PN		**Pn**	**16 05 01.8**	**-1.5**
KARS	**Kars**	**1.85**	**348**	P		**Pn**	**16 05 01.7**	**-1.5**
KARS	**Kars**	**1.85**	**348**	*e*Pn		**Pn**	**16 05 01.7**	**-1.5**
EAK	**Akyaka**	**1.87**	**1**	⇑*i*P		**Pn**	**16 05 03.0**	**-0.5**
EAK				*i* S		**Sg**	**16 05 34.2**	**+3.7**
BNGL	**BINGOL**	**1.89**	**275**	⇓*i*P		**Pn**	**16 05 02.6**	**-1.3**
BNGL				*i* S		**Sn**	**16 05 28.4**	**0.0**
BNGL	**BINGOL**	**1.89**	**275**	*e*Pn		**Pn**	**16 05 03.7**	**-0.2**
ORD	**Ordubad**	**1.90**	**86**	⇓P		**Pn**	**16 05 03.4**	**-0.4**
ORD				⇓S		**Sg**	**16 05 32.4**	**+1.0**
ORD	**Ordubad**	**1.90**	**86**	*e*Pn		**Pn**	**16 05 03.3**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.98**	**251**	PN		**Pn**	**16 05 03.8**	**-1.1**
SVAN	**Silvan-Diyarba**	**1.98**	**251**	⇑*i*P		**Pn**	**16 05 03.7**	**-1.1**
SVAN				*i* S		**Sg**	**16 05 33.5**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.98**	**251**	*e*Pn		**Pn**	**16 04 58.8**	**-0.1**
BTMN	**Batman**	**2.03**	**244**	⇑*i*P		**Pn**	**16 05 04.5**	**-1.2**
BTMN				*i* S		**Sb**	**16 05 33.1**	**-0.6**
BTMN	**Batman**	**2.03**	**244**	*e*Pn		**Pn**	**16 05 05.3**	**-0.3**
ITBZ	**Tabriz**	**2.10**	**105**	IAMB	IAmb		16 05 12.1	
	comp=Z,8µm,0.7s						
ITBZ				*e*Pn		**Pn**	**16 05 06.8**	**+0.1**
ITBZ				IAMB	IAmb		16 05 51.7	
	comp=E,16µm,1.2s						
ITBZ				IAMB	IAmb		16 05 53.6	
	comp=N,18µm,1.2s						
ECAT	**Cat-ERZURUM**	**2.17**	**292**	⇓*i*P		**Pn**	**16 05 07.5**	**-0.1**
ECAT				*i* S		**Sb**	**16 05 36.7**	**-1.0**
ECAT	**Cat-ERZURUM**	**2.17**	**292**	*e*Pn		**Pn**	**16 05 07.7**	**+0.1**
BNGB	**Bing¨ll**	**2.26**	**275**	PN		**Pn**	**16 05 08.1**	**-0.8**
YEDI	**Yedisu-Bingol**	**2.43**	**286**	PN		**Pn**	**16 05 10.1**	**-1.2**
YEDI	**Yedisu-Bingol**	**2.43**	**286**	*e*Pn		**Pn**	**16 05 10.8**	**-0.5**
BGD	**Bogdanovka**	**2.45**	**1**	P		**Pb**	**16 05 14.6**	**-0.6**
DDEM	**Demirkent**	**2.50**	**327**	⇑*i*P		**Pn**	**16 05 11.8**	**-0.4**
DDEM				*i* S		**Sg**	**16 05 55.7**	**+4.8**
HANI	**Diyarbakir_Han**	**2.52**	**262**	⇓*i*P		**Pn**	**16 05 12.2**	**-0.1**
HANI				*i* S		**Sb**	**16 05 46.5**	**-1.2**
GDB	**GEDABAY**	**2.54**	**41**	⇓P		**Pn**	**16 05 12.3**	**-0.5**
	SNR=254						
GDB				⇓S		**Sg**	**16 05 51.6**	**-0.5**
GDB	**GEDABAY**	**2.54**	**41**	*e*Pn		**Pn**	**16 05 12.2**	**-0.5**
AKH	**Akhalkalaki**	**2.59**	**359**	PN		**Pn**	**16 05 12.4**	**-1.0**
AKH	**Akhalkalaki**	**2.59**	**359**	P		**Pb**	**16 05 17.8**	**+0.1**
AKH	**Akhalkalaki**	**2.59**	**359**	*e*Pn		**Pb**	**16 05 16.3**	**-1.4**
AKH	**Akhalkalaki**	**2.59**	**359**	*e*P		**Pb**	**16 05 16.3**	**-1.4**
DAGI	**Agillar**	**2.59**	**331**	⇓*i*P		**Pn**	**16 05 13.8**	**+0.4**
DAGI				*i* S		Sg	16 06 09.3	+16
DBAD	**Bademkaya**	**2.63**	**327**	*i* P		**Pn**	**16 05 14.2**	**+0.3**
DBAD				*i* S		**Sg**	**16 05 58.3**	**+3.3**
QZX	**Qazax, Azerbai**	**2.63**	**31**	⇓P		**Pn**	**16 05 14.4**	**+0.5**
	SNR=135						
QZX				⇑S		**Sb**	**16 05 51.8**	**+0.8**
QZX	**Qazax, Azerbai**	**2.63**	**31**	*e*Pn		**Pn**	**16 05 14.4**	**+0.5**
KZRT	**Kazreti**	**2.65**	**14**	P		**Pn**	**16 05 15.5**	**+1.4**
KOPT	**Kop Dagi**	**2.67**	**298**	⇓*i*P		**Pn**	**16 05 15.7**	**+1.1**
KOPT				*i* S		**Sg**	**16 06 00.8**	**+4.7**
MARD	**Mardin**	**2.67**	**237**	⇑*i*P		**Pn**	**16 05 12.9**	**-1.5**
MARD				*i* S		**Sn**	**16 05 49.1**	**+1.8**
TRLG	**Trialeti**	**2.75**	**8**	P		**Pn**	**16 05 18.0**	**+2.3**
GANJ	**Ganja**	**2.80**	**48**	P		**Pn**	**16 05 15.8**	**-0.4**
GANJ	**Ganja**	**2.80**	**48**	⇓P		**Pn**	**16 05 15.8**	**-0.4**
	SNR=53						
GANJ				⇓S		**Sb**	**16 05 56.0**	**+0.2**
GANJ	**Ganja**	**2.80**	**48**	*e*Pn		**Pn**	**16 05 15.8**	**-0.4**
MAZI	**Mazidag**	**2.81**	**242**	PN		**Pn**	**16 05 16.5**	**+0

VORD Divnogorie 12.52 347 *e*P **Pn 16 07 33.1 +3.7**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 12.78 347 *e*P **Pn 16 07 34.4 +1.4**
VSR pmax pmax
comp=Z,5.0nm,0.6s
VSR MLR MLR
comp=Z,720nm,15.0s
LPSR Galich'ya Gora 14.16 348 *e*P **Pn 16 07 52.3 +0.6**
LPSR pmax pmax
comp=Z,10.0nm,0.5s
VRI Vrincioaia 14.30 305⇑*i*P **P 16 08 02.2 +1.1**
VRI Vrincioaia 14.30 305⇑P **P 16 08 02.2 +1.1**
PLOR Plostina 14.34 305⇑*i*P **P 16 08 02.8 +1.2**
PLOR Plostina 14.34 305⇑P **P 16 08 02.8 +1.2**
MLR Muntele Rosu 14.66 303 Pn **Pn 16 07 58.5 -0.3**
baz=128,slow=19,SNR=2.2
MLR Muntele Rosu 14.66 303⇓*i*P **P 16 08 08.0 +2.7**
BIZ Bicaz 15.14 308⇑*i*P **P 16 08 12.5 +2.1**
DOPR Dopca 15.20 304⇓*i*P **P 16 08 13.8 +2.7**
VOIR 15.23 302⇓*i*P **P 16 08 15.3 +3.7**
VOIR 15.23 302 ⇓P **P 16 08 15.3 +3.7**
IDI Anoyia 15.32 262 LR LR 16 14 04.8
comp=Z,153nm,21.6s,baz=88,slow=38
RAYN Ar Rayn 15.34 173 *e*Pn **Pn 16 08 02.9 -5.0**
comp=Z,9.4nm,1.0s
RAYN Ar Rayn 15.34 173 *e*P **Pn 16 08 02.9 -5.0**
RAYN pmax pmax
comp=Z,9.0nm,1.0s
SRS Serrai 15.49 285 P **P 16 08 16.4 +2.0**
AKASG Malin Array Be 15.62 324 Pn **Pn 16 08 11.1 -0.3**
comp=Z,0.2nm,0.3s,baz=129,slow=12,SNR=14
AKASG LR LR 16 15 00.5
comp=Z,119nm,20.3s,baz=115,slow=40
KIEV Kiev 15.62 324⇑*e*P **P 16 08 14.1 -1.6**
KIEV pmax pmax
comp=Z,32nm,2.5s
ABKAR Akbulak array 15.70 43 *e*Pn **Pn 16 08 11.4 -1.0**
VTS Vitosha 15.89 290⇓*i*P **P 16 08 21.5 +2.5**
VTS Vitosha 15.89 290 ⇓P **P 16 08 21.5 +2.5**
BURAR Bucovina Array 15.98 309⇑*i*P **P 16 08 22.0 +2.2**
BURAR Bucovina Array 15.98 309 ⇑P **P 16 08 22.1 +2.2**
OBN Obninsk 16.97 346 P **Pn 16 08 27.9 -0.8**
comp=Z,0.7nm,0.3s,baz=337,slow=19,SNR=6.1
OBN LR LR 16 15 07.7
comp=Z,32nm,21.0s,baz=162,slow=38
OBN Obninsk 16.97 346⇓*e*P **Pn 16 08 29.2 +0.5**
OBN S **Sn 16 11 40.0 +2.4**
OBN pmax pmax
comp=Z,50nm,1.7s
OBN MLR MLR
comp=Z,235nm,15.0s
FNA Florina 17.16 284 *e*Pn Pn 16 08 22.9 -8.4
comp=Z,6.3nm,0.7s
FNA Florina 17.16 284 *e*P Pn 16 08 22.9 -8.4
FNA pmax pmax
comp=Z,6.0nm,0.7s
MDVR Moldovita 17.33 297⇓*i*P **P 16 08 38.4 +3.6**
MOS Moscow 17.39 349 *e*P **Pn 16 08 34.0 +0.1**
MOS pmax pmax
comp=Z,51nm,0.8s
TRPA Tarpa 17.83 308⇑*i*P **P 16 08 42.6 +2.4**
UZH Uzhgorod 18.19 310 *e*P **P 16 08 44.5 +0.4**
KWP Kalwaria Pacla 18.39 313 *e*P **P 16 08 47.0 +0.6**
KWP Kalwaria Pacla 18.39 313 *e*P **P 16 08 47.0 +0.6**
KECS Kecovo 19.23 308 *e*P **Pn 16 08 56.6 0.0**
KECS pmax pmax
comp=Z,8.0nm,1.0s
KECS Kecovo 19.23 308 *e*P **Pn 16 08 56.6 0.0**
PSZ Piszkesteto 19.41 306⇓*e*P **Pn 16 09 02.8 +4.1**
NIE Niedzica 19.71 310 *e*P **P 16 09 01.4 +0.5**
NIE Niedzica 19.71 310 *e*P **P 16 09 01.3 +0.5**
MORH M¯‡r¯így, Hung 19.75 300 *e*P **Pn 16 09 02.9 +0.1**
LANS Liptovska Anna 20.10 309 *e*P Pn 16 09 09.8 +2.8
LANS Liptovska Anna 20.10 309 *e*P Pn 16 09 09.8 +2.8
WSAR Wadi Sarin 20.15 136 P **P 16 09 05.5 -0.3**
comp=Z,6.8nm,0.8s,baz=346,slow=6.8,SNR=5.3
WSAR LR LR 16 18 53.7
comp=Z,228nm,20.2s,baz=340,slow=43
ARU Arti 20.23 25 P **P 16 09 05.7 -0.8**
comp=Z,9.8nm,0.7s,baz=240,slow=8.1,SNR=22
ARU Arti 20.23 25 *e*P **P 16 09 05.7 -0.8**
comp=Z,64nm,1.4s
ARU Arti 20.23 25*d i*P **P 16 09 06.0 -0.5**
ARU S **S 16 12 54.3 +0.4**
ARU pmax pmax
comp=Z,47nm,1.7s
VYHS Vyhne 20.26 307 *e*P Pn 16 09 09.0 +0.1
VYHS pmax pmax
comp=Z,7.0nm,1.4s
VYHS Vyhne 20.26 307 *e*P Pn 16 09 09.0 +0.1
SUW Suwalki 20.59 324 *e*P Pn 16 09 12.2 -0.4
SUW Suwalki 20.59 324 *e*P Pn 16 09 12.2 -0.4
TIP Timpagrande 20.82 279 *e*P **P 16 09 12.9 -0.2**
comp=Z,7.6nm,0.9s
TIP Timpagrande 20.82 279⇑*i*P **P 16 09 12.4 -0.7**
JAVC Velka Javorina 21.11 307 *e*P **P 16 09 22.7 +6.5**
MODS Modra-Piesok 21.21 305 *e*P **P 16 09 18.9 +1.7**
MODS pmax pmax
comp=Z,24nm,1.3s
MODS Modra-Piesok 21.21 305 *e*P **P 16 09 18.9 +1.7**
SVE Sverdlovsk 21.25 26 *e*P **P 16 09 17.1 -0.4**
SVE pmax pmax
comp=Z,41nm,1.5s
MORC Moravsky Berou 21.50 309⇑*i*P **P 16 09 20.4 +0.1**
MORC Moravsky Berou 21.50 309 ⇑P **P 16 09 20.4 +0.1**
MORC Moravsky Berou 21.50 309 *e*P **P 16 09 26.1 +5.8**
VRAC Vranov 21.93 307 P **P 16 09 26.9 +2.0**
comp=Z,3.9nm,0.7s,baz=106,slow=11,SNR=6.3
VRAC LR LR 16 20 09.2
comp=Z,38nm,19.1s,baz=102,slow=43
VRAC Vranov 21.93 307⇑*i*P **P 16 09 24.8 -0.1**
VRAC Vranov 21.93 307 ⇑P **P 16 09 24.8 -0.1**
VRAC Vranov 21.93 307 *e*P **P 16 09 27.8 +2.9**
KRUC Moravsky 21.98 307 P **P 16 09 28.8 +3.4**
KRUC pmax pmax
comp=Z,9.0nm,1.9s
KRUC Moravsky 21.98 307 *e*P **P 16 09 27.9 +2.5**
CONA Conrad Observa 22.01 303 *e*pP **P 16 09 28.0 +2.2**
comp=Z,7.0nm,1.1s
ARSA Arzberg 22.07 302 *e*pP **P 16 09 31.4 +4.9**
comp=Z,7.0nm,1.1s
KLMR Klimovskoe 22.21 355 *e*P **P 16 09 26.4 -1.3**
KLMR pmax pmax
comp=Z,47nm,1.2s
KLMR Klimovskoe 22.21 355 *e*P **P 16 09 26.4 -1.3**
KLMR AMP 16 09 33.5
comp=Z,47nm,1.2s
MNAS Manas 22.21 71 P **P 16 09 28.9 +0.8**
MNAS pmax pmax
comp=Z,4.0nm,1.2s
DPC Dobruska-Polom 22.44 310 *e*P **P 16 09 33.7 +3.3**
DPC Dobruska-Polom 22.44 310 *e*P **P 16 09 33.7 +3.3**
VSU Vasula 22.47 337⇑*e*P **P 16 09 32.7 +2.2**
VSU pmax pmax
comp=Z,151nm,2.8s
OTUK Ortayu 22.77 56 P **P 16 09 33.4 -0.5**
OTUK pmax pmax
comp=Z,11nm,1.3s
PRGR Permogore 22.88 3 *e*P **P 16 09 39.5 +4.6**
PRGR pmax pmax
comp=Z,22nm,0.4s
MOA Molln 23.03 303 *e*P **P 16 09 37.7 +1.0**
comp=Z,6.6nm,1.2s
AML Almayashu 23.10 72 P **P 16 09 38.9 +1.1**
SNR=5.5
SFK Sufi-Kurgan 23.11 78 P **P 16 09 38.9 +1.1**
SFK pmax pmax
comp=Z,9.0nm,0.9s
EKS2 Erkin-Say 23.15 71 P **P 16 09 38.1 +0.1**
SNR=6.6
BRVK Borovoye 23.23 43 *e*P **P 16 09 38.0 -0.6**
comp=Z,9.4nm,1.1s
BRVK Borovoye 23.23 43*ce*P **P 16 09 39.5 +0.9**
BRVK pmax pmax
comp=Z,18nm,1.0s
GOPC GO Pecny, Ondr 23.23 308 *e*P **P 16 09 39.7 +1.0**
GOPC GO Pecny, Ondr 23.23 308 *e*P **P 16 09 39.7 +1.0**
GERES GERESS Array B 23.63 305 P **P 16 09 42.4 -0.4**
comp=Z,1.7nm,0.8s,baz=99,slow=8.6,SNR=14
AAK Ala-Archa 23.68 71 P **P 16 09 42.3 -1.1**
comp=Z,1.8nm,0.8s,baz=257,slow=13,SNR=5.1
AAK LR LR 16 20 49.6
comp=Z,119nm,20.8s,baz=264,slow=42
AAK Ala-Archa 23.68 71⇓*e*P **P 16 09 43.0 -0.4**
AAK pmax pmax
comp=Z,17nm,1.7s
FRU Bishkek 23.76 70 *e*P **P 16 09 44.0 -0.1**
FRU pmax pmax
comp=Z,60nm,1.8s
KHC Kasperske Hory 23.77 305 *e*P **P 16 09 44.3 +0.2**
KHC Kasperske Hory 23.77 305 *e*P **P 16 09 44.3 +0.2**
CHMS Chumysh 23.86 70 P **P 16 09 45.7 +0.7**
SNR=5.1
KBK Karagaybulak 24.01 71 P **P 16 09 47.8 +1.2**
SNR=6.9
ABTA Abfaltersbach 24.02 299 *e*P **P 16 09 47.0 +0.5**
comp=Z,4.4nm,1.1s
WET Wettzell 24.22 305 P **P 16 09 51.1 +2.8**
WET pmax pmax
comp=Z,9.0nm,2.2s
TKM2 Tokmak 2 24.48 70 P **P 16 09 52.8 +1.8**
SNR=7.9
WTTA Wattenberg 24.68 300 *e*P **P 16 09 53.4 +0.7**
comp=Z,7.9nm,0.8s
WATA Walderalm 24.73 301 *e*pP **P 16 09 54.3 +1.2**
comp=Z,8.4nm,1.0s
CLL Collm 24.74 310 *e*(P) **P 16 09 53.0 0.0**
comp=Z,6.0nm,1.0s
CLL *e* 16 10 04.0
CLL *e* 16 10 09.0
CLL *e*S **S 16 14 12.0 -3.6**
CLL *e* 16 14 30.0
CLL *e*SSS SSS 16 15 24.0
CLL Collm 24.74 310 *e*P **P 16 09 53.0 0.0**
CLL *e*S **S 16 14 12.0 -3.6**
CLL pmax pmax
comp=Z,6.0nm,1.0s
MOTA Moosalm 25.05 300 *e*P **P 16 09 57.1 +1.1**
comp=Z,6.8nm,0.9s
FIA0 FINESS Array S 25.11 340 *e*P **P 16 09 54.8 -1.4**
FIA0 FINESS Array S 25.11 340 *e*P **P 16 09 54.8 -1.4**
FINES FINESS Array B 25.11 340 P **P 16 09 54.8 -1.4**
comp=Z,6.2nm,1.0s,baz=152,slow=8.6,SNR=6.5
FINES LR LR 16 20 27.8
comp=Z,176nm,19.2s,baz=141,slow=38
JOF Joensuu 25.25 347 P **P 16 09 58.2 +0.8**
JOF pmax pmax
comp=Z,23nm,1.6s
FETA Feichten 25.26 300 *e*P **P 16 09 58.5 +0.6**
comp=Z,7.8nm,1.3s
DAVOX Davos/Dischmat 25.82 299 P **P 16 10 03.3 +0.3**
comp=Z,3.2nm,0.7s
DAVOX LR LR 16 21 19.6
comp=Z,97nm,18.4s,slow=39
KURBB Kurchatov Arra 27.25 53 P **P 16 10 15.2 -0.4**
comp=Z,5.2nm,0.7s,baz=264,slow=9.0,SNR=14
KURK Kurchatov 27.32 53 *e*P **P 16 10 15.2 -1.1**
KURK Kurchatov 27.32 53*c i*P **P 16 10 16.1 -0.2**
KURK pmax pmax
comp=Z,75nm,1.3s
HFS Hagfors 28.42 328 P **P 16 10 26.1 +0.1**
comp=Z,8.4nm,0.8s,baz=140,slow=7.2,SNR=9.6
HFS LR LR 16 21 25.8
comp=Z,117nm,21.9s,baz=165,slow=36
MK32 Makanchi Array 29.27 62 *e*P **P 16 10 33.3 -0.4**
MKAR Makanchi Array 29.27 62 P **P 16 10 33.3 -0.4**
comp=Z,2.6nm,0.9s,baz=264,slow=6.1,SNR=6.8
MKAR LR LR 16 24 02.9
comp=Z,140nm,19.9s,baz=258,slow=40
MKAR Makanchi Array 29.27 62*ce*P **P 16 10 33.2 -0.5**
MK01 Makanchi Array 29.27 62 *e*P **P 16 10 33.4 -0.4**
NB200 NORSAR Array S 29.94 329 *e*P **P 16 10 38.6 -1.0**
NOA NORSAR Array B 29.94 329 P **P 16 10 38.6 -1.0**
comp=Z,1.5nm,0.9s,baz=130,slow=7.6,SNR=4.7
NOA LR LR 16 23 47.9
comp=Z,100nm,19.8s,baz=130,slow=39
NVS Novosibirsk 31.01 46 *e*P **P 16 10 49.0 0.0**
NVS *e* 16 11 50.2
NVS pmax pmax
comp=Z,4.0nm,0.7s
ZALV Zalesovo Beam 31.71 48 P **P 16 10 53.7 -1.5**
comp=Z,1.3nm,0.6s,baz=258,slow=9.6,SNR=6.3
ZALV LR LR 16 25 53.5
comp=Z,177nm,18.0s,baz=250,slow=40
ZALV Zalesovo Beam 31.71 48*ce*P **P 16 10 54.2 -1.0**
ZAA1 Zalesovo Array 31.71 48 *e*P **P 16 10 53.7 -1.5**
ARA0 ARCESS Array S 32.26 348 *e*P **P 16 10 58.8 -1.1**
ARCES ARCESS Array B 32.26 348 P **P 16 10 58.8 -1.1**
comp=Z,3.8nm,0.9s,baz=38,slow=4.6,SNR=4.2
ARCES LR LR 16 24 52.6
comp=Z,5.9nm,18.4s,baz=43,slow=38
PYUN Piuthan 34.34 96 *e*P **P 16 11 18.3 -0.4**
comp=Z,16nm,0.8s
DANN Dangsing 34.83 95 *e*P **P 16 11 22.7 -0.3**
comp=Z,36nm,0.9s
KOLN Koldanda 34.98 96 *e*P **P 16 11 24.2 0.0**
comp=Z,18nm,1.0s
DMN Daman 36.23 95 *e*P **P 16 11 34.9 -0.1**
comp=Z,29nm,1.0s
KKN Kakani 36.27 95 *e*P **P 16 11 35.0 -0.4**
PKIN Phulchoki 36.47 95 *e*P **P 16 11 36.7 -0.4**
comp=Z,17nm,0.9s
PKI Pulchoki 36.48 95 *e*P **P 16 11 36.6 -0.6**
comp=Z,22nm,1.0s
ESDC Sonseca Array 36.48 287 P **P 16 11 35.2 -1.7**
comp=Z,1.4nm,0.6s,baz=69,slow=8.2,SNR=9.7
ESDC LR LR 16 26 14.8
comp=Z,44nm,21.6s,baz=255,slow=36
GUN Gumba 36.68 94 *e*P **P 16 11 38.5 -0.5**
comp=Z,40nm,1.0s
HVS Khovu-Aksy 36.84 54⇓*i*P **P 16 11 40.0 +0.2**
HVS pmax pmax
comp=Z,9.0nm,0.8s
JIRN Jiri 37.04 94 *e*P **P 16 11 41.9 -0.2**
comp=Z,41nm,0.9s
RAMN Ramite 37.71 95 *e*P **P 16 11 46.8 -0.8**
comp=Z,27nm,0.9s
NRIK Noril'sk 38.45 23 P **P 16 11 52.5 -0.6**
comp=Z,3.9nm,0.9s,baz=237,slow=8.9,SNR=6.9
NRIK LR LR 16 32 07.0
comp=Z,119nm,18.2s,baz=214,slow=43
TOA1 Torodi Ar. Sit 44.95 247 *e*P **P 16 12 46.0 -0.9**
TORD Torodi Ar. Bea 44.95 247 P **P 16 12 46.0 -1.0**
comp=Z,3.1nm,0.9s,baz=23,slow=11,SNR=18
TORD LR LR 16 33 58.9
comp=Z,37nm,19.7s,baz=20,slow=39
SONA0 Songino Array 45.44 57 *e*P **P 16 12 48.2 -2.4**
SONM Songino Array 45.44 57 P **P 16 12 48.2 -2.4**
comp=Z,0.2nm,0.3s,baz=334,slow=26,SNR=6.5
SONM LR LR 16 33 48.5
comp=Z,124nm,19.5s,baz=260,slow=39
ULN Ulaanbaatar 45.86 57⇓*e*P **P 16 12 54.2 +0.2**
ULN pmax pmax
comp=Z,9.0nm,1.3s
BOD Bodaibo 48.14 43 *e*P **P 16 13 10.3 -1.1**
BOD pmax pmax
comp=Z,6.0nm,1.5s
XAN Xi'an 51.80 74 P **P 16 13 42.1 +2.4**
XAN pmax pmax
comp=Z,14nm,1.0s
XAN pmax pmax
comp=Z,67nm,3.8s
CMAR Chiang Mai Arr 51.84 97 P **P 16 13 38.4 -1.8**
comp=Z,1.5nm,0.9s,baz=297,slow=8.6,SNR=8.3
CMAR Chiang Mai Arr 51.84 97 *i*P **P 16 13 41.4 +1.3**
CMAR pmax pmax
comp=Z,2.0nm,0.9s
TIXI Tiksi 52.24 24⇓*e*P **P 16 13 43.2 +0.9**
TIXI pmax pmax
comp=Z,7.0nm,2.0s
DBIC Dimbokro 54.06 247 LR LR 16 41 59.1
comp=Z,46nm,19.0s,baz=42,slow=42
YAK Yakutsk 54.86 35⇓*i*P **P 16 14 01.5 -0.2**
YAK pmax pmax
comp=Z,5.0nm,0.8s
SRAK Srakaew 56.86 99 P P 16 14 24.2 +7.6
KLR Kul'dur 60.81 49⇑*e*P **P 16 14 43.2 -0.5**
USRK Ussuriysk Ar. 63.31 54 P **P 16 14 58.8 -1.7**
comp=Z,1.1nm,0.6s,baz=296,slow=5.6,SNR=3.2
SEY Seymchan 63.90 29⇑*i*P **P 16 15 04.0 -0.2**
KSAR Wonju Array Be 63.93 62 P **P 16 15 03.6 -1.1**
KSAR Wonju Array Be 63.93 62 P **P 16 15 03.6 -1.1**
KSRS Korea Array 63.95 62 P **P 16 15 03.6 -1.3**
comp=Z,1.5nm,0.8s,baz=293,slow=8.0,SNR=5.8
BILL Bilibino 65.19 20⇑*e*P **P 16 15 14.3 +1.8**
BILL *i* 16 15 18.0
BILL *e* 16 15 20.6
BILL *e*SSS SSS 16 31 03.1
BILL pmax pmax
comp=Z,3.0nm,0.9s
BILL MLR MLR
comp=Z,91nm,17.0s
MJAR Matsushiro Arr 71.39 58 LR LR 16 49 50.1
comp=Z,95nm,19.4s,baz=330,slow=38
PETK Petropavlovsk- 72.21 35 LR LR 16 52 09.1
comp=Z,91nm,19.3s,baz=325,slow=40
ILAR Eielson Array 76.42 5 LR LR 16 53 13.3
comp=Z,30nm,18.2s,baz=356,slow=38
PDAR Pinedale Array 95.21 340 LR LR 17 00 47.5
comp=Z,30nm,19.6s,baz=36,slow=36

*ISCJB **24** 16:25:09.6±0.4,39°.87N±0°.02×15°.97E±0°.04,h13km±3km, Error ellipse: s-maj=5.0km s-min=3.2km az=160.6*
*ROM **24** 16:25:09.3±0.1,39°.880N±0°.007×15°.99E±0°.01,h9km±1km, ML2.7/15*
ISC 24 16:25:09.8±0.9,**39°.87N**±0°.02×**15°.97E**±0°.03,**h9**km±8km, **n32**,σ**1s10**/39,**Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h m s		ISC
CUC	**Castrocucco**	**0.17**	**317**	P	**Pg**	**16 25 13.4**		**0.0**
CUC				S	**Sg**	**16 25 16.6**		**+0.6**
CUC				AML	AML			
	comp=E,6910μm,0.4s							
CUC				AML	AML			
	comp=N,5800μm,0.3s							
CUC				AML	AML			
	comp=E,6910μm,0.4s							
CUC				AML	AML			
	comp=N,5800μm,0.3s							
CUC				AML	AML			
	comp=N,5800μm,0.3s							
CUC				AML	AML			
	comp=E,6910μm,0.4s							
T0702	**Acquaformosa (**	**0.17**	**148**	P	**Pg**	**16 25 13.6**		**+0.2**
T0702				S	**Sg**	**16 25 16.8**		**+0.8**
T0702				AML	AML			
	comp=E,7675μm,0.3s							
T0702				AML	AML			
	comp=N,3500μm,0.5s							
T0702				AML	AML			
	comp=E,7670μm,0.3s							
T0702				AML	AML			
	comp=N,3500μm,0.5s							
T0702				AML	AML			
	comp=E,7670μm,0.3s							
T0702				AML	AML			
	comp=N,3500μm,0.5s							
SALB	**San Lorenzo Be**	**0.29**	**88**	*i* P	**Pg**	**16 25 14.7**		**-1.1**
SALB				S	**Sg**	**16 25 19.6**		**0.0**
SIRI	**Monte Sirino -**	**0.32**	**346**	P	**Pg**	**16 25 16.2**		**-0.1**
SIRI				S	**Sb**	**16 25 22.1**		**-1.2**
CET2	**Cetraro**	**0.34**	**182**	P	**Pg**	**16 25 16.9**		**+0.4**
CET2				S	**Sb**	**16 25 22.2**		**-1.4**
CET2				AML	AML			
	comp=E,2675μm,0.3s							
CET2				AML	AML			
	comp=N,2800μm,0.4s							
CET2				AML	AML			
	comp=E,2675μm,0.3s							
CET2				AML	AML			
	comp=N,2800μm,0.4s							
CET2				AML	AML			
	comp=E,2675μm,0.3s							
CET2				AML	AML			
	comp=N,2800μm,0.4s							
SCHR	**S. Chirico Rap**	**0.34**	**14**	P	**Pg**	**16 25 15.8**		**-0.8**
MGR	**Morigerati**	**0.42**	**311**	P	**Pg**	**16 25 17.6**		**-0.3**
MGR				AML	AML			
	comp=E,1640μm,0.5s							
MGR				AML	AML			
	comp=N,1410μm,0.7s							
MGR				AML	AML			
	comp=E,1820μm,0.6s							
MGR				AML	AML			
	comp=N,1480μm,0.5s							
MGR				AML	AML			
	comp=E,1640μm,0.5s							
MGR				AML	AML			
	comp=N,1415μm,0.7s							
MGR				AML	AML			
	comp=E,1820μm,0.6s							
MGR				AML	AML			
	comp=N,1485μm,0.5s							
MGR				AML	AML			
	comp=E,1640μm,0.5s							
MGR				AML	AML			
	comp=N,1485μm,0.5s							
MGR				AML	AML			
	comp=N,1415μm,0.7s							
MGR				AML	AML			
	comp=E,1820μm,0.6s							
ORI	**Oriolo Calabro**	**0.42**	**62**	P	**Pg**	**16 25 17.4**		**-0.7**
MTSN	**Montesano sull**	**0.43**	**338**	P	**Pg**	**16 25 18.0**		**-0.3**
MTSN				S	**Sb**	**16 25 25.6**		**-0.8**
MCEL	**Monticello**	**0.47**	**345**	P	**Pg**	**16 25 18.6**		**-0.5**
MCEL				S	**Sb**	**16 25 26.5**		**-1.1**
BULG	**Bulgheria - Ca**	**0.50**	**295**	P	**Pg**	**16 25 19.5**		**0.0**
BULG				AML	AML			
	comp=E,949μm,1.2s							
BULG				AML	AML			
	comp=N,2090μm,0.3s							
BULG				AML	AML			
	comp=E,997μm,1.2s							
BULG				AML	AML			
	comp=N,2170μm,0.3s							
BULG				AML	AML			
	comp=E,950μm,1.2s							
BULG				AML	AML			
	comp=N,2090μm,0.3s							
BULG				AML	AML			
	comp=E,997μm,1.2s							
BULG				AML	AML			
	comp=N,2170μm,0.3s							
BULG				AML	AML			
	comp=N,2170μm,0.3s							
BULG				AML	AML			
	comp=N,2090μm,0.3s							
BULG				AML	AML			
	comp=E,997μm,1.2s							
BULG				AML	AML			
	comp=E,950μm,1.2s							
SLCN	**Sala Consilina**	**0.58**	**334**	P	**Pg**	**16 25 20.6**		**-0.5**
SLCN				AML	AML			
	comp=E,1340μm,1.0s							
SLCN				AML	AML			
	comp=N,1184μm,0.4s							
SLCN				AML	AML			
	comp=E,1480μm,1.0s							
SLCN				AML	AML			
	comp=N,1254μm,0.4s							
SLCN				AML	AML			
	comp=E,1340μm,1.0s							
SLCN				AML	AML			
	comp=N,1184μm,0.4s							
SLCN				AML	AML			
	comp=N,1254μm,0.4s							
SLCN				AML	AML			
	comp=E,1480μm,1.0s							
CRAC	**Craco**	**0.61**	**36**	P	**Pb**	**16 25 22.6**		**-0.2**
CELI	**Celico**	**0.62**	**138**	P	**Pg**	**16 25 21.8**		**-0.1**
CELI				AML	AML			
	comp=E,1175μm,0.6s							
CELI				AML	AML			
	comp=N,1520μm,0.5s							
CELI				AML	AML			
	comp=N,1520μm,0.5s							
CELI				AML	AML			
	comp=E,1175μm,0.6s							
PTRP	**Pietrapertosa**	**0.66**	**6**	P	**Pg**	**16 25 22.2**		**-0.3**
CMPR	**Campora**	**0.68**	**312**	P	**Pg**	**16 25 22.3**		**-0.7**
CMPR				AML	AML			
	comp=E,973μm,0.4s							
CMPR				AML	AML			
	comp=N,652μm,0.6s							
CMPR				AML	AML			
	comp=E,973μm,0.4s							
CMPR				AML	AML			
	comp=N,652μm,0.6s							
CMPR				AML	AML			
	comp=N,652μm,0.6s							
CMPR				AML	AML			
	comp=E,973μm,0.4s							
PZUN	**Potenza**	**0.79**	**351**	AML	AML			
	comp=E,254μm,0.6s							

PZUN					AML	AML		
	comp=E,254µm,0.6s							
PZUN					AML	AML		
	comp=N,307µm,0.4s							
PZUN					AML	AML		
	comp=E,254µm,0.6s							
PZUN					AML	AML		
	comp=N,324µm,1.2s							
PZUN					AML	AML		
	comp=N,324µm,1.2s							
CDRU	**Civita di Ruta**	**0.80**	**321**	P	**Pg**		**16 25 24.4**	**-0.9**
CDRU					AML	AML		
	comp=E,461µm,0.7s							
CDRU					AML	AML		
	comp=N,290µm,0.5s							
CDRU					AML	AML		
	comp=N,290µm,0.5s							
CDRU					AML	AML		
	comp=E,461µm,0.7s							
MIGL	**Miglionico**	**0.82**	**26**	P	**Pg**		**16 25 24.1**	**-1.6**
ACER	**Acerenza**	**0.92**	**359**	P	**Pb**		**16 25 27.1**	**-0.9**
TIP	**Timpagrande**	**0.92**	**138**	P	**Pb**		**16 25 27.5**	**-0.5**
TIP					AML	AML		
	comp=E,146µm,1.6s							
TIP					AML	AML		
	comp=N,180µm,0.7s							
TIP					AML	AML		
	comp=E,174µm,1.6s							
TIP					AML	AML		
	comp=N,217µm,0.7s							
TIP					AML	AML		
	comp=E,146µm,1.6s							
TIP					AML	AML		
	comp=N,217µm,0.7s							
TIP					AML	AML		
	comp=N,180µm,0.7s							
TIP					AML	AML		
	comp=E,174µm,1.6s							
LTRZ	**Laterza**	**0.98**	**41**	P	**Pg**		**16 25 27.2**	**-1.5**
SERS	**Sersale**	**1.00**	**146**	P	**Pb**		**16 25 29.0**	**-0.5**
SERS					AML	AML		
	comp=E,236µm,0.5s							
SERS					AML	AML		
	comp=N,209µm,1.2s							
SERS					AML	AML		
	comp=E,216µm,1.6s							
SERS					AML	AML		
	comp=N,251µm,0.4s							
SERS					AML	AML		
	comp=N,251µm,0.4s							
SERS					AML	AML		
	comp=E,216µm,1.6s							
SERS					AML	AML		
	comp=N,209µm,1.2s							
SERS					AML	AML		
	comp=E,236µm,0.5s							
SG1	**Sgolgore (BA)**	**1.11**	**29**	*e*Pg	**Pn**		**16 25 31.2**	**-0.5**
SG1					Sg	**Sn**	**16 25 50.5**	**+3.3**
AMUR	**Altamura**	**1.15**	**25**	P	**Pg**		**16 25 30.9**	**-1.0**
MASS	**Massafra**	**1.18**	**49**	*e*Pg	**Pn**		**16 25 32.9**	**+0.3**
NOCI	**Noci**	**1.25**	**42**	P	**Pg**		**16 25 33.1**	**-0.7**
JOPP	**Joppolo**	**1.26**	**183**	P	**Pn**		**16 25 33.1**	**-0.5**
JOPP					AML	AML		
	comp=E,177µm,1.2s							
JOPP					AML	AML		
	comp=N,219µm,0.9s							
JOPP					AML	AML		
	comp=E,177µm,1.2s							
JOPP					AML	AML		
	comp=N,219µm,0.9s							
BAI	**Bari**	**1.42**	**29**	*e*Pg	**Pg**		**16 25 38.4**	**+1.3**
BAI					Sg	**Sg**	**16 25 58.7**	**+3.2**
FASA	**Fasano**	**1.42**	**48**	*e*Pg	**Pg**		**16 25 36.7**	**-0.4**
MSCL	**Scilla**	**1.64**	**185**	P	**Pn**		**16 25 38.4**	**-0.5**
MSCL					AML	AML		
	comp=E,254µm,0.6s							
MSCL					AML	AML		
	comp=N,256µm,0.7s							
MSCL					AML	AML		
	comp=E,254µm,0.6s							
MSCL					AML	AML		
	comp=N,256µm,0.7s							
GIUL	**Giuliano Di Ro**	**2.67**	**310**	AML	AML			
	comp=N,28µm,1.2s							
GIUL					AML	AML		
	comp=E,19µm,1.2s							
GIUL					AML	AML		
	comp=E,19µm,1.2s							
GIUL					AML	AML		
	comp=N,28µm,1.2s							

BJI ***24*** *16:26:32.6,6˝.81S×131˝.07E,h124km,mb4.8/31,mB4.9/23*
IDC ***24*** *16:26:37.8±2.1,6˝.18S×130˝.43E,h103km±19km,mb4.3/17, mb1 4.4/20,mb1mx4.3/27,mbtmp4.7/20,MS3.2/4, Ms1 3.2/4,ms1mx2.8/25,Error ellipse: s-maj=17.6km s-min=9.6km az=79.0*
ISCJB ***24*** *16:26:38.0±0.2,6˝.21S±0˝.03×130˝.67E±0˝.03,h124km, mb4.7/47, Error ellipse: s-maj=5.0km s-min=3.5km az=161.1*
MOS ***24*** *16:26:38.3±1.0,6˝.14S×130˝.50E,h124km,mb4.7/20,Error ellipse: s-maj=11.7km s-min=6.9km az=114.8*
NEIC ***24*** *16:26:39.5±0.5,6˝.16S×130˝.55E,h121km±5km,mb4.7/20, Error ellipse: s-maj=6.5km s-min=4.7km az=66.0*
DJA ***24*** *16:26:40.0±0.2,6˝S±2˝×13˝1E±˚,h110km±5km,M4.9/25, mB5.3/16,mb5.0/25,MLv5.3/12,Mw(mB)4.7/16*
ISC 24 16:26:39.4±0.3,6˝22S±0˝.03×130˝.60E±0˝.05,h124km,n169, σ1^{9}**97**/185,**mb4.7**/46,**11C-4D,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.82**	**338**	P	**Pn**	**16 27 11.5**	**+0.6**
BNDI				S	**Sn**	**16 27 35.9**	**+0.9**
SAUI	**Saumlaki**	**1.88**	**159**	*e*Pn	**Pn**	**16 27 13.7**	**+2.0**
SAUI				*e*Sn	**Sn**	**16 27 34.9**	**-1.5**
SAUI	**Saumlaki**	**1.88**	**159**	P	**Pn**	**16 27 13.5**	**+1.8**
SAUI				S	**Sn**	**16 27 36.4**	**0.0**
FAKI	**Fak Fak**	**3.67**	**27**	*e*Pn	**Pn**	**16 27 33.3**	**-1.4**
FAKI				*e*Sn	**Sn**	**16 28 11.4**	**-6.0**
FAKI	**Fak Fak**	**3.67**	**27**	P	**Pn**	**16 27 33.1**	**-1.6**
NLAI	**Namlea**	**4.58**	**310**	P	**Pn**	**16 27 48.7**	**+1.9**
SIJI	**Sorong**	**5.36**	**7**	P	**Pn**	**16 27 55.4**	**-1.9**
	202nm,0.3s,baz=201,slow=11,SNR=646						
SIJI				S	**Sn**	**16 28 52.0**	**-5.9**
	125nm,0.3s,baz=208,slow=22,SNR=19						
SIJI				LR	LR	16 30 23.5	
	comp=Z,88nm,21.3s,baz=158,slow=42						
SWI	**Sorong**	**5.36**	**7**	P	**Pn**	**16 27 55.3**	**-2.0**
SWI				pmax	pmax		
	comp=Z,982nm,0.7s						
SWI	**Sorong**	**5.36**	**7**	P	**Pn**	**16 27 55.4**	**-1.9**
RKPI	**Ransiki, Papua**	**5.88**	**37**	P	**Pn**	**16 28 03.9**	**-0.4**
SANI	**Sanana**	**6.19**	**312**	P	**Pn**	**16 28 08.5**	**0.0**
MTN	**Manton Dam**	**6.60**	**176**	*e*Pn	**Pn**	**16 28 13.7**	**-0.4**
MTN				*e*Sn	**Sn**	**16 29 23.2**	**-4.8**
SRPI	**Serui, Papua**	**7.09**	**53**	P	**Pn**	**16 28 19.5**	**-1.2**
	comp=Z,254nm,0.7s,comp=Z,4µmcomp=Z,1.3nm						
SOEI	**Soe**	**7.19**	**240**	*e*Pn	**Pn**	**16 28 23.0**	**+0.9**
SOEI	**Soe**	**7.19**	**240**	P	**Pn**	**16 28 23.0**	**+0.9**
TNTI	**Ternate**	**7.66**	**335**	*e*Pn	**Pn**	**16 28 27.7**	**-0.7**
TNTI	**Ternate**	**7.66**	**335**	P	**Pn**	**16 28 27.7**	**-0.7**
	comp=Z,118nm,0.8s,comp=Z,1µmcomp=Z,0.4nm						
BATI	**Baumata**	**7.93**	**240**	P	**Pn**	**16 28 31.3**	**-0.7**
	comp=Z,111nm,0.3s,baz=120,slow=3.5,SNR=52						
BATI				S	**Sn**	**16 29 54.2**	**-6.0**
	comp=Z,35nm,0.3s,baz=77,slow=3.1,SNR=2.7						
BATI				LR	LR	16 31 53.4	
	comp=Z,613nm,18.8s,baz=274,slow=40						
BATI	**Baumata**	**7.93**	**240**	P	**Pn**	**16 28 32.3**	**+0.3**
	comp=Z,209nm,0.7s,comp=Z,2µm						
BBSI	**Bau Bau**	**8.02**	**275**	P	**Pn**	**16 28 35.8**	**+2.5**
	comp=Z,10nm,1.0s,comp=Z,262nm						
MMRI	**Maumere**	**8.64**	**253**	P	**Pn**	**16 28 43.0**	**+1.5**
	comp=Z,50nm,0.5s,comp=Z,1µm						
EDFI	**Ende, Flores**	**9.19**	**254**	P	**Pn**	**16 28 51.0**	**+1.9**
LUWI	**Luwuk**	**9.35**	**303**	P	**Pn**	**16 28 50.3**	**-0.9**
KMSI	**Cibinong**	**9.45**	**315**	P	**Pn**	**16 28 52.2**	**-0.3**
	comp=Z,121nm,0.6s,comp=Z,2µm						
MNI	**Manado**	**9.54**	**323**	P	**Pn**	**16 28 54.2**	**+0.4**
MNI				pmax	pmax		
	comp=Z,119nm,0.7s						
GENI	**Genyem**	**10.19**	**70**	P	**Pn**	**16 29 03.3**	**+0.8**
APSI	**Ampana**	**10.37**	**300**	P	**Pn**	**16 29 08.0**	**+3.0**
BNSI	**Bone**	**10.61**	**279**	P	**Pn**	**16 29 12.4**	**+4.3**
	comp=Z,45nm,0.8s						
JAY	**Jayapura**	**10.72**	**70**	P	**Pn**	**16 29 09.5**	**-0.2**
	comp=Z,3.2nm,0.3s,baz=213,slow=11,SNR=18						
JAY	**Jayapura**	**10.72**	**70**	P	**Pn**	**16 29 09.2**	**-0.5**
MRSI	**Marisa**	**10.91**	**307**	P	**Pn**	**16 29 13.1**	**+0.9**
	comp=Z,27nm,0.8s,comp=Z,595nm						
SPSI	**Sidrap Palu**	**11.02**	**281**	P	**Pn**	**16 29 16.3**	**+2.7**
	comp=Z,16nm,0.6s						
WBSI	**Waikabubak, Su**	**11.61**	**252**	P	**Pn**	**16 29 22.3**	**+0.8**
MPSI	**Mapaga**	**12.51**	**301**	P	**Pn**	**16 29 35.2**	**+1.9**
	comp=Z,7.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**12.76**	**202**	P	**Pn**	**16 29 33.6**	**-2.9**
	comp=Z,37nm,0.3s,baz=30,slow=10,SNR=238						
FITZ				S	Sn	16 31 45.8	-11
	comp=Z,3.3nm,0.3s,baz=52,slow=19,SNR=4.1						
FITZ	**Fitzroy Crossi**	**12.76**	**202**	*e*Pn	**Pn**	**16 29 32.8**	**-3.7**
FITZ				S	Sn	16 31 45.8	-11
FITZ				*e*Sn	**Sn**	**16 31 51.8**	**-5.4**
WRAB	**Tennant Creek**	**14.11**	**165**	*e*Pn	**Pn**	**16 29 50.0**	**-3.9**
WRAB				*e*Sn	Sn	16 32 19.9	-10
WRAB	**Tennant Creek**	**14.11**	**165**	*c**e*P	**Pn**	**16 29 50.5**	**-3.4**
WRAB				pmax	pmax		
	comp=Z,27nm,0.5s						
WRA	**Warramunga Arr**	**14.12**	**165**	P	**Pn**	**16 29 50.3**	**-3.7**
	comp=Z,6.7nm,0.3s,baz=349,slow=13,SNR=138						
WRA				S	Sn	16 32 19.5	-11
	comp=Z,14nm,0.3s,baz=349,slow=21,SNR=9.5						
WB2	**Warramunga Arr**	**14.12**	**165**	*e*Pn	Pn	16 29 47.7	-6.3
WB2				*e*Sn	Sn	16 32 19.8	-10
COEN	**Coen**	**14.56**	**123**	*e*Pn	**Pn**	**16 29 59.2**	**-0.5**
KMMI	**Kalianget**	**16.55**	**266**	P	**P**	**16 30 29.5**	**+4.8**
	comp=Z,58nm,0.7s,comp=Z,682nm						
PMG	**Port Moresby**	**16.70**	**102**	P	**P**	**16 30 29.2**	**+2.8**
	comp=Z,1.4nm,0.3s,baz=337,slow=6.0,SNR=7.1						
AS31	**Alice Springs**	**17.64**	**170**	*e*P	**P**	**16 30 37.0**	**+0.3**
	comp=Z,18nm,0.5s						
ASAR	**Alice Springs**	**17.64**	**170**	P	**P**	**16 30 37.1**	**+0.4**
	comp=Z,6.0nm,0.3s,baz=337,slow=8.9,SNR=170						
ASAR				S	**S**	**16 33 46.0**	**-7.8**
	comp=Z,4.2nm,0.3s,baz=354,slow=27,SNR=5.7						
AS01	**Alice Springs**	**17.64**	**170**	*e*P	**P**	**16 30 37.3**	**+0.5**
MBWA	**Marble Bar**	**18.21**	**214**	*e*P	**P**	**16 30 43.3**	**+0.3**
	comp=Z,24nm,0.8s						
KKM	**Kota Kinabalu**	**18.83**	**310**	*e*P	**P**	**16 30 50.3**	**+0.4**
	comp=Z,56nm,1.3s						
KKM	**Kota Kinabalu**	**18.83**	**310**	P	**Pn**	**16 30 51.0**	**-0.8**
SBUM	**Sibu**	**20.27**	**295**	*e*P	**P**	**16 31 06.2**	**+0.7**
	comp=Z,7.4nm,1.1s						
SBUM	**Sibu**	**20.27**	**295**	P	**P**	**16 31 06.0**	**+0.6**
CTA	**Charters Tower**	**20.52**	**134**	P	Pn	16 31 10.8	-0.7
	comp=Z,14nm,0.7s,baz=317,slow=12,SNR=27						
CTAO	**Charters Tower**	**20.52**	**134**	*e*P	Pn	16 31 10.0	-1.5
	comp=Z,19nm,0.9s						
CTAO	**Charters Tower**	**20.52**	**134**	*e*P	Pn	16 31 10.0	-1.5
CTAO				pmax	pmax		
	comp=Z,19nm,0.9s						
KSM	**Kuching**	**21.66**	**290**	P	**P**	**16 31 21.0**	**+0.7**
FORT	**Forrest**	**24.55**	**185**	*e*P	**P**	**16 31 49.6**	**+1.9**
	comp=Z,49nm,0.6s						
STKA	**Stephens Creek**	**27.52**	**159**	P	**P**	**16 32 15.0**	**+0.6**
	comp=Z,8.3nm,0.4s,baz=339,slow=8.9,SNR=46						
STKA				LR	LR	16 45 44.0	
	comp=Z,32nm,21.1s,baz=16,slow=42						
STKA	**Stephens Creek**	**27.52**	**159**	*e*P	**P**	**16 32 15.6**	**+1.2**
	comp=Z,2.1nm,0.5s						
STKA	**Stephens Creek**	**27.52**	**159**	*e*P	**P**	**16 32 15.6**	**+1.2**
STKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NWAO	**Narrogin (SRO)**	**29.34**	**203**	P	**P**	**16 32 30.6**	**0.0**
	comp=Z,6.9nm,0.5s,baz=271,slow=7.9,SNR=11						
KULM	**Kulim**	**32.01**	**290**	P	**P**	**16 32 54.0**	**-0.4**
PSI	**Prapat**	**32.88**	**285**	P	**P**	**16 32 59.3**	**-2.8**
	comp=Z,6.6nm,0.6s,baz=180,slow=6.6,SNR=2.4						
CAN	**Canberra**	**33.55**	**152**	*e*P	**P**	**16 33 09.9**	**+2.3**
	comp=Z,17nm,0.7s						
CAN	**Canberra**	**33.55**	**152**	*e*P	**P**	**16 33 09.9**	**+2.3**
CAN				pmax	pmax		
	comp=Z,17nm,0.7s						
CHAI	**Chaiyaphum**	**35.86**	**308**	P	**P**	**16 33 27.1**	**-0.5**
	comp=Z,15nm,0.5s,comp=Z,188nm						
UTHA	**Uthaitani**	**37.69**	**305**	P	**P**	**16 33 43.2**	**+0.1**
	comp=Z,6.7nm,0.7s,comp=Z,66nm						
UTTA	**Uttaradit**	**38.04**	**309**	P	**P**	**16 33 46.2**	**+0.2**
	comp=Z,9.6nm,0.8s						
SUKH	**Sukhothai**	**38.61**	**308**	P	**P**	**16 33 51.2**	**+0.4**
	comp=Z,11nm,0.7s						
LAMP	**Lampang**	**39.21**	**309**	P	**P**	**16 33 56.6**	**+0.8**
	comp=Z,6.3nm,0.7s						
CM01	**Chiang Mai Arr**	**39.67**	**309**	*e*P	**P**	**16 33 58.5**	**-1.1**
CM31	**Chiang Mai Arr**	**39.70**	**309**	*e*P	**P**	**16 34 00.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**39.70**	**309**	P	**P**	**16 33 59.8**	**-0.1**
	comp=Z,8.4nm,0.7s,baz=138,slow=7.5,SNR=71						
CMAR				PcP	**PcP**	**16 36 03.8**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=172,slow=2.9,SNR=11						
CMAR	**Chiang Mai Arr**	**39.70**	**309**	*c**e*P	**P**	**16 34 00.1**	**+0.2**
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CMMT	**Chiang Mai**	**39.90**	**309**	P	**P**	**16 34 01.6**	**0.0**
	comp=Z,23nm,0.8s						
CHTO	**Chiang Mai**	**39.91**	**309**	*e*P	**P**	**16 34 01.6**	**0.0**
	comp=Z,16nm,0.8s						
CHTO	**Chiang Mai**	**39.91**	**309**	*e*P	**P**	**16 34 01.6**	**0.0**
CHTO				pmax	pmax		
	comp=Z,16nm,0.8s						
CHTO	**Chiang Mai**	**39.91**	**309**	P	**P**	**16 34 01.6**	**0.0**
	comp=Z,101nm,0.9s						
KMI	**Kunming**	**41.30**	**320**	P	**P**	**16 34 15.4**	**+2.2**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,62nm,3.8s						
MJAR	**Matsushiro Arr**	**43.13**	**9**	P	**P**	**16 34 26.6**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=195,slow=9.9,SNR=5.6						
KSAR	**Wonju Array Be**	**43.51**	**357**	P	**P**	**16 34 31.0**	**+0.4**
KSAR	**Wonju Array Be**	**43.51**	**357**	P	**P**	**16 34 31.0**	**+0.4**
KSRS	**Korea Array**	**43.52**	**357**	P	**P**	**16 34 31.0**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=172,slow=8.6,SNR=11						
CD2	**Chengdu**	**44.98**	**327**	*e*P	**P**	**16 34 44.0**	**+1.5**
XAN	**Xi'an**	**44.99**	**334**	P	**P**	**16 34 41.6**	**-1.0**
XAN				pmax	pmax		
	comp=Z,8.0nm,1.3s						
XAN				pmax	pmax		
	comp=Z,92nm,5.4s						
LZH	**Lanzhou**	**49.01**	**331**	*e*P	**P**	**16 35 15.6**	**+1.7**
LZH				pP	pP	16 35 44.3	+1.6
LZH				sP	sP	16 35 57.8	+1.3
LZH				*e*PP	**PP**	**16 37 11.5**	**+2.8**
LZH				pmax	pmax		
	comp=Z,21nm,1.1s						
LZH				pmax	pmax		
	comp=Z,79nm,5.6s						
LZH				LR	LR		
	comp=Z,240nm,14.1s						
LZH				LR	LR		
	comp=Z,250nm,14.3s						
LZH				LR	LR		
	comp=Z,380nm,17.2s						
HHC	**Hu-ho-hao-te**	**50.00**	**341**	*e*P	**P**	**16 35 23.9**	**+2.7**
HHC				S	**S**	**16 42 25.8**	**+3.1**
HHC				pmax	pmax		
	comp=Z,23nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,5.8s						
USRK	**Ussuriysk Ar.**	**50.20**	**1**	P	**P**	**16 35 22.9**	**+0.3**
	comp=Z,3.5nm,0.6s,baz=192,slow=8.7,SNR=8.8						
MDJ	**Mudanjiang**	**50.61**	**359**	P	**P**	**16 35 25.8**	**+0.2**
MDJ				sP	sP	16 36 07.8	-0.6
MDJ				ScP	**ScP**	**16 40 21.3**	**-4.9**
MDJ				S	**S**	**16 42 36.9**	**+6.1**
MDJ				sS	sS	16 43 28.8	+8.1
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
RAMN	**Ramite**	**53.85**	**310**	*e*P	**P**	**16 35 50.3**	**0.0**
	comp=Z,48nm,0.6s						
JIRN	**Jiri**	**54.53**	**310**	*e*P	**P**	**16 35 55.1**	**-0.2**
	comp=Z,17nm,0.5s						
GUN	**Gumba**	**54.90**	**310**	*e*P	**P**	**16 35 57.7**	**-0.2**
	comp=Z,43nm,0.7s						
PKI	**Pulchoki**	**55.08**	**310**	*e*P	**P**	**16 35 58.4**	**-0.8**
	comp=Z,6.4nm,0.4s						
PKIN	**Phulchoki**	**55.09**	**310**	*e*P	**P**	**16 35 58.5**	**-0.8**
	comp=Z,4.5nm,0.4s						
KLR	**Kul'dur**	**55.23**	**1**	↑*i*P	**P**	**16 35 59.9**	**+0.5**
KKN	**Kakani**	**55.29**	**310**	*e*P	**P**	**16 36 00.2**	**-0.4**
	comp=Z,12nm,0.5s						
DMN	**Daman**	**55.33**	**310**	*e*P	**P**	**16 36 00.7**	**-0.3**
	comp=Z,7.2nm,0.5s						
GKN	**Gorkha**	**55.89**	**310**	*e*P	**P**	**16 36 04.6**	**-0.2**
	comp=Z,0.4nm,0.3s						
KOLN	**Koldanda**	**56.57**	**309**	*e*P	**P**	**16 36 09.6**	**-0.1**
	comp=Z,9.4nm,0.5s						
DANN	**Dangsing**	**56.73**	**310**	*e*P	**P**	**16 36 10.3**	**-0.7**
	comp=Z,9.9nm,0.5s						
PYUN	**Piuthan**	**57.20**	**309**	*e*P	**P**	**16 36 13.9**	**-0.3**
	comp=Z,50nm,1.0s						
ULN	**Ulaanbaatar**	**57.72**	**341**	*e*P	**P**	**16 36 16.2**	**-1.1**
	comp=Z,8.1nm,0.7s						
ULN	**Ulaanbaatar**	**57.72**	**341**	*c**e*P	**P**	**16 36 18.1**	**+0.8**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SONM	**Songino Array**	**57.90**	**341**	P	**P**	**16 36 19.3**	**+0.7**
	comp=Z,3.3nm,0.6s,baz=162,slow=6.2,SNR=19						
SONM				PcP	**PcP**	**16 37 09.7**	**+0.2**
	comp=Z,2.4nm,0.5s,baz=158,slow=4.8,SNR=7.4						
SONA1	**Songino Array**	**57.91**	**341**	*e*P	**P**	**16 36 19.0**	**+0.4**
WMQ	**Urumqi**	**63.07**	**326**	*e*P	**P**	**16 36 54.8**	**+1.1**
WMQ				pmax	pmax		
	comp=Z,44nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,230nm,3.7s						
WMQ				LR	LR		
	comp=Z,24nm,28.3s						
WMQ				LR	LR		
	comp=Z,58nm,20.1s						
PETK	**Petropavlovsk-**	**63.40**	**18**	P	**P**	**16 36 56.5**	**+0.9**
	comp=Z,7.3nm,0.6s,baz=176,slow=4.0,SNR=34						
HVS	**Khovu-Aksy**	**65.33**	**335**	↑*i*P	**P**	**16 37 08.2**	**-0.1**
HVS				pmax	pmax		
	comp=Z,25nm,1.0s						
NIL	**Nilore**	**67.17**	**310**	*e*P	**P**	**16 37 20.1**	**-0.2**
	comp=Z,11nm,0.6s						
NIL	**Nilore**	**67.17**	**310**	*e*P	**P**	**16 37 20.1**	**-0.2**
NIL				pmax	pmax		
	comp=Z,11nm,0.6s						
KSH	**Kashi**	**67.85**	**317**	P	**P**	**16 37 25.8**	**+1.1**
KSH				pP	pP	16 37 56.8	+1.6
KSH				PP	**PP**	**16 39 58.8**	**+2.8**
KSH				S	**S**	**16 46 08.4**	**-5.0**
KSH				pmax	pmax		
	comp=Z,14nm,1.1s						
KSH				pmax	pmax		
	comp=Z,210nm,5.0s						
KSH				LR	LR		
	comp=Z,140nm,8.5s						
KSH				LR	LR		
	comp=Z,250nm,7.5s						
MK31	**Makanchi Array**	**67.91**	**326**	*e*P	**P**	**16 37 25.3**	**+0.6**
MK31	**Makanchi Array**	**67.91**	**326**	*e*P	**P**	**16 37 25.3**	**+0.6**
MKAR	**Makanchi Array**	**67.91**	**326**	P	**P**	**16 37 25.4**	**+0.7**
	comp=Z,27nm,0.5s,baz=114,slow=8.1,SNR=327						
MKAR	**Makanchi Array**	**67.91**	**326**	*c**e*P	**P**	**16 37 25.3**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,27nm,0.5s						
YAK	**Yakutsk**	**68.05**	**360**	*e*P	**P**	**16 37 25.4**	**+0.1**
	comp=Z,38nm,0.6s						
YAK	**Yakutsk**	**68.05**	**360**	*e*P	**P**	**16 37 23.9**	**-1.3**
YAK				pmax	pmax		
	comp=Z,20nm,0.9s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.1s						
KZA	**Kyzart**	**69.58**	**319**	P	**P**	**16 37 37.0**	**+1.3**
	SNR=8.6						
TKM2	**Tokmak 2**	**69.77**	**320**	P	**P**	**16 37 37.4**	**+0.8**
	SNR=13						
KBK	**Karagaybulak**	**70.06**	**320**	P	**P**	**16 37 39.5**	**+1.2**
	SNR=8.2						
UCH	**Uchtor**	**70.13**	**319**	P	**P**	**16 37 40.7**	**+1.6**
	SNR=13						
AAK	**Ala-Archa**	**70.34**	**319**	P	**P**	**16 37 41.2**	**+1.2**
	SNR=7.7						
AAK	**Ala-Archa**	**70.34**	**319**	*e*P	**P**	**16 37 41.2**	**+1.2**
	comp=E,11nm,0.9s						
AAK	**Ala-Archa**	**70.34**	**319**	*c**i*P	**P**	**16 37 40.7**	**+0.7**
AAK				*i* *PP	**pP**	**16 38 09.2**	**-1.5**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
AML	**Almayashu**	**70.62**	**319**	P	**P**	**16 37 43.3**	**+1.3**
	SNR=17						
USP	**Ospenovka**	**70.64**	**320**	P	**P**	**16 37 42.5**	**+0.9**
	SNR=12						
KBL	**Kabul**	**70.72**	**310**	*e*P	**P**	**16 37 43.1**	**+0.5**
	comp=Z,12nm,1.1s						
KBL	**Kabul**	**70.72**	**310**	*e*P	**P**	**16 37 43.1**	**+0.5**
KBL				pmax	pmax		
	comp=Z,12nm,1.1s						
EKS2	**Erkin-Say**	**70.81**	**319**	P	**P**	**16 37 44.2**	**+1.3**
	SNR=13						
SEY	**Seymchan**	**70.93**	**10**	↑*e*P	**P**	**16 37 44.5**	**+1.6**
ZALV	**Zalesovo Beam**	**71.15**	**333**	P	**P**	**16 37 43.9**	**-0.5**
	comp=Z,5.4nm,0.5s,baz=126,slow=5.1,SNR=33						
KURK	**Kurchatov**	**72.17**	**328**	*e*P	**P**	**16 37 50.8**	**+0.2**
	comp=Z,18nm,1.0s						
KURK	**Kurchatov**	**72.17**	**328**	*e*P	**P**	**16 37 50.8**	**+0.2**
KURK				pmax	pmax		
	comp=Z,18nm,1.0s						
NVS	**Novosibirsk**	**72.44**	**333**	↓*i*P	**P**	**16 37 52.1**	**0.0**
NVS				pmax	pmax		
	comp=Z,9.0nm,1.0s						
NVS				pmax	pmax		
	comp=N,7.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.2s						
VNDA	**Vanda**	**73.15**	**173**	P	**P**	**16 37 57.3**	**+1.2**
	comp=E,3.9nm,0.8s,baz=319,slow=6.6,SNR=29						
VNDA				LR	LR	17 08 20.9	
	comp=E,21nm,21.0s,baz=296,slow=34						
VNDA	**Vanda**	**73.15**	**173**	*e*P	**P**	**16 37 57.2**	**+1.2**
	comp=E,5.1nm,0.9s						
VNDA	**Vanda**	**73.15**	**173**	*e*P	**P**	**16 37 57.2**	**+1.2**
VNDA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MAW	**Mawson**	**75.89**	**201**	P	**P**	**

comp=Z,2.3nm,0.8s,baz=75,slow=2.2,SNR=6.9
FINES FINESS Array B 102.37 332 *i* P **Pdif 16 40 19.6 -1.2**
FINES pmax pmax
comp=Z,1.0nm,0.6s
VYHS Vyhne 109.00 319 *e*P **Pdif 16 40 52.5 +1.8**
VYHS Vyhne 109.00 319 *e*PDIF **Pdif 16 40 52.5 +1.8**
GERES GERESS Array B 112.21 320 PKiKP **PKiKP 16 45 00.6 -0.1**
comp=Z,0.8nm,0.5s,baz=62,slow=2.3,SNR=9.4
PDAR Pinedale Array 115.92 45 PKP **PKPdf 16 45 09.0 +0.8**
comp=Z,0.2nm,0.3s,baz=273,slow=3.2,SNR=3.0
TXAR Lajitas Array 124.01 59 PKP **PKPdf 16 45 23.9 0.0**
comp=Z,0.8nm,0.9s,baz=259,slow=1.9,SNR=6.3
TORD Torodi Ar. Bea 129.24 282 PKP **PKPdf 16 45 33.6 -0.5**
comp=Z,1.4nm,0.7s,baz=48,slow=2.4,SNR=9.5
PLCA Paso Flores 129.39 159 PKP **PKPdf 16 45 34.6 +0.7**
comp=Z,2.6nm,0.6s,baz=263,slow=1.8,SNR=15
DBIC Dimbokro 135.75 273 PKP **PKPdf 16 45 46.4 -0.1**
comp=Z,1.8nm,0.5s,baz=16,slow=1.6,SNR=3.8
CPUP Villa Florida 146.74 167 PKPbc **PKPbc 16 46 07.8 +0.1**
comp=Z,9.9nm,0.8s,baz=197,slow=2.5,SNR=17
NNA Nana 147.26 124 *i* PKP2 **PKPab 16 46 12.2 +0.7**
LPAZ La Paz 150.95 141 PKPbc **PKPbc 16 46 21.1 +1.6**
comp=Z,23nm,0.4s,baz=9.0,slow=2.3,SNR=135

ISCJB ***24*** *16:52:22.6±1.4, 32.°39S±0.°04×69.°91W±0.°05, h115km±14km, Error ellipse: s-maj=8.3km s-min=6.1km az=35.7*
SJA ***24*** *16:52:22.1±0.3, 32.°35S×69.°99W, h99km±8km, ML2.7, MW3.2*
GUC ***24*** *16:52:23.2±0.5, 32.°37S×69.°81W, h108km±13km, ML3.0*
ISC 24 16:52:23.5±3.0, 32.°38S±0.°06×69.°91W±0.°05, h108km±30km, n14, σ0.°44/21, 2D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAL	**Salagasta**	**0.93**	**103**	*e*P	**Pn**	**16 52 43.5**	**-0.4**
ASAL				*e*S	**Sn**	**16 52 59.5**	**+0.1**
ARCO	**CERRO ARCO**	**0.95**	**119**	IAML		16 53 03.8	
	comp=Z,125nm,0.3s						
FCH	**Farellones**	**1.00**	**199**	⇓*i*P	**Pn**	**16 52 45.0**	**+0.1**
FCH				*e*S	**Sn**	**16 53 02.1**	**+1.1**
FCH				IAML		16 53 02.4	
	comp=E,297nm,0.3s						
PEL	**Peldehue**	**1.00**	**220**	⇓*e*P	**Pn**	**16 52 44.0**	**-0.6**
PEL				*e*S	**Sn**	**16 53 00.3**	**-0.3**
PEL				IAML		16 53 01.6	
	comp=N,410nm,0.2s						
ROCH	**El Roble**	**1.10**	**237**	*e*P	**Pn**	**16 52 45.2**	**-0.6**
ROCH				*e*S	**Sn**	**16 53 02.5**	**-0.1**
ROCH				IAML		16 53 03.6	
	comp=E,708nm,0.3s						
CLCH	**Cerro Calan**	**1.14**	**207**	*e*P	**Pn**	**16 52 46.0**	**-0.2**
CLCH				*e*S	**Sn**	**16 53 03.5**	**+0.2**
CLCH				IAML		16 53 04.6	
	comp=N,273nm,0.4s						
AAGR	**Agrelo**	**1.15**	**128**	*e*P	**Pn**	**16 52 46.1**	**-0.1**
AAGR				*e*S	**Sn**	**16 53 03.8**	**+0.4**
RTCV	**Cerro Valdivia**	**1.27**	**66**	*e*P	**Pn**	**16 52 47.4**	**-0.2**
LMEL	**Las Melosas**	**1.48**	**189**	*e*P	**Pn**	**16 52 50.2**	**+0.1**
LMEL				IAML		16 53 18.8	
	comp=E,250nm,0.1s						
CMCH	**Combarbala**	**1.52**	**322**	*e*P	**Pn**	**16 52 50.6**	**+0.1**
CMCH				*e*S	**Sn**	**16 53 11.6**	**+0.6**
AMOG	**MOGNA**	**1.88**	**40**	*e*P	**Pn**	**16 52 54.6**	**-0.3**
AMOG				*e*S	**Sn**	**16 53 18.6**	**-0.2**
ACCO	**Cerro Coronel**	**1.93**	**22**	*e*P	**Pn**	**16 52 55.8**	**0.0**
ACCO				*e*S	**Sn**	**16 53 20.7**	**+0.3**
AROD	**Rodeo**	**2.24**	**10**	*e*P	**Pn**	**16 52 59.5**	**-0.3**
MRA	**San Martin**	**3.55**	**92**	IAML		16 52 27.2	
	comp=Z,10nm,0.4s						

ISCJB ***24*** *17:29:49.3±0.5, 35.°86N±0.°04×70.°74E±0.°06, h110km, mb3.4/9, Error ellipse: s-maj=7.8km s-min=4.7km az=154.0*
IDC ***24*** *17:29:49.5±3.1, 35.°84N×70.°60E, h80km±28km, mb3.3/10, mb1 3.5/16, mb1mx3.3/54, mbtmp3.7/16, Error ellipse: s-maj=23.2km s-min=16.1km az=20.0*
NNC ***24*** *17:29:57.8±4.0, 36.°57N×70.°49E, h192km±59km, mb3.2, mpv4.1, Error ellipse: s-maj=39.4km s-min=31.1km az=48.0*
ISC 24 17:29:52.0±0.7, 36.°03N±0.°07×70.°77E±0.°08, h110km, n43, σ2.°22/48, mb3.3/9, 6C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.53**	**28**	⇑P	**Pn**	**17 31 00.6**	**+1.9**
	32nm,0.4s						
SFK				⇓S	**Sn**	**17 31 53.6**	**+3.2**
	5.0nm,0.2s						
AML	**Almayashu**	**6.51**	**20**	P	**Pn**	**17 31 26.0**	**+0.4**
	SNR=38						
MNAS	**Manas**	**6.59**	**11**	⇑P	**Pn**	**17 31 26.6**	**+0.1**
	6.9nm,0.6s						
MNAS				S	**Sn**	**17 32 36.1**	**-4.1**
UCH	**Uchtor**	**6.84**	**24**	P	**Pn**	**17 31 30.8**	**+0.7**
	SNR=11						
KZA	**Kyzart**	**6.98**	**29**	P	**Pn**	**17 31 32.9**	**+0.9**
	SNR=5.5						
EKS2	**Erkin-Say**	**7.03**	**18**	P	**Pn**	**17 31 32.9**	**+0.5**
	SNR=6.6						
KK31	**Karatay Array**	**7.07**	**358**	⇑P	**Pn**	**17 31 32.1**	**-0.7**
	9.6nm,0.4s,baz=179,slow=13						
KK31				⇓S	**Sn**	**17 32 48.0**	**-3.6**
	14nm,0.6s,baz=183,slow=24						
AAK	**Ala-Archa**	**7.21**	**22**	P	**Pn**	**17 31 35.6**	**+0.8**
	3.7nm,0.3s,baz=176,slow=5.2,SNR=72						
AAK				S	**Sn**	**17 32 52.7**	**-2.5**
	1.3nm,0.3s,baz=133,slow=22,SNR=8.9						
AAK	**Ala-Archa**	**7.21**	**22**	⇑P	**Pn**	**17 31 35.3**	**+0.5**
	7.9nm,0.5s						
AAK				⇓S	**Sn**	**17 32 54.5**	**-0.7**
	5.3nm,0.6s						
AAK	**Ala-Archa**	**7.21**	**22**	P	**Pn**	**17 31 35.7**	**+0.8**
	SNR=14						
KBK	**Karagaybulak**	**7.37**	**25**	P	**Pn**	**17 31 38.8**	**+1.7**
	SNR=7.6						
CHMS	**Chumysh**	**7.61**	**23**	P	**Pn**	**17 31 40.8**	**+0.6**
	SNR=9.9						
USP	**Ospenovka**	**7.78**	**21**	P	**Pn**	**17 31 43.2**	**+0.7**
	SNR=5.5						
TKM2	**Tokmak 2**	**7.83**	**27**	⇑P	**Pn**	**17 31 43.9**	**+0.6**
	3.2nm,0.5s						
TKM2				⇓S	**Sn**	**17 33 06.2**	**-4.2**
	4.4nm,0.7s						
TKM2	**Tokmak 2**	**7.83**	**27**	P	**Pn**	**17 31 44.3**	**+0.9**
	SNR=8.7						
GEYT	**Alibeck**	**10.30**	**284**	P	Pn	17 32 13.8	-2.8
	0.8nm,0.3s,baz=114,slow=10,SNR=19						
GEYT				S	Sn	17 34 01.3	-8.8
	1.0nm,0.3s,baz=90,slow=14,SNR=8.3						
OTUK	**Ortayu**	**12.27**	**5**	⇓P	**Pn**	**17 32 40.9**	**-2.0**
	2.3nm,0.8s						
PYUN	**Piuthan**	**13.03**	**124**	*e*P	**Pn**	**17 32 49.5**	**-3.7**
DANN	**Dangsing**	**13.40**	**121**	*e*P	**Pn**	**17 32 55.2**	**-2.8**
	8.0nm,0.4s						
KOLN	**Koldanda**	**13.65**	**123**	*e*P	**Pn**	**17 32 57.9**	**-3.4**
	4.6nm,0.3s						
MKAR	**Makanchi Array**	**13.79**	**35**	P	**Pn**	**17 33 02.9**	**+0.1**
	0.1nm,0.3s,baz=204,slow=9.7,SNR=2.7						
GKN	**Gorkha**	**14.22**	**120**	*e*P	**Pn**	**17 33 05.6**	**-3.0**
	0.4nm,0.2s						
DMN	**Daman**	**14.79**	**121**	*e*P	**Pn**	**17 33 12.5**	**-3.4**
KKN	**Kakani**	**14.80**	**120**	*e*P	**Pn**	**17 33 12.8**	**-3.2**
	6.3nm,0.4s						
PKIN	**Phulchoki**	**15.01**	**120**	*e*P	**Pn**	**17 33 15.1**	**-3.6**
	6.4nm,0.4s						
PKI	**Pulchoki**	**15.02**	**120**	*e*P	**Pn**	**17 33 15.3**	**-3.6**
	7.3nm,0.5s						
GUN	**Gumba**	**15.15**	**118**	*e*P	**Pn**	**17 33 17.4**	**-3.2**
	7.3nm,0.4s						
AB31	**Akbulak array**	**15.41**	**332**	P	**Pn**	**17 33 21.8**	**-1.5**
	6.1nm,0.3s,baz=144,slow=13,SNR=11						
AB31				⇑S	Sn	17 35 59.0	-15
	2.0nm,0.5s,baz=156,slow=25,SNR=11						
JIRN	**Jiri**	**15.52**	**118**	*e*P	**Pn**	**17 33 22.2**	**-3.0**
	13nm,0.3s						
KURBB	**Kurchatov Arra**	**15.63**	**19**	P	**P**	**17 33 27.6**	**-0.2**
	0.0nm,0.3s,baz=210,slow=10,SNR=7.9						
RAMN	**Ramite**	**16.24**	**119**	*e*P	**Pn**	**17 33 31.4**	**-2.6**
	12nm,0.5s						
BVAR	**Borovoye Array**	**17.00**	**359**	P	**P**	**17 33 43.1**	**+0.2**
	0.3nm,0.3s,baz=173,slow=10,SNR=10						
AKTO	**Aktyubinsk**	**17.10**	**331**	P	**P**	**17 33 44.5**	**+0.4**
	0.8nm,0.3s,baz=146,slow=13,SNR=27						
AKTO				S	Sn	17 36 42.9	-11
	0.1nm,0.3s,baz=184,slow=16,SNR=5.8						
ZALV	**Zalesovo Beam**	**20.42**	**24**	P	**P**	**17 34 21.4**	**+1.2**
	2.5nm,0.4s,baz=214,slow=11,SNR=14						
BRTR	**Keskin Array B**	**29.40**	**289**	P	**P**	**17 35 45.1**	**0.0**
	0.5nm,0.7s,baz=82,slow=8.8,SNR=3.3						
CMAR	**Chiang Mai Arr**	**30.40**	**118**	P	**P**	**17 35 55.7**	**+1.8**
	0.4nm,0.5s,baz=301,slow=8.8,SNR=4.7						
FINES	**FINESS Array B**	**37.77**	**327**	P	**P**	**17 36 58.4**	**+1.3**
	3.0nm,0.9s,baz=106,slow=6.8,SNR=9.2						
ARCES	**ARCESS Array B**	**41.51**	**338**	P	**P**	**17 37 29.3**	**+1.3**
	2.1nm,0.6s,baz=110,slow=7.7,SNR=12						
NOA	**NORSAR Array B**	**44.65**	**323**	P	**P**	**17 37 53.7**	**+0.4**
	0.6nm,0.6s,baz=98,slow=7.9,SNR=3.3						
TORD	**Torodi Ar. Bea**	**65.52**	**269**	P	**P**	**17 40 23.1**	**-0.8**
	0.1nm,0.3s,baz=54,slow=7.3,SNR=2.9						
ILAR	**Eielson Array**	**75.28**	**16**	P	**P**	**17 41 26.2**	**+3.6**
	0.3nm,0.8s,baz=316,slow=5.1,SNR=4.1						
WRA	**Warramunga Arr**	**81.90**	**122**	P	**P**	**17 41 59.7**	**+0.2**
	0.1nm,0.4s,baz=325,slow=4.8,SNR=5.9						
ASAR	**Alice Springs**	**84.14**	**125**	P	**P**	**17 42 11.7**	**+0.6**
	0.2nm,0.8s,baz=312,slow=5.3,SNR=3.2						

NIED ***24*** *17:34:00, 37.°00N×141.°40E, h8km, Mw3.3 Best double couple: M0 1.08000×10^14 NP1:ϕs 26.00000°, δ37.00000°, λ-85.00000°. NP2:ϕs 199.00000°, δ53.00000°, λ-94.00000°.*
JMA 24 17:34:37.7±0.1, 37.°04N×141.°38E, h31km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.47**	**278**	P	Pb	17 34 47.3	-0.4
ONAJ				S	Sb	17 34 54.3	-0.3
JFK	**Kawauchi**	**0.52**	**309**	P	Pb	17 34 48.0	-0.5
JFK				*e*S	Sb	17 34 55.0	-0.9
JFFD	**Fukushimafurud**	**0.66**	**275**	P	Pb	17 34 50.3	-0.5
JFFD				*e*S	Sb	17 34 59.0	-0.7
JHO	**Hitachi**	**0.78**	**237**	P	Pn	17 34 52.0	-0.6
JHO				*e*S	Sb	17 35 02.6	-0.4
JMM	**Marumori**	**0.95**	**331**	P	Pn	17 34 54.8	-0.1
JMM				S	Sn	17 35 07.2	-0.1
JFT	**Otama**	**0.96**	**300**	P	Pb	17 34 55.8	0.0
JFT				S	Sb	17 35 08.3	+0.1
JFY	**Yanaizu**	**1.39**	**286**	P	Pb	17 35 02.5	-0.5
JFY				S	Sb	17 35 20.6	+0.2
JIO	**Ouri**	**1.41**	**359**	P	Pn	17 35 01.8	+0.5
JIO				S	Sn	17 35 19.4	+0.6
JOU	**Okura**	**1.44**	**337**	P	Pb	17 35 03.3	-0.6
MAT	**Matsushiro**	**2.59**	**260**	P	Pn	17 35 20.4	+2.8
MAT				*e*S	Sb	17 35 51.6	-3.4

NIED ***24*** *17:40:00, 35.°60N×141.°20E, h47km, Mw4.3 Best double couple: M0 3.13000×10^15 NP1:ϕs 190.00000°, δ25.00000°, λ85.00000°. NP2:ϕs 16.00000°, δ65.00000°, λ92.00000°.*
ISCJB ***24*** *17:40:20.7±0.4, 35.°53N±0.°04×141.°27E±0.°06, h33km, mb3.9/22, MS3.4/12, Error ellipse: s-maj=7.1km s-min=5.3km az=176.5*
JMA ***24*** *17:40:22.9±0.2, 35.°56N×141.°08E, h37km±1km, M3.8 Broadband fault plane solution: P waves. NP1: ϕs 73.00000°, δ54.00000°, λ81.00000°. NP2:ϕs 267.00000°, δ37.00000°, λ102.00000°. Principal axes: T Plg79.0000°, Azm309.0000°; N Plg7.0000°, Azm78.0000°; P Plg9.0000°, Azm169.0000°;*
JMA Felt II J1.
IDC ***24*** *17:40:25.8±1.8, 35.°49N×140.°87E, h57km±16km, mb3.7/22, mb1 3.9/27, mb1mx3.8/41, mbtmp4.0/27, MS3.4/19, Ms1 3.4/19, ms1mx3.2/51 Error ellipse: s-maj=17.9km s-min=9.5km az=85.0*
ISC 24 17:40:22.7±0.5, 35.°53N±0.°04×141.°09E±0.°07, h33km, n63, σ1.°29/55, mb4.0/22, MS3.5/12, 1C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.25**	**313**	⇑P	**Pb**	**17 40 30.0**	**+0.1**
CHOJ				S	**Sb**	**17 40 34.8**	**+0.1**
JSMT	**Sammumatsuo**	**0.53**	**282**	P	**Pn**	**17 40 34.0**	**+0.1**
JIHU	**Itakohorinouch**	**0.63**	**314**	P	**Pb**	**17 40 35.4**	**0.0**
JCN	**Nagara**	**0.73**	**262**	⇓P	**Pb**	**17 40 37.8**	**+0.8**
KTR	**Katsuura**	**0.74**	**239**	P	**Pb**	**17 40 37.0**	**-0.1**
BSO4	**Boso 4**	**0.81**	**229**	⇓P	**Pn**	**17 40 38.3**	**-0.1**
BSO3	**Boso 3**	**0.87**	**213**	⇓P	**Pn**	**17 40 38.7**	**+0.4**
BSO1	**Boso 1**	**0.88**	**186**	⇓P	**Pn**	**17 40 38.6**	**+0.4**
JYT	**Yasato**	**1.00**	**314**	⇓P	**Pn**	**17 40 40.1**	**-0.4**
JAG	**Ashikaga**	**1.60**	**304**	P	**Pn**	**17 40 49.4**	**+0.8**
MJAR	**Matsushiro Arr**	**2.54**	**294**	P	**Pn**	**17 41 02.8**	**+1.2**
	12nm,0.3s,baz=200,slow=2.7,SNR=147						
MJAR				LR	LR	17 42 09.0	
	comp=Z,566nm,19.6s,baz=110,slow=44						
MAT	**Matsushiro**	**2.54**	**294**	P	**Pn**	**17 41 03.5**	**+1.8**
MAT				*e*S	**Sb**	**17 41 37.2**	**-1.3**
JHJ	**Hachijo jima 2**	**2.63**	**205**	P	**Pn**	**17 41 03.6**	**+0.7**
	38nm,0.3s,baz=326,slow=22,SNR=8.7						
JHJ				S	**Sn**	**17 41 34.6**	**+0.9**
	91nm,0.3s,baz=72,slow=23,SNR=8.8						
JHJ				LR	LR	17 42 20.6	
	comp=Z,280nm,21.6s,baz=304,slow=46						
JCJ	**Chichijima**	**8.46**	**173**	P	**Pn**	**17 42 21.4**	**-1.5**
	6.2nm,0.3s,baz=287,slow=19,SNR=3.0						
JCJ				S	**Sn**	**17 43 52.4**	**-4.9**
	6.4nm,0.3s,baz=287,slow=19,SNR=2.4						
ASAJ	**Asahikawa**	**8.65**	**7**	P	**Pn**	**17 42 23.5**	**-2.0**
	2.7nm,0.3s,baz=222,slow=11,SNR=17						
ASAJ				S	**Sn**	**17 43 57.2**	**-4.7**
	0.3nm,0.3s,baz=195,slow=20,SNR=1.7						
JNU	**Nakatsue**	**8.78**	**257**	P	**Pn**	**17 42 26.5**	**-0.9**
	0.1nm,0.3s,baz=14,slow=19,SNR=1.8						
JNU				LR	LR	17 46 12.8	
	comp=Z,293nm,20.4s,baz=81,slow=40						
KSRS	**Korea Array**	**10.77**	**284**	P	**Pn**	**17 42 56.9**	**+2.3**
	0.2nm,0.3s,baz=96,slow=15,SNR=3.0						
KSRS				LR	LR	17 47 06.2	
	comp=Z,254nm,20.7s,baz=100,slow=38						
USRK	**Ussuriysk Ar.**	**11.12**	**324**	P	**Pn**	**17 43 00.5**	**+1.2**
	0.2nm,0.3s,baz=139,slow=12,SNR=4.3						
USRK				LR	LR	17 47 07.2	
	comp=Z,192nm,19.4s,baz=162,slow=36						
JOW	**Kunigami**	**13.97**	**235**	LR	LR	17 48 56.3	
	comp=Z,53nm,20.1s,baz=86,slow=37						
KLR	**Kul'dur**	**15.31**	**336**	LR	LR	17 49 50.5	
	comp=Z,148nm,18.7s,baz=156,slow=37						
PETK	**Petropavlovsk-**	**21.13**	**29**	LR	LR	17 54 53.9	
	comp=Z,37nm,18.4s,baz=233,slow=41						
YAK	**Yakutsk**	**27.48**	**348**	P	**P**	**17 46 05.7**	**+0.1**
	8.0nm,0.5s,baz=165,slow=1.3,SNR=7.1						
YAK				LR	LR	17 56 42.4	
	comp=Z,54nm,19.3s,baz=239,slow=36						
H11N2	**WAKE ISLAND Hy**	**27.64**	**118**	T	T	18 15 12.4	
	baz=310,slow=75,SNR=83						
H11N1	**WAKE ISLAND Hy**	**27.65**	**118**	T	T	18 15 17.7	
	baz=310,slow=75,SNR=70						
H11N3	**WAKE ISLAND Hy**	**27.66**	**118**	T	T	18 15 18.4	
	baz=310,slow=75,SNR=79						
H11S1	**WAKE ISLAND Hy**	**28.30**	**120**	T	T	18 15 58.5	
	baz=312,slow=75,SNR=525						
H11S3	**WAKE ISLAND Hy**	**28.30**	**120**	T	T	18 15 58.6	
	baz=312,slow=75,SNR=345						
SEY	**Seymchan**	**28.32**	**11**	P	**P**	**17 46 14.5**	**+1.5**
	2.3nm,0.8s,baz=231,slow=20,SNR=4.3						
H11S2	**WAKE ISLAND Hy**	**28.32**	**120**	T	T	18 15 59.8	
	baz=312,slow=75,SNR=340						
SONM	**Songino Array**	**28.43**	**306**	P	**P**	**17 46 14.0**	**-0.4**
	1.1nm,0.6s,baz=111,slow=7.3,SNR=8.2						
SONM				LR	LR	17 57 17.4	
	comp=Z,68nm,20.7s,baz=324,slow=36						
CMAR	**Chiang Mai Arr**	**40.88**	**257**	P	**P**	**17 48 00.5**	**-1.2**
	0.3nm,0.6s,baz=55,slow=7.7,SNR=3.0						
CMAR				LR	LR	18 05 12.4	
	comp=Z,57nm,20.2s,baz=156,slow=36						
ZALV	**Zalesovo Beam**	**42.74**	**314**	P	**P**	**17 48 17.1**	**+0.5**
	2.9nm,0.5s,baz=92,slow=7.4,SNR=13						
ZALV				LR	LR	18 04 56.7	
	comp=Z,25nm,19.1s,baz=72,slow=34						
NRIK	**Noril'sk**	**44.52**	**336**	LR	LR	18 08 53.1	
	comp=Z,54nm,18.7s,baz=51,slow=38						
BRDH	**Bariadhala**	**44.63**	**267**	LR	LR	18 10 36.0	
	comp=Z,83nm,20.0s,baz=88,slow=41						
MKAR	**Makanchi Array**	**44.71**	**303**	P	**P**	**17 48 32.8**	**+0.3**
	2.5nm,0.9s,baz=84,slow=9.1,SNR=14						
RAMN	**Ramite**	**46.86**	**275**	*e*P	**P**	**17 48 49.8**	**-0.3**
JIRN	**Jiri**	**46.91**	**276**	*e*P	**P**	**17 48 50.8**	**+0.2**
GUN	**Gumba**	**47.06**	**277**	*e*P	**P**	**17 48 52.0**	**+0.3**
PKI	**Pulchoki**	**47.57**	**277**	*e*P	**P**	**17 48 56.2**	**+0.5**
PKIN	**Phulchoki**	**47.58**	**277**	*e*P	**P**	**17 48 55.6**	**-0.1**
KKN	**Kakani**	**47.59**	**277**	*e*P	**P**	**17 48 55.9**	**+0.2**
BATI	**Baumata**	**48.38**	**203**	P	**P**	**17 49 01.1**	**-0.4**
	7.2nm,0.5s,baz=270,slow=24,SNR=3.6						
DANN	**Dangsing**	**48.59**	**278**	*e*P	**P**	**17 49 03.9**	**+0.3**
	25nm,0.8s						
PYUN	**Piuthan**	**49.31**	**278**	*e*P	**P**	**17 49 09.3**	**+0.3**
	25nm,0.9s						
ILAR	**Eielson Array**	**50.91**	**32**	P	**P**	**17 49 21.6**	**+1.4**
	0.9nm,0.7s,baz=265,slow=5.1,SNR=13						
FITZ	**Fitzroy Crossi**	**55.31**	**198**	P	**P**	**17 49 53.4**	**+0.3**
	1.2nm,0.5s,baz=14,slow=6.0,SNR=10.0						
WRA	**Warramunga Arr**	**55.54**	**188**	P	**P**	**17 49 54.4**	**-0.4**
	2.2nm,0.7s,baz=8.1,slow=7.7,SNR=31						
INK	**Inuvik**	**55.85**	**27**	LR	LR	18 15 51.8	
	comp=Z,31nm,18.4s,baz=44,slow=38						
ASAR	**Alice Springs**	**59.27**	**188**	P	**P**	**17 50 21.1**	**+0.1**
	0.3nm,0.6s,baz=1.5,slow=7.3,SNR=12						
GEYT	**Alibeck**	**64.34**	**299**	P	**P**	**17 50 54.7**	**-0.5**
	0.6nm,0.5s,baz=59,slow=4.3,SNR=3.8						
ARCES	**ARCESS Array B**	**65.31**	**340**	P	**P**	**17 51 01.2**	**+0.2**
	4.7nm,0.9s,baz=62,slow=5.6,SNR=3.8						
FINES	**FINESS Array B**	**70.02**	**332**	P	**P**	**17 51 31.4**	**+0.6**
	1.3nm,0.4s,baz=61,slow=7.3,SNR=13						
FINES				LR	LR	18 23 31.6	
	comp=Z,39nm,18.4s,baz=32,slow=37						
NWAO	**Narrogin (SRO)**	**71.67**	**201**	LR	LR	18 26 52.0	
	comp=Z,400nm,18.9s,baz=300,slow=39						
KBZ	**Khabaz**	**71.68**	**311**	P	**P**	**17 51 40.0**	**-1.2**
	2.5nm,0.9s,baz=48,slow=8.2,SNR=4.3						
AKASG	**Malin Array Be**	**75.32**	**322**	P	**P**	**17 52 01.9**	**-0.6**
	1.3nm,0.5s,baz=49,slow=5.9,SNR=6.4						
AKASG				LR	LR	18 27 36.9	
	comp=Z,42nm,19.4s,baz=275,slow=38						
NB2	**NORSAR Subarra**	**75.47**	**337**	P	**P**	**17 52 03.8**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**75.47**	**337**	P	**P**	**17 52 03.1**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=40,slow=5.8,SNR=5.5						
NOA				LR	LR	18 28 22.8	
	comp=Z,36nm,19.5s,baz=255,slow=38						
NVAR	**Mina Array Bea**	**76.11**	**53**	P	**P**	**17 52 09.5**	**+2.0**
	comp=Z,0.5nm,0.8s,baz=289,slow=2.8,SNR=3.0						
PDAR	**Pinedale Array**	**78.91**	**45**	P	**P**	**17 52 24.4**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=197,slow=1.5,SNR=3.6						
BRTR	**Keskin Array B**	**79.65**	**312**	P	**P**	**17 52 27.1**	**0.0**
	comp=Z,0.4nm,0.6s,baz=317,slow=16,SNR=4.5						
CLL	**Collm**	**82.27**	**330**	*e*P	**P**	**17 52 41.0**	**+0.4**
GERES	**GERESS Array B**	**83.85**	**328**	P	**P**	**17 52 48.9**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=55,slow=5.1,SNR=4.2						
TXAR	**Lajitas Array**	**91.25**	**52**	P	**P**	**17 53 25.7**	**+0.6**
	comp=Z,0.1nm,0.5s,baz=325,slow=6.3,SNR=2.9						

SOME ***24*** *17:57:45.9, 49.°93N×87.°88E, h0km*
NNC ***24*** *17:57:48.6±3.2, 50.°07N×88.°01E, h0km, mb4.2, mpv4.1, Error ellipse: s-maj=27.0km s-min=17.6km az=94.0*
IDC ***24*** *17:57:48.8±0.8, 50.°13N×87.°97E, h0km, mb3.6/9, mb1 3.8/16, mb1mx3.6/55, mbtmp3.7/16, ML3.7/7, MS2.4/1, Ms1 2.4/1, ms1mx2.1/43, Error ellipse: s-maj=11.9km s-min=9.8km az=171.0*
MOS ***24*** *17:57:49.7±2.1, 50.°08N×87.°82E, h14km, mb4.2/5, Error ellipse: s-maj=8.7km s-min=8.3km az=83.8*
ISCJB ***24*** *17:57:49.7±0.4, 50.°23N±0.°04×87.°70E±0.°05, h11km, mb3.6/11, Error ellipse: s-maj=5.3km s-min=4.4km az=149.2*
ASRS ***24*** *17:57:50.9±1.3, 50.°13N×87.°71E, h15km, Ms3.5/1*
ISC 24 17:57:50.6±0.6, 50.°08N±0.°03×87.°76E±0.°04, h11km, n55, σ2.°52/76, mb3.5/11, 12C-20D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UKR	**Ust'-Kan**	**2.09**	**295**	*e*Pg	**Pb**	**17 58 28.1**	**-0.5**
UKR				*e*Sg	**Sb**	**17 58 54.7**	**+0.1**
UKR	**Ust'-Kan**	**2.09**	**295**	*e*PN	**Pb**	**17 58 28.1**	**-0.5**
UKR				*e*		17 58 54.7	
TASR	**Tashtagol**	**2.69**	**2**	*e*Pg	**Pg**	**17 58 39.8**	**-2.2**
TASR				*e*Sg	**Sb**	**17 59 12.9**	**+1.3**
TASR	**Tashtagol**	**2.69**	**2**	*e*PN	**Pg**	**17 58 39.8**	**-2.2**
TASR				*e*		17 59 12.9	
ZSN	**Zaisan**	**3.25**	**217**	*e*P	**Pb**	**17 58 48.1**	**-0.3**
	27nm,0.3s						
ZSN				*e*S	**Sg**	**17 59 34.4**	**-0.6**
	159nm,0.5s				

OTUK				⇑Sn		Sn	18 02 12.0	-0.9
	comp=N,3.3nm,0.5s							
OTUK				⇓Lg		Lg	18 03 12.4	
	comp=N,30nm,0.7s							
OTUK	**Ortayu**	**10.27**	**266**	P		**Pn**	**18 00 18.4**	**+0.6**
OTUK				S		**Sn**	**18 02 12.0**	**-0.9**
OTUK				pmax	pmax			
	comp=Z,3.0nm,0.6s							
OTUK				smax	smax			
	comp=N,3.0nm,0.5s							
TKM2	**Tokmak 2**	**11.01**	**234**	⇑Pn		**Pn**	**18 00 31.1**	**+2.8**
	comp=N,2.3nm,0.6s							
TKM2				⇓Sn		**Sn**	**18 02 32.2**	**+0.7**
	comp=N,2.7nm,0.6s							
TKM2				⇓Lg		Lg	18 03 35.2	
	comp=N,6.9nm,0.8s							
TKM2	**Tokmak 2**	**11.01**	**234**	P		**Pn**	**18 00 31.7**	**+3.5**
TKM2				S		**Sn**	**18 02 32.2**	**+0.7**
TKM2				pmax	pmax			
	comp=Z,2.0nm,0.6s							
TKM2				smax	smax			
	comp=N,3.0nm,0.6s							
BVA0	**Borovoye Array**	**11.21**	**292**	⇑Pn		**Pn**	**18 00 31.5**	**+0.8**
	comp=N,1.3nm,0.5s							
BVA0				⇓Sn		**Sn**	**18 02 34.6**	**-1.2**
	comp=N,5.0nm,0.8s,baz=89,slow=18,SNR=4.5							
BVA0	**Borovoye Array**	**11.21**	**292**	P		**Pn**	**18 00 31.4**	**+0.8**
BVA0				S		**Sn**	**18 02 34.6**	**-1.2**
BVA0				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BVA0				smax	smax			
	comp=N,5.0nm,0.9s							
BVAR	**Borovoye Array**	**11.21**	**292**	Pn		**Pn**	**18 00 30.4**	**-0.2**
	comp=N,1.0nm,0.3s,baz=104,slow=14,SNR=24							
BVAR				Sn		**Sn**	**18 02 31.7**	**-4.1**
	comp=N,0.9nm,0.3s,baz=103,slow=20,SNR=6.7							
BRVK	**Borovoye**	**11.28**	**292**	⇓*i*P		**Pn**	**18 00 32.5**	**+1.0**
AAK	**Ala-Archa**	**11.79**	**236**	Pn		**Pn**	**18 00 39.5**	**+0.6**
	comp=N,0.5nm,0.3s,baz=94,slow=7.8,SNR=8.1							
AAK				Sn		**Sn**	**18 02 49.7**	**-0.7**
	comp=N,0.1nm,0.3s,baz=258,slow=22,SNR=3.3							
AAK				Lg		Lg	18 04 06.9	
	comp=N,0.5nm,0.3s,baz=155,slow=21,SNR=8.0							
AAK	**Ala-Archa**	**11.79**	**236**	⇓Pn		**Pn**	**18 00 36.8**	**-2.0**
	comp=N,2.4nm,0.8s							
AAK				Lg		Lg	18 04 03.4	
	comp=N,23nm,1.2s							
AAK	**Ala-Archa**	**11.79**	**236**	⇑eP		**Pn**	**18 00 40.9**	**+2.1**
SONM	**Songino Array**	**12.46**	**93**	Pn		**Pn**	**18 00 45.1**	**-2.7**
	comp=N,0.1nm,0.3s,baz=278,slow=10.0,SNR=2.4							
SONM				Lg		Lg	18 04 19.1	
	comp=N,0.1nm,0.3s,baz=289,slow=27,SNR=3.3							
KK31	**Karatay Array**	**13.74**	**246**	⇓Pn		**Pn**	**18 01 06.1**	**+0.7**
	comp=N,0.7nm,0.3s							
KK31				⇓Lg		Lg	18 05 06.6	
	comp=N,4.4nm,0.6s,baz=45,slow=25,SNR=4.9							
KK31	**Karatay Array**	**13.74**	**246**	*e*P		**Pn**	**18 01 06.0**	**+0.7**
AB31	**Akbulak array**	**17.99**	**278**	P		**Pn**	**18 01 59.7**	**-0.7**
	comp=N,0.6nm,0.5s,baz=79,slow=11,SNR=16							
AB31	**Akbulak array**	**17.99**	**278**	P		**Pn**	**18 01 59.7**	**-0.7**
AB31				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ARU	**Arti**	**18.49**	**301**	P		**Pn**	**18 02 07.0**	**+0.5**
ARU				S		**Sn**	**18 05 35.8**	**+2.9**
AKTO	**Aktyubinsk**	**18.97**	**283**	P		**Pn**	**18 02 13.1**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=90,slow=11,SNR=4.1							
HIA	**Hailar**	**20.64**	**80**	⇑*e*P		Pn	18 02 31.2	-1.0
HIA				pmax	pmax			
	comp=Z,3.0nm,0.7s							
YAK	**Yakutsk**	**25.78**	**46**	⇓*e*P		**P**	**18 03 20.1**	**-1.0**
YAK				pmax	pmax			
	comp=Z,5.0nm,0.4s							
KLR	**Kul'dur**	**28.19**	**75**	⇓*e*P		**P**	**18 03 44.6**	**+1.7**
TIXI	**Tiksi**	**28.45**	**26**	⇑*e*P		**P**	**18 03 46.4**	**+1.4**
TIXI				pmax	pmax			
	comp=Z,1.0nm,0.8s							
USRK	**Ussuriysk Ar.**	**30.30**	**84**	P		**P**	**18 04 01.0**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=303,slow=9.8,SNR=3.2							
FINES	**FINESS Array B**	**35.16**	**313**	P		**P**	**18 04 45.7**	**+1.8**
	comp=Z,3.2nm,1.1s,baz=80,slow=10.0,SNR=2.8							
AKASG	**Malin Array Be**	**36.48**	**294**	P		**P**	**18 04 56.4**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=54,slow=9.4,SNR=2.0							
BRTR	**Keskin Array B**	**38.92**	**276**	P		**P**	**18 05 19.1**	**+2.8**
	comp=Z,0.4nm,0.4s,baz=71,slow=4.8,SNR=5.7							
BRTR	**Keskin Array B**	**38.92**	**276**	*e*P		**P**	**18 05 20.4**	**+4.1**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
NOA	**NORSAR Array B**	**42.17**	**315**	P		**P**	**18 05 43.8**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=302,slow=11,SNR=3.3							
ILAR	**Eielson Array**	**57.91**	**24**	P		**P**	**18 07 40.1**	**-2.0**
	comp=Z,0.2nm,0.9s,baz=308,slow=6.1,SNR=2.6							
TORD	**Torodi Ar. Bea**	**77.53**	**276**	P		**P**	**18 09 45.7**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=25,slow=4.9,SNR=2.0							
WRA	**Warramunga Array**	**80.95**	**136**	P		**P**	**18 10 03.9**	**-1.1**
	comp=Z,0.3nm,0.8s,baz=345,slow=5.8,SNR=2.8							
ASAR	**Alice Springs**	**84.03**	**138**	P		**P**	**18 10 20.1**	**-1.0**
	comp=Z,0.1nm,0.6s,baz=330,slow=4.8,SNR=4.2							

MEX 24 18:33:50.5±0.4, 16.64N×98.38W, h2km±7km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.34**	**136**	*i*	P		Pg	18 33 56.7	-0.4
PNIG				*i*	S		Sg	18 34 01.8	+0.3
TLIG	**Tlapa**	**0.94**	**349**	*e*	P		Pg	18 34 06.8	-1.7
TLIG				*e*	S		Sg	18 34 19.2	-1.4
VHO	**Vista Hermosa**	**1.63**	**74**	*e*	P		Pn	18 34 16.2	-4.2
VHO				*e*	S		Sn	18 34 36.9	-5.2
HUIG	**Huatulco**	**2.34**	**111**	*e*	P		Pb	18 34 32.5	-1.0

*MOS **24** 18:47:56.0±0.9, 21.25S×178.91W, h513km, mb4.8/34, Error ellipse: s-maj=10.5km s-min=8.2km az=61.4*
*IDC **24** 18:47:57.3±1.2, 21.44S×178.76W, h526km±12km, mb4.1/25, mb1 4.2/29, mb1mx4.1/42, mbtmp5.0/29, Error ellipse: s-maj=11.7km s-min=10.4km az=129.0*
*ISCJB **24** 18:47:57.6±0.5, 21.39S±0.02×178.97W±0.03, h532km±6km, mb4.7/304, Error ellipse: s-maj=4.1km s-min=3.3km az=45.0*
*BJI **24** 18:47:58.4, 21.26S×178.44W, h553km, mb4.8/38, mB4.9/22*
*NEIC **24** 18:47:59.2±0.1, 21.46S×178.91W, mb4.8/260, Error ellipse: s-maj=4.5km s-min=2.8km az=137.0*
*GCMT **24** 18:48:00.2±0.5, 21.29S±0.04×178.81W±0.06, h556km±3km, MW5.3/43, Moment Tensor Solution. s43,c54; Duration: 1ś0 Moment tensor: Scale 10^17^Nm; Mrr-0.59±.04; Mθθ0.75±.07; Mϕϕ-0.16±.08; Mrθ-0.47±.08; Mθϕ-0.03±.06; Mϕr-0.62±.08; Best double couple: Mo1.02200×10^17^ NP1:ϕs58.00000°, δ71.00000°, λ-119.00000°. NP2:ϕs297.00000°, δ34.00000°, λ-36.00000°. Principal axes: T 0.9290, Plg21.0000°, Azm169.0000°; N 0.1850, Plg27.0000°, Azm68.0000°; P -1.1140, Plg55.0000°, Azm292.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
*WEL **24** 18:48:03.5±1.7, 22.12S×178.84W±4.1, h550km±13km*
ISC 24 18:47:58.1±0.4, 21.47S±0.04×178.73W±0.05, h538km±4km, h539km:pP-P, n783, σ1ś47/875, mb4.8/304, 33C-14D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**7.78**	**175**	P			**P**	**18 49 53.5**	**+0.3**
RIZ				S			**S**	**18 51 21.8**	**-5.8**
RAO	**Raoul Island**	**7.79**	**175**	P			**P**	**18 49 53.8**	**+0.5**
	30nm,0.3s,baz=45,slow=20,SNR=3.2								
RAO				S			**S**	**18 51 21.8**	**-5.9**
	53nm,0.3s,baz=73,slow=19,SNR=2.7								
RAO	**Raoul Island**	**7.79**	**175**	*e*P			**P**	**18 49 53.6**	**+0.3**
RAO				*e*S			**S**	**18 51 21.9**	**-5.9**
RAO				*e*S			S	18 51 23.9	-3.9
RAO	**Raoul Island**	**7.79**	**175**	*e*P			**P**	**18 49 53.6**	**+0.3**
RAO				*e*S			**S**	**18 51 21.9**	**-5.9**
RAO				*e*S			S	18 51 23.9	-3.8
GLKZ	**Green Lake**	**7.80**	**175**	P			**P**	**18 49 54.0**	**+0.6**
GLKZ				S			**S**	**18 51 25.9**	**-2.1**
AFI	**Afiamalu**	**10.01**	**43**	P			**P**	**18 50 13.6**	**-2.7**
	82nm,0.3s,baz=38,slow=0.7,SNR=192								
AFI				S			S	18 52 00.6	-9.0
	82nm,0.3s,baz=68,slow=19,SNR=11								
AFI	**Afiamalu**	**10.01**	**43**	*e*P			**P**	**18 50 13.7**	**-2.5**
AFI				*e*S			**S**	**18 52 02.0**	**-7.7**
AFI	**Afiamalu**	**10.01**	**43**	*e*P			**P**	**18 50 13.7**	**-2.5**
AFI				*e*S			**S**	**18 52 02.0**	**-7.7**
FUNA	**Funafuti**	**13.02**	**351**	*e*P			**P**	**18 50 45.6**	**-1.8**
DZM	**Mont Dzumac**	**13.79**	**265**	P			**P**	**18 50 55.4**	**0.0**
	1.2nm,0.3s,baz=86,slow=19,SNR=11								
DZM	**Mont Dzumac**	**13.79**	**265**	*e*P			**P**	**18 50 55.0**	**-0.4**
OUZ	**Omahuta**	**15.27**	**205**	*e*P			**P**	**18 51 12.0**	**+1.5**
	53nm,1.0s								
OUZ	**Omahuta**	**15.27**	**205**	P			**P**	**18 51 13.0**	**+2.6**
GRZ	**Great Barrier**	**15.58**	**198**	P			**P**	**18 51 14.5**	**+0.9**
WCZ	**Waipu Caves**	**15.64**	**201**	P			**P**	**18 51 16.7**	**+2.4**
KUZ	**Kuaotunu**	**15.97**	**196**	P			**P**	**18 51 18.5**	**+1.0**
ABAZ	**Army Bay**	**16.09**	**199**	P			**P**	**18 51 21.3**	**+2.6**
WIAZ	**Waiheke Island**	**16.18**	**198**	P			**P**	**18 51 21.0**	**+1.5**
MXZ	**Matakaoa Point**	**16.25**	**188**	*e*P			**P**	**18 51 19.6**	**-0.6**
	149nm,1.5s								
MXZ	**Matakaoa Point**	**16.25**	**188**	P			**P**	**18 51 20.6**	**+0.4**
WMGZ	**Waiomatatini S**	**16.48**	**188**	P			**P**	**18 51 22.5**	**+0.1**
HAZ	**Te Kaha**	**16.51**	**190**	P			**P**	**18 51 22.5**	**-0.2**
PKGZ	**Pakihiroa**	**16.60**	**189**	P			**P**	**18 51 24.1**	**+0.5**
RUGZ	**Raukumara Rang**	**16.73**	**190**	P			**P**	**18 51 24.4**	**-0.6**
RUGZ				S			**S**	**18 54 11.1**	**-2.6**
PUZ	**Puketiti**	**16.75**	**188**	P			**P**	**18 51 25.6**	**+0.6**
PUZ				S			**S**	**18 54 12.4**	**-1.5**
TGRZ	**Tauranga**	**16.78**	**194**	P			**P**	**18 51 27.1**	**+1.9**
OPRZ	**Ohinepanea**	**16.82**	**193**	P			**P**	**18 51 26.7**	**+1.0**
TWGZ	**Tauwhareparae**	**16.89**	**189**	P			**P**	**18 51 26.7**	**+0.4**
MARZ	**Manawahe**	**16.94**	**193**	P			**P**	**18 51 27.8**	**+1.1**
TOZ	**Tahuroa Road**	**16.96**	**196**	P			**P**	**18 51 29.1**	**+2.2**
KMRZ	**Kaimai**	**16.96**	**195**	P			**P**	**18 51 29.7**	**+2.7**
OMRZ	**Omania**	**17.12**	**193**	P			**P**	**18 51 30.0**	**+1.7**
URZ	**Urewera**	**17.12**	**191**	P			**P**	**18 51 26.5**	**-1.8**
	11nm,0.3s,baz=17,slow=6.2,SNR=41								
URZ				S			**S**	**18 54 14.2**	**-5.6**
	0.5nm,0.3s,baz=218,slow=19,SNR=6.9								
URZ	**Urewera**	**17.12**	**191**	*e*P			**P**	**18 51 26.5**	**-1.8**
URZ				*e*S			**S**	**18 54 13.0**	**-6.8**
URZ	**Urewera**	**17.12**	**191**	P			**P**	**18 51 26.6**	**-1.7**
URZ				S			**S**	**18 54 13.7**	**-6.1**
MWZ	**Matawai**	**17.12**	**190**	P			**P**	**18 51 27.8**	**-0.6**
MWZ				S			**S**	**18 54 16.1**	**-3.9**
MKRZ	**Makatiti**	**17.13**	**193**	P			**P**	**18 51 30.6**	**+2.0**
TKGZ	**Te Karaka**	**17.17**	**189**	P			**P**	**18 51 29.9**	**+1.1**
TARZ	**Mount Tarawera**	**17.21**	**193**	P			**P**	**18 51 30.6**	**+1.3**
UTU	**Utuhina**	**17.22**	**194**	P			**P**	**18 51 32.9**	**+3.6**
HLRZ	**Highlands Stat**	**17.26**	**193**	P			**P**	**18 51 31.1**	**+1.5**
RRRZ	**Republican Roa**	**17.31**	**193**	P			**P**	**18 51 30.8**	**+0.6**
HSRZ	**Hossack Road**	**17.34**	**193**	P			**P**	**18 51 32.7**	**+2.3**
GRRZ	**Galatos Road**	**17.41**	**194**	P			**P**	**18 51 32.2**	**+1.1**
HRRZ	**Handcock Road**	**17.41**	**193**	P			**P**	**18 51 32.5**	**+1.4**
RIGZ	**Rimuhau**	**17.45**	**189**	P			**P**	**18 51 31.6**	**+0.2**
RIGZ				S			**S**	**18 54 24.4**	**-0.9**
RTZ	**Ruatahuna**	**17.49**	**191**	P			**P**	**18 51 31.4**	**-0.4**
PRRZ	**Plateau Road**	**17.49**	**193**	P			**P**	**18 51 32.4**	**+0.6**
TLZ	**Tolley Road**	**17.52**	**195**	P			**P**	**18 51 34.6**	**+2.6**
SNGZ	**Shannon Statio**	**17.59**	**190**	P			**P**	**18 51 32.4**	**-0.2**
PRGZ	**Paritu Road**	**17.64**	**189**	P			**P**	**18 51 33.0**	**-0.2**
MTHZ	**Maungataniwha**	**17.74**	**191**	P			**P**	**18 51 33.2**	**-0.9**
MTHZ				S			**S**	**18 54 26.3**	**-3.8**
RAHZ	**Arahi**	**17.76**	**191**	P			**P**	**18 51 33.2**	**-1.1**
RAHZ				S			**S**	**18 54 29.3**	**-1.0**
KNZ	**Kokohu**	**17.77**	**189**	P			**P**	**18 51 34.3**	**0.0**
HIZ	**Hauiti**	**17.87**	**197**	*e*P			**P**	**18 51 37.5**	**+2.3**
	479nm,1.4s								
HIZ	**Hauiti**	**17.87**	**197**	P			**P**	**18 51 38.2**	**+3.0**
WHHZ	**Waihua**	**17.89**	**190**	P			**P**	**18 51 36.3**	**+0.9**
WHHZ				S			**S**	**18 54 29.5**	**-2.9**
KATZ	**Kakaramea**	**18.10**	**194**	P			**P**	**18 51 38.3**	**+0.9**
BKZ	**Black Stump Fm**	**18.11**	**192**	*e*P			**P**	**18 51 35.6**	**-1.9**
	57nm,0.9s								
BKZ				*e*S			**S**	**18 54 33.3**	**-2.8**
BKZ	**Black Stump Fm**	**18.11**	**192**	P			**P**	**18 51 36.1**	**-1.4**
BKZ				S			**S**	**18 54 34.2**	**-1.9**
ARHZ	**Aropaoanui**	**18.11**	**191**	P			**P**	**18 51 37.4**	**0.0**
KRVZ	**Karewarewa**	**18.22**	**194**	P			**P**	**18 51 38.6**	**+0.1**
TWVZ	**Taurewa**	**18.25**	**195**	P			**P**	**18 51 39.0**	**+0.2**
WTVZ	**West Tongariro**	**18.25**	**194**	P			**P**	**18 51 38.3**	**-0.6**
NGZ	**Ngauruhoe**	**18.31**	**194**	P			**P**	**18 51 39.5**	**+0.1**
MCHZ	**McNeill Hill**	**18.34**	**191**	P			**P**	**18 51 38.4**	**-1.1**
MCHZ				S			**S**	**18 54 38.7**	**-1.0**
COVZ	**Chateau Observ**	**18.35**	**194**	P			**P**	**18 51 40.5**	**+0.8**
KWHZ	**Kaweka Forest**	**18.38**	**192**	P			**P**	**18 51 38.4**	**-1.5**
KWHZ				S			**S**	**18 54 35.9**	**-4.5**
TUVZ	**Tukino**	**18.39**	**194**	P			**P**	**18 51 39.4**	**-0.7**
FWVZ	**Far West T-bar**	**18.40**	**194**	P			**P**	**18 51 40.5**	**+0.2**
WHVZ	**Whangaehu Hut**	**18.41**	**194**	P			**P**	**18 51 40.3**	**-0.1**
VRZ	**Vera Road**	**18.47**	**196**	P			**P**	**18 51 43.3**	**+2.7**
CKHZ	**Cape Kidnapper**	**18.49**	**190**	P			**P**	**18 51 41.4**	**+0.5**
CKHZ				S			**S**	**18 54 43.0**	**+1.0**
MOVZ	**Moawhango**	**18.50**	**194**	P			**P**	**18 51 40.5**	**-0.5**
BHHZ	**Black Hill Sta**	**18.51**	**193**	P			**P**	**18 51 39.1**	**-2.0**
KRHZ	**Kereru**	**18.60**	**192**	P			**P**	**18 51 40.1**	**-1.8**
KAHZ	**Kahuranaki**	**18.65**	**191**	P			**P**	**18 51 42.2**	**-0.2**
KHEZ	**Kahui Hut**	**18.83**	**198**	P			**P**	**18 51 48.4**	**+4.4**
LREZ	**Lake Rotokare**	**18.88**	**197**	P			**P**	**18 51 46.8**	**+2.5**
PXZ	**Pawanui**	**18.89**	**191**	P			**P**	**18 51 44.5**	**+0.1**
PNHZ	**Pukenui**	**18.89**	**192**	P			**P**	**18 51 44.3**	**-0.3**
WAZ	**Wanganui**	**19.01**	**195**	P			**P**	**18 51 46.7**	**+1.2**
TSZ	**Takapari Road**	**19.08**	**193**	P			**P**	**18 51 46.0**	**-0.3**
PRHZ	**Porangahau**	**19.15**	**191**	P			**P**	**18 51 47.8**	**+0.9**
BFZ	**Birch Farm**	**19.63**	**191**	*e*P			**P**	**18 51 50.6**	**-0.7**
	57nm,0.6s								
KNTN	**Kanton**	**19.79**	**21**	*e*P			**P**	**18 51 52.1**	**-0.9**
	136nm,0.9s								
SNZO	**South Karori**	**20.55**	**194**	*e*P			**P**	**18 51 59.7**	**+0.1**
	101nm,1.2s								
THZ	**Tophouse**	**21.43**	**197**	*e*P			**P**	**18 52 07.5**	**-0.1**
	34nm,0.5s								
THZ				*e*S			**S**	**18 55 25.6**	**-3.6**
KHZ	**Kahutara**	**21.88**	**196**	*e*P			**P**	**18 52 10.6**	**-0.9**
	91nm,1.2s								
LHI	**Lord Howe Isla**	**22.22**	**239**	*e*P			**P**	**18 52 16.1**	**+1.3**
	116nm,1.4s								
LTZ	**Lake Taylor**	**22.55**	**197**	*e*P			**P**	**18 52 16.6**	**-1.0**
	40nm,0.9s								
OXZ	**Oxford**	**23.12**	**197**	*e*P			**P**	**18 52 20.9**	**-1.7**
	33nm,0.7s								
CRLZ	**Canterbury Las**	**23.20**	**196**	*e*P			**P**	**18 52 22.6**	**-0.6**
	79nm,1.4s								
MQZ	**McQueen's Vall**	**23.31**	**196**	*e*P			**P**	**18 52 23.6**	**-0.7**
	40nm,1.3s								
HNR	**Honiara**	**23.75**	**297**	P			**P**	**18 52 28.2**	**-0.4**
	23nm,0.5s,baz=324,slow=1.5,SNR=3.9								
HNR	**Honiara**	**23.75**	**297**	*e*P			**P**	**18 52 27.8**	**-0.8**
	49nm,0.8s								
HNR	**Honiara**	**23.75**	**297**	*e*P			**P**	**18 52 27.8**	**-0.8**
HNR				pmax		pmax			
	comp=Z,49nm,0.8s								
RPZ	**Rata Peaks**	**23.76**	**199**	P			**P**	**18 52 28.1**	**-0.2**
	comp=Z,13nm,0.4s,baz=35,slow=4.5,SNR=16								
RPZ	**Rata Peaks**	**23.76**	**199**	*e*P			**P**	**18 52 27.8**	**-0.5**
	comp=Z,42nm,1.1s								
FOZ	**Fox Glacier**	**23.98**	**201**	*e*P			**P**	**18 52 29.6**	**-0.7**
	comp=Z,56nm,1.0s								
TARA	**Tarawa**	**24.11**	**339**	*e*P			**P**	**18 52 31.0**	**-0.7**
	comp=Z,329nm,1.8s								
LBZ	**Lake Benmore**	**24.63**	**199**	*e*P			**P**	**18 52 34.8**	**-1.2**
	comp=Z,46nm,1.5s								
ODZ	**Otahua Downs**	**25.09**	**198**	*e*P			**P**	**18 52 39.1**	**-1.0**
	comp=Z,87nm,1.7s								
WKZ	**Wanaka**	**25.40**	**201**	*e*P			**P**	**18 52 42.0**	**-0.9**
	comp=Z,106nm,1.6s								
MLZ	**Mavora Lakes**	**26.18**	**201**	*e*P			**P**	**18 52 50.2**	**+0.5**
	comp=Z,22nm,0.9s								
DCZ	**Deep Cove**	**26.60**	**203**	*e*P			**P**	**18 52 54.1**	**+0.8**
	comp=Z,50nm,1.1s								
WHZ	**Wether Hill Ro**	**26.69**	**201**	*e*P			**P**	**18 52 54.4**	**+0.2**
	comp=Z,83nm,0.7s								
PYZ	**Puysegur Point**	**27.37**	**202**	*e*P			**P**	**18 53 01.3**	**+1.2**
	comp=Z,133nm,1.4s								
EIDS	**Eidsvold**	**27.95**	**256**	*e*P			**P**	**18 53 05.8**	**+0.3**
	comp=Z,17nm,1.1s								
ARMA	**Armidale**	**28.04**	**245**	*e*P			**P**	**18 53 08.1**	**+1.6**
	comp=Z,12nm,0.7s								
XMAS	**Kiritimati**	**31.29**	**44**	*e*P			**P**	**18 53 35.8**	**+1.2**
	comp=Z,103nm,1.1s								
CAN	**Canberra**	**31.41**	**237**	*e*P			**P**	**18 53 36.6**	**+1.2**
	comp=Z,8.4nm,0.7s								
CAN	**Canberra**	**31.41**	**237**	*e*P			**P**	**18 53 36.6**	**+1.2**
CAN				pmax		pmax			
	comp=Z,8.0nm,0.7s								
CTA	**Charters Tower**	**32.73**	**266**	P			**P**	**18 53 47.0**	**+0.1**
	comp=Z,17nm,0.9s,baz=88,slow=9.9,SNR=19								
CTAO	**Charters Tower**	**32.73**	**266**	*e*P			**P**	**18 53 46.9**	**+0.1**
	comp=Z,45nm,1.1s								
CTAO	**Charters Tower**	**32.73**	**266**	*e*P			**P**	**18 53 46.9**	**+0.1**
CTAO				pmax		pmax			
	comp=Z,45nm,1.1s								
TOO	**Toolangi**	**34.78**	**235**	P			**P**	**18 54 05.4**	**+1.6**
TOO				pmax		pmax			
	comp=Z,26nm,0.7s								
PMG	**Port Moresby**	**34.91**	**285**	P			**P**	**18 54 04.9**	**-0.2**
	comp=Z,96nm,0.9s,baz=105,slow=4.1,SNR=21								
PMG	**Port Moresby**	**34.91**	**285**	*e*P			**P**	**18 54 05.0**	**-0.1**
	comp=Z,129nm,1.0s								
PMG	**Port Moresby**	**34.91**	**285**	*e*P			**P**	**18 54 05.1**	**-0.1**
PMG				pmax		pmax			
	comp=Z,129nm,1.0s								
STKA	**Stephens Creek**	**36.76**	**245**	P			**P**	**18 54 20.7**	**+0.4**
	comp=Z,13nm,0.8s,baz=93,slow=10,SNR=22								
STKA	**Stephens Creek**	**36.76**	**245**	*e*P			**P**	**18 54 20.9**	**+0.6**
	comp=Z,3.9nm,1.0s								
STKA	**Stephens Creek**	**36.76**	**245**	*e*P			**P**	**18 54 20.9**	**+0.6**
STKA				pmax		pmax			
	comp=Z,4.0nm,1.0s								
COEN	**Coen**	**36.98**	**275**	*e*P			**P**	**18 54 22.8**	**+0.5**
	comp=Z,75nm,1.0s								
MANU	**Manus Island**	**38.24**	**296**	*e*P			**P**	**18 54 32.2**	**-0.4**
	comp=Z,90nm,1.1s								
BBOO	**Buckleboo**	**41.52**	**244**	*e*P			**P**	**18 54 58.7**	**+0.1**
	comp=Z,29nm,0.9s								
WAKE	**Wake Island**	**42.95**	**340**	*e*P			**P**	**18 55 09.5**	**-0.4**
	comp=Z,79nm,0.8s								
AS01	**Alice Springs**	**43.60**	**258**	*e*P			**P**	**18 55 14.9**	**-0.3**
AS01				*e*pP			**PcP**	**18 56 50.9**	**+0.1**
AS31	**Alice Springs**	**43.64**	**258**	*e*P			**P**	**18 55 15.1**	**-0.4**
	comp=Z,6.3nm,0.7s								
AS31				*e*ScP			**ScP**	**18 59 52.0**	**+0.7**
AS31				*e*S			**S**	**19 01 03.3**	**-3.0**
AS31				*e*				19 03 49.7	
ASAR	**Alice Springs**	**43.65**	**258**	P			**P**	**18 55 15.1**	**-0.4**
	comp=Z,27nm,0.8s,baz=97,slow=8.0,SNR=292								
ASAR				PcP			**PcP**	**18 56 51.1**	**+0.3**
	comp=Z,4.2nm,0.8s,baz=108,slow=3.4,SNR=9.1								
ASAR				ScP			**ScP**	**18 59 52.0**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=120,slow=3.2,SNR=4.3								
ASAR				S			**S**	**19 01 03.3**	**-3.1**
	comp=Z,4.4nm,1.2s,baz=96,slow=16,SNR=9.0								
ASAR				PKiKP			**PKiKP**	**19 03 49.7**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=101,slow=1.3,SNR=7.0								
JAY	**Jayapura**	**43.72**	**290**	P			**P**	**18 55 15.8**	**-0.3**
	comp=Z,107nm,0.8s,baz=163,slow=3.6,SNR=38								
JAY	**Jayapura**	**43.72**	**290**	P			**P**	**18 55 15.8**	**-0.3**
JAY				pmax		pmax			
	comp=Z,90nm,1.0s								
JAY	**Jayapura**	**43.72**	**290**	P			**P**	**18 55 14.3**	**-1.8**
WB2	**Warramunga Arr**	**43.79**	**263**	*e*P			**P**	**18 55 14.4**	**-2.2**
WB2				*e*S			**S**	**19 01 07.1**	**-1.4**
WRAB	**Tennant Creek**	**43.80**	**263

KPJI **Karang Pucung** 70.95 269 P P 18 58 20.3 -1.6
STKI **Sintang** 71.26 278 P P 18 58 23.0 -0.7
SBUM **Sibu** 71.50 280 *eP* P 18 58 24.7 -0.4
comp=Z,5.5nm,1.0s
SBUM **Sibu** 71.50 280 P P 18 58 26.0 +0.9
CISI **Cisompet, Garu** 71.91 269 *eP* P 18 58 26.4 -1.2
comp=Z,45nm,0.9s
LEM **Lembang** 72.35 269 P P 18 58 30.4 +0.1
JNU **Nakatsue** 72.52 317 P P 18 58 29.7 -1.0
comp=Z,18nm,1.0s,baz=85,slow=3.1,SNR=5.3
JNU **Nakatsue** 72.52 317 *eP* P 18 58 30.1 -0.6
comp=Z,40nm,1.2s
KSM **Kuching** 72.88 279 *eP* P 18 58 33.4 +0.3
comp=Z,40nm,1.0s
KSM **Kuching** 72.88 279 P P 18 58 33.0 -0.1
ADK **Adak** 73.05 1 *eP* P 18 58 33.2 0.0
comp=Z,102nm,1.4s
ADK **Adak** 73.05 1 *eP* P 18 58 33.2 0.0
ADK pmax pmax
comp=Z,102nm,1.4s
DBJI **Dramaga** 73.25 269 P P 18 58 34.8 -0.5
ATKA **Atka Island** 73.46 3 *eP* P 18 58 35.3 -0.2
comp=Z,88nm,1.5s
YULB **Yu-li** 73.47 304 *eP* P 18 58 35.1 -1.1
comp=Z,61nm,1.7s
NACB **Ninganchiao** 73.66 305 *eP* P 18 58 36.3 -1.1
comp=Z,46nm,1.0s
TPUB **Ta-pu** 73.94 303 *eP* P 18 58 37.8 -1.1
comp=Z,65nm,1.0s
SSLB **Suanglung** 73.94 304 *eP* P 18 58 37.9 -1.1
comp=Z,23nm,0.9s
YHNB **Yeheng** 74.10 305 *eP* P 18 58 40.0 +0.1
comp=Z,223nm,1.9s
KASI **Kota Agung** 75.71 270 P P 18 58 47.7 -1.4
AKUT **Akutan** 76.11 8 *eP* P 18 58 49.5 -0.8
comp=Z,82nm,1.2s
MDSI **Maura Dua** 76.37 271 P P 18 58 50.9 -1.8
PETK **Petropavlovsk-** 77.03 346 P P 18 58 54.9 -0.6
comp=Z,8.0nm,0.8s,baz=136,slow=5.2,SNR=7.0
PETK **Petropavlovsk-** 77.03 346 *eP* P 18 58 55.4 0.0
PETK **Petropavlovsk-** 77.03 346 *eP* P 18 58 55.4 0.0
PEA1 **Petropavlovsk-** 77.04 346 *eP* P 18 58 54.9 -0.6
FALS **False Pass** 77.14 9 *eP* P 18 58 55.1 -0.8
comp=Z,81nm,1.3s
KSRS **Korea Array** 77.16 319 P P 18 58 57.0 +0.6
comp=Z,3.5nm,0.9s,baz=147,slow=6.4,SNR=11
KS15 **Wonju Array Si** 77.18 319 *eP* P 18 58 57.3 +0.7
KSAR **Wonju Array Be** 77.18 319 P P 18 58 57.0 +0.5
KSAR **Wonju Array Be** 77.18 319 P P 18 58 57.1 +0.5
KS01 **Wonju Array Si** 77.20 319 *eP* P 18 58 56.7 0.0
SNCC **San Nicolas Is** 78.40 47 *eP* P 18 59 05.2 +1.9
comp=Z,21nm,0.9s
MYKOM **Kota Tinggi** 78.96 276 *eP* P 18 59 06.7 -0.1
comp=Z,27nm,1.1s
MYKOM **Kota Tinggi** 78.96 276 P P 18 59 07.0 +0.2
USA0B **Ussuriysk Arra** 79.38 326 *eP* P 18 59 09.1 +0.9
comp=Z,33nm,1.1s
USRK **Ussuriysk Ar.** 79.38 326 P P 18 59 09.5 +1.3
comp=Z,16nm,1.0s,baz=124,slow=3.7,SNR=23
HOPS **Hopland Field** 79.54 41 *eP* P 18 59 10.9 +1.7
comp=Z,134nm,1.9s
GDXM **Geysers** 79.59 41 *eP* P 18 59 11.5 +1.9
comp=Z,48nm,1.8s
KCPM **Cahto Peak** 79.67 40 *eP* P 18 59 11.3 +1.3
comp=Z,44nm,1.1s
OSI **Osito Audit: C** 79.72 47 *eP* P 18 59 12.4 +2.0
comp=Z,18nm,0.3s
PASC **Pasadena Art C** 79.84 47 *eP* P 18 59 12.0 +1.1
comp=Z,8.9nm,0.9s
CPE **Camp Elliot** 79.87 49 *eP* P 18 59 12.1 +1.0
comp=Z,27nm,0.4s
KMRM **Mail Ridge** 79.93 40 *eP* P 18 59 12.5 +1.2
comp=Z,73nm,0.9s
MWC **Mount Wilson** 79.96 47 *eP* P 18 59 13.2 +1.4
comp=Z,13nm,0.9s
MWC **Mount Wilson** 79.96 47 *eP* P 18 59 13.2 +1.4
MWC pmax pmax
comp=Z,13nm,0.9s
NJ2 **Nanjing** 79.98 310 *eP* P 18 59 12.4 +0.8
NJ2 pmax pmax
comp=Z,16nm,0.6s
VES **Vestal, Richgr** 80.19 45 P P 18 59 14.5 +1.8
baz=235
KHMM **Horse Mountain** 80.33 39 *eP* P 18 59 15.7 +2.2
comp=Z,40nm,1.2s
EDW2 **Edwards Air Fo** 80.37 47 P P 18 59 15.2 +1.4
baz=236,SNR=13
MAW **Mawson** 80.43 200 P P 18 59 14.4 +1.0
comp=Z,5.6nm,0.9s,baz=123,slow=8.6,SNR=7.8
MAW **Mawson** 80.43 200 *eP* P 18 59 14.7 +1.3
comp=Z,12nm,0.8s
MAW **Mawson** 80.43 200 *eP* P 18 59 14.7 +1.3
O02D **Mt. Diablo Mer** 80.45 40 P P 18 59 16.3 +2.2
baz=232,SNR=12
ISA **Isabella, Lake** 80.49 46 *eP* P 18 59 16.1 +1.7
comp=Z,18nm,1.1s
ISA **Isabella, Lake** 80.49 46 *eP* P 18 59 16.1 +1.7
ISA pmax pmax
comp=Z,18nm,1.1s
ISA **Isabella, Lake** 80.49 46 P P 18 59 16.4 +2.1
baz=235,SNR=13
SRIG **Santa Rosalia** 80.53 56 *eP* P 18 59 15.2 +0.5
comp=Z,20nm,1.0s
FRD **Ford Ranch, An** 80.56 48 P P 18 59 17.0 +2.2
baz=237,SNR=7.7
CMB **Columbia Colle** 80.63 43 *eP* P 18 59 16.6 +1.6
comp=Z,20nm,1.3s
CMB **Columbia Colle** 80.63 43 *eP* P 18 59 16.6 +1.6
CMB pmax pmax
comp=Z,20nm,1.3s
PFO **Pinyon Flats O** 80.72 48 *eP* P 18 59 17.2 +1.6
comp=Z,22nm,0.4s
XPFO **Pæon Flat** 80.72 48 *eP* P 18 59 17.2 +1.5
comp=Z,20nm,0.5s
AFDM **Forest Hills D** 80.81 42 *eP* P 18 59 17.0 +1.1
comp=Z,15nm,1.1s
ORV **Oroville** 80.85 41 *eP* P 18 59 17.2 +1.2
comp=Z,18nm,1.1s
ORV **Oroville** 80.85 41 *eP* P 18 59 17.2 +1.2
ORV pmax pmax
comp=Z,18nm,1.1s
WDC **Whiskeytown Da** 80.85 40 *eP* P 18 59 17.9 +1.9
comp=Z,31nm,1.1s
WDC **Whiskeytown Da** 80.85 40 *eP* P 18 59 17.9 +1.9
WDC pmax pmax
comp=Z,31nm,1.1s
KBO **Bosley Butte** 80.89 38 *eP* P 18 59 17.5 +1.2
comp=Z,158nm,1.4s
LRMC **Laurel Mtn Rad** 80.92 46 P P 18 59 18.6 +2.0
baz=236,SNR=6.8
MDJ **Mudanjiang** 80.92 325 P P 18 59 17.1 +0.8
MDJ pP pP 19 01 14.3 +2.5
MDJ sP sP 19 02 10.3 +3.5
MDJ S **S** 19 08 43.4 +2.7
MDJ pmax pmax
comp=Z,23nm,1.2s
MDJ pmax pmax
comp=Z,260nm,3.7s
MDJ **Mudanjiang** 80.92 325 *eP* P 18 59 16.9 +0.6
comp=Z,37nm,1.3s
N02D **Trinity Center** 80.99 39 P P 18 59 19.1 +2.2
baz=232,SNR=14
O03E **Paynes Creek** 81.11 40 P P 18 59 19.2 +1.7
baz=232,SNR=15
M02C **Callahan** 81.17 39 P P 18 59 20.2 +2.5
baz=231,SNR=14
MDPB **Devils Postpil** 81.23 44 *eP* P 18 59 19.9 +1.5
comp=Z,19nm,1.0s
BELC **Belle Mtn. Jos** 81.25 48 P P 18 59 20.6 +2.1
baz=237,SNR=9.3
OMMB **Old Mammoth Mi** 81.27 44 *eP* P 18 59 19.5 +0.9
comp=Z,15nm,1.2s
MPMC **Manual Prospec** 81.37 46 P P 18 59 20.5 +1.4
baz=236,SNR=13
RUBR **Rubicon Trail** 81.38 42 *eP* P 18 59 20.6 +1.6
comp=Z,59nm,1.6s
GSC **Goldstone, Bar** 81.41 47 *eP* P 18 59 20.9 +1.7
comp=Z,17nm,1.2s
DAC **Darwin (Calif)** 81.43 46 *eP* P 18 59 20.2 +0.9
comp=Z,6.3nm,0.9s
DAC **Darwin (Calif)** 81.43 46 *eP* P 18 59 20.2 +0.9
DAC pmax pmax
comp=Z,6.0nm,0.9s
YBH **Yreka Blue Hor** 81.46 39 *eP* P 18 59 21.4 +2.1
comp=Z,25nm,0.9s
YBH **Yreka Blue Hor** 81.46 39 *eP* P 18 59 21.4 +2.1
YBH pmax pmax
comp=Z,25nm,0.9s
HEC **Hector,Ludlow** 81.47 47 P P 18 59 21.1 +1.6
baz=237,SNR=5.4
WAKR **Walker** 81.51 43 *eP* P 18 59 21.4 +1.7
comp=Z,31nm,1.2s
K02D **Willamette Mer** 81.52 38 P P 18 59 21.5 +2.0
baz=231
BEKR **Beckwith** 81.74 41 *eP* P 18 59 21.6 +0.8
comp=Z,24nm,1.3s
PNTR **Pine Nut** 81.75 42 *eP* P 18 59 22.4 +1.4
comp=Z,37nm,0.9s
VCNR **Virginia City** 81.84 42 *eP* P 18 59 23.1 +1.7
comp=Z,16nm,1.0s
HUMO **Hull Mountain** 81.87 38 *eP* P 18 59 23.1 +1.9
comp=Z,31nm,1.1s
YERR **Yerington** 81.91 43 *eP* P 18 59 23.0 +1.2
comp=Z,22nm,1.0s
L04D **Klamath Falls** 82.00 39 P P 18 59 23.8 +1.8
baz=232,SNR=8.7
M04C **Macdoel** 82.01 39 P P 18 59 24.1 +2.0
baz=232,SNR=8.8
GRNR **Gornyy** 82.05 333 *eP* P 18 59 21.2 -0.7
GRNR pmax pmax
comp=Z,13nm,1.0s
TUQ **Turquoise Moun** 82.09 47 P P 18 59 24.3 +1.7
baz=237,SNR=10
Y12C **Blythe** 82.15 49 *eP* P 18 59 25.0 +2.2
comp=Z,18nm,1.1s
RYN **Ryan** 82.16 43 *eP* P 18 59 24.5 +1.5
comp=Z,30nm,1.7s
NV01 **Mina Array Sit** 82.19 44 *eP* P 18 59 24.1 +0.9
NVAR **Mina Array Bea** 82.19 44 P P 18 59 24.6 +1.4
comp=Z,11nm,0.8s,baz=223,slow=8.6,SNR=67
PAHR **Pah Rah Range** 82.25 42 *eP* P 18 59 24.5 +1.1
comp=Z,22nm,1.0s
NV11 **Mina Array Sit** 82.28 44 *eP* P 18 59 24.7 +1.1
comp=Z,16nm,1.1s
I03D **Drain, OR** 82.33 37 P P 18 59 25.5 +2.0
baz=231
HSIG 82.36 55 *eP* P 18 59 24.9 +0.9
comp=Z,11nm,0.9s
214A **Organ Pipe Nat** 82.44 52 P P 18 59 26.2 +1.8
baz=239
LDFC **Landfair** 82.45 48 *eP* P 18 59 25.6 +1.1
comp=Z,32nm,0.9s
IPM **Ipoh** 82.58 278 *eP* P 18 59 25.6 +0.1
comp=Z,46nm,1.0s
CN2 **Changchun** 82.65 323 *eP* P 18 59 25.8 +0.7
CN2 pmax pmax
comp=Z,30nm,1.4s
KVN **Kaiserville** 82.68 43 *eP* P 18 59 25.7 +0.1
comp=Z,18nm,1.0s
KVN **Kaiserville** 82.68 43 *eP* P 18 59 25.7 +0.1
KVN pmax pmax
comp=Z,18nm,1.0s
TPNV **Topopah Spring** 82.70 46 *eP* P 18 59 27.0 +1.2
comp=Z,17nm,0.9s
TPNV **Topopah Spring** 82.70 46 *eP* P 18 59 27.0 +1.2
TPNV pmax pmax
comp=Z,17nm,0.9s
TPNV **Topopah Spring** 82.70 46 P P 18 59 27.0 +1.2
baz=236,SNR=19
J04D **Umpqua Nationa** 82.75 38 P P 18 59 28.0 +2.1
baz=232,SNR=14
MOD **Modoc Plateau** 82.99 40 *eP* P 18 59 28.6 +1.5
comp=Z,18nm,0.9s
KLR **Kul'dur** 83.02 330 P P 18 59 27.5 +0.7
comp=Z,6.0nm,1.0s,baz=86,slow=3.5,SNR=11
KLR **Kul'dur** 83.02 330⇓ *eP* P 18 59 27.1 +0.3
SHPR **Sheep Range** 83.19 47 *eP* P 18 59 30.0 +1.8
comp=Z,16nm,1.2s
H04D **Lebanon** 83.20 37 P P 18 59 29.9 +2.1
baz=231
KULM **Kulim** 83.24 278 *eP* P 18 59 28.9 +0.1
comp=Z,23nm,1.0s
J05D **Fort Rock, OR** 83.28 38 P P 18 59 30.7 +2.2
baz=232,SNR=28
TIA **Tai'an** 83.43 313 P P 18 59 29.6 +0.4
TIA pmax pmax
comp=Z,19nm,1.4s
H04A **Detroit Lake** 83.60 37 *eP* P 18 59 30.8 +0.9
comp=Z,24nm,0.9s
I05D **Terrebonne, OR** 83.87 37 P P 18 59 33.2 +1.9
baz=232
PSI **Prapat** 83.91 275 *eP* P 18 59 31.1 -1.2
comp=Z,33nm,1.1s
PSI **Prapat** 83.91 275 *eP* P 18 59 31.1 -1.2
PSI pmax pmax
comp=Z,33nm,1.1s
R11A **Troy Canyon, C** 83.91 45 *eP* P 18 59 32.7 +0.9
comp=Z,4.6nm,1.3s
R11A **Troy Canyon, C** 83.91 45 P P 18 59 33.0 +1.2
baz=237
SKLT **Songkhla** 83.97 280 P P 18 59 34.7 +2.3
comp=Z,38nm,1.1s,comp=Z,848nm
BMN **Battle Mountai** 84.02 42 *eP* P 18 59 33.1 +0.8
comp=Z,18nm,1.3s
BMN **Battle Mountai** 84.02 42 *eP* P 18 59 33.1 +0.8
BMN pmax pmax
comp=Z,18nm,1.3s
E03A **Lebam** 84.03 35 *eP* P 18 59 32.1 +0.2
comp=Z,55nm,1.0s
BRLK **Bradley Lake** 84.08 14 *eP* P 18 59 31.9 -0.1
comp=Z,37nm,1.0s
TUC **Tucson** 84.11 52 *eP* P 18 59 34.5 +1.8
comp=Z,19nm,1.1s
TUC **Tucson** 84.11 52 *eP* P 18 59 34.5 +1.8
TUC pmax pmax
comp=Z,19nm,1.1s
TUC **Tucson** 84.11 52 P P 18 59 35.0 +2.2
baz=240
WVOR **Wild Horse Val** 84.30 40 *eP* P 18 59 35.1 +1.6
comp=Z,17nm,1.1s
WVOR **Wild Horse Val** 84.30 40 *eP* P 18 59 35.1 +1.6
WVOR pmax pmax
comp=Z,17nm,1.1s
E04D **Cinebar** 84.57 35 P P 18 59 36.7 +2.1
baz=231
GSI **Gunungsitoli** 84.61 274 *eP* P 18 59 36.4 +0.8
comp=Z,84nm,1.1s
LCMT **Little Creek M** 84.76 47 *eP* P 18 59 37.4 +1.5
comp=Z,6.3nm,0.9s
I07A **Izee** 84.76 38 *eP* P 18 59 37.0 +1.2
comp=Z,7.6nm,0.8s
G06A **Carlson Farm,** 84.81 37 *eP* P 18 59 37.2 +1.3
comp=Z,25nm,1.3s
J08A **Circle Bar Ran** 84.94 39 *eP* P 18 59 37.8 +1.2
comp=Z,27nm,1.3s
CCUT **Cedar City** 84.96 46 *eP* P 18 59 38.5 +1.5
comp=Z,6.5nm,0.9s
KNB **Kanab** 85.05 47 *eP* P 18 59 38.9 +1.4
comp=Z,7.7nm,1.0s
TRTT **Trang** 85.08 280 P P 18 59 39.4 +1.6
comp=Z,20nm,1.2s,comp=Z,240nm
LON **Longmire** 85.10 35 *eP* P 18 59 38.7 +1.5
comp=Z,41nm,1.8s
LON **Longmire** 85.10 35 *eP* P 18 59 38.7 +1.5
LON pmax pmax
comp=Z,41nm,1.8s
PSUT **Pine Spring** 85.15 45 *eP* P 18 59 39.3 +1.4
comp=Z,4.0nm,0.9s
SZCU **Shurtz Canyon** 85.17 47 *eP* P 18 59 39.7 +1.7
comp=Z,8.8nm,1.1s
WUAZ **Wupatki** 85.29 49 *eP* P 18 59 40.3 +1.7
comp=Z,9.7nm,1.1s
WUAZ **Wupatki** 85.29 49 P P 18 59 40.3 +1.7
baz=240
SRAK **Srakaew** 85.33 287 P P 18 59 38.7 -0.3
comp=Z,33nm,1.0s,comp=Z,341nm
HPIG 85.50 59 *eP* P 18 59 40.7 +0.9
comp=Z,10nm,1.1s
RC01 **Rabbit Creek A** 85.53 14 *eP* P 18 59 38.8 -0.1
comp=Z,37nm,1.1s
F07A **Phinny Hill Vi** 85.61 37 *eP* P 18 59 41.0 +1.4
comp=Z,18nm,0.9s
PKCU **Pink Cliffs** 85.62 47 *eP* P 18 59 42.7 +2.4
comp=Z,25nm,1.0s
PKCU *eP* **P** 19 01 41.8 +4.2
SYO **Syowa Base** 85.64 193⇓ *eP* P 18 59 38.0 -1.4
SUA **Susitna One** 85.65 13 *eP* P 18 59 39.4 -0.2
comp=Z,20nm,0.8s
KRAB **Krabi** 85.68 281 P P 18 59 42.7 +2.0
comp=Z,41nm,1.0s,comp=Z,350nmcomp=Z,22µm
G08A **Pilot Rock** 85.79 38 *eP* P 18 59 41.8 +1.1
comp=Z,28nm,1.0s
B05A **Bryant** 85.89 34 P P 18 59 42.6 +1.7
baz=231
GLI **Glacier Island** 85.95 15 *eP* P 18 59 40.9 -0.1
comp=Z,46nm,0.9s
PATY **Pattaya** 85.96 285 P P 18 59 44.9 +2.9
comp=Z,7.0nm,0.8s,comp=Z,820nm
NONG **Nongkai** 85.98 291 P P 18 59 43.6 +1.6
comp=Z,0.5nm,1.3s
EYAK **Cordova Ski Ar** 85.99 16 *eP* P 18 59 41.5 +0.4
comp=Z,36nm,1.1s
MTPU **Mount Pierson** 86.01 47 *eP* P 18 59 44.1 +1.9
comp=Z,13nm,1.1s
MTPU *epP* **pP** 19 01 43.7 +4.0
ENH **Enshi** 86.02 305 *eP* P 18 59 42.6 +0.6
comp=Z,41nm,1.0s
LTY **Liberty** 86.02 35 *eP* P 18 59 42.9 +1.2
comp=Z,15nm,0.9s
E07A **Sunnyside** 86.05 36 *eP* P 18 59 43.1 +1.4
comp=Z,29nm,0.9s
BJT **Baijiatuau** 86.10 316 *eP* P 18 59 42.4 +0.3
comp=Z,13nm,0.7s
BJI **Beijing** 86.10 316 P P 18 59 42.8 +0.7
BJI pmax pmax
comp=Z,13nm,1.4s
PMR **Palmer** 86.11 14 *eP* P 18 59 41.3 -0.3
comp=Z,34nm,1.2s
PMR **Palmer** 86.11 14 *eP* P 18 59 41.3 -0.3
PMR pmax pmax
comp=Z,34nm,1.2s
HAWA **Hanford** 86.12 37 *eP* P 18 59 43.5 +1.4
comp=Z,35nm,1.0s
CHAI **Chaiyaphum** 86.13 289 P P 18 59 44.5 +1.7
comp=Z,4.1nm,1.0s
TCRU **Three Creeks R** 86.13 46 *eP* P 18 59 44.1 +1.5
comp=Z,17nm,1.5s
ZAIG **Zacatecas** 86.23 64 *eP* P 18 59 45.6 +2.1
comp=Z,8.8nm,1.0s
W18A **Petrified Fore** 86.25 50 *eP* P 18 59 44.7 +1.5
comp=Z,13nm,1.1s
W18A **Petrified Fore** 86.25 50 P P 18 59 44.9 +1.7
baz=241
MSU **Marysvale** 86.26 46 *eP* P 18 59 44.8 +1.5
GHO **Glory Hole Cre** 86.32 14 *eP* P 18 59 42.6 -0.2
comp=Z,48nm,0.8s
PKDT **Phuket** 86.34 280 P P 18 59 46.8 +2.9
comp=Z,10.0nm,1.1s
121A **Cookes Peak, D** 86.43 53 P P 18 59 45.5 +1.4
baz=242
E08A **Dider Farm, El** 86.45 37 *eP* P 18 59 45.0 +1.4
comp=Z,26nm,0.9s
BMO **Blue Mountains** 86.49 39 *eP* P 18 59 44.7 +0.7
comp=Z,13nm,1.0s
DIV **Divide** 86.49 15 *eP* P 18 59 42.9 -0.7
comp=Z,37nm,1.1s
GYA **Guiyang** 86.54 300 *eP* P 18 59 46.4 +1.7
GYA pP pP 19 01 47.6 +5.3
GYA sP sP 19 02 41.4 +4.7
GYA PP **PP** 19 03 20.3 +3.6
GYA SKS **SKSac** 19 09 19.0 -1.3
GYA S **S** 19 09 36.3 -0.4
GYA pmax pmax
comp=Z,20nm,1.0s
MFID **Camas Ranch** 86.56 41 *eP* P 18 59 45.1 +0.8
comp=Z,17nm,1.1s
LHMI **Lhok Sumawe** 86.63 277 *eP* P 18 59 44.0 -1.2
comp=Z,72nm,1.2s
BMRM **Bremner River** 86.64 16 *eP* P 18 59 44.1 -0.1
comp=Z,30nm,1.0s
DUG **Dugway, Tooele** 86.71 44 *eP* P 18 59 45.6 +0.4
comp=Z,13nm,1.8s
DUG **Dugway, Tooele** 86.71 44 *eP* P 18 59 45.6 +0.4
DUG pmax pmax
comp=Z,13nm,1.8s
SCM **Sheep Creek Mo** 86.73 14 *eP* P 18 59 44.7 0.0
comp=Z,41nm,0.8s
SCM **Sheep Creek Mo** 86.73 14 *eP* P 18 59 44.7 0.0
SCM pmax pmax
comp=Z,41nm,0.8s
KLU **Klutina** 86.77 15 *eP* P 18 59 44.7 -0.1
comp=Z,14nm,0.9s
D08A **Wollman Farm,** 86.86 36 *eP* P 18 59 46.9 +1.4
comp=Z,30nm,0.9s
TGL **Tana Glacier** 86.93 17 *eP* P 18 59 46.0 +0.4
comp=Z,23nm,1.0s
BGU **Big Grassy Mou** 86.96 44 *eP* P 18 59 47.5 +1.1
comp=Z,9.9nm,1.7s
E09A **Wood Farm, Sta** 86.97 37 *eP* P 18 59 47.3 +1.3
comp=Z,33nm,1.1s
EPT **El Paso** 87.04 54 *eP* P 18 59 49.2 +2.3
comp=Z,21nm,1.0s
PHET **Kaeng Krachan** 87.06 285 P P 18 59 49.8 +2.6
comp=Z,13nm,1.0s,comp=Z,147nm
SNAA **Sanae** 87.07 179 P P 18 59 46.6 +0.3
SNAA **Sanae** 87.07 179 *eP* P 18 59 46.8 +0.5
SNAA *epP* **pP** 19 01 46.3 +2.3
SNAA **Sanae** 87.07 179⇑ *eP* P 18 59 43.2 -3.1
SNAA pmax pmax
comp=Z,373nm,2.1s
NLU **North Lily Min** 87.07 45 *eP* P 18 59 48.2 +1.2
comp=Z,4.5nm,1.2s
CAST **Castle Rocks** 87.16 12 *eP* P 18 59 44.6 -2.0
comp=Z,25nm,0.9s
SEY **Seymchan** 87.16 347 P P 18 59 45.8 -0.7
comp=Z,11nm,1.0s,baz=152,slow=5.7,SNR=7.2
SEY **Seymchan** 87.16 347⇑ *iP* P 18 59 46.7 +0.2
JRQG **Juriquilla Cam** 87.17 67 *eP* P 18 59 50.1 +2.2
comp=Z,43nm,0.4s
F10A **Beach Ranch, E** 87.18 38 *eP* P 18 59 48.0 +0.8
comp=Z,45nm,0.9s
VNA3 **Neumayer Olymp** 87.22 176 P P 18 59 47.5 +0.5
VNA3 **Neumayer Olymp** 87.22 176 pP pP 19 01 46.0 +1.3
PBKT **Sadao Pong** 87.29 289 *eP* P 18 59 49.5 +1.3
comp=Z,28nm,1.3s
PBKT **Sadao Pong** 87.29 289 P P 18 59 50.2 +2.0
comp=Z,20nm,1.3s,comp=Z,1µm
TMUT **Trail Mountain** 87.31 46 *eP* P 18 59 49.6 +1.4
comp=Z,12nm,1.0s
MPU **Maple Canyon** 87.40 45 *eP* P 18 59 49.6 +1.1
comp=Z,6.0nm,1.2s
B08A **Colville Reser** 87.41 35 *eP* P 18 59 48.3 +0.2
comp=Z,25nm,0.9s
HLID **Hailey** 87.50 41 *eP* P 18 59 50.1 +1.2
comp=Z,17nm,1.0s
HLID **Hailey** 87.50 41 P P 18 59 50.4 +1.5
baz=237
JIS **Juneau Island** 87.53 22 *eP* P 18 59 49.4 +1.1
comp=Z,52nm,1.3s
SPUT **South Promonto** 87.53 44 *eP* P 18 59 50.6 +1.5
comp=Z,13nm,1.3s
TRF **Thorofare Moun** 87.53 12 *eP* P 18 59 47.9 -0.7
comp=Z,36nm,0.8s
TLIG **Tlapa** 87.55 70 *eP* P 18 59 51.0 +1.4
comp=Z,16nm,1.3s
HVU **Hansel Valley** 87.57 43 *eP* P 18 59 50.5 +1.3
comp=Z,14nm,1.1s
C09A **Chrisman Ranch** 87.65 36 *eP* P 18 59 50.4 +1.1
comp=Z,22nm,0.9s
VNA2 **Neumayer--Watz** 87.66 177 P P 18 59 49.8 +0.8
baz=171,slow=4.5
VNA2 **Neumayer--Watz** 87.66 177 pP pP 19 01 47.6 +0.7
CTU **Camp Tracy** 87.67 44 *eP* P 18 59 50.5 +0.8
comp=Z,14nm,1.5s
SRU **San Rafael Swe** 87.68 46 *eP* P 18 59 50.9 +1.0
comp=Z,18nm,1.1s
SRU **San Rafael Swe** 87.68 46 P P 18 59 51.7 +1.9
P17A **Butcher Ranch,** 87.71 46 *eP* P 18 59 52.0 +2.0
comp=Z,17nm,1.3s
HARP **HAARP** 87.74 15 *eP* P 18 59 49.8 +0.4
comp=Z,21nm,0.8s
LAZ **Ladron** 87.78 52 *eP* P 18 59 52.2 +1.7
RND **Reindeer** 87.79 13 *eP* P 18 59 49.5 -0.1
comp=Z,50nm,0.8s
RND **Reindeer** 87.79 13 *eP* P 18 59 49.5 -0.1
RND pmax pmax
comp=Z,50nm,0.8s
LENM **Lemitar** 87.80 52 *eP* P 18 59 52.1 +1.7
DHY **Denali Highway** 87.81 14 *eP* P 18 59 49.6 -0.2
comp=Z,14nm,1.1s
JLU **Jordanelle** 87.82 45 *eP* P 18 59 51.6 +1.1
comp=Z,10nm,1.3s
MNTX **Cornudas Mount** 87.86 55 *eP* P 18 59 51.9 +1.3
comp=Z,15nm,1.0s
MNTX *epP* **pP** 19 01 52.5 +3.9
MNTX **Cornudas Mount** 87.86 55 P P 18 59 52.1 +1.5
baz=243
VNA1 **Neumayer--Stat** 87.89 177 P P 18 59 50.8 +0.8
VNA1 **Neumayer--Stat** 87.89 177 pP pP 19 01 50.4 +2.5
BPAW **Bear Paw Mtn.** 87.98 12 *eP* P 18 59 50.0 -0.5
comp=Z,33nm,0.8s
BNM **Barren Site** 88.04 52 *eP* P 18 59 52.8 +1.1

MCK	McKinley	88.06	13	*e*P		P		18 59 50.5	-0.3		
	comp=Z,26nm,0.9s										
MCK	McKinley	88.06	13	*e*P		P		18 59 50.5	-0.3		
MCK				pmax		pmax					
	comp=Z,26nm,0.9s										
SRDT	SRDT	88.07	286	P		P		18 59 54.7	+2.8		
	comp=Z,22nm,1.4s										
TCUT	Toone Canyon	88.11	44	*e*P		P		18 59 52.9	+1.0		
	comp=Z,36nm,1.2s										
UTTA	Uttaradit	88.11	290	P		P		18 59 54.2	+2.2		
	comp=Z,3.6nm,1.2s,comp=Z,41nm										
LPM	Los Pinos Moun	88.11	52	*e*P		P		18 59 53.1	+1.1		
P18A	Preston Nutter	88.12	46	*e*P		P		18 59 52.8	+0.8		
	comp=Z,16nm,1.4s										
PV05	Paradox Valley	88.14	48	*e*P		P		18 59 53.3	+1.2		
TX31	Lajitas Ar. Si	88.14	58	*e*pP		pP		19 01 52.9	+2.7		
LTX	Lajitas	88.14	58	*e*P		P		18 59 54.2	+2.1		
LTX				*e*PKKPbc		PKKPbc		19 17 34.5	+0.9		
TXAR	Lajitas Array	88.14	58	P		P		18 59 54.2	+2.1		
	comp=Z,8.8nm,0.9s,baz=220,slow=5.5,SNR=56										
TXAR				PKKPbc		PKKPbc		19 17 34.5	+0.9		
	comp=Z,0.5nm,0.8s,baz=88,slow=3.0,SNR=5.2										
PAX	Paxson	88.15	15	*e*P		P		18 59 51.0	-0.3		
	comp=Z,8.5nm,1.0s										
PAX	Paxson	88.15	15	*e*P		P		18 59 51.1	-0.3		
PAX				pmax		pmax					
	comp=Z,9.0nm,1.0s										
XAN	Xi'an	88.18	308	P		P		18 59 52.9	+0.8		
XAN				pmax		pmax					
	comp=Z,19nm,1.2s										
XAN				pmax		pmax					
	comp=Z,120nm,6.0s										
UTHA	Uthaitani	88.25	287	P		P		18 59 55.0	+2.3		
	comp=Z,4.8nm,1.1s										
HWUT	Hardware Ranch	88.25	44	*e*P		P		18 59 53.4	+0.9		
	comp=Z,9.4nm,1.1s										
PV09	Paradox Valley	88.32	47	*e*P		P		18 59 53.8	+0.8		
PV10	Paradox Valley	88.33	48	*e*P		P		18 59 52.9	0.0		
PV19	Morning Glory	88.33	48	*e*P		P		18 59 54.0	+1.1		
	comp=Z,8.7nm,1.2s										
PV17	East Wray Mesa	88.33	48	*e*P		P		18 59 54.0	+1.0		
	comp=Z,11nm,1.3s										
PV14	Lion Creek, Pa	88.33	48	*e*P		P		18 59 54.4	+1.4		
	comp=Z,13nm,1.2s										
BWN	Browne	88.34	12	*e*P		P		18 59 51.5	-0.6		
	comp=Z,39nm,1.0s										
PV18	Skein Mesa, Pa	88.35	48	*e*P		P		18 59 53.8	+0.7		
	comp=Z,11nm,1.3s										
PV20	West Nyswonger	88.36	48	*e*P		P		18 59 53.4	+0.3		
	comp=Z,13nm,1.3s										
PV13	Radium Mtn., P	88.37	48	*e*P		P		18 59 53.7	+0.6		
	comp=Z,7.1nm,1.3s										
PV16	Nyswonger Mesa	88.38	48	*e*P		P		18 59 54.2	+1.0		
	comp=Z,13nm,1.4s										
PV23	Carpenter Ridg	88.38	47	*e*P		P		18 59 54.2	+0.9		
	comp=Z,9.6nm,1.1s										
NANT	Nan	88.40	291	P		P		18 59 55.1	+1.7		
	comp=Z,4.6nm,1.1s										
PV03	Paradox Valley	88.40	48	*e*P		P		18 59 52.9	-0.4		
PV11	David Mesa, Pa	88.40	48	*e*P		P		18 59 54.3	+1.0		
	comp=Z,15nm,1.3s										
PV02	Paradox Valley	88.45	48	*e*P		P		18 59 54.4	+0.8		
	comp=Z,6.9nm,1.1s										
PV21	Cone Mtn., Par	88.46	47	*e*P		P		18 59 54.0	+0.4		
	comp=Z,19nm,1.6s										
PV12	Saucer Basin,	88.46	48	*e*P		P		18 59 54.8	+1.3		
	comp=Z,13nm,1.3s										
HYT	Haines Junctio	88.50	19	*e*P		P		18 59 53.5	+0.5		
	comp=Z,11nm,0.9s										
PV01	Paradox Valley	88.53	48	*e*P		P		18 59 53.2	-0.7		
ANMO	Albuquerque	88.53	52	*e*P		P		18 59 54.6	+0.7		
	comp=Z,13nm,1.1s										
ANMO	Albuquerque	88.53	52	*de*P		P		18 59 55.1	+1.2		
ANMO				pmax		pmax					
	comp=Z,12nm,1.1s										
ANMO	Albuquerque	88.53	52	P		P		18 59 55.5	+1.6		
	baz=243										
NEW	Newport	88.55	36	*e*P		P		18 59 54.2	+0.7		
	comp=Z,11nm,1.1s										
NEW	Newport	88.55	36	*e*P		P		18 59 54.2	+0.7		
NEW				pmax		pmax					
	comp=Z,11nm,1.1s										
NEW	Newport	88.55	36	P		P		18 59 54.4	+0.9		
	baz=235										
PV22	Blue Mesa, Par	88.58	47	*e*P		P		18 59 54.7	+0.6		
	comp=Z,11nm,1.3s										
SUKH	Sukhothai	88.82	289	P		P		18 59 57.5	+2.2		
	comp=Z,6.7nm,0.7s										
GDL2	Guadalupe Moun	88.86	55	*e*P		P		18 59 56.3	+0.9		
MLY	Manley	88.87	11	*e*P		P		18 59 53.6	-1.0		
	comp=Z,11nm,0.9s										
WRH	Wood River Hil	88.89	13	*e*P		P		18 59 54.1	-0.5		
	comp=Z,29nm,0.8s										
RIDG	Independ'e Rid	88.96	14	*e*P		P		18 59 55.0	-0.1		
	comp=Z,30nm,1.0s										
GO06	Curarrehue	89.00	132	*e*P		P		18 59 58.0	+2.0		
	comp=Z,44nm,2.0s										
DOT	Dot Lake	89.06	15	*e*P		P		18 59 55.4	-0.1		
	comp=Z,17nm,0.9s										
HDA	Harding Lake	89.07	13	*e*P		P		18 59 55.0	-0.5		
	comp=Z,15nm,0.8s										
HDA	Harding Lake	89.07	13	P		P		18 59 55.6	+0.1		
	baz=210										
HIA	Hailar	89.09	325	*e*P		P		18 59 55.0	-0.9		
	comp=Z,12nm,0.5s										
HIA	Hailar	89.09	325	*e*P		P		18 59 55.0	-0.9		
HIA				pmax		pmax					
	comp=Z,11nm,0.5s										
PLCA	Paso Flores	89.10	134	P		P		18 59 58.0	+1.6		
	comp=Z,2.3nm,0.9s,baz=231,slow=5.1,SNR=4.1										
CCB	Clear Creek Bu	89.10	13	*e*P		P		18 59 54.7	-0.9		
	comp=Z,22nm,0.8s										
MCMT	McKenzie Canyo	89.12	41	*e*P		P		18 59 57.7	+1.2		
AHID	Auburn Hatcher	89.14	43	*e*P		P		18 59 57.5	+1.0		
	comp=Z,14nm,0.9s										
KMI	Kunming	89.19	297	P		P		18 59 59.0	+1.8		
KMI				pmax		pmax					
	comp=Z,14nm,1.0s										
KMI				pmax		pmax					
	comp=Z,68nm,3.6s										
WHY	Whitehorse	89.19	20	*e*P		P		18 59 56.9	+0.7		
	comp=Z,14nm,0.9s										
DLBC	Dease Lake	89.20	23	*e*P		P		18 59 57.6	+1.3		
	comp=Z,57nm,1.8s										
IM3	Indian Mountai	89.22	10	*e*P		P		18 59 55.7	-0.4		
LAMP	Lampang	89.22	290	P		P		18 59 59.4	+2.2		
	comp=Z,9.8nm,1.0s										
TCOL	CIGO, UAF Yank	89.29	13	P		P		18 59 56.2	-0.2		
	baz=209										
MDM	Murphy Dome	89.29	12	*e*P		P		18 59 55.6	-0.9		
	comp=Z,13nm,0.8s										
COLA	College	89.29	13	*e*P		P		18 59 55.8	-0.6		
	comp=Z,30nm,0.9s										
COLA	College	89.29	13	*e*P		P		18 59 55.8	-0.6		
COLA				pmax		pmax					
	comp=Z,30nm,0.9s										
PAYA	Payao	89.34	291	P		P		18 59 59.5	+1.7		
	comp=Z,7.3nm,1.1s,comp=Z,81nm										
SCRK	Sand Creek	89.36	15	*e*P		P		18 59 56.8	-0.2		
	comp=Z,13nm,1.0s										
IL1	Eielson Array	89.40	13	*e*P		P		18 59 55.9	-1.1		
ILAR	Eielson Array	89.40	13	P		P		18 59 56.3	-0.7		
	comp=Z,6.4nm,0.8s,baz=221,slow=4.9,SNR=53										
ILB	Eielson Array	89.40	13	*e*P		P		18 59 56.0	-1.0		
HHC	Hu-ho-hao-te	89.54	315	*e*P		P		18 59 58.6	+0.2		
HHC				PP		PP		19 03 44.4	+4.3		
HHC				S		S		19 09 57.9	-5.9		
HHC				pmax		pmax					
	comp=Z,28nm,1.3s										
HHC				pmax		pmax					
	comp=Z,160nm,7.2s										
MSO	Missoula	89.54	38	*e*P		P		18 59 58.2	0.0		
	comp=Z,18nm,1.8s										
DLMT	Dillon	89.56	40	*e*P		P		18 59 59.8	+1.5		
	comp=Z,8.9nm,0.9s										
S22A	4UR Ranch, Cre	89.56	49	*e*P		P		18 59 59.8	+1.0		
	comp=Z,17nm,1.3s										
S22A				*ep*P		pP		19 02 02.4	+5.2		
POKR	Poker Flat Res	89.59	13	P		P		18 59 57.5	-0.4		
	baz=209										
REDW	Red Top Meadow	89.60	43	*e*P		P		18 59 59.6	+0.9		
	comp=Z,22nm,1.0s										
TPAW	Teton Pass	89.60	42	*e*P		P		19 00 00.1	+1.3		
	comp=Z,18nm,1.1s										
FXWY	Fox Creek	89.63	42	*e*P		P		18 59 59.9	+1.0		
	comp=Z,6.8nm,1.0s										
LNIG	Linares	89.70	63	*e*P		P		18 59 59.2	-0.1		
	comp=Z,16nm,1.0s										
SNOW	Snow King Moun	89.71	42	*e*P		P		19 00 01.0	+1.7		
	comp=Z,20nm,0.9s										
O20A	White River Ci	89.72	46	*e*P		P		19 00 00.5	+1.2		
	comp=Z,13nm,1.1s										
O20A	White River Ci	89.72	46	P		P		19 00 00.6	+1.3		
	baz=241										
CM01	Chiang Mai Arr	89.77	290	*e*P		P		19 00 00.7	+0.9		
CM31	Chiang Mai Arr	89.80	290	*e*P		P		19 00 01.7	+1.8		
CMAR	Chiang Mai Arr	89.80	290	P		P		19 00 01.5	+1.6		
	comp=Z,15nm,0.9s,baz=124,slow=3.1,SNR=83										
CMAR	Chiang Mai Arr	89.80	290	*i* P		P		18 59 56.5	-3.4		
CMAR				pmax		pmax					
	comp=Z,1.0nm,0.4s										
IMW	Indian Meadow	89.82	42	*e*P		P		19 00 00.2	+0.4		
	comp=Z,19nm,0.9s										
MOOW	Moose Ponds	89.86	42	*e*P		P		19 00 01.0	+1.1		
	comp=Z,7.5nm,1.1s										
LOHW	Long Hollow	89.88	42	*e*P		P		19 00 01.5	+1.5		
	comp=Z,8.1nm,0.9s										
BILL	Bilibino	89.92	354	*e*P		P		18 59 59.4	+0.1		
	comp=Z,7.9nm,1.1s										
BILL	Bilibino	89.92	354	⇑*i*P		P		18 59 58.6	-0.7		
BILL				SSS		SSS		19 20 09.0			
BILL				pmax		pmax					
	comp=Z,6.0nm,1.0s										
CMMT	Chiang Mai	89.93	290	P		P		19 00 01.7	+1.2		
CHTO	Chiang Mai	89.94	290	*e*P		P		19 00 01.2	+0.7		
	comp=Z,23nm,1.1s										
CHTO	Chiang Mai	89.94	290	P		P		19 00 01.8	+1.3		
	comp=Z,93nm,1.2s,comp=Z,1μm										
QLMT	Earthquake Lak	89.99	41	*e*P		P		19 00 02.0	+1.5		
RDOG	Red Dog Mine	90.02	6	*e*P		P		18 59 59.6	-0.2		
	comp=Z,10.0nm,0.9s										
FLWY	Flagg Ranch	90.06	42	*e*P		P		19 00 02.2	+1.3		
	comp=Z,22nm,1.1s										
YHB	Horse Butte	90.09	41	*e*P		P		19 00 02.7	+1.8		
	comp=Z,15nm,1.3s										
BW06	Boulder Array	90.13	43	*e*P		P		19 00 01.5	+0.3		
	comp=Z,11nm,0.9s										
BW06	Boulder Array	90.13	43	P		P		19 00 02.2	+1.1		
	baz=241										
PD31	Pinedale Array	90.13	43	*e*P		P		19 00 01.7	+0.5		
PDAR	Pinedale Array	90.13	43	P		P		19 00 02.1	+1.0		
	comp=Z,8.0nm,0.8s,baz=212,slow=3.2,SNR=56										
PDAR	Pinedale Array	90.13	43	*e*P		P		19 00 01.5	+0.4		
SMCO	Snowmass	90.13	48	*e*P		P		19 00 02.3	+0.8		
	comp=Z,8.0nm,1.2s										
BOZ	Bozeman (W)	90.26	40	*e*P		P		19 00 03.4	+1.8		
	comp=Z,10.0nm,1.0s										
BOZ	Bozeman (W)	90.26	40	*e*P		P		19 00 03.4	+1.8		
BOZ				pmax		pmax					
	comp=Z,10.0nm,1.0s										
YHH	Holmes Hill	90.32	41	*e*P		P		19 00 03.8	+1.7		
	comp=Z,14nm,1.5s										
SDCO	Great Sand Dun	90.50	49	*e*P		P		19 00 04.4	+1.3		
	comp=Z,6.0nm,1.1s										
SDCO	Great Sand Dun	90.50	49	P		P		19 00 04.2	+1.1		
	baz=243										
DAWY	Dawson	90.57	16	*e*P		P		19 00 02.8	+0.3		
	comp=Z,14nm,0.9s										
EGAK	Eagle	90.71	15	*e*P		P		19 00 02.6	-0.4		
	comp=Z,16nm,0.9s										
CD2	Chengdu	90.74	303	*e*P		P		19 00 05.0	+0.9		
MSTX	Muleshoe	90.83	54	*e*P		P		19 00 05.4	+0.9		
	comp=Z,9.7nm,0.9s										
DAWY	Dawson	90.57	16	*e*P		P		19 00 02.8	+0.3		
	comp=Z,14nm,0.9s										
EGAK	Eagle	90.71	15	*e*P		P		19 00 02.6	-0.4		
	comp=Z,16nm,0.9s										
CD2	Chengdu	90.74	303	*e*P		P		19 00 05.0	+0.9		
MSTX	Muleshoe	90.83	54	*e*P		P		19 00 05.4	+0.9		
	comp=Z,9.7nm,0.9s										
833A	Chaparral WMA,	91.13	60	P		P		19 00 07.2	+1.4		
	baz=246										
RWWY	Rawlins	91.14	45	*e*P		P		19 00 06.4	+0.4		
	comp=Z,50nm,1.7s										
N23A	Red Feather La	91.62	46	*e*P		P		19 00 09.5	+1.4		
	comp=Z,9.4nm,0.9s										
TOLK	Toolik Lake Re	92.32	10	*e*P		P		19 00 10.5	+0.1		
	comp=Z,32nm,2.0s										
TOLK	Toolik Lake Re	92.32	10	P		P		19 00 11.2	+0.7		
	baz=207										
YAK	Yakutsk	92.75	338	P		P		19 00 11.2	-1.2		
	comp=Z,10nm,0.9s,baz=311,slow=24,SNR=5.0										
YAK	Yakutsk	92.75	338	*e*P		P		19 00 11.0	-1.5		
YAK				pmax		pmax					
	comp=Z,10.0nm,0.9s										
YAK				pmax		pmax					
	comp=E,7.0nm,1.3s										
YAK				pmax		pmax					
	comp=N,5.0nm,1.3s										
LZH	Lanzhou	92.82	308	⇑P		P		19 00 14.5	+0.8		
LZH				pP		pP		19 02 16.1	+3.6		
LZH				sP		sP		19 03 10.0	+3.5		
LZH				PP		PP		19 04 09.3	+3.6		
LZH				pmax		pmax					
	comp=N,20nm,1.5s										
LZH				pmax		pmax					
	comp=N,93nm,9.6s										
EPYK	Eagle Plains	93.09	16	P		P		19 00 14.9	+0.9		
	baz=219										
HKT	Hockley	94.63	60	⇑*e*P		P		19 00 22.5	+0.8		
HKT				pmax		pmax					
	comp=Z,12nm,1.1s										
INK	Inuvik	95.38	15	*e*P		P		19 00 24.1	-0.2		
	comp=Z,6.4nm,1.1s										
INK	Inuvik	95.38	15	*e*P		P		19 00 24.1	-0.2		
INK				pmax		pmax					
	comp=Z,6.0nm,1.1s										
ULN	Ulaanbaatar	95.65	319	⇑*e*P		P		19 00 26.2	0.0		
ULN				pmax		pmax					
	comp=Z,6.0nm,2.3s										
SONA0	Songino Array	96.04	319	*e*P		P		19 00 27.6	-0.3		
SONM	Songino Array	96.04	319	P		P		19 00 27.6	-0.3		
	comp=Z,0.6nm,0.9s,baz=90,slow=2.9,SNR=3.4										
YKA	Yellowknife Ar	97.67	25	P		P		19 00 35.2	+0.5		
	comp=Z,1.2nm,0.8s,baz=281,slow=3.3,SNR=4.3										
YKB5	Yellowknife Ar	97.67	25	*e*P		P		19 00 34.8	+0.1		
TYNO	Tyneside	110.65	51	P		PKiKP		19 05 30.7	+0.9		
	baz=260										
KLBO	Killbear Provi	110.81	48	P		PKiKP		19 05 30.8	+0.8		
	baz=260										
ZAA1	Zalesovo Array	110.82	321	*e*PKiKP		PKiKP		19 05 28.6	-1.1		
ZALV	Zalesovo Beam	110.82	321	PKiKP		PKiKP		19 05 28.6	-1.1		
	comp=Z,0.7nm,0.4s,baz=110,slow=2.2,SNR=5.6										
STCO	Saint Catharin	111.18	51	P		PKiKP		19 05 31.2	+0.5		
	baz=260										
MK32	Makanchi Array	111.36	313	*e*PKiKP		PKiKP		19 05 30.1	-1.0		
MK32				*e*PKKPbc		PKKPbc		19 16 28.9	+0.1		
MKAR	Makanchi Array	111.36	313	PKiKP		PKiKP		19 05 30.1	-1.0		
	comp=Z,0.5nm,0.4s,baz=173,slow=0.6,SNR=14										
MKAR				PKKPbc		PKKPbc		19 16 28.9	+0.1		
	comp=Z,0.5nm,0.7s,baz=276,slow=6.0,SNR=4.3										
DELO	Deloro Mine	112.49	49	P		PKiKP		19 05 32.4	-0.8		
	baz=262										
PEMO	Pembroke	112.92	48	P		PKiKP		19 05 33.3	-0.6		
	baz=262										
KURK	Kurchatov	114.24	317	⇑*i*PKiKP		PKiKP		19 05 35.5	-0.8		
KURK				pmax		pmax					
	comp=Z,48nm,2.5s										
AAK	Ala-Archa	116.36	308	⇓*i*PKiKP		PKPdf		19 05 40.0	-0.9		
AAK				pmax		pmax					
	comp=Z,4.0nm,1.7s										
KK31	Karatay Array	119.31	308	*e*PKPdf		PKPdf		19 05 45.3	-1.1		
KK31	Karatay Array	119.31	308	*e*PKiKP		PKPdf		19 05 45.3	-1.1		
KKAR	Karatay Array	119.31	308	*e*PKPdf		PKPdf		19 05 45.6	-0.8		
KKAR	Karatay Array	119.31	308	*e*PKiKP		PKPdf		19 05 45.6	-0.8		
BRVK	Borovoye	119.44	320	*e*PKPdf		PKPdf		19 05 45.7	-0.6		
BRVK	Borovoye	119.44	320	*e*PKiKP		PKPdf		19 05 45.7	-0.6		
KBL	Kabul	119.75	298	*e*PKPdf		PKPdf		19 05 47.8	0.0		
KBL	Kabul	119.75	298	*e*PKiKP		PKPdf		19 05 47.8	0.0		
SUMG	Summit	124.25	13	*e*PKPdf		PKPdf		19 05 55.4	-0.1		
SUMG	Summit	124.25	13	*e*PKiKP		PKPdf		19 05 55.4	-0.1		
SVE	Sverdlovsk	124.39	325	*e*PKiKP		PKPdf		19 05 55.1	-0.6		
SVE				pmax		pmax					
	comp=Z,16nm,1.2s										
ARU	Arti	125.60	325	*e*PKPdf		PKPdf		19 05 57.5	-0.5		
ARU	Arti	125.60	325	*i* PKiKP		PKPdf		19 05 57.7	-0.3		
ARU								19 07 55.8			
ARU								19 12 16.6			
ABKAR	Akbulak array	126.31	316	*e*PKPdf		PKPdf		19 05 59.0	-0.6		
GEYT	Alibeck	128.72	302	PKP		PKPdf		19 06 04.5	-0.1		
	comp=Z,3.8nm,1.0s,baz=90,slow=4.8,SNR=7.5										
PRGR	Permogore	129.62	334	*e*PKiKP		PKPdf		19 06 04.8	-0.7		
PRGR				pmax		pmax					
	comp=Z,11nm,0.9s										
ARA0	ARCESS Array S	129.74	349	*e*PKPdf		PKPdf		19 06 04.5	-1.0		
ARCES	ARCESS Array B	129.74	349	PKP		PKPdf		19 06 04.5	-1.0		
	comp=Z,3.1nm,0.4s,baz=67,slow=1.2,SNR=54										
FIA0	FINESS Array S	136.50	343	*e*PKPpre		PKPpre		19 06 08.1			
FIA0				*e*PKPdf		PKPdf		19 06 18.0	-0.4		
FIA0				*e*SKPbc		SKPbc		19 09 01.8	+1.4		
FIA0	FINESS Array S	136.50	343	*e*PKHKP		PKPpre		19 06 08.1			
FIA0				*e*				19 06 18.0			
FINES	FINESS Array B	136.50	343	PKhKP		PKPpre		19 06 08.1			
	comp=Z,3.7nm,1.0s,baz=0.0,slow=5.6,SNR=4.7										
FINES				PKP		PKPdf		19 06 18.0	-0.4		
	comp=Z,4.3nm,0.8s,baz=55,slow=3.4,SNR=6.0										
FINES				SKPbc		SKPbc		19 09 01.8	+1.4		
	comp=Z,2.0nm,0.8s,baz=117,slow=3.0,SNR=4.6										
VRH	Novokhopyorsk	136.78	323	*e*PKIKP		PKPdf		19 06 18.7	-0.5		
VRH				pmax		pmax					
	comp=Z,8.0nm,0.5s										
OBN	Obninsk	137.27	331	⇓*e*PKIKP		PKPdf		19 06 19.4	-0.6		
OBN				pmax		pmax					
	comp=Z,10.0nm,0.9s										
OBN				pmax		pmax					
	comp=Z,22nm,1.3s										
LPSR	Galich'ya Gora	137.57	326	*e*PKIKP		PKPdf		19 06 22.9	+2.3		
LPSR				pmax		pmax					
	comp=Z,10.0nm,0.8s										
VSR	Storozhevoye	138.18	325	*e*PKIKP		PKPdf		19 06 20.8	-1.0		
VSR				pmax		pmax					
	comp=Z,10.0nm,1.0s										
VORD	Divnogorie	138.23	324	*e*PKIKP		PKPdf		19 06 23.4	+1.5		
VORD				pmax		pmax					
	comp=Z,10.0nm,0.6s										
KMBO	Kilima Mbogo	138.29	242	PKhKP		PKPpre		19 06 15.5			
	comp=Z,0.6nm,0.3s,baz=57,slow=4.6,SNR=5.1										
KMBO				PKP		PKPdf		19 06 23.9	+0.4		
	comp=Z,3.5nm,0.9s,baz=23,slow=3.8,SNR=8.3										
KMBO	Kilima Mbogo	138.29	242	*e*PKPpre		PKPpre		19 06 15.7			
KMBO				*e*PKPdf		PKPdf		19 06 24.1	+0.6		
KMBO	Kilima Mbogo	138.29	242	*e*PKHKP		PKPpre		19 06 15.7			
KMBO				*e*				19 06 24.1			
NB2	NORSAR Subarra	139.85	353	PKP		PKPpre		19 06 16.8			
	comp=Z,7.8nm,1.0s,baz=18,slow=4.0										
NB200	NORSAR Array S	139.85	353	*e*PKPpre		PKPpre		19 06 18.0			
NB200				*e*PKPdf		PKPdf		19 06 24.8	+0.2		
NOA	NORSAR Array B	139.85	353	PKhKP		PKPpre		19 06 18.0			
	comp=Z,1.1nm,0.7s,baz=11,slow=2.7,SNR=6.9										
NOA				PKP		PKPdf		19 06 24.8	+0.2		
	comp=Z,0.3nm,0.4s,baz=8.9,slow=3.2,SNR=7.2										
RRH	Rhenigidale	143.13	7	*e*P		PKPbc		19 06 28.4	-0.2		
RRR	Rubha Reidh	143.29	6	*e*P		PKPab		19 06 28.7	-0.1		
SUW	Suwalki	143.49	338	*e*PKP		PKPab		19 06 29.3	-0.4		
SUW	Suwalki	143.49	338	*e*PKPdf		PKPab		19 06 29.4	-0.3		
SUW	Suwalki	143.49	338	*e*PKIKP		PKPab		19 06 29.3	-0.4		
AKASG	Malin Array Be	143.52	330	PKP		PKPab		19 06 28.9	-1.0		
	comp=Z,16nm,0.8s,baz=43,slow=4.5,SNR=83										
AKASG	Malin Array Be	143.52	330	*i* PKIKP		PKPdf		19 06 37.2

PVCC	**Panska Ves**	**149.17**	**343**	*e*PKP2	**PKPbc**	**19 06 46.6**	**+0.8**
WTSB	**Winterswijk**	**149.25**	**353**	*e*PKP	**PKPbc**	**19 06 45.9**	**0.0**
	comp=Z,104nm,1.1s						
MTUR	**Matau**	**149.29**	**326**	⇑PKIKP	**PKPdf**	**19 06 37.3**	**-4.1**
MCH1	**Michaelchurch**	**149.34**	**5**	*e*P	**PKPbc**	**19 06 46.1**	**-0.1**
VYHS	**Vyhne**	**149.59**	**337**	*e*PKHKP	PKPpre	19 06 47.1	
VYHS				*e*		19 06 54.5	
VYHS	**Vyhne**	**149.59**	**337**	*e*PKP	**PKPbc**	**19 06 47.1**	**+0.2**
VYHS				*e*		19 06 54.5	
PRA	**Prague**	**149.62**	**343**⇑	*e*PKP	**PKPbc**	**19 06 47.5**	**+0.6**
PSZ	**Piszkesteto**	**149.65**	**335**	*e*PKPbc	**PKPbc**	**19 06 46.7**	**-0.5**
PSZ	**Piszkesteto**	**149.65**	**335**	⇓PKHKP	**PKPdf**	**19 06 43.9**	**+2.1**
VRAC	**Vranov**	**149.66**	**340**	*e*PKP	**PKPbc**	**19 06 47.3**	**+0.3**
VRAC				*e*		19 06 55.2	
GOPC	**GO Pecny, Ondr**	**149.66**	**343**⇑	*e*PKP	**PKPbc**	**19 06 47.4**	**+0.4**
JAVC	**Velka Javorina**	**149.69**	**338**	*e*PKP	**PKPbc**	**19 06 48.6**	**+1.4**
JAVC				*e*		19 06 56.2	
DEV	**Deva**	**149.91**	**329**	⇑PKHKP	**PKPbc**	**19 06 48.3**	**+0.6**
KRUC	**Moravsky**	**149.94**	**340**	*e*PKP	**PKPbc**	**19 06 47.9**	**+0.2**
KRUC				*e*		19 06 55.8	
NKC	**Novy Kostel**	**149.97**	**346**⇑	*e*PKP	**PKPbc**	**19 06 48.3**	**+0.6**
SMOL	**Smolenice**	**150.07**	**338**	*e*PKP	**PKPbc**	**19 06 48.8**	**+0.8**
SMOL				*e*		19 06 57.5	
MODS	**Modra-Piesok**	**150.24**	**338**	*e*PKP	**PKPbc**	**19 06 48.3**	**-0.1**
HGN	**Heimansgroeve**	**150.53**	**354**	*e*PKP	**PKPbc**	**19 06 49.3**	**+0.4**
	comp=Z,80nm,1.3s						
UCC	**Uccle**	**150.62**	**356**	⇑PKPbc	**PKPbc**	**19 06 49.6**	**+0.4**
SRE	**Strehaia**	**150.63**	**327**	⇓PKIKP	**PKPbc**	**19 06 49.7**	**+0.3**
MEM	**Membach**	**150.68**	**354**	⇑PKPbc	**PKPbc**	**19 06 49.0**	**-0.3**
KHC	**Kasperske Hory**	**150.71**	**343**	*e*PKPdf	**PKPdf**	**19 06 43.5**	**+0.2**
KHC				*e*PKPbc	**PKPbc**	**19 06 49.7**	**+0.1**
KHC	**Kasperske Hory**	**150.71**	**343**	*e*PKPDF	**PKPdf**	**19 06 43.8**	**+0.4**
KHC			⇑	*e*PKP	**PKPbc**	**19 06 49.6**	**+0.1**
KHC				*e*PKPAB	**PKPab**	**19 06 59.8**	**+0.9**
KHC	**Kasperske Hory**	**150.71**	**343**	*e*PKIKP	**PKPdf**	**19 06 43.8**	**+0.4**
KHC				*e*		19 06 59.8	
BZS	**Buzias**	**150.71**	**330**	⇑PKIKP	**PKPbc**	**19 06 49.7**	**+0.1**
GRFO	**Grafenberg**	**150.75**	**347**	*e*PKPbc	**PKPbc**	**19 06 49.6**	**+0.1**
SNF	**Seneffe**	**150.92**	**356**	⇑PKPbc	**PKPbc**	**19 06 50.0**	**+0.2**
BCLA	**Clavier**	**150.93**	**355**	⇑PKPbc	**PKPbc**	**19 06 50.0**	**+0.1**
BCLA				⇓PKPab	**PKPab**	**19 06 58.6**	**-1.1**
GEC2	**GERESS Array S**	**150.93**	**343**	*e*PKPbc	**PKPbc**	**19 06 49.7**	**-0.4**
GERES	**GERESS Array B**	**150.93**	**343**	PKP	**PKPdf**	**19 06 43.5**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=110,slow=2.0,SNR=6.5						
GERES				PKPbc	**PKPbc**	**19 06 49.5**	**-0.6**
	comp=Z,11nm,0.8s,baz=45,slow=2.1,SNR=71						
GEA0	**GERESS Array S**	**150.94**	**343**	*e*PKPdf	**PKPdf**	**19 06 42.4**	**-1.4**
GEA0				*e*PKPbc	**PKPbc**	**19 06 50.2**	**+0.1**
MANT	**Manisa**	**151.06**	**312**	*e*PKPdf	**PKPdf**	**19 06 44.5**	**0.0**
MANT				*e*PKPbc	**PKPbc**	**19 06 50.5**	**-0.4**
CONA	**Conrad Observa**	**151.10**	**339**	*i* PKiKP	**PKiKP**	**19 06 50.8**	**-0.1**
	comp=Z,27nm,0.9s,SNR=15						
DOU	**Dourbes**	**151.31**	**356**	⇓PKPbc	**PKPbc**	**19 06 51.0**	**+0.2**
WLF	**Walferdange**	**151.59**	**353**	*e*PKPdf	**PKPdf**	**19 06 42.9**	**-1.7**
WLF				*e*PKPbc	**PKiKP**	**19 06 52.2**	**+0.6**
WLF	**Walferdange**	**151.59**	**353**	*e*PKIKP	**PKPdf**	**19 06 42.9**	**-1.7**
MOA	**Molln**	**151.67**	**341**	*i* PKPbc	**PKPbc**	**19 06 51.4**	**-0.3**
	comp=Z,10.0nm,0.9s						
ARSA	**Arzberg**	**151.81**	**339**	*i* PKPbc	**PKPbc**	**19 06 51.5**	**-0.5**
	comp=Z,9.8nm,1.5s						
STU	**Stuttgart**	**152.03**	**349**	*e*PKPdf	**PKPdf**	**19 06 43.4**	**-1.9**
STU				*e*PKPbc	**PKiKP**	**19 06 52.9**	**+0.3**
STU	**Stuttgart**	**152.03**	**349**	*e*PKIKP	**PKPdf**	**19 06 43.4**	**-1.9**
VTS	**Vitosha**	**152.05**	**324**	*e*PKPdf	**PKPdf**	**19 06 44.0**	**-1.7**
VTS				*e*PKPbc	**PKPbc**	**19 06 52.2**	**-0.7**
VTS				*e*PKPab	**PKPab**	**19 07 05.5**	**+0.5**
VTS	**Vitosha**	**152.05**	**324**	⇓PKIKP	**PKPbc**	**19 06 53.0**	**+0.1**
SOKA	**Soboth**	**152.47**	**339**	*e*PKPbc	**PKPbc**	**19 06 53.0**	**-0.5**
	comp=Z,14nm,1.0s,SNR=5.9						
PERS	**Pernice**	**152.48**	**339**	*e*PKPdf	**PKPdf**	**19 06 45.3**	**-0.8**
PERS				*i* PKPbc	**PKPbc**	**19 06 52.9**	**-0.7**
PERS				*e*PKPab	**PKPab**	**19 07 06.4**	**-0.1**
PERS	**Pernice**	**152.48**	**339**	*e*PKPdf	**PKPdf**	**19 06 45.3**	**-0.8**
PERS				*i* PKPbc	**PKPbc**	**19 06 52.9**	**-0.7**
PERS				*e*PKPab	**PKPab**	**19 07 06.4**	**-0.1**
BFO	**Black Forest**	**152.60**	**350**	*e*PKPbc	**PKPbc**	**19 06 53.2**	**-0.6**
BFO				*e*PKPab	**PKPab**	**19 07 06.5**	**-0.4**
BFO	**Black Forest**	**152.60**	**350**	*e*PKIKP	**PKPbc**	**19 06 53.2**	**-0.6**
BFO				*e*		19 07 06.5	
KBA	**Koelnbreinsper**	**152.64**	**342**	*e*PKPbc	**PKPbc**	**19 06 53.5**	**-0.6**
	comp=Z,12nm,0.9s						
OBKA	**Obir**	**152.78**	**340**	*i* PKPbc	**PKPbc**	**19 06 53.6**	**-0.7**
	comp=Z,6.0nm,1.0s						
WATA	**Walderalm**	**152.88**	**345**	*e*PKPdf	**PKPdf**	**19 06 46.6**	**-0.2**
	comp=Z,2.5nm,1.0s						
WATA				*i* PKPbc	**PKPbc**	**19 06 54.2**	**-0.3**
	comp=Z,3.4nm,0.5s						
WTTA	**Wattenberg**	**152.93**	**344**	*i* PKPdf	**PKPdf**	**19 06 46.8**	**-0.1**
	comp=Z,4.4nm,0.8s						
WTTA				*i* PKiKP	**PKPbc**	**19 06 54.6**	**-0.1**
	comp=Z,11nm,0.7s						
RETA	**Reutte**	**152.93**	**346**	*i* PKiKP	**PKPbc**	**19 06 54.5**	**-0.1**
	comp=Z,8.6nm,1.0s						
MYKA	**Terra Mystica**	**152.96**	**341**	*i* PKPbc	**PKPbc**	**19 06 54.0**	**-0.6**
	comp=Z,10nm,0.9s						
MOTA	**Moosalm**	**152.99**	**345**	*i* PKPdf	**PKPdf**	**19 06 46.5**	**-0.5**
	comp=Z,3.3nm,0.8s						
MOTA				*e*PKPbc	**PKPbc**	**19 06 54.3**	**-0.4**
	comp=Z,16nm,0.8s						
SQTA	**Sankt Quirin**	**153.08**	**345**	*e*PKPdf	**PKPdf**	**19 06 47.0**	**-0.1**
	comp=Z,5.6nm,0.9s						
SQTA				*i* PKiKP	**PKPbc**	**19 06 54.8**	**-0.1**
	comp=Z,15nm,1.0s						
ABTA	**Abfaltersbach**	**153.18**	**343**	*i* PKPdf	**PKPdf**	**19 06 46.4**	**-0.7**
	comp=Z,8.4nm,1.0s						
ABTA				*i* PKPbc	**PKPbc**	**19 06 54.7**	**-0.4**
	comp=Z,21nm,1.0s,SNR=6.0						
VISS	**Visnje**	**153.30**	**339**	*e*PKPdf	**PKPdf**	**19 06 47.5**	**+0.2**
VISS				*e*PKPbc	**PKiKP**	**19 06 55.4**	**0.0**
VISS				*i* PKPab	**PKPab**	**19 07 09.9**	**-0.1**
VISS	**Visnje**	**153.30**	**339**	*e*PKPdf	**PKPdf**	**19 06 47.5**	**+0.2**
VISS				*e*PKPbc	**PKiKP**	**19 06 55.4**	**0.0**
VISS				*i* PKPab	**PKPab**	**19 07 09.9**	**-0.1**
DAVA	**Damuels**	**153.31**	**347**	*i* PKiKP	**PKiKP**	**19 06 55.6**	**0.0**
	comp=Z,15nm,1.0s						
BLY	**Banja Luka**	**153.32**	**334**	*e*PKPdf	**PKPdf**	**19 06 45.9**	**-1.4**
BLY				*e*PKPbc	**PKiKP**	**19 06 55.4**	**0.0**
BLY				*e*PKPab	**PKPab**	**19 07 09.0**	**-1.0**
FETA	**Feichten**	**153.38**	**345**	*i* PKPdf	**PKPdf**	**19 06 47.6**	**0.0**
	comp=Z,11nm,1.0s						
FETA				*i* PKiKP	**PKPbc**	**19 06 55.6**	**0.0**
	comp=Z,16nm,1.0s						
BOJS	**Bojanci**	**153.42**	**338**	*e*PKPdf	**PKPdf**	**19 06 47.2**	**-0.2**
BOJS				*i* PKPbc	**PKiKP**	**19 06 55.9**	**+0.3**
BOJS	**Bojanci**	**153.42**	**338**	*e*PKPdf	**PKPdf**	**19 06 47.2**	**-0.2**
BOJS				*i* PKPbc	**PKiKP**	**19 06 55.9**	**+0.3**
JAVS	**Javornik**	**153.48**	**340**	*e*PKPbc	**PKPbc**	**19 06 55.3**	**-0.5**
JAVS				*e*PKPab	**PKPab**	**19 07 10.3**	**-0.6**
JAVS	**Javornik**	**153.48**	**340**	*e*PKPbc	**PKPbc**	**19 06 55.3**	**-0.5**
JAVS				*e*PKPab	**PKPab**	**19 07 10.3**	**-0.6**
FUORN	**Ofenpass-Fuorn**	**153.86**	**346**	*e*PKPdf	**PKPdf**	**19 06 46.1**	**-2.2**
FUORN				*e*PKPbc	**PKiKP**	**19 06 56.9**	**+0.1**
FUORN				*e*PKPab	**PKPab**	**19 07 12.5**	**-0.1**
LIT	**Litokhoron**	**154.09**	**321**	*e*PKPab	**PKPab**	**19 07 13.4**	**-0.2**
TUE	**Stuetta**	**154.20**	**347**	*e*PKPdf	**PKPdf**	**19 06 46.6**	**-2.2**
TUE				*e*PKPbc	**PKPbc**	**19 06 57.2**	**-0.2**
TUE				*e*PKPab	**PKPab**	**19 07 14.0**	**-0.1**
FNA	**Florina**	**154.28**	**323**	*e*PKPbc	**PKPbc**	**19 06 56.6**	**-1.0**
FNA				*e*PKPab	**PKPab**	**19 07 13.9**	**-0.5**
FNA	**Florina**	**154.28**	**323**	*e*PKIKP	**PKPbc**	**19 06 56.6**	**-1.0**
FNA				*e*		19 07 13.9	
TIP	**Timpagrande**	**157.91**	**327**	*e*PKPdf	**PKPdf**	**19 06 52.6**	**-1.0**
TIP				*e*PKPab	**PKPab**	**19 07 29.9**	**-0.2**
ES19	**SONSECA Array**	**161.29**	**13**	*e*PKPdf	**PKPdf**	**19 06 56.9**	**-0.5**
ES19				*e*PKPab	**PKPab**	**19 07 43.7**	**-1.1**
ESDC	**Sonseca Array**	**161.31**	**13**	PKP	**PKPdf**	**19 06 57.5**	**+0.1**
	comp=Z,1.5nm,1.0s,baz=307,slow=0.7,SNR=5.1						
ESDC				PKPab	**PKPab**	**19 07 44.4**	**-0.4**
	comp=Z,7.9nm,1.1s,baz=347,slow=4.6,SNR=11						
KEST	**Kesra**	**164.13**	**335**	PKPab	**PKPab**	**19 07 57.7**	**+0.3**
	comp=Z,6.6nm,0.9s,baz=4.2,slow=1.8,SNR=6.2						
KEST	**Kesra**	**164.13**	**335**	*e*PKPab	**PKPab**	**19 07 56.6**	**-0.8**
DBIC	**Dimbokro**	**164.14**	**157**	PKP	**PKPdf**	**19 07 00.3**	**-0.4**
	comp=Z,7.6nm,1.1s,baz=225,slow=2.3,SNR=6.3						
DBIC	**Dimbokro**	**164.14**	**157**	*e*PKPdf	**PKPdf**	**19 06 59.9**	**-0.9**
DBIC				*e*PKPab	**PKPab**	**19 07 58.4**	**+0.6**
DBIC	**Dimbokro**	**164.14**	**157**	*e*PKIKP	**PKPdf**	**19 06 59.9**	**-0.9**
DBIC				*e*		19 07 58.4	
TOA0	**Torodi Ar. Sit**	**171.72**	**183**	*e*PKPdf	**PKPdf**	**19 07 03.7**	**-2.1**
TOA0				*e*PKPdf	PKPdf	19 07 04.9	-1.0
TOA0				*e*PKPab	**PKPab**	**19 08 30.4**	**-0.9**
TOA0				*e*PKPab	**PKPab**	**19 08 31.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**171.72**	**183**	PKP	**PKPdf**	**19 07 03.9**	**-2.0**
	comp=Z,4.3nm,1.0s,baz=324,slow=1.9,SNR=22						
TORD				PKPab	**PKPab**	**19 08 30.8**	**-0.5**
	comp=Z,2.1nm,1.0s,baz=168,slow=7.6,SNR=7.8						
TOA1	**Torodi Ar. Sit**	**171.72**	**183**	*e*PKPdf	**PKPdf**	**19 07 03.9**	**-2.0**
TOA1				*e*PKPab	**PKPab**	**19 08 30.8**	**-0.5**
TAM	**Tamanrasset**	**175.85**	**289**	*e*PKPdf	**PKPdf**	**19 07 07.3**	**0.0**
TAM				*e*PKPab	**PKPab**	**19 08 49.7**	**-0.5**
TAM	**Tamanrasset**	**175.85**	**289**	*e*PKIKP	**PKPdf**	**19 07 07.3**	**0.0**
TAM				*e*		19 08 49.7	

MAN 24 18:48:11.0,15°.60N×119°.44E,h18km,mb4.4,ML3.3, MS3.1,1C,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCZP	**Santa Cruz**	**0.49**	**69**	*e*P	Pb	18 48 21.0	0.0
SCZP				*e*S	Sg	18 48 25.9	-1.5
BOLP	**Bolinao**	**0.90**	**30**	*e*P	Pb	18 48 27.6	-0.4
BOLP				*e*S	Sb	18 48 40.0	+0.3
SMPP	**San Manuel, Pa**	**1.31**	**65**	*e*P	Pn	18 48 33.5	-1.0
SMPP				*e*S	Sn	18 48 50.8	-0.8
PCPH	**Palayan**	**1.60**	**91**⇑	*e*P	Pn	18 48 37.9	-0.5
BALP	**Baler**	**2.06**	**86**	*e*P	Pn	18 48 45.9	+1.2
ABRA	**Dolores**	**2.37**	**31**	*e*P	Pn	18 48 49.8	+0.8
ABRA				*e*S	Sn	18 49 18.8	+1.1
POLP	**Polilio Island**	**2.57**	**110**	*e*P	Pb	18 48 55.5	-1.0
POLP				*e*S	Sb	18 49 26.9	-0.8
CAUP	**Cauayan**	**2.65**	**59**	*e*P	Pb	18 48 55.6	-2.3
CAUP				*e*S	Sb	18 49 30.7	+0.5
APYP	**Conner**	**2.83**	**37**	*e*P	Pn	18 48 56.7	+1.3
APYP				*e*S	Sb	18 49 32.8	-2.7
BUSP	**Coron**	**3.66**	**168**	*e*P	Pn	18 49 07.9	+1.2
ENPP	**El Nido**	**4.37**	**180**	*e*P	Pn	18 49 17.7	+1.1

NIED ***24*** *18:58:00, 37°.90N×142°.40E, h35km, Mw3.5 Best double couple: M₀1.79000×10¹⁴ NP1:φ₀115.00000°, δ27.00000°, λ157.00000°. NP2:φ₀225.00000°, δ80.00000°, λ65.00000°.*
IDC ***24*** *18:58:51.1±2.3, 37°.79N×142°.82E, h0km, mb3.4/3, mb1 3.5/5, mb1mx3.3/48, mbtmp3.4/5, ML2.5/2, MS1.7/1, Ms1 1.7/1, ms1mx1.7/32, Error ellipse: s-maj=47.3km s-min=28.7km az=64.0*
ISCJB ***24*** *18:58:53.5±1.2, 37°.85N±0°.06×142°.44E±0°.10, h14km, mb3.3/3, Error ellipse: s-maj=11.7km s-min=8.0km az=27.1*
JMA ***24*** *18:58:54.8±0.3, 37°.90N×142°.45E, h38km±3km, M3.7*
ISC 24 18:58:54.6±1.5, 37°.90N±0°.09×142°.4E±0°.1, h14km, n21, σ2s05/19, mb3.4/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.87**	**299**	P	**Pb**	**18 59 10.8**	**-0.6**
JIO	**Ouri**	**1.02**	**303**	P	**Pb**	**18 59 13.2**	**-0.8**
JIO				*e*S	**Sb**	**18 59 25.7**	**-1.5**
JKMT	**Kesennumamotoy**	**1.18**	**321**	P	**Pn**	**18 59 15.5**	**-1.2**
JMM	**Marumori**	**1.30**	**269**	P	**Pn**	**18 59 17.2**	**-1.1**
JFK	**Kawauchi**	**1.35**	**247**	P	**Pn**	**18 59 17.7**	**-1.3**
JFK				S	**Sn**	**18 59 33.7**	**-3.0**
JMK	**Ichinoseki**	**1.42**	**318**	P	**Pn**	**18 59 19.0**	**-0.9**
JOU	**Okura**	**1.47**	**289**	P	**Pn**	**18 59 20.3**	**-0.4**
JFT	**Otama**	**1.71**	**258**	P	**Pn**	**18 59 24.0**	**+0.1**
JFT				*e*S	**Sn**	**18 59 44.2**	**-1.3**
JOM	**Ohasama**	**1.81**	**331**	P	**Pn**	**18 59 24.7**	**-0.6**
JYK	**Kaneyama**	**1.92**	**303**	P	**Pn**	**18 59 26.7**	**-0.1**
MJAR	**Matsushiro Arr**	**3.63**	**249**	Pn	**Pn**	**18 59 52.1**	**+1.7**
	0.6nm,0.3s,baz=70,slow=11,SNR=13						
MJAR				Sn	**Sn**	**19 00 38.7**	**+5.6**
	0.6nm,0.3s,baz=73,slow=23,SNR=3.2						
MJAR				LR	LR	19 00 48.7	
	comp=Z,11nm,20.7s,baz=220,slow=30						
USRK	**Ussuriysk Ar.**	**10.09**	**312**	Pn	**Pn**	**19 01 22.1**	**+3.2**
	0.2nm,0.3s,baz=115,slow=15,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**27.92**	**124**	T	T	19 33 57.0	
	baz=316,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy**	**27.93**	**124**	T	T	19 34 00.6	
	baz=316,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**27.94**	**124**	T	T	19 33 59.6	
	baz=316,slow=75,SNR=19						
SONM	**Songino Array**	**27.99**	**302**	P	**P**	**19 04 46.1**	**+1.2**
	0.5nm,0.7s,baz=111,slow=8.3,SNR=2.6						
H11S1	**WAKE ISLAND Hy**	**28.68**	**126**	T	T	19 34 58.4	
	baz=318,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**28.68**	**126**	T	T	19 34 53.0	
	baz=318,slow=76,SNR=17						
H11S2	**WAKE ISLAND Hy**	**28.69**	**126**	T	T	19 34 53.6	
	baz=318,slow=76,SNR=13						
MKAR	**Makanchi Array**	**44.35**	**302**	P	**P**	**19 07 05.2**	**+1.0**
	0.5nm,1.0s,baz=97,slow=7.8,SNR=2.0						
WRA	**Warramunga Arr**	**58.03**	**189**	P	**P**	**19 08 45.6**	**-1.5**
	0.4nm,0.9s,baz=8.8,slow=7.4,SNR=4.9						

MAN 24 19:11:05.3,9°.45N×126°.84E,h26km,mb4.1,ML2.9,MS2.6, 2C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.29**	**249**	*e*P	Pn	19 11 26.6	-1.0
BUTP				*e*S	Sb	19 11 45.0	-0.2
BIPH	**Bislig**	**1.34**	**201**⇓	*e*P	Pb	19 11 30.0	+0.3
BIPH				*e*S	Sn	19 11 45.4	0.0
SCPH	**Surigao**	**1.38**	**284**⇑	*e*P	Pn	19 11 28.4	-0.4
MSLP	**Maasin**	**2.07**	**289**	*e*P	Pn	19 11 38.8	+0.4
CGP	**Cagayan de Oro**	**2.34**	**245**⇑	*e*P	Pb	19 11 46.0	-0.8
CGP				*e*S	Sb	19 12 14.3	-0.9
MATI	**Mati**	**2.55**	**193**	*e*P	Pn	19 11 45.6	+0.6

ISK ***24*** *19:43:18.9, 38°.98N×43°.61E, h5km, ML2.5/7*
ISCJB ***24*** *19:43:20.5±0.6, 38°.96N±0°.03×43°.65E±0°.05, h8km±4km, Error ellipse: s-maj=7.1km s-min=4.7km az=27.6*
DDA ***24*** *19:43:20.2, 38°.94N×43°.64E, h10km, Ml2.7*
ISC 24 19:43:20.2±0.9, 38°.97N±0°.03×43°.64E±0°.03, h9km±6km, n16, σ0s96/25, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.06**	**295**	*i* P	**Pg**	**19 43 22.1**	**-0.3**
VMUR				*i* S	**Sg**	**19 43 24.7**	**+0.7**
ERCV	**ERCIS-VAN**	**0.24**	**283**	PG	**Pg**	**19 43 24.5**	**-0.7**
CLDR	**Caldiran**	**0.28**	**51**	PG	**Pg**	**19 43 25.9**	**-0.1**
CLDR				SG	**Sg**	**19 43 30.8**	**+1.0**
CLDR	**Caldiran**	**0.28**	**51**	*i* P	**Pg**	**19 43 26.1**	**+0.1**
CLDR				*i* S	**Sb**	**19 43 31.6**	**-0.9**
VANB	**Van**	**0.42**	**208**	PG	**Pb**	**19 43 28.9**	**-0.9**
TVAN	**Van**	**0.47**	**203**	*i* P	**Pb**	**19 43 29.8**	**-1.0**
TVAN				*i* S	**Sb**	**19 43 39.0**	**+1.1**
DYDN	**Diyadin**	**0.58**	**4**	*i* P	**Pb**	**19 43 31.7**	**-1.0**
DYDN				*i* S	**Sb**	**19 43 41.1**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.73**	**258**	*i* P	**Pb**	**19 43 34.3**	**-0.9**
ADCV				*i* S	**Sb**	**19 43 46.1**	**+0.7**
TUTA	**Tutak**	**0.78**	**304**	*i* P	**Pb**	**19 43 35.0**	**-1.0**
TUTA				*i* S	**Sb**	**19 43 47.2**	**+0.5**
AGRB	**Hanur-Agry**	**0.79**	**321**	PG	**Pg**	**19 43 34.1**	**-1.4**
GEVA	**Gevas**	**0.79**	**215**	*i* P	**Pg**	**19 43 34.7**	**-0.8**
GEVA				*i* S	**Sn**	**19 43 49.7**	**-0.1**
EATA	**Eleskirt**	**1.26**	**316**	*i* P	**Pn**	**19 43 44.3**	**0.0**
EATA				*i* S	**Sn**	**19 44 03.8**	**+2.2**
GNI	**Garni**	**1.46**	**35**	PN	**Pn**	**19 43 46.8**	**-0.1**
SIRT	**Sirnak**	**1.74**	**213**	PN	**Pb**	**19 43 51.4**	**-1.0**
SVAN	**Silvan-Diyarba**	**2.08**	**248**	PN	**Pn**	**19 43 55.9**	**+0.6**
BNGB	**Bing¶l**	**2.31**	**272**	PN	**Pn**	**19 43 59.4**	**+0.9**

TAP ***24*** *19:43:31.4, 24°.86N×122°.02E, h11km, ML3.3, B*
JMA ***24*** *19:43:32.1±0.1, 24°.85N×122°.01E, h26km, M2.8*
ISC 24 19:43:31.2±1.1, 24°.85N±0°.02×122°.10E±0°.02, h3km±10km, n103, σ0s74/132, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.15**	**268**	*i* P	**Pg**	**19 43 34.4**	**+0.2**
	baz=254						
EGS				*e*S	**Sg**	**19 43 36.3**	**+0.1**
	baz=254						
TWB1	**Santiao Chiao**	**0.18**	**328**	*i* P	**Pg**	**19 43 35.1**	**+0.2**
	baz=343						
TWB1				*i* S	**Sg**	**19 43 37.6**	**+0.3**
	baz=343						
NTC	**Toucheng**	**0.24**	**271**	*e*P	**Pg**	**19 43 35.9**	**0.0**
	baz=274						
NTC				*e*S	**Sg**	**19 43 38.8**	**-0.3**
	baz=274						
EOS1	**EOS1**	**0.30**	**174**	P	**Pb**	**19 43 38.5**	**-0.7**
	baz=157						
EOS1				*e*S	**Sb**	**19 43 43.3**	**-1.3**
	baz=157						
ILA	**Ilan**	**0.33**	**255**	*e*S	**Sg**	**19 43 41.7**	**-0.1**
	baz=249						
TWC	**Suao**	**0.33**	**223**	P	**Pg**	**19 43 37.5**	**-0.1**
	baz=221						
TWC				*e*S	**Sg**	**19 43 41.8**	**0.0**
	baz=221						
NWF	**Wu-fen Shan**	**0.36**	**308**	*i* P	**Pg**	**19 43 38.5**	**+0.3**
	baz=305						
NWF				S	**Sg**	**19 43 43.2**	**+0.2**
	baz=305						
WFSB	**Wu-fen Shan**	**0.36**	**308**	P	**Pg**	**19 43 38.5**	**+0.3**
	baz=309						
WFSB				S	**Sg**	**19 43 42.9**	**-0.1**
	baz=309						
TWE	**Neicheng**	**0.41**	**252**	*i* P	**Pg**	**19 43 38.9**	**-0.2**
	baz=238						
TWE				*e*S	**Sg**	**19 43 43.9**	**-0.6**
	baz=238						
TWA	**Mucha**	**0.48**	**286**	*i* P	**Pg**	**19 43 40.5**	**-0.1**
	baz=277						
TWA				S	**Sg**	**19 43 46.4**	**-0.5**
	baz=277						
ENTT	**Nioudou**	**0.53**	**247**	*e*P	**Pg**	**19 43 41.2**	**-0.2**
	baz=235						
ENTT				*e*S	**Sg**	**19 43 47.4**	**-0.8**
	baz=235						
NANB	**Nanao**	**0.53**	**217**	*e*P	**Pg**	**19 43 41.1**	**-0.3**
	baz=216						
NANB				*e*S	**Sg**	**19 43 48.3**	**+0.1**
	baz=216						
ENA	**Nanau**	**0.53**	**218**	*e*P	**Pg**	**19 43 41.2**	**-0.2**
	baz=212						
YM07	**YM07**	**0.54**	**307**	*e*P	**Pg**	**19 43 42.1**	**+0.4**
	baz=313						
YM07				*e*S	**Sg**	**19 43 48.5**	**-0.1**
	baz=313						
NWLT	**Wulai**	**0.55**	**262**	*e*P	**Pg**	**19 43 41.2**	**-0.5**
	baz=260						
NWLT				*e*S	**Sg**	**19 43 48.5**	**-0.3**
	baz=260						
TAP1	**Taipei**	**0.55**	**290**	*e*P	**Pg**	**19 43 42.4**	**+0.5**
	baz=291						
TAP1				*e*S	**Sg**	**19 43 49.3**	**+0.2**
	baz=291						
YM01	**YM01**	**0.56**	**302**	*e*P	**Pb**	**19 43 43.4**	**-0.3**
	baz=304						
TAP	**Taipei**	**0.57**	**289**	*e*P	**Pg**	**19 43 42.5**	**+0.3**
	baz=291						
TAP				*e*S	**Sg**	**19 43 49.5**	**0.0**
	baz=291						
YM11	**YM11**	**0.57**	**304**	*e*P	**Pg**	**19 43 42.7**	**+0.5**
	baz=306						
YM08	**YM08**	**0.57**	**306**	*e*P	**Pg**	**19 43 42.4**	**+0.2**
	baz=309			

	baz=228							
HATJ	**Hateruma jima**	**1.75**	**117**	P		**Pn**	**19 44 02.6**	**+0.2**
ALS	**Alishan**	**1.78**	**222**	*e*P		**Pb**	**19 44 05.1**	**+0.4**
	baz=210							
CHN5	**Tsauling**	**1.80**	**226**	*e*P		**Pg**	**19 44 05.7**	**0.0**
	baz=233							
CHN5				*e*S		**Sg**	**19 44 30.5**	**+1.4**
	baz=233							
FULB	**Fuli**	**1.80**	**204**	*e*P		**Pb**	**19 44 04.7**	**-0.2**
	baz=219							
WGK	**Gukeng**	**1.82**	**231**	*e*P		**Pb**	**19 44 05.6**	**+0.5**
	baz=251							
WDLH	**Douliu**	**1.83**	**231**	*e*P		**Pg**	**19 44 06.2**	**-0.2**
	baz=252							
JKRS	**Kuro-shima**	**1.85**	**109**	P		**Pn**	**19 44 03.3**	**-0.5**
CHKT	**Chengkung**	**1.87**	**201**	*e*P		**Pb**	**19 44 06.0**	**0.0**
	baz=219							
JIJ	**Ishigaki jima**	**1.93**	**104**	P		**Pn**	**19 44 04.5**	**-0.4**
ELDTW	**Lidau**	**1.93**	**211**	*e*P		**Pb**	**19 44 06.3**	**-0.8**
	baz=214							
CHN4	**Tsaushan**	**2.03**	**223**	*e*P		**Pb**	**19 44 08.9**	**+0.2**
	baz=231							
CHN4				*e*S		**Sg**	**19 44 37.0**	**+0.5**
	baz=231							
JISG	**Ishigakijimahi**	**2.03**	**97**	P		**Pn**	**19 44 06.9**	**+0.6**
TPUB	**Ta-pu**	**2.04**	**221**	*e*P		**Pb**	**19 44 08.9**	**-0.1**
	baz=209							
TPUB				*e*S		**Sg**	**19 44 37.0**	**0.0**
	baz=209							
STYT	**Tauyuan**	**2.08**	**216**	*e*P		**Pb**	**19 44 09.7**	**+0.1**
	baz=208							
WSF	**Szhu**	**2.09**	**235**	*e*P		**Pb**	**19 44 10.0**	**+0.2**
	baz=251							
WTP	**Ta-pu**	**2.10**	**221**	*e*P		**Pb**	**19 44 09.9**	**0.0**
	baz=224							
WLGB	**Puzi**	**2.13**	**231**	*e*P		**Pb**	**19 44 10.5**	**-0.1**
	baz=248							
TWK	**Hsinying**	**2.16**	**223**	*e*P		**Pb**	**19 44 10.9**	**-0.1**
	baz=227							
CHN1	**Nanshi**	**2.19**	**221**	*e*P		**Pb**	**19 44 10.9**	**-0.6**
	baz=225							
TWG	**Pinlang**	**2.23**	**205**	*e*P		**Pn**	**19 44 10.2**	**+1.2**
	baz=195							
SGST	**Jiashian**	**2.24**	**218**	*e*P		**Pb**	**19 44 11.9**	**-0.4**
	baz=209							
SLGT	**Liugui**	**2.28**	**216**	*e*P		**Pb**	**19 44 12.7**	**-0.3**
	baz=225							
SLGT				*e*S		**Sb**	**19 44 42.9**	**+1.4**
	baz=225							
MATB	**Ma-tsu**	**2.34**	**304**	*e*P		**Pb**	**19 44 08.5**	**-2.0**
	baz=301							
VWUC	**VWUC**	**2.41**	**274**	*e*P		**Pn**	**19 44 09.7**	**-1.8**
	baz=273							
ECL	**Taimali**	**2.48**	**205**	*e*P		**Pn**	**19 44 14.0**	**+1.6**
	baz=198							
SSD	**Sandimen**	**2.49**	**213**	*e*P		**Pb**	**19 44 15.6**	**-1.0**
	baz=217							
TWM1	**Shoushan**	**2.53**	**218**	*e*P		**Pb**	**19 44 17.7**	**+0.3**
	baz=222							
MASBT	**Mashibuluo**	**2.60**	**211**	*e*P		**Pn**	**19 44 16.1**	**+1.9**
	baz=216							
PHUB	**P'eng-hu**	**2.66**	**241**	*e*P		**Pn**	**19 44 15.3**	**+0.3**
	baz=256							
XPSS	**Dashiqiu**	**2.69**	**321**	*e*P		**Pn**	**19 44 13.9**	**-1.5**
	baz=316							
LYJJ	**Jianjiangzhen**	**2.70**	**309**	*e*P		**Pn**	**19 44 12.8**	**-2.8**
	baz=306							
PTMZ	**Houxiangcun**	**2.71**	**275**	*e*P		**Pn**	**19 44 13.8**	**-1.8**
	baz=272							
EAST	**Anshuo**	**2.71**	**205**	*e*P		**Pn**	**19 44 16.0**	**+0.3**
	baz=200							
WDGT	**Dungji**	**2.73**	**235**	*e*P		**Pn**	**19 44 18.4**	**+2.4**
	baz=251							
SCZT	**Fangliau**	**2.81**	**209**	*e*P		**Pb**	**19 44 20.8**	**-1.4**
	baz=214							
MHZQ	**Yeshan**	**3.04**	**295**	*e*P		**Pn**	**19 44 21.1**	**+0.9**
	baz=291							
AXDP	**Jialang**	**3.75**	**272**	*e*P		**Pn**	**19 44 28.3**	**-1.7**
	baz=270							

*ISCJB **24** 19:45:08.3±0.4, 24°.84N±0°.02×122°.05E±0°.03, h5km±4km, Error ellipse: s-maj=3.9km s-min=3.2km az=168.9*
*TAP **24** 19:45:08.2, 24°.87N×122°.01E, h12km, ML2.5, C*
*JMA **24** 19:45:08.9±0.1, 24°.86N×121°.99E, h35km*

ISC 24 19:45:07.7±0.9, 24°.86N±0°.03×122°.09E±0°.03, h11km±7km, n43, σ0s45/63, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EGS		**0.14**	**265**	P		**Pg**	**19 45 11.1**	**+0.1**
	baz=251							
EGS				S		**Sg**	**19 45 13.1**	**-0.3**
	baz=251							
TWB1	**Santiao Chiao**	**0.17**	**330**	*i* P		**Pg**	**19 45 11.9**	**+0.3**
	baz=344							
TWB1				*i* S		**Sg**	**19 45 14.2**	**-0.1**
	baz=344							
NTC	**Toucheng**	**0.23**	**269**	*e*P		**Pg**	**19 45 12.6**	**+0.1**
	baz=273							
NTC				*e*S		**Sg**	**19 45 15.6**	**-0.2**
	baz=273							
EOS1	**EOS1**	**0.31**	**173**	P		**Pb**	**19 45 15.3**	**0.0**
	baz=165							
EOS1				*e*S		**Sb**	**19 45 20.2**	**-0.1**
	baz=165							
TWC	**Suao**	**0.33**	**221**	P		**Pg**	**19 45 14.3**	**0.0**
	baz=220							
TWC				*e*S		**Sg**	**19 45 17.9**	**-0.8**
	baz=220							
NWF	**Wu-fen Shan**	**0.35**	**308**	P		**Pb**	**19 45 15.2**	**-0.8**
	baz=308							
NWF				*e*S		**Sg**	**19 45 19.7**	**+0.2**
	baz=308							
WFSB	**Wu-fen Shan**	**0.35**	**308**	*e*P		**Pb**	**19 45 15.2**	**-0.8**
	baz=308							
WFSB				*e*S		**Sg**	**19 45 19.3**	**-0.1**
	baz=308							
TWE	**Neicheng**	**0.40**	**251**	P		**Pg**	**19 45 15.7**	**-0.1**
	baz=238							
TWE				*e*S		**Sg**	**19 45 20.3**	**-0.8**
	baz=238							
TWA	**Mucha**	**0.47**	**285**	*e*P		**Pg**	**19 45 17.2**	**+0.2**
	baz=280							
TWA				*e*S		**Sg**	**19 45 23.0**	**-0.3**
	baz=280							
ENTT	**Nioudou**	**0.52**	**246**	P		**Pg**	**19 45 17.8**	**-0.1**
	baz=234							
ENTT				*e*S		**Sg**	**19 45 24.2**	**-0.6**
	baz=234							
NANB	**Nanao**	**0.53**	**216**	*e*P		**Pg**	**19 45 18.0**	**0.0**
	baz=215							
NANB				*e*S		**Sg**	**19 45 24.8**	**-0.1**
	baz=215							
YM07	**YM07**	**0.53**	**307**	*e*P		**Pb**	**19 45 18.9**	**-0.2**
	baz=310							
YM07				*e*S		**Sg**	**19 45 25.1**	**0.0**
	baz=310							
ENA	**Nanau**	**0.53**	**216**	*e*P		**Pg**	**19 45 18.3**	**+0.2**
	baz=215							
ENA				*e*S		**Sg**	**19 45 25.0**	**-0.1**
	baz=215							
NWLT	**Wulai**	**0.54**	**262**	*e*P		**Pg**	**19 45 18.0**	**-0.2**
	baz=259							
YM01	**YM01**	**0.55**	**302**	*e*P		**Pb**	**19 45 20.2**	**+0.8**
	baz=303							
TATO	**Taipei**	**0.56**	**282**	*e*P		**Pb**	**19 45 19.0**	**-0.5**
	baz=278							
TATO				*e*S		**Sg**	**19 45 25.6**	**-0.4**
	baz=278							
YM11	**YM11**	**0.56**	**304**	*e*P		**Pb**	**19 45 19.4**	**-0.2**
	baz=305							
YM08	**YM08**	**0.56**	**306**	*e*P		**Pb**	**19 45 19.1**	**-0.5**
	baz=308							
YM10	**YM10**	**0.56**	**302**	*e*P		**Pb**	**19 45 19.5**	**-0.1**
	baz=304							
YM05	**YM05**	**0.56**	**303**	*e*P		**Pb**	**19 45 19.5**	**-0.2**
	baz=305							
YM04	**YM04**	**0.58**	**301**	*e*P		**Pb**	**19 45 19.6**	**-0.3**
	baz=302							
YM03	**YM03**	**0.59**	**303**	*e*P		**Pb**	**19 45 20.1**	**0.0**
	baz=297							
TWY	**Chenhua**	**0.61**	**314**	*e*P		**Pb**	**19 45 20.4**	**0.0**
	baz=315							
TWS1	**Kuangyinshan**	**0.65**	**292**	*e*P		**Pb**	**19 45 21.4**	**+0.3**
	baz=293							
NTST	**Danshui**	**0.65**	**298**	*e*P		**Pb**	**19 45 21.4**	**+0.2**
	baz=300							
YHNB	**Yeheng**	**0.67**	**254**	*e*P		**Pg**	**19 45 20.4**	**-0.4**
	baz=253							
YHNB				*e*S		**Sg**	**19 45 28.5**	**-1.1**
	baz=253							
NSK	**Sanguang**	**0.69**	**255**	*e*P		**Pg**	**19 45 20.5**	**-0.5**
	baz=253							
NSK				*e*S		**Sg**	**19 45 29.1**	**-1.0**
	baz=253							
NNSB	**Datong**	**0.77**	**236**	*e*P		**Pb**	**19 45 23.1**	**-0.1**
	baz=248							
NNS	**Nan Shan**	**0.77**	**238**	*e*P		**Pb**	**19 45 23.2**	**-0.1**
	baz=247							
NACB	**Ninganchiao**	**0.81**	**213**	*e*P		**Pg**	**19 45 23.5**	**0.0**
	baz=213							
NACB				*e*S		**Sg**	**19 45 33.6**	**-0.4**
	baz=213							
NCU	**National Centr**	**0.82**	**278**	*e*P		**Pn**	**19 45 24.9**	**-0.4**
	baz=278							
NCUH	**Zhongli**	**0.83**	**278**	*e*P		**Pb**	**19 45 24.9**	**+0.8**
	baz=278							
YOJ	**Yonaguni jima**	**0.93**	**115**	P		**Pn**	**19 45 26.8**	**+0.1**
YOJ				*e*S		**Sn**	**19 45 39.7**	**-0.3**
LIOB	**Emei**	**1.00**	**258**	*e*P		**Pn**	**19 45 28.2**	**+0.5**
	baz=258							
LIOB				*e*S		**Sb**	**19 45 40.9**	**+0.7**
	baz=258							
NSTT	**Nanjuang**	**1.01**	**257**	*e*P		**Pb**	**19 45 27.7**	**+0.4**
	baz=257							
NSTT				*e*S		**Sg**	**19 45 40.8**	**+0.3**
	baz=257							
WHF	**Hehuan Shan**	**1.03**	**227**	*e*P		**Pb**	**19 45 28.3**	**+0.4**
	baz=226							
CHGB	**Renai**	**1.15**	**227**	*e*P		**Pn**	**19 45 30.4**	**+0.4**
	baz=221							
ESL	**Shilin**	**1.20**	**210**	*e*P		**Pg**	**19 45 30.5**	**-0.3**
	baz=211							
VWDT	**VWDT**	**1.40**	**218**	*e*P		**Pb**	**19 45 34.3**	**+0.4**
	baz=220							
SSLB	**Suanglung**	**1.48**	**224**	*e*P		**Pb**	**19 45 35.4**	**+0.1**
	baz=226							
IRIF	**Iriomote-Funau**	**1.58**	**109**	P		**Pb**	**19 45 36.4**	**-0.6**
JKRS	**Kuro-shima**	**1.86**	**109**	P		**Pn**	**19 45 40.2**	**+0.7**
JIJ	**Ishigaki jima**	**1.94**	**104**	P		**Pn**	**19 45 41.3**	**+0.7**

*NNC **24** 20:23:08.3±4.6, 32°.00N×73°.67E, h0km, mb4.1, mpv4.2, Error ellipse: s-maj=57.8km s-min=34.5km az=106.0*

ISC 24 20:23:01.3±1.9, 31°.3N±0°.1×74°.6E±0°.1, h35km, n18, σ2s27/32, 10C-2D, India-Pakistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PYUN	**Piuthan**	**7.99**	**111**	*e*Pn		**Pn**	**20 24 56.8**	**+1.7**
PYUN				*e*Sn		**Sn**	**20 26 23.4**	**-1.0**
	125nm,0.6s							
DANN	**Dangsing**	**8.51**	**108**	*e*Pn		**Pn**	**20 25 03.9**	**+1.6**
DANN				*e*Sn		**Sn**	**20 26 36.3**	**-1.0**
	35nm,0.3s							
KOLN	**Koldanda**	**8.62**	**112**	*e*Pn		**Pn**	**20 25 05.3**	**+1.6**
KOLN				*e*Sn		**Sn**	**20 26 40.4**	**+0.6**
	31nm,0.5s							
SFK	**Sufi-Kurgan**	**8.73**	**355**	⇑P		**Pn**	**20 25 07.0**	**+1.7**
	3.8nm,0.3s							
SFK				⇑S		**Sn**	**20 26 43.7**	**+1.1**
	18nm,0.5s							
GKN	**Gorkha**	**9.36**	**108**	*e*Pn		**Pn**	**20 25 15.0**	**+1.2**
GKN				*e*Sn		**Sn**	**20 26 56.5**	**-1.4**
	1.7nm,0.2s							
DMN	**Daman**	**9.89**	**109**	*e*Pn		**Pn**	**20 25 22.5**	**+1.2**
KKN	**Kakani**	**9.96**	**108**	*e*Pn		**Pn**	**20 25 23.2**	**+1.0**
KKN				*e*Sn		**Sn**	**20 27 10.5**	**-2.4**
	17nm,0.3s							
PKIN	**Phulchoki**	**10.14**	**109**	*e*Pn		**Pn**	**20 25 25.2**	**+0.5**
PKIN				*e*Sn		**Sn**	**20 27 14.3**	**-3.1**
	22nm,0.2s							
PKI	**Pulchoki**	**10.15**	**109**	*e*Pn		**Pn**	**20 25 25.4**	**+0.5**
PKI				*e*Sn		**Sn**	**20 27 15.0**	**-2.7**
	19nm,0.3s							
GUN	**Gumba**	**10.41**	**106**	*e*Pn		**Pn**	**20 25 28.8**	**+0.4**
JIRN	**Jiri**	**10.76**	**107**	*e*Pn		**Pn**	**20 25 34.1**	**+0.9**
JIRN				*e*Sn		**Sn**	**20 27 28.7**	**-3.9**
	32nm,0.3s							
MNAS	**Manas**	**11.28**	**352**	⇑P		**Pn**	**20 25 39.7**	**-0.5**
	3.3nm,0.4s							
MNAS				⇑S		**Sn**	**20 27 39.8**	**-5.2**
	2.9nm,0.6s							
AAK	**Ala-Archa**	**11.31**	**360**	⇓P		**Pn**	**20 25 41.4**	**+0.9**
	1.4nm,0.6s							
AAK				⇓S		**Sn**	**20 27 42.2**	**-3.5**
	1.7nm,0.6s							
RAMN	**Ramite**	**11.38**	**109**	*e*Pn		**Pn**	**20 25 40.8**	**-0.8**
RAMN				*e*Sn		**Sn**	**20 27 43.9**	**-3.7**
	62nm,0.4s							
TKM2	**Tokmak 2**	**11.62**	**4**	⇑P		**Pn**	**20 25 47.4**	**+2.6**
	1.0nm,0.3s							
TKM2				⇑S		**Sn**	**20 27 51.5**	**-1.9**
	3.8nm,0.8s							
KK31	**Karatay Array**	**12.21**	**346**	⇑P		**Pn**	**20 25 50.4**	**-2.3**
	4.9nm,0.5s,baz=170,slow=12							
KK31				⇑S		Sn	20 27 57.2	-10
	0.8nm,0.4s,baz=170,slow=23							
PDGK	**Podgornoye**	**12.62**	**17**	⇑P		**Pn**	**20 26 02.1**	**+3.7**
	2.4nm,0.6s							
PDGK				⇑S		**Sn**	**20 28 18.5**	**+0.8**
	4.3nm,0.8s							
AB31	**Akbulak array**	**21.05**	**333**	P		**P**	**20 27 44.6**	**+2.5**
	0.6nm,0.5s,baz=143,slow=12,SNR=16							

BER 24 20:25:30.4±0.4, 70°.91N×6°.68W, h3km±562km, ML3.5, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JNE	**Jan Mayen East**	**0.54**	**279**	*e*P		Pg	20 25 40.8	+0.1
JNE					IAML		20 25 48.9	
	comp=Z,2µm,0.1s							
JNW	**Jan Mayen West**	**0.58**	**283**	*e*P		Pg	20 25 41.4	-0.2
JNW					IAML		20 25 49.6	
	comp=Z,6µm,0.2s							
JMI	**Jan Mayen**	**0.67**	**272**	*e*P		Pg	20 25 43.0	-0.2
JMI				*e*S		Sg	20 25 52.4	+0.4
JMI					IAML		20 25 54.5	
	comp=Z,966nm,0.3s							

*MAN **24** 20:28:49.4, 6°.52N×123°.63E, h630km, mb5.7, ML4.7, MS5.0*
*ISCJB **24** 20:28:50.0±0.1, 6°.50N±0°.02×123°.52E±0°.02, h625km±1km, mb4.9/238, Error ellipse: s-maj=3.3km s-min=2.3km az=164.5*
*BJI **24** 20:28:49.4, 6°.49N×123°.59E, h607km, mb5.0/65, mB4.8/42*
*NEIC **24** 20:28:51.0±0.2, 6°.48N×123°.48E, h622km±3km, mb4.9/171, Error ellipse: s-maj=3.2km s-min=2.3km az=66.0*
*IDC **24** 20:28:51.0±0.4, 6°.47N×123°.49E, h620km±5km, mb4.1/36, mb1 4.2/39, mb1mx4.1/50, mbtmp5.1/39, Error ellipse: s-maj=9.6km s-min=5.2km az=65.0*
*MOS **24** 20:28:50.2±0.9, 6°.51N×123°.49E, h628km, mb5.0/64, Error ellipse: s-maj=8.1km s-min=4.7km az=114.8*
*KLM **24** 20:28:51.0, 6°.47N×123°.58E, h607km, mb5.2*
*DJA **24** 20:28:51.0±0.2, 6°N±3°×12°3E±1°, h609km±3km, M4.7/78, mb5.1/78, mB5.2/49, MLv5.3/10, Mw(mB)4.6/49, Mwp6.5/2*

ISC 24 20:28:50.6±0.4, 6°.46N±0°.03×123°.52E±0°.04, h617km±4km, n668, σ1s18/764, mb4.9/235, 36C-33D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKMP	**Bagumbayan, Su**	**1.02**	**87**	*e*P		**P**	**20 30 03.4**	**-0.1**
CTBH	**Cotabato--PC H**	**1.04**	**44**	⇓*i*P		**P**	**20 30 04.1**	**+0.5**
PAGZ	**Pagadian**	**1.38**	**354**	*e*P		**P**	**20 30 04.4**	**0.0**
PAGZ				*e*S		**S**	**20 31 04.3**	**-0.1**
GSPH	**General Santos**	**1.47**	**105**	⇓*i*P		**P**	**20 30 05.7**	**+0.9**
BUKP	**Musuan**	**2.08**	**47**	*e*P		**P**	**20 30 06.9**	**+0.1**
BUKP				*e*S		**S**	**20 31 08.9**	**+0.1**
DCPH	**Dipolog City**	**2.11**	**355**	⇓*e*P		**P**	**20 30 08.5**	**+1.6**
DCPH				*e*S		**S**	**20 31 08.8**	**-0.2**
DAV	**Davao City (W)**	**2.13**	**73**	P		**P**	**20 30 07.1**	**+0.1**
	89nm,0.3s,baz=60,slow=2.3,SNR=23							
DAV				S		**S**	**20 31 09.8**	**+0.7**
	41nm,0.3s,baz=302,slow=18,SNR=2.4							
DAV	**Davao City (W)**	**2.13**	**73**	*e*P		**P**	**20 30 06.3**	**-0.8**
DAV				*e*S		**S**	**20 31 05.9**	**-3.2**
DAV	**Davao City (W)**	**2.13**	**73**	P		**P**	**20 30 07.0**	**-0.1**
	SNR=17							

DDMP	**Don Marcelino,**	**2.21**	**99**	*e*P		**P**	**20 30 06.0**	**-1.4**
CGP	**Cagayan de Oro**	**2.29**	**30**	⇓*e*P		**P**	**20 30 08.3**	**+0.6**
MATI	**Mati**	**2.76**	**80**	*e*P		**P**	**20 30 09.4**	**-0.6**
MATI				*e*S		**S**	**20 31 11.6**	**-2.8**
SNPH	**Sibulan**	**2.87**	**354**	*e*P		**P**	**20 30 09.2**	**-1.5**
SNPH				*e*S		**S**	**20 31 12.0**	**-3.7**
BUTP	**Butuan**	**3.24**	**40**	*e*P		**P**	**20 30 12.9**	**+0.3**
BUTP				*e*S		**S**	**20 31 20.9**	**+1.5**
BIPH	**Bislig**	**3.29**	**59**	⇑*i*P		**P**	**20 30 12.1**	**-0.8**
BIPH				*e*S		**S**	**20 31 16.7**	**-3.2**
SGSI	**Sangihe**	**3.41**	**144**	P		**P**	**20 30 12.8**	**-0.8**
LLP	**Lapu-Lapu**	**3.85**	**7**	⇓*e*P		**P**	**20 30 15.8**	**-0.5**
LLP				*e*S		**S**	**20 31 25.2**	**-1.1**
MSLP	**Maasin**	**3.88**	**20**	*e*P		**P**	**20 30 15.7**	**-0.8**
MSLP				*e*S		**S**	**20 31 18.1**	**-8.5**
GUIM	**Jordan**	**4.24**	**347**	*e*P		**P**	**20 30 16.1**	**-2.9**
JAP	**San Jose, Anti**	**4.53**	**340**	⇓*e*P		**P**	**20 30 21.0**	**0.0**
OCLP	**Ormoc**	**4.68**	**13**	*e*P		**P**	**20 30 22.0**	**-0.2**
PLP	**Palo**	**4.89**	**17**	⇑*e*P		**P**	**20 30 23.0**	**-0.8**
CUYO	**Cuyo Island**	**5.01**	**331**	*e*P		**P**	**20 30 24.7**	**0.0**
RCP	**Roxas**	**5.12**	**351**	⇑*e*P		**P**	**20 30 23.9**	**-1.7**
KMSI	**Cibinong**	**5.87**	**176**	P		**P**	**20 30 32.6**	**+0.9**
OTRP	**Odiongan**	**6.04**	**346**	*e*P		**P**	**20 30 32.9**	**-0.2**
CNP	**Catarman**	**6.11**	**11**	*e*P		**P**	**20 30 32.6**	**-1.1**
BATP	**Bataraza**	**6.12**	**293**	*e*P		**P**	**20 30 33.6**	**-0.1**
MRSI	**Marisa**	**6.15**	**195**	P		**P**	**20 30 34.5**	**+0.4**
ENPP	**El Nido**	**6.21**	**320**	*e*P		**P**	**20 30 34.6**	**+0.1**
BUSP	**Coron**	**6.41**	**329**	*e*P		**P**	**20 30 36.2**	**+0.1**
SJMP	**San Jose**	**6.41**	**338**	*e*P		**P**	**20 30 36.6**	**+0.5**
KDM	**Kudat**	**6.66**	**274**	P		**P**	**20 30 39.0**	**+0.6**
TNTI	**Ternate**	**6.83**	**146**	*e*P		**P**	**20 30 38.9**	**-1.1**
TNTI	**Ternate**	**6.83**	**146**	P		**P**	**20 30 39.9**	**-0.1**
AUQP	**San Andres**	**6.87**	**353**	*e*P		**P**	**20 30 41.6**	**+1.4**
MPSI	**Mapaga**	**7.08**	**211**	P		**P**	**20 30 42.5**	**+0.3**
PVCP	**Virac**	**7.11**	**5**	*e*P		**P**	**20 30 40.9**	**-1.5**
BOAC	**Boac**	**7.14**	**347**	*e*P		**P**	**20 30 42.6**	**-0.1**
KKM	**Kota Kinabalu**	**7.28**	**267**	*e*P		**P**	**20 30 43.5**	**-0.6**
KKM	**Kota Kinabalu**	**7.28**	**267**	P		**P**	**20 30 44.0**	**0.0**
GQP	**Guinayangan**	**7.47**	**352**	⇑*i*P		**P**	**20 30 45.4**	**-0.3**
LUWI	**Luwuk**	**7.49**	**186**	*e*P		**P**	**20 30 44.5**	**-1.4**
LUWI				*e*S		**S**	**20 32 14.4**	**-5.8**
LUWI	**Luwuk**	**7.49**	**186**	P		**P**	**20 30 44.2**	**-1.7**
APSI	**Ampana**	**7.56**	**194**	P		**P**	**20 30 46.6**	**0.0**
TGY	**Tagaytay City**	**8.00**	**342**	P		**P**	**20 30 50.7**	**0.0**
	90nm,0.3s,baz=196,slow=3.1,SNR=28							
SANI	**Sanana**	**8.81**	**164**	P		**P**	**20 30 56.2**	**-2.1**
SMPP	**San Manuel, Pa**	**10.02**	**344**	*e*P		**P**	**20 31 08.6**	**-1.4**
BKB	**Balikpapan**	**10.13**	**221**	P		**P**	**20 31 11.1**	**-1.0**
TTSI	**Tana Toraja**	**10.14**	**201**	P		**P**	**20 31 10.8**	**-0.4**
NLAI	**Namlea**	**10.28**	**160**	P		**P**	**20 31 14.2**	**+1.6**
BOLP	**Bolinao**	**10.47**	**341**	*e*P		**P**	**20 31 12.4**	**-1.9**
PALP	**Palanan**	**10.59**	**354**	*e*P		**P**	**20 31 14.9**	**-0.6**
SWI	**Sorong**	**10.61**	**133**	P		**P**	**20 31 16.4**	**+0.5**
SIJI	**Sorong**	**10.62**	**133**	P		**P**	**20 31 17.1**	**+1.1**
	24nm,0.3s,baz=323,slow=13,SNR=117							
PALU	**Palau**	**10.91**	**85**	P		**P**	**20 31 19.3**	**+0.5**
	baz=11,SNR=5.7							
SPSI	**Sidrap Palu**	**11.02**	**200**	P		**P**	**20 31 18.3**	**-1.6**
BNSI	**Bone**	**11.32**	**198**	P		**P**	**20 31 22.7**	**-0.1**
MTKI	**Muara Teweh, K**	**11.32**	**230**	P		**P**	**20 31 23.8**	**+0.9**
APYP	**Conner**	**11.54**	**349**	*e*P		**P**	**20 31 23.5**	**-1.5**
BBSI	**Bau Bau**	**11.91**	**185**	P		**P**	**20 31 29.3**	**+0.7**
SBUM	**Sibu**	**11.95**	**251**	*e*P		**P**	**20 31 29.7**	**+0.7**
SBUM	**Sibu**	**11.95**	**251**	P		**P**	**20 31 30.0**	**+1.0**
KAPI	**Kappang**	**12.01**	**198**	*ce*P		**P**	**20 31 28.6**	**-0.9**
KAPI				pmax		pmax		
	comp=Z,37nm,1.3s							
BKSI	**Bulukumba**	**12.19**	**196**	P		**P**	**20 31 29.7**	**-1.6**
BNDI	**Bandanaira**	**12.64**	**150**	P		**P**	**20 31 36.8**	**+1.1**
FAKI	**Fak Fak**	**12.76**	**137**	*e*P		**P**	**20 31 37.5**	**+0.6**
FAKI	**Fak Fak**	**12.76**	**137**	P		**P**	**20 31 38.1**	**+1.2**
RKPI	**Ransiki, Papua**	**13.26**	**126**	P		**P**	**20 31 43.8**	**+1.9**
STKI	**Sintang**	**13.60**	**243**	P		**P**	**20 31 46.1**	**+0.9**
KSM	**Kuching**	**14.08**	**250**	*e*P		**P**	**20 31 49.9**	**0.0**
KSM				*e*S		**S**	**20 34 15.2**	**-0.9**
KSM	**Kuching**	**14.08**	**250**	P		**P**	**20 31 51.0**	**+1.2**
MMRI	**Maumere**	**15.05**	**185**	*e*P		**P**	**20 31 59.1**	**+0.4**
	comp=Z,422nm,0.6s							
MMRI	**Maumere**	**15.05**	**185**	P		**P**	**20 32 00.0**	**+1.3**
SRPI	**Serui, Papua**	**15.16**	**123**	P		**P**	**20 32 01.4**	**+1.7**
EDFI	**Ende, Flores**	**15.22**	**187**	P		**P**	**20 32 01.2**	**+0.8**
SOEI	**Soe**	**16.13**	**177**	*e*P		**P**	**20 32 08.2**	**-0.4**
	comp=Z,250nm,0.7s							
SOEI	**Soe**	**16.13**	**177**	P		**P**	**20 32 08.8**	**+0.1**
PLAI	**Plampang**	**16.23**	**201**	P		**P**	**20 32 10.6**	**+1.1**
SAUI	**Saumlaki**	**16.31**	**151**	*e*P		**P**	**20 32 10.4**	**+0.2**
	comp=Z,413nm,0.8s							
SAUI	**Saumlaki**	**16.31**	**151**	P		**P**	**20 32 11.3**	**+1.1**
KMMI	**Kalianget**	**16.46**	**216**

KULM Kulim 22.78 268 P **P** **20 33 09.0 +0.4**
CHAI Chaiyaphum 23.09 296 P **P** **20 33 11.6 +0.3**
comp=Z,35nm,0.6s,comp=Z,299nm
PATY Pattaya 23.22 288 P **P** **20 33 13.7 +1.2**
comp=Z,8.6nm,0.8s,comp=Z,296nm
KRJI Kerinci 23.61 250 P **P** **20 33 17.4 +1.4**
comp=Z,44nm,0.9s,comp=Z,1µm
TRTT Trang 23.68 275 P **P** **20 33 17.6 +1.0**
comp=Z,12nm,0.9s
PDSI Padang 24.16 253 P **P** **20 33 20.7 -0.1**
comp=Z,19nm,1.0s
FITZ Fitzroy Crossi 24.50 175 P **P** **20 33 23.9 +0.3**
comp=Z,31nm,0.4s,baz=4.4,slow=8.2,SNR=322
FITZ ScP **ScP** **20 39 20.9 -0.6**
comp=Z,7.3nm,0.6s,baz=3.5,slow=4.5,SNR=6.2
FITZ Fitzroy Crossi 24.50 175 P **P** **20 33 24.0 +0.3**
baz=25,SNR=77
FITZ Fitzroy Crossi 24.50 175 *e*P **P** **20 33 23.7 0.0**
comp=Z,175nm,1.5s
FITZ *e*ScP **ScP** **20 39 20.4 -1.1**
MNSI Mandailing Nat 24.54 258 P **P** **20 33 23.9 -0.2**
PSI Prapat 24.78 263 P **P** **20 33 27.2 +0.8**
comp=Z,24nm,0.6s,baz=2.0,slow=1.4,SNR=20
PSI PcP **PcP** **20 36 40.4 -0.6**
comp=Z,5.3nm,0.6s,baz=0.3,slow=5.2,SNR=4.0
PSI Prapat 24.78 263 *e*P **P** **20 33 26.6 +0.2**
comp=Z,36nm,0.9s
PSI *e*PcP **PcP** **20 36 40.0 -0.9**
PSI Prapat 24.78 263 *e*P **P** **20 33 26.6 +0.2**
PSI *e* 20 36 40.0
PSI pmax pmax
comp=Z,36nm,0.9s
PKDT Phuket 25.03 275 P **P** **20 33 29.3 +0.9**
comp=Z,29nm,0.8s
UTTA Uttaradit 25.06 299 P **P** **20 33 29.6 +0.9**
comp=Z,16nm,0.9s,comp=Z,117nm
SRDT SRDT 25.23 290 P **P** **20 33 31.4 +1.3**
comp=Z,84nm,0.8s,comp=Z,1µm
MANU Manus Island 25.26 109 *e*P **P** **20 33 31.7 +1.2**
comp=Z,106nm,1.5s
WHN Wuhan 25.46 341 ⇑P **P** **20 33 33.9 +2.0**
GYA Guiyang 25.56 323 ⇑ *i*P **P** **20 33 34.8 +1.7**
GYA sP sP 20 36 16.0 -3.1
GYA PcP **PcP** **20 36 42.9 +0.4**
GYA S **S** **20 37 23.3 +3.9**
GYA ScP **ScP** **20 39 28.8 +4.2**
GYA PcS **PcS** **20 40 25.5 +1.3**
GYA pmax pmax
comp=Z,20nm,0.7s
GYA pmax pmax
comp=Z,100nm,4.9s
SISI Saibi 25.59 253 P **P** **20 33 33.1 -0.3**
comp=Z,63nm,0.8s
KCSI Kotacane, Aceh 25.82 265 P **P** **20 33 34.8 -0.6**
comp=Z,94nm,0.9s,comp=Z,818nm
NJ2 Nanjing 25.83 351 *e*P **P** **20 33 34.9 -0.3**
NJ2 pmax pmax
comp=Z,18nm,0.8s
UMPA Umpang Tak 26.02 294 P **P** **20 33 38.1 +1.0**
comp=Z,18nm,0.7s,comp=Z,172nm
GSI Gunungsitoli 26.38 260 *e*P **P** **20 33 39.8 -0.5**
comp=Z,112nm,0.6s
GSI *e*PcP **PcP** **20 36 44.7 +0.1**
GSI Gunungsitoli 26.38 260 P **P** **20 33 39.5 -0.8**
comp=Z,192nm,0.7s
LHMI Lhok Sumawe 26.46 269 *e*P **P** **20 33 41.9 +0.9**
comp=Z,46nm,0.6s
CM01 Chiang Mai Arr 26.72 299 *e*P **P** **20 33 44.1 +0.8**
CM01 *e*PcP **PcP** **20 36 45.7 +0.4**
CM31 Chiang Mai Arr 26.75 299 *e*P **P** **20 33 44.4 +0.9**
CM31 *e*ScP **ScP** **20 39 28.6 +0.5**
CM31 Chiang Mai Arr 26.75 299 P **P** **20 33 44.8 +1.3**
SNR=13
CMAR Chiang Mai Arr 26.75 299 P **P** **20 33 44.8 +1.2**
comp=Z,24nm,0.7s,baz=114,slow=7.0,SNR=240
CMAR PcP **PcP** **20 36 45.0 -0.4**
comp=Z,3.3nm,0.8s,baz=155,slow=0.8,SNR=9.1
CMAR ScP **ScP** **20 39 28.1 -0.1**
comp=Z,3.1nm,0.9s,baz=136,slow=1.7,SNR=14
CMAR Chiang Mai Arr 26.75 299 *i*P **P** **20 33 44.7 +1.2**
CMAR pmax pmax
comp=Z,25nm,0.7s
CHTO Chiang Mai 26.89 299 *e*P **P** **20 33 45.2 +0.5**
comp=Z,51nm,0.8s
CHTO *e*PcP **PcP** **20 36 45.8 +0.1**
CHTO Chiang Mai 26.89 299 P **P** **20 33 45.9 +1.1**
SNR=10
CHTO Chiang Mai 26.89 299 *e*P **P** **20 33 45.3 +0.5**
CHTO *e* 20 36 45.8
CHTO pmax pmax
comp=Z,51nm,0.8s
CHTO Chiang Mai 26.89 299 P **P** **20 33 45.5 +0.7**
comp=Z,353nm,0.8s,comp=Z,3µm
MLSI Meulaboh, Aceh 27.08 267 P **P** **20 33 46.0 -0.5**
comp=Z,135nm,0.7s
ENH Enshi 27.11 333 *e*P **P** **20 33 47.4 +0.9**
comp=Z,53nm,0.8s
CBIJ Chichi jima 27.13 39 *e*P **P** **20 33 45.4 -1.3**
comp=Z,189nm,1.1s
KMI Kunming 27.20 315 P **P** **20 33 49.3 +1.7**
KMI pmax pmax
comp=Z,33nm,0.8s
KMI pmax pmax
comp=Z,120nm,3.9s
JNU Nakatsue 27.39 14 P **P** **20 33 48.6 -0.2**
comp=Z,9.4nm,0.9s,baz=151,slow=13,SNR=3.3
JNU Nakatsue 27.39 14 *e*P **P** **20 33 48.7 -0.2**
comp=Z,53nm,1.5s
MBWA Marble Bar 27.70 188 *e*P **P** **20 33 51.2 -0.5**
comp=Z,93nm,0.6s
COEN Coen 28.15 136 P **P** **20 33 55.1 -0.6**
baz=28,SNR=88
COEN Coen 28.15 136 *e*P **P** **20 33 55.2 -0.5**
comp=Z,74nm,0.6s
WRAB Tennant Creek 28.31 158 *e*P **P** **20 33 57.0 0.0**
comp=Z,274nm,0.8s
WRAB Tennant Creek 28.31 158 *c i*P **P** **20 33 57.1 0.0**
WRAB pmax pmax
comp=Z,240nm,0.7s
WR1 Warramunga Arr 28.32 158 *e*P **P** **20 33 57.3 +0.2**
comp=Z,410nm,0.6s
WR1 *e*S **S** **20 37 57.9 -4.2**
WR1 *e*ScP **ScP** **20 39 32.5 -0.5**
WR1 *e*SKKSdf P3KPbc 21 05 58.5
WRA Warramunga Arr 28.32 158 P **P** **20 33 57.3 +0.2**
comp=Z,205nm,0.5s,baz=333,slow=10.0,SNR=385
WRA S **S** **20 37 57.9 -4.2**
comp=Z,5.6nm,0.8s,baz=334,slow=16,SNR=6.2
WRA ScP **ScP** **20 39 32.5 -0.5**
comp=Z,12nm,0.7s,baz=342,slow=3.3,SNR=15
WRA P3KPbc 21 05 58.5
comp=Z,0.5nm,0.6s,baz=153,slow=4.0,SNR=6.4
WRA Warramunga Arr 28.32 158 *i*P **P** **20 33 55.5 -1.6**
WRA pmax pmax
comp=Z,278nm,0.6s
WB2 Warramunga Arr 28.32 158 *e*P **P** **20 33 56.0 -1.2**
PMG Port Moresby 28.34 124 P **P** **20 33 57.7 +0.3**
comp=Z,48nm,0.8s,baz=316,slow=7.1,SNR=12
PMG ScP **ScP** **20 39 33.3 +0.1**
comp=Z,11nm,0.7s,baz=259,slow=3.9,SNR=5.0
PMG Port Moresby 28.34 124 *e*P **P** **20 33 57.1 -0.3**
comp=Z,59nm,0.9s
PMG *e*ScP **ScP** **20 39 33.3 +0.1**
PMG Port Moresby 28.34 124 *e*P **P** **20 33 57.1 -0.3**
PMG pmax pmax
comp=Z,59nm,0.9s
TIA Tai'an 30.18 350 P **P** **20 34 13.4 +0.5**
TIA pmax pmax
comp=Z,21nm,0.8s
GIRL Giralia 30.32 197 P **P** **20 34 15.4 +1.1**
baz=30,SNR=21
RABL Rabaul 30.49 110 *e*P **P** **20 34 17.8 +1.8**
comp=Z,93nm,0.6s
CD2 Chengdu 30.58 325 P **P** **20 34 17.0 +0.6**
CD2 S **S** **20 38 39.0 +2.3**
CD2 SS **SS** **20 41 49.3 +2.9**
CD2 pmax pmax
comp=Z,80nm,0.6s
CD2 pmax pmax
comp=Z,120nm,5.0s
XAN Xi'an 30.59 336 P **P** **20 34 16.8 +0.3**
XAN PcP **PcP** **20 36 55.3 +0.3**
XAN sP sP 20 37 02.0 -3.9
XAN S **S** **20 38 34.0 -2.8**
XAN ScP **ScP** **20 39 41.9 +1.7**
XAN PcS **PcS** **20 40 40.3 +0.4**
XAN pmax pmax
comp=Z,33nm,0.8s
XAN pmax pmax
comp=Z,100nm,3.7s
PBA Port Blair 30.81 282 *e*P P 20 34 18.8 +0.2
comp=Z,55nm,1.2s
KS15 Wonju Array Si 31.09 7 *e*P **P** **20 34 22.4 +1.7**
KS15 *e*PcP **PcP** **20 36 57.1 +0.9**
KSAR Wonju Array Be 31.09 7 P **P** **20 34 21.9 +1.4**
KSAR PcP **PcP** **20 36 57.1 +0.9**
KSAR Wonju Array Be 31.09 7 P **P** **20 34 22.0 +1.4**
KSAR 20 36 57.2
KSRS Korea Array 31.11 7 P **P** **20 34 21.9 +1.2**
comp=Z,6.9nm,0.9s,baz=184,slow=9.4,SNR=14
KSRS PcP **PcP** **20 36 57.1 +0.9**
comp=Z,3.1nm,0.7s,baz=187,slow=2.5,SNR=9.4
KS01 Wonju Array Si 31.13 7 *e*P **P** **20 34 21.1 +0.2**
KS01 *e*PcP **PcP** **20 36 56.3 0.0**
QIS Mount Isa 31.16 150 P **P** **20 34 22.2 +0.7**
baz=31,SNR=116
INU Inuyama 31.31 22 *e*P **P** **20 34 23.5 +0.9**
comp=Z,34nm,1.0s
AS31 Alice Springs 31.62 162 *e*P **P** **20 34 26.1 +0.7**
comp=Z,61nm,0.5s
AS31 *e*S **S** **20 38 53.1 +0.5**
AS31 *e*ScP **ScP** **20 39 43.3 -0.5**
ASAR Alice Springs 31.62 162 P **P** **20 34 26.2 +0.9**
comp=Z,109nm,0.5s,baz=342,slow=6.6,SNR=2430
ASAR S **S** **20 38 52.3 -0.4**
comp=Z,20nm,0.8s,baz=351,slow=19,SNR=22
ASAR ScP **ScP** **20 39 43.3 -0.5**
comp=Z,13nm,0.8s,baz=336,slow=3.1,SNR=19
AS01 Alice Springs 31.63 162 *e*P **P** **20 34 26.1 +0.6**
WRKA Warakurna 31.66 172 P **P** **20 34 26.4 +0.8**
baz=32,SNR=298
MTSU Mount Surprise 31.92 140 P **P** **20 34 28.6 +0.6**
baz=32,SNR=22
MAJO Matsushiro 32.81 22 *e*P **P** **20 34 34.5 -0.8**
comp=Z,20nm,0.9s
MAJO *e*PcP **PcP** **20 36 59.0 -2.1**
MAJO Matsushiro 32.81 22 *de*P **P** **20 34 34.4 -0.8**
MAJO pmax pmax
comp=Z,25nm,1.0s
MAT Matsushiro 32.81 22 P **P** **20 34 34.0 -1.3**
MAT *e*S **S** **20 39 10.4 -0.1**
MJAR Matsushiro Arr 32.81 22 P **P** **20 34 34.4 -0.9**
comp=Z,16nm,0.9s,baz=201,slow=9.6,SNR=47
MJAR PcP **PcP** **20 37 01.6 +0.5**
comp=Z,3.2nm,0.7s,baz=186,slow=3.5,SNR=7.0
MJB9 Matsu-Tunnel 32.82 22 *e*P **P** **20 34 34.8 -0.5**
comp=Z,20nm,0.9s
MEEK Meekatharra 33.25 188 P **P** **20 34 39.2 +0.2**
baz=33,SNR=86
BJT Baijiatuan 34.05 350 *e*P **P** **20 34 46.3 +0.8**
comp=Z,33nm,0.8s
BJT Baijiatuan 34.05 350 *e*P **P** **20 34 46.3 +0.8**
BJT pmax pmax
comp=Z,33nm,0.8s
BJI Beijing 34.08 350 P **P** **20 34 46.5 +0.8**
BJI pmax pmax
comp=Z,120nm,3.7s
PATS Pohnpei 34.55 87 *e*P **P** **20 34 51.1 +1.0**
comp=Z,496nm,1.7s
LZH Lanzhou 34.56 331 ⇓P **P** **20 34 51.8 +1.8**
LZH pP pP 20 36 29.5 -0.8
LZH sP sP 20 37 39.9 -1.4
LZH S **S** **20 39 39.8 +2.7**
LZH sS sS 20 42 40.8 -2.5
LZH pmax pmax
comp=Z,130nm,1.1s
LZH pmax pmax
comp=Z,240nm,4.6s
CTA Charters Tower 34.59 140 P **P** **20 34 51.7 +1.4**
comp=Z,38nm,0.6s,baz=319,slow=9.9,SNR=57
CTA ScP **ScP** **20 39 55.0 +0.6**
comp=Z,30nm,1.0s,baz=292,slow=4.1,SNR=14
CTAO Charters Tower 34.59 140 *e*P **P** **20 34 51.5 +1.2**
comp=Z,49nm,0.8s
CTAO Charters Tower 34.59 140 *e*P **P** **20 34 51.5 +1.2**
CTAO pmax pmax
comp=Z,49nm,0.8s
SHL Shillong 35.69 306 *e*P **P** **20 34 59.8 +0.2**
comp=Z,168nm,0.6s
SHL *e*PcP **PcP** **20 37 10.0 -0.1**
SHL *e*S **S** **20 39 57.2 +2.9**
SHL Shillong 35.69 306 *e*P **P** **20 34 59.8 +0.2**
SHL *e* 20 37 10.0
SHL *e*S **S** **20 39 57.2 +2.9**
SHL pmax pmax
comp=Z,168nm,0.6s
SHL Shillong 35.69 306 *e*P **P** **20 34 59.0 -0.6**
HHC Hu-ho-hao-te 35.87 344 *e*P **P** **20 35 00.8 +0.1**
HHC pP pP 20 36 42.4 +0.6
HHC S **S** **20 40 02.8 +6.5**
HHC SS **SS** **20 43 05.1 -9.3**
HHC pmax pmax
comp=Z,31nm,1.0s
HHC pmax pmax
comp=Z,99nm,4.8s
MORW Morawa 36.05 191 P **P** **20 35 02.5 +0.3**
baz=36,SNR=59
MSHR Mys Shultsa 36.60 9 *de*P **P** **20 35 06.8 +0.4**
CN2 Changchun 37.23 2 *e*P **P** **20 35 09.1 -2.5**
CN2 pmax pmax
comp=Z,10.0nm,1.5s
FORT Forrest 37.29 174 P **P** **20 35 13.0 +0.8**
baz=38,SNR=133
FORT Forrest 37.29 174 *e*P **P** **20 35 12.7 +0.5**
comp=Z,359nm,0.6s
BLDU Ballidu 37.44 190 P **P** **20 35 13.6 +0.1**
baz=38,SNR=30
KMBL Kambalda 37.65 182 P **P** **20 35 15.7 +0.5**
baz=38,SNR=156
KLBR Kellerberrin 38.24 188 P **P** **20 35 20.2 +0.3**
baz=38,SNR=58
LSA Lhasa 38.24 311 P **P** **20 35 22.3 +1.7**
LSA pmax pmax
comp=Z,49nm,0.8s
LSA Lhasa 38.24 311 *e*P **P** **20 35 22.0 +1.4**
comp=Z,36nm,0.7s
LSA *e*PcP **PcP** **20 37 19.2 +0.9**
LSA *e*S **S** **20 40 34.9 +2.5**
LSA Lhasa 38.24 311 P **P** **20 35 22.4 +1.7**
LSA Lhasa 38.24 311 *e*P **P** **20 35 22.0 +1.4**
LSA *e* 20 37 19.3
LSA *e*S **S** **20 40 34.9 +2.5**
LSA pmax pmax
comp=Z,36nm,0.7s
USA0B Ussuriysk Arra 38.31 10 *e*P **P** **20 35 20.6 +0.3**
comp=Z,21nm,0.9s
USRK Ussuriysk Ar. 38.31 10 P **P** **20 35 20.9 +0.6**
comp=Z,15nm,0.8s,baz=199,slow=7.4,SNR=35
USRK PcP **PcP** **20 37 17.4 -0.2**
comp=Z,1.9nm,0.5s,baz=150,slow=3.2,SNR=5.6
MDJ Mudanjiang 38.37 7 P **P** **20 35 21.6 +0.8**
MDJ pP pP 20 37 02.3 -1.4
MDJ sP sP 20 38 08.1 -5.9
MDJ S **S** **20 40 34.6 +1.8**
MDJ pmax pmax
comp=Z,33nm,0.9s
MDJ pmax pmax
comp=Z,140nm,4.9s
MDJ Mudanjiang 38.37 7 *e*P **P** **20 35 20.6 -0.2**
comp=Z,36nm,1.1s
QLP Quilpie 38.50 149 P **P** **20 35 22.9 +0.7**
baz=39,SNR=27
MUN Mundaring 38.86 190 P **P** **20 35 25.1 +0.1**
baz=39,SNR=9.5
GTA Gaotai 39.14 330 ⇓P **P** **20 35 28.3 +1.0**
GTA pP pP 20 37 11.4 +0.6
GTA PcP **PcP** **20 37 21.3 +0.7**
GTA sP sP 20 38 17.4 -3.5
GTA ScP **ScP** **20 40 11.3 -0.1**
GTA S **S** **20 40 44.6 +0.1**
GTA pmax pmax
comp=Z,52nm,0.8s
GTA pmax pmax
comp=Z,84nm,6.2s
ERM Erimo 39.46 23 *e*P **P** **20 35 30.9 +1.3**
comp=Z,101nm,1.4s
ERM Erimo 39.46 23 *e*P **P** **20 35 30.9 +1.3**
ERM pmax pmax
comp=Z,101nm,1.4s
HNR Honiara 39.58 113 P **P** **20 35 32.1 +1.1**
comp=Z,75nm,0.6s,baz=223,slow=14,SNR=5.5
HNR Honiara 39.58 113 *e*P **P** **20 35 31.0 0.0**
comp=Z,65nm,0.6s
HNR Honiara 39.58 113 *e*P **P** **20 35 31.0 0.0**
HNR pmax pmax
comp=Z,65nm,0.6s
NWAO Narrogin (SRO) 39.63 188 P **P** **20 35 31.7 +0.7**
baz=40,SNR=62
NWAO Narrogin (SRO) 39.63 188 *e*P **P** **20 35 31.5 +0.5**
comp=Z,102nm,0.9s
NWAO Narrogin (SRO) 39.63 188 *e*P **P** **20 35 31.5 +0.5**
NWAO pmax pmax
comp=Z,102nm,0.9s
TEY Ternei 40.08 14 ⇓ *e*P **P** **20 35 34.6 +0.2**
TEY pmax pmax
comp=N,40nm,0.9s
TEY pmax pmax
comp=Z,70nm,0.8s
RAMN Ramite 40.57 304 *e*P **P** **20 35 39.9 +0.9**
comp=Z,181nm,0.7s
BBOO Buckleboo 40.84 164 P **P** **20 35 41.5 +0.8**
baz=41,SNR=185
BBOO Buckleboo 40.84 164 *e*P **P** **20 35 41.0 +0.3**
comp=Z,215nm,0.9s
RMQ Roma 40.89 144 P **P** **20 35 41.7 +0.5**
baz=41,SNR=9.5
ASAJ Asahikawa 41.06 21 *e*P **P** **20 35 42.9 +0.7**
comp=Z,41nm,0.8s
JIRN Jiri 41.19 305 *e*P **P** **20 35 44.9 +0.9**
comp=Z,368nm,0.8s
RKGY Rocky Gully 41.32 188 P **P** **20 35 45.7 +1.3**
baz=42,SNR=45
EIDS Eidsvold 41.47 141 P **P** **20 35 46.3 +0.5**
baz=42,SNR=27
EIDS Eidsvold 41.47 141 *e*P **P** **20 35 45.8 +0.1**
comp=Z,55nm,0.8s
GUN Gumba 41.54 305 *e*P **P** **20 35 47.5 +0.7**
comp=Z,279nm,0.7s
PKI Pulchoki 41.79 305 *e*P **P** **20 35 48.9 +0.2**
comp=Z,66nm,0.6s
PKIN Phulchoki 41.80 305 *e*P **P** **20 35 48.8 +0.1**
comp=Z,55nm,0.6s
STKA Stephens Creek 41.85 157 P **P** **20 35 49.6 +1.1**
comp=Z,89nm,0.6s,baz=332,slow=8.1,SNR=328
STKA ScP **ScP** **20 40 21.3 -0.8**
comp=Z,14nm,0.8s,baz=330,slow=6.1,SNR=9.2
STKA Stephens Creek 41.85 157 P **P** **20 35 49.7 +1.1**
baz=42,SNR=106
STKA Stephens Creek 41.85 157 *e*P **P** **20 35 49.4 +0.8**
comp=Z,19nm,0.8s
STKA *e*ScP **ScP** **20 40 21.3 -0.8**
STKA Stephens Creek 41.85 157 *e*P **P** **20 35 49.4 +0.8**
STKA pmax pmax
comp=Z,19nm,0.8s
KKN Kakani 41.98 305 *e*P **P** **20 35 50.5 +0.5**
comp=Z,99nm,0.6s
DMN Daman 42.05 305 *e*P **P** **20 35 51.1 +0.4**
comp=Z,147nm,0.8s
HTT Hallett 42.28 161 P **P** **20 35 53.2 +1.2**
baz=42,SNR=57
PALK Pallekele 42.51 274 *e*P **P** **20 35 54.3 +0.2**
comp=Z,33nm,1.3s
PALK *e*PcP **PcP** **20 37 32.7 +0.5**
PALK Pallekele 42.51 274 P **P** **20 35 54.8 +0.6**
PALK Pallekele 42.51 274 *e*P **P** **20 35 54.3 +0.2**
PALK *e* 20 37 32.7
PALK pmax pmax
comp=Z,33nm,1.3s
GKN Gorkha 42.59 305 *e*P **P** **20 35 55.0 +0.3**
comp=Z,1.1nm,0.5s
HIA Hailar 42.77 356 *e*P **P** **20 35 56.5 +0.9**
comp=Z,31nm,0.8s
HIA *e*PcP **PcP** **20 37 32.8 +0.5**
HIA Hailar 42.77 356 *e*P **P** **20 35 56.5 +0.9**
HIA *e* 20 37 32.8
HIA pmax pmax
comp=Z,31nm,0.8s
KLR Kul'dur 43.18 8 *d i*P **P** **20 35 58.6 -0.1**
CMSA Cobar Meteorol 43.32 152 P **P** **20 36 01.7 +1.7**
baz=44,SNR=94
KOLN Koldanda 43.35 304 *e*P **P** **20 36 01.6 +0.9**
comp=Z,457nm,0.7s
DANN Dangsing 43.44 305 *e*P **P** **20 36 02.1 +0.7**
comp=Z,522nm,0.6s
ULN Ulaanbaatar 43.58 344 *e*P **P** **20 36 02.1 +0.1**
comp=Z,59nm,1.2s
ULN *e*PcP **PcP** **20 37 35.6 +0.3**
ULN Ulaanbaatar 43.58 344 P **P** **20 36 02.7 +0.7**
SNR=11
ULN Ulaanbaatar 43.58 344 *d i*P **P** **20 36 02.7 +0.7**
ULN pmax pmax
comp=Z,57nm,1.3s
YSS Yuzh-Sakhalins 43.60 19 *e*P **P** **20 36 02.1 +0.2**
comp=Z,129nm,1.8s
YSS Yuzh-Sakhalins 43.60 19 *e*P **P** **20 36 01.0 -0.9**
YSS pmax pmax
comp=Z,20nm,1.2s
SONA0 Songino Array 43.74 343 *e*P **P** **20 36 03.8 +0.6**
SONA0 *e*PcP **PcP** **20 37 35.8 0.0**
SONA0 *e*ScP **ScP** **20 40 28.6 -1.1**
SONM Songino Array 43.74 343 P **P** **20 36 03.8 +0.6**
comp=Z,23nm,0.9s,baz=159,slow=8.2,SNR=137
SONM PcP **PcP** **20 37 35.8 0.0**
comp=Z,8.3nm,0.9s,baz=164,slow=3.3,SNR=9.5
SONM ScP **ScP** **20 40 28.6 -1.1**
comp=Z,2.0nm,0.9s,baz=153,slow=3.4,SNR=4.4
SONA1 Songino Array 43.75 343 *e*P **P** **20 36 03.5 +0.2**
SONA1 *e*PcP **PcP** **20 37 35.3 -0.6**
PYUN Piuthan 43.97 304 *e*P **P** **20 36 06.5 +1.0**
comp=Z,480nm,0.9s
HYB Hyderabad 45.21 288 *i*P **P** **20 36 15.0 +0.1**
ARMA Armidale 45.51 145 P **P** **20 36 19.2 +2.2**
baz=46,SNR=29
ARMA Armidale 45.51 145 *e*P **P** **20 36 18.6 +1.7**
comp=Z,82nm,0.9s
ARPS Mount Arapiles 46.30 160 P **P** **20 36 23.5 +0.8**
baz=46,SNR=20
YNG Young 46.87 152 P **P** **20 36 28.7 +1.6**
baz=47,SNR=10
ZEA Zeya 47.23 3 *e*P **P** **20 36 29.0 -0.4**
ZEA pmax pmax
comp=Z,23nm,1.0s
MGCD Mangrove Creek 47.36 148 P **P** **20 36 32.9 +2.2**
baz=48,SNR=5.5
CAN Canberra 47.99 152 *e*P **P** **20 36 36.6 +1.2**
comp=Z,59nm,0.7s
CAN Canberra 47.99 152 *e*P **P** **20 36 36.6 +1.2**
CAN pmax pmax
comp=Z,59nm,0.7s
CNB Canberra Magne 48.16 151 P **P** **20 36 38.2 +1.5**
baz=48,SNR=31
TOO Toolangi 48.37 157 P **P** **20 36 39.8 +1.7**
baz=49,SNR=48
WMQ Urumqi 48.67 326 P **P** **20 36 41.1 +0.7**
WMQ PcP **PcP** **20 37 53.8 +0.2**
WMQ pP pP 20 38 31.8 +0.6
WMQ S **S** **20 42 55.8 -2.7**
WMQ pmax pmax
comp=Z,140nm,1.1s
WMQ pmax pmax
comp=Z,120nm,3.8s
MOY Mondy 48.76 342 *e*P **P** **20 36 41.7 +0.8**
MOY pmax pmax
comp=Z,53nm,1.5s
MILA Mila 49.49 153 P **P** **20 36 47.8 +1.4**
baz=50,SNR=6.1
MNCI Minicoy 50.05 275 *e*P **P** **20 36 50.6 -0.2**
comp=Z,82nm,1.0s
DZM Mont Dzumac 50.71 125 P **P** **20 36 57.1 +1.4**
comp=Z,12nm,0.5s,baz=254,slow=12,SNR=18
DZM Mont Dzumac 50.71 125 *e*P **P** **20 36 56.7 +1.1**
comp=Z,12nm,0.7s
LHI Lord Howe Isla 50.78 140 P **P** **20 36 57.0 +1.3**
baz=51,SNR=3.3
LHI Lord Howe Isla 50.78 140 *e*P **P** **20 36 56.7 +1.0**
comp=Z,67nm,1.0s
HVS Khovu-Aksy 50.95 336 *c e*P **P** **20 36 57.7 +0.9**
HVS pmax pmax
comp=Z,103nm,1.0s
BOD Bodaibo 51.76 354 *e*P **P** **20 37 02.5 +0.1**
BOD pmax pmax
comp=Z,33nm,1.3s
MK01 Makanchi Array 53.49 326 *e*P **P** **20 37 15.5 +0.6**
MK01 *e*PcP **PcP** **20 38 10.8 -0.9**
MK31 Makanchi Array 53.51 326 *e*P **P** **20 37 15.3 +0.3**
MK31 *e*PcP **PcP** **20 38 11.0 -0.7**
MK31 Makanchi Array 53.51 326 *e*P **P** **20 37 15.3 +0.3**

MK31 e 20 38 11.0
MK32 Makanchi Array 53.51 326 eP **P 20 37 15.8 +0.7**
MK32 ePcP **PcP 20 38 11.4 -0.3**
MK32 eScP **ScP 20 41 10.2 -1.1**
MK32 e 21 14 29.1
MKAR Makanchi Array 53.51 326 P **P 20 37 15.8 +0.7**
comp=Z,52nm,0.6s,baz=121,slow=8.3,SNR=696
MKAR PcP **PcP 20 38 11.4 -0.3**
comp=Z,20nm,0.7s,baz=117,slow=4.6,SNR=16
MKAR ScP **ScP 20 41 10.2 -1.1**
comp=Z,6.8nm,0.7s,baz=124,slow=4.7,SNR=15
MKAR P4KPbc 21 14 29.1
comp=Z,1.1nm,0.9s,baz=117,slow=5.2,SNR=4.1
MKAR Makanchi Array 53.51 326 eP **P 20 37 15.5 +0.4**
comp=Z,339nm,0.6s
MKAR ePcP **PcP 20 38 11.0 -0.7**
MKAR ScP **ScP 20 41 10.2 -1.1**
MKAR e 21 14 29.1
MKAR Makanchi Array 53.51 326 *i* P **P 20 37 15.8 +0.7**
MKAR pmax pmax
comp=Z,53nm,0.6s
TAU Tasmania Unive 53.69 158 eP **P 20 37 17.4 +1.1**
comp=Z,36nm,0.9s
TAU Tasmania Unive 53.69 158 eP **P 20 37 17.4 +1.1**
TAU pmax pmax
comp=Z,36nm,0.9s
NIL Nilore 53.74 307 eP **P 20 37 17.5 +0.5**
comp=Z,57nm,0.8s
NIL ePcP **PcP 20 38 12.8 -0.1**
NIL eS **S 20 44 05.3 -1.1**
KSH Kashi 53.86 315 P **P 20 37 19.5 +1.7**
KSH pP pP 20 39 12.5 +0.2
KSH S **S 20 44 06.5 -1.6**
KSH SS **SS 20 48 02.8 +0.7**
KSH pmax pmax
comp=Z,90nm,1.1s
KSH pmax pmax
comp=Z,280nm,3.9s
PEA0B Petropavlovsk- 54.21 25 eP **P 20 37 20.6 +0.7**
comp=Z,117nm,1.7s
PETK Petropavlovsk- 54.21 25 P **P 20 37 20.7 +0.9**
comp=Z,17nm,0.8s,baz=196,slow=4.8,SNR=21
PETK PcP **PcP 20 38 14.1 -0.2**
comp=Z,4.4nm,0.9s,baz=206,slow=5.5,SNR=4.7
PETK Petropavlovsk- 54.21 25 eP **P 20 37 20.5 +0.7**
PETK ePcP **PcP 20 38 13.7 -0.6**
PETK Petropavlovsk- 54.21 25 eP **P 20 37 20.5 +0.7**
PETK *e* 20 38 13.7
PEA1 Petropavlovsk- 54.21 25 eP **P 20 37 20.7 +0.9**
PEA1 ePcP **PcP 20 38 14.1 -0.2**
PET Petropavlovsk 54.55 25⇓ eP **P 20 37 22.0 -0.1**
ULHL Ulahol 54.87 318 P **P 20 37 26.2 +1.3**
SNR=5.0
KZA Kyzart 55.45 318 P **P 20 37 30.7 +1.5**
SNR=26
TKM2 Tokmak 2 55.59 319 P **P 20 37 30.9 +0.9**
SNR=28
YAK Yakutsk 55.64 4 eP **P 20 37 29.4 -0.1**
comp=Z,117nm,0.7s
YAK ePcP **PcP 20 38 18.9 -0.7**
YAK Yakutsk 55.64 4 eP **P 20 37 29.4 -0.1**
YAK *e* 20 38 18.9
YAK pmax pmax
comp=Z,117nm,0.7s
KBK Karagaybulak 55.91 318 P **P 20 37 33.2 +1.2**
SNR=21
UCH Uchtor 56.01 317 P **P 20 37 34.4 +1.3**
SNR=47
CHMS Chumysh 56.19 318 P **P 20 37 34.3 +0.5**
SNR=14
AAK Ala-Archa 56.20 318 P **P 20 37 35.0 +1.0**
SNR=10
AAK Ala-Archa 56.20 318 eP **P 20 37 34.6 +0.6**
comp=Z,59nm,1.8s
AAK ePcP **PcP 20 38 22.1 -0.4**
AAK Ala-Archa 56.20 318 P **P 20 37 35.0 +1.0**
SNR=11
AAK Ala-Archa 56.20 318 *i* P **P 20 37 35.0 +1.0**
SNR=15
AAK Ala-Archa 56.20 318 *d i* P **P 20 37 34.9 +0.9**
AAK pmax pmax
comp=Z,15nm,0.9s
USP Ospenovka 56.47 319 P **P 20 37 36.5 +0.7**
SNR=38
AML Almayashu 56.52 317 P **P 20 37 37.8 +1.2**
SNR=44
EKS2 Erkin-Say 56.69 318 P **P 20 37 38.5 +1.2**
SNR=40
ZAA0 Zalesovo Array 56.73 334 eP **P 20 37 36.8 -0.4**
comp=Z,31nm,1.1s
ZALV Zalesovo Beam 56.73 334 P **P 20 37 36.6 -0.5**
comp=Z,18nm,0.8s,baz=124,slow=6.0,SNR=51
ZALV PcP **PcP 20 38 22.8 -1.3**
comp=Z,3.3nm,0.6s,baz=116,slow=3.4,SNR=4.0
ZALV Zalesovo Beam 56.73 334 eP **P 20 37 36.5 -0.7**
ZALV ePcP **PcP 20 38 23.1 -1.0**
ZALV Zalesovo Beam 56.73 334 eP **P 20 37 36.5 -0.7**
ZALV *e* 20 38 23.1
ZAA1 Zalesovo Array 56.73 334 eP **P 20 37 36.6 -0.5**
ZAA1 ePcP **PcP 20 38 22.8 -1.4**
MA2 Magadan 56.91 16 eP **P 20 37 39.4 +1.1**
comp=Z,63nm,0.7s
MA2 Magadan 56.91 16 eP **P 20 37 39.4 +1.1**
MA2 pmax pmax
comp=Z,63nm,0.7s
KBL Kabul 57.33 307 eP **P 20 37 41.8 -0.2**
comp=Z,41nm,0.8s
KBL Kabul 57.33 307 eP **P 20 37 41.8 -0.2**
KBL pmax pmax
comp=Z,41nm,0.8s
KURK Kurchatov 57.74 328 eP **P 20 37 44.1 +0.1**
comp=Z,114nm,0.8s
KURK ePcP **PcP 20 38 31.0 +2.8**
KURK Kurchatov 57.74 328 P **P 20 37 44.5 +0.4**
SNR=28
KURK Kurchatov 57.74 328 *d i* P **P 20 37 44.3 +0.2**
KURK pmax pmax
comp=Z,98nm,0.9s
NVS Novosibirsk 58.01 334 eP **P 20 37 45.4 -0.4**
NVS *e* 20 38 27.6
NVS eS **S 20 45 00.2 -0.3**
NVS pmax pmax
comp=N,19nm,0.9s
NVS pmax pmax
comp=E,31nm,1.2s
NVS pmax pmax
comp=Z,35nm,0.9s
NVS smax smax
comp=E,8.0nm,1.1s
KK31 Karatay Array 59.06 317 eP **P 20 37 52.8 -0.4**
KK31 Karatay Array 59.06 317 eP **P 20 37 52.8 -0.4**
KKAR Karatay Array 59.06 317 eP **P 20 37 53.6 +0.4**
KKAR Karatay Array 59.06 317 eP **P 20 37 53.6 +0.4**
SEY Seymchan 60.16 15⇓ eP **P 20 38 01.1 +1.1**
OUZ Omahuta 62.74 135 eP **P 20 38 19.6 +2.4**
comp=E,58nm,1.7s
BRVK Borovoye 63.38 327 eP **P 20 38 20.8 -0.2**
comp=E,42nm,0.9s
BRVK ePcP **PcP 20 38 50.6 -0.5**
BRVK eS **S 20 46 06.2 -0.5**
BRVK Borovoye 63.38 327 P **P 20 38 21.1 +0.1**
SNR=18
BRVK Borovoye 63.38 327 *d i* P **P 20 38 21.0 0.0**
BRVK pmax pmax
comp=Z,52nm,1.0s
DCZ Deep Cove 64.74 148 eP **P 20 38 30.6 +0.9**
comp=Z,28nm,0.7s
MLZ Mavora Lakes 65.20 147 eP **P 20 38 32.6 0.0**
comp=Z,29nm,1.1s
TIXI Tiksi 65.20 2 eP **P 20 38 31.7 -0.4**
comp=Z,38nm,0.8s
TIXI Tiksi 65.20 2 *d i* P **P 20 38 31.3 -0.8**
TIXI pmax pmax
comp=Z,43nm,0.8s
HIZ Hauiti 65.31 138 eP **P 20 38 34.9 +1.4**
comp=Z,89nm,1.4s
WKZ Wanaka 65.35 146 eP **P 20 38 34.4 +0.8**
comp=Z,116nm,1.7s
WHZ Wether Hill Ro 65.44 147 eP **P 20 38 33.8 -0.4**
comp=Z,81nm,1.8s
LBZ Lake Benmore 65.73 145 eP **P 20 38 36.7 +0.7**
comp=Z,50nm,0.8s
THZ Tophouse 65.81 141 eP **P 20 38 36.8 +0.2**
comp=Z,26nm,0.8s
RPZ Rata Peaks 65.83 144 P **P 20 38 37.4 +0.8**
comp=Z,22nm,0.6s,baz=333,slow=2.1,SNR=10
RPZ Rata Peaks 65.83 144 eP **P 20 38 37.2 +0.6**
comp=Z,25nm,0.7s
LTZ Lake Taylor 66.00 143 eP **P 20 38 38.8 +1.1**
comp=Z,27nm,1.1s
OXZ Oxford 66.18 143 eP **P 20 38 38.9 +0.2**
comp=Z,21nm,0.8s
ODZ Otahua Downs 66.39 145 eP **P 20 38 40.7 +0.7**
comp=Z,88nm,2.0s
KHZ Kahutara 66.57 142 eP **P 20 38 40.9 -0.2**
comp=Z,65nm,1.8s
ADK Adak 66.57 36 eP **P 20 38 41.7 +0.7**
comp=Z,103nm,1.5s
ADK Adak 66.57 36 eP **P 20 38 41.7 +0.7**
ADK pmax pmax
comp=Z,103nm,1.5s
SNZO South Karori 66.69 140 eP **P 20 38 41.6 -0.3**
comp=Z,73nm,1.1s
GEYT Altbeck 66.70 308 P **P 20 38 42.9 +0.7**
comp=Z,9.4nm,0.8s,baz=123,slow=5.5,SNR=32
GYA0B ALIBECK ARRAY 66.70 308 eP **P 20 38 42.3 +0.2**
comp=Z,30nm,1.1s
GYA0B ePcP **PcP 20 39 05.7 +0.3**
URZ Urewera 66.71 136 eP **P 20 38 42.3 +0.2**
comp=Z,47nm,1.7s
BKZ Black Stump Fm 66.74 138 eP **P 20 38 42.5 +0.2**
comp=Z,64nm,0.7s
UOSS Minazif 66.75 294 eP **P 20 38 42.0 -0.7**
comp=Z,30nm,1.7s
UOSS Minazif 66.75 294 P **P 20 38 41.9 -0.7**
MQZ McQueen's Vall 66.76 143 eP **P 20 38 43.7 +1.4**
comp=Z,69nm,1.5s
HATD Hatta, Dubai 66.81 294 P **P 20 38 42.6 -0.4**
HATD Hatta, Dubai 66.81 294 P **P 20 38 42.4 -0.6**
MSFE Esma-Masafi 66.81 295 P **P 20 38 43.6 +0.5**
ASHO Ashiyiah 66.86 294 P **P 20 38 43.0 -0.4**
NRIK Noril'sk 67.05 347 P **P 20 38 43.7 +0.2**
comp=Z,33nm,0.7s,baz=127,slow=6.3,SNR=25
ALNE Al Ain 67.11 293 *i* P **P 20 38 44.8 -0.1**
SNR=9.9
MXZ Matakaoa Point 67.20 135 eP **P 20 38 45.9 +0.7**
comp=Z,67nm,0.8s
FAQ Al Faqa, Dubai 67.29 294 P **P 20 38 45.1 -0.8**
BFZ Birch Farm 67.35 139 eP **P 20 38 46.2 +0.3**
comp=Z,23nm,0.8s
ASUD Al Ashush, Dub 67.52 294 P **P 20 38 47.4 0.0**
BILL Bilibino 67.78 16 *de* P **P 20 38 47.8 -0.3**
BILL pmax pmax
comp=Z,11nm,1.1s
ABKAR Akbulak array 68.02 321 eP **P 20 38 49.8 -0.1**
ABKAR ePcP **PcP 20 39 10.1 -0.6**
ATKA Atka Island 68.12 36 eP **P 20 38 50.2 -0.2**
comp=Z,38nm,0.6s
WHFO Wadi Hawf 68.80 287 P **P 20 38 54.7 -0.6**
MZR Muzera 69.14 292 *i* P **P 20 38 57.4 +0.2**
SNR=12
ABTO Aybut 69.25 286 P **P 20 38 57.4 -0.5**
SVE Sverdlovsk 69.97 329⇑ eP **P 20 39 01.5 +0.1**
SVE pmax pmax
comp=Z,59nm,0.8s
ARU Arti 70.93 328 eP **P 20 39 06.3 -0.8**
ARU Arti 70.93 328 *d i* P **P 20 39 06.2 -0.8**
ARU pmax pmax
comp=Z,41nm,0.6s
NIKH Nikolski High 71.47 36 eP **P 20 39 09.0 -1.2**
comp=Z,101nm,1.2s
UNV Unalaska Valle 73.04 36 eP **P 20 39 19.3 +0.1**
comp=Z,21nm,0.8s
CASY Casey 73.17 185 eP **P 20 39 20.0 +0.4**
comp=Z,28nm,1.1s
AKUT Akutan 73.52 35 eP **P 20 39 22.2 +0.2**
comp=Z,229nm,1.6s
FALS False Pass 75.01 35 eP **P 20 39 30.5 +0.2**
comp=Z,65nm,0.7s
ANM Nome 76.12 25 eP **P 20 39 37.2 +0.9**
comp=Z,14nm,1.0s
ANM Nome 76.12 25 eP **P 20 39 37.2 +0.9**
ANM pmax pmax
comp=Z,14nm,1.0s
RAYN Ar Rayn 76.48 293 eP **P 20 39 38.7 -0.4**
comp=Z,40nm,0.8s
RAYN Ar Rayn 76.48 293 *i* P **P 20 39 38.8 -0.4**
SNR=35
RAYN Ar Rayn 76.48 293 eP **P 20 39 38.7 -0.4**
RAYN pmax pmax
comp=Z,40nm,0.8s
GROC Groznyy 76.66 313 eP **P 20 39 37.1 -2.5**
GROC *e* 20 39 45.2
GROC e*SP **PP 20 42 43.0 -0.7**
GROC pmax pmax
comp=Z,45nm,1.0s
SDPT Sand Point 76.76 35 eP **P 20 39 39.8 0.0**
comp=Z,42nm,0.6s
GNI Garni 77.29 310 eP **P 20 39 44.3 +1.0**
comp=Z,18nm,0.9s
GNI Garni 77.29 310⇑ eP **P 20 39 44.4 +1.0**
GNI pmax pmax
comp=Z,66nm,1.6s
TBLG Delisi 77.36 311 eP **P 20 39 43.9 +0.4**
comp=Z,28nm,0.8s
TBLG Delisi 77.36 311 eP **P 20 39 43.9 +0.4**
TBLG pmax pmax
comp=Z,28nm,0.8s
DAMY Dhamar 77.91 283 eP **P 20 39 48.0 +0.7**
comp=Z,21nm,0.7s
RDOG Red Dog Mine 77.92 22 eP **P 20 39 46.3 +0.4**
comp=Z,15nm,0.8s
ZEI Tsey 78.02 312 eP **P 20 39 45.3 -2.0**
ZEI pmax pmax
comp=Z,26nm,0.6s
CHGN Chignik 78.03 34 eP **P 20 39 46.8 +0.1**
comp=Z,33nm,1.0s
NCK Nalchik 78.28 313⇑ *i* P **P 20 39 48.4 0.0**
NCK pmax pmax
comp=Z,19nm,0.8s
AKH Akhalkalaki 78.28 311 eP **P 20 39 49.6 +1.0**
comp=Z,30nm,1.0s
AKH Akhalkalaki 78.28 311 eP **P 20 39 49.7 +1.0**
AKH pmax pmax
comp=Z,30nm,1.0s
PRGR Permogore 78.59 332 eP **P 20 39 46.0 -3.6**
PRGR pmax pmax
comp=Z,51nm,0.6s
KBZ Khabaz 78.79 313 P **P 20 39 50.9 -0.1**
comp=Z,7.8nm,1.0s,baz=102,slow=3.6,SNR=7.9
NEY Neytrino 78.90 313⇑ eP **P 20 39 51.1 -0.8**
NEY pmax pmax
comp=Z,2.0nm,0.8s
KIV Kislovodsk 78.95 313 eP **P 20 39 52.4 +0.4**
comp=Z,16nm,0.7s
KIV Kislovodsk 78.95 313 *i* P **P 20 39 52.6 +0.6**
SNR=5.8
KIV Kislovodsk 78.95 313 eP **P 20 39 52.7 +0.6**
KIV pmax pmax
comp=Z,22nm,1.0s
ABPO Ambohimpanom 79.25 249 eP **P 20 39 53.1 -1.1**
comp=Z,12nm,0.9s
ABPO Ambohimpanom 79.25 249 eP **P 20 39 53.1 -1.1**
ABPO pmax pmax
comp=Z,12nm,0.9s
ATD Arta Tunnel 79.63 281 eP **P 20 39 56.6 +0.5**
comp=Z,17nm,0.8s
BATM Batumi 79.64 311 P **P 20 39 53.9 -1.7**
PUH Puhai 79.67 72 eP **P 20 39 56.0 -0.3**
comp=Z,346nm,1.8s
VRH Novokhopyorsk 79.86 321 eP **P 20 39 55.6 -0.9**
VRH pmax pmax
comp=Z,90nm,0.9s
SVW2 Sparrevohn 79.97 29 eP **P 20 39 56.8 -0.1**
comp=Z,20nm,0.8s
OHAK Old Harbor 80.91 33 eP **P 20 40 02.4 +0.6**
comp=Z,46nm,0.8s
IM3 Indian Mountai 81.17 24 eP **P 20 40 03.6 +0.7**
VORD Divnogorie 81.38 320 eP **P 20 40 03.5 -0.8**
VORD pmax pmax
comp=Z,10.0nm,0.5s
VSR Storozhevoye 81.46 321 eP **P 20 40 03.5 -1.3**
VSR pmax pmax
comp=Z,20nm,0.5s
KLMR Klimovskoe 81.47 331 eP **P 20 40 01.9 -2.6**
KLMR pmax pmax
comp=Z,69nm,0.8s
KLMR Klimovskoe 81.47 331 eP **P 20 40 02.0 -2.6**
KLMR AMP 20 40 04.9
comp=Z,69nm,0.8s
LPSR Galich'ya Gora 81.62 322 eP **P 20 40 04.3 -1.2**
LPSR pmax pmax
comp=Z,80nm,1.1s
PPLA Purkeypile 81.68 27 eP **P 20 40 06.1 +0.3**
comp=Z,15nm,0.7s
CAST Castle Rocks 81.75 27 eP **P 20 40 06.5 +0.5**
comp=Z,24nm,0.7s
SKT Skwentna 81.96 28 eP **P 20 40 06.5 -0.6**
comp=Z,24nm,1.1s
CNPM China Poot 82.06 31 eP **P 20 40 07.5 -0.1**
comp=Z,276nm,1.9s
CRZF Crozet Islands 82.21 222 eP **P 20 40 08.0 -0.6**
comp=Z,50nm,0.7s
BPAW Bear Paw Mtn. 82.25 26 eP **P 20 40 09.4 +0.9**
comp=Z,25nm,0.8s
SUA Susitna One 82.32 29 eP **P 20 40 08.7 -0.4**
comp=Z,24nm,0.8s
MLY Manley 82.38 25 eP **P 20 40 09.8 +0.6**
comp=Z,28nm,0.7s
MOS Moscow 82.39 325 eP **P 20 40 07.5 -1.8**
MOS pmax pmax
comp=Z,100nm,1.0s
MOS pmax pmax
comp=Z,90nm,0.9s
TRF Thorofare Moun 82.56 27 eP **P 20 40 10.3 0.0**
comp=Z,25nm,1.0s
COLD Coldfoot 82.64 23 eP **P 20 40 11.6 +1.2**
comp=Z,11nm,1.0s
ANN Anapa 82.72 314 *d i* P **P 20 40 10.2 -1.0**
ANN pmax pmax
comp=Z,112nm,1.0s
RC01 Rabbit Creek A 82.81 29 eP **P 20 40 10.8 -0.5**
comp=Z,12nm,0.6s
TOLK Toolik Lake Re 82.89 22 eP **P 20 40 12.6 +0.9**
comp=Z,38nm,0.8s
BWN Browne 82.92 26 eP **P 20 40 12.7 +0.9**
comp=Z,19nm,0.8s
OBN Obninsk 83.00 325 eP **P 20 40 11.6 -0.8**
comp=Z,82nm,0.7s
OBN Obninsk 83.00 325 *d i* P **P 20 40 11.7 -0.7**
OBN S **S 20 49 37.0 -4.5**
OBN pmax pmax
comp=Z,90nm,0.8s
PMR Palmer 83.10 29 eP **P 20 40 12.4 -0.3**
comp=Z,15nm,1.1s
PMR Palmer 83.10 29 eP **P 20 40 12.4 -0.3**
PMR pmax pmax
comp=Z,15nm,1.1s
MCK McKinley 83.16 27 eP **P 20 40 13.4 +0.3**
comp=Z,33nm,1.0s
GHO Glory Hole Cre 83.19 29 eP **P 20 40 13.3 0.0**
comp=Z,25nm,1.3s
RND Reindeer 83.20 27 eP **P 20 40 13.2 -0.1**
comp=Z,26nm,1.3s
RND Reindeer 83.20 27 eP **P 20 40 13.2 -0.1**
RND pmax pmax
comp=Z,26nm,1.3s
SML Sawmill 83.47 29 eP **P 20 40 14.7 0.0**
comp=Z,82nm,1.8s
SML Sawmill 83.47 29 eP **P 20 40 14.7 0.0**
SML pmax pmax
comp=Z,82nm,1.8s
WRH Wood River Hil 83.52 26 eP **P 20 40 14.5 -0.3**
comp=Z,7.6nm,0.7s
LVZ Lovozero 83.63 338 eP **P 20 40 14.9 -0.4**
comp=Z,390nm,1.9s
LVZ Lovozero 83.63 338⇓ eP **P 20 40 15.0 -0.3**
CCB Clear Creek Bu 83.64 26 eP **P 20 40 14.8 -0.5**
comp=Z,8.9nm,0.7s
DHY Denali Highway 83.88 27 eP **P 20 40 17.1 +0.3**
comp=Z,8.2nm,0.7s
FURI Furi 83.95 278 eP **P 20 40 20.6 +2.2**
comp=Z,45nm,1.5s
HDA Harding Lake 84.01 26 eP **P 20 40 16.1 -1.1**
comp=Z,10nm,0.6s
IL1 Eielson Array 84.03 26 eP **P 20 40 15.9 -1.4**
ILAR Eielson Array 84.03 26 P **P 20 40 16.1 -1.1**
comp=Z,2.7nm,0.6s,baz=243,slow=5.0,SNR=82
ILB Eielson Array 84.03 26 eP **P 20 40 15.9 -1.4**
GLI Glacier Island 84.10 29 eP **P 20 40 17.8 0.0**
comp=Z,164nm,2.0s
APA Apatity 84.12 337⇓ *i* P **P 20 40 15.7 -1.9**
APA pmax pmax
comp=Z,7.0nm,0.7s
FID Port Fidalgo 84.41 30 eP **P 20 40 19.0 -0.2**
comp=Z,48nm,1.3s
KLU Klutina 84.64 29 eP **P 20 40 20.5 +0.1**
comp=Z,66nm,2.0s
DIV Divide 84.73 29 eP **P 20 40 21.3 +0.4**
comp=Z,28nm,1.4s
PAX Paxson 84.75 27 eP **P 20 40 20.9 0.0**
comp=Z,6.8nm,0.9s
PAX Paxson 84.75 27 eP **P 20 40 21.0 0.0**
PAX pmax pmax
comp=Z,7.0nm,0.9s
HARP HAARP 84.94 28 eP **P 20 40 22.4 +0.6**
comp=Z,27nm,1.0s
RIDG Independ'e Rid 84.98 27 eP **P 20 40 21.6 -0.4**
comp=Z,12nm,0.8s
MAW Mawson 85.22 200 P **P 20 40 22.1 -0.8**
comp=Z,1.4nm,0.7s,baz=96,slow=9.2,SNR=4.7
MAW Mawson 85.22 200 eP **P 20 40 22.2 -0.6**
comp=Z,3.4nm,1.5s
BMRM Bremner River 85.31 29 eP **P 20 40 23.5 -0.2**
comp=Z,23nm,1.2s
DOT Dot Lake 85.33 27 eP **P 20 40 23.3 -0.4**
comp=Z,5.0nm,0.8s
SCRK Sand Creek 85.34 26 eP **P 20 40 23.6 -0.2**
comp=Z,3.8nm,0.7s
ILGA Ilgaz 85.66 311 eP **P 20 40 25.1 -0.9**
comp=Z,19nm,0.8s
BR101 Keskin Array S 85.83 309 eP **P 20 40 25.6 -1.1**
BR101 ePP **PP 20 43 58.5 +0.5**
BR131 Keskin Array S 85.83 309 eP **P 20 40 25.3 -1.4**
BR131 Keskin Array S 85.83 309 P **P 20 40 25.6 -1.1**
SNR=8.3
BRTR Keskin Array B 85.83 309 P **P 20 40 25.6 -1.1**
comp=Z,11nm,0.8s,baz=119,slow=4.7,SNR=59
BRTR PP **PP 20 43 58.5 +0.5**
comp=Z,1.4nm,0.9s,baz=112,slow=9.3,SNR=4.0
TGL Tana Glacier 86.19 29 eP **P 20 40 28.1 +0.2**
comp=Z,12nm,0.7s
KMBO Kilima Mbogo 86.42 268 P **P 20 40 30.6 +0.5**
comp=Z,7.8nm,0.9s,baz=48,slow=6.6,SNR=27
KMBO Kilima Mbogo 86.42 268 eP **P 20 40 30.0 -0.1**
comp=Z,14nm,1.1s
KMBO Kilima Mbogo 86.42 268 *i* P **P 20 40 30.7 +0.5**
SNR=14
ANTO Ankara 86.46 310 eP **P 20 40 27.8 -1.8**
comp=Z,13nm,0.8s
ANTO Ankara 86.46 310 eP **P 20 40 27.8 -1.8**
ANTO pmax pmax
comp=Z,13nm,0.8s
EGAK Eagle 86.47 25 eP **P 20 40 29.0 0.0**
comp=Z,7.3nm,0.9s
BR231 Keskin MP Arra 86.48 310 eP **P 20 40 28.4 -1.3**
CSS Mathiatis 86.50 305 eP **P 20 40 28.9 -0.9**
comp=Z,16nm,0.8s
VNDA Vanda 86.54 172 P **P 20 40 29.4 +0.4**
comp=Z,7.3nm,0.9s,baz=313,slow=6.6,SNR=41
VNDA PP **PP 20 43 59.5 -3.3**
comp=Z,2.5nm,0.9s,baz=293,slow=6.3,SNR=4.4
ARA0 ARCESS Array S 86.79 340 eP **P 20 40 29.6 -0.8**
ARCES ARCESS Array B 86.79 340 P **P 20 40 29.6 -0.8**
comp=Z,12nm,0.8s,baz=80,slow=5.7,SNR=24
ARCES ARCESS Array B 86.79 340 eP **P 20 40 29.1 -1.3**
ARCES ARCESS Array B 86.79 340 eP **P 20 40 29.1 -1.3**
NAI Nairobi 86.88 268 eP **P 20 40 32.6 +0.3**
comp=Z,43nm,1.3s
NAI Nairobi 86.88 268 eP **P 20 40 32.6 +0.3**
NAI pmax pmax
comp=Z,43nm,1.3s
SPA0 Spitsbergen Ar 87.19 349 eP **P 20 40 31.2 -1.0**
DAWY Dawson 87.33 26 eP **P 20 40 33.6 +0.4**
comp=Z,12nm,1.4s
PCA Pinnacle 87.55 30 eP **P 20 40 34.9 +0.6**
comp=Z,157nm,1.9s
AKASG Malin Array Be 87.77 321 P **P 20 40 34.0 -1.3**
comp=Z,7.6nm,0.7s,baz=69,slow=4.6,SNR=26
AKBB Malin Array Si 87.77 321 eP **P 20 40 33.8 -1.6**
comp=Z,7.3nm,0.7s
KIEV Kiev 87.78 321 eP **P 20 40 33.6 -1.8**
comp=Z,7.4nm,0.8s
KIEV Kiev 87.78 321 *i* P **P 20 40 34.1 -1.3**
SNR=5.8
KIEV Kiev 87.78 321 *d i* P **P 20 40 33.8 -1.6**
KIEV pmax pmax
comp=Z,7.0nm,0.7s
AK11 Malin Array Si 87.81 321 eP **P 20 40 34.2 -1.3**

FIA1	FINESS Array S	87.92	332	*e*P		P	20 40 34.4	-1.5	
FIA0	FINESS Array S	87.92	332	*e*P		P	20 40 34.6	-1.2	
FIA0	FINESS Array S	87.92	332	*e*P		P	20 40 34.7	-1.2	
FINES	FINESS Array B	87.92	332	P		P	20 40 34.6	-1.2	
	comp=Z,9.4nm,0.6s,baz=51,slow=5.6,SNR=87								
VSU	Vasula	88.08	329	*e*P		P	20 40 35.3	-1.3	
VSU				IAmb	IAmb		20 40 36.3		
	comp=Z,71nm,0.7s								
VSU	Vasula	88.08	329	*c i*P		P	20 40 35.7	-0.9	
VSU				pmax	pmax				
	comp=Z,84nm,0.8s								
IDID	Didziasalis	88.59	325	*e*P		P	20 40 38.4	-0.6	
IDID				IAmb	IAmb		20 40 39.3		
	comp=Z,8.8nm,0.8s								
NACGM	Naroch	88.63	325	*e*		P	20 40 38.0	-1.3	
HYT	Haines Junctio	88.77	29	*e*P		P	20 40 40.5	+0.6	
	comp=Z,9.3nm,0.9s								
IZAR	Zarasai	88.79	326	*e*P		P	20 40 39.6	-0.4	
IZAR				IAmb	IAmb		20 40 40.1		
	comp=Z,9.6nm,0.7s								
INK	Inuvik	88.80	21	*e*P		P	20 40 39.2	-0.6	
	comp=Z,8.0nm,0.9s								
INK	Inuvik	88.80	21	*e*P		P	20 40 39.2	-0.6	
INK				pmax	pmax				
	comp=Z,8.0nm,0.9s								
IIGN	Ignalina	88.87	325	*e*P		P	20 40 39.9	-0.5	
IIGN				IAmb	IAmb		20 40 40.6		
	comp=Z,5.4nm,0.7s								
MANT	Manisa	89.89	309	*e*P		P	20 40 44.4	-1.4	
	comp=Z,67nm,1.2s								
VRI	Vrincioaia	90.12	316	⇑*i*P		P	20 40 46.0	-0.4	
VRI	Vrincioaia	90.12	316	⇑P		P	20 40 46.0	-0.4	
PLOR	Plostina	90.18	316	⇑*i*P		P	20 40 46.4	-0.3	
PLOR	Plostina	90.18	316	⇑P		P	20 40 46.4	-0.3	
BIZ	Bicaz	90.37	317	⇓*i*P		P	20 40 46.8	-0.7	
MLR	Muntele Rosu	90.73	316	P		P	20 40 48.7	-0.7	
	comp=Z,7.9nm,0.7s,baz=251,slow=1.6,SNR=28								
MLR	Muntele Rosu	90.73	316	*e*P		P	20 40 48.3	-1.1	
	comp=Z,10nm,0.8s								
MLR	Muntele Rosu	90.73	316	⇓*i*P		P	20 40 49.0	-0.4	
MLR	Muntele Rosu	90.73	316	⇓P		P	20 40 49.0	-0.4	
BURAR	Bucovina Array	90.84	318	⇑*i*P		P	20 40 49.9	+0.1	
BURAR	Bucovina Array	90.84	318	⇑P		P	20 40 49.9	+0.1	
BUR04	Bucovina Ar. S	90.85	318	*e*P		P	20 40 48.9	-1.0	
BUR08	Bucovina Ar. S	90.85	318	*e*P		P	20 40 49.4	-0.5	
SUW	Suwalki	90.86	325	*e*P		P	20 40 48.7	-0.9	
SUW	Suwalki	90.86	325	*e*P		P	20 40 48.4	-1.2	
	comp=Z,72nm,1.0s								
SUW	Suwalki	90.86	325	*e*P		P	20 40 48.7	-0.9	
DOPR	Dopca	91.03	316	⇓*i*P		P	20 40 50.0	-0.6	
VOIR		91.36	316	⇑*i*P		P	20 40 51.0	-1.2	
VOIR		91.36	316	⇑P		P	20 40 51.0	-1.2	
HUMR	Humele	91.57	315	⇓*i*P		P	20 40 50.7	-2.4	
ARR	Arges	91.66	316	⇑*i*P		P	20 40 52.8	-0.8	
CJR	Cluj-Napoca	92.10	317	⇑*i*P		P	20 40 55.9	+0.3	
CJR	Cluj-Napoca	92.10	317	⇑P		P	20 40 55.9	+0.3	
LOT	Lotru	92.24	316	⇑*i*P		P	20 40 56.2	-0.1	
TRPA	Tarpa	92.51	319	⇑*i*P		P	20 40 56.9	-0.4	
UZH	Uzhgorod	92.56	319	⇑*e*P		P	20 40 57.5	0.0	
DRGR		92.68	317	⇓*i*P		P	20 40 58.0	-0.3	
DRGR		92.68	317	⇓P		P	20 40 58.0	-0.3	
VTS	Vitosha	93.21	313	*e*P		P	20 40 59.6	-1.3	
	comp=Z,5.0nm,0.7s								
VTS	Vitosha	93.21	313	⇑*i*P		P	20 40 59.9	-1.0	
VTS	Vitosha	93.21	313	⇑P		P	20 40 59.9	-1.0	
HERR	Herculane	93.29	316	⇑*i*P		P	20 41 01.4	+0.4	
SIRR	Siria	93.50	317	⇑*i*P		P	20 41 01.7	-0.3	
NIE	Niedzica	93.65	320	*e*P		P	20 41 02.6	0.0	
NIE	Niedzica	93.65	320	*e*P		P	20 41 02.6	0.0	
BZS	Buzias	93.68	317	⇑*i*P		P	20 41 01.8	-0.9	
BZS	Buzias	93.68	317	⇑P		P	20 41 01.8	-0.9	
KECS	Kecovo	93.76	319	*e*P		P	20 41 01.5	-1.6	
KECS				pmax	pmax				
	comp=Z,13nm,0.9s								
KECS	Kecovo	93.76	319	*e*P		P	20 41 01.5	-1.6	
OJC	Ojcow	93.77	321	*e*P		P	20 41 03.2	+0.2	
OJC	Ojcow	93.77	321	*e*P		P	20 41 02.1	-1.0	
	comp=Z,8.9nm,0.9s								
OJC	Ojcow	93.77	321	*e*P		P	20 41 03.2	+0.2	
MDVR	Moldovita	93.80	316	⇓*i*P		P	20 41 02.6	-0.8	
HFS	Hagfors	94.12	332	P		P	20 41 03.0	-1.4	
	comp=Z,4.5nm,0.7s,baz=103,slow=4.6,SNR=9.6								
HFS	Hagfors	94.12	332	P		P	20 41 03.0	-1.4	
LANS	Liptovska Anna	94.25	320	*e*P		P	20 41 05.7	+0.4	
LANS	Liptovska Anna	94.25	320	*e*P		P	20 41 05.7	+0.4	
VYHS	Vyhne	94.82	320	*e*P		P	20 41 07.4	-0.5	
VYHS	Vyhne	94.82	320	*e*P		P	20 41 07.4	-0.5	
OKC	Ostrava-Krasne	94.90	321	*e*P		P	20 41 08.0	-0.2	
OKC	Ostrava-Krasne	94.90	321	*e*P		P	20 41 08.0	-0.2	
NB2	NORSAR Subarra	94.93	333	P		P	20 41 06.2	-1.9	
	comp=Z,10.0nm,0.9s,baz=68,slow=4.6								
NB2	NORSAR Subarra	94.93	333	P		PP	20 41 06.2	-1.9	
	baz=68,slow=4.6								
NB200	NORSAR Array S	94.93	333	*e*P		P	20 41 06.6	-1.5	
NOA	NORSAR Array B	94.93	333	P		P	20 41 06.6	-1.5	
	comp=Z,4.6nm,0.8s,baz=69,slow=4.5,SNR=13								
MORC	Moravsky Berou	95.29	321	*e*P		P	20 41 09.5	-0.5	
	comp=Z,2.9nm,0.8s								
MORC	Moravsky Berou	95.29	321	*e*P		P	20 41 09.5	-0.5	
MORC				pmax	pmax				
	comp=Z,3.0nm,0.8s								
RES	Resolute Bay	95.69	10	P		P	20 41 10.1	-1.1	
	comp=Z,2.7nm,0.7s,baz=297,slow=6.1								
RES	Resolute Bay	95.69	10	*e*P		P	20 41 10.7	-0.5	
	comp=Z,23nm,1.8s								
RES	Resolute Bay	95.69	10	*e*P		P	20 41 10.7	-0.5	
RES				pmax	pmax				
	comp=Z,23nm,1.8s								
KSP	Ksiaz	95.75	323	*e*P		P	20 41 12.2	+0.2	
KSP	Ksiaz	95.75	323	*e*P		P	20 41 12.2	+0.2	
DPC	Dobruska-Polom	95.88	322	*e*P		P	20 41 12.6	0.0	
DPC	Dobruska-Polom	95.88	322	*e*P		P	20 41 12.6	0.0	
VRAC	Vranov	96.02	321	P		P	20 41 12.6	-0.6	
	comp=Z,3.7nm,0.9s,baz=61,slow=4.1,SNR=4.9								
UPC	Upice	96.02	322	*e*P		P	20 41 12.2	-1.0	
UPC	Upice	96.02	322	*e*P		P	20 41 12.2	-1.0	
PDG	Podgorica	96.09	314	⇑*i*P		P	20 41 12.6	-1.1	
LSZ	Lusaka	96.80	255	*e*P		P	20 41 16.3	-1.3	
	comp=Z,27nm,1.9s								
LSZ	Lusaka	96.80	255	*e*P		P	20 41 16.3	-1.3	
LSZ				pmax	pmax				
	comp=Z,27nm,1.9s								
GOPC	GO Pecny, Ondr	96.95	322	*e*P		P	20 41 17.8	+0.4	
GOPC	GO Pecny, Ondr	96.95	322	*e*P		P	20 41 17.8	+0.4	
BRG	Berggiesshubel	97.15	323	*e*P		P	20 41 27.9	+10	
	comp=Z,10nm,0.9s								
BRG	Berggiesshubel	97.15	323	*e*P		P	20 41 27.9	+10	
BRG				pmax	pmax				
	comp=Z,11nm,1.0s								
CLL	Collm	97.56	324	*e*Pdif		Pdif	20 41 20.0	0.0	
CLL	Collm	97.56	324	*e*P		Pdif	20 41 20.0	0.0	
PERS	Pernice	97.77	319	*e*P		Pdif	20 41 20.5	-0.7	
PERS	Pernice	97.77	319	*e*P		Pdif	20 41 20.5	-0.7	
SOKA	Soboth	97.81	319	*e*Pdiff		Pdif	20 41 20.9	-0.5	
	comp=Z,2.2nm,0.8s								
MOA	Molln	97.94	320	*i* Pdiff		Pdif	20 41 21.3	-0.5	
	comp=Z,7.8nm,1.1s								
KHC	Kasperske Hory	97.95	321	*e*P		Pdif	20 41 21.6	-0.3	
KHC	Kasperske Hory	97.95	321	*e*P		Pdif	20 41 21.6	-0.3	
GEC2	GERESS Array S	97.97	321	*e*Pdif		Pdif	20 41 21.6	-0.4	
	comp=Z,9.1nm,1.3s								
GEC2	GERESS Array S	97.97	321	*e*P		Pdif	20 41 21.6	-0.5	
GEC2				pmax	pmax				
	comp=Z,9.0nm,1.3s								
GERES	GERESS Array B	97.97	321	P		Pdif	20 41 21.4	-0.6	
	comp=Z,1.9nm,0.7s,baz=65,slow=5.3,SNR=21								
GERES				PP		PP	20 45 31.4	+0.3	
	comp=Z,1.3nm,1.0s,baz=92,slow=9.3,SNR=6.1								
GEA0	GERESS Array S	97.97	321	*e*Pdif		Pdif	20 41 21.1	-1.0	
BOJS	Bojanci	98.02	318	*e*P		P	20 41 22.8	+0.5	
BOJS	Bojanci	98.02	318	*e*P		P	20 41 22.8	+0.5	
OBKA	Obir	98.18	319	*e*Pdiff		Pdif	20 41 22.4	-0.6	
	comp=Z,3.9nm,1.1s								
VISS	Visnje	98.21	318	*i* P		Pdif	20 41 22.6	-0.5	
VISS	Visnje	98.21	318	*i* P		Pdif	20 41 22.6	-0.5	
JAVS	Javornik	98.69	318	*e*P		Pdif	20 41 24.3	-1.1	
JAVS	Javornik	98.69	318	*e*P		Pdif	20 41 24.3	-1.1	
KBA	Koelnbreinsper	98.78	320	*i* Pdiff		Pdif	20 41 24.1	-1.7	
	comp=Z,4.2nm,1.1s								
ABTA	Abfaltersbach	99.43	319	*e*Pdiff		Pdif	20 41 27.0	-1.6	
	comp=Z,3.2nm,1.1s								
WATA	Walderalm	99.82	320	*i* Pdiff		Pdif	20 41 29.5	-0.9	
	comp=Z,3.6nm,0.8s								
SQTA	Sankt Quirin	100.10	320	*e*Pdiff		Pdif	20 41 30.1	-1.5	
	comp=Z,9.0nm,1.0s,SNR=4.7								
MOTA	Moosalm	100.12	320	*e*Pdiff		Pdif	20 41 30.9	-0.8	
	comp=Z,3.5nm,0.7s,SNR=5.8								
FETA	Feichten	100.47	320	*e*Pdiff		Pdif	20 41 33.0	-0.4	
	comp=Z,4.4nm,0.9s								
PDAR	Pinedale Array	111.34	39	PKiKP		PKiKP	20 46 16.2	-0.1	
	comp=Z,0.3nm,0.5s,baz=67,slow=3.0,SNR=3.5								
ULM	Lac du Bonnet	114.03	26	PKP		PKPdf	20 46 20.5	-0.5	
	comp=Z,1.7nm,0.5s,baz=136,slow=1.7,SNR=5.3								
TOA0	Torodi Ar. Sit	119.03	289	*e*PKPdf		PKPdf	20 46 29.5	-2.0	
TORD	Torodi Ar. Bea	119.03	289	PKP		PKPdf	20 46 29.3	-2.2	
	comp=Z,2.8nm,0.6s,baz=30,slow=2.0,SNR=30								
TORD				PP		PP	20 47 50.2	-12	
	comp=Z,1.4nm,0.9s,baz=55,slow=8.0,SNR=5.8								
TOA1	Torodi Ar. Sit	119.03	289	*e*PKPdf		PKPdf	20 46 29.3	-2.2	
TOA1				*e*PP		PP	20 47 50.2	-12	
I39A	Houston	120.75	29	*e*PKPdf		PKPdf	20 46 33.0	-1.1	
KSU1	Kansas State U	121.39	36	*e*PKPdf		PKPdf	20 46 35.2	-0.3	
TX31	Lajitas Ar. Si	122.36	49	*e*PKPdf		PKPdf	20 46 38.0	+0.2	
TX31				*e*PKPdf		PKiKP	20 46 38.1	+0.2	
LTX	Lajitas	122.36	49	*e*PKPdf		PKPdf	20 46 37.2	-0.4	
LTX	Lajitas	122.36	49	*e*PKIKP		PKPdf	20 46 37.3	-0.4	
TXAR	Lajitas Array	122.36	49	PKP		PKPdf	20 46 37.2	-0.5	
	comp=Z,1.0nm,0.7s,baz=269,slow=0.9,SNR=14								
JCT	Junction City	124.59	46	*e*PKPdf		PKPdf	20 46 42.3	+0.4	
JCT	Junction City	124.59	46	*e*PKIKP		PKPdf	20 46 42.3	+0.4	
HHAR	Hobbs	124.85	37	*e*PKPdf		PKPdf	20 46 41.5	-0.7	
T42A	Van Buren	125.97	34	*e*PKPdf		PKPdf	20 46 44.1	-0.2	
MIAR	Mount Ida	126.24	38	*e*PKPdf		PKPdf	20 46 45.4	+0.5	
MIAR	Mount Ida	126.24	38	*e*PKIKP		PKPdf	20 46 45.4	+0.5	
PBMO	Poplar Bluff	126.52	34	*e*PKPdf		PKPdf	20 46 45.0	-0.3	
KIC	Kosan Boka	126.82	283	*e*PKIKP		PKPdf	20 46 46.7	+0.2	
	comp=Z,23nm,1.0s								
DBIC	Dimbokro	126.86	283	PKP		PKPdf	20 46 46.5	-0.1	
	comp=Z,9.4nm,1.0s,baz=35,slow=2.2,SNR=8.2								
DBIC				SKPbc		SKPbc	20 49 06.4		
	comp=Z,3.4nm,0.8s,baz=13,slow=4.5,SNR=3.9								
TIC	Toumodi	127.03	283	*e*PKIKP		PKPdf	20 46 47.1	+0.2	
LIC	Lamto	127.13	283	*e*PKIKP		PKPdf	20 46 47.2	+0.1	
	comp=Z,12nm,0.4s								
WVT	Waverly	128.42	33	*e*PKPdf		PKPdf	20 46 48.8	-0.2	
WVT	Waverly	128.42	33	*e*PKIKP		PKPdf	20 46 48.8	-0.2	
PLAL	Pickwick Lake	129.14	34	*e*PKPdf		PKPdf	20 46 49.7	-0.7	
TKL	Tuckaleechee C	130.86	30	PKP		PKPdf	20 46 53.7	0.0	
	comp=Z,5.1nm,0.5s,baz=144,slow=3.8,SNR=14								
TKL				SKPbc		SKPbc	20 49 20.4	-1.1	
	comp=Z,9.2nm,0.9s,baz=171,slow=6.0,SNR=7.3								
TGUH	Tegucigalpa,Un	143.26	56	*e*PKPbc		PKPab	20 47 15.2	0.0	
PLCA	Paso Flores	143.63	162	PKP		PKPdf	20 47 16.9	-0.1	
	comp=Z,6.3nm,0.7s,baz=240,slow=3.9,SNR=25								
PLCA				SKPbc		SKPbc	20 49 58.7	+0.3	
	comp=Z,8.1nm,0.8s,baz=238,slow=2.6,SNR=15								
PLCA	Paso Flores	143.63	162	*e*PKPbc		PKPdf	20 47 16.5	-0.4	
PLCA				*e*SKPbc		SKPbc	20 49 58.7	+0.3	
PLCA	Paso Flores	143.63	162	*e*PKIKP		PKPdf	20 47 16.5	-0.4	
SDV	Santo Domingo	159.22	43	*e*PKPdf		PKPdf	20 47 40.3	-0.5	
SDV				*e*PKPab		PKPab	20 48 21.8	-0.3	
CPUP	Villa Florida	160.23	178	PKP		PKPdf	20 47 42.2	+0.9	
	comp=Z,1.3nm,0.7s,baz=131,slow=3.3,SNR=3.3								
CPUP	Villa Florida	160.23	178	*e*PKPdf		PKPdf	20 47 41.8	+0.5	
CPUP	Villa Florida	160.23	178	*e*PKIKP		PKPdf	20 47 41.8	+0.5	
GO01	Chusmiza	161.97	138	*e*PKPdf		PKPdf	20 47 43.2	-0.7	
LPAZ	La Paz	164.98	132	PKP		PKPdf	20 47 48.0	+1.0	
	comp=Z,3.7nm,0.9s,baz=321,slow=1.4,SNR=12								
LPAZ	La Paz	164.98	132	*e*PKPdf		PKPdf	20 47 47.8	+0.8	
LPAZ				*e*PKPab		PKPab	20 48 49.2	+1.2	
LPAZ	La Paz	164.98	132	*e*PKIKP		PKPdf	20 47 47.8	+0.8	
PTGA	Pitinga	173.33	32	*e*PKPdf		PKPdf	20 47 50.5	-0.9	
PTGA				*e*PKPab		PKPab	20 49 23.4	-0.7	

*ISCJB **24** 20:31:43.7±1.0,33°.36S±0°.10×178°.6W±0°.3,h48km, mb4.5/8,MS3.1/2,Error ellipse: s-maj=36.4km s-min=4.1km az=21.1*
*IDC **24** 20:31:44.7±0.9,33°.43S×178°.49W,h0km,mb4.4/4, mb1 4.5/5,mb1mx4.0/30,mbtmp4.4/5,ML4.5/1,MS3.4/3, Ms1 3.4/3,ms1mx2.9/31,Error ellipse: s-maj=34.8km s-min=27.9km az=77.0*
*WEL **24** 20:31:46.5±1.0,33°.5±14°×17°.9W±3°.5,h33km,ML4.9/9*
*NEIC **24** 20:31:52.5±0.7,34°.01S×178°.82W,h55km,mb4.5/8,Error ellipse: s-maj=18.1km s-min=9.0km az=111.0*

ISC 24 20:31:49.0±0.6,33°.47S±0°.05×178°.7W±0°.1,h48km,n67, σ2s87/64,mb4.4/8,1C-1D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	4.24	9	P		Pn		20 32 46.8	-4.2
GLKZ				S		Sn		20 33 33.8	-5.4
RAO	Raoul Island	4.25	9	Sn		Sn		20 33 31.0	-8.5
	4.0nm,0.3s,baz=265,slow=23,SNR=1.2								
RAO	Raoul Island	4.25	9	*e*Pn		Pn		20 32 46.5	-4.7
RAO				Sn		Sn		20 33 31.0	-8.5
MXZ	Matakaoa Point	4.78	210	*e*Pn		Pn		20 32 55.1	-3.2
MXZ	Matakaoa Point	4.78	210	P		Pn		20 32 57.0	-1.4
MXZ				S		Sn		20 33 52.5	+0.1
WMGZ	Waiomatatini S	4.95	208	P		Pn		20 32 60.0	-0.8
WMGZ				S		Sn		20 33 58.6	+1.9
PKGZ	Pakihiroa	5.15	210	P		Pn		20 33 01.7	-1.8
PKGZ				S		Sn		20 34 02.2	+0.5
HAZ	Te Kaha	5.17	213	P		Pn		20 33 03.8	+0.1
HAZ				S		Sn		20 34 03.9	+1.9
PUZ	Puketiti	5.23	208	P		Pn		20 33 02.6	-2.1
PUZ				S		Sn		20 34 03.8	+0.1
RUGZ	Raukumara Rang	5.39	212	P		Pn		20 33 06.1	-0.8
RUGZ				S		Sn		20 34 08.5	+0.9
TWGZ	Tauwhareparae	5.43	209	P		Pn		20 33 06.4	-1.1
TWGZ				S		Sn		20 34 10.3	+1.6
TKGZ	Te Karaka	5.71	209	P		Pn		20 33 12.0	+0.8
TKGZ				S		Sn		20 34 14.1	-1.3
MWZ	Matawai	5.76	211	P		Pn		20 33 10.2	-1.7
MWZ				S		Sn		20 34 15.7	-1.0
URZ	Urewera	5.88	214	Pn		Pn		20 33 13.7	+0.2
	12nm,0.3s,baz=43,slow=5.5,SNR=40								
URZ				Sn		Sn		20 34 20.0	+0.3
	11nm,0.3s,baz=156,slow=16,SNR=13								
URZ	Urewera	5.88	214	*e*Pn		Pn		20 33 12.3	-1.2
URZ				*e*Sn		Sn		20 34 18.6	-1.1
URZ	Urewera	5.88	214	P		Pn		20 33 12.4	-1.2
URZ				S		Sn		20 34 19.7	0.0
OUZ	Omahuta	6.64	253	*e*Pn		Pn		20 33 25.3	+1.4
BKZ	Black Stump Fm	6.90	213	*e*Pn		Pn		20 33 24.9	-2.7
BKZ				*e*Sn		Sn		20 34 36.4	-8.4
HIZ	Hauiti	7.28	224	*e*Pn		Pn		20 33 31.2	-1.4
BFZ	Birch Farm	8.27	208	*e*Pn		Pn		20 33 42.6	-3.7
BFZ				*e*Sn		Sn		20 35 12.8	-5.4
SNZO	South Karori	9.44	212	*e*Pn		Pn		20 33 56.5	-5.7
THZ	Tophouse	10.64	216	*e*Pn		Pn		20 34 16.6	-2.1
THZ				*e*Sn		Sn		20 36 08.2	-8.2
KHZ	Kahutara	10.84	212	*e*Pn		Pn		20 34 16.5	-5.0
KHZ				*e*Sn		Sn		20 36 12.4	-9.0
OXZ	Oxford	12.24	214	*e*Pn		Pn		20 34 35.6	-4.9
OXZ				*e*Sn		Sn		20 36 42.4	-13
MQZ	McQueen's Vall	12.27	211	*e*Pn		Pn		20 34 34.6	-6.3
RPZ	Rata Peaks	13.00	215	Pn		Pn		20 34 45.9	-5.1
	1.3nm,0.3s,baz=41,slow=17,SNR=4.5								
RPZ				Sn		Sn		20 37 02.5	-12
	1.3nm,0.3s,baz=274,slow=3.7,SNR=7.9								
RPZ	Rata Peaks	13.00	215	*e*Pn		Pn		20 34 45.3	-5.7
RPZ				Sn		Sn		20 37 02.5	-12
LBZ	Lake Benmore	13.92	215	*e*Pn		Pn		20 34 58.2	-5.3
ODZ	Otahua Downs	14.21	212	*e*Pn		Pn		20 35 02.2	-5.1
WKZ	Wanaka	14.81	216	*e*Pn		Pn		20 35 11.4	-4.0
MLZ	Mavora Lakes	15.64	217	*e*Pn		Pn		20 35 21.7	-4.5
	56nm,1.6s								
WHZ	Wether Hill Ro	16.10	216	*e*Pn		Pn		20 35 28.7	-3.3
	96nm,2.0s								
DCZ	Deep Cove	16.20	218	*e*Pn		Pn		20 35 29.5	-3.7
	79nm,1.5s								
DZM	Mont Dzumac	17.37	307	LR		LR		20 41 20.1	
	comp=Z,184nm,18.2s,baz=214,slow=33								
DZM	Mont Dzumac	17.37	307	*e*LR		LR		20 39 32.7	
	181nm,25.2s								
RAR	Rarotonga	20.71	59	LR		LR		20 42 37.1	
	comp=Z,80nm,21.6s,baz=146,slow=32								
EIDS	Eidsvold	27.49	279	*e*P		P		20 37 34.3	+3.5
	8.1nm,0.9s								
PPT2	Papeete2	30.50	66	*e*LR		LR		20 45 50.5	
	57nm,21.5s								
PPT	Papeete	30.52	66	LR		LR		20 48 40.0	
	comp=Z,50nm,18.5s,baz=178,slow=33								
CTA	Charters Tower	33.87	284	P		P		20 38 31.3	+4.2
	3.6nm,0.7s,baz=100,slow=8.4,SNR=3.3								
AS01	Alice Springs	42.44	271	*e*P		P		20 39 43.1	+3.8
WB2	Warramunga Arr	43.73	276	*e*P		P		20 39 51.9	+2.2
WRAB	Tennant Creek	43.74	276	*e*P		P		20 39 52.0	+2.2
	11nm,1.3s								
WR1	Warramunga Arr	43.74	276	*e*P		P		20 39 52.0	+2.2
	7.6nm,0.9s								
WRA	Warramunga Arr	43.74	276	P		P		20 39 52.0	+2.2
	5.0nm,0.8s,baz=118,slow=7.7,SNR=5.8								
QSPA	South Pole Qui	56.65	180	P		P		20 41 30.4	+3.3
	2.3nm,0.8s,baz=52,slow=6.5,SNR=4.3								
QSPA	South Pole Qui	56.65	180	*e*P		P		20 41 29.1	+2.1
	22nm,1.9s								
SYO	Syowa Base	74.01	193	⇑*e*P		P		20 43 19.0	0.0
SYO	Syowa Base	74.01	193	⇓*e*P		P		20 43 25.0	+6.0
SNAA	Sanae	75.11	179	P		P		20 43 27.6	+2.1
SNAA	Sanae	75.11	179	*e*P		P		20 43 27.0	+1.4
	9.9nm,1.5s								
VNA3	Neumayer Olymp	75.29	176	P		P		20 43 28.4	+1.9
VNA2	Neumayer--Watz	75.72	177	P		P		20 43 30.7	+1.8
	baz=182,slow=4.5								
VNA1	Neumayer--Stat	75.95	177	P		P		20 43 32.5	+2.3
PETK	Petropavlovsk-	88.64	346	P		P		20 44 39.1	+2.7
	3.3nm,0.9s,baz=140,slow=7.0,SNR=2.9								
PEA1	Petropavlovsk-	88.64	346	*e*P		P		20 44 39.1	+2.6
BVAR	Borovoye Array	128.16	314	PKP		PKPdf		20 50 51.9	+2.6
	0.5nm,0.5s,baz=161,slow=3.4,SNR=5.9								
FIA0	FINESS Array S	147.79	338	*e*PKPbc		PKPab		20 51 29.8	-0.5
FINES	FINESS Array B	147.79	338	PKPbc		PKPab		20 51 29.8	-0.5
	1.9nm,0.5s,baz=44,slow=4.3,SNR=20								
ASF	Jabal al Asfar	150.17	277	PKPbc		PKPab		20 51 38.4	-2.6
	1.9nm,0.8s,baz=96,slow=10,SNR=3.5								
MMAI	Mount Meron Ar	151.57	279	PKPbc		PKPab		20 51 42.0	-4.9
	2.7nm,0.6s,baz=81,slow=6.8,SNR=10								
HFS	Hagfors	152.11	347	PKPbc		PKPbc		20 51 40.8	+2.6
	2.1nm,0.8s,baz=98,slow=2.9,SNR=3.3								
DBIC	Dimbokro	152.72	166

HLW **24** *21:03:45.4, 38˚.96N×27˚.69E, h10km±22km, Md4.4, Ml4.7*
BJI **24** *21:04:14.0, 36˚.50N×27˚.90E, h5km, mb4.4/14, mB4.8/11, Ms4.6/4, Ms7 4.4/4*
ISCJB **24** *21:04:16.5±0.3, 36˚.51N±0˚.01×27˚.98E±0˚.01, h12km±2km, mb4.5/49, MS3.5/1, Error ellipse: s-maj=2.4km s-min=1.6km az=15.6*
NEIC **24** *21:04:16.9±0.0, 36˚.60N×27˚.92E, h11km, mb4.5/32, ML4.1(THE), ML4.4(ISK), After ISK.*
NEIC Felt at Symi.
DDA **24** *21:04:17.1, 36˚.60N×27˚.94E, h12km, Ml4.3*
ISK **24** *21:04:17.0, 36˚.63N×27˚.93E, h8km, ML4.4/21*
ATH **24** *21:04:17.1, 36˚.65N×27˚.98E, h28km, ML4.2/12, Error ellipse: s-maj=1.1km s-min=0.6km az=207.0*
MOS **24** *21:04:18.4±1.0, 36˚.59N×27˚.96E, h23km, mb4.6/31, Error ellipse: s-maj=5.1km s-min=3.3km az=112.6*
THE **24** *21:04:18.3, 36˚.63N×27˚.96E, h0km±1km, ML4.1/3, Error ellipse: s-maj=1.6km s-min=0.9km az=201.0*
IDC **24** *21:04:20.5±2.1, 36˚.48N×27˚.90E, h35km±18km, mb4.0/17, mb1 4.1/27, mb1mx4.0/47, mbtmp4.2/27, ML3.7/8, MS3.1/6, Ms1 3.1/6, ms1mx2.8/32, Error ellipse: s-maj=14.7km s-min=11.2km az=177.0*
NIC **24** *21:04:21.8±0.2, 36˚.60N×28˚.26E, h12km, mb4.6, ML4.2*
GII **24** *21:04:22.1±0.4, 36˚.39N×28˚.06E, h60km, mb4.3/1, MD4.2/1*
ISC 24 21:04:18.0±0.8, **36˚.55N**±0˚.02×**27˚.91E**±0˚.01, **h11km**±5km, **n604,** σ1⅋**62**/666, **mb4.5**/49, **32C-21D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MRSB	**Marmaris-Mugla**	**0.28**	**55**	Pg		**Pg**	**21 04 22.0**	**-1.8**
MRSB				Sg		**Sg**	**21 04 25.6**	**-2.1**
DATC	**Datca-Mugla**	**0.29**	**316**	Pg		**Pg**	**21 04 22.4**	**-1.4**
DAT	**Datca**	**0.32**	**304**	Pg		**Pg**	**21 04 24.2**	**-0.3**
DAT	**Datca**	**0.32**	**304**	*i*P		**Pg**	**21 04 24.2**	**-0.3**
DAT				*i* S		**Sb**	**21 04 30.9**	**-0.2**
ARG	**Arkhangelos**	**0.38**	**152**	Pg		**Pb**	**21 04 26.2**	**-0.6**
ARG				Sg		**Sb**	**21 04 32.8**	**+0.2**
ARG	**Arkhangelos**	**0.38**	**152**	*e*Pg		**Pb**	**21 04 26.4**	**-0.4**
ARG				*e*Sg		**Sb**	**21 04 34.0**	**+1.4**
ARG	**Arkhangelos**	**0.38**	**152**	P		**Pb**	**21 04 26.5**	**-0.2**
ARG				S		**Sb**	**21 04 34.0**	**+1.4**
ARG				AML	AML	21 04 35.8		
	comp=N,62793μm,0.3s							
ARG				AML	AML	21 04 38.1		
	comp=E,83440μm,0.4s							
ARG	**Arkhangelos**	**0.38**	**152**	P		**Pb**	**21 04 26.4**	**-0.4**
ARG				S		**Sb**	**21 04 34.0**	**+1.4**
ARG	**Arkhangelos**	**0.38**	**152**	*e*P		**Pb**	**21 04 26.4**	**-0.4**
ARG				*e*			21 04 34.0	
NIS1	**Nisyros Isl.**	**0.59**	**275**	Pg		**Pg**	**21 04 28.8**	**-0.7**
NIS1	**Nisyros Isl.**	**0.59**	**275**	*e*Pg		**Pg**	**21 04 29.5**	**0.0**
NIS1				*e*Sg		**Sn**	**21 04 41.3**	**-0.8**
NIS1	**Nisyros Isl.**	**0.59**	**275**	P		**Pb**	**21 04 30.2**	**-0.2**
NIS1				S		**Sb**	**21 04 40.0**	**+1.2**
NIS1				AML	AML	21 04 44.1		
NIS1				AML	AML	21 04 47.0		
NIS1	**Nisyros Isl.**	**0.59**	**275**	P		**Pg**	**21 04 29.5**	**0.0**
NIS1				S		**Sn**	**21 04 41.3**	**-0.8**
NISR	**Nisiros**	**0.63**	**276**	*e*Pg		**Pb**	**21 04 30.9**	**-0.2**
NISR				*e*Sg		**Sn**	**21 04 41.8**	**-1.2**
NISR	**Nisiros**	**0.63**	**276**	P		**Pb**	**21 04 30.9**	**-0.2**
NISR				S		**Sb**	**21 04 40.9**	**+0.9**
NISR				AML	AML	21 04 43.0		
	comp=N,58146μm,0.6s							
NISR				AML	AML	21 04 44.9		
NISR	**Nisiros**	**0.63**	**276**	P		**Pb**	**21 04 30.9**	**-0.2**
NISR				S		**Sn**	**21 04 41.8**	**-1.2**
TURN	**Turunc**	**0.64**	**60**	Pg		Pg	21 04 23.2	-7.3
TURN	**Turunc**	**0.64**	**60**	⇑*i*P		Pg	21 04 23.2	-7.3
TURN				*i* S		Sg	21 04 28.1	-11
DALY	**Dalyan (Mu¨la**	**0.66**	**66**	Pg		**Pg**	**21 04 29.6**	**-1.1**
DALY	**Dalyan (Mu¨la**	**0.66**	**66**	⇑*i*P		**Pg**	**21 04 28.7**	**-2.0**
DALY				*i* S		**Sb**	**21 04 39.6**	**-1.0**
BODT	**Bodrum**	**0.70**	**317**	Pg		**Pg**	**21 04 30.6**	**-1.0**
BODT	**Bodrum**	**0.70**	**317**	*e*Pg		**Pg**	**21 04 30.4**	**-1.2**
BODT				*e*Sg		**Sb**	**21 04 42.1**	**+0.1**
BODT	**Bodrum**	**0.70**	**317**	P		**Pg**	**21 04 30.4**	**-1.2**
BODT				S		**Sb**	**21 04 42.1**	**+0.1**
MLSB	**Milas**	**0.75**	**352**	Pg		**Pg**	**21 04 30.7**	**-1.8**
FETY	**Fethiye**	**0.95**	**85**	Pg		**Pg**	**21 04 35.4**	**-0.9**
FETY	**Fethiye**	**0.95**	**85**	*e*Pg		**Pg**	**21 04 34.7**	**-1.6**
FETY				*e*Sn		**Sb**	**21 04 49.7**	**+0.6**
FETY	**Fethiye**	**0.95**	**85**	P		**Pg**	**21 04 34.7**	**-1.6**
FETY				S		**Sb**	**21 04 49.7**	**+0.6**
DIDI	**Didim-Aydin**	**0.98**	**327**	Pg		**Pg**	**21 04 35.3**	**-1.6**
AYDN	**Tasoluk**	**1.11**	**359**	⇑*i*P		**Pg**	**21 04 37.1**	**-2.2**
AYDN				*i* S		**Sg**	**21 04 52.3**	**-1.4**
TAVA	**DENIZLI_Tavas**	**1.22**	**41**	⇓*i*P		**Pb**	**21 04 39.1**	**-2.0**
TAVA				*i* S		**Sn**	**21 04 59.0**	**+1.4**
AYDB	**Zeytinkoy-Aydi**	**1.39**	**359**	PN		**Pn**	**21 04 42.1**	**-1.5**
AKAS	**Kas**	**1.41**	**103**	PN		**Pb**	**21 04 43.9**	**-0.5**
AKAS	**Kas**	**1.41**	**103**	⇑*i*P		**Pb**	**21 04 43.9**	**-0.5**
AKAS				*i* S		**Sg**	**21 05 09.9**	**+6.6**
KSL	**Kastellorizon**	**1.41**	**106**	*e*Pn		**Pg**	**21 04 44.8**	**-0.3**
KSL	**Kastellorizon**	**1.41**	**106**	P		**Pn**	**21 04 42.7**	**-1.0**
KSL				S		**Sn**	**21 05 01.2**	**-1.1**
KSL				AML	AML	21 05 12.2		
	comp=N,4679μm,1.1s							
KSL				AML	AML	21 05 14.4		
	comp=E,6706μm,1.1s							
KSL	**Kastellorizon**	**1.41**	**106**	P		**Pg**	**21 04 44.8**	**-0.3**
KSL				S		**Sg**	**21 05 04.2**	**+0.8**
SMG	**Samos**	**1.44**	**324**	P		**Pn**	**21 04 42.4**	**-1.6**
SMG	**Samos**	**1.44**	**324**	P		**Pn**	**21 04 42.5**	**-1.6**
SMG				S		**Sn**	**21 05 01.2**	**-1.8**
SMG				AML	AML	21 05 06.7		
	comp=N,13727μm,0.4s							
SMG				AML	AML	21 05 10.0		
	comp=E,24104μm,0.4s							
SMG	**Samos**	**1.44**	**324**	P		**Pn**	**21 04 42.4**	**-1.6**
SMG				S		**Sg**	**21 05 05.4**	**+1.1**
DNZL	**Cakiroluk**	**1.46**	**38**	⇓*i*P		**Pn**	**21 04 44.4**	**-0.1**
DNZL				*i* S		**Sg**	**21 05 07.9**	**+3.0**
GOLH	**Golhisar**	**1.49**	**62**	*i* P		**Pn**	**21 04 44.8**	**-0.1**
GOLH				*i* S		**Sg**	**21 05 08.9**	**+2.9**
DENT	**Denizli**	**1.50**	**36**	PN		**Pn**	**21 04 44.1**	**-0.8**
ELL	**Elmali**	**1.62**	**82**	PN		**Pn**	**21 04 46.2**	**-0.5**
ELL	**Elmali**	**1.62**	**82**	P		**Pn**	**21 04 46.2**	**-0.5**
AMGA	**Amorgos Island**	**1.64**	**280**	P		**Pn**	**21 04 46.2**	**-0.7**
AMGA				S		**Sn**	**21 05 07.7**	**-0.4**
AMGA				AML	AML	21 05 19.1		
	comp=N,5951μm,0.7s							
AMGA				AML	AML	21 05 23.0		
	comp=E,6980μm,0.6s							
AMGA	**Amorgos Island**	**1.64**	**280**	P		**Pn**	**21 04 46.8**	**-0.1**
AMGA				S		**Sg**	**21 05 10.9**	**0.0**
DGB	**¯zmir**	**1.71**	**332**	⇑*i*P		**Pn**	**21 04 45.9**	**-1.8**
DGB				*i* S		**Sg**	**21 05 14.4**	**+1.5**
GMLD	**Gumuldur**	**1.71**	**333**	PN		**Pn**	**21 04 46.7**	**-1.2**
ANAF	**Anafi Island**	**1.73**	**264**	P		**Pn**	**21 04 48.1**	**0.0**
ANAF				AML	AML	21 05 22.9		
	comp=N,33546μm,0.4s							
ANAF				AML	AML	21 05 24.7		
	comp=E,21612μm,0.4s							
ANAF	**Anafi Island**	**1.73**	**264**			**Pn**	**21 04 48.1**	**0.0**
APE	**Apeiranthos**	**1.98**	**286**	PN		**Pn**	**21 04 51.5**	**0.0**
APE	**Apeiranthos**	**1.98**	**286**	*e*Pn		**Pn**	**21 04 51.2**	**-0.3**
APE	**Apeiranthos**	**1.98**	**286**	P		**Pn**	**21 04 51.0**	**-0.5**
APE	**Apeiranthos**	**1.98**	**286**	P		**Pn**	**21 04 51.2**	**-0.3**
APE	**Apeiranthos**	**1.98**	**286**	*c i*P		**Pn**	**21 04 50.8**	**-0.7**
SANT	**Santorini**	**1.98**	**266**	PN		**Pn**	**21 04 51.6**	**0.0**
SANT	**Santorini**	**1.98**	**266**	*e*Pn		**Pn**	**21 04 51.3**	**-0.2**
SANT	**Santorini**	**1.98**	**266**	P		**Pn**	**21 04 51.6**	**0.0**
SANT				AML	AML	21 05 29.6		
	comp=E,6329μm,0.8s							
SANT				AML	AML	21 05 29.8		
	comp=N,5389μm,0.7s							
ZKR	**Zakros**	**1.99**	**224**	*e*Pn		**Pn**	**21 04 52.8**	**+1.2**
ZKR	**Zakros**	**1.99**	**224**	P		**Pn**	**21 04 52.8**	**+1.2**
ZKR				S		**Sb**	**21 05 18.8**	**-0.1**
ZKR				AML	AML	21 05 30.3		
	comp=N,2329μm,0.6s							
ZKR				AML	AML	21 05 31.6		
	comp=E,5574μm,0.5s							
ZKR	**Zakros**	**1.99**	**224**	P		**Pn**	**21 04 52.8**	**+1.2**
THR2	**Thira island,**	**2.00**	**268**	*e*Pn		**Pn**	**21 04 51.9**	**+0.2**
THR2	**Thira island,**	**2.00**	**268**	P		**Pn**	**21 04 51.9**	**+0.2**
STIA	**Sitia Lasithi**	**2.00**	**228**	P		**Pb**	**21 04 54.3**	**-0.1**
MANT	**Manisa**	**2.00**	**15**	*i* P		**Pn**	**21 04 53.0**	**+1.0**
MANT				*i* S		**Sb**	**21 05 18.6**	**-1.1**
MANT	**Manisa**	**2.00**	**15**	*e*Pn		**Pn**	**21 04 51.3**	**-0.7**
THR7	**Fira-Santorini**	**2.00**	**267**	P		**Pn**	**21 04 51.8**	**0.0**
THR7	**Fira-Santorini**	**2.00**	**267**	P		**Pn**	**21 04 52.0**	**+0.2**
THT2	**Imerovigli**	**2.01**	**267**	P		**Pn**	**21 04 52.8**	**+0.8**
THT2				AML	AML	21 05 32.7		
	comp=E,18626μm,0.6s							
THT2				AML	AML	21 05 35.0		
	comp=N,13424μm,1.1s							
THT2	**Imerovigli**	**2.01**	**267**	P		**Pn**	**21 04 52.7**	**+0.8**
KORT	**Korkueli**	**2.01**	**76**	PN		**Pn**	**21 04 51.9**	**-0.2**
KORT	**Korkueli**	**2.01**	**76**	⇓*i*P		**Pb**	**21 04 54.3**	**-0.4**
KORT				*i* S		**Sg**	**21 05 24.4**	**+1.8**
CMBO	**Columbo, Santo**	**2.02**	**268**	P		**Pn**	**21 04 52.2**	**+0.1**
CMBO	**Columbo, Santo**	**2.02**	**268**	P		**Pn**	**21 04 51.9**	**-0.1**
THR3	**Thira Island,**	**2.03**	**267**	*e*Pn		**Pn**	**21 04 52.4**	**+0.3**
THR3	**Thira Island,**	**2.03**	**267**	P		**Pn**	**21 04 51.9**	**-0.2**
THR3	**Thira Island,**	**2.03**	**267**	P		**Pn**	**21 04 52.4**	**+0.3**
THR6	**Thira Island,**	**2.03**	**265**	*e*Pn		**Pn**	**21 04 52.7**	**+0.5**
THR6	**Thira Island,**	**2.03**	**265**	P		**Pn**	**21 04 52.7**	**+0.5**
THR6	**Thira Island,**	**2.03**	**265**	P		**Pn**	**21 04 52.7**	**+0.5**
SAP1	**Santorini-Akro**	**2.04**	**265**	P		**Pn**	**21 04 52.5**	**+0.2**
KULA	**Kula-Manisa**	**2.05**	**17**	PN		**Pn**	**21 04 51.9**	**-0.6**
BRDR	**BURDUR-Merkez**	**2.06**	**56**	⇓*i*P		**Pn**	**21 04 53.9**	**+1.1**
BRDR				*i* S		**Sb**	**21 05 21.7**	**+0.4**
BRDR				*i* S		**Sg**	**21 05 24.9**	**+0.5**
THR5	**Thira Island,**	**2.07**	**267**	P		**Pn**	**21 04 54.0**	**+1.3**
THR5	**Thira Island,**	**2.07**	**267**	P		**Pn**	**21 04 54.0**	**+1.3**
SAP3	**Santorini-Thir**	**2.07**	**268**	P		**Pn**	**21 04 53.7**	**+1.0**
URLA	**Izmir**	**2.09**	**330**	PN		**Pn**	**21 04 52.3**	**-0.7**
URLA	**Izmir**	**2.09**	**330**	*i* P		**Pn**	**21 04 50.4**	**-2.6**
URLA				*i* S		**Sg**	**21 05 26.0**	**+0.9**
IOSP	**Ios island**	**2.11**	**275**	P		**Pn**	**21 04 53.1**	**-0.2**
IOSP	**Ios island**	**2.11**	**275**	P		**Pn**	**21 04 53.4**	**+0.1**
KEMT	**Kemer-ANTALYA**	**2.13**	**88**	PN		**Pn**	**21 04 53.6**	**0.0**
GOMA	**Golmarmara-Man**	**2.15**	**0**	PN		**Pn**	**21 04 52.7**	**-1.2**
KHL	**Karahalli**	**2.19**	**36**	PN		**Pn**	**21 04 53.6**	**-0.8**
CESE	**¯e¨me**	**2.19**	**325**	PN		**Pn**	**21 04 53.6**	**-0.8**
KHAL	**Karahalli**	**2.21**	**34**	*i* P		**Pn**	**21 04 55.2**	**+0.4**
KHAL				*i* S		**Sb**	**21 05 23.6**	**-1.9**
ANTB	**Antalya**	**2.23**	**80**	PN		**Pn**	**21 04 55.2**	**+0.2**
NPS	**Neapolis**	**2.27**	**236**	P		**Pn**	**21 04 56.7**	**+1.3**
NPS				S		**Sb**	**21 05 27.1**	**+0.1**
NPS	**Neapolis**	**2.27**	**236**	P		**Pn**	**21 04 56.4**	**+0.9**
NPS				S		**Sn**	**21 05 25.2**	**+1.8**
NPS				AML	AML	21 05 28.9		
	comp=E,4478μm,0.4s							
NPS				AML	AML	21 05 30.9		
	comp=N,3049μm,0.8s							
NPS	**Neapolis**	**2.27**	**236**	P		**Pn**	**21 04 56.7**	**+1.3**
NPS				S		**Sb**	**21 05 27.1**	**+0.1**
NPS	**Neapolis**	**2.27**	**236**	P		**Pn**	**21 04 56.7**	**+1.3**
NPS				S		**Sb**	**21 05 27.1**	**+0.1**
KRBN	**Karaburun**	**2.31**	**333**	PN		**Pn**	**21 04 55.7**	**-0.3**
AKHS	**Akhisar**	**2.32**	**358**	*i* P		**Pn**	**21 04 54.3**	**-1.9**
AKHS				*i* S		**Sb**	**21 05 29.9**	**+1.2**
CHOS	**Chios island**	**2.35**	**322**	PN		**Pn**	**21 04 55.8**	**-0.9**
CHOS	**Chios island**	**2.35**	**322**	P		**Pn**	**21 04 56.8**	**+0.1**
CHOS	**Chios island**	**2.35**	**322**	P		**Pn**	**21 04 55.4**	**-1.3**
CHOS	**Chios island**	**2.35**	**322**	P		**Pn**	**21 04 56.8**	**+0.1**
TNSA	**Tinos**	**2.41**	**295**	P		**Pn**	**21 04 57.9**	**+0.6**
LAST	**Lasithi**	**2.41**	**236**	*e*Pn		**Pn**	**21 04 59.0**	**+1.5**
LAST	**Lasithi**	**2.41**	**236**	P		**Pn**	**21 04 58.8**	**+1.2**
LAST				AML	AML	21 05 31.5		
	comp=E,1521μm,0.7s							
LAST				AML	AML	21 05 33.0		
	comp=N,2049μm,0.6s							
LAST	**Lasithi**	**2.41**	**236**	P		**Pn**	**21 04 59.0**	**+1.5**
ISP	**Isparta**	**2.44**	**58**	PN		**Pn**	**21 04 57.9**	**-0.1**
ISP	**Isparta**	**2.44**	**58**	*e*Pn		**Pn**	**21 04 59.0**	**+1.1**
ISP	**Isparta**	**2.44**	**58**	P		**Pn**	**21 04 55.8**	**-2.1**
ISP	**Isparta**	**2.44**	**58**	P		**Pn**	**21 04 59.0**	**+1.1**
ISP	**Isparta**	**2.44**	**58**	Pn		**Pn**	**21 04 59.1**	**+1.1**
ISP	**Isparta**	**2.44**	**58**	*e*P		**Pn**	**21 04 59.0**	**+1.1**
KZIL	**AFYON_Kizioren**	**2.46**	**46**	*i* P		**Pn**	**21 04 58.8**	**+0.6**
KZIL				*i* S		**Sb**	**21 05 32.5**	**-0.3**
DEMI	**Demirci**	**2.57**	**14**	⇓*i*P		**Pn**	**21 04 58.4**	**-1.3**
DEMI				*i* S		**Sg**	**21 05 42.5**	**+2.0**
KSTL	**Kastelli Herak**	**2.62**	**242**	P		**Pn**	**21 05 00.9**	**+0.6**
DKL	**Dikili**	**2.64**	**343**	PN		**Pn**	**21 05 00.1**	**-0.4**
SIMA	**Simav-Kutahya**	**2.67**	**18**	PN		**Pn**	**21 05 00.4**	**-0.6**
SMAA	**Simav-Kutahya**	**2.68**	**18**	PN		**Pn**	**21 05 00.7**	**-0.5**
PSRA	**Psara**	**2.72**	**318**	P		**Pn**	**21 05 01.7**	**0.0**
IDI	**Anoyia**	**2.76**	**244**	PN		**Pn**	**21 05 03.1**	**+0.9**
IDI	**Anoyia**	**2.76**	**244**	Pn		**Pn**	**21 05 03.1**	**+0.9**
	comp=N,16nm,0.3s,baz=31,slow=3.7,SNR=90							
IDI				Sn		**Sn**	**21 05 35.6**	**+0.1**
	comp=N,53nm,0.3s,baz=164,slow=15,SNR=7.7							
IDI	**Anoyia**	**2.76**	**244**	P		**Pn**	**21 05 02.4**	**+0.2**
GEDZ	**Gediz**	**2.76**	**25**	PN		**Pn**	**21 05 02.2**	**-0.1**
MHLA	**Plaka, Milos I**	**2.81**	**275**	P		**Pn**	**21 05 03.4**	**+0.5**
SERI	**Serifos**	**2.81**	**283**	P		**Pn**	**21 05 02.7**	**-0.2**
SERI	**Serifos**	**2.81**	**283**	P		**Pn**	**21 05 02.8**	**-0.2**
STEP	**BALIKESIR_Sava**	**2.82**	**357**	*i* P		**Pn**	**21 05 01.0**	**-2.2**
STEP				*i* S		**Sg**	**21 05 46.8**	**-1.9**
MHLO	**Agia Marina, M**	**2.83**	**274**	P		**Pn**	**21 05 04.0**	**+0.9**
SIVA	**Sivas**	**2.95**	**240**	P		**Pn**	**21 05 07.5**	**+2.7**
SIVA	**Sivas**	**2.95**	**240**	P		**Pn**	**21 05 06.9**	**+2.1**
SIVA	**Sivas**	**2.95**	**240**	P		**Pn**	**21 05 07.5**	**+2.7**
PRK	**Paraskevi**	**2.98**	**335**	P		**Pn**	**21 05 04.9**	**-0.4**
PRK	**Paraskevi**	**2.98**	**335**	P		**Pn**	**21 05 04.3**	**-1.1**
PRK	**Paraskevi**	**2.98**	**335**	P		**Pn**	**21 05 04.9**	**-0.4**
PRK	**Paraskevi**	**2.98**	**335**	P		**Pn**	**21 05 04.9**	**-0.4**
KEPZ	**Antalya-Kepez**	**2.99**	**82**	*i* P		**Pn**	**21 05 04.5**	**-0.9**
KEPZ				*i* S		**Sn**	**21 05 44.1**	**+2.8**
BALB	**Balikesir**	**3.08**	**360**	PN		**Pn**	**21 05 06.6**	**-0.1**
SIGR	**SIGRI**	**3.11**	**329**	PN		**Pn**	**21 05 05.6**	**-1.5**
SIGR	**SIGRI**	**3.11**	**329**	*e*Pn		**Pn**	**21 05 06.2**	**-0.9**
SIGR	**SIGRI**	**3.11**	**329**	P		**Pn**	**21 05 05.9**	**-1.2**
SIGR	**SIGRI**	**3.11**	**329**	P		**Pn**	**21 05 06.2**	**-0.9**
VAM	**Vamos**	**3.22**	**250**	P		**Pn**	**21 05 09.6**	**+1.1**
VAM	**Vamos**	**3.22**	**250**	P		**Pn**	**21 05 10.4**	**+1.9**
IMMV	**Iera Moni Meta**	**3.37**	**252**	P		**Pn**	**21 05 11.7**	**+1.2**
IMMV	**Iera Moni Meta**	**3.37**	**252**	P		**Pn**	**21 05 12.0**	**+1.4**
EZN	**Ezine**	**3.50**	**340**	*e*Pn		**Pn**	**21 05 11.1**	**-1.3**
EZN	**Ezine**	**3.50**	**340**	P		**Pn**	**21 05 11.1**	**-1.3**
EZN	**Ezine**	**3.50**	**340**	*e*P		**Pn**	**21 05 11.1**	**-1.3**
DION	**Dionisos Attik**	**3.52**	**297**	P		**Pn**	**21 05 12.8**	**+0.1**
VLY	**Voula,Athens**	**3.53**	**293**	*e*Pn		**Pn**	**21 05 13.8**	**+0.9**
VLY	**Voula,Athens**	**3.53**	**293**	P		**Pn**	**21 05 13.1**	**+0.2**
VLY	**Voula,Athens**	**3.53**	**293**	P		**Pn**	**21 05 13.8**	**+0.9**
GVD	**Gavdhos**	**3.55**	**242**	*e*Pn		**Pb**	**21 05 17.1**	**-3.7**
GVD	**Gavdhos**	**3.55**	**242**	P		**Pn**	**21 05 15.9**	**+2.8**
GVD	**Gavdhos**	**3.55**	**242**	P		**Pb**	**21 05 17.1**	**-3.7**
PTL	**Penteli**	**3.55**	**296**	*e*Pn		**Pn**	**21 05 13.5**	**+0.3**
PTL	**Penteli**	**3.55**	**296**	P		**Pn**	**21 05 13.4**	**+0.2**
PTL	**Penteli**	**3.55**	**296**	P		**Pn**	**21 05 13.5**	**+0.3**
ATHU	**Athens Univers**	**3.58**	**294**	P		**Pn**	**21 05 13.7**	**+0.2**
ATH	**Athens Observa**	**3.63**	**294**	P		**Pn**	**21 05 14.5**	**+0.3**
ATH	**Athens Observa**	**3.63**	**294**	P		**Pn**	**21 05 16.2**	**+2.0**
EREA	**Eretria**	**3.67**	**302**	P		**Pn**	**21 05 15.1**	**+0.3**
EREA	**Eretria**	**3.67**	**302**	P		**Pn**	**21 05 15.1**	**+0.3**
ANKY	**Antikythira Is**	**3.79**	**261**	P		**Pn**	**21 05 17.7**	**+1.3**
DID	**Didima**	**3.86**	**286**	*e*Pn		**Pn**	**21 05 17.6**	**+0.2**
DID	**Didima**	**3.86**	**286**	P		**Pn**	**21 05 17.8**	**+0.5**
DID	**Didima**	**3.86**	**286**	P		**Pn**	**21 05 17.6**	**+0.2**
KYTH	**Kithira**	**3.93**	**267**	*e*Pn		**Pn**	**21 05 19.8**	**+1.4**
KYTH	**Kithira**	**3.93**	**267**	P		**Pn**	**21 05 19.5**	**+1.2**
KYTH	**Kithira**	**3.93**	**267**	P		**Pn**	**21 05 19.8**	**+1.4**
GADA	**Gvkgeada**	**3.96**	**337**	*e*Pn		**Pn**	**21 05 17.8**	**-0.9**
GADA	**Gvkgeada**	**3.96**	**337**	P		**Pn**	**21 05 17.8**	**-0.9**
KTHR	**Kythira**	**3.97**	**267**	P		**Pn**	**21 05 20.6**	**+1.8**
LIA	**Limnos Island**	**3.97**	**328**	P		**Pn**	**21 05 18.2**	**-0.6**
LIA	**Limnos Island**	**3.97**	**328**	P		**Pn**	**21 05 18.2**	**-0.6**
LIA	**Limnos Island**	**3.97**	**328**	P		**Pn**	**21 05 18.2**	**-0.6**
PPCY	**Paphos** baz=298	**3.97**	**113**	P		**Pn**	**21 05 19.5**	**+0.6**
VILL	**Villia**	**4.00**	**295**	P		**Pn**	**21 05 20.8**	**+1.5**
VLI	**Veliai**	**4.00**	**274**	*e*Pn		**Pn**	**21 05 20.3**	**+1.0**
VLI	**Veliai**	**4.00**	**274**	P		**Pn**	**21 05 20.2**	**+1.0**
VLI	**Veliai**	**4.00**	**274**	P		**Pn**	**21 05 20.3**	**+1.0**
VIL2	**Platees**	**4.05**	**296**	P		**Pn**	**21 05 19.9**	**-0.1**
ALFC	**Alefka** baz=293	**4.06**	**109**	P		**Pn**	**21 05 20.0**	**-0.1**
ALFC				S		**Sn**	**21 06 06.2**	**-1.4**
AOS	**Alonnisos**	**4.12**	**311**	P		**Pn**	**21 05 21.1**	**+0.1**
LOUT	**Loutraki**	**4.19**	**291**	P		**Pn**	**21 05 22.4**	**+0.5**
LOUT	**Loutraki**	**4.19**	**291**	P		**Pn**	**21 05 22.8**	**+0.9**
SMTH	**Samothraki Isl**	**4.33**	**335**	P		**Pn**	**21 05 22.8**	**-1.1**
PROD	**Prodromos**	**4.34**	**295**	P		**Pn**	**21 05 24.2**	**+0.3**
PROD	**Prodromos**	**4.34**	**295**	P		**Pn**	**21 05 24.6**	**+0.7**
SKIA	**Skiathos**	**4.38**	**308**	P		**Pn**	**21 05 24.9**	**+0.3**
SKIA	**Skiathos**	**4.38**	**308**	P		**Pn**	**21 05 24.8**	**+0.3**
SMIA	**Simia**	**4.39**	**303**	P		**Pn**	**21 05 25.4**	**+0.8**
SMIA	**Simia**	**4.39**	**303**	P		**Pn**	**21 05 25.5**	**+0.8**
LKR	**Lokris**	**4.42**	**300**	P		**Pn**	**21 05 25.0**	**-0.1**
LKR	**Lokris**	**4.42**	**300**	P		**Pn**	**21 05 25.0**	**-0.1**
LKR	**Lokris**	**4.42**	**300**	P		**Pn**	**21 05 25.0**	**-0.1**
ATAL	**Atalanti**	**4.43**	**300**	P		**Pn**	**21 05 25.7**	**+0.5**
SZAC	**Souni** baz=297	**4.43**	**112**	P		**Pn**	**21 05 25.5**	**+0.3**
SZAC				S		**Sn**	**21 06 15.4**	**-1.4**
DYR	**Agios Nikonas**	**4.49**	**274**	P		**Pn**	**21 05 27.9**	**+1.9**
DYR	**Agios Nikonas**	**4.49**	**274**	P		**Pn**	**21 05 28.1**	**+2.1**
VLX	**Vlachokerasia**	**4.50**	**282**	*e*Pn		**Pn**	**21 05 27.4**	**+1.1**
VLX	**Vlachokerasia**	**4.50**	**282**	P		**Pn**	**21 05 27.4**	**+1.1**
MAMC	**Mammari** baz=290	**4.53**	**106**	P		**Pn**	**21 05 26.9**	**+0.4**
ALN	**Alexandroupoli**	**4.58**	**342**	*e*Pn		**Pn**	**21 05 26.2**	**-0.9**
ALN	**Alexandroupoli**	**4.58**	**342**	P		**Pn**	**21 05 26.0**	**-1.2**
ALN	**Alexandroupoli**	**4.58**	**342**	P		**Pn**	**21 05 26.4**	**-0.8**
ALN	**Alexandroupoli**	**4.58**	**342**	*e*P		**Pn**	**21 05 26.3**	**-0.9**
NEO	**Neokhori**	**4.61**	**308**	P		**Pn**	**21 05 27.8**	**+0.1**
NEO	**Neokhori**	**4.61**	**308**	P		**Pn**	**21 05 27.8**	**+0.1**
TRIP	**Tripoli**	**4.61**	**284**	P		**Pn**	**21 05 28.5**	**+0.7**
GUR	**Goura**	**4.65**	**289**	*e*Pn		**Pn**	**21 05 29.4**	**+1.1**
GUR	**Goura**	**4.65**	**289**	P		**Pn**	**21 05 28.9**	**+0.6**
GUR	**Goura**

GLL	**Jalalah**	**7.65**	**154**	P		**Pn**	**21 06 09.8**	**+0.4**
	baz=159								
AMAZ	**Amatzia**	**7.67**	**129**	Pn		**Pn**	**21 06 08.3**	**-1.5**
AMAZ				Sn		**Sn**	**21 07 32.7**	**-4.0**
KZIT	**Kziot**	**7.80**	**134**	Pn		**Pn**	**21 06 11.1**	**-0.4**
KZIT				Sn		**Sn**	**21 07 35.4**	**-4.5**
TIR	**Tirane**	**7.88**	**310**	*e*Pn		**Pn**	**21 06 13.0**	**+0.4**
TIR	**Tirane**	**7.88**	**310**⇑	*i*P		**Pn**	**21 06 17.2**	**+4.6**
TIR	**Tirane**	**7.88**	**310**	*e*P		**Pn**	**21 06 13.0**	**+0.4**
TIRR	**Tirgusor**	**7.91**	**3**	*e*Pn		**Pn**	**21 06 12.9**	**0.0**
TIRR	**Tirgusor**	**7.91**	**3**	*e*P		**Pn**	**21 06 12.9**	**0.0**
YTIR	**Yattir**	**7.91**	**129**	Pn		**Pn**	**21 06 13.0**	**-0.1**
DSI	**Dead Sea**	**7.94**	**127**	Pn		**Pn**	**21 06 13.2**	**-0.3**
DSI				Sn		**Sn**	**21 07 39.3**	**-4.0**
MZDA	**Masada**	**8.10**	**128**	Pn		**Pn**	**21 06 15.4**	**-0.2**
MZDA				Sn		**Sn**	**21 07 42.5**	**-4.7**
ZAF	**Zafarana**	**8.23**	**150**	P		**Pn**	**21 06 16.8**	**-0.7**
	baz=156								
RMNI	**Mount Ramon**	**8.24**	**134**	Pn		**Pn**	**21 06 16.9**	**-0.8**
HUMR	**Humele**	**8.27**	**345**⇑	*i*P		**Pn**	**21 06 16.2**	**-1.7**
ZFRI	**Zfri**	**8.52**	**133**	Pn		**Pn**	**21 06 19.4**	**-1.9**
ZFRI				Sn		**Sn**	**21 07 52.2**	**-5.2**
PRNI	**Paran**	**8.56**	**134**	Pn		**Pn**	**21 06 21.0**	**-1.0**
ASF	**Jabal al Asfar**	**8.62**	**118**	Pn		**Pn**	**21 06 22.7**	**-0.1**
	comp=Z,1.5nm,0.3s,baz=252,slow=5.1,SNR=24								
ASF				Sn		**Sn**	**21 07 58.7**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=80,slow=11,SNR=2.2								
CFR	**Carcaliu**	**8.62**	**1**⇑	*i*P		**Pg**	**21 07 03.6**	**+0.7**
TLCR		**8.65**	**4**⇑	*i*P		**Pn**	**21 06 23.4**	**+0.3**
TLCR		**8.65**	**4**	⇑P		**Pn**	**21 06 23.4**	**+0.3**
DRME	**Dracevica, Mon**	**8.79**	**312**	*e*P		**Pn**	**21 06 27.7**	**+2.7**
HRFI	**Mount Harif**	**8.82**	**135**	Pn		**Pn**	**21 06 24.2**	**-1.3**
HRFI				Sn		**Sn**	**21 08 00.4**	**-4.5**
SRE	**Strehaia**	**8.85**	**338**⇑	*i*P		Pn	21 06 40.2	+14
SRE	**Strehaia**	**8.85**	**338**	⇑P		Pn	21 06 40.2	+14
PDG	**Podgorica**	**8.90**	**314**⇓	*i*P		**Pn**	**21 06 29.5**	**+3.0**
PDG	**Podgorica**	**8.90**	**314**	*e*P		**Pn**	**21 06 29.1**	**+2.6**
TTG	**Podgorica**	**8.90**	**314**	*e*Pn		**Pn**	**21 06 28.0**	**+1.5**
TTG	**Podgorica**	**8.90**	**314**	*e*P		**Pn**	**21 06 28.0**	**+1.5**
MBRI	**Mt Berech**	**8.94**	**137**	Pn		**Pn**	**21 06 26.6**	**-0.6**
MBRI				Sn		**Sn**	**21 08 02.9**	**-5.0**
EIL	**Elat**	**9.05**	**137**	Pn		**Pn**	**21 06 27.6**	**-1.0**
	comp=Z,1.6nm,0.3s,baz=266,slow=3.7,SNR=17								
EIL				Sn		**Sn**	**21 08 06.0**	**-4.7**
	comp=Z,3.4nm,0.3s,baz=79,slow=4.1,SNR=6.2								
MLR	**Muntele Rosu**	**9.05**	**351**	Pn		**Pn**	**21 06 31.3**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=129,slow=19,SNR=12								
MLR				LR		LR	21 09 55.2		
	comp=Z,118nm,20.0s,baz=176,slow=37								
MLR	**Muntele Rosu**	**9.05**	**351**	*e*Pn		**Pn**	**21 06 29.4**	**+0.6**
MLR	**Muntele Rosu**	**9.05**	**351**	*e*P		**Pn**	**21 06 29.4**	**+0.6**
ARR	**Arges**	**9.15**	**345**⇑	*i*P		**Pn**	**21 06 34.3**	**+4.3**
TIP	**Timpagrande**	**9.20**	**290**	*e*Pn		**Pn**	**21 06 31.4**	**+0.7**
HERR	**Herculane**	**9.30**	**335**⇑	*i*P		Pn	21 06 39.8	+7.7
PLOR	**Plostina**	**9.34**	**355**⇓	*i*P		Pn	21 06 44.5	+12
PLOR	**Plostina**	**9.34**	**355**	⇓P		Pn	21 06 44.5	+12
VRI	**Vrincioaia**	**9.35**	**355**⇑	*i*P		Pn	21 06 41.5	+8.8
VRI	**Vrincioaia**	**9.35**	**355**	⇑P		Pn	21 06 41.5	+8.8
HCY	**Herceg Novi**	**9.36**	**312**	*e*P		Pn	21 06 40.4	+7.6
HQLS		**9.40**	**138**	S		**Sn**	**21 08 12.8**	**-6.4**
HQLS				P		**Pn**	**21 06 33.2**	**-0.3**
MDVR	**Moldovita**	**9.47**	**332**⇑	*i*P		**Pn**	**21 06 35.3**	**+0.9**
HAQS	**Haql**	**9.52**	**140**	S		**Sn**	**21 08 16.3**	**-6.0**
HAQS	**Haql**	**9.52**	**140**	P		**Pn**	**21 06 35.0**	**-0.2**
UPM	**Unac-Piva**	**9.59**	**317**	*e*P		**Pn**	**21 06 38.8**	**+2.6**
DOPR	**Dopca**	**9.60**	**349**⇓	*i*P		**Pn**	**21 06 37.0**	**+0.9**
BRY	**Bratogost**	**9.60**	**314**	*e*P		**Pn**	**21 06 38.2**	**+1.9**
SIM	**Simferopol'**	**9.62**	**27**	*e*P		**Pn**	**21 06 32.6**	**-3.7**
SIM				pmax	pmax				
	comp=Z,12nm,0.9s								
SIM				MLR	MLR				
	comp=N,100nm,13.0s								
DIVS	**Divibare**	**9.66**	**324**	*e*P		**Pn**	**21 06 37.3**	**+0.3**
CEL	**Celeste**	**9.71**	**284**	*e*Pn		**Pn**	**21 06 38.7**	**+0.9**
BBLS	**Lazići**	**9.78**	**321**	*e*P		**Pn**	**21 06 39.1**	**+0.5**
JLOS		**10.08**	**139**	P		**Pn**	**21 06 41.4**	**-1.4**
JLOS		**10.08**	**139**	S		**Sn**	**21 08 29.2**	**-6.7**
STON	**Ston**	**10.08**	**312**	*e*P		**Pn**	**21 06 43.4**	**+0.7**
BDAS	**Al Bad'**	**10.12**	**141**	P		**Pn**	**21 06 42.4**	**-0.9**
BDAS	**Al Bad'**	**10.12**	**141**	S		Sn	21 08 27.9	-9.0
HAPS	**Han Pijesak,BI**	**10.16**	**321**	*e*P		**Pn**	**21 06 43.9**	**-0.1**
BZS	**Buzias**	**10.22**	**334**⇓	*i*P		**Pn**	**21 06 46.3**	**+1.7**
BZS	**Buzias**	**10.22**	**334**	⇓P		**Pn**	**21 06 46.3**	**+1.7**
BIZ	**Bicaz**	**10.47**	**353**⇑	*i*P		**Pn**	**21 06 49.7**	**+1.7**
SIRR	**Siria**	**10.78**	**336**⇓	*i*P		**Pn**	**21 06 56.4**	**+4.1**
VAE	**Valguarnera**	**10.83**	**279**	Pn		Pn	21 06 58.3	+5.2
	comp=N,1.0nm,0.3s,baz=98,slow=23,SNR=4.0								
VAE				Sn		**Sn**	**21 08 57.7**	**+3.3**
	comp=N,0.3nm,0.3s,baz=92,slow=20,SNR=3.3								
BURAR	**Bucovina Array**	**11.23**	**351**⇓	*i*P		**Pn**	**21 06 59.0**	**+0.4**
BURAR	**Bucovina Array**	**11.23**	**351**	⇓P		**Pn**	**21 06 59.0**	**+0.4**
BLY	**Banja Luka**	**11.54**	**318**	*e*Pn		**Pn**	**21 07 03.6**	**+0.9**
BLY	**Banja Luka**	**11.54**	**318**⇑	*i*P		**Pn**	**21 07 04.8**	**+2.1**
BLY	**Banja Luka**	**11.54**	**318**	*e*P		**Pn**	**21 07 03.0**	**+0.3**
CLTB	**Caltabellotta**	**11.79**	**279**	*e*Pn		**Pn**	**21 07 06.1**	**-0.1**
MORH	**M¯‡r¡gy, Hung**	**11.89**	**327**	*e*P		**Pn**	**21 07 04.1**	**-3.4**
PSZ	**Piszkesteto**	**12.81**	**335**	*e*Pn		**Pn**	**21 07 22.1**	**+2.0**
PSZ	**Piszkesteto**	**12.81**	**335**	*e*P		**Pn**	**21 07 22.1**	**+2.0**
BOJS	**Bojanci**	**13.07**	**317**	*e*Pn		**Pn**	**21 07 25.9**	**+2.3**
BOJS	**Bojanci**	**13.07**	**317**	*e*Pn		**Pn**	**21 07 25.9**	**+2.3**
CRES	**Cresnjev**	**13.17**	**319**	*e*Pn		**Pn**	**21 07 25.3**	**+0.4**
CRES	**Cresnjev**	**13.17**	**319**	*e*Pn		**Pn**	**21 07 25.3**	**+0.4**
CRES	**Cresnjev**	**13.17**	**319**	*e*P		**Pn**	**21 07 24.7**	**-0.2**
KIV	**Kislovodsk**	**13.48**	**52**	*e*Pn		**Pn**	**21 07 31.0**	**+1.7**
KIV	**Kislovodsk**	**13.48**	**52**	*e*P		**Pn**	**21 07 30.1**	**+0.8**
KIV				pmax	pmax				
	comp=Z,13nm,1.1s								
KIV				MLR	MLR				
	comp=Z,26nm,11.0s								
VISS	**Visnje**	**13.49**	**317**	*e*Pn		**Pn**	**21 07 32.8**	**+3.5**
VISS	**Visnje**	**13.49**	**317**	*e*Pn		**Pn**	**21 07 32.8**	**+3.5**
KBZ	**Khabaz**	**13.51**	**53**	Pn		**P**	**21 07 35.3**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=250,slow=12,SNR=4.2								
KBZ				LR		LR	21 14 21.4		
	comp=Z,58nm,18.2s,baz=264,slow=44								
VYHS	**Vyhne**	**13.67**	**334**	*e*P		**Pn**	**21 07 34.7**	**+3.0**
VYHS	**Vyhne**	**13.67**	**334**	*e*PN		**Pn**	**21 07 34.7**	**+3.0**
VYHS				*e*			21 07 44.2		
CEY	**Cerknica**	**13.67**	**316**	*e*P		**Pn**	**21 07 32.2**	**+0.3**
GNI	**Garni**	**13.69**	**70**	Pn		**Pn**	**21 07 35.7**	**+3.4**
	comp=Z,0.3nm,0.3s,baz=279,slow=4.7,SNR=5.2								
GNI	**Garni**	**13.69**	**70**	*e*Pn		**Pn**	**21 07 34.2**	**+1.9**
GNI	**Garni**	**13.69**	**70**⇓	*e*P		**Pn**	**21 07 34.1**	**+1.9**
ZEI	**Tsey**	**13.79**	**58**	*e*P		**P**	**21 07 42.9**	**+0.6**
ZEI				pmax	pmax				
	comp=Z,7.0nm,0.8s								
NCK	**Nalchik**	**13.87**	**55**⇓	*e*P		**Pn**	**21 07 36.8**	**+2.3**
SOKA	**Soboth**	**13.95**	**320**	*e*P		**Pn**	**21 07 38.1**	**+2.5**
	comp=Z,5.0nm,1.0s								
TRI	**Trieste**	**14.03**	**315**	*e*Pn		**Pn**	**21 07 39.3**	**+2.7**
TRI	**Trieste**	**14.03**	**315**	*e*P		**Pn**	**21 07 39.3**	**+2.7**
KIEV	**Kiev**	**14.17**	**3**⇑	*e*P		**Pn**	**21 07 41.8**	**+3.3**
AKASG	**Malin Array Be**	**14.18**	**3**	Pn		**P**	**21 07 43.6**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=190,slow=10,SNR=8.1								
GOF	**Gofitskoye**	**14.25**	**49**	*e*P		**Pn**	**21 07 43.0**	**+3.3**
MYKA	**Terra Mystica**	**14.65**	**318**	*e*pP		**P**	**21 07 53.0**	**+1.4**
	comp=Z,6.4nm,0.8s								
OJC	**Ojcow**	**14.87**	**339**	*e*Pn		**Pn**	**21 07 48.0**	**-0.1**
OJC	**Ojcow**	**14.87**	**339**	*e*P		**Pn**	**21 07 48.0**	**-0.1**
KEST	**Kesra**	**15.03**	**272**	Pn		**Pn**	**21 07 50.0**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=17,slow=7.6,SNR=5.6								
KEST				LR		LR	21 14 23.2		
	comp=Z,63nm,21.3s,baz=224,slow=40								
KEST	**Kesra**	**15.03**	**272**	*e*Pn		**Pn**	**21 07 50.7**	**+0.3**
	comp=Z,15nm,0.9s								
KRUC	**Moravsky**	**15.07**	**330**	*e*PN		**P**	**21 07 57.2**	**+1.1**
KBA	**Koelnbreinsper**	**15.09**	**319**	*e*P		**P**	**21 07 58.8**	**+2.1**
	comp=Z,24nm,0.9s								
KBA	**Koelnbreinsper**	**15.09**	**319**	P		**P**	**21 07 58.7**	**+2.1**
KBA				pmax	pmax				
	comp=Z,29nm,1.2s								
VRAC	**Vranov**	**15.18**	**331**	Pn		**P**	**21 07 57.7**	**+0.3**
	baz=149,slow=10.0,SNR=4.5								
VRAC	**Vranov**	**15.18**	**331**	*e*PN		**P**	**21 07 59.1**	**+1.7**
MORC	**Moravsky Berou**	**15.21**	**334**	*e*Pn		**Pn**	**21 07 54.1**	**+1.4**
	comp=Z,4.6nm,1.0s								
MORC	**Moravsky Berou**	**15.21**	**334**	*e*P		**Pn**	**21 07 54.1**	**+1.4**
MORC				pmax	pmax				
	comp=Z,5.0nm,1.0s								
MORC	**Moravsky Berou**	**15.21**	**334**	*e*PN		**P**	**21 07 58.7**	**+1.0**
ABTA	**Abfaltersbach**	**15.34**	**316**	*e*pP		**P**	**21 08 00.6**	**+1.3**
	comp=Z,12nm,0.8s								
TREC	**Trest**	**15.62**	**328**	*e*P		**P**	**21 08 04.1**	**+1.8**
TREC	**Trest**	**15.62**	**328**	*e*P		**P**	**21 08 04.1**	**+1.8**
GEA0	**GERESS Array S**	**16.08**	**324**	*e*Pn		**Pn**	**21 08 04.9**	**+0.7**
GEC2	**GERESS Array S**	**16.09**	**324**	*e*Pn		**Pn**	**21 08 05.1**	**+0.9**
	comp=Z,30nm,1.5s								
GEC2	**GERESS Array S**	**16.09**	**324**	*e*P		**Pn**	**21 08 05.1**	**+0.9**
GEC2				pmax	pmax				
	comp=Z,30nm,1.5s								
GERES	**GERESS Array B**	**16.09**	**324**	Pn		**P**	**21 08 06.2**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=129,slow=10,SNR=16								
GERES				LR		LR	21 14 07.0		
	comp=Z,95nm,19.0s,baz=122,slow=36								
DPC	**Dobruska-Polom**	**16.13**	**332**	*e*P		**P**	**21 08 10.4**	**+2.5**
DPC				*ex*		x	21 08 14.6		
DPC	**Dobruska-Polom**	**16.13**	**332**	*e*P		**P**	**21 08 10.4**	**+2.5**
WTTA	**Wattenberg**	**16.13**	**317**	*e*pP		**P**	**21 08 10.4**	**+2.2**
	comp=Z,13nm,1.0s								
WATA	**Walderalm**	**16.21**	**317**	*e*P		**P**	**21 08 08.4**	**-0.5**
	comp=Z,29nm,1.4s								
SQTA	**Sankt Quirin**	**16.34**	**316**	*e*P		**P**	**21 08 11.3**	**+0.8**
	comp=Z,8.8nm,0.7s								
KHC	**Kasperske Hory**	**16.35**	**325**	*e*Pn		**Pn**	**21 08 08.3**	**+0.8**
	comp=Z,5.7nm,1.3s								
KHC	**Kasperske Hory**	**16.35**	**325**	*e*P		**P**	**21 08 12.0**	**+1.6**
KHC				*ex*		x	21 08 23.5		
KHC	**Kasperske Hory**	**16.35**	**325**	*e*P		**Pn**	**21 08 08.3**	**+0.8**
KHC				pmax	pmax				
	comp=Z,6.0nm,1.3s								
GOPC	**GO Pecny, Ondr**	**16.39**	**329**	*e*P		**P**	**21 08 13.4**	**+2.6**
GOPC				AMS		AMS	21 15 30.0		
	comp=Z,600nm,7.9s								
GOPC	**GO Pecny, Ondr**	**16.39**	**329**	*e*P		**P**	**21 08 13.4**	**+2.6**
GOPC				MLR		MLR			
	comp=Z,600nm,7.9s								
MOTA	**Moosalm**	**16.47**	**316**	*e*P		**P**	**21 08 11.5**	**-0.4**
	comp=Z,17nm,0.9s								
FETA	**Feichten**	**16.50**	**315**	*e*P		**P**	**21 08 13.0**	**+0.8**
	comp=Z,21nm,1.4s								
VORD	**Divnogorie**	**16.56**	**26**	*e*P		**P**	**21 08 17.7**	**+5.1**
VORD				pmax	pmax				
	comp=Z,10.0nm,1.5s								
FUORN	**Ofenpass-Fuorn**	**16.56**	**313**	*e*Pn		**P**	**21 08 11.6**	**-1.4**
	comp=Z,40nm,1.6s								
WET	**Wettzell**	**16.69**	**324**	P		**P**	**21 08 18.0**	**+3.9**
VSR	**Storozhevoye**	**16.72**	**25**	*e*P		**P**	**21 08 18.8**	**+4.3**
VSR				pmax	pmax				
	comp=Z,10.0nm,1.3s								
RETA	**Reutte**	**16.75**	**316**	*e*P		**P**	**21 08 15.4**	**+0.6**
	comp=Z,11nm,1.4s								
FUR	**Furstenfeldbru**	**16.86**	**319**	P		**P**	**21 08 19.9**	**+3.8**
FUR				pmax	pmax				
	comp=Z,42nm,2.1s								
PVCC	**Panska Ves**	**16.95**	**330**	*e*P		**P**	**21 08 20.6**	**+3.6**
PVCC	**Panska Ves**	**16.95**	**330**	*e*P		**P**	**21 08 20.6**	**+3.6**
TUE	**Stuetta**	**17.04**	**311**	*e*Pn		**P**	**21 08 17.2**	**-1.0**
	comp=Z,17nm,1.4s								
DAVA	**Damuels**	**17.14**	**314**	*e*Pn		**P**	**21 08 19.6**	**+0.4**
	comp=Z,14nm,0.8s								
SBF	**Sospel**	**17.23**	**301**	*e*P		**Pn**	**21 08 19.1**	**+0.4**
SBF				pmax	pmax				
	comp=Z,23nm,1.0s								
BRG	**Berggiesshubel**	**17.47**	**329**	*e*P		**P**	**21 08 26.1**	**+3.3**
	comp=Z,15nm,1.5s								
BRG	**Berggiesshubel**	**17.47**	**329**	*e*P		**P**	**21 08 26.1**	**+3.3**
BRG				pmax	pmax				
	comp=Z,15nm,1.5s								
NKC	**Novy Kostel**	**17.65**	**326**	*e*P		**P**	**21 08 28.1**	**+3.4**
NKC	**Novy Kostel**	**17.65**	**326**	*e*P		**P**	**21 08 28.1**	**+3.4**
VRH	**Novokhopyorsk**	**17.66**	**30**	*e*P		**P**	**21 08 25.2**	**+0.4**
VRH				pmax	pmax				
	comp=Z,7.0nm,0.5s								
FRF	**La Foret Royal**	**17.69**	**300**	*e*P		**P**	**21 08 25.9**	**+0.6**
FRF				pmax	pmax				
	comp=Z,10.0nm,0.9s								
CLL	**Collm**	**18.19**	**329**	*e*Pn		**P**	**21 08 30.5**	**-0.1**
	comp=Z,10nm,1.0s								
CLL	**Collm**	**18.19**	**329**	*e*pP		**P**	**21 08 31.0**	**+0.3**
CLL				*i* sP		**pP**	**21 08 33.1**	**-0.6**
	comp=Z,4.0nm,0.8s								
CLL				*i*			21 08 36.3		
	comp=Z,9.0nm,1.0s								
CLL				*i* PP		**PnPn**	**21 08 39.9**	**-1.7**
CLL	**Collm**	**18.19**	**329**	*e*P		**P**	**21 08 30.5**	**-0.1**
CLL				pmax	pmax				
	comp=Z,10.0nm,1.0s								
SENIN	**Lac Senin/Sane**	**18.25**	**309**	*e*Pn		**P**	**21 08 32.4**	**+0.8**
	comp=Z,12nm,0.8s								
LPG	**La Plagne**	**18.25**	**306**	*e*P		**P**	**21 08 33.8**	**+2.1**
LPG				pmax	pmax				
	comp=Z,11nm,0.9s								
LPL	**La Plagne**	**18.27**	**306**	*e*P		**P**	**21 08 33.9**	**+2.0**
LPL				pmax	pmax				
	comp=Z,8.0nm,0.8s								
MOX	**Moxa**	**18.32**	**325**	P		**P**	**21 08 35.1**	**+3.0**
MOX				pmax	pmax				
	comp=Z,18nm,1.6s								
STU	**Stuttgart**	**18.34**	**318**	P		**P**	**21 08 37.0**	**+4.6**
STU				pmax	pmax				
	comp=Z,22nm,1.0s								
BFO	**Black Forest**	**18.58**	**315**	*e*P		**P**	**21 08 34.9**	**-0.1**
	comp=Z,76nm,1.9s								
BFO	**Black Forest**	**18.58**	**315**	*e*P		**P**	**21 08 34.9**	**-0.1**
BFO				pmax	pmax				
	comp=Z,76nm,1.9s								
CABF	**La Chapelle**	**19.11**	**308**	*e*P		**Pn**	**21 08 42.3**	**+0.5**
CABF				pmax	pmax				
	comp=Z,21nm,1.0s								
CDF	**Champ du Feu**	**19.22**	**315**	*e*P		**Pn**	**21 08 44.4**	**+1.4**
CDF				pmax	pmax				
	comp=Z,13nm,1.0s								
VIVF	**Saint-Julien-l**	**19.42**	**302**	*e*P		**Pn**	**21 08 45.3**	**-0.2**
VIVF				pmax	pmax				
	comp=Z,23nm,1.4s								
OBN	**Obninsk**	**19.49**	**15**	*e*P		**Pn**	**21 08 45.8**	**-0.4**
	comp=Z,32nm,1.5s								
OBN	**Obninsk**	**19.49**	**15**⇑	*e*P		**P**	**21 08 44.8**	**-0.1**
OBN				pmax	pmax				
	comp=Z,21nm,1.3s								
OBN				MLR	MLR				
	comp=Z,41nm,14.0s								
HAU	**Haudompre**	**19.56**	**313**	*e*P		**Pn**	**21 08 46.9**	**-0.2**
HAU				pmax	pmax				
	comp=Z,19nm,1.0s								
RAYN	**Ar Rayn**	**19.97**	**126**	*e*P		**P**	**21 08 51.2**	**+0.7**
	comp=Z,37nm,1.7s								
RAYN	**Ar Rayn**	**19.97**	**126**	*e*P		**P**	**21 08 51.2**	**+0.7**
RAYN				pmax	pmax				
	comp=Z,37nm,1.7s								
MOS	**Moscow**	**20.30**	**16**	*e*P		**P**	**21 08 53.6**	**-0.1**
WLF	**Walferdange**	**20.50**	**317**	*e*P		**P**	**21 08 54.4**	**-1.5**
	comp=Z,75nm,1.8s								
WLF	**Walferdange**	**20.50**	**317**	*e*P		**P**	**21 08 54.4**	**-1.5**
WLF				pmax	pmax				
	comp=Z,75nm,1.8s								
SMF	**Signal de Mont**	**20.56**	**307**	*e*P		**P**	**21 08 57.6**	**+1.0**
SMF				pmax	pmax				
	comp=Z,28nm,1.1s								
RGN	**Rugen**	**20.62**	**335**	*e*P		**P**	**21 08 56.8**	**-0.4**
	comp=Z,62nm,1.0s								
LOR	**Lormes**	**20.77**	**309**	*e*P		Pn	21 09 01.1	-0.3
LOR				pmax	pmax				
	comp=Z,15nm,1.1s								
MTLF	**Montolieu**	**20.78**	**297**	*e*P		Pn	21 09 01.6	+0.1
AVF	**Avril sur Loir**	**20.92**	**307**	*e*P		Pn	21 09 03.8	+0.7
AVF				pmax	pmax				
	comp=Z,18nm,0.9s								
MEM	**Membach**	**21.09**	**319**	⇑P		**P**	**21 09 04.9**	**+2.6**
BGF	**Bois d'Agland**	**21.17**	**306**	*e*P		**P**	**21 09 03.3**	**0.0**
BGF				pmax	pmax				
	comp=Z,16nm,0.9s								
GIVF	**Givet**	**21.46**	**316**	*e*P		**P**	**21 09 07.8**	**+1.5**
GIVF				pmax	pmax				
	comp=Z,89nm,2.2s								
DOU	**Dourbes**	**21.59**	**316**	⇑P		**P**	**21 09 08.2**	**+0.6**
VSU	**Vasula**	**21.94**	**358**⇓	*e*P		**P**	**21 09 11.2**	**-0.1**
VSU				pmax	pmax				
	comp=Z,30nm,0.9s								
CART	**Cartagena**	**23.06**	**281**	*e*P		**P**	**21 09 24.0**	**+0.6**
	comp=Z,37nm,1.6s								
TAM	**Tamanrasset**	**23.72**	**241**	*e*P		**P**	**21 09 30.9**	**+0.5**
	comp=Z,3.4nm,0.8s								
TAM	**Tamanrasset**	**23.72**	**241**	*e*P		**P**	**21 09 30.9**	**+0.5**
TAM				pmax	pmax				
	comp=Z,3.0nm,0.8s								
GEYT	**Alibeck**	**24.04**	**78**	P		**P**	**21 09 32.9**	**-0.3**
	comp=Z,3.0nm,0.5s,baz=2.9,slow=3.0,SNR=11								
GYA0B	**ALIBECK ARRAY**	**24.04**	**78**	*e*P		**P**	**21 09 33.4**	**+0.2**
	comp=Z,9.5nm,0.6s								
FIA0	**FINESS Array S**	**24.94**	**358**	*e*P		**P**	**21 09 40.6**	**-0.4**
FIA0	**FINESS Array S**	**24.94**	**358**	*e*P		**P**	**21 09 40.6**	**-0.4**
FIA1	**FINESS Array S**	**24.94**	**358**	*e*P		**P**	**21 09 41.0**	**0.0**
FINES	**FINESS Array B**	**24.94**	**358**	P		**P**	**21 09 40.6**	**-0.4**
	comp=Z,5.4nm,0.8s,baz=164,slow=11,SNR=13								
FINES				LR		LR	21 18 51.0		
	comp=Z,55nm,20.3s,baz=197,slow=35								
FINES	**FINESS Array B**	**24.94**	**358**	*i* P		**P**	**21 09 40.5**	**-0.5**
FINES				pmax	pmax				
	comp=Z,5.0nm,0.8s								
ES19	**SONSECA Array**	**25.15**	**287**	*e*P		**P**	**21 09 43.8**	**+0.5**
ESDC	**Sonseca Array**	**25.20**	**287**	P		**P**	**21 09 43.3**	**-0.4**
	comp=Z,3.1nm,0.7s,baz=82,slow=9.2,SNR=17								
HFS	**Hagfors**	**25.31**	**343**	P		**P**	**21 09 44.3**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=141,slow=9.6,SNR=6.2								
KLMR	**Klimovskoe**	**25.42**	**13**	*e*P		**P**	**21 09 45.3**	**-0.1**
KLMR				pmax	pmax				
	comp=Z,24nm,1.3s								
KLMR	**Klimovskoe**	**25.42**	**13**	*e*P		**P**	**21 09 45.4**	**0.0**
KLMR				AMP			21 09 48.3		
	comp=Z,24nm,1.2s								
AKTO	**Aktyubinsk**	**25.67**	**48**	P		**P**	**21 09 47.1**	**-0.6**
	comp=Z,7.1nm,0.7s,baz=260,slow=8.4,SNR=23								
KONO	**Kongsberg**	**25.97**	**339**⇓	*e*P		**P**	**21 09 53.1**	**+2.7**
KONO				pmax	pmax				
	comp=Z,16nm,1.3s								
ABKAR	**Akbulak array**	**26.46**	**51**	*e*P		**P**	**21 09 54.7**	**-0.3**
NAO01	**NORSAR Array S**	**26.61**	**341**	*e*P		**P**	**21 09 56.4**	**+0.1**
NC405	**NORSAR Array S**	**26.64**	**342**	*e*P		**P**	**21 09 57.4**	**+1.0**
NB2	**NORSAR Subarra**	**26.70**	**342**	P		**P**	**21 09 56.7**	**-0.3**
	comp=Z,7.8nm,1.2s,baz=147,slow=10								
NB200	**NORSAR Array S**	**26.70**	**342**	*e*P		**P**	**21 09 56.1**	**-1.0**
NOA	**NORSAR Array B**	**26.70**	**342**	P		**P**	**21 09 56.1**	**-1.0**
	comp=Z,1.6nm,0.9s,baz=146,slow=9.5,SNR=5.9								
NOA				LR		LR	21 21 39.3		
	comp=Z,57nm,19.1s,baz=145,slow=39								
NOA	**NORSAR Array B**	**26.70**	**342**	P		**P**	**21 09 56.1**	**-1.0**
NOA				pmax	pmax				

SONA0	**Songino Array**	**56.88**	**52**	*eP*	**P**	**21 14 02.8**	**-0.1**
SONM	**Songino Array**	**56.88**	**52**	P	**P**	**21 14 02.8**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=292,slow=7.7,SNR=12						
ULN	**Ulaanbaatar**	**57.28**	**52**	*eP*	**P**	**21 14 05.9**	**+0.1**
	comp=Z,3.8nm,0.9s						
ULN	**Ulaanbaatar**	**57.28**	**52**	⇑*iP*	**P**	**21 14 05.7**	**-0.1**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TIXI	**Tiksi**	**59.07**	**21**	⇑*eP*	**P**	**21 14 17.3**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LZH	**Lanzhou**	**59.59**	**66**	*eP*	**P**	**21 14 21.5**	**-0.6**
LZH				pP	pP	21 14 24.8	-0.7
LZH				sP	sP	21 14 26.3	-0.5
LZH				*e*PP	**PP**	**21 16 34.6**	**+1.2**
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
LZH				pmax	pmax		
	comp=Z,48nm,6.2s						
LZH				LR	LR		
	comp=Z,110nm,14.7s						
LZH				LR	LR		
	comp=Z,100nm,15.0s						
LZH				LR	LR		
	comp=Z,140nm,17.5s						
HHC	**Hu-ho-hao-te**	**63.01**	**58**	*eP*	**P**	**21 14 44.8**	**-0.3**
HHC				pmax	pmax		
	comp=Z,16nm,1.1s						
HHC				pmax	pmax		
	comp=Z,80nm,6.0s						
YAK	**Yakutsk**	**63.55**	**31**	⇑*eP*	**P**	**21 14 50.8**	**+2.7**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CHTO	**Chiang Mai**	**64.03**	**85**	*eP*	**P**	**21 14 51.0**	**-1.0**
	comp=Z,9.9nm,1.8s						
CHTO	**Chiang Mai**	**64.03**	**85**	*eP*	**P**	**21 14 51.0**	**-1.0**
CHTO				pmax	pmax		
	comp=Z,10.0nm,1.8s						
CMAR	**Chiang Mai Arr**	**64.21**	**86**	P	**P**	**21 14 52.2**	**-1.1**
	comp=Z,1.2nm,0.9s,baz=304,slow=8.1,SNR=7.7						
CM01	**Chiang Mai Arr**	**64.25**	**86**	*eP*	**P**	**21 14 52.5**	**-1.0**
KLR	**Kul'dur**	**71.25**	**42**	P	**P**	**21 15 37.8**	**+0.7**
	comp=Z,2.3nm,1.0s,baz=328,slow=9.3,SNR=4.3						
USRK	**Ussuriysk Ar.**	**74.27**	**46**	P	**P**	**21 15 53.8**	**-1.4**
	comp=Z,2.6nm,0.7s,baz=293,slow=4.0,SNR=5.2						
KS01	**Wonju Array Si**	**75.63**	**54**	*eP*	**P**	**21 16 02.2**	**-1.0**
ILAR	**Eielson Array**	**78.93**	**358**	P	**P**	**21 16 19.4**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=323,slow=3.2,SNR=6.4						
ILB	**Eielson Array**	**78.93**	**358**	*eP*	**P**	**21 16 21.4**	**+0.2**
MAJO	**Matsushiro**	**82.73**	**50**	*eP*	**P**	**21 16 41.1**	**-1.0**
MAJO	**Matsushiro**	**82.73**	**50**	*eP*	**P**	**21 16 41.1**	**-1.0**
MJAR	**Matsushiro Arr**	**82.73**	**50**	P	**P**	**21 16 41.1**	**-1.0**
	comp=Z,1.4nm,0.8s,baz=312,slow=4.3,SNR=4.0						
W50A	**Signal Mountai**	**85.40**	**311**	*eP*	**P**	**21 16 55.2**	**-0.5**
	comp=Z,11nm,1.0s						
CCM	**Cathedral Cave**	**86.89**	**316**	*eP*	**P**	**21 17 01.2**	**-1.7**
	comp=Z,7.7nm,0.7s						
CCM	**Cathedral Cave**	**86.89**	**316**	*eP*	**P**	**21 17 01.2**	**-1.7**
CCM				pmax	pmax		
	comp=Z,8.0nm,0.7s						
T42A	**Van Buren**	**87.53**	**316**	*eP*	**P**	**21 17 04.7**	**-1.4**
	comp=Z,7.2nm,0.8s						
LTX	**Lajitas**	**100.23**	**318**	*e*Pdif	**Pdif**	**21 18 03.4**	**-1.3**
LTX	**Lajitas**	**100.23**	**318**	*eP*	**Pdif**	**21 18 03.4**	**-1.3**
TXAR	**Lajitas Array**	**100.23**	**318**	P	**Pdif**	**21 18 03.4**	**-1.3**
	comp=Z,0.2nm,0.7s,baz=68,slow=2.4,SNR=2.9						
ASAR	**Alice Springs**	**116.11**	**101**	PKP	**PKPdf**	**21 23 00.1**	**-1.5**
	comp=Z,0.2nm,0.7s,baz=7.6,slow=2.8,SNR=3.5						

*ROM **24** 21:05:23.9±0.1, 39.915N±0.004×16.017E±0.007, h8km, ML2.2/6*
*ISCJB **24** 21:05:24.3±0.4, 39.91N±0.03×16.01E±0.04, h14km±3km, Error ellipse: s-maj=5.9km s-min=4.0km az=149.7*

ISC 24 21:05:24.2±1.0, **39.92N**±0.03×**16.00E**±0.03, **h13**km±8km, **n16**, σ0**s49**/23, **Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CUC	**Castrocucco**	**0.16**	**299**	P		**Pg**		**21 05 28.1**	**-0.1**
CUC				S		**Sg**		**21 05 30.9**	**+0.1**
CUC				AML	AML				
	comp=E,3560μm,0.6s								
CUC				AML	AML				
	comp=N,2100μm,0.5s								
CUC				AML	AML				
	comp=E,3790μm,0.7s								
CUC				AML	AML				
	comp=N,2515μm,0.3s								
CUC				AML	AML				
	comp=E,3790μm,0.7s								
CUC				AML	AML				
	comp=N,2515μm,0.3s								
T0702	**Acquaformosa (**	**0.21**	**161**	P		**Pg**		**21 05 28.9**	**0.0**
T0702				S		**Sg**		**21 05 32.6**	**+0.6**
SALB	**San Lorenzo Be**	**0.27**	**98**	P		**Pg**		**21 05 29.5**	**-0.5**
SALB				S		**Sg**		**21 05 34.1**	**+0.3**
SIRI	**Monte Sirino -**	**0.28**	**339**	P		**Pg**		**21 05 30.5**	**+0.2**
SIRI				S		**Sb**		**21 05 36.5**	**+0.5**
SIRI				AML	AML				
	comp=E,2040μm,0.3s								
SIRI				AML	AML				
	comp=N,1450μm,0.3s								
SIRI				AML	AML				
	comp=E,2070μm,0.3s								
SIRI				AML	AML				
	comp=N,1500μm,0.3s								
SIRI				AML	AML				
	comp=E,2485μm,0.3s								
SIRI				AML	AML				
	comp=N,1815μm,0.3s								
SIRI				AML	AML				
	comp=E,2575μm,0.3s								
SIRI				AML	AML				
	comp=N,1855μm,0.3s								
SIRI				AML	AML				
	comp=N,1855μm,0.3s								
SIRI				AML	AML				
	comp=N,1815μm,0.3s								
SIRI				AML	AML				
	comp=E,2575μm,0.3s								
SIRI				AML	AML				
	comp=E,2485μm,0.3s								
SCHR	**S. Chirico Rap**	**0.29**	**12**	P		**Pg**		**21 05 30.0**	**-0.3**
SCHR				S		**Sb**		**21 05 35.5**	**-0.6**
SCHR				AML	AML				
	comp=E,246μm,0.6s								
SCHR				AML	AML				
	comp=N,200μm,0.7s								
SCHR				AML	AML				
	comp=E,440μm,1.5s								
SCHR				AML	AML				
	comp=N,460μm,0.8s								
SCHR				AML	AML				
	comp=N,460μm,0.8s								
SCHR				AML	AML				
	comp=E,440μm,1.5s								
ORI	**Oriolo Calabro**	**0.38**	**67**	P		**Pg**		**21 05 31.7**	**-0.1**
CET2	**Cetraro**	**0.39**	**185**	P		**Pg**		**21 05 32.2**	**+0.2**
CET2				S		**Sg**		**21 05 37.8**	**+0.5**
MGR	**Morigerati**	**0.41**	**303**	P		**Pg**		**21 05 32.2**	**-0.1**
MGR				S		**Sb**		**21 05 39.8**	**+0.3**
MGR				AML	AML				
	comp=E,406μm,0.2s								
MGR				AML	AML				
	comp=N,332μm,0.5s								
MGR				AML	AML				
	comp=E,906μm,0.3s								
MGR				AML	AML				
	comp=N,657μm,0.7s								
MGR				AML	AML				
	comp=E,906μm,0.3s								
MGR				AML	AML				
	comp=N,657μm,0.7s								
MCEL	**Monticello**	**0.43**	**340**	P		**Pb**		**21 05 33.4**	**-0.5**
MCEL				AML	AML				
	comp=E,348μm,0.4s								
MCEL				AML	AML				
	comp=N,218μm,0.6s								
MCEL				AML	AML				
	comp=E,356μm,0.4s								
MCEL				AML	AML				
	comp=N,236μm,0.6s								
MCEL				AML	AML				
	comp=E,473μm,0.9s								
MCEL				AML	AML				
	comp=N,350μm,1.1s								
MCEL				AML	AML				
	comp=E,473μm,0.9s								
MCEL				AML	AML				
	comp=N,350μm,1.1s								
BULG	**Bulgheria - Ca**	**0.50**	**289**	P		**Pg**		**21 05 34.3**	**+0.1**
BULG				AML	AML				
	comp=E,210μm,0.3s								
BULG				AML	AML				
	comp=N,324μm,0.3s								
BULG				AML	AML				
	comp=E,223μm,0.3s								
BULG				AML	AML				
	comp=N,328μm,0.3s								
BULG				AML	AML				
	comp=E,402μm,0.3s								
BULG				AML	AML				
	comp=N,842μm,0.3s								
BULG				AML	AML				
	comp=E,414μm,1.0s								
BULG				AML	AML				
	comp=N,877μm,0.3s								
BULG				AML	AML				
	comp=N,877μm,0.3s								
BULG				AML	AML				
	comp=N,842μm,0.3s								
BULG				AML	AML				
	comp=E,414μm,1.0s								
BULG				AML	AML				
	comp=E,402μm,0.3s								
SLCN	**Sala Consilina**	**0.55**	**330**	P		**Pb**		**21 05 35.4**	**-0.4**
SLCN				AML	AML				
	comp=E,389μm,1.1s								
SLCN				AML	AML				
	comp=N,322μm,0.6s								
SLCN				AML	AML				
	comp=E,401μm,0.4s								
SLCN				AML	AML				
	comp=N,260μm,0.5s								
SLCN				AML	AML				
	comp=E,815μm,0.4s								
SLCN				AML	AML				
	comp=N,612μm,0.5s								
SLCN				AML	AML				
	comp=E,860μm,0.4s								
SLCN				AML	AML				
	comp=N,652μm,0.5s								
SLCN				AML	AML				
	comp=N,612μm,0.5s								
SLCN				AML	AML				
	comp=E,815μm,0.4s								
SLCN				AML	AML				
	comp=E,860μm,0.4s								
SLCN				AML	AML				
	comp=N,652μm,0.5s								
CELI	**Celico**	**0.65**	**142**	P		**Pb**		**21 05 36.9**	**-0.5**
CMPR	**Campora**	**0.67**	**307**	P		**Pg**		**21 05 36.9**	**-0.3**
CMPR				AML	AML				
	comp=E,368μm,1.3s								
CMPR				AML	AML				
	comp=N,458μm,0.4s								
CMPR				AML	AML				
	comp=N,458μm,0.4s								
CMPR				AML	AML				
	comp=E,368μm,1.3s								
MIGL	**Miglionico**	**0.77**	**26**	P		**Pg**		**21 05 38.9**	**-0.2**
MIGL				AML	AML				
	comp=E,410μm,0.4s								
MIGL				AML	AML				
	comp=N,366μm,0.5s								
MIGL				AML	AML				
	comp=E,410μm,0.4s								
MIGL				AML	AML				
	comp=N,366μm,0.5s								
SG1	**Sgolgore (BA)**	**1.06**	**29**	*e*Pg		**Pg**		**21 05 46.0**	**+1.3**
MASS	**Massafra**	**1.13**	**50**	*e*Pg		**Pg**		**21 05 46.5**	**+0.4**

ROM 24 21:05:49.2±0.1, **39.913N**±0.005×**16.015E**±0.007, **h8**km, **ML2.4/11**, **1C**, **Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CUC	**Castrocucco**	**0.17**	**298**	P		Pg		21 05 53.3	+0.4
CUC				S		Sg		21 05 56.3	+1.0
CUC				AML	AML				
	comp=E,3790μm,0.7s								
CUC				AML	AML				
	comp=N,2515μm,0.3s								
CUC				AML	AML				
	comp=E,3790μm,0.7s								
CUC				AML	AML				
	comp=N,2515μm,0.3s								
CUC				AML	AML				
	comp=E,3790μm,0.7s								
CUC				AML	AML				
	comp=N,2515μm,0.3s								
T0702	**Acquaformosa (**	**0.20**	**164**	P		Pg		21 05 54.1	+0.8
T0702				S		Sg		21 05 57.5	+1.4
T0702				AML	AML				
	comp=E,1495μm,0.2s								
T0702				AML	AML				
	comp=N,1535μm,0.2s								
T0702				AML	AML				
	comp=E,1496μm,0.2s								
T0702				AML	AML				
	comp=N,1530μm,0.2s								
T0702				AML	AML				
	comp=N,1530μm,0.2s								
T0702				AML	AML				
	comp=E,1496μm,0.2s								
SALB	**San Lorenzo Be**	**0.26**	**98**	P		Pg		21 05 54.8	+0.4
SALB				S		Sb		21 05 59.6	-1.2
SALB				AML	AML				
	comp=E,1780μm,0.4s								
SALB				AML	AML				
	comp=N,1010μm,0.5s								
SALB				AML	AML				
	comp=E,1895μm,0.4s								
SALB				AML	AML				
	comp=N,936μm,0.5s								
SALB				AML	AML				
	comp=E,1780μm,0.4s								
SALB				AML	AML				
	comp=N,1012μm,0.5s								
SALB				AML	AML				
	comp=E,1895μm,0.4s								
SALB				AML	AML				
	comp=N,936μm,0.5s								
SALB				AML	AML				
	comp=N,936μm,0.5s								
SALB				AML	AML				
	comp=N,1012μm,0.5s								
SALB				AML	AML				
	comp=E,1895μm,0.4s								
SALB				AML	AML				
	comp=E,1780μm,0.4s								
SCHR	**S. Chirico Rap**	**0.29**	**9**	P		Pg		21 05 55.2	+0.2
SCHR				AML	AML				
	comp=E,440μm,1.5s								
SCHR				AML	AML				
	comp=N,460μm,0.8s								
SCHR				AML	AML				
	comp=E,440μm,1.5s								
SCHR				AML	AML				
	comp=N,460μm,0.8s								
SCHR				AML	AML				
	comp=N,460μm,0.8s								
SCHR				AML	AML				
	comp=E,440μm,1.5s								
SIRI	**Monte Sirino -**	**0.29**	**337**	P		Pb		21 05 56.0	-0.8
SIRI				S		Sb		21 06 01.2	-0.6
SIRI				AML	AML				
	comp=E,2485μm,0.3s								
SIRI				AML	AML				
	comp=N,1815μm,0.3s								
SIRI				AML	AML				
	comp=E,2575μm,0.3s								
SIRI				AML	AML				
	comp=N,1855μm,0.3s								
SIRI				AML	AML				
	comp=N,1815μm,0.3s								
SIRI				AML	AML				
	comp=N,1855μm,0.3s								
SIRI				AML	AML				
	comp=E,2485μm,0.3s								
SIRI				AML	AML				
	comp=E,2575μm,0.3s								
ORI	**Oriolo Calabro**	**0.37**	**66**	P		Pb		21 05 57.7	-0.3
CET2	**Cetraro**	**0.39**	**187**	P		Pg		21 05 57.5	+0.7
CET2				S		Sg		21 06 03.1	+1.2
MTSN	**Montesano sull**	**0.41**	**330**	P		Pg		21 05 57.9	+0.7
MTSN				AML	AML				
	comp=E,501μm,0.4s								
MTSN				AML	AML				
	comp=N,590μm,0.8s								
MTSN				AML	AML				
	comp=N,590μm,0.8s								
MTSN				AML	AML				
	comp=E,501μm,0.4s								
MGR	**Morigerati**	**0.42**	**303**	P		Pg		21 05 57.8	+0.4
MGR				AML	AML				
	comp=E,906μm,0.3s								
MGR				AML	AML				
	comp=N,657μm,0.7s								
MGR				AML	AML				
	comp=E,906μm,0.3s								
MGR				AML	AML				
	comp=N,657μm,0.7s								
MGR				AML	AML				
	comp=E,906μm,0.3s								
MGR				AML	AML				
	comp=N,657μm,0.7s								
MCEL	**Monticello**	**0.44**	**338**	P		Pg		21 05 58.5	+0.6
MCEL				AML	AML				
	comp=E,460μm,0.9s								
MCEL				AML	AML				
	comp=N,354μm,1.1s								
MCEL				AML	AML				
	comp=E,473μm,0.9s								
MCEL				AML	AML				
	comp=N,349μm,1.1s								
MCEL				AML	AML				
	comp=E,473μm,0.9s								
MCEL				AML	AML				
	comp=N,350μm,1.1s								
MCEL				AML	AML				
	comp=E,473μm,0.9s								
MCEL				AML	AML				
	comp=N,350μm,1.1s								
BULG	**Bulgheria - Ca**	**0.52**	**289**	P		Pg		21 05 59.7	+0.4
BULG				AML	AML				
	comp=E,402μm,0.3s								
BULG				AML	AML				
	comp=N,842μm,0.3s								
BULG				AML	AML				
	comp=E,414μm,1.0s								
BULG				AML	AML				
	comp=N,877μm,0.3s								
BULG				AML	AML				
	comp=N,877μm,0.3s								
BULG				AML	AML				
	comp=N,842μm,0.3s								
BULG				AML	AML				
	comp=E,414μm,1.0s								
BULG				AML	AML				
	comp=E,402μm,0.3s								
SLCN	**Sala Consilina**	**0.56**	**329**	P		Pb		21 06 00.8	-0.5
SLCN				AML	AML				
	comp=E,815μm,0.4s								
SLCN				AML	AML				
	comp=N,612μm,0.5s								
SLCN				AML	AML				
	comp=E,860μm,0.4s								
SLCN				AML	AML				
	comp=N,652μm,0.5s								
SLCN				AML	AML				
	comp=E,860μm,0.4s								
SLCN				AML	AML				
	comp=N,652μm,0.5s								
SLCN				AML	AML				
	comp=N,612μm,0.5s								
SLCN				AML	AML				
	comp=E,815μm,0.4s								
PTRP	**Pietrapertosa**	**0.61**	**3**	P		Pb		21 06 02.3	+0.1
CELI	**Celico**	**0.64**	**143**	P		Pb		21 06 02.1	-0.5
CMPR	**Campora**	**0.68**	**307**	P		Pb		21 06 02.9	-0.5
CMPR				AML	AML				
	comp=E,368μm,1.3s								
CMPR				AML	AML				
	comp=N,458μm,0.4s								
CMPR				AML	AML				
	comp=N,458μm,0.4s								
CMPR				AML	AML				
	comp=E,368μm,1.3s								
TIP	**Timpagrande**	**0.93**	**142**	⇑*iP*		Pn		21 06 12.1	+3.5

*ATH **24** 21:20:43.5, 36.68N×28.05E, h26km±2km, ML3.0/3, Error ellipse: s-maj=4.1km s-min=1.2km az=215.0*
*THE **24** 21:20:44.5, 36.65N×27.99E, h0km±1km, ML2.8/3, Error ellipse: s-maj=1.5km s-min=0.7km az=28.0*
*DDA **24** 21:20:44.6, 36.59N×27.96E, h4km, Ml2.9*
*ISK **24** 21:20:44.6, 36.64N×27.96E, h5km, ML2.8/12*
*ISCJB **24** 21:20:45.3±0.4, 36.62N±0.03×27.95E±0.02, h8km±4km, Error ellipse: s-maj=5.0km s-min=3.3km az=3.8*

ISC 24 21:20:44.3±1.0, **36.53N**±0.03×**27.92E**±0.02, **h11**km±8km, **n41**, σ1**s67**/60, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRSB	**Marmaris-Mugla**	**0.29**	**49**	PG		**Pg**		**21 20 49.1**	**-1.3**
MRSB				SG		**Sg**		**21 20 52.4**	**-2.0**
DATC	**Datca-Mugla**	**0.31**	**318**	PG		**Pg**		**21 20 50.4**	**-0.3**
DAT	**Datca**	**0.34**	**307**	PG		**Pg**		**21 20 51.4**	**+0.1**
DAT	**Datca**	**0.34**	**307**	*i* P		**Pg**		**21 20 51.3**	**0.0**
DAT				*i* S		**Sb**		**21 20 57.7**	**-0.3**
ARG	**Arkhangelos**	**0.35**	**151**	PG		**Pb**		**21 20 52.4**	**-0.2**
ARG				SG		**Sn**		**21 21 00.6**	**+4.5**
ARG	**Arkhangelos**	**0.35**	**151**	P		**Pn**		**21 20 53.6**	**-1.8**
ARG				S		**Sn**		**21 21 00.5**	**+4.5**
ARG				AML	AML	21 21 02.3			
	comp=N,3081μm,0.4s								
ARG				AML	AML	21 21 04.7			
	comp=E,3178μm,0.3s								
ARG	**Arkhangelos**	**0.35**	**151**	P		**Pb**		**21 20 53.4**	**+0.8**
ARG				S		**Sn**		**21 21 01.1**	**+5.1**
NIS1	**Nisyros Isl.**	**0.60**	**278**	PG		**Pb**		**21 20 57.2**	**+0.4**
NIS1	**Nisyros Isl.**	**0.60**	**278**	P		**Pb**		**21 20 57.4**	**+0.5**
NIS1				S		**Sn**		**21 21 07.9**	**-0.6**
NIS1				AML	AML	21 21 14.0			
	comp=N,4451μm,0.3s								
NIS1				AML	AML	21 21 15.1			
	comp=E,4287μm,0.5s								
NIS1	**Nisyros Isl.**	**0.60**	**278**	P		**Pb**		**21 20 57.3**	**+0.4**
NIS1				S		**Sn**		**21 21 08.2**	**-0.4**
NISR	**Nisiros**	**0.64**	**278**	P		**Pn**		**21 20 58.2**	**-1.1**
NISR				S		**Sn**		**21 21 09.3**	**-0.2**
NISR				AML	AML	21 21 12.4			
	comp=E,2111μm,0.5s								
NISR				AML	AML	21 21 13.0			
	comp=N,1136μm,0.3s								
NISR	**Nisiros**	**0.64**	**278**	P		**Pn**		**21 20 58.4**	**-0.9**
NISR				S		**Sn**		**21 21 10.4**	**+0.9**
TURN	**Turunc**	**0.65**	**57**	PG		Pg		21 20 50.5	-6.5
TURN	**Turunc**	**0.65**	**57**	*i* P		Pg		21 20 50.0	-7.0
TURN				*i* S		Sg		21 20 54.8	-11
DALY	**Dalyan (Mu¨la**	**0.66**	**63**	PG		**Pg**		**21 20 56.3**	**-0.8**
DALY	**Dalyan (Mu¨la**	**0.66**	**63**	*i* P		**Pg**		**21 20 56.3**	**-0.8**
DALY				*i* S		**Sg**		**21 21 05.4**	**-0.4**
BODT	**Bodrum**	**0.73**	**318**	PG		**Pg**		**21 20 57.9**	**-0.5**
BODT	**Bodrum**	**0.73**	**318**	P		**Pg**		**21 20 58.0**	**-0.5**
BODT				S		**Sb**		**21 21 09.0**	**0.0**
MLSB	**Milas**	**0.78**	**352**	PG		**Pb**		**21 20 57.9**	**-2.0**
FETY	**Fethiye**	**0.94**	**83**	PG		**Pb**		**21 21 02.4**	**-0.3**
FETY	**Fethiye**	**0.94**	**83**	P		**Pb**		**21 21 02.4**	**-0.3**
FETY				S		**Sg**		**21 21 15.9**	**+1.1**
AYDN	**Tasoluk**	**1.13**	**358**	*i* P		**Pb**		**21 21 04.5**	**-1.7**
AYDN				*i* S		**Sb**		**21 21 19.9**	**-0.9**
TAVA	**DENIZLI_Tavas**	**1.23**	**40**	*i* P		**Pn**		**21 21 06.7**	**-0.8**
TAVA				*i* S		**Sg**		**21 21 26.6**	**+2.6**
AKAS	**Kas**	**1.39**	**102**	PN		**Pg**		**21 21 11.3**	**+0.2**
AKAS	**Kas**	**1.39**	**102**	*i* P		**Pg**		**21 21 11.6**	**+0.5**
AKAS				*i* S		**Sg**		**21 21 33.9**	**+4.8**
AYDB	**Zeytinkoy-Aydi**	**1.42**	**359**	PN		**Pn**		**21 21 09.9**	**-0.3**
SMG	**Samos**	**1.47**	**324**	P		**Pn**		**21 21 09.6**	**-1.1**
DNZL	**Cakiroluk**	**1.47**	**37**	*i* P		**Pb**		**21 21 12.2**	**+0.4**
DNZL				*i* S		**Sg**		**21 21 33.0**	**+1.2**
GOLH	**Golhisar**	**1.50**	**61**	*i* P		**Pb**		**21 21 11.8**	**-0.4**
GOLH				*i* S		**Sg**		**21 21 35.5**	**+3.0**
ELL	**Elmali**	**1.62**	**81**	PN		**Pb**		**21 21 13.7**	**-0.5**
AMGA	**Amorgos Island**	**1.66**	**281**	P		**Pn**		**21 21 13.7**	**+0.4**

ZKR	Zakros	1.97	225	P		Pb	21 21 20.3	+0.1
APE	Apeiranthos	1.99	287	P		Pn	21 21 18.1	+0.1
KORT	Korkueli	2.01	76	*i* P		Pb	21 21 21.6	+0.7
KORT				*i* S		Sg	21 21 52.7	+3.7
MANT	Manisa	2.03	14	*i* P		Pb	21 21 22.5	+1.2
MANT				*i* S		Sb	21 21 48.0	+1.3
KULA	Kula-Manisa	2.07	16	PN		Pn	21 21 19.1	0.0
BRDR	BURDUR-Merkez	2.07	55	*i* P		Pb	21 21 21.4	-0.6
BRDR				*i* S		Sg	21 21 51.8	+0.7
URLA	Izmir	2.11	330	PN		Pn	21 21 20.2	+0.6
KHAL	Karahalli	2.23	34	*i* P		Pn	21 21 21.7	+0.4
KHAL				*i* S		Sn	21 21 48.4	-0.4
CHOS	Chios island	2.38	322	P		Pn	21 21 22.7	-0.6
LAST	Lasithi	2.41	236	P		Pb	21 21 26.2	-1.5

IDC **24** *21:31:14.3±0.6,36°.53N×27°.94E, h0km, mb4.2/17, mb1 4.2/29,mb1mx4.1/42, mbtmp4.1/29, ML4.0/7, MS3.1/4, Ms1 3.1/4, ms1mx2.6/39, Error ellipse: s-maj=13.0km s-min=11.0km az=177.0*

ISCJB **24** *21:31:14.5±0.4, 36°.52N±0°.01×27°.99E±0°.01, h9km±2km, mb4.4/43, MS2.8/1, Error ellipse: s-maj=2.4km s-min=1.6km az=14.4*

NEIC **24** *21:31:14.9±0.0, 36°.60N×27°.91E, h8km, mb4.3/27, ML4.1(THE), ML4.3(ISK), After ISK.*

NEIC Felt at Lakkion and Rodos.

ISK **24** *21:31:15.1, 36°.61N×27°.93E, h8km, ML4.3/22*

ATH **24** *21:31:15.8, 36°.64N×27°.93E, h26km, ML4.1/13, Error ellipse: s-maj=1.1km s-min=0.7km az=205.0*

DDA **24** *21:31:15.2, 36°.59N×27°.93E, h21km, Ml4.2*

MOS **24** *21:31:16.4±1.2, 36°.56N×27°.97E, h21km, mb4.6/29, Error ellipse: s-maj=5.3km s-min=3.3km az=112.9*

THE **24** *21:31:16.3, 36°.63N×27°.97E, h0km±1km, ML4.1/7, Error ellipse: s-maj=1.3km s-min=0.7km az=20.0*

NIC **24** *21:31:19.2±0.2, 36°.77N×28°.30E, h12km, mb4.5, ML4.1*

HLW **24** *21:31:20.2, 36°.25N×28°.31E, h1 1km±15km, Md4.3, Ml4.4*

GII **24** *21:31:20.2±0.0, 36°.48N×28°.19E, h30km±1km, mb4.4/1, MD4.2/1*

ISC 24 21:31:16.5±0.9,**36°.57N**±0°.02×**27°.95E**±0°.01,**h12**km±5km, **n564,σ1°61/633,mb4.5/43,31C-13D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MRSB	Marmaris-Mugla	0.25	54	PG		Pg		21 31 20.3	-1.4
MRSB				SG		Sg		21 31 23.6	-1.7
DATC	Datca-Mugla	0.30	310	PG		Pg		21 31 21.5	-1.1
DAT	Datca	0.34	298	PG		Pg		21 31 21.8	-1.6
DAT	Datca	0.34	298	↑P		Pg		21 31 22.5	-0.9
DAT				*i* S		Sg		21 31 28.6	+0.6
ARG	Arkhangelos	0.38	158	PG		Pg		21 31 23.6	-0.5
ARG	Arkhangelos	0.38	158	*e*Pg		Pg		21 31 24.6	+0.5
ARG	Arkhangelos	0.38	158	P		Pb		21 31 24.8	-0.4
ARG				S		Sb		21 31 32.2	+1.1
ARG				AML	AML		21 31 33.5		
ARG				AML	AML		21 31 34.7		
	comp=E,77234μm,0.3s								
ARG	Arkhangelos	0.38	158	P		Pg		21 31 24.6	+0.5
ARG				S		Sb		21 31 32.5	+1.5
ARG	Arkhangelos	0.38	158	*e*P		Pg		21 31 24.6	+0.5
TURN	Turunc	0.61	60	PG		Pg		21 31 21.5	-6.9
TURN	Turunc	0.61	60	↑P		Pg		21 31 21.5	-6.9
TURN				*i* S		Sg		21 31 28.5	-10
DALY	Dalyan (Mu˘la	0.62	66	PG		Pg		21 31 27.9	-1.7
DALY	Dalyan (Mu˘la	0.62	66	↑P		Pg		21 31 26.9	-1.7
DALY				*i* S		Sb		21 31 38.1	+0.2
NIS1	Nisyros Isl.	0.62	273	PG		Pg		21 31 26.9	-1.7
NIS1	Nisyros Isl.	0.62	273	*e*Sg		Sb		21 31 38.8	+0.8
NIS1	Nisyros Isl.	0.62	273	P		Pg		21 31 28.4	-0.2
NIS1				S		Sg		21 31 37.1	+0.3
NIS1				AML	AML		21 31 42.7		
NIS1				AML	AML		21 31 45.8		
NIS1	Nisyros Isl.	0.62	273	P		Pg		21 31 28.2	-0.4
NIS1				S		Sb		21 31 38.8	+0.8
NISR	Nisiros	0.66	274	*e*Pg		Pg		21 31 29.5	+0.1
NISR				*e*Sg		Sn		21 31 41.8	-0.2
NISR	Nisiros	0.66	274	P		Pg		21 31 29.3	-0.1
NISR				S		Sg		21 31 38.0	0.0
NISR				AML	AML		21 31 43.9		
	comp=E,74748μm,0.5s								
NISR				AML	AML		21 31 48.1		
	comp=N,40256μm,0.6s								
NISR	Nisiros	0.66	274	P		Pg		21 31 29.5	+0.1
NISR				S		Sn		21 31 41.8	-0.2
BODT	Bodrum	0.71	314	PG		Pg		21 31 28.3	-2.0
BODT	Bodrum	0.71	314	*e*Pg		Pg		21 31 28.8	-1.5
BODT				*e*Sg		Sb		21 31 40.4	-0.2
BODT	Bodrum	0.71	314	P		Pg		21 31 28.8	-1.5
BODT				S		Sb		21 31 40.4	-0.2
MLSB	Milas	0.74	349	PG		Pg		21 31 29.2	-1.6
MLSB				SG		Sg		21 31 39.1	-1.4
FETY	Fethiye	0.92	86	PG		Pg		21 31 33.6	-0.6
FETY	Fethiye	0.92	86	*e*Pg		Pg		21 31 32.6	-1.6
FETY				*e*Sn		Sn		21 31 47.7	-0.7
FETY	Fethiye	0.92	86	P		Pg		21 31 32.1	-1.6
FETY				S		Sn		21 31 47.7	-0.7
DIDI	Didim-Aydin	0.98	325	PG		Pg		21 31 33.6	-1.9
AYDN	Tasoluk	1.09	357	↑P		Pb		21 31 35.5	-1.8
AYDN				*i* S		Sb		21 31 51.0	-0.6
TAVA	DENIZLI_Tavas	1.18	41	↓P		Pb		21 31 37.6	-1.4
TAVA				*i* S		Sn		21 31 57.1	+2.1
AYDB	Zeytinkoy-Aydi	1.38	358	PN		Pn		21 31 40.8	-0.9
AKAS	Kas	1.38	104	PN		Pb		21 31 42.5	+0.2
AKAS	Kas	1.38	104	↑P		Pn		21 31 41.7	0.0
AKAS				*i* S		Sg		21 32 11.0	+10
KSL	Kastellorizon	1.39	107	*e*Pn		Pg		21 31 42.8	-0.3
KSL	Kastellorizon	1.39	107	P		Pb		21 31 42.4	+0.1
KSL				S		Sg		21 32 01.3	+0.2
KSL				AML	AML		21 32 10.6		
	comp=N,2746μm,0.7s								
KSL				AML	AML		21 32 13.3		
	comp=E,5582μm,1.1s								
KSL	Kastellorizon	1.39	107	P		Pg		21 31 42.8	-0.3
KSL				S		Sg		21 32 01.7	+0.6
DNZL	Cakiroluk	1.42	38	↓P		Pn		21 31 42.4	0.0
DNZL				*i* S		Sg		21 32 06.0	+3.6
SMG	Samos	1.44	322	P		Pn		21 31 40.9	-1.6
SMG	Samos	1.44	322	P		Pn		21 31 41.4	-1.1
SMG				S		Sn		21 32 00.4	-1.0
SMG				AML	AML		21 32 07.2		
	comp=N,12953μm,0.7s								
SMG				AML	AML		21 32 07.8		
	comp=E,22175μm,0.4s								
SMG	Samos	1.44	322	P		Pn		21 31 40.9	-1.6
SMG				S		Sg		21 32 03.0	0.0
GOLH	Golhisar	1.46	62	*i* P		Pb		21 31 43.2	-0.4
GOLH				*i* S		Sg		21 32 07.1	+3.7
DENT	Denizli	1.47	36	PN		Pn		21 31 42.6	-0.2
ELL	Elmali	1.59	83	PN		Pn		21 31 44.8	+0.3
ELL	Elmali	1.59	83	P		Pb		21 31 45.3	-0.5
AMGA	Amorgos Island	1.67	280	P		Pn		21 31 44.7	-0.9
AMGA				S		Sn		21 32 06.2	-0.8
AMGA				AML	AML		21 32 21.5		
	comp=E,5170μm,0.9s								
AMGA				AML	AML		21 32 25.8		
	comp=N,4952μm,0.8s								
AMGA	Amorgos Island	1.67	280	P		Pn		21 31 44.7	-0.9
AMGA				S		Sb		21 32 08.5	+0.3
DGB	˜zmir	1.71	330	↑P		Pn		21 31 44.5	-1.6
DGB				*i* S		Sb		21 32 09.8	+0.6
GMLD	Gumuldur	1.71	332	PN		Pn		21 31 45.1	-1.1
ANAF	Anafi Island	1.77	264	P		Pn		21 31 46.8	-0.1
ANAF				S		Sn		21 32 08.7	-0.6
ANAF				AML	AML		21 32 21.6		
	comp=N,23519μm,0.4s								
ANAF				AML	AML		21 32 23.1		
	comp=E,20192μm,0.4s								
ANAF	Anafi Island	1.77	264	P		Pn		21 31 46.6	-0.3
KORT	Korkueli	1.98	77	PN		Pn		21 31 50.2	+0.3
KORT	Korkueli	1.98	77	↓P		Pb		21 31 52.7	+0.2
KORT				*i* S		Sg		21 32 21.5	+1.4
MANT	Manisa	1.98	14	*i* P		Pb		21 31 49.0	-1.0
MANT				*i* S		Sg		21 32 19.0	-1.2
MANT	Manisa	1.98	14	*e*Pn		Pn		21 31 51.0	+1.0
MANT				*e*Sn		Sg		21 32 19.9	-0.3
APE	Apeiranthos	2.00	285	PN		Pn		21 31 49.3	-0.9
APE	Apeiranthos	2.00	285	*e*Pn		Pn		21 31 49.6	-0.6
APE	Apeiranthos	2.00	285	P		Pn		21 31 49.4	-0.9
APE	Apeiranthos	2.00	285	P		Pn		21 31 49.6	-0.6
APE	Apeiranthos	2.00	285	*i* P		Pn		21 31 49.3	-0.9
SANT	Santorini	2.02	265	PN		Pn		21 31 49.9	-0.5
SANT	Santorini	2.02	265	*e*Pn		Pn		21 31 50.1	-0.3
SANT	Santorini	2.02	265	P		Pn		21 31 49.9	-0.5
SANT				AML	AML		21 32 28.1		
	comp=E,4702μm,0.9s								
SANT				AML	AML		21 32 28.4		
	comp=N,3981μm,0.7s								
ZKR	Zakros	2.02	225	*e*Pn		Pn		21 31 51.5	+1.1
ZKR				*e*Sn		Sb		21 32 19.2	+0.9
ZKR	Zakros	2.02	225	P		Pn		21 31 51.5	+1.1
ZKR				S		Sb		21 32 17.0	-1.3
ZKR				AML	AML		21 32 29.0		
	comp=E,4370μm,0.9s								
ZKR				AML	AML		21 32 46.6		
	comp=N,2025μm,0.6s								
ZKR	Zakros	2.02	225	P		Pn		21 31 51.5	+1.1
ZKR				S		Sb		21 32 19.2	+0.9
KULA	Kula-Manisa	2.02	16	PN		Pn		21 31 49.6	-0.9
THR2	Thira island,	2.03	267	*e*Pn		Pn		21 31 50.2	-0.3
THR2	Thira island,	2.03	267	P		Pn		21 31 50.2	-0.3
BRDR	BURDUR-Merkez	2.03	56	↓P		Pb		21 31 52.4	-1.0
BRDR				*i* S		Sg		21 32 20.9	-0.9
STIA	Sitia Lasithi	2.03	228	P		Pn		21 31 51.9	+1.4
STIA				S		Sb		21 32 19.0	+0.4
THR7	Fira-Santorini	2.04	267	P		Pn		21 31 50.7	+0.1
THT2	Imerovigli	2.04	267	P		Pn		21 31 51.2	+0.5
THT2				AML	AML		21 32 31.2		
	comp=E,15309μm,0.9s								
THT2				AML	AML		21 32 32.0		
	comp=N,10955μm,0.8s								
THT2	Imerovigli	2.04	267	P		Pn		21 31 51.2	+0.5
CMBO	Columbo, Santo	2.05	268	P		Pn		21 31 50.7	-0.1
THR3	Thira Island,	2.06	266	*e*Pn		Pn		21 31 50.7	-0.2
THR3	Thira Island,	2.06	266	P		Pn		21 31 50.7	-0.2
THR6	Thira Island,	2.07	265	*e*Pn		Pn		21 31 51.0	0.0
THR6	Thira Island,	2.07	265	P		Pn		21 31 51.0	0.0
THR6	Thira Island,	2.07	265	P		Pn		21 31 51.0	0.0
SAP1	Santorini-Akro	2.07	265	P		Pn		21 31 51.2	+0.2
URLA	Izmir	2.09	329	PN		Pn		21 31 50.5	-0.8
URLA	Izmir	2.09	329	*i* P		Pn		21 31 50.2	-1.1
URLA				*i* S		Sb		21 32 21.7	+1.5
KEMT	Kemer-ANTALYA	2.10	88	PN		Pn		21 31 51.9	+0.5
THR5	Thira Island,	2.10	267	P		Pn		21 31 51.5	0.0
GOMA	Golmarmara-Man	2.13	359	PN		Pn		21 31 50.8	-1.2
IOSP	Ios island	2.14	275	P		Pn		21 31 51.8	-0.3
IOSP	Ios island	2.14	275	P		Pn		21 31 51.6	-0.5
KHL	Karahalli	2.15	35	PN		Pn		21 31 51.9	-0.4
KHAL	Karahalli	2.18	34	*i* P		Pn		21 31 52.3	-0.4
KHAL				*i* S		Sn		21 32 19.5	-0.1
CESE	˜e˘me	2.19	324	PN		Pn		21 31 52.3	-0.5
ANTB	Antalya	2.20	81	PN		Pn		21 31 53.4	+0.6
NPS	Neapolis	2.30	236	P		Pn		21 31 54.9	+0.6
NPS				S		Sn		21 32 23.6	+1.1
NPS	Neapolis	2.30	236	P		Pn		21 31 54.8	+0.5
NPS				S		Sn		21 32 23.3	+0.8
NPS				AML	AML		21 32 27.2		
	comp=E,4116μm,0.4s								
NPS				AML	AML		21 32 29.5		
	comp=N,3232μm,0.4s								
NPS	Neapolis	2.30	236	P		Pn		21 31 54.9	+0.6
NPS				S		Sn		21 32 23.6	+1.1
NPS	Neapolis	2.30	236	P		Pn		21 31 54.9	+0.6
NPS				S		Sn		21 32 23.6	+1.1
KRBN	Karaburun	2.30	332	PN		Pn		21 31 53.8	-0.5
AKHS	Akhisar	2.31	357	*i* P		Pn		21 31 52.7	-1.7
CHOS	Chios island	2.36	321	PN		Pn		21 31 54.4	-0.7
CHOS	Chios island	2.36	321	P		Pn		21 31 54.0	-1.1
CHOS	Chios island	2.36	321	P		Pn		21 31 53.9	-1.1
CHOS	Chios island	2.36	321	P		Pn		21 31 54.0	-1.1
ISP	Isparta	2.41	58	PN		Pn		21 31 55.9	+0.1
ISP	Isparta	2.41	58	*e*Pn		Pn		21 31 56.2	+0.4
ISP	Isparta	2.41	58	P		Pn		21 31 57.3	+1.5
ISP	Isparta	2.41	58	Pn		Pn		21 31 56.2	+0.4
ISP	Isparta	2.41	58	*e*P		Pn		21 31 56.2	+0.4
KZIL	AFYON_Kizioren	2.43	45	*i* P		Pn		21 31 57.2	+1.1
KZIL				*i* S		Sg		21 32 32.5	-2.1
TNSA	Tinos	2.43	294	P		Pn		21 31 55.8	-0.2
LAST	Lasithi	2.45	236	*e*Pn		Pn		21 31 57.1	+0.7
LAST	Lasithi	2.45	236	P		Pn		21 31 57.0	+0.7
LAST				S		Sn		21 32 26.4	+0.2
LAST				AML	AML		21 32 45.0		
	comp=N,1448μm,0.5s								
LAST				AML	AML		21 32 51.5		
	comp=E,1243μm,0.7s								
LAST	Lasithi	2.45	236	P		Pn		21 31 57.1	+0.7
DEMI	Demirci	2.54	14	*i* P		Pn		21 31 56.8	-0.9
DKL	Dikili	2.63	342	PN		Pn		21 31 58.7	-0.1
SIMA	Simav-Kutahya	2.64	18	PN		Pn		21 31 58.8	-0.2
SMAA	Simav-Kutahya	2.66	18	PN		Pn		21 31 58.8	-0.4
BAGO	Egridir - ISPA	2.67	57	*i* P		Pn		21 31 59.7	+0.2
GEDZ	Gediz	2.73	25	PN		Pn		21 32 00.0	-0.2
PSRA	Psara	2.73	317	P		Pn		21 32 00.5	+0.3
IDI	Anoyia	2.79	244	PN		Pn		21 32 00.5	-0.6
IDI	Anoyia	2.79	244	Pn		Pn		21 32 01.9	+0.9
	comp=E,24nm,0.3s,baz=40,slow=6.9,SNR=60								
IDI				Sn		Sn		21 32 34.8	+0.1
	comp=E,47nm,0.3s,baz=145,slow=22,SNR=7.7								
IDI	Anoyia	2.79	244	*e*Pn		Pn		21 32 01.0	-0.1
IDI				Sn		Sn		21 32 34.8	+0.1
IDI	Anoyia	2.79	244	P		Pn		21 32 00.7	-0.3
IDI	Anoyia	2.79	244	P		Pn		21 32 01.0	-0.1
MHLA	Plaka, Milos I	2.84	275	P		Pn		21 32 01.5	-0.1
MHLA				AML	AML		21 32 52.5		
	comp=N,4506μm,0.9s								
MHLA				AML	AML		21 32 54.9		
	comp=E,2995μm,1.4s								
MHLO	Agia Marina, M	2.85	273	P		Pn		21 32 02.8	+0.9
AYVA	Ayvalik	2.91	340	*i* P		Pg		21 32 11.1	-1.2
AYVA				*i* S		Sg		21 32 50.0	0.0
KEPZ	Antalya-Kepez	2.96	82	*i* P		Pb		21 32 06.6	-2.4
KEPZ				*i* S		Sb		21 32 43.9	-1.4
PRK	Paraskevi	2.98	334	P		Pn		21 32 02.7	-0.9
PRK	Paraskevi	2.98	334	P		Pn		21 32 02.5	-1.1
PRK	Paraskevi	2.98	334	P		Pn		21 32 02.7	-0.9
PRK	Paraskevi	2.98	334	P		Pn		21 32 02.7	-0.9
SIVA	Sivas	2.98	240	P		Pn		21 32 05.7	+2.1
SIVA	Sivas	2.98	240	P		Pn		21 32 04.8	+1.2
SIVA	Sivas	2.98	240	P		Pn		21 32 05.7	+2.1
BALB	Balikesir	3.07	359	PN		Pn		21 32 04.5	-0.3
SIGR	SIGRI	3.11	329	PN		Pn		21 32 03.9	-1.5
SIGR	SIGRI	3.11	329	*e*Pn		Pn		21 32 04.4	-1.0
SIGR	SIGRI	3.11	329	P		Pn		21 32 04.3	-1.0
SIGR	SIGRI	3.11	329	P		Pn		21 32 04.4	-1.0
VAM	Vamos	3.25	250	P		Pn		21 32 07.6	+0.2
DOGA	KONYA_Doganhis	3.34	62	*i* P		Pn		21 32 11.3	+2.7
DOGA				*i* S		Sn		21 32 50.9	+2.5
IMMV	Iera Moni Meta	3.40	252	P		Pn		21 32 07.7	-1.6
EZN	Ezine	3.49	339	*e*Pn		Pn		21 32 10.0	-0.6
EZN	Ezine	3.49	339	P		Pn		21 32 10.0	-0.6
EZN	Ezine	3.49	339	*e*P		Pn		21 32 10.0	-0.6
DION	Dionisos Attik	3.54	296	P		Pn		21 32 11.2	-0.1
GAZI	Gazipasa	3.54	94	*i* P		Pb		21 32 15.8	-3.3
GAZI				*i* S		Sn		21 32 57.0	+3.9
VLY	Voula,Athens	3.55	292	*e*Pn		Pn		21 32 11.8	+0.3
VLY	Voula,Athens	3.55	292	P		Pn		21 32 10.4	-1.1
VLY	Voula,Athens	3.55	292	P		Pn		21 32 11.8	+0.3
PTL	Penteli	3.57	296	*e*Pn		Pn		21 32 12.0	+0.2
PTL	Penteli	3.57	296	P		Pn		21 32 11.3	-0.5
PTL	Penteli	3.57	296	P		Pn		21 32 12.0	+0.2
GVD	Gavdhos	3.58	242	P		Pn		21 32 13.7	+1.8
ATHU	Athens Univers	3.60	294	*e*Pn		Pn		21 32 12.3	+0.2
ATHU	Athens Univers	3.60	294	P		Pn		21 32 12.4	+0.2
ATHU	Athens Univers	3.60	294	P		Pn		21 32 12.3	+0.2
ATH	Athens Observa	3.65	294	P		Pn		21 32 13.4	+0.6
ATH	Athens Observa	3.65	294	P		Pn		21 32 13.0	+0.2
ATH	Athens Observa	3.65	294	P		Pn		21 32 13.4	+0.6
ATH	Athens Observa	3.65	294	P		Pn		21 32 13.4	+0.6
EREA	Eretria	3.69	301	P		Pn		21 32 13.4	0.0
EREA	Eretria	3.69	301	P		Pn		21 32 13.5	+0.1
KMER	Konya-Meram	3.73	70	*i* P		Pn		21 32 17.0	+3.0
KMER				*i* S		Sn		21 33 00.6	+2.7
DID	Didima	3.88	285	*e*Pn		Pn		21 32 16.3	+0.3
DID	Didima	3.88	285	P		Pn		21 32 16.3	+0.3
PPCY	Paphos	3.95	114	P		Pn		21 32 17.7	+0.8
	baz=300								
GADA	Gvkgeada	3.96	337	*e*Pn		Pn		21 32 16.2	-0.8
GADA	Gvkgeada	3.96	337	P		Pn		21 32 16.2	-0.8
LIA	Limnos Island	3.97	328	P		Pn		21 32 16.6	-0.6
LIA	Limnos Island	3.97	328	P		Pn		21 32 16.4	-0.8
LIA	Limnos Island	3.97	328	P		Pn		21 32 16.6	-0.6
ERMK	Ermenek	4.00	87	*i* P		Pn		21 32 20.7	+2.9
VILL	Villia	4.02	295	P		Pn		21 32 18.1	+0.2
ALFC	Alefka	4.03	109	P		Pn		21 32 18.1	0.0
	baz=295								
ALFC				S		Sn		21 33 04.1	-1.2
VIL2	Platees	4.07	295	P		Pn		21 32 18.0	-0.6
AOS	Alonnisos	4.13	310	*e*Pn		Pn		21 32 19.4	-0.1
AOS	Alonnisos	4.13	310	P		Pn		21 32 19.4	-0.1
AOS	Alonnisos	4.13	310	P		Pn		21 32 19.4	-0.1
LOUT	Loutraki	4.21	291	P		Pn		21 32 19.6	-0.9
LOUT	Loutraki	4.21	291	P		Pn		21 32 21.1	+0.6
SMTH	Samothraki Isl	4.33	335	*e*Pn		Pn		21 32 21.5	-0.7
SMTH	Samothraki Isl	4.33	335	P		Pn		21 32 21.2	-1.0
SMTH	Samothraki Isl	4.33	335	P		Pn		21 32 21.5	-0.7
PROD	Prodromos	4.36	294	P		Pn		21 32 22.9	+0.4
SKIA	Skiathos	4.39	308	P		Pn		21 32 23.2	+0.2
SKIA	Skiathos	4.39	308	P		Pn		21 32 23.2	+0.2
SZAC	Souni	4.41	113	P		Pn		21 32 23.4	+0.2
	baz=299								
SZAC				S		Sn		21 33 13.9	-0.6
SMIA	Simia	4.41	303	P		Pn		21 32 23.5	+0.3
SMIA	Simia	4.41	303	P		Pn		21 32 23.7	+0.5
ATAL	Atalanti	4.45	300	*e*Pn		Pn		21 32 24.3	+0.5
ATAL	Atalanti	4.45	300	P		Pn		21 32 24.0	+0.3
ATAL	Atalanti	4.45	300	P		Pn		21 32 24.3	+0.5
MAMC	Mammari	4.50	107	P		Pn		21 32 24.7	+0.2
	baz=293								
ALN	Alexandroupoli	4.57	342	*e*Pn		Pn		21 32 24.4	-1.0
ALN	Alexandroupoli	4.57	342	P		Pn		21 32 24.1	-1.3
ALN	Alexandroupoli	4.57	342	P		Pn		21 32 24.4	-1.0
ALN	Alexandroupoli	4.57	342	*e*P		Pn		21 32 24.4	-1.0
NEO	Neokhori	4.63	308	P		Pn		21 32 26.2	-0.1
NEO	Neokhori	4.63	308	P		Pn		21 32 26.2	-0.1
TRIP	Tripoli	4.64	284	P		Pn		21 32 26.2	-0.3
CSS	Mathiatis	4.66	109	*e*Pn		Pn		21 32 26.4	-0.3
CSS	Mathiatis	4.66	109	P		Pn		21 32 27.1	+0.4
	baz=295								
CSS				S		Sn		21 33 19.9	-0.9
CSS	Mathiatis	4.66	109	P		Pn		21 32 27.6	+0.9
CSS	Mathiatis	4.66	109	Pn		Pn		21 32 26.1	-0.6
CSS				Sn		Sn		21 33 16.4	-4.4
GUR	Goura	4.67	289	*e*Pn		Pn		21 32 28.1	+1.1
GUR	Goura	4.67	289	P		Pn		21 32 28.1	+1.1
XOR	Xorichti	4.68	308	P		Pn		21 32 26.9	-0.1
XOR	Xorichti	4.68	308	P		Pn		21 32 26.9	-0.1
XOR	Xorichti	4.68	308	P		Pn		21 32 26.9	-0.1
AXAR	Agios Charalam	4.73	299	*e*Pn		Pn		21 32 29.7	+2.0
AXAR	Agios Charalam	4.73	299	P		Pn		21 32 29.7	+2.0
THAS	Thassos island	4.76	329	P		Pn		21 32 27.1	-0.9
THAS	Thassos island	4.76	329	P		Pn		21 32 27.1	-0.9
KLV	Kalavryta, Ach	4.85	289	P		Pn		21 32 30.4	+1.1
KLV	Kalavryta, Ach	4.85	289	P		Pn		21 32 30.1	+0.8
KLV	Kalavryta, Ach	4.85	289	P		Pn		21 32 30.4	+1.1
ITM	Ithomi	4.87	279	*e*Pn		Pn		21 32 31.1	+1.5
FYTO	Fytoko, Volos	4.87	307	*e*Pn		Pn		21 32 29.5	0.0
FYTO	Fytoko, Volos	4.87	307	P		Pn		21 32 29.9	+0.4
FYTO	Fytoko, Volos	4.87	307	P		Pn		21 32 29.5	0.0
OUR	Ouranopolis	4.88	322	*e*Pn		Pn		21 32 29.3	-0.4
OUR	Ouranopolis	4.88	322	P		Pn		21 32 29.1	-0.5
OUR	Ouranopolis	4.88	322

baz=153
MMLI Mount Malkishu 7.42 122 Pn **Pn** 21 33 03.6 -1.0
MMLI Sn **Sn** 21 34 25.2 -3.5
HHAG Hagoal 7.46 151 P **Pn** 21 33 03.7 -1.4
baz=152
HHAG S Sn 21 34 19.8 -10
baz=152
ICOR Ion Corvin 7.54 359⇑ *iP* Pg 21 33 52.5 +12
HSAF As Saff 7.56 155 P **Pn** 21 33 06.1 -0.5
baz=156
HMDT Nahal Hemdat 7.60 122 Pn **Pn** 21 33 06.4 -0.6
HMDT Sn **Sn** 21 34 29.9 -3.2
SWA2 7.60 197 P **Pn** 21 33 06.8 -0.3
baz=200
SWA2 S **Sn** 21 34 28.1 -5.0
baz=200
GLL Jalalah 7.65 155 P **Pn** 21 33 07.2 -0.7
baz=155
AMAZ Amatzia 7.66 129 Pn **Pn** 21 33 07.6 -0.3
AMAZ Sn **Sn** 21 34 31.5 -3.1
KZIT Kziot 7.79 135 Pn **Pn** 21 33 09.2 -0.5
KZIT Sn **Sn** 21 34 33.7 -4.2
TIRR Tirgusor 7.89 2 *e*Pn **Pn** 21 33 12.2 +1.2
TIRR Tirgusor 7.89 2 *e*P **Pn** 21 33 12.2 +1.2
YTIR Yattir 7.90 129 Pn **Pn** 21 33 11.0 -0.3
DSI Dead Sea 7.93 127 Pn **Pn** 21 33 11.7 +0.1
DSI Sn **Sn** 21 34 37.6 -3.6
MZDA Masada 8.09 128 Pn **Pn** 21 33 13.4 -0.3
MZDA Sn **Sn** 21 34 41.6 -3.5
ZAF Zafarana 8.23 151 P **Pn** 21 33 15.3 -0.4
baz=151
RMNI Mount Ramon 8.23 134 Pn **Pn** 21 33 14.8 -1.0
HUMR Humele 8.26 345⇑ *iP* Pb 21 33 33.9 -5.6
HNKL Nakhl 8.33 141 P **Pn** 21 33 15.0 -2.1
baz=141
ZFRI Zfri 8.51 133 Pn **Pn** 21 33 18.1 -1.4
ZFRI Sn **Sn** 21 34 51.9 -3.5
PRNI Paran 8.55 134 Pn **Pn** 21 33 19.6 -0.6
PUNG Punghina 8.60 335⇑ *iP* **Pg** 21 34 02.8 +1.8
ASF Jabal al Asfar 8.60 118 Pn **Pn** 21 33 21.4 +0.6
comp=Z,1.2nm,0.3s,baz=258,slow=5.1,SNR=12
ASF Sn **Sn** 21 34 57.6 -0.2
comp=Z,0.4nm,0.3s,baz=29,slow=22,SNR=1.2
DRME Dracevica, Mon 8.80 312 *e*P **Pn** 21 33 24.9 +1.4
HRFI Mount Harif 8.81 136 Pn **Pn** 21 33 23.0 -0.7
HRFI Sn **Sn** 21 34 59.1 -3.8
PDG Podgorica 8.91 314⇑ *iP* **Pn** 21 33 27.6 +2.7
PDG Podgorica 8.91 314 *e*P **Pn** 21 33 27.2 +2.3
TTG Podgorica 8.91 314 *e*Pn **Pn** 21 33 26.2 +1.2
TTG Podgorica 8.91 314 *e*P **Pn** 21 33 26.2 +1.2
MBRI Mt Berech 8.93 137 Pn **Pn** 21 33 25.4 0.0
MBRI Sn **Sn** 21 35 01.7 -4.2
MLR Muntele Rosu 9.04 351 Pn **Pn** 21 33 28.5 +1.6
baz=157,slow=15
MLR Muntele Rosu 9.04 351 *e*Pn **Pn** 21 33 28.9 +2.1
MLR Muntele Rosu 9.04 351⇑ *iP* **Pn** 21 33 29.0 +2.1
MLR Muntele Rosu 9.04 351⇑⇑ P **Pn** 21 33 29.0 +2.1
EIL Elat 9.04 138 Pn **Pn** 21 33 26.7 -0.2
comp=Z,4.0nm,0.3s,baz=342,slow=3.8,SNR=26
EIL Sn **Sn** 21 35 04.2 -4.4
comp=Z,6.6nm,0.3s,baz=104,slow=3.3,SNR=8.3
TIP Timpagrande 9.22 290 *e*Pn **Pn** 21 33 30.6 +1.2
TIP Timpagrande 9.22 290⇑ *iP* **Pn** 21 33 31.0 +1.6
PLOR Plostina 9.32 354⇑ *iP* **Pn** 21 33 35.4 +4.7
PLOR Plostina 9.32 354⇑⇑ P **Pn** 21 33 35.4 +4.7
VRI Vrincioaia 9.33 355⇑ *iP* Pn 21 33 44.3 +13
VRI Vrincioaia 9.33 355⇑⇑ P Pn 21 33 44.3 +13
HCY Herceg Novi 9.37 312 *e*P Pn 21 33 37.4 +6.1
HQLS 9.39 138 P **Pn** 21 31 16 -0.1
HQLS S **Sn** 21 35 10.9 -6.4
MDVR Moldovita 9.47 332⇓ *iP* **Pn** 21 33 33.6 +0.9
HAQS Haql 9.52 140 S **Sn** 21 35 13.8 -6.5
HAQS P **Pn** 21 33 33.3 -0.1
DOPR Dopca 9.59 349⇑ *iP* **Pn** 21 33 35.7 +1.4
SIM Simferopol' 9.59 27 *e*P **Pn** 21 33 38.5 +4.2
SIM *e*S **Sn** 21 35 30.0 +8.1
SIM pmax pmax
comp=Z,12nm,0.7s
SIM MLR MLR
comp=N,100nm,13.0s
UPM Unac-Piva 9.60 316 *e*P **Pn** 21 33 38.0 +3.4
TREB Trebinje 9.61 313 *e*P **Pn** 21 33 36.6 +2.0
BRY Bratogost 9.61 314 *e*P **Pn** 21 33 37.0 +2.2
DIVS Divibare 9.66 324 *e*P **Pn** 21 33 35.6 +0.2
MATE Matera 9.70 298⇓ *iP* **Pn** 21 33 37.3 +1.6
BBLS Lazići 9.78 321 *e*P **Pn** 21 33 37.7 +0.7
SG1 Sgolgore (BA) 9.78 299 *e*Pn **Pn** 21 33 38.4 +1.4
DEV Deva 10.05 339⇓ *iP* Pn 21 33 53.5 +13
DEV Deva 10.05 339⇓⇓ P **Pn** 21 33 53.5 +13
JLOS 10.07 139 S **Sn** 21 35 29.3 -4.7
JLOS P **Pn** 21 33 40.4 -0.7
BDAS Al Bad' 10.11 141 S **Sn** 21 35 28.5 -6.5
BDAS P **Pn** 21 33 40.7 -0.9
CUC Castrocucco 10.13 293 *e*Pn **Pn** 21 33 43.6 +1.8
HAPS Han Pijesak,Bl 10.17 320 *e*P **Pn** 21 33 42.0 -0.4
BZS Buzias 10.22 334⇑ *iP* Pn 21 33 50.7 +7.8
BZS Buzias 10.22 334⇑⇑ P Pn 21 33 50.7 +7.8
BIZ Bicaz 10.45 353⇓ *iP* **Pn** 21 33 47.9 +1.8
SIRR Siria 10.77 336⇑ *iP* **Pn** 21 33 53.8 +3.3
BURAR Bucovina Array 11.22 350⇑ *iP* **Pn** 21 33 57.6 +0.9
BURAR Bucovina Array 11.22 350⇑⇑ P **Pn** 21 33 57.6 +0.9
BUR04 Bucovina Ar. S 11.22 350 *e*Pn **Pn** 21 33 58.3 +1.5
BUR08 Bucovina Ar. S 11.25 350 *e*Pn **Pn** 21 33 58.5 +1.4
BLY Banja Luka 11.55 318 *e*Pn **Pn** 21 34 03.2 +2.1
BLY Banja Luka 11.55 318⇓ *iP* **Pn** 21 34 04.5 +3.4
MORH M¨‡r¡gy, Hung 11.89 327 *e*P **Pn** 21 34 05.7 -0.1
AQU L'Aquila 12.63 302 P **Pn** 21 34 20.1 +4.1
AQU pmax pmax
comp=Z,16nm,0.9s
PSZ Piszkesteto 12.80 335 *e*Pn **Pn** 21 34 17.8 -0.6
PSZ Piszkesteto 12.80 335 *e*P **Pn** 21 34 17.8 -0.6
BOJS Bojanci 13.08 317 *i* Pn **Pn** 21 34 24.9 +2.8
BOJS Bojanci 13.08 317 *i* Pn **Pn** 21 34 24.9 +2.8
CRES Cresnjev 13.18 318 *e*P **Pn** 21 34 22.2 -1.2
KIV Kislovodsk 13.45 52 *e*Pn **Pn** 21 34 27.9 +0.8
KIV Kislovodsk 13.45 52 *e*P **Pn** 21 34 26.6 -0.5
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,31nm,11.0s
KBZ Khabaz 13.48 53 Pn **Pn** 21 34 32.0 +4.6
comp=Z,0.0nm,0.3s,baz=245,slow=9.6,SNR=2.2
VISS Visnje 13.49 317 *i* Pn **Pn** 21 34 31.1 +3.4
VISS Visnje 13.49 317 *i* Pn **Pn** 21 34 31.1 +3.4
GNI Garni 13.65 70 Pn **P** 21 34 35.5 -3.5
comp=Z,0.5nm,0.3s,baz=211,slow=12,SNR=3.6
GNI Garni 13.65 70 *e*Pn **Pn** 21 34 29.7 -0.4
GNI Garni 13.65 70⇑ *e*P **Pn** 21 34 29.4 -0.7
VYHS Vyhne 13.67 334 *e*P **Pn** 21 34 30.8 +0.8
VYHS Vyhne 13.67 334 *e*PN **Pn** 21 34 30.8 +0.8
VYHS *e* 21 34 40.0
CEY Cerknica 13.68 316 *e*P **Pn** 21 34 29.1 -1.2
ZEI Tsey 13.76 58 *e*P **P** 21 34 38.2 -1.9
ZEI pmax pmax
comp=Z,6.0nm,0.9s
NCK Nalchik 13.83 55⇑ *e*P **Pn** 21 34 32.8 +0.5
SOKA Soboth 13.96 320 *e*P **Pn** 21 34 37.3 +3.2
comp=Z,6.3nm,1.1s
JAVS Javornik 13.98 316 *i* Pn **Pn** 21 34 35.4 +1.0
JAVS Javornik 13.98 316 *i* Pn **Pn** 21 34 35.4 +1.0
TRI Trieste 14.04 315 *e*Pn **Pn** 21 34 36.1 +1.0
TRI Trieste 14.04 315 *e*P **Pn** 21 34 36.1 +1.0
AKASG Malin Array Be 14.16 3 Pn **Pn** 21 34 38.3 +1.5
baz=193,slow=10,SNR=3.1
MODS Modra-Piesok 14.16 330 *e*P **P** 21 34 45.0 +0.6
MODS Modra-Piesok 14.16 330 *e*P **P** 21 34 45.0 +0.6
OJC Ojcow 14.86 339 *e*Pn **Pn** 21 34 46.8 +0.5
OJC Ojcow 14.86 339 *e*P **Pn** 21 34 46.8 +0.5
KEST Kesra 15.05 272 Pn **Pn** 21 34 50.1 +1.0
comp=Z,0.1nm,0.3s,baz=4.8,slow=8.9,SNR=4.9
KEST Kesra 15.05 272 *e*Pn **Pn** 21 34 49.3 +0.2
comp=Z,8.4nm,0.8s
KRUC Moravsky 15.07 330 *e*PN **P** 21 34 55.7 +1.3
KBA Koelnbreinsper 15.10 319 *e*pP **P** 21 34 57.0 +2.1
comp=Z,20nm,0.8s,SNR=8.0
VRAC Vranov 15.18 331 Pn **Pn** 21 34 52.9 +2.3
comp=Z,0.3nm,0.3s,baz=134,slow=9.5,SNR=10
VRAC LR LR 21 41 16.3
comp=Z,60nm,19.5s,baz=159,slow=40
VRAC Vranov 15.18 331 *e*PN **P** 21 34 57.3 +1.6
MORC Moravsky Berou 15.21 333 *e*Pn **Pn** 21 34 52.6 +1.6
comp=Z,26nm,1.8s
MORC Moravsky Berou 15.21 333 *e*P **Pn** 21 34 52.6 +1.6
MORC pmax pmax
comp=Z,26nm,1.8s
MORC Moravsky Berou 15.21 333 *e*PN **P** 21 34 57.3 +1.3
ABTA Abfaltersbach 15.35 316 *e*P **P** 21 34 58.9 +1.2
comp=Z,10.0nm,0.8s
GEA0 GERESS Array S 16.09 324 *e*Pn **P** 21 35 04.4 -1.5
GEC2 GERESS Array S 16.09 324 *e*Pn **Pn** 21 35 04.0 +1.4
comp=Z,21nm,1.5s
GEC2 GERESS Array S 16.09 324 *e*P **Pn** 21 35 04.0 +1.4
GEC2 pmax pmax
comp=Z,21nm,1.5s
GERES GERESS Array B 16.09 324 Pn **P** 21 35 04.3 -1.7
comp=Z,0.2nm,0.3s,baz=135,slow=10,SNR=13
GERES LR LR 21 41 32.4
comp=Z,66nm,19.7s,baz=116,slow=38
DPC Dobruska-Polom 16.13 332 *e*P **P** 21 35 08.7 +2.5
DPC *ex* x 21 35 13.0
DPC Dobruska-Polom 16.13 332 *e*P **P** 21 35 08.7 +2.5
WTTA Wattenberg 16.14 317 *e*P **P** 21 35 06.0 -0.5
comp=Z,13nm,1.1s
WATA Walderalm 16.21 317 *e*P **P** 21 35 07.9 +0.6
comp=Z,13nm,1.1s
KHC Kasperske Hory 16.35 325 *e*Pn **P** 21 35 07.5 -1.3
comp=Z,3.2nm,1.0s
KHC Kasperske Hory 16.35 325 *e*P **P** 21 35 10.4 +1.7
KHC *ex* x 21 35 22.0
KHC Kasperske Hory 16.35 325 *e*P **P** 21 35 07.5 -1.3
KHC pmax pmax
comp=Z,3.0nm,1.0s
SQTA Sankt Quirin 16.35 316 *e*P **P** 21 35 09.5 +0.7
comp=Z,6.5nm,0.7s
GOPC GO Pecny, Ondr 16.39 329 *e*P **P** 21 35 10.6 +1.5
GOPC GO Pecny, Ondr 16.39 329 *e*P **P** 21 35 10.6 +1.5
MOTA Moosalm 16.48 316 *e*pP **P** 21 35 12.8 +2.5
comp=Z,10nm,0.9s,SNR=8.4
FETA Feichten 16.51 315 *e*pP **P** 21 35 13.4 +2.7
comp=Z,18nm,1.4s,SNR=9.6
VORD Divnogorie 16.53 26 *e*P **P** 21 35 16.4 +5.8
VORD pmax pmax
comp=Z,10.0nm,1.0s
FUORN Ofenpass-Fuorn 16.57 313 *e*Pn **P** 21 35 10.3 -1.1
comp=Z,25nm,1.4s
WET Wettzell 16.69 324 P **P** 21 35 16.9 +4.4
VSR Storozhevoye 16.70 25 *e*P **P** 21 35 17.3 +4.9
VSR pmax pmax
comp=Z,8.0nm,1.0s
RETA Reutte 16.75 316 *e*P **P** 21 35 13.9 +0.6
comp=Z,12nm,1.5s
DAVOX Davos/Dischmat 16.88 313 LR LR 21 42 33.6
comp=Z,122nm,20.2s,slow=40
TUE Stuetta 17.05 311 *e*Pn **P** 21 35 16.3 -0.3
comp=Z,31nm,1.7s
DAVA Damuels 17.15 314 *e*pP **P** 21 35 19.4 +1.8
comp=Z,11nm,0.9s,SNR=4.2
BRG Berggiesshubel 17.47 329 *e*P **P** 21 35 23.6 +2.5
comp=Z,6.8nm,1.0s
BRG *e* 21 35 27.7
comp=Z,6.0nm,0.8s
BRG Berggiesshubel 17.47 329 *e*P **P** 21 35 23.6 +2.5
BRG pmax pmax
comp=Z,7.0nm,1.0s
VRH Novokhopyorsk 17.63 30 *e*P **P** 21 35 28.6 +5.8
VRH pmax pmax
comp=Z,10.0nm,0.7s
NKC Novy Kostel 17.65 326 P **P** 21 35 27.9 +4.8
NKC pmax pmax
comp=Z,6.0nm,1.4s
SUW Suwalki 17.76 351 *e*Pn **Pn** 21 35 23.4 +0.1
comp=Z,18nm,0.9s
SUW Suwalki 17.76 351 *e*P **Pn** 21 35 23.4 +0.1
SUW pmax pmax
comp=Z,18nm,0.9s
LPSR Galich'ya Gora 17.80 22 *e*P **Pn** 21 35 22.8 -1.1
LPSR pmax pmax
comp=Z,10.0nm,1.0s
MBDF Montbardon 17.98 303 *e*P **P** 21 35 29.5 +2.6
MBDF pmax pmax
comp=Z,14nm,1.2s
BNI Bardonecchia 18.16 304 *e*Pn **Pn** 21 35 28.3 -0.2
comp=Z,24nm,1.6s
BNI Bardonecchia 18.16 304 *e*P **Pn** 21 35 28.3 -0.2
BNI pmax pmax
comp=Z,24nm,1.6s
CLL Collm 18.19 329 *e*Pn **P** 21 35 29.1 +0.1
comp=Z,7.1nm,0.9s
CLL Collm 18.19 329 *es*P **P** 21 35 30.0 +1.0
comp=Z,8.0nm,0.9s
CLL *e* 21 35 34.0
CLL *e*PPP PPP 21 35 46.0
CLL Collm 18.19 329 *e*P **P** 21 35 29.1 +0.1
CLL pmax pmax
comp=Z,7.0nm,0.9s
SENIN Lac Senin/Sane 18.26 309 *e*P **P** 21 35 30.3 +0.2
comp=Z,9.3nm,0.8s
LPG La Plagne 18.27 306 *e*P **P** 21 35 32.7 +2.5
LPG pmax pmax
comp=Z,10.0nm,1.0s
LPL La Plagne 18.29 306 *e*P **P** 21 35 32.1 +1.8
LPL pmax pmax
comp=Z,13nm,1.0s
MOX Moxa 18.32 325 P **P** 21 35 33.7 +3.3
MOX pmax pmax
comp=Z,14nm,1.1s
STU Stuttgart 18.35 317 P **P** 21 35 33.8 +3.1
STU pmax pmax
comp=Z,23nm,1.0s
BFO Black Forest 18.59 315 *e*P **Pn** 21 35 34.5 +0.9
comp=Z,12nm,1.1s
BFO Black Forest 18.59 315 *e*P **Pn** 21 35 34.5 +0.9
BFO pmax pmax
comp=Z,12nm,1.1s
ECH Echery 19.20 314 *e*P **Pn** 21 35 40.8 -0.3
comp=Z,21nm,1.4s
ECH Echery 19.20 314 *e*P **Pn** 21 35 40.8 -0.3
ECH pmax pmax
comp=Z,21nm,1.4s
CDF Champ du Feu 19.23 314 *e*P **Pn** 21 35 42.6 +1.1
CDF pmax pmax
comp=Z,9.0nm,0.8s
VIVF Saint-Julien-l 19.44 302 *e*P **Pn** 21 35 43.4 -0.6
VIVF pmax pmax
comp=Z,50nm,1.9s
OBN Obninsk 19.47 15⇑ *e*P **Pn** 21 35 45.9 +1.8
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,51nm,16.0s
HAU Haudompre 19.57 312 *e*P **Pn** 21 35 45.9 +0.4
HAU pmax pmax
comp=Z,74nm,1.7s
RAYN Ar Rayn 19.96 126 *e*P **P** 21 35 48.9 +0.3
comp=Z,19nm,1.8s
RAYN Ar Rayn 19.96 126 *e*P **P** 21 35 48.9 +0.3
RAYN pmax pmax
comp=Z,19nm,1.8s
MOS Moscow 20.27 16 *e*P Pn 21 36 00.3 +6.6
MOS *e* 21 36 05.1
SMF Signal de Mont 20.57 307 *e*P **P** 21 35 55.6 +0.5
SMF pmax pmax
comp=Z,58nm,1.6s
LOR Lormes 20.79 308 *e*P Pn 21 36 00.2 +0.3
LOR pmax pmax
comp=Z,12nm,1.0s
MTLF Montolieu 20.80 297 *e*P **P** 21 35 57.5 -0.1
MTLF pmax pmax
comp=Z,34nm,1.7s
SSF Saint Saulge 20.94 308 *e*P Pn 21 36 02.6 +1.1
SSF pmax pmax
comp=Z,35nm,1.4s
AVF Avril sur Loir 20.94 307 *e*P **P** 21 35 59.8 +0.8
AVF pmax pmax
comp=Z,14nm,0.8s
RJF Les Rejaudoux 21.71 302 *e*P **P** 21 36 10.2 +2.8
RJF pmax pmax
comp=Z,55nm,1.7s
BAIF Baives 21.79 316 *e*P **P** 21 36 09.5 +1.3
BAIF pmax pmax
comp=Z,34nm,1.5s
CART Cartagena 23.08 281 *e*P **P** 21 36 22.7 +0.7
comp=Z,7.7nm,0.7s
TAM Tamanrasset 23.76 241 *e*P **P** 21 36 29.0 0.0
comp=Z,16nm,1.9s
TAM Tamanrasset 23.76 241 *e*P **P** 21 36 29.0 0.0
TAM pmax pmax
comp=Z,16nm,1.9s
LDF La Druitiere 23.76 309 *e*P **P** 21 36 31.3 +2.6
LDF pmax pmax
comp=Z,67nm,1.6s
GEYT Alibeck 24.01 78 P **P** 21 36 31.4 +0.2
comp=Z,4.2nm,0.6s,baz=289,slow=4.5,SNR=16
GYA0B ALIBECK ARRAY 24.01 78 *e*P **P** 21 36 32.0 +0.8
comp=Z,9.1nm,0.7s
FIA0 FINESS Array S 24.93 358 *e*P **P** 21 36 38.6 -0.6
FIA0 FINESS Array S 24.93 358 *e*P **P** 21 36 38.6 -0.6
FIA1 FINESS Array S 24.93 358 *e*P **P** 21 36 39.8 +0.6
FINES FINESS Array B 24.93 358 P **P** 21 36 38.6 -0.6
comp=Z,3.3nm,0.6s,baz=161,slow=11,SNR=20
ES19 SONSECA Array 25.18 287 *e*P **P** 21 36 42.0 +0.3
ESDC Sonseca Array 25.23 287 P **P** 21 36 41.9 -0.3
comp=Z,1.6nm,0.5s,baz=84,slow=9.5,SNR=26
HFS Hagfors 25.30 343 P **P** 21 36 42.2 -0.3
comp=Z,2.3nm,0.7s,baz=143,slow=11,SNR=6.6
HFS Hagfors 25.30 343 P **P** 21 36 42.3 -0.3
HFS pmax pmax
comp=Z,1.0nm,0.5s
KLMR Klimovskoe 25.40 13 *e*P **P** 21 36 41.1 -2.3
KLMR pmax pmax
comp=Z,27nm,1.5s
KLMR Klimovskoe 25.40 13 *e*P **P** 21 36 41.1 -2.3
KLMR AMP 21 36 47.9
comp=Z,27nm,1.6s
AKTO Aktyubinsk 25.63 48 P **P** 21 36 45.6 -0.1
comp=Z,8.3nm,0.7s,baz=249,slow=9.1,SNR=28
ABKAR Akbulak array 26.43 51 *e*P **P** 21 36 53.0 +0.1
NB200 NORSAR Array S 26.69 342 *e*P **P** 21 36 55.5 +0.2
NOA NORSAR Array B 26.69 342 P **P** 21 36 55.5 +0.2
comp=Z,1.0nm,0.8s,baz=147,slow=9.6,SNR=4.9
NOA LR LR 21 48 27.7
comp=Z,27nm,19.3s,baz=140,slow=39
SFS San Fernando 27.37 280 *e*P **P** 21 37 01.3 -0.2
comp=Z,232nm,1.5s
SFS San Fernando 27.37 280 *e*P **P** 21 37 01.3 -0.2
SFS pmax pmax
comp=Z,232nm,1.5s
EKA Eskdalemuir Ar 28.27 321 P **P** 21 37 09.7 +0.2
comp=Z,2.0nm,0.7s,baz=115,slow=10,SNR=4.5
EKA Eskdalemuir Ar 28.27 321 P **P** 21 37 09.7 +0.2
EKA pmax pmax
comp=Z,1.0nm,0.5s
ATD Arta Tunnel 28.32 148 *e*P **P** 21 37 10.2 0.0
comp=Z,16nm,1.2s
ARU Arti 28.58 36 *e*P **P** 21 37 12.8 +0.6
ARU Arti 28.58 36⇓ *e*P **P** 21 37 13.5 +1.3
ARU pmax pmax
comp=Z,29nm,0.9s
SVE Sverdlovsk 29.77 37 *e*P **P** 21 37 23.9 +1.2
SVE pmax pmax
comp=Z,18nm,1.0s
ARA0 ARCESS Array S 33.05 358 *e*P **P** 21 37 50.8 -0.7
ARCES ARCESS Array B 33.05 358 P **P** 21 37 50.8 -0.7
comp=Z,4.1nm,1.1s,baz=163,slow=8.9,SNR=4.1
ARCES ARCESS Array B 33.05 358 *e*P **P** 21 37 52.2 +0.8
KK31 Karatay Array 33.05 65 *e*P **P** 21 37 52.1 +0.4
KK31 Karatay Array 33.05 65 *e*P **P** 21 37 52.2 +0.4
KKAR Karatay Array 33.05 65 *e*P **P** 21 37 51.8 0.0
KKAR Karatay Array 33.05 65 *e*P **P** 21 37 51.8 0.0
TOA1 Torodi Ar. Sit 33.13 232 *e*P **P** 21 37 51.4 -1.2
TOA1 *e*PcP **PcP** 21 40 34.5 -1.3
TOA0 Torodi Ar. Sit 33.13 232 *e*P **P** 21 37 52.6 0.0
TORD Torodi Ar. Bea 33.13 232 P **P** 21 37 51.4 -1.3
comp=Z,2.7nm,0.5s,baz=33,slow=8.7,SNR=35
TORD PcP **PcP** 21 40 34.5 -1.3
comp=Z,0.9nm,0.9s,baz=46,slow=2.3,SNR=5.0
KBL Kabul 33.32 81 *e*P **P** 21 37 55.1 +0.6
comp=Z,4.3nm,0.8s
KBL Kabul 33.32 81 *e*P **P** 21 37 55.1 +0.6
KBL pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 33.68 47 *e*P **P** 21 37 57.9 +0.8
comp=Z,4.3nm,1.1s
BRVK Borovoye 33.68 47⇑ *e*P **P** 21 38 00.1 +3.0
BRVK pmax pmax
comp=Z,7.0nm,1.7s
AAK Ala-Archa 36.01 66 *e*P **P** 21 38 18.6 +1.1
comp=Z,7.8nm,0.8s
AAK Ala-Archa 36.01 66 *de*P **P** 21 38 18.2 +0.6
AAK pmax pmax
comp=Z,5.0nm,1.1s
NIL Nilore 36.92 81 *e*P **P** 21 38 26.2 +0.9
comp=Z,33nm,0.9s
NIL Nilore 36.92 81 *e*P **P** 21 38 26.2 +0.9
NIL pmax pmax
comp=Z,33nm,0.9s
KSH Kashi 37.59 71 *e*P **P** 21 38 29.1 -1.9
KURK Kurchatov 38.53 52 *e*P **P** 21 38 39.0 +0.4
comp=Z,10nm,0.9s
KURK Kurchatov 38.53 52 *de*P **P** 21 38 38.4 -0.2
KURK pmax pmax
comp=Z,7.0nm,1.0s
MK31 Makanchi Array 41.11 58 *e*P **P** 21 39 00.6 +0.4
MK31 Makanchi Array 41.11 58 *e*P **P** 21 39 00.6 +0.4
MK32 Makanchi Array 41.11 58 *e*P **P** 21 39 00.5 +0.3
MKAR Makanchi Array 41.11 58 P **P** 21 39 00.5 +0.3
comp=Z,6.6nm,0.8s,baz=282,slow=6.4,SNR=34
MKAR Makanchi Array 41.11 58 *e*P **P** 21 39 00.6 +0.3
comp=Z,38nm,0.9s
MK01 Makanchi Array 41.12 58 *e*P **P** 21 39 00.0 -0.3
NVS Novosibirsk 41.49 46 *e*P **P** 21 39 04.3 +1.2
NVS pmax pmax
comp=E,7.0nm,1.0s
NVS pmax pmax
comp=Z,12nm,1.0s
NVS pmax pmax
comp=N,4.0nm,1.1s
ZAA0 Zalesovo Array 42.39 47 *e*P **P** 21 39 10.4 -0.1
comp=N,4.0nm,0.7s
ZAA1 Zalesovo Array 42.39 47 *e*P **P** 21 39 10.1 -0.5
ZALV Zalesovo Beam 42.39 47 P **P** 21 39 10.1 -0.5
comp=N,3.9nm,0.6s,baz=265,slow=8.9,SNR=14
WMQ Urumqi 45.34 62 *e*P **P** 21 39 36.3 +1.8
WMQ pP sP 21 39 41.0 +1.2
NRIK Noril'sk 45.64 25 P **P** 21 39 36.8 +0.4
comp=N,4.1nm,0.5s,baz=268,slow=1.3,SNR=3.7
DANN Dangsing 47.24 83 *e*P **P** 21 39 50.5 +0.6
comp=N,55nm,0.6s
KOLN Koldanda 47.36 84 *e*P **P** 21 39 50.7 0.0
comp=N,19nm,0.8s
HVS Khovu-Aksy 48.01 51⇑ *e*P **P** 21 39 55.9 +0.6
HVS pmax pmax
comp=Z,4.0nm,0.7s
DMN Daman 48.63 83 *e*P **P** 21 40 00.7 +0.1
comp=Z,35nm,1.0s
KKN Kakani 48.69 83 *e*P **P** 21 40 01.2 +0.1
comp=Z,77nm,1.7s
PKIN Phulchoki 48.88 83 *e*P **P** 21 40 02.1 -0.4
comp=Z,16nm,1.0s
PKI Pulchoki 48.89 83 *e*P **P** 21 40 02.4 -0.3
comp=Z,21nm,1.0s
GUN Gumba 49.12 83 *e*P **P** 21 40 04.6 +0.1
comp=Z,37nm,1.1s
RAMN Ramite 50.11 83 *e*P **P** 21 40 11.6 -0.4
comp=Z,19nm,0.9s
LSA Lhasa 52.54 78 *e*P **P** 21 40 30.9 +0.5
comp=Z,4.3nm,1.1s
LSA Lhasa 52.54 78 *e*P **P** 21 40 30.9 +0.5
LSA pmax pmax
comp=Z,4.0nm,1.1s
SONA0 Songino Array 56.84 52 *e*P **P** 21 41 01.1 +0.2
SONM Songino Array 56.84 52 P **P** 21 41 01.1 +0.2
comp=Z,2.2nm,0.6s,baz=287,slow=7.8,SNR=14
SONA1 Songino Array 56.84 52 *e*P **P** 21 41 00.9 0.0
ULN Ulaanbaatar 57.25 52 *e*P **P** 21 41 04.4 +0.6
comp=Z,3.6nm,0.9s
ULN Ulaanbaatar 57.25 52⇑ *e*P **P** 21 41 04.3 +0.5
ULN pmax pmax
comp=Z,6.0nm,1.3s
TIXI Tiksi 59.05 21 *ce*P **P** 21 41 14.9 -0.9
TIXI pmax pmax
comp=Z,11nm,2.5s
LZH Lanzhou 59.55 66 *e*P **P** 21 41 18.4 -1.7
LZH pP pP 21 41 21.6 -2.4
LZH sP sP 21 41 23.3 -2.2
LZH *e*PP **PP** 21 43 31.5 +0.1
LZH pmax pmax
comp=Z,16nm,1.0s
LZH pmax pmax
comp=Z,45nm,6.5s
PBA Port Blair 62.94 96 *e*P P 21 41 42.2 -0.8
comp=Z,91nm,1.4s
HHC Hu-ho-hao-te 62.97 58 *e*P **P** 21 41 42.8 -0.4
HHC pmax pmax

comp=Z,22nm,0.9s

HHC					pmax	pmax			
	comp=Z,140nm,5.4s								
CHTO	**Chiang Mai**	**63.99**	**85**	*e*P	**P**	**21 41 49.7**	**-0.4**		
	comp=Z,7,7nm,1.6s								
CHTO	**Chiang Mai**	**63.99**	**85**	*e*P	**P**	**21 41 49.7**	**-0.4**		
CHTO					pmax	pmax			
	comp=Z,8.0nm,1.6s								
CM31	**Chiang Mai Arr**	**64.18**	**86**	*e*P	**P**	**21 41 51.0**	**-0.4**		
CMAR	**Chiang Mai Arr**	**64.18**	**86**	P	**P**	**21 41 51.0**	**-0.3**		
	comp=Z,2.7nm,0.9s,baz=294,slow=8.2,SNR=7.9								
CMAR	**Chiang Mai Arr**	**64.18**	**86**	P	**P**	**21 41 51.0**	**-0.3**		
CMAR					pmax	pmax			
	comp=Z,3.0nm,0.9s								
CM01	**Chiang Mai Arr**	**64.21**	**86**	*e*P	**P**	**21 41 51.2**	**-0.3**		
BOSA	**Boshof**	**64.89**	**183**	P	**P**	**21 41 55.6**	**0.0**		
	comp=Z,3.6nm,0.9s,baz=352,slow=15,SNR=3.9								
USRK	**Ussuriysk Ar.**	**74.24**	**46**	P	**P**	**21 42 52.0**	**-1.3**		
	comp=Z,2.2nm,0.6s,baz=274,slow=5.1,SNR=6.4								
ILAR	**Eielson Array**	**78.91**	**358**	P	**P**	**21 43 17.9**	**-1.4**		
	comp=Z,0.3nm,0.6s,baz=340,slow=3.3,SNR=6.8								
ILAR	**Eielson Array**	**78.91**	**358**	P	**P**	**21 43 18.0**	**-1.4**		
CTA	**Charters Tower**	**124.15**	**91**	PKIKP	**PKPdf**	**21 50 16.5**	**+1.2**		

*ATH **24** 21:35:21.0, 36˚.67N×28˚.02E, h28km±1km, ML3.7/7, Error ellipse: s-maj=2.2km s-min=0.9km az=211.0*
*ISCJB **24** 21:35:21.0±0.4, 36˚.51N±0˚.02×27˚.98E±0˚.02, h11km±3km, mb3.6/10, Error ellipse: s-maj=3.5km s-min=2.1km az=18.7*
*DDA **24** 21:35:21.8, 36˚.62N×27˚.95E, h4km, Ml4.1*
*THE **24** 21:35:21.9, 36˚.65N×27˚.98E, h0km±1km, ML3.9/4, Error ellipse: s-maj=1.1km s-min=0.6km az=144.0*
*ISK **24** 21:35:21.4, 36˚.59N×27˚.94E, h10km, ML4.0/19*
*NIC **24** 21:35:24.6±0.2, 36˚.68N×28˚.19E, h12km, mb4.2, ML3.8*
*GII **24** 21:35:25.8±0.0, 36˚.41N×28˚.38E, h3km, mb4.1/1, MD3.9/1*
*IDC **24** 21:35:25.4±1.8, 36˚.47N×27˚.96E, h38km±18km, mb3.5/10, mb1 3.8/18, mb1mx3.6/38, mbtmp3.8/18, ML3.5/7, Error ellipse: s-maj=15.6km s-min=12.3km az=3.0*

ISC 24 21:35:22.3±0.9, 36˚.58N±0˚.02×27˚.96E±0˚.02, h14km±6km, n142, σ1$54/190, mb3.8/10, 5C-2D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSB	**Marmaris-Mugla**	**0.23**	**55**	PG	**Pg**	**21 35 26.3**	**-1.2**
DATC	**Datca-Mugla**	**0.30**	**306**	PG	**Pg**	**21 35 27.9**	**-0.6**
DATC				SG	**Sg**	**21 35 32.8**	**+0.1**
DAT	**Datca**	**0.34**	**296**	PG	**Pg**	**21 35 28.2**	**-1.1**
DAT	**Datca**	**0.34**	**296**	*i*P	**Pg**	**21 35 28.6**	**-0.7**
DAT				*i* S	**Sg**	**21 35 33.4**	**-0.7**
ARG	**Arkhangelos**	**0.39**	**160**	PG	**Pg**	**21 35 29.7**	**-0.5**
ARG	**Arkhangelos**	**0.39**	**160**	P	**Pb**	**21 35 31.0**	**0.0**
ARG				S	**Sb**	**21 35 38.4**	**+1.6**
ARG				AML	AML	21 35 39.9	
	comp=N,36280μm,0.4s						
ARG				AML	AML	21 35 42.2	
	comp=E,43030μm,0.3s						
ARG	**Arkhangelos**	**0.39**	**160**	P	**Pb**	**21 35 31.0**	**0.0**
ARG				S	**Sb**	**21 35 38.5**	**+1.7**
TURN	**Turunc**	**0.59**	**61**	PG	Pg	21 35 27.5	-6.5
TURN	**Turunc**	**0.59**	**61**	*i*P	Pg	21 35 27.5	-6.5
TURN				*i* S	Sg	21 35 32.0	-10
DALY	**Dalyan (Mu˘la**	**0.61**	**67**	PG	**Pb**	**21 35 34.2**	**-0.4**
DALY	**Dalyan (Mu˘la**	**0.61**	**67**	*i*P	**Pg**	**21 35 33.0**	**-1.2**
DALY				*i* S	**Sb**	**21 35 43.1**	**+0.1**
NIS1	**Nisyros Isl.**	**0.63**	**272**	PG	**Pg**	**21 35 33.3**	**-1.3**
NIS1	**Nisyros Isl.**	**0.63**	**272**	P	**Pb**	**21 35 34.7**	**-0.3**
NIS1				S	**Sb**	**21 35 43.9**	**+0.3**
NIS1				AML	AML	21 35 50.5	
	comp=N,57919μm,0.4s						
NIS1				AML	AML	21 35 51.7	
	comp=E,49478μm,0.5s						
NIS1	**Nisyros Isl.**	**0.63**	**272**	P	**Pb**	**21 35 35.1**	**+0.1**
NIS1				S	**Sn**	**21 35 46.2**	**-0.4**
NISR	**Nisiros**	**0.67**	**273**	P	**Pg**	**21 35 35.2**	**-0.2**
NISR				S	**Sb**	**21 35 44.8**	**0.0**
NISR				AML	AML	21 35 49.3	
	comp=E,21557μm,0.4s						
NISR				AML	AML	21 35 50.4	
	comp=N,11889μm,0.4s						
NISR	**Nisiros**	**0.67**	**273**	P	**Pb**	**21 35 35.5**	**-0.2**
NISR				S	**Sn**	**21 35 46.5**	**-1.0**
BODT	**Bodrum**	**0.70**	**313**	PG	**Pg**	**21 35 35.3**	**-0.8**
BODT	**Bodrum**	**0.70**	**313**	P	**Pg**	**21 35 35.0**	**-1.1**
BODT				S	**Sb**	**21 35 45.8**	**-0.1**
MLSB	**Milas**	**0.72**	**349**	PG	**Pg**	**21 35 35.7**	**-0.8**
FETY	**Fethiye**	**0.91**	**86**	PG	**Pb**	**21 35 39.4**	**-0.4**
FETY	**Fethiye**	**0.91**	**86**	P	**Pg**	**21 35 39.3**	**-0.6**
FETY				S	**Sn**	**21 35 53.2**	**-0.3**
DIDI	**Didim-Aydin**	**0.98**	**324**	PG	**Pb**	**21 35 41.1**	**+0.1**
AYDN	**Tasoluk**	**1.08**	**357**	*i*P	**Pb**	**21 35 47.4**	**-1.0**
AYDN				*i* S	**Sn**	**21 35 58.2**	**+0.4**
TAVA	**DENIZLI_Tavas**	**1.17**	**41**	*i*P	**Pb**	**21 35 43.6**	**-0.7**
TAVA				*i* S	**Sn**	**21 36 02.3**	**+2.3**
AYDB	**Zeytinkoy-Aydi**	**1.36**	**358**	PN	**Pn**	**21 35 46.6**	**-0.4**
AKAS	**Kas**	**1.38**	**104**	PN	**Pg**	**21 35 48.0**	**-0.8**
AKAS	**Kas**	**1.38**	**104**	*i*P	**Pg**	**21 35 48.8**	**0.0**
AKAS				*i* S	**Sg**	**21 36 12.3**	**+5.6**
KSL	**Kastellorizon**	**1.38**	**108**	P	**Pn**	**21 35 45.7**	**-1.4**
KSL				S	**Sn**	**21 36 04.0**	**-1.1**
KSL				AML	AML	21 36 16.3	
	comp=E,1956μm,0.7s						
KSL				AML	AML	21 36 18.8	
	comp=N,2067μm,0.6s						
KSL	**Kastellorizon**	**1.38**	**108**	P	**Pg**	**21 35 48.6**	**-0.3**
SMG	**Samos**	**1.44**	**322**	P	**Pn**	**21 35 46.9**	**-1.0**
SMG				AML	AML	21 36 15.3	
	comp=N,3933μm,0.4s						
SMG				AML	AML	21 36 19.3	
	comp=E,4817μm,0.4s						
SMG	**Samos**	**1.44**	**322**	P	**Pn**	**21 35 47.1**	**-0.8**
SMG				S	**Sb**	**21 36 07.4**	**+0.4**
GOLH	**Golhisar**	**1.44**	**63**	*i*P	**Pg**	**21 35 49.7**	**-0.4**
GOLH				*i* S	**Sg**	**21 36 13.0**	**+4.2**
DENT	**Denizli**	**1.45**	**36**	PN	**Pb**	**21 35 48.7**	**-0.4**
ELL	**Elmali**	**1.58**	**83**	PN	**Pb**	**21 35 50.6**	**-0.7**
AMGA	**Amorgos Island**	**1.68**	**279**	P	**Pn**	**21 35 50.5**	**-0.7**
DGB	**˙zmir**	**1.70**	**330**	*i*P	**Pn**	**21 35 50.3**	**-1.1**
DGB				*i* S	**Sg**	**21 36 18.8**	**+1.8**
GMLD	**Gumuldur**	**1.71**	**331**	PN	**Pn**	**21 35 51.4**	**-0.2**
KORT	**Korkueli**	**1.97**	**77**	PN	**Pb**	**21 35 56.3**	**-1.6**
KORT	**Korkueli**	**1.97**	**77**	*i*P	**Pg**	**21 35 58.9**	**-1.1**
KORT				*i* S	**Sg**	**21 36 29.1**	**+3.6**
THR8	**Santorini-Mono**	**2.00**	**266**	P	**Pn**	**21 35 55.8**	**+0.1**
APE	**Apeiranthos**	**2.01**	**285**	PN	**Pn**	**21 35 55.5**	**-0.3**
APE	**Apeiranthos**	**2.01**	**285**	P	**Pn**	**21 35 55.3**	**-0.5**
APE	**Apeiranthos**	**2.01**	**285**	P	**Pn**	**21 35 55.4**	**-0.3**
KULA	**Kula-Manisa**	**2.01**	**16**	PN	**Pn**	**21 35 56.4**	**+0.6**
BRDR	**BURDUR-Merkez**	**2.02**	**56**	*i*P	**Pb**	**21 35 58.3**	**-0.4**
BRDR				*i* S	**Sg**	**21 36 26.6**	**-0.5**
SANT	**Santorini**	**2.02**	**265**	PN	**Pn**	**21 35 56.3**	**+0.3**
THR2	**Thira island,**	**2.04**	**267**	P	**Pn**	**21 35 56.4**	**+0.3**
ZKR	**Zakros**	**2.04**	**224**	P	**Pn**	**21 35 56.9**	**+0.8**
ZKR				AML	AML	21 36 30.0	
	comp=N,896μm,0.6s						
ZKR				AML	AML	21 36 35.3	
	comp=E,1916μm,0.7s						
ZKR	**Zakros**	**2.04**	**224**	P	**Pn**	**21 35 57.3**	**+1.2**
STIA	**Sitia Lasithi**	**2.05**	**228**	P	**Pb**	**21 35 58.6**	**-0.6**
STIA				S	**Sb**	**21 36 24.6**	**+0.1**
THT2	**Imerovigli**	**2.05**	**267**	P	**Pn**	**21 35 56.5**	**+0.3**
THT2	**Imerovigli**	**2.05**	**267**	P	**Pn**	**21 35 57.1**	**+0.8**
THR3	**Thira Island,**	**2.07**	**266**	P	**Pn**	**21 35 56.9**	**+0.4**
THR6	**Thira Island,**	**2.08**	**264**	P	**Pn**	**21 35 56.8**	**+0.2**
THR6	**Thira Island,**	**2.08**	**264**	P	**Pn**	**21 35 57.0**	**+0.4**
URLA	**Izmir**	**2.08**	**329**	PN	**Pn**	**21 35 56.6**	**-0.1**
KEMT	**Kemer-ANTALYA**	**2.09**	**89**	PN	**Pn**	**21 35 57.8**	**+0.9**
THR5	**Thira Island,**	**2.11**	**266**	P	**Pn**	**21 35 58.1**	**+1.0**
GOMA	**Golmarmara-Man**	**2.12**	**359**	PN	**Pn**	**21 35 57.7**	**+0.4**
IOSP	**Ios island**	**2.15**	**275**	P	**Pn**	**21 35 57.7**	**0.0**
ANTB	**Antalya**	**2.19**	**81**	PN	**Pn**	**21 35 59.5**	**+1.3**
NPS	**Neapolis**	**2.31**	**236**	P	**Pn**	**21 36 00.6**	**+0.7**
NPS				AML	AML	21 36 33.2	
	comp=E,2009μm,0.5s						
NPS				AML	AML	21 36 38.0	
	comp=N,1006μm,0.7s						
NPS	**Neapolis**	**2.31**	**236**	P	**Pn**	**21 36 00.8**	**+0.8**
CHOS	**Chios island**	**2.35**	**321**	PN	**Pn**	**21 36 00.8**	**+0.3**
CHOS	**Chios island**	**2.35**	**321**	P	**Pn**	**21 35 59.8**	**-0.7**
CHOS	**Chios island**	**2.35**	**321**	P	**Pn**	**21 35 59.9**	**-0.6**
CHOS				S	**Sn**	**21 36 29.2**	**0.0**
ISP	**Isparta**	**2.39**	**58**	PN	**Pn**	**21 36 02.5**	**+1.4**
LAST	**Lasithi**	**2.46**	**236**	P	**Pn**	**21 36 03.2**	**+1.1**
DKL	**Dikili**	**2.62**	**342**	PN	**Pn**	**21 36 04.5**	**+0.4**
SIMA	**Simav-Kutahya**	**2.62**	**18**	PN	**Pn**	**21 36 05.0**	**+0.7**
GEDZ	**Gediz**	**2.71**	**25**	PN	**Pn**	**21 36 06.4**	**+0.9**
IDI	**Anoyia**	**2.80**	**243**	PN	**Pn**	**21 36 07.5**	**+0.8**
IDI	**Anoyia**	**2.80**	**243**	Pn	**Pn**	**21 36 07.7**	**+0.9**
	comp=N,7.4nm,0.3s,baz=27,slow=2.2,SNR=12						
IDI				Sn	**Sn**	**21 36 40.9**	**+0.5**
	comp=N,14nm,0.3s,baz=264,slow=6.8,SNR=7.8						
KEPZ	**Antalya-Kepez**	**2.95**	**83**	*i* P	**Pb**	**21 36 12.5**	**-2.1**
KEPZ				*i* S	**Sb**	**21 36 51.5**	**+1.0**
PRK	**Paraskevi**	**2.97**	**334**	P	**Pn**	**21 36 08.4**	**-0.6**
PRK	**Paraskevi**	**2.97**	**334**	P	**Pn**	**21 36 08.4**	**-0.6**
SIVA	**Sivas**	**3.00**	**240**	P	**Pn**	**21 36 11.0**	**+1.7**
BALB	**Balikesir**	**3.05**	**359**	PN	**Pn**	**21 36 11.6**	**+1.5**
SIGR	**SIGRI**	**3.11**	**328**	PN	**Pn**	**21 36 11.3**	**+0.5**
SIGR	**SIGRI**	**3.11**	**328**	P	**Pn**	**21 36 10.4**	**-0.4**
VAM	**Vamos**	**3.27**	**250**	P	**Pn**	**21 36 14.8**	**+1.8**
DOGA	**KONYA_Doganhis**	**3.33**	**62**	*i* P	**Pn**	**21 36 16.9**	**+2.9**
DOGA				*i* S	**Sb**	**21 37 01.5**	**0.0**
IMMV	**Iera Moni Meta**	**3.41**	**252**	P	**Pn**	**21 36 16.9**	**+1.9**
GAZI	**Gazipasa**	**3.53**	**94**	*i* P	**Pb**	**21 36 21.7**	**-2.9**
GAZI				*i* S	**Sb**	**21 37 04.4**	**-2.9**
DION	**Dionisos Attik**	**3.54**	**296**	P	**Pn**	**21 36 17.2**	**+0.4**
VLY	**Voula,Athens**	**3.56**	**292**	P	**Pn**	**21 36 17.4**	**+0.4**
PTL	**Penteli**	**3.58**	**295**	P	**Pn**	**21 36 17.9**	**+0.5**
KONT	**Konya--Tatoy**	**3.77**	**68**	*i* P	**Pn**	**21 36 23.5**	**+3.6**
KONT				*i* S	**Sb**	**21 37 12.3**	**-1.8**
PPCY	**Paphos**	**3.95**	**114**	P	**Pn**	**21 36 23.3**	**+0.9**
	baz=299						
LIA	**Limnos Island**	**3.96**	**327**	P	**Pn**	**21 36 22.7**	**+0.1**
ERMK	**Ermenek**	**3.99**	**88**	*i* P	**Pn**	**21 36 27.3**	**+4.2**
ERMK				*i* S	**Sb**	**21 37 15.9**	**-4.6**
ALFC	**Alefka**	**4.03**	**109**	P	**Pn**	**21 36 24.3**	**+0.7**
	baz=294						
ALFC				S	**Sn**	**21 37 10.2**	**-0.4**
VLI	**Veliai**	**4.04**	**273**	P	**Pn**	**21 36 24.8**	**+1.1**
SMTH	**Samothraki Isl**	**4.32**	**335**	P	**Pn**	**21 36 26.7**	**-0.9**
SZAC	**Souni**	**4.41**	**113**	P	**Pn**	**21 36 29.4**	**+0.7**
	baz=298						
SZAC				S	**Sn**	**21 37 20.6**	**+0.8**
MAMC	**Mammari**	**4.50**	**107**	P	**Pn**	**21 36 30.8**	**+0.8**
	baz=291						
NEO	**Neokhori**	**4.62**	**307**	P	**Pn**	**21 36 32.3**	**+0.6**
CSS	**Mathiatis**	**4.66**	**109**	P	**Pn**	**21 36 33.1**	**+0.9**
	baz=293						
CSS				S	**Sn**	**21 37 26.6**	**+0.5**
CSS	**Mathiatis**	**4.66**	**109**	P	**Pn**	**21 36 33.2**	**+1.0**
CSS	**Mathiatis**	**4.66**	**109**	Pn	**Pn**	**21 36 32.8**	**+0.6**
CSS				Sn	**Sn**	**21 37 22.9**	**-3.2**
RDO	**Rodhopi**	**4.93**	**338**	P	**Pn**	**21 36 35.9**	**0.0**
BRTR	**Keskin Array B**	**5.47**	**53**	Pn	**Pn**	**21 36 46.0**	**+2.6**
	comp=N,1.4nm,0.3s,baz=125,slow=8.7,SNR=15						
BRTR				Sn	**Sn**	**21 37 49.4**	**+3.3**
	comp=N,0.3nm,0.3s,baz=228,slow=25,SNR=3.2						
HNTI	**Hanita**	**6.88**	**118**	Pn	**Pn**	**21 37 02.6**	**-0.2**
HNTI				Sn	**Sn**	**21 38 18.0**	**-2.9**
OFRI	**'Ofer**	**7.01**	**122**	Pn	**Pn**	**21 37 04.2**	**-0.4**
OFRI				Sn	**Sn**	**21 38 21.4**	**-2.7**
MMA0B	**Mount Meron ar**	**7.08**	**118**	Pn	**Pn**	**21 37 05.1**	**-0.5**
MMA0B				Sn	**Sn**	**21 38 22.8**	**-3.1**
MMAI	**Mount Meron Ar**	**7.08**	**118**	Pn	**Pn**	**21 37 05.4**	**-0.1**
	comp=N,22nm,0.3s,baz=305,slow=13,SNR=22						
MMAI				Sn	**Sn**	**21 38 24.6**	**-1.3**
	comp=N,11nm,0.3s,baz=304,slow=19,SNR=7.4						
KSDI	**Kefar Szold**	**7.18**	**116**	Pn	**Pn**	**21 37 06.7**	**0.0**
KSDI				Sn	**Sn**	**21 38 24.3**	**-3.7**
NATI	**Neve Ativ**	**7.20**	**115**	Pn	**Pn**	**21 37 07.4**	**+0.4**
NATI				Sn	**Sn**	**21 38 25.2**	**-3.3**
SLTI	**Sal'it**	**7.28**	**124**	Pn	**Pn**	**21 37 07.9**	**-0.3**
SLTI				Sn	**Sn**	**21 38 27.0**	**-3.6**
MMLI	**Mount Malkishu**	**7.42**	**122**	Pn	**Pn**	**21 37 09.7**	**-0.4**
MMLI				Sn	**Sn**	**21 38 30.9**	**-3.2**
HMDT	**Nahal Hemdat**	**7.60**	**122**	Pn	**Pn**	**21 37 13.3**	**+0.7**
HMDT				Sn	**Sn**	**21 38 35.3**	**-3.2**
AMAZ	**Amatzia**	**7.66**	**129**	Pn	**Pn**	**21 37 13.9**	**+0.5**
KZIT	**Kziot**	**7.80**	**135**	Pn	**Pn**	**21 37 15.7**	**+0.4**
KZIT				Sn	**Sn**	**21 38 40.0**	**-3.4**
YTIR	**Yattir**	**7.90**	**129**	Pn	**Pn**	**21 37 17.1**	**+0.3**
DSI	**Dead Sea**	**7.93**	**127**	Pn	**Pn**	**21 37 16.4**	**-0.7**
DSI				Sn	**Sn**	**21 38 43.9**	**-2.7**
MZDA	**Masada**	**8.09**	**128**	Pn	**Pn**	**21 37 18.7**	**+0.4**
MZDA				Sn	**Sn**	**21 38 47.5**	**-3.0**
ZFRI	**Zfri**	**8.51**	**133**	Pn	**Pn**	**21 37 24.9**	**-0.1**
PRNI	**Paran**	**8.56**	**135**	Pn	**Pn**	**21 37 25.7**	**-0.1**
PRNI				Sn	**Sn**	**21 38 59.0**	**-3.1**
ASF	**Jabal al Asfar**	**8.60**	**118**	Pn	**Pn**	**21 37 26.8**	**+0.5**
	comp=N,1.0nm,0.3s,baz=275,slow=7.3,SNR=10						
ASF				Sn	**Sn**	**21 39 02.2**	**-1.0**
	comp=N,0.5nm,0.3s,baz=319,slow=15,SNR=2.3						
HRFI	**Mount Harif**	**8.81**	**136**	Pn	**Pn**	**21 37 28.9**	**-0.4**
HRFI				Sn	**Sn**	**21 39 06.7**	**-1.7**
MBRI	**Mt Berech**	**8.93**	**137**	Pn	**Pn**	**21 37 31.1**	**+0.2**
MBRI				Sn	**Sn**	**21 39 09.1**	**-2.3**
MLR	**Muntele Rosu**	**9.03**	**351**	Pn	**Pn**	**21 37 35.3**	**+3.1**
	comp=N,0.1nm,0.3s,baz=128,slow=19,SNR=2.8						
EIL	**Elat**	**9.05**	**138**	Pn	**Pn**	**21 37 32.5**	**+0.1**
	comp=N,2.3nm,0.3s,baz=342,slow=7.8,SNR=4.5						
EIL				Sn	**Sn**	**21 39 10.6**	**-3.5**
	comp=N,1.6nm,0.3s,baz=306,slow=23,SNR=2.5						
KEST	**Kesra**	**15.06**	**272**	Pn	**P**	**21 38 59.0**	**-1.0**
	comp=N,0.1nm,0.3s,baz=0.0,slow=2.0,SNR=3.0						
KBA	**Koelnbreinsper**	**15.09**	**319**	*e*P	**P**	**21 38 59.4**	**-1.0**
	comp=N,5.9nm,0.8s						
VRAC	**Vranov**	**15.17**	**330**	Pn	**P**	**21 39 00.9**	**-0.2**
	comp=N,0.2nm,0.3s,baz=173,slow=8.1,SNR=2.7						
ABTA	**Abfaltersbach**	**15.35**	**316**	*e*pP	**P**	**21 39 04.4**	**+1.3**
	comp=N,3.8nm,0.8s						
GERES	**GERESS Array B**	**16.09**	**324**	Pn	**P**	**21 39 11.8**	**+0.5**
	comp=N,0.1nm,0.3s,baz=141,slow=11,SNR=4.0						
KHC	**Kasperske Hory**	**16.35**	**325**	*e*P	**P**	**21 39 15.5**	**+1.4**
MOTA	**Moosalm**	**16.48**	**316**	*e*pP	**P**	**21 39 17.5**	**+1.8**
	comp=N,6.1nm,1.0s						
FETA	**Feichten**	**16.51**	**315**	*e*pP	**P**	**21 39 19.7**	**+3.6**
	comp=N,6.7nm,1.0s						
CLL	**Collm**	**18.18**	**329**	*e*(PP)	**PnPn**	**21 39 43.0**	**-2.3**
GEYT	**Alibeck**	**24.00**	**78**	P	**P**	**21 40 37.5**	**+1.0**
	comp=N,1.9nm,0.6s,baz=291,slow=4.1,SNR=6.9						
FINES	**FINESS Array B**	**24.91**	**358**	P	**P**	**21 40 45.6**	**+1.1**
	comp=N,0.9nm,0.6s,baz=142,slow=9.6,SNR=3.6						
ESDC	**Sonseca Array**	**25.23**	**287**	P	**P**	**21 40 48.1**	**+0.4**
	comp=N,0.4nm,0.4s,baz=85,slow=9.6,SNR=5.6						
AKTO	**Aktyubinsk**	**25.62**	**48**	P	**P**	**21 40 51.6**	**+0.6**
	comp=N,2.2nm,0.5s,baz=244,slow=9.4,SNR=6.7						
TORD	**Torodi Ar. Bea**	**33.15**	**232**	P	**P**	**21 41 56.8**	**-1.5**
	comp=N,0.8nm,0.5s,baz=31,slow=9.1,SNR=16						
MKAR	**Makanchi Array**	**41.10**	**58**	P	**P**	**21 43 05.3**	**-0.2**
	comp=N,2.0nm,0.8s,baz=272,slow=6.9,SNR=7.6						
ZALV	**Zalesovo Beam**	**42.38**	**47**	P	**P**	**21 43 16.5**	**+0.7**
	comp=N,1.5nm,0.8s,baz=247,slow=7.7,SNR=3.9						
SONM	**Songino Array**	**56.83**	**52**	P	**P**	**21 45 06.4**	**+0.2**
	comp=N,0.5nm,0.6s,baz=290,slow=7.4,SNR=4.7						
CMAR	**Chiang Mai Arr**	**64.17**	**86**	P	**P**	**21 45 57.5**	**+0.8**
	comp=N,0.3nm,0.4s,baz=292,slow=7.7,SNR=3.3						
ILAR	**Eielson Array**	**78.90**	**358**	P	**P**	**21 47 24.1**	**-0.6**
	comp=N,0.4nm,0.9s,baz=342,slow=5.7,SNR=3.5						

MEX 24 21:42:56.7±0.4, 30˚.18N×109˚.88W, h34km±772km, MD3.8, Sonora

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGIG		**1.65**	**83**	*e*P	Pn	21 43 21.9	-1.5
	baz=264,slow=2.1						
CGIG				*e*S	Sn	21 43 40.9	-2.7
121A	**Cookes Peak, D**	**2.95**	**37**	*i* P	Pn	21 43 39.9	-1.4

IDC 24 21:44:37.8±11.0, 6˚.42S×10˚.85W, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/25, mbtmp3.5/3, MS3.2/3, Ms1 3.2/3, ms1mx2.8/15, Error ellipse: s-maj=459.9km s-min=124.6km az=140.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H10N1	**ASCENSION HYDR**	**3.87**	**248**	T	T	21 49 22.8	
	baz=58,slow=74,SNR=40						
H10N2	**ASCENSION HYDR**	**3.87**	**249**	T	T	21 49 27.3	
	baz=58,slow=74,SNR=44						
H10N3	**ASCENSION HYDR**	**3.89**	**248**	T	T	21 49 23.1	
	baz=58,slow=74,SNR=44						
H10S1	**ASCENSION HYDR**	**4.52**	**236**	T	T	21 50 23.0	
	baz=47,slow=75,SNR=12						
H10S2	**ASCENSION HYDR**	**4.53**	**236**	T	T	21 50 28.4	
	baz=47,slow=75,SNR=12						
H10S3	**ASCENSION HYDR**	**4.54**	**236**	T	T	21 50 24.4	
	baz=47,slow=75,SNR=11						
TORD	**Torodi Ar. Bea**	**23.09**	**33**	P	P	21 49 45.3	-0.1
	1.1nm,0.8s,baz=233,slow=9.1,SNR=5.3						
TORD				LR	LR	21 57 36.1	
	comp=Z,43nm,19.6s,baz=280,slow=34						
GERES	**GERESS Array B**	**59.08**	**19**	P	P	21 54 40.1	+0.1
	0.7nm,1.0s,baz=194,slow=7.8,SNR=4.5						
GERES				LR	LR	22 22 13.2	
	comp=Z,25nm,18.1s,baz=291,slow=38						
AKASG	**Malin Array Be**	**66.55**	**27**	P	P	21 55 29.5	-0.1
	0.2nm,0.3s,baz=223,slow=5.0,SNR=1.6						
AKASG				LR	LR	22 26 21.9	
	comp=Z,19nm,20.9s,baz=75,slow=38						

*ISK **24** 21:51:39.9, 37˚.32N×37˚.09E, h9km, ML2.1/5*
*ISCJB **24** 21:51:40.7±0.6, 37˚.29N±0˚.05×37˚.10E±0˚.05, h9km±7km, Error ellipse: s-maj=9.2km s-min=4.5km az=31.2*
*DDA **24** 21:51:40.1, 37˚.32N×37˚.13E, h7km, Ml2.8*

ISC 24 21:51:40.3±1.0, 37˚.31N±0˚.03×37˚.12E±0˚.03, h13km±7km, n12, σ0$60/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.16**	**152**	PG	**Pg**	**21 51 44.1**	**0.0**
GAZ				SG	**Sg**	**21 51 46.9**	**+0.2**
KUZU	**Kuzuini**	**0.54**	**184**	*i* P	**Pb**	**21 51 51.6**	**-0.1**
KUZU				*i* S	**Sn**	**21 52 02.0**	**-0.8**
ANDN	**Andirin**	**0.67**	**294**	*i* P	**Pg**	**21 51 53.0**	**-0.4**
ANDN				*i* S	**Sb**	**21 52 04.8**	**+1.5**
KOZT	**Kozan**	**1.04**	**280**	PG	**Pg**	**21 51 59.8**	**-0.7**
SAIM	**ADANA**	**1.06**	**309**	*i* P	**Pg**	**21 52 00.3**	**-0.5**
SAIM				*i* S	**Sn**	**21 52 15.2**	**-0.5**
AKCD	**Akcadag**	**1.17**	**33**	*i* P	**Pn**	**21 52 02.6**	**+0.1**
AKCD				*i* S	**Sn**	**21 52 18.7**	**+0.2**
TAHT	**Tahtakopru-Hat**	**1.20**	**219**	PN	**Pn**	**21 52 03.2**	**+0.4**
SURC	**SANLIURFA_SURC**	**1.27**	**109**	*i* P	**Pn**	**21 52 04.0**	**+0.2**
SURC				*i* S	**Sn**	**21 52 21.5**	**+0.7**
DARE	**Darende-Malaty**	**1.29**	**13**	PN	**Pb**	**21 52 04.4**	**-0.2**
URFA	**Urfa**	**1.36**	**84**	PN	**Pg**	**21 52 06.2**	**-0.3**
SANL	**SANLIURFA_Merk**	**1.50**	**95**	*i* P	**Pn**	**21 52 06.3**	**-0.7**
SANL				*i* S	**Sg**	**21 52 27.9**	**-0.6**
HEKM	**Malatya_Hekimh**	**1.70**	**23**	*i* P	**Pb**	**21 52 11.6**	**0.0**
HEKM				*i* S	**Sg**	**21 52 35.6**	**+0.5**

*ISCJB **24** 21:56:37.6±0.5, 27˚.10N±0˚.08×126˚.12E±0˚.08, h178km±8km, mb3.4/5, Error ellipse: s-maj=16.2km s-min=5.6km az=141.3*
*JMA **24** 21:56:38.2±0.3, 27˚.19N×126˚.05E, h170km, M3.

BNSI Bone 10.68 230 P **Pn** 22 16 06.6 +2.8
39nm,0.8s,914nm
KAPI Kappang 11.35 229 *ce*P **Pn** 22 16 14.4 +2.1
KAPI pmax pmax
comp=Z,7.0nm,0.6s
KDM Kudat 12.28 291 P **Pn** 22 16 26.0 +1.8
KKM Kota Kinabalu 12.59 287 P **Pn** 22 16 30.0 +1.8
MMRI Maumere 12.59 209 P **P** 22 16 34.2 +2.4
SOEI Soe 12.80 198 *e*Pn **Pn** 22 16 29.9 -0.9
SOEI Soe 12.80 198 P **P** 22 16 33.1 -1.1
GENI Genyem 12.86 113 P **P** 22 16 35.8 +1.1
EDFI Ende, Flores 12.96 211 P **P** 22 16 37.8 +1.8
JAY Jayapura 13.32 112 P **Pn** 22 16 38.1 +0.7
comp=Z,1.6nm,0.3s,baz=273,slow=6.3,SNR=11
JAY Jayapura 13.32 112 P **P** 22 16 40.0 0.0
BATI Baumata 13.42 200 P **Pn** 22 16 39.4 +0.9
comp=Z,12nm,0.3s,baz=26,slow=1.2,SNR=12
BATI Baumata 13.42 200 P **Pn** 22 16 39.1 +0.6
PLAI Plampang 15.38 223 P **P** 22 17 06.0 +3.3
MTN Manton Dam 15.46 170 *e*Pn **Pn** 22 17 01.9 -1.7
comp=Z,63nm,1.1s
TWSI Taliwang, Sumb 15.94 226 P **Pn** 22 17 12.5 +3.1
SBUM Sibu 16.10 270 *e*P **Pn** 22 17 11.9 +0.7
comp=Z,5.9nm,0.9s
SBUM Sibu 16.10 270 P **Pn** 22 17 13.0 +1.8
KSM Kuching 18.04 267 *e*P **P** 22 17 32.6 +0.7
comp=Z,49nm,1.1s
KSM Kuching 18.04 267 P **Pn** 22 17 35.0 +0.8
FITZ Fitzroy Crossi 20.61 187 P **P** 22 17 58.0 -1.4
comp=Z,11nm,0.5s,baz=358,slow=6.7,SNR=54
FITZ S **S** 22 21 36.4 -1.9
comp=Z,1.5nm,0.8s,baz=108,slow=18,SNR=2.7
FITZ Fitzroy Crossi 20.61 187 *e*P **P** 22 17 58.4 -1.0
comp=Z,14nm,0.9s
FITZ *e*S **S** 22 21 36.4 -1.9
YULB Yu-li 21.89 342 *e*P **P** 22 18 10.8 -1.8
comp=Z,26nm,1.2s
COEN Coen 21.98 138 *e*P **P** 22 18 12.2 -1.4
comp=Z,24nm,0.9s
TPUB Ta-pu 22.01 341 *e*P **P** 22 18 12.2 -1.7
comp=Z,35nm,0.7s
SSLB Suanglung 22.36 342 *e*P **P** 22 18 16.2 -1.0
comp=Z,38nm,0.7s
NACB Ningan Chiao 22.54 344 *e*P **P** 22 18 18.6 -0.1
comp=Z,26nm,0.9s
WRAB Tennant Creek 23.03 165 *e*P **P** 22 18 22.3 -0.8
comp=Z,99nm,0.6s
WRAB Tennant Creek 23.03 165 *c i*P **P** 22 18 22.0 -1.2
WRAB pmax pmax
comp=Z,79nm,0.9s
WR1 Warramunga Arr 23.04 165 *e*P **P** 22 18 22.1 -1.2
comp=Z,117nm,0.6s
WR1 *e*S **S** 22 22 22.0 +3.5
WR1 *e*ScP **ScP** 22 25 24.4 -0.6
WRA Warramunga Arr 23.04 165 P **P** 22 18 22.1 -1.2
comp=Z,72nm,0.7s,baz=345,slow=11,SNR=349
WRA S **S** 22 22 22.0 +3.5
comp=Z,6.7nm,1.0s,baz=344,slow=18,SNR=6.7
WRA ScP **ScP** 22 25 24.4 -0.6
comp=Z,1.3nm,1.0s,baz=342,slow=3.0,SNR=9.0
WRA Warramunga Arr 23.04 165 *i*P **P** 22 18 20.7 -2.5
WRA pmax pmax
comp=Z,92nm,0.6s
WB2 Warramunga Arr 23.04 165 *e*P **P** 22 18 22.3 -1.0
YHNB Yeheng 23.07 344 *e*P **P** 22 18 24.1 +0.6
comp=Z,72nm,1.0s
TATO Taipei 23.33 344 *e*P **P** 22 18 26.2 +0.4
comp=Z,591nm,1.8s
JOW Kunigami 24.23 360 P **P** 22 18 34.3 +0.4
comp=Z,16nm,0.7s,baz=173,slow=10,SNR=5.6
JOW Kunigami 24.23 360 *e*P **P** 22 18 34.0 +0.1
comp=Z,48nm,0.9s
MYKOM Kota Tinggi 24.47 269 P **P** 22 18 39.0 +2.6
MBWA Marble Bar 24.95 199 *e*P **P** 22 18 40.2 -0.3
comp=Z,27nm,1.4s
XMIS Christmas Isla 25.98 240 *e*P **P** 22 18 48.4 -1.6
comp=Z,103nm,1.1s
AS31 Alice Springs 26.54 168 *e*P **P** 22 18 54.1 -0.7
comp=Z,4.6nm,0.6s
AS31 *e*PcP **PcP** 22 22 14.0 -0.1
AS31 *e*ScP **ScP** 22 25 34.4 -0.4
ASAR Alice Springs 26.54 169 P **P** 22 18 54.0 -0.8
comp=Z,13nm,0.7s,baz=359,slow=8.7,SNR=149
ASAR PcP **PcP** 22 22 14.0 -0.1
comp=Z,1.9nm,0.5s,baz=355,slow=2.1,SNR=5.5
ASAR ScP **ScP** 22 25 34.4 -0.4
comp=Z,2.7nm,0.8s,baz=349,slow=2.3,SNR=14
AS01 Alice Springs 26.55 168 *e*P **P** 22 18 53.8 -1.1
IPM Ipoh 27.33 275 *e*P **P** 22 19 01.6 -0.5
comp=Z,9.6nm,1.0s
KULM Kulim 27.76 277 P **P** 22 19 07.0 +1.2
CTA Charters Tower 28.50 143 P **P** 22 19 11.9 -0.3
comp=Z,10nm,0.8s,baz=317,slow=12,SNR=6.1
CTA Charters Tower 28.50 143 *e*P **P** 22 19 12.0 -0.3
CTAO Charters Tower 28.50 143 *e*P **P** 22 19 11.4 -0.9
comp=Z,15nm,0.8s
CTAO Charters Tower 28.50 143 *e*P **P** 22 19 11.4 -0.9
CTAO pmax pmax
comp=Z,15nm,0.8s
MNSI Mandailing Nat 28.79 267 P **P** 22 19 16.7 +1.8
NONG Nongkai 29.16 304 P **P** 22 19 20.9 +2.8
comp=Z,0.4nm,1.6s,comp=Z,91nm
CHAI Chaiyaphum 29.17 299 P **P** 22 19 20.4 +2.1
comp=Z,6.8nm,0.9s,comp=Z,76nm
PSI Prapat 29.38 271 P **P** 22 19 20.9 +0.6
comp=Z,11nm,0.9s,baz=180,slow=3.1,SNR=7.7
PSI Prapat 29.38 271 *e*P **P** 22 19 20.9 +0.6
comp=Z,13nm,0.9s
PSI Prapat 29.38 271 *e*P **P** 22 19 20.9 +0.6
PSI pmax pmax
comp=Z,13nm,0.9s
JNU Nakatsue 30.59 4 *e*P **P** 22 19 30.6 0.0
comp=Z,60nm,1.2s
NJ2 Nanjing 30.75 344 *e*P **P** 22 19 32.6 +0.6
NJ2 pmax pmax
comp=Z,11nm,0.6s
GSI Gunungsitoli 30.76 268 *e*P **P** 22 19 32.5 +0.1
comp=Z,29nm,0.8s
GSI Gunungsitoli 30.76 268 P **P** 22 19 32.8 +0.4
comp=Z,48nm,0.9s
WHN Wuhan 30.90 336 ⇑P **P** 22 19 35.5 +2.2
WHN pmax pmax
comp=Z,54nm,0.7s
SRDT SRDT 31.16 294 P **P** 22 19 39.2 +3.4
comp=Z,17nm,1.4s
UTTA Uttaradit 31.20 301 P **P** 22 19 38.3 +2.2
comp=Z,5.2nm,0.9s,comp=Z,51nm
UTHA Uthaitani 31.29 296 P **P** 22 19 39.3 +2.4
comp=Z,5.1nm,0.8s
LHMI Lhok Sumawe 31.43 276 *e*P **P** 22 19 38.8 +0.6
comp=Z,53nm,1.0s
NANT Nan 31.55 303 P **P** 22 19 41.4 +2.2
comp=Z,5.7nm,0.8s,comp=Z,71nm
GYA Guiyang 31.65 321 P **P** 22 19 42.6 +2.5
GYA pmax pmax
comp=Z,10.0nm,0.9s
LAMP Lampang 32.33 302 P **P** 22 19 48.6 +2.6
comp=Z,9.5nm,0.9s
PAYA Payao 32.50 303 P **P** 22 19 49.6 +2.1
comp=Z,12nm,0.9s,comp=Z,117nm
CM01 Chiang Mai Arr 32.86 301 *e*P **P** 22 19 51.7 +1.1
CMAR Chiang Mai Arr 32.88 301 P **P** 22 19 52.1 +1.2
comp=Z,13nm,0.8s,baz=117,slow=7.1,SNR=10
CMAR ScP **ScP** 22 25 56.6 +1.2
comp=Z,3.4nm,0.9s,baz=142,slow=2.0,SNR=21
ENH Enshi 32.92 329 *e*P **P** 22 19 52.2 +1.2
comp=Z,30nm,0.8s
CMMT Chiang Mai 33.03 302 P **P** 22 19 53.9 +1.7
comp=Z,33nm,0.9s
CHTO Chiang Mai 33.04 302 *e*P **P** 22 19 53.0 +0.8
comp=Z,20nm,0.8s
CHTO Chiang Mai 33.04 302 *e*P **P** 22 19 53.0 +0.8
CHTO pmax pmax
comp=Z,20nm,0.8s
CHTO Chiang Mai 33.04 302 P **P** 22 19 53.9 +1.7
comp=Z,144nm,0.9s
FORT Forrest 33.06 180 *e*P **P** 22 19 51.2 -1.0
comp=Z,26nm,0.8s
KMI Kunming 33.40 315 P **P** 22 19 57.8 +2.4
KMI pmax pmax
comp=Z,25nm,1.0s
KMI pmax pmax
comp=Z,94nm,4.0s
INU Inuyama 33.70 13 *e*P **P** 22 19 56.9 -0.7
comp=Z,40nm,0.7s
TJN Taejon 33.75 359 ⇑*e*P **P** 22 19 58.3 +0.2

KS15 Wonju Array Si 34.81 359 *e*P **P** 22 20 07.8 +0.7
KSAR Wonju Array Be 34.81 359 P **P** 22 20 07.5 +0.4
KSAR pP **pP** 22 20 48.8 -0.7
KSAR Wonju Array Be 34.81 359 P **P** 22 20 07.5 +0.4
KSAR *PP **pP** 22 20 48.8 -0.7
KSRS Korea Array 34.82 359 P **P** 22 20 07.5 +0.3
comp=Z,11nm,0.7s,baz=176,slow=9.9,SNR=42
KSRS pP **pP** 22 20 48.8 -0.7
comp=Z,1.5nm,0.8s,baz=208,slow=7.2,SNR=1.7
KS01 Wonju Array Si 34.84 359 *e*P **P** 22 20 07.4 0.0
MJAR Matsushiro Arr 35.11 14 P **P** 22 20 08.3 -1.5
comp=Z,20nm,0.8s,baz=190,slow=10,SNR=58
MAJO Matsushiro 35.11 14 *e*P **P** 22 20 08.5 -1.2
comp=Z,34nm,0.8s
MAJO Matsushiro 35.11 14 *de*P **P** 22 20 08.0 -1.8
MAJO pmax pmax
comp=Z,31nm,0.7s
MAT Matsushiro 35.11 14 P **P** 22 20 08.1 -1.7
MAT *e*S **S** 22 25 20.6 -6.6
MJB9 Matsu-Tunnel 35.12 14 *e*P **P** 22 20 08.6 -1.2
comp=Z,35nm,0.8s
EIDS Eidsvold 35.38 143 *e*P **P** 22 20 11.4 -0.8
comp=Z,13nm,0.8s
BBOO Buckleboo 35.84 169 *e*P **P** 22 20 15.4 -0.6
comp=Z,37nm,0.7s
XAN Xi'an 36.26 332 P **P** 22 20 20.0 +0.4
XAN pP pP 22 21 00.1 -2.1
XAN sP sP 22 21 26.3 +0.6
XAN S **S** 22 25 42.4 -2.4
XAN ScS **ScS** 22 30 15.6 +1.8
XAN pmax pmax
comp=Z,34nm,1.1s
XAN pmax pmax
comp=Z,57nm,4.3s
STKA Stephens Creek 36.41 161 P **P** 22 20 20.3 -0.5
comp=Z,36nm,0.7s,baz=335,slow=8.6,SNR=77
STKA Stephens Creek 36.41 161 *e*P **P** 22 20 20.2 -0.6
comp=Z,8.4nm,0.8s
STKA Stephens Creek 36.41 161 *e*P **P** 22 20 20.2 -0.6
STKA pmax pmax
comp=Z,8.0nm,0.8s
PBA Port Blair 36.44 286 *e*P P 22 20 20.7 -0.6
comp=Z,46nm,1.0s
CD2 Chengdu 36.60 323 *e*P **P** 22 20 24.0 +1.4
CD2 pmax pmax
comp=Z,10.0nm,0.5s
NWAO Narrogin (SRO) 36.74 196 *e*P **P** 22 20 23.6 0.0
comp=Z,33nm,1.1s
NWAO Narrogin (SRO) 36.74 196 *e*P **P** 22 20 23.6 0.0
NWAO pmax pmax
comp=Z,33nm,1.1s
BJT Baijiatuan 38.97 345 *e*P **P** 22 20 42.6 +0.4
comp=Z,51nm,0.7s
BJT Baijiatuan 38.97 345 *e*P **P** 22 20 42.6 +0.4
BJT pmax pmax
comp=Z,51nm,0.7s
BJI Beijing 38.99 345 P **P** 22 20 42.5 +0.2
BJI pmax pmax
comp=Z,49nm,0.8s
ARMA Armidale 39.55 148 *e*P **P** 22 20 46.7 -0.5
comp=Z,23nm,0.9s
LZH Lanzhou 40.40 329 ⇑P **P** 22 20 55.8 +1.6
LZH pP pP 22 21 36.0 -1.6
LZH sP sP 22 21 57.3 -3.5
LZH PP **PnPn** 22 22 35.9 -1.7
LZH pmax pmax
comp=Z,25nm,1.2s
LZH pmax pmax
comp=Z,97nm,5.4s
H11S3 WAKE ISLAND Hy 40.80 64 T T 23 05 00.8
baz=252,slow=75,SNR=45
H11S2 WAKE ISLAND Hy 40.82 64 T T 23 05 00.9
baz=252,slow=75,SNR=31
H11S1 WAKE ISLAND Hy 40.82 64 T T 23 05 03.0
baz=252,slow=75,SNR=28
HHC Hu-ho-hao-te 41.10 341 *e*P **P** 22 21 00.4 +0.6
HHC pP pP 22 21 42.6 -0.7
HHC PP **PnPn** 22 22 46.4 +0.7
HHC S **S** 22 26 59.1 +1.9
HHC sS sS 22 28 17.6 +3.7
HHC pmax pmax
comp=Z,46nm,1.0s
HHC pmax pmax
comp=Z,100nm,5.5s
CN2 Changchun 41.24 357 *e*P **P** 22 20 57.1 -3.6
CN2 pmax pmax
comp=Z,10.0nm,1.3s
H11N1 WAKE ISLAND Hy 41.38 63 T T 23 05 44.6
baz=250,slow=75,SNR=34
H11N2 WAKE ISLAND Hy 41.39 63 T T 23 05 43.0
baz=250,slow=75,SNR=14
H11N3 WAKE ISLAND Hy 41.40 63 T T 23 05 49.9
baz=250,slow=75,SNR=35
USA0B Ussuriysk Arra 41.68 4 *e*P **P** 22 21 05.0 +0.7
comp=Z,22nm,0.9s
USRK Ussuriysk Ar. 41.68 4 P **P** 22 21 04.9 +0.6
comp=Z,16nm,0.8s,baz=184,slow=6.9,SNR=33
SHL Shillong 41.91 307 *e*P **P** 22 21 07.9 +1.2
comp=Z,68nm,0.6s
SHL Shillong 41.91 307 *e*P **P** 22 21 07.9 +1.2
SHL pmax pmax
comp=Z,68nm,0.6s
SHL Shillong 41.91 307 *i*P **P** 22 21 07.0 +0.3
MDJ Mudanjiang 41.99 1 P **P** 22 21 06.8 0.0
MDJ PcS **PcS** 22 26 48.0 -1.8
MDJ S **S** 22 27 14.8 +4.9
MDJ sS sS 22 28 28.9 +2.1
MDJ ScS **ScS** 22 30 44.9 -2.0
MDJ pmax pmax
comp=Z,28nm,0.9s
MDJ pmax pmax
comp=Z,69nm,3.3s
MDJ Mudanjiang 41.99 1 *e*P **P** 22 21 07.1 +0.3
comp=Z,23nm,1.0s
CAN Canberra 42.29 155 *e*P **P** 22 21 09.6 +0.2
comp=Z,69nm,2.0s
CAN Canberra 42.29 155 *e*P **P** 22 21 09.6 +0.2
CAN pmax pmax
comp=Z,69nm,2.0s
TEY Ternei 43.01 9 ⇓*e*P **P** 22 21 15.1 +0.1
TEY pmax pmax
comp=Z,40nm,0.7s
TEY pmax pmax
comp=N,20nm,0.9s
ASAJ Asahikawa 43.36 15 *e*P **P** 22 21 18.3 +0.5
comp=N,103nm,1.6s
LSA Lhasa 44.47 311 *e*P **P** 22 21 29.6 +2.1
comp=N,20nm,0.8s
LSA Lhasa 44.47 311 *e*P **P** 22 21 29.6 +2.1
LSA pmax pmax
comp=Z,20nm,0.8s
GTA Gaotai 45.00 328 *e*P **P** 22 21 31.3 +0.2
GTA pP pP 22 22 13.3 -2.0
GTA sP sP 22 22 34.6 -3.7
GTA S **S** 22 27 54.1 +0.1
GTA SS **SS** 22 31 13.6 -6.3
GTA pmax pmax
comp=Z,27nm,0.9s
GTA pmax pmax
comp=Z,90nm,8.3s
YSS Yuzh-Sakhalins 46.05 14 *e*P **P** 22 21 38.2 -0.8
comp=Z,73nm,1.5s
YSS Yuzh-Sakhalins 46.05 14 *e*P **P** 22 21 38.2 -0.8
YSS pmax pmax
comp=Z,73nm,1.5s
KLR Kul'dur 46.68 3 ⇓*e*P **P** 22 21 43.4 -0.5
RAMN Ramite 46.78 305 *e*P **P** 22 21 46.8 +1.5
comp=Z,127nm,0.6s
HIA Hailar 47.20 352 ⇑*e*P **P** 22 21 48.2 +0.3
HIA pmax pmax
comp=Z,14nm,1.5s
JIRN Jiri 47.40 306 *e*P **P** 22 21 51.5 +1.2
comp=Z,133nm,0.5s
GUN Gumba 47.76 306 *e*P **P** 22 21 54.1 +1.1
comp=Z,102nm,0.6s
PKI Pulchoki 48.00 306 *e*P **P** 22 21 55.5 +0.7
comp=Z,18nm,0.4s
PKIN Phulchoki 48.01 306 *e*P **P** 22 21 55.4 +0.5
comp=Z,16nm,0.4s
KKN Kakani 48.19 306 *e*P **P** 22 21 57.0 +0.8
comp=Z,53nm,0.8s
DMN Daman 48.26 305 *e*P **P** 22 21 57.6 +0.8
comp=Z,88nm,1.0s
ULN Ulaanbaatar 48.81 341 *e*P **P** 22 22 01.3 +0.8
comp=Z,24nm,0.8s
ULN Ulaanbaatar 48.81 341 *d i*P **P** 22 22 01.0 +0.5

ULN *i* *PP **pP** 22 22 45.3 -0.1
ULN pmax pmax
comp=Z,30nm,0.9s
SONA0 Songino Array 49.00 341 *e*P **P** 22 22 02.5 +0.6
SONA0 *e*pP **pP** 22 22 44.9 -2.0
SONA0 *e*ScP **ScP** 22 26 58.2 -0.1
SONM Songino Array 49.00 341 P **P** 22 22 02.5 +0.6
comp=Z,9.7nm,0.7s,baz=153,slow=8.1,SNR=82
SONM pP **pP** 22 22 44.9 -2.0
comp=Z,1.9nm,0.8s,baz=141,slow=7.4,SNR=2.6
SONM ScP **ScP** 22 26 58.2 -0.1
comp=Z,1.0nm,1.0s,baz=152,slow=6.7,SNR=5.6
SONA1 Songino Array 49.01 341 *e*P **P** 22 22 02.4 +0.4
KOLN Koldanda 49.55 305 *e*P **P** 22 22 07.8 +1.3
comp=Z,152nm,0.7s
DANN Dangsing 49.65 306 *e*P **P** 22 22 08.1 +0.8
comp=Z,168nm,0.7s
PYUN Piuthan 50.17 305 *e*P **P** 22 22 12.4 +1.2
comp=Z,166nm,0.8s
ZEA Zeya 51.11 359 *e*P **P** 22 22 16.6 -0.8
MOY Mondy 54.11 339 *e*P **P** 22 22 40.8 +1.2
MOY pmax pmax
comp=Z,17nm,1.6s
WMQ Urumqi 54.67 325 P **P** 22 22 45.0 +1.3
WMQ pP pP 22 23 29.4 -0.3
WMQ pmax pmax
comp=Z,68nm,1.1s
WMQ pmax pmax
comp=Z,210nm,3.8s
WMQ LR LR
comp=Z,45nm,20.3s
WMQ LR LR
comp=Z,43nm,17.9s
PETK Petropavlovsk- 56.01 21 P **P** 22 22 53.5 +0.4
comp=Z,11nm,0.9s,baz=185,slow=4.5,SNR=13
PETK Petropavlovsk- 56.01 21 *e*P **P** 22 22 51.8 -1.2
PETK Petropavlovsk- 56.01 21 *e*P **P** 22 22 51.8 -1.2
PEA1 Petropavlovsk- 56.01 21 *e*P **P** 22 22 53.5 +0.4
BOD Bodaibo 56.34 351 *e*P **P** 22 22 55.5 +0.2
BOD pmax pmax
comp=Z,16nm,1.2s
HVS Khovu-Aksy 56.55 335 *d i*P **P** 22 22 58.0 +1.0
HVS pmax pmax
comp=Z,31nm,1.1s
MIDW Midway 57.68 58 *e*P **P** 22 23 03.6 -1.6
comp=Z,404nm,1.3s
YAK Yakutsk 59.43 1 *e*P **P** 22 23 16.8 +0.2
comp=Z,83nm,0.7s
YAK Yakutsk 59.43 1 *e*P **P** 22 23 16.8 +0.2
YAK pmax pmax
comp=Z,83nm,0.7s
MK01 Makanchi Array 59.48 325 *e*P **P** 22 23 17.6 +0.2
MK31 Makanchi Array 59.50 325 *e*P **P** 22 23 18.1 +0.6
MK31 Makanchi Array 59.50 325 *e*P **P** 22 23 18.1 +0.6
MK32 Makanchi Array 59.50 325 *e*P **P** 22 23 17.9 +0.5
MK32 *e*pP **PcP** 22 24 02.5 -0.3
MK32 *e*ScP **ScP** 22 27 43.5 -0.5
MKAR Makanchi Array 59.50 325 P **P** 22 23 17.9 +0.5
comp=Z,14nm,0.6s,baz=116,slow=8.2,SNR=196
MKAR pP **PcP** 22 24 02.5 -0.3
comp=Z,3.9nm,0.8s,baz=120,slow=6.5,SNR=3.3
MKAR ScP **ScP** 22 27 43.5 -0.5
comp=Z,1.3nm,0.8s,baz=120,slow=4.0,SNR=6.1
MKAR Makanchi Array 59.50 325 *e*P **P** 22 23 18.1 +0.5
comp=Z,100nm,0.6s
MKAR pP **PcP** 22 24 02.5 -0.3
MKAR ScP **ScP** 22 27 43.5 -0.5
MKAR Makanchi Array 59.50 325 *ce*P **P** 22 23 18.0 +0.5
LTZ Lake Taylor 59.95 144 *e*P **P** 22 23 20.3 -0.3
comp=Z,20nm,0.7s
NIL Nilore 59.96 308 *e*P **P** 22 23 21.7 +0.8
comp=Z,15nm,1.2s
NIL Nilore 59.96 308 *e*P **P** 22 23 21.7 +0.8
NIL pmax pmax
comp=Z,15nm,1.2s
KSH Kashi 60.06 315 P **P** 22 23 23.1 +1.5
KSH pP pP 22 24 10.0 +1.6
KSH PP **PP** 22 25 41.0 +4.4
KSH S **S** 22 31 15.8 -2.5
KSH pmax pmax
comp=Z,43nm,1.2s
KSH pmax pmax
comp=Z,330nm,4.5s
KSH LR LR
comp=Z,120nm,7.8s
KSH LR LR
comp=Z,180nm,9.8s
KSH LR LR
comp=Z,150nm,11.5s
KZA Kyzart 61.62 317 P **P** 22 23 33.7 +1.4
SNR=10
TKM2 Tokmak 2 61.74 318 P **P** 22 23 33.6 +0.7
SNR=14
UCH Uchtor 62.18 317 P **P** 22 23 37.5 +1.3
SNR=17
AAK Ala-Archa 62.36 318 *e*P **P** 22 23 37.0 0.0
comp=Z,5.2nm,1.0s
AAK Ala-Archa 62.36 318 ⇓*e*P **P** 22 23 37.6 +0.6
AAK pmax pmax
comp=Z,6.0nm,1.1s
ZAA0 Zalesovo Array 62.43 333 *e*P **P** 22 23 36.3 -0.7
comp=Z,9.2nm,0.9s
ZALV Zalesovo Beam 62.43 333 P **P** 22 23 36.6 -0.4
comp=Z,4.6nm,0.5s,baz=118,slow=5.8,SNR=24
ZALV Zalesovo Beam 62.43 333 *e*P **P** 22 23 36.1 -0.8
ZALV Zalesovo Beam 62.43 333 *e*P **P** 22 23 36.2 -0.8
ZAA1 Zalesovo Array 62.43 333 *e*P **P** 22 23 36.6 -0.4
USP Ospenovka 62.62 318 P **P** 22 23 39.1 +0.5
SNR=15
AML Almayashu 62.70 317 P **P** 22 23 40.6 +1.1
SNR=17
EKS2 Erkin-Say 62.85 318 P **P** 22 23 41.4 +1.2
SNR=15
SEY Seymchan 62.91 12 ⇑*e*P **P** 22 23 39.6 -0.4
KBL Kabul 63.55 308 *e*P **P** 22 23 45.5 +0.4
comp=Z,9.5nm,1.0s
KBL Kabul 63.55 308 P **P** 22 23 45.5 +0.4
KBL pmax pmax
comp=Z,9.0nm,1.1s
KURK Kurchatov 63.66 327 *e*P **P** 22 23 45.3 +0.2
comp=Z,40nm,0.8s
KURK Kurchatov 63.66 327 *d i*P **P** 22 23 45.2 +0.1
KURK pmax pmax
comp=Z,35nm,0.9s
NVS Novosibirsk 63.71 333 *e*P **P** 22 23 45.0 -0.4
NVS pmax pmax
comp=Z,13nm,0.9s
NVS pmax pmax
comp=N,6.0nm,0.8s
NVS pmax pmax
comp=E,9.0nm,1.0s
KK31 Karatay Array 65.24 317 *e*P **P** 22 23 55.9 +0.3
KK31 Karatay Array 65.24 317 *e*P **P** 22 23 55.9 +0.3
KKAR Karatay Array 65.24 317 *e*P **P** 22 23 55.9 +0.3
KKAR Karatay Array 65.24 317 *e*P **P** 22 23 55.9 +0.3
TIXI Tiksi 69.08 0 *e*P **P** 22 24 18.6 -0.5
comp=E,8.5nm,0.8s
TIXI Tiksi 69.08 0 *e*P **P** 22 24 18.6 -0.5
TIXI pmax pmax
comp=Z,9.0nm,0.8s
BRVK Borovoye 69.31 327 *e*P **P** 22 24 21.0 0.0
comp=Z,23nm,0.9s
BRVK Borovoye 69.31 327 *d i*P **P** 22 24 20.7 -0.2
BRVK pmax pmax
comp=Z,29nm,1.1s
BILL Bilibino 70.37 14 ⇓*e*P **P** 22 24 27.7 +0.7
BILL pmax pmax
comp=Z,3.0nm,1.2s
NRIK Noril'sk 72.03 346 P **P** 22 24 37.2 +0.3
comp=Z,8.2nm,0.7s,baz=125,slow=5.9,SNR=16
GEYT Alibeck 72.92 309 P **P** 22 24 42.9 -0.1
comp=Z,2.9nm,0.8s,baz=247,slow=9.5,SNR=10
GEYT pP **pP** 22 25 32.6 +1.0
comp=Z,2.1nm,0.8s,baz=253,slow=4.0,SNR=4.2
GYA0B ALIBECK ARRAY 72.92 309 *e*P **P** 22 24 43.2 +0.2
ABKAR Akbulak array 74.13 321 *e*P **P** 22 24 49.4 -0.4
SVE Sverdlovsk 75.86 328 *e*P **P** 22 24 59.5 0.0
SVE pmax pmax
comp=Z,17nm,0.9s
ARU Arti 76.85 328 *e*P **P** 22 25 04.6 -0.5
comp=Z,8.3nm,0.8s
ARU Arti 76.85 328 *ce*P **P** 22 25 04.5 -0.5
ARU pmax pmax
comp=Z,9.0nm,0.8s
VNDA Vanda 81.98 173 P **P** 22 25 32.2 -0.2
comp=Z,4.2nm,0.8s,baz=314,slow=6.1,SNR=14

VNDA	**Vanda**	**81.98**	**173**	*e*P		**P**	**22 25 32.1**	**-0.2**
	comp=Z,5.0nm,0.9s							
VNDA	**Vanda**	**81.98**	**173**	*e*P		**P**	**22 25 32.1**	**-0.2**
VNDA					pmax	pmax		
	comp=Z,5.0nm,0.9s							
IM3	**Indian Mountai**	**82.84**	**24**	*e*P		**P**	**22 25 36.8**	**-0.2**
MAW	**Mawson**	**83.14**	**201**	P		**P**	**22 25 38.4**	**0.0**
	comp=Z,4.9nm,1.0s,baz=47,slow=9.8,SNR=6.7							
MAW	**Mawson**	**83.14**	**201**	*e*P		**P**	**22 25 39.0**	**+0.6**
	comp=Z,2.1nm,1.4s							
MAW	**Mawson**	**83.14**	**201**	*e*P		**P**	**22 25 39.0**	**+0.6**
MAW					pmax	pmax		
	comp=Z,2.0nm,1.4s							
SML	**Sawmill**	**84.68**	**28**	*e*P		**P**	**22 25 46.6**	**+0.2**
	comp=Z,23nm,1.2s							
SML	**Sawmill**	**84.68**	**28**	*e*P		**P**	**22 25 46.6**	**+0.2**
SML					pmax	pmax		
	comp=Z,23nm,1.2s							
KBZ	**Khabaz**	**85.00**	**313**	P		**P**	**22 25 48.6**	**+0.3**
	comp=Z,2.2nm,1.0s,baz=103,slow=8.5,SNR=4.8							
KIV	**Kislovodsk**	**85.16**	**314**	*e*P		**P**	**22 25 48.8**	**-0.5**
KIV					pmax	pmax		
	comp=Z,6.0nm,1.1s							
ILAR	**Eielson Array**	**85.55**	**25**	P		**P**	**22 25 50.1**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=242,slow=5.1,SNR=6.7							
MOS	**Moscow**	**88.38**	**326**	*e*P		**P**	**22 26 02.2**	**-2.2**
OBN	**Obninsk**	**89.00**	**325**‖	*e*P		**P**	**22 26 06.5**	**-0.8**
OBN					*PP	**pP**	**22 26 57.0**	**-0.8**
OBN					pmax	pmax		
	comp=Z,13nm,0.8s							
APA	**Apatity**	**89.62**	**338**↓	*i* P		**P**	**22 26 14.1**	**+4.1**
APA					pmax	pmax		
	comp=Z,8.0nm,0.9s							
SYO	**Syowa Base**	**91.83**	**201**↑	*e*P		**P**	**22 26 20.2**	**+0.1**
ARA0	**ARCESS Array S**	**92.17**	**340**	*e*P		**P**	**22 26 20.8**	**-1.0**
ARCES	**ARCESS Array B**	**92.17**	**340**	P		**P**	**22 26 20.8**	**-1.0**
	comp=Z,5.3nm,0.7s,baz=84,slow=5.9,SNR=20							
QSPA	**South Pole Qui**	**92.38**	**180**	*e*P		**P**	**22 26 23.3**	**+0.3**
	comp=Z,4.4nm,0.8s							
FIA0	**FINESS Array S**	**93.69**	**332**	*e*P		**P**	**22 26 27.8**	**-1.1**
FIA0	**FINESS Array S**	**93.69**	**332**	*e*P		**P**	**22 26 27.8**	**-1.1**
FINES	**FINESS Array B**	**93.69**	**332**	P		**P**	**22 26 27.8**	**-1.1**
	comp=Z,1.2nm,0.5s,baz=66,slow=4.0,SNR=13							
FINES	**FINESS Array B**	**93.69**	**332**	*i* P		**P**	**22 26 28.0**	**-0.9**
FINES					pmax	pmax		
	comp=Z,1.0nm,0.5s							
KECS	**Kecovo**	**99.89**	**320**	*e*P		**Pdif**	**22 26 56.4**	**-0.8**
KECS	**Kecovo**	**99.89**	**320**	*e*PDIF		**Pdif**	**22 26 56.4**	**-0.8**
TORD	**Torodi Ar. Bea**	**124.83**	**288**	PKP		**PKPdf**	**22 32 11.6**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=118,slow=2.0,SNR=7.5							
TOA1	**Torodi Ar. Sit**	**124.83**	**288**	*e*PKPdf		**PKPdf**	**22 32 11.6**	**-0.7**
LCO	**Las Campanas**	**147.99**	**147**	*c* PKP2		**PKPab**	**22 32 59.7**	**-1.5**
CPUP	**Villa Florida**	**155.66**	**168**	PKPab		**PKPab**	**22 33 33.6**	**+0.7**
	comp=Z,4.2nm,1.0s,baz=187,slow=2.6,SNR=5.3							
LPAZ	**La Paz**	**158.76**	**131**	PKPab		**PKPab**	**22 33 47.9**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=206,slow=5.8,SNR=6.0							

*ATH **24** 22:17:49.3,36.°68N×28.°04E,h28km±2km, ML3.0/5, Error ellipse: s-maj=3.8km s-min=1.2km az=213.0*
*ISK **24** 22:17:49.6,36.°58N×27.°94E,h5km, ML3.0/14*
*DDA **24** 22:17:49.1,36.°58N×27.°83E,h6km, Ml3.1*
*ISCJB **24** 22:17:50.8±0.5,36.°59N±0.°03×27.°92E±0.°02,h2km±4km, Error ellipse: s-maj=4.7km s-min=2.9km az=13.0*
*THE **24** 22:17:50.8,36.°62N×27.°94E,h0km±1km, ML2.9/5, Error ellipse: s-maj=2.2km s-min=1.1km az=203.0*

ISC 24 22:17:49.5±1.1, 36.°54N±0.°02×27.°87E±0.°02, h10km±9km, n48, σ1§28/70, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DATC	**Datca-Mugla**	**0.28**	**322**	PG	**Pb**	**22 17 55.8**	**-0.8**
DATC				SG	**Sb**	**22 18 00.4**	**-1.0**
DAT	**Datca**	**0.30**	**309**	PG	**Pb**	**22 17 56.7**	**-0.4**
DAT				SG	**Sb**	**22 18 01.8**	**-0.4**
DAT	**Datca**	**0.30**	**309**	*i* P	**Pb**	**22 17 57.0**	**-0.1**
DAT				*i* S	**Sb**	**22 18 02.8**	**+0.5**
MRSB	**Marmaris-Mugla**	**0.31**	**56**	PG	**Pg**	**22 17 54.9**	**-0.9**
MRSB				SG	**Sg**	**22 17 58.7**	**-1.3**
ARG	**Arkhangelos**	**0.38**	**148**	PG	**Pb**	**22 17 57.3**	**-1.1**
ARG	**Arkhangelos**	**0.38**	**148**	P	**Pn**	**22 17 59.1**	**-2.0**
ARG				S	**Sb**	**22 18 07.0**	**+2.7**
ARG				AML	AML	22 18 08.3	
	comp=N,3415μm,0.4s						
ARG				AML	AML	22 18 08.6	
	comp=E,5327μm,0.4s						
ARG	**Arkhangelos**	**0.38**	**148**	P	**Pn**	**22 17 59.1**	**-2.0**
ARG				S	**Sb**	**22 18 07.1**	**+2.7**
NIS1	**Nisyros Isl.**	**0.56**	**277**	PG	**Pb**	**22 18 01.9**	**+0.4**
NIS1	**Nisyros Isl.**	**0.56**	**277**	P	**Pn**	**22 18 03.1**	**-0.5**
NIS1				S	**Sn**	**22 18 13.3**	**+0.3**
NIS1				AML	AML	22 18 16.6	
	comp=E,7049μm,0.7s						
NIS1				AML	AML	22 18 19.3	
	comp=N,8009μm,0.4s						
NIS1	**Nisyros Isl.**	**0.56**	**277**	P	**Pn**	**22 18 03.4**	**-0.2**
NIS1				S	**Sn**	**22 18 12.9**	**-0.1**
NISR	**Nisiros**	**0.60**	**277**	P	**Pn**	**22 18 03.9**	**-0.3**
NISR				S	**Sn**	**22 18 14.7**	**+0.7**
NISR				AML	AML	22 18 17.4	
	comp=N,1813μm,0.2s						
NISR				AML	AML	22 18 17.5	
	comp=E,3407μm,0.3s						
NISR	**Nisiros**	**0.60**	**277**	P	**Pn**	**22 18 04.7**	**+0.5**
NISR				S	**Sn**	**22 18 14.8**	**+0.8**
TURN	**Turunc**	**0.67**	**60**	PG	Pg	22 17 56.2	-6.3
TURN	**Turunc**	**0.67**	**60**	*i* P	Pg	22 17 56.1	-6.4
TURN				*i* S	Sg	22 18 01.7	-10
DALY	**Dalyan (Mu¨la**	**0.69**	**66**	PG	**Pg**	**22 18 02.4**	**-0.4**
DALY	**Dalyan (Mu¨la**	**0.69**	**66**	*i* P	**Pg**	**22 18 01.8**	**-0.9**
DALY				*i* S	**Sn**	**22 18 14.7**	**-1.3**
BODT	**Bodrum**	**0.69**	**319**	PG	**Pb**	**22 18 03.2**	**-0.5**
BODT	**Bodrum**	**0.69**	**319**	P	**Pb**	**22 18 03.6**	**-0.1**
BODT				S	**Sb**	**22 18 14.6**	**+1.3**
MLSB	**Milas**	**0.76**	**354**	PG	**Pg**	**22 18 04.1**	**-0.1**
FETY	**Fethiye**	**0.98**	**84**	PG	**Pb**	**22 18 08.3**	**-0.3**
FETY	**Fethiye**	**0.98**	**84**	P	**Pb**	**22 18 08.4**	**-0.2**
FETY				S	**Sn**	**22 18 22.7**	**-0.6**
AYDN	**Tasoluk**	**1.12**	**0**	*i* P	**Pg**	**22 18 10.4**	**-0.6**
AYDN				*i* S	**Sg**	**22 18 25.8**	**+0.2**
TAVA	**DENIZLI_Tavas**	**1.24**	**42**	*i* P	**Pn**	**22 18 12.0**	**-1.1**
TAVA				*i* S	**Sg**	**22 18 29.9**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.40**	**1**	PN	**Pn**	**22 18 14.9**	**-0.4**
AKAS	**Kas**	**1.43**	**102**	PN	**Pg**	**22 18 16.8**	**-0.2**
AKAS	**Kas**	**1.43**	**102**	*i* P	**Pg**	**22 18 17.3**	**+0.3**
AKAS				*i* S	**Sg**	**22 18 38.0**	**+2.4**
SMG	**Samos**	**1.43**	**325**	P	**Pn**	**22 18 15.2**	**-0.4**
SMG				AML	AML	22 18 42.2	
	comp=E,1118μm,0.5s						
SMG				AML	AML	22 18 43.2	
	comp=N,596μm,0.5s						
SMG	**Samos**	**1.43**	**325**	P	**Pn**	**22 18 15.1**	**-0.4**
SMG				S	**Sg**	**22 18 37.9**	**+2.3**
KSL	**Kastellorizon**	**1.43**	**105**	P	**Pn**	**22 18 14.9**	**-0.7**
KSL				S	**Sn**	**22 18 32.0**	**-2.5**
KSL				AML	AML	22 18 39.7	
	comp=E,278μm,0.4s						
KSL				AML	AML	22 18 45.2	
	comp=N,179μm,0.5s						
KSL	**Kastellorizon**	**1.43**	**105**	P	**Pg**	**22 18 16.5**	**-0.5**
KSL				S	**Sg**	**22 18 37.7**	**+2.0**
DNZL	**Cakiroluk**	**1.48**	**39**	*i* P	**Pg**	**22 18 18.0**	**+0.1**
DNZL				*i* S	**Sg**	**22 18 37.6**	**+0.3**
GOLH	**Golhisar**	**1.52**	**62**	*i* P	**Pg**	**22 18 19.4**	**+0.7**
GOLH				*i* S	**Sg**	**22 18 42.1**	**+3.6**
AMGA	**Amorgos Island**	**1.62**	**281**	P	**Pg**	**22 18 20.8**	**+0.2**
ELL	**Elmali**	**1.65**	**82**	PN	**Pb**	**22 18 19.8**	**-0.3**
DGB	**¨zmir**	**1.70**	**333**	*i* P	**Pn**	**22 18 18.8**	**-0.5**
GMLD	**Gumuldur**	**1.71**	**334**	PN	**Pb**	**22 18 20.9**	**-0.2**
APE	**Apeiranthos**	**1.95**	**286**	PN	**Pb**	**22 18 24.9**	**-0.3**
APE	**Apeiranthos**	**1.95**	**286**	P	**Pb**	**22 18 23.9**	**-1.3**
ZKR	**Zakros**	**1.96**	**224**	P	**Pg**	**22 18 25.4**	**-1.6**
MANT	**Manisa**	**2.02**	**15**	*i* P	**Pb**	**22 18 25.8**	**-0.7**
MANT				*i* S	**Sg**	**22 18 54.7**	**+0.2**
KORT	**Korkueli**	**2.04**	**76**	*i* P	**Pg**	**22 18 27.4**	**-1.2**
KORT				*i* S	**Sg**	**22 18 59.0**	**+3.9**
KULA	**Kula-Manisa**	**2.07**	**17**	PN	**Pn**	**22 18 25.5**	**+1.1**
URLA	**Izmir**	**2.08**	**331**	PN	**Pb**	**22 18 25.9**	**-1.5**
BRDR	**BURDUR-Merkez**	**2.10**	**56**	*i* P	**Pb**	**22 18 27.1**	**-0.6**
BRDR				*i* S	**Sb**	**22 18 55.2**	**+1.4**
CHOS	**Chios island**	**2.34**	**322**	PN	**Pb**	**22 18 29.8**	**-2.1**
CHOS	**Chios island**	**2.34**	**322**	P	**Pn**	**22 18 27.9**	**-0.3**
LAST	**Lasithi**	**2.38**	**235**	P	**Pb**	**22 18 31.7**	**-0.9**
PRK	**Paraskevi**	**2.98**	**335**	P	**Pn**	**22 18 36.8**	**-0.1**

*ISN **24** 22:28:31.0±1.2,36.°40N×44.°21E,h0km±12km, ML3.0*
ISK 24 22:28:34.5, 36.°35N×44.°17E, h2km±1km, ML3.0/7, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUKT	**Cukurca**	**1.00**	**333**	PG	Pg	22 28 52.5	-1.2
CUKT				SG	Sn	22 29 09.5	-0.9
SIRT	**Sirnak**	**1.80**	**310**	PN	Pb	22 29 07.7	-0.5
SIRT				SN	Sb	22 29 31.1	-0.1
VANB	**Van**	**2.32**	**345**	PN	Pn	22 29 13.6	-0.2
GURO	**Guroymak-BITLI**	**2.77**	**323**	PN	Pn	22 29 21.5	+1.4
CLDR	**Caldiran**	**2.79**	**356**	PN	Pn	22 29 21.7	+1.3
SVAN	**Silvan-Diyarba**	**2.97**	**308**	PN	Pn	22 29 24.4	+1.7
MAZI	**Mazidag**	**3.18**	**291**	PN	Pn	22 29 27.2	+1.6

*ATH **24** 22:28:40.7,36.°65N×27.°99E,h27km±2km, ML2.6/3, Error ellipse: s-maj=4.0km s-min=1.1km az=212.0*
*ISK **24** 22:28:40.7,36.°58N×27.°92E,h5km, ML2.8/8*
*ISCJB **24** 22:28:41.7±0.4,36.°60N±0.°03×27.°93E±0.°02,h7km±4km, Error ellipse: s-maj=4.7km s-min=3.2km az=17.9*
*THE **24** 22:28:41.4,36.°62N×27.°94E,h0km±1km, ML2.7/3, Error ellipse: s-maj=1.6km s-min=0.9km az=205.0*
*DDA **24** 22:28:42.4,36.°65N×27.°92E,h7km, Ml2.7*

ISC 24 22:28:41.5±1.1, 36.°61N±0.°03×27.°93E±0.°02, h5km±9km, n39, σ1§83/57, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSB	**Marmaris-Mugla**	**0.24**	**64**	PG	**Pg**	**22 28 46.4**	**+0.3**
MRSB				SG	**Sg**	**22 28 50.2**	**+0.9**
DATC	**Datca-Mugla**	**0.26**	**304**	PG	**Pg**	**22 28 46.6**	**+0.1**
DAT	**Datca**	**0.30**	**292**	PG	**Pg**	**22 28 47.4**	**0.0**
DAT				SG	**Sg**	**22 28 52.1**	**+0.6**
DAT	**Datca**	**0.30**	**292**	*i* P	**Pg**	**22 28 48.0**	**+0.6**
DAT				*i* S	**Sb**	**22 28 53.5**	**-1.4**
ARG	**Arkhangelos**	**0.43**	**158**	PG	**Pg**	**22 28 48.9**	**-0.8**
ARG	**Arkhangelos**	**0.43**	**158**	P	**Pg**	**22 28 50.2**	**+0.5**
ARG				S	**Sb**	**22 28 57.6**	**-0.6**
ARG				AML	AML	22 28 59.7	
	comp=E,2372μm,0.4s						
ARG				AML	AML	22 29 00.9	
	comp=N,1404μm,0.3s						
ARG	**Arkhangelos**	**0.43**	**158**	P	**Pg**	**22 28 50.1**	**+0.4**
ARG				S	**Sb**	**22 28 57.7**	**-0.6**
TURN	**Turunc**	**0.60**	**64**	PG	Pg	22 28 47.7	-5.3
TURN	**Turunc**	**0.60**	**64**	*i* P	Pg	22 28 47.6	-5.4
TURN				*i* S	**Sg**	**22 28 52.7**	**-8.1**
NIS1	**Nisyros Isl.**	**0.60**	**269**	PG	**Pg**	**22 28 52.8**	**-0.3**
NIS1	**Nisyros Isl.**	**0.60**	**269**	P	**Pg**	**22 28 53.8**	**+0.8**
NIS1				S	**Sb**	**22 29 03.0**	**-0.4**
NIS1				AML	AML	22 29 09.1	
	comp=E,4252μm,0.3s						
NIS1				AML	AML	22 29 10.1	
	comp=N,4341μm,0.4s						
NIS1	**Nisyros Isl.**	**0.60**	**269**	P	**Pb**	**22 28 54.0**	**-0.5**
NIS1				S	**Sb**	**22 29 04.3**	**+0.9**
DALY	**Dalyan (Mu¨la**	**0.62**	**71**	PG	**Pg**	**22 28 53.4**	**+0.1**
DALY	**Dalyan (Mu¨la**	**0.62**	**71**	*i* P	**Pg**	**22 28 53.2**	**-0.1**
DALY				*i* S	**Sb**	**22 29 03.1**	**-0.6**
NISR	**Nisiros**	**0.64**	**270**	P	**Pb**	**22 28 55.0**	**-0.2**
BODT	**Bodrum**	**0.67**	**312**	PG	**Pg**	**22 28 54.3**	**0.0**
BODT	**Bodrum**	**0.67**	**312**	P	**Pg**	**22 28 54.5**	**+0.2**
BODT				S	**Sb**	**22 29 05.2**	**-0.1**
MLSB	**Milas**	**0.69**	**350**	PG	**Pb**	**22 28 54.9**	**-1.2**
MLSB				SG	**Sb**	**22 29 05.4**	**-0.6**
FETY	**Fethiye**	**0.93**	**88**	PG	**Pg**	**22 28 59.2**	**0.0**
FETY	**Fethiye**	**0.93**	**88**	P	**Pg**	**22 28 59.3**	**0.0**
FETY				S	**Sn**	**22 29 14.3**	**-0.7**
AYDN	**Tasoluk**	**1.05**	**358**	*i* P	**Pb**	**22 29 01.4**	**-0.8**
AYDN				*i* S	**Sn**	**22 29 15.9**	**-2.0**
TAVA	**DENIZLI_Tavas**	**1.16**	**42**	*i* P	**Pb**	**22 29 03.4**	**-0.7**
TAVA				*i* S	**Sn**	**22 29 23.0**	**+2.2**
AYDB	**Zeytinkoy-Aydi**	**1.33**	**359**	PN	**Pn**	**22 29 06.1**	**-0.8**
DNZL	**Cakiroluk**	**1.40**	**39**	*i* P	**Pg**	**22 29 10.0**	**+1.7**
DNZL				*i* S	**Sn**	**22 29 31.2**	**+4.5**
SMG	**Samos**	**1.40**	**322**	P	**Pn**	**22 29 06.4**	**-1.3**
SMG	**Samos**	**1.40**	**322**	P	**Pn**	**22 29 06.4**	**-1.3**
SMG				S	**Sg**	**22 29 27.5**	**+1.1**
AKAS	**Kas**	**1.40**	**105**	*i* P	**Pg**	**22 29 09.0**	**+0.6**
AKAS				*i* S	**Sg**	**22 29 30.0**	**+3.4**
KSL	**Kastellorizon**	**1.41**	**109**	P	**Pn**	**22 29 06.5**	**-1.4**
KSL				S	**Sb**	**22 29 24.5**	**-2.1**
KSL				AML	AML	22 29 35.4	
	comp=E,120μm,0.7s						
KSL				AML	AML	22 29 37.7	
	comp=N,126μm,1.1s						
GOLH	**Golhisar**	**1.45**	**64**	*i* P	**Pg**	**22 29 10.3**	**+1.0**
GOLH				*i* S	**Sg**	**22 29 33.5**	**+5.5**
ELL	**Elmali**	**1.60**	**85**	PN	**Pn**	**22 29 10.3**	**-0.2**
APE	**Apeiranthos**	**1.98**	**284**	PN	**Pn**	**22 29 15.7**	**0.0**
APE	**Apeiranthos**	**1.98**	**284**	P	**Pn**	**22 29 15.0**	**-0.6**
KULA	**Kula-Manisa**	**1.98**	**17**	PN	**Pb**	**22 29 16.3**	**-1.8**
BRDR	**BURDUR-Merkez**	**2.02**	**57**	*i* P	**Pb**	**22 29 18.5**	**-0.2**
BRDR				*i* S	**Sg**	**22 29 49.2**	**+2.9**
URLA	**Izmir**	**2.04**	**329**	PN	**Pn**	**22 29 16.8**	**+0.3**
ZKR	**Zakros**	**2.04**	**223**	P	**Pn**	**22 29 16.5**	**0.0**
CHOS	**Chios island**	**2.31**	**320**	PN	**Pn**	**22 29 20.8**	**+0.5**
CHOS	**Chios island**	**2.31**	**320**	P	**Pn**	**22 29 19.3**	**-1.0**
LAST	**Lasithi**	**2.46**	**235**	P	**Pn**	**22 29 22.3**	**0.0**

MAN 24 22:44:28.9, 9.°99N×123.°22E, h1km, mb4.3, ML3.2, MS2.9, 4D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.65**	**179**↓	*i* P	Pg	22 44 41.3	-0.1
SNPH				*i* S	Sg	22 44 49.8	0.0
TBP	**Tagbilaran**	**0.70**	**115**	*e*P	Pg	22 44 42.0	-0.4
LLP	**Lapu-Lapu**	**0.80**	**66**↓	*e*P	Pg	22 44 44.1	-0.2
LLP				*i* S	Sg	22 44 55.7	+1.0
GUIM	**Jordan**	**0.89**	**315**	*e*P	Pg	22 44 37.5	-8.5
GUIM				*e*S	Sg	22 44 57.3	-0.2
JAP	**San Jose, Anti**	**1.46**	**301**↓	*e*P	Pg	22 44 57.7	+0.7
MSLP	**Maasin**	**1.62**	**85**	*e*P	Pn	22 44 58.1	-0.5
MSLP				*e*S	Sg	22 45 21.8	+0.8
RCP	**Roxas**	**1.63**	**343**↓	*e*P	Pn	22 44 59.2	+0.4
RCP				*e*S	Sg	22 45 22.4	+1.1
OCLP	**Ormoc**	**1.72**	**52**	*e*P	Pn	22 44 59.8	-0.2
OCLP				*e*S	Sg	22 45 24.8	+0.5
PAGZ	**Pagadian**	**2.14**	**176**	*e*P	Pn	22 45 06.6	+0.9

*ISCJB **24** 22:47:55.3±0.4, 49.°86N±0.°02×18.°43E±0.°03, h0km, Error ellipse: s-maj=3.4km s-min=2.4km az=24.6*
*VIE **24** 22:47:56.5±1.0, 49.°61N×18.°59E, h0km, mb2.3/3, ml2.9/5, Error ellipse: s-maj=7.2km s-min=5.8km az=78.0 35 km SE of Ostrava Suspected Mining induced.*
*IPEC **24** 22:47:57.3±0.3, 49.°85N×18.°56E, h1km±3km, ML2.5/5, Error ellipse: s-maj=1.9km s-min=1.4km az=75.0, Mining induced.*

ISC 24 22:47:56.0±0.8, 49.°85N±0.°03×18.°54E±0.°03, h0km, n26, σ0§93/54, 4D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.26**	**268**↓	*i* PG	**Pb**	**22 48 02.9**	**-0.7**
OKC				*e*SG	**Sg**	**22 48 06.0**	**+1.7**
	comp=Z,238nm,0.5s						
MORC	**Moravsky Berou**	**0.65**	**264**	*e*PG	**Pb**	**22 48 09.8**	**-0.6**
MORC				*e*SG	**Sg**	**22 48 18.2**	**+1.2**
MORC	**Moravsky Berou**	**0.65**	**264**	*e*Pg	**Pb**	**22 48 09.7**	**-0.6**
	baz=83						
MORC				*e*Sg	**Sg**	**22 48 18.1**	**+1.1**
	87nm,0.2s,baz=83						
OJC	**Ojcow**	**0.89**	**65**	*e*Pg	**Pb**	**22 48 13.9**	**-0.5**
OJC				*e*Sg	**Sb**	**22 48 27.3**	**+0.5**
LANS	**Liptovska Anna**	**0.92**	**139**	*e*PG	**Pb**	**22 48 14.6**	**-0.3**
LANS				*e*SG	**Sn**	**22 48 29.7**	**-0.5**
JAVC	**Velka Javorina**	**1.14**	**210**	*e*PG	**Pn**	**22 48 19.5**	**+0.1**
JAVC				*e*SG	**Sg**	**22 48 33.5**	**+0.9**
JAVC	**Velka Javorina**	**1.14**	**210**	*e*Pg	**Pn**	**22 48 19.4**	**+0.1**
	baz=30						
JAVC				*e*Sg	**Sg**	**22 48 33.5**	**+0.9**
	38nm,0.3s,baz=30						
NIE	**Niedzica**	**1.22**	**110**	*e*Pg	**Pn**	**22 48 20.4**	**+0.1**
NIE				*e*Sg	**Sn**	**22 48 37.7**	**+0.1**
VYHS	**Vyhne**	**1.37**	**172**	*e*PG	**Pn**	**22 48 22.1**	**-0.3**
VYHS				*e*SG	**Sn**	**22 48 41.1**	**-0.1**
VYHS				*e*LG	Lg	22 48 42.1	
VRAC	**Vranov**	**1.38**	**248**	*e*PG	**Pb**	**22 48 23.1**	**+0.4**
VRAC				*e*SG	**Sg**	**22 48 40.7**	**+0.4**
VRAC	**Vranov**	**1.38**	**248**	*e*Pg	**Pb**	**22 48 23.0**	**+0.4**
	baz=66						
VRAC				*e*Sg	**Sg**	**22 48 40.7**	**+0.4**
	61nm,0.3s,baz=66						
DPC	**Dobruska-Polom**	**1.52**	**290**	*e*PG	**Pb**	**22 48 24.9**	**-0.2**
DPC				*e*SG	**Sg**	**22 48 44.5**	**-0.3**
	comp=Z,35nm,0.3s						
SMOL	**Smolenice**	**1.52**	**209**	*e*PG	**Pb**	**22 48 25.0**	**-0.1**
SMOL				*e*SG	**Sn**	**22 48 45.6**	**+0.7**
KRUC	**Moravsky**	**1.61**	**242**	*e*PG	**Pb**	**22 48 26.6**	**0.0**
KRUC				*e*SG	**Sg**	**22 48 48.0**	**+0.4**
KRUC	**Moravsky**	**1.61**	**242**	*e*Pg	**Pb**	**22 48 26.6**	**0.0**
	baz=60						
KRUC				*e*Sg	**Sg**	**22 48 47.9**	**+0.4**
	89nm,0.2s,baz=60						
MODS	**Modra-Piesok**	**1.69**	**210**	*e*PG	**Pn**	**22 48 26.4**	**-0.4**
MODS				*e*SN	**Sn**	**22 48 47.2**	**-2.0**
MODS				*e*LG	Lg	22 49 00.0	
KSP	**Ksiaz**	**1.75**	**306**	*e*Pn	**Pn**	**22 48 28.1**	**+0.4**
KSP				*e*Pb	**Pb**	**22 48 28.7**	**-0.4**
KSP				*e*Pg	**Pg**	**22 48 30.6**	**+0.9**
KSP				*e*Sg	**Sb**	**22 48 51.5**	**-0.1**
UPC	**Upice**	**1.76**	**293**↓	*e*PG	**Pb**	**22 48 29.5**	**+0.4**
UPC				*e*SG	**Sb**	**22 48 52.1**	**+0.4**
	comp=Z,22nm,0.3s						
TREC	**Trest**	**2.06**	**256**↓	*e*PG	**Pb**	**22 48 34.2**	**-0.2**
TREC				*e*SG	**Sb**	**22 49 01.5**	**+0.9**
	comp=Z,36nm,0.4s						
CONA	**Conrad Observa**	**2.61**	**224**	*e*Pn	**Pn**	**22 48 39.5**	**0.0**
	3.4nm,0.3s						
CONA				*e*Sn	**Sn**	**22 49 09.0**	**-3.0**
	5.4nm,0.3s						
PVCC	**Panska Ves**	**2.64**	**287**↓	*e*PG	**Pb**	**22 48 44.7**	**+0.5**
PVCC				*e*SG	**Sg**	**22 49 20.1**	**-0.8**
	comp=Z,28nm,0.3s						
BRG	**Berggiesshubel**	**3.12**	**291**	PG	**Pb**	**22 48 54.0**	**+1.6**
BRG				SG	**Sg**	**22 49 35.2**	**-1.1**
	9.9nm,0.6s						
ARSA	**Arzberg**	**3.28**	**219**	*i* Sn	**Sn**	**22 49 25.8**	**-2.7**
	0.9nm,0.2s						
KHC	**Kasperske Hory**	**3.31**	**259**	*e*PN	**Pn**	**22 48 49.4**	**+0.2**
KHC				*e*PG	**Pb**	**22 48 57.6**	**+1.9**
KHC				*e*SG	**Sg**	**22 49 41.5**	**-1.0**
	comp=Z,16nm,0.4s						
MOA	**Molln**	**3.46**	**236**	*i* Pn	**Pn**	**22 48 50.1**	**-1.0**
	0.2nm,0.1s						
MOA				*e*Sn	**Sn**	**22 49 32.5**	**-0.3**
	2.1nm,0.2s						
CLL	**Collm**	**3.82**	**295**	*e*Pg	**Pg**	**22 49 09.0**	**-0.3**
CLL				*e*Sg	**Sg**	**22 49 58.0**	**-0.8**
	comp=Z,14nm,0.9s						

MEX 24 22:53:46.8±0.4, 16.°56N×98.°45W, h11km±3km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.35**	**118**	*i* P	Pg	22 53 53.4	-0.5
PNIG				*i* S	Sg	22 53 58.6	0.0
TLIG	**Tlapa**	**1.00**	**354**	*e*P	Pg	22 54 02.8	-3.3
TLIG				*e*S	Sg	22 54 15.4	-3.9
VHO	**Vista Hermosa**	**1.72**	**73**	*e*P	Pn	22 54 13.7	-3.3
VHO				*i* S	Sn	22 54 33.9	-5.2
MEIG	**Mezcala**	**1.76**	**321**	*e*P	Pn	22 54 14.1	-3.3
MEIG				*i* S	Sn	22 54 34.9	-5.0
CAIG	**El Cayaco**	**1.81**	**286**	*e*P	Pn	22 54 13.9	-4.0
CAIG				*i* S	Sn	22 54 36.3	-4.6
ARIG	**Puente Sto

comp=E,553nm,0.3s

CLCH	**Cerro Calan**	**1.70**	**70**	*e*P	Pn	23 03 39.8	-1.4
LMEL	**Las Melosas**	**1.88**	**87**	*e*P	Pn	23 03 42.5	-1.2
LMEL				*e*S	Sn	23 04 06.6	-1.1
LMEL				IAML		23 04 13.2	

comp=N,742nm,0.4s

FCH	**Farellones**	**1.92**	**71**	*e*P	Pn	23 03 43.1	-1.3
FCH				*e*S	Sn	23 04 06.8	-2.1
FCH				IAML		23 04 12.0	
CCHI	**Chillan**	**2.63**	**173**	IAML		23 04 41.4	

comp=N,386nm,0.4s

MEX 24 23:03:53.8±0.4, 16°39N×97°95W, h12km±7km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.17**	**272**	*i* P	Pg	23 03 57.0	-0.7
PNIG				*i* S	Sg	23 04 00.4	-0.1
TLIG	**Tlapa**	**1.31**	**333**	*e*P	Pn	23 04 14.7	-3.4
TLIG				*i* S	Sb	23 04 30.3	-5.1
VHO	**Vista Hermosa**	**1.35**	**59**	*e*P	Pn	23 04 15.3	-3.4
VHO				*i* S	Sb	23 04 31.6	-4.9

*ISK **24** 23:22:33.7, 34°.76N×28°.25E, h7km±1km, ML3.7/9*
*ATH **24** 23:22:34.9, 34°.67N×28°.22E, h43km±6km, ML3.5/9, Error ellipse: s-maj=7.3km s-min=1.4km az=150.0*
*DDA **24** 23:22:35.9, 34°.93N×28°.33E, h15km, Ml3.8*
*NIC **24** 23:22:36.6±0.3, 35°.13N×28°.57E, h65km, mb4.4, ML4.1*
*GII **24** 23:22:36.6±0.0, 34°.27N×28°.72E, h20km±1km, MD3.4/3*
*THE **24** 23:22:36.1, 34°.56N×28°.33E, h63km±7km, ML3.2/5, Error ellipse: s-maj=8.0km s-min=0.9km az=338.0*
*HLW **24** 23:22:38.1, 34°.69N×32°.60E, h9km±24km, Md4.0, Ml4.2*

ISC 24 23:22:32.3±0.5, 34°43N±0°03×28°35E±0°02, h56km±39km, n134, σ1§90/167, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**1.79**	**354**	PN	Pn	23 23 00.8	-0.1
ARG				SN	**Sn**	**23 23 21.5**	**-1.0**
ARG	**Arkhangelos**	**1.79**	**354**	P	**Pn**	**23 23 02.6**	**+1.7**
ARG				S	**Sn**	**23 23 21.4**	**-1.2**
ARG				AML	AML	23 23 24.2	

comp=E,1170μm,0.2s

ARG				AML	AML	23 23 28.4	

comp=N,605μm,0.3s

ARG	**Arkhangelos**	**1.79**	**354**	P	**Pn**	**23 23 02.6**	**+1.7**
ARG				S	**Sn**	**23 23 22.9**	**+0.4**
ZKR	**Zakros**	**1.89**	**292**	P	**Pn**	**23 23 03.9**	**+1.8**
ZKR				S	**Sn**	**23 23 25.0**	**+0.2**
ZKR				AML	AML	23 23 28.1	

comp=N,805μm,0.6s

ZKR				AML	AML	23 23 28.5	

comp=E,956μm,0.3s

ZKR	**Zakros**	**1.89**	**292**	P	**Pn**	**23 23 04.0**	**+1.9**
ZKR				S	**Sn**	**23 23 26.5**	**+1.7**
KSL	**Kastellorizon**	**1.99**	**30**	P	**Pn**	**23 23 05.6**	**+2.1**
KSL				S	**Sn**	**23 23 27.3**	**0.0**
KSL				AML	AML	23 23 29.0	

comp=E,682μm,0.5s

KSL				AML	AML	23 23 29.1	

comp=N,416μm,0.7s

KSL	**Kastellorizon**	**1.99**	**30**	P	**Pn**	**23 23 05.5**	**+1.9**
KSL				S	**Sn**	**23 23 27.7**	**+0.3**
AKAS	**Kas**	**2.07**	**29**	PN	**Pn**	**23 23 06.7**	**+1.9**
AKAS				SN	**Sn**	**23 23 29.8**	**+0.3**
AKAS	**Kas**	**2.07**	**29**	*i* P	**Pn**	**23 23 06.9**	**+2.1**
AKAS				*i* S	**Sn**	**23 23 30.3**	**+0.8**
FETY	**Fethiye**	**2.28**	**15**	PN	**Pn**	**23 23 08.9**	**+1.3**
FETY	**Fethiye**	**2.28**	**15**	P	**Pn**	**23 23 08.9**	**+1.3**
FETY				S	**Sn**	**23 23 34.2**	**-0.3**
MRSB	**Marmaris-Mugla**	**2.29**	**357**	PN	Pn	23 23 08.3	+0.7
NIS1	**Nisyros Isl.**	**2.37**	**337**	P	**Pn**	**23 23 10.2**	**+1.4**
DAT	**Datca**	**2.38**	**345**	PN	Pn	23 23 09.6	+0.6
DAT	**Datca**	**2.38**	**345**	*i* P	**Pn**	**23 23 10.3**	**+1.3**
DAT				*i* S	**Sn**	**23 23 36.8**	**-0.3**
DATC	**Datca-Mugla**	**2.39**	**347**	PN	Pn	23 23 09.7	+0.7
DALY	**Dalyan (Mu¨la**	**2.40**	**6**	PN	**Pn**	**23 23 09.9**	**+0.8**
DALY	**Dalyan (Mu¨la**	**2.40**	**6**	*i* P	**Pn**	**23 23 11.1**	**+2.1**
DALY				*i* S	**Sn**	**23 23 36.3**	**-0.9**
NPS	**Neapolis**	**2.40**	**291**	P	**Pn**	**23 23 11.7**	**+2.5**
NPS				S	**Sn**	**23 23 37.8**	**+0.4**
NPS	**Neapolis**	**2.40**	**291**	P	**Pn**	**23 23 11.6**	**+2.5**
NPS				S	**Sn**	**23 23 38.6**	**+1.2**
TURN	**Turunc**	**2.45**	**5**	PN	Pn	23 23 09.1	-0.7
TURN	**Turunc**	**2.45**	**5**	*i* P	Pn	23 23 10.2	+0.5
TURN				*i* S	**Sn**	**23 23 35.5**	**-3.0**
LAST	**Lasithi**	**2.48**	**288**	P	**Pn**	**23 23 12.5**	**+2.3**
LAST				S	**Sn**	**23 23 40.3**	**+1.0**
LAST				AML	AML	23 23 44.6	

comp=E,557μm,0.8s

LAST				AML	AML	23 23 46.6	

comp=N,606μm,0.6s

LAST	**Lasithi**	**2.48**	**288**	P	**Pn**	**23 23 12.5**	**+2.3**
LAST				S	**Sn**	**23 23 41.0**	**+1.7**
ELL	**Elmali**	**2.64**	**28**	PN	Pn	**23 23 14.7**	**+2.2**
BODT	**Bodrum**	**2.76**	**342**	PN	Pn	23 23 14.4	+0.3
BODT	**Bodrum**	**2.76**	**342**	P	Pn	23 23 14.8	+0.7
KEMT	**Kemer-ANTALYA**	**2.82**	**39**	PN	**Pn**	**23 23 17.8**	**+3.0**
ANAF	**Anafi Island**	**2.85**	**313**	P	Pn	23 23 15.5	+0.2
ANAF				S	**Sn**	**23 23 46.7**	**-1.8**
ANAF				AML	AML	23 23 48.5	

comp=N,6471μm,0.3s

ANAF				AML	AML	23 23 48.6	

comp=E,6671μm,0.3s

ANAF	**Anafi Island**	**2.85**	**313**	P	**Pn**	**23 23 16.8**	**+1.5**
MLSB	**Milas**	**2.90**	**351**	PN	**Pn**	**23 23 16.9**	**+0.9**
GOLH	**Golhisar**	**2.97**	**19**	*i* P	**Pn**	**23 23 20.1**	**+3.1**
GOLH				*i* S	**Sn**	**23 23 53.4**	**+1.9**
SIVA	**Sivas**	**2.98**	**282**	P	**Pn**	**23 23 19.5**	**+2.6**
SIVA	**Sivas**	**2.98**	**282**	P	**Pn**	**23 23 19.6**	**+2.6**
KORT	**Korkueli**	**3.04**	**32**	PN	**Pn**	**23 23 20.7**	**+2.7**
KORT	**Korkueli**	**3.04**	**32**	*i* P	**Pn**	**23 23 20.8**	**+2.8**
KORT				*i* S	**Sn**	**23 23 54.7**	**+1.4**
SANT	**Santorini**	**3.06**	**310**	P	**Pn**	**23 23 19.3**	**+1.1**
SANT				S	**Sn**	**23 23 50.9**	**-2.6**
SANT				AML	AML	23 23 52.5	

comp=N,975μm,0.3s

SANT				AML	AML	23 23 53.3	

comp=E,1790μm,0.2s

TAVA	**DENIZLI_Tavas**	**3.07**	**8**	*i* P	**Pn**	**23 23 20.4**	**+2.1**
TAVA				*i* S	**Sn**	**23 23 53.5**	**-0.3**
THR6	**Thira Island,**	**3.09**	**309**	P	**Pn**	**23 23 19.9**	**+1.4**
THR6	**Thira Island,**	**3.09**	**309**	P	**Pn**	**23 23 19.7**	**+1.2**
SAP1	**Santorini-Akro**	**3.09**	**309**	P	**Pn**	**23 23 20.0**	**+1.4**
SAP2K	**Karterados**	**3.09**	**311**	P	**Pn**	**23 23 19.8**	**+1.3**
SAP2K	**Karterados**	**3.09**	**311**	P	**Pn**	**23 23 19.8**	**+1.3**
ANTB	**Antalya**	**3.10**	**37**	PN	**Pn**	**23 23 21.7**	**+3.0**
THR3	**Thira Island,**	**3.12**	**310**	P	**Pn**	**23 23 20.2**	**+1.2**
THR3	**Thira Island,**	**3.12**	**310**	P	**Pn**	**23 23 20.1**	**+1.2**
THR2	**Thira island,**	**3.12**	**311**	P	**Pn**	**23 23 20.2**	**+1.2**
THR2	**Thira island,**	**3.12**	**311**	P	**Pn**	**23 23 20.1**	**+1.2**
THT2	**Imerovigli**	**3.12**	**311**	P	**Pn**	**23 23 20.8**	**+1.8**
THT2	**Imerovigli**	**3.12**	**311**	P	**Pn**	**23 23 20.7**	**+1.7**
AMGA	**Amorgos Island**	**3.12**	**321**	P	Pn	23 23 19.8	+0.7
AMGA				S	**Sn**	**23 23 53.1**	**-2.1**
AMGA				AML	AML	23 23 54.7	

comp=N,713μm,0.2s

AMGA				AML	AML	23 23 54.7	

comp=E,734μm,0.1s

AMGA	**Amorgos Island**	**3.12**	**321**	P	Pn	23 23 19.9	+0.9
CMBO	**Columbo, Santo**	**3.15**	**311**	P	**Pn**	**23 23 20.6**	**+1.2**
CMBO	**Columbo, Santo**	**3.15**	**311**	P	Pn	23 23 20.2	+0.8
THR5	**Thira Island,**	**3.16**	**310**	P	**Pn**	**23 23 20.6**	**+1.2**
SAP3	**Santorini-Thir**	**3.17**	**310**	P	**Pn**	**23 23 20.9**	**+1.3**
AYDN	**Tasoluk**	**3.25**	**353**	*i* P	**Pn**	**23 23 21.7**	**+0.9**
AYDN				*i* S	**Sn**	**23 23 56.8**	**-1.4**
DNZL	**Cakiroluk**	**3.31**	**10**	*i* P	**Pn**	**23 23 24.9**	**+3.2**
DNZL				*i* S	**Sn**	**23 23 59.6**	**-0.3**
PPCY	**Paphos**	**3.32**	**81**	P	**Pn**	**23 23 23.8**	**+2.1**

baz=275

DENT	**Denizli**	**3.37**	**9**	PN	**Pn**	**23 23 24.1**	**+1.7**
IOSP	**Ios island**	**3.39**	**313**	P	Pn	23 23 23.4	+0.8
IOSP				S	**Sn**	**23 23 58.8**	**-2.8**
IOSP				AML	AML	23 23 59.4	

comp=N,1330μm,0.5s

IOSP				AML	AML	23 24 00.3	

comp=E,1189μm,0.5s

IOSP	**Ios island**	**3.39**	**313**	P	Pn	23 23 23.5	+0.8
APE	**Apeiranthos**	**3.50**	**320**	P	**Pn**	**23 23 25.0**	**+0.9**
APE				S	**Sn**	**23 24 01.7**	**-2.6**
APE				AML	AML	23 24 03.1	

comp=E,776μm,0.4s

APE				AML	AML	23 24 03.3	

comp=N,1120μm,0.5s

APE	**Apeiranthos**	**3.50**	**320**	P	**Pn**	**23 23 25.0**	**+0.9**
SMG	**Samos**	**3.50**	**340**	P	**Pn**	**23 23 25.1**	**+0.9**
SMG				S	**Sn**	**23 24 01.6**	**-2.6**
AYDB	**Zeytinkoy-Aydi**	**3.53**	**354**	PN	**Pn**	**23 23 25.5**	**+0.8**
GVD	**Gavdhos**	**3.54**	**278**	P	**Pn**	**23 23 26.9**	**+2.1**
GVD				S	**Sn**	**23 24 05.7**	**+0.4**
GVD	**Gavdhos**	**3.54**	**278**	P	**Pn**	**23 23 26.8**	**+2.1**
BRDR	**BURDUR-Merkez**	**3.54**	**23**	*i* P	**Pn**	**23 23 28.9**	**+4.0**
BRDR				*i* S	**Sn**	**23 24 05.2**	**-0.3**
VAM	**Vamos**	**3.55**	**287**	P	**Pn**	**23 23 27.3**	**+2.5**
ALFC	**Alefka**	**3.57**	**77**	P	**Pn**	**23 23 26.9**	**+1.7**

baz=270

ALFC				S	**Sn**	**23 24 05.6**	**-0.5**
KEPZ	**Antalya-Kepez**	**3.62**	**46**	*i* P	**Pn**	**23 23 28.2**	**+2.3**
KEPZ				*i* S	**Sn**	**23 24 08.0**	**+0.6**
GAZI	**Gazipasa**	**3.71**	**60**	PN	Pn	23 23 32.2	+5.2
GAZI	**Gazipasa**	**3.71**	**60**	*i* P	Pn	23 23 32.3	+5.2
GAZI				*i* S	**Sn**	**23 24 12.1**	**+2.6**
SUTC	**Sutluce-Ispart**	**3.73**	**34**	PN	**Pn**	**23 23 30.5**	**+3.1**
IMMV	**Iera Moni Meta**	**3.73**	**287**	P	**Pn**	**23 23 30.0**	**+2.7**
IMMV	**Iera Moni Meta**	**3.73**	**287**	P	**Pn**	**23 23 30.2**	**+2.8**
SZAC	**Souni**	**3.75**	**84**	P	**Pn**	**23 23 30.0**	**+2.3**

baz=277

SZAC				S	**Sn**	**23 24 12.7**	**+2.1**
ISP	**Isparta**	**3.82**	**27**	PN	**Pn**	**23 23 31.3**	**+2.7**
ISP	**Isparta**	**3.82**	**27**	P	**Pn**	**23 23 32.3**	**+3.7**
ISP				S	**Sn**	**23 24 11.9**	**-0.4**
MHLO	**Agia Marina, M**	**3.93**	**306**	P	**Pn**	**23 23 32.1**	**+2.0**
SLUM	**Salum**	**3.94**	**223**	AMP		23 24 00.0	

baz=245

MAMC	**Mammari**	**4.07**	**78**	P	**Pn**	**23 23 34.0**	**+2.0**

baz=270

KULA	**Kula-Manisa**	**4.09**	**3**	PN	**Pn**	**23 23 34.0**	**+1.7**
KZIL	**AFYON_Kizioren**	**4.09**	**20**	*i* P	**Pn**	**23 23 35.0**	**+2.6**
KZIL				*i* S	**Sn**	**23 24 18.1**	**-0.8**
CSS	**Mathiatis**	**4.14**	**81**	P	**Pn**	**23 23 34.9**	**+2.0**

baz=273

CSS				S	**Sn**	**23 24 20.2**	**+0.2**
CSS	**Mathiatis**	**4.14**	**81**	P	**Pn**	**23 23 35.0**	**+2.0**
CSS				S	**Sn**	**23 24 21.0**	**+1.0**
CSS	**Mathiatis**	**4.14**	**81**	Pn	**Pn**	**23 23 34.7**	**+1.8**
CHOS	**Chios island**	**4.36**	**336**	P	Pn	23 23 36.7	+0.6
ANKY	**Antikythira Is**	**4.38**	**291**	P	**Pn**	**23 23 38.1**	**+1.9**
VLI	**Veliai**	**4.97**	**299**	P	Pn	23 23 44.7	+0.4
VLY	**Voula,Athens**	**5.03**	**314**	P	**Pn**	**23 23 46.8**	**+1.7**
DION	**Dionisos Attik**	**5.10**	**317**	P	**Pn**	**23 23 48.1**	**+2.0**
PTL	**Penteli**	**5.12**	**316**	P	**Pn**	**23 23 48.3**	**+2.0**
SQR	**Saqqara**	**5.13**	**151**	P	**Pn**	**23 23 49.4**	**+2.9**

baz=195

DID	**Didima**	**5.16**	**308**	P	**Pn**	**23 23 47.8**	**+0.9**
KOT	**Kottamia**	**5.37**	**146**	P	**Pn**	**23 23 51.5**	**+1.6**

baz=189

KOT				AMP		23 24 00.0	

baz=189

KOT				S	Sn	23 24 43.8	-6.6

baz=189

DYR	**Agios Nikonas**	**5.43**	**297**	P	**Pn**	**23 23 52.2**	**+1.6**
HHAG	**Hagoal**	**5.48**	**144**	P	**Pn**	**23 23 53.2**	**+1.9**

baz=186

HHAG				AMP		23 24 00.0	

baz=186

HSAF	**As Saff**	**5.51**	**150**	P	**Pn**	**23 23 54.8**	**+3.0**

baz=191

GLL	**Jalalah**	**5.61**	**149**	P	**Pn**	**23 23 55.6**	**+2.4**

baz=189

SWA2		**5.72**	**206**	P	**Pn**	**23 23 57.2**	**+2.5**

baz=231

OFRI	**'Ofer**	**5.83**	**106**	Pn	**Pn**	**23 23 57.3**	**+1.2**
OFRI				Sn	**Sn**	**23 25 00.3**	**-1.3**
HNTI	**Hanita**	**5.84**	**101**	Pn	**Pn**	**23 23 58.0**	**+1.7**
HNTI				Sn	**Sn**	**23 25 01.1**	**-0.8**
ITM	**Ithomi**	**5.90**	**300**	P	**Pn**	**23 23 58.4**	**+1.3**
PYL	**PYLOS**	**5.92**	**296**	P	Pn	23 23 57.8	+0.5
BLGI	**Bet Lehem HaGe**	**5.95**	**105**	Sn	**Sn**	**23 25 03.8**	**-0.9**
GUR	**Goura**	**5.99**	**308**	P	Pn	23 23 58.7	+0.3
SLTI	**Sal'it**	**6.01**	**109**	Pn	**Pn**	**23 24 00.0**	**+1.4**
SLTI				Sn	**Sn**	**23 25 04.7**	**-1.3**
MMA0B	**Mount Meron ar**	**6.04**	**102**	Pn	**Pn**	**23 24 00.5**	**+1.4**
MMA0B				Sn	**Sn**	**23 25 06.4**	**-0.6**
KLV	**Kalavryta, Ach**	**6.17**	**308**	P	**Pn**	**23 24 02.2**	**+1.3**
KZIT	**Kziot**	**6.19**	**123**	Pn	**Pn**	**23 24 02.4**	**+1.3**
KZIT				Sn	**Sn**	**23 25 08.9**	**-1.6**
KSDI	**Kefar Szold**	**6.21**	**99**	Pn	**Pn**	**23 24 02.5**	**+1.2**
KSDI				Sn	**Sn**	**23 25 10.2**	**-0.7**
AMT	**Artemida-Makis**	**6.21**	**302**	P	**Pn**	**23 24 03.0**	**+1.6**
AMAZ	**Amatzia**	**6.22**	**116**	Pn	**Pn**	**23 24 03.3**	**+1.7**
AMAZ				Sn	**Sn**	**23 25 09.9**	**-1.5**
MMLI	**Mount Malkishu**	**6.24**	**107**	Pn	**Pn**	**23 24 03.1**	**+1.4**
MMLI				Sn	**Sn**	**23 25 09.9**	**-1.7**
NATI	**Neve Ativ**	**6.25**	**99**	Pn	**Pn**	**23 24 03.3**	**+1.4**
NATI				Sn	**Sn**	**23 25 11.1**	**-0.9**
HMDT	**Nahal Hemdat**	**6.38**	**108**	Pn	**Pn**	**23 24 05.5**	**+1.8**
HMDT				Sn	**Sn**	**23 25 13.9**	**-1.3**
YTIR	**Yattir**	**6.46**	**116**	Pn	**Pn**	**23 24 06.8**	**+2.0**
DSI	**Dead Sea**	**6.56**	**114**	Sn	**Sn**	**23 25 18.4**	**-1.1**
ANX	**Ano Chora**	**6.64**	**311**	P	**Pn**	**23 24 10.3**	**+3.0**
MZDA	**Masada**	**6.67**	**116**	Pn	**Pn**	**23 24 08.5**	**+1.0**
MZDA				Sn	**Sn**	**23 25 20.7**	**-1.4**
PRNI	**Paran**	**6.94**	**124**	Pn	**Pn**	**23 24 13.3**	**+1.9**
PRNI				Sn	**Sn**	**23 25 26.9**	**-2.0**
ZFRI	**Zfri**	**6.94**	**122**	Pn	**Pn**	**23 24 12.8**	**+1.5**
ZFRI				Sn	**Sn**	**23 25 26.6**	**-2.3**
HRFI	**Mount Harif**	**7.16**	**126**	Pn	**Pn**	**23 24 16.3**	**+1.9**
HRFI				Sn	**Sn**	**23 25 32.4**	**-1.9**
MBRI	**Mt Berech**	**7.23**	**128**	Pn	**Pn**	**23 24 17.8**	**+2.4**
MBRI				Sn	**Sn**	**23 25 34.6**	**-1.6**
EVGI	**Lefkada island**	**7.47**	**306**	P	**Pn**	**23 24 19.9**	**+1.3**
HQLS		**7.66**	**130**	S	**Sn**	**23 25 44.1**	**-2.6**
HQLS				P	**Pn**	**23 24 24.7**	**+3.5**
HAQS	**Haql**	**7.75**	**132**	S	**Sn**	**23 25 46.2**	**-2.5**
HAQS	**Haql**	**7.75**	**132**	P	**Pn**	**23 24 25.2**	**+2.8**
BDAS	**Al Bad'**	**8.30**	**134**	P	**Pn**	**23 24 32.7**	**+2.6**
BDAS	**Al Bad'**	**8.30**	**134**	S	**Sn**	**23 25 59.6**	**-2.8**
JLOS		**8.32**	**131**	P	**Pn**	**23 24 32.9**	**+2.5**
JLOS		**8.32**	**131**	S	**Sn**	**23 25 59.5**	**-3.5**

BJI 24 23:48:49.3, 25°.63N×118°.74E, h16km, ML3.9/7, 1D, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**0.70**	**191**	*i* Pg	Pg	23 49 02.6	-0.4
QZH				Sg	Sg	23 49 11.9	-0.3
QZH				smax	smax		

comp=N,1μm,0.3s

QZH				smax	smax		

comp=E,4μm,0.3s

*IDC **24** 23:49:24.6±11.0, 24°.60S×179°.66W, h416km±119km, mb3.2/3, mb1 3.4/4, mb1mx3.1/21, mbtmp4.1/4, Error ellipse: s-maj=82.2km s-min=40.3km az=26.0*

ISC 24 23:49:30.3±1.7, 24°95S±0°1×179°7W±0°3, h490km, n7, σ1§12/8, mb3.5/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.63**	**191**	P	**P**	**23 52 24.6**	**-1.3**

1.2nm,0.3s,baz=328,slow=4.0,SNR=9.2

URZ				S	**S**	**23 54 52.3**	**+1.4**

0.6nm,0.3s,baz=66,slow=22,SNR=10

STKA	**Stephens Creek**	**34.65**	**249**	P	**P**	**23 55 38.2**	**+0.3**

0.4nm,0.2s,baz=109,slow=9.5,SNR=3.4

ASAR	**Alice Springs**	**42.18**	**262**	P	**P**	**23 56 39.4**	**-0.1**

0.5nm,0.3s,baz=90,slow=7.5,SNR=17

WRA	**Warramunga Arr**	**42.65**	**267**	P	**P**	**23 56 42.6**	**-0.6**

1.7nm,0.3s,baz=99,slow=6.9,SNR=81

FINES	**FINESS Array B**	**139.46**	**341**	PKhKP	PKPpre	00 07 54.2	

1.7nm,1.0s,baz=31,slow=1.1,SNR=3.8

FINES				PKP	**PKiKP**	**00 08 03.4**	**+0.1**

6.1nm,1.2s,baz=125,slow=4.1,SNR=3.5

AKASG	**Malin Array Be**	**145.94**	**327**	PKPbc	**PKPbc**	**00 08 14.1**	**-0.3**

0.8nm,0.5s,baz=45,slow=4.4,SNR=3.5

BRTR	**Keskin Array B**	**148.40**	**306**	PKPbc	**PKPbc**	**00 08 22.8**	**+1.4**

0.4nm,0.6s,baz=149,slow=3.8,SNR=4.7

IDC 25 00:05:05.6±2.2, 8°53S×68°62E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/36, mbtmp3.6/4, Error ellipse: s-maj=83.3km s-min=31.9km az=58.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W3	**Cape Leeuwin H**	**49.18**	**129**	T	T	01 07 16.0	

baz=290,slow=75,SNR=101

H01W2	**Cape Leeuwin H**	**49.19**	**129**	T	T	01 07 16.7	

baz=290,slow=75,SNR=130

H01W1	**Cape Leeuwin H**	**49.20**	**129**	T	T	01 07 18.1	

baz=290,slow=75,SNR=135

MKAR	**Makanchi Array**	**56.41**	**11**	P	P	00 14 47.4	-1.5

0.4nm,0.7s,baz=197,slow=7.2,SNR=3.4

ASAR	**Alice Springs**	**64.03**	**112**	P	P	00 15 41.3	-0.3

0.7nm,0.8s,baz=285,slow=6.9,SNR=6.1

WRA	**Warramunga Arr**	**64.37**	**108**	P	P	00 15 43.9	-0.1

0.4nm,0.8s,baz=280,slow=6.0,SNR=5.0

SONM	**Songino Array**	**65.31**	**27**	P	P	00 15 51.1	+1.6

0.5nm,0.7s,baz=220,slow=7.1,SNR=4.3

PDAR	**Pinedale Array**	**145.86**	**358**	PKPbc	PKPdf	00 24 46.5	-0.5

0.2nm,0.4s,baz=324,slow=2.3,SNR=2.9

NVAR	**Mina Array Bea**	**149.59**	**11**	PKP	PKPdf	00 24 52.7	-0.6

0.1nm,0.3s,baz=308,slow=2.2,SNR=2.2

NVAR				PKPbc	PKPbc	00 24 58.0	+0.2

0.3nm,0.7s,baz=266,slow=3.5,SNR=3.7

UPP 25 00:23:37.0±0.0, 67°82N×20°19E, h0km, ML1.9, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**22**	P	Pg	00 23 39.9	+0.2
KUA				S	Sg	00 23 42.0	+0.4
RATU	**Laukkuluspa**	**0.23**	**271**	P	Pg	00 23 41.5	+0.2
NIKU	**Nikkaluokta**	**0.44**	**276**	P	Pg	00 23 45.5	+0.1
DUNU	**Dundret**	**0.72**	**168**	P	Pg	00 23 50.4	-0.3
MASU	**Masugnsbyn**	**0.78**	**117**	P	Pg	00 23 51.9	-0.1
PAJU	**Pajala**	**1.38**	**124**	P	Pg	00 24 02.3	-1.2
PAJU				S	Sg	00 24 21.1	-0.3
ERTU	**Ertsjaerv**	**1.49**	**148**	P	Pn	00 24 04.4	-0.6
HARU	**Harads**	**1.69**	**169**	P	Pn	00 24 07.7	0.0

*HEL **25** 00:23:40.9±0.1, 67°83N×20°16E, h0km, ML1.9(UPP), Explosion*

UPP 25 00:23:40.3±0.1, 67°82N×20°20E, h0km, ML1.9, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**22**	P	Pg	00 23 43.2	+0.2
KUA				S	Sg	00 23 45.3	+0.4
KUA	**Kurravaara**	**0.14**	**22**	*i* P	Pg	00 23 43.2	+0.2
KUA				*i* S	Sg	00 23 45.3	+0.4
RATU	**Laukkuluspa**	**0.23**	**271**	P	Pg	00 23 44.8	+0.2
RATU	**Laukkuluspa**	**0.23**	**271**	*i* P	Pg	00 23 44.8	+0.2
RATU	**Laukkuluspa**	**0.23**	**271**	S	Pg	00 23 44.8	+0.2
NIKU	**Nikkaluokta**	**0.44**	**277**	P	Pg	00 23 48.7	-0.1
NIKU	**Nikkaluokta**	**0.44**	**277**	*i* P	Pg	00 23 48.7	-0.1
DUNU	**Dundret**	**0.72**	**168**	P	Pg	00 23 53.8	-0.3

NPS					AML	AML	00 43 53.4	
	comp=E,3066μm,0.3s							
NPS	**Neapolis**	**0.51**	**17**	P		**Pb**	**00 43 43.2**	**-0.3**
NPS				S		**Sn**	**00 43 52.2**	**+0.4**
SIVA	**Sivas**	**0.56**	**296**	P		**Pb**	**00 43 43.8**	**-0.6**
SIVA				S		**Sb**	**00 43 51.8**	**-0.5**
SIVA				AML	AML	00 43 57.5		
	comp=N,6758μm,0.7s							
SIVA				AML	AML	00 43 59.4		
	comp=E,9550μm,0.5s							
SIVA	**Sivas**	**0.56**	**296**	P		**Pb**	**00 43 43.7**	**-0.6**
SIVA				S		**Sn**	**00 43 53.9**	**+0.9**
IACM	**Heraklion**	**0.61**	**331**	P		**Pn**	**00 43 45.4**	**+0.1**
IACM	**Heraklion**	**0.61**	**331**	P		**Pb**	**00 43 45.3**	**+0.2**
IACM				S		**Sb**	**00 43 54.0**	**+0.6**
TMBK	**Timbaki Herakl**	**0.62**	**299**	P		**Pb**	**00 43 44.7**	**-0.6**
TMBK				S		**Sn**	**00 43 55.3**	**+0.9**
STIA	**Sitia Lasithi**	**0.69**	**52**	P		**Pb**	**00 43 46.4**	**-0.1**
STIA				S		**Sn**	**00 43 57.5**	**+1.4**
ZKR	**Zakros**	**0.73**	**62**	P		**Pn**	**00 43 47.9**	**+0.8**
ZKR				S		**Sn**	**00 43 59.5**	**+2.3**
ZKR				AML	AML	00 44 04.8		
	comp=N,2107μm,0.4s							
ZKR				AML	AML	00 44 04.9		
	comp=E,4263μm,0.5s							
ZKR	**Zakros**	**0.73**	**62**	P		**Pn**	**00 43 48.1**	**+1.1**
ZKR				S		**Sn**	**00 43 58.5**	**+1.3**
PRNS	**Prines Rethymn**	**0.96**	**308**	P		**Pb**	**00 43 51.3**	**+0.3**
PRNS				S		**Sn**	**00 44 05.7**	**+2.8**
GVD	**Gavdhos**	**1.11**	**274**	P		**Pb**	**00 43 53.2**	**-0.2**
GVD	**Gavdhos**	**1.11**	**274**	P		**Pb**	**00 43 53.2**	**-0.2**
GVD				S		**Sb**	**00 44 08.4**	**+0.9**
VAM	**Vamos**	**1.19**	**302**	P		**Pn**	**00 43 54.0**	**+0.6**
VAM	**Vamos**	**1.19**	**302**	P		**Pn**	**00 43 53.8**	**+0.4**
VAM				S		**Sb**	**00 44 11.3**	**+1.4**
IMMV	**Iera Moni Meta**	**1.37**	**300**	P		**Pb**	**00 43 57.3**	**-0.7**
IMMV	**Iera Moni Meta**	**1.37**	**300**	P		**Pb**	**00 43 57.2**	**-0.7**
IMMV				S		**Sb**	**00 44 16.0**	**+0.9**
THR6	**Thira Island,**	**1.58**	**359**	P		**Pn**	**00 43 59.6**	**+0.9**
ANAF	**Anafi Island**	**1.60**	**10**	P		**Pb**	**00 44 00.7**	**-1.1**
ANAF	**Anafi Island**	**1.60**	**10**	P		**Pn**	**00 44 00.5**	**+1.4**
THR3	**Thira Island,**	**1.63**	**359**	P		**Pn**	**00 44 00.4**	**+1.0**
THR5	**Thira Island,**	**1.64**	**358**	P		**Pn**	**00 44 00.5**	**+0.9**
THR2	**Thira Island,**	**1.67**	**0**	P		**Pn**	**00 44 00.6**	**+0.6**
KTHR	**Kythira**	**2.47**	**308**	P		**Pn**	**00 44 13.2**	**+2.2**
ARG	**Arkhangelos**	**2.63**	**56**	P		**Pn**	**00 44 15.8**	**+2.6**
VLI	**Veliai**	**2.81**	**314**	P		**Pn**	**00 44 16.6**	**+1.0**
AKASG	**Malin Array Be**	**16.16**	**9**	P		**Pn**	**00 47 18.3**	**+0.8**
	comp=E,0.6nm,0.3s,baz=204,slow=11,SNR=3.6							
KBZ	**Khabaz**	**16.19**	**51**	P		**P**	**00 47 20.2**	**-0.7**
	comp=E,0.1nm,0.3s,baz=250,slow=10,SNR=3.8							
GERES	**GERESS Array B**	**16.53**	**332**	P		**Pn**	**00 47 22.8**	**+0.5**
	comp=E,0.1nm,0.3s,baz=138,slow=10,SNR=4.3							
FINES	**FINESS Array B**	**26.69**	**1**	P		**P**	**00 49 05.7**	**-3.2**
	comp=E,0.5nm,0.5s,baz=148,slow=16,SNR=3.4							
TORD	**Torodi Ar. Bea**	**30.41**	**231**	P		**P**	**00 49 42.4**	**-0.1**
	comp=E,0.1nm,0.4s,baz=25,slow=10.0,SNR=5.3							
ARCES	**ARCESS Array B**	**34.81**	**0**	P		P	00 50 17.1	-3.3
	comp=E,1.5nm,0.8s,baz=192,slow=9.9,SNR=5.7							
KURBB	**Kurchatov Arra**	**41.19**	**51**	P		**P**	**00 51 14.3**	**-0.1**
	comp=E,0.5nm,0.5s,baz=276,slow=8.8,SNR=5.6							
MKAR	**Makanchi Array**	**43.80**	**56**	P		**P**	**00 51 33.3**	**-2.4**
	comp=E,0.1nm,0.3s,baz=266,slow=9.6,SNR=4.2							
ZALV	**Zalesovo Beam**	**45.11**	**46**	P		**P**	**00 51 45.0**	**-1.0**
	comp=E,0.7nm,0.4s,baz=272,slow=10,SNR=2.8							
SONM	**Songino Array**	**59.56**	**51**	P		**P**	**00 53 33.4**	**-0.1**
	comp=E,0.3nm,0.5s,baz=285,slow=7.5,SNR=3.6							

*ISK **25** 01:04:43.8, 36°.57N×27°.93E, h5km, ML2.8/10*
*ATH **25** 01:04:44.5, 36°.65N×28°.03E, h31km±1km, ML2.9/2, Error ellipse: s-maj=4.0km s-min=1.5km az=217.0*
*DDA **25** 01:04:44.6, 36°.57N×27°.95E, h5km, Ml2.9*
*ISCJB **25** 01:04:46.0±0.4, 36°.63N±0°.03×27°.92E±0°.02, h9km±4km, Error ellipse: s-maj=5.0km s-min=3.1km az=13.4*
*THE **25** 01:04:45.5, 36°.66N×27°.98E, h4km±3km, ML2.7/3, Error ellipse: s-maj=4.0km s-min=0.8km az=208.0*

ISC 25 01:04:44.0±1.2, 36°.66N±0°.03×27°.95E±0°.02, h4km±11km, n37, σ1s70/55, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSB	**Marmaris-Mugla**	**0.21**	**73**	PG	**Pg**	**01 04 50.1**	**+2.0**
DATC	**Datca-Mugla**	**0.25**	**294**	PG	**Pb**	**01 04 50.9**	**-0.3**
DATC				SG	**Sb**	**01 04 55.8**	**-0.2**
DAT	**Datca**	**0.31**	**284**	PG	**Pb**	**01 04 51.9**	**-0.3**
DAT				SG	**Sb**	**01 04 57.1**	**-0.5**
DAT	**Datca**	**0.31**	**284**	*i* P	**Pb**	**01 04 51.9**	**-0.3**
DAT				*i* S	**Sb**	**01 04 58.6**	**+0.9**
ARG	**Arkhangelos**	**0.46**	**162**	PG	**Pg**	**01 04 52.2**	**-0.7**
ARG	**Arkhangelos**	**0.46**	**162**	P	**Pb**	**01 04 54.0**	**-0.8**
ARG				S	**Sb**	**01 05 01.6**	**-0.4**
ARG				AML	AML	01 05 02.8	
	comp=E,1806μm,0.3s						
ARG				AML	AML	01 05 02.9	
	comp=N,2733μm,0.3s						
ARG	**Arkhangelos**	**0.46**	**162**	P	**Pb**	**01 04 53.9**	**-0.9**
ARG				S	**Sb**	**01 05 01.8**	**-0.2**
TURN	**Turunc**	**0.57**	**67**	PG	**Pg**	**01 04 51.1**	**-3.9**
TURN	**Turunc**	**0.57**	**67**	*i* P	**Pg**	**01 04 51.1**	**-3.9**
TURN				*i* S	**Sg**	**01 04 56.4**	**-6.0**
DALY	**Dalyan (Mu¨la**	**0.59**	**74**	PG	**Pb**	**01 04 57.2**	**+0.3**
DALY	**Dalyan (Mu¨la**	**0.59**	**74**	*i* P	**Pb**	**01 04 56.7**	**-0.2**
DALY				*i* S	**Sn**	**01 05 07.6**	**-1.7**
NIS1	**Nisyros Isl.**	**0.62**	**265**	PG	**Pg**	**01 04 56.8**	**+0.8**
NIS1	**Nisyros Isl.**	**0.62**	**265**	P	**Pb**	**01 04 58.1**	**+0.5**
NIS1				S	**Sn**	**01 05 08.5**	**-1.7**
NIS1				AML	AML	01 05 11.8	
	comp=E,2956μm,0.3s						
NIS1				AML	AML	01 05 11.9	
	comp=N,2629μm,0.5s						
NIS1	**Nisyros Isl.**	**0.62**	**265**	P	**Pb**	**01 04 58.0**	**+0.5**
NIS1				S	**Sn**	**01 05 08.9**	**-1.2**
BODT	**Bodrum**	**0.65**	**309**	PG	**Pb**	**01 04 58.1**	**+0.1**
BODT	**Bodrum**	**0.65**	**309**	P	**Pb**	**01 04 58.2**	**+0.2**
BODT				S	**Sb**	**01 05 08.4**	**+0.9**
MLSB	**Milas**	**0.65**	**348**	PG	**Pn**	**01 04 58.9**	**-1.3**
NISR	**Nisiros**	**0.66**	**266**	P	**Pn**	**01 04 59.6**	**-0.6**
NISR				S	**Sn**	**01 05 09.6**	**-1.5**
NISR	**Nisiros**	**0.66**	**266**	P	**Pb**	**01 04 59.2**	**+1.1**
NISR				S	**Sb**	**01 05 09.2**	**+1.5**
FETY	**Fethiye**	**0.91**	**91**	PG	**Pn**	**01 05 03.3**	**-0.4**
FETY	**Fethiye**	**0.91**	**91**	P	**Pn**	**01 05 03.3**	**-0.4**
FETY				S	**Sn**	**01 05 16.3**	**-1.1**
AYDN	**Tasoluk**	**1.00**	**357**	*i* P	**Pn**	**01 05 04.8**	**-0.2**
AYDN				*i* S	**Sn**	**01 05 19.9**	**+0.2**
TAVA	**DENIZLI_Tavas**	**1.12**	**43**	*i* P	**Pn**	**01 05 08.4**	**+1.8**
TAVA				*i* S	**Sn**	**01 05 26.9**	**+4.4**
SMG	**Samos**	**1.38**	**320**	P	**Pb**	**01 05 10.1**	**-0.2**
SMG	**Samos**	**1.38**	**320**	P	**Pb**	**01 05 10.1**	**-0.2**
SMG				S	**Sn**	**01 05 28.3**	**-0.4**
AKAS	**Kas**	**1.40**	**107**	PN	**Pg**	**01 05 11.5**	**+0.6**
AKAS	**Kas**	**1.40**	**107**	*i* P	**Pg**	**01 05 11.7**	**+0.7**
AKAS				*i* S	**Sg**	**01 05 32.5**	**+3.4**
GOLH	**Golhisar**	**1.42**	**65**	*i* P	**Pg**	**01 05 14.0**	**+2.9**
GOLH				*i* S	Sg	01 05 40.2	+11
ELL	**Elmali**	**1.58**	**86**	PN	**Pg**	**01 05 15.9**	**+1.6**
DGB	**¨zmir**	**1.63**	**329**	*i* P	**Pn**	**01 05 13.1**	**-0.4**
KULA	**Kula-Manisa**	**1.94**	**17**	PN	**Pg**	**01 05 20.8**	**-0.4**
KORT	**Korkueli**	**1.96**	**79**	*i* P	**Pg**	**01 05 21.1**	**-0.5**
KORT				*i* S	**Sg**	**01 05 49.7**	**+2.7**
APE	**Apeiranthos**	**1.98**	**283**	PN	**Pb**	**01 05 20.2**	**-0.5**
URLA	**Izmir**	**2.01**	**328**	PN	**Pb**	**01 05 21.5**	**+0.3**
ZKR	**Zakros**	**2.08**	**223**	P	**Pn**	**01 05 20.7**	**+0.4**
NPS	**Neapolis**	**2.35**	**234**	P	**Pn**	**01 05 23.7**	**+0.2**
LAST	**Lasithi**	**2.50**	**234**	P	**Pn**	**01 05 26.2**	**+0.6**

MEX 25 01:10:39.6±0.5, 16°.35N×98°.27W, h11km±2km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.14**	**71**	*e*P	Pg	01 10 42.2	-0.8
PNIG				*e*S	Sg	01 10 45.0	-0.3
TLIG	**Tlapa**	**1.24**	**347**	*e*P	Pn	01 10 59.9	-3.2
TLIG				*e*S	Sb	01 11 14.5	-4.8

*IDC **25** 01:41:17.9±8.1, 14°.78N×92°.27W, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.6/33, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=233.4km s-min=112.5km az=36.0*
*ISCJB **25** 01:41:23.5±1.5, 14°.70N±0°.09×93°.34W±0°.07, h10km, mb3.4/3, Error ellipse: s-maj=13.7km s-min=9.0km az=14.7*
*MEX **25** 01:41:28.8±0.3, 14°.80N×93°.23W, h6km±14km, MD3.6*

ISC 25 01:41:25.4±1.9, 14°.8N±0°.1×93°.26W±0°.08, h10km, n7, σ0s99/8, mb3.5/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.93**	**2**	*e*P	**Pg**	**01 41 44.0**	**+0.6**
PCIG				*i* S	**Sg**	**01 41 56.0**	**+0.5**
THIG		**0.97**	**82**	*e*P	**Pg**	**01 41 44.8**	**+0.6**
THIG				*i* S	**Sg**	**01 41 56.9**	**0.0**
CCIG	**Comitan**	**1.85**	**36**	*e*P	**Pn**	**01 41 57.9**	**+0.5**
CCIG				*i* S	**Sn**	**01 42 19.4**	**-1.7**
TXAR	**Lajitas Array**	**17.39**	**328**	P	**Pn**	**01 45 28.9**	**+0.4**
	0.0nm,0.3s,baz=146,slow=14,SNR=5.2						
PDAR	**Pinedale Array**	**31.23**	**337**	P	P	01 47 42.4	-3.0
	0.3nm,0.7s,baz=108,slow=7.9,SNR=3.8						
NVAR	**Mina Array Bea**	**32.31**	**322**	P	**P**	**01 47 54.2**	**-0.8**
	0.5nm,0.7s,baz=136,slow=8.2,SNR=4.9						
ILAR	**Eielson Array**	**61.66**	**337**	P	P	01 51 40.0	-3.3
	0.2nm,0.6s,baz=134,slow=6.4,SNR=3.3						

*ISK **25** 01:49:40.4, 38°.90N×43°.54E, h7km, ML2.2/8*
*DDA **25** 01:49:40.3, 38°.88N×43°.58E, h19km, Ml3.0*
*ISCJB **25** 01:49:41.2±0.5, 38°.88N±0°.03×43°.60E±0°.05, h13km±4km, Error ellipse: s-maj=7.2km s-min=3.9km az=18.7*

ISC 25 01:49:40.8±1.0, 38°.88N±0°.03×43°.61E±0°.03, h17km±8km, n17, σ0s91/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.12**	**347**	*i* P	**Pg**	**01 49 43.9**	**-0.7**
VMUR				*i* S	**Sb**	**01 49 47.3**	**0.0**
ERCV	**ERCIS-VAN**	**0.25**	**304**	PG	**Pg**	**01 49 45.8**	**-0.7**
VANB	**Van**	**0.33**	**211**	PG	**Pb**	**01 49 48.4**	**+0.1**
VANB				SG	**Sb**	**01 49 55.2**	**+1.8**
CLDR	**Caldiran**	**0.36**	**42**	PG	**Pg**	**01 49 47.9**	**-0.5**
CLDR				SG	**Sb**	**01 49 54.6**	**+0.2**
CLDR	**Caldiran**	**0.36**	**42**	*i* P	**Pg**	**01 49 47.9**	**-0.5**
CLDR				*i* S	**Sb**	**01 49 54.4**	**0.0**
TVAN	**Van**	**0.38**	**204**	*i* P	**Pg**	**01 49 48.3**	**-0.4**
TVAN				*i* S	**Sb**	**01 49 55.3**	**+0.3**
DYDN	**Diyadin**	**0.67**	**6**	*i* P	**Pg**	**01 49 53.8**	**-0.2**
DYDN				*i* S	**Sb**	**01 50 03.9**	**+0.6**
ADCV	**BITLIS_Adilcev**	**0.69**	**264**	*i* P	**Pg**	**01 49 53.5**	**-0.9**
ADCV				*i* S	**Sb**	**01 50 04.3**	**+0.4**
GEVA	**Gevas**	**0.71**	**217**	*i* P	**Pg**	**01 49 53.3**	**-1.4**
GEVA				*i* S	**Sb**	**01 50 04.5**	**+0.2**
TUTA	**Tutak**	**0.81**	**311**	*i* P	**Pg**	**01 49 55.5**	**-1.2**
TUTA				*i* S	**Sb**	**01 50 07.3**	**0.0**
AGRB	**Hanur-Agry**	**0.84**	**326**	PG	**Pg**	**01 49 56.4**	**-0.9**
EKAR	**Karacoban**	**1.26**	**288**	*i* P	**Pg**	**01 50 05.3**	**+0.2**
EKAR				*i* S	**Sg**	**01 50 24.5**	**+2.9**
GURO	**Guroymak-BITLI**	**1.27**	**256**	PN	**Pn**	**01 50 03.3**	**-0.7**
EATA	**Eleskirt**	**1.31**	**319**	*i* P	**Pb**	**01 50 05.2**	**0.0**
EATA				*i* S	**Sg**	**01 50 23.1**	**-0.1**
GNI	**Garni**	**1.54**	**34**	PN	**Pb**	**01 50 09.3**	**+0.2**
CUKT	**Cukurca**	**1.63**	**180**	PN	**Pb**	**01 50 10.8**	**+0.3**
SIRT	**Sirnak**	**1.65**	**214**	PN	**Pb**	**01 50 10.4**	**-0.5**

*DJA **25** 02:26:50.8±0.8, 2°.5S×6°×10°.0E±°, h15km±14km, M3.4/4, MLv3.4/4*
*ISCJB **25** 02:26:51.2±0.7, 2°.24S±0°.04×100°.21E±0°.08, h34km, mb3.3/4, Error ellipse: s-maj=10.8km s-min=6.4km az=1.6*
*IDC **25** 02:26:52.5±3.7, 2°.37S×99°.99E, h41km±8km, mb3.1/4, mb1 3.3/4, mb1mx3.1/37, mbtmp3.3/4, Error ellipse: s-maj=159.2km s-min=20.9km az=55.0*

ISC 25 02:26:52.4±0.8, 2°.24S±0°.05×100°.15E±0°.09, h34km, n11, σ0s65/14, mb3.4/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PPSI	**Pulau Pagai**	**0.54**	**195**	P	**Pn**	**02 27 03.5**	**-0.2**
PPSI				S	**Sb**	**02 27 11.1**	**-0.4**
PDSI	**Padang**	**1.35**	**13**	P	**Pn**	**02 27 14.4**	**-0.6**
PDSI				S	**Sn**	**02 27 32.0**	**+0.2**
SISI	**Saibi**	**1.39**	**311**	P	**Pn**	**02 27 14.9**	**-0.5**
SISI				S	**Sn**	**02 27 33.0**	**+0.3**
H08S2	**Diego Garcia H**	**28.06**	**258**	T	T	03 01 42.0	
	baz=80						
H08S3	**Diego Garcia H**	**28.07**	**258**	T	T	03 01 43.3	
	baz=80						
H08S1	**Diego Carcia H**	**28.08**	**258**	T	T	03 01 39.6	
	baz=80						
WRA	**Warramunga Arr**	**37.75**	**120**	P	**P**	**02 34 04.8**	**-0.7**
	0.6nm,0.9s,baz=311,slow=8.8,SNR=5.2						
WRA				pP	**pP**	**02 34 16.4**	**+1.0**
	0.2nm,0.6s,baz=304,slow=8.8,SNR=2.4						
ASAR	**Alice Springs**	**38.99**	**126**	P	**P**	**02 34 15.5**	**-0.5**
	0.1nm,0.5s,baz=298,slow=8.0,SNR=2.1						
SONM	**Songino Array**	**50.16**	**5**	P	**P**	**02 35 45.2**	**+0.4**
	0.2nm,0.5s,baz=199,slow=6.0,SNR=4.3						
MKAR	**Makanchi Array**	**51.30**	**344**	P	**P**	**02 35 52.7**	**-0.5**
	0.4nm,0.6s,baz=156,slow=9.0,SNR=4.6						
MKAR				pP	**pP**	**02 36 04.7**	**+1.2**
	0.4nm,0.6s,baz=138,slow=8.4,SNR=3.1						
TXAR	**Lajitas Array**	**144.80**	**38**	PKPbc	**PKPab**	**02 46 25.6**	**0.0**
	0.3nm,0.6s,baz=227,slow=2.0,SNR=4.6						
TXAR				pPKPbc	**pPKPdf**	**02 46 38.0**	**+0.1**
	0.3nm,0.6s,baz=259,slow=0.4,SNR=3.6						

*LDG **25** 02:43:54.9±0.1, 43°.86N×13°.48E, h2km, Ml3.1/21, Error ellipse: s-maj=2.3km s-min=1.8km az=73.0*
*ROM **25** 02:43:55.6±0.2, 43°.873N±0°.006×13°.40E±0°.01, h9km±1km, ML3.1/87*
*BGR **25** 02:43:56.4±0.8, 43°.75N×13°.54E, h10km, ML3.5/2, Error ellipse: s-maj=16.7km s-min=12.2km az=80.0*
*ISCJB **25** 02:43:56.4±0.2, 43°.86N±0°.01×13°.33E±0°.02, h26km±2km, Error ellipse: s-maj=2.5km s-min=2.1km az=14.0*
*BEO **25** 02:43:56.7±1.0, 43°.77N×13°.28E, h10km, ML3.1/5*
*PRU **25** 02:43:59.2±0.0, 44°.13N×13°.47E, h0km*

ISC 25 02:43:56.2±0.9, 43°.86N±0°.02×13°.35E±0°.02, h18km±3km, n213, σ1s73/227, 1D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SENI	**Senigallia**	**0.18**	**208**	P	**Pb**	**02 44 00.6**	**+0.2**
SENI				S	**Sg**	**02 44 04.3**	**+0.3**
SENI				AML	AML		
	comp=E,94050μm,0.3s						
SENI				AML	AML		
SENI				AML	AML		
	comp=E,14850μm,0.4s						
SENI				AML	AML		
	comp=N,29300μm,0.3s						
SENI				AML	AML		
	comp=E,94100μm,0.3s						
SENI				AML	AML		
SENI				AML	AML		
	comp=E,14900μm,0.4s						
SENI				AML	AML		
	comp=N,29300μm,0.3s						
SENI				AML	AML		
	comp=E,94050μm,0.3s						
SENI				AML	AML		
SENI				AML	AML		
	comp=E,14850μm,0.4s						
SENI				AML	AML		
	comp=N,29250μm,0.3s						
SENI				AML	AML		
	comp=N,29250μm,0.3s						
SENI				AML	AML		
SENI				AML	AML		
	comp=E,14850μm,0.4s						
SENI				AML	AML		
	comp=E,94050μm,0.3s						
SENI				AML	AML		
	comp=N,29250μm,0.3s						
SENI				AML	AML		
SENI				AML	AML		
	comp=E,14850μm,0.4s						
SENI				AML	AML		
	comp=E,94050μm,0.3s						
SENI				END			
SENI				END			
PCRO	**Pietralacroce**	**0.29**	**152**	P	**Pb**	**02 44 02.1**	**-0.7**
PCRO				S	**Sb**	**02 44 06.5**	**-0.7**
PCRO				AML	AML		
	comp=E,45100μm,0.1s						
PCRO				AML	AML		
	comp=N,53550μm,0.7s						
PCRO				AML	AML		
	comp=E,45150μm,0.1s						
PCRO				AML	AML		
	comp=N,53600μm,0.7s						
PCRO				AML	AML		
	comp=E,45100μm,0.1s						
PCRO				AML	AML		
	comp=N,53550μm,0.7s						
PCRO				AML	AML		
	comp=E,45100μm,0.1s						
PCRO				AML	AML		
	comp=N,53550μm,0.7s						
PCRO				AML	AML		
	comp=E,45100μm,0.1s						
PCRO				AML	AML		
	comp=N,53550μm,0.7s						
PCRO				END			
PCRO				END			
COR1	**Corinaldo**	**0.34**	**228**	P	**Pb**	**02 44 03.8**	**-0.1**
COR1				AML	AML		
	comp=E,10540μm,0.2s						
COR1				AML	AML		
	comp=N,9420μm,1.1s						
COR1				AML	AML		
	comp=E,10520μm,0.2s						
COR1				AML	AML		
	comp=N,9410μm,1.1s						
COR1				AML	AML		
	comp=E,10550μm,0.2s						
COR1				AML	AML		
	comp=N,9455μm,1.1s						
COR1				AML	AML		
	comp=N,9455μm,1.1s						
COR1				AML	AML		
	comp=E,10550μm,0.2s						
COR1				AML	AML		
	comp=N,9455μm,1.1s						
COR1				AML	AML		
	comp=E,10550μm,0.2s						
AOI	**Ancona**	**0.36**	**149**	P	**Pg**	**02 44 03.5**	**-0.4**
AOI				S	**Sb**	**02 44 09.7**	**+0.1**
AOI				AML	AML		
	comp=E,5555μm,0.8s						
AOI				AML	AML		
	comp=N,5840μm,0.2s						
AOI				AML	AML		
	comp=E,5555μm,0.8s						
AOI				AML	AML		
	comp=N,5840μm,0.2s						
AOI				AML	AML		
	comp=E,5555μm,0.8s						
AOI				AML	AML		
	comp=N,5840μm,0.2s						
AOI				AML	AML		
	comp=N,5840μm,0.2s						
AOI				AML	AML		
	comp=E,5555μm,0.8s						
AOI				AML	AML		
	comp=N,5840μm,0.2s						
AOI				AML	AML		
	comp=E,5555μm,0.8s						
AOI				END			
AOI				END			
FSSB	**Fossombrone**	**0.45**	**248**	P	**Pg**	**02 44 04.8**	**-0.6**
FSSB				AML	AML		
	comp=E,4655μm,1.6s						
FSSB				AML	AML		
	comp=N,5590μm,0.5s						
FSSB				AML	AML		
	comp=E,4655μm,1.6s						
FSSB				AML	AML		
	comp=N,5590μm,0.5s						
FSSB				AML	AML		
	comp=E,4655μm,1.6s						
FSSB				AML	AML		
	comp=N,5590μm,0.5s						
FSSB				AML	AML		
	comp=N,5590μm,0.5s						
FSSB				AML	AML		
	comp=E,4655μm,1.6s						
FSSB				AML	AML		
	comp=N,5590μm,0.5s						
FSSB				AML	AML		
	comp=E,4655μm,1.6s						
ARVD	**Arcevia**	**0.47**	**219**	P	**Pg**	**02 44 05.2**	**-0.5**
ARVD				S	**Sb**	**02 44 13.0**	**+0.4**
ARVD				AML	AML		
	comp=E,2540μm,1.4s						
ARVD				AML	AML		
	comp=N,1925μm,0.7s						
ARVD				AML	AML		
	comp=E,2540μm,1.4s						
ARVD				AML	AML		
	comp=N,1925μm,0.7s						
ARVD				AML	AML		
	comp=E,2540μm,1.4s						
ARVD				AML	AML		
	comp=N,1925μm,0.7s						
ARVD				AML	AML		
	comp=E,2540μm,1.4s						
ARVD				AML	AML		
	comp=N,1925μm,0.7s						
ARVD				AML	AML		
	comp=E,2540μm,1.4s						
MPAG	**Monte Paganucc**	**0.49**	**242**	P	**Pg**	**02 44 05.5**	**-0.6**
MPAG				AML	AML		
	comp=E,2080μm,0.5s						
MPAG				AML	AML		
	comp=N,1680μm,0.5s						
MPAG				AML	AML		
	comp=E,2100μm,0.5s						
MPAG				AML	AML		
	comp=N,1705μm,0.5s						
MPAG				AML	AML		
	comp=E,2075μm,0.5s						
MPAG				AML	AML		
	comp=N,1685μm,0.5s						
MPAG				AML	AML		
	comp=E,2100μm,0.5s						
MPAG				AML	AML		
	comp=N,1710μm,0.5s						
MPAG				AML	AML		
	comp=E,2075μm,0.5s						
MPAG				AML	AML		
	comp=N,1680μm,0.5s						
MPAG				AML	AML		
	comp=N,1710μm,0.5s						
MPAG				AML	AML		
	comp=E,2075μm,0.5s						
MPAG				AML	AML		
	comp=E,2105μm,0.5s						
MPAG				AML	AML		
	comp=N,1680μm,0.5s						
MPAG				AML	AML		
	comp=N,1710μm,0.5s						
MPAG				AML	AML		
	comp=E,2075μm,0.5s						
MPAG				AML	AML		
	comp=E,2105μm,0.5s						
CING	**Cingoli**	**0.50**	**193**	P	**Pb**	**02 44 05.8**	**-0.7**
CING				S	**Sb**	**02 44 14.4**	**+1.0**
CING				AML	AML		
	comp=E,2305μm,0.2s						
CING				AML	AML		
	comp=N,2750μm,0.1s						
CING				AML	AML		
	comp=E,2305μm,0.2s						
CING				AML	AML		
	comp=N,2750μm,0.1s						
CING				AML	AML		
	comp=E,2305μm,0.2s						
CING				AML	AML		
	comp=N,2750μm,0.1s						
CING				AML	AML		
	comp=E,2305μm,0.2s						

CING AML AML
comp=N,2750µm,0.1s
TRE1 Treia 0.55 183 P Pb 02 44 06.8 -0.5
EL6 Elcito 0.56 199 P Pb 02 44 07.0 -0.6
EL6 S Sg 02 44 15.7 +0.6
EL6 AML AML
comp=E,4440µm,0.2s
EL6 AML AML
comp=N,3365µm,1.3s
EL6 AML AML
comp=E,4440µm,0.2s
EL6 AML AML
comp=N,3375µm,1.3s
EL6 AML AML
comp=E,4445µm,0.2s
EL6 AML AML
comp=N,3385µm,1.3s
EL6 AML AML
comp=E,4445µm,0.2s
EL6 AML AML
comp=N,3385µm,1.3s
EL6 AML AML
comp=E,4445µm,0.2s
EL6 AML AML
comp=N,3385µm,1.3s
FRON Frontone 0.57 233 P Pb 02 44 07.0 -0.6
FRON AML AML
comp=E,986µm,0.4s
FRON AML AML
comp=N,1735µm,0.7s
FRON AML AML
comp=E,987µm,0.4s
FRON AML AML
comp=N,1735µm,0.7s
FRON AML AML
comp=E,987µm,0.4s
FRON AML AML
comp=N,1735µm,0.7s
FRON AML AML
comp=E,987µm,0.4s
FRON AML AML
comp=N,1735µm,0.7s
SSFR Montelago di S 0.59 224 P Pb 02 44 07.4 -0.7
SSFR AML AML
comp=E,4040µm,0.2s
SSFR AML AML
comp=N,5025µm,0.2s
SSFR AML AML
comp=N,5025µm,0.2s
SSFR AML AML
comp=E,4040µm,0.2s
SSFR AML AML
comp=N,5025µm,0.2s
SSFR AML AML
comp=E,4040µm,0.2s
NARO Abbazia di Nar 0.61 246 P Pb 02 44 07.7 -0.6
NARO AML AML
comp=E,918µm,0.4s
NARO AML AML
comp=N,1110µm,0.2s
NARO AML AML
comp=E,918µm,0.4s
NARO AML AML
comp=N,1110µm,0.2s
NARO AML AML
comp=N,1110µm,0.2s
NARO AML AML
comp=E,918µm,0.4s
NARO AML AML
comp=N,1110µm,0.2s
NARO AML AML
comp=E,918µm,0.4s
PE3 Peglio 0.64 255 P Pb 02 44 08.6 -0.2
PE3 AML AML
comp=E,3455µm,0.6s
PE3 AML AML
comp=N,5230µm,0.4s
PE3 AML AML
comp=E,3455µm,0.6s
PE3 AML AML
comp=N,5230µm,0.4s
PE3 AML AML
comp=E,3455µm,0.6s
PE3 AML AML
comp=N,5230µm,0.4s
PE3 AML AML
comp=E,3455µm,0.6s
PE3 AML AML
comp=N,5230µm,0.4s
SNTG Esanatoglia 0.68 206 P Pb 02 44 08.9 -0.5
SNTG AML AML
comp=E,1645µm,0.5s
SNTG AML AML
comp=N,1965µm,0.8s
SNTG AML AML
comp=E,1640µm,0.5s
SNTG AML AML
comp=N,1965µm,0.8s
SNTG AML AML
comp=N,1965µm,0.8s
SNTG AML AML
comp=E,1640µm,0.5s
SNTG AML AML
comp=N,1965µm,0.8s
SNTG AML AML
comp=E,1640µm,0.5s
BLLA Bellaria 0.69 294 P Pg 02 44 10.5 +0.7
ATBU Serra di Buran 0.70 237 P Pb 02 44 09.5 -0.4
ATBU AML AML
comp=E,2870µm,0.3s
ATBU AML AML
comp=N,2700µm,0.4s
ATBU AML AML
comp=E,2870µm,0.3s
ATBU AML AML
comp=N,2700µm,0.4s
ATBU AML AML
comp=E,2870µm,0.3s
ATBU AML AML
comp=N,2700µm,0.4s
ATBU AML AML
comp=E,2870µm,0.3s
ATBU AML AML
comp=N,2700µm,0.4s
CPGN Carpegna, Ital 0.75 266 P Pn 02 44 11.6 -0.4
CPGN AML AML
comp=E,1168µm,0.3s
CPGN AML AML
comp=N,978µm,0.3s
CPGN AML AML
comp=E,1171µm,0.3s
CPGN AML AML
comp=N,981µm,0.3s
CPGN AML AML
comp=E,1171µm,0.3s
CPGN AML AML
comp=N,981µm,0.3s
CPGN AML AML
comp=E,1171µm,0.3s
CPGN AML AML
comp=N,981µm,0.3s
ATPC Poggio Castell 0.75 240 P Pb 02 44 10.5 -0.3
ATPC AML AML
comp=E,752µm,0.5s
ATPC AML AML
comp=N,1645µm,1.3s
ATPC AML AML
comp=E,2270µm,0.9s
ATPC AML AML
comp=N,1700µm,0.3s
ATPC AML AML
comp=E,752µm,0.5s
ATPC AML AML
comp=N,1640µm,1.2s
ATPC AML AML
comp=E,2270µm,0.9s
ATPC AML AML
comp=N,1700µm,0.3s
ATPC AML AML
comp=E,752µm,0.5s
ATPC AML AML
comp=N,1700µm,0.3s
ATPC AML AML
comp=N,1640µm,1.2s
ATPC AML AML
comp=E,2270µm,0.9s
ATPC AML AML
comp=E,752µm,0.5s

ATPC AML AML
comp=N,1700µm,0.3s
ATPC AML AML
comp=N,1640µm,1.2s
ATPC AML AML
comp=E,2270µm,0.9s
CSP1 Cessapalombo 0.78 188 P Pb 02 44 10.6 -0.7
ATPI Pietralunga - 0.80 239 P Pb 02 44 11.3 -0.4
ATPI S Sn 02 44 24.1 0.0
ATPI AML AML
comp=E,1350µm,0.4s
ATPI AML AML
comp=N,1685µm,1.1s
ATPI AML AML
comp=E,1350µm,0.4s
ATPI AML AML
comp=N,1685µm,1.1s
ATPI AML AML
comp=E,1350µm,0.4s
ATPI AML AML
comp=N,1685µm,1.1s
ATPI AML AML
comp=E,1350µm,0.4s
ATPI AML AML
comp=N,1685µm,1.1s
PARC Parchiule 0.83 255 P Pb 02 44 12.2 +0.1
PARC AML AML
comp=E,1060µm,0.3s
PARC AML AML
comp=N,1103µm,0.2s
PARC AML AML
comp=E,1060µm,0.3s
PARC AML AML
comp=N,1103µm,0.2s
PARC AML AML
comp=E,1060µm,0.3s
PARC AML AML
comp=N,1103µm,0.2s
PARC AML AML
comp=E,1060µm,0.3s
PARC AML AML
comp=N,1103µm,0.2s
ATCA Cantone 0.84 250 P Pb 02 44 12.1 -0.2
ATCA AML AML
comp=E,890µm,0.8s
ATCA AML AML
comp=N,1190µm,0.3s
ATCA AML AML
comp=N,1190µm,0.3s
ATCA AML AML
comp=E,890µm,0.8s
ATCA AML AML
comp=N,1190µm,0.3s
ATCA AML AML
comp=E,890µm,0.8s
FDMO Fiordimonte 0.85 193 P Pb 02 44 11.8 -0.7
FDMO AML AML
comp=E,1265µm,0.4s
FDMO AML AML
comp=N,1230µm,0.8s
FDMO AML AML
comp=E,1265µm,0.4s
FDMO AML AML
comp=N,1230µm,0.8s
FDMO AML AML
comp=N,1230µm,0.8s
FDMO AML AML
comp=E,1265µm,0.4s
FDMO AML AML
comp=N,1230µm,0.8s
FDMO AML AML
comp=E,1265µm,0.4s
MURB Monte Urbino 0.85 225 P Pb 02 44 12.4 0.0
MURB AML AML
comp=E,4625µm,0.3s
MURB AML AML
comp=N,3490µm,0.3s
MURB AML AML
comp=E,5330µm,0.3s
MURB AML AML
comp=N,4110µm,0.3s
MURB AML AML
comp=E,4620µm,0.3s
MURB AML AML
comp=N,3490µm,0.3s
MURB AML AML
comp=E,5330µm,0.3s
MURB AML AML
comp=N,4110µm,0.3s
MURB AML AML
comp=E,4620µm,0.3s
MURB AML AML
comp=N,4110µm,0.3s
MURB AML AML
comp=N,3490µm,0.3s
MURB AML AML
comp=E,5330µm,0.3s
MURB AML AML
comp=E,4620µm,0.3s
MURB AML AML
comp=N,3490µm,0.3s
MURB AML AML
comp=N,4110µm,0.3s
MURB AML AML
comp=E,5330µm,0.3s
ATCC AVT- Casa Cast 0.85 217 P Pb 02 44 12.3 -0.2
ATCC AML AML
comp=E,1635µm,0.6s
ATCC AML AML
comp=N,1750µm,0.9s
ATCC AML AML
comp=E,1635µm,0.6s
ATCC AML AML
comp=N,1755µm,0.9s
ATCC AML AML
comp=N,1755µm,0.9s
ATCC AML AML
comp=E,1635µm,0.6s
ATCC AML AML
comp=N,1755µm,0.9s
ATCC AML AML
comp=E,1635µm,0.6s
BADI Badiali 0.87 247 P Pb 02 44 12.7 -0.2
BADI AML AML
comp=E,1325µm,0.2s
BADI AML AML
comp=N,1310µm,0.3s
BADI AML AML
comp=E,1325µm,0.2s
BADI AML AML
comp=N,1310µm,0.3s
BADI AML AML
comp=E,1325µm,0.2s
BADI AML AML
comp=N,1310µm,0.3s
BADI AML AML
comp=E,1325µm,0.2s
BADI AML AML
comp=N,1310µm,0.3s
CDCA Citt' di Caste 0.90 244 P Pn 02 44 13.9 -0.1
CDCA AML AML
comp=E,2450µm,0.6s
CDCA AML AML
comp=N,3140µm,1.0s
CDCA AML AML
comp=E,2450µm,0.6s
CDCA AML AML
comp=N,3145µm,1.0s
CDCA AML AML
comp=E,772µm,0.8s
CDCA AML AML
comp=N,806µm,0.6s
CDCA AML AML
comp=N,3145µm,1.0s
CDCA AML AML
comp=E,2450µm,0.6s
CDCA AML AML
comp=E,772µm,0.8s
CDCA AML AML
comp=N,806µm,0.6s
CDCA AML AML
comp=N,3145µm,1.0s
CDCA AML AML
comp=E,2450µm,0.6s
CDCA AML AML
comp=E,772µm,0.8s
CDCA AML AML
comp=N,806µm,0.6s

GUMA Gualdo di Mace 0.91 152 P Pb 02 44 11.4 -2.0
GUMA AML AML
comp=E,4470µm,0.5s
GUMA AML AML
comp=N,3960µm,1.3s
GUMA AML AML
comp=E,4470µm,0.5s
GUMA AML AML
comp=N,3960µm,1.3s
GUMA AML AML
comp=E,4470µm,0.5s
GUMA AML AML
comp=N,3960µm,1.3s
CESI CESI - Serrava 0.92 201 P Pb 02 44 13.2 -0.4
ATMC Monte Cedrone 0.94 244 P Pb 02 44 14.1 +0.2
ATMC AML AML
comp=E,1210µm,0.6s
ATMC AML AML
comp=N,1410µm,0.5s
ATMC AML AML
comp=E,1205µm,0.6s
ATMC AML AML
comp=N,1410µm,0.5s
ATMC AML AML
comp=N,1410µm,0.5s
ATMC AML AML
comp=E,1205µm,0.6s
ATMC AML AML
comp=N,1410µm,0.5s
ATMC AML AML
comp=E,1205µm,0.6s
OFFI Offida 0.96 165 AML AML
OFFI AML AML
comp=E,2960µm,0.8s
OFFI AML AML
comp=N,3475µm,0.7s
OFFI AML AML
comp=E,2960µm,0.8s
OFFI AML AML
comp=N,3475µm,0.7s
OFFI AML AML
comp=N,3475µm,0.7s
OFFI AML AML
comp=E,2960µm,0.8s
ATVA AVT- Monte Val 0.97 233 P Pg 02 44 15.2 +0.2
ATVA AML AML
comp=E,544µm,1.3s
ATVA AML AML
comp=N,1245µm,0.5s
ATVA AML AML
comp=N,1245µm,0.5s
ATVA AML AML
comp=E,544µm,1.3s
ATVA AML AML
comp=N,1245µm,0.5s
ATVA AML AML
comp=E,544µm,1.3s
ATTE AVT- Monte Tez 0.98 228 AML AML
comp=E,1495µm,1.5s
ATTE AML AML
comp=E,1495µm,1.5s
ATTE AML AML
comp=N,1155µm,1.0s
ATTE AML AML
comp=E,1495µm,1.5s
ATTE AML AML
comp=N,1155µm,1.0s
ATTE AML AML
comp=N,1155µm,1.0s
CRE Caprese Michel 1.04 257 P Pg 02 44 16.5 +0.1
CRE AML AML
comp=E,528µm,0.6s
CRE AML AML
comp=N,1122µm,0.4s
CRE AML AML
comp=E,528µm,0.6s
CRE AML AML
comp=N,1122µm,0.4s
CRE AML AML
comp=E,528µm,0.6s
CRE AML AML
comp=N,1122µm,0.4s
NRCA Norcia 1.04 189 P Pb 02 44 15.3 -0.5
NRCA AML AML
comp=E,1385µm,1.1s
NRCA AML AML
comp=N,1260µm,0.7s
NRCA AML AML
comp=N,1260µm,0.7s
NRCA AML AML
comp=E,1385µm,1.1s
NRCA AML AML
comp=N,1260µm,0.7s
NRCA AML AML
comp=E,1385µm,1.1s
SFI Santa Sofia 1.09 273 P Pg 02 44 17.4 +0.1
SFI AML AML
comp=E,374µm,0.4s
SFI AML AML
comp=N,446µm,0.5s
SFI AML AML
comp=E,388µm,0.4s
SFI AML AML
comp=N,516µm,0.6s
SFI AML AML
comp=N,516µm,0.6s
SFI AML AML
comp=N,446µm,0.5s
SFI AML AML
comp=E,374µm,0.4s
SFI AML AML
comp=E,388µm,0.4s
SFI AML AML
comp=N,516µm,0.6s
SFI AML AML
comp=N,446µm,0.5s
SFI AML AML
comp=E,374µm,0.4s
SFI AML AML
comp=E,388µm,0.4s
ASQU Asqua 1.13 267 P Pb 02 44 17.6 +0.3
ASQU AML AML
comp=E,444µm,1.6s
ASQU AML AML
comp=N,425µm,0.5s
ASQU AML AML
comp=N,425µm,0.5s
ASQU AML AML
comp=E,444µm,1.6s
ASQU AML AML
comp=N,425µm,0.5s
ASQU AML AML
comp=E,444µm,1.6s
TRTR Tortoreto Alta 1.13 158 AML AML
comp=N,1975µm,0.4s
TRTR AML AML
comp=E,1615µm,1.2s
TRTR AML AML
comp=N,1975µm,0.4s
TRTR AML AML
comp=E,1615µm,1.2s
TRTR AML AML
comp=N,1975µm,0.4s
TRTR AML AML
comp=E,1615µm,1.2s
CAFI Castiglion Fio 1.14 242 P Pg 02 44 17.9 -0.3
CAFI AML AML
comp=E,686µm,0.6s
CAFI AML AML
comp=N,632µm,0.9s
CAFI AML AML
comp=E,686µm,0.6s
CAFI AML AML
comp=N,632µm,0.9s
CAFI AML AML
comp=E,686µm,0.6s
CAFI AML AML
comp=N,632µm,0.9s
MOMA Monte Martano 1.20 208 P Pn 02 44 18.3 +0.1
MOMA AML AML
comp=E,887µm,0.3s
MOMA AML AML
comp=N,1520µm,1.6s
MOMA AML AML
comp=E,981µm,0.3s
MOMA AML AML
comp=N,703µm,0.3s
MOMA AML AML
comp=E,981µm,0.3s

MOMA				AML	AML		
	comp=E,887µm,0.3s						
MOMA				AML	AML		
	comp=N,703µm,0.3s						
MOMA				AML	AML		
	comp=N,1520µm,1.6s						
MOMA				AML	AML		
	comp=E,887µm,0.3s						
MOMA				AML	AML		
	comp=E,981µm,0.3s						
MOMA				AML	AML		
	comp=N,703µm,0.3s						
MOMA				AML	AML		
	comp=N,1520µm,1.6s						
SMA1	**SAN MARTINO**	**1.23**	**180**	P	**Pn**	**02 44 18.7**	**+0.1**
SMA1				AML	AML		
	comp=E,1210µm,0.6s						
SMA1				AML	AML		
	comp=N,1275µm,1.6s						
SMA1				AML	AML		
	comp=E,1210µm,0.6s						
SMA1				AML	AML		
	comp=N,1275µm,1.6s						
SMA1				AML	AML		
	comp=E,1210µm,0.6s						
SMA1				AML	AML		
	comp=N,1275µm,1.6s						
IMOL	**Imola, Italy**	**1.26**	**294**	AML	AML		
	comp=N,571µm,0.9s						
IMOL				AML	AML		
	comp=E,554µm,0.9s						
IMOL				AML	AML		
	comp=N,571µm,0.9s						
IMOL				AML	AML		
	comp=E,554µm,0.9s						
IMOL				AML	AML		
	comp=N,571µm,0.9s						
IMOL				AML	AML		
	comp=E,554µm,0.9s						
LNSS	**Leonessa**	**1.28**	**190**	P	**Pb**	**02 44 19.6**	**-0.2**
LNSS				AML	AML		
	comp=E,964µm,1.3s						
LNSS				AML	AML		
	comp=N,788µm,0.9s						
LNSS				AML	AML		
	comp=N,788µm,0.9s						
LNSS				AML	AML		
	comp=E,964µm,1.3s						
LNSS				AML	AML		
	comp=N,788µm,0.9s						
LNSS				AML	AML		
	comp=E,964µm,1.3s						
NVLJ	**Novalja**	**1.30**	**57**	*i* Pg	**Pb**	**02 44 20.2**	**+0.1**
NVLJ				Sg	**Sg**	**02 44 38.0**	**-0.3**
MGAB	**Montegabbione**	**1.31**	**224**	P	**Pb**	**02 44 20.7**	**+0.4**
MGAB				AML	AML		
	comp=E,1026µm,0.4s						
MGAB				AML	AML		
	comp=N,1750µm,0.6s						
MGAB				AML	AML		
	comp=E,1230µm,0.6s						
MGAB				AML	AML		
	comp=N,1860µm,0.6s						
MGAB				AML	AML		
	comp=E,1230µm,0.6s						
MGAB				AML	AML		
	comp=E,1026µm,0.4s						
MGAB				AML	AML		
	comp=N,1860µm,0.6s						
MGAB				AML	AML		
	comp=N,1750µm,0.6s						
MGAB				AML	AML		
	comp=E,1230µm,0.6s						
MGAB				AML	AML		
	comp=E,1026µm,0.4s						
MGAB				AML	AML		
	comp=N,1860µm,0.6s						
MGAB				AML	AML		
	comp=N,1750µm,0.6s						
CAMP	**Campotosto**	**1.33**	**178**	P	**Pb**	**02 44 20.5**	**-0.2**
ARRO	**Arrone**	**1.35**	**199**	P	**Pb**	**02 44 21.4**	**+0.4**
ARRO				AML	AML		
	comp=E,493µm,0.9s						
ARRO				AML	AML		
	comp=N,394µm,0.8s						
ARRO				AML	AML		
	comp=N,394µm,0.8s						
ARRO				AML	AML		
	comp=E,493µm,0.9s						
ARRO				AML	AML		
	comp=N,394µm,0.8s						
ARRO				AML	AML		
	comp=E,493µm,0.9s						
CESX	**Cesi**	**1.37**	**204**	P	**Pb**	**02 44 21.2**	**-0.1**
CESX				AML	AML		
	comp=E,891µm,0.4s						
CESX				AML	AML		
	comp=N,972µm,0.8s						
CESX				AML	AML		
	comp=N,972µm,0.8s						
CESX				AML	AML		
	comp=E,891µm,0.4s						
CESX				AML	AML		
	comp=N,972µm,0.8s						
CESX				AML	AML		
	comp=E,891µm,0.4s						
SACS	**San Casciano d**	**1.46**	**226**	P	**Pb**	**02 44 23.4**	**+0.5**
SACS				AML	AML		
	comp=E,281µm,0.8s						
SACS				AML	AML		
	comp=N,392µm,0.7s						
SACS				AML	AML		
	comp=E,265µm,0.7s						
SACS				AML	AML		
	comp=N,393µm,0.7s						
SACS				AML	AML		
	comp=N,392µm,0.7s						
SACS				AML	AML		
	comp=E,265µm,0.7s						
SACS				AML	AML		
	comp=E,281µm,0.8s						
SACS				AML	AML		
	comp=N,393µm,0.7s						
SACS				AML	AML		
	comp=N,392µm,0.7s						
SACS				AML	AML		
	comp=E,265µm,0.7s						
SACS				AML	AML		
	comp=E,281µm,0.8s						
SACS				AML	AML		
	comp=N,393µm,0.7s						
AQU	**L'Aquila**	**1.51**	**178**	P	**Pb**	**02 44 23.4**	**-0.3**
AQU				AML	AML		
	comp=E,428µm,0.5s						
AQU				AML	AML		
	comp=N,520µm,1.1s						
AQU				AML	AML		
	comp=E,389µm,0.4s						
AQU				AML	AML		
	comp=N,487µm,1.2s						
AQU				AML	AML		
	comp=E,428µm,0.5s						
AQU				AML	AML		
	comp=E,389µm,0.4s						
AQU				AML	AML		
	comp=N,520µm,1.1s						
AQU				AML	AML		
	comp=N,487µm,1.2s						
AQU	**L'Aquila**	**1.51**	**178**	*e*Pn	**Pb**	**02 44 23.3**	**-0.4**
VCEL	**Villa Celiera**	**1.51**	**166**	P	**Pb**	**02 44 23.3**	**-0.5**
VCEL				AML	AML		
	comp=E,493µm,0.4s						
VCEL				AML	AML		
	comp=N,390µm,0.7s						
VCEL				AML	AML		
	comp=N,390µm,0.7s						
VCEL				AML	AML		
	comp=E,493µm,0.4s						
VCEL				AML	AML		
	comp=N,390µm,0.7s						
VCEL				AML	AML		
	comp=E,493µm,0.4s						
CSNT	**Castellina Chi**	**1.54**	**256**	AML	AML		
CSNT				AML	AML		
	comp=E,223µm,0.4s						
CSNT				AML	AML		
	comp=N,222µm,0.5s						
CSNT				AML	AML		
	comp=E,223µm,0.4s						
CSNT				AML	AML		
	comp=N,222µm,0.5s						
CSNT				AML	AML		
	comp=E,223µm,0.4s						
FIAM	**Fiamignano**	**1.60**	**186**	P	**Pb**	**02 44 25.3**	**-0.1**
FIAM				AML	AML		
	comp=E,326µm,0.6s						
FIAM				AML	AML		
	comp=N,332µm,1.0s						
FIAM				AML	AML		
	comp=E,326µm,0.6s						
FIAM				AML	AML		
	comp=N,332µm,1.0s						
FIAM				AML	AML		
	comp=E,326µm,0.6s						
FIAM				AML	AML		
	comp=N,332µm,1.0s						
FAGN	**Fagnano**	**1.60**	**174**	P	**Pb**	**02 44 24.9**	**-0.5**
FAGN				AML	AML		
	comp=E,920µm,0.4s						
FAGN				AML	AML		
	comp=N,776µm,0.5s						
FAGN				AML	AML		
	comp=E,920µm,0.4s						
FAGN				AML	AML		
	comp=N,776µm,0.5s						
FAGN				AML	AML		
	comp=E,920µm,0.4s						
FAGN				AML	AML		
	comp=N,776µm,0.5s						
MCIV	**Monte Civitell**	**1.63**	**229**	AML	AML		
MCIV				AML	AML		
	comp=E,97µm,0.5s						
MCIV				AML	AML		
	comp=N,96µm,0.7s						
MCIV				AML	AML		
	comp=N,96µm,0.7s						
MCIV				AML	AML		
	comp=E,97µm,0.5s						
MCIV				AML	AML		
	comp=E,97µm,0.5s						
RIY	**Rijeka**	**1.67**	**29**	*e*Pn	**Pb**	**02 44 25.6**	**-0.9**
LATE	**Laterza**	**1.68**	**223**	AML	AML		
LATE				AML	AML		
	comp=E,283µm,1.2s						
LATE				AML	AML		
	comp=E,283µm,1.2s						
LATE				AML	AML		
	comp=N,426µm,0.4s						
LATE				AML	AML		
	comp=N,426µm,0.4s						
LATE				AML	AML		
	comp=E,283µm,1.2s						
LATE				AML	AML		
	comp=N,426µm,0.4s						
ARCI	**Arcidosso**	**1.70**	**234**	AML	AML		
ARCI				AML	AML		
	comp=E,65µm,1.1s						
ARCI				AML	AML		
	comp=N,120µm,1.1s						
ARCI				AML	AML		
	comp=E,65µm,1.1s						
ARCI				AML	AML		
	comp=N,120µm,1.1s						
ARCI				AML	AML		
	comp=E,65µm,1.1s						
FROS	**Frosini**	**1.72**	**248**	AML	AML		
FROS				AML	AML		
	comp=N,208µm,0.3s						
FROS				AML	AML		
	comp=N,208µm,0.3s						
FROS				AML	AML		
	comp=E,215µm,1.5s						
FROS				AML	AML		
	comp=N,208µm,0.3s						
FROS				AML	AML		
	comp=E,215µm,1.5s						
PTQR	**Pietraquaria**	**1.84**	**179**	AML	AML		
PTQR				AML	AML		
	comp=E,85µm,1.3s						
PTQR				AML	AML		
	comp=E,85µm,1.3s						
PTQR				AML	AML		
	comp=N,95µm,0.7s						
PTQR				AML	AML		
	comp=E,85µm,1.3s						
PTQR				AML	AML		
	comp=N,95µm,0.7s						
UDBI	**Udbina**	**1.86**	**68**	*i* Pn	**Pb**	**02 44 29.2**	**-0.5**
UDBI				Sn	**Sb**	**02 44 53.0**	**+0.3**
TRI	**Trieste**	**1.87**	**9**	P	**Pn**	**02 44 27.2**	**-0.1**
TRI				AML	AML		
	comp=E,158µm,1.1s						
TRI				AML	AML		
	comp=N,165µm,0.9s						
TRI				AML	AML		
	comp=E,158µm,1.1s						
TRI				AML	AML		
	comp=N,165µm,0.9s						
TRI				AML	AML		
	comp=E,158µm,1.1s						
TRI				AML	AML		
	comp=N,165µm,0.9s						
LPEL	**Lama dei Pelig**	**1.92**	**161**	AML	AML		
LPEL				AML	AML		
	comp=N,152µm,1.6s						
LPEL				AML	AML		
	comp=N,152µm,1.6s						
LPEL				AML	AML		
	comp=E,178µm,0.7s						
LPEL				AML	AML		
	comp=N,152µm,1.6s						
LPEL				AML	AML		
	comp=E,178µm,0.7s						
TRIF	**Trifonti**	**1.93**	**248**	AML	AML		
TRIF				AML	AML		
	comp=N,111µm,0.7s						
TRIF				AML	AML		
	comp=N,111µm,0.7s						
TRIF				AML	AML		
	comp=E,134µm,0.7s						
TRIF				AML	AML		
	comp=N,111µm,0.7s						
TRIF				AML	AML		
	comp=E,134µm,0.7s						
CERT	**Cerreto**	**1.93**	**188**	AML	AML		
CERT				AML	AML		
	comp=N,164µm,1.0s						
CERT				AML	AML		
	comp=E,240µm,0.5s						
CERT				AML	AML		
	comp=N,164µm,1.0s						
CERT				AML	AML		
	comp=E,240µm,0.5s						
CERT				AML	AML		
	comp=E,240µm,0.5s						
CERT				AML	AML		
	comp=N,164µm,1.0s						
BDI	**Bagni Di Lucca**	**2.00**	**277**	AML	AML		
BDI				AML	AML		
	comp=N,68µm,1.0s						
BDI				AML	AML		
	comp=E,106µm,1.1s						
BDI				AML	AML		
	comp=N,83µm,0.9s						
BDI				AML	AML		
	comp=E,115µm,1.1s						
BDI				AML	AML		
	comp=N,68µm,1.0s						
BDI				AML	AML		
	comp=E,115µm,1.1s						
BDI				AML	AML		
	comp=E,106µm,1.1s						
BDI				AML	AML		
	comp=N,83µm,0.9s						
BDI				AML	AML		
	comp=E,115µm,1.1s						
BDI				AML	AML		
	comp=E,106µm,1.1s						
BDI				AML	AML		
	comp=N,68µm,1.0s						
BDI				AML	AML		
	comp=N,83µm,0.9s						
CEY	**Cerknica**	**2.03**	**22**	*e*Pn	**Pn**	**02 44 30.3**	**+0.8**
TOLF	**Tolfa**	**2.05**	**209**	AML	AML		
TOLF				AML	AML		
	comp=E,72µm,1.4s						
TOLF				AML	AML		
	comp=N,72µm,1.1s						
TOLF				AML	AML		
	comp=E,72µm,1.4s						
TOLF				AML	AML		
	comp=N,72µm,1.1s						
TOLF				AML	AML		
	comp=E,72µm,1.4s						
TOLF				AML	AML		
	comp=N,72µm,1.1s						
MAIM	**Mastiano**	**2.06**	**272**	P	**Pn**	**02 44 31.3**	**+1.3**
MAIM				S	**Sn**	**02 44 55.7**	**+0.5**
MAIM	**Mastiano**	**2.06**	**272**	AML	AML		
MAIM				AML	AML		
	comp=E,80µm,0.5s						
MAIM				AML	AML		
	comp=N,82µm,0.9s						
MAIM				AML	AML		
	comp=N,82µm,0.9s						
MAIM				AML	AML		
	comp=E,80µm,0.5s						
MAIM				AML	AML		
	comp=E,80µm,0.5s						
CASP	**Castiglione de**	**2.10**	**240**	AML	AML		
CASP				AML	AML		
	comp=E,58µm,0.3s						
CASP				AML	AML		
	comp=N,63µm,0.3s						
CASP				AML	AML		
	comp=E,58µm,0.3s						
CASP				AML	AML		
	comp=E,58µm,0.3s						
CASP				AML	AML		
	comp=N,63µm,0.3s						
RMP	**Rome, Mte Porz**	**2.10**	**193**	AML	AML		
RMP				AML	AML		
	comp=E,189µm,1.1s						
RMP				AML	AML		
	comp=E,189µm,1.1s						
RMP				AML	AML		
	comp=N,190µm,1.4s						
RMP				AML	AML		
	comp=N,190µm,1.4s						
RMP				AML	AML		
	comp=E,189µm,1.1s						
RMP				AML	AML		
	comp=N,190µm,1.4s						
SABO	**M.te Sabotino**	**2.12**	**5**	P	**Pn**	**02 44 31.5**	**+0.6**
SABO				AML	AML		
	comp=E,472µm,0.5s						
SABO				AML	AML		
	comp=N,476µm,0.5s						
SABO				AML	AML		
	comp=N,476µm,0.5s						
SABO				AML	AML		
	comp=E,472µm,0.5s						
SABO				AML	AML		
	comp=N,476µm,0.5s						
SABO				AML	AML		
	comp=E,472µm,0.5s						
BOJS	**Bojanci**	**2.13**	**39**	P	**Pn**	**02 44 32.1**	**+1.2**
BOJS				AML	AML		
	comp=E,158µm,1.0s						
BOJS				AML	AML		
	comp=N,104µm,0.6s						
BOJS				AML	AML		
	comp=N,104µm,0.6s						
BOJS				AML	AML		
	comp=E,158µm,1.0s						
BOJS				AML	AML		
	comp=N,104µm,0.6s						
BOJS				AML	AML		
	comp=E,158µm,1.0s						
SARO	**Sassorosso**	**2.15**	**280**	P	**Pn**	**02 44 32.8**	**+1.6**
POFI	**Posta Fibreno**	**2.16**	**173**	AML	AML		
POFI				AML	AML		
	comp=E,82µm,1.2s						
POFI				AML	AML		
	comp=N,76µm,1.4s						
POFI				AML	AML		
	comp=E,82µm,1.2s						
POFI				AML	AML		
	comp=E,82µm,1.2s						
POFI				AML	AML		
	comp=N,76µm,1.4s						
MAON	**Monte Argentar**	**2.17**	**229**	AML	AML		
MAON				AML	AML		
	comp=E,51µm,0.4s						
MAON				AML	AML		
	comp=N,36µm,1.1s						
MAON				AML	AML		
	comp=E,51µm,0.4s						
MAON				AML	AML		
	comp=N,36µm,1.1s						
MAON				AML	AML		
	comp=E,51µm,0.4s						
RNI2	**Rionero Sannit**	**2.24**	**164**	AML	AML		
RNI2				AML	AML		
	comp=E,108µm,0.8s						
RNI2				AML	AML		
	comp=E,108µm,0.8s						
RNI2				AML	AML		
	comp=N,140µm,1.2s						
RNI2				AML	AML		
	comp=N,140µm,1.2s						
RNI2				AML	AML		
	comp=E,108µm,0.8s						
RNI2				AML	AML		
	comp=N,140µm,1.2s						
TRIV	**Trivento**	**2.27**	**157**	AML	AML		
TRIV				AML	AML		
	comp=E,107µm,0.7s						
TRIV				AML	AML		
	comp=E,107µm,0.7s						
TRIV				AML	AML		
	comp=N,158µm,0.8s						
TRIV				AML	AML		
	comp=N,158µm,0.8s						
TRIV				AML	AML		
	comp=E,107µm,0.7s						
TRIV				AML	AML		
	comp=N,158µm,0.8s						
OZLJ	**Ozalj**	**2.31**	**40**	*e*Pn	**Pb**	**02 44 35.5**	**-1.9**
MIDA	**Miranda**	**2.32**	**163**	AML	AML		
MIDA				AML	AML		
	comp=E,95µm,0.6s						
MIDA				AML	AML		
	comp=N,94µm,1.2s						
MIDA				AML	AML		
	comp=E,95µm,0.6s						
MIDA				AML	AML		
	comp=N,94µm,1.2s						
MIDA				AML	AML		
	comp=E,95µm,0.6s						
MIDA				AML	AML		
	comp=N,94µm,1.2s						
EQUI	**Equi**	**2.32**	**279**	P	**Pn**	**02 44 35.0**	**+1.4**
LJU	**Ljubljana**	**2.34**	**21**	P	**Pn**	**02 44 35.3**	**+1.6**
LJU				AML	AML		
	comp=E,302µm,0.5s						
LJU				AML	AML		
	comp=N,450µm,0.9s						
LJU				AML	AML		
	comp=N,450µm,0.9s						
LJU				AML	AML		
	comp=E,302µm,0.5s						
LJU				AML	AML		
	comp=N,450µm,0.9s						
LJU				AML	AML		
	comp=E,302µm,0.5s						
LJU	**Ljubljana**	**2.34**	**21**	*e*Pn	**Pn**	**02 44 35.4**	**+1.6**
VINO	**Villanova**	**2.39**	**359**	P	**Pn**	**02 44 35.0**	**+0.4**
ROVR	**Rover¯¤ Verone**	**2.41**	**319**	P	**Pn**	**02 44 35.2**	**+0.3**
ROVR				AML	AML		
	comp=E,232µm,0.3s						
ROVR				AML	AML		
	comp=N,408µm,0.2s						

| | | |

PDG				*e*Sn		**Sn**	02 45 57.0	+0.4
PDG	**Podgorica**	**4.55**	**106**	AML	AML			
	comp=N,29μm,1.1s							
PDG				AML	AML			
	comp=E,29μm,1.1s							
PDG				AML	AML			
	comp=N,29μm,1.1s							
PDG				AML	AML			
	comp=N,29μm,1.1s							
PDG				AML	AML			
	comp=E,29μm,1.1s							
PDG	**Podgorica**	**4.55**	**106**	*e*Pn		**Pn**	02 45 06.0	+1.8
DRME	**Dracevica, Mon**	**4.59**	**109**	*e*Pn		**Pn**	02 45 05.0	+0.2
CALF	**Calern**	**4.65**	**271**	Pn		**Pn**	02 45 07.7	+2.0
SURF	**Saint Ours**	**4.74**	**280**	Pn		**Pn**	02 45 08.2	+1.3
MBDF	**Montbardon**	**4.80**	**283**	*e*Pn		**Pn**	02 45 07.3	-0.4
MBDF				*e*Sn		**Sn**	02 46 01.8	-1.1
	comp=E,3.0nm,0.2s							
FRGS	**Fruska Gora**	**4.80**	**72**	*e*Pn		**Pb**	02 45 20.5	+0.7
DIVS	**Divibare**	**4.80**	**85**	*e*Pn		**Pn**	02 45 10.3	+2.6
DIVS	**Divibare**	**4.80**	**85**	*e*Pn		**Pn**	02 45 12.3	+4.6
SJES	**Sjenica**	**4.85**	**95**	*e*Pn		**Pn**	02 45 09.7	+1.3
SJES				*e*Sn		**Sn**	02 46 05.5	+1.3
FRF	**La Foret Royal**	**4.87**	**269**	*e*Pn		**Pn**	02 45 09.7	+1.2
FRF				*e*Sn		**Sn**	02 46 04.9	+0.5
	comp=E,1.4nm,0.2s							
IVAS	**Ivanjica**	**4.94**	**91**	*e*Pn		**Pn**	02 45 11.2	+1.6
IVAS				*e*Sn		**Sn**	02 46 07.3	+1.0
LPG	**La Plagne**	**4.98**	**291**	*e*Pn		**Pn**	02 45 10.1	-0.2
LPG				*e*Sn		**Sn**	02 46 04.4	-3.2
	comp=E,3.8nm,0.3s							
GEC2	**GERESS Array S**	**4.99**	**3**	*e*Pn		**Pn**	02 45 11.0	+0.8
GEC2				*e*Sn		**Sn**	02 46 07.1	-0.5
LMR	**La Mourre**	**4.99**	**266**	*e*Pn		**Pn**	02 45 11.7	+1.4
LMR				*e*Sn		**Sn**	02 46 06.2	-1.3
	comp=E,1.8nm,0.2s							
LPL	**La Plagne**	**5.00**	**292**	*e*Pn		**Pn**	02 45 10.5	0.0
LPL				*e*Sn		**Sn**	02 46 06.4	-1.5
	comp=E,8.9nm,0.4s							
RSL	**Roselend**	**5.12**	**293**	Pn		**Pn**	02 45 14.6	+2.5
KHC	**Kasperske Hory**	**5.27**	**2**	*e*PN		**Pn**	02 45 14.7	+0.6
KHC				*e*SN		**Sn**	02 46 12.1	-2.3
MODS	**Modra-Piesok**	**5.27**	**30**	*e*PN		**Pn**	02 45 15.8	+1.7
MODS				*e*SN		**Sn**	02 46 12.6	-1.8
WET	**Wettzell**	**5.29**	**357**	*e*Pn		**Pn**	02 45 14.8	+0.4
WET				*e*Sn		**Sn**	02 46 11.7	-3.2
KIZ	**Kirchzarten**	**5.58**	**319**	Pn		**Pn**	02 45 19.8	+1.6
KRUC	**Moravsky**	**5.61**	**21**	*e*PN		**Pn**	02 45 19.4	+0.7
SMRF	**Simiane la Rot**	**5.62**	**274**	*e*Pn		**Pn**	02 45 20.0	+1.2
SMRF				*e*Sn		**Sn**	02 46 21.1	-1.8
TREC	**Trest**	**5.63**	**14**	*e*PN		**Pn**	02 45 19.5	+0.5
BFO	**Black Forest**	**5.67**	**324**	*e*Pn		**Pn**	02 45 22.4	+2.8
BFO				*e*Sn		**Sn**	02 46 21.0	-3.1
CABF	**La Chapelle**	**5.82**	**301**	*e*Pn		**Pn**	02 45 22.2	+0.6
CABF				*e*Sn		**Sn**	02 46 25.7	-2.2
	comp=E,2.5nm,0.3s							
OPP	**Oppenau**	**5.86**	**324**	Pn		**Pn**	02 45 23.3	+1.1
ROTZ	**Rotzenmuhle**	**5.96**	**353**	*e*Pn		**Pn**	02 45 23.4	-0.1
ROTZ				*e*Sn		**Sn**	02 46 26.9	-4.4
VYHS	**Vyhne**	**6.00**	**38**	*e*PN		Pn	02 45 29.5	+5.5
GRF	**Grafenberg Arr**	**6.01**	**347**	*e*Sn		**Sn**	02 46 29.2	-3.4
ECH	**Echery**	**6.12**	**317**	Pn		**Pn**	02 45 27.1	+1.3
ECH				Sn		**Sn**	02 46 32.1	-3.2
GOPC	**GO Pecny, Ondr**	**6.13**	**9**	*e*PN		**Pn**	02 45 26.0	+0.1
MANZ	**Manzenberg**	**6.18**	**353**	*e*Pn		**Pn**	02 45 26.7	+0.1
MANZ				*e*Sn		**Sn**	02 46 32.2	-4.6
CDF	**Champ du Feu**	**6.20**	**319**	*e*Pn		**Pn**	02 45 24.8	-2.1
CDF				*e*Sn		**Sn**	02 46 34.7	-2.7
	comp=E,1.5nm,0.2s							
VIVF	**Saint-Julien-l**	**6.30**	**282**	*e*Pn		**Pn**	02 45 27.8	-0.4
VIVF				*e*Sn		**Sn**	02 46 38.5	-1.2
	comp=E,1.6nm,0.3s							
HAU	**Haudompre**	**6.40**	**313**	*e*Pn		**Pn**	02 45 29.9	+0.3
HAU				*e*Sn		**Sn**	02 46 38.7	-3.5
	comp=E,9.7nm,0.3s							
NKC	**Novy Kostel**	**6.40**	**355**	*e*PN		**Pn**	02 45 30.1	+0.5
NKC				*e*SN		**Sn**	02 46 39.1	-3.1
GUNZ	**Gunzen**	**6.54**	**354**	*e*Pn		**Pn**	02 45 31.9	+0.4
GUNZ				*e*Sn		**Sn**	02 46 41.7	-4.0
TRIB	**Obertriebel**	**6.54**	**353**	*e*Pn		**Pn**	02 45 32.0	+0.5
TANN	**Tannenbergstha**	**6.58**	**355**	*e*Pn		**Pn**	02 45 32.7	+0.6
PLN	**Plauen**	**6.67**	**353**	*e*Pn		**Pn**	02 45 34.5	+1.1
ZAPS	**Zavoj**	**6.77**	**92**	*e*Pn		**Pn**	02 45 35.8	+1.1
KECS	**Kecovo**	**6.78**	**44**	*e*PN		**Pn**	02 45 35.1	+0.4
MOX	**Moxa**	**6.89**	**351**	*e*Pn		**Pn**	02 45 36.1	-0.2
MOX				*e*Sn		**Sn**	02 46 49.7	-4.4
PAGF	**Fort de Pagny**	**7.07**	**314**	*e*Sn		**Sn**	02 46 55.1	-3.5
	comp=E,1.2nm,0.2s							
SFTF	**Sexfontaines**	**7.23**	**310**	*e*Pn		**Pn**	02 45 40.1	-0.8
SFTF				*e*Sn		**Sn**	02 46 59.7	-2.8
	comp=E,1.5nm,0.2s							
SMF	**Signal de Mont**	**7.26**	**296**	*e*Pn		**Pn**	02 45 40.9	-0.5
SMF				*e*Sn		**Sn**	02 46 59.7	-3.7
	comp=E,1.6nm,0.2s							
MEZF	**Maizieres J'vi**	**7.39**	**312**	*e*Pn		**Pn**	02 45 41.6	-1.6
MEZF				*e*Sn		**Sn**	02 47 02.2	-4.3
	comp=E,1.6nm,0.3s							
LOR	**Lormes**	**7.48**	**300**	*e*Pn		**Pn**	02 45 44.2	-0.2
	baz=124							
LOR				*e*Sn		**Sn**	02 47 05.2	-3.5
	comp=E,3.6nm,0.2s							
SSF	**Saint Saulge**	**7.62**	**298**	*e*Pn		**Pn**	02 45 46.5	+0.2
SSF				*e*Sn		**Sn**	02 47 07.1	-5.1
	comp=E,0.7nm,0.2s							
AVF	**Avril sur Loir**	**7.63**	**296**	*e*Pn		**Pn**	02 45 46.5	+0.1
AVF				*e*Sn		**Sn**	02 47 08.9	-3.4
	comp=E,0.8nm,0.2s							
BGF	**Bois d'Agland**	**7.89**	**294**	*e*Pn		**Pn**	02 45 49.2	-0.8
BGF				*e*Sn		**Sn**	02 47 15.7	-3.1
	comp=E,4.1nm,0.3s							
CAF	**Calviac**	**8.15**	**281**	*e*Pn		**Pn**	02 45 54.5	+0.9
CAF				*e*Sn		**Sn**	02 47 21.7	-3.6
	comp=E,0.1nm,0.2s							
TCF	**Toulx Ste Croi**	**8.25**	**291**	*e*Pn		**Pn**	02 45 54.5	-0.4
TCF				*e*Sn		**Sn**	02 47 23.5	-4.1
	comp=E,1.1nm,0.2s							

IDC 25 02:45:40.1±8.4, 17°67S×174°24W, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/30, mbtmp3.3/3, Error ellipse: s-maj=366.1km s-min=40.1km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.58**	**259**	P	P	02 54 25.4	-0.4
	0.3nm,0.9s,baz=96,slow=6.8,SNR=5.0						
ASAR	**Alice Springs**	**48.67**	**254**	P	P	02 54 26.6	+0.1
	0.3nm,0.5s,baz=87,slow=8.1,SNR=7.8						
ILAR	**Eielson Array**	**84.82**	**11**	P	P	02 58 16.1	0.0
	0.2nm,0.6s,baz=224,slow=4.6,SNR=4.3						

*ISK **25** 02:49:06.8, 38°.86N×43°.55E, h5km, ML3.0/14*
*ISCJB **25** 02:49:08.7±0.5, 38°.88N±0°.03×43°.54E±0°.05, h11km±4km, Error ellipse: s-maj=7.0km s-min=4.3km az=15.0*
*DDA **25** 02:49:08.1, 38°.80N×43°.57E, h7km, Ml3.2*

ISC 25 02:49:07.9±1.1, 38°.87N±0°.03×43°.62E±0°.04, h6km±10km, n24, σ1§40/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.13**	**342**	*i* P	P*g*	02 49 03.9	-6.8
VMUR				*i* S	**Sg**	02 49 14.6	+2.0
VANB	**Van**	**0.33**	**214**	PG	**Pb**	02 49 15.0	-1.2
CLDR	**Caldiran**	**0.36**	**40**	PG	**Pb**	02 49 14.9	-2.0
CLDR				SG	**Sb**	02 49 22.5	-0.4
CLDR	**Caldiran**	**0.36**	**40**	*i* P	**Pb**	02 49 16.1	-0.7
CLDR				*i* S	**Sb**	02 49 24.0	+1.2
TVAN	**Van**	**0.38**	**207**	*i* P	**Pg**	02 49 14.5	-0.8
TVAN				*i* S	**Sb**	02 49 22.8	-0.6
ADCV	**BITLIS_Adilcev**	**0.70**	**266**	*i* P	**Pg**	02 49 20.4	-1.1
ADCV				*i* S	**Sg**	02 49 30.6	0.0
GEVA	**Gevas**	**0.71**	**219**	*i* P	**Pg**	02 49 20.2	-1.3
GEVA				*i* S	**Sb**	02 49 32.6	-0.2
TUTA	**Tutak**	**0.83**	**311**	*i* P	**Pg**	02 49 22.7	-1.1
TUTA				*i* S	**Sb**	02 49 37.1	+0.8
AGRB	**Hanur-Agry**	**0.86**	**326**	PG	**Pg**	02 49 23.9	-0.6
AGRB				SG	**Sb**	02 49 36.4	-0.9
TASB	**TASBURUN-IGDIR**	**1.21**	**23**	PN	**Pn**	02 49 31.8	+0.3
GURO	**Guroymak-BITLI**	**1.28**	**256**	PN	**Pn**	02 49 31.2	-1.3
EATA	**Eleskirt**	**1.33**	**319**	*i* P	**Pn**	02 49 30.7	-2.6
EATA				*i* S	**Sn**	02 49 53.8	+2.3
GNI	**Garni**	**1.55**	**34**	PN	**Pg**	02 49 37.1	-0.5
SRTM	**Siirt_Merkez**	**1.60**	**237**	*i* P	**Pb**	02 49 37.1	-0.8
SRTM				*i* S	**Sg**	02 50 03.5	+4.3
CUKT	**Cukurca**	**1.62**	**180**	PN	**Pb**	02 49 37.6	-0.6
SIRT	**Sirnak**	**1.65**	**215**	PN	**Pb**	02 49 37.6	-1.2
SIRN	**S¨–rnak**	**1.67**	**215**	*i* P	**Pg**	02 49 39.1	-0.8
SIRN				*i* S	**Sg**	02 50 03.6	+2.1
VRTB	**Varto-Mus**	**1.71**	**281**	PN	**Pn**	02 49 37.9	-0.6
KARS	**Kars**	**1.81**	**347**	PN	**Pn**	02 49 39.8	0.0
SVAN	**Silvan-Diyarba**	**2.03**	**250**	PN	**Pn**	02 49 42.9	+0.2
BNGB	**Bing¶ll**	**2.30**	**274**	PN	**Pn**	02 49 46.8	+0.3
YEDI	**Yedisu-Bingol**	**2.46**	**284**	PN	**Pn**	02 49 48.6	-0.1
MAZI	**Mazidag**	**2.87**	**242**	PN	**Pn**	02 49 54.5	+0.2
PTK	**Pertek**	**3.30**	**272**	PN	**Pn**	02 50 01.0	+0.7

*IDC **25** 02:53:49.6±1.3, 35°.68N×23°.07E, h0km, mb3.8/5, mb1 3.6/7, mb1mx3.4/40, mbtmp3.6/7, ML3.2/2, Error ellipse: s-maj=26.4km s-min=19.9km az=15.0*
*ISCJB **25** 02:53:57.1±0.5, 35°.43N±0°.04×23°.40E±0°.04, h71km±4km, mb3.6/5, Error ellipse: s-maj=8.2km s-min=3.3km az=39.1*
*ATH **25** 02:53:57.6, 35°.49N×23°.40E, h44km±1km, ML3.2/5, Error ellipse: s-maj=3.1km s-min=1.0km az=43.0*
*THE **25** 02:53:58.5, 35°.42N×23°.33E, h24km±1km, ML3.1/10, Error ellipse: s-maj=1.9km s-min=0.6km az=45.0*

ISC 25 02:53:56.8±0.9, 35°.46N±0°.05×23°.39E±0°.05, h51km±7km, n82, σ2§42/105, mb3.6/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.42**	**350**	P	**Pn**	02 54 07.2	0.0
ANKY				S	**Sn**	02 54 15.4	+0.8
ANKY				AML	AML	02 54 16.5	
	comp=N,4582um,0.7s						
ANKY				AML	AML	02 54 17.8	
	comp=E,5740um,0.4s						
ANKY	**Antikythira Is**	**0.42**	**350**	P	**Pn**	02 54 07.2	0.0
ANKY				S	**Sn**	02 54 15.7	+1.0
IMMV	**Iera Moni Meta**	**0.48**	**89**	P	**Pn**	02 54 08.8	+0.9
IMMV				S	**Sn**	02 54 17.2	+1.3
IMMV				AML	AML	02 54 19.3	
	comp=E,13809um,0.4s						
IMMV				AML	AML	02 54 19.6	
	comp=N,9254um,0.4s						
IMMV	**Iera Moni Meta**	**0.48**	**89**	P	**Pn**	02 54 08.8	+0.9
IMMV				S	**Sn**	02 54 17.7	+1.8
CHAN	**Chania**	**0.53**	**83**	P	**Pn**	02 54 09.6	+1.1
CHAN				S	**Sn**	02 54 19.2	+2.3
VAM	**Vamos**	**0.66**	**94**	P	**Pn**	02 54 11.5	+1.5
VAM				S	**Sn**	02 54 21.7	+2.0
VAM				AML	AML	02 54 24.3	
	comp=E,4694um,0.4s						
VAM				AML	AML	02 54 25.1	
	comp=N,4996um,0.5s						
VAM	**Vamos**	**0.66**	**94**	P	**Pn**	02 54 11.5	+1.4
VAM				S	**Sn**	02 54 21.5	+1.8
GVD	**Gavdhos**	**0.84**	**137**	P	**Pn**	02 54 13.3	+0.9
GVD				AML	AML	02 54 29.2	
	comp=E,3061um,0.3s						
GVD				AML	AML	02 54 35.8	
	comp=N,2765um,0.3s						
GVD	**Gavdhos**	**0.84**	**137**	P	**Pn**	02 54 13.3	+0.9
GVD				S	**Sn**	02 54 26.5	+2.7
KYTH	**Kithira**	**0.86**	**341**	P	**Pn**	02 54 14.2	+1.5
KYTH				S	**Sn**	02 54 25.8	+1.5
KYTH				AML	AML	02 54 30.1	
	comp=E,2043um,0.9s						
KYTH				AML	AML	02 54 35.0	
	comp=N,1767um,0.4s						
KYTH	**Kithira**	**0.86**	**341**	P	**Pn**	02 54 14.2	+1.5
KYTH				S	**Sn**	02 54 26.6	+2.3
KTHR	**Kythira**	**0.86**	**339**	P	**Pn**	02 54 13.9	+1.1
KTHR				S	**Sn**	02 54 27.6	+3.1
PRNS	**Prines Rethymn**	**0.91**	**95**	P	**Pn**	02 54 14.9	+1.6
PRNS				S	**Sn**	02 54 28.2	+2.8
IDI	**Anoyia**	**1.23**	**97**	P	**Pn**	02 54 19.6	+1.8
IDI				S	**Sn**	02 54 34.4	+1.0
IDI	**Anoyia**	**1.23**	**97**	Pn	**Pn**	02 54 19.7	+1.9
	comp=N,7.1nm,0.3s,baz=256,slow=8.6,SNR=58						
IDI				Sn	**Sn**	02 54 38.4	+5.0
	comp=N,17nm,0.3s,baz=326,slow=19,SNR=8.2						
SIVA	**Sivas**	**1.24**	**110**	P	**Pn**	02 54 20.6	+2.8
SIVA	**Sivas**	**1.24**	**110**	P	**Pn**	02 54 20.3	+2.5
SIVA				S	**Sn**	02 54 36.6	+3.2
VLI	**Veliai**	**1.31**	**344**	P	**Pn**	02 54 21.7	+2.9
VLI	**Veliai**	**1.31**	**344**	P	**Pn**	02 54 20.6	+1.8
VLI				S	**Sn**	02 54 36.3	+3.1
KSTL	**Kastelli Herak**	**1.38**	**96**	P	**Pn**	02 54 25.7	+6.0
KSTL				S	**Sn**	02 54 45.3	+8.5
MHLO	**Agia Marina, M**	**1.48**	**33**	P	**Pn**	02 54 22.9	+1.9
MHLO	**Agia Marina, M**	**1.48**	**33**	P	**Pn**	02 54 22.9	+1.9
MHLO				S	**Sn**	02 54 42.1	+2.9
DYR	**Agios Nikonas**	**1.56**	**327**	P	**Pn**	02 54 25.1	+2.9
DYR	**Agios Nikonas**	**1.56**	**327**	P	**Pn**	02 54 24.7	+2.5
DYR				S	**Sn**	02 54 44.3	+3.0
LAST	**Lasithi**	**1.73**	**99**	P	**Pn**	02 54 27.3	+2.8
NPS	**Neapolis**	**1.82**	**95**	P	**Pn**	02 54 28.3	+2.5
NPS	**Neapolis**	**1.82**	**95**	P	**Pn**	02 54 28.0	+2.2
NPS				S	**Sn**	02 54 51.7	+4.0
THR5	**Thira Island,**	**1.85**	**58**	P	**Pn**	02 54 28.5	+2.4
THR6	**Thira Island,**	**1.86**	**60**	P	**Pn**	02 54 28.3	+2.1
THR3	**Thira Island,**	**1.89**	**59**	P	**Pn**	02 54 29.0	+2.4
SANT	**Santorini**	**1.91**	**61**	*e*P	**Pn**	02 54 26.9	0.0
SERI	**Serifos**	**1.92**	**27**	P	**Pn**	02 54 28.2	+1.1
THR2	**Thira island,**	**1.93**	**59**	P	**Pn**	02 54 29.8	+2.6
PYL	**PYLOS**	**1.96**	**318**	P	**Pn**	02 54 28.9	+1.3
DID	**Didima**	**2.05**	**356**	P	**Pn**	02 54 30.3	+1.4
DID	**Didima**	**2.05**	**356**	P	**Pn**	02 54 30.0	+1.1
VLX	**Vlachokerasia**	**2.08**	**337**	P	**Pn**	02 54 31.2	+1.9
ITM	**Ithomi**	**2.09**	**326**	P	**Pn**	02 54 31.4	+2.0
ANAF	**Anafi Island**	**2.13**	**64**	P	**Pn**	02 54 31.4	+1.5
ANAF	**Anafi Island**	**2.13**	**64**	P	**Pn**	02 54 31.6	+1.7
ZKR	**Zakros**	**2.33**	**98**	P	**Pn**	02 54 35.8	+3.1
APE	**Apeiranthos**	**2.36**	**46**	*e*P	**Pn**	02 54 33.2	+0.1
APE	**Apeiranthos**	**2.36**	**46**	P	**Pn**	02 54 34.7	+1.5
VLY	**Voula,Athens**	**2.41**	**8**	P	**Pn**	02 54 35.5	+1.7
VLY	**Voula,Athens**	**2.41**	**8**	P	**Pn**	02 54 35.6	+1.7
VLY				S	**Sn**	02 55 05.1	+2.9
AMGA	**Amorgos Island**	**2.44**	**55**	P	**Pn**	02 54 35.5	+1.3
GUR	**Goura**	**2.62**	**341**	P	**Pn**	02 54 39.1	+2.4
GUR	**Goura**	**2.62**	**341**	P	**Pn**	02 54 38.4	+1.7
GUR				S	**Sn**	02 55 09.5	+2.2
PTL	**Penteli**	**2.62**	**8**	P	**Pn**	02 54 38.5	+1.8
DION	**Dionisos Attik**	**2.65**	**9**	P	**Pn**	02 54 38.2	+1.1
VIL2	**Platees**	**2.75**	**358**	P	**Pn**	02 54 39.3	+0.8
KLV	**Kalavryta, Ach**	**2.77**	**339**	P	**Pn**	02 54 40.8	+2.0
PROD	**Prodromos**	**2.83**	**352**	P	**Pn**	02 54 41.8	+2.3
DRO	**Drossia**	**2.83**	**332**	P	**Pn**	02 54 42.8	+3.2
DRO				S	**Sn**	02 55 15.0	+2.4
EREA	**Eretria**	**2.99**	**8**	P	**Pn**	02 54 42.8	+1.1
LAKA	**Lakka**	**3.00**	**338**	P	**Pn**	02 54 44.8	+2.9
TRIZ	**Trizonia**	**3.09**	**340**	P	**Pn**	02 54 45.5	+2.4
KALE	**Kalithea**	**3.10**	**341**	P	**Pn**	02 54 46.4	+3.1
EFP	**Efpalio**	**3.20**	**339**	P	**Pn**	02 54 47.8	+3.2
LKR	**Lokris**	**3.21**	**354**	P	**Pn**	02 54 46.3	+1.6
ATAL	**Atalanti**	**3.25**	**355**	P	**Pn**	02 54 47.4	+2.2
ANX	**Ano Chora**	**3.35**	**340**	P	**Pn**	02 54 49.8	+3.1
SMIA	**Simia**	**3.42**	**358**	P	**Pn**	02 54 49.8	+2.1
EVR	**Evrytania**	**3.68**	**340**	P	**Pn**	02 54 54.2	+2.9
MAKR	**Makrakomi, Fth**	**3.69**	**345**	P	**Pn**	02 54 53.3	+3.1
EVGI	**Lefkada island**	**3.84**	**326**	P	**Pn**	02 54 55.6	+2.2
ARG	**Arkhangelos**	**3.92**	**77**	*e*P	**Pn**	02 54 55.0	+0.6
AYDB	**Zeytinkoy-Aydi**	**4.38**	**54**	*e*P	**Pn**	02 55 02.1	+1.1
TURN	**Turunc**	**4.45**	**70**	*e*P	**Pn**	02 54 58.9	-2.7
DALY	**Dalyan (Mu¨la**	**4.47**	**71**	*e*P	**Pn**	02 55 03.2	+1.2
FETY	**Fethiye**	**4.76**	**74**	*e*P	**Pn**	02 55 07.7	+1.7
AKAS	**Kas**	**5.10**	**79**	*e*P	**Pn**	02 55 12.9	+2.1
ELL	**Elmali**	**5.43**	**74**	*e*P	**Pn**	02 55 17.3	+2.0
KORT	**Korkueli**	**5.83**	**73**	*e*P	**Pn**	02 55 22.8	+2.0
BRTR	**Keskin Array B**	**9.18**	**59**	Pn	**Pn**	02 56 08.7	+2.1
	comp=N,0.1nm,0.3s,baz=237,slow=12,SNR=7.1						
MMAI	**Mount Meron Ar**	**10.23**	**100**	Pn	**Pn**	02 56 20.2	-0.9
	comp=N,0.6nm,0.3s,baz=299,slow=10,SNR=5.2						
MMAI				Sn	**Sn**	02 58 07.4	-7.0
	comp=N,0.7nm,0.3s,baz=257,slow=13,SNR=3.9						
EIL	**Elat**	**11.32**	**117**	Pn	**Pn**	02 56 32.9	-3.0
	comp=N,0.1nm,0.3s,baz=306,slow=18,SNR=4.5						
EIL				Sn	Sn	02 58 30.5	-11
	comp=N,0.3nm,0.3s,baz=18,slow=20,SNR=5.3						
HFS	**Hagfors**	**25.48**	**349**	P	**P**	02 59 16.2	-3.7
	comp=N,1.6nm,0.9s,baz=172,slow=12,SNR=6.0						
TORD	**Torodi Ar. Bea**	**29.61**	**227**	P	**P**	02 59 56.4	-0.9
	comp=N,0.3nm,0.5s,baz=37,slow=8.8,SNR=4.9						
ARCES	**ARCESS Array B**	**34.15**	**1**	P	**P**	03 00 35.0	-1.6
	comp=N,2.4nm,1.0s,baz=182,slow=9.0,SNR=4.6						
MKAR	**Makanchi Array**	**44.82**	**57**	P	**P**	03 02 05.3	-0.3
	comp=N,0.3nm,0.3s,baz=264,slow=7.6,SNR=7.3						
ZALV	**Zalesovo Beam**	**45.84**	**46**	P	**P**	03 02 12.7	-0.9
	comp=N,0.9nm,0.4s,baz=274,slow=10,SNR=3.3						

*MOS **25** 03:01:03.7±2.2, 49°.31N×156°.80E, h7km, mb4.3/1, Error ellipse: s-maj=46.2km s-min=6.1km az=80.8*

KRSC 25 03:01:03.7±1.8, 49°.31N×156°.80E, h7km±26km, ML4.3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.44**	**342**	*e*P	Pn	03 01 28.3	-1.9
SKR				*e*S	Sn	03 01 47.3	-2.1
SKR	**Severo-Kuril's**	**1.44**	**342**	*e*PN	Pn	03 01 29.5	-0.7
SKR				*e*S	Sn	03 01 47.6	-1.8
SKR				pmax	pmax		
	comp=Z,100nm,0.4s						
SKR				smax	smax		
	comp=N,958nm,0.5s						
SKR				smax	smax		
	comp=E,609nm,0.2s						
PAU	**Pauzhetka**	**2.16**	**0**	*e*P	Pn	03 01 40.6	+0.5
PAU				*e*S	Sn	03 02 08.4	+1.3
PAU	**Pauzhetka**	**2.16**	**0**	PN	Pn	03 01 40.6	+0.5
PAU				S	Sn	03 02 08.4	+1.3
KDTR	**Khodutka, Kamc**	**2.63**	**18**	*e*P	Pb	03 01 49.6	-1.5
KDTR				*e*S	Sb	03 02 22.1	-1.5
RUS	**Russkaya**	**3.31**	**18**	*e*P	Pn	03 01 58.0	+2.1
RUS				*e*S	Sn	03 02 38.9	+3.5
RUS	**Russkaya**	**3.31**	**18**	PN	Pn	03 01 58.0	+2.1
RUS				S	Sn	03 02 38.9	+3.5
KRMR	**Karymshinskiy**	**3.62**	**13**	*e*P	Pb	03 02 04.6	-3.4
KRMR				*e*S	Sb	03 02 48.4	-3.8
KRMR	**Karymshinskiy**	**3.62**	**13**	PN	Pb	03 02 04.6	-3.4
KRMR				S	Sb	03 02 48.4	-3.8
PET	**Petropavlovsk**	**3.90**	**17**	*e*P	Pn	03 02 07.8	+3.8
PET				*e*S	Sb	03 02 55.2	-4.8
PET	**Petropavlovsk**	**3.90**	**17**	*e*PN	Pn	03 02 08.0	+4.0
PET				*e*S	Sb	03 02 56.3	-3.7
PET				smax	smax		
	comp=E,81nm,0.6s						
PET				smax	smax		
	comp=N,78nm,0.5s						
UGLR	**Uglovaya**	**4.11**	**17**	*e*P	Pn	03 02 11.5	+4.6
UGLR	**Uglovaya**	**4.11**	**17**	PN	Pn	03 02 11.5	+4.6
AVH	**Avacha**	**4.14**	**16**	*e*P	Pb	03 02 12.2	-4.8
AVH	**Avacha**	**4.14**	**16**	PN	Pb	03 02 12.2	-4.8
KOK	**Koryaka**	**4.15**	**15**	*e*P	Pn	03 02 12.3	+4.8
KOK	**Koryaka**	**4.15**	**15**	PN	Pn	03 02 12.3	+4.8
SMAR	**Somma**	**4.15**	**17**	*e*P	Pn	03 02 11.8	+4.1
SMAR	**Somma**	**4.15**	**17**	PN	Pn	03 02 11.8	+4.1
NLC	**Nalytchevo**	**4.18**	**21**	*e*P	Pn	03 02 11.8	+3.9
NLC				*e*S	Sn	03 03 02.1	+5.1
NLC	**Nalytchevo**

BODT	**Bodrum**	**0.69**	**311**	PG	**Pg**	**03 37 21.9**	**+0.4**
BODT	**Bodrum**	**0.69**	**311**	P	**Pg**	**03 37 22.3**	**+0.8**
BODT				S	**Sg**	**03 37 32.8**	**+2.3**
MLSB	**Milas**	**0.70**	**347**	PG	**Pg**	**03 37 22.3**	**+0.6**
FETY	**Fethiye**	**0.90**	**88**	PG	**Pb**	**03 37 26.6**	**-0.1**
FETY	**Fethiye**	**0.90**	**88**	P	**Pb**	**03 37 26.9**	**+0.2**
FETY				S	**Sn**	**03 37 41.4**	**-0.3**
AYDN	**Tasoluk**	**1.05**	**356**	*i* P	**Pb**	**03 37 28.9**	**-0.4**
AYDN				*i* S	**Sn**	**03 37 46.4**	**+0.8**
TAVA	**DENIZLI_Tavas**	**1.14**	**41**	*i* P	**Pb**	**03 37 31.4**	**+0.5**
TAVA				*i* S	**Sn**	**03 37 50.9**	**+3.1**
AYDB	**Zeytinkoy-Aydi**	**1.33**	**357**	PN	**Pn**	**03 37 33.7**	**-0.5**
AKAS	**Kas**	**1.37**	**105**	PN	**Pg**	**03 37 35.6**	**+1.0**
KSL	**Kastellorizon**	**1.38**	**109**	P	**Pg**	**03 37 35.9**	**+1.1**
KSL				S	**Sg**	**03 37 54.0**	**+1.3**
SMG	**Samos**	**1.42**	**321**	P	**Pn**	**03 37 34.3**	**-0.9**
SMG				S	**Sn**	**03 37 54.1**	**-0.5**
SMG	**Samos**	**1.42**	**321**	P	**Pn**	**03 37 34.2**	**-1.0**
ELL	**Elmali**	**1.57**	**84**	PN	**Pb**	**03 37 37.9**	**-0.2**
LAST	**Lasithi**	**2.48**	**235**	P	**Pn**	**03 37 50.0**	**+0.1**

ISK ***25*** *03:39:18.6,39.°10N×29.°08E,h6km,ML2.2/11*
DDA ***25*** *03:39:18.8,39.°13N×29.°06E,h7km,Ml2.5*
ISCJB ***25*** *03:39:19.1±0.4,39.°09N±0.°03×29.°08E±0.°03,h5km±4km,*
Error ellipse: s-maj=4.8km s-min=3.6km az=0.7
ISC 25 03:39:19.0±0.9,39.°11N±0.°03×29.°06E±0.°03,h10km±6km,
n22,σ36/31,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SMAA	**Simav-Kutahya**	**0.06**	**263**	PG		**Pg**	**03 39 21.0**	**-0.2**
SMAA				SG		**Sg**	**03 39 23.1**	**+0.3**
DEMI	**Demirci**	**0.28**	**256**	*i* P		**Pg**	**03 39 24.6**	**-0.1**
DEMI				*i* S		**Sg**	**03 39 28.4**	**0.0**
GEDZ	**Gediz**	**0.28**	**103**	PG		**Pg**	**03 39 24.2**	**-0.5**
GEDZ				SG		**Sg**	**03 39 28.7**	**+0.3**
GDZ	**Gediz**	**0.33**	**93**	*i* P		**Pg**	**03 39 25.6**	**+0.1**
GDZ				*i* S		**Sg**	**03 39 30.4**	**+0.5**
TVSB	**Tavsanli**	**0.46**	**42**	PG		**Pg**	**03 39 27.7**	**-0.4**
DURS	**Dursunbey**	**0.67**	**317**	*i* P		**Pg**	**03 39 31.7**	**-0.3**
DURS				*i* S		**Sn**	**03 39 44.6**	**-0.8**
KULA	**Kula-Manisa**	**0.67**	**208**	PG		**Pg**	**03 39 31.7**	**-0.3**
MANT	**Manisa**	**0.73**	**213**	*i* P		**Pg**	**03 39 33.0**	**-0.2**
MANT				*i* S		**Sg**	**03 39 42.5**	**-0.2**
KHAL	**Karahalli**	**0.81**	**155**	*i* P		**Pn**	**03 39 36.5**	**-0.1**
KHAL				*i* S		**Sg**	**03 39 45.4**	**+0.2**
ORLT	**Orhaneli**	**0.94**	**352**	PG		**Pb**	**03 39 37.3**	**-0.3**
AKHS	**Akhisar**	**1.00**	**257**	*i* P		**Pn**	**03 39 39.0**	**-0.1**
AKHS				*i* S		**Sb**	**03 39 52.2**	**+0.5**
BALB	**Balikesir**	**1.06**	**300**	PN		**Pn**	**03 39 39.9**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.08**	**285**	*i* P		**Pn**	**03 39 40.2**	**0.0**
STEP				*i* S		**Sn**	**03 39 56.1**	**+0.8**
CAVI	**Cavuskoy**	**1.25**	**29**	PN		**Pn**	**03 39 43.2**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.27**	**354**	PN		**Pg**	**03 39 43.0**	**-0.3**
KCTX	**Karacabey (Bur**	**1.28**	**335**	PN		**Pg**	**03 39 43.6**	**0.0**
GONE	**Gonen-Balikesi**	**1.42**	**312**	PN		**Pb**	**03 39 45.7**	**+0.1**
ARMT	**Armutlu**	**1.46**	**354**	PN		**Pb**	**03 39 46.4**	**0.0**
YLV	**Yalova**	**1.48**	**9**	PN		**Pb**	**03 39 46.3**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.48**	**219**	PN		**Pn**	**03 39 46.1**	**+0.2**
EDC	**Edincik**	**1.54**	**324**	PN		**Pb**	**03 39 47.5**	**-0.2**
GULT	**Gulveren**	**1.73**	**40**	PN		**Pb**	**03 39 50.6**	**-0.4**

UPP ***25*** *03:55:10.6±2.6,67.°63N×33.°75E,h0km,ML1.9*
HEL ***25*** *03:55:11.0±0.5,67.°70N×33.°75E,h0km,ML2.1,Explosion*
KOLA ***25*** *03:55:11.0,67.°67N×33.°78E,h0km*
IDC ***25*** *03:55:13.4±2.4,67.°67N×33.°40E,h0km,mb1 3.4/4,*
mb1mx3.1/45,mbtmp3.4/4,ML2.5/4,Error ellipse:
s-maj=25.3km s-min=9.2km az=77.0
NAO ***25*** *03:55:16.3±2.2,67.°57N×32.°54E,ML2.9*
ISC 25 03:55:07.6±1.9,67.°61N±0.°04×34.°00E±0.°09,h0km,n43,
σ1§80/78,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
APA	**Apatity**	**0.23**	**261**	P		**Pg**	**03 55 14.1**	**+2.1**
APA				S		**Sg**	**03 55 16.4**	**+1.4**
APA0	**Apatity Array**	**0.39**	**270**	P		**Pb**	**03 55 16.5**	**-0.8**
APA0				S		**Sg**	**03 55 20.5**	**+0.6**
VRF	**Varrio**	**1.68**	**277**	*e*P		**Pg**	**03 55 39.5**	**-0.3**
VRF				*e*S		**Sn**	**03 55 59.9**	**-0.6**
KU6	**Riekki**	**2.27**	**228**	*e*P		**Pb**	**03 55 50.0**	**+0.6**
KU6				*e*SB		**Sg**	**03 56 19.9**	**-0.6**
KU6				MSG			03 56 23.5	
	comp=Z,9.4nm,0.1s							
MSF	**Maaselka**	**2.60**	**231**	*e*P		**Pb**	**03 55 55.0**	**0.0**
MSF				*e*SB		**Sb**	**03 56 29.0**	**+1.5**
SGF	**Sodankyl**	**2.88**	**270**	*e*P		**Pn**	**03 55 56.9**	**+2.3**
SGF				*e*S		**Sn**	**03 56 31.1**	**+1.2**
RNF	**Rovaniemi**	**3.28**	**256**	*e*P		**Pn**	**03 56 02.4**	**+2.2**
RNF				*e*S		**Sn**	**03 56 41.0**	**+1.3**
KEV	**Kevo**	**3.34**	**313**	Pn		**Pn**	**03 56 03.3**	**+2.3**
KEV				Sn		**Sn**	**03 56 41.6**	**+0.2**
KEV				Lg		Lg	03 56 49.2	
KEV	**Kevo**	**3.34**	**313**	*e*P		**Pn**	**03 56 03.4**	**+2.3**
KEV				*e*S		**Sn**	**03 56 41.4**	**0.0**
KEV	**Kevo**	**3.34**	**313**	Pn		**Pn**	**03 56 03.3**	**+2.3**
KEV				Sn		**Sn**	**03 56 41.6**	**+0.2**
KEV				Lg		Lg	03 56 49.2	
ARA0	**ARCESS Array S**	**3.67**	**306**	Pn		**Pn**	**03 56 07.2**	**+1.7**
	baz=122,slow=16							
ARA0				Pg		**Pg**	**03 56 15.6**	**-2.2**
	baz=118,slow=16							
ARA0				Sn		**Sn**	**03 56 48.5**	**-0.9**
	baz=126,slow=28							
ARA0				Lg		Lg	03 56 57.6	
	baz=125,slow=28							
ARA0	**ARCESS Array S**	**3.67**	**306**	Pn		**Pn**	**03 56 07.2**	**+1.7**
	baz=122,slow=16							
ARA0				Pg		**Pg**	**03 56 15.6**	**-2.2**
	baz=118,slow=16							
ARA0				Sn		**Sn**	**03 56 48.5**	**-0.9**
	baz=126,slow=28							
ARA0				Lg		Lg	03 56 57.6	
	baz=125,slow=28							
ARCES	**ARCESS Array B**	**3.67**	**306**	Pn		**Pn**	**03 56 07.3**	**+1.8**
	comp=Z,3.3nm,0.3s,baz=122,slow=14,SNR=342							
ARCES				Pg		**Pb**	**03 56 15.1**	**+1.9**
	comp=Z,3.9nm,0.3s,baz=117,slow=15,SNR=21							
ARCES				Sn		**Sn**	**03 56 48.1**	**-1.3**
	comp=Z,4.8nm,0.3s,baz=121,slow=26,SNR=15							
ARCES				Lg		Lg	03 56 60.0	
	comp=Z,8.9nm,0.3s,baz=116,slow=34,SNR=10							
ARE0	**ARCESS Array S**	**3.67**	**306**	*e*P		**Pn**	**03 56 07.2**	**+1.7**
ARE0				*e*S		**Sn**	**03 56 47.7**	**-1.7**
ARE0	**ARCESS Array S**	**3.67**	**306**	*e*P		**Pn**	**03 56 07.4**	**+1.9**
ARE0				*e*S		**Sn**	**03 56 49.1**	**-0.3**
HEF	**Hetta**	**3.97**	**286**	*e*P		**Pn**	**03 56 11.1**	**+1.5**
HEF				*e*S		**Sn**	**03 56 55.3**	**-1.5**
HEF	**Hetta**	**3.97**	**286**	*e*P		**Pn**	**03 56 11.4**	**+1.7**
OUL	**Oulu**	**4.13**	**236**	*e*PB		**Pb**	**03 56 20.3**	**-0.7**
OUL				*e*SB		**Sb**	**03 57 10.6**	**-0.8**
KTK1	**Kautokeino**	**4.24**	**294**	*e*P		**Pn**	**03 56 15.5**	**+2.2**
KTK1				*e*S		**Sn**	**03 57 02.1**	**-1.3**
KTK1				*e*Sg		**Sb**	**03 57 15.5**	**+1.1**
KTK1				IAML			03 57 24.8	
	comp=Z,18nm,0.5s							
PAJU	**Pajala**	**4.26**	**267**	P		**Pn**	**03 56 14.8**	**+1.2**
PAJU				S		**Sn**	**03 57 03.5**	**-0.4**
KALU	**Kalix**	**4.57**	**252**	P		**Pn**	**03 56 19.3**	**+1.5**
KALU				S		**Sn**	**03 57 10.6**	**-0.9**
KALU	**Kalix**	**4.57**	**252**	*e*P		**Pn**	**03 56 19.9**	**+2.0**
KALU				*e*S		**Sn**	**03 57 10.3**	**-1.3**
MASU	**Masugnsbyn**	**4.61**	**274**	P		**Pn**	**03 56 19.3**	**+0.9**
ERTU	**Ertsjaerv**	**4.74**	**263**	P		**Pn**	**03 56 21.5**	**+1.4**
ERTU				S		**Sn**	**03 57 15.4**	**-0.3**
ERTU	**Ertsjaerv**	**4.74**	**263**	*e*P		**Pn**	**03 56 21.5**	**+1.4**
HAMF	**Hammerfest**	**4.78**	**314**	*e*P		**Pn**	**03 56 22.4**	**+1.6**
HAMF				*e*S		**Sn**	**03 57 15.3**	**-1.5**
KIF	**Kilpisjarvi**	**5.09**	**292**	Pn		**Pn**	**03 56 26.1**	**+1.1**
KIF				Sn		**Sn**	**03 57 22.5**	**-1.9**
KIF				Lg		Lg	03 57 39.9	
KIF	**Kilpisjarvi**	**5.09**	**292**	*e*P		**Pn**	**03 56 26.2**	**+1.2**
KIF				Sn		**Sn**	**03 57 22.5**	**-1.9**
KIF				Lg		Lg	03 57 39.9	
KUA	**Kurravaara**	**5.20**	**280**	P		**Pn**	**03 56 27.5**	**+1.0**
KUA				S		**Sn**	**03 57 25.1**	**-1.9**
HARU	**Harads**	**5.33**	**260**	P		**Pn**	**03 56 28.6**	**+0.3**
HARU				S		**Sn**	**03 57 29.8**	**-0.5**
TRO	**Tromso**	**5.87**	**297**	*e*P		**Pn**	**03 56 38.3**	**+2.6**

FIA0	**FINESS Array S**	**7.06**	**213**	Pn		**Pn**	**03 56 54.8**	**+2.8**
	baz=23,slow=14							
FIA0				Sn		**Sn**	**03 58 11.7**	**-1.2**
	baz=29,slow=18							
FIA0				Lg		Lg	03 58 46.8	
	baz=18,slow=28							
FIA0	**FINESS Array S**	**7.06**	**213**	Pn		**Pn**	**03 56 54.8**	**+2.8**
	baz=23,slow=14							
FIA0				Sn		**Sn**	**03 58 11.7**	**-1.2**
	baz=29,slow=18							
FIA0				Lg		Lg	03 58 46.8	
	baz=18,slow=28							
FINES	**FINESS Array B**	**7.06**	**213**	Pn		**Pn**	**03 56 54.5**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=26,slow=13,SNR=6.1							
FINES				Sn		**Sn**	**03 58 10.8**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=27,slow=16,SNR=7.8							
FINES				Lg		Lg	03 58 46.7	
	comp=Z,1.2nm,0.3s,baz=29,slow=26,SNR=4.5							
STEI	**Steigen**	**7.12**	**281**	*e*P		**Pn**	**03 56 53.5**	**+0.7**
RAF	**Rauma**	**8.46**	**225**	*e*P		**Sn**	**03 58 45.5**	**-1.8**
RAF				*e*S		Sg	03 59 29.2	-10
RAF				AML		AML	03 59 36.6	
	comp=E,8.6nm,0.6s							
RAF				AML		AML	03 59 41.3	
	comp=Z,5.9nm,0.5s							
RAF				AML		AML	03 59 45.1	
	comp=N,6.6nm,0.5s							
VSU	**Vasula**	**9.74**	**203**	*e*S		Sn	04 00 12.0	+53
VSU				AML		AML	04 00 18.6	
	comp=E,57nm,0.5s							
VSU				AML		AML	04 00 27.1	
	comp=N,50nm,0.5s							
VSU				AML		AML	04 00 32.4	
	comp=Z,25nm,0.8s							
HFS	**Hagfors**	**11.62**	**240**	Pn		**Pn**	**03 57 53.9**	**-0.5**
	comp=Z,0.0nm,0.3s,baz=38,slow=9.5,SNR=3.1							
HFS				Sn		**Sn**	**03 59 57.7**	**-6.9**
	comp=Z,0.1nm,0.3s,baz=22,slow=12,SNR=2.0							
HFS				Lg		Lg	04 01 05.6	
	comp=Z,0.2nm,0.3s,baz=26,slow=17,SNR=2.4							
NB2	**NORSAR Subarra**	**11.81**	**247**	Pn		**Pn**	**03 57 57.4**	**+0.3**
NB2	**NORSAR Subarra**	**11.81**	**247**	Pn		**Pn**	**03 57 57.4**	**+0.3**
NOA	**NORSAR Array B**	**11.81**	**247**	Pn		**Pn**	**03 57 57.4**	**+0.3**
	comp=Z,0.0nm,0.3s,baz=50,slow=11,SNR=5.0							
NOA				Sn		**Sn**	**04 00 03.9**	**-5.5**
	comp=Z,0.0nm,0.3s,baz=167,slow=4.2,SNR=3.3							
NRA0	**NORESS Array S**	**11.91**	**245**	Pn		**Pn**	**03 57 58.3**	**-0.1**
	baz=62,slow=12							
NRA0	**NORESS Array S**	**11.91**	**245**	Pn		**Pn**	**03 57 58.3**	**-0.1**
	baz=62,slow=12							

ISK ***25*** *03:58:29.4,37.°33N×37.°13E,h9km,ML1.9/6*
ISCJB ***25*** *03:58:30.3±0.7,37.°31N±0.°04×37.°12E±0.°05,h2km±9km,*
Error ellipse: s-maj=8.1km s-min=4.2km az=41.2
DDA ***25*** *03:58:30.8,37.°30N×37.°16E,h7km,Ml2.8*
ISC 25 03:58:30.3±0.9,37.°29N±0.°04×37.°12E±0.°03,h11km±7km,
n14,σ0§67/22,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GAZ	**Gaziantep**	**0.14**	**148**	PG		**Pg**	**03 58 33.6**	**0.0**
GAZ				SG		**Sg**	**03 58 36.3**	**+0.3**
KMRS	**Kahramanmaras**	**0.28**	**321**	PG		**Pg**	**03 58 35.1**	**-0.9**
KUZU	**Kuzuini**	**0.52**	**184**	*i* P		**Pb**	**03 58 41.3**	**-0.1**
KUZU				*i* S		**Sb**	**03 58 49.0**	**+0.1**
ANDN	**Andirin**	**0.68**	**295**	*i* P		**Pg**	**03 58 42.7**	**-0.8**
ANDN				*i* S		**Sb**	**03 58 55.4**	**+1.6**
KOZT	**Kozan**	**1.05**	**281**	PG		**Pg**	**03 58 49.9**	**-0.5**
SAIM	**ADANA**	**1.07**	**310**	*i* P		**Pb**	**03 58 51.3**	**+0.4**
SAIM				*i* S		**Sn**	**03 59 06.3**	**+0.1**
TAHT	**Tahtakopru-Hat**	**1.18**	**220**	PN		**Pb**	**03 58 52.7**	**0.0**
AKCD	**Akcadag**	**1.19**	**32**	*i* P		**Pn**	**03 58 53.0**	**0.0**
AKCD				*i* S		**Sn**	**03 59 08.8**	**-0.5**
SURC	**SANLIURFA_SURC**	**1.26**	**108**	*i* P		**Pg**	**03 58 54.1**	**-0.4**
SURC				*i* S		**Sn**	**03 59 11.3**	**+0.4**
DARE	**Darende-Malaty**	**1.31**	**13**	PN		**Pn**	**03 58 53.7**	**-1.0**
URFA	**Urfa**	**1.37**	**83**	PN		**Pn**	**03 58 54.9**	**-0.5**
SANL	**SANLIURFA_Merk**	**1.50**	**94**	*i* P		**Pg**	**03 58 59.0**	**-0.1**
SANL				*i* S		**Sg**	**03 59 18.4**	**-0.1**
HEKM	**Malatya_Hekimh**	**1.72**	**22**	*i* P		**Pg**	**03 59 02.7**	**-0.6**
HEKM				*i* S		**Sg**	**03 59 26.8**	**+1.2**
BNN	**Bunyan**	**1.85**	**328**	PN		**Pn**	**03 59 02.2**	**0.0**

IDC ***25*** *03:59:44.0±1.6,19.°11N×155.°42W,h0km,mb3.7/6,*
mb1 4.0/6,mb1mx3.8/31,mbtmp3.7/6,Error ellipse:
s-maj=61.7km s-min=28.1km az=137.0
NEIC ***25*** *03:59:46.2±0.0,18.°96N×155.°20W,h24km,ML4.3(HVO),*
After HVO.
NEIC Felt [IV] at Honomu; [III] at Kurtistown, Mountain View,
Pahala and Waimea; [II] at Captain Cook, Hilo, Kailua
Kona, Kea'au, Na'alehu, Pahoa and Volcano. Felt
throughout the Island of Hawai'i.
ISCJB ***25*** *03:59:47.3±0.7,19.°19N±0.°06×155.°42W±0.°05,h31km±2km,*
mb4.0/9,MS4.2/1,Error ellipse: s-maj=11.5km
s-min=5.4km az=27.3
ISC 25 03:59:48.6±0.9,19.°24N±0.°07×155.°37W±0.°05,h31km±5km,
n62,σ1§70/67,mb3.7/9,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HLP	**Hilina Pali**	**0.08**	**45**	*e*Pg		**Pb**	**03 59 53.0**	**-1.2**
AIN	**Ainahou**	**0.16**	**328**	*e*Pg		**Pb**	**03 59 54.8**	**0.0**
AIN				*e*Sg		**Sb**	**04 00 01.1**	**+2.1**
SDHHI	**Sand Hill**	**0.17**	**25**	*e*Pg		**Pb**	**03 59 53.9**	**-0.9**
WRMHI	**West Rim**	**0.18**	**21**	*e*Pg		**Pb**	**03 59 53.9**	**-1.0**
RIM	**Rim**	**0.18**	**30**	*e*Pg		**Pb**	**03 59 54.0**	**-1.0**
KKO	**Kenakako'i**	**0.19**	**31**	*e*Pg		**Pb**	**03 59 53.9**	**-1.2**
NPH	**North Pit**	**0.19**	**26**	*e*Pg		**Pb**	**03 59 53.8**	**-1.3**
OBL	**Observatory Le**	**0.20**	**24**	*e*Pg		**Pb**	**03 59 53.9**	**-1.2**
UWE	**Uwekahuna**	**0.20**	**22**	*e*Pg		**Pb**	**03 59 54.3**	**-0.8**
PUH	**Pauahi**	**0.20**	**47**	*e*Pg		**Pb**	**03 59 53.5**	**-1.7**
BYL	**Byron's Ledge**	**0.20**	**31**	*e*Pg		**Pb**	**03 59 53.9**	**-1.3**
UWB	**Uwekahuna B**	**0.21**	**25**	*e*Pg		**Pb**	**03 59 54.0**	**-1.2**
HATHI	**Halema'uma'u T**	**0.21**	**29**	*e*Pg		**Pb**	**03 59 54.3**	**-1.0**
SBLHI	**Steaming Bluff**	**0.21**	**27**	*e*Pg		**Pb**	**03 59 54.0**	**-1.3**
SBLHI				*e*Sg		**Sb**	**04 00 00.2**	**+0.4**
MLH	**Mauna Loa**	**0.26**	**357**	*e*Pg		**Pb**	**03 59 55.9**	**0.0**
STCH	**Steam Cracks**	**0.28**	**57**	*e*Pg		**Pb**	**03 59 53.6**	**-2.4**
NPOC	**North of Pu'u**	**0.29**	**58**	*e*Pg		**Pb**	**03 59 53.8**	**-2.4**
JCUZ	**Jacuzzi**	**0.29**	**60**	*e*Pg		**Pb**	**03 59 53.6**	**-2.6**
MWH	**Moku'aweowe**	**0.33**	**319**	*e*Pg		**Pn**	**03 59 56.7**	**-1.0**
MLOA	**Mauna Loa Obse**	**0.36**	**327**	*e*Pg		**Pb**	**03 59 57.1**	**-0.2**
HMH	**Humu'ula Sheep**	**0.38**	**344**	*e*Pg		**Pb**	**03 59 57.9**	**+0.3**
POHA	**Pohakuloa**	**0.54**	**344**	*e*Pg		**Pb**	**03 59 59.4**	**-0.5**
POHA				*e*Sg		**Sb**	**04 00 09.3**	**+1.5**
KHLU	**Kahalu'u**	**0.61**	**306**	*e*Pg		**Pn**	**04 00 00.2**	**-1.0**
HUH	**Hualalai**	**0.63**	**315**	*e*Pg		**Pn**	**04 00 01.4**	**-0.2**
KKH	**Kailua Kona**	**0.74**	**304**	*e*Pg		**Pb**	**04 00 01.8**	**-1.3**
LPH	**Laupahoehoe**	**0.76**	**358**	*e*Pg		**Pb**	**04 00 01.6**	**-1.7**
HPAH	**Hawaii Prepara**	**0.85**	**339**	*e*Pn		**Pb**	**04 00 03.9**	**-1.0**
MHA	**Mahukona**	**1.07**	**332**	*e*Pn		**Pn**	**04 00 07.0**	**-0.4**
MHA				*e*Sn		**Sb**	**04 00 21.8**	**-0.5**
HLK	**Haleakala**	**1.72**	**332**	*e*Pn		**Pn**	**04 00 16.1**	**-0.6**
HLK				*e*Sn		**Sn**	**04 00 36.1**	**-1.7**
KHLH	**Kahului Airpor**	**1.93**	**329**	*e*Pn		**Pn**	**04 00 19.5**	**+0.3**
KHLH				*e*Sn		**Sn**	**04 00 40.2**	**-2.2**
HON	**Honolulu**	**3.23**	**311**	*e*Pn		**Pn**	**04 00 36.2**	**-0.9**
HON				*e*Sn		**Sn**	**04 01 11.0**	**-3.5**
KIP	**Kipapa**	**3.30**	**312**	*e*Pn		**Pn**	**04 00 37.0**	**-1.2**
KIP				*e*Sn		**Sn**	**04 01 12.2**	**-4.1**
OPA	**Opana**	**3.47**	**315**	*e*Pn		**Pn**	**04 00 38.6**	**-2.0**
OPA				*e*Sn		**Sn**	**04 01 18.3**	**-2.3**
KEKH	**Kekaha**	**4.90**	**305**	*e*Pn		**Pn**	**04 00 58.4**	**-1.7**
KEKH				*e*Sn		**Sn**	**04 01 50.9**	**-4.9**
H11N3	**WAKE ISLAND Hy**	**35.52**	**277**	T		T	04 43 47.7	
	baz=84,slow=74,SNR=219							
H11N2	**WAKE ISLAND Hy**	**35.53**	**277**	T		T	04 43 48.5	
	baz=84,slow=74,SNR=166							
H11N1	**WAKE ISLAND Hy**	**35.54**	**277**	T		T	04 43 49.1	
	baz=84,slow=74,SNR=102							
H11S2	**WAKE ISLAND Hy**	**35.85**	**275**	T		T	04 44 12.3	
	baz=83,slow=75,SNR=58							
H11S1	**WAKE ISLAND Hy**	**35.85**	**275**	T		T	04 44 12.8	
	baz=83,slow=75,SNR=57							
H11S3	**WAKE ISLAND Hy**	**35.87**	**275**	T		T	04 44 21.8	
	baz=83,slow=75,SNR=56							
NVAR	**Mina Array Bea**	**37.36**	**51**	P		**P**	**04 06 59.8**	**+1.1**
	0.6nm,0.6s,baz=246,slow=11,SNR=5.8							
TPNV	**Topopah Spring**	**38.44**	**54**	*e*P		**P**	**04 07 09.2**	**+1.4**
R11A	**Troy Canyon, C**	**39.35**	**53**	*e*P		**P**	**04 07 16.9**	**+1.5**

F10A	**Beach Ranch, E**	**41.15**	**41**	*e*P		**P**	**04 07 31.8**	**+1.6**
HVU	**Hansel Valley**	**42.47**	**49**	*e*P		**P**	**04 07 42.9**	**+1.8**
SPUT	**South Promonto**	**42.55**	**49**	*e*P		**P**	**04 07 43.6**	**+1.8**
P17A	**Butcher Ranch,**	**43.30**	**52**	*e*P		**P**	**04 07 49.5**	**+1.7**
SRU	**San Rafael Swe**	**43.37**	**53**	*e*P		**P**	**04 07 50.3**	**+1.8**
PV17	**East Wray Mesa**	**44.38**	**55**	*e*P		**P**	**04 07 56.7**	**+0.2**
PD31	**Pinedale Array**	**45.05**	**48**	*e*P		**P**	**04 08 02.5**	**+0.7**
PDAR	**Pinedale Array**	**45.05**	**48**	P		**P**	**04 08 02.4**	**+0.5**
	1.1nm,0.8s,baz=241,slow=6.1,SNR=8.2							
PDAR	**Pinedale Array**	**45.05**	**48**	*e*P		**P**	**04 08 02.0**	**+0.2**
ILAR	**Eielson Array**	**45.86**	**5**	P		**P**	**04 08 08.6**	**+0.9**
	0.9nm,0.8s,baz=194,slow=7.9,SNR=9.6							
ILAR				PcP		**PcP**	**04 09 45.2**	**+0.8**
	0.5nm,0.8s,baz=214,slow=4.1,SNR=4.3							
N23A	**Red Feather La**	**47.20**	**52**	*e*P		**P**	**04 08 20.1**	**+1.2**
TXAR	**Lajitas Array**	**47.86**	**68**	P		P	04 08 29.6	+5.6
	0.4nm,0.8s,baz=281,slow=9.1,SNR=5.4							
INK	**Inuvik**	**50.95**	**10**	P		**P**	**04 08 47.9**	**+1.1**
	0.9nm,0.6s,baz=182,slow=7.4,SNR=6.8							
YKA	**Yellowknife Ar**	**51.51**	**23**	P		**P**	**04 08 51.9**	**+0.8**
	0.5nm,0.6s,baz=233,slow=7.7,SNR=2.3							
HHC	**Hu-ho-hao-te**	**79.92**	**310**	*e*P		**P**	**04 11 51.1**	**-3.7**
HHC				pmax		pmax		
	comp=Z,15nm,0.9s							
HHC				pmax		pmax		
	comp=Z,76nm,3.6s							
ASAR	**Alice Springs**	**81.07**	**241**	P		**P**	**04 12 00.9**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=62,slow=6.4,SNR=6.5							
LZH	**Lanzhou**	**87.20**	**307**	*e*P		**P**	**04 12 32.5**	**+0.1**
LZH				pP		pP	04 12 37.8	-4.6
LZH				sP		sP	04 12 40.3	-5.7
LZH				*e*PP		**PP**	**04 15 59.6**	**+3.5**
LZH				pmax		pmax		
	comp=Z,15nm,1.2s							
LZH				pmax		pmax		
	comp=Z,47nm,9.0s							
LZH				LR		LR		
	comp=N,52nm,16.6s							
LZH				LR		LR		
	comp=E,56nm,17.0s							
LZH				LR		LR		
	comp=Z,87nm,19.3s							
WMQ	**Urumqi**	**94.81**	**320**	*e*P		**P**	**04 13 09.4**	**+1.8**
KSH	**Kashi**	**104.42**	**321**	*e*Pdif		**Pdif**	**04 13 50.9**	**+0.1**

MEX 25 04:18:05.9±0.6,16.°03N×98.°46W,h5km,MD3.7,Near
coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PNIG	**Pinotepa**	**0.48**	**41**	*e*P		Pg	04 18 14.3	-0.9
PNIG				*e*S		Sg	04 18 22.1	+0.5
TLIG	**Tlapa**	**1.53**	**356**	*e*P		Pn	04 18 30.5	-3.6
TLIG				*e*S		Sn	04 18 50.4	-4.1

SOME ***25*** *04:18:39.

ellipse: s-maj=5.6km s-min=2.2km az=156.0

ISC 25 04:21:58.7±1.0, 36°25'N±0.03×29°65'E±0.03, h33km±3km, n42, σ1°827/61, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**0.04**	**248**	PG	**Pb**	**04 22 03.7**	**-0.7**
AKAS				SG	**Sb**	**04 22 07.8**	**-0.6**
AKAS	**Kas**	**0.04**	**248**	*i* P	**Pb**	**04 22 03.8**	**-0.7**
AKAS				*i* S	**Sb**	**04 22 08.8**	**+0.4**
KSL	**Kastellorizon**	**0.11**	**208**	P	**Pb**	**04 22 04.3**	**-0.4**
KSL				S	**Sb**	**04 22 09.3**	**+0.7**
KSL				AML	AML	04 22 09.9	
	comp=E,5444μm,0.6s						
KSL				AML	AML	04 22 10.6	
	comp=N,3564μm,0.3s						
KSL	**Kastellorizon**	**0.11**	**208**	P	**Pb**	**04 22 04.2**	**-0.4**
KSL				S	**Sb**	**04 22 09.5**	**+0.9**
ELL	**Elmali**	**0.54**	**23**	PG	**Pb**	**04 22 07.9**	**-2.2**
FETY	**Fethiye**	**0.60**	**311**	PG	**Pn**	**04 22 09.4**	**-1.5**
FETY	**Fethiye**	**0.60**	**311**	P	**Pn**	**04 22 10.2**	**-0.7**
FETY				S	**Sn**	**04 22 20.2**	**+0.7**
KEMT	**Kemer-ANTALYA**	**0.81**	**64**	PG	**Pn**	**04 22 13.0**	**-0.8**
KORT	**Korkueli**	**0.94**	**37**	PG	**Pn**	**04 22 15.4**	**-0.3**
KORT	**Korkueli**	**0.94**	**37**	*i* P	**Pn**	**04 22 15.5**	**-0.3**
KORT				*i* S	**Sb**	**04 22 29.9**	**+1.0**
DALY	**Dalyan (Mu˘la**	**0.98**	**306**	PG	**Pn**	**04 22 16.3**	**+0.1**
DALY	**Dalyan (Mu˘la**	**0.98**	**306**	*i* P	**Pn**	**04 22 16.2**	**+0.1**
DALY				*i* S	**Sb**	**04 22 30.5**	**+0.5**
GOLH	**Golhisar**	**0.99**	**356**	*i* P	**Pn**	**04 22 16.8**	**+0.3**
GOLH				*i* S	**Sb**	**04 22 33.2**	**+2.8**
ANTB	**Antalya**	**1.04**	**51**	PG	**Pn**	**04 22 17.4**	**+0.4**
ARG	**Arkhangelos**	**1.23**	**269**	P	**Pn**	**04 22 19.3**	**-0.4**
ARG	**Arkhangelos**	**1.23**	**269**	P	**Pn**	**04 22 19.2**	**-0.4**
ARG				S	**Sn**	**04 22 35.9**	**+0.8**
TAVA	**DENIZLI_Tavas**	**1.35**	**334**	*i* P	**Pb**	**04 22 22.8**	**-0.7**
TAVA				*i* S	**Sb**	**04 22 41.8**	**+1.2**
BRDR	**BURDUR-Merkez**	**1.48**	**13**	*i* P	**Pb**	**04 22 25.2**	**-0.6**
BRDR				*i* S	**Sb**	**04 22 45.4**	**+1.0**
DNZL	**Cakiroluk**	**1.52**	**342**	*i* P	**Pb**	**04 22 26.9**	**+0.5**
DNZL				*i* S	**Sb**	**04 22 48.5**	**+3.0**
DENT	**Denizli**	**1.58**	**342**	PN	**Pn**	**04 22 24.9**	**+0.4**
SUTC	**Sutluce-Ispart**	**1.64**	**41**	PN	**Pn**	**04 22 26.2**	**+0.9**
KEPZ	**Antalya-Kepez**	**1.71**	**67**	*i* P	**Pn**	**04 22 27.1**	**+1.0**
KEPZ				*i* S	**Sb**	**04 22 49.6**	**-1.0**
ISP	**Isparta**	**1.72**	**24**	PN	**Pn**	**04 22 27.1**	**+0.6**
ISP	**Isparta**	**1.72**	**24**	P	**Pn**	**04 22 27.8**	**+1.4**
ISP	**Isparta**	**1.72**	**24**	P	**Pn**	**04 22 27.8**	**+1.4**
DAT	**Datca**	**1.74**	**287**	PN	**Pb**	**04 22 28.7**	**-1.4**
DAT	**Datca**	**1.74**	**287**	*i* P	**Pb**	**04 22 29.4**	**-0.7**
DAT				*i* S	**Sb**	**04 22 55.5**	**+3.9**
MLSB	**Milas**	**1.83**	**305**	PN	**Pn**	**04 22 29.2**	**+1.3**
AYDN	**Tasoluk**	**2.00**	**315**	*i* P	**Pb**	**04 22 33.7**	**-0.9**
AYDN				*i* S	**Sb**	**04 22 59.1**	**0.8**
NIS1	**Nisyros Isl.**	**2.02**	**281**	PN	**Pn**	**04 22 32.7**	**+2.2**
BODT	**Bodrum**	**2.05**	**294**	PN	**Pn**	**04 22 31.4**	**+0.5**
BODT	**Bodrum**	**2.05**	**294**	P	**Pn**	**04 22 31.1**	**+0.2**
BODT				S	**Sn**	**04 22 53.9**	**-1.4**
KHAL	**Karahalli**	**2.12**	**357**	*i* S	**Sb**	**04 23 00.7**	**-2.0**
GAZI	**Gazipasa**	**2.16**	**90**	PN	**Pn**	**04 22 34.7**	**+2.3**
GAZI	**Gazipasa**	**2.16**	**90**	*i* P	**Pn**	**04 22 34.1**	**+1.8**
AYDB	**Zeytinkoy-Aydi**	**2.20**	**321**	PN	**Pn**	**04 22 33.7**	**+0.6**
KULA	**Kula-Manisa**	**2.40**	**341**	PN	**Pn**	**04 22 36.3**	**+0.6**
SMG	**Samos**	**2.68**	**304**	P	**Pn**	**04 22 39.6**	**0.0**
SMG				S	**Sn**	**04 23 09.4**	**-1.6**
GEDZ	**Gediz**	**2.80**	**356**	PN	**Pn**	**04 22 42.0**	**+0.7**
ZKR	**Zakros**	**3.01**	**249**	P	**Pn**	**04 22 45.0**	**+0.9**
ZKR				S	**Sn**	**04 23 17.4**	**-1.7**
NPS	**Neapolis**	**3.43**	**255**	P	**Pn**	**04 22 50.2**	**+0.4**
LAST	**Lasithi**	**3.56**	**254**	P	**Pn**	**04 22 51.6**	**-0.1**
LAST				S	**Sn**	**04 23 31.2**	**-1.6**

*MEX **25** 04:22:34.6±0.3, 14°.91N×93°.56W, h181km±6km, MD3.9*
*IDC **25** 04:22:53.0±1.3, 13°.71N×92°.43W, h0km, mb3.7/7, mb1 4.0/10, mb1mx3.8/36, mbtmp3.7/10, ML3.7/3, MS3.4/4, Ms1 3.4/4, ms1mx2.8/35, Error ellipse: s-maj=30.3km s-min=22.5km az=45.0*

ISC 25 04:22:55.1±1.1, 13°.86N±0°.10×92°.33W±0°.08, h10km, n18, σ1°87/14, mb3.8/7, MS3.6/3, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.05**	**3**	*i* P	Pn	04 23 02.4	-13
THIG				*i* S	**Sb**	**04 23 25.2**	**-3.9**
PCIG		**2.03**	**335**	*e*P	Pn	04 23 00.0	-29
PCIG				*i* S	Sn	04 23 19.9	-35
APG	**El Apazote**	**2.13**	**57**	Pn	**Pb**	**04 23 33.7**	**-0.3**
	18nm,0.3s,baz=96,slow=19,SNR=5.2						
APG				Sn	**Sb**	**04 24 02.9**	**+2.2**
	32nm,0.3s,baz=289,slow=22,SNR=10						
APG				LR	LR	04 24 40.1	
	comp=Z,189nm,19.5s,baz=165,slow=47						
CCIG	**Comitan**	**2.42**	**4**	*e*P	Pn	04 23 10.0	-25
CCIG				*e*S	Sn	04 23 37.5	-27
CMIG	**Matias Romero**	**4.05**	**323**	Pn	**Pn**	**04 23 57.6**	**+0.4**
	7.1nm,0.3s,baz=114,slow=11,SNR=11						
CMIG				Sn	**Sn**	**04 24 47.6**	**+2.8**
	8.3nm,0.3s,baz=109,slow=17,SNR=4.2						
H06E1	**SOCORRO T-PHASE**	**8.50**	**288**	T	T	04 46 07.4	
TXAR	**Lajitas Array**	**18.64**	**328**	P	**Pn**	**04 27 14.3**	**+0.9**
	0.0nm,0.3s,baz=165,slow=14,SNR=4.9						
SDV	**Santo Domingo**	**21.83**	**101**	LR	LR	04 38 18.2	
	comp=Z,219nm,19.2s,baz=56,slow=42						
ANMO	**Albuquerque**	**24.57**	**331**	P	**P**	**04 28 16.3**	**+0.8**
	0.6nm,0.5s,baz=157,slow=7.7,SNR=3.9						
PDAR	**Pinedale Array**	**32.42**	**336**	P	**P**	**04 29 26.9**	**+1.4**
	0.2nm,0.6s,baz=161,slow=9.3,SNR=2.2						
NVAR	**Mina Array Bea**	**33.59**	**322**	P	**P**	**04 29 37.2**	**+1.5**
	0.7nm,0.8s,baz=130,slow=8.8,SNR=4.8						
YKA	**Yellowknife Ar**	**51.09**	**347**	P	**P**	**04 31 56.1**	**-1.4**
	1.8nm,0.6s,baz=153,slow=7.4,SNR=11						
DLBC	**Dease Lake**	**52.66**	**336**	LR	LR	04 56 31.3	
	comp=Z,53nm,18.3s,baz=308,slow=38						
PLCA	**Paso Flores**	**57.95**	**161**	P	**P**	**04 32 46.5**	**-1.2**
	1.2nm,0.9s,baz=319,slow=11,SNR=2.9						
SFJD	**Kangerlussuaq**	**59.75**	**18**	LR	LR	04 59 42.6	
	comp=Z,42nm,18.6s,baz=194,slow=37						
INK	**Inuvik**	**60.49**	**344**	P	**P**	**04 33 04.5**	**-0.4**
	1.2nm,0.8s,baz=117,slow=5.9,SNR=4.9						
ILAR	**Eielson Array**	**62.85**	**337**	P	**P**	**04 33 19.9**	**-1.0**
	0.6nm,0.9s,baz=133,slow=4.4,SNR=6.4						
CMAR	**Chiang Mai Arr**	**146.02**	**341**	PKPbc	**PKPab**	**04 42 36.3**	**-0.3**
	0.9nm,0.4s,baz=352,slow=3.5,SNR=5.5						

IDC 25 04:24:21.9±6.1, 20°.56S×174°.75W, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.7/36, mbtmp3.9/5, ML4.0/1, Error ellipse: s-maj=219.8km s-min=29.4km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.20**	**24**	Pn	Pn	04 26 08.6	+0.1
	2.6nm,0.3s,baz=147,slow=2.5,SNR=4.4						
AFI				Sn	Sn	04 27 24.6	-6.5
	0.9nm,0.3s,baz=249,slow=20,SNR=1.2						
ASAR	**Alice Springs**	**47.47**	**256**	P	P	04 32 58.3	-0.7
	1.8nm,0.9s,baz=90,slow=8.3,SNR=13						
WRA	**Warramunga Arr**	**47.61**	**261**	P	P	04 32 59.7	-0.3
	0.8nm,0.7s,baz=100,slow=8.5,SNR=14						
FITZ	**Fitzroy Crossi**	**56.04**	**262**	P	P	04 34 04.2	+1.1
	0.6nm,0.6s,baz=126,slow=3.6,SNR=1.6						
ILAR	**Eielson Array**	**87.73**	**12**	P	P	04 37 12.0	-0.2
	0.6nm,1.1s,baz=204,slow=5.9,SNR=2.3						

MEX 25 04:40:44.8±0.4, 16°.12N×98°.57W, h3km±4km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.50**	**57**	*e*P	Pg	04 40 54.0	-0.5
PNIG				*e*S	Sg	04 41 01.5	+0.5
TLIG	**Tlapa**	**1.44**	**360**	*e*P	Pn	04 41 08.9	-3.0
TLIG				*i* S	Sg	04 41 26.6	-4.5

*ISCJB **25** 04:46:31.7±1.1, 4°.9S×151°.2E±0°.4, h10km, mb3.8/6, Error ellipse: s-maj=66.6km s-min=10.7km az=38.0*
*IDC **25** 04:46:31.0±1.4, 4°.89S×151°.25E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.8/38, mbtmp4.0/7, ML2.4/1, Error ellipse: s-maj=85.6km s-min=19.7km az=128.0*

ISC 25 04:46:32.9±1.2, 4°.8S±0°.3×151°.2E±0°.4, h10km, n9, σ1°03/10, mb3.8/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.06**	**221**	Pn	**Pn**	**04 48 04.0**	**+1.4**
	5.7nm,0.3s,baz=50,slow=8.1,SNR=12						
PMG				Sn	**Sn**	**04 49 11.4**	**-0.8**
	1.3nm,0.3s,baz=323,slow=20,SNR=1.2						
WRA	**Warramunga Arr**	**22.25**	**226**	P	**P**	**04 51 29.1**	**-1.1**
	0.7nm,0.4s,baz=50,slow=10,SNR=11						
ASAR	**Alice Springs**	**25.08**	**220**	P	**P**	**04 51 57.0**	**-0.8**
	1.2nm,0.6s,baz=58,slow=9.0,SNR=17						
FITZ	**Fitzroy Crossi**	**28.25**	**240**	P	**P**	**04 52 26.9**	**+0.4**
	1.2nm,0.3s,baz=62,slow=4.0,SNR=10.0						
ILAR	**Eielson Array**	**82.79**	**22**	P	**P**	**04 58 56.9**	**-0.1**
	0.2nm,0.7s,baz=243,slow=7.6,SNR=1.9						
NRIK	**Noril'sk**	**85.49**	**341**	P	**P**	**04 59 11.1**	**+0.5**
	3.7nm,0.5s,baz=117,slow=2.3,SNR=3.9						
NVAR	**Mina Array Bea**	**93.36**	**52**	P	**P**	**04 59 49.1**	**+0.2**
	0.3nm,0.7s,baz=252,slow=8.4,SNR=2.6						
GERES	**GERESS Array B**	**123.25**	**328**	PKP	**PKPdf**	**05 05 30.3**	**0.0**
	0.1nm,0.3s,baz=85,slow=1.5,SNR=3.9						
TORD	**Torodi Ar. Bea**	**148.80**	**287**	PKPbc	**PKPbc**	**05 06 20.2**	**-1.6**
	0.4nm,0.3s,baz=86,slow=2.4,SNR=15						

*ISCJB **25** 04:52:56.7±0.6, 37°.26N±0°.04×37°.11E±0°.04, h7km±6km, Error ellipse: s-maj=7.3km s-min=4.7km az=11.9*
*DDA **25** 04:52:56.4, 37°.31N×37°.12E, h7km, Ml3.2*
*ISK **25** 04:52:56.3, 37°.26N×37°.14E, h11km, ML2.4/4*

ISC 25 04:52:56.4±1.0, 37°.29N±0°.03×37°.12E±0°.03, h9km±8km, n14, σ0°61/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.14**	**149**	PG	**Pg**	**04 52 59.4**	**0.0**
GAZ				SG	**Sg**	**04 53 01.7**	**+0.2**
KUZU	**Kuzuini**	**0.52**	**184**	*i* P	**Pb**	**04 53 07.2**	**-0.4**
KUZU				*i* S	**Sn**	**04 53 19.6**	**+0.6**
ANDN	**Andirin**	**0.68**	**295**	*i* P	**Pg**	**04 53 09.0**	**-0.5**
ANDN				*i* S	**Sb**	**04 53 21.8**	**+1.6**
ATAB	**Bozova**	**0.95**	**79**	*i* P	**Pg**	**04 53 14.8**	**+0.1**
ATAB				*i* S	**Sn**	**04 53 28.7**	**-1.0**
ELBS	**KAHRAMANMARAS**	**1.03**	**0**	*i* P	**Pb**	**04 53 16.7**	**+0.2**
ELBS				*i* S	**Sn**	**04 53 31.3**	**-0.6**
KOZT	**Kozan**	**1.05**	**281**	PG	**Pn**	**04 53 17.3**	**0.0**
SAIM	**ADANA**	**1.07**	**310**	*i* P	**Pg**	**04 53 16.1**	**-1.0**
SAIM				*i* S	**Sb**	**04 53 32.3**	**+0.9**
TAHT	**Tahtakopru-Hat**	**1.18**	**220**	PN	**Pb**	**04 53 18.7**	**-0.3**
AKCD	**Akcadag**	**1.19**	**32**	*i* P	**Pb**	**04 53 18.9**	**-0.3**
AKCD				*i* S	**Sg**	**04 53 34.8**	**+0.1**
SURC	**SANLIURFA_SURC**	**1.26**	**108**	*i* P	**Pn**	**04 53 20.0**	**-0.2**
SURC				*i* S	**Sg**	**04 53 36.7**	**-0.2**
YURE	**YUREGIR**	**1.28**	**249**	PN	**Pg**	**04 53 20.8**	**-0.1**
DARE	**Darende-Malaty**	**1.31**	**12**	PN	**Pg**	**04 53 21.6**	**0.0**
URFA	**Urfa**	**1.36**	**83**	PN	**Pn**	**04 53 21.6**	**-0.1**
HEKM	**Malatya_Hekimh**	**1.72**	**22**	*i* P	**Pb**	**04 53 28.6**	**+0.4**
HEKM				*i* S	**Sg**	**04 53 51.7**	**0.0**

*IDC **25** 05:18:28.2±1.0, 32°.65S×71°.42W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.8/27, mbtmp3.9/5, ML4.4/1, MS3.1/6, Ms1 3.1/6, ms1mx2.9/28, Error ellipse: s-maj=52.1km s-min=21.5km az=83.0*
*GUC **25** 05:18:31.7±0.6, 32°.74S×71°.74W, h27km±6km, ML4.1*
*NEIC **25** 05:18:32.0±0.0, 32°.72S×71°.69W, h21km, ML4.1(GUC), After GUC.*
NEIC Felt [III] at Valparaiso, Villa Alemana and Vina del Mar; [II] at Quillota, San Felipe and Santiago. Also felt at Maipu.

ISC 25 05:18:32.7±1.3, 32°.65S±0°.05×71°.68W±0°.06, h33km±4km, n37, σ2°.00/37, mb4.0/4, 1C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.65**	**120**	*e*Pn	**Pb**	**05 18 45.5**	**-0.5**
ROC1				*e*Sg	**Sb**	**05 18 54.9**	**0.0**
ROCH	**El Roble**	**0.65**	**120**	*i* P	**Pb**	**05 18 45.3**	**-0.6**
ROCH				*i* S	**Sn**	**05 18 55.6**	**+0.5**
ROCH				IAML		05 18 57.3	
	comp=N,6μm,0.7s						
PEL	**Peldehue**	**0.97**	**121**	*e*Pg	**Pn**	**05 18 50.5**	**+0.4**
PEL	**Peldehue**	**0.97**	**121**	*i* P	**Pn**	**05 18 50.4**	**+0.3**
PEL				*i* S	**Sb**	**05 19 04.4**	**+0.6**
PEL				IAML		05 19 07.5	
	comp=E,12μm,0.4s						
CLCH	**Cerro Calan**	**1.22**	**128**	*i* P	**Pn**	**05 18 53.9**	**+0.4**
CLCH				*i* S	**Sb**	**05 19 11.3**	**+0.6**
CLCH				IAML		05 19 15.8	
	comp=E,9μm,0.7s						
FCH	**Farellones**	**1.35**	**120**	*i* P	**Pn**	**05 18 56.4**	**+0.8**
FCH				*i* S	**Sb**	**05 19 15.5**	**+0.7**
FCH				IAML		05 19 18.8	
	comp=N,7μm,0.3s						
CMCH	**Combarbala**	**1.58**	**22**	*e*P	**Pb**	**05 19 01.6**	**+0.1**
LMEL	**Las Melosas**	**1.72**	**134**	*i* P	**Pn**	**05 19 02.0**	**+1.5**
LMEL				*i* S	**Sb**	**05 19 24.8**	**-0.4**
LMEL				IAML		05 19 28.0	
	comp=E,8μm,0.6s						
GO05	**HualaæØ**	**2.36**	**185**	*e*Pn	**Pn**	**05 19 06.5**	**-2.7**
GO04	**Tololo Observa**	**2.58**	**17**	*e*Pn	**Pn**	**05 19 15.4**	**+2.9**
LCO	**Las Campanas**	**3.73**	**13**	*e*Pn	**Pn**	**05 19 30.4**	**+2.3**
GO03	**Copiap**	**5.19**	**14**	*e*Pn	**Pn**	**05 19 49.6**	**+1.5**
GO06	**Curarrehue**	**6.92**	**179**	*e*Pn	**Pn**	**05 20 10.4**	**-1.5**
PLCA	**Paso Flores**	**8.12**	**174**	Pn	**Pn**	**05 20 27.2**	**-1.1**
	comp=E,1.2nm,0.3s,baz=358,slow=11,SNR=68						
PLCA				Sn	**Sn**	**05 22 02.0**	**+3.1**
	baz=114,slow=20,SNR=2.0						
PLCA				LR	LR	05 24 16.7	
	comp=E,51nm,19.1s,baz=360,slow=43						
PLCA	**Paso Flores**	**8.12**	**174**	*e*Pn	**Pn**	**05 20 27.5**	**-0.8**
PLCA				Sn	**Sn**	**05 22 02.0**	**+3.1**
TRQA	**Tornquist**	**9.58**	**127**	*e*Pn	**Pn**	**05 20 49.4**	**+1.1**
LVC	**Limon Verde**	**10.30**	**14**	LR	LR	05 25 23.5	
	comp=E,92nm,19.0s,baz=210,slow=41						
CPUP	**Villa Florida**	**13.99**	**67**	Pn	**Pn**	**05 21 51.9**	**+3.2**
	comp=E,0.2nm,0.3s,baz=236,slow=13,SNR=4.5						
CPUP				Sn	**Sn**	**05 24 17.4**	**-5.4**
	comp=E,0.0nm,0.3s,baz=340,slow=15,SNR=2.1						
CPUP				LR	LR	05 27 17.8	
	comp=E,67nm,19.8s,baz=236,slow=38						
CPUP	**Villa Florida**	**13.99**	**67**	*e*Pn	**P**	**05 21 53.4**	**-2.7**
CPUP				Sn	**Sn**	**05 24 17.4**	**-5.4**
CPUP				*e*Sn	S	05 24 34.1	-10
SIV	**San Ignacio**	**19.18**	**33**	LR	LR	05 29 40.5	
	comp=E,42nm,21.6s,baz=13,slow=35						
PTGA	**Pitinga**	**33.62**	**22**	LR	LR	05 38 47.0	
	comp=E,38nm,20.4s,baz=84,slow=36						
VNA3	**Neumayer Olymp**	**50.50**	**158**	P	**P**	**05 27 27.2**	**0.0**
VNA2	**Neumayer--Watz**	**51.14**	**158**	P	**P**	**05 27 32.2**	**+0.3**
	baz=285,slow=8.6						
SNAA	**Sanae**	**52.72**	**158**	P	**P**	**05 27 43.7**	**-0.1**
SNAA	**Sanae**	**52.72**	**158**	P	**P**	**05 27 43.4**	**-0.4**
	comp=E,1.4nm,0.8s,baz=284,slow=7.4,SNR=12						
QSPA	**South Pole Qui**	**57.58**	**180**	P	**P**	**05 28 19.4**	**+0.4**
	comp=E,2.8nm,0.9s,baz=144,slow=4.4,SNR=6.9						
TXAR	**Lajitas Array**	**68.71**	**330**	P	**P**	**05 29 34.3**	**+1.2**
	comp=E,0.2nm,0.8s,baz=129,slow=8.6,SNR=3.3						
PFO	**Pinyon Flats O**	**78.23**	**323**	LR	LR	05 58 34.1	
	comp=E,32nm,18.2s,baz=117,slow=31						
TORD	**Torodi Ar. Bea**	**83.47**	**70**	P	**P**	**05 30 56.6**	**-0.7**
	comp=E,0.9nm,0.8s,baz=212,slow=5.1,SNR=5.1						
H11S2	**WAKE ISLAND Hy**	**126.08**	**270**	T	T	07 56 25.3	
	baz=118,slow=75,SNR=32						
H11S1	**WAKE ISLAND Hy**	**126.09**	**270**	T	T	07 56 26.0	
	baz=118,slow=75,SNR=55						
H11S3	**WAKE ISLAND Hy**	**126.10**	**270**	T	T	07 56 24.6	
	baz=118,slow=75,SNR=40						
H11N3	**WAKE ISLAND Hy**	**126.46**	**271**	T	T	07 56 52.6	
	baz=112,slow=78,SNR=7.3						
H11N1	**WAKE ISLAND Hy**	**126.47**	**271**	T	T	07 56 52.9	
	baz=112,slow=78,SNR=5.4						
H11N2	**WAKE ISLAND Hy**	**126.47**	**271**	T	T	07 56 53.9	
	baz=112,slow=78,SNR=10						
ZALV	**Zalesovo Beam**	**152.93**	**31**	PKPbc	**PKPbc**	**05 38 26.9**	**+1.0**
	comp=E,1.6nm,0.6s,baz=316,slow=2.0,SNR=7.1						
MKAR	**Makanchi Array**	**155.64**	**47**	PKPab	**PKPab**	**05 38 49.2**	**+0.1**
	comp=E,0.5nm,0.6s,baz=305,slow=4.3,SNR=3.7						

*ISCJB **25** 05:32:17.1±0.6, 22°.10S±0°.08×179°.6E±0°.1, h599km, mb3.9/13, Error ellipse: s-maj=13.0km s-min=10.2km az=19.0*
*IDC **25** 05:32:19.6±2.3, 21°.95S×179°.57E, h610km±26km, mb3.4/13, mb1 3.6/14, mb1mx3.5/26, mbtmp4.3/14, Error ellipse: s-maj=19.3km s-min=13.4km az=149.0*

ISC 25 05:32:18.2±0.6, 22°.1S±0°.1×179°.7E±0°.1, h599km, n44, σ0°83/50, mb3.9/13, 9C-6D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.53**	**46**	P	P	05 34 46.8	-5.6
	2.7nm,0.3s,baz=270,slow=5.8,SNR=4.0						
AFI				S	S	05 36 48.7	-10
	1.1nm,0.3s,baz=53,slow=20,SNR=2.7						
DZM	**Mont Dzumac**	**12.25**	**268**	P	**P**	**05 34 60.0**	**+0.5**
	1.6nm,0.3s,baz=83,slow=20,SNR=14						
URZ	**Urewera**	**16.24**	**187**	P	**P**	**05 35 36.1**	**-1.4**
	1.8nm,0.3s,baz=260,slow=3.5,SNR=13						
URZ				S	**S**	**05 38 17.9**	**-2.0**
	0.7nm,0.3s,baz=189,slow=23,SNR=7.3						
PMG	**Port Moresby**	**33.64**	**287**	P	**P**	**05 38 10.1**	**-0.9**
	7.0nm,0.4s,baz=145,slow=12,SNR=4.6						
STKA	**Stephens Creek**	**35.12**	**246**	P	**P**	**05 38 24.5**	**+1.4**
	4.0nm,0.5s,baz=94,slow=10,SNR=15						
ASAR	**Alice Springs**	**42.04**	**259**	P	**P**	**05 39 19.4**	**+0.4**
	4.9nm,0.5s,baz=93,slow=8.5,SNR=79						
ASAR				PcP	**PcP**	**05 40 59.3**	**-0.2**
	1.1nm,0.7s,baz=98,slow=4.6,SNR=5.4						
ASAR				S	**S**	**05 44 55.5**	**-0.7**
	1.8nm,0.9s,baz=95,slow=15,SNR=11						
WRA	**Warramunga Arr**	**42.23**	**264**	P	**P**	**05 39 20.3**	**-0.2**
	2.8nm,0.4s,baz=91,slow=6.2,SNR=272						
WRA				PcP	**PcP**	**05 41 01.2**	**+0.9**
	0.9nm,0.9s,baz=103,slow=3.5,SNR=3.3						
WRA				S	**S**	**05 44 57.4**	**-1.6**
	1.1nm,0.9s,baz=100,slow=14,SNR=4.7						
VNDA	**Vanda**	**56.12**	**185**	P	**P**	**05 41 03.0**	**+1.5**
	0.4nm,0.5s,baz=17,slow=8.0,SNR=7.3						
MJAR	**Matsushiro Arr**	**70.25**	**326**	P	**P**	**05 42 31.9**	**-0.4**
	2.8nm,0.7s,baz=169,slow=6.6,SNR=11						
KSRS	**Korea Array**	**76.68**	**320**	P	**P**	**05 43 08.8**	**+0.2**
	1.1nm,0.6s,baz=120,slow=5.0,SNR=6.0						
PETK	**Petropavlovsk-**	**77.30**	**347**	P	**P**	**05 43 11.5**	**-0.2**
	6.5nm,0.7s,baz=151,slow=6.8,SNR=7.0						
NVAR	**Mina Array Bea**	**83.70**	**44**	P	**P**	**05 43 45.1**	**-0.3**
	1.0nm,0.8s,baz=248,slow=4.8,SNR=6.5						
CMAR	**Chiang Mai Arr**	**88.61**	**290**	P	**P**	**05 44 10.5**	**+1.6**
	1.1nm,0.4s,baz=125,slow=3.1,SNR=10						
TXAR	**Lajitas Array**	**89.77**	**58**	P	**P**	**05 44 15.1**	**+0.9**
	0.9nm,0.9s,baz=223,slow=5.1,SNR=10.0						
ILAR	**Eielson Array**	**90.38**	**14**	P	**P**	**05 44 14.7**	**-1.4**
	0.8nm,0.8s,baz=223,slow=5.2,SNR=6.6						
PDAR	**Pinedale Array**	**91.64**	**44**	P	**P**	**05 44 22.9**	**+0.3**
	0.5nm,0.7s,baz=225,slow=4.0,SNR=4.2						
ARCES	**ARCESS Array B**	**130.08**	**348**	PKP	**PKPdf**	**05 50 20.0**	**-0.2**
	1.8nm,0.7s,baz=39,slow=1.5,SNR=21						
FINES	**FINESS Array B**	**136.66**	**342**	PKhKP	PKPpre	05 50 26.8	
	2.3nm,1.0s,baz=358,slow=4.6,SNR=3.6						
AKASG	**Malin Array Be**	**143.30**	**328**	PKP	PKPab	05 50 42.5	-0.9
	5.3nm,0.7s,baz=43,slow=4.4,SNR=24						
BRTR	**Keskin Array B**	**146.23**	**309**	PKPbc	**PKPbc**	**05 50 52.3**	**-0.6**
	2.0nm,0.8s,baz=124,slow=5.0,SNR=9.5						
BURAR	**Bucovina Array**	**147.31**	**327**	*i* P	**PKPbc**	**05 50 56.5**	**+1.1**
TRPA	**Tarpa**	**148.24**	**330**	*i* P	**PKPbc**	**05 50 57.6**	**0.0**
DOPR	**Dopca**	**148.31**	**325**	*i* P	**PKPbc**	**05 50 58.5**	**+0.6**
MLR	**Muntele Rosu**	**148.31**	**324**	*i* P	**PKPbc**	**05 50 58.3**	**+0.2**
CJR	**Cluj-Napoca**	**148.74**	**327**	*i* P	**PKPbc**	**05 50 59.3**	**+0.3**
VOIR		**148.83**	**324**	*i* P	**PKPbc**	**05 51 00.3**	**+1.0**
UPC	**Upice**	**148.89**	**340**	*e*

	comp=Z,4μm,0.8s							
ISRV				IAMB	IAmb	05 49 36.8		
	comp=N,8μm,0.8s							
IPAR	**Pars**	**1.65**	**73**	*e*Pn	**Pb**	**05 48 59.3**	**+0.9**	
IPAR				IAMB	IAmb	05 49 28.7		
	comp=Z,3μm,1.0s							
IPAR				IAMB	IAmb	05 49 31.5		
	comp=N,7μm,1.0s							
IPAR				IAMB	IAmb	05 49 34.5		
	comp=E,4μm,0.7s							
KLNJ	**Kolanjah**	**1.66**	**11**	*e*Pn	**Pb**	**05 48 58.3**	**-0.4**	
KLNJ				IAMB	IAmb	05 49 23.8		
	comp=N,0.0nm,0.5s							
KLNJ				IAMB	IAmb	05 49 24.5		
	comp=Z,0.0nm,0.5s							
KLNJ				IAMB	IAmb	05 49 25.0		
	comp=E,0.0nm,0.5s							
GHIR	**Ghir-Karzin**	**1.88**	**125**	*e*Pn	**Pb**	**05 49 03.5**	**+1.2**	
IBRJ	**Brojen**	**2.53**	**0**	IAMB	IAmb	05 49 53.3		
	comp=E,20μm,2.5s							
IBRJ				IAMB	IAmb	05 49 53.5		
	comp=Z,1μm,0.5s							
IBRJ				IAMB	IAmb	05 49 57.0		
	comp=N,2μm,0.7s							
IRAM	**Ramesheh**	**2.62**	**22**	*e*Pn	**Pn**	**05 49 11.8**	**+1.8**	
IRAM				IAMB	IAmb	05 49 54.1		
	comp=E,2μm,0.6s							
IRAM				IAMB	IAmb	05 49 55.1		
	comp=N,1μm,0.4s							
IRAM				IAMB	IAmb	05 49 55.8		
	comp=Z,2μm,0.6s							
ZNGN	**Zangian**	**2.76**	**353**	*e*Pn	**Pn**	**05 49 14.2**	**+2.3**	
ZNGN				IAMB	IAmb	05 50 02.5		
	comp=N,0.0nm,0.5s							
ZNGN				IAMB	IAmb	05 50 03.0		
	comp=E,0.0nm,0.5s							
ZNGN				IAMB	IAmb	05 50 05.4		
	comp=Z,0.0nm,0.6s							
ROKH	**ROKH**	**2.97**	**357**	*e*Pn	**Pn**	**05 49 17.0**	**+2.2**	
ROKH				IAMB	IAmb	05 50 15.5		
	comp=N,0.0nm,0.8s							
ROKH				IAMB	IAmb	05 50 18.5		
	comp=E,0.0nm,1.3s							
ROKH				IAMB	IAmb	05 50 18.6		
	comp=Z,0.0nm,1.1s							
IGAR	**Gharneh**	**3.10**	**13**	*e*Pn	**Pn**	**05 49 18.8**	**+2.2**	
IGAR				IAMB	IAmb	05 50 09.4		
	comp=N,1μm,0.4s							
IGAR				IAMB	IAmb	05 50 19.8		
	comp=Z,510nm,0.5s							
ISAD	**Sadrabad**	**3.30**	**39**	*e*Pn	**Pn**	**05 49 22.0**	**+2.7**	
ISAD				IAMB	IAmb	05 50 15.8		
	comp=E,2μm,0.8s							
ISAD				IAMB	IAmb	05 50 17.7		
	comp=N,1μm,0.8s							
IPIR	**Pirpir**	**3.32**	**355**	*e*Pn	**Pn**	**05 49 21.6**	**+2.0**	
IPIR				IAMB	IAmb	05 50 23.2		
	comp=E,1μm,0.5s							
IPIR				IAMB	IAmb	05 50 27.0		
	comp=Z,809nm,0.6s							
IPIR				IAMB	IAmb	05 50 34.3		
	comp=N,1μm,0.8s							
IMEH	**Mehriz**	**3.55**	**55**	*e*Pn	**Pn**	**05 49 25.4**	**+2.7**	
IMEH				IAMB	IAmb	05 50 29.9		
	comp=N,582nm,0.8s							
IMEH				IAMB	IAmb	05 50 32.1		
	comp=Z,604nm,1.2s							
IZEF	**Zefreh**	**3.64**	**15**	*e*Pn	**Pn**	**05 49 25.7**	**+1.7**	
IZEF				IAMB	IAmb	05 49 40.0		
	comp=Z,421nm,0.8s							
IZEF				IAMB	IAmb	05 50 13.9		
	comp=E,255nm,0.5s							
IZEF				IAMB	IAmb	05 50 31.9		
	comp=N,466nm,1.2s							
IKLH	**Kolahrood**	**3.95**	**4**	*e*Pn	**Pn**	**05 49 30.4**	**+2.2**	
IKLH				IAMB	IAmb	05 50 22.1		
	comp=N,602nm,0.6s							
IKLH				IAMB	IAmb	05 50 49.0		
	comp=E,732nm,0.8s							
IKLH				IAMB	IAmb	05 51 02.5		
	comp=Z,410nm,0.7s							
ICHK	**Chekchek**	**3.96**	**43**	*e*Pn	**Pn**	**05 49 29.8**	**+1.5**	
ICHK				IAMB	IAmb	05 49 43.8		
	comp=Z,423nm,0.6s							
ICHK				IAMB	IAmb	05 50 35.1		
	comp=N,317nm,0.7s							
ICHK				IAMB	IAmb	05 50 39.1		
	comp=E,481nm,1.1s							
YZKH	**Yazd**	**4.17**	**43**	*e*Pn	**Pn**	**05 49 32.1**	**+1.0**	
KHGB	**Koh Gabri**	**4.66**	**76**	*e*Pn	**Pn**	**05 49 39.7**	**+1.7**	
KHGB				IAMB	IAmb	05 51 10.1		
	comp=Z,0.0nm,1.2s							
GHVR	**GHOM**	**5.09**	**1**	*e*Pn	**Pn**	**05 49 43.7**	**-0.1**	
HSAM	**Samen**	**5.32**	**336**	*e*Pn	**Pn**	**05 49 49.1**	**+2.0**	
IKOM	**Komasi**	**5.74**	**327**	*e*Pn	**Pn**	**05 49 55.5**	**+2.7**	
IKOM				IAMB	IAmb	05 51 06.4		
	comp=N,0.0nm,0.6s							
IVIS	**Veis**	**6.35**	**325**	*e*Pn	**Pn**	**05 50 04.0**	**+2.9**	
IVIS				IAMB	IAmb	05 51 29.2		
	comp=Z,174nm,0.4s							
ILIN	**Lien**	**6.61**	**328**	*e*Pn	**Pn**	**05 50 06.0**	**+1.2**	
ILIN				IAMB	IAmb	05 51 25.1		
	comp=Z,258nm,0.5s							
AKASG	**Malin Array Be**	**26.98**	**328**	P	**P**	**05 54 06.2**	**-2.6**	
	comp=Z,1.1nm,0.7s,baz=134,slow=8.4,SNR=4.4							
GERES	**GERESS Array B**	**34.55**	**315**	P	**P**	**05 55 13.2**	**-2.6**	
	comp=Z,0.3nm,0.5s,baz=130,slow=9.1,SNR=2.5							
NB2	**NORSAR Subarra**	**41.27**	**332**	P	**P**	**05 56 11.5**	**-0.7**	
	comp=Z,0.2nm,0.5s,baz=121,slow=8.6							
NOA	**NORSAR Array B**	**41.27**	**332**	P	**P**	**05 56 12.1**	**-0.1**	
	comp=Z,0.5nm,0.5s,baz=124,slow=8.4,SNR=2.4							
ARCES	**ARCESS Array B**	**42.83**	**347**	P	**P**	**05 56 25.4**	**+0.6**	
	comp=Z,4.1nm,1.0s,baz=147,slow=7.2,SNR=4.3							
TORD	**Torodi Ar. Bea**	**48.54**	**261**	P	**P**	**05 57 11.0**	**+0.4**	
	comp=Z,0.7nm,0.8s,baz=70,slow=8.0,SNR=3.3							

MEX 25 05:57:27.8±0.4, 13°68N×92°31W, h32km±35km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.22**	**2**	*e*P	Pn	05 57 46.9	-1.8
THIG				*e*S	Sn	05 58 01.5	-2.5
PCIG		**2.19**	**336**	*e*P	Pn	05 58 00.2	-1.8
PCIG				*i* S	Sn	05 58 25.6	-2.5
CCIG	**Comitan**	**2.59**	**4**	*i* P	Pn	05 58 07.0	-0.7
CCIG				*e*P	Pb	05 58 09.4	-4.3
CCIG				*i* S	Sn	05 58 36.4	-1.8

BJI ***25*** *06:01:42.3, 23°.80N×91°.62E, h15km, mb4.4/24, mB4.5/16, ML4.2/2, Ms3.8/5, Ms7 3.4/5*
NDI ***25*** *06:01:44.4±2.9, 23°.73N×91°.46E, h20km, ML4.1*
ISCJB ***25*** *06:01:44.1±0.3, 23°.71N±0°.02×91°.44E±0°.02, h44km±3km, mb4.1/31, MS3.3/6, Error ellipse: s-maj=3.3km s-min=2.9km az=29.2*
NEIC ***25*** *06:01:45.5±0.5, 23°.62N×91°.48E, h40km±5km, mb4.5/15, Error ellipse: s-maj=5.8km s-min=3.4km az=63.0*
IDC ***25*** *06:01:46.5±0.4, 23°.61N×91°.44E, h46km±4km, mb3.8/19, mb1 3.9/20, mb1mx3.8/50, mbtmp4.0/20, MS3.3/8, Ms1 3.3/8, ms1mx3.1/43, Error ellipse: s-maj=17.4km s-min=5.2km az=74.0*
DMN ***25*** *06:01:46.4±0.3, 23°.24N×91°.11E, h10km, Ml5.1/11, Error ellipse: s-maj=20.0km s-min=5.1km az=41.0*

ISC 25 06:01:45.8±0.4, 23°.68N±0°.03×91°.47E±0°.03, h45km±4km, h45km:pP-P, n126, σ1s72/172, mb4.2/32, MS3.3/6, 1C, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGT	**Agartala**	**0.28**	**315**	*e*P	**Pn**	**06 01 56.1**	**+1.8**
AGT				*e*S	**Sn**	**06 02 04.1**	**+3.7**
BELO	**BELONIA**	**0.43**	**183**	*e*P	**Pn**	**06 01 56.1**	**+0.2**
BELO				*e*S	**Sn**	**06 02 03.0**	**-0.1**
BRDH	**Bariadhala**	**1.01**	**171**	P	**Pn**	**06 02 03.5**	**-0.1**
	2μm,0.3s,baz=29,slow=7.1,SNR=606						
BRDH				S	**Sn**	**06 02 16.6**	**-0.1**
	3μm,0.3s,baz=328,slow=22,SNR=30						
BRDH				LR	LR	06 02 54.8	
	comp=Z,689nm,20.0s,baz=335,slow=72						
AZL	**Aizawl**	**1.12**	**87**	*e*P	**Pn**	**06 02 05.4**	**+0.2**
AZL				*e*S	**Sn**	**06 02 20.3**	**+0.8**
SILR	**SILCHAR**	**1.64**	**48**	*e*P	**Pn**	**06 02 13.1**	**+0.9**
SILR				*e*S	**Sn**	**06 02 30.4**	**-1.7**
SAIH	**SAIHA**	**1.83**	**130**	*e*P	**Pn**	**06 02 15.0**	**0.0**
SAIH				*e*S	**Sn**	**06 02 37.0**	**-0.1**
SHL	**Shillong**	**1.91**	**11**	*e*Pn	**Pn**	**06 02 16.2**	**0.0**
SHL				*e*Sn	**Sn**	**06 02 39.2**	**+0.1**
SHL	**Shillong**	**1.91**	**11**	*e*P	**Pn**	**06 02 15.8**	**-0.4**
SHL				IAML		06 02 40.4	
	comp=E,3μm,0.1s						
SHL				IAML		06 02 40.6	
	comp=N,3μm,0.2s						
TURI	**Tura**	**2.13**	**331**	*ex*	**Pn**	**06 02 21.2**	**+2.3**
GUWA	**GUWAHATI**	**2.51**	**5**	*e*P	**Pn**	**06 02 23.2**	**-1.0**
GUWA				*e*S	**Sn**	**06 02 51.4**	**-2.1**
GUWA				IAML		06 02 53.0	
	comp=E,2μm,0.3s						
GUWA				IAML		06 02 53.2	
	comp=N,1μm,0.3s						
IMP	**Imphal**	**2.54**	**63**	*e*P	**Pn**	**06 02 25.3**	**+0.8**
IMP				*e*S	**Sn**	**06 02 54.0**	**-0.3**
IMP				IAML		06 02 59.1	
	comp=N,1μm,0.5s						
DHUB	**DHUBRI**	**2.69**	**330**	*e*P	**Pn**	**06 02 27.6**	**+1.1**
DHUB				*e*S	**Sn**	**06 02 56.1**	**-1.7**
KOHI	**KOHIMA**	**3.14**	**49**	*e*P	**Pn**	**06 02 33.3**	**+0.3**
KOHI				*e*S	**Sn**	**06 03 08.9**	**-0.5**
KOHI				IAML		06 03 13.3	
	comp=E,499nm,0.3s						
KOHI				IAML		06 03 13.9	
	comp=N,673nm,0.4s						
TEZP	**TEZPUR**	**3.16**	**22**	*e*P	**Pn**	**06 02 31.3**	**-1.7**
TEZP				*e*S	**Sn**	**06 03 07.1**	**-2.5**
MOKO	**MOKOCHONG**	**3.81**	**46**	*e*P	**Pn**	**06 02 42.2**	**0.0**
MOKO				*e*S	**Sn**	**06 03 23.6**	**-2.3**
MOKO				IAML		06 03 28.0	
	comp=E,1μm,0.5s						
MOKO				IAML		06 03 29.3	
	comp=N,1μm,0.2s						
TAWA	**Tawang**	**3.91**	**5**	*e*P	**Pn**	**06 02 44.1**	**+0.4**
TAWA				*e*S	**Sn**	**06 03 27.2**	**-1.4**
ITAN	**ITANAGAR**	**4.00**	**30**	*e*P	**Pn**	**06 02 44.2**	**-0.5**
ITAN				*e*S	**Sn**	**06 03 28.4**	**-2.0**
ZIRO	**ZIRO**	**4.39**	**29**	*e*P	**Pn**	**06 02 50.1**	**-0.1**
ZIRO				*e*S	**Sn**	**06 03 37.9**	**-2.2**
GTK	**Tadong**	**4.45**	**325**	*e*P	**Pn**	**06 02 50.9**	**-0.1**
GTK				*e*S	**Sn**	**06 03 36.6**	**-5.0**
GTK				IAML		06 03 48.1	
	comp=E,572nm,0.2s						
GTK				IAML		06 03 49.2	
	comp=N,352nm,0.5s						
ODAN	**Odare**	**4.86**	**311**	*e*Pn	**Pn**	**06 02 58.3**	**+1.6**
ODAN				*e*Sn	**Sn**	**06 03 52.0**	**+0.2**
	comp=N,726nm,0.5s						
BOK	**Bokaro**	**5.12**	**272**	*e*P	**Pn**	**06 03 01.2**	**+1.2**
BOK				*e*S	**Sn**	**06 03 55.1**	**-2.7**
LKP	**Lekhapani**	**5.37**	**46**	*e*P	**Pn**	**06 03 02.0**	**-1.5**
LKP				*e*S	**Sn**	**06 04 00.3**	**-3.7**
RAMN	**Ramite**	**5.48**	**307**	*e*Pn	**Pn**	**06 03 06.7**	**+1.6**
RAMN				*e*Sn	**Sn**	**06 04 05.1**	**-1.9**
	comp=N,445nm,0.6s						
LSA	**Lhasa**	**6.00**	**357**	Pn	**Pn**	**06 03 14.3**	**+1.8**
LSA				Sn	**Sn**	**06 04 19.5**	**-0.7**
LSA				smax	smax		
	comp=N,68nm,0.7s						
LSA				smax	smax		
	comp=N,150nm,0.7s						
LSA	**Lhasa**	**6.00**	**357**	*e*Pn	**Pn**	**06 03 12.8**	**+0.3**
LSA				*e*Sn	**Sn**	**06 04 21.0**	**+0.8**
JIRN	**Jiri**	**6.19**	**311**	*e*Pn	**Pn**	**06 03 16.7**	**+1.6**
JIRN				*e*Sn	**Sn**	**06 04 23.4**	**-1.4**
	comp=N,904nm,0.5s						
BWNR	**Bhubaneshwar**	**6.24**	**238**	*e*P	**Pn**	**06 03 13.4**	**-1.9**
BWNR				*ex*		06 04 16.8	
GUN	**Gumba**	**6.56**	**311**	*e*Pn	**Pn**	**06 03 21.9**	**+1.8**
GUN				*e*Sn	**Sn**	**06 04 33.2**	**-0.7**
	comp=N,509nm,0.6s						
PKI	**Pulchoki**	**6.70**	**307**	*e*Pn	**Pn**	**06 03 23.1**	**+1.1**
PKI				*e*Sn	**Sn**	**06 04 35.3**	**-1.9**
	comp=N,214nm,0.4s						
PKIN	**Phulchoki**	**6.71**	**307**	*e*Pn	**Pn**	**06 03 23.3**	**+1.2**
PKIN				*e*Sn	**Sn**	**06 04 35.9**	**-1.5**
	comp=N,328nm,0.5s						
KKN	**Kakani**	**6.92**	**308**	*e*Pn	**Pn**	**06 03 26.4**	**+1.5**
KKN				*e*Sn	**Sn**	**06 04 41.0**	**-1.4**
	comp=N,332nm,0.5s						
DMN	**Daman**	**6.95**	**306**	*e*Pn	**Pn**	**06 03 26.3**	**+1.0**
DMN				*e*Sn	**Sn**	**06 04 41.0**	**-2.1**
	comp=N,197nm,0.4s						
GKN	**Gorkha**	**7.51**	**306**	*e*Pn	**Pn**	**06 03 33.9**	**+1.0**
GKN				*e*Sn	**Sn**	**06 04 53.9**	**-2.9**
KOLN	**Koldanda**	**8.18**	**301**	*e*Pn	**Pn**	**06 03 42.2**	**0.0**
KOLN				*e*Sn	**Sn**	**06 05 09.8**	**-3.6**
	comp=N,329nm,0.5s						
DANN	**Dangsing**	**8.35**	**305**	*e*Pn	**Pn**	**06 03 44.7**	**+0.2**
DANN				*e*Sn	**Sn**	**06 05 13.2**	**-4.4**
	comp=N,289nm,0.6s						
CHTO	**Chiang Mai**	**8.49**	**123**	*e*Pn	**Pn**	**06 03 45.9**	**-0.4**
CHTO				*e*Sn	**Sn**	**06 05 19.2**	**-1.5**
CM31	**Chiang Mai Arr**	**8.70**	**125**	*e*Pn	**Pn**	**06 03 47.5**	**-1.6**
CM31				*e*Sn	**Sn**	**06 05 23.5**	**-2.5**
CMAR	**Chiang Mai Arr**	**8.70**	**125**	P	**Pn**	**06 03 47.9**	**-1.3**
	comp=N,0.5nm,0.3s,baz=304,slow=13,SNR=24						
CMAR				LR	LR	06 07 21.4	
	comp=N,62nm,19.5s,baz=298,slow=39						
CM01	**Chiang Mai Arr**	**8.73**	**125**	*e*Pn	**Pn**	**06 03 48.7**	**-0.9**
CM01				*e*Sn	**Sn**	**06 05 34.9**	**+8.0**
PYUN	**Piuthan**	**8.81**	**302**	*e*Pn	**Pn**	**06 03 50.5**	**-0.3**
PYUN				*e*Sn	**Sn**	**06 05 23.9**	**-5.0**
	comp=N,196nm,0.4s						
VIS	**Vishakhapatnam**	**9.65**	**234**	*i* x	Pn	06 04 10.3	+8.1
VIS				*i* S	**Sn**	**06 05 40.8**	**-8.5**
PBKT	**Sadao Pong**	**11.38**	**127**	*e*Pn	**Pn**	**06 04 25.2**	**-0.7**
NGP	**Nagpur**	**11.76**	**260**	*e*P	**Pn**	**06 04 29.6**	**-1.4**
NGP				*e*S	Sn	06 06 30.8	-10
NGP				IAML		06 06 36.2	
	comp=E,60nm,0.2s						
NGP				IAML		06 06 37.4	
	comp=N,68nm,0.1s						
PBA	**Port Blair**	**12.02**	**174**	*e*Pn	Pn	06 04 34.3	-0.3
BHPL	**Bhopal**	**12.90**	**271**	*e*P	**Pn**	**06 04 45.5**	**-1.1**
HYB	**Hyderabad**	**13.60**	**245**	*i* P	**Pn**	**06 04 55.0**	**-1.3**
HYB				*e*S	**Sn**	**06 07 28.0**	**+2.0**
NDI	**New Delhi**	**13.73**	**294**	*e*P	**Pn**	**06 04 56.0**	**-1.9**
NDI				*e*S	Sn	06 07 17.0	-12
SMLA	**Simla**	**14.70**	**303**	*e*P	**Pn**	**06 05 08.3**	**-2.6**
SMLA				*e*S	Sn	06 07 38.9	-14
DHRM	**DHARAMSHALA**	**15.88**	**306**	*e*P	**Pn**	**06 05 23.8**	**-2.6**
DHRM				*e*S	Sn	06 08 08.0	-13
LZH	**Lanzhou**	**16.35**	**38**	*e*P	**Pn**	**06 05 31.5**	**-0.9**
LZH				pP	P	06 05 36.4	+1.7
LZH				sP	pP	06 05 38.9	-6.4
LZH				pmax	pmax		
	comp=N,23nm,1.3s						
LZH				pmax	pmax		
	comp=N,85nm,6.2s						
GTA	**Gaotai**	**17.20**	**22**	⇑P	**Pn**	**06 05 40.9**	**-2.1**
GTA				pP	P	06 05 47.1	+3.0
GTA				sP	pP	06 05 51.3	-3.4
GTA				pmax	pmax		
	comp=N,10.0nm,1.3s						
GTA				pmax	pmax		
	comp=N,44nm,6.0s						
GTA				LR	LR		
	comp=N,430nm,19.0s						
GTA				LR	LR		
	comp=N,340nm,19.4s						
GTA				LR	LR		
	comp=N,170nm,18.7s						
POO	**Poona**	**17.22**	**256**	*e*P	**P**	**06 05 44.3**	**0.0**
POO				*e*S	Sn	06 08 37.0	-17
ENH	**Enshi**	**17.34**	**64**	*e*Pn	**Pn**	**06 05 45.1**	**+0.5**
	comp=N,61nm,0.7s						
XAN	**Xi'an**	**18.42**	**52**	P	**P**	**06 05 55.3**	**-2.1**
XAN				pP	pP	06 06 03.1	-5.0
XAN				sP	Pn	06 06 05.8	+8.0
XAN				pmax	pmax		
	comp=N,15nm,0.8s						
XAN				pmax	pmax		
	comp=N,76nm,4.2s						
SARP	**Sargodha**	**18.53**	**300**	P	**P**	**06 05 55.8**	**-2.7**
CHCP	**Chirah Chowk**	**18.79**	**306**	P	**P**	**06 06 00.6**	**-0.9**
NIL	**Nilore**	**18.79**	**306**	*e*P	**P**	**06 06 01.4**	**-0.1**
	comp=N,21nm,0.6s						
NIL				*e*Sn	Sn	06 09 19.8	-12
PALK	**Pallekele**	**19.31**	**214**	LR	LR	06 16 21.6	
	comp=N,102nm,18.4s,baz=299,slow=46						
THW	**Thamme Wali**	**19.58**	**302**	P	**Pn**	**06 06 11.3**	**-0.5**
CEP	**Cherat**	**19.87**	**305**	P	**Pn**	**06 06 14.8**	**-0.5**
IPM	**Ipoh**	**21.20**	**153**	*e*P	**P**	**06 06 23.3**	**-4.5**
	comp=N,14nm,1.0s						
PSI	**Prapat**	**21.98**	**160**	*e*P	**P**	**06 06 34.9**	**-1.3**
	comp=N,4.0nm,0.8s						
KBL	**Kabul**	**22.33**	**304**	*e*P	**P**	**06 06 39.9**	**-0.1**
	comp=N,18nm,0.9s						
AAK	**Ala-Archa**	**23.57**	**327**	P	**P**	**06 06 54.3**	**+1.9**
	comp=N,0.7nm,0.4s,baz=180,slow=11,SNR=2.5						
MK01	**Makanchi Array**	**24.19**	**344**	*e*P	**P**	**06 06 58.9**	**+0.9**
MK31	**Makanchi Array**	**24.21**	**345**	*e*P	**P**	**06 06 58.5**	**+0.3**
MK32	**Makanchi Array**	**24.21**	**345**	*e*P	**P**	**06 07 00.0**	**+1.8**
MKAR	**Makanchi Array**	**24.21**	**345**	P	**P**	**06 07 00.0**	**+1.8**
	comp=N,6.1nm,0.6s,baz=156,slow=9.9,SNR=62						
MKAR				LR	LR	06 18 15.2	
	comp=N,81nm,20.2s,baz=166,slow=41						
MKAR	**Makanchi Array**	**24.21**	**345**	*e*P	**P**	**06 06 58.4**	**+0.2**
	comp=N,47nm,0.7s						
KKAR	**Karatay Array**	**25.98**	**323**	*e*P	**P**	**06 07 14.9**	**+0.7**
SONA0	**Songino Array**	**26.88**	**23**	*e*P	**P**	**06 07 23.8**	**+1.4**
SONM	**Songino Array**	**26.88**	**23**	P	**P**	**06 07 23.8**	**+1.4**
	comp=N,1.7nm,0.7s,baz=207,slow=9.1,SNR=13						
SONM				LR	LR	06 19 59.5	
	comp=N,127nm,18.3s,baz=141,slow=41						
SONA1	**Songino Array**	**26.89**	**23**	*e*P	**P**	**06 07 23.1**	**+0.5**
ULN	**Ulaanbaatar**	**27.14**	**23**	*e*P	**P**	**06 07 24.4**	**-0.4**
	comp=N,2.5nm,0.6s						
KURBB	**Kurchatov Arra**	**28.71**	**343**	P	**P**	**06 07 40.3**	**+1.7**
	comp=N,2.4nm,0.8s,baz=163,slow=8.8,SNR=13						
KURK	**Kurchatov**	**28.77**	**343**	*e*P	**P**	**06 07 40.3**	**+1.1**
	comp=N,4.3nm,1.1s						
ZAA0	**Zalesovo Array**	**30.64**	**352**	*e*P	**P**	**06 07 55.6**	**0.0**
	comp=N,2.6nm,0.8s						
ZALV	**Zalesovo Beam**	**30.64**	**352**	P	**P**	**06 07 57.0**	**+1.3**
	comp=N,1.7nm,0.4s,baz=178,slow=9.1,SNR=7.5						
ZALV				LR	LR	06 22 29.1	
	comp=N,40nm,18.8s,baz=67,slow=40						
ZALV	**Zalesovo Beam**	**30.64**	**352**	*e*P	**P**	**06 07 56.3**	**+0.7**
ZAA1	**Zalesovo Array**	**30.64**	**352**	*e*P	**P**	**06 07 57.0**	**+1.3**
UOSS	**Minazif**	**32.11**	**280**	*e*P	**P**	**06 08 10.7**	**+1.8**
	comp=N,15nm,0.8s						
KSRS	**Korea Array**	**34.04**	**58**	LR	LR	06 24 39.1	
	comp=N,63nm,20.1s,baz=258,slow=40						
ABKAR	**Akbulak array**	**35.54**	**324**	*e*P	**P**	**06 08 39.0**	**+0.6**
MJAR	**Matsushiro Arr**	**42.03**	**61**	pP	**pP**	**06 09 45.7**	**+0.3**
	comp=N,1.0nm,0.7s,baz=264,slow=10.0,SNR=2.5						
MJAR				LR	LR	06 30 03.8	
	comp=N,23nm,19.4s,baz=265,slow=40						
NRIK	**Noril'sk**	**45.73**	**358**	LR	LR	06 31 19.2	
	comp=N,55nm,20.4s,baz=206,slow=39						
BR101	**Keskin Array S**	**50.90**	**303**	*e*P	**P**	**06 10 43.6**	**+0.9**
BRTR	**Keskin Array B**	**50.90**	**303**	P	**P**	**06 10 43.6**	**+0.9**
	comp=N,0.6nm,0.6s,baz=100,slow=7.9,SNR=3.8						
TIXI	**Tiksi**	**52.45**	**14**	P	**P**	**06 10 54.1**	**+0.6**
	comp=N,1.0nm,0.4s,baz=324,slow=5.8,SNR=3.2						
AKASG	**Malin Array Be**	**54.57**	**316**	P	**P**	**06 11 09.1**	**-0.3**
	comp=N,0.2nm,0.4s,baz=82,slow=6.5,SNR=4.4						
AKASG				pP	**pP**	**06 11 22.7**	**+0.6**
	comp=N,1.0nm,0.5s,baz=80,slow=6.8,SNR=3.8						
AKBB	**Malin Array Si**	**54.57**	**316**	*e*P	**P**	**06 11 09.5**	**+0.2**
	comp=N,2.6nm,0.9s						
AKBB				*e*pP	**pP**	**06 11 22.7**	**+0.6**
MLR	**Muntele Rosu**	**56.56**	**310**	*e*P	**P**	**06 11 25.2**	**+1.2**
	comp=N,5.7nm,0.8s						
FIA0	**FINESS Array S**	**57.74**	**329**	*e*P	**P**	**06 11 32.3**	**+0.4**
FIA0				*e*pP	**pP**	**06 11 45.8**	**+1.1**
FINES	**FINESS Array B**	**57.74**	**329**	P	**P**	**06 11 32.3**	**+0.4**
	comp=N,1.4nm,0.7s,baz=152,slow=9.5,SNR=4.8						
FINES				pP	**pP**	**06 11 45.8**	**+1.1**
	comp=N,2.1nm,0.6s,baz=106,slow=6.7,SNR=2.9						
ARA0	**ARCESS Array S**	**59.65**	**338**	*e*P	**P**	**06 11 46.3**	**+1.3**
ARCES	**ARCESS Array B**	**59.65**	**338**	P	**P**	**06 11 46.3**	**+1.3**
	comp=N,2.6nm,0.8s,baz=46,slow=6.9,SNR=4.6						
WRA	**Warramunga Arr**	**60.22**	**132**	P	**P**	**06 11 49.7**	**+0.1**
	comp=N,4.3nm,0.6s,baz=323,slow=7.1,SNR=107						
WRA				pP	**pP**	**06 12 02.9**	**+0.4**
	comp=N,2.8nm,0.6s,baz=322,slow=7.3,SNR=12						
WR1	**Warramunga Arr**	**60.22**	**132**	*e*P	**P**	**06 11 49.7**	**+0.1**
	comp=N,4.9nm,0.6s						
WR1				*e*pP	**pP**	**06 12 02.9**	**+0.4**
WRAB	**Tennant Creek**	**60.22**	**132**	*e*P	**P**	**06 11 49.3**	**-0.3**
	comp=N,5.7nm,0.6s						
WB2	**Warramunga Arr**	**60.23**	**132**	*e*P	**P**	**06 11 49.2**	**-0.4**
WB2				*e*PcP	**PcP**	**06 12 34.7**	**0.0**
WB2				*e*PcP	**PcP**	**06 12 35.1**	**+0.4**
AS31	**Alice Springs**	**62.55**	**136**	*e*P	**P**	**06 12 05.0**	**-0.3**
AS31				*e*pP	**pP**	**06 12 18.9**	**+0.6**
ASAR	**Alice Springs**	**62.55**	**136**	P	**P**	**06 12 05.5**	**+0.2**
	comp=N,2.4nm,0.6s,baz=314,slow=6.6,SNR=22						
ASAR				pP	**pP**	**06 12 18

	comp=Z,134nm,19.5s,baz=67,slow=37							
PMG	**Port Moresby**	**8.73**	**255**	*e*Pn	**Pn**	06 21 14.8	**-1.4**
MANU	**Manus Island**	**9.81**	**302**	*e*Pn	**Pn**	06 21 30.4	**-0.7**
PATS	**Pohnpei**	**14.25**	**11**	*e*Pn	**Pn**	06 22 31.8	**-0.1**
JAY	**Jayapura**	**15.69**	**287**	LR	LR	06 29 29.3	
	comp=Z,46nm,18.1s,baz=58,slow=40						
CTA	**Charters Tower**	**15.70**	**215**	Pn	**Pn**	06 22 51.2	**+0.2**
	0.3nm,0.3s,baz=352,slow=15,SNR=2.8						
CTAO	**Charters Tower**	**15.70**	**215**	*e*Pn	**Pn**	06 22 50.1	**-1.0**
	24nm,1.6s						
DZM	**Mont Dzumac**	**17.98**	**146**	LR	LR	06 29 01.2	
	comp=Z,92nm,19.7s,baz=42,slow=33						
DZM	**Mont Dzumac**	**17.98**	**146**	*e*Pn	**Pn**	06 23 19.3	**-0.5**
	21nm,1.2s						
TARA	**Tarawa**	**19.18**	**64**	*e*P	**P**	06 23 32.3	**-1.0**
	148nm,1.3s						
KWAJ	**Kwajalein Atol**	**19.89**	**37**	*e*P	**P**	06 23 40.9	**-0.1**
	162nm,1.1s						
FUNA	**Funafuti**	**23.29**	**95**	*e*P	**P**	06 24 16.5	**-0.8**
	223nm,1.8s						
GUMO	**Guam**	**23.36**	**333**	*e*P	**P**	06 24 18.3	**+0.3**
	268nm,1.4s						
SAUI	**Saumlaki**	**24.21**	**267**	*e*P	**P**	06 24 26.5	**+0.5**
	196nm,0.8s						
WRAB	**Tennant Creek**	**24.24**	**237**	*e*P	**P**	06 24 25.9	**-0.4**
	10nm,1.0s						
WB2	**Warramunga Arr**	**24.25**	**237**	*e*P	**P**	06 24 26.3	**0.0**
WR1	**Warramunga Arr**	**24.26**	**237**	*e*P	**P**	06 24 26.5	**0.0**
	15nm,1.2s						
WR1				*e*PcP	**PcP**	06 28 06.9	**+0.7**
WRA	**Warramunga Arr**	**24.26**	**237**	P	**P**	06 24 26.5	**0.0**
	6.7nm,0.9s,baz=60,slow=9.4,SNR=39						
WRA				PcP	**PcP**	06 28 06.9	**+0.7**
	0.2nm,0.4s,baz=62,slow=2.5,SNR=4.8						
WRA				LR	LR	06 33 51.4	
	comp=Z,97nm,19.5s,baz=65,slow=36						
MTN	**Manton Dam**	**24.82**	**255**	*e*P	**P**	06 24 30.6	**-1.0**
	8.3nm,0.9s						
AS01	**Alice Springs**	**26.50**	**230**	*e*P	**P**	06 24 46.2	**-0.5**
AS31	**Alice Springs**	**26.53**	**230**	*e*P	**P**	06 24 47.0	**-0.1**
	1.4nm,0.4s						
AS31				*e*PcP	**PcP**	06 28 11.8	**+0.5**
ASAR	**Alice Springs**	**26.53**	**230**	P	**P**	06 24 46.8	**-0.3**
	1.5nm,0.9s,baz=61,slow=8.6,SNR=10						
ASAR				PcP	**PcP**	06 28 11.8	**+0.5**
	0.2nm,0.5s,baz=74,slow=3.3,SNR=2.6						
STKA	**Stephens Creek**	**27.80**	**206**	P	**P**	06 24 58.6	**+0.3**
	2.1nm,0.5s,baz=11,slow=15,SNR=5.2						
STKA				LR	LR	06 35 14.4	
	comp=Z,121nm,19.3s,baz=24,slow=35						
H11S3	**WAKE ISLAND Hy**	**27.80**	**23**	T	T	06 53 29.6	
	baz=202,slow=75,SNR=66						
H11S2	**WAKE ISLAND Hy**	**27.80**	**23**	T	T	06 53 29.8	
	baz=202,slow=75,SNR=71						
H11S1	**WAKE ISLAND Hy**	**27.82**	**23**	T	T	06 53 30.9	
	baz=202,slow=75,SNR=34						
CAN	**Canberra**	**28.59**	**192**	*e*P	**P**	06 25 05.3	**0.0**
	67nm,2.0s						
H11N1	**WAKE ISLAND Hy**	**28.99**	**22**	T	T	06 55 07.8	
	baz=201						
H11N3	**WAKE ISLAND Hy**	**29.00**	**22**	T	T	06 55 10.3	
	baz=201						
H11N2	**WAKE ISLAND Hy**	**29.00**	**22**	T	T	06 55 11.2	
	baz=201						
FITZ	**Fitzroy Crossi**	**31.20**	**247**	*e*P	**P**	06 25 28.2	**-0.4**
	5.4nm,0.7s						
FORT	**Forrest**	**34.89**	**224**	*e*P	**P**	06 26 00.7	**0.0**
	37nm,1.1s						
USRK	**Ussuriysk Ar.**	**55.54**	**339**	P	**P**	06 28 42.6	**-1.5**
	1.3nm,0.7s,baz=152,slow=6.5,SNR=2.7						
CM31	**Chiang Mai Arr**	**61.55**	**295**	*e*P	**P**	06 29 27.4	**+0.8**
CMAR	**Chiang Mai Ar**	**61.55**	**295**	P	**P**	06 29 27.4	**+0.8**
	0.6nm,0.3s,baz=122,slow=6.5,SNR=3.2						
SONA0	**Songino Array**	**69.96**	**327**	*e*P	**P**	06 30 20.9	**+0.5**
SONM	**Songino Array**	**69.96**	**327**	P	**P**	06 30 20.9	**+0.5**
	0.5nm,0.5s,baz=134,slow=4.7,SNR=4.1						
QSPA	**South Pole Qui**	**82.70**	**180**	*e*P	**P**	06 31 33.4	**+1.0**
	3.5nm,0.8s						
ILAR	**Eielson Array**	**83.37**	**21**	P	**P**	06 31 36.0	**+0.4**
	0.2nm,0.5s,baz=237,slow=4.6,SNR=6.0						
ILAR				LR	LR	07 04 29.8	
	comp=Z,35nm,19.1s,baz=270,slow=33						
ILB	**Eielson Array**	**83.37**	**21**	*e*P	**P**	06 31 36.6	**+1.0**
MK32	**Makanchi Array**	**84.09**	**319**	*e*P	**P**	06 31 40.2	**+0.5**
MKAR	**Makanchi Array**	**84.09**	**319**	P	**P**	06 31 40.2	**+0.4**
	0.7nm,0.7s,baz=99,slow=7.5,SNR=6.1						
MAW	**Mawson**	**84.42**	**203**	P		06 31 42.2	**+1.3**
	2.2nm,0.6s,baz=100,slow=7.3,SNR=12						
MAW	**Mawson**	**84.42**	**203**	*e*P	**P**	06 31 42.1	**+1.2**
	0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**153.79**	**285**	PKPbc	**PKPbc**	06 39 07.8	**-1.1**
	0.3nm,1.0s,baz=19,slow=5.0,SNR=2.7						
TOA1	**Torodi Ar. Sit**	**153.79**	**285**	*e*pPKPdf	**PKPbc**	06 39 07.8	**-1.1**

MAN 25 06:27:06.1, 10°21.N×126°01.E, h15km, mb3.8, ML2.6, MS2.1, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.67**	**230**	⇓*i*P	Pg	06 27 19.1	-0.1
SCPH				*i* S	Sb	06 27 29.5	+0.9
MSLP	**Maasin**	**1.14**	**266**	*e*P	Pb	06 27 26.9	-0.6
MSLP				*e*S	Sg	06 27 42.9	0.0
BUTP	**Butuan**	**1.29**	**197**	*e*P	Pn	06 27 28.7	-1.0
BUTP				*e*S	Sg	06 27 47.7	-0.2
BESP	**Borongan**	**1.49**	**338**	*e*P	Pn	06 27 31.6	-0.8
BUKP	**Musuan**	**2.50**	**202**	*e*P	Pn	06 27 46.1	-0.2
BUKP				*e*S	Sn	06 28 17.6	+1.0

*ISK **25** 06:31:21.8, 36°.61N×27°.93E, h5km, ML2.5/9*
*ATH **25** 06:31:21.7, 36°.70N×28°.06E, h24km±3km, ML2.7/2, Error ellipse: s-maj=5.1km s-min=1.3km az=214.0*
*ISCJB **25** 06:31:23.1±0.5, 36°.61N±0°.03×27°.94E±0°.03, h4km±5km, Error ellipse: s-maj=5.2km s-min=3.9km az=12.1*
*DDA **25** 06:31:23.1, 36°.61N×27°.95E, h7km, ML2.7*
ISC 25 06:31:22.3±1.1, 36°.62N±0°.03×27°.96E±0°.02, h5km±10km, n29, σ2°02/39, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSB	**Marmaris-Mugla**	**0.21**	**63**	PG	**Pg**	06 31 27.6	**+1.2**
DATC	**Datca-Mugla**	**0.28**	**300**	PG	**Pg**	06 31 28.1	**+0.4**
DATC				SG	**Sg**	06 31 32.9	**+1.5**
DAT	**Datca**	**0.33**	**289**	PG	**Pg**	06 31 29.3	**+0.6**
DAT				SG	**Sg**	06 31 34.3	**+1.2**
DAT	**Datca**	**0.33**	**289**	*i* P	**Pg**	06 31 29.3	**+0.6**
DAT				*i* S	**Sb**	06 31 35.1	**-1.2**
ARG	**Arkhangelos**	**0.42**	**162**	PG	**Pg**	06 31 30.3	**-0.2**
ARG				SG	**Sb**	06 31 38.3	**-0.7**
ARG	**Arkhangelos**	**0.42**	**162**	P	**Pg**	06 31 31.7	**+1.2**
ARG				S	**Sb**	06 31 39.6	**+0.6**
ARG				AML	AML	06 31 40.7	
	comp=N,1392μm,0.3s						
ARG				AML	AML	06 31 41.3	
	comp=E,1898μm,0.3s						
TURN	**Turunc**	**0.57**	**64**	PG	Pg	06 31 28.8	-4.5
TURN				SG	**Sg**	06 31 34.5	**-6.2**
TURN	**Turunc**	**0.57**	**64**	*i* P	Pg	06 31 28.6	-4.6
TURN				*i* S	**Sg**	06 31 33.8	**-7.0**
DALY	**Dalyan (Mu¨la**	**0.59**	**70**	PG	**Pg**	06 31 35.1	**+1.5**
DALY	**Dalyan (Mu¨la**	**0.59**	**70**	*i* P	**Pg**	06 31 34.6	**+1.0**
DALY				*i* S	**Sb**	06 31 43.7	**0.0**
NIS1	**Nisyros Isl.**	**0.63**	**269**	PG	**Pg**	06 31 34.1	**-0.3**
NIS1	**Nisyros Isl.**	**0.63**	**269**	P	**Pb**	06 31 35.7	**-0.1**
NIS1				S	**Sn**	06 31 46.5	**-1.9**
NIS1				AML	AML	06 31 49.7	
	comp=N,1879μm,0.5s						
NIS1				AML	AML	06 31 51.0	
	comp=E,2177μm,0.4s						
NISR	**Nisiros**	**0.67**	**269**	P	**Pg**	06 31 35.8	**+0.6**
BODT	**Bodrum**	**0.68**	**310**	PG	**Pg**	06 31 36.2	**+0.8**
MLSB	**Milas**	**0.69**	**348**	PG	**Pg**	06 31 36.2	**+0.6**
FETY	**Fethiye**	**0.90**	**89**	PG	**Pg**	06 31 40.9	**+1.3**
AYDN	**Tasoluk**	**1.04**	**356**	*i* P	**Pg**	06 31 42.6	**+0.4**
AYDN				*i* S	**Sb**	06 31 57.8	**+1.0**
TAVA	**DENIZLI_Tavas**	**1.14**	**42**	*i* P	**Pn**	06 31 45.9	**+0.9**
TAVA				*i* S	**Sn**	06 32 01.9	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**1.32**	**358**	PN	**Pn**	06 31 47.6	**0.0**
AKAS	**Kas**	**1.38**	**106**	PN	**Pg**	06 31 49.6	**+0.8**
KSL	**Kastellorizon**	**1.39**	**109**	P	**Pn**	06 31 48.0	**-0.3**
SMG	**Samos**	**1.41**	**321**	P	**Pn**	06 31 48.0	**-0.6**
GOLH	**Golhisar**	**1.42**	**64**	*i* P	**Pg**	06 31 51.4	**+1.9**
GOLH				*i* S	**Sg**	06 32 12.9	**+5.0**
ELL	**Elmali**	**1.57**	**85**	PN	**Pb**	06 31 52.4	**+0.5**
KORT	**Korkueli**	**1.95**	**78**	PN	**Pb**	06 31 57.9	**-0.5**
KULA	**Kula-Manisa**	**1.97**	**16**	PN	**Pb**	06 31 58.1	**-0.6**
ZKR	**Zakros**	**2.07**	**224**	P	**Pn**	06 31 58.5	**+0.8**
NPS	**Neapolis**	**2.34**	**235**	P	**Pn**	06 32 02.2	**+0.7**
LAST	**Lasithi**	**2.49**	**235**	P	**Pn**	06 32 04.5	**+0.9**

*GUC **25** 06:43:25.7±0.7, 32°.72S×71°.65W, h29km±4km, ML2.8*
*SJA **25** 06:43:25.2±0.3, 32°.47S×71°.80W, h10km, ML2.4, MW2.7*
ISC 25 06:43:22.4±3.1, 32°.79S±0°.07×72°.0W±0°.2, h28km±21km, n10, σ0°41/17, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.82**	**103**	⇑*i*P	**Pb**	06 43 38.6	**+0.4**
ROCH				*i* S	**Sb**	06 43 48.1	**-0.8**
PEL	**Peldehue**	**1.13**	**108**	*e*P	**Pb**	06 43 43.3	**+0.1**
PEL				*i* S	**Sn**	06 43 56.9	**-0.1**
PEL				IAML		06 43 60.0	
	comp=E,619nm,0.3s						
CLCH	**Cerro Calan**	**1.34**	**117**	⇓*i*P	**Pb**	06 43 47.1	**+0.2**
CLCH				*i* S	**Sb**	06 44 03.7	**+0.1**
CLCH				IAML		06 44 08.1	
	comp=N,253nm,0.3s						
FCH	**Farellones**	**1.50**	**111**	⇑*i*P	**Pb**	06 43 49.6	**-0.2**
FCH				*i* S	**Sb**	06 44 08.2	**-0.3**
FCH				IAML		06 44 12.2	
	comp=N,217nm,0.2s						
LMEL	**Las Melosas**	**1.81**	**126**	⇓*i*P	**Pb**	06 43 55.1	**+0.1**
LMEL				*i* S	**Sb**	06 44 17.3	**+0.1**
LMEL				IAML		06 44 20.9	
	comp=N,339nm,0.2s						
CMCH	**Combarbala**	**1.81**	**27**	*e*P	**Pb**	06 43 55.1	**+0.1**
CMCH				*e*S	**Sb**	06 44 16.8	**-0.4**
AUSP	**Uspallata**	**2.25**	**76**	*e*P	**Pb**	06 44 02.8	**+0.3**
AUSP				*e*S	**Sb**	06 44 30.5	**+0.6**
ARCO	**CERRO ARCO**	**2.55**	**92**	*e*P	**Pb**	06 44 07.8	**+0.3**
ARCO				IAML		06 44 18.6	
	comp=Z,18nm,0.3s						
ASAL	**Salagasta**	**2.64**	**86**	*e*P	**Pb**	06 44 08.7	**-0.5**
AAGR	**Agrelo**	**2.65**	**97**	*e*P	**Pb**	06 44 09.7	**+0.5**

*IDC **25** 06:46:14.3±2.0, 51°.64N×176°.21W, h0km, mb3.4/5, mb1 3.8/6, mb1mx3.5/63, mbtmp3.6/6, ML3.4/1, Error ellipse: s-maj=61.9km s-min=23.3km az=4.0*
*NEIC **25** 06:46:19.0±0.0, 51°.43N×176°.03W, h30km, ML3.3(AEIC), After AEIC.*
ISC 25 06:46:17.9±1.7, 51°.35N±0°.08×176°.12W±0°.05, h29km±13km, n42, σ1°20/42, mb3.8/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETKA	**Kagalaska Isla**	**0.55**	**341**	P	**Pn**	06 46 29.5	**-0.1**
ETKA				S	**Sn**	06 46 37.1	**-0.8**
ADK	**Adak**	**0.64**	**327**	P	**Pn**	06 46 30.9	**-0.1**
ADK				S	**Sn**	06 46 40.0	**-0.2**
GSIG	**Igitkin Island**	**0.65**	**11**	P	**Pn**	06 46 30.9	**-0.3**
GSMY	**Great Sitkin M**	**0.70**	**3**	P	**Pn**	06 46 31.9	**+0.1**
ADAG	**Mount Adagdak**	**0.70**	**335**	P	**Pb**	06 46 32.5	**+0.9**
GSTD	**Great Sitkin T**	**0.71**	**359**	P	**Pn**	06 46 32.2	**+0.2**
KIMD	**Kanaga Island**	**0.81**	**301**	P	**Pb**	06 46 33.8	**+0.4**
KIRH	**Kanaga Island**	**0.82**	**313**	P	**Pb**	06 46 34.3	**+0.7**
KIRH				S	**Sn**	06 46 45.6	**+0.9**
KIKV	**Kanaga Island**	**0.84**	**310**	P	**Pb**	06 46 34.5	**+0.6**
KIKV				S	**Sn**	06 46 46.7	**+1.5**
KICM	**Kanaga Island**	**0.88**	**311**	P	**Pb**	06 46 35.1	**+0.6**
TAPA	**Tanaga Point A**	**1.15**	**295**	P	**Pb**	06 46 39.1	**0.0**
TAFP	**Tanaga Falls P**	**1.29**	**296**	P	**Pb**	06 46 41.1	**-0.3**
TASE	**Tanaga Southea**	**1.29**	**293**	P	**Pb**	06 46 41.5	**-0.1**
ATKA	**Atka Island**	**1.47**	**54**	P	**Pn**	06 46 41.2	**-1.1**
ATKA				S	**Sn**	06 46 57.9	**-2.7**
KOWE	**Korovin West**	**1.55**	**48**	P	**Pn**	06 46 43.5	**0.0**
KOFP	**Korovin Flat P**	**1.56**	**53**	P	**Pn**	06 46 43.2	**-0.5**
KOSE	**Korovin Southe**	**1.63**	**51**	P	**Pn**	06 46 44.4	**-0.3**
GAEA	**Gareloi East**	**1.69**	**286**	P	**Pb**	06 46 47.8	**-0.6**
GALAA	**Gareloi Lava P**	**1.71**	**285**	P	**Pb**	06 46 47.8	**-0.7**
NIKH	**Nikolski High**	**4.76**	**67**	*e*Pn	**Pn**	06 47 29.6	**+2.0**
SDPT	**Sand Point**	**10.17**	**61**	*e*Pn	**Pn**	06 48 40.8	**-0.9**
ANM	**Nome**	**14.40**	**19**	*e*Pn	**Pn**	06 49 38.6	**-0.8**
KDAK	**Kodiak Island**	**15.05**	**55**	Pn	**Pn**	06 49 46.3	**-1.9**
KDAK	0.2nm,0.3s,baz=256,slow=8.3,SNR=7.4			Sn		06 52 37.8	**+4.1**
	0.1nm,0.3s,baz=332,slow=17,SNR=2.3						
HOM	**Homer**	**16.09**	**49**	*e*Pn	**Pn**	06 50 01.3	**-0.4**
	247nm,1.1s						
PETK	**Petropavlovsk-**	**16.11**	**287**	*e*Pn	**P**	06 50 03.6	**-1.4**
PMR	**Palmer**	**17.95**	**45**	*e*Pn	**P**	06 50 24.8	**-0.6**
	50nm,2.0s						
MDM	**Murphy Dome**	**19.82**	**36**	*e*P	**P**	06 50 44.2	**-1.6**
	14nm,1.7s						
BMRM	**Bremner River**	**19.83**	**49**	*e*P	**P**	06 50 45.6	**-0.3**
	68nm,1.9s						
ILAR	**Eielson Array**	**20.24**	**37**	P	**P**	06 50 48.7	**-1.7**
	0.2nm,0.4s,baz=232,slow=9.7,SNR=10						
SCRK	**Sand Creek**	**21.05**	**41**	*e*P	**P**	06 50 58.8	**-0.5**
	8.8nm,1.4s						
BBB	**Bella Bella**	**29.30**	**69**	*e*P	**P**	06 52 18.2	**+0.8**
	203nm,1.7s						
KIP	**Kipapa**	**33.04**	**148**	*e*P	**P**	06 52 51.6	**+1.0**
	67nm,1.3s						
H11N2	**WAKE ISLAND Hy**	**34.27**	**209**	T	T	07 29 37.3	
	baz=18,slow=76,SNR=30						
H11N3	**WAKE ISLAND Hy**	**34.27**	**209**	T	T	07 29 36.9	
	baz=18,slow=76,SNR=30						
H11N1	**WAKE ISLAND Hy**	**34.28**	**209**	T	T	07 29 34.9	
	baz=18,slow=76,SNR=32						
H11S1	**WAKE ISLAND Hy**	**35.48**	**209**	T	T	07 31 04.4	
	baz=19,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**35.49**	**209**	T	T	07 31 11.2	
	baz=19,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**35.49**	**209**	T	T	07 31 10.3	
	baz=19,slow=76,SNR=7.2						
PDAR	**Pinedale Array**	**44.71**	**74**	P	**P**	06 54 29.5	**+1.1**
	0.4nm,0.5s,baz=320,slow=3.8,SNR=4.8						
TXAR	**Lajitas Array**	**56.99**	**83**	P	**P**	06 56 01.4	**+0.6**
	0.2nm,0.4s,baz=303,slow=6.3,SNR=8.7						
KURBB	**Kurchatov Arra**	**60.35**	**315**	P	**P**	06 56 23.3	**-0.4**
	0.4nm,0.5s,baz=42,slow=7.0,SNR=4.6						
MKAR	**Makanchi Array**	**61.35**	**310**	P	**P**	06 56 29.7	**-1.0**
	0.2nm,0.4s,baz=52,slow=5.6,SNR=6.7						

*NEIC **25** 07:00:55.2±0.0, 51°.94N×171°.09W, h26km, ML3.6(AEIC), After AEIC.*
*ISCJB **25** 07:00:56.6±0.6, 52°.20N±0°.10×171°.22W±0°.06, h52km±5km, mb3.9/18, Error ellipse: s-maj=17.1km s-min=3.9km az=163.2*
*IDC **25** 07:00:58.2±3.5, 52°.23N×171°.21W, h49km±32km, mb3.7/17, mb1 3.9/20, mb1mx3.7/51, mbtmp3.9/20, ML3.4/3, Error ellipse: s-maj=22.4km s-min=12.6km az=178.0*
ISC 25 07:00:57.5±1.4, 52°.1N±0°.1×171°.21W±0°.05, h45km±11km, n61, σ1°09/62, mb4.0/18, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.67**	**59**	P	**Pn**	07 01 22.9	**-1.3**
NIKH				S	**Sn**	07 01 42.0	**-2.4**
KOSE	**Korovin Southe**	**1.76**	**278**	P	**Pn**	07 01 26.2	**+0.7**
KOFP	**Korovin Flat P**	**1.78**	**276**	P	**Pn**	07 01 26.1	**+0.4**
ATKA	**Atka Island**	**1.84**	**273**	P	**Pn**	07 01 25.9	**-0.6**
ATKA				S	**Sn**	07 01 48.1	**-0.4**
KOKL	**Mount Kliuchef**	**1.85**	**277**	P	**Pn**	07 01 27.2	**+0.5**
OKSP	**Okmok Steeple**	**2.10**	**57**	P	**Pn**	07 01 29.5	**-0.7**
OKSP				S	**Sn**	07 01 53.8	**-1.4**
OKCE	**Okmok Cone E**	**2.26**	**54**	P	**Pn**	07 01 32.9	**+0.5**
OKCE				S	**Sn**	07 02 01.9	**+2.9**
OKNC	**Okmok New Cone**	**2.30**	**53**	P	**Pn**	07 01 33.9	**+1.0**
OKTU	**Okmok Mt. Tuli**	**2.30**	**56**	P	**Pn**	07 01 32.9	**0.0**
OKTU				S	**Sn**	07 02 01.8	**+1.8**
GSMY	**Great Sitkin M**	**2.99**	**270**	P	**Pn**	07 01 42.8	**-0.4**
GSTD	**Great Sitkin T**	**3.04**	**271**	P	**Pn**	07 01 43.3	**+0.2**
MREP	**Makushin Rep't**	**3.18**	**56**	P	**Pn**	07 01 45.7	**+0.7**
MSW	**Makushin Switc**	**3.22**	**55**	P	**Pn**	07 01 46.1	**+0.7**
MSW				S	**Sn**	07 02 25.0	**+2.5**
UNV	**Unalaska Valle**	**3.33**	**57**	P	**Pn**	07 01 46.5	**-0.4**
ADK	**Adak**	**3.39**	**268**	P	**Pn**	07 01 47.5	**-0.2**
KIMD	**Kanaga Island**	**3.74**	**267**	P	**Pn**	07 01 53.9	**+1.2**
AKUT	**Akutan**	**3.84**	**56**	*e*Pn	**Pn**	07 01 53.0	**-1.0**
FALS	**False Pass**	**5.40**	**57**	*e*Pn	**Pn**	07 02 17.6	**+2.3**
SDPT	**Sand Point**	**7.14**	**59**	*e*Pn	**Pn**	07 02 38.3	**-0.9**
CHGN	**Chignik**	**8.58**	**56**	*e*Pn	**Pn**	07 02 58.0	**-0.9**
SMY	**Shemya**	**9.00**	**280**	*e*Pn	**Pn**	07 03 05.2	**+0.6**
OHAK	**Old Harbor**	**11.55**	**57**	*e*Pn	**Pn**	07 03 37.5	**-2.0**
KDAK	**Kodiak Island**	**12.09**	**55**	P	**Pn**	07 03 44.9	**-2.0**
	0.3nm,0.3s,baz=246,slow=10.0,SNR=3.0						
KDAK				S	Sn	07 05 49.8	-10
	0.1nm,0.3s,baz=145,slow=19,SNR=2.6						
SVW2	**Sparrevohn**	**12.41**	**38**	*e*Pn	**Pn**	07 03 50.4	**-0.8**
HOM	**Homer**	**13.28**	**48**	*e*Pn	**Pn**	07 04 03.0	**-0.1**
ILAR	**Eielson Array**	**17.80**	**35**	P	**Pn**	07 04 59.8	**-1.6**
	0.2nm,0.3s,baz=233,slow=10.0,SNR=6.4						
PETK	**Petropavlovsk-**	**18.83**	**285**	P	**Pn**	07 05 14.3	**+0.2**
	0.5nm,0.3s,baz=89,slow=15,SNR=7.2						
TOLK	**Toolik Lake Re**	**19.51**	**24**	*e*P	**P**	07 05 21.4	**+0.8**
HYT	**Haines Junctio**	**20.34**	**51**	*e*P	Pn	07 05 31.0	-1.0
DAWY	**Dawson**	**20.36**	**42**	*e*P	Pn	07 05 31.0	-1.2
SEY	**Seymchan**	**22.01**	**314**	P	**P**	07 05 48.1	**+0.6**
	6.0nm,0.9s,baz=202,slow=23,SNR=5.5						
DLBC	**Dease Lake**	**23.98**	**58**	P	**P**	07 06 09.9	**+2.5**
	2.0nm,0.6s,baz=226,slow=7.3,SNR=14						
INK	**Inuvik**	**24.17**	**34**	P	**P**	07 06 09.1	**+0.1**
	2.0nm,0.4s,baz=245,slow=8.0,SNR=29						
INK				PcP	**PcP**	07 09 49.3	**+0.9**
	1.0nm,0.5s,baz=206,slow=2.7,SNR=6.3						
YKA	**Yellowknife Ar**	**31.25**	**48**	P	**P**	07 07 12.9	**+0.5**
	0.6nm,0.3s,baz=275,slow=9.3,SNR=18						
NEW	**Newport**	**34.17**	**75**	P	**P**	07 07 37.7	**-0.4**
	1.0nm,0.4s,baz=289,slow=12,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**36.58**	**216**	T	T	07 46 44.3	
	baz=22,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**36.58**	**216**	T	T	07 46 45.4	
	baz=22,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**36.59**	**216**	T	T	07 46 47.1	
	baz=22,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**37.77**	**216**	T	T	07 48 28.0	
	baz=22,slow=76,SNR=30						
H11S2	**WAKE ISLAND Hy**	**37.78**	**216**	T	T	07 48 28.6	
	baz=22,slow=76,SNR=41						
H11S3	**WAKE ISLAND Hy**	**37.79**	**216**	T	T	07 48 29.4	
	baz=22,slow=76,SNR=15						
MJAR	**Matsushiro Ar**	**38.55**	**267**	P	**P**	07 08 16.7	**+1.1**
	0.8nm,0.7s,baz=27,slow=7.4,SNR=3.8						
NVAR	**Mina Array Bea**	**38.80**	**89**	P	**P**	07 08 18.3	**+0.5**
	0.1nm,0.3s,baz=302,slow=7.1,SNR=3.1						
PDAR	**Pinedale Array**	**41.56**	**78**	P	**P**	07 08 41.6	**+0.9**
	0.7nm,0.5s,baz=290,slow=4.2,SNR=9.7						
PDAR	**Pinedale Array**	**41.56**	**78**	*e*P	**P**	07 08 41.2	**+0.5**
SONM	**Songino Array**	**50.44**	**300**	P	**P**	07 09 50.7	**+0.3**
	0.6nm,0.3s,baz=53,slow=6.0,SNR=9.7						
SONM				PcP	**PcP**	07 11 07.8	**-0.3**
	0.2nm,0.3s,baz=84,slow=2.8,SNR=3.9						
TXAR	**Lajitas Array**	**53.89**	**87**	P	**P**	07 10 16.3	**+0.2**
	0.3nm,0.5s,baz=302,slow=5.7,SNR=7.7						
ARCES	**ARCESS Array B**	**58.03**	**353**	P	**P**	07 10 44.5	**-0.6**
	2.9nm,0.8s,baz=12,slow=7.3,SNR=14						
ARCES				PcP	**PcP**	07 11 36.2	**-0.3**
	1.4nm,0.8s,baz=38,slow=6.1,SNR=4.7						
MKAR	**Makanchi Array**	**63.14**	**312**	P	**P**	07 11 19.3	**-1.0**
	0.4nm,0.4s,baz=39,slow=6.2,SNR=9.9						
FINES	**FINESS Array B**	**65.94**	**351**	P	**P**	07 11 37.4	**-0.9**
	0.7nm,0.4s,baz=12,slow=6.7,SNR=17						
**N

FAKI	**Fak Fak**	**10.24**	**146**	*e*Pn		**Pn**		**07**	**17**	**18.0**	**-0.6**
FAKI	**Fak Fak**	**10.24**	**146**	P		Pn		07	17	27.7	+9.1
RKPI	**Ransiki, Papua**	**10.42**	**133**	P		Pn		07	17	33.1	+12
TTSI	**Tana Toraja**	**10.93**	**218**	P		**Pn**		**07**	**17**	**31.6**	**+3.5**
	132nm,1.5s,2µm										
SPSI	**Sidrap Palu**	**11.69**	**215**	P		**Pn**		**07**	**17**	**40.7**	**+2.2**
BNSI	**Bone**	**11.86**	**213**	P		**Pn**		**07**	**17**	**44.9**	**+4.1**
	69nm,1.0s										
SRPI	**Serui, Papua**	**12.23**	**127**	P		**P**		**07**	**17**	**59.7**	**+3.6**
BKSI	**Bulukumba**	**12.63**	**211**	P		**Pn**		**07**	**17**	**54.9**	**+3.6**
	16nm,0.9s										
MTKI	**Muara Teweh, K**	**13.34**	**241**	P		**P**		**07**	**18**	**12.9**	**+4.5**
SBUM	**Sibu**	**14.63**	**258**	*e*Pn		**Pn**		**07**	**18**	**20.3**	**+2.3**
SBUM	**Sibu**	**14.63**	**258**	P		**P**		**07**	**18**	**23.0**	**+0.2**
MMRI	**Maumere**	**14.82**	**197**	*e*Pn		**P**		**07**	**18**	**24.3**	**-0.6**
MMRI	**Maumere**	**14.82**	**197**	P		**P**		**07**	**18**	**26.8**	**+2.0**
EDFI	**Ende, Flores**	**15.09**	**199**	P		**Pn**		**07**	**18**	**25.7**	**+1.6**
SOEI	**Soe**	**15.46**	**188**	*e*Pn		**P**		**07**	**18**	**31.0**	**-1.1**
	168nm,1.0s										
SOEI	**Soe**	**15.46**	**188**	P		**P**		**07**	**18**	**31.5**	**-0.6**
	167nm,0.9s,1µm										
GENI	**Genyem**	**15.88**	**121**	P		P		07	18	47.5	+11
BATI	**Baumata**	**16.00**	**190**	P		**P**		**07**	**18**	**37.0**	**-1.1**
	58nm,0.3s,baz=48,slow=2.5,SNR=22										
BATI				S		**Sn**		**07**	**21**	**32.8**	**+0.4**
	2.7nm,0.3s,baz=16,slow=18,SNR=2.4										
BATI				LR		LR		07	25	00.2	
	comp=Z,573nm,19.5s,baz=318,slow=38										
BATI	**Baumata**	**16.00**	**190**	P		**P**		**07**	**18**	**37.3**	**-0.7**
	174nm,0.6s,2µm										
STKI	**Sintang**	**16.02**	**250**	P		**P**		**07**	**18**	**39.2**	**+0.9**
JAY	**Jayapura**	**16.30**	**119**	LR		LR		07	24	23.9	
	comp=Z,130nm,19.6s,baz=312,slow=35										
KSM	**Kuching**	**16.72**	**256**	*e*Pn		**P**		**07**	**18**	**46.6**	**+0.7**
	62nm,0.9s										
PLAI	**Plampang**	**16.82**	**211**	P		**Pn**		**07**	**18**	**44.7**	**-1.1**
	167nm,0.9s										
TWSI	**Taliwang, Sumb**	**17.23**	**214**	P		**P**		**07**	**18**	**53.2**	**+1.6**
	185nm,1.0s,2µm										
SRBI	**Singaraja**	**17.71**	**220**	P		**Pn**		**07**	**18**	**57.6**	**+0.8**
	85nm,1.0s										
KMMI	**Kalianget**	**17.79**	**225**	P		**Pn**		**07**	**19**	**01.0**	**+3.3**
	71nm,0.7s										
DNP	**Denpasar**	**18.16**	**219**	P		**Pn**		**07**	**19**	**04.3**	**+2.0**
DNP				pmax		pmax					
	comp=Z,330nm,1.4s										
DNP	**Denpasar**	**18.16**	**219**	P		**Pn**		**07**	**19**	**04.3**	**+2.0**
	comp=Z,352nm,1.3s										
IGBI	**Denpasar**	**18.31**	**218**	P		**P**		**07**	**19**	**01.1**	**-2.4**
	comp=Z,362nm,1.3s										
MTN	**Manton Dam**	**18.92**	**166**	P		**P**		**07**	**19**	**10.1**	**-0.1**
	baz=19,SNR=13										
MTN	**Manton Dam**	**18.92**	**166**	*e*P		**P**		**07**	**19**	**09.2**	**-1.1**
	comp=Z,37nm,0.7s										
KDU	**Kakadu**	**19.14**	**162**	P		**Pn**		**07**	**19**	**13.1**	**-0.9**
	baz=19,SNR=15										
GUMO	**Guam**	**19.71**	**65**	LR		LR		07	25	50.7	
	comp=Z,152nm,21.6s,baz=266,slow=33										
NGJI	**Ngawi**	**19.83**	**230**	P		**Pn**		**07**	**19**	**22.2**	**0.0**
PWJI	**Pagerwojo**	**20.00**	**227**	P		Pn		07	19	24.7	+0.4
	comp=Z,55nm,1.0s										
SMRI	**Semarang**	**20.42**	**232**	P		Pn		07	19	28.0	-1.2
	comp=Z,99nm,0.9s										
WOJI	**Wonogiri, Jawa**	**20.54**	**229**	P		Pn		07	19	31.0	+0.4
	comp=Z,55nm,1.4s										
QIZ	**Qiongzhong**	**21.02**	**311**	P		**P**		**07**	**19**	**33.3**	**+0.3**
QIZ				S		**S**		**07**	**23**	**25.0**	**+1.2**
JOW	**Kunigami**	**21.14**	**4**	P		**P**		**07**	**19**	**35.1**	**+0.9**
	comp=Z,5.9nm,0.7s,baz=189,slow=8.3,SNR=2.0										
KNRA	**Kununurra**	**21.29**	**174**	P		**P**		**07**	**19**	**36.8**	**+0.9**
	baz=22,SNR=141										
KPJI	**Karang Pucung**	**21.79**	**234**	P		**P**		**07**	**19**	**43.6**	**+2.4**
PPBI	**Pangkal Pinang**	**21.80**	**250**	P		**P**		**07**	**19**	**42.0**	**+0.6**
	comp=Z,72nm,0.8s,comp=Z,8µm										
PPBI				pP		**pP**		**07**	**19**	**55.6**	**+0.5**
	comp=Z,72nm,0.8s,comp=Z,8µm										
LEM	**Lembang**	**22.58**	**237**	P		**P**		**07**	**19**	**51.2**	**+1.3**
	comp=Z,131nm,0.9s,baz=24,slow=7.0,SNR=21										
LEM				LR		LR		07	28	55.3	
	comp=Z,154nm,21.6s,baz=198,slow=37										
CISI	**Cisompet, Garu**	**22.82**	**235**	*e*P		**P**		**07**	**19**	**51.9**	**-0.5**
	comp=Z,87nm,0.9s										
CISI	**Cisompet, Garu**	**22.82**	**235**	P		**P**		**07**	**19**	**52.9**	**+0.5**
	comp=Z,99nm,1.1s										
MYKOM	**Kota Tinggi**	**22.96**	**261**	*e*P		**P**		**07**	**19**	**54.0**	**+0.3**
	comp=Z,119nm,1.6s										
MYKOM	**Kota Tinggi**	**22.96**	**261**	P		**P**		**07**	**19**	**55.0**	**+1.3**
CBJI	**Citeko**	**23.02**	**239**	P		**P**		**07**	**19**	**56.8**	**+2.5**
	comp=Z,127nm,0.6s,comp=Z,11µm										
FITZ	**Fitzroy Crossi**	**23.60**	**182**	P		**P**		**07**	**20**	**00.2**	**+0.4**
	comp=Z,21nm,0.5s,baz=20,slow=8.8,SNR=123										
FITZ				S		**S**		**07**	**24**	**11.6**	**+1.9**
	comp=Z,4.4nm,1.1s,baz=256,slow=16,SNR=3.1										
FITZ	**Fitzroy Crossi**	**23.60**	**182**	P		**P**		**07**	**20**	**00.2**	**+0.4**
	baz=24,SNR=48										
FITZ	**Fitzroy Crossi**	**23.60**	**182**	*e*P		**P**		**07**	**19**	**59.3**	**-0.5**
	comp=Z,35nm,1.1s										
FITZ				S		**S**		**07**	**24**	**11.6**	**+1.9**
KLI	**Kotabumi**	**24.04**	**245**	P		**P**		**07**	**20**	**04.7**	**+0.9**
MDSI	**Maura Dua**	**24.49**	**246**	P		**P**		**07**	**20**	**08.9**	**+1.0**
MDSI				pP		**pP**		**07**	**20**	**25.5**	**+2.3**
KASI	**Kota Agung**	**24.64**	**244**	P		**P**		**07**	**20**	**10.4**	**+1.1**
	comp=Z,106nm,0.4s										
SKNT	**Sakolnakorn**	**24.79**	**299**	P		**P**		**07**	**20**	**12.0**	**+1.4**
	comp=Z,6.8nm,1.5s										
LWLI	**Liwa**	**24.82**	**245**	P		**P**		**07**	**20**	**11.0**	**-0.1**
	comp=Z,67nm,0.7s,comp=Z,9µm										
PMG	**Port Moresby**	**25.41**	**126**	LR		LR		07	31	41.3	
	comp=Z,107nm,19.6s,baz=306,slow=40										
IPM	**Ipoh**	**25.44**	**269**	*e*P		**P**		**07**	**20**	**16.2**	**-0.4**
	comp=Z,15nm,0.8s										
SRAK	**Srakaew**	**25.51**	**291**	P		**P**		**07**	**20**	**14.5**	**-2.7**
COEN	**Coen**	**25.53**	**140**	P		**P**		**07**	**20**	**17.8**	**+0.5**
	baz=26,SNR=9.5										
KULM	**Kulim**	**25.77**	**270**	*e*P		**P**		**07**	**20**	**20.1**	**+0.4**
	comp=Z,35nm,1.4s										
KULM	**Kulim**	**25.77**	**270**	P		**P**		**07**	**20**	**21.0**	**+1.4**
MASI	**Maura Aman, Be**	**25.79**	**251**	P		**P**		**07**	**20**	**21.1**	**+1.3**
	comp=Z,229nm,1.0s										
NONG	**Nongkai**	**25.97**	**300**	P		P		07	20	31.6	+10
JCJ	**Chichijima**	**26.03**	**33**	LR		LR		07	28	58.5	
	comp=Z,91nm,21.2s,baz=122,slow=32										
WRAB	**Tennant Creek**	**26.55**	**163**	*e*P		**P**		**07**	**20**	**25.5**	**-1.0**
	comp=Z,26nm,0.8s										
WRAB	**Tennant Creek**	**26.55**	**163**	*e*P		**P**		**07**	**20**	**25.5**	**-1.0**
WRAB				pmax		pmax					
	comp=Z,26nm,0.8s										
WRA	**Warramunga Arr**	**26.55**	**163**	P		**P**		**07**	**20**	**26.5**	**-0.1**
	comp=Z,13nm,0.6s,baz=343,slow=10,SNR=78										
WRA				PcP		**PcP**		**07**	**23**	**50.5**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=330,slow=2.7,SNR=4.0										
WRA				S		**S**		**07**	**24**	**54.0**	**-2.7**
	comp=Z,1.9nm,1.0s,baz=344,slow=16,SNR=5.0										
WRA				ScP		**ScP**		**07**	**27**	**25.9**	**+1.2**
	comp=Z,2.4nm,0.8s,baz=343,slow=3.6,SNR=5.6										
WRA				LR		LR		07	32	35.4	
	comp=Z,97nm,20.4s,baz=310,slow=40										
WB2	**Warramunga Arr**	**26.56**	**163**	*e*P		**P**		**07**	**20**	**25.6**	**-1.0**
PDSI	**Padang**	**26.84**	**257**	P		**P**		**07**	**20**	**28.8**	**-0.5**
	comp=Z,82nm,1.1s										
NJ2	**Nanjing**	**27.24**	**346**	*e*P		**P**		**07**	**20**	**31.5**	**-1.1**
NJ2				pmax		pmax					
	comp=Z,12nm,0.8s										
WHN	**Wuhan**	**27.30**	**337**	ǁP		P		07	20	42.0	+8.9
WHN				S		**S**		**07**	**25**	**16.3**	**+8.0**
WHN				LR		LR					
	comp=Z,730nm,28.8s										
PBKT	**Sadao Pong**	**27.30**	**296**	*e*P		**P**		**07**	**20**	**32.8**	**-0.5**
	comp=Z,7.7nm,0.8s										
PBKT	**Sadao Pong**	**27.30**	**296**	P		**P**		**07**	**20**	**35.0**	**+1.7**
	comp=Z,11nm,0.9s,comp=Z,819nm										
MNSI	**Mandailing Nat**	**27.34**	**261**	P		**P**		**07**	**20**	**32.8**	**-0.9**
	comp=Z,13nm,0.7s										
PHET	**Kaeng Krachan**	**27.50**	**287**	P		**P**		**07**	**20**	**39.0**	**+3.8**
	comp=Z,4.8nm,0.8s										
PSI	**Prapat**	**27.68**	**265**	P		**P**		**07**	**20**	**34.7**	**-2.2**
	comp=Z,4.8nm,0.4s,baz=358,slow=5.2,SNR=5.7										
PSI				ScP		**ScP**		**07**	**27**	**28.4**	**0.0**
	comp=Z,3.9nm,0.7s,baz=181,slow=4.3,SNR=4.4										
PSI				LR		LR		07	32	55.5	
	comp=Z,139nm,18.4s,baz=70,slow=39										
PSI	**Prapat**	**27.68**	**265**	*e*P		**P**		**07**	**20**	**36.6**	**-0.3**
	comp=Z,9.9nm,0.8s										
PSI				ScP		**ScP**		**07**	**27**	**28.4**	**0.0**
PSI	**Prapat**	**27.68**	**265**	*e*P		**P**		**07**	**20**	**36.6**	**-0.3**
PSI				pmax		pmax					
	comp=Z,10.0nm,0.8s										
GYA	**Guiyang**	**28.08**	**320**	P		**P**		**07**	**20**	**41.3**	**+1.0**
GYA				pmax		pmax					
	comp=Z,10.0nm,1.0s										
KCSI	**Kotacane, Aceh**	**28.75**	**267**	P		**P**		**07**	**20**	**47.2**	**+0.9**
	comp=Z,15nm,1.4s										
SUKH	**Sukhothai**	**28.82**	**296**	P		P		07	20	52.6	+5.7
	comp=Z,2.3nm,0.6s										
QIS	**Mount Isa**	**29.03**	**154**	P		**P**		**07**	**20**	**49.3**	**+0.6**
	baz=29,SNR=7.2										
GSI	**Gunungsitoli**	**29.22**	**263**	*e*P		**P**		**07**	**20**	**49.1**	**-1.5**
	comp=Z,44nm,0.8s										
GSI	**Gunungsitoli**	**29.22**	**263**	P		**P**		**07**	**20**	**49.0**	**-1.5**
	comp=Z,70nm,1.1s										
MTSU	**Mount Surprise**	**29.42**	**144**	P		**P**		**07**	**20**	**53.1**	**+0.9**
	baz=30,SNR=11										
CMAR	**Chiang Mai Arr**	**29.78**	**298**	P		**P**		**07**	**20**	**55.0**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=115,slow=7.4,SNR=13										
CMAR				PcP		**PcP**		**07**	**23**	**57.9**	**0.0**
	comp=Z,1.3nm,0.4s,baz=121,slow=1.0,SNR=7.4										
CMAR				ScP		**ScP**		**07**	**27**	**35.8**	**+1.0**
	comp=Z,7.7nm,1.1s,baz=131,slow=1.5,SNR=24										
CMAR				LR		LR		07	33	06.7	
	comp=Z,63nm,19.4s,baz=121,slow=37										
CMMT	**Chiang Mai**	**29.91**	**298**	P		P		07	21	05.2	+8.6
CHTO	**Chiang Mai**	**29.92**	**298**	*e*P		**P**		**07**	**20**	**55.5**	**-1.1**
	comp=Z,4.1nm,0.6s										
CHTO				pmax		pmax					
	comp=Z,4.0nm,0.6s										
CHTO	**Chiang Mai**	**29.92**	**298**	P		P		07	21	05.6	+9.0
KMI	**Kunming**	**29.93**	**313**	P		**P**		**07**	**20**	**58.0**	**+1.1**
KMI				pmax		pmax					
	comp=Z,15nm,0.5s										
KMI				pmax		pmax					
	comp=Z,65nm,4.0s										
AS31	**Alice Springs**	**30.00**	**166**	*e*P		**P**		**07**	**20**	**56.8**	**-0.5**
	comp=Z,5.2nm,0.5s										
ASAR	**Alice Springs**	**30.00**	**166**	P		**P**		**07**	**20**	**57.2**	**-0.1**
	comp=Z,9.6nm,0.5s,baz=351,slow=7.4,SNR=248										
ASAR				PcP		**PcP**		**07**	**23**	**58.5**	**0.0**
	comp=Z,2.8nm,0.5s,baz=349,slow=2.4,SNR=7.5										
ASAR				S		**S**		**07**	**25**	**51.9**	**+0.9**
	comp=Z,0.9nm,0.9s,baz=348,slow=17,SNR=3.7										
ASAR				ScP		**ScP**		**07**	**27**	**36.5**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=348,slow=3.3,SNR=7.1										
AS01	**Alice Springs**	**30.01**	**166**	*e*P		**P**		**07**	**20**	**56.6**	**-0.8**
AS01				*e*pP		**pP**		**07**	**21**	**08.0**	**-4.7**
WRKA	**Warakurna**	**30.54**	**177**	P		**P**		**07**	**21**	**02.5**	**+0.4**
	baz=31,SNR=43										
GIRL	**Giralia**	**30.58**	**203**	P		**P**		**07**	**21**	**03.9**	**+1.6**
	baz=31,SNR=4.5										
KSAR	**Wonju Array Be**	**31.68**	**2**	P		**P**		**07**	**21**	**13.0**	**+1.2**
KSAR	**Wonju Array Be**	**31.68**	**2**	P		**P**		**07**	**21**	**13.0**	**+1.2**
KSRS	**Korea Array**	**31.69**	**2**	P		**P**		**07**	**21**	**13.0**	**+1.1**
	comp=Z,1.4nm,0.8s,baz=184,slow=9.3,SNR=4.1										
KSRS				LR		LR		07	33	21.5	
	comp=Z,96nm,22.0s,baz=180,slow=35										
CTA	**Charters Tower**	**32.09**	**143**	P		**P**		**07**	**21**	**16.4**	**+0.8**
	comp=Z,3.5nm,0.6s,baz=314,slow=10,SNR=7.1										
MJAR	**Matsushiro Arr**	**32.56**	**18**	P		**P**		**07**	**21**	**17.9**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=192,slow=11,SNR=3.0										
MJAR				PcP		**PcP**		**07**	**24**	**05.5**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=198,slow=4.5,SNR=3.2										
MJAR				LR		LR		07	32	49.3	
	comp=Z,107nm,21.6s,baz=205,slow=33										
XAN	**Xi'an**	**32.64**	**332**	P		**P**		**07**	**21**	**19.8**	**-0.6**
XAN				pP		pP		07	21	34.5	-1.4
XAN				sP		sP		07	21	41.0	-2.3
XAN				PP		**PnPn**		**07**	**22**	**29.0**	**-1.3**
XAN				S		**S**		**07**	**26**	**29.8**	**-2.3**
XAN				sS		sS		07	26	55.3	-3.2
XAN				SS		**SnSn**		**07**	**28**	**30.0**	**-2.5**
XAN				pmax		pmax					
	comp=Z,6.0nm,0.9s										
XAN				pmax		pmax					
	comp=Z,89nm,3.5s										
XAN				LR		LR					
	comp=Z,220nm,17.3s										
XAN				LR		LR					
	comp=Z,170nm,16.8s										
XAN				LR		LR					
	comp=Z,280nm,18.7s										
MEEK	**Meekatharra**	**32.99**	**193**	P		**P**		**07**	**21**	**23.2**	**-0.3**
	baz=33,SNR=40										
CD2	**Chengdu**	**33.01**	**322**	*e*P		**P**		**07**	**21**	**23.8**	**+0.1**
CD2				S		**S**		**07**	**26**	**39.5**	**+1.6**
CD2				pmax		pmax					
	comp=Z,10.0nm,0.5s										
CD2				pmax		pmax					
	comp=Z,120nm,4.8s										
CD2				LR		LR					
	comp=Z,550nm,15.2s										
CD2				LR		LR					
	comp=Z,500nm,14.7s										
BJI	**Beijing**	**35.50**	**346**	⇑*i*P		**P**		**07**	**21**	**45.5**	**+0.5**
BJI				pmax		pmax					
	comp=Z,17nm,0.9s										
MORW	**Morawa**	**35.96**	**196**	P		**P**		**07**	**21**	**49.2**	**+0.1**
	baz=36,SNR=10										
FORT	**Forrest**	**36.24**	**178**	P		**P**		**07**	**21**	**51.7**	**+0.3**
	baz=37,SNR=9.1										
FORT	**Forrest**	**36.24**	**178**	*e*P		**P**		**07**	**21**	**51.5**	**0.0**
	comp=Z,51nm,0.6s										
QLP	**Quilpie**	**36.33**	**153**	P		**P**		**07**	**21**	**52.3**	**0.0**
	baz=37,SNR=4.4										
LZH	**Lanzhou**	**36.78**	**329**	*e*P		**P**		**07**	**21**	**58.5**	**+2.3**
LZH				pP		pP		07	22	12.3	+0.4
LZH				sP		sP		07	22	18.0	-1.3
LZH				*e*PP		**PnPn**		**07**	**23**	**25.8**	**+4.1**
LZH				pmax		pmax					
	comp=Z,23nm,1.3s										
LZH				pmax		pmax					
	comp=Z,78nm,5.1s										
LZH				LR		LR					
	comp=Z,490nm,13.5s										
LZH				LR		LR					
	comp=Z,520nm,14.0s										
LZH				LR		LR					
	comp=Z,720nm,16.7s										
KMBL	**Kambalda**	**37.07**	**187**	P		**P**		**07**	**21**	**59.0**	**+0.5**
	baz=37,SNR=17										
BLDU	**Ballidu**	**37.26**	**194**	P		**P**		**07**	**21**	**60.0**	**-0.2**
	baz=38,SNR=30										
HHC	**Hu-ho-hao-te**	**37.54**	**341**	*e*P		**P**		**07**	**22**	**03.5**	**+0.9**
HHC				S		**S**		**07**	**27**	**49.5**	**+2.2**
HHC				pmax		pmax					
	comp=Z,26nm,1.0s										
HHC				pmax		pmax					
	comp=Z,110nm,3.5s										
HHC				LR		LR					
	comp=Z,120nm,11.2s										
HHC				LR		LR					
	comp=Z,150nm,12.1s										
HHC				LR		LR					
	comp=Z,170nm,10.4s										
BRDH	**Bariadhala**	**37.69**	**300**	LR		LR		07	39	04.7	
	comp=Z,112nm,18.6s,baz=134,slow=38										
KLBR	**Kellerberrin**	**37.96**	**192**	P		**P**		**07**	**22**	**06.3**	**+0.2**
	baz=38,SNR=26										
SHL	**Shillong**	**38.62**	**305**	*e*P		**P**		**07**	**22**	**11.7**	**-0.3**
	comp=Z,12nm,0.6s										
SHL	**Shillong**	**38.62**	**305**	*e*P		**P**		**07**	**22**	**11.7**	**-0.3**
SHL				pmax		pmax					
	comp=Z,12nm,0.6s										
MUN	**Mundaring**	**38.68**	**194**	P		**P**		**07**	**22**	**12.3**	**+0.2**
	baz=39,SNR=17										
USRK	**Ussuriysk Ar.**	**38.70**	**6**	P		**P**		**07**	**22**	**11.9**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=200,slow=5.5,SNR=3.7										
BBOO	**Buckleboo**	**39.29**	**167**	P		**P**		**07**	**22**	**17.9**	**+0.7**
	baz=40,SNR=71										
BBOO	**Buckleboo**	**39.29**	**167**	*e*P		**P**		**07**	**22**	**17.4**	**+0.2**
	comp=Z,64nm,0.6s										
NWAO	**Narrogin (SRO)**	**39.36**	**192**	LR		LR		07	40	55.2	
	comp=Z,61nm,18.4s,baz=324,slow=40										
NWAO	**Narrogin (SRO)**	**39.36**	**192**	P		**P**		**07**	**22**	**18.3**	**+0.5**
	baz=40,SNR=23										
NWAO	**Narrogin (SRO)**	**39.36**	**192**	*e*P		**P**		**07**	**22**	**18.3**	**+0.5**
	comp=Z,73nm,1.4s										
NWAO	**Narrogin (SRO)**	**39.36**	**192**	*e*P		**P**		**07**	**22**	**18.3**	**+0.5**
NWAO				pmax		pmax					
	comp=Z,73nm,1.4s										
STKA	**Stephens Creek**	**39.97**	**160**	P		**P**		**07**	**22**	**23.2**	**+0.3**
	comp=Z,12nm,0.6s,baz=345,slow=7.8,SNR=26										
STKA				LR		LR		07	41	23.8	
	comp=Z,68nm,18.5s,baz=354,slow=40										
STKA	**Stephens Creek**	**39.97**	**160**	P		**P**		**07**	**22**	**23.6**	**+0.7**
	baz=40,SNR=11										
STKA	**Stephens Creek**	**39.97**	**160**	*e*P		**P**		**07**	**22**	**23.1**	**+0.2**
	comp=Z,4.1nm,0.9s										
STKA	**Stephens Creek**	**39.97**	**160**	*e*P		**P**		**07**	**22**	**23.1**	**+0.2**
STKA				pmax		pmax					
	comp=Z,4.0nm,0.9s										
HTT	**Hallett**	**40.59**	**164**	P		**P**		**07**	**22**	**29.0**	**+0.9**
	baz=41,SNR=11										
RKGY	**Rocky Gully**	**41.04**	**192**	P		**P**		**07**	**22**	**33.2**	**+1.6**
	baz=41,SNR=23										
H11S3	**WAKE ISLAND Hy**	**41.17**	**68**	T		T		08	06	33.9	
	baz=258,slow=75,SNR=21										
H11S1	**WAKE ISLAND Hy**	**41.19**	**68**	T		T		08	06	34.9	
	baz=258,slow=75,SNR=24										
H11S2	**WAKE ISLAND Hy**	**41.19**	**68**	T		T		08	06	34.2	
	baz=258,slow=75,SNR=31										
CMSA	**Cobar Meteorol**	**41.24**	**155**	P		**P**		**07**	**22**	**34.2**	**+0.9**
	baz=42,SNR=7.5										
GTA	**Gaotai**	**41.38**	**328**	*e*P		**P**		**07**	**22**	**34.8**	**+0.2**
GTA				PcP		**PcP**		**07**	**24**	**32.5**	**+0.7**
GTA				ScP		**ScP**		**07**	**28**	**18.8**	**+2.2**
GTA				ScS		**ScS**		**07**	**32**	**33.0**	**+0.2**
GTA				pmax		pmax					
	comp=Z,3.0nm,1.0s										
GTA				pmax		pmax					
	comp=Z,84nm,4.8s										
GTA				LR		LR					
	comp=Z,170nm,20.0s										
GTA				LR		LR					
	comp=Z,190nm,19.4s										
GTA				LR		LR					
	comp=Z,300nm,20.3s										
H11N1	**WAKE ISLAND Hy**	**41.65**	**67**	T		T		08	07	12.0	
	baz=255,slow=75,SNR=16										
H11N2	**WAKE ISLAND Hy**	**41.66**	**67**	T		T		08	07	10.7	
	baz=255,slow=75,SNR=15										
H11N3	**WAKE ISLAND Hy**	**41.66**	**67**	T		T		08	07	13.1	
	baz=255,slow=75,SNR=16										
TAPN	**Taplejung**	**42.76**	**305**	*e*P		**P**		**07**	**22**	**46.1**	**-0.1**
	comp=Z,14nm,0.4s										
ODAN	**Odare**	**42.83**	**304**	*e*P		**P**		**07**	**22**	**47.4**	**+0.6**
RAMN	**Ramite**	**43.52**	**304**	*e*P		**P**		**07**	**22**	**52.8**	**+0.5**
	comp=Z,11nm,0.5s										
KLR	**Kul'dur**	**43.66**	**5**	LR		LR		07	41	00.1	
	comp=Z,30nm,20.2s,baz=186,slow=36										
KLR	**Kul'dur**	**43.66**	**5**	*i* P		**P**		**07**	**22**	**52.5**	**-0.3**
JIRN	**Jiri**	**44.12**	**304**	*e*P		**P**		**07**	**22**	**57.3**	**0.0**
	comp=Z,21nm,0.4s										
GUN	**Gumba**	**44.47**	**305**	*e*P		**P**		**07**	**23**	**00.2**	**+0.1**
	comp=Z,19nm,0.5s										
ARPS	**Mount Arapiles**	**

KBL pmax pmax
comp=Z,13nm,0.8s
KK31 Karatay Array 61.72 316 *eP* **P 07 25 04.4 -1.9**
KK31 Karatay Array 61.72 316 *eP* **P 07 25 04.4 -1.9**
KKAR Karatay Array 61.72 316 *eP* **P 07 25 04.6 -1.7**
KKAR Karatay Array 61.72 316 *eP* **P 07 25 04.6 -1.7**
BRVK Borovoye 65.70 327 *eP* **P 07 25 30.8 -1.5**
comp=Z,8.1nm,0.7s
BRVK Borovoye 65.70 327 *iP* **P 07 25 33.0 +0.8**
BRVK pmax pmax
comp=Z,8.0nm,0.8s
TIXI Tiksi 65.95 1 *eP* **P 07 25 31.9 -1.5**
comp=Z,13nm,1.2s
TIXI Tiksi 65.95 1 *iP* **P 07 25 34.3 +0.8**
TIXI pmax pmax
comp=Z,9.0nm,1.0s
BILL Bilibino 67.77 15 *eP* **P 07 25 47.2 +2.1**
BILL *e* 07 26 10.7
BILL *e* 07 28 12.1
BILL pmax pmax
comp=Z,3.0nm,1.3s
NRIK Noril'sk 68.54 346 P **P 07 25 50.4 +0.4**
comp=Z,10nm,0.8s,baz=127,slow=5.9,SNR=15
NRIK LR LR 07 57 52.8
comp=Z,62nm,21.4s,baz=198,slow=38
GEYT Alibeck 69.56 308 P **P 07 25 56.6 -0.4**
comp=Z,1.8nm,0.7s,baz=101,slow=7.8,SNR=5.4
GEYT LR LR 08 00 06.3
comp=Z,27nm,18.0s,baz=225,slow=39
ABKAR Akbulak array 70.56 320 *eP* **P 07 26 00.8 -2.0**
SVE Sverdlovsk 72.25 328 *eP* **P 07 26 12.5 -0.3**
SVE pmax pmax
comp=Z,14nm,0.8s
ARU Arti 73.23 327 *eP* **P 07 26 17.0 -1.6**
comp=Z,8.4nm,0.6s
ARU Arti 73.23 327↓ *eP* **P 07 26 18.0 -0.6**
ARU pmax pmax
comp=Z,7.0nm,0.6s
MIR Mirnyy 75.96 193↓ *iP* **P 07 26 36.0 +1.9**
MIR pmax pmax
comp=Z,66nm,1.2s
GNI Garni 80.12 310 *iP* **P 07 26 56.8 -1.3**
GNI pmax pmax
comp=Z,21nm,1.2s
TBLG Delisi 80.16 311 *eP* **P 07 26 57.1 -1.0**
comp=Z,16nm,0.8s
TBLG Delisi 80.16 311 *eP* **P 07 26 57.1 -1.0**
TBLG pmax pmax
comp=Z,16nm,0.8s
IM3 Indian Mountai 80.69 24 *eP* **P 07 26 58.1 -2.2**
PRGR Permogore 80.74 331 *eP* **P 07 26 56.5 -4.2**
PRGR pmax pmax
comp=Z,10.0nm,0.6s
ZEI Tsey 80.80 312 *eP* **P 07 26 59.9 -1.8**
ZEI pmax pmax
comp=Z,10.0nm,0.6s
AKH Akhalkalaki 81.09 311 *eP* **P 07 27 02.5 -0.7**
comp=Z,11nm,0.6s
AKH Akhalkalaki 81.09 311 *eP* **P 07 27 02.5 -0.7**
AKH pmax pmax
comp=Z,11nm,0.6s
CAST Castle Rocks 81.12 27 *eP* **P 07 27 00.7 -2.1**
comp=Z,4.7nm,1.0s
KBZ Khabaz 81.54 313 P **P 07 27 03.5 -1.8**
comp=Z,3.9nm,0.8s,baz=122,slow=7.7,SNR=6.1
KBZ LR LR 08 07 47.8
comp=Z,50nm,20.2s,baz=69,slow=39
KIV Kislovodsk 81.69 313 *eP* **P 07 27 04.2 -2.1**
KIV pmax pmax
comp=Z,9.0nm,0.9s
MLY Manley 81.84 25 *eP* **P 07 27 05.0 -1.6**
comp=Z,5.6nm,0.8s
VRH Novokhopyorsk 82.39 321 *eP* **P 07 27 08.5 -1.1**
VRH pmax pmax
comp=Z,6.0nm,0.5s
TOLK Toolik Lake Re 82.55 22 *eP* **P 07 27 10.0 -0.2**
comp=Z,4.3nm,0.8s
MDM Murphy Dome 82.90 25 *eP* **P 07 27 10.4 -1.7**
comp=Z,19nm,1.7s
CCB Clear Creek Bu 83.08 26 *eP* **P 07 27 12.2 -0.7**
comp=Z,16nm,1.7s
IL1 Eielson Array 83.47 26 *eP* **P 07 27 13.9 -1.1**
ILAR Eielson Array 83.47 26 P **P 07 27 13.8 -1.2**
comp=Z,1.6nm,0.8s,baz=239,slow=4.5,SNR=16
ILAR LR LR 08 03 28.3
comp=Z,21nm,20.6s,baz=293,slow=35
ILB Eielson Array 83.47 26 *eP* **P 07 27 13.5 -1.4**
KLMR Klimovskoe 83.66 331 *eP* **P 07 27 11.4 -4.5**
KLMR pmax pmax
comp=Z,20nm,1.1s
KLMR Klimovskoe 83.66 331 *eP* **P 07 27 11.5 -4.5**
KLMR AMP 07 27 23.1
comp=Z,20nm,1.1s
VORD Divnogorie 83.92 321 *eP* **P 07 27 20.7 +3.2**
VORD pmax pmax
comp=Z,6.0nm,0.8s
VSR Storozhevoye 84.00 321 *eP* **P 07 27 19.1 +1.2**
VSR pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 84.11 322 *eP* P 07 27 13.2 -5.2
LPSR pmax pmax
comp=Z,7.0nm,0.5s
RIDG Independ'e Rid 84.37 27 *eP* **P 07 27 18.7 -0.9**
comp=Z,45nm,1.7s
VNDA Vanda 85.33 173 P **P 07 27 24.5 +0.4**
comp=Z,3.5nm,0.7s,baz=315,slow=6.6,SNR=16
VNDA LR LR 08 04 36.0
comp=Z,44nm,21.1s,baz=325,slow=35
VNDA Vanda 85.33 173 *eP* **P 07 27 24.9 +0.8**
comp=Z,4.0nm,0.8s
VNDA Vanda 85.33 173 *eP* **P 07 27 24.9 +0.8**
VNDA pmax pmax
comp=Z,4.0nm,0.8s
OBN Obninsk 85.40 325 *eP* **P 07 27 23.3 -1.6**
OBN *e* 07 30 44.2
OBN pmax pmax
comp=Z,8.0nm,0.8s
MAW Mawson 85.47 200 P **P 07 27 25.4 +0.5**
comp=Z,3.5nm,0.8s,baz=54,slow=4.1,SNR=9.2
MAW LR LR 08 00 25.6
comp=Z,28nm,21.2s,baz=5.0,slow=32
MAW Mawson 85.47 200 P **P 07 27 25.7 +0.8**
baz=86,SNR=5.6
MAW Mawson 85.47 200 *eP* **P 07 27 25.4 +0.5**
comp=Z,1.4nm,1.0s
MAW Mawson 85.47 200 *eP* **P 07 27 25.4 +0.5**
MAW pmax pmax
comp=Z,1.0nm,1.0s
INK Inuvik 88.47 21 PKKPbc PKKPbc 07 45 20.6 -3.7
comp=Z,0.6nm,0.7s,baz=76,slow=2.9,SNR=4.1
ARCES ARCESS Array B 88.60 340 P **P 07 27 39.4 -0.8**
comp=Z,5.8nm,0.8s,baz=83,slow=6.3,SNR=20
BR131 Keskin Array S 88.66 310 *eP* **P 07 27 39.4 -1.9**
BRTR Keskin Array B 88.67 310 P **P 07 27 39.1 -2.2**
comp=Z,2.7nm,0.8s,baz=109,slow=4.2,SNR=9.7
BRTR LR LR 08 14 10.1
comp=Z,14nm,18.8s,baz=86,slow=40
BRTR Keskin Array B 88.67 310*ceP* **P 07 27 39.2 -2.1**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
KMBO Kilima Mbogo 89.40 269 P **P 07 27 44.9 -0.5**
comp=Z,0.5nm,0.4s,baz=30,slow=20,SNR=3.6
FINES FINESS Array B 90.07 332 P **P 07 27 46.0 -1.1**
comp=Z,2.9nm,0.7s,baz=44,slow=4.1,SNR=20
FINES LR LR 08 11 20.3
comp=Z,70nm,20.5s,baz=78,slow=38
AKASG Malin Array Be 90.30 321 P **P 07 27 46.3 -2.1**
comp=Z,0.5nm,0.4s,baz=70,slow=4.1,SNR=4.8
AKASG Malin Array Be 90.30 321 *iP* **P 07 27 49.5 +1.1**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
BUR04 Bucovina Ar. S 93.46 318 *eP* **P 07 28 02.0 -1.3**
BUR08 Bucovina Ar. S 93.46 318 *eP* **P 07 28 02.2 -1.1**
SYO Syowa Base 94.13 201↓ *eP* **P 07 28 04.0 -1.7**
NB2 NORSAR Subarra 97.00 334 P **P 07 28 16.7 -2.4**
comp=Z,2.3nm,0.9s,baz=65,slow=4.4
NB2 NORSAR Subarra 97.00 334 P **P 07 28 16.7 -2.4**
baz=65,slow=4.4
NOA NORSAR Array B 97.00 334 P **P 07 28 17.0 -2.1**
comp=Z,0.7nm,0.7s,baz=65,slow=4.6,SNR=4.4
NOA LR LR 08 15 52.9
comp=Z,56nm,20.6s,baz=65,slow=38
CLL Collm 99.99 324 *ePdif* **Pdif 07 28 31.0 -1.6**
CLL Collm 99.99 324 *eP* **Pdif 07 28 31.0 -1.6**
NVAR Mina Array Bea 105.78 48 PKKPab PKKPab 07 44 51.1 -1.9
comp=Z,0.1nm,0.3s,baz=75,slow=6.5,SNR=4.6

PDAR Pinedale Array 110.04 41 PKKPab PKKPab 07 44 31.6 -2.4
comp=Z,0.6nm,0.9s,baz=119,slow=5.2,SNR=4.4
TXAR Lajitas Array 120.57 51 PKP **PKPdf 07 33 39.8 0.0**
comp=Z,0.3nm,0.7s,baz=259,slow=1.9,SNR=5.0
TXAR PKKPbc **PKKPbc 07 43 45.5 -0.5**
comp=Z,0.5nm,0.7s,baz=128,slow=5.8,SNR=6.4
TORD Torodi Ar. Bea 122.13 289 PKP **PKPdf 07 33 41.7 -1.3**
comp=Z,3.1nm,0.9s,baz=45,slow=2.3,SNR=17
JCT Junction City 122.95 48 *ePKPdf* **PKPdf 07 33 43.8 -0.5**
JCT Junction City 122.95 48 *ePKIKP* **PKPdf 07 33 43.8 -0.5**
PLCA Paso Flores 141.85 159 PKP **PKPdf 07 34 17.1 -2.4**
comp=Z,1.8nm,0.9s,baz=238,slow=3.4,SNR=4.4

IDC ***25*** *07:25:52.6±1.3, 1˚.15N×126˚.68E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/43, mbtmp3.7/5, ML3.2/1, Error ellipse: s-maj=102.1km s-min=19.2km az=72.0*
ISCJB ***25*** *07:25:56.5±1.0, 1˚.22N×0˚.08×126˚.86E±0˚.09, h39km, mb3.8/4, Error ellipse: s-maj=12.7km s-min=10.6km az=157.8*
DJA ***25*** *07:26:01.9±1.1, 1˚N±7˚×12˚7E±˚, h22km±15km, M3.8/6, MLv3.8/6*
ISC 25 07:25:59.6±1.0,**1˚.15N**±0˚.09×**126˚.65E**±0˚.06,**h39**km,**n9,**
σ2s44/12,mb3.9/4,Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.81**	**118**	P	**Pn**	**07 26 17.4**	**+2.9**
TNTI				S	**Sn**	**07 26 27.7**	**+2.4**
KMSI	**Cibinong**	**2.73**	**258**	P	**Pn**	**07 26 42.9**	**+2.0**
KMSI				S	**Sn**	**07 27 16.4**	**+3.8**
SANI	**Sanana**	**3.24**	**192**	P	**Pn**	**07 26 50.0**	**+2.0**
SANI				S	**Sn**	**07 27 24.5**	**-0.9**
NLAI	**Namlea**	**4.38**	**174**	P	**Pn**	**07 27 05.2**	**+1.6**
FITZ	**Fitzroy Crossi**	**19.15**	**183**	P	**P**	**07 30 17.8**	**-1.9**
	0.1nm,0.3s,baz=7.6,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**22.28**	**161**	P	**P**	**07 30 51.5**	**-2.0**
	3.7nm,0.6s,baz=340,slow=11,SNR=26						
ASAR	**Alice Springs**	**25.66**	**164**	P	**P**	**07 31 24.1**	**-1.8**
	0.5nm,0.4s,baz=346,slow=9.1,SNR=13						
SONM	**Songino Array**	**49.71**	**342**	P	**P**	**07 34 46.8**	**-1.2**
	0.5nm,0.6s,baz=156,slow=9.1,SNR=2.6						
MKAR	**Makanchi Array**	**59.63**	**326**	P	**P**	**07 35 58.5**	**-1.2**
	0.5nm,0.4s,baz=121,slow=7.6,SNR=7.0						

ISCJB ***25*** *07:33:47.7±0.7, 5˚.7N±0˚.1×126˚.6E±0˚.1, h71km, mb3.9/7, Error ellipse: s-maj=19.3km s-min=6.9km az=44.0*
MAN ***25*** *07:33:47.5, 5˚.92N×126˚.58E, h119km, mb4.8, ML3.7, MS3.7*
IDC ***25*** *07:33:50.1±2.3, 5˚.80N×126˚.79E, h81km±19km, mb3.7/7, mb1 3.9/8, mb1mx3.4/44, mbtmp4.0/8, Error ellipse: s-maj=64.3km s-min=12.0km az=62.0*
ISC 25 07:33:49.6±0.8,**5˚.65N**±0˚.10×**126˚.5E**±0˚.1,**h71**km,**n14,**
σ1s31/16,mb3.9/7,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.87**	**302**	*eP*	**Pn**	**07 34 05.8**	**-0.8**
GSPH	**General Santos**	**1.56**	**286**	*eP*	**Pn**	**07 34 14.3**	**-1.2**
DAV	**Davao City (W)**	**1.66**	**328**	P	**Pn**	**07 34 16.8**	**0.0**
	78nm,0.3s,baz=248,slow=11,SNR=7.3						
DAV				S	**Sn**	**07 34 40.9**	**+3.6**
	67nm,0.3s,baz=283,slow=21,SNR=5.9						
SKMP	**Bagumbayan, Su**	**2.09**	**295**	*eP*	**Pn**	**07 34 22.7**	**+0.2**
SKMP				*eS*	**Sn**	**07 34 48.6**	**+1.1**
BUKP	**Musuan**	**2.61**	**328**	*eP*	**Pn**	**07 34 27.7**	**-2.0**
CTBH	**Cotabato--PC H**	**2.69**	**306**↓	*iP*	**Pn**	**07 34 30.1**	**-0.6**
SIJI	**Sorong**	**8.06**	**143**	P	**Pn**	**07 35 44.0**	**-0.1**
	0.9nm,0.3s,baz=342,slow=19,SNR=4.6						
FITZ	**Fitzroy Crossi**	**23.61**	**182**	P	**P**	**07 38 55.3**	**+0.9**
	2.0nm,0.4s,baz=1.8,slow=9.4,SNR=18						
WRA	**Warramunga Arr**	**26.59**	**163**	P	**P**	**07 39 21.1**	**-0.3**
	0.9nm,0.5s,baz=343,slow=10,SNR=16						
ASAR	**Alice Springs**	**30.03**	**166**	P	**P**	**07 39 52.2**	**+0.2**
	0.9nm,0.6s,baz=349,slow=7.1,SNR=22						
STKA	**Stephens Creek**	**40.01**	**160**	P	**P**	**07 41 18.0**	**+0.3**
	2.1nm,0.8s,baz=341,slow=7.2,SNR=3.7						
MKAR	**Makanchi Array**	**55.84**	**325**	P	**P**	**07 43 19.2**	**-0.6**
	0.5nm,0.5s,baz=120,slow=6.3,SNR=8.4						
ARCES	**ARCESS Array B**	**88.57**	**340**	P	**P**	**07 46 33.9**	**-0.4**
	3.2nm,1.0s,baz=80,slow=6.6,SNR=3.7						
FINES	**FINESS Array B**	**90.02**	**332**	P	**P**	**07 46 40.7**	**-0.6**
	1.7nm,1.0s,baz=41,slow=4.4,SNR=3.4						

ISCJB ***25*** *07:46:09.7±0.5, 6˚.95S±0˚.05×129˚.53E±0˚.06, h200km, mb3.7/5, Error ellipse: s-maj=8.5km s-min=7.4km az=153.1*
IDC ***25*** *07:46:09.4±2.0, 6˚.90S×129˚.50E, h170km±21km, mb3.6/6, mb1 3.7/10, mb1mx3.5/44, mbtmp4.2/10, MS3.2/1, Ms1 3.2/1, ms1mx2.5/24, Error ellipse: s-maj=24.8km s-min=13.9km az=68.0*
DJA ***25*** *07:46:09.4±0.5, 7˚S±3˚×13˚0E±˚, h206km±10km, M4.4/8, mb4.6/7, mB4.7/5, MLv4.5/8, Mw(mB)3.9/5*
ISC 25 07:46:09.7±0.7,**6˚.90S**±0˚.05×**129˚.53E**±0˚.07,**h200**km,**n20,**
σ3s76/24,mb3.8/5,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.06**	**121**	P	**Pn**	**07 46 49.0**	**+0.2**
SAUI				S	**Sn**	**07 47 19.3**	**0.0**
BNDI	**Bandanaira**	**2.40**	**9**	P	**Pn**	**07 46 53.1**	**+0.7**
NLAI	**Namlea**	**4.37**	**326**	P	**Pn**	**07 47 17.8**	**+1.7**
FAKI	**Fak Fak**	**4.80**	**35**	P	**Sn**	**07 48 12.5**	**-5.7**
FAKI				S	**Sn**	**07 48 13.2**	**-5.0**
SOEI	**Soe**	**5.92**	**241**	P	**Pn**	**07 47 36.2**	**+0.1**
	131nm,0.7s,1μm						
SIJI	**Sorong**	**6.24**	**16**	P	**Pn**	**07 47 39.1**	**-1.0**
	2.2nm,0.3s,baz=31,slow=22,SNR=8.2						
SIJI				S	**Sn**	**07 48 45.3**	**-6.5**
	7.4nm,0.3s,baz=76,slow=21,SNR=18						
BATI	**Baumata**	**6.66**	**240**	P	**Pn**	**07 47 45.8**	**+0.2**
	16nm,0.3s,baz=98,slow=2.7,SNR=14						
BATI				S	**Sn**	**07 48 56.0**	**-5.6**
	18nm,0.3s,baz=37,slow=22,SNR=11						
BATI	**Baumata**	**6.66**	**240**	P	**Pn**	**07 47 46.1**	**+0.5**
RKPI	**Ransiki, Papua**	**7.09**	**41**	P	**Pn**	**07 47 51.8**	**+0.7**
	143nm,0.6s						
EDFI	**Ende, Flores**	**7.98**	**256**	P	**Pn**	**07 48 03.4**	**+0.6**
FITZ	**Fitzroy Crossi**	**11.75**	**198**	P	**Pn**	**07 48 50.4**	**-1.0**
	0.6nm,0.3s,baz=30,slow=12,SNR=12						
FITZ				S	Sn	07 50 49.5	-13
	1.1nm,0.3s,baz=105,slow=9.7,SNR=7.4						
WRA	**Warramunga Arr**	**13.78**	**161**	P	**Pn**	**07 49 14.9**	**-2.0**
	0.4nm,0.3s,baz=340,slow=13,SNR=28						
WRA				S	S	07 51 35.9	-15
	0.5nm,0.3s,baz=349,slow=21,SNR=4.1						
ASAR	**Alice Springs**	**17.19**	**166**	P	**Pn**	**07 49 59.6**	**+1.4**
	2.6nm,0.3s,baz=347,slow=10,SNR=249						
ASAR				S	**S**	**07 52 54.9**	**-11**
	0.1nm,0.3s,baz=342,slow=20,SNR=3.5						
CTA	**Charters Tower**	**20.86**	**131**	P	**P**	**07 50 39.3**	**+3.0**
	2.6nm,0.7s,baz=293,slow=13,SNR=3.9						
STKA	**Stephens Creek**	**27.28**	**157**	P	**P**	**07 51 37.7**	**+2.1**
	3.6nm,0.6s,baz=326,slow=9.9,SNR=12						
CMAR	**Chiang Mai Arr**	**39.31**	**310**	P	**P**	**07 53 21.9**	**+2.3**
	1.5nm,0.6s,baz=138,slow=6.7,SNR=7.9						
KSRS	**Korea Array**	**44.15**	**358**	LR	LR	08 14 08.0	
	comp=Z,24nm,18.0s,baz=175,slow=38						
SONM	**Songino Array**	**58.20**	**342**	P	**P**	**07 55 45.8**	**+2.8**
	0.5nm,0.7s,baz=141,slow=9.3,SNR=3.5						
MKAR	**Makanchi Array**	**67.89**	**327**	P	**P**	**07 56 49.7**	**+3.1**
	1.4nm,0.6s,baz=116,slow=8.4,SNR=16						
ZALV	**Zalesovo Beam**	**71.29**	**334**	P	**P**	**07 57 09.4**	**+2.2**
	0.6nm,0.3s,baz=134,slow=4.2,SNR=3.6						

NIED ***25*** *07:48:00, 38˚.00N×144˚.40E, h5km, Mw4.0 Best double couple: M0 1.03000×10^15 NP1:φs=8.00000°, δ20.00000°, λ-89.00000°. NP2:φs187.00000°, δ70.00000°, λ-90.00000°.*
IDC ***25*** *07:48:51.8±0.8, 37˚.77N×144˚.59E, h0km, mb3.6/8, mb1 3.9/13, mb1mx3.7/43, mbtmp3.7/13, ML3.5/5, MS2.9/5, Ms1 2.9/5, ms1mx2.5/52, Error ellipse: s-maj=23.2km s-min=16.9km az=131.0*
ISCJB ***25*** *07:48:54.6±0.5, 37˚.95N±0˚.04×144˚.40E±0˚.04, h33km, mb3.6/8, MS2.9/2, Error ellipse: s-maj=5.3km s-min=4.6km az=140.1*
JMA ***25*** *07:48:55.2±0.2, 37˚.98N×144˚.36E, h42km, M3.7*
ISC 25 07:48:56.6±0.8,**37˚.96N**±0˚.05×**144˚.44E**±0˚.07,**h35**km,**n35,**
σ2s34/49,mb3.6/8,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**2.37**	**279**	P	**Pn**	**07 49 31.9**	**-1.1**
OFUJ	**Ofunato**	**2.44**	**298**	P	**Pn**	**07 49 33.1**	**-0.9**
OFUJ				*eS*	**Sn**	**07 50 01.3**	**-1.4**
JKMT	**Kesennumamotoy**	**2.48**	**291**	P	**Pn**	**07 49 33.5**	**-1.0**
JKMT				*eS*	**Sn**	**07 50 02.0**	**-1.5**
JIO	**Ouri**	**2.48**	**282**	P	**Pn**	**07 49 33.6**	**-0.9**
JIO				S	**Sn**	**07 50 01.8**	**-1.8**
JMK	**Ichinoseki**	**2.71**	**292**	P	**Pn**	**07 49 37.3**	**-0.4**
JOM	**Ohasama**	**2.89**	**303**	P	**Pn**	**07 49 39.8**	**-0.3**
JOM				*eS*	**Sn**	**07 50 12.8**	**-0.8**
JFT	**Otama**	**3.28**	**264**	P	**Pn**	**07 49 45.5**	**0.0**
JFT				S	**Sn**	**07 50 22.4**	**-0.9**
JANG	**Nango**	**3.31**	**318**	P	**Pn**	**07 49 45.0**	**-1.0**
JANG				*eS*	**Sn**	**07 50 22.4**	**-1.7**
JYK	**Kaneyama**	**3.34**	**288**	P	**Pn**	**07 49 46.2**	**-0.2**
JYK				S	**Sn**	**07 50 25.0**	**+0.1**
BSO1	**Boso 1**	**4.32**	**221**	P	**Pn**	**07 49 57.4**	**-1.9**
BSO1				S	**Sn**	**07 50 46.2**	**-2.0**
JKB	**Kayabe**	**4.72**	**327**	P	**Pn**	**07 50 06.2**	**+1.0**
JCH	**Churui**	**4.72**	**350**	P	**Pn**	**07 50 04.0**	**-1.3**
JCH				*eS*	**Sn**	**07 50 54.9**	**-3.9**
JRY	**Ryogami san**	**4.84**	**248**	P	**Pn**	**07 50 05.8**	**-1.1**
JRY				S	**Sn**	**07 50 58.0**	**-3.7**
JOD2	**Odawara 2**	**5.08**	**240**	P	**Pn**	**07 50 09.9**	**-0.3**
JOD2				*eS*	**Sn**	**07 51 03.3**	**-4.3**
MJAR	**Matsushiro Arr**	**5.17**	**256**	Pn	**Pn**	**07 50 11.8**	**+0.3**
	3.7nm,0.3s,baz=87,slow=13,SNR=62						
MJAR				Sn	**Sn**	**07 51 09.8**	**0.0**
	1.3nm,0.3s,baz=92,slow=27,SNR=4.7						
MAT	**Matsushiro**	**5.17**	**256**	P	**Pn**	**07 50 12.0**	**+0.5**
MAT				S	**Sn**	**07 51 11.7**	**+1.8**
NEM2	**Nemuro 2**	**5.49**	**10**	P	**Pn**	**07 50 12.7**	**-3.1**
NEM2				*eS*	**Sn**	**07 51 11.2**	**-6.5**
JTKR	**Abashiri--Toko**	**6.02**	**356**	P	**Pn**	**07 50 21.9**	**-1.2**
JTKR				S	**Sn**	**07 51 27.4**	**-3.4**
JHR	**Hokuryu**	**6.13**	**341**	P	**Pn**	**07 50 25.2**	**+0.5**
JHR				*eS*	**Sn**	**07 51 33.0**	**-0.6**
JHJ	**Hachijo jima 2**	**6.14**	**220**	Pn	**Pn**	**07 50 23.0**	**-1.8**
	8.6nm,0.3s,baz=75,slow=20,SNR=2.9						
JHJ				Sn	**Sn**	**07 51 24.9**	**-8.9**
	20nm,0.3s,baz=181,slow=17,SNR=4.8						
ASAJ	**Asahikawa**	**6.31**	**348**	Pn	**Pn**	**07 50 28.4**	**+1.3**
	0.8nm,0.3s,baz=172,slow=14,SNR=10						
ASAJ				Sn	**Sn**	**07 51 36.4**	**-1.5**
	0.1nm,0.3s,baz=120,slow=12,SNR=2.1						
USRK	**Ussuriysk Ar.**	**11.27**	**308**	Pn	**Pn**	**07 51 36.5**	**+1.4**
	0.3nm,0.3s,baz=130,slow=13,SNR=4.7						
JNU	**Nakatsue**	**12.05**	**250**	LR	LR	07 56 42.6	
	comp=Z,44nm,18.9s,baz=122,slow=39						
KSRS	**Korea Array**	**13.09**	**273**	Pn	**Pn**	**07 52 02.5**	**+2.5**
	0.4nm,0.3s,baz=80,slow=13,SNR=4.5						
KSRS				LR	LR	07 57 17.0	
	comp=Z,41nm,18.3s,baz=77,slow=38						
KLR	**Kul'dur**	**14.52**	**325**	LR	LR	07 57 48.9	
	comp=Z,35nm,19.7s,baz=134,slow=36						
GUMO	**Guam**	**24.27**	**179**	LR	LR	08 02 46.3	
	comp=Z,11nm,18.2s,baz=101,slow=35						
SONM	**Songino Array**	**29.30**	**302**	P	**P**	**07 54 57.5**	**+1.7**
	0.4nm,0.8s,baz=98,slow=8.9,SNR=3.1						
ILAR	**Eielson Array**	**47.42**	**33**	P	**P**	**07 57 27.9**	**+0.7**
	0.5nm,0.7s,baz=269,slow=6.3,SNR=5.9						
INK	**Inuvik**	**52.46**	**28**	P	**P**	**07 58 06.5**	**+1.1**
	0.4nm,0.6s,baz=319,slow=11,SNR=2.9						
WRA	**Warramunga Arr**	**58.37**	**191**	P	**P**	**07 58 47.3**	**-1.1**
	1.5nm,0.6s,baz=9.7,slow=7.2,SNR=9.1						
ASAR	**Alice Springs**	**62.09**	**191**	P	**P**	**07 59 13.1**	**-0.8**
	0.6nm,0.7s,baz=12,slow=7.9,SNR=4.3						
PALK	**Pallekele**	**64.91**	**259**	LR	LR	08 30 23.2	
	comp=Z,25nm,18.4s,baz=122,slow=38						
NVAR	**Mina Array Bea**	**72.50**	**55**	P	**P**	**08 00 21.1**	**+1.1**
	1.0nm,0.7s,baz=291,slow=5.7,SNR=7.5						
PDAR	**Pinedale Array**	**75.29**	**47**	P	**P**	**08 00 37.6**	**+1.3**
	0.3nm,0.7s,baz=309,slow=3.0,SNR=3.1						
TXAR	**Lajitas Array**	**87.64**	**54**	P	**P**	**08 01 42.6**	**+0.9**
	0.2nm,0.8s,baz=316,slow=5.0,SNR=2.5						

NEIC 25 07:49:54.6±0.0,**51˚.42N**×**176˚.02W**,**h26**km,**ML2.7**(AEIC),
After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETKA	**Kagalaska Isla**	**0.51**	**331**	P	Pb	07 50 05.2	+0.3
ETKA				S	Sb	07 50 12.8	+0.8
GSIG	**Igitkin Island**	**0.57**	**6**	P	Pb	07 50 06.5	+0.5
GSMY	**Great Sitkin M**	**0.62**	**358**	P	Pn	07 50 07.5	-0.3
GSTD	**Great Sitkin T**	**0.64**	**353**	P	Pn	07 50 07.9	-0.2
GSTD				S	Sb	07 50 16.6	+0.7
ADAG	**Mount Adagdak**	**0.67**	**327**	P	Pn	07 50 08.1	-0.3
KIRH	**Kanaga Island**	**0.82**	**306**	P	Pb	07 50 09.9	-0.3
KIMD	**Kanaga Island**	**0.83**	**295**	P	Pb	07 50 09.7	-0.7
KIKV	**Kanaga Island**	**0.85**	**303**	P	Pb	07 50 10.2	-0.6
KICM	**Kanaga Island**	**0.89**	**305**	P	Pb	07 50 10.8	-0.5
TASE	**Tanaga Southea**	**1.33**	**289**	P	Pn	07 50 17.1	-0.3
ATKA	**Atka Island**	**1.38**	**55**	P	Pn	07 50 16.9	-1.2
ATKA				S	Sn	07 50 33.3	-2.1
KOFP	**Korovin Flat P**	**1.47**	**54**	P	Pn	07 50 18.8	-0.6
UNV	**Unalaska Valle**	**6.28**	**64**	*ePn*	Pn	07 51 28.7	+3.3
AKUT	**Akutan**	**6.78**	**62**	*ePn*	Pn	07 51 32.4	+0.1
SDPT	**Sand Point**	**10.08**	**61**	*ePn*	Pn	07 52 17.9	+0.4
CHGN	**Chignik**	**11.47**	**58**	*ePn*	Pn	07 52 37.2	+0.7
SII	**Sitkinak Islan**	**13.81**	**60**	*ePn*	Pn	07 53 08.7	+0.2
TMUT	**Trail Mountain**	**45.68**	**79**	*eP*	P	07 58 16.7	+3.4

ISCJB ***25*** *08:01:22.9±0.5, 15˚.20S±0˚.10×173˚.23W±0˚.09, h10km, mb4.1/24, MS3.5/11, Error ellipse: s-maj=16.2km s-min=10.2km az=139.1*
IDC ***25*** *08:01:22.7±0.8, 15˚.37S×173˚.03W, h0km, mb3.9/9, mb1 4.2/9, mb1mx4.0/30, mbtmp3.9/9, MS3.4/12, Ms1 3.4/12, ms1mx3.2/37, Error ellipse: s-maj=46.2km s-min=15.8km az=138.0*
NEIC ***25*** *08:01:24.3±0.4, 15˚.28S×173˚.11W, h10km, mb4.3/14, Error ellipse: s-maj=12.4km s-min=7.8km az=138.0*
ISC 25 08:01:23.5±0.7,**15˚.24S**±0˚.08×**173˚.00W**±0˚.07,**h10**km,**n52,**
σ2s05/37,mb4.2/24,MS3.4/11,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.77**	**42**	Pn	**Pn**	**08 01 54.6**	**+0.3**
	285nm,0.3s,baz=144,slow=0.8,SNR=446						
AFI				Sn	**Sn**	**08 02 12.8**	**-4.2**
	628nm,0.3s,ba

	1.2nm,0.8s							
ASAR	**Alice Springs**	**50.53**	**252**	P	**P**	**08 10 21.5**	**-0.9**	
	0.5nm,0.5s,baz=88,slow=7.8,SNR=13							
GUMO	**Guam**	**50.57**	**302**	LR	LR	08 30 15.3		
	comp=Z,18nm,18.1s,baz=131,slow=34							
FITZ	**Fitzroy Crossi**	**58.62**	**258**	LR	LR	08 33 43.1		
	comp=Z,52nm,18.8s,baz=74,slow=33							
NWAO	**Narrogin (SRO)**	**65.04**	**241**	LR	LR	08 38 56.0		
	comp=Z,65nm,19.3s,baz=116,slow=35							
MJAR	**Matsushiro Arr**	**69.07**	**320**	LR	LR	08 37 08.7		
	comp=Z,22nm,21.8s,baz=335,slow=31							
NVAR	**Mina Array Bea**	**73.95**	**42**	P	**P**	**08 13 01.4**	**+2.0**	
	0.7nm,0.6s,baz=236,slow=8.1,SNR=7.6							
SHPR	**Sheep Range**	**74.97**	**45**	*e*P	**P**	**08 13 06.0**	**+0.7**	
	0.9nm,1.1s							
KSRS	**Korea Array**	**76.31**	**315**	LR	LR	08 42 59.4		
	comp=Z,16nm,19.2s,baz=138,slow=33							
TMUT	**Trail Mountain**	**79.09**	**44**	*e*P	**P**	**08 13 29.9**	**+1.3**	
	3.3nm,0.9s							
HLID	**Hailey**	**79.26**	**39**	*e*P	**P**	**08 13 30.6**	**+1.3**	
	1.8nm,0.9s							
PV14	**Lion Creek, Pa**	**80.13**	**46**	*e*P	**P**	**08 13 35.6**	**+1.3**	
	5.8nm,1.1s							
TXAR	**Lajitas Array**	**80.20**	**56**	P	**P**	**08 13 35.2**	**+0.6**	
	0.8nm,1.0s,baz=225,slow=6.8,SNR=7.0							
TXAR				LR	LR	08 42 52.2		
	comp=Z,17nm,18.6s,baz=0.0,slow=31							
PV21	**Cone Mtn., Par**	**80.25**	**46**	*e*P	**P**	**08 13 36.8**	**+1.9**	
	4.4nm,0.8s							
PV12	**Saucer Basin,**	**80.26**	**46**	*e*P	**P**	**08 13 36.3**	**+1.4**	
	5.3nm,1.1s							
S22A	**4UR Ranch, Cre**	**81.38**	**47**	*e*P	**P**	**08 13 43.4**	**+2.3**	
	1.6nm,0.9s							
WRH	**Wood River Hil**	**81.72**	**11**	*e*P	**P**	**08 13 43.1**	**+1.3**	
	7.6nm,0.9s							
MLY	**Manley**	**81.80**	**9**	*e*P	**P**	**08 13 41.9**	**-0.4**	
	3.7nm,0.8s							
HDA	**Harding Lake**	**81.87**	**11**	*e*P	**P**	**08 13 43.5**	**+0.8**	
	5.2nm,1.0s							
PDAR	**Pinedale Array**	**81.89**	**42**	P	**P**	**08 13 44.8**	**+1.3**	
	0.4nm,0.6s,baz=205,slow=5.6,SNR=6.2							
PDAR				LR	LR	08 43 12.9		
	comp=Z,38nm,19.3s,baz=334,slow=31							
CCB	**Clear Creek Bu**	**81.93**	**11**	*e*P	**P**	**08 13 44.8**	**+1.8**	
	7.7nm,1.0s							
YHH	**Holmes Hill**	**82.08**	**39**	*e*P	**P**	**08 13 47.3**	**+2.7**	
	1.1nm,1.0s							
COLA	**College**	**82.13**	**11**	*e*P	**P**	**08 13 45.2**	**+1.3**	
	11nm,0.9s							
IL1	**Eielson Array**	**82.21**	**11**	*e*P	**P**	**08 13 45.4**	**+1.0**	
ILAR	**Eielson Array**	**82.21**	**11**	P	**P**	**08 13 46.0**	**+1.6**	
	1.5nm,0.7s,baz=223,slow=5.8,SNR=19							
ILB	**Eielson Array**	**82.21**	**11**	*e*P	**P**	**08 13 45.7**	**+1.3**	
IM3	**Indian Mountai**	**82.26**	**8**	*e*P	**P**	**08 13 45.5**	**+0.9**	
DAWY	**Dawson**	**83.17**	**14**	*e*P	**P**	**08 13 49.7**	**+0.2**	
	1.9nm,0.9s							
PLCA	**Paso Flores**	**89.33**	**132**	LR	LR	08 46 32.7		
	comp=Z,20nm,19.4s,baz=316,slow=30							
YKA	**Yellowknife Ar**	**89.80**	**23**	P	**P**	**08 14 23.6**	**+1.7**	
	1.0nm,0.7s,baz=241,slow=4.7,SNR=5.7							
ULM	**Lac du Bonnet**	**93.56**	**39**	LR	LR	08 50 09.1		
	comp=Z,56nm,18.9s,baz=93,slow=31							
KHC	**Kasperske Hory**	**145.77**	**352**	*e*P	**PKPab**	**08 21 05.6**	**+2.4**	
GERES	**GERESS Array B**	**146.04**	**352**	PKPbc	**PKPab**	**08 21 06.0**	**+1.6**	
	1.2nm,0.8s,baz=29,slow=3.0,SNR=9.8							
BRTR	**Keskin Array B**	**146.27**	**321**	PKPbc	**PKPab**	**08 21 06.9**	**+1.3**	
	1.9nm,0.8s,baz=104,slow=2.5,SNR=8.8							

*ISCJB **25** 08:01:21.5±0.7,21.93N±0.04×121.74E±0.02,h11km±4km,*
Error ellipse: s-maj=7.2km s-min=3.3km az=170.8
*TAP **25** 08:01:23.1,21.95N×121.60E,h14km,ML3.4,D*
*JMA **25** 08:01:24.0±0.4,22.22N×121.76E,h0km,M3.7*
ISC 25 08:01:23.1±1.1,22.02N±0.04×121.66E±0.03,h16km±6km,
n61,σ0.91/92,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.10**	**281**	*i* P	**Pg**	**08 01 26.5**	**0.0**
	baz=336						
LAY				*i* S	**Sg**	**08 01 28.7**	**+0.1**
	baz=336						
TSEB	**Hengchuen, Pin**	**0.71**	**261**	*e*S	**Sb**	**08 01 47.8**	**+1.1**
	baz=267						
TAW	**Tawu**	**0.78**	**296**	*e*P	**Pb**	**08 01 37.4**	**-0.9**
	baz=303						
TAW				*e*S	**Sb**	**08 01 48.8**	**+0.1**
	baz=303						
TWKBT	**Hengchun**	**0.79**	**264**	P	**Pb**	**08 01 37.6**	**-0.8**
	baz=288						
TWKBT				*e*S	**Sb**	**08 01 48.9**	**0.0**
	baz=288						
TWK1	**Hengchun**	**0.79**	**265**	*e*P	**Pb**	**08 01 37.5**	**-1.0**
	baz=288						
TWK1				*e*S	**Sg**	**08 01 48.5**	**-0.4**
	baz=288						
EAST	**Anshuo**	**0.83**	**296**	P	**Pb**	**08 01 38.4**	**-0.8**
	baz=303						
EAST				*e*S	**Sb**	**08 01 49.5**	**-0.7**
	baz=303						
HEN	**Hengchun**	**0.85**	**269**	*e*P	**Pb**	**08 01 38.9**	**-0.6**
	baz=275						
ECL	**Taimali**	**0.87**	**312**	*e*P	**Pb**	**08 01 39.1**	**-0.7**
	baz=318						
ECL				*e*S	**Sb**	**08 01 50.2**	**-1.0**
	baz=318						
TWG	**Pinlang**	**0.96**	**326**	*e*P	**Pb**	**08 01 41.2**	**-0.3**
	baz=316						
TWG				*e*S	**Sb**	**08 01 53.8**	**-0.2**
	baz=316						
SCZT	**Fangliau**	**1.02**	**290**	*e*P	**Pb**	**08 01 41.4**	**-1.0**
	baz=307						
CHKT	**Chengkung**	**1.11**	**346**	P	**Pb**	**08 01 43.2**	**-0.7**
	baz=350						
CHKT				*e*S	**Sb**	**08 01 58.1**	**-0.1**
	baz=350						
MASBT	**Mashibuluo**	**1.11**	**302**	P	**Pn**	**08 01 44.0**	**-0.1**
	baz=318						
SSD	**Sandimen**	**1.19**	**308**	*e*P	**Pb**	**08 01 45.4**	**0.0**
	baz=322						
FULB	**Fuli**	**1.22**	**344**	*e*P	**Pn**	**08 01 45.3**	**-0.3**
	baz=358						
FULB				*e*S	**Sn**	**08 02 02.0**	**+0.2**
	baz=358						
ELDTW	**Lidau**	**1.30**	**333**	*e*P	**Pb**	**08 01 47.0**	**-0.4**
	baz=337						
SLGT	**Liugui**	**1.35**	**316**	*e*P	**Pb**	**08 01 48.4**	**+0.4**
	baz=329						
TWF1	**Yuli**	**1.37**	**346**	*e*P	**Pn**	**08 01 47.5**	**-0.1**
	baz=359						
TWM1	**Shoushan**	**1.39**	**305**	*e*P	**Pg**	**08 01 51.0**	**+1.1**
	baz=320						
YULB	**Yu-li**	**1.41**	**346**	*e*P	**Pn**	**08 01 48.1**	**0.0**
	baz=358						
STYT	**Tauyuan**	**1.41**	**324**	*e*P	**Pn**	**08 01 48.2**	**0.0**
	baz=338						
SGST	**Jiashian**	**1.45**	**317**	*e*P	**Pg**	**08 01 50.7**	**-0.3**
	baz=328						
SGST				*e*S	**Sg**	**08 02 11.4**	**+1.5**
	baz=328						
HGSD	**Ruisui**	**1.48**	**352**	*e*P	**Pn**	**08 01 48.2**	**-1.0**
	baz=3.0						
EHY	**Hungye**	**1.51**	**348**	*e*P	**Pn**	**08 01 49.4**	**-0.1**
	baz=359						
WTP	**Ta-pu**	**1.55**	**322**	*e*P	**Pg**	**08 01 52.2**	**-0.8**
	baz=326						
WTP				*e*S	**Sg**	**08 02 14.5**	**+1.2**
	baz=326						
CHN1	**Nanshi**	**1.56**	**318**	*e*P	**Pg**	**08 01 52.5**	**-0.6**
	baz=331						
CHN1				*e*S	**Sg**	**08 02 14.1**	**+0.7**
	baz=331						
TPUB	**Ta-pu**	**1.59**	**324**	*e*P	**Pb**	**08 01 51.8**	**-0.3**
	baz=328						
TPUB				*e*S	**Sg**	**08 02 15.3**	**+1.0**
	baz=328						
YUS	**Yu-Shan**	**1.60**	**336**	*e*P	**Pb**	**08 01 53.1**	**+0.5**
	baz=330						
TWK	**Hsinying**	**1.65**	**319**	*e*P	**Pb**	**08 01 53.3**	**+0.2**
	baz=324						
TWK				*e*S	**Sg**	**08 02 16.3**	**+0.2**
	baz=324						
CHN4	**Tsaushan**	**1.65**	**324**	*e*P	**Pb**	**08 01 53.5**	**+0.3**
	baz=336						
CHN4				*e*S	**Sg**	**08 02 17.7**	**+1.4**
	baz=336						
ALS	**Alishan**	**1.68**	**332**	*e*P	**Pb**	**08 01 53.6**	**-0.2**
	baz=336						
VWDT	**VWDT**	**1.79**	**345**	*e*P	**Pn**	**08 01 54.0**	**+0.6**
	baz=347						
CHN5	**Tsauling**	**1.81**	**330**	*e*P	**Pb**	**08 01 56.3**	**+0.3**
	baz=334						
CHN5				*e*S	**Sg**	**08 02 22.1**	**+0.7**
	baz=334						
SSLB	**Suanglung**	**1.88**	**340**	*e*P	**Pb**	**08 01 56.5**	**-0.5**
	baz=354						
WDLH	**Douliu**	**1.96**	**328**	*e*P	**Pb**	**08 01 58.5**	**+0.1**
	baz=331						
WDLH				*e*S	**Sg**	**08 02 24.2**	**-1.9**
	baz=331						
SMLT	**Sun Moon Lake**	**1.98**	**340**	*e*P	**Pb**	**08 01 58.2**	**-0.7**
	baz=352						
WJS	**Zhushan**	**1.99**	**335**	*e*P	**Pb**	**08 01 59.9**	**+1.0**
	baz=320						
WJS				*e*S	**Sg**	**08 02 27.1**	**0.0**
	baz=320						
TYC	**Yuchr**	**2.02**	**339**	*e*P	**Pb**	**08 01 59.0**	**-0.4**
	baz=341						
TYC				*e*S	**Sg**	**08 02 27.7**	**-0.3**
	baz=341						
WNT	**Mingjian**	**2.06**	**334**	*e*P	**Pb**	**08 02 00.1**	**0.0**
	baz=320						
WNT				*e*S	**Sg**	**08 02 27.4**	**-1.9**
	baz=320						
CHGB	**Renai**	**2.08**	**348**	*e*P	**Pn**	**08 01 58.6**	**+1.0**
	baz=360						
NACB	**Ninganchiao**	**2.15**	**359**	*e*P	**Pn**	**08 01 58.1**	**-0.2**
	baz=9.0						
WHF	**Hehuan Shan**	**2.15**	**350**	*e*P	**Pn**	**08 01 58.7**	**+0.1**
	baz=352						
TWT	**Tachien**	**2.27**	**349**	*e*P	**Pb**	**08 02 01.8**	**-2.0**
	baz=359						
TDCB	**Techi**	**2.27**	**348**	*e*P	**Pb**	**08 02 02.0**	**-1.8**
	baz=350						
VCHM	**Qimei**	**2.37**	**300**	*e*P	**Pn**	**08 02 01.8**	**+0.4**
	baz=304						
VCHM				*e*S	**Sn**	**08 02 29.9**	**-0.3**
	baz=304						
PHUB	**P'eng-hu**	**2.43**	**308**	*e*P	**Pn**	**08 02 02.4**	**+0.2**
	baz=300						
PHUB				*e*S	**Sn**	**08 02 31.5**	**-0.2**
	baz=300						
PNG	**Penghu**	**2.48**	**309**	*e*P	**Pn**	**08 02 03.3**	**+0.5**
	baz=313						
PNG				*e*S	**Sn**	**08 02 32.5**	**-0.3**
	baz=313						
EOS1	**EOS1**	**2.56**	**10**	*e*P	**Pb**	**08 02 06.4**	**-2.2**
	baz=10.0						
YHNB	**Yeheng**	**2.65**	**354**	*e*P	**Pn**	**08 02 07.1**	**+1.8**
	baz=4.0						
NSK	**Sanguang**	**2.66**	**354**	*e*P	**Pn**	**08 02 06.9**	**+1.5**
	baz=4.0						
NSTT	**Nanjuang**	**2.67**	**347**	*e*P	**Pb**	**08 02 10.5**	**0.0**
	baz=357						
LIOB	**Emei**	**2.68**	**347**	*e*P	**Pn**	**08 02 08.0**	**+2.4**
	baz=357						
JYNG	**Yonaguni jima**	**2.70**	**26**	P	**Pn**	**08 02 07.4**	**+1.6**
JYNG				*e*S	**Sn**	**08 02 39.6**	**+1.4**
YOJ	**Yonaguni jima**	**2.73**	**27**	*e*P	**Pn**	**08 02 07.2**	**+0.9**
	baz=26						
YOJ	**Yonaguni jima**	**2.73**	**27**	P	**Pn**	**08 02 07.9**	**+1.6**
YOJ				*e*S	**Sn**	**08 02 39.3**	**+0.2**
NWLT	**Wulai**	**2.75**	**357**	*e*P	**Pn**	**08 02 08.2**	**+1.5**
	baz=358						
HATJ	**Hateruma jima**	**2.83**	**44**	P	**Pn**	**08 02 08.5**	**+0.8**
HATJ				*e*S	**Sn**	**08 02 42.0**	**+0.4**
IRIF	**Iriomote-Funau**	**2.99**	**39**	P	**Pn**	**08 02 11.0**	**+1.1**
IRIF				*e*S	**Sn**	**08 02 45.7**	**+0.2**
JKRS	**Kuro-shima**	**3.09**	**44**	P	**Pn**	**08 02 12.5**	**+1.2**
JKRS				*e*S	**Sn**	**08 02 48.5**	**+0.5**
JIJ	**Ishigaki jima**	**3.27**	**44**	P	**Pn**	**08 02 14.1**	**+0.4**
JIJ				*e*S	**Sn**	**08 02 51.0**	**-1.3**
JISG	**Ishigakijimahi**	**3.54**	**43**	P	**Pn**	**08 02 18.4**	**+1.0**
JISG				S	**Sn**	**08 02 58.2**	**-0.7**
JTJ	**Tarama**	**3.83**	**46**	P	**Pn**	**08 02 22.5**	**+1.1**
JTJ				*e*S	**Sn**	**08 03 05.4**	**-0.7**

IDC 25 08:13:12.0±1.9,7.16S×125.17E,h0km,mb3.5/1,
mb1 3.4/5,mb1mx3.3/33,mbtmp3.3/5,ML2.7/3,Error
ellipse: s-maj=60.5km s-min=25.8km az=75.0,Banda
Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**3.37**	**206**	Pn	Pn	08 14 06.5	+0.5
	29nm,0.3s,baz=356,slow=6.0,SNR=19						
BATI				Sn	Sn	08 14 31.1	-16
	7.5nm,0.3s,baz=208,slow=3.2,SNR=4.6						
FITZ	**Fitzroy Crossi**	**10.88**	**178**	Pn	Pn	08 15 47.0	-2.1
	0.1nm,0.3s,baz=357,slow=12,SNR=5.4						
FITZ				Sn	Sn	08 17 33.0	-19
	0.8nm,0.3s,baz=141,slow=15,SNR=10						
WRA	**Warramunga Arr**	**15.51**	**146**	Pn	Pn	08 16 53.4	+1.2
	0.0nm,0.3s,baz=326,slow=14,SNR=2.9						
WRA				Sn	Sn	08 19 39.3	-5.6
	0.1nm,0.3s,baz=319,slow=24,SNR=5.6						
ASAR	**Alice Springs**	**18.43**	**154**	P	P	08 17 29.6	+0.4
	0.1nm,0.3s,baz=332,slow=12,SNR=3.2						
ASAR				S	Sn	08 20 42.7	-13
	baz=318,slow=22,SNR=2.6						
MKAR	**Makanchi Array**	**65.82**	**329**	P	P	08 23 59.2	-0.1
	0.3nm,0.5s,baz=123,slow=7.4,SNR=4.5						

IDC 25 08:18:06.5±3.6,5.97S×149.52E,h0km,mb3.6/3,
mb1 4.0/4,mb1mx3.6/37,mbtmp3.8/4,ML2.2/1,Error
ellipse: s-maj=101.0km s-min=42.2km az=114.0,New
Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.14**	**214**	Pn	Pn	08 19 12.2	+1.2
	12nm,0.3s,baz=55,slow=16,SNR=26						
PMG				Sn	Sn	08 19 55.3	-4.9
	14nm,0.3s,baz=115,slow=16,SNR=12						
WRA	**Warramunga Arr**	**20.27**	**225**	P	P	08 22 43.2	-0.5
	1.9nm,0.5s,baz=50,slow=11,SNR=23						
ASAR	**Alice Springs**	**23.14**	**219**	P	P	08 23 13.9	-0.6
	0.5nm,0.6s,baz=55,slow=9.3,SNR=13						
FITZ	**Fitzroy Crossi**	**26.24**	**241**	P	P	08 23 43.4	-0.1
	1.1nm,0.4s,baz=50,slow=7.3,SNR=11						
KMSI	**Cibinong**	**26.32**	**283**	P	P	08 23 46.1	+1.9
TORD	**Torodi Ar. Bea**	**147.51**	**285**	PKPbc	PKPbc	08 37 53.5	-0.2
	0.2nm,0.4s,baz=86,slow=3.5,SNR=4.9						

DJA 25 08:23:25.9±0.3,1.1N±3.3×12.2E±.,h10km,M3.9/8,mb4.2/4,
MLv3.7/8,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.49**	**148**	P	Pg	08 23 34.7	-0.7
MRSI				S	Sg	08 23 41.4	-0.4
APSI	**Ampana**	**1.79**	**181**	P	Pn	08 23 56.7	-0.2
APSI				S	Sn	08 24 20.4	+0.7
MPSI	**Mapaga**	**1.86**	**253**	P	Pn	08 23 58.9	+1.0
MPSI				S	Sn	08 24 22.5	+1.0
LUWI	**Luwuk**	**2.21**	**150**	P	Pn	08 24 02.8	+0.2
TTSI	**Tana Toraja**	**4.33**	**205**	P	Pn	08 24 34.2	+2.4
SPSI	**Sidrap Palu**	**5.19**	**202**	P	Pn	08 24 44.3	+0.7
SANI	**Sanana**	**5.20**	**124**	P	Pn	08 24 43.9	0.0
	12nm,0.5s,0.1nm						
BNSI	**Bone**	**5.49**	**197**	P	Pn	08 24 47.5	-0.2
	17nm,0.7s,0.1nm						

*LDG **25** 08:28:38.9±0.1,39.89N×16.04E,h2km,Ml2.6/7,Error*
ellipse: s-maj=3.4km s-min=2.0km az=77.0
*ISCJB **25** 08:28:39.9±0.3,39.91N±0.01×15.94E±0.02,h11km±1km,*
mb4.0/5,MS3.1/2,Error ellipse: s-maj=2.9km s-min=2.3km
az=148.0
*ROM **25** 08:28:39.6±0.1,39.914N±0.004×16.006E±0.008,*
h9km,ML3.6/55
*PDG **25** 08:28:40.0±0.9,39.88N×16.02E,h2km±1km,ML3.6/13,*
Error ellipse: s-maj=0.7km s-min=1.0km az=0.0
*BEO **25** 08:28:40.4±0.7,39.87N×15.84E,h10km,ML3.7/10*
*IDC **25** 08:28:40.7±1.1,40.07N×15.91E,h0km,mb3.8/7,*
mb1 4.0/13,mb1mx3.8/38,mbtmp3.9/13,ML3.4/6,MS3.0/6,
Ms1 3.0/6,ms1mx2.6/39,Error ellipse: s-maj=17.2km
s-min=13.2km az=72.0
*THE **25** 08:28:41.6,40.03N×15.97E,h6km±52km,ML3.5/1,Error*
ellipse: s-maj=69.4km s-min=5.4km az=273.0
ISC 25 08:28:40.5±0.9,39.91N±0.02×15.97E±0.02,h9km±6km,
n187,σ2.16/216,mb4.1/5,17C-13D,Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUC	**Castrocucco**	**0.14**	**304**	*i* P	**Pg**	**08 28 43.5**	**-0.1**
CUC				S	**Sg**	**08 28 46.7**	**+0.8**
CUC				AML	AML		
	comp=E,66000μm,0.5s						
CUC				AML	AML		
	comp=N,45300μm,0.6s						
CUC				AML	AML		
	comp=E,66000μm,0.5s						
CUC				AML	AML		
	comp=N,45300μm,0.6s						
CUC				AML	AML		
	comp=E,66000μm,0.5s						
CUC				AML	AML		
	comp=N,45300μm,0.6s						
CUC				AML	AML		
	comp=N,45300μm,0.6s						
CUC				AML	AML		
	comp=E,66000μm,0.5s						
T0702	**Acquaformosa (**	**0.21**	**155**	P	**Pg**	**08 28 44.5**	**-0.3**
T0702				S	**Sg**	**08 28 47.8**	**0.0**
T0702				AML	AML		
	comp=E,29150μm,0.4s						
T0702				AML	AML		
	comp=N,27100μm,0.5s						
T0702				AML	AML		
	comp=E,29100μm,0.4s						
T0702				AML	AML		
	comp=N,27100μm,0.5s						
T0702				AML	AML		
	comp=E,29150μm,0.4s						
T0702				AML	AML		
	comp=N,27100μm,0.5s						
SIRI	**Monte Sirino -**	**0.28**	**344**	P	**Pg**	**08 28 46.0**	**-0.2**
SIRI				S	**Sb**	**08 28 51.8**	**-0.9**
SIRI				AML	AML		
	comp=E,26800μm,1.1s						
SIRI				AML	AML		
	comp=N,29250μm,0.6s						
SIRI				AML	AML		
	comp=E,27300μm,1.1s						
SIRI				AML	AML		
	comp=N,29600μm,0.6s						
SIRI				AML	AML		
	comp=E,26800μm,1.1s						
SIRI				AML	AML		
	comp=N,29250μm,0.6s						
SIRI				AML	AML		
	comp=E,27300μm,1.1s						
SIRI				AML	AML		
	comp=N,29600μm,0.6s						
SIRI				AML	AML		
	comp=E,26800μm,1.1s						
SIRI				AML	AML		
	comp=N,29250μm,0.6s						
SIRI				AML	AML		
	comp=N,29600μm,0.6s						
SIRI				AML	AML		
	comp=E,27300μm,1.1s						
SALB	**San Lorenzo Be**	**0.29**	**97**	*i* P	**Pg**	**08 28 45.1**	**-1.3**
SALB				S	**Sg**	**08 28 49.8**	**-0.5**
SALB				AML	AML		
	comp=E,49000μm,0.4s						
SALB				AML	AML		
	comp=N,30950μm,0.5s						
SALB				AML	AML		
	comp=E,52750μm,0.4s						
SALB				AML	AML		
	comp=N,30300μm,0.5s						
SALB				AML	AML		
	comp=E,49000μm,0.4s						
SALB				AML	AML		
	comp=N,30950μm,0.5s						
SALB				AML	AML		
	comp=E,52750μm,0.4s						
SALB				AML	AML		
	comp=N,30300μm,0.5s						
SALB				AML	AML		
	comp=E,49000μm,0.4s						
SALB				AML	AML		
	comp=N,30950μm,0.5s						
SALB				AML	AML		
	comp=E,52750μm,0.4s						
SALB				AML	AML		
	comp=N,30300μm,0.5s						
SALB				AML	AML		
	comp=E,52750μm,0.4s						
SALB				AML	AML		
	comp=E,49000μm,0.4s						
SALB				AML	AML		
	comp=N,30300μm,0.5s						
SALB				AML	AML		
	comp=N,30950μm,0.5s						
SCHR	**S. Chirico Rap**	**0.30**	**16**	*e*P	**Pg**	**08 28 45.5**	**-1.0**
SCHR				S	**Sg**	**08 28 51.7**	**+1.2**
SCHR				AML	AML		
	comp=E,10700μm,1.2s						
SCHR				AML	AML		
	comp=N,13300μm,0.8s						
SCHR				AML	AML		
	comp=E,10700μm,1.2s						
SCHR				AML	AML		
	comp=N,13250μm,0.8s						
SCHR				AML	AML		
	comp=E,10700μm,1.2s						
SCHR				AML	AML		
	comp=N,13250μm,0.8s						
SCHR				AML	AML		
	comp=N,13250μm,0.8s						
SCHR				AML	AML		
	comp=E,10700μm,1.2s						
CET2	**Cetraro**	**0.38**	**182**	*i* P	**Pg**	**08 28 47.7**	**-0.3**
CET2				S	**Sg**	**08 28 53.3**	**+0.2**
CET2				AML	AML		
	comp=E,24850μm,0.9s						
CET2				AML	AML		
	comp=N,42350μm,0.3s						
MGR	**Morigerati**	**0.39**	**305**	P	**Pg**	**08 28 47.9**	**-0.2**
MGR				S	**Sb**	**08 28 55.3**	**-0.4**
MGR				AML	AML		
	comp=E,10700μm,0.5s						
MGR				AML	AML		
	comp=N,10850μm,0.6s						
MGR				AML	AML		
	comp=E,11100μm,0.5s						
MGR				AML	AML		
	comp=N,9030μm,0.4s						
MGR				AML	AML		
	comp=E,10700μm,0.5s						
MGR				AML	AML		
	comp=N,10800μm,0.6s						
MGR				AML	AML		
	comp=E,11100μm,0.5s						
MGR				AML	AML		
	comp=N,9030μm,0.4s						
MGR				AML	AML		
	comp=E,11100μm,0.5s						
MGR				AML	AML		
	comp=E,10700μm,0.5s						
MGR				AML	AML		
	comp=N,9030μm,0.4s						
MGR				AML	AML		
	comp=N,10800μm,0.6s						
MGR				AML	AML		
	comp=N,10800μm,0.6s						
MGR				AML	AML		
	comp=E,10700μm,0.5s						
MTSN	**Montesano sull**	**0.39**	**335**	*e*P	**Pg**	**08 28 47.8**	**-0.4**
MTSN				AML	AML		
	comp=E,8435μm,0.6s						
MTSN				AML	AML		
	comp=N,12950μm,1.0s						
MTSN				AML	AML		
	comp=E,8435μm,0.6s						
MTSN				AML	AML		

comp=N,12950µm,1.0s
MTSN AML AML
comp=N,12950µm,1.0s
MTSN AML AML
comp=E,8435µm,0.6s
ORI Oriolo Calabro 0.40 68 P **Pg 08 28 47.3 -1.0**
ORI AML AML
comp=E,33350µm,0.3s
ORI AML AML
comp=N,34600µm,0.5s
ORI AML AML
comp=E,33350µm,0.3s
ORI AML AML
comp=N,34600µm,0.5s
ORI AML AML
comp=E,33350µm,0.3s
ORI AML AML
comp=N,34600µm,0.5s
MCEL Monticello 0.43 343 P **Pg 08 28 48.3 -0.7**
MCEL S **Sb 08 28 56.1 -0.9**
MCEL AML AML
comp=E,8670µm,1.0s
MCEL AML AML
comp=N,8845µm,1.1s
MCEL AML AML
comp=E,8740µm,1.0s
MCEL AML AML
comp=N,8995µm,1.2s
MCEL AML AML
comp=E,8665µm,1.0s
MCEL AML AML
comp=N,8845µm,1.1s
MCEL AML AML
comp=E,8740µm,1.0s
MCEL AML AML
comp=N,8995µm,1.2s
MCEL AML AML
comp=E,8740µm,1.0s
MCEL AML AML
comp=E,8665µm,1.0s
MCEL AML AML
comp=N,8845µm,1.1s
MCEL AML AML
comp=E,8740µm,1.0s
MCEL AML AML
comp=N,8995µm,1.2s
MCEL AML AML
comp=E,8740µm,1.0s
MCEL AML AML
comp=E,8665µm,1.0s
MCEL AML AML
comp=N,8995µm,1.2s
MCEL AML AML
comp=N,8845µm,1.1s
BULG Bulgheria - Ca 0.48 290 P **Pg 08 28 49.6 -0.3**
BULG AML AML
comp=E,7390µm,0.5s
BULG AML AML
comp=N,9495µm,0.9s
BULG AML AML
comp=E,7660µm,0.5s
BULG AML AML
comp=N,9645µm,0.9s
BULG AML AML
comp=E,7385µm,0.5s
BULG AML AML
comp=N,9455µm,0.9s
BULG AML AML
comp=E,7660µm,0.5s
BULG AML AML
comp=N,9645µm,0.9s
BULG AML AML
comp=N,9645µm,0.9s
BULG AML AML
comp=N,9495µm,0.9s
BULG AML AML
comp=E,7390µm,0.5s
BULG AML AML
comp=E,7660µm,0.5s
SLCN Sala Consilina 0.54 332 P **Pg 08 28 50.8 -0.3**
SLCN AML AML
comp=E,12750µm,0.5s
SLCN AML AML
comp=N,14200µm,0.6s
SLCN AML AML
comp=E,13000µm,0.5s
SLCN AML AML
comp=N,14100µm,0.6s
SLCN AML AML
comp=E,13000µm,0.5s
SLCN AML AML
comp=N,14100µm,0.6s
SLCN AML AML
comp=N,14200µm,0.6s
SLCN AML AML
comp=N,14100µm,0.6s
SLCN AML AML
comp=E,12750µm,0.5s
SLCN AML AML
comp=E,13000µm,0.5s
CRAC Craco 0.58 38 P **Pg 08 28 51.7 0.0**
CRAC AML AML
comp=E,12000µm,1.0s
CRAC AML AML
comp=N,5760µm,0.9s
CRAC AML AML
comp=E,12000µm,1.0s
CRAC AML AML
comp=N,5760µm,0.9s
CRAC AML AML
comp=N,5760µm,0.9s
CRAC AML AML
comp=E,12000µm,1.0s
PTRP Pietrapertosa 0.61 7 P **Pg 08 28 51.6 -0.7**
CMPR Campora 0.65 309 P **Pg 08 28 52.4 -0.7**
CMPR AML AML
comp=E,6750µm,0.5s
CMPR AML AML
comp=N,6455µm,0.6s
CMPR AML AML
comp=E,6750µm,0.5s
CMPR AML AML
comp=N,6455µm,0.6s
CMPR AML AML
comp=N,6455µm,0.6s
CMPR AML AML
comp=E,6750µm,0.5s
CELI Celico 0.66 141 P **Pg 08 28 52.2 -1.0**
CELI AML AML
comp=E,7380µm,0.6s
CELI AML AML
comp=N,10920µm,0.4s
CELI AML AML
comp=E,7380µm,0.6s
CELI AML AML
comp=N,10920µm,0.4s
CAR1 CAROLEI 0.68 164 P **Pg 08 28 53.0 -0.6**
CAR1 AML AML
comp=E,20000µm,0.7s
CAR1 AML AML
comp=N,14050µm,0.5s
CAR1 AML AML
comp=E,22700µm,0.8s
CAR1 AML AML
comp=N,12400µm,0.8s
CAR1 AML AML
comp=E,19950µm,0.7s
CAR1 AML AML
comp=N,14000µm,0.5s
CAR1 AML AML
comp=E,22700µm,0.8s
CAR1 AML AML
comp=N,12400µm,0.8s
CAR1 AML AML
comp=N,14050µm,0.5s
CAR1 AML AML
comp=N,12400µm,0.8s
CAR1 AML AML
comp=E,20000µm,0.7s
CAR1 AML AML
comp=E,22700µm,0.8s
PZUN Potenza 0.74 350 P **Pg 08 28 54.1 -0.7**
PZUN AML AML
comp=E,2645µm,0.6s
PZUN AML AML
comp=N,3220µm,0.8s
PZUN AML AML
comp=E,2645µm,0.6s
PZUN AML AML
comp=N,3220µm,0.8s
PZUN AML AML
comp=E,2645µm,0.6s
PZUN AML AML
comp=N,3220µm,0.8s
CDRU Civita di Ruta 0.77 319 P **Pg 08 28 54.4 -0.9**
CDRU AML AML
comp=E,3765µm,0.6s
CDRU AML AML
comp=N,2495µm,0.8s
CDRU AML AML
comp=E,3765µm,0.6s
CDRU AML AML
comp=N,2495µm,0.8s
CDRU AML AML
comp=E,3765µm,0.6s
CDRU AML AML
comp=N,2495µm,0.8s
MIGL Miglionico 0.78 27 P **Pg 08 28 54.0 -1.5**
MIGL AML AML
comp=E,12150µm,0.8s
MIGL AML AML
comp=N,10030µm,0.7s
MIGL AML AML
comp=E,12150µm,0.8s
MIGL AML AML
comp=N,10030µm,0.7s
MIGL AML AML
comp=E,12150µm,0.8s
MIGL AML AML
comp=N,10030µm,0.7s
ACER Acerenza 0.87 359 P **Pg 08 28 56.3 -1.0**
ACER AML AML
comp=E,8860µm,0.8s
ACER AML AML
comp=N,5375µm,0.7s
ACER AML AML
comp=E,9060µm,0.8s
ACER AML AML
comp=N,5545µm,0.7s
ACER AML AML
comp=E,8860µm,0.8s
ACER AML AML
comp=N,5375µm,0.7s
ACER AML AML
comp=E,9060µm,0.8s
ACER AML AML
comp=N,5545µm,0.7s
ACER AML AML
comp=N,5545µm,0.7s
ACER AML AML
comp=N,5375µm,0.7s
ACER AML AML
comp=E,9060µm,0.8s
ACER AML AML
comp=E,8860µm,0.8s
MRLC Muro Lucano 0.92 337 P **Pg 08 28 57.3 -0.9**
MATE Matera 0.93 37 ||i P **Pg 08 28 57.1 -1.3**
MATE Matera 0.93 37 S **Sg 08 29 10.2 -0.2**
MATE Matera 0.93 37 P **Pg 08 28 57.0 -1.3**
MATE AML AML
comp=E,6465µm,0.6s
MATE AML AML
comp=N,4915µm,0.6s
MATE AML AML
comp=E,6465µm,0.6s
MATE AML AML
comp=N,4915µm,0.6s
MATE AML AML
comp=N,4915µm,0.6s
MATE AML AML
comp=E,6465µm,0.6s
LTRZ Laterza 0.95 43 P **Pg 08 28 56.5 -2.2**
LTRZ AML AML
comp=E,4465µm,0.6s
LTRZ AML AML
comp=N,4835µm,0.5s
LTRZ AML AML
comp=E,4465µm,0.6s
LTRZ AML AML
comp=N,4835µm,0.5s
LTRZ AML AML
comp=E,4465µm,0.6s
LTRZ AML AML
comp=N,4835µm,0.5s
TIP Timpagrande 0.95 140 ⇑i P **Pn 08 29 02.0 +1.9**
TIP Timpagrande 0.95 140 P **Pg 08 28 57.5 -1.3**
LADO San Nicola del 1.00 128 P **Pg 08 28 58.4 -1.3**
PALZ Palazzo San Ge 1.03 360 AML AML
comp=N,5050µm,0.9s
PALZ AML AML
comp=E,4880µm,1.0s
PALZ AML AML
comp=N,5050µm,0.9s
PALZ AML AML
comp=E,4880µm,1.0s
PALZ AML AML
comp=N,5050µm,0.9s
PALZ AML AML
comp=E,4880µm,1.0s
SERS Sersale 1.04 147 P **Pg 08 28 59.8 -0.7**
SERS AML AML
comp=E,2670µm,0.6s
SERS AML AML
comp=N,2660µm,1.3s
SERS AML AML
comp=E,3095µm,1.3s
SERS AML AML
comp=N,2780µm,0.5s
SERS AML AML
comp=E,2670µm,0.6s
SERS AML AML
comp=N,2660µm,1.3s
SERS AML AML
comp=E,3095µm,1.3s
SERS AML AML
comp=N,2780µm,0.5s
SERS AML AML
comp=N,2780µm,0.5s
SERS AML AML
comp=E,3095µm,1.3s
SERS AML AML
comp=E,2670µm,0.6s
SERS AML AML
comp=N,2660µm,1.3s
SG1 Sgolgore (BA) 1.07 30 *e*Pg **Pg 08 28 59.8 -1.3**
SG1 Sg **Sn 08 29 19.9 +3.1**
AMUR Altamura 1.11 26 P **Pg 08 29 00.6 -1.1**
AMUR AML AML
comp=E,2375µm,1.6s
AMUR AML AML
comp=N,3105µm,0.9s
AMUR AML AML
comp=E,2375µm,1.6s
AMUR AML AML
comp=N,3105µm,0.9s
AMUR AML AML
comp=E,2375µm,1.6s
AMUR AML AML
comp=N,3105µm,0.9s
GRI Girifalco 1.14 162 P **Pg 08 29 01.6 -0.8**
GRI AML AML
comp=E,2460µm,0.5s
GRI AML AML
comp=N,1730µm,0.8s
GRI AML AML
comp=E,2460µm,0.5s
GRI AML AML
comp=N,1730µm,0.8s
MASS Massafra 1.15 51 *e*Pg **Pg 08 29 02.2 -0.4**
MASS Sg **Sn 08 29 21.9 +3.2**
MRVN Minervino Murg 1.16 8 P **Pg 08 29 01.6 -1.2**
MRVN AML AML
comp=E,1730µm,1.0s
MRVN AML AML
comp=N,1198µm,0.9s
MRVN AML AML
comp=E,1730µm,1.0s
MRVN AML AML
comp=N,1198µm,0.9s
MRVN AML AML
comp=N,1198µm,0.9s
MRVN AML AML
comp=E,1730µm,1.0s
SNAL S. Angelo Dei 1.17 330 AML AML
comp=N,5910µm,1.0s
SNAL AML AML
comp=E,7030µm,0.9s
SNAL AML AML
comp=N,5910µm,1.0s
TAR1 Taranto 1.18 58 *e*Pg **Pb 08 29 01.1 -1.9**
TAR1 Sg **Sn 08 29 20.5 +1.2**
NOCI Noci 1.21 43 P **Pb 08 29 02.5 -1.1**
NOCI AML AML
comp=E,2525µm,1.6s
NOCI AML AML
comp=N,2590µm,1.1s
NOCI AML AML
comp=E,2520µm,1.6s
NOCI AML AML
comp=N,2590µm,1.1s
NOCI AML AML
comp=N,2590µm,1.1s
NOCI AML AML
comp=E,2525µm,1.6s
CAFE Carife 1.25 334 AML AML
comp=N,2180µm,0.8s
CAFE AML AML
comp=E,3550µm,0.8s
CAFE AML AML
comp=N,2195µm,0.8s
CAFE AML AML
comp=E,3575µm,0.8s
CAFE AML AML
comp=E,3575µm,0.8s
CAFE AML AML
comp=E,3550µm,0.8s
CAFE AML AML
comp=N,2180µm,0.8s
CAFE AML AML
comp=N,2195µm,0.8s
JOPP Joppolo 1.30 183 P **Pn 08 29 03.7 -1.2**
JOPP AML AML
comp=E,1345µm,0.7s
JOPP AML AML
comp=N,1690µm,0.7s
JOPP AML AML
comp=E,1345µm,0.7s
JOPP AML AML
comp=N,1690µm,0.7s
JOPP AML AML
comp=E,1345µm,0.7s
JOPP AML AML
comp=N,1690µm,0.7s
SGTA Sant Agata di 1.31 340 AML AML
comp=N,1690µm,0.8s
SGTA AML AML
comp=E,2085µm,0.9s
SGTA AML AML
comp=N,1625µm,0.8s
SGTA AML AML
comp=E,2255µm,0.9s
SGTA AML AML
comp=E,2085µm,0.9s
SGTA AML AML
comp=N,1690µm,0.8s
SGTA AML AML
comp=N,1625µm,0.8s
SGTA AML AML
comp=E,2255µm,0.9s
BAI Bari 1.38 30 *e*Pg **Pb 08 29 06.2 -0.2**
BAI Sg **Sg 08 29 26.6 +1.7**
FASA Fasano 1.39 49 *e*Pg **Pn 08 29 05.1 -1.0**
FASA Sg **Sg 08 29 25.9 +0.7**
PLAC Placanica 1.51 166 P **Pn 08 29 07.2 -0.4**
PLAC AML AML
comp=E,1505µm,0.5s
PLAC AML AML
comp=N,1790µm,0.9s
PLAC AML AML
comp=E,1505µm,0.5s
PLAC AML AML
comp=N,1790µm,0.9s
PSB1 Pescosannita 1.58 326 AML AML
comp=E,1660µm,1.1s
PSB1 AML AML
comp=N,1700µm,1.6s
PSB1 AML AML
comp=E,1605µm,1.1s
PSB1 AML AML
comp=N,1670µm,1.6s
PSB1 AML AML
comp=E,1605µm,1.1s
PSB1 AML AML
comp=N,1670µm,1.6s
PSB1 AML AML
comp=N,1700µm,1.6s
PSB1 AML AML
comp=E,1660µm,1.1s
MSCL Scilla 1.68 185 AML AML
comp=E,3055µm,0.7s
MSCL AML AML
comp=E,3055µm,0.7s
MSCL AML AML
comp=N,4040µm,0.6s
MSCL AML AML
comp=N,4040µm,0.6s
MSRU Castanea 1.69 192 AML AML
comp=N,1640µm,0.7s
MSRU AML AML
comp=E,2495µm,0.7s
MSRU AML AML
comp=N,1640µm,0.7s
MSRU AML AML
comp=E,2495µm,0.7s
GMB Gambarie 1.75 184 AML AML
comp=N,4040µm,1.0s
GMB AML AML
comp=E,3955µm,1.5s
GMB AML AML
comp=N,4040µm,1.0s
GMB AML AML
comp=E,3955µm,1.5s
MSAG Monte S. Angel 1.80 359 AML AML
comp=E,982µm,0.8s
MSAG AML AML
comp=N,1365µm,0.7s
MSAG AML AML
comp=E,982µm,0.8s
MSAG AML AML
comp=N,1365µm,0.7s
PTRJ Pietraroja 1.82 323 AML AML
comp=E,1760µm,0.9s
PTRJ AML AML
comp=E,1760µm,0.9s
PTRJ AML AML
comp=N,2450µm,0.7s
PTRJ AML AML
comp=N,2450µm,0.7s
SGRT San Giovanni R 1.85 355 AML AML
comp=E,788µm,0.6s
SGRT AML AML
comp=E,788µm,0.6s
SGRT AML AML
comp=N,650µm,1.1s
SGRT AML AML
comp=N,650µm,1.1s
IACL Alicudi 1.86 223 AML AML
comp=N,690µm,0.9s
IACL AML AML
comp=E,716µm,0.7s
IACL AML AML
comp=N,690µm,0.9s
IACL AML AML
comp=E,716µm,0.7s
CIGN Sant'Elia a Pi 1.92 335 AML AML
comp=N,680µm,0.9s
CIGN AML AML
comp=E,770µm,0.9s
CIGN AML AML
comp=E,770µm,0.9s
CIGN AML AML
comp=N,680µm,0.9s
MTTG Motta San Giov 1.92 187 AML AML
comp=E,1535µm,0.8s
MTTG AML AML
comp=N,1620µm,1.0s
MTTG AML AML
comp=E,1535µm,0.8s
MTTG AML AML
comp=N,1620µm,1.0s
MCSR Castroreale 1.93 197 AML AML
comp=E,1470µm,0.4s
MCSR AML AML

comp=E,1470µm,0.4s
MCSR AML AML
comp=N,1700µm,1.6s
MCSR AML AML
comp=N,1700µm,1.6s
MPAZ Palizzi 1.96 179 AML AML
comp=N,920µm,0.6s
MPAZ AML AML
comp=E,851µm,0.7s
MPAZ AML AML
comp=N,920µm,0.6s
MPAZ AML AML
comp=E,851µm,0.7s
MUCR Ucria 2.05 205 AML AML
comp=N,822µm,0.8s
MUCR AML AML
comp=E,462µm,0.5s
MUCR AML AML
comp=N,822µm,0.8s
MUCR AML AML
comp=E,462µm,0.5s
MSFR San Fratello 2.16 210 AML AML
comp=E,225µm,0.8s
MSFR AML AML
comp=E,225µm,0.8s
MSFR AML AML
comp=N,206µm,1.1s
MSFR AML AML
comp=N,206µm,1.1s
MNO Monte Soro 2.21 207 AML AML
comp=N,854µm,0.9s
MNO AML AML
comp=E,686µm,1.6s
MNO AML AML
comp=N,854µm,0.9s
MNO AML AML
comp=E,686µm,1.6s
GIUL Giuliano Di Ro 2.64 309 AML AML
comp=E,142µm,0.9s
GIUL AML AML
comp=N,178µm,0.9s
GIUL AML AML
comp=N,178µm,0.9s
GIUL AML AML
comp=E,142µm,0.9s
HLNI Lentini 2.70 199 AML AML
comp=E,368µm,0.9s
HLNI AML AML
comp=N,191µm,0.8s
HLNI AML AML
comp=E,368µm,0.9s
HLNI AML AML
comp=N,191µm,0.8s
VAE Valguarnera 2.72 207 Pn **Pb** **08 29 27.9 -1.4**
comp=N,3.7nm,0.3s,baz=88,slow=6.5,SNR=8.1
VAE Sn **Sb** **08 30 03.5 +0.7**
comp=N,4.2nm,0.3s,baz=58,slow=20,SNR=4.6
HCRL Carlentini 2.73 196 AML AML
comp=E,514µm,1.1s
HCRL AML AML
comp=N,374µm,1.4s
HCRL AML AML
comp=E,514µm,1.1s
HCRL AML AML
comp=N,374µm,1.4s
MEU Monte Lauro 2.92 197 AML AML
comp=E,327µm,0.7s
MEU AML AML
comp=N,428µm,0.8s
MEU AML AML
comp=E,327µm,0.7s
MEU AML AML
comp=N,428µm,0.8s
KEK Kerkira 2.96 93 P **Pn** **08 29 28.8 +1.2**
LAV9 Lanuvio 3.04 306 AML AML
comp=E,524µm,1.1s
LAV9 AML AML
comp=N,558µm,0.3s
LAV9 AML AML
comp=E,495µm,1.1s
LAV9 AML AML
comp=N,614µm,0.3s
LAV9 AML AML
comp=E,524µm,1.1s
LAV9 AML AML
comp=E,495µm,1.1s
LAV9 AML AML
comp=N,558µm,0.3s
LAV9 AML AML
comp=N,614µm,0.3s
AQU L'Aquila 3.12 322 *e*Pn **Pb** **08 29 33.8 -2.3**
HCY Herceg Novi 3.17 36⇑*i*Pn **Pn** **08 29 32.1 +1.6**
HCY *e*Sn **Sb** **08 30 12.8 -2.9**
HCY Herceg Novi 3.17 36 *e*Pn **Pn** **08 29 31.4 +0.9**
ULC Ulcinj 3.22 49⇑*i*Pn **Pn** **08 29 32.1 +0.9**
ULC *e*Sn **Sb** **08 30 13.4 -3.7**
STON Ston 3.23 23 *e*Pn **Pn** **08 29 31.3 0.0**
STON *e*Sn **Sn** **08 30 11.4 +1.5**
STON Ston 3.23 23 *e*Pn **Pn** **08 29 31.0 -0.3**
STON Sn **Sn** **08 30 10.4 +0.5**
STON Ston 3.23 23 AML AML
comp=N,222µm,0.7s
STON AML AML
comp=E,116µm,0.9s
STON AML AML
comp=N,222µm,0.7s
STON AML AML
comp=E,116µm,0.9s
STON Ston 3.23 23 *e*Pn **Pn** **08 29 30.6 -0.7**
BUM Brajici-Budva 3.25 42⇓*i*Pn **Pn** **08 29 32.8 +1.1**
BUM *e*Sn **Sn** **08 30 14.2 +3.6**
TREB Trebinje 3.33 32 *e*Pn **Pn** **08 29 33.5 +0.8**
TREB *e*Sn **Sn** **08 30 14.0 +1.7**
TREB Trebinje 3.33 32 *e*Pn **Pn** **08 29 31.3 -1.4**
DRME Dracevica, Mon 3.33 46⇓*i*Pn **Pn** **08 29 34.4 +1.7**
DRME *e*Sn **Sb** **08 30 16.6 -3.6**
DRME Dracevica, Mon 3.33 46 *e*Pn **Pn** **08 29 33.3 +0.6**
IGT Igoumenitsa 3.39 95 P **Pn** **08 29 34.6 +1.1**
IGT S **Sn** **08 30 15.2 +1.4**
CEME Cevo 3.44 39⇓*i*Pn **Pn** **08 29 35.2 +0.8**
CEME *e*Sn **Sn** **08 30 19.1 +3.8**
PDG Podgorica 3.53 44 *e*Pn **Pn** **08 29 37.2 +1.7**
PDG *e*Sn **Sn** **08 30 19.1 +1.8**
PDG Podgorica 3.53 44⇓*i*P **Pn** **08 29 37.9 +2.4**
PDG Podgorica 3.53 44 *e*Pn **Pn** **08 29 35.4 -0.1**
TTG Podgorica 3.53 44⇑*i*Pn **Pn** **08 29 35.6 +0.1**
TTG *e*Sn **Sn** **08 30 21.4 +4.1**
BRY Bratogost 3.56 32⇓*i*Pn **Pn** **08 29 37.5 +1.5**
BRY *e*Sn **Sn** **08 30 22.4 +4.2**
BRY Bratogost 3.56 32 *e*Pn **Pn** **08 29 34.8 -1.2**
NKME Niksic 3.63 37⇑*i*Pn **Pn** **08 29 38.4 +1.5**
NKME *e*Sn **Sn** **08 30 23.1 +3.2**
NKY Niksic 3.69 37⇓*i*Pn **Pn** **08 29 38.4 +0.7**
NKY *e*Sn **Sn** **08 30 25.3 +4.0**
KBN Korca 3.75 78 P **Pn** **08 29 38.3 -0.3**
KBN S **Sn** **08 30 26.4 +3.4**
CESI CESI - Serrava 3.85 324 AML AML
comp=N,46µm,1.0s
CESI AML AML
comp=E,19µm,1.2s
CESI AML AML
comp=N,46µm,1.0s
CESI AML AML
comp=E,19µm,1.2s
EVGI Lefkada island 3.86 108 P **Pn** **08 29 41.9 +1.9**
UPM Unac-Piva 3.96 33⇓*i*Pn **Pn** **08 29 43.3 +1.8**
UPM *e*Sn **Sn** **08 30 31.4 +3.3**
UPM Unac-Piva 3.96 33 *e*Pn **Pn** **08 29 41.8 +0.3**
KOME Kolasin 3.97 41⇑*i*Pn **Pn** **08 29 43.0 +1.4**
KOME *e*Sn **Sn** **08 30 31.9 +3.7**
PVY Plav 4.03 47⇑*i*Pn **Pn** **08 29 44.1 +1.7**
PVY *e*Sn **Sn** **08 30 32.7 +2.9**
IVA Berane 4.18 44⇓*i*Pn **Pn** **08 29 46.4 +2.0**
IVA *e*Sn **Sn** **08 30 36.6 +3.2**
FNA Florina 4.22 76 P **Pn** **08 29 46.1 +1.1**
BIA Bitola 4.23 73 P **Pn** **08 29 47.5 +2.3**
BIA Bitola 4.23 73 *e*Pn **Pn** **08 29 45.9 +0.7**
PLE Pljevlja 4.27 36⇓*i*Pn **Pn** **08 29 47.5 +1.8**
PLE *e*Sn **Sn** **08 30 38.8 +3.1**
KRUS Krusevo 4.27 68 *i*Pn **Pn** **08 29 46.5 +0.7**
PTMD Pantelleria Cu 4.42 226 AML AML
comp=N,164µm,0.6s
PTMD AML AML
comp=E,69µm,0.8s
PTMD AML AML
comp=E,69µm,0.8s
PTMD AML AML
comp=N,164µm,0.6s
KZN Kozani 4.47 83 P **Pn** **08 29 48.2 -0.2**
SJES Sjenica 4.50 41 *e*Pn **Pn** **08 29 48.7 -0.1**
SJES *e*Sn **Sn** **08 30 41.0 -0.3**
UDBI Udbina 4.62 358 *i*Pn **Pn** **08 29 52.2 +1.8**
BBLS Lazići 4.71 32 *e*Pn **Pn** **08 29 53.0 +1.3**
BBLS *e*Sn **Sn** **08 30 46.0 -0.5**
BBLS Lazići 4.71 32 *e*Pn **Pn** **08 29 53.5 +1.8**
NVLJ Novalja 4.72 350 *e*Pn **Pn** **08 29 51.7 -0.1**
NVLJ Sn **Sn** **08 30 46.8 +0.2**
HAPS Han Pijesak,Bl 4.72 27 *e*Pn **Pn** **08 29 52.9 +0.9**
ANX Ano Chora 4.80 104 P **Pn** **08 29 56.0 +2.9**
IVAS Ivanjica 4.82 39 *e*Pn **Pn** **08 29 53.1 -0.1**
IVAS *e*Sn **Sn** **08 30 49.0 -0.1**
BLY Banja Luka 4.92 10⇑*i*P **Pn** **08 29 57.1 +2.6**
BLY Banja Luka 4.92 10 *e*Pn **Pn** **08 29 57.4 +2.9**
TRIZ Trizonia 4.99 106 P **Pn** **08 29 58.3 +2.8**
LIT Litokhoron 5.01 86 P **Pn** **08 29 57.9 +2.1**
STIP Stip 5.04 67 *e*Pn **Pn** **08 29 58.8 +2.5**
AMT Artemida-Makis 5.08 116 P **Pn** **08 30 00.1 +3.3**
SELS Selova 5.08 48 *e*Pn **Pn** **08 29 56.9 +0.1**
SELS *e*Sn **Sn** **08 30 54.9 -0.7**
DIVS Divibare 5.14 34 *e*Pn **Pn** **08 29 57.7 0.0**
DIVS Divibare 5.14 34 *e*Pn **Pn** **08 29 56.0 -1.7**
VAY Valandovo 5.22 72 *e*Pn **Pn** **08 29 59.7 +1.1**
BARS Barje 5.27 55 *e*Pn **Pn** **08 30 00.1 +0.7**
GRUS Gruza 5.32 40 *e*Pn **Pn** **08 30 00.8 +0.7**
GRUS *e*Sn **Sn** **08 31 01.2 -0.3**
GUR Goura 5.35 110 P **Pn** **08 30 03.6 +3.1**
TRUS Trudelj 5.43 36 *e*Pn **Pn** **08 30 02.7 +1.2**
TRUS *e*Sn **Sn** **08 31 03.7 -0.4**
BOVS Bovan 5.68 47 *e*Pn **Pn** **08 30 05.8 +0.9**
BOVS *e*Sn **Sn** **08 31 09.7 -0.5**
PGF Pioggiola 5.88 299 *e*Pn **Pn** **08 30 05.9 -1.9**
PGF *e*Sn **Sn** **08 31 10.4 -4.9**
comp=N,0.4nm,0.2s
CRES Cresnjev 5.92 357 *e*Pn **Pn** **08 30 09.8 +1.5**
CEY Cerknica 5.93 349 *e*Pn **Pn** **08 30 09.7 +1.2**
FRGS Fruska Gora 5.96 27 *e*Pn **Pn** **08 30 10.4 +1.5**
ZAPS Zavoj 6.02 54 *e*Pn **Pn** **08 30 11.1 +1.4**
ZAPS *e*Sn **Sn** **08 31 17.8 -0.9**
VTS Vitosha 6.08 62⇓*i*P **Pn** **08 30 11.8 +1.2**
ZAGS Zajecar 6.09 48 *e*Pn **Pn** **08 30 11.1 +0.5**
LJU Ljubljana 6.22 351 *e*Pn **Pn** **08 30 14.2 +1.8**
BLKB Belogradchik 6.23 51⇑*i*P **Pn** **08 30 13.9 +1.2**
BEHE Becsehely 6.58 5 *e*Pn **Pn** **08 30 15.5 -1.9**
MORH M˜‡r˜igy, Hung 6.60 16 *e*Pn **Pn** **08 30 14.0 -3.6**
OBKA Obir 6.67 352 *e*Pn **Pn** **08 30 21.0 +2.3**
comp=N,3.2nm,0.3s
OBKA Sn **Sn** **08 31 37.8 +2.9**
comp=N,13nm,0.6s
KEST Kesra 6.70 234 Pn **Pn** **08 30 21.6 +2.5**
comp=N,0.7nm,0.3s,baz=300,slow=3.9,SNR=6.5
KEST LR LR 08 33 03.9
comp=N,141nm,20.6s,baz=236,slow=39
HERR Herculane 6.88 42⇑*i*P **Pn** **08 30 22.4 +0.9**
MYKA Terra Mystica 6.93 347 Pn **Pn** **08 30 24.8 +2.6**
comp=N,0.4nm,0.2s
BZS Buzias 7.05 34⇓*i*P **Pn** **08 30 24.1 +0.3**
ABTA Abfaltersbach 7.28 341 Pn **Pn** **08 30 28.6 +1.6**
comp=N,1.3nm,0.3s
ABTA Sn **Sn** **08 31 50.9 +1.1**
comp=N,7.3nm,0.7s
ARSA Arzberg 7.34 358 *e*Pn **Pn** **08 30 29.2 +1.4**
comp=N,1.7nm,0.3s
ARSA *e*Sn **Sn** **08 31 51.6 +0.3**
comp=N,2.7nm,0.6s
SBF Sospel 7.49 305 *e*Pn **Pn** **08 30 27.9 -2.0**
SIRR Siria 7.59 31⇑*i*P **Pn** **08 30 33.3 +2.0**
FRF La Foret Royal 7.87 301 *e*Pn **Pn** **08 30 33.4 -1.6**
FRF *e*Sn **Sn** **08 31 56.6 -7.5**
comp=N,0.2nm,0.2s
LMR La Mourre 7.87 299 *e*Pn **Pn** **08 30 32.9 -2.1**
LMR *e*Sn **Sn** **08 31 58.1 -6.0**
comp=N,0.7nm,0.3s
LOT Lotru 7.97 44⇑*i*P **Pn** **08 30 38.8 +2.2**
CONA Conrad Observa 8.01 359 *e*Pn **Pn** **08 30 39.5 +2.4**
comp=N,1.5nm,0.4s
CONA *e*Sn **Sn** **08 32 07.3 -0.6**
comp=N,1.9nm,0.5s
MOA Molln 8.03 352 *e*Pn **Pn** **08 30 39.8 +2.5**
comp=N,2.9nm,0.5s
MOA *e*Sn **Sn** **08 32 11.5 +3.3**
comp=N,7.6nm,0.8s
FETA Feichten 8.06 334 *e*Pn **Pn** **08 30 39.1 +1.3**
comp=N,4.1nm,0.8s
FETA Sn **Sn** **08 32 13.8 +4.6**
comp=N,2.7nm,0.8s
WATA Walderalm 8.07 338 *e*Pn **Pn** **08 30 41.6 +3.6**
comp=N,0.6nm,0.2s
SQTA Sankt Quirin 8.08 336 Pn **Pn** **08 30 41.2 +3.1**
comp=N,3.3nm,0.5s
SQTA Sn **Sn** **08 32 11.1 +1.6**
comp=N,6.4nm,0.7s
DAVOX Davos/Dischmat 8.17 329 Pn **Pn** **08 30 42.2 +2.8**
comp=N,0.2nm,0.3s,baz=167,slow=19,SNR=5.3
DAVOX Sn **Sn** **08 32 12.2 +0.3**
comp=N,0.1nm,0.3s,baz=150,slow=20,SNR=1.7
MOTA Moosalm 8.22 336 *e*Pn **Pn** **08 30 43.0 +2.9**
comp=N,0.8nm,0.3s
MBDF Montbardon 8.34 308 *e*Pn **Pn** **08 30 39.4 -2.2**
MBDF *e*Sn **Sn** **08 32 09.4 -6.6**
comp=N,0.4nm,0.2s
ARR Arges 8.39 47⇑*i*P **Pn** **08 30 43.3 +1.0**
IDI Anoyia 8.45 120 Pn **Pn** **08 30 44.3 +1.2**
comp=N,0.4nm,0.3s,baz=297,slow=16,SNR=2.2
IDI Sn **Sn** **08 32 14.8 -3.8**
comp=N,0.7nm,0.3s,baz=46,slow=18,SNR=3.2
RETA Reutte 8.46 335 *e*Pn **Pn** **08 30 46.9 +3.7**
comp=N,0.8nm,0.3s
VOIR 8.67 47⇑*i*P **Pn** **08 30 48.1 +2.0**
SMRF Simiane la Rot 8.74 301 *e*Pn **Pn** **08 30 44.2 -2.9**
LPG La Plagne 8.78 312 *e*Pn **Pn** **08 30 44.9 -3.0**
LPG *e*Sn **Sn** **08 32 20.7 -6.4**
comp=N,0.3nm,0.1s
LPL La Plagne 8.81 313 *e*Pn **Pn** **08 30 46.1 -2.0**
LPL *e*Sn **Sn** **08 32 19.3 -8.2**
comp=N,0.1nm,0.2s
VYHS Vyhne 8.82 13 *e*SN **Sn** **08 32 25.3 -2.3**
GERES GERESS Array B 9.08 350 Pn **Pn** **08 30 51.0 -0.7**
comp=N,0.2nm,0.3s,baz=167,slow=13,SNR=15
GERES Sn **Sn** **08 32 30.2 -3.8**
comp=N,0.3nm,0.3s,baz=164,slow=25,SNR=8.6
KECS Kecovo 9.16 19 *e*PN **Pn** **08 30 54.4 +1.7**
DOPR Dopca 9.18 46⇓*i*P **Pn** **08 30 54.5 +1.5**
MLR Muntele Rosu 9.22 50 Pn **Pn** **08 30 55.6 +1.9**
comp=N,0.4nm,0.3s,baz=159,slow=15,SNR=8.0
MLR LR LR 08 34 59.7
comp=N,100nm,20.9s,baz=246,slow=41
MLR Muntele Rosu 9.22 50⇑*i*P **Pn** **08 30 55.4 +1.8**
KHC Kasperske Hory 9.37 350 *e*PN **Pn** **08 30 57.6 +1.9**
KHC *e*SN **Sn** **08 32 39.8 -1.4**
VRAC Vranov 9.41 3 LR LR 08 35 07.7
comp=N,38nm,19.1s,baz=246,slow=42
TRPA Tarpa 9.48 28⇑*i*P **Pn** **08 30 59.0 +2.0**
BURAR Bucovina Array 10.19 38⇑*i*P **Pn** **08 31 09.4 +2.4**
BRTR Keskin Array B 13.59 85 Pn **Pn** **08 31 55.5 +2.0**
comp=N,0.1nm,0.3s,baz=277,slow=11,SNR=6.1
AKASG Malin Array Be 14.24 36 Pn **Pn** **08 32 05.3 +3.2**
comp=N,0.2nm,0.3s,baz=223,slow=9.8,SNR=9.0
MDT Midelt 18.00 253 LR LR 08 39 59.6
comp=N,31nm,19.1s,baz=66,slow=38
HFS Hagfors 20.29 357 P Pn 08 33 18.0 -0.3
comp=N,4.1nm,0.8s,baz=177,slow=8.9,SNR=5.2
HFS LR LR 08 41 32.7
comp=N,45nm,18.3s,baz=270,slow=38
KBZ Khabaz 20.39 70 P Pn 08 33 19.2 -0.3
comp=N,4.7nm,0.8s,baz=288,slow=8.8,SNR=9.0
NB2 NORSAR Subarra 21.36 354 P **P** **08 33 28.7 +0.9**
comp=Z,3.8nm,0.8s,baz=170,slow=12
NOA NORSAR Array B 21.36 354 P **P** **08 33 28.2 +0.4**
comp=Z,2.4nm,0.8s,baz=167,slow=10,SNR=6.8
FINES FINESS Array B 22.44 13 P **P** **08 33 40.1 +0.8**
comp=Z,2.1nm,0.6s,baz=187,slow=8.3,SNR=13
ZALV Zalesovo Beam 47.19 49 P **P** **08 37 14.4 +1.2**
comp=Z,2.2nm,0.7s,baz=276,slow=8.2,SNR=7.4
ZALV LR LR 08 57 46.2
comp=Z,33nm,19.3s,baz=60,slow=37
MKAR Makanchi Array 47.42 59 P **P** **08 37 16.4 +1.2**
comp=Z,1.1nm,0.6s,baz=285,slow=6.0,SNR=10
SONM Songino Array 62.07 50 P **P** **08 39 02.7 +1.3**
comp=Z,1.6nm,0.7s,baz=288,slow=7.5,SNR=13

DDA ***25*** *08:28:44.6,36˙61N×27˙.96E,h7km,Ml2.5*
ISK 25 08:28:44.0,36˙.59N×27˙.95E,h15km±3km,ML2.4/7,
Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSB	**Marmaris-Mugla**	**0.23**	**58**	PG	Pb	08 28 49.7	-0.3
DATC	**Datca-Mugla**	**0.29**	**306**	PG	Pb	08 28 50.5	-0.3
DAT	**Datca**	**0.33**	**295**	PG	Pb	08 28 51.4	-0.2
DAT	**Datca**	**0.33**	**295**	*i* P	Pg	08 28 51.0	+0.1
DAT				*i* S	Sb	08 28 57.1	+0.4
ARG	**Arkhangelos**	**0.40**	**159**	PG	Pg	08 28 52.4	+0.3
TURN	**Turunc**	**0.60**	**62**	PG	Pg	08 28 50.6	-5.1
TURN	**Turunc**	**0.60**	**62**	*i* P	Pg	08 28 50.7	-5.0
TURN				*i* S	Sg	08 28 55.6	-8.1
DALY	**Dalyan (Mu˜la**	**0.61**	**68**	PG	Pb	08 28 56.6	+0.3
DALY	**Dalyan (Mu˜la**	**0.61**	**68**	*i* P	Pb	08 28 56.2	-0.1
DALY				*i* S	Sb	08 29 05.9	+1.2
NIS1	**Nisyros Isl.**	**0.62**	**271**	PG	Pb	08 28 56.6	+0.1
BODT	**Bodrum**	**0.69**	**313**	PG	Pg	08 28 57.7	+0.1
MLSB	**Milas**	**0.72**	**349**	PG	Pb	08 28 58.3	+0.1
FETY	**Fethiye**	**0.91**	**87**	PG	Pn	08 29 02.3	0.0
AYDN	**Tasoluk**	**1.07**	**357**	*i* P	Pg	08 29 04.6	0.0
AYDN				*i* S	Sn	08 29 19.2	+0.1
TAVA	**DENIZLI_Tavas**	**1.17**	**41**	*i* P	Pg	08 29 06.3	-0.2
TAVA				*i* S	Sg	08 29 24.1	+2.4

IDC ***25*** *08:51:44.8±0.9,36˙.52N×27˙.91E,h0km,mb3.9/8,*
mb1 3.9/15,mb1mx3.7/48,mbtmp3.9/15,ML3.5/6,MS3.0/6,
Ms1 3.0/6,ms1mx2.5/46,Error ellipse: s-maj=18.8km
s-min=14.0km az=166.0
ISK ***25*** *08:51:45.8,36˙.62N×27˙.91E,h6km,ML4.0/23*
ISCJB ***25*** *08:51:45.8±0.4,36˙.54N±0˙.02×27˙.96E±0˙.02,h10km±3km,*
mb3.8/12,MS3.3/2,Error ellipse: s-maj=2.9km
s-min=2.1km az=7.1
DDA ***25*** *08:51:46.1,36˙.60N×27˙.92E,h11km,Ml4.0*
ATH ***25*** *08:51:46.7,36˙.64N×27˙.93E,h28km,ML3.6/11,Error*
ellipse: s-maj=1.8km s-min=0.8km az=207.0
THE ***25*** *08:51:46.3,36˙.67N×27˙.98E,h0km,ML3.7/6,Error ellipse:*
s-maj=1.3km s-min=0.7km az=17.0
MOS ***25*** *08:51:47.2±1.2,36˙.53N×27˙.99E,h24km,mb4.1/7,Error*
ellipse: s-maj=9.2km s-min=6.3km az=98.6
NIC ***25*** *08:51:48.2±0.2,36˙.60N×28˙.05E,h12km,mb4.3,ML3.9*
GII ***25*** *08:51:52.0±0.6,36˙.48N×28˙.15E,h80km,mb4.3/1,*
MD3.8/3
HLW ***25*** *08:52:00.7,35˙.60N×28˙.06E,h22km±19km,Md4.0*
ISC 25 08:51:46.6±0.7,36˙.60N±0˙.02×27˙.96E±0˙.02,h9km±5km,
n194,σ1°53/232,mb3.9/12,11C-7D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSB	**Marmaris-Mugla**	**0.22**	**59**	PG	**Pg**	**08 51 51.1**	**0.0**
DATC	**Datca-Mugla**	**0.29**	**303**	PG	**Pg**	**08 51 52.2**	**-0.2**
DAT	**Datca**	**0.33**	**293**	PG	**Pg**	**08 51 52.3**	**-1.0**
DAT	**Datca**	**0.33**	**293**	⇑*i*P	**Pg**	**08 51 53.0**	**-0.3**
DAT				*i* S	**Sb**	**08 51 59.8**	**-0.6**
ARG	**Arkhangelos**	**0.41**	**161**	PG	**Pg**	**08 51 54.3**	**-0.3**
ARG	**Arkhangelos**	**0.41**	**161**	P	**Pb**	**08 51 55.7**	**-0.3**
ARG				S	**Sb**	**08 52 03.3**	**+1.0**
ARG	comp=N,32698µm,0.3s			AML	AML	08 52 04.9	
ARG	comp=E,39841µm,0.3s			AML	AML	08 52 05.2	
ARG	**Arkhangelos**	**0.41**	**161**	P	**Pb**	**08 51 55.5**	**-0.5**
ARG				S	**Sb**	**08 52 03.1**	**+0.8**
ARG	**Arkhangelos**	**0.41**	**161**	P	**Pg**	**08 51 54.2**	**-0.3**
ARG				S	**Sb**	**08 52 03.1**	**+0.8**
TURN	**Turunc**	**0.58**	**62**	PG	Pg	08 51 52.4	-5.5
TURN				SG	**Sg**	**08 51 57.4**	**-8.1**
TURN	**Turunc**	**0.58**	**62**	⇑*i*P	Pg	08 51 52.2	-5.7
TURN				*i* S	**Sg**	**08 51 57.4**	**-8.1**
DALY	**Dalyan (Mu˜la**	**0.60**	**69**	PG	**Pg**	**08 51 58.4**	**+0.2**
DALY				SG	**Sb**	**08 52 07.8**	**0.0**
DALY	**Dalyan (Mu˜la**	**0.60**	**69**	⇑*i*P	**Pg**	**08 51 57.9**	**-0.3**
DALY				*i* S	**Sb**	**08 52 07.9**	**+0.1**
NIS1	**Nisyros Isl.**	**0.63**	**270**	PG	**Pg**	**08 51 57.7**	**-1.1**
NIS1	**Nisyros Isl.**	**0.63**	**270**	P	**Pg**	**08 51 59.1**	**+0.3**
NIS1				S	**Sb**	**08 52 08.1**	**-0.8**
NIS1	comp=E,36053µm,0.5s			AML	AML	08 52 14.0	
NIS1	comp=N,39976µm,0.4s			AML	AML	08 52 16.1	
NIS1	**Nisyros Isl.**	**0.63**	**270**	P	**Pb**	**08 51 59.6**	**-0.3**
NIS1				S	**Sn**	**08 52 10.5**	**-1.6**
NISR	**Nisiros**	**0.67**	**271**	P	**Pg**	**08 51 60.0**	**+0.4**
NISR				S	**Sg**	**08 52 09.2**	**+0.9**
NISR				AML	AML	08 52 13.6	
NISR	comp=E,14441µm,0.5s			AML	AML	08 52 16.5	
NISR	comp=N,9642µm,0.4s			AML	AML	08 52 16.5	
NISR	**Nisiros**	**0.67**	**271**	P	**Pg**	**08 51 59.8**	**+0.2**
NISR				S	**Sb**	**08 52 10.8**	**+0.8**
BODT	**Bodrum**	**0.70**	**312**	PG	**Pg**	**08 51 58.9**	**-1.2**
BODT	**Bodrum**	**0.70**	**312**	P	**Pg**	**08 51 59.8**	**-0.3**
BODT				S	**Sg**	**08 52 09.7**	**+0.5**
MLSB	**Milas**	**0.71**	**348**	PG	**Pg**	**08 51 59.4**	**-0.9**
FETY	**Fethiye**	**0.90**	**87**	PG	**Pg**	**08 52 03.8**	**-0.2**
FETY	**Fethiye**	**0.90**	**87**	P	**Pg**	**08 52 03.6**	**-0.4**
FETY				S	**Sb**	**08 52 17.2**	**+0.5**
AYDN	**Tasoluk**	**1.06**	**356**	⇑*i*P	**Pg**	**08 52 06.2**	**-0.8**
AYDN				*i* S	**Sb**	**08 52 21.5**	**+0.3**
TAVA	**DENIZLI_Tavas**	**1.15**	**41**	⇓*i*P	**Pb**	**08 52 08.4**	**-0.4**
TAVA				*i* S	**Sn**	**08 52 27.3**	**+2.3**
AKAS	**Kas**	**1.38**	**105**	PN	**Pg**	**08 52 13.2**	**+0.1**
AKAS	**Kas**	**1.38**	**105**	⇑*i*P	**Pg**	**08 52 13.1**	**+0.1**
AKAS				*i* S	**Sg**	**08 52 35.4**	**+4.5**
KSL	**Kastellorizon**	**1.38**	**108**	P	**Pg**	**08 52 13.3**	**+0.1**
KSL				S	**Sg**	**08 52 31.9**	**+0.8**
KSL	comp=N,2596µm,0.8s			AML	AML	08 52 41.6	
KSL	comp=E,2916µm,1.0s			AML	AML	08 52 43.9	
KSL	**Kastellorizon**	**1.38**	**108**	P	**Pg**	**08 52 13.5**	**+0.3**
KSL				S	**Sg**	**08 52 32.1**	**+1.0**
DNZL	**Cakiroluk**	**1.39**	**38**	⇓*i*P	**Pg**	**08 52 13.5**	**+0.1**
DNZL				*i* S	**Sg**	**08 52 34.7**	**+3.4**
GOLH	**Golhisar**	**1.43**	**63**	⇑*i*P	**Pg**	**08 52 14.4**	**+0.3**
GOLH				*i* S	**Sg**	**08 52 36.1**	**+3.4**
DENT	**Denizli**	**1.43**	**36**	PN	**Pn**	**08 52 13.0**	**+0.1**
ELL	**Elmali**	**1.57**	**84**	PN	**Pb**	**08 52 15.9**	**-0.2**
ELL	**Elmali**	**1.57**	**84**	P	**Pb**	**08 52 15.8**	**-0.2**
AMGA	**Amorgos Island**	**1.68**	**279**	P	**Pn**	**08 52 15.6**	**-0.7**
AMGA				AML	AML	08 52 51.2	
AMGA	comp=N,1169µm,0.7s			AML	AML	08 52 51.8	
AMGA	comp=E,1534µm,1.0s			AML	AML	08 52 51.8	
DGB	**˜zmir**	**1.69**	**330**	*i* P	**Pn**	**08 52 14.3**	**-2.0**
DGB				*i* S	**Sg**	**08 52 42.5**	**+1.7**
ANAF	**Anafi Island**	**1.78**	**263**	P	**Pn**	**08 52 17.1**	**-0.6**
ANAF				AML	AML	08 52 51.7	
ANAF	comp=N,4924µm,0.4s			AML	AML	08 52 52.5	
ANAF	comp=E,4035µm,0.7s			AML	AML	08 52 52.5	
ANAF	**Anafi Island**	**1.78**	**263**	P	**Pn**	**08 52 17.1**	**-0.6**
ANAF				S	**Sn**	**08 52 41.1**	**+0.6**
MANT	**Manisa**	**1.94**	**14**	*i* P	**Pn**	**08 52 19.8**	**-0.4**
MANT				*i* S	**Sg**	**08 52 49.9**	**+0.7**
KORT	**Korkueli**	**1.96**	**78**	PN	**Pn**	**08 52 21.0**	**+0.8**
KORT	**Korkueli**	**1.96**	**78**	⇓*i*P	**Pb**	**08 52 23.3**	**+0.7**
KORT				*i* S	**Sg**	**08 52 52.7**	**+3.1**
KULA	**Kula-Manisa**	**1.99**	**16**	PN	**Pn**	**08 52 20.8**	**+0.2**
BRDR	**BURDUR-Merkez**	**2.00**	**56**	⇓*i*P	**Pb**	**08 52 23.1**	**-0.2**
BRDR				*i* S	**Sg**	**08 52 51.4**	**+0.4**
APE	**Apeiranthos**	**2.01**	**284**	PN	**Pn**	**08 52 20.2**	**-0.6**
APE	**Apeiranthos**	**2.01**	**284**	⇑*i*P	Pn	08 52 11.0	-10
APE	**Apeiranthos**	**2.01**	**284**	P	**Pn**	**08 52 19.9**	**-0.9**
APE	**Apeiranthos**	**2.01**	**284**	*i* P	**Pn**	**08 52 19.6**	**-1.2**
THR8	**Santorini-Mono**	**2.01**	**265**	P	**Pn**	**08 52 22.1**	**-0.6**
SANT	**Santorini**	**2.03**	**264**	PN	**Pn**	**08 52 19.9**	**-1.2**
SANT	**Santorini**	**2.03**	**264**	⇑*i*P	**Pn**	**08 52 22.1**	**+1.0**
SANT	**Santorini**	**2.03**	**264**	P	**Pn**	**08 52 20.5**	**-0.6**
SANT	comp=E,1383µm,1.0s			AML	AML	08 52 58.2	
SANT	comp=N,1255µm,1.0s			AML	AML	08 52 59.3	
ZKR	**Zakros**	**2.05**	**224**	P	**Pn**	**08 52 21.9**	**+0.5**
ZKR				AML	AML	08 53 01.1	
ZKR	comp=E,1770µm,0.4s						

ZKR AML AML 08 53 09.7
comp=N,977μm,0.6s
ZKR Zakros 2.05 224 P **Pn** **08 52 22.0 +0.6**
ZKR S **Sb** **08 52 50.0 +0.3**
STIA Sitia Lasithi 2.06 228 P **Pn** **08 52 20.8 -0.7**
STIA S **Sb** **08 52 50.0 0.0**
URLA Izmir 2.07 329 PN **Pn** **08 52 21.4 -0.2**
URLA Izmir 2.07 329 *i* P **Pn** **08 52 21.9 +0.3**
URLA *i* S **Sg** **08 52 55.0 +2.0**
THR3 Thira Island, 2.07 265 P **Pn** **08 52 21.2 -0.4**
THR6 Thira Island, 2.08 264 P **Pn** **08 52 21.7 -0.1**
SAP1 Santorini-Akro 2.08 264 P **Pn** **08 52 21.4 -0.4**
KEMT Kemer-ANTALYA 2.09 89 PN **Pb** **08 52 23.3 -1.4**
THR5 Thira Island, 2.11 266 P **Pn** **08 52 21.4 -0.8**
KHL Karahalli 2.12 35 PN **Pn** **08 52 22.9 +0.5**
KHAL Karahalli 2.15 34 *i* P **Pn** **08 52 24.1 +1.3**
KHAL *i* S **Sb** **08 52 52.0 -0.6**
IOSP Ios island 2.15 274 P **Pn** **08 52 22.5 -0.3**
ANTB Antalya 2.18 81 PN **Pn** **08 52 24.4 +1.3**
KRBN Karaburun 2.28 331 PN **Pn** **08 52 24.6 +0.1**
FOCM Foça 2.32 336 PN **Pn** **08 52 25.1 0.0**
NPS Neapolis 2.33 236 P **Pn** **08 52 25.0 -0.2**
NPS AML AML 08 52 55.7
comp=N,887μm,0.4s
NPS AML AML 08 52 58.1
comp=E,1018μm,0.4s
NPS Neapolis 2.33 236 P **Pn** **08 52 24.8 -0.4**
NPS S **Sn** **08 52 54.0 +0.1**
NPS Neapolis 2.33 236 P **Pn** **08 52 24.8 -0.4**
NPS S **Sn** **08 52 54.0 +0.1**
CHOS Chios island 2.34 320 PN **Pn** **08 52 25.4 0.0**
CHOS Chios island 2.34 320 P **Pn** **08 52 24.9 -0.5**
CHOS Chios island 2.34 320 P **Pn** **08 52 25.0 -0.4**
CHOS S **Sn** **08 52 53.4 -1.0**
ISP Isparta 2.38 58 PN **Pn** **08 52 26.8 +0.8**
ISP Isparta 2.38 58 ‖ *i* P **Pb** **08 52 28.9 -0.9**
ISP Isparta 2.38 58 P **Pn** **08 52 27.5 +1.5**
ISP Isparta 2.38 58 Pn **Pb** **08 52 28.4 -1.4**
ISP Isparta 2.38 58 *i* P **Pb** **08 52 27.9 -1.9**
LAST Lasithi 2.48 235 P **Pn** **08 52 27.7 +0.4**
LAST AML AML 08 53 16.2
comp=E,428μm,0.6s
LAST AML AML 08 53 20.0
comp=N,607μm,0.8s
LAST Lasithi 2.48 235 P **Pn** **08 52 27.6 +0.3**
LAST S **Sn** **08 52 59.0 +1.3**
SUTC Sutluce-Ispart 2.58 69 PN **Pn** **08 52 30.2 +1.4**
DKL Dikili 2.60 342 PN **Pn** **08 52 29.1 +0.2**
SIMA Simav-Kutahya 2.61 18 PN **Pn** **08 52 29.7 +0.6**
GEDZ Gediz 2.70 25 PN **Pn** **08 52 30.6 +0.3**
IDI Anoyia 2.82 243 PN **Pn** **08 52 32.1 +0.2**
IDI Anoyia 2.82 243 Pn **Pn** **08 52 31.6 -0.4**
comp=N,6.1nm,0.3s,baz=25,slow=3.7,SNR=67
IDI Sn **Sn** **08 53 05.2 -0.9**
comp=N,17nm,0.3s,baz=109,slow=22,SNR=8.2
IDI Anoyia 2.82 243 ‖ *i* P **Pn** **08 52 32.6 +0.7**
PRK Paraskevi 2.96 334 P **Pn** **08 52 33.5 -0.4**
PRK AML AML 08 53 31.9
comp=E,1800μm,1.1s
PRK AML AML 08 53 32.8
comp=N,1418μm,2.0s
PRK Paraskevi 2.96 334 P **Pn** **08 52 33.0 -0.8**
PRK Paraskevi 2.96 334 P **Pn** **08 52 33.0 -0.8**
SIVA Sivas 3.01 239 P **Pn** **08 52 35.7 +1.2**
BALB Balikesir 3.04 359 PN **Pn** **08 52 35.2 +0.3**
DST Dursunbey 3.04 10 PN **Pn** **08 52 35.9 +0.9**
DST Dursunbey 3.04 10 P **Pn** **08 52 35.8 +0.8**
TVSB Tavsanli 3.08 22 PN **Pn** **08 52 35.9 +0.3**
SIGR SIGRI 3.09 328 PN **Pn** **08 52 35.8 +0.1**
SIGR SIGRI 3.09 328 P **Pn** **08 52 34.9 -0.7**
SIGR SIGRI 3.09 328 P **Pn** **08 52 35.0 -0.7**
VAM Vamos 3.27 250 P **Pn** **08 52 39.7 +1.5**
VAM Vamos 3.27 250 P **Pn** **08 52 40.7 +2.5**
IMMV Iera Moni Meta 3.42 252 P **Pn** **08 52 41.1 +0.9**
GONE Gonen-Balikesi 3.45 356 PN **Pn** **08 52 41.1 +0.6**
GAZI Gazipasa 3.53 95 PN **Pn** **08 52 43.9 +2.2**
DION Dionisos Attik 3.53 296 P **Pn** **08 52 41.8 0.0**
VLY Voula,Athens 3.55 292 P **Pn** **08 52 41.2 -0.8**
ATHU Athens Univers 3.60 294 P **Pn** **08 52 43.3 +0.6**
KCTX Karacabey (Bur 3.67 5 PN **Pn** **08 52 44.1 +0.4**
KONT Konya--Tatoy 3.76 68 PN **Pn** **08 52 46.9 +2.1**
AKMC Akamas 3.88 113 P **Pn** **08 52 46.7 +0.2**
baz=295
DID Didima 3.89 285 P **Pn** **08 52 46.8 +0.2**
LIA Limnos Island 3.95 327 P **Pn** **08 52 47.2 -0.2**
PPCY Paphos 3.96 114 P **Pn** **08 52 48.2 +0.7**
baz=297
ALFC Alefka 4.03 110 P **Pn** **08 52 49.1 +0.5**
baz=292
ALFC S **Sn** **08 53 36.0 0.0**
VLI Veliai 4.04 273 P **Pn** **08 52 49.3 +0.6**
VIL2 Platees 4.07 295 P **Pn** **08 52 49.5 +0.4**
AOS Alonnisos 4.12 310 P **Pn** **08 52 49.7 -0.1**
SMTH Samothraki Isl 4.31 334 P **Pn** **08 52 52.2 -0.2**
SKIA Skiathos 4.38 307 P **Pn** **08 52 53.9 +0.4**
SZAC Souni 4.41 113 P **Pn** **08 52 54.1 +0.3**
baz=296
DYR Agios Nikonas 4.53 274 P **Pn** **08 52 57.1 +1.7**
ALN Alexandroupoli 4.54 341 P **Pn** **08 52 55.2 -0.4**
ALN Alexandroupoli 4.54 341 P **Pn** **08 52 55.8 +0.2**
CSS Mathiatis 4.66 109 P **Pn** **08 52 58.3 +1.1**
CSS Mathiatis 4.66 109 P **Pn** **08 52 57.8 +0.5**
baz=292
CSS S **Sn** **08 53 52.3 +0.8**
CSS Mathiatis 4.66 109 Pn **Pn** **08 52 58.2 +0.9**
GUR Goura 4.68 288 P **Pn** **08 52 58.6 +1.1**
KLV Kalavryta, Ach 4.85 289 P **Pn** **08 53 00.7 +0.8**
RDO Rodhopi 4.92 338 P **Pn** **08 53 01.0 +0.3**
KALE Kalithea 4.96 293 P **Pn** **08 53 02.8 +1.4**
TRIZ Trizonia 5.00 292 P **Pn** **08 53 03.1 +1.1**
ANTO Ankara 5.01 48 ‖ *i* P Pn 08 52 51.9 -10
LAKA Lakka 5.04 291 P **Pn** **08 53 03.8 +1.3**
ANX Ano Chora 5.19 294 P **Pn** **08 53 05.1 +0.5**
BRTR Keskin Array B 5.45 53 Pn **Pn** **08 53 10.6 +2.3**
comp=N,1.8nm,0.3s,baz=232,slow=15,SNR=47
BRTR Sn **Sn** **08 54 14.9 +3.7**
comp=N,0.8nm,0.3s,baz=224,slow=25,SNR=4.6
BRTR Keskin Array B 5.45 53 *i* P **Pn** **08 53 10.6 +2.3**
BRTR pmax pmax
comp=Z,11nm,0.5s
SLUM Salum 5.58 205 P **Pn** **08 53 10.7 +0.8**
baz=211
SLUM S Sn 08 54 01.6 -13
baz=211
KNT Kendrikon 6.03 321 P **Pn** **08 53 17.4 +1.4**
GRG Griva 6.15 317 P **Pn** **08 53 22.0 +4.3**
HNTI Hanita 6.89 119 Sn **Sn** **08 54 43.4 -3.0**
HWQ Hawqa 6.92 107 *e*P **Pn** **08 53 28.7 +0.3**
MMA0B Mount Meron ar 7.09 118 Pn **Pn** **08 53 31.2 +0.5**
MMA0B Sn **Sn** **08 54 48.4 -3.0**
MMAI Mount Meron Ar 7.09 118 Pn **Pn** **08 53 30.3 -0.3**
comp=Z,14nm,0.3s,baz=306,slow=12,SNR=36
MMAI Sn **Sn** **08 54 48.4 -3.0**
comp=Z,12nm,0.3s,baz=312,slow=20,SNR=11
RCY Rachaya 7.16 113 *e*P **Pn** **08 53 31.4 -0.3**
KSDI Kefar Szold 7.18 116 Pn **Pn** **08 53 31.6 -0.2**
KSDI Sn **Sn** **08 54 49.9 -3.6**
HMYD Mayadein 7.19 160 P **Pn** **08 53 31.7 -0.3**
baz=157
NATI Neve Ativ 7.20 115 Pn **Pn** **08 53 32.1 0.0**
NATI Sn **Sn** **08 54 50.6 -3.4**
HNAT Natroun 7.30 161 P **Pn** **08 53 32.9 -0.6**
baz=159
KOT Kottamia 7.40 153 P **Pn** **08 53 34.0 -0.9**
baz=149
HHAG Hagoal 7.48 151 P **Pn** **08 53 36.8 +0.8**
baz=147
HMDT Nahal Hemdat 7.61 123 Pn **Pn** **08 53 38.2 +0.5**
HMDT Sn **Sn** **08 55 00.8 -3.2**
SWA2 7.63 197 P **Pn** **08 53 37.9 -0.1**
baz=200
GLL Jalalah 7.68 155 P **Pn** **08 53 38.8 +0.1**
baz=151
DSI Dead Sea 7.94 127 Pn **Pn** **08 53 41.9 -0.4**
DSI Sn **Sn** **08 55 08.9 -3.3**
PRNI Paran 8.57 135 Pn **Pn** **08 53 50.5 -0.4**
PRNI Sn **Sn** **08 55 24.2 -3.5**
ASF Jabal al Asfar 8.60 118 Pn **Pn** **08 53 51.1 -0.4**
comp=Z,0.5nm,0.3s,baz=277,slow=9.9,SNR=3.4
ASF Sn **Sn** **08 55 25.8 -2.9**
comp=Z,0.3nm,0.3s,baz=6.3,slow=18,SNR=1.8
MBRI Mt Berech 8.94 137 Pn **Pn** **08 53 56.3 +0.2**
MBRI Sn **Sn** **08 55 33.0 -4.0**
MLR Muntele Rosu 9.01 351 Pn **Pn** **08 53 58.4 +1.3**
comp=Z,0.1nm,0.3s,baz=120,slow=20,SNR=4.9
MLR Muntele Rosu 9.01 351 ‖ *i* P Pn 08 54 03.8 +6.7
EIL Elat 9.06 138 Pn **Pn** **08 53 56.5 -1.1**
comp=Z,1.1nm,0.3s,baz=359,slow=15,SNR=8.8
EIL Sn **Sn** **08 55 34.4 -5.4**
comp=Z,2.2nm,0.3s,baz=113,slow=13,SNR=5.6
HFRF Wahat Farafira 9.43 178 P **Pn** **08 54 02.1 -0.6**
baz=178
UZH Uzhgorod 12.72 343 ‖ *e*P **Pn** **08 54 50.9 +3.2**
GNI Garni 13.63 70 LR LR 09 00 38.9
comp=Z,42nm,19.0s,baz=269,slow=39
KIEV Kiev 14.12 3 *i* P **Pn** **08 55 09.2 +2.5**
KBA Koelnbreinsper 15.08 318 *e*pP **P** **08 55 27.6 +2.2**
comp=Z,7.2nm,1.3s
LGD Lagodekhi 15.10 64 *e*P **P** **08 55 24.8 -0.6**
VRAC Vranov 15.16 330 LR LR 09 01 36.3
comp=Z,41nm,21.2s,baz=164,slow=39
ABTA Abfaltersbach 15.34 316 *e*P **P** **08 55 30.8 +2.7**
comp=Z,3.8nm,0.7s
GERES GERESS Array B 16.08 324 Pn **P** **08 55 36.1 -0.2**
comp=Z,0.1nm,0.3s,baz=130,slow=12,SNR=3.9
GERES LR LR 09 02 05.1
comp=Z,35nm,21.9s,baz=117,slow=38
DPC Dobruska-Polom 16.10 332 *e*P **P** **08 55 38.2 +1.6**
DPC Dobruska-Polom 16.10 332 *e*P **P** **08 55 38.2 +1.6**
KHC Kasperske Hory 16.33 325 *e*P **P** **08 55 38.3 -0.8**
KHC *e*pP **sP** **08 55 42.9 +0.2**
KHC Kasperske Hory 16.33 325 *e*P **P** **08 55 38.3 -0.8**
MOTA Moosalm 16.47 316 *e*P **P** **08 55 41.0 +0.2**
comp=Z,9.0nm,1.3s
FETA Feichten 16.50 314 P **P** **08 55 41.9 +0.7**
comp=Z,5.4nm,1.1s
DAVOX Davos/Dischmat 16.87 313 LR LR 09 03 05.7
comp=Z,61nm,19.0s,baz=114,slow=40
DAVA Damuels 17.13 314 *e*pP **P** **08 55 50.0 +1.8**
comp=Z,4.8nm,0.9s
CLL Collm 18.17 329 *e*P **P** **08 56 00.0 +0.6**
CLL *e* 08 56 06.0
CLL Collm 18.17 329 *e*P **P** **08 56 00.0 +0.6**
OBN Obninsk 19.43 15 *e*P **Pn** **08 56 15.6 +1.3**
OBN pmax pmax
comp=Z,3.0nm,0.9s
GEYT Alibeck 23.99 78 P **P** **08 57 02.3 +0.7**
comp=Z,1.8nm,0.5s,baz=276,slow=2.8,SNR=6.9
FINES FINESS Array B 24.89 358 P **P** **08 57 09.3 -0.3**
comp=Z,2.1nm,0.8s,baz=147,slow=11,SNR=6.1
ESDC Sonseca Array 25.23 287 P **P** **08 57 12.1 -0.9**
comp=Z,0.4nm,0.5s,baz=80,slow=8.9,SNR=4.9
NOA NORSAR Array B 26.67 342 LR LR 09 10 23.7
comp=Z,20nm,18.1s,baz=310,slow=42
TORD Torodi Ar. Bea 33.16 232 P **P** **08 58 21.4 -2.2**
comp=Z,0.5nm,0.6s,baz=40,slow=8.6,SNR=5.5
BRVK Borovoye 33.65 47 *i* P **P** **08 58 27.3 -0.2**
BRVK pmax pmax
comp=Z,1.0nm,1.1s
AAK Ala-Archa 35.99 66 *i* P **P** **08 58 48.3 +0.3**
AAK pmax pmax
comp=Z,2.0nm,0.9s
KURBB Kurchatov Arra 38.45 52 P **P** **08 59 08.8 +0.2**
comp=Z,1.4nm,0.2s,baz=277,slow=8.7,SNR=6.7
KURK Kurchatov 38.50 52 *ce*P **P** **08 59 09.3 +0.2**
KURK pmax pmax
comp=Z,6.0nm,1.7s
MKAR Makanchi Array 41.08 58 P **P** **08 59 30.9 +0.3**
comp=Z,1.4nm,0.8s,baz=285,slow=6.4,SNR=8.3
MKAR Makanchi Array 41.08 58 P **P** **08 59 30.9 +0.3**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
NVS Novosibirsk 41.46 46 *e*P P 08 59 23.5 -10
SONM Songino Array 56.81 52 P **P** **09 01 30.6 -0.8**
comp=Z,1.0nm,0.8s,baz=282,slow=7.9,SNR=4.5
BILL Bilibino 71.09 15 *e*P **P** **09 03 06.1 +1.2**
BILL pmax pmax
comp=Z,2.0nm,1.2s
USRK Ussuriysk Ar. 74.21 46 P **P** **09 03 23.5 -0.3**
comp=Z,1.1nm,0.6s,baz=289,slow=4.4,SNR=3.4
NEW Newport 89.96 338 LR LR 09 46 44.3
comp=Z,43nm,18.8s,baz=357,slow=37

ROM ***25*** *08:53:33.7±0.1, 39°.890N±0°.005×16°.010E±0°.007, h9km, ML3.0/15*
ISCJB ***25*** *08:53:34.1±0.4, 39°.88N±0°.02×15°.98E±0°.03, h13km±2km, Error ellipse: s-maj=4.0km s-min=3.2km az=160.4*
BEO ***25*** *08:53:37.6±1.0, 40°.89N×14°.84E, h8km±3km, ML3.1/4*
ISC 25 08:53:34.3±0.9, 39°.88N±0°.02×15°.98E±0°.03, h11km±7km, n43, σ1s33/55, 2D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CUC	**Castrocucco**	**0.17**	**312**	*i* P		**Pg**		**08 53 38.0**	**-0.1**
CUC				S		**Sg**		**08 53 41.3**	**+0.5**
T0702	**Acquaformosa (**	**0.18**	**153**	P		**Pg**		**08 53 38.2**	**0.0**
T0702				S		**Sg**		**08 53 41.2**	**+0.1**
T0702					AML	AML			
	comp=E,18300μm,0.6s								
T0702					AML	AML			
	comp=N,10710μm,0.8s								
T0702					AML	AML			
	comp=N,10695μm,0.8s								
T0702					AML	AML			
	comp=E,18250μm,0.6s								
SALB	**San Lorenzo Be**	**0.28**	**91**	P		**Pg**		**08 53 39.2**	**-0.9**
SALB				S		**Sb**		**08 53 44.9**	**-1.3**
SIRI	**Monte Sirino -**	**0.31**	**344**	P		**Pg**		**08 53 40.7**	**0.0**
SIRI				S		**Sb**		**08 53 46.8**	**-0.3**
SCHR	**S. Chirico Rap**	**0.33**	**13**	P		**Pg**		**08 53 40.3**	**-0.6**
SCHR				S		**Sg**		**08 53 45.3**	**-0.1**
SCHR					AML	AML			
	comp=E,2125μm,0.9s								
SCHR					AML	AML			
	comp=N,1960μm,0.8s								
SCHR					AML	AML			
	comp=E,2125μm,0.9s								
SCHR					AML	AML			
	comp=N,1960μm,0.8s								
SCHR					AML	AML			
	comp=N,1960μm,0.8s								
SCHR					AML	AML			
	comp=E,2120μm,0.9s								
CET2	**Cetraro**	**0.35**	**183**	P		**Pg**		**08 53 41.5**	**+0.2**
CET2				S		**Sg**		**08 53 46.9**	**+0.8**
ORI	**Oriolo Calabro**	**0.41**	**63**	P		**Pg**		**08 53 41.7**	**-0.6**
MGR	**Morigerati**	**0.41**	**308**	P		**Pg**		**08 53 42.2**	**-0.3**
MGR				S		**Sb**		**08 53 50.0**	**+0.1**
MGR					AML	AML			
	comp=E,2665μm,0.6s								
MGR					AML	AML			
	comp=N,2345μm,0.6s								
MGR					AML	AML			
	comp=E,2650μm,0.6s								
MGR					AML	AML			
	comp=N,2245μm,0.7s								
MGR					AML	AML			
	comp=E,2665μm,0.6s								
MGR					AML	AML			
	comp=N,2345μm,0.6s								
MGR					AML	AML			
	comp=E,2650μm,0.6s								
MGR					AML	AML			
	comp=N,2245μm,0.7s								
MGR					AML	AML			
	comp=N,2245μm,0.7s								
MGR					AML	AML			
	comp=N,2345μm,0.6s								
MGR					AML	AML			
	comp=E,2650μm,0.6s								
MGR					AML	AML			
	comp=E,2665μm,0.6s								
MTSN	**Montesano sull**	**0.42**	**336**	P		**Pg**		**08 53 42.5**	**-0.2**
MTSN				S		**Sb**		**08 53 50.0**	**-0.3**
MTSN					AML	AML			
	comp=E,2915μm,0.8s								
MTSN					AML	AML			
	comp=N,2285μm,1.3s								
MTSN					AML	AML			
	comp=E,2915μm,0.8s								
MTSN					AML	AML			
	comp=N,2285μm,1.3s								
MTSN					AML	AML			
	comp=E,2915μm,0.8s								
MTSN					AML	AML			
	comp=N,2285μm,1.3s								
MCEL	**Monticello**	**0.46**	**343**	P		**Pg**		**08 53 43.1**	**-0.4**
MCEL				S		**Sb**		**08 53 51.3**	**-0.1**
MCEL					AML	AML			
	comp=E,2050μm,0.8s								
MCEL					AML	AML			
	comp=N,2005μm,0.7s								
MCEL					AML	AML			
	comp=E,2090μm,0.8s								
MCEL					AML	AML			
	comp=N,2060μm,0.7s								
MCEL					AML	AML			
	comp=E,2050μm,0.8s								
MCEL					AML	AML			
	comp=N,2000μm,0.7s								
MCEL					AML	AML			
	comp=E,2090μm,0.8s								
MCEL					AML	AML			
	comp=N,2060μm,0.7s								
MCEL					AML	AML			
	comp=E,2090μm,0.8s								
MCEL					AML	AML			
	comp=E,2050μm,0.8s								
MCEL					AML	AML			
	comp=N,2060μm,0.7s								
MCEL					AML	AML			
	comp=N,2000μm,0.7s								
BULG	**Bulgheria - Ca**	**0.50**	**293**	P		**Pg**		**08 53 44.0**	**-0.1**
BULG				S		**Sb**		**08 53 52.6**	**+0.1**
BULG					AML	AML			
	comp=E,1765μm,0.6s								
BULG					AML	AML			
	comp=N,2575μm,1.1s								
BULG					AML	AML			
	comp=E,1820μm,0.7s								
BULG					AML	AML			
	comp=N,2695μm,1.2s								
BULG					AML	AML			
	comp=E,1765μm,0.6s								
BULG					AML	AML			
	comp=N,2580μm,1.1s								
BULG					AML	AML			
	comp=E,1820μm,0.7s								
BULG					AML	AML			
	comp=N,2695μm,1.2s								
BULG					AML	AML			
	comp=E,1760μm,0.6s								
BULG					AML	AML			
	comp=E,1820μm,0.7s								
BULG					AML	AML			
	comp=N,2575μm,1.1s								
BULG					AML	AML			
	comp=N,2695μm,1.2s								
SLCN	**Sala Consilina**	**0.57**	**333**	P		**Pg**		**08 53 45.1**	**-0.4**
SLCN					AML	AML			
	comp=E,2400μm,0.8s								
SLCN					AML	AML			
	comp=N,1985μm,0.4s								
SLCN					AML	AML			
	comp=E,2590μm,0.8s								
SLCN					AML	AML			
	comp=N,1915μm,0.4s								
SLCN					AML	AML			
	comp=E,2395μm,0.8s								
SLCN					AML	AML			
	comp=N,1985μm,0.4s								
SLCN					AML	AML			
	comp=E,2590μm,0.8s								
SLCN					AML	AML			
	comp=N,1915μm,0.4s								
SLCN					AML	AML			
	comp=E,2590μm,0.8s								
SLCN					AML	AML			
	comp=E,2395μm,0.8s								
SLCN					AML	AML			
	comp=N,1980μm,0.4s								
SLCN					AML	AML			
	comp=N,1915μm,0.4s								
CELI	**Celico**	**0.63**	**139**	P		**Pg**		**08 53 46.3**	**-0.3**
PTRP	**Pietrapertosa**	**0.64**	**6**	P		**Pb**		**08 53 46.8**	**-0.8**
CAR1	**CAROLEI**	**0.65**	**164**	P		**Pg**		**08 53 46.8**	**-0.1**
CMPR	**Campora**	**0.68**	**310**	P		**Pg**		**08 53 47.0**	**-0.4**
CMPR					AML	AML			
	comp=E,1038μm,0.7s								
CMPR					AML	AML			
	comp=N,1120μm,0.4s								
CMPR					AML	AML			
	comp=E,1038μm,0.7s								
CMPR					AML	AML			
	comp=N,1120μm,0.4s								
CDRU	**Civita di Ruta**	**0.80**	**320**	P		**Pg**		**08 53 48.9**	**-0.9**
CDRU					AML	AML			
	comp=E,738μm,0.8s								
CDRU					AML	AML			
	comp=N,396μm,0.7s								
CDRU					AML	AML			
	comp=N,396μm,0.7s								
CDRU					AML	AML			
	comp=E,738μm,0.8s								
MIGL	**Miglionico**	**0.81**	**26**	P		**Pg**		**08 53 48.9**	**-0.9**
MIGL					AML	AML			
	comp=E,2310μm,1.1s								
MIGL					AML	AML			
	comp=N,2075μm,0.7s								
MIGL					AML	AML			
	comp=E,2310μm,1.1s								
MIGL					AML	AML			
	comp=N,2075μm,0.7s								
ACER	**Acerenza**	**0.91**	**358**	P		**Pg**		**08 53 50.3**	**-1.4**
ACER					AML	AML			
	comp=E,1435μm,0.6s								
ACER					AML	AML			
	comp=N,1180μm,0.8s								
ACER					AML	AML			
	comp=E,1480μm,0.6s								
ACER					AML	AML			
	comp=N,1215μm,0.8s								
ACER					AML	AML			
	comp=N,1215μm,0.8s								
ACER					AML	AML			
	comp=N,1185μm,0.8s								
ACER					AML	AML			
	comp=E,1435μm,0.6s								
ACER					AML	AML			
	comp=E,1480μm,0.6s								
TIP	**Timpagrande**	**0.93**	**139**	‖ *i* P		**Pn**		**08 53 52.4**	**-0.8**
MATE	**Matera**	**0.95**	**36**	‖ *i* P		**Pb**		**08 53 52.4**	**-0.3**
SERS	**Sersale**	**1.01**	**147**	P		**Pb**		**08 53 53.5**	**-0.3**
SG1	**Sgolgore (BA)**	**1.10**	**29**	*e*Pg		**Pn**		**08 53 55.7**	**+0.1**
SG1				Sg		**Sn**		**08 54 13.1**	**+2.3**
MASS	**Massafra**	**1.17**	**50**	*e*Pg		**Pn**		**08 53 57.6**	**+1.1**
TAR1	**Taranto**	**1.19**	**57**	*e*Pg		**Pn**		**08 53 58.0**	**+1.2**
BAI	**Bari**	**1.40**	**29**	*e*Pg		**Pg**		**08 54 01.9**	**+0.7**
BAI				Sg		**Sg**		**08 54 22.3**	**+2.8**
FASA	**Fasano**	**1.41**	**48**	*e*Pg		**Pg**		**08 54 00.5**	**-0.8**
FASA				Sg		**Sg**		**08 54 21.7**	**+2.1**
GMB	**Gambarie**	**1.71**	**184**	AML	AML				
	comp=E,710μm,0.9s								
GMB					AML	AML			
	comp=E,710μm,0.9s								
GMB					AML	AML			
	comp=N,712μm,0.8s								
GMB					AML	AML			
	comp=N,712μm,0.8s								
MSAG	**Monte S. Angel**	**1.83**	**358**	AML	AML				
	comp=E,163μm,0.5s								
MSAG					AML	AML			
	comp=N,268μm,1.6s								
MSAG					AML	AML			
	comp=E,163μm,0.5s								
MSAG					AML	AML			
	comp=N,267μm,1.6s								
SGRT	**San Giovanni R**	**1.88**	**355**	AML	AML				
	comp=N,128μm,0.8s								
SGRT					AML	AML			
	comp=E,140μm,0.5s								
SGRT					AML	AML			
	comp=E,140μm,0.5s								
SGRT					AML	AML			
	comp=N,128μm,0.8s								
STON	**Ston**	**3.26**	**23**	*e*Pn		**Pn**		**08 54 24.3**	**-0.9**
STON				*e*Sn		**Sn**		**08 54 59.7**	**-4.2**
STON	**Ston**	**3.26**	**23**	*e*Pn		**Pn**		**08 54 25.9**	**+0.7**
STON				Sn		**Sn**		**08 55 04.0**	**+0.1**
STON	**Ston**	**3.26**	**23**	AML	AML				
	comp=E,24μm,1.6s								
STON					AML	AML			
	comp=N,21μm,0.7s								
STON					AML	AML			

	comp=E,21µm,0.7s							
STON					AML	AML		
	comp=E,24µm,1.6s							
TREB	**Trebinje**	**3.35**	**31**	*e*Pn		**Pn**	**08 54 28.9**	**+2.4**
IGT	**Igoumenitsa**	**3.38**	**95**	*e*Pn		Pg	08 54 45.0	+6.0
IGT				*e*Sn		Sg	08 55 34.9	+12
PDG	**Podgorica**	**3.55**	**43**	*e*Pn		**Pb**	**08 54 35.2**	**-1.9**
SJES	**Sjenica**	**4.51**	**40**	*e*Pn		**Pn**	**08 54 45.0**	**+2.4**
SJES				*e*Sn		**Sn**	**08 55 37.4**	**+2.2**
UDBI	**Udbina**	**4.65**	**358**	Sn		**Sn**	**08 55 39.8**	**+1.5**
BBLS	**Lazići**	**4.73**	**32**	*e*Pn		**Pn**	**08 54 46.0**	**+0.4**
NVLJ	**Novalja**	**4.75**	**350**	*e*Pn		**Pn**	**08 54 44.5**	**-1.3**
NVLJ				Sn		**Sn**	**08 55 41.4**	**+0.7**
IVAS	**Ivanjica**	**4.83**	**39**	*e*Pn		**Pn**	**08 54 49.0**	**+2.0**
SELS	**Selova**	**5.10**	**47**	*e*Pn		Pn	08 54 54.8	+4.2
DIVS	**Divibare**	**5.17**	**34**	*e*Pn		**Pn**	**08 54 52.5**	**+0.9**
DIVS				*e*Sn		**Sn**	**08 55 48.0**	**-3.2**

ISCJB ***25*** *08:54:02.8±0.7, 35.°95N±0.°05×70.°94E±0.°07, h102km, Error ellipse: s-maj=9.3km s-min=6.0km az=146.9*
NNC ***25*** *08:54:12.6±2.7, 36.°63N×70.°72E, h117km±58km, mb3.3, mpv3.9, Error ellipse: s-maj=25.5km s-min=17.6km az=152.0*

ISC 25 08:54:04.1±1.2, 36°08N±0°09×70°96E±0°08, h102km, n20, σ2^{s}06/24, 3C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**4.41**	**26**	⇓P		Pn	08 55 12.5	+3.5
	2.9nm,0.2s							
SFK				⇓S		**Sn**	**08 56 00.8**	**+1.5**
	21nm,0.4s							
AML	**Almayashu**	**6.40**	**19**	P		**Pn**	**08 55 37.9**	**+1.7**
	SNR=66							
MNAS	**Manas**	**6.51**	**10**	⇓P		**Pn**	**08 55 39.4**	**+2.1**
	6.3nm,0.6s							
MNAS				⇑S		**Sn**	**08 56 46.4**	**-3.8**
	18nm,0.7s							
UCH	**Uchtor**	**6.73**	**23**	P		**Pn**	**08 55 42.6**	**+1.9**
	SNR=8.9							
EKS2	**Erkin-Say**	**6.92**	**17**	P		**Pn**	**08 55 45.1**	**+2.1**
	SNR=14							
KK31	**Karatay Array**	**7.02**	**357**	P		**Pn**	**08 55 46.1**	**+1.9**
	9.9nm,0.3s,baz=183,slow=12,SNR=209							
KK31				S		**Sn**	**08 56 59.6**	**-2.9**
	8.4nm,0.5s,baz=182,slow=23,SNR=9.4							
AAK	**Ala-Archa**	**7.09**	**22**	⇓P		**Pn**	**08 55 47.0**	**+1.6**
	3.5nm,0.5s							
AAK				⇓S		**Sn**	**08 57 01.3**	**-3.2**
	7.4nm,0.6s							
AAK	**Ala-Archa**	**7.09**	**22**	P		**Pn**	**08 55 47.2**	**+1.9**
	SNR=7.7							
TKM2	**Tokmak 2**	**7.71**	**26**	⇑P		**Pn**	**08 55 55.4**	**+1.6**
	8.4nm,0.8s							
TKM2				⇓S		**Sn**	**08 57 17.6**	**-2.0**
	3.3nm,0.7s							
TKM2	**Tokmak 2**	**7.71**	**26**	P		**Pn**	**08 55 55.6**	**+1.9**
	SNR=12							
GYA0B	**ALIBECK ARRAY**	**10.44**	**284**	⇑S		**Sn**	**08 58 25.9**	**+0.2**
	13nm,0.5s							
DANN	**Dangsing**	**13.29**	**122**	*e*P		**Pn**	**08 57 07.6**	**-1.4**
	7.7nm,0.3s							
KOLN	**Koldanda**	**13.55**	**124**	*e*P		**Pn**	**08 57 11.6**	**-0.7**
	3.5nm,0.3s							
MK31	**Makanchi Array**	**13.65**	**35**	P		**P**	**08 57 20.4**	**+1.9**
	1.2nm,0.8s,baz=203,slow=11,SNR=5.0							
PKIN	**Phulchoki**	**14.90**	**121**	*e*P		**Pn**	**08 57 29.0**	**-0.7**
	5.8nm,0.3s							
PKI	**Pulchoki**	**14.91**	**121**	*e*P		**Pn**	**08 57 28.8**	**-1.2**
	4.2nm,0.3s							
GUN	**Gumba**	**15.04**	**119**	*e*P		**Pn**	**08 57 30.3**	**-1.3**
	6.7nm,0.4s							
JIRN	**Jiri**	**15.41**	**119**	*e*P		**Pn**	**08 57 35.0**	**-1.2**
	10nm,0.3s							
AB31	**Akbulak array**	**15.44**	**332**	P		**P**	**08 57 37.6**	**-0.8**
	1.1nm,0.3s,baz=140,slow=12,SNR=69							
RAMN	**Ramite**	**16.13**	**120**	*e*P		**Pn**	**08 57 42.5**	**-2.6**

IDC ***25*** *08:58:03.6±0.9, 36.°59N×27.°88E, h0km, mb3.7/8, mb1 3.8/14, mb1mx3.7/41, mbtmp3.7/14, ML3.6/6, Error ellipse: s-maj=20.0km s-min=13.8km az=158.0*
ISCJB ***25*** *08:58:05.0±0.4, 36.°58N±0.°02×27.°94E±0.°02, h10km±3km, mb3.6/8, Error ellipse: s-maj=3.3km s-min=2.3km az=3.0*
ISK ***25*** *08:58:04.7, 36.°59N×27.°92E, h7km, ML3.7/24*
DDA ***25*** *08:58:05.7, 36.°62N×27.°93E, h7km, Ml3.8*
THE ***25*** *08:58:05.2, 36.°65N×27.°96E, h0km±1km, ML3.6/6, Error ellipse: s-maj=1.5km s-min=0.8km az=16.0*
ATH ***25*** *08:58:05.3, 36.°66N×27.°95E, h26km±1km, ML3.5/9, Error ellipse: s-maj=1.9km s-min=0.9km az=205.0*
NIC ***25*** *08:58:07.6±0.3, 36.°46N×27.°98E, h12km, mb4.2, ML3.7*
HLW ***25*** *08:58:14.7, 35.°86N×28.°10E, h12km±8km, Md4.0*

ISC 25 08:58:05.2±1.0, 36°59N±0°02×27°94E±0°02, h9km±7km, n118, σ1^{s}34/144, mb3.7/8, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MRSB	**Marmaris-Mugla**	**0.25**	**58**		PG	**Pg**	**08 58 09.9**	**-0.3**
DATC	**Datca-Mugla**	**0.28**	**308**		PG	**Pg**	**08 58 10.6**	**-0.3**
DATC					SG	**Sg**	**08 58 14.8**	**+0.1**
DAT	**Datca**	**0.32**	**296**		PG	**Pg**	**08 58 11.9**	**+0.2**
DAT	**Datca**	**0.32**	**296**	*i* P		**Pg**	**08 58 11.9**	**+0.2**
DAT				*i* S		**Sg**	**08 58 17.3**	**+1.3**
ARG	**Arkhangelos**	**0.40**	**157**		PG	**Pg**	**08 58 12.4**	**-0.7**
ARG					SG	**Sg**	**08 58 19.5**	**+1.2**
ARG	**Arkhangelos**	**0.40**	**157**		P	**Pb**	**08 58 14.4**	**-0.1**
ARG					S	**Sb**	**08 58 22.2**	**+1.5**
ARG					AML	AML	08 58 23.4	
	comp=N,35000µm,0.4s							
ARG					AML	AML	08 58 24.0	
	comp=E,31168µm,0.3s							
ARG	**Arkhangelos**	**0.40**	**157**		P	**Pb**	**08 58 14.2**	**-0.3**
ARG					S	**Sb**	**08 58 22.1**	**+1.4**
TURN	**Turunc**	**0.61**	**62**		PG	Pg	08 58 11.2	-5.8
TURN	**Turunc**	**0.61**	**62**	*i* P		Pg	08 58 11.3	-5.7
TURN				*i* S		**Sg**	**08 58 16.2**	**-8.8**
NIS1	**Nisyros Isl.**	**0.61**	**272**		PG	**Pb**	**08 58 17.9**	**-0.2**
NIS1	**Nisyros Isl.**	**0.61**	**272**		P	**Pb**	**08 58 18.1**	**0.0**
NIS1					S	**Sb**	**08 58 27.6**	**+0.7**
NIS1					AML	AML	08 58 32.2	
	comp=E,35172µm,0.4s							
NIS1					AML	AML	08 58 32.3	
	comp=N,30291µm,0.4s							
NIS1	**Nisyros Isl.**	**0.61**	**272**		P	**Pb**	**08 58 18.3**	**+0.2**
NIS1					S	**Sb**	**08 58 28.2**	**+1.4**
DALY	**Dalyan (Mu¨la**	**0.62**	**68**		PG	**Pg**	**08 58 17.5**	**+0.2**
DALY	**Dalyan (Mu¨la**	**0.62**	**68**	*i* P		**Pb**	**08 58 18.1**	**-0.2**
DALY				*i* S		**Sb**	**08 58 26.7**	**-0.4**
NISR	**Nisiros**	**0.65**	**273**		P	**Pb**	**08 58 18.8**	**0.0**
NISR					S	**Sb**	**08 58 28.1**	**+0.1**
NISR					AML	AML	08 58 32.4	
	comp=E,14828µm,0.5s							
NISR					AML	AML	08 58 34.5	
	comp=N,6434µm,0.4s							
NISR	**Nisiros**	**0.65**	**273**		P	**Pb**	**08 58 19.0**	**+0.2**
NISR					S	**Sb**	**08 58 29.1**	**+1.1**
BODT	**Bodrum**	**0.69**	**314**		PG	**Pg**	**08 58 17.9**	**-0.7**
BODT	**Bodrum**	**0.69**	**314**		P	**Pg**	**08 58 18.1**	**-0.5**
BODT					S	**Sb**	**08 58 28.9**	**-0.3**
MLSB	**Milas**	**0.72**	**350**		PG	**Pg**	**08 58 18.8**	**-0.4**
FETY	**Fethiye**	**0.92**	**87**		PG	**Pg**	**08 58 23.1**	**+0.1**
FETY	**Fethiye**	**0.92**	**87**		P	**Pg**	**08 58 22.9**	**-0.1**
FETY					S	**Sb**	**08 58 35.9**	**0.0**
AYDN	**Tasoluk**	**1.07**	**358**	*i* P		**Pg**	**08 58 24.9**	**-1.0**
AYDN				*i* S		**Sb**	**08 58 40.8**	**+0.5**
TAVA	**DENIZLI_Tavas**	**1.18**	**41**	*i* P		**Pg**	**08 58 27.4**	**-0.4**
TAVA				*i* S		**Sn**	**08 58 45.2**	**+1.0**
AKAS	**Kas**	**1.39**	**104**		PN	**Pb**	**08 58 31.5**	**0.0**
KSL	**Kastellorizon**	**1.40**	**108**		P	**Pg**	**08 58 32.1**	**+0.1**
KSL					AML	AML	08 58 55.0	
	comp=E,1534µm,0.4s							
KSL					AML	AML	08 59 00.5	
	comp=N,1057µm,1.2s							
KSL	**Kastellorizon**	**1.40**	**108**		P	**Pg**	**08 58 32.2**	**+0.1**
KSL					S	**Sg**	**08 58 51.6**	**+1.4**
DNZL	**Cakiroluk**	**1.41**	**38**	*i* P		**Pg**	**08 58 32.4**	**0.0**
DNZL				*i* S		**Sg**	**08 58 54.6**	**+3.8**
GOLH	**Golhisar**	**1.46**	**63**	*i* P		**Pg**	**08 58 33.8**	**+0.6**
GOLH				*i* S		**Sg**	**08 58 54.8**	**+2.7**
DENT	**Denizli**	**1.46**	**37**	PN		**Pn**	**08 58 31.9**	**+0.1**
AMGA	**Amorgos Island**	**1.66**	**279**	P		**Pn**	**08 58 35.4**	**+0.8**
AMGA					AML	AML	08 59 06.2	
	comp=N,1226µm,0.7s							
AMGA					AML	AML	08 59 10.4	
	comp=E,1316µm,0.6s							
DGB	**¨zmir**	**1.69**	**330**	*i* P		**Pn**	**08 58 34.1**	**-0.8**
GMLD	**Gumuldur**	**1.70**	**332**	PN		**Pn**	**08 58 35.3**	**+0.3**
ANAF	**Anafi Island**	**1.76**	**263**	AML		AML	08 59 09.5	
	comp=E,2891µm,0.5s							
ANAF					AML	AML	08 59 11.7	
	comp=N,3593µm,0.4s							
ANAF	**Anafi Island**	**1.76**	**263**	P		**Pn**	**08 58 35.1**	**-0.8**
ANAF				S		**Sb**	**08 59 00.5**	**+0.6**
KORT	**Korkueli**	**1.98**	**77**	PN		**Pb**	**08 58 40.7**	**-0.9**
APE	**Apeiranthos**	**1.99**	**285**	PN		**Pn**	**08 58 38.4**	**-0.7**
APE	**Apeiranthos**	**1.99**	**285**	P		**Pn**	**08 58 38.8**	**-0.4**
APE					AML	AML	08 59 18.9	
	comp=N,643µm,0.6s							
APE					AML	AML	08 59 20.4	
	comp=E,502µm,0.5s							
SANT	**Santorini**	**2.01**	**265**	PN		**Pn**	**08 58 39.3**	**-0.1**
SANT	**Santorini**	**2.01**	**265**	P		**Pn**	**08 58 39.4**	**0.0**
KULA	**Kula-Manisa**	**2.01**	**16**	PN		**Pn**	**08 58 40.3**	**+0.8**
ZKR	**Zakros**	**2.03**	**224**	P		**Pn**	**08 58 40.8**	**+1.2**
ZKR					AML	AML	08 59 12.7	
	comp=E,1171µm,0.6s							
ZKR					AML	AML	08 59 14.9	
	comp=N,605µm,0.5s							
ZKR	**Zakros**	**2.03**	**224**	P		**Pn**	**08 58 40.8**	**+1.2**
ZKR				S		**Sn**	**08 59 06.7**	**+1.6**
STIA	**Sitia Lasithi**	**2.04**	**228**	P		**Pn**	**08 58 40.3**	**+0.6**
STIA				S		**Sb**	**08 59 07.9**	**0.0**
URLA	**Izmir**	**2.07**	**329**	PN		**Pn**	**08 58 40.4**	**+0.2**
KEMT	**Kemer-ANTALYA**	**2.11**	**89**	PN		**Pn**	**08 58 41.9**	**+1.2**
GOMA	**Golmarmara-Man**	**2.12**	**360**	PN		**Pn**	**08 58 41.2**	**+0.3**
KHL	**Karahalli**	**2.15**	**36**	PN		**Pn**	**08 58 42.2**	**+0.9**
CESE	**¨e¸me**	**2.17**	**324**	PN		**Pn**	**08 58 41.7**	**+0.1**
ANTB	**Antalya**	**2.21**	**81**	PN		**Pn**	**08 58 43.2**	**+1.2**
NPS	**Neapolis**	**2.30**	**236**	P		**Pn**	**08 58 44.1**	**+0.7**
CHOS	**Chios island**	**2.34**	**321**	PN		**Pn**	**08 58 44.5**	**+0.5**
CHOS	**Chios island**	**2.34**	**321**	P		**Pn**	**08 58 43.2**	**-0.8**
ISP	**Isparta**	**2.41**	**58**	PN		**Pn**	**08 58 45.7**	**+0.8**
ISP	**Isparta**	**2.41**	**58**	P		**Pn**	**08 58 45.0**	**+0.1**
ISP	**Isparta**	**2.41**	**58**	P		**Pn**	**08 58 44.7**	**-0.2**
ISP				S		**Sn**	**08 59 15.4**	**+0.8**
LAST	**Lasithi**	**2.45**	**235**	P		**Pn**	**08 58 46.6**	**+1.1**
SUTC	**Sutluce-Ispart**	**2.61**	**69**	PN		**Pn**	**08 58 48.8**	**+1.1**
DKL	**Dikili**	**2.61**	**342**	PN		**Pn**	**08 58 48.3**	**+0.7**
GEDZ	**Gediz**	**2.72**	**25**	PN		**Pn**	**08 58 50.1**	**+0.9**
IDI	**Anoyia**	**2.79**	**243**	PN		**Pn**	**08 58 50.7**	**+0.5**
IDI	**Anoyia**	**2.79**	**243**	Pn		**Pn**	**08 58 50.7**	**+0.5**
	comp=N,4.1nm,0.3s,baz=37,slow=5.0,SNR=26							
IDI					Sn	**Sn**	**08 59 23.6**	**-0.4**
	comp=N,7.0nm,0.3s,baz=246,slow=20,SNR=4.7							
PRK	**Paraskevi**	**2.96**	**334**	P		**Pn**	**08 58 52.0**	**-0.5**
PRK					AML	AML	08 59 51.4	
	comp=E,1189µm,0.9s							
PRK					AML	AML	08 59 52.9	
	comp=N,801µm,0.7s							
SIVA	**Sivas**	**2.98**	**239**	P		**Pn**	**08 58 54.6**	**+1.8**
SIVA	**Sivas**	**2.98**	**239**	P		**Pn**	**08 58 54.0**	**+1.2**
BALB	**Balikesir**	**3.05**	**359**	PN		**Pn**	**08 58 53.6**	**-0.1**
SIGR	**SIGRI**	**3.10**	**328**	PN		**Pn**	**08 58 55.1**	**+0.8**
SIGR	**SIGRI**	**3.10**	**328**	P		**Pn**	**08 58 53.3**	**-1.0**
TVSB	**Tavsanli**	**3.10**	**22**	PN		**Pn**	**08 58 54.9**	**+0.4**
IMMV	**Iera Moni Meta**	**3.40**	**252**	P		**Pn**	**08 59 00.2**	**+1.7**
GONE	**Gonen-Balikesi**	**3.46**	**357**	PN		**Pn**	**08 59 00.7**	**+1.4**
EZN	**Ezine**	**3.48**	**339**	PN		**Pn**	**08 59 00.7**	**+1.2**
DION	**Dionisos Attik**	**3.52**	**296**	P		**Pn**	**08 59 00.4**	**+0.2**
VLY	**Voula,Athens**	**3.54**	**292**	P		**Pn**	**08 59 01.7**	**+1.3**
GAZI	**Gazipasa**	**3.55**	**94**	PN		**Pn**	**08 59 02.1**	**+1.5**
PTL	**Penteli**	**3.56**	**295**	P		**Pn**	**08 59 00.4**	**-0.3**
KCTX	**Karacabey (Bur**	**3.69**	**5**	PN		**Pn**	**08 59 03.2**	**+0.7**
KONT	**Konya--Tatoy**	**3.78**	**68**	PN		**Pn**	**08 59 05.2**	**+1.4**
DID	**Didima**	**3.87**	**285**	P		**Pn**	**08 59 05.6**	**+0.6**
AKMC	**Akamas**	**3.90**	**112**	P		**Pn**	**08 59 06.0**	**+0.7**
	baz=293							
LIA	**Limnos Island**	**3.95**	**328**	P		**Pn**	**08 59 05.8**	**-0.3**
PPCY	**Paphos**	**3.97**	**114**	P		**Pn**	**08 59 07.4**	**+1.1**
	baz=295							
VLI	**Veliai**	**4.02**	**273**	P		**Pn**	**08 59 07.9**	**+0.9**
ALFC	**Alefka**	**4.05**	**109**	P		**Pn**	**08 59 08.1**	**+0.7**
	baz=290							
ALFC				S		**Sn**	**08 59 55.6**	**+0.7**
VIL2	**Platees**	**4.06**	**295**	P		**Pn**	**08 59 07.3**	**-0.2**
AOS	**Alonnisos**	**4.12**	**310**	P		**Pn**	**08 59 08.7**	**+0.4**
SMTH	**Samothraki Isl**	**4.31**	**335**	P		**Pn**	**08 59 10.7**	**-0.3**
SKIA	**Skiathos**	**4.38**	**307**	P		**Pn**	**08 59 12.7**	**+0.8**
SZAC	**Souni**	**4.42**	**113**	P		**Pn**	**08 59 13.9**	**+1.3**
	baz=294							
ATAL	**Atalanti**	**4.43**	**300**	P		**Pn**	**08 59 13.4**	**+0.7**
DYR	**Agios Nikonas**	**4.51**	**274**	P		**Pn**	**08 59 15.7**	**+1.9**
MAMC	**Mammari**	**4.51**	**107**	P		**Pn**	**08 59 15.4**	**+1.6**
	baz=288							
ALN	**Alexandroupoli**	**4.55**	**342**	P		**Pn**	**08 59 13.8**	**-0.5**
GUR	**Goura**	**4.66**	**288**	P		**Pn**	**08 59 16.3**	**+0.3**
CSS	**Mathiatis**	**4.67**	**109**	P		**Pn**	**08 59 17.2**	**+1.2**
CSS	**Mathiatis**	**4.67**	**109**	P		**Pn**	**08 59 17.3**	**+1.3**
	baz=290							
CSS				S		**Sn**	**09 00 11.9**	**+1.5**
KLV	**Kalavryta, Ach**	**4.84**	**289**	P		**Pn**	**08 59 19.0**	**+0.7**
KALE	**Kalithea**	**4.95**	**293**	P		**Pn**	**08 59 21.1**	**+1.3**
EFP	**Efpalio**	**5.13**	**293**	P		**Pn**	**08 59 23.4**	**+1.0**
ANX	**Ano Chora**	**5.18**	**295**	P		**Pn**	**08 59 24.9**	**+1.8**
BRTR	**Keskin Array B**	**5.48**	**53**	Pn		**Pn**	**08 59 29.5**	**+2.3**
	comp=N,1.2nm,0.3s,baz=244,slow=17,SNR=21							
BRTR					Sn	**Sn**	**09 00 31.7**	**+1.3**
	comp=N,0.1nm,0.3s,baz=255,slow=15,SNR=2.1							
SLUM	**Salum**	**5.56**	**205**	P		**Pn**	**08 59 29.1**	**+0.9**
	baz=210							
SLUM				S		Sn	09 00 23.3	-8.9
	baz=210							
MMAI	**Mount Meron Ar**	**7.10**	**118**	Pn		**Pn**	**08 59 49.2**	**-0.2**
	comp=N,9.5nm,0.3s,baz=302,slow=13,SNR=18							
MMAI					Sn	**Sn**	**09 01 07.5**	**-2.7**
	comp=N,7.8nm,0.3s,baz=300,slow=24,SNR=6.0							
KOT	**Kottamia**	**7.40**	**153**	P		**Pn**	**08 59 52.8**	**-0.7**
	baz=151							
SWA2		**7.61**	**197**	P		**Pn**	**08 59 56.6**	**+0.2**
	baz=200							
GLL	**Jalalah**	**7.67**	**155**	P		**Pn**	**08 59 56.9**	**-0.3**
	baz=153							
ASF	**Jabal al Asfar**	**8.61**	**118**	Pn		**Pn**	**09 00 10.3**	**+0.1**
	comp=N,0.4nm,0.3s,baz=270,slow=4.0,SNR=3.4							
ASF					Sn	**Sn**	**09 01 47.0**	**-0.5**
	comp=N,0.3nm,0.3s,baz=233,slow=20,SNR=1.9							
MLR	**Muntele Rosu**	**9.02**	**351**	Pn		**Pn**	**09 00 16.4**	**+0.6**
	comp=N,0.1nm,0.3s,baz=147,slow=18,SNR=2.3							
EIL	**Elat**	**9.06**	**138**	Pn		**Pn**	**09 00 16.9**	**+0.6**
	comp=N,1.2nm,0.3s,baz=321,slow=4.7,SNR=8.3							
EIL					Sn	**Sn**	**09 01 52.5**	**-5.9**
	comp=N,1.1nm,0.3s,baz=80,slow=12,SNR=3.5							
HFRF	**Wahat Farafira**	**9.41**	**178**	P		**Pn**	**09 00 20.6**	**-0.5**
	baz=178							
CLL	**Collm**	**18.17**	**329**	*e*PP		**P**	**09 02 21.0**	**+3.0**
CLL				*e*			09 02 24.0	
GEYT	**Alibeck**	**24.01**	**78**	P		**P**	**09 03 19.8**	**-0.6**
	comp=N,0.8nm,0.4s,baz=281,slow=15,SNR=2.5							
FINES	**FINESS Array B**	**24.91**	**358**	P		**P**	**09 03 28.3**	**0.0**
	comp=N,1.8nm,0.9s,baz=190,slow=9.5,SNR=3.5							
ESDC	**Sonseca Array**	**25.21**	**287**	P		**P**	**09 03 30.0**	**-1.3**
	comp=N,0.5nm,0.6s,baz=83,slow=9.8,SNR=3.1							
TORD	**Torodi Ar. Bea**	**33.14**	**232**	P		**P**	**09 04 40.7**	**-1.2**
	comp=N,0.4nm,0.5s,baz=44,slow=8.9,SNR=4.3							
KURBB	**Kurchatov Arra**	**38.47**	**52**	P		**P**	**09 05 27.6**	**+0.3**
	comp=N,2.3nm,0.8s,baz=276,slow=8.8,SNR=8.3							
MKAR	**Makanchi Array**	**41.11**	**58**	P		**P**	**09 05 49.9**	**+0.4**
	comp=N,1.3nm,0.7s,baz=283,slow=7.6,SNR=7.9							
ZALV	**Zalesovo Beam**	**42.39**	**47**	P		**P**	**09 05 59.0**	**-0.7**
	comp=N,0.6nm,0.4s,baz=273,slow=11,SNR=2.9							
SONM	**Songino Array**	**56.84**	**52**	P		**P**	**09 07 50.4**	**+0.2**
	comp=N,0.4nm,0.5s,baz=310,slow=10,SNR=4.2							

ISCJB ***25*** *09:16:42.6±0.9, 21.°2S±0.°2×178.°4W±0.°2, h550km, mb3.2/4, Error ellipse: s-maj=32.5km s-min=11.0km az=44.8*
IDC ***25*** *09:16:42.5±2.3, 21.°28S×178.°46W, h526km±26km, mb2.8/4, mb1 3.2/6, mb1mx3.0/22, mbtmp3.9/6, Error ellipse: s-maj=35.6km s-min=17.2km az=143.0*

ISC 25 09:16:43.7±0.9, 21°1S±0°2×178°4W±0°2, h550km, n9, σ1^{s}81/12, mb3.3/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.55**	**42**	P		**P**	**09 18 57.0**	**-0.2**
	3.1nm,0.3s,baz=131,slow=6.3,SNR=5.6							
AFI					S	**S**	**09 20 43.8**	**-3.0**
	0.9nm,0.3s,baz=72,slow=20,SNR=2.7							
URZ	**Urewera**	**17.50**	**192**	P		**P**	**09 20 15.3**	**-1.5**
	1.3nm,0.3s,baz=244,slow=3.0,SNR=11							
ASAR	**Alice Springs**	**44.04**	**257**	P		**P**	**09 24 03.1**	**-0.2**
	1.0nm,0.6s,baz=90,slow=8.4,SNR=23							
ASAR					PcP	**PcP**	**09 25 37.3**	**+0.6**
	0.5nm,0.6s,baz=106,slow=3.5,SNR=8.6							
WRA	**Warramunga Arr**	**44.17**	**263**	P		**P**	**09 24 03.6**	**-0.7**
	0.4nm,0.5s,baz=96,slow=7.5,SNR=24							
WRA					PcP	**PcP**	**09 25 37.5**	**+0.4**
	0.2nm,0.5s,baz=90,slow=2.6,SNR=3.0							
NVAR	**Mina Array Bea**	**81.72**	**43**	P		**P**	**09 28 08.5**	**+3.2**
	0.2nm,0.5s,baz=214,slow=7.9,SNR=4.0							
ILAR	**Eielson Array**	**89.01**	**13**	P		**P**	**09 28 40.9**	**+1.2**
	0.2nm,0.5s,baz=238,slow=5.2,SNR=4.4							
AKASG	**Malin Array Be**	**143.40**	**330**	PKP		**PKPdf**	**09 35 14.5**	**-1.0**
	0.8nm,0.5s,baz=45,slow=4.4,SNR=14							
BRTR	**Keskin Array B**	**147.00**	**311**	PKPbc		**PKPab**	**09 35 26.6**	**-2.0**
	0.7nm,0.6s,baz=132,slow=2.1,SNR=3.3							
GERES	**GERESS Array B**	**150.72**	**344**	PKPbc		**PKPbc**	**09 35 34.8**	**+0.8**
	0.4nm,0.5s,baz=48,slow=1.5,SNR=5.8							

NNC 25 09:35:21.5±2.3, 37.°60N×71.°31E, h0km, mb4.0, mpv3.4, 3C-1D, Error ellipse: s-maj=17.7km s-min=14.8km az=0.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.96**	**35**	⇑P		Pn	09 36 09.6	-0.3
	1.2nm,0.2s							
SFK				⇑S		Sn	09 36 47.7	+1.5
	2.8nm,0.2s							
MNAS	**Manas**	**4.96**	**10**	⇓P		Pn	09 36 37.4	0.0
	3.9nm,0.3s							
MNAS				⇑S		Sn	09 37 35.9	+0.3
	4.1nm,0.6s							
KK31	**Karatay Array**	**5.53**	**354**	P		Pn	09 36 45.9	+0.9
	2.1nm,0.5s,baz=172,slow=12,SNR=19							
KK31					S	Sn	09 37 50.7	+1.5
	1.7nm,0.4s,baz=179,slow=17,SNR=17							

MEX 25 09:36:47.5±0.8, 16.°34N×98.°24W, h13km±3km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.12**	**65**	*i* P		Pg	09 36 49.8	-1.0
PNIG				*i* S		Sg	09 36 52.7	-0.3
TLIG	**Tlapa**	**1.25**	**345**	*e*P		Pn	09 37 07.2	-3.6
TLIG				*e*S		Sb	09 37 22.6	-4.7

ISCJB ***25*** *09:39:41.6±0.9, 6.°54S±0.°07×130.°3E±0.°1, h146km, mb3.5/1, Error ellipse: s-maj=20.4km s-min=9.8km az=174.4*
IDC ***25*** *09:39:42.9±2.2, 6.°54S×130.°22E, h141km±25km, mb3.3/1, mb1 3.4/6, mb1mx3.1/31, mbtmp3.8/6, Error ellipse: s-maj=39.1km s-min=19.7km az=94.0*

ISC 25 09:39:40.9±0.9, 6.°61S±0.°06×130.°4E±0.°1, h146km, n6, σ3^{s}66/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.77**	**9**	P		**Pn**	**09 41 05.6**	**+1.0**
	2.2nm,0.3s,baz=154,slow=8.0,SNR=20							
SIJI					S	**Sn**	**09 42 04.7**	**-5.2**
	5.6nm,0.3s,baz=212

region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.74**	**189**	P	P	10 12 15.9	+0.4
	7.0nm,0.6s,baz=8.3,slow=8.5,SNR=118						
ASAR	**Alice Springs**	**48.46**	**189**	P	P	10 12 44.5	-0.2
	0.5nm,1.0s,baz=24,slow=11,SNR=8.3						
MKAR	**Makanchi Array**	**51.38**	**311**	P	P	10 13 06.8	0.0
	0.2nm,0.4s,baz=83,slow=9.2,SNR=2.0						
STKA	**Stephens Creek**	**56.13**	**180**	P	P	10 13 40.8	-0.8
	0.8nm,0.4s,baz=18,slow=9.6,SNR=1.6						

MDD ***25*** *10:29:05.1±2.1,36˚92N×12˚29W,h10km,mb3.6/3, Error ellipse: s-maj=18.1km s-min=16.4km az=107.0, PRXIMO*
INMG ***25*** *10:29:05.7±1.3,36˚71N×12˚60W,h10km, ML2.0, Error ellipse: s-maj=11.5km s-min=8.7km az=95.0*

ISC 25 10:29:02.7±3.9,37˚0N±0˚1×12˚3W±0˚2,h10km,n37,
σ1§71/57,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.80**	**86**	*e*Pn	**Pn**	**10 29 47.4**	**-0.1**
PFVI				*e*Sn	**Sn**	**10 30 19.8**	**-1.5**
PFVI	**Vila Bisbo**	**2.80**	**86**	P	**Pn**	**10 29 48.4**	**+0.9**
	2.9nm,0.1s,SNR=11						
PFVI				S	**Sn**	**10 30 20.0**	**-1.4**
	34nm,0.5s,SNR=7.9						
PTEO	**Sao Teotonio**	**2.92**	**78**	*e*Pn	**Pn**	**10 29 49.9**	**+0.7**
PTEO				*e*Sn	**Sn**	**10 30 23.8**	**-0.5**
PTEO	**Sao Teotonio**	**2.92**	**78**	P	**Pn**	**10 29 49.9**	**+0.7**
PTEO				S	**Sn**	**10 30 23.8**	**-0.5**
MORF	**Marmelete**	**2.95**	**83**	*e*Pn	**Pn**	**10 29 50.7**	**+1.1**
MORF				*e*Sn	**Sn**	**10 30 24.2**	**-0.9**
MORF	**Marmelete**	**2.95**	**83**	P	**Pn**	**10 29 50.7**	**+1.1**
MORF				S	**Sn**	**10 30 24.2**	**-0.9**
PMAFR	**Mafra**	**3.09**	**50**	*e*Sn	**Sn**	**10 30 29.7**	**+1.0**
PMAFR				A	A	10 30 32.4	
	12nm,0.6s						
PMAFR	**Mafra**	**3.09**	**50**	P	**Pn**	**10 29 52.7**	**+1.1**
	2.0nm,0.2s,SNR=7.9						
PMAFR				S	**Sn**	**10 30 29.6**	**+1.0**
	56nm,1.1s,SNR=9.3						
MESJ	**Messejana**	**3.37**	**74**	*e*Pn	**Pn**	**10 29 57.8**	**+2.4**
MESJ				*e*Sn	**Sn**	**10 30 34.4**	**-1.0**
MESJ				A	A	10 30 39.1	
	1.5nm,0.3s						
MESJ	**Messejana**	**3.37**	**74**	P	**Pn**	**10 29 57.8**	**+2.4**
MESJ				S	**Sn**	**10 30 34.4**	**-1.0**
	1.5nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.52**	**85**	*e*Pn	**Pn**	**10 29 59.4**	**+2.0**
PBDV				*e*Sn	**Sn**	**10 30 37.6**	**-1.5**
PBDV	**Barranco-do-Ve**	**3.52**	**85**	P	**Pn**	**10 29 59.4**	**+2.0**
PBDV				S	**Sn**	**10 30 37.6**	**-1.5**
PBEJ	**Beja**	**3.69**	**73**	*e*Sn	**Sn**	**10 30 41.9**	**-1.4**
PBEJ	**Beja**	**3.69**	**73**	S	**Sn**	**10 30 41.9**	**-1.4**
PVAQ	**Vaqueiros**	**3.70**	**82**	*e*Pn	**Pn**	**10 30 01.8**	**+1.9**
PVAQ				*e*Sn	**Sn**	**10 30 42.0**	**-1.5**
PVAQ				A	A	10 30 47.3	
	1.1nm,0.1s						
PVAQ	**Vaqueiros**	**3.70**	**82**	P	**Pn**	**10 30 01.8**	**+1.9**
PVAQ				S	**Sn**	**10 30 42.0**	**-1.5**
	1.1nm,0.1s						
EVO	**Evora**	**3.74**	**65**	*e*Sn	**Sn**	**10 30 45.6**	**+1.0**
EVO				A	A	10 30 54.0	
	2.6nm,0.5s						
EVO	**Evora**	**3.74**	**65**	S	**Sn**	**10 30 45.6**	**+1.0**
	2.6nm,0.5s						
EGRO	**El Granado**	**3.90**	**81**	P	**Pn**	**10 30 04.2**	**+1.6**
	0.5nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**10 30 47.1**	**-1.3**
	9.8nm,1.1s,SNR=7.9						
PTOM	**Tomar**	**4.04**	**48**	*e*Sn	**Sn**	**10 30 52.7**	**+0.9**
PTOM				A	A	10 30 56.6	
	3.9nm,0.1s						
PTOM	**Tomar**	**4.04**	**48**	S	**Sn**	**10 30 52.7**	**+0.9**
	1.9nm,0.1s						
PESTR	**Estremoz**	**4.18**	**62**	*e*Sn	**Sn**	**10 30 54.7**	**-0.7**
PESTR				A	A	10 30 57.0	
	1.7nm,0.9s						
PCAS	**Casmilo, Conde**	**4.27**	**43**	*e*Sn	**Sn**	**10 30 57.1**	**-0.6**
PCAS				A	A	10 31 04.3	
	2.9nm,0.8s						
EBAD	**Badajoz**	**4.55**	**66**	P	**Pn**	**10 30 12.7**	**+1.1**
	0.3nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**10 31 02.2**	**-2.3**
	5.7nm,1.5s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.56**	**79**	P	**Pn**	**10 30 12.0**	**+0.2**
	0.2nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**10 31 02.5**	**-2.4**
	11nm,0.8s,SNR=7.9						
PMRV	**Marv??o**	**4.58**	**57**	*e*Pn	**Pn**	**10 30 14.5**	**+2.5**
PMRV				*e*Sn	**Sn**	**10 31 04.4**	**-0.8**
PMRV				*e*Sn	**Sn**	**10 31 04.5**	**-0.8**
PMRV				A	A	10 31 07.1	
	1.2nm,0.3s						
PMRV	**Marv??o**	**4.58**	**57**	P	**Pn**	**10 30 14.5**	**+2.5**
PMRV				S	**Sn**	**10 31 04.4**	**-0.8**
PCBR	**Castelo Branco**	**4.74**	**52**	*e*Sn	**Sn**	**10 31 09.3**	**0.0**
PCBR	**Castelo Branco**	**4.74**	**52**	S	**Sn**	**10 31 09.3**	**0.0**
ECAB	**El Cabril**	**5.59**	**77**	P	**Pn**	**10 30 26.9**	**+0.9**
	0.2nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**10 31 27.9**	**-2.3**
	11nm,2.2s,SNR=7.9						
MVO	**Moncorvo**	**5.85**	**43**	S	**Sn**	**10 31 34.5**	**-2.1**
	29nm,2.3s,SNR=6.5						
EZAM	**Zamans**	**5.85**	**27**	S	**Sn**	**10 31 33.5**	**-3.1**
	51nm,1.5s,SNR=4.0						
ELOB	**Lobios**	**5.87**	**33**	S	**Sn**	**10 31 34.8**	**-2.4**
	11nm,0.7s,SNR=7.9						
EADA	**Adamuz**	**6.26**	**77**	P	**Pn**	**10 30 36.4**	**+1.2**
	0.3nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**10 31 44.3**	**-2.4**
	8.2nm,0.9s,SNR=7.9						
EMAZ	**Mazaricos**	**6.47**	**22**	S	Sn	10 31 45.7	-6.2
	40nm,2.3s,SNR=7.9						
ECAL	**Calabor**	**6.55**	**39**	S	**Sn**	**10 31 51.7**	**-2.3**
	13nm,1.0s,SNR=7.9						
EAGO	**Agolada(Pontev**	**6.64**	**28**	S	**Sn**	**10 31 50.8**	**-5.3**
	12nm,0.9s,SNR=7.9						

MEX 25 10:31:33.2±0.6,16˚31N×98˚19W,h6km±3km,MD3.8,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.10**	**34**	*e*P	Pg	10 31 34.9	-0.5
PNIG				*i* S	Sg	10 31 36.8	-0.1
TLIG	**Tlapa**	**1.30**	**344**	*e*P	Pn	10 31 54.5	-3.5
TLIG				*e*S	Sg	10 32 10.2	-4.8

IDC ***25*** *11:02:51.3±1.8,49˚12N×155˚27E,h0km,mb3.3/2, mb1 3.4/3,mb1mx3.1/38,mbtmp3.2/3,ML2.0/1, Error ellipse: s-maj=168.4km s-min=34.2km az=110.0*
ISCJB ***25*** *11:02:56.0±0.9,49˚26N±0˚09×155˚8E±0˚4,h53km, mb3.2/2, Error ellipse: s-maj=34.5km s-min=8.7km az=17.1*
MOS ***25*** *11:02:57.4±2.1,49˚46N×156˚79E,h9km,mb4.2/1, Error ellipse: s-maj=47.2km s-min=7.1km az=81.4*
KRSC ***25*** *11:02:57.4±2.0,49˚46N×156˚79E,h9km±5km, ML4.1*

ISC 25 11:02:57.2±1.4,49˚27N±0˚10×155˚9E±0˚2,h53km,n34,
σ1§68/33,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.42**	**5**	*e*P	**Pn**	**11 03 19.8**	**-0.8**
SKR				*e*S	**Sn**	**11 03 36.9**	**-1.2**
SKR	**Severo-Kuril's**	**1.42**	**5**	*e*PN	**Pn**	**11 03 19.9**	**-0.7**
SKR				*e*S	**Sn**	**11 03 36.7**	**-1.4**
SKR				smax	smax		
	comp=N,182nm,0.3s						
SKR				smax	smax		
	comp=E,178nm,0.3s						
PAU	**Pauzhetka**	**2.27**	**14**	*e*P	**Pn**	**11 03 32.9**	**+0.7**
PAU				*e*S	**Sn**	**11 03 58.8**	**-0.1**
PAU	**Pauzhetka**	**2.27**	**14**	PN	**Pn**	**11 03 32.9**	**+0.7**
PAU				S	**Sn**	**11 03 58.8**	**-0.1**
KDTR	**Khodutka, Kamc**	**2.88**	**28**	*e*P	**Pn**	**11 03 40.4**	**-0.2**
KDTR				*e*S	**Sn**	**11 04 12.1**	**-1.9**
RUS	**Russkaya**	**3.56**	**26**	*e*P	**Pn**	**11 03 50.1**	**+0.2**
RUS	**Russkaya**	**3.56**	**26**	PN	**Pn**	**11 03 50.1**	**+0.2**
KRMR	**Karymshinskiy**	**3.82**	**20**	*e*P	**Pn**	**11 03 55.1**	**+1.6**
KRMR	**Karymshinskiy**	**3.82**	**20**	PN	**Pn**	**11 03 55.1**	**+1.6**
PETK	**Petropavlovsk-**	**4.00**	**15**	Pn	**Pn**	**11 03 57.6**	**+1.7**
	comp=E,0.4nm,0.3s,baz=178,slow=12,SNR=12						
PETK				Sn	Sn	11 04 54.5	+13
	comp=E,0.2nm,0.3s,baz=205,slow=34,SNR=2.3						
DALK	**Dalny**	**4.16**	**24**	*e*P	**Pn**	**11 03 59.6**	**+1.5**
DALK	**Dalny**	**4.16**	**24**	PN	**Pn**	**11 03 59.6**	**+1.5**
AVH	**Avacha**	**4.37**	**23**	*e*P	**Pn**	**11 04 03.2**	**+2.2**
AVH	**Avacha**	**4.37**	**23**	PN	**Pn**	**11 04 03.2**	**+2.2**
KOK	**Koryaka**	**4.37**	**22**	*e*P	**Pn**	**11 04 03.6**	**+2.5**
KOK	**Koryaka**	**4.37**	**22**	PN	**Pn**	**11 04 03.6**	**+2.5**
SMAR	**Somma**	**4.38**	**23**	*e*P	**Pn**	**11 04 03.3**	**+1.9**
SMAR	**Somma**	**4.38**	**23**	PN	**Pn**	**11 04 03.3**	**+1.9**
SDLR	**Sedlovina**	**4.42**	**24**	*e*P	**Pn**	**11 04 03.8**	**+2.0**
SDLR	**Sedlovina**	**4.42**	**24**	PN	**Pn**	**11 04 03.8**	**+2.0**
GNL	**Ganaly**	**4.60**	**15**	*e*P	**Pn**	**11 04 07.2**	**+2.9**
GNL	**Ganaly**	**4.60**	**15**	PN	**Pn**	**11 04 07.2**	**+2.9**
SPN	**Mys Shipunski**	**4.61**	**32**	*e*P	**Pn**	**11 04 06.2**	**+1.9**
SPN	**Mys Shipunski**	**4.61**	**32**	PN	**Pn**	**11 04 06.2**	**+1.9**
MKZ	**Mys Kozlova**	**6.39**	**32**	*e*P	**Pn**	**11 04 28.4**	**-0.2**
MKZ	**Mys Kozlova**	**6.39**	**32**	PN	**Pn**	**11 04 28.4**	**-0.2**
H11N2	**WAKE ISLAND Hy**	**30.76**	**159**	T	T	11 41 56.1	
	baz=346						
H11N1	**WAKE ISLAND Hy**	**30.78**	**160**	T	T	11 41 50.1	
	baz=346						
H11N3	**WAKE ISLAND Hy**	**30.78**	**159**	T	T	11 42 02.2	
	baz=346						
H11S1	**WAKE ISLAND Hy**	**31.90**	**160**	T	T	11 43 25.6	
	baz=346,slow=76,SNR=57						
H11S3	**WAKE ISLAND Hy**	**31.91**	**160**	T	T	11 43 24.2	
	baz=346,slow=76,SNR=56						
H11S2	**WAKE ISLAND Hy**	**31.92**	**160**	T	T	11 43 23.7	
	baz=346,slow=76,SNR=48						
WRA	**Warramunga Arr**	**71.54**	**201**	P	**P**	**11 14 11.6**	**-0.9**
	comp=E,0.3nm,1.0s,baz=23,slow=6.4,SNR=1.7						
ASAR	**Alice Springs**	**75.22**	**201**	P	**P**	**11 14 34.4**	**+0.3**
	comp=E,0.2nm,0.6s,baz=11,slow=4.8,SNR=4.6						

MAN 25 11:04:30.2,11˚45N×125˚68E,h60km,mb4.1,ML2.9, MS2.6,1D,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.28**	**303**	*e*P	Pn	11 04 41.1	+1.0
PLP	**Palo**	**0.74**	**247**	⇓*e*P	Pn	11 04 48.2	+3.3
CNP	**Catarman**	**1.45**	**317**	*e*P	Pn	11 04 55.7	+1.6
CNP				*e*S	Sn	11 05 13.4	+1.3
MSLP	**Maasin**	**1.54**	**212**	*e*P	Pn	11 04 56.2	+0.8

NEIC ***25*** *11:06:07.8±0.0,18˚24N×68˚40W,h164km,MD3.6(RSPR), After RSPR.*

RSPR 25 11:06:07.8,18˚24N×68˚40W,h164km,MD3.6/8,27C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.89**	**81**	⇑*e*P	Pn	11 06 32.8	-0.2
IDE	**Isla Desecheo**	**0.89**	**81**	⇑*e*P	Pn	11 06 32.8	-0.2
IDE				*e*S	Sn	11 06 52.4	0.0
DR12	**Loma Pena Alta**	**1.08**	**300**	⇑*e*P	Pn	11 06 31.9	-2.8
DR12	**Loma Pena Alta**	**1.08**	**300**	⇑*e*P	Pn	11 06 31.9	-2.8
AGPR	**Aguadilla, PR**	**1.24**	**79**	⇑*e*P	Pn	11 06 35.9	0.0
AGPR	**Aguadilla, PR**	**1.24**	**79**	⇑*e*P	Pn	11 06 35.9	0.0
AGPR				*e*S	Sn	11 06 57.7	+0.1
CRPR	**Cabo Rojo, PR**	**1.25**	**101**	⇑*e*P	Pn	11 06 35.5	-0.5
CRPR	**Cabo Rojo, PR**	**1.25**	**101**	⇑*e*P	Pn	11 06 35.5	-0.5
CRPR				*e*S	Sn	11 06 57.2	-0.4
LSP	**Las Mesas**	**1.25**	**93**	⇑*e*P	Pn	11 06 35.8	-0.2
LSP	**Las Mesas**	**1.25**	**93**	⇑*e*P	Pn	11 06 35.8	-0.2
LSP				*e*S	Sn	11 06 58.0	+0.2
GBPR	**Guanica, Bosqu**	**1.47**	**100**	⇑*e*P	Pn	11 06 38.3	+0.3
GBPR	**Guanica, Bosqu**	**1.47**	**100**	⇑*e*P	Pn	11 06 38.3	+0.3
GBPR				*e*S	Sn	11 07 01.5	+0.1
OBIP	**Obispado Ponce**	**1.71**	**96**	⇑*e*P	Pn	11 06 40.9	+0.3
OBIP	**Obispado Ponce**	**1.71**	**96**	⇑*e*P	Pn	11 06 40.9	+0.3
OBIP				*e*S	Sn	11 07 06.5	+0.5
CELP	**Cerrillos**	**1.73**	**95**	⇑*e*P	Pn	11 06 40.8	-0.1
CELP				*e*S	Sn	11 07 06.9	+0.5
CELP	**Cerrillos**	**1.73**	**95**	⇑*e*P	Pn	11 06 40.8	-0.1
EMPR	**Esperanza - Ma**	**1.79**	**82**	⇑*e*P	Pn	11 06 41.8	+0.4
EMPR	**Esperanza - Ma**	**1.79**	**82**	⇑*e*P	Pn	11 06 41.8	+0.4
EMPR				*e*S	Sn	11 07 07.6	+0.3
ICMP	**Isla Caja de M**	**1.81**	**101**	⇑*e*P	Pn	11 06 41.6	-0.1
ICMP	**Isla Caja de M**	**1.81**	**101**	⇑*e*P	Pn	11 06 41.6	-0.1
ICMP				*e*S	Sn	11 07 08.2	+0.4
SJG	**San Juan**	**2.14**	**93**	⇑*e*P	Pn	11 06 45.5	+0.1
SJG	**San Juan**	**2.14**	**93**	*e*Pn	Pn	11 06 46.1	+0.7
SJG				*e*Sn	Sn	11 07 16.4	+2.1
CBYP	**Canovanas**	**2.41**	**89**	⇑*e*P	Pn	11 06 48.9	+0.2
CBYP	**Canovanas**	**2.41**	**89**	⇑*e*P	Pn	11 06 48.9	+0.2
CBYP				*e*S	Sn	11 07 21.0	+0.8
SDDR	**Presa de Saban**	**2.84**	**285**	*e*Pn	Pn	11 06 54.0	+0.2
SDDR				*e*Sn	Sn	11 07 31.8	+2.3
CUPR	**Culebra, Puert**	**2.96**	**88**	⇑*e*P	Pn	11 06 55.6	+0.4
CUPR	**Culebra, Puert**	**2.96**	**88**	⇑*e*P	Pn	11 06 55.6	+0.4
CUPR				*e*S	Sn	11 07 32.8	+0.9
STVI	**Saint Thomas**	**3.27**	**88**	⇑*e*P	Pn	11 06 59.5	+0.4
STVI	**Saint Thomas**	**3.27**	**88**	⇑*e*P	Pn	11 06 59.5	+0.4
STVI				*e*S	Sn	11 07 40.2	+1.2
ABV	**Anegada**	**3.89**	**82**	*e*S	Sn	11 07 54.5	+1.5
ABV	**Anegada**	**3.89**	**82**	⇓*e*P	Pn	11 07 07.8	+0.9
ABVI	**Anegada Island**	**3.89**	**82**	⇓*e*P	Pn	11 07 07.8	+0.9
ABVI				*e*S	Sn	11 07 54.5	+1.5

IDC 25 11:29:33.8±4.1,25˚24N×94˚50E,h0km,mb3.2/3, mb1 3.5/3,mb1mx3.1/54,mbtmp3.2/3,Error ellipse: s-maj=366.6km s-min=30.4km az=60.0,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.39**	**278**	*e*PG	Pg	11 30 26.0	+6.4
SHL				*i* SG	Sg	11 30 55.0	+4.3
MKAR	**Makanchi Array**	**23.62**	**339**	P	P	11 34 46.3	-0.1
	0.2nm,0.4s,baz=150,slow=8.6,SNR=2.0						
WRA	**Warramunga Arr**	**59.30**	**136**	P	P	11 39 37.3	-0.4
	0.2nm,0.5s,baz=323,slow=7.4,SNR=7.7						
ASAR	**Alice Springs**	**61.81**	**139**	P	P	11 39 55.0	+0.3
	0.3nm,0.6s,baz=323,slow=6.7,SNR=8.9						

ISCJB ***25*** *11:32:32.6±0.5,23˚24S±0˚04×69˚17W±0˚06,h100km±4km, mb3.5/7,Error ellipse: s-maj=9.6km s-min=6.1km az=4.7*
GUC ***25*** *11:32:32.8±0.7,23˚23S×69˚16W,h89km±3km,ML3.8*
IDC ***25*** *11:32:33.3±1.5,23˚14S×69˚04W,h90km±7km,mb3.4/7, mb1 3.7/9,mb1mx3.6/29,mbtmp3.8/9,Error ellipse: s-maj=34.3km s-min=22.4km az=43.0*

ISC 25 11:32:32.6±0.7,23˚26S±0˚04×69˚08W±0˚05,h88km±6km, n25,σ1§34/38,mb3.8/7,8C-4D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**0.36**	**278**	⇑*i*P	**Pn**	**11 32 46.8**	**+0.3**
PB15				*i* S	**Sn**	**11 32 57.1**	**+0.3**
LVC	**Limon Verde**	**0.67**	**14**	P	**Pn**	**11 32 49.6**	**+0.5**
	86nm,0.3s,baz=184,slow=8.0,SNR=900						
LVC				S	**Sn**	**11 33 01.9**	**+0.6**
	533nm,0.3s,baz=151,slow=23,SNR=56						
LVC	**Limon Verde**	**0.67**	**14**	⇓*i*P	**Pn**	**11 32 49.6**	**+0.5**
LVC				*i* S	**Sn**	**11 33 02.0**	**+0.7**
PB06	**IPOC Station P**	**0.72**	**321**	⇑*i*P	**Pn**	**11 32 49.6**	**+0.3**
PB06				*i* S	**Sn**	**11 33 01.9**	**+0.1**
PB06				IAML		11 33 02.5	
	comp=N,8μm,0.4s						
PB05	**IPOC Station P**	**1.11**	**291**	⇑*i*P	**Pn**	**11 32 53.5**	**-0.1**
PB05				*i* S	**Sn**	**11 33 09.0**	**-0.4**
PB04	**IPOC Station P**	**1.35**	**313**	⇑*i*P	**Pn**	**11 32 56.6**	**0.0**
PB04				*i* S	**Sn**	**11 33 14.1**	**-0.6**
PB04				IAML		11 33 20.8	
	comp=N,2μm,0.5s						
PB03	**IPOC Station P**	**1.36**	**333**	⇑*i*P	**Pn**	**11 32 57.0**	**+0.3**
PB03				*i* S	**Sn**	**11 33 15.0**	**+0.2**
PB03				IAML		11 33 16.3	
	comp=E,2μm,0.2s						
PB10	**IPOC Station P**	**1.38**	**259**	⇑*i*P	**Pn**	**11 32 56.9**	**+0.2**
PB10				*i* S	**Sn**	**11 33 14.1**	**-0.9**
PB09	**IPOC Station P**	**1.47**	**354**	⇓*i*P	**Pn**	**11 32 59.5**	**+1.5**
PB09				*i* S	**Sn**	**11 33 19.3**	**+2.0**
PB09				IAML		11 33 20.9	
	comp=N,2μm,0.5s						
PB07	**IPOC Station P**	**1.70**	**334**	⇑*i*P	**Pn**	**11 33 01.4**	**+0.3**
PB07				IAML		11 33 23.3	
	comp=E,1μm,0.4s						
GO02	**Mina Guanaco**	**1.95**	**194**	⇑*i*P	**Pn**	**11 33 05.5**	**+1.1**
GO02				*i* S	**Sn**	**11 33 30.7**	**+2.2**
GO02				IAML		11 33 37.5	
	comp=E,1μm,0.3s						
PB02	**IPOC Station P**	**2.08**	**338**	⇓*i*P	**Pn**	**11 33 06.1**	**+0.2**
PB02				*i* S	**Sn**	**11 33 31.3**	**+0.1**
PB01	**IPOC Station P**	**2.24**	**350**	⇓*i*P	**Pn**	**11 33 08.4**	**+0.4**
PB01				*i* S	**Sn**	**11 33 35.8**	**+0.6**
PB01				IAML		11 33 41.1	
	comp=E,843nm,0.4s						
LPAZ	**La Paz**	**7.00**	**8**	P	**Pn**	**11 34 13.6**	**+0.6**
	comp=E,0.8nm,0.3s,baz=87,slow=1.9,SNR=20						
CPUP	**Villa Florida**	**11.10**	**108**	P	**Pn**	**11 35 09.8**	**+1.4**
	comp=E,0.2nm,0.3s,baz=292,slow=12,SNR=9.7						
CPUP				S	**Sn**	**11 37 04.4**	**-6.3**
	comp=E,0.2nm,0.3s,baz=332,slow=5.2,SNR=1.5						
PTGA	**Pitinga**	**24.08**	**23**	P	**P**	**11 37 39.2**	**-0.8**
	comp=E,1.5nm,0.4s,baz=226,slow=8.8,SNR=6.0						
TXAR	**Lajitas Array**	**61.98**	**326**	P	**P**	**11 42 43.5**	**-0.1**
	comp=E,0.1nm,0.5s,baz=157,slow=9.4,SNR=3.4						
PDAR	**Pinedale Array**	**75.55**	**330**	P	**P**	**11 44 08.0**	**+0.1**
	comp=E,0.1nm,0.5s,baz=129,slow=7.1,SNR=2.5						
NVAR	**Mina Array Bea**	**76.78**	**322**	P	**P**	**11 44 15.4**	**+0.5**
	comp=E,0.3nm,0.6s,baz=156,slow=4.9,SNR=3.6						
ULM	**Lac du Bonnet**	**76.94**	**343**	P	**P**	**11 44 15.2**	**+0.1**
	comp=E,1.1nm,0.5s,baz=165,slow=20,SNR=3.0						
TORD	**Torodi Ar. Bea**	**78.10**	**70**	P	**P**	**11 44 22.5**	**0.0**
	comp=E,0.8nm,0.5s,baz=255,slow=5.1,SNR=10						
YKA	**Yellowknife Ar**	**92.79**	**341**	P	**P**	**11 45 33.9**	**-0.8**
	comp=E,0.5nm,0.6s,baz=139,slow=5.3,SNR=6.3						
ASAR	**Alice Springs**	**128.28**	**207**	PKP	**PKPdf**	**11 51 30.1**	**+0.5**
	comp=E,0.4nm,0.9s,baz=102,slow=1.5,SNR=4.6						
WRA	**Warramunga Arr**	**131.36**	**210**	PKP	**PKPdf**	**11 51 36.0**	**+0.5**
	comp=E,0.4nm,0.8s,baz=145,slow=1.6,SNR=8.2						
MKAR	**Makanchi Array**	**147.13**	**37**	PKPbc	**PKPdf**	**11 52 04.3**	**+1.1**
	comp=E,0.6nm,0.6s,baz=336,slow=2.2,SNR=3.5						

CNRM ***25*** *11:36:43.9,36˚50N×4˚44W,h10km,ML2.1*
ISCJB ***25*** *11:36:45.8±0.4,36˚58N±0˚02×4˚54W±0˚03,h87km±5km, Error ellipse: s-maj=3.9km s-min=3.4km az=164.3*
SFS ***25*** *11:36:47.0,36˚51N×4˚42W,h78km,ML2.7,MAR DE ALBORAN*
IGIL ***25*** *11:36:47.2,36˚52N×4˚43W,h78km,ML2.3*
MDD ***25*** *11:36:47.4±0.7,36˚51N×4˚44W,h82km±9km,mb2.8/17, Error ellipse: s-maj=6.9km s-min=4.3km az=178.0, PRXIMO*
INMG ***25*** *11:36:49.1±1.6,36˚56N×4˚62W,h62km±8km,ML2.2,Error ellipse: s-maj=5.6km s-min=3.2km az=101.0*

ISC 25 11:36:45.1±1.3,36˚51N±0˚03×4˚46W±0˚03,h95km±8km, n73,σ1§79/124,4C-1D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAL	**Malaga-Limoner**	**0.26**	**5**	*e*P	**Pn**	**11 36 59.2**	**+0.3**
EMAL				*e*S	**Sn**	**11 37 08.1**	**-1.1**
EGOR	**Sierra Gorda,**	**0.66**	**25**	⇑P	**Pn**	**11 37 03.0**	**+1.1**
	8.9nm,0.2s,SNR=18						
EGOR				S	**Sn**	**11 37 14.4**	**0.0**
	16nm,0.2s,SNR=7.9						
ELGU	**Los Guajares,**	**0.76**	**61**	⇑P	**Pn**	**11 37 02.8**	**+0.1**
	8.3nm,0.1s,SNR=18						
ELGU				S	**Sn**	**11 37 14.3**	**-1.6**
	7.6nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**0.82**	**266**	P	**Pn**	**11 37 04.8**	**+1.7**
	1.4nm,0.1s,SNR=7.9						
CEUT	**Ceuta**	**0.94**	**229**	P	**Pn**	**11 37 05.0**	**+0.5**
CEUT	**Ceuta**	**0.94**	**229**	S	**Sn**	**11 37 18.8**	**-0.1**
EQUE	**Quentar**	**1.07**	**49**	P	**Pn**	**11 37 06.8**	**+0.8**
	3.1nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**11 37 21.3**	**-0.5**
	5.3nm,0.3s,SNR=7.9						
EALB	**Alboran**	**1.28**	**116**	P	**Pn**	**11 37 08.7**	**+0.3**
	1.6nm,0.1s,SNR=7.9						
EALB				S	**Sn**	**11 37 24.6**	**-1.3**
	3.5nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.32**	**72**	P	**Pn**	**11 37 09.7**	**+0.7**
	1.3nm,0.1s,SNR=8.4

MESJ	**Messejana**	**3.29 295**	P		**Pn**	**11 37 36.4**	**+1.9**
MESJ			S		**Sn**	**11 38 11.1**	**-1.6**
	comp=N,3.1nm,0.7s						
PESTR	**Estremoz**	**3.42 314**	*e*P		**Pn**	**11 37 38.0**	**+1.6**
PESTR			A		A	11 38 16.5	
	comp=N,2.7nm,0.6s						
MORF	**Marmelete**	**3.45 285**	*e*P		**Pn**	**11 37 37.7**	**+0.9**
MORF			*e*S		**Sn**	**11 38 13.6**	**-3.2**
MORF			AML		AML	11 38 17.9	
	comp=N,14nm,0.1s						
MORF	**Marmelete**	**3.45 285**	*e*P		**Pn**	**11 37 38.6**	**+1.7**
MORF			S		**Sn**	**11 38 14.8**	**-2.1**
MORF			A		A	11 38 18.4	
	comp=N,6.7nm,0.5s						
MORF	**Marmelete**	**3.45 285**	P		**Pn**	**11 37 38.6**	**+1.7**
MORF			S		**Sn**	**11 38 14.8**	**-2.1**
	comp=N,6.7nm,0.5s						
EVO	**Evora**	**3.48 307**	*e*P		**Pn**	**11 37 40.7**	**+3.6**
EVO			S		**Sn**	**11 38 16.6**	**-0.7**
EVO			A		A	11 38 20.3	
	comp=N,6.2nm,0.1s						
EVO	**Evora**	**3.48 307**	P		**Pn**	**11 37 40.7**	**+3.6**
EVO			S		**Sn**	**11 38 16.6**	**-0.7**
	comp=N,6.2nm,0.1s						
PFVI	**Vila Bisbo**	**3.56 281**	*e*P		**Pn**	**11 37 39.8**	**+1.6**
PFVI			*e*S		**Sn**	**11 38 17.0**	**-2.4**
PFVI			A		A	11 38 20.4	
	comp=N,10nm,0.6s						
PFVI	**Vila Bisbo**	**3.56 281**	P		**Pn**	**11 37 39.8**	**+1.6**
	comp=N,1.9nm,0.1s,SNR=6.5						
PFVI			S		**Sn**	**11 38 16.9**	**-2.5**
	comp=N,7.8nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**3.57 288**	*e*P		**Pn**	**11 37 40.3**	**+2.0**
PTEO			S		**Sn**	**11 38 18.3**	**-1.2**
PTEO	**Sao Teotonio**	**3.57 288**	P		**Pn**	**11 37 40.3**	**+2.0**
PTEO			S		**Sn**	**11 38 18.3**	**-1.2**
PMRV	**Marv??o**	**3.73 322**	*e*P		**Pn**	**11 37 42.5**	**+2.0**
PMRV			S		**Sn**	**11 38 21.8**	**-1.6**
PMRV			A		A	11 38 41.1	
	comp=N,1.5nm,0.3s						
PMRV	**Marv??o**	**3.73 322**	P		**Pn**	**11 37 42.5**	**+2.0**
PMRV			S		**Sn**	**11 38 21.8**	**-1.6**
	comp=N,1.5nm,0.3s						
PCBR	**Castelo Branco**	**4.09 325**	*e*P		**Pn**	**11 37 47.0**	**+1.6**
PCBR			S		**Sn**	**11 38 30.0**	**-2.2**
PCBR	**Castelo Branco**	**4.09 325**	P		**Pn**	**11 37 47.0**	**+1.6**
PCBR			S		**Sn**	**11 38 30.0**	**-2.2**
ECHE	**Chera**	**4.13 41**	P		**Pn**	**11 37 47.6**	**+1.6**
	comp=N,0.3nm,0.1s,SNR=7.9						
ECHE			S		**Sn**	**11 38 30.1**	**-3.1**
	comp=N,0.8nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**4.14 3**	P		**Pn**	**11 37 47.6**	**+1.5**
	comp=N,0.3nm,0.1s,SNR=7.9						
GUD			S		**Sn**	**11 38 31.7**	**-1.8**
	comp=N,0.1nm,0.3s,SNR=7.9						
PTOM	**Tomar**	**4.40 316**	*e*P		**Pn**	**11 37 51.1**	**+1.5**
PTOM	**Tomar**	**4.40 316**	P		**Pn**	**11 37 51.1**	**+1.5**
PMAFR	**Mafra**	**4.54 304**	*e*P		**Pn**	**11 37 54.4**	**+2.9**
PMAFR			S		**Sn**	**11 38 40.9**	**-2.2**
PMAFR	**Mafra**	**4.54 304**	P		**Pn**	**11 37 52.9**	**+1.4**
	comp=N,1.1nm,0.1s,SNR=7.9						
PMAFR			S		**Sn**	**11 38 41.6**	**-1.4**
	comp=N,1.1nm,0.3s,SNR=7.9						
PCAS	**Casmilo, Conde**	**4.76 319**	*e*P		**Pn**	**11 37 57.2**	**+2.8**
PCAS			S		**Sn**	**11 38 46.1**	**-2.3**
EMOS	**Mosqueruela**	**4.96 38**	P		**Pn**	**11 37 59.8**	**+2.5**
	comp=N,0.3nm,0.1s,SNR=7.9						
EMOS			S		**Sn**	**11 38 50.7**	**-2.9**
	comp=N,1.0nm,0.3s,SNR=7.9						
PVIS	**Viseu**	**4.99 328**	S		**Sn**	**11 38 53.3**	**-0.8**
PVIS			A		A	11 38 55.1	
	comp=N,2.8nm,0.1s						
PVIS	**Viseu**	**4.99 328**	S		**Sn**	**11 38 53.3**	**-0.8**
	comp=N,1.4nm,0.1s						
MVO	**Moncorvo**	**5.07 337**	*e*P		**Pn**	**11 38 00.6**	**+1.9**
MVO			S		**Sn**	**11 38 53.1**	**-2.8**
MVO	**Moncorvo**	**5.07 337**	P		**Pn**	**11 38 00.1**	**+1.4**
	comp=N,1.8nm,0.1s,SNR=7.9						
MVO			S		**Sn**	**11 38 53.6**	**-2.3**
	comp=N,0.5nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**5.40 333**	S		**Sn**	**11 39 02.7**	**-1.3**
PVRL	**Vila Real**	**5.40 333**	S		**Sn**	**11 39 02.7**	**-1.3**
POLO	**Lamas de Olo**	**5.51 333**	*e*P		**Pn**	**11 38 06.8**	**+2.0**
POLO			S		**Sn**	**11 39 03.9**	**-2.9**
PBRG	**Braganca**	**5.58 342**	*e*P		**Pn**	**11 38 07.8**	**+2.2**
PBRG	**Braganca**	**5.58 342**	P		**Pn**	**11 38 07.8**	**+2.2**
ECAL	**Calabor**	**5.71 343**	P		**Pn**	**11 38 09.5**	**+2.1**
	comp=N,0.4nm,0.1s,SNR=7.9						
ECAL			S		**Sn**	**11 39 08.9**	**-2.6**
	comp=N,0.5nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**5.89 333**	*e*P		**Pn**	**11 38 10.7**	**+0.9**
PCAB	**Cabril**	**5.89 333**	P		**Pn**	**11 38 10.7**	**+0.9**
ELOB	**Lobios**	**6.04 334**	P		**Pn**	**11 38 13.6**	**+1.7**
	comp=N,0.4nm,0.2s,SNR=7.9						
ELOB			S		**Sn**	**11 39 16.8**	**-2.9**
	comp=N,0.3nm,0.1s,SNR=7.9						
PGAV	**Gavieira, Arco**	**6.20 333**	*e*P		**Pn**	**11 38 16.4**	**+2.3**
PGAV			S		**Sn**	**11 39 22.2**	**-1.4**

*ISCJB **25** 11:50:02.5±1.0, 7.°94S±0.°09×128.°21E±0.°07, h10km, mb3.5/1, MS3.5/1, Error ellipse: s-maj=13.8km s-min=9.2km az=159.1*

*IDC **25** 11:50:08.1±2.3, 7.°91S×128.°13E, h107km±52km, mb3.6/1, mb1 4.0/6, mb1mx3.4/33, mbtmp4.3/6, MS3.5/1, Ms1 3.5/1, ms1mx2.4/34, Error ellipse: s-maj=51.2km s-min=22.8km az=112.0*

*DJA **25** 11:50:10.4±1.5, 8.°S±34.°×12.°8E±.°, h11km±12km, M4.1/4, MLv4.1/4*

ISC 25 11:50:05.4±1.0, **8.°01S**±0.°09×**128.°11E**±0.°06, **h10**km, **n10, σ2§19/13, Timor Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.16**	**90**	P	**Pb**	**11 51 02.2**	**+0.5**
SAUI				S	**Sb**	**11 51 42.9**	**+2.6**
SOEI	**Soe**	**4.18**	**245**	P	**Pn**	**11 51 11.6**	**+2.2**
SOEI				S	**Sn**	**11 51 58.9**	**+0.6**
BATI	**Baumata**	**4.91**	**243**	P	**Pn**	**11 51 21.6**	**+2.2**
	21nm,0.3s,baz=63,slow=4.5,SNR=17						
BATI				S	**Sn**	**11 52 13.1**	**-3.1**
	19nm,0.3s,baz=124,slow=4.6,SNR=5.5						
BATI	**Baumata**	**4.91**	**243**	P	**Pn**	**11 51 21.4**	**+2.1**
BATI				S	**Sn**	**11 52 17.0**	**+0.8**
SIJI	**Sorong**	**7.75**	**24**	P	**Pn**	**11 51 56.0**	**-2.4**
	1.5nm,0.3s,baz=198,slow=20,SNR=4.9						
SIJI				S	Sn	11 53 16.6	-10
	0.5nm,0.3s,baz=236,slow=22,SNR=1.5						
FITZ	**Fitzroy Crossi**	**10.32**	**193**	P	**Pn**	**11 52 34.2**	**+0.6**
	1.3nm,0.3s,baz=8.1,slow=14,SNR=45						
FITZ				S	**Sn**	**11 54 26.4**	**-3.0**
	1.8nm,0.3s,baz=102,slow=15,SNR=5.4						
WRA	**Warramunga Arr**	**13.31**	**154**	P	**Pn**	**11 53 14.3**	**-0.3**
	1.6nm,0.3s,baz=328,slow=13,SNR=78						
WRA				S	Sn	11 55 37.7	-5.1
	2.6nm,0.3s,baz=327,slow=23,SNR=16						
ASAR	**Alice Springs**	**16.53**	**161**	P	**Pn**	**11 53 56.7**	**-0.9**
	1.5nm,0.3s,baz=337,slow=10,SNR=159						
ASAR				S	Sn	11 56 54.8	-6.6
	0.2nm,0.3s,baz=351,slow=27,SNR=4.6						
STKA	**Stephens Creek**	**26.87**	**154**	P	P	11 55 39.3	-7.2
	1.4nm,0.8s,baz=344,slow=15,SNR=2.9						
DZM	**Mont Dzumac**	**39.44**	**115**	LR	LR	12 14 40.5	
	comp=Z,68nm,18.7s,baz=348,slow=37						

*NIED **25** 12:01:00, 38.°00N×142.°20E, h41km, Mw3.6 Best double couple: M0 2.84000×10^14 NP1: φ§136.00000°, δ§13.00000°, λ24.00000°. NP2: φ§23.00000°, δ§85.00000°, λ102.00000°.*

*ISCJB **25** 12:01:36.8±1.0, 38.°02N±0.°04×142.°20E±0.°08, h40km±14km, mb3.2/2, Error ellipse: s-maj=11.0km s-min=6.1km az=13.1*

*JMA **25** 12:01:36.9±0.1, 38.°01N×142.°16E, h39km±2km, M3.6*

*IDC **25** 12:01:37.4±4.0, 37.°99N×142.°53E, h38km±37km, mb3.1/2, mb1 3.4/6, mb1mx3.2/52, mbtmp3.5/6, ML3.1/4, MS2.4/3, Ms1 2.4/3, ms1mx2.2/20, Error ellipse: s-maj=44.4km s-min=25.4km az=95.0*

ISC 25 12:01:38.3±1.5, **38.°05N**±0.°05×**142.°2E**±0.°1, **h38**km±4km, **n28, σ2§16/35, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.61**	**295**	P	**Pn**	**12 01 49.3**	**-1.3**
JIKH				S	**Sn**	**12 01 57.7**	**-1.5**
JIO	**Ouri**	**0.76**	**302**	P	**Pn**	**12 01 51.7**	**-0.8**
JIO				S	**Sn**	**12 02 01.8**	**-0.9**
JKMT	**Kesennumamotoy**	**0.93**	**324**	P	**Pn**	**12 01 54.2**	**-0.7**
JKMT				S	**Sn**	**12 02 06.2**	**-0.8**
JMM	**Marumori**	**1.10**	**261**	P	**Pn**	**12 01 55.9**	**-1.3**
JMM				S	**Sn**	**12 02 08.1**	**-3.1**
JMK	**Ichinoseki**	**1.17**	**321**	P	**Pn**	**12 01 57.7**	**-0.4**
JMK				*e*S	**Sn**	**12 02 13.0**	**+0.3**
JOU	**Okura**	**1.23**	**285**	P	**Pn**	**12 01 58.6**	**-0.3**
JOU				*e*S	**Sn**	**12 02 14.2**	**0.0**
JFK	**Kawauchi**	**1.23**	**237**	P	**Pn**	**12 01 57.2**	**-1.8**
JFK				S	**Sn**	**12 02 11.7**	**-2.8**
JFT	**Otama**	**1.55**	**250**	P	**Pn**	**12 02 03.1**	**-0.2**
JFT				S	**Sn**	**12 02 22.4**	**+0.3**
JOM	**Ohasama**	**1.57**	**334**	P	**Pn**	**12 02 03.6**	**-0.1**
JOM				*e*S	**Sn**	**12 02 22.9**	**+0.1**
JYK	**Kaneyama**	**1.66**	**302**	P	**Pn**	**12 02 05.1**	**+0.2**
JYK				*e*S	**Sn**	**12 02 25.4**	**+0.4**
JYS	**Shirataka**	**1.67**	**276**	P	**Pn**	**12 02 05.2**	**+0.2**
JRG	**Rokugo**	**1.80**	**319**	P	**Pn**	**12 02 07.6**	**+0.8**
JFY	**Yanaizu**	**2.06**	**252**	*e*S	**Sn**	**12 02 35.4**	**+0.7**
MJAR	**Matsushiro Arr**	**3.50**	**246**	Pn	**Pn**	**12 02 31.7**	**+1.5**
	0.7nm,0.3s,baz=57,slow=9.7,SNR=13						
MJAR				Sn	**Sn**	**12 03 17.2**	**+6.9**
	0.9nm,0.3s,baz=31,slow=15,SNR=4.3						
MJAR				LR	LR	12 04 16.8	
	comp=Z,56nm,18.6s,baz=80,slow=43						
MAT	**Matsushiro**	**3.50**	**246**	P	**Pn**	**12 02 31.8**	**+1.6**
MAT				*e*S	**Sn**	**12 03 14.8**	**+4.5**
JHJ	**Hachijo jima 2**	**5.29**	**202**	Pn	**Pn**	**12 02 54.5**	**-0.3**
	7.4nm,0.3s,baz=28,slow=15,SNR=3.7						
JHJ				Sn	**Sn**	**12 03 49.0**	**-5.4**
	5.7nm,0.3s,baz=344,slow=13,SNR=1.6						
ASAJ	**Asahikawa**	**6.07**	**3**	Pn	**Pn**	**12 03 05.9**	**+0.5**
	0.6nm,0.3s,baz=204,slow=10.0,SNR=6.7						
ASAJ				Sn	**Sn**	**12 04 11.8**	**-1.8**
	0.4nm,0.3s,baz=270,slow=28,SNR=2.4						
USRK	**Ussuriysk Ar.**	**9.83**	**312**	Pn	**Pn**	**12 03 59.0**	**+2.1**
	0.4nm,0.3s,baz=118,slow=14,SNR=6.0						
KSRS	**Korea Array**	**11.30**	**271**	LR	LR	12 08 19.6	
	comp=Z,17nm,20.8s,baz=60,slow=35						
KLR	**Kul'dur**	**13.46**	**329**	LR	LR	12 09 16.1	
	comp=Z,17nm,18.4s,baz=188,slow=34						
SONM	**Songino Array**	**27.73**	**302**	P	**P**	**12 07 24.6**	**+1.5**
	0.2nm,0.4s,baz=117,slow=8.3,SNR=2.1						
H11N2	**WAKE ISLAND Hy**	**28.18**	**123**	T	T	12 36 47.6	
	baz=316						
H11N1	**WAKE ISLAND Hy**	**28.19**	**123**	T	T	12 36 59.1	
	baz=316						
H11N3	**WAKE ISLAND Hy**	**28.20**	**123**	T	T	12 36 59.1	
	baz=316						
H11S1	**WAKE ISLAND Hy**	**28.93**	**125**	T	T	12 37 44.5	
	baz=317,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**28.94**	**126**	T	T	12 37 58.3	
	baz=317,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**28.95**	**125**	T	T	12 38 01.6	
	baz=317,slow=76,SNR=15						
WRA	**Warramunga Arr**	**58.15**	**189**	P	**P**	**12 11 27.2**	**-1.1**
	0.2nm,0.5s,baz=6.4,slow=7.4,SNR=1.5						
WRA				pP	**pP**	**12 11 38.4**	**-1.2**
	0.3nm,0.6s,baz=6.7,slow=7.1,SNR=3.0						

*DDA **25** 12:06:02.6, 36.°57N×27.°82E, h6km, Ml3.0*

*ISK **25** 12:06:03.2, 36.°58N×27.°93E, h5km, ML2.8/16*

*ATH **25** 12:06:03.8, 36.°64N×28.°01E, h30km±1km, ML3.1/3, Error ellipse: s-maj=3.5km s-min=1.2km az=215.0*

*THE **25** 12:06:04.4, 36.°64N×27.°98E, h0km±1km, ML2.9/4, Error ellipse: s-maj=1.1km s-min=0.6km az=113.0*

*ISCJB **25** 12:06:05.1±0.4, 36.°60N±0.°03×27.°93E±0.°03, h9km±4km, Error ellipse: s-maj=4.9km s-min=3.3km az=14.2*

ISC 25 12:06:03.5±1.1, **36.°64N**±0.°02×**27.°97E**±0.°02, **h6**km±9km, **n42, σ1§98/63, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSB	**Marmaris-Mugla**	**0.20**	**67**	PG	**Pg**	**12 06 08.9**	**+1.5**
DATC	**Datca-Mugla**	**0.28**	**296**	PG	**Pb**	**12 06 10.1**	**-0.8**
DATC				SG	**Sb**	**12 06 15.1**	**-0.7**
DAT	**Datca**	**0.33**	**286**	PG	**Pg**	**12 06 10.8**	**+0.9**
DAT				SG	**Sb**	**12 06 16.4**	**-1.0**
DAT	**Datca**	**0.33**	**286**	*i* P	**Pb**	**12 06 11.4**	**-0.4**
DAT				*i* S	**Sb**	**12 06 16.8**	**-0.6**
ARG	**Arkhangelos**	**0.44**	**163**	PG	**Pg**	**12 06 12.1**	**+0.1**
ARG	**Arkhangelos**	**0.44**	**163**	P	**Pb**	**12 06 13.4**	**-0.2**
ARG				S	**Sb**	**12 06 20.6**	**+0.2**
ARG				AML	AML	12 06 22.7	
	comp=E,4888μm,0.4s						
ARG				AML	AML	12 06 22.9	
	comp=N,3808μm,0.4s						
ARG	**Arkhangelos**	**0.44**	**163**	P	**Pb**	**12 06 13.2**	**-0.4**
ARG				S	**Sb**	**12 06 20.9**	**+0.5**
TURN	**Turunc**	**0.56**	**65**	PG	**Pg**	**12 06 10.3**	**-4.0**
TURN				SG	**Sg**	**12 06 16.4**	**-5.1**
TURN	**Turunc**	**0.56**	**65**	*i* P	**Pg**	**12 06 10.2**	**-4.0**
TURN				*i* S	**Sg**	**12 06 15.6**	**-5.9**
DALY	**Dalyan (Mu¨la**	**0.58**	**72**	PG	**Pn**	**12 06 16.6**	**-1.6**
DALY	**Dalyan (Mu¨la**	**0.58**	**72**	*i* P	**Pn**	**12 06 16.4**	**-1.8**
DALY				*i* S	**Sn**	**12 06 26.2**	**-1.7**
NIS1	**Nisyros Isl.**	**0.64**	**267**	PG	**Pg**	**12 06 15.2**	**-0.6**
NIS1				SG	**Sb**	**12 06 25.6**	**-0.6**
NIS1	**Nisyros Isl.**	**0.64**	**267**	P	**Pb**	**12 06 17.3**	**+0.2**
NIS1				S	**Sb**	**12 06 27.2**	**+0.9**
NIS1				AML	AML	12 06 29.7	
	comp=E,5240μm,0.5s						
NIS1				AML	AML	12 06 33.6	
	comp=N,5757μm,0.3s						
NIS1	**Nisyros Isl.**	**0.64**	**267**	P	**Pb**	**12 06 17.3**	**+0.2**
NIS1				S	**Sn**	**12 06 28.0**	**-1.6**
MLSB	**Milas**	**0.67**	**347**	PG	**Pb**	**12 06 18.1**	**+0.4**
BODT	**Bodrum**	**0.68**	**309**	PG	**Pb**	**12 06 17.9**	**+0.2**
BODT	**Bodrum**	**0.68**	**309**	P	**Pb**	**12 06 17.7**	**0.0**
BODT				S	**Sn**	**12 06 28.9**	**-1.7**
NISR	**Nisiros**	**0.68**	**268**	P	**Pb**	**12 06 17.9**	**+0.2**
NISR				S	**Sb**	**12 06 28.2**	**+0.9**
NISR				AML	AML	12 06 30.1	
	comp=N,1662μm,0.8s						
NISR				AML	AML	12 06 32.1	
	comp=E,3330μm,0.5s						
NISR	**Nisiros**	**0.68**	**268**	P	**Pn**	**12 06 19.1**	**-0.5**
NISR				S	**Sn**	**12 06 29.2**	**-1.3**
FETY	**Fethiye**	**0.89**	**90**	PG	**Pn**	**12 06 22.3**	**-0.3**
FETY	**Fethiye**	**0.89**	**90**	P	**Pn**	**12 06 22.3**	**-0.3**
FETY				S	**Sn**	**12 06 36.1**	**+0.2**
AYDN	**Tasoluk**	**1.02**	**356**	*i* P	**Pn**	**12 06 23.9**	**-0.6**
AYDN				*i* S	**Sn**	**12 06 39.3**	**+0.2**
TAVA	**DENIZLI_Tavas**	**1.12**	**42**	*i* P	**Pn**	**12 06 26.4**	**+0.6**
TAVA				*i* S	**Sn**	**12 06 44.4**	**+2.9**
DNZL	**Cakiroluk**	**1.36**	**39**	*i* P	**Pg**	**12 06 31.0**	**+1.5**
DNZL				*i* S	**Sg**	**12 06 52.5**	**+5.4**
AKAS	**Kas**	**1.38**	**107**	PN	**Pg**	**12 06 30.9**	**+1.0**
AKAS	**Kas**	**1.38**	**107**	*i* P	**Pg**	**12 06 31.2**	**+1.3**
AKAS				*i* S	**Sg**	**12 06 52.8**	**+5.0**
SMG	**Samos**	**1.40**	**320**	P	**Pb**	**12 06 29.6**	**-0.4**
SMG	**Samos**	**1.40**	**320**	P	**Pn**	**12 06 29.4**	**-0.2**
SMG				S	**Sg**	**12 06 49.8**	**+1.3**
GOLH	**Golhisar**	**1.41**	**64**	*i* P	**Pg**	**12 06 32.8**	**+2.3**
GOLH				*i* S	**Sg**	**12 06 54.0**	**+5.3**
ELL	**Elmali**	**1.56**	**85**	PN	**Pg**	**12 06 33.8**	**+0.4**
DGB	**¯zmir**	**1.66**	**329**	*i* P	**Pn**	**12 06 31.6**	**-1.4**
KORT	**Korkueli**	**1.94**	**79**	PN	**Pb**	**12 06 39.4**	**0.0**
KULA	**Kula-Manisa**	**1.95**	**16**	PN	**Pb**	**12 06 39.7**	**+0.2**
APE	**Apeiranthos**	**2.00**	**283**	PN	**Pb**	**12 06 39.3**	**-1.1**
URLA	**Izmir**	**2.04**	**328**	PN	**Pb**	**12 06 40.6**	**-0.3**
ZKR	**Zakros**	**2.08**	**224**	P	**Pb**	**12 06 40.1**	**-1.5**
CHOS	**Chios island**	**2.32**	**319**	PN	**Pn**	**12 06 43.5**	**+1.3**
CHOS	**Chios island**	**2.32**	**319**	P	**Pn**	**12 06 41.8**	**-0.4**
ISP	**Isparta**	**2.35**	**59**	PN	**Pb**	**12 06 45.3**	**-1.0**
NPS	**Neapolis**	**2.36**	**235**	P	**Pn**	**12 06 42.9**	**+0.2**
LAST	**Lasithi**	**2.50**	**235**	P	**Pn**	**12 06 45.1**	**+0.3**
SUTC	**Sutluce-Ispart**	**2.56**	**70**	PN	**Pb**	**12 06 48.3**	**-1.6**

IDC 25 12:10:38.4±7.9, **19.°92S×179.°73E, h699**km±83km, **mb2.8**/5, **mb1 3.0**/6, **mb1mx2.7**/46, **mbtmp4.0**/6, **Error ellipse: s-maj=186.8km s-min=35.4km az=152.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.59**	**258**	P	P	12 13 22.2	0.0
	0.4nm,0.3s,baz=96,slow=19,SNR=1.7						
CTA	**Charters Tower**	**31.43**	**264**	P	P	12 16 08.4	+0.5
	1.8nm,0.4s,baz=90,slow=10,SNR=5.1						
WRA	**Warramunga Arr**	**42.57**	**262**	P	P	12 17 37.6	0.0
	0.6nm,0.3s,baz=96,slow=7.5,SNR=48						
ASAR	**Alice Springs**	**42.58**	**256**	P	P	12 17 37.0	-0.7
	2.0nm,0.8s,baz=92,slow=8.2,SNR=35						
ASAR				PcP	PcP	12 19 12.7	0.0
	0.3nm,0.8s,baz=88,slow=4.9,SNR=2.4						
FITZ	**Fitzroy Crossi**	**50.99**	**262**	P	P	12 18 40.4	+0.3
	0.4nm,0.4s,baz=90,slow=7.1,SNR=1.1						
NVAR	**Mina Array Bea**	**82.09**	**44**	P	P	12 21 49.4	0.0
	0.4nm,0.7s,baz=222,slow=6.6,SNR=3.8						
AKASG	**Malin Array Be**	**141.46**	**330**	PKP	PKPdf	12 28 51.2	-1.3
	0.2nm,0.3s,baz=46,slow=4.5,SNR=4.0						

*ISCJB **25** 12:22:42.9±0.7, 55.°3N±0.°1×158.°8E±0.°3, h150km, mb3.4/8, Error ellipse: s-maj=24.8km s-min=9.5km az=28.1*

*IDC **25** 12:22:42.8±2.3, 55.°23N×158.°77E, h133km±24km, mb3.2/8, mb1 3.5/9, mb1mx3.2/47, mbtmp3.6/9, Error ellipse: s-maj=31.4km s-min=19.4km az=153.0*

ISC 25 12:22:44.1±0.8, **55.°2N**±0.°1×**158.°7E**±0.°2, **h150**km, **n13, σ1§34/11, mb3.4/8, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**2.18**	**195**	P	**Pn**	**12 23 19.6**	**-1.8**
	2.8nm,0.3s,baz=15,slow=15,SNR=60						
PETK				S	**Sn**	**12 23 51.8**	**+1.8**
	0.7nm,0.3s,baz=32,slow=34,SNR=3.2						
ILAR	**Eielson Array**	**27.97**	**48**	P	**P**	**12 28 19.7**	**-0.5**
	0.4nm,0.4s,baz=258,slow=7.1,SNR=9.7						
H11N2	**WAKE ISLAND Hy**	**35.97**	**167**	T	T	13 07 05.0	
	baz=354,slow=76						
H11N3	**WAKE ISLAND Hy**	**35.98**	**167**	T	T	13 06 58.1	
	baz=354,slow=76						
H11N1	**WAKE ISLAND Hy**	**35.99**	**167**	T	T	13 06 57.0	
	baz=354,slow=76						
ZALV	**Zalesovo Beam**	**40.95**	**300**	P	**P**	**12 30 12.2**	**+0.7**
	0.5nm,0.3s,baz=45,slow=8.4,SNR=2.1						
YKA	**Yellowknife Ar**	**42.19**	**44**	P	**P**	**12 30 22.8**	**+1.4**
	0.6nm,0.8s,baz=304,slow=7.6,SNR=3.0						
MKAR	**Makanchi Array**	**46.51**	**293**	PcP	**PcP**	**12 32 26.0**	**-1.8**
	0.3nm,0.7s,baz=31,slow=3.9,SNR=2.4						
NVAR	**Mina Array Bea**	**55.82**	**70**	P	**P**	**12 32 05.9**	**+0.2**
	0.3nm,0.7s,baz=298,slow=3.2,SNR=3.6						
PDAR	**Pinedale Array**	**57.23**	**61**	P	**P**	**12 32 15.7**	**0.0**
	0.2nm,0.4s,baz=313,slow=4.3,SNR=3.4						
ULM	**Lac du Bonnet**	**57.98**	**47**	P	**P**	**12 32 19.5**	**-1.0**
	1.1nm,0.6s,baz=305,slow=12,SNR=2.2						
TXAR	**Lajitas Array**	**70.58**	**67**	P	**P**	**12 33 43.2**	**+0.3**
	0.4nm,0.6s,baz=292,slow=4.6,SNR=7.6						
WRA	**Warramunga Arr**	**77.67**	**203**	P	**P**	**12 34 24.7**	**+0.9**
	0.4nm,1.0s,baz=19,slow=6.1,SNR=4.7						

*DDA **25** 12:30:52.6, 39.°00N×28.°17E, h7km, Ml2.6*

*ISK **25** 12:30:52.9, 38.°92N×28.°12E, h23km, ML2.2/7*

*ISCJB **25** 12:30:53.6±0.4, 38.°97N±0.°03×28.°11E±0.°04, h20km±7km, Error ellipse: s-maj=4.9km s-min=4.5km az=14.4*

ISC 25 12:30:52.7±1.0, **38.°97N**±0.°03×**28.°12E**±0.°03, **h16**km±10km, **n17, σ0§63/25, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKHS	**Akhisar**	**0.26**	**249**	*i* P	**Pb**	**12 30 59.2**	**+0.1**
AKHS				*i* S	**Sb**	**12 31 03.5**	**+0.3**
DEMI	**Demirci**	**0.47**	**81**	*i* P	**Pg**	**12 31 02.0**	**-0.2**
DEMI				*i* S	**Sg**	**12 31 07.9**	**-0.7**
STEP	**BALIKESIR_Sava**	**0.51**	**322**	*i* P	**Pg**	**12 31 02.7**	**-0.3**
STEP				*i* S	**Sg**	**12 31 09.9**	**0.0**
MANT	**Manisa**	**0.59**	**144**	*i* P	**Pb**	**12 31 05.2**	**+0.3**
MANT				*i* S	**Sb**	**12 31 12.2**	**-0.9**
KULA	**Kula-Manisa**	**0.62**	**137**	PG	**Pb**	**12 31 05.7**	**+0.4**
KULA				SG	**Sb**	**12 31 13.8**	**0.0**
SIMA	**Simav-Kutahya**	**0.68**	**80**	PG	**Pn**	**12 31 07.6**	**-0.2**
SIMA				SG	**Sn**	**12 31 17.1**	**-1.0**
SMAA	**Simav-Kutahya**	**0.68**	**79**	PG	**Pb**	**12 31 06.9

CPUP pP **pP** 12 40 37.5 -1.3
5.3nm,1.0s,baz=168,slow=6.2,SNR=3.9
CPUP PcP **PcP** 12 42 35.1 +0.3
6.5nm,0.7s,baz=123,slow=2.1,SNR=10
CPUP Villa Florida 36.80 312 *e*P **P** 12 40 15.5 +0.4
11nm,0.9s
CPUP pP **pP** 12 40 37.5 -1.3
CPUP *e*PcP **PcP** 12 42 35.5 +0.6
PEL Peldehue 37.58 289 *e*P **P** 12 40 21.7 +0.1
9.3nm,0.9s
MAW Mawson 40.13 144 P **P** 12 40 43.0 +0.6
16nm,0.6s,baz=230,slow=8.0,SNR=78
MAW PcP **PcP** 12 42 44.8 +0.2
3.7nm,0.8s,baz=243,slow=2.3,SNR=3.2
MAW ScP **ScP** 12 46 22.9 -0.9
4.4nm,0.8s,baz=236,slow=5.3,SNR=9.0
MAW LR LR 12 56 32.8
comp=Z,44nm,18.4s,baz=295,slow=35
MAW Mawson 40.13 144 *e*P **P** 12 40 43.1 +0.7
4.1nm,0.7s
MAW *e*PcP **PcP** 12 42 45.6 +1.0
MAW ScP **ScP** 12 46 22.9 -0.9
GO02 Mina Guanaco 43.45 298 *e*P **P** 12 41 10.7 +0.3
27nm,0.6s
GO02 *e*PP **PcP** 12 42 57.2 +0.5
LVC Limon Verde 45.27 300 LR LR 13 03 54.5
comp=Z,10nm,18.1s,baz=168,slow=40
LVC Limon Verde 45.27 300 *e*P **P** 12 41 25.8 +0.9
23nm,0.8s
LVC *e*PcP **PcP** 12 43 04.0 +1.0
SBA Scott Base 45.98 184 *e*P **P** 12 41 31.5 +2.1
18nm,0.9s
SBA *e*PcP **PcP** 12 43 05.9 +1.7
BOSA Boshof 46.08 76 P **P** 12 41 30.4 -0.6
2.1nm,0.8s,baz=214,slow=11,SNR=2.1
BOSA LR LR 12 58 03.7
comp=Z,84nm,18.4s,baz=209,slow=32
PB04 IPOC Station P 46.10 299 *e*P **P** 12 41 31.5 +0.2
25nm,0.8s
VNDA Vanda 46.48 183 P **P** 12 41 34.5 +1.1
18nm,0.8s,baz=185,slow=6.4,SNR=74
VNDA PcP **PcP** 12 43 06.5 +0.6
6.6nm,1.1s,baz=94,slow=5.3,SNR=3.1
VNDA LR LR 13 00 08.2
comp=Z,23nm,18.5s,baz=198,slow=35
VNDA Vanda 46.48 183 *e*P **P** 12 41 34.4 +1.1
22nm,0.8s
VNDA PcP **PcP** 12 43 06.5 +0.6
PB01 IPOC Station P 46.88 301 *e*P **P** 12 41 38.1 +0.9
35nm,0.7s
SIV San Ignacio 47.57 314 LR LR 13 04 32.8
comp=Z,22nm,18.4s,baz=158,slow=39
GO01 Chusmiza 47.92 302 *e*P **P** 12 41 46.8 +1.0
34nm,0.8s
GO01 *e*PcP **PcP** 12 43 13.1 +0.6
PB11 IPOC Station P 48.06 302 *e*P **P** 12 41 46.9 +0.5
28nm,0.8s
H10S2 ASCENSION HYDR 48.12 17 T T 13 34 43.1
baz=189,slow=74
H10S3 ASCENSION HYDR 48.12 17 T T 13 34 43.4
baz=189,slow=74
H10S1 ASCENSION HYDR 48.13 17 T T 13 34 44.4
baz=189
MNMC Minye Minye 48.57 302 *e*P **P** 12 41 51.1 +0.7
44nm,0.7s
MNMC *e*PcP **PcP** 12 43 15.5 +0.8
LBTB Lobatse 49.12 73 P **P** 12 41 54.7 +0.2
2.1nm,0.7s,baz=211,slow=7.7
LBTB ScP **ScP** 12 47 00.6 -1.0
3.0nm,0.7s,baz=135,slow=2.9,SNR=3.3
LBTB Lobatse 49.12 73 *e*P **P** 12 41 55.2 +0.7
10nm,1.1s
LBTB ScP **ScP** 12 47 00.6 -1.0
H10N1 ASCENSION HYDR 49.23 17 T T 13 35 48.4
baz=188
H10N3 ASCENSION HYDR 49.24 17 T T 13 36 07.2
baz=188
H10N2 ASCENSION HYDR 49.25 17 T T 13 36 08.4
baz=188
LPAZ La Paz 50.35 305 P **P** 12 42 05.4 +1.0
11nm,0.6s,baz=134,slow=5.3,SNR=48
LPAZ pP **pP** 12 42 29.6 +0.3
7.2nm,0.8s,baz=194,slow=9.6,SNR=3.8
LPAZ PcP **PcP** 12 43 22.1 +0.5
5.1nm,0.5s,baz=142,slow=1.6,SNR=6.5
LPAZ La Paz 50.35 305 *e*P **P** 12 42 05.5 +1.0
17nm,0.9s
LPAZ pP **pP** 12 42 29.6 +0.3
LPAZ *e*PcP **PcP** 12 43 22.5 +0.9
CASY Casey 53.85 160 *e*P **P** 12 42 30.0 +1.0
9.4nm,0.9s
PTGA Pitinga 61.19 322 *e*P **P** 12 43 21.0 -0.1
5.6nm,0.8s
LIC Lamto 64.82 25 *e*PKP2 **P** 12 43 45.7 +0.7
51nm,1.4s
KIC Kosan Boka 65.02 25 *e*PKP2 **P** 12 43 46.9 +0.6
15nm,0.9s
TIC Toumodi 65.23 25 *e*PKP2 **P** 12 43 46.5 -1.2
DBIC Dimbokro 65.29 25 P **P** 12 43 48.1 0.0
4.1nm,0.7s,baz=153,slow=7.2,SNR=6.4
DBIC LR LR 13 04 58.2
comp=Z,50nm,19.6s,baz=156,slow=29
DBIC Dimbokro 65.29 25 *e*P **P** 12 43 48.9 +0.8
5.8nm,0.8s
OTAV Otavalo 69.63 304 *e*P **P** 12 44 17.6 +1.5
15nm,1.1s
SOTA Rioblanco 70.46 307 *e*P **P** 12 44 22.6 +1.4
MARP Paez Belalcaza 70.80 308 *e*P **P** 12 44 23.1 +0.1
POPC Popayan, Colom 70.85 307 *e*P **P** 12 44 20.7 -2.6
PRAC Prado 71.11 309 *e*P **P** 12 44 24.5 0.0
CHIC Chingaza 71.43 310 *e*P **P** 12 44 26.2 -0.6
ROSC El Rosal 71.87 310 P **P** 12 44 30.4 +0.9
5.7nm,0.5s,baz=22,slow=23,SNR=4.0
ROSC El Rosal 71.87 310 *e*P **P** 12 44 30.3 +0.9
11nm,1.1s
YOTC Yotoco, Valle 71.99 308 *e*P **P** 12 44 28.7 -1.2
PLMC San Jos¨ del 72.78 308 *e*P **P** 12 44 34.0 -0.6
BARC Barichara 72.97 312 *e*P **P** 12 44 32.9 -2.9
TOA0 Torodi Ar. Sit 73.18 30 *e*P **P** 12 44 37.7 +1.0
TORD Torodi Ar. Bea 73.18 30 P **P** 12 44 36.5 -0.2
3.2nm,0.6s,baz=210,slow=5.1,SNR=22
TORD pP **pP** 12 45 01.4 -1.8
3.0nm,0.5s,baz=207,slow=6.0,SNR=4.3
TORD LR LR 13 11 25.4
comp=Z,23nm,19.9s,baz=335,slow=31
TOA1 Torodi Ar. Sit 73.19 30 *e*P **P** 12 44 36.5 -0.2
TOA1 *e*pP **pP** 12 45 01.4 -1.8
PTBC PUERTO BERRIO, 73.45 311 *e*P **P** 12 44 36.0 -2.4
HELC Santa Helena 73.60 309 *e*P **P** 12 44 37.5 -2.2
SDV Santo Domingo 74.01 315 *e*P **P** 12 44 42.3 +0.5
24nm,0.9s
ZARC Zaragoza, Cauc 74.48 311 *e*P **P** 12 44 42.2 -2.1
OCAC Ocana 74.51 312 *e*P **P** 12 44 42.7 -2.0
DBBC Dabeiba 74.64 309 *e*P **P** 12 44 45.3 -0.1
SMLC San Mart`›n de 75.33 312 *e*P **P** 12 44 47.1 -2.1
MLZ Mavora Lakes 78.03 191 *e*P **P** 12 45 04.3 +0.2
26nm,1.2s
LBZ Lake Benmore 78.75 193 *e*P **P** 12 45 09.2 +1.0
18nm,1.0s
RPZ Rata Peaks 79.30 193 P **P** 12 45 11.3 +0.2
9.9nm,0.7s,baz=170,slow=2.9,SNR=3.9
FOZ Fox Glacier 79.64 193 *e*P **P** 12 45 13.9 +0.9
34nm,1.1s
LTZ Lake Taylor 80.06 195 *e*P **P** 12 45 15.5 +0.2
21nm,1.1s
CUPR Culebra, Puert 80.75 324 *e*P **P** 12 45 19.9 +0.9
19nm,0.9s
THZ Tophouse 80.96 195 *e*P **P** 12 45 20.4 +0.2
THZ *e*PcP **PcP** 12 45 25.1 -1.3
SNZO South Karori 81.13 197 *e*P **P** 12 45 21.3 +0.4
66nm,1.0s
TAU Tasmania Unive 81.21 176 *e*P **P** 12 45 21.3 -0.1
40nm,1.0s
ESPN Las Esperanzas 82.84 304 *e*P **P** 12 45 30.7 +0.6
17nm,0.7s
BKZ Black Stump Fm 82.92 198 *e*P **P** 12 45 30.6 +0.2
19nm,1.2s
OUZ Omahuta 87.26 197 *e*P **P** 12 45 51.6 -0.4
10.0nm,0.8s
APG El Apazote 88.20 300 P **P** 12 45 57.0 +0.1
17nm,0.8s,baz=57,slow=16,SNR=19
CAN Canberra 88.84 177 *e*P **P** 12 46 00.0 +0.4
11nm,1.1s
BBOO Buckleboo 90.28 166 *e*P **P** 12 46 06.2 -0.1
9.3nm,0.9s
TEIG Tepich 91.68 305 *e*P **P** 12 46 13.4 +0.6
15nm,0.6s

STKA Stephens Creek 91.82 171 P **P** 12 46 13.2 -0.3
6.2nm,0.7s,baz=180,slow=6.7,SNR=11
STKA Stephens Creek 91.82 171 *e*P **P** 12 46 13.7 +0.2
1.8nm,0.8s
KEST Kesra 96.70 29 LR LR 13 25 07.0
comp=Z,24nm,19.3s,baz=254,slow=32
ASAR Alice Springs 98.93 163 P **P** 12 46 45.2 -0.9
3.6nm,0.7s,baz=186,slow=3.5,SNR=58
ASAR PP **PP** 12 50 45.0 -2.9
1.2nm,0.8s,baz=192,slow=6.9,SNR=6.3
ASAR PKiKP **PKiKP** 12 51 17.1 +0.8
0.3nm,0.7s,baz=180,slow=1.3,SNR=4.7
ASAR PKKP **PKKPdf** 13 03 11.1 -0.6
0.2nm,0.5s,baz=18,slow=2.6,SNR=5.6
AS31 Alice Springs 98.93 163 *e*P **P** 12 46 45.3 -0.8
1.4nm,0.7s
AS31 *e*PP **PP** 12 50 45.0 -3.0
AS31 *e*PKiKP **PKiKP** 12 51 17.1 +0.8
AS01 Alice Springs 98.94 163 *e*P **P** 12 46 45.4 -0.7
WR1 Warramunga Arr 102.65 162 *e*Pdif **Pdif** 12 47 01.9 -0.7
WR1 *e*PP **PP** 12 51 13.2 -2.9
WRA Warramunga Arr 102.65 162 P **Pdif** 12 47 01.9 -0.7
0.8nm,0.5s,baz=195,slow=4.4,SNR=15
WRA PP **PP** 12 51 13.2 -2.9
1.3nm,0.9s,baz=185,slow=6.5,SNR=6.5
WRA PKKP **PKKPbc** 13 03 00.8 +2.0
0.5nm,0.6s,baz=353,slow=2.8,SNR=9.8
KIEV Kiev 116.32 36 *e*PKPdf **PKPdf** 12 51 47.0 -0.4
AKASG Malin Array Be 116.33 36 PKP **PKPdf** 12 51 46.4 -1.1
0.6nm,0.5s,baz=224,slow=2.3,SNR=3.6
AKBB Malin Array Si 116.33 36 *e*PKPdf **PKPdf** 12 51 47.0 -0.5
PV12 Saucer Basin, 116.50 300 *e*PKPdf **PKPdf** 12 51 49.8 +1.3
KNB Kanab 117.47 296 *e*PKPdf **PKPdf** 12 51 51.0 +0.5
O20A White River Ci 117.65 301 *e*PKPdf **PKPdf** 12 51 50.4 -0.3
SRU San Rafael Swe 117.96 299 *e*PKPdf **PKPdf** 12 51 50.8 -0.5
SZCU Shurtz Canyon 118.06 296 *e*PKPdf **PKPdf** 12 51 52.1 +0.5
SHPR Sheep Range 118.27 294 *e*PKPdf **PKPdf** 12 51 52.6 +0.6
MSU Marysvale 118.31 297 *e*PKPdf **PKPdf** 12 51 53.0 +1.0
TMUT Trail Mountain 118.44 299 *e*PKPdf **PKPdf** 12 51 53.6 +1.2
TCRU Three Creeks R 118.52 297 *e*PKPdf **PKPdf** 12 51 53.4 +0.9
PSUT Pine Spring 119.17 296 *e*PKPdf **PKPdf** 12 51 54.5 +0.8
TPNV Topopah Spring 119.17 293 *e*PKPdf **PKPdf** 12 51 54.4 +0.7
ISA Isabella, Lake 119.33 291 *e*PKPdf **PKPdf** 12 51 54.7 +0.8
DAC Darwin (Calif) 119.34 292 *e*PKPdf **PKPdf** 12 51 55.0 +1.0
NLU North Lily Min 119.37 299 *e*PKPdf **PKPdf** 12 51 54.4 +0.4
R11A Troy Canyon, C 119.90 295 *e*PKPdf **PKPdf** 12 51 55.6 +0.5
DUG Dugway, Tooele 119.92 298 *e*PKPdf **PKPdf** 12 51 55.2 +0.2
TCUT Toone Canyon 119.94 300 *e*PKPdf **PKPdf** 12 51 55.6 +0.5
ULM Lac du Bonnet 120.25 316 PKP **PKPdf** 12 51 53.1 -2.0
1.6nm,0.6s,baz=294,slow=1.5,SNR=4.5
BW06 Boulder Array 120.31 302 *e*PKPdf **PKPdf** 12 51 55.1 -0.6
PD31 Pinedale Array 120.31 302 *e*PKPdf **PKPdf** 12 51 54.8 -1.1
PDAR Pinedale Array 120.31 302 PKP **PKPdf** 12 51 54.7 -1.1
0.4nm,0.4s,baz=113,slow=4.6,SNR=11
PDAR Pinedale Array 120.31 302 *e*PKPdf **PKPdf** 12 51 54.5 -1.3
PAGB Antelope Grade 120.32 290 *e*PKPdf **PKPdf** 12 51 56.9 +1.2
HWUT Hardware Ranch 120.39 300 *e*PKPdf **PKPdf** 12 51 55.6 -0.3
BGU Big Grassy Mou 120.58 299 *e*PKPdf **PKPdf** 12 51 57.1 +0.8
SPUT South Promonto 120.59 299 *e*PKPdf **PKPdf** 12 51 56.4 +0.1
NB2 NORSAR Subarra1 120.73 21 PKPdf **PKPdf** 12 51 54.8 -0.9
comp=Z,0.1nm,0.5s,baz=202,slow=1.9
NB200 NORSAR Array S 120.73 21 *e*PKPdf **PKPdf** 12 51 55.2 -0.5
NOA NORSAR Array B 120.73 21 PKP **PKPdf** 12 51 55.2 -0.5
comp=Z,0.6nm,0.8s,baz=142,slow=2.4,SNR=4.9
NB201 NORSAR Array S 120.75 21 *e*PKPdf **PKPdf** 12 51 55.7 -0.1
NC204 NORSAR Array S 120.86 20 *e*PKPdf **PKPdf** 12 51 56.2 +0.2
HVU Hansel Valley 121.11 299 *e*PKPdf **PKPdf** 12 51 58.0 +0.7
MDPB Devils Postpil 121.15 292 *e*PKPdf **PKPdf** 12 51 58.9 +1.3
NV11 Mina Array Sit 121.27 293 *e*PKPdf **PKPdf** 12 51 58.4 +0.7
NV01 Mina Array Sit 121.35 293 *e*PKPdf **PKPdf** 12 51 58.7 +0.8
NVAR Mina Array Bea 121.35 293 PKP **PKPdf** 12 51 58.6 +0.8
comp=Z,2.0nm,0.6s,baz=134,slow=3.0,SNR=22
SNOW Snow King Moun 121.41 302 *e*PKPdf **PKPdf** 12 51 58.0 +0.1
LOHW Long Hollow 121.45 302 *e*PKPdf **PKPdf** 12 51 58.0 +0.1
RYN Ryan 121.61 293 *e*PKPdf **PKPdf** 12 51 59.3 +1.0
MOOW Moose Ponds 121.62 302 *e*PKPdf **PKPdf** 12 51 58.8 +0.5
FXWY Fox Creek 121.67 302 *e*PKPdf **PKPdf** 12 51 58.5 +0.2
KVN Kaiserville 121.71 294 *e*PKPdf **PKPdf** 12 51 59.2 +0.7
FLWY Flagg Ranch 121.86 303 *e*PKPdf **PKPdf** 12 51 59.4 +0.7
RLMT Red Lodge 121.97 304 *e*PKPdf **PKPdf** 12 52 00.0 +1.1
CMB Columbia Colle 122.13 291 *e*PKPdf **PKPdf** 12 52 00.1 +0.9
YERR Yerington 122.25 293 *e*PKPdf **PKPdf** 12 52 01.0 +1.5
YHH Holmes Hill 122.46 303 *e*PKPdf **PKPdf** 12 52 00.4 +0.5
PNTR Pine Nut 122.51 293 *e*PKPdf **PKPdf** 12 52 01.2 +1.1
NIL Nilore 122.89 78 *e*PKPdf **PKPdf** 12 52 00.9 +0.2
AFDM Forest Hills D 123.12 292 *e*PKPdf **PKPdf** 12 52 01.6 +0.6
BEKR Beckworth 123.48 293 *e*PKPdf **PKPdf** 12 52 02.1 +0.2
DLMT Dillon 123.71 302 *e*PKPdf **PKPdf** 12 52 03.0 +0.9
WVOR Wild Horse Val 124.50 299 *e*PKPdf **PKPdf** 12 52 05.3 +1.6
FIA0 FINESS Array S 124.51 28 *e*PKPdf **PKPdf** 12 52 02.6 -0.3
FINES FINESS Array B 124.51 28 PKP **PKPdf** 12 52 02.6 -0.3
comp=Z,7.2nm,0.5s,baz=161,slow=2.0,SNR=96
FIA1 FINESS Array S 124.51 28 *e*PKPdf **PKPdf** 12 52 02.5 -0.3
MOD Modoc Plateau 124.95 295 *e*PKPdf **PKPdf** 12 52 05.4 +0.8
J08A Circle Bar Ran 125.09 297 *e*PKPdf **PKPdf** 12 52 05.5 +0.8
CM01 Chiang Mai Arr 125.10 111 *e*PKPdf **PKPdf** 12 52 05.8 +0.4
CM31 Chiang Mai Arr 125.12 111 *e*PKPdf **PKPdf** 12 52 05.7 +0.3
CMAR Chiang Mai Arr 125.12 111 PKP **PKPdf** 12 52 05.4 0.0
comp=Z,2.4nm,0.8s,baz=235,slow=3.8,SNR=15
WDC Whiskeytown Da 125.14 292 *e*PKPdf **PKPdf** 12 52 05.1 +0.4
MSO Missoula 125.42 303 *e*PKPdf **PKPdf** 12 52 06.3 +1.1
BMO Blue Mountains 125.60 299 *e*PKPdf **PKPdf** 12 52 05.7 0.0
YBH Yreka Blue Hor 126.06 293 PKP **PKPdf** 12 52 06.8 +0.2
comp=Z,1.6nm,0.7s,baz=50,slow=6.5,SNR=7.2
YBH Yreka Blue Hor 126.06 293 *e*PKPdf **PKPdf** 12 52 07.0 +0.3
G08A Pilot Rock 126.73 298 *e*PKPdf **PKPdf** 12 52 08.5 +0.7
HUMO Hull Mountain 126.82 293 *e*PKPdf **PKPdf** 12 52 09.3 +1.4
AKTO Aktyubinsk 127.46 53 PKP **PKPdf** 12 52 08.4 -0.5
comp=Z,3.2nm,0.8s,baz=243,slow=4.5
ABKAR Akbulak array 127.50 56 *e*PKPdf **PKPdf** 12 52 09.0 0.0
HAWA Hanford 127.80 299 *e*PKPdf **PKPdf** 12 52 09.6 0.0
KK31 Karatay Array 128.34 68 *e*PKPdf **PKPdf** 12 52 10.6 -0.3
KKAR Karatay Array 128.34 68 *e*PKPdf **PKPdf** 12 52 10.5 -0.4
KSH Kashi 128.68 75 PKP **PKPdf** 12 52 11.5 -0.3
KSH PP **PP** 12 54 21.5 +1.7
KSH SKS **SKSdf** 12 59 11.5 -2.1
KSH AMB AMB
comp=Z,270nm,4.9s
KSH LR LR
comp=Z,140nm,7.5s
KSH LR LR
comp=Z,130nm,6.0s
KSH LR LR
comp=Z,150nm,10.0s
B08A Colville Reser 129.07 301 *e*PKPdf **PKPdf** 12 52 12.6 +0.5
LON Longmire 129.17 298 *e*PKPdf **PKPdf** 12 52 13.2 +0.9
AAK Ala-Archa 130.10 71 PKP **PKPdf** 12 52 14.8 +0.4
comp=Z,2.4nm,0.7s,baz=120,slow=8.6,SNR=11
ARA0 ARCESS Array S 131.06 22 *e*PKPdf **PKPdf** 12 52 15.2 0.0
ARCES ARCESS Array B 131.06 22 PKP **PKPdf** 12 52 15.2 0.0
comp=Z,4.3nm,0.6s,baz=189,slow=1.6,SNR=40
ARE0 ARCESS Array S 131.06 22 *e*PKPdf **PKPdf** 12 52 15.2 0.0
ARU Arti 131.83 48 *e*PKPdf **PKPdf** 12 52 18.5 +1.5
LVZ Lovozero 131.89 27 *e*PKPdf **PKPdf** 12 52 17.1 +0.3
BVAR Borovoye Array 134.91 58 PKP **PKPdf** 12 52 22.8 -0.1
comp=Z,1.9nm,0.7s,baz=222,slow=1.9,SNR=6.5
BVAR SKPbc **SKPbc** 12 55 40.8 -2.7
comp=Z,0.8nm,0.7s,baz=217,slow=4.5,SNR=4.6
GYA Guiyang 135.72 113 *e*Pdif **Pdif** 12 49 30.3 +0.8
GYA PKP **PKiKP** 12 52 26.5 -0.6
GYA sPKP 12 53 08.0
GYA PP **PP** 12 55 10.8 +6.1
GYA AMB AMB
comp=Z,120nm,7.8s
YKA Yellowknife Ar 136.18 318 PKP **PKPdf** 12 52 24.8 -0.1
comp=Z,1.8nm,0.5s,baz=129,slow=2.1,SNR=24
YKA pPKP **pPKPdf** 12 52 52.3 -1.2
comp=Z,0.9nm,0.7s,baz=129,slow=2.1,SNR=2.4
YKA PP **PP** 12 55 07.7 +0.4
comp=Z,1.0nm,1.0s,baz=116,slow=7.1,SNR=3.7
YKA SKPbc **SKPbc** 12 55 44.8 -2.2
comp=Z,1.5nm,0.8s,baz=119,slow=2.0,SNR=6.3
YKB5 Yellowknife Ar 136.18 318 *e*PKPdf **PKPdf** 12 52 24.7 -0.2
MK31 Makanchi Array 137.00 72 *e*PKPdf **PKPdf** 12 52 28.5 +1.4
MK32 Makanchi Array 137.00 72 *e*PKPdf **PKPdf** 12 52 25.3 -1.8
MK32 *e*SKPbc **SKPbc** 12 55 47.0 -3.2
MKAR Makanchi Array 137.00 72 PKhKP PKPpre 12 52 18.0
comp=Z,0.3nm,0.6s,baz=222,slow=5.8,SNR=3.5
MKAR PKP **PKPdf** 12 52 25.3 -1.8
comp=Z,1.0nm,0.7s,baz=247,slow=2.2,SNR=6.0
MKAR SKPbc **SKPbc** 12 55 47.0 -3.2
comp=Z,0.9nm,0.8s,baz=259,slow=3.7,SNR=4.3
MKAR Makanchi Array 137.00 72 PKPpre PKPpre 12 52 18.0

MKAR *e*PKPdf **PKiKP** 12 52 28.4 -0.5
MKAR SKPbc **SKPbc** 12 55 47.0 -3.2
KURBB Kurchatov Arra 137.43 65 PKhKP PKPpre 12 52 18.0
comp=Z,0.2nm,0.4s,baz=234,slow=2.9,SNR=3.0
KURBB PKP **PKPdf** 12 52 26.9 -0.7
comp=Z,1.0nm,0.7s,baz=223,slow=3.2,SNR=6.8
KURBB SKPbc **SKPbc** 12 55 49.3 -1.9
comp=Z,1.1nm,0.7s,baz=229,slow=3.1,SNR=8.4
KURK Kurchatov 137.53 65 *e*PKPpre PKPpre 12 52 18.0
KURK *e*PKPdf **PKPdf** 12 52 26.9 -0.9
KURK *e*SKPbc **SKPbc** 12 55 49.3 -2.2
CD2 Chengdu 137.72 106 PKP **PKPdf** 12 52 29.0 +0.1
WMQ Urumqi 138.01 79 *e*PKP **PKPdf** 12 52 30.3 +1.2
LZH Lanzhou 141.68 101 *e*PKP **PKPdf** 12 52 39.5 +3.4
LZH sPKP 12 53 21.8
LZH LR LR
comp=Z,100nm,18.1s
LZH LR LR
comp=Z,97nm,18.0s
LZH LR LR
comp=Z,140nm,20.2s
GTA Gaotai 141.81 93 *e*PKP **PKPdf** 12 52 36.0 -0.2
ZAA0 Zalesovo Array 142.49 64 *e*PKPdf **PKPdf** 12 52 37.7 +1.0
ZALV Zalesovo Beam 142.49 64 PKhKP PKPpre 12 52 31.5
comp=Z,1.0nm,0.4s,baz=226,slow=3.8,SNR=3.7
ZALV PKP **PKPdf** 12 52 37.0 +0.2
comp=Z,2.8nm,0.5s,baz=240,slow=3.8,SNR=4.4
ZALV Zalesovo Beam 142.49 64 PKPpre PKPpre 12 52 31.5
ZALV *e*PKPdf **PKPdf** 12 52 37.5 +0.8
ZAA1 Zalesovo Array 142.50 64 *e*PKPpre PKPpre 12 52 31.5
ZAA1 *e*PKPdf **PKPdf** 12 52 37.0 +0.2
XAN Xi'an 142.90 108 PKP **PKPdf** 12 52 40.0 +1.8
SKAG Skagway 143.20 306 *e*PKPpre PKPpre 12 52 35.4
WHY Whitehorse 143.54 308 *e*PKPpre PKPpre 12 52 36.2
DHAK Deception Hill 144.35 304 *e*PKPdf **PKPdf** 12 52 39.7 -0.2
HYT Haines Junctio 144.77 307 *e*PKPdf **PKPdf** 12 52 40.8 +0.1
PCA Pinnacle 145.72 305 *e*PKPdf **PKPbc** 12 52 43.1 +0.2
INK Inuvik 145.81 321 *e*PKPdf **PKPbc** 12 52 43.0 +0.1
JOW Kunigami 145.85 139 *e*PKPdf **PKPbc** 12 52 44.1 -0.1
NJ2 Nanjing 146.37 121 *e*PKPbc **PKPbc** 12 52 46.0 +0.4
DAWY Dawson 146.78 312 *e*PKPdf **PKPdf** 12 52 43.5 -0.5
DAWY *e*PKPbc **PKPbc** 12 52 45.7 -0.2
EGAK Eagle 147.73 313 *e*PKPdf **PKPbc** 12 52 48.0 -0.5
RAGM Ragged Mountai 147.87 304 *e*PKPbc **PKPbc** 12 52 49.7 +0.7
BMRM Bremner River 148.04 305 *e*PKPbc **PKPbc** 12 52 50.5 +1.1
BTO Baotou 148.30 101 *e*PKPbc **PKPbc** 12 52 50.0 -0.8
EYAK Cordova Ski Ar 148.43 304 *e*PKPbc **PKPbc** 12 52 51.2 +0.8
DIV Divide 148.63 305 *e*PKPbc **PKPbc** 12 52 51.7 +0.7
DOT Dot Lake 148.63 310 *e*PKPbc **PKPbc** 12 52 51.4 +0.5
SCRK Sand Creek 148.69 311 *e*PKPbc **PKPbc** 12 52 51.7 +0.6
HARP HAARP 148.75 307 *e*PKPbc **PKPbc** 12 52 51.7 +0.5
KLU Klutina 148.81 306 *e*PKPbc **PKPbc** 12 52 52.2 +0.8
FID Port Fidalgo 148.83 304 *e*PKPbc **PKPbc** 12 52 52.2 +0.8
RIDG Independ'e Rid 148.99 310 *e*PKPbc **PKPbc** 12 52 52.7 +1.0
PAX Paxson 149.05 308 *e*PKPbc **PKPbc** 12 52 52.6 +0.6
NRIK Noril'sk 149.14 39 PKPbc **PKPbc** 12 52 52.4 +0.5
comp=Z,6.4nm,0.7s,baz=188,slow=0.5,SNR=5.4
GLI Glacier Island 149.16 304 *e*PKPbc **PKPbc** 12 52 52.6 +0.4
HHC Hu-ho-hao-te 149.32 102 *e*PKPbc **PKPbc** 12 52 51.3 -2.1
SCM Sheep Creek Mo 149.56 306 *e*PKPbc **PKPbc** 12 52 53.9 +0.6
DHY Denali Highway 149.92 308 *e*PKPbc **PKPbc** 12 52 54.8 +0.6
SML Sawmill 150.01 305 *e*PKPbc **PKPbc** 12 52 54.9 +0.6
SML *e*PKPab **PKPab** 12 53 01.2 +0.6
SEW Seward 150.02 302 *e*PKPbc **PKPbc** 12 52 54.6 +0.3
SEW *e*PKPab **PKPab** 12 53 01.1 +0.5
HDA Harding Lake 150.06 311 *e*PKPdf **PKPdf** 12 52 51.9 +2.7
IL1 Eielson Array 150.11 312 *e*PKPbc **PKPbc** 12 52 54.5 +0.1
ILAR Eielson Array 150.11 312 PKPbc **PKPbc** 12 52 54.2 -0.2
comp=Z,27nm,0.8s,baz=140,slow=3.6,SNR=204
ILAR pPKPbc **pPKPbc** 12 53 21.7 -1.1
comp=Z,8.9nm,0.9s,baz=133,slow=1.6,SNR=3.7
ILB Eielson Array 150.11 312 *e*PKPbc **PKPbc** 12 52 54.5 +0.1
GHO Glory Hole Cre 150.27 305 *e*PKPbc **PKPbc** 12 52 55.2 +0.3
PMR Palmer 150.31 305 *e*PKPbc **PKPbc** 12 52 55.2 +0.3
RC01 Rabbit Creek A 150.45 304 *e*PKPbc **PKPbc** 12 52 55.8 +0.5
RC01 *e*PKPab **PKPab** 12 53 03.3 +1.0
CCB Clear Creek Bu 150.47 311 *e*PKPbc **PKPbc** 12 52 55.0 -0.2
CCB *e*PKPab **PKPab** 12 53 02.8 +0.4
COLA College 150.53 312 *e*PKPdf **PKPdf** 12 52 50.8 +0.9
COLA *e*PKPab **PKPab** 12 53 03.1 +0.6
WRH Wood River Hil 150.55 311 *e*PKPbc **PKPbc** 12 52 55.3 -0.1
BRLK Bradley Lake 150.60 301 *e*PKPbc **PKPbc** 12 52 56.0 +0.3
BRLK *e*PKPab **PKPab** 12 53 03.7 +0.6
RND Reindeer 150.65 308 *e*PKPbc **PKPbc** 12 52 56.5 +0.7
RND *e*PKPab **PKPab** 12 53 04.4 +1.2
CNPM China Poot 150.69 300 *e*PKPbc **PKPbc** 12 52 56.4 +0.4
MDM Murphy Dome 150.71 312 *e*PKPbc **PKPbc** 12 52 55.4 -0.5
MDM *e*PKPab **PKPab** 12 53 03.9 +0.5
MCK McKinley 150.76 309 *e*PKPbc **PKPbc** 12 52 56.5 +0.5
SONA0 Songino Array 150.83 87 *e*PKPbc **PKPbc** 12 52 56.5 -0.3
SONA0 *ep*PKPdf **pPKPbc** 12 53 23.6 -1.6
SONM Songino Array 150.83 87 PKPbc **PKPbc** 12 52 56.5 -0.3
comp=Z,9.3nm,0.7s,baz=219,slow=3.4,SNR=40
SONM pPKPbc **pPKPbc** 12 53 23.6 -1.6
comp=Z,3.2nm,0.7s,baz=217,slow=2.4,SNR=3.3
SONA1 Songino Array 150.84 87 *e*PKPbc **PKPbc** 12 52 56.7 -0.1
OHAK Old Harbor 150.93 295 *e*PKPbc **PKPbc** 12 52 57.0 +0.5
SUA Susitna One 151.02 304 *e*PKPbc **PKPbc** 12 52 57.3 +0.5
SUA *e*PKPab **PKPab** 12 53 06.0 +1.1
BWN Browne 151.08 310 *e*PKPbc **PKPbc** 12 52 57.2 +0.5
SII Sitkinak Islan 151.14 293 *e*PKPbc **PKPbc** 12 52 57.6 +0.5
ULN Ulaanbaatar 151.21 87 *e*PKPbc **PKPbc** 12 52 57.9 +0.1
TRF Thorofare Moun 151.29 308 *e*PKPbc **PKPbc** 12 52 57.6 +0.2
TRF *e*PKPab **PKPab** 12 53 06.7 +0.7
SKT Skwentna 151.51 305 *e*PKPbc **PKPbc** 12 52 58.0 +0.2
SKT *e*PKPab **PKPab** 12 53 07.1 +0.3
TOLK Toolik Lake Re 151.69 319 *e*PKPbc **PKPbc** 12 52 58.6 +0.5
BPAW Bear Paw Mtn. 151.72 309 *e*PKPdf **PKPdf** 12 52 57.6 +0.9
BPAW *e*PKPbc **PKPbc** 12 52 58.4 +0.2
BPAW *e*PKPab **PKPab** 12 53 07.6 0.0
MLY Manley 151.77 311 *e*PKPdf **PKPdf** 12 52 53.3 +1.4
MLY *e*PKPbc **PKiKP** 12 52 59.1 +0.4
MLY *e*PKPab **PKPab** 12 53 07.8 0.0
COLD Coldfoot 151.82 316 *e*PKPbc **PKPbc** 12 52 59.3 +0.9
PPLA Purkeypile 152.02 307 *e*PKPbc **PKPbc** 12 52 59.2 +0.1
CAST Castle Rocks 152.07 308 *e*PKPbc **PKPbc** 12 52 58.8 -0.2
CAST *e*PKPab **PKPab** 12 53 09.0 -0.1
JNU Nakatsue 152.49 138 *e*PKPbc **PKPbc** 12 53 00.7 -0.3
IM3 Indian Mountai 153.13 313 *e*PKPbc **PKPbc** 12 53 01.7 +0.4
IM3 *e*PKPab **PKPab** 12 53 13.8 +0.3
SVW2 Sparrevohn 153.20 302 *e*PKPbc **PKPbc** 12 53 01.7 +0.1
KS15 Wonju Array Si 154.99 128 *e*PKPab **PKPab** 12 53 22.1 0.0
KSAR Wonju Array Be 154.99 128 PKPab **PKPab** 12 53 22.1 0.0
KSRS Korea Array 155.01 128 PKPab **PKPab** 12 53 22.1 -0.1
comp=Z,1.1nm,0.8s,baz=223,slow=2.6,SNR=4.0
MAJO Matsushiro 158.09 147 *e*PKPab **PKPab** 12 53 34.9 -0.7
MJAR Matsushiro Ar. 158.09 147 PKPab **PKPab** 12 53 34.9 -0.7
comp=Z,0.8nm,0.8s,baz=232,slow=4.0,SNR=3.5
USRK Ussuriysk Ar. 162.25 124 PKPab **PKPab** 12 53 52.6 -0.8
comp=Z,1.4nm,0.5s,baz=211,slow=5.5,SNR=4.

JFT	**Otama**	**1.66 256**	P	**Pn**	**12 39 23.8**	**+0.4**
JFT			S	**Sn**	**12 39 44.6**	**+0.9**
JOM	**Ohasama**	**1.75 332**	P	**Pn**	**12 39 24.7**	**+0.1**
JYS	**Shirataka**	**1.83 280**	P	**Pn**	**12 39 26.7**	**+0.9**
JYK	**Kaneyama**	**1.85 302**	P	**Pn**	**12 39 26.6**	**+0.5**
JRG	**Rokugo**	**1.99 318**	P	**Pn**	**12 39 29.2**	**+1.3**
JANG	**Nango**	**2.52 345**	P	**Pn**	**12 39 36.1**	**+0.9**
MJAR	**Matsushiro Arr**	**3.60 248**	Pn	**Pn**	**12 39 53.0**	**+3.0**
	1.2nm,0.3s,baz=68,slow=8.0,SNR=13					
MJAR			Sn	**Sb**	**12 40 42.0**	**-0.6**
	0.6nm,0.3s,baz=98,slow=8.8,SNR=4.0					
MJAR			LR	LR	12 41 31.4	
	comp=Z,49nm,19.8s,baz=40,slow=40					
MAT	**Matsushiro**	**3.60 248**	P	**Pn**	**12 39 52.2**	**+2.1**
MAT			*e*S	**Sn**	**12 40 29.5**	**-2.0**
USRK	**Ussuriysk Ar.**	**10.02 312**	Pn	**Pn**	**12 41 19.6**	**+1.5**
	0.1nm,0.3s,baz=111,slow=16,SNR=2.7					
KSRS	**Korea Array**	**11.45 272**	LR	LR	12 45 23.9	
	comp=Z,12nm,20.2s,baz=110,slow=33					
SONM	**Songino Array**	**27.92 302**	P	**P**	**12 44 44.9**	**+1.1**
	0.4nm,0.5s,baz=117,slow=8.8,SNR=2.8					
H11N2	**WAKE ISLAND Hy 27.99 124**		T	T	13 13 51.9	
	baz=316,slow=76,SNR=26					
H11N1	**WAKE ISLAND Hy 28.00 124**		T	T	13 13 52.5	
	baz=316,slow=76,SNR=17					
H11N3	**WAKE ISLAND Hy 28.01 124**		T	T	13 13 54.9	
	baz=316,slow=76,SNR=23					
H11S1	**WAKE ISLAND Hy 28.74 126**		T	T	13 14 49.8	
	baz=318,slow=76,SNR=7.7					
H11S3	**WAKE ISLAND Hy 28.74 126**		T	T	13 14 52.4	
	baz=318,slow=76,SNR=7.2					
H11S2	**WAKE ISLAND Hy 28.76 126**		T	T	13 14 51.9	
	baz=318,slow=76,SNR=6.0					
MKAR	**Makanchi Array**	**44.28 301**	P	**P**	**12 47 03.4**	**+0.3**
	0.6nm,0.7s,baz=95,slow=7.8,SNR=4.2					
WRA	**Warramunga Arr**	**58.06 189**	P	**P**	**12 48 45.0**	**-1.7**
	0.4nm,0.7s,baz=5.9,slow=7.2,SNR=4.3					

*ISCJB **25** 12:49:38.1±0.6,7.°01N±0.°03×73.°13W±0.°04,h162km±4km, mb3.0/2,Error ellipse: s-maj=6.3km s-min=4.9km az=12.9*
*IDC **25** 12:49:38.2±0.8,6.°89N×72.°94W,h167km±11km,mb2.8/2, mb1 3.2/4,mb1mx3.0/29,mbtmp3.4/4,Error ellipse: s-maj=40.9km s-min=7.7km az=131.0*
*RSNC **25** 12:49:39.8±0.7,6.°96N×73.°15W,h154km±4km,ML3.1, Mw3.3*

ISC 25 12:49:38.9±0.9,7.°01N±0.°04×73.°12W±0.°04,h158km±6km, n22,σ1§04/39,1C-2D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GIRC	**Giron, Santand**	**0.10**	**314**	*e*P	**Pn**	**12 50 00.4**	**+0.2**
GIRC				*e*S	**Sn**	**12 50 16.0**	**-0.4**
GIRC				*i*		12 50 18.0	
	comp=Z,571nm,0.4s						
BARC	**Barichara**	**0.42**	**188**	*i* P	**Pn**	**12 50 01.1**	**-0.1**
BARC				*e*S	**Sn**	**12 50 17.4**	**-0.8**
BARC				*i*		12 50 19.1	
	comp=Z,878nm,0.3s						
PAMC	**Pamplona, Colo**	**0.53**	**52**	*e*P	**Pn**	**12 50 02.5**	**+0.6**
PAMC				*e*S	**Sn**	**12 50 19.6**	**+0.1**
PAMC				*i*		12 50 21.8	
	comp=Z,469nm,0.5s						
RUSC	**La Rusia**	**1.11**	**178**	*e*P	**Pn**	**12 50 05.7**	**-0.3**
RUSC				*e*S	**Sn**	**12 50 25.8**	**-0.9**
RUSC				*i*		12 50 26.9	
	comp=Z,212nm,0.3s						
OCAC	**Ocana**	**1.23**	**351**	*e*P	**Pn**	**12 50 07.2**	**+0.5**
OCAC				*e*S	**Sn**	**12 50 28.7**	**+0.6**
OCAC				*i*		12 50 34.0	
	comp=Z,145nm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.41**	**251**	*e*P	**Pn**	**12 50 07.9**	**-0.3**
PTBC				*e*S	**Sn**	**12 50 30.2**	**-0.4**
PTBC				*i*		12 50 31.2	
	comp=Z,177nm,0.4s						
TAMC	**Tame, Arauca**	**1.44**	**113**	*i* P	**Pn**	**12 50 08.8**	**+0.3**
TAMC				*e*S	**Sn**	**12 50 31.1**	**-0.2**
TAMC				*i*		12 50 32.4	
	comp=Z,57nm,0.5s						
ZARC	**Zaragoza, Cauc**	**1.79**	**286**	*e*P	**Pn**	**12 50 12.2**	**+0.1**
ZARC				*e*S	**Sn**	**12 50 38.0**	**+0.3**
ZARC				*i*		12 50 40.4	
	comp=Z,142nm,0.2s						
SMLC	**San Mart`n de**	**2.01**	**332**	*e*P	**Pn**	**12 50 15.1**	**+0.5**
SMLC				*e*S	**Sn**	**12 50 43.0**	**+0.8**
CHIC	**Chingaza**	**2.44**	**194**	*e*P	**Pn**	**12 50 20.1**	**0.0**
	comp=Z,40nm,0.3s						
CHIC				*e*S	**Sn**	**12 50 50.9**	**-1.1**
CHIC				*i*		12 50 57.6	
	comp=Z,40nm,0.3s						
ROSC	**El Rosal**	**2.46**	**209**	P	**Pn**	**12 50 22.1**	**+1.8**
	comp=Z,4.6nm,0.3s,baz=12,slow=20,SNR=11						
ROSC				S	**Sn**	**12 50 52.5**	**+0.1**
	comp=Z,11nm,0.3s,baz=116,slow=22,SNR=14						
ROSC	**El Rosal**	**2.46**	**209**	*e*P	**Pn**	**12 50 21.9**	**+1.5**
ROSC				*e*S	**Sn**	**12 50 54.6**	**+2.1**
ROSC				*i*		12 50 59.7	
	comp=Z,70nm,0.3s						
HELC	**Santa Helena**	**2.53**	**251**	*e*P	**Pn**	**12 50 21.7**	**+0.7**
HELC				*e*S	**Sn**	**12 50 51.8**	**-1.9**
HELC				*i*		12 51 02.5	
	comp=Z,49nm,0.5s						
CODC	**Agust`n Codaz**	**2.92**	**354**	*e*P	**Pn**	**12 50 26.2**	**+0.6**
CODC				*e*S	**Sn**	**12 51 01.6**	**-0.3**
CODC				*i*		12 51 09.5	
	comp=Z,27nm,0.6s						
DBBC	**Dabeiba**	**3.06**	**270**	*e*P	**Pn**	**12 50 27.9**	**+0.4**
MOTC	**Monteria, Cord**	**3.07**	**305**	*e*P	**Pn**	**12 50 26.4**	**-1.1**
MOTC				*e*S	**Sn**	**12 51 03.8**	**-1.4**
MOTC				*i*		12 51 07.7	
	comp=Z,43nm,0.2s						
SDV	**Santo Domingo**	**3.09**	**53**	P	**Pn**	**12 50 28.1**	**+0.2**
	comp=Z,17nm,0.3s,baz=232,slow=12,SNR=15						
SDV				S	**Sn**	**12 51 04.3**	**-1.6**
	comp=Z,12nm,0.3s,baz=54,slow=11,SNR=13						
PRAC	**Prado**	**3.72**	**208**	*e*P	**Pn**	**12 50 36.0**	**+0.2**
PRAC				*e*S	**Sn**	**12 51 18.3**	**-1.7**
PRAC				*i*		12 51 27.0	
	comp=Z,55nm,0.5s						
TXAR	**Lajitas Array**	**36.34**	**312**	P	**P**	**12 56 28.4**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=126,slow=8.8,SNR=2.3						
YKA	**Yellowknife Ar**	**63.09**	**340**	P	**P**	**12 59 48.5**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=134,slow=6.6,SNR=4.8						
ASAR	**Alice Springs**	**149.22**	**235**	PKPbc	**PKPdf**	**13 09 07.5**	**+2.2**
	comp=Z,0.2nm,0.7s,baz=111,slow=3.5,SNR=5.0						
WRA	**Warramunga Arr**	**150.43**	**242**	PKPbc	**PKPbc**	**13 09 10.8**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=106,slow=2.8,SNR=8.0						

*NIED **25** 13:09:00,37.°00N×142.°00E,h44km,Mw3.5 Best double couple: M₀2.29000×10¹⁴ NP1:φ₀219.00000°,δ30.00000°, λ95.00000°. NP2:φ₀34.00000°,δ60.00000°,λ87.00000°.*
*IDC **25** 13:09:56.3±1.8,36.°97N×142.°36E,h0km,mb3.7/3, mb1 3.8/5,mb1mx3.5/37,mbtmp3.7/5,ML3.2/2,MS2.4/1, Ms1 2.4/1,ms1mx2.0/49,Error ellipse: s-maj=37.0km s-min=32.3km az=67.0*
*ISCJB **25** 13:09:57.2±0.8,36.°94N±0.°05×142.°11E±0.°06,h19km, mb3.7/3,Error ellipse: s-maj=7.4km s-min=6.9km az=148.6*
*JMA **25** 13:09:59.8±0.2,37.°03N×142.°02E,h47km,M3.5*

ISC 25 13:09:58.8±1.1,36.°99N±0.°06×141.°97E±0.°07,h19km,n22, σ1§17/22,mb3.5/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.94**	**277**	P	**Pg**	**13 10 17.2**	**+0.1**
ONAJ				*e*S	**Sg**	**13 10 29.7**	**+0.1**
JFK	**Kawauchi**	**0.95**	**293**	P	**Pb**	**13 10 17.1**	**+0.5**
JFFD	**Fukushimafurud**	**1.13**	**275**	P	**Pb**	**13 10 19.9**	**+0.2**
JFFD				*e*S	**Sn**	**13 10 34.8**	**+0.2**
JHO	**Hitachi**	**1.18**	**252**	P	**Pg**	**13 10 20.7**	**-1.0**
JHO				*e*S	**Sg**	**13 10 36.2**	**-1.1**
JMM	**Marumori**	**1.28**	**313**	P	**Pn**	**13 10 22.0**	**+0.4**
JFT	**Otama**	**1.40**	**292**	P	**Pb**	**13 10 24.7**	**+0.3**
JIO	**Ouri**	**1.54**	**342**	P	**Pn**	**13 10 25.0**	**-0.2**
JIO				*e*S	**Sn**	**13 10 42.1**	**-2.5**
JOU	**Okura**	**1.71**	**323**	P	**Pn**	**13 10 28.6**	**+0.9**
JFY	**Yanaizu**	**1.85**	**284**	P	**Pb**	**13 10 31.5**	**-0.5**
MJAR	**Matsushiro Arr**	**3.05**	**263**	Pn	**Pb**	**13 10 50.3**	**-2.1**
	7.3nm,0.3s,baz=91,slow=15,SNR=85						
MJAR				Sn	**Sb**	**13 11 29.6**	**+0.2**
	2.3nm,0.3s,baz=125,slow=15,SNR=7.6						
MJAR				LR	LR	13 12 20.0	
	comp=Z,59nm,19.3s,baz=90,slow=43						
MAT	**Matsushiro**	**3.05**	**263**	P	**Pb**	**13 10 50.1**	**-2.4**
MAT				*e*S	**Sn**	**13 11 23.8**	**+1.7**
JHJ	**Hachijo jima 2**	**4.26**	**205**	Sn	**Sn**	**13 11 51.5**	**-0.3**
	9.0nm,0.3s,baz=38,slow=19,SNR=2.6						
ASAJ	**Asahikawa**	**7.13**	**4**	Pn	**Pn**	**13 11 42.0**	**-0.1**
	0.2nm,0.3s,baz=216,slow=16,SNR=5.1						
H11N2	**WAKE ISLAND Hy 27.75 121**			T	T	13 44 50.9	
	baz=314,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy 27.76 122**			T	T	13 44 57.7	
	baz=314,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy 27.77 121**			T	T	13 44 49.0	
	baz=314,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy 28.47 124**			T	T	13 45 54.5	
	baz=316,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy 28.47 124**			T	T	13 45 57.2	
	baz=316,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy 28.48 124**			T	T	13 45 45.0	
	baz=316,slow=76,SNR=12						
FITZ	**Fitzroy Crossi**	**56.92**	**199**	P	**P**	**13 19 44.0**	**+1.3**
	2.6nm,1.2s,baz=39,slow=6.5,SNR=2.5						
WRA	**Warramunga Arr**	**57.09**	**189**	P	**P**	**13 19 44.4**	**+0.5**
	0.3nm,0.5s,baz=6.9,slow=7.1,SNR=7.6						
ASAR	**Alice Springs**	**60.81**	**188**	P	**P**	**13 20 10.1**	**+0.3**
	0.3nm,0.7s,baz=6.2,slow=7.0,SNR=4.7						

*ISCJB **25** 13:22:49.9±0.5,39.°49N±0.°02×26.°18E±0.°04,h6km±5km, Error ellipse: s-maj=4.9km s-min=3.5km az=173.5*
*ATH **25** 13:22:49.5,39.°49N×26.°22E,h13km±4km,ML2.0/2,Error ellipse: s-maj=4.6km s-min=0.8km az=207.0*
*THE **25** 13:22:49.8,39.°49N×26.°18E,h2km±2km,ML1.9/6,Error ellipse: s-maj=2.5km s-min=0.5km az=203.0*
*DDA **25** 13:22:50.0,39.°52N×26.°29E,h7km,Ml2.9*

ISC 25 13:22:49.6±0.9,39.°48N±0.°02×26.°17E±0.°03,h15km±7km, n20,σ0§38/36,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRK	**Paraskevi**	**0.25**	**161**	P	**Pg**	**13 22 54.8**	**-0.1**
PRK				S	**Sg**	**13 22 58.7**	**+0.1**
PRK				AML	AML	13 22 58.8	
	comp=N,2583μm,0.2s						
PRK				AML	AML	13 22 59.1	
	comp=E,1427μm,0.2s						
PRK	**Paraskevi**	**0.25**	**161**	P	**Pg**	**13 22 54.8**	**-0.1**
PRK				S	**Sg**	**13 22 58.5**	**-0.1**
SIGR	**SIGRI**	**0.36**	**222**	P	**Pg**	**13 22 57.1**	**+0.2**
SIGR				S	**Sb**	**13 23 03.0**	**-0.2**
SIGR				AML	AML	13 23 03.2	
	comp=E,330μm,0.3s						
SIGR				AML	AML	13 23 03.6	
	comp=N,382μm,0.2s						
SIGR	**SIGRI**	**0.36**	**222**	P	**Pg**	**13 22 57.2**	**+0.2**
SIGR				S	**Sb**	**13 23 03.0**	**-0.2**
EZN	**Ezine**	**0.36**	**19**	P	**Pg**	**13 22 57.0**	**0.0**
EZN				S	**Sg**	**13 23 02.4**	**+0.3**
AYVA	**Ayvalik**	**0.44**	**113**	*i* P	**Pg**	**13 22 57.5**	**-0.8**
AYVA				*i* S	**Sb**	**13 23 06.8**	**+1.4**
GADA	**Gvkgeada**	**0.74**	**344**	P	**Pg**	**13 23 04.0**	**0.0**
GADA				S	**Sg**	**13 23 13.8**	**+0.1**
LIA	**Limnos Island**	**0.87**	**299**	P	**Pn**	**13 23 06.8**	**-0.5**
LIA				S	**Sn**	**13 23 19.3**	**-0.4**
LIA	**Limnos Island**	**0.87**	**299**	P	**Pn**	**13 23 07.0**	**-0.3**
LIA				S	**Sn**	**13 23 19.0**	**-0.7**
EFSA	**Agios Efstrati**	**0.92**	**274**	P	**Pn**	**13 23 08.1**	**+0.2**
PSRA	**Psara**	**1.05**	**207**	P	**Pg**	**13 23 10.0**	**+0.1**
CHOS	**Chios island**	**1.10**	**185**	P	**Pg**	**13 23 10.6**	**-0.1**
CHOS				S	**Sn**	**13 23 25.3**	**-0.2**
CHOS	**Chios island**	**1.10**	**185**	P	**Pb**	**13 23 10.1**	**-0.2**
CHOS				S	**Sn**	**13 23 25.9**	**+0.5**
SMTH	**Samothraki Isl**	**1.10**	**334**	P	**Pn**	**13 23 10.6**	**0.0**
SMTH				S	**Sn**	**13 23 25.8**	**+0.2**
SMTH	**Samothraki Isl**	**1.10**	**334**	P	**Pn**	**13 23 10.6**	**0.0**
SMTH				S	**Sn**	**13 23 25.7**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.21**	**94**	*i* P	**Pn**	**13 23 11.6**	**-0.3**
STEP				*i* S	**Sn**	**13 23 28.1**	**+0.1**
KESN	**Edirne-Kesan**	**1.40**	**16**	*i* P	**Pb**	**13 23 15.6**	**-0.1**
KESN				*i* S	**Sb**	**13 23 33.7**	**+0.2**
ALN	**Alexandroupoli**	**1.42**	**356**	P	**Pb**	**13 23 15.9**	**+0.1**
ALN	**Alexandroupoli**	**1.42**	**356**	P	**Pb**	**13 23 15.6**	**-0.1**
ALN				S	**Sg**	**13 23 35.2**	**-0.1**
SMG	**Samos**	**1.84**	**163**	P	**Pb**	**13 23 23.3**	**+0.2**

*DJA **25** 13:32:16.4±1.2,5.°5S±11.°×14.°5E±1.°3,h116km±7km,M4.7/8, mb4.4/8,mB4.9/1,MLv4.9/3,Mw(mB)4.2/1*
*IDC **25** 13:32:16.8±2.0,5.°05S×145.°10E,h60km±17km,mb3.9/14, mb1 4.1/18,mb1mx4.0/34,mbtmp4.3/18,MS3.3/8, Ms1 3.3/8,ms1mx3.0/25,Error ellipse: s-maj=19.4km s-min=9.7km az=59.0*
*ISCJB **25** 13:32:18.6±0.4,5.°14S±0.°04×145.°03E±0.°05,h100km, mb4.2/23,Error ellipse: s-maj=7.4km s-min=5.8km az=154.5*
*NEIC **25** 13:32:19.8±0.6,5.°07S×144.°91E,h89km±6km,mb4.4/5, Error ellipse: s-maj=10.6km s-min=7.2km az=114.0*

ISC 25 13:32:20.6±0.5,5.°16S±0.°06×145.°00E±0.°07,h100km,n58, σ1§43/57,mb4.4/23,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**3.89**	**38**	*e*Pn	**Pn**	**13 33 15.9**	**-2.5**
PMG	**Port Moresby**	**4.74**	**153**	P	**Pn**	**13 33 27.6**	**-2.1**
	24nm,0.3s,baz=12,slow=9.1,SNR=50						
PMG				S	**Sn**	**13 34 20.5**	**-3.0**
	22nm,0.3s,baz=305,slow=23,SNR=8.4						
JAY	**Jayapura**	**5.02**	**301**	P	**Pn**	**13 33 30.8**	**-2.8**
	11nm,0.3s,baz=19,slow=9.4,SNR=45						
JAY				S	**Sn**	**13 34 28.6**	**-1.9**
	2.2nm,0.3s,baz=235,slow=12,SNR=1.9						
JAY				LR	LR	13 35 17.9	
	comp=Z,84nm,18.8s,baz=66,slow=36						
JAY	**Jayapura**	**5.02**	**301**	P	**Pn**	**13 33 32.2**	**-1.4**
JAY				S	**Sn**	**13 34 33.2**	**+2.7**
GENI	**Genyem**	**5.45**	**298**	P	**Pn**	**13 33 38.8**	**-0.6**
	75nm,0.6s,1μm0.8nm						
RABL	**Rabaul**	**7.21**	**83**	*e*Pn	**Pn**	**13 34 01.5**	**-1.9**
COEN	**Coen**	**8.93**	**191**	*e*Pn	**Pn**	**13 34 26.7**	**0.0**
FAKI	**Fak Fak**	**12.91**	**279**	*e*Pn	Pn	13 35 14.1	-6.3
SIJI	**Sorong**	**14.35**	**287**	P	**Pn**	**13 35 36.8**	**-2.4**
	0.9nm,0.3s,baz=197,slow=19,SNR=3.8						
CTA	**Charters Tower**	**14.89**	**175**	P	**P**	**13 35 48.2**	**-1.0**
	0.8nm,0.3s,baz=349,slow=13,SNR=11						
CTAO	**Charters Tower**	**14.89**	**175**	*e*P	**P**	**13 35 50.0**	**+0.8**
MTN	**Manton Dam**	**15.67**	**240**	*e*Pn	**Pn**	**13 35 53.9**	**-2.0**
	30nm,1.5s						
NLAI	**Namlea**	**17.95**	**275**	P	**Pn**	**13 36 22.4**	**-1.4**
WRAB	**Tennant Creek**	**17.98**	**214**	*e*P	**P**	**13 36 23.0**	**-0.3**
	18nm,0.8s						
WB2	**Warramunga Arr**	**17.98**	**214**	*e*P	**Pn**	**13 36 23.7**	**-0.5**
WRA	**Warramunga Arr**	**17.99**	**214**	P	**Pn**	**13 36 23.7**	**-0.6**
	1.8nm,0.3s,baz=41,slow=12,SNR=188						
WRA				PcP	**PcP**	**13 40 55.9**	**+1.5**
	0.1nm,0.3s,baz=15,slow=2.0,SNR=4.8						
WRA				LR	LR	13 43 36.5	
	comp=Z,75nm,18.2s,baz=305,slow=38						
SANI	**Sanana**	**19.22**	**279**	P	**P**	**13 36 35.4**	**-1.5**
SOEI	**Soe**	**21.05**	**256**	*e*P	**P**	**13 36 55.3**	**-1.6**
	28nm,1.0s						
SOEI	**Soe**	**21.05**	**256**	P	**P**	**13 36 56.0**	**-0.9**
AS01	**Alice Springs**	**21.26**	**209**	*e*P	**P**	**13 36 59.2**	**+0.3**
AS31	**Alice Springs**	**21.28**	**209**	*e*P	**P**	**13 36 59.4**	**+0.3**
	12nm,0.6s						
ASAR	**Alice Springs**	**21.28**	**209**	P	**P**	**13 36 59.6**	**+0.5**
	5.3nm,0.7s,baz=41,slow=8.9,SNR=75						
ASAR				LR	LR	13 45 44.5	
	comp=Z,80nm,21.0s,baz=22,slow=38						
BATI	**Baumata**	**21.72**	**255**	P	**P**	**13 37 04.5**	**+0.6**
	12nm,0.6s,baz=86,slow=4.1,SNR=4.4						
BATI				LR	LR	13 47 33.3	
	comp=Z,418nm,18.2s,baz=211,slow=42						
FITZ	**Fitzroy Crossi**	**22.87**	**234**	P	**P**	**13 37 16.0**	**+0.2**
	5.8nm,0.6s,baz=59,slow=12,SNR=31						
FITZ	**Fitzroy Crossi**	**22.87**	**234**	*e*P	**P**	**13 37 13.9**	**-1.9**
	5.2nm,0.6s						
EDFI	**Ende, Flores**	**23.40**	**260**	P	**P**	**13 37 19.7**	**-1.3**
DZM	**Mont Dzumac**	**26.71**	**131**	LR	LR	13 47 12.1	
	comp=Z,76nm,20.1s,baz=206,slow=34						
STKA	**Stephens Creek**	**26.77**	**186**	P	**P**	**13 37 52.3**	**+1.2**
	2.6nm,0.6s,baz=338,slow=7.6,SNR=8.6						
STKA				LR	LR	13 49 16.6	
	comp=Z,66nm,18.3s,baz=23,slow=38						
KSRS	**Korea Array**	**45.28**	**341**	LR	LR	13 58 12.1	
	comp=Z,20nm,18.1s,baz=162,slow=34						
SKNT	**Sakolnakorn**	**46.11**	**299**	P	**P**	**13 40 35.7**	**+0.6**
	7.2nm,0.7s						
CHAI	**Chaiyaphum**	**47.43**	**297**	P	**P**	**13 40 45.6**	**+0.1**
	5.0nm,0.7s						
UTHA	**Uthaitani**	**49.58**	**295**	P	**P**	**13 41 02.7**	**+0.8**
	4.2nm,0.8s,51nm						
UMPA	**Umpang Tak**	**50.33**	**296**	P	**P**	**13 41 09.6**	**+1.9**
	3.4nm,0.7s,136nm						
CM01	**Chiang Mai Arr**	**51.07**	**299**	*e*P	**P**	**13 41 12.6**	**-0.6**
CMAR	**Chiang Mai Arr**	**51.10**	**299**	P	**P**	**13 41 14.4**	**+1.0**
	3.7nm,0.7s,baz=122,slow=6.0,SNR=34						
CMAR				LR	LR	14 04 51.7	
	comp=Z,34nm,18.5s,baz=206,slow=38						
CMMT	**Chiang Mai**	**51.23**	**299**	P	**P**	**13 41 15.9**	**+1.5**
CHTO	**Chiang Mai**	**51.23**	**299**	P	**P**	**13 41 16.0**	**+1.6**
	18nm,1.8s						
HHC	**Hu-ho-hao-te**	**55.08**	**329**	*e*P	P	13 41 46.5	+4.1
HHC				pmax	pmax		
	comp=Z,19nm,1.1s						
LZH	**Lanzhou**	**56.28**	**320**	*e*P	**P**	**13 41 50.8**	**-0.3**
LZH				pP	pP	13 42 16.5	+1.0
LZH				sP	sP	13 42 28.8	+2.2
LZH				PP	**PP**	**13 43 59.0**	**+1.4**
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
LZH				pmax	pmax		
	comp=Z,52nm,7.8s						
PETK	**Petropavlovsk-**	**59.03**	**9**	P	**P**	**13 42 10.3**	**+0.5**
	comp=Z,2.4nm,0.8s,baz=181,slow=8.9,SNR=4.3						
SONM	**Songino Array**	**62.71**	**332**	P	**P**	**13 42 35.0**	**0.0**
	comp=Z,0.4nm,0.8s,baz=144,slow=5.2,SNR=3.2						
WMQ	**Urumqi**	**70.86**	**320**	*e*P	**P**	**13 43 26.5**	**-0.3**
VNDA	**Vanda**	**72.87**	**176**	P	**P**	**13 43 40.6**	**+2.4**
	comp=Z,1.6nm,0.5s,baz=337,slow=7.8,SNR=14						
MKAR	**Makanchi Array**	**75.58**	**321**	P	**P**	**13 43 55.0**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=97,slow=8.2,SNR=10						
ZALV	**Zalesovo Beam**	**77.25**	**328**	P	**P**	**13 44 03.3**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=117,slow=8.5,SNR=6.4						
ZALV	**Zalesovo Beam**	**77.25**	**328**	*e*P	**P**	**13 44 01.8**	**-1.8**
TIXI	**Tiksi**	**77.39**	**355**	P	**P**	**13 44 04.6**	**+0.5**
	comp=Z,1.4nm,0.3s,baz=269,slow=23,SNR=8.2						
MAW	**Mawson**	**82.25**	**203**	P	**P**	**13 44 31.6**	**+1.1**
	comp=Z,1.3nm,0.5s,baz=92,slow=7.3,SNR=9.3						
BVAR	**Borovoye Array**	**84.92**	**324**	P	**P**	**13 44 44.8**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=110,slow=7.3,SNR=10						
ILAR	**Eielson Array**	**85.50**	**24**	P	**P**	**13 44 46.0**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=254,slow=4.9,SNR=15						
EGAK	**Eagle**	**87.82**	**24**	*e*pP	pP	13 45 25.0	+0.4
GERES	**GERESS Array B**	**120.08**	**325**	PKP	**PKPdf**	**13 51 00.8**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=29,slow=3.0,SNR=3.8						
PLCA	**Paso Flores**	**123.90**	**148**	PKP	**PKPdf**	**13 51 09.2**	**+1.7**
	comp=Z,1.4nm,0.6s,baz=306,slow=1.6,SNR=7.8						
TORD	**Torodi Ar. Bea**	**142.95**	**285**	PKhKP	PKPpre	13 51 40.5	
	comp=Z,0.6nm,0.5s,baz=73,slow=3.2,SNR=7.1						
KIC	**Kosan Boka**	**149.87**	**274**	*e*P	**PKPbc**	**13 52 01.6**	**+1.3**
	comp=Z,39nm,1.3s						
DBIC	**Dimbokro**	**149.98**	**274**	PKPbc	**PKPbc**	**13 52 02.1**	**+1.6**
	comp=Z,0.0nm,0.7s,baz=83,slow=3.3,SNR=10						
TIC	**Toumodi**	**150.14**	**274**	*e*P	**PKPdf**	**13 51 56.6**	**+0.8**
LIC	**Lamto**	**150.15**	**274**	*e*P	**PKPbc**	**13 52 02.2**	**+1.3**
	comp=Z,27nm,0.8s						

MEX 25 13:41:21.4±0.6,14.°25N×91.°73W,h89km±16km,MD3.6, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.84**	**322**	*i* P	Pn	13 41 37.3	-1.9
THIG				*e*S	Sn	13 41 51.3	-1.3
PCIG		**2.04**	**315**	*e*P	Pn	13 41 53.9	-0.3
PCIG				*i* S	Sn	13 42 17.6	-1.6
CCIG	**Comitan**	**2.06**	**349**	*e*P	Pn	13 41 53.3	-1.3
CCIG				*i* P		13 41 55.9	
CCIG				*i* S	Sn	13 42 18.1	-1.8

*JMA **25** 13:43:24.6±0.2,44.°04N×148.°11E,h0km,M4.0*
*SKHL **25** 13:43:25.4±1.2,44.°46N×148.°34E,h49km±1km,mb4.3/4*

ISC 25 13:43:24.1±2.6,44.°41N±0.°09×148.°2E±0.°2,h16km±14km, n14,σ1§14/26,Kuril Islands

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

ASAR				ScP	ScP	13 57 10.8	-1.0
	0.6nm,0.7s,baz=98,slow=4.9,SNR=7.2						
WRA	**Warramunga Arr**	**43.16**	**263**	P	P	13 52 40.6	-0.7
	5.1nm,0.5s,baz=96,slow=7.4,SNR=209						
NVAR	**Mina Array Bea**	**82.38**	**44**	P	P	13 56 52.5	0.0
	1.3nm,0.8s,baz=231,slow=7.6,SNR=6.2						
TXAR	**Lajitas Array**	**88.52**	**58**	P	P	13 57 22.4	+0.3
	0.8nm,0.8s,baz=208,slow=6.0,SNR=11						
CMAR	**Chiang Mai Arr**	**89.00**	**290**	P	P	13 57 26.1	+1.6
	1.0nm,0.9s,baz=145,slow=3.4,SNR=6.3						
ILAR	**Eielson Array**	**89.17**	**13**	P	P	13 57 23.3	-0.8
	0.2nm,0.4s,baz=215,slow=5.0,SNR=4.3						
PDAR	**Pinedale Array**	**90.31**	**44**	P	P	13 57 29.8	-0.5
	0.5nm,0.8s,baz=211,slow=1.7,SNR=4.3						

MAN 25 13:49:06.1,12°.17N×125°.81E,h14km,mb4.5,ML3.3, MS3.1,1D,Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.67**	**213**	*eP*		Pg		13 49 19.3	0.0
CNP	**Catarman**	**1.17**	**287**	*eP*		Pn		13 49 26.9	-1.2
CNP				*eS*		Sg		13 49 44.3	+0.3
PLP	**Palo**	**1.29**	**219**	⇓*eP*		Pn		13 49 28.2	-1.5
PLP				*i* S		Sn		13 49 46.7	-0.1
OCLP	**Ormoc**	**1.62**	**227**	*eP*		Pn		13 49 34.3	0.0
MSLP	**Maasin**	**2.23**	**205**	*eP*		Pn		13 49 43.0	+0.4
MSLP				*eS*		Sb		13 50 12.4	-1.3

MEX 25 13:55:01.8±0.4,14°.07N×92°.47W,h75km±20km,MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		**0.86**	**13**	*eP*		Pn		13 55 17.1	-1.8
THIG				*eS*		Sn		13 55 30.2	-1.3
PCIG		**1.78**	**336**	*eP*		Pn		13 55 29.5	-1.1
PCIG				*i* S		Sn		13 55 50.2	-2.4
CCIG	**Comitan**	**2.22**	**8**	*eP*		Pn		13 55 36.0	-0.8
CCIG				*i* P				13 55 40.5	
CCIG				*i* S		Sn		13 56 02.1	-1.4

DDA ***25*** *14:06:10.9,36°.95N×35°.66E,h7km,Ml2.8*
ISK ***25*** *14:06:10.8,36°.96N×35°.73E,h5km,ML2.5/6*
ISC 25 14:06:11.9±0.9,36°.97N±0°.03×35°.69E±0°.03,h15km±6km, n18,σ1°77/27,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YURE	**YUREGIR**	**0.15**	**199**	PG		**Pg**		**14 06 14.7**	**-1.2**
YURE	**YUREGIR**	**0.15**	**199**	*i* P		**Pg**		**14 06 14.6**	**-1.2**
YURE				*i* S		**Sg**		**14 06 21.8**	**+3.3**
KRTD	**Karatas-Adana**	**0.43**	**211**	PG		**Pg**		**14 06 19.9**	**-0.7**
KOZT	**Kozan**	**0.53**	**12**	PG		**Pg**		**14 06 21.6**	**-0.8**
KOZT				SG		**Sg**		**14 06 29.1**	**-0.3**
TAHT	**Tahtakopru-Hat**	**0.71**	**146**	PG		**Pg**		**14 06 24.4**	**-1.4**
TAHT				SG		**Sb**		**14 06 34.6**	**-0.9**
GULE	**Gulek**	**0.80**	**294**	*i* P		**Pg**		**14 06 26.8**	**-0.7**
GULE				*i* S		**Sb**		**14 06 38.6**	**+0.4**
ANDN	**Andirin**	**0.80**	**40**	*i* P		**Pb**		**14 06 27.0**	**-0.7**
ANDN				*i* S		**Sn**		**14 06 46.6**	**+6.1**
MERS	**Mersin**	**0.94**	**264**	PG		**Pb**		**14 06 29.4**	**-0.6**
SAIM	**ADANA**	**1.05**	**17**	*i* P		**Pg**		**14 06 30.0**	**-2.3**
SAIM				*i* S		**Sn**		**14 06 48.1**	**+1.4**
KMRS	**Kahramanmaras**	**1.10**	**60**	PN		**Pg**		**14 06 31.9**	**-1.4**
KUZU	**Kuzuini**	**1.12**	**99**	*i* P		**Pn**		**14 06 34.0**	**+0.9**
KUZU				*i* S		**Sn**		**14 06 48.2**	**-0.1**
GAZ	**Gaziantep**	**1.23**	**80**	PN		**Pg**		**14 06 34.2**	**-1.5**
KERG	**Konya-Eregli**	**1.33**	**290**	*i* P		**Pn**		**14 06 35.4**	**-0.7**
KERG				*i* S		**Sb**		**14 06 53.7**	**+0.2**
KIZK	**Mersin**	**1.34**	**249**	PN		**Pg**		**14 06 36.9**	**-0.8**
KIZK	**Mersin**	**1.34**	**249**	*i* P		**Pn**		**14 06 35.4**	**-0.6**
KIZK				*i* S		**Sn**		**14 06 54.0**	**+0.5**
KEBE	**Keben-Mersin**	**1.67**	**253**	PN		**Pb**		**14 06 41.9**	**-0.5**
IKL	**Isikli**	**1.77**	**246**	PN		**Pb**		**14 06 43.4**	**-0.7**
AKKU	**Akkuyu-Mersin**	**1.90**	**246**	PN		**Pb**		**14 06 45.3**	**-1.0**

JMA ***25*** *14:08:53.1±0.1,23°.97N×122°.42E,h49km±3km,M2.9*
TAP ***25*** *14:08:53.6,24°.06N×122°.43E,h52km,ML3.6,C*
ISC 25 14:08:51.1±1.0,24°.00N±0°.02×122°.43E±0°.02,h16km±8km, n119,σ0°80/191,5C-5D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.61**	**333**	*i* P		**Pn**		**14 09 05.7**	**+0.6**
	baz=321								
EOS1				S		**Sn**		**14 09 15.0**	**+0.4**
	baz=321								
JYNG	**Yonagunijimaku**	**0.65**	**46**	P		**Pn**		**14 09 06.6**	**+0.9**
JYNG				S		**Sn**		**14 09 16.1**	**+0.5**
YOJ	**Yonaguni jima**	**0.70**	**49**	⇓*i*P		**Pn**		**14 09 07.2**	**+0.8**
	baz=52								
YOJ				*eS*		**Sn**		**14 09 17.4**	**+0.5**
	baz=52								
YOJ	**Yonaguni jima**	**0.70**	**49**	P		**Pn**		**14 09 07.3**	**+0.9**
YOJ				*eS*		**Sn**		**14 09 17.2**	**+0.3**
HWA	**Hwalien**	**0.76**	**269**	*eP*		**Pn**		**14 09 08.2**	**+1.1**
	baz=264								
HWA				*eS*		**Sn**		**14 09 18.2**	**+0.1**
	baz=264								
NANB	**Nanao**	**0.76**	**305**	P		**Pn**		**14 09 07.8**	**+0.7**
	baz=307								
NANB				*eS*		**Sn**		**14 09 18.3**	**+0.1**
	baz=307								
ENA	**Nanau**	**0.76**	**304**	P		**Pn**		**14 09 07.8**	**+0.6**
	baz=306								
ENA				*eS*		**Sn**		**14 09 18.4**	**+0.1**
	baz=306								
TWD	**Chiawan**	**0.77**	**276**	P		**Pn**		**14 09 07.7**	**+0.5**
	baz=272								
TWD				*eS*		**Sn**		**14 09 18.2**	**-0.2**
	baz=272								
NACB	**Ninganchiao**	**0.78**	**283**	⇑*eP*		**Pn**		**14 09 08.0**	**+0.5**
	baz=270								
TWC	**Suao**	**0.81**	**319**	P		**Pn**		**14 09 07.9**	**+0.1**
	baz=316								
TWC				*eS*		**Sb**		**14 09 18.2**	**+0.8**
	baz=316								
ESL	**Shilin**	**0.93**	**259**	P		**Pn**		**14 09 09.9**	**+0.4**
	baz=255								
ESL				*eS*		**Sn**		**14 09 22.3**	**-0.2**
	baz=255								
EGS		**0.96**	**332**	P		**Pn**		**14 09 10.6**	**+0.7**
	baz=322								
EGS				*eS*		**Sb**		**14 09 22.6**	**+0.8**
	baz=322								
EGFH	**Guangfu**	**0.97**	**251**	P		**Pn**		**14 09 10.9**	**+0.8**
	baz=241								
EGFH				*eS*		**Sn**		**14 09 24.0**	**+0.5**
	baz=241								
ILA	**Ilan**	**0.99**	**321**	*eP*		**Pn**		**14 09 11.1**	**+0.8**
	baz=319								
ILA				*eS*		**Sn**		**14 09 24.1**	**+0.3**
	baz=319								
TWE	**Neicheng**	**1.00**	**316**	P		**Pn**		**14 09 11.3**	**+0.8**
	baz=314								
TWE				*eS*		**Sb**		**14 09 23.8**	**+0.7**
	baz=314								
NTC	**Toucheng**	**1.01**	**327**	P		**Pn**		**14 09 11.6**	**+0.9**
	baz=325								
NTC				*eS*		**Sb**		**14 09 23.1**	**-0.3**
	baz=325								
ENTT	**Nioudou**	**1.02**	**309**	⇑P		**Pn**		**14 09 11.4**	**+0.7**
	baz=298								
ENTT				*eS*		**Sg**		**14 09 24.6**	**+0.4**
	baz=298								
SLBB	**Yuanshan**	**1.04**	**316**	⇑P		**Pn**		**14 09 12.2**	**+1.0**
	baz=307								
SLBB				*eS*		**Sg**		**14 09 25.7**	**+0.6**
	baz=307								
NNSB	**Datong**	**1.05**	**294**	P		**Pn**		**14 09 12.0**	**+0.7**
	baz=291								
NNSB				*eS*		**Sg**		**14 09 25.4**	**+0.1**
	baz=291								
HGSD	**Ruisui**	**1.05**	**242**	*eP*		**Pn**		**14 09 11.9**	**+0.8**
	baz=239								
HGSD				*i* S		**Sn**		**14 09 25.9**	**+0.5**
	baz=239								
NNS	**Nan Shan**	**1.06**	**295**	P		**Pn**		**14 09 12.1**	**+0.7**
	baz=292								
NNS				*eS*		**Sg**		**14 09 25.8**	**+0.2**
	baz=292								
WHF	**Hehuan Shan**	**1.07**	**278**	P		**Pn**		**14 09 12.4**	**+0.5**
	baz=275								
WHF				*eS*		**Sg**		**14 09 26.5**	**+0.3**
	baz=275								
TWB1	**Santiao Chiao**	**1.08**	**338**	*eP*		**Pb**		**14 09 11.6**	**+0.1**
	baz=347								
TWB1				*eS*		**Sb**		**14 09 24.1**	**-1.3**
	baz=347								
TIPB	**Shuangxi**	**1.12**	**331**	*eP*		**Pb**		**14 09 12.5**	**+0.4**
	baz=328								
TIPB				*eS*		**Sb**		**14 09 25.9**	**-0.4**
	baz=328								
EHY	**Hungye**	**1.13**	**245**	*i* P		**Pg**		**14 09 13.1**	**+0.1**
	baz=253								
EHY				*eS*		**Sg**		**14 09 27.3**	**-0.4**
	baz=253								
NWLT	**Wulai**	**1.15**	**313**	P		**Pg**		**14 09 13.4**	**0.0**
	baz=302								
NWLT				*i* S		**Sb**		**14 09 28.1**	**+0.8**
	baz=302								
CHGB	**Renai**	**1.15**	**273**	*eP*		**Pg**		**14 09 13.7**	**+0.3**
	baz=271								
CHGB				*eS*		**Sg**		**14 09 28.4**	**-0.1**
	baz=271								
YHNB	**Yeheng**	**1.17**	**305**	⇑*i*P		**Pg**		**14 09 13.7**	**-0.1**
	baz=302								
YHNB				*eS*		**Sb**		**14 09 27.7**	**-0.3**
	baz=302								
TWT	**Tachien**	**1.17**	**283**	*eP*		**Pg**		**14 09 14.4**	**+0.5**
	baz=272								
TWT				*i* S		**Sg**		**14 09 29.1**	**-0.2**
	baz=272								
NSK	**Sanguang**	**1.19**	**305**	⇑P		**Pb**		**14 09 13.8**	**+0.5**
	baz=302								
NSK				*eS*		**Sb**		**14 09 28.0**	**-0.5**
	baz=302								
TDCB	**Techi**	**1.19**	**283**	*eP*		**Pg**		**14 09 14.3**	**+0.1**
	baz=272								
TDCB				*eS*		**Sb**		**14 09 28.9**	**+0.4**
	baz=272								
YULB	**Yu-li**	**1.20**	**240**	⇓P		**Pg**		**14 09 14.3**	**0.0**
	baz=251								
YULB				*eS*		**Sg**		**14 09 29.3**	**-0.8**
	baz=251								
VWDT	**VWDT**	**1.21**	**259**	⇓*eP*		**Pg**		**14 09 14.6**	**+0.2**
	baz=248								
VWDT				*eS*		**Sg**		**14 09 29.9**	**-0.3**
	baz=248								
TWF1	**Yuli**	**1.22**	**239**	⇓P		**Pg**		**14 09 14.7**	**0.0**
	baz=230								
TWF1				*eS*		**Sg**		**14 09 30.1**	**-0.6**
	baz=230								
NWF	**Wu-fen Shan**	**1.22**	**331**	P		**Pn**		**14 09 14.1**	**+0.5**
	baz=329								
NWF				*eS*		**Sb**		**14 09 28.3**	**-1.1**
	baz=329								
WFSB	**Wu-fen Shan**	**1.22**	**331**	*eP*		**Pn**		**14 09 14.1**	**+0.5**
	baz=329								
IRIF	**Iriomote-Funau**	**1.23**	**74**	P		**Pb**		**14 09 14.4**	**+0.4**
IRIF				*eS*		**Sb**		**14 09 30.2**	**+0.5**
TWA	**Mucha**	**1.25**	**322**	*eP*		**Pg**		**14 09 15.4**	**+0.2**
	baz=333								
TWA				*eS*		**Sb**		**14 09 29.4**	**-0.7**
	baz=333								
HATJ	**Hateruma jima**	**1.26**	**87**	P		**Pg**		**14 09 15.4**	**0.0**
HATJ				*eS*		**Sn**		**14 09 31.2**	**+0.6**
TATO	**Taipei**	**1.30**	**319**	*eP*		**Pb**		**14 09 15.8**	**+0.7**
	baz=328								
TATO				*eS*		**Sb**		**14 09 31.3**	**-0.3**
	baz=328								
FULB	**Fuli**	**1.31**	**233**	*eP*		**Pb**		**14 09 15.4**	**0.0**
	baz=222								
FULB				*eS*		**Sn**		**14 09 32.0**	**+0.1**
	baz=222								
CHKT	**Chengkung**	**1.32**	**228**	*eP*		**Pb**		**14 09 15.4**	**-0.2**
	baz=220								
CHKT				*eS*		**Sb**		**14 09 31.2**	**-1.1**
	baz=220								
SSLB	**Suanglung**	**1.37**	**262**	*eP*		**Pg**		**14 09 17.0**	**-0.5**
	baz=259								
SSLB				*eS*		**Sn**		**14 09 33.5**	**+0.1**
	baz=259								
WLTB	**Daxi**	**1.37**	**309**	*eP*		**Pb**		**14 09 17.0**	**+0.6**
	baz=298								
WLTB				*eS*		**Sn**		**14 09 34.1**	**+0.7**
	baz=298								
YM07	**YM07**	**1.39**	**328**	*eP*		**Pb**		**14 09 16.8**	**+0.2**
	baz=326								
YM07				*eS*		**Sn**		**14 09 31.3**	**-2.5**
	baz=326								
YM01	**YM01**	**1.39**	**326**	*eP*		**Pb**		**14 09 17.2**	**+0.5**
	baz=335								
YM01				*eS*		**Sn**		**14 09 33.0**	**-0.9**
	baz=335								
YM10	**YM10**	**1.40**	**326**	*eP*		**Pb**		**14 09 16.1**	**+0.1**
	baz=335								
YM10				*eS*		**Sn**		**14 09 31.9**	**-2.2**
	baz=335								
YM11	**YM11**	**1.40**	**326**	*eP*		**Pn**		**14 09 16.4**	**+0.4**
	baz=336								
YM05	**YM05**	**1.40**	**326**	*eP*		**Pn**		**14 09 16.4**	**+0.3**
	baz=335								
YM05				*eS*		**Sn**		**14 09 32.5**	**-1.7**
	baz=335								
SMLT	**Sun Moon Lake**	**1.41**	**266**	P		**Pg**		**14 09 17.9**	**-0.4**
	baz=263								
SMLT				*eS*		**Sb**		**14 09 35.3**	**+0.6**
	baz=263								
YM04	**YM04**	**1.41**	**325**	*eP*		**Pb**		**14 09 17.2**	**+0.1**
	baz=334								
YM04				*eS*		**Sn**		**14 09 32.4**	**-2.0**
	baz=334								
YM08	**YM08**	**1.41**	**327**	*eP*		**Pn**		**14 09 16.9**	**+0.8**
	baz=335								
YM08				*eS*		**Sn**		**14 09 31.4**	**-3.0**
	baz=335								
YM03	**YM03**	**1.43**	**326**	P		**Pn**		**14 09 17.2**	**+0.8**
	baz=334								
YM03				*eS*		**Sn**		**14 09 32.3**	**-2.6**
	baz=334								
TWS1	**Kuangyinshan**	**1.44**	**320**	*eP*		**Pb**		**14 09 17.6**	**+0.1**
	baz=330								
TWS1				*eS*		**Sn**		**14 09 35.0**	**+0.1**
	baz=330								
TYC	**Yuchr**	**1.44**	**267**	*eP*		**Pg**		**14 09 18.3**	**-0.6**
	baz=264								
LIOB	**Emei**	**1.44**	**297**	*eP*		**Pb**		**14 09 18.2**	**+0.6**
	baz=295								
LIOB				*eS*		**Sn**		**14 09 35.9**	**+0.7**
	baz=295								
YUS	**Yu-Shan**	**1.45**	**250**	*eP*		**Pg**		**14 09 18.5**	**-0.6**
	baz=248								
YUS				*eS*		**Sn**		**14 09 36.0**	**+0.1**
	baz=248								
NSTT	**Nanjuang**	**1.45**	**296**	P		**Pb**		**14 09 18.2**	**+0.5**
	baz=294								
NSTT				*eS*		**Sn**		**14 09 35.6**	**+0.3**
	baz=294								
JKRS	**Kuro-shima**	**1.46**	**80**	P		**Pb**		**14 09 18.2**	**+0.3**
JKRS				S		**Sn**		**14 09 35.9**	**+0.3**
NTST	**Danshui**	**1.47**	**323**	*eP*		**Pb**		**14 09 18.0**	**0.0**
	baz=332								
NTST				*eS*		**Sn**		**14 09 34.9**	**-0.8**
	baz=332								
TWY	**Chenhua**	**1.48**	**329**	*eP*		**Pb**		**14 09 18.2**	**-0.1**
	baz=328								
NCUH	**Zhongli**	**1.49**	**311**	*eP*		**Pn**		**14 09 18.0**	**+0.8**
	baz=309								
NCUH				*eS*		**Sn**		**14 09 36.0**	**-0.3**
	baz=309								
ELDTW	**Lidau**	**1.53**	**238**	⇓P		**Pb**		**14 09 18.6**	**-0.5**
	baz=237								
ELDTW				S		**Sn**		**14 09 37.5**	**+0.2**
	baz=237								
SBCB	**Hsinchu**	**1.54**	**301**	*eP*		**Pn**		**14 09 18.8**	**+0.9**
	baz=299								
SBCB				S		**Sn**		**14 09 37.8**	**+0.3**
	baz=299								
TWQ1	**Liyutan**	**1.55**	**283**	*eP*		**Pb**		**14 09 20.1**	**+0.6**
	baz=281								
TWQ1				*eS*		**Sb**		**14 09 40.1**	**+1.2**
	baz=281								
WJS	**Zhushan**	**1.57**	**264**	*eP*		**Pg**		**14 09 21.2**	**-0.1**
	baz=262								
NSY	**Sanyi**	**1.58**	**286**	*eP*		**Pb**		**14 09 20.4**	**+0.5**
	baz=283								
NMLH	**Miaoli**	**1.59**	**290**	*eP*		**Pb**		**14 09 20.3**	**+0.2**
	baz=288								
WNT	**Mingjian**	**1.60**	**266**	*eP*		**Pg**		**14 09 21.4**	**-0.5**
	baz=264								
JIJ	**Ishigaki jima**	**1.61**	**77**	P		**Pn**		**14 09 19.4**	**+0.6**
JIJ				S		**Sn**		**14 09 38.0**	**-1.2**
TCU	**Taichung**	**1.61**	**276**	*eP*		**Pb**		**14 09 21.1**	**+0.6**
	baz=273								
CHN5	**Tsauling**	**1.65**	**256**	*eP*		**Pg**		**14 09 21.9**	**-1.0**
	baz=254								
PCYT	**Pengchaiyu**	**1.66**	**349**	*eP*		**Pn**		**14 09 20.3**	**+0.8**
	baz=338								
TTN	**Taitung**	**1.71**	**224**	*eP*		**Pb**		**14 09 21.2**	**-0.9**
	baz=216								
TTN				S		**Sn**		**14 09 42.2**	**+0.5**
	baz=216								
TWG	**Pinlang**	**1.71**	**227**	P		**Pn**		**14 09 20.9**	**+0.7**
	baz=236								
TWG				*eS*		**Sn**		**14 09 41.8**	**0.0**
	baz=236								
WCHH	**Zhanghua**	**1.71**	**273**	*eP*		**Pn**		**14 09 21.2**	**+1.0**
	baz=283								
WGK	**Gukeng**	**1.74**	**260**	*eP*		**Pg**		**14 09 23.6**	**-0.9**
	baz=258								
STYT	**Tauyuan**	**1.75**	**242**	*eP*		**Pb**		**14 09 22.8**	**0.0**
	baz=232								
WDLH	**Douliu**	**1.76**	**260**	*eP*		**Pb**		**14 09 23.6**	**+0.6**
	baz=258								
TPUB	**Ta-pu**	**1.79**	**248**	*eP*		**Pb**		**14 09 23.9**	**+0.4**
	baz=246								
JISG	**Ishigakijimahi**	**1.81**	**71**	P		**Pn**		**14 09 22.1**	**+0.5**
JISG				*eS*		**Sn**		**14 09 42.9**	**-1.4**
WTP	**Ta-pu**	**1.83**	**246**	*eP*		**Pb**		**14 09 24.5**	**+0.3**
	baz=244								
CHN2	**Minshiung**	**1.85**	**256**	*eS*		**Sb**		**14 09 48.4**	**+0.9**
	baz=255								
RLNB	**Erlin**	**1.90**	**267**	*eP*		**Pb**		**14 09 25.3**	**-0.1**
	baz=265								
SLGT	**Liugui**	**1.92**	**239**	*eP*		**Pb**		**14 09 25.7**	**-0.1**
	baz=231								
CHN1	**Nanshi**	**1.92**	**246**	*eP*		**Pb**		**14 09 25.9**	**+0.1**
	baz=244								
TWK	**Hsinying**	**1.92**	**248**	*eP*		**Pb**		**14 09 25.9**	**0.0**
	baz=246								
SGST	**Jiashian**	**1.93**	**242**	*eP*		**Pb**		**14 09 26.4**	**+0.6**
	baz=234								
WTCT	**Ta-ch'eng**	**1.97**	**267**	*eP*		**Pb**		**14 09 26.9**	**+0.3**
	baz=265								
WSF	**Szhu**	**2.05**	**260**	*eP*		**Pn**		**14 09 25.7**	**+0.7**
	baz=270								
SSD	**Sandimen**	**2.07**	**233**	*eP*		**Pb**		**14 09 27.5**	**-0.8**
	baz=227								
LAY	**Lan-yu**	**2.11**	**203**	*eP*		**Pn**		**14 09 26.2**	**+0.5**
	baz=202								
CHN8	**Yiju**	**2.13**	**253**	*eP*		**Pb**		**14 09 28.2**	**-1.2**
	baz=251								
MASBT	**Mashibuluo**	**2.15**	**231**	*eP*		**Pb**		**14 09 28.3**	**-1.4**
	baz=224								
EAST	**Anshuo**	**2.17**	**222**	*eP*		**Pn**		**14 09 27.4**	**+0.8**
	baz=221								
JTJ	**Tarama**	**2.17**	**72**	P		**Pn**		**14 09 27.4**	**+0.9**
JTJ				*eS*		**Sn**		**14 09 51.9**	**-1.2**
TWM1	**Shoushan**	**2.18**	**238**	*eP*		**Pg**		**14 09 31.4**	**-1.6**
	baz=236								
SCZT	**Fangliau**	**2.32**	**226**	*eP*		**Pb**		**14 09 31.9**	**-0.7**
	baz=225								
WLCH	**Liuqiu**	**2.50**	**229**	*eP*		**Pb**		**14 09 36.3**	**+0.7**
	baz=242								
TSEB	**Hengchuen, Pin**	**2.52**	**214**	*eP*		**Pn**		**14 09 32.0**	**+0.7**
	baz=214								
HEN	**Hengchun**	**2.52**	**219**	*eP*		**Pb**		**14 09 35.2**	**-0.8**
	baz=213								
HEN				*eS*		**Sn**		**14 10 03.3**	**+1.5**
	baz=213								
TWKBT	**Hengchun**	**2.53**	**216**	*eP*		**Pn**		**14 09 33.6**	**+2.1**
	baz=222								
TWKBT				*eS*		**Sn**		**14 10 02.3**	**+0.3**
	baz=222								
TWK1	**Hengchun**	**2.53**	**217**	*eP*		**Pb**		**14 09 33.8**	**-2.5**
	baz=215								
JIRB	**Irabujima**	**2.63**	**71**	P		**Pn**		**14 09 33.9**	**+1.0**
JIRB				*eS*		**Sn**		**14 10 03.5**	**-1.0**
WDGT	**Dungji**	**2.65**	**254**	*eP*		**Pn**		**14 09 34.7**	**+1.7**
	baz=254								
WDGT				*eS*		**Sn**		**14 10 04.2**	**-0.5**
	baz=254								
PHUB	**P'eng-hu**	**2.66**	**260**	*eP*		**Pn**		**14 09 34.5**	**+1.1**
	baz=271								
PHUB				*eS*		**Sn**		**14 10 05.0**	**-0.2**
	baz=271								
PNG	**Penghu**	**2.67**	**261**	*eP*		**Pn**		**14 09 34.9**	**+1.5**
	baz=272								
PNG				*eS*		**Sn**		**14 10 05.0**	**-0.4**
	baz=272								
JIKM	**Ikemajima**	**2.73**	**70**	*eS*		**Sn**		**14 10 05.8**	**-1.1**
JMJ	**Miyako jima 2**	**2.73**	**72**	*eS*		**Sn**		**14 10 07.3**	**+0.3**
PTTC	**Pingtan**	**2.84**	**302**	*eP*		**Pn**		**14 09 35.6**	**-0.2**
	baz=301								
VCHM	**Qimei**	**2.86**	**255**	*eP*		**Pn**		**14 09 37.6**	**+1.5**
	baz=254								
VCHM				*eS*		**Sn**		**14 10 10.0**	**-0.2**
	baz=254								
VWUC	**VWUC**	**2.89**	**291**	*eP*		**Pn**		**14 09 36.2**	**-0.2**
	baz=289								
MATB	**Ma-tsu**	**3.11**	**314**	*eP*		**Pn**		**14 09 39.1**	**-0.4**
	baz=312								
PTMZ	**Houxiangcun**	**3.19**	**290**	*eP*		**Pn**		**14 09 40.4**	**-0.1**
	baz=288								
LYJJ	**Jianjiangzhen**	**3.51**	**317**	*eP*		**Pn**		**14 09 44.5**	**-0.4**
	baz=316								
XPSS	**Dashiqiu**	**3.55**	**326**	*eP*		**Pn**		**14 09 45.2**	**-0.4**
	baz=334								
MHZQ	**Yeshan**	**3.73**	**305**	*eP*		**Pn**		**14 09 47.4**	**-0.6**
	baz=303								
AXDP	**Jialang**	**4.16**	**283**	*eP*		**Pn**		**14 09 54.5**	**+0.6**
	baz=278								
ZPLA	**Ao Xicun**	**4.28**	**270**	*eP*		**Pn**		**14 09 55.7**	**+0.1**
	baz=269								

ISK ***25*** *14:12:14.9,36°.59N×27°.91E,h3km,ML3.0/15*
DDA ***25*** *14:12:16.0,36°.63N×27°.90E,h7km,Ml3.1*
ISCJB ***25*** *14:12:16.5±0.4,36°.61N±0

NISR				S	Sb	14 12 39.4	+0.4
NISR				AML	AML	14 12 43.4	
	comp=E,3384μm,0.2s						
NISR				AML	AML	14 12 45.6	
	comp=N,1694μm,0.2s						
NISR	**Nisiros**	**0.64**	**268**	P	**Pb**	**14 12 29.5**	**-0.3**
NISR				S	**Sn**	**14 12 40.5**	**-1.9**
BODT	**Bodrum**	**0.65**	**312**	PG	**Pg**	**14 12 28.7**	**+0.1**
BODT	**Bodrum**	**0.65**	**312**	P	**Pg**	**14 12 29.2**	**+0.6**
BODT				S	**Sb**	**14 12 39.7**	**+0.2**
MLSB	**Milas**	**0.67**	**350**	PG	**Pg**	**14 12 29.5**	**+0.4**
FETY	**Fethiye**	**0.94**	**89**	PG	**Pg**	**14 12 34.1**	**0.0**
FETY	**Fethiye**	**0.94**	**89**	P	**Pn**	**14 12 36.2**	**+0.1**
FETY				S	**Sn**	**14 12 52.0**	**+2.0**
AYDN	**Tasoluk**	**1.03**	**358**	*i* P	**Pg**	**14 12 35.8**	**-0.1**
AYDN				*i* S	**Sb**	**14 12 50.2**	**-0.2**
TAVA	**DENIZLI_Tavas**	**1.15**	**43**	*i* P	**Pg**	**14 12 37.5**	**-0.8**
TAVA				*i* S	**Sn**	**14 12 55.5**	**+0.1**
SMG	**Samos**	**1.38**	**322**	P	**Pn**	**14 12 40.9**	**-1.2**
SMG				S	**Sb**	**14 12 58.7**	**-1.7**
SMG				AML	AML	14 13 07.0	
	comp=N,739μm,0.4s						
SMG				AML	AML	14 13 08.8	
	comp=E,931μm,0.4s						
SMG	**Samos**	**1.38**	**322**	P	**Pn**	**14 12 41.1**	**-1.1**
SMG				S	**Sn**	**14 13 03.3**	**+2.5**
DNZL	**Cakiroluk**	**1.39**	**40**	*i* P	**Pg**	**14 12 43.0**	**+0.2**
DNZL				*i* S	**Sn**	**14 13 03.1**	**+1.7**
AKAS	**Kas**	**1.42**	**106**	PN	**Pn**	**14 12 42.5**	**-0.3**
AKAS	**Kas**	**1.42**	**106**	*i* P	**Pn**	**14 12 42.7**	**-0.1**
AKAS				*i* S	**Sg**	**14 13 04.3**	**+2.6**
KSL	**Kastellorizon**	**1.43**	**109**	P	**Pn**	**14 12 42.7**	**0.0**
KSL				S	**Sb**	**14 13 01.1**	**-0.7**
DENT	**Denizli**	**1.43**	**38**	PN	**Pb**	**14 12 43.3**	**-0.1**
GOLH	**Golhisar**	**1.45**	**65**	*i* P	**Pb**	**14 12 43.5**	**-0.2**
GOLH				*i* S	**Sg**	**14 13 06.8**	**+4.0**
ELL	**Elmali**	**1.60**	**85**	PN	**Pn**	**14 12 45.4**	**0.0**
DGB	**˙zmir**	**1.64**	**330**	*i* P	**Pn**	**14 12 44.2**	**-1.5**
MANT	**Manisa**	**1.93**	**15**	*i* P	**Pn**	**14 12 49.8**	**-0.1**
MANT				*i* S	**Sg**	**14 13 18.7**	**+0.7**
APE	**Apeiranthos**	**1.96**	**284**	PN	**Pn**	**14 12 50.2**	**0.0**
APE	**Apeiranthos**	**1.96**	**284**	P	**Pn**	**14 12 49.7**	**-0.5**
APE				S	**Sn**	**14 13 15.5**	**+0.2**
KULA	**Kula-Manisa**	**1.97**	**17**	PN	**Pn**	**14 12 50.8**	**+0.4**
KORT	**Korkueli**	**1.99**	**79**	PN	**Pn**	**14 12 51.0**	**+0.4**
URLA	**Izmir**	**2.02**	**329**	PN	**Pn**	**14 12 51.0**	**0.0**
ZKR	**Zakros**	**2.05**	**223**	P	**Pn**	**14 12 51.1**	**-0.3**
ZKR				S	**Sn**	**14 13 18.1**	**+0.8**
CHOS	**Chios island**	**2.29**	**320**	PN	**Pn**	**14 12 53.9**	**-0.9**
CHOS	**Chios island**	**2.29**	**320**	P	**Pn**	**14 12 54.0**	**-0.9**
NPS	**Neapolis**	**2.32**	**235**	P	**Pn**	**14 12 55.0**	**-0.1**
NPS				S	**Sn**	**14 13 22.8**	**-1.2**
LAST	**Lasithi**	**2.46**	**234**	P	**Pn**	**14 12 57.8**	**+0.7**
LAST				S	**Sn**	**14 13 26.6**	**-1.1**
SUTC	**Sutluce-Ispart**	**2.61**	**70**	PN	**Pn**	**14 13 00.0**	**+0.9**

*NNC **25** 14:31:35.7±1.9, 44˚.39N×81˚.37E, h0km, mb2.5, mpv2.2,*
Error ellipse: s-maj=43.4km s-min=6.5km az=125.0
*SOME **25** 14:31:36.0, 44˚.25N×81˚.48E, h10km*
ISC 25 14:31:34.5±2.0, 44˚.22N±0˚.05×81˚.55E±0˚.07, h8km±13km, n13, σ1s29/24, 3C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.16**	**229**	*e*P		**Pb**	**14 31 57.8**	**+0.8**
	13nm,0.1s							
KTMS				*e*S		**Sn**	**14 32 13.7**	**+0.3**
	39nm,0.1s							
DJR	**Jarkent**	**1.27**	**276**	*e*P		**Pg**	**14 31 59.9**	**+1.0**
	2.6nm,0.2s							
DJR				*e*S		**Sn**	**14 32 17.3**	**+1.2**
	11nm,0.4s							
PDGK	**Podgornoye**	**1.74**	**240**	⇑Pn		**Pb**	**14 32 07.3**	**+0.5**
	0.9nm,0.4s							
PDGK				⇑Sn		**Sg**	**14 32 30.5**	**+0.1**
	9.3nm,0.4s							
SHLS	**Shalkode**	**1.85**	**236**	*e*P		**Pn**	**14 32 05.6**	**-1.1**
	5.3nm,0.1s							
SHLS				*e*S		**Sn**	**14 32 27.2**	**-3.2**
	54nm,0.5s							
KAPS	**Kapalarasan**	**1.89**	**305**	*e*P		**Pb**	**14 32 09.6**	**+0.1**
	1.9nm,0.1s							
KAPS				*e*S		**Sg**	**14 32 33.9**	**-1.5**
	17nm,0.4s							
UZB	**Uzynbulak**	**2.12**	**241**	*e*P		**Pb**	**14 32 13.9**	**+0.5**
	3.0nm,0.4s							
UZB				*e*S		**Sb**	**14 32 41.1**	**+1.1**
	15nm,0.3s							
KPKS	**Kokpek**	**2.21**	**251**	*e*P		**Pb**	**14 32 15.5**	**+0.7**
	4.2nm,0.1s							
KPKS				*e*S		**Sg**	**14 32 44.3**	**-1.2**
	27nm,0.2s							
MNBS	**Baschi**	**2.27**	**268**	*e*P		**Pb**	**14 32 16.4**	**+0.5**
	0.7nm,0.1s							
MNBS				*e*S		**Sb**	**14 32 45.3**	**+1.0**
	16nm,0.2s							
ZHN	**Zhinishke**	**2.49**	**246**	*e*P		**Pb**	**14 32 20.8**	**+1.1**
	2.7nm,0.1s							
ZHN				*e*S		**Sg**	**14 32 53.0**	**-1.6**
	12nm,0.2s							
MK31	**Makanchi Array**	**2.63**	**11**	⇑Pn		**Pn**	**14 32 17.1**	**-0.3**
	0.3nm,0.3s,baz=188,slow=16,SNR=25							
MK31				⇓Pg		**Pb**	**14 32 22.2**	**+0.3**
	0.7nm,0.3s,baz=192,slow=16,SNR=8.6							
MK31				⇓Lg		Lg	14 32 52.6	
	1.3nm,0.3s,baz=189,slow=24,SNR=8.6							
ARXS	**Arharly**	**2.68**	**271**	*e*P		**Pb**	**14 32 23.9**	**+1.0**
	1.5nm,0.4s							
ARXS				*e*S		**Sg**	**14 32 58.5**	**-2.1**
	11nm,0.4s							
CHKK	**Chushkaly**	**3.31**	**265**	*e*P		**Pb**	**14 32 33.8**	**+0.2**
	0.6nm,0.1s							
CHKK				*e*S		**Sb**	**14 33 15.5**	**+1.4**
	5.3nm,0.3s							
TKM2	**Tokmak 2**	**4.52**	**255**	⇓Lg		Lg	14 33 58.0	
	2.6nm,0.8s							

*ISK **25** 14:32:12.9, 38˚.80N×43˚.50E, h5km, ML2.4/8*
*DDA **25** 14:32:13.7, 38˚.82N×43˚.57E, h7km, Ml2.7*
ISC 25 14:32:13.1±1.1, 38˚.83N±0˚.03×43˚.62E±0˚.04, h19km±3km, n16, σ0s95/27, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.17**	**346**	*i* P		**Pg**	**14 32 17.4**	**-0.6**
VMUR				*i* S		**Sg**	**14 32 21.2**	**-0.1**
ERCV	**ERCIS-VAN**	**0.29**	**311**	PG		**Pb**	**14 32 19.0**	**-0.8**
ERCV				SG		**Sg**	**14 32 23.8**	**-0.6**
VANB	**Van**	**0.29**	**218**	PG		**Pb**	**14 32 20.3**	**+0.5**
VANB				SG		**Sg**	**14 32 25.3**	**+1.0**
CLDR	**Caldiran**	**0.39**	**36**	PG		**Pb**	**14 32 22.1**	**+0.5**
CLDR	**Caldiran**	**0.39**	**36**	*i* P		**Pb**	**14 32 21.9**	**+0.3**
CLDR				*i* S		**Sn**	**14 32 29.2**	**-1.7**
GEVA	**Gevas**	**0.68**	**221**	*i* P		**Pb**	**14 32 25.9**	**-0.5**
GEVA				*i* S		**Sg**	**14 32 36.2**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.70**	**269**	*i* P		**Pg**	**14 32 26.7**	**-0.3**
ADCV				*i* S		**Sg**	**14 32 36.9**	**+0.4**
DYDN	**Diyadin**	**0.72**	**4**	*i* P		**Pg**	**14 32 26.9**	**-0.5**
DYDN				*i* S		**Sn**	**14 32 38.4**	**-0.6**
TUTA	**Tutak**	**0.85**	**313**	*i* P		**Pg**	**14 32 29.2**	**-0.6**
TUTA				*i* S		**Sn**	**14 32 41.7**	**-0.6**
AGRB	**Hanur-Agry**	**0.89**	**327**	PG		**Pn**	**14 32 30.6**	**-0.2**
AGRB				SG		**Sn**	**14 32 43.6**	**+0.3**
TASB	**TASBURUN-IGDIR**	**1.25**	**22**	PN		**Pg**	**14 32 39.1**	**+1.8**
GURO	**Guroymak-BITLI**	**1.27**	**258**	PN		**Pb**	**14 32 36.6**	**0.0**
EKAR	**Karacoban**	**1.29**	**290**	*i* P		**Pg**	**14 32 40.3**	**+2.2**
EKAR				*i* S		**Sg**	**14 32 56.9**	**+1.9**
EATA	**Eleskirt**	**1.35**	**320**	*i* P		**Pg**	**14 32 39.0**	**-0.4**
EATA				*i* S		**Sg**	**14 32 57.4**	**+0.3**
CUKT	**Cukurca**	**1.58**	**180**	PN		**Pg**	**14 32 42.8**	**-0.7**
GNI	**Garni**	**1.58**	**33**	PN		**Pg**	**14 32 44.2**	**+0.6**

*JMA **25** 14:37:15.6±0.2, 22˚.80N×120˚.59E, h0km, M3.5*
*TAP **25** 14:37:17.4, 22˚.91N×120˚.62E, h11km, ML3.5, B*
*ISCJB **25** 14:37:18.3±0.2, 22˚.86N±0˚.01×120˚.60E±0˚.02, h11km±1km,*
Error ellipse: s-maj=2.7km s-min=1.9km az=153.2
ISC 25 14:37:18.1±0.8, 22˚.89N±0˚.02×120˚.61E±0˚.02, h15km±5km, n99, σ1s08/160, 4C-24D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SLGT	**Liugui**	**0.10**	**19**	*e*P		**Pg**	**14 37 20.6**	**-0.9**
	baz=21							
SLGT				*e*S		**Sg**	**14 37 22.9**	**-0.7**
	baz=21							
SSD	**Sandimen**	**0.15**	**172**	⇓*i*P		**Pg**	**14 37 21.6**	**-0.4**
	baz=171							
SSD				S		**Sg**	**14 37 24.5**	**-0.1**
	baz=171							
TWM1	**Shoushan**	**0.18**	**248**	⇑P		**Pg**	**14 37 22.7**	**+0.2**
	baz=243							
SGST	**Jiashian**	**0.19**	**353**	⇑*i*P		**Pg**	**14 37 22.4**	**-0.3**
	baz=360							
SGST				S		**Sg**	**14 37 25.9**	**+0.2**
	baz=360							
SGLT	**Jiouru**	**0.20**	**213**	*e*P		**Pg**	**14 37 23.4**	**+0.6**
	baz=204							
MASBT	**Mashibuluo**	**0.28**	**175**	⇓P		**Pg**	**14 37 23.9**	**-0.2**
	baz=176							
MASBT				S		**Sg**	**14 37 27.9**	**-0.2**
	baz=176							
CHN1	**Nanshi**	**0.30**	**346**	⇑*i*P		**Pb**	**14 37 24.8**	**-0.5**
	baz=354							
CHN1				S		**Sb**	**14 37 30.9**	**+0.9**
	baz=354							
STYT	**Tauyuan**	**0.30**	**27**	⇓*i*P		**Pb**	**14 37 24.2**	**-1.1**
	baz=34							
STYT				S		**Sg**	**14 37 29.1**	**+0.3**
	baz=34							
WTP	**Ta-pu**	**0.35**	**1**	⇑*i*P		**Pb**	**14 37 25.5**	**-0.7**
	baz=10.0							
WTP				S		**Sb**	**14 37 32.2**	**+0.6**
	baz=10.0							
TAI1	**Yung-k'ang**	**0.38**	**293**	*e*P		**Pb**	**14 37 26.7**	**+0.1**
	baz=291							
TWK	**Hsinying**	**0.39**	**343**	⇓*i*P		**Pb**	**14 37 26.6**	**-0.2**
	baz=344							
TWK				*e*S		**Sb**	**14 37 33.3**	**+0.7**
	baz=344							
TPUB	**Ta-pu**	**0.41**	**3**	⇓P		**Pb**	**14 37 26.6**	**-0.4**
	baz=2.0							
TPUB				S		**Sb**	**14 37 33.5**	**+0.4**
	baz=2.0							
TWG	**Pinlang**	**0.43**	**100**	⇓*i*P		**Pb**	**14 37 26.8**	**-0.8**
	baz=107							
TWG				S		**Sb**	**14 37 33.3**	**-0.6**
	baz=107							
ECL	**Taimali**	**0.43**	**133**	⇓*i*P		**Pb**	**14 37 26.7**	**-0.9**
	baz=133							
ECL				S		**Sb**	**14 37 32.4**	**-1.5**
	baz=133							
CHN4	**Tsaushan**	**0.46**	**358**	⇓*i*P		**Pb**	**14 37 27.5**	**-0.4**
	baz=358							
CHN4				*e*S		**Sb**	**14 37 35.0**	**+0.5**
	baz=358							
SCLT	**Jiali**	**0.47**	**306**	*e*P		**Pb**	**14 37 28.6**	**+0.4**
	baz=307							
SCLT				*e*S		**Sb**	**14 37 37.4**	**+2.4**
	baz=307							
ELDTW	**Lidau**	**0.48**	**52**	⇓*i*P		**Pb**	**14 37 27.4**	**-0.9**
	baz=54							
TTN	**Taitung**	**0.52**	**106**	P		**Pb**	**14 37 28.9**	**0.0**
	baz=112							
TTN				*e*S		**Sb**	**14 37 37.4**	**+1.2**
	baz=112							
SCZT	**Fangliau**	**0.52**	**179**	⇓P		**Pb**	**14 37 28.3**	**-0.7**
	baz=170							
EAST	**Anshuo**	**0.56**	**156**	⇓*i*P		**Pb**	**14 37 29.0**	**-0.6**
	baz=149							
EAST				*e*S		**Sb**	**14 37 36.8**	**-0.5**
	baz=149							
CHN8	**Yiju**	**0.58**	**321**	*e*P		**Pb**	**14 37 30.3**	**+0.2**
	baz=322							
CHN8				*e*S		**Sn**	**14 37 40.8**	**-0.3**
	baz=322							
WLCH	**Liuqiu**	**0.58**	**201**	*e*P		**Pn**	**14 37 32.5**	**+0.6**
	baz=202							
TWP	**Hsiaoliuchiu**	**0.59**	**203**	*e*P		**Pn**	**14 37 32.9**	**+0.9**
	baz=183							
TWP				*e*S		**Sn**	**14 37 44.5**	**+3.1**
	baz=183							
TAW	**Tawu**	**0.60**	**153**	P		**Pb**	**14 37 29.7**	**-0.6**
	baz=146							
TAW				*e*S		**Sb**	**14 37 38.1**	**-0.4**
	baz=146							
CHY	**Chiayi**	**0.62**	**344**	*e*P		**Pb**	**14 37 30.8**	**0.0**
	baz=345							
CHY				*e*S		**Sb**	**14 37 41.2**	**+1.8**
	baz=345							
ALS	**Alishan**	**0.64**	**16**	⇓*i*P		**Pb**	**14 37 30.9**	**-0.3**
	baz=17							
ALS				*e*S		**Sb**	**14 37 41.4**	**+1.3**
	baz=17							
CHN2	**Minshiung**	**0.65**	**349**	*e*P		**Pb**	**14 37 31.2**	**0.0**
	baz=349							
CHN2				*e*S		**Sb**	**14 37 41.6**	**+1.6**
	baz=349							
WLGB	**Puzi**	**0.65**	**334**	⇓P		**Pb**	**14 37 31.4**	**+0.2**
	baz=347							
WLGB				S		**Sn**	**14 37 42.5**	**-0.3**
	baz=347							
YUS	**Yu-Shan**	**0.67**	**28**	P		**Pb**	**14 37 31.5**	**-0.4**
	baz=29							
YUS				*e*S		**Sb**	**14 37 41.5**	**+0.3**
	baz=29							
FULB	**Fuli**	**0.70**	**64**	⇓*i*P		**Pb**	**14 37 32.2**	**+0.1**
	baz=65							
FULB				*e*S		**Sb**	**14 37 42.0**	**+0.5**
	baz=65							
CHN5	**Tsauling**	**0.70**	**5**	⇓P		**Pb**	**14 37 31.7**	**-0.4**
	baz=5.0							
CHN5				*e*S		**Sb**	**14 37 43.0**	**+1.3**
	baz=5.0							
CHKT	**Chengkung**	**0.73**	**74**	⇓P		**Pn**	**14 37 32.9**	**-1.0**
	baz=91							
CHKT				*e*S		**Sn**	**14 37 44.5**	**-0.3**
	baz=91							
TWF1	**Yuli**	**0.78**	**54**	⇓P		**Pb**	**14 37 33.0**	**-0.5**
	baz=65							
TWF1				*e*S		**Sb**	**14 37 44.2**	**+0.3**
	baz=65							
WGK	**Gukeng**	**0.79**	**357**	*e*P		**Pb**	**14 37 33.7**	**+0.1**
	baz=358							
WGK				*e*S		**Sn**	**14 37 46.6**	**+0.3**
	baz=358							
WDLH	**Douliu**	**0.79**	**355**	*e*P		**Pb**	**14 37 33.7**	**+0.1**
	baz=355							
YULB	**Yu-li**	**0.81**	**52**	⇓P		**Pb**	**14 37 33.2**	**-0.6**
	baz=62							
YULB				S		**Sb**	**14 37 44.8**	**+0.2**
	baz=62							
WSF	**Szhu**	**0.82**	**334**	P		**Pb**	**14 37 34.1**	**-0.1**
	baz=335							
WSF				*e*S		**Sb**	**14 37 46.7**	**+1.6**
	baz=335							
HEN	**Hengchun**	**0.89**	**172**	*e*P		**Pn**	**14 37 36.6**	**+0.4**
	baz=165							
EHY	**Hungye**	**0.90**	**47**	*e*P		**Pb**	**14 37 34.7**	**-0.7**
	baz=56							
EHY				*e*S		**Sb**	**14 37 47.6**	**+0.4**
	baz=56							
WJS	**Zhushan**	**0.93**	**7**	*e*P		**Pb**	**14 37 36.1**	**+0.1**
	baz=350							
SSLB	**Suanglung**	**0.94**	**20**	⇓P		**Pb**	**14 37 35.9**	**-0.4**
	baz=20							
SSLB				*e*S		**Sb**	**14 37 49.5**	**+0.8**
	baz=20							
WDGT	**Dungji**	**0.95**	**293**	⇓*e*P		**Pg**	**14 37 35.2**	**-1.3**
	baz=294							
WDGT				*e*S		**Sb**	**14 37 48.3**	**-0.3**
	baz=294							
HGSD	**Ruisui**	**0.96**	**51**	*e*P		**Pn**	**14 37 37.1**	**+0.1**
	baz=49							
HGSD				*e*S		**Sn**	**14 37 51.0**	**+0.5**
	baz=49							
TWK1	**Hengchun**	**0.96**	**169**	P		**Pn**	**14 37 37.4**	**+0.2**
	baz=169							
TWKBT	**Hengchun**	**0.97**	**169**	*e*P		**Pn**	**14 37 36.9**	**-0.3**
	baz=169							
WNT	**Mingjian**	**0.98**	**4**	*e*P		**Pg**	**14 37 36.3**	**-0.8**
	baz=5.0							
WNT				*e*S		**Sn**	**14 37 51.6**	**+0.5**
	baz=5.0							
VWDT	**VWDT**	**0.99**	**30**	⇓P		**Pb**	**14 37 36.9**	**-0.1**
	baz=29							
VWDT				S		**Sn**	**14 37 51.3**	**+0.2**
	baz=29							
WTCT	**Ta-ch'eng**	**1.01**	**343**	*e*P		**Pb**	**14 37 36.9**	**-0.5**
	baz=343							
WTCT				*e*S		**Sg**	**14 37 50.6**	**-0.3**
	baz=343							
RLNB	**Erlin**	**1.02**	**347**	*e*P		**Pg**	**14 37 36.8**	**-1.0**
	baz=347							
RLNB				*e*S		**Sb**	**14 37 51.8**	**+1.1**
	baz=347							
SMLT	**Sun Moon Lake**	**1.02**	**15**	P		**Pn**	**14 37 38.2**	**+0.1**
	baz=16							
SMLT				S		**Sn**	**14 37 53.0**	**+0.8**
	baz=16							
TSEB	**Hengchuen, Pin**	**1.02**	**165**	*e*P		**Pn**	**14 37 37.2**	**-0.8**
	baz=167							
TYC	**Yuchr**	**1.03**	**13**	*e*P		**Pn**	**14 37 38.0**	**-0.1**
	baz=13							
TYC				*e*S		**Sn**	**14 37 53.4**	**+1.1**
	baz=13							
EGFH	**Guangfu**	**1.08**	**44**	*e*P		**Pn**	**14 37 38.6**	**-0.1**
	baz=44							
VCHM	**Qimei**	**1.13**	**286**	*e*P		**Pg**	**14 37 37.9**	**-2.1**
	baz=287							
PHUB	**P'eng-hu**	**1.14**	**303**	*e*S		**Sg**	**14 37 53.0**	**-1.9**
	baz=305							
PNG	**Penghu**	**1.18**	**305**	⇓*e*P		**Pg**	**14 37 38.4**	**-2.4**
	baz=307							
PNG				*e*S		**Sg**	**14 37 54.3**	**-1.9**
	baz=307							
WCHH	**Zhanghua**	**1.18**	**358**	*e*P		**Pn**	**14 37 40.5**	**+0.3**
	baz=357							
ESL	**Shilin**	**1.19**	**39**	⇓P		**Pn**	**14 37 40.7**	**+0.4**
	baz=30							
ESL				*e*S		**Sn**	**14 37 56.9**	**+0.7**
	baz=30							
LAY	**Lan-yu**	**1.22**	**134**	*e*P		**Pn**	**14 37 39.7**	**-1.0**
	baz=135							
CHGB	**Renai**	**1.27**	**24**	⇓P		**Pb**	**14 37 42.0**	**0.0**
	baz=12							
CHGB				S		**Sn**	**14 37 59.2**	**+0.7**
	baz=12							
WHF	**Hehuan Shan**	**1.38**	**26**	*e*P		**Pg**	**14 37 44.0**	**-0.8**
	baz=14							
WHF				*e*S		**Sn**	**14 38 03.9**	**+2.3**
	baz=14							
HWA	**Hwalien**	**1.41**	**40**	*e*P		**Pg**	**14 37 45.0**	**-0.3**
	baz=53							
TDCB	**Techi**	**1.44**	**20**	P		**Pb**	**14 37 44.3**	**-0.6**
	baz=20							
TDCB				*e*S		**Sn**	**14 38 03.5**	**+0.8**
	baz=20							
TWT	**Tachien**	**1.45**	**21**	*e*P		**Pg**	**14 37 45.1**	**-1.0**
	baz=21							
TWT				*e*S		**Sn**	**14 38 03.8**	**+0.9**
	baz=21							
TWQ1	**Liyutan**	**1.46**	**6**	*e*P		**Pb**	**14 37 44.4**	**-0.6**
	baz=6.0							
TWQ1				*e*S		**Sg**	**14 38 04.4**	**-0.7**
	baz=6.0							
NSY	**Sanyi**	**1.52**	**5**	*e*P		**Pb**	**14 37 45.8**	**-0.3**
	baz=6.0							
NSY				*e*S		**Sg**	**14 38 06.5**	**-0.7**
	baz=6.0							
NACB	**Ninganchiao**	**1.56**	**35**	*e*P		**Pb**	**14 37 46.2**	**-0.6**
	baz=35							
NACB				*e*S		**Sb**	**14 38 07.0**	**+0.6**
	baz=35							
NMLH	**Miaoli**	**1.64**	**6**	*e*P		**Pb**	**14 37 47.4**	**-0.8**
	baz=4.0							
NNSB	**Datong**	**1.68**	**25**	*e*P		**Pb**	**14 37 48.3**	**-0.6**
	baz=11							
NNSB				*e*S		**Sb**	**14 38 10.6**	**+0.6**
	baz=11							
NNS	**Nan Shan**	**1.69**	**24**	*e*P		**Pb**	**14 37 48.3**	**-0.7**
	baz=8.0							
NSTT	**Nanjuang**	**1.77**	**12**	*e*P		**Pn**	**14 37 48.4**	**+0.2**
	baz=353							
LIOB	**Emei**	**1.78**	**12**	*e*P		**Pn**	**14 37 48.8**	**+0.3**
	baz=353							
ENA	**Nanau**	**1.85**	**34**	*e*P		**Pn**	**14 37 50.0**	**+0.7**
	baz=46							
NANB	**Nanao**	**1.85**	**34**	*e*P		**Pn**	**14 37 49.9**	**+0.6**
	baz=45							
NANB				*e*S		**Sn**	**14 38 14.2**	**+1.7**
	baz=45							
NSK	**Sanguang**	**1.90**	**21**	*e*P		**Pb**	**14 37 52.2**	**-0.4**
	baz=20							
YHNB	**Yeheng**	**1.90**	**22**	*e*P		**Pn**	**14 37 50.7**	**+0.5**
	baz=21							
YHNB				*e*S		**Sb**	**14 38 16.6**	**+0.3**
	baz=21							
ENTT	**Nioudou**	**1.95**	**27**	*e*P		**Pb**	**14 37 52.7**	**-0.7**
	baz=27							
ENTT				*e*S		**Sg**	**14 38 19.2**	**-1.6**
	baz=27							
WLTB	**Daxi**	**2.04**	**17**	*e*P		**Pb**	**14 37 53.8**	**-1.1**
	baz=357							
TWC	**Suao**	**2.05**	**33**	*e*P		**Pb**	**14 37 53.5**	**-1.6**
	baz=44							
TWE	**Neicheng**	**2.06**	**28**	*e*P		**Pb**	**14 37 54.6**	**-0.7**
	baz=28							
TWE				*e*S		**Sb**	**14 38 22.4**	**+1.6**
	baz=28							
SLBB	**Yuanshan**	**2.08**	**27**	*e*P		**Pb**	**14 37 55.6**	**+0.1**
	baz=5.0							
EOS1	**EOS1**	**2.16**	**40**	*e*P		**Pb**	**14 37 56.3**	**-0.6**
	baz=57							
TATO	**Taipei**	**2.22**	**21**	*e*P		**Pb**	**14 37 56.9**	**-1.1**
	baz=19							
VWUC	**VWUC**	**2.34**	**333**	*e*P		**Pn**	**14 37 55.1**	**-1.0**
	baz=333							
TIPB	**Shuangxi**	**2.35**	**28**	*e*P		**Pn**	**14 37 57.6**	**+1.4**
	baz=7.0							
YM10	**YM10**	**2.41**	**21**	*e*P		**Pn**	**14 37 57.9**	**+0.7**
	baz=18							
YM05	**YM05**	**2.42**	**21**	*e*P		**Pn**	**14 37 58.5**	**+1.2**
	baz=18							
YM11	**YM11**	**2.43**	**21**	*e*P		**Pb**	**14 37 59.4**	**-2.2**
	baz=19							
YM07	**YM07**	**2.45**	**22**	*e*P		**Pn**	**14 37 59.7**	**+2.0**
	baz=19							
TWB1	**Santiao Chiao**	**2.45**	**31**	*e*P		**Pb**	**14 37 59.9**	**-2.1**
	baz=42							
JYNG	**Yonagunijimaku**	**2.64**	**54**	P		**Pn**	**14 38 02.4**	**+2.1**
JYNG				*e*S		**Sb**	**14 38 35.6**	**-1.9**
YOJ	**Yonaguni jima**	**2.70**	**54**	P		**Pn**	**14 38 02.6**	**+1.5**

*IDC **25** 15:00:22.7±1.9,28°.17N×143°.53E,h0km,mb3.8/3, mb1 3.9/6,mb1mx3.5/62,mbtmp3.8/6,ML3.5/3,Error ellipse: s-maj=50.5km s-min=21.5km az=87.0*
*NEIC **25** 15:00:26.9±0.9,28°.13N×143°.48E,h35km,mb4.5/1,Error ellipse: s-maj=22.5km s-min=9.0km az=81.0*
*JMA **25** 15:00:28.4,28°.35N×142°.53E,h5km±2km,M4.0*
ISC 25 15:00:26.2±1.0,28°.26N±0°.05×143°.4E±0°.1,h35km,n27, σ1§92/36,mb4.0/4,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.61**	**224**	*e*Pn	**Pn**	**15 00 52.3**	**+0.2**
CBIJ				Sn	**Sn**	**15 01 10.7**	**-0.9**
CBIJ	**Chichi jima**	**1.61**	**224**	P	**Pn**	**15 00 52.5**	**+0.4**
CBIJ				*e*S	**Sn**	**15 01 09.6**	**-2.0**
JCJ	**Chichijima**	**1.61**	**224**	Pn	**Pn**	**15 00 52.4**	**+0.3**
	31nm,0.3s,baz=95,slow=20,SNR=12						
JCJ				Sn	**Sn**	**15 01 10.7**	**-0.9**
	74nm,0.3s,baz=215,slow=23,SNR=16						
JHHJ	**Haha-jima-NKT**	**1.97**	**215**	*e*S	**Sn**	**15 01 22.1**	**+1.5**
JHCJ	**Hachijojimakas**	**5.74**	**328**	*e*S	**Sn**	**15 02 52.1**	**-1.3**
JHJ2	**Mitsune**	**5.76**	**328**	*e*Pn	**Pn**	**15 01 50.8**	**+1.7**
JHJ2	**Mitsune**	**5.76**	**328**	P	**Pn**	**15 01 50.3**	**+1.2**
JHJ2				*e*S	**Sn**	**15 02 51.6**	**-2.4**
JHJ	**Hachijo jima 2**	**5.78**	**328**	Pn	**Pn**	**15 01 50.4**	**+0.9**
	2.4nm,0.3s,baz=101,slow=22,SNR=7.0						
JHJ				Sn	**Sn**	**15 02 53.0**	**-1.5**
	4.3nm,0.3s,baz=40,slow=7.9,SNR=2.9						
JMKN	**Mikurajimanish**	**6.52**	**330**	P	**Pn**	**15 02 01.2**	**+1.7**
JMKN				*e*S	**Sn**	**15 03 10.3**	**-2.3**
BSO1	**Boso 1**	**6.71**	**342**	P	**Pn**	**15 02 01.7**	**0.0**
BSO1				*e*S	**Sn**	**15 03 14.7**	**-2.0**
JOD2	**Odawara 2**	**7.91**	**333**	P	**Pn**	**15 02 19.5**	**+0.9**
JOD2				*e*S	**Sn**	**15 03 43.7**	**-3.2**
JRY	**Ryogami san**	**8.64**	**335**	P	**Pn**	**15 02 29.7**	**+1.0**
INU	**Inuyama**	**8.94**	**324**	*e*Pn	Pn	15 02 35.9	+3.2
MJAR	**Matsushiro Arr**	**9.37**	**333**	Pn	**Pn**	**15 02 39.8**	**+1.1**
MJAR	1.2nm,0.3s,baz=154,slow=8.3,SNR=21						
				Sn	**Sn**	**15 04 20.3**	**-2.5**
	0.1nm,0.3s,baz=138,slow=8.4,SNR=2.5						
MAJO	**Matsushiro**	**9.37**	**333**	*e*Pn	**Pn**	**15 02 39.8**	**+1.1**
MAJO				*e*Sn	**Sn**	**15 04 20.3**	**-2.5**
MJB9	**Matsu-Tunnel**	**9.37**	**333**	*e*Pn	**Pn**	**15 02 40.5**	**+1.8**
ANA2	**Anatahan**	**12.04**	**170**	*e*Pn	**Pn**	**15 03 11.4**	**-3.9**
ASAJ	**Asahikawa**	**15.84**	**358**	*e*Pn	**P**	**15 04 09.2**	**-0.7**
	57nm,1.4s						
KSRS	**Korea Array**	**15.93**	**309**	Pn	**P**	**15 04 09.8**	**-1.0**
	0.1nm,0.3s,baz=111,slow=13,SNR=3.8						
KSAR	**Wonju Array Be**	**15.95**	**309**	Pn	**P**	**15 04 09.8**	**-1.3**
YHNB	**Yeheng**	**20.07**	**265**	*e*P	**Pn**	**15 04 56.7**	**-2.0**
	135nm,2.0s						
WR1	**Warramunga Arr**	**48.72**	**191**	*e*P	**P**	**15 09 08.2**	**+0.9**
	17nm,1.5s						
WRA	**Warramunga Arr**	**48.72**	**191**	P	**P**	**15 09 08.2**	**+0.9**
	1.3nm,0.7s,baz=12,slow=8.3,SNR=13						
MK32	**Makanchi Array**	**50.61**	**309**	*e*P	**P**	**15 09 24.4**	**+2.8**
MKAR	**Makanchi Array**	**50.61**	**309**	P	**P**	**15 09 24.4**	**+2.8**
	0.6nm,0.8s,baz=88,slow=10,SNR=4.8						
FIA0	**FINESS Array S**	**77.40**	**334**	*e*P	**P**	**15 12 20.1**	**+2.8**
FINES	**FINESS Array B**	**77.40**	**334**	P	**P**	**15 12 20.1**	**+2.8**
	0.6nm,0.4s,baz=60,slow=5.0,SNR=7.4						

*ISCJB **25** 15:06:52.2±0.6,27°.88S±0°.04×140°.63E±0°.05,h10km, Error ellipse: s-maj=7.0km s-min=6.0km az=139.9*
*IDC **25** 15:06:53.7±4.5,27°.60S×140°.94E,h0km,mb1 3.3/4, mb1mx3.2/33,mbtmp3.1/4,ML2.9/4,Error ellipse: s-maj=98.4km s-min=18.4km az=66.0*
*AUST **25** 15:06:55.7±0.0,27°.97S×140°.82E,h10km,Error ellipse: s-maj=0.3km s-min=0.1km az=325.0*
ISC 25 15:06:52.6±0.8,27°.79S±0°.05×140°.83E±0°.05,h10km,n8, σ2§14/16,South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QLP	**Quilpie**	**3.26**	**69**	P	**Pb**	**15 07 48.9**	**-1.6**
	baz=3.3						
QLP				S	**Sb**	**15 08 27.6**	**-2.7**
	baz=3.3						
STKA	**Stephens Creek**	**4.13**	**171**	Pn	**Pb**	**15 08 01.7**	**-3.6**
	0.1nm,0.3s,baz=355,slow=13,SNR=4.1						
STKA				Pg	**Pg**	**15 08 13.0**	**+1.3**
	0.4nm,0.3s,baz=359,slow=16,SNR=8.2						
STKA				Sn	**Sn**	**15 08 44.9**	**+0.8**
	0.4nm,0.3s,baz=293,slow=14,SNR=3.7						
STKA				Lg	Lg	15 09 07.5	
	0.7nm,0.3s,baz=284,slow=23,SNR=4.2						
STKA	**Stephens Creek**	**4.13**	**171**	P	**Pn**	**15 07 56.6**	**+0.9**
	baz=4.0						
STKA				S	**Sn**	**15 08 43.9**	**-0.1**
	baz=4.0						
CMSA	**Cobar Meteorol**	**5.64**	**133**	P	**Pn**	**15 08 19.1**	**+2.6**
	baz=5.5						
CMSA				S	**Sn**	**15 09 22.1**	**+0.7**
	baz=5.5						
BBOO	**Buckleboo**	**6.49**	**218**	P	**Pn**	**15 08 30.4**	**+2.3**
	baz=6.3						
BBOO				S	**Sn**	**15 09 39.5**	**-2.7**
	baz=6.3						
ASAR	**Alice Springs**	**7.48**	**302**	Pn	**Pn**	**15 08 44.2**	**+2.3**
	0.2nm,0.3s,baz=121,slow=14,SNR=15						
ASAR				Sn	**Sn**	**15 10 05.4**	**-1.3**
	0.2nm,0.3s,baz=124,slow=23,SNR=4.3						
WRA	**Warramunga Arr**	**9.81**	**321**	Pn	**Pn**	**15 09 15.3**	**+1.5**
	0.2nm,0.3s,baz=141,slow=13,SNR=12						
WRA				Sn	**Sn**	**15 11 02.3**	**-1.9**
	0.1nm,0.3s,baz=144,slow=24,SNR=3.4						
FITZ	**Fitzroy Crossi**	**16.98**	**301**	Pn	**Pn**	**15 10 50.5**	**+0.2**
	0.0nm,0.3s,baz=98,slow=9.3,SNR=3.4						

*MAN **25** 15:07:31.5,6°.80N×123°.59E,h3km,mb5.1,ML4.0,MS4.1*
*IDC **25** 15:07:38.9±2.9,6°.78N×123°.82E,h70km±29km,mb3.5/13, mb1 3.7/14,mb1mx3.5/43,mbtmp3.9/14,MS3.1/2, Ms1 3.2/2,ms1mx2.7/23,Error ellipse: s-maj=25.7km s-min=12.7km az=77.0*
ISC 25 15:07:31.9±1.3,6°.81N±0°.04×123°.57E±0°.03,h11km±8km, n30,σ1§36/41,mb3.8/13,3C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.78**	**58**↑	*e*P	**Pb**	**15 07 47.0**	**-0.5**
CTBH				*i* S	**Sb**	**15 07 57.6**	**-0.6**
SKMP	**Bagumbayan, Su**	**1.00**	**107**	*e*P	**Pg**	**15 07 50.4**	**-0.9**
SKMP				*e*S	**Sg**	**15 08 03.3**	**-1.1**
PAGZ	**Pagadian**	**1.05**	**350**	*e*P	**Pb**	**15 07 52.3**	**+0.2**
PAGZ				*e*S	**Sg**	**15 08 05.9**	**+0.1**
IPIL	**Ipil**	**1.39**	**314**	*e*P	**Pn**	**15 07 57.7**	**+0.4**
IPIL				*e*S	**Sg**	**15 08 14.2**	**-2.5**
ZCP	**Zamboanga City**	**1.49**	**275**↓	*i*P	**Pn**	**15 07 59.0**	**+0.3**
ZCP				*i* S	**Sb**	**15 08 19.9**	**+1.2**
GSPH	**General Santos**	**1.54**	**118**	*e*P	**Pg**	**15 08 03.3**	**+1.8**
GSPH				*e*S	**Sg**	**15 08 25.7**	**+4.0**
DCPH	**Dipolog City**	**1.78**	**353**↑	*e*P	**Pb**	**15 08 05.2**	**+0.7**
BUKP	**Musuan**	**1.82**	**54**	*e*P	**Pn**	**15 08 03.7**	**+0.5**
BUKP				*e*S	**Sn**	**15 08 27.6**	**+1.3**
CGP	**Cagayan de Oro**	**1.98**	**34**↓	*e*P	**Pn**	**15 08 05.9**	**+0.5**
CGP				*e*S	**Sg**	**15 08 34.5**	**-1.0**
DAV	**Davao City (W)**	**2.01**	**82**	P	**Pb**	**15 08 07.4**	**-1.1**
	110nm,0.3s,baz=287,slow=1.2,SNR=21						
DAV				S	**Sg**	**15 08 36.3**	**-0.2**
	116nm,0.3s,baz=79,slow=22,SNR=7.4						
DDMP	**Don Marcelino,**	**2.24**	**108**	*e*P	**Pn**	**15 08 09.9**	**+1.0**
DDMP				*e*S	**Sg**	**15 08 42.2**	**-1.7**
SNPH	**Sibulan**	**2.54**	**352**	*e*P	**Pb**	**15 08 16.2**	**-1.4**
BUTP	**Butuan**	**2.95**	**43**	*e*P	**Pb**	**15 08 24.5**	**-0.1**
BUTP				*e*S	**Sg**	**15 09 08.5**	**+1.7**
BIPH	**Bislig**	**3.08**	**64**↑	*i*P	**Pb**	**15 08 24.6**	**-2.2**
BIPH				*i* S	**Sb**	**15 09 06.1**	**+1.6**
GUIM	**Jordan**	**3.92**	**346**	*e*P	**Pn**	**15 08 33.4**	**+1.4**
JAY	**Jayapura**	**19.45**	**118**	P	**P**	**15 11 57.2**	**-1.6**
	0.4nm,0.3s,baz=9.0,slow=19,SNR=3.6						
FITZ	**Fitzroy Crossi**	**24.83**	**175**	P	**P**	**15 12 54.4**	**-0.1**
	1.4nm,0.7s,baz=353,slow=7.9,SNR=5.8						
CMAR	**Chiang Mai Arr**	**26.63**	**298**	P	**P**	**15 13 12.9**	**+2.1**
	1.7nm,0.8s,baz=118,slow=7.5,SNR=13						
CMAR					LR	15 23 51.3	
	comp=Z,44nm,19.1s,baz=185,slow=36						
WRA	**Warramunga Arr**	**28.62**	**158**	P	**P**	**15 13 27.4**	**-1.1**
	0.8nm,0.8s,baz=338,slow=9.6,SNR=4.8						
KSRS	**Korea Array**	**30.76**	**7**	P	**P**	**15 13 47.9**	**+0.5**
	0.7nm,0.7s,baz=193,slow=10,SNR=4.0						

ASAR	**Alice Springs**	**31.93**	**162**	P	**P**	**15 13 56.9**	**-1.0**
	0.3nm,0.5s,baz=339,slow=7.6,SNR=6.7						
MJAR	**Matsushiro Arr**	**32.48**	**22**	LR	LR	15 26 31.4	
	comp=Z,23nm,18.8s,baz=210,slow=35						
USRK	**Ussuriysk Ar.**	**37.97**	**10**	P	**P**	**15 14 49.7**	**0.0**
	1.2nm,0.7s,baz=214,slow=4.7,SNR=4.0						
STKA	**Stephens Creek**	**42.14**	**157**	P	**P**	**15 15 24.4**	**-0.1**
	3.9nm,0.9s,baz=352,slow=6.2,SNR=5.7						
KLR	**Kul'dur**	**42.84**	**8**	P	**P**	**15 15 29.6**	**-0.4**
	1.3nm,0.6s,baz=159,slow=15,SNR=4.1						
SONM	**Songino Array**	**43.43**	**343**	P	**P**	**15 15 35.0**	**+0.1**
	0.7nm,0.7s,baz=152,slow=6.7,SNR=4.5						
MKAR	**Makanchi Array**	**53.25**	**326**	P	**P**	**15 16 52.4**	**+1.7**
	1.0nm,0.5s,baz=124,slow=8.5,SNR=16						
PETK	**Petropavlovsk-**	**53.87**	**25**	P	**P**	**15 16 54.4**	**-0.7**
	1.8nm,0.7s,baz=172,slow=5.2,SNR=3.9						
ILAR	**Eielson Array**	**83.69**	**26**	P	**P**	**15 19 59.0**	**-1.6**
	0.4nm,1.0s,baz=228,slow=4.5,SNR=4.6						
FINES	**FINESS Array B**	**87.65**	**332**	P	**P**	**15 20 19.8**	**-0.5**
	1.3nm,0.9s,baz=81,slow=8.6,SNR=3.5						

*ISCJB **25** 15:10:39.7±0.5,11°.68N±0°.04×87°.08W±0°.04,h62km±5km, mb4.1/21,Error ellipse: s-maj=8.5km s-min=4.3km az=138.3*
*UCR **25** 15:10:39.3±2.2,11°.68N×87°.10W,h21km±9km,MD4.5, ML4.2,mb4.3(NEIC)*
*NEIC **25** 15:10:40.7±0.6,11°.67N×87°.02W,h61km±6km,mb4.3/19, Error ellipse: s-maj=8.7km s-min=6.6km az=45.0*
NEIC Felt at Nicoya and Santa Cruz, Costa Rica.
*IDC **25** 15:10:42.5±1.7,12°.17N×86°.45W,h64km±19km,mb3.6/7, mb1 3.9/9,mb1mx3.6/36,mbtmp3.8/9,MS3.1/4,Ms1 3.0/4, ms1mx2.7/30,Error ellipse: s-maj=45.0km s-min=13.3km az=54.0*
ISC 25 15:10:40.8±0.9,11°.71N±0°.05×87°.03W±0°.05,h57km±9km, n78,σ1§25/83,mb4.2/21,1D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**0.64**	**43**	*e*P	**Pn**	**15 10 53.6**	**-0.4**
MOMN	**Momotombo**	**0.84**	**35**	*e*P	**Pn**	**15 10 56.2**	**-0.5**
CNGN	**Cerro Negro**	**0.85**	**23**	*e*P	**Pn**	**15 10 55.1**	**-1.6**
CNGN				↓*e*P		15 10 55.2	
MGAN	**Managua**	**0.88**	**60**	*e*P	**Pn**	**15 10 57.1**	**0.0**
MGAN				*e*S	**Sn**	**15 11 11.1**	**+2.0**
MASN	**Masaya**	**0.91**	**72**	*e*P	**Pn**	**15 10 56.6**	**-0.8**
MASN				*e*S	**Sn**	**15 11 10.6**	**+0.8**
TELN	**Telica**	**0.91**	**12**	*e*P	**Pn**	**15 10 56.8**	**-0.8**
CRIN	**San Cristobal**	**0.98**	**359**	*e*P	**Pn**	**15 10 57.9**	**-0.7**
CRIN				*e*S	**Sn**	**15 11 12.6**	**+1.0**
CRIN				IAML		15 11 16.8	
	comp=N,6μm,0.4s						
CSGN	**Cosiguina Volc**	**1.36**	**338**	*e*Pn	**Pn**	**15 11 03.4**	**-0.2**
CSGN	**Cosiguina Volc**	**1.36**	**338**	*e*P	**Pn**	**15 11 03.4**	**-0.2**
CONN	**Concepcion**	**1.39**	**96**	*e*P	**Pn**	**15 11 03.1**	**-0.8**
BOAB	**BOACO BROADBAN**	**1.52**	**61**	*e*Pn	**Pn**	**15 11 04.9**	**-0.8**
BOAB	**BOACO BROADBAN**	**1.52**	**61**	*e*P	**Pn**	**15 11 05.5**	**-0.2**
ESTN	**Estel**	**1.53**	**25**	*e*Pn	**Pn**	**15 11 05.7**	**-0.2**
ESTN	**Estel**	**1.53**	**25**	*e*P	**Pn**	**15 11 06.0**	**+0.1**
MATN	**Matagalpa**	**1.62**	**42**	*e*P	**Pn**	**15 11 07.5**	**+0.3**
MATN				*e*S	**Sn**	**15 11 30.0**	**+2.9**
CNCH	**Conchagua**	**1.74**	**333**	*e*P	**Pn**	**15 11 08.0**	**-0.8**
ACON	**Acoyapa**	**1.84**	**82**	*e*P	**Pn**	**15 11 09.5**	**-0.4**
MESS	**Mesas**	**2.04**	**118**	*e*P	**Pn**	**15 11 12.7**	**-0.2**
MESS				*e*S	**Sn**	**15 11 39.6**	**+2.3**
VCR	**Vista de Mar**	**2.09**	**139**	*e*P	**Pn**	**15 11 15.0**	**+1.5**
VSM	**San Miguel**	**2.09**	**325**	*e*P	**Pn**	**15 11 14.5**	**+0.8**
PLVR	**Palo Verde**	**2.13**	**129**	*e*P	**Pn**	**15 11 13.4**	**-0.8**
TGUH	**Tegucigalpa,Un**	**2.34**	**354**	*e*Pn	**Pn**	**15 11 17.3**	**+0.4**
TGUH	**Tegucigalpa,Un**	**2.34**	**354**	*e*P	**Pn**	**15 11 17.4**	**+0.5**
CAHU	**Cacaucatique**	**2.35**	**331**	*e*P	**Pn**	**15 11 16.9**	**-0.2**
JTS	**JuntasAbangare**	**2.48**	**124**	P	**Pn**	**15 11 18.6**	**-0.2**
	comp=N,14nm,0.3s,baz=28,slow=16,SNR=15						
JTS				S	**Sn**	**15 11 48.1**	**+0.1**
	comp=N,22nm,0.3s,baz=81,slow=23,SNR=6.2						
JTS	**JuntasAbangare**	**2.48**	**124**	*e*Pn	**Pn**	**15 11 18.9**	**+0.1**
ARE1	**Arenal 1**	**2.59**	**118**	*e*P	**Pn**	**15 11 21.1**	**+0.8**
ARE1				*e*S	**Sn**	**15 11 53.7**	**+3.1**
ESPN	**Las Esperanzas**	**2.72**	**80**	*e*Pn	**Pn**	**15 11 21.9**	**-0.1**
ESPN	**Las Esperanzas**	**2.72**	**80**	*e*P	**Pn**	**15 11 22.3**	**+0.3**
BOQS	**Boqueron**	**2.98**	**313**	*e*P	**Pn**	**15 11 23.8**	**-2.0**
HDC	**Heredia**	**3.33**	**120**	*e*Pn	**Pn**	**15 11 30.9**	**+0.4**
URSC	**Urasca**	**3.70**	**120**	*e*P	**Pn**	**15 11 37.8**	**+2.1**
APG	**El Apazote**	**4.68**	**315**	P	**Pn**	**15 11 52.4**	**+3.3**
	comp=N,0.7nm,0.3s,baz=84,slow=12,SNR=5.6						
CCIG	**Comitan**	**6.72**	**313**	*e*Pn	**Pn**	**15 12 18.8**	**+1.8**
TEIG	**Tepich**	**8.55**	**352**	*e*Pn	**Pn**	**15 12 43.1**	**+1.2**
PAYG	**Puerto Ayora**	**12.72**	**195**	*e*Pn	**Pn**	**15 13 37.6**	**-1.4**
GTBY	**Guantanamo Bay**	**14.07**	**53**	*e*Pn	**Pn**	**15 13 57.0**	**-0.4**
MOIG	**Morelia**	**15.76**	**302**	*e*Pn	**Pn**	**15 14 19.8**	**+0.4**
	comp=N,19nm,0.5s						
LNIG	**Linares**	**17.63**	**320**	*e*Pn	**P**	**15 14 43.4**	**+0.5**
	comp=N,6.1nm,0.8s						
HKT	**Hockley**	**19.91**	**337**	*e*P	**P**	**15 15 08.5**	**+0.8**
	comp=N,5.1nm,1.0s						
833A	**Chaparral WMA,**	**20.17**	**327**	*e*P	**P**	**15 15 11.0**	**+0.3**
	comp=N,16nm,0.9s						
147A	**Livingston**	**20.89**	**357**	*e*P	Pn	15 15 22.3	+0.8
	comp=N,14nm,0.8s						
LRAL	**Lakeview Retre**	**21.22**	**0**	*e*P	**P**	**15 15 23.3**	**+1.4**
	comp=N,5.5nm,0.8s						
Y52A	**Lilburn**	**22.22**	**7**	*e*P	**P**	**15 15 33.3**	**+0.6**
	comp=N,11nm,1.0s						
TXAR	**Lajitas Array**	**23.40**	**321**	P	**P**	**15 15 45.8**	**+0.9**
	comp=N,3.7nm,0.6s,baz=139,slow=9.7,SNR=42						
TXAR				PcP	**PcP**	**15 19 31.9**	**+1.9**
	comp=N,0.2nm,0.5s,baz=147,slow=5.5,SNR=5.3						
TXAR				LR	LR	15 27 19.4	
	comp=N,20nm,18.9s,baz=0.0,slow=43						
TX31	**Lajitas Ar. Si**	**23.40**	**321**	*e*P	**P**	**15 15 45.4**	**+0.5**
W50A	**Signal Mountai**	**23.44**	**4**	*e*P	**P**	**15 15 45.5**	**+0.4**
	comp=N,8.4nm,0.6s						
MIAR	**Mount Ida**	**23.50**	**346**	*e*P	**P**	**15 15 45.6**	**0.0**
	comp=N,7.1nm,0.7s						
CPCT	**Cooper Cave**	**23.74**	**5**	*e*P	**P**	**15 15 48.5**	**+0.7**
	comp=N,6.0nm,0.6s						
X37A	**Clayton**	**24.01**	**343**	*e*P	**P**	**15 15 50.7**	**+0.4**
	comp=N,14nm,1.1s						
TKL	**Tuckaleechee C**	**24.02**	**7**	P	**P**	**15 15 47.3**	**-3.1**
	comp=N,2.5nm,0.3s,baz=155,slow=4.7,SNR=9.5						
TKL	**Tuckaleechee C**	**24.02**	**7**	*e*P	**P**	**15 15 52.2**	**+1.8**
	comp=N,7.4nm,0.8s						
WMOK	**Wichita Mounta**	**25.29**	**337**	*e*P	**P**	**15 16 02.1**	**0.0**
	comp=N,11nm,0.9s						
TUL1	**Leonard**	**25.36**	**343**	*e*P	**P**	**15 16 01.9**	**-0.8**
	comp=N,7.6nm,0.8s						
MNTX	**Cornudas Mount**	**26.12**	**322**	*e*P	**P**	**15 16 10.5**	**+0.9**
	comp=N,1.9nm,0.9s						
MSTX	**Muleshoe**	**26.41**	**330**	*e*P	**P**	**15 16 12.3**	**0.0**
	comp=N,5.8nm,0.8s						
MVCO	**Mesa Verde**	**31.88**	**326**	*e*P	**P**	**15 16 58.7**	**-2.3**
ECSD	**EROS Data Cent**	**32.97**	**347**	*e*P	**P**	**15 17 08.2**	**-1.9**
	comp=N,3.3nm,0.7s						
PV10	**Paradox Valley**	**33.03**	**327**	*e*P	**P**	**15 17 10.9**	**-0.1**
SPMN	**Marine on St.**	**33.76**	**353**	*e*P	**P**	**15 17 15.2**	**-1.8**
	comp=N,12nm,0.5s						
PDAR	**Pinedale Array**	**36.61**	**332**	P	**P**	**15 17 42.0**	**+0.2**
	comp=N,0.7nm,0.6s,baz=118,slow=8.4,SNR=7.6						
HWUT	**Hardware Ranch**	**36.72**	**329**	*e*P	**P**	**15 17 42.5**	**-0.2**
	comp=N,3.2nm,0.8s						
REDW	**Red Top Meadow**	**37.68**	**331**	*e*P	**P**	**15 17 51.5**	**+0.6**
	comp=N,5.2nm,0.7s						
NV01	**Mina Array Sit**	**38.52**	**319**	*e*P	**P**	**15 17 57.4**	**-0.7**
NVAR	**Mina Array Bea**	**38.52**	**319**	P	**P**	**15 18 00.1**	**+2.0**
	comp=N,0.6nm,0.7s,baz=117,slow=7.1,SNR=4.9						
NVAR				PcP	**PcP**	**15 20 11.1**	**+1.1**
	comp=N,1.1nm,0.7s,baz=138,slow=4.1,SNR=7.9						
ULM	**Lac du Bonnet**	**39.11**	**351**	P	**P**	**15 18 00.5**	**-2.0**
	comp=N,2.8nm,0.6s,baz=171,slow=8.9,SNR=5.4						
NEW	**Newport**	**44.25**	**331**	LR	LR	15 39 12.5	
	comp=N,34nm,18.0s,baz=67,slow=39						
SCHQ	**Schefferville**	**45.87**	**16**	LR	LR	15 37 45.9	
	comp=N,25nm,18.2s,baz=300,slow=36						
CPUP	**Villa Florida**	**47.58**	**143**	LR	LR	15 42 13.9	
	comp=N,18nm,19.9s,baz=33,slow=40						
YKA	**Yellowknife Ar**	**54.43**	**345**	P	**P**	**15 20 00.8**	**-1.1**
	comp=N,1.6nm,0.7s,baz=138,slow=7.4,SNR=12						
IL1	**Eielson Array**	**66.86**	**336**	*e*P	**P**	**15 21 25.8**	**-0.8**
ILAR	**Eielson Array**	**66.86**	**336**	P	**P**	**15 21 26.4**	**-0.2**
	comp=N,0.6nm,0.6s,baz=147,slow=4.3,SNR=9.2						
SONM	**Songino Array**	**119.53**	**350**	PKP	**PKPdf**	**15 29 25.1**	**+0.6**
	comp=N,0.3nm,0.4s,baz=265,slow=1.7,SNR=4.9						
KSRS	**Korea Array**	**121.11**	**328**	PKP	**PKPdf**	**15 29 28.6**	**+0.9**
	comp=N,0.9nm,0.6s,baz=0.0,slow=1.5,SNR=4.3						

LZH	**Lanzhou**	**131.36**	**348**	*e*PKP	**PKPdf**	**15 29 45.5**	**-2.0**
LZH				pPKP	pPKPdf	15 30 03.3	-1.0
LZH				sPKP		15 30 10.0	
ASAR	**Alice Springs**	**139.37**	**247**	PKP	**PKPdf**	**15 30 02.8**	**+0.2**
	comp=N,0.4nm,0.7s,baz=92,slow=2.4,SNR=3.5						
WRA	**Warramunga Arr**	**139.45**	**253**	PKhKP	PKPpre	15 30 00.6	
	comp=N,0.4nm,0.6s,baz=93,slow=2.4,SNR=3.7						
WRA				PKP	**PKiKP**	**15 30 04.1**	**-1.0**
	comp=N,0.3nm,0.5s,baz=89,slow=2.6,SNR=10						
CMAR	**Chiang Mai Arr**	**149.45**	**349**	PKPbc	**PKPdf**	**15 30 21.6**	**+1.6**
	comp=N,1.3nm,0.7s,baz=312,slow=2.1,SNR=7.2						

*NORS **25** 15:17:24.9±0.0,42°.51N×43°.67E,h25km±1km,MPVA3.4*
ISC 25 15:17:24.8±1.6,42°.5N±0°.1×43°.68E±0°.09,h15km±16km,n5, σ0§24/10,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.19**	**299**	P	**Pg**	**15 17 29.2**	**-0.2**
ONI				S	**Sg**	**15 17 32.8**	**+0.3**
ZEI	**Tsey**	**0.33**	**29**	*i* Pg	**Pb**	**15 17 32.5**	**-0.1**
ZEI				*e*Sg	**Sb**	**15 17 38.0**	**+0.2**
DIGR	**Digorskoe uzhe**	**0.41**	**350**	*e*Pg	**Pb**	**15 17 33.8**	**-0.1**
DIGR				*e*Sg	**Sb**	**15 17 40.0**	**0.0**
LACR	**Lac**	**0.56**	**54**	*e*Pg	**Pb**	**15 17 36.3**	**-0.2**
LACR				*e*Sg	**Sb**	**15 17 44.7**	**+0.4**
LGD	**Lagodekhi**	**2.02**	**108**	P	**Pb**	**15 18 01.2**	**+0.1**
LGD				S	**Sg**	**15 18 29.6**	**-0.1**

*ISCJB **25** 15:45:39.6±1.0,11°.07N±0°.09×84°.7W±0°.2,h10km,mb3.6/5, Error ellipse: s-maj=26.5km s-min=12.2km az=167.5*
*IDC **25** 15:45:39.9±1.2,11°.08N×84°.68W,h0km,mb3.6/5, mb1 4.0/6,mb1mx3.6/37,mbtmp3.6/6,ML3.2/1,MS3.1/1, Ms1 3.1/1,ms1mx2.5/29,Error ellipse: s-maj=32.4km s-min=9.4km az=97.0*
ISC 25 15:45:41.3±1.1,11°.02N±0°.10×84°.8W±0°.2,h10km,n9, σ0§60/8,mb3.8/5,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**0.75**	**196**	Pg	**Pg**	**15 45 55.7**	**-0.2**
	90nm,0.3s,baz=4.7,slow=16,SNR=155						
JTS				Lg	Lg	15 46 07.5	
	120nm,0.3s,baz=310,slow=19,SNR=16						
APG	**El Apazote**	**6.83**	**306**	Pn	**Pn**	**15 47 22.2**	**+0.3**
	0.4nm,0.3s,baz=119,slow=7.3,SNR=4.2						
ATAH	**Atahualpa**	**19.11**	**160**	LR	LR	15 56 29.6	
	comp=Z,54nm,18.4s,baz=12,slow=34						
TXAR	**Lajitas Array**	**25.37**	**319**	P	**P**	**15 51 09.3**	**+0.4**
	0.6nm,0.7s,baz=142,slow=9.8,SNR=9.4						
NVAR	**Mina Array Bea**	**40.52**	**318**	P	**P**	**15 53 21.3**	**+0.2**
	1.1nm,0.5s,baz=124,slow=7.3,SNR=11						
CPUP	**Villa Florida**	**45.71**	**145**	P	**

mpv4.0,Error ellipse: s-maj=35.6km s-min=12.5km az=165.0

*IDC **25** 16:03:05.5±5.0, 36.88N×70.19E, h150km±41km, mb1 3.2/7, mb1mx2.9/51, mbtmp3.8/7, Error ellipse: s-maj=63.1km s-min=18.0km az=155.0*

ISC 25 16:02:57.7±1.1, 36.28N±0.08×70.47E±0.08, h150km, n32, σ1979/37, 6C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.42**	**32**	⇓P	**Pn**	**16 04 05.8**	**+2.1**
	15nm,0.3s						
SFK				⇑S	**Sn**	**16 04 54.9**	**-0.2**
	71nm,0.3s						
AML	**Almayashu**	**6.35**	**22**	P	**Pn**	**16 04 30.8**	**+1.4**
	SNR=71						
MNAS	**Manas**	**6.39**	**14**	⇑P	**Pn**	**16 04 31.6**	**+1.9**
	14nm,0.7s						
MNAS				⇑S	**Sn**	**16 05 39.4**	**-2.4**
	8.9nm,0.4s						
UCH	**Uchtor**	**6.71**	**27**	P	**Pn**	**16 04 35.7**	**+1.5**
	SNR=14						
KK31	**Karatay Array**	**6.81**	**0**	P	**Pn**	**16 04 36.6**	**+1.5**
	3.6nm,0.3s,baz=181,slow=13,SNR=135						
KK31				S	**Sn**	**16 05 49.9**	**-1.7**
	4.4nm,0.3s,baz=191,slow=21,SNR=7.0						
EKS2	**Erkin-Say**	**6.86**	**21**	P	**Pn**	**16 04 38.0**	**+2.1**
	SNR=33						
KZA	**Kyzart**	**6.87**	**31**	P	**Pn**	**16 04 37.3**	**+0.9**
	SNR=10						
AAK	**Ala-Archa**	**7.07**	**25**	P	**Pn**	**16 04 40.6**	**+1.8**
	3.1nm,0.3s,baz=170,slow=6.6,SNR=44						
AAK				S	**Sn**	**16 05 56.9**	**-1.0**
	1.8nm,0.3s,baz=121,slow=23,SNR=12						
AAK	**Ala-Archa**	**7.07**	**25**	⇓P	**Pn**	**16 04 40.3**	**+1.5**
	6.7nm,0.7s						
AAK				⇓S	**Sn**	**16 05 57.3**	**-0.6**
	15nm,0.8s						
AAK	**Ala-Archa**	**7.07**	**25**	P	**Pn**	**16 04 40.5**	**+1.8**
	SNR=6.3						
KBK	**Karagaybulak**	**7.25**	**27**	P	**Pn**	**16 04 43.6**	**+2.5**
	SNR=7.4						
CHMS	**Chumysh**	**7.47**	**25**	P	**Pn**	**16 04 45.4**	**+1.4**
	SNR=7.8						
USP	**Ospenovka**	**7.63**	**23**	P	**Pn**	**16 04 47.9**	**+1.7**
	SNR=8.7						
TKM2	**Tokmak 2**	**7.72**	**29**	⇑P	**Pn**	**16 04 49.0**	**+1.6**
	3.2nm,0.4s						
TKM2				⇑S	**Sn**	**16 06 12.0**	**-1.6**
	4.6nm,0.7s						
TKM2	**Tokmak 2**	**7.72**	**29**	P	**Pn**	**16 04 48.7**	**+1.2**
	SNR=14						
GEYT	**Alibeck**	**10.01**	**283**	P	Pn	16 05 20.8	+3.0
	0.2nm,0.3s,baz=104,slow=12,SNR=3.9						
GEYT				S	**Sn**	**16 07 07.8**	**-0.7**
	0.2nm,0.3s,baz=80,slow=16,SNR=2.9						
GYA0B	**ALIBECK ARRAY**	**10.01**	**283**	⇑S	Sn	16 07 13.6	+5.1
	4.7nm,0.6s						
MKAR	**Makanchi Array**	**13.72**	**36**	P	**P**	**16 06 08.0**	**-1.6**
	0.1nm,0.3s,baz=226,slow=12,SNR=3.2						
DANN	**Dangsing**	**13.73**	**121**	*e*P	**P**	**16 06 06.5**	**-3.6**
	5.3nm,0.3s						
KOLN	**Koldanda**	**13.99**	**124**	*e*P	**P**	**16 06 09.2**	**-3.7**
	2.2nm,0.3s						
AB31	**Akbulak array**	**15.07**	**333**	P	**P**	**16 06 26.4**	**+1.9**
	1.8nm,0.3s,baz=163,slow=12,SNR=121						
AB31				S	**Sn**	**16 09 07.5**	**-2.7**
	2.1nm,0.7s,baz=152,slow=22,SNR=6.4						
DMN	**Daman**	**15.12**	**121**	*e*P	**P**	**16 06 24.8**	**-0.7**
	5.5nm,0.5s						
KKN	**Kakani**	**15.13**	**120**	*e*P	**P**	**16 06 24.8**	**-0.8**
PKIN	**Phulchoki**	**15.34**	**120**	*e*P	**P**	**16 06 27.5**	**-0.5**
PKI	**Pulchoki**	**15.36**	**120**	*e*P	**P**	**16 06 27.4**	**-0.8**
	2.9nm,0.3s						
KURBB	**Kurchatov Arra**	**15.47**	**20**	P	**P**	**16 06 28.5**	**-0.3**
	0.1nm,0.3s,baz=212,slow=11,SNR=7.4						
GUN	**Gumba**	**15.48**	**118**	*e*P	**P**	**16 06 29.6**	**0.0**
	4.8nm,0.3s						
JIRN	**Jiri**	**15.85**	**118**	*e*P	**P**	**16 06 34.8**	**+1.1**
	13nm,0.3s						
RAMN	**Ramite**	**16.57**	**120**	*e*P	**Pn**	**16 06 43.7**	**+2.1**
	4.2nm,0.4s						
BVAR	**Borovoye Array**	**16.74**	**360**	P	**Pn**	**16 06 44.6**	**+1.4**
	0.3nm,0.3s,baz=170,slow=11,SNR=7.9						
AKTO	**Aktyubinsk**	**16.76**	**331**	P	**Pn**	**16 06 45.0**	**+1.5**
	0.2nm,0.3s,baz=150,slow=11,SNR=8.9						
ZALV	**Zalesovo Beam**	**20.29**	**25**	P	Pn	16 07 24.6	-0.5
	1.4nm,0.3s,baz=223,slow=12,SNR=18						

*IDC **25** 16:04:54.3±0.7, 32.65N×71.62E, h0km, mb3.9/15, mb1 4.0/17, mb1mx3.8/45, mbtmp3.9/17, ML3.8/2, MS3.0/3, Ms1 3.0/3, ms1mx2.5/35, Error ellipse: s-maj=20.8km s-min=15.2km az=49.0*

*ISCJB **25** 16:04:56.9±0.4, 32.64N±0.04×71.90E±0.05, h33km, mb3.9/16, MS2.9/2, Error ellipse: s-maj=7.6km s-min=4.0km az=42.3*

*MOS **25** 16:04:58.0±1.6, 32.74N×71.73E, h33km, mb4.4/1, Error ellipse: s-maj=12.7km s-min=6.9km az=91.9*

*NEIC **25** 16:04:59.1±3.5, 32.71N×71.73E, h32km±25km, mb4.3/5, Error ellipse: s-maj=13.0km s-min=7.4km az=202.0*

ISC 25 16:04:58.9±0.6, 32.64N±0.07×71.78E±0.06, h35km, n69, σ1930/74, mb3.9/16, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIL	**Nilore**	**1.60**	**51**	*e*Pn	**Pn**	**16 05 26.0**	**+1.3**
NIL				*e*Sn	**Sn**	**16 05 44.2**	**+0.1**
NIL	**Nilore**	**1.60**	**51**	*e*P	**Pn**	**16 05 26.0**	**+1.3**
NIL				*e*		16 05 44.3	
KBL	**Kabul**	**2.96**	**310**	*e*Pn	**Pn**	**16 05 44.2**	**+0.5**
KBL	**Kabul**	**2.96**	**310**	*e*P	**Pn**	**16 05 44.2**	**+0.5**
NDI	**New Delhi**	**6.13**	**129**	*e*P	Pn	16 06 41.5	+15
NDI				*e*S	**Sn**	**16 07 38.0**	**+2.2**
NRN	**Naryn**	**9.40**	**20**	*e*Pn	**Pn**	**16 07 11.8**	**-0.4**
NRN	**Naryn**	**9.40**	**20**	*e*P	**Pn**	**16 07 11.8**	**-0.4**
AAK	**Ala-Archa**	**10.21**	**11**	Pn	**Pn**	**16 07 24.0**	**+0.9**
	1.3nm,0.3s,baz=104,slow=7.2,SNR=4.8						
AAK				Sn	**Sn**	**16 09 17.2**	**+0.9**
	0.2nm,0.3s,baz=333,slow=15,SNR=7.7						
AAK				LR	LR	16 11 35.6	
	comp=Z,44nm,20.2s,baz=169,slow=39						
AAK	**Ala-Archa**	**10.21**	**11**	*e*Pn	**Pn**	**16 07 23.2**	**+0.1**
AAK				*e*Sn	**Sn**	**16 09 17.2**	**+0.9**
AAK	**Ala-Archa**	**10.21**	**11**	*e*P	**Pn**	**16 07 23.2**	**+0.1**
AAK				*e*		16 09 17.2	
KK31	**Karatay Array**	**10.49**	**355**	*e*Pn	**Pn**	**16 07 25.2**	**-1.6**
KK31	**Karatay Array**	**10.49**	**355**	*e*P	**Pn**	**16 07 25.2**	**-1.6**
KKAR	**Karatay Array**	**10.49**	**355**	*e*Pn	**Pn**	**16 07 25.2**	**-1.6**
KKAR	**Karatay Array**	**10.49**	**355**	*e*P	**Pn**	**16 07 25.2**	**-1.6**
PYUN	**Piuthan**	**10.69**	**112**	*e*P	**Pn**	**16 07 29.5**	**-0.2**
	23nm,0.4s						
PYUN				*e*S	**Sn**	**16 09 25.9**	**-2.4**
DANN	**Dangsing**	**11.19**	**109**	*e*P	**Pn**	**16 07 36.0**	**-0.6**
	17nm,0.5s						
DANN				*e*S	**Sn**	**16 09 37.7**	**-2.9**
KOLN	**Koldanda**	**11.32**	**112**	*e*P	**Pn**	**16 07 38.5**	**+0.1**
	11nm,0.5s						
DMN	**Daman**	**12.58**	**110**	*e*P	**Pn**	**16 07 53.9**	**-1.7**
	16nm,0.6s						
KKN	**Kakani**	**12.64**	**109**	*e*P	**Pn**	**16 07 54.5**	**-1.9**
	23nm,0.6s						
PKIN	**Phulchoki**	**12.82**	**110**	*e*P	**Pn**	**16 07 56.8**	**-2.2**
	21nm,0.5s						
PKI	**Pulchoki**	**12.84**	**110**	*e*P	**Pn**	**16 07 57.0**	**-2.2**
	31nm,0.6s						
GUN	**Gumba**	**13.07**	**107**	*e*P	**Pn**	**16 08 00.5**	**-1.9**
	16nm,0.5s						
JIRN	**Jiri**	**13.42**	**108**	*e*P	**Pn**	**16 08 04.4**	**-2.9**
	36nm,0.5s						
RAMN	**Ramite**	**14.06**	**110**	*e*P	**Pn**	**16 08 13.1**	**-2.8**
	15nm,0.5s						
MK01	**Makanchi Array**	**16.25**	**27**	*e*Pn	**Pn**	**16 08 43.5**	**-0.9**
MK31	**Makanchi Array**	**16.26**	**27**	*e*Pn	**P**	**16 08 46.4**	**-0.9**
MK31	**Makanchi Array**	**16.26**	**27**	*e*P	**P**	**16 08 46.4**	**-0.9**
MK32	**Makanchi Array**	**16.26**	**27**	*e*Pn	**Pn**	**16 08 43.9**	**-0.7**
MKAR	**Makanchi Array**	**16.26**	**27**	Pn	**Pn**	**16 08 43.9**	**-0.7**
	0.2nm,0.3s,baz=202,slow=11,SNR=7.9						
MKAR	**Makanchi Array**	**16.26**	**27**	*e*Pn	**P**	**16 08 46.5**	**-0.8**
	26nm,1.4s						
MKAR	**Makanchi Array**	**16.26**	**27**	*e*P	**P**	**16 08 46.5**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,26nm,1.4s						
KURBB	**Kurchatov Arra**	**18.65**	**14**	P	**P**	**16 09 10.6**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=206,slow=10.0,SNR=11						
KURK	**Kurchatov**	**18.75**	**14**	*e*P	**P**	**16 09 14.3**	**-0.4**
KURK	**Kurchatov**	**18.75**	**14**	*e*P	**P**	**16 09 14.3**	**-0.4**
SHL	**Shillong**	**18.92**	**107**	*e*P	**P**	**16 09 16.4**	**-0.5**
	comp=Z,6.3nm,0.6s						
SHL	**Shillong**	**18.92**	**107**	*e*P	**P**	**16 09 16.4**	**-0.5**
SHL				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BVAR	**Borovoye Array**	**20.40**	**358**	P	**P**	**16 09 32.3**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=170,slow=10.0,SNR=11						
AKTO	**Aktyubinsk**	**20.49**	**334**	P	**P**	**16 09 32.8**	**-0.9**
	comp=Z,2.1nm,0.4s,baz=136,slow=11,SNR=11						
AKTO				LR	LR	16 18 59.2	
	comp=Z,20nm,18.3s,baz=243,slow=41						
ZAA0	**Zalesovo Array**	**23.25**	**20**	*e*P	**P**	**16 10 02.7**	**-0.2**
	comp=Z,4.3nm,0.7s						
ZALV	**Zalesovo Beam**	**23.25**	**20**	P	**P**	**16 10 02.8**	**-0.1**
	comp=Z,3.3nm,0.5s,baz=217,slow=12,SNR=7.9						
ZALV	**Zalesovo Beam**	**23.25**	**20**	*e*P	**P**	**16 10 00.9**	**-2.0**
ZALV	**Zalesovo Beam**	**23.25**	**20**	P	**P**	**16 10 02.8**	**-0.1**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZAA1	**Zalesovo Array**	**23.25**	**20**	*e*P	**P**	**16 10 02.8**	**-0.2**
NVS	**Novosibirsk**	**23.63**	**17**	*e*P	**P**	**16 10 06.4**	**-0.2**
KBZ	**Khabaz**	**25.13**	**304**	P	**P**	**16 10 22.3**	**+1.8**
	comp=Z,1.9nm,0.9s,baz=158,slow=5.4,SNR=3.3						
ARU	**Arti**	**25.49**	**343**	P	**P**	**16 10 24.0**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=117,slow=4.5,SNR=4.1						
ARU				LR	LR	16 21 37.6	
	comp=Z,88nm,19.3s,baz=101,slow=39						
ARU	**Arti**	**25.49**	**343**	P	**P**	**16 10 24.0**	**+0.3**
CM31	**Chiang Mai Arr**	**28.19**	**113**	*e*P	**P**	**16 10 49.5**	**+1.2**
CMAR	**Chiang Mai Arr**	**28.19**	**113**	*e*P	**P**	**16 10 50.1**	**+1.8**
	comp=Z,0.9nm,0.9s,baz=296,slow=8.9,SNR=7.6						
BR101	**Keskin Array S**	**31.41**	**294**	*e*P	**P**	**16 11 17.6**	**+0.8**
BR131	**Keskin Array S**	**31.41**	**294**	*e*P	**P**	**16 11 17.2**	**+0.4**
BRTR	**Keskin Array B**	**31.41**	**294**	P	**P**	**16 11 17.6**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=127,slow=9.5,SNR=8.7						
FIA0	**FINESS Array S**	**41.07**	**328**	*e*P	**P**	**16 12 39.1**	**+0.3**
FIA0	**FINESS Array S**	**41.07**	**328**	*e*P	**P**	**16 12 39.1**	**+0.3**
FINES	**FINESS Array B**	**41.07**	**328**	P	**P**	**16 12 39.1**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=116,slow=4.4,SNR=6.1						
ARA0	**ARCESS Array S**	**44.96**	**339**	*e*P	**P**	**16 13 10.5**	**+0.3**
ARCES	**ARCESS Array B**	**44.96**	**339**	P	**P**	**16 13 10.5**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=106,slow=8.9,SNR=9.4						
NB2	**NORSAR Subarra**	**47.87**	**325**	P	**P**	**16 13 33.0**	**-0.2**
	comp=Z,4.2nm,0.8s,baz=98,slow=7.9						
NB200	**NORSAR Array S**	**47.87**	**325**	*e*P	**P**	**16 13 32.6**	**-0.6**
NOA	**NORSAR Array B**	**47.87**	**325**	P	**P**	**16 13 32.6**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=97,slow=7.7,SNR=8.6						
KEST	**Kesra**	**50.96**	**292**	P	**P**	**16 13 57.6**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=0.0,slow=6.1,SNR=3.0						
KEST	**Kesra**	**50.96**	**292**	*e*P	**P**	**16 13 57.8**	**+0.6**
	comp=Z,16nm,1.8s						
TOA1	**Torodi Ar. Sit**	**66.34**	**271**	*e*P	**P**	**16 15 42.5**	**-1.9**
TORD	**Torodi Ar. Bea**	**66.34**	**271**	P	**P**	**16 15 42.5**	**-1.9**
	comp=Z,0.7nm,0.5s,baz=44,slow=5.1,SNR=9.3						
ILAR	**Eielson Array**	**78.31**	**16**	P	**P**	**16 16 56.3**	**+1.3**
	comp=Z,0.4nm,0.9s,baz=297,slow=5.9,SNR=4.2						
WR1	**Warramunga Arr**	**79.41**	**122**	*e*P	**P**	**16 17 03.3**	**+1.5**
	comp=Z,20nm,1.7s						
WRA	**Warramunga Arr**	**79.41**	**122**	P	**P**	**16 17 03.3**	**+1.5**
	comp=Z,1.2nm,0.6s,baz=324,slow=5.0,SNR=12						
ASAR	**Alice Springs**	**81.53**	**125**	P	**P**	**16 17 14.8**	**+1.8**
	comp=Z,0.8nm,0.6s,baz=310,slow=5.2,SNR=18						
YKA	**Yellowknife Ar**	**85.06**	**3**	P	**P**	**16 17 31.4**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=351,slow=5.0,SNR=3.3						

MAN 25 16:08:09.5, 10.64N×121.61E, h38km, mb4.1, ML2.9, MS2.5, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAP	**San Jose, Anti**	**0.35**	**72**	⇑*e*P	Pn	16 08 14.7	-3.4
CUYO	**Cuyo Island**	**0.62**	**290**	*e*P	Pn	16 08 23.1	+1.2
CUYO				*e*S	Sn	16 08 32.5	+1.9
GUIM	**Jordan**	**0.96**	**90**	*e*P	Pn	16 08 26.9	+0.3
GUIM				*e*S	Sn	16 08 40.0	+1.0
OTRP	**Odiongan**	**1.76**	**13**	*e*P	Pn	16 08 38.2	+0.7

IDC 25 16:23:12.2±4.4, 36.62N×108.84E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.2/47, mbtmp3.4/4, Error ellipse: s-maj=365.6km s-min=22.6km az=49.0, Gansu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**22.18**	**306**	P	P	16 28 09.4	-0.4
	0.5nm,0.6s,baz=104,slow=12,SNR=5.2						
KURBB	**Kurchatov Arra**	**25.81**	**312**	P	P	16 28 45.2	+0.3
	0.4nm,0.6s,baz=121,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**61.20**	**152**	P	P	16 33 29.1	+0.3
	0.7nm,0.9s,baz=346,slow=7.5,SNR=4.6						
ASAR	**Alice Springs**	**64.46**	**154**	P	P	16 33 50.2	-0.3
	0.3nm,0.7s,baz=338,slow=5.4,SNR=3.7						

*ATH **25** 16:43:56.9, 36.68N×28.01E, h24km±1km, ML2.8/3, Error ellipse: s-maj=3.0km s-min=1.3km az=217.0*

*THE **25** 16:43:57.4, 36.65N×27.96E, h0km±1km, ML2.7/3, Error ellipse: s-maj=1.0km s-min=0.5km az=181.0*

*ISK **25** 16:43:57.3, 36.59N×27.95E, h5km, ML2.6/13*

*DDA **25** 16:43:57.7, 36.61N×27.93E, h7km, Ml2.9*

*ISCJB **25** 16:43:58.1±0.4, 36.62N±0.03×27.95E±0.02, h7km±4km, Error ellipse: s-maj=4.8km s-min=3.3km az=7.2*

ISC 25 16:43:57.0±1.2, 36.62N±0.02×27.94E±0.02, h6km±10km, n36, σ1966/52, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSB	**Marmaris-Mugla**	**0.23**	**64**	PG	**Pg**	**16 44 02.2**	**+0.7**
DATC	**Datca-Mugla**	**0.27**	**303**	PG	**Pb**	**16 44 03.5**	**-0.7**
DAT	**Datca**	**0.31**	**291**	PG	**Pb**	**16 44 04.4**	**-0.6**
DAT				SG	**Sb**	**16 44 10.1**	**-0.3**
DAT	**Datca**	**0.31**	**291**	*i* P	**Pb**	**16 44 04.7**	**-0.3**
DAT				*i* S	**Sb**	**16 44 09.6**	**-0.8**
ARG	**Arkhangelos**	**0.43**	**159**	PG	**Pg**	**16 44 05.5**	**+0.3**
ARG	**Arkhangelos**	**0.43**	**159**	P	**Pb**	**16 44 06.6**	**-0.4**
ARG				S	**Sb**	**16 44 14.4**	**+0.8**
ARG				AML	AML	16 44 15.5	
	comp=N,2358μm,0.4s						
ARG				AML	AML	16 44 15.9	
	comp=E,2129μm,0.3s						
ARG	**Arkhangelos**	**0.43**	**159**	P	**Pb**	**16 44 06.5**	**-0.4**
ARG				S	**Sb**	**16 44 14.2**	**+0.6**
TURN	**Turunc**	**0.59**	**64**	PG	Pg	16 44 03.4	-4.9
TURN	**Turunc**	**0.59**	**64**	*i* P	Pg	16 44 03.3	-5.1
TURN				*i* S	**Sg**	**16 44 08.6**	**-7.5**
DALY	**Dalyan (Mu¨la**	**0.61**	**71**	PG	**Pb**	**16 44 09.7**	**-0.3**
DALY	**Dalyan (Mu¨la**	**0.61**	**71**	*i* P	**Pg**	**16 44 08.6**	**0.0**
DALY				*i* S	**Sb**	**16 44 18.3**	**-0.5**
NIS1	**Nisyros Isl.**	**0.61**	**269**	PG	**Pg**	**16 44 08.8**	**+0.1**
NIS1	**Nisyros Isl.**	**0.61**	**269**	P	**Pb**	**16 44 10.4**	**+0.3**
NIS1				S	**Sb**	**16 44 20.3**	**+1.3**
NIS1				AML	AML	16 44 23.8	
	comp=N,3368μm,0.3s						
NIS1				AML	AML	16 44 24.2	
	comp=E,2823μm,0.2s						
NIS1	**Nisyros Isl.**	**0.61**	**269**	P	**Pb**	**16 44 10.4**	**+0.3**
NIS1				S	**Sn**	**16 44 21.0**	**-1.4**
NISR	**Nisiros**	**0.65**	**270**	P	**Pb**	**16 44 10.4**	**-0.3**
NISR				S	**Sb**	**16 44 20.8**	**+0.8**
BODT	**Bodrum**	**0.67**	**312**	PG	**Pb**	**16 44 11.1**	**-0.1**
BODT	**Bodrum**	**0.67**	**312**	P	**Pb**	**16 44 11.0**	**-0.1**
BODT				S	**Sb**	**16 44 21.3**	**+0.6**
MLSB	**Milas**	**0.69**	**349**	PG	**Pb**	**16 44 11.6**	**+0.1**
FETY	**Fethiye**	**0.92**	**88**	PG	**Pn**	**16 44 15.5**	**-1.0**
FETY	**Fethiye**	**0.92**	**88**	P	**Pb**	**16 44 15.1**	**-0.3**
FETY				S	**Sn**	**16 44 29.6**	**-0.5**
AYDN	**Tasoluk**	**1.04**	**357**	*i* P	**Pn**	**16 44 17.4**	**-0.8**
AYDN				*i* S	**Sn**	**16 44 32.0**	**-1.2**
TAVA	**DENIZLI_Tavas**	**1.15**	**42**	*i* P	**Pn**	**16 44 20.3**	**+0.5**
TAVA				*i* S	**Sn**	**16 44 38.0**	**+2.1**
AYDB	**Zeytinkoy-Aydi**	**1.33**	**358**	PN	**Pg**	**16 44 22.6**	**+0.1**
DNZL	**Cakiroluk**	**1.39**	**39**	*i* P	**Pg**	**16 44 24.9**	**+1.3**
DNZL				*i* S	**Sg**	**16 44 46.9**	**+5.2**
AKAS	**Kas**	**1.40**	**105**	PN	**Pg**	**16 44 23.9**	**+0.1**
SMG	**Samos**	**1.40**	**321**	P	**Pn**	**16 44 22.8**	**-0.3**
SMG				S	**Sb**	**16 44 41.3**	**-0.4**
SMG				AML	AML	16 44 49.4	
	comp=N,375μm,0.4s						
SMG				AML	AML	16 44 53.6	
	comp=E,415μm,0.5s						
SMG	**Samos**	**1.40**	**321**	P	**Pn**	**16 44 22.6**	**-0.5**
SMG				S	**Sg**	**16 44 42.0**	**0.0**
GOLH	**Golhisar**	**1.44**	**64**	*i* P	**Pg**	**16 44 25.3**	**+0.8**
GOLH				*i* S	**Sg**	**16 44 47.5**	**+4.3**
ELL	**Elmali**	**1.59**	**85**	PN	**Pg**	**16 44 27.0**	**-0.4**
KORT	**Korkueli**	**1.97**	**78**	PN	**Pb**	**16 44 32.5**	**-0.9**
KULA	**Kula-Manisa**	**1.98**	**17**	PN	**Pb**	**16 44 32.9**	**-0.6**
URLA	**Izmir**	**2.04**	**329**	PN	**Pb**	**16 44 33.9**	**-0.6**
CHOS	**Chios island**	**2.32**	**320**	PN	**Pb**	**16 44 37.6**	**-1.6**
CHOS	**Chios island**	**2.32**	**320**	P	**Pn**	**16 44 36.1**	**+0.4**
NPS	**Neapolis**	**2.32**	**235**	P	**Pn**	**16 44 37.0**	**+1.3**
LAST	**Lasithi**	**2.47**	**235**	P	**Pn**	**16 44 38.7**	**+0.9**
LAST				S	**Sb**	**16 45 10.4**	**-2.1**

*SJA **25** 16:56:41.6±0.5, 22.14S×67.38W, h208km±5km, ML3.5, MW3.3*

*IDC **25** 16:56:42.7±1.3, 22.29S×67.13W, h169km±14km, mb3.5/5, mb1 3.7/6, mb1mx3.4/28, mbtmp4.0/6, Error ellipse: s-maj=23.3km s-min=18.7km az=102.0*

*ISCJB **25** 16:56:43.7±0.4, 22.25S±0.04×67.43W±0.04, h190km±5km, mb3.6/5, Error ellipse: s-maj=7.5km s-min=4.5km az=137.9*

*GUC **25** 16:56:45.1±0.6, 22.19S×67.77W, h207km±7km, ML4.2*

ISC 25 16:56:44.4±0.8, 22.24S±0.05×67.41W±0.05, h185km±8km, n31, σ0992/49, mb3.8/5, 5C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.44**	**255**	P	**Pn**	**16 57 17.2**	**+0.5**
	54nm,0.3s,baz=72,slow=5.8,SNR=797						
LVC				S	**Sn**	**16 57 41.1**	**-0.4**
	39nm,0.3s,baz=286,slow=20,SNR=48						
LVC	**Limon Verde**	**1.44**	**255**	*e*P	**Pn**	**16 57 16.8**	**+0.1**
LVC				*e*S	**Sn**	**16 57 42.6**	**+1.1**
LVC	**Limon Verde**	**1.44**	**255**	⇓*i*P	**Pn**	**16 57 17.2**	**+0.5**
LVC				*e*S	**Sn**	**16 57 41.8**	**+0.2**
YJA	**Yavi**	**1.75**	**88**	*e*P	**Pn**	**16 57 19.8**	**+0.1**
YJA				IAML		16 57 20.4	
	comp=Z,440nm,0.4s						
PB09	**IPOC Station P**	**1.76**	**284**	⇑*e*P	**Pn**	**16 57 20.3**	**+0.8**
PB09				*e*S	**Sn**	**16 57 46.9**	**+0.2**
PB06	**IPOC Station P**	**2.06**	**256**	*e*P	**Pn**	**16 57 22.7**	**+0.1**
PB06				*e*S	**Sn**	**16 57 51.7**	**-0.6**
PB06				IAML		16 57 56.9	
	comp=E,459nm,0.3s						
HJA	**Humahuaca**	**2.08**	**118**	*e*P	**Pn**	**16 57 23.1**	**0.0**
PB15	**IPOC Station P**	**2.14**	**243**	⇑*i*P	**Pn**	**16 57 24.0**	**+0.4**
PB15				*e*S	**Sn**	**16 57 54.2**	**+0.3**
PB15				IAML		16 57 57.4	
	comp=N,5μm,0.3s						
PB03	**IPOC Station P**	**2.19**	**274**	*e*P	**Pn**	**16 57 24.0**	**0.0**
PB03				*e*S	**Sn**	**16 57 53.7**	**-1.0**
PB03				IAML		16 57 55.0	
	comp=N,938nm,0.3s						
PB01	**IPOC Station P**	**2.27**	**301**	*e*P	**Pn**	**16 57 25.0**	**+0.1**
PB01				*e*S	**Sn**	**16 57 55.6**	**-0.8**
PB01				IAML		16 57 57.4	
	comp=E,829nm,0.2s						
PB07	**IPOC Station P**	**2.36**	**282**	*i* P	**Pn**	**16 57 26.1**	**+0.1**
PB07				*e*S	**Sn**	**16 57 56.7**	**-1.5**
PB07				IAML		16 57 57.7	
	comp=N,690nm,0.5s						
PB02	**IPOC Station P**	**2.49**	**291**	⇑*e*P	**Pn**	**16 57 27.2**	**-0.1**
PB02				*e*S	**Sn**	**16 57 59.2**	**-1.5**
PB02				IAML		16 57 59.8	
	comp=E,757nm,0.3s						
PB04	**IPOC Station P**	**2.54**	**267**	⇑*i*P	**Pn**	**16 57 28.2**	**+0.1**
PB04				*e*S	**Sn**	**16 58 00.5**	**-1.5**
PB04				IAML		16 58 02.9	
	comp=N,880nm,0.2s						
PB08	**IPOC Station P**	**2.65**	**322**	*i* P	**Pn**	**16 57 30.6**	**+1.1**
PB08				*e*S	**Sn**	**16 58 05.0**	**+0.4**
PB05	**IPOC Station P**	**2.66**	**256**	*e*P	**Pn**	**16 57 29.4**	**0.0**
PB05				*e*S	**Sn**	**16 58 02.3**	**-2.0**
PB05				IAML		16 58 03.7	
	comp=N,318nm,0.2s						
AZAP	**Zapla**	**2.92

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.15**	**115**		**Pn**	**17 31 01.3**	**+1.0**
	1.5nm,0.3s,baz=241,slow=9.6,SNR=9.6						
JAY					**Sn**	**17 31 36.6**	**-0.1**
	1.4nm,0.3s,baz=138,slow=23,SNR=5.7						
SIJI	**Sorong**	**6.59**	**273**	Pn	**Pn**	**17 31 46.5**	**-1.2**
	0.3nm,0.3s,baz=124,slow=11,SNR=2.6						
SIJI				Sn	**Sn**	**17 33 03.2**	**+1.5**
	0.2nm,0.3s,baz=0.1,slow=19,SNR=3.1						
GUMO	**Guam**	**16.25**	**25**	LR	LR	17 38 52.8	
	comp=Z,42nm,20.5s,baz=122,slow=32						
WRA	**Warramunga Arr**	**18.96**	**190**	P	**P**	**17 34 30.4**	**-1.1**
	0.4nm,0.3s,baz=13,slow=12,SNR=24						
WRA				S	Sn	17 37 43.9	-20
	0.1nm,0.3s,baz=9.0,slow=21,SNR=3.9						
FITZ	**Fitzroy Crossi**	**20.65**	**215**	P	**P**	**17 34 51.0**	**+1.0**
	1.5nm,0.8s,baz=28,slow=8.8,SNR=6.8						
FITZ				S	S	17 38 24.8	-14
	0.8nm,0.5s,baz=315,slow=19,SNR=3.4						
ASAR	**Alice Springs**	**22.67**	**189**	P	**P**	**17 35 11.8**	**+0.1**
	6.8nm,0.7s,baz=15,slow=9.4,SNR=173						
STKA	**Stephens Creek**	**30.73**	**174**	P	**P**	**17 36 24.4**	**-0.8**
	2.6nm,0.7s,baz=345,slow=14,SNR=3.6						
KSRS	**Korea Array**	**39.53**	**348**	LR	LR	17 51 40.0	
	comp=Z,11nm,21.0s,baz=75,slow=33						
CMAR	**Chiang Mai Arr**	**42.94**	**299**	P	**P**	**17 38 09.1**	**0.0**
	0.5nm,0.7s,baz=114,slow=5.7,SNR=6.4						
MKAR	**Makanchi Array**	**68.06**	**322**	P	**P**	**17 41 10.0**	**+0.6**
	1.2nm,0.6s,baz=117,slow=7.9,SNR=4.4						
KURBB	**Kurchatov Arra**	**71.99**	**325**	P	**P**	**17 41 32.0**	**-1.4**
	0.8nm,0.7s,baz=118,slow=4.9,SNR=4.1						
BVAR	**Borovoye Array**	**77.58**	**325**	P	**P**	**17 42 06.2**	**+0.5**
	1.1nm,0.6s,baz=141,slow=9.3,SNR=3.8						
NRIK	**Noril'sk**	**78.03**	**344**	LR	LR	18 18 03.1	
	comp=Z,17nm,18.7s,baz=87,slow=37						
ILAR	**Eielson Array**	**84.81**	**25**	P	**P**	**17 42 43.7**	**-0.1**
	0.4nm,0.7s,baz=248,slow=4.8,SNR=3.6						

*ISCJB **25** 17:35:51.2±0.3,36.°39N±0.°02×71.°11E±0.°04,h188km, mb3.7/17, Error ellipse: s-maj=5.0km s-min=3.1km az=155.9*
*IDC **25** 17:35:52.1±2.3,36.°30N×71.°17E,h196km±22km,mb3.4/18, mb1 3.6/23,mb1mx3.4/48,mbtmp4.0/23, Error ellipse: s-maj=14.8km s-min=9.8km az=17.0*
*NNC **25** 17:35:59.1±1.7,36.°88N×71.°29E,h219km±16km,mb3.5, mpv4.7, Error ellipse: s-maj=17.7km s-min=12.4km az=167.0*

ISC 25 17:35:52.3±0.4,36.°47N±0.°04×71.°23E±0.°05,h188km,n76, σ2s07/89,mb3.8/17,8C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.69**	**168**	P	**Pn**	**17 36 41.1**	**+3.2**
CEP				S	**Sn**	**17 37 16.0**	**+2.7**
CHCP	**Chirah Chowk**	**3.26**	**149**	P	**Pn**	**17 36 48.0**	**+3.5**
THW	**Thamme Wali**	**3.69**	**173**	P	**Pn**	**17 36 52.4**	**+2.6**
SFK	**Sufi-Kurgan**	**3.97**	**26**	⇓P	**Pn**	**17 36 56.3**	**+2.9**
	48nm,0.4s						
SFK				⇓S	**Sn**	**17 37 43.0**	**+1.6**
	134nm,0.5s						
SARP	**Sargodha**	**4.69**	**165**	P	**Pn**	**17 37 04.2**	**+1.8**
DHRM	**DHARAMSHALA**	**5.94**	**134**	*e*P	**Pn**	**17 37 20.1**	**+1.3**
DHRM				*e*S	**Sn**	**17 38 27.1**	**+0.1**
DHRM				IAML		17 38 29.6	
	comp=E,1μm,0.2s						
AML	**Almayashu**	**5.97**	**18**	P	**Pn**	**17 37 20.9**	**+1.6**
	SNR=723						
MNAS	**Manas**	**6.09**	**9**	⇓P	**Pn**	**17 37 22.4**	**+1.8**
	comp=E,61nm,0.4s						
MNAS				⇑S	**Sn**	**17 38 30.4**	**0.0**
	comp=E,60nm,0.5s						
UCH	**Uchtor**	**6.29**	**23**	P	**Pn**	**17 37 25.4**	**+1.9**
	SNR=97						
KZA	**Kyzart**	**6.41**	**28**	P	**Pn**	**17 37 26.5**	**+1.4**
	SNR=34						
EKS2	**Erkin-Say**	**6.49**	**17**	P	**Pn**	**17 37 27.8**	**+2.0**
	SNR=102						
KK31	**Karatay Array**	**6.65**	**355**	P	**Pn**	**17 37 29.2**	**+1.4**
	comp=E,28nm,0.3s,baz=181,slow=13,SNR=826						
KK31				⇑S	**Sn**	**17 38 40.1**	**-3.4**
	comp=E,18nm,0.3s,baz=189,slow=24,SNR=8.7						
AAK	**Ala-Archa**	**6.66**	**21**	P	**Pn**	**17 37 29.9**	**+1.9**
	comp=E,32nm,0.3s,baz=191,slow=8.3,SNR=384						
AAK				S	**Sn**	**17 38 43.9**	**+0.1**
	comp=E,4.5nm,0.3s,baz=306,slow=23,SNR=13						
AAK	**Ala-Archa**	**6.66**	**21**	⇓P	**Pn**	**17 37 30.2**	**+2.2**
	comp=E,46nm,0.4s						
AAK				⇓S	**Sn**	**17 38 44.2**	**+0.4**
	comp=E,43nm,0.6s						
AAK	**Ala-Archa**	**6.66**	**21**	P	**Pn**	**17 37 30.2**	**+2.2**
	SNR=115						
KBK	**Karagaybulak**	**6.82**	**24**	P	**Pn**	**17 37 32.6**	**+2.5**
	SNR=64						
ULHL	**Ulahol**	**6.96**	**32**	P	**Pn**	**17 37 33.5**	**+1.5**
	SNR=33						
CHMS	**Chumnysh**	**7.07**	**21**	P	**Pn**	**17 37 34.9**	**+1.6**
	SNR=66						
USP	**Ospenovka**	**7.24**	**19**	P	**Pn**	**17 37 36.9**	**+1.3**
	SNR=33						
SMLA	**Simla**	**7.26**	**135**	*e*P	**Pn**	**17 37 37.2**	**+1.4**
SMLA				*e*S	**Sn**	**17 38 55.0**	**-2.8**
SMLA				IAML		17 38 60.0	
	comp=N,247nm,0.1s						
SMLA				IAML		17 39 01.6	
	comp=E,236nm,0.4s						
TKM2	**Tokmak 2**	**7.27**	**26**	⇓P	**Pn**	**17 37 37.9**	**+1.8**
	comp=E,74nm,0.7s						
TKM2	**Tokmak 2**	**7.27**	**26**	P	**Pn**	**17 37 37.8**	**+1.8**
	SNR=137						
MDOK	**Medeo**	**8.05**	**32**	P	**Pn**	**17 37 47.9**	**+1.7**
	comp=E,30nm,0.6s						
KNDC	**Almaty**	**8.06**	**31**	⇑P	**Pn**	**17 37 48.7**	**+2.5**
	comp=E,36nm,0.9s						
DDI	**Dehra Dun**	**8.37**	**135**	*e*S	**Sn**	**17 39 21.6**	**-2.7**
DDI				IAML		17 39 23.9	
	comp=E,164nm,0.2s						
DDI				IAML		17 39 24.7	
	comp=N,224nm,0.3s						
NDI	**New Delhi**	**9.26**	**145**	*e*P	**Pn**	**17 38 02.0**	**0.0**
NDI				*e*S	**Sn**	**17 39 40.0**	**-5.5**
PDGK	**Podgornoye**	**9.34**	**40**	⇑P	**Pn**	**17 38 03.7**	**+0.6**
	comp=N,6.7nm,0.7s						
GEYT	**Alibeck**	**10.56**	**282**	P	**Pn**	**17 38 18.9**	**-0.1**
	comp=N,0.3nm,0.3s,baz=100,slow=12,SNR=5.1						
GEYT				S	**Sn**	**17 40 12.7**	**-3.9**
	comp=N,0.5nm,0.3s,baz=73,slow=21,SNR=3.5						
GYA0B	**ALIBECK ARRAY**	**10.56**	**282**	⇑P	**P**	**17 38 26.0**	**-0.6**
	comp=N,3.4nm,0.7s						
GYA0B				⇓S	**S**	**17 40 25.2**	**+8.0**
	comp=N,7.5nm,0.5s						
OTUK	**Ortayu**	**11.80**	**4**	⇓P	**Pn**	**17 38 34.8**	**+0.1**
	comp=N,13nm,0.7s						
MK31	**Makanchi Array**	**13.21**	**35**	⇓P	**Pn**	**17 38 53.9**	**+1.3**
	comp=N,1.5nm,0.3s,baz=216,slow=12,SNR=135						
MKAR	**Makanchi Array**	**13.21**	**35**	P	**Pn**	**17 38 53.6**	**+1.0**
	comp=N,0.9nm,0.3s,baz=215,slow=14,SNR=49						
BHJ	**Bhuj**	**13.24**	**186**	*e*P	**Pn**	**17 38 50.8**	**-2.4**
DANN	**Dangsing**	**13.31**	**124**	*e*P	**Pn**	**17 38 54.5**	**+0.1**
	comp=N,13nm,0.3s						
KOLN	**Koldanda**	**13.59**	**126**	*e*P	**Pn**	**17 38 56.8**	**-1.0**
	comp=N,8.1nm,0.3s						
GKN	**Gorkha**	**14.13**	**123**	*e*P	**Pn**	**17 39 05.0**	**+0.6**
	comp=N,0.5nm,0.2s						
BHPL	**Bhopal**	**14.23**	**156**	*e*P	**P**	**17 39 08.5**	**+1.0**
DMN	**Daman**	**14.70**	**123**	*e*P	**Pn**	**17 39 12.2**	**+0.6**
	comp=N,8.9nm,0.2s						
KKN	**Kakani**	**14.70**	**122**	*e*P	**Pn**	**17 39 12.2**	**+0.6**
	comp=N,17nm,0.4s						
PKIN	**Phulchoki**	**14.92**	**122**	*e*P	**Pn**	**17 39 14.5**	**+0.2**
	comp=N,18nm,0.5s						
PKI	**Pulchoki**	**14.93**	**122**	*e*P	**Pn**	**17 39 14.6**	**+0.1**
	comp=N,17nm,0.4s						
GUN	**Gumba**	**15.04**	**120**	*e*P	**P**	**17 39 17.4**	**+0.7**
	comp=N,13nm,0.4s						
KURBB	**Kurchatov Arra**	**15.10**	**18**	P	**Pn**	**17 39 15.7**	**-0.2**
	comp=N,0.3nm,0.3s,baz=209,slow=11,SNR=17						
AB31	**Akbulak array**	**15.20**	**331**	⇑P	**Pn**	**17 39 16.9**	**-0.4**
	comp=N,3.9nm,0.4s,baz=27,slow=29,SNR=118						
AB31				⇑S	**S**	**17 42 05.9**	**-1.1**
	comp=N,2.9nm,0.6s,baz=154,slow=23,SNR=7.0						
JIRN	**Jiri**	**15.41**	**120**	*e*P	**P**	**17 39 21.3**	**+0.4**
	comp=N,38nm,0.4s						
RAMN	**Ramite**	**16.14**	**122**	*e*P	**Pn**	**17 39 29.5**	**+0.4**
	comp=N,13nm,0.3s						
BVA0	**Borovoye Array**	**16.57**	**358**	P	**Pn**	**17 39 34.9**	**+1.2**
	comp=N,2.4nm,0.3s,baz=164,slow=11,SNR=32						
BVAR	**Borovoye Array**	**16.57**	**358**	P	**Pn**	**17 39 34.1**	**+0.3**
	comp=N,2.3nm,0.3s,baz=161,slow=10,SNR=35						
BVAR				S	**S**	**17 42 34.3**	**-1.9**
	comp=N,0.1nm,0.3s,baz=161,slow=18,SNR=3.3						
NGP	**Nagpur**	**16.72**	**154**	*e*P	**Pn**	**17 39 39.9**	**+4.1**
AKTO	**Aktyubinsk**	**16.90**	**330**	P	**Pn**	**17 39 38.2**	**+0.5**
	comp=N,1.2nm,0.3s,baz=138,slow=12,SNR=21						
AKTO				S	**S**	**17 42 40.3**	**-2.8**
	comp=N,0.2nm,0.3s,baz=180,slow=20,SNR=2.9						
GTK	**Tadong**	**17.32**	**117**	*e*P	**Pn**	**17 39 49.6**	**+6.5**
ZAA0	**Zalesovo Array**	**19.87**	**24**	⇑P	**P**	**17 40 09.5**	**+0.7**
	comp=N,2.3nm,0.4s						
ZALV	**Zalesovo Beam**	**19.87**	**24**	P	**P**	**17 40 09.2**	**+0.4**
	comp=N,3.2nm,0.5s,baz=220,slow=10,SNR=14						
ZIRO	**ZIRO**	**21.12**	**109**	*ex*	**P**	**17 40 23.8**	**+1.2**
ARU	**Arti**	**21.73**	**341**	P	**P**	**17 40 29.6**	**+1.2**
	comp=N,1.0nm,0.3s,baz=134,slow=7.0,SNR=3.6						
KOHI	**KOHIMA**	**22.28**	**112**	*ex*	**P**	**17 40 36.2**	**+1.9**
LKP	**Lekhapani**	**22.75**	**107**	*e*P	P	17 40 49.4	+11
KBZ	**Khabaz**	**22.78**	**297**	P	**P**	**17 40 38.5**	**0.0**
	comp=N,2.2nm,0.9s,baz=180,slow=7.1,SNR=3.4						
SONM	**Songino Array**	**28.20**	**55**	P	**P**	**17 41 28.8**	**+1.4**
	comp=N,0.6nm,0.7s,baz=248,slow=7.4,SNR=5.4						
BRTR	**Keskin Array B**	**29.62**	**288**	P	**P**	**17 41 40.5**	**+0.5**
	comp=N,1.0nm,0.7s,baz=112,slow=8.7,SNR=9.0						
CMAR	**Chiang Mai Arr**	**30.28**	**119**	P	**P**	**17 41 45.7**	**-0.1**
	comp=N,0.6nm,0.9s,baz=299,slow=7.7,SNR=5.2						
AKASG	**Malin Array Be**	**33.11**	**309**	P	**P**	**17 42 10.0**	**-0.2**
	comp=N,1.4nm,0.5s,baz=79,slow=7.5,SNR=5.0						
FINES	**FINESS Array B**	**37.62**	**326**	P	**P**	**17 42 48.9**	**+0.5**
	comp=N,1.5nm,0.4s,baz=122,slow=10,SNR=34						
ARCES	**ARCESS Array B**	**41.25**	**338**	P	**P**	**17 43 19.1**	**+0.7**
	comp=N,1.9nm,0.4s,baz=115,slow=7.9,SNR=38						
NB2	**NORSAR Subarra**	**44.52**	**323**	P	**P**	**17 43 44.2**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.52**	**323**	P	**P**	**17 43 44.6**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=105,slow=7.1,SNR=10						
KSRS	**Korea Array**	**44.72**	**71**	P	**P**	**17 43 45.9**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=272,slow=7.6,SNR=5.0						
ESDC	**Sonseca Array**	**57.64**	**298**	P	**P**	**17 45 21.8**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=57,slow=7.7,SNR=7.6						
TORD	**Torodi Ar. Bea**	**65.90**	**269**	P	**P**	**17 46 15.0**	**-3.2**
	comp=Z,1.2nm,0.5s,baz=50,slow=5.7,SNR=18						
FITZ	**Fitzroy Crossi**	**74.72**	**127**	P	**P**	**17 47 10.7**	**-0.8**
	baz=300,slow=8.1						
ILAR	**Eielson Array**	**74.76**	**16**	P	**P**	**17 47 10.1**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=311,slow=6.1,SNR=5.2						
BOSA	**Boshof**	**77.84**	**220**	P	**P**	**17 47 27.9**	**-1.1**
	comp=Z,1.3nm,0.6s,baz=34,slow=3.7,SNR=3.2						
YKA	**Yellowknife Ar**	**81.27**	**3**	P	**P**	**17 47 46.6**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=351,slow=5.4,SNR=14						
WRA	**Warramunga Arr**	**81.82**	**122**	P	**P**	**17 47 48.9**	**-1.5**
	comp=Z,1.8nm,0.6s,baz=325,slow=4.9,SNR=25						
ASAR	**Alice Springs**	**84.08**	**125**	P	**P**	**17 48 00.7**	**-1.4**
	comp=Z,2.0nm,0.6s,baz=312,slow=4.8,SNR=44						
PLCA	**Paso Flores**	**149.99**	**250**	PKPbc	**PKPbc**	**17 55 18.6**	**-1.6**
	comp=Z,2.3nm,1.0s,baz=107,slow=4.6,SNR=4.2						

*ISCJB **25** 17:45:13.9±1.0,31.°57S±0.°03×69.°68W±0.°05, h112km±10km, Error ellipse: s-maj=6.9km s-min=5.1km az=3.5*
*GUC **25** 17:45:13.0±0.6,31.°54S×69.°51W,h87km±39km,ML3.3*
*SJA **25** 17:45:14.2±0.6,31.°59S×69.°63W,h101km±4km,ML3.0, MW3.3*

ISC 25 17:45:14.7±1.9,31.°58S±0.°04×69.°69W±0.°05, h106km±15km,n16,σ0s71/27,2C-3D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.40**	**124**	*e*P	**Pn**	**17 45 30.6**	**-0.2**
RTLS				*e*S	**Sn**	**17 45 42.8**	**-0.1**
RTLS				IAML		17 45 43.5	
	comp=Z,414nm,0.4s						
AUSP	**Uspallata**	**0.69**	**159**	*e*P	**Pn**	**17 45 32.7**	**-0.2**
AUSP				*e*S	**Sn**	**17 45 46.5**	**-0.1**
RTCV	**Cerro Valdivia**	**1.02**	**106**	*e*P	**Pn**	**17 45 35.4**	**-0.3**
ACCO	**Cerro Coronel**	**1.12**	**28**	*e*P	**Pn**	**17 45 37.3**	**+0.1**
ACCO				*e*S	**Sn**	**17 45 55.3**	**+1.1**
CMCH	**Combarbala**	**1.20**	**289**	*e*P	**Pn**	**17 45 37.7**	**-0.1**
CMCH				*i* S	**Sn**	**17 45 56.2**	**+1.0**
AMOG	**MOGNA**	**1.21**	**58**	*e*P	**Pn**	**17 45 37.6**	**-0.3**
AMOG				*e*S	**Sn**	**17 45 54.5**	**-0.9**
ASAL	**Salagasta**	**1.24**	**145**	*e*P	**Pn**	**17 45 38.3**	**0.0**
ASAL				*e*S	**Sn**	**17 45 56.0**	**-0.1**
AROD	**Rodeo**	**1.42**	**7**	*e*P	**Pn**	**17 45 41.5**	**+0.9**
AAGR	**Agrelo**	**1.67**	**154**	*e*P	**Pn**	**17 45 43.4**	**-0.1**
GO04	**Tololo Observa**	**1.70**	**325**	⇑*i*P	**Pn**	**17 45 43.7**	**-0.3**
GO04				*i* S	**Sn**	**17 46 06.5**	**+0.4**
GO04				IAML		17 46 12.5	
	comp=N,647nm,0.4s						
PEL	**Peldehue**	**1.77**	**208**	⇓*i*P	**Pn**	**17 45 44.2**	**-0.5**
PEL				*e*S	**Sn**	**17 46 06.9**	**-0.6**
PEL				IAML		17 46 09.1	
	comp=N,268nm,0.2s						
ROCH	**El Roble**	**1.79**	**219**	⇓*i*P	**Pn**	**17 45 44.2**	**-0.8**
ROCH				*i* S	**Sn**	**17 46 07.5**	**-0.5**
ROCH				IAML		17 46 11.2	
	comp=N,303nm,0.3s						
FCH	**Farellones**	**1.82**	**196**	⇑*i*P	**Pn**	**17 45 45.9**	**+0.4**
FCH				*i* S	**Sn**	**17 46 10.4**	**+1.5**
FCH				IAML		17 46 13.6	
	comp=N,294nm,0.2s						
CLCH	**Cerro Calan**	**1.95**	**201**	⇓*i*P	**Pn**	**17 45 47.1**	**+0.2**
CLCH				*i* S	**Sn**	**17 46 12.7**	**+1.2**
LSCH	**La Serena**	**2.14**	**321**	*e*P	**Pn**	**17 45 48.8**	**-0.4**
LSCH				*e*S	**Sn**	**17 46 14.5**	**-1.2**
LMEL	**Las Melosas**	**2.30**	**191**	IAML		17 46 27.9	
	comp=N,173nm,0.2s						

*TEH **25** 17:47:37.5,35.°64N×49.°71E,h8km,ML3.8*
*THR **25** 17:47:37.8±0.4,35.°61N×49.°70E,h14km±4km,ML3.7*
*AZER **25** 17:47:37.3±3.5,36.°25N×51.°89E,h0km,ml4.0/5, Error ellipse: s-maj=62.4km s-min=25.1km az=37.0*

ISC 25 17:47:37.6±1.1,35.°61N±0.°02×49.°74E±0.°02,h5km±10km, n60,σ1s69/67,8C-4D,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QABG	**Abgarm-Qazvin**	**0.16**	**308**	*e*Pg	**Pg**	**17 47 41.5**	**+0.6**
QABG				*e*Sg	**Sg**	**17 47 44.0**	**+0.9**
QABG				IAMB	IAmb	17 47 44.2	
	comp=E,0.0nm,0.1s						
QABG				IAMB	IAmb	17 47 44.6	
	comp=Z,0.0nm,0.1s						
QABG				IAMB	IAmb	17 47 45.3	
	comp=N,0.0nm,0.1s						
HKZM	**Kohzaman**	**0.72**	**251**	*e*Pg	**Pg**	**17 47 51.3**	**-0.1**
HKZM				*e*Sg	**Sg**	**17 48 00.7**	**-0.1**
IMHD	**Mahdasht**	**0.76**	**84**	*e*Pg	**Pg**	**17 47 52.6**	**+0.4**
IMHD				IAMB	IAmb	17 48 05.3	
	comp=N,78μm,0.2s						
IMHD				IAMB	IAmb	17 48 09.2	
	comp=E,82μm,0.2s						
IMHD				IAMB	IAmb	17 48 09.5	
	comp=Z,30μm,0.1s						
IGZV	**Ghazvin**	**0.87**	**27**	*e*Pg	**Pg**	**17 47 54.1**	**-0.2**
IGZV				*e*Sg	**Sb**	**17 48 06.3**	**-1.0**
IGZV				IAMB	IAmb	17 48 07.1	
	comp=E,62μm,0.2s						
IGZV				IAMB	IAmb	17 48 07.5	
	comp=N,37μm,0.2s						
IGZV				IAMB	IAmb	17 48 10.1	
	comp=Z,37μm,0.3s						
HAGD	**Aghdareh**	**0.93**	**212**	*e*Pg	**Pg**	**17 47 55.3**	**-0.1**
THKV	**Tehran--Karaj**	**0.98**	**71**	*e*Pg	**Pb**	**17 47 57.0**	**-0.1**
THKV	**Tehran--Karaj**	**0.98**	**71**	*e*Pg	**Pb**	**17 47 57.0**	**-0.1**
ASAO	**Ashtian**	**1.08**	**167**	*e*Pg	**Pg**	**17 47 58.4**	**0.0**
ASAO				*e*Sg	**Sb**	**17 48 13.4**	**-0.2**
ASAO	**Ashtian**	**1.08**	**167**	*e*Pg	**Pg**	**17 47 58.4**	**0.0**
CHTH	**Charan**	**1.17**	**75**	*e*Pg	**Pb**	**17 48 00.1**	**-0.3**
CHTH				*e*Sg	**Sn**	**17 48 16.4**	**-0.8**
CHTH	**Charan**	**1.17**	**75**	*e*Pg	**Pb**	**17 48 00.1**	**-0.3**
TEH	**Tehran**	**1.34**	**84**	IAMB	IAmb	17 48 23.4	
	comp=Z,0.0nm,0.4s						
TEH				*e*Pg	**Pb**	**17 48 03.3**	**-0.1**
TEH				IAMB	IAmb	17 48 23.9	
	comp=E,0.0nm,0.3s						
TEH				IAMB	IAmb	17 48 26.0	
	comp=N,0.0nm,0.4s						
ZNJK	**Zanjan**	**1.36**	**321**	*e*Pg	**Pn**	**17 48 02.6**	**-0.9**
ZNJK				*e*Sg	**Sn**	**17 48 20.7**	**-1.3**
ZNJK	**Zanjan**	**1.36**	**321**	*e*Pg	**Pn**	**17 48 02.6**	**-0.9**
IAFJ	**Afjeh**	**1.62**	**81**	IAMB	IAmb	17 48 32.3	
	comp=E,167nm,0.1s						
IAFJ				*e*Pn	**Pb**	**17 48 08.0**	**-0.3**
IAFJ				IAMB	IAmb	17 48 32.7	
	comp=N,69μm,0.3s						
IAFJ				IAMB	IAmb	17 48 33.6	
	comp=Z,26μm,0.3s						
HSAM	**Samen**	**1.68**	**214**	*e*Pn	**Pn**	**17 48 08.1**	**+0.2**
GHVR	**GHOM**	**1.70**	**131**	IAML		17 48 34.9	
GHVR				IAML		17 48 39.2	
	comp=N,649nm,0.6s						
IDMV	**Damavand**	**1.87**	**90**	*e*Pn	**Pb**	**17 48 12.0**	**-0.4**
IDMV				IAMB	IAmb	17 48 41.2	
	comp=Z,15μm,0.3s						
IDMV				IAMB	IAmb	17 48 41.2	
	comp=E,32μm,0.4s						
IDMV				IAMB	IAmb	17 48 41.8	
	comp=N,33μm,0.3s						
KHMZ	**Khomeyn**	**1.88**	**174**	*e*Pn	**Pb**	**17 48 11.4**	**-1.0**
KHMZ	**Khomeyn**	**1.88**	**174**	*e*Pn	**Pb**	**17 48 11.5**	**-1.0**
IPRN	**Peran**	**2.20**	**73**	*e*Pn	**Pb**	**17 48 17.8**	**-0.2**
IPRN				IAMB	IAmb	17 48 51.0	
	comp=N,21μm,0.5s						
IPRN				IAMB	IAmb	17 48 52.2	
	comp=E,7μm,0.6s						
IPRN				IAMB	IAmb	17 48 52.5	
	comp=E,22μm,0.3s						
IKOM	**Komasi**	**2.32**	**233**	*e*Pn	**Pb**	**17 48 19.9**	**-0.2**
IKOM				IAMB	IAmb	17 49 07.3	
	comp=Z,0.0nm,0.5s						
ILIN	**Lien**	**2.37**	**254**	*e*Pn	**Pb**	**17 48 19.9**	**-1.1**
ILIN				IAMB	IAmb	17 48 58.3	
	comp=Z,4μm,0.5s						
IFIR	**Firoozkooh**	**2.46**	**88**	*e*Pn	**Pb**	**17 48 20.5**	**-1.9**
IFIR				IAMB	IAmb	17 48 58.5	
	comp=E,18μm,0.4s						
IFIR				IAMB	IAmb	17 48 58.6	
	comp=Z,11μm,0.4s						
IFIR				IAMB	IAmb	17 48 59.1	
	comp=N,13μm,0.3s						
IALA	**Alasht**	**2.54**	**78**	IAMB	IAmb	17 49 05.2	
	comp=Z,4μm,0.5s						
IALA				IAMB	IAmb	17 49 05.2	
	comp=E,11μm,0.3s						
IKFM	**Kafar-mosalman**	**2.60**	**217**	*e*Pn	**Pb**	**17 48 23.5**	**-1.2**
IKFM				IAMB	IAmb	17 48 29.9	
	comp=Z,0.0nm,0.3s						
IKFM				IAMB	IAmb	17 49 04.5	
	comp=N,0.0nm,0.6s						
IKFM				IAMB	IAmb	17 49 19.8	
	comp=E,0.0nm,0.6s						
ILAS	**Lasjerd**	**2.64**	**94**	*e*Pn	**Pb**	**17 48 23.1**	**-2.4**
ILAS				IAMB	IAmb	17 49 02.9	
	comp=E,8μm,0.3s						
ILAS				IAMB	IAmb	17 49 05.3	
	comp=N,10μm,0.3s						
ILAS				IAMB	IAmb	17 49 05.5	
	comp=Z,7μm,0.4s						
IKLH	**Kolahrood**	**2.74**	**146**	*e*Pn	**Pb**	**17 48 25.8**	**-1.5**
IKLH				IAMB	IAmb	17 49 04.5	
	comp=Z,7μm,0.3s						
IKLH				IAMB	IAmb	17 49 04.6	
	comp=N,9μm,0.2s						
IKLH				IAMB	IAmb	17 49 04.7	
	comp=E,7μm,0.2s						
ISRB	**Sarab**	**2.77**	**324**	*e*Pn	**Pn**	**17 48 23.9**	**+1.1**
ISRB				IAMB	IAmb	17 49 09.9	
	comp=N,7μm,0.3s						
ISRB				IAMB	IAmb	17 49 10.2	
	comp=Z,3μm,0.2s						
ISRB				IAMB	IAmb	17 49 10.7	
	comp=E,14μm,0.4s						
ISHM	**Shahmirzad**	**2.90**	**85**	*e*Pn	**Pb**	**17 48 27.3**	**-2.7**
ISHM				IAMB	IAmb	17 49 12.1	
	comp=Z,6μm,0.4s						
ISHM				IAMB	IAmb	17 49 13.9	
	comp=E,311nm,0.2s						
ASTR	**Astara**	**3.04**	**346**	⇑P	**Pb**	**17 48 30.4**	**-1.8**
	SNR=7.4						
ASTR				⇑S	**Sg**	**17 49 14.3**	**-1.0**
IPIR	**Pirpir**	**3.07**	**162**	*e*Pn	**Pb**	**17 48 31.0**	**-1.9**
IPIR				IAMB	IAmb	17 49 18.2	
	comp=Z,3μm,0.5s						
IPIR				IAMB	IAmb	17 49 18.9	
	comp=E,6μm,0.8s						
IPIR				IAM

IRAM				IAMB	IAmb	17 49 07.9	
	comp=Z,529nm,0.4s						
IRAM				IAMB	IAmb	17 50 10.3	
	comp=E,481nm,0.5s						
ORD	**Ordubad**	**4.46**	**319**	⇑P	**Pb**	**17 48 58.9**	**+2.4**
ORD				⇓S	**Sg**	**17 50 00.4**	**-0.4**
IMRD	**Marand**	**4.47**	**315**	*e*Pn	**Pn**	**17 48 48.2**	**+2.0**
IMRD				IAMB	IAmb	17 49 06.5	
	comp=E,1μm,0.7s						
IMRD				IAMB	IAmb	17 50 10.7	
	comp=Z,924nm,0.4s						
KLNJ	**Kolanjah**	**4.84**	**161**	*e*Pn	**Pn**	**17 48 55.9**	**+4.4**
KLNJ				IAMB	IAmb	17 50 23.4	
	comp=Z,0.0nm,1.2s						
KLNJ				IAMB	IAmb	17 50 28.9	
	comp=E,0.0nm,0.6s						
KLNJ				IAMB	IAmb	17 50 34.0	
	comp=N,0.0nm,0.9s						
NAX	**Nakhchivan**	**4.91**	**318**	⇑P	**Pb**	**17 49 05.2**	**+1.2**
	SNR=5.7						
ISAD	**Sadrabad**	**4.94**	**137**	*e*Pn	**Pn**	**17 48 55.7**	**+3.0**
ISAD				IAMB	IAmb	17 49 13.4	
	comp=Z,539nm,0.4s						
ISAD				IAMB	IAmb	17 50 24.4	
	comp=E,536nm,0.6s						
SBZ	**Shahbuz**	**5.04**	**320**	⇓P	**Pb**	**17 49 06.8**	**+0.5**
SBZ				⇓S	**Sg**	**17 50 16.3**	**-3.1**
TNSJ	**Nastanj**	**5.89**	**104**	*e*Pn	**Pn**	**17 49 07.3**	**+1.7**
TPRV	**Parvadeh(Tabas**	**6.30**	**112**	*e*Pn	**Pn**	**17 49 12.9**	**+1.7**
TKDS	**Koohdasht(Taba**	**6.41**	**106**	*e*Pn	**Pn**	**17 49 14.7**	**+2.0**
ITEG	**Tejag**	**7.94**	**107**	*e*Pn	**Pn**	**17 49 35.6**	**+1.8**
ITEG				IAMB	IAmb	17 49 49.8	
	comp=Z,147nm,0.7s						
ITEG				IAMB	IAmb	17 49 51.2	
	comp=N,264nm,0.4s						
ITEG				IAMB	IAmb	17 49 53.2	
	comp=E,168nm,0.3s						
IKOO	**Kooshah**	**8.32**	**110**	*e*Pn	**Pn**	**17 49 41.5**	**+2.3**
IKOO				IAMB	IAmb	17 49 49.1	
	comp=E,205nm,0.3s						
IKOO				IAMB	IAmb	17 49 50.4	
	comp=N,209nm,0.3s						

MAN 25 17:52:03.3, 10°22N×122°36E, h54km, mb4.0, ML2.8, MS2.4, Panay

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.47**	**30**	*e*P	Pn	17 52 16.7	+2.2
GUIM				*e*S	Sn	17 52 25.9	+3.4
SNPH	**Sibulan**	**1.23**	**135**	*i* P	Pn	17 52 24.7	+0.4
SNPH				*i* S	Sn	17 52 41.5	+1.6
CUYO	**Cuyo Island**	**1.46**	**296**	*e*P	Pn	17 52 28.7	+1.3
CUYO				*e*S	Sn	17 52 46.5	+1.1
ENPP	**El Nido**	**3.04**	**289**	*e*P	Pn	17 52 50.2	+1.2

*ISK **25** 17:52:08.0, 38°.71N×43°.44E, h19km, ML2.0/3*
*ISCJB **25** 17:52:09.5±0.6, 38°.76N±0°.04×43°.39E±0°.06, h14km±6km, Error ellipse: s-maj=9.3km s-min=5.1km az=39.0*
*DDA **25** 17:52:09.5, 38°.79N×43°.39E, h7km, Ml2.9*
ISC 25 17:52:08.8±1.2, 38°.75N±0°.04×43°.39E±0°.04, h14km±13km, n9, σ0s34/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.15**	**181**	PG	**Pb**	**17 52 13.4**	**-0.1**
TVAN	**Van**	**0.22**	**177**	*i* P	**Pb**	**17 52 14.7**	**0.0**
TVAN				*i* S	**Sb**	**17 52 19.2**	**+0.6**
VMUR	**Van-Muradiye**	**0.28**	**30**	*i* P	**Pg**	**17 52 15.0**	**+0.2**
VMUR				*i* S	**Sb**	**17 52 20.2**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.53**	**277**	*i* P	**Pb**	**17 52 19.9**	**-0.1**
ADCV				*i* S	**Sb**	**17 52 27.9**	**+0.4**
CLDR	**Caldiran**	**0.57**	**46**	PG	**Pg**	**17 52 19.9**	**-0.2**
CLDR				SG	**Sb**	**17 52 28.5**	**-0.3**
CLDR	**Caldiran**	**0.57**	**46**	*i* P	**Pg**	**17 52 20.0**	**-0.2**
CLDR				*i* S	**Sb**	**17 52 28.9**	**+0.1**
TUTA	**Tutak**	**0.80**	**326**	*i* P	**Pg**	**17 52 24.1**	**-0.3**
TUTA				*i* S	**Sg**	**17 52 34.9**	**0.0**
AGRB	**Hanur-Agry**	**0.89**	**340**	PG	**Pb**	**17 52 26.6**	**+0.5**
GURO	**Guroymak-BITLI**	**1.08**	**260**	PN	**Pb**	**17 52 29.0**	**-0.4**

MAN 25 18:07:02.2, 9°.64N×125°.68E, h155km, mb4.6, ML3.5, MS3.3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.24**	**307**	⇑*i*P	Pn	18 07 17.5	-5.6
SCPH				*i* S	Sn	18 07 20.2	-19
BUTP	**Butuan**	**0.67**	**185**	*e*P	Pn	18 07 29.1	+4.1
BUTP				*e*S	Sn	18 07 42.0	-0.5
MSLP	**Maasin**	**0.95**	**301**	*e*P	Pn	18 07 27.2	+0.3
MSLP				*e*S	Sn	18 07 36.0	-10
MATI	**Mati**	**2.73**	**168**	*e*P	Pn	18 07 47.0	+0.6
MATI				*e*S	Sn	18 08 06.2	-14
SKMP	**Bagumbayan, Su**	**3.30**	**200**	*e*P	Pn	18 07 54.4	+0.9
GSPH	**General Santos**	**3.60**	**192**	*e*P	Pn	18 07 48.9	-8.6

*ECX **25** 18:22:03.8±0.4, 31°.21N×115°.60W, h5km, MD2.7, ML2.9*
*MEX **25** 18:22:04.5±15.0, 31°.16N×115°.42W, h20km±975km, MD3.8*
ISC 25 18:22:01.4±1.1, 31°.14N±0°.06×115°.57W±0°.07, h27km±8km, n9, σ0s52/16, 1C-2D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPIG	**San Pedro Mart**	**0.13**	**137**	*e*P	**Pn**	**18 22 07.7**	**-0.3**
SPIG				*e*S	**Sb**	**18 22 11.2**	**+0.4**
SPIG	**San Pedro Mart**	**0.13**	**137**	*e*P	**Pn**	**18 22 07.9**	**0.0**
	baz=316,slow=11						
SPIG				*i* S	**Sb**	**18 22 10.9**	**+0.2**
SPX	**San Pedro Mart**	**0.13**	**137**	⇓*e*P	**Pn**	**18 22 07.9**	**0.0**
SPX				*e*S	**Sb**	**18 22 11.0**	**+0.2**
SPX				IAML		18 22 11.6	
	comp=E,2μm,0.1s						
SPX				⇓*e*		18 22 11.6	
SPX				IAML		18 22 11.9	
	comp=N,3μm,0.2s						
SPX				*e*		18 22 11.9	
ECBX	**El Chinero**	**0.55**	**53**	⇑*i*P	**Pn**	**18 22 13.6**	**+0.1**
ECBX				*e*S	**Sb**	**18 22 20.6**	**+0.4**
CBX	**Cerro Bola**	**1.50**	**322**	*e*P	**Pb**	**18 22 28.6**	**-0.1**
CBX				*e*S	**Sb**	**18 22 47.4**	**+0.1**
CBX	**Cerro Bola**	**1.50**	**322**	*e*P	**Pb**	**18 22 28.5**	**-0.1**
CBX				*e*S	**Sn**	**18 22 45.9**	**+0.5**
RMX	**La Rumorosa**	**1.52**	**344**	*e*P	**Pb**	**18 22 28.0**	**-1.0**
RMX				*e*S	**Sn**	**18 22 46.6**	**+0.7**
BAR	**Barrett**	**1.80**	**329**	*e*P	**Pb**	**18 22 33.3**	**-0.4**
MONP2	**Monument Peak**	**1.89**	**338**	*e*P	**Pb**	**18 22 34.6**	**-0.8**

IDC 25 18:40:31.4±1.6, 23°.15N×142°.00E, h248km±24km, mb3.1/7, mb1 3.2/8, mb1mx3.0/36, mbtmp3.7/8, Error ellipse: s-maj=72.9km s-min=14.7km az=80.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.93**	**2**	P	Pn	18 41 35.0	+0.8
	3.3nm,0.3s,baz=270,slow=20,SNR=4.7						
JCJ				S	S	18 42 24.3	+0.1
	10nm,0.3s,baz=146,slow=23,SNR=9.5						
SONM	**Songino Array**	**37.52**	**320**	P	P	18 47 22.6	+0.8
	0.1nm,0.4s,baz=119,slow=7.9,SNR=2.1						
WRA	**Warramunga Arr**	**43.48**	**190**	P	P	18 48 10.6	0.0
	0.8nm,0.3s,baz=7.1,slow=8.6,SNR=20						
ASAR	**Alice Springs**	**47.20**	**190**	P	P	18 48 39.1	-0.5
	0.3nm,0.6s,baz=12,slow=8.0,SNR=6.0						
ZALV	**Zalesovo Beam**	**52.39**	**321**	P	P	18 49 17.4	-0.9
	0.5nm,0.4s,baz=107,slow=8.3,SNR=2.7						
MKAR	**Makanchi Array**	**52.91**	**312**	P	P	18 49 22.0	-0.2
	0.5nm,0.6s,baz=87,slow=8.7,SNR=6.3						
ARCES	**ARCESS Array B**	**77.20**	**341**	P	P	18 51 58.5	+0.9
	2.8nm,0.9s,baz=88,slow=8.2,SNR=1.5						
FINES	**FINESS Array B**	**81.40**	**334**	P	P	18 52 19.9	-0.5
	0.4nm,0.4s,baz=77,slow=7.1,SNR=6.1						

JMA 25 18:43:19.1±0.1, 38°.50N×142°.15E, h24km±2km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.57**	**251**	P	Pb	18 43 30.2	-0.3
JIKH				*e*S	Sb	18 43 37.5	-0.7
JKMT	**Kesennumamotoy**	**0.61**	**301**	P	Pb	18 43 31.3	+0.1
JKMT				*e*S	Sb	18 43 39.5	+0.1
JIO	**Ouri**	**0.63**	**266**	P	Pb	18 43 31.5	0.0
JIO				*e*S	Sb	18 43 39.5	-0.4
OFUJ	**Ofunato**	**0.69**	**327**	P	Pb	18 43 32.3	-0.2
OFUJ				*e*S	Sb	18 43 41.5	-0.1
JMK	**Ichinoseki**	**0.86**	**302**	P	Pb	18 43 35.1	-0.2
JMK				*e*S	Sb	18 43 46.5	+0.1
JOU	**Okura**	**1.18**	**264**	P	Pb	18 43 40.4	-0.3
JOU				*e*S	Sb	18 43 55.9	+0.4
JOM	**Ohasama**	**1.18**	**326**	P	Pn	18 43 40.1	0.0
JOM				*e*S	Sn	18 43 55.4	0.0
JMM	**Marumori**	**1.24**	**240**	P	Pn	18 43 40.3	-0.7
JMM				*e*S	Sn	18 43 55.6	-1.3
JYK	**Kaneyama**	**1.46**	**287**	P	Pn	18 43 44.7	+0.7
JYK				*e*S	Sb	18 44 03.6	-0.2
JFK	**Kawauchi**	**1.52**	**222**	P	Pn	18 43 43.6	-1.2
JFK				*e*S	Sn	18 44 00.9	-2.9

GUC 25 18:46:51.6±0.5, 23°.92S×67°.61W, h221km±12km, ML3.5, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB15	**IPOC Station P**	**1.85**	**292**	*e*P	Pn	18 47 31.9	+1.3
PB15				*e*S	S	18 48 02.5	+1.7
PB15				IAML		18 48 06.4	
	comp=E,608nm,0.3s						
PB06	**IPOC Station P**	**2.17**	**304**	*e*P	Pn	18 47 35.3	+1.6
PB06				*e*S	S	18 48 08.5	+2.2
PB06				IAML		18 48 11.3	
	comp=N,136nm,0.3s						
PB05	**IPOC Station P**	**2.61**	**294**	*e*P	Pn	18 47 40.1	+1.9
PB05				*e*S	S	18 48 16.4	+2.0
PB03	**IPOC Station P**	**2.72**	**313**	*e*P	Pn	18 47 41.4	+1.9
PB03				*e*S	S	18 48 19.3	+2.7
PB03				IAML		18 48 21.6	
	comp=E,42nm,0.3s						
PB07	**IPOC Station P**	**3.03**	**316**	⇑*i*P	Pn	18 47 44.9	+2.0
PB07				*e*S	S	18 48 25.5	+2.4
PB07				IAML		18 48 28.1	
	comp=N,47nm,0.5s						
PB02	**IPOC Station P**	**3.34**	**320**	*e*P	Pn	18 47 48.3	+1.7
PB02				*e*S	S	18 48 32.2	+2.7
PB02				IAML		18 48 39.3	
	comp=E,41nm,0.5s						
PB01	**IPOC Station P**	**3.35**	**328**	*e*P	Pn	18 47 48.0	+1.4
PB01				*e*S	S	18 48 31.9	+2.3
PB01				IAML		18 48 32.6	
	comp=E,24nm,0.2s						

MEX 25 18:51:45.4±0.7, 16°.29N×97°.90W, h5km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.25**	**296**	*e*P	Pg	18 51 49.7	-0.6
PNIG				*i* S	Sg	18 51 53.3	-0.2
TLIG	**Tlapa**	**1.42**	**333**	*e*P	Pn	18 52 09.1	-3.0
TLIG				*e*S	Sb	18 52 27.1	-4.0

*DDA **25** 18:51:46.0, 37°.71N×36°.31E, h6km, Ml2.8*
*ISK **25** 18:51:45.1, 37°.74N×36°.38E, h8km, ML2.0/5*
ISC 25 18:51:45.7±1.2, 37°.75N±0°.04×36°.39E±0°.04, h5km±11km, n11, σ0s89/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANDN	**Andirin**	**0.17**	**191**	*i* P	**Pg**	**18 51 48.6**	**-0.6**
ANDN				*i* S	**Sg**	**18 51 51.5**	**-0.1**
SAIM	**ADANA**	**0.33**	**313**	*i* P	**Pg**	**18 51 52.0**	**-0.2**
SAIM				*i* S	**Sb**	**18 51 58.2**	**-1.5**
KMRS	**Kahramanmaras**	**0.48**	**121**	PG	**Pg**	**18 51 54.7**	**-0.2**
KOZT	**Kozan**	**0.52**	**239**	PG	**Pg**	**18 51 55.4**	**-0.3**
KOZT				SG	**Sg**	**18 52 03.0**	**+0.5**
GAZ	**Gaziantep**	**0.88**	**131**	PG	**Pg**	**18 52 02.4**	**-0.1**
KUZU	**Kuzuini**	**1.12**	**150**	*i* P	**Pn**	**18 52 08.1**	**0.0**
KUZU				*i* S	**Sn**	**18 52 23.8**	**-0.1**
BNN	**Bunyan**	**1.18**	**339**	PN	**Pg**	**18 52 08.1**	**-0.3**
AKCD	**Akcadag**	**1.33**	**65**	*i* P	**Pg**	**18 52 12.2**	**+0.9**
GULE	**Gulek**	**1.36**	**250**	*i* P	**Pg**	**18 52 13.9**	**+2.0**
TAHT	**Tahtakopru-Hat**	**1.38**	**187**	PN	**Pn**	**18 52 11.2**	**-0.4**
SURC	**SANLIURFA_SURC**	**1.98**	**115**	*i* P	**Pb**	**18 52 22.8**	**+0.6**

*ISCJB **25** 18:58:41.9±0.6, 25°.09N±0°.04×95°.24E±0°.06, h127km±6km, mb3.5/6, Error ellipse: s-maj=9.5km s-min=6.2km az=17.9*
*IDC **25** 18:58:43.1±2.7, 24°.97N×95°.30E, h124km±28km, mb3.2/6, mb1 3.4/8, mb1mx3.1/44, mbtmp3.6/8, Error ellipse: s-maj=25.5km s-min=15.3km az=51.0*
*NDI **25** 18:58:43.2±3.3, 25°.07N×95°.26E, h17km±22km, ML3.7*
ISC 25 18:58:42.9±1.0, 25°.08N±0°.05×95°.26E±0°.07, h119km±10km, n16, σ1s08/25, mb3.5/6, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOHI	**KOHIMA**	**1.22**	**302**	*e*P	**Pn**	**18 59 08.2**	**+0.9**
KOHI				*e*S	**Sn**	**18 59 24.1**	**-1.8**
KOHI				IAML		18 59 28.8	
	comp=N,295nm,0.3s						
KOHI				IAML		18 59 30.6	
	comp=E,568nm,0.4s						
MOKO	**MOKOCHONG**	**1.41**	**332**	*e*P	**Pn**	**18 59 10.5**	**+1.1**
MOKO				*e*S	**Sn**	**18 59 29.9**	**+0.3**
MOKO				IAML		18 59 33.5	
	comp=E,1μm,0.4s						
MOKO				IAML		18 59 33.9	
	comp=N,665nm,0.2s						
LKP	**Lekhapani**	**2.31**	**13**	*e*P	**Pn**	**18 59 20.6**	**+0.5**
LKP				*e*S	**Sn**	**18 59 48.4**	**-0.4**
LKP				IAML		18 59 51.2	
	comp=N,829nm,0.3s						
LKP				IAML		18 59 51.4	
	comp=E,310nm,0.2s						
TEZP	**TEZPUR**	**2.70**	**305**	*e*P	**Pn**	**18 59 25.8**	**+0.6**
TEZP				*e*S	**Sn**	**18 59 56.9**	**-0.9**
TEZP				IAML		18 59 58.0	
	comp=E,858nm,0.1s						
TEZP				IAML		18 59 58.3	
	comp=N,971nm,0.1s						
ZIRO	**ZIRO**	**2.75**	**333**	*e*P	**Pn**	**18 59 26.8**	**+0.7**
ZIRO				*e*S	**Sn**	**18 59 57.5**	**-1.7**
ZIRO				IAML		19 00 00.7	
	comp=N,1μm,0.3s						
ZIRO				IAML		19 00 01.0	
	comp=E,1μm,0.4s						
SHL	**Shillong**	**3.10**	**280**	*e*P	**Pn**	**18 59 31.1**	**+0.4**
SHL				*e*S	**Sn**	**19 00 06.4**	**-1.0**
SHL				IAML		19 00 07.9	
	comp=E,254nm,0.2s						
SHL				IAML		19 00 08.4	
	comp=N,329nm,0.1s						
SAIH	**SAIHA**	**3.31**	**219**	*e*P	**Pn**	**18 59 34.6**	**+1.1**
SAIH				*e*S	**Sn**	**19 00 12.8**	**+0.3**
SAIH				IAML		19 00 17.1	
	comp=N,254nm,0.3s						
SAIH				IAML		19 00 17.2	
	comp=E,353nm,0.3s						
TAWA	**Tawang**	**3.94**	**310**	*e*P	**Pn**	**18 59 43.3**	**+1.3**
TAWA				*e*S	**Sn**	**19 00 26.3**	**-1.4**
TAWA				IAML		19 00 29.4	
	comp=E,896nm,0.2s						
TAWA				IAML		19 00 29.8	
	comp=N,1μm,0.2s						
BRDH	**Bariadhala**	**4.09**	**235**	P	**Pn**	**18 59 43.7**	**+0.1**
	comp=N,27nm,0.3s,baz=86,slow=19,SNR=2.8						
BRDH				S	**Sn**	**19 00 30.1**	**-0.5**
	comp=N,70nm,0.3s,baz=246,slow=20,SNR=13						
CMAR	**Chiang Mai Arr**	**7.42**	**152**	P	**Pn**	**19 00 28.6**	**0.0**
	comp=N,0.2nm,0.3s,baz=328,slow=12,SNR=11						
MKAR	**Makanchi Array**	**24.02**	**338**	P	**P**	**19 03 48.5**	**+1.9**
	comp=N,1.1nm,0.5s,baz=146,slow=10,SNR=14						
SONM	**Songino Array**	**24.36**	**18**	P	**P**	**19 03 48.7**	**-1.1**
	comp=N,0.3nm,0.4s,baz=202,slow=10,SNR=4.5						
WRA	**Warramunga Arr**	**58.71**	**136**	P	**P**	**19 08 27.1**	**-1.2**
	comp=N,0.6nm,0.6s,baz=324,slow=7.4,SNR=6.3						
ARCES	**ARCESS Array B**	**59.67**	**338**	P	**P**	**19 08 34.7**	**+0.4**
	comp=N,2.2nm,0.9s,baz=105,slow=6.6,SNR=3.4						
ASAR	**Alice Springs**	**61.24**	**139**	P	**P**	**19 08 44.5**	**-1.0**
	comp=N,0.3nm,0.5s,baz=321,slow=6.8,SNR=8.0						
GERES	**GERESS Array B**	**66.15**	**314**	P	**P**	**19 09 18.0**	**+0.4**
	comp=N,0.2nm,0.3s,baz=63,slow=4.6,SNR=3.2						

*ISCJB **25** 19:02:44.7±0.5, 38°.83N±0°.03×42°.69E±0°.04, h5km±5km, Error ellipse: s-maj=5.3km s-min=5.2km az=152.2*
*DDA **25** 19:02:44.6, 38°.80N×42°.74E, h4km, Ml2.8*
*ISK **25** 19:02:44.1, 38°.88N×42°.65E, h7km, ML2.2/6*
ISC 25 19:02:44.3±0.9, 38°.82N±0°.03×42°.71E±0°.03, h4km±6km, n17, σ0s49/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ADCV	**BITLIS_Adilcev**	**0.02**	**140**	*i* P	**Pg**	**19 02 45.4**	**-0.1**
ADCV				*i* S	**Sg**	**19 02 46.3**	**+0.1**
GEVA	**Gevas**	**0.58**	**152**	*i* P	**Pg**	**19 02 55.2**	**-0.3**
GEVA				*i* S	**Sb**	**19 03 05.0**	**-0.8**
VANB	**Van**	**0.58**	**113**	PG	**Pb**	**19 02 57.9**	**+0.8**
TUTA	**Tutak**	**0.58**	**8**	*i* P	**Pg**	**19 02 56.1**	**+0.5**
TUTA				*i* S	**Sb**	**19 03 05.9**	**-0.1**
GURO	**Guroymak-BITLI**	**0.59**	**243**	PG	**Pg**	**19 02 55.8**	**0.0**
GURO				SG	**Sg**	**19 03 04.6**	**+1.1**
TVAN	**Van**	**0.62**	**118**	*i* P	**Pb**	**19 02 57.6**	**-0.3**
TVAN				*i* S	**Sb**	**19 03 06.9**	**-0.1**
EKAR	**Karacoban**	**0.66**	**311**	*i* P	**Pb**	**19 02 58.5**	**-0.1**
VMUR	**Van-Muradiye**	**0.69**	**76**	*i* P	**Pg**	**19 02 58.3**	**+0.6**
AGRB	**Hanur-Agry**	**0.78**	**16**	PG	**Pg**	**19 02 58.9**	**-0.5**
CLDR	**Caldiran**	**0.99**	**71**	PG	**Pb**	**19 03 04.1**	**-0.2**
CLDR	**Caldiran**	**0.99**	**71**	*i* P	**Pb**	**19 03 03.5**	**+0.1**
SRTM	**Siirt_Merkez**	**1.03**	**217**	*i* P	**Pb**	**19 03 04.7**	**-0.1**
SIRT	**Sirnak**	**1.34**	**189**	PN	**Pg**	**19 03 10.5**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.36**	**241**	PN	**Pb**	**19 03 10.3**	**-0.1**
BNGB	**Bing¶ll**	**1.59**	**277**	PN	**Pn**	**19 03 12.7**	**-0.6**
CUKT	**Cukurca**	**1.73**	**155**	PN	**Pb**	**19 03 16.4**	**-0.3**
MAZI	**Mazidag**	**2.24**	**233**	PN	**Pn**	**19 03 22.5**	**+0.2**

*IDC **25** 19:11:18.1±1.8, 29°.33N×142°.92E, h0km, mb3.8/7, mb1 3.8/10, mb1mx3.6/38, mbtmp3.7/10, ML3.3/3, Error ellipse: s-maj=72.0km s-min=17.1km az=76.0*
ISC 25 19:11:23.4±1.7, 29°.2N±0°.1×142°.1E±0°.4, h22km, n10, σ1s13/12, mb3.8/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.05**	**177**	Pn	**Pb**	**19 11 59.1**	**-0.8**
	5.7nm,0.3s,baz=0.0,slow=20,SNR=4.2						
JCJ				Sn	**Sn**	**19 12 22.2**	**+0.7**
	28nm,0.3s,baz=109,slow=23,SNR=8.0						
MJAR	**Matsushiro Arr**	**8.05**	**337**	Pn	**Pn**	**19 13 17.8**	**-1.3**
	0.7nm,0.3s,baz=164,slow=12,SNR=9.1						
KSRS	**Korea Array**	**14.42**	**309**	Pn	**P**	**19 14 51.4**	**-1.5**
	0.1nm,0.3s,baz=113,slow=13,SNR=3.2						
SONM	**Songino Array**	**33.19**	**314**	P	**P**	**19 18 00.4**	**+1.9**
	0.8nm,0.9s,baz=103,slow=6.2,SNR=4.6						
ZALV	**Zalesovo Beam**	**47.88**	**318**	P	**P**	**19 20 00.9**	**+1.3**
	0.6nm,0.3s,baz=70,slow=13,SNR=4.1						
MKAR	**Makanchi Array**	**49.10**	**308**	P	**P**	**19 20 09.5**	**+0.3**
	0.7nm,0.7s,baz=82,slow=9.5,SNR=5.7						
WRA	**Warramunga Arr**	**49.37**	**190**	P	**P**	**19 20 11.4**	**0.0**
	1.0nm,0.7s,baz=10,slow=8.2,SNR=13						
WRA				PcP	**PcP**	**19 21 33.0**	**-0.7**
	0.5nm,1.1s,baz=3.0,slow=4.3,SNR=2.7						
ASAR	**Alice Springs**	**53.09**	**189**	P	**P**	**19 20 39.0**	**-0.3**
	0.2nm,0.5s,baz=5.0,slow=5.6,SNR=6.4						
FINES	**FINESS Array B**	**76.06**	**334**	P	**P**	**19 23 08.8**	**0.0**
	3.4nm,1.1s,baz=72,slow=6.2,SNR=3.3						
BRTR	**Keskin Array B**	**84.53**	**313**	P	**P**	**19 23 56.0**	**+0.9**
	0.5nm,0.9s,baz=108,slow=4.7,SNR=3.7						

MEX 25 19:18:18.5±0.5, 16°.38N×98°.27W, h13km±2km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.14**	**85**	*e*P	Pg	19 18 21.3	-0.8
PNIG				*i* S	Sg	19 18 24.1	-0.5
TLIG	**Tlapa**	**1.21**	**347**	*e*P	Pn	19 18 37.0	-4.2
TLIG				*i* S	Sb	19 18 52.1	-4.8

IDC 25 19:23:37.2±3.0, 6°.55S×147°.23E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.3/27, mbtmp3.3/4, ML3.3/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/14, Error ellipse: s-maj=58.1km s-min=33.2km az=86.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.84**	**181**	Pn	Pn	19 24 24.8	+1.0
	6.5nm,0.3s,baz=342,slow=13,SNR=13						
PMG				Sn	Sn	19 24 59.2	+0.5
	4.5nm,0.3s,baz=18,slow=22,SNR=6.1						
WRA	**Warramunga Arr**	**18.27**	**222**	P	P	19 27 52.9	+0.2
	0.1nm,0.3s,baz=49,slow=12,SNR=7.2						
ASAR	**Alice Springs**	**21.30**	**216**	P	P	19 28 25.1	-0.6
	0.2nm,0.3s,baz=50,slow=9.0,SNR=7.2						
FITZ	**Fitzroy Crossi**	**23.98**	**239**	P	P	19 28 53.6	0.0
	2.4nm,1.0s,baz=53,slow=10,SNR=4.2						
DAV	**Davao City (W)**	**25.49**	**302**	LR	LR	19 41 19.2	
	comp=Z,24nm,18.9s,baz=344,slow=4.2						
TORD	**Torodi Ar. Bea**	**145.44**	**284**	PKPbc	PKPbc	19 43 17.1	-1.2
	0.4nm,1.1s,baz=81,slow=3.4,SNR=3.6						

MEX 25 19:43:34.1±0.3, 16°.29N×98°.23W, h10km±1km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.14**	**43**	*i* P	Pg	19 43 36.8	-0.6
PNIG				*i* S	Sg	19 43 39.3	-0.4
TLIG	**Tlapa**	**

IGT					AML	AML	20 06 49.2		
	comp=N,67μm,0.6s								
THL	**Klokotos Trika**	**1.48**	**151**		P	**Pb**	**20 06 24.2**	**+0.2**
THL					S	**Sg**	**20 06 44.7**	**+0.2**
THL					AML	AML	20 06 50.0		
	comp=E,42μm,0.2s								
THL					AML	AML	20 06 50.3		
	comp=N,42μm,0.3s								
MAKR	**Makrakomi, Fth**	**2.02**	**156**		P	**Pb**	**20 06 32.2**	**-0.9**
MAKR					S	**Sb**	**20 06 57.9**	**-0.1**

MEX 25 20:06:13.5±0.7, 16°15N×98°28W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.28**	**32**	*i* P	Pg	20 06 17.9	-1.1
PNIG				*i* S	Sg	20 06 23.0	+0.2
TLIG	**Tlapa**	**1.43**	**349**	*e*P	Pn	20 06 36.4	-3.9
TLIG				*e*S	Sb	20 06 54.8	-4.5
VHO	**Vista Hermosa**	**1.75**	**58**	*e*P	Pn	20 06 41.9	-2.8
VHO				*i* S	Sn	20 07 03.1	-4.3

*ISCJB **25** 20:18:43.7±0.3, 40°.92N±0°.01×21°.08E±0°.02, h7km±2km, Error ellipse: s-maj=2.1km s-min=1.6km az=151.9*
*ATH **25** 20:18:43.4, 40°.92N×21°.11E, h21km±1km, ML3.5/9, Error ellipse: s-maj=1.6km s-min=1.1km az=148.0*
*SKO **25** 20:18:43.2, 40°.89N×21°.04E, h23km, M2.8, ML3.3*
*TIR **25** 20:18:43.1, 40°.89N×21°.06E, h3km, Md3.7/7*
*BEO **25** 20:18:44.8±1.0, 40°.87N×21°.11E, h17km±7km, ML3.2/13*
*THE **25** 20:18:44.0, 40°.92N×21°.09E, h0km±1km, ML3.3/13, Error ellipse: s-maj=1.7km s-min=0.6km az=293.0*
*PDG **25** 20:18:44.1±0.5, 40°.91N×21°.07E, h13km, ML3.5/13, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*

ISC 25 20:18:44.8±0.8, 40°.90N±0°.01×21°.09E±0°.01, h14km±6km, n207, σ1§26/282, 38C-17D, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIA	**Bitola**	**0.22**	**56**	*i* Pg	**Pg**	**20 18 49.7**	**0.0**
BIA				*i* Sg	**Sg**	**20 18 54.4**	**+1.4**
BIA				*e*Lg	Lg	20 18 54.5	
	comp=E,6μm,0.3s						
BIA				*e*Lg	Lg	20 18 54.9	
	comp=N,9μm,0.2s						
FNA	**Florina**	**0.25**	**117**	P	**Pg**	**20 18 49.8**	**-0.3**
FNA				S	**Sg**	**20 18 54.2**	**+0.4**
FNA				AML	AML	20 18 54.3	
FNA				AML	AML	20 18 54.4	
FNA	**Florina**	**0.25**	**117**	P	**Pg**	**20 18 49.8**	**-0.3**
FNA				S	**Sg**	**20 18 54.2**	**+0.4**
FNA	**Florina**	**0.25**	**117**	*i* PG	**Pg**	**20 18 49.8**	**-0.3**
FNA				*i* SG	**Sg**	**20 18 54.1**	**+0.3**
OHR	**Ohrid**	**0.31**	**314**	*i* Pg	**Pg**	**20 18 50.3**	**-0.9**
OHR				*i* Sg	**Sb**	**20 18 55.9**	**-1.1**
OHR				*e*Lg	Lg	20 18 56.3	
	comp=E,3μm,0.3s						
OHR				*e*Lg	Lg	20 18 56.3	
	comp=N,4μm,0.5s						
KBN	**Korca**	**0.36**	**220**	P	**Pg**	**20 18 50.8**	**-1.3**
KBN				S	**Sg**	**20 18 56.3**	**-0.7**
KBN	**Korca**	**0.36**	**220**	*i* PG	**Pg**	**20 18 50.6**	**-1.5**
KBN				*i* SG	**Sg**	**20 18 56.1**	**-0.9**
NEST	**Nestorio**	**0.48**	**184**	P	**Pg**	**20 18 53.3**	**-1.1**
NEST				S	**Sg**	**20 19 01.2**	**+0.4**
NEST				AML	AML	20 19 01.4	
	comp=N,16335μm,0.5s						
NEST				AML	AML	20 19 01.5	
	comp=E,23407μm,0.4s						
NEST	**Nestorio**	**0.48**	**184**	P	**Pg**	**20 18 53.3**	**-1.1**
NEST				S	**Sg**	**20 19 00.5**	**-0.4**
KRUS	**Krusevo**	**0.49**	**14**	*i* Pg	**Pg**	**20 18 53.7**	**-0.8**
KRUS				*i* Sg	**Sb**	**20 19 01.6**	**-0.7**
KRUS				*e*Lg	Lg	20 19 02.0	
	comp=E,5μm,0.3s						
KRUS				*e*Lg	Lg	20 19 02.0	
	comp=N,3μm,0.4s						
PENT	**Pentalofos**	**0.70**	**177**	P	**Pg**	**20 18 57.2**	**-1.3**
PENT				S	**Sg**	**20 19 07.8**	**0.0**
PENT				AML	AML	20 19 10.2	
	comp=E,18345μm,0.6s						
PENT				AML	AML	20 19 12.7	
	comp=N,12188μm,0.8s						
PENT	**Pentalofos**	**0.70**	**177**	P	**Pg**	**20 18 57.2**	**-1.3**
PENT				S	**Sb**	**20 19 08.7**	**+0.3**
KZN	**Kozani**	**0.79**	**138**	P	**Pg**	**20 18 58.6**	**-1.5**
KZN				S	**Sg**	**20 19 10.1**	**-0.3**
KZN				AML	AML	20 19 13.6	
	comp=E,6522μm,0.3s						
KZN				AML	AML	20 19 18.9	
	comp=N,4548μm,0.5s						
KZN	**Kozani**	**0.79**	**138**	P	**Pg**	**20 18 58.7**	**-1.4**
KZN				S	**Sg**	**20 19 10.1**	**-0.3**
PHP	**Peshkopia**	**0.93**	**328**	P	**Pg**	**20 19 00.4**	**-2.3**
PHP				S	**Sb**	**20 19 15.0**	**+0.2**
PHP	**Peshkopia**	**0.93**	**328**	*i* PG	**Pg**	**20 19 00.7**	**-2.0**
PHP				*i* SG	**Sb**	**20 19 16.4**	**+1.6**
GRG	**Griva**	**1.00**	**86**	*e*P	**Pg**	**20 19 02.9**	**-1.1**
GRG	**Griva**	**1.00**	**86**	P	**Pg**	**20 19 02.8**	**-1.3**
GRG				S	**Sg**	**20 19 15.5**	**-1.6**
GRG				AML	AML	20 19 22.7	
	comp=N,6594μm,0.5s						
GRG				AML	AML	20 19 24.1	
	comp=E,3456μm,0.6s						
GRG	**Griva**	**1.00**	**86**	P	**Pg**	**20 19 02.7**	**-1.3**
GRG				S	**Sb**	**20 19 17.8**	**+1.0**
TPE	**Tepelena**	**1.02**	**234**	*i* PG	**Pg**	**20 19 02.4**	**-2.0**
TPE				*i* SG	**Sb**	**20 19 18.6**	**+1.3**
TIR	**Tirane**	**1.03**	**296**	*i*P	**Pg**	**20 19 03.3**	**-1.3**
TIR				S	**Sn**	**20 19 20.5**	**+1.6**
TIR	**Tirane**	**1.03**	**296**	P	**Pg**	**20 19 02.9**	**-1.7**
TIR	**Tirane**	**1.03**	**296**	P	**Pg**	**20 19 02.9**	**-1.7**
TIR				S	**Sg**	**20 19 17.4**	**-0.7**
TIR	**Tirane**	**1.03**	**296**	*i* PG	**Pg**	**20 19 02.9**	**-1.7**
TIR				*i* SG	**Sb**	**20 19 19.4**	**+1.7**
SKO	**Skopje**	**1.11**	**14**	*e*Pg	**Pg**	**20 19 04.8**	**-1.3**
SKO				*e*Sg	**Sb**	**20 19 20.6**	**+0.6**
SKO	**Skopje**	**1.11**	**14**	P	**Pg**	**20 19 04.9**	**-1.2**
SKO				S	**Sb**	**20 19 20.1**	**+0.1**
SKO	**Skopje**	**1.11**	**14**	*i* Pg	**Pg**	**20 19 05.0**	**-1.2**
SKO				*i* Sg	**Sb**	**20 19 20.0**	**0.0**
SKO				*e*Lg	Lg	20 19 20.9	
	comp=E,101nm,0.3s						
SKO				*e*Lg	Lg	20 19 21.1	
	comp=N,160nm,0.4s						
MEV	**Metsovon**	**1.12**	**174**	P	**Pg**	**20 19 04.3**	**-2.0**
MEV	**Metsovon**	**1.12**	**174**	P	**Pg**	**20 19 04.2**	**-2.1**
STIP	**Stip**	**1.15**	**46**	*i* Pg	**Pn**	**20 19 08.8**	**+2.4**
VAY	**Valandovo**	**1.20**	**69**	*i* Pg	**Pg**	**20 19 06.4**	**-1.5**
VAY				*e*Sg	**Sb**	**20 19 23.2**	**+0.7**
VAY	**Valandovo**	**1.20**	**69**	P	**Pg**	**20 19 06.4**	**-1.5**
VAY				S	**Sb**	**20 19 23.8**	**+1.3**
VAY	**Valandovo**	**1.20**	**69**	*i* Pg	**Pg**	**20 19 06.3**	**-1.5**
VAY				*i* Sg	**Sb**	**20 19 23.9**	**+1.3**
VAY				*e*Lg	Lg	20 19 25.7	
	comp=N,698nm,0.8s						
VAY				*e*Lg	Lg	20 19 25.7	
	comp=E,398nm,0.5s						
JAN	**Janina**	**1.25**	**188**	P	**Pg**	**20 19 07.5**	**-1.4**
JAN	**Janina**	**1.25**	**188**	P	**Pg**	**20 19 07.2**	**-1.7**
JAN				S	**Sg**	**20 19 25.1**	**-0.1**
VLO	**Vlora**	**1.28**	**251**	P	**Pb**	**20 19 09.0**	**+0.3**
VLO				S	**Sn**	**20 19 28.1**	**+2.9**
SRN	**Sarande**	**1.31**	**220**	P	**Pg**	**20 19 08.8**	**-1.2**
SRN	**Sarande**	**1.31**	**220**	*i* PN	**Pg**	**20 19 08.8**	**-1.2**
SRN				*i* SN	**Sn**	**20 19 29.1**	**+3.2**
LIT	**Litokhoron**	**1.33**	**126**	P	**Pg**	**20 19 08.5**	**-1.9**
LIT				S	**Sb**	**20 19 27.8**	**+1.3**
LIT				AML	AML	20 19 32.3	
	comp=E,2855μm,0.3s						
LIT				AML	AML	20 19 33.0	
	comp=N,2376μm,0.6s						
LIT	**Litokhoron**	**1.33**	**126**	P	**Pg**	**20 19 09.4**	**-1.0**
LIT				S	**Sb**	**20 19 27.8**	**+1.3**
KNT	**Kendrikon**	**1.40**	**78**	P	**Pg**	**20 19 09.7**	**-2.0**
KNT				S	**Sg**	**20 19 27.9**	**-1.8**
KNT				AML	AML	20 19 34.0	
	comp=N,2175μm,0.8s						
KNT				AML	AML	20 19 38.1	
	comp=E,842μm,0.6s						
KNT	**Kendrikon**	**1.40**	**78**	P	**Pg**	**20 19 09.5**	**-2.1**
KNT				S	**Sn**	**20 19 29.7**	**+1.7**
SGD	**Sagiada**	**1.44**	**207**	P	**Pn**	**20 19 11.1**	**+0.7**
SGD	**Sagiada**	**1.44**	**207**	P	**Pn**	**20 19 11.1**	**+0.7**
THE	**Thessaloniki**	**1.45**	**100**	P	**Pn**	**20 19 10.0**	**-0.5**
THE	**Thessaloniki**	**1.45**	**100**	P	**Pn**	**20 19 11.3**	**+0.8**
THE				S	**Sn**	**20 19 32.6**	**+3.3**
PUK	**Puka**	**1.46**	**322**	*i* PN	**Pn**	**20 19 11.0**	**+0.3**
PUK				*i* SN	**Sn**	**20 19 33.5**	**+3.8**
IGT	**Igoumenitsa**	**1.48**	**203**	P	**Pn**	**20 19 11.4**	**+0.5**
IGT	**Igoumenitsa**	**1.48**	**203**	P	**Pb**	**20 19 12.5**	**+0.4**
IGT				S	**Sn**	**20 19 33.6**	**+3.5**
THL	**Klokotos Trika**	**1.51**	**152**	P	**Pn**	**20 19 11.3**	**0.0**
THL				S	**Sg**	**20 19 32.4**	**-1.0**
THL				AML	AML	20 19 38.4	
	comp=N,1480μm,0.6s						
THL				AML	AML	20 19 40.6	
	comp=E,1642μm,0.4s						
THL	**Klokotos Trika**	**1.51**	**152**	P	**Pn**	**20 19 11.2**	**-0.1**
KEK	**Kerkira**	**1.54**	**220**	P	**Pn**	**20 19 12.8**	**+1.1**
KEK	**Kerkira**	**1.54**	**220**	P	**Pn**	**20 19 12.9**	**+1.1**
KEK				S	**Sg**	**20 19 34.7**	**+0.3**
HORT	**Hortiatis**	**1.56**	**100**	*e*P	**Pn**	**20 19 10.7**	**-1.4**
HORT	**Hortiatis**	**1.56**	**100**	P	**Pn**	**20 19 11.6**	**-0.6**
HORT	**Hortiatis**	**1.56**	**100**	P	**Pn**	**20 19 11.5**	**-0.6**
HORT				S	**Sg**	**20 19 35.8**	**+0.8**
LRSO	**Larissa Observ**	**1.58**	**140**	P	**Pn**	**20 19 13.3**	**+1.0**
LRSO	**Larissa Observ**	**1.58**	**140**	P	**Pn**	**20 19 13.1**	**+0.8**
BCI	**Bajram Curri**	**1.66**	**333**	*i* PN	**Pn**	**20 19 14.1**	**+0.7**
BCI				*i* SN	**Sg**	**20 19 37.9**	**-0.2**
SOH	**Sokhos**	**1.72**	**92**	P	**Pn**	**20 19 15.1**	**+0.7**
SOH	**Sokhos**	**1.72**	**92**	P	**Pn**	**20 19 15.3**	**+1.0**
SOH				S	**Sg**	**20 19 40.2**	**0.0**
ULC	**Ulcinj**	**1.75**	**308**	*i* Pn	**Pn**	**20 19 15.1**	**+0.4**
ULC				*e*Sn	**Sg**	**20 19 39.4**	**-1.7**
PLG	**Polygyros**	**1.87**	**105**	P	**Pn**	**20 19 16.0**	**-0.3**
PLG	**Polygyros**	**1.87**	**105**	P	**Pn**	**20 19 16.2**	**-0.1**
PVY	**Plav**	**1.90**	**334**	*i* Pn	**Pn**	**20 19 17.5**	**+0.7**
PVY				*e*Sn	**Sn**	**20 19 42.5**	**+2.0**
SRS	**Serrai**	**1.91**	**83**	P	**Pn**	**20 19 16.6**	**-0.3**
SRS	**Serrai**	**1.91**	**83**	P	**Pn**	**20 19 16.7**	**-0.2**
SRS				S	**Sn**	**20 19 41.7**	**+1.0**
DRME	**Dracevica, Mon**	**1.92**	**313**	*i* Pn	**Pn**	**20 19 18.1**	**+1.0**
DRME				*e*Sn	**Sb**	**20 19 43.5**	**0.0**
DRME	**Dracevica, Mon**	**1.92**	**313**	*i* Pn	**Pb**	**20 19 18.9**	**-0.7**
BARS	**Barje**	**1.99**	**16**	*e*Pn	**Pn**	**20 19 18.7**	**+0.6**
BARS				*e*Sg	**Sg**	**20 19 48.7**	**-0.2**
MAKR	**Makrakomi, Fth**	**2.04**	**157**	P	**Pn**	**20 19 19.1**	**+0.3**
MAKR	**Makrakomi, Fth**	**2.04**	**157**	P	**Pn**	**20 19 19.2**	**+0.4**
EVR	**Evrytania**	**2.05**	**164**	P	**Pn**	**20 19 19.9**	**+0.9**
EVR				AML	AML	20 19 52.5	
	comp=N,960μm,0.7s						
EVR				AML	AML	20 20 03.9	
	comp=E,900μm,0.7s						
EVR	**Evrytania**	**2.05**	**164**	P	**Pn**	**20 19 20.3**	**+1.3**
FYTO	**Fytoko, Volos**	**2.06**	**136**	P	**Pn**	**20 19 18.8**	**0.0**
FYTO	**Fytoko, Volos**	**2.06**	**136**	P	**Pn**	**20 19 18.7**	**-0.2**
PDG	**Podgorica**	**2.06**	**319**	*e*Pn	**Pn**	**20 19 19.7**	**+0.8**
PDG	**Podgorica**	**2.06**	**319**	*i* P	**Pb**	**20 19 20.8**	**-1.1**
PDG	**Podgorica**	**2.06**	**319**	S	**Sb**	**20 19 47.5**	**+0.2**
PDG	**Podgorica**	**2.06**	**319**	*i* Pn	**Pn**	**20 19 20.6**	**+1.7**
TTG	**Podgorica**	**2.06**	**319**	*i* Pn	**Pn**	**20 19 19.6**	**+0.7**
TTG				*e*Sn	**Sn**	**20 19 46.6**	**+2.3**
TSLK	**Tsoukalades, L**	**2.10**	**189**	P	**Pn**	**20 19 21.1**	**+1.7**
LKD2	**Lefkada island**	**2.13**	**189**	P	**Pn**	**20 19 21.1**	**+1.1**
NVR	**Nevrokopi**	**2.14**	**77**	P	**Pn**	**20 19 20.1**	**0.0**
NVR	**Nevrokopi**	**2.14**	**77**	P	**Pn**	**20 19 20.5**	**+0.4**
BUM	**Brajici-Budva**	**2.16**	**311**	*i* Pn	**Pn**	**20 19 21.3**	**+0.9**
BUM				*e*Sn	**Sn**	**20 19 49.1**	**+2.1**
IVA	**Berane**	**2.17**	**336**	*i* Pn	**Pn**	**20 19 21.1**	**+0.6**
IVA				*e*Sn	**Sn**	**20 19 49.1**	**+1.9**
XOR	**Xorichti**	**2.22**	**133**	P	**Pn**	**20 19 20.6**	**-0.5**
XOR	**Xorichti**	**2.22**	**133**	P	**Pn**	**20 19 20.7**	**-0.5**
XOR				S	**Sb**	**20 19 53.1**	**+1.0**
OUR	**Ouranopolis**	**2.27**	**103**	*e*P	**Pn**	**20 19 21.2**	**-0.6**
OUR	**Ouranopolis**	**2.27**	**103**	P	**Pn**	**20 19 21.8**	**0.0**
OUR	**Ouranopolis**	**2.27**	**103**	P	**Pn**	**20 19 21.9**	**0.0**
KOME	**Kolasin**	**2.28**	**329**	*i* Pn	**Pn**	**20 19 23.1**	**+1.1**
KOME				*e*Sn	**Sn**	**20 19 52.3**	**+2.4**
NEO	**Neokhori**	**2.28**	**133**	P	**Pn**	**20 19 22.0**	**0.0**
NEO	**Neokhori**	**2.28**	**133**	P	**Pn**	**20 19 21.6**	**-0.4**
EVGI	**Lefkada island**	**2.30**	**188**	P	**Pn**	**20 19 23.3**	**+1.0**
EVGI	**Lefkada island**	**2.30**	**188**	P	**Pn**	**20 19 23.2**	**+1.0**
PVO	**Paravola**	**2.30**	**171**	P	**Pn**	**20 19 24.6**	**+2.3**
CEME	**Cevo**	**2.31**	**316**	*i* Pn	**Pn**	**20 19 23.6**	**+1.1**
CEME				*e*Sn	**Sn**	**20 19 52.6**	**+1.8**
VTS	**Vitosha**	**2.32**	**42**	*i* Pn	**Pn**	**20 19 23.4**	**+0.7**
VTS	**Vitosha**	**2.32**	**42**	*i* P	**Pn**	**20 19 23.3**	**+0.6**
VTS	**Vitosha**	**2.32**	**42**	P	**Pn**	**20 19 23.3**	**+0.6**
SELS	**Selova**	**2.32**	**1**	*e*Pn	**Pn**	**20 19 22.2**	**-0.4**
SELS				*e*Sg	**Sg**	**20 20 00.1**	**+0.7**
ANX	**Ano Chora**	**2.39**	**164**	P	**Pn**	**20 19 24.6**	**+1.1**
AXAR	**Agios Charalam**	**2.45**	**150**	P	**Pn**	**20 19 26.2**	**+1.9**
NKME	**Niksic**	**2.46**	**320**	*i* Pn	**Pn**	**20 19 25.5**	**+1.0**
NKME				*e*Sn	**Sn**	**20 19 56.4**	**+2.1**
NKY	**Niksic**	**2.47**	**321**	*i* Pn	**Pn**	**20 19 25.5**	**+0.8**
NKY				*e*Sn	**Sn**	**20 19 56.8**	**+2.0**
HCY	**Herceg Novi**	**2.48**	**309**	*i* Pn	**Pn**	**20 19 25.4**	**+0.6**
HCY				*e*Sn	**Sn**	**20 19 57.1**	**+2.2**
HCY	**Herceg Novi**	**2.48**	**309**	*i* Pn	**Pn**	**20 19 25.4**	**+0.6**
SJES	**Sjenica**	**2.50**	**341**	*i* Pn	**Pn**	**20 19 26.0**	**+0.8**
SKIA	**Skiathos**	**2.51**	**133**	P	**Pn**	**20 19 24.9**	**-0.3**
EFP	**Efpalio**	**2.55**	**165**	P	**Pn**	**20 19 27.6**	**+2.0**
KALE	**Kalithea**	**2.63**	**162**	P	**Pn**	**20 19 27.7**	**+0.8**
ZAPS	**Zavoj**	**2.64**	**25**	*e*Pn	**Pn**	**20 19 28.1**	**+1.2**
ATAL	**Atalanti**	**2.66**	**145**	P	**Pn**	**20 19 26.9**	**-0.3**
TREB	**Trebinje**	**2.74**	**313**	*e*Pn	**Pn**	**20 19 29.1**	**+0.8**
TREB	**Trebinje**	**2.74**	**313**	*e*Pn	**Pn**	**20 19 28.8**	**+0.5**
PLE	**Pljevlja**	**2.74**	**333**	*i* Pn	**Pn**	**20 19 29.4**	**+1.0**
PLE				*e*Sn	**Sn**	**20 20 03.5**	**+2.1**
LAKA	**Lakka**	**2.74**	**165**	P	**Pn**	**20 19 30.7**	**+2.4**
VLS	**Valsamata**	**2.74**	**188**	P	**Pn**	**20 19 29.0**	**+0.6**
AOS	**Alonnisos**	**2.75**	**128**	*e*P	**Pn**	**20 19 25.1**	**-3.3**
AOS	**Alonnisos**	**2.75**	**128**	P	**Pn**	**20 19 27.9**	**-0.5**
BRY	**Bratogost**	**2.76**	**317**	*i* Pn	**Pn**	**20 19 29.3**	**+0.6**
BRY				*e*Sn	**Sn**	**20 20 03.5**	**+1.5**
BRY	**Bratogost**	**2.76**	**317**	*i* Pn	**Pn**	**20 19 29.8**	**+1.1**
IVAS	**Ivanjica**	**2.77**	**346**	*i* Pn	**Pn**	**20 19 28.3**	**-0.4**
IVAS				*e*Sg	**Sg**	**20 20 14.2**	**+0.5**
BOVS	**Bovan**	**2.77**	**9**	*i* Pn	**Pn**	**20 19 28.9**	**+0.1**
BOVS				*e*Sg	**Sg**	**20 20 14.1**	**+0.2**
THAS	**Thassos island**	**2.77**	**95**	P	**Pn**	**20 19 29.2**	**+0.5**
UPM	**Unac-Piva**	**2.82**	**326**	*i* Pn	**Pn**	**20 19 30.6**	**+1.0**
UPM				*e*Sn	**Sn**	**20 20 04.8**	**+1.4**
UPM	**Unac-Piva**	**2.82**	**326**	*e*Pn	**Pn**	**20 19 32.3**	**+2.7**
FASA	**Fasano**	**2.83**	**270**	*e*Pn	**Pn**	**20 19 29.2**	**-0.4**
KLV	**Kalavryta, Ach**	**2.97**	**164**	P	**Pn**	**20 19 32.1**	**+0.7**
KLV	**Kalavryta, Ach**	**2.97**	**164**	P	**Pn**	**20 19 32.5**	**+1.0**
PLD	**Plovdiv**	**2.97**	**65**	*e*P	**Pn**	**20 19 30.8**	**-0.7**
DRO	**Drossia**	**2.98**	**170**	P	**Pn**	**20 19 34.2**	**+1.6**
DRO	**Drossia**	**2.98**	**170**	P	**Pn**	**20 19 32.9**	**+1.3**
PROD	**Prodromos**	**2.98**	**151**	P	**Pn**	**20 19 31.9**	**+0.2**
PROD	**Prodromos**	**2.98**	**151**	P	**Pn**	**20 19 31.5**	**-0.2**
GRUS	**Gruza**	**3.00**	**355**	*i* Pn	**Pn**	**20 19 32.2**	**+0.3**
MASS	**Massafra**	**3.01**	**266**	*e*Pn	**Pn**	**20 19 31.4**	**-0.6**
ZAGS	**Zajecar**	**3.04**	**16**	*e*Pn	**Pn**	**20 19 32.3**	**0.0**
GUR	**Goura**	**3.11**	**161**	P	**Pn**	**20 19 33.8**	**+0.3**
BAI	**Bari**	**3.19**	**275**	*e*Pn	**Pn**	**20 19 34.1**	**-0.4**
BAI					**Sn**	**20 20 09.7**	**-2.6**
STON	**Ston**	**3.21**	**309**	*i* Pn	**Pn**	**20 19 34.9**	**+0.2**
STON	**Ston**	**3.21**	**309**	*i* Pn	**Pn**	**20 19 34.2**	**-0.5**
BBLS	**Lazići**	**3.22**	**338**	*e*Pn	**Pn**	**20 19 35.2**	**+0.3**
BBLS	**Lazići**	**3.22**	**338**	*e*Pn	**Pn**	**20 19 35.2**	**+0.3**
DIVS	**Divibare**	**3.30**	**346**	*e*Pn	**Pn**	**20 19 35.9**	**-0.2**
DIVS	**Divibare**	**3.30**	**346**	*i* Pn	**Pn**	**20 19 35.5**	**-0.6**
MATE	**Matera**	**3.34**	**267**	*i* P	**Pn**	**20 19 36.2**	**-0.3**
MATE	**Matera**	**3.34**	**267**	S	**Sn**	**20 20 13.5**	**-2.4**
SG1	**Sgolgore (BA)**	**3.34**	**270**	*e*Pn	**Pn**	**20 19 36.3**	**-0.3**
SG1					**Sn**	**20 20 16.4**	**+0.3**
TRUS	**Trudelj**	**3.36**	**352**	*e*Pn	**Pn**	**20 19 37.2**	**+0.3**
KUBS	**Kucevo**	**3.54**	**7**	*e*Pn	**Pn**	**20 19 39.2**	**-0.1**
HAPS	**Han Pijesak,Bl**	**3.56**	**334**	*e*Pn	**Pn**	**20 19 40.4**	**+0.8**
HAPS	**Han Pijesak,Bl**	**3.56**	**334**	*e*Pn	**Pn**	**20 19 40.1**	**+0.5**
PUNG	**Punghina**	**3.64**	**21**	*i* P	**Pg**	**20 19 54.5**	**-0.1**
VLY	**Voula,Athens**	**3.69**	**145**	P	**Pn**	**20 19 42.1**	**+0.7**
TIP	**Timpagrande**	**3.74**	**244**	*i* P	**Pn**	**20 19 39.9**	**-2.2**
ALN	**Alexandroupoli**	**3.76**	**88**	P	**Pn**	**20 19 42.3**	**0.0**
ITM	**Ithomi**	**3.77**	**170**	*e*P	**Pn**	**20 19 42.1**	**-0.4**
TEKS	**Tekeris**	**3.83**	**343**	*e*Pn	**Pn**	**20 19 43.3**	**+0.1**
ENEZ	**Enez**	**3.85**	**91**	*e*P	**Pb**	**20 19 50.9**	**-1.5**
MDVR	**Moldovita**	**3.91**	**7**	*i* P	**Pg**	**20 19 56.9**	**-2.8**
SRE	**Strehaia**	**4.07**	**22**	*i* P	**Pn**	**20 19 47.4**	**+0.8**
HERR	**Herculane**	**4.10**	**13**	*i* P	**Pn**	**20 19 48.3**	**+1.3**
ERIK	**Erikli-Kesan**	**4.12**	**91**	*e*P	**Pb**	**20 19 54.8**	**-2.3**
EDRB	**Edirne**	**4.36**	**76**	*e*P	**Pn**	**20 19 49.9**	**-0.7**
FRGS	**Fruska Gora**	**4.36**	**348**	*i* Pn	**Pn**	**20 19 50.6**	**0.0**
FRGS	**Fruska Gora**	**4.36**	**348**	*i* Pn	**Pn**	**20 19 50.2**	**-0.4**
BZS	**Buzias**	**4.73**	**4**	*e*Pn	**Pn**	**20 19 54.5**	**-1.2**
BZS	**Buzias**	**4.73**	**4**	*i* P	**Pn**	**20 19 54.8**	**-0.9**
BLY	**Banja Luka**	**4.80**	**325**	*i* P	**Pn**	**20 19 57.8**	**+1.2**
BLY	**Banja Luka**	**4.80**	**325**	*e*Pn	**Pn**	**20 19 58.5**	**+1.9**
ARR	**Arges**	**5.17**	**29**	*i* P	**Pn**	**20 20 02.1**	**+0.4**
UDBI	**Udbina**	**5.34**	**315**	*i* Pn	**Pn**	**20 20 05.7**	**+1.6**
VOIR		**5.38**	**31**	*i* P	**Pn**	**20 20 05.5**	**+0.8**
SIRR	**Siria**	**5.38**	**4**	*i* P	**Pn**	**20 20 03.9**	**-0.7**
RASA	**Rasa**	**5.57**	**51**	*i* P	**Pn**	**20 20 09.3**	**+2.2**
MORH	**M¨ur¡igy, Hung**	**5.60**	**342**	*ex*	**Pn**	**20 20 07.6**	**0.0**
MORH	**M¨ur¡igy, Hung**	**5.60**	**342**	*e*Pn	**Pn**	**20 20 07.3**	**-0.3**
MLR	**Muntele Rosu**	**5.80**	**36**	*i* P	**Pn**	**20 20 11.9**	**+1.4**
NVLJ	**Novalja**	**5.86**	**311**	*e*Pn	**Pn**	**20 20 10.9**	**-0.2**
NVLJ					Sn	**Sn**	**20 21 16.2**	**-1.9**
AQU	**L'Aquila**	**5.94**	**287**	*e*Pn	**Pn**	**20 20 12.8**	**+0.5**
DOPR	**Dopca**	**5.96**	**30**	*i* P	**Pn**	**20 20 14.8**	**+2.3**
DRGR		**6.01**	**11**	*i* P	**Pn**	**20 20 15.4**	**+2.1**
OZLJ	**Ozalj**	**6.25**	**321**	*e*Pn	**Pn**	**20 20 16.9**	**+0.5**
IDI	**Anoyia**	**6.35**	**151**	*e*P	**Pn**	**20 20 19.2**	**+1.2**
PLOR	**Plostina**	**6.40**	**37**	*i* P	**Pn**	**20 20 20.6**	**+2.0**
CRES	**Cresnjev**	**6.41**	**322**	*e*Pn	**Pn**	**20 20 18.9**	**+0.2**
VRI	**Vrincioaia**	**6.45**	**38**	*i* P	**Pn**	**20 20 21.2**	**+2.0**
TIRR	**Tirgusor**	**6.46**	**54**	*i* P	**Pn**	**20 20 19.9**	**+0.5**
CEY	**Cerknica**	**6.86**	**317**	*e*Pn	**Pn**	**20 20 24.8**	**0.0**
LJU	**Ljubljana**	**7.01**	**319**	*e*Pn	**Pn**	**20 20 27.7**	**+0.7**
OBKA	**Obir**	**7.34**	**322**	*e*Pn	**Pn**	**20 20 32.4**	**+0.8**
	comp=E,1.4nm,0.4s						
OBKA					Sn	**Sn**	**20 21 57.6**	**+2.9**
	comp=E,5.1nm,0.3s						
ARSA	**Arzberg**	**7.51**	**330**	*e*Pn	**Pn**	**20 20 35.4**	**+1.6**
	comp=E,2.1nm,0.3s						
KECS	**Kecovo**	**7.60**	**357**	*e*PN	**Pn**	**20 20 36.8**	**+1.8**
VYHS	**Vyhne**	**7.76**	**349**	*e*PN	**Pn**	**20 20 38.0**	**+0.7**
VYHS				*e*SN	**Sn**	**20 22 04.8**	**-0.1**
KBA	**Koelnbreinsper**	**8.32**	**321**	*e*

H11N3	**WAKE ISLAND Hy**	**42.84**	**81**	T	T	21 30 18.9
	baz=276,slow=75,SNR=40					
ASAR	**Alice Springs**	**43.58**	**163**	P	**P**	**20 44 55.3 -2.4**
	0.4nm,0.3s,baz=343,slow=6.8,SNR=13					
ASAR				PcP	**PP**	**20 46 42.6 +1.3**
	0.3nm,0.7s,baz=343,slow=2.9,SNR=2.9					
PETK	**Petropavlovsk-**	**44.54**	**31**	P	**P**	**20 45 04.5 -0.5**
	1.5nm,0.6s,baz=251,slow=5.9,SNR=4.4					
ZALV	**Zalesovo Beam**	**45.27**	**330**	P	**P**	**20 45 11.6 +0.8**
	1.0nm,0.7s,baz=100,slow=6.6,SNR=3.2					
ILAR	**Eielson Array**	**74.17**	**26**	P	**P**	**20 48 27.1 -1.6**
	0.3nm,0.7s,baz=272,slow=4.8,SNR=5.1					
ARCES	**ARCESS Array B**	**74.95**	**339**	P	**P**	**20 48 34.4 +1.3**
	2.0nm,0.8s,baz=90,slow=7.2,SNR=3.0					
FINES	**FINESS Array B**	**76.53**	**331**	P	**P**	**20 48 42.6 +0.4**
	0.8nm,0.5s,baz=68,slow=4.4,SNR=11					
NOA	**NORSAR Array B**	**83.41**	**333**	P	**P**	**20 49 18.6 -0.7**
	0.4nm,0.6s,baz=88,slow=9.0,SNR=3.3					
YKA	**Yellowknife Ar**	**88.12**	**23**	P	**P**	**20 49 43.0 +0.6**
	2.0nm,0.5s,baz=307,slow=4.5,SNR=23					
TXAR	**Lajitas Array**	**115.54**	**43**	PKP	**PKPdf**	**20 55 34.1 -0.1**
	0.1nm,0.7s,baz=46,slow=3.9,SNR=3.1					

*ATH **25** 20:39:44.0,34˚.15N×25˚.17E,h27km±2km, ML2.8/6, Error ellipse: s-maj=4.4km s-min=2.0km az=354.0*
*ISK **25** 20:39:45.7,34˚.54N×25˚.50E,h5km, ML3.1/8*
*THE **25** 20:39:45.7,34˚.24N×25˚.18E,h0km±2km, ML2.8/4, Error ellipse: s-maj=5.1km s-min=1.5km az=173.0*
*HLW **25** 20:39:46.4,34˚.10N×25˚.56E,h9km±18km, Md3.6*
*DDA **25** 20:40:30.4,36˚.37N×28˚.49E,h5km, Md3.1*
ISC 25 20:39:43.6±2.1,34˚.21N±0˚.08×25˚.25E±0˚.03,h5km±11km, n39,σ1ş41/53,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.88**	**336**	P	**Pg**	**20 40 01.7**	**+1.1**
SIVA				S	**Sn**	**20 40 15.3**	**-0.6**
SIVA				AML	AML	20 40 17.3	
	comp=N,3421μm,0.5s						
SIVA				AML	AML	20 40 21.1	
	comp=E,4446μm,0.7s						
SIVA	**Sivas**	**0.88**	**336**	P	**Pg**	**20 40 01.7**	**+1.1**
SIVA				S	**Sb**	**20 40 13.8**	**+0.3**
TMBK	**Timbaki Herakl**	**0.95**	**335**	P	**Pb**	**20 40 03.3**	**+0.8**
TMBK				S	**Sn**	**20 40 17.5**	**0.0**
LAST	**Lasithi**	**0.96**	**11**	P	**Pg**	**20 40 03.7**	**+1.5**
LAST				S	**Sn**	**20 40 18.6**	**+0.5**
LAST				AML	AML	20 40 22.0	
	comp=N,663μm,0.7s						
LAST				AML	AML	20 40 31.1	
	comp=E,483μm,0.7s						
LAST	**Lasithi**	**0.96**	**11**	P	**Pg**	**20 40 03.7**	**+1.5**
LAST				S	**Sn**	**20 40 17.9**	**-0.2**
NPS	**Neapolis**	**1.09**	**16**	P	**Pg**	**20 40 06.0**	**+1.5**
NPS				S	**Sn**	**20 40 22.2**	**+1.2**
NPS				AML	AML	20 40 25.9	
	comp=E,692μm,0.5s						
NPS				AML	AML	20 40 30.2	
	comp=N,530μm,0.7s						
NPS	**Neapolis**	**1.09**	**16**	P	**Pg**	**20 40 06.2**	**+1.7**
NPS				S	**Sn**	**20 40 22.4**	**+1.3**
KSTL	**Kastelli Herak**	**1.10**	**352**	P	**Pg**	**20 40 04.9**	**+0.2**
KSTL				S	**Sb**	**20 40 20.2**	**+0.4**
IDI	**Anoyia**	**1.11**	**345**	PG	**Pg**	**20 40 03.4**	**-1.6**
IDI				SG	**Sg**	**20 40 16.3**	**-3.1**
IDI	**Anoyia**	**1.11**	**345**	P	**Pg**	**20 40 04.6**	**-0.4**
GVD	**Gavdhos**	**1.15**	**303**	P	**Pg**	**20 40 05.6**	**0.0**
GVD				S	**Sn**	**20 40 21.5**	**-1.0**
GVD				AML	AML	20 40 38.3	
	comp=E,1127μm,0.5s						
GVD				AML	AML	20 40 38.3	
	comp=N,1186μm,0.5s						
GVD	**Gavdhos**	**1.15**	**303**	P	**Pg**	**20 40 06.4**	**+0.8**
GVDS	**Gavdos**	**1.15**	**304**	P	**Pn**	**20 40 07.3**	**+0.9**
GVDS				S	**Sn**	**20 40 24.0**	**+1.5**
ZKR	**Zakros**	**1.20**	**41**	P	**Pn**	**20 40 08.8**	**+1.7**
ZKR				AML	AML	20 40 34.8	
	comp=E,472μm,0.6s						
ZKR				AML	AML	20 40 42.5	
	comp=N,226μm,0.5s						
ZKR	**Zakros**	**1.20**	**41**	P	**Pn**	**20 40 08.7**	**+1.6**
ZKR				S	**Sn**	**20 40 27.2**	**+3.4**
STIA	**Sitia Lasithi**	**1.20**	**35**	P	**Pn**	**20 40 08.1**	**+0.9**
VAM	**Vamos**	**1.47**	**324**	P	**Pn**	**20 40 11.2**	**+0.3**
VAM				AML	AML	20 40 40.8	
	comp=E,531μm,0.6s						
VAM				AML	AML	20 40 42.1	
	comp=N,477μm,0.4s						
VAM	**Vamos**	**1.47**	**324**	P	**Pn**	**20 40 11.2**	**+0.3**
VAM				S	**Sb**	**20 40 30.3**	**-0.3**
IMMV	**Iera Moni Meta**	**1.62**	**320**	P	**Pn**	**20 40 13.4**	**+0.4**
IMMV	**Iera Moni Meta**	**1.62**	**320**	P	**Pn**	**20 40 13.3**	**+0.4**
MHLA	**Plaka, Milos I**	**2.62**	**345**	P	**Pn**	**20 40 26.8**	**+0.2**
VLI	**Veliai**	**3.13**	**324**	P	**Pn**	**20 40 33.6**	**-0.1**
DAT	**Datca**	**3.15**	**36**	PN	**Pn**	**20 40 32.1**	**-1.9**
MLSB	**Milas**	**3.70**	**33**	PN	**Pn**	**20 40 39.9**	**-1.6**
DALY	**Dalyan (Mu¨la**	**3.80**	**46**	PN	**Pn**	**20 40 41.2**	**-1.6**
DALY	**Dalyan (Mu¨la**	**3.80**	**46**	*i* P	**Pn**	**20 40 44.2**	**+1.4**
TURN	**Turunc**	**3.81**	**45**	PN	Pn	20 40 37.1	-5.8
TURN	**Turunc**	**3.81**	**45**	*i* P	Pn	20 40 39.6	-3.3
FETY	**Fethiye**	**3.95**	**51**	PN	**Pn**	**20 40 43.6**	**-1.4**
FETY	**Fethiye**	**3.95**	**51**	P	**Pn**	**20 40 45.3**	**+0.3**
AKAS	**Kas**	**4.09**	**59**	PN	**Pn**	**20 40 45.9**	**-1.1**
AKAS	**Kas**	**4.09**	**59**	*i* P	**Pn**	**20 40 47.5**	**+0.5**
AKAS				*i* S	**Sn**	**20 41 31.8**	**-3.6**
AYDB	**Zeytinkoy-Aydi**	**4.29**	**29**	PN	**Pn**	**20 40 48.3**	**-1.5**
ELL	**Elmali**	**4.56**	**55**	PN	**Pn**	**20 40 52.7**	**-0.8**
GOLH	**Golhisar**	**4.62**	**48**	*i* P	**Pn**	**20 40 54.6**	**+0.3**
GOLH				*i* S	**Sn**	**20 41 46.6**	**-1.9**
DNZL	**Cakiroluk**	**4.64**	**40**	*i* P	**Pn**	**20 40 55.8**	**+1.3**
KORT	**Korkueli**	**5.00**	**55**	PN	**Pn**	**20 40 58.6**	**-0.9**
KORT	**Korkueli**	**5.00**	**55**	*i* P	**Pn**	**20 41 01.2**	**+1.8**
KORT				*i* S	**Sn**	**20 41 55.4**	**-2.3**
SUTC	**Sutluce-Ispart**	**5.69**	**53**	PN	**Pn**	**20 41 08.4**	**-0.6**

*ROM **25** 20:41:11.8±0.1,39˚.913N±0˚.005×16˚.000E±0˚.009, h10km, ML3.0/36*
*ISCJB **25** 20:41:12.1±0.3,39˚.90N±0˚.02×15˚.98E±0˚.03,h13km±2km, Error ellipse: s-maj=4.2km s-min=3.4km az=150.5*
*BEO **25** 20:41:12.4±0.8,39˚.92N×15˚.71E,h10km, ML3.0/9*
ISC 25 20:41:12.5±0.9,39˚.89N±0˚.02×15˚.95E±0˚.03,h9km±7km, n71,σ1ş29/77,3C,Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUC	**Castrocucco**	**0.14**	**316**	P	**Pg**	**20 41 15.9**	**+0.1**
CUC				S	**Sg**	**20 41 18.9**	**+0.9**
CUC				AML	AML		
	comp=E,23500μm,0.7s						
CUC				AML	AML		
	comp=N,17050μm,0.7s						
CUC				AML	AML		
	comp=E,23500μm,0.7s						
CUC				AML	AML		
	comp=N,17050μm,0.7s						
CUC				AML	AML		
	comp=E,23500μm,0.7s						
CUC				AML	AML		
	comp=N,17050μm,0.7s						
CUC				AML	AML		
	comp=N,17050μm,0.7s						
CUC				AML	AML		
	comp=E,23500μm,0.7s						
T0702	**Acquaformosa (**	**0.20**	**148**	P	**Pg**	**20 41 16.8**	**+0.2**
T0702				S	**Sg**	**20 41 20.4**	**+0.9**
T0702				AML	AML		
	comp=E,5720μm,0.6s						
T0702				AML	AML		
	comp=N,4480μm,0.7s						
T0702				AML	AML		
	comp=E,5720μm,0.6s						
T0702				AML	AML		
	comp=N,4480μm,0.7s						
T0702				AML	AML		
	comp=E,5715μm,0.6s						
T0702				AML	AML		
	comp=N,4485μm,0.7s						
T0702				AML	AML		
	comp=E,5715μm,0.6s						
T0702				AML	AML		
	comp=N,4485μm,0.7s						
SIRI	**Monte Sirino -**	**0.30**	**349**	P	**Pb**	**20 41 18.5**	**-1.5**
SIRI				S	**Sb**	**20 41 23.8**	**-1.3**
SIRI				AML	AML		
	comp=E,13400μm,0.3s						
SIRI				AML	AML		
	comp=N,12960μm,0.2s						
SIRI				AML	AML		
	comp=E,13900μm,0.3s						
SIRI				AML	AML		
	comp=N,13285μm,0.2s						
SIRI				AML	AML		
	comp=E,13400μm,0.3s						
SIRI				AML	AML		
	comp=N,12975μm,0.2s						
SIRI				AML	AML		
	comp=E,13900μm,0.3s						
SIRI				AML	AML		
	comp=N,13280μm,0.2s						
SIRI				AML	AML		
	comp=E,13350μm,0.3s						
SIRI				AML	AML		
	comp=N,12990μm,0.2s						
SIRI				AML	AML		
	comp=E,13900μm,0.3s						
SIRI				AML	AML		
	comp=N,13280μm,0.2s						
SIRI				AML	AML		
	comp=N,12990μm,0.2s						
SIRI				AML	AML		
	comp=E,13350μm,0.3s						
SIRI				AML	AML		
	comp=E,13900μm,0.3s						
SIRI				AML	AML		
	comp=N,13280μm,0.2s						
SALB	**San Lorenzo Be**	**0.31**	**92**	P	**Pg**	**20 41 17.4**	**-1.3**
SALB				S	**Sg**	**20 41 22.2**	**-0.6**
SALB				AML	AML		
	comp=E,8385μm,0.6s						
SALB				AML	AML		
	comp=N,6225μm,0.6s						
SALB				AML	AML		
	comp=E,8860μm,0.6s						
SALB				AML	AML		
	comp=N,6240μm,0.5s						
SALB				AML	AML		
	comp=E,8385μm,0.6s						
SALB				AML	AML		
	comp=N,6220μm,0.6s						
SALB				AML	AML		
	comp=E,8860μm,0.6s						
SALB				AML	AML		
	comp=N,6240μm,0.5s						
SALB				AML	AML		
	comp=E,8390μm,0.6s						
SALB				AML	AML		
	comp=N,6220μm,0.6s						
SALB				AML	AML		
	comp=E,8860μm,0.6s						
SALB				AML	AML		
	comp=N,6240μm,0.5s						
SALB				AML	AML		
	comp=N,6240μm,0.5s						
SALB				AML	AML		
	comp=N,6220μm,0.6s						
SALB				AML	AML		
	comp=E,8860μm,0.6s						
SALB				AML	AML		
	comp=E,8390μm,0.6s						
SCHR	**S. Chirico Rap**	**0.33**	**18**	P	**Pg**	**20 41 17.9**	**-1.2**
SCHR				AML	AML		
	comp=E,2800μm,0.6s						
SCHR				AML	AML		
	comp=N,2460μm,0.8s						
SCHR				AML	AML		
	comp=E,2800μm,0.6s						
SCHR				AML	AML		
	comp=N,2460μm,0.8s						
SCHR				AML	AML		
	comp=E,2800μm,0.6s						
SCHR				AML	AML		
	comp=N,2460μm,0.8s						
SCHR				AML	AML		
	comp=N,2460μm,0.8s						
SCHR				AML	AML		
	comp=E,2800μm,0.6s						
CET2	**Cetraro**	**0.36**	**179**	P	**Pg**	**20 41 20.1**	**+0.5**
CET2				S	**Sg**	**20 41 25.9**	**+1.5**
CET2				AML	AML		
	comp=E,2650μm,0.8s						
CET2				AML	AML		
	comp=N,3740μm,0.3s						
CET2				AML	AML		
	comp=E,2650μm,0.8s						
CET2				AML	AML		
	comp=N,3740μm,0.3s						
CET2				AML	AML		
	comp=E,2650μm,0.8s						
CET2				AML	AML		
	comp=N,3740μm,0.3s						
CET2				AML	AML		
	comp=N,3740μm,0.3s						
CET2				AML	AML		
	comp=E,2650μm,0.8s						
MGR	**Morigerati**	**0.39**	**310**	P	**Pb**	**20 41 20.0**	**-1.5**
MGR				AML	AML		
	comp=E,3845μm,0.3s						
MGR				AML	AML		
	comp=N,3770μm,0.7s						
MGR				AML	AML		
	comp=E,4110μm,0.3s						
MGR				AML	AML		
	comp=N,4000μm,0.7s						
MGR				AML	AML		
	comp=E,3845μm,0.3s						
MGR				AML	AML		
	comp=N,3770μm,0.7s						
MGR				AML	AML		
	comp=E,4110μm,0.3s						
MGR				AML	AML		
	comp=N,4000μm,0.7s						
MGR				AML	AML		
	comp=E,3845μm,0.3s						
MGR				AML	AML		
	comp=N,3765μm,0.7s						
MGR				AML	AML		
	comp=E,4110μm,0.3s						
MGR				AML	AML		
	comp=N,4000μm,0.7s						
MGR				AML	AML		
	comp=E,3845μm,0.3s						
MGR				AML	AML		
	comp=E,4110μm,0.3s						
MGR				AML	AML		
	comp=N,4000μm,0.7s						
MGR				AML	AML		
	comp=N,3765μm,0.7s						
MTSN	**Montesano sull**	**0.40**	**339**	P	**Pb**	**20 41 20.3**	**-1.6**
MTSN				AML	AML		
	comp=E,3195μm,0.4s						
MTSN				AML	AML		
	comp=N,3975μm,0.7s						
MTSN				AML	AML		
	comp=E,3195μm,0.4s						
MTSN				AML	AML		
	comp=N,3975μm,0.7s						
MTSN				AML	AML		
	comp=E,3195μm,0.4s						
MTSN				AML	AML		
	comp=N,3975μm,0.7s						
MTSN				AML	AML		
	comp=E,3195μm,0.4s						
MTSN				AML	AML		
	comp=N,3975μm,0.7s						
ORI	**Oriolo Calabro**	**0.42**	**66**	P	**Pg**	**20 41 19.7**	**-1.1**
ORI				AML	AML		
	comp=E,5305μm,0.3s						
ORI				AML	AML		
	comp=N,7715μm,0.3s						
ORI				AML	AML		
	comp=E,5305μm,0.3s						
ORI				AML	AML		
	comp=N,7715μm,0.3s						
ORI				AML	AML		
	comp=E,5305μm,0.3s						
ORI				AML	AML		
	comp=N,7715μm,0.3s						
MCEL	**Monticello**	**0.45**	**346**	P	**Pg**	**20 41 20.6**	**-0.7**
MCEL				S	**Sb**	**20 41 27.9**	**-1.5**
MCEL				AML	AML		
	comp=E,2665μm,0.9s						
MCEL				AML	AML		
	comp=N,2010μm,0.7s						
MCEL				AML	AML		
	comp=E,2740μm,0.9s						
MCEL				AML	AML		
	comp=N,2075μm,0.7s						
MCEL				AML	AML		
	comp=E,2670μm,0.9s						
MCEL				AML	AML		
	comp=N,2010μm,0.7s						
MCEL				AML	AML		
	comp=E,2740μm,0.9s						
MCEL				AML	AML		
	comp=N,2075μm,0.7s						
MCEL				AML	AML		
	comp=N,2075μm,0.7s						
MCEL				AML	AML		
	comp=N,2010μm,0.7s						
MCEL				AML	AML		
	comp=E,2740μm,0.9s						
MCEL				AML	AML		
	comp=E,2670μm,0.9s						
BULG	**Bulgheria - Ca**	**0.47**	**294**	P	**Pb**	**20 41 21.7**	**-1.4**
BULG				AML	AML		
	comp=E,2640μm,0.3s						
BULG				AML	AML		
	comp=N,4175μm,0.4s						
BULG				AML	AML		
	comp=E,2750μm,0.3s						
BULG				AML	AML		
	comp=N,4305μm,0.4s						
BULG				AML	AML		
	comp=E,2645μm,0.3s						
BULG				AML	AML		
	comp=N,4175μm,0.4s						
BULG				AML	AML		
	comp=E,2750μm,0.3s						
BULG				AML	AML		
	comp=N,4305μm,0.4s						
BULG				AML	AML		
	comp=N,4305μm,0.4s						
BULG				AML	AML		
	comp=N,4175μm,0.4s						
BULG				AML	AML		
	comp=E,2750μm,0.3s						
BULG				AML	AML		
	comp=E,2645μm,0.3s						
SLCN	**Sala Consilina**	**0.55**	**335**	P	**Pb**	**20 41 22.8**	**-1.6**
SLCN				AML	AML		
	comp=E,5245μm,0.4s						
SLCN				AML	AML		
	comp=N,3420μm,0.5s						
SLCN				AML	AML		
	comp=E,5365μm,0.4s						
SLCN				AML	AML		
	comp=N,3610μm,0.5s						
SLCN				AML	AML		
	comp=E,5245μm,0.4s						
SLCN				AML	AML		
	comp=N,3420μm,0.5s						
SLCN				AML	AML		
	comp=E,5365μm,0.4s						
SLCN				AML	AML		
	comp=N,3610μm,0.5s						
SLCN				AML	AML		
	comp=N,3420μm,0.5s						
SLCN				AML	AML		
	comp=E,5245μm,0.4s						
SLCN				AML	AML		
	comp=E,5365μm,0.4s						
SLCN				AML	AML		
	comp=N,3610μm,0.5s						
CRAC	**Craco**	**0.60**	**38**	P	**Pg**	**20 41 23.8**	**-0.5**
CRAC				AML	AML		
	comp=E,2710μm,0.3s						
CRAC				AML	AML		
	comp=N,956μm,1.2s						
CRAC				AML	AML		
	comp=E,2710μm,0.3s						
CRAC				AML	AML		
	comp=N,954μm,1.2s						
CRAC				AML	AML		
	comp=N,954μm,1.2s						
CRAC				AML	AML		
	comp=E,2710μm,0.3s						
PTRP	**Pietrapertosa**	**0.64**	**8**	P	**Pg**	**20 41 24.4**	**-0.5**
CMPR	**Campora**	**0.65**	**311**	P	**Pb**	**20 41 24.6**	**-1.5**
CMPR				AML	AML		
	comp=E,2120μm,0.5s						
CMPR				AML	AML		
	comp=N,2630μm,0.5s						
CMPR				AML	AML		
	comp=E,2120μm,0.5s						
CMPR				AML	AML		
	comp=N,2630μm,0.5s						
CMPR				AML	AML		
	comp=E,2120μm,0.5s						
CMPR				AML	AML		
	comp=N,2630μm,0.5s						
CELI	**Celico**	**0.65**	**138**	P	**Pg**	**20 41 24.2**	**-1.0**
CELI				AML	AML		
	comp=E,916μm,0.5s						
CELI				AML	AML		
	comp=N,754μm,0.5s						
CELI				AML	AML		
	comp=E,2220μm,0.5s						
CELI				AML	AML		
	comp=N,1885μm,0.5s						
CELI				AML	AML		
	comp=E,916μm,0.5s						
CELI				AML	AML		
	comp=N,1885μm,0.5s						
CELI				AML	AML		
	comp=N,754μm,0.5s						
CELI				AML	AML		
	comp=E,2220μm,0.5s						
CDRU	**Civita di Ruta**	**0.77**	**321**	P	**Pb**	**20 41 26.3**	**-1.8**
CDRU				AML	AML		
	comp=E,1070μm,1.5s						
CDRU				AML	AML		
	comp=N,508μm,1.3s						
CDRU				AML	AML		
	comp=E,1070μm,1.5s						
CDRU				AML	AML		
	comp=N,508μm,1.3s						
CDRU				AML	AML		
	comp=N,508μm,1.3s						
CDRU				AML	AML		
	comp=E,1070μm,1.5s						
MIGL	**Miglionico**	**0.81**	**28**	P	**Pg**	**20 41 26.2**	**-1.9**
MIGL				AML	AML		
	comp=E,2070μm,1.1s						
MIGL				AML	AML		
	comp=N,2075μm,0.5s						
MIGL				AML	AML		
	comp=E,2070μm,1.1s						
MIGL				AML	AML		
	comp=N,2075μm,0.5s						
MIGL				AML	AML		
	comp=N,2075μm,0.5s						
MIGL				AML	AML		
	comp=E,2070μm,1.1s						
ACER	**Acerenza**	**0.90**	**360**	AML	AML		
	comp=E,1750μm,1.2s						
ACER				AML	AML		
	comp=N,1240μm,0.5s						
ACER				AML	AML		
	comp=E,1810μm,1.1s						
ACER				AML	AML		
	comp=N,1285μm,0.5s						
ACER				AML	AML		
	comp=E,1750μm,1.2s						
ACER				AML	AML		
	comp=N,1235μm,0.5s						
ACER				AML	AML		
	comp=E,1810μm,1.1s						
ACER				AML	AML		
	comp=N,1285μm,0.5s						
ACER				AML	AML		
	comp=N,1285μm,0.5s						
ACER				AML	AML		
	comp=N,1235μm,0.5s						
ACER				AML	AML		
	comp=E,1810μm,1.1s						
ACER				AML	AML		
	comp=E,1750μm,1.2s						

MRLC	**Muro Lucano**	**0.93**	**338**	AML	AML				
	comp=N,538μm,1.1s								
MRLC				AML	AML				
	comp=E,588μm,0.6s								
MRLC				AML	AML				
	comp=N,538μm,1.1s								
MRLC				AML	AML				
	comp=E,588μm,0.6s								
MRLC				AML	AML				
	comp=N,538μm,1.1s								
MRLC				AML	AML				
	comp=E,588μm,0.6s								
LTRZ	**Laterza**	**0.98**	**43**	AML	AML				
	comp=N,754μm,0.3s								
LTRZ				AML	AML				
	comp=E,624μm,1.0s								
LTRZ				AML	AML				
	comp=N,754μm,0.3s								
LTRZ				AML	AML				
	comp=E,624μm,1.0s								
LTRZ				AML	AML				
	comp=N,754μm,0.3s								
LTRZ				AML	AML				
	comp=E,624μm,1.0s								
SERS	**Sersale**	**1.03**	**146**	P	**Pg**		**20 41 31.9**		**-0.4**
SERS				AML	AML				
	comp=E,400μm,0.5s								
SERS				AML	AML				
	comp=N,320μm,0.6s								
SERS				AML	AML				
	comp=E,327μm,0.6s								
SERS				AML	AML				
	comp=N,400μm,1.6s								
SERS				AML	AML				
	comp=E,327μm,0.6s								
SERS				AML	AML				
	comp=N,400μm,1.6s								
SERS				AML	AML				
	comp=E,327μm,0.6s								
SERS				AML	AML				
	comp=N,400μm,1.6s								
PALZ	**Palazzo San Ge**	**1.05**	**1**	P	**Pb**		**20 41 32.3**		**-0.6**
PALZ				AML	AML				
	comp=E,786μm,0.9s								
PALZ				AML	AML				
	comp=N,808μm,0.6s								
PALZ				AML	AML				
	comp=E,786μm,0.9s								
PALZ				AML	AML				
	comp=N,808μm,0.6s								
PALZ				AML	AML				
	comp=N,808μm,0.6s								
PALZ				AML	AML				
	comp=E,786μm,0.9s								
VULT	**Monte Vulture**	**1.09**	**347**	AML	AML				
	comp=N,682μm,0.9s								
VULT				AML	AML				
	comp=E,406μm,1.0s								
VULT				AML	AML				
	comp=N,682μm,0.9s								
VULT				AML	AML				
	comp=E,406μm,1.0s								
SG1	**Sgolgore (BA)**	**1.10**	**30**	*e*Pg	**Pb**		**20 41 32.5**		**-1.2**
SG1				Sg	**Sn**		**20 41 52.1**		**+2.6**
GRI	**Girifalco**	**1.13**	**161**	AML	AML				
	comp=N,253μm,0.5s								
GRI				AML	AML				
	comp=E,380μm,0.5s								
GRI				AML	AML				
	comp=E,381μm,0.5s								
GRI				AML	AML				
	comp=N,253μm,0.5s								
GRI				AML	AML				
	comp=E,381μm,0.5s								
GRI				AML	AML				
	comp=N,253μm,0.5s								
AMUR	**Altamura**	**1.13**	**26**	AML	AML				
	comp=E,525μm,0.6s								
AMUR				AML	AML				
	comp=N,421μm,0.7s								
AMUR				AML	AML				
	comp=E,525μm,0.6s								
AMUR				AML	AML				
	comp=N,421μm,0.7s								
AMUR				AML	AML				
	comp=E,525μm,0.6s								
AMUR				AML	AML				
	comp=N,421μm,0.7s								
SNAL	**S. Angelo Dei**	**1.18**	**332**	AML	AML				
	comp=N,708μm,1.3s								
SNAL				AML	AML				
	comp=E,1030μm,0.9s								
SNAL				AML	AML				
	comp=E,1030μm,0.9s								
SNAL				AML	AML				
	comp=N,708μm,1.3s								
SNAL				AML	AML				
	comp=E,1030μm,0.9s								
SNAL				AML	AML				
	comp=N,708μm,1.3s								
MASS	**Massafra**	**1.18**	**51**	*e*Pg	**Pn**		**20 41 34.8**		**-0.4**
MRVN	**Minervino Murg**	**1.19**	**9**	P	**Pb**		**20 41 34.1**		**-1.1**
MRVN				AML	AML				
	comp=E,374μm,1.0s								
MRVN				AML	AML				
	comp=N,264μm,0.4s								
MRVN				AML	AML				
	comp=E,374μm,1.0s								
MRVN				AML	AML				
	comp=N,264μm,0.4s								
MRVN				AML	AML				
	comp=E,374μm,1.0s								
MRVN				AML	AML				
	comp=N,264μm,0.4s								
TAR1	**Taranto**	**1.21**	**58**	*e*Pg	**Pn**		**20 41 35.5**		**0.0**
NOCI	**Noci**	**1.24**	**43**	AML	AML				
	comp=N,578μm,0.6s								
NOCI				AML	AML				
	comp=E,414μm,0.8s								
NOCI				AML	AML				
	comp=N,578μm,0.6s								
NOCI				AML	AML				
	comp=E,414μm,0.8s								
NOCI				AML	AML				
	comp=E,414μm,0.8s								
NOCI				AML	AML				
	comp=N,578μm,0.6s								
CAFE	**Carife**	**1.26**	**335**	AML	AML				
	comp=E,622μm,0.7s								
CAFE				AML	AML				
	comp=N,454μm,0.7s								
CAFE				AML	AML				
	comp=E,622μm,0.7s								
CAFE				AML	AML				
	comp=N,433μm,0.7s								
CAFE				AML	AML				
	comp=E,622μm,0.7s								
CAFE				AML	AML				
	comp=E,622μm,0.7s								
CAFE				AML	AML				
	comp=N,454μm,0.7s								
CAFE				AML	AML				
	comp=N,433μm,0.7s								
JOPP	**Joppolo**	**1.28**	**182**	P	**Pn**		**20 41 36.0**		**-0.5**
JOPP				AML	AML				
	comp=E,216μm,1.3s								
JOPP				AML	AML				
	comp=N,290μm,0.7s								
JOPP				AML	AML				
	comp=E,216μm,1.3s								
JOPP				AML	AML				
	comp=N,290μm,0.7s								
JOPP				AML	AML				
	comp=N,290μm,0.7s								
JOPP				AML	AML				
	comp=E,216μm,1.3s								
SGTA	**Sant Agata di**	**1.32**	**341**	AML	AML				
	comp=N,210μm,0.6s								
SGTA				AML	AML				
	comp=E,342μm,0.6s								
SGTA				AML	AML				
	comp=E,342μm,0.6s								
SGTA				AML	AML				
	comp=N,210μm,0.6s								
SGTA				AML	AML				
	comp=N,210μm,0.6s								
SGTA				AML	AML				
	comp=E,342μm,0.6s								

BAI	**Bari**	**1.41**	**30**	*e*Pg	**Pg**		**20 41 39.3**		**-0.2**
BAI				Sg	**Sg**		**20 42 02.5**		**+4.7**
FASA	**Fasano**	**1.42**	**49**	*e*Pg	**Pn**		**20 41 37.9**		**-0.5**
FASA				Sg	**Sg**		**20 42 00.7**		**+2.5**
MSRU	**Castanea**	**1.66**	**192**	AML	AML				
	comp=N,259μm,0.4s								
MSRU				AML	AML				
	comp=E,334μm,0.4s								
MSRU				AML	AML				
	comp=E,334μm,0.4s								
MSRU				AML	AML				
	comp=N,259μm,0.4s								
MSCL	**Scilla**	**1.66**	**184**	AML	AML				
	comp=N,340μm,0.6s								
MSCL				AML	AML				
	comp=E,350μm,0.6s								
MSCL				AML	AML				
	comp=N,340μm,0.6s								
MSCL				AML	AML				
	comp=E,350μm,0.6s								
MSAG	**Monte S. Angel**	**1.82**	**359**	AML	AML				
	comp=N,306μm,0.3s								
MSAG				AML	AML				
	comp=E,168μm,0.4s								
MSAG				AML	AML				
	comp=N,306μm,0.3s								
MSAG				AML	AML				
	comp=E,168μm,0.4s								
IACL	**Alicudi**	**1.83**	**223**	AML	AML				
	comp=N,96μm,0.7s								
IACL				AML	AML				
	comp=E,114μm,0.5s								
IACL				AML	AML				
	comp=N,96μm,0.7s								
IACL				AML	AML				
	comp=E,114μm,0.5s								
SGRT	**San Giovanni R**	**1.87**	**355**	AML	AML				
	comp=E,178μm,0.5s								
SGRT				AML	AML				
	comp=N,129μm,0.4s								
SGRT				AML	AML				
	comp=N,129μm,0.4s								
SGRT				AML	AML				
	comp=E,178μm,0.5s								
HCY	**Herceg Novi**	**3.20**	**36**	*e*Pn	**Pn**		**20 42 01.9**		**-1.0**
STON	**Ston**	**3.26**	**23**	*i* Pn	**Pn**		**20 42 02.7**		**-1.0**
STON				Sn	**Sn**		**20 42 42.8**		**+0.3**
STON	**Ston**	**3.26**	**23**	*e*Pn	**Pn**		**20 42 03.0**		**-0.7**
TREB	**Trebinje**	**3.36**	**32**	*e*Pn	**Pn**		**20 42 04.9**		**-0.2**
TREB				*e*Sn	**Sn**		**20 42 45.5**		**+0.5**
TREB	**Trebinje**	**3.36**	**32**	*e*Pn	**Pn**		**20 42 03.9**		**-1.2**
DRME	**Dracevica, Mon**	**3.36**	**46**	*e*Pn	**Pn**		**20 42 05.9**		**+0.8**
PDG	**Podgorica**	**3.56**	**43**	*e*Pn	**Pn**		**20 42 08.7**		**+0.8**
PDG				*e*Sn	**Sn**		**20 42 52.2**		**+2.2**
PDG	**Podgorica**	**3.56**	**43**	⇑*i*P	**Pn**		**20 42 08.9**		**+1.0**
PDG	**Podgorica**	**3.56**	**43**	S	**Sn**		**20 42 51.8**		**+1.8**
PDG	**Podgorica**	**3.56**	**43**	*e*Pn	**Pn**		**20 42 07.7**		**-0.2**
BRY	**Bratogost**	**3.59**	**32**	*e*Pn	**Pn**		**20 42 08.9**		**+0.5**
UPM	**Unac-Piva**	**3.99**	**33**	*e*Pn	**Pn**		**20 42 14.1**		**+0.2**
SJES	**Sjenica**	**4.53**	**41**	*e*Pn	**Pn**		**20 42 22.5**		**+1.3**
SJES				*e*Sn	**Sn**		**20 43 14.1**		**+0.1**
UDBI	**Udbina**	**4.64**	**358**	*e*Pn	**Pn**		**20 42 23.8**		**+1.0**
UDBI				Sn	**Sn**		**20 43 19.4**		**+2.7**
NVLJ	**Novalja**	**4.74**	**351**	*e*Pn	**Pn**		**20 42 24.1**		**+0.1**
NVLJ				Sn	**Sn**		**20 43 20.9**		**+1.9**
BBLS	**Lazići**	**4.74**	**32**	*e*Pn	**Pn**		**20 42 24.6**		**+0.5**
BBLS				*e*Sn	**Sn**		**20 43 18.9**		**-0.3**
BBLS	**Lazići**	**4.74**	**32**	*e*Pn	**Pn**		**20 42 24.4**		**+0.3**
IVAS	**Ivanjica**	**4.84**	**39**	*e*Pn	**Pn**		**20 42 26.5**		**+0.9**
IVAS				*e*Sn	**Sn**		**20 43 21.5**		**-0.3**
SELS	**Selova**	**5.11**	**48**	*e*Pn	**Pn**		**20 42 30.8**		**+1.6**
DIVS	**Divibare**	**5.17**	**34**	*e*Pn	**Pn**		**20 42 30.6**		**+0.5**
DIVS				*e*Sn	**Sn**		**20 43 29.7**		**-0.2**
DIVS	**Divibare**	**5.17**	**34**	*e*Pn	**Pn**		**20 42 28.1**		**-2.0**
BARS	**Barje**	**5.30**	**55**	*e*Pn	**Pn**		**20 42 32.3**		**+0.6**
BARS				*e*Sn	**Sn**		**20 43 33.6**		**+0.7**
GRUS	**Gruza**	**5.35**	**40**	*e*Pn	**Pn**		**20 42 33.0**		**+0.5**
GRUS				*e*Sn	**Sn**		**20 43 34.4**		**+0.2**
TRUS	**Trudelj**	**5.46**	**36**	*e*Pn	**Pn**		**20 42 34.4**		**+0.5**
CRES	**Cresnjev**	**5.94**	**357**	*e*Pn	**Pn**		**20 42 41.4**		**+0.8**
CEY	**Cerknica**	**5.95**	**350**	*e*Pn	**Pn**		**20 42 40.7**		**0.0**
ZAPS	**Zavoj**	**6.05**	**54**	*e*Pn	**Pn**		**20 42 43.5**		**+1.4**
ZAPS				*e*Sn	**Sn**		**20 43 50.7**		**-0.7**
VTS	**Vitosha**	**6.10**	**61**	⇑*i*P	**Pn**		**20 42 44.4**		**+1.5**
BZS	**Buzias**	**7.08**	**34**	⇑*i*P	**Pn**		**20 42 58.0**		**+1.8**

NNC 25 20:59:47.5±5.0, 36.84N×70.65E, h0km, mb3.5, mpv3.2, 5C-1D, Error ellipse: s-maj=40.7km s-min=36.2km az=143.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.88**	**34**	⇑P	Pn	21 00 49.8	+1.1
	1.6nm,0.4s						
SFK				⇑S	Sn	21 01 36.8	+1.7
	10.0nm,0.6s						
MNAS	**Manas**	**5.82**	**14**	⇑P	Pn	21 01 15.3	+0.1
	2.0nm,0.6s						
MNAS				⇓S	Sn	21 02 22.6	-0.1
	3.3nm,0.5s						
KK31	**Karatay Array**	**6.26**	**359**	⇑P	Pn	21 01 21.9	+0.8
	0.5nm,0.4s,baz=175,slow=12,SNR=11						
KK31				S	Sn	21 02 35.2	+1.8
	0.7nm,0.3s,baz=334,slow=41,SNR=8.1						
TKM2	**Tokmak 2**	**7.17**	**31**	⇑P	Pn	21 01 31.0	-2.8
	1.1nm,0.5s						

IDC 25 21:08:09.7±1.0, 18.74N×144.92E, h0km, mb3.6/7, mb1 3.9/8, mb1mx3.6/42, mbtmp3.6/8, ML3.4/1, MS2.6/4, Ms1 2.7/4, ms1mx2.5/27, Error ellipse: s-maj=36.8km s-min=20.3km az=89.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**18.70**	**343**	P	P	21 12 29.2	-0.4
	0.1nm,0.3s,baz=175,slow=11,SNR=3.2						
MJAR				LR	LR	21 18 53.7	
	comp=Z,17nm,18.6s,baz=45,slow=34						
H11S3	**WAKE ISLAND Hy 20.63**		**87**	T	T	21 34 36.0	
	baz=275,slow=75,SNR=77						
H11S1	**WAKE ISLAND Hy 20.64**		**87**	T	T	21 34 35.5	
	baz=275,slow=75,SNR=81						
H11S2	**WAKE ISLAND Hy 20.64**		**87**	T	T	21 34 34.3	
	baz=275,slow=75,SNR=80						
H11N1	**WAKE ISLAND Hy 20.77**		**84**	T	T	21 34 46.5	
	baz=270,slow=74,SNR=12						
H11N2	**WAKE ISLAND Hy 20.77**		**84**	T	T	21 34 45.9	
	baz=270,slow=74,SNR=9.5						
H11N3	**WAKE ISLAND Hy 20.78**		**84**	T	T	21 34 46.5	
	baz=270,SNR=9.1						
DAV	**Davao City (W)**	**22.11**	**241**	LR	LR	21 20 35.4	
	comp=Z,23nm,20.2s,baz=304,slow=34						
KSRS	**Korea Array**	**23.86**	**325**	LR	LR	21 21 18.5	
	comp=Z,11nm,18.5s,baz=90,slow=33						
WRA	**Warramunga Arr**	**39.82**	**196**	P	P	21 15 44.8	-0.1
	0.6nm,0.9s,baz=14,slow=9.1,SNR=3.5						
SONM	**Songino Array**	**42.66**	**322**	P	P	21 16 08.6	+0.4
	0.3nm,0.6s,baz=139,slow=9.0,SNR=3.2						
CMAR	**Chiang Mai Arr**	**43.48**	**277**	LR	LR	21 36 04.6	
	comp=Z,7.8nm,18.1s,baz=170,slow=38						
ASAR	**Alice Springs**	**43.50**	**195**	P	P	21 16 14.8	-0.3
	0.5nm,0.7s,baz=12,slow=9.1,SNR=5.5						
ZALV	**Zalesovo Beam**	**57.54**	**323**	P	P	21 18 00.6	-0.3
	1.8nm,0.6s,baz=93,slow=7.4,SNR=8.2						
MKAR	**Makanchi Array**	**57.91**	**314**	P	P	21 18 03.6	-0.1
	0.9nm,0.9s,baz=106,slow=8.9,SNR=4.0						
ILAR	**Eielson Array**	**63.93**	**26**	P	P	21 18 43.5	-0.9
	0.7nm,1.1s,baz=256,slow=4.5,SNR=5.6						
NVAR	**Mina Array Bea**	**83.69**	**52**	P	P	21 20 42.1	+1.0
	0.2nm,0.5s,baz=265,slow=6.3,SNR=4.4						

IDC 25 21:22:36.9±1.9, 15.30S×173.41W, h0km, mb3.6/5, mb1 4.0/6, mb1mx3.7/27, mbtmp3.6/6, ML3.5/1, MS3.3/9, Ms1 3.3/9, ms1mx3.2/24, Error ellipse: s-maj=113.7km s-min=20.8km az=150.0

ISC 25 21:22:43.1±1.9, 15.4S±0.7×173.5W±0.4, h42km, n24, σ0.41/7, mb3.5/5, MS3.2/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.20**	**49**	Pn	Pn	21 23 11.3	-5.9
	17nm,0.3s,baz=318,slow=8.4,SNR=8.1						
AFI				Sn	Sn	21 23 32.2	-11
	38nm,0.3s,baz=206,slow=22,SNR=11						
RAR	**Rarotonga**	**14.26**	**116**	LR	LR	21 30 15.1	
	comp=Z,151nm,21.6s,baz=314,slow=32						
PPT	**Papeete**	**23.03**	**99**	*e*LR	LR	21 34 24.3	
	comp=Z,56nm,21.4s,baz=270,slow=31						
PPT2	**Papeete2**	**23.03**	**99**	*e*LR	LR	21 33 15.9	
	270nm,26.2s						
TBI	**Tubuai**	**23.99**	**113**	*e*LR	LR	21 33 41.2	
	257nm,27.8s						
HNR	**Honiara**	**26.59**	**280**	LR	LR	21 36 35.9	
	comp=Z,77nm,21.6s,baz=110,slow=32						
PMG	**Port Moresby**	**38.85**	**274**	LR	LR	21 45 02.1	
	comp=Z,90nm,18.5s,baz=2.0,slow=35						
H11S2	**WAKE ISLAND Hy 38.89**		**329**	T	T	22 10 50.5	
	baz=149,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy 38.91**		**329**	T	T	22 10 51.9	
	baz=149,slow=76,SNR=17						
H11S1	**WAKE ISLAND Hy 38.91**		**329**	T	T	22 10 52.0	
	baz=149,slow=76,SNR=22						
H11N3	**WAKE ISLAND Hy 39.84**		**330**	T	T	22 12 02.4	
	baz=150,slow=76,SNR=26						
H11N1	**WAKE ISLAND Hy 39.85**		**330**	T	T	22 12 07.3	
	baz=150,slow=76,SNR=26						
H11N2	**WAKE ISLAND Hy 39.86**		**330**	T	T	22 12 04.0	
	baz=150,slow=76,SNR=20						
STKA	**Stephens Creek**	**43.98**	**240**	LR	LR	21 47 33.3	
	comp=Z,26nm,20.6s,baz=26,slow=34						
WRA	**Warramunga Arr**	**49.77**	**257**	P	**P**	**21 31 32.1**	**+0.2**
	0.6nm,1.0s,baz=91,slow=7.5,SNR=5.4						
ASAR	**Alice Springs**	**50.04**	**252**	P	**P**	**21 31 33.9**	**-0.1**
	2.2nm,0.7s,baz=87,slow=8.1,SNR=22						
ASAR				LR	LR	21 51 05.4	
	comp=Z,58nm,18.6s,baz=108,slow=34						
MJAR	**Matsushiro Arr**	**68.86**	**320**	LR	LR	21 57 19.2	
	comp=Z,24nm,21.0s,baz=180,slow=30						
NVAR	**Mina Array Bea**	**74.36**	**42**	P	**P**	**21 34 17.5**	**+0.6**
	0.4nm,0.6s,baz=226,slow=10,SNR=3.7						
KSRS	**Korea Array**	**76.08**	**316**	LR	LR	22 01 16.5	
	comp=Z,12nm,19.8s,baz=120,slow=30						
TXAR	**Lajitas Array**	**80.67**	**56**	P	**P**	**21 34 51.8**	**-0.4**
	0.2nm,0.7s,baz=203,slow=8.8,SNR=2.2						
ILAR	**Eielson Array**	**82.43**	**11**	P	**P**	**21 35 00.1**	**-0.4**
	0.3nm,0.6s,baz=252,slow=5.1,SNR=5.0						
CMAR	**Chiang Mai Arr**	**92.52**	**288**	LR	LR	22 12 25.0	
	comp=Z,8.5nm,21.5s,baz=275,slow=32						
BRTR	**Keskin Array B**	**146.08**	**321**	PKPbc	**PKPab**	**21 42 19.8**	**+0.1**
	1.0nm,1.0s,baz=56,slow=3.6,SNR=4.1						
GERES	**GERESS Array B**	**146.10**	**351**	PKPbc	**PKPdf**	**21 42 17.8**	**0.0**
	0.2nm,0.4s,baz=38,slow=5.0,SNR=3.8						

IDC 25 21:27:44.9±8.9, 15.54S×173.15W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/34, mbtmp3.5/4, ML3.5/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/13, Error ellipse: s-maj=416.0km s-min=24.6km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.09**	**40**	Pn	Pn	21 28 19.8	-1.5
	16nm,0.3s,baz=184,slow=19,SNR=5.2						
AFI				Sn	Sn	21 28 39.8	-8.3
	28nm,0.3s,baz=242,slow=15,SNR=11						
RAO	**Raoul Island**	**14.34**	**197**	LR	LR	21 35 24.2	
	comp=Z,98nm,21.8s,baz=173,slow=32						
H11S2	**WAKE ISLAND Hy 39.20**		**329**	T	T	22 16 05.0	
	baz=149,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy 39.21**		**329**	T	T	22 16 10.1	
	baz=149,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy 39.22**		**329**	T	T	22 16 06.7	
	baz=149,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy 40.15**		**330**	T	T	22 17 22.2	
	baz=150,slow=76,SNR=18						
H11N1	**WAKE ISLAND Hy 40.15**		**330**	T	T	22 17 22.6	
	baz=150,slow=76,SNR=19						
H11N2	**WAKE ISLAND Hy 40.16**		**330**	T	T	22 17 23.6	
	baz=150,slow=76,SNR=20						
WRA	**Warramunga Arr**	**50.05**	**257**	P	P	21 36 41.2	-0.6
	0.2nm,0.5s,baz=94,slow=8.4,SNR=3.0						
ASAR	**Alice Springs**	**50.30**	**252**	P	P	21 36 42.9	-0.9
	1.3nm,0.8s,baz=87,slow=8.4,SNR=11						
ILAR	**Eielson Array**	**82.53**	**11**	P	P	21 40 09.0	-0.2
	0.3nm,1.0s,baz=219,slow=7.0,SNR=2.7						
BRTR	**Keskin Array B**	**146.41**	**321**	PKPbc	PKPab	21 47 29.9	+0.6
	0.4nm,0.7s,baz=66,slow=2.4,SNR=2.8						

NNC 25 21:36:31.9±2.4, 37.55N×71.46E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=18.9km s-min=16.5km az=149.0

ISC 25 21:36:32.3±3.4, 37.3N±0.2×71.6E±0.1, h109km, n14, σ0.73/18, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.11**	**28**	⇓P	**Pn**	**21 37 20.7**	**+0.9**
	16nm,0.3s						
SFK				⇑S	**Sn**	**21 37 57.8**	**+1.2**
	8.4nm,0.3s						
AML	**Almayashu**	**5.11**	**17**	P	**Pn**	**21 37 46.5**	**-0.4**
	SNR=61						
MNAS	**Manas**	**5.26**	**7**	⇓P	**Pn**	**21 37 48.6**	**0.0**
	6.6nm,0.5s						
MNAS				⇑S	**Sn**	**21 38 47.1**	**-1.0**
	5.9nm,0.5s						
UCH	**Uchtor**	**5.43**	**23**	P	**Pn**	**21 37 50.7**	**-0.5**
	SNR=13						
KZA	**Kyzart**	**5.56**	**29**	P	**Pn**	**21 37 51.7**	**-1.2**
	SNR=6.2						
EKS2	**Erkin-Say**	**5.63**	**16**	P	**Pn**	**21 37 53.0**	**-0.8**
	SNR=6.2						
AAK	**Ala-Archa**	**5.80**	**21**	⇑P	**Pn**	**21 37 55.6**	**-0.3**
	2.1nm,0.3s						
AAK				⇑S	**Sn**	**21 39 01.6**	**+0.4**
	2.3nm,0.5s						
AAK	**Ala-Archa**	**5.80**	**21**	P	**Pn**	**21 37 55.8**	**-0.1**
	SNR=8.5						
KK31	**Karatay Array**	**5.89**	**352**	P	**Pn**	**21 37 57.0**	**-0.1**
	1.0nm,0.3s,baz=177,slow=13,SNR=24						
KK31				S	**Sn**	**21 39 03.5**	**+0.2**
	4.9nm,0.6s,baz=174,slow=21,SNR=13						
KBK	**Karagaybulak**	**5.96**	**24**	P	**Pn**	**21 37 58.2**	**+0.1**
	SNR=9.1						
USP	**Ospenovka**	**6.38**	**19**	P	**Pn**	**21 38 03.0**	**-0.7**
	SNR=5.2						
TKM2	**Tokmak 2**	**6.41**	**27**	⇓P	**Pn**	**21 38 03.4**	**-0.9**
	2.4nm,0.6s						
TKM2	**Tokmak 2**	**6.41**	**27**	P	**Pn**	**21 38 03.6**	**-0.7**
	SNR=5.1						
AB31	**Akbulak array**	**14.68**	**328**	P	**Pn**	**21 39 54.6**	**+0.3**
	0.1nm,0.3s,baz=163,slow=11,SNR=4.8						

ISCJB 25 22:08:15.7±0.6, 19.23S±0.03×70.22W±0.07, h60km±5km, mb3.7/4, Error ellipse: s-maj=10.7km s-min=5.5km az=172.7

GUC 25 22:08:15.9±0.8, 19.23S×70.15W, h53km±4km, ML3.9

IDC 25 22:08:21.2±2.4, 19.26S×69.58W, h96km±20km, mb3.5/5, mb1 3.6/8, mb1mx3.4/36, mbtmp3.8/8, MS2.1/1, Ms1 2.2/1, ms1mx2.1/21, Error ellipse: s-maj=43.1km s-min=17.1km az=96.0

ISC 25 22:08:15.7±0.9, 19.21S±0.04×70.16W±0.07, h52km±7km, n27, σ1.83/30, mb3.7/4, 8D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.39**	**175**	⇓*i*P	**Pn**	**22 08 26.1**	**+0.1**
PSGC				*i* S	**Sn**	**22 08 33.4**	**0.0**
MNMC	**Minye Minye**	**0.54**	**82**	⇓*i*P	**Pn**	**22 08 28.7**	**+0.8**
MNMC				*i* S	**Sn**	**22 08 38.0**	**+1.5**
PB12	**IPOC Station P**	**0.61**	**345**	⇓*i*P	**Pn**	**22 08 29.6**	**+1.0**
PB12				*i* S	**Sn**	**22 08 39.4**	**+1.5**
PB12				IAML		22 08 40.0	
	comp=N,8μm,0.2s						
PB11	**IPOC Station P**	**0.73**	**139**	⇓*i*P	**Pn**	**22 08 30.5**	**+0.4**
PB11				*i*

	comp=N,3µm,0.2s								
PB01	**IPOC Station P**	**1.93**	**161**	⇓*i*	P	**Pn**	**22 08 46.6**	**+0.3**
PB01				*e*S		**Sn**	**22 09 10.2**	**+0.7**
PB01				IAML			22 09 16.3	
	comp=N,1µm,0.3s								
PB02	**IPOC Station P**	**2.12**	**173**	*e*P		**Pn**	**22 08 49.1**	**+0.3**
PB02				*e*S		**Sn**	**22 09 14.3**	**+0.3**
PB02				IAML			22 09 19.8	
	comp=E,1µm,0.5s								
LPAZ	**La Paz**	**3.49**	**34**	P		Pn	22 09 12.9	+4.8
	comp=E,3.7nm,0.3s,baz=238,slow=2.9,SNR=88								
LPAZ				LR		LR	22 10 20.5		
	comp=E,29nm,21.8s,baz=110,slow=37								
LVC	**Limon Verde**	**3.58**	**161**	P		**Pn**	**22 09 10.8**	**+1.7**
	comp=E,16nm,0.3s,baz=332,slow=9.1,SNR=67								
LVC				S		**Sn**	**22 09 56.8**	**+6.4**
	comp=E,18nm,0.3s,baz=171,slow=18,SNR=12								
CPUP	**Villa Florida**	**13.79**	**123**	P		**Pn**	**22 11 25.2**	**-3.3**
	comp=E,0.1nm,0.3s,baz=286,slow=15,SNR=2.0								
PTGA	**Pitinga**	**20.90**	**30**	P		**P**	**22 12 53.2**	**-0.7**
	comp=E,2.8nm,0.3s,baz=337,slow=22,SNR=4.8								
PLCA	**Paso Flores**	**21.46**	**181**	P		**P**	**22 13 01.8**	**+2.0**
	comp=E,1.6nm,0.7s,baz=24,slow=10,SNR=5.5								
SNAA	**Sanae**	**64.82**	**161**	P		**P**	**22 18 49.3**	**+0.4**
	comp=E,0.7nm,0.8s,baz=308,slow=8.3,SNR=5.8								
TORD	**Torodi Ar. Bea**	**77.71**	**71**	P		**P**	**22 20 04.9**	**-2.6**
	comp=E,0.3nm,0.3s,baz=247,slow=5.4,SNR=6.6								
YKA	**Yellowknife Ar**	**88.65**	**341**	P		**P**	**22 21 03.1**	**+0.3**
	comp=E,0.4nm,0.6s,baz=133,slow=5.1,SNR=3.6								
H11S2	**WAKE ISLAND Hyl**	**26.39**	**279**	T		T	00 46 19.1		
	baz=101,slow=75,SNR=52								
H11S1	**WAKE ISLAND Hyl**	**26.40**	**279**	T		T	00 46 19.1		
	baz=101,slow=75,SNR=90								
H11S3	**WAKE ISLAND Hyl**	**26.41**	**279**	T		T	00 46 20.7		
	baz=101,slow=75,SNR=62								
H11N3	**WAKE ISLAND Hyl**	**26.42**	**281**	T		T	00 46 22.4		
	baz=100,slow=75,SNR=61								
H11N2	**WAKE ISLAND Hyl**	**26.43**	**281**	T		T	00 46 21.5		
	baz=100,slow=75,SNR=50								
H11N1	**WAKE ISLAND Hyl**	**26.44**	**281**	T		T	00 46 20.3		
	baz=100,slow=75,SNR=46								
WRA	**Warramunga Arr**	**134.28**	**213**	PKP		**PKPdf**	**22 27 28.9**	**+0.2**
	comp=E,0.3nm,0.6s,baz=147,slow=1.5,SNR=4.8								
ZALV	**Zalesovo Beam**	**140.35**	**23**	PKP		**PKPdf**	**22 27 39.4**	**+0.7**
	comp=E,0.4nm,0.4s,baz=251,slow=4.4,SNR=3.1								
MKAR	**Makanchi Array**	**144.41**	**33**	PKP		**PKPab**	**22 27 43.4**	**-1.1**
	comp=E,0.9nm,1.0s,baz=9.8,slow=2.2,SNR=3.0								
SONM	**Songino Array**	**151.31**	**5**	PKPbc		**PKPbc**	**22 28 04.4**	**+0.7**
	comp=E,1.0nm,0.9s,baz=281,slow=0.7,SNR=6.1								

IDC ***25*** *22:11:42.1±0.6,44.˚30S×78.˚33W,h0km,mb4.0/10, mb1 4.2/11,mb1mx4.1/34,mbtmp4.0/11,ML4.3/1,MS4.3/17, Ms1 4.3/17,ms1mx4.2/23,Error ellipse: s-maj=26.3km s-min=15.7km az=101.0*

ISCJB ***25*** *22:11:46.6±0.3,44.˚35S±0.˚05×77.˚81W±0.˚06,h33km, mb4.7/46,MS4.3/17,Error ellipse: s-maj=6.5km s-min=5.9km az=170.3*

GCMT ***25*** *22:11:46.5±0.2,44.˚50S±0.˚01×78.˚37W±0.˚02,h16km±1km, MW5.1/103,Moment Tensor Solution. s37,c50; s103,c150; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.60±.16; Mθθ2.55±.14; Mϕϕ-0.95±.14; Mrθ-0.12±.30; Mθϕ-4.53±.11; Mϕr-0.66±.35; Best double couple: M₀4.93400×10¹⁶ NP1:ϕs349.00000°,δ82.00000°, λ-11.00000°. NP2:ϕs80.00000°,δ79.00000°, λ-172.00000°. Principal axes: T 5.6670, Plg2.0000°, Azm35.0000°; N -1.4650, Plg76.0000°, Azm134.0000°; P -4.2020, Plg13.0000°, Azm304.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MOS ***25*** *22:11:48.4±2.1,44.˚27S×77.˚71W,h44km,mb4.9/11 Error ellipse: s-maj=22.2km s-min=10.5km az=75.9*

NEIC ***25*** *22:11:49.5±2.1,44.˚33S×77.˚73W,h46km±19km,mb4.8/36, Error ellipse: s-maj=24.6km s-min=9.3km az=85.0*

ISC 25 22:11:48.3±0.4,**44.˚31S**±0.˚05×**77.˚76W**±0.˚07,**h35**km,**n126**, σ1§**78**/122,**mb4.8**/46,**MS4.2**/17,**1C-2D,Off coast of southern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GO07	**Milladeo Hill,**	**3.20**	**69**	*e*Pn			**Pn**	**22 12 36.4**	**+0.4**
GO07				*e*Sn			**Sn**	**22 13 15.7**	**+2.8**
GO07	**Milladeo Hill,**	**3.20**	**69**	*e*P			**Pn**	**22 12 34.8**	**-1.2**
GO07				*i* S			**Sn**	**22 13 07.7**	**-5.2**
GO07				IAML				22 13 25.1	
	comp=N,193nm,0.7s								
COYC	**Coyhaique**	**4.22**	**109**	*e*P			**Pn**	**22 12 49.3**	**-0.8**
CHRN	**Cochrane**	**4.66**	**131**	*e*Pn			**Pn**	**22 12 56.9**	**+0.8**
CHRN				*e*Sn			**Sn**	**22 13 45.0**	**-3.9**
CHRN	**Cochrane**	**4.66**	**131**	⇑*i*P			**Pn**	**22 12 57.8**	**+1.8**
PLCA	**Paso Flores**	**6.41**	**59**	Pn			**Pn**	**22 13 22.2**	**+1.9**
	comp=N,1.3nm,0.3s,baz=253,slow=12,SNR=32								
PLCA				Sn			Sn	22 14 43.2	+11
	baz=306,slow=19,SNR=0.7								
PLCA				LR			LR	22 15 55.6	
	comp=N,6µm,18.8s,baz=252,slow=38								
PLCA	**Paso Flores**	**6.41**	**59**	*e*Pn			**Pn**	**22 13 22.6**	**+2.3**
PLCA				*e*Sn			**Sn**	**22 14 29.9**	**-2.3**
PLCA	**Paso Flores**	**6.41**	**59**	*e*P			**Pn**	**22 13 22.6**	**+2.3**
PLCA				*e*				22 14 29.9	
GO06	**Curarrehue**	**6.65**	**47**	*e*Pn			**Pn**	**22 13 24.9**	**+1.3**
GO06	**Curarrehue**	**6.65**	**47**	⇓*i*P			**Pn**	**22 13 25.2**	**+1.6**
TMU	**Temuco**	**6.78**	**37**	⇓*i*P			**Pn**	**22 13 28.3**	**+3.0**
PEL	**Peldehue**	**12.43**	**29**	*e*Pn			**Pn**	**22 14 42.6**	**-0.2**
PEL	**Peldehue**	**12.43**	**29**	*e*P			**Pn**	**22 14 42.6**	**-0.2**
ROC1	**El Roble**	**12.47**	**27**	*e*Pn			**Pn**	**22 14 43.5**	**0.0**
TRQA	**Tornquist**	**13.41**	**68**	*e*Pn			**Pn**	**22 14 56.8**	**+0.7**
TRQA	**Tornquist**	**13.41**	**68**	*e*P			**Pn**	**22 14 56.8**	**+0.7**
GO02	**Mina Guanaco**	**20.22**	**22**	*e*P			**P**	**22 16 16.5**	**-4.1**
	comp=N,24nm,1.1s								
PMSA	**Palmer Station**	**21.90**	**164**	P			**P**	**22 16 37.7**	**-0.2**
	comp=N,3.5nm,0.5s,baz=353,slow=17,SNR=4.0								
PMSA				LR			LR	22 22 54.9	
	comp=N,507nm,21.1s,baz=329,slow=31								
LVC	**Limon Verde**	**22.84**	**21**	P			**P**	**22 16 49.8**	**+1.1**
	comp=N,1.4nm,0.5s,baz=211,slow=9.5,SNR=3.8								
LVC				LR			LR	22 25 17.9	
	comp=N,607nm,20.3s,baz=212,slow=36								
PB01	**IPOC Station P**	**24.20**	**19**	*e*P			**P**	**22 16 59.9**	**-1.7**
	comp=N,25nm,1.2s								
CPUP	**Villa Florida**	**24.37**	**49**	P			**P**	**22 17 04.7**	**+1.6**
	comp=N,5.2nm,0.7s,baz=223,slow=9.5,SNR=10								
CPUP				LR			LR	22 27 04.7	
	comp=N,839nm,21.8s,baz=214,slow=37								
CPUP	**Villa Florida**	**24.37**	**49**	*e*P			**P**	**22 17 05.1**	**+2.0**
	comp=N,8.2nm,0.9s								
CPUP	**Villa Florida**	**24.37**	**49**	*e*P			**P**	**22 17 05.1**	**+2.0**
CPUP				pmax		pmax			
	comp=Z,8.0nm,0.9s								
LPAZ	**La Paz**	**29.10**	**19**	P			**P**	**22 17 50.5**	**+4.2**
	comp=Z,1.1nm,0.8s,baz=160,slow=4.2,SNR=4.6								
LPAZ	**La Paz**	**29.10**	**19**	*e*P			**P**	**22 17 43.3**	**-3.0**
	comp=Z,1.0nm,0.6s								
LPAZ	**La Paz**	**29.10**	**19**	*e*P			**P**	**22 17 43.3**	**-3.0**
LPAZ				pmax		pmax			
	comp=Z,1.0nm,0.6s								
SIV	**San Ignacio**	**31.57**	**32**	LR			LR	22 31 30.1	
	comp=Z,556nm,20.5s,baz=172,slow=37								
NNA	**Nana**	**32.22**	**2**	LR			LR	22 27 43.2	
	comp=Z,571nm,20.0s,baz=181,slow=30								
ATAH	**Atahualpa**	**37.03**	**359**	LR			LR	22 30 19.9	
	comp=Z,656nm,20.2s,baz=195,slow=30								
VNA3	**Neumayer Olymp**	**41.81**	**153**	P			**P**	**22 19 34.2**	**+0.1**
VNA2	**Neumayer--Watz**	**42.55**	**153**	P			**P**	**22 19 40.7**	**+0.6**
	baz=270,slow=10								
SNAA	**Sanae**	**43.99**	**154**	P			**P**	**22 19 51.1**	**-0.7**
SNAA	**Sanae**	**43.99**	**154**	P			**P**	**22 19 51.8**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=292,slow=5.8,SNR=7.1								
SNAA	**Sanae**	**43.99**	**154**	*e*P			**P**	**22 19 51.8**	**+0.1**
	comp=Z,16nm,1.3s								
SNAA	**Sanae**	**43.99**	**154**	*e*P			**P**	**22 19 51.8**	**+0.1**
SNAA				pmax		pmax			
	comp=Z,17nm,1.3s								
OTAV	**Otavalo**	**44.36**	**359**	*e*P			**P**	**22 19 55.0**	**-0.7**
	comp=Z,7.7nm,1.4s								
OTAV	**Otavalo**	**44.36**	**359**	*e*P			**P**	**22 19 55.0**	**-0.7**
OTAV				pmax		pmax			
	comp=Z,8.0nm,1.4s								
QSPA	**South Pole Qui**	**45.94**	**180**	P			**P**	**22 20 05.9**	**-1.5**
	comp=Z,3.4nm,0.9s,baz=138,slow=4.5,SNR=7.7								
QSPA	**South Pole Qui**	**45.94**	**180**	*e*P			**P**	**22 20 06.5**	**-0.9**
PTGA	**Pitinga**	**46.18**	**25**	P			**P**	**22 20 09.8**	**+0.2**
	comp=Z,2.0nm,0.3s,baz=262,slow=8.3,SNR=6.3								
ROSC	**El Rosal**	**49.02**	**5**	LR			LR	22 39 43.5	
	comp=Z,657nm,18.1s,baz=201,slow=34								
RKT	**Rikitea**	**50.98**	**275**	*e*LR			LR	22 35 13.0	
	comp=Z,464nm,31.2s								
VNDA	**Vanda**	**53.10**	**194**	P			**P**	**22 21 01.1**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=140,slow=4.9,SNR=2.9								
VNDA				LR			LR	22 40 05.9	
	comp=Z,292nm,19.0s,baz=136,slow=32								
VNDA	**Vanda**	**53.10**	**194**	*e*P			**P**	**22 21 00.1**	**-1.5**
	comp=Z,15nm,1.4s								
VNDA	**Vanda**	**53.10**	**194**	*e*P			**P**	**22 21 00.1**	**-1.5**
VNDA				pmax		pmax			
	comp=Z,15nm,1.4s								
JTS	**JuntasAbangare**	**54.73**	**351**	*i* P			**P**	**22 21 17.0**	**+2.8**
ESTN	**Estel**	**57.67**	**350**	*e*P			**P**	**22 21 35.2**	**0.0**
	comp=Z,43nm,1.3s								
AOPR	**Arecibo Observ**	**63.16**	**12**	*e*P			**P**	**22 22 10.4**	**-2.2**
	comp=Z,1.2nm,0.4s								
MAW	**Mawson**	**64.51**	**164**	LR			LR	22 49 37.8	
	comp=Z,505nm,19.4s,baz=204,slow=35								
TIAR	**Tiarei**	**64.85**	**270**	*e*P			**P**	**22 22 22.5**	**-1.4**
	comp=Z,20nm,1.2s								
PPT2	**Papeete2**	**64.99**	**269**	*e*P			**P**	**22 22 23.5**	**-1.4**
	comp=Z,37nm,1.4s								
PPT2	**Papeete2**	**64.99**	**269**	*e*LR			LR	22 41 30.7	
	comp=Z,233nm,25.8s								
PPT	**Papeete**	**65.01**	**269**	LR			LR	22 42 23.4	
	comp=Z,155nm,19.8s,baz=183,slow=28								
LTX	**Lajitas**	**77.02**	**337**	*e*P			**P**	**22 23 34.7**	**-2.8**
LTX	**Lajitas**	**77.02**	**337**	*e*P			**P**	**22 23 34.7**	**-2.8**
TXAR	**Lajitas Array**	**77.02**	**337**	P			**P**	**22 23 34.7**	**-2.8**
	comp=Z,0.7nm,0.8s,baz=153,slow=8.4,SNR=6.1								
TXAR				LR			LR	22 52 03.6	
	comp=Z,44nm,19.8s,baz=0.0,slow=32								
TX31	**Lajitas Ar. Si**	**77.02**	**337**	*e*P			**P**	**22 23 37.9**	**+0.4**
LRAL	**Lakeview Retre**	**77.44**	**352**	*e*P			**P**	**22 23 40.1**	**+0.5**
	comp=Z,8.9nm,1.0s								
GOGA	**Godfrey**	**77.53**	**355**	P			P	22 23 48.1	+8.1
GOGA				pmax		pmax			
	comp=Z,15nm,1.3s								
Y52A	**Lilburn**	**78.01**	**355**	*e*P			**P**	**22 23 43.4**	**+0.6**
	comp=Z,17nm,1.1s								
X48A	**Hartselle**	**78.84**	**352**	*e*P			**P**	**22 23 47.7**	**+0.4**
	comp=Z,14nm,1.1s								
BOSA	**Boshof**	**79.07**	**119**	LR			LR	22 55 58.4	
	comp=Z,123nm,19.1s,baz=228,slow=33								
W50A	**Signal Mountai**	**79.43**	**354**	*e*P			**P**	**22 23 50.9**	**+0.3**
	comp=Z,13nm,1.0s								
SWET	**Sewanee**	**79.50**	**353**	*e*P			**P**	**22 23 51.0**	**+0.1**
	comp=Z,19nm,0.9s								
V48A	**Smith Brothers**	**80.10**	**353**	*e*P			**P**	**22 23 54.3**	**+0.1**
	comp=Z,18nm,1.1s								
WHAR	**Wooly Hollow**	**80.32**	**348**	*e*P			**P**	**22 23 55.9**	**+0.5**
	comp=Z,23nm,1.4s								
W39A	**Magazine**	**80.46**	**347**	*e*P			**P**	**22 23 57.4**	**+1.3**
	comp=Z,14nm,1.4s								
WVT	**Waverly**	**80.58**	**352**	*e*P			**P**	**22 23 56.5**	**-0.2**
	comp=Z,16nm,1.1s								
WVT	**Waverly**	**80.58**	**352**	*e*P			**P**	**22 23 56.5**	**-0.2**
WVT				pmax		pmax			
	comp=Z,16nm,1.1s								
WMOK	**Wichita Mounta**	**80.97**	**343**	*e*P			**P**	**22 23 58.5**	**-0.4**
	comp=Z,8.2nm,1.2s								
WMOK	**Wichita Mounta**	**80.97**	**343**	*e*P			**P**	**22 23 58.5**	**-0.4**
WMOK				pmax		pmax			
	comp=Z,8.0nm,1.2s								
T47A	**Sharon Grove**	**81.36**	**352**	*e*P			**P**	**22 24 00.9**	**+0.1**
	comp=Z,13nm,0.9s								
TUL1	**Leonard**	**81.51**	**345**	*e*P			**P**	**22 24 02.3**	**+0.6**
	comp=Z,34nm,1.4s								
PBMO	**Poplar Bluff**	**81.53**	**350**	*e*P			**P**	**22 24 02.0**	**+0.3**
	comp=Z,10.0nm,1.2s								
S51A	**Beattyville**	**81.74**	**355**	*e*P			**P**	**22 24 03.0**	**+0.1**
	comp=Z,8.8nm,0.8s								
SIUC	**Southern Illin**	**82.30**	**351**	*e*P			**P**	**22 24 05.8**	**0.0**
	comp=Z,22nm,1.0s								
DBIC	**Dimbokro**	**82.57**	**73**	LR			LR	22 56 48.4	
	comp=Z,86nm,20.6s,baz=200,slow=33								
CCM	**Cathedral Cave**	**82.89**	**349**	*e*P			**P**	**22 24 08.8**	**-0.1**
	comp=Z,23nm,0.9s								
CCM	**Cathedral Cave**	**82.89**	**349**	*e*P			**P**	**22 24 08.8**	**-0.1**
CCM				pmax		pmax			
	comp=Z,23nm,0.9s								
ANMO	**Albuquerque**	**83.09**	**337**	*e*P			**P**	**22 24 11.0**	**+0.8**
	comp=Z,4.1nm,1.0s								
ANMO	**Albuquerque**	**83.09**	**337**	*i* P			**P**	**22 24 10.8**	**+0.6**
ANMO				pmax		pmax			
	comp=Z,3.0nm,1.2s								
T25A	**Trinidad**	**84.59**	**339**	*e*P			**P**	**22 24 19.1**	**+1.2**
	comp=Z,8.7nm,1.0s								
N39A	**Derby Farms, D**	**85.83**	**349**	*e*P			**P**	**22 24 23.8**	**+0.1**
	comp=Z,43nm,1.4s								
KNB	**Kanab**	**86.96**	**333**	*e*P			**P**	**22 24 32.5**	**+2.9**
	comp=Z,6.9nm,1.2s								
KNB	**Kanab**	**86.96**	**333**	*e*P			**P**	**22 24 32.5**	**+2.9**
KNB				pmax		pmax			
	comp=Z,7.0nm,1.2s								
SMCO	**Snowmass**	**87.19**	**338**	*e*P			**P**	**22 24 31.9**	**+1.0**
	comp=Z,5.4nm,1.0s								
SZCU	**Shurtz Canyon**	**87.57**	**333**	*e*P			**P**	**22 24 35.6**	**+3.0**
	comp=Z,9.6nm,1.4s								
CCUT	**Cedar City**	**87.62**	**332**	*e*P			**P**	**22 24 34.7**	**+1.9**
	comp=Z,9.6nm,1.4s								
N23A	**Red Feather La**	**88.53**	**339**	*e*P			**P**	**22 24 40.0**	**+2.9**
	comp=Z,22nm,1.5s								
PSUT	**Pine Spring**	**88.68**	**332**	*e*P			**P**	**22 24 39.2**	**+1.4**
	comp=Z,4.9nm,1.0s								
R11A	**Troy Canyon, C**	**89.10**	**331**	*e*P			**P**	**22 24 41.1**	**+1.4**
	comp=Z,7.1nm,1.4s								
DUG	**Dugway, Tooele**	**89.85**	**334**	*e*P			**P**	**22 24 45.9**	**+2.7**
	comp=Z,5.6nm,1.3s								
DUG	**Dugway, Tooele**	**89.85**	**334**	*e*P			**P**	**22 24 45.9**	**+2.7**
DUG				pmax		pmax			
	comp=Z,6.0nm,1.3s								
NV01	**Mina Array Sit**	**90.14**	**329**	*e*P			**P**	**22 24 44.6**	**0.0**
NVAR	**Mina Array Bea**	**90.14**	**329**	P			**P**	**22 24 44.6**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=162,slow=6.2,SNR=4.6								
NVAR				LR			LR	22 56 53.3	
	comp=Z,71nm,18.4s,baz=105,slow=30								
PD31	**Pinedale Array**	**91.24**	**337**	*e*P			**P**	**22 24 47.6**	**-2.1**
PDAR	**Pinedale Array**	**91.24**	**337**	P			**P**	**22 24 47.6**	**-2.1**
	comp=Z,0.2nm,0.5s,baz=139,slow=8.4,SNR=2.9								
TORD	**Torodi Ar. Bea**	**91.68**	**73**	LR			LR	23 03 51.4	
	comp=Z,68nm,19.3s,baz=290,slow=34								
WVOR	**Wild Horse Val**	**93.79**	**331**	*e*P			**P**	**22 25 03.1**	**+1.8**
	comp=Z,5.2nm,0.3s								
WVOR	**Wild Horse Val**	**93.79**	**331**	*e*P			**P**	**22 25 03.1**	**+1.8**
WVOR				pmax		pmax			
	comp=Z,5.0nm,0.3s								
STKA	**Stephens Creek**	**96.11**	**213**	LR			LR	23 00 14.7	
	comp=Z,333nm,19.9s,baz=198,slow=30								
ILAR	**Eielson Array**	**121.29**	**332**	PKP			**PKPdf**	**22 30 35.5**	**-0.8**
	comp=Z,0.2nm,0.8s,baz=180,slow=2.7,SNR=2.7								
ILB	**Eielson Array**	**121.29**	**332**	*e*PKPdf			**PKPdf**	**22 30 35.5**	**-0.8**
WRH	**Wood River Hil**	**121.51**	**331**	*e*Pdif			**Pdif**	**22 27 06.6**	**+2.3**
GERES	**GERESS Array B**	**122.32**	**51**	PKP			**PKPdf**	**22 30 38.5**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=233,slow=4.8,SNR=3.7								
VYHS	**Vyhne**	**125.07**	**54**	*e*PKIKP			**PKPdf**	**22 30 48.3**	**+4.2**
VYHS	**Vyhne**	**125.07**	**54**	*e*PKP			**PKPdf**	**22 30 48.3**	**+4.2**
NEY	**Neytrino**	**137.84**	**70**	*e*PKIKP			**PKPdf**	**22 31 10.3**	**+1.7**
KIV	**Kislovodsk**	**138.09**	**69**	*i* PKHKP			PKPpre	22 30 55.7	
KIV				pmax		pmax			
	comp=Z,3.0nm,1.0s								
PALK	**Pallekele**	**138.59**	**147**	*i* PKIKP			**PKPdf**	**22 31 09.5**	**-1.3**
BILL	**Bilibino**	**139.75**	**328**	*e*PKIKP			**PKPdf**	**22 31 12.2**	**+1.1**
BILL				pmax		pmax			
	comp=Z,1.0nm,1.0s								
GEYT	**Alibeck**	**146.47**	**85**	PKPbc			**PKPbc**	**22 31 25.2**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=295,slow=4.2,SNR=6.1								
TIXI	**Tiksi**	**149.72**	**344**	*i* PKHKP			**PKPbc**	**22 31 30.4**	**-2.5**
ARU	**Arti**	**150.14**	**50**	*e*PKPdf			**PKPdf**	**22 31 29.7**	**+0.4**
ARU				*e*PKPbc			**PKPbc**	**22 31 35.9**	**+1.6**
ARU	**Arti**	**150.14**	**50**	*i* PKIKP			**PKPbc**	**22 31 35.2**	**+0.8**
ARU								22 35 07.5	
ARU				SS			SS	22 54 18.8	-6.2
MJAR	**Matsushiro Arr**	**151.72**	**267**	PKPbc			**PKPbc**	**22 31 36.8**	**-2.0**
	comp=Z,0.4nm,0.4s,baz=134,slow=3.5,SNR=2.6								
CM31	**Chiang Mai Arr**	**154.08**	**173**	*e*PKPdf			**PKPdf**	**22 31 36.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**154.08**	**173**	PKPbc			**PKPbc**	**22 31 44.3**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=204,slow=2.0,SNR=4.1								
KSH	**Kashi**	**159.91**	**95**	PKP			**PKPdf**	**22 31 43.5**	**+0.2**
KSH				PP			**PP**	**22 36 06.5**	**+1.1**
KSH				SS			SS	22 56 12.8	+0.8
KSH				AMB			AMB		
	comp=Z,230nm,5.1s								
KSH				LR			LR		
	comp=Z,160nm,6.5s								
KSH				LR			LR		
	comp=Z,210nm,6.6s								
KSH				LR			LR		
	comp=Z,270nm,14.4s								
GYA	**Guiyang**	**161.83**	**193**	*e*PKP			**PKPdf**	**22 31 46.5**	**+0.7**
GYA				PKPab			**PKPab**	**22 32 33.0**	**+1.6**
GYA				PKS			**PKSdf**	**22 35 18.8**	**-0.4**
GYA				PP			**PP**	**22 36 18.3**	**+3.9**
GYA				AMB			AMB		
	comp=Z,120nm,8.0s								
NJ2	**Nanjing**	**162.15**	**232**	*e*PKP			**PKPdf**	**22 31 46.3**	**+0.5**
ZAA1	**Zalesovo Array**	**165.10**	**43**	*e*PKPdf			**PKPdf**	**22 31 46.4**	**-1.4**
ZALV	**Zalesovo Beam**	**165.10**	**44**	PKP			**PKPdf**	**22 31 46.4**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=343,slow=1.5,SNR=2.9								
CD2	**Chengdu**	**166.57**	**186**	PKP			**PKPdf**	**22 31 49.5**	**-0.3**
WMQ	**Urumqi**	**169.51**	**88**	*e*PKP			**PKPdf**	**22 31 52.8**	**+1.3**
WMQ				LR			LR		
	comp=Z,92nm,19.3s								
WMQ				LR			LR		
	comp=Z,130nm,19.3s								
LZH	**Lanzhou**	**171.70**	**189**	*e*PKP			**PKPdf**	**22 31 51.5**	**-1.5**
LZH				pPKP			pPKPdf	22 31 56.5	-8.0
LZH				sPKP				22 31 58.3	
LZH				PKPab			**PKPab**	**22 33 14.8**	**0.0**
LZH				LR			LR		
	comp=Z,130nm,18.1s								
LZH				LR			LR		
	comp=Z,130nm,18.0s								
LZH				LR			LR		
	comp=Z,180nm,20.3s								

ISCJB ***25*** *22:24:06.5±0.2,6.˚86N±0.˚02×73.˚13W±0.˚03,h157km±2km, mb4.3/40,Error ellipse: s-maj=4.4km s-min=2.8km az=20.7*

IDC ***25*** *22:24:07.3±0.6,6.˚74N×72.˚90W,h164km±6km,mb3.6/12, mb1 3.8/17,mb1mx3.6/31,mbtmp4.2/17,MS2.9/1, Ms1 2.9/1,ms1mx2.4/30,Error ellipse: s-maj=13.4km s-min=7.0km az=132.0*

NEIC ***25*** *22:24:08.0±0.0,6.˚82N×73.˚16W,h152km,mb4.3/28, ML4.4(RSNC),After RSNC.*

RSNC ***25*** *22:24:08.0±1.1,6.˚82N×73.˚16W,h152km±4km,ML4.4, Mw4.6*

ISC 25 22:24:06.8±0.6,**6.˚88N**±0.˚03×**73.˚12W**±0.˚04,**h155**km±5km, **n108,**σ1§**61**/143,**mb4.2**/40,**9C-3D,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GIRC	**Giron, Santand**	**0.21**	**339**	*i* P			**Pn**	**22 24 28.8**	**+1.0**
GIRC				*e*S			**Sn**	**22 24 44.3**	**+0.3**
BARC	**Barichara**	**0.29**	**193**	*i* P			**Pn**	**22 24 28.7**	**+0.5**
BARC				*e*S			**Sn**	**22 24 44.0**	**-0.5**
BARC				*i*				22 24 45.6	
	comp=Z,5µm,0.4s								
PAMC	**Pamplona, Colo**	**0.62**	**42**	*i* P			**Pn**	**22 24 31.5**	**+1.6**
PAMC				*e*S			**Sn**	**22 24 48.4**	**+0.9**
PAMC				*i*				22 24 50.2	
	comp=N,3µm,0.5s								
RUSC	**La Rusia**	**0.98**	**178**	⇓*i

	comp=N,433nm,0.3s								
BETC	**Betania**	**4.77**	**209**	*e*P		**Pn**	**22 25 16.2**	**-1.1**
MARP	**Paez Belalcaza**	**4.90**	**215**	*e*P		**Pn**	**22 25 19.1**	**-0.2**
MARP				*e*S		**Sn**	**22 26 14.8**	**-1.1**
URIC	**Uribia, Colomb**	**4.92**	**13**	*e*P		**Pn**	**22 25 18.8**	**-0.5**
URIC				*i*			22 25 19.3	
	comp=Z,105nm,0.4s							
MALC	**Bahia Malaga**	**5.07**	**236**	*e*P		**Pn**	**22 25 22.9**	**+1.6**
MALC				*i*			22 25 25.7	
	comp=Z,167nm,0.5s							
PCON	**Cinco Dias**	**5.58**	**216**	*e*P		**Pn**	**22 25 28.9**	**+0.5**
PCON				*i*			22 25 30.4	
	comp=Z,86nm,0.3s							
POPC	**Popayan, Colom**	**5.58**	**220**	⇑*i*P		**Pn**	**22 25 28.1**	**-0.1**
FLOC	**Florencia**	**5.83**	**206**	*e*P		**Pn**	**22 25 30.8**	**-0.6**
FLOC				*e*S		**Sn**	**22 26 36.5**	**-1.1**
FLOC				*i*			22 27 06.1	
	comp=N,102nm,0.6s							
SOTA	**Rioblanco**	**5.86**	**217**	⇑*i*P		**Pn**	**22 25 32.4**	**+0.2**
SOTA				*i*			22 26 50.4	
	comp=Z,52nm,0.7s							
CRUC	**La Cruz**	**6.51**	**216**	*e*P		**Pn**	**22 25 41.8**	**+1.0**
CRUC				*i*			22 25 46.3	
	comp=Z,129nm,0.6s							
GCUF	**Volcan Galeras**	**7.02**	**217**	*e*P		**Pn**	**22 25 48.7**	**+1.1**
BCIP	**Isla Barro Col**	**7.03**	**289**	*e*Pn		**Pn**	**22 25 46.3**	**-1.0**
BCIP				*e*Sn		**Sn**	**22 26 58.2**	**-8.1**
CMBC	**Cumbal**	**7.54**	**219**	*e*P		**Pn**	**22 25 55.0**	**+0.6**
OTAV	**Otavalo**	**8.47**	**219**	*e*Pn		**Pn**	**22 26 07.0**	**+0.1**
OTAV				*e*Sn		**Sn**	**22 27 40.1**	**-1.5**
HDC	**Heredia**	**11.31**	**287**	*e*Pn		**Pn**	**22 26 43.7**	**-0.5**
MTDJ	**Mount Denham**	**12.07**	**340**	*e*Pn		**P**	**22 26 57.6**	**-2.7**
MTDJ				*e*Sn		**Sn**	**22 29 01.2**	**-6.5**
JTS	**JuntasAbangare**	**12.18**	**287**	LR		LR	22 31 43.4	
	comp=Z,64nm,21.4s,baz=174,slow=37							
GRGR	**Grenville**	**12.45**	**64**	ePn		**Pn**	**22 26 59.5**	**+0.6**
SJG	**San Juan**	**13.07**	**31**	P		**Pn**	**22 27 06.3**	**-0.5**
	comp=Z,4.8nm,0.3s,baz=219,slow=11,SNR=15							
SJG				S		**Sn**	**22 29 27.9**	**-3.6**
	comp=Z,1.0nm,0.3s,baz=108,slow=20,SNR=3.4							
SJG	**San Juan**	**13.07**	**31**	*e*Pn		**Pn**	**22 27 05.7**	**-1.1**
CDVI	**St. Croix**	**13.54**	**36**	*e*Pn		**Pn**	**22 27 13.5**	**+0.8**
CUPR	**Culebra, Puert**	**13.69**	**33**	*e*Pn		**Pn**	**22 27 15.0**	**+0.4**
STVI	**Saint Thomas**	**13.90**	**34**	*e*Pn		**Pn**	**22 27 18.7**	**+1.4**
PTGA	**Pitinga**	**15.14**	**119**	P		**Pn**	**22 27 30.3**	**-2.6**
	comp=Z,0.9nm,0.3s,baz=319,slow=20,SNR=3.3							
APG	**El Apazote**	**16.84**	**297**	P		**Pn**	**22 28 18.8**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=68,slow=6.8,SNR=8.0							
TEIG	**Tepich**	**19.80**	**314**	*e*P		**P**	**22 28 27.2**	**+1.8**
	comp=Z,17nm,0.6s							
LPAZ	**La Paz**	**23.54**	**168**	P		**P**	**22 29 02.5**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=349,slow=5.2,SNR=3.5							
LPAZ	**La Paz**	**23.54**	**168**	*e*P		**P**	**22 29 05.4**	**+1.6**
	comp=Z,3.7nm,1.4s							
V48A	**Smith Brothers**	**31.36**	**338**	*e*P		**P**	**22 30 15.8**	**+2.9**
	comp=Z,8.4nm,0.9s							
CCM	**Cathedral Cave**	**35.12**	**335**	*e*P		**P**	**22 30 47.1**	**+1.7**
	comp=Z,12nm,0.6s							
TXAR	**Lajitas Array**	**36.43**	**312**	P		**P**	**22 30 58.2**	**+1.4**
	comp=Z,1.9nm,0.6s,baz=126,slow=9.3,SNR=30							
TXAR				PcP		**PcP**	**22 33 19.2**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=140,slow=5.8,SNR=3.4							
TX31	**Lajitas Ar. Si**	**36.43**	**312**	*e*P		**P**	**22 30 58.3**	**+1.5**
MNTX	**Cornudas Mount**	**38.94**	**314**	*e*P		**P**	**22 31 18.4**	**+0.7**
	comp=Z,14nm,1.4s							
SDCO	**Great Sand Dun**	**42.51**	**321**	*e*P		**P**	**22 31 48.6**	**+1.4**
	comp=Z,2.4nm,0.7s							
TUC	**Tucson**	**43.21**	**311**	*e*P		**P**	**22 31 54.0**	**+1.2**
	comp=Z,1.9nm,0.7s							
EYMN	**Ely**	**43.82**	**342**	*e*P		**P**	**22 31 57.8**	**+0.5**
	comp=Z,5.2nm,0.5s							
ISCO	**Idaho Springs**	**43.86**	**323**	*e*P		**P**	**22 31 59.8**	**+1.7**
	comp=Z,3.0nm,0.9s							
PV13	**Radium Mtn., P**	**44.86**	**319**	*e*P		**P**	**22 32 07.9**	**+1.9**
	comp=Z,5.6nm,0.7s							
WUAZ	**Wupatki**	**45.18**	**315**	*e*P		**P**	**22 32 10.2**	**+1.7**
	comp=Z,6.9nm,0.8s							
SRU	**San Rafael Swe**	**46.50**	**319**	*e*P		**P**	**22 32 20.1**	**+1.3**
	comp=Z,2.7nm,0.7s							
P17A	**Butcher Ranch,**	**46.84**	**320**	*e*P		**P**	**22 32 22.8**	**+1.4**
	comp=Z,3.5nm,0.7s							
KNB	**Kanab**	**46.94**	**316**	*e*P		**P**	**22 32 23.9**	**+1.6**
	comp=Z,4.9nm,0.9s							
LCMT	**Little Creek M**	**47.23**	**315**	*e*P		**P**	**22 32 26.9**	**+2.4**
	comp=Z,3.8nm,1.0s							
ULM	**Lac du Bonnet**	**47.23**	**340**	P		**P**	**22 32 24.4**	**+0.4**
	comp=Z,2.6nm,0.4s,baz=140,slow=8.2,SNR=10.0							
NLU	**North Lily Min**	**47.97**	**319**	*e*P		**P**	**22 32 32.1**	**+2.0**
	comp=Z,41nm,0.5s							
PD31	**Pinedale Array**	**48.03**	**324**	*e*P		**P**	**22 32 31.8**	**+1.1**
PDAR	**Pinedale Array**	**48.03**	**324**	P		**P**	**22 32 31.8**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=117,slow=8.1,SNR=8.7							
PDAR	**Pinedale Array**	**48.03**	**324**	*e*P		**P**	**22 32 31.3**	**+0.6**
SCHQ	**Schefferville**	**48.09**	**5**	P		**P**	**22 32 32.1**	**+1.5**
	comp=Z,6.7nm,0.6s,baz=191,slow=4.6,SNR=9.3							
CTU	**Camp Tracy**	**48.16**	**320**	*e*P		**P**	**22 32 34.7**	**+3.1**
	comp=Z,83nm,0.9s							
TCUT	**Toone Canyon**	**48.19**	**321**	*e*P		**P**	**22 32 33.4**	**+1.5**
	comp=Z,78nm,0.7s							
HWUT	**Hardware Ranch**	**48.56**	**322**	*e*P		**P**	**22 32 35.4**	**+0.8**
	comp=Z,14nm,0.7s							
DUG	**Dugway, Tooele**	**48.57**	**319**	*e*P		**P**	**22 32 36.4**	**+1.6**
	comp=Z,49nm,0.8s							
SPUT	**South Promonto**	**48.94**	**321**	*e*P		P	22 32 43.6	+6.1
	comp=Z,16nm,0.8s							
DGMT	**Dagmar**	**49.10**	**333**	*e*P		**P**	**22 32 40.2**	**+1.8**
	comp=Z,19nm,0.6s							
BGU	**Big Grassy Mou**	**49.10**	**320**	*e*P		**P**	**22 32 40.3**	**+1.5**
	comp=Z,33nm,0.8s							
REDW	**Red Top Meadow**	**49.15**	**324**	*e*P		**P**	**22 32 40.2**	**+1.0**
	comp=Z,3.8nm,0.6s							
LOHW	**Long Hollow**	**49.16**	**324**	*e*P		**P**	**22 32 40.9**	**+1.7**
	comp=Z,3.0nm,0.6s							
HVU	**Hansel Valley**	**49.41**	**321**	*e*P		**P**	**22 32 42.9**	**+1.8**
	comp=Z,26nm,0.7s							
NVAR	**Mina Array Bea**	**51.45**	**315**	P		**P**	**22 32 58.0**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=120,slow=6.7,SNR=6.2							
MFID	**Camas Ranch**	**52.19**	**321**	*e*P		**P**	**22 33 03.2**	**+1.5**
	comp=Z,2.6nm,0.6s							
YERR	**Yerington**	**52.35**	**315**	*e*P		**P**	**22 33 04.3**	**+1.1**
	comp=Z,3.1nm,0.7s							
YERR				*e*PcP		**PcP**	**22 34 17.3**	**+5.1**
WVOR	**Wild Horse Val**	**53.49**	**319**	*e*P		**P**	**22 33 12.6**	**+1.3**
	comp=Z,4.0nm,1.0s							
G08A	**Pilot Rock**	**55.08**	**322**	*e*P		**P**	**22 33 23.7**	**+0.9**
	comp=Z,3.2nm,0.6s							
YKA	**Yellowknife Ar**	**63.21**	**340**	P		**P**	**22 34 18.7**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=132,slow=6.5,SNR=23							
DBIC	**Dimbokro**	**67.73**	**86**	P		**P**	**22 34 46.6**	**-1.6**
	comp=Z,3.7nm,0.9s,baz=268,slow=7.2,SNR=6.7							
TORD	**Torodi Ar. Bea**	**73.72**	**78**	P		**P**	**22 35 21.3**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=285,slow=6.6,SNR=7.4							
ILAR	**Eielson Array**	**76.92**	**335**	P		**P**	**22 35 41.5**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=106,slow=4.1,SNR=5.5							
NOA	**NORSAR Array B**	**81.28**	**29**	P		**P**	**22 36 06.4**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=265,slow=5.5,SNR=3.3							
ARCES	**ARCESS Array B**	**86.62**	**20**	P		**P**	**22 36 32.1**	**-0.3**
	comp=Z,2.7nm,1.0s,baz=282,slow=4.3,SNR=3.9							
MKAR	**Makanchi Array**	**122.27**	**20**	PKP		**PKPdf**	**22 42 42.9**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=326,slow=2.4,SNR=6.3							
SONM	**Songino Array**	**125.52**	**0**	PKP		**PKPdf**	**22 42 49.6**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=340,slow=1.9,SNR=3.0							
LZH	**Lanzhou**	**137.17**	**4**	⇑PKP		**PKPdf**	**22 43 10.8**	**-1.5**
LZH				pPKP		pPKPdf	22 43 52.0	-1.3
LZH				sPKP			22 44 10.0	
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc		**PKPbc**	**22 43 36.9**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=113,slow=3.3,SNR=9.2							
WRA	**Warramunga Arr**	**150.37**	**241**	PKPbc		**PKPbc**	**22 43 40.0**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=107,slow=2.8,SNR=35							
CMAR	**Chiang Mai Arr**	**153.64**	**17**	PKPbc		**PKPbc**	**22 43 48.4**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=329,slow=3.2,SNR=3.3							

TIR ***25*** *22:35:11.5, 41.°90N× 19.°27E, h6km, Md2.5/3*
ISCJB ***25*** *22:35:12.1±0.7, 41.°90N±0.°03× 19.°32E±0.°03, h5km±3km, Error ellipse: s-maj=5.6km s-min=3.3km az=21.8*
PDG ***25*** *22:35:12.8±0.1, 41.°92N× 19.°29E, h12km, MD2.1/1, ML2.0/13, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*
SAR ***25*** *22:35:12.0±0.9, 41.°87N× 19.°40E, h4km±3km, ML2.0/6*
BEO ***25*** *22:35:15.4±0.8, 42.°00N× 19.°39E, h7km±4km, ML1.7/8*

ISC 25 22:35:12.7±1.1, 41.°91N±0.°05× 19.°29E±0.°03, h9km±6km, n36, σ0°99/71, 11C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ULC	**Ulcinj**	**0.06**	**331**	⇑*i*Pg		**Pg**	**22 35 14.8**	**-0.1**
ULC				*e*Sg		**Sg**	**22 35 16.9**	**+0.5**
DRME	**Dracevica, Mon**	**0.29**	**345**	⇑*i*Pg		**Pb**	**22 35 18.7**	**-1.4**
DRME				*e*Sg		**Sg**	**22 35 23.1**	**+0.7**
DRME	**Dracevica, Mon**	**0.29**	**345**	*e*Pg		**Pg**	**22 35 18.5**	**-0.1**
DRME				*e*Sg		**Sb**	**22 35 23.6**	**-1.4**
PUK	**Puka**	**0.47**	**73**	*i* PG		**Pg**	**22 35 21.2**	**-0.8**
PUK				*i* SG		**Sg**	**22 35 28.3**	**+0.1**
BUM	**Brajici-Budva**	**0.49**	**324**	⇑*i*Pg		**Pb**	**22 35 22.3**	**-1.2**
BUM				*e*Sg		**Sb**	**22 35 29.6**	**-1.2**
PDG	**Podgorica**	**0.52**	**358**	*e*Pg		**Pg**	**22 35 22.3**	**-0.6**
PDG				*e*Sg		**Sb**	**22 35 31.0**	**-0.7**
PDG	**Podgorica**	**0.52**	**358**	⇑*i*Pg		**Pg**	**22 35 22.4**	**-0.5**
PDG				*e*Sg		**Sb**	**22 35 30.7**	**-1.0**
TTG	**Podgorica**	**0.52**	**358**	⇓*i*Pg		**Pg**	**22 35 22.5**	**-0.5**
TTG				*e*Sg		**Sg**	**22 35 30.6**	**+0.8**
CEME	**Cevo**	**0.69**	**337**	⇓*i*Pg		**Pg**	**22 35 25.3**	**-0.9**
CEME				*e*Sg		**Sb**	**22 35 36.4**	**-0.3**
BCI	**Bajram Curri**	**0.74**	**52**	*i* PG		**Pg**	**22 35 26.0**	**-1.0**
BCI				*i* SG		**Sb**	**22 35 38.1**	**+0.1**
HCY	**Herceg Novi**	**0.80**	**313**	⇑*i*Pg		**Pg**	**22 35 27.4**	**-0.7**
HCY				*e*Sg		**Sb**	**22 35 40.2**	**+0.6**
HCY	**Herceg Novi**	**0.80**	**313**	*e*Pg		**Pg**	**22 35 27.2**	**-0.9**
HCY				*e*Sg		**Sb**	**22 35 40.1**	**+0.5**
PVY	**Plav**	**0.85**	**36**	⇑*i*PG		**Pg**	**22 35 28.4**	**-0.7**
PVY				*e*Sg		**Sb**	**22 35 41.9**	**+0.7**
PHP	**Peshkopia**	**0.89**	**104**	*i* PG		**Pb**	**22 35 29.7**	**-0.7**
PHP				*i* SG		**Sb**	**22 35 42.7**	**+0.3**
NKME	**Niksic**	**0.89**	**344**	⇑*i*Pg		**Pg**	**22 35 29.1**	**-0.9**
NKME				*e*Sg		**Sb**	**22 35 43.0**	**+0.6**
NKY	**Niksic**	**0.93**	**347**	⇓*i*Pg		**Pg**	**22 35 29.9**	**-0.8**
NKY				*e*Sg		**Sb**	**22 35 44.4**	**+0.8**
KOME	**Kolasin**	**0.96**	**10**	⇑*i*Pg		**Pg**	**22 35 30.3**	**-0.9**
KOME				*e*Sg		**Sb**	**22 35 45.5**	**+1.2**
IVA	**Berane**	**1.06**	**25**	⇑*i*Pg		**Pg**	**22 35 32.2**	**-1.0**
IVA				*e*Sg		**Sb**	**22 35 48.8**	**+1.4**
TREB	**Trebinje**	**1.06**	**320**	*e*Pg		**Pn**	**22 35 34.5**	**+0.7**
TREB				*e*Sg		**Sn**	**22 35 49.0**	**+0.3**
TREB	**Trebinje**	**1.06**	**320**	*e*Pg		**Pb**	**22 35 33.0**	**-0.3**
TREB				*e*Sg		**Sn**	**22 35 48.6**	**-0.1**
BRY	**Bratogost**	**1.14**	**331**	⇑*i*Pg		**Pg**	**22 35 33.7**	**-0.9**
BRY				*e*Sg		**Sn**	**22 35 51.5**	**+0.8**
BRY	**Bratogost**	**1.14**	**331**	*e*Pg		**Pg**	**22 35 33.5**	**-1.1**
BRY				*e*Sg		**Sb**	**22 35 49.9**	**+0.4**
UPM	**Unac-Piva**	**1.32**	**348**	⇑*i*Pg		**Pg**	**22 35 37.3**	**-0.9**
UPM				*e*Sg		**Sn**	**22 35 57.8**	**+2.4**
UPM	**Unac-Piva**	**1.32**	**348**	*e*Pg		**Pg**	**22 35 36.6**	**-1.6**
UPM				*e*Sg		**Sn**	**22 35 56.1**	**+0.7**
PLE	**Pljevlja**	**1.42**	**3**	⇓*i*Pg		**Pg**	**22 35 39.3**	**-0.8**
PLE				*e*Sg		**Sn**	**22 36 00.6**	**+2.9**
SJES	**Sjenica**	**1.45**	**20**	*e*Pg		**Pn**	**22 35 39.2**	**+0.1**
SJES				*e*Sg		**Sg**	**22 35 57.9**	**-1.3**
STON	**Ston**	**1.52**	**310**	*i* Pn		**Pn**	**22 35 40.0**	**0.0**
STON				Sn		**Sg**	**22 36 03.0**	**+1.4**
IVAS	**Ivanjica**	**1.79**	**21**	*e*Pg		**Pn**	**22 35 44.6**	**+0.8**
IVAS				*e*Sg		**Sb**	**22 36 09.0**	**+0.9**
SELS	**Selova**	**1.89**	**45**	*e*Pn		**Pn**	**22 35 45.9**	**+0.8**
BBLS	**Lazići**	**1.96**	**3**	*e*Pn		**Pb**	**22 35 48.1**	**-0.5**
BBLS				*e*Sg		**Sg**	**22 36 14.9**	**-0.8**
BBLS	**Lazići**	**1.96**	**3**	*e*Pn		**Pn**	**22 35 46.7**	**+0.5**
BBLS				*e*Sn		**Sn**	**22 36 11.9**	**+1.0**
BARS	**Barje**	**2.08**	**63**	*e*Pn		**Pn**	**22 35 48.9**	**+1.1**
BARS				*e*Sg		**Sg**	**22 36 18.3**	**-1.4**
HAPS	**Han Pijesak,Bl**	**2.19**	**354**	*e*Pn		**Pb**	**22 35 51.2**	**-1.4**
HAPS				*e*Sg		**Sb**	**22 36 21.4**	**+1.6**
HAPS	**Han Pijesak,Bl**	**2.19**	**354**	*e*Pn		**Pn**	**22 35 49.8**	**+0.4**
HAPS				*e*Sn		**Sn**	**22 36 17.6**	**+0.9**
DIVS	**Divibare**	**2.25**	**13**	*e*Pn		**Pn**	**22 35 51.5**	**+1.3**
DIVS				*e*Sg		**Sb**	**22 36 22.7**	**+1.2**
DIVS	**Divibare**	**2.25**	**13**	*e*Pn		**Pn**	**22 35 49.8**	**-0.4**
DIVS				*e*Sn		**Sn**	**22 36 18.0**	**-0.1**

MEX 25 22:40:02.1±0.3, 15.°98N× 98.°38W, h2km±3km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.48**	**31**	*i* P		Pg	22 40 11.0	-0.3
PNIG				*i* S		Sg	22 40 17.9	+0.3
TLIG	**Tlapa**	**1.59**	**354**	*e*P		Pn	22 40 26.8	-4.6
TLIG				*e*S		Sn	22 40 48.0	-4.6
VHO	**Vista Hermosa**	**1.92**	**55**	*e*P		Pn	22 40 32.3	-3.7
VHO				*i* S		Sn	22 40 56.1	-4.8

ISCJB ***25*** *22:51:48.4±0.3, 19.°65S±0.°03× 69.°32W±0.°06, h110km±2km, mb4.2/25, Error ellipse: s-maj=9.4km s-min=4.0km az=170.6*
GUC ***25*** *22:51:49.3±0.8, 19.°64S× 69.°37W, h98km±3km, ML4.6*
NEIC ***25*** *22:51:49.0±0.0, 19.°63S× 69.°38W, h102km, mb4.4/18, ML4.6(GUC), After GUC.*
NEIC Felt [IV] at Camina and Mamina; [III] at Alto Hospicio, Iquique and La Tirana; [II] at Huara.
IDC ***25*** *22:51:50.0±0.5, 19.°54S× 69.°07W, h103km±4km, mb3.7/10, mb1 3.9/13, mb1mx3.8/33, mbtmp4.1/13, MS3.4/2, Ms1 3.4/2, ms1mx2.8/26, Error ellipse: s-maj=19.1km s-min=9.8km az=84.0*

ISC 25 22:51:48.8±0.4, 19.°70S±0.°03× 69.°41W±0.°05, h103km±3km, h103km:pP-P, n89, σ2s10/112, mb4.4/24, 9C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GO01	**Chusmiza**	**0.21**	**83**	*e*Pn		**Pn**	**22 52 04.5**	**+0.5**
GO01				*e*Sn		**Sn**	**22 52 14.5**	**-0.8**
GO01	**Chusmiza**	**0.21**	**83**	⇓*i*P		**Pn**	**22 52 04.2**	**+0.3**
GO01				*i* S		**Sn**	**22 52 15.3**	**+0.1**
GO01				IAML			22 52 16.2	
	comp=E,59μm,0.2s							
PB11	**IPOC Station P**	**0.24**	**254**	*e*Pn		**Pn**	**22 52 04.6**	**+0.9**
PB11				*e*Sn		**Sn**	**22 52 12.9**	**-1.8**
PB11	**IPOC Station P**	**0.24**	**254**	⇑*i*P		**Pn**	**22 52 04.3**	**+0.7**
PB11				*i* S		**Sn**	**22 52 15.7**	**+0.9**
PB11				IAML			22 52 17.3	
	comp=E,19μm,0.4s							
PB08	**IPOC Station P**	**0.51**	**151**	⇑*i*P		**Pn**	**22 52 06.5**	**+1.1**
PB08				*i* S		**Sn**	**22 52 18.9**	**+1.2**
PB08				IAML			22 52 19.8	
	comp=E,35μm,0.2s							
MNMC	**Minye Minye**	**0.59**	**343**	*e*Pn		**Pn**	**22 52 05.7**	**-0.2**
MNMC				*e*Sn		**Sn**	**22 52 17.3**	**-1.3**
MNMC	**Minye Minye**	**0.59**	**343**	⇑*i*P		**Pn**	**22 52 06.4**	**+0.5**
MNMC				*i* S		**Sn**	**22 52 18.9**	**+0.3**
PSGC	**Pisagua**	**0.68**	**278**	⇑*i*P		**Pn**	**22 52 07.3**	**+0.9**
PSGC				*i* S		**Sn**	**22 52 20.6**	**+1.0**
PSGC				IAML			22 52 21.5	
	comp=N,13μm,0.1s							
PB01	**IPOC Station P**	**1.34**	**183**	*e*Pn		**Pn**	**22 52 14.5**	**+1.1**
PB01				*e*Sn		**Sn**	**22 52 31.3**	**-0.7**
PB01	**IPOC Station P**	**1.34**	**183**	⇑*i*P		**Pn**	**22 52 15.2**	**+1.8**
PB01				*i* S		**Sn**	**22 52 34.5**	**+2.5**
PB01				IAML			22 52 35.7	
	comp=E,23μm,0.4s							
PB16	**IPOC Station P**	**1.35**	**356**	⇑*i*P		**Pn**	**22 52 14.8**	**+0.7**
PB16				*i* S		**Sn**	**22 52 34.4**	**+1.3**
PB16				IAML			22 52 35.5	
	comp=E,10μm,0.4s							
PB12	**IPOC Station P**	**1.38**	**321**	⇑*i*P		**Pn**	**22 52 14.1**	**+0.2**
PB12				*i* S		**Sn**	**22 52 33.0**	**+0.2**
PB12				IAML			22 52 41.0	
	comp=N,12μm,0.4s							
PB02	**IPOC Station P**	**1.68**	**196**	⇑*i*P		**Pn**	**22 52 19.2**	**+1.7**
PB02				*i* S		**Sn**	**22 52 42.2**	**+2.8**
PB07	**IPOC Station P**	**2.07**	**192**	*e*P		**Pn**	**22 52 24.2**	**+1.7**
PB07				IAML			22 52 59.6	
	comp=E,6μm,0.6s							
PB09	**IPOC Station P**	**2.10**	**176**	⇑*i*P		**Pn**	**22 52 25.0**	**+2.1**
PB09				IAML			22 52 57.4	
	comp=E,4μm,0.4s							
PB03	**IPOC Station P**	**2.36**	**188**	*e*P		**Pn**	**22 52 27.9**	**+1.5**
PB03				IAML			22 53 01.6	
	comp=E,3μm,0.6s							
PB04	**IPOC Station P**	**2.71**	**195**	*e*Pn		**Pn**	**22 52 31.9**	**+0.9**
PB04				*e*Sn		**Sn**	**22 52 56.8**	**-6.4**
LVC	**Limon Verde**	**2.94**	**171**	P		**Pn**	**22 52 36.4**	**+2.2**
	comp=E,396nm,0.3s,baz=350,slow=9.6,SNR=566							
LVC				S		**Sn**	**22 53 12.3**	**+3.3**
	comp=E,155nm,0.3s,baz=343,slow=8.2,SNR=5.5							
LVC	**Limon Verde**	**2.94**	**171**	*e*Pn		**Pn**	**22 52 36.4**	**+2.2**
LVC				*e*Sn		**Sn**	**22 53 03.7**	**-5.3**

PB06	**IPOC Station P**	**3.00**	**183**	⇓*i*P		**Pn**	**22 52 36.0**	**+1.2**
PB06				IAML			22 53 34.2	
	comp=N,2μm,0.4s							
LPAZ	**La Paz**	**3.60**	**20**	P		**Pn**	**22 52 45.2**	**+1.9**
	comp=N,19nm,0.3s,baz=195,slow=7.2,SNR=219							
LPAZ	**La Paz**	**3.60**	**20**	*e*Pn		**Pn**	**22 52 44.9**	**+1.6**
PB10	**IPOC Station P**	**3.95**	**195**	*e*Pn		**Pn**	**22 52 47.8**	**+0.5**
PB10				*e*Sn		**Sn**	**22 52 53 28.9**	**-3.7**
GO02	**Mina Guanaco**	**5.44**	**182**	*e*Pn		**Pn**	**22 53 08.0**	**+0.1**
GO02				*e*Sn		**Sn**	**22 54 09.8**	**+0.4**
GO03	**Copiap**	**7.90**	**185**	*e*Pn		**Pn**	**22 53 39.8**	**-1.2**
GO03				*e*Sn		**Sn**	**22 55 05.7**	**-3.3**
LCO	**Las Campanas**	**9.35**	**187**	*e*Pn		**Pn**	**22 53 57.6**	**-3.3**
LCO				*e*Sn		**Sn**	**22 55 40.9**	**-3.4**
NNA	**Nana**	**10.48**	**316**	P		**Pn**	**22 54 14.2**	**-1.9**
	comp=N,1.8nm,0.3s,baz=145,slow=13,SNR=3.9							
NNA				S		**Sn**	**22 56 07.7**	**-3.9**
	comp=N,1.2nm,0.3s,baz=252,slow=16,SNR=2.0							
NNA	**Nana**	**10.48**	**316**	*e*Pn		**Pn**	**22 54 14.7**	**-1.4**
GO04	**Tololo Observa**	**10.51**	**187**	*e*Pn		Pn	22 54 11.6	-5.0
CPUP	**Villa Florida**	**12.93**	**123**	P		**Pn**	**22 54 47.3**	**-1.4**
	comp=N,1.0nm,0.3s,baz=299,slow=12,SNR=18							
CPUP				LR		LR	23 00 16.6	
	comp=N,86nm,18.4s,baz=308,slow=40							
CPUP	**Villa Florida**	**12.93**	**123**	*e*Pn		**Pn**	**22 54 46.8**	**-1.9**
ROC1	**El Roble**	**13.30**	**186**	*e*Pn		**Pn**	**22 54 54.4**	**+0.6**
ATAH	**Atahualpa**	**15.23**	**324**	P		**P**	**22 55 21.1**	**-0.4**
	comp=N,0.4nm,0.3s,baz=131,slow=9.3,SNR=2.7							
TRQA	**Tornquist**	**19.41**	**162**	*e*P		**P**	**22 56 08.1**	**+1.3**
	comp=N,45nm,1.1s							
GO06	**Curarrehue**	**19.90**	**185**	*e*P		**Pn**	**22 56 15.2**	**+0.4**
	comp=N,14nm,0.7s							
SPB	**Sao Paulo**	**20.79**	**105**	*e*P		**P**	**22 56 21.5**	**-0.3**
	comp=N,56nm,1.5s							
PLCA	**Paso Flores**	**20.99**	**182**	P		**P**	**22 56 27.9**	**+3.9**
	comp=N,4.9nm,0.8s,baz=14,slow=11,SNR=10							
PLCA	**Paso Flores**	**20.99**	**182**	*e*P		**P**	**22 56 23.9**	**-0.1**
	comp=N,12nm,1.1s							
PTGA	**Pitinga**	**21.00**	**27**	P		**P**	**22

TIWZ	Tintock	1.12	95	P	Pn	22 57 58.4 +0.1
PRWZ	Pori Road	1.19	84	P	Pn	22 57 59.4 +0.3
TMWZ	Te Maipa	1.19	111	P	Pn	22 57 59.2 0.0
LREZ	Lake Rotokare	1.22	359	P	Pn	22 58 00.1 +0.6
TSZ	Takapari Road	1.33	63	P	Pn	22 58 01.0 0.0
NMEZ	Namu Road	1.33	342	P	Pn	22 58 01.6 +0.6
PREZ	Palmer Road	1.35	351	P	Pn	22 58 02.3 +1.0
CPWZ	Castlepoint	1.37	100	P	Pn	22 58 02.0 +0.5
DVHZ	Dannevirke	1.39	75	P	Pn	22 58 01.5 -0.3
BFZ	Birch Farm	1.39	91	P	Pn	22 58 01.5 -0.2
KHEZ	Kahui Hut	1.42	347	P	Pn	22 58 02.8 +0.5
QRZ	Quartz Range	1.45	264	P	Pn	22 58 02.8 +0.3
NBEZ	Newall Road No	1.48	343	P	Pn	22 58 03.5 +0.5
DREZ	Durham Road	1.50	353	P	Pn	22 58 04.1 +0.9
PKE	Pukeiti	1.52	347	P	Pn	22 58 04.3 +0.7
MTVZ	Mangateitei	1.53	32	P	Pn	22 58 04.5 +0.8
PKVZ	Pokaka	1.56	27	P	Pn	22 58 04.7 +0.6
PNHZ	Pukenui	1.56	61	P	Pn	22 58 03.7 -0.4
THZ	Tophouse	1.57	226	P	Pn	22 58 05.6 +1.3
VRZ	Vera Road	1.58	10	P	Pn	22 58 04.9 +0.6
TRVZ	Turoa	1.63	32	P	Pn	22 58 06.1 +0.9
MOVZ	Moawhango	1.63	39	P	Pn	22 58 05.4 +0.3
WHVZ	Whangaehu Hut	1.66	33	P	Pn	22 58 06.8 +1.1
FWVZ	Far West T-bar	1.67	32	P	Pn	22 58 06.8 +1.0
TUVZ	Tukino	1.70	34	P	Pn	22 58 07.1 +1.0
COVZ	Chateau Observ	1.71	31	P	Pn	22 58 07.6 +1.4
BHHZ	Black Hill Sta	1.73	47	P	Pn	22 58 06.7 +0.3
PRHZ	Porangahau	1.74	77	P	Pn	22 58 06.3 -0.2
NGZ	Ngauruhoe	1.76	31	P	Pn	22 58 08.1 +1.2
TWVZ	Taurewa	1.79	26	P	Pn	22 58 07.4 +0.2
WTVZ	West Tongariro	1.81	30	P	Pn	22 58 08.3 +0.9
KRHZ	Kereru	1.82	56	P	Pn	22 58 07.4 -0.2
KRVZ	Karewarewa	1.84	29	P	Pn	22 58 09.1 +1.1
KHZ	Kahutara	1.85	201	P	Pn	22 58 09.1 +1.1
KATZ	Kakaramea	1.97	30	P	Pn	22 58 11.4 +1.7
PXZ	Pawanui	1.98	72	P	Pn	22 58 09.3 -0.3
KAHZ	Kahuranaki	2.08	66	P	Pn	22 58 10.4 -0.7
RATZ	Rangitukua	2.09	30	P	Pn	22 58 12.9 +1.6
HIZ	Hauiti	2.19	9	P	Pn	22 58 13.1 +0.6
BKZ	Black Stump Fm	2.20	47	P	Pn	22 58 14.2 +1.5
WATZ	Wairara	2.22	28	P	Pn	22 58 15.0 +2.1
TLZ	Tolley Road	2.50	21	P	Pn	22 58 17.6 +0.8
MTHZ	Maungataniwha	2.61	46	P	Pn	22 58 17.6 -0.7
LTZ	Lake Taylor	2.64	217	P	Pn	22 58 19.3 +0.5
AMCZ	Amberley	2.82	207	P	Pn	22 58 21.0 -0.1
MUGZ	Murupara	2.85	40	P	Pn	22 58 20.3 -1.3
INZ	Inchbonnie	3.02	227	P	Pn	22 58 24.2 +0.4
TOZ	Tahuroa Road	3.06	16	P	Pn	22 58 25.0 +0.5
RAGZ	Rawiri	3.18	48	P	Pn	22 58 28.2 +2.1
OXZ	Oxford	3.18	213	P	Pn	22 58 25.5 -0.6
OKCZ	Okains Bay	3.20	198	P	Pn	22 58 25.7 -0.6
MQZ	McQueen's Vall	3.29	203	P	Pn	22 58 26.1 -1.4
MWZ	Matawai	3.36	47	P	Pn	22 58 28.2 -0.3
AKCZ	Akaroa Harbour	3.38	199	P	Pn	22 58 27.9 -0.8
TKGZ	Te Karaka	3.47	51	P	Pn	22 58 29.8 -0.1
KBAZ	Karaka Road Bo	3.60	6	P	Pn	22 58 32.6 +0.8
AWAZ	Awhitu Peninsu	3.62	3	P	Pn	22 58 32.2 +0.3
MKAZ	Moumakai	3.62	9	P	Pn	22 58 32.4 +0.4
WVZ	Waitaha Valley	3.64	228	P	Pn	22 58 33.7 +1.4
RUGZ	Raukumara Rang	3.71	44	P	Pn	22 58 33.2 -0.1
ETAZ	East Tamaki Re	3.74	6	P	Pn	22 58 33.9 +0.2
HAZ	Te Kaha	3.92	43	P	Pn	22 58 34.7 -1.4
KUZ	Kuaotunu	4.06	15	P	Pn	22 58 38.0 -0.1
FOZ	Fox Glacier	4.46	229	P	Pn	22 58 43.7 +0.3
WCZ	Waipu Caves	4.74	359	P	Pn	22 58 47.5 +0.2
ODZ	Otahua Downs	5.17	211	P	Pn	22 58 52.0 -1.2
JCZ	Jackson Bay	5.38	229	P	Pn	22 58 57.1 +1.0
OUZ	Omahuta	5.49	353	P	Pn	22 58 57.9 +0.2

*IDC **25** 22:57:39.3±0.7,9°.43S×63°.08W,h0km,mb4.1/9,*
mb1 4.3/17,mb1mx4.2/34,mbtmp4.2/17,ML4.0/6,MS3.2/1,
Ms1 3.2/1,ms1mx2.5/36,Error ellipse: s-maj=16.2km
s-min=11.4km az=54.0
*ISCJB **25** 22:57:41.9±0.3,9°.51S±0°.03×63°.10W±0°.05,h33km,*
mb4.5/24,MS4.8/1,Error ellipse: s-maj=6.6km
s-min=4.3km az=7.1
*NEIC **25** 22:57:41.3±0.3,9°.39S×63°.10W,h10km,mb4.6/22,Error*
ellipse: s-maj=7.3km s-min=5.2km az=96.0
NEIC Felt at Ariquemes and Porto Velho.

ISC 25 22:57:43.9±0.4,9°.44S±0°.04×63°.10W±0°.06,h35km,n76,
σ1§93/87,mb4.6/24,Western Brazil

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**8.39**	**215**	Pn	**Pn**	**22 59 43.2**	**-0.4**
	3.2nm,0.3s,baz=84,slow=3.1,SNR=34						
LPAZ				Sn	**Sn**	**23 01 16.6**	**-1.0**
	6.5nm,0.3s,baz=169,slow=16,SNR=7.8						
LPAZ				Lg	Lg	23 01 59.4	
	17nm,0.3s,baz=152,slow=15,SNR=6.1						
LPAZ	**La Paz**	**8.39**	**215**	*e*Pn	**Pn**	**22 59 43.3**	**-0.4**
LPAZ				*e*Sn	**Sn**	**23 01 15.6**	**-2.0**
PTGA	**Pitinga**	**9.19**	**20**	Pn	**Pn**	**22 59 54.1**	**-0.1**
	15nm,0.3s,baz=196,slow=16,SNR=58						
PTGA				Sn	**Sn**	**23 01 36.1**	**-0.3**
	24nm,0.3s,baz=316,slow=13,SNR=9.7						
PTGA				Lg	Lg	23 02 29.9	
	18nm,0.3s,baz=281,slow=20,SNR=6.8						
PTGA	**Pitinga**	**9.19**	**20**	*e*Pn	**Pn**	**22 59 54.2**	**0.0**
PTGA				*e*Sn	**Sn**	**23 01 33.9**	**-2.6**
MNMC	**Minye Minye**	**11.51**	**212**	*e*Pn	**Pn**	**23 00 26.4**	**+0.3**
MNMC				*e*Sn	**Sn**	**23 02 34.3**	**+0.6**
PB11	**IPOC Station P**	**12.06**	**211**	*e*Pn	**Pn**	**23 00 31.9**	**-1.7**
PB01	**IPOC Station P**	**13.08**	**207**	*e*Pn	**Pn**	**23 00 46.9**	**-0.5**
NNA	**Nana**	**13.74**	**258**	Pn	**Pn**	**23 00 55.6**	**-0.9**
	1.0nm,0.3s,baz=75,slow=12,SNR=2.4						
NNA				Sn	**Sn**	**23 03 21.9**	**-6.1**
	0.8nm,0.3s,baz=232,slow=18,SNR=2.4						
NNA				Lg	Lg	23 04 47.3	
	1.3nm,0.3s,baz=211,slow=18,SNR=2.3						
NNA				LR	LR	23 06 17.9	
	comp=Z,97nm,20.4s,baz=60,slow=38						
LVC	**Limon Verde**	**14.24**	**202**	Pn	**Pn**	**23 01 02.8**	**-0.6**
	0.2nm,0.3s,baz=6.7,slow=12,SNR=4.6						
PB04	**IPOC Station P**	**14.50**	**207**	*e*Pn	Pn	23 01 02.1	-4.8
ATAH	**Atahualpa**	**15.31**	**277**	Pn	**Pn**	**23 01 17.4**	**-0.5**
	0.6nm,0.3s,baz=76,slow=15,SNR=3.2						
ATAH				Sn	**Sn**	**23 04 06.3**	**-0.4**
	0.7nm,0.3s,baz=155,slow=7.4,SNR=3.5						
ATAH				Lg	Lg	23 05 45.3	
	0.7nm,0.3s,baz=142,slow=12,SNR=2.8						
VILC	**Villavicencio,**	**17.11**	**321**	*e*P	**P**	**23 01 44.3**	**+2.2**
CPUP	**Villa Florida**	**17.67**	**163**	P	**Pn**	**23 01 47.9**	**+0.5**
	0.1nm,0.3s,baz=349,slow=14,SNR=2.7						
CPUP				S	**Sn**	**23 04 58.5**	**-4.7**
	0.1nm,0.3s,baz=357,slow=14,SNR=3.4						
CPUP				Lg	Lg	23 06 53.0	
	0.2nm,0.3s,baz=123,slow=20,SNR=3.6						
CPUP	**Villa Florida**	**17.67**	**163**	*e*Pn	**P**	**23 01 50.6**	**+2.6**
	5.2nm,1.0s						
CPUP				*e*Sn	**Sn**	**23 04 58.5**	**-4.7**
PCON	**Cinco Dias**	**17.67**	**311**	*e*P	**P**	**23 01 52.5**	**+3.7**
SOTA	**Rioblanco**	**17.70**	**310**	*e*P	**P**	**23 01 49.5**	**+0.5**
MDP	**Montagnes des**	**17.81**	**36**	P	**Pn**	**23 01 47.8**	**-1.4**
	0.8nm,0.3s,baz=215,slow=14,SNR=6.1						
MDP				S	**Sn**	**23 04 57.7**	**-9.0**
	1.0nm,0.3s,baz=102,slow=14,SNR=3.6						
MDP				Lg	Lg	23 07 00.9	
	0.9nm,0.3s,baz=129,slow=11,SNR=4.1						
OTAV	**Otavalo**	**18.06**	**301**	*e*Pn	**P**	**23 01 53.1**	**+0.2**
	9.7nm,1.0s						
OTAV				*e*SP	**sP**	**23 02 07.0**	**+0.5**
ROSC	**El Rosal**	**18.06**	**321**	P	**Pn**	**23 01 51.5**	**-1.2**
	0.5nm,0.3s,baz=143,slow=15,SNR=2.3						
ROSC				S	**S**	**23 05 16.9**	**-1.7**
	0.7nm,0.3s,baz=25,slow=19,SNR=2.5						
ROSC				Lg	Lg	23 07 12.4	
	0.9nm,0.3s,baz=180,slow=20,SNR=3.0						
ROSC	**El Rosal**	**18.06**	**321**	*e*Pn	**Pn**	**23 01 51.5**	**-1.2**
	8.8nm,1.3s						
ROSC				*e*Sn	**S**	**23 05 16.9**	**-1.7**
RUSC	**La Rusia**	**18.19**	**326**	*e*P	**P**	**23 01 55.8**	**+1.4**
BARC	**Barichara**	**18.83**	**327**	*e*P	**Pn**	**23 02 02.0**	**+0.1**
GIRC	**Giron, Santand**	**19.25**	**328**	*e*P	**Pn**	**23 02 07.7**	**+0.9**
PTBC	**PUERTO BERRIO,**	**19.49**	**324**	*e*P	**P**	**23 02 08.0**	**-0.3**
HELC	**Santa Helena**	**19.86**	**321**	*e*P	**Pn**	**23 02 14.8**	**+0.5**
ZARC	**Zaragoza, Cauc**	**20.50**	**325**	*e*P	**P**	**23 02 18.3**	**-0.8**
LCO	**Las Campanas**	**20.74**	**199**	*e*P	**P**	**23 02 22.4**	**+0.4**
	24nm,1.3s						
DBBC	**Dabeiba**	**20.93**	**321**	*e*P	**P**	**23 02 24.5**	**+0.6**
CODC	**Agust´›n Codaz**	**21.83**	**332**	*e*P	**P**	**23 02 32.6**	**-0.8**
GO04	**Tololo Observa**	**21.85**	**198**	*e*P	**P**	**23 02 36.7**	**+2.9**
	26nm,1.2s						
PLCA	**Paso Flores**	**31.86**	**191**	P	**P**	**23 04 05.6**	**-0.2**
	3.6nm,0.7s,baz=40,slow=10,SNR=9.3						
PLCA	**Paso Flores**	**31.86**	**191**	*e*P	**P**	**23 04 06.0**	**+0.2**
	5.5nm,0.8s						
152A	**Waverly Hall**	**46.68**	**335**	*e*P	**P**	**23 06 11.2**	**+1.9**
	7.8nm,0.6s						
348A	**Jackson**	**47.06**	**331**	*e*P	**P**	**23 06 13.8**	**+1.5**
	30nm,0.6s						
Z50A	**Ashland**	**47.69**	**334**	*e*P	**P**	**23 06 18.8**	**+1.6**
	5.4nm,0.6s						
X48A	**Hartselle**	**49.20**	**334**	*e*P	**P**	**23 06 29.9**	**+1.1**
	4.1nm,0.8s						
SWET	**Sewanee**	**49.38**	**335**	*e*P	**P**	**23 06 31.4**	**+1.2**
	7.1nm,0.9s						
V48A	**Smith Brothers**	**50.20**	**335**	*e*P	**P**	**23 06 37.6**	**+1.1**
	6.9nm,0.8s						
WVT	**Waverly**	**50.96**	**334**	*e*P	**P**	**23 06 42.1**	**-0.1**
	8.2nm,0.6s						
T47A	**Sharon Grove**	**51.39**	**335**	*e*P	**P**	**23 06 46.1**	**+0.8**
	13nm,0.8s						
PBMO	**Poplar Bluff**	**52.66**	**332**	*e*P	**P**	**23 06 54.8**	**0.0**
	9.3nm,0.9s						
SIUC	**Southern Illin**	**52.89**	**334**	*e*P	**P**	**23 06 56.7**	**+0.2**
	12nm,0.8s						
FVM	**French Village**	**53.65**	**333**	*e*P	**P**	**23 07 02.1**	**+0.1**
	14nm,1.0s						
LTX	**Lajitas**	**54.90**	**316**	*e*P	**P**	**23 07 11.5**	**0.0**
TXAR	**Lajitas Array**	**54.90**	**316**	P	**P**	**23 07 11.5**	**0.0**
	0.3nm,0.5s,baz=148,slow=7.1,SNR=9.3						
DBIC	**Dimbokro**	**60.19**	**77**	P	**P**	**23 07 49.7**	**+0.8**
	3.0nm,0.9s,baz=246,slow=10.0,SNR=3.1						
DBIC	**Dimbokro**	**60.19**	**77**	*e*P	**P**	**23 07 49.7**	**+0.8**
	11nm,1.4s						
KNB	**Kanab**	**65.62**	**318**	*e*P	**P**	**23 08 26.8**	**+1.9**
	4.8nm,0.8s						
LCMT	**Little Creek M**	**65.89**	**318**	*e*P	**P**	**23 08 28.6**	**+2.1**
	2.6nm,0.9s						
PD31	**Pinedale Array**	**67.03**	**325**	*e*P	**P**	**23 08 33.6**	**-0.2**
PDAR	**Pinedale Array**	**67.03**	**325**	P	**P**	**23 08 33.6**	**-0.2**
	1.2nm,0.8s,baz=111,slow=8.1,SNR=6.5						
PDAR	**Pinedale Array**	**67.03**	**325**	*e*P	**P**	**23 08 34.0**	**+0.2**
TPNV	**Topopah Spring**	**67.88**	**316**	*e*P	**P**	**23 08 41.3**	**+2.0**
	2.7nm,0.9s						
TOA1	**Torodi Ar. Sit**	**68.13**	**72**	*e*P	**P**	**23 08 41.6**	**+0.6**
TOA0	**Torodi Ar. Sit**	**68.13**	**72**	*e*P	**P**	**23 08 41.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**68.13**	**72**	P	**P**	**23 08 41.6**	**+0.6**
	1.0nm,0.7s,baz=275,slow=7.1,SNR=6.5						
NV01	**Mina Array Sit**	**70.04**	**317**	*e*P	**P**	**23 08 53.9**	**+1.2**
NVAR	**Mina Array Bea**	**70.04**	**317**	P	**P**	**23 08 53.9**	**+1.2**
	0.5nm,0.5s,baz=116,slow=6.3,SNR=4.8						
KEST	**Kesra**	**81.52**	**52**	P	**P**	**23 09 58.2**	**0.0**
	1.4nm,0.8s,baz=278,slow=18,SNR=3.0						
KEST	**Kesra**	**81.52**	**52**	*e*P	**P**	**23 09 58.2**	**0.0**
	3.3nm,1.0s						
YKA	**Yellowknife Ar**	**81.90**	**338**	P	**P**	**23 10 00.8**	**+1.3**
	1.4nm,0.6s,baz=116,slow=4.8,SNR=11						
INK	**Inuvik**	**91.62**	**339**	P	**P**	**23 10 48.5**	**+1.6**
	1.0nm,0.8s,baz=34,slow=3.7,SNR=5.8						
INK	**Inuvik**	**91.62**	**339**	*e*P	**P**	**23 10 48.5**	**+1.6**
	1.6nm,1.0s						
ZAA1	**Zalesovo Array**	**128.72**	**24**	*e*PKPdf	**PKPdf**	**23 16 49.3**	**+1.9**
ZALV	**Zalesovo Beam**	**128.72**	**24**	PKP	**PKPdf**	**23 16 49.3**	**+1.9**
	1.4nm,0.6s,baz=283,slow=4.5,SNR=6.0						
MK32	**Makanchi Array**	**132.55**	**32**	*e*PKPdf	**PKPdf**	**23 16 56.4**	**+1.4**
MKAR	**Makanchi Array**	**132.55**	**32**	PKP	**PKPdf**	**23 16 56.4**	**+1.4**
	0.3nm,0.6s,baz=335,slow=1.3,SNR=4.0						
WMQ	**Urumqi**	**137.37**	**31**	*e*PKP	**PKPdf**	**23 17 04.5**	**+0.3**
SONA0	**Songino Array**	**140.71**	**11**	*e*PKPdf	**PKPdf**	**23 17 12.3**	**+2.1**
SONM	**Songino Array**	**140.71**	**11**	PKP	**PKPdf**	**23 17 12.3**	**+2.1**
	0.4nm,0.6s,baz=233,slow=1.3,SNR=4.5						
ASAR	**Alice Springs**	**143.14**	**207**	PKhKP	PKPpre	23 17 11.8	
	0.4nm,0.5s,baz=150,slow=3.5,SNR=5.2						
WR1	**Warramunga Arr**	**146.13**	**210**	*e*PKPdf	**PKPbc**	**23 17 22.0**	**+0.6**
WRA	**Warramunga Arr**	**146.13**	**210**	PKPbc	**PKPbc**	**23 17 22.0**	**+0.6**
	2.0nm,0.6s,baz=145,slow=3.3,SNR=49						
GTA	**Gaotai**	**146.47**	**24**	*e*PKPbc	**PKPab**	**23 17 23.8**	**+0.9**
GTA				pPKP	PKiKP	23 17 27.5	+2.5
GTA				sPKP		23 17 30.5	
LZH	**Lanzhou**	**150.93**	**22**	*e*PKPbc	**PKPdf**	**23 17 23.0**	**-5.0**
LZH				pPKP	PKPbc	23 17 29.5	-4.2
LZH				sPKP		23 17 31.5	
LZH				LR	LR		
	comp=N,100nm,17.9s						
LZH				LR	LR		
	comp=E,95nm,18.0s						
LZH				LR	LR		
	comp=Z,130nm,20.0s						
NJ2	**Nanjing**	**157.42**	**356**	*e*PKP	**PKPdf**	**23 17 37.8**	**+0.8**

DJA 25 22:59:10.8±0.6,8°S±3°×107°8E±°,h17km±3km,M3.9/13,
MLv3.9/13,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.76**	**43**	P	Pg	22 59 25.8	+0.1
CMJI				S	Sb	22 59 35.3	-0.4
CISI	**Cisompet, Garu**	**0.79**	**352**	P	Pb	22 59 25.8	-0.3
CISI				S	Sb	22 59 36.1	-0.4
KPJI	**Karang Pucung**	**1.42**	**45**	P	Pn	22 59 36.1	+0.3
KPJI				S	Sb	22 59 55.0	+0.5
LEM	**Lembang**	**1.53**	**349**	P	Pn	22 59 37.8	+0.2
LEM				S	Sg	22 59 59.3	-1.1
SKJI	**Sukabumi**	**1.89**	**314**	P	Pn	22 59 42.7	+0.3
SKJI				S	Sn	23 00 04.1	-1.8
DBJI	**Dramaga**	**2.12**	**327**	P	Pn	22 59 45.9	+0.4
DBJI				S	Sn	23 00 11.7	+0.2
UGM	**Wanagama**	**2.61**	**81**	P	Pn	22 59 53.0	+0.7
UGM				S	Sn	23 00 22.2	-1.5
CGJI	**Cibinong**	**2.80**	**308**	P	Pn	22 59 53.7	-1.1
CGJI				S	Sn	23 00 24.0	-4.2
SMRI	**Semarang**	**2.81**	**63**	P	Pn	22 59 57.1	+2.1
SMRI				S	Sn	23 00 29.3	+0.8
WOJI	**Wonogiri, Jawa**	**3.02**	**81**	P	Pn	22 59 58.5	+0.7
WOJI				S	Sn	23 00 34.2	+0.6
PCJI	**Pacitan**	**3.23**	**88**	P	Pn	23 00 00.7	0.0
PCJI				S	Sn	23 00 37.6	-1.2
PWJI	**Pagerwojo**	**3.86**	**86**	P	Pn	23 00 10.3	+0.9
PWJI				S	Sn	23 00 53.9	-0.5

*TIR **25** 23:48:41.7,40°.92N×21°.05E,h3km,Md3.5/8*
*SKO **25** 23:48:42.2,40°.91N×21°.06E,h22km,M2.1,ML2.7*
*ATH **25** 23:48:42.4,40°.88N×21°.07E,h22km±1km,ML2.9/9,Error*
ellipse: s-maj=2.0km s-min=1.3km az=159.0
*PDG **25** 23:48:43.6±0.5,40°.95N×21°.10E,h8km,ML3.0/13,Error*
ellipse: s-maj=0.7km s-min=0.8km az=0.0
*THE **25** 23:48:43.2,40°.91N×21°.09E,h5km±1km,ML2.9/10,Error*
ellipse: s-maj=1.6km s-min=0.8km az=7.0
*BEO **25** 23:48:44.2±0.2,40°.93N×21°.13E,h7km±3km,ML2.7/7*

ISC 25 23:48:43.5±0.8,40°.90N±0°.01×21°.07E±0°.01,h13km±6km,
n131,σ1§19/190,23C-11D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIA	**Bitola**	**0.23**	**57**	P	**Pg**	**23 48 48.6**	**+0.1**
BIA				S	**Sb**	**23 48 52.9**	**-0.7**
BIA	**Bitola**	**0.23**	**57**	*i*Pg	**Pg**	**23 48 48.5**	**0.0**
BIA				⇑*i*Pg	**Pg**	**23 48 48.6**	**+0.1**
BIA				*i*Sg	**Sb**	**23 48 53.2**	**-0.4**
BIA				eLg	Lg	23 48 53.3	
	comp=E,1μm,0.3s						
BIA				eLg	Lg	23 48 53.6	
	comp=N,1μm,0.2s						
FNA	**Florina**	**0.26**	**115**	⇑*e*Pg	**Pg**	**23 48 48.5**	**-0.4**
FNA				*e*Sg	**Sg**	**23 48 53.0**	**+0.3**
FNA	**Florina**	**0.26**	**115**	P	**Pg**	**23 48 48.6**	**-0.4**
FNA				S	**Sg**	**23 48 53.0**	**+0.3**
FNA				AML	AML	23 48 53.2	
	comp=E,28752μm,0.3s						
FNA				AML	AML	23 48 53.2	
	comp=N,34903μm,0.3s						
FNA	**Florina**	**0.26**	**115**	P	**Pg**	**23 48 48.6**	**-0.4**
FNA				S	**Sg**	**23 48 52.9**	**+0.3**
FNA	**Florina**	**0.26**	**115**	*i*PG	**Pg**	**23 48 48.6**	**-0.4**
FNA				*i*SG	**Sg**	**23 48 52.6**	**0.0**
OHR	**Ohrid**	**0.30**	**317**	⇑*i*Pg	**Pg**	**23 48 49.0**	**-0.7**
OHR				*i*Sg	**Sg**	**23 48 54.7**	**+0.9**
OHR				eLg	Lg	23 48 55.0	
	comp=E,657nm,0.3s						
OHR				eLg	Lg	23 48 55.1	
	comp=N,970nm,0.5s						
KBN	**Korca**	**0.35**	**218**	P	**Pg**	**23 48 49.4**	**-1.1**
KBN				S	**Sg**	**23 48 55.3**	**+0.1**
KBN	**Korca**	**0.35**	**218**	*i*PG	**Pg**	**23 48 49.4**	**-1.1**
KBN				*i*SG	**Sg**	**23 48 54.8**	**-0.4**
NEST	**Nestorio**	**0.48**	**182**	P	**Pg**	**23 48 52.1**	**-0.9**
NEST				S	**Sg**	**23 48 59.2**	**-0.2**
NEST				AML	AML	23 49 00.2	
	comp=N,5437μm,0.5s						
NEST				AML	AML	23 49 00.5	
	comp=E,7716μm,0.4s						
NEST	**Nestorio**	**0.48**	**182**	P	**Pg**	**23 48 52.0**	**-0.9**
NEST				S	**Sg**	**23 48 59.5**	**+0.1**
KRUS	**Krusevo**	**0.49**	**16**	⇓*i*Pg	**Pg**	**23 48 52.4**	**-0.8**
KRUS				*i*Sg	**Sg**	**23 49 00.3**	**+0.5**
KRUS				eLg	Lg	23 49 00.7	
	comp=N,520nm,0.4s						
KRUS				eLg	Lg	23 49 00.8	
	comp=E,673nm,0.4s						
PENT	**Pentalofos**	**0.70**	**176**	P	**Pg**	**23 48 56.1**	**-1.1**
PENT				S	**Sg**	**23 49 04.8**	**-1.5**
PENT				AML	AML	23 49 09.0	
	comp=E,5616μm,0.6s						
PENT				AML	AML	23 49 11.5	
	comp=N,3670μm,0.4s						
PENT	**Pentalofos**	**0.70**	**176**	P	**Pg**	**23 48 56.0**	**-1.1**
PENT				S	**Sb**	**23 49 07.5**	**+0.3**
KZN	**Kozani**	**0.79**	**138**	P	**Pg**	**23 48 57.6**	**-1.3**
KZN				S	**Sg**	**23 49 09.0**	**-0.3**
KZN				AML	AML	23 49 15.1	
	comp=E,1591μm,0.5s						
KZN				AML	AML	23 49 17.9	
	comp=N,1320μm,0.5s						
KZN	**Kozani**	**0.79**	**138**	P	**Pg**	**23 48 57.5**	**-1.4**
KZN				S	**Sg**	**23 49 08.9**	**-0.4**
PHP	**Peshkopia**	**0.92**	**329**	P	**Pg**	**23 48 59.2**	**-2.1**
PHP	**Peshkopia**	**0.92**	**329**	*i*PG	**Pg**	**23 48 59.0**	**-2.3**
PHP				*i*SG	**Sb**	**23 49 13.4**	**-0.1**
TPE	**Tepelena**	**1.00**	**234**	*i*PG	**Pb**	**23 49 00.9**	**-1.8**
TPE				*i*SG	**Sn**	**23 49 17.5**	**+0.3**
GRG	**Griva**	**1.01**	**86**	P	**Pb**	**23 49 01.9**	**-0.9**
GRG				AML	AML	23 49 21.5	
	comp=N,1684μm,0.5s						
GRG				AML	AML	23 49 23.2	
	comp=E,977μm,0.7s						
GRG	**Griva**	**1.01**	**86**	P	**Pb**	**23 49 02.1**	**-0.7**
GRG				S	**Sg**	**23 49 16.6**	**+0.4**
TIR	**Tirane**	**1.02**	**297**	*e*Pg	**Pb**	**23 49 02.7**	**-0.2**
TIR				*e*Sg	**Sn**	**23 49 18.3**	**+0.8**
TIR	**Tirane**	**1.02**	**297**	⇑*i*P	**Pg**	**23 49 03.2**	**+0.1**
TIR	**Tirane**	**1.02**	**297**	P	**Pg**	**23 49 01.9**	**-1.1**
TIR	**Tirane**	**1.02**	**297**	P	**Pb**	**23 49 01.8**	**-1.1**
TIR				S	**Sn**	**23 49 18.1**	**+0.6**
TIR	**Tirane**	**1.02**	**297**	*i*PG	**Pb**	**23 49 01.3**	**-1.6**
TIR				*i*SG	**Sn**	**23 49 17.5**	**0.0**
SKO	**Skopje**	**1.11**	**14**	*e*Pg	**Pb**	**23 49 03.9**	**-0.7**
SKO				*e*Sg	**Sb**	**23 49 18.2**	**-0.7**
SKO	**Skopje**	**1.11**	**14**	P	**Pb**	**23 49 03.7**	**-0.8**
SKO				S	**Sb**	**23 49 18.5**	**-0.4**
SKO	**Skopje**	**1.11**	**14**	⇑*i*Pg	**Pb**	**23 49 03.9**	**-0.7**
SKO				*i*Sg	**Sb**	**23 49 19.0**	**0.0**
SKO				eLg	Lg	23 49 20.8	
	comp=N,27nm,0.4s						
SKO				eLg	Lg	23 49 20.8	
	comp=E,18nm,0.3s						
MEV	**Metsovon**	**1.12**	**174**	P	**Pb**	**23 49 03.1**	**-1.6**
MEV	**Metsovon**	**1.12**	**174**	P	**Pb**	**23 49 03.3**	**-1.4**
STIP	**Stip**	**1.16**	**46**	⇑*i*Pg	**Pg**	**23 49 07.6**	**+1.8**
STIP				*i*Sg	**Sn**	**23 49 27.1**	**+6.0**
STIP				eLg	Lg	23 49 27.8	
	comp=E,38nm,0.4s						
STIP

EVGI	**Lefkada island**	**2.29**	**188**	P		**Pn**	**23 49 22.2**	**+1.2**
PVO	**Paravola**	**2.30**	**171**	P		**Pn**	**23 49 23.0**	**+1.9**
CEME	**Cevo**	**2.31**	**316**	⇑	*i*Pn	**Pn**	**23 49 22.4**	**+1.2**
CEME					*e*Sn	**Sb**	**23 49 53.6**	**+0.2**
SELS	**Selova**	**2.32**	**1**		*e*Pg	**Pb**	**23 49 25.4**	**+0.2**
VTS	**Vitosha**	**2.33**	**43**	⇑	*i*P	**Pn**	**23 49 22.5**	**+0.9**
VTS	**Vitosha**	**2.33**	**43**	P		**Pn**	**23 49 22.3**	**+0.7**
ANX	**Ano Chora**	**2.39**	**164**	P		**Pn**	**23 49 23.7**	**+1.3**
NKME	**Niksic**	**2.45**	**320**	⇑	*i*Pn	**Pn**	**23 49 24.9**	**+1.7**
NKME					*e*Sn	**Sb**	**23 49 56.9**	**-0.6**
NKY	**Niksic**	**2.46**	**322**	⇓	*i*Pn	**Pn**	**23 49 25.0**	**+1.6**
NKY					*e*Sn	**Sb**	**23 49 57.1**	**-0.9**
HCY	**Herceg Novi**	**2.48**	**310**	⇓	*i*Pn	**Pn**	**23 49 24.6**	**+1.1**
HCY					*e*Sn	**Sb**	**23 49 57.8**	**-0.4**
HCY	**Herceg Novi**	**2.48**	**310**		*e*Pn	**Pn**	**23 49 24.2**	**+0.6**
SJES	**Sjenica**	**2.50**	**341**		*e*Pn	**Pn**	**23 49 24.8**	**+0.9**
SJES					*e*Sg	**Sg**	**23 50 02.3**	**-1.5**
EFP	**Efpalio**	**2.55**	**165**	P		**Pn**	**23 49 25.9**	**+1.4**
SERG	**Sergoula**	**2.59**	**163**	P		**Pn**	**23 49 26.0**	**+0.9**
TRIZ	**Trizonia**	**2.64**	**163**	P		**Pn**	**23 49 26.3**	**+0.6**
ZAPS	**Zavoj**	**2.65**	**26**		*e*Pn	**Pn**	**23 49 27.1**	**+1.2**
TREB	**Trebinje**	**2.73**	**313**		*e*Pn	**Pn**	**23 49 28.8**	**+1.8**
TREB	**Trebinje**	**2.73**	**313**		*e*Pn	**Pn**	**23 49 27.4**	**+0.4**
PLE	**Pljevlja**	**2.73**	**333**	⇓	*i*Pn	**Pn**	**23 49 29.1**	**+1.9**
PLE					*e*Sn	**Sb**	**23 50 03.3**	**-2.5**
BRY	**Bratogost**	**2.75**	**318**	⇓	*i*Pn	**Pn**	**23 49 29.3**	**+1.9**
BRY					*e*Sn	**Sb**	**23 50 04.3**	**-2.0**
BRY	**Bratogost**	**2.75**	**318**		*e*Pn	**Pn**	**23 49 27.6**	**+0.2**
IVAS	**Ivanjica**	**2.77**	**346**		*e*Pn	**Pn**	**23 49 27.3**	**-0.2**
BOVS	**Bovan**	**2.78**	**10**		*e*Pn	**Pn**	**23 49 27.8**	**+0.2**
UPM	**Unac-Piva**	**2.81**	**326**	⇓	*i*Pn	**Pn**	**23 49 30.3**	**+2.0**
UPM					*e*Sn	**Sb**	**23 50 05.3**	**-2.8**
UPM	**Unac-Piva**	**2.81**	**326**		*e*Pn	**Pb**	**23 49 31.2**	**-2.5**
FASA	**Fasano**	**2.82**	**270**		*e*Pn	**Pb**	**23 49 34.9**	**+1.3**
FASA					Sn	**Sg**	**23 50 15.8**	**+1.8**
MASS	**Massafra**	**2.99**	**266**		*e*Pn	**Pg**	**23 49 39.5**	**-1.3**
GRUS	**Gruza**	**3.00**	**355**		*e*Pn	**Pn**	**23 49 31.3**	**+0.6**
ZAGS	**Zajecar**	**3.04**	**16**		*e*Pn	**Pn**	**23 49 33.1**	**+1.9**
STON	**Ston**	**3.20**	**309**		*e*Pn	**Pn**	**23 49 33.0**	**-0.3**
STON	**Ston**	**3.20**	**309**		*e*Pn	**Pn**	**23 49 33.8**	**+0.4**
BBLS	**Lazići**	**3.21**	**338**		*e*Pn	**Pn**	**23 49 35.7**	**+2.0**
BBLS	**Lazići**	**3.21**	**338**		*e*Pn	**Pn**	**23 49 34.3**	**+0.6**
DIVS	**Divibare**	**3.30**	**346**		*e*Pn	**Pn**	**23 49 35.5**	**+0.6**
DIVS	**Divibare**	**3.30**	**346**		*e*Pn	**Pn**	**23 49 35.0**	**+0.1**
MATE	**Matera**	**3.32**	**267**	⇑	*i*P	**Sn**	**23 50 11.1**	**-3.3**
SG1	**Sgolgore (BA)**	**3.33**	**270**		*e*Pn	**Pn**	**23 49 38.5**	**+3.3**
SG1					Sn	**Sb**	**23 50 21.2**	**-1.6**
TRUS	**Trudelj**	**3.36**	**352**		*e*Pn	**Pn**	**23 49 36.1**	**+0.4**
HAPS	**Han Pijesak,Bl**	**3.55**	**335**		*e*Pn	**Pn**	**23 49 38.2**	**-0.1**
PUNG	**Punghina**	**3.65**	**22**	⇑	*i*P	**Pn**	**23 49 36.2**	**-0.4**
TIP	**Timpagarande**	**3.73**	**244**	⇑	*i*P	**Pn**	**23 49 35.3**	**-5.4**
MDVR	**Moldovita**	**3.91**	**7**	⇑	*i*P	**Pn**	**23 49 42.5**	**-0.8**
FRGS	**Fruska Gora**	**4.36**	**348**		*e*Pn	**Pn**	**23 49 48.9**	**-0.5**
BZS	**Buzias**	**4.74**	**5**	⇑	*i*P	**Pn**	**23 49 56.0**	**+1.5**
BLY	**Banja Luka**	**4.79**	**325**	⇑	*i*P	**Pb**	**23 50 09.6**	**+2.3**
UDBI	**Udbina**	**5.33**	**315**		*i*Pn	**Pn**	**23 50 04.7**	**+1.9**
MORH	**M¨‡r¨igy, Hung**	**5.60**	**342**		*e*Pn	**Pn**	**23 50 06.0**	**-0.4**
MLR	**Muntele Rosu**	**5.81**	**36**	⇑	*i*P	**Pn**	**23 50 10.2**	**+0.8**
CRES	**Cresnjev**	**6.40**	**322**		*e*Pn	**Pn**	**23 50 18.0**	**+0.6**
CEY	**Cerknica**	**6.85**	**317**		*e*Pn	**Pn**	**23 50 22.3**	**-1.3**
ABTA	**Abfaltersbach**	**8.51**	**316**		*e*Pn	**Pn**	**23 50 47.3**	**+0.9**
	comp=N,1.0nm,0.4s							
MOTA	**Moosalm**	**9.63**	**315**		*i*Pn	**Pn**	**23 51 02.5**	**+0.7**
	comp=N,0.4nm,0.3s							

DDA ***25*** *23:49:21.8,39˚.09N×29˚.13E,h7km,Ml2.6*
ISK ***25*** *23:49:23.3,39˚.19N×29˚.13E,h6km,ML1.8/8*

ISC 25 23:49:22.9±0.9,39˚12N±0˚.03×29˚12E±0˚03,h14km±7km, n18,σ0s90/27,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.11**	**253**	PG	**Pg**	**23 49 27.1**	**+0.9**
GEDZ	**Gediz**	**0.24**	**108**	PG	**Pg**	**23 49 29.2**	**+1.2**
GDZ	**Gediz**	**0.28**	**96**	*i*P	**Pg**	**23 49 27.9**	**-1.0**
GDZ				*i*S	**Sg**	**23 49 31.8**	**-1.0**
DEMI	**Demirci**	**0.32**	**257**	*i*P	**Pg**	**23 49 29.0**	**-0.6**
DEMI				*i*S	**Sg**	**23 49 33.2**	**-0.8**
TVSB	**Tavsanli**	**0.42**	**38**	PG	**Pg**	**23 49 30.6**	**-0.8**
TVSB				SG	**Sg**	**23 49 36.7**	**-0.5**
DURS	**Dursunbey**	**0.70**	**314**	*i*P	**Pb**	**23 49 36.4**	**-0.5**
DURS				*i*S	**Sn**	**23 49 50.9**	**+1.8**
MANT	**Manisa**	**0.76**	**215**	*i*P	**Pg**	**23 49 36.4**	**-1.4**
MANT				*i*S	**Sg**	**23 49 46.5**	**-1.3**
KHAL	**Karahalli**	**0.80**	**159**	*i*P	**Pg**	**23 49 37.6**	**-0.8**
KHAL				*i*S	**Sg**	**23 49 47.6**	**-1.3**
STEP	**BALIKESIR_Sava**	**1.12**	**284**	*i*P	**Pn**	**23 49 44.6**	**+0.5**
STEP				*i*S	**Sn**	**23 50 00.0**	**+0.6**
KZIL	**AFYON_Kizioren**	**1.17**	**137**	*i*P	**Pb**	**23 49 45.5**	**+0.5**
KZIL				*i*S	**Sg**	**23 50 00.5**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.26**	**352**	PN	**Pn**	**23 49 46.8**	**+0.7**
BORA	**Eskisehir**	**1.28**	**53**	PN	**Pg**	**23 49 47.1**	**-0.4**
BORA	**Eskisehir**	**1.28**	**53**	*i*P	**Pg**	**23 49 47.0**	**-0.6**
BORA				*i*S	**Sn**	**23 50 04.4**	**+0.8**
KCTX	**Karacabey (Bur**	**1.29**	**333**	PN	**Pg**	**23 49 47.2**	**-0.5**
ARMT	**Armutlu**	**1.46**	**352**	PN	**Pb**	**23 49 49.8**	**-0.1**
YLV	**Yalova**	**1.46**	**8**	PN	**Pb**	**23 49 49.9**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**220**	PN	**Pb**	**23 49 51.5**	**+0.7**
GULT	**Gulveren**	**1.70**	**39**	PN	**Pb**	**23 49 53.5**	**-0.4**

NEIC 25 23:56:20.0±0.0,19˚30N×155˚22W,h9km,ML3.8(HVO), **After HVO.,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.08**	**2**	*e*Pg	Pg	23 56 23.3	+0.9
PUH				*e*Sg	Sg	23 56 24.3	+0.4
HLP	**Hilina Pali**	**0.08**	**269**	*e*Pg	Pg	23 56 23.7	+1.4
HLP				*e*Sg	Sg	23 56 25.6	+1.5
KKO	**Keanakako'i**	**0.11**	**336**	*e*Pg	Pg	23 56 23.9	+1.1
RIM	**Rim**	**0.11**	**332**	*e*Pg	Pg	23 56 23.8	+1.1
SDHHI	**Sand Hill**	**0.12**	**322**	*e*Pg	Pg	23 56 23.8	+1.0
BYL	**Byron's Ledge**	**0.12**	**341**	*e*Pg	Pg	23 56 23.9	+1.0
STCH	**Steam Cracks**	**0.12**	**46**	*e*Pg	Pg	23 56 24.0	+1.1
NPH	**North Pit**	**0.13**	**333**	*e*Pg	Pg	23 56 24.0	+0.9
HATHI	**Halema'uma'u T**	**0.13**	**342**	*e*Pg	Pg	23 56 23.9	+0.8
WRMHI	**West Rim**	**0.13**	**325**	*e*Pg	Pg	23 56 24.1	+1.0
OBS	**Observatory Le**	**0.13**	**333**	*e*Pg	Pg	23 56 24.1	+1.0
SBLHI	**Steaming Bluff**	**0.14**	**340**	*e*Pg	Pg	23 56 24.1	+1.0
UWB	**Uwekahuna B**	**0.14**	**336**	*e*Pg	Pg	23 56 24.0	+0.8
JCUZ	**Jacuzzi**	**0.14**	**52**	*e*Pg	Pg	23 56 24.1	+0.9
NPOC	**North of Pu'u**	**0.14**	**48**	*e*Pg	Pg	23 56 24.3	+1.1
UWE	**Uwekahuna**	**0.14**	**330**	*e*Pg	Pg	23 56 24.3	+1.0
AIN	**Ainahou**	**0.24**	**288**	*e*Pg	Pg	23 56 26.2	+1.3
MLH	**Mauna Loa**	**0.25**	**321**	*e*Pg	Pb	23 56 26.3	-0.6
HMH	**Humu'ula Sheep**	**0.39**	**321**	*e*Pg	Pb	23 56 28.6	-0.7
MWH	**Moku'aweowe**	**0.40**	**298**	*e*Pg	Pg	23 56 28.5	+0.4
MLOA	**Mauna Loa Obse**	**0.41**	**305**	*e*Pg	Pg	23 56 29.0	+0.7
POHA	**Pohakuloa**	**0.54**	**327**	*e*Pg	Pg	23 56 31.1	+0.4
HUH	**Hualalai**	**0.70**	**304**	*e*Pg	Pg	23 56 33.7	+0.1
KHLU	**Kahalu'u**	**0.70**	**295**	*e*Pg	Pg	23 56 33.0	-0.6
KKH	**Kailua Kona**	**0.83**	**295**	*e*Pg	Pg	23 56 35.7	-0.4
HPAH	**Hawaii Prepara**	**0.86**	**328**	*e*Pg	Pg	23 56 35.0	-1.5
MHA	**Mahukona**	**1.09**	**324**	*e*Pg	Pg	23 56 38.7	-2.4
HLK	**Haleakala**	**1.75**	**327**	*e*Pn	Pn	23 56 50.7	-0.1
KHLH	**Kahului Airpor**	**1.95**	**325**	*e*Pn	Pn	23 56 51.4	-1.9
HON	**Honolulu**	**3.30**	**308**	*e*Pn	Pn	23 57 11.9	+0.1
KIP	**Kipapa**	**3.37**	**309**	*e*Pn	Pn	23 57 13.6	+0.8
OPA	**Opana**	**3.54**	**313**	*e*Pn	Pn	23 57 15.3	+0.2
KEKH	**Kekaha**	**4.98**	**303**	*e*Pn	Pn	23 57 35.8	+0.8

ATH ***25*** *23:57:53.4,36˚.64N×27˚.98E,h32km±1km,ML3.1/4,Error ellipse: s-maj=3.4km s-min=1.3km az=215.0*
ISK ***25*** *23:57:53.5,36˚.62N×27˚.91E,h6km,ML3.0/15*
ISCJB ***25*** *23:57:54.7±0.4,36˚.64N±0˚.02×27˚.88E±0˚.02,h11km±3km, Error ellipse: s-maj=4.3km s-min=2.9km az=20.4*
THE ***25*** *23:57:54.2,36˚.64N×27˚.92E,h0km±1km,ML3.0/4,Error ellipse: s-maj=2.0km s-min=1.0km az=19.0*
DDA ***25*** *23:57:54.4,36˚.64N×27˚.92E,h19km,Ml3.5*

ISC 25 23:57:54.8±0.9,36˚62N±0˚.02×27˚90E±0˚02,h12km±7km, n63,σ1s21/87,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DATC	**Datca-Mugla**	**0.24**	**305**	PG	**Pg**	**23 57 58.9**	**-0.9**
DATC				SG	**Sg**	**23 58 02.9**	**-0.3**
MRSB	**Marmaris-Mugla**	**0.25**	**68**	PG	**Pg**	**23 57 58.7**	**-1.4**
DAT	**Datca**	**0.28**	**292**	PG	**Pg**	**23 58 00.6**	**-0.1**
DAT	**Datca**	**0.28**	**292**	*i*P	**Pg**	**23 58 00.6**	**-0.1**
DAT				*i*S	**Sg**	**23 58 06.2**	**+1.6**
ARG	**Arkhangelos**	**0.44**	**156**	PG	**Pg**	**23 58 01.7**	**-1.9**
ARG	**Arkhangelos**	**0.44**	**156**	P	**Pg**	**23 58 03.0**	**-0.6**
ARG				S	**Sg**	**23 58 10.8**	**+1.4**
ARG				AML	AML	23 58 12.2	
	comp=N,6466µm,0.3s						
ARG				AML	AML	23 58 12.6	
	comp=E,5416µm,0.3s						
ARG	**Arkhangelos**	**0.44**	**156**	P	**Pg**	**23 58 02.8**	**-0.8**
ARG				S	**Sb**	**23 58 11.3**	**+0.1**
NIS1	**Nisyros Isl.**	**0.58**	**268**	PG	**Pg**	**23 58 05.4**	**-0.8**
NIS1	**Nisyros Isl.**	**0.58**	**268**	P	**Pg**	**23 58 06.7**	**+0.6**
NIS1				S	**Sb**	**23 58 16.3**	**+1.0**
NIS1				AML	AML	23 58 20.4	
	comp=N,8298µm,0.4s						
NIS1				AML	AML	23 58 24.7	
	comp=E,9162µm,0.3s						
NIS1	**Nisyros Isl.**	**0.58**	**268**	P	**Pg**	**23 58 06.8**	**+0.6**
NIS1				S	**Sb**	**23 58 16.1**	**+0.8**
TURN	**Turunc**	**0.61**	**66**	PG	**Pg**	23 57 59.9	-6.9
TURN				SG	Sg	23 58 04.5	-10
TURN	**Turunc**	**0.61**	**66**	*i*P	**Pg**	23 57 59.9	-6.9
TURN				*i*S	Sg	23 58 04.7	-10
NISR	**Nisiros**	**0.62**	**269**	P	**Pg**	**23 58 07.3**	**+0.4**
NISR				S	**Sb**	**23 58 17.9**	**+1.5**
NISR				AML	AML	23 58 21.1	
	comp=E,4160µm,0.3s						
NISR				AML	AML	23 58 23.6	
	comp=N,1803µm,0.2s						
NISR	**Nisiros**	**0.62**	**269**	P	**Pg**	**23 58 07.2**	**+0.3**
NISR				S	**Sb**	**23 58 17.8**	**+1.5**
DALY	**Dalyan (Mu¨la**	**0.63**	**72**	PG	**Pg**	**23 58 06.6**	**-0.5**
DALY	**Dalyan (Mu¨la**	**0.63**	**72**	*i*P	**Pg**	**23 58 05.7**	**-1.4**
DALY				*i*S	**Sg**	**23 58 16.6**	**+1.1**
BODT	**Bodrum**	**0.65**	**313**	PG	**Pg**	**23 58 06.7**	**-0.7**
BODT	**Bodrum**	**0.65**	**313**	P	**Pg**	**23 58 07.0**	**-0.4**
BODT				S	**Sb**	**23 58 18.0**	**+0.9**
MLSB	**Milas**	**0.68**	**351**	PG	**Pb**	**23 58 07.5**	**-1.2**
DIDI	**Didim-Aydin**	**0.92**	**325**	PG	**Pb**	**23 58 11.7**	**-1.1**
FETY	**Fethiye**	**0.95**	**89**	PG	**Pb**	**23 58 12.3**	**-1.0**
FETY	**Fethiye**	**0.95**	**89**	P	**Pb**	**23 58 11.9**	**-1.4**
FETY				S	**Sb**	**23 58 25.9**	**+0.1**
AYDN	**Tasoluk**	**1.04**	**359**	*i*P	**Pb**	**23 58 13.9**	**-0.9**
AYDN				*i*S	**Sb**	**23 58 28.5**	**+0.1**
TAVA	**DENIZLI_Tavas**	**1.17**	**44**	*i*P	**Pn**	**23 58 15.8**	**-1.3**
TAVA				*i*S	**Sb**	**23 58 32.3**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.32**	**360**	PN	**Pn**	**23 58 18.6**	**-0.7**
SMG	**Samos**	**1.38**	**322**	P	**Pn**	**23 58 18.8**	**-1.2**
SMG				AML	AML	23 58 45.1	
	comp=N,873µm,0.4s						
SMG				AML	AML	23 58 46.5	
	comp=E,841µm,0.4s						
SMG	**Samos**	**1.38**	**322**	P	**Pn**	**23 58 18.7**	**-1.2**
DNZL	**Cakiroluk**	**1.40**	**40**	*i*P	**Pb**	**23 58 21.6**	**+0.5**
DNZL				*i*S	**Sg**	**23 58 42.7**	**+2.6**
AKAS	**Kas**	**1.43**	**105**	PN	**Pn**	**23 58 20.9**	**+0.2**
AKAS	**Kas**	**1.43**	**105**	*i*P	**Pn**	**23 58 21.2**	**+0.5**
AKAS				*i*S	**Sg**	**23 58 41.3**	**+0.5**
KSL	**Kastellorizon**	**1.44**	**109**	P	**Pn**	**23 58 21.0**	**+0.3**
KSL				S	**Sg**	**23 58 41.7**	**+0.7**
DENT	**Denizli**	**1.45**	**38**	PN	**Pn**	**23 58 20.9**	**0.0**
GOLH	**Golhisar**	**1.46**	**65**	*i*P	**Pn**	**23 58 22.2**	**+1.0**
GOLH				*i*S	**Sg**	**23 58 45.3**	**+3.3**
ELL	**Elmali**	**1.62**	**85**	PN	**Pn**	**23 58 23.1**	**-0.2**
AMGA	**Amorgos Island**	**1.63**	**278**	P	**Pn**	**23 58 22.0**	**-1.3**
DGB	**¨zmir**	**1.64**	**331**	*i*P	**Pn**	**23 58 22.4**	**-1.2**
DGB				*i*S	**Sn**	**23 58 41.4**	**-3.2**
GMLD	**Gumuldur**	**1.65**	**332**	PN	**Pn**	**23 58 23.8**	**+0.1**
MANT	**Manisa**	**1.94**	**15**	*i*P	**Pn**	**23 58 26.5**	**-1.3**
MANT				*i*S	**Sn**	**23 58 52.1**	**-0.1**
APE	**Apeiranthos**	**1.95**	**284**	P	**Pn**	**23 58 27.4**	**-0.5**
KULA	**Kula-Manisa**	**1.98**	**17**	PN	**Pn**	**23 58 28.8**	**+0.5**
SANT	**Santorini**	**1.98**	**263**	PN	**Pn**	**23 58 28.2**	**-0.1**
KORT	**Korkueli**	**2.00**	**78**	PN	**Pn**	**23 58 29.2**	**+0.6**
KORT	**Korkueli**	**2.00**	**78**	*i*P	**Pb**	**23 58 30.9**	**-0.4**
KORT				*i*S	**Sg**	**23 59 01.3**	**+2.1**
URLA	**Izmir**	**2.02**	**329**	PN	**Pn**	**23 58 28.9**	**+0.1**
URLA	**Izmir**	**2.02**	**329**	*i*P	**Pn**	**23 58 28.9**	**+0.1**
URLA				*i*S	**Sg**	**23 59 02.8**	**+2.9**
BRDR	**BURDUR-Merkez**	**2.03**	**57**	*i*P	**Pn**	**23 58 30.8**	**+1.9**
BRDR				*i*S	**Sg**	**23 59 00.3**	**+0.2**
IOSP	**Ios island**	**2.10**	**274**	P	**Pn**	**23 58 29.3**	**-0.6**
KHAL	**Karahalli**	**2.15**	**35**	*i*P	**Pn**	**23 58 32.7**	**+2.0**
KHAL				*i*S	**Sn**	**23 58 57.8**	**+0.4**
ANTB	**Antalya**	**2.23**	**82**	PN	**Pn**	**23 58 32.3**	**+0.7**
AKHS	**Akhisar**	**2.25**	**358**	*i*P	**Pn**	**23 58 34.7**	**-1.3**
AKHS				*i*S	**Sn**	**23 58 58.4**	**-1.3**
CHOS	**Chios island**	**2.29**	**321**	PN	**Pn**	**23 58 33.2**	**+0.6**
CHOS	**Chios island**	**2.29**	**321**	P	**Pn**	**23 58 32.0**	**-0.6**
NPS	**Neapolis**	**2.30**	**235**	P	**Pn**	**23 58 32.5**	**-0.1**
ISP	**Isparta**	**2.41**	**59**	PN	**Pn**	**23 58 34.9**	**+0.7**
KZIL	**AFYON_Kizioren**	**2.42**	**47**	*i*P	**Pb**	**23 58 37.0**	**-1.4**
KZIL				*i*S	**Sn**	**23 59 06.3**	**+2.4**
LAST	**Lasithi**	**2.45**	**234**	P	**Pn**	**23 58 34.9**	**+0.1**
DKL	**Dikili**	**2.57**	**342**	PN	**Pn**	**23 58 37.0**	**+0.7**
SIMA	**Simav-Kutahya**	**2.60**	**19**	PN	**Pn**	**23 58 37.6**	**+0.8**
IDI	**Anoyia**	**2.78**	**242**	PN	**Pn**	**23 58 39.7**	**+0.4**
KEPZ	**Antalya-Kepez**	**2.98**	**84**	*i*P	**Pn**	**23 58 44.7**	**+2.7**
KEPZ				*i*S	**Sn**	**23 59 15.2**	**-2.6**
DURS	**Dursunbey**	**3.01**	**8**	*i*P	**Pn**	**23 58 41.3**	**-1.1**
SIGR	**SIGRI**	**3.05**	**329**	P	**Pn**	**23 58 42.4**	**-0.5**
LIA	**Limnos Island**	**3.91**	**328**	P	**Pn**	**23 58 54.6**	**-0.1**

ISCJB ***26*** *00:03:46.8±0.3,75˚.47N±0˚.04×97˚.3W±0˚.1,h10km,mb3.7/6, Error ellipse: s-maj=5.4km s-min=4.2km az=150.6*
NEIC ***26*** *00:03:49.8±0.5,75˚.60N×97˚.79W,h10km,mb4.0/14, MN3.9(OTT),Error ellipse: s-maj=10.9km s-min=7.1km az=167.0*
IDC ***26*** *00:03:49.2±0.8,75˚.73N×97˚.36W,h0km,mb3.6/5, mb1 4.0/9,mb1mx3.6/42,mbtmp3.8/9,ML3.8/4,Error ellipse: s-maj=21.0km s-min=11.8km az=61.0*
OTT ***26*** *00:03:52.6±0.4,75˚.59N×97˚.26W,h18km,MN3.9/4,25km northwest from Polaris, Nu Boothia Ungava Seismic Zone.*

ISC 26 00:03:49.0±0.5,75˚57N±0˚.05×97˚41W±0˚05,h10km,n54, σ2s61/66,mb3.8/7,Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RES	**Resolute Bay**	**1.10**	**143**	Pg	**Pn**	**00 04 13.3**	**+2.9**
	154nm,0.3s,baz=331,slow=13,SNR=2102						
RES				Lg	Lg	00 04 29.2	
	437nm,0.3s,baz=240,slow=20,SNR=38						
RES				LR	LR	00 04 39.0	
	comp=Z,80nm,18.9s,baz=153,slow=41						
RES	**Resolute Bay**	**1.10**	**143**	*e*Pn	**Pn**	**00 04 12.8**	**+2.4**
RES				*e*Sn	**Sn**	**00 04 29.2**	**+3.6**
RES	**Resolute Bay**	**1.10**	**143**	PG	**Pn**	**00 04 12.8**	**+2.4**
RES				SG	**Sn**	**00 04 29.2**	**+3.6**
RES				Trac		00 04 31.7	
	comp=Z,957nm,0.3s						
EUNU	**Eureka**	**5.06**	**22**	PN	**Pn**	**00 05 05.4**	**+0.6**
EUNU				SN	**Sn**	**00 06 02.0**	**-1.1**
CB09	**Cambridge Bay**	**6.80**	**204**	PN	**Pn**	**00 05 28.8**	**+0.2**
CB09				SN	**Sn**	**00 06 44.3**	**-1.5**
CB09				LG	Lg	00 07 24.2	
CB02	**Cambridge Bay**	**6.82**	**204**	PN	**Pn**	**00 05 29.4**	**+0.5**
CB02				SN	**Sn**	**00 06 45.0**	**-1.4**
TULEG	**Thule**	**6.93**	**68**	*e*Pn	**Pn**	**00 05 32.4**	**+2.0**
TULEG	**Thule**	**6.93**	**68**	PN	**Pn**	**00 05 31.2**	**+0.8**
TULEG				SN	**Sn**	**00 06 45.7**	**-3.8**
ILON	**Igloolik, Nuna**	**7.77**	**135**	PN	**Pn**	**00 05 42.8**	**+0.8**
ILON				SN	**Sn**	**00 07 07.6**	**-2.2**
ILON				LG	Lg	00 07 54.0	
ILON				Trac		00 08 00.2	
	comp=Z,140nm,0.6s						
KUKN	**Kugluktuk,NWT**	**9.51**	**224**	PN	**Pn**	**00 06 06.2**	**+0.5**
KUKN				SN	**Sn**	**00 07 46.9**	**-5.5**
CLRN	**Clyde River**	**9.75**	**107**	PN	**Pn**	**00 06 10.8**	**+1.8**
CLRN				SN	**Sn**	**00 07 57.7**	**-0.7**
CLRN				Trac		00 09 10.9	
	comp=Z,21nm,0.4s						
KULLO	**Kullorsuaq**	**10.26**	**76**	SN	**Sn**	**00 08 04.4**	**-6.3**
INK	**Inuvik**	**13.10**	**255**	PN	**Pn**	**00 06 53.5**	**-1.3**
	0.5nm,0.3s,baz=34,slow=15,SNR=19						
INK				Sn	Sn	00 09 11.5	-8.8
	0.5nm,0.3s,baz=148,slow=15,SNR=3.3						
INK	**Inuvik**	**13.10**	**255**	*e*Pn	**Pn**	**00 06 54.3**	**-0.5**
INK				*e*Sn	Sn	00 09 11.5	-8.8
INK	**Inuvik**	**13.10**	**255**	PN	**Pn**	**00 06 53.5**	**-1.3**
INK				SN	**Sn**	**00 09 13.5**	**-6.8**
HFRN	**Hoarfrost Rive**	**13.40**	**204**	PN	**Pn**	**00 06 58.7**	**-0.1**
HFRN				SN	Sn	00 09 19.9	-7.7
YKW3	**Yellowknife Ar**	**14.34**	**214**	*e*Pn	**Pn**	**00 07 11.7**	**+0.1**
YKW3	**Yellowknife Ar**	**14.34**	**214**	PN	**Pn**	**00 07 10.5**	**-1.1**
YKW3				SN	Sn	00 09 40.6	-10
YKW3				LG	Lg	00 11 15.2	
YKW3				Trac		00 11 32.8	
	comp=Z,61nm,1.2s						
YKA	**Yellowknife Ar**	**14.40**	**214**	Pn	**Pn**	**00 07 09.5**	**-3.0**
	0.5nm,0.3s,baz=17,slow=12,SNR=26						
YKA				Sn	Sn	00 09 39.4	-12
	0.9nm,0.3s,baz=24,slow=22,SNR=7.9						
YKA				Lg	Lg	00 11 14.3	
	0.6nm,0.3s,baz=23,slow=29,SNR=4.8						
YKB5	**Yellowknife Ar**	**14.40**	**214**	*e*Pn	**Pn**	**00 07 11.2**	**-1.3**
YKB5				*e*Sn	Sn	00 09 41.8	-10
FRB	**Frobisher Bay**	**15.27**	**125**	Pn	**Pn**	**00 07 21.9**	**-2.2**
	0.7nm,0.3s,baz=325,slow=13,SNR=5.0						
FRB				Sn	**Sn**	**00 10 04.4**	**-8.7**
	0.7nm,0.3s,baz=69,slow=17,SNR=9.0						
FRB				Lg	Lg	00 11 44.4	
	1.6nm,0.3s,baz=250,slow=22,SNR=3.7						
FRB	**Frobisher Bay**	**15.27**	**125**	PN	**Pn**	**00 07 21.4**	**-2.8**
FRB				SN	Sn	00 09 59.1	-14
SUMG	**Summit**	**15.84**	**71**	*e*Pn	**Pn**	**00 07 29.5**	**-2.5**
	12nm,1.2s						
SUMG	**Summit**	**15.84**	**71**	*i*P	**Pn**	**00 07 29.9**	**-2.1**
SUMG				*i*S	Sn	00 10 15.9	-12
SFJD	**Kangerlussuaq**	**16.74**	**96**	Pn	**P**	**00 07 49.5**	**+4.1**
	0.5nm,0.3s,baz=158,slow=5.4,SNR=2.7						
SFJD	**Kangerlussuaq**	**16.74**	**96**	*e*Pn	**Pn**	**00 07 44.8**	**+1.6**
	21nm,1.1s						
TOLK	**Toolik Lake Re**	**16.84**	**273**	*e*Pn	**Pn**	**00 07 44.1**	**-0.4**
	9.4nm,1.5s						
FCC	**

OTAV Otavalo 31.20 74 eP P 00 23 35.1 -0.3
comp=Z,69nm,1.8s
OTAV LR LR
comp=Z,5µm,19.0s
OTAV Otavalo 31.20 74 ceP P 00 23 38.4 +3.0
OTAV pmax pmax
comp=Z,17nm,1.3s
TAOE Nuku Hiva Isla 31.37 268 eS S 00 28 42.0 -1.7
comp=Z,1µm,26.7s
TAOE eLQ LQ 00 30 25.4
comp=Z,3µm,27.8s
TAOE eLR LR 00 31 31.6
comp=Z,4µm,26.1s,baz=86
ESPN Las Esperanzas 31.91 49 eP P 00 23 39.4 -1.5
comp=Z,52nm,1.1s
ZAIG Zacatecas 32.12 10 eP P 00 23 43.6 +0.5
comp=Z,21nm,1.1s
GCUF Volcan Galeras 32.56 73 eP P 00 23 52.6 +5.2
GCUF eP P 00 23 54.6 +7.2
GCUF eP P 00 23 55.4 +8.0
LPIG La Paz 32.99 357 LR LR 00 33 47.9
comp=Z,4µm,21.6s,baz=182,slow=30
SOTA Rioblanco 33.56 72 eP P 00 23 59.9 +3.8
BCIP Isla Barro Col 33.69 58 PFAKE 00 24 10.0 +13
BCIP LR LR
comp=Z,6µm,21.0s
PCON Cinco Dias 33.82 72 eP P 00 23 59.7 +1.3
YOTC Yotoco, Valle 34.46 69 eP P 00 24 04.5 +1.1
LNIG Linares 34.84 14 eP P 00 24 06.5 +0.1
comp=Z,43nm,1.9s
RREF El Recreo 35.73 68 eP P 00 24 15.8 +0.8
DBBC Dabeiba 35.81 65 eP P 00 24 17.2 +2.1
HPIG 35.86 4 eP P 00 24 16.1 +0.6
comp=Z,51nm,2.0s
HELC Santa Helena 36.08 66 eP P 00 24 17.3 -0.4
SRIG Santa Rosalia 36.34 354 eP P 00 24 19.8 +0.6
comp=Z,48nm,1.4s
ROSC El Rosal 36.65 69 P P 00 24 23.7 +1.1
comp=Z,2.1nm,0.4s,baz=204,slow=4.9,SNR=3.7
ROSC LR LR 00 36 36.7
comp=Z,2µm,21.4s,baz=255,slow=32
ROSC El Rosal 36.65 69 eP P 00 24 21.6 -1.0
comp=Z,13nm,1.1s
MOTC Monteria, Cord 37.09 62 eP P 00 24 26.8 +0.9
CHIC Chingaza 37.12 70 eP P 00 24 31.1 +4.5
PTBC PUERTO BERRIO, 37.19 67 eP P 00 24 24.4 -2.3
KVTX Kingsville 37.76 15 eP P 00 24 31.0 -0.4
comp=Z,203nm,1.8s
KVTX LR LR
comp=Z,2µm,20.0s
HSIG 37.92 356 eP P 00 24 32.8 +0.1
comp=Z,41nm,1.2s
833A Chaparral WMA, 38.15 13 eP P 00 24 35.0 +0.4
comp=Z,31nm,1.0s
833A Chaparral WMA, 38.15 13 P P 00 24 33.3 -1.4
baz=194
BARC Barichara 38.37 67 eP P 00 24 37.1 +0.1
TXAR Lajitas Array 38.42 7 P P 00 24 36.7 -0.3
comp=Z,1.3nm,1.0s,baz=181,slow=10.0,SNR=9.4
TXAR PcP PcP 00 26 50.1 -0.2
comp=Z,1.4nm,0.9s,baz=188,slow=5.5,SNR=4.2
TXAR LR LR 00 37 26.2
comp=Z,1µm,20.9s,baz=0.0,slow=32
TX31 Lajitas Ar. Si 38.42 7 eP P 00 24 37.6 +0.5
SMLC San Mart›n de 38.50 64 eP P 00 24 37.1 -0.7
MNMC Minye Minye 38.85 109 eP P 00 24 40.7 -0.4
comp=Z,110nm,2.0s
PB11 IPOC Station P 38.90 110 eP P 00 24 41.2 -0.2
comp=Z,28nm,1.1s
PB04 IPOC Station P 38.98 114 eP P 00 24 41.3 -0.8
comp=Z,56nm,1.0s
PB01 IPOC Station P 39.30 112 eP P 00 24 43.9 -0.7
comp=Z,48nm,1.1s
GO01 Chusmiza 39.32 110 eP P 00 24 45.0 -0.3
comp=Z,30nm,1.4s
LPAZ La Paz 39.87 105 P P 00 24 51.1 +1.1
comp=Z,12nm,0.9s,baz=277,slow=4.3,SNR=34
LPAZ LR LR 00 37 50.8
comp=Z,1µm,20.1s,baz=260,slow=31
LPAZ La Paz 39.87 105 eP P 00 24 51.2 +1.1
comp=Z,24nm,1.0s
LPAZ La Paz 39.87 105 eP P 00 24 51.2 +1.1
LPAZ pmax pmax
comp=Z,25nm,1.0s
JCT Junction City 40.15 12 eP P 00 24 51.6 +0.2
comp=Z,36nm,1.5s
JCT LR LR
comp=Z,2µm,20.0s
JCT Junction City 40.15 12 eP P 00 24 51.6 +0.2
JCT pmax pmax
comp=Z,36nm,1.5s
JCT MLR MLR
comp=Z,2µm,20.0s
JCT Junction City 40.15 12 P P 00 24 50.5 -0.9
baz=193
LVC Limon Verde 40.16 114 eP P 00 24 51.2 -0.9
comp=Z,34nm,1.2s
LVC LR LR
comp=Z,3µm,20.0s
LVC Limon Verde 40.16 114 eP P 00 24 51.8 -0.3
GO03 Copiap 40.42 122 eP P 00 24 53.6 -0.2
comp=Z,36nm,1.3s
LCO Las Campanas 40.53 125 eP P 00 24 53.6 -1.3
comp=Z,23nm,1.1s
LCO LR LR
comp=Z,5µm,20.0s
LCO Las Campanas 40.53 125 ceP P 00 24 57.1 +2.1
HKT Hockley 40.60 17 eP P 00 24 54.5 -0.5
comp=Z,26nm,1.4s
HKT Hockley 40.60 17 eP P 00 24 54.5 -0.5
HKT pmax pmax
comp=Z,26nm,1.4s
MNTX Cornudas Mount 40.61 4 eP P 00 24 54.8 -0.3
comp=Z,44nm,1.5s
MNTX LR LR
comp=Z,485nm,19.0s
MNTX Cornudas Mount 40.61 4 P P 00 24 54.3 -0.9
baz=184,SNR=14
TVO Taravao 40.62 253 eP P 00 24 54.3 -1.2
comp=Z,12nm,1.1s
TIAR Tiarei 40.68 254 eP P 00 24 55.3 -0.7
comp=Z,16nm,1.0s
MTDJ Mount Denham 40.76 48 PFAKE 00 25 10.0 +13
MTDJ LR LR
comp=Z,2µm,20.0s
PPTF Pamatai, Papee 40.89 254 eP P 00 24 57.6 -0.2
comp=Z,72nm,1.4s
GO04 Tololo Observa 40.90 126 eP P 00 24 57.1 -0.8
comp=Z,34nm,1.2s
PPT Papeete 40.90 254 LR LR 00 37 27.6
comp=Z,3µm,18.9s,baz=78,slow=30
PPT Papeete 40.90 254 eP P 00 24 57.3 -0.5
PPT Papeete 40.90 254 eP P 00 24 57.3 -0.5
PPT2 Papeete2 40.90 254 eP P 00 24 56.7 -1.2
comp=Z,32nm,1.3s
PPT2 eS S 00 31 08.6 -0.7
comp=Z,510nm,25.8s
PPT2 eLQ LQ 00 34 20.6
comp=Z,7µm,29.2s
PPT2 eLR LR 00 36 05.6
comp=Z,8µm,26.0s,baz=79
PAE Paea 40.91 254 eP P 00 24 56.5 -1.4
comp=Z,8.5nm,1.1s
435B Jarrell 40.93 14 eP P 00 24 58.0 +0.2
comp=Z,38nm,1.3s
435B Jarrell 40.93 14 P P 00 24 57.7 -0.1
baz=196
214A Organ Pipe Nat 40.98 354 P P 00 24 57.9 -0.4
baz=173
TUC Tucson 41.18 357 eP P 00 25 01.0 +1.0
comp=Z,14nm,1.5s
TUC LR LR
comp=Z,4µm,20.0s
TUC Tucson 41.18 357 eP P 00 25 01.0 +1.0
TUC pmax pmax
comp=Z,13nm,1.5s
TUC MLR MLR
comp=Z,4µm,20.0s
TUC Tucson 41.18 357 P P 00 25 00.5 +0.5
baz=176
121A Cookes Peak, D 41.34 1 P P 00 25 01.3 -0.1
baz=181
SDV Santo Domingo 41.60 66 PFAKE 00 25 20.0 +16
SDV LR LR
comp=Z,2µm,19.0s
TBI Tubuai 41.77 245 eS S 00 31 21.0 -0.9
comp=Z,386nm,26.2s
TBI eLQ LQ 00 34 47.7
comp=Z,3µm,30.8s
TBI eLR LR 00 36 35.0
comp=Z,7µm,27.8s,baz=72
IKP In-Ko-Pah, Jac 42.11 350 P P 00 25 07.6 0.0
baz=169
WHTX Lake Whitney, 42.12 14 eP P 00 25 06.9 -0.6
comp=Z,129nm,1.8s
WHTX Lake Whitney, 42.12 14 P P 00 25 06.4 -1.1
baz=196
GO05 HualaæØ 42.16 133 eP P 00 25 06.7 -1.2
comp=Z,58nm,1.0s
441A DeRidder 42.17 20 P P 00 25 07.4 -0.5
baz=202
PEL Peldehue 42.21 130 eP P 00 25 08.4 -0.1
comp=Z,32nm,1.1s
PEL Peldehue 42.21 130 eP P 00 25 08.4 -0.1
PEL pmax pmax
comp=Z,32nm,1.1s
BAR Barrett 42.23 350 eP P 00 25 09.2 +0.7
comp=Z,18nm,1.3s
ABTX Abilene, Hawle 42.26 11 eP P 00 25 07.9 -0.8
comp=Z,29nm,1.0s
ABTX Abilene, Hawle 42.26 11 P P 00 25 07.2 -1.6
baz=193
GLA Glamis 42.30 352 eP P 00 25 09.1 0.0
comp=Z,51nm,1.8s
GLA Glamis 42.30 352 eP P 00 25 09.1 0.0
GLA pmax pmax
comp=Z,51nm,1.8s
GLA Glamis 42.30 352 P P 00 25 08.5 -0.6
baz=170
SWSC Sam W. Stewart 42.35 351 P P 00 25 10.0 +0.7
baz=169
442A Mamou 42.39 21 P P 00 25 08.7 -1.0
baz=204
MONP2 Monument Peak 42.40 350 P P 00 25 10.2 +0.1
baz=168
109C Camp Elliot, M 42.52 349 P P 00 25 11.7 +0.9
baz=167
NATX Nacogdoches 42.64 17 PFAKE 00 25 20.0 +8.2
NATX LR LR
comp=Z,802nm,22.0s
443A Delano Plantat 42.67 21 P P 00 25 11.7 -0.3
baz=204
Y22D IRIS PASSCAL I 42.90 2 P P 00 25 15.7 +1.7
baz=182
Y12C Blythe 42.95 352 eP P 00 25 15.4 +1.1
comp=Z,40nm,1.5s
Y12C Blythe 42.95 352 P P 00 25 14.5 +0.2
baz=171
BNM Barren Site 42.99 2 eP P 00 25 15.1 +0.2
BC3 Big Chuckawall 42.99 351 P P 00 25 15.2 +0.5
baz=170
LENM Lemitar 42.99 2 eP P 00 25 15.2 +0.4
FRD Ford Ranch, An 43.02 350 P P 00 25 15.2 +0.3
baz=168
342A Flagon Creek P 43.03 20 eP P 00 25 16.1 +1.2
comp=Z,34nm,0.9s
342A Flagon Creek P 43.03 20 P P 00 25 14.7 -0.3
baz=203
MSTX Muleshoe 43.10 7 eP P 00 25 15.5 -0.2
comp=Z,23nm,1.2s
MSTX Muleshoe 43.10 7 P P 00 25 15.8 +0.2
baz=188
XPFO Pion Flat 43.10 350 eP P 00 25 16.3 +0.6
comp=Z,34nm,1.9s
PFO Pinyon Flats O 43.11 350 eP P 00 25 16.4 +0.8
comp=Z,32nm,1.8s
PFO LR LR
comp=Z,4µm,22.0s
PFO Pinyon Flats O 43.11 350 eP P 00 25 16.5 +0.8
PFO pmax pmax
comp=Z,32nm,1.8s
PFO MLR MLR
comp=Z,4µm,22.0s
PFO Pinyon Flats O 43.11 350 P P 00 25 13.7 -2.0
baz=168
240A Hunter Patters 43.17 18 P P 00 25 16.6 +0.5
baz=201
343A Vidalia 43.20 21 P P 00 25 16.0 -0.3
baz=204
LAZ Ladron 43.22 2 eP P 00 25 17.2 +0.5
BELC Belle Mtn. Jos 43.41 351 P P 00 25 17.7 -0.5
baz=169
241A Mo Tay, Goldon 43.43 19 eP P 00 25 18.7 +0.6
comp=Z,55nm,1.0s
241A Mo Tay, Goldon 43.43 19 P P 00 25 17.6 -0.5
baz=202
IRM Iron Mountain 43.44 352 P P 00 25 18.6 +0.4
baz=170
PDMCI Parker Dam,Lak 43.45 353 P P 00 25 18.7 +0.4
baz=172
GTBY Guantanamo Bay 43.61 48 PFAKE 00 25 30.0 +10
GTBY LR LR
comp=Z,2µm,19.0s
243A Waterproof 43.78 21 P P 00 25 19.7 -1.3
baz=204
ANMO Albuquerque 43.78 2 eP P 00 25 23.4 +2.2
comp=Z,19nm,1.6s
ANMO LR LR
comp=Z,2µm,20.0s
ANMO Albuquerque 43.78 2 ceP P 00 25 21.5 +0.3
ANMO pmax pmax
comp=Z,11nm,1.5s
ANMO Albuquerque 43.78 2 P P 00 25 20.4 -0.9
baz=183
345A Thompson Farm, 43.80 23 P P 00 25 20.1 -1.1
baz=206
BBRC Big Bear Solar 43.82 350 P P 00 25 21.2 -0.4
baz=168
059Z Ave Maria 43.84 36 P P 00 25 20.4 -1.2
baz=220
447A Lucedale 43.90 25 eP P 00 25 23.1 +1.1
comp=Z,110nm,1.3s
447A Lucedale 43.90 25 P P 00 25 22.0 +0.1
baz=208
BFSC Mount Baldy Ra 43.93 349 P P 00 25 22.8 +0.5
baz=167
W18A Petrified Fore 43.94 358 eP P 00 25 23.0 +0.6
comp=Z,28nm,1.3s
W18A Petrified Fore 43.94 358 P P 00 25 23.1 +0.6
baz=178
NEE2 Needles Airpor 43.97 353 P P 00 25 22.6 +0.2
baz=171
PASC Pasadena Art C 43.97 348 eP P 00 25 22.9 +0.4
comp=Z,40nm,1.6s
MWC Mount Wilson 43.99 348 eP P 00 25 23.4 +0.5
comp=Z,13nm,1.0s
MWC Mount Wilson 43.99 348 eP P 00 25 23.4 +0.5
MWC pmax pmax
comp=Z,13nm,1.0s
DECC Green Verdugo 44.08 348 P P 00 25 23.8 +0.4
baz=166
GMRC Granite Mounta 44.13 351 P P 00 25 24.2 +0.3
baz=170
AMTX Amarillo 44.14 8 P P 00 25 22.9 -1.1
baz=189
244A Avery, Jackson 44.22 22 P P 00 25 24.2 -0.3
baz=205
HEC Hector Ludlow 44.28 351 P P 00 25 25.6 +0.6
baz=169
LDFC Landfair 44.34 352 eP P 00 25 27.2 +1.6
comp=Z,31nm,1.1s
WUAZ Wupatki 44.41 357 eP P 00 25 26.3 +0.2
comp=Z,13nm,1.2s
WUAZ LR LR
comp=Z,4µm,20.0s
WUAZ Wupatki 44.41 357 P P 00 25 26.4 +0.2
baz=176
VBMS Vicksburg 44.44 22 P P 00 25 24.7 -1.6
baz=205
347A Saraland 44.48 24 P P 00 25 26.7 +0.1
baz=208
WMOK Wichita Mounta 44.48 11 eP P 00 25 25.6 -1.0
comp=Z,9.1nm,1.0s
WMOK LR LR
comp=Z,2µm,19.0s
WMOK Wichita Mounta 44.48 11 eP P 00 25 25.6 -1.0
WMOK pmax pmax
comp=Z,9.0nm,1.0s
WMOK MLR MLR
comp=Z,2µm,19.0s
WMOK Wichita Mounta 44.48 11 P P 00 25 25.1 -1.6
baz=193
059A Moore Haven 44.49 36 P P 00 25 25.9 -0.9
baz=220
143A Socs Landing, 44.56 21 eP P 00 25 28.0 +0.8
comp=Z,53nm,1.1s
143A Socs Landing, 44.56 21 P P 00 25 24.7 -2.5
baz=204
Z41A Richland Creek 44.60 19 eP P 00 25 27.6 +0.1
comp=Z,149nm,1.3s
Z41A Richland Creek 44.60 19 P P 00 25 27.4 -0.2
baz=202
958A Wauchula 44.62 35 P P 00 25 23.4 -4.4
baz=219
EDW2 Edwards Air Fo 44.62 349 P P 00 25 27.6 -0.2
baz=166
LGNH LØogne 44.67 52 eP P 00 25 28.4 0.0
comp=Z,93nm,1.2s
348A Jackson 44.75 25 eP P 00 25 29.9 +1.1
comp=Z,68nm,1.3s
348A Jackson 44.75 25 P P 00 25 28.1 -0.7
baz=209
450A Crestview 44.80 27 P P 00 25 29.2 0.0
baz=211
TUQ Turquoise Moun 44.81 351 P P 00 25 29.8 +0.5
baz=169
GO06 Curarrehue 44.81 139 eP P 00 25 29.7 +0.2
comp=Z,26nm,1.1s
GSC Goldstone, Bar 44.81 350 eP P 00 25 30.2 +0.9
comp=Z,28nm,1.1s
GSC Goldstone, Bar 44.81 350 eP P 00 25 30.2 +0.9
GSC pmax pmax
comp=Z,28nm,1.1s
GSC Goldstone, Bar 44.81 350 P P 00 25 29.9 +0.6
baz=168
857A Zephyrhills 44.89 33 P P 00 25 28.1 -1.8
baz=218
Z42A Norrel Spur, H 44.90 20 P P 00 25 30.6 +0.8
baz=203
BRAL Brewton 44.91 26 PFAKE 00 25 40.0 +10
BRAL LR LR
comp=Z,851nm,19.0s
145A Houston Renfro 45.00 22 P P 00 25 30.9 +0.2
baz=206
349A Repton 45.00 26 P P 00 25 31.5 +0.8
baz=210
X37A Clayton 45.11 15 eP P 00 25 31.8 +0.2
comp=Z,70nm,1.6s
LRMC Laurel Mtn Rad 45.14 349 P P 00 25 32.0 0.0
baz=167
DWPF Disney Wildern 45.20 34 P P 00 25 31.3 -1.1
baz=219
Y41A Eaglette Beard 45.24 19 P P 00 25 32.4 -0.2
baz=202
553A Crawfordville 45.30 30 P P 00 25 32.5 -0.6
baz=214
655A Horseshoe Beac 45.33 31 P P 00 25 31.7 -1.7
baz=216
146A Union 45.36 23 eP P 00 25 33.9 +0.2
comp=Z,63nm,1.3s
146A Union 45.36 23 P P 00 25 33.2 -0.4
baz=207
248A Dixon Mills 45.41 25 P P 00 25 34.4 +0.3
baz=209
Y42A Garnett, Star 45.46 19 P P 00 25 33.9 -0.5
baz=203
859A Kempfer Cattle 45.47 35 P P 00 25 34.4 -0.1
baz=220
ISA Isabella, Lake 45.47 348 eP P 00 25 35.5 +0.9
comp=Z,8.7nm,0.9s
ISA Isabella, Lake 45.47 348 P P 00 25 34.6 +0.1
baz=166
452A Marianna 45.48 28 P P 00 25 34.0 -0.6
baz=213
757A Oxford 45.50 33 P P 00 25 32.8 -2.0
baz=218
GO07 Milladeo Hill, 45.51 144 eP P 00 25 34.4 -0.3
comp=Z,30nm,0.8s
CCAR Cane Creek 45.54 19 eP P 00 25 35.3 +0.3
comp=Z,65nm,1.1s
MIAR Mount Ida 45.56 17 eP P 00 25 33.9 -1.3
comp=Z,52nm,1.1s
MIAR LR LR
comp=Z,531nm,20.0s
MIAR Mount Ida 45.56 17 eP P 00 25 33.9 -1.3
MIAR pmax pmax
comp=Z,51nm,1.1s
MIAR MLR MLR
comp=Z,531nm,20.0s
MIAR Mount Ida 45.56 17 P P 00 25 34.5 -0.7
baz=200,SNR=22
249A Camden 45.57 26 P P 00 25 34.8 -0.5
baz=210
554A Perry 45.58 30 P P 00 25 35.7 +0.3
baz=215
656A Willston 45.59 32 P P 00 25 35.0 -0.5
baz=217
351A Pinckard 45.65 28 P P 00 25 35.6 -0.3
baz=212
MPMC Manual Prospec 45.67 350 P P 00 25 36.7 +0.4
baz=167
147A Livingston 45.70 24 P P 00 25 36.2 -0.1
baz=208
X40A Basin Creek Fa 45.73 18 eP P 00 25 36.5 0.0
comp=Z,79nm,1.9s
X40A Basin Creek Fa 45.73 18 P P 00 25 35.6 -0.9
baz=202
SHPR Sheep Range 45.75 352 eP P 00 25 38.0 +1.1
comp=Z,32nm,1.5s
VES Vestal, Richgr 45.77 348 P P 00 25 37.5 +0.7
baz=165
Z45A Winona 45.77 22 eP P 00 25 37.0 +0.1
comp=Z,47nm,1.0s
Z45A Winona 45.77 22 P P 00 25 36.8 -0.1
baz=206
Z46A Louisville 45.90 23 P P 00 25 37.5 -0.4
baz=207
DAC Darwin (Calif) 45.90 350 eP P 00 25 39.3 +1.2
comp=Z,15nm,1.3s
DAC Darwin (Calif) 45.90 350 eP P 00 25 39.3 +1.2
DAC pmax pmax
comp=Z,15nm,1.3s
PAGB Antelope Grade 45.92 347 eP P 00 25 38.4 +0.4
comp=Z,28nm,1.2s
250A Grady 45.94 26 eP P 00 25 38.1 -0.1
comp=Z,206nm,1.8s
FURC Furnace Creek, 45.96 350 P P 00 25 38.3 0.0
baz=168
148A Greensboro 45.96 25 P P 00 25 38.5 +0.1
baz=209
SDDR Presa de Saban 45.97 53 PFAKE 00 25 50.0 +11
SDDR LR LR
comp=Z,2µm,19.0s
555A McAlpin 45.97 31 eP P 00 25 37.5 -1.0
comp=Z,30nm,1.3s
555A McAlpin 45.97 31 P P 00 25 36.5 -1.9
baz=216
758A Lake Helen 45.99 34 P P 00 25 36.6 -2.1
baz=219
KNB Kanab 46.00 355 eP P 00 25 40.0 +1.2
comp=Z,41nm,1.6s
KNB Kanab 46.00 355 eP P 00 25 40.0 +1.2
KNB pmax pmax
comp=Z,41nm,1.6s
MVCO Mesa Verde 46.01 360 eP P 00 25 38.9 0.0
comp=Z,30nm,1.3s
MVCO LR LR
comp=Z,1µm,21.0s
MVCO Mesa Verde 46.01 360 P P 00 25 38.5 -0.5
baz=180,SNR=8.3
PLCA Paso Flores 46.03 140 P P 00 25 39.5 +0.5
comp=Z,10.0nm,0.9s,baz=327,slow=9.6,SNR=16
PLCA LR LR 00 40 23.1
comp=Z,4µm,18.7s,baz=334,slow=30
PLCA Paso Flores 46.03 140 eP P 00 25 39.5 +0.5
comp=Z,49nm,1.5s
LCMT Little Creek M 46.03 355 eP P 00 25 40.8 +1.7
comp=Z,8.9nm,1.2s
T25A Trinidad 46.09 4 eP P 00 25 40.7 +1.2
comp=Z,15nm,1.2s
W39A Magazine 46.11 17 eP P 00 25 39.7 +0.2
comp=Z,24nm,1.0s
W39A Magazine 46.11 17 P P 00 25 39.1 -0.4
baz=200
657A Interlachen 46.12 33 P P 00 25 38.9 -0.8
baz=218
454A Quitman 46.12 30 P P 00 25 39.5 -0.1
baz=215
352A Blakely 46.13 28 eP P 00 25 40.4 +0.7
comp=Z,51nm,1.2s
352A Blakely 46.13 28 P P 00 25 38.6 -1.1
baz=213
UALR University of 46.15 18 eP P 00 25 40.2 +0.4

comp=Z,36nm,1.1s
CWC Cottonwood Cre 46.15 349 P P 00 25 39.5 -0.5
baz=167
556A Lake Butler 46.16 32 P P 00 25 37.3 -2.7
baz=217
Z47A Carrollton 46.24 24 P P 00 25 40.0 -0.6
baz=208
149A Jones 46.25 25 P P 00 25 39.4 -1.2
baz=210
TUL1 Leonard 46.26 14 eP P 00 25 40.3 -0.4
comp=Z,20nm,0.8s
TUL1 Leonard 46.26 14 P P 00 25 40.1 -0.6
baz=197
Y45A Yeager Farm, C 46.27 22 P P 00 25 41.5 +0.7
baz=206
TPNV Topopah Spring 46.34 351 eP P 00 25 42.2 +0.7
comp=Z,18nm,1.3s
TPNV Topopah Spring 46.34 351 eP P 00 25 42.2 +0.7
TPNV pmax pmax
comp=Z,18nm,1.3s
TPNV Topopah Spring 46.34 351 P P 00 25 42.2 +0.7
baz=169
353A Camilla 46.35 29 P P 00 25 41.9 +0.4
baz=214
PKCU Pink Cliffs 46.39 356 eP P 00 25 43.5 +1.4
comp=Z,33nm,1.3s
X43A Marvell 46.39 20 eP P 00 25 42.1 +0.5
comp=Z,188nm,1.6s
X43A Marvell 46.39 20 P P 00 25 42.4 +0.8
baz=204
251A Midway 46.42 27 P P 00 25 40.7 -1.3
baz=212,SNR=13
PMPB Monarch Peak 46.51 346 eP P 00 25 43.1 +0.3
comp=Z,53nm,1.3s
557A Orange Park 46.53 32 P P 00 25 43.6 +0.7
baz=217
LRAL Lakeview Retre 46.54 25 eP P 00 25 42.3 -0.6
comp=Z,27nm,1.3s
LRAL Lakeview Retre 46.54 25 P P 00 25 42.7 -0.2
baz=210
Y46A Houston 46.54 23 P P 00 25 42.5 -0.5
baz=207,SNR=17
W41B Gary Mavity, V 46.55 18 eP P 00 25 42.5 -0.4
comp=Z,39nm,0.9s
W41B Gary Mavity, V 46.55 18 P P 00 25 42.4 -0.6
baz=202,SNR=17
GRAC Grapevine Rang 46.56 350 P P 00 25 44.2 +1.1
baz=168
S22A 4UR Ranch, Cre 46.56 2 eP P 00 25 43.7 +0.3
comp=Z,15nm,1.1s
S22A 4UR Ranch, Cre 46.56 2 P P 00 25 42.9 -0.5
baz=182,SNR=7.2
CCUT Cedar City 46.58 355 eP P 00 25 44.8 +1.3
comp=Z,10nm,1.1s
150A Eclectic 46.59 26 P P 00 25 42.8 -0.5
baz=211
Z48A Northport 46.61 24 P P 00 25 42.7 -0.7
baz=209,SNR=13
SDCO Great Sand Dun 46.62 3 PFAKE 00 26 00.0 +16
SDCO LR LR
comp=Z,2µm,19.0s
SDCO Great Sand Dun 46.62 3 P P 00 25 44.4 +0.5
baz=184
WHAR Wooly Hollow 46.64 18 eP P 00 25 43.6 -0.1
comp=Z,48nm,1.0s
252A Lumpkin 46.65 28 P P 00 25 44.0 +0.2
baz=213
TIGA Tifton 46.73 29 P P 00 25 43.6 -0.9
baz=214
151A Opelika 46.83 27 P P 00 25 44.9 -0.3
baz=212
X45A UM Field Stati 46.83 22 P P 00 25 44.6 -0.6
baz=206
W42A Bald Knob 46.87 19 P P 00 25 44.7 -0.7
baz=203
Z49A Columbiana 46.87 25 P P 00 25 44.8 -0.7
baz=210,SNR=15
PV05 Paradox Valley 46.88 359 eP P 00 25 46.0 +0.2
OXF Oxford 46.90 22 eP P 00 25 45.6 0.0
comp=Z,46nm,1.1s
OXF Oxford 46.90 22 eP P 00 25 45.7 0.0
OXF pmax pmax
comp=Z,46nm,1.1s
OXF Oxford 46.90 22 P P 00 25 45.2 -0.5
baz=206
PV01 Paradox Valley 46.93 360 eP P 00 25 47.4 +1.2
Y47A UCPARC, Winfie 46.95 24 P P 00 25 45.5 -0.7
baz=208,SNR=21
PV13 Radium Mtn., P 46.95 360 eP P 00 25 50.8 +4.4
comp=Z,16nm,1.2s
253A Americus 46.99 28 eP P 00 25 46.3 -0.2
comp=Z,104nm,1.4s
253A Americus 46.99 28 P P 00 25 45.9 -0.6
baz=214
PV02 Paradox Valley 47.00 360 eP P 00 25 47.9 +1.1
comp=Z,31nm,1.6s
PV18 Skein Mesa, Pa 47.04 359 eP P 00 25 48.0 +0.9
comp=Z,10nm,1.1s
PV03 Paradox Valley 47.05 360 eP P 00 25 47.5 +0.3
HHAR Hobbs 47.09 16 eP P 00 25 46.2 -1.0
comp=Z,23nm,1.2s
PV16 Nyswonger Mesa 47.11 359 eP P 00 25 48.3 +0.7
comp=Z,29nm,1.7s
PV12 Saucer Basin, 47.11 360 eP P 00 25 47.9 +0.2
comp=Z,54nm,1.8s
V41A Mountainview 47.14 18 P P 00 25 46.6 -1.0
baz=202,SNR=14
PV14 Lion Creek, Pa 47.17 359 eP P 00 25 49.0 +0.9
comp=Z,10nm,1.1s
PV10 Paradox Valley 47.17 359 eP P 00 25 48.2 0.0
Z50A Ashland 47.18 26 eP P 00 25 47.1 -0.9
comp=Z,32nm,0.9s
Z50A Ashland 47.18 26 P P 00 25 46.5 -1.5
baz=211,SNR=11
SAO San Andreas Ge 47.19 346 eP P 00 25 48.2 +0.3
comp=Z,24nm,1.0s
SAO San Andreas Ge 47.19 346 eP P 00 25 48.2 +0.3
SAO pmax pmax
comp=Z,24nm,1.0s
152A Waverly Hall 47.22 27 eP P 00 25 47.6 -0.7
comp=Z,33nm,1.1s
152A Waverly Hall 47.22 27 P P 00 25 46.7 -1.5
baz=212
Y48A Jasper 47.23 24 P P 00 25 47.4 -0.9
baz=209,SNR=13
X46A Booneville 47.24 22 P P 00 25 47.8 -0.6
baz=207
254A Abbeville 47.29 29 P P 00 25 48.0 -0.9
baz=214
PV09 Paradox Valley 47.30 359 eP P 00 25 50.7 +1.6
PV22 Blue Mesa, Par 47.33 360 eP P 00 25 48.2 -1.1
comp=Z,10nm,1.4s
V42A Cord 47.40 19 P P 00 25 48.7 -0.9
baz=203,SNR=14
MSU Marysvale 47.44 356 eP P 00 25 50.9 +0.7
MSU Marysvale 47.44 356 eP P 00 25 50.9 +0.7
U40A Yellville 47.46 17 P P 00 25 48.4 -1.7
baz=201,SNR=20
X47A Russelville 47.49 23 P P 00 25 49.2 -1.1
baz=208,SNR=8.5
Y49A Blount Mountai 47.49 25 eP P 00 25 50.5 +0.1
comp=Z,27nm,1.1s
Y49A Blount Mountai 47.49 25 P P 00 25 48.9 -1.5
baz=210
GRTK Grand Turk 47.53 50 PFAKE 00 26 00.0 +9.2
GRTK LR LR
comp=Z,2µm,21.0s
W45A Hickory Valley 47.56 21 P P 00 25 49.5 -1.3
baz=206
Z51A Franklin 47.56 27 P P 00 25 49.9 -1.0
baz=212
PSUT Pine Spring 47.60 354 eP P 00 25 52.1 +0.7
comp=Z,7.5nm,1.1s
153A Fort Valley 47.62 28 P P 00 25 50.6 -0.8
baz=214
R11A Troy Canyon, C 47.62 352 eP P 00 25 52.0 +0.5
comp=Z,19nm,1.5s
R11A Troy Canyon, C 47.62 352 P P 00 25 51.2 -0.3
baz=170
V43A Jonesboro 47.66 20 P P 00 25 50.9 -0.7
baz=204
255A Hazlehurst 47.68 30 eP P 00 25 51.0 -0.8
comp=Z,165nm,1.8s
255A Hazlehurst 47.68 30 P P 00 25 50.4 -1.4
baz=216
U41A Viola 47.73 18 P P 00 25 51.3 -0.9
baz=202,SNR=17
X48A Hartselle 47.75 24 eP P 00 25 51.6 -0.7
comp=Z,28nm,1.3s
X48A Hartselle 47.75 24 P P 00 25 50.2 -2.1
baz=209
Z52A Williamson 47.79 27 P P 00 25 51.9 -0.8
baz=213,SNR=12
Y50A Piedmont 47.81 26 P P 00 25 50.4 -2.5
baz=211
PLAL Pickwick Lake 47.81 23 eP P 00 25 52.0 -0.8
comp=Z,30nm,0.9s
W46A Michie 47.83 22 P P 00 25 51.2 -1.8
baz=207
Q24A Divide 47.85 3 eP P 00 25 53.5 +0.1
comp=Z,12nm,1.1s
Q24A Divide 47.85 3 P P 00 25 53.2 -0.2
baz=184
154A Montrose 47.93 29 eP P 00 25 53.4 -0.4
comp=Z,131nm,0.9s
154A Montrose 47.93 29 P P 00 25 52.2 -1.6
baz=214,SNR=14
SRU San Rafael Swe 47.95 358 eP P 00 25 56.5 +2.5
comp=Z,14nm,1.1s
U42A Revenden 47.95 19 P P 00 25 53.2 -0.7
baz=203,SNR=20
SMCO Snowmass 47.99 1 eP P 00 25 59.0 +4.4
comp=Z,15nm,1.4s
GNAR Gosnell 47.99 20 eP P 00 25 54.7 +0.5
comp=Z,79nm,1.0s
256A Glennville 48.01 31 P P 00 25 53.3 -1.2
baz=216
X49A Woodville 48.09 25 P P 00 25 54.4 -0.6
baz=210,SNR=16
NV11 Mina Array Sit 48.10 350 eP P 00 25 56.0 +0.8
comp=Z,2.0nm,1.4s
Y51A Rockmart 48.10 26 P P 00 25 54.1 -1.0
baz=212
NV01 Mina Array Sit 48.12 350 eP P 00 25 55.0 -0.4
NVAR Mina Array Bea 48.12 350 P P 00 25 53.4 -2.1
comp=Z,3.6nm,0.9s,baz=178,slow=9.0,SNR=20
NVAR LR LR 00 42 01.2
comp=Z,3µm,18.0s,baz=170,slow=31
CMB Columbia Colle 48.16 347 eP P 00 25 56.0 +0.5
comp=Z,9.2nm,1.0s
CMB Columbia Colle 48.16 347 eP P 00 25 56.0 +0.5
CMB pmax pmax
comp=Z,9.0nm,1.0s
TMUT Trail Mountain 48.16 357 eP P 00 25 56.5 +0.6
comp=Z,49nm,1.9s
U43A Rector 48.23 20 P P 00 25 54.8 -1.2
baz=204
W47A Westpoint 48.23 23 P P 00 25 54.5 -1.6
baz=208
155A Kite 48.24 30 P P 00 25 55.4 -0.8
baz=215,SNR=15
Z53A Monticello 48.26 28 P P 00 25 55.0 -1.3
baz=214
CBKS Cedar Bluff 48.28 9 eP P 00 25 56.8 +0.3
comp=Z,33nm,0.9s
CBKS LR LR
comp=Z,1µm,19.0s
CBKS Cedar Bluff 48.28 9 eP P 00 25 56.8 +0.3
CBKS pmax pmax
comp=Z,33nm,0.9s
CBKS MLR MLR
comp=Z,1µm,19.0s
CBKS Cedar Bluff 48.28 9 P P 00 25 56.0 -0.5
baz=191
P17A Butcher Ranch, 48.31 358 eP P 00 25 57.0 +0.1
X50B Fort Payne 48.33 25 P P 00 25 56.2 -0.7
baz=210
RYN Ryan 48.35 349 eP P 00 25 58.2 +1.0
comp=Z,40nm,1.2s
W48A Pulaski 48.39 24 P P 00 25 56.2 -1.1
baz=209,SNR=9.5
WAKR Walker 48.41 348 eP P 00 25 58.8 +1.2
comp=Z,26nm,1.5s
GOGA Godfrey 48.42 28 eP P 00 25 56.9 -0.6
comp=Z,34nm,1.1s
GOGA Godfrey 48.42 28 eP P 00 25 56.9 -0.6
GOGA pmax pmax
comp=Z,34nm,1.1s
GOGA Godfrey 48.42 28 P P 00 25 56.0 -1.5
baz=214
T41A Mountain View 48.42 18 P P 00 25 56.5 -1.1
baz=202,SNR=18
Y52A Lilburn 48.52 27 eP P 00 25 57.3 -1.0
comp=Z,29nm,1.0s
Y52A Lilburn 48.52 27 P P 00 25 57.1 -1.3
baz=213
V46A Holladay 48.52 22 P P 00 25 56.7 -1.6
baz=207,SNR=21
Z54A Sparta 48.57 29 P P 00 25 57.5 -1.2
baz=214,SNR=15
PBMO Poplar Bluff 48.60 19 eP P 00 25 58.0 -0.9
comp=Z,33nm,1.0s
T42A Van Buren 48.62 18 eP P 00 25 58.2 -0.8
comp=Z,21nm,1.0s
T42A Van Buren 48.62 18 P P 00 25 57.1 -1.9
baz=203
W49A Belvidere 48.65 24 P P 00 25 57.9 -1.4
baz=210
ISCO Idaho Springs 48.66 3 eP P 00 25 59.5 -0.2
comp=Z,12nm,1.0s
ISCO LR LR
comp=Z,2µm,20.0s
ISCO Idaho Springs 48.66 3 eP P 00 25 59.5 -0.2
ISCO pmax pmax
comp=Z,12nm,1.0s
ISCO MLR MLR
comp=Z,2µm,20.0s
ISCO Idaho Springs 48.66 3 P P 00 25 59.0 -0.7
baz=184
KVN Kaiserville 48.69 350 eP P 00 26 00.6 +0.8
comp=Z,14nm,1.1s
KVN Kaiserville 48.69 350 eP P 00 26 00.6 +0.8
KVN pmax pmax
comp=Z,14nm,1.1s
Y53A Monroe 48.73 28 P P 00 25 59.2 -0.8
baz=213
156A Sylvania 48.75 30 P P 00 25 59.0 -1.1
baz=216
X51A Calhoun 48.76 26 eP P 00 25 59.8 -0.4
comp=Z,40nm,1.0s
X51A Calhoun 48.76 26 P P 00 25 58.9 -1.2
baz=211
V47A Nunnelly 48.77 23 P P 00 25 58.6 -1.6
baz=208
U45A Rockin P Farm, 48.78 21 P P 00 25 59.7 -0.5
baz=206
YERR Yerington 48.84 349 eP P 00 26 02.0 +1.1
comp=Z,44nm,1.3s
SWET Sanee 48.87 25 eP P 00 26 00.3 -0.7
comp=Z,38nm,1.1s
NLU North Lily Min 48.87 356 eP P 00 26 02.2 +1.1
comp=Z,31nm,1.6s
PTGA Pitinga 48.89 83 eP P 00 26 01.8 +0.2
comp=Z,60nm,1.4s
PTGA LR LR
comp=Z,14µm,19.0s
Z55A Blythe 48.89 29 P P 00 25 59.8 -1.4
baz=215
MPU Maple Canyon 48.90 357 eP P 00 26 02.3 +0.9
comp=Z,38nm,1.5s
T43A Greenville 48.92 19 P P 00 26 00.1 -1.2
baz=204
WVT Waverly 48.92 22 eP P 00 26 01.1 -0.2
comp=Z,13nm,0.8s
WVT Waverly 48.92 22 eP P 00 26 01.1 -0.2
WVT pmax pmax
comp=Z,13nm,0.8s
WVT Waverly 48.92 22 P P 00 25 59.6 -1.8
baz=207
O20A White River Ci 48.93 0 eP P 00 26 02.3 +0.7
comp=Z,94nm,1.8s
O20A White River Ci 48.93 0 P P 00 26 00.8 -0.8
baz=180
S41A Jillco Farms, 48.93 18 P P 00 26 00.3 -1.2
baz=202
V48A Smith Brothers 48.96 23 eP P 00 26 01.4 -0.3
comp=Z,38nm,1.1s
V48A Smith Brothers 48.96 23 P P 00 26 00.3 -1.4
baz=209
PNTR Pine Nut 49.01 348 eP P 00 26 03.4 +1.1
comp=Z,44nm,1.1s
RUBR Rubicon Trail 49.08 348 eP P 00 26 03.9 +1.1
comp=Z,52nm,1.2s
W50A Signal Mountai 49.11 25 eP P 00 26 05.1 +2.2
comp=Z,32nm,1.4s
W50A Signal Mountai 49.11 25 P P 00 26 02.4 -0.5
baz=211
KSU1 Kansas State U 49.13 12 eP P 00 26 02.8 -0.2
comp=Z,42nm,1.3s
KSU1 LR LR
comp=Z,2µm,21.0s
KSU1 Kansas State U 49.13 12 P P 00 26 01.9 -1.0
baz=195
Y54A Tignall 49.15 28 P P 00 26 02.2 -1.0
baz=214,SNR=9.9
T44A Benton 49.16 20 P P 00 26 01.9 -1.2
baz=205
DUG Dugway, Tooele 49.16 356 eP P 00 26 03.5 +0.2
comp=Z,20nm,1.3s
DUG LR LR
comp=Z,3µm,20.0s
DUG Dugway, Tooele 49.16 356 eP P 00 26 03.5 +0.2
DUG pmax pmax
comp=Z,20nm,1.3s
DUG MLR MLR
comp=Z,3µm,20.0s
DUG Dugway, Tooele 49.16 356 P P 00 26 03.6 +0.2
baz=174
AFDM Forest Hills D 49.16 347 eP P 00 26 03.9 +0.7
comp=Z,13nm,1.2s
VCNR Virginia City 49.22 348 eP P 00 26 05.5 +1.7
comp=Z,29nm,1.2s
X52A Dahlonega 49.22 27 P P 00 26 02.4 -1.3
baz=212
W51A Cleveland 49.31 26 P P 00 26 02.9 -1.5
baz=211
V49A McMinnville 49.35 24 P P 00 26 03.1 -1.6
baz=210,SNR=9.7
S42A Caledonia 49.39 18 P P 00 26 03.7 -1.2
baz=203
X53A Estanollee 49.40 27 P P 00 26 04.5 -0.5
baz=213
U47A Clarksville 49.40 22 P P 00 26 04.0 -1.1
baz=208
S43A Fulton Ridge, 49.44 19 P P 00 26 04.1 -1.2
baz=204
JLU Jordanelle 49.48 357 eP P 00 26 07.0 +1.2
comp=Z,28nm,1.6s
CCM Cathedral Cave 49.51 18 eP P 00 26 04.8 -1.1
comp=Z,30nm,0.9s
CCM Cathedral Cave 49.51 18 eP P 00 26 04.8 -1.1
CCM pmax pmax
comp=Z,30nm,0.9s
CCM Cathedral Cave 49.51 18 P P 00 26 04.7 -1.2
baz=202
PAHR Pah Rah Range 49.56 349 eP P 00 26 07.4 +1.0
comp=Z,18nm,1.0s
V50A Pikevile 49.60 25 P P 00 26 05.4 -1.2
baz=211,SNR=13
W52A Murphy 49.61 26 P P 00 26 04.9 -1.8
baz=212
CPCT Cooper Cave 49.66 26 eP P 00 26 06.4 -0.6
comp=Z,42nm,1.3s
HODGE Hodges 49.66 29 eP P 00 26 06.8 -0.2
comp=Z,32nm,1.2s
SJG San Juan 49.66 57 PFAKE 00 26 20.0 +13
SJG LR LR
comp=Z,2µm,22.0s
R41A Rosebud 49.70 18 P P 00 26 05.6 -1.7
baz=202
FVM French Village 49.70 19 eP P 00 26 07.3 0.0
comp=Z,16nm,0.9s
FVM French Village 49.70 19 eP P 00 26 07.3 0.0
FVM pmax pmax
comp=Z,17nm,0.9s
T46A Princeton 49.71 22 P P 00 26 06.3 -1.0
baz=207
N23A Red Feather La 49.74 2 P P 00 26 06.7 -1.2
baz=183
U48A Cassie Pea, Po 49.75 23 P P 00 26 06.6 -1.1
baz=209
NHSC New Hope 49.78 31 PFAKE 00 26 20.0 +12
NHSC LR LR
comp=Z,3µm,20.0s
NHSC New Hope 49.78 31 P P 00 26 06.5 -1.4
baz=218
S44A Carbondale 49.82 20 P P 00 26 07.2 -1.0
baz=205
ORV Oroville 49.86 347 eP P 00 26 09.7 +1.2
comp=Z,10nm,1.0s
ORV Oroville 49.86 347 eP P 00 26 09.7 +1.2
ORV pmax pmax
comp=Z,10.0nm,1.0s
R42A Luebbering 49.86 18 P P 00 26 07.6 -0.9
baz=203
BGU Big Grassy Mou 49.90 355 eP P 00 26 10.3 +1.3
comp=Z,14nm,1.4s
BEKR Beckworth 49.91 348 eP P 00 26 10.1 +1.0
comp=Z,22nm,1.1s
T47A Sharon Grove 49.95 22 eP P 00 26 08.3 -0.9
comp=Z,28nm,1.0s
T47A Sharon Grove 49.95 22 P P 00 26 07.7 -1.6
baz=208
BG3 Lake Jocassee 49.98 27 eP P 00 26 09.5 0.0
comp=Z,34nm,1.1s
CBYP Canovanas 49.98 57 eP P 00 26 09.5 -0.4
comp=Z,33nm,1.2s
TCUT Toone Canyon 49.99 357 eP P 00 26 10.6 +0.9
comp=Z,43nm,1.4s
W53A Cullowhee 50.02 27 P P 00 26 09.2 -0.7
baz=213
V51A Loudon 50.03 26 eP P 00 26 09.2 -0.7
comp=Z,159nm,1.9s
V51A Loudon 50.03 26 P P 00 26 09.1 -0.7
baz=211
S45A Carrier Mills 50.03 21 P P 00 26 09.1 -0.7
baz=206
U49A Red Boiling Sp 50.05 24 P P 00 26 08.6 -1.4
baz=210
OGNE Ogallala 50.08 6 eP P 00 26 11.2 +1.0
comp=Z,78nm,1.4s
OGNE LR LR
comp=Z,1µm,19.0s
XMAS Kiritimati 50.11 280 eP P 00 26 12.2 +1.3
comp=Z,64nm,0.9s
R43A Red Bud 50.12 19 P P 00 26 09.8 -0.7
baz=204
TKL Tuckaleechee C 50.16 26 eP P 00 26 10.4 -0.3
comp=Z,38nm,1.3s
TKL Tuckaleechee C 50.16 26 eP P 00 26 10.5 -0.3
TKL pmax pmax
comp=Z,38nm,1.3s
PHWY Pilot Hill 50.16 3 eP P 00 26 11.6 +0.5
comp=Z,26nm,1.4s
JSC Jenkinsville 50.18 29 eP P 00 26 10.6 -0.4
comp=Z,32nm,1.1s
JSC Jenkinsville 50.18 29 eP P 00 26 10.6 -0.4
JSC pmax pmax
comp=Z,32nm,1.1s
SPUT South Promonto 50.24 356 eP P 00 26 12.7 +1.2
comp=Z,37nm,1.5s
T48A Bowling Green 50.33 23 P P 00 26 11.0 -1.1
baz=208
S46A Don Dixon Farm 50.34 21 P P 00 26 09.9 -2.3
baz=207
Q41A Truxton 50.35 17 P P 00 26 10.6 -1.6
baz=202,SNR=16
U50A Jamestown 50.35 25 P P 00 26 10.6 -1.7
baz=211
R44A Waltonville 50.38 20 P P 00 26 10.2 -2.2
baz=205
V52A Sevierville 50.39 26 eP P 00 26 11.0 -1.6
comp=Z,26nm,1.4s
V52A Sevierville 50.39 26 P P 00 26 09.8 -2.7
baz=212
HWUT Hardware Ranch 50.48 357 eP P 00 26 14.2 +0.8
comp=Z,36nm,1.5s
Q42A Golden Eagle 50.52 18 P P 00 26 12.3 -1.2
baz=203
S47A Hartford 50.57 22 P P 00 26 12.9 -1.1
baz=208
V53A Saluda 50.59 27 eP P 00 26 13.6 -0.6
comp=Z,45nm,1.0s
V53A Saluda 50.59 27 P P 00 26 12.8 -1.4
baz=213,SNR=14
USIN University of 50.61 21 eP P 00 26 13.5 -0.7
comp=Z,28nm,0.9s
O03E Paynes Creek 50.63 347 P P 00 26 13.2 -1.2
baz=163
T49A Edmonton 50.66 24 eP P 00 26 13.3 -1.3
comp=Z,56nm,1.1s
T49A Edmonton 50.66 24 P P 00 26 13.1 -1.5
baz=210,SNR=16
U51A La Follette 50.66 26 P P 00 26 13.2 -1.5

baz=212
R45A Skylar, Fairfi 50.69 20 P P 00 26 13.8 -1.0
baz=206
TRQA Tornquist 50.69 132 eP P 00 26 14.7 -0.2
comp=Z,24nm,1.0s
TRQA LR LR
comp=Z,3µm,19.0s
TRQA Tornquist 50.69 132 ceP P 00 26 14.8 -0.2
TRQA pmax pmax
comp=Z,27nm,1.0s
HVU Hansel Valley 50.73 356 eP P 00 26 16.4 +1.2
comp=Z,30nm,1.7s
HVU Hansel Valley 50.73 356 eP P 00 26 16.4 +1.2
HVU pmax pmax
comp=Z,30nm,1.7s
Q43A New Douglas 50.80 19 P P 00 26 14.7 -0.9
baz=204
KMSC Kings Mountain 50.84 29 eP P 00 26 15.3 -0.7
comp=Z,19nm,1.1s
KMSC Kings Mountain 50.84 29 P P 00 26 14.2 -1.8
baz=215
RAR Rarotonga 50.85 250 LR LR 00 41 51.8
comp=Z,612nm,19.5s,baz=82,slow=29
T50A Nancy 50.87 24 P P 00 26 14.8 -1.4
baz=210
R46A Gibon Southern 50.89 21 P P 00 26 14.8 -1.5
baz=207
S48A Wiedeman Farm, 50.94 23 P P 00 26 14.8 -1.8
baz=209
U52A Thorn Hill 50.95 26 P P 00 26 15.3 -1.5
baz=212
GRGR Grenville 50.99 66 PFAKE 00 26 30.0 +13
GRGR LR LR
comp=Z,1µm,22.0s
Q44A Meyer Farm, Va 50.99 19 P P 00 26 15.7 -1.3
baz=205,SNR=14
TZTN Tazewell 51.00 26 P P 00 26 15.5 -1.7
baz=212
P41A Barry, Barry 51.06 17 P P 00 26 16.9 -0.6
baz=202
BGNE Belgrade 51.08 10 eP P 00 26 22.1 +4.5
comp=Z,49nm,1.0s
BGNE Belgrade 51.08 10 P P 00 26 16.9 -0.7
baz=193
WDC Whiskeytown Da 51.08 346 eP P 00 26 17.3 -0.3
comp=Z,23nm,1.1s
WDC Whiskeytown Da 51.08 346 eP P 00 26 17.3 -0.3
WDC pmax pmax
comp=Z,23nm,1.1s
OLIL Olney 51.15 20 eP P 00 26 18.5 +0.3
comp=Z,62nm,1.3s
T51A Gray 51.19 25 P P 00 26 17.2 -1.4
baz=211
P42A Winchester 51.19 18 eP P 00 26 23.0 +4.5
comp=Z,34nm,1.2s
P42A Winchester 51.19 18 P P 00 26 18.4 -0.1
baz=203
CPUP Villa Florida 51.24 116 P P 00 26 18.9 -0.4
comp=Z,19nm,0.9s,baz=281,slow=8.6,SNR=32
CPUP LR LR 00 44 03.0
comp=Z,2µm,21.6s,baz=280,slow=31
CPUP Villa Florida 51.24 116 eP P 00 26 18.8 -0.4
comp=Z,18nm,0.8s
CPUP Villa Florida 51.24 116 eP P 00 26 18.8 -0.4
CPUP pmax pmax
comp=Z,18nm,0.8s
Q45A Warren Harvey, 51.27 20 P P 00 26 17.9 -1.2
baz=206
U53A Fall Branch 51.27 27 P P 00 26 17.2 -2.0
baz=213
R47A Wooly Knot Far 51.32 22 P P 00 26 17.2 -2.3
baz=208
S49A Springfield 51.35 23 P P 00 26 17.9 -1.9
baz=210
WCI Wyandotte Cave 51.35 22 eP P 00 26 21.1 +1.3
comp=Z,19nm,1.0s
WCI Wyandotte Cave 51.35 22 eP P 00 26 21.1 +1.3
WCI pmax pmax
comp=Z,19nm,1.0s
WCI Wyandotte Cave 51.35 22 P P 00 26 18.2 -1.6
baz=208
K22A Casper 51.47 2 eP P 00 26 20.0 -0.8
comp=Z,24nm,1.1s
K22A Casper 51.47 2 P P 00 26 19.3 -1.5
baz=182
N02D Trinity Center 51.49 346 P P 00 26 19.7 -1.2
baz=162
P43A Skaggs, Pawnee 51.50 19 P P 00 26 19.2 -1.7
baz=204
O41A Passleys Farm, 51.52 17 P P 00 26 19.1 -1.9
baz=202
BW06 Boulder Array 51.57 359 eP P 00 26 22.1 +0.5
comp=Z,32nm,1.8s
BW06 LR LR
comp=Z,2µm,19.0s
BW06 Boulder Array 51.57 359 P P 00 26 19.3 -2.3
baz=178
PD31 Pinedale Array 51.57 359 eP P 00 26 20.9 -0.7
PDAR Pinedale Array 51.57 359 P P 00 26 20.4 -1.2
comp=Z,1.2nm,0.7s,baz=176,slow=7.2,SNR=9.0
PDAR LR LR 00 45 16.7
comp=Z,2µm,19.1s,baz=196,slow=33
PDAR Pinedale Array 51.57 359 eP P 00 26 19.8 -1.8
S50A Richmond 51.61 24 P P 00 26 19.8 -1.9
baz=211
AHID Auburn Hatcher 51.62 357 eP P 00 26 22.9 +0.9
comp=Z,8.8nm,1.0s
AHID LR LR
comp=Z,4µm,19.0s
P44A Sand Creek, Wi 51.63 20 P P 00 26 19.9 -1.9
baz=205
R48A Northridge Ran 51.66 23 P P 00 26 19.7 -2.3
baz=209
T52A Hallie 51.72 26 P P 00 26 20.6 -2.0
baz=212
N39A Derby Farms, D 51.78 15 eP P 00 26 21.6 -1.4
comp=Z,26nm,0.8s
N39A Derby Farms, D 51.78 15 P P 00 26 19.9 -3.1
baz=200
R49A Shelbyville 51.83 23 P P 00 26 20.5 -2.8
baz=210
O42A Bath 51.83 18 P P 00 26 21.7 -1.6
baz=203
MOD Modoc Plateau 51.86 349 eP P 00 26 24.5 +0.8
comp=Z,18nm,1.0s
S51A Beattyville 51.91 25 eP P 00 26 28.3 +4.3
comp=Z,16nm,1.1s
M02C Callahan 51.92 346 P P 00 26 22.9 -1.2
baz=162
Q47A Bedord North L 51.92 22 P P 00 26 21.5 -2.5
baz=208
P45A Graceland, Par 51.98 20 eP P 00 26 27.2 +2.7
comp=Z,34nm,1.1s
P45A Graceland, Par 51.98 20 P P 00 26 22.5 -2.0
baz=206
M04C Macdoel 52.06 347 P P 00 26 24.9 -0.2
baz=163
WVOR Wild Horse Val 52.08 350 PFAKE 00 26 40.0 +15
WVOR LR LR
comp=Z,2µm,21.0s
N41A Harden Midland 52.08 17 eP P 00 26 29.2 +4.1
comp=Z,30nm,1.1s
N41A Harden Midland 52.08 17 P P 00 26 23.3 -1.9
baz=202
BLO Bloomington 52.09 22 eP P 00 26 29.2 +3.9
comp=Z,31nm,1.3s
O43A Sugar Creek Fa 52.15 18 P P 00 26 23.3 -2.4
baz=204
R50A Paris 52.16 24 P P 00 26 23.9 -1.9
baz=210
S52A Salyersville 52.16 25 P P 00 26 23.9 -1.9
baz=212
Q48A North Vernon 52.17 22 P P 00 26 23.8 -2.0
baz=209
REDW Red Top Meadow 52.20 358 eP P 00 26 27.7 +1.4
comp=Z,25nm,1.4s
YBH Yreka Blue Hor 52.21 346 eP P 00 26 26.1 -0.1
comp=Z,13nm,1.0s
YBH Yreka Blue Hor 52.21 346 eP P 00 26 26.1 -0.1
YBH pmax pmax
comp=Z,13nm,1.0s
P46A Rosedale 52.25 21 P P 00 26 25.2 -1.2
baz=207
O44A Mansfield 52.30 19 P P 00 26 25.1 -1.7
baz=205
TPAW Teton Pass 52.33 358 eP P 00 26 28.1 +0.7
comp=Z,9.9nm,1.0s
HDIL Hopedale 52.41 18 eP P 00 26 29.2 +1.7
comp=Z,66nm,1.3s
HDIL LR LR
comp=Z,744nm,20.0s
HDIL Hopedale 52.41 18 P P 00 26 25.9 -1.7
baz=204
N42A Yates City 52.43 18 P P 00 26 25.6 -2.1
baz=203
M39A Webster 52.44 15 P P 00 26 24.5 -3.3
baz=200
LOHW Long Hollow 52.44 358 eP P 00 26 27.5 -0.5
comp=Z,33nm,1.7s
P47A Martinsville 52.46 22 P P 00 26 25.8 -2.3
baz=208
R51A Hillsboro 52.48 25 P P 00 26 25.8 -2.4
baz=211
FXWY Fox Creek 52.48 358 eP P 00 26 28.0 -0.4
comp=Z,15nm,1.3s
Q49A Aurora 52.56 23 P P 00 26 26.9 -1.8
baz=210
SCIA State Center 52.58 14 PFAKE 00 26 40.0 +11
SCIA LR LR
comp=Z,2µm,20.0s
L04D Klamath Falls 52.58 347 P P 00 26 28.8 -0.2
baz=163
MOOW Moose Ponds 52.58 358 eP P 00 26 33.9 +4.7
comp=Z,13nm,1.1s
CNNC Cliffs of the 52.63 32 PFAKE 00 26 40.0 +11
CNNC LR LR
comp=Z,2µm,20.0s
O45A Potomac 52.63 20 P P 00 26 27.8 -1.5
baz=206
HLID Hailey 52.64 354 eP P 00 26 29.9 +0.4
comp=Z,11nm,1.0s
HLID LR LR
comp=Z,2µm,20.0s
HLID Hailey 52.64 354 P P 00 26 29.2 -0.3
baz=172
MFID Camas Ranch 52.64 353 eP P 00 26 29.1 -0.3
comp=Z,28nm,1.0s
P48A Milroy 52.75 22 P P 00 26 28.1 -2.1
baz=209
Q50A Georgetown 52.78 24 P P 00 26 28.0 -2.4
baz=211
M41A Milan 52.78 17 P P 00 26 28.5 -1.9
baz=202
N43A Stutzman Famil 52.79 18 P P 00 26 28.8 -1.7
baz=204
L02E Cave Junction 52.82 346 P P 00 26 31.3 +0.6
baz=161
FLWY Flagg Ranch 52.91 358 eP P 00 26 31.5 -0.1
comp=Z,51nm,1.3s
BLA Blacksburg 52.95 28 eP P 00 26 31.0 -0.8
comp=Z,37nm,1.2s
BLA LR LR
comp=Z,1µm,20.0s
BLA Blacksburg 52.95 28 eP P 00 26 31.0 -0.8
BLA pmax pmax
comp=Z,37nm,1.2s
BLA MLR MLR
comp=Z,1µm,20.0s
BLA Blacksburg 52.95 28 P P 00 26 30.4 -1.4
baz=215
J08A Circle Bar Ran 52.95 351 eP P 00 26 32.1 +0.3
comp=Z,19nm,1.1s
N44A Piper City 52.99 19 P P 00 26 31.5 -0.4
baz=205
RSSD Black Hills 53.06 4 eP P 00 26 32.5 -0.1
comp=Z,17nm,1.2s
RSSD Black Hills 53.06 4 eP P 00 26 32.5 -0.1
RSSD pmax pmax
comp=Z,17nm,1.2s
RSSD Black Hills 53.06 4 P P 00 26 31.8 -0.9
baz=185
L39A Vinton 53.08 15 P P 00 26 32.3 -0.3
baz=200
P49A Miami Univ. Ec 53.09 23 P P 00 26 31.1 -1.6
baz=210
M42A Sheffield 53.09 17 P P 00 26 31.5 -1.1
baz=203
ANWB Willy Bob 53.13 60 PFAKE 00 26 50.0 +17
ANWB LR LR
comp=Z,974nm,19.0s
Q51A Peebles 53.19 24 eP P 00 26 34.7 +1.3
comp=Z,16nm,0.9s
Q51A Peebles 53.19 24 P P 00 26 33.3 -0.2
baz=211
H17A Grant Village 53.22 358 P P 00 26 33.5 -0.4
baz=177
L40A Anamosa 53.23 16 P P 00 26 32.3 -1.3
baz=201
N45A Kentland 53.24 20 P P 00 26 34.1 +0.3
baz=206
BBGH Gun Hill 53.26 66 PFAKE 00 26 50.0 +16
BBGH LR LR
comp=Z,2µm,20.0s
M43A Waltham Townsh 53.31 18 P P 00 26 33.4 -0.9
baz=204
K02D Willamette Mer 53.35 346 P P 00 26 33.4 -1.2
baz=161
J05D Fort Rock, OR 53.38 348 P P 00 26 34.6 -0.3
baz=164
LKWY Lake 53.39 358 PFAKE 00 26 50.0 +15
LKWY LR LR
comp=Z,2µm,21.0s
L41A Preston 53.44 17 P P 00 26 34.6 -0.6
baz=202
P50A Jamestown 53.51 24 P P 00 26 33.1 -2.6
baz=211
J04D Umpqua Nationa 53.51 348 P P 00 26 35.7 -0.3
baz=163
O48A Farmland 53.55 22 P P 00 26 33.8 -2.3
baz=209
Q52A Bidwell 53.58 25 P P 00 26 33.6 -2.7
baz=212
ECSD EROS Data Cent 53.60 11 eP P 00 26 37.1 +0.7
comp=Z,13nm,1.1s
ECSD LR LR
comp=Z,2µm,20.0s
ECSD EROS Data Cent 53.60 11 P P 00 26 35.2 -1.2
baz=194
L42A Oliver, Polo 53.62 17 eP P 00 26 37.8 +1.3
comp=Z,21nm,0.8s
L42A Oliver, Polo 53.62 17 P P 00 26 34.4 -2.1
baz=203
YHH Holmes Hill 53.62 358 eP P 00 26 37.0 +0.1
comp=Z,17nm,1.3s
K39A Oelwein 53.66 15 P P 00 26 35.0 -1.8
baz=200
P51A Williamsport 53.69 24 eP P 00 26 41.1 +4.0
comp=Z,73nm,1.7s
P51A Williamsport 53.69 24 P P 00 26 34.7 -2.4
baz=211
MCMT McKenzie Canyo 53.77 356 eP P 00 26 38.2 +0.3
O49A Covington 53.80 23 P P 00 26 35.3 -2.6
baz=210
M45A Boilermakers S 53.81 20 P P 00 26 37.0 -1.0
baz=206
K40A Colesburg 53.85 16 P P 00 26 36.1 -2.1
baz=201
N47A Urbana 53.90 21 P P 00 26 38.1 -0.5
baz=208
SUSD Miller 53.91 8 P P 00 26 37.5 -1.2
baz=191
RLMT Red Lodge 53.92 359 eP P 00 26 41.2 +2.3
comp=Z,31nm,1.9s
RLMT LR LR
comp=Z,1µm,19.0s
RLMT Red Lodge 53.92 359 P P 00 26 38.1 -0.8
baz=179
K41A Shullsburg 53.99 16 P P 00 26 37.4 -1.9
baz=202,SNR=5.1
O50A Cable 54.04 23 P P 00 26 37.8 -1.9
baz=211
L43A Garden Prairie 54.06 18 P P 00 26 38.6 -1.2
baz=204
I04A Tendick Farm, 54.11 347 P P 00 26 39.7 -0.4
baz=163
N48A Decatur 54.12 22 P P 00 26 38.4 -1.8
baz=209
P52A Corning 54.20 25 P P 00 26 39.4 -1.4
baz=212
I03D Drain, OR 54.22 347 P P 00 26 41.3 +0.4
baz=162
BMO Blue Mountains 54.24 352 eP P 00 26 44.0 +2.8
comp=Z,16nm,1.5s
BMO LR LR
comp=Z,2µm,19.0s
JFWS Jewell Farm 54.29 16 eP P 00 26 41.0 -0.4
comp=Z,34nm,1.0s
JFWS LR LR
comp=Z,740nm,22.0s
JFWS Jewell Farm 54.29 16 eP P 00 26 41.0 -0.4
JFWS pmax pmax
comp=Z,34nm,1.0s
JFWS MLR MLR
comp=Z,740nm,22.0s
JFWS Jewell Farm 54.29 16 P P 00 26 40.3 -1.1
baz=202
J39A Decorah 54.29 15 P P 00 26 39.1 -2.3
baz=200
AIN Ainahou 54.30 302 eP P 00 26 41.3 -0.8
comp=Z,472nm,1.6s
ACSO Alum Creek Sta 54.36 24 eP P 00 26 42.5 +0.5
comp=Z,26nm,1.1s
ACSO LR LR
comp=Z,622nm,21.0s
ACSO Alum Creek Sta 54.36 24 P P 00 26 40.4 -1.6
baz=211
P53A Whipple 54.39 26 eP P 00 26 41.5 -0.8
comp=Z,42nm,0.9s
P53A Whipple 54.39 26 P P 00 26 39.6 -2.7
baz=213
I05D Terrebonne, OR 54.41 349 P P 00 26 41.7 -0.6
baz=164
K42A Prairie Point, 54.42 17 P P 00 26 40.8 -1.6
baz=203
O51A Pataskala 54.44 24 P P 00 26 40.5 -2.1
baz=212
BOZ Bozeman (W) 54.47 357 PFAKE 00 27 00.0 +17
BOZ LR LR
comp=Z,3µm,20.0s
BOZ Bozeman (W) 54.47 357 P P 00 26 42.2 -0.6
baz=176
MLOA Mauna Loa Obse 54.47 302 eP P 00 26 42.9 -0.8
comp=Z,243nm,1.5s
POHA Pohakuloa 54.53 302 eP P 00 26 43.7 -0.2
comp=Z,95nm,1.1s
POHA LR LR
comp=Z,2µm,20.0s
GCMT Greycliff 54.59 359 eP P 00 26 44.9 +1.1
J40A Soldiers Grove 54.60 16 P P 00 26 42.6 -1.1
baz=201
K43A Burlington 54.66 18 P P 00 26 41.9 -2.1
baz=204
L46A Eue Claire 54.69 20 P P 00 26 43.4 -1.0
baz=207
O52A Adamsville 54.73 25 eP P 00 26 43.8 -0.9
comp=Z,76nm,1.4s
O52A Adamsville 54.73 25 P P 00 26 42.3 -2.4
baz=212
N50A Nevada 54.76 23 P P 00 26 42.3 -2.6
baz=211
I39A Houston 54.83 15 eP P 00 26 49.5 +4.2
comp=Z,34nm,1.2s
I39A Houston 54.83 15 P P 00 26 43.2 -2.1
baz=200
H04D Lebanon 54.87 347 P P 00 26 45.5 -0.1
baz=163
G08A Pilot Rock 54.91 351 eP P 00 26 46.4 +0.4
comp=Z,21nm,1.1s
L47A Sherwood 55.04 21 P P 00 26 46.1 -0.8
baz=208
I40A Norwalk 55.10 16 P P 00 26 45.9 -1.4
baz=201
G06A Carlson Farm, 55.14 349 eP P 00 26 50.3 +2.7
comp=Z,21nm,1.1s
N51A Ashland 55.19 24 P P 00 26 45.9 -2.1
baz=212
CBN Corbin Frederi 55.20 30 PFAKE 00 27 00.0 +12
CBN LR LR
comp=Z,2µm,20.0s
J43A Natural Harves 55.25 18 P P 00 26 47.2 -1.1
baz=204
G05D Wamic, OR 55.27 349 P P 00 26 48.2 -0.3
baz=164
L48A N Adams 55.29 22 P P 00 26 46.4 -2.3
baz=209
F10A Beach Ranch, E 55.34 353 eP P 00 26 50.6 +1.6
comp=Z,54nm,1.6s
H38A Maiden Rock 55.41 14 P P 00 26 48.7 -0.8
baz=199
LAO LASA Array 55.51 2 eP P 00 26 49.2 -1.1
comp=Z,24nm,1.0s
LAO LR LR
comp=Z,2µm,21.0s
LAO LASA Array 55.51 2 P P 00 26 49.4 -0.9
baz=182
F07A Phinny Hill Vi 55.66 350 eP P 00 26 52.7 +1.4
comp=Z,26nm,1.3s
H39A Augusta 55.66 15 P P 00 26 50.0 -1.3
baz=200
L49A Milan 55.67 22 P P 00 26 49.2 -2.3
baz=210
I43A Langenfeld Bro 55.79 18 P P 00 26 50.1 -2.1
baz=204
MSO Missoula 55.84 355 P P 00 26 51.8 -0.9
baz=173
AAM Ann Arbor 55.88 22 PFAKE 00 27 10.0 +17
AAM LR LR
comp=Z,587nm,20.0s
HAWA Hanford 56.08 351 eP P 00 26 57.0 +2.8
comp=Z,15nm,1.3s
HAWA LR LR
comp=Z,5µm,19.0s
E08A Dider Farm, El 56.10 351 eP P 00 26 57.2 +2.8
comp=Z,17nm,1.4s
K48A Perry 56.15 21 P P 00 26 53.3 -1.5
baz=209
N54A Moraine State 56.21 26 eP P 00 26 59.9 +4.5
comp=Z,39nm,1.1s
N54A Moraine State 56.21 26 P P 00 26 53.7 -1.7
baz=214
G39A Holcombe 56.26 15 P P 00 26 54.5 -1.1
baz=200
O56A Blue Knob Stat 56.27 27 P P 00 26 54.3 -1.6
baz=216
J47A Sunmer 56.28 21 P P 00 26 54.8 -1.0
baz=208
E07A Sunnyside 56.29 351 eP P 00 26 56.9 +1.1
comp=Z,14nm,1.2s
F37A Hinrichs Farm, 56.32 13 P P 00 26 54.5 -1.5
baz=199
SDMD Soldier's Deli 56.40 29 eP P 00 27 01.2 +4.5
comp=Z,11nm,1.1s
D08A Wollman Farm, 56.63 351 eP P 00 27 01.1 +2.9
comp=Z,30nm,1.5s
J48A Bridge Port 56.70 21 P P 00 26 57.6 -1.2
baz=209
F38A Pierce - Schro 56.72 14 P P 00 26 57.3 -1.5
baz=200
JTMT Jette 56.78 355 eP P 00 27 03.6 +4.2
comp=Z,14nm,1.1s
E04D Cinebar 56.78 348 P P 00 26 59.4 +0.2
baz=163
LON Longmire 56.82 349 eP P 00 27 04.2 +4.6
comp=Z,19nm,1.2s
LON Longmire 56.82 349 eP P 00 27 04.2 +4.6
LON pmax pmax
comp=Z,19nm,1.2s
EGMT Eagleton 56.83 359 eP P 00 27 00.2 +0.5
comp=Z,61nm,1.5s
EGMT LR LR
comp=Z,2µm,20.0s
EGMT Eagleton 56.83 359 P P 00 26 59.0 -0.7
baz=178
SSPA Standing Stone 56.88 27 eP P 00 27 02.3 +2.2
comp=Z,36nm,1.2s
SSPA Standing Stone 56.88 27 P P 00 26 58.8 -1.3
baz=217
E03A Lebam 56.98 348 eP P 00 27 04.9 +4.3
comp=Z,46nm,1.1s
I47A Gladwin 57.08 20 P P 00 26 59.2 -2.2
baz=208
MVL Millersville 57.09 29 eP P 00 27 01.7 +0.1
comp=Z,50nm,1.3s
C09A Chrisman Ranch 57.27 352 eP P 00 27 02.1 -0.6
comp=Z,18nm,1.0s
D05A Enumclaw 57.27 349 eP P 00 27 05.4 +2.7
comp=Z,86nm,1.5s
KIP Kipapa 57.36 303 PFAKE 00 27 20.0 +16
KIP LR LR
comp=Z,5µm,21.0s
DGMT Dagmar 57.38 3 eP P 00 27 03.9 +0.4
comp=Z,32nm,0.8s
DGMT LR LR
comp=Z,2µm,19.0s

DGMT Dagmar 57.38 3 P P 00 27 02.9 -0.6
baz=185
COWI Conover 57.54 16 eP P 00 27 05.0 +0.3
comp=Z,22nm,0.9s
NEW Newport 57.58 353 P P 00 27 02.5 -2.4
comp=Z,0.7nm,0.6s,baz=113,slow=7.3,SNR=3.5
NEW LR LR 00 47 32.2
comp=Z,2µm,21.3s,baz=180,slow=32
NEW Newport 57.58 353 eP P 00 27 04.5 -0.4
comp=Z,20nm,1.4s
NEW LR LR
comp=Z,2µm,22.0s
NEW Newport 57.58 353 eP P 00 27 04.5 -0.4
NEW pmax pmax
comp=Z,19nm,1.4s
NEW MLR MLR
comp=Z,2µm,22.0s
NEW Newport 57.58 353 P P 00 27 04.6 -0.4
baz=170
E40A Wakefield 57.66 15 P P 00 27 04.9 -0.6
baz=202
GLMI Grayling 57.75 20 PFAKE 00 27 20.0 +14
GLMI LR LR
comp=Z,1µm,19.0s
D03D Eldon 57.82 348 P P 00 27 06.3 -0.3
baz=163
F43A Flat Rock, Esc 57.85 17 P P 00 27 05.2 -1.6
baz=205
B08A Colville Reser 57.96 351 eP P 00 27 10.7 +3.1
comp=Z,14nm,1.4s
TYNO Tyneside 58.03 24 P P 00 27 09.3 +1.2
baz=214
N59A State Game Lan 58.09 29 P P 00 27 07.5 -1.1
baz=219
AGMN Agassiz Nation 58.15 10 eP P 00 27 13.4 +4.5
comp=Z,15nm,1.0s
AGMN LR LR
comp=Z,1µm,22.0s
AGMN Agassiz Nation 58.15 10 P P 00 27 07.5 -1.4
baz=194
B05A Bryant 58.33 349 P P 00 27 09.6 -0.5
baz=164
B06A Marblemount 58.47 350 eP P 00 27 15.4 +4.4
comp=Z,28nm,1.1s
MMNY Mt. Morris Dam 58.56 26 eP P 00 27 12.0 +0.2
comp=Z,54nm,1.1s
D41A Chassel 58.58 16 P P 00 27 10.1 -1.8
baz=203
MEDO Medina 58.67 25 P P 00 27 13.9 +1.2
baz=215
EYMN Ely 58.68 13 eP P 00 27 17.0 +4.4
comp=Z,27nm,1.2s
EYMN LR LR
comp=Z,2µm,19.0s
EYMN Ely 58.68 13 P P 00 27 10.6 -2.0
baz=200
I52A Shelburne 58.72 23 P P 00 27 11.1 -1.9
baz=213
BINY Binghamton 58.99 28 eP P 00 27 18.9 +4.0
comp=Z,34nm,1.1s
BINY LR LR
comp=Z,2µm,19.0s
BINY Binghamton 58.99 28 P P 00 27 14.1 -0.8
baz=218
EFI East Falkland 59.01 146 PFAKE 00 27 30.0 +15
EFI LR LR
comp=Z,4µm,20.0s
EFI East Falkland 59.01 146 ceP P 00 27 15.3 +0.4
EFI pmax pmax
comp=Z,131nm,1.7s
F48A Evansville 59.31 21 P P 00 27 16.0 -1.0
baz=210
E47A Iron Bridge 59.63 20 P P 00 27 18.5 -0.7
baz=209
SADO Sadowa 59.71 24 P P 00 27 18.1 -1.8
comp=Z,12nm,0.9s,baz=198,slow=4.4,SNR=5.4
E48A Lockeyer 60.03 21 P P 00 27 21.2 -0.8
baz=210
ULM Lac du Bonnet 60.04 9 P P 00 27 20.6 -1.4
comp=Z,8.6nm,0.9s,baz=195,slow=7.2,SNR=5.2
ULM LR LR 00 50 38.4
comp=Z,640nm,21.4s,baz=198,slow=34
F52A Sundridge 60.49 23 P P 00 27 23.8 -1.3
baz=213
D48A Paudash Townsh 60.76 20 P P 00 27 26.2 -0.8
baz=210
ACCN Adirondack Com 60.98 28 eP P 00 27 30.2 +1.7
comp=Z,90nm,1.5s
E51A G1948 Merrick 61.05 22 P P 00 27 28.6 -0.3
baz=213
LONY Lake Ozonia 61.52 27 PFAKE 00 27 40.0 +7.8
LONY LR LR
comp=Z,2µm,20.0s
D51A Lot 18 Range I 61.56 22 P P 00 27 31.6 -0.8
baz=213
E53A Dumoine, Ponti 61.63 24 P P 00 27 31.5 -1.4
baz=215
E54A Lac Daplat, Po 61.86 24 P P 00 27 33.3 -1.1
baz=215
FRNY Flat Rock 62.13 27 eP P 00 27 40.7 +4.4
comp=Z,34nm,1.1s
VT1 Waterbury 62.13 28 eP P 00 27 38.6 +2.3
comp=Z,22nm,0.9s
AFI Afiamalu 62.17 259 LR LR 00 48 25.1
comp=Z,1µm,18.8s,baz=98,slow=30
AFI Afiamalu 62.17 259 PFAKE 00 27 50.0 +13
AFI LR LR
comp=Z,1µm,20.0s
ALFO Alfred 62.18 26 P P 00 27 36.2 -0.3
baz=218
D53A Lac Vacive, Po 62.19 23 P P 00 27 36.0 -0.6
baz=215
PMSA Palmer Station 63.65 160 PFAKE 00 28 00.0 +14
PMSA LR LR
comp=Z,985nm,19.0s
FFC Flin Flon 63.75 4 eP P 00 27 48.9 +2.0
comp=Z,69nm,1.9s
FFC LR LR
comp=Z,2µm,19.0s
FFC Flin Flon 63.75 4 eP P 00 27 48.9 +2.0
FFC pmax pmax
comp=Z,69nm,1.9s
FFC MLR MLR
comp=Z,2µm,19.0s
LSQQ Lebel-sur-Quev 64.09 22 P P 00 27 48.9 -0.3
baz=215
MATQ Matagami 64.42 22 P P 00 27 49.9 -1.4
baz=214
LATQ La Tuque 64.45 26 P P 00 27 50.9 -0.7
baz=219
PKME Peaks-Kenny Pk 64.48 30 PFAKE 00 28 00.0 +8.2
PKME LR LR
comp=Z,2µm,20.0s
CHGQ Chibougamau 65.78 23 P P 00 27 59.3 -0.8
baz=217
RAO Raoul Island 67.81 242 LR LR 00 50 29.4
comp=Z,987nm,20.7s,baz=121,slow=30
RAO Raoul Island 67.81 242 PFAKE 00 28 30.0 +16
RAO LR LR
comp=Z,1µm,22.0s
WRAK Wrangell Islan 68.17 346 PFAKE 00 28 30.0 +15
WRAK LR LR
comp=Z,820nm,20.0s
FUNA Funafuti 71.45 264 PFAKE 00 28 50.0 +14
FUNA LR LR
comp=Z,2µm,19.0s
YKA Yellowknife Ar 71.48 357 P P 00 28 33.3 -2.2
comp=Z,4.5nm,0.9s,baz=168,slow=5.7,SNR=14
YKA LR LR 00 57 54.4
comp=Z,89nm,18.0s,baz=178,slow=34
YKB5 Yellowknife Ar 71.48 357 eP P 00 28 33.5 -1.9
RCBR Riachuelo 71.85 93 PFAKE 00 28 50.0 +11
RCBR LR LR
comp=Z,19µm,22.0s
HOPE Hope Point 72.16 144 PFAKE 00 28 50.0 +10
HOPE LR LR
comp=Z,1µm,20.0s
URZ Urewera 72.30 233 LR LR 00 54 59.8
comp=Z,1µm,18.5s,baz=104,slow=31
SCHQ Schefferville 72.52 24 P P 00 28 40.5 -1.4
comp=Z,14nm,1.1s,baz=245,slow=19,SNR=2.7
SCHQ LR LR 00 58 57.1
comp=Z,1µm,21.5s,baz=249,slow=35
BKZ Black Stump Fm 72.82 232 eP P 00 28 47.8 +3.6
comp=Z,63nm,1.4s
HYT Haines Junctio 73.34 346 eP P 00 28 47.7 +0.9
comp=Z,30nm,1.4s
SNZO South Karori 74.27 230 PFAKE 00 29 00.0 +7.4
SNZO LR LR
comp=Z,2µm,21.0s
OUZ Omahuta 75.08 236 eP P 00 28 57.6 +0.2
comp=Z,37nm,1.2s
BMRM Bremner River 75.38 343 eP P 00 28 59.1 +0.6
comp=Z,39nm,1.4s
KDAK Kodiak Island 75.67 337 PFAKE 00 29 10.0 +10
KDAK LR LR
comp=Z,1µm,20.0s
SCM Sheep Creek Mo 76.87 342 eP P 00 29 07.2 +0.1
comp=Z,16nm,0.9s
SCM Sheep Creek Mo 76.87 342 eP P 00 29 07.2 +0.1
SCM pmax pmax
comp=Z,17nm,0.9s
RPZ Rata Peaks 77.00 227 LR LR 00 58 00.4
comp=Z,1µm,18.1s,baz=70,slow=32
RC01 Rabbit Creek A 77.06 341 eP P 00 29 08.5 +0.4
comp=Z,24nm,1.2s
PMR Palmer 77.25 341 eP P 00 29 07.5 -1.6
comp=Z,73nm,1.8s
PMR Palmer 77.25 341 eP P 00 29 07.5 -1.6
PMR pmax pmax
comp=Z,73nm,1.8s
DOT Dot Lake 77.39 345 eP P 00 29 08.0 -1.9
comp=Z,15nm,0.9s
EGAK Eagle 77.60 346 eP P 00 29 10.3 -0.7
comp=Z,15nm,1.0s
EGAK LR LR
comp=Z,2µm,20.0s
RIDG Independ'e Rid 77.67 344 eP P 00 29 10.4 -1.1
comp=Z,30nm,0.9s
SUA Susitna One 77.67 341 eP P 00 29 15.9 +4.3
comp=Z,47nm,1.8s
EPYK Eagle Plains 78.02 349 P P 00 29 12.4 -1.0
baz=151
HDA Harding Lake 78.77 344 eP P 00 29 19.5 +2.0
comp=Z,7.9nm,1.0s
HDA Harding Lake 78.77 344 P P 00 29 16.8 -0.7
baz=141
TRF Thorofare Moun 79.00 342 eP P 00 29 18.4 -0.6
comp=Z,14nm,0.9s
IL1 Eielson Array 79.03 344 eP P 00 29 16.8 -2.2
ILAR Eielson Array 79.03 344 P P 00 29 16.8 -2.2
comp=Z,3.5nm,1.0s,baz=165,slow=5.0,SNR=23
ILAR LR LR 00 57 09.5
comp=Z,883nm,19.8s,baz=146,slow=30
ILB Eielson Array 79.03 344 eP P 00 29 17.9 -1.0
SVW2 Sparrevohn 79.07 339 eP P 00 29 18.1 -1.1
comp=Z,34nm,1.6s
WRH Wood River Hil 79.13 344 eP P 00 29 17.9 -1.6
comp=Z,28nm,1.0s
PPLA Purkeypile 79.18 341 eP P 00 29 22.2 +2.2
comp=Z,29nm,1.2s
CCB Clear Creek Bu 79.19 344 eP P 00 29 19.5 -0.3
comp=Z,6.6nm,0.9s
INK Inuvik 79.19 351 eP P 00 29 19.1 -0.6
comp=Z,21nm,1.0s
INK Inuvik 79.19 351 eP P 00 29 19.1 -0.6
INK pmax pmax
comp=Z,21nm,1.0s
COLA College 79.37 344 PFAKE 00 29 30.0 +9.2
COLA LR LR
comp=Z,924nm,20.0s
UNV Unalaska Valle 79.43 329 eP P 00 29 20.6 -0.7
comp=Z,62nm,1.2s
POKR Poker Plat Res 79.45 344 P P 00 29 21.2 -0.1
baz=141
CAST Castle Rocks 79.52 342 eP P 00 29 19.1 -2.6
comp=Z,17nm,1.0s
MDM Murphy Dome 79.54 344 eP P 00 29 21.3 -0.5
comp=Z,19nm,1.2s
BPAW Bear Paw Mtn. 79.69 342 eP P 00 29 27.0 +4.4
comp=Z,34nm,1.3s
SBA Scott Base 80.14 192 PFAKE 00 29 40.0 +15
SBA LR LR
comp=Z,359nm,22.0s
MLY Manley 80.30 343 eP P 00 29 24.7 -1.2
comp=Z,17nm,1.0s
QSPA South Pole Qui 81.04 180 PFAKE 00 29 40.0 +10
QSPA LR LR
comp=Z,1µm,22.0s
VNDA Vanda 81.18 193 P P 00 29 30.9 +0.4
comp=Z,2.8nm,1.0s,baz=106,slow=5.9,SNR=4.5
VNDA LR LR 00 58 46.3
comp=Z,185nm,18.9s,baz=97,slow=31
VNDA Vanda 81.18 193 eP P 00 29 32.2 +1.8
comp=Z,32nm,1.8s
VNDA Vanda 81.18 193 eP P 00 29 32.3 +1.8
VNDA pmax pmax
comp=Z,32nm,1.8s
COLD Coldfoot 81.79 345 eP P 00 29 33.6 -0.1
comp=Z,17nm,1.3s
IM3 Indian Mountai 81.86 343 eP P 00 29 32.1 -2.0
DZM Mont Dzumac 82.22 249 eS S 00 39 51.5 -1.0
comp=Z,286nm,26.9s
DZM Mt Dzumac 82.22 249 eLR LR 00 55 21.0
comp=Z,925nm,27.3s
TOLK Toolik Lake Re 82.70 346 eP P 00 29 38.4 -0.1
comp=Z,24nm,1.4s
TOLK Toolik Lake Re 82.70 346 P P 00 29 37.6 -0.9
baz=139
RES Resolute Bay 83.99 4 P P 00 29 44.7 -0.3
comp=Z,5.3nm,1.0s,baz=190,slow=12,SNR=4.9
ADK Adak 84.04 325 PFAKE 00 30 00.0 +14
ADK LR LR
comp=Z,2µm,20.0s
VNA3 Neumayer Olymp 84.30 161 P P 00 29 46.2 -0.6
ANM Nome 84.75 339 eP P 00 29 48.6 -0.4
comp=Z,28nm,1.3s
ANM Nome 84.75 339 eP P 00 29 48.6 -0.4
ANM pmax pmax
comp=Z,28nm,1.3s
VNA1 Neumayer--Stat 84.88 161 P P 00 29 49.1 -0.6
VNA2 Neumayer--Watz 85.09 161 P P 00 29 49.3 -1.5
baz=257,slow=5.1
RDOG Red Dog Mine 85.94 342 eP P 00 29 56.4 +1.5
comp=Z,22nm,1.0s
SNAA Sanae 86.31 162 P P 00 29 55.5 -1.4
SNAA Sanae 86.31 162 eP P 00 29 55.4 -1.6
comp=Z,31nm,1.1s
SNAA Sanae 86.31 162 ceP P 00 29 56.0 -0.9
SFJD Kangerlussuaq 86.36 19 PFAKE 00 30 10.0 +13
SFJD LR LR
comp=Z,1µm,19.0s
H11S2 WAKE ISLAND Hy 88.06 289 T T 02 07 15.1
baz=100,slow=74,SNR=956
H11S1 WAKE ISLAND Hy 88.06 289 T T 02 07 14.1
baz=100,slow=74,SNR=515
H11S3 WAKE ISLAND Hy 88.07 289 T T 02 07 14.9
baz=100,slow=74,SNR=694
H11N3 WAKE ISLAND Hy 88.08 290 T T 02 07 14.7
baz=100,slow=75,SNR=407
H11N2 WAKE ISLAND Hy 88.09 290 T T 02 07 17.4
baz=100,slow=75,SNR=392
H11N1 WAKE ISLAND Hy 88.10 290 T T 02 07 16.4
baz=100,slow=75,SNR=173
WAKE Wake Island 88.24 290 PFAKE 00 30 20.0 +13
WAKE LR LR
comp=Z,933nm,20.0s
HNR Honiara 90.17 260 PFAKE 00 30 30.0 +14
HNR LR LR
comp=Z,724nm,19.0s
NVL N'lazarevskaya 91.00 163 eP P 00 30 20.2 +1.1
NVL eS SKSac 00 40 50.8 +0.5
NVL pmax pmax
comp=Z,5.0nm,0.7s
ASCN Ascension 92.71 98 PFAKE 00 30 40.0 +12
ASCN LR LR
comp=Z,56µm,21.0s
TAU Tasmania Unive 94.20 226 PFAKE 00 30 50.0 +16
TAU LR LR
comp=Z,1µm,20.0s
BILL Bilibino 96.58 338 PFAKE 00 31 00.0 +15
BILL LR LR
comp=Z,3µm,20.0s
BILL Bilibino 96.58 338 eP P 00 30 46.1 +1.5
BILL e 00 34 39.4
BILL pmax pmax
comp=Z,3.0nm,1.3s
PETK Petropavlovsk- 99.51 322 LR LR 01 06 33.3
comp=Z,1µm,21.8s,baz=97,slow=30
SHEL Horse Pasture 99.51 108 PFAKE 00 31 10.0 +11
SHEL LR LR
comp=Z,570nm,20.0s
CASY Casey 99.68 195 PFAKE 00 31 10.0 +11
CASY LR LR
comp=Z,62nm,19.0s
CTAO Charters Tower 101.11 247 PFAKE 00 31 20.0 +14
CTAO LR LR
comp=Z,612nm,21.0s
PMG Port Moresby 102.59 258 PFAKE 00 31 20.0 +7.2
PMG LR LR
comp=Z,826nm,21.0s
MA2 Magadan 103.24 329 PFAKE 00 31 30.0 +15
MA2 LR LR
comp=Z,970nm,20.0s
KBS Kingsbay 104.45 10 PFAKE 00 31 30.0 +10
KBS LR LR
comp=Z,1µm,19.0s
PAB San Pablo 106.51 51 PFAKE 00 35 50.0
PAB LR LR
comp=Z,612nm,21.0s
GUMO Guam 108.25 281 PFAKE 00 36 00.0
GUMO LR LR
comp=Z,540nm,19.0s
TIXI Tiksi 108.50 344 PFAKE 00 35 50.0
TIXI LR LR
comp=Z,529nm,21.0s
YSS Yuzh-Sakhalins 109.42 317 PFAKE 00 36 00.0
YSS LR LR
comp=Z,470nm,21.0s
ERM Erimo 109.70 311 PFAKE 00 36 00.0
ERM LR LR
comp=Z,660nm,19.0s
ASAR Alice Springs 111.03 240 PP PP 00 36 25.0 -2.8
comp=Z,0.4nm,0.7s,baz=111,slow=5.1,SNR=3.5
TORD Torodi Ar. Bea 111.45 79 PP PP 00 36 32.4 +1.1
comp=Z,0.4nm,0.8s,baz=256,slow=8.6,SNR=2.7
WRAB Tennant Creek 111.89 244 PFAKE 00 36 00.0
WRAB LR LR
comp=Z,472nm,20.0s
WRA Warramunga Arr 111.90 244 PKiKP **PKiKP 00 35 50.6 -0.7**
comp=Z,0.3nm,0.6s,baz=279,slow=0.6,SNR=3.2
YAK Yakutsk 112.58 334 PFAKE 00 36 00.0
YAK LR LR
comp=Z,609nm,20.0s
MAJO Matsushiro 114.11 306 PFAKE 00 36 10.0 +15
MAJO LR LR
comp=Z,435nm,20.0s
BFO Black Forest 114.37 41 PFAKE 00 36 10.0 +15
BFO LR LR
comp=Z,14nm,19.0s
CLL Collm 116.39 37 ePS PS 00 46 47.0 -0.7
CLL ePPS PPS 00 48 06.0
CLL eSS SS 00 53 06.0 -2.8
CLL e(SSS) 00 57 06.0
CLL e 00 58 24.0
CLL eSSSS 01 00 54.0
CLL LmV 01 23 00.0
comp=Z,300nm,18.4s
SUR Sutherland 116.42 133 PFAKE 00 36 10.0 +10
SUR LR LR
comp=Z,2µm,20.0s
MDJ Mudanjiang 118.90 316 PFAKE 00 36 20.0 +16
MDJ LR LR
comp=Z,1µm,22.0s
NWAO Narrogin (SRO) 119.77 224 PFAKE 00 36 20.0 +14
NWAO LR LR
comp=Z,825nm,21.0s
TSUM Tsumeb 119.82 118 PFAKE 00 36 20.0 +13
TSUM LR LR
comp=Z,811nm,19.0s
CN2 Changchun 121.99 316 PKP **PKPdf 00 36 07.0 -2.9**
CN2 ePP **PP 00 37 47.5 +3.6**
CN2 eSS SS 00 54 22.0 +0.4
CN2 LR LR
comp=Z,600nm,20.0s
CN2 LR LR
comp=Z,1µm,22.0s
HIA Hailar 123.36 324 PFAKE 00 36 20.0 +7.6
HIA LR LR
comp=Z,576nm,21.0s
BZS Buzias 123.84 40 ⇓PKIKP **PKPdf 00 36 11.5 -1.9**
MBWA Marble Bar 124.02 237 PFAKE 00 36 30.0 +15
MBWA LR LR
comp=Z,1µm,20.0s
DRGR 124.02 39 ⇓PKIKP **PKPdf 00 36 12.7 -1.2**
BURAR Bucovina Array 125.16 37 ⇓PKIKP **PKPdf 00 36 15.9 -0.1**
KIEV Kiev 125.75 32 PFAKE 00 36 30.0 +13
KIEV LR LR
comp=Z,569nm,20.0s
KIEV Kiev 125.75 32 c iPKIKP **PKPdf 00 36 17.9 +1.0**
KIEV pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 125.76 32 PKP **PKPdf 00 36 15.1 -1.8**
comp=Z,0.3nm,0.3s,baz=295,slow=2.6,SNR=6.5
OBN Obninsk 126.33 24 PFAKE 00 36 30.0 +12
OBN LR LR
comp=Z,221nm,19.0s
OBN Obninsk 126.33 24 i PKIKP **PKPdf 00 36 17.4 -0.4**
OBN pmax pmax
comp=Z,44nm,2.5s
DAV Davao City (W) 126.57 272 PFAKE 00 36 30.0 +10
DAV LR LR
comp=Z,205nm,20.0s
MLR Muntele Rosu 126.62 39 ⇑PKIKP **PKPdf 00 36 17.8 -1.1**
PLOR Plostina 126.88 38 ⇑PKIKP **PKPdf 00 36 17.9 -1.4**
VRI Vrincioaia 126.92 38 ⇑PKIKP **PKPdf 00 36 17.8 -1.6**
TIRR Tirgusor 128.65 39 ⇑iP **PKPdf 00 36 22.1 -0.5**
TIRR Tirgusor 128.65 39 ⇑PKIKP **PKPdf 00 36 22.1 -0.5**
LPSR Galich'ya Gora 129.11 25 ePKIKP **PKPdf 00 36 26.1 +2.8**
LPSR pmax pmax
comp=Z,7.0nm,0.6s
BJT Baijiatuau 129.83 315 PFAKE 00 36 40.0 +15
BJT LR LR
comp=Z,771nm,20.0s
KAPI Kappang 130.03 256 PFAKE 00 36 40.0 +14
KAPI LR LR
comp=Z,295nm,20.0s
TLY Talaya 130.06 334 PFAKE 00 36 40.0 +15
TLY LR LR
comp=Z,993nm,20.0s
VSR Storozhevoye 130.21 26 ePKIKP **PKPdf 00 36 24.0 -1.4**
VSR pmax pmax
comp=Z,7.0nm,1.1s
VORD Divnogorie 130.45 26 ePKIKP **PKPdf 00 36 24.5 -1.3**
VORD pmax pmax
comp=Z,10.0nm,0.6s
LSZ Lusaka 130.65 119 PFAKE 00 36 40.0 +13
LSZ LR LR
comp=Z,948nm,20.0s
NJ2 Nanjing 130.69 305 ePKP **PKPdf 00 36 28.5 +1.6**
ULN Ulaanbaatar 131.09 329 PFAKE 00 36 40.0 +13
ULN LR LR
comp=Z,911nm,21.0s
VRH Novokhopyorsk 131.31 25 ePKIKP **PKPdf 00 36 28.0 +0.5**
VRH pmax pmax
comp=Z,10.0nm,0.6s
SONM Songino Array 131.45 329 PKP **PKPdf 00 36 27.9 -0.1**
comp=Z,0.9nm,0.9s,baz=150,slow=1.2,SNR=4.9
ARU Arti 131.63 10 PFAKE 00 36 40.0 +12
ARU LR LR
comp=Z,723nm,20.0s
ARU Arti 131.63 10 PKHKP PKPpre 00 36 16.1
HHC Hu-ho-hao-te 132.54 319 ePKP PKPdf 00 36 18.8 -12
HHC PP **PP 00 38 48.0 -5.7**
HHC AMB AMB
comp=Z,240nm,5.5s
HHC LR LR
comp=N,530nm,13.8s
HHC LR LR
comp=E,310nm,13.0s
HHC LR LR
comp=Z,960nm,13.8s
ANTO Ankara 133.78 42 PFAKE 00 36 40.0 +7.4
ANTO LR LR
comp=Z,195nm,20.0s
ZALV Zalesovo Beam 133.97 349 PKP **PKPdf 00 36 31.0 -1.5**
comp=Z,0.8nm,0.4s,baz=10,slow=1.6,SNR=2.7
ZALV Zalesovo Beam 133.97 349 PKIKP **PKPdf 00 36 31.0 -1.5**
BRTR Keskin Array B 134.41 42 PKP **PKPdf 00 36 31.5 -2.4**
comp=Z,1.8nm,0.8s,baz=287,slow=2.6,SNR=8.5
BRVK Borovoye 136.09 1 PFAKE 00 36 50.0 +14
BRVK LR LR
comp=Z,339nm,20.0s
BRVK Borovoye 136.09 1 c iPKIKP **PKPdf 00 36 40.8 +4.4**
BRVK pmax pmax
comp=Z,15nm,1.7s
KIV Kislovodsk 137.08 31 PFAKE 00 36 50.0 +11
KIV LR LR
comp=Z,254nm,19.0s
KIV Kislovodsk 137.08 31 i PKIKP PKPdf 00 36 48.6 +10

KIV				pmax	pmax			
	comp=Z,6.0nm,1.0s							
KBZ	**Khabaz**	**137.35**	**31**	PKP	**PKPdf**	**00 36 40.1**	**+1.1**	
	comp=Z,2.8nm,0.9s,baz=305,slow=1.5,SNR=4.1							
KURK	**Kurchatov**	**138.05**	**353**	PFAKE		00 36 50.0	+10	
KURK				LR	LR			
	comp=Z,1μm,21.0s							
KURK	**Kurchatov**	**138.05**	**353**	*i* PKIKP	**PKPdf**	**00 36 44.9**	**+4.8**	
MBAR	**Mbarara**	**138.17**	**101**	PFAKE		00 36 50.0	+8.3	
MBAR				LR	LR			
	comp=Z,326nm,19.0s							
ENH	**Enshi**	**138.84**	**306**	PFAKE		00 36 50.0	+7.7	
ENH				LR	LR			
	comp=Z,487nm,20.0s							
LZH	**Lanzhou**	**140.21**	**318**	*e*PKP	**PKPdf**	**00 36 39.5**	**-5.3**	
LZH				LR	LR			
	comp=Z,130nm,18.1s							
LZH				LR	LR			
	comp=Z,130nm,18.0s							
LZH				LR	LR			
	comp=Z,180nm,20.1s							
GTA	**Gaotai**	**140.63**	**325**	*e*PKP	**PKPdf**	**00 36 48.3**	**+2.9**	
GTA				PP	**PP**	**00 39 51.3**	**+7.1**	
GTA				AMB	AMB			
	comp=Z,150nm,5.4s							
GTA				LR	LR			
	comp=Z,600nm,18.1s							
GTA				LR	LR			
	comp=Z,540nm,18.4s							
GTA				LR	LR			
	comp=Z,940nm,17.5s							
GNI	**Garni**	**140.86**	**33**	PFAKE		00 37 00.0	+14	
GNI				LR	LR			
	comp=Z,382nm,20.0s							
MKAR	**Makanchi Array**	**141.29**	**348**	PKP	**PKPdf**	**00 36 45.9**	**-0.3**	
	comp=Z,2.2nm,1.0s,baz=73,slow=4.5,SNR=3.5							
QIZ	**Qiongzhong**	**141.69**	**289**	PFAKE		00 37 00.0	+12	
QIZ				LR	LR			
	comp=Z,275nm,20.0s							
GYA	**Guiyang**	**142.57**	**302**	*e*PKP	**PKPdf**	**00 36 48.3**	**-0.9**	
GYA				PP	**PP**	**00 40 00.5**	**+3.6**	
GYA				AMB	AMB			
	comp=Z,120nm,7.8s							
WMQ	**Urumqi**	**142.63**	**341**	*e*PKP	**PKPdf**	**00 36 47.0**	**-1.8**	
WMQ				pPKP	sPKPdf	00 36 54.8	-0.9	
WMQ				LR	LR			
	comp=Z,1μm,25.1s							
WMQ				LR	LR			
	comp=Z,2μm,27.3s							
CD2	**Chengdu**	**143.00**	**311**	PKP	**PKPdf**	**00 36 48.5**	**-1.3**	
CD2				PP	**PP**	**00 39 58.8**	**-0.3**	
CD2				AMB	AMB			
	comp=Z,120nm,5.2s							
CD2				LR	LR			
	comp=Z,720nm,16.9s							
CD2				LR	LR			
	comp=Z,400nm,26.8s							
ABPO	**Ambohimpanom**	**143.18**	**139**	*e*PKPdf	**PKPdf**	**00 36 48.9**	**-1.7**	
ABPO				LR	LR			
	comp=Z,394nm,21.0s							
ABPO	**Ambohimpanom**	**143.18**	**139**	*e*PKIKP	**PKPdf**	**00 36 48.9**	**-1.7**	
ABPO				MLR	MLR			
	comp=Z,394nm,21.0s							
KMBO	**Kilima Mbogo**	**144.31**	**105**	PKP	**PKPdf**	**00 36 52.9**	**+0.1**	
	comp=Z,7.9nm,1.1s,baz=259,slow=4.4,SNR=12							
KMBO	**Kilima Mbogo**	**144.31**	**105**	*e*PKPdf	**PKPdf**	**00 36 53.1**	**+0.4**	
KMBO				LR	LR			
	comp=Z,503nm,19.0s							
KMBO	**Kilima Mbogo**	**144.31**	**105**	*e*PKIKP	**PKPdf**	**00 36 53.2**	**+0.4**	
KMBO				MLR	MLR			
	comp=Z,503nm,19.0s							
FRU	**Bishkek**	**146.24**	**356**	*e*PKP2	**PKPab**	**00 37 00.0**	**+3.3**	
FRU				pmax	pmax			
	comp=Z,50nm,2.0s							
KMI	**Kunming**	**146.35**	**302**	PKPbc	**PKPbc**	**00 36 56.5**	**-0.7**	
KMI				pPKP	pPKPdf	00 37 00.8	-0.3	
KMI				sPKP		00 37 03.0		
KMI				PP	**PP**	**00 40 21.8**	**+2.2**	
KMI				SKKS		00 47 15.0		
KMI				AMB	AMB			
	comp=Z,160nm,10.8s							
KMI				LR	LR			
	comp=Z,200nm,22.9s							
KMI				LR	LR			
	comp=Z,540nm,24.1s							
AAK	**Ala-Archa**	**146.44**	**356**	PFAKE		00 37 10.0	+12	
AAK				LR	LR			
	comp=Z,449nm,19.0s							
AAK	**Ala-Archa**	**146.44**	**356**	*c i* PKP2	**PKPdf**	**00 36 55.7**	**+0.2**	
AAK				pmax	pmax			
	comp=Z,13nm,1.0s							
COCO	**West Island**	**147.24**	**230**	PFAKE		00 37 10.0	+8.7	
COCO				LR	LR			
	comp=Z,420nm,22.0s							
GEYT	**Alibeck**	**148.77**	**21**	PKPbc	**PKPbc**	**00 37 02.6**	**-0.6**	
	comp=Z,4.9nm,0.9s,baz=281,slow=8.3,SNR=9.8							
KSH	**Kashi**	**149.40**	**353**	PKPbc	**PKPbc**	**00 37 05.8**	**+0.9**	
KSH				PP	PP	00 40 47.5	+12	
KSH				AMB	AMB			
	comp=Z,280nm,4.7s							
SRAK	**Srakaew**	**149.80**	**282**	P	**PKPab**	**00 37 09.7**	**-2.0**	
	comp=Z,40nm,0.9s,comp=Z,0.1nm							
RAYN	**Ar Rayn**	**151.17**	**57**	*e*PKPbc	**PKPbc**	**00 37 09.7**	**+0.2**	
RAYN				LR	LR			
	comp=Z,444nm,20.0s							
RAYN	**Ar Rayn**	**151.17**	**57**	*e*PKIKP	**PKPbc**	**00 37 09.7**	**+0.2**	
RAYN				MLR	MLR			
	comp=Z,444nm,20.0s							
CMMT	**Chiang Mai**	**151.79**	**293**	P	**PKPbc**	**00 37 10.4**	**-0.6**	
	comp=Z,11nm,0.9s							
CHTO	**Chiang Mai**	**151.79**	**293**	*e*PKPbc	**PKPbc**	**00 37 10.1**	**-0.9**	
CHTO				LR	LR			
	comp=Z,331nm,21.0s							
CHTO	**Chiang Mai**	**151.79**	**293**	*e*PKIKP	**PKPbc**	**00 37 10.1**	**-0.9**	
CHTO				MLR	MLR			
	comp=Z,331nm,21.0s							
CHTO	**Chiang Mai**	**151.79**	**293**	P	**PKPbc**	**00 37 10.5**	**-0.5**	
	comp=Z,51nm,0.9s							
CMAR	**Chiang Mai Arr**	**151.89**	**292**	PKPbc	**PKPbc**	**00 37 10.3**	**-0.9**	
	comp=Z,3.1nm,0.9s,baz=279,slow=3.4,SNR=4.3							
LSA	**Lhasa**	**152.48**	**321**	PFAKE		00 37 20.0	-3.0	
LSA				LR	LR			
	comp=Z,922nm,20.0s							
UMPA	**Umpang Tak**	**152.50**	**288**	P	**PKPab**	**00 37 22.1**	**-0.8**	
	comp=Z,3.1nm,0.5s,comp=Z,1μm							
NIL	**Nilore**	**155.46**	**357**	PFAKE		00 37 20.0	+11	
NIL				LR	LR			
	comp=Z,408nm,20.0s							

NNC 26 00:30:54.4±4.6, 37.38N×69.62E, h0km, mb3.6, mpv3.2, 6C-4D, Error ellipse: s-maj=34.0km s-min=29.9km az=4.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.02**	**48**	⇑P	Pn	00 31 57.0	-0.4
	1.4nm,0.3s						
SFK				⇑S	Sn	00 32 46.8	+1.5
	40nm,0.6s						
MNAS	**Manas**	**5.56**	**23**	⇓P	Pn	00 32 20.7	+2.2
	1.6nm,0.5s						
MNAS				⇓S	Sn	00 33 25.9	+2.8
	11nm,0.4s						
KK31	**Karatay Array**	**5.75**	**7**	⇑P	Pn	00 32 22.7	+1.7
	0.6nm,0.3s,baz=181,slow=12						
KK31				⇑S	Sn	00 33 28.1	+0.3
	5.8nm,0.8s,baz=192,slow=27						
KK31				⇑Lg	Lg	00 33 57.0	
	2.7nm,0.6s						
AAK	**Ala-Archa**	**6.45**	**34**	Pn	Pn	00 32 30.1	-0.6
	0.9nm,0.3s						
AAK				⇑S	Sn	00 33 45.9	+0.9
	9.4nm,0.6s						
TKM2	**Tokmak 2**	**7.18**	**38**	⇓P	Pn	00 32 38.5	-2.3
	1.4nm,0.8s						
TKM2				⇓S	Sn	00 34 01.8	-1.3
	2.5nm,0.6s						

DJA 26 00:44:49.1±0.6, 3°S±5', 12°1E±', h10km, M3.7/6, MLv3.7/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTSI	**Tana Toraja**	**1.48**	**257**	P	Pn	00 45 15.1	-0.8
SPSI	**Sidrap Palu**	**1.94**	**230**	P	Pn	00 45 21.8	-0.4
BNSI	**Bone**	**2.03**	**215**	P	Pn	00 45 24.0	+0.6
BKSI	**Bulukumba**	**2.83**	**204**	P	Pn	00 45 34.0	-0.4

MEX 26 01:18:44.9±0.3, 13.74N×92.18W, h15km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.16**	**356**	*i* P	Pn	01 19 02.8	-3.8
THIG				*i* S	Sb	01 19 17.0	-4.6
PCIG		**2.19**	**333**	*e*P	Pn	01 19 17.9	-2.9
PCIG				*e*S	Sn	01 19 43.5	-4.2
CCIG	**Comitan**	**2.52**	**1**	*i* P	Pn	01 19 23.3	-2.2
CCIG				*e*P	Pb	01 19 26.5	-3.6
CCIG				*i* S	Sn	01 19 52.5	-3.7

*ISCJB **26** 01:22:10.6±0.9, 24.8N±0.1×125.78E±0.08, h59km±7km, mb3.4/3, MS4.0/1, Error ellipse: s-maj=23.0km s-min=4.5km az=147.8*
*JMA **26** 01:22:10.7±0.1, 24.76N×125.79E, h58km±1km, M3.6*
*IDC **26** 01:22:12.0±1.5, 25.40N×125.10E, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.5/41, mbtmp3.7/4, ML4.2/1, MS4.0/1, Ms1 4.0/1, ms1mx3.1/28, Error ellipse: s-maj=57.6km s-min=26.9km az=68.0*
ISC 26 01:22:11.8±1.4, 24.8N±0.1×125.77E±0.0, h53km±9km, n18, σ0.53/28, mb3.5/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**0.33**	**264**	P	**Pn**	**01 22 21.0**	**-0.4**
JOGS				S	**Sn**	**01 22 28.4**	**+0.1**
JMJ	**Miyako jima 2**	**0.43**	**273**	P	**Pn**	**01 22 22.1**	**-0.3**
JMJ				S	**Sn**	**01 22 30.4**	**+0.3**
JIKM	**Ikemajima**	**0.49**	**286**	P	**Pn**	**01 22 22.8**	**-0.3**
JIKM				S	**Sn**	**01 22 31.7**	**+0.5**
JIRB	**Irabujima**	**0.54**	**274**	P	**Pn**	**01 22 23.1**	**-0.6**
JIRB				S	**Sn**	**01 22 32.1**	**-0.2**
JTJ	**Tarama**	**0.98**	**261**	P	**Pn**	**01 22 29.1**	**-0.2**
JTJ				S	**Sn**	**01 22 42.3**	**+0.1**
JISG	**Ishigakijimahi**	**1.34**	**261**	P	**Pn**	**01 22 33.6**	**-0.6**
JISG				S	**Sn**	**01 22 50.4**	**-0.5**
JIJ	**Ishigaki jima**	**1.54**	**254**	P	**Pn**	**01 22 36.3**	**-0.6**
JIJ				S	**Sn**	**01 22 54.9**	**-0.8**
JKRS	**Kuro-shima**	**1.69**	**251**	P	**Pn**	**01 22 38.3**	**-0.7**
JKRS				S	**Sn**	**01 22 59.2**	**-0.3**
JKE	**Kume jima 2**	**1.78**	**31**	P	**Pn**	**01 22 39.5**	**-0.7**
JKE				*e*S	**Sn**	**01 23 01.6**	**-0.1**
IRIF	**Iriomote-Funau**	**1.91**	**257**	P	**Pn**	**01 22 41.9**	**0.0**
IRIF				*e*S	**Sn**	**01 23 04.6**	**-0.2**
HATJ	**Hateruma jima**	**1.93**	**248**	P	**Pn**	**01 22 42.3**	**+0.1**
HATJ				*e*S	**Sn**	**01 23 05.5**	**+0.1**
JAGN	**Aguni-jima**	**2.23**	**36**	P	**Pn**	**01 22 46.1**	**-0.2**
JAGN				*e*S	**Sn**	**01 23 12.3**	**-0.4**
JJT3	**Tamagusuku3**	**2.27**	**53**	P	**Pn**	**01 22 46.6**	**-0.2**
JJT3				*e*S	**Sn**	**01 23 12.9**	**-0.7**
MJAR	**Matsushiro Arr**	**15.85**	**39**	Pn	**P**	**01 25 55.8**	**+1.5**
	0.8nm,0.3s,baz=233,slow=12,SNR=9.4						
MKAR	**Makanchi Array**	**40.87**	**314**	P	**P**	**01 29 48.5**	**-0.1**
	0.2nm,0.4s,baz=101,slow=10.0,SNR=6.0						
FITZ	**Fitzroy Crossi**	**42.63**	**180**	LR	LR	01 49 31.4	
	comp=Z,182nm,18.8s,baz=214,slow=38						
WRA	**Warramunga Arr**	**45.24**	**169**	P	P	01 30 36.2	+12
	1.0nm,1.0s,baz=350,slow=9.3,SNR=4.1						
ASAR	**Alice Springs**	**48.81**	**170**	P	P	01 31 05.0	+13
	0.4nm,0.8s,baz=354,slow=7.6,SNR=3.5						

*SKO **26** 01:23:35.9, 40.89N×21.05E, h20km, M1.5, ML1.8*
*TIR **26** 01:23:36.9, 40.86N×21.06E, h7km, Md2.5/3*
*ATH **26** 01:23:36.4, 40.90N×21.12E, h18km, ML2.0/9, Error ellipse: s-maj=1.7km s-min=0.8km az=143.0*
*ISCJB **26** 01:23:37.0±0.3, 40.89N±0.02×21.10E±0.03, h6km±3km, Error ellipse: s-maj=3.4km s-min=2.9km az=38.3*
*THE **26** 01:23:37.2, 40.85N×21.08E, h13km±1km, ML2.3/3, Error ellipse: s-maj=1.1km s-min=0.4km az=165.0*
ISC 26 01:23:37.4±0.9, 40.86N±0.02×21.09E±0.02, h11km±7km, n50, σ1.907/75, 1C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FNA	**Florina**	**0.23**	**110**	P	**Pg**	**01 23 42.2**	**0.0**
FNA				S	**Sg**	**01 23 46.3**	**+0.9**
FNA	**Florina**	**0.23**	**110**	P	**Pg**	**01 23 42.2**	**0.0**
FNA				S	**Sg**	**01 23 46.3**	**+0.9**
FNA	**Florina**	**0.23**	**110**	*i* PG	**Pg**	**01 23 42.2**	**0.0**
FNA				*i* SG	**Sg**	**01 23 46.5**	**+1.1**
BIA	**Bitola**	**0.23**	**48**	P	**Pg**	**01 23 42.3**	**0.0**
BIA				S	**Sg**	**01 23 46.6**	**+1.0**
BIA	**Bitola**	**0.23**	**48**	⇓*i* Pg	**Pg**	**01 23 42.3**	**0.0**
BIA				*i* Sg	**Sg**	**01 23 46.6**	**+1.0**
BIA				*e*Lg	Lg	01 23 47.2	
	comp=N,254nm,0.2s						
BIA				*e*Lg	Lg	01 23 47.3	
	comp=E,171nm,0.2s						
KBN	**Korca**	**0.33**	**224**	P	**Pg**	**01 23 43.4**	**-0.7**
KBN				S	**Sg**	**01 23 48.7**	**+0.2**
KBN	**Korca**	**0.33**	**224**	*i* PG	**Pg**	**01 23 43.1**	**-0.9**
KBN				*i* SG	**Sg**	**01 23 48.6**	**+0.2**
OHR	**Ohrid**	**0.33**	**318**	⇑*i* Pg	**Pg**	**01 23 42.6**	**-1.4**
OHR				*i* Sg	**Sg**	**01 23 48.1**	**-0.4**
OHR				*e*Lg	Lg	01 23 48.8	
	comp=E,126nm,0.3s						
OHR				*e*Lg	Lg	01 23 48.8	
	comp=N,132nm,0.4s						
NEST	**Nestorio**	**0.45**	**184**	P	**Pg**	**01 23 45.7**	**-0.5**
NEST				S	**Sb**	**01 23 53.6**	**-0.5**
NEST				AML	AML	01 23 54.0	
	comp=E,937μm,0.3s						
NEST				AML	AML	01 23 54.0	
	comp=N,491μm,0.3s						
NEST	**Nestorio**	**0.45**	**184**	P	**Pg**	**01 23 45.6**	**-0.6**
NEST				S	**Sg**	**01 23 52.1**	**0.0**
KRUS	**Krusevo**	**0.52**	**13**	⇓*i* Pg	**Pg**	**01 23 46.1**	**-1.5**
KRUS				*i* Sg	**Sg**	**01 23 53.8**	**-0.6**
KRUS				*e*Lg	Lg	01 23 54.2	
	comp=E,137nm,0.2s						
KRUS				*e*Lg	Lg	01 23 54.3	
	comp=N,98nm,0.4s						
PENT	**Pentalofos**	**0.67**	**177**	P	**Pg**	**01 23 49.9**	**-0.4**
PENT				S	**Sb**	**01 23 60.0**	**-0.4**
PENT	**Pentalofos**	**0.67**	**177**	P	**Pg**	**01 23 49.8**	**-0.5**
KZN	**Kozani**	**0.76**	**137**	P	**Pg**	**01 23 51.1**	**-1.0**
KZN				S	**Sb**	**01 24 02.6**	**-0.4**
KZN				AML	AML	01 24 05.3	
	comp=N,236μm,0.4s						
KZN				AML	AML	01 24 06.9	
	comp=E,292μm,0.4s						
KZN	**Kozani**	**0.76**	**137**	P	**Pg**	**01 23 51.2**	**-0.8**
PHP	**Peshkopia**	**0.96**	**329**	*i* PG	**Pg**	**01 23 55.8**	**-0.1**
PHP				*i* SG	**Sb**	**01 24 09.5**	**+0.7**
GRG	**Griva**	**1.00**	**84**	P	**Pg**	**01 23 55.4**	**-1.2**
GRG				S	**Sb**	**01 24 08.9**	**-0.9**
GRG				AML	AML	01 24 14.8	
	comp=E,116μm,0.4s						
GRG				AML	AML	01 24 15.1	
	comp=N,212μm,0.5s						
GRG	**Griva**	**1.00**	**84**	P	**Pg**	**01 23 55.8**	**-0.8**
TIR	**Tirane**	**1.05**	**298**	P	**Pb**	**01 23 55.8**	**-1.7**
STIP	**Stip**	**1.17**	**44**	*i* Pg	**Pg**	**01 24 01.4**	**+1.6**
STIP				*i* Sg	**Sn**	**01 24 20.9**	**+5.2**
STIP				*e*Lg	Lg	01 24 22.1	
	comp=E,7.8nm,0.3s						
STIP				*e*Lg	Lg	01 24 22.2	
	comp=N,7.1nm,0.3s						
VAY	**Valandovo**	**1.21**	**67**	*i* Pg	**Pb**	**01 23 59.3**	**-1.0**
VAY				*i* Sg	**Sn**	**01 24 16.5**	**-0.1**
VAY				*e*Lg	Lg	01 24 17.7	
	comp=N,11nm,0.5s						
VAY				*e*Lg	Lg	01 24 17.9	
	comp=E,11nm,0.4s						
JAN	**Janina**	**1.22**	**189**	P	**Pn**	**01 24 00.3**	**-0.1**
JAN				S	**Sn**	**01 24 18.0**	**+1.1**
JAN				AML	AML	01 24 20.8	
	comp=E,102μm,0.4s						
JAN				AML	AML	01 24 21.2	
	comp=N,138μm,0.3s						
LIT	**Litokhoron**	**1.31**	**125**	P	**Pb**	**01 24 01.4**	**-0.6**
LIT				S	**Sg**	**01 24 19.2**	**-0.3**
LIT				AML	AML	01 24 24.8	
	comp=N,98μm,0.3s						
LIT				AML	AML	01 24 24.9	
	comp=E,104μm,0.4s						
KNT	**Kendrikon**	**1.40**	**77**	P	**Pn**	**01 24 01.9**	**-0.9**
KNT				S	**Sn**	**01 24 20.8**	**-0.5**
KNT				AML	AML	01 24 26.8	
	comp=N,66μm,0.8s						
KNT				AML	AML	01 24 27.2	
	comp=E,29μm,0.5s						
KNT	**Kendrikon**	**1.40**	**77**	P	**Pn**	**01 24 02.1**	**-0.8**
SGD	**Sagiada**	**1.41**	**208**	P	**Pb**	**01 24 04.2**	**+0.4**
IGT	**Igoumenitsa**	**1.45**	**204**	P	**Pb**	**01 24 04.9**	**+0.5**
IGT				S	**Sg**	**01 24 24.6**	**+0.5**
IGT				AML	AML	01 24 28.8	
	comp=E,90μm,0.9s						
IGT				AML	AML	01 24 29.3	
	comp=N,113μm,0.6s						
THL	**Klokotos Trika**	**1.48**	**151**	P	**Pn**	**01 24 03.5**	**-0.4**
THL				S	**Sg**	**01 24 24.9**	**+0.1**
THL				AML	AML	01 24 30.4	
	comp=N,58μm,0.2s						
THL				AML	AML	01 24 33.1	
	comp=E,60μm,0.2s						
KEK	**Kerkira**	**1.52**	**221**	P	**Pb**	**01 24 05.4**	**-0.1**
KEK				S	**Sg**	**01 24 26.8**	**+0.7**
SOH	**Sokhos**	**1.72**	**91**	P	**Pn**	**01 24 07.1**	**-0.2**
SOH				S	**Sb**	**01 24 30.4**	**-0.1**
SOH				AML	AML	01 24 36.5	
	comp=N,34μm,0.4s						
SOH				AML	AML	01 24 38.4	
	comp=E,38μm,0.5s						
PLG	**Polygyros**	**1.86**	**104**	P	**Pb**	**01 24 09.9**	**-1.5**
SRS	**Serrai**	**1.91**	**82**	P	**Pn**	**01 24 09.9**	**0.0**
MAKR	**Makrakomi, Fth**	**2.01**	**156**	P	**Pn**	**01 24 11.9**	**+0.6**
MAKR				S	**Sb**	**01 24 38.6**	**-0.5**
EVR	**Evrytania**	**2.02**	**164**	P	**Pb**	**01 24 12.7**	**-1.5**
TSLK	**Tsoukalades, L**	**2.06**	**190**	P	**Pn**	**01 24 13.0**	**+1.0**
LKD2	**Lefkada island**	**2.10**	**189**	P	**Pb**	**01 24 14.0**	**-1.4**
SCTE	**Santa Cesarea**	**2.15**	**249**	P	**Pn**	**01 24 14.1**	**+0.9**
XOR	**Xorichti**	**2.20**	**132**	P	**Pn**	**01 24 14.3**	**+0.5**
NEO	**Neokhori**	**2.26**	**133**	P	**Pn**	**01 24 14.6**	**-0.1**
OUR	**Ouranopolis**	**2.26**	**103**	P	**Pn**	**01 24 14.7**	**0.0**
EVGI	**Lefkada island**	**2.26**	**189**	P	**Pb**	**01 24 16.8**	**-1.4**
PVO	**Paravola**	**2.27**	**171**	P	**Pb**	**01 24 16.4**	**-1.9**
ANX	**Ano Chora**	**2.35**	**164**	P	**Pn**	**01 24 17.5**	**+1.4**
EFP	**Efpalio**	**2.51**	**165**	P	**Pn**	**01 24 20.0**	**+1.9**
SERG	**Sergoula**	**2.56**	**163**	P	**Pn**	**01 24 19.2**	**+0.4**
KALE	**Kalithea**	**2.60**	**162**	P	**Pn**	**01 24 19.8**	**+0.4**
VLS	**Valsamata**	**2.71**	**188**	P	**Pn**	**01 24 22.4**	**+1.5**
KLV	**Kalavryta, Ach**	**2.93**	**163**	P	**Pn**	**01 24 24.7**	**+0.7**
DRO	**Drossia**	**2.95**	**170**	P	**Pn**	**01 24 25.7**	**+1.5**
GUR	**Goura**	**3.08**	**161**	P	**Pn**	**01 24 27.0**	**+0.9**

KRSC 26 01:24:28.5±2.2, 50.27N×157.16E, h40km±15km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.79**	**302**	*e*P	Pn	01 24 43.0	-0.1
SKR				*e*S	Sn	01 24 53.1	-0.6
PAU	**Pauzhetka**	**1.22**	**350**	*e*P	Pn	01 24 50.9	+1.8
PAU				*e*S	Sn	01 25 06.5	+2.1
KDTR	**Khodutka, Kamc**	**1.65**	**20**	*e*P	Pn	01 24 56.9	+2.0
KDTR				*e*S	Sn	01 25 17.1	+2.2
MTVR	**Mutnovka**	**2.31**	**16**	*e*P	Pn	01 25 07.0	+2.8
MTVR				*e*S	Sn	01 25 34.4	+3.0
RUS	**Russkaya**	**2.33**	**21**	*e*P	Pn	01 25 06.0	+1.7
RUS				*e*S	Sn	01 25 33.2	+1.6
KRMR	**Karymshinskiy**	**2.64**	**13**	*e*S	Sn	01 25 42.6	+3.4
DALK	**Dalny**	**2.94**	**19**	*e*P	Pn	01 25 16.6	+3.9
DALK				*e*S	Sn	01 25 50.9	+4.2
UGLR	**Uglovaya**	**3.12**	**19**	*e*P	Pn	01 25 20.2	+4.9
AVH	**Avacha**	**3.16**	**17**	*e*P	Pn	01 25 20.2	+4.4
AVH				*e*S	Sn	01 25 57.0	+4.8
KOK	**Koryaka**	**3.17**	**16**	*e*P	Pn	01 25 20.5	+4.6
SMAR	**Somma**	**3.17**	**18**	*e*P	Pn	01 25 20.3	+4.3
SDLR	**Sedlovina**	**3.20**	**19**	*e*P	Pn	01 25 19.4	+3.0
KRX	**Arik**	**3.23**	**16**	*e*P	Pn	01 25 22.3	+5.5
KRX				*e*S	Sn	01 26 00.6	+6.5
SPN	**Mys Shipunski**	**3.35**	**31**	*e*S	Sn	01 25 59.6	+2.9
GNL	**Ganaly**	**3.47**	**8**	*e*P	Pn	01 25 23.3	+3.3
KBTR	**Krutoberegovo**	**6.85**	**27**	*e*P	Pn	01 26 09.6	+3.3

*PRE **26** 01:37:45.2±1.7, 26.90S×26.75E, h2km, ML2.6*
*EAF **26** 01:37:45.6±0.5, 27.59S×27.86E, h66km, MD4.0*
*BUL **26** 01:37:45.5±0.5, 27.71S×27.99E, h65km, MD4.0*
ISC 26 01:37:45.5±1.5, 26.91S±0.03×26.76E±0.03, h6km±12km, n17, σ1.924/34, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**0.54**	**91**	*e*P	**Pb**	**01 37 57.4**	**0.0**
PRYS				*e*S	**Sb**	**01 38 04.9**	**-0.6**
PRYS				AML	AML	01 38 11.5	
	comp=Z,144nm,0.2s						
KLOF	**Kloof**	**0.95**	**54**	*e*P	**Pg**	**01 38 03.7**	**0.0**
KLOF				*e*S	**Sg**	**01 38 15.5**	**-0.5**
KLOF				AML	AML	01 38 21.4	
	comp=Z,830nm,0.2s						
KSR	**Koster**	**1.06**	**7**	*e*P	**Pb**	**01 38 06.5**	**0.0**
KSR				*e*S	**Sb**	**01 38 19.9**	**-0.8**
KSR				AML	AML	01 38 24.6	
	comp=Z,93nm,0.3s						
SWZ	**Schweizer**	**1.30**	**258**	*e*P	**Pb**	**01 38 10.3**	**-0.1**
SWZ				*e*S	**Sn**	**01 38 28.4**	**+0.3**
SWZ				AML	AML	01 38 31.2	
	comp=Z,482nm,0.3s						
ERPM	**east rand prop**	**1.44**	**67**	*e*P	**Pb**	**01 38 13.2**	**+0.3**
ERPM				*e*S	**Sn**	**01 38 33.2**	**+1.5**
ERPM				AML	AML	01 38 34.9	
	comp=Z,119nm,0.2s						
SLR	**Silverton**	**1.80**	**50**	*e*P	**Pn**	**01 38 17.8**	**+0.6**
SLR				*e*S	**Sn**	**01 38 40.8**	**+0.4**
SLR				AML	AML	01 38 47.5	
	comp=Z,80nm,0.2s						
BOSA	**Boshof**	**2.15**	**218**	*i* P	**Pb**	**01 38 24.1**	**-0.9**
BOSA				*i* S	**Sb**	**01 38 52.0**	**-0.1**
BOSA	**Boshof**	**2.15**	**218**	*e*P	**Pn**	**01 38 23.1**	**+1.0**

*ISCJB **26** 01:39:48.4±0.6,34°.80S×0°.04×71°.92W±0°.10,h50km±6km, mb3.3/2,Error ellipse: s-maj=14.3km s-min=5.5km az=20.8*

ISC 26 01:39:48.9±1.0,**34°.76S**±0°.04×**71°.86W**±0°.09,**h33**km±3km, **n20,σ1°30/30,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Hualaæ Ø**	**0.25**	**193**	*e*Pn	**Pb**	**01 39 56.8**	**+0.6**
GO05				*e*Sn	**Sb**	**01 40 02.4**	**+1.3**
GO05	**Hualaæ Ø**	**0.25**	**193**	*e*P	**Pn**	**01 39 55.9**	**-0.1**
GO05				*i* S	**Sb**	**01 40 02.5**	**+1.4**
GO05				IAML		01 40 03.2	
	comp=E,17μm,0.3s						
LMEL	**Las Melosas**	**1.65**	**57**	*e*P	**Pn**	**01 40 14.6**	**-1.0**
LMEL				*i* S	**Sn**	**01 40 37.0**	**+1.3**
LMEL				IAML		01 40 43.3	
	comp=N,2μm,0.7s						
CLCH	**Cerro Calan**	**1.75**	**39**	*e*P	**Pn**	**01 40 17.1**	**+0.2**
CLCH				*i* S	**Sn**	**01 40 40.3**	**+2.2**
CLCH				IAML		01 40 49.0	
	comp=N,2μm,0.5s						
CCHI	**Chillan**	**1.84**	**185**	*e*P	**Pb**	**01 40 20.7**	**-1.3**
CCHI				*i* S	**Sn**	**01 40 41.6**	**+1.3**
CCHI				IAML		01 40 52.9	
	comp=N,2μm,0.5s						
PEL	**Peldehue**	**1.89**	**31**	*e*Pn	**Pn**	**01 40 19.9**	**+1.1**
PEL				*e*Sn	**Sb**	**01 40 45.7**	**-0.2**
PEL	**Peldehue**	**1.89**	**31**	*e*P	**Pn**	**01 40 19.5**	**+0.7**
PEL				*e*S	**Sn**	**01 40 44.5**	**+3.0**
PEL				IAML		01 40 50.2	
	comp=N,1μm,0.3s						
ROC1	**El Roble**	**1.92**	**22**	*e*Pn	**Pn**	**01 40 20.4**	**+1.0**
ROCH	**El Roble**	**1.92**	**22**	*e*P	**Pn**	**01 40 20.4**	**+1.0**
ROCH				*i* S	**Sb**	**01 40 46.5**	**-0.6**
ROCH				IAML		01 40 50.7	
	comp=E,1μm,0.5s						
FCH	**Farellones**	**1.94**	**43**	*e*P	**Pn**	**01 40 20.0**	**+0.3**
FCH				*i* S	**Sn**	**01 40 45.3**	**+2.2**
FCH				IAML		01 40 52.2	
	comp=N,980nm,0.2s						
GO04	**Tololo Observa**	**4.66**	**11**	*e*Pn	**Pn**	**01 40 57.5**	**+0.4**
GO04				*e*Sn	**Sn**	**01 41 49.3**	**-0.9**
GO06	**Curarrehue**	**4.82**	**176**	*e*Pn	**Pn**	**01 41 00.3**	**+1.1**
LCO	**Las Campanas**	**5.82**	**10**	*e*Pn	**Pn**	**01 41 12.4**	**-0.7**
PLCA	**Paso Flores**	**6.05**	**171**	Pn	**Pn**	**01 41 16.3**	**+0.3**
	comp=N,0.7nm,0.3s,baz=355,slow=12,SNR=14						
PLCA				Lg	Lg	01 42 54.4	
	comp=N,0.2nm,0.3s,baz=313,slow=18,SNR=2.1						
GO03	**Copiap**	**7.28**	**11**	*e*Pn	**Pn**	**01 41 30.7**	**-2.2**
TRQA	**Tornquist**	**8.62**	**115**	*e*Pn	**Pn**	**01 41 51.4**	**+0.2**
LPAZ	**La Paz**	**18.70**	**11**	P	**P**	**01 44 05.2**	**+0.1**
	comp=N,0.1nm,0.3s,baz=187,slow=11,SNR=5.1						
NNA	**Nana**	**23.12**	**348**	*e*P	**P**	**01 44 52.5**	**+0.4**
TXAR	**Lajitas Array**	**70.47**	**331**	P	**P**	**01 50 59.6**	**-0.4**
	comp=N,0.1nm,0.6s,baz=152,slow=10.0,SNR=3.7						
TORD	**Torodi Ar. Bea**	**84.33**	**70**	P	**P**	**01 52 16.4**	**-1.5**
	comp=N,0.4nm,0.8s,baz=237,slow=5.0,SNR=2.7						

*AZER **26** 01:40:04.4±0.1,38°.30N×46°.55E,h0km,ml3.9/28,Error ellipse: s-maj=3.7km s-min=1.1km az=14.0*
*TEH **26** 01:40:07.7,38°.42N×46°.67E,h4km,ML3.5*
*IDC **26** 01:40:08.8±1.3,38°.40N×46°.61E,h0km,mb3.8/7, mb1 3.8/11,mb1mx3.6/56,mbtmp3.8/11,ML2.9/4,Error ellipse: s-maj=24.1km s-min=12.7km az=16.0*
*THR **26** 01:40:08.6±0.3,38°.46N×46°.65E,h16km±5km,ML3.5*
*DDA **26** 01:40:26.1,38°.39N×45°.18E,h4km,Ml3.0*

ISC 26 01:40:08.0±1.1,**38°.41N**±0°.02×**46°.62E**±0°.02,**h1**km±8km, **n94,σ1°92**/132,**mb3.8/7,19C-23D, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITBZ	**Tabriz**	**0.41**	**245**	*e*Pg	**Pb**	**01 40 16.5**	**-1.7**
ITBZ				IAMB	IAmb	01 40 24.0	
	comp=N,2μm,0.2s						
ITBZ				IAMB	IAmb	01 40 24.1	
	comp=Z,67μm,0.2s						
ITBZ				IAMB	IAmb	01 40 27.2	
	comp=E,99μm,0.3s						
ORD	**Ordubad**	**0.72**	**317**	⇑P	**Pb**	**01 40 22.1**	**-1.2**
ORD				⇓S	**Sb**	**01 40 32.3**	**-1.4**
IBST	**Bostanabad**	**0.74**	**163**	*e*Pg	**Pg**	**01 40 21.4**	**-0.7**
ISHB	**Shabestar**	**0.80**	**261**	*e*Pg	**Pb**	**01 40 23.9**	**-0.9**
ISHB				IAMB	IAmb	01 40 37.5	
	comp=Z,37μm,0.2s						
ISHB				IAMB	IAmb	01 40 41.9	
	comp=E,67μm,0.3s						
ISHB				IAMB	IAmb	01 40 43.6	
	comp=N,58μm,0.4s						
ISRB	**Sarab**	**1.01**	**125**	*e*Pg	**Pg**	**01 40 26.6**	**-0.7**
ISRB				IAMB	IAmb	01 40 47.5	
	comp=N,26μm,0.3s						
ISRB				IAMB	IAmb	01 40 48.1	
	comp=Z,15μm,0.2s						
ISRB				IAMB	IAmb	01 40 56.6	
	comp=E,31μm,0.4s						
GRMI	**Germi**	**1.07**	**68**	*e*Pg	**Pg**	**01 40 28.1**	**-0.5**
GRMI				IAML		01 40 44.2	
	comp=N,952nm,0.2s						
GRMI	**Germi**	**1.07**	**68**	*e*Pn	**Pg**	**01 40 28.1**	**-0.5**
NAX	**Nakhchivan**	**1.17**	**311**	P	**Pb**	**01 40 30.4**	**-0.6**
	SNR=373						
NAX				⇓S	**Sn**	**01 40 47.8**	**-0.3**
SBZ	**Shahbuz**	**1.29**	**320**	⇑P	**Pb**	**01 40 32.6**	**-0.5**
SBZ				⇓S	**Sn**	**01 40 51.0**	**-0.3**
LRK	**Lerik**	**1.37**	**80**	⇑P	**Pg**	**01 40 33.7**	**-0.5**
	SNR=225						
LRK				⇑S	**Sn**	**01 40 53.8**	**+0.7**
GLBA	**Clilabad**	**1.61**	**58**	P	**Pg**	**01 40 38.8**	**-0.1**
	SNR=102						
GLBA				⇑S	**Sg**	**01 41 02.7**	**+2.9**
ASTR	**Astara**	**1.71**	**84**	⇓P	**Pb**	**01 40 39.8**	**-0.4**
	SNR=103						
ASTR				⇓S	**Sg**	**01 41 04.4**	**+1.5**
LKRN	**Lenkeran, Azer**	**1.72**	**79**	⇓P	**Pb**	**01 40 40.0**	**-0.3**
	SNR=89						
LKRN				⇓S	**Sg**	**01 41 05.4**	**+2.2**
MAKU	**Maku**	**1.79**	**303**	*e*Pn	**Pb**	**01 40 40.8**	**-0.8**
MAKU				*e*Sg	**Sg**	**01 41 04.9**	**-0.4**
MAKU				IAML		01 41 06.8	
	comp=N,500nm,0.4s						
MAKU				IAML		01 41 10.2	
	comp=E,476nm,0.4s						
MAKU	**Maku**	**1.79**	**303**	*e*Pn	**Pb**	**01 40 40.8**	**-0.8**
HYR	**Heyderabad**	**1.90**	**314**	⇑P	**Pb**	**01 40 43.0**	**-0.5**
HYR				⇓S	**Sg**	**01 41 09.1**	**0.0**
BRDA	**Brd**	**1.90**	**13**	P	**Pg**	**01 40 43.9**	**-0.6**
	SNR=30						
BRDA				⇓S	**Sg**	**01 41 12.0**	**+2.9**
SAAT	**Saatly**	**2.02**	**43**	P	**Pb**	**01 40 44.0**	**-1.4**
	SNR=12						
SAAT				⇓S	**Sg**	**01 41 12.1**	**-0.7**
YOVA	**Hakkari_Y`...kse**	**2.02**	**247**	*i* P	**Pg**	**01 40 46.3**	**-0.4**
YOVA				*i* S	**Sg**	**01 41 16.8**	**+4.0**
ZRD	**Zardab**	**2.04**	**23**	⇓P	**Pg**	**01 40 46.8**	**-0.3**
	SNR=13						
ZRD				⇓S	**Sg**	**01 41 16.3**	**+2.7**
CLDR	**Caldiran**	**2.24**	**290**	P	**Pg**	**01 40 50.2**	**-0.7**
CLDR	**Caldiran**	**2.24**	**290**	*i* P	**Pb**	**01 40 49.3**	**0.0**
CLDR				*i* S	**Sg**	**01 41 18.8**	**-1.1**
GANJ	**Ganja**	**2.25**	**354**	P	**Pb**	**01 40 48.5**	**-0.9**
	SNR=69						
GANJ				⇑S	**Sb**	**01 41 17.8**	**0.0**
GNI	**Garni**	**2.27**	**321**	P	**Pb**	**01 40 49.4**	**-0.5**
GNI				S	**Sb**	**01 41 19.2**	**+0.7**
GNI	**Garni**	**2.27**	**321**	Pn	**Pb**	**01 40 50.1**	**+0.2**
	comp=E,41nm,0.3s,baz=113,slow=0.3,SNR=112						
GNI				Lg	Lg	01 41 21.1	
	comp=E,67nm,0.3s,baz=1.7,slow=23,SNR=13						
KDMR	**Kurdemir**	**2.31**	**31**	P	**Pb**	**01 40 50.0**	**-0.4**
	SNR=5.3						
KDMR				⇓S	**Sg**	**01 41 23.5**	**+1.3**
ZNJK	**Zanjan**	**2.39**	**136**	*e*Pn	**Pb**	**01 40 49.6**	**-2.3**
ZNJK	**Zanjan**	**2.39**	**136**	*e*Pn	**Pb**	**01 40 49.6**	**-2.3**
MNGR	**Mingechevir, A**	**2.39**	**8**	P	**Pb**	**01 40 51.7**	**-0.1**
	SNR=6.5						
MNGR				⇓S	**Sg**	**01 41 25.7**	**+0.9**
GDB	**GEDABAY**	**2.41**	**344**	⇑P	**Pb**	**01 40 51.4**	**-0.8**
	SNR=116						
GDB				⇑S	**Sg**	**01 41 24.5**	**-0.9**
ALIB	**Äli-Bayra**	**2.41**	**49**	⇓P	**Pb**	**01 40 51.7**	**-0.4**
	SNR=6.6						
ALIB				⇑S	**Sg**	**01 41 24.7**	**-0.9**
TASB	**TASBURUN-IGDIR**	**2.43**	**311**	P	**Pb**	**01 40 51.2**	**-1.3**
VMUR	**Van-Muradiye**	**2.46**	**285**	*i* P	**Pb**	**01 40 53.4**	**+0.3**
VMUR				*i* S	**Sb**	**01 41 21.6**	**-2.2**
TVAN	**Van**	**2.53**	**274**	*i* P	**Pg**	**01 40 57.4**	**+0.9**
TVAN				*i* S	**Sg**	**01 41 34.0**	**+4.7**
VANB	**Van**	**2.54**	**275**	P	**Pb**	**01 40 54.1**	**-0.4**
DYDN	**Diyadin**	**2.55**	**297**	*i* P	**Pg**	**01 40 56.5**	**-0.4**
CUKT	**Cukurca**	**2.65**	**245**	P	**Pb**	**01 40 55.9**	**-0.5**
CUKT	**Cukurca**	**2.65**	**245**	*i* P	**Pg**	**01 40 58.0**	**-0.9**
CUKT				*i* S	**Sb**	**01 41 29.6**	**+0.2**
IML	**Ismayilli**	**2.67**	**26**	P	**Pb**	**01 40 54.3**	**-2.3**
	SNR=30						
IML				⇑S	**Sb**	**01 41 28.7**	**-1.2**
QBL	**Gabala**	**2.70**	**20**	P	**Pb**	**01 40 54.9**	**-2.3**
	SNR=12						
QBL				⇑S	**Sb**	**01 41 30.8**	**0.0**
GBS	**Qobustan**	**2.78**	**39**	P	**Pb**	**01 40 57.9**	**-0.6**
	SNR=21						
GBS				⇑S	**Sg**	**01 41 35.5**	**-1.9**
GEVA	**Gevas**	**2.80**	**269**	*i* P	**Pb**	**01 40 58.5**	**-0.4**
GEVA				*i* S	**Sg**	**01 41 37.1**	**-1.0**
QZX	**Qazax, Azerbai**	**2.82**	**340**	⇓P	**Pb**	**01 40 57.6**	**-1.5**
	SNR=11						
QZX				⇑S	**Sb**	**01 41 35.6**	**+1.5**
PQL	**Pirkuli**	**2.82**	**32**	⇑P	**Pb**	**01 40 57.5**	**-1.8**
	SNR=22						
PQL				⇓S	**Sb**	**01 41 36.1**	**+1.7**
SEKA	**Sheki**	**2.83**	**9**	P	**Pn**	**01 40 56.5**	**+2.1**
	SNR=28						
SEKA				⇓S	**Sb**	**01 41 36.1**	**+1.5**
XNQ	**Khinaliq**	**3.00**	**22**	P	**Pn**	**01 40 58.1**	**+1.3**
	SNR=41						
XNQ				⇓S	**Sb**	**01 41 39.8**	**+0.3**
ATGJ	**Altiaghaj**	**3.03**	**35**	P	**Pb**	**01 41 01.0**	**-1.9**
	SNR=32						
AGRB	**Hanur-Agry**	**3.06**	**294**	P	**Pb**	**01 41 02.6**	**-0.7**
DDFL	**Dedoflistskaro**	**3.06**	**353**	P	**Pg**	**01 41 05.1**	**-1.5**
DDFL				S	**Sg**	**01 41 48.0**	**+1.7**
ADCV	**BITLIS_Adilcev**	**3.08**	**279**	*i* P	**Pb**	**01 41 02.8**	**-0.9**
SIZA	**Siyzn**	**3.19**	**33**	P	**Pb**	**01 41 03.5**	**-2.0**
	SNR=11						
ZKTA	**Zakatala**	**3.23**	**360**	⇓P	**Pb**	**01 41 03.9**	**-2.1**
	SNR=23						
ZKTA				⇓S	**Sb**	**01 41 46.0**	**+0.2**
QUBA	**Quba, Azerbaij**	**3.28**	**25**	⇓P	**Pb**	**01 41 03.6**	**-3.4**
	SNR=25						
QUBA				⇓S	**Sb**	**01 41 47.5**	**+0.2**
QSAR	**Qusar**	**3.35**	**22**	⇑P	**Pn**	**01 41 04.4**	**+2.9**
	SNR=40						
QSAR				⇑S	**Sb**	**01 41 49.6**	**+0.2**
SIRT	**Sirnak**	**3.43**	**256**	P	**Pb**	**01 41 07.5**	**-2.1**
KZRT	**Kazreti**	**3.43**	**331**	P	**Pb**	**01 41 10.7**	**+1.1**
KZRT				S	**Sg**	**01 41 58.0**	**-0.2**
LGD	**Lagodekhi**	**3.44**	**355**	P	**Pb**	**01 41 06.8**	**-2.9**
LGD				S	**Sb**	**01 41 53.4**	**+1.5**
SIRN	**S¨–rnak**	**3.45**	**256**	*i* P	**Pg**	**01 41 12.9**	**-1.2**
KARS	**Kars**	**3.52**	**310**	*e*P	**Pb**	**01 41 07.9**	**-3.3**
EATA	**Eleskirt**	**3.53**	**296**	*i* P	**Pb**	**01 41 12.6**	**+1.2**
HKZM	**Kohzaman**	**3.53**	**148**	*e*Pn	**Pn**	**01 41 06.5**	**+2.3**
QABG	**Abgarm-Qazvin**	**3.59**	**138**	*e*Pn	**Pn**	**01 41 06.5**	**+1.6**
QABG				IAMB	IAmb	01 42 11.4	
	comp=Z,0.0nm,1.4s						
QABG				IAMB	IAmb	01 43 13.0	
	comp=N,0.0nm,4.5s						
GURO	**Guroymak-BITLI**	**3.60**	**274**	*e*P	**Pb**	**01 41 10.4**	**-2.2**
TBLG	**Delisi**	**3.62**	**337**	*e*P	**Pn**	**01 41 08.6**	**+3.4**
TBLG	**Delisi**	**3.62**	**337**	P	**Pb**	**01 41 14.3**	**+1.5**
TBLG				S	**Sb**	**01 41 59.8**	**+2.5**
SEAG	**Tbilisi Sea**	**3.63**	**338**	P	**Pb**	**01 41 12.2**	**-0.8**
SEAG				S	**Sb**	**01 41 59.4**	**+1.8**
EKAR	**Karacoban**	**3.66**	**285**	*i* P	**Pg**	**01 41 21.0**	**+2.9**
TRLG	**Trialeti**	**3.68**	**329**	P	**Pb**	**01 41 15.2**	**+1.3**
TRLG				S	**Sg**	**01 42 02.7**	**-3.5**
BGD	**Bogdanovka**	**3.68**	**322**	P	**Pg**	**01 41 17.9**	**-0.7**
BGD				S	**Sg**	**01 42 13.2**	**+6.9**
SRTM	**Siirt_Merkez**	**3.73**	**265**	*i* P	**Pb**	**01 41 11.0**	**-3.7**
AKH	**Akhalkalaki**	**3.84**	**322**	*e*P	**Pb**	**01 41 13.2**	**-3.5**
AKH	**Akhalkalaki**	**3.84**	**322**	P	**Pg**	**01 41 21.1**	**-0.6**
VRTB	**Varto-Mus**	**4.11**	**282**	*e*P	**Pb**	**01 41 17.9**	**-3.3**
VRTB	**Varto-Mus**	**4.11**	**282**	*i* P	**Pg**	**01 41 24.9**	**-1.8**
HAGD	**Aghdareh**	**4.11**	**150**	*e*Pn	**Pn**	**01 41 14.2**	**+2.1**
IMHD	**Mahdasht**	**4.22**	**129**	IAMB	IAmb	01 41 31.6	
	comp=Z,431nm,0.4s						
BTMN	**Batman**	**4.25**	**265**	*i* P	Pg	01 41 33.9	+4.4
SVAN	**Silvan-Diyarba**	**4.28**	**268**	*e*P	**Pb**	**01 41 19.4**	**-4.6**
SVAN	**Silvan-Diyarba**	**4.28**	**268**	*i* P	**Pg**	**01 41 28.2**	**-1.7**
BNGB	**Bing ¶ll**	**4.69**	**279**	*e*P	Pb	01 41 25.9	-5.1
ONI	**Oni**	**4.83**	**331**	P	**Pb**	**01 41 34.6**	**+1.2**
IPRN	**Peran**	**5.04**	**114**	IAMB	IAmb	01 42 36.3	
	comp=E,1μm,0.6s						
IPRN				IAMB	IAmb	01 42 37.5	
	comp=N,1μm,0.4s						
IPRN				IAMB	IAmb	01 42 37.7	
	comp=Z,616nm,0.4s						
KBZ	**Khabaz**	**6.01**	**333**	Pg	**Pg**	**01 41 59.4**	**-3.9**
	comp=Z,0.2nm,0.3s,baz=167,slow=20,SNR=8.2						
KBZ				Lg	Lg	01 43 20.2	
	comp=Z,0.1nm,0.3s,baz=298,slow=17,SNR=4.5						
GEYT	**Alibeck**	**9.07**	**89**	Pn	**Pn**	**01 42 21.2**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=148,slow=28,SNR=6.5						
GEYT				Sn	**Sn**	**01 44 05.2**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=251,slow=19,SNR=4.0						
BRTR	**Keskin Array B**	**10.18**	**281**	Pn	Pn	01 42 41.1	+5.7
	comp=Z,0.0nm,0.3s,baz=95,slow=10,SNR=3.0						
AB31	**Akbulak array**	**14.47**	**37**	⇑Pn	**Pn**	**01 43 31.0**	**-2.8**
	comp=Z,0.7nm,0.4s,baz=224,slow=13						
AB31				⇑Sn	**Sn**	**01 46 08.6**	**-6.1**
	comp=Z,1.1nm,0.7s,baz=223,slow=22						
ARU	**Arti**	**19.70**	**20**	P	**P**	**01 44 38.3**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=229,slow=6.1,SNR=5.8						
AAK	**Ala-Archa**	**21.56**	**70**	P	**P**	**01 45 00.5**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=176,slow=14,SNR=2.3						
KURBB	**Kurchatov Arra**	**25.61**	**51**	P	**P**	**01 45 40.1**	**+1.5**
	comp=Z,2.1nm,0.2s,baz=260,slow=9.6,SNR=12						
GERES	**GERESS Array B**	**25.83**	**304**	P	**P**	**01 45 42.1**	**+1.3**
	comp=Z,1.5nm,0.6s,baz=105,slow=9.1,SNR=18						
FINES	**FINESS Array B**	**26.35**	**338**	P	**P**	**01 45 47.0**	**+1.8**
	comp=Z,1.6nm,0.9s,baz=151,slow=12,SNR=2.7						
MKAR	**Makanchi Array**	**27.37**	**61**	P	**P**	**01 45 56.2**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=268,slow=4.3,SNR=2.7						
HFS	**Hagfors**	**30.04**	**327**	P	**P**	**01 46 18.7**	**+0.5**
	comp=Z,4.8nm,1.1s,baz=145,slow=16,SNR=2.6						
TORD	**Torodi Ar. Bea**	**47.03**	**250**	P	**P**	**01 48 40.2**	**-0.9**
	comp=Z,0.8nm,1.1s,baz=64,slow=6.6,SNR=3.2						

*DDA **26** 01:51:55.4,38°.89N×25°.88E,h21km,Ml3.0*
*ISK **26** 01:51:55.3,38°.84N×25°.84E,h7km,ML2.7/11*
*ISCJB **26** 01:51:56.7±0.5,38°.85N±0°.02×25°.93E±0°.04,h6km±4km, Error ellipse: s-maj=5.2km s-min=3.0km az=162.5*
*ATH **26** 01:51:56.7,38°.85N×25°.99E,h26km±1km,ML2.3/7,Error ellipse: s-maj=2.3km s-min=0.9km az=81.0*
*THE **26** 01:51:57.6,38°.85N×25°.99E,h4km±1km,ML2.4/4,Error ellipse: s-maj=1.0km s-min=0.4km az=97.0*

ISC 26 01:51:57.0±1.0,**38°.85N**±0°.02×**25°.95E**±0°.03,**h14**km±8km, **n46,σ0°75/68,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.37**	**348**	PG	**Pg**	**01 52 03.1**	**-1.4**
SIGR				SG	**Sg**	**01 52 08.7**	**-0.8**
SIGR	**SIGRI**	**0.37**	**348**	P	**Pg**	**01 52 05.0**	**+0.5**
SIGR				AML	AML	01 52 10.5	
	comp=E,662μm,0.2s						
SIGR				S	**Sb**	**01 52 10.7**	**-0.3**
SIGR				AML	AML	01 52 11.0	
	comp=N,893μm,0.3s						
SIGR	**SIGRI**	**0.37**	**348**	P	**Pg**	**01 52 05.0**	**+0.5**
SIGR				S	**Sb**	**01 52 10.5**	**-0.4**
PRK	**Paraskevi**	**0.47**	**32**	P	**Pb**	**01 52 06.3**	**-0.7**
PRK				S	**Sg**	**01 52 12.9**	**+0.2**
PRK				AML	AML	01 52 14.4	
	comp=N,1557μm,0.5s						
PRK				AML	AML	01 52 17.0	
	comp=E,1385μm,0.6s						
PRK	**Paraskevi**	**0.47**	**32**	P	**Pb**	**01 52 06.3**	**-0.7**
PRK				S	**Sg**	**01 52 12.8**	**+0.2**
CHOS	**Chios island**	**0.47**	**170**	PG	**Pb**	**01 52 05.3**	**-1.8**
CHOS	**Chios island**	**0.47**	**170**	P	**Pb**	**01 52 06.8**	**-0.3**
CHOS				S	**Sg**	**01 52 13.0**	**+0.3**
CHOS				AML	AML	01 52 16.7	
	comp=N,1122μm,0.4s						
CHOS				AML	AML	01 52 18.6	
	comp=E,1634μm,0.3s						
CHOS	**Chios island**	**0.47**	**170**	P	**Pb**	**01 52 06.9**	**-0.3**
CHOS				S	**Sg**	**01 52 13.4**	**+0.7**
KRBN	**Karaburun**	**0.54**	**118**	PG	**Pb**	**01 52 07.6**	**-0.6**
FOCM	**Fo¨ça**	**0.62**	**102**	PG	**Pb**	**01 52 09.4**	**-0.3**
URLA	**Izmir**	**0.70**	**134**	PG	**Pb**	**01 52 10.0**	**-1.1**
URLA				SG	**Sg**	**01 52 21.5**	**+1.5**
URLA	**Izmir**	**0.70**	**134**	*i* P	**Pb**	**01 52 10.9**	**-0.1**
URLA				*i* S	**Sn**	**01 52 22.8**	**-0.4**
AYVA	**Ayvalik**	**0.73**	**51**	*i* P	**Pb**	**01 52 11.2**	**-0.4**
AYVA				*i* S	**Sb**	**01 52 20.9**	**-0.6**
DKL	**Dikili**	**0.78**	**73**	PG	**Pb**	**01 52 12.2**	**-0.1**
EZN	**Ezine**	**1.02**	**16**	PG	**Pb**	**01 52 15.8**	**-0.6**
EZN	**Ezine**	**1.02**	**16**	P	**Pb**	**01 52 16.5**	**-0.3**
DGB	**¯zmir**	**1.08**	**137**	*i* P	**Pn**	**01 52 17.2**	**-0.5**
DGB				*i* S	**Sn**	**01 52 32.2**	**-0.2**
LIA	**Limnos Island**	**1.20**	**331**	P	**Pg**	**01 52 20.1**	**0.0**
LIA				AML	AML	01 52 36.2	
	comp=E,196μm,0.6s						
LIA				S	**Sg**	**01 52 36.7**	**+0.8**
LIA				AML	AML	01 52 39.3	
	comp=N,314μm,0.7s						
LIA	**Limnos Island**	**1.20**	**331**	P	**Pg**	**01 52 20.2**	**0.0**
LIA				S	**Sg**	**01 52 37.4**	**+1.5**
SMG	**Samos**	**1.34**	**148**	P	**Pb**	**01 52 21.6**	**-0.2**
SMG				S	**Sb**	**01 52 39.4**	**+0.6**
SMG				AML	AML	01 52 42.8	
	comp=E,646μm,0.4s						
SMG				AML	AML	01 52 43.3	
	comp=N,646μm,0.3s						
SMG	**Samos**	**1.34**	**148**	P	**Pb**	**01 52 21.7**	**-0.2**
GADA	**Gvkgeada**	**1.34**	**358**	PN	**Pb**	**01 52 21.9**	**0.0**
GADA	**Gvkgeada**	**1.34**	**358**	P	**Pb**	**01 52 22.2**	**+0.3**
GADA				S	**Sg**	**01 52 40.7**	**+0.5**
AKHS	**Akhisar**	**1.46**	**88**	*i* P	**Pg**	**01 52 24.7**	**-0.3**
AKHS				*i* S	**Sg**	**01 52 44.7**	**+0.8**
STEP	**BALIKESIR_Sava**	**1.47**	**69**	*i* P	**Pn**	**01 52 22.7**	**-0.4**
STEP				*i* S	**Sg**	**01 52 45.7**	**+1.2**
GELI	**Tayfur-Gelibol**	**1.60**	**14**	PN	**Pb**	**01 52 25.6**	**-0.7**
LPK	**Lapseki**	**1.64**	**22**	PN	**Pn**	**01 52 25.6**	**+0.1**
AOS	**Alonnisos**	**1.64**	**282**	P	**Pb**	**01 52 26.7**	**-0.4**
SMTH	**Samothraki Isl**	**1.65**	**349**	P	**Pb**	**01 52 26.3**	**-0.9**
SMTH				S	**Sb**	**01 52 47.4**	**-0.5**
SMTH				AML	AML	01 52 52.2	
	comp=N,105μm,0.8s						
SMTH				AML	AML	01 52 52.3	
	comp=E,94μm,0.8s						
SMTH	**Samothraki Isl**	**1.65**	**349**	P	**Pb**	**01 52 26.3**	**-0.9**
BALB	**Balikesir**	**1.69**	**62**	PN	**Pn**	**01 52 26.5**	**+0.4**
DION	**Dionisos Attik**	**1.76**	**245**	P	**Pn**	**01 52 27.0**	**+0.4**
AYVB	**Zeytinkoy-Aydi**	**1.77**	**120**	PN	**Pn**	**01 52 28.0**	**+0.6**
APE	**Apeiranthos**	**1.81**	**191**	PN	**Pn**	**01 52 26.8**	**-1.0**
APE	**Apeiranthos**	**1.81**	**191**	P	**Pn**	**01 52 27.8**	**0.0**
KRBG	**Karabiga-Canak**	**1.86**	**34**	PN	**Pb**	**01 52 29.4**	**-1.3**
ALN	**Alexandroupoli**	**2.04**	**2**	P	**Pn**	**01 52 31.4**	**+0.5**
ALN				S	**Sn**	**01 52 56.7**	**+0.5**
ALN				AML	AML	01 53 06.4	
	comp=E,29μm,0.6s						
ALN				AML	AML	01 53 11.3	
	comp=N,53μm,0.6s						
ALN	**Alexandroupoli**	**2.04**	**2**	P	**Pn**	**01 52 31.5**	**+0.5**
KESN	**Edirne-Kesan**	**2.05**	**16**	*i* P	**Pn**	**01 52 31.8**	**+0.4**
KESN				*i* S	**Sn**	**01 52 57.6**	**+0.6**
SART	**Tekirdag**	**2.07**	**27**	*i* P	**Pn**	**01 52 32.1**	**+1.0**
DURS	**Dursunbey**	**2.10**	**68**	*i* P	**Pn**	**01 52 31.7**	**-0.1**
DURS				*i* S	**Sg**	**01 53 04.4**	**-0.1**
EDC	**Edincik**	**2.10**	**44**	PN	**Pb**	**01 52 33.4**	**-1.5**
KULA	**Kula-Manisa**	**2.15**	**98**	PN	**Pn**	**01 52 33.7**	**+1.2**
DEMI	**Demirci**	**2.17**	**84**	*i* P	**Pg**	**01 52 38.3**	**-0.3**
DEMI				*i* S	**Sg**	**01 53 06.6**	**0.0**
RDO	**Rodhopi**	**2.31**	**352**

JAG	**Ashikaga**	**3.36**	**14**	P		**Pn**	**02 13 51.5**	**0.0**
SONM	**Songino Array**	**28.20**	**311**	P		**P**	**02 18 19.0**	**+1.2**
	0.5nm,0.7s,baz=120,slow=11,SNR=4.1							
MKAR	**Makanchi Array**	**44.23**	**305**	P		**P**	**02 20 31.5**	**-0.7**
	0.3nm,0.3s,baz=84,slow=9.3,SNR=5.7							
WRA	**Warramunga Arr**	**52.95**	**185**	P		**P**	**02 21 38.0**	**-0.4**
	0.2nm,0.3s,baz=360,slow=7.6,SNR=8.3							

MEX 26 02:16:51.4±0.5, 16°28N×98°15W, h14km±2km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.11**	**11**	*i* P	Pg	02 16 53.8	-0.9
PNIG				*i* S	Sg	02 16 56.4	-0.6
TLIG	**Tlapa**	**1.33**	**343**	*i* P	Pn	02 17 12.3	-3.4
TLIG				*i* S	Sb	02 17 28.0	-5.3

*IDC **26** 02:18:51.4±1.7, 20°.66S×178°.25W, h546km±19km, mb3.4/10, mb1 3.7/13, mb1mx3.5/27, mbtmp4.4/13, Error ellipse: s-maj=19.5km s-min=12.2km az=138.0*
*ISCJB **26** 02:18:53.6±0.5, 20°.6S±0°.1×178°.3W±0°.1, h587km, mb3.8/10, Error ellipse: s-maj=18.9km s-min=9.0km az=138.5*

ISC 26 02:18:54.3±0.5, 20°.5S±0°.1×178°.4W±0°.1, h587km, n41, σ1§57/46, mb3.9/10, 8C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**9.10**	**45**	P		**P**	**02 21 02.1**	**-1.9**
	4.8nm,0.3s,baz=117,slow=5.2,SNR=4.5							
AFI				S		**S**	**02 22 46.3**	**-4.1**
	1.3nm,0.3s,baz=114,slow=20,SNR=2.9							
DZM	**Mont Dzumac**	**14.23**	**261**	P		**P**	**02 21 55.3**	**-0.4**
	1.1nm,0.3s,baz=87,slow=16,SNR=7.5							
URZ	**Urewera**	**18.12**	**191**	P		**P**	**02 22 28.1**	**-3.3**
	1.0nm,0.3s,baz=310,slow=4.7,SNR=7.3							
STKA	**Stephens Creek**	**37.47**	**244**	P		**P**	**02 25 19.5**	**+0.3**
	2.8nm,0.5s,baz=100,slow=12,SNR=11							
ASAR	**Alice Springs**	**44.17**	**257**	P		**P**	**02 26 12.8**	**+0.4**
	5.7nm,0.5s,baz=96,slow=7.5,SNR=87							
ASAR				PcP		**PcP**	**02 27 44.9**	**+0.7**
	1.3nm,0.5s,baz=92,slow=4.2,SNR=8.7							
ASAR				S		**S**	**02 32 01.8**	**-2.3**
	2.6nm,0.8s,baz=93,slow=16,SNR=17							
WRA	**Warramunga Arr**	**44.24**	**262**	P		**P**	**02 26 13.1**	**0.0**
	2.1nm,0.3s,baz=97,slow=7.9,SNR=112							
WRA				PcP		**PcP**	**02 27 44.9**	**+0.4**
	0.9nm,0.8s,baz=99,slow=3.3,SNR=3.9							
WRA				S		**S**	**02 32 01.6**	**-3.5**
	0.8nm,1.0s,baz=96,slow=15,SNR=3.6							
VNDA	**Vanda**	**57.88**	**185**	P		**P**	**02 27 51.6**	**+1.1**
	1.3nm,0.7s,baz=359,slow=6.2,SNR=17							
NVAR	**Mina Array Bea**	**81.27**	**44**	P		**P**	**02 30 11.2**	**+0.7**
	0.8nm,0.6s,baz=222,slow=8.4,SNR=5.9							
MAW	**Mawson**	**81.44**	**200**	P		**P**	**02 30 10.2**	**-0.3**
	1.6nm,0.6s,baz=72,slow=20,SNR=3.3							
TXAR	**Lajitas Array**	**87.36**	**57**	P		**P**	**02 30 42.5**	**+2.3**
	1.1nm,0.9s,baz=225,slow=6.4,SNR=11							
SNAA	**Sanae**	**88.02**	**179**	P		P	02 30 58.8	+16
VNA3	**Neumayer Olymp**	**88.17**	**176**	P		**P**	**02 30 42.6**	**-0.6**
ILAR	**Eielson Array**	**88.39**	**13**	P		**P**	**02 30 45.1**	**+1.0**
	0.4nm,0.5s,baz=220,slow=5.7,SNR=7.7							
VNA2	**Neumayer--Watz**	**88.60**	**177**	P		**P**	**02 30 45.0**	**-0.2**
	baz=198,slow=3.5							
VNA1	**Neumayer--Stat**	**88.83**	**177**	P		**P**	**02 30 46.3**	**+0.1**
PDAR	**Pinedale Array**	**89.21**	**43**	P		**P**	**02 30 50.7**	**+2.0**
	1.0nm,0.3s,baz=190,slow=4.5,SNR=4.0							
CMAR	**Chiang Mai Arr**	**89.78**	**290**	P		**P**	**02 30 54.1**	**+2.6**
	1.6nm,0.3s,baz=138,slow=3.4,SNR=6.7							
MKAR	**Makanchi Array**	**110.84**	**313**	PKiKP		**PKiKP**	**02 36 21.1**	**-0.5**
	0.5nm,0.7s,baz=56,slow=3.8,SNR=5.2							
KURBB	**Kurchatov Arra**	**113.80**	**317**	PKP		**PKiKP**	**02 36 26.8**	**0.0**
	0.5nm,0.6s,baz=106,slow=1.5,SNR=4.7							
ARCES	**ARCESS Array B**	**128.85**	**349**	PKP		**PKPdf**	**02 36 55.8**	**+0.6**
	1.8nm,0.6s,baz=7.8,slow=0.6,SNR=9.2							
FINES	**FINESS Array B**	**135.67**	**343**	PKhKP		PKPpre	02 36 59.0	
	0.5nm,0.4s,baz=332,slow=38,SNR=4.3							
FINES				PKP		**PKPdf**	**02 37 07.8**	**-0.4**
	1.7nm,0.9s,baz=22,slow=1.5,SNR=3.7							
AKASG	**Malin Array Be**	**142.84**	**331**	PKP		**PKPdf**	**02 37 19.9**	**-1.6**
	2.4nm,0.7s,baz=43,slow=4.4,SNR=26							
BRTR	**Keskin Array B**	**146.57**	**312**	PKPbc		**PKPbc**	**02 37 31.9**	**+0.8**
	1.5nm,0.6s,baz=130,slow=4.8,SNR=11							
BURAR	**Bucovina Array**	**146.88**	**330**	⇑*i*P		**PKPab**	**02 37 33.9**	**-1.0**
BIZ	**Bicaz**	**146.94**	**329**	⇓*i*P		**PKPab**	**02 37 34.0**	**-1.1**
ANTO	**Ankara**	**147.09**	**313**	⇓*i*P		**PKPbc**	**02 37 33.8**	**+1.4**
VRI	**Vrincioaia**	**147.37**	**327**	⇓*i*P		**PKPbc**	**02 37 33.7**	**+0.8**
TRPA	**Tarpa**	**147.68**	**333**	⇑*i*P		**PKPbc**	**02 37 34.9**	**+1.4**
DOPR	**Dopca**	**147.98**	**328**	⇑*i*P		**PKPbc**	**02 37 36.4**	**+2.0**
MLR	**Muntele Rosu**	**148.03**	**327**	⇑*i*P		**PKPbc**	**02 37 36.8**	**+2.1**
VOIR		**148.52**	**328**	⇓*i*P		**PKPbc**	**02 37 37.3**	**+1.4**
ARR	**Arges**	**148.78**	**328**	⇓*i*P		**PKPbc**	**02 37 39.0**	**+2.5**
SIRR	**Siria**	**149.51**	**332**	⇑*i*P		**PKPbc**	**02 37 38.9**	**+0.8**
BZS	**Buzias**	**150.03**	**331**	⇓*i*P		**PKPbc**	**02 37 40.3**	**+1.0**
GERES	**GERESS Array B**	**150.10**	**344**	PKPbc		**PKPbc**	**02 37 40.7**	**+1.1**
	1.2nm,0.7s,baz=29,slow=3.0,SNR=13							
HERR	**Herculane**	**150.21**	**329**	⇑*i*P		**PKPbc**	**02 37 40.9**	**+1.1**
CONA	**Conrad Observa**	**150.31**	**340**	*e*PKPbc		**PKPbc**	**02 37 41.7**	**+1.6**
	2.5nm,0.7s							
MDVR	**Moldovita**	**150.62**	**330**	⇑*i*P		**PKPbc**	**02 37 41.9**	**+1.1**
VTS	**Vitosha**	**151.45**	**325**	⇑*i*P		**PKPbc**	**02 37 44.0**	**+1.1**
ABTA	**Abfaltersbach**	**152.35**	**344**	*i* PKPbc		**PKPbc**	**02 37 45.1**	**+0.4**
	3.3nm,0.7s							
TORD	**Torodi Ar. Bea**	**172.69**	**181**	PKP		**PKPdf**	**02 37 57.4**	**-0.1**
	0.9nm,1.0s,baz=325,slow=1.8,SNR=3.4							
TORD				PKPab		**PKPab**	**02 39 27.1**	**-0.1**
	0.6nm,0.8s,baz=194,slow=3.0,SNR=3.2							

IDC 26 02:30:28.8±1.9, 7°.36S×129°.93E, h0km, mb3.5/2, mb1 3.4/4, mb1mx3.3/34, mbtmp3.3/4, ML3.1/2, Error ellipse: s-maj=132.0km s-min=30.3km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.21**	**162**	Pn		02 33 36.6	-1.3
	0.1nm,0.3s,baz=344,slow=13,SNR=8.8						
WRA				Sn	Sn	02 35 54.4	-11
	0.2nm,0.3s,baz=331,slow=23,SNR=6.8						
ASAR	**Alice Springs**	**16.65**	**167**	Pn	P	02 34 25.1	-1.2
	0.1nm,0.3s,baz=341,slow=10.0,SNR=3.5						
MKAR	**Makanchi Array**	**68.49**	**327**	P	P	02 41 33.3	+0.3
	0.3nm,0.5s,baz=116,slow=8.2,SNR=5.6						
KURBB	**Kurchatov Arra**	**72.78**	**329**	P	P	02 41 58.8	-0.2
	0.2nm,0.4s,baz=122,slow=5.7,SNR=3.3						

WEL 26 02:37:08.8±1.2, 38°S±10°×178°0W±°, h33km, ML3.7/16, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**1.36**	**264**	P	Pn	02 37 31.3	-0.2
WMGZ	**Waiomatatini S**	**1.36**	**264**	P	Pn	02 37 31.3	-0.2
WMGZ	**Waiomatatini S**	**1.36**	**264**	S	Sn	02 37 49.6	+1.2
MXZ	**Matakaoa Point**	**1.45**	**274**	P	Pn	02 37 32.2	-0.5
MXZ	**Matakaoa Point**	**1.45**	**274**	P	Pn	02 37 32.2	-0.5
MXZ	**Matakaoa Point**	**1.45**	**274**	S	Sn	02 37 51.3	+0.7
PUZ	**Puketiti**	**1.53**	**255**	P	Pn	02 37 33.8	0.0
PUZ	**Puketiti**	**1.53**	**255**	P	Pn	02 37 33.8	0.0
PUZ	**Puketiti**	**1.53**	**255**	S	Sn	02 37 53.1	+0.5
PKGZ	**Pakihiroa**	**1.64**	**262**	P	Pn	02 37 34.8	-0.5
PKGZ	**Pakihiroa**	**1.64**	**262**	P	Pn	02 37 34.8	-0.5
PKGZ	**Pakihiroa**	**1.64**	**262**	S	Sn	02 37 56.0	+0.7
CNGZ	**Carnagh Statio**	**1.71**	**242**	P	Pn	02 37 37.4	+1.1
CNGZ	**Carnagh Statio**	**1.71**	**242**	P	Pn	02 37 37.4	+1.1
TWGZ	**Tauwhareparae**	**1.77**	**253**	P	Pn	02 37 37.3	+0.2
TWGZ	**Tauwhareparae**	**1.77**	**253**	P	Pn	02 37 37.3	+0.2
HAZ	**Te Kaha**	**1.86**	**267**	P	Pn	02 37 38.5	+0.1
HAZ	**Te Kaha**	**1.86**	**267**	P	Pn	02 37 38.5	+0.1
HAZ	**Te Kaha**	**1.86**	**267**	S	Sn	02 38 01.4	+0.7
TKGZ	**Te Karaka**	**1.95**	**247**	P	Pn	02 37 39.8	+0.2
TKGZ	**Te Karaka**	**1.95**	**247**	P	Pn	02 37 39.8	+0.2
TKGZ	**Te Karaka**	**1.95**	**247**	S	Sn	02 38 04.0	+1.2
RUGZ	**Raukumara Rang**	**1.96**	**261**	P	Pn	02 37 39.5	-0.3
RUGZ	**Raukumara Rang**	**1.96**	**261**	P	Pn	02 37 39.5	-0.3
RUGZ	**Raukumara Rang**	**1.96**	**261**	S	Sn	02 38 03.3	-0.1
RIGZ	**Rimuhau**	**2.12**	**241**	P	Pn	02 37 42.2	+0.2
RIGZ	**Rimuhau**	**2.12**	**241**	P	Pn	02 37 42.2	+0.2
MWZ	**Matawai**	**2.15**	**252**	P	Pn	02 37 41.9	-0.5
MWZ	**Matawai**	**2.15**	**252**	P	Pn	02 37 41.9	-0.5
PRGZ	**Paritu Road**	**2.15**	**234**	P	Pn	02 37 42.5	+0.1
PRGZ	**Paritu Road**	**2.15**	**234**	P	Pn	02 37 42.5	+0.1
PRGZ	**Paritu Road**	**2.15**	**234**	S	Sn	02 38 08.0	0.0
MHGZ	**Mahia Peninsul**	**2.27**	**229**	P	Pn	02 37 43.7	-0.4
MHGZ	**Mahia Peninsul**	**2.27**	**229**	P	Pn	02 37 43.7	-0.4
RAGZ	**Rawiri**	**2.29**	**249**	P	Pn	02 37 44.9	+0.6
RAGZ	**Rawiri**	**2.29**	**249**	P	Pn	02 37 44.9	+0.6
KNZ	**Kokohu**	**2.34**	**235**	P	Pn	02 37 44.7	-0.3
KNZ	**Kokohu**	**2.34**	**235**	P	Pn	02 37 44.7	-0.3
URZ	**Urewera**	**2.45**	**256**	P	Pn	02 37 46.9	+0.4
URZ	**Urewera**	**2.45**	**256**	P	Pn	02 37 46.9	+0.4
SNGZ	**Shannon Statio**	**2.45**	**243**	P	Pn	02 37 46.4	-0.1
RTZ	**Ruatahuna**	**2.65**	**249**	P	Pn	02 37 50.0	+0.7
WHHZ	**Waihua**	**2.66**	**238**	P	Pn	02 37 49.3	-0.1
RAHZ	**Arahi**	**2.69**	**242**	P	Pn	02 37 50.2	+0.5

NDI 26 02:44:48.6±2.5, 28°.66N×96°.09E, h14km±66km, ML3.6, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKP	**Lekhapani**	**1.34**	**189**	*e*P	Pb	02 45 13.4	-0.1
LKP				*e*S	Sg	02 45 32.1	+0.4
LKP				IAML		02 45 34.9	
	comp=N,807nm,0.2s						
LKP				IAML		02 45 34.9	
	comp=E,794nm,0.2s						
ZIRO	**ZIRO**	**2.28**	**241**	*e*P	Pn	02 45 25.4	-0.6
ZIRO				*e*S	Sn	02 45 53.9	-0.1
ZIRO				IAML		02 45 58.5	
	comp=N,881nm,0.2s						
ZIRO				IAML		02 45 58.6	
	comp=E,991nm,0.3s						
ITAN	**ITANAGAR**	**2.58**	**235**	*e*P	Pn	02 45 31.1	+1.1
ITAN				*e*S	Sn	02 46 02.2	+1.0
ITAN				IAML		02 46 06.2	
	comp=E,351nm,0.1s						
ITAN				IAML		02 46 06.6	
	comp=N,575nm,0.2s						
MOKO	**MOKOCHONG**	**2.71**	**211**	*e*P	Pn	02 45 32.7	+0.7
MOKO				*e*S	Sn	02 46 03.7	-1.1
MOKO				IAML		02 46 12.3	
	comp=N,225nm,0.3s						
MOKO				IAML		02 46 13.3	
	comp=E,347nm,0.4s						
TEZP	**TEZPUR**	**3.56**	**236**	*e*P	Pn	02 45 42.3	-1.1
TEZP				*e*S	Sn	02 46 22.9	-2.4
TEZP				IAML		02 46 38.3	
	comp=E,221nm,0.1s						
TAWA	**Tawang**	**3.88**	**255**	*e*S	Sn	02 46 32.5	-1.2
SHL	**Shillong**	**4.85**	**232**	*e*P	Pn	02 46 02.1	+0.7
SHL				*e*S	Sn	02 46 53.1	-4.4

MEX 26 02:45:54.0±0.4, 16°28N×98°02W, h5km±8km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.15**	**317**	*i* P	Pg	02 45 56.7	-0.4
PNIG				*i* S	Sg	02 45 59.2	+0.1
TLIG	**Tlapa**	**1.38**	**338**	*i* P	Pn	02 46 16.4	-3.6
TLIG				*i* S	Sb	02 46 33.3	-5.0

*NIED **26** 02:59:00, 23°.70N×122°.00E, h32km, Mw3.6 Best double couple: M♋3.05000×10^14 NP1:♋8=138.00000°, δ61.00000°, λ12.00000°. NP2:♋8=42.00000°, δ79.00000°, λ150.00000°.*
*IDC **26** 02:59:11.1±2.0, 23°.88N×121°.78E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.3/39, mbtmp3.6/3, Error ellipse: s-maj=159.4km s-min=25.7km az=65.0*
*ISCJB **26** 02:59:12.0±0.3, 23°.70N±0°.01×122°.02E±0°.01, h20km±2km, mb3.4/3, Error ellipse: s-maj=2.5km s-min=1.7km az=44.9*
*JMA **26** 02:59:12.1±0.2, 23°.72N×121°.97E, h17km±3km, M3.6*
*TAP **26** 02:59:13.5, 23°.73N×121°.95E, h34km, ML3.8, B*

ISC 26 02:59:11.5±1.1, 23°.70N±0°.02×121°.98E±0°.02, h14km±8km, n126, σ0§69/197, mb3.4/3, 9C-21D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.44**	**308**	P	Pn	**02 59 22.3**	**-1.2**
HWA	baz=305			*e*S	Sn	**02 59 29.4**	**-1.9**
EGFH	**Guangfu**	**0.51**	**266**	⇓P	Pb	**02 59 23.2**	**+0.9**
EGFH	baz=258			*e*S	Sn	**02 59 31.4**	**-1.6**
ESL	**Shilin**	**0.52**	**282**	⇓*i*P	Pb	**02 59 23.0**	**+0.6**
ESL	baz=275			*e*S	Sb	**02 59 30.0**	**+0.3**
HGSD	**Ruisui**	**0.55**	**248**	⇓P	Pb	**02 59 23.9**	**+0.9**
HGSD	baz=244			S	Sb	**02 59 31.6**	**+0.7**
NACB	**Ninganchiao**	**0.59**	**323**	⇓P	Pb	**02 59 24.1**	**+0.5**
NACB	baz=321			S	Sb	**02 59 31.8**	**0.0**
EHY	**Hungye**	**0.64**	**252**	⇓*i*P	Pn	**02 59 25.4**	**-0.8**
EHY	baz=264			S	Sb	**02 59 34.0**	**+0.7**
YULB	**Yu-li**	**0.70**	**244**	⇓P	Pb	**02 59 26.3**	**+0.7**
YULB	baz=255			S	Sb	**02 59 35.8**	**+0.7**
TWF1	**Yuli**	**0.72**	**241**	⇓*e*P	Pb	**02 59 26.6**	**+0.7**
TWF1	baz=230			S	Sb	**02 59 36.7**	**+1.1**
NANB	**Nanao**	**0.75**	**344**	⇑P	Pb	**02 59 26.9**	**+0.5**
NANB	baz=337			S	Sb	**02 59 36.5**	**0.0**
ENA	**Nanau**	**0.76**	**343**	⇑P	Pb	**02 59 26.9**	**+0.4**
ENA	baz=337			*e*S	Sb	**02 59 36.7**	**0.0**
VWDT	**VWDT**	**0.77**	**274**	⇓P	Pn	**02 59 27.6**	**-0.4**
VWDT	baz=272			S	Sb	**02 59 38.0**	**+0.8**
WHF	**Hehuan Shan**	**0.79**	**304**	⇓*i*P	Pb	**02 59 27.4**	**+0.1**
WHF	baz=304			S	Sb	**02 59 38.2**	**+0.1**
FULB	**Fuli**	**0.81**	**232**	*e*P	Pb	**02 59 27.4**	**0.0**
FULB	baz=219			*e*S	Sg	**02 59 37.8**	**-0.1**
CHGB	**Renai**	**0.82**	**296**	⇓P	Pb	**02 59 28.0**	**+0.3**
CHGB	baz=301			S	Sb	**02 59 38.9**	**+0.1**
CHKT	**Chengkung**	**0.83**	**223**	*e*P	Pg	**02 59 27.5**	**-0.1**
EOS1	**EOS1**	**0.85**	**9**	⇑P	Pn	**02 59 29.0**	**-0.1**
EOS1	baz=21			*e*S	Sn	**02 59 40.6**	**-0.8**
NNSB	**Datong**	**0.91**	**323**	⇓P	Pg	**02 59 29.5**	**+0.3**
NNSB	baz=323			S	Sb	**02 59 40.4**	**-0.7**
TWC	**Suao**	**0.91**	**352**	⇑*i*P	Pn	**02 59 29.7**	**-0.2**
TWC	baz=354			S	Sn	**02 59 42.1**	**-0.8**
TWT	**Tachien**	**0.92**	**307**	⇓*i*P	Pn	**02 59 30.0**	**-0.2**
TWT	baz=306			S	Sb	**02 59 41.3**	**-0.3**
NNS	**Nan Shan**	**0.92**	**323**	⇑P	Pn	**02 59 29.8**	**-0.4**
NNS	baz=324			S	Sb	**02 59 41.1**	**-0.5**
TDCB	**Techi**	**0.93**	**306**	⇓P	Pn	**02 59 30.0**	**-0.4**
TDCB	baz=306			S	Sb	**02 59 41.1**	**-0.8**
SSLB	**Suanglung**	**0.95**	**275**	⇓P	Pg	**02 59 29.9**	**0.0**
	baz=274						
YUS	**Yu-Shan**	**0.97**	**258**	⇓*i*P	Pn	**02 59 31.0**	**-0.2**
YUS	baz=255			S	Sb	**02 59 43.3**	**0.0**
ENTT	**Nioudou**	**1.01**	**338**	P	Pg	**02 59 31.0**	**0.0**
ENTT	baz=339			*e*S	Sb	**02 59 43.7**	**-0.2**
SMLT	**Sun Moon Lake**	**1.01**	**280**	⇓*i*P	Pn	**02 59 31.2**	**-0.2**
	baz=272						
ELDTW	**Lidau**	**1.02**	**240**	*e*P	Pb	**02 59 30.7**	**-0.4**
ELDTW	baz=238			*e*S	Sb	**02 59 43.6**	**-0.9**
TYC	**Yuchr**	**1.05**	**281**	⇓*i*P	Pn	**02 59 31.8**	**-0.1**
	baz=280						
TWE	**Neicheng**	**1.05**	**344**	P	Pn	**02 59 31.8**	**-0.1**
TWE	baz=346			*e*S	Sb	**02 59 44.8**	**-0.5**
ILA	**Ilan**	**1.08**	**349**	*e*P	Pb	**02 59 31.6**	**-0.5**
	baz=350						
SLBB	**Yuanshan**	**1.09**	**343**	*e*P	Pg	**02 59 32.5**	**-0.1**
	baz=344						
SLBB				*e*S	Sg	**02 59 46.7**	**-0.2**
	baz=344						
ALS	**Alishan**	**1.10**	**260**	⇓*i*P	Pg	**02 59 33.1**	**+0.4**
	baz=269						
ALS				*e*S	Sb	**02 59 46.6**	**-0.2**
	baz=269						
YHNB	**Yeheng**	**1.11**	**330**	⇑P	Pn	**02 59 32.6**	**-0.2**
	baz=331						
YHNB				S	Sb	**02 59 46.0**	**-1.0**
	baz=331						
NSK	**Sanguang**	**1.12**	**330**	⇑*i*P	Pb	**02 59 32.7**	**-0.1**
	baz=330						
NSK				*e*S	Sb	**02 59 46.0**	**-1.3**
	baz=330						
EGS		**1.14**	**358**	*e*P	Pg	**02 59 33.4**	**-0.1**
EGS	baz=11			*e*S	Sb	**02 59 47.5**	**-0.2**
	baz=11						
JYNG	**Yonaguni jima**	**1.15**	**50**	P	Pb	**02 59 33.6**	**+0.3**
JYNG				*e*S	Sb	**02 59 48.0**	**-0.1**
NTC	**Toucheng**	**1.16**	**353**	*e*P	Pn	**02 59 33.1**	**-0.2**
	baz=354						
NTC				*e*S	Sb	**02 59 47.6**	**-0.6**
	baz=354						
WJS	**Zhushan**	**1.16**	**276**	*e*P	Pg	**02 59 34.4**	**+0.6**
	baz=274						
CHN5	**Tsauling**	**1.20**	**265**	⇓P	Pg	**02 59 34.9**	**+0.2**
	baz=264						
CHN5				*e*S	Sb	**02 59 49.4**	**-0.2**
	baz=264						
WNT	**Mingjian**	**1.20**	**279**	P	Pg	**02 59 35.2**	**+0.5**
	baz=277						
YOJ	**Yonaguni jima**	**1.21**	**51**	P	Pb	**02 59 34.3**	**+0.1**
	baz=52						
YOJ				*e*S	Sb	**02 59 49.2**	**-0.5**
	baz=52						
YOJ	**Yonaguni jima**	**1.21**	**51**	P	Pb	**02 59 34.3**	**+0.1**
YOJ				S	Sb	**02 59 49.3**	**-0.3**
TWG	**Pinlang**	**1.21**	**224**	*e*P	Pn	**02 59 33.1**	**-1.0**
	baz=232						
TWG				*e*S	Sb	**02 59 48.0**	**-1.9**
	baz=232						
STYT	**Tauyuan**	**1.25**	**245**	*e*P	Pb	**02 59 34.8**	**-0.1**
	baz=234						
STYT				*e*S	Sb	**02 59 50.6**	**-0.3**
	baz=234						
TIPB	**Shuangxi**	**1.27**	**354**	⇑P	Pb	**02 59 35.4**	**+0.1**
	baz=355						
TIPB				S	Sb	**02 59 51.4**	**-0.2**
	baz=355						
TCU	**Taichung**	**1.27**	**291**	*e*P	Pg	**02 59 36.2**	**+0.1**
	baz=290						
NSTT	**Nanjuang**	**1.29**	**316**	*e*P	Pg	**02 59 36.2**	**-0.2**
	baz=316						
NSTT				*e*S	Sb	**02 59 51.3**	**-0.7**
	baz=316						
LIOB	**Emei**	**1.29**	**317**	⇑*e*P	Pg	**02 59 36.3**	**0.0**
	baz=317						
LIOB				*e*S	Sn	**02 59 52.1**	**-0.2**
	baz=317						
TWB1	**Santiao Chiao**	**1.30**	**0**	*e*P	Pn	**02 59 35.2**	**-0.1**
	baz=2.0						
TWB1				*e*S	Sb	**02 59 50.9**	**-1.5**
	baz=2.0						
WGK	**Gukeng**	**1.30**	**270**	*e*P	Pb	**02 59 35.5**	**-0.3**
	baz=268						
TPUB	**Ta-pu**	**1.30**	**252**	P	Pg	**02 59 36.4**	**-0.2**
	baz=242						
TPUB				*e*S	Sb	**02 59 52.4**	**-0.2**
	baz=242						
CHN4	**Tsaushan**	**1.32**	**255**	⇓P	Pg	**02 59 36.8**	**-0.2**
	baz=253						
CHN4				*e*S	Sg	**02 59 54.1**	**-0.1**
	baz=253						
NSY	**Sanyi**	**1.32**	**303**	*e*P	Pg	**02 59 36.7**	**-0.4**
	baz=302						
NSY				*e*S	Sg	**02 59 54.0**	**-0.3**
	baz=302						
TWA	**Mucha**	**1.32**	**344**	*e*P	Pb	**02 59 36.4**	**+0.2**
	baz=335						
TWA				*e*S	Sb	**02 59 52.3**	**-0.7**
	baz=335						
WDLH	**Douliu**	**1.32**	**270**	*e*P	Pg	**02 59 36.8**	**-0.2**
	baz=268						
WLTB	**Daxi**	**1.32**	**330**	*e*P	Pg	**02 59 37.0**	**0.0**
	baz=330						
WLTB				*e*S	Sg	**02 59 53.7**	**-0.6**
	baz=330						
WTP	**Ta-pu**	**1.34**	**250**	⇓P	Pb	**02 59 36.8**	**+0.4**
	baz=240						
WTP				*e*S	Sb	**02 59 54.0**	**+0.6**
	baz=240						
TATO	**Taipei**	**1.34**	**340**	P	Pb	**02 59 36.5**	**0.0**
	baz=330						
TATO				S	Sn	**02 59 53.3**	**-0.3**
	baz=330						
WCHH	**Zhanghua**	**1.36**	**286**	*e*P	Pg	**02 59 37.6**	**0.0**
	baz=285						
WCHH				*e*S	Sg	**02 59 56.5**	**+1.2**
	baz=285						
NMLH	**Miaoli**	**1.37**	**308**	*e*P	Pg	**02 59 37.5**	**-0.4**
	baz=307						
NMLH				*e*S	Sg	**02 59 55.8**	**+0.1**
	baz=307						
NWF	**Wu-fen Shan**	**1.37**	**352**	*e*P	Pb	**02 59 37.1**	**0.0**
	baz=353						
NWF				*e*S	Sb	**02 59 54.8**	**+0.2**
	baz=353						
WFSB	**Wu-fen Shan**	**1.37**	**352**	P	Pb	**02 59 37.3**	**+0.2**
	baz=353						
WFSB				S	Sb	**02 59 54.7**	**+0.2**
	baz=353						
PTSB	**Yuanli**	**1.38**	**303**	*e*P	Pb	**02 59 37.6**	**+0.4**
	baz=302						
PTSB				*e*S	Sb	**02 59

NCU	**National Centr**	**1.46**	**330**	*e*P	**Pb**	**02 59 38.5**	**0.0**
	baz=331							
NCU				*e*S	**Sb**	**02 59 57.2**	**+0.3**
	baz=331							
TWS1	**Kuangyinshan**	**1.48**	**340**	*e*P	**Pb**	**02 59 38.6**	**-0.3**
	baz=340							
TWS1				*e*S	**Sn**	**02 59 57.0**	**-0.1**
	baz=340							
YM01	**YM01**	**1.48**	**345**	*e*P	**Pb**	**02 59 39.1**	**+0.2**
	baz=330							
YM10	**YM10**	**1.50**	**345**	*e*P	**Pn**	**02 59 38.3**	**+0.2**
	baz=331							
YM10				*e*S	**Sn**	**02 59 57.0**	**-0.4**
	baz=331							
RLNB	**Erlin**	**1.50**	**277**	*e*P	**Pb**	**02 59 39.3**	**+0.2**
	baz=276							
RLNB				*e*S	**Sg**	**02 59 59.2**	**-0.7**
	baz=276							
YM04	**YM04**	**1.50**	**344**	*e*P	**Pn**	**02 59 38.4**	**+0.3**
	baz=330							
YM07	**YM07**	**1.50**	**347**	*e*P	**Pn**	**02 59 38.5**	**+0.4**
	baz=332							
YM07				*e*S	**Sn**	**02 59 57.4**	**-0.2**
	baz=332							
YM05	**YM05**	**1.50**	**345**	*e*P	**Pn**	**02 59 38.1**	**0.0**
	baz=330							
YM11	**YM11**	**1.50**	**346**	*e*P	**Pb**	**02 59 39.0**	**-0.3**
	baz=331							
YM08	**YM08**	**1.52**	**346**	*e*P	**Pn**	**02 59 38.4**	**0.0**
	baz=331							
YM03	**YM03**	**1.52**	**345**	*e*P	**Pn**	**02 59 38.1**	**-0.3**
	baz=330							
SSD	**Sandimen**	**1.57**	**233**	*e*P	**Pb**	**02 59 39.7**	**-0.6**
	baz=223							
WTCT	**Ta-ch'eng**	**1.57**	**276**	*e*P	**Pb**	**02 59 40.4**	**+0.1**
	baz=275							
WTCT				*e*S	**Sg**	**03 00 02.0**	**0.0**
	baz=275							
MASBT	**Mashibuluo**	**1.65**	**229**	*e*P	**Pb**	**02 59 41.0**	**-0.8**
	baz=220							
CHN8	**Yiju**	**1.67**	**258**	*e*P	**Pb**	**02 59 41.4**	**-0.6**
	baz=257							
CHN8				*e*S	**Sb**	**03 00 02.3**	**-0.6**
	baz=257							
EAST	**Anshuo**	**1.68**	**219**	*e*P	**Pn**	**02 59 41.2**	**+0.6**
	baz=217							
TWM1	**Shoushan**	**1.68**	**239**	*e*P	**Pg**	**02 59 43.7**	**-0.2**
	baz=238							
LAY	**Lan-yu**	**1.70**	**194**	*e*P	**Pn**	**02 59 39.1**	**-1.8**
	baz=183							
HATJ	**Hateruma jima**	**1.71**	**78**	P	**Pn**	**02 59 41.0**	**+0.1**
HATJ				*e*S	**Sn**	**03 00 01.2**	**-1.3**
IRIF	**Iriomote-Funau**	**1.72**	**68**	P	**Pn**	**02 59 41.4**	**+0.4**
IRIF				S	**Sn**	**03 00 02.3**	**-0.5**
SCZT	**Fangliau**	**1.82**	**224**	*e*P	**Pn**	**02 59 43.4**	**+0.9**
	baz=218							
JKRS	**Kuro-shima**	**1.93**	**74**	P	**Pn**	**02 59 44.3**	**+0.4**
JKRS				*e*S	**Sn**	**03 00 07.8**	**-0.2**
TWP	**Hsiaoliuchiu**	**2.01**	**228**	*e*P	**Pb**	**02 59 47.0**	**-1.0**
	baz=227							
TSEB	**Hengchuen, Pin**	**2.05**	**209**	*e*P	**Pb**	**02 59 47.9**	**-0.7**
	baz=209							
TWKBT	**Hengchun**	**2.06**	**212**	*e*P	**Pn**	**02 59 45.5**	**-0.2**
	baz=211							
TWK1	**Hengchun**	**2.06**	**212**	*e*P	**Pn**	**02 59 45.7**	**-0.1**
	baz=211							
JIJ	**Ishigaki jima**	**2.08**	**71**	P	**Pn**	**02 59 45.9**	**-0.2**
JIJ				S	**Sn**	**03 00 10.0**	**-1.8**
WDGT	**Dungji**	**2.18**	**259**	*e*P	**Pn**	**02 59 47.9**	**+0.5**
	baz=257							
WDGT				*e*S	**Sn**	**03 00 13.3**	**-0.9**
	baz=257							
PHUB	**P'eng-hu**	**2.22**	**266**	*e*P	**Pn**	**02 59 48.3**	**+0.3**
	baz=252							
PHUB				*e*S	**Sn**	**03 00 14.0**	**-1.2**
	baz=252							
PNG	**Penghu**	**2.23**	**267**	*e*P	**Pn**	**02 59 48.3**	**+0.2**
	baz=254							
JISG	**Ishigakijimahi**	**2.30**	**67**	P	**Pn**	**02 59 48.9**	**-0.2**
JISG				*e*S	**Sn**	**03 00 14.9**	**-2.3**
VCHM	**Qimei**	**2.40**	**259**	*e*P	**Pn**	**02 59 50.4**	**0.0**
	baz=257							
VCHM				*e*S	**Sn**	**03 00 18.9**	**-0.6**
	baz=257							
VWUC	**VWUC**	**2.64**	**300**	*e*P	**Pn**	**02 59 53.5**	**-0.2**
	baz=298							
JTJ	**Tarama**	**2.65**	**69**	P	**Pn**	**02 59 53.8**	**-0.1**
JTJ				*e*S	**Sn**	**03 00 24.4**	**-1.5**
PTTC	**Pingtan**	**2.69**	**312**	*e*P	**Pn**	**02 59 54.3**	**-0.2**
	baz=311							
PTMZ	**Houxiangcun**	**2.93**	**298**	*e*P	**Pn**	**02 59 57.6**	**-0.2**
	baz=296							
PTMZ				*e*S	**Sn**	**03 00 29.6**	**-3.1**
	baz=296							
MATB	**Ma-tsu**	**3.06**	**323**	*e*P	**Pn**	**02 59 59.8**	**+0.3**
	baz=333							
JIRB	**Irabujima**	**3.12**	**68**	P	**Pn**	**03 00 00.3**	**0.0**
JIKM	**Ikemajima**	**3.22**	**67**	P	**Pn**	**03 00 02.1**	**+0.4**
JIKM				*e*S	**Sn**	**03 00 38.4**	**-1.4**
JOGS	**Gusukube**	**3.30**	**71**	P	**Pn**	**03 00 03.5**	**+0.7**
JOGS				*e*S	**Sn**	**03 00 42.2**	**+0.4**
KNM	**Kinmen**	**3.32**	**283**	*e*P	**Pn**	**03 00 04.8**	**+1.6**
	baz=281							
KNMB	**Chin-men Tao**	**3.37**	**284**	*e*P	**Pn**	**03 00 03.3**	**-0.5**
	baz=282							
LYJJ	**Jianjiangzhen**	**3.48**	**325**	*e*P	**Pn**	**03 00 04.8**	**-0.4**
	baz=336							
MHZQ	**Yeshan**	**3.59**	**312**	*e*P	**Pn**	**03 00 06.8**	**0.0**
	baz=300							
XPSS	**Dashiqiu**	**3.60**	**334**	*e*P	**Pn**	**03 00 06.4**	**-0.6**
	baz=333							
AXDP	**Jialang**	**3.85**	**289**	*e*P	**Pn**	**03 00 10.4**	**0.0**
	baz=287							
ZPLA	**Ao Xicun**	**3.88**	**274**	*e*P	**Pn**	**03 00 11.2**	**+0.4**
	baz=272							
SONM	**Songino Array**	**27.09**	**337**	P	**P**	**03 04 53.5**	**-0.5**
	1.1nm,0.8s,baz=146,slow=8.2,SNR=7.6							
MKAR	**Makanchi Array**	**39.19**	**316**	P	**P**	**03 06 38.6**	**-0.5**
	0.3nm,0.5s,baz=98,slow=9.3,SNR=6.7							
H11N1	**WAKE ISLAND Hy**	**41.79**	**87**	T	T	03 52 21.1		
	baz=285							
H11N2	**WAKE ISLAND Hy**	**41.79**	**86**	T	T	03 52 13.1		
	baz=285							
H11N3	**WAKE ISLAND Hy**	**41.80**	**86**	T	T	03 52 39.2		
	baz=285							
H11S3	**WAKE ISLAND Hy**	**41.90**	**88**	T	T	03 52 24.8		
	baz=294							
H11S1	**WAKE ISLAND Hy**	**41.91**	**88**	T	T	03 52 20.7		
	baz=294							
H11S2	**WAKE ISLAND Hy**	**41.92**	**88**	T	T	03 52 14.6		
	baz=294							
WRA	**Warramunga Arr**	**45.02**	**163**	P	**P**	**03 07 30.3**	**+3.3**
	0.6nm,1.1s,baz=343,slow=8.5,SNR=3.1							

*MEX **26** 03:08:05.4±0.4, 16°.29N×98°.06W, h9km±3km, MD3.7, Near coast of Guerrero*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.12**	**329**	*i* P	Pg	03 08 07.7	-0.7
PNIG				*i* S	Sg	03 08 10.2	-0.2
TLIG	**Tlapa**	**1.36**	**339**	*e*P	Pn	03 08 27.2	-3.5
TLIG				*i* S	Sb	03 08 43.6	-5.1

*MEX **26** 03:09:25.2±0.6, 24°.86N×110°.31W, h16km±23km, MD3.9, Baja California*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**0.76**	**180**	*e*P	Pg	03 09 37.0	-3.0
LPIG				*e*S	Sg	03 09 46.9	-3.0
SLBS	**Sierra La Lagu**	**1.22**	**164**	*e*P	Pn	03 09 44.6	-3.0
SLBS				*i* S	Sb	03 09 58.1	-5.3

*NNC **26** 03:13:41.7±2.7, 37°.17N×70°.79E, h0km, mb3.7, mpv3.4, 5C-7D, Error ellipse: s-maj=21.6km s-min=17.0km az=159.0, Afghanistan-Tajikistan border region*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.55**	**36**	⇑P	Pn	03 14 38.4	+0.1
	1.6nm,0.2s						
SFK				⇓S	Sn	03 15 22.7	+1.7
	14nm,0.3s						
MNAS	**Manas**	**5.47**	**13**	⇓P	Pn	03 15 04.7	+0.1
	0.8nm,0.4s						
MNAS				⇓S	Sn	03 16 10.0	+1.7
	18nm,1.0s						
KK31	**Karatay Array**	**5.93**	**358**	⇑P	Pn	03 15 12.0	+1.2
	3.2nm,0.4s,baz=182,slow=13,SNR=81						
KK31				⇑S	Sn	03 16 21.5	+2.0
	0.9nm,0.3s,baz=190,slow=25,SNR=7.7						
AAK	**Ala-Archa**	**6.16**	**26**	⇓P	Pn	03 15 15.0	+0.9
	1.3nm,0.5s						
AAK				⇓S	Sn	03 16 24.4	-0.9
	6.8nm,0.9s						
TKM2	**Tokmak 2**	**6.82**	**31**	⇑P	Pn	03 15 22.5	-0.8
	2.2nm,0.6s						
TKM2				⇑S	Sn	03 16 41.7	-0.1
	1.6nm,0.8s						
AB31	**Akbulak array**	**14.42**	**330**	⇓P	Pn	03 17 03.7	-3.2
	0.3nm,0.4s,baz=142,slow=11,SNR=11						
AB31				⇓S	Sn	03 19 47.7	+0.2
	0.4nm,0.5s						

*ISK **26** 03:15:11.8, 36°.14N×26°.86E, h29km, ML3.3/8*
*ISCJB **26** 03:15:11.8±0.5, 36°.50N±0°.04×26°.96E±0°.03, h114km±6km, Error ellipse: s-maj=7.7km s-min=3.4km az=159.8*
*ATH **26** 03:15:11.4, 36°.49N×26°.95E, h116km±5km, ML3.4/6, Error ellipse: s-maj=6.0km s-min=1.7km az=125.0*
*THE **26** 03:15:14.6, 36°.51N×26°.93E, h110km±4km, ML3.5/5, Error ellipse: s-maj=4.0km s-min=1.0km az=68.0*
*HLW **26** 03:15:20.3, 35°.69N×27°.27E, h32km±40km, Md4.5*
*DDA **26** 03:15:23.8, 36°.99N×27°.76E, h48km, Ml3.4*

ISC 26 03:15:12.4±1.4, 36°.52N±0°.05×26°.97E±0°.03, h107km±9km, n71, σ1°.09/83, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NISR	**Nisiros**	**0.16**	**54**	P	**Pn**	**03 15 28.2**	**+0.8**
DAT	**Datca**	**0.53**	**67**	PG	**Pn**	**03 15 28.0**	**-1.3**
DAT	**Datca**	**0.53**	**67**	*i* P	**Pn**	**03 15 29.9**	**+0.6**
DATC	**Datca-Mugla**	**0.60**	**67**	PG	**Pn**	**03 15 28.9**	**-0.8**
BODT	**Bodrum**	**0.61**	**27**	PG	**Pn**	**03 15 30.1**	**+0.3**
BODT				SG	**Sn**	**03 15 43.7**	**+0.9**
AMGA	**Amorgos Island**	**0.92**	**290**	P	**Pn**	**03 15 33.0**	**+0.4**
AMGA	**Amorgos Island**	**0.92**	**290**	P	**Pn**	**03 15 33.0**	**+0.4**
ANAF	**Anafi Island**	**0.98**	**261**	P	**Pn**	**03 15 33.6**	**+0.4**
ANAF				AML	AML	03 15 49.2	
	comp=N,2670μm,0.5s						
ANAF				AML	AML	03 15 49.7	
	comp=E,1774μm,0.4s						
ANAF	**Anafi Island**	**0.98**	**261**	P	**Pn**	**03 15 33.8**	**+0.6**
ANAF				S	**Sn**	**03 15 48.6**	**-0.3**
ARG	**Arkhangelos**	**0.98**	**108**	PG	**Pn**	**03 15 31.5**	**-1.7**
ARG	**Arkhangelos**	**0.98**	**108**	P	**Pn**	**03 15 34.1**	**+0.9**
ARG				S	**Sn**	**03 15 49.0**	**+0.2**
ARG				AML	AML	03 15 51.0	
	comp=N,2174μm,0.4s						
ARG				AML	AML	03 15 51.2	
	comp=E,3319μm,0.3s						
ARG	**Arkhangelos**	**0.98**	**108**	P	**Pn**	**03 15 34.1**	**+0.9**
ARG				S	**Sn**	**03 15 50.0**	**+1.1**
MRSB	**Marmaris-Mugla**	**1.01**	**78**	PN	**Pn**	**03 15 33.6**	**+0.1**
MLSB	**Milas**	**1.01**	**40**	PN	**Pn**	**03 15 34.6**	**+1.1**
SANT	**Santorini**	**1.23**	**263**	P	**Pn**	**03 15 35.9**	**0.0**
THR2	**Thira island,**	**1.24**	**267**	P	**Pn**	**03 15 36.6**	**+0.6**
THR7	**Fira-Santorini**	**1.25**	**266**	P	**Pn**	**03 15 36.8**	**+0.7**
THT1	**Athinios (Pele**	**1.25**	**264**	P	**Pn**	**03 15 36.4**	**+0.3**
THT2	**Imerovigli**	**1.25**	**267**	P	**Pn**	**03 15 37.2**	**+1.0**
THR3	**Thira Island,**	**1.27**	**265**	P	**Pn**	**03 15 36.9**	**+0.6**
APE	**Apeiranthos**	**1.28**	**296**	PN	**Pn**	**03 15 35.9**	**-0.6**
APE	**Apeiranthos**	**1.28**	**296**	P	**Pn**	**03 15 37.0**	**+0.5**
APE	**Apeiranthos**	**1.28**	**296**	P	**Pn**	**03 15 37.0**	**+0.5**
THR6	**Thira Island,**	**1.28**	**263**	P	**Pn**	**03 15 37.0**	**+0.5**
THR5	**Thira Island,**	**1.31**	**266**	P	**Pn**	**03 15 37.4**	**+0.6**
AYDN	**Tasoluk**	**1.35**	**32**	*i* P	**Pn**	**03 15 38.3**	**+0.9**
TURN	**Turunc**	**1.36**	**75**	PN	**Pn**	**03 15 34.4**	**-3.0**
TURN				SN	**Sn**	**03 15 50.5**	**-5.8**
TURN	**Turunc**	**1.36**	**75**	*i* P	**Pn**	**03 15 34.7**	**-2.7**
IOSP	**Ios island**	**1.37**	**279**	P	**Pn**	**03 15 37.9**	**+0.4**
IOSP	**Ios island**	**1.37**	**279**	P	**Pn**	**03 15 37.9**	**+0.4**
DALY	**Dalyan (Mu¨la**	**1.39**	**77**	PN	**Pn**	**03 15 38.9**	**+1.2**
DALY				SN	**Sn**	**03 15 58.3**	**+1.5**
DALY	**Dalyan (Mu¨la**	**1.39**	**77**	*i* P	**Pn**	**03 15 39.4**	**+1.8**
ZKR	**Zakros**	**1.53**	**204**	P	**Pn**	**03 15 40.4**	**+0.9**
ZKR				S	**Sn**	**03 15 60.0**	**0.0**
ZKR				AML	AML	03 16 02.4	
	comp=E,1748μm,0.5s						
ZKR				AML	AML	03 16 03.4	
	comp=N,730μm,0.4s						
ZKR	**Zakros**	**1.53**	**204**	P	**Pn**	**03 15 40.5**	**+1.0**
ZKR				S	**Sn**	**03 16 00.3**	**+0.3**
NPS	**Neapolis**	**1.67**	**222**	P	**Pn**	**03 15 41.2**	**0.0**
NPS				S	**Sn**	**03 16 01.9**	**-1.2**
NPS				AML	AML	03 16 03.7	
	comp=E,2095μm,0.3s						
NPS				AML	AML	03 16 05.4	
	comp=N,1752μm,0.3s						
NPS	**Neapolis**	**1.67**	**222**	P	**Pn**	**03 15 41.2**	**0.0**
NPS				S	**Sn**	**03 16 02.5**	**-0.6**
FETY	**Fethiye**	**1.71**	**86**	PN	**Pn**	**03 15 42.3**	**+0.7**
LAST	**Lasithi**	**1.82**	**222**	P	**Pn**	**03 15 42.9**	**-0.1**
LAST				AML	AML	03 16 06.5	
	comp=N,820μm,0.5s						
LAST				AML	AML	03 16 06.6	
	comp=E,434μm,0.2s						
LAST	**Lasithi**	**1.82**	**222**	P	**Pn**	**03 15 43.0**	**-0.1**
TAVA	**DENIZLI_Tavas**	**1.82**	**58**	*i* P	**Pn**	**03 15 43.8**	**+0.7**
DNZL	**Cakiroluk**	**2.03**	**54**	*i* P	**Pn**	**03 15 47.2**	**+1.3**
KSL	**Kastellorizon**	**2.14**	**99**	P	**Pn**	**03 15 47.5**	**+0.4**
KSL	**Kastellorizon**	**2.14**	**99**	P	**Pn**	**03 15 47.5**	**+0.4**
KSL				S	**Sn**	**03 16 13.8**	**+0.2**
AKAS	**Kas**	**2.15**	**97**	PN	**Pn**	**03 15 47.8**	**+0.5**
AKAS	**Kas**	**2.15**	**97**	*i* P	**Pn**	**03 15 47.6**	**+0.4**
GOLH	**Golhisar**	**2.20**	**70**	*i* P	**Pn**	**03 15 49.2**	**+1.3**
SIVA	**Sivas**	**2.31**	**230**	P	**Pn**	**03 15 49.5**	**+0.2**
SIVA				S	**Sn**	**03 16 17.1**	**-0.4**
SIVA				AML	AML	03 16 24.8	
	comp=N,437μm,0.4s						
SIVA				AML	AML	03 16 24.9	
	comp=E,802μm,0.4s						
SIVA	**Sivas**	**2.31**	**230**	P	**Pn**	**03 15 49.7**	**+0.4**
MANT	**Manisa**	**2.34**	**32**	*i* P	**Pn**	**03 15 50.0**	**+0.2**
ELL	**Elmali**	**2.37**	**84**	PN	**Pn**	**03 15 51.5**	**+1.3**
VAM	**Vamos**	**2.51**	**245**	P	**Pn**	**03 15 51.3**	**-0.6**
VAM	**Vamos**	**2.51**	**245**	P	**Pn**	**03 15 51.8**	**-0.1**
CHAN	**Chania**	**2.58**	**248**	P	**Pn**	**03 15 52.9**	**+0.2**
IMMV	**Iera Moni Meta**	**2.65**	**247**	P	**Pn**	**03 15 53.3**	**-0.4**
IMMV	**Iera Moni Meta**	**2.65**	**247**	P	**Pn**	**03 15 53.5**	**-0.2**
KHAL	**Karahalli**	**2.73**	**47**	*i* P	**Pn**	**03 15 55.3**	**+0.4**
BRDR	**BURDUR-Merkez**	**2.74**	**64**	*i* P	**Pn**	**03 15 55.6**	**+0.7**
KORT	**Korkueli**	**2.76**	**79**	*i* P	**Pn**	**03 15 55.3**	**0.0**
DEMI	**Demirci**	**2.87**	**28**	*i* P	**Pn**	**03 15 57.2**	**+0.5**
GVDS	**Gavdos**	**2.88**	**235**	P	**Pn**	**03 15 57.5**	**+0.7**
GVD	**Gavdhos**	**2.88**	**235**	P	**Pn**	**03 15 57.4**	**+0.6**
ANKY	**Antikythira Is**	**3.04**	**259**	P	**Pn**	**03 15 58.6**	**-0.3**
KZIL	**AFYON_Kizioren**	**3.06**	**55**	*i* P	**Pn**	**03 15 59.6**	**+0.3**
KYTH	**Kithira**	**3.18**	**267**	P	**Pn**	**03 16 00.6**	**-0.1**
VLI	**Veliai**	**3.25**	**275**	P	**Pn**	**03 16 01.7**	**0.0**
BOLV	**Bolvadin**	**3.85**	**54**	*i* P	**Pn**	**03 16 10.4**	**+0.6**
GAZI	**Gazipasa**	**4.32**	**92**	*i* P	**Pn**	**03 16 17.9**	**+1.8**
KONT	**Konya--Tatoy**	**4.53**	**70**	*i* P	**Pn**	**03 16 19.1**	**+0.2**
KDHN	**Kadinhani**	**4.55**	**62**	*i* P	**Pn**	**03 16 19.5**	**+0.2**
ERMK	**Ermenek**	**4.78**	**87**	*i* P	**Pn**	**03 16 23.5**	**+1.0**
GULN	**MERSIN_Gulnar**	**5.32**	**92**	*i* P	**Pn**	**03 16 27.9**	**-1.6**

*IDC **26** 03:15:45.3±6.9, 21°.26S×178°.77W, h535km±75km, mb2.7/5, mb1 3.1/5, mb1mx2.9/19, mbtmp3.6/5, Error ellipse: s-maj=30.7km s-min=29.2km az=162.0*
*ISCJB **26** 03:15:49.3±0.9, 21°.45S±0°.2×179°.0W±0°.3, h600km, mb3.0/5, Error ellipse: s-maj=39.1km s-min=23.8km az=43.4*

ISC 26 03:15:50.6±0.9, 21°.35S±0°.2×179°.0W±0°.2, h600km, n10, σ0°.96/9, mb3.0/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.57**	**263**	P	**P**	**03 23 03.7**	**+0.4**
	0.3nm,0.6s,baz=96,slow=7.5,SNR=9.7						
VNDA	**Vanda**	**57.05**	**185**	P	**P**	**03 24 40.0**	**-0.2**
	0.4nm,0.7s,baz=7.8,slow=7.4,SNR=3.1						
NVAR	**Mina Array Bea**	**82.23**	**44**	P	**P**	**03 27 11.1**	**+0.6**
	0.1nm,0.3s,baz=231,slow=7.7,SNR=3.8						
ILAR	**Eielson Array**	**89.28**	**13**	P	**P**	**03 27 43.0**	**-0.4**
	0.3nm,0.5s,baz=218,slow=5.1,SNR=5.1						
PDAR	**Pinedale Array**	**90.17**	**44**	P	**P**	**03 27 47.7**	**-0.5**
	0.2nm,0.5s,baz=225,slow=2.0,SNR=3.0						
ARCES	**ARCESS Array B**	**129.51**	**349**	PKP	**PKPdf**	**03 33 52.0**	**+0.6**
	6.7nm,1.1s,baz=48,slow=2.7,SNR=3.7						
AKASG	**Malin Array Be**	**143.23**	**330**	PKP	PKPbc	03 34 15.8	0.0
	0.5nm,0.4s,baz=46,slow=4.0,SNR=11						
BRTR	**Keskin Array B**	**146.66**	**311**	PKPbc	**PKPbc**	**03 34 27.3**	**+0.9**
	0.3nm,0.6s,baz=119,slow=4.7,SNR=3.6						
MMAI	**Mount Meron Ar**	**147.37**	**298**	PKPbc	**PKPab**	**03 34 30.7**	**-1.8**
	0.6nm,0.4s,baz=69,slow=7.9,SNR=2.6						
GERES	**GERESS Array B**	**150.68**	**343**	PKPbc	**PKPbc**	**03 34 36.4**	**+0.5**
	0.4nm,0.6s,baz=323,slow=2.5,SNR=4.7						

*BEO **26** 03:20:05.2±0.4, 42°.55N×19°.01E, h5km, ML1.5/7*
*SAR **26** 03:20:05.4±0.3, 42°.56N×19°.04E, h6km±2km, ML1.6/7*

PDG 26 03:20:04.6±0.1, 42°.56N×19°.02E, h20km, MD1.8/1, ML1.7/11, 10C-9D, Error ellipse: s-maj=0.1km s-min=0.2km az=0.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEME	**Cevo**	**0.07**	**261**	⇑*i*Pg	Pb	03 20 08.3	-0.2
CEME				*e*Sg	Sb	03 20 11.3	+0.2
NKME	**Niksic**	**0.21**	**348**	⇓*i*Pg	Pb	03 20 09.9	-0.1
NKME				*e*Sg	Sb	03 20 14.1	+0.4
PDG	**Podgorica**	**0.22**	**126**	*e*Pg	Pb	03 20 09.7	-0.3
PDG				*e*Sg	Sb	03 20 12.8	-0.9
PDG	**Podgorica**	**0.22**	**126**	⇓*i*Pg	Pb	03 20 09.6	-0.4
PDG				*e*Sg	Sb	03 20 13.5	-0.2
TTG	**Podgorica**	**0.22**	**126**	⇑*i*Pg	Pb	03 20 09.7	-0.3
TTG				*e*Sg	Sb	03 20 13.6	-0.1
NKY	**Niksic**	**0.26**	**356**	⇓*i*Pg	Pb	03 20 10.7	0.0
NKY				*e*Sg	Sb	03 20 15.2	+0.4
BUM	**Brajici-Budva**	**0.27**	**199**	⇑*i*Pg	Pb	03 20 10.7	-0.2
BUM				*e*Sg	Sb	03 20 15.9	+0.7
DRME	**Dracevica, Mon**	**0.39**	**161**	⇓*i*Pg	Pb	03 20 12.6	-0.2
DRME				*e*Sg	Sb	03 20 19.5	+1.1
DRME	**Dracevica, Mon**	**0.39**	**161**	*e*Pg	Pb	03 20 12.6	-0.2
DRME				*e*Sg	Sb	03 20 19.0	+0.6
HCY	**Herceg Novi**	**0.40**	**254**	⇑*i*Pg	Pb	03 20 12.6	-0.4
HCY				*e*Sg	Sb	03 20 19.5	+0.8
HCY	**Herceg Novi**	**0.40**	**254**	*e*Pg	Pb	03 20 12.6	-0.4
HCY				*e*Sg	Sb	03 20 19.2	+0.5
KOME	**Kolasin**	**0.47**	**51**	⇓*i*Pg	Pb	03 20 13.9	-0.4
KOME				*e*Sg	Sb	03 20 21.9	+1.1
BRY	**Bratogost**	**0.49**	**314**	⇑*i*Pg	Pb	03 20 14.3	-0.3
BRY				*e*Sg	Sb	03 20 22.5	+1.0
BRY	**Bratogost**	**0.49**	**314**	⇑*i*Pg	Pb	03 20 14.4	-0.2
BRY				*e*Sg	Sb	03 20 22.3	+0.8
TREB	**Trebinje**	**0.52**	**288**	*e*Pg	Pb	03 20 15.3	+0.3
TREB				*e*Sg	Sb	03 20 21.5	-0.5
TREB	**Trebinje**	**0.52**	**288**	*e*Pg	Pb	03 20 15.3	+0.3
TREB				*e*Sg	Sb	03 20 23.3	+1.3
ULC	**Ulcinj**	**0.62**	**164**	⇑*i*Pg	Pb	03 20 16.5	-0.3
ULC				*e*Sg	Sn	03 20 26.7	-0.9
UPM	**Unac-Piva**	**0.65**	**353**	⇓*i*Pg	Pb	03 20 16.9	-0.5
UPM				*e*Sg	Sb	03 20 27.3	+1.2
UPM	**Unac-Piva**	**0.65**	**353**	⇑*i*Pg	Pb	03 20 16.6	-0.8
UPM				*e*Sg	Sb	03 20 26.3	+0.2
PVY	**Plav**	**0.70**	**87**	⇓*i*Pg	Pb	03 20 18.0	-0.2
PVY				*e*Sg	Sn	03 20 29.2	-0.5
IVA	**Berane**	**0.72**	**64**	⇓*i*Pg	Pb	03 20 18.4	-0.1
IVA				*e*Sg	Sn	03 20 29.9	-0.3
PLE	**Pljevlja**	**0.82**	**19**	⇓*i*Pg	Pb	03 20 20.0	-0.2
PLE				*e*Sg	Sn	03 20 33.2	+0.5
SJES	**Sjenica**	**0.99**	**45**	*e*Pg	Pn	03 20 24.1	+0.6
SJES				*e*Sg	Sn	03 20 37.6	+0.6
STON	**Ston**	**1.02**	**288**	*e*Pg	Pn	03 20 24.0	+0.3
STON				Sg	Sn	03 20 39.6	+2.2
STON	**Ston**	**1.02**	**288**	⇑*i*Pg	Pn	03 20 23.9	+0.2
STON				*e*Sg	Sn	03 20 38.4	+1.0
IVAS	**Ivanjica**	**1.31**	**39**	*e*Pg	Pb	03 20 28.8	+0.2
IVAS				*e*Sg	Sb	03 20 47.0	+1.9
BBLS	**Lazi?i**	**1.34**	**12**	*e*Pg	Pb	03 20 30.2	+1.2
BBLS				*e*Sg	Sb	03 20 48.3	+2.5
BBLS	**Lazi?i**	**1.34**	**12**	⇑*i*Pg	Pb	03 20 29.5	+0.5
BBLS				*e*Sg	Sb	03 20 47.9	+2.1
HAPS	**Han Pijesak,Bl**	**1.53**	**358**	*e*Pg	Pb	03 20 32.3	0.0
HAPS				*e*

GTA				Sn	Sn	03 31 54.5	-2.1
GTA				Sg	Sg	03 32 31.5	-10
GTA				smax	smax		
	comp=N,27nm,0.8s						
GTA				smax	smax		
	comp=E,19nm,1.4s						

*IDC **26** 03:38:23.5±0.8, 48°.41N×157°.19E, h0km, mb3.6/12, mb1 3.8/14, mb1mx3.7/45, mbtmp3.6/14, ML3.1/2, MS2.9/1, Ms1 3.0/1, ms1mx2.2/43, Error ellipse: s-maj=24.1km s-min=16.6km az=157.0*
*ISCJB **26** 03:38:25.4±0.6, 48°.60N±0°.04×157°.3E±0°.1, h16km, mb3.7/13, MS3.0/1, Error ellipse: s-maj=9.9km s-min=5.3km az=15.6*
*KRSC **26** 03:38:25.9±1.5, 48°.66N×157°.88E, h30km±26km, ML4.2*
*MOS **26** 03:38:26.0±1.0, 48°.51N×157°.34E, h29km, mb4.0/7, Error ellipse: s-maj=19.6km s-min=4.8km az=84.9*
*SKHL **26** 03:38:27.6±0.5, 48°.49N×157°.25E, h45km±4km, mb4.2/2*

ISC 26 03:38:26.4±0.8, **48°.54N**±0°.08×**157°.28E**±0°.08, **h16**km, **n62, σ0s97/75, mb3.7/13, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.28**	**341**	*eP*	**Pn**	**03 39 03.2**	**-0.1**
SKR				AMB	AMB	03 39 03.7	
	70nm,0.7s						
SKR				AMB	AMB	03 39 03.7	
	4μm,0.7s						
SKR				*eS*	**Sn**	**03 39 29.6**	**-1.4**
SKR				A	A	03 39 31.4	
	300nm,0.6s						
SKR				A	A	03 39 31.4	
	490nm,0.6s						
SKR	**Severo-Kuril's**	**2.28**	**341**	*eP*	**Pn**	**03 39 03.0**	**-0.3**
SKR				*eS*	**Sn**	**03 39 29.9**	**-1.1**
SKR	**Severo-Kuril's**	**2.28**	**341**	*ePN*	**Pn**	**03 39 03.2**	**-0.1**
SKR				*eS*	**Sn**	**03 39 29.6**	**-1.4**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax	smax		
	comp=N,246nm,0.4s						
SKR				smax	smax		
	comp=E,608nm,0.6s						
PAU	**Pauzhetka**	**2.95**	**354**	*eP*	**Pn**	**03 39 12.7**	**+0.2**
PAU				*eS*	**Sn**	**03 39 46.9**	**-0.7**
PAU				A	A	03 39 48.7	
	comp=E,170nm,0.5s						
PAU				A	A	03 39 48.7	
	comp=E,138nm,0.5s						
PAU	**Pauzhetka**	**2.95**	**354**	*eP*	**Pn**	**03 39 12.8**	**+0.2**
PAU				*eS*	**Sn**	**03 39 46.9**	**-0.7**
PAU	**Pauzhetka**	**2.95**	**354**	PN	**Pn**	**03 39 12.8**	**+0.2**
PAU				S	**Sn**	**03 39 46.9**	**-0.7**
KDTR	**Khodutka, Kamc**	**3.31**	**9**	*eP*	**Pn**	**03 39 17.2**	**-0.4**
KDTR				*eS*	**Sn**	**03 39 54.2**	**-2.4**
KDTR	**Khodutka, Kamc**	**3.31**	**9**	PN	**Pn**	**03 39 17.2**	**-0.4**
RUS	**Russkaya**	**3.98**	**11**	*eP*	**Pn**	**03 39 26.3**	**-0.4**
RUS	**Russkaya**	**3.98**	**11**	*eP*	**Pn**	**03 39 26.3**	**-0.4**
RUS				*eS*	**Sn**	**03 40 11.3**	**-1.6**
RUS	**Russkaya**	**3.98**	**11**	PN	**Pn**	**03 39 26.3**	**-0.4**
MTVR	**Mutnovka**	**3.99**	**8**	*eP*	**Pn**	**03 39 27.1**	**+0.1**
MTVR				*eS*	**Sn**	**03 40 12.1**	**-1.4**
MTVR	**Mutnovka**	**3.99**	**8**	PN	**Pn**	**03 39 27.1**	**+0.1**
KRMR	**Karymshinskiy**	**4.33**	**7**	*eP*	**Pn**	**03 39 32.2**	**+0.7**
KRMR				*eS*	**Sn**	**03 40 21.0**	**-0.6**
KRMR	**Karymshinskiy**	**4.33**	**7**	PN	**Pn**	**03 39 32.2**	**+0.7**
PET	**Petropavlovsk**	**4.58**	**10**	*eP*	**Pn**	**03 39 35.1**	**+0.2**
PET				AMB	AMB	03 39 36.1	
	comp=E,20nm,0.5s						
PET				AMB	AMB	03 39 36.1	
	comp=E,4μm,0.5s						
PET				*eS*	**Sn**	**03 40 25.3**	**-2.3**
PET				A	A	03 40 27.5	
	comp=E,128nm,0.7s						
PET	**Petropavlovsk**	**4.58**	**10**	*eP*	**Pn**	**03 39 35.1**	**+0.2**
PET	**Petropavlovsk**	**4.58**	**10**	PN	**Pn**	**03 39 35.1**	**+0.2**
PETK	**Petropavlovsk-**	**4.58**	**3**	Pn	**Pn**	**03 39 35.5**	**+0.4**
	comp=E,3.3nm,0.3s,baz=169,slow=15,SNR=32						
PETK				Sn	**Sn**	**03 40 31.1**	**+3.2**
	baz=169,slow=16,SNR=1.7						
DALK	**Dalny**	**4.59**	**11**	*eP*	**Pn**	**03 39 35.2**	**0.0**
DALK				*eS*	**Sn**	**03 40 26.2**	**-1.9**
DALK	**Dalny**	**4.59**	**11**	PN	**Pn**	**03 39 35.2**	**0.0**
UGLR	**Uglovaya**	**4.78**	**11**	*eP*	**Pn**	**03 39 38.0**	**+0.2**
UGLR	**Uglovaya**	**4.78**	**11**	PN	**Pn**	**03 39 38.0**	**+0.2**
AVH	**Avacha**	**4.82**	**10**	*eP*	**Pn**	**03 39 39.3**	**+0.9**
AVH	**Avacha**	**4.82**	**10**	*eP*	**Pn**	**03 39 39.3**	**+0.9**
AVH	**Avacha**	**4.82**	**10**	PN	**Pn**	**03 39 39.3**	**+0.9**
SMAR	**Somma**	**4.83**	**11**	*eP*	**Pn**	**03 39 38.6**	**0.0**
SMAR	**Somma**	**4.83**	**11**	PN	**Pn**	**03 39 38.6**	**0.0**
KOK	**Koryaka**	**4.84**	**10**	*eP*	**Pn**	**03 39 39.8**	**+1.2**
KOK	**Koryaka**	**4.84**	**10**	*eP*	**Pn**	**03 39 39.8**	**+1.2**
KOK	**Koryaka**	**4.84**	**10**	PN	**Pn**	**03 39 39.8**	**+1.2**
SDLR	**Sedlovina**	**4.85**	**11**	*eP*	**Pn**	**03 39 38.6**	**-0.2**
SDLR	**Sedlovina**	**4.85**	**11**	PN	**Pn**	**03 39 38.6**	**-0.2**
SPN	**Mys Shipunski**	**4.88**	**20**	*eP*	**Pn**	**03 39 38.9**	**-0.3**
SPN	**Mys Shipunski**	**4.88**	**20**	PN	**Pn**	**03 39 38.9**	**-0.3**
KRX	**Arik**	**4.90**	**10**	*eP*	**Pn**	**03 39 40.6**	**+1.0**
KRX	**Arik**	**4.90**	**10**	PN	**Pn**	**03 39 40.6**	**+1.0**
GNL	**Ganaly**	**5.18**	**4**	*eP*	**Pn**	**03 39 44.6**	**+1.3**
GNL	**Ganaly**	**5.18**	**4**	PN	**Pn**	**03 39 44.6**	**+1.3**
MKZ	**Mys Kozlova**	**6.63**	**23**	*eP*	**Pn**	**03 40 02.4**	**-0.7**
MKZ	**Mys Kozlova**	**6.63**	**23**	PN	**Pn**	**03 40 02.4**	**-0.7**
KBTR	**Krutoberegovo**	**8.39**	**22**	*eP*	**Pn**	**03 40 27.2**	**-0.1**
KBTR	**Krutoberegovo**	**8.39**	**22**	PN	**Pn**	**03 40 27.2**	**-0.1**
KLR	**Kul'dur**	**16.79**	**282**	Pn	**Pn**	**03 42 21.4**	**+0.7**
	comp=E,0.1nm,0.3s,baz=102,slow=9.3,SNR=2.5						
BILL	**Bilibino**	**20.08**	**10**	*eP*	**Pn**	**03 43 00.9**	**+0.3**
BILL	**Bilibino**	**20.08**	**10**	*eP*	**Pn**	**03 43 00.9**	**+0.3**
BILL				*e*		03 43 35.6	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KSRS	**Korea Array**	**24.01**	**253**	P	**P**	**03 43 39.7**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=84,slow=14,SNR=3.3						
SONM	**Songino Array**	**33.42**	**288**	P	**P**	**03 45 04.2**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=110,slow=3.4,SNR=2.2						
INK	**Inuvik**	**38.61**	**34**	P	**P**	**03 45 49.5**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=322,slow=5.1,SNR=5.1						
MKAR	**Makanchi Array**	**48.61**	**298**	P	**P**	**03 47 08.0**	**-1.1**
	comp=Z,0.7nm,0.9s,baz=54,slow=7.3,SNR=2.7						
MKAR	**Makanchi Array**	**48.61**	**298**	P	**P**	**03 47 08.0**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NVAR	**Mina Array Bea**	**59.12**	**66**	P	**P**	**03 48 27.9**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=290,slow=6.8,SNR=5.5						
NVAR				LR	LR	04 12 18.8	
	comp=Z,10.0nm,18.8s,baz=349,slow=34						
PDAR	**Pinedale Array**	**61.41**	**57**	P	**P**	**03 48 42.3**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=290,slow=4.3,SNR=3.8						
ULM	**Lac du Bonnet**	**63.30**	**43**	P	**P**	**03 48 53.6**	**-0.5**
	comp=Z,4.3nm,1.1s,baz=321,slow=6.5,SNR=2.0						
FINES	**FINESS Array B**	**63.58**	**336**	P	**P**	**03 48 56.5**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=67,slow=11,SNR=4.4						
FINES	**FINESS Array B**	**63.58**	**336**	*eP*	**P**	**03 48 56.3**	**+0.5**
OBN	**Obninsk**	**65.38**	**327**	*eP*	**P**	**03 49 09.0**	**+1.4**
OBN	**Obninsk**	**65.38**	**327**	*eP*	**P**	**03 49 09.0**	**+1.4**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NOA	**NORSAR Array B**	**67.40**	**343**	P	**P**	**03 49 20.7**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=63,slow=6.1,SNR=2.7						
WRA	**Warramunga Arr**	**71.19**	**203**	P	**P**	**03 49 42.8**	**-1.6**
	comp=Z,0.3nm,0.8s,baz=9.7,slow=6.0,SNR=2.4						
TXAR	**Lajitas Array**	**74.17**	**64**	P	**P**	**03 50 02.8**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=305,slow=5.7,SNR=4.9						
BRTR	**Keskin Array B**	**78.95**	**319**	P	**P**	**03 50 29.0**	**-0.2**
	comp=Z,0.6nm,1.0s,baz=26,slow=7.0,SNR=2.5						

MEX 26 03:53:00.5±0.6, **16°.01N**×**98°.72W, h23**km±26km, **MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.68**	**56**	*eP*	Pb	03 53 11.4	-2.4
PNIG				*eS*	Sb	03 53 20.7	-2.1
TLIG	**Tlapa**	**1.55**	**5**	*eP*	Pn	03 53 23.9	-2.9
TLIG				*i* S	Sn	03 53 43.0	-3.4

*NEIC **26** 03:57:05.8±1.1, 5°.03S×147°.17E, h130km±11km, mb4.4/6, Error ellipse: s-maj=17.7km s-min=10.3km az=101.0*

*IDC **26** 03:57:12.8±0.8, 5°.37S×146°.92E, h185km±8km, mb3.8/6, mb1 4.2/8, mb1mx3.8/27, mbtmp4.5/8, Error ellipse: s-maj=20.2km s-min=10.4km az=113.0*
*DJA **26** 03:57:13.0±0.9, 5°.5S±5°.14°.7E±°, h173km±8km, M5.1/8, mB5.3/3, mb4.6/8, MLv5.3/3, Mw(mB)4.7/3*

ISC 26 03:57:07.3±0.7, **5°.02S**±0°.06×**147°.16E**±0°.09, **h150**km, **n29, σ2s70/30, mb4.0/12, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**2.97**	**4**	*ePn*	**Pn**	**03 57 50.0**	**-4.3**
PMG	**Port Moresby**	**4.35**	**180**	*ePn*	**Pn**	**03 58 12.2**	**0.0**
PMG				*eS*	Sn	03 58 48.9	-14
JAY	**Jayapura**	**6.90**	**291**	P	Pn	03 58 52.6	+6.4
JAY				S	**Sn**	**04 00 07.5**	**+3.8**
GENI	**Genyem**	**7.38**	**289**	P	Pn	03 58 58.3	+5.8
COEN	**Coen**	**9.71**	**204**	*ePn*	**Pn**	**03 59 24.4**	**+0.9**
RKPI	**Ransiki, Papua**	**13.42**	**285**	P	**P**	**04 00 15.2**	**-0.9**
CTAO	**Charters Tower**	**15.00**	**183**	*ePn*	**P**	**04 00 35.5**	**+1.9**
MTN	**Manton Dam**	**17.62**	**243**	*eP*	**Pn**	**04 01 03.7**	**-0.1**
	26nm,0.8s						
GUMO	**Guam**	**18.63**	**353**	P	**Pn**	**04 01 19.9**	**+4.3**
	7.4nm,0.3s,baz=176,slow=19,SNR=2.8						
WRAB	**Tennant Creek**	**19.37**	**219**	*eP*	**P**	**04 01 21.3**	**-0.3**
WB2	**Warramunga Arr**	**19.37**	**219**	*eP*	**P**	**04 01 21.5**	**-0.1**
WRA	**Warramunga Arr**	**19.38**	**219**	P	**P**	**04 01 21.4**	**-0.3**
	13nm,0.3s,baz=37,slow=11,SNR=291						
WRA				S	**S**	**04 04 45.0**	**-8.0**
	0.1nm,0.3s,baz=41,slow=20,SNR=15						
EIDS	**Eidsvold**	**20.58**	**170**	*eP*	**P**	**04 01 34.4**	**0.0**
	6.3nm,0.6s						
AS01	**Alice Springs**	**22.48**	**213**	*eP*	**P**	**04 01 53.4**	**-1.0**
AS01				*eS*	**S**	**04 05 47.8**	**-2.3**
AS31	**Alice Springs**	**22.51**	**213**	*eP*	**P**	**04 01 54.5**	**-0.1**
	11nm,0.8s						
AS31				*eS*	**S**	**04 05 49.0**	**-1.5**
ASAR	**Alice Springs**	**22.51**	**213**	P	**P**	**04 01 54.5**	**-0.2**
	15nm,0.3s,baz=49,slow=8.3,SNR=218						
ASAR				S	**S**	**04 05 44.9**	**-5.6**
	5.4nm,0.9s,baz=27,slow=21,SNR=7.6						
FITZ	**Fitzroy Crossi**	**24.72**	**237**	*eP*	**P**	**04 02 14.7**	**-0.1**
	14nm,0.8s						
ARMA	**Armidale**	**25.61**	**171**	*eP*	**P**	**04 02 22.8**	**-0.1**
	10nm,0.6s						
STKA	**Stephens Creek**	**27.22**	**190**	P	**P**	**04 02 35.8**	**-1.4**
	0.6nm,0.3s,baz=337,slow=15,SNR=2.3						
MBWA	**Marble Bar**	**31.07**	**236**	*eP*	**P**	**04 03 11.2**	**-0.2**
URZ	**Urewera**	**42.85**	**145**	P	**P**	**04 04 51.0**	**+0.4**
	3.8nm,0.4s,baz=304,slow=3.6,SNR=5.9						
SONM	**Songino Array**	**63.63**	**331**	P	**P**	**04 07 23.7**	**+1.3**
	0.1nm,0.3s,baz=101,slow=4.7,SNR=3.3						
VNDA	**Vanda**	**72.87**	**177**	P	**P**	**04 08 19.1**	**-0.2**
	2.0nm,0.6s,baz=336,slow=6.4,SNR=28						
MKAR	**Makanchi Array**	**76.85**	**320**	P	P	04 08 46.4	+3.6
	0.2nm,0.4s,baz=99,slow=8.7,SNR=3.0						
MKAR				pP	sP	04 09 29.1	-6.6
	0.8nm,0.7s,baz=131,slow=5.9,SNR=4.6						
ZALV	**Zalesovo Beam**	**78.28**	**328**	pP	pP	04 09 39.8	+12
	0.9nm,0.5s,baz=120,slow=8.5,SNR=1.3						
ILAR	**Eielson Array**	**84.53**	**23**	P	**P**	**04 09 25.8**	**+2.6**
	0.9nm,0.7s,baz=254,slow=4.7,SNR=14						
ILAR				pP	**sP**	**04 10 11.8**	**-4.9**
	0.4nm,0.8s,baz=258,slow=5.8,SNR=3.4						
NVAR	**Mina Array Bea**	**96.65**	**52**	P	P	04 10 25.7	+4.8
	0.4nm,0.8s,baz=249,slow=6.3,SNR=3.3						
PLCA	**Paso Flores**	**122.85**	**146**	PKP	**PKPdf**	**04 15 47.2**	**+1.1**
	1.2nm,0.8s,baz=240,slow=4.2,SNR=3.5						
TORD	**Torodi Ar. Bea**	**144.99**	**286**	PKP	**PKPdf**	**04 16 28.5**	**+0.8**
	0.3nm,0.5s,baz=52,slow=3.2,SNR=7.5						
TORD				pPKP		04 17 18.3	
	0.3nm,0.5s,baz=62,slow=3.4,SNR=2.7						

MEX 26 04:11:52.3±0.6, **16°.95N**×**99°.64W, h45**km±10km, **MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.23**	**249**	*eP*	Pn	04 11 58.8	-1.5
ACX				*i* S	Sn	04 12 04.2	-1.8
ACP2	**Acapulco**	**0.25**	**252**	*eP*	Pn	04 11 58.9	-1.6
ACP2				*eS*	Sn	04 12 05.1	-1.2
CAIG	**El Cayaco**	**0.61**	**279**	*eP*	Pn	04 12 03.2	-1.5
CAIG				*eS*	Sn	04 12 11.7	-1.9
MEIG	**Mezcala**	**0.97**	**1**	*eP*	Pn	04 12 07.3	-2.3
MEIG				*i* S	Sn	04 12 19.7	-2.6
PLIG	**Platanillo**	**1.44**	**5**	*eP*	Pn	04 12 14.9	-1.1
PLIG				*i* S	Sn	04 12 31.5	-2.2
ARIG	**Puente Sto Nin**	**1.48**	**333**	*eP*	Pn	04 12 15.3	-1.3
ARIG				*eS*	Sn	04 12 33.2	-1.6

*ISK **26** 04:17:32.6, 36°.61N×27°.94E, h8km, ML3.6/15*
*ATH **26** 04:17:32.7, 36°.65N×27°.98E, h28km±1km, ML3.5/4, Error ellipse: s-maj=2.4km s-min=0.9km az=211.0*
*THE **26** 04:17:33.1, 36°.64N×27°.98E, h0km±1km, ML3.6/3, Error ellipse: s-maj=1.4km s-min=0.5km az=48.0*
*DDA **26** 04:17:33.8, 36°.65N×28°.00E, h4km, Ml3.3*
*IDC **26** 04:17:35.9±2.7, 36°.50N×27°.98E, h36km±28km, mb3.4/7, mb1 3.5/13, mb1mx3.4/52, mbtmp3.5/13, ML3.4/6, Error ellipse: s-maj=21.6km s-min=13.8km az=163.0*
*NIC **26** 04:17:37.1±0.3, 36°.74N×28°.28E, h12km, ML3.3*

ISC 26 04:17:30.9±1.2, **36°.66N**±0°.02×**27°.98E**±0°.02, **h1**km±9km, **n105, σ1s77/126, mb3.5/7, 1C-1D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSB	**Marmaris-Mugla**	**0.18**	**70**	PG	**Pg**	**04 17 37.6**	**+3.2**
DATC	**Datca-Mugla**	**0.28**	**292**	PG	**Pg**	**04 17 38.7**	**0.0**
DATC				SG	**Sb**	**04 17 42.9**	**-1.0**
DAT	**Datca**	**0.33**	**283**	PG	**Pb**	**04 17 39.5**	**-0.2**
DAT	**Datca**	**0.33**	**283**	*i* P	**Pb**	**04 17 39.9**	**+0.2**
DAT				*i* S	**Sb**	**04 17 46.7**	**+1.0**
ARG	**Arkhangelos**	**0.45**	**165**	PG	**Pb**	**04 17 40.9**	**-0.8**
ARG	**Arkhangelos**	**0.45**	**165**	P	**Pb**	**04 17 42.0**	**+0.3**
ARG				S	**Sb**	**04 17 49.9**	**+1.1**
ARG				AML	AML	04 17 50.6	
	comp=N,12355μm,0.4s						
ARG				AML	AML	04 17 52.8	
	comp=E,10458μm,0.5s						
ARG	**Arkhangelos**	**0.45**	**165**	P	**Pb**	**04 17 41.9**	**+0.3**
ARG				S	**Sb**	**04 17 50.0**	**+1.1**
TURN	**Turunc**	**0.54**	**66**	PG	**Pg**	**04 17 38.2**	**-2.6**
TURN				SG	**Sg**	**04 17 43.5**	**-4.9**
TURN	**Turunc**	**0.54**	**66**	*i* P	**Pg**	**04 17 38.8**	**-2.5**
TURN				*i* S	**Sg**	**04 17 42.0**	**-6.4**
DALY	**Dalyan (Mu¨la**	**0.56**	**73**	PG	**Pn**	**04 17 45.1**	**-0.9**
DALY	**Dalyan (Mu¨la**	**0.56**	**73**	*i* P	**Pn**	**04 17 44.8**	**-1.2**
DALY				*i* S	**Sn**	**04 17 53.2**	**-2.8**
NIS1	**Nisyros Isl.**	**0.65**	**266**	PG	**Pb**	**04 17 45.1**	**+0.1**
NIS1	**Nisyros Isl.**	**0.65**	**266**	P	**Pb**	**04 17 45.6**	**+0.6**
NIS1				S	**Sn**	**04 17 55.9**	**-2.2**
NIS1				AML	AML	04 18 02.6	
	comp=N,32218μm,0.4s						
NIS1				AML	AML	04 18 03.7	
	comp=E,27246μm,0.5s						
NIS1	**Nisyros Isl.**	**0.65**	**266**	P	**Pn**	**04 17 46.1**	**-1.2**
NIS1				S	**Sn**	**04 17 56.6**	**-1.6**
MLSB	**Milas**	**0.66**	**346**	PG	**Pn**	**04 17 46.9**	**-0.5**
BODT	**Bodrum**	**0.68**	**307**	PG	**Pb**	**04 17 46.3**	**+0.8**
BODT	**Bodrum**	**0.68**	**307**	P	**Pn**	**04 17 46.5**	**-1.1**
BODT				S	**Sn**	**04 17 58.1**	**-0.7**
NISR	**Nisiros**	**0.69**	**267**	P	**Pn**	**04 17 46.5**	**-1.2**
NISR				S	**Sn**	**04 17 57.1**	**-2.0**
NISR				AML	AML	04 18 02.6	
	comp=E,11210μm,0.3s						
NISR				AML	AML	04 18 04.1	
	comp=N,5823μm,0.5s						
NISR	**Nisiros**	**0.69**	**267**	P	**Pn**	**04 17 47.0**	**-0.8**
NISR				S	**Sn**	**04 17 57.6**	**-1.5**
FETY	**Fethiye**	**0.89**	**91**	PG	**Pn**	**04 17 50.7**	**+0.2**
FETY	**Fethiye**	**0.89**	**91**	P	**Pn**	**04 17 50.8**	**+0.2**
DIDI	**Didim-Aydin**	**0.93**	**321**	PG	**Pn**	**04 17 51.3**	**+0.1**
AYDN	**Tasoluk**	**1.01**	**355**	*i* P	**Pn**	**04 17 52.8**	**+0.6**
AYDN				*i* S	**Sn**	**04 18 08.0**	**+0.8**
TAVA	**DENIZLI_Tavas**	**1.10**	**42**	*i* P	**Pn**	**04 17 55.0**	**+1.5**
TAVA				*i* S	**Sn**	**04 18 10.6**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**1.29**	**357**	PN	**Pg**	**04 17 58.0**	**+2.3**
DNZL	**Cakiroluk**	**1.34**	**39**	*i* P	**Pg**	**04 18 00.2**	**+3.7**
AKAS	**Kas**	**1.37**	**107**	PN	**Pg**	**04 17 59.5**	**+2.3**
AKAS	**Kas**	**1.37**	**107**	*i* P	**Pg**	**04 17 59.9**	**+2.6**
DENT	**Denizli**	**1.38**	**37**	PN	**Pg**	**04 17 59.7**	**+2.3**
KSL	**Kastellorizon**	**1.39**	**111**	P	**Pg**	**04 17 59.0**	**+1.6**
KSL				S	**Sg**	**04 18 16.7**	**+1.3**
KSL	**Kastellorizon**	**1.39**	**111**	P	**Pg**	**04 18 00.1**	**+2.6**
GOLH	**Golhisar**	**1.39**	**65**	*i* P	**Pg**	**04 18 00.6**	**+3.0**
SMG	**Samos**	**1.39**	**319**	P	**Pg**	**04 17 58.3**	**+0.7**
SMG				S	**Sg**	**04 18 17.3**	**+1.5**
SMG				AML	AML	04 18 24.3	
	comp=N,2002μm,0.5s						
SMG				AML	AML	04 18 25.2	
	comp=E,2531μm,0.4s						
SMG	**Samos**	**1.39**	**319**	P	**Pg**	**04 17 58.5**	**+0.9**
ELL	**Elmali**	**1.55**	**86**	PN	**Pg**	**04 18 02.1**	**+1.5**
DGB	**¨zmir**	**1.65**	**328**	*i* P	**Pb**	**04 18 01.8**	**-0.3**
GMLD	**Gumuldur**	**1.65**	**329**	PN	**Pg**	**04 18 03.0**	**+0.4**
AMGA	**Amorgos Island**	**1.69**	**277**	P	**Pb**	**04 18 02.9**	**+0.2**
ANAF	**Anafi Island**	**1.81**	**261**	P	**Pb**	**04 18 04.2**	**-0.6**
MANT	**Manisa**	**1.89**	**14**	*i* P	**Pb**	**04 18 06.1**	**-0.2**
KORT	**Korkueli**	**1.93**	**79**	PN	**Pg**	**04 18 07.5**	**-0.4**
KORT	**Korkueli**	**1.93**	**79**	*i* P	**Pg**	**04 18 10.2**	**+2.3**
KULA	**Kula-Manisa**	**1.93**	**16**	PN	**Pb**	**04 18 07.3**	**+0.3**
APE	**Apeiranthos**	**2.01**	**283**	PN	**Pb**	**04 18 07.2**	**-1.1**
APE	**Apeiranthos**	**2.01**	**283**	P	**Pn**	**04 18 06.6**	**+0.5**
APE	**Apeiranthos**	**2.01**	**283**	P	**Pn**	**04 18 06.7**	**+0.7**
URLA	**Izmir**	**2.03**	**327**	PN	**Pb**	**04 18 08.2**	**-0.4**
URLA	**Izmir**	**2.03**	**327**	*i* P	**Pb**	**04 18 08.7**	**+0.1**
SANT	**Santorini**	**2.05**	**263**	PN	**Pb**	**04 18 07.9**	**-1.1**
KHAL	**Karahalli**	**2.09**	**35**	*i* P	**Pg**	**04 18 10.9**	**-0.1**
ZKR	**Zakros**	**2.10**	**224**	P	**Pb**	**04 18 08.7**	**-1.1**
ANTB	**Antalya**	**2.16**	**83**	PN	**Pb**	**04 18 10.3**	**-0.5**
IOSP	**Ios island**	**2.17**	**273**	P	**Pn**	**04 18 08.8**	**+0.7**
CHOS	**Chios island**	**2.31**	**319**	PN	**Pb**	**04 18 12.2**	**-1.2**
CHOS	**Chios island**	**2.31**	**319**	P	**Pn**	**04 18 10.5**	**+0.3**
CHOS	**Chios island**	**2.31**	**319**	P	**Pn**	**04 18 11.4**	**+1.2**
ISP	**Isparta**	**2.34**	**59**	PN	**Pb**	**04 18 13.3**	**-0.6**
NPS	**Neapolis**	**2.37**	**235**	P	**Pn**	**04 18 12.1**	**+1.1**
NPS	**Neapolis**	**2.37**	**235**	P	**Pb**	**04 18 12.2**	**-2.2**
LAST	**Lasithi**	**2.52**	**234**	P	**Pn**	**04 18 13.4**	**+0.3**
LAST	**Lasithi**	**2.52**	**234**	P	**Pn**	**04 18 14.4**	**+1.3**
SIMA	**Simav-Kutahya**	**2.55**	**18**	PN	**Pb**	**04 18 16.1**	**-1.4**
DKL	**Dikili**	**2.56**	**341**	PN	**Pb**	**04 18 15.7**	**-1.9**
GDZ	**Gediz**	**2.70**	**26**	*i* P	**Pb**	**04 18 18.0**	**-2.1**
AYVA	**Ayvalik**	**2.84**	**339**	*i* P	**Pg**	**04 18 28.8**	**+3.4**
IDI	**Anoyia**	**2.85**	**242**	PN	**Pn**	**04 18 19.3**	**+1.6**
IDI	**Anoyia**	**2.85**	**242**	Pn	**Pn**	**04 18 17.3**	**-0.3**
	comp=E,4.7nm,0.3s,baz=54,slow=16,SNR=20						
IDI				Sn	**Sn**	**04 18 50.1**	**-2.6**
	comp=E,5.0nm,0.3s,baz=47,slow=5.4,SNR=5.5						
KEPZ	**Antalya-Kepez**	**2.92**	**84**	*i* P	**Pb**	**04 18 23.9**	**+0.2**
PRK	**Paraskevi**	**2.92**	**333**	P	**Pn**	**04 18 19.3**	**+0.9**
DURS	**Dursunbey**	**2.97**	**7**	*i* P	**Pn**	**04 18 20.8**	**+1.6**
SIVA	**Sivas**	**3.05**	**239**	P	**Pn**	**04 18 21.4**	**+1.2**
SIGR	**SIGRI**	**3.06**	**327**	P	**Pn**	**04 18 21.5**	**+1.2**
VAM	**Vamos**	**3.31**	**249**	P	**Pn**	**04 18 25.0**	**+1.2**
GVD	**Gavdhos**	**3.65**	**241**	P	**Pn**	**04 18 30.9**	**+2.4**
KMER	**Konya-Meram**	**3.67**	**71**	*i* P	**Pb**	**04 18 33.5**	**-3.2**
KONT	**Konya--Tatoy**	**3.72**	**68**	*i* P	**Pb**	**04 18 35.1**	**-2.3**
AKMC	**Akamas**	**3.89**	**113**	P	**Pn**	**04 18 34.4**	**+2.6**
	baz=298						
DID	**Didima**	**3.89**	**284**	P	**Pn**	**04 18 33.1**	**+1.3**
LIA	**Limnos Island**	**3.92**	**327**	P	**Pn**	**04 18 33.7**	**+1.6**
LIA	**Limnos Island**	**3.92**	**327**	P	**Pn**	**04 18 34.0**	**+1.9**
PPCY

TAVA				*i* S	**Sn**	**04 22 18.7**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**1.35**	**358**	PN	**Pn**	**04 22 04.4**	**0.0**
AKAS	**Kas**	**1.38**	**105**	PN	**Pg**	**04 22 05.4**	**+0.3**
AKAS	**Kas**	**1.38**	**105**	*i* P	**Pg**	**04 22 07.1**	**+1.9**
KSL	**Kastellorizon**	**1.39**	**108**	P	**Pn**	**04 22 04.4**	**-0.3**
DNZL	**Cakiroluk**	**1.40**	**38**	*i* P	**Pg**	**04 22 07.1**	**+1.6**
DNZL				*i* S	**Sg**	**04 22 28.5**	**+4.8**
SMG	**Samos**	**1.43**	**322**	P	**Pn**	**04 22 04.8**	**-0.5**
SMG				S	**Sb**	**04 22 24.8**	**+0.5**
GOLH	**Golhisar**	**1.44**	**63**	*i* P	**Pg**	**04 22 07.7**	**+1.4**
GOLH				*i* S	**Sg**	**04 22 29.9**	**+4.9**
ELL	**Elmali**	**1.58**	**84**	PN	**Pb**	**04 22 08.2**	**-0.2**
DGB	**˙zmir**	**1.69**	**330**	*i* P	**Pn**	**04 22 08.5**	**-0.3**
KORT	**Korkueli**	**1.96**	**77**	PN	**Pb**	**04 22 14.1**	**-0.9**
KULA	**Kula-Manisa**	**2.00**	**16**	PN	**Pb**	**04 22 14.7**	**-0.9**
URLA	**Izmir**	**2.07**	**329**	PN	**Pn**	**04 22 15.2**	**+1.1**
AKHS	**Akhisar**	**2.29**	**357**	*i* P	**Pn**	**04 22 16.7**	**-0.3**
NPS	**Neapolis**	**2.32**	**236**	P	**Pn**	**04 22 18.0**	**+0.5**
LAST	**Lasithi**	**2.47**	**235**	P	**Pn**	**04 22 20.7**	**+1.0**
STEP	**BALIKESIR_Sava**	**2.79**	**356**	*i* P	**Pn**	**04 22 23.2**	**-0.8**
STEP				*i* S	**Pg**	**04 22 34.2**	**+2.1**

*ISK **26** 04:22:28.2, 37.02N×27.92E, h5km, ML2.7/5*
*DDA **26** 04:22:29.4, 37.07N×27.95E, h7km, Ml2.9*

ISC 26 04:22:27.4±1.3, 37.06N±0.04×28.04E±0.03, h2km±12km, n15, σ1.9±32/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.31**	**319**	PG	**Pb**	**04 22 35.3**	**-0.5**
MRSB	**Marmaris-Mugla**	**0.37**	**159**	PG	**Pb**	**04 22 36.8**	**+0.1**
DATC	**Datca-Mugla**	**0.42**	**225**	PG	**Pg**	**04 22 35.9**	**+0.3**
TURN	**Turunc**	**0.49**	**112**	PG	**Pg**	**04 22 36.4**	**-0.4**
TURN				SG	**Sg**	**04 22 42.5**	**-0.7**
TURN	**Turunc**	**0.49**	**112**	*i* P	**Pg**	**04 22 36.6**	**-0.2**
TURN				*i* S	**Sg**	**04 22 42.9**	**-0.3**
DAT	**Datca**	**0.49**	**228**	PG	**Pg**	**04 22 37.1**	**+0.2**
DAT	**Datca**	**0.49**	**228**	*i* P	**Pb**	**04 22 38.1**	**-0.8**
DAT				*i* S	**Sg**	**04 22 45.0**	**+1.7**
DALY	**Dalyan (Mu¨la**	**0.55**	**116**	*i* P	**Pn**	**04 22 41.1**	**-1.1**
DALY				*i* S	**Sn**	**04 22 51.5**	**-0.5**
BODT	**Bodrum**	**0.58**	**270**	PG	**Pg**	**04 22 39.1**	**+0.5**
BODT				SG	**Sg**	**04 22 46.7**	**+0.6**
AYDN	**Tasoluk**	**0.61**	**348**	*i* P	**Pn**	**04 22 41.3**	**-1.9**
AYDN				*i* S	**Sb**	**04 22 49.2**	**-0.8**
TAVA	**DENIZLI_Tavas**	**0.81**	**60**	*i* P	**Pn**	**04 22 46.3**	**+0.3**
TAVA				*i* S	**Sn**	**04 22 57.7**	**-0.9**
NIS1	**Nisyros Isl.**	**0.83**	**237**	PG	**Pg**	**04 22 43.2**	**-0.1**
ARG	**Arkhangelos**	**0.84**	**175**	PG	**Pn**	**04 22 45.2**	**-1.2**
FETY	**Fethiye**	**0.94**	**116**	PG	**Pn**	**04 22 49.4**	**+1.7**
DNZL	**Cakiroluk**	**1.02**	**52**	*i* P	**Pn**	**04 22 50.2**	**+1.3**
DNZL				*i* S	**Sn**	**04 23 07.8**	**+3.8**

*ISCJB **26** 04:24:47.9±0.8, 31.17S±0.03×69.09W±0.05, h117km±7km, Error ellipse: s-maj=6.6km s-min=4.5km az=163.8*
*GUC **26** 04:24:47.7±0.7, 31.17S×69.25W, h126km±3km, ML3.1*
*SJA **26** 04:24:48.2±0.3, 31.19S×69.05W, h106km±2km, ML3.2, MW3.5*

ISC 26 04:24:48.4±1.5, 31.17S±0.03×69.09W±0.05, h112km±10km, n23, σ0.963/35, 3C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.51**	**137**	AMSG		04 25 19.8	
	comp=Z,16μm,0.5s						
RTLL	**Cerro Villicun**	**0.55**	**107**	*e*P	**Pn**	**04 25 05.1**	**-0.8**
RTLL				AMSG		04 25 19.8	
	comp=E,17μm,0.5s						
RTLL				AMSG		04 25 21.9	
	comp=Z,13μm,0.3s						
RTLL				AMSG		04 25 21.9	
	comp=Z,13μm,0.3s						
RTLL				AMSG		04 25 22.2	
	comp=N,21μm,0.3s						
RTLL	**Cerro Villicun**	**0.55**	**107**	⇓*i*P	**Pn**	**04 25 05.8**	**-0.1**
RTLL				*e*S	**Sn**	**04 25 19.1**	**0.0**
AMOG	**MOGNA**	**0.56**	**66**	*e*P	**Pn**	**04 25 05.7**	**-0.4**
AMOG				*e*S	**Sn**	**04 25 18.5**	**-0.8**
ACCO	**Cerro Coronel**	**0.58**	**2**	*e*P	**Pn**	**04 25 07.0**	**+0.4**
RTLS	**Leoncito**	**0.65**	**196**	*e*P	**Pn**	**04 25 07.2**	**+0.1**
RTLS				IAML		04 25 22.2	
	comp=Z,483nm,0.3s						
RTCV	**Cerro Valdivia**	**0.83**	**146**	*e*P	**Pn**	**04 25 07.8**	**-0.4**
RTCV				*e*S	**Sn**	**04 25 22.5**	**-0.8**
ACDV	**Cuesta del Vie**	**1.00**	**358**	*e*P	**Pn**	**04 25 10.5**	**+0.5**
ACDV				*e*S	**Sn**	**04 25 26.9**	**+0.7**
ACDV				IAML		04 25 28.4	
	comp=Z,350nm,0.3s						
AROD	**Rodeo**	**1.05**	**341**	*e*P	**Pn**	**04 25 11.6**	**+0.8**
AROD				*e*S	**Sn**	**04 25 28.9**	**+1.4**
AUSP	**Uspallata**	**1.08**	**194**	*e*P	**Pn**	**04 25 11.3**	**+0.3**
ASAL	**Salagasta**	**1.43**	**171**	*e*P	**Pn**	**04 25 14.9**	**+0.2**
CMCH	**Combarbala**	**1.64**	**269**	*e*P	**Pn**	**04 25 17.2**	**0.0**
CMCH				*i* S	**Sn**	**04 25 39.1**	**+0.1**
ARCO	**CERRO ARCO**	**1.67**	**176**	*e*P	**Pn**	**04 25 17.9**	**+0.2**
ARCO				IAML		04 25 43.5	
	comp=Z,231nm,0.5s						
AGUA	**GUANDACOL**	**1.75**	**17**	*e*P	**Pn**	**04 25 19.3**	**+0.7**
AGUA				*e*S	**Sn**	**04 25 42.3**	**+0.7**
GO04	**Tololo Observa**	**1.78**	**304**	⇑*i*P	**Pn**	**04 25 18.9**	**-0.1**
GO04				*i* S	**Sn**	**04 25 42.6**	**+0.3**
AAGR	**Agrelo**	**1.92**	**174**	*e*P	**Pn**	**04 25 21.1**	**+0.4**
ACAN	**Cantantal**	**1.96**	**125**	*e*P	**Pn**	**04 25 21.2**	**+0.2**
LSCH	**La Serena**	**2.25**	**304**	⇓*i*P	**Pn**	**04 25 24.2**	**-0.5**
LSCH				*i* S	**Sn**	**04 25 51.2**	**-1.3**
LSCH				IAML		04 25 52.8	
	comp=E,136nm,0.3s						
FCH	**Farellones**	**2.38**	**205**	*e*P	**Pn**	**04 25 27.4**	**+0.7**
FCH				*i* S	**Sn**	**04 25 56.9**	**+0.9**
FCH				IAML		04 25 59.5	
	comp=E,62nm,0.2s						
ROCH	**El Roble**	**2.43**	**222**	*e*P	**Pn**	**04 25 27.0**	**-0.2**
ROCH				*e*S	**Sn**	**04 25 56.6**	**-0.3**
ROCH				IAML		04 25 57.8	
	comp=E,54nm,0.2s						
LCO	**Las Campanas**	**2.57**	**327**	⇑*i*P	**Pn**	**04 25 29.0**	**-0.1**
LCO				*i* S	**Sn**	**04 26 00.1**	**-0.2**
MRA	**San Martin**	**3.13**	**114**	*e*P	**Pn**	**04 25 36.4**	**+0.1**
MRA				IAML		04 26 13.9	
	comp=Z,48nm,0.4s						
GO03	**Copiap**	**3.70**	**344**	⇑*i*P	**Pn**	**04 25 43.6**	**-0.3**
GO03				*e*S	**Sn**	**04 26 25.5**	**-1.4**
GO03				IAML		04 26 29.4	
	comp=N,47nm,0.6s						

TRN 26 04:31:33.6, 16.79N×60.75W, h19km, MD3.7, 4C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEG	**La Desirade**	**0.56**	**212**	*e*P	**Pn**	**04 31 47.0**	**+0.4**
DEG				*e*S	**Sn**	**04 31 58.3**	**+2.8**
SFG	**Saint Francois**	**0.69**	**219**	*e*P	**Pn**	**04 31 48.8**	**+0.5**
ABD	**La Joyeuse, An**	**0.78**	**246**	*e*P	**Pn**	**04 31 51.1**	**+1.6**
ABD				*e*S	**Sn**	**04 32 02.3**	**+1.6**
SEG	**Port Louis**	**0.82**	**242**	⇑*e*P	**Pn**	**04 31 52.1**	**+1.9**
MAGL	**Barre de l'ile**	**0.98**	**212**	*e*P	**Pg**	**04 31 53.1**	**+0.3**
MAGL				*e*S	**Sn**	**04 32 07.4**	**+1.6**
MGG	**Marie-Galante**	**1.03**	**212**	*e*P	**Pg**	**04 31 54.3**	**+0.7**
MGG				*e*S	**Sg**	**04 32 09.7**	**+2.6**
BPA	**Boggy Peak**	**1.09**	**284**	*e*P	**Pg**	**04 31 56.1**	**+1.3**
BPA				*e*S	**Sg**	**04 32 11.4**	**+2.2**
CBE	**F˜f˜, Capest**	**1.09**	**229**	⇑*e*P	**Pg**	**04 31 55.9**	**+1.0**
CBE				*e*S	**Sg**	**04 32 11.4**	**+2.1**
SSG	**Sans Toucher**	**1.14**	**232**	*e*P	**Pg**	**04 31 56.6**	**+0.9**
LZG	**Guadaloupe-1**	**1.18**	**237**	⇑*e*P	**Pg**	**04 31 57.2**	**+0.6**
TDBA	**Terre de Bas,**	**1.27**	**222**	⇑*e*P	**Pg**	**04 31 58.2**	**+0.1**
TDBA				*e*S	**Sg**	**04 32 15.9**	**+1.1**
TBG	**Guadaloupe-3**	**1.27**	**223**	*e*P	**Pg**	**04 31 58.4**	**+0.2**
TBG				*e*S	**Sg**	**04 32 16.5**	**+1.6**
ANWB	**Willy Bob**	**1.32**	**311**	*e*P	**Pb**	**04 31 57.9**	**0.0**
ANWB				*e*S	**Sg**	**04 32 16.1**	**-0.4**
MDPV	**Dominica, Penn**	**1.33**	**209**	*e*P	**Pg**	**04 31 59.4**	**+0.1**
MDPV				*e*S	**Sg**	**04 32 18.1**	**+1.4**
MDVC	**Dominica, Viel**	**1.33**	**208**	*e*P	**Pb**	**04 31 58.1**	**+0.1**
MDVC				*e*S	**Sg**	**04 32 18.0**	**+1.2**
MDPO	**Dominica; Chan**	**1.39**	**209**	*e*P	**Pg**	**04 31 59.7**	**-0.7**
MDPO				*e*S	**Sg**	**04 32 19.5**	**+1.0**
MLYT	**Lee's Yard**	**1.39**	**267**	*e*P	**Pg**	**04 32 00.5**	**+0.1**
MLYT				*e*S	**Sg**	**04 32 19.7**	**+1.2**
BBL	**Barber's Block**	**1.44**	**209**	*e*P	**Pb**	**04 32 00.3**	**+0.4**
BBL				*e*S	**Sg**	**04 32 20.1**	**-0.1**
DLPL	**La Plaine**	**1.53**	**198**	*e*P	**Pb**	**04 32 01.2**	**-0.2**
DLPL				*e*S	**Sg**	**04 32 22.7**	**-0.4**
MDN	**Morne-Daniel**	**1.59**	**203**	*e*P	**Pb**	**04 32 02.7**	**+0.2**
MDN				*e*S	**Sg**	**04 32 23.8**	**-1.3**
DBCT	**Belle View Cho**	**1.62**	**201**	*e*P	**Pb**	**04 32 03.5**	**+0.6**
DBCT				*e*S	**Sb**	**04 32 23.9**	**+0.9**
DSHT	**Scott's Head**	**1.68**	**201**	*e*S	**Sb**	**04 32 25.9**	**+1.1**
NEV	**Hard Times**	**1.78**	**281**	*e*P	**Sb**	**04 32 05.6**	**0.0**
NEV				*e*S	**Sb**	**04 32 28.8**	**+1.2**
BANF	**Morne Balai**	**2.00**	**191**	*e*P	**Pb**	**04 32 08.1**	**-1.4**
CXM	**Morne La Croix**	**2.01**	**192**	*e*P	**Pb**	**04 32 08.3**	**-1.4**
CXM				*e*S	**Sb**	**04 32 33.2**	**-1.2**
PCM	**Pelee Case Pet**	**2.02**	**193**	*e*P	**Pb**	**04 32 08.9**	**-0.7**
GBMF	**Grand Be**	**2.02**	**192**	*e*P	**Pn**	**04 32 08.0**	**+1.2**
PML	**Morne Lenard**	**2.04**	**192**	*e*P	**Pn**	**04 32 08.3**	**+1.3**
FDF	**Fort de France**	**2.08**	**191**	*e*P	**Pn**	**04 32 08.9**	**+1.3**
FDF				*e*S	**Sn**	**04 32 34.0**	**+0.9**
LPMF	**Morne Lapointe**	**2.21**	**186**	*e*P	**Pn**	**04 32 10.8**	**+1.4**
ZAM	**Aeronautique**	**2.22**	**187**	*e*P	**Pn**	**04 32 11.1**	**+1.6**
MVM	**Montagne Vaucl**	**2.23**	**184**	*e*P	**Pb**	**04 32 11.6**	**-1.7**
TRMF	**Trois Ilets**	**2.26**	**187**	*e*P	**Pn**	**04 32 11.9**	**+1.9**
BIM	**Bigot**	**2.28**	**188**	*e*P	**Pn**	**04 32 12.3**	**+1.9**
SLW	**Petit Monier**	**2.76**	**184**	*e*P	**Pn**	**04 32 18.5**	**+1.6**
SLW				*e*S	**Sn**	**04 32 52.2**	**+2.5**
SLB	**Belfond**	**2.96**	**186**	*e*P	**Pn**	**04 32 21.9**	**+2.2**
SLB				*e*S	**Sn**	**04 32 57.7**	**+2.9**
MCLT	**Moule a Chique**	**3.07**	**184**	*e*P	**Pn**	**04 32 23.8**	**+2.7**
MCLT				*e*S	**Sn**	**04 32 59.5**	**+2.1**
SSV	**Crater Summit**	**3.47**	**187**	*e*P	**Pn**	**04 32 28.3**	**+1.6**
SVV	**Soufriere Volc**	**3.48**	**188**	*e*P	**Pn**	**04 32 29.4**	**+2.6**
SVV				*e*S	**Sn**	**04 33 09.7**	**+2.1**
SVCV	**St. Vincent, C**	**3.52**	**186**	*e*P	**Pn**	**04 32 30.3**	**+3.0**
SVB	**Belmont**	**3.53**	**188**	*e*P	**Pn**	**04 32 30.3**	**+2.7**
SVB				*e*S	**Sn**	**04 33 11.3**	**+2.5**

DJA 26 04:33:00.9±1.0, 5.5S×107.7E±, h46km±26km, M3.9/5, MLv3.9/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.91**	**277**	P	**Pn**	**04 33 16.9**	**-0.4**
BNDI				S	**Sn**	**04 33 30.8**	**+1.5**
FAKI	**Fak Fak**	**2.23**	**40**	P	**Pn**	**04 33 35.4**	**+0.1**
FAKI				S	**Sn**	**04 34 02.4**	**+0.8**
SWI	**Sorong**	**3.77**	**7**	S	**Sn**	**04 34 40.0**	**+0.3**

MEX 26 04:34:14.5±0.4, 15.06N×93.07W, h86km±9km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.66**	**347**	*e*P	**Pn**	**04 34 28.9**	**-1.4**
PCIG				*e*S	**Sn**	**04 34 40.4**	**-1.6**
THIG		**0.79**	**101**	*i* P	**Pn**	**04 34 29.5**	**-2.1**
THIG				*i* S	**Sn**	**04 34 42.6**	**-1.7**
CCIG	**Comitan**	**1.51**	**36**	*i* P	**Pn**	**04 34 37.9**	**-2.5**
CCIG				*i* S	**Sn**	**04 34 58.1**	**-1.8**

TRN 26 04:39:03.8, 16.78N×60.64W, h28km, MD3.6, 3C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABD	**La Joyeuse, An**	**0.87**	**250**	⇓*e*P	**Pb**	**04 39 21.6**	**+1.3**
SEG	**Port Louis**	**0.91**	**246**	⇑*i*P	**Pb**	**04 39 22.6**	**+1.6**
MAGL	**Barre de l'ile**	**1.03**	**217**	⇑*i*P	**Pb**	**04 39 23.2**	**+0.2**
MGG	**Marie-Galante**	**1.08**	**217**	*e*P	**Pb**	**04 39 24.2**	**+0.4**
MGG				*e*S	**Sb**	**04 39 39.8**	**+2.3**
CBE	**F˜f˜, Capest**	**1.17**	**233**	*e*P	**Pb**	**04 39 25.9**	**+0.5**
BPA	**Boggy Peak**	**1.20**	**283**	*e*P	**Pb**	**04 39 25.6**	**-0.3**
BPA				*e*S	**Sb**	**04 42 04.0**	**+1.1**
TAG	**Tarade**	**1.23**	**233**	*e*P	**Pb**	**04 39 27.4**	**+0.9**
TAG				*e*S	**Sb**	**04 39 43.6**	**+1.6**
FNG	**Fond-Bernard**	**1.23**	**235**	*e*P	**Pb**	**04 39 26.7**	**+0.1**
LZG	**Guadaloupe-1**	**1.26**	**240**	*e*P	**Pb**	**04 39 27.2**	**+0.2**
HMG	**Houelmont**	**1.29**	**232**	*e*P	**Pb**	**04 39 27.8**	**+0.3**
HMG				*e*S	**Sb**	**04 39 45.8**	**+2.1**
TDBA	**Terre de Bas,**	**1.33**	**226**	⇑*e*P	**Pb**	**04 39 28.8**	**+0.7**
TBG	**Guadaloupe-3**	**1.34**	**226**	*e*P	**Pb**	**04 39 28.4**	**+0.2**
TBG				*e*S	**Sb**	**04 39 45.9**	**+0.9**
MDPV	**Dominica, Penn**	**1.37**	**213**	*e*P	**Pb**	**04 39 29.3**	**+0.5**
MDPV				*e*S	**Sb**	**04 39 46.0**	**0.0**
MDVC	**Dominica, Viel**	**1.38**	**213**	*e*P	**Pb**	**04 39 28.6**	**-0.3**
MDVC				*e*S	**Sb**	**04 39 47.2**	**+1.2**
ANWB	**Willy Bob**	**1.41**	**309**	*e*P	**Pb**	**04 39 28.9**	**-0.5**
ANWB				*e*S	**Sb**	**04 39 47.5**	**+0.5**
MDPO	**Dominica; Chan**	**1.43**	**213**	*e*P	**Pb**	**04 39 29.7**	**-0.1**
MDPO				*e*S	**Sb**	**04 39 48.1**	**+0.4**
BBL	**Barber's Block**	**1.48**	**213**	*e*P	**Pb**	**04 39 30.4**	**-0.4**
BBL				*e*S	**Sb**	**04 39 48.7**	**-0.4**
MLYT	**Lee's Yard**	**1.49**	**268**	*e*P	**Pb**	**04 39 30.7**	**-0.2**
MLYT				*e*S	**Sb**	**04 39 50.5**	**+1.1**
DLPL	**La Plaine**	**1.56**	**202**	*e*P	**Pb**	**04 39 31.0**	**-1.0**
DLPL				*e*S	**Sb**	**04 39 50.5**	**-0.8**
FDF	**Fort de France**	**2.10**	**194**	*e*P	**Pn**	**04 39 38.2**	**+1.1**
FDF				*e*S	**Sn**	**04 40 03.8**	**+1.6**

*ISCJB **26** 04:44:52.0±0.3, 40.41N±0.02×29.35E±0.03, h9km±3km, Error ellipse: s-maj=4.1km s-min=3.3km az=10.9*
*ISK **26** 04:44:51.9, 40.41N×29.35E, h10km, ML3.4/27*
*DDA **26** 04:44:52.1, 40.40N×29.36E, h7km, Ml3.5*
*ATH **26** 04:45:09.1, 40.26N×27.47E, h15km±3km, ML2.3/5, Error ellipse: s-maj=12.0km s-min=2.9km az=254.0*

ISC 26 04:44:52.0±0.9, 40.41N±0.02×29.36E±0.02, h10km±7km, n67, σ0.853/70, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZI	**Iznik**	**0.11**	**128**	PG	**Pg**	**04 44 54.1**	**-0.8**
GEMT	**Gemlik**	**0.13**	**283**	PG	**Pg**	**04 44 55.5**	**+0.4**
GEMT				SG	**Sg**	**04 44 57.6**	**+0.3**
YLV	**Yalova**	**0.16**	**4**	PG	**Pg**	**04 44 55.9**	**+0.2**
YLV				SG	**Sg**	**04 44 58.3**	**+0.1**
MDNY	**Mudanya-Bursa**	**0.36**	**264**	PG	**Pg**	**04 44 59.5**	**+0.3**
ARMT	**Armutlu**	**0.41**	**293**	PG	**Pg**	**04 45 00.5**	**+0.4**
CAVI	**Cavuskoy**	**0.42**	**118**	PG	**Pg**	**04 45 00.3**	**-0.1**
SBT5	**Esenkoy-Cinarc**	**0.43**	**302**	PG	**Pb**	**04 45 01.4**	**-0.3**
BUY	**Buyukada**	**0.48**	**338**	*i* P	**Pb**	**04 45 02.2**	**-0.4**
ORLT	**Orhaneli**	**0.50**	**225**	PG	**Pg**	**04 45 02.3**	**+0.4**
KAVV	**Kandilli-Istan**	**0.70**	**341**	PG	**Pb**	**04 45 06.2**	**-0.1**
ISK	**Istanbul-Kandi**	**0.70**	**341**	PG	**Pb**	**04 45 05.6**	**+0.1**
GEYV	**SAKARYA_Geyve**	**0.72**	**83**	*i* P	**Pg**	**04 45 06.2**	**+0.2**
GPA	**Golpazari**	**0.74**	**99**	PG	**Pb**	**04 45 07.2**	**+0.2**
SPNC	**Sapanca-Adapaz**	**0.78**	**69**	PG	**Pb**	**04 45 07.5**	**-0.1**
KCTX	**Karacabey (Bur**	**0.78**	**260**	PG	**Pg**	**04 45 07.3**	**+0.2**
SILT	**Sile**	**0.78**	**16**	PG	**Pg**	**04 45 07.0**	**-0.1**
SAUV	**Serdivan-Sakar**	**0.81**	**65**	PG	**Pg**	**04 45 07.9**	**+0.2**
KLYT	**Kilyos**	**0.88**	**344**	PG	**Pb**	**04 45 09.5**	**+0.1**
GULT	**Gulveren**	**0.88**	**88**	PG	**Pb**	**04 45 09.5**	**0.0**
BGKT	**Bogazkoy**	**0.89**	**330**	PG	**Pb**	**04 45 09.5**	**-0.1**
KAND	**Kocaeli-Kandir**	**0.94**	**42**	*i* P	**Pg**	**04 45 09.9**	**-0.1**
TVSB	**Tavsanli**	**0.96**	**175**	PG	**Pb**	**04 45 10.7**	**-0.1**
DST	**Dursunbey**	**0.98**	**216**	PG	**Pb**	**04 45 11.1**	**0.0**
BORA	**Eskisehir**	**0.99**	**122**	PG	**Pg**	**04 45 10.9**	**-0.2**
BORA	**Eskisehir**	**0.99**	**122**	*i* P	**Pg**	**04 45 11.1**	**0.0**
ELBA	**Catalca**	**1.02**	**317**	*i* P	**Pg**	**04 45 11.7**	**0.0**
DURS	**Dursunbey**	**1.05**	**220**	*i* P	**Pn**	**04 45 12.7**	**-0.2**
DURS				*i* S	**Sn**	**04 45 27.2**	**-0.4**
CTKS	**Kestanelik-??a**	**1.05**	**322**	PG	**Pg**	**04 45 12.1**	**-0.2**
EDC	**Edincik**	**1.14**	**268**	PN	**Pb**	**04 45 10.6**	**-0.3**
SAHE	**Sakarya_HENDEK**	**1.22**	**68**	*i* P	**Pn**	**04 45 15.1**	**-0.1**
BTAS	**Taskesti**	**1.26**	**82**	*i* P	**Pb**	**04 45 16.0**	**+0.1**
GONE	**Gonen-Balikesi**	**1.33**	**255**	PN	**Pn**	**04 45 16.8**	**+0.2**
SMAA	**Simav-Kutahya**	**1.33**	**193**	PN	**Pg**	**04 45 17.5**	**-0.2**
CTYL	**Yalikoy Yolu**	**1.34**	**323**	PN	**Pb**	**04 45 17.3**	**+0.1**
KIYI	**Yal˜–koy-Catal**	**1.34**	**324**	PN	**Pb**	**04 45 17.2**	**-0.1**
SIMA	**Simav-Kutahya**	**1.35**	**192**	PN	**Pb**	**04 45 17.7**	**+0.2**
MRMT	**Marmara Adasi**	**1.36**	**279**	PN	**Pb**	**04 45 17.5**	**-0.1**
GEDZ	**Gediz**	**1.36**	**178**	PN	**Pg**	**04 45 17.9**	**-0.2**
BALB	**Balikesir**	**1.37**	**237**	PN	**Pb**	**04 45 17.7**	**0.0**
KNL	**Bal˜–kesir**	**1.41**	**265**	*i* P	**Pn**	**04 45 17.8**	**+0.1**
MDUB	**Mudurnu**	**1.41**	**87**	PN	**Pn**	**04 45 18.2**	**+0.4**
CRLT	**Corlu**	**1.43**	**301**	PN	**Pn**	**04 45 18.1**	**+0.1**
ESKT	**Eskisehir**	**1.45**	**127**	PN	**Pb**	**04 45 19.1**	**-0.1**
SBT4	**Kumbag-Tekirda**	**1.45**	**288**	PN	**Pb**	**04 45 18.6**	**-0.4**
TKR	**Tekirdag**	**1.50**	**293**	PN	**Pn**	**04 45 19.4**	**+0.4**
KRBG	**Karabiga-Canak**	**1.57**	**270**	PN	**Pn**	**04 45 20.1**	**+0.1**
SART	**Tekirdag**	**1.68**	**280**	*i* P	**Pb**	**04 45 22.8**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.69**	**280**	PN	**Pn**	**04 45 21.9**	**+0.3**
PHSR	**Pinarhisar**	**1.85**	**312**	PN	**Pn**	**04 45 24.7**	**+0.9**
SVRH	**Sivrihisar-ESK**	**1.92**	**119**	PN	**Pn**	**04 45 25.0**	**+0.1**
KULA	**Kula-Manisa**	**1.96**	**196**	PN	**Pn**	**04 45 26.4**	**+1.0**
LPK	**Lapseki**	**1.98**	**270**	PN	**Pn**	**04 45 25.5**	**-0.1**
GOMA	**Golmarmara-Man**	**2.03**	**214**	PN	**Pn**	**04 45 27.1**	**+0.9**
KESN	**Edirne-Kesan**	**2.08**	**283**	*i* P	**Pn**	**04 45 27.6**	**+0.3**
ERIK	**Erikli-Kesan**	**2.18**	**278**	PN	**Pn**	**04 45 29.3**	**+0.9**
GELI	**Tayfur-Gelibol**	**2.20**	**271**	PN	**Pn**	**04 45 29.3**	**+0.7**
ALN	**Alexandroupoli**	**2.57**	**282**	P	**Pn**	**04 45 33.3**	**-0.3**
ALN				AML	AML	04 46 14.9	
	comp=N,113μm,0.6s						
ALN				AML	AML	04 46 15.1	
	comp=E,79μm,0.7s						
PRK	**Paraskevi**	**2.64**	**245**	P	**Pn**	**04 45 34.0**	**-0.7**
PRK				AML	AML	04 46 23.0	
	comp=N,305μm,0.5s						
PRK				AML	AML	04 46 24.5	
	comp=E,330μm,0.6s						
SMTH	**Samothraki Isl**	**2.92**	**273**	P	**Pn**	**04 45 37.6**	**-1.0**
SMTH				AML	AML	04 46 29.3	
	comp=E,132μm,0.4s						
SMTH				AML	AML	04 46 29.6	
	comp=N,158μm,0.4s						
SIGR	**SIGRI**	**2.95**	**247**	P	**Pn**	**04 45 39.1**	**+0.2**
SIGR				AML	AML	04 46 31.5	
	comp=E,178μm,0.5s						
SIGR				AML	AML	04 46 34.6	
	comp=N,188μm,0.7s						
RDO	**Rodhopi**	**2.99**	**286**	P	**Pn**	**04 45 39.8**	**+0.3**
LIA	**Limnos Island**	**3.24**	**262**	P	**Pn**	**04 45 42.4**	**-0.5**
LIA				AML	AML	04 46 41.2	
	comp=E,103μm,1.0s						
LIA				AML	AML	04 46 42.4	
	comp=N,124μm,0.8s						
CHOS	**Chios island**	**3.26**	**233**	P	**Pb**	**04 45 47.8**	**-2.2**
SMG	**Samos**	**3.33**	**217**	P	**Pb**	**04 45 53.2**	**+2.0**
THAS	**Thassos island**	**3.54**	**275**	P	**Pn**	**04 45 46.3**	**-0.8**
NVR	**Nevrokopi**	**4.27**	**285**	P	**Pn**	**04 45 57.2**	**+0.1**
AOS	**Alonnisos**	**4.40**	**255**	P	**Pn**	**04 45 58.3**	**-0.5**

IDC 26 05:14:40.5±2.8, 14.37S×167.33E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/34, mbtmp3.8/3, Error ellipse: s-maj=131.2km s-min=44.6km az=142.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.27**	**229**	P	P	05 20 44.5	0.0
	0.9nm,0.4s,baz=62,slow=10,SNR=3.9						
WRA	**Warramunga Arr**	**31.97**	**255**	P	P	05 21 08.8	+0.2
	0.4nm,0.7s,baz=86,slow=10,SNR=5.1						
ASAR	**Alice Springs**	**32.86**

SCRK	Sand Creek	84.02	22	*e*P		P	05 28 49.7	+0.4
HYT	Haines Junctio	85.03	26	*e*P		P	05 28 55.7	+1.3
	2.1nm,1.1s							
WHY	Whitehorse	86.11	27	*e*P		P	05 29 00.8	+1.0
	1.6nm,0.8s							
MK01	Makanchi Array	87.13	318	*e*P		P	05 29 04.8	-0.2
MK32	Makanchi Array	87.15	318	*e*P		P	05 29 04.8	-0.2
MKAR	Makanchi Array	87.15	318	P		P	05 29 04.8	-0.2
	0.5nm,0.6s,baz=94,slow=5.0,SNR=4.8							
INK	Inuvik	89.83	20	P		P	05 29 17.4	+0.3
	0.4nm,0.5s,baz=267,slow=6.8,SNR=5.2							
INK	Inuvik	89.83	20	*e*P		P	05 29 17.6	+0.5

IDC **26** *05:33:47.3±0.4,40.°41N×90.°44E,h0km,mb5.1/32, mb1 5.2/38,mb1mx5.2/38,mbtmp5.1/38,ML5.0/5,MS4.4/37, Ms1 4.4/37,ms1mx4.3/51,Error ellipse: s-maj=12.4km s-min=9.4km az=30.0*

ISCJB **26** *05:33:48.5±0.1,40.°42N±0.°01×90.°38E±0.°01,h18km, mb5.4/423,MS4.6/67,Error ellipse: s-maj=1.9km s-min=1.5km az=32.9*

BJI **26** *05:33:48.8,40.°35N×90.°45E,h10km,mb5.1/57,mB5.3/37, ML5.6/15,Ms5.3/79,Ms7 5.2/71*

NEIC **26** *05:33:48.8±0.1,40.°41N×90.°36E,h10km,mb5.6/250, MW5.0,ML5.6(BJI),Error ellipse: s-maj=2.2km s-min=1.8km az=27.0,Moment Tensor Solution. s14 Moment tensor: Scale 10^16^Nm; Mrr3.76; Mθθ-4.15; Mφφ0.39; Mrθ-0.63; Mθφ-0.40; Mφr1.85; Best double couple: Mo4.50000×10^16^ NP1:φs63.00000°,δ46.00000°, λ56.00000°. NP2:φs288.00000°,δ53.00000°,λ121.00000°. Principal axes: T 4.6400, Plg66.0000°, Azm258.0000°; N -0.4300, Plg24.0000°, Azm88.0000°; P -4.2200, Plg4.0000°, Azm356.0000°;*

NEIC Some houses damaged in Xinjiang.

NNC **26** *05:33:50.3±1.5,40.°55N×90.°12E,h0km,mb5.9,mpv5.6 Error ellipse: s-maj=21.6km s-min=16.2km az=31.0*

GCMT **26** *05:33:50.8±0.2,40.°62N±0.°01×90.°54E±0.°02,h23km, MW5.1/95,Moment Tensor Solution. s62,c82; s95,c167; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.48±.15; Mθθ-4.70±.11; Mφφ1.23±.10; Mrθ-1.14±.16; Mθφ-2.32±.09; Mφr1.51±.17; Best double couple: Mo5.12900×10^16^ NP1:φs280.00000°,δ57.00000°,λ131.00000°. NP2: φs41.00000°,δ51.00000°,λ44.00000°. Principal axes: T 4.7180, Plg56.0000°, Azm246.0000°; N 0.8320, Plg34.0000°, Azm75.0000°; P -5.5400, Plg4.0000°, Azm342.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

MOS **26** *05:33:50.1±1.0,40.°46N×90.°33E,h28km,mb5.6/153, MS4.7/26 Error ellipse: s-maj=5.4km s-min=2.9km az=131.8*

ISC 26 05:33:49.1±0.4,40.°41N±0.°03×90.°37E±0.°02,h11km±2km, h11km:pP-P,n1466,σ1s40/1538,mb5.5/447,MS4.7/71, 118C-31D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WMQ	**Urumqi**	**3.95**	**331**	Pn	**Pn**		**05 34 52.0**	**+2.3**
WMQ				Sn	**Sn**		**05 35 39.8**	**+3.8**
WMQ				smax	smax			
	comp=N,35μm,1.1s							
WMQ				smax	smax			
	comp=E,41μm,0.9s							
WMQ				LR	LR			
	comp=N,9μm,13.7s							
WMQ				LR	LR			
	comp=E,10μm,14.3s							
WMQ				LR	LR			
	comp=Z,13μm,13.3s							
WMQ	**Urumqi**	**3.95**	**331**	Pn	**Pn**		**05 34 52.0**	**+2.3**
WMQ				Sn	**Sn**		**05 35 39.8**	**+3.8**
WMQ	**Urumqi**	**3.95**	**331**	P	**Pn**		**05 34 52.0**	**+2.3**
WMQ							05 35 39.8	
GTA	**Gaotai**	**7.33**	**95**	Pn	**Pn**		**05 35 36.5**	**+0.3**
GTA				Pg	Pb		05 36 01.3	+4.9
GTA				Sn	**Sn**		**05 36 58.3**	**-1.1**
GTA				Sg	**Sg**		**05 37 36.3**	**-8.0**
GTA				smax	smax			
	comp=N,4μm,1.1s							
GTA				smax	smax			
	comp=E,3μm,1.3s							
GTA				LR	LR			
	comp=N,9μm,7.9s							
GTA				LR	LR			
	comp=E,13μm,8.6s							
GTA				LR	LR			
	comp=Z,18μm,9.4s							
GTA	**Gaotai**	**7.33**	**95**	Pn	**Pn**		**05 35 36.5**	**+0.3**
GTA				Pg	Pb		05 36 01.3	+4.9
GTA				Sn	**Sn**		**05 36 58.3**	**-1.1**
GTA				Sg	**Sg**		**05 37 36.3**	**-8.0**
PDGK	**Podgornoye**	**8.63**	**293**	⇑Pn	**Pn**		**05 35 54.1**	**+0.1**
	134nm,0.5s							
PDGK				⇓Lg	Lg		05 38 16.7	
	4μm,0.9s							
PDGK	**Podgornoye**	**8.63**	**293**	P	**Pn**		**05 35 54.9**	**+0.9**
PDGK				pmax	pmax			
	comp=Z,134nm,0.5s							
MK01	**Makanchi Array**	**8.64**	**320**	*e*Pn	**Pn**		**05 35 54.6**	**+0.5**
MK01				*e*Sn	**Sn**		**05 37 29.3**	**-2.2**
MK31	**Makanchi Array**	**8.66**	**320**	⇑Pn	**Pn**		**05 35 55.0**	**+0.6**
	comp=Z,136nm,0.4s							
MK31				⇓Sn	**Sn**		**05 37 30.3**	**-1.7**
	comp=Z,379nm,0.6s							
MK31				⇑Lg	Lg		05 38 19.6	
	comp=Z,2μm,0.9s							
MK31	**Makanchi Array**	**8.66**	**320**	*e*Pn	**Pn**		**05 35 54.9**	**+0.5**
MK31				*e*Sn	**Sn**		**05 37 29.3**	**-2.7**
MK31	**Makanchi Array**	**8.66**	**320**	*e*P	**Pn**		**05 35 54.9**	**+0.5**
MK31				*e*			05 37 29.3	
MK32	**Makanchi Array**	**8.66**	**320**	*e*Pn	**Pn**		**05 35 54.7**	**+0.3**
MK32				*e*Sn	**Sn**		**05 37 31.9**	**-0.1**
MKAR	**Makanchi Array**	**8.66**	**320**	Pn	**Pn**		**05 35 54.7**	**+0.3**
	comp=Z,72nm,0.3s,baz=129,slow=13,SNR=1176							
MKAR				Sn	**Sn**		**05 37 31.9**	**-0.1**
	comp=Z,75nm,0.3s,baz=132,slow=24,SNR=5.9							
MKAR				Lg	Lg		05 38 26.5	
	comp=Z,38nm,0.3s,baz=133,slow=23,SNR=5.8							
MKAR				LR	LR		05 39 55.4	
	comp=Z,3μm,18.4s,baz=138,slow=42							
MKAR	**Makanchi Array**	**8.66**	**320**	*e*Pn	**Pn**		**05 35 54.9**	**+0.5**
MKAR				*e*Sn	**Sn**		**05 37 29.2**	**-2.8**
PRZ	**Przheval'sk**	**9.23**	**287**	*e*Pn	**Pn**		**05 36 03.1**	**+0.9**
PRZ	**Przheval'sk**	**9.23**	**287**	*e*P	**Pn**		**05 36 03.1**	**+0.9**
DGZ	**Jazzator, Alta**	**9.52**	**348**	⇑*e*P	**Pn**		**05 36 06.9**	**+0.7**
DGZ				pmax	pmax			
	comp=Z,22nm,1.2s							
KDJ	**Kajisay**	**10.08**	**284**	*e*Pn	**Pn**		**05 36 15.2**	**+1.2**
KDJ	**Kajisay**	**10.08**	**284**	*e*P	**Pn**		**05 36 15.2**	**+1.2**
MDOK	**Medeo**	**10.32**	**290**	⇑Pn	**Pn**		**05 36 17.7**	**+0.4**
	comp=Z,425nm,0.5s							
MDOK				⇑Sn	**Sn**		**05 38 14.6**	**+1.6**
	comp=Z,775nm,1.4s							
MDOK				⇓Lg	Lg		05 39 12.7	
	comp=Z,2μm,1.4s							
KNDC	**Almaty**	**10.39**	**290**	⇑Pn	**Pn**		**05 36 19.0**	**+0.9**
	comp=Z,558nm,0.8s							
KNDC				⇑Sn	**Sn**		**05 38 11.3**	**-3.3**
	comp=Z,2μm,1.5s							
KNDC				⇑Lg	Lg		05 39 10.9	
	comp=Z,3μm,1.1s							
AAA	**Alma-Ata**	**10.43**	**290**	*e*P	**Pn**		**05 36 20.2**	**+1.6**
AAA				*e*S	**Sn**		**05 38 13.4**	**-2.0**
AAA				pmax	pmax			
	comp=Z,500nm,0.7s							
AAA				smax	smax			
	comp=E,2μm,1.6s							
AAA				MLR	MLR			
	comp=Z,7μm,3.0s							
LSA	**Lhasa**	**10.70**	**176**	P	**Pn**		**05 36 26.3**	**+3.5**
LSA				S	**Sn**		**05 38 27.0**	**+4.2**
LSA				LR	LR			
	comp=Z,2μm,11.7s							
LSA				LR	LR			
	comp=Z,320nm,9.2s							
LSA				LR	LR			
	comp=Z,6μm,12.0s							
LSA	**Lhasa**	**10.70**	**176**	*e*Pn	**Pn**		**05 36 24.9**	**+2.2**
LSA	**Lhasa**	**10.70**	**176**	*i* P	**Pn**		**05 36 26.9**	**+4.1**
	SNR=16							
LSA	**Lhasa**	**10.70**	**176**	*e*P	**Pn**		**05 36 25.0**	**+2.2**
ULHL	**Ulahol**	**10.79**	**284**	P	**Pn**		**05 36 23.7**	**0.0**
	SNR=86							
NRN	**Naryn**	**10.93**	**280**	*e*Pn	**Pn**		**05 36 25.2**	**-0.5**
NRN	**Naryn**	**10.93**	**280**	*e*P	**Pn**		**05 36 25.2**	**-0.5**
HVS	**Khovu-Aksy**	**10.98**	**11**	⇓*e*P	**Pn**		**05 36 26.9**	**+0.8**
KSH	**Kashi**	**11.09**	**270**	P	**Pn**		**05 36 32.0**	**+4.3**
KSH				PP	**PnPn**		**05 36 41.0**	**+5.7**
KSH				S	**Sn**		**05 38 38.0**	**+6.3**
KSH				LR	LR			
	comp=Z,7μm,9.9s							
KSH				LR	LR			
	comp=Z,14μm,8.0s							
KSH				LR	LR			
	comp=Z,14μm,8.5s							
TKM2	**Tokmak 2**	**11.34**	**288**	⇑Pn	**Pn**		**05 36 31.2**	**+0.1**
	comp=Z,574nm,0.5s							
TKM2				⇑Sn	**Sn**		**05 38 36.2**	**-1.6**
	comp=Z,311nm,0.8s							
TKM2				⇑Lg	Lg		05 39 42.9	
	comp=Z,665nm,1.0s							
TKM2	**Tokmak 2**	**11.34**	**288**	P	**Pn**		**05 36 31.5**	**+0.3**
	SNR=950							
TKM2	**Tokmak 2**	**11.34**	**288**	P	**Pn**		**05 36 31.2**	**+0.1**
TKM2				S	**Sn**		**05 38 36.2**	**-1.6**
TKM2				pmax	pmax			
	comp=Z,574nm,0.5s							
TKM2				smax	smax			
	comp=N,311nm,0.8s							
LZH	**Lanzhou**	**11.44**	**108**	⇑P	**Pn**		**05 36 32.5**	**0.0**
LZH				pP			05 36 41.0	
LZH				sP			05 36 45.5	
LZH				PP	**PnPn**		**05 36 46.8**	**+6.7**
LZH				S	**Sn**		**05 38 39.5**	**-0.8**
LZH				SS	**SnSn**		**05 38 51.5**	**-0.5**
LZH				pmax	pmax			
	comp=N,110nm,1.3s							
LZH				pmax	pmax			
	comp=N,620nm,4.7s							
LZH				LR	LR			
	comp=N,20μm,10.2s							
LZH				LR	LR			
	comp=N,34μm,11.9s							
LZH				LR	LR			
	comp=N,35μm,11.4s							
KZA	**Kyzart**	**11.51**	**283**	P	**Pn**		**05 36 35.3**	**+1.6**
	SNR=104							
KBK	**Karagaybulak**	**11.78**	**286**	P	**Pn**		**05 36 37.6**	**+0.5**
	SNR=96							
CHMS	**Chumysh**	**11.96**	**288**	P	**Pn**		**05 36 39.1**	**-0.5**
	SNR=63							
FRU1	**Bishkek**	**12.03**	**287**	*e*Pn	**Pn**		**05 36 40.3**	**-0.2**
FRU1	**Bishkek**	**12.03**	**287**	*e*P	**Pn**		**05 36 40.3**	**-0.2**
FRU	**Bishkek**	**12.04**	**287**	*e*P	**Pn**		**05 36 38.0**	**-2.6**
FRU				*e*S	**Sn**		**05 38 52.0**	**-2.8**
FRU				pmax	pmax			
	comp=Z,360nm,1.8s							
FRU				pmax	pmax			
	comp=E,3μm,2.0s							
UCH	**Uchtor**	**12.06**	**284**	P	**Pn**		**05 36 41.9**	**+0.5**
	SNR=120							
AAK	**Ala-Archa**	**12.11**	**286**	Pn	**Pn**		**05 36 41.0**	**-0.6**
	comp=E,13nm,0.3s,baz=101,slow=7.6,SNR=117							
AAK				Lg	Lg		05 40 07.7	
	comp=E,2.8nm,0.3s,baz=301,slow=5.1,SNR=3.8							
AAK	**Ala-Archa**	**12.11**	**286**	⇓Pn	**Pn**		**05 36 40.8**	**-0.9**
	comp=E,277nm,1.2s							
AAK				⇑Lg	Lg		05 40 06.3	
	comp=E,1μm,1.5s							
AAK	**Ala-Archa**	**12.11**	**286**	P	**Pn**		**05 36 42.0**	**+0.3**
	SNR=27							
AAK	**Ala-Archa**	**12.11**	**286**	*e*Pn	**Pn**		**05 36 40.9**	**-0.9**
AAK	**Ala-Archa**	**12.11**	**286**	P	**Pn**		**05 36 40.8**	**-0.9**
	SNR=106							
AAK	**Ala-Archa**	**12.11**	**286**	*i* P	**Pn**		**05 36 41.1**	**-0.6**
	SNR=263							
AAK	**Ala-Archa**	**12.11**	**286**	*c i*P	**Pn**		**05 36 40.8**	**-0.9**
USP	**Ospenovka**	**12.18**	**289**	P	**Pn**		**05 36 42.2**	**-0.3**
	SNR=127							
EKS2	**Erkin-Say**	**12.64**	**286**	P	**Pn**		**05 36 49.0**	**+0.1**
	SNR=15							
AML	**Almayashu**	**12.67**	**283**	P	**Pn**		**05 36 50.2**	**+0.7**
	SNR=26							
SFK	**Sufi-Kurgan**	**12.90**	**274**	⇑P	**Pn**		**05 36 52.3**	**-0.3**
	comp=E,492nm,1.3s							
SFK	**Sufi-Kurgan**	**12.90**	**274**	P	**Pn**		**05 36 52.3**	**-0.3**
SFK				pmax	pmax			
	comp=Z,492nm,1.3s							
GUN	**Gumba**	**13.01**	**198**	*e*P	**Pn**		**05 36 55.7**	**+1.5**
	comp=Z,467nm,0.9s							
GTK	**Tadong**	**13.14**	**187**	*e*P	**Pn**		**05 36 54.4**	**-1.4**
KURBB	**Kurchatov Arra**	**13.14**	**325**	Pn	**Pn**		**05 36 53.5**	**-2.2**
	comp=Z,1.8nm,0.3s,baz=132,slow=13,SNR=99							
KURBB	**Kurchatov Arra**	**13.14**	**325**	⇑P	**Pn**		**05 36 53.4**	**-2.2**
	comp=Z,168nm,0.8s							
ZIRO	**ZIRO**	**13.17**	**166**	*e*P	**Pn**		**05 36 54.7**	**-1.5**
KURK	**Kurchatov**	**13.17**	**325**	⇑P	**Pn**		**05 36 53.7**	**-2.3**
	comp=Z,166nm,1.0s							
KURK	**Kurchatov**	**13.17**	**325**	*e*Pn	**Pn**		**05 36 53.5**	**-2.5**
KURK	**Kurchatov**	**13.17**	**325**	P	**Pn**		**05 36 54.3**	**-1.6**
	SNR=57							
KURK	**Kurchatov**	**13.17**	**325**	*c*e*P*	**Pn**		**05 36 53.7**	**-2.3**
KURK				pmax	pmax			
	comp=Z,184nm,1.3s							
JIRN	**Jiri**	**13.18**	**196**	*e*P	**Pn**		**05 36 57.8**	**+1.3**
	comp=Z,962nm,1.0s							
DANN	**Dangsing**	**13.20**	**206**	*e*P	**Pn**		**05 36 56.8**	**0.0**
	comp=Z,239nm,0.8s							
KKN	**Kakani**	**13.27**	**200**	*e*P	**Pn**		**05 36 58.5**	**+0.8**
	comp=Z,151nm,0.8s							
DIBR	**DIBRUGARH**	**13.44**	**162**	*e*P	**Pn**		**05 36 58.8**	**-1.0**
PKIN	**Phulchoki**	**13.44**	**199**	*e*P	**Pn**		**05 37 00.7**	**+0.6**
	comp=Z,271nm,0.9s							
MOY	**Mondy**	**13.44**	**30**	*e*P	**P**		**05 37 07.0**	**-2.2**
PKI	**Pulchoki**	**13.45**	**199**	*e*P	**Pn**		**05 37 00.7**	**+0.6**
	comp=Z,399nm,1.1s							
ZAK	**Zakamensk**	**13.46**	**38**	*e*P	**Pn**		**05 37 01.1**	**+1.1**
ZAK				pmax	pmax			
	comp=Z,17nm,1.0s							
DMN	**Daman**	**13.49**	**200**	*e*P	**Pn**		**05 37 01.0**	**+0.3**
	comp=Z,268nm,0.7s							
ITAN	**ITANAGAR**	**13.52**	**167**	*e*P	**Pn**		**05 36 59.7**	**-1.1**
MNAS	**Manas**	**13.56**	**285**	⇑Pn	**Pn**		**05 37 00.6**	**-1.0**
	comp=Z,100nm,0.6s							
MNAS				⇑Lg	Lg		05 40 56.5	
	comp=Z,290nm,1.1s							
MNAS	**Manas**	**13.56**	**285**	P	**Pn**		**05 37 00.5**	**-1.0**
MNAS				pmax	pmax			
	comp=Z,100nm,0.6s							
SONA0	**Songino Array**	**13.68**	**52**	*e*Pn	**Pn**		**05 37 02.6**	**-0.5**
SONA0				*e*Sn	**Sn**		**05 39 37.1**	**+2.0**
SONM	**Songino Array**	**13.68**	**52**	Pn	**Pn**		**05 37 02.6**	**-0.5**
	comp=Z,2.6nm,0.3s,baz=240,slow=12,SNR=63							
SONM				Sn	**Sn**		**05 39 37.1**	**+2.0**
	comp=Z,2.9nm,0.3s,baz=235,slow=25,SNR=3.6							
SONM				Lg	Lg		05 40 52.9	
	comp=Z,4.7nm,0.3s,baz=231,slow=28,SNR=4.5							
SONM				LR	LR		05 42 35.3	
	comp=Z,4μm,19.9s,baz=241,slow=39							
SONA1	**Songino Array**	**13.69**	**52**	*e*Pn	**Pn**		**05 37 02.6**	**-0.6**
PYUN	**Piuthan**	**13.70**	**209**	*e*P	**Pn**		**05 37 01.7**	**-1.8**
	comp=Z,308nm,1.3s							
RAMN	**Ramite**	**13.78**	**194**	*e*P	**Pn**		**05 37 04.3**	**-0.4**
	comp=Z,192nm,0.7s							
KOLN	**Koldanda**	**13.79**	**206**	*e*P	**Pn**		**05 37 03.8**	**-0.9**
	comp=Z,158nm,1.0s							
LKP	**Lekhapani**	**13.81**	**159**	*e*P	**Pn**		**05 37 03.9**	**-0.8**
LKP				IAmb	IAmb		05 37 11.9	
	comp=Z,241nm,0.7s							
TEZP	**TEZPUR**	**13.90**	**171**	*e*P	**Pn**		**05 37 05.0**	**-1.1**
DHRM	**DHARAMSHALA**	**13.95**	**239**	*e*P	**Pn**		**05 37 05.8**	**-1.1**
JORH	**JORHAT**	**14.01**	**166**	*e*P	**Pn**		**05 37 07.4**	**-0.1**
ZAA0	**Zalesovo Array**	**14.05**	**346**	*e*Pn	**Pn**		**05 37 06.0**	**-2.0**
ZALV	**Zalesovo Beam**	**14.05**	**346**	Pn	**Pn**		**05 37 06.4**	**-1.6**
	comp=Z,2.2nm,0.3s,baz=167,slow=12,SNR=36							
ZALV				Sn	**Sn**		**05 39 44.8**	**+0.9**
	comp=Z,6.4nm,0.3s,baz=167,slow=24,SNR=8.1							
ZALV				Lg	Lg		05 41 16.1	
	comp=Z,1.3nm,0.3s,baz=183,slow=24,SNR=2.6							
ZALV				LR	LR		05 42 50.8	
	comp=Z,2μm,19.1s,baz=139,slow=39							
ZALV	**Zalesovo Beam**	**14.05**	**346**	*e*Pn	**Pn**		**05 37 05.8**	**-2.2**
ZALV	**Zalesovo Beam**	**14.05**	**346**	P	**Pn**		**05 37 06.4**	**-1.6**
ZALV							05 39 44.8	
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.3s							
ZALV				smax	smax			
	comp=N,6.0nm,0.3s							
ZALV				MLR	MLR			
	comp=Z,2μm,19.1s							
ZAA1	**Zalesovo Array**	**14.06**	**346**	*e*Pn	**Pn**		**05 37 06.4**	**-1.7**
ZAA1				*e*Sn	**Sn**		**05 39 44.8**	**+0.8**
SMLA	**Simla**	**14.15**	**233**	*e*P	**Pn**		**05 37 07.7**	**-1.7**
SMLA				IAmb	IAmb		05 37 09.0	
DDI	**Dehra Dun**	**14.21**	**229**	*e*P	**Pn**		**05 37 08.5**	**-1.8**
GUWA	**GUWAHATI**	**14.22**	**175**	*e*P	**Pn**		**05 37 08.9**	**-1.5**
GUWA				IAmb	IAmb		05 37 15.0	
	comp=Z,144nm,1.4s							
CD2	**Chengdu**	**14.41**	**127**	P	**Pn**		**05 37 14.5**	**+1.4**
CD2				S	**Sn**		**05 39 54.8**	**+1.8**
CD2				pmax	pmax			
	comp=Z,320nm,3.2s							
CD2				LR	LR			
	comp=Z,6μm,10.5s							
CD2				LR	LR			
	comp=Z,6μm,11.3s							
CD2				LR	LR			
	comp=Z,8μm,10.1s							
MOKO	**MOKOCHONG**	**14.47**	**165**	*e*P	**Pn**		**05 37 12.0**	**-1.9**
MOKO				IAmb	IAmb		05 37 14.0	
	comp=Z,188nm,1.4s							
TLY	**Talaya**	**14.53**	**35**	*e*Pn	**Pn**		**05 37 14.7**	**0.0**
TLY	**Talaya**	**14.53**	**35**	*e*P	**P**		**05 37 23.7**	**+2.5**
TLY				*e*S	**Sn**		**05 39 57.7**	**+2.1**
TLY				pmax	pmax			
	comp=Z,30nm,1.2s							
TLY				MLR	MLR			
	comp=Z,4μm,10.0s							
TURI	**Tura**	**14.82**	**180**	*e*P	**Pn**		**05 37 18.6**	**0.0**
SHL	**Shillong**	**14.86**	**175**	*e*Pn	**Pn**		**05 37 16.6**	**-2.7**
SHL	**Shillong**	**14.86**	**175**	*e*P	**Pn**		**05 37 16.6**	**-2.7**
SHL	**Shillong**	**14.86**	**175**	*e*P	**Pn**		**05 37 16.4**	**-2.9**
SHL				*ex*	x		05 42 06.0	
BTO	**Baotou**	**14.95**	**83**	*e*P	**Pn**		**05 37 20.8**	**+0.4**
KOHI	**KOHIMA**	**14.98**	**167**	*e*P	**Pn**		**05 37 20.8**	**-0.1**
KK31	**Karatay Array**	**15.06**	**287**	⇑Pn	**Pn**		**05 37 19.6**	**-2.2**
	comp=Z,62nm,0.8s,baz=91,slow=13,SNR=201							
KK31				⇓Lg	Lg		05 41 42.7	
	comp=Z,112nm,1.1s,baz=99,slow=28,SNR=2.7							
KK31	**Karatay Array**	**15.06**	**287**	*e*Pn	**Pn**		**05 37 19.8**	**-2.0**
KK31	**Karatay Array**	**15.06**	**287**	*e*P	**Pn**		**05 37 19.8**	**-2.0**
KKAR	**Karatay Array**	**15.06**	**287**	*e*Pn	**Pn**		**05 37 19.8**	**-2.0**
KKAR	**Karatay Array**	**15.06**	**287**	*e*P	**Pn**		**05 37 19.8**	**-2.0**
OTUK	**Ortayu**	**15.07**	**307**	⇓Pn	**Pn**		**05 37 19.0**	**-3.0**
	comp=Z,236nm,1.2s							
OTUK				⇓Lg	Lg		05 41 44.0	
	comp=Z,887nm,1.5s							
OTUK	**Ortayu**	**15.07**	**307**	P	**Pn**		**05 37 19.0**	**-3.0**
OTUK				pmax	pmax			
	comp=Z,235nm,1.2s							
NVS	**Novosibirsk**	**15.21**	**344**	*e*P	**Pn**		**05 37 21.1**	**-2.5**
NVS				*e*			05 40 04.5	
IRK	**Irkutsk**	**15.21**	**34**	*e*P	**P**		**05 37 28.2**	**-0.5**
IRK				pmax	pmax			
	comp=Z,354nm,1.5s							
CHCP	**Chirah Chowk**	**15.22**	**249**	P	**Pn**		**05 37 20.8**	**-3.2**
NIL	**Nilore**	**15.23**	**249**	*e*Pn	**Pn**		**05 37 20.4**	**-3.8**
	comp=Z,282nm,0.6s							
NIL	**Nilore**	**15.23**	**249**	*e*P	**Pn**		**05 37 20.4**	**-3.8**
NIL				pmax	pmax			
	comp=Z,282nm,0.6s							
SILR	**SILCHAR**	**15.72**	**172**	*e*P	**Pn**		**05 37 29.4**	**-1.1**
IMP	**Imphal**	**15.82**	**168**	*e*P	**Pn**		**05 37 29.1**	**-2.8**
IMP				IAmb	IAmb		05 37 41.5	
NDI	**New Delhi**	**15.92**	**227**	*e*P	**Pn**		**05 37 32.0**	**-1.1**
XAN	**Xi'an**	**16.07**	**107**	P	**Pn**		**05 37 31.8**	**-3.3**
XAN				pP	pP		05 37 40.3	-1.3
XAN				pmax	pmax			
	comp=Z,37nm,1.2s							
XAN				pmax	pmax			
	comp=Z,250nm,5.0s							
XAN				LR	LR			
	comp=Z,8μm,10.3s							
XAN				LR	LR			
	comp=Z,11μm,11.3s							
XAN				LR	LR			
	comp=Z,12μm,11.9s							
HHC	**Hu-ho-hao-te**	**16.10**	**82**	*e*P	**Pn**		**05 37 36.5**	**+1.1**
HHC				pP	pP		05 37 41.3	-0.6
HHC				sP	sP		05 37 45.0	+1.6
HHC				PP	**PnPn**		**05 37 49.8**	**+5.8**
HHC				S	**Sn**		**05 40 33.5**	**-0.4**
HHC				sS	S		05 40 41.0	-6.4
HHC				SS	**SnSn**		**05 40 52.5**	**+5.9**
HHC				pmax	pmax			
	comp=Z,81nm,1.4s							
HHC				pmax	pmax			
	comp=Z,500nm,5.7s							
HHC				LR	LR			
	comp=Z,3μm,10.4s							
HHC				LR	LR			
	comp=Z,5μm,11.0s							
HHC				LR	LR			
	comp=Z,5μm,9.6s							
CEP	**Cherat**	**16.11**	**252**	P	**Pn**		**05 37 31.5**	**-4.2**
AGT	**Agartala**	**16.49**	**177**	*e*P	**Pn**		**05 37 39.4**	**-1.1**
THW	**Thamme Wali**	**16.76**	**249**	P	**Pn**		**05 37 40.6**	**-3.2**
BOK	**Bokaro**	**16.99**	**194**	*e*P	**Pn**		**05 37 44.1**	**-2.6**
BOK				IAmb	IAmb		05 37 48.6	
	comp=Z,116nm,0.4s							
BELO	**BELONIA**	**17.13**	**177**	*e*P	**Pn**		**05 37 48.4**	**-0.1**
TIY	**Taiyuan**	**17.34**	**92**	*e*P	**Pn**		**05 37 49.8**	**-1.3**
TIY				PP	**PnPn**		**05 38 10.5**	**+9.4**
TIY				S	**S**		**05 41 11.0**	**-1.8**
TIY				pmax	pmax			
	comp=Z,76nm,0.8s							
TIY				LR	LR			
	comp=Z,3μm,9.2s							
TIY				LR	LR			
	comp=Z,2μm,9.0s							
TIY				LR

GYA LR LR
comp=Z,2µm,13.0s
GYA LR LR
comp=Z,4µm,13.0s
GYA LR LR
comp=Z,4µm,13.0s
BJT Baijiatuao 19.69 83 eP P 05 38 18.9 +0.7
comp=Z,111nm,1.2s
BJT Baijiatuao 19.69 83 eP P 05 38 18.9 +0.7
BJT pmax pmax
comp=Z,111nm,1.2s
CIT Chita 19.71 46 eP Pn 05 38 21.7 +1.9
CIT pmax pmax
comp=Z,92nm,1.4s
BHPL Bhopal 20.31 216 eP P 05 38 23.9 -1.1
BHPL IAmb IAmb 05 38 29.7
comp=Z,205nm,0.4s
TIA Tai'an 21.37 93 P P 05 38 37.0 +0.5
TIA pmax pmax
comp=Z,78nm,1.1s
TIA pmax pmax
comp=Z,800nm,2.9s
TIA LR LR
comp=Z,2µm,9.8s
TIA LR LR
comp=Z,2µm,10.0s
TIA LR LR
comp=Z,3µm,18.1s
WHN Wuhan 21.81 109 ⇑P P 05 38 41.5 +0.3
WHN S **S 05 42 41.8 -0.4**
WHN pmax pmax
comp=Z,310nm,0.8s
WHN LR LR
comp=Z,8µm,8.6s
WHN LR LR
comp=Z,6µm,8.7s
WHN LR LR
comp=Z,13µm,11.2s
PAYA Payao 22.51 156 P P 05 38 50.0 +1.2
comp=Z,95nm,1.0s,comp=Z,777nm
HIA Hailar 22.52 57 eP P 05 38 49.1 +0.4
comp=Z,98nm,0.8s
HIA Hailar 22.52 57 eP P 05 38 49.1 +0.4
HIA pmax pmax
comp=Z,98nm,0.8s
CHTO Chiang Mai 22.75 159 eP P 05 38 51.2 -0.1
comp=Z,105nm,1.0s
CHTO Chiang Mai 22.75 159 P P 05 38 51.2 -0.1
SNR=47
CHTO Chiang Mai 22.75 159 eP P 05 38 51.2 -0.1
CHTO pmax pmax
comp=Z,105nm,1.0s
CHTO Chiang Mai 22.75 159 P P 05 38 51.3 -0.1
comp=Z,490nm,1.0s,comp=Z,6µm
CMMT Chiang Mai 22.75 159 P P 05 38 51.3 -0.1
comp=Z,110nm,1.0s,comp=Z,1µm
CM31 Chiang Mai Arr 23.09 159 eP P 05 38 54.8 -0.1
CM31 Chiang Mai Arr 23.09 159 P P 05 38 55.3 +0.4
SNR=86
CMAR Chiang Mai Arr 23.09 159 P P 05 38 55.0 +0.1
comp=Z,102nm,1.0s,baz=336,slow=11,SNR=98
CM01 Chiang Mai Arr 23.13 159 eP P 05 38 55.1 -0.2
AB31 Akbulak array 23.19 303 ⇑P P 05 38 56.1 +0.4
comp=Z,82nm,0.8s
AB31 Akbulak array 23.19 303 P P 05 38 56.1 +0.4
AB31 pmax pmax
comp=Z,82nm,0.9s
ABKAR Akbulak array 23.19 303 eP P 05 38 55.1 -0.6
LAMP Lampang 23.22 157 P P 05 38 57.6 +1.3
comp=Z,36nm,0.8s,comp=Z,264nm
DL2 Dalian 24.05 83 P P 05 39 08.5 +4.3
DL2 eS **S 05 43 27.8 +6.6**
DL2 pmax pmax
comp=Z,77nm,0.8s
DL2 pmax pmax
comp=Z,410nm,3.6s
DL2 LR LR
comp=Z,2µm,12.8s
DL2 LR LR
comp=Z,2µm,13.6s
DL2 LR LR
comp=Z,2µm,18.7s
SUKH Sukhothai 24.21 158 P P 05 39 07.6 +1.8
comp=Z,38nm,0.9s,comp=Z,441nm
NJ2 Nanjing 24.36 101 eP P 05 39 08.0 +0.9
NJ2 pP **sP 05 39 12.5 +0.5**
NJ2 S **S 05 43 32.8 +6.4**
NJ2 pmax pmax
comp=Z,43nm,0.6s
NJ2 pmax pmax
comp=Z,890nm,3.8s
NJ2 LR LR
comp=Z,3µm,9.8s
NJ2 LR LR
comp=Z,3µm,10.8s
NJ2 LR LR
comp=Z,4µm,13.0s
BHJ Bhuj 24.44 232 eP P 05 39 08.7 +0.7
BHJ IAmb IAmb 05 39 09.8
comp=Z,160nm,0.4s
AKTO Aktyubinsk 24.64 305 P P 05 39 10.7 +1.2
comp=Z,104nm,0.8s
AKTO Aktyubinsk 24.64 305 ⇓P P 05 39 10.3 +0.8
comp=Z,216nm,0.8s
NONG Nongkai 24.85 150 P P 05 39 12.7 +1.1
comp=Z,2.6nm,0.9s,comp=Z,120nm
SNY Shenyang 24.97 76 ⇑P P 05 39 12.3 -0.3
SNY S **S 05 43 38.5 +2.5**
SNY pmax pmax
comp=Z,44nm,0.9s
SNY pmax pmax
comp=Z,940nm,3.3s
SNY LR LR
comp=Z,2µm,9.0s
SNY LR LR
comp=Z,4µm,10.6s
SNY LR LR
comp=Z,6µm,13.7s
GEYT Alibeck 25.06 275 P P 05 39 14.6 +1.2
comp=Z,114nm,1.0s,baz=77,slow=6.4,SNR=147
GEYT LR LR 05 50 50.1
comp=Z,1µm,20.1s,baz=330,slow=41
GYA0B ALIBECK ARRAY 25.06 275 ⇑P P 05 39 14.7 +1.3
comp=Z,218nm,1.0s
GYA0B ALIBECK ARRAY 25.06 275 eP P 05 39 13.2 -0.2
comp=Z,200nm,0.9s
HYB Hyderabad 25.09 207 i P P 05 39 13.0 -0.8
comp=Z,190nm,1.0s
HYB eS **S 05 43 40.0 +1.8**
HYB Hyderabad 25.09 207 eP P 05 39 13.2 -0.6
UMPA Umpang Tak 25.22 161 P P 05 39 18.0 +3.0
comp=Z,28nm,0.9s,comp=Z,1µm
SVE Sverdlovsk 25.33 320 eP P 05 39 16.6 +1.0
SVE pmax pmax
comp=Z,350nm,1.0s
SVE MLR MLR
comp=Z,2µm,13.0s
PBKT Sadao Pong 25.47 156 eP P 05 39 17.8 +0.6
comp=Z,48nm,0.9s
PBKT Sadao Pong 25.47 156 P P 05 39 18.4 +1.2
comp=Z,53nm,0.9s
GZH Guangzhou 25.95 125 P P 05 39 20.0 -1.6
GZH S **S 05 43 49.0 -2.8**
GZH LR LR
comp=Z,3µm,13.2s
GZH LR LR
comp=Z,4µm,13.1s
UTHA Uthaitani 25.99 160 P P 05 39 23.8 +1.9
comp=Z,159nm,1.1s,comp=Z,1µm
POO Poona 26.03 218 eP P 05 39 22.0 -0.4
POO IAmb IAmb 05 39 23.9
comp=Z,2µm,3.2s
CN2 Changchun 26.12 71 ⇑P P 05 39 25.5 +2.5
CN2 eS P sP 05 39 32.5 +4.7
CN2 pmax pmax
comp=Z,40nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,1µm,13.0s
CN2 LR LR
comp=Z,3µm,13.0s
CN2 LR LR
comp=Z,3µm,15.0s
SKNT Sakolnakorn 26.16 149 P P 05 39 24.5 +1.0
comp=Z,31nm,0.9s
ARU Arti 26.18 318 P P 05 39 24.3 +0.8
comp=Z,45nm,0.5s,baz=116,slow=6.1,SNR=32
ARU Arti 26.18 318 c iP P 05 39 24.2 +0.8
ARU 05 40 04.8
ARU 05 42 45.5
ARU eS **S 05 43 57.6 +2.6**
ARU SS **SnSn 05 45 00.1 +6.6**
ARU pmax pmax
comp=Z,126nm,1.2s
ARU MLR MLR
comp=Z,1µm,16.0s
BOM Bombay 26.22 220 ex P 05 39 19.7 -4.3
BOM AMb AMB 05 39 20.8
comp=Z,137nm,1.8s
BOM ex x 05 44 06.3
CHAI Chaiyaphum 26.43 154 P P 05 39 26.7 +0.8
comp=Z,28nm,0.9s,comp=Z,183nm
SRDT SRDT 27.07 161 P P 05 39 32.9 +1.2
comp=Z,152nm,1.0s
QIZ Qiongzhong 27.09 136 P P 05 39 32.5 +0.7
QIZ S **S 05 44 13.5 +3.7**
QIZ pmax pmax
comp=Z,46nm,0.7s
QIZ pmax pmax
comp=Z,210nm,3.3s
QIZ LR LR
comp=Z,2µm,13.7s
QIZ LR LR
comp=Z,2µm,18.1s
QIZ LR LR
comp=Z,1µm,11.8s
QIZ Qiongzhong 27.09 136 eP P 05 39 32.0 +0.2
comp=Z,68nm,1.0s
QZH Quanzhou 28.16 115 eP P 05 39 44.0 +2.5
QZH eS **S 05 44 31.0 +4.3**
QZH LR LR
comp=Z,2µm,11.5s
QZH LR LR
comp=Z,2µm,10.8s
QZH LR LR
comp=Z,3µm,11.8s
SRAK Srakaew 28.21 155 P P 05 39 46.5 +4.6
comp=Z,76nm,0.9s,comp=Z,591nm
PHET Kaeng Krachan 28.58 161 P P 05 39 47.3 +2.1
comp=Z,13nm,0.7s,comp=Z,152nm
PATY Pattaya 28.89 158 P P 05 39 50.8 +2.8
comp=Z,11nm,0.4s,comp=Z,3µm
MDJ Mudanjiang 29.02 69 P P 05 39 50.5 +1.6
MDJ pP sP 05 39 56.0 +2.2
MDJ sP pP 05 39 59.3 +6.9
MDJ S **S 05 44 42.3 +2.4**
MDJ pmax pmax
comp=Z,27nm,1.0s
MDJ pmax pmax
comp=Z,340nm,3.2s
MDJ LR LR
comp=Z,1µm,7.9s
MDJ LR LR
comp=Z,5µm,12.3s
MDJ LR LR
comp=Z,6µm,17.3s
MDJ Mudanjiang 29.02 69 eP P 05 39 49.7 +0.7
comp=Z,49nm,0.9s
NRIK Noril'sk 29.03 358 P P 05 39 48.8 +0.1
comp=Z,18nm,0.6s,baz=163,slow=6.7,SNR=19
NRIK LR LR 05 52 03.0
comp=Z,2µm,20.6s,baz=173,slow=38
TJN Taejon 29.13 86 ⇓eP P 05 39 51.8 +1.8
KS01 Wonju Array Si 29.19 84 eP P 05 39 50.1 -0.4
KS15 Wonju Array Si 29.19 84 eP P 05 39 50.9 +0.4
KSRS Korea Array 29.22 84 P P 05 39 50.5 -0.2
comp=Z,33nm,0.7s,baz=286,slow=8.7,SNR=25
KSRS Korea Array 29.22 84 P P 05 39 50.6 -0.2
KSRS pmax pmax
comp=Z,34nm,0.7s
YHNB Yeheng 30.29 112 eP P 05 40 00.7 +0.2
comp=Z,81nm,0.8s
KLR Kul'dur 30.32 59 c iP P 05 40 01.1 +0.7
SSLB Suanglung 30.55 114 eP P 05 40 03.2 +0.4
comp=Z,55nm,1.1s
NACB Ninganchiao 30.76 112 eP P 05 40 05.3 +0.8
comp=Z,102nm,0.9s
USA0B Ussuriysk Arra 30.77 69 eP P 05 40 05.4 +1.0
comp=Z,21nm,1.0s
USRK Ussuriysk Ar. 30.77 69 P P 05 40 04.5 +0.1
comp=Z,4.1nm,0.9s,baz=215,slow=23,SNR=5.3
USRK LR LR 05 53 24.0
comp=Z,2µm,19.2s,baz=257,slow=38
WSAR Wadi Sarin 31.72 247 P P 05 40 14.7 +1.8
SNR=14
BANOM Banah 31.75 253 i P P 05 40 15.7 +2.4
SNR=15
SHME Shamm 31.79 254 i P P 05 40 15.3 +1.7
SNR=14
MAK Makhachkala 31.86 289 eP P 05 40 13.1 -0.9
MAK eS **S 05 45 22.9 -1.5**
MAK pmax pmax
comp=Z,36nm,0.3s
BIDO Bidbid 31.89 248 P P 05 40 17.0 +2.5
SNR=9.0
LKRN Lenkeran, Azer 31.90 281 P P 05 40 15.8 +1.4
YAK Yakutsk 32.01 34 eP P 05 40 15.9 +0.9
comp=Z,112nm,0.7s
YAK Yakutsk 32.01 34 eP P 05 40 14.1 -1.0
YAK e*PP **sP 05 40 19.5 -0.4**
YAK eS **S 05 45 24.5 -1.8**
YAK pmax pmax
comp=Z,17nm,0.8s
YAK smax smax
comp=N,110nm,2.5s
YAK smax smax
comp=E,137nm,2.5s
YAK MLR MLR
comp=Z,2µm,10.0s
YAK MLR MLR
comp=E,1µm,10.0s
MDH Madha 32.12 253 i P P 05 40 16.8 +0.4
SNR=8.6
MSFE Esma-Masafi 32.18 253 i P P 05 40 19.3 +2.2
SNR=18
UOSS Minazif 32.40 252 eP P 05 40 18.6 -0.3
comp=E,40nm,1.0s
UOSS Minazif 32.40 252 P P 05 40 19.6 +0.7
SNR=10
UOSS Minazif 32.40 252 i P P 05 40 19.9 +1.0
SNR=15
SEKA Sheki 32.44 286 P P 05 40 20.2 +0.9
HATD Hatta, Dubai 32.52 252 P P 05 40 22.1 +2.0
SNR=12
HATD Hatta, Dubai 32.52 252 i P P 05 40 21.8 +1.8
SNR=14
MNGR Mingechevir, A 32.63 285 P P 05 40 22.6 +1.8
ASHO Ashiyiah 32.66 252 P P 05 40 23.7 +2.4
SNR=46
ASHO Ashiyiah 32.66 252 i P P 05 40 23.7 +2.4
SNR=100
NAZ Nazwa, Dubai 32.77 253 P P 05 40 23.8 +1.6
SNR=13
NAZ Nazwa, Dubai 32.77 253 i P P 05 40 24.2 +2.1
SNR=8.0
ZKTA Zakatala 32.77 287 P P 05 40 23.6 +1.5
FAQ Al Faqa, Dubai 32.96 252 P P 05 40 25.6 +1.8
SNR=19
FAQ Al Faqa, Dubai 32.96 252 i P P 05 40 25.8 +2.0
SNR=6.8
LGD Lagodekhi 33.00 287 P P 05 40 25.4 +1.3
LGD Lagodekhi 33.00 287 eP P 05 40 25.4 +1.3
KRAB Krabi 33.01 164 P P 05 40 26.1 +1.9
comp=E,85nm,0.8s,comp=E,1µm
GROC Groznyy 33.05 290 eP P 05 40 24.3 -0.2
GROC e 05 41 35.1
GROC e 05 43 07.2
GROC pmax pmax
comp=Z,286nm,1.5s
ARQ Araqi 33.15 249 P P 05 40 28.3 +2.8
SNR=6.7
PKDT Phuket 33.15 165 P P 05 40 26.9 +1.4
comp=Z,41nm,1.1s
DDFL Dedoflistskaro 33.18 287 P P 05 40 28.8 +3.1
GANJ Ganja 33.22 285 P P 05 40 27.2 +1.2
ASUD Al Ashush, Dub 33.22 253 P P 05 40 28.5 +2.3
SNR=14
ASUD Al Ashush, Dub 33.22 253 i P P 05 40 28.4 +2.3
SNR=21
ALNE Al Ain 33.26 251 i P P 05 40 28.6 +2.1
SNR=7.7
GRNR Gornyy 33.35 56 eP P 05 40 28.0 +1.0
GRNR pmax pmax
comp=Z,21nm,1.0s
CMBY CAMPBELL BAY 33.41 174 eP P 05 40 25.4 -2.3
TRTT Trang 33.49 163 P P 05 40 29.3 +0.9
comp=Z,65nm,0.8s,comp=Z,507nm
AJN Ajban 33.51 253 i P P 05 40 29.9 +1.3
SNR=5.2
TEY Ternei 33.92 67 ⇓iP P 05 40 37.1 +5.1
TEY pmax pmax
comp=Z,50nm,0.9s
TEY pmax pmax
comp=E,20nm,1.2s
TEY MLR MLR
comp=E,200nm,12.0s
TEY MLR MLR
comp=Z,400nm,11.0s
SEAG Tbilisi Sea 34.07 288 P P 05 40 32.8 -0.6
JOW Kunigami 34.08 102 eP P 05 40 33.2 -0.4
comp=Z,93nm,0.8s
PALK Pallekele 34.11 197 LR LR 05 54 49.8
comp=Z,372nm,21.9s,baz=295,slow=37
PALK Pallekele 34.11 197 eP P 05 40 35.3 +1.3
comp=Z,115nm,0.8s
PALK Pallekele 34.11 197 i P P 05 40 35.4 +1.4
SNR=20
PALK Pallekele 34.11 197 eP P 05 40 35.3 +1.4
PALK pmax pmax
comp=Z,115nm,0.8s
TBLG Delisi 34.12 287 P P 05 40 35.3 +1.4
TBLG Delisi 34.12 287 eP P 05 40 34.2 +0.4
comp=Z,34nm,0.8s
TBLG Delisi 34.12 287 eP P 05 40 34.3 +0.4
TBLG pmax pmax
comp=Z,34nm,0.8s
NAX Nakhchivan 34.23 283 P P 05 40 36.8 +1.9
PRGR Permogore 34.28 323 eP P 05 40 34.2 -0.7
PRGR pmax pmax
comp=Z,50nm,1.0s
SKLT Songkhla 34.34 162 P P 05 40 37.1 +1.2
comp=Z,96nm,1.1s,comp=Z,836nm
KZRT Kazreti 34.45 287 P P 05 40 38.3 +1.5
ZEI Tsey 34.49 290 eP P 05 40 36.5 -0.8
ZEI pmax pmax
comp=Z,27nm,0.6s
GNI Garni 34.51 285 eP P 05 40 38.8 +1.3
comp=Z,91nm,0.9s
GNI Garni 34.51 285 P P 05 40 40.1 +2.7
SNR=18
GNI Garni 34.51 285 i P P 05 40 39.1 +1.6
SNR=16
GNI Garni 34.51 285 c iP P 05 40 39.8 +2.4
GNI pmax pmax
comp=Z,576nm,1.7s
NCK Nalchik 34.57 291 i P P 05 40 38.7 +1.0
NCK pmax pmax
comp=Z,36nm,0.8s
TRLG Trialeti 34.63 287 P P 05 40 40.2 +1.8
GOF Gofitskoye 34.68 294 eP P 05 40 40.3 +1.7
GOF pmax pmax
comp=Z,160nm,0.9s
ONI Oni 34.86 289 P P 05 40 42.8 +2.5
VRH Novokhopyorsk 34.99 305 eP P 05 40 41.6 +0.4
VRH pmax pmax
comp=Z,150nm,1.0s
VRH pmax pmax
comp=Z,140nm,1.0s
KBZ Khabaz 35.02 291 P P 05 40 42.5 +1.0
comp=Z,23nm,0.8s,baz=96,slow=6.9,SNR=52
KBZ LR LR 05 57 09.1
comp=Z,1µm,20.6s,baz=76,slow=40
BGD Bogdanovka 35.06 287 P P 05 40 45.0 +2.7
AKH Akhalkalaki 35.11 287 P P 05 40 45.3 +2.7
AKH Akhalkalaki 35.11 287 eP P 05 40 43.5 +0.9
comp=Z,112nm,1.0s
AKH Akhalkalaki 35.11 287 ⇑iP P 05 40 45.5 +2.9
AKH Akhalkalaki 35.11 287 eP P 05 40 45.3 +2.7
KIV Kislovodsk 35.13 292 eP P 05 40 42.8 +0.2
comp=Z,65nm,0.9s
KIV Kislovodsk 35.13 292 P P 05 40 44.0 +1.4
SNR=18
KIV Kislovodsk 35.13 292 i P P 05 40 44.0 +1.4
SNR=8.3
KIV Kislovodsk 35.13 292 eP P 05 40 43.7 +1.1
KIV eS **S 05 46 15.8 +0.5**
KIV pmax pmax
comp=Z,37nm,2.7s
KIV pmax pmax
comp=Z,82nm,1.1s
KIV MLR MLR
comp=Z,1µm,16.0s
NEY Neytrino 35.24 291 ⇓eP P 05 40 45.5 +1.8
NEY pmax pmax
comp=Z,8.0nm,0.8s
LHMI Lhok Sumawe 35.52 169 eP P 05 40 46.7 +0.6
comp=Z,116nm,0.8s
MNCI Minicoy 35.52 210 eP P 05 40 46.3 +0.2
comp=Z,78nm,0.9s
MZR Muzera 35.55 252 i P P 05 40 47.5 +1.1
SNR=6.7
KULM Kulim 36.17 162 eP P 05 40 51.9 +0.3
comp=Z,163nm,0.9s
VORD Divnogorie 36.53 304 eP P 05 40 54.4 0.0
VORD pmax pmax
comp=Z,50nm,0.7s
VORR Voronezh 36.54 305 P P 05 40 53.0 -1.5
VORR pmax pmax
comp=Z,350nm,1.8s
VSR Storozhevoye 36.59 305 eP P 05 40 54.7 -0.2
VSR pmax pmax
comp=Z,160nm,1.1s
VSR pmax pmax
comp=Z,150nm,1.1s
LPSR Galich'ya Gora 36.68 307 eP P 05 40 56.0 +0.3
LPSR pmax pmax
comp=Z,220nm,1.0s
TIXI Tiksi 36.70 19 LR LR 05 57 46.1
comp=Z,213nm,19.4s,baz=240,slow=39
TIXI Tiksi 36.70 19 ceP P 05 40 54.8 -0.8
TIXI pmax pmax
comp=Z,23nm,0.7s
KLMR Klimovskoe 36.96 321 eP P 05 40 55.6 -2.4
KLMR pmax pmax
comp=Z,121nm,0.6s
KLMR Klimovskoe 36.96 321 eP P 05 40 55.6 -2.4
KLMR AMP 05 41 05.2
comp=Z,121nm,0.6s
IPM Ipoh 37.04 162 eP P 05 40 59.1 0.0
comp=Z,125nm,0.9s
MJB9 Matsu-Tunnel 37.29 80 eP P 05 41 02.4 +1.3
comp=Z,32nm,0.9s
MAJO Matsushiro 37.29 80 eP P 05 41 02.2 +1.1
comp=Z,31nm,0.9s
MAJO Matsushiro 37.29 80 eP P 05 41 02.2 +1.1
MAJO pmax pmax
comp=Z,31nm,0.9s
MAT Matsushiro 37.29 80 P P 05 41 02.6 +1.5
MJAR Matsushiro Arr 37.29 80 P P 05 40 59.7 -1.4
comp=Z,13nm,0.8s,baz=289,slow=10,SNR=15
MJAR PcP **PcP 05 43 20.8 +0.4**
comp=Z,6.8nm,1.0s,baz=312,slow=3.1,SNR=4.5
MJAR Matsushiro Arr 37.29 80 P P 05 40 59.7 -1.4
MJAR 05 43 20.8
MJAR pmax pmax
comp=Z,6.0nm,0.8s
TYV Tymovskoe 37.30 56 eP P 05 41 02.3 +1.4
TYV eS **S 05 46 52.4 +4.3**
TYV pmax pmax
comp=Z,400nm,4.9s
TYV pmax pmax
comp=Z,64nm,1.0s
TYV smax smax
comp=E,300nm,4.6s
TGY Tagaytay City 37.41 126 LR LR 05 57 23.9
comp=E,1µm,18.0s,baz=12,slow=38
MOS Moscow 37.45 312 eP P 05 41 01.4 -0.7
MOS e 05 41 07.0
MOS e 05 42 26.0
MOS e 05 43 19.5
MOS pmax pmax
comp=Z,199nm,1.1s
MOS MLR MLR
comp=E,3µm,14.0s
MOS MLR MLR
comp=Z,3µm,14.0s
KOPT Kop Dagi 37.67 286 i P P 05 41 08.1 +3.4
BAYB BAYBURT 37.78 287 i P P 05 41 08.1 +2.6

YSS	Yuzh-Sakhalins	37.84	62	eP		P	05 41 06.7	+1.1
	comp=Z,77nm,1.1s							
YSS	Yuzh-Sakhalins	37.84	62	⇓eP		P	05 41 11.6	+6.0
YSS				e			05 46 57.2	
YSS					pmax	pmax		
	comp=Z,60nm,1.0s							
YSS					MLR	MLR		
	comp=E,1μm,13.0s							
YSS					MLR	MLR		
	comp=Z,870nm,13.0s							
OBN	Obninsk	38.04	311	eP		P	05 41 06.9	-0.2
	comp=Z,182nm,1.4s							
OBN	Obninsk	38.04	311	ceP		P	05 41 06.9	-0.2
OBN				e			05 42 35.3	
OBN				e	PPP	PPP	05 42 52.3	
OBN				eS		S	05 46 58.7	-0.5
OBN				eSS		SnSn	05 49 41.9	+0.5
OBN					pmax	pmax		
	comp=Z,156nm,1.7s							
OBN					MLR	MLR		
	comp=Z,2μm,17.0s							
PSI	Prapat	38.23	166	eP		P	05 41 08.9	-0.3
	comp=Z,50nm,1.0s							
PSI	Prapat	38.23	166	eP		P	05 41 08.9	-0.3
PSI					pmax	pmax		
	comp=Z,50nm,1.0s							
HANI	Diyarbakir_Han	38.25	284	i P		P	05 41 11.8	+2.5
ASAJ	Asahikawa	38.30	67	eP		P	05 41 10.1	+0.7
	comp=Z,62nm,1.3s							
KELT	Kelkit	38.55	287	i P		P	05 41 14.2	+2.3
RBK	Rabkut	38.62	244	P		P	05 41 13.3	+0.8
	SNR=5.1							
WHFO	Wadi Hawf	38.64	245	P		P	05 41 13.2	+0.5
	SNR=19							
ANN	Anapa	38.64	295	eP		P	05 41 12.2	-0.1
ANN				e*PP		sP	05 41 19.0	+1.8
ANN				e			05 42 39.8	
ANN				eS		S	05 47 09.5	+1.0
ANN				eSS		SnSn	05 49 55.6	-0.6
ANN					pmax	pmax		
	comp=Z,250nm,1.0s							
ANN					MLR	MLR		
	comp=N,827nm,16.0s							
ANN					MLR	MLR		
	comp=E,183nm,16.0s							
ANN					MLR	MLR		
	comp=Z,1μm,16.0s							
SUSE	Susehri	39.30	287	i P		P	05 41 20.5	+2.4
ORDU	Ordu-Boztepe	39.31	289	i P		P	05 41 19.2	+1.1
ABTO	Aybut	39.35	245	P		P	05 41 18.9	+0.2
	SNR=6.0							
KEMA	Kemaliye	39.38	286	i P		P	05 41 21.2	+2.5
GSI	Gunungsitoli	39.47	169	eP		P	05 41 19.9	+0.4
	comp=Z,99nm,0.7s							
CUZAR	Zara_SIVAS	39.71	287	i P		P	05 41 23.6	+2.0
CUKAN	kangal_SIVAS	40.12	286	i P		P	05 41 27.3	+2.4
SCER	sogukcermik	40.19	287	i P		P	05 41 27.8	+2.2
ERBA	Erbaa	40.20	288	i P		P	05 41 27.4	+1.8
MNSI	Mandailing Nat	40.31	166	P		P	05 41 25.7	-0.8
	comp=Z,90nm,1.1s							
MYKOM	Kota Tinggi	40.34	159	eP		P	05 41 27.2	+0.5
	comp=Z,48nm,1.0s							
LVZ	Lovozero	40.50	331	eP		P	05 41 28.1	+0.5
	comp=Z,33nm,0.9s							
LVZ	Lovozero	40.50	331	eP		P	05 41 28.1	+0.5
LVZ					pmax	pmax		
	comp=Z,33nm,0.9s							
YUK	Yuzh-Kuril'sk	40.60	66	P		P	05 41 30.4	+1.7
YUK				S		S	05 47 36.1	-1.8
YUK					MLR	MLR		
	comp=Z,1μm,16.0s							
HAVZ	Havza	40.83	289	i P		P	05 41 32.3	+1.6
HAVZ	Havza	40.83	289	i P		P	05 41 32.9	+2.1
SIM	Simferopol'	40.90	296	c i P		P	05 41 32.1	+0.9
SIM				e			05 43 07.0	
SIM				eS		S	05 47 46.2	+3.7
SIM					pmax	pmax		
	comp=Z,93nm,0.9s							
SIM					pmax	pmax		
	comp=Z,140nm,11.4s							
PBSI	Pulau Batu	40.91	168	P		P	05 41 34.8	+3.3
CUSAR	Sarkisla-SIVAS	40.98	287	i P		P	05 41 34.3	+2.3
BKNI	Bangkinang	41.06	164	eP		P	05 41 32.6	-0.1
	comp=Z,309nm,0.9s							
BKNI	Bangkinang	41.06	164	P		P	05 41 33.7	+1.0
	comp=Z,410nm,1.0s,comp=Z,3μm							
JOF	Joensuu	41.08	323	P		P	05 41 33.0	+0.6
RAYN	Ar Rayn	41.15	260	eP		P	05 41 33.2	-0.3
	comp=Z,203nm,1.4s							
RAYN	Ar Rayn	41.15	260	i P		P	05 41 34.3	+0.7
	SNR=47							
RAYN	Ar Rayn	41.15	260	eP		P	05 41 33.2	-0.3
RAYN					pmax	pmax		
	comp=Z,203nm,1.4s							
KKM	Kota Kinabalu	41.32	139	eP		P	05 41 35.7	+0.7
	comp=Z,135nm,1.0s							
TPRI	Tanjung Pinang	41.36	158	P		P	05 41 36.4	+1.2
	comp=Z,89nm,0.5s,comp=Z,7μm							
PUL	Pulkovo	41.43	318	ceP		P	05 41 35.2	-0.1
PUL					pmax	pmax		
	comp=Z,219nm,0.4s							
ANDN	Andirin	41.54	284	i P		P	05 41 38.4	+1.8
MA2	Magadan	41.60	42	eP		P	05 41 37.6	+0.9
	comp=Z,220nm,1.1s							
MA2	Magadan	41.60	42	eP		P	05 41 37.7	+0.9
MA2					pmax	pmax		
	comp=Z,220nm,1.1s							
COAL	Corum-Alaca	41.62	289	i P		P	05 41 38.9	+1.7
COAL	Corum-Alaca	41.62	289	i P		P	05 41 39.1	+1.8
CTAK	Corum_Osmancik	41.63	289	i P		P	05 41 38.6	+1.1
PDSI	Padang	42.14	165	P		P	05 41 40.3	-1.3
	comp=Z,128nm,1.1s							
CDAG	Cicekdag	42.27	288	i P		P	05 41 43.9	+1.3
CDAG	Cicekdag	42.27	288	i P		P	05 41 44.1	+1.5
ILGA	Ilgaz	42.28	290	i P		P	05 41 44.8	+1.9
ILGA	Ilgaz	42.28	290	eP		P	05 41 43.1	+0.3
	comp=Z,151nm,0.9s							
SISI	Saibi	42.29	167	P		P	05 41 46.0	+3.2
MSF	Maaselka	42.34	328	P		P	05 41 42.9	+0.2
MSF					pmax	pmax		
	comp=Z,53nm,1.2s							
SEY	Seymchan	42.43	37	ceP		P	05 41 44.0	+0.6
SBUM	Sibu	42.65	147	eP		P	05 41 46.3	+0.6
	comp=Z,64nm,0.8s							
KSM	Kuching	42.77	150	eP		P	05 41 47.1	+0.4
	comp=Z,165nm,1.1s							
BR101	Keskin Array S	42.77	288	eP		P	05 41 48.0	+1.2
BR131	Keskin Array S	42.77	288	eP		P	05 41 47.1	+0.4
BR131	Keskin Array S	42.77	288	P		P	05 41 47.9	+1.2
	SNR=46							
BRTR	Keskin Array B	42.77	288	P		P	05 41 48.0	+1.2
	comp=Z,50nm,0.8s,baz=98,slow=7.7,SNR=189							
BRTR					LR	LR	06 03 01.3	
	comp=Z,161nm,18.8s,baz=75,slow=41							
BRTR	Keskin Array B	42.77	288	P		P	05 41 48.0	+1.2
BRTR					pmax	pmax		
	comp=Z,50nm,0.8s							
BRTR					MLR	MLR		
	comp=Z,161nm,18.8s							
AKASG	Malin Array Be	42.89	305	P		P	05 41 47.3	-0.1
	comp=Z,10nm,0.9s,baz=67,slow=8.0,SNR=40							
KIEV	Kiev	42.90	305	eP		P	05 41 47.4	-0.1
	comp=Z,41nm,1.1s							
KIEV	Kiev	42.90	305	i P		P	05 41 47.5	+0.1
	SNR=17							
KIEV	Kiev	42.90	305	i P		P	05 41 47.2	-0.2
KIEV					pmax	pmax		
	comp=Z,29nm,1.2s							
AKSY	AKSARAY - Alti	43.06	287	i P		P	05 41 50.8	+1.8
MICGM	Minsk	43.09	311	⇓eP		P	05 41 50.0	+1.1
MICGM					PM		05 41 51.0	
	comp=Z,0.1nm,1.0s							
MICGM				ePP		PP	05 43 30.0	+1.2
MICGM				ePPP		PPP	05 43 50.0	
MICGM				ePcS		PcS	05 47 16.0	-15
MICGM				eS		S	05 48 16.0	+1.4
MICGM				eLQ		LQ	05 56 40.0	
MICGM				eLR		LR	05 59 32.0	
MNK	Minsk	43.09	311	⇓eP		P	05 41 50.0	+1.1
MNK				e			05 43 30.0	
MNK				e			05 43 40.0	
MNK				eS		S	05 48 16.0	+1.4
MNK					pmax	pmax		
	comp=Z,140nm,1.0s							
VSU	Vasula	43.32	317	eP		P	05 41 51.1	+0.3
VSU					IAmb	IAmb	05 41 51.7	
	comp=Z,234nm,0.9s							
VSU	Vasula	43.32	317	ceP		P	05 41 51.0	+0.3
VSU					pmax	pmax		
	comp=Z,359nm,1.3s							
ANTO	Ankara	43.33	289	eP		P	05 41 52.5	+1.3
	comp=Z,59nm,0.6s							
ANTO	Ankara	43.33	289	⇑i P		P	05 41 52.8	+1.5
ANTO	Ankara	43.33	289	P		P	05 41 52.7	+1.5
	SNR=17							
ANTO	Ankara	43.33	289	P		P	05 41 52.7	+1.5
ANTO					pmax	pmax		
	comp=Z,96nm,0.8s							
CMDR	Camlidere-ANKA	43.35	290	i P		P	05 41 52.8	+1.4
BR231	Keskin MP Arra	43.36	289	eP		P	05 41 52.4	+1.0
SUF	Sumiainen	43.44	323	P		P	05 41 51.9	+0.3
SUF					pmax	pmax		
	comp=Z,87nm,1.1s							
SGF	Sodankyl	43.48	330	P		P	05 41 52.7	+0.8
SGF					pmax	pmax		
	comp=Z,68nm,1.2s							
FIA1	FINESS Array S	43.49	321	eP		P	05 41 51.9	-0.1
	comp=Z,120nm,1.3s							
FIA0	FINESS Array S	43.50	321	eP		P	05 41 52.3	+0.2
FIA0	FINESS Array S	43.50	321	eP		P	05 41 52.3	+0.2
FINES	FINESS Array B	43.50	321	P		P	05 41 52.3	+0.2
	comp=Z,39nm,0.9s,baz=86,slow=8.0,SNR=60							
FINES					LR	LR	06 00 17.8	
	comp=Z,443nm,19.1s,baz=90,slow=36							
BCAM	Yenicaga	43.54	290	i P		P	05 41 54.8	+1.9
KEV	Kevo	43.57	333	eP		P	05 41 53.2	+0.6
	comp=Z,67nm,1.3s							
KEV	Kevo	43.57	333	eP		P	05 41 53.2	+0.6
KEV					pmax	pmax		
	comp=Z,67nm,1.3s							
OUL	Oulu	43.59	326	P		P	05 41 53.1	+0.3
OUL					pmax	pmax		
	comp=Z,61nm,2.1s							
IDID	Didziasalis	43.64	312	eP		P	05 41 54.2	+0.9
IDID					IAmb	IAmb	05 41 55.5	
	comp=Z,23nm,1.0s							
NACGM	Naroch	43.67	311	e		P	05 41 53.0	-0.6
NACGM				eLQ		LQ	05 54 44.0	
NACGM				eLR		LR	05 56 04.0	
PPSI	Pulau Pagai	43.86	166	P		P	05 42 03.9	+8.4
IZAR	Zarasai	43.86	313	eP		P	05 41 55.9	+0.8
IZAR					IAmb	IAmb	05 41 57.3	
	comp=Z,15nm,0.8s							
IIGN	Ignalina	43.93	312	eP		P	05 41 56.6	+1.0
IIGN					IAmb	IAmb	05 41 58.0	
	comp=Z,40nm,1.1s							
ISAL	Salakas	43.95	313	eP		P	05 41 56.7	+0.8
ISAL					IAmb	IAmb	05 41 58.2	
	comp=Z,27nm,1.1s							
KIS	Kishinev	43.97	300	eP		P	05 41 55.0	-1.1
	comp=Z,200nm,1.0s							
KIS	Kishinev	43.97	300	ePcP		PcP	05 43 36.0	-5.7
KIS				eS		S	05 48 36.0	+8.4
KIS					LRM	MLR	06 01 40.0	
	comp=Z,800nm,16.0s							
KIS	Kishinev	43.97	300	eP		P	05 41 55.0	-1.1
KIS				i			05 42 02.0	
KIS				e			05 43 36.0	
KIS				e			05 51 34.0	
KIS					pmax	pmax		
	comp=Z,200nm,1.0s							
KIS					MLR	MLR		
	comp=Z,600nm,15.0s							
KIS					MLR	MLR		
	comp=Z,800nm,16.0s							
ARA0	ARCESS Array S	44.07	333	eP		P	05 41 56.9	+0.3
ARCES	ARCESS Array B	44.07	333	P		P	05 41 56.9	+0.3
	comp=Z,12nm,0.7s,baz=89,slow=7.3,SNR=15							
ARCES					PcP	PcP	05 43 41.5	-0.2
	comp=Z,14nm,0.8s,baz=98,slow=4.6,SNR=3.5							
ARCES					LR	LR	06 02 21.6	
	comp=Z,69nm,18.1s,baz=100,slow=39							
ARCES	ARCESS Array B	44.07	333	eP		P	05 41 56.4	-0.2
ARCES	ARCESS Array B	44.07	333	eP		P	05 41 56.4	-0.2
ARE0	ARCESS Array S	44.07	333	eP		P	05 41 57.3	+0.7
	comp=Z,6.3nm,1.5s							
ARE0	ARCESS Array S	44.07	333	eP		P	05 41 57.1	+0.5
GULN	MERSIN_Gulnar	44.15	284	i P		P	05 41 58.5	+0.8
KDHN	Kadinhani	44.30	287	i P		P	05 42 00.1	+1.0
KONT	Konya--Tatoy	44.34	286	i P		P	05 42 00.6	+1.4
BTAS	Taskesti	44.38	290	i P		P	05 42 01.0	+1.4
SAHE	Sakarya_HENDEK	44.39	291	i P		P	05 42 00.4	+0.8
KMER	Konya-Meram	44.40	286	i P		P	05 42 00.6	+0.8
TLCR		44.46	297	⇓i P		P	05 42 00.7	+0.7
STKI	Sintang	44.51	149	P		P	05 42 03.0	+2.3
	comp=Z,204nm,1.0s							
MASI	Maura Aman, Be	44.68	163	P		P	05 42 01.8	-0.3
	comp=Z,335nm,0.9s							
PPBI	Pangkal Pinang	44.75	157	P		P	05 42 04.1	+1.5
	comp=Z,52nm,1.0s,comp=Z,18μm							
DOGA	KONYA_Doganhis	44.79	287	i P		P	05 42 04.1	+1.2
MAMC	Mammari	44.80	282	P		P	05 42 04.9	+2.0
CSS	Mathiatis	44.80	282	eP		P	05 42 03.3	+0.3
	comp=Z,58nm,0.9s							
CSS	Mathiatis	44.80	282	P		P	05 42 04.3	+1.3
CSS	Mathiatis	44.80	282	P		P	05 42 03.6	+0.6
HAMF	Hammerfest	44.80	334	eP		P	05 42 03.4	+0.9
KTK1	Kautokeino	44.83	332	eP		P	05 42 03.3	+0.6
EFOR	EFORIE	44.91	296	⇓i P		P	05 42 05.4	+1.8
CFR	Carcaliu	44.92	298	⇑i P		P	05 42 04.4	+0.7
CFR	Carcaliu	44.92	298	P		P	05 42 04.1	+0.4
CFR					pmax	pmax		
	comp=Z,38nm,1.7s							
TIRR	Tirgusor	44.95	297	eP		P	05 42 04.3	+0.4
	comp=Z,13nm,0.8s							
TIRR	Tirgusor	44.95	297	⇓i P		P	05 42 04.8	+0.9
TIRR	Tirgusor	44.95	297	eP		P	05 42 04.3	+0.4
TIRR					pmax	pmax		
	comp=Z,13nm,0.8s							
BORA	Eskisehir	45.02	290	i P		P	05 42 05.4	+0.7
MFTR	Murfatlar	45.02	296	⇓i P		P	05 42 06.1	+1.5
VAF	Ylistaro	45.02	323	P		P	05 42 04.6	+0.3
VAF					pmax	pmax		
	comp=Z,77nm,1.4s							
GAZI	Gazipasa	45.04	284	i P		P	05 42 09.5	+4.6
BOLV	Bolvadin	45.08	288	i P		P	05 42 06.4	+1.1
HARR	Harsova	45.21	297	⇑i P		P	05 42 07.3	+1.3
SZAC	Souni	45.22	282	P		P	05 42 07.2	+0.9
ALFC	Alefka	45.27	283	P		P	05 42 06.7	0.0
PSN	Preselentsi	45.34	296	P		P	05 42 08.5	+1.4
BAGO	Egridir - ISPA	45.47	287	i P		P	05 42 10.0	+1.7
PPCY	Paphos	45.57	282	P		P	05 42 09.6	+0.6
PRAR	RASCA	45.58	301	⇑i P		P	05 42 09.6	+0.6
ISK	Istanbul-Kandi	45.59	292	P		P	05 42 10.7	+1.6
ISK					pmax	pmax		
	comp=Z,111nm,1.1s							
VRI	Vrincioaia	45.67	299	⇑i P		P	05 42 10.9	+1.2
DAV	Davao City (W)	45.72	127	LR		LR	06 02 52.9	
	comp=Z,695nm,18.7s,baz=336,slow=38							
PLOR	Plostina	45.73	299	⇓i P		P	05 42 11.8	+1.6
ISP	Isparta	45.73	287	eP		P	05 42 10.4	0.0
	comp=Z,340nm,1.2s							
ISP	Isparta	45.73	287	⇑i P		P	05 42 11.4	+1.0
ISP	Isparta	45.73	287	P		P	05 42 11.2	+0.8
ISP	Isparta	45.73	287	eP		P	05 42 10.4	0.0
ISP					pmax	pmax		
	comp=Z,340nm,1.2s							
SKR	Severo-Kuril's	45.75	54	eP		P	05 42 02.3	-7.9
SKR				eS		S	05 49 04.5	+11
SKR					pmax	pmax		
	comp=Z,129nm,1.3s							
SKR					pmax	pmax		
	comp=Z,1μm,4.0s							
SKR					MLR	MLR		
	comp=Z,1μm,20.0s							
SKR					MLR	MLR		
	comp=Z,2μm,16.0s							
SLIT	Slitere, Latvi	45.76	316	eP		P	05 42 09.7	-0.5
SLIT					IAmb	IAmb	05 42 10.4	
	comp=Z,256nm,0.8s							
SLIT	Slitere, Latvi	45.76	316	P		P	05 42 09.6	-0.6
BIZ	Bicaz	45.78	301	⇑i P		P	05 42 11.5	+1.0
KZIL	AFYON_Kizioren	45.84	288	i P		P	05 42 12.6	+1.3
SUW	Suwalki	45.90	311	eP		P	05 42 11.4	+0.1
SUW	Suwalki	45.90	311	eP		P	05 42 11.1	-0.2
	comp=Z,199nm,1.2s							
SUW	Suwalki	45.90	311	eP		P	05 42 11.1	-0.2
SUW					pmax	pmax		
	comp=Z,199nm,1.2s							
GDZ	Gediz	46.01	289	i P		P	05 42 13.3	+0.7
ISR	Istrita	46.02	298	⇑i P		P	05 42 14.5	+2.0
ISR	Istrita	46.02	298	P		P	05 42 14.6	+2.0
ISR					pmax	pmax		
	comp=Z,142nm,1.1s							
MNAI	Manna	46.02	162	eP		P	05 42 12.1	-0.6
	comp=Z,188nm,0.8s							
MNAI	Manna	46.02	162	P		P	05 42 18.1	+5.4
PRD	Provadia	46.04	295	P		P	05 42 14.0	+1.4
BRDR	BURDUR-Merkez	46.12	287	i P		P	05 42 14.9	+1.4
PEA1	Petropavlovsk-	46.16	50	eP		P	05 42 14.3	+0.8
PEA0B	Petropavlovsk-	46.16	50	eP		P	05 42 14.0	+0.5
	comp=Z,81nm,0.9s							
PETK	Petropavlovsk-	46.16	50	P		P	05 42 14.3	+0.8
	comp=Z,12nm,0.7s,baz=269,slow=6.6,SNR=8.4							
PETK					LR	LR	06 03 02.3	
	comp=Z,1μm,18.0s,baz=281,slow=38							
PETK	Petropavlovsk-	46.16	50	eP		P	05 42 13.6	+0.1
PETK	Petropavlovsk-	46.16	50	eP		P	05 42 13.6	+0.1
BURAR	Bucovina Array	46.17	302	⇓i P		P	05 42 14.6	+0.9
BUR04	Bucovina Ar. S	46.17	302	eP		P	05 42 13.3	-0.4
BUR08	Bucovina Ar. S	46.17	302	eP		P	05 42 13.5	-0.3
KORT	Korkueli	46.18	286	i P		P	05 42 14.2	+0.2
KHAL	Karahalli	46.27	288	i P		P	05 42 14.9	+0.3
MLR	Muntele Rosu	46.30	299	eP		P	05 42 14.9	+0.1
	comp=Z,30nm,0.8s							
MLR	Muntele Rosu	46.30	299	⇑i P		P	05 42 16.3	+1.4
MLR	Muntele Rosu	46.30	299	eP		P	05 42 15.0	+0.1
MLR					pmax	pmax		
	comp=Z,31nm,0.8s							
LVV	L'vov	46.34	305	d i P		P	05 42 14.2	-0.7
LVV				eS		S	05 48 58.5	-3.3
LVV				eSS		ScS	05 52 08.2	-1.7
LVV					pmax	pmax		
	comp=Z,160nm,1.2s							
TRO	Tromso	46.38	333	P		P	05 42 14.8	-0.1
TRO	Tromso	46.38	333	eP		P	05 42 15.5	+0.6
MDSI	Maura Dua	46.44	161	P		P	05 42 15.3	-0.7
	comp=Z,28nm,1.1s							
DOPR	Dopca	46.53	299	⇑i P		P	05 42 18.0	+1.5
DURS	Dursunbey	46.54	290	i P		P	05 42 18.1	+1.4
DEMI	Demirci	46.58	289	i P		P	05 42 18.0	+1.0
GOLH	Golhisar	46.66	287	i P		P	05 42 18.7	+0.9
PET	Petropavlovsk	46.74	50	eP		P	05 42 22.1	+4.1
PET				eS		S	05 49 17.0	+10
PET					pmax	pmax		
	comp=Z,114nm,1.0s							
PET					MLR	MLR		
	comp=Z,300nm,18.0s							
MTKI	Muara Teweh, K	46.84	145	P		P	05 42 23.0	+3.9
JMB	Yambol	46.85	295	P		P	05 42 20.0	+1.0
DNZL	Cakiroluk	46.86	287	i P		P	05 42 20.7	+1.3
ARCR	ARCALIA	46.88	301	⇓i P		P	05 42 21.2	+2.0
MANT	Manisa	46.90	289	i P		P	05 42 19.8	+0.1
MANT	Manisa	46.90	289	eP		P	05 42 19.9	+0.1
	comp=Z,133nm,1.1s							
VOIR		46.92	299	⇓i P		P	05 42 20.3	+0.7
VOIR		46.92	299	P		P	05 42 20.1	+0.5
VOIR					pmax	pmax		
	comp=Z,26nm,1.1s							
LWLI	Liwa	46.92	161	P		P	05 42 19.0	-0.9
	comp=Z,232nm,0.8s							
MTUR	Matau	46.98	299	⇑i P		P	05 42 21.8	+1.7
AKAS	Kas	47.04	285	i P		P	05 42 20.5	-0.2
TAVA	DENIZLI_Tavas	47.05	287	i P		P	05 42 21.0	+0.3
STEP	BALIKESIR_Sava	47.17	290	i P		P	05 42 22.5	+0.9
KWP	Kalwaria Pacla	47.21	305	eP		P	05 42 22.7	+0.9
KWP	Kalwaria Pacla	47.21	305	eP		P	05 42 22.5	+0.7
	comp=Z,1μm,1.1s							
KWP	Kalwaria Pacla	47.21	305	eP		P	05 42 22.5	+0.7
ARR	Arges	47.22	299	⇓i P		P	05 42 23.5	+1.5
FETY	Fethiye	47.26	286	P		P	05 42 21.5	-0.8
HUMR	Humele	47.26	298	⇑i P		P	05 42 23.0	+0.8
SMKI	Samarinda	47.44	142	P		P	05 42 31.6	+7.7
KLNR	Kaliningrad	47.47	312	i P		P	05 42 23.7	+0.1
KLNR					pmax	pmax		
	comp=Z,270nm,1.1s							
KASI	Kota Agung	47.52	161	P		P	05 42 23.5	-0.9
	comp=Z,184nm,0.7s							
SPA0	Spitsbergen Ar	47.53	344	eP		P	05 42 24.4	+0.5
SPA0	Spitsbergen Ar	47.53	344	eP		P	05 42 24.0	+0.2
SPITS	Spitsbergen Ar	47.53	344	P		P	05 42 24.3	+0.5
	comp=Z,15nm,0.7s,baz=100,slow=9.4,SNR=13							
DAMY	Dhamar	47.53	251	eP		P	05 42 25.0	+0.1
	comp=Z,55nm,0.9s							
AYDN	Tasoluk	47.72	288	i P		P	05 42 26.8	+0.9
TRPA	Tarpa	47.75	303	⇑i P		P	05 42 26.9	+1.0
TRPA	Tarpa	47.75	303	⇑eP		P	05 42 27.1	+1.2
UZH	Uzhgorod	47.76	304	eP		P	05 42 25.2	-0.8
UZH				e			05 44 18.4	
UZH				eS		S	05 49 17.5	-4.6
UZH				e			05 49 27.0	
UZH					MLR	MLR		
	comp=N,200nm,16.0s							
UZH					MLR	MLR		
	comp=E,200nm,16.0s							
UZH					MLR	MLR		
	comp=Z,100nm,16.0s							
LOT	Lotru	47.77	299	⇑i P		P	05 42 27.1	+0.8
ALN	Alexandroupoli	47.78	293	eP		P	05 42 26.2	-0.1
	comp=Z,68nm,1.6s							
ALN	Alexandroupoli	47.78	293	P		P	05 42 26.6	+0.3
ALN	Alexandroupoli	47.78	293	eP		P	05 42 26.2	-0.1
ALN					pmax	pmax		
	comp=Z,68nm,1.6s							
STEI	Steigen	47.79	330	eP		P	05 42 26.1	+0.2
BKB	Balikpapan	48.02	143	P		P	05 42 34.0	+5.7
DRGR		48.04	301	⇑i P		P	05 42 29.5	+1.2
DRGR		48.04	301	P		P	05 42 29.1	+0.8
DRGR					pmax	pmax		
	comp=Z,52nm,1.3s							
BILL	Bilibino	48.07	29	eP		P	05 42 29.2	+1.1
	comp=Z,42nm,1.2s							
BILL	Bilibino	48.07	29	ceP		P	05 42 29.0	+0.9
BILL					pmax	pmax		
	comp=Z,19nm,1.0s							
BILL					MLR	MLR		
	com

NVR Nevrokopi 49.15 294 P **P** **05 42 38.0 +1.1**
NVR Nevrokopi 49.15 294 P **P** **05 42 38.0 +1.1**
MMB Musomiste 49.15 294 P **P** **05 42 37.0 +0.1**
MDVR Moldovita 49.37 299⇑ *iP* **P** **05 42 39.4 +0.9**
LANS Liptovska Anna 49.38 305 *eP* **P** **05 42 39.0 +0.5**
LANS Liptovska Anna 49.38 305 *eP* **P** **05 42 39.0 +0.5**
SRS Serrai 49.42 294 P **P** **05 42 39.3 +0.4**
SRS Serrai 49.42 294 P **P** **05 42 39.3 +0.4**
SRS Serrai 49.42 294 P **P** **05 42 39.3 +0.4**
PSZ Piszkesteto 49.50 304 *eP* **P** **05 42 39.6 +0.1**
comp=Z,18nm,0.8s
PSZ Piszkesteto 49.50 304⇓ *iP* **P** **05 42 40.6 +1.1**
PSZ Piszkesteto 49.50 304⇓ *eP* **P** **05 42 40.9 +1.4**
PSZ Piszkesteto 49.50 304 *eP* **P** **05 42 39.6 +0.1**
PSZ pmax pmax
comp=Z,18nm,0.8s
GKP Gorka Klasztor 49.51 311 *eP* **P** **05 42 40.0 +0.6**
GKP Gorka Klasztor 49.51 311 *eP* **P** **05 42 40.0 +0.6**
NSS Namsos 49.56 326 *eP* **P** **05 42 39.5 -0.2**
LEM Lembang 49.62 157 LR LR 06 05 37.0
comp=Z,553nm,19.5s,baz=3.5,slow=38
APE Apeiranthos 49.67 288⇑ *iP* **P** **05 42 41.0 +0.1**
APE Apeiranthos 49.67 288 *i P* **P** **05 42 39.7 -1.2**
APE pmax pmax
comp=Z,86nm,1.0s
HFS Hagfors 49.68 320 LR LR 06 03 51.3
comp=Z,401nm,19.4s,baz=79,slow=36
SOH Sokhos 49.70 294 P **P** **05 42 43.1 +2.0**
SOH pmax pmax
comp=Z,9.0nm,1.2s
KNT Kendrikon 49.89 294 P **P** **05 42 43.0 +0.5**
KNT Kendrikon 49.89 294 P **P** **05 42 43.0 +0.5**
KNT Kendrikon 49.89 294 P **P** **05 42 43.0 +0.5**
OKC Ostrava-Krasne 49.98 306 *eP* **P** **05 42 47.3 +4.3**
OKC AMS AMS 06 04 30.0
comp=Z,1µm,11.9s
OKC Ostrava-Krasne 49.98 306 *eP* **P** **05 42 47.3 +4.3**
OKC MLR MLR
comp=Z,1µm,11.9s
VYHS Vyhne 49.98 305 *eP* **P** **05 42 44.2 +1.1**
VYHS pmax pmax
comp=Z,28nm,1.3s
VYHS Vyhne 49.98 305 *eP* **P** **05 42 44.2 +1.1**
AOS Alonnisos 49.99 291 P **P** **05 42 43.7 +0.5**
AOS Alonnisos 49.99 291 P **P** **05 42 43.7 +0.5**
ZKR Zakros 50.01 286 P **P** **05 42 44.3 +0.8**
SANT Santorini 50.02 287 *eP* **P** **05 42 43.0 -0.5**
comp=Z,156nm,1.1s
SANT Santorini 50.02 287⇑ *iP* **P** **05 42 43.8 +0.2**
APSI Ampana 50.03 137 P P 05 42 51.3 +7.5
KMSI Cibinong 50.03 134 P P 05 42 52.6 +8.8
THE Thessaloniki 50.05 294 P **P** **05 42 44.8 +1.1**
THE pmax pmax
comp=Z,17nm,1.3s
VAY Valandovo 50.06 295 *i P* **P** **05 42 44.4 +0.7**
STIP Stip 50.18 295 *i P* **P** **05 42 44.0 -0.7**
BUD Budapest 50.20 303⇑ *eP* **P** **05 42 46.0 +1.3**
KOLL Kolacno 50.23 305 *eP* **P** **05 42 46.3 +1.4**
KOLL Kolacno 50.23 305 *eP* **P** **05 42 46.3 +1.4**
GRG Griva 50.32 294 P **P** **05 42 46.6 +0.8**
GRG Griva 50.32 294 P **P** **05 42 46.6 +0.8**
GRG Griva 50.32 294 *eP* **P** **05 42 46.6 +0.8**
GRG pmax pmax
comp=Z,40nm,1.1s
MORC Moravsky Berou 50.37 306 *eP* **P** **05 42 46.2 +0.1**
comp=Z,43nm,1.1s
MORC Moravsky Berou 50.37 306⇓ *iP* **P** **05 42 48.4 +2.3**
MORC Moravsky Berou 50.37 306 *eP* **P** **05 42 46.2 +0.1**
MORC pmax pmax
comp=Z,43nm,1.1s
MORC Moravsky Berou 50.37 306 *eP* **P** **05 42 46.8 +0.7**
XOR Xorichti 50.40 292 P **P** **05 42 46.3 -0.1**
XOR Xorichti 50.40 292 P **P** **05 42 46.3 -0.1**
NC405 NORSAR Array S 50.40 322 *eP* **P** **05 42 45.9 -0.2**
PTL Penteli 50.46 290 P **P** **05 42 46.9 0.0**
KPJI Karang Pucung 50.49 156 P **P** **05 42 49.2 +2.0**
comp=Z,171nm,0.9s
KPJI pP **sP** **05 42 54.6 +2.5**
comp=Z,171nm,0.9s
FRGS Fruska Gora 50.50 300⇑ *iP* **P** **05 42 47.4 +0.3**
LAST Lasithi 50.53 286 P **P** **05 42 48.7 +1.2**
NC303 NORSAR Array S 50.54 322 *eP* **P** **05 42 46.8 -0.3**
ATHU Athens Univers 50.55 290 P **P** **05 42 48.3 +0.8**
TBLU Trondheim 50.57 325 *eP* **P** **05 42 46.6 -0.7**
NC602 NORSAR Array S 50.58 321 *eP* **P** **05 42 47.2 -0.1**
NORES NORESS Array B 50.58 321 P **P** **05 42 47.2 -0.2**
NORES pmax pmax
comp=Z,3.0nm,0.3s
SKO Skopje 50.59 296 *i P* **P** **05 42 48.6 +0.9**
LIT Litokhoron 50.59 293 *eP* **P** **05 42 47.7 -0.2**
comp=Z,64nm,1.1s
LIT Litokhoron 50.59 293 *eP* **P** **05 42 47.7 -0.2**
LIT pmax pmax
comp=Z,64nm,1.1s
JAVC Velka Javorina 50.59 305 *eP* **P** **05 42 49.7 +1.9**
NB201 NORSAR Array S 50.62 322 *eP* **P** **05 42 47.4 -0.3**
NB2 NORSAR Subarra 50.66 322 P **P** **05 42 47.6 -0.4**
comp=Z,88nm,1.0s,baz=75,slow=7.9
NB2 NORSAR Subarra 50.66 322 P **P** **05 42 47.6 -0.4**
baz=75,slow=7.9
NB200 NORSAR Array S 50.66 322 *eP* **P** **05 42 47.8 -0.2**
NOA NORSAR Array B 50.66 322 P **P** **05 42 47.8 -0.2**
comp=Z,52nm,0.9s,baz=75,slow=7.6,SNR=92
NOA LR LR 06 06 35.6
comp=Z,356nm,18.7s,baz=80,slow=39
ATD Arta Tunnel 50.68 249 *eP* **P** **05 42 48.9 0.0**
comp=Z,50nm,1.2s
SMRI Semarang 50.72 154 *eP* **P** **05 42 49.5 +0.6**
comp=Z,296nm,0.9s
SMRI Semarang 50.72 154 P **P** **05 42 51.3 +2.4**
comp=Z,357nm,0.9s,comp=Z,9µm
LUWI Luwuk 50.73 136 P P 05 42 57.2 +8.1
DIVS Divibare 50.76 299 *eP* **P** **05 42 48.6 -0.6**
comp=Z,48nm,0.9s
DIVS Divibare 50.76 299⇑ *iP* **P** **05 42 49.4 +0.2**
KSP Ksiaz 50.79 308 *eP* **P** **05 42 49.8 +0.6**
KSP Ksiaz 50.79 308 *eP* **P** **05 42 49.8 +0.6**
NC204 NORSAR Array S 50.81 322 *eP* **P** **05 42 48.7 -0.5**
NAO01 NORSAR Array S 50.86 322 *eP* **P** **05 42 49.0 -0.6**
NAO01 NORSAR Array S 50.86 322 *eP* **P** **05 42 49.3 -0.3**
NBO00 NORSAR Array S 50.86 322 *eP* **P** **05 42 48.8 -0.7**
MORH M¨ıgy, Hung 50.88 302⇑ *eSKSac* **P** **05 42 50.5 +0.6**
MORH M¨ıgy, Hung 50.88 302⇑ *iP* **P** **05 42 50.2 +0.3**
IDI Anoyia 50.91 286 LR LR 06 09 14.8
comp=Z,207nm,18.8s,baz=70,slow=42
IDI Anoyia 50.91 286 *eP* **P** **05 42 49.3 -1.0**
comp=Z,90nm,0.8s
IDI Anoyia 50.91 286⇓ *iP* **P** **05 42 50.1 -0.2**
DPC Dobruska-Polom 50.93 307 *eP* **P** **05 42 51.3 +1.0**
DPC AMS AMS 06 05 00.0
comp=Z,700nm,12.6s
DPC Dobruska-Polom 50.93 307 *eP* **P** **05 42 51.3 +1.0**
DPC MLR MLR
comp=Z,700nm,12.6s
KRUS Krusevo 50.95 295 *i P* **P** **05 42 50.9 +0.2**
TTSI Tana Toraja 50.95 141 P **P** **05 42 51.3 +0.6**
MODS Modra-Piesok 51.00 305 *eP* **P** **05 42 51.1 +0.3**
MODS pmax pmax
comp=Z,37nm,1.2s
MODS Modra-Piesok 51.00 305 *eP* **P** **05 42 51.1 +0.3**
BIA Bitola 51.04 295 *i P* **P** **05 42 51.7 +0.4**
UPC Upice 51.07 308 *eP* **P** **05 42 52.4 +1.1**
UPC AMS AMS 06 04 50.0
comp=Z,1µm,12.7s
UPC Upice 51.07 308 *eP* **P** **05 42 52.4 +1.1**
UPC MLR MLR
comp=Z,1µm,12.7s
SIVA Sivas 51.09 286 P **P** **05 42 52.5 +0.9**
FNA Florina 51.10 294 *eP* **P** **05 42 51.0 -0.6**
comp=Z,27nm,0.9s
FNA Florina 51.10 294 *eP* **P** **05 42 51.1 -0.6**
FNA pmax pmax
comp=Z,27nm,0.9s
VRAC Vranov 51.11 306 LR LR 06 06 22.4
comp=Z,404nm,18.3s,baz=82,slow=38
VRAC Vranov 51.11 306⇓ *iP* **P** **05 42 53.0 +1.3**
VRAC Vranov 51.11 306 P **P** **05 42 52.9 +1.3**
VRAC pmax pmax
comp=Z,43nm,1.3s
VRAC Vranov 51.11 306 *eP* **P** **05 42 52.6 +1.0**
TIH Tihany 51.12 303⇑ *eSKSac* **P** **05 42 52.5 +0.8**
THL Klokotos Trika 51.15 293 P **P** **05 42 51.8 -0.2**
OSL Oslo 51.17 321 *eP* **P** **05 42 51.5 -0.3**

BBLS Lazići 51.24 299⇑ *iP* **P** **05 42 53.2 +0.4**
IVA Berane 51.30 297⇑ *iP* **P** **05 42 54.3 +1.1**
GRJI Gresik 51.31 151 P **P** **05 42 54.9 +1.6**
KRUC Moravsky 51.32 306 P **P** **05 42 54.1 +0.9**
KRUC pmax pmax
comp=Z,30nm,1.4s
KRUC Moravsky 51.32 306 *eP* **P** **05 42 54.0 +0.9**
RGN Rugen 51.35 313 *eP* **P** **05 42 53.6 +0.3**
comp=Z,122nm,0.9s
PVY Plav 51.36 297⇑ *iP* **P** **05 42 53.7 0.0**
NGJI Ngawi 51.36 153 P **P** **05 42 56.2 +2.4**
OHR Ohrid 51.37 295 *i P* **P** **05 42 54.0 +0.3**
DOMB Dombas 51.40 323 *eP* **P** **05 42 53.4 -0.2**
PLE Pljevlja 51.46 298⇑ *iP* **P** **05 42 55.0 +0.6**
HAPS Han Pijesak,Bl 51.46 299 *eP* **P** **05 42 53.8 -0.7**
PENT Pentalofos 51.50 294 P **P** **05 42 54.5 -0.3**
KOME Kolasin 51.56 298⇑ *iP* **P** **05 42 55.6 +0.4**
EVR Evrytania 51.56 292 P **P** **05 42 55.2 0.0**
EVR Evrytania 51.56 292 P **P** **05 42 55.2 0.0**
TRIZ Trizonia 51.60 291 P **P** **05 42 54.7 -0.7**
WOJI Wonogiri, Jawa 51.62 154 P **P** **05 42 54.4 -1.2**
ANX Ano Chora 51.62 292 P **P** **05 42 55.5 -0.2**
KLV Kalavryta, Ach 51.69 291 P **P** **05 42 55.0 -1.2**
GVD Gavdhos 51.70 286 P **P** **05 42 56.2 0.0**
SOP Sopron 51.70 304⇓ *eSKSac* **P** **05 42 57.4 +1.4**
SOP Sopron 51.70 304 P **P** **05 42 57.2 +1.2**
SOP pmax pmax
comp=Z,50nm,1.2s
VLI Veliai 51.70 289 P **P** **05 42 54.2 -2.0**
EFP Efpalio 51.70 291 P **P** **05 42 55.7 -0.4**
SPSI Sidrap Palu 51.73 141 P **P** **05 42 57.4 +0.9**
TNTI Ternate 51.80 130 P **P** **05 42 55.5 -1.6**
TREC Trest 51.80 306 AMS AMS 06 06 40.0
comp=Z,1µm,13.6s
TREC Trest 51.80 306 P **P** **05 42 57.9 +1.1**
TREC pmax pmax
comp=Z,8.0nm,1.2s
KONO Kongsberg 51.80 320 *eP* **P** **05 42 56.3 -0.3**
comp=Z,243nm,1.6s
KONO Kongsberg 51.80 320 *eP* **P** **05 42 56.3 -0.3**
KONO pmax pmax
comp=Z,243nm,1.6s
KONO Kongsberg 51.80 320 *eP* **P** **05 42 56.7 +0.2**
UPM Unac-Piva 51.83 298⇑ *iP* **P** **05 42 57.4 +0.1**
UPM Unac-Piva 51.83 298⇑ *iP* **P** **05 42 57.7 +0.4**
PVO Paravola 51.89 292 P **P** **05 42 57.9 +0.4**
PDG Podgorica 51.90 297⇑ *iP* **P** **05 42 58.3 +0.7**
PDG Podgorica 51.90 297⇑ *iP* **P** **05 42 58.2 +0.7**
TTG Podgorica 51.90 297⇑ *iP* **P** **05 42 58.2 +0.7**
TTG Podgorica 51.90 297 *eP* **P** **05 42 57.6 0.0**
comp=Z,66nm,0.8s
TTG Podgorica 51.90 297 *eP* **P** **05 42 57.6 0.0**
TTG pmax pmax
comp=Z,66nm,0.8s
TIR Tirane 51.92 296 *eP* **P** **05 42 57.6 -0.1**
comp=Z,46nm,0.8s
TIR Tirane 51.92 296⇑ *iP* **P** **05 42 57.8 +0.1**
TIR Tirane 51.92 296 *eP* **P** **05 42 57.7 -0.1**
TIR pmax pmax
comp=Z,46nm,0.8s
NKY Niksic 51.93 298⇑ *iP* **P** **05 42 58.3 +0.4**
PVCC Panska Ves 51.93 308 *eP* **P** **05 42 59.0 +1.3**
PVCC AMS AMS 06 05 20.0
comp=Z,1µm,17.6s
PVCC Panska Ves 51.93 308 *eP* **P** **05 42 59.0 +1.3**
PVCC MLR MLR
comp=Z,1µm,17.6s
NKME Niksic 51.97 298⇑ *iP* **P** **05 42 58.6 +0.4**
KMMI Kalianget 51.99 150 P **P** **05 42 57.7 -0.7**
BEHE Becsehely 52.00 303⇑ *eSKSac* **P** **05 42 59.4 +1.1**
BEHE Becsehely 52.00 303 *eP* **P** **05 42 59.0 +0.7**
GOPC GO Pecny, Ondr 52.01 307 *eP* **P** **05 42 59.0 +0.7**
GOPC *ex* x 05 43 02.1
GOPC AMS AMS 06 05 40.0
comp=Z,1µm,12.4s
GOPC GO Pecny, Ondr 52.01 307 *eP* **P** **05 42 59.0 +0.7**
GOPC MLR MLR
comp=Z,1µm,12.4s
PCJI Pacitan 52.04 154 P **P** **05 42 56.0 -2.8**
DRME Dracevica, Mon 52.05 297⇑ *iP* **P** **05 42 59.3 +0.6**
DRME Dracevica, Mon 52.05 297⇑ *iP* **P** **05 42 59.3 +0.6**
CONA Conrad Observa 52.05 305 *i pP* **P** **05 43 00.0 +1.3**
comp=Z,34nm,1.0s,SNR=12
CEME Cevo 52.08 297⇑ *iP* **P** **05 42 59.4 +0.4**
ULC Ulcinj 52.09 297⇑ *iP* **P** **05 42 59.3 +0.2**
DYR Agios Nikonas 52.11 289 P **P** **05 42 58.7 -0.6**
BRG Berggiesshubel 52.19 309⇑ *iP* **P** **05 43 00.1 +0.5**
comp=Z,40nm,1.1s
BRG *i* 05 43 04.6
comp=Z,40nm,1.2s
BRG *i* 05 44 11.7
comp=Z,22nm,1.0s
BRG S S 05 50 46.0 +22
BRG SS **SKiKP** **05 54 23.0 -0.3**
BRG *ePKKP* PKKPdf 06 04 36.5 -31
comp=Z,2.1nm,0.9s
comp=N,770nm,11.3s
comp=E,704nm,11.0s
comp=Z,1µm,15.0s
BRG Berggiesshubel 52.19 309⇑ *iP* **P** **05 43 00.1 +0.5**
BRG *i* 05 43 04.6
BRG *i* 05 44 11.7
BRG pmax pmax
comp=Z,40nm,1.1s
BRG MLR MLR
comp=N,770nm,11.3s
BRG MLR MLR
comp=E,704nm,11.0s
BRG MLR MLR
comp=Z,1µm,15.0s
BUM Brajici-Budva 52.20 297⇑ *iP* **P** **05 43 00.3 +0.4**
BRY Bratogost 52.20 298⇑ *iP* **P** **05 43 00.3 +0.3**
BRY Bratogost 52.20 298 *eP* **P** **05 43 00.3 +0.3**
ITM Ithomi 52.22 290 *eP* **P** **05 42 58.6 -1.5**
comp=Z,28nm,0.8s
BNSI Bone 52.27 141 P **P** **05 42 59.0 -1.6**
AKN Aaknes 52.30 324 *eP* **P** **05 43 01.8 +1.5**
IGT Igoumenitsa 52.34 293 P **P** **05 42 59.9 -1.0**
BLY Banja Luka 52.38 301 *eP* **P** **05 43 00.7 -0.5**
comp=Z,22nm,0.9s
BLY Banja Luka 52.38 301⇑ *iP* **P** **05 43 01.5 +0.3**
BLY Banja Luka 52.38 301⇑ *iP* **P** **05 43 01.4 +0.3**
TREB Trebinje 52.40 298 *eP* **P** **05 43 01.4 +0.1**
HCY Herceg Novi 52.41 297⇑ *iP* **P** **05 43 01.9 +0.5**
HCY Herceg Novi 52.41 297⇑ *iP* **P** **05 43 01.6 +0.2**
LKD2 Lefkada island 52.43 292 P **P** **05 43 00.5 -1.1**
PYL PYLOS 52.48 290 P **P** **05 43 00.2 -1.8**
EVGI Lefkada island 52.50 292 P **P** **05 43 01.0 -1.1**
ARSA Arzberg 52.51 304 *i pP* **P** **05 43 02.5 +0.4**
comp=Z,20nm,1.0s,SNR=11
CLL Collm 52.59 310 *eP* **P** **05 43 02.1 -0.5**
comp=Z,37nm,0.8s
CLL Collm 52.59 310⇑ *iP* **P** **05 43 02.8 +0.2**
comp=Z,54nm,1.0s
CLL *i pP* **pP** **05 43 06.2 0.0**
CLL *i sP* **sP** **05 43 08.2 +0.7**
CLL *e* 05 43 40.0
CLL *ePP* **PP** **05 44 57.0 -4.3**
CLL *eS* **S** **05 50 27.0 -2.4**
CLL *e* 05 51 00.0
CLL *eSS* **SS** **05 54 12.0 +4.9**
CLL Collm 52.59 310 *eP* **P** **05 43 02.1 -0.5**
CLL pmax pmax
comp=Z,37nm,0.8s
STON Ston 52.78 298 P **P** **05 43 03.4 -0.6**
STON Ston 52.78 298⇑ *iP* **P** **05 43 03.4 -0.6**
HYA Hoyanger 52.97 323 *eP* **P** **05 43 05.6 +0.4**
MUD Monsted U'grnd 52.99 317 *i P* **P** **05 43 06.2 +0.8**
comp=Z,55nm,1.0s
MUD Monsted U'grnd 52.99 317 *i P* **P** **05 43 06.2 +0.8**
MUD pmax pmax
comp=Z,55nm,1.0s
PERS Pernice 53.00 303 *eP* **P** **05 43 05.9 +0.2**
PERS Pernice 53.00 303 *eP* **P** **05 43 05.9 +0.2**
KHC Kasperske Hory 53.02 307 *eP* **P** **05 43 05.8 -0.1**
comp=Z,8.0nm,1.0s
KHC Kasperske Hory 53.02 307 *eP* **P** **05 43 06.5 +0.6**
KHC AMS AMS 06 06 10.0
comp=Z,800nm,12.5s
KHC Kasperske Hory 53.02 307 *eP* **P** **05 43 05.8 -0.1**
KHC pmax pmax
comp=Z,8.0nm,1.0s
SOKA Soboth 53.03 304 *i pP* **P** **05 43 06.5 +0.4**
comp=Z,36nm,1.0s,SNR=24
GEC2 GERESS Array S 53.05 306 *eP* **P** **05 43 06.4 +0.2**
comp=Z,27nm,0.9s
GEC2 GERESS Array S 53.05 306 *eP* **P** **05 43 06.4 +0.2**
GEC2 pmax pmax
comp=Z,27nm,0.9s
GERES GERESS Array B 53.05 306 P **P** **05 43 06.8 +0.6**
comp=Z,11nm,0.8s,baz=68,slow=7.4,SNR=71
GERES PcP **PcP** **05 44 15.3 +0.7**
comp=Z,7.9nm,0.9s,baz=58,slow=5.9,SNR=5.5
GERES LR LR 06 07 51.5
comp=Z,471nm,21.6s,baz=78,slow=38
GEA0 GERESS Array S 53.06 306 *eP* **P** **05 43 06.1 -0.1**
MOA Molln 53.08 305 *i pP* **P** **05 43 07.2 +0.9**
comp=Z,13nm,0.8s
CRES Cresnjev 53.09 302⇑ *iP* **P** **05 43 06.7 +0.3**
ODD1 Odda 53.15 321 *eP* **P** **05 43 07.4 +0.7**
OZLJ Ozalj 53.16 302 P **P** **05 43 07.5 +0.7**
NKC Novy Kostel 53.30 308 AMS AMS 06 06 20.0
comp=Z,1µm,15.1s
NKC Novy Kostel 53.30 308 P **P** **05 43 09.3 +1.4**
NKC pmax pmax
comp=Z,8.0nm,1.3s
SANI Sanana 53.31 133 P **P** **05 43 07.9 -0.4**
BOJS Bojanci 53.35 302 *i P* **P** **05 43 09.0 +0.7**
BOJS *ePP* PP 05 46 15.7 +67
BOJS *i S* **S** **05 50 40.6 +0.7**
BOJS *i* 05 50 52.0
BOJS Bojanci 53.35 302 *i P* **P** **05 43 09.0 +0.7**
BOJS *ePP* PP 05 46 15.7 +67
BOJS *i S* **S** **05 50 40.6 +0.7**
BOJS *i* 05 50 52.0
FOO Floro 53.35 324 *eP* **P** **05 43 08.0 -0.1**
JAGI Jajag, Banyuwa 53.36 150 P **P** **05 43 04.9 -3.7**
SNART Snartemo 53.38 319 *eP* **P** **05 43 09.0 +0.7**
BLS5 Blasjo 53.39 321 *eP* **P** **05 43 09.1 +0.7**
UDBI Udbina 53.40 301 P **P** **05 43 08.9 +0.1**
OBKA Obir 53.41 303 *i pP* **P** **05 43 09.3 +0.5**
comp=Z,26nm,0.9s,SNR=9.2
SRBI Singaraja 53.42 149 P **P** **05 43 09.4 +0.4**
WET Wettzell 53.45 307 P **P** **05 43 09.8 +0.8**
WET pmax pmax
comp=Z,33nm,1.4s
VISS Visnje 53.50 303 *i P* **P** **05 43 09.8 +0.4**
VISS *eS* **S** **05 50 41.9 +0.1**
VISS Visnje 53.50 303 *i P* **P** **05 43 09.8 +0.4**
VISS *eS* **S** **05 50 41.9 +0.1**
LJU Ljubljana 53.60 303⇑ *iP* **P** **05 43 10.0 -0.1**
BER Bergen 53.61 322 P **P** **05 43 10.5 +0.6**
BER pmax pmax
comp=Z,28nm,1.2s
BER Bergen 53.61 322 *eP* **P** **05 43 10.5 +0.6**
ASK Askoy 53.65 322 *eP* **P** **05 43 10.6 +0.5**
MOX Moxa 53.65 309 P **P** **05 43 10.9 +0.5**
MOX pmax pmax
comp=Z,35nm,1.1s
SUE Sulen 53.66 323 *eP* **P** **05 43 10.2 -0.1**
CEY Cerknica 53.79 303⇑ *iP* **P** **05 43 11.6 +0.1**
FASA Fasano 53.86 296 *eP* **P** **05 43 12.3 +0.2**
RIY Rijeka 53.91 302⇑ *iP* **P** **05 43 12.5 +0.1**
MYKA Terra Mystica 53.94 304 *i pP* **P** **05 43 12.8 +0.1**
comp=Z,13nm,0.9s
KBA Koelnbreinsper 53.95 305 *i pP* **P** **05 43 13.4 +0.5**
comp=Z,18nm,0.9s,SNR=10
KBA Koelnbreinsper 53.95 305 P **P** **05 43 13.4 +0.5**
KBA pmax pmax
comp=Z,20nm,0.8s
JAVS Javornik 53.96 303 *i P* **P** **05 43 12.5 -0.4**
JAVS Javornik 53.96 303 *i P* **P** **05 43 12.5 -0.4**
TAR1 Taranto 54.04 296 *eP* **P** **05 43 13.5 +0.1**
MASS Massafra 54.09 296 *eP* **P** **05 43 13.9 +0.1**
GRB1 Grafenberg Arr 54.10 308 P **P** **05 43 15.3 +1.6**
GRB1 pmax pmax
comp=Z,50nm,1.2s
TRI Trieste 54.22 303 *eP* **P** **05 43 14.4 -0.3**
TRI Trieste 54.22 303 *eP* **P** **05 43 14.4 -0.3**
GRF Grafenberg Arr 54.24 308 P **P** **05 43 16.1 +1.3**
GRF pmax pmax
comp=Z,89nm,1.2s
GRFO Grafenberg 54.24 308 *eP* **P** **05 43 14.8 0.0**
comp=Z,53nm,0.9s
GRFO Grafenberg 54.24 308 *eP* **P** **05 43 14.8 0.0**
GRFO pmax pmax
comp=Z,53nm,0.9s
MATE Matera 54.38 296⇑ *iP* **P** **05 43 15.9 0.0**
GUMO Guam 54.41 103 LR LR 06 07 20.8
comp=Z,163nm,20.1s,baz=329,slow=37
ABTA Abfaltersbach 54.60 304 *i P* **P** **05 43 17.5 -0.1**
comp=Z,19nm,1.6s
TWSI Taliwang, Sumb 54.69 147 P **P** **05 43 16.4 -1.9**
FUR Furstenfeldbru 54.80 306 P **P** **05 43 20.4 +1.5**
FUR pmax pmax
comp=Z,118nm,0.9s
NLAI Namlea 54.91 133 P **P** **05 43 20.6 +0.6**
WTTA Wattenberg 54.94 305 *i pP* **P** **05 43 20.7 +0.6**
comp=Z,73nm,0.9s,SNR=16
WATA Walderalm 54.95 305 *i pP* **P** **05 43 20.5 +0.4**
comp=Z,57nm,1.0s,SNR=18
TIP Timpagrande 54.99 294 *eP* **P** **05 43 20.2 -0.2**
comp=Z,86nm,1.2s
TIP Timpagrande 54.99 294⇑ *iP* **P** **05 43 20.9 +0.5**
TIP Timpagrande 54.99 294 P **P** **05 43 20.7 +0.3**
PLAI Plampang 55.14 146 P P 05 43 27.6 +6.0
DAG Danmarks Havn 55.18 345⇑ *iP* **P** **05 43 20.6 -0.5**
DAG *i* 05 43 25.8
DAG Danmarks Havn 55.18 345⇑ *iP* **P** **05 43 20.6 -0.5**
DAG *i* 05 43 25.8
SQTA Sankt Quirin 55.23 305 *i pP* **P** **05 43 22.3 +0.2**
comp=Z,67nm,0.8s,SNR=22
MOTA Moosalm 55.24 306 *i pP* **P** **05 43 22.5 +0.2**
comp=Z,66nm,1.0s,SNR=35
CUC Castrocucco 55.28 296 *eP* **P** **05 43 22.2 -0.3**
comp=Z,114nm,1.0s
RETA Reutte 55.40 306 *i pP* **P** **05 43 23.6 +0.4**
comp=Z,42nm,0.9s,SNR=13
FETA Feichten 55.61 305 *i pP* **P** **05 43 25.1 +0.2**
comp=Z,53nm,0.9s,SNR=20
TNS Taunus Mts 55.68 310 P **P** **05 43 26.7 +1.5**
TNS pmax pmax
comp=Z,30nm,1.2s
STU Stuttgart 55.83 308 *eP* **P** **05 43 26.3 +0.1**
comp=Z,38nm,1.0s
STU Stuttgart 55.83 308 *eP* **P** **05 43 26.3 +0.1**
STU pmax pmax
comp=Z,38nm,1.0s
AQU L'Aquila 55.87 299 *eP* **P** **05 43 26.9 +0.2**
comp=Z,59nm,0.8s
AQU L'Aquila 55.87 299 *eP* **P** **05 43 26.9 +0.2**
AQU pmax pmax
comp=Z,59nm,0.8s
AQU L'Aquila 55.87 299⇑ *iP* **P** **05 43 27.5 +0.8**
WTSB Winterswijk 55.93 312 *eP* **P** **05 43 27.4 +0.6**
comp=Z,56nm,0.8s
WTSB *eX* 05 43 33.1
CEL Celeste 56.01 294 *eP* **P** **05 43 27.5 -0.2**
comp=Z,133nm,1.0s
DAVA Damuels 56.02 306 *i pP* **P** **05 43 28.0 +0.1**
comp=Z,27nm,1.4s
FUORN Ofenpass-Fuorn 56.07 305 *eP* **P** **05 43 28.1 -0.2**
comp=Z,35nm,0.8s
FUORN *ePcP* **PcP** **05 44 27.3 +0.9**
DAVOX Davos/Dischmat 56.24 305 LR LR 06 08 16.4
comp=Z,598nm,19.0s,baz=65,slow=37
BFO Black Forest 56.53 308 *eP* **P** **05 43 30.8 -0.5**
comp=Z,37nm,1.1s
BFO Black Forest 56.53 308 *eP* **P** **05 43 30.8 -0.5**
BFO pmax pmax
comp=Z,37nm,1.1s
WBSI Waikabubak, Su 56.57 145 P **P** **05 43 30.0 -1.8**
SLE Schleitheim 56.67 307 P **P** **05 43 32.6 +0.3**
SLE pmax pmax
comp=Z,67nm,1.1s
TUE Stuetta 56.70 305 *eP* **P** **05 43 32.2 -0.5**
comp=Z,56nm,0.9s
EDFI Ende, Flores 56.82 142 P **P** **05 43 29.9 -3.8**
HGN Heimansgroeve 56.92 311 *eP* **P** **05 43 34.3 +0.3**
comp=Z,34nm,0.8s
HGN *eX* 05 43 40.0
MEM Membach 56.95 311 P **P** **05 43 36.1 +2.0**
MEM pmax pmax
comp=Z,52nm,1.3s
MEM Membach 56.95 311⇑ *iP* **P** **05 43 34.1 0.0**
MMRI Maumere 56.98 141 *eP* **P** **05 43 35.0 +0.3**
comp=Z,126nm,0.8s

MMRI Maumere 56.98 141 P **P** 05 43 33.1 -1.6
VLC Villacollemand 57.05 302 *e*P **P** 05 43 35.2 +0.1
comp=Z,83nm,1.1s
BEBN Eben Emael 57.05 311 ⇑P **P** 05 43 35.3 +0.4
BEBN ⇑⇑pP **sP** 05 43 41.2 +1.3
CDF Champ du Feu 57.13 308 *e*P **P** 05 43 34.9 -0.8
CDF pmax pmax
comp=Z,35nm,1.0s
WLF Walferdange 57.26 310 *e*P **P** 05 43 37.0 +0.6
comp=Z,40nm,1.1s
WLF Walferdange 57.26 310 ⇑P **P** 05 43 36.8 +0.3
ECH Echery 57.29 308 *e*P **P** 05 43 36.6 -0.1
comp=Z,19nm,0.9s
ECH Echery 57.29 308 *e*P **P** 05 43 36.6 -0.1
ECH pmax pmax
comp=Z,19nm,0.9s
VAE Valguarnera 57.41 294 LR LR 06 12 54.2
comp=Z,123nm,19.4s,baz=357,slow=41
BCLA Clavier 57.43 311 ⇑P **P** 05 43 37.9 +0.3
FAKI Fak Fak 57.65 128 *e*P **P** 05 43 39.6 +0.1
comp=Z,81nm,1.0s
FAKI Fak Fak 57.65 128 P **P** 05 43 39.8 +0.3
GIVF Givet 57.85 311 *e*P **P** 05 43 40.2 -0.3
GIVF pmax pmax
comp=Z,34nm,0.8s
HAU Haudompre 57.87 308 *e*P **P** 05 43 41.0 +0.2
HAU pmax pmax
comp=Z,15nm,0.8s
DOU Dourbes 57.98 311 ⇑P **P** 05 43 41.8 +0.3
comp=Z,12nm,1.0s
SENIN Lac Senin/Sane 58.02 306 *e*P **P** 05 43 42.1 +0.1
comp=Z,21nm,0.8s
WDD Wied Dalam 58.12 292 *e*P **P** 05 43 41.9 -0.8
comp=Z,119nm,0.9s
CLTB Caltabellotta 58.20 294 *e*P **P** 05 43 42.1 -1.2
comp=Z,20nm,1.0s
BAIF Baives 58.22 311 *e*P **P** 05 43 42.9 -0.2
BAIF pmax pmax
comp=Z,51nm,1.0s
CABF La Chapelle 58.66 307 *e*P **P** 05 43 45.5 -0.9
CABF pmax pmax
comp=Z,23nm,1.0s
PGF Pioggiola 58.69 301 *e*P **P** 05 43 46.3 -0.4
PGF pmax pmax
comp=Z,62nm,1.0s
LPG La Plagne 58.76 305 *e*P **P** 05 43 47.3 0.0
LPG pmax pmax
comp=Z,112nm,0.9s
LPL La Plagne 58.76 305 *e*P **P** 05 43 47.3 0.0
LPL pmax pmax
comp=Z,99nm,0.9s
MCD Coleburn Disti 58.80 321 *e*P **P** 05 43 47.0 -0.1
SOEI Soe 58.93 140 *e*P **P** 05 43 47.6 -1.0
comp=Z,118nm,0.8s
SOEI Soe 58.93 140 P **P** 05 43 47.0 -1.6
RDOG Red Dog Mine 58.95 25 *e*P **P** 05 43 48.3 +0.3
comp=Z,43nm,1.4s
BNI Bardonecchia 59.01 305 *e*P **P** 05 43 48.9 0.0
comp=Z,52nm,1.0s
BNI Bardonecchia 59.01 305 *e*P **P** 05 43 48.9 0.0
BNI pmax pmax
comp=Z,52nm,1.0s
BATI Baumata 59.03 141 LR LR 06 09 49.6
comp=Z,53nm,21.0s,baz=212,slow=37
BATI Baumata 59.03 141 P **P** 05 43 48.9 -0.2
WACR West Acre 59.03 315 *e*P **P** 05 43 48.5 -0.2
WACR IAmb IAmb 05 43 50.1
comp=Z,120nm,0.9s
SBF Sospel 59.08 303 *e*P **P** 05 43 48.9 -0.5
SBF pmax pmax
comp=Z,131nm,0.8s
EDU Dundee 59.16 320 *e*P **P** 05 43 49.2 -0.3
ESY Stoneypath 59.25 319 *e*P **P** 05 43 50.0 -0.3
SCO Scoresbysund 59.29 339 *e*P **P** 05 43 50.9 +0.7
comp=Z,33nm,0.9s
SCO Scoresbysund 59.29 339⇑ *i*P **P** 05 43 51.4 +1.2
comp=Z,21nm,0.8s
SCO Scoresbysund 59.29 339 *e*P **P** 05 43 50.9 +0.7
SCO pmax pmax
comp=Z,33nm,0.9s
RSC Scourie 59.35 322 *e*P **P** 05 43 51.2 +0.4
MDO Dochfour 59.40 321 *e*P **P** 05 43 51.0 -0.2
EDI Edinburgh 59.53 319 *e*P **P** 05 43 51.2 -1.0
EDI IAmb IAmb 05 43 52.7
comp=Z,39nm,1.0s
HPK Haverah Park 59.66 317 *e*P **P** 05 43 52.3 -0.8
HPK IAmb IAmb 05 43 54.4
comp=Z,176nm,1.3s
LOR Lormes 59.70 308 *e*P **P** 05 43 52.1 -1.4
LOR pmax pmax
comp=Z,36nm,1.0s
INVG Invergeldie, C 59.72 320 *e*P **P** 05 43 53.0 -0.4
INVG IAmb IAmb 05 43 54.3
comp=Z,31nm,0.8s
FRF La Foret Royal 59.73 303 *e*P **P** 05 43 52.8 -0.9
FRF pmax pmax
comp=Z,21nm,0.7s
KAC Achnashellach 59.81 322 *e*P **P** 05 43 53.8 -0.2
ESK Eskdalemuir 59.83 319 *e*P **P** 05 43 54.1 -0.1
comp=Z,54nm,0.9s
ESK Eskdalemuir 59.83 319 *e*P **P** 05 43 54.1 -0.1
ESK pmax pmax
comp=Z,54nm,0.9s
RRR Rubha Reidh 59.88 322 *e*P **P** 05 43 55.2 +0.7
ANM Nome 59.92 29 *e*P **P** 05 43 55.7 +1.0
comp=Z,56nm,1.3s
ANM Nome 59.92 29 *e*P **P** 05 43 55.7 +1.0
ANM pmax pmax
comp=Z,56nm,1.3s
SMF Signal de Mont 60.01 307 *e*P **P** 05 43 54.7 -0.9
SMF pmax pmax
comp=Z,83nm,1.0s
SSF Saint Saulge 60.01 308 *e*P **P** 05 43 54.5 -1.1
SSF pmax pmax
comp=Z,38nm,1.2s
KPL Plockton 60.06 322 *e*P **P** 05 43 55.5 -0.2
KPL IAmb IAmb 05 43 56.6
comp=Z,33nm,0.9s
SSB Saint Sauveur 60.23 306 *e*P **P** 05 43 57.0 -0.2
comp=Z,25nm,0.9s
SSB Saint Sauveur 60.23 306 *e*P **P** 05 43 57.0 -0.2
SSB pmax pmax
comp=Z,25nm,0.9s
AVF Avril sur Loir 60.24 308 *e*P **P** 05 43 56.2 -0.9
AVF pmax pmax
comp=Z,106nm,1.4s
RRH Rhenigidale 60.27 322 *e*P **P** 05 43 57.0 -0.2
VIVF Saint-Julien-l 60.35 305 *e*P **P** 05 43 57.4 -0.7
VIVF pmax pmax
comp=Z,22nm,1.0s
BGF Bois d'Agland 60.65 308 *e*P **P** 05 43 59.0 -1.0
BGF pmax pmax
comp=Z,22nm,0.7s
FOEL Foel Wylfa 61.00 316 *e*P **P** 05 44 02.2 -0.1
FOEL IAmb IAmb 05 44 03.2
comp=Z,65nm,0.8s
OLDB Oldbury-Upon-S 61.26 315 *e*P **P** 05 44 03.7 -0.2
OLDB IAmb IAmb 05 44 04.6
comp=Z,183nm,1.3s
LLW Llanuwchllyn 61.26 316 *e*P **P** 05 44 04.0 0.0
MONM Monmouth 61.30 315 *e*P **P** 05 44 03.7 -0.7
MONM IAmb IAmb 05 44 05.5
comp=Z,70nm,0.9s
MCH1 Michaelchurch 61.33 315 *e*P **P** 05 44 04.5 0.0
MCH1 IAmb IAmb 05 44 05.6
comp=Z,62nm,0.9s
LDF La Druitiere 61.41 311 *e*P **P** 05 44 04.0 -1.1
LDF pmax pmax
comp=Z,57nm,1.0s
FLN La Foliniere 61.53 311 *e*P **P** 05 44 04.8 -1.1
FLN pmax pmax
comp=Z,38nm,1.0s
YRC Rhoscolyn 61.54 317 *e*P **P** 05 44 05.5 -0.3
KEST Kesra 61.81 294 P **P** 05 44 08.6 +0.4
comp=Z,33nm,1.0s,baz=307,slow=2.8,SNR=31
KEST LR LR 06 17 56.7
comp=Z,130nm,19.5s,baz=322,slow=43
KEST Kesra 61.81 294 *e*P **P** 05 44 08.3 +0.1
comp=Z,56nm,1.0s
SUMG Summit 61.87 345 *e*P **P** 05 44 08.0 -0.4
comp=Z,111nm,1.4s
SUMG Summit 61.87 345 *i*P **P** 05 44 08.2 -0.1
comp=Z,99nm,1.2s
SUMG *i* 05 44 13.4
SUMG Summit 61.87 345 *e*P **P** 05 44 08.0 -0.4
SUMG pmax pmax
comp=Z,111nm,1.4s
CAF Calviac 61.93 306 *e*P **P** 05 44 08.5 -0.3
CAF pmax pmax
comp=Z,26nm,0.9s
GRR Gorron 61.94 311 *e*P **P** 05 44 07.5 -1.2
GRR pmax pmax
comp=Z,79nm,1.0s
RJF Les Rejaudoux 62.08 307 *e*P **P** 05 44 09.4 -0.3
GENI Genyron 62.39 121 P **P** 05 44 13.7 +1.6
BORG Borgarnes 62.47 333 LR LR 06 12 25.1
comp=Z,519nm,18.3s,baz=57,slow=37
DSB Dublin 62.47 318 *e*P **P** 05 44 12.2 +0.1
comp=Z,40nm,1.0s
TOLK Toolik Lake Re 62.57 21 *e*P **P** 05 44 12.1 -0.5
comp=Z,54nm,0.8s
TOLK Toolik Lake Re 62.57 21 P **P** 05 44 12.2 -0.5
baz=312
IM3 Indian Mountai 63.08 24 *e*P **P** 05 44 16.3 +0.3
COLD Coldfoot 63.34 22 *e*P **P** 05 44 18.1 +0.4
comp=Z,54nm,1.0s
QUIF Quistinic 63.51 311 *e*P **P** 05 44 18.3 -0.8
QUIF pmax pmax
comp=Z,50nm,0.9s
KMBO Kilima Mbogo 63.54 243 P **P** 05 44 20.6 +0.5
comp=Z,7.4nm,0.9s,baz=19,slow=5.5,SNR=23
KMBO LR LR 06 13 34.9
comp=Z,167nm,18.4s,baz=88,slow=38
KMBO Kilima Mbogo 63.54 243 *e*P **P** 05 44 18.6 -1.4
KMBO Kilima Mbogo 63.54 243 P **P** 05 44 20.6 +0.5
SNR=19
KMBO Kilima Mbogo 63.54 243 *i*P **P** 05 44 20.8 +0.7
SNR=12
KMBO Kilima Mbogo 63.54 243 *e*P **P** 05 44 18.6 -1.4
ETSF Etsaut 64.61 306 *e*P **P** 05 44 26.3 -0.3
ETSF pmax pmax
comp=Z,30nm,0.8s
MLY Manley 64.66 24 *e*P **P** 05 44 26.4 0.0
comp=Z,89nm,1.3s
RES Resolute Bay 65.14 2 *e*P **P** 05 44 29.3 -0.1
comp=Z,41nm,1.4s
RES Resolute Bay 65.14 2 *e*P **P** 05 44 29.3 -0.1
RES pmax pmax
comp=Z,41nm,1.4s
BPAW Bear Paw Mtn. 65.21 25 *e*P **P** 05 44 29.9 -0.1
comp=Z,79nm,1.4s
FYU Fort Yukon 65.21 21 *e*P **P** 05 44 30.6 +0.7
comp=Z,68nm,1.1s
CAST Castle Rocks 65.30 26 *e*P **P** 05 44 31.2 +0.6
comp=Z,76nm,1.4s
MDM Murphy Dome 65.48 24 *e*P **P** 05 44 31.4 -0.4
comp=Z,39nm,1.1s
SVW2 Sparrevohn 65.59 29 *e*P **P** 05 44 32.7 +0.1
comp=Z,55nm,1.2s
POKR Poker Plat Res 65.61 23 P **P** 05 44 33.1 +0.4
baz=315,SNR=16
PPLA Purkeypile 65.62 27 *e*P **P** 05 44 32.4 -0.4
comp=Z,288nm,1.4s
BWN Brwne 65.64 25 *e*P **P** 05 44 32.8 -0.1
comp=Z,335nm,1.5s
TCOL CIGO, UAF Yank 65.65 23 P **P** 05 44 32.9 +0.1
baz=315,SNR=21
COLA College 65.66 23 *e*P **P** 05 44 32.6 -0.2
comp=Z,149nm,1.4s
COLA College 65.66 23 *e*P **P** 05 44 32.6 -0.2
COLA pmax pmax
comp=Z,149nm,1.4s
CCB Clear Creek Bu 65.83 24 *e*P **P** 05 44 33.5 -0.5
comp=Z,71nm,1.2s
WRH Wood River Hil 65.87 24 *e*P **P** 05 44 33.9 -0.4
comp=Z,48nm,1.3s
TRF Thorofare Moun 65.88 25 *e*P **P** 05 44 34.4 -0.2
comp=Z,20nm,0.9s
IL1 Eielson Array 66.02 23 *e*P **P** 05 44 34.4 -0.9
ILAR Eielson Array 66.02 23 P **P** 05 44 34.5 -0.8
comp=Z,10nm,0.9s,baz=311,slow=5.3,SNR=86
ILAR PKPPKP P'P'df 06 13 07.3 -11
comp=Z,0.9nm,0.9s,baz=148,slow=3.9,SNR=5.3
ILAR LR LR 06 15 13.6
comp=Z,306nm,20.0s,baz=326,slow=38
ILB Eielson Array 66.02 23 *e*P **P** 05 44 35.0 -0.2
HDA Harding Lake 66.26 24 *e*P **P** 05 44 36.2 -0.6
comp=Z,47nm,1.2s
HDA Harding Lake 66.26 24 P **P** 05 44 35.3 -1.5
baz=315,SNR=18
SKT Skwentna 66.46 27 *e*P **P** 05 44 38.3 +0.1
comp=Z,106nm,1.2s
INK Inuvik 66.74 16 *e*P **P** 05 44 39.6 -0.2
comp=Z,78nm,1.0s
INK Inuvik 66.74 16 *e*P **P** 05 44 39.6 -0.2
INK pmax pmax
comp=Z,78nm,1.0s
FITZ Fitzroy Crossi 66.82 143 *e*P **P** 05 44 40.5 -0.3
comp=Z,23nm,0.9s
ILULI Ilulissat 67.05 346 *i*P **P** 05 44 40.6 -1.1
comp=Z,35nm,0.8s
ILULI Ilulissat 67.05 346 *i*P **P** 05 44 40.6 -1.1
ILULI pmax pmax
comp=Z,35nm,0.8s
MBWA Marble Bar 67.08 150 *e*P **P** 05 44 42.2 -0.2
comp=Z,32nm,0.9s
SUA Susitna One 67.09 27 *e*P **P** 05 44 42.1 -0.2
comp=Z,51nm,0.7s
RIDG Independ'e Rid 67.39 23 *e*P **P** 05 44 43.3 -0.8
comp=Z,141nm,1.2s
GHO Glory Hole Cre 67.50 26 *e*P **P** 05 44 45.2 +0.4
comp=Z,34nm,1.0s
PMR Palmer 67.56 26 *e*P **P** 05 44 45.0 -0.1
comp=Z,93nm,1.6s
PMR Palmer 67.56 26 *e*P **P** 05 44 45.0 -0.1
PMR pmax pmax
comp=Z,93nm,1.6s
EPYK Eagle Plains 67.58 19 P **P** 05 44 44.3 -1.0
baz=323
EGAK Eagle 67.67 21 *e*P **P** 05 44 44.8 -1.0
comp=Z,48nm,1.0s
SML Sawmill 67.67 26 *e*P **P** 05 44 46.0 +0.1
comp=Z,66nm,0.7s
SML Sawmill 67.67 26 *e*P **P** 05 44 46.0 +0.1
SML pmax pmax
comp=Z,66nm,0.7s
DOT Dot Lake 67.69 23 *e*P **P** 05 44 45.2 -0.7
comp=Z,76nm,1.4s
RC01 Rabbit Creek A 67.70 27 *e*P **P** 05 44 46.0 0.0
comp=Z,81nm,0.9s
MBAR Mbarara 67.71 249 *e*P **P** 05 44 47.1 +0.2
comp=Z,82nm,1.5s
MBAR Mbarara 67.71 249 *e*P **P** 05 44 47.1 +0.2
MBAR pmax pmax
comp=Z,82nm,1.5s
CART Cartagena 67.81 301 *e*P **P** 05 44 46.9 -0.2
comp=Z,37nm,0.9s
SCM Sheep Creek Mo 67.99 26 *e*P **P** 05 44 48.1 +0.2
comp=Z,55nm,0.7s
SCM Sheep Creek Mo 67.99 26 *e*P **P** 05 44 48.1 +0.2
SCM pmax pmax
comp=Z,55nm,0.7s
BRLK Bradley Lake 68.22 29 *e*P **P** 05 44 49.2 -0.1
comp=Z,30nm,0.9s
CNPM China Poot 68.25 29 *e*P **P** 05 44 49.8 +0.3
comp=Z,68nm,0.9s
HARP HAARP 68.27 24 *e*P **P** 05 44 50.3 +0.6
comp=Z,78nm,1.0s
ES19 SONSECA Array 68.47 304 *e*P **P** 05 44 50.9 -0.4
SEW Seward 68.50 28 *e*P **P** 05 44 50.6 -0.3
comp=Z,105nm,0.9s
SESP Santiago Espad 68.51 302 P **P** 05 44 52.0 +0.3
ESDC Sonseca Array 68.53 304 P **P** 05 44 51.8 +0.1
comp=Z,23nm,0.9s,baz=51,slow=6.3,SNR=86
ESDC LR LR 06 17 39.2
comp=Z,155nm,18.2s,baz=300,slow=38
ESLA Sonseca Array 68.53 304 *e*P **P** 05 44 51.2 -0.4
comp=Z,42nm,1.1s
KLU Klutina 68.70 25 *e*P **P** 05 44 52.3 -0.1
comp=Z,58nm,1.3s
DAWY Dawson 68.71 21 *e*P **P** 05 44 52.3 -0.1
comp=Z,54nm,1.1s
GLI Glacier Island 68.76 26 *e*P **P** 05 44 52.8 +0.2
comp=Z,50nm,1.0s
PAB San Pablo 68.84 304 *e*P **P** 05 44 53.7 0.0
comp=Z,32nm,1.0s
PAB San Pablo 68.84 304 *e*P **P** 05 44 53.7 0.0
PAB pmax pmax
comp=Z,32nm,1.0s
SFJD Kangerlussuaq 68.87 345 *i*P **P** 05 44 51.8 -1.4
comp=Z,59nm,1.1s
SFJD Kangerlussuaq 68.87 345 *i*P **P** 05 44 51.8 -1.4
SFJD pmax pmax
comp=Z,59nm,1.1s
PBRG Braganca 69.02 307 *e*P **P** 05 44 54.8 +0.2
comp=Z,31nm,1.7s
DIV Divide 69.02 26 *e*P **P** 05 44 54.4 +0.1
comp=Z,78nm,1.6s
OHAK Old Harbor 69.05 31 *e*P **P** 05 44 54.6 +0.2
comp=Z,52nm,1.0s
FID Port Fidalgo 69.06 26 *e*P **P** 05 44 54.9 +0.3
comp=Z,131nm,1.0s
RER Riviere de l'E 69.22 215 *e*P **P** 05 44 56.0 0.0
comp=Z,77nm,0.7s
EYAK Cordova Ski Ar 69.45 26 *e*P **P** 05 44 57.3 +0.4
comp=Z,99nm,1.4s
BMRM Bremner River 69.52 25 *e*P **P** 05 44 57.5 +0.1
comp=Z,57nm,1.1s
MVO Moncorvo 69.56 307 *e*P **P** 05 44 58.6 +0.5
comp=Z,50nm,1.2s
MVO Moncorvo 69.56 307 *e*LQ LQ 06 10 02.4
MVO *e*LR LR 06 14 49.2
comp=Z,302nm,15.7s
PGAV Gavieira, Arco 69.84 308 *e*P **P** 05 45 00.9 +1.1
comp=Z,46nm,1.4s
PCAB Cabril 69.85 308 *e*P **P** 05 45 00.8 +1.0
comp=Z,62nm,1.3s
RAGM Ragged Mountai 69.93 26 *e*P **P** 05 45 00.8 +0.8
comp=Z,86nm,0.9s
TGL Tana Glacier 70.25 25 *e*P **P** 05 45 02.5 +0.5
comp=Z,102nm,1.4s
MTE Manteigas 70.33 307 *e*P **P** 05 45 03.6 +0.8
comp=Z,67nm,1.6s
MTE Manteigas 70.33 307 *e*LQ LQ 06 10 37.5
MTE *e*LR LR 06 15 52.9
comp=Z,273nm,18.3s
MTE Manteigas 70.33 307 *e*P **P** 05 45 02.5 -0.3
comp=Z,31nm,1.0s
PVIS Viseu 70.36 307 *e*P **P** 05 45 03.4 +0.4
comp=Z,31nm,1.1s
HORN Hornachuelos 70.41 303 P **P** 05 45 03.5 +0.2
PCBR Castelo Branco 70.62 306 *e*P **P** 05 45 04.8 +0.3
comp=Z,21nm,1.7s
PMRV Marv??o 70.82 306 *e*P **P** 05 45 06.8 +1.1
comp=Z,54nm,1.3s
PCAS Casmilo, Conde 71.12 307 *e*P **P** 05 45 08.3 +0.7
comp=Z,97nm,1.6s
PESTR Estremoz 71.28 305 *e*P **P** 05 45 09.0 +0.5
comp=Z,32nm,1.2s
PESTR Estremoz 71.28 305 *e*P **P** 05 45 08.3 -0.2
comp=Z,13nm,1.0s
ABPO Ambohimpanom 71.46 223 *e*P **P** 05 45 09.5 -0.4
comp=Z,60nm,1.1s
ABPO Ambohimpanom 71.46 223 *e*P **P** 05 45 09.5 -0.4
ABPO pmax pmax
comp=Z,61nm,1.1s
TAM Tamanrasset 71.82 285 *e*P **P** 05 45 10.7 -1.5
comp=Z,12nm,0.8s
TAM Tamanrasset 71.82 285 *e*P **P** 05 45 10.7 -1.5
TAM pmax pmax
comp=Z,12nm,0.8s
HYT Haines Junctio 71.83 22 *e*P **P** 05 45 11.7 +0.1
comp=Z,40nm,1.1s
PBEJ Beja 71.96 305 *e*P **P** 05 45 13.9 +1.3
comp=Z,34nm,1.5s
PMG Port Moresby 72.07 120 *e*P **P** 05 45 12.9 -0.6
comp=Z,40nm,1.0s
PMG Port Moresby 72.07 120 *e*P **P** 05 45 12.9 -0.6
PMG pmax pmax
comp=Z,40nm,1.0s
PVAQ Vaqueiros 72.24 304 *e*P **P** 05 45 14.7 +0.4
comp=Z,52nm,1.3s
PVAQ Vaqueiros 72.24 304 *e*LQ LQ 06 13 51.9
PVAQ *e*LR LR 06 18 58.9
comp=Z,247nm,24.4s
PMAFR Mafra 72.27 306 *e*P **P** 05 45 15.5 +1.0
comp=Z,102nm,1.6s
MESJ Messejana 72.29 305 *e*P **P** 05 45 15.0 +0.4
MESJ AMS AMS 06 14 29.6
comp=N,356nm,20.4s
MESJ Messejana 72.29 305 *e*P **P** 05 45 15.0 +0.4
comp=N,43nm,1.4s
MESJ Messejana 72.29 305 *e*P **P** 05 45 15.0 +0.4
LIS Lisbon 72.34 306 *e*P **P** 05 45 15.3 +0.4
LIS AMS AMS 06 33 40.2
comp=N,771nm,14.5s
LIS Lisbon 72.34 306 *e*P **P** 05 45 15.2 +0.4
PBDV Barranco-do-Ve 72.47 304 *e*P **P** 05 45 14.8 -1.0
comp=N,81nm,1.4s
RSA Sarsar 72.56 301 P **P** 05 45 16.1 -0.2
WRAB Tennant Creek 72.66 137 *e*P **P** 05 45 16.3 -0.6
comp=N,41nm,1.0s
WRAB Tennant Creek 72.66 137*c i*P **P** 05 45 16.8 0.0
WRAB pmax pmax
comp=Z,28nm,1.0s
WR1 Warramunga Arr 72.66 137 *e*P **P** 05 45 16.8 -0.1
comp=Z,32nm,0.9s
WRA Warramunga Arr 72.66 137 P **P** 05 45 16.8 -0.1
comp=Z,16nm,0.8s,baz=336,slow=6.0,SNR=95
WRA PKPPKP **P'P'df** **06 12 58.9 +3.4**
comp=Z,1.3nm,1.0s,baz=132,slow=2.4,SNR=5.8
WB2 Warramunga Arr 72.66 137 *e*P **P** 05 45 16.1 -0.8
PTEO Sao Teotonio 72.79 305 *e*P **P** 05 45 18.0 +0.4
comp=Z,96nm,1.8s
MORF Marmelete 72.89 305 *e*P **P** 05 45 18.6 +0.3
MORF AMS AMS 06 14 35.6
comp=N,266nm,20.9s
MORF Marmelete 72.89 305 *e*P **P** 05 45 19.9 +1.6
comp=N,45nm,1.4s
MORF Marmelete 72.89 305 *e*P **P** 05 45 18.5 +0.3
COEN Coen 72.94 126 *e*P **P** 05 45 18.4 -0.2
comp=N,28nm,1.0s
PFVI Vila Bisbo 73.11 304 *e*P **P** 05 45 20.3 +0.8
comp=N,134nm,1.4s
SKAG Skagway 73.57 22 *e*P **P** 05 45 22.4 +0.6
comp=N,85nm,1.4s
YKW3 Yellowknife Ar 75.43 12 *e*P **P** 05 45 31.6 -0.9
comp=N,34nm,1.0s
YKA Yellowknife Ar 75.49 12 P **P** 05 45 32.1 -0.7
comp=N,7.4nm,0.7s,baz=332,slow=5.8,SNR=39
YKB5 Yellowknife Ar 75.49 12 *e*P **P** 05 45 32.0 -0.9
AS31 Alice Springs 75.53 139 *e*P **P** 05 45 32.8 -0.9
comp=N,4.9nm,0.8s
ASAR Alice Springs 75.53 139 P **P** 05 45 33.8 +0.1
comp=N,11nm,0.8s,baz=332,slow=5.9,SNR=105
ASAR PKPPKP **P'P'df** **06 12 54.1 +4.0**
comp=N,0.7nm,1.0s,baz=112,slow=3.0,SNR=4.2
AS01 Alice Springs 75.55 139 *e*P **P** 05 45 33.5 -0.3
DLBC Dease Lake 75.92 21 *e*P **P** 05 45 36.3 +0.8
comp=N,22nm,1.1s
NWAO Narrogin (SRO) 77.08 157 LR LR 06 25 35.9
comp=N,37nm,18.1s,baz=206,slow=40
NWAO Narrogin (SRO) 77.08 157 *e*P **P** 05 45 41.7 -0.4
comp=N,50nm,0.8s
NWAO Narrogin (SRO) 77.08 157 *e*P **P** 05 45 41.7 -0.4
NWAO pmax pmax
comp=Z,50nm,0.8s
CTAO Charters Tower 79.51 128 *e*P **P** 05 45 55.7 -0.2
comp=Z,28nm,1.1s
CTAO Charters Tower 79.51 128 *e*P **P** 05 45 55.7 -0.2
CTAO pmax pmax
comp=Z,28nm,1.1s
LSZ Lusaka 79.93 240 *e*P **P** 05 45 58.3 -0.2
comp=Z,72nm,0.9s
LSZ Lusaka 79.93 240 P **P** 05 45 58.8 +0.3
SNR=11
LSZ Lusaka 79.93 240 *e*P **P** 05 45 58.3 -0.2
LSZ pmax pmax
comp=Z,72nm,0.9s
TOA1 Torodi Ar. Sit 80.61 279 *e*P **P** 05 46 00.8 -1.3
TOA0 Torodi Ar. Sit 80.61 279 *e*P **P** 05 45 60.0 -2.2
TOA0 Torodi Ar. Sit 80.61 279 P **P** 05 46 01.8 -0.3
SNR=11
TORD Torodi Ar. Bea 80.61 279 P **P** 05 46 00.8 -1.3
comp=Z,12nm,0.7s,baz=30,slow=6.7,SNR=113
TORD LR LR 06 29 02.1
comp=Z,140nm,18.8s,baz=355,slow=41
SCHQ Schefferville 83.14 347 P **P** 05 46 14.1 -0.7
comp=Z,22nm,1.0s,baz=5.1,slow=3.5,SNR=7.1
SCHQ LR LR 06 26 34.4
comp=Z,341nm,19.9s,baz=70,slow=38
SCHQ Schefferville 83.14 347 *e*P **P** 05 46 13.8 -1.0
comp=Z,32nm,1.0s
BBOO Buckleboo 84.20 143 *e*P **P** 05 46 19.7 -0.7
comp=Z,39nm,1.1s
FFC Flin Flon 84.65 7 *e*P **P** 05 46 21.8 -0.7
comp=Z,94nm,1.0s
FFC Flin Flon 84.65 7 *e*P **P** 05 46 21.8 -0.7
FFC pmax pmax

comp=Z,94nm,1.0s
STKA Stephens Creek 86.13 138 P P 05 46 29.6 -0.5
comp=Z,6.5nm,0.7s,baz=345,slow=5.7,SNR=14
STKA Stephens Creek 86.13 138 eP P 05 46 29.4 -0.6
comp=Z,8.7nm,1.5s
STKA Stephens Creek 86.13 138 eP P 05 46 29.4 -0.6
STKA pmax pmax
comp=Z,9.0nm,1.5s
EIDS Eidsvold 86.40 128 eP P 05 46 31.3 -0.2
comp=Z,41nm,1.5s
A04D Lummi Island 86.56 21 P P 05 46 31.8 -0.2
baz=335
B06A Marblemount 87.07 21 eP P 05 46 34.3 -0.3
comp=Z,32nm,1.0s
B05A Bryant 87.14 21 P P 05 46 34.8 -0.1
baz=336
D03D Eldon 87.52 22 P P 05 46 36.4 -0.5
baz=335
C06D Leavenworth 87.78 20 P P 05 46 37.4 -0.7
baz=337
B08A Colville Reser 87.78 19 eP P 05 46 38.0 -0.1
comp=Z,41nm,1.0s
D05A Enumclaw 88.15 21 eP P 05 46 39.9 +0.1
comp=Z,66nm,1.1s
NEW Newport 88.41 18 eP P 05 46 41.1 0.0
comp=Z,41nm,1.2s
NEW Newport 88.41 18 eP P 05 46 41.1 0.0
NEW pmax pmax
comp=Z,41nm,1.2s
NEW Newport 88.41 18 P P 05 46 40.9 -0.2
baz=339,SNR=22
LTY Liberty 88.45 21 eP P 05 46 41.0 -0.3
comp=Z,24nm,1.0s
C09A Chrisman Ranch 88.56 19 eP P 05 46 41.4 -0.4
comp=Z,50nm,1.1s
E04D Cinebar 88.56 22 P P 05 46 41.2 -0.5
baz=336
LON Longmire 88.60 21 eP P 05 46 42.3 +0.2
comp=Z,18nm,0.9s
LBTB Lobatse 88.64 235 eP P 05 46 42.1 -0.4
comp=Z,144nm,1.1s
LBTB Lobatse 88.64 235 eP P 05 46 42.1 -0.4
LBTB pmax pmax
comp=Z,144nm,1.1s
CHGQ Chibougamau 89.06 350 P P 05 46 43.0 -1.1
baz=12
D08A Wollman Farm, 89.09 20 eP P 05 46 44.4 +0.2
comp=Z,26nm,1.1s
E07A Sunnyside 89.31 20 eP P 05 46 45.5 +0.1
comp=Z,40nm,1.0s
F05D White Salmon 89.49 22 P P 05 46 45.8 -0.4
baz=336
JTMT Jette 89.53 16 eP P 05 46 46.4 -0.1
comp=Z,95nm,1.1s
HAWA Hanford 89.55 20 eP P 05 46 46.7 +0.3
comp=Z,21nm,1.0s
ULM Lac du Bonnet 89.55 4 P P 05 46 44.6 -1.8
comp=Z,14nm,0.8s,baz=347,slow=4.9,SNR=18
ULM LR LR 06 28 47.5
comp=Z,172nm,18.6s,baz=342,slow=37
ULM Lac du Bonnet 89.55 4 eP P 05 46 44.6 -1.8
comp=Z,32nm,1.0s
ULM Lac du Bonnet 89.55 4 eP P 05 46 44.6 -1.8
ULM pmax pmax
comp=Z,32nm,1.0s
G03D McMinnville, O 89.58 23 P P 05 46 45.9 -0.6
baz=335
E08A Dider Farm, El 89.58 20 eP P 05 46 46.6 0.0
comp=Z,78nm,1.4s
MATQ Matagami 89.59 352 P P 05 46 45.3 -1.2
baz=9.1
DBIC Dimbokro 89.69 278 P P 05 46 47.2 -0.4
comp=Z,22nm,0.8s,baz=34,slow=5.4,SNR=21
DBIC LR LR 06 33 05.6
comp=Z,291nm,18.3s,baz=30,slow=40
DBIC Dimbokro 89.69 278 eP P 05 46 46.6 -1.0
comp=Z,28nm,0.9s
DBIC Dimbokro 89.69 278 eP P 05 46 46.6 -1.0
DBIC pmax pmax
comp=Z,28nm,0.9s
E09A Wood Farm, Sta 89.79 19 eP P 05 46 47.6 0.0
comp=Z,41nm,1.0s
KIC Kosan Boka 89.80 278 ePKP2 P 05 46 47.4 -0.7
comp=Z,93nm,1.1s
TIC Toumodi 89.83 279 ePKP2 P 05 46 47.4 -0.9
TSUM Tsumeb 89.86 245 eP P 05 46 47.5 -0.8
comp=Z,18nm,0.8s
F07A Phinny Hill Vi 89.90 21 eP P 05 46 48.7 +0.6
comp=Z,57nm,1.5s
LIC Lamto 90.11 278 ePKP2 P 05 46 48.5 -1.0
comp=Z,61nm,0.9s
COR Corvallis 90.14 23 eP P 05 46 49.8 +0.6
comp=Z,54nm,0.9s
COR Corvallis 90.14 23 eP P 05 46 49.8 +0.6
COR pmax pmax
comp=Z,55nm,0.9s
EGMT Eagleton 90.16 13 eP P 05 46 48.7 -0.6
comp=Z,51nm,1.3s
EGMT Eagleton 90.16 13 P P 05 46 48.3 -1.0
baz=345
LSQQ Lebel-sur-Quev 90.22 352 P P 05 46 48.2 -1.3
baz=9.6
G06A Carlson Farm, 90.32 21 eP P 05 46 50.3 +0.2
comp=Z,38nm,1.2s
H04A Detroit Lake 90.38 23 eP P 05 46 50.5 +0.1
comp=Z,34nm,1.1s
I02D Swisshome 90.40 24 P P 05 46 49.3 -1.2
baz=335
MSO Missoula 90.48 16 eP P 05 46 50.5 -0.4
comp=Z,45nm,1.3s
MSO Missoula 90.48 16 P P 05 46 50.4 -0.4
baz=342,SNR=12
F10A Beach Ranch, E 90.53 19 eP P 05 46 51.5 +0.4
comp=Z,58nm,1.1s
DGMT Dagmar 90.57 10 eP P 05 46 51.2 0.0
comp=Z,123nm,1.0s
DGMT Dagmar 90.57 10 P P 05 46 51.0 -0.1
baz=349
G08A Pilot Rock 90.72 20 eP P 05 46 51.9 -0.2
comp=Z,13nm,1.2s
I03D Drain, OR 90.92 24 P P 05 46 52.7 -0.2
baz=335
I05D Terrebonne, OR 90.94 22 P P 05 46 53.0 0.0
baz=336
HRY Holter Researc 91.03 15 eP P 05 46 53.0 -0.4
I04A Tendick Farm, 91.12 23 P P 05 46 52.8 -1.1
baz=336
VLDQ Val d'Or 91.20 352 eP P 05 46 53.4 -0.6
comp=Z,18nm,0.9s
J01E Myrtle Point 91.23 24 P P 05 46 53.0 -1.3
baz=335
LATQ La Tuque 91.31 349 P P 05 46 53.3 -1.3
baz=13
BOSA Boshof 91.44 233 P P 05 46 55.3 -0.2
comp=Z,29nm,1.0s,baz=26,slow=5.0,SNR=17
BOSA LR LR 06 26 02.5
comp=Z,88nm,21.4s,baz=25,slow=34
BOSA Boshof 91.44 233 eP P 05 46 55.0 -0.5
AGMN Agassiz Nation 91.50 4 eP P 05 46 54.5 -1.0
AGMN Agassiz Nation 91.50 4 P P 05 46 53.8 -1.7
baz=355
BMO Blue Mountains 91.55 19 eP P 05 46 54.8 -1.1
comp=Z,18nm,1.3s
BMO Blue Mountains 91.55 19 eP P 05 46 54.8 -1.1
BMO pmax pmax
comp=Z,18nm,1.3s
J04D Umpqua Nationa 91.72 23 P P 05 46 56.7 -0.2
baz=336
K02D Willamette Mer 91.73 24 P P 05 46 57.2 +0.5
baz=335
J05D Fort Rock, OR 91.94 23 P P 05 46 57.5 -0.3
baz=336
EYMN Ely 92.01 1 eP P 05 46 56.8 -1.1
comp=Z,61nm,1.3s
EYMN Ely 92.01 1 P P 05 46 56.7 -1.1
baz=359
LAO LASA Array 92.03 11 eP P 05 46 57.5 -0.5
comp=Z,75nm,1.3s
LAO LASA Array 92.03 11 P P 05 46 58.1 0.0
baz=347,SNR=14
HUMO Hull Mountain 92.03 24 eP P 05 46 58.3 +0.2
comp=Z,44nm,1.4s
D54A Lac Fusel, La 92.06 351 P P 05 46 57.3 -0.8
baz=9.9
BOZ Bozeman (W) 92.14 15 eP P 05 46 57.4 -1.3
comp=Z,41nm,1.4s
BOZ Bozeman (W) 92.14 15 eP P 05 46 57.4 -1.3
BOZ pmax pmax
comp=Z,41nm,1.4s
BOZ Bozeman (W) 92.14 15 P P 05 46 58.5 -0.2
baz=343,SNR=20
DLMT Dillon 92.16 16 eP P 05 46 57.7 -1.1
comp=Z,34nm,1.3s
L02E Cave Junction 92.24 25 P P 05 46 56.9 -2.1
baz=335
D53A Lac Vacive, Po 92.25 352 P P 05 46 58.1 -0.9
baz=9.1
GCMT Greycliff 92.33 14 eP P 05 46 59.4 -0.2
D50A G1974 Best Tow 92.37 353 P P 05 46 58.6 -0.9
baz=7.5
K04D Chiloquin, OR 92.39 23 P P 05 46 59.5 -0.3
baz=336
D49A Beulah Townshi 92.39 354 P P 05 46 58.6 -1.0
baz=6.3
D51A Lot 18 Range I 92.41 353 P P 05 46 58.7 -1.0
baz=7.8
D48A Paudash Townsh 92.52 355 P P 05 46 59.3 -0.9
baz=6.0
TOO Toolangi 92.58 139 P P 05 47 01.9 +1.5
L04D Klamath Falls 92.59 24 P P 05 47 00.8 0.0
baz=336
MCMT McKenzie Canyo 92.62 16 eP P 05 47 00.9 -0.2
J08A Circle Bar Ran 92.64 21 eP P 05 47 01.3 +0.3
comp=Z,16nm,1.0s
PKME Peaks-Kenny Pk 92.78 346 P P 05 47 01.2 -0.2
baz=15
E54A Lac Daplat, Po 92.83 351 P P 05 47 01.1 -0.6
baz=9.5
D41A Chassel 92.91 359 P P 05 47 01.4 -0.6
baz=0.8
QLMT Earthquake Lak 92.91 15 eP P 05 47 02.1 -0.3
E53A Dumoine, Ponti 92.94 352 P P 05 47 01.3 -0.8
baz=9.1
E51A G1948 Merrick 92.97 353 P P 05 47 01.2 -1.0
baz=7.7
YHB Horse Butte 93.03 15 eP P 05 47 02.8 -0.1
comp=Z,20nm,1.2s
RLMT Red Lodge 93.05 14 eP P 05 47 02.4 -0.5
comp=Z,22nm,1.1s
RLMT Red Lodge 93.05 14 P P 05 47 02.5 -0.5
baz=345,SNR=9.4
M04C Macdoel 93.13 24 P P 05 47 03.3 0.0
baz=336
YMR Madison River 93.16 15 eP P 05 47 03.7 +0.2
comp=Z,31nm,1.6s
E50A Wahnapitae 93.19 354 P P 05 47 02.5 -0.8
baz=6.8
MOQ Mont Orford 93.25 348 eP P 05 47 03.3 -0.4
ALFO Alfred 93.33 350 P P 05 47 02.9 -1.1
baz=11
E47A Iron Bridge 93.33 356 P P 05 47 02.7 -1.3
baz=4.8
E38A The Farm, Brul 93.35 1 P P 05 47 02.8 -1.2
baz=358
LKWY Lake 93.37 15 eP P 05 47 05.0 +0.5
comp=Z,32nm,0.9s
YFT Old Faithful 93.39 15 eP P 05 47 04.8 +0.1
comp=Z,13nm,1.1s
ALGO Algonquin Park 93.40 352 P P 05 47 03.2 -1.1
baz=8.8
WVOR Wild Horse Val 93.46 21 eP P 05 47 04.3 -0.5
comp=Z,14nm,0.9s
WVOR Wild Horse Val 93.46 21 eP P 05 47 04.3 -0.5
WVOR pmax pmax
comp=Z,14nm,0.9s
HLID Hailey 93.47 18 eP P 05 47 05.1 +0.2
comp=Z,7.4nm,1.2s
HLID Hailey 93.47 18 P P 05 47 04.4 -0.5
baz=341
MOD Modoc Plateau 93.48 22 eP P 05 47 05.1 +0.2
comp=Z,28nm,1.3s
E41A Kenton 93.51 360 P P 05 47 03.5 -1.3
baz=0.5
E45A Wooded Hills, 93.53 357 P P 05 47 03.9 -1.0
baz=3.4
E40A Wakefield 93.53 0 P P 05 47 04.1 -0.8
baz=360,SNR=7.9
E42A Champion 93.53 359 P P 05 47 03.8 -1.1
baz=1.3
E43A Lone Tree Farm 93.57 358 P P 05 47 03.8 -1.2
baz=2.0
YPP Pinstone Pla 93.57 15 eP P 05 47 05.7 +0.2
comp=Z,37nm,1.2s
PEMO Pembroke 93.58 351 P P 05 47 04.0 -1.1
baz=9.4
ORIO Orleans, Innes 93.59 350 P P 05 47 03.9 -1.3
baz=11
E39A Mellen 93.59 1 P P 05 47 04.0 -1.2
baz=359
N02D Trinity Center 93.59 24 P P 05 47 04.2 -1.2
baz=335
F51A Arnstein 93.61 353 P P 05 47 04.4 -0.8
baz=7.4
F52A Sundridge 93.68 353 P P 05 47 04.7 -0.9
baz=7.8
FLWY Flagg Ranch 93.78 15 eP P 05 47 04.9 -1.4
comp=Z,20nm,0.9s
F38A Pierce - Schro 93.99 2 P P 05 47 06.4 -0.6
baz=358,SNR=10.0
BUKO Buck Lake 94.04 353 P P 05 47 06.2 -1.0
baz=7.8
F39A Loretta 94.05 1 P P 05 47 06.5 -0.8
baz=359,SNR=9.0
F40A Park Falls 94.05 0 P P 05 47 06.0 -1.3
baz=360
DZM Mont Dzumac 94.06 116 eP P 05 47 01.3 -6.4
comp=Z,59nm,1.6s
DZM Mont Dzumac 94.06 116 eLR LR 06 17 27.7
comp=Z,268nm,24.2s
F43A Flat Rock, Esc 94.11 358 P P 05 47 06.2 -1.3
baz=1.9
FXWY Fox Creek 94.14 15 eP P 05 47 07.9 -0.2
comp=Z,28nm,1.4s
PLVO Plevna 94.19 351 eP P 05 47 07.2 -0.7
comp=Z,70nm,1.4s
PLVO Plevna 94.19 351 P P 05 47 07.1 -0.8
baz=9.6
KLBO Killbear Provi 94.20 353 P P 05 47 06.5 -1.5
baz=7.2
F37A Hinrichs Farm, 94.21 2 P P 05 47 07.1 -0.9
baz=358,SNR=7.3
F41A Three Lakes 94.23 360 eP P 05 47 07.3 -0.9
comp=Z,53nm,1.1s
F41A Three Lakes 94.23 360 P P 05 47 07.2 -0.9
baz=0.4
LBNH Lisbon 94.24 347 P P 05 47 06.9 -1.3
baz=13
LOHW Long Hollow 94.25 15 eP P 05 47 07.7 -0.9
comp=Z,18nm,1.5s
LONY Lake Ozonia 94.28 349 P P 05 47 07.4 -1.0
baz=11
O02D Mt. Diablo Mer 94.29 25 P P 05 47 07.8 -0.8
baz=335
TPAW Teton Pass 94.29 15 eP P 05 47 08.9 +0.1
comp=Z,15nm,1.3s
BANO Bancroft 94.31 352 P P 05 47 08.0 -0.5
baz=8.9
REDW Red Top Meadow 94.44 15 eP P 05 47 09.3 -0.2
comp=Z,14nm,1.4s
O03E Paynes Creek 94.50 24 P P 05 47 08.8 -0.7
baz=336
G39A Holcombe 94.68 1 P P 05 47 09.2 -1.0
baz=359
G43A Wallace 94.70 359 P P 05 47 09.2 -1.0
baz=1.5
SPMN Marine on St. 94.70 2 eP P 05 47 09.2 -1.1
comp=Z,40nm,1.3s
SPMN Marine on St. 94.70 2 P P 05 47 09.2 -1.1
baz=358
G40A Rib Lake 94.70 0 eP P 05 47 09.2 -1.1
comp=Z,63nm,1.3s
G40A Rib Lake 94.70 0 P P 05 47 09.2 -1.1
baz=360
G41A Antigo 94.76 360 P P 05 47 09.5 -1.1
baz=0.3
DELO Deloro Mine 94.77 351 P P 05 47 10.0 -0.6
baz=9.2
RSSD Black Hills 94.86 10 eP P 05 47 10.0 -1.3
comp=Z,25nm,0.9s
RSSD Black Hills 94.86 10 eP P 05 47 10.0 -1.3
RSSD pmax pmax
comp=Z,25nm,0.9s
RSSD Black Hills 94.86 10 P P 05 47 11.0 -0.3
baz=349
G45A Suttons Bay 94.86 357 P P 05 47 09.4 -1.6
baz=3.0
H52A Wyevale 94.88 353 P P 05 47 10.2 -0.9
baz=7.4
GLMI Grayling 95.03 356 P P 05 47 10.6 -1.2
baz=3.8
H48A Harrisville 95.08 355 P P 05 47 11.1 -1.0
baz=4.8
SUSD Miller 95.11 7 P P 05 47 11.4 -0.9
baz=353
H47A Mio 95.23 356 P P 05 47 11.9 -0.8
baz=4.2
H38A Maiden Rock 95.27 2 P P 05 47 12.1 -0.8
baz=358,SNR=5.5
BW06 Boulder Array 95.27 15 P P 05 47 12.1 -1.1
baz=345
PD31 Pinedale Array 95.27 15 eP P 05 47 12.5 -0.8
PDAR Pinedale Array 95.27 15 P P 05 47 12.0 -1.2
comp=Z,1.1nm,0.8s,baz=46,slow=3.9,SNR=9.4
PDAR PP PP 05 51 05.2 +3.1
comp=Z,0.5nm,0.8s,baz=0.0,slow=4.4,SNR=3.0
PDAR PKiKP PKiKP 05 51 54.2 +0.3
comp=Z,0.7nm,0.7s,baz=38,slow=3.4,SNR=3.7
PDAR Pinedale Array 95.27 15 eP P 05 47 11.8 -1.5
ORV Oroville 95.27 24 eP P 05 47 12.1 -0.9
comp=Z,7.8nm,1.1s
ORV Oroville 95.27 24 eP P 05 47 12.1 -0.9
ORV pmax pmax
comp=Z,8.0nm,1.1s
H39A Augusta 95.28 1 P P 05 47 12.0 -1.0
baz=359
BEKR Beckworth 95.33 23 eP P 05 47 09.4 -4.1
comp=Z,17nm,1.2s
H46A Fife Lake 95.34 357 P P 05 47 11.9 -1.3
baz=3.4
H40A Chili 95.35 1 P P 05 47 12.3 -1.0
baz=359
H41A Junction City 95.36 0 P P 05 47 12.1 -1.2
baz=360
H42A Shiocton 95.46 359 P P 05 47 12.7 -1.1
baz=0.8
PAHR Pah Rah Range 95.77 23 eP P 05 47 14.5 -1.0
comp=Z,9.6nm,1.3s
I47A Gladwin 95.83 356 P P 05 47 14.4 -1.0
baz=3.9
I41A Arkdale 95.91 0 eP P 05 47 15.0 -0.9
comp=Z,55nm,1.3s
I41A Arkdale 95.91 0 P P 05 47 13.9 -2.0
baz=360
K22A Casper 95.92 12 P P 05 47 14.8 -1.3
baz=347
I46A Reed City 95.95 357 P P 05 47 14.7 -1.3
baz=3.2
HWUT Hardware Ranch 95.97 16 eP P 05 47 16.0 -0.4
comp=Z,21nm,1.5s
AFDM Forest Hills D 95.99 24 eP P 05 47 16.4 +0.1
comp=Z,11nm,1.2s
ECSD EROS Data Cent 96.00 5 eP P 05 47 15.1 -1.2
comp=Z,40nm,1.1s
ECSD EROS Data Cent 96.00 5 P P 05 47 15.3 -1.0
baz=355,SNR=12
I40A Norwalk 96.08 1 P P 05 47 14.8 -1.8
baz=359
I43A Langenfeld Bro 96.08 359 P P 05 47 15.1 -1.5
baz=1.1
I42A Draeger Farm, 96.08 359 eP P 05 47 15.6 -1.0
comp=Z,62nm,1.3s
I42A Draeger Farm, 96.08 359 P P 05 47 14.7 -1.9
baz=0.6
I39A Houston 96.10 1 eP P 05 47 15.7 -1.0
comp=Z,44nm,1.0s
I39A Houston 96.10 1 P P 05 47 15.6 -1.0
baz=359,SNR=5.8
PNTR Pine Nut 96.28 23 eP P 05 47 17.0 -0.9
comp=Z,11nm,1.0s
TCUT Toone Canyon 96.47 16 eP P 05 47 18.4 -0.4
comp=Z,16nm,1.1s
J40A Soldiers Grove 96.57 1 P P 05 47 17.1 -1.8
baz=359
J43A Natural Harves 96.59 359 P P 05 47 17.6 -1.3
baz=0.9
J41A Loganville 96.61 0 P P 05 47 17.9 -1.1
baz=360
J39A Decorah 96.62 2 P P 05 47 17.9 -1.1
baz=358
J47A Sumner 96.62 356 P P 05 47 17.5 -1.5
baz=3.7
J42A Columbus 96.65 360 P P 05 47 17.7 -1.6
baz=0.4
KVN Kaiserville 96.75 22 eP P 05 47 19.5 -0.5
comp=Z,10nm,1.4s
KVN Kaiserville 96.75 22 eP P 05 47 19.5 -0.5
KVN pmax pmax
comp=Z,10.0nm,1.4s
CMB Columbia Colle 97.01 24 eP P 05 47 21.0 0.0
comp=Z,6.7nm,1.2s
K48A Perry 97.02 356 P P 05 47 19.8 -1.1
baz=4.2
DUG Dugway, Tooele 97.04 18 eP P 05 47 21.1 -0.1
comp=Z,8.3nm,1.2s
DUG Dugway, Tooele 97.04 18 P Pdif 05 47 23.0 +1.7
DUG pmax pmax
comp=Z,7.0nm,1.1s
DUG Dugway, Tooele 97.04 18 P P 05 47 20.0 -1.3
baz=342
JFWS Jewell Farm 97.06 0 eP P 05 47 20.3 -0.8
comp=Z,35nm,1.0s
JFWS Jewell Farm 97.06 0 eP P 05 47 20.3 -0.8
JFWS pmax pmax
comp=Z,35nm,1.0s
JFWS Jewell Farm 97.06 0 P P 05 47 19.6 -1.5
baz=360
K47A Vermontville 97.20 357 P P 05 47 20.5 -1.2
baz=3.6
K39A Oelwein 97.24 2 P P 05 47 20.0 -1.9
baz=358
K43A Burlington 97.26 359 P P 05 47 20.6 -1.4
baz=1.0
NV01 Mina Array Sit 97.27 22 eP P 05 47 22.0 -0.4
NVAR Mina Array Bea 97.27 22 P Pdif 05 47 23.1 +0.6
comp=Z,1.6nm,0.9s,baz=286,slow=4.4,SNR=8.5
NVAR PKiKP PKiKP 05 51 57.9 +0.3
comp=Z,0.9nm,0.7s,baz=256,slow=1.9,SNR=3.5
NVAR PKKP PKKPdf 06 04 00.9 +0.5
comp=Z,0.5nm,0.7s,baz=174,slow=5.3,SNR=3.7
NVAR LR LR 06 34 42.4
comp=Z,185nm,20.5s,baz=342,slow=38
NV11 Mina Array Sit 97.31 22 eP P 05 47 22.2 -0.3
comp=Z,0.8nm,1.3s
K41A Shullsburg 97.36 1 P P 05 47 21.3 -1.1
baz=360
PHWY Pilot Hill 97.41 12 eP Pdif 05 47 23.2 +0.1
comp=Z,14nm,1.1s
N23A Red Feather La 97.73 12 P P 05 47 22.7 -1.7
baz=348
L43A Garden Prairie 97.79 359 P P 05 47 24.1 -0.3
baz=0.7
L39A Vinton 97.82 2 P P 05 47 23.1 -1.4
baz=358
L41A Preston 97.89 1 P P 05 47 22.8 -2.0
baz=359
L48A N Adams 97.89 356 P P 05 47 23.2 -1.6
baz=4.0
L40A Anamosa 97.90 1 P P 05 47 23.2 -1.6
baz=359
L47A Sherwood 97.90 357 P P 05 47 23.5 -1.4
baz=3.4
L42A Oliver, Polo 97.97 0 P P 05 47 23.8 -1.4
baz=360
O20A White River Ci 98.06 14 P P 05 47 25.3 -0.5
baz=346
R11A Troy Canyon, C 98.10 20 eP P 05 47 25.9 -0.2
comp=Z,6.1nm,1.4s
R11A Troy Canyon, C 98.10 20 P P 05 47 25.4 -0.7
baz=340
BGNE Belgrade 98.20 6 eP P 05 47 25.6 -0.7
comp=Z,32nm,1.0s
BGNE Belgrade 98.20 6 P P 05 47 25.0 -1.2
baz=354
M49A Liberty Center 98.34 356 P P 05 47 25.6 -1.2
baz=4.4
M39A Webster 98.46 2 P P 05 47 26.6 -0.7
baz=358
M42A Sheffield 98.52 0 P P 05 47 26.2 -1.4
baz=360
M47A Cromwell 98.53 357 P P 05 47 26.3 -1.4
baz=3.1
M43A Waltham Townsh 98.53 359 P P 05 47 26.5 -1.2
baz=0.5
N54A Moraine State 98.54 353 P P 05 47 25.9 -1.9

baz=7.4
M41A Milan 98.59 1 P **P** 05 47 26.3 -1.6
baz=359
SSPA Standing Stone 98.63 351 P **P** 05 47 26.5 -1.6
baz=9.0
N51A Ashland 98.78 354 P **P** 05 47 27.0 -1.9
baz=5.6
ISCO Idaho Springs 98.85 12 P **P** 05 47 27.5 -2.0
baz=348
GRAC Grapevine Rang 98.87 22 P **P** 05 47 28.2 -1.2
baz=339
N49A Columbus Grove 98.90 356 *e*P **P** 05 47 28.4 -0.9
comp=Z,27nm,1.0s
N49A Columbus Grove 98.90 356 P **P** 05 47 28.1 -1.2
baz=4.2
N50A Nevada 98.99 355 P **P** 05 47 28.8 -1.0
baz=5.0
N48A Decatur 99.00 356 P **Pdif** 05 47 28.8 -1.0
baz=3.5
N47A Urbana 99.01 357 P **Pdif** 05 47 28.7 -1.2
baz=3.0
N43A Stutzman Famil 99.03 360 P **Pdif** 05 47 29.0 -1.0
baz=0.4
N46A Monticello 99.03 358 P **Pdif** 05 47 28.1 -1.9
baz=2.2
N39A Derby Farms, D 99.05 2 P **Pdif** 05 47 28.6 -1.4
baz=358
N45A Kentland 99.10 358 P **Pdif** 05 47 28.6 -1.7
baz=1.6
N42A Yates City 99.14 0 P **Pdif** 05 47 29.2 -1.2
baz=360
N44A Piper City 99.17 359 P **Pdif** 05 47 28.9 -1.7
baz=1.2
N41A Harden Midland 99.26 1 *e*P **Pdif** 05 47 29.0 -2.0
comp=Z,26nm,1.0s
N41A Harden Midland 99.26 1 P **Pdif** 05 47 29.7 -1.2
baz=359
DAC Darwin (Calif) 99.47 23 *e*P **Pdif** 05 47 31.1 -1.2
comp=Z,5.3nm,1.2s
DAC Darwin (Calif) 99.47 23 *e*P **Pdif** 05 47 31.1 -1.2
DAC pmax pmax
comp=Z,5.0nm,1.2s
O52A Adamsville 99.54 354 P **Pdif** 05 47 30.8 -1.5
baz=6.0
SFIN Lafayette 99.56 358 P **Pdif** 05 47 31.3 -1.0
baz=2.0
O51A Pataskala 99.57 355 P **Pdif** 05 47 30.9 -1.5
baz=5.4
O48A Farmland 99.61 357 P **Pdif** 05 47 30.9 -1.7
baz=3.5
O50A Cable 99.64 355 P **Pdif** 05 47 31.0 -1.7
baz=4.6
O49A Covington 99.64 356 *e*Pdif **Pdif** 05 47 31.4 -1.3
comp=Z,36nm,1.1s
O49A Covington 99.64 356 P **Pdif** 05 47 31.2 -1.5
baz=4.1
O47A Sheridan 99.67 357 P **Pdif** 05 47 30.9 -1.9
baz=2.7
O43A Sugar Creek Fa 99.69 360 P **Pdif** 05 47 31.2 -1.7
baz=0.3
O45A Potomac 99.70 359 P **Pdif** 05 47 31.5 -1.5
baz=1.5
MPMC Manual Prospec 99.71 23 P **Pdif** 05 47 32.8 -0.6
baz=339
O42A Bath 99.78 0 P **Pdif** 05 47 32.9 -0.3
baz=360
O41A Passleys Farm, 99.85 1 P **Pdif** 05 47 32.8 -0.8
baz=359
P52A Corning 100.04 354 P **Pdif** 05 47 33.5 -1.0
baz=5.8
PKM Mcpherson Peak 100.08 25 P **Pdif** 05 47 33.5 -1.4
baz=337
P53A Whipple 100.13 354 P **Pdif** 05 47 33.6 -1.2
baz=6.4
P50A Jamestown 100.18 355 P **Pdif** 05 47 34.5 -0.6
baz=4.5
LRMC Laurel Mtn Rad 100.19 23 P **Pdif** 05 47 34.2 -1.2
baz=339
P49A Miami Univ. Ec 100.31 356 P **Pdif** 05 47 33.5 -2.1
baz=3.8
P43A Skaggs, Pawnee 100.33 360 P **Pdif** 05 47 34.3 -1.5
baz=0.1
P42A Winchester 100.38 1 P **Pdif** 05 47 34.7 -1.2
baz=360
P48A Milroy 100.42 357 P **Pdif** 05 47 35.3 -0.8
baz=3.3
P45A Graceland, Par 100.42 359 P **Pdif** 05 47 35.1 -1.0
baz=1.5
P47A Martinsville 100.42 357 P **Pdif** 05 47 35.4 -0.8
baz=2.6
P44A Sand Creek, Wi 100.50 359 P **Pdif** 05 47 35.9 -0.6
baz=0.8
KSU1 Kansas State U 100.61 6 P **Pdif** 05 47 36.0 -1.1
baz=355
CBKS Cedar Bluff 100.61 8 P **Pdif** 05 47 36.7 -0.4
baz=352
S22A 4UR Ranch, Cre 100.64 14 P **Pdif** 05 47 36.5 -1.1
baz=347
EDW2 Edwards Air Fo 100.65 23 P **Pdif** 05 47 36.0 -1.4
baz=338
TUQ Turquoise Moun 100.74 22 P **Pdif** 05 47 36.5 -1.4
baz=340
Q49A Aurora 100.85 356 P **Pdif** 05 47 36.6 -1.5
baz=3.7
SDCO Great Sand Dun 100.87 13 *e*Pdif **Pdif** 05 47 37.9 -0.7
SDCO Great Sand Dun 100.87 13 P **Pdif** 05 47 37.8 -0.7
baz=348
Q50A Georgetown 100.96 356 P **Pdif** 05 47 36.6 -1.9
baz=4.4
Q48A North Vernon 100.96 357 P **Pdif** 05 47 37.5 -1.0
baz=3.0
Q47A Bedord North L 100.98 357 P **Pdif** 05 47 37.6 -1.1
baz=2.5
Q41A Truxton 101.00 1 P **Pdif** 05 47 37.8 -0.9
baz=359
Q43A New Douglas 101.03 0 P **Pdif** 05 47 37.9 -1.0
baz=360
Q42A Golden Eagle 101.05 1 P **Pdif** 05 47 38.2 -0.8
baz=359
HEC Hector,Ludlow 101.19 22 P **Pdif** 05 47 39.2 -0.6
baz=340
R58B Mineral 101.27 351 P **Pdif** 05 47 37.8 -2.1
baz=9.1
T25A Trinidad 101.64 12 P **Pdif** 05 47 39.1 -2.9
baz=349
R45A Skylar, Fairfi 101.67 359 P **Pdif** 05 47 40.8 -0.9
baz=1.1
SNCC San Nicolas Is 101.68 25 P **Pdif** 05 47 40.0 -1.9
baz=337
WCI Wyandotte Cave 101.68 357 P **Pdif** 05 47 40.3 -1.5
baz=2.6
S51A Beattyville 102.13 355 P **Pdif** 05 47 42.7 -1.1
baz=4.7
S42A Caledonia 102.19 1 P **Pdif** 05 47 43.0 -1.1
baz=359
S48A Wiedeman Farm, 102.24 357 P **Pdif** 05 47 43.2 -1.1
baz=2.8
S45A Carrier Mills 102.28 359 P **Pdif** 05 47 44.1 -0.4
baz=0.8
PFO Pinyon Flats O 102.29 23 P **Pdif** 05 47 43.1 -1.6
baz=339
S47A Hartford 102.33 358 P **Pdif** 05 47 43.6 -1.1
baz=2.1
S41A Jillco Farms, 102.36 2 P **Pdif** 05 47 43.7 -1.1
baz=358
T48A Bowling Green 102.80 357 P **Pdif** 05 47 45.3 -1.5
baz=2.5
MONP2 Monument Peak 102.97 23 P **Pdif** 05 47 46.6 -1.3
baz=339
U50A Jamestown 103.42 356 P **Pdif** 05 47 48.7 -0.9
baz=3.8
U47A Clarksville 103.49 358 P **Pdif** 05 47 48.8 -1.1
baz=1.8
U40A Yellville 103.55 3 P **Pdif** 05 47 48.8 -1.4
baz=358
WVT Waverly 103.82 358 P **Pdif** 05 47 50.2 -1.1
baz=1.4
V47A Nunnelly 104.11 358 P **Pdif** 05 47 51.8 -0.9
baz=1.7
WMOK Wichita Mounta 104.75 8 P **Pdif** 05 47 54.4 -1.2
baz=353
W49A Belvidere 104.78 357 P **Pdif** 05 47 53.8 -1.8
baz=2.7
Y52A Lilburn 105.92 355 P **PKiKP** 05 52 11.7 -1.3
baz=4.4
Y47A UCPARC, Winfie 106.04 358 P **PKiKP** 05 52 12.6 -0.7
baz=1.4
Z54A Sparta 106.45 354 P **PKiKP** 05 52 13.8 -0.2
baz=5.4
MNTX Cornudas Mount 106.79 14 P **PKiKP** 05 52 13.8 -1.0
baz=348
150A Eclectic 107.27 357 P **PKiKP** 05 52 15.1 -0.5
baz=2.9
254A Abbeville 107.77 354 P **PKiKP** 05 52 15.2 -1.4
baz=5.1
252A Lumpkin 107.82 356 P **PKiKP** 05 52 15.5 -1.1
baz=3.9
349A Repton 108.57 358 P **PKiKP** 05 52 15.7 -0.5
baz=2.0
351A Pinckard 108.58 356 P **PKiKP** 05 52 18.0 0.0
baz=3.2
435B Jarrell 108.78 7 P **PKiKP** 05 52 17.7 -0.7
baz=354
JCT Junction City 108.84 9 P **PKiKP** 05 52 17.9 -0.8
baz=352
LTX Lajitas 109.40 13 *e*PKiKP **PKiKP** 05 52 19.2 -0.6
LTX *e*PKKPbc **PKKPbc** 06 03 24.9 +0.8
TXAR Lajitas Array 109.40 13 PKiKP **PKiKP** 05 52 19.2 -0.6
comp=Z,1.4nm,0.9s,baz=19,slow=1.8,SNR=7.0
TXAR PP **PP** 05 52 55.1 +6.9
comp=Z,2.2nm,1.0s,baz=1.9,slow=3.8,SNR=5.7
TXAR PKKPbc **PKKPbc** 06 03 24.9 +0.8
comp=Z,0.6nm,0.7s,baz=169,slow=8.2,SNR=5.8
TXAR PKKP **PKKPdf** 06 03 36.2 -2.0
comp=Z,2.0nm,0.8s,baz=152,slow=5.5,SNR=3.6
TXAR PKKPab **PKKPab** 06 03 40.9 +0.7
comp=Z,1.4nm,0.8s,baz=181,slow=6.4,SNR=7.6
TXAR PKPPKP P'P'df 06 11 48.2 -9.4
comp=Z,0.5nm,0.9s,baz=172,slow=4.7,SNR=3.6
554A Perry 109.65 355 P **PKiKP** 05 52 20.2 +0.2
baz=4.8
MAW Mawson 109.69 191 PKiKP **PKiKP** 05 52 19.2 +0.4
comp=Z,4.3nm,0.9s,baz=17,slow=14,SNR=3.2
MAW Mawson 109.69 191 *e*PKiKP **PKiKP** 05 52 17.8 -0.9
060A Indiatown 112.35 351 P **PKiKP** 05 52 25.2 -0.1
baz=7.6
059Z Ave Maria 113.16 352 P **PKiKP** 05 52 24.9 -1.9
baz=6.8
061Z Ochoppi 113.57 351 P **PKiKP** 05 52 26.2 -1.5
baz=7.2
SYO Syowa Base 115.36 198 *e*PKPdf **PKPdf** 05 52 29.0 -0.5
PPT Papeete 123.95 85 PKP **PKPdf** 05 52 48.8 +1.1
comp=Z,17nm,0.9s,baz=86,slow=5.3,SNR=2.8
PPT2 Papeete2 123.97 85 *e*LR LR 06 31 24.2
comp=Z,184nm,25.0s
PPT2 Papeete2 123.97 85 *e*LR LR 05 52 15.0
comp=Z,66nm,27.0s
VNDA Vanda 125.27 165 PKP **PKPdf** 05 52 47.9 -0.6
comp=Z,3.6nm,0.8s,baz=299,slow=4.6,SNR=20
VNDA Vanda 125.27 165 *e*PKPdf **PKPdf** 05 52 47.6 -0.8
VNDA Vanda 125.27 165 *e*PKIKP **PKPdf** 05 52 47.6 -0.8
TAOE Nuku Hiva Isla 125.35 69 *e*LR LR 06 32 05.0
comp=Z,145nm,23.4s
TGUH Tegucigalpa,Un 125.77 357 *e*PKPdf **PKPdf** 05 52 50.8 -0.5
TBI Tubuai 127.38 90 *e*LR LR 06 32 56.2
comp=Z,184nm,26.2s
SDV Santo Domingo 127.91 336 *e*PKPdf **PKPdf** 05 52 55.0 -0.6
SNAA Sanae 128.76 204 PKP **PKPdf** 05 52 55.5 +0.2
SNAA Sanae 128.76 204 *e*PKPdf **PKPdf** 05 52 55.5 +0.2
SNAA Sanae 128.76 204 *e*PKIKP **PKPdf** 05 52 55.5 +0.2
SMLC San Mart˜n de 128.97 340 *e*P **PKPdf** 05 52 56.8 -0.7
OCAC Ocana 129.31 339 *e*P **PKPdf** 05 52 58.1 -0.2
VNA2 Neumayer--Watz 130.07 205 PKP **PKPdf** 05 52 57.9 +0.2
QSPA South Pole Qui 130.18 180 *e*PKPdf **PKPdf** 05 52 57.5 -0.7
VNA1 Neumayer--Stat 130.31 206 PKP **PKPdf** 05 52 58.3 +0.1
GIRC Giron, Santand 130.38 338 *e*P **PKPdf** 05 52 59.6 -0.7
BARC Barichara 130.84 338 *e*P **PKPdf** 05 52 59.4 -1.9
VNA3 Neumayer Olymp 130.85 205 PKP **PKPdf** 05 52 59.4 +0.1
DBBC Dabeiba 131.22 342 *e*P **PKPdf** 05 53 01.4 -0.4
PTBC PUERTO BERRIO 131.24 340 *e*P **PKPdf** 05 53 00.8 -1.0
RUSC La Rusia 131.48 338 *e*P **PKPdf** 05 53 02.1 -0.8
HELC Santa Helena 131.85 341 *e*P **PKPdf** 05 53 04.7 +1.3
PTGA Pitinga 132.19 318 *e*PKPdf **PKPdf** 05 53 03.3 -0.3
NORC Norcasia 132.28 340 *e*P **PKPdf** 05 53 02.7 -1.1
ROSC El Rosal 132.83 339 PKP **PKPdf** 05 53 05.7 +0.4
comp=Z,9.4nm,0.6s,baz=0.0,slow=1.0,SNR=14
ROSC El Rosal 132.83 339 *e*PKPdf **PKPdf** 05 53 04.9 -0.4
CHIC Chingaza 132.86 338 *e*P **PKPdf** 05 53 03.4 -2.0
VILC Villavicencio, 133.34 338 *e*P **PKPdf** 05 53 04.1 -1.9
YOTC Yotoco, Valle 134.17 341 *e*P **PKPdf** 05 53 04.8 -2.7
MARP Paez Belalcaza 135.17 340 *e*P **PKPdf** 05 53 09.4 -0.2
PCON Cinco Dias 135.78 341 *e*P **PKPdf** 05 53 10.7 -0.3
SOTA Rioblanco 136.02 341 *e*P **PKPdf** 05 53 11.4 0.0
OTAV Otavalo 138.28 343 *e*PKPdf **PKPdf** 05 53 15.7 +0.2
OTAV Otavalo 138.28 343 *e*PKIKP **PKPdf** 05 53 15.7 +0.2
NNA Nana 149.53 335 *e*PKPbc **PKPbc** 05 53 38.9 -0.1
LPAZ La Paz 149.57 316 PKP **PKPdf** 05 53 35.2 0.0
comp=Z,14nm,0.9s,baz=31,slow=2.8,SNR=34
LPAZ PKPbc **pPKPdf** 05 53 38.8 -0.3
comp=Z,14nm,0.9s,baz=8.6,slow=5.0,SNR=23
LPAZ La Paz 149.57 316 *e*PKPdf **PKPdf** 05 53 34.0 -1.1
CPUP Villa Florida 149.78 288 PKP **PKPdf** 05 53 34.1 -0.3
comp=Z,63nm,0.9s,baz=39,slow=2.8,SNR=17
CPUP PKPbc **pPKPdf** 05 53 38.2 -0.1
comp=Z,73nm,1.0s,baz=52,slow=2.3,SNR=54
CPUP Villa Florida 149.78 288 *e*PKPdf **PKPdf** 05 53 34.4 -0.1
CPUP *e*PKPbc **PKPbc** 05 53 39.0 -0.2
MNMC Minye Minye 152.70 315 *e*PKPdf **PKPdf** 05 53 39.1 -0.3
MNMC *e*PKPbc **PKiKP** 05 53 47.2 +0.4
MNMC *e*PKPab **PKPab** 05 53 55.7 -1.5
GO01 Chusmiza 152.91 314 *e*PKPdf **PKPdf** 05 53 39.8 -0.2
GO01 *e*PKPbc **PKPbc** 05 53 47.1 -0.2
GO01 *e*PKPab **PKPab** 05 53 58.2 -0.1
PB11 IPOC Station P 153.24 314 *e*PKPdf **PKPdf** 05 53 40.2 +0.1
PB11 *e*PKPbc **PKPbc** 05 53 47.1 -0.5
PB01 IPOC Station P 154.18 312 *e*PKPdf **PKPdf** 05 53 41.6 +0.3
PB01 *e*PKPbc **PKPbc** 05 53 49.5 0.0
LVC Limon Verde 155.07 309 *e*PKPdf **PKPdf** 05 53 43.1 +0.2
LVC *e*PKPbc pPKPbc 05 53 52.7 -2.9
LVC *e*PKPab **PKPab** 05 54 07.5 +0.3
LVC Limon Verde 155.07 309 *e*PKIKP **PKPdf** 05 53 43.1 +0.2
LVC *e* 05 53 52.7
TRQA Tornquist 158.49 267 *e*PKPdf **PKPdf** 05 53 47.1 +0.7
TRQA *e*PKPab **PKPab** 05 54 20.8 -0.5
TRQA Tornquist 158.49 267 *e*PKIKP **PKPdf** 05 53 47.1 +0.7
TRQA *e* 05 54 20.8
LCO Las Campanas 160.77 300 *e*PKPdf **PKPdf** 05 53 48.5 -1.1
LCO Las Campanas 160.77 300 *e*PKIKP **PKPdf** 05 53 48.5 -1.1
PLCA Paso Flores 165.49 263 PKP **PKPdf** 05 53 53.9 +0.4
comp=Z,8.6nm,0.9s,baz=183,slow=1.5,SNR=19
PLCA PKPab **PKPab** 05 54 51.7 -0.3
comp=Z,8.9nm,1.0s,baz=114,slow=6.2,SNR=7.2
PLCA Paso Flores 165.49 263 *e*PKPdf **PKPdf** 05 53 53.3 -0.2
PLCA *e*PKPab **PKPab** 05 54 52.2 +0.2
PLCA Paso Flores 165.49 263 *e*PKIKP **PKPdf** 05 53 53.3 -0.2
GO06 Curarrehue 166.05 268 *e*PKPdf **PKPdf** 05 53 53.8 -0.3
GO06 *e*PKPab **PKPab** 05 54 54.4 -0.2

IDC 26 05:42:24.9±1.9, 14°69S×173°34W, h0km, mb3.8/3, mb1 4.2/3, mb1mx3.8/35, mbtmp3.8/3, MS3.6/2, Ms1 3.6/2, ms1mx3.0/29, Error ellipse: s-maj=112.0km s-min=19.1km az=154.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.70**	**63**	Pn	Pn	05 42 56.3	+0.4
	15nm,0.3s,baz=192,slow=3.5,SNR=20						
AFI				Sn	Sn	05 43 18.5	0.0
	56nm,0.3s,baz=162,slow=21,SNR=13						
PPT	**Papeete**	**23.01**	**100**	LR	LR	05 55 18.9	
	comp=Z,27nm,18.2s,baz=226,slow=34						
WRA	**Warramunga Arr**	**50.06**	**256**	P	P	05 51 22.5	+0.5
	0.5nm,0.6s,baz=92,slow=6.7,SNR=5.2						
ASAR	**Alice Springs**	**50.39**	**251**	P	P	05 51 23.8	-0.6
	2.5nm,0.8s,baz=84,slow=8.9,SNR=15						
ILAR	**Eielson Array**	**81.74**	**11**	P	P	05 54 45.0	0.0
	0.4nm,0.7s,baz=212,slow=5.7,SNR=5.7						
MAW	**Mawson**	**88.48**	**199**	LR	LR	06 32 52.8	
	comp=Z,131nm,20.3s,baz=28,slow=34						

*NIED **26** 05:49:00, 33˚50N×141˚80E, h5km, Mw4.5 Best double couple: M₀5.34000×10¹⁵ NP1:φ=349.00000°, δ28.00000°, λ83.00000°. NP2:φ=177.00000°, δ62.00000°, λ93.00000°.*
*BJI **26** 05:49:08.6, 33˚10N×142˚22E, h12km, mb4.6/29, mB5.0/14, Ms4.4/9, Ms7 4.2/9*
*IDC **26** 05:49:11.4±0.6, 33˚26N×141˚96E, h0km, mb4.0/17, mb1 4.3/18, mb1mx4.1/54, mbtmp4.0/18, ML3.8/1, MS3.7/7, Ms1 3.7/7, ms1mx3.3/37, Error ellipse: s-maj=16.4km s-min=15.1km az=115.0*

*JMA **26** 05:49:13.3±0.3, 33˚49N×141˚78E, h4km, M4.1*
*NEIC **26** 05:49:13.1±0.1, 33˚26N×141˚91E, h10km, mb4.5/40, Error ellipse: s-maj=3.7km s-min=3.2km az=140.0*
*ISCJB **26** 05:49:14.9±0.2, 33˚27N±0˚03×141˚84E±0˚03, h34km, mb4.4/61, MS3.8/7, Error ellipse: s-maj=4.8km s-min=3.6km az=29.4*

ISC 26 05:49:16.3±0.5, 33°27N±0°05×141°88E±0°05, h34km, n113, σ1°39/117, mb4.4/61, MS3.7/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.57**	**332**	P	**Pn**	**05 49 38.3**	**-3.0**
JHJ2	**Mitsune**	**1.74**	**265**	*e*Pn	**Pn**	**05 49 43.9**	**-0.2**
JHJ2				*e*Sn	**Sn**	**05 50 05.3**	**+0.2**
JHJ2	**Mitsune**	**1.74**	**265**	P	**Pn**	**05 49 43.7**	**-0.4**
JHJ2				*e*S	**Sn**	**05 50 06.0**	**+0.9**
BSO3	**Boso 3**	**1.90**	**324**	P	**Pn**	**05 49 44.0**	**-2.1**
JAOM	**Aogashimamukai**	**1.96**	**246**	*e*S	**Sb**	**05 50 12.4**	**-3.0**
JMKN	**Mikurajimanish**	**2.01**	**289**	*e*S	**Sn**	**05 50 11.2**	**-0.6**
BSO4	**Boso 4**	**2.14**	**324**	P	**Pn**	**05 49 47.6**	**-1.9**
JOD2	**Odawara 2**	**3.05**	**311**	P	**Pn**	**05 50 00.2**	**-1.9**
TK02	**Tokai 2**	**3.50**	**282**	P	**Pn**	**05 50 09.1**	**+0.9**
JYN	**Shimob**	**3.54**	**310**	*e*S	**Sn**	**05 50 48.2**	**-1.5**
JRY	**Ryogami san**	**3.68**	**319**	P	**Pn**	**05 50 09.1**	**-1.7**
JRY				*e*S	**Sn**	**05 50 52.5**	**-0.5**
MJAR	**Matsushiro Arr**	**4.44**	**318**	Pn	**Pn**	**05 50 20.1**	**-1.2**
	4.8nm,0.3s,baz=149,slow=11,SNR=20						
MJAR				Sn	**Sn**	**05 51 12.1**	**+0.3**
	4.6nm,0.3s,baz=97,slow=13,SNR=6.0						
MJAR				LR	LR	05 52 14.8	
	comp=Z,658nm,20.2s,baz=125,slow=41						
MAJO	**Matsushiro**	**4.44**	**318**	*e*Pn	**Pn**	**05 50 21.2**	**-0.2**
MAJO				*e*Sn	**Sn**	**05 51 06.7**	**-5.2**
MAT	**Matsushiro**	**4.44**	**318**	P	**Pn**	**05 50 20.4**	**-0.9**
MAT				S	**Sn**	**05 51 05.4**	**-6.5**
MJB9	**Matsu-Tunnel**	**4.45**	**318**	*e*Pn	**Pn**	**05 50 21.2**	**-0.2**
MJB9				*e*Sn	**Sn**	**05 51 12.8**	**+0.8**
INU	**Inuyama**	**4.53**	**299**	*e*Pn	**Pn**	**05 50 21.0**	**-1.4**
CBIJ	**Chichi jima**	**6.16**	**177**	*e*Pn	**Pn**	**05 50 44.1**	**-0.9**
CBIJ				*e*Sn	**Sn**	**05 51 51.1**	**-3.1**
ERM	**Erimo**	**8.79**	**6**	*e*Pn	**Pn**	**05 51 20.0**	**-0.9**
JNU	**Nakatsue**	**9.22**	**272**	LR	LR	05 54 35.8	
	comp=Z,669nm,21.6s,baz=298,slow=35						
JNU	**Nakatsue**	**9.22**	**272**	*e*Pn	**Pn**	**05 51 25.8**	**-1.1**
ASAJ	**Asahikawa**	**10.84**	**3**	*e*Pn	**Pn**	**05 51 47.8**	**-1.3**
KSRS	**Korea Array**	**12.13**	**294**	Pn	**P**	**05 52 14.9**	**-4.0**
	0.1nm,0.3s,baz=101,slow=14,SNR=3.3						
MDJ	**Mudanjiang**	**14.80**	**323**	P	**Pn**	**05 52 45.5**	**+2.4**
MDJ				pmax	pmax		
	comp=Z,28nm,1.5s						
CN2	**Changchun**	**16.58**	**314**	*e*P	**P**	**05 53 07.5**	**-0.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NJ2	**Nanjing**	**19.42**	**273**	*e*P	**Pn**	**05 53 41.0**	**0.0**
NJ2				pmax	pmax		
	comp=Z,13nm,0.9s						
GUMO	**Guam**	**19.78**	**171**	*e*P	**P**	**05 53 43.0**	**-0.7**
NACB	**Ninganchiao**	**19.94**	**248**	*e*P	**P**	**05 53 45.3**	**-0.1**
	27nm,1.0s						
YULB	**Yu-li**	**20.59**	**247**	*e*P	**P**	**05 53 53.6**	**+1.1**
	18nm,1.0s						
HHC	**Hu-ho-hao-te**	**25.26**	**296**	*e*P	**P**	**05 54 41.5**	**+2.1**
HHC				pmax	pmax		
	comp=Z,29nm,1.3s						
H11N2	**WAKE ISLAND Hy**	**26.05**	**115**	T	T	06 22 12.0	
	baz=307,slow=75,SNR=6.4						
H11N1	**WAKE ISLAND Hy**	**26.06**	**115**	T	T	06 22 11.4	
	baz=307,slow=75,SNR=6.2						
H11N3	**WAKE ISLAND Hy**	**26.07**	**115**	T	T	06 22 08.9	
	baz=307,slow=75,SNR=5.0						
ENH	**Enshi**	**27.64**	**273**	*e*P	**P**	**05 55 00.2**	**-0.7**
	20nm,1.1s						
SONA0	**Songino Array**	**30.33**	**309**	*e*P	**P**	**05 55 25.5**	**+0.7**
SONM	**Songino Array**	**30.33**	**309**	P	**P**	**05 55 25.5**	**+0.7**
	18nm,0.3s,baz=114,slow=8.5,SNR=16						
SONM				LR	LR	06 08 14.2	
	comp=Z,172nm,18.3s,baz=128,slow=38						
LZH	**Lanzhou**	**31.27**	**286**	*e*P	**P**	**05 55 33.8**	**+0.5**
LZH				pP	pP	05 55 40.5	-2.6
LZH				sP	sP	05 55 43.0	-4.2
LZH				*e*PP	**PnPn**	**05 56 36.5**	**+0.6**
LZH				pmax	pmax		
	comp=Z,26nm,1.0s						
LZH				pmax	pmax		
	comp=Z,98nm,4.3s						
LZH				LR	LR		
	comp=N,490nm,13.5s						
LZH				LR	LR		
	comp=E,520nm,14.0s						
LZH				LR	LR		
	comp=Z,720nm,16.7s						
CD2	**Chengdu**	**32.27**	**276**	*e*P	**P**	**05 55 42.0**	**+0.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,4.8s						
GTA	**Gaotai**	**34.20**	**293**	P	**P**	**05 55 58.5**	**-0.3**
GTA				pP	pP	05 56 09.0	+0.4
GTA				sP	sP	05 56 13.3	+0.6
GTA				pmax	pmax		
	comp=Z,6.0nm,1.6s						
GTA				pmax	pmax		
	comp=Z,130nm,5.1s						
GTA				LR	LR		
	comp=N,240nm,13.6s						
GTA				LR	LR		
	comp=E,250nm,14.6s						
GTA				LR	LR		
	comp=Z,220nm,14.9s						
KMI	**Kunming**	**34.96**	**267**	P	**P**	**05 56 05.3**	**-0.3**
KMI				pmax	pmax		
	comp=Z,12nm,0.9s						
PBKT	**Sadao Pong**	**40.37**	**256**	*e*P	**P**	**05 56 51.4**	**+0.4**
	4.3nm,0.9s						
CHTO	**Chiang Mai**	**40.89**	**260**	*e*P	**P**	**05 56 55.9**	**+0.5**
	4.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**41.06**	**260**	P	**P**	**05 56 55.5**	**-1.4**
	1.1nm,0.3s,baz=39,slow=5.9,SNR=3.0						
CMAR				LR	LR	06 15 04.3	
	comp=Z,71nm,18.3s,baz=61,slow=38						
WMQ	**Urumqi**	**42.98**	**301**	*e*P	**P**	**05 57 16.0**	**+3.7**
WMQ				pmax	pmax		
	comp=Z,22nm,0.9s						
LSA	**Lhasa**	**43.07**	**279**	*e*P	**P**	**05 57 13.4**	**-0.2**
	3.9nm,0.9s						
ANM	**Nome**	**44.64**	**29**	*e*P	**P**	**05 57 25.5**	**+0.3**
	8.9nm,1.1s						
ZAA0	**Zalesovo Array**	**44.79**	**315**	*e*P	**P**	**05 57 27.2**	**+0.7**
	2.5nm,1.0s						
ZALV	**Zalesovo Beam**	**44.79**	**315**	P	**P**	**05 57 28.4**	**+1.8**
	0.6nm,0.4s,baz=339,slow=21,SNR=3.4						
ZALV				LR	LR	06 17 08.2	
	comp=Z,95nm,18.1s,baz=251,slow=37						
ZALV	**Zalesovo Beam**	**44.79**	**315**	*e*P	**P**	**05 57 27.5**	**+0.9**
ZAA1	**Zalesovo Array**	**44.79**	**315**	*e*P	**P**	**05 57 28.4**	**+1.8**
MK01	**Makanchi Array**	**46.51**	**305**	*e*P	**P**	**05 57 39.6**	**-0.8**
MK31	**Makanchi Array**	**46.52**	**305**	*e*P	**P**	**05 57 40.2**	**-0.2**
MK32	**Makanchi Array**	**46.52**	**305**	*e*P	**P**	**05 57 40.1**	**-0.3**
MKAR	**Makanchi Array**	**46.52**	**305**	P	**P**	**05 57 40.1**	**-0.3**
	1.3nm,0.5s,baz=90,slow=8.9,SNR=11						
MKAR				LR	LR	06 16 49.8	
	comp=Z,51nm,20.0s,baz=55,slow=36						
MKAR	**Makanchi Array**	**46.52**	**305**	*e*P	**P**	**05 57 40.3**	**-0.1**
	17nm,0.8s						
RDOG	**Red Dog Mine**	**46.71**	**25**	*e*P	**P**	**05 57 41.7**	**+0.2**
	3.3nm,0.8s						
KURK	**Kurchatov**	**48.61**	**311**	*e*P	**P**	**05 57 57.1**	**+0.5**
	4.3nm,0.8s						
KDAK	**Kodiak Island**	**49.69**	**40**	P	**P**	**05 58 04.8**	**+0.2**
	7.7nm,0.8s,baz=281,slow=10,SNR=3.9						
TOLK	**Toolik Lake Re**	**51.66**	**26**	*e*P	**P**	**05 58 19.3**	**-0.2**
	2.5nm,0.9s						
MDM	**Murphy Dome**	**51.92**	**31**	*e*P	**P**	**05 58 21.6**	**+0.1**
	4.3nm,1.0s						
GSI	**Gunungsitoli**	**52.29**	**242**	*e*P	**P**	**05 58 26.2**	**+1.4**
	13nm,0.7s						
KSH	**Kashi**	**52.37**	**297**	*e*P	**P**	**05 58 28.5**	**+3.2**
IL1	**Eielson Array**	**52.49**	**31**	*e*P	**P**	**05 58 25.1**	**-0.6**
ILAR	**Eielson Array**	**52.49**	**31**	P	**P**	**05 58 24.9**	**-0.8**
	1.6nm,0.9s,baz=268,slow=6.2,SNR=14						
AAK	**Ala-Archa**	**52.68**	**301**	P	**P**	**05 58 29.8**	**+2.3**
	1.3nm,0.9s,baz=177,slow=23,SNR=3.6						
FITZ	**Fitzroy Crossi**	**53.39**	**199**	P	**P**	**05 58 32.7**	**0.0**
	4.4nm,0.7s,baz=34,slow=7.0,SNR=13						
FITZ	**Fitzroy Crossi**	**53.39**	**199**	*e*P	**P**	**05 58 33.4**	**+0.7**

	6.4nm,0.8s							
WRAB	**Tennant Creek**	**53.39**	**189**	*e*P		**P**	**05 58 32.4**	**-0.4**
	2.7nm,0.5s							
WB2	**Warramunga Arr**	**53.40**	**189**	*e*P		**P**	**05 58 32.3**	**-0.5**
WR1	**Warramunga Arr**	**53.41**	**189**	*e*P		**P**	**05 58 32.7**	**-0.1**
	3.0nm,0.8s							
WRA	**Warramunga Arr**	**53.41**	**189**	P		**P**	**05 58 32.7**	**-0.1**
	2.9nm,0.5s,baz=6.1,slow=7.6,SNR=29							
WC3	**Warramunga Arr**	**53.42**	**189**	*e*P		**P**	**05 58 33.1**	**+0.2**
	5.5nm,0.9s							
SCRK	**Sand Creek**	**53.77**	**32**	*e*P		**P**	**05 58 34.9**	**-0.2**
	5.5nm,1.2s							
EGAK	**Eagle**	**54.94**	**31**	*e*P		**P**	**05 58 43.3**	**-0.2**
	1.9nm,1.0s							
AS01	**Alice Springs**	**57.12**	**189**	*e*P		**P**	**05 58 59.8**	**+0.2**
AS31	**Alice Springs**	**57.13**	**189**	*e*P		**P**	**05 58 59.6**	**-0.1**
	0.8nm,0.8s							
ASAR	**Alice Springs**	**57.13**	**189**	P		**P**	**05 59 00.6**	**+0.9**
	1.1nm,0.8s,baz=9.7,slow=7.6,SNR=8.2							
INK	**Inuvik**	**57.57**	**26**	P		**P**	**05 59 01.9**	**-0.3**
	0.6nm,0.6s,baz=303,slow=4.4,SNR=6.7							
ABKAR	**Akbulak array**	**60.69**	**312**	*e*P		**P**	**05 59 24.4**	**+0.3**
FORT	**Forrest**	**65.03**	**193**	*e*P		**P**	**05 59 53.2**	**+0.1**
	24nm,1.0s							
YKA	**Yellowknife Ar**	**66.88**	**29**	P		**P**	**06 00 04.5**	**-0.1**
	0.5nm,0.7s,baz=305,slow=6.2,SNR=3.5							
KBZ	**Khabaz**	**73.66**	**312**	P		**P**	**06 00 46.9**	**+0.5**
	1.2nm,0.6s,baz=27,slow=6.8,SNR=3.3							
CMB	**Columbia Colle**	**75.76**	**54**	*e*P		**P**	**06 00 59.0**	**+0.2**
	4.3nm,1.0s							
NV01	**Mina Array Sit**	**76.95**	**53**	*e*P		**P**	**06 01 06.1**	**+0.3**
NVAR	**Mina Array Bea**	**76.95**	**53**	P		**P**	**06 01 05.8**	**0.0**
	1.6nm,0.9s,baz=281,slow=5.8,SNR=9.2							
BOZ	**Bozeman (W)**	**77.18**	**44**	*e*P		**P**	**06 01 07.2**	**+0.4**
	4.1nm,1.0s							
AKASG	**Malin Array Be**	**77.51**	**323**	P		**P**	**06 01 10.5**	**+2.1**
	1.7nm,1.0s,baz=46,slow=7.1,SNR=3.8							
AKBB	**Malin Array Si**	**77.51**	**323**	*e*P		**P**	**06 01 10.5**	**+2.1**
	1.6nm,0.8s							
NOA	**NORSAR Array B**	**77.80**	**338**	LR		LR	06 39 38.3	
	comp=Z,28nm,19.4s,baz=140,slow=39							
YHB	**Horse Butte**	**77.92**	**44**	*e*P		**P**	**06 01 12.4**	**+1.3**
	7.0nm,1.0s							
YHH	**Holmes Hill**	**78.09**	**44**	*e*P		**P**	**06 01 12.7**	**+0.5**
	1.4nm,1.1s							
PD31	**Pinedale Array**	**80.03**	**45**	*e*P		**P**	**06 01 23.1**	**+0.3**
PDAR	**Pinedale Array**	**80.03**	**45**	P		**P**	**06 01 23.1**	**+0.3**
	0.3nm,0.7s,baz=298,slow=3.2,SNR=3.9							
CCUT	**Cedar City**	**80.69**	**51**	*e*P		**P**	**06 01 27.1**	**+0.7**
	1.7nm,0.9s							
LCMT	**Little Creek M**	**81.07**	**52**	*e*P		**P**	**06 01 28.7**	**+0.4**
	3.2nm,1.0s							
BR101	**Keskin Array S**	**81.64**	**312**	*e*P		**P**	**06 01 31.7**	**+0.4**
BRTR	**Keskin Array B**	**81.64**	**312**	P		**P**	**06 01 31.7**	**+0.4**
	2.1nm,0.9s,baz=119,slow=4.4,SNR=7.2							
PV21	**Cone Mtn., Par**	**82.90**	**48**	*e*P		**P**	**06 01 38.6**	**+0.6**
	8.6nm,1.1s							
PV23	**Carpenter Ridg**	**82.94**	**48**	*e*P		**P**	**06 01 39.1**	**+0.9**
	7.3nm,0.8s							
PV10	**Paradox Valley**	**82.97**	**48**	*e*P		**P**	**06 01 39.1**	**+0.7**
PV14	**Lion Creek, Pa**	**82.98**	**48**	*e*P		**P**	**06 01 38.6**	**+0.1**
	13nm,1.0s							
PV19	**Morning Glory**	**83.05**	**48**	*e*P		**P**	**06 01 39.2**	**+0.5**
	7.6nm,0.9s							
PV17	**East Wray Mesa**	**83.08**	**48**	*e*P		**P**	**06 01 39.4**	**+0.5**
	15nm,1.1s							
PV16	**Nyswonger Mesa**	**83.09**	**48**	*e*P		**P**	**06 01 39.1**	**+0.2**
	6.9nm,1.1s							
PV11	**David Mesa, Pa**	**83.12**	**48**	*e*P		**P**	**06 01 40.1**	**+1.0**
	11nm,1.2s							
PV18	**Skein Mesa, Pa**	**83.13**	**48**	*e*P		**P**	**06 01 40.0**	**+0.8**
	9.7nm,1.1s							
PV12	**Saucer Basin,**	**83.16**	**48**	*e*P		**P**	**06 01 40.1**	**+0.8**
	13nm,1.2s							
PV03	**Paradox Valley**	**83.17**	**48**	*e*P		**P**	**06 01 40.0**	**+0.6**
PV13	**Radium Mtn., P**	**83.24**	**49**	*e*P		**P**	**06 01 40.2**	**+0.5**
	7.3nm,0.9s							
PV02	**Paradox Valley**	**83.26**	**48**	*e*P		**P**	**06 01 40.6**	**+0.7**
	8.2nm,1.2s							
X16A	**Lo Mia Camp, P**	**83.77**	**53**	*e*P		**P**	**06 01 42.7**	**+0.2**
	0.7nm,0.9s							
LTX	**Lajitas**	**92.10**	**53**	*e*P		**P**	**06 02 22.7**	**+0.1**
TXAR	**Lajitas Array**	**92.10**	**53**	P		**P**	**06 02 22.7**	**+0.1**
	0.8nm,1.0s,baz=310,slow=4.7,SNR=5.6							
LPAZ	**La Paz**	**148.09**	**65**	PKPbc		**PKPbc**	**06 09 00.6**	**+0.8**
	1.8nm,0.8s,baz=37,slow=6.5,SNR=7.4							

DJA 26 05:59:20.0±0.3, 4°N±2°×9°8E±°, h10km, M3.7/8, MLv3.7/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCSI	**Kotacane, Aceh**	**0.12**	**130**	P	Pg	05 59 23.6	+0.7
KCSI				S	Sg	05 59 26.2	+1.2
TPTI		**0.60**	**236**	P	Pg	05 59 31.6	-0.1
TPTI				S	Sb	05 59 40.7	-0.5
TSI	**Tuntungan**	**0.89**	**96**	P	Pg	05 59 37.3	+0.2
MLSI	**Meulaboh, Aceh**	**1.44**	**298**	P	Pn	05 59 45.3	-0.8
MLSI				S	Sg	06 00 06.3	+0.1
LHMI	**Lhok Sumawe**	**1.77**	**336**	P	Pn	05 59 49.9	-0.9
LHMI				S	Sb	06 00 15.1	+0.1
SNSI	**Sinabang, Aceh**	**1.80**	**229**	P	Pn	05 59 50.8	-0.3
GSI	**Gunungsitoli**	**2.28**	**183**	P	Pn	05 59 57.3	-0.5

*NEIC **26** 06:01:33.4±0.0, 19°.73N×66°.31W, h98km, MD3.6(RSPR), After RSPR.*

RSPR 26 06:01:33.4, 19°.73N×66°.31W, h98km±6km, MD3.6/12, 7C-7D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**1.26**	**190**	*e*Pn	Pn	06 01 54.9	-1.8
AGPR	**Aguadilla, PR**	**1.47**	**211**⇓	*e*P	Pn	06 01 58.4	-0.7
AGPR	**Aguadilla, PR**	**1.47**	**211**⇓	*e*P	Pn	06 01 58.4	-0.7
AGPR				*e*S	Sn	06 02 18.7	+0.1
CBYP	**Canovanas**	**1.51**	**164**⇓	*e*P	Pn	06 01 59.3	-0.4
CBYP	**Canovanas**	**1.51**	**164**	*e*S	Sn	06 02 19.0	-0.6
CBYP	**Canovanas**	**1.51**	**164**	*e*Pn	Pn	06 01 57.9	-1.8
CBYP				*e*Sn	Sn	06 02 19.1	-0.5
AGP	**Aguadilla**	**1.53**	**211**	*e*Pn	Pn	06 01 57.7	-2.3
AGP				*e*Sn	Sn	06 02 16.5	-3.6
SJG	**San Juan**	**1.61**	**175**⇑	*e*P	Pn	06 02 00.1	-0.8
SJG	**San Juan**	**1.61**	**175**	*e*S	Sn	06 02 21.6	-0.2
SJG	**San Juan**	**1.61**	**175**	*e*Pn	Pn	06 02 00.1	-0.8
SJG				*e*Sn	Sn	06 02 21.6	-0.2
CELP	**Cerrillos**	**1.66**	**189**⇓	*e*P	Pn	06 02 00.8	-0.8
CELP				*e*S	Sn	06 02 22.6	-0.4
CELP	**Cerrillos**	**1.66**	**189**	*e*Pn	Pn	06 02 00.8	-0.8
OBIP	**Obispado Ponce**	**1.70**	**190**⇑	*e*P	Pn	06 02 01.1	-0.9
OBIP	**Obispado Ponce**	**1.70**	**190**	*e*Pn	Pn	06 02 01.2	-0.8
OBIP				*e*S	Sn	06 02 23.7	0.0
MPR	**Mayaguez**	**1.70**	**208**	*e*Pn	Pn	06 02 01.4	-0.7
LSP	**Las Mesas**	**1.71**	**206**⇓	*e*P	Pn	06 02 01.8	-0.4
LSP	**Las Mesas**	**1.71**	**206**	*e*S	Sn	06 02 24.2	+0.2
LSP	**Las Mesas**	**1.71**	**206**	*e*Pn	Pn	06 02 01.8	-0.4
LSP				*e*Sn	Sn	06 02 24.2	+0.2
CUPR	**Culebra, Puert**	**1.71**	**145**⇑	*e*P	Pn	06 02 01.5	-0.7
CUPR	**Culebra, Puert**	**1.71**	**145**	*e*S	Sn	06 02 24.7	+0.6
CUPR	**Culebra, Puert**	**1.71**	**145**	*e*Pn	Pn	06 02 00.4	-1.7
CUPR				*e*Sn	Sn	06 02 23.6	-0.4
IDE	**Isla Desecheo**	**1.73**	**220**⇓	*e*P	Pn	06 02 02.0	-0.4
IDE	**Isla Desecheo**	**1.73**	**220**	*e*S	Sn	06 02 24.0	-0.5
IDE	**Isla Desecheo**	**1.73**	**220**	*e*Pn	Pn	06 02 02.0	-0.4
IDE				*e*Sn	Sn	06 02 24.0	-0.5
ICMP	**Isla Caja de M**	**1.84**	**187**	*e*Pn	Pn	06 02 03.8	0.0
STVI	**Saint Thomas**	**1.87**	**137**	*e*S	Sn	06 02 27.3	-0.4
STVI	**Saint Thomas**	**1.87**	**137**⇑	*e*P	Pn	06 02 03.6	-0.6
STVI	**Saint Thomas**	**1.87**	**137**	*e*Pn	Pn	06 02 03.6	-0.6
STVI				*e*Sn	Sn	06 02 27.3	-0.4
CRPR	**Cabo Rojo, PR**	**1.87**	**204**	*e*S	Sn	06 02 27.8	+0.1
CRPR	**Cabo Rojo, PR**	**1.87**	**204**⇑	*e*P	Pn	06 02 04.1	-0.1
CRPR	**Cabo Rojo, PR**	**1.87**	**204**	*e*Pn	Pn	06 02 04.0	-0.2
CRPR				*e*Sn	Sn	06 02 27.8	+0.1
TBVI	**Tortola**	**2.06**	**129**⇓	*e*P	Pn	06 02 06.8	+0.2
TBVI				*e*S	Sn	06 02 31.9	-0.1
TBVI	**Tortola**	**2.06**	**129**	*e*Pn	Pn	06 02 06.8	+0.2
ABVI	**Anegada Island**	**2.11**	**118**	*e*Pn	Pn	06 02 07.8	+0.5
ABVI				*e*Sn	Sn	06 02 31.7	-1.5
ABV	**Anegada**	**2.11**	**118**⇑	*e*P	Pn	06 02 07.2	-0.1
CDVI	**St. Croix**	**2.44**	**143**⇑	*e*P	Pn	06 02 11.5	-0.2
CDVI	**St. Croix**	**2.44**	**143**	*e*S	Sn	06 02 41.1	+0.1
CDVI	**St. Croix**	**2.44**	**143**	*e*Pn	Pn	06 02 11.5	-0.2
CDVI				*e*Sn	Sn	06 02 41.1	+0.1
SMRT	**St. Maarten**	**3.48**	**118**	*e*Pn	Pn	06 02 26.1	+0.5
SDD	**Santo Domingo**	**3.64**	**250**	*e*Pn	Pn	06 02 30.1	+2.4
SDDR	**Presa de Saban**	**4.76**	**262**	*e*Pn	Pn	06 02 45.7	+2.8
SDDR				*e*Sn	Sn	06 03 38.8	+1.8
GRTK	**Grand Turk**	**4.86**	**292**	*e*Pn	Pn	06 02 44.5	+0.4
LGNH	**Løogne**	**6.08**	**260**	*e*Pn	Pn	06 03 02.6	+1.8

NNC 26 06:16:50.4±4.7, 37°.82N×70°.91E, h0km, mb3.6, mpv3.2, 9C-2D, Error ellipse: s-maj=36.5km s-min=27.6km az=171.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.98**	**42**	⇑Pn	Pn	06 17 39.3	+0.1
	3.0nm,0.2s						
SFK				⇑Sn	Sn	06 18 17.2	+1.5
	16nm,0.5s						
MNAS	**Manas**	**4.82**	**14**	⇑Pn	Pn	06 18 05.4	+1.1
	1.7nm,0.6s						
MNAS				⇑Sn	Sn	06 19 02.1	+1.2
	5.6nm,0.8s						
KK31	**Karatay Array**	**5.29**	**357**	⇑Pn	Pn	06 18 12.6	+2.0
	0.8nm,0.3s,baz=182,slow=13,SNR=35						
KK31				⇓Sn	Sn	06 19 14.9	+2.6
	0.7nm,0.3s,baz=185,slow=22,SNR=4.3						
AAK	**Ala-Archa**	**5.54**	**29**	⇑Pn	Pn	06 18 14.0	-0.3
	1.2nm,0.3s						
AAK				⇑Sn	Sn	06 19 16.8	-1.9
	3.5nm,0.5s						
TKM2	**Tokmak 2**	**6.23**	**34**	⇓Pn	Pn	06 18 21.9	-1.8
	1.4nm,0.5s						
TKM2				⇑Sn	Sn	06 19 36.6	+0.9
	3.3nm,1.0s						
AB31	**Akbulak array**	**13.91**	**329**	⇑Pn	Pn	06 20 06.6	-2.0
	0.3nm,0.3s,baz=136,slow=14,SNR=21						

DJA 26 06:27:27.4±1.8, 11°S±17°×111°4E±°, h22km±30km, M3.9/7, MLv3.9/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.17**	**6**	P	Pn	06 28 01.7	-0.5
IGBI	**Denpasar**	**2.17**	**34**	P	Pn	06 28 02.9	+0.7
DNP	**Denpasar**	**2.32**	**33**	P	Pn	06 28 03.9	-0.4
SRBI	**Singaraja**	**2.84**	**27**	P	Pn	06 28 11.8	+0.4
BLJI	**Banyuglugur**	**2.90**	**353**	P	Pn	06 28 12.3	+0.1
PWJI	**Pagerwojo**	**3.34**	**321**	P	Pn	06 28 16.5	-1.9
TWSI	**Taliwang, Sumb**	**3.47**	**57**	P	Pn	06 28 19.9	-0.2
KMMI	**Kalianget**	**3.57**	**1**	P	Pn	06 28 22.7	+1.2

*IDC **26** 06:30:36.3±1.0, 13°.69S×166°.65E, h0km, mb4.1/11, mb1 4.2/11, mb1mx4.0/42, mbtmp4.1/11, MS3.4/8, Ms1 3.4/8, ms1mx3.1/33, Error ellipse: s-maj=36.4km s-min=20.7km az=106.0*
*ISCJB **26** 06:30:40.7±0.4, 13°.64S±0°.05×166°.49E±0°.09, h39km, mb4.2/17, MS3.4/6, Error ellipse: s-maj=12.3km s-min=7.1km az=2.8*
*NEIC **26** 06:30:45.1±1.4, 13°.73S×166°.60E, h68km±14km, mb4.2/5, Error ellipse: s-maj=11.8km s-min=8.0km az=118.0*

ISC 26 06:30:42.7±0.5, 13°.62S±0°.07×166°.5E±0°.1, h39km, n36, σ1s05/33, mb4.3/17, MS3.5/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.66**	**302**	LR	LR	06 35 28.0	
	comp=Z,162nm,21.9s,baz=162,slow=37						
DZM	**Mont Dzumac**	**8.41**	**180**	LR	LR	06 35 11.6	
	comp=Z,106nm,19.1s,baz=42,slow=33						
DZM	**Mont Dzumac**	**8.41**	**180**	*e*Pn	**Pn**	**06 32 44.0**	**+1.8**
DZM				*e*Sn	**Sn**	**06 34 17.8**	**+1.9**
FUNA	**Funafuti**	**13.44**	**69**	*e*Pn	**Pn**	**06 33 51.5**	**+0.5**
AFI	**Afiamalu**	**21.10**	**93**	LR	LR	06 41 35.4	
	comp=Z,67nm,20.0s,baz=330,slow=31						
PATS	**Pohnpei**	**21.89**	**338**	*e*P	**P**	**06 35 34.5**	**+2.0**
	64nm,1.1s						
OUZ	**Omahuta**	**22.44**	**165**	*e*P	**P**	**06 35 36.1**	**-2.2**
	13nm,1.2s						
JAY	**Jayapura**	**27.79**	**291**	LR	LR	06 46 20.7	
	comp=Z,59nm,18.2s,slow=34						
STKA	**Stephens Creek**	**29.18**	**227**	P	**P**	**06 36 40.4**	**-0.1**
	1.5nm,0.7s,baz=40,slow=9.2,SNR=4.6						
STKA				LR	LR	06 47 52.6	
	comp=Z,107nm,18.8s,baz=28,slow=36						
STKA	**Stephens Creek**	**29.18**	**227**	*e*P	**P**	**06 36 40.5**	**0.0**
	1.6nm,0.8s						
WB2	**Warramunga Arr**	**31.39**	**254**	*e*P	**P**	**06 37 00.2**	**0.0**
WR1	**Warramunga Arr**	**31.40**	**254**	*e*P	**P**	**06 36 59.7**	**-0.6**
	3.0nm,1.0s						
WR1				*e*PcP	**PcP**	**06 39 53.1**	**-0.3**
WRA	**Warramunga Arr**	**31.40**	**254**	P	**P**	**06 36 59.7**	**-0.6**
	0.9nm,0.9s,baz=87,slow=9.4,SNR=5.9						
WRA				PcP	**PcP**	**06 39 53.1**	**-0.3**
	0.2nm,0.7s,baz=66,slow=1.6,SNR=4.6						
WRA				LR	LR	06 49 29.9	
	comp=Z,87nm,19.4s,baz=95,slow=36						
ASAR	**Alice Springs**	**32.40**	**247**	P	**P**	**06 37 08.2**	**-0.8**
	0.5nm,0.6s,baz=68,slow=9.8,SNR=6.5						
FITZ	**Fitzroy Crossi**	**39.51**	**258**	LR	LR	06 53 36.7	
	comp=Z,81nm,18.4s,baz=78,slow=35						
MJAR	**Matsushiro Arr**	**56.58**	**333**	P	**P**	**06 40 21.9**	**+0.3**
	0.7nm,0.3s,baz=167,slow=7.7,SNR=4.3						
MAJO	**Matsushiro**	**56.58**	**333**	*e*P	**P**	**06 40 21.9**	**+0.3**
KS01	**Wonju Array Si**	**62.44**	**326**	*e*P	**P**	**06 41 00.6**	**-1.3**
VNDA	**Vanda**	**63.95**	**181**	P	**P**	**06 41 11.1**	**-0.3**
	0.5nm,0.7s,baz=4.7,slow=9.2,SNR=4.2						
VNDA	**Vanda**	**63.95**	**181**	*e*P	**P**	**06 41 10.5**	**-0.9**
USRK	**Ussuriysk Ar.**	**65.56**	**333**	P	**P**	**06 41 23.6**	**+1.3**
	7.0nm,1.0s,baz=124,slow=5.3,SNR=6.5						
KLR	**Kul'dur**	**69.70**	**337**	P	**P**	**06 41 49.4**	**+1.1**
	2.3nm,0.7s,baz=120,slow=3.6,SNR=7.8						
UNV	**Unalaska Vale**	**71.04**	**17**	*e*P	**P**	**06 41 56.1**	**-0.2**
	11nm,1.0s						
QSPA	**South Pole Qui**	**76.41**	**180**	*e*P	**P**	**06 42 26.7**	**-1.3**
	3.6nm,0.9s						
SONA0	**Songino Array**	**81.17**	**324**	*e*P	**P**	**06 42 54.1**	**-0.3**
SONM	**Songino Array**	**81.17**	**324**	P	**P**	**06 42 54.1**	**-0.3**
	0.9nm,0.9s,baz=130,slow=4.5,SNR=4.4						
SUA	**Susitna One**	**82.09**	**19**	*e*P	**P**	**06 42 59.7**	**+0.8**
	3.7nm,1.1s						
IM3	**Indian Mountai**	**84.69**	**15**	*e*P	**P**	**06 43 12.4**	**+0.3**
IL1	**Eielson Array**	**85.70**	**18**	*e*P	**P**	**06 43 15.6**	**-1.6**
ILAR	**Eielson Array**	**85.70**	**18**	P	**P**	**06 43 15.7**	**-1.5**
	1.0nm,1.0s,baz=241,slow=4.8,SNR=6.6						
NVAR	**Mina Array Bea**	**87.11**	**49**	LR	LR	07 15 24.9	
	comp=Z,43nm,18.6s,baz=278,slow=31						
MKAR	**Makanchi Array**	**95.89**	**317**	P	**P**	**06 44 06.1**	**+0.7**
	1.4nm,0.8s,baz=124,slow=6.6,SNR=6.2						
ZALV	**Zalesovo Beam**	**96.06**	**324**	P	**P**	**06 44 05.4**	**-0.5**
	1.8nm,0.8s,baz=118,slow=5.4,SNR=3.9						
ARCES	**ARCESS Array B**	**118.99**	**345**	PKP	**PKPdf**	**06 49 25.6**	**-1.0**
	3.1nm,0.9s,baz=67,slow=2.2,SNR=8.1						
KEST	**Kesra**	**149.88**	**321**	PKPbc	**PKPbc**	**06 50 29.8**	**+0.5**
	8.1nm,0.8s,baz=353,slow=5.3,SNR=8.2						
ESDC	**Sonseca Array**	**152.72**	**344**	PKPbc	**PKPbc**	**06 50 35.4**	**-0.3**
	0.8nm,0.8s,baz=48,slow=2.7,SNR=4.4						

*TIR **26** 06:37:08.1, 40°.33N×19°.56E, h7km, Md3.1/8*
*ISCJB **26** 06:37:09.4±0.5, 40°.32N±0°.02×19°.54E±0°.03, h2km±4km, Error ellipse: s-maj=4.3km s-min=3.3km az=164.0*
*ATH **26** 06:37:09.4, 40°.35N×19°.50E, h29km±2km, ML2.3/4, Error ellipse: s-maj=3.4km s-min=1.4km az=226.0*
*THE **26** 06:37:09.7, 40°.30N×19°.53E, h8km±1km, ML2.4/3, Error ellipse: s-maj=2.7km s-min=0.4km az=254.0*

ISC 26 06:37:09.5±0.9, 40°.33N±0°.02×19°.54E±0°.03, h12km±6km, n34, σ1s09/54, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.14**	**348**	P	**Pg**	**06 37 13.3**	**+0.3**
VLO				S	**Sg**	**06 37 16.0**	**+0.6**
VLO	**Vlora**	**0.14**	**348**	*i* PG	**Pg**	**06 37 12.3**	**-0.7**
VLO				*i* SG	**Sg**	**06 37 15.4**	**0.0**
TPE	**Tepelena**	**0.37**	**95**	*i* PG	**Pg**	**06 37 15.1**	**-1.7**
TPE				*i* SG	**Sg**	**06 37 22.6**	**+0.9**
SRN	**Sarande**	**0.57**	**141**	P	**Pg**	**06 37 19.9**	**-0.8**
SRN				S	**Sg**	**06 37 28.2**	**-0.1**
SRN	**Sarande**	**0.57**	**141**	*i* PG	**Pg**	**06 37 20.1**	**-0.6**
SRN				*i* SG	**Sg**	**06 37 28.2**	**-0.1**
KEK	**Kerkira**	**0.65**	**162**	P	**Pb**	**06 37 22.5**	**-0.2**
KEK				S	**Sn**	**06 37 33.5**	**-1.1**
KEK				AML	AML	06 37 35.0	
	comp=N,507μm,0.4s						
KEK				AML	AML	06 37 36.7	
	comp=E,538μm,0.2s						
KEK	**Kerkira**	**0.65**	**162**	P	**Pg**	**06 37 21.5**	**-0.6**
KEK				S	**Sg**	**06 37 30.2**	**-0.4**
KASA	**Kassiopi**	**0.66**	**152**	P	**Pb**	**06 37 23.7**	**+0.8**
KASA				S	**Sb**	**06 37 32.5**	**+0.5**
SCTE	**Santa Cesarea**	**0.86**	**253**	P	**Pg**	**06 37 25.5**	**-0.5**
SCTE				S	**Sb**	**06 37 38.4**	**+0.7**
SCTE				AML	AML	06 37 39.8	
	comp=N,296μm,0.2s						
SCTE				AML	AML	06 37 39.9	
	comp=E,429μm,0.3s						
SGD	**Sagiada**	**0.90**	**143**	P	**Pb**	**06 37 27.5**	**+0.6**
SGD	**Sagiada**	**0.90**	**143**	P	**Pg**	**06 37 26.2**	**-0.6**
KBN	**Korca**	**1.00**	**72**	*i* PG	**Pg**	**06 37 27.8**	**-1.0**
KBN				*i* SG	**Sn**	**06 37 43.8**	**+0.3**
IGT	**Igoumenitsa**	**1.00**	**142**	P	**Pg**	**06 37 28.8**	**0.0**
IGT				S	**Sn**	**06 37 44.0**	**+0.6**
IGT				AML	AML	06 37 45.6	
	comp=N,161μm,0.2s						
IGT				AML	AML	06 37 47.0	
	comp=E,154μm,0.3s						
IGT	**Igoumenitsa**	**1.00**	**142**	P	**Pg**	**06 37 28.4**	**-0.5**
TIR	**Tirane**	**1.05**	**14**	P	**Pb**	**06 37 29.5**	**-0.1**
TIR				S	**Sn**	**06 37 44.7**	**+0.1**
TIR				AML	AML	06 37 49.3	
	comp=E,490μm,0.3s						
TIR				AML	AML	06 37 52.0	
	comp=N,509μm,0.4s						
TIR	**Tirane**	**1.05**	**14**	*i* PG	**Pb**	**06 37 29.1**	**-0.5**
TIR				*i* SG	**Sn**	**06 37 45.0**	**+0.5**
NEST	**Nestorio**	**1.16**	**85**	P	**Pb**	**06 37 31.4**	**-0.1**
NEST				S	**Sn**	**06 37 48.0**	**+0.5**
NEST	**Nestorio**	**1.16**	**85**	P	**Pb**	**06 37 31.4**	**-0.1**
PENT	**Pentalofos**	**1.23**	**96**	P	**Pg**	**06 37 33.8**	**+0.5**
PENT	**Pentalofos**	**1.23**	**96**	P	**Pn**	**06 37 32.3**	**-0.4**
OHR	**Ohrid**	**1.24**	**50**	*e*Pn	**Pn**	**06 37 29.7**	**-3.0**
OHR				*i* Sn	**Sn**	**06 37 51.4**	**+2.1**
FNA	**Florina**	**1.48**	**71**	P	**Pn**	**06 37 35.8**	**-0.2**
FNA	**Florina**	**1.48**	**71**	P	**Pn**	**06 37 35.7**	**-0.2**
PHP	**Peshkopia**	**1.52**	**27**	*i* PN	**Pn**	**06 37 35.6**	**-0.9**
PHP				*i* SN	**Sg**	**06 37 59.7**	**+1.3**
BIA	**Bitola**	**1.52**	**63**	*e*Pn	**Pn**	**06 37 35.1**	**-1.5**
BIA				*i* Sn	**Sg**	**06 37 58.6**	**0.0**
KRUS	**Krusevo**	**1.66**	**51**	*i* Pn	**Pn**	**06 37 38.4**	**-0.2**
KRUS				*i* Sn	**Sb**	**06 38 01.1**	**0.0**
FASA	**Fasano**	**1.73**	**287**	*e*Pn	**Pb**	**06 37 41.5**	**+0.3**
FASA				Sn	**Sg**	**06 38 06.8**	**+1.6**
PUK	**Puka**	**1.73**	**9**	*i* PN	**Pb**	**06 37 40.7**	**-0.6**
PUK				*i* SN	**Sg**	**06 38 07.4**	**+2.1**
TSLK	**Tsoukalades, L**	**1.73**	**150**	P	**Pb**	**06 37 40.9**	**-0.3**
LKD2	**Lefkada island**	**1.77**	**150**	P	**Pn**	**06 37 40.2**	**+0.3**
BCI	**Bajram Curri**	**2.08**	**11**	*i* PN	**Pb**	**06 37 48.1**	**+1.1**
STIP	**Stip**	**2.43**	**55**	*i* Pn	**Pn**	**06 37 50.6**	**+1.7**
AGG	**Agios Georgios**	**2.52**	**120**	P	**Pn**	**06 37 51.1**	**+0.8**
STON	**Ston**	**2.89**	**332**	Sn	**Sn**	**06 38 25.9**	**-4.1**

*ISCJB **26** 06:38:40.7±0.5, 22°.76N±0°.06×96°.06E±0°.07, h33km, Error ellipse: s-maj=10.9km s-min=4.7km az=138.8*
*NDI **26** 06:38:40.6±1.9, 22°.71N×95°.99E, h12km, ML3.3*

**ISC 26 06:38:42.5±1.2, 22°.78N±0

ISC 26 07:18:22.4±1.2, 36°60N±0°03×27°96E±0°02, h4km±11km, n25, σ1s84/33, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MRSB	**Marmaris-Mugla**	**0.22**	**59**	PG		**Pg**	**07 18 27.4**	**+0.7**
DATC	**Datca-Mugla**	**0.29**	**303**	PG		**Pg**	**07 18 28.4**	**+0.4**
DAT	**Datca**	**0.33**	**292**	PG		**Pg**	**07 18 29.1**	**+0.2**
DAT	**Datca**	**0.33**	**292**	*i* P		**Pg**	**07 18 29.5**	**+0.6**
DAT				*i* S		**Sg**	**07 18 34.7**	**+1.4**
ARG	**Arkhangelos**	**0.41**	**161**	PG		**Pg**	**07 18 30.3**	**0.0**
ARG				SG		**Sb**	**07 18 38.5**	**-0.3**
ARG	**Arkhangelos**	**0.41**	**161**	P		**Pb**	**07 18 32.1**	**-0.2**
ARG				S		**Sb**	**07 18 39.3**	**+0.5**
ARG	comp=N,2681μm,0.4s			AML		AML	07 18 40.9	
ARG	comp=E,2022μm,0.4s			AML		AML	07 18 41.5	
TURN	**Turunc**	**0.58**	**62**	PG		Pg	07 18 28.6	-5.0
TURN	**Turunc**	**0.58**	**62**	*i* P		Pg	07 18 28.7	-4.9
TURN				*i* S		**Sg**	**07 18 33.6**	**-7.5**
DALY	**Dalyan (Mu¨la**	**0.59**	**69**	PG		**Pg**	**07 18 34.3**	**+0.4**
DALY				SG		**Sb**	**07 18 45.2**	**+1.0**
DALY	**Dalyan (Mu¨la**	**0.59**	**69**	*i* P		**Pg**	**07 18 34.3**	**+0.4**
DALY				*i* S		**Sb**	**07 18 45.3**	**+1.0**
NIS1	**Nisyros Isl.**	**0.63**	**270**	PG		**Pb**	**07 18 35.7**	**-0.4**
NIS1	**Nisyros Isl.**	**0.63**	**270**	P		**Pb**	**07 18 36.0**	**-0.1**
NIS1				S		**Sb**	**07 18 45.2**	**-0.1**
NIS1	comp=E,3726μm,0.3s			AML		AML	07 18 49.6	
NIS1	comp=N,2862μm,0.4s			AML		AML	07 18 53.5	
NISR	**Nisiros**	**0.67**	**271**	P		**Pb**	**07 18 36.6**	**-0.2**
BODT	**Bodrum**	**0.70**	**311**	PG		**Pg**	**07 18 35.9**	**+0.1**
MLSB	**Milas**	**0.71**	**348**	PG		**Pb**	**07 18 36.9**	**-0.5**
FETY	**Fethiye**	**0.90**	**88**	PG		**Pn**	**07 18 41.6**	**-0.4**
AYDN	**Tasoluk**	**1.06**	**356**	*i* P		**Pg**	**07 18 42.9**	**+0.1**
AYDN				*i* S		**Sn**	**07 18 58.3**	**-1.2**
TAVA	**DENIZLI_Tavas**	**1.15**	**41**	*i* P		**Pn**	**07 18 45.5**	**0.0**
TAVA				*i* S		**Sn**	**07 19 02.6**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**1.34**	**358**	PN		**Pg**	**07 18 49.4**	**+1.2**
AKAS	**Kas**	**1.38**	**105**	PN		**Pg**	**07 18 49.9**	**+1.1**
KSL	**Kastellorizon**	**1.38**	**109**	P		**Pg**	**07 18 48.9**	**0.0**
GOLH	**Golhisar**	**1.43**	**63**	*i* P		**Pg**	**07 18 51.9**	**+2.1**
GOLH				*i* S		**Sg**	**07 19 13.3**	**+4.9**
ELL	**Elmali**	**1.57**	**84**	PN		**Pg**	**07 18 52.5**	**-0.1**
URLA	**Izmir**	**2.06**	**329**	PN		**Pb**	**07 18 59.1**	**-1.4**
LAST	**Lasithi**	**2.48**	**235**	P		**Pn**	**07 19 04.0**	**+0.3**

*IDC **26** 07:23:32.9±0.3, 10°.44N×126°.62E, h0km, mb4.9/34, mb1 5.0/35, mb1mx4.9/42, mbtmp4.9/35, ML4.4/2, MS3.8/17, Ms1 3.8/17, ms1mx3.5/47, Error ellipse: s-maj=15.2km s-min=8.2km az=73.0*

*MAN **26** 07:23:34.9, 10°.65N×126°.92E, h46km, mb5.4, ML4.4, MS4.6*

*DJA **26** 07:23:34.3±1.3, 11°N±4°×12°7E±°, h22km±8km, M5.0/68, mB5.5/25, mb5.2/68, Mw(mB)5.0/25*

*BJI **26** 07:23:35.4, 10°.19N×126°.86E, h44km, mb5.1/64, mB5.1/41, Ms4.6/35, Ms7 4.3/31*

*MOS **26** 07:23:36.2±1.0, 10°.39N×126°.57E, h33km, mb5.4/71, Error ellipse: s-maj=10.4km s-min=4.7km az=120.7*

*ISCJB **26** 07:23:37.1±0.5, 10°.44N±0°.02×126°.77E±0°.03, h44km±4km, mb5.1/205, MS3.9/24, Error ellipse: s-maj=4.2km s-min=2.8km az=164.5*

*NEIC **26** 07:23:39.6±0.5, 10°.44N×126°.70E, h54km±4km, mb5.1/108, Error ellipse: s-maj=3.7km s-min=2.6km az=78.0*

NEIC Felt at General Luna, Siargao Island.

*KLM **26** 07:23:41.0, 10°.35N×126°.60E, h43km, mb5.3*

ISC 26 07:23:38.7±0.8, 10°45N±0°03×126°79E±0°04, h40km±6km, n558, σ1s44/593, mb5.1/208, MS3.9/24, 39C-38D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.44**	**243**	*i* P		**Pn**	**07 24 01.1**	**-1.2**
SCPH				*i* S		**Sn**	**07 24 19.0**	**-1.1**
BESP	**Borongan**	**1.75**	**311**	*e*P		**Pn**	**07 24 03.8**	**-2.7**
BESP				*e*S		**Sn**	**07 24 25.3**	**-2.2**
BUTP	**Butuan**	**1.87**	**218**	*e*P		**Pn**	**07 24 07.6**	**-0.6**
BUTP				*e*S		**Sn**	**07 24 32.1**	**+1.5**
PLP	**Palo**	**1.91**	**292**	↓*i*P		**Pn**	**07 24 06.6**	**-2.2**
PLP				*e*S		**Sn**	**07 24 29.9**	**-1.7**
MSLP	**Maasin**	**1.92**	**261**	*e*P		**Pn**	**07 24 08.4**	**-0.5**
OCLP	**Ormoc**	**2.22**	**286**	*e*P		**Pn**	**07 24 13.2**	**+0.2**
OCLP				*e*S		**Sn**	**07 24 42.2**	**+2.9**
BIPH	**Bislig**	**2.29**	**191**	↓*e*P		**Pn**	**07 24 12.5**	**-1.5**
BIPH				*e*S		**Sn**	**07 24 36.8**	**-4.3**
LLP	**Lapu-Lapu**	**2.78**	**267**	↓*e*P		**Pn**	**07 24 20.5**	**-0.2**
LLP				*e*S		**Sn**	**07 24 54.3**	**+1.3**
CGP	**Cagayan de Oro**	**2.86**	**226**	↓*e*P		**Pn**	**07 24 23.5**	**+1.6**
CGP				*e*S		**Sn**	**07 24 55.7**	**+0.6**
TBP	**Tagbilaran**	**2.98**	**256**	*e*P		**Pn**	**07 24 24.1**	**+0.7**
TBP				*i* S		**Sn**	**07 24 59.8**	**+1.9**
BUKP	**Musuan**	**3.07**	**214**	*e*P		**Pn**	**07 24 26.4**	**+1.6**
BUKP				*e*S		**Sn**	**07 25 04.6**	**+4.3**
MATI	**Mati**	**3.52**	**189**	*e*P		Pn	07 24 37.9	+6.9
DAV	**Davao City (W)**	**3.57**	**200**	Pn		Pn	07 24 40.2	+8.7
DAV	100nm,0.3s,baz=247,slow=10,SNR=6.2			Sn		**Sn**	**07 25 13.4**	**+0.9**
DAV	73nm,0.3s,baz=4.9,slow=21,SNR=3.8			LR		LR	07 26 02.6	
DAV	comp=Z,915nm,20.0s,baz=123,slow=43 **Davao City (W)**	**3.57**	**200**	*e*Pn		**Pn**	**07 24 33.3**	**+1.7**
DAV				*e*Sn		**Sn**	**07 25 12.2**	**-0.3**
PVCP	**Virac**	**4.05**	**321**	*e*P		**Pn**	**07 24 37.4**	**-0.8**
PVCP				*e*S		**Sn**	**07 25 20.7**	**-3.6**
CTBH	**Cotabato--PC H**	**4.08**	**218**	⇑*i*P		**Pn**	**07 24 39.3**	**+0.7**
RCP	**Roxas**	**4.12**	**286**	↓*e*P		**Pn**	**07 24 38.8**	**-0.4**
GUIM	**Jordan**	**4.13**	**273**	*e*P		**Pn**	**07 24 37.6**	**-1.7**
PAGZ	**Pagadian**	**4.24**	**233**	*e*P		**Pn**	**07 24 44.4**	**+3.5**
DDMP	**Don Marcelino,**	**4.45**	**194**	*e*P		**Pn**	**07 24 48.2**	**+4.5**
OTRP	**Odiongan**	**5.04**	**293**	*e*P		**Pn**	**07 24 47.9**	**-3.9**
TGY	**Tagaytay City**	**6.77**	**303**	Pn		Pn	07 25 21.8	+6.1
SMPP	86nm,0.3s,baz=279,slow=3.1,SNR=4.4 **San Manuel, Pa**	**8.21**	**314**	*e*P		**Pn**	**07 25 32.9**	**-2.5**
TNTI	**Ternate**	**9.63**	**177**	*e*Pn		**Pn**	**07 25 54.7**	**-0.2**
TNTI				*e*Sn		**Sn**	**07 27 41.4**	**-0.5**
TNTI	**Ternate**	**9.63**	**177**	P		**Pn**	**07 25 54.4**	**-0.5**
MRSI	156nm,0.7s,4μm **Marisa**	**11.02**	**206**	P		**Pn**	**07 26 13.3**	**-0.5**
KKM	22nm,0.9s,442nm **Kota Kinabalu**	**11.34**	**248**	*e*Pn		**Pn**	**07 26 18.3**	**-0.1**
KKM	**Kota Kinabalu**	**11.34**	**248**	P		**Pn**	**07 26 17.0**	**-1.3**
LUWI	**Luwuk**	**12.10**	**200**	*e*Pn		**Pn**	**07 26 29.8**	**+1.2**
SIJI	**Sorong**	**12.10**	**158**	Pn		**Pn**	**07 26 27.4**	**-1.2**
MPSI	3.3nm,0.3s,baz=15,slow=13,SNR=9.1 **Mapaga**	**12.16**	**215**	P		**Pn**	**07 26 33.6**	**+4.1**
SANI	11nm,0.8s **Sanana**	**12.45**	**184**	P		Pn	07 26 28.6	-4.8
NLAI	63nm,0.6s,942nm **Namlea**	**13.61**	**179**	P		**Pn**	**07 26 45.3**	**-3.9**
YULB	138nm,0.6s,3μm **Yu-li**	**13.89**	**339**	*e*Pn		**Pn**	**07 26 54.3**	**+1.2**
SGKI	**Sangatta, Kali**	**14.23**	**220**	P		**Pn**	**07 26 57.3**	**-0.4**
FAKI	195nm,0.7s **Fak Fak**	**14.35**	**157**	*e*Pn		**Pn**	**07 26 59.5**	**+0.1**
FAKI	**Fak Fak**	**14.35**	**157**	P		**Pn**	**07 26 58.8**	**-0.6**
TTSI	49nm,0.9s **Tana Toraja**	**15.10**	**208**	P		**Pn**	**07 27 11.0**	**+1.7**
TTSI	**Tana Toraja**	**15.10**	**208**	P		**Pn**	**07 27 11.1**	**+1.8**
BNDI	92nm,0.9s,1μm **Bandanaira**	**15.20**	**168**	P		**P**	**07 27 19.1**	**+4.1**
BKB	**Balikpapan**	**15.24**	**221**	P		**P**	**07 27 17.2**	**+1.7**
TATO	**Taipei**	**15.30**	**341**	*e*Pn		**Pn**	**07 27 10.4**	**-1.4**
SPSI	326nm,1.5s **Sidrap Palu**	**15.94**	**206**	P		**Pn**	**07 27 21.2**	**+1.0**
SPSI	**Sidrap Palu**	**15.94**	**206**	P		**Pn**	**07 27 21.4**	**+1.2**
BNSI	89nm,0.8s,724nm **Bone**	**16.19**	**205**	P		**Pn**	**07 27 23.8**	**+0.5**
BNSI	**Bone**	**16.19**	**205**	P		**P**	**07 27 25.1**	**-0.9**
JOW	78nm,1.2s,1μm **Kunigami**	**16.35**	**5**	Pn		**P**	**07 27 29.8**	**+2.0**
JOW	4.2nm,0.3s,baz=196,slow=12,SNR=5.2			LR		LR	07 33 46.6	
JOW	comp=Z,391nm,19.3s,baz=306,slow=37 **Kunigami**	**16.35**	**5**	*e*Pn		**Pn**	**07 27 25.9**	**+0.5**
SBUM	103nm,1.3s **Sibu**	**16.50**	**242**	*e*Pn		**Pn**	**07 27 28.2**	**+0.8**
SBUM	27nm,0.6s **Sibu**	**16.50**	**242**	P		**P**	**07 27 29.0**	**-0.6**
BKSI	**Bulukumba**	**17.02**	**203**	P		**Pn**	**07 27 33.2**	**-0.6**
BKSI	**Bulukumba**	**17.02**	**203**	P		**Pn**	**07 27 33.9**	**+0.1**
GUMO	30nm,0.8s **Guam**	**17.96**	**78**	LR		LR	07 33 07.4	
STKI	comp=Z,326nm,20.5s,baz=252,slow=32 **Sintang**	**18.39**	**237**	P		**Pn**	**07 27 53.3**	**+2.5**
KSM	108nm,1.0s **Kuching**	**18.64**	**242**	*e*P		**P**	**07 27 52.4**	**-0.9**
KSM	189nm,0.8s **Kuching**	**18.64**	**242**	P		**Pn**	**07 27 54.0**	**+0.2**
JAY	**Jayapura**	**18.92**	**132**	P		**Pn**	**07 27 58.4**	**+1.2**
JAY	0.7nm,0.3s,baz=296,slow=16,SNR=2.6 comp=Z,380nm,19.6s,baz=3.0,slow=33			LR		LR	07 34 04.1	
MMRI	**Maumere**	**19.50**	**194**	*e*P		**Pn**	**07 28 03.6**	**-0.4**
MMRI	186nm,0.6s **Maumere**	**19.50**	**194**	P		**Pn**	**07 28 10.0**	**+6.0**
PBKI	**Pangkalan Bun**	**19.93**	**230**	P		**Pn**	**07 28 09.6**	**+0.4**
BATI	404nm,0.9s **Baumata**	**20.76**	**189**	P		**P**	**07 28 17.0**	**+0.7**
BATI	364nm,0.6s,baz=149,slow=6.7,SNR=10 **Baumata**	**20.76**	**189**	P		**P**	**07 28 17.0**	**+0.7**
WBSI	231nm,0.8s **Waikabubak, Su**	**21.27**	**200**	P		**P**	**07 28 21.7**	**-0.2**
BASI	128nm,0.8s,2μm **Baing, Sumba**	**21.45**	**197**	P		P	07 28 16.1	-7.5
TWSI	**Taliwang, Sumb**	**21.46**	**208**	P		**P**	**07 28 23.4**	**-0.4**
KMMI	**Kalianget**	**21.57**	**217**	P		**P**	**07 28 24.8**	**-0.2**
CBIJ	**Chichi jima**	**22.02**	**39**	*e*P		**P**	**07 28 29.5**	**-0.2**
JCJ	368nm,1.3s **Chichijima**	**22.02**	**39**	P		**P**	**07 28 30.4**	**+0.7**
JCJ	96nm,0.7s,baz=296,slow=21,SNR=2.8 comp=Z,200nm,18.0s,baz=195,slow=40			LR		LR	07 38 11.8	
JAGI	**Jajag, Banyuwa**	**22.62**	**214**	*e*P		**P**	**07 28 35.2**	**-1.0**
JAGI	84nm,1.0s **Jajag, Banyuwa**	**22.62**	**214**	P		**P**	**07 28 34.7**	**-1.5**
NJ2	**Nanjing**	**22.71**	**342**	*e*P		**P**	**07 28 38.5**	**+1.4**
NJ2	comp=Z,55nm,0.7s			pmax		pmax		
JNU	**Nakatsue**	**22.87**	**9**	P		**P**	**07 28 39.0**	**+0.2**
JNU	40nm,0.9s,baz=117,slow=7.4,SNR=7.8 comp=Z,161nm,18.3s,baz=124,slow=36			LR		LR	07 37 24.9	
JNU	**Nakatsue**	**22.87**	**9**	*e*P		**P**	**07 28 38.4**	**-0.4**
SKNT	130nm,1.3s **Sakolnakorn**	**23.07**	**289**	P		**P**	**07 28 40.2**	**-0.8**
WHN	12nm,1.0s,781nm **Wuhan**	**23.10**	**332**	↓P		**P**	**07 28 41.0**	**-0.1**
WHN				S		**S**	**07 32 49.8**	**+0.4**
NGJI	**Ngawi**	**23.37**	**221**	P		**P**	**07 28 43.2**	**-0.7**
MTN	**Manton Dam**	**23.54**	**169**	P		**P**	**07 28 44.7**	**-0.8**
MTN	baz=23,SNR=5.5 **Manton Dam**	**23.54**	**169**	*e*P		**P**	**07 28 44.4**	**-1.1**
PWJI	85nm,0.8s **Pagerwojo**	**23.65**	**220**	P		**P**	**07 28 48.3**	**+1.8**
KDU	**Kakadu**	**23.67**	**166**	P		**P**	**07 28 45.6**	**-1.1**
SMRI	baz=23,SNR=16 **Semarang**	**23.82**	**224**	*e*P		**P**	**07 28 48.1**	**-0.1**
SMRI	147nm,1.0s **Semarang**	**23.82**	**224**	P		**P**	**07 28 47.9**	**-0.2**
CHBT	**CHBT**	**24.06**	**278**	P		P	07 28 41.4	-9.0
PPBI	**Pangkal Pinang**	**24.07**	**240**	P		**P**	**07 28 50.7**	**+0.2**
WOJI	**Wonogiri, Jawa**	**24.07**	**222**	P		**P**	**07 28 50.2**	**-0.3**
NONG	104nm,1.4s **Nongkai**	**24.11**	**291**	P		**P**	**07 28 49.7**	**-1.1**
MYKOM	0.4nm,1.0s **Kota Tinggi**	**24.36**	**251**	*e*P		**P**	**07 28 52.9**	**-0.3**
MYKOM	151nm,1.5s **Kota Tinggi**	**24.36**	**251**	P		**P**	**07 28 53.0**	**-0.1**
UGM	**Wanagama**	**24.39**	**222**	*e*P		**P**	**07 28 52.8**	**-0.7**
SRAK	260nm,1.4s **Srakaew**	**24.43**	**281**	P		**P**	**07 28 47.5**	**-6.3**
DSRI	35nm,0.7s,367nm **Dabo**	**24.62**	**245**	P		**P**	**07 28 55.3**	**-0.2**
CHAI	**Chaiyaphum**	**24.74**	**285**	P		**P**	**07 28 55.5**	**-1.1**
GYA	19nm,0.9s,137nm **Guiyang**	**24.80**	**313**	↓*i*P		**P**	**07 28 56.5**	**-0.7**
GYA				pP		pP	07 29 10.0	+1.8
GYA				PP		**PnPn**	**07 29 36.8**	**+6.1**
GYA				S		**S**	**07 33 15.8**	**-1.4**
GYA				sS		sS	07 33 35.3	-0.2
GYA				SS		**SnSn**	**07 34 15.8**	**+9.2**
GYA	comp=Z,20nm,0.8s			pmax		pmax		
GYA	comp=Z,120nm,5.0s			pmax		pmax		
GYA	comp=N,510nm,17.2s			LR		LR		
GYA	comp=E,470nm,17.5s			LR		LR		
GYA	comp=Z,490nm,17.4s			LR		LR		
JCJI	**Jatiwangi**	**24.96**	**228**	P		**P**	**07 29 03.0**	**+4.4**
KPJI	270nm,0.8s **Karang Pucung**	**25.07**	**226**	P		**P**	**07 28 58.8**	**-0.7**
ENH	**Enshi**	**25.46**	**323**	*e*P		**P**	**07 29 01.8**	**-1.3**
LEM	74nm,1.1s **Lembang**	**25.67**	**229**	P		**P**	**07 29 06.7**	**+1.4**
LEM	119nm,0.8s,baz=351,slow=14,SNR=10			pmax		pmax		
LEM	comp=Z,79nm,0.8s **Lembang**	**25.67**	**229**	P		**P**	**07 29 08.7**	**+3.5**
PBKT	**Sadao Pong**	**25.81**	**286**	*e*P		**P**	**07 29 05.0**	**-1.3**
PBKT	comp=Z,23nm,0.9s **Sadao Pong**	**25.81**	**286**	P		**P**	**07 29 05.3**	**-1.0**
CBJI	comp=Z,30nm,1.1s,comp=Z,439nm **Citeko**	**25.98**	**231**	P		**P**	**07 29 13.9**	**+6.0**
CISI	**Cisompet, Garu**	**26.02**	**227**	*e*P		**P**	**07 29 08.4**	**+0.1**
CISI	comp=Z,82nm,0.9s **Cisompet, Garu**	**26.02**	**227**	P		**P**	**07 29 09.6**	**+1.4**
KNRA	**Kununurra**	**26.04**	**176**	P		**P**	**07 29 07.5**	**-0.8**
SKLT	baz=26,SNR=4.6 **Songkhla**	**26.06**	**265**	P		**P**	**07 29 12.1**	**+3.5**
IPM	comp=Z,46nm,1.6s **Ipoh**	**26.21**	**259**	*e*P		**P**	**07 29 09.1**	**-0.9**
SBJI	comp=Z,70nm,0.7s **Serang**	**26.35**	**232**	P		**P**	**07 29 14.9**	**+3.7**
KULM	comp=Z,273nm,0.9s,comp=Z,9μm **Kulim**	**26.38**	**261**	*e*P		**P**	**07 29 10.4**	**-1.1**
NANT	comp=Z,43nm,0.9s **Nan**	**26.54**	**291**	P		**P**	**07 29 10.3**	**-2.6**
BLSI	comp=Z,6.3nm,0.7s **Bandar Lampung**	**26.59**	**235**	P		**P**	**07 29 15.0**	**+1.6**
PHET	**Kaeng Krachan**	**26.70**	**278**	P		**P**	**07 29 13.6**	**-0.8**
TRTT	comp=Z,21nm,0.7s,comp=Z,188nm **Trang**	**26.87**	**267**	P		**P**	**07 29 19.8**	**+3.8**
KS15	comp=Z,9.1nm,1.1s **Wonju Array Si**	**26.89**	**2**	*e*P		**P**	**07 29 15.6**	**-0.3**
KSRS	**Korea Array**	**26.90**	**2**	P		**P**	**07 29 16.0**	**+0.1**
KSRS	comp=Z,8.5nm,0.9s,baz=172,slow=9.7,SNR=13 comp=Z,212nm,18.7s,baz=168,slow=38			LR		LR	07 40 28.7	
KS01	**Wonju Array Si**	**26.93**	**2**	*e*P		**P**	**07 29 14.7**	**-1.4**
MDSI	**Maura Dua**	**26.96**	**238**	P		**P**	**07 29 15.4**	**-1.4**
CGJI	**Cibinong**	**26.99**	**232**	P		**P**	**07 29 17.0**	**0.0**
KMI	comp=Z,70nm,1.1s **Kunming**	**27.08**	**306**	P		**P**	**07 29 17.3**	**-0.7**
KMI				pP		pP	07 29 28.5	-0.5
KMI				S		**S**	**07 33 51.0**	**-2.6**
KMI	comp=Z,17nm,0.9s			pmax		pmax		
KMI	comp=Z,95nm,4.4s			pmax		pmax		
KMI	comp=Z,240nm,16.8s			LR		LR		
KMI	comp=Z,230nm,18.1s			LR		LR		
UTHA	**Uthaitani**	**27.11**	**284**	P		**P**	**07 29 17.0**	**-1.0**
SUKH	comp=Z,6.4nm,0.8s **Sukhothai**	**27.24**	**288**	P		**P**	**07 29 22.4**	**+3.2**
SRDT	comp=Z,4.2nm,0.7s **SRDT**	**27.29**	**281**	P		**P**	**07 29 18.7**	**-1.0**
KASI	comp=Z,32nm,1.1s **Kota Agung**	**27.29**	**235**	P		**P**	**07 29 16.6**	**-3.0**
LWLI	**Liwa**	**27.36**	**237**	P		**P**	**07 29 19.3**	**-1.1**
PAYA	**Payao**	**27.44**	**292**	P		**P**	**07 29 19.4**	**-1.7**
LAMP	comp=Z,111nm,0.8s,comp=Z,264nm **Lampang**	**27.46**	**290**	P		**P**	**07 29 22.3**	**+1.1**
MASI	comp=Z,4.2nm,0.7s **Maura Aman, Be**	**27.92**	**242**	P		**P**	**07 29 26.1**	**+0.7**
MNAI	**Manna**	**27.92**	**239**	*e*P		**P**	**07 29 23.9**	**-1.5**
MNAI	comp=Z,145nm,0.9s **Manna**	**27.92**	**239**	P		**P**	**07 29 25.6**	**+0.2**
MAJO	**Matsushiro**	**27.96**	**20**	*e*P		**P**	**07 29 26.2**	**+0.8**
MJAR	**Matsushiro Arr**	**27.96**	**20**	P		**P**	**07 29 26.2**	**+0.8**
MJAR	comp=Z,3.7nm,0.7s,baz=201,slow=10.0,SNR=5.1			LR		LR	07 40 16.6	
CM01	comp=Z,262nm,19.0s,baz=195,slow=36 **Chiang Mai Arr**	**28.06**	**290**	*e*P		**P**	**07 29 24.4**	**-2.2**
CM31	**Chiang Mai Arr**	**28.08**	**290**	*e*P		**P**	**07 29 25.4**	**-1.3**
CMAR	**Chiang Mai Arr**	**28.08**	**290**	P		**P**	**07 29 25.3**	**-1.5**
CMAR	comp=Z,5.9nm,0.9s,baz=103,slow=7.4,SNR=16			PcP		**PcP**	**07 32 41.4**	**+0.6**
CMAR	comp=Z,2.4nm,0.7s,baz=81,slow=0.5,SNR=9.8			LR		LR	07 41 19.4	
CMMT	comp=Z,101nm,18.8s,baz=143,slow=38 **Chiang Mai**	**28.16**	**290**	P		**P**	**07 29 26.6**	**-0.8**
CHTO	comp=Z,11nm,0.9s,comp=Z,405nm **Chiang Mai**	**28.16**	**290**	*e*P		**P**	**07 29 25.2**	**-2.3**
CHTO	comp=Z,12nm,1.1s **Chiang Mai**	**28.16**	**290**	P		**P**	**07 29 25.0**	**-2.4**
CHTO	**Chiang Mai**	**28.16**	**290**	*e*P		**P**	**07 29 25.2**	**-2.3**
CHTO				pmax		pmax		
CHTO	comp=Z,11nm,1.1s **Chiang Mai**	**28.16**	**290**	P		**P**	**07 29 26.7**	**-0.8**
FITZ	comp=Z,49nm,1.0s **Fitzroy Crossi**	**28.39**	**182**	P		**P**	**07 29 28.8**	**-0.7**
FITZ	comp=Z,24nm,1.0s,baz=358,slow=10,SNR=11 **Fitzroy Crossi**	**28.39**	**182**	P		**P**	**07 29 28.3**	**-1.1**
FITZ	baz=28,SNR=8.5 **Fitzroy Crossi**	**28.39**	**182**	*e*P		**P**	**07 29 28.6**	**-0.8**
PDSI	comp=Z,22nm,1.0s **Padang**	**28.52**	**248**	P		**P**	**07 29 29.8**	**-0.9**
XAN	**Xi'an**	**28.62**	**328**	P		**P**	**07 29 30.5**	**-0.9**
XAN				pmax		pmax		
XAN	comp=Z,54nm,1.6s			pmax		pmax		
PSI	comp=Z,150nm,4.3s **Prapat**	**28.68**	**257**	P		**P**	**07 29 31.3**	**-0.9**
PSI	comp=Z,6.6nm,0.6s,baz=0.4,slow=4.1,SNR=7.3			PcP		**PcP**	**07 32 41.7**	**-0.7**
PSI	comp=Z,7.9nm,0.8s,baz=180,slow=8.9,SNR=3.7			LR		LR	07 43 14.6	
PSI	comp=Z,186nm,18.5s,baz=84,slow=41 **Prapat**	**28.68**	**257**	*e*P		**P**	**07 29 30.3**	**-2.0**
PSI	comp=Z,28nm,1.3s **Prapat**	**28.68**	**257**	*e*P		**P**	**07 29 30.3**	**-2.0**
PSI				pmax		pmax		
MNSI	comp=Z,28nm,1.3s **Mandailing Nat**	**28.69**	**252**	P		**P**	**07 29 31.7**	**-0.5**
COEN	comp=Z,42nm,0.9s,comp=Z,3μm **Coen**	**29.20**	**146**	P		**P**	**07 29 37.5**	**+0.8**
COEN	baz=29,SNR=7.6 **Coen**	**29.20**	**146**	*e*P		**P**	**07 29 35.5**	**-1.1**
CD2	comp=Z,15nm,0.8s **Chengdu**	**29.52**	**317**	*e*P		**P**	**07 29 39.0**	**-0.5**
CD2				S		**S**	**07 34 32.0**	**+0.4**
CD2				pmax		pmax		
CD2	comp=Z,10.0nm,0.5s			pmax		pmax		
CD2	comp=Z,120nm,4.8s			LR		LR		
CD2	comp=Z,550nm,16.1s			LR		LR		
KCSI	comp=Z,830nm,12.3s **Kotacane, Aceh**	**29.59**	**259**	P		**P**	**07 29 37.4**	**-2.8**
LHMI	**Lhok Sumawe**	**30.00**	**262**	*e*P		**P**	**07 29 43.4**	**-0.4**
WRAB	comp=Z,148nm,0.9s **Tennant Creek**	**31.10**	**166**	*e*P		**P**	**07 29 51.6**	**-1.9**
WRAB	comp=Z,12nm,0.6s **Tennant Creek**	**31.10**	**166**	*d* *i*P		**P**	**07 29 51.8**	**-1.6**
WRAB				pmax		pmax		
WR1	comp=Z,13nm,0.7s **Warramunga Arr**	**31.11**	**166**	*e*P		**P**	**07 29 51.5**	**-2.0**
WRA	comp=Z,14nm,0.7s **Warramunga Arr**	**31.11**	**166**	P		**P**	**07 29 51.5**	**-2.0**
WRA	comp=Z,8.8nm,0.5s,baz=347,slow=9.4,SNR=34			PcP		**PcP**	**07 32 48.3**	**-0.1**
WRA	comp=Z,3.2nm,0.7s,baz=342,slow=3.0,SNR=5.8 **Warramunga Arr**	**31.11**	**166**	*i* P		**P**	**07 29 50.7**	**-2.8**
WRA				pmax		pmax		
WB2	comp=Z,9.0nm,0.5s **Warramunga Arr**	**31.11**	**166**	*e*P		**P**	**07 29 51.9**	**-1.6**
MBWA	**Marble Bar**	**32.17**	**192**	*e*P		**P**	**07 30 00.7**	**-2.1**
MSHR	comp=Z,13nm,0.6s **Mys Shultsa**	**32.23**	**6**	↓*e*P		**P**	**07 30 06.2**	**+3.1**
LZH	**Lanzhou**	**32.92**	**324**	⇑P		**P**	**07 30 10.5**	**+1.0**
LZH				pP		sP	07 30 23.8	-1.7
LZH				sP		pP	07 30 30.5	+10
LZH				*e*PP		**PP**	**07 31 24.5**	**+0.1**
LZH	comp=Z,23nm,1.4s			pmax		pmax		
LZH	comp=Z,570nm,13.6s			LR		LR		
LZH	comp=Z,470nm,14.1s			LR		LR		
LZH	comp=Z,860nm,15.2s			LR		LR		
HHC	**Hu-ho-hao-te**	**33.13**	**339**	*e*P		**P**	**07 30 13.5**	**+2.3**
HHC				S		**S**	**07 35 29.3**	**+1.4**
HHC				sS		sS	07 35 49.5	+3.1
HHC				SS		**SnSn**	**07 37 32.5**	**+3.1**
HHC				pmax		pmax		
HHC	comp=Z,26nm,1.1s			pmax		pmax		
HHC	comp=Z,110nm,5.0s			LR		LR		
HHC	comp=Z,150nm,13.1s			LR		LR		
HHC	comp=Z,230nm,13.9s			LR	

GTA pmax pmax
comp=Z,170nm,5.1s
GTA LR LR
comp=Z,560nm,18.7s
GTA LR LR
comp=Z,350nm,17.8s
GTA LR LR
comp=Z,180nm,17.1s
MEEK Meekatharra 37.71 192 P P 07 30 49.8 -0.8
baz=37,SNR=15
LSA Lhasa 38.34 305 *e*P **P 07 30 55.4 -1.0**
comp=Z,10.0nm,0.9s
LSA Lhasa 38.34 305 *e*P **P 07 30 55.4 -1.0**
LSA pmax pmax
comp=Z,10.0nm,0.9s
YSS Yuzh-Sakhalins 38.82 17⇑ *i*P **P 07 31 01.0 +1.4**
YSS pmax pmax
comp=Z,59nm,1.2s
KLR Kul'dur 38.88 5*de*P **P 07 31 00.1 0.0**
H11N1 WAKE ISLAND Hy 39.72 72 T T 08 14 38.5
baz=264,slow=74
H11N2 WAKE ISLAND Hy 39.72 72 T T 08 14 45.7
baz=264,slow=74
H11N3 WAKE ISLAND Hy 39.73 72 T T 08 14 46.9
baz=264,slow=74
QLP Quilpie 40.53 156 P **P 07 31 12.9 -1.2**
baz=40,SNR=4.7
MORW Morawa 40.64 195 P **P 07 31 14.2 -0.8**
baz=40,SNR=15
GRNR Gornyy 40.97 9 *e*P **P 07 31 17.7 +0.2**
GRNR pmax pmax
comp=Z,21nm,1.0s
FORT Forrest 41.01 178 P **P 07 31 17.7 -0.3**
baz=41,SNR=25
FORT Forrest 41.01 178 *e*P **P 07 31 17.6 -0.4**
comp=Z,79nm,0.6s
SONA0 Songino Array 41.03 339 *e*P **P 07 31 18.2 0.0**
SONM Songino Array 41.03 339 P **P 07 31 18.2 0.0**
comp=Z,6.8nm,0.8s,baz=157,slow=8.7,SNR=35
SONM PcP **PcP 07 33 17.6 +0.1**
comp=Z,2.5nm,0.8s,baz=144,slow=5.4,SNR=3.2
SONM LR LR 07 49 41.2
comp=Z,36nm,20.1s,baz=137,slow=38
SONA1 Songino Array 41.04 339 *e*P **P 07 31 17.2 -1.0**
KMBL Kambalda 41.85 186 P **P 07 31 24.1 -0.7**
baz=42,SNR=11
BLDU Ballidu 41.96 193 P **P 07 31 25.1 -0.7**
baz=42,SNR=9.7
KLBR Kellerberrin 42.69 191 P **P 07 31 31.1 -0.6**
baz=42,SNR=14
EIDS Eidsvold 42.76 147 P **P 07 31 31.6 -0.7**
baz=42,SNR=3.3
EIDS Eidsvold 42.76 147 *e*P **P 07 31 31.0 -1.3**
comp=Z,14nm,0.8s
ZEA Zeya 43.17 0 *e*P **P 07 31 34.7 -0.7**
ZEA pmax pmax
comp=Z,43nm,1.2s
MUN Mundaring 43.39 193 P **P 07 31 36.8 -0.5**
baz=43,SNR=7.2
BBOO Buckleboo 43.92 169 P **P 07 31 41.6 -0.1**
baz=44,SNR=71
BBOO Buckleboo 43.92 169 *e*P **P 07 31 40.9 -0.7**
comp=Z,128nm,0.7s
NWAO Narrogin (SRO) 44.09 192 P **P 07 31 42.5 -0.5**
comp=Z,9.3nm,0.4s,baz=254,slow=10,SNR=7.3
NWAO Narrogin (SRO) 44.09 192 P **P 07 31 42.5 -0.5**
baz=44,SNR=7.8
NWAO Narrogin (SRO) 44.09 192 *e*P **P 07 31 42.2 -0.8**
comp=Z,31nm,0.9s
NWAO Narrogin (SRO) 44.09 192 *e*P **P 07 31 42.2 -0.8**
NWAO pmax pmax
comp=Z,31nm,0.9s
ZAK Zakamensk 44.28 339 *e*P **P 07 31 42.7 -1.8**
ZAK pmax pmax
comp=Z,6.0nm,1.0s
STKA Stephens Creek 44.41 162 P **P 07 31 45.2 -0.4**
comp=Z,9.9nm,0.4s,baz=335,slow=8.3,SNR=18
STKA PcP **PcP 07 33 28.9 0.0**
comp=Z,5.1nm,0.5s,baz=318,slow=13,SNR=3.6
STKA Stephens Creek 44.41 162 P **P 07 31 45.3 -0.3**
baz=44,SNR=21
STKA Stephens Creek 44.41 162 *e*P **P 07 31 44.9 -0.7**
comp=Z,11nm,1.6s
STKA Stephens Creek 44.41 162 *e*P **P 07 31 44.9 -0.7**
STKA pmax pmax
comp=Z,11nm,1.6s
HTT Hallett 45.14 166 P **P 07 31 51.9 +0.4**
baz=45,SNR=9.4
TLY Talaya 45.24 340 *e*P **P 07 31 51.6 -0.4**
comp=Z,12nm,0.8s
TLY Talaya 45.24 340 *e*P **P 07 31 52.7 +0.7**
TLY pmax pmax
comp=Z,14nm,0.9s
TLY MLR MLR
comp=Z,55nm,17.0s
CMSA Cobar Meteorol 45.51 157 P **P 07 31 54.1 -0.3**
baz=45,SNR=11
RKGY Rocky Gully 45.77 191 P **P 07 31 56.8 +0.5**
baz=45,SNR=11
MOY Mondy 46.16 338 *e*P **P 07 31 59.7 +0.3**
MOY pmax pmax
comp=Z,42nm,2.5s
ARMA Armidale 47.14 150 P **P 07 32 08.1 +0.9**
baz=47,SNR=4.1
ARMA Armidale 47.14 150 *e*P **P 07 32 07.8 +0.6**
comp=Z,51nm,1.6s
HYB Hyderabad 47.22 284 *i* P **P 07 32 07.0 -1.1**
WMQ Urumqi 47.39 322 P **P 07 32 10.0 +0.9**
WMQ pP pP 07 32 20.5 -0.1
WMQ sP sP 07 32 30.3 +4.9
WMQ pmax pmax
comp=Z,96nm,1.1s
WMQ pmax pmax
comp=Z,320nm,3.9s
WMQ LR LR
comp=Z,120nm,16.9s
WMQ LR LR
comp=Z,150nm,19.1s
BOD Bodaibo 48.27 351 *e*P **P 07 32 12.8 -2.7**
BOD pmax pmax
comp=Z,15nm,1.4s
HVS Khovu-Aksy 48.76 333⇑ *e*P **P 07 32 20.2 +0.6**
HVS pmax pmax
comp=Z,12nm,0.8s
YNG Young 49.01 156 P **P 07 32 22.1 +0.6**
baz=49,SNR=5.5
ARPS Mount Arapiles 49.06 164 P **P 07 32 22.1 +0.3**
baz=49,SNR=13
PETK Petropavlovsk- 49.26 24 P **P 07 32 25.3 +2.0**
comp=Z,8.4nm,0.8s,baz=208,slow=7.1,SNR=7.0
PETK Petropavlovsk- 49.26 24 *e*P **P 07 32 24.0 +0.7**
PETK Petropavlovsk- 49.26 24 *e*P **P 07 32 24.0 +0.7**
PEA1 Petropavlovsk- 49.27 24 *e*P **P 07 32 25.3 +2.0**
CAN Canberra 50.14 156 *e*P **P 07 32 30.3 +0.1**
comp=Z,20nm,1.0s
CAN Canberra 50.14 156 *e*P **P 07 32 30.3 +0.1**
CAN pmax pmax
comp=Z,20nm,1.0s
CNB Canberra Magne 50.28 156 P **P 07 32 32.0 +0.7**
baz=50,SNR=7.0
DZM Mont Dzumac 50.57 130 P **P 07 32 33.9 +0.2**
comp=Z,10.0nm,0.8s,baz=258,slow=12,SNR=4.1
DZM PcP **PcP 07 33 52.0 +0.8**
comp=Z,7.0nm,0.6s,baz=314,slow=23,SNR=4.7
DZM Mont Dzumac 50.57 130 *e*P **P 07 32 36.5 +2.7**
comp=Z,74nm,1.2s
DZM Mont Dzumac 50.57 130 *e*P **P 07 32 33.6 -0.1**
comp=Z,40nm,1.3s
DGZ Jazzator, Alta 50.88 328*de*P **P 07 32 36.2 +0.4**
DGZ pmax pmax
comp=Z,17nm,1.4s
TOO Toolangi 50.89 161 P **P 07 32 36.8 +1.0**
baz=51,SNR=13
TOO Toolangi 50.89 161 P **P 07 32 36.9 +1.1**
TOO pmax pmax
comp=Z,26nm,1.3s
YAK Yakutsk 51.53 2⇑ *i*P **P 07 32 42.7 +2.5**
YAK pmax pmax
comp=Z,13nm,0.6s
LHI Lord Howe Isla 51.94 145 *e*P **P 07 32 44.3 +0.6**
comp=Z,62nm,1.0s
MK01 Makanchi Array 52.17 322 *e*P **P 07 32 44.7 -0.7**
MK31 Makanchi Array 52.19 322 *e*P **P 07 32 44.8 -0.7**
MK31 Makanchi Array 52.19 322 *e*P **P 07 32 44.8 -0.7**
MK32 Makanchi Array 52.19 322 *e*P **P 07 32 45.8 +0.3**
MKAR Makanchi Array 52.19 322 P **P 07 32 45.8 +0.3**
comp=Z,45nm,0.7s,baz=119,slow=8.3,SNR=189
MKAR PcP **PcP 07 33 57.5 +0.7**
comp=Z,15nm,0.9s,baz=119,slow=3.6,SNR=4.1
MKAR LR LR 07 56 26.5
comp=Z,68nm,18.8s,baz=118,slow=38
MKAR Makanchi Array 52.19 322 *e*P **P 07 32 44.8 -0.7**
comp=Z,270nm,0.8s
PRZ Przheval'sk 52.81 316 *e*P **P 07 32 49.6 -0.7**
comp=Z,59nm,0.8s
PRZ Przheval'sk 52.81 316 *e*P **P 07 32 49.6 -0.7**
PRZ pmax pmax
comp=Z,59nm,0.8s
KSH Kashi 53.49 312 P **P 07 32 56.5 +1.2**
KSH pP pP 07 33 09.5 +2.5
KSH PcP **PcP 07 34 02.5 +0.6**
KSH S **S 07 40 23.5 -2.0**
KSH sS sS 07 40 45.5 +0.6
KSH SS **SS 07 44 04.8 -1.3**
KSH pmax pmax
comp=Z,72nm,1.2s
KSH pmax pmax
comp=Z,130nm,3.9s
KSH LR LR
comp=Z,190nm,6.1s
KSH LR LR
comp=Z,260nm,6.7s
KSH LR LR
comp=Z,380nm,17.0s
KDJ Kajisay 53.52 315 *e*P **P 07 32 54.6 -0.9**
comp=Z,23nm,0.8s
KDJ Kajisay 53.52 315 *e*P **P 07 32 54.7 -0.9**
KDJ pmax pmax
comp=Z,23nm,0.8s
NIL Nilore 54.05 304 *e*P **P 07 32 57.9 -1.5**
comp=Z,19nm,0.9s
NIL Nilore 54.05 304 *e*P **P 07 32 57.9 -1.5**
NIL pmax pmax
comp=Z,19nm,0.9s
NRN Naryn 54.10 314 *e*P **P 07 32 59.1 -0.9**
comp=Z,19nm,0.8s
NRN Naryn 54.10 314 *e*P **P 07 32 59.1 -0.9**
NRN pmax pmax
comp=Z,19nm,0.8s
ULHL Ulahol 54.21 315 P **P 07 33 01.3 +0.6**
SNR=7.6
ZAA0 Zalesovo Array 54.71 331 *e*P **P 07 33 02.7 -1.1**
comp=Z,11nm,0.8s
ZALV Zalesovo Beam 54.71 331 P **P 07 33 03.1 -0.7**
comp=Z,12nm,0.8s,baz=118,slow=6.2,SNR=25
ZALV Zalesovo Beam 54.71 331 *e*P **P 07 33 02.7 -1.1**
ZALV Zalesovo Beam 54.71 331 *e*P **P 07 33 02.7 -1.1**
ZAA1 Zalesovo Array 54.71 331 *e*P **P 07 33 03.1 -0.7**
KZA Kyzart 54.84 315 P **P 07 33 05.8 +0.3**
SNR=15
TKM2 Tokmak 2 54.89 316 P **P 07 33 06.3 +0.7**
SNR=13
KBK Karagaybulak 55.25 315 P **P 07 33 08.4 +0.2**
SNR=9.1
UCH Uchtor 55.41 314 P **P 07 33 10.4 +0.8**
SNR=54
SFK Sufi-Kurgan 55.45 312 P **P 07 33 09.6 -0.1**
SFK pmax pmax
comp=Z,22nm,1.0s
CHMS Chumysh 55.50 315 P **P 07 33 10.1 +0.4**
SNR=7.4
FRU1 Bishkek 55.52 315 *e*P **P 07 33 09.8 -0.1**
comp=Z,54nm,1.3s
SEY Seymchan 55.52 14⇑ *e*P **P 07 33 10.9 +1.4**
FRU Bishkek 55.54 315 *e*P **P 07 33 09.0 -1.0**
FRU *e* 07 33 25.0
AAK Ala-Archa 55.56 315 *e*P **P 07 33 09.8 -0.6**
comp=Z,10nm,1.0s
AAK Ala-Archa 55.56 315 P **P 07 33 10.1 -0.2**
SNR=6.7
AAK Ala-Archa 55.56 315*d i*P **P 07 33 10.1 -0.2**
AAK pmax pmax
comp=Z,14nm,1.1s
USP Ospenovka 55.76 316 P **P 07 33 11.4 -0.3**
SNR=15
AML Almayashu 55.95 314 P **P 07 33 13.7 +0.2**
SNR=20
NVS Novosibirsk 55.99 331⇑ *i*P **P 07 33 13.0 +0.1**
NVS *e*S **S 07 41 01.0 +2.8**
NVS pmax pmax
comp=Z,34nm,1.5s
NVS pmax pmax
comp=N,22nm,1.6s
NVS pmax pmax
comp=E,15nm,1.3s
NVS smax smax
comp=E,10.0nm,1.3s
EKS2 Erkin-Say 56.06 315 P **P 07 33 14.4 +0.4**
SNR=14
KURK Kurchatov 56.21 325 *e*P **P 07 33 14.2 -0.4**
comp=E,128nm,1.0s
KURK Kurchatov 56.21 325 P **P 07 33 14.8 +0.2**
SNR=50
KURK Kurchatov 56.21 325*d i*P **P 07 33 14.6 0.0**
KURK pmax pmax
comp=Z,144nm,1.0s
KURK MLR MLR
comp=Z,90nm,17.0s
MNAS Manas 56.90 314 P **P 07 33 20.2 +0.3**
MNAS pmax pmax
comp=Z,24nm,0.9s
KBL Kabul 57.65 304 *e*P **P 07 33 24.6 -0.8**
comp=Z,8.0nm,0.6s
KBL Kabul 57.65 304 *e*P **P 07 33 24.6 -0.8**
KBL pmax pmax
comp=Z,8.0nm,0.6s
KK31 Karatay Array 58.49 314 *e*P **P 07 33 30.5 -0.4**
KK31 Karatay Array 58.49 314 *e*P **P 07 33 30.5 -0.4**
KKAR Karatay Array 58.49 314 *e*P **P 07 33 30.1 -0.8**
KKAR Karatay Array 58.49 314 *e*P **P 07 33 30.1 -0.8**
OTUK Ortayu 58.91 321 P **P 07 33 33.7 -0.1**
OTUK pmax pmax
comp=Z,23nm,1.5s
TIXI Tiksi 61.16 1 LR LR 08 00 34.3
comp=Z,115nm,20.5s,baz=193,slow=36
TIXI Tiksi 61.16 1 *e*P **P 07 33 47.5 -1.2**
comp=Z,8.1nm,0.9s
TIXI Tiksi 61.16 1⇑ *e*P **P 07 33 48.1 -0.6**
TIXI pmax pmax
comp=Z,9.0nm,0.8s
BRVK Borovoye 61.88 325 *e*P **P 07 33 53.2 -0.6**
comp=Z,55nm,0.9s
BRVK Borovoye 61.88 325 P **P 07 33 53.9 0.0**
SNR=25
BRVK Borovoye 61.88 325*d i*P **P 07 33 53.7 -0.2**
BRVK pmax pmax
comp=Z,67nm,1.0s
BILL Bilibino 63.09 16⇑ *e*P **P 07 34 04.9 +3.2**
BILL pmax pmax
comp=Z,25nm,1.7s
NRIK Noril'sk 63.97 346 P **P 07 34 07.1 -0.3**
comp=Z,12nm,1.0s,baz=132,slow=5.8,SNR=13
NRIK PcP **PcP 07 34 44.4 +1.7**
comp=Z,2.7nm,0.7s,baz=68,slow=4.1,SNR=5.0
NRIK LR LR 08 05 23.3
comp=Z,118nm,18.0s,baz=135,slow=39
WSAR Wadi Sarin 65.96 291 PcP **PcP 07 34 52.0 +0.2**
comp=Z,5.5nm,0.9s,baz=49,slow=1.0,SNR=4.1
RAO Raoul Island 66.31 128 LR LR 08 00 56.0
comp=Z,102nm,19.5s,baz=199,slow=34
BIDO Bidbid 66.42 291 P **P 07 34 22.5 -1.8**
SNR=5.1
GEYT Alibeck 66.84 307 P **P 07 34 26.5 -0.2**
comp=Z,1.5nm,0.4s,baz=222,slow=4.0,SNR=6.0
GEYT PcP **PcP 07 34 55.6 +0.3**
comp=Z,7.8nm,1.0s,baz=282,slow=1.4,SNR=8.8
GYA0B ALIBECK ARRAY 66.84 307 *e*P **P 07 34 25.9 -0.8**
comp=Z,17nm,1.0s
THZ Tophouse 67.02 144 *e*P **P 07 34 27.9 +0.3**
comp=Z,111nm,1.6s
ABKAR Akbulak array 67.07 319 *e*P **P 07 34 26.9 -1.0**
LBZ Lake Benmore 67.25 148 *e*P **P 07 34 29.4 +0.3**
comp=Z,84nm,1.5s
RPZ Rata Peaks 67.26 147 P **P 07 34 30.4 +1.3**
comp=Z,20nm,1.0s,baz=342,slow=6.4,SNR=4.3
RPZ Rata Peaks 67.26 147 *e*P **P 07 34 29.4 +0.3**
comp=Z,80nm,1.6s
URZ Urewera 67.47 139 P **P 07 34 32.4 +1.9**
comp=Z,4.9nm,0.6s,baz=61,slow=8.4,SNR=3.1
BKZ Black Stump Fm 67.60 140 *e*P **P 07 34 31.0 -0.4**
comp=Z,32nm,1.2s
UNV Unalaska Valle 67.94 36 *e*P **P 07 34 33.9 +0.6**
comp=Z,25nm,1.1s
SVE Sverdlovsk 68.33 327 *e*P **P 07 34 35.7 0.0**
SVE pmax pmax
comp=Z,65nm,1.1s
AKTO Aktyubinsk 68.51 320 LR LR 08 05 46.1
comp=Z,34nm,19.1s,baz=105,slow=37
ARU Arti 69.35 327 P **P 07 34 41.4 -0.7**
ARU Arti 69.35 327*d i*P **P 07 34 41.8 -0.3**
ARU 07 37 11.2
ARU S **S 07 43 52.0 +6.1**
ARU SS **SS 07 48 16.4 +3.2**
ARU pmax pmax
comp=Z,47nm,1.0s
WHFO Wadi Hawf 70.81 285 P **P 07 34 50.7 -1.0**
ABTO Aybut 71.31 285 P **P 07 34 54.1 -0.8**
SVW2 Sparrevohn 74.94 29 *e*P **P 07 35 15.6 +0.2**
comp=Z,15nm,1.0s
IM3 Indian Mountai 76.23 24 *e*P **P 07 35 22.8 +0.1**
GROC Groznyy 76.37 312 *e*P **P 07 35 23.8 -0.1**
GROC *e* 07 35 35.0
GROC *eS* **S 07 45 11.6 +5.3**
GROC pmax pmax
comp=Z,48nm,1.0s
PRGR Permogore 76.67 331 *e*P **P 07 35 23.3 -1.9**
PRGR pmax pmax
comp=Z,26nm,0.6s
CAST Castle Rocks 76.75 27 *e*P **P 07 35 25.5 -0.2**
comp=Z,9.7nm,0.8s
TBLG Delisi 77.21 311 *e*P **P 07 35 28.6 -0.1**
comp=Z,23nm,1.0s
TBLG Delisi 77.21 311 *e*P **P 07 35 28.6 -0.1**
TBLG pmax pmax
comp=Z,23nm,1.0s
BPAW Bear Paw Mtn. 77.27 26 *e*P **P 07 35 28.7 +0.1**
comp=Z,19nm,0.9s
GNI Garni 77.28 309*c i*P **P 07 35 30.5 +1.1**
GNI pmax pmax
comp=Z,122nm,1.9s
SUA Susitna One 77.29 29 *e*P **P 07 35 28.3 -0.6**
MLY Manley 77.42 26 *e*P **P 07 35 29.4 -0.1**
comp=Z,14nm,1.0s
CASY Casey 77.46 187 *e*P **P 07 35 29.8 +0.4**
comp=Z,34nm,1.0s
TRF Thorofare Moun 77.56 27 *e*P **P 07 35 30.1 -0.4**
comp=Z,12nm,1.0s
COLD Coldfoot 77.72 23 *e*P **P 07 35 31.2 +0.1**
comp=Z,5.0nm,1.0s
ZEI Tsey 77.78 312 *e*P **P 07 35 29.1 -3.0**
ZEI pmax pmax
comp=Z,33nm,1.0s
NCK Nalchik 77.97 312⇑ *e*P **P 07 35 33.0 +0.1**
NCK pmax pmax
comp=Z,55nm,0.9s
RAYN Ar Rayn 77.97 292 *e*P **P 07 35 32.3 -1.1**
comp=Z,35nm,1.5s
RAYN Ar Rayn 77.97 292 *e*P **P 07 35 32.3 -1.1**
RAYN pmax pmax
comp=Z,35nm,1.5s
TOLK Toolik Lake Re 78.02 22 *e*P **P 07 35 32.7 -0.1**
comp=Z,12nm,1.0s
TOLK Toolik Lake Re 78.02 22 P **P 07 35 33.5 +0.8**
baz=268
PMR Palmer 78.06 29 *e*P **P 07 35 32.4 -0.6**
comp=Z,9.2nm,0.9s
PMR Palmer 78.06 29 *e*P **P 07 35 32.4 -0.6**
PMR pmax pmax
comp=Z,9.0nm,0.9s
AKH Akhalkalaki 78.16 310 *e*P **P 07 35 34.0 -0.3**
comp=Z,35nm,1.1s
AKH Akhalkalaki 78.16 310⇓ *i*P **P 07 35 34.9 +0.6**
GHO Glory Hole Cre 78.16 29 *e*P **P 07 35 33.3 -0.5**
comp=Z,12nm,1.0s
SML Sawmill 78.44 29 *e*P **P 07 35 35.0 -0.2**
comp=Z,23nm,0.9s
SML Sawmill 78.44 29 *e*P **P 07 35 35.0 -0.2**
SML pmax pmax
comp=Z,23nm,0.9s
KBZ Khabaz 78.46 313 P **P 07 35 35.3 -0.3**
comp=Z,13nm,1.0s,baz=149,slow=2.3,SNR=20
MDM Murphy Dome 78.48 26 *e*P **P 07 35 35.1 -0.2**
comp=Z,13nm,1.2s
WRH Wood River Hil 78.54 26 *e*P **P 07 35 35.4 -0.3**
comp=Z,14nm,1.3s
KIV Kislovodsk 78.60 313 *e*P **P 07 35 36.7 +0.2**
comp=Z,31nm,0.8s
KIV Kislovodsk 78.60 313 P **P 07 35 36.0 -0.5**
SNR=7.3
KIV Kislovodsk 78.60 313 *e*P **P 07 35 36.4 -0.1**
KIV pmax pmax
comp=Z,42nm,1.0s
NEY Neytrino 78.62 312⇓ *e*P **P 07 35 37.3 +0.6**
NEY pmax pmax
comp=Z,3.0nm,0.9s
TCOL CIGO, UAF Yank 78.64 26 P **P 07 35 35.7 -0.4**
baz=270
COLA College 78.64 26 *e*P **P 07 35 35.9 -0.2**
comp=Z,7.7nm,0.8s
COLA College 78.64 26 *e*P **P 07 35 35.9 -0.2**
COLA pmax pmax
comp=Z,8.0nm,0.8s
CCB Clear Creek Bu 78.66 26 *e*P **P 07 35 35.6 -0.7**
comp=Z,14nm,1.3s
POKR Poker Plat Res 78.82 25 P **P 07 35 36.2 -1.0**
baz=271
VRH Novokhopyorsk 78.85 320 *e*P **P 07 35 36.2 -1.4**
VRH pmax pmax
comp=Z,90nm,1.3s
SCM Sheep Creek Mo 78.92 29 *e*P **P 07 35 37.6 -0.3**
comp=Z,27nm,1.0s
SCM Sheep Creek Mo 78.92 29 *e*P **P 07 35 37.6 -0.3**
SCM pmax pmax
comp=Z,27nm,1.0s
HDA Harding Lake 79.04 26 *e*P **P 07 35 37.3 -1.1**
comp=Z,8.7nm,0.8s
HDA Harding Lake 79.04 26 P **P 07 35 37.3 -1.1**
baz=271
IL1 Eielson Array 79.06 26 *e*P **P 07 35 36.9 -1.6**
ILAR Eielson Array 79.06 26 P **P 07 35 37.6 -0.9**
comp=Z,2.6nm,0.7s,baz=237,slow=5.6,SNR=23
ILB Eielson Array 79.06 26 *e*P **P 07 35 37.7 -0.8**
KLMR Klimovskoe 79.62 330 *e*P **P 07 35 39.1 -2.5**
KLMR pmax pmax
comp=Z,74nm,1.5s
KLMR Klimovskoe 79.62 330 *e*P **P 07 35 39.1 -2.5**
KLMR AMP 07 35 42.5
comp=Z,74nm,1.5s
FYU Fort Yukon 79.69 24 *e*P **P 07 35 41.7 -0.1**
comp=Z,16nm,0.8s
DIV Divide 79.69 30 *e*P **P 07 35 41.9 -0.2**
comp=Z,42nm,1.4s
RIDG Independ'e Rid 79.99 27 *e*P **P 07 35 42.4 -1.2**
comp=Z,20nm,1.0s
VORD Divnogorie 80.40 320 *e*P **P 07 35 44.4 -1.6**
VORD pmax pmax
comp=Z,20nm,0.6s
VSR Storozhevoye 80.45 320 *e*P **P 07 35 44.5 -1.8**
VSR pmax pmax
comp=Z,50nm,1.1s
LPSR Galich'ya Gora 80.49 322 *e*P **P 07 35 45.5 -0.9**
LPSR pmax pmax
comp=Z,80nm,1.1s
MOS Moscow 80.98 325 *e*P **P 07 35 47.0 -2.0**
MOS *e* 07 38 52.9
MOS pmax pmax
comp=Z,100nm,0.8s
MOS pmax pmax
comp=Z,89nm,0.8s
LVZ Lovozero 81.20 338⇓ *e*P **P 07 35 50.5 +0.5**
EGAK Eagle 81.50 26 *e*P **P 07 35 51.2 -0.4**
comp=Z,7.7nm,0.8s
OBN Obninsk 81.64 324*de*P **P 07 35 51.8 -0.7**
OBN *e* 07 38 58.2
OBN pmax pmax
comp=Z,70nm,1.3s
OBN MLR MLR
comp=Z,51nm,15.0s
ANN Anapa 82.27 314 *e*P **P 07 35 53.7 -2.3**
ANN *e* 07 39 00.0
ANN *eS* **S 07 46 07.6 -1.2**
ANN pmax pmax
comp=Z,120nm,1.2s
DAWY Dawson 82.35 26 *e*P **P 07 35 56.5 +0.3**
comp=Z,18nm,1.3s
EPYK Eagle Plains 83.10 24 P **P 07 36 00.1 +0.1**
baz=280
JOF Joensuu 83.26 333 P **P 07 36 00.4 -0.4**
JOF pmax pmax
comp=Z,59nm,0.7s

MSF	**Maaselka**	83.69	336	P		**P**	07 36 03.6	+0.6	
MSF				pmax	pmax				
	comp=Z,64nm,2.2s								
HYT	**Haines Junctio**	83.73	29	*e*P		**P**	07 36 03.8	+0.3	
	comp=Z,12nm,0.9s								
INK	**Inuvik**	83.93	22	*e*P		**P**	07 36 03.7	-0.4	
	comp=Z,14nm,1.6s								
INK	**Inuvik**	83.93	22	*e*P		**P**	07 36 03.7	-0.4	
INK				pmax	pmax				
	comp=Z,14nm,1.6s								
ARA0	**ARCESS Array S**	84.20	340	*e*P		**P**	07 36 05.5	0.0	
ARCES	**ARCESS Array B**	84.20	340	P		**P**	07 36 05.5	0.0	
	comp=Z,22nm,0.7s,baz=79,slow=6.3,SNR=69								
ARCES	**ARCESS Array B**	84.20	340	*e*P		**P**	07 36 04.8	-0.8	
ARCES	**ARCESS Array B**	84.20	340	*e*P		**P**	07 36 04.8	-0.8	
ARE0	**ARCESS Array S**	84.20	340	*e*P		**P**	07 36 05.2	-0.3	
	comp=Z,1.6nm,0.9s								
ARE0	**ARCESS Array S**	84.20	340	*e*P		**P**	07 36 05.2	-0.3	
PUL	**Pulkovo**	84.30	330⇓	*e*P		**P**	07 36 06.8	+0.6	
PUL				pmax	pmax				
	comp=Z,85nm,0.7s								
HAMF	**Hammerfest**	84.52	341	*e*P		**P**	07 36 07.4	+0.3	
SIM	**Simferopol'**	84.58	315	*d i*P		**P**	07 36 07.6	-0.4	
SIM				pmax	pmax				
	comp=Z,45nm,0.9s								
WHY	**Whitehorse**	85.03	29	*e*P		**P**	07 36 09.8	-0.2	
	comp=Z,24nm,1.0s								
SKAG	**Skagway**	85.06	31	*e*P		**P**	07 36 11.5	+1.4	
	comp=Z,23nm,1.0s								
KTK1	**Kautokeino**	85.12	339	*e*P		**P**	07 36 09.9	-0.2	
OUL	**Oulu**	85.15	335	P		**P**	07 36 12.1	+1.8	
OUL				pmax	pmax				
	comp=Z,20nm,2.3s								
BR101	**Keskin Array S**	85.81	309	*e*P		**P**	07 36 13.5	-0.9	
BR131	**Keskin Array S**	85.81	309	*e*P		**P**	07 36 13.8	-0.6	
BR131	**Keskin Array S**	85.81	309	P		**P**	07 36 13.5	-0.9	
	SNR=8.8								
BRTR	**Keskin Array B**	85.81	309	P		**P**	07 36 13.5	-0.9	
	comp=Z,12nm,0.7s,baz=106,slow=4.4,SNR=47								
FIA1	**FINESS Array S**	85.97	332	*e*P		**P**	07 36 13.3	-1.2	
FIA0	**FINESS Array S**	85.97	332	*e*P		**P**	07 36 14.3	-0.2	
FIA0	**FINESS Array S**	85.97	332	*e*P		**P**	07 36 14.3	-0.2	
FINES	**FINESS Array B**	85.97	332	P		**P**	07 36 14.3	-0.2	
	comp=Z,11nm,0.5s,baz=73,slow=4.7,SNR=62								
VSU	**Vasula**	86.38	329⇑	*e*P		**P**	07 36 16.2	-0.4	
VSU				pmax	pmax				
	comp=Z,111nm,1.0s								
ANTO	**Ankara**	86.42	310	*e*P		**P**	07 36 16.1	-1.2	
	comp=Z,19nm,0.9s								
ANTO	**Ankara**	86.42	310⇓	*i*P		**P**	07 36 16.7	-0.7	
ANTO	**Ankara**	86.42	310	*e*P		**P**	07 36 16.1	-1.2	
ANTO				pmax	pmax				
	comp=Z,19nm,0.9s								
AKASG	**Malin Array Be**	86.74	321	P		**P**	07 36 17.9	-0.7	
	comp=Z,12nm,0.7s,baz=63,slow=4.9,SNR=42								
AKASG	**Malin Array Be**	86.74	321	*i* P		**P**	07 36 18.2	-0.4	
AKASG				pmax	pmax				
	comp=Z,12nm,0.7s								
AKBB	**Malin Array Si**	86.74	321	*e*P		**P**	07 36 17.2	-1.4	
	comp=Z,35nm,1.0s								
KIEV	**Kiev**	86.76	321	*e*P		**P**	07 36 17.0	-1.6	
	comp=Z,37nm,1.1s								
KIEV	**Kiev**	86.76	321	*d i*P		**P**	07 36 17.5	-1.1	
KIEV				pmax	pmax				
	comp=Z,39nm,1.1s								
AK11	**Malin Array Si**	86.78	321	*e*P		**P**	07 36 17.5	-1.2	
CSS	**Mathiatis**	86.90	305	*e*P		**P**	07 36 18.8	-0.9	
	comp=Z,31nm,0.7s								
VAF	**Ylistaro**	87.07	334	P		**P**	07 36 20.7	+0.8	
VAF				pmax	pmax				
	comp=Z,27nm,1.0s								
PPT2	**Papeete2**	87.14	108	*e*LR		LR	08 04 04.0		
	comp=Z,93nm,25.0s								
NACGM	**Naroch**	87.22	325	*e*		**P**	07 36 19.0	-1.8	
TLCR		88.22	316⇑	*i*P		**P**	07 36 25.7	-0.1	
TLCR		88.22	316	⇑P		**P**	07 36 25.7	-0.1	
ISP	**Isparta**	88.56	308	*e*P		**P**	07 36 25.9	-1.9	
	comp=Z,21nm,0.8s								
ISP	**Isparta**	88.56	308⇑	*i*P		**P**	07 36 26.5	-1.2	
ISP	**Isparta**	88.56	308	⇑P		**P**	07 36 26.5	-1.2	
TIRR	**Tirgusor**	88.67	315	*e*P		**P**	07 36 26.8	-1.2	
	comp=Z,18nm,0.8s								
TIRR	**Tirgusor**	88.67	315⇓	*i*P		**P**	07 36 27.3	-0.6	
TIRR	**Tirgusor**	88.67	315	⇓P		**P**	07 36 27.3	-0.6	
CFR	**Carcaliu**	88.69	316⇑	*i*P		**P**	07 36 27.6	-0.4	
CFR	**Carcaliu**	88.69	316	⇑P		**P**	07 36 27.6	-0.4	
HARR	**Harsova**	88.95	315⇑	*i*P		**P**	07 36 29.0	-0.2	
HARR	**Harsova**	88.95	315	⇑P		**P**	07 36 29.0	-0.2	
SUW	**Suwalki**	89.49	325	P		**P**	07 36 31.8	+0.3	
VRI	**Vrincioaia**	89.49	317⇑	*i*P		**P**	07 36 32.0	+0.2	
VRI	**Vrincioaia**	89.49	317	⇑P		**P**	07 36 32.0	+0.2	
PLOR	**Plostina**	89.55	317⇑	*i*P		**P**	07 36 32.3	+0.2	
PLOR	**Plostina**	89.55	317	⇑P		**P**	07 36 32.3	+0.2	
BIZ	**Bicaz**	89.64	318⇑	*i*P		**P**	07 36 32.6	+0.2	
KMBO	**Kilima Mbogo**	89.74	269	P		**P**	07 36 34.3	+0.4	
	comp=Z,0.8nm,0.3s,baz=81,slow=2.1,SNR=4.4								
KMBO	**Kilima Mbogo**	89.74	269	*e*P		**P**	07 36 32.9	-1.0	
	comp=Z,6.2nm,1.3s								
KMBO	**Kilima Mbogo**	89.74	269	*e*P		**P**	07 36 32.9	-1.0	
KMBO				pmax	pmax				
	comp=Z,6.0nm,1.3s								
MANT	**Manisa**	89.93	309	*e*P		**P**	07 36 33.0	-1.3	
	comp=Z,46nm,1.0s								
BURAR	**Bucovina Array**	90.04	318⇓	*i*P		**P**	07 36 34.4	0.0	
BURAR	**Bucovina Array**	90.04	318	⇓P		**P**	07 36 34.4	0.0	
MAW	**Mawson**	90.04	200	P		**P**	07 36 34.1	+0.4	
	comp=Z,13nm,1.0s,baz=72,slow=4.2,SNR=6.0								
MAW	**Mawson**	90.04	200	*e*P		**P**	07 36 33.6	-0.1	
	comp=Z,17nm,0.4s								
MAW	**Mawson**	90.04	200	*e*P		**P**	07 36 33.6	-0.1	
MAW				pmax	pmax				
	comp=Z,17nm,0.4s								
BUR04	**Bucovina Ar. S**	90.05	318	*e*P		**P**	07 36 33.6	-0.8	
BUR08	**Bucovina Ar. S**	90.05	319	*e*P		**P**	07 36 34.1	-0.4	
VNDA	**Vanda**	90.05	173	P		**P**	07 36 34.0	+0.5	
	comp=Z,10nm,0.9s,baz=317,slow=6.0,SNR=54								
VNDA	**Vanda**	90.05	173	*e*P		**P**	07 36 33.7	+0.1	
	comp=Z,33nm,1.5s								
VNDA	**Vanda**	90.05	173	*e*P		**P**	07 36 33.7	+0.1	
VNDA				pmax	pmax				
	comp=Z,33nm,1.5s								
MLR	**Muntele Rosu**	90.12	316	*e*P		**P**	07 36 34.1	-0.7	
	comp=Z,16nm,1.1s								
MLR	**Muntele Rosu**	90.12	316	⇑P		**P**	07 36 34.8	-0.1	
MLR	**Muntele Rosu**	90.12	316	⇑P		**P**	07 36 34.8	-0.1	
LVV	**L'vov**	90.19	321	*e*P		**P**	07 36 33.1	-1.9	
DAG	**Danmarks Havn**	90.64	352	*i* P		**P**	07 36 35.4	-1.1	
	comp=Z,10nm,0.8s								
DAG	**Danmarks Havn**	90.64	352	*i* P		**P**	07 36 35.4	-1.1	
DAG				pmax	pmax				
	comp=Z,8.0nm,0.8s								
VOIR		90.74	316⇓	*i*P		**P**	07 36 38.5	+0.8	
VOIR		90.74	316	⇓P		**P**	07 36 38.5	+0.8	
SBA	**Scott Base**	90.94	172	P		**P**	07 36 38.0	+0.3	
ARR	**Arges**	91.04	316⇓	*i*P		**P**	07 36 39.8	+0.7	
KWP	**Kalwaria Pacla**	91.07	321	*e*P		**P**	07 36 39.4	+0.3	
KWP	**Kalwaria Pacla**	91.07	321	*e*P		**P**	07 36 39.4	+0.3	
RES	**Resolute Bay**	91.23	10	*e*P		**P**	07 36 39.5	+0.2	
	comp=Z,10nm,0.8s								
RES	**Resolute Bay**	91.23	10	*e*P		**P**	07 36 39.5	+0.2	
RES				pmax	pmax				
	comp=Z,10.0nm,0.8s								
LOT	**Lotru**	91.60	317⇑	*i*P		**P**	07 36 40.5	-1.3	
TRPA	**Tarpa**	91.62	319⇑	*i*P		**P**	07 36 41.9	+0.3	
TRPA	**Tarpa**	91.62	319⇑	*e*P		**P**	07 36 41.9	+0.3	
UZH	**Uzhgorod**	91.63	320⇑	*i*P		**P**	07 36 42.3	+0.7	
UZH				*e*			07 36 53.7		
UZH				*i*			07 36 55.2		
DRGR		91.91	318⇑	*i*P		**P**	07 36 43.2	+0.1	
DRGR		91.91	318	⇑P		**P**	07 36 43.2	+0.1	
NIE	**Niedzica**	92.62	321	*e*P		**P**	07 36 46.8	+0.5	
NIE	**Niedzica**	92.62	321	*e*P		**P**	07 36 46.8	+0.5	
OJC	**Ojcow**	92.66	322	*e*P		**P**	07 36 46.5	+0.1	
OJC	**Ojcow**	92.66	322	*e*P		**P**	07 36 46.5	+0.1	
HERR	**Herculane**	92.68	316⇓	*i*P		**P**	07 36 46.0	-0.6	
SIRR	**Siria**	92.77	318⇑	*i*P		**P**	07 36 46.2	-0.8	
VTS	**Vitosha**	92.81	314	*e*P		**P**	07 36 46.5	-1.0	
	comp=Z,6.9nm,0.8s								
VTS	**Vitosha**	92.81	314⇓	*i*P		**P**	07 36 46.8	-0.6	
VTS	**Vitosha**	92.81	314	⇓P		**P**	07 36 46.8	-0.6	
KECS	**Kecovo**	92.82	320	*e*P		**P**	07 36 46.3	-0.9	
KECS				pmax	pmax				
	comp=Z,22nm,0.9s								
KECS	**Kecovo**	92.82	320	*e*P		**P**	07 36 46.3	-0.9	

NB2	**NORSAR Subarra**	92.82	334	P		**P**	07 36 45.2	-1.7	
	comp=Z,2.2nm,0.7s,baz=62,slow=4.6								
NB2	**NORSAR Subarra**	92.82	334	P		**P**	07 36 45.2	-1.7	
NB2				pmax	pmax				
	comp=Z,3.0nm,0.7s								
NB2	**NORSAR Subarra**	92.82	334	P		**P**	07 36 45.2	-1.7	
	baz=62,slow=4.6								
NB200	**NORSAR Array S**	92.82	334	*e*P		**P**	07 36 45.2	-1.7	
NOA	**NORSAR Array B**	92.82	334	P		**P**	07 36 45.2	-1.7	
	comp=Z,4.0nm,0.8s,baz=64,slow=4.7,SNR=14								
MDVR	**Moldovita**	93.19	316⇑	*i*P		**P**	07 36 48.6	-0.4	
PSZ	**Piszkesteto**	93.38	320⇑	*e*P		**P**	07 36 49.9	+0.1	
YKA	**Yellowknife Ar**	93.38	24	P		**P**	07 36 49.4	0.0	
	comp=Z,3.9nm,0.9s,baz=301,slow=4.6,SNR=10								
YKB5	**Yellowknife Ar**	93.38	24	*e*P		**P**	07 36 49.1	-0.4	
KNT	**Kendrikon**	93.44	313	P		**P**	07 36 48.9	-1.3	
KNT				pmax	pmax				
	comp=Z,16nm,1.1s								
IDI	**Anoyia**	93.57	307⇓	*i*P		**P**	07 36 49.7	-1.3	
GRG	**Griva**	93.86	313	P		**P**	07 36 50.6	-1.6	
GRG				pmax	pmax				
	comp=Z,13nm,1.0s								
MORC	**Moravsky Berou**	94.18	322	*e*P		**P**	07 36 53.2	-0.3	
JAVC	**Velka Javorina**	94.44	321	*e*P		**P**	07 36 55.8	+1.1	
AGG	**Agios Georgios**	94.49	311	*e*P		**P**	07 36 52.7	-2.4	
	comp=Z,16nm,1.3s								
AGG	**Agios Georgios**	94.49	311	*e*P		**P**	07 36 52.7	-2.4	
AGG				pmax	pmax				
	comp=Z,16nm,1.3s								
KSP	**Ksiaz**	94.53	323	*e*P		**P**	07 36 54.8	-0.2	
KSP	**Ksiaz**	94.53	323	*e*P		**P**	07 36 54.8	-0.2	
TAOE	**Nuku Hiva Isla**	94.56	98	*e*LR		LR	08 07 20.5		
	comp=Z,110nm,27.9s								
DIVS	**Divibare**	94.58	316	*e*P		**P**	07 36 54.0	-1.4	
	comp=Z,11nm,1.0s								
FNA	**Florina**	94.66	313	*e*P		**P**	07 36 53.8	-2.1	
	comp=Z,8.1nm,0.5s								
FNA	**Florina**	94.66	313	*e*P		**P**	07 36 53.8	-2.1	
FNA				pmax	pmax				
	comp=Z,8.0nm,0.5s								
MORH	**M¯‡r¡gy, Hung**	94.76	319⇓	*e*P		**P**	07 36 55.5	-0.6	
ITM	**Ithomi**	95.34	309	*e*P		**P**	07 36 57.4	-1.6	
	comp=Z,16nm,0.9s								
PDG	**Podgorica**	95.64	315⇑	*i*P		**P**	07 36 59.5	-0.7	
TTG	**Podgorica**	95.64	315	*e*P		**P**	07 36 58.9	-1.3	
	comp=Z,16nm,0.8s								
TTG	**Podgorica**	95.64	315	*e*P		**P**	07 36 58.9	-1.3	
TTG				pmax	pmax				
	comp=Z,16nm,0.8s								
BRG	**Berggiesshubel**	95.88	324	*e*P		**P**	07 37 01.0	-0.2	
	comp=Z,11nm,1.5s								
BRG	**Berggiesshubel**	95.88	324	*e*P		**P**	07 37 01.0	-0.2	
BRG				pmax	pmax				
	comp=Z,11nm,1.5s								
CONA	**Conrad Observa**	95.90	321	*i* PcP		**P**	07 37 01.6	+0.1	
	comp=Z,12nm,1.3s								
CLL	**Collm**	96.24	325	*e*P		**P**	07 37 02.0	-0.8	
	comp=Z,273nm,3.1s								
CLL	**Collm**	96.24	325	*e*P		**P**	07 37 02.0	-0.8	
CLL				pmax	pmax				
	comp=Z,273nm,3.1s								
ARSA	**Arzberg**	96.38	320	*i* PcP		**P**	07 37 02.0	-1.5	
	comp=Z,7.3nm,1.1s								
GERES	**GERESS Array B**	96.86	322	P		**P**	07 37 06.0	+0.2	
	comp=Z,1.7nm,0.8s,baz=68,slow=4.6,SNR=11								
GEA0	**GERESS Array S**	96.86	322	*e*P		**P**	07 37 05.0	-0.8	
SOKA	**Soboth**	96.91	320	*i* PcP		**P**	07 37 05.8	-0.3	
	comp=Z,12nm,1.2s								
MOA	**Molln**	96.92	321	*i* PcP		**P**	07 37 06.0	0.0	
	comp=Z,20nm,1.2s								
OBKA	**Obir**	97.28	320	*e*PcP		**P**	07 37 07.3	-0.4	
	comp=Z,9.1nm,1.0s								
MYKA	**Terra Mystica**	97.81	320	*i* PcP		**P**	07 37 09.4	-0.7	
	comp=Z,5.5nm,0.9s								
KBA	**Koelnbreinsper**	97.81	321	*i* PcP		**P**	07 37 09.8	-0.4	
	comp=Z,11nm,1.2s								
KBA	**Koelnbreinsper**	97.81	321	P		**P**	07 37 10.8	+0.6	
TIP	**Timpagrande**	98.54	312	*e*P		**P**	07 37 12.5	-1.0	
	comp=Z,12nm,1.3s								
TIP	**Timpagrande**	98.54	312⇓	*i*P		**P**	07 37 13.0	-0.5	
SYO	**Syowa Base**	98.67	201⇑	*e*Pdiff		**P**	07 37 12.0	-1.2	
WTTA	**Wattenberg**	98.78	321	*e*Pdiff		Pdif	07 37 14.8	+0.2	
	comp=Z,18nm,1.3s								
SQTA	**Sankt Quirin**	99.07	321	*e*Pdiff		**Pdif**	07 37 15.0	-0.8	
	comp=Z,9.2nm,1.0s								
MOTA	**Moosalm**	99.08	322	*e*Pdiff		**Pdif**	07 37 15.8	0.0	
	comp=Z,8.1nm,1.1s								
FETA	**Feichten**	99.45	321	*e*Pdiff		**Pdif**	07 37 17.2	-0.4	
	comp=Z,6.6nm,0.9s								
QSPA	**South Pole Qui**	100.31	180	*e*Pdif		**Pdif**	07 37 20.6	-0.2	
NV01	**Mina Array Sit**	102.35	47	*e*Pdif		**Pdif**	07 37 30.4	-0.3	
NVAR	**Mina Array Bea**	102.35	47	P		**Pdif**	07 37 32.5	+1.8	
	comp=Z,0.6nm,0.8s,baz=280,slow=5.4,SNR=3.3								
NVAR				PKKPbc		**PKKPbc**	07 53 32.8	-0.5	
	comp=Z,0.6nm,0.7s,baz=117,slow=2.2,SNR=4.9								
PDAR	**Pinedale Array**	106.23	40	PKKP		**PKKPdf**	07 53 33.9	+0.9	
	comp=Z,0.4nm,0.7s,baz=100,slow=5.3,SNR=4.8								
LTX	**Lajitas**	117.32	49	*e*PKPdf		**PKPdf**	07 42 20.9	+0.3	
LTX				*e*PKKPbc		**PKKPab**	07 52 47.0	-1.9	
LTX	**Lajitas**	117.32	49	*e*PKIKP		**PKPdf**	07 42 20.9	+0.3	
TXAR	**Lajitas Array**	117.32	49	PKP		**PKPdf**	07 42 20.9	+0.3	
	comp=Z,0.4nm,0.5s,baz=19,slow=2.2,SNR=11								
TXAR				PKKPab		**PKKPab**	07 52 47.0	-1.9	
	comp=Z,0.2nm,0.5s,baz=108,slow=2.8,SNR=3.8								
JCT	**Junction City**	119.51	46	*e*PKPdf		**PKPdf**	07 42 23.9	-0.9	
JCT	**Junction City**	119.51	46	*e*PKIKP		**PKPdf**	07 42 23.9	-0.9	
TOA0	**Torodi Ar. Sit**	120.67	292	*e*PKPdf		**PKPdf**	07 42 25.7	-1.5	
TOA1	**Torodi Ar. Sit**	120.67	292	*e*PKPdf		**PKPdf**	07 42 26.6	-0.7	
TORD	**Torodi Ar. Bea**	120.67	292	PKP		**PKPdf**	07 42 26.6	-0.7	
	comp=Z,3.2nm,0.7s,baz=134,slow=4.3,SNR=20								
V52A	**Sevierville**	125.76	30	*e*PKPdf		**PKPdf**	07 42 35.6	-1.0	
DBIC	**Dimbokro**	128.94	287	PKP		**PKPdf**	07 42 43.1	0.0	
	comp=Z,5.5nm,0.9s,baz=334,slow=1.6,SNR=6.1								
DBIC	**Dimbokro**	128.94	287	*e*PKPdf		**PKPdf**	07 42 42.6	-0.5	
DBIC	**Dimbokro**	128.94	287	*e*PKIKP		**PKPdf**	07 42 42.6	-0.5	
PLCA	**Paso Flores**	146.17	156	PKPbc		**PKPbc**	07 43 14.9	-0.2	
	comp=Z,20nm,0.7s,baz=254,slow=3.2,SNR=106								
PLCA	**Paso Flores**	146.17	156	*e*PKPdf		**PKPdf**	07 43 14.1	0.0	
PLCA	**Paso Flores**	146.17	156	*e*PKP2		**PKPdf**	07 43 14.1	0.0	
GO06	**Curarrehue**	146.75	154	*e*PKPdf		**PKPdf**	07 43 15.6	+0.4	
CPUP	**Villa Florida**	163.73	167	PKP		**PKPdf**	07 43 38.4	+0.3	
	comp=Z,4.9nm,1.0s,baz=105,slow=2.6,SNR=7.7								
CPUP				PKPab		**PKPab**	07 44 30.7	+0.7	
	comp=Z,2.4nm,0.8s,baz=180,slow=4.6,SNR=5.9								
CPUP	**Villa Florida**	163.73	167	*e*PKPdf		**PKPdf**	07 43 37.7	-0.4	
CPUP	**Villa Florida**	163.73	167	*e*PKIKP		**PKPdf**	07 43 37.7	-0.4	
LPAZ	**La Paz**	164.38	113	PKP		**PKPdf**	07 43 40.1	+0.4	
	comp=Z,4.9nm,1.2s,baz=134,slow=2.3,SNR=8.4								
LPAZ				PKPab		**PKPab**	07 44 35.9	+1.7	
	comp=Z,1.9nm,0.8s,baz=278,slow=6.5,SNR=5.0								
LPAZ	**La Paz**	164.38	113	*e*PKPdf		**PKPdf**	07 43 38.8	-0.9	
LPAZ	**La Paz**	164.38	113	*e*PKIKP		**PKPdf**	07 43 38.8	-0.9	

*ISCJB **26** 07:25:59.4±0.6, 7.°45S±0.°08×124.°11E±0.°07, h400km, mb3.8/2, Error ellipse: s-maj=12.0km s-min=8.0km az=141.1*
*IDC **26** 07:26:00.3±1.1, 7.°46S×124.°24E, h402km±13km, mb3.4/2, mb1 3.4/6, mb1mx3.1/42, mbtmp4.1/6, Error ellipse: s-maj=24.3km s-min=18.0km az=67.0*
*DJA **26** 07:26:03.0±0.9, 8.°S±11.°×12.°4E±.°, h375km±9km, M4.1/8, mb3.9/3, mB4.8/1, MLv4.2/8, Mw(mB)4.0/1*
ISC 26 07:25:59.7±0.8, 7.°39S±0.°09×124.°08E±0.°08, h400km, n13, σ1§09/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	2.20	236	P		P	**Pn**	07 26 57.7	+0.8
SOEI	**Soe**	2.35	175	P		P	**Pn**	07 26 59.1	+1.0
EDFI	**Ende, Flores**	2.72	240	P		P	**Pn**	07 27 01.0	+0.2
EDFI				S		S	**S**	07 27 48.1	-2.1
BATI	**Baumata**	2.82	188	P		P	**Pn**	07 27 03.0	+1.5
	27nm,0.3s,baz=94,slow=2.0,SNR=17								
BATI				S		S	**S**	07 27 51.8	+0.3
	86nm,0.3s,baz=31,slow=5.2,SNR=5.3								
BATI	**Baumata**	2.82	188	P		P	**Pn**	07 27 02.1	+0.6
PLAI	**Plampang**	6.40	257	P		P	**Pn**	07 27 36.4	-0.3
TWSI	**Taliwang, Sumb**	7.25	259	P		P	**P**	07 27 47.5	+0.7
SIJI	**Sorong**	9.66	48	P		P	**Pn**	07 28 14.2	+0.3
	6.7nm,0.3s,baz=39,slow=18,SNR=4.2								
SIJI				S		S	**S**	07 30 03.0	-0.9
	1.3nm,0.3s,baz=34,slow=22,SNR=1.6								
FITZ	**Fitzroy Crossi**	10.75	172	P		P	**P**	07 28 24.9	-0.6
	2.0nm,0.3s,baz=11,slow=9.6,SNR=64								

WRA	**Warramunga Arr**	15.96	142	P		**P**	07 29 21.5	-1.0	
	0.6nm,0.3s,baz=319,slow=12,SNR=38								
ASAR	**Alice Springs**	18.73	151	P		**P**	07 29 52.1	+0.2	
	0.3nm,0.3s,baz=339,slow=14,SNR=10								
CTA	**Charters Tower**	24.92	123	P		**P**	07 30 47.1	-1.6	
	4.7nm,0.8s,baz=290,slow=12,SNR=3.2								
MKAR	**Makanchi Array**	65.47	330	P		**P**	07 36 02.5	+1.1	
	0.9nm,0.6s,baz=129,slow=8.7,SNR=3.1								

*ISCJB **26** 07:30:12.1±0.2, 8.°64S±0.°04×159.°35E±0.°04, h35km, mb4.7/56, MS3.6/7, Error ellipse: s-maj=6.3km s-min=5.4km az=5.5*
*IDC **26** 07:30:14.4±1.3, 8.°74S×159.°48E, h48km±14km, mb4.3/18, mb1 4.4/19, mb1mx4.3/36, mbtmp4.5/19, ML4.7/1, MS3.6/8, Ms1 3.6/8, ms1mx3.2/29, Error ellipse: s-maj=16.4km s-min=14.7km az=168.0*
*NEIC **26** 07:30:15.3±0.9, 8.°65S×159.°44E, h51km±9km, mb4.7/45, Error ellipse: s-maj=6.4km s-min=5.1km az=146.0*
ISC 26 07:30:13.3±0.4, 8.°70S±0.°05×159.°49E±0.°07, h35km, n109, σ1§05/103, mb4.7/56, MS3.6/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	0.85	148	P		P	**Pn**	07 30 30.1	+1.3
	554nm,0.3s,baz=253,slow=4.4,SNR=72								
HNR				S			**Sn**	07 30 41.9	+1.8
	2µm,0.3s,baz=184,slow=3.0,SNR=136								
PMG	**Port Moresby**	12.20	266	LR		LR		07 37 45.1	
	comp=Z,263nm,18.2s,baz=126,slow=37								
DZM	**Mont Dzumac**	14.88	154	*e*Pn		P		07 33 45.7	-0.9
	20nm,0.8s								
DZM				*e*Sn		**Sn**		07 36 21.6	-3.5
	1.6nm,0.3s								
DZM				*e*LR		LR		07 37 11.3	
	271nm,27.6s								
DZM	**Mont Dzumac**	14.88	154	*e*Pn		P		07 33 45.9	-0.7
PATS	**Pohnpei**	15.48	356	*e*Pn		**Pn**		07 33 48.4	-0.8
	156nm,1.0s								
COEN	**Coen**	16.83	250	*e*Pn		P		07 34 08.3	+0.1
	9.9nm,1.0s								
CTA	**Charters Tower**	17.09	227	P		P		07 34 12.2	+1.1
	0.4nm,0.3s,baz=30,slow=15,SNR=4.4								
CTAO	**Charters T

SCRK	Sand Creek	83.94	22	*eP*	P	07 42 39.5	-0.1	
	9.8nm,1.1s							
HYT	Haines Junctio	84.90	26	*eP*	P	07 42 45.4	+0.8	
	11nm,1.0s							
TOLK	Toolik Lake Re	84.93	17	*eP*	P	07 42 45.2	+0.8	
	3.7nm,0.9s							
EGAK	Eagle	85.40	22	*eP*	P	07 42 47.8	+1.0	
	12nm,1.4s							
YBH	Yreka Blue Hor	86.75	47	*eP*	P	07 42 54.9	+0.8	
	15nm,1.6s							
HUMO	Hull Mountain	86.79	46	*eP*	P	07 42 55.2	+0.9	
	5.2nm,1.0s							
MK01	Makanchi Array	87.62	318	*eP*	P	07 42 57.1	-1.0	
MK31	Makanchi Array	87.64	318	*eP*	P	07 42 57.4	-0.8	
MK32	Makanchi Array	87.64	318	*eP*	P	07 42 57.3	-0.9	
MKAR	Makanchi Array	87.64	318	P	P	07 42 57.3	-0.9	
	4.2nm,0.5s,baz=99,slow=6.1,SNR=33							
MKAR	Makanchi Array	87.64	318	*eP*	P	07 42 57.5	-0.8	
	32nm,0.6s							
ZALV	Zalesovo Beam	88.10	325	P	P	07 42 58.2	-1.9	
	1.5nm,0.6s,baz=110,slow=6.1,SNR=5.9							
ZALV	Zalesovo Beam	88.10	325	*eP*	P	07 42 58.5	-1.7	
ZAA1	Zalesovo Array	88.10	325	*eP*	P	07 42 58.2	-1.9	
PNTR	Pine Nut	88.44	50	*eP*	P	07 43 04.0	+1.5	
	4.2nm,0.9s							
MWC	Mount Wilson	88.66	55	*eP*	P	07 43 03.9	+0.4	
	24nm,1.5s							
NV01	Mina Array Sit	89.30	51	*eP*	P	07 43 07.1	+0.6	
NVAR	Mina Array Bea	89.30	51	P	P	07 43 07.6	+1.1	
	3.5nm,1.0s,baz=241,slow=5.1,SNR=9.6							
NVAR				LR	LR	08 15 58.1		
	comp=Z,38nm,20.6s,baz=303,slow=31							
KVN	Kaiserville	89.58	51	*eP*	P	07 43 08.6	+0.8	
	5.2nm,1.2s							
INK	Inuvik	89.76	20	*eP*	P	07 43 08.1	+0.4	
	7.2nm,1.5s							
LDFC	Landfair	91.20	55	*eP*	P	07 43 16.4	+1.1	
	15nm,1.2s							
BMO	Blue Mountains	91.28	45	*eP*	P	07 43 16.0	+0.5	
	4.3nm,1.0s							
R11A	Troy Canyon, C	91.38	52	*eP*	P	07 43 16.8	+0.6	
	1.9nm,1.0s							
SHPR	Sheep Range	91.40	53	*eP*	P	07 43 17.4	+1.1	
	6.9nm,1.3s							
NRIK	Noril'sk	91.82	340	P	P	07 43 15.6	-1.6	
	1.8nm,0.7s,baz=138,slow=6.1,SNR=2.8							
HLID	Hailey	93.11	47	*eP*	P	07 43 25.1	+1.0	
	8.2nm,1.5s							
YKA	Yellowknife Ar	95.76	28	P	P	07 43 34.8	-0.7	
	1.5nm,0.7s,baz=263,slow=4.7,SNR=9.2							
YKB5	Yellowknife Ar	95.76	28	*eP*	P	07 43 34.8	-0.7	
PD31	Pinedale Array	96.53	48	*eP*	P	07 43 39.2	-0.6	
PDAR	Pinedale Array	96.53	48	P	P	07 43 39.3	-0.6	
	0.5nm,0.6s,baz=208,slow=1.9,SNR=6.1							
PDAR				LR	LR	08 19 00.7		
	comp=Z,60nm,21.5s,baz=302,slow=30							
ROSC	El Rosal	126.46	90	PKP	PKPdf	07 49 12.8	-1.5	
	3.5nm,0.5s,baz=52,slow=19,SNR=5.0							
LPAZ	La Paz	126.73	118	PKP	PKPdf	07 49 13.4	-1.6	
	1.1nm,0.9s,baz=22,slow=7.2,SNR=4.5							
GERES	GERESS Array B	130.77	331	PKP	PKPdf	07 49 20.3	-0.8	
	0.4nm,0.2s,baz=346,slow=2.8,SNR=4.6							
PBRG	Braganca	144.86	342	*eP*	PKPab	07 49 45.0	-1.1	
PGAV	Gavieira, Arco	145.16	344	*eP*	PKPbc	07 49 46.8	-0.4	
MVO	Moncorvo	145.53	342	*eP*	PKPdf	07 49 47.5	-0.8	
POLO	Lamas de Olo	145.57	343	*eP*	PKPdf	07 49 48.5	+0.1	
ESDC	Sonseca Array	145.79	337	PKPbc	PKPdf	07 49 48.6	-0.2	
	3.4nm,0.8s,baz=12,slow=4.3,SNR=12							
PVIS	Viseu	146.21	341	*eP*	PKPdf	07 49 49.7	+0.3	
MTE	Manteigas	146.39	342	*eP*	PKPdf	07 49 51.0	+1.2	
PCBR	Castelo Branco	146.88	341	*eP*	PKPdf	07 49 51.6	+1.1	
PMRV	Marv??o	147.23	341	*eP*	PKPdf	07 49 53.3	+2.2	

ROM 26 07:35:15.5±0.2,**39°27N**±0.008×**16°02E**±0.01,**h10**km,
ML1.0/2,**Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUC	**Castrocucco**	**0.17**	**293**	P	Pg	07 35 19.8	+0.6
CUC				S	Sg	07 35 22.6	+0.9
CUC				AML	AML		
	comp=E,90μm,0.5s						
CUC				AML	AML		
	comp=N,74μm,0.6s						
CUC				AML	AML		
	comp=E,90μm,0.5s						
CUC				AML	AML		
	comp=N,74μm,0.6s						
T0702	**Acquaformosa (**	**0.21**	**166**	P	Pg	07 35 20.8	+0.8
T0702				S	Sg	07 35 24.3	+1.3
SALB	**San Lorenzo Be**	**0.26**	**101**	P	Pg	07 35 21.5	+0.6
SCHR	**S. Chirico Rap**	**0.28**	**10**	P	Pg	07 35 20.8	-0.3
SIRI	**Monte Sirino -**	**0.28**	**336**	P	Pb	07 35 22.3	-0.4
SIRI				AML	AML		
	comp=E,33μm,0.2s						
SIRI				AML	AML		
	comp=N,48μm,1.3s						
SIRI				AML	AML		
	comp=E,33μm,0.2s						
SIRI				AML	AML		
	comp=N,48μm,1.3s						

ARO ***26*** *07:46:32.2,14°N±14°×4°3E±6°3,h15km±99km, Ml3.8*
DHMR ***26*** *07:46:36.3±1.9, 14°.05N×43°.23E,h18km±9km,ML3.9*
ISC 26 07:46:34.9±1.4,**14°.04N**±0°.04×**43°.29E**±0°.05,**h3**km±13km,
n16,σ1§26/24,2C,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**0.66**	**96**	*i* P	**Pn**	**07 46 50.2**	**-1.2**
UDYN				*i* S	**Sn**	**07 47 00.7**	**-1.8**
TRBA	**At Turbah**	**1.14**	**135**	*i* P	**Pn**	**07 46 58.7**	**+0.7**
TRBA				*i* S	**Sn**	**07 47 13.9**	**-0.3**
TRBA				AML	AML	07 47 15.4	
	comp=E,2μm,0.4s						
DHBB	**Dhamar BB**	**1.19**	**63**	*i* P	**Pn**	**07 46 59.5**	**+0.6**
DHBB				*i* S	**Sn**	**07 47 17.4**	**+1.6**
SANA	**San'a**	**1.61**	**33**	*i* P	**Pg**	**07 47 06.1**	**+0.3**
SANA				*i* S	**Sg**	**07 47 26.8**	**+0.1**
HAJJ	**Hajjah**	**1.68**	**10**	*i* P	**Pb**	**07 47 06.0**	**-0.7**
HAJJ				*i* S	**Sg**	**07 47 28.2**	**-0.8**
HAJJ				AML	AML	07 47 32.9	
	comp=Z,3μm,0.3s						
LBOS		**1.91**	**95**	*i* P	**Pb**	**07 47 10.2**	**-0.5**
LBOS				*i* S	**Sg**	**07 47 37.8**	**+1.4**
OBO	**Obock**	**2.04**	**180**	*eP*	**Pn**	**07 47 11.4**	**+1.2**
MAOD	**Malaho**	**2.19**	**208**	*eP*	**Pn**	**07 47 13.2**	**+0.9**
BDHA	**Al Bayda'**	**2.21**	**91**	*i* P	**Pb**	**07 47 15.3**	**-0.5**
BDHA				*i* S	**Sg**	**07 47 46.5**	**+0.4**
BDHA				AML	AML	07 47 53.1	
	comp=N,628nm,0.5s						
TDD	**Tadjoura Ara**	**2.25**	**190**	*eP*	**Pn**	**07 47 14.1**	**+1.0**
MCAD	**Moucha**	**2.29**	**182**	*eP*	**Pb**	**07 47 15.4**	**-1.6**
ATD	**Arta Tunnel**	**2.53**	**190**	*eP*	**Pn**	**07 47 18.4**	**+1.5**
ATD	**Arta Tunnel**	**2.53**	**190**	*eP*	**Pn**	**07 47 18.4**	**+1.5**
ATD				*eS*	**Sg**	**07 47 56.4**	**+0.1**
LDLD	**Lac de Lave**	**2.56**	**198**	*eP*	**Pn**	**07 47 19.0**	**+1.6**
ATA	**Atar**	**2.57**	**182**	*eP*	**Pn**	**07 47 19.0**	**+1.5**
SGH	**Sud-Ghoubbet**	**2.66**	**194**	*eP*	**Pb**	**07 47 21.2**	**-2.2**

NEIC ***26*** *07:58:24.0±0.5,20°.89S×179°.17W,h604km±6km,*
mb4.5/165,Error ellipse: s-maj=4.8km s-min=3.1km
az=149.0
MOS ***26*** *07:58:23.2±0.8,20°.88S×179°.13W,h603km,mb4.6/31,*
Error ellipse: s-maj=15.5km s-min=9.1km az=138.8
ISCJB ***26*** *07:58:24.2±0.1,20°.97S±0°.03×179°.18W±0°.03,h619km,*
mb4.5/189,Error ellipse: s-maj=4.3km s-min=2.5km
az=139.4
IDC ***26*** *07:58:26.8±1.3,20°.82S×179°.25W,h630km±14km,*
mb4.1/22,mb1 4.2/23,mb1mx4.0/38,mbtmp5.1/23,Error
ellipse: s-maj=12.6km s-min=9.7km az=161.0
WEL ***26*** *07:58:33.3±1.5,22°S±10°×17°8W±4°8,h643km±21km*
ISC 26 07:58:24.9±0.3,**20°.99S**±0°.05×**179°.04W**±0°.05,**h619**km,
n478,σ1§36/505,mb4.5/189,**7C-7D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**8.30**	**173**	P	**P**	**08 00 27.9**	**+0.3**
GLKZ				S	**S**	**08 02 00.1**	**-8.2**
NIUE	**Niue**	**8.77**	**79**	P	**P**	**08 00 32.5**	**+0.2**
	baz=8.8,SNR=13						
AFI	**Afiamalu**	**9.87**	**46**	P	**P**	**08 00 41.0**	**-2.0**
	17nm,0.3s,baz=146,slow=5.2,SNR=33						
AFI				S	**S**	**08 02 31.4**	**-4.9**
	4.5nm,0.3s,baz=53,slow=23,SNR=3.5						
AFI	**Afiamalu**	**9.87**	**46**	*eP*	**P**	**08 00 40.5**	**-2.6**
AFI				*eS*	**S**	**08 02 31.4**	**-4.9**
AFI	**Afiamalu**	**9.87**	**46**	*eP*	**P**	**08 00 40.5**	**-2.6**
AFI				*eS*	**S**	**08 02 31.4**	**-4.9**
DZM	**Mont Dzumac**	**13.56**	**263**	P	**P**	**08 01 19.0**	**0.0**
	3.0nm,0.3s,baz=115,slow=12,SNR=38						
DZM	**Mont Dzumac**	**13.56**	**263**	*eP*	**P**	**08 01 18.9**	**-0.2**
	120nm,1.3s						
DZM	**Mont Dzumac**	**13.56**	**263**	*eP*	**P**	**08 01 18.8**	**-0.3**
NFK	**Norfolk Island**	**14.27**	**233**	P	**P**	**08 01 26.3**	**+0.6**
	baz=14						
OUZ	**Omahuta**	**15.59**	**203**	*eP*	**P**	**08 01 40.8**	**+3.2**
	36nm,0.7s						
OUZ	**Omahuta**	**15.59**	**203**	P	**P**	**08 01 40.2**	**+2.7**
GRZ	**Great Barrier**	**15.95**	**196**	P	**P**	**08 01 43.9**	**+3.0**
WCZ	**Waipu Caves**	**15.99**	**200**	P	**P**	**08 01 44.7**	**+3.6**
KUZ	**Kuaotunu**	**16.36**	**195**	P	**P**	**08 01 47.3**	**+2.8**
WIAZ	**Waiheke Island**	**16.55**	**197**	P	**P**	**08 01 49.1**	**+2.8**
MXZ	**Matakaoa Point**	**16.68**	**187**	*eP*	**P**	**08 01 48.2**	**+0.7**
	60nm,1.1s						
MXZ	**Matakaoa Point**	**16.68**	**187**	P	**P**	**08 01 48.0**	**+0.6**
MXZ				S	**S**	**08 04 26.6**	**-5.6**
MKAZ	**Moumakai**	**16.84**	**196**	P	**P**	**08 01 51.5**	**+2.6**
WMGZ	**Waiomatatini S**	**16.92**	**187**	P	**P**	**08 01 50.0**	**+0.3**
HAZ	**Te Kaha**	**16.94**	**189**	P	**P**	**08 01 50.6**	**+0.8**
HAZ				S	**S**	**08 04 30.7**	**-5.7**
PKGZ	**Pakihiroa**	**17.03**	**188**	P	**P**	**08 01 52.3**	**+1.6**
RUGZ	**Raukumara Rang**	**17.16**	**189**	P	**P**	**08 01 52.1**	**+0.1**
RUGZ				S	**S**	**08 04 35.1**	**-5.1**
TWGZ	**Tauwhareparae**	**17.33**	**188**	P	**P**	**08 01 55.2**	**+1.7**
TWGZ				S	**S**	**08 04 40.0**	**-2.8**
TOZ	**Tahuroa Road**	**17.35**	**195**	P	**P**	**08 01 56.5**	**+2.9**
URZ	**Urewera**	**17.54**	**190**	*eP*	**P**	**08 01 53.9**	**-1.4**
	12nm,0.7s						
URZ				*eS*	**S**	**08 04 47.9**	**+1.8**
URZ	**Urewera**	**17.54**	**190**	P	**P**	**08 01 53.7**	**-1.6**
URZ				S	**S**	**08 04 40.4**	**-5.7**
MWZ	**Matawai**	**17.54**	**189**	P	**P**	**08 01 54.8**	**-0.6**
MWZ				S	**S**	**08 04 41.2**	**-5.1**
RIGZ	**Rimuhau**	**17.88**	**188**	P	**P**	**08 01 58.1**	**-0.4**
RIGZ				S	**S**	**08 04 48.9**	**-2.8**
HIZ	**Hauiti**	**18.25**	**195**	*eP*	**P**	**08 02 02.5**	**+0.8**
	26nm,0.9s						
BKZ	**Black Stump Fm**	**18.52**	**191**	*eP*	**P**	**08 02 03.2**	**-1.1**
	12nm,1.2s						
KNTN	**Kanterra**	**19.45**	**22**	*eP*	**P**	**08 02 11.6**	**-1.4**
	36nm,0.9s						
THZ	**Tophouse**	**21.81**	**196**	*eP*	**P**	**08 02 32.7**	**-1.1**
	20nm,1.1s						
LHI	**Lord Howe Isla**	**22.23**	**237**	*eP*	**P**	**08 02 35.2**	**-2.5**
	52nm,0.8s						
KHZ	**Kahutara**	**22.26**	**195**	*eP*	**P**	**08 02 37.2**	**-0.6**
	14nm,1.0s						
LTZ	**Lake Taylor**	**22.93**	**197**	*eP*	**P**	**08 02 43.2**	**-0.6**
	13nm,0.7s						
OXZ	**Oxford**	**23.49**	**197**	*eP*	**P**	**08 02 48.5**	**-0.2**
	15nm,0.8s						
MQZ	**McQueen's Vall**	**23.69**	**195**	*eP*	**P**	**08 02 50.0**	**-0.4**
	11nm,1.1s						
FOZ	**Fox Glacier**	**24.33**	**200**	*eP*	**P**	**08 02 55.3**	**-0.8**
	39nm,1.0s						
LBZ	**Lake Benmore**	**24.99**	**199**	*eP*	**P**	**08 03 01.5**	**-0.4**
	12nm,1.1s						
ODZ	**Otahua Downs**	**25.46**	**197**	*eP*	**P**	**08 03 06.2**	**+0.2**
	8.0nm,1.1s						
WKZ	**Wanaka**	**25.75**	**200**	*eP*	**P**	**08 03 08.7**	**+0.1**
	40nm,1.1s						
MLZ	**Mavora Lakes**	**26.52**	**201**	*eP*	**P**	**08 03 16.0**	**+0.6**
	24nm,0.7s						
DCZ	**Deep Cove**	**26.93**	**202**	*eP*	**P**	**08 03 19.4**	**+0.5**
	20nm,1.2s						
WHZ	**Wether Hill Ro**	**27.04**	**200**	*eP*	**P**	**08 03 21.1**	**+1.2**
	26nm,0.6s						
EIDS	**Eidsvold**	**27.79**	**255**	P	**P**	**08 03 27.1**	**+0.5**
	baz=28,SNR=13						
EIDS	**Eidsvold**	**27.79**	**255**	*eP*	**P**	**08 03 26.6**	**0.0**
	22nm,0.6s						
ARMA	**Armidale**	**27.98**	**244**	P	**P**	**08 03 29.9**	**+1.4**
	baz=28,SNR=19						
ARMA	**Armidale**	**27.98**	**244**	*eP*	**P**	**08 03 29.2**	**+0.7**
	26nm,0.8s						
PPT2	**Papeete2**	**27.99**	**88**	*eP*	**P**	**08 03 29.9**	**+1.3**
	38nm,1.1s						
PPT	**Papeete**	**28.00**	**88**	*eP*	**P**	**08 03 29.3**	**+0.7**
PPT	**Papeete**	**28.00**	**88**	*eP*	**P**	**08 03 29.3**	**+0.7**
PPTF	**Pamatai, Papee**	**28.00**	**88**	*eP*	**P**	**08 03 29.8**	**+1.1**
	36nm,1.0s						
TIAR	**Tiarei**	**28.21**	**88**	*eP*	**P**	**08 03 31.5**	**+1.0**
	5.8nm,0.8s						
TVO	**Taravao**	**28.26**	**89**	*eP*	**P**	**08 03 32.0**	**+1.1**
	2.8nm,0.4s						
MGCD	**Mangrove Creek**	**29.13**	**239**	P	**P**	**08 03 39.4**	**+1.3**
	baz=29,SNR=5.5						
RMQ	**Roma**	**29.94**	**253**	P	**P**	**08 03 46.6**	**+1.4**
	baz=30,SNR=4.5						
PMOR	**Pomariorio Ree**	**30.18**	**84**	*eP*	**P**	**08 03 48.0**	**+0.7**
	42nm,1.0s						
VAH	**Vaihoa**	**30.36**	**84**	*eP*	**P**	**08 03 49.7**	**+0.8**
	36nm,0.9s						
CNB	**Canberra Magne**	**31.15**	**236**	P	**P**	**08 03 56.8**	**+1.3**
	baz=31,SNR=21						
CAN	**Canberra**	**31.44**	**236**	*eP*	**P**	**08 03 58.7**	**+0.8**
	22nm,1.0s						
CAN	**Canberra**	**31.44**	**236**	*eP*	**P**	**08 03 58.7**	**+0.8**
CAN				pmax	pmax		
	comp=Z,22nm,1.0s						
CTA	**Charters Tower**	**32.48**	**265**	P	**P**	**08 04 07.1**	**+0.1**
	baz=32						
CTAO	**Charters Tower**	**32.48**	**265**	*eP*	**P**	**08 04 07.0**	**+0.1**
	comp=Z,64nm,0.6s						
CTAO	**Charters Tower**	**32.48**	**265**	*eP*	**P**	**08 04 07.0**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,64nm,0.6s						
CMSA	**Cobar Meteorol**	**33.20**	**244**	P	**P**	**08 04 13.6**	**+0.8**
	baz=33,SNR=44						
QLP	**Quilpie**	**33.99**	**253**	P	**P**	**08 04 19.7**	**+0.3**
	baz=34,SNR=50						
PMG	**Port Moresby**	**34.51**	**284**	P	**P**	**08 04 23.8**	**-0.1**
	comp=Z,87nm,0.8s,baz=86,slow=5.9,SNR=30						
PMG	**Port Moresby**	**34.51**	**284**	*eP*	**P**	**08 04 23.4**	**-0.6**
	comp=Z,94nm,0.8s						
PMG	**Port Moresby**	**34.51**	**284**	*eP*	**P**	**08 04 23.4**	**-0.6**
PMG				pmax	pmax		
	comp=Z,94nm,0.8s						
MTSU	**Mount Surprise**	**34.60**	**268**	P	**P**	**08 04 24.9**	**+0.2**
	baz=34,SNR=65						
TOO	**Toolangi**	**34.83**	**234**	P	**P**	**08 04 27.2**	**+0.9**
	baz=35,SNR=13						
TOO	**Toolangi**	**34.83**	**234**	P	**P**	**08 04 27.3**	**+1.0**
TOO				pmax	pmax		
	comp=Z,40nm,0.9s						
TAU	**Tasmania Unive**	**35.60**	**224**	*eP*	**P**	**08 04 33.4**	**+0.9**
	comp=Z,16nm,1.1s						
TAU	**Tasmania Unive**	**35.60**	**224**	*eP*	**P**	**08 04 33.4**	**+0.9**
TAU				pmax	pmax		
	comp=Z,16nm,1.1s						
COEN	**Coen**	**36.65**	**275**	P	**P**	**08 04 41.9**	**+0.4**
	baz=36,SNR=24						
COEN	**Coen**	**36.65**	**275**	*eP*	**P**	**08 04 41.6**	**+0.1**
	comp=Z,46nm,0.9s						
STKA	**Stephens Creek**	**36.71**	**245**	P	**P**	**08 04 42.6**	**+0.8**
	comp=Z,29nm,0.8s,baz=92,slow=10.0,SNR=75						
STKA	**Stephens Creek**	**36.71**	**245**	P	**P**	**08 04 42.6**	**+0.8**
	baz=37,SNR=28						
STKA	**Stephens Creek**	**36.71**	**245**	*eP*	**P**	**08 04 42.6**	**+0.8**
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**36.71**	**245**	*eP*	**P**	**08 04 42.6**	**+0.8**
STKA				pmax	pmax		
	comp=Z,11nm,1.1s						
ARPS	**Mount Arapiles**	**37.41**	**237**	P	**P**	**08 04 48.0**	**+0.6**
	baz=37,SNR=6.9						
MANU	**Manus Island**	**37.77**	**295**	*eP*	**P**	**08 04 49.7**	**-0.9**
	comp=Z,28nm,0.7s						
QIS	**Mount Isa**	**38.60**	**263**	P	**P**	**08 04 56.7**	**-0.6**
	baz=38,SNR=13						
HTT	**Hallett**	**39.14**	**243**	P	**P**	**08 05 02.0**	**+0.5**
	baz=39,SNR=17						
BBOO	**Buckleboo**	**41.46**	**244**	P	**P**	**08 05 20.0**	**+0.2**
	baz=41,SNR=64						
BBOO	**Buckleboo**	**41.46**	**244**	*eP*	**P**	**08 05 19.9**	**+0.1**
	comp=Z,52nm,0.6s						
JAY	**Jayapura**	**43.28**	**290**	P	**P**	**08 05 34.2**	**-0.1**
	comp=Z,67nm,0.6s,baz=141,slow=3.4,SNR=32						
JAY	**Jayapura**	**43.28**	**290**	P	**P**	**08 05 32.9**	**-1.4**
JAY				pP	**pP**	**08 07 20.6**	**-0.7**
AS01	**Alice Springs**	**43.42**	**257**	*eP*	**P**	**08 05 34.9**	**-0.3**
AS31	**Alice Springs**	**43.47**	**257**	*eP*	**P**	**08 05 34.8**	**-0.8**
	comp=Z,38nm,1.1s						
ASAR	**Alice Springs**	**43.47**	**257**	P	**P**	**08 05 35.5**	**0.0**
	comp=Z,92nm,0.8s,baz=98,slow=7.6,SNR=771						
ASAR				ScP	**ScP**	**08 10 04.5**	**+1.7**
	comp=Z,6.6nm,0.8s,baz=104,slow=4.2,SNR=15						
ASAR				S	**S**	**08 11 18.0**	**-2.9**
	comp=Z,5.3nm,0.8s,baz=95,slow=16,SNR=20						
ASPA	**Alice Springs**	**43.47**	**257**	P	**P**	**08 05 35.1**	**-0.5**
	baz=43						
WC3	**Warramunga Arr**	**43.54**	**263**	P	**P**	**08 05 35.5**	**-0.6**
	baz=44						
WB2	**Warramunga Arr**	**43.56**	**263**	P	**P**	**08 05 35.7**	**-0.7**
	baz=44						
WB2	**Warramunga Arr**	**43.56**	**263**	*eP*	**P**	**08 05 35.5**	**-0.9**
WB2				*eS*	**S**	**08 11 21.3**	**-1.0**
WRAB	**Tennant Creek**	**43.57**	**263**	*eP*	**P**	**08 05 35.4**	**-0.9**
	comp=Z,65nm,0.9s						
WRAB	**Tennant Creek**	**43.57**	**263**	*d iP*	**P**	**08 05 35.5**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,81nm,1.0s						
WR1	**Warramunga Arr**	**43.58**	**263**	*eP*	**P**	**08 05 34.9**	**-1.6**
	comp=Z,85nm,0.8s						
WR1				*eS*	**S**	**08 11 18.6**	**-3.9**
WRA	**Warramunga Ar**	**43.58**	**263**	P	**P**	**08 05 34.9**	**-1.6**
	comp=Z,52nm,0.7s,baz=98,slow=8.0,SNR=299						
WRA				ScP	**ScP**	**08 10 04.8**	**+1.5**
	comp=Z,2.8nm,1.1s,baz=94,slow=3.9,SNR=4.8						
WRA				S	**S**	**08 11 18.6**	**-3.9**
	comp=Z,3.0nm,1.0s,baz=96,slow=12,SNR=7.1						
KEKH	**Kekaha**	**46.69**	**25**	*eP*	**P**	**08 05 59.3**	**-0.6**
	comp=Z,122nm,1.1s						
KDU	**Kakadu**	**46.99**	**272**	P	**P**	**08 06 01.8**	**-0.6**
	baz=47,SNR=22						
MTN	**Manton Dam**	**48.20**	**271**	P	**P**	**08 06 10.7**	**-0.7**
	baz=48,SNR=23						
MTN	**Manton Dam**	**48.20**	**271**	*eP*	**P**	**08 06 10.4**	**-1.0**
	comp=Z,65nm,0.7s						
FORT	**Forrest**	**48.21**	**247**	P	**P**	**08 06 10.9**	**-0.4**
	baz=48,SNR=29						
FORT	**Forrest**	**48.21**	**247**	*eP*	**P**	**08 06 10.8**	**-0.4**
	comp=Z,80nm,0.7s						
WRKA	**Warakurna**	**48.40**	**255**	P	**P**	**08 06 12.7**	**-0.2**
	baz=48,SNR=89						
KNRA	**Kununurra**	**49.66**	**267**	P	**P**	**08 06 21.8**	**-0.3**
	baz=50,SNR=22						
FAKI	**Fak Fak**	**50.67**	**284**	*eP*	**P**	**08 06 28.4**	**-1.1**
	comp=Z,18nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.00**	**263**	P	**P**	**08 06 38.9**	**-0.1**
	comp=Z,12nm,0.6s,baz=125,slow=4.3,SNR=46						
FITZ	**Fitzroy Crossi**	**52.00**	**263**	P	**P**	**08 06 38.9**	**-0.1**
	baz=52,SNR=23						
FITZ	**Fitzroy Crossi**	**52.00**	**263**	*eP*	**P**	**08 06 38.7**	**-0.3**
	comp=Z,16nm,0.7s						
SIJI	**Sorong**	**52.43**	**286**	P	**P**	**08 06 41.9**	**-0.2**
	comp=Z,149nm,0.8s,baz=88,slow=6.4,SNR=50						
SWI	**Sorong**	**52.44**	**286**	P	**P**	**08 06 41.6**	**-0.5**
KMBL	**Kambalda**	**53.48**	**246**	P	**P**	**08 06 48.9**	**-0.3**
	baz=53,SNR=5.1						
SOEI	**Soe**	**55.55**	**272**	*eP*	**P**	**08 07 03.7**	**-0.3**
	comp=Z,151nm,0.8s						
SOEI	**Soe**	**55.55**	**272**	P	**P**	**08 07 05.6**	**+1.5**
BATI	**Baumata**	**55.97**	**272**	P	**P**	**08 07 07.8**	**+0.9**
	comp=Z,56nm,0.7s,baz=222,slow=3.9,SNR=3.8						
SANI	**Sanana**	**56.73**	**282**	P	**P**	**08 07 10.7**	**-1.3**
MBWA	**Marble Bar**	**56.80**	**258**	*eP*	**P**	**08 07 11.3**	**-1.1**
	comp=Z,42nm,0.7s						
MEEK	**Meekatharra**	**56.84**	**251**	P	**P**	**08 07 11.9**	**-0.8**
	baz=57,SNR=8.6						
KLBR	**Kellerberrin**	**56.97**	**245**	P	**P**	**08 07 13.3**	**-0.2**
	baz=57,SNR=12						
NWAO	**Narrogin (SRO)**	**57.29**	**244**	P	**P**	**08 07 15.8**	**+0.2**
	baz=57,SNR=6.2						
NWAO	**Narrogin (SRO)**	**57.29**	**244**	*eP*	**P**	**08 07 15.5**	**0.0**
	comp=Z,27nm,1.1s						
NWAO	**Narrogin (SRO)**	**57.29**	**244**	*eP*	**P**	**08 07 15.5**	**0.0**
NWAO				pmax	pmax		
	comp=Z,27nm,1.1s						
SBA	**Scott Base**	**57.33**	**184**	*eP*	**P**	**08 07 17.4**	**+2.4**
	comp=Z,11nm,1.0s						
VNDA	**Vanda**	**57.34**	**185**	P	**P**	**08 07 17.7**	**+2.5**
	comp=Z,2.0nm,0.5s,baz=3.4,slow=6.4,SNR=20						
VNDA	**Vanda**	**57.34**	**185**	*eP*	**P**	**08 07 16.6**	**+1.5**
	comp=Z,3.1nm,0.9s			

baz=235,SNR=6.6
MURC Murrieta 80.10 48 P P 08 09 32.9 +0.7
baz=237
BFSC Mount Baldy Ra 80.13 48 P P 08 09 33.1 +0.7
baz=236
KHMM Horse Mountain 80.14 39 eP P 08 09 32.8 +0.4
comp=Z,28nm,1.2s
EDW2 Edwards Air Fo 80.25 47 P P 08 09 34.0 +1.0
baz=236,SNR=11
MONP2 Monument Peak 80.26 49 P P 08 09 34.3 +1.1
baz=237,SNR=8.5
O02D Mt. Diablo Mer 80.27 40 P P 08 09 34.8 +1.8
baz=232,SNR=7.7
IKP In-Ko-Pah, Jac 80.35 50 P P 08 09 34.8 +1.3
baz=238,SNR=6.1
ISA Isabella, Lake 80.37 46 eP P 08 09 34.4 +0.9
comp=Z,10nm,0.9s
ISA Isabella, Lake 80.37 46 eP P 08 09 34.4 +0.9
ISA pmax pmax
comp=Z,11nm,0.9s
ISA Isabella, Lake 80.37 46 P P 08 09 34.6 +1.1
baz=236,SNR=11
FRD Ford Ranch, An 80.45 49 P P 08 09 34.9 +0.8
baz=237,SNR=12
CMB Columbia Colle 80.47 43 eP P 08 09 34.7 +0.7
comp=Z,11nm,1.1s
CMB Columbia Colle 80.47 43 eP P 08 09 34.7 +0.7
CMB pmax pmax
comp=Z,11nm,1.1s
PFO Pinyon Flats O 80.62 49 eP P 08 09 35.6 +0.6
comp=Z,4.6nm,1.0s
PFO Pinyon Flats O 80.62 49 P P 08 09 35.7 +0.8
baz=237
XPFO Piæon Flat 80.62 49 eP P 08 09 35.6 +0.6
comp=Z,4.9nm,1.0s
AFDM Forest Hills D 80.64 42 eP P 08 09 35.4 +0.6
comp=Z,8.4nm,1.0s
BBRC Big Bear Solar 80.65 48 P P 08 09 36.0 +0.8
baz=237
WDC Whiskeytown Da 80.67 40 eP P 08 09 35.8 +0.9
comp=Z,17nm,1.0s
ORV Oroville 80.68 41 eP P 08 09 35.6 +0.6
comp=Z,10nm,0.9s
ORV Oroville 80.68 41 eP P 08 09 35.6 +0.6
ORV pmax pmax
comp=Z,11nm,0.9s
SWSC Sam W. Stewart 80.73 50 P P 08 09 36.5 +1.1
baz=238,SNR=5.2
MAW Mawson 80.78 200 P P 08 09 36.0 +1.0
comp=Z,1.6nm,0.4s,baz=135,slow=5.7,SNR=4.2
LRMC Laurel Mtn Rad 80.80 47 P P 08 09 36.7 +0.9
baz=236
N02D Trinity Center 80.81 40 P P 08 09 37.1 +1.4
baz=232,SNR=9.9
O03E Paynes Creek 80.94 41 P P 08 09 37.2 +0.9
baz=233,SNR=11
M02C Callahan 80.98 39 P P 08 09 38.2 +1.6
baz=232,SNR=12
L02E Cave Junction 81.02 38 P P 08 09 37.9 +1.3
baz=231
CWC Cottonwood Cre 81.07 46 P P 08 09 38.1 +0.9
baz=236
MDPB Devils Postpil 81.08 44 eP P 08 09 37.8 +0.4
comp=Z,10nm,1.0s
OMMB Old Mammoth Mi 81.12 44 eP P 08 09 38.5 +0.8
comp=Z,8.4nm,1.2s
BELC Belle Mtn. Jos 81.15 49 P P 08 09 38.7 +1.1
baz=238,SNR=10.0
MLAC Mammoth, Mammo 81.24 44 P P 08 09 39.0 +0.8
baz=235
MPMC Manual Prospec 81.25 46 P P 08 09 39.1 +0.9
baz=236,SNR=12
YBH Yreka Blue Hor 81.27 39 eP P 08 09 39.4 +1.4
comp=Z,14nm,0.8s
GSC Goldstone, Bar 81.30 47 eP P 08 09 39.1 +0.8
comp=Z,9.1nm,1.0s
GSC Goldstone, Bar 81.30 47 eP P 08 09 39.1 +0.8
GSC pmax pmax
comp=Z,9.0nm,1.0s
GSC Goldstone, Bar 81.30 47 P P 08 09 39.2 +0.9
baz=237,SNR=8.2
DAC Darwin (Calif) 81.30 46 eP P 08 09 39.3 +0.8
comp=Z,5.6nm,0.8s
DAC Darwin (Calif) 81.30 46 eP P 08 09 39.3 +0.8
DAC pmax pmax
comp=Z,6.0nm,0.8s
TIN Tinemaha, Big 81.31 45 P P 08 09 39.3 +0.9
baz=236
K02D Willamette Mer 81.32 38 P P 08 09 39.6 +1.3
baz=231
BC3 Big Chuckawall 81.35 49 P P 08 09 39.9 +1.2
baz=238,SNR=6.7
WAKR Walker 81.36 43 eP P 08 09 40.0 +1.3
comp=Z,20nm,1.2s
HEC Hector,Ludlow 81.36 48 P P 08 09 39.5 +0.8
baz=237,SNR=16
J01E Myrtle Point 81.46 37 P P 08 09 40.3 +1.4
baz=231
GLA Glamis 81.48 50 eP P 08 09 40.8 +1.6
comp=Z,15nm,0.8s
GLA Glamis 81.48 50 eP P 08 09 40.8 +1.6
GLA pmax pmax
comp=Z,15nm,0.8s
GLA Glamis 81.48 50 P P 08 09 40.6 +1.4
baz=238
BEKR Beckworth 81.57 42 eP P 08 09 40.5 +0.7
comp=Z,6.5nm,0.8s
PNTR Pine Nut 81.59 43 eP P 08 09 41.0 +1.1
comp=Z,28nm,0.8s
HUMO Hull Mountain 81.67 38 eP P 08 09 41.8 +1.8
comp=Z,15nm,1.0s
VCNR Virginia City 81.68 42 eP P 08 09 41.5 +1.2
comp=Z,9.2nm,0.9s
YERR Yerington 81.76 43 eP P 08 09 41.8 +1.1
comp=Z,15nm,0.9s
GMRC Granite Mounta 81.81 48 P P 08 09 41.9 +0.9
baz=238,SNR=6.5
L04D Klamath Falls 81.81 39 P P 08 09 41.9 +1.0
baz=232,SNR=5.7
M04C Macdoel 81.82 39 P P 08 09 42.0 +1.1
baz=233,SNR=6.0
IRM Iron Mountain 81.83 49 P P 08 09 42.1 +1.1
baz=238,SNR=12
GRAC Grapevine Rang 81.85 45 P P 08 09 42.1 +1.1
baz=236
FURC Furnace Creek, 81.90 46 P P 08 09 42.3 +1.1
baz=237,SNR=7.9
TUQ Turquoise Moun 81.97 47 P P 08 09 42.7 +0.9
baz=237,SNR=12
SHOC Shoshone, Teco 81.98 47 P P 08 09 42.5 +0.8
baz=237,SNR=5.7
RYN Ryan 82.01 44 eP P 08 09 42.9 +0.9
comp=Z,4.4nm,0.8s
NV01 Mina Array Sit 82.04 44 eP P 08 09 43.0 +0.8
NVAR Mina Array Bea 82.04 44 P P 08 09 43.1 +0.9
comp=Z,9.9nm,0.8s,baz=224,slow=8.2,SNR=51
Y12C Blythe 82.06 49 eP P 08 09 43.3 +1.2
comp=Z,7.8nm,0.8s
Y12C Blythe 82.06 49 P P 08 09 43.4 +1.2
baz=238,SNR=7.8
PAHR Pah Rah Range 82.09 42 eP P 08 09 43.4 +1.1
comp=Z,12nm,0.9s
113A Mohawk Valley, 82.09 51 eP P 08 09 43.6 +1.4
comp=Z,10nm,0.9s
CN2 Changchun 82.10 323 eP P 08 09 44.5 +2.5
CN2 pmax pmax
comp=Z,20nm,0.7s
I03D Drain, OR 82.13 37 P P 08 09 43.6 +1.4
baz=231
NV11 Mina Array Sit 82.14 44 eP P 08 09 43.5 +0.8
comp=Z,0.5nm,0.8s
IPM Ipoh 82.23 278 eP P 08 09 43.6 +0.1
comp=Z,26nm,0.7s
HSIG 82.32 55 eP P 08 09 44.1 +0.6
comp=Z,8.2nm,0.8s
LDFC Landfair 82.35 48 eP P 08 09 45.0 +1.3
comp=Z,29nm,0.8s
214A Organ Pipe Nat 82.37 52 P P 08 09 45.0 +1.2
baz=240
K04D Chiloquin, OR 82.38 39 P P 08 09 44.8 +1.1
baz=233
KLR Kul'dur 82.45 330|| eP P 08 09 44.3 +0.6
NEE2 Needles Airpor 82.52 48 P P 08 09 45.6 +1.2
baz=238
KVN Kaiserville 82.53 43 eP P 08 09 45.1 +0.5
comp=Z,12nm,1.0s
KVN Kaiserville 82.53 43 eP P 08 09 45.1 +0.5
KVN pmax pmax
comp=Z,13nm,1.0s
J04D Umpqua Nationa 82.55 38 P P 08 09 45.6 +0.9
baz=232,SNR=6.4
TPNV Topopah Spring 82.57 46 eP P 08 09 45.6 +0.8
comp=Z,13nm,0.9s
TPNV Topopah Spring 82.57 46 eP P 08 09 45.6 +0.8
TPNV pmax pmax
comp=Z,13nm,0.9s
TPNV Topopah Spring 82.57 46 P P 08 09 45.7 +0.8
baz=237,SNR=18
PDMCI Parker Dam,Lak 82.62 49 P P 08 09 46.1 +1.2
baz=239,SNR=5.7
I04A Tendick Farm, 82.72 38 P P 08 09 46.0 +0.8
baz=232
MOD Modoc Plateau 82.81 40 eP P 08 09 46.5 +0.6
comp=Z,11nm,0.8s
KULM Kulim 82.88 278 P P 08 09 47.0 +0.3
SHPR Sheep Range 83.07 47 eP P 08 09 48.4 +1.0
comp=Z,6.0nm,1.0s
J05D Fort Rock, OR 83.08 38 P P 08 09 48.6 +1.3
baz=233,SNR=27
W13A Hualapai Mount 83.21 49 eP P 08 09 49.1 +0.9
comp=Z,4.6nm,0.8s
Y14A Wickenburg 83.24 50 eP P 08 09 48.6 +0.6
comp=Z,6.2nm,0.8s
PSI Prapat 83.57 275 P P 08 09 49.4 -1.0
comp=Z,14nm,0.9s,baz=180,slow=4.1,SNR=5.7
PSI Prapat 83.57 275 eP P 08 09 49.3 -1.0
comp=Z,16nm,0.9s
PSI Prapat 83.57 275 eP P 08 09 49.3 -1.0
PSI pmax pmax
comp=Z,16nm,0.9s
I05D Terrebonne, OR 83.66 38 P P 08 09 51.2 +1.3
baz=233
R11A Troy Canyon, C 83.78 45 P P 08 09 51.3 +0.5
baz=237
BMN Battle Mountai 83.86 43 eP P 08 09 51.7 +0.6
comp=Z,3.7nm,0.7s
BMN Battle Mountai 83.86 43 eP P 08 09 51.7 +0.6
BMN pmax pmax
comp=Z,4.0nm,0.7s
TUC Tucson 84.04 52 eP P 08 09 53.1 +0.9
comp=Z,8.8nm,0.9s
TUC Tucson 84.04 52 P P 08 09 53.6 +1.5
TUC pmax pmax
comp=Z,9.0nm,0.9s
TUC Tucson 84.04 52 P P 08 09 53.7 +1.6
baz=241
WVOR Wild Horse Val 84.12 40 eP P 08 09 52.7 +0.4
comp=Z,7.5nm,0.9s
WVOR Wild Horse Val 84.12 40 eP P 08 09 52.7 +0.4
WVOR pmax pmax
comp=Z,8.0nm,0.9s
GSI Gunungsitoli 84.29 274 eP P 08 09 54.2 +0.5
comp=Z,39nm,0.8s
E04D Cinebar 84.34 35 P P 08 09 54.4 +1.3
baz=232
X16A Lo Mia Camp, P 84.60 50 eP P 08 09 55.9 +1.0
comp=Z,4.2nm,0.8s
LCMT Little Creek M 84.64 47 eP P 08 09 56.0 +0.9
comp=Z,5.4nm,0.9s
D03D Eldon 84.68 34 P P 08 09 56.0 +1.3
baz=231
J08A Circle Bar Ran 84.75 40 eP P 08 09 56.1 +0.7
comp=Z,5.5nm,0.8s
CCUT Cedar City 84.84 47 eP P 08 09 57.3 +1.2
comp=Z,3.6nm,0.9s
KNB Kanab 84.94 47 eP P 08 09 57.6 +1.1
comp=Z,4.3nm,0.8s
KNB Kanab 84.94 47 eP P 08 09 57.6 +1.1
KNB pmax pmax
comp=Z,4.0nm,0.8s
PSUT Pine Spring 85.02 46 eP P 08 09 57.6 +0.6
comp=Z,4.6nm,1.0s
SZCU Shurtz Canyon 85.05 47 eP P 08 09 58.2 +1.1
comp=Z,4.3nm,0.9s
RC01 Rabbit Creek A 85.13 14 eP P 08 09 56.4 -0.2
comp=Z,10nm,1.2s
WUAZ Wupatki 85.19 49 eP P 08 09 58.6 +0.9
comp=Z,7.1nm,1.1s
WUAZ Wupatki 85.19 49 P P 08 09 58.8 +1.1
baz=240
SUA Susitna One 85.25 13 eP P 08 09 57.2 -0.1
comp=Z,5.4nm,0.6s
KRAB Krabi 85.30 281 P P 08 10 00.8 +2.3
PKCU Pink Cliffs 85.51 47 eP P 08 10 00.7 +1.3
comp=Z,13nm,1.0s
HPIG 85.51 59 eP P 08 10 00.2 +0.7
comp=Z,6.0nm,0.7s
ENH Enshi 85.51 305 eP P 08 09 59.0 -0.2
comp=Z,29nm,1.0s
G08A Pilot Rock 85.59 38 eP P 08 09 59.9 +0.5
comp=Z,10nm,0.9s
B05A Bryant 85.66 34 P P 08 10 00.4 +1.1
baz=232
LTY Liberty 85.80 36 eP P 08 09 59.7 -0.5
comp=Z,8.8nm,1.1s
E07A Sunnyside 85.83 36 eP P 08 10 00.7 +0.4
comp=Z,12nm,0.8s
MTPU Mount Pierson 85.89 47 eP P 08 10 02.3 +1.1
comp=Z,6.0nm,1.0s
HAWA Hanford 85.91 37 eP P 08 10 01.4 +0.7
comp=Z,12nm,0.8s
GHO Glory Hole Cre 85.92 14 eP P 08 10 00.1 -0.4
comp=Z,10nm,0.8s
SYO Syowa Base 86.04 193|| eP P 08 10 00.2 -0.7
MSU Marysvale 86.14 46 eP P 08 10 03.0 +0.8
W18A Petrified Fore 86.16 50 P P 08 10 03.2 +0.8
baz=241
E08A Dider Farm, El 86.23 37 eP P 08 10 02.9 +0.7
comp=Z,10nm,0.9s
ZAIG Zacatecas 86.28 64 eP P 08 10 04.0 +0.7
comp=Z,5.6nm,1.0s
BMO Blue Mountains 86.30 39 eP P 08 10 03.1 +0.4
comp=Z,4.6nm,0.8s
BMO Blue Mountains 86.30 39 eP P 08 10 03.1 +0.4
BMO pmax pmax
comp=Z,5.0nm,0.8s
SCM Sheep Creek Mo 86.34 14 eP P 08 10 02.2 -0.2
comp=Z,12nm,0.6s
SCM Sheep Creek Mo 86.34 14 eP P 08 10 02.2 -0.2
SCM pmax pmax
comp=Z,13nm,0.6s
MFID Camas Ranch 86.38 41 eP P 08 10 03.7 +0.5
comp=Z,9.3nm,1.0s
E09A Wood Farm, Sta 86.76 37 eP P 08 10 05.4 +0.7
comp=Z,13nm,1.1s
PBKT Sadao Pong 86.86 289 eP P 08 10 05.4 -0.4
F10A Beach Ranch, E 86.98 38 eP P 08 10 06.1 +0.3
comp=Z,21nm,0.8s
TRF Thorofare Moun 87.13 12 eP P 08 10 05.7 -0.5
comp=Z,10nm,0.8s
B08A Colville Reser 87.18 35 eP P 08 10 06.9 +0.3
comp=Z,11nm,0.8s
TMUT Trail Mountain 87.19 46 eP P 08 10 08.1 +0.8
comp=Z,10nm,1.1s
HLID Hailey 87.33 41 eP P 08 10 08.2 +0.6
comp=Z,7.4nm,0.9s
HLID Hailey 87.33 41 P P 08 10 08.7 +1.1
baz=238
RND Reindeer 87.39 13 eP P 08 10 06.8 -0.5
comp=Z,12nm,0.8s
RND Reindeer 87.39 13 eP P 08 10 06.8 -0.5
RND pmax pmax
comp=Z,12nm,0.8s
HVU Hansel Valley 87.42 43 eP P 08 10 08.7 +0.6
comp=Z,7.8nm,0.9s
HVU Hansel Valley 87.42 43 eP P 08 10 08.7 +0.6
HVU pmax pmax
comp=Z,8.0nm,0.9s
C09A Chrisman Ranch 87.43 36 eP P 08 10 08.4 +0.6
comp=Z,9.5nm,0.7s
SNAA Sanae 87.55 179 P P 08 10 07.8 -0.4
SNAA Sanae 87.55 179 i/P P 08 10 07.2 -0.9
SRU San Rafael Swe 87.56 46 eP P 08 10 09.6 +0.7
comp=Z,8.0nm,0.8s
SRU San Rafael Swe 87.56 46 eP P 08 10 09.6 +0.7
SRU pmax pmax
comp=Z,8.0nm,0.8s
P17A Butcher Ranch, 87.59 46 eP P 08 10 10.1 +1.2
comp=Z,9.8nm,1.2s
XAN Xi'an 87.66 308 P P 08 10 09.8 +0.6
XAN pP PcP 08 10 17.0 +6.5
XAN pmax pmax
comp=Z,9.0nm,1.0s
XAN pmax pmax
comp=Z,11nm,3.6s
VNA3 Neumayer Olymp 87.72 177 P P 08 10 08.7 -0.1
LENM Lemitar 87.73 52 eP P 08 10 10.3 +0.6
MNTX Cornudas Mount 87.82 55 eP P 08 10 11.2 +1.2
comp=Z,8.7nm,0.9s
MNTX Cornudas Mount 87.82 55 P P 08 10 11.0 +0.9
baz=244
TCUT Toone Canyon 87.97 44 eP P 08 10 12.0 +1.2
comp=Z,17nm,0.9s
P18A Preston Nutter 88.00 46 eP P 08 10 12.1 +1.1
comp=Z,6.0nm,1.0s
HWUT Hardware Ranch 88.11 44 eP P 08 10 11.2 -0.1
comp=Z,4.0nm,0.8s
LTX Lajitas 88.13 58 eP P 08 10 13.0 +1.4
LTX Lajitas 88.13 58 eP P 08 10 13.0 +1.4
TX31 Lajitas Ar. Si 88.13 58 eP P 08 10 12.4 +0.8
TXAR Lajitas Array 88.13 58 P P 08 10 13.0 +1.4
comp=Z,7.7nm,0.8s,baz=220,slow=5.8,SNR=92
VNA2 Neumayer--Watz 88.15 177 P P 08 10 11.1 +0.2
baz=205,slow=3.7
NVL N'lazarevskaya 88.18 184 eP P 08 10 11.8 +0.9
NVL pmax pmax
comp=Z,6.0nm,0.6s
PV09 Paradox Valley 88.21 47 eP P 08 10 12.6 +0.6
PV14 Lion Creek, Pa 88.22 48 eP P 08 10 13.0 +0.9
comp=Z,6.0nm,0.9s
PV13 Radium Mtn., P 88.26 48 eP P 08 10 12.7 +0.5
comp=Z,2.6nm,0.9s
NEW Newport 88.33 36 P P 08 10 12.5 +0.5
baz=236
PV12 Saucer Basin, 88.35 48 eP P 08 10 13.2 +0.6
comp=Z,6.1nm,1.1s
VNA1 Neumayer--Stat 88.38 177 P P 08 10 12.2 +0.3
PV01 Paradox Valley 88.43 48 eP P 08 10 13.0 0.0
ANMO Albuquerque 88.46 52 eP P 08 10 13.5 +0.4
comp=Z,9.8nm,1.1s
ANMO Albuquerque 88.46 52 i/P P 08 10 14.1 +0.9
ANMO pmax pmax
comp=Z,10.0nm,1.2s
ANMO Albuquerque 88.46 52 P P 08 10 13.9 +0.7
baz=243
WRH Wood River Hil 88.49 13 eP P 08 10 11.7 -0.6
comp=Z,4.4nm,0.6s
HDA Harding Lake 88.67 13 eP P 08 10 12.5 -0.7
comp=Z,5.5nm,0.6s
HDA Harding Lake 88.67 13 P P 08 10 12.9 -0.2
baz=210
IM3 Indian Mountai 88.80 10 eP P 08 10 13.2 -0.6
WHY Whitehorse 88.83 20 eP P 08 10 13.7 -0.4
comp=Z,2.5nm,0.6s
MDM Murphy Dome 88.89 13 eP P 08 10 12.9 -1.3
comp=Z,3.3nm,0.7s
TCOL CIGO, UAF Yank 88.89 13 P P 08 10 13.8 -0.3
baz=209
COLA College 88.89 13 P P 08 10 14.3 +0.2
SCRK Sand Creek 88.97 15 eP P 08 10 14.8 0.0
comp=Z,2.3nm,0.9s
AHID Auburn Hatcher 88.99 43 eP P 08 10 16.2 +0.8
comp=Z,8.7nm,0.9s
HHC Hu-ho-hao-te 89.00 315 eP P 08 10 17.8 +2.4
HHC pmax pmax
comp=Z,16nm,1.2s
IL1 Eielson Array 89.00 13 eP P 08 10 13.7 -1.0
ILAR Eielson Array 89.00 13 P P 08 10 13.7 -1.0
comp=Z,1.5nm,0.4s,baz=214,slow=5.2,SNR=41
ILB Eielson Array 89.00 13 eP P 08 10 13.7 -1.0
POKR Poker Plat Res 89.19 13 P P 08 10 15.5 -0.1
baz=209
CM01 Chiang Mai Arr 89.34 290 eP P 08 10 18.2 +0.8
CM31 Chiang Mai Arr 89.36 290 eP P 08 10 16.3 -1.2
CMAR Chiang Mai Arr 89.36 290 P P 08 10 19.1 +1.6
comp=Z,7.2nm,0.9s,baz=123,slow=2.9,SNR=31
DLMT Dillon 89.38 40 eP P 08 10 16.4 -0.7
comp=Z,3.0nm,0.8s
BILL Bilibino 89.42 355 eP P 08 10 18.5 +2.0
BILL e 08 14 00.9
BILL pmax pmax
comp=Z,1.0nm,1.1s
REDW Red Top Meadow 89.44 43 eP P 08 10 17.7 +0.1
comp=Z,13nm,1.1s
TPAW Teton Pass 89.44 42 eP P 08 10 18.4 +0.7
comp=Z,5.2nm,0.9s
S22A 4UR Ranch, Cre 89.47 49 P P 08 10 17.7 -0.1
baz=243
FXWY Fox Creek 89.47 42 eP P 08 10 18.3 +0.6
comp=Z,3.4nm,0.9s
CHTO Chiang Mai 89.50 290 eP P 08 10 17.4 -0.6
comp=Z,8.3nm,1.0s
CHTO Chiang Mai 89.50 290 eP P 08 10 17.5 -0.6
CHTO pmax pmax
comp=Z,8.0nm,1.0s
CHTO Chiang Mai 89.50 290 P P 08 10 19.7 +1.6
GO06 Ourarehue 89.54 133 eP P 08 10 19.6 +1.5
comp=Z,8.0nm,0.9s
SNOW Snow King Moun 89.56 43 eP P 08 10 18.7 +0.6
comp=Z,8.5nm,0.9s
O20A White River Ci 89.59 46 P P 08 10 18.6 +0.3
baz=242
PLCA Paso Flores 89.64 134 P P 08 10 20.3 +1.8
comp=Z,4.2nm,0.7s,baz=253,slow=5.3,SNR=18
PLCA Paso Flores 89.64 134 eP P 08 10 19.9 +1.5
comp=Z,5.5nm,0.8s
PLCA Paso Flores 89.64 134 eP P 08 10 20.0 +1.5
PLCA pmax pmax
comp=Z,6.0nm,0.8s
LNIG Linares 89.74 63 eP P 08 10 18.9 -0.1
comp=Z,7.6nm,0.8s
FLWY Flagg Ranch 89.90 42 eP P 08 10 20.0 +0.4
comp=Z,5.2nm,1.1s
BW06 Boulder Array 89.98 44 eP P 08 10 20.3 +0.2
comp=Z,6.5nm,0.9s
BW06 Boulder Array 89.98 44 P P 08 10 20.3 +0.2
baz=241
PD31 Pinedale Array 89.98 44 eP P 08 10 20.3 +0.3
PDAR Pinedale Array 89.98 44 P P 08 10 20.4 +0.3
comp=Z,3.1nm,0.7s,baz=205,slow=3.6,SNR=35
PDAR Pinedale Array 89.98 44 eP P 08 10 19.8 -0.2
YFT Old Faithful 90.00 42 eP P 08 10 21.4 +1.3
comp=Z,2.7nm,0.8s
SMCO Snowmass 90.02 48 eP P 08 10 21.8 +1.3
comp=Z,5.0nm,0.9s
YMR Madison River 90.02 41 eP P 08 10 22.4 +2.2
comp=Z,4.1nm,1.2s
BOZ Bozeman (W) 90.08 40 P P 08 10 21.1 +0.7
baz=240
DAWY Dawson 90.19 16 eP P 08 10 20.4 +0.1
comp=Z,2.6nm,0.6s
SDCO Great Sand Dun 90.40 49 P P 08 10 22.7 +0.5
baz=244
MSTX Muleshoe 90.78 54 eP P 08 10 23.4 -0.4
comp=Z,5.4nm,0.8s
MSTX Muleshoe 90.78 54 P P 08 10 24.0 +0.2
baz=245
T25A Trinidad 90.92 50 P P 08 10 24.7 +0.2
baz=244
833A Chaparral WMA, 91.14 60 P P 08 10 26.0 +0.6
baz=247
Q24A Divide 91.19 49 P P 08 10 26.4 +0.6
baz=244
RLMT Red Lodge 91.30 42 P P 08 10 27.0 +0.9
baz=241
N23A Red Feather La 91.50 47 P P 08 10 28.0 +0.8
baz=244
JCT Junction City 91.66 58 eP P 08 10 27.7 -0.2
comp=Z,4.4nm,0.8s
JCT Junction City 91.66 58 eP P 08 10 27.7 -0.2
JCT pmax pmax
comp=Z,4.0nm,0.8s
JCT Junction City 91.66 58 P P 08 10 28.3 +0.5
baz=247
LZH Lanzhou 92.30 308 eP P 08 10 32.0 +1.2
LZH pP pP 08 12 42.5 -1.6
LZH sP sP 08 13 41.8 -3.5
LZH ePP PP 08 14 24.3 +1.1
LZH pmax pmax
comp=Z,26nm,1.0s
LZH pmax pmax
comp=Z,98nm,4.9s
LAO LASA Array 93.91 41 P P 08 10 38.8 +1.0
baz=244
RSSD Black Hills 94.17 44 eP P 08 10 39.2 0.0
comp=Z,2.8nm,0.8s
RSSD Black Hills 94.17 44 eP P 08 10 39.2 0.0
RSSD pmax pmax
comp=Z,3.0nm,0.8s
RSSD Black Hills 94.17 44 P P 08 10 39.4 +0.2
baz=245
GTA Gaotai 96.53 310 eP P 08 10 50.5 +0.6

GTA				pP	PcP	08 11 02.5	+13
GTA				pmax	pmax		
	comp=Z,3.0nm,1.6s						
MK32	**Makanchi Array**	**110.83**	**313**	*e*PKiKP	**PKiKP**	**08 15 47.2**	**-1.6**
MKAR	**Makanchi Array**	**110.83**	**313**	PKiKP	**PKiKP**	**08 15 47.2**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=159,slow=0.6,SNR=13						
KURK	**Kurchatov**	**113.69**	**317**	*e*PKiKP	**PKiKP**	**08 15 52.7**	**-1.4**
KURK	**Kurchatov**	**113.69**	**317**	*e*PKiKP	**PKiKP**	**08 15 52.7**	**-1.4**
KURBB	**Kurchatov Arra**	**113.74**	**317**	PKiKP	**PKiKP**	**08 15 52.7**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=104,slow=1.9,SNR=6.3						
KSH	**Kashi**	**114.37**	**305**	*e*PKP	PKPdf	08 15 56.0	0.0
BVAR	**Borovoye Array**	**118.82**	**320**	PKP	**PKPdf**	**08 16 02.9**	**-1.0**
	comp=Z,4.1nm,0.3s,baz=120,slow=2.4,SNR=42						
ARU	**Arti**	**125.05**	**325**	*i* PKiKP	**PKPdf**	**08 16 18.4**	**+2.7**
ARU						08 18 19.5	
ARU						08 22 32.5	
ARU				SS	SS	08 34 24.9	-0.2
ARA0	**ARCESS Array S**	**129.22**	**349**	*e*PKPdf	**PKPdf**	**08 16 22.4**	**-1.0**
ARA0				*e*pPKPdf	**pPKPdf**	**08 18 48.4**	**+2.6**
ARCES	**ARCESS Array B**	**129.22**	**349**	PKP	**PKPdf**	**08 16 22.4**	**-1.0**
	comp=Z,2.6nm,0.4s,baz=74,slow=1.1,SNR=32						
ARCES				SKPbc	SKPbc	08 18 48.4	+0.3
	comp=Z,1.4nm,0.8s,baz=46,slow=5.2,SNR=3.6						
FIA0	**FINESS Array S**	**135.96**	**343**	*e*PKPdf	**PKPdf**	**08 16 36.0**	**-0.1**
FIA0				*e*SKPbc	**SKPbc**	**08 19 10.9**	**0.0**
FIA0	**FINESS Array S**	**135.96**	**343**	*e*PKiKP	**PKPdf**	**08 16 36.1**	**-0.1**
FINES	**FINESS Array B**	**135.96**	**343**	PKhKP	PKPpre	08 16 22.8	
	comp=Z,1.4nm,0.7s,baz=29,slow=4.4,SNR=3.5						
FINES				PKP	**PKPdf**	**08 16 36.0**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=110,slow=3.3,SNR=12						
FINES				SKPbc	**SKPbc**	**08 19 10.9**	**0.0**
	comp=Z,1.8nm,0.5s,baz=51,slow=3.4,SNR=11						
OBN	**Obninsk**	**136.71**	**331**	*e*PKiKP	**PKPdf**	**08 16 41.3**	**+3.5**
OBN				*e*		08 19 30.4	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
VSU	**Vasula**	**138.18**	**340**↑	*e*PKiKP	**PKPdf**	**08 16 42.1**	**+1.7**
KIV	**Kislovodsk**	**138.59**	**313**↑	*e*PKiKP	**PKPdf**	**08 16 46.9**	**+5.1**
NEY	**Neytrino**	**138.80**	**312**↑	*i*PKiKP	**PKPdf**	**08 16 47.7**	**+5.4**
NB2	**NORSAR Subarra**	**139.34**	**352**	PKP	PKPpre	08 16 35.3	
	comp=Z,0.5nm,0.3s,baz=24,slow=2.9						
NB200	**NORSAR Array S**	**139.34**	**352**	*e*PKPdf	**PKPdf**	**08 16 42.2**	**-0.3**
NOA	**NORSAR Array B**	**139.34**	**352**	PKP	**PKPdf**	**08 16 42.2**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=14,slow=3.8,SNR=4.2						
AKASG	**Malin Array Be**	**142.96**	**330**	PKhKP	PKPpre	08 16 45.9	
	comp=Z,7.3nm,0.3s,baz=43,slow=4.1,SNR=38						
AKASG				SKPbc	**SKPbc**	**08 19 30.0**	**0.0**
	comp=Z,0.5nm,0.5s,baz=46,slow=3.6,SNR=6.7						
AKBB	**Malin Array Si**	**142.96**	**330**	*e*PKPpre	PKPpre	08 16 46.0	
KIEV	**Kiev**	**142.97**	**330**	*e*PKPpre	PKPpre	08 16 45.8	
KIEV	**Kiev**	**142.97**	**330**	*d i*PKHKP	PKPpre	08 16 45.7	
AK11	**Malin Array Si**	**143.00**	**330**	*e*PKPpre	PKPpre	08 16 46.4	
BR101	**Keskin Array S**	**146.44**	**311**	*e*PKPdf	**PKPbc**	**08 16 57.4**	**-1.0**
BR131	**Keskin Array S**	**146.44**	**311**	*e*PKPdf	**PKPdf**	**08 16 55.8**	**+0.1**
BR131				*e*PKPbc	**PKPbc**	**08 16 57.9**	**-0.4**
BR131				*e*PKPab	**PKPab**	**08 17 00.9**	**-0.2**
BRTR	**Keskin Array B**	**146.44**	**311**	PKPbc	**PKPbc**	**08 16 57.4**	**-1.0**
	comp=Z,1.3nm,0.4s,baz=109,slow=2.2,SNR=12						
BUR04	**Bucovina Ar. S**	**146.99**	**329**	*e*PKPdf	**PKPdf**	**08 16 57.1**	**+0.7**
BUR04				*e*PKPbc	**PKPbc**	**08 16 59.9**	**+0.4**
BURAR	**Bucovina Array**	**146.99**	**329**	⇑PKP2	**PKPbc**	**08 17 00.9**	**+1.4**
TIRR	**Tirgusor**	**147.39**	**322**	⇑PKiKP	**PKPdf**	**08 16 56.8**	**-0.1**
PLOR	**Plostina**	**147.48**	**326**	⇓PKP2	**PKPbc**	**08 17 02.5**	**+1.8**
UZH	**Uzhgorod**	**147.55**	**333**	*e*PKP2	**PKPbc**	**08 17 01.6**	**+0.9**
MLR	**Muntele Rosu**	**148.09**	**326**	*e*PKPdf	**PKPdf**	**08 16 57.9**	**-0.4**
MLR				*e*PKPbc	**PKPbc**	**08 17 02.1**	**-0.2**
MLR				*e*PKPab	**PKPab**	**08 17 06.3**	**-1.3**
CLL	**Collm**	**148.30**	**346**	*i* PKPbc	**PKPbc**	**08 17 02.4**	**-0.1**
VOIR		**148.59**	**327**	⇑PKhKP	**PKPbc**	**08 17 03.2**	**-0.4**
BZS	**Buzias**	**150.15**	**330**	⇑PKiKP	**PKPbc**	**08 17 07.0**	**-0.1**
GERES	**GERESS Array B**	**150.39**	**343**	PKPbc	**PKPbc**	**08 17 07.5**	**-0.3**
	comp=Z,1.6nm,0.4s,baz=20,slow=2.5,SNR=14						
GEA0	**GERESS Array S**	**150.40**	**343**	*e*PKPdf	**PKPdf**	**08 17 01.4**	**-0.3**
GEA0				*e*PKPbc	**PKPbc**	**08 17 07.6**	**-0.2**
GEA0				*e*PKPab	**PKPab**	**08 17 16.6**	**-0.4**
CONA	**Conrad Observa**	**150.56**	**339**	*e*PKPbc	**PKPbc**	**08 17 08.2**	**+0.1**
	comp=Z,3.5nm,0.5s						
MOA	**Molln**	**151.13**	**341**	*e*PKPbc	**PKPbc**	**08 17 08.2**	**-1.1**
	comp=Z,2.2nm,0.5s						
SOKA	**Soboth**	**151.92**	**339**	*i* PKPbc	**PKPbc**	**08 17 10.4**	**-0.8**
	comp=Z,1.2nm,0.4s						
PERS	**Pernice**	**151.93**	**339**	*i* PKPbc	**PKPbc**	**08 17 10.1**	**-1.1**
PERS	**Pernice**	**151.93**	**339**	*i* PKPbc	**PKPbc**	**08 17 10.1**	**-1.1**
KBA	**Koelnbreinsper**	**152.09**	**342**	*e*PKPbc	**PKPbc**	**08 17 11.0**	**-0.7**
	comp=Z,1.5nm,0.3s						
OBKA	**Obir**	**152.23**	**340**	*i* PKiKP	**PKiKP**	**08 17 12.5**	**+0.4**
	comp=Z,2.0nm,0.4s						
WATA	**Walderalm**	**152.34**	**344**	*i* PKPbc	**PKPbc**	**08 17 11.4**	**-0.8**
	comp=Z,4.3nm,0.4s						
WTTA	**Wattenberg**	**152.39**	**344**	*i* PKPbc	**PKPbc**	**08 17 11.5**	**-0.8**
	comp=Z,3.4nm,0.4s						
MYKA	**Terra Mystica**	**152.41**	**341**	*i* PKPbc	**PKPbc**	**08 17 10.8**	**-1.4**
	comp=Z,2.6nm,0.4s						
ABTA	**Abfaltersbach**	**152.63**	**343**	*i* PKPbc	**PKPbc**	**08 17 11.4**	**-1.4**
	comp=Z,4.6nm,0.5s						
VISS	**Visnje**	**152.75**	**339**	*i* PKPbc	**PKPbc**	**08 17 12.6**	**-0.4**
VISS	**Visnje**	**152.75**	**339**	*i* PKPbc	**PKPbc**	**08 17 12.6**	**-0.4**
FETA	**Feichten**	**152.84**	**345**	*i* PKPbc	**PKPbc**	**08 17 12.5**	**-0.8**
	comp=Z,2.1nm,0.7s						
BOJS	**Bojanci**	**152.87**	**338**	*i* PKPbc	**PKPbc**	**08 17 12.8**	**-0.4**
BOJS	**Bojanci**	**152.87**	**338**	*i* PKPbc	**PKPbc**	**08 17 12.8**	**-0.4**
JAVS	**Javornik**	**152.93**	**340**	*i* PKPbc	**PKPbc**	**08 17 13.1**	**-0.4**
JAVS	**Javornik**	**152.93**	**340**	*i* PKPbc	**PKPbc**	**08 17 13.1**	**-0.4**
DBIC	**Dimbokro**	**164.69**	**158**	PKP	**PKPdf**	**08 17 19.1**	**-0.8**
	comp=Z,5.1nm,1.1s,baz=24,slow=1.9,SNR=4.5						
DBIC	**Dimbokro**	**164.69**	**158**	*e*PKPdf	**PKPdf**	**08 17 19.8**	**-0.2**
DBIC				*e*PKPab	**PKPab**	**08 18 20.9**	**+1.2**
DBIC	**Dimbokro**	**164.69**	**158**	*e*PKiKP	**PKPdf**	**08 17 19.8**	**-0.2**
DBIC				*e*		08 18 20.9	
TORD	**Torodi Ar. Bea**	**172.18**	**185**	PKP	**PKPdf**	**08 17 23.5**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=339,slow=3.7,SNR=5.1						
TORD				PKPab	**PKPab**	**08 18 55.8**	**+3.0**
	comp=Z,0.5nm,0.8s,baz=160,slow=5.2,SNR=5.2						
TOA1	**Torodi Ar. Sit**	**172.18**	**185**	*e*PKPdf	**PKPdf**	**08 17 23.5**	**-1.2**
TOA1				*e*PKPab	**PKPab**	**08 18 55.8**	**+3.0**

DJA 26 07:59:36.5±0.9, 0°N±4°×12°4E±°, h77km±10km, M3.9/6, mb4.0/1, MLv3.9/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.66**	**38**	P	Pn	07 59 52.5	+1.0
KMSI				S	Sn	08 00 05.2	+2.6
LUWI	**Luwuk**	**1.35**	**217**	P	Pn	07 59 59.5	-0.3
LUWI				S	Sn	08 00 18.2	+0.9
APSI	**Ampana**	**2.15**	**244**	P	Pn	08 00 11.0	+0.6
TTSI	**Tana Toraja**	**4.86**	**231**	P	Pn	08 00 47.0	-0.1
BNSI	**Bone**	**5.62**	**218**	P	Pn	08 00 57.2	-0.4
MTKI	**Muara Teweh, K**	**8.74**	**264**	P	Pn	08 01 41.6	+1.4

GUC 26 07:59:49.0±0.7, 23°12S×69°30W, h92km±3km, ML3.5, 7C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB15	**IPOC Station P**	**0.18**	**241**	*e*P	Pn	08 00 02.9	+0.4
PB15				*i* S	Sn	08 00 12.9	+0.5
PB06	**IPOC Station P**	**0.48**	**329**	*i*P	Pn	08 00 04.4	+0.4
PB06				*i* S	Sn	08 00 15.8	+0.6
PB05	**IPOC Station P**	**0.87**	**288**	*i*P	Pn	08 00 08.3	+0.8
PB05				*i* S	Sn	08 00 22.5	+1.1
PB04	**IPOC Station P**	**1.11**	**315**	*e*P	Pn	08 00 10.9	+0.6
PB04				*i* S	Sn	08 00 27.5	+1.3
PB04				IAML		08 00 29.9	
	comp=N,1μm,0.2s						
PB03	**IPOC Station P**	**1.15**	**339**↑	*i*P	Pn	08 00 11.4	+0.7
PB03				*i* S	Sn	08 00 27.7	+0.7
PB03				IAML		08 00 28.8	
	comp=N,2μm,0.4s						
PB10	**IPOC Station P**	**1.22**	**251**	*e*P	Pn	08 00 11.4	+0.1
PB10				*i* S	Sn	08 00 28.5	+0.4
PB09	**IPOC Station P**	**1.32**	**2**↑	*i*P	Pn	08 00 13.5	+0.7
PB09				*i* S	Sn	08 00 32.0	+1.3
PB09				IAML		08 00 34.2	
	comp=N,983nm,0.5s						
PB07	**IPOC Station P**	**1.49**	**339**↑	*i*P	Pn	08 00 15.6	+0.7
PB07				*i* S	Sn	08 00 34.3	-0.1
PB07				IAML		08 00 36.4	
	comp=E,640nm,0.1s						
PB02	**IPOC Station P**	**1.88**	**343**↑	*i*P	Pn	08 00 20.3	+0.5
PB02				*i* S	Sn	08 00 44.4	+1.2
PB01	**IPOC Station P**	**2.08**	**355**↑	*i*P	Pn	08 00 22.8	+0.5
PB01				*i* S	Sn	08 00 48.9	+1.1

IDC 26 08:22:23.0±2.5, 13°70N×121°17E, h122km±40km, mb3.0/3, mb1 3.3/3, mb1mx3.0/46, mbtmp3.4/3, Error ellipse: s-maj=201.6km s-min=27.9km az=37.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.46**	**330**	P	Pn	08 22 42.5	+1.5
	232nm,0.3s,baz=191,slow=2.1,SNR=11						
TGY				S	Sn	08 22 56.2	+1.5
	238nm,0.3s,baz=1.2,slow=16,SNR=16						
CMAR	**Chiang Mai Arr**	**21.87**	**285**	P	P	08 27 06.0	-0.2
	0.7nm,0.3s,baz=96,slow=8.3,SNR=4.3						
WRA	**Warramunga Arr**	**35.85**	**159**	P	P	08 29 10.8	-0.5
	0.1nm,0.3s,baz=340,slow=8.5,SNR=7.8						
ASAR	**Alice Springs**	**39.17**	**161**	P	P	08 29 39.1	-0.1
	0.2nm,0.4s,baz=336,slow=7.1,SNR=4.1						

*ISCJB **26** 08:24:19.3±0.3, 1°42S±0.0°×15°37W±0.0°,06, h12km, mb4.4/28, MS3.7/26, Error ellipse: s-maj=9.4km s-min=5.0km az=16.8*

*IDC **26** 08:24:19.4±0.8, 1°42S×15°38W, h0km, mb4.1/13, mb1 4.3/14, mb1mx4.1/37, mbtmp4.2/14, ML4.3/1, MS3.7/27, Ms1 3.7/27, ms1mx3.6/32, Error ellipse: s-maj=21.9km s-min=18.2km az=130.0*

*NEIC **26** 08:24:21.0±0.3, 1°42S×15°40W, h10km, mb4.6/19, Error ellipse: s-maj=9.3km s-min=5.8km az=130.0*

*GCMT **26** 08:24:24.0±0.3, 1°22S±0.0°×15°28W±0.0°,02, h22km±1km, MW4.9/78, Moment Tensor Solution. s18,c25; s78,c106; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.09±.14; Mθθ 1.19±.12; Mϕϕ -1.10±.12; Mrθ 0.01±.18; Mrϕ -2.33±.09; Mθϕ 0.38±.18; Best double couple: Mo 2.62500×10^16 NP1: ϕs 167.00000°, δ 87.00000°, λ -8.00000°. NP2: ϕs 257.00000°, δ 82.00000°, λ -177.00000°. Principal axes: T 2.6550, Plg4.0000°, Azm212.0000°; N -0.0620, Plg81.0000°, Azm330.0000°; P -2.5950, Plg8.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 08:24:21.1±0.5, 1°48S±0.0°×15°34W±0.0°,09, h12km, n79, σ 1°29/61, mb4.5/28, MS3.8/26, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**6.36**	**172**	Pn	**Pn**	**08 25 56.2**	**+1.8**
H10N2				T	T	08 32 35.2	
	baz=349,slow=74,SNR=293						
H10N3	**ASCENSION HYDR**	**6.37**	**172**	Pn	**Pn**	**08 25 56.4**	**+1.8**
H10N3				T	T	08 32 18.5	
	baz=349,slow=74,SNR=272						
H10N1	**ASCENSION HYDR**	**6.38**	**172**	Pn	**Pn**	**08 25 56.5**	**+1.8**
H10N1				T	T	08 32 40.4	
	baz=349						
ASCN	**Ascension**	**6.48**	**171**	*e*Pn	**Pn**	**08 25 58.7**	**+2.4**
ASCN				*e*Sn	**Sn**	**08 27 05.8**	**-4.5**
H10S1	**ASCENSION HYDR**	**7.44**	**175**	Pn	**Pn**	**08 26 11.1**	**+1.8**
H10S1				T	T	08 34 03.2	
	baz=352,slow=74,SNR=219						
H10S3	**ASCENSION HYDR**	**7.45**	**175**	Pn	**Pn**	**08 26 11.3**	**+1.8**
H10S3				T	T	08 34 25.7	
	baz=352,slow=74,SNR=393						
H10S2	**ASCENSION HYDR**	**7.46**	**175**	Pn	**Pn**	**08 26 11.4**	**+1.8**
H10S2				T	T	08 34 01.0	
	baz=352,slow=74,SNR=199						
LIC	**Lamto**	**12.83**	**53**	*e*P	**Pn**	**08 27 24.2**	**+0.7**
	69nm,0.9s						
TIC	**Toumodi**	**13.09**	**52**	*e*P	**Pn**	**08 27 24.3**	**-2.7**
KIC	**Kosan Boka**	**13.14**	**54**	*e*P	**Pn**	**08 27 25.8**	**-1.9**
	75nm,1.0s						
DBIC	**Dimbokro**	**13.23**	**52**	Pn	**Pn**	**08 27 26.9**	**-2.1**
	1.4nm,0.3s,baz=224,slow=12,SNR=32						
DBIC				LR	LR	08 31 34.3	
	comp=Z,568nm,19.3s,baz=210,slow=33						
DBIC	**Dimbokro**	**13.23**	**52**	*e*Pn	**Pn**	**08 27 26.5**	**-2.4**
RCBR	**Riachuelo**	**20.96**	**258**	*e*P	**P**	**08 29 03.7**	**-0.6**
	10nm,1.0s						
TOA0	**Torodi Ar. Sit**	**22.29**	**49**	*e*P	**P**	**08 29 17.3**	**-1.2**
TORD	**Torodi Ar. Bea**	**22.29**	**49**	P	**P**	**08 29 16.9**	**-1.6**
	17nm,0.9s,baz=237,slow=10,SNR=22						
TORD				LR	LR	08 36 58.3	
	comp=Z,492nm,19.5s,baz=270,slow=34						
TOA1	**Torodi Ar. Sit**	**22.29**	**49**	*e*P	**P**	**08 29 16.9**	**-1.6**
TAM	**Tamanrasset**	**31.55**	**39**	*e*P	**P**	**08 30 44.6**	**+0.9**
	7.7nm,1.4s						
CART	**Cartagena**	**41.08**	**17**	*e*P	**P**	**08 32 04.8**	**+0.1**
	10nm,0.8s						
ESDC	**Sonseca Array**	**42.27**	**13**	LR	LR	08 49 56.9	
	comp=Z,132nm,20.6s,baz=175,slow=36						
KEST	**Kesra**	**43.61**	**30**	LR	LR	08 50 60.0	
	comp=Z,198nm,19.1s,baz=276,slow=37						
LSZ	**Lusaka**	**45.07**	**110**	*e*P	**P**	**08 32 38.6**	**+1.0**
	9.4nm,1.0s						
LBTB	**Lobatse**	**45.90**	**124**	P	**P**	**08 32 44.4**	**+0.4**
	4.1nm,1.0s,baz=281,slow=9.7,SNR=4.6						
LBTB	**Lobatse**	**45.90**	**124**	*e*P	**P**	**08 32 45.3**	**+1.3**
	5.2nm,0.8s						
MATP	**Matopo**	**46.75**	**117**	P	**P**	**08 32 51.5**	**+0.8**
	4.5nm,0.8s,baz=287,slow=7.1,SNR=7.2						
BOSA	**Boshof**	**47.19**	**129**	P	**P**	**08 32 55.0**	**+0.9**
	8.7nm,0.8s,baz=303,slow=7.7,SNR=11						
BOSA				LR	LR	08 49 29.0	
	comp=Z,45nm,20.8s,baz=218,slow=32						
BOSA	**Boshof**	**47.19**	**129**	*e*P	**P**	**08 32 54.7**	**+0.6**
	10nm,0.8s						
CPUP	**Villa Florida**	**47.30**	**235**	P	**P**	**08 32 54.9**	**+0.1**
	1.4nm,0.8s,baz=56,slow=8.0,SNR=5.4						
CPUP				LR	LR	08 50 10.8	
	comp=Z,78nm,21.6s,baz=67,slow=33						
CPUP	**Villa Florida**	**47.30**	**235**	*e*P	**P**	**08 32 54.8**	**-0.1**
	7.6nm,1.4s						
SIV	**San Ignacio**	**47.30**	**250**	LR	LR	08 51 55.4	
	comp=Z,112nm,18.9s,baz=92,slow=35						
TIP	**Timpagrande**	**50.06**	**33**	*e*P	**P**	**08 33 16.2**	**+0.3**
	6.0nm,1.1s						
ITM	**Ithomi**	**51.69**	**38**	*e*P	**P**	**08 33 28.1**	**-0.1**
	11nm,1.0s						
KMBO	**Kilima Mbogo**	**52.58**	**90**	LR	LR	08 53 43.5	
	comp=Z,101nm,21.1s,baz=266,slow=34						
FNA	**Florina**	**53.72**	**34**	*e*P	**P**	**08 33 44.1**	**+0.9**
	6.3nm,0.8s						
LPAZ	**La Paz**	**54.00**	**251**	P	**P**	**08 33 45.8**	**-0.6**
	0.9nm,0.8s,baz=133,slow=9.6,SNR=4.0						
LPAZ				LR	LR	08 55 27.9	
	comp=Z,85nm,20.8s,baz=90,slow=35						
DIVS	**Divibare**	**55.27**	**30**	*e*P	**P**	**08 33 55.6**	**+1.1**
	4.3nm,1.2s						
VTS	**Vitosha**	**55.95**	**34**	*e*P	**P**	**08 34 00.7**	**+1.3**
	4.4nm,1.0s						
LVC	**Limon Verde**	**56.05**	**244**	LR	LR	08 56 06.3	
	comp=Z,62nm,21.2s,baz=73,slow=34						
GEA0	**GERESS Array S**	**56.07**	**23**	*e*P	**P**	**08 34 00.5**	**+0.4**
GERES	**GERESS Array B**	**56.08**	**23**	P	**P**	**08 34 00.5**	**+0.3**
	1.6nm,0.8s,baz=204,slow=5.9,SNR=8.8						
GERES				LR	LR	08 58 02.1	
	comp=Z,58nm,18.9s,baz=252,slow=36						
TRQA	**Tornquist**	**56.11**	**224**	*e*P	**P**	**08 34 00.3**	**-0.2**
	17nm,1.4s						
CLL	**Collm**	**57.84**	**21**	*e*S	**S**	**08 42 12.0**	**+0.2**
CLL				*e*		08 46 15.0	
LCO	**Las Campanas**	**59.33**	**237**	*e*P	**P**	**08 34 23.0**	**-0.7**
	6.5nm,1.1s						
MLR	**Muntele Rosu**	**59.33**	**33**	*e*P	**P**	**08 34 23.7**	**+0.6**
	12nm,1.2s						
GO04	**Tololo Observa**	**59.75**	**236**	*e*P	**P**	**08 34 25.4**	**-1.2**
	24nm,1.4s						
BRTR	**Keskin Array B**	**60.68**	**42**	P	**P**	**08 34 34.0**	**+1.4**
	2.7nm,0.8s,baz=238,slow=7.0,SNR=9.9						
BRTR				LR	LR	09 00 27.4	
	comp=Z,27nm,21.5s,baz=215,slow=36						
BR101	**Keskin Array S**	**60.68**	**42**	*e*P	**P**	**08 34 34.0**	**+1.4**
BR131	**Keskin Array S**	**60.68**	**42**	*e*P	**P**	**08 34 33.6**	**+1.0**
NNA	**Nana**	**61.84**	**257**	LR	LR	09 02 42.0	
	comp=Z,38nm,18.6s,baz=42,slow=37						
PLCA	**Paso Flores**	**63.25**	**224**	LR	LR	08 57 54.4	
	comp=Z,64nm,21.9s,baz=86,slow=32						
AK11	**Malin Array Si**	**64.30**	**30**	*e*P	**P**	**08 34 56.2**	**-0.1**
KIEV	**Kiev**	**64.33**	**30**	*e*P	**P**	**08 34 55.8**	**-0.8**
	8.4nm,1.2s						
AKASG	**Malin Array Be**	**64.34**	**30**	P	**P**	**08 34 56.5**	**-0.1**
	0.6nm,0.5s,baz=226,slow=5.6,SNR=5.0						
AKASG				LR	LR	09 05 01.4	
	comp=Z,107nm,18.1s,baz=225,slow=38						
AKBB	**Malin Array Si**	**64.34**	**30**	*e*P	**P**	**08 34 56.7**	**+0.1**
	7.2nm,1.1s						
NB200	**NORSAR Array S**	**65.62**	**14**	*e*P	**P**	**08 35 05.0**	**+0.1**
NOA	**NORSAR Array B**	**65.62**	**14**	P	**P**	**08 35 05.0**	**+0.1**
	1.0nm,0.8s,baz=204,slow=6.8,SNR=3.5						
NOA				LR	LR	09 04 36.6	
	comp=Z,61nm,20.5s,baz=205,slow=37						
USHA	**Ushuaia**	**68.39**	**210**	LR	LR	09 02 31.0	
	comp=Z,84nm,18.4s,baz=79,slow=34						
KBZ	**Khabaz**	**68.67**	**41**	P	**P**	**08 35 24.4**	**-0.1**
	2.7nm,0.9s,baz=225,slow=4.3,SNR=3.7						
KBZ				LR	LR	09 07 29.2	
	comp=Z,27nm,20.5s,baz=222,slow=38						
VNA1	**Neumayer--Stat**	**69.21**	**177**	P	**P**	**08 35 28.4**	**+1.1**
VNA2	**Neumayer--Watz**	**69.53**	**177**	P	**P**	**08 35 29.8**	**+0.5**
	baz=334,slow=7.4						
VNA3	**Neumayer Olymp**	**69.75**	**178**	P	**P**	**08 35 31.5**	**+0.8**
FIA0	**FINESS Array S**	**70.27**	**20**	*e*P	**P**	**08 35 34.2**	**+0.2**
FINES	**FINESS Array B**	**70.27**	**20**	P	**P**	**08 35 34.2**	**+0.2**
	1.9nm,0.6s,baz=234,slow=5.3,SNR=7.5						
FIA1	**FINESS Array S**	**70.27**	**20**	*e*P	**P**	**08 35 34.7**	**+0.8**
SNAA	**Sanae**	**70.54**	**176**	P	**P**	**08 35 35.9**	**+0.3**
SNAA	**Sanae**	**70.54**	**176**	*e*P	**P**	**08 35 36.3**	**+0.7**
	2.8nm,0.9s						
PMSA	**Palmer Station**	**72.19**	**200**	LR	LR	09 00 14.9	
	comp=Z,83nm,20.2s,baz=99,slow=30						
ARCES	**ARCESS Array B**	**76.00**	**14**	LR	LR	09 10 37.9	
	comp=Z,5.2nm,19.3s,baz=218,slow=37						
GEYT	**Alibeck**	**77.92**	**51**	LR	LR	09 12 55.7	
	comp=Z,41nm,20.3s,baz=220,slow=37						
MAW	**Mawson**	**84.14**	**158**	LR	LR	09 07 29.4	
	comp=Z,28nm,18.6s,baz=209,slow=31						
ULM	**Lac du Bonnet**	**85.08**	**321**	LR	LR	09 10 02.6	
	comp=Z,38nm,18.7s,baz=318,slow=32						
TXAR	**Lajitas Array**	**89.26**	**299**	P	**P**	**08 37 17.5**	**-0.2**
	0.2nm,1.0s,baz=116,slow=4.1,SNR=2.3						
LTX	**Lajitas**	**89.26**	**299**	*e*P	**P**	**08 37 17.5**	**-0.2**
TX31	**Lajitas Ar. Si**	**89.26**	**299**	*e*P	**P**	**08 37 17.9**	**+0.2**
PDAR	**Pinedale Array**	**94.10**	**313**	LR	LR	09 13 38.6	
	comp=Z,40nm,20.0s,baz=74,slow=32						
NRIK	**Noril'sk**	**95.92**	**20**	LR	LR	09 26 02.2	
	comp=Z,46nm,18.1s,baz=72,slow=39						
MKAR	**Makanchi Array**	**96.31**	**43**	LR	LR	09 25 23.2	
	comp=Z,34nm,20.9s,baz=284,slow=38						
ZALV	**Zalesovo Beam**	**97.18**	**36**	LR	LR	09 24 48.8	
	0.4nm,0.7s,baz=225,slow=2.9,SNR=4.7						
ASAR	**Alice Springs**	**141.02**	**132**	PKhKP	PKPpre	08 43 47.6	
	0.4nm,0.7s,baz=225,slow=2.9,SNR=4.7						
WRA	**Warramunga Arr**	**143.43**	**127**	PKhKP	PKPpre	08 43 53.6	
	0.4nm,0.6s,baz=242,slow=2.5,SNR=4.5						

MEX 26 08:34:32.4±0.3, 13°97N×92°69W, h26km±11km, MD3.7, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.02**	**24**	*e*P	Pn	08 34 48.3	-2.7
THIG				*i* S	Sb	08 35 00.9	-3.5
PCIG		**1.80**	**344**	*e*P	Pn

	baz=42,SNR=13							
COEN	**Coen**	**36.45 275**	P	**P**		**08 59 49.1**	**+0.3**	
	baz=44,SNR=5.6							
STKA	**Stephens Creek**	**36.59 244**	P	**P**		**08 59 50.2**	**+0.5**	
	3.9nm,0.5s,baz=95,slow=10,SNR=22							
STKA	**Stephens Creek**	**36.59 244**	P	**P**		**08 59 50.3**	**+0.5**	
	baz=44,SNR=17							
HTT	**Hallett**	**39.03 242**	P	**P**		**09 00 08.8**	**-0.8**	
	baz=47,SNR=3.5							
BBOO	**Buckleboo**	**41.35 244**	P	**P**		**09 00 27.8**	**-0.1**	
	baz=49,SNR=22							
JAY	**Jayapura**	**43.05 290**	P	**P**		**09 00 42.0**	**+0.7**	
	9.9nm,0.4s,baz=150,slow=4.2,SNR=10							
ASAR	**Alice Springs**	**43.30 257**	P	**P**		**09 00 43.2**	**0.0**	
	14nm,0.5s,baz=96,slow=7.6,SNR=280							
ASAR			PcP	**PcP**		**09 02 17.8**	**+1.0**	
	0.5nm,0.8s,baz=86,slow=3.8,SNR=3.3							
ASAR			ScP	**ScP**		**09 05 12.2**	**+4.1**	
	0.8nm,0.7s,baz=104,slow=4.2,SNR=7.4							
WRA	**Warramunga Arr**	**43.40 263**	P	**P**		**09 00 43.4**	**-0.5**	
	8.7nm,0.5s,baz=97,slow=7.6,SNR=334							
KDU	**Kakadu**	**46.79 272**	P	**P**		**09 01 08.5**	**-1.2**	
	baz=55,SNR=11							
FORT	**Forrest**	**48.09 247**	P	**P**		**09 01 18.1**	**-1.0**	
	baz=56,SNR=10.0							
WRKA	**Warakurna**	**48.25 255**	P	**P**		**09 01 20.4**	**0.0**	
	baz=56,SNR=22							
KNRA	**Kununurra**	**49.48 267**	P	**P**		**09 01 29.6**	**+0.2**	
	baz=57,SNR=3.7							
FITZ	**Fitzroy Crossi**	**51.83 263**	P	**P**		**09 01 46.6**	**+0.2**	
	3.7nm,0.6s,baz=87,slow=3.5,SNR=22							
FITZ	**Fitzroy Crossi**	**51.83 263**	P	**P**		**09 01 46.8**	**+0.4**	
	baz=60,SNR=8.2							
MEEK	**Meekatharra**	**56.70 251**	P	**P**		**09 02 18.2**	**-2.1**	
	baz=64,SNR=3.8							
KLBR	**Kellerberrin**	**56.85 245**	P	**P**		**09 02 18.4**	**-2.8**	
	baz=64,SNR=5.2							
VNDA	**Vanda**	**57.47 185**	P	**P**		**09 02 25.1**	**+0.6**	
	0.9nm,0.6s,baz=5.6,slow=5.1,SNR=3.8							
BLDU	**Ballidu**	**57.85 246**	P	**P**		**09 02 24.7**	**-3.2**	
	baz=66,SNR=5.2							
PETK	**Petropavlovsk-**	**76.31 346**	P	**P**		**09 04 19.9**	**+0.1**	
	6.9nm,1.0s,baz=194,slow=5.2,SNR=4.0							
NVAR	**Mina Array Bea**	**82.08 44**	P	**P**		**09 04 50.6**	**-0.1**	
	1.7nm,0.6s,baz=226,slow=7.9,SNR=15							
SEY	**Seymchan**	**86.45 347**	P	**P**		**09 05 11.0**	**0.0**	
	0.6nm,0.2s,baz=162,slow=15,SNR=3.2							
TXAR	**Lajitas Array**	**88.22 58**	P	**P**		**09 05 20.7**	**+0.5**	
	1.5nm,0.8s,baz=223,slow=6.0,SNR=21							
ILAR	**Eielson Array**	**88.91 13**	P	**P**		**09 05 21.1**	**-1.3**	
	1.0nm,0.6s,baz=214,slow=5.2,SNR=22							
PDAR	**Pinedale Array**	**90.02 44**	P	**P**		**09 05 28.2**	**-0.2**	
	0.8nm,0.7s,baz=222,slow=3.8,SNR=8.9							
ARCES	**ARCESS Array B**	**129.04 349**	PKP	**PKPdf**		**09 11 30.6**	**-0.4**	
	2.1nm,0.8s,baz=46,slow=3.5,SNR=5.6							
FINES	**FINESS Array B**	**135.77 343**	SKPbc	**SKPbc**		**09 14 18.7**	**+2.5**	
	0.8nm,0.5s,baz=337,slow=4.4,SNR=5.0							
AKASG	**Malin Array Be**	**142.74 330**	PKhKP	PKPpre		09 11 52.8		
	2.0nm,0.4s,baz=43,slow=4.0,SNR=13							
GERES	**GERESS Array B**	**150.20 343**	PKPbc	**PKPbc**		**09 12 14.7**	**-0.6**	
	0.2nm,0.3s,baz=33,slow=3.2,SNR=3.4							

IDC 26 09:17:54.8±6.8, 2°.61S×101°.91E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/42, mbtmp3.4/3, Error ellipse: s-maj=363.7km s-min=26.9km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**36.04**	**121**	P	P	09 24 58.1	-0.2
	0.3nm,0.4s,baz=297,slow=7.6,SNR=7.3						
ASAR	**Alice Springs**	**37.36**	**127**	P	P	09 25 09.6	0.0
	0.6nm,0.6s,baz=299,slow=8.1,SNR=9.9						
MKAR	**Makanchi Array**	**52.15**	**343**	P	P	09 27 07.0	-0.1
	0.2nm,0.5s,baz=163,slow=8.6,SNR=3.2						

TAP 26 09:18:26.7, 21°.33N×122°.04E, h200km±1km, ML3.9, 2C, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.84**	**327**	*e*P	Pn	09 18 54.4	-1.1
	baz=327						
TSEB	**Hengchuen, Pin**	**1.20**	**298**	*e*P	Pn	09 18 58.5	+0.6
	baz=297						
TSEB				*e*S	S	09 19 22.1	+0.2
	baz=297						
TWKBT	**Hengchun**	**1.29**	**298**	P	Pn	09 18 59.1	+0.5
	baz=297						
TWKBT				*e*S	S	09 19 22.0	-1.1
	baz=297						
TWK1	**Hengchun**	**1.30**	**298**	P	Pn	09 18 59.2	+0.5
	baz=297						
TWK1				*e*S	S	09 19 22.1	-1.1
	baz=297						
HEN	**Hengchun**	**1.38**	**299**	*e*P	Pn	09 18 59.2	-0.1
	baz=299						
TAW	**Tawu**	**1.47**	**314**	*e*P	Pn	09 18 59.7	-0.4
	baz=314						
EAST	**Anshuo**	**1.52**	**314**	⇑P	Pn	09 19 00.6	-0.1
	baz=313						
EAST				*e*S	S	09 19 25.0	-1.7
	baz=313						
ECL	**Taimali**	**1.61**	**322**	P	Pn	09 19 00.7	-0.7
	baz=321						
ECL				*e*S	S	09 19 25.6	-2.4
	baz=321						
SCZT	**Fangliau**	**1.68**	**308**	P	Pn	09 19 02.2	+0.2
	baz=308						
SCZT				*e*S	S	09 19 28.1	-0.9
	baz=308						
TWG	**Pinlang**	**1.73**	**329**	P	Pn	09 19 02.0	-0.5
	baz=328						
TWG				*e*S	S	09 19 28.5	-1.6
	baz=328						
MASBT	**Mashibuluo**	**1.82**	**315**	*e*P	Pn	09 19 03.6	+0.2
	baz=314						
MASBT				*e*S	S	09 19 30.2	-1.4
	baz=314						
WLCH	**Liuqiu**	**1.84**	**304**	*e*P	Pn	09 19 05.3	+1.6
	baz=303						
TWP	**Hsiaoliuchiu**	**1.85**	**303**	*e*P	Pn	09 19 05.5	+1.8
	baz=303						
SSD	**Sandimen**	**1.92**	**317**	P	Pn	09 19 04.8	+0.4
	baz=317						
SSD				*e*S	S	09 19 32.2	-1.1
	baz=317						
FULB	**Fuli**	**1.98**	**340**	*e*P	Pn	09 19 05.6	+0.5
	baz=339						
FULB				*e*S	S	09 19 35.3	+0.8
	baz=339						
ELDTW	**Lidau**	**2.08**	**333**	*e*P	Pn	09 19 06.5	+0.3
	baz=333						
ELDTW				*e*S	S	09 19 35.5	-0.9
	baz=333						
SLGT	**Liugui**	**2.10**	**322**	*e*P	Pn	09 19 06.6	+0.4
	baz=322						
SLGT				*e*S	S	09 19 35.7	-0.9
	baz=322						
TWM1	**Shoushan**	**2.11**	**315**	*e*P	Pn	09 19 07.6	+1.2
	baz=314						
TWF1	**Yuli**	**2.12**	**341**	*e*P	Pn	09 19 06.9	+0.4
	baz=341						
TWF1				*e*S	S	09 19 37.1	0.0
	baz=341						
YULB	**Yu-li**	**2.16**	**342**	*e*P	Pn	09 19 06.8	-0.1
	baz=341						
YULB				*e*S	S	09 19 36.9	-0.9
	baz=341						
STYT	**Tauyuan**	**2.17**	**327**	*e*P	Pn	09 19 07.7	+0.5
	baz=327						
STYT				*e*S	S	09 19 37.5	-0.6
	baz=327						
SGST	**Jiashian**	**2.20**	**323**	*e*P	Pn	09 19 08.4	+1.1
	baz=322						
SGST				*e*S	S	09 19 38.6	+0.1
	baz=322						
HGSD	**Ruisui**	**2.22**	**345**	*e*P	Pn	09 19 08.2	+0.6
	baz=345						
HGSD				*e*S	S	09 19 39.5	+0.5
	baz=345						
EHY	**Hungye**	**2.26**	**343**	*e*P	Pn	09 19 08.3	+0.3
	baz=343						
EHY				*e*S	S	09 19 39.0	-0.7
	baz=343						
CHN1	**Nanshi**	**2.31**	**323**	*e*P	Pn	09 19 09.1	+0.5
	baz=322						
CHN1				*e*S	S	09 19 40.2	-0.5
	baz=322						
WTP	**Ta-pu**	**2.32**	**326**	*e*P	Pn	09 19 09.4	+0.8
	baz=325						
WTP				*e*S	S	09 19 39.8	-1.0
	baz=325						
TPUB	**Ta-pu**	**2.35**	**327**	⇑P	Pn	09 19 09.2	+0.2
	baz=326						
TPUB				*e*S	S	09 19 40.5	-0.9
	baz=326						
YUS	**Yu-Shan**	**2.37**	**335**	*e*P	Pn	09 19 09.9	+0.2
	baz=334						
TWK	**Hsinying**	**2.40**	**324**	*e*P	Pn	09 19 09.9	+0.3
	baz=323						
TWK				*e*S	S	09 19 41.6	-0.8
	baz=323						
CHN4	**Tsaushan**	**2.41**	**327**	*e*P	Pn	09 19 10.0	+0.4
	baz=326						
CHN4				*e*S	S	09 19 42.1	-0.5
	baz=326						
ALS	**Alishan**	**2.45**	**332**	*e*P	Pn	09 19 10.8	+0.5
	baz=332						
ALS				*e*S	S	09 19 43.9	0.0
	baz=332						
ESL	**Shilin**	**2.53**	**347**	*e*P	Pn	09 19 10.8	-0.2
	baz=347						
VWDT	**VWDT**	**2.55**	**341**	*e*P	Pn	09 19 12.1	+1.0
	baz=341						
VWDT				*e*S	S	09 19 44.4	-0.9
	baz=341						
CHN5	**Tsauling**	**2.58**	**331**	*e*P	Pn	09 19 11.9	+0.3
	baz=330						
CHN5				*e*S	S	09 19 46.0	-0.1
	baz=330						
SSLB	**Suanglung**	**2.64**	**338**	*e*P	Pn	09 19 12.2	0.0
	baz=337						
SSLB				*e*S	S	09 19 46.6	-0.7
	baz=337						
WDLH	**Douliu**	**2.72**	**330**	*e*P	Pn	09 19 13.3	+0.2
	baz=329						
WDLH				*e*S	S	09 19 48.3	-0.5
	baz=329						
SMLT	**Sun Moon Lake**	**2.75**	**338**	*e*P	Pn	09 19 13.8	+0.2
	baz=337						
SMLT				*e*S	S	09 19 49.0	-0.5
	baz=337						
TYC	**Yuchr**	**2.78**	**337**	*e*P	Pn	09 19 14.6	+0.8
	baz=337						
TYC				*e*S	S	09 19 49.6	-0.5
	baz=337						
WNT	**Mingjian**	**2.83**	**334**	*e*P	Pn	09 19 14.8	+0.5
	baz=333						
WNT				*e*S	S	09 19 50.7	-0.2
	baz=333						
CHGB	**Renai**	**2.83**	**344**	*e*P	Pn	09 19 15.9	+1.4
	baz=343						
CHGB				*e*S	S	09 19 50.9	-0.5
	baz=343						
RLNB	**Erlin**	**2.98**	**329**	*e*P	Pn	09 19 16.5	+0.4
	baz=328						
WCHH	**Zhanghua**	**3.06**	**334**	*e*P	Pn	09 19 17.9	+1.0
	baz=333						
PHUB	**P'eng-hu**	**3.15**	**314**	*e*P	Pn	09 19 18.1	0.0
	baz=313						
PNG	**Penghu**	**3.20**	**315**	*e*P	Pn	09 19 18.5	-0.2
	baz=314						
PNG				*e*S	S	09 19 57.6	-1.1
	baz=314						
TWQ1	**Liyutan**	**3.22**	**339**	*e*P	Pn	09 19 20.1	+1.2
	baz=338						
YHNB	**Yeheng**	**3.38**	**350**	*e*P	Pn	09 19 21.7	+0.7
	baz=349						
VWUC	**VWUC**	**4.35**	**327**	*e*P	Pn	09 19 33.7	+0.8
	baz=326						
PTMZ	**Houxiangcun**	**4.56**	**325**	*e*P	Pn	09 19 36.4	+0.9
	baz=323						

*SJA **26** 09:19:30.0±0.3, 33°.80S×72°.20W, h33km, ML3.4, MW3.6*
*GUC **26** 09:19:31.2±0.7, 33°.84S×71°.89W, h35km±19km, ML3.5*

ISC 26 09:19:31.9±1.9, 33°.89S±0°.06×72°.0W±0°.1, h19km±5km, n13, σ1s48/22, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO05	**HualaæØ**	**1.12**	**179**	*e*P	**Pg**	**09 19 52.7**	**-0.8**
GO05				*e*S	**Sg**	**09 20 09.5**	**+1.3**
GO05	**HualaæØ**	**1.12**	**179**	⇑*i*P	**Pg**	**09 19 52.8**	**-0.8**
GO05				*i* S	**Sg**	**09 20 08.7**	**+0.4**
GO05				IAML		09 20 12.2	
	comp=N,1μm,0.3s						
ROC1	**El Roble**	**1.21**	**41**	*e*P	**Pn**	**09 19 53.7**	**-0.2**
ROC1				*e*S	**Sg**	**09 20 11.3**	**+0.2**
ROCH	**El Roble**	**1.21**	**41**	*e*P	**Pn**	**09 19 52.3**	**-1.7**
ROCH				*i* S	**Sb**	**09 20 08.9**	**-0.7**
ROCH				IAML		09 20 12.0	
	comp=N,2μm,0.5s						
CLCH	**Cerro Calan**	**1.28**	**68**	*e*P	**Pn**	**09 19 53.8**	**-1.1**
CLCH				*i* S	**Sn**	**09 20 10.3**	**-1.3**
CLCH				IAML		09 20 17.7	
	comp=N,2μm,0.7s						
PEL	**Peldehue**	**1.30**	**55**	*e*P	**Pn**	**09 19 53.9**	**-1.1**
PEL				*i* S	**Sn**	**09 20 10.2**	**-1.7**
PEL				IAML		09 20 14.0	
	comp=E,2μm,0.5s						
LMEL	**Las Melosas**	**1.46**	**89**	*e*P	**Pn**	**09 19 56.9**	**-0.5**
LMEL				*i* S	**Sn**	**09 20 15.5**	**-0.6**
LMEL				IAML		09 20 19.7	
	comp=N,2μm,0.2s						
FCH	**Farellones**	**1.50**	**69**	*e*P	**Pn**	**09 19 57.4**	**-0.7**
FCH				*i* S	**Sn**	**09 20 16.4**	**-0.9**
FCH				IAML		09 20 22.2	
	comp=N,1μm,0.2s						
AUSP	**Uspallata**	**2.73**	**53**	*e*P	**Pn**	**09 20 16.4**	**+1.5**
AUSP				*e*S	**Sn**	**09 20 50.6**	**+3.1**
AAGR	**Agrelo**	**2.74**	**74**	*e*P	**Pn**	**09 20 16.8**	**+1.9**
ASAL	**Salagasta**	**2.92**	**65**	*e*P	**Pn**	**09 20 19.3**	**+1.9**
RTLS	**Leoncito**	**3.06**	**48**	*e*P	**Pn**	**09 20 20.8**	**+1.3**
RTLS				IAML		09 21 11.4	
	comp=Z,94nm,0.5s						
RTCV	**Cerro Valdivia**	**3.52**	**56**	*e*P	**Pn**	**09 20 27.1**	**+1.5**

IDC 26 09:34:56.3±1.2, 17°.75S×177°.71W, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.8/34, mbtmp4.0/6, MS3.0/1, Ms1 3.0/1, ms1mx2.3/23, Error ellipse: s-maj=47.4km s-min=26.1km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**23.22**	**288**	LR	LR	09 47 36.2	
	comp=Z,32nm,19.1s,baz=193,slow=33						
STKA	**Stephens Creek**	**39.29**	**241**	P	P	09 42 28.2	+1.1
	2.6nm,1.0s,baz=33,slow=3.1,SNR=3.0						
WRA	**Warramunga Arr**	**45.32**	**259**	P	P	09 43 14.7	-1.7
	0.5nm,0.7s,baz=96,slow=7.3,SNR=12						
ASAR	**Alice Springs**	**45.48**	**254**	P	P	09 43 16.9	-0.8
	1.3nm,0.5s,baz=87,slow=8.7,SNR=29						
PETK	**Petropavlovsk-**	**73.70**	**345**	P	P	09 46 33.3	+1.6
	4.4nm,1.0s,baz=114,slow=8.8,SNR=7.1						
MAW	**Mawson**	**84.23**	**200**	P	P	09 47 30.8	+1.3
	1.7nm,0.4s,baz=270,slow=7.1,SNR=6.0						
TXAR	**Lajitas Array**	**85.35**	**57**	P	P	09 47 34.3	-1.6
	0.1nm,0.6s,baz=203,slow=5.9,SNR=3.1						

TEH 26 09:35:50.1, 28°.95N×57°.71E, h10km, ML3.6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHMN	**Cheshme madani**	**0.92**	**351**	IAMB	IAmb	09 36 23.2	
	comp=E,0.0nm,0.2s						
CHMN				*e*Pg	Pg	09 36 08.1	+0.2
CHMN				IAMB	IAmb	09 36 23.4	
	comp=Z,0.0nm,0.1s						
CHMN				IAMB	IAmb	09 36 24.3	
	comp=N,0.0nm,0.2s						
NGRK	**Negar Kerman**	**1.10**	**309**	*e*Pg	Pg	09 36 11.1	-0.3
NGRK				IAMB	IAmb	09 36 28.4	
	comp=Z,0.0nm,0.1s						
NGRK				IAMB	IAmb	09 36 28.5	
	comp=E,0.0nm,0.2s						
NGRK				IAMB	IAmb	09 36 31.0	
	comp=N,0.0nm,0.1s						
KRBR	**Kerman**	**1.32**	**321**	*e*Pg	Pn	09 36 13.2	-1.7
TVBK	**TV Kerman**	**1.32**	**322**	*e*Pg	Pb	09 36 15.3	0.0
TVBK				IAMB	IAmb	09 36 38.9	
	comp=Z,0.0nm,0.2s						
TVBK				IAMB	IAmb	09 36 39.8	
	comp=E,0.0nm,0.1s						
TVBK				IAMB	IAmb	09 36 40.2	
	comp=N,0.0nm,0.2s						
NIAN	**Nian**	**1.58**	**209**	*e*Pn	Pb	09 36 19.4	-0.1
NIAN				IAMB	IAmb	09 36 44.1	
	comp=N,0.0nm,0.3s						
NIAN				IAMB	IAmb	09 36 45.0	
	comp=Z,0.0nm,0.2s						
NIAN				IAMB	IAmb	09 36 46.4	
	comp=E,0.0nm,0.3s						
KHGB	**Koh Gabri**	**1.78**	**323**	*e*Pn	Pb	09 36 23.0	0.0
KHGB				IAMB	IAmb	09 36 25.2	
	comp=Z,0.0nm,0.1s						
KHGB				IAMB	IAmb	09 36 51.4	
	comp=N,0.0nm,0.2s						
KHGB				IAMB	IAmb	09 36 52.4	
	comp=E,0.0nm,0.1s						
GENO	**Geno**	**2.06**	**222**	*e*Pn	Pn	09 36 26.0	+1.1
GENO				IAMB	IAmb	09 36 57.2	
	comp=E,0.0nm,0.2s						
GENO				IAMB	IAmb	09 37 00.2	
	comp=Z,0.0nm,0.2s						
GENO				IAMB	IAmb	09 37 03.6	
	comp=N,0.0nm,0.2s						
ZHSF	**Zahedan**	**2.76**	**75**	*e*Pn	Pb	09 36 39.4	-0.2
BSRN	**Basiran**	**3.25**	**22**	*e*Pn	Pn	09 36 42.8	+1.6
IKOO	**Kooshah**	**3.64**	**18**	IAMB	IAmb	09 37 51.7	
	comp=E,2μm,0.3s						
IKOO				IAMB	IAmb	09 37 51.7	
	comp=N,2μm,0.3s						
IKOO				IAMB	IAmb	09 37 54.1	
	comp=Z,818nm,0.3s						
TPRV	**Parvadeh(Tabas**	**4.16**	**348**	*e*Pn	Pn	09 36 56.8	+3.0
GHIR	**Ghir-Karzin**	**4.21**	**262**	*e*Pn	Pn	09 36 57.5	+3.1
SHRT	**Shahrakht**	**5.18**	**25**	*e*Pn	Pn	09 37 10.0	+2.3
ANAR	**Anarak**	**5.43**	**322**	IAMB	IAmb	09 38 49.7	
	comp=E,0.0nm,0.6s						
ANAR				IAMB	IAmb	09 38 56.0	
	comp=N,0.0nm,0.4s						
ANAR				IAMB	IAmb	09 38 59.6	
	comp=Z,0.0nm,0.6s						

*ISCJB **26** 09:39:01.6±0.3, 27°.73N±0°.04×128°.62E±0°.06, h79km±3km, mb3.6/13, Error ellipse: s-maj=9.7km s-min=3.6km az=34.2*
*JMA **26** 09:39:02.9, 27°.77N×128°.56E, h64km±1km, M3.7*
JMA Felt I J1.
*IDC **26** 09:39:02.8±0.8, 27°.74N×128°.29E, h73km±9km, mb3.5/13, mb1 3.7/15, mb1mx3.6/39, mbtmp3.8/15, MS2.9/4, Ms1 2.9/4, ms1mx2.6/28, Error ellipse: s-maj=25.5km s-min=12.4km az=81.0*

ISC 26 09:39:02.3±0.7, 27°.72N±0°.04×128°.63E±0°.05, h73km±6km, n38, σ1s16/49, mb3.8/13, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**0.30**	**76**	P	**Pn**	**09 39 13.9**	**+0.2**
JTK				S	**Sn**	**09 39 21.8**	**-0.4**
JOKE	**Okinoerabujima**	**0.36**	**188**	P	**Pn**	**09 39 14.4**	**+0.2**
JOKE				S	**Sn**	**09 39 22.7**	**-0.2**
JYRO	**Yoronjima**	**0.71**	**193**	P	**Pn**	**09 39 18.0**	**+0.5**
JYRO				S	**Sn**	**09 39 28.9**	**+0.3**
JAMN	**Amaminishikomi**	**0.71**	**43**	P	**Pn**	**09 39 17.7**	**+0.2**
JAMN				S	**Sn**	**09 39 28.1**	**-0.7**
JIH	**Iheya**	**0.90**	**221**	P	**Pn**	**09 39 20.1**	**+0.5**
JIH				S	**Sn**	**09 39 32.2**	**-0.3**
JOW	**Kunigami**	**0.93**	**200**	P	**Pn**	**09 39 20.8**	**+0.6**
	202nm,0.3s,baz=34,slow=7.3,SNR=142						
JOW				S	**Sn**	**09 39 33.5**	**+0.2**
	1μm,0.3s,baz=90,slow=20,SNR=102						
JOW	**Kunigami**	**0.93**	**200**	P	**Pn**	**09 39 20.8**	**+0.6**
JOW				S	**Sn**	**09 39 33.6**	**+0.2**
JAM	**Amami Oshima**	**1.11**	**51**	P	**Pn**	**09 39 23.0**	**+0.8**
JAM				S	**Sn**	**09 39 37.5**	**+0.3**
JNTH	**Nagotoyohara**	**1.31**	**204**	P	**Pn**	**09 39 25.8**	**+1.0**
JNTH				S	**Sn**	**09 39 42.2**	**+0.4**
JZK	**Kikaishima**	**1.33**	**63**	*e*S	**Sn**	**09 39 45.2**	**+2.9**
JTAJ	**Takarajima**	**1.52**	**19**	P	**Pn**	**09 39 27.8**	**+0.2**
JTAJ				S	**Sn**	**09 39 46.8**	**+0.1**
JAGN	**Aguni-jima**	**1.67**	**228**	P	**Pn**	**09 39 30.5**	**+1.0**
JAGN				S	**Sn**	**09 39 50.6**	**+0.4**
JJT3	**Tamagusuku3**	**1.74**	**206**	P	**Pn**	**09 39 31.7**	**+1.2**
JJT3				*e*S	**Sn**	**09 39 53.2**	**+1.3**
JKE	**Kume jima 2**	**2.15**	**230**	P	**Pn**	**09 39 36.7**	**+0.7**
JKE				S	**Sn**	**09 40 02.4**	**+0.7**
JNN	**Nakanoshima**	**2.38**	**27**	S	**Sn**	**09 40 07.6**	**+0.2**
JMZ	**Minamidaito 2**	**2.99**	**129**	P	**Pn**	**09 39 47.7**	**+0.3**
JMZ				S	**Sn**	**09 40 19.9**	**-2.3**
JYAK	**Yakushimahirau**	**3.01**	**33**	P	**Pn**	**09 39 48.3**	**+0.7**
JYAK				*e*S	**Sn**	**09 40 23.1**	**+0.6**
JNU	**Nakatsue**	**5.73**	**19**	P	**Pn**	**09 40 28.4**	**+3.6**
	1.6nm,0.3s,baz=231,slow=7.0,SNR=12						
KSRS	**Korea Array**	**9.73**	**357**	P	**Pn**	**09 41 21.1**	**+1.8**
	0.1nm,0.3s,baz=178,slow=14,SNR=5.9						
KSRS				LR	LR	09 45 31.6	
	comp=Z,24nm,20.9s,baz=185,slow=40						
JCJ	**Chichijima**	**12.06**	**90**	LR	LR	09 45 53.5	
	comp=Z,60nm,21.0s,baz=158,slow=33						
SONM	**Songino Array**	**26.52**	**325**	P	**P**	**09 44 30.4**	**-2.6**
	0.4nm,0.8s,baz=144,slow=10,SNR=2.5						
CMAR	**Chiang Mai Arr**	**28.76**	**258**	LR	LR	09 57 44.8	
	comp=Z,24nm,19.1s,baz=188,slow=39						
H11N2	**WAKE ISLAND Hy**	**35.81**	**94**	T	T	10 23 44.9	
	baz=290,slow=75,SNR=9.2						
H11N1	**WAKE ISLAND Hy**	**35.81**	**94**	T	T	10 23 43.2	
	baz=290,slow=75,SNR=5.2						
H11N3	**WAKE ISLAND Hy**	**35.83**	**94**	T	T	10 23 44.6	
	baz=290,slow=75,SNR=9.6						
MKAR	**Makanchi Array**	**40.83**	**311**	P	**P**	**09 46 35.6**	**-1.1**
	0.8nm,0.5s,baz=96,slow=12,SNR=9.8						
ZALV	**Zalesovo Beam**	**41.29**	**322**	P	**P**	**09 46 38.5**	**-1.8**
	0.7nm,0.4s,baz=94,slow=7.1,SNR=4.5						
WRA	**Warramunga Arr**	**47.70**	**173**	P	**P**	**09 47 32.9**	**+1.1**
	1.1nm,0.6s,baz=353,slow=8.4,SNR=20						
BVAR	**Borovoye Array**	**49.41**	**317**	P	**P**	**09 47 44.5**	**-0.1**
	2.6nm,0.6s,baz=97,slow=12,SNR=6.0						
BVAR				LR	LR	10 10 17.0	
	comp=Z,29nm,19.7s,baz=55,slow=38						
ASAR	**Alice Springs**	**51.34**	**174**	P	**P**	**09 48 01.2**	**+1.8**
	0.3nm,0.5s,baz=1.8,slow=9.9,SNR=8.1						
ASAR				PcP	**PcP**	**09 49 13.5**	**+0.1**
	0.2nm,0.7s,baz=348,slow=4.0,SNR=3.2						
ILAR	**Eielson Array**	**62.97**	**29**	P	**P**	**09 49 21.0**	**+0.1**
	0.5nm,0.6s

CHOS	**Chios island**	**0.81**	**290**	PG		**Pb**	**10 00 49.9**	**0.0**
CHOS				SG		**Sb**	**10 01 02.1**	**+1.2**
DKL	**Dikili**	**0.96**	**354**	PG		**Pn**	**10 00 53.1**	**0.0**
AKHS	**Akhisar**	**0.98**	**39**	*i* P		**Pg**	**10 00 52.0**	**-0.9**
BODT	**Bodrum**	**1.07**	**168**	PG		**Pb**	**10 00 53.9**	**-0.4**
MANT	**Manisa**	**1.26**	**72**	*i* P		**Pg**	**10 00 59.2**	**+1.0**
SIGR	**SIGRI**	**1.43**	**321**	PN		**Pb**	**10 01 00.1**	**-0.3**
DAT	**Datca**	**1.45**	**162**	PN		**Pn**	**10 00 59.7**	**-0.2**
DAT	**Datca**	**1.45**	**162**	*i* P		**Pn**	**10 00 59.4**	**-0.5**

*IDC **26** 10:04:26.0±0.8, 40.°81N×71.°66E, h0km, mb3.9/12, mb1 4.1/19, mb1mx3.9/43, mbtmp3.9/19, ML3.6/6, MS2.6/3, Ms1 2.6/3, ms1mx2.3/50, Error ellipse: s-maj=16.7km s-min=10.4km az=154.0*

*KRNET **26** 10:04:29.8±0.1, 41.°08N×71.°67E, h22km, mb4.1*

*MOS **26** 10:04:29.1±1.6, 41.°01N×71.°52E, h13km, mb4.4/11, Error ellipse: s-maj=7.5km s-min=5.5km az=88.5*

*SOME **26** 10:04:30.0, 41.°05N×71.°60E, h5km*

*NNC **26** 10:04:31.2±0.7, 41.°09N×71.°74E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=7.0km s-min=3.7km az=63.0*

*NEIC **26** 10:04:34.0±0.5, 41.°05N×71.°60E, h51km±6km, mb4.2/7, Error ellipse: s-maj=6.1km s-min=5.5km az=161.0*

ISC 26 10:04:29.1±0.8, 41.°06N±0.°02×71.°75E±0.°02, h12km±5km, n169, σ2.°14/221, mb4.1/21, 46C-29D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.96**	**73**		*e*P	**Pn**	**10 04 48.6**	**0.0**
ARSB					*e*Sn	**Sn**	**10 05 08.0**	**+5.6**
ARSB	**Arslanbob**	**0.96**	**73**	⇑	*i*P	**Pn**	**10 04 49.0**	**+0.4**
	baz=76							
ARSB				⇑	*i*S	**Sn**	**10 05 03.5**	**+1.2**
	baz=76							
BTK	**Batken**	**1.23**	**216**	⇑	*i*P	**Pg**	**10 04 53.3**	**+0.6**
	baz=13							
BTK				⇑	*i*S	**Sn**	**10 05 09.7**	**+1.1**
	baz=13							
MNAS	**Manas**	**1.54**	**21**	⇓	P	**Pg**	**10 04 58.7**	**+0.1**
	101nm,0.5s							
MNAS				⇓	S	**Sg**	**10 05 19.9**	**+1.3**
	375nm,0.5s							
MNAS	**Manas**	**1.54**	**21**	⇑	*i*P	**Pg**	**10 04 58.4**	**-0.2**
	baz=24							
MNAS				⇑	*i*S	**Sg**	**10 05 19.8**	**+1.3**
	baz=24							
MNAS	**Manas**	**1.54**	**21**		PN	**Pg**	**10 04 58.7**	**+0.1**
MNAS					S	**Sg**	**10 05 19.9**	**+1.3**
MNAS					pmax	pmax		
	comp=Z,101nm,0.5s							
MNAS					smax	smax		
	comp=N,375nm,0.5s							
DRK	**Karamyk**	**1.57**	**179**	⇓	*i*P	**Pg**	**10 04 59.5**	**+0.1**
	baz=76							
DRK				⇓	*i*S	**Sg**	**10 05 21.4**	**+1.6**
	baz=76							
IUG	**Iuzhnay**	**1.69**	**311**		*e*P	**Pg**	**10 05 01.2**	**-0.4**
	comp=N,3μm,0.2s							
IUG					*e*S	**Sg**	**10 05 24.1**	**+0.6**
	comp=N,7μm,1.0s							
SFK	**Sufi-Kurgan**	**1.69**	**127**	⇓	P	**Pg**	**10 05 01.4**	**-0.2**
	comp=N,314nm,0.6s							
SFK				⇑	S	**Sg**	**10 05 25.8**	**+2.2**
	comp=N,1μm,0.6s							
SFK	**Sufi-Kurgan**	**1.69**	**127**		*e*Pn	**Pg**	**10 05 01.4**	**-0.2**
SFK					*e*Sn	**Sg**	**10 05 25.8**	**+2.2**
SFK	**Sufi-Kurgan**	**1.69**	**127**	⇓	*i*P	**Pg**	**10 05 01.7**	**+0.1**
	baz=27							
SFK				⇓	*i*S	**Sg**	**10 05 25.3**	**+1.7**
	baz=27							
SFK	**Sufi-Kurgan**	**1.69**	**127**		*e*PN	**Pg**	**10 05 01.4**	**-0.2**
SFK					*e*		10 05 25.8	
AML	**Almayashu**	**1.81**	**53**		P	**Pg**	**10 05 04.2**	**+0.3**
	SNR=163							
AML	**Almayashu**	**1.81**	**53**	⇑	*i*P	**Pg**	**10 05 03.7**	**-0.2**
	baz=55							
AML				⇑	*i*S	**Sg**	**10 05 28.5**	**+1.1**
	baz=55							
TAS	**Tashkent**	**1.88**	**279**	⇑	*i*P	**Pb**	**10 05 02.7**	**-0.7**
	baz=79							
TAS				⇑	*i*S	**Sb**	**10 05 27.1**	**+0.2**
	baz=79							
MRKS	**Merke**	**2.01**	**33**		*e*P	**Pg**	**10 05 08.1**	**+0.4**
	comp=N,74nm,0.3s							
MRKS					*e*S	**Sg**	**10 05 35.9**	**+2.0**
	comp=N,393nm,0.4s							
CHM	**Chimkent**	**2.05**	**309**		*e*P	**Pb**	**10 05 06.7**	**+0.4**
	comp=N,691nm,0.2s							
CHM					*e*S	**Sg**	**10 05 33.5**	**-1.4**
	comp=N,8μm,0.3s							
ARLS	**Aral**	**2.09**	**67**	⇑	*i*P	**Pb**	**10 05 08.0**	**+0.9**
	baz=68							
ARLS				⇑	*i*S	**Sg**	**10 05 36.4**	**0.0**
	baz=68							
EKS2	**Erkin-Say**	**2.20**	**43**		P	**Pb**	**10 05 09.6**	**+0.7**
	SNR=25							
EKS2	**Erkin-Say**	**2.20**	**43**	⇑	*i*P	**Pb**	**10 05 09.4**	**+0.4**
	baz=44							
EKS2				⇑	*i*S	**Sg**	**10 05 38.5**	**-1.5**
	baz=44							
KK31	**Karatay Array**	**2.25**	**336**	⇓	Pn	**Pb**	**10 05 08.8**	**-0.8**
	comp=N,102nm,0.3s,baz=138,slow=13,SNR=1328							
KK31				⇓	Sn	**Sb**	**10 05 38.1**	**+0.8**
	comp=N,488nm,0.5s,baz=146,slow=25,SNR=9.9							
KK31	**Karatay Array**	**2.25**	**336**		*e*Pn	**Pb**	**10 05 08.7**	**-0.9**
KK31					*e*Sn	**Sb**	**10 05 38.1**	**+0.8**
KK31	**Karatay Array**	**2.25**	**336**		*e*PN	**Pb**	**10 05 08.7**	**-0.9**
KK31					*e*		10 05 38.1	
KKAR	**Karatay Array**	**2.25**	**336**		*e*Pn	**Pb**	**10 05 09.1**	**-0.5**
KKAR					*e*Sn	**Sb**	**10 05 38.1**	**+0.7**
KKAR	**Karatay Array**	**2.25**	**336**		*e*PN	**Pb**	**10 05 09.1**	**-0.5**
KKAR					*e*		10 05 38.1	
UCH	**Uchtor**	**2.38**	**60**		P	**Pb**	**10 05 13.2**	**+1.2**
	SNR=15							
UCH	**Uchtor**	**2.38**	**60**	⇑	*i*P	**Pb**	**10 05 11.9**	**-0.2**
	baz=61							
UCH				⇑	*i*S	**Sb**	**10 05 43.2**	**+1.7**
	baz=61							
BRLS	**Borolday**	**2.44**	**325**		*e*P	**Pb**	**10 05 10.9**	**-1.9**
	comp=N,17nm,0.4s							
BRLS					*e*S	**Sb**	**10 05 41.0**	**-1.9**
	comp=N,209nm,0.7s							
AAK	**Ala-Archa**	**2.59**	**51**		Pn	**Pb**	**10 05 15.3**	**-0.1**
	comp=N,3.9nm,0.3s,baz=164,slow=1.5,SNR=20							
AAK					Lg	Lg	10 05 51.9	
	comp=N,16nm,0.3s,baz=162,slow=20,SNR=12							
AAK					LR	LR	10 06 35.9	
	comp=N,98nm,20.4s,baz=210,slow=46							
AAK	**Ala-Archa**	**2.59**	**51**	⇓	Pn	**Pb**	**10 05 14.7**	**-0.8**
	comp=N,69nm,0.6s							
AAK				⇑	Lg	Lg	10 05 52.8	
	comp=N,309nm,0.8s							
AAK	**Ala-Archa**	**2.59**	**51**		P	**Pb**	**10 05 14.9**	**-0.6**
	SNR=16							
AAK	**Ala-Archa**	**2.59**	**51**		*e*Pn	**Pb**	**10 05 14.7**	**-0.8**
AAK					*e*Pn	**Pb**	**10 05 15.3**	**-0.1**
AAK					Lg	Lg	10 05 52.0	
AAK	**Ala-Archa**	**2.59**	**51**	⇑	*i*P	**Pb**	**10 05 15.0**	**-0.5**
	baz=53							
AAK				⇑	*i*S	**Sb**	**10 05 47.5**	**+0.2**
	baz=53							
AAK	**Ala-Archa**	**2.59**	**51**		*e*PN	**Pb**	**10 05 14.7**	**-0.8**
AAK					*e*		10 05 52.0	
FRU1	**Bishkek**	**2.77**	**50**		*e*Pn	**Pb**	**10 05 18.2**	**-0.4**
FRU1					*e*Sn	**Sg**	**10 05 60.0**	**+1.9**
FRU1	**Bishkek**	**2.77**	**50**		*e*PN	**Pb**	**10 05 18.2**	**-0.4**
FRU1					*e*		10 06 00.0	
FRU	**Bishkek**	**2.78**	**49**		*e*PN	**Pb**	**10 05 18.0**	**-0.7**
FRU					*e*		10 05 23.0	
FRU					*i* S	**Sg**	**10 05 58.0**	**-0.3**
FRU					pmax	pmax		
	comp=Z,140nm,1.9s							
FRU					smax	smax		
	comp=E,800nm,2.0s							
KZA	**Kyzart**	**2.81**	**68**		P	**Pb**	**10 05 20.2**	**+0.6**
	SNR=13							
KZA	**Kyzart**	**2.81**	**68**	⇑	*i*P	**Pb**	**10 05 18.5**	**-1.0**
	baz=68							
KZA				⇑	*i*S	**Sb**	**10 05 54.1**	**0.0**
	baz=68							
KBK	**Karagaybulak**	**2.87**	**55**		P	**Pb**	**10 05 19.5**	**-0.8**
	SNR=15							
KBK	**Karagaybulak**	**2.87**	**55**	⇓	*i*P	**Pb**	**10 05 19.0**	**-1.4**
	baz=56							
KBK				⇓	*i*S	**Sb**	**10 05 54.8**	**-0.7**
	baz=56							
CHMS	**Chumysh**	**2.96**	**48**		P	**Pb**	**10 05 19.9**	**-1.9**
	SNR=7.5							
CHMS	**Chumysh**	**2.96**	**48**	⇓	*i*P	**Pb**	**10 05 19.4**	**-2.4**
	baz=49							
CHMS				⇓	*i*S	**Sb**	**10 05 56.5**	**-1.4**
	baz=49							
USP	**Ospenovka**	**3.01**	**42**		P	**Pb**	**10 05 20.2**	**-2.4**
	SNR=11							
USP	**Ospenovka**	**3.01**	**42**	⇑	*i*P	**Pb**	**10 05 20.1**	**-2.5**
	baz=43							
USP				⇑	*i*S	**Sb**	**10 05 57.4**	**-1.9**
	baz=43							
NRN	**Naryn**	**3.22**	**82**		*e*Pn	**Pb**	**10 05 24.2**	**-2.3**
NRN	**Naryn**	**3.22**	**82**	⇑	*e*P	**Pn**	**10 05 23.0**	**+3.2**
	baz=83							
NRN				⇑	*i*S	**Sb**	**10 06 02.4**	**-3.4**
	baz=83							
NRN	**Naryn**	**3.22**	**82**		*e*PN	**Pb**	**10 05 24.2**	**-2.3**
TKM2	**Tokmak 2**	**3.42**	**56**	⇑	Pn	**Pn**	**10 05 26.0**	**+3.6**
	comp=E,8.1nm,0.6s							
TKM2				⇑	Pg	**Pg**	**10 05 35.4**	**+0.8**
	comp=E,27nm,0.5s							
TKM2				⇓	Lg	Lg	10 06 20.1	
	comp=E,87nm,0.7s							
TKM2	**Tokmak 2**	**3.42**	**56**		P	**Pb**	**10 05 26.7**	**-3.0**
	SNR=6.3							
TKM2	**Tokmak 2**	**3.42**	**56**	⇑	*i*P	**Pb**	**10 05 26.3**	**-3.4**
	baz=57							
TKM2				⇑	*i*S	**Sb**	**10 06 07.7**	**-3.5**
	baz=57							
TKM2	**Tokmak 2**	**3.42**	**56**		PN	**Pn**	**10 05 26.0**	**+3.6**
TKM2					PG	**Pg**	**10 05 35.4**	**+0.8**
TKM2					pmax	pmax		
	comp=Z,8.0nm,0.6s							
BOOM	**Boomskoye usch**	**3.44**	**64**	⇑	*i*P	**Pb**	**10 05 26.7**	**-3.4**
	baz=65							
BOOM				⇑	*i*S	**Sb**	**10 06 08.8**	**-3.2**
	baz=65							
ULHL	**Ulahol**	**3.57**	**69**		P	**Pb**	**10 05 33.0**	**+0.7**
	SNR=8.1							
ULHL	**Ulahol**	**3.57**	**69**	⇑	*e*P	**Pb**	**10 05 28.9**	**-3.3**
	baz=70							
ULHL				⇑	*i*S	**Sb**	**10 06 12.1**	**-3.5**
	baz=70							
KSH	**Kashi**	**3.58**	**114**		Pn	**Pn**	**10 05 27.0**	**+2.5**
KSH					Sn	**Sn**	**10 06 10.0**	**+3.3**
KSH					smax	smax		
	comp=N,730nm,0.8s							
KSH					smax	smax		
	comp=E,600nm,0.8s							
DGS	**Degeres**	**3.70**	**53**		*e*P	**Pg**	**10 05 38.3**	**-1.7**
	comp=E,55nm,0.6s							
DGS					*e*S	**Sg**	**10 06 26.9**	**-1.0**
	comp=E,185nm,0.7s							
KST	**Kastek**	**3.71**	**56**		*e*P	**Pg**	**10 05 39.7**	**-0.5**
	comp=E,23nm,0.6s							
KST					*e*S	**Sg**	**10 06 29.5**	**+1.3**
	comp=E,128nm,0.7s							
IZV	**Izvestkoviy**	**4.12**	**60**		*e*P	**Pg**	**10 05 46.0**	**-2.1**
	comp=E,94nm,0.7s							
IZV					*e*S	**Sg**	**10 06 40.6**	**-0.9**
	comp=E,144nm,1.0s							
KDJ	**Kajisay**	**4.21**	**73**		*e*Pn	**Pn**	**10 05 38.0**	**+4.7**
KDJ	**Kajisay**	**4.21**	**73**	⇓	*e*P	**Pn**	**10 05 37.7**	**+4.5**
	baz=74							
KDJ				⇓	*i*S	**Sn**	**10 06 25.8**	**+3.4**
	baz=74							
KDJ	**Kajisay**	**4.21**	**73**		*e*PN	**Pn**	**10 05 38.0**	**+4.7**
BTLS	**Baital**	**4.32**	**22**		*e*P	**Pg**	**10 05 50.4**	**-1.4**
	comp=E,20nm,0.4s							
BTLS					*e*S	**Sg**	**10 06 47.9**	**0.0**
	comp=E,246nm,0.9s							
TNSS	**Tian-Shan**	**4.34**	**61**		*e*P	**Pg**	**10 05 52.2**	**-0.1**
	comp=E,32nm,0.7s							
TNSS					*e*S	**Sg**	**10 06 50.4**	**+1.8**
	comp=E,72nm,0.6s							
KUU	**Kurty**	**4.42**	**49**		*e*P	**Pg**	**10 05 52.4**	**-1.3**
	comp=E,24nm,0.7s							
KUU					*e*S	**Sg**	**10 06 52.0**	**+1.0**
	comp=E,75nm,0.6s							
MDOK	**Medeo**	**4.47**	**60**	⇑	Pn	**Pn**	**10 05 40.8**	**+4.0**
	comp=E,13nm,0.7s							
MDOK				⇑	Pg	**Pg**	**10 05 53.8**	**-0.8**
	comp=E,60nm,1.0s							
MDOK				⇑	Lg	Lg	10 06 51.3	
	comp=E,176nm,1.2s							
MDOK	**Medeo**	**4.47**	**60**		*e*P	**Pg**	**10 05 52.3**	**-2.3**
	comp=E,24nm,0.4s							
MDOK					*e*S	**Sg**	**10 06 50.8**	**-1.6**
	comp=E,87nm,0.7s							
KTBS	**Karatobe**	**4.51**	**52**		*e*P	**Pg**	**10 05 56.3**	**+0.7**
	comp=E,21nm,0.7s							
KTBS					*e*S	**Sg**	**10 06 57.0**	**+3.0**
	comp=E,75nm,0.6s							
KOTS	**Kotyrbulak**	**4.54**	**60**		*e*P	**Pg**	**10 05 55.1**	**-0.9**
	comp=E,23nm,0.8s							
KOTS					*e*S	**Sg**	**10 06 56.5**	**+1.7**
	comp=E,84nm,0.6s							
CHKK	**Chushkaly**	**4.78**	**52**		*e*P	**Pg**	**10 05 58.9**	**-1.7**
	comp=E,4.4nm,0.6s							
CHKK					*e*S	**Sg**	**10 07 01.9**	**-0.4**
	comp=E,46nm,0.6s							
KURS	**Kuram**	**5.34**	**61**		*e*P	**Pg**	**10 06 10.6**	**-0.8**
	comp=E,6.4nm,0.3s							
KURS					*e*S	**Sg**	**10 07 22.0**	**+1.4**
	comp=E,58nm,1.4s							
ARXS	**Arharly**	**5.48**	**53**		*e*P	**Pg**	**10 06 13.3**	**-0.7**
	comp=E,14nm,0.6s							
ARXS					*e*S	**Sg**	**10 07 26.8**	**+1.8**
	comp=E,67nm,0.7s							
MNBS	**Baschi**	**5.76**	**56**		*e*P	**Pg**	**10 06 19.4**	**-0.1**
	comp=E,34nm,1.0s							
MNBS					*e*S	**Sg**	**10 07 36.4**	**+2.4**
	comp=E,54nm,0.9s							
PDGK	**Podgornoye**	**6.18**	**66**	⇓	Pg	**Pg**	**10 06 26.4**	**-1.0**
	comp=E,16nm,0.9s							
PDGK				⇓	Lg	Lg	10 07 47.0	
	comp=E,86nm,1.3s							
KBL	**Kabul**	**6.85**	**199**		*e*Pn	**Pn**	**10 06 12.9**	**+3.4**
KBL	**Kabul**	**6.85**	**199**		*e*PN	**Pn**	**10 06 12.9**	**+3.4**
OTUK	**Ortayu**	**7.20**	**3**	⇓	Pn	Pn	10 06 18.9	+4.8
	comp=E,6.0nm,0.6s							
OTUK				⇑	Lg	Lg	10 08 17.1	
	comp=E,128nm,0.9s							
OTUK	**Ortayu**	**7.20**	**3**		P	Pn	10 06 18.9	+4.8
OTUK					pmax	pmax		
	comp=E,6.0nm,0.6s							
NIL	**Nilore**	**7.49**	**170**		*e*Pn	**Pn**	**10 06 22.1**	**+3.9**
NIL	**Nilore**	**7.49**	**170**		*e*P	**Pn**	**10 06 22.1**	**+3.9**
MK01	**Makanchi Array**	**9.51**	**50**		*e*Pn	**Pn**	**10 06 48.7**	**+2.9**
MK31	**Makanchi Array**	**9.52**	**49**	⇑	Pn	Pn	10 06 52.0	+6.1
	comp=Z,1.5nm,0.7s							
MK31				⇑	Lg	Lg	10 09 33.6	
	comp=Z,17nm,0.8s,baz=254,slow=31,SNR=4.0							
MK31	**Makanchi Array**	**9.52**	**49**		*e*Pn	**Pn**	**10 06 49.4**	**+3.5**
MK31	**Makanchi Array**	**9.52**	**49**		*e*P	**Pn**	**10 06 49.4**	**+3.5**
MK32	**Makanchi Array**	**9.52**	**49**		*e*Pn	**Pn**	**10 06 49.2**	**+3.3**
MKAR	**Makanchi Array**	**9.52**	**49**		Pn	**Pn**	**10 06 49.2**	**+3.3**
	comp=Z,0.2nm,0.3s,baz=230,slow=12,SNR=5.9							
MKAR					Lg	Lg	10 09 34.7	
	comp=Z,0.2nm,0.3s,baz=255,slow=33,SNR=3.3							
MKAR	**Makanchi Array**	**9.52**	**49**		*e*Pn	Pn	10 06 51.6	+5.7
MKAR					Lg	Lg	10 09 34.7	
MKAR	**Makanchi Array**	**9.52**	**49**		*e*P	Pn	10 06 52.0	+6.1
KURBB	**Kurchatov Arra**	**10.67**	**24**		Pn	**Pn**	**10 07 01.8**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=212,slow=13,SNR=3.1							
KURBB					Lg	Lg	10 10 03.2	
	comp=Z,0.2nm,0.3s,baz=208,slow=26,SNR=5.5							
KURBB	**Kurchatov Arra**	**10.67**	**24**	⇑	Lg	Lg	10 10 09.2	
	comp=Z,88nm,0.8s							
KURK	**Kurchatov**	**10.78**	**24**	⇑	Lg	Lg	10 10 12.0	
	comp=Z,62nm,0.9s							
KURK	**Kurchatov**	**10.78**	**24**		*e*Pn	**Pn**	**10 07 01.8**	**-1.3**
KURK					Lg	Lg	10 10 03.2	
KURK	**Kurchatov**	**10.78**	**24**		*e*P	**Pn**	**10 07 01.8**	**-1.3**
GEYT	**Alibeck**	**10.99**	**258**		Pn	**Pn**	**10 07 03.1**	**-3.0**
	comp=Z,1.6nm,0.3s,baz=81,slow=14,SNR=11							
GEYT					Sn	**Sn**	**10 09 01.2**	**-7.8**
	comp=Z,1.1nm,0.3s,baz=72,slow=11,SNR=4.3							
GYA0B	**ALIBECK ARRAY**	**10.99**	**258**	⇓	Pn	**Pn**	**10 07 07.4**	**+1.3**
	comp=Z,6.3nm,0.5s							
GYA0B				⇓	Sn	**Sn**	**10 09 15.0**	**+6.0**
	comp=Z,26nm,0.7s							
GYA0B	**ALIBECK ARRAY**	**10.99**	**258**		*e*Pn	**Pn**	**10 07 05.8**	**-0.4**
AB31	**Akbulak array**	**11.68**	**319**		Pn	**Pn**	**10 07 17.3**	**+1.8**
	comp=Z,3.2nm,0.3s,baz=128,slow=13,SNR=126							
AB31				⇑	Sn	**Sn**	**10 09 30.0**	**+4.3**
	comp=Z,7.3nm,0.6s,baz=133,slow=13,SNR=8.5							
AB31	**Akbulak array**	**11.68**	**319**		P	**Pn**	**10 07 17.3**	**+1.8**
AB31					S	**Sn**	**10 09 30.3**	**+4.6**
AB31					pmax	pmax		
	comp=Z,126nm,3.2s							
AB31					smax	smax		
	comp=N,7.0nm,0.7s							
ABKAR	**Akbulak array**	**11.68**	**319**		*e*Pn	**Pn**	**10 07 14.5**	**-1.0**
BVAR	**Borovoye Array**	**12.01**	**356**		Pn	**Pn**	**10 07 20.6**	**+0.6**
	comp=N,0.3nm,0.3s,baz=184,slow=13,SNR=3.6							
BVAR					Sn	**Sn**	**10 09 29.6**	**-4.1**
	comp=N,0.5nm,0.3s,baz=168,slow=23,SNR=9.9							
BVAR					Lg	Lg	10 10 46.0	
	comp=N,0.4nm,0.3s,baz=144,slow=27,SNR=3.2							
BRVK	**Borovoye**	**12.05**	**356**	⇓	*e*P	**Pn**	**10 07 24.4**	**+3.9**
AKTO	**Aktyubinsk**	**13.39**	**319**		Pn	**Pn**	**10 07 37.8**	**-1.1**
	comp=N,2.3nm,0.3s,baz=107,slow=7.9,SNR=13							
AKTO					Sn	**Sn**	**10 10 00.1**	**-7.5**
	comp=N,0.7nm,0.3s,baz=162,slow=14,SNR=6.6							
AKTO	**Aktyubinsk**	**13.39**	**319**	⇑	Pn	**Pn**	**10 07 40.2**	**+1.3**
	comp=N,5.6nm,0.5s							
AKTO				⇓	Sn	**Sn**	**10 10 12.2**	**+4.6**
	comp=N,14nm,1.0s							
DGZ	**Jazzator, Alta**	**13.98**	**47**	⇑	*e*P	**P**	**10 07 56.6**	**+1.5**
ZAA0	**Zalesovo Array**	**15.59**	**30**		*e*Pn	**Pn**	**10 08 10.7**	**+2.1**
	comp=N,2.8nm,0.8s							
ZALV	**Zalesovo Beam**	**15.59**	**30**		Pn	**Pn**	**10 08 10.7**	**+2.2**
	baz=229,slow=11,SNR=5.5							
ZALV	**Zalesovo Beam**	**15.59**	**30**		*e*Pn	**Pn**	**10 08 10.6**	**+2.0**
ZALV	**Zalesovo Beam**	**15.59**	**30**		*e*P	**P**	**10 08 10.9**	**-1.9**
ZAA1	**Zalesovo Array**	**15.60**	**30**		*e*Pn	**Pn**	**10 08 10.7**	**+2.1**
PYUN	**Piuthan**	**15.88**	**141**		*e*P	**Pn**	**10 08 09.3**	**-3.3**
DANN	**Dangsing**	**16.05**	**138**		*e*P	**Pn**	**10 08 11.0**	**-3.8**
KOLN	**Koldanda**	**16.45**	**140**		*e*P	**Pn**	**10 08 16.2**	**-3.7**
GUN	**Gumba**	**17.51**	**134**		*e*P	**Pn**	**10 08 30.2**	**-3.2**
	comp=N,11nm,0.5s							
PKI	**Pulchoki**	**17.52**	**136**		*e*P	**Pn**	**10 08 30.0**	**-3.6**
ARU	**Arti**	**17.62**	**335**		P	**P**	**10 08 37.1**	**+1.8**
ARU	**Arti**	**17.62**	**335**	*c*	*i*P	**P**	**10 08 37.9**	**+2.7**
ARU					S	**S**	**10 11 57.0**	**-0.8**
ARU					pmax	pmax		
	comp=Z,16nm,2.5s							
JIRN	**Jiri**	**17.87**	**134**		*e*P	**Pn**	**10 08 35.3**	**-2.6**
	comp=Z,20nm,0.4s							
HVS	**Khovu-Aksy**	**18.19**	**49**	⇓	*e*P	**P**	**10 08 44.5**	**+2.9**
RAMN	**Ramite**	**18.66**	**134**		*e*P	**P**	**10 08 43.9**	**-3.2**
	comp=Z,25nm,0.7s							
GNI	**Garni**	**20.50**	**276**	⇓	*e*P	**P**	**10 09 08.2**	**+1.1**
GNI					pmax	pmax		
	comp=Z,15nm,0.6s							
WSAR	**Wadi Sarin**	**20.91**	**216**		P	**P**	**10 09 11.8**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=60,slow=8.1,SNR=4.1							
NCK	**Nalchik**	**20.94**	**286**	⇓	*e*P	Pn	10 09 13.6	-0.6
AKH	**Akhalkalaki**	**21.22**	**280**		*e*P	**P**	**10 09 14.1**	**-0.8**
	comp=Z,8.4nm,0.9s							
AKH	**Akhalkalaki**	**21.22**	**280**		*e*P	**P**	**10 09 14.1**	**-0.8**
AKH					pmax	pmax		
	comp=Z,8.0nm,0.9s							
KBZ	**Khabaz**	**21.43**	**287**		P	**P**	**10 09 18.7**	**+1.8**
	comp=Z,4.6nm,0.7s,baz=92,slow=8.9,SNR=9.1							
KIV	**Kislovodsk**	**21.58**	**287**		*e*P	**P**	**10 09 21.8**	**+3.2**
KIV					pmax	pmax		
	comp=Z,9.0nm,0.9s							
KIV					MLR	MLR		
	comp=Z,21nm,14.0s							
NEY	**Neytrino**	**21.59**	**285**	⇓	*e*P	**P**	**10 09 19.2**	**+0.4**
NEY					pmax	pmax		
	comp=Z,1.0nm,0.8s							
ANN	**Anapa**	**25.29**	**290**		*e*P	**P**	**10 09 54.6**	**-0.6**
ANN					*e**PP	**pP**	**10 09 57.8**	**-1.1**
ANN					*e*S	**S**	**10 14 22.3**	**+1.5**
ANN					pmax	pmax		
	comp=Z,11nm,0.7s							
BR101	**Keskin Array S**	**28.91**	**280**		*e*P	**P**	**10 10 28.2**	**+0.2**
BR131	**Keskin Array S**	**28.91**	**280**		*e*P	**P**	**10 10 28.2**	**+0.2**
BRTR	**Keskin Array B**	**28.91**	**280**		P	**P**	**10 10 28.2**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=98,slow=7.9,SNR=9.4							
BRTR					LR	LR	10 23 47.5	
	comp=Z,16nm,18.2s,baz=38,slow=40							
BRTR	**Keskin Array B**	**28.91**	**280**		*e*P	**P**	**10 10 28.9**	**+0.9**
BRTR					pm

*IDC **26** 10:19:42.7±1.3,23.°34S×179.°83W,h493km±16km, mb3.6/9, mb1 3.9/12,mb1mx3.5/31,mbtmp4.5/12,Error ellipse: s-maj=23.8km s-min=14.2km az=167.0*

*ISCJB **26** 10:19:45.2±0.4,23.°61S±0.°04×179.°96W±0.°07, h532km, mb4.5/30,Error ellipse: s-maj=8.1km s-min=4.6km az=168.9*

*WEL **26** 10:19:50.1±1.7,24.°S±13.°×18.°0W±3.°6, h538km±22km*

ISC 26 10:19:45.6±0.6,23.°69S±0.°06×179.°90W±0.°08, h532km, n102, σ1§82/116, mb4.6/30, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**5.81**	**163**	P	**P**	**10 21 23.5**	**+2.0**
RIZ				S	**S**	**10 22 41.3**	**+1.3**
RAO	**Raoul Island**	**5.82**	**163**	P	**P**	**10 21 21.6**	**0.0**
	93nm,0.3s,baz=65,slow=19,SNR=7.5						
RAO				S	**S**	**10 22 38.1**	**-2.0**
	41nm,0.3s,baz=270,slow=20,SNR=3.1						
RAO	**Raoul Island**	**5.82**	**163**	*e*P	P	10 21 16.6	-4.9
GLKZ	**Green Lake**	**5.83**	**163**	P	**P**	**10 21 22.3**	**+0.7**
GLKZ				S	**S**	**10 22 38.5**	**-1.8**
AFI	**Afiamalu**	**12.39**	**40**	P	P	10 22 20.4	-8.0
	2.6nm,0.3s,baz=153,slow=4.5,SNR=6.5						
AFI				S	S	10 24 27.6	-15
	3.2nm,0.3s,baz=195,slow=20,SNR=9.2						
AFI	**Afiamalu**	**12.39**	**40**	*e*P	P	10 22 21.6	-6.9
AFI				*e*S	S	10 24 31.0	-12
DZM	**Mont Dzumac**	**12.70**	**275**	P	**P**	**10 22 27.7**	**-3.8**
	0.1nm,0.3s,baz=143,slow=20,SNR=1.7						
OUZ	**Omahuta**	**12.81**	**205**	P	**P**	**10 22 34.9**	**+2.5**
WCZ	**Waipu Caves**	**13.19**	**201**	P	**P**	**10 22 38.6**	**+2.3**
KUZ	**Kuaotunu**	**13.55**	**195**	P	**P**	**10 22 41.3**	**+1.2**
MXZ	**Matakaoa Point**	**13.91**	**186**	P	**P**	**10 22 46.4**	**+2.5**
WMGZ	**Waiomatatini S**	**14.16**	**185**	P	**P**	**10 22 47.8**	**+1.3**
HAZ	**Te Kaha**	**14.16**	**188**	P	**P**	**10 22 48.3**	**+1.8**
PUZ	**Puketiti**	**14.43**	**186**	P	**P**	**10 22 51.6**	**+2.3**
PUZ				S	**S**	**10 25 23.3**	**+2.6**
TOZ	**Tahuroa Road**	**14.54**	**195**	P	**P**	**10 22 51.2**	**+0.7**
URZ	**Urewera**	**14.75**	**189**	P	**P**	**10 22 49.5**	**-3.1**
	6.4nm,0.3s,baz=311,slow=2.3,SNR=35						
URZ				S	**S**	**10 25 22.8**	**-4.0**
	0.7nm,0.3s,baz=11,slow=19,SNR=5.6						
URZ	**Urewera**	**14.75**	**189**	*e*P	**P**	**10 22 50.5**	**-2.1**
URZ				*e*S	**S**	**10 25 28.4**	**+1.6**
URZ	**Urewera**	**14.75**	**189**	P	**P**	**10 22 50.4**	**-2.1**
URZ				S	**S**	**10 25 22.5**	**-4.2**
UTU	**Utuhina**	**14.82**	**192**	P	**P**	**10 22 57.2**	**+3.8**
TLZ	**Tolley Road**	**15.11**	**194**	P	**P**	**10 23 00.4**	**+4.0**
RTZ	**Ruatahuna**	**15.12**	**189**	P	**P**	**10 22 56.6**	**+0.1**
KNZ	**Kokohu**	**15.43**	**187**	P	**P**	**10 22 59.5**	**-0.1**
HIZ	**Hauiti**	**15.44**	**196**	P	**P**	**10 23 03.7**	**+3.9**
BKZ	**Black Stump Fm**	**15.73**	**190**	*e*P	**P**	**10 23 00.7**	**-2.1**
	18nm,0.7s						
BKZ	**Black Stump Fm**	**15.73**	**190**	P	**P**	**10 23 02.0**	**-0.9**
TWVZ	**Taurewa**	**15.84**	**193**	P	**P**	**10 23 04.2**	**+0.2**
NGZ	**Ngauruhoe**	**15.91**	**193**	P	**P**	**10 23 05.7**	**+1.0**
COVZ	**Chateau Observ**	**15.94**	**193**	P	**P**	**10 23 05.7**	**+0.7**
TUVZ	**Tukino**	**15.98**	**193**	P	**P**	**10 23 06.7**	**+1.2**
FWVZ	**Far West T-bar**	**15.99**	**193**	P	**P**	**10 23 06.6**	**+0.9**
VRZ	**Vera Road**	**16.05**	**195**	P	**P**	**10 23 08.8**	**+2.9**
PKVZ	**Pokaka**	**16.07**	**193**	P	**P**	**10 23 07.3**	**+1.1**
MOVZ	**Moawhango**	**16.10**	**192**	P	**P**	**10 23 06.1**	**-0.5**
BHHZ	**Black Hill Sta**	**16.12**	**191**	P	**P**	**10 23 04.7**	**-2.0**
CKHZ	**Cape Kidnapper**	**16.13**	**188**	P	**P**	**10 23 08.0**	**+1.3**
KRHZ	**Kereru**	**16.22**	**190**	P	**P**	**10 23 07.4**	**-0.3**
KRHZ				S	**S**	**10 25 52.9**	**-0.1**
DREZ	**Durham Road**	**16.25**	**197**	P	**P**	**10 23 08.6**	**+0.7**
KAHZ	**Kahuranaki**	**16.29**	**189**	P	**P**	**10 23 09.1**	**+0.8**
KHEZ	**Kahui Hut**	**16.39**	**197**	P	**P**	**10 23 14.6**	**+5.2**
LREZ	**Lake Rotokare**	**16.45**	**196**	P	**P**	**10 23 09.6**	**-0.2**
PNHZ	**Pukenui**	**16.51**	**191**	P	**P**	**10 23 10.4**	**-0.1**
PXZ	**Pawanui**	**16.52**	**189**	P	**P**	**10 23 10.5**	**0.0**
PXZ				S	**S**	**10 25 56.1**	**-1.9**
NMEZ	**Namu Road**	**16.54**	**197**	P	**P**	**10 23 14.5**	**+3.8**
WAZ	**Wanganui**	**16.59**	**194**	P	**P**	**10 23 12.3**	**+1.1**
TSZ	**Takapari Road**	**16.69**	**191**	P	**P**	**10 23 11.1**	**-1.1**
MRZ	**Mangatainoka R**	**17.35**	**192**	P	**P**	**10 23 16.1**	**-2.1**
OGWZ	**Otaki Gorge**	**17.57**	**192**	P	**P**	**10 23 18.6**	**-1.7**
HOWZ	**Holdsworth Sta**	**17.59**	**192**	P	**P**	**10 23 17.4**	**-3.1**
KIW	**Kapiti Island**	**17.67**	**193**	P	**P**	**10 23 20.1**	**-1.1**
TMWZ	**Te Maipa**	**17.73**	**191**	P	**P**	**10 23 21.9**	**+0.2**
DUWZ	**D'Urville Isla**	**17.84**	**195**	P	**P**	**10 23 23.4**	**+0.6**
MTW	**Mount Morrison**	**17.84**	**191**	P	**P**	**10 23 21.8**	**-0.9**
CAW	**Cannon Point**	**17.88**	**192**	P	**P**	**10 23 22.8**	**-0.3**
TRWZ	**Traveller**	**18.04**	**191**	P	**P**	**10 23 24.7**	**+0.1**
PAWZ	**Paruwai Farm**	**18.07**	**191**	P	**P**	**10 23 24.7**	**-0.2**
MSWZ	**Moikau Station**	**18.14**	**192**	P	**P**	**10 23 25.4**	**-0.1**
TCW	**Tory Channel**	**18.14**	**194**	P	**P**	**10 23 25.8**	**+0.3**
BHW	**Baring Head**	**18.20**	**193**	P	**P**	**10 23 26.4**	**+0.4**
QRZ	**Quartz Range**	**18.23**	**199**	P	**P**	**10 23 27.8**	**+1.5**
PLWZ	**Palliser**	**18.29**	**192**	P	**P**	**10 23 25.8**	**-1.1**
NNZ	**Nelson**	**18.36**	**196**	P	**P**	**10 23 27.6**	**+0.1**
TUWZ	**Tuamarina**	**18.43**	**195**	P	**P**	**10 23 27.9**	**-0.2**
THZ	**Tophouse**	**19.00**	**197**	*e*P	**P**	**10 23 33.5**	**+0.1**
	29nm,1.1s						
KHZ	**Kahutara**	**19.46**	**195**	*e*P	**P**	**10 23 37.2**	**-0.2**
	24nm,0.9s						
LTZ	**Lake Taylor**	**20.12**	**197**	*e*P	**P**	**10 23 43.0**	**-0.5**
	29nm,0.5s						
OXZ	**Oxford**	**20.69**	**197**	*e*P	**P**	**10 23 48.1**	**-0.5**
	27nm,0.5s						
MQZ	**McQueen's Vall**	**20.89**	**195**	*e*P	**P**	**10 23 51.0**	**+0.6**
	26nm,1.2s						
LBZ	**Lake Benmore**	**22.19**	**199**	*e*P	**P**	**10 24 02.7**	**+0.6**
	20nm,1.1s						
KNTN	**Kanton**	**22.25**	**22**	*e*P	**P**	**10 23 58.8**	**-4.2**
	54nm,1.0s						
WKZ	**Wanaka**	**22.95**	**201**	*e*P	**P**	**10 24 08.2**	**-0.7**
	38nm,1.2s						
DCZ	**Deep Cove**	**24.14**	**203**	*e*P	**P**	**10 24 20.4**	**+1.0**
	44nm,1.2s						
ARMA	**Armidale**	**26.19**	**249**	*e*P	**P**	**10 24 38.0**	**0.0**
	8.1nm,0.7s						
EIDS	**Eidsvold**	**26.43**	**260**	*e*P	**P**	**10 24 41.4**	**+1.3**
	20nm,0.5s						
CTAO	**Charters Tower**	**31.57**	**270**	*e*P	**P**	**10 25 26.1**	**+1.3**
	69nm,0.5s						
PMG	**Port Moresby**	**34.52**	**289**	*e*P	**P**	**10 25 48.5**	**-1.2**
	32nm,0.8s						
STKA	**Stephens Creek**	**34.89**	**248**	P	**P**	**10 25 54.0**	**+1.3**
	7.1nm,0.5s,baz=86,slow=10,SNR=9.5						
AS01	**Alice Springs**	**42.12**	**260**	*e*P	**P**	**10 26 51.7**	**+0.2**
AS31	**Alice Springs**	**42.16**	**260**	*e*P	**P**	**10 26 52.4**	**+0.6**
	8.3nm,0.4s						
ASAR	**Alice Springs**	**42.16**	**260**	P	**P**	**10 26 52.5**	**+0.6**
	16nm,0.5s,baz=95,slow=7.3,SNR=268						
ASAR				ScP	**ScP**	**10 31 37.1**	**+3.3**
	1.6nm,0.8s,baz=105,slow=3.8,SNR=9.2						
ASAR				S	**S**	**10 32 31.4**	**-2.0**
	0.3nm,0.7s,baz=98,slow=14,SNR=3.6						
WB2	**Warramunga Arr**	**42.50**	**266**	*e*P	P	**10 26 53.5**	**-1.0**
WB2				*e*P	P	10 26 54.4	-0.1
WRAB	**Tennant Creek**	**42.51**	**266**	*e*P	**P**	**10 26 54.4**	**-0.2**
	27nm,0.9s						
WRA	**Warramunga Arr**	**42.52**	**266**	P	**P**	**10 26 54.5**	**-0.1**
	12nm,0.3s,baz=89,slow=5.9,SNR=742						
WRA				ScP	**ScP**	**10 31 38.8**	**+3.5**
	1.4nm,0.9s,baz=100,slow=4.2,SNR=6.6						
WRA				S	**S**	**10 32 34.8**	**-3.7**
	0.4nm,0.8s,baz=102,slow=16,SNR=2.9						
JAY	**Jayapura**	**43.52**	**293**	P	**P**	**10 27 01.8**	**-0.8**
	9.2nm,0.5s,baz=153,slow=9.5,SNR=12						
FORT	**Forrest**	**46.47**	**249**	*e*P	**P**	**10 27 25.0**	**0.0**
	54nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.94**	**265**	*e*P	**P**	**10 27 58.6**	**+0.4**
	9.7nm,0.6s						
SOEI	**Soe**	**54.92**	**275**	*e*P	**P**	**10 28 26.1**	**-0.7**
	26nm,0.9s						
NJ2	**Nanjing**	**80.59**	**311**	*e*P	**P**	**10 31 02.0**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CN2	**Changchun**	**83.78**	**324**	*e*P	**P**	**10 31 20.5**	**+1.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PNTR	**Pine Nut**	**84.11**	**43**	*e*P	**P**	**10 31 20.7**	**-0.1**
	6.6nm,1.0s						
NV01	**Mina Array Sit**	**84.53**	**44**	*e*P	**P**	**10 31 22.4**	**-0.6**
NVAR	**Mina Array Bea**	**84.53**	**44**	P	**P**	**10 31 22.5**	**-0.4**
	0.6nm,0.7s,baz=225,slow=7.6,SNR=5.3						
TUC	**Tucson**	**86.31**	**52**	*e*P	**P**	**10 31 32.2**	**+0.7**
	1.9nm,0.8s						
GYA	**Guiyang**	**86.72**	**301**	*e*P	**P**	**10 31 34.0**	**+0.4**
GYA				pP	pP	10 33 22.8	-7.3
GYA				sP	sP	10 34 11.0	-13
GYA				PP	**PP**	**10 35 07.5**	**+1.5**
GYA				SKS	**SKSac**	**10 41 13.3**	**+3.3**
GYA				S	**ScS**	**10 41 30.8**	**-1.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**89.54**	**290**	P	**P**	**10 31 48.8**	**+2.0**
	0.6nm,0.4s,baz=157,slow=4.0,SNR=5.7						
TMUT	**Trail Mountain**	**89.63**	**46**	*e*P	**P**	**10 31 47.7**	**+0.6**
	5.4nm,0.7s						
TXAR	**Lajitas Array**	**90.24**	**58**	P	**P**	**10 31 50.1**	**+0.3**
	0.9nm,0.7s,baz=214,slow=6.5,SNR=14						
HHC	**Hu-ho-hao-te**	**90.34**	**315**	*e*P	**P**	**10 31 52.0**	**+1.9**
HHC				pmax	pmax		
	comp=Z,18nm,1.1s						
ILAR	**Eielson Array**	**91.80**	**14**	P	**P**	**10 31 54.3**	**-1.8**
	0.2nm,0.5s,baz=216,slow=5.5,SNR=6.9						
PDAR	**Pinedale Array**	**92.47**	**44**	P	**P**	**10 31 59.5**	**-0.5**
	0.5nm,0.7s,baz=205,slow=3.6,SNR=5.5						
LZH	**Lanzhou**	**93.32**	**308**	*e*P	**P**	**10 32 05.3**	**+1.3**
LZH				pP	pP	10 33 55.3	-6.4
LZH				sP	sP	10 34 46.3	-8.8
LZH				*e*PP	**PP**	**10 35 59.8**	**+2.3**
LZH				pmax	pmax		
	comp=Z,26nm,1.0s						
LZH				pmax	pmax		
	comp=Z,130nm,6.0s						
KSH	**Kashi**	**115.23**	**304**	*e*PKP	**PKPdf**	**10 37 27.3**	**+0.4**
BRTR	**Keskin Array B**	**147.53**	**307**	PKPbc	**PKPbc**	**10 38 28.6**	**-1.7**
	0.3nm,0.4s,baz=84,slow=3.5,SNR=2.1						

*ISCJB **26** 10:20:46.5±0.5,39.°07N±0.°04×105.°81E±0.°05, h10km, mb3.6/7,Error ellipse: s-maj=6.5km s-min=5.4km az=44.8*

*IDC **26** 10:20:47.0±0.9,39.°01N×105.°87E, h0km, mb3.6/8, mb1 3.7/11,mb1mx3.5/43,mbtmp3.6/11, ML3.2/3, MS2.6/1, Ms1 2.6/1,ms1mx2.1/49,Error ellipse: s-maj=32.5km s-min=15.5km az=53.0*

ISC 26 10:20:49.1±0.6,39.°20N±0.°05×106.°01E±0.°04, h10km, n17, σ2§02/25, mb3.9/7, 1D, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTO	**Baotou**	**3.39**	**64**	*e*Pg	**Pn**	**10 21 41.0**	**-1.1**
BTO				Sg	**Sn**	**10 22 21.0**	**-1.4**
BTO				smax	smax		
	comp=N,149μm,0.6s						
BTO				smax	smax		
	comp=E,92μm,0.6s						
BTO				SMZ			
	comp=E,190μm,0.6s						
LZH	**Lanzhou**	**3.56**	**210**	*e*Pg	**Pb**	**10 21 53.3**	**+1.1**
LZH				Sg	**Sb**	**10 22 39.0**	**+3.5**
LZH				smax	smax		
	comp=N,420nm,0.9s						
LZH				smax	smax		
	comp=E,340nm,0.9s						
GTA	**Gaotai**	**4.81**	**274**	Pn	**Pn**	**10 22 03.3**	**+1.6**
GTA				Pg	**Pb**	**10 22 14.0**	**+0.5**
GTA				Sn	**Sn**	**10 22 53.5**	**-4.1**
GTA				Sg	**Sg**	**10 23 21.0**	**-2.5**
GTA				smax	smax		
	comp=N,100nm,1.1s						
GTA				smax	smax		
	comp=E,72nm,0.8s						
XAN	**Xi'an**	**5.66**	**155**	Pn	**Pn**	**10 22 11.8**	**-1.5**
XAN				Pg	**Pb**	**10 22 30.8**	**+2.8**
XAN				Sn	**Sn**	**10 23 17.8**	**-0.6**
XAN				Sg	**Sb**	**10 23 35.8**	**-0.1**
XAN				smax	smax		
	comp=N,35nm,0.7s						
XAN				smax	smax		
	comp=E,24nm,1.0s						
SONM	**Songino Array**	**8.63**	**2**	Pn	**Pn**	**10 22 55.8**	**+1.7**
	comp=E,0.2nm,0.3s,baz=184,slow=14,SNR=4.0						
SONM				Lg	Lg	10 25 22.7	
	comp=E,0.3nm,0.3s,baz=183,slow=28,SNR=3.6						
WMQ	**Urumqi**	**14.47**	**294**	*e*P	**Pn**	**10 24 17.5**	**+3.5**
KSRS	**Korea Array**	**17.28**	**89**	P	**Pn**	**10 24 51.3**	**+0.9**
	comp=E,0.1nm,0.3s,baz=283,slow=11,SNR=3.4						
KSRS				LR	LR	10 32 41.9	
	comp=E,18nm,18.2s,baz=95,slow=41						
MKAR	**Makanchi Array**	**18.89**	**301**	P	**P**	**10 25 10.0**	**+0.4**
	comp=E,0.1nm,0.3s,baz=105,slow=14,SNR=3.8						
ZALV	**Zalesovo Beam**	**20.61**	**323**	P	**P**	**10 25 27.3**	**-1.0**
	comp=E,0.8nm,0.5s,baz=129,slow=12,SNR=4.2						
CMAR	**Chiang Mai Arr**	**21.57**	**199**	P	**P**	**10 25 35.1**	**-3.8**
	comp=E,0.5nm,0.4s,baz=5.6,slow=10,SNR=3.3						
KURBB	**Kurchatov Arra**	**22.43**	**310**	P	**P**	**10 25 48.6**	**+0.8**
	comp=E,0.6nm,0.6s,baz=107,slow=12,SNR=3.9						
AAK	**Ala-Archa**	**23.99**	**288**	P	**P**	**10 26 03.4**	**-0.5**
	comp=E,0.9nm,0.3s,baz=136,slow=21,SNR=8.4						
AAK	**Ala-Archa**	**23.99**	**288**	⇓Sn	**P**	**10 26 03.8**	**-0.1**
	comp=E,2.3nm,0.5s						
BVAR	**Borovoye Array**	**27.97**	**311**	P	**P**	**10 26 38.6**	**-1.0**
	comp=E,1.1nm,0.6s,baz=102,slow=8.7,SNR=6.5						
NOA	**NORSAR Array B**	**58.78**	**325**	P	**P**	**10 30 47.1**	**0.0**
	comp=E,0.8nm,0.8s,baz=104,slow=7.3,SNR=2.7						
WRA	**Warramunga Arr**	**64.53**	**150**	P	**P**	**10 31 24.6**	**-1.7**
	comp=E,0.8nm,0.9s,baz=342,slow=7.4,SNR=3.7						
ASAR	**Alice Springs**	**67.77**	**152**	P	**P**	**10 31 46.2**	**-0.8**
	comp=E,0.8nm,0.6s,baz=341,slow=6.5,SNR=12						

NNC 26 10:23:24.4±4.5,37.°30N×70.°79E, h0km, mb3.7, mpv3.3, 4C-2D, Error ellipse: s-maj=34.5km s-min=29.3km az=165.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.44**	**37**	⇑Pn	Pn	10 24 19.5	0.0
	3.5nm,0.3s						
SFK				⇑Sn	Sn	10 25 02.7	+1.5
	16nm,0.4s						
MNAS	**Manas**	**5.34**	**14**	⇓Pn	Pn	10 24 46.1	+0.5
	1.4nm,0.4s						
MNAS				⇓Sn	Sn	10 25 49.3	+1.4
	8.3nm,0.5s						
KK31	**Karatay Array**	**5.80**	**358**	Pn	Pn	10 24 52.9	+1.1
	1.7nm,0.4s,baz=177,slow=12,SNR=33						
KK31				⇑Sn	Sn	10 26 01.1	+2.1
	2.5nm,0.5s,baz=183,slow=22,SNR=3.7						
AAK	**Ala-Archa**	**6.04**	**27**	⇑Pn	Pn	10 24 54.0	-1.2
	1.9nm,0.8s						

*ISCJB **26** 10:49:55.4±0.3,28.°73N±0.°03×139.°98E±0.°06, h424km, mb3.9/30, Error ellipse: s-maj=6.7km s-min=4.0km az=177.1*

*IDC **26** 10:49:55.9±0.5,28.°66N×139.°91E, h412km±6km, mb3.6/29, mb1 3.7/36,mb1mx3.6/60,mbtmp4.4/36,Error ellipse: s-maj=12.1km s-min=7.1km az=77.0*

*JMA **26** 10:49:56.5±0.3,28.°80N×140.°23E, h424km±5km, M4.2*

ISC 26 10:49:56.7±0.4,28.°76N±0.°05×139.°94E±0.°08, h424km, n65, σ1§60/83, mb3.9/30, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.58**	**129**	P	**P**	**10 50 57.5**	**-1.1**
CBIJ				S	**S**	**10 51 45.5**	**-3.3**
JCJ	**Chichijima**	**2.58**	**129**	P	**P**	**10 50 57.5**	**-1.1**
	283nm,0.3s,baz=5.0,slow=20,SNR=160						
JCJ				S	**S**	**10 51 45.1**	**-3.8**
	236nm,0.3s,baz=322,slow=22,SNR=15						
JHHJ	**Haha-jima-NKT**	**2.90**	**136**	P	**P**	**10 51 00.1**	**-0.9**
JHHJ				S	**S**	**10 51 50.5**	**-2.6**
JHJ	**Hachijo jima 2**	**4.35**	**358**	P	**P**	**10 51 13.1**	**-0.1**
	44nm,0.3s,baz=253,slow=19,SNR=3.8						
JHJ				S	**S**	**10 52 10.1**	**-5.7**
	59nm,0.3s,baz=90,slow=20,SNR=3.4						
BSO1	**Boso 1**	**5.95**	**8**	P	**P**	**10 51 30.2**	**+1.6**
BSO1				*e*S	**S**	**10 52 43.7**	**-0.4**
BSO3	**Boso 3**	**6.05**	**4**	P	**P**	**10 51 32.2**	**+2.2**
BSO3				*e*S	**S**	**10 52 45.0**	**-1.6**
BSO4	**Boso 4**	**6.22**	**3**	*e*S	**S**	**10 52 49.0**	**-1.3**
JHU	**Hanno**	**7.10**	**356**	P	**P**	**10 51 40.7**	**-1.3**
JHU				*e*S	**S**	**10 53 03.1**	**-4.7**
JRY	**Ryogami san**	**7.29**	**353**	P	**P**	**10 51 43.7**	**-0.4**
JRY				*e*S	**S**	**10 53 08.2**	**-3.6**
JYT	**Yasato**	**7.45**	**2**	*e*S	**S**	**10 53 10.8**	**-4.1**
JAG	**Ashikaga**	**7.66**	**357**	P	**P**	**10 51 48.1**	**0.0**
JAG				*e*S	**S**	**10 53 14.8**	**-4.3**
JHO	**Hitachi**	**7.85**	**4**	P	**P**	**10 51 50.6**	**+0.4**
JHO				*e*S	**S**	**10 53 20.3**	**-2.7**
MJAR	**Matsushiro Arr**	**7.90**	**350**	P	**P**	**10 51 49.7**	**-1.0**
	0.9nm,0.3s,baz=259,slow=12,SNR=7.4						
JNU	**Nakatsue**	**8.91**	**301**	P	**P**	**10 52 00.9**	**-1.0**
	0.2nm,0.3s,baz=61,slow=13,SNR=2.3						
KSRS	**Korea Array**	**13.28**	**314**	P	**P**	**10 52 50.6**	**+1.0**
	0.4nm,0.3s,baz=123,slow=10,SNR=8.9						
ASAJ	**Asahikawa**	**15.48**	**7**	P	**P**	**10 53 15.4**	**+2.1**
	0.4nm,0.3s,baz=222,slow=14,SNR=4.4						
USRK	**Ussuriysk Ar.**	**16.67**	**340**	P	**P**	**10 53 27.4**	**+1.4**
	0.4nm,0.3s,baz=162,slow=12,SNR=5.9						
KLR	**Kul'dur**	**21.39**	**345**	P	**P**	**10 54 13.7**	**+1.8**
	2.2nm,0.5s,baz=176,slow=8.8,SNR=8.3						
SONM	**Songino Array**	**32.14**	**316**	P	**P**	**10 55 48.2**	**+0.9**
	4.0nm,0.8s,baz=124,slow=8.4,SNR=19						
GTA	**Gaotai**	**34.64**	**299**	P	**P**	**10 56 08.0**	**-0.6**
GTA				pmax	pmax		
	comp=Z,13nm,0.9s						
GTA				pmax	pmax		
	comp=Z,36nm,7.1s						
GTA				LR	LR		
	comp=N,270nm,20.9s						
GTA				LR	LR		
	comp=E,160nm,19.7s						
GTA				LR	LR		
	comp=Z,68nm,18.7s						
CMAR	**Chiang Mai Arr**	**38.77**	**264**	P	**P**	**10 56 43.1**	**0.0**
	comp=Z,1.1nm,0.9s,baz=50,slow=9.3,SNR=5.3						
CMAR				PcP	**PcP**	**10 58 43.2**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=123,slow=1.1,SNR=4.6						
TIXI	**Tiksi**	**43.37**	**355**	P	**P**	**10 57 19.8**	**+0.6**
	comp=Z,1.8nm,0.5s,baz=141,slow=5.8,SNR=4.7						
PSI	**Prapat**	**46.77**	**244**	P	**P**	**10 57 46.5**	**+0.1**
	comp=Z,1.8nm,0.4s,baz=0.4,slow=18,SNR=4.8						
RAMN	**Ramite**	**46.87**	**281**	*e*P	**P**	**10 57 47.6**	**+0.4**
	comp=Z,29nm,0.8s						
ZALV	**Zalesovo Beam**	**46.94**	**318**	P	**P**	**10 57 47.3**	**+0.3**
	comp=Z,2.3nm,0.4s,baz=100,slow=7.7,SNR=7.3						
ZALV				PcP	**PcP**	**10 59 11.4**	**-0.1**
	comp=Z,1.8nm,0.5s,baz=99,slow=2.0,SNR=4.6						
JIRN	**Jiri**	**47.04**	**282**	*e*P	**P**	**10 57 49.5**	**+0.8**
	comp=Z,60nm,0.8s						
LEM	**Lembang**	**47.14**	**226**	P	**P**	**10 57 48.8**	**-0.5**
	comp=Z,13nm,0.4s,baz=156,slow=8.3,SNR=4.0						
GUN	**Gumba**	**47.24**	**283**	*e*P	**P**	**10 57 51.0**	**+0.8**
	comp=Z,50nm,0.8s						
PKI	**Pulchoki**	**47.73**	**282**	*e*P	**P**	**10 57 54.0**	**+0.1**
PKIN	**Phulchoki**	**47.74**	**282**	*e*P	**P**	**10 57 53.9**	**0.0**
KKN	**Kakani**	**47.78**	**283**	*e*P	**P**	**10 57 54.4**	**+0.2**
MKAR	**Makanchi Array**	**47.89**	**309**	P	**P**	**10 57 54.8**	**+0.4**
	comp=Z,6.0nm,0.7s,baz=92,slow=8.9,SNR=39						
MKAR				PcP	**PcP**	**10 59 15.2**	**0.0**
	comp=Z,1.0nm,0.5s,baz=81,slow=8.0,SNR=4.8						
MKAR				ScP	**ScP**	**11 02 27.9**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=104,slow=5.1,SNR=4.6						
DMN	**Daman**	**47.98**	**282**	*e*P	**P**	**10 57 55.9**	**+0.2**
FITZ	**Fitzroy Crossi**	**48.59**	**198**	P	**P**	**10 58 00.2**	**+0.3**
	comp=Z,4.6nm,0.5s,baz=6.2,slow=7.6,SNR=8.2						
WRA	**Warramunga Arr**	**48.72**	**187**	P	**P**	**10 58 00.7**	**-0.2**
	comp=Z,9.4nm,0.5s,baz=6.1,slow=7.8,SNR=46						
WRA				PcP	**PcP**	**10 59 18.8**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=0.2,slow=4.2,SNR=4.6						
WRA				ScP	**ScP**	**11 02 31.4**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=3.5,slow=4.5,SNR=6.0						
CTA	**Charters Tower**	**48.94**	**172**	P	**P**	**10 58 02.5**	**0.0**
	comp=Z,4.2nm,0.8s,baz=37,slow=5.9,SNR=3.7						
DANN	**Dangsing**	**48.94**	**284**	*e*P	**P**	**10 58 03.7**	**+0.8**
	comp=Z,44nm,0.7s						
KOLN	**Koldanda**	**49.23**	**283**	*e*P	**P**	**10 58 05.5**	**+0.5**
	comp=Z,28nm,0.8s						
KURBB	**Kurchatov Arra**	**50.46**	**314**	P	**P**	**10 58 13.7**	**+0.3**
	comp=Z,9.0nm,0.5s,baz=91,slow=7.2,SNR=70						
ASAR	**Alice Springs**	**52.44**	**187**	P	**P**	**10 58 28.1**	**-0.2**
	comp=Z,4.2nm,0.6s,baz=16,slow=13,SNR=70						
ASAR				PcP	**PcP**	**10 59 33.0**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=15,slow=3.9,SN

LSNR			*i* Sg	Sb	10 57 06.8	-0.5		
ARXR	**Arkhyz**	**1.39 233**	*e*Pg	Pg	10 56 51.5	-0.1		
ARXR			*e*Sg	Sg	10 57 09.7	+0.1		
LABN	**Labinsk**	**1.50 280**	*e*Pg	Pb	10 56 52.8	0.0		
LABN			*e*Sg	Sg	10 57 13.3	-0.1		
KORR	**Kora**	**1.60 145**	*e*Pg	Pg	10 56 57.3	+1.5		
KORR			*e*Sg	Sg	10 57 16.2	-0.4		
DIGR	**Digorskoe uzhe**	**1.60 159**	*e*Pg	Pn	10 56 52.7	-0.5		
DIGR			*e*Sg	Sn	10 57 13.0	-0.9		
ARNR	**Ardon**	**1.63 138**	*e*Pg	Pg	10 56 57.8	+1.6		
ARNR			*e*Sg	Sg	10 57 20.9	+3.5		
LACR	**Lac**	**1.91 145**	*e*Pg	Pb	10 56 59.0	-0.8		
LACR			*e*Sg	Sb	10 57 24.9	+1.2		

*IDC **26** 11:09:04.3±0.9, 0.°28N×97.°66E, h0km, mb4.2/11, mb1 4.3/12, mb1mx4.0/50, mbtmp4.2/12, ML3.8/2, MS3.5/12, Ms1 3.5/12, ms1mx3.2/40, Error ellipse: s-maj=34.0km s-min=14.6km az=61.0*

*NEIC **26** 11:09:06.2±1.6, 0.°27N×97.°64E, h14km±9km, mb4.3/7, Error ellipse: s-maj=9.7km s-min=4.7km az=52.0*

*ISCJB **26** 11:09:07.6±0.9, 0.°32N±0.°05×97.°70E±0.°08, h36km±7km, mb4.2/15, MS3.5/9, Error ellipse: s-maj=14.3km s-min=4.8km az=152.1*

*DJA **26** 11:09:08.1±0.6, 0.°N±4.°×9.°8E±.°, h40km±14km, M4.5/11, mb4.8/4, mB5.3/3, MLv4.4/11, Mw(mB)4.8/3*

ISC 26 11:09:07.3±1.6, 0.°32N±0.°05×97.°67E±0.°07, h19km±6km, n73, σ0°89/65, mb4.2/15, MS3.5/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBSI	**Pulau Batu**	**0.72**	**122**	P	**Pn**	**11 09 22.7**	**+0.3**
PBSI				S	**Sn**	**11 09 34.2**	**+1.3**
GSI	**Gunungsitoli**	**0.98**	**355**	*e*Pg	**Pg**	**11 09 26.5**	**+0.1**
GSI				*e*Sg	**Sn**	**11 09 42.4**	**+3.0**
GSI	**Gunungsitoli**	**0.98**	**355**	P	**Pg**	**11 09 26.5**	**+0.1**
MNSI	**Mandailing Nat**	**1.97**	**76**	P	**Pb**	**11 09 41.4**	**-1.1**
SISI	**Saibi**	**2.17**	**139**	P	**Pn**	**11 09 42.5**	**+0.1**
SNSI	**Sinabang, Aceh**	**2.47**	**327**	P	Pg	11 10 04.3	+10
PSI	**Prapat**	**2.76**	**27**	Pn	**Pn**	**11 09 48.5**	**-2.1**
	2.6nm,0.3s,baz=180,slow=9.8,SNR=6.4						
PSI	**Prapat**	**2.76**	**27**	*e*Pn	**Pn**	**11 09 50.2**	**-0.5**
TPTI		**2.96**	**350**	P	**Pn**	**11 09 52.9**	**-0.4**
TPTI				S	**Sn**	**11 10 28.1**	**-0.1**
KCSI	**Kotacane, Aceh**	**3.18**	**2**	P	**Pn**	**11 09 56.7**	**+0.4**
TSI	**Tuntungan**	**3.28**	**16**	P	Pn	11 09 49.5	-8.2
TSI				S	**Sn**	**11 10 37.4**	**+1.2**
BKNI	**Bangkinang**	**3.37**	**90**	*e*Pn	**Pn**	**11 09 58.3**	**-0.7**
BKNI	**Bangkinang**	**3.37**	**90**	P	**Pg**	**11 10 12.7**	**+0.7**
MLSI	**Meulaboh, Aceh**	**4.12**	**342**	P	**Pn**	**11 10 10.2**	**+1.0**
MLSI				S	**Sn**	**11 10 57.2**	**+0.4**
IPM	**Ipoh**	**5.32**	**39**	*e*Pn	**Pn**	**11 10 26.2**	**+0.4**
KULM	**Kulim**	**5.76**	**31**	*e*Pn	**Pn**	**11 10 32.1**	**+0.2**
MYKOM	**Kota Tinggi**	**6.35**	**77**	*e*Pn	**Pn**	**11 10 40.9**	**+1.0**
MNAI	**Manna**	**7.04**	**131**	*e*Pn	**Pn**	**11 10 48.2**	**-1.2**
TRTT	**Trang**	**7.73**	**15**	P	**Pb**	**11 11 20.6**	**-0.2**
MDSI	**Maura Dua**	**8.07**	**126**	P	**Pn**	**11 11 03.5**	**-0.1**
	65nm,0.8s,683nm						
LWLI	**Liwa**	**8.30**	**130**	P	**Pn**	**11 11 07.4**	**+0.6**
KASI	**Kota Agung**	**8.96**	**131**	P	**Pn**	**11 11 14.3**	**-1.4**
LEM	**Lembang**	**12.21**	**126**	LR	LR	11 17 46.4	
	comp=Z,178nm,19.5s,baz=246,slow=43						
SBUM	**Sibu**	**14.70**	**82**	*e*Pn	**Pn**	**11 12 34.6**	**+0.3**
CM01	**Chiang Mai Arr**	**18.03**	**4**	*e*Pn	**P**	**11 13 17.2**	**-0.1**
CM31	**Chiang Mai Arr**	**18.06**	**4**	*e*Pn	**Pn**	**11 13 15.9**	**-1.4**
CMAR	**Chiang Mai Arr**	**18.06**	**4**	P	**Pn**	**11 13 15.9**	**-1.4**
	0.5nm,0.3s,baz=198,slow=11,SNR=12						
CMAR				LR	LR	11 20 34.2	
	comp=Z,127nm,19.2s,baz=188,slow=38						
PALK	**Pallekele**	**18.27**	**293**	LR	LR	11 19 43.6	
	comp=Z,142nm,18.6s,baz=116,slow=35						
CHTO	**Chiang Mai**	**18.42**	**4**	*e*P	**Pn**	**11 13 21.7**	**0.0**
	3.3nm,0.8s						
H08S2	**Diego Garcia H**	**26.32**	**252**	T	T	11 41 57.6	
	baz=74,slow=76,SNR=1406						
H08S3	**Diego Garcia H**	**26.33**	**252**	T	T	11 41 58.9	
	baz=74,slow=76,SNR=2937						
H08S1	**Diego Carcia H**	**26.34**	**252**	T	T	11 41 58.3	
	baz=74,slow=76,SNR=927						
H08N1	**Diego Carcia H**	**27.41**	**256**	T	T	11 44 04.1	
	baz=155,slow=77,SNR=57						
H08N2	**Diego Garcia H**	**27.42**	**256**	T	T	11 44 04.7	
	baz=155,slow=77,SNR=58						
H08N3	**Diego Garcia H**	**27.44**	**256**	T	T	11 44 04.7	
	baz=155,slow=77,SNR=58						
BATI	**Baumata**	**27.90**	**113**	LR	LR	11 27 14.9	
	comp=Z,207nm,19.8s,baz=192,slow=39						
FITZ	**Fitzroy Crossi**	**33.04**	**125**	P	**P**	**11 15 41.0**	**-0.8**
	2.4nm,0.7s,baz=292,slow=5.4,SNR=9.1						
FITZ				LR	LR	11 29 59.8	
	comp=Z,46nm,18.5s,baz=340,slow=38						
FITZ	**Fitzroy Crossi**	**33.04**	**125**	*e*P	**P**	**11 15 41.0**	**-0.8**
	2.9nm,0.8s						
XAN	**Xi'an**	**35.16**	**16**	P	**P**	**11 15 59.0**	**-1.1**
XAN				pP	sP	11 16 08.5	0.0
XAN				pmax	pmax		
	comp=Z,6.0nm,2.6s						
XAN				pmax	pmax		
	comp=Z,8.0nm,4.3s						
H01W3	**Cape Leeuwin H**	**38.26**	**158**	T	T	11 56 38.1	
	baz=333,slow=76,SNR=25						
H01W2	**Cape Leeuwin H**	**38.27**	**158**	T	T	11 56 38.5	
	baz=333,slow=76,SNR=24						
H01W1	**Cape Leeuwin H**	**38.28**	**158**	T	T	11 56 38.9	
	baz=333,slow=76,SNR=21						
WR1	**Warramunga Arr**	**41.18**	**121**	*e*P	**P**	**11 16 50.4**	**-0.6**
	comp=Z,3.7nm,0.6s						
WR1				*e*PcP	**PcP**	**11 18 50.4**	**+0.2**
WRA	**Warramunga Arr**	**41.18**	**121**	P	**P**	**11 16 50.4**	**-0.6**
	comp=Z,3.2nm,0.6s,baz=302,slow=9.0,SNR=44						
WRA				PcP	**PcP**	**11 18 50.4**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=318,slow=2.7,SNR=3.1						
AS31	**Alice Springs**	**42.50**	**127**	*e*P	**P**	**11 17 01.4**	**-0.4**
	comp=Z,1.6nm,0.7s						
AS31				*e*PcP	**PcP**	**11 18 54.2**	**-0.3**
ASAR	**Alice Springs**	**42.50**	**127**	P	**P**	**11 17 01.7**	**-0.1**
	comp=Z,5.1nm,0.8s,baz=297,slow=8.0,SNR=69						
ASAR				PcP	**PcP**	**11 18 54.2**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=326,slow=2.9,SNR=3.9						
AS01	**Alice Springs**	**42.53**	**127**	*e*P	**P**	**11 17 01.5**	**-0.5**
KSAR	**Wonju Array Be**	**46.28**	**34**	P	**P**	**11 17 31.0**	**-0.7**
KSRS	**Korea Array**	**46.31**	**34**	P	**P**	**11 17 31.0**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=217,slow=7.9,SNR=3.9						
KSRS				LR	LR	11 38 46.5	
	comp=Z,62nm,18.7s,baz=222,slow=38						
SONA0	**Songino Array**	**47.93**	**8**	*e*P	**P**	**11 17 45.7**	**+1.2**
SONA0				*e*PcP	**PcP**	**11 19 13.6**	**+0.7**
SONM	**Songino Array**	**47.93**	**8**	P	**P**	**11 17 45.7**	**+1.2**
	comp=Z,0.9nm,0.4s,baz=190,slow=9.0,SNR=7.5						
SONM				PcP	**PcP**	**11 19 13.6**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=210,slow=3.3,SNR=3.6						
MK01	**Makanchi Array**	**48.17**	**346**	*e*P	**P**	**11 17 46.9**	**+0.5**
MK31	**Makanchi Array**	**48.20**	**346**	*e*P	**P**	**11 17 47.6**	**+1.0**
MK32	**Makanchi Array**	**48.20**	**346**	*e*P	**P**	**11 17 47.7**	**+1.1**
MKAR	**Makanchi Array**	**48.20**	**346**	P	**P**	**11 17 47.7**	**+1.1**
	comp=Z,1.6nm,0.6s,baz=155,slow=7.6,SNR=18						
MKAR				LR	LR	11 42 11.5	
	comp=Z,25nm,18.6s,baz=172,slow=41						
MKAR	**Makanchi Array**	**48.20**	**346**	*e*P	**P**	**11 17 47.5**	**+0.9**
	comp=Z,1.3nm,0.6s						
STKA	**Stephens Creek**	**52.42**	**132**	P	**P**	**11 18 19.2**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=316,slow=16,SNR=3.0						
STKA				LR	LR	11 42 35.9	
	comp=Z,64nm,21.2s,baz=218,slow=38						
ZAA0	**Zalesovo Array**	**54.49**	**351**	*e*P	**P**	**11 18 34.4**	**+0.8**
	comp=Z,7.6nm,1.0s						
ZALV	**Zalesovo Beam**	**54.49**	**351**	P	**P**	**11 18 34.5**	**+0.9**
	comp=Z,3.6nm,0.5s,baz=181,slow=7.7,SNR=18						
ZALV				LR	LR	11 44 55.6	
	comp=Z,23nm,18.4s,baz=66,slow=39						
ZALV	**Zalesovo Beam**	**54.49**	**351**	*e*P	**P**	**11 18 34.2**	**+0.6**
ZAA1	**Zalesovo Array**	**54.50**	**351**	*e*P	**P**	**11 18 34.5**	**+0.8**
ABKAR	**Akbulak array**	**58.50**	**332**	*e*P	**P**	**11 19 02.0**	**-0.2**
BR101	**Keskin Array S**	**70.05**	**312**	*e*P	**P**	**11 20 17.7**	**-0.6**
BRTR	**Keskin Array B**	**70.05**	**312**	P	**P**	**11 20 17.7**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=120,slow=5.5,SNR=3.4						
RPZ	**Rata Peaks**	**78.26**	**135**	P	**P**	**11 21 06.9**	**+0.8**
	comp=Z,17nm,1.0s,baz=207,slow=6.8,SNR=3.3						
URZ	**Urewera**	**81.91**	**129**	LR	LR	11 59 36.6	
	comp=Z,55nm,18.7s,baz=282,slow=37						
GEC2	**GERESS Array S**	**85.78**	**319**	*e*P	**P**	**11 21 45.2**	**-0.3**
	comp=Z,2.6nm,1.2s						
GERES	**GERESS Array B**	**85.78**	**319**	P	**P**	**11 21 45.2**	**-0.3**
	comp=Z,1.5nm,1.1s,baz=176,slow=2.6,SNR=4.4						
GERES				LR	LR	12 04 40.2	
	comp=Z,17nm,19.3s,baz=284,slow=39						
JMIC	**Jan Mayen**	**94.93**	**342**	LR	LR	12 09 55.4	
	comp=Z,15nm,20.6s,baz=214,slow=38						
LTX	**Lajitas**	**144.15**	**33**	*e*PKPdf	PKPbc	11 28 41.8	+1.0
TXAR	**Lajitas Array**	**144.15**	**33**	PKP	PKPbc	11 28 41.8	+1.0
	comp=Z,0.4nm,0.8s,baz=300,slow=1.8,SNR=3.3						
CPUP	**Villa Florida**	**144.67**	**221**	PKP	PKPbc	11 28 42.4	0.0
	comp=Z,6.1nm,0.9s,baz=125,slow=2.9,SNR=14						
CPUP	**Villa Florida**	**144.67**	**221**	*e*PKPdf	**PKPdf**	**11 28 43.2**	**-0.4**

*LVSN **26** 11:30:33.0±2.5, 58.°60N×25.°53E, h0km±182km, ML1.2*

EST 26 11:30:28.8±0.1, 59.°25N×27.°67E, h0km, ML1.3(HEL), Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARBE	**Arbavere**	**0.89**	**283**	*e*P	Pg	11 30 44.7	-1.0
ARBE				*e*S	Sg	11 30 55.7	-1.5
VSU	**Vasula**	**0.93**	**212**	*e*P	Pg	11 30 45.4	-1.1
VSU	**Vasula**	**0.93**	**212**	*e*S	Sg	11 30 53.6	-4.8
VSU				AML	AML	11 31 04.8	
	comp=Z,15nm,0.8s						
VSU				AML	AML	11 31 07.1	
	comp=E,27nm,0.3s						
VSU				AML	AML	11 31 17.8	
	comp=N,24nm,0.4s						
VJF	**Virojoki**	**1.30**	**357**	*e*P	Pg	11 30 52.2	-1.5
VJF				MSG		11 31 08.1	
	comp=Z,2.4nm,0.2s						
VJF				*e*SB	Sg	11 31 09.2	-1.3
PVF	**Pernaja**	**1.59**	**326**	*e*PG	Pn	11 30 57.4	-0.8
PVF				*e*S	Sn	11 31 17.0	-2.4
PVF				MSG		11 31 21.5	
	comp=Z,1.7nm,0.1s						
MEF	**Metsahovi**	**1.92**	**302**	*e*PG	Pn	11 31 03.4	+0.7
MEF				*e*SG	Sn	11 31 28.1	+0.5
MEF				MSG		11 31 28.7	
	comp=Z,2.2nm,0.1s						
MEF	**Metsahovi**	**1.92**	**302**	*e*P	Pn	11 31 03.3	+0.6
MEF				AML	AML	11 31 03.9	
	comp=E,3.1nm,0.2s						
MEF				*e*S	Sn	11 31 28.4	+0.8
MEF				AML	AML	11 31 29.5	
	comp=Z,2.1nm,0.3s						
MEF				AML	AML	11 31 30.0	
	comp=N,4.1nm,0.2s						
NUR	**Nurmijrvi**	**1.98**	**311**	*e*SG	Sn	11 31 29.8	+0.7
FIA0	**FINESS Array S**	**2.34**	**341**	*e*P	Pn	11 31 08.1	-0.5
FIA0				*e*SG	Sb	11 31 40.7	-0.6
FIA0				MSG		11 31 41.9	
	comp=Z,0.8nm,0.1s						
FIA1	**FINESS Array S**	**2.34**	**341**	*e*S	Sn	11 31 38.3	+0.4
FIA1				MSG		11 31 41.6	
	comp=Z,0.7nm,0.1s						
SLIT	**Slitere, Latvi**	**3.26**	**242**	*e*S	Pg	11 31 35.3	+4.1
JOF	**Joensuu**	**4.09**	**24**	*e*P	Pn	11 31 32.6	+0.2

*NAO **26** 11:31:36.7±1.2, 76.°47N×16.°52E, h8km±11km, ML3.1*

*BER **26** 11:31:38.3±4.3, 76.°47N×16.°58E, h15km±28km, ML2.8, ML3.1(NAO)*

ISC 26 11:31:36.1±1.5, 76.°44N±0.°09×16.°7E±0.°2, h13km±14km, n13, σ2°21/23, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HSPB	**Hornsund (broa**	**0.63**	**335**	*e*P	**Pg**	**11 31 47.7**	**-0.7**
HSPB				*e*S	**Sg**	**11 31 55.0**	**-1.7**
HSPB				IAML		11 31 57.8	
	comp=Z,286nm,0.4s						
HSP	**Hornsund**	**0.63**	**335**	Pg	**Pg**	**11 31 47.7**	**-0.8**
HSP				Lg	Lg	11 31 55.5	
BRBA	**Barentsburg A**	**1.72**	**342**	Pn	**Pn**	**11 32 06.7**	**+1.0**
BRBA				Lg	Lg	11 32 30.9	
BRBA	**Barentsburg A**	**1.72**	**342**	Pn	**Pn**	**11 32 06.7**	**+1.0**
BRBA				Sg	**Sb**	**11 32 30.9**	**+1.9**
SPA0	**Spitsbergen Ar**	**1.75**	**358**	Pn	**Pn**	**11 32 07.2**	**+1.0**
	baz=170,slow=18						
SPA0				Lg	Lg	11 32 30.4	
	baz=168,slow=28						
SPA0	**Spitsbergen Ar**	**1.75**	**358**	Pn	**Pn**	**11 32 07.2**	**+1.0**
	baz=170,slow=18						
SPA0				Sg	**Sb**	**11 32 30.4**	**+0.5**
	baz=168,slow=28						
BRBB	**Barentsburg B**	**1.76**	**343**	Pn	**Pn**	**11 32 03.9**	**-2.3**
BRBB				Lg	Lg	11 32 27.1	
BJO1	**Bjornoya**	**2.03**	**162**	Pg	**Pb**	**11 32 14.7**	**+1.9**
BJO1				Sn	**Sn**	**11 32 36.4**	**+1.3**
BJO1				Lg	Lg	11 32 43.2	
BJO	**Bjornoya**	**2.04**	**161**	*e*P	**Pn**	**11 32 09.5**	**-0.5**
BJO				*e*Pg	**Pb**	**11 32 14.8**	**+1.8**
KBS	**Kingsbay**	**2.70**	**340**	Pn	**Pn**	**11 32 19.7**	**+0.5**
KBS				Pg	**Pb**	**11 32 25.5**	**+1.3**
KBS				Lg	Lg	11 33 02.3	
KBS	**Kingsbay**	**2.70**	**340**	*i* P	**Pn**	**11 32 19.6**	**+0.5**
KBS				Pg	**Pb**	**11 32 25.5**	**+1.3**
KBS				*e*Sg	**Sg**	**11 33 02.1**	**-0.7**
KBS				IAML		11 33 07.8	
	comp=Z,169nm,0.5s						
ARA0	**ARCESS Array S**	**7.39**	**155**	Pn	**Pn**	**11 33 25.1**	**+1.6**
	baz=334,slow=12						
ARA0				Sn	**Sn**	**11 34 41.7**	**-5.4**
	baz=350,slow=22						
ARA0	**ARCESS Array S**	**7.39**	**155**	Pn	**Pn**	**11 33 25.1**	**+1.6**
	baz=334,slow=12						
ARA0				Sn	**Sn**	**11 34 41.7**	**-5.4**
	baz=350,slow=22						

*DDA **26** 11:43:34.7, 37.°34N×28.°01E, h7km, Ml2.6, Suspected Mining explosion.*

*ISCJB **26** 11:43:35.4±0.8, 37.°36N±0.°04×28.°08E±0.°06, h0km, Error ellipse: s-maj=6.9km s-min=5.3km az=3.5*

*ISK **26** 11:43:36.5, 37.°42N×27.°87E, h25km±6km, ML2.0/3*

ISC 26 11:43:33.5±1.2, 37.°31N±0.°04×28.°21E±0.°06, h0km, n8, σ0°60/11, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLSB	**Milas**	**0.34**	**267**	PG	**Pb**	**11 43 42.4**	**-0.1**
AYDN	**Tasoluk**	**0.43**	**323**	*i* P	**Pg**	**11 43 41.8**	**0.0**
AYDN				*i* S	**Sg**	**11 43 46.4**	**-1.0**
TURN	**Turunc**	**0.54**	**144**	*i* P	**Pn**	**11 43 48.7**	**+0.2**
TAVA	**DENIZLI_Tavas**	**0.58**	**75**	*i* P	**Pn**	**11 43 48.5**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**0.68**	**339**	PG	**Pg**	**11 43 47.3**	**+0.8**
AYDB				SG	**Sg**	**11 43 56.2**	**+0.9**
BODT	**Bodrum**	**0.76**	**251**	PG	**Pg**	**11 43 47.9**	**-0.1**
BODT				SG	**Sg**	**11 43 57.8**	**0.0**
DAT	**Datca**	**0.77**	**221**	PG	**Pn**	**11 43 51.8**	**+0.1**
DAT	**Datca**	**0.77**	**221**	*i* P	Pg	**11 43 48.6**	**+0.3**

*ISCJB **26** 11:47:20.9±0.9, 18.°9S±0.°1×169.°4E±0.°1, h246km, mb3.9/10, Error ellipse: s-maj=21.7km s-min=14.3km az=141.6*

*IDC **26** 11:47:23.6±2.5, 18.°90S×169.°35E, h260km±24km, mb3.6/10, mb1 3.8/12, mb1mx3.6/27, mbtmp4.3/12, Error ellipse: s-maj=29.3km s-min=17.8km az=151.0*

ISC 26 11:47:22.2±0.9, 18.°8S±0.°1×169.°4E±0.°1, h246km, n14, σ0°90/14, mb3.8/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.26**	**220**	P	**Pn**	**11 48 29.9**	**+0.8**
	8.1nm,0.3s,baz=46,slow=18,SNR=63						
HNR	**Honiara**	**13.05**	**314**	P	**P**	**11 50 20.7**	**0.0**
	9.0nm,0.3s,baz=192,slow=2.9,SNR=16						
HNR	**Honiara**	**13.05**	**314**	*e*P	**P**	**11 50 21.0**	**+0.3**
CTA	**Charters Tower**	**21.84**	**263**	P	**P**	**11 51 55.2**	**0.0**
	2.7nm,0.5s,baz=95,slow=9.2,SNR=5.6						
PMG	**Port Moresby**	**23.46**	**290**	P	**P**	**11 52 09.3**	**-0.7**
	17nm,0.8s,baz=143,slow=5.3,SNR=6.0						
STKA	**Stephens Creek**	**28.19**	**237**	P	**P**	**11 52 51.8**	**-0.5**
	1.9nm,0.9s,baz=56,slow=15,SNR=2.9						
WRA	**Warramunga Arr**	**33.04**	**262**	P	**P**	**11 53 34.1**	**-0.8**
	1.0nm,0.3s,baz=83,slow=6.6,SNR=84						
ASAR	**Alice Springs**	**33.36**	**255**	P	**P**	**11 53 37.6**	**0.0**
	13nm,0.4s,baz=81,slow=8.8,SNR=345						
PETK	**Petropavlovsk-**	**72.32**	**353**	P	**P**	**11 58 22.0**	**+1.2**
	2.2nm,0.6s,baz=145,slow=8.5,SNR=7.7						
SONM	**Songino Array**	**86.95**	**323**	P	**P**	**11 59 40.6**	**+1.0**
	0.2nm,0.4s,baz=99,slow=8.9,SNR=2.5						
NVAR	**Mina Array Bea**	**88.41**	**48**	P	**P**	**11 59 47.9**	**+1.0**
	1.1nm,0.9s,baz=227,slow=9.8,SNR=8.0						
ILAR	**Eielson Array**	**89.77**	**17**	P	**P**	**11 59 51.0**	**-1.3**
	0.3nm,0.4s,baz=242,slow=5.0,SNR=8.2						
TXAR	**Lajitas Array**	**96.44**	**61**	P	**P**	**12 00 23.0**	**-0.9**
	0.1nm,0.6s,baz=212,slow=6.4,SNR=2.7						
ARCES	**ARCESS Array B**	**124.68**	**345**	PKP	**PKPdf**	**12 05 51.0**	**-0.7**
	2.5nm,0.9s,baz=35,slow=3.0,SNR=5.6						

*ISN **26** 12:03:11.8±0.8, 37.°18N×44.°37E, h16km±6km, ML3.2*

DDA 26 12:03:14.5, 37.°10N×44.°32E, h5km, MI3.2, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOVA	**Hakkari_Y˙...kse**	**0.49**	**357**	*i* P	Pg	12 03 24.6	+0.7
YOVA				*i* S	Sb	12 03 33.4	+0.1
CUKT	**Cukurca**	**0.59**	**285**	*i* P	Pg	12 03 26.3	+0.6
CUKT				*i* S	Sb	12 03 35.6	-0.3
SIRN	**S˙˙–rnak**	**1.57**	**285**	*i* P	Pg	12 03 44.9	+0.3
SIRN				*i* S	Sg	12 04 07.2	+2.3
GEVA	**Gevas**	**1.57**	**321**	*e*P	Pg	12 03 45.8	+1.2
GEVA				*i* S	Sg	12 04 11.7	+6.7
VMUR	**Van-Muradiye**	**1.98**	**343**	*e*P	Pg	12 03 52.5	+0.1
SRTM	**Siirt_Merkez**	**2.10**	**296**	*i* P	Pg	12 03 54.8	0.0
SRTM				*i* S	Sg	12 04 24.0	+2.0
BTMN	**Batman**	**2.55**	**289**	*i* P	Pg	12 04 03.5	+0.1
BTMN				*i* S	Sg	12 04 36.7	+0.4
MARD	**Mardin**	**2.83**	**275**	*i* P	Pg	12 04 07.8	-0.9
MARD				*i* S	Sb	12 04 38.8	-1.9

*IDC **26** 12:08:32.1±1.8, 1.°87N×125.°97E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.6/39, mbtmp3.8/4, ML3.6/1, MS3.0/4, Ms1 3.0/4, ms1mx2.5/40, Error ellipse: s-maj=113.0km s-min=23.0km az=68.0*

*ISCJB **26** 12:08:36.3±1.3, 2.°1N±0.°1×126.°40E±0.°09, h47km, mb3.8/3, MS3.1/3, Error ellipse: s-maj=19.4km s-min=11.7km az=19.2*

*DJA **26** 12:08:36.6±3.0, 2.°N±17.°×12.°6E±.°, h10km±30km, M3.9/8, mb4.0/3, mB4.5/1, MLv3.8/8, Mw(mB)3.6/1*

ISC 26 12:08:38.4±1.4, 2.°0N±0.°1×126.°38E±0.°09, h47km, n14, σ1°34/12, mb4.0/3, MS3.0/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.54**	**140**	P	**Pn**	**12 09 05.2**	**+1.7**
KMSI	**Cibinong**	**2.76**	**240**	P	**Pn**	**12 09 20.7**	**+0.5**
SANI	**Sanana**	**4.01**	**186**	P	**Pn**	**12 09 36.6**	**-0.7**
MRSI	**Marisa**	**4.67**	**252**	P	**Pn**	**12 09 46.8**	**+0.4**
LUWI	**Luwuk**	**4.68**	**230**	P	**Pn**	**12 09 48.8**	**+2.3**
NLAI	**Namlea**	**5.22**	**172**	P	**Sn**	**12 10 53.2**	**+0.3**
APSI	**Ampana**	**5.52**	**239**	P	**Pn**	**12 09 59.2**	**+1.1**
	27nm,0.9s,406nm0.1nm						
SIJI	**Sorong**	**5.64**	**120**	LR	LR	12 12 21.5	
	comp=Z,30nm,21.2s,baz=56,slow=38						
MPSI	**Mapaga**	**6.67**	**256**	P	**Pn**	**12 10 15.2**	**+1.3**
FITZ	**Fitzroy Crossi**	**19.95**	**182**	P	**P**	**12 13 04.8**	**-1.9**
	0.1nm,0.3s,baz=359,slow=8.4,SNR=9.1						
LEM	**Lembang**	**20.66**	**245**	LR	LR	12 21 25.3	
	comp=Z,69nm,20.4s,baz=221,slow=38						
WRA	**Warramunga Arr**	**23.13**	**161**	P	**P**	**12 13 40.2**	**-0.5**
	2.2nm,0.4s,baz=338,slow=10,SNR=64						
ASAR	**Alice Springs**	**26.51**	**164**	P	**P**	**12 14 11.9**	**+0.2**
	1.1nm,0.6s,baz=344,slow=7.3,SNR=21						
ASAR				LR	LR	12 26 40.9	
	comp=Z,28nm,18.6s,baz=232,slow=41						
MKAR	**Makanchi Array**	**58.80**	**326**	P	**P**	**12 18 31.3**	**-0.7**
	0.7nm,0.5s,baz=121,slow=7.6,SNR=7.8						
MKAR				LR	LR	12 45 59.8	
	comp=Z,30nm,19.9s,baz=196,slow=38						

*ISCJB **26** 12:14:32.6±1.3, 14.°14N±0.°09×92.°51W±0.°07, h46km, mb3.9/3, MS3.2/1, Error ellipse: s-maj=12.3km s-min=9.1km az=3.9*

*MEX **26** 12:14:32.9±0.3, 14.°07N×92.°41W, h56km±14km, MD3.7*

*IDC **26** 12:14:33.7±6.4, 13.°89N×92.°38W, h55km±50km, mb3.5/3, mb1 3.9/5, mb1mx3.5/33, mbtmp3.7/5, ML3.8/2, MS2.9/2, Ms1 2.9/2, ms1mx2.5/34, Error ellipse: s-maj=59.5km s-min=32.7km az=6.0*

**ISC 26 12:14

*ISCJB **26** 12:24:08.6±0.3,24˚.32N±0˚.02×122˚.46E±0˚.01,h71km±4km, Error ellipse: s-maj=2.7km s-min=1.9km az=165.9*
*JMA **26** 12:24:08.5±0.1,24˚.22N×122˚.43E,h69km±2km,M3.7*
*TAP **26** 12:24:09.4,24˚.29N×122˚.39E,h75km,ML4.0,B*
ISC 26 12:24:08.9±1.2,**24˚.30N**±0˚.03×**122˚.46E**±0˚.02,**h71**km±7km, **n114,σ1i03/215,11C-4D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1** baz=317	**0.39**	**310**	⇑P	**Pn**	**12 24 21.3**	**+0.6**
EOS1	baz=317			S	**Sn**	**12 24 30.6**	**+1.1**
JYNG	**Yonagunijimaku**	**0.47**	**71**	P	**Pn**	**12 24 21.6**	**+0.1**
JYNG				S	**Sn**	**12 24 30.6**	**-0.1**
YOJ	**Yonaguni jima** baz=68	**0.53**	**72**	*e*P	**Pn**	**12 24 22.1**	**0.0**
YOJ	baz=68			*e*S	**Sn**	**12 24 32.1**	**+0.4**
YOJ	**Yonaguni jima**	**0.53**	**72**	P	**Pn**	**12 24 22.1**	**0.0**
YOJ				S	**Sn**	**12 24 31.8**	**+0.1**
TWC	**Suao** baz=305	**0.63**	**299**	P	**Pn**	**12 24 23.2**	**+0.1**
TWC	baz=305			S	**Sn**	**12 24 33.2**	**-0.4**
ENA	**Nanau** baz=285	**0.66**	**281**	P	**Pn**	**12 24 23.5**	**+0.1**
ENA	baz=285			S	**Sn**	**12 24 34.1**	**-0.1**
EGS	baz=323	**0.72**	**319**	*e*P	**Pn**	**12 24 24.8**	**+0.7**
EGS	baz=323			*e*S	**Sn**	**12 24 34.7**	**-0.6**
ILA	**Ilan** baz=316	**0.79**	**306**	*e*P	**Pn**	**12 24 25.6**	**+0.7**
ILA	baz=316			*e*S	**Sn**	**12 24 37.2**	**+0.4**
NTC	**Toucheng** baz=325	**0.79**	**314**	*e*P	**Pn**	**12 24 25.2**	**+0.3**
NTC	baz=325			*e*S	**Sn**	**12 24 36.4**	**-0.3**
NACB	**Ninganchiao** baz=260	**0.80**	**261**	⇑P	**Pn**	**12 24 24.7**	**-0.3**
NACB	baz=260			S	**Sn**	**12 24 36.1**	**-0.7**
TWB1	**Santiao Chiao** baz=324	**0.82**	**329**	P	**Pn**	**12 24 25.4**	**+0.1**
TWB1	baz=324			*e*S	**Sn**	**12 24 36.6**	**-0.8**
TWE	**Neicheng** baz=308	**0.83**	**300**	*e*P	**Pn**	**12 24 26.0**	**+0.6**
TWE	baz=308			S	**Sn**	**12 24 37.8**	**+0.2**
HWA	**Hwalien** baz=245	**0.84**	**248**	*e*P	**Pn**	**12 24 25.5**	**+0.1**
HWA	baz=245			*e*S	**Sn**	**12 24 37.9**	**+0.1**
ENTT	**Nioudou** baz=289	**0.88**	**293**	*e*P	**Pn**	**12 24 26.7**	**+0.7**
ENTT	baz=289			S	**Sn**	**12 24 38.8**	**+0.2**
NWF	**Wu-fen Shan** baz=324	**0.98**	**321**	P	**Pn**	**12 24 27.5**	**+0.2**
NWF	baz=324			*e*S	**Sn**	**12 24 40.1**	**-0.9**
WFSB	**Wu-fen Shan** baz=324	**0.98**	**321**	*e*P	**Pn**	**12 24 27.5**	**+0.3**
WFSB	baz=324			*e*S	**Sn**	**12 24 40.3**	**-0.5**
NNSB	**Datong** baz=272	**0.99**	**278**	P	**Pn**	**12 24 27.6**	**+0.2**
NNSB	baz=272			S	**Sn**	**12 24 40.7**	**-0.4**
NWLT	**Wulai** baz=306	**0.99**	**299**	*e*P	**Pn**	**12 24 28.7**	**+1.3**
NWLT	baz=306			*e*S	**Sn**	**12 24 41.7**	**+0.6**
NNS	**Nan Shan** baz=273	**1.00**	**278**	P	**Pn**	**12 24 27.7**	**+0.2**
NNS	baz=273			S	**Sn**	**12 24 41.0**	**-0.3**
TWA	**Mucha** baz=322	**1.04**	**311**	*e*P	**Pn**	**12 24 28.2**	**+0.2**
TWA	baz=322			*e*S	**Sn**	**12 24 41.7**	**-0.5**
YHNB	**Yeheng** baz=286	**1.05**	**291**	⇓P	**Pn**	**12 24 28.8**	**+0.7**
YHNB	baz=286			*e*S	**Sn**	**12 24 42.5**	**0.0**
ESL	**Shilin** baz=246	**1.05**	**243**	P	**Pn**	**12 24 27.6**	**-0.5**
ESL	baz=246			S	**Sn**	**12 24 41.4**	**-1.0**
NSK	**Sanguang** baz=286	**1.07**	**291**	⇓P	**Pn**	**12 24 28.9**	**+0.6**
NSK	baz=286			S	**Sn**	**12 24 42.8**	**-0.1**
WHF	**Hehuan Shan** baz=254	**1.10**	**262**	⇑P	**Pn**	**12 24 29.0**	**-0.1**
WHF	baz=254			S	**Sn**	**12 24 43.0**	**-1.1**
TATO	**Taipei** baz=320	**1.11**	**308**	*e*P	**Pn**	**12 24 29.0**	**+0.2**
TATO	baz=320			*e*S	**Sn**	**12 24 43.6**	**0.0**
EGFH	**Guangfu** baz=234	**1.13**	**236**	*e*P	**Pn**	**12 24 28.8**	**-0.3**
EGFH	baz=234			*e*S	**Sn**	**12 24 43.2**	**-1.0**
YM07	**YM07** baz=321	**1.16**	**319**	*e*P	**Pn**	**12 24 29.7**	**+0.2**
YM07	baz=321			*e*S	**Sn**	**12 24 43.8**	**-1.0**
IRIF	**Iriomote-Funau**	**1.16**	**88**	P	**Pn**	**12 24 29.4**	**-0.1**
IRIF				S	**Sn**	**12 24 44.9**	**0.0**
YM01	**YM01** baz=318	**1.17**	**316**	*e*P	**Pn**	**12 24 30.4**	**+0.9**
YM01	baz=318			*e*S	**Sn**	**12 24 44.9**	**-0.1**
TWT	**Tachien** baz=267	**1.17**	**268**	*e*P	**Pn**	**12 24 30.7**	**+1.0**
TWT	baz=267			S	**Sn**	**12 24 45.8**	**+0.5**
YM11	**YM11** baz=319	**1.18**	**317**	*e*P	**Pn**	**12 24 29.8**	**0.0**
YM11	baz=319			*e*S	**Sn**	**12 24 44.2**	**-1.2**
YM10	**YM10** baz=318	**1.18**	**316**	*e*P	**Pn**	**12 24 29.7**	**-0.1**
YM10	baz=318			*e*S	**Sn**	**12 24 43.8**	**-1.5**
YM05	**YM05** baz=319	**1.18**	**317**	*e*P	**Pn**	**12 24 29.7**	**-0.1**
YM05	baz=319			*e*S	**Sn**	**12 24 43.3**	**-2.1**
YM08	**YM08** baz=320	**1.18**	**318**	*e*P	**Pn**	**12 24 30.6**	**+0.8**
YM08	baz=320			*e*S	**Sn**	**12 24 44.0**	**-1.4**
TDCB	**Techi** baz=262	**1.19**	**268**	*e*P	**Pn**	**12 24 30.7**	**+0.8**
TDCB	baz=262			*e*S	**Sn**	**12 24 45.2**	**-0.4**
YM04	**YM04** baz=318	**1.19**	**316**	*e*P	**Pn**	**12 24 30.2**	**+0.3**
YM04	baz=318			*e*S	**Sn**	**12 24 44.5**	**-1.2**
CHGB	**Renai** baz=252	**1.20**	**259**	⇑P	**Pn**	**12 24 30.4**	**+0.2**
CHGB	baz=252			*e*S	**Sn**	**12 24 45.2**	**-0.7**
YM03	**YM03** baz=318	**1.21**	**317**	*e*P	**Pn**	**12 24 30.9**	**+0.7**
YM03	baz=318			*e*S	**Sn**	**12 24 45.0**	**-1.0**
WLTB	**Daxi** baz=298	**1.23**	**297**	*e*P	**Pn**	**12 24 31.2**	**+0.9**
WLTB	baz=298			*e*S	**Sn**	**12 24 47.3**	**+0.9**
TWS1	**Kuangyinshan** baz=320	**1.24**	**310**	*e*P	**Pn**	**12 24 30.8**	**+0.4**
TWS1	baz=320			*e*S	**Sn**	**12 24 46.7**	**+0.1**
HGSD	**Ruisui** baz=225	**1.24**	**230**	⇑P	**Pn**	**12 24 30.1**	**-0.4**
HGSD	baz=225			*e*S	**Sn**	**12 24 45.9**	**-0.8**
TWY	**Chenhua** baz=323	**1.25**	**321**	*e*P	**Pn**	**12 24 32.1**	**+1.6**
TWY	baz=323			*e*S	**Sn**	**12 24 46.8**	**+0.1**
HATJ	**Hateruma jima**	**1.26**	**101**	P	**Pn**	**12 24 31.1**	**+0.4**
HATJ				S	**Sn**	**12 24 47.6**	**+0.6**
NTST	**Danshui** baz=323	**1.26**	**313**	*e*P	**Pn**	**12 24 31.4**	**+0.7**
NTST	baz=323			*e*S	**Sn**	**12 24 46.7**	**-0.3**
EHY	**Hungye** baz=230	**1.30**	**233**	*e*P	**Pn**	**12 24 30.8**	**-0.5**
EHY	baz=230			*e*S	**Sn**	**12 24 45.8**	**-2.4**
VWDT	**VWDT** baz=238	**1.32**	**246**	⇑P	**Pn**	**12 24 31.9**	**+0.4**
VWDT	baz=238			*e*S	**Sn**	**12 24 48.0**	**-0.5**
NCU	**National Centr** baz=301	**1.33**	**300**	⇑P	**Pn**	**12 24 32.5**	**+0.8**
NCU	baz=301			*e*S	**Sn**	**12 24 49.7**	**+0.9**
NCUH	**Zhongli** baz=301	**1.33**	**300**	*e*P	**Pn**	**12 24 31.8**	**+0.1**
NCUH	baz=301			*e*S	**Sn**	**12 24 49.4**	**+0.6**
LIOB	**Emei** baz=297	**1.36**	**285**	⇓P	**Pn**	**12 24 33.1**	**+1.0**
LIOB	baz=297			*e*S	**Sn**	**12 24 50.4**	**+1.0**
NSTT	**Nanjuang** baz=284	**1.37**	**284**	P	**Pn**	**12 24 33.0**	**+0.8**
NSTT	baz=284			*e*S	**Sn**	**12 24 50.4**	**+0.8**
YULB	**Yu-li** baz=237	**1.39**	**230**	⇑P	**Pn**	**12 24 32.0**	**-0.5**
JKRS	**Kuro-shima**	**1.42**	**92**	P	**Pn**	**12 24 33.4**	**+0.6**
JKRS				S	**Sn**	**12 24 51.2**	**+0.4**
TWF1	**Yuli** baz=236	**1.42**	**229**	⇑P	**Pn**	**12 24 32.5**	**-0.3**
TWF1	baz=236			*e*S	**Sn**	**12 24 49.5**	**-1.4**
SBCB	**Hsinchu** baz=301	**1.43**	**290**	*e*P	**Pn**	**12 24 33.4**	**+0.5**
SBCB	baz=301			*e*S	**Sn**	**12 24 51.4**	**+0.4**
SSLB	**Suanglung** baz=252	**1.47**	**250**	*e*P	**Pn**	**12 24 33.8**	**+0.3**
SSLB	baz=252			*e*S	**Sn**	**12 24 50.2**	**-1.7**
SMLT	**Sun Moon Lake** baz=246	**1.48**	**254**	*e*P	**Pn**	**12 24 34.5**	**+0.7**
TYC	**Yuchr** baz=250	**1.51**	**255**	*e*P	**Pn**	**12 24 34.9**	**+0.9**
TYC	baz=250			*e*S	**Sn**	**12 24 53.1**	**+0.1**
FULB	**Fuli** baz=215	**1.53**	**224**	⇑*e*P	**Pn**	**12 24 33.6**	**-0.6**
FULB	baz=215			*e*S	**Sn**	**12 24 52.5**	**-0.9**
NMLH	**Miaoli** baz=279	**1.54**	**279**	*e*P	**Pn**	**12 24 35.4**	**+1.0**
NMLH	baz=279			*e*S	**Sn**	**12 24 54.1**	**+0.5**
TWQ1	**Liyutan** baz=272	**1.54**	**272**	*e*P	**Pn**	**12 24 35.4**	**+1.0**
TWQ1	baz=272			*e*S	**Sn**	**12 24 54.3**	**+0.7**
JIJ	**Ishigaki jima**	**1.54**	**87**	P	**Pn**	**12 24 34.3**	**-0.1**
JIJ				S	**Sn**	**12 24 52.4**	**-1.3**
CHKT	**Chengkung** baz=212	**1.56**	**220**	P	**Pn**	**12 24 33.7**	**-1.0**
CHKT	baz=212			*e*S	**Sn**	**12 24 51.6**	**-2.5**
YUS	**Yu-Shan** baz=232	**1.59**	**240**	P	**Pn**	**12 24 36.0**	**+0.4**
YUS	baz=232			*e*S	**Sn**	**12 24 55.0**	**-0.8**
PTSB	**Yuanli** baz=275	**1.60**	**276**	*e*P	**Pn**	**12 24 36.0**	**+0.8**
PTSB	baz=275			*e*S	**Sn**	**12 24 55.8**	**+0.6**
TCU	**Taichung** baz=276	**1.63**	**265**	*e*P	**Pn**	**12 24 36.8**	**+1.2**
TCU	baz=276			*e*S	**Sn**	**12 24 57.2**	**+1.3**
WJS	**Zhushan** baz=251	**1.65**	**254**	*e*P	**Pn**	**12 24 37.8**	**+1.9**
WJS	baz=251			*e*S	**Sn**	**12 24 58.2**	**+1.9**
ALS	**Alishan** baz=235	**1.70**	**243**	*e*P	**Pn**	**12 24 37.7**	**+0.8**
ALS	baz=235			*e*S	**Sn**	**12 24 58.0**	**0.0**
JISG	**Ishigakijimahi**	**1.71**	**80**	P	**Pn**	**12 24 36.6**	**-0.1**
JISG				*e*S	**Sn**	**12 24 57.4**	**-0.4**
ELDTW	**Lidau** baz=228	**1.72**	**230**	⇑P	**Pn**	**12 24 36.5**	**-0.4**
ELDTW	baz=228			*e*S	**Sn**	**12 24 56.5**	**-1.7**
WCHH	**Zhanghua** baz=271	**1.75**	**263**	*e*P	**Pn**	**12 24 37.9**	**+0.8**
WCHH	baz=271			*e*S	**Sn**	**12 24 59.6**	**+1.0**
CHN5	**Tsauling** baz=239	**1.77**	**247**	*e*P	**Pn**	**12 24 38.9**	**+1.3**
CHN5	baz=239			*e*S	**Sn**	**12 25 00.2**	**+0.9**
WGK	**Gukeng** baz=250	**1.84**	**251**	*e*P	**Pn**	**12 24 39.2**	**+0.9**
WGK	baz=250			*e*S	**Sn**	**12 25 02.9**	**+2.1**
WDLH	**Douliu** baz=263	**1.86**	**251**	*e*P	**Pn**	**12 24 40.5**	**+1.9**
WDLH	baz=263			*e*S	**Sn**	**12 25 03.2**	**+2.0**
STYT	**Tauyuan** baz=228	**1.93**	**234**	*e*P	**Pn**	**12 24 40.6**	**+1.0**
STYT	baz=228			*e*S	**Sn**	**12 25 02.9**	**0.0**
TWG	**Pinlang** baz=225	**1.94**	**221**	P	**Pn**	**12 24 39.0**	**-0.8**
TWG	baz=225			*e*S	**Sn**	**12 25 01.4**	**-2.0**
TPUB	**Ta-pu** baz=238	**1.95**	**240**	*e*P	**Pn**	**12 24 41.2**	**+1.3**
TPUB	baz=238			*e*S	**Sn**	**12 25 04.4**	**+1.0**
CHN4	**Tsaushan** baz=240	**1.95**	**241**	P	**Pn**	**12 24 41.8**	**+1.9**
CHN4	baz=240			*e*S	**Sn**	**12 25 05.5**	**+2.0**
TTN	**Taitung** baz=211	**1.95**	**218**	*e*P	**Pn**	**12 24 39.9**	**0.0**
TTN	baz=211			*e*S	**Sn**	**12 25 03.3**	**-0.2**
RLNB	**Erlin** baz=258	**1.96**	**258**	*e*P	**Pn**	**12 24 40.9**	**+0.9**
RLNB	baz=258			*e*S	**Sn**	**12 25 04.9**	**+1.2**
CHN2	**Minshiung** baz=239	**1.97**	**248**	*e*P	**Pn**	**12 24 41.5**	**+1.4**
CHN2	baz=239			*e*S	**Sn**	**12 25 07.0**	**+3.1**
WTP	**Ta-pu** baz=237	**1.99**	**239**	*e*P	**Pn**	**12 24 41.9**	**+1.4**
WTP	baz=237			*e*S	**Sn**	**12 25 05.7**	**+1.2**
WTCT	**Ta-ch'eng** baz=257	**2.04**	**258**	*e*P	**Pn**	**12 24 41.0**	**0.0**
WTCT	baz=257			*e*S	**Sn**	**12 25 05.8**	**+0.4**
JTJ	**Tarama**	**2.08**	**80**	P	**Pn**	**12 24 41.8**	**+0.3**
JTJ				S	**Sn**	**12 25 06.4**	**-0.1**
TWK	**Hsinying** baz=239	**2.08**	**241**	*e*P	**Pn**	**12 24 43.0**	**+1.4**
TWK	baz=239			*e*S	**Sn**	**12 25 08.0**	**+1.4**
CHN1	**Nanshi** baz=237	**2.09**	**238**	*e*P	**Pn**	**12 24 43.2**	**+1.5**
CHN1	baz=237			*e*S	**Sn**	**12 25 08.2**	**+1.4**
SGST	**Jiashian** baz=233	**2.10**	**235**	*e*P	**Pn**	**12 24 43.9**	**+1.9**
SGST	baz=233			*e*S	**Sn**	**12 25 07.7**	**+0.5**
WSF	**Szhu** baz=263	**2.15**	**253**	*e*P	**Pn**	**12 24 43.1**	**+0.6**
WSF	baz=263			*e*S	**Sn**	**12 25 09.8**	**+1.6**
CHN8	**Yiju** baz=235	**2.26**	**246**	*e*P	**Pn**	**12 24 44.6**	**+0.5**
CHN8	baz=235			*e*S	**Sn**	**12 25 12.5**	**+1.4**
SSD	**Sandimen** baz=226	**2.28**	**228**	*e*P	**Pn**	**12 24 45.5**	**+1.2**
SSD	baz=226			*e*S	**Sn**	**12 25 12.6**	**+1.2**
SCLT	**Jiali** baz=241	**2.36**	**242**	*e*P	**Pn**	**12 24 46.0**	**+0.7**
MASBT	**Mashibuluo** baz=223	**2.37**	**225**	*e*P	**Pn**	**12 24 46.3**	**+0.7**
MASBT	baz=223			*e*S	**Sn**	**12 25 14.5**	**+0.8**
TWM1	**Shoushan** baz=230	**2.38**	**232**	*e*P	**Pn**	**12 24 48.0**	**+2.3**
LAY	**Lan-yu** baz=197	**2.40**	**200**	*e*P	**Pn**	**12 24 46.5**	**+0.5**
LAY	baz=197			*e*S	**Sn**	**12 25 11.1**	**-3.3**
EAST	**Anshuo** baz=215	**2.41**	**218**	*e*P	**Pn**	**12 24 45.6**	**-0.6**
EAST	baz=215			*e*S	**Sn**	**12 25 12.4**	**-2.3**
JIRB	**Irabujima**	**2.53**	**77**	P	**Pn**	**12 24 48.1**	**+0.4**
JIRB				S	**Sn**	**12 25 17.1**	**-0.4**
SCZT	**Fangliau** baz=233	**2.56**	**222**	*e*P	**Pn**	**12 24 49.5**	**+1.4**
SCZT	baz=233			*e*S	**Sn**	**12 25 18.3**	**+0.2**
JIKM	**Ikemajima**	**2.62**	**76**	P	**Pn**	**12 24 49.8**	**+0.9**
JIKM				S	**Sn**	**12 25 20.0**	**+0.4**
JMJ	**Miyako jima 2** baz=80	**2.63**	**78**	*e*P	**Pn**	**12 24 51.1**	**+2.0**
JMJ	**Miyako jima 2**	**2.63**	**78**	S	**Sn**	**12 25 19.5**	**-0.5**
PTTC	**Pingtan** baz=297	**2.72**	**297**	*e*P	**Pn**	**12 24 49.8**	**-0.5**
PTTC	baz=297			*e*S	**Sn**	**12 25 19.6**	**-2.4**
JOGS	**Gusukube**	**2.73**	**80**	S	**Sn**	**12 25 23.1**	**+0.8**
PHUB	**P'eng-hu** baz=253	**2.75**	**254**	*e*P	**Pn**	**12 24 50.4**	**-0.4**
PHUB	baz=253			*e*S	**Sn**	**12 25 20.6**	**-2.3**
WDGT	**Dungji** baz=247	**2.76**	**249**	*e*P	**Pn**	**12 24 49.9**	**-1.0**
TWKBT	**Hengchun** baz=210	**2.79**	**213**	*e*P	**Pn**	**12 24 53.4**	**+2.0**
TWKBT	baz=210			*e*S	**Sn**	**12 25 23.4**	**-0.6**
VWUC	**VWUC** baz=285	**2.82**	**285**	⇓*e*P	**Pn**	**12 24 51.4**	**-0.2**
MATB	**Ma-tsu** baz=309	**2.93**	**310**	*e*P	**Pn**	**12 24 53.1**	**0.0**
MATB	baz=309			*e*S	**Sn**	**12 25 25.6**	**-1.6**
VCHM	**Qimei** baz=248	**2.98**	**249**	*e*P	**Pn**	**12 24 54.1**	**+0.3**
VCHM	baz=248			*e*S	**Sn**	**12 25 27.0**	**-1.4**
PTMZ	**Houxiangcun** baz=284	**3.12**	**284**	*e*P	**Pn**	**12 24 55.5**	**-0.3**
LYJJ	**Jianjiangzhen** baz=305	**3.31**	**313**	*e*P	**Pn**	**12 24 58.5**	**+0.2**
LYJJ	baz=305			*e*S	**Sn**	**12 25 35.0**	**-1.5**
XPSS	**Dashiqiu** baz=322	**3.32**	**322**	*e*P	**Pn**	**12 24 57.9**	**-0.6**
XPSS	baz=322			*e*S	**Sn**	**12 25 36.0**	**-0.8**
MHZQ	**Yeshan** baz=300	**3.58**	**301**	*e*P	**Pn**	**12 25 01.7**	**-0.4**
MHZQ	baz=300			*e*S	**Sn**	**12 25 40.7**	**-2.5**
KNM	**Kinmen** baz=264	**3.67**	**273**	*e*P	**Pn**	**12 25 04.8**	**+1.6**
AXDP	**Jialang** baz=289	**4.13**	**279**	*e*P	**Pn**	**12 25 09.3**	**-0.1**
ZPLA	**Ao Xicun** baz=259	**4.32**	**266**	*e*P	**Pn**	**12 25 11.6**	**-0.5**

IDC 26 12:24:50.6±1.9,**3˚.08N**×**127˚.14E**,**h0**km,**mb3.6**/4, **mb1 3.8**/4,**mb1mx3.5**/47,**mbtmp3.6**/4,**MS3.4**/1,**Ms1 3.4**/1, **ms1mx2.4**/36,**Error ellipse: s-maj=112.3km s-min=21.7km az=70.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 4.2nm,1.2s,baz=12,slow=11,SNR=4.2	**21.09**	**184**	P	P	12 29 35.1	-1.7
WRA	**Warramunga Arr** 0.8nm,0.5s,baz=343,slow=9.7,SNR=15	**23.95**	**163**	P	P	12 30 06.7	0.0
ASAR	**Alice Springs** 0.2nm,0.3s,baz=346,slow=11,SNR=7.7	**27.39**	**166**	P	P	12 30 37.4	-0.5
ASAJ	**Asahikawa** comp=Z,43nm,20.1s,baz=182,slow=34	**43.10**	**16**	LR	LR	12 49 21.0	
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=124,slow=8.4,SNR=6.2	**58.32**	**325**	P	P	12 34 48.7	+1.3

*UCR **26** 12:27:53.4±1.5,12˚.37N×88˚.60W,h28km±7km,ML4.1, mb4.5(NEIC)*
*ISCJB **26** 12:27:55.0±0.4,12˚.42N±0˚.03×88˚.50W±0˚.02,h40km±3km, mb4.4/146,MS3.6/13,Error ellipse: s-maj=5.2km s-min=3.1km az=30.4*
*NEIC **26** 12:27:57.5±0.4,12˚.43N×88˚.40W,h49km±3km,mb4.5/153, MD4.3(SNET),Error ellipse: s-maj=4.2km s-min=2.9km az=220.0*
NEIC Felt [I] at San Salvador.
*IDC **26** 12:27:57.4±1.7,12˚.59N×88˚.31W,h41km±15km,mb4.1/21, mb1 4.3/24,mb1mx4.1/43,mbtmp4.3/24,ML3.3/3,MS3.7/14, Ms1 3.7/14,ms1mx3.5/34,Error ellipse: s-maj=25.3km s-min=9.2km az=53.0*
ISC 26 12:27:56.7±0.6,**12˚.45N**±0˚.05×**88˚.52W**±0˚.04,**h37**km±1km, **n489,σ1i10/483,mb4.5**/146,**MS3.6**/13,**Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**1.00**	**14**	*e*P	**Pn**	**12 28 13.6**	**-0.8**
PACA	**Pacayal**	**1.03**	**11**	*e*P	**Pn**	**12 28 13.7**	**-0.9**
TECA	**Tecapa**	**1.03**	**1**	*e*P	**Pn**	**12 28 12.9**	**-1.9**
LCND	**La Ca˜–ada**	**1.05**	**36**	*e*P	**Pn**	**12 28 13.1**	**-1.7**
LCND				*e*S	**Sn**	**12 28 29.5**	**+1.3**
LCND	comp=Z,4μm,0.4s			IAML		12 28 39.8	
CSGN	**Cosiguina Volc**	**1.07**	**61**	*e*Pn	**Pn**	**12 28 14.5**	**-0.7**
CSGN				*e*Sn	**Sn**	**12 28 28.1**	**-0.8**
CSGN	**Cosiguina Volc**	**1.07**	**61**	*e*P	**Pn**	**12 28 14.5**	**-0.7**
CSGN				*e*S	**Sn**	**12 28 31.4**	**+2.6**
SNVI	**San Vicente**	**1.19**	**345**	*e*P	**Pn**	**12 28 15.6**	**-1.3**
LFRS	**El Faro**	**1.28**	**336**	*e*P	**Pn**	**12 28 16.1**	**-2.0**
PAVA	**Las Pavas**	**1.32**	**342**	*e*P	**Pn**	**12 28 17.2**	**-1.4**
PAVA				*e*S	**Sn**	**12 28 34.9**	**-0.1**
PAVA	comp=Z,8μm,0.4s			IAML		12 28 42.1	
CAHU	**Cacacuatique**	**1.34**	**13**	*e*P	**Pn**	**12 28 19.2**	**+0.2**
SNET	**Serv Nac Est T**	**1.41**	**330**	*e*P	**Pn**	**12 28 17.8**	**-2.0**
SNET				*e*S	**Sn**	**12 28 36.5**	**-0.8**
SNET	comp=Z,4μm,0.3s			IAML		12 28 41.7	
LFU	**La Fuente**	**1.41**	**336**	*e*P	**Pn**	**12 28 17.8**	**-2.1**
UEES	**San Salvador** comp=Z,3μm,0.3s	**1.45**	**331**	IAML		12 28 41.8	
CRIN	**San Cristobal**	**1.45**	**80**	*e*P	**Pn**	**12 28 19.3**	**-1.1**
CRIN				*e*S	**Sn**	**12 28 39.8**	**+1.6**
CRIN	comp=N,4μm,0.4s			IAML		12 28 46.1	
BOQS	**Boqueron**	**1.48**	**330**	*e*P	**Pn**	**12 28 19.1**	**-1.8**
CEVE	**Cerro Verde**	**1.74**	**322**	*e*P	**Pn**	**12 28 23.0**	**-1.6**
CEVE				*e*S	**Sn**	**12 28 45.8**	**+0.1**
CEVE	comp=Z,7μm,0.3s			IAML		12 28 52.8	
SBLS	**San Blas**	**1.75**	**322**	*e*P	**Pn**	**12 28 23.5**	**-1.2**
SNJE	**San Jose**	**1.76**	**323**	*e*P	**Pn**	**12 28 23.2**	**-1.6**
CNGN	**Cerro Negro**	**1.78**	**88**	*e*P	**Pn**	**12 28 22.2**	**-2.7**
RTR	**El Retiro**	**1.81**	**323**	*e*P	**Pn**	**12 28 24.1**	**-1.3**
COPN	**Copaltepe**	**1.90**	**98**	*e*P	**Pn**	**12 28 24.5**	**-2.0**
MOMN	**Momotombo**	**1.93**	**91**	*e*P	**Pn**	**12 28 24.9**	**-2.1**
TGUH	**Tegucigalpa,Un**	**2.00**	**37**	*e*Pn	**Pn**	**12 28 28.1**	**+0.2**
TGUH				*e*Sn	**Sn**	**12 28 44.4**	**-7.3**

ESTN	**Estel**	2.19	73	*e*Pn		**Pn**	12 28 29.4	-1.3	
ESTN				*e*Sn		Sn	12 28 45.1	-11	
ESTN	**Estel**	2.19	73	*e*P		**Pn**	**12 28 29.9**	**-0.7**	
MGAN	**Managua**	2.24	98	*e*P		**Pn**	**12 28 29.0**	**-2.2**	
MGAN				*e*S		**Sn**	**12 28 57.8**	**+0.2**	
MGAN				IAML			12 28 59.8		
	comp=N,130nm,0.4s								
MATN	**Matagalpa**	2.57	79	*e*P		**Pn**	**12 28 34.6**	**-1.3**	
BOAB	**BOACO BROADBAN**	2.78	90	*e*Pn		**Pn**	**12 28 36.7**	**-1.9**	
BOAB	**BOACO BROADBAN**	2.78	90	*e*P		**Pn**	**12 28 36.9**	**-1.7**	
CONN	**Concepcion**	2.96	107	*e*P		**Pn**	**12 28 39.7**	**-1.5**	
APG	**El Apazote**	3.16	323	P		**Pn**	**12 28 45.2**	**+1.1**	
	comp=N,2.5nm,0.3s,baz=290,slow=2.8,SNR=18								
APG				S		**Sn**	**12 29 18.3**	**-2.4**	
	comp=N,22nm,0.3s,baz=341,slow=7.3,SNR=6.5								
JTS	**JuntasAbangare**	4.10	121	P		**Pn**	**12 28 57.3**	**+0.4**	
	baz=350,slow=0.1,SNR=7.0								
JTS				S		**Sn**	**12 29 42.6**	**-1.0**	
	baz=313,slow=0.0,SNR=1.5								
JTS	**JuntasAbangare**	4.10	121	*e*Pn		**Pn**	**12 28 56.7**	**-0.2**	
JTS				*e*Sn		**Sn**	**12 29 42.6**	**-1.0**	
ESPN	**Las Esperanzas**	4.13	93	*e*Pn		Pn	12 28 50.8	-6.3	
HDC	**Heredia**	4.96	119	*e*Pn		**Pn**	**12 29 06.8**	**-2.0**	
CCIG	**Comitan**	5.18	318	*e*Pn		**Pn**	**12 29 14.3**	**+2.5**	
CMIG	**Matias Romero**	7.69	308	P		**Pn**	**12 29 47.8**	**+1.6**	
	comp=N,0.6nm,0.3s,baz=120,slow=9.3,SNR=9.2								
CMIG				S		**Sn**	**12 31 12.1**	**0.0**	
	baz=100,slow=6.1,SNR=1.8								
TEIG	**Tepich**	7.73	2	*e*Pn		**Pn**	**12 29 48.9**	**+2.2**	
MYIG	**MÓrida**	8.54	352	*e*Pn		**Pn**	**12 30 00.3**	**+2.6**	
TLIG	**Tlapa**	10.96	299	*e*Pn		**Pn**	**12 30 33.6**	**+2.5**	
JRQG	**Juriquilla Cam**	14.07	307	*e*Pn		**Pn**	**12 31 14.4**	**+0.7**	
MOIG	**Morelia**	14.13	302	*e*Pn		**Pn**	**12 31 15.7**	**+1.1**	
SOTA	**Rioblanco**	15.63	130	*e*P		**P**	**12 31 43.0**	**+4.4**	
OTAV	**Otavalo**	15.72	140	*e*Pn		**Pn**	**12 31 36.1**	**+0.2**	
	comp=N,8.1nm,1.2s								
PRAC	**Prado**	16.04	122	*e*P		**P**	**12 31 41.5**	**-1.1**	
LNIG	**Linares**	16.14	322	*e*Pn		**P**	**12 31 44.2**	**+0.6**	
	comp=N,42nm,1.1s								
CHIC	**Chingaza**	16.55	117	*e*P		**P**	**12 31 48.8**	**+0.1**	
RUSC	**La Rusia**	16.57	112	*e*P		**P**	**12 31 49.5**	**+0.5**	
FLOC	**Florencia**	16.71	129	*e*P		**P**	**12 31 53.1**	**+3.0**	
ZAIG	**Zacatecas**	16.86	309	*e*Pn		**P**	**12 31 52.1**	**+0.2**	
	comp=N,16nm,1.1s								
SDV	**Santo Domingo**	17.93	100	P		**Pn**	**12 32 02.8**	**-0.6**	
	comp=N,1.0nm,0.3s,baz=244,slow=6.8,SNR=3.3								
SDV	**Santo Domingo**	17.93	100	*e*Pn		**Pn**	**12 32 01.5**	**-1.9**	
SDV				*e*P		**Pn**	**12 32 02.8**	**-0.6**	
542A	**Morse**	17.98	349	P		**P**	**12 32 07.4**	**+3.5**	
	baz=167								
555A	**McAlpin**	18.32	15	*e*P		**P**	**12 32 07.7**	**0.0**	
	comp=N,23nm,0.9s								
556A	**Lake Butler**	18.36	17	P		**Pn**	**12 32 10.2**	**+1.8**	
	baz=199								
HKT	**Hockley**	18.69	340	*e*P		**Pn**	**12 32 13.1**	**+0.8**	
	comp=N,13nm,1.1s								
453A	**Whigham**	18.72	11	*e*P		**P**	**12 32 12.4**	**+0.3**	
	comp=N,60nm,1.3s								
454A	**Quitman**	18.73	13	P		**Pn**	**12 32 14.6**	**+1.8**	
	baz=195								
833A	**Chaparral WMA,**	18.77	329	*e*P		**Pn**	**12 32 14.1**	**+0.6**	
	comp=N,39nm,0.9s								
833A	**Chaparral WMA,**	18.77	329	P		**Pn**	**12 32 15.8**	**+2.4**	
	baz=145								
346A	**Big Creek Wild**	18.86	357	*e*P		**Pn**	**12 32 14.4**	**-0.1**	
	comp=N,30nm,1.1s								
455A	**Stateville**	18.90	15	P		**Pn**	**12 32 15.5**	**+0.7**	
	baz=196								
344A	**Westbrook Farm**	19.02	354	*e*P		**Pn**	**12 32 16.6**	**+0.2**	
	comp=N,62nm,0.9s								
353A	**Camilla**	19.22	11	P		**Pn**	**12 32 19.8**	**+1.1**	
	baz=192								
352A	**Blakely**	19.22	9	*e*P		**P**	**12 32 18.2**	**+0.6**	
	comp=N,58nm,0.9s								
352A	**Blakely**	19.22	9	P		**Pn**	**12 32 19.3**	**+0.5**	
	baz=190,SNR=7.2								
TIGA	**Tifton**	19.43	13	*e*P		**Pn**	**12 32 22.1**	**+0.8**	
	comp=N,45nm,1.1s								
TIGA	**Tifton**	19.43	13	P		**Pn**	**12 32 22.3**	**+1.0**	
	baz=194								
249A	**Camden**	19.47	4	P		**Pn**	**12 32 22.4**	**+0.6**	
	baz=184								
245A	**Little AP, Sta**	19.53	356	P		**Pn**	**12 32 23.5**	**+1.0**	
	baz=176								
250A	**Grady**	19.54	6	*e*P		**P**	**12 32 20.3**	**-0.9**	
	comp=N,13nm,0.9s								
248A	**Dixon Mills**	19.56	2	P		**Pn**	**12 32 23.5**	**+0.7**	
	baz=182								
244A	**Avery, Jackson**	19.60	355	P		**Pn**	**12 32 24.4**	**+1.1**	
	baz=173								
356A	**Blackshear**	19.68	16	P		**Pn**	**12 32 24.4**	**+0.1**	
	baz=198								
251A	**Midway**	19.75	8	P		**Pn**	**12 32 24.8**	**-0.3**	
	baz=189,SNR=5.7								
252A	**Lumpkin**	19.76	10	P		**Pn**	**12 32 25.1**	**-0.1**	
	baz=191								
253A	**Americus**	19.93	11	*e*P		**Pn**	**12 32 27.1**	**-0.1**	
	comp=N,35nm,0.9s								
253A	**Americus**	19.93	11	P		**Pn**	**12 32 26.5**	**-0.7**	
	baz=192								
254A	**Abbeville**	19.99	13	P		**Pn**	**12 32 27.1**	**-0.8**	
	baz=195								
NATX	**Nacogdoches**	20.03	345	*e*P		Pn	12 32 27.8	-0.6	
	comp=N,35nm,0.9s								
435B	**Jarrell**	20.08	337	*e*P		Pn	12 32 28.0	-0.9	
	comp=N,36nm,1.0s								
146A	**Union**	20.10	359	*e*P		**P**	**12 32 27.7**	**+0.6**	
	comp=N,46nm,1.0s								
146A	**Union**	20.10	359	P		Pn	12 32 29.1	-0.1	
	baz=178								
149A	**Jones**	20.11	4	P		Pn	12 32 29.3	0.0	
	baz=185								
147A	**Livingston**	20.13	1	*e*P		**P**	**12 32 27.9**	**+0.4**	
	comp=N,23nm,1.0s								
147A	**Livingston**	20.13	1	P		Pn	12 32 29.6	+0.1	
	baz=180								
255A	**Hazlehurst**	20.16	15	*e*P		**P**	**12 32 28.1**	**+0.3**	
	comp=N,53nm,1.3s								
150A	**Eclectic**	20.19	6	P		Pn	12 32 30.4	+0.2	
	baz=187,SNR=9.2								
143A	**Socs Landing,**	20.33	353	*e*P		**P**	**12 32 30.2**	**+0.6**	
	comp=N,20nm,0.8s								
152A	**Waverly Hall**	20.42	9	*e*P		**P**	**12 32 31.6**	**+0.9**	
	comp=N,21nm,1.1s								
152A	**Waverly Hall**	20.42	9	P		Pn	12 32 32.2	-0.7	
	baz=190								
LRAL	**Lakeview Retre**	20.53	4	*e*P		Pn	12 32 33.6	-0.7	
	comp=N,7.4nm,0.9s								
LRAL	**Lakeview Retre**	20.53	4	P		Pn	12 32 33.9	-0.4	
	baz=184								
Z46A	**Louisville**	20.65	359	P		Pn	12 32 34.6	-1.0	
	baz=178								
154A	**Montrose**	20.67	13	*e*P		**P**	**12 32 33.0**	**-0.4**	
	comp=N,39nm,0.9s								
154A	**Montrose**	20.67	13	P		Pn	12 32 34.7	-1.2	
	baz=195								
Z49A	**Columbiana**	20.73	5	P		Pn	12 32 36.1	-0.4	
	baz=185,SNR=8.9								
JCT	**Junction City**	20.76	332	*e*P		**P**	**12 32 35.1**	**+0.7**	
	comp=N,28nm,0.8s								
JCT	**Junction City**	20.76	332	P		**P**	**12 32 35.7**	**+1.3**	
	baz=147,SNR=8.5								
Z44A	**Pea Ridge, Bel**	20.80	355	P		Pn	12 32 37.1	-0.2	
	baz=174								
Z43A	**Armstrong Fami**	20.81	354	P		Pn	12 32 37.0	-0.5	
	baz=172								
155A	**Kite**	20.83	14	P		Pn	12 32 36.6	-1.1	
	baz=196,SNR=11								
Z50A	**Ashland**	20.84	6	*e*P		Pn	12 32 37.0	-0.9	
	comp=N,10.0nm,0.7s								
Z50A	**Ashland**	20.84	6	P		Pn	12 32 36.7	-1.2	
	baz=187,SNR=6.8								
Z48A	**Northport**	20.85	2	P		Pn	12 32 36.8	-1.1	
	baz=182								
Z45A	**Winona**	20.85	357	P		Pn	12 32 37.0	-1.0	
	baz=176								
Z52A	**Williamson**	20.98	10	P		**P**	**12 32 37.9**	**+1.2**	
	baz=191								
Z51A	**Franklin**	20.99	8	P		Pn	12 32 38.7	-0.8	
	baz=189								
Z41A	**Richland Creek**	21.08	350	*e*P		**P**	**12 32 38.9**	**+1.1**	
	comp=N,24nm,0.9s								
Z41A	**Richland Creek**	21.08	350	P		**P**	**12 32 41.0**	**+3.2**	
	baz=168								
156A	**Sylvania**	21.11	17	P		**P**	**12 32 39.2**	**+1.0**	
	baz=199								
WHTX	**Lake Whitney,**	21.11	338	*e*P		**P**	**12 32 39.0**	**+0.9**	
	comp=N,31nm,1.1s								
WHTX	**Lake Whitney,**	21.11	338	P		**P**	**12 32 40.9**	**+2.7**	
	baz=155								
Z53A	**Monticello**	21.22	12	P		**P**	**12 32 41.0**	**+1.7**	
	baz=193								
Z54A	**Sparta**	21.33	13	P		**P**	**12 32 41.8**	**+1.3**	
	baz=195								
Y46A	**Houston**	21.34	359	P		**P**	**12 32 41.5**	**+0.9**	
	baz=179								
Y45A	**Yeager Farm, C**	21.34	358	P		**P**	**12 32 41.7**	**+1.2**	
	baz=177								
Y47A	**UCPARC, Winfie**	21.36	2	P		**P**	**12 32 42.2**	**+1.4**	
	baz=182								
GOGA	**Godfrey**	21.37	12	*e*P		**P**	**12 32 41.2**	**+0.3**	
	comp=N,16nm,0.8s								
GOGA	**Godfrey**	21.37	12	P		**P**	**12 32 41.1**	**+0.3**	
	baz=193								
Y49A	**Blount Mountai**	21.39	5	*e*P		**P**	**12 32 41.6**	**+0.4**	
	comp=N,12nm,0.9s								
Y49A	**Blount Mountai**	21.39	5	P		**P**	**12 32 42.8**	**+1.6**	
	baz=185								
Y50A	**Piedmont**	21.49	6	P		**P**	**12 32 43.2**	**+1.0**	
	baz=187								
Y51A	**Rockmart**	21.58	8	P		**P**	**12 32 44.0**	**+0.8**	
	baz=189,SNR=8.6								
HPIG		21.60	314	*e*P		**P**	**12 32 44.8**	**+1.1**	
	comp=N,11nm,0.9s								
Y41A	**Eaglette Beard**	21.66	351	P		**P**	**12 32 45.2**	**+1.2**	
	baz=169								
Y52A	**Lilburn**	21.70	10	*e*P		**P**	**12 32 45.0**	**+0.6**	
	comp=N,12nm,0.8s								
Y52A	**Lilburn**	21.70	10	P		**P**	**12 32 45.2**	**+0.8**	
	baz=192								
Y53A	**Monroe**	21.77	11	P		**P**	**12 32 46.2**	**+0.9**	
	baz=193,SNR=9.1								
X45A	**UM Field Stati**	21.89	358	P		**P**	**12 32 46.9**	**+0.5**	
	baz=177								
ATAH	**Atahualpa**	21.91	152	P		**P**	**12 32 47.4**	**+0.1**	
	comp=N,7.2nm,1.0s,baz=345,slow=8.4,SNR=5.1								
ATAH				LR		LR	12 40 10.5		
	comp=N,206nm,18.2s,baz=334,slow=33								
LTX	**Lajitas**	21.92	322	*e*P		**P**	**12 32 48.2**	**+1.2**	
LTX				*e*S		**S**	**12 36 48.4**	**+1.1**	
TXAR	**Lajitas Array**	21.92	322	P		**P**	**12 32 48.2**	**+1.2**	
	comp=N,2.1nm,0.4s,baz=145,slow=12,SNR=25								
TXAR				PcP		**PcP**	**12 36 48.4**	**+3.0**	
	comp=N,0.7nm,0.8s,baz=160,slow=4.0,SNR=4.3								
TX31	**Lajitas Ar. Si**	21.92	322	*e*P		**P**	**12 32 48.1**	**+1.1**	
TX31				*e*P		**P**	**12 32 48.3**	**+1.3**	
NHSC	**New Hope**	21.93	19	P		**P**	**12 32 47.7**	**+0.9**	
	baz=202								
X48A	**Hartselle**	21.94	3	*e*P		**P**	**12 32 47.6**	**+0.6**	
	comp=N,8.8nm,0.9s								
Y54A	**Tignall**	21.96	13	P		**P**	**12 32 47.7**	**+0.4**	
	baz=195,SNR=5.7								
X47A	**Russelville**	21.97	1	P		**P**	**12 32 47.6**	**+0.3**	
	baz=181								
OXF	**Oxford**	21.98	358	*e*P		**P**	**12 32 47.2**	**-0.2**	
	comp=N,22nm,0.9s								
OXF	**Oxford**	21.98	358	P		**P**	**12 32 47.4**	**0.0**	
	baz=177								
X49A	**Woodville**	22.05	5	P		**P**	**12 32 48.7**	**+0.5**	
	baz=185								
X50B	**Fort Payne**	22.06	6	P		**P**	**12 32 49.2**	**+0.8**	
	baz=187								
X51A	**Calhoun**	22.26	8	*e*P		**P**	**12 32 51.1**	**+0.6**	
	comp=N,12nm,1.0s								
X40A	**Basin Creek Fa**	22.28	351	*e*P		**P**	**12 32 51.9**	**+1.2**	
	comp=N,12nm,1.1s								
X40A	**Basin Creek Fa**	22.28	351	P		**P**	**12 32 51.5**	**+0.7**	
	baz=169								
HODGE	**Hodges**	22.42	14	*e*P		**P**	**12 32 52.9**	**+0.8**	
	comp=N,21nm,0.8s								
PLAL	**Pickwick Lake**	22.43	1	*e*P		**P**	**12 32 52.4**	**+0.1**	
	comp=N,4.1nm,0.8s								
X52A	**Dahlonega**	22.45	10	P		**P**	**12 32 52.8**	**+0.2**	
	baz=192								
X53A	**Estanollee**	22.46	11	P		**P**	**12 32 52.1**	**-0.5**	
	baz=193								
MIAR	**Mount Ida**	22.47	349	*e*P		**P**	**12 32 53.2**	**+0.5**	
	comp=N,19nm,0.8s								
MIAR	**Mount Ida**	22.47	349	P		**P**	**12 32 53.2**	**+0.5**	
	baz=167,SNR=8.4								
UALR	**University of**	22.49	352	*e*P		**P**	**12 32 53.8**	**+0.9**	
	comp=N,24nm,0.9s								
ABTX	**Abilene, Hawle**	22.52	335	*e*P		**P**	**12 32 53.0**	**-0.3**	
	comp=N,17nm,0.9s								
ABTX	**Abilene, Hawle**	22.52	335	P		**P**	**12 32 53.3**	**0.0**	
	baz=150								
W45A	**Hickory Valley**	22.61	359	P		**P**	**12 32 54.0**	**-0.3**	
	baz=178								
W48A	**Pulaski**	22.63	3	P		**P**	**12 32 53.9**	**-0.5**	
	baz=184								
JSC	**Jenkinsville**	22.71	16	*e*P		**P**	**12 32 55.6**	**+0.4**	
	comp=N,39nm,1.0s								
W47A	**Westpoint**	22.71	2	P		**P**	**12 32 54.7**	**-0.6**	
	baz=182								
SWET	**Sewanee**	22.78	5	*e*P		**P**	**12 32 56.7**	**+0.6**	
	comp=N,5.5nm,0.9s								
W50A	**Signal Mountai**	22.83	7	P		**P**	**12 32 55.8**	**-0.8**	
	baz=188								
W51A	**Cleveland**	22.86	8	P		**P**	**12 32 55.8**	**-1.0**	
	baz=189								
W41B	**Gary Mavity, V**	22.87	352	*e*P		**P**	**12 32 57.1**	**+0.2**	
	comp=N,10nm,0.9s								
W41B	**Gary Mavity, V**	22.87	352	P		**P**	**12 32 57.3**	**+0.4**	
	baz=170								
X37A	**Clayton**	22.90	345	*e*P		**P**	**12 32 58.9**	**+1.7**	
	comp=N,17nm,0.9s								
W52A	**Murphy**	22.92	10	*e*P		**P**	**12 32 57.8**	**+0.3**	
	comp=N,8.1nm,0.7s								
WHAR	**Wooly Hollow**	22.99	352	*e*P		**P**	**12 32 58.2**	**+0.1**	
	comp=N,32nm,1.1s								
BG3	**Lake Jocassee**	23.00	12	*e*P		**P**	**12 32 58.8**	**+0.4**	
	comp=N,16nm,1.1s								
HBAR	**Harrisburg**	23.08	356	*e*P		**P**	**12 32 59.7**	**+0.7**	
	comp=N,70nm,1.2s								
PAULI	**Pauline**	23.08	14	*e*P		**P**	**12 32 59.7**	**+0.6**	
	comp=N,16nm,0.9s								
W53A	**Cullowhee**	23.13	11	P		**P**	**12 32 58.4**	**-1.3**	
	baz=193								
W39A	**Magazine**	23.14	349	*e*P		**P**	**12 33 01.3**	**+1.7**	
	comp=N,14nm,1.1s								
W39A	**Magazine**	23.14	349	P		**P**	**12 32 59.4**	**-0.2**	
	baz=167								
V48A	**Smith Brothers**	23.24	3	*e*P		**P**	**12 33 00.5**	**-0.2**	
	comp=N,7.4nm,0.9s								
V46A	**Holladay**	23.25	1	P		**P**	**12 32 60.0**	**-0.8**	
	baz=181								
V47A	**Nunnelly**	23.29	2	P		**P**	**12 32 59.6**	**-1.5**	
	baz=182								
V50A	**Pikevile**	23.32	7	P		**P**	**12 33 00.5**	**-1.0**	
	baz=188								
V49A	**McMinnville**	23.33	5	P		**P**	**12 33 01.0**	**-0.6**	
	baz=186								
V42A	**Cord**	23.40	354	P		**P**	**12 33 01.8**	**-0.4**	
	baz=173								
V41A	**Mountainview**	23.46	353	P		**P**	**12 33 02.6**	**-0.3**	
	baz=171,SNR=11								
TKL	**Tuckaleechee C**	23.50	10	P		**P**	**12 33 03.6**	**+0.4**	
	comp=N,14nm,0.8s,baz=187,slow=12,SNR=16								
TKL				LR		LR	12 42 13.8		
	comp=N,91nm,18.8s,baz=200,slow=37								
TKL	**Tuckaleechee C**	23.50	10	*e*P		**P**	**12 33 02.8**	**-0.4**	
	comp=N,16nm,0.8s								
KMSC	**Kings Mountain**	23.51	15	*e*P		**P**	**12 33 03.5**	**+0.2**	
	comp=N,17nm,0.8s								
KMSC	**Kings Mountain**	23.51	15	P		**P**	**12 33 02.3**	**-0.9**	
	baz=198								
V51A	**Loudon**	23.55	8	P		**P**	**12 33 02.7**	**-1.0**	
	baz=190								
WVT	**Waverly**	23.58	1	P		**P**	**12 33 03.1**	**-0.8**	
	baz=181								
V53A	**Saluda**	23.68	12	*e*P		**P**	**12 33 04.5**	**-0.5**	
	comp=N,13nm,0.8s								
V53A	**Saluda**	23.68	12	P		**P**	**12 33 05.0**	**0.0**	
	baz=194,SNR=7.6								
V52A	**Sevierville**	23.71	10	P		**P**	**12 33 04.0**	**-1.2**	
	baz=192								
GLAT	**Glass**	23.72	358	*e*P		**P**	**12 33 05.1**	**-0.2**	
	comp=N,44nm,0.8s								
U46A	**Springville**	23.80	1	P		**P**	**12 33 04.8**	**-1.3**	
	baz=181								
U43A	**Rector**	23.87	356	P		**P**	**12 33 06.1**	**-0.6**	
	baz=175								
U47A	**Clarksville**	23.91	2	P		**P**	**12 33 06.0**	**-1.0**	
	baz=183								
U42A	**Revenden**	23.92	355	P		**P**	**12 33 06.5**	**-0.7**	
	baz=173								
U41A	**Viola**	23.98	353	P		**P**	**12 33 07.1**	**-0.7**	
	baz=172								
WMOK	**Wichita Mounta**	24.06	339	*e*P		**P**	**12 33 08.4**	**-0.1**	
	comp=N,20nm,1.2s								
WMOK	**Wichita Mounta**	24.06	339	P		**P**	**12 33 08.5**	**-0.1**	
	baz=155,SNR=15								
U49A	**Red Boiling Sp**	24.08	5	P		**P**	**12 33 07.8**	**-0.8**	
	baz=186								
U50A	**Jamestown**	24.09	7	P		**P**	**12 33 07.5**	**-1.3**	
	baz=188								
U40A	**Yellville**	24.12	351	P		**P**	**12 33 09.3**	**+0.2**	
	baz=169,SNR=18								
U51A	**La Follette**	24.16	9	P		**P**	**12 33 08.5**	**-0.9**	
	baz=190								
HHAR	**Hobbs**	24.22	349	*e*P		**P**	**12 33 10.0**	**0.0**	
	comp=N,8.9nm,0.7s								
TUL1	**Leonard**	24.26	346	*e*P		**P**	**12 33 09.8**	**-0.6**	
	comp=N,19nm,1.1s								
TUL1	**Leonard**	24.26	346	P		**P**	**12 33 10.6**	**+0.2**	
	baz=162								
PBMO	**Poplar Bluff**	24.28	356	*e*P		**P**	**12 33 09.9**	**-0.6**	
	comp=N,16nm,0.9s								
TZTN	**Tazewell**	24.40	10	*e*P		**P**	**12 33 11.3**	**-0.3**	
	comp=N,8.4nm,0.9s								
TZTN	**Tazewell**	24.40	10	P		**P**	**12 33 11.1**	**-0.5**	
	baz=192								
U53A	**Fall Branch**	24.40	12	P		**P**	**12 33 10.6**	**-1.0**	
	baz=194								
T47A	**Sharon Grove**	24.46	3	*e*P		**P**	**12 33 11.5**	**-0.7**	
	comp=N,13nm,0.7s								
T47A	**Sharon Grove**	24.46	3	P		**P**	**12 33 11.1**	**-1.0**	
	baz=183								
T46A	**Princeton**	24.49	1	P		**P**	**12 33 11.3**	**-1.1**	
	baz=181								
T43A	**Greenville**	24.58	357	P		**P**	**12 33 12.3**	**-0.9**	
	baz=176								
T42A	**Van Buren**	24.58	355	*e*P		**P**	**12 33 13.0**	**-0.3**	
	comp=N,14nm,1.3s								
T42A	**Van Buren**	24.58	355	P		**P**	**12 33 12.2**	**-1.0**	
	baz=174								
CNNC	**Cliffs of the**	24.64	21	*e*P		**P**	**12 33 12.5**	**-1.3**	
	comp=N,21nm,0.6s								
MNTX	**Cornudas Mount**	24.66	324	*e*P		**P**	**12 33 13.2**	**-0.8**	
	comp=N,4.9nm,0.8s								
MNTX	**Cornudas Mount**	24.66	324	P		**P**	**12 33 14.0**	**0.0**	
	baz=137,SNR=15								
T41A	**Mountain View**	24.66	354	P		**P**	**12 33 13.9**	**0.0**	
	baz=172								
T49A	**Edmonton**	24.69	6	*e*P		**P**	**12 33 13.4**	**-0.9**	
	comp=N,7.5nm,0.9s								
T49A	**Edmonton**	24.69	6	P		**P**	**12 33 13.4**	**-0.9**	
	baz=187								
T51A	**Gray**	24.75	9	P		**P**	**12 33 13.9**	**-0.9**	
	baz=190								
T52A	**Hallie**	25.05	10	P		**P**	**12 33 16.2**	**-1.3**	
	baz=192								
MSTX	**Muleshoe**	25.05	331	*e*P		**P**	**12 33 17.2**	**-0.5**	
	comp=N,48nm,1.0s								
MSTX	**Muleshoe**	25.05	331	P		**P**	**12 33 17.6**	**0.0**	
	baz=145,SNR=18								
S43A	**Fulton Ridge,**	25.05	357	P		**P**	**12 33 16.6**	**-0.9**	
	baz=176								
S45A	**Carrier Mills**	25.12	360	P		**P**	**12 33 16.8**	**-1.3**	
	baz=180								
S46A	**Don Dixon Farm**	25.14	1	P		**P**	**12 33 16.9**	**-1.3**	
	baz=182								
S44A	**Carbondale**	25.14	359	P		**P**	**12 33 17.5**	**-0.8**	
	baz=178								
SIUC	**Southern Illin**	25.16	359	*e*P		**P**	**12 33 18.2**	**-0.3**	
	comp=N,14nm,1.0s								
S48A	**Wiedeman Farm,**	25.20	5	P		**P**	**12 33 17.1**	**-1.6**	
	baz=185								
S41A	**Jillco Farms,**	25.20	354	P		**P**	**12 33 18.4**	**-0.4**	
	baz=172								
S42A	**Caledonia**	25.29	356	P		**P**	**12 33 19.6**	**-0.1**	
	baz=175								
AMTX	**Amarillo**	25.32	334	*e*P		**P**	**12 33 20.7**	**+0.6**	
	comp=N,62nm,1.0s								
AMTX

HDIL	Hopedale	28.00	359	*e*P		P	12 33 43.2	-0.8
	comp=N,11nm,0.9s								
CBKS	Cedar Bluff	28.08	341	P		P	12 33 45.1	+0.2
	baz=156								
ACSO	Alum Creek Sta	28.10	9	*e*P		P	12 33 44.8	-0.1
	comp=N,12nm,0.8s								
ACSO	Alum Creek Sta	28.10	9	P		P	12 33 44.3	-0.6
	baz=191								
T25A	Trinidad	28.41	333	*e*P		P	12 33 49.2	+1.1
	comp=N,12nm,1.0s								
T25A	Trinidad	28.41	333	P		P	12 33 49.1	+1.1
	baz=146								
TUC	Tucson	28.43	318	*e*P		P	12 33 49.5	+1.4
	comp=N,5.5nm,1.1s								
N39A	Derby Farms, D	28.53	354	P		P	12 33 48.0	-0.7
	baz=172								
N50A	Nevada	28.60	9	P		P	12 33 48.2	-1.2
	baz=191								
N49A	Columbus Grove	28.61	7	P		P	12 33 48.7	-0.8
	baz=189								
M41A	Milan	28.87	357	P		P	12 33 51.3	-0.5
	baz=176								
M47A	Cromwell	28.91	5	P		P	12 33 50.9	-1.2
	baz=186								
M40A	Post Highland	28.96	355	P		P	12 33 52.0	-0.6
	baz=174								
M39A	Webster	29.09	354	P		P	12 33 53.4	-0.3
	baz=172								
M50A	Fremont	29.24	8	*e*P		P	12 33 54.5	-0.5
	comp=N,24nm,0.8s								
M50A	Fremont	29.24	8	P		P	12 33 55.0	0.0
	baz=191								
KSCO	Kaye Shedlock'	29.27	337	*e*P		P	12 33 56.0	+0.5
	comp=N,33nm,1.1s								
KSCO	Kaye Shedlock'	29.27	337	P		P	12 33 55.9	+0.5
	baz=151,SNR=6.2								
SDCO	Great Sand Dun	29.41	332	*e*P		P	12 33 57.3	+0.3
	comp=N,7.7nm,1.2s								
SDCO	Great Sand Dun	29.41	332	P		P	12 33 57.4	+0.5
	baz=144								
L41A	Preston	29.56	357	P		P	12 33 57.9	0.0
	baz=176								
L40A	Anamosa	29.59	356	*e*P		P	12 33 58.1	0.0
	comp=N,12nm,0.8s								
L40A	Anamosa	29.59	356	P		P	12 33 58.0	-0.2
	baz=174								
L43A	Garden Prairie	29.62	360	P		P	12 33 58.2	-0.3
	baz=179								
W18A	Petrified Fore	29.64	323	*e*P		P	12 33 59.9	+1.0
	comp=N,4.1nm,0.9s								
W18A	Petrified Fore	29.64	323	P		P	12 33 59.0	0.0
	baz=134								
S22A	4UR Ranch, Cre	30.04	330	*e*P		P	12 34 03.3	+0.7
	comp=N,7.0nm,1.1s								
S22A				*e*PcP		PcP	12 37 06.5	+2.4
S22A	4UR Ranch, Cre	30.04	330	P		P	12 34 03.4	+0.8
	baz=142								
BGNE	Belgrade	30.05	345	P		P	12 34 02.4	+0.1
	baz=161								
K41A	Shullsburg	30.08	357	P		P	12 34 02.4	-0.1
	baz=176								
Q24A	Divide	30.25	334	*e*P		P	12 34 04.6	+0.2
	comp=N,4.4nm,1.1s								
Q24A	Divide	30.25	334	P		P	12 34 04.9	+0.5
	baz=146								
K47A	Vermontville	30.26	5	P		P	12 34 03.8	-0.3
	baz=187								
K39A	Oelwein	30.28	355	P		P	12 34 04.6	+0.3
	baz=173								
JFWS	Jewell Farm	30.39	357	P		P	12 34 05.5	+0.3
	baz=176								
MVCO	Mesa Verde	30.47	327	*e*P		P	12 34 07.1	+0.8
	comp=N,6.2nm,1.2s								
N59A	State Game Lan	30.48	19	P		P	12 34 05.2	-0.9
	baz=205								
J42A	Columbus	30.76	359	P		P	12 34 08.0	-0.5
	baz=179								
OGNE	Ogallala	30.76	340	P		P	12 34 08.5	-0.2
	baz=153								
J41A	Loganville	30.83	358	P		P	12 34 09.6	+0.5
	baz=177								
WUAZ	Wupatki	30.89	322	P		P	12 34 10.9	+1.0
	baz=132								
ISCO	Idaho Springs	31.14	334	*e*P		P	12 34 12.2	-0.1
	comp=N,4.9nm,1.0s								
ISCO	Idaho Springs	31.14	334	P		P	12 34 12.8	+0.5
	baz=146								
SMCO	Snowmass	31.24	332	*e*P		P	12 34 13.5	+0.2
	comp=N,4.6nm,0.9s								
I43A	Langenfeld Bro	31.32	1	P		P	12 34 12.5	-0.9
	baz=180								
I42A	Draeger Farm,	31.33	359	P		P	12 34 13.5	+0.1
	baz=179								
PV02	Paradox Valley	31.35	328	*e*P		P	12 34 14.8	+0.8
	comp=N,6.5nm,1.1s								
PV13	Radium Mtn., P	31.35	328	*e*P		P	12 34 14.9	+0.8
	comp=N,6.3nm,1.1s								
PV03	Paradox Valley	31.44	328	*e*P		P	12 34 15.5	+0.7
PV12	Saucer Basin,	31.46	328	*e*P		P	12 34 15.2	+0.2
	comp=N,8.0nm,0.8s								
PV18	Skein Mesa, Pa	31.46	328	*e*P		P	12 34 15.2	+0.2
	comp=N,6.9nm,0.8s								
PV11	David Mesa, Pa	31.48	328	*e*P		P	12 34 16.1	+0.9
	comp=N,8.4nm,0.9s								
PV17	East Wray Mesa	31.52	328	*e*P		P	12 34 15.5	0.0
	comp=N,8.9nm,0.8s								
I41A	Arkdale	31.52	358	P		P	12 34 14.3	-0.8
	baz=177								
PV16	Nyswonger Mesa	31.52	328	*e*P		P	12 34 16.4	+0.9
	comp=N,7.5nm,0.9s								
PV19	Morning Glory	31.55	328	*e*P		P	12 34 19.1	+3.3
	comp=N,5.5nm,0.8s								
PV14	Lion Creek, Pa	31.62	328	*e*P		P	12 34 17.3	+0.8
	comp=N,4.0nm,0.8s								
PV14				*e*PcP		PcP	12 37 10.8	+2.6
PV22	Blue Mesa, Par	31.62	329	*e*P		P	12 34 16.9	+0.5
	comp=N,7.1nm,1.0s								
PV10	Paradox Valley	31.63	328	*e*P		P	12 34 17.9	+1.3
PV10				*e*PcP		PcP	12 37 10.5	+2.3
PV23	Carpenter Ridg	31.67	328	*e*P		P	12 34 17.8	+0.9
	comp=N,7.1nm,0.8s								
ECSD	EROS Data Cent	31.94	349	*e*P		P	12 34 19.0	+0.1
	comp=N,2.6nm,0.8s								
ECSD	EROS Data Cent	31.94	349	P		P	12 34 17.8	-1.2
	baz=165								
H40A	Chili	32.10	357	P		P	12 34 19.5	-0.8
	baz=176								
N23A	Red Feather La	32.20	335	P		P	12 34 18.5	-3.0
	baz=147								
SWSC	Sam W. Stewart	32.23	314	P		P	12 34 18.7	-2.8
	baz=123								
IKP	In-Ko-Pah, Jac	32.29	313	P		P	12 34 21.2	-1.0
	baz=122								
PHWY	Pilot Hill	32.34	336	*e*P		P	12 34 23.7	+0.9
	comp=N,5.7nm,0.9s								
BC3	Big Chuckawall	32.38	315	P		P	12 34 23.4	+0.4
	baz=124,SNR=6.6								
O20A	White River Ci	32.60	331	*e*P		P	12 34 25.3	+0.3
	comp=N,12nm,0.9s								
O20A	White River Ci	32.60	331	P		P	12 34 25.7	+0.8
	baz=142								
MONP2	Monument Peak	32.64	313	P		P	12 34 26.4	+0.9
	baz=122								
G42A	Mountain	32.68	0	P		P	12 34 26.2	+0.8
	baz=180								
SPMN	Marine on St.	32.86	354	*e*P		P	12 34 26.3	-0.7
	comp=N,24nm,1.1s								
SPMN	Marine on St.	32.86	354	P		P	12 34 26.7	-0.3
	baz=172								
SRU	San Rafael Swe	32.95	328	*e*P		P	12 34 28.6	+0.6
	comp=N,2.1nm,1.0s								
BELC	Belle Mtn. Jos	32.95	315	P		P	12 34 28.3	+0.3
	baz=124								
LDFC	Landfair	32.97	318	*e*P		P	12 34 29.8	+1.6
	comp=N,4.6nm,0.7s								
XPFO	Pæon Flat	33.05	314	*e*P		P	12 34 29.2	+0.3
	comp=N,4.4nm,0.9s								
PFO	Pinyon Flats O	33.05	314	*e*P		P	12 34 30.0	+1.0
	comp=N,4.7nm,1.0s								
PFO	Pinyon Flats O	33.05	314	P		P	12 34 28.9	-0.1
	baz=123								
MTPU	Mount Pierson	33.09	325	*e*P		P	12 34 29.7	+0.2
	comp=N,3.0nm,1.0s								
FRD	Ford Ranch, An	33.09	314	P		P	12 34 28.4	-0.8
	baz=123								
SUSD	Miller	33.11	346	P		P	12 34 28.8	-0.3
	baz=161								
SADO	Sadowa	33.19	12	LR		LR	12 48 18.7		
	comp=N,94nm,18.4s,baz=215,slow=37								
SZCU	Shurtz Canyon	33.30	323	*e*P		P	12 34 31.3	+0.1
	comp=N,4.3nm,1.1s								
F40A	Park Falls	33.38	358	P		P	12 34 30.6	-0.9
	baz=177								
RWWY	Rawlins	33.39	334	*e*P		P	12 34 32.2	+0.3
	comp=N,13nm,1.0s								
CCUT	Cedar City	33.44	323	*e*P		P	12 34 33.4	+1.0
	comp=N,3.3nm,1.1s								
F38A	Pierce - Schro	33.52	356	P		P	12 34 31.9	-0.7
	baz=174								
MURC	Murrieta	33.57	314	P		P	12 34 33.5	+0.2
	baz=122								
F48A	Evansville	33.64	7	P		P	12 34 33.8	+0.1
	baz=190								
K22A	Casper	33.90	336	*e*P		P	12 34 36.9	+0.6
	comp=N,23nm,1.3s								
K22A	Casper	33.90	336	P		P	12 34 36.9	+0.6
	baz=147,SNR=6.1								
MPU	Maple Canyon	34.19	328	*e*P		P	12 34 39.3	+0.4
	comp=N,7.0nm,1.2s								
LONY	Lake Ozonia	34.21	18	P		P	12 34 38.0	-0.7
	baz=204								
BFSC	Mount Baldy Ra	34.23	314	P		P	12 34 40.4	+1.2
	baz=122								
RSSD	Black Hills	34.26	340	*e*P		P	12 34 39.0	-0.4
	comp=N,6.8nm,0.8s								
RSSD	Black Hills	34.26	340	P		P	12 34 39.4	0.0
	baz=152								
CIS	Catalina Islan	34.34	312	P		P	12 34 38.9	-1.1
	baz=120								
PSUT	Pine Spring	34.38	324	*e*P		P	12 34 41.1	+0.6
	comp=N,3.3nm,0.9s								
D47A	Chapleau	34.79	6	P		P	12 34 44.4	+0.7
	baz=189								
EDW2	Edwards Air Fo	34.81	315	P		P	12 34 43.9	-0.2
	baz=123								
E51A	G1948 Merrick	34.81	11	P		P	12 34 44.2	+0.3
	baz=195								
TPNV	Topopah Spring	34.83	319	P		P	12 34 44.6	+0.2
	baz=127								
LRMC	Laurel Mtn Rad	34.92	316	P		P	12 34 46.2	+1.1
	baz=124								
FURC	Furnace Creek,	34.94	318	P		P	12 34 46.0	+1.0
	baz=126								
DUG	Dugway, Tooele	34.95	327	P		P	12 34 46.8	+1.5
	baz=135								
LPAZ	La Paz	34.96	144	P		P	12 34 45.9	-0.2
	comp=N,0.8nm,0.6s,baz=248,slow=20,SNR=3.8								
LPAZ				LR		LR	12 49 05.6		
	comp=N,83nm,21.4s,baz=296,slow=36								
LPAZ	La Paz	34.96	144	*e*P		P	12 34 44.1	-2.0
D48A	Paudash Townsh	35.07	8	P		P	12 34 47.2	+1.1
	baz=191								
MPMC	Manual Prospec	35.12	317	P		P	12 34 46.6	-0.3
	baz=125								
BW06	Boulder Array	35.28	333	P		P	12 34 48.0	-0.3
	baz=143								
PD31	Pinedale Array	35.28	333	*e*P		P	12 34 47.9	-0.4
PD31				*e*PcP		PcP	12 37 18.9	+0.5
PDAR	Pinedale Array	35.28	333	P		P	12 34 48.5	+0.2
	comp=N,0.8nm,0.6s,baz=118,slow=9.1,SNR=9.2								
PDAR				PcP		PcP	12 37 18.9	+0.5
	comp=N,0.8nm,0.5s,baz=133,slow=6.3,SNR=5.2								
PDAR	Pinedale Array	35.28	333	*e*P		P	12 34 46.6	-1.7
PDAR				PcP		PcP	12 37 18.9	+0.5
R11A	Troy Canyon, C	35.29	322	P		P	12 34 48.2	-0.1
	baz=130								
D51A	Lot 18 Range I	35.37	11	P		P	12 34 48.0	-0.7
	baz=195								
AHID	Auburn Hatcher	35.99	331	*e*P		P	12 34 54.6	+0.2
	comp=N,5.0nm,0.8s								
VES	Vestal, Richgr	36.08	315	P		P	12 34 53.6	-1.3
	baz=122								
AGMN	Agassiz Nation	36.26	352	*e*P		P	12 34 55.4	-0.8
	comp=N,16nm,1.0s								
AGMN	Agassiz Nation	36.26	352	P		P	12 34 55.8	-0.5
	baz=168								
REDW	Red Top Meadow	36.34	332	*e*P		P	12 34 57.7	+0.3
	comp=N,6.4nm,0.8s								
SNOW	Snow King Moun	36.37	332	*e*P		P	12 34 58.2	+0.6
	comp=N,8.3nm,0.9s								
LOHW	Long Hollow	36.42	333	*e*P		P	12 34 58.7	+0.7
	comp=N,2.2nm,0.9s								
TPAW	Teton Pass	36.48	332	*e*P		P	12 34 59.3	+0.7
	comp=N,6.5nm,1.1s								
MOOW	Moose Ponds	36.59	333	*e*P		P	12 34 59.6	+0.2
	comp=N,2.0nm,0.8s								
FXWY	Fox Creek	36.63	332	*e*P		P	12 35 00.6	+0.8
	comp=N,2.3nm,0.9s								
FLWY	Flagg Ranch	36.83	333	*e*P		P	12 35 02.0	+0.5
	comp=N,8.1nm,1.0s								
MLAC	Mammoth, Mammo	36.90	318	P		P	12 35 01.9	-0.3
	baz=125								
NV11	Mina Array Sit	36.93	320	*e*P		P	12 35 02.8	+0.5
	comp=N,0.4nm,1.1s								
NV11				*e*PcP		PcP	12 37 25.9	+2.7
NV01	Mina Array Sit	37.02	320	*e*P		P	12 35 03.9	+0.7
NVAR	Mina Array Bea	37.02	320	P		P	12 35 04.7	+1.5
	comp=N,4.8nm,1.0s,baz=132,slow=8.2,SNR=16								
NVAR				PcP		PcP	12 37 25.5	+1.8
	comp=N,2.4nm,0.8s,baz=143,slow=4.6,SNR=7.2								
NVAR				ScP		ScP	12 41 09.3	+1.4
	comp=N,0.1nm,0.6s,baz=215,slow=2.7,SNR=2.7								
NVAR				LR		LR	12 50 33.0		
	comp=N,66nm,20.1s,baz=128,slow=37								
H17A	Grant Village	37.03	333	P		P	12 35 03.7	+0.6
	baz=142								
MDPB	Devils Postpil	37.06	318	*e*P		P	12 35 04.2	+0.6
	comp=N,3.8nm,1.0s								
RLMT	Red Lodge	37.06	335	*e*P		P	12 35 03.4	0.0
	comp=N,18nm,1.0s								
RLMT	Red Lodge	37.06	335	P		P	12 35 03.7	+0.3
	baz=145,SNR=8.7								
YFT	Old Faithful	37.19	333	*e*P		P	12 35 04.6	+0.1
	comp=N,12nm,1.2s								
LAO	LASA Array	37.25	340	*e*P		P	12 35 05.4	+0.6
	comp=N,17nm,1.3s								
LAO	LASA Array	37.25	340	P		P	12 35 05.0	+0.2
	baz=150								
KVN	Kaerville	37.26	321	*e*P		P	12 35 05.5	+0.3
	comp=N,2.7nm,1.0s								
YMR	Madison River	37.41	333	*e*P		P	12 35 07.2	+0.8
	comp=N,9.0nm,1.0s								
YHH	Holmes Hill	37.46	334	*e*P		P	12 35 07.0	+0.1
GCMT	Greycliff	37.77	336	*e*P		P	12 35 09.3	-0.1
ULM	Lac du Bonnet	38.17	352	P		P	12 35 10.7	-1.8
	comp=N,6.0nm,0.6s,baz=167,slow=9.3,SNR=11								
ULM				LR		LR	12 52 04.7		
	comp=N,189nm,20.0s,baz=148,slow=38								
ULM	Lac du Bonnet	38.17	352	*e*P		P	12 35 10.9	-1.5
	comp=N,12nm,1.0s								
HLID	Hailey	38.20	329	P		P	12 35 12.8	-0.2
	baz=136								
DGMT	Dagmar	38.21	343	*e*P		P	12 35 12.8	0.0
	comp=N,33nm,0.7s								
DGMT	Dagmar	38.21	343	P		P	12 35 12.8	0.0
	baz=155,SNR=12								
BOZ	Bozeman (W)	38.44	334	*e*P		P	12 35 16.0	+1.0
	comp=N,5.7nm,0.9s								
BOZ	Bozeman (W)	38.44	334	P		P	12 35 15.3	+0.4
	baz=142								
DLMT	Dillon	38.68	333	*e*P		P	12 35 17.5	+0.5
	comp=N,7.7nm,1.2s								
HRY	Holter Researc	39.40	335	*e*P		P	12 35 23.2	+0.2
EGMT	Eagleton	39.65	338	*e*P		P	12 35 25.4	+0.4
	comp=N,20nm,0.8s								
EGMT	Eagleton	39.65	338	P		P	12 35 25.0	0.0
	baz=146,SNR=13								
O03E	Paynes Creek	40.31	320	P		P	12 35 30.2	-0.4
	baz=124								
MSO	Missoula	40.40	333	*e*P		P	12 35 31.3	0.0
	comp=N,4.7nm,1.1s								
MSO	Missoula	40.40	333	P		P	12 35 31.0	-0.3
	baz=140								
F10A	Beach Ranch, E	41.32	330	*e*P		P	12 35 38.7	-0.2
	comp=N,5.5nm,1.1s								
YBH	Yreka Blue Hor	41.69	321	P		P	12 35 42.5	+0.6
	comp=N,1.6nm,1.0s,baz=98,slow=7.1,SNR=3.6								
L04D	Klamath Falls	41.71	322	P		P	12 35 41.3	-0.9
	baz=125								
NEW	Newport	42.91	332	P		P	12 35 54.2	+2.5
	comp=N,1.5nm,0.8s,baz=110,slow=11,SNR=3.3								
FFC	Flin Flon	43.48	349	*e*P		P	12 35 56.3	+0.1
	comp=N,4.3nm,0.7s								
SCHQ	Schefferville	45.58	17	P		P	12 36 13.4	+0.5
	comp=N,12nm,0.9s,baz=225,slow=11,SNR=4.5								
CPUP	Villa Florida	49.05	142	P		P	12 36 40.5	+0.3
	comp=N,1.4nm,0.9s,baz=360,slow=12,SNR=3.0								
YKA	Yellowknife Ar	53.34	345	P		P	12 37 10.8	-1.2
	comp=N,9.7nm,0.7s,baz=139,slow=7.4,SNR=33								
YKA				PcP		PcP	12 38 18.2	-0.8
	comp=N,1.2nm,0.6s,baz=144,slow=3.9,SNR=5.0								
YKB5	Yellowknife Ar	53.34	345	*e*P		P	12 37 11.8	-0.2
YKB5				*e*PcP		PcP	12 38 18.2	-0.8
YKW3	Yellowknife Ar	53.40	345	*e*P		P	12 37 11.9	-0.5
	comp=N,20nm,1.0s								
DLBC	Dease Lake	55.46	335	P		P	12 37 28.2	+0.6
	comp=N,10.0nm,0.8s,baz=140,slow=6.1,SNR=9.2								
DLBC	Dease Lake	55.46	335	*e*P		P	12 37 28.0	+0.4
	comp=N,14nm,0.8s								
PLCA	Paso Flores	55.47	163	P		P	12 37 28.5	+0.7
	comp=N,2.9nm,0.9s,baz=100,slow=19,SNR=6.1								
TAOE	Nuku Hiva Isla	55.50	250	*e*LR		LR	12 53 27.7		
	comp=N,117nm,25.3s								
TAOE	Nuku Hiva Isla	55.50	250	*e*T		T	13 37 03.3		
	comp=N,75nm,0.2s								
RKT	Rikitea	57.60	232	*e*T		T	13 39 41.9		
	comp=N,15nm,0.3s								
RES	Resolute Bay	62.32	358	P		P	12 38 12.5	-2.3
	comp=N,5.5nm,0.8s,baz=205,slow=3.1,SNR=8.4								
RES	Resolute Bay	62.32	358	*e*P		P	12 38 13.6	-1.2
	comp=N,6.5nm,0.8s								
EPYK	Eagle Plains	62.71	340	P		P	12 38 17.2	-0.4
	baz=125								
INK	Inuvik	62.89	343	P		P	12 38 17.9	-0.8
	comp=N,7.6nm,0.8s,baz=115,slow=7.7,SNR=17								
INK				LR		LR	13 07 53.1		
	comp=N,76nm,20.6s,baz=98,slow=38								
INK	Inuvik	62.89	343	*e*P		P	12 38 18.1	-0.5
	comp=N,8.8nm,0.8s								
RIDG	Independ'e Rid	64.35	336	*e*P		P	12 38 28.0	-0.5
	comp=N,5.8nm,0.8s								
PMOR	Pomariorio Ree	64.81	247	*e*T		T	13 48 44.3		
	comp=N,18nm,0.2s								
HDA	Harding Lake	65.47	336	*e*P		P	12 38 35.2	-0.5
	comp=N,5.7nm,0.9s								
HDA	Harding Lake	65.47	336	P		P	12 38 35.2	-0.5
	baz=114								
IL1	Eielson Array	65.60	336	*e*P		P	12 38 35.7	-0.8
ILAR	Eielson Array	65.60	336	P		P	12 38 35.4	-1.1
	comp=N,2.7nm,0.8s,baz=119,slow=4.9,SNR=25								
ILB	Eielson Array	65.60	336	*e*P		P	12 38 35.7	-0.8
POKR	Poker Plat Res	65.95	337	P		P	12 38 38.8	0.0
	baz=114								
WRH	Wood River Hil	65.95	336	*e*P		P	12 38 39.1	+0.3
	comp=N,7.8nm,1.0s								
TCOL	CIGO, UAF Yank	66.02	336	P		P	12 38 39.2	0.0
	baz=113								
TRF	Thorofare Moun	66.48	334	*e*P		P	12 38 41.9	-0.6
	comp=N,7.5nm,1.0s								
BPAW	Bear Paw Mtn.	67.00	335	*e*P		P	12 38 45.0	-0.6
	comp=N,7.2nm,0.8s								
TVO	Taravao	67.05	245	*e*T		T	13 51 32.5		
	comp=N,0.5nm,0.2s								
MLY	Manley	67.22	336	*e*P		P	12 38 45.9	-1.1
	comp=N,4.9nm,0.8s								
PPT2	Papeete2	67.27	245	*e*LR		LR	12 58 59.6		
	comp=N,118nm,24.5s								
COLD	Coldfoot	67.81	338	*e*P		P	12 38 50.5	-0.1
	comp=N,5.5nm,1.1s								
TOLK	Toolik Lake Re	68.13	340	*e*P		P	12 38 52.3	-0.3
	comp=N,5.4nm,0.8s								
TOLK	Toolik Lake Re	68.13	340	P		P	12 38 52.0	-0.6
	baz=113								
TBI	Tubuai	69.42	239	*e*LR		LR	13 00 03.5		
	comp=N,238nm,31.0s								
TBI	Tubuai	69.42	239	*e*T		T	13 54 29.0		
	comp=N,13nm,0.2s								
ESDC	Sonseca Array	78.01	52	LR		LR	13 11 21.9		
	comp=N,37nm,18.3s,baz=265,slow=34								
NOA	NORSAR Array B	83.87	29	LR		LR	13 13 46.0		
	comp=N,37nm,21.7s,baz=280,slow=33								
ARA0	ARCESS Array S	86.52	19	*e*P		P	12 40 35.9	+0.4
ARCES	ARCESS Array B	86.52	19	P		P	12 40 35.9	+0.4
	comp=N,5.9nm,1.0s,baz=316,slow=5.0,SNR=3.5								
GERES	GERESS Array B	88.61	40	LR		LR	13 17 31.2		
	comp=N,74nm,18.4s,baz=288,slow=34								
SEY	Seymchan	91.53	336	P		P	12 40 57.5	-1.7
	comp=N,1.9nm,0.9s,baz=17,slow=19,SNR=2.3								
TIXI	Tiksi	92.44	349	P		P	12 41 02.3	-1.0
	comp=N,1.4nm,0.6s,baz=21,slow=5.1,SNR=4.1								
NRIK	Noril'sk	98.37	1	LR		LR	13 27 10.9		
	comp=N,113nm,21.7s,baz=47,slow=36								
MK32	Makanchi Array	120.45	7	*e*PKPdf		PKPdf	12 46 43.6	-0.8
MKAR	Makanchi Array	120.45	7	PKP		PKPdf	12 46 43.6	-0.8
	comp=N,0.4nm,0.6s,baz=307,slow=3.6,SNR=3.4								
LZH	Lanzhou	130.33	347	*e*PKP		PKPdf	12 47 00.5	-3.4
LZH				pPKP		pPKPdf	12 47 10.5	-5.3
LZH				sPKP			12 47 13.5		
ASAR	Alice Springs	138.30	248	PKP		PKPdf	12 47 20.4	+1.6
	comp=N,1.1nm,0.9s,baz=118,slow=2.6,SNR=6.8								
HYB	Hyderabad	147.69	24	*i*P		PKPbc	12 47 38.0	-0.3
CM31	Chiang Mai Arr	148.42	346	*e*PKPdf		PKPdf	12 47 36.0	-0.8
CM31				*e*PKPbc		PKPbc	12 47 39.2	-1.0
CMAR	Chiang Mai Arr	148.42	346	PKPbc		PKPbc	12 47 40.6	+0.4
	comp=N,5.9nm,0.7s,baz=338,slow=3.3,SNR=21								

ISCJB ***26*** *12:28:29.9±1.0, 34.1°S±0.2, 77.9°E±0.3, h10km, mb4.0/8, MS4.1/19, Error ellipse: s-maj=33.7km s-min=21.5km az=150.2*

IDC ***26*** *12:28:30.0±1.2, 34.09°

SIJI	**Sorong**	**59.79**	**68**	LR	LR	13 01 20.5					
	comp=Z,111nm,21.6s,slow=33										
JAY	**Jayapura**	**66.25**	**76**	LR	LR	13 07 31.4					
	comp=Z,71nm,19.7s,slow=35										
MKAR	**Makanchi Array**	**80.63**	**3**	P	**P**	**12 40 44.0**	**-0.1**				
	1.1nm,0.8s,baz=170,slow=5.9,SNR=8.6										
MKAR				LR	LR	13 14 30.4					
	comp=Z,134nm,19.4s,baz=206,slow=34										
KBZ	**Khabaz**	**83.77**	**335**	LR	LR	13 15 14.0					
	comp=Z,40nm,18.6s,baz=179,slow=34										
BRTR	**Keskin Array B**	**84.07**	**327**	P	**P**	**12 41 02.9**	**+0.4**				
	0.3nm,0.3s,baz=145,slow=5.3,SNR=3.3										
KSRS	**Korea Array**	**85.07**	**38**	LR	LR	13 17 54.2					
	comp=Z,41nm,19.2s,baz=231,slow=35										
SONM	**Songino Array**	**85.48**	**19**	P	**P**	**12 41 09.6**	**+0.3**				
	1.2nm,0.9s,baz=216,slow=5.4,SNR=6.6										
SONM				LR	LR	13 17 15.9					
	comp=Z,148nm,21.4s,baz=186,slow=34										
DBIC	**Dimbokro**	**87.71**	**280**	LR	LR	13 16 18.0					
	comp=Z,63nm,20.8s,baz=141,slow=33										
ZALV	**Zalesovo Beam**	**87.90**	**4**	P	**P**	**12 41 19.9**	**-1.0**				
	0.7nm,0.5s,baz=198,slow=4.1,SNR=6.1										
ZALV				LR	LR	13 18 02.0					
	comp=Z,101nm,21.8s,baz=242,slow=34										
USRK	**Ussuriysk Ar.**	**92.18**	**36**	LR	LR	13 19 55.3					
	comp=Z,86nm,21.9s,baz=214,slow=34										
YKA	**Yellowknife Ar**	**150.51**	**12**	PKPbc	**PKPbc**	**12 48 22.4**	**-0.3**				
	1.2nm,1.0s,baz=348,slow=2.6,SNR=3.6										

ISCJB ***26*** *12:31:48.6±0.5,47.˙23N×0.˙05×145.˙2E×0.˙2, h500km, mb3.2/9, Error ellipse: s-maj=14.4km s-min=6.6km az=11.1*

IDC ***26*** *12:31:49.8±1.6,47.˙72N×145.˙09E, h462km±19km, mb2.8/9, mb1 3.0/13, mb1mx2.9/53, mbtmp3.7/13, Error ellipse: s-maj=21.3km s-min=16.5km az=114.0*

JMA ***26*** *12:31:50.0±0.4,47.˙22N×145.˙45E, h484km, M3.6*

ISC 26 12:31:49.5±0.7,47.˙17N±0.˙08×145.˙2E±0.˙1, h500km, n25, σ1§61/28, mb3.1/9, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSE	**Soyaes**	**2.85**	**220**	P	**P**	**12 33 00.0**	**+0.5**
JWK2	**Keihoku**	**2.94**	**232**	P	**P**	**12 33 00.9**	**+0.8**
JRA	**Rausu**	**3.23**	**181**	P	**P**	**12 33 02.5**	**+0.3**
JTKR	**Abashiri--Toko**	**3.32**	**196**	P	**P**	**12 33 03.8**	**+1.0**
JMP	**Maruseppu**	**3.41**	**203**	P	**P**	**12 33 04.3**	**+0.8**
ASAJ	**Asahikawa**	**3.55**	**212**	P	**P**	**12 33 05.6**	**+1.1**
	1.3nm,0.3s,baz=267,slow=10,SNR=16						
NEM2	**Nemuro 2**	**3.83**	**174**	P	**P**	**12 33 05.8**	**-0.8**
NEM2				*e*S	**S**	**12 34 06.3**	**-3.0**
JAR	**Ashorobuto**	**4.00**	**195**	P	**P**	**12 33 09.1**	**+1.1**
JAK	**Akkeshi**	**4.19**	**185**	P	**P**	**12 33 09.9**	**+0.4**
JAK				*e*S	**S**	**12 34 13.1**	**-1.6**
JCH	**Churui**	**4.74**	**196**	P	**P**	**12 33 14.5**	**+0.3**
JCH				*e*S	**S**	**12 34 21.2**	**-2.0**
JNBK	**Urakawa-nobuka**	**5.19**	**200**	P	**P**	**12 33 19.3**	**+1.1**
JNBK				*e*S	**S**	**12 34 29.9**	**-0.7**
JKB	**Kayabe**	**6.06**	**211**	P	**P**	**12 33 27.5**	**+1.1**
JKB				*e*S	**S**	**12 34 43.8**	**-1.8**
JOT	**Ohata**	**6.50**	**209**	P	**P**	**12 33 33.0**	**+2.2**
KLR	**Kul'dur**	**9.20**	**288**	P	**P**	**12 33 56.3**	**-2.0**
	0.2nm,0.3s,baz=99,slow=8.1,SNR=5.7						
USRK	**Ussuriysk Ar.**	**9.70**	**257**	P	**P**	**12 34 04.8**	**+1.2**
	0.2nm,0.3s,baz=90,slow=12,SNR=2.9						
SEY	**Seymchan**	**16.31**	**12**	P	**P**	**12 35 09.4**	**-3.5**
	0.4nm,0.3s,baz=182,slow=5.6,SNR=8.1						
MKAR	**Makanchi Array**	**41.85**	**294**	P	**P**	**12 38 56.1**	**+1.2**
	0.4nm,0.7s,baz=70,slow=6.3,SNR=3.5						
RES	**Resolute Bay**	**52.09**	**17**	P	**P**	**12 40 10.8**	**-1.0**
	3.1nm,0.9s,baz=285,slow=4.9,SNR=4.0						
YKA	**Yellowknife Ar**	**53.75**	**35**	P	**P**	**12 40 23.6**	**-0.2**
	0.6nm,0.7s,baz=306,slow=7.5,SNR=3.9						
FINES	**FINESS Array B**	**61.20**	**331**	P	**P**	**12 41 14.0**	**-0.7**
	3.2nm,1.0s,baz=54,slow=5.7,SNR=3.3						
NOA	**NORSAR Array B**	**65.91**	**337**	P	**P**	**12 41 44.9**	**0.0**
	0.4nm,0.4s,baz=31,slow=6.5,SNR=2.7						
WRA	**Warramunga Arr**	**67.51**	**191**	P	P	12 42 01.5	+6.2
	0.1nm,0.3s,baz=8.4,slow=6.4,SNR=3.4						
PDAR	**Pinedale Array**	**68.75**	**50**	P	**P**	**12 42 05.0**	**+2.0**
	0.4nm,0.5s,baz=324,slow=2.2,SNR=6.6						
ASAR	**Alice Springs**	**71.24**	**191**	P	P	12 42 24.7	+7.0
	0.1nm,0.4s,baz=6.9,slow=5.1,SNR=4.6						
TXAR	**Lajitas Array**	**81.88**	**55**	P	**P**	**12 43 19.0**	**+2.7**
	0.3nm,0.5s,baz=297,slow=4.0,SNR=3.7						

NIED ***26*** *12:38:00,29.˙90N×142.˙60E, h8km, Mw4.2 Best double couple: M0 2.55000×10^15 NP1:φs331.00000°, δ37.00000°, λ-92.00000°. NP2:φs153.00000°, δ53.00000°, λ-88.00000°.*

BJI ***26*** *12:38:04.8,29.˙70N×143.˙50E, h21km, mb4.5/30, mB4.9/19, Ms4.2/8, Ms7 4.1/8*

IDC ***26*** *12:38:06.6±0.4,29.˙94N×142.˙99E, h0km, mb4.3/26, mb1 4.4/32, mb1mx4.4/49, mbtmp4.3/32, ML3.9/5, MS3.0/5, Ms1 3.0/5, ms1mx2.7/45, Error ellipse: s-maj=15.1km s-min=11.4km az=90.0*

ISCJB ***26*** *12:38:07.7±1.3,30.˙04N±0.˙03×142.˙87E±0.˙04, h12km±8km, mb4.5/89, Error ellipse: s-maj=6.4km s-min=4.0km az=149.2*

JMA ***26*** *12:38:09.9±0.2,29.˙91N×142.˙57E, h50km, M4.9*

MOS ***26*** *12:38:10.4±0.9,29.˙95N×142.˙90E, h33km, mb4.8/30, Error ellipse: s-maj=10.8km s-min=5.9km az=114.4*

NEIC ***26*** *12:38:12.2±0.2,29.˙94N×142.˙89E, h35km, mb4.6/54, Error ellipse: s-maj=4.4km s-min=3.9km az=202.0*

ISC 26 12:38:07.5±2.4,29.˙95N±0.˙05×142.˙99E±0.˙07, h3km±14km, n209, σ1§66/242, mb4.6/90, 8C-6D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.92**	**194**	*e*Pn	**Pn**	**12 38 54.1**	**-0.8**
CBIJ				*e*Sn	**Sn**	**12 39 25.0**	**-5.6**
CBIJ	**Chichi jima**	**2.92**	**194**	P	**Pn**	**12 38 53.9**	**-1.0**
CBIJ				*e*S	**Sn**	**12 39 25.8**	**-4.8**
JCJ	**Chichijima**	**2.93**	**194**	Pn	**Pn**	**12 38 53.9**	**-1.0**
	34nm,0.3s,baz=289,slow=23,SNR=28						
JCJ				Sn	**Sn**	**12 39 24.3**	**-6.3**
	156nm,0.3s,baz=36,slow=22,SNR=15						
JHHJ	**Haha-jima-NKT**	**3.38**	**192**	P	**Pn**	**12 39 00.7**	**-0.5**
JHHJ				*e*S	**Sn**	**12 39 38.4**	**-3.4**
JHJ2	**Mitsune**	**4.16**	**320**	*e*Pn	**Pn**	**12 39 10.8**	**-1.1**
JHJ2				*e*Sn	**Sn**	**12 39 54.4**	**-6.6**
JHJ2	**Mitsune**	**4.16**	**320**	*e*S	**Sn**	**12 39 56.8**	**-4.2**
JHJ	**Hachijo jima 2**	**4.18**	**320**	Pn	**Pn**	**12 39 12.0**	**-0.2**
	23nm,0.3s,baz=90,slow=22,SNR=6.3						
JHJ				Sn	**Sn**	**12 39 55.6**	**-6.0**
	128nm,0.3s,baz=14,slow=23,SNR=7.2						
BSO1	**Boso 1**	**4.99**	**341**	P	**Pn**	**12 39 21.9**	**-1.0**
BSO1				*e*S	**Sn**	**12 40 17.0**	**-3.8**
BSO3	**Boso 3**	**5.28**	**337**	P	**Pn**	**12 39 27.3**	**+0.3**
BSO3				*e*S	**Sn**	**12 40 25.7**	**-2.5**
BSO4	**Boso 4**	**5.50**	**337**	P	**Pn**	**12 39 30.2**	**-0.1**
BSO4				S	**Sn**	**12 40 31.2**	**-2.9**
JOD2	**Odawara 2**	**6.24**	**329**	P	**Pn**	**12 39 40.6**	**+0.1**
JOD2				S	**Sn**	**12 40 50.8**	**-1.6**
JHU	**Hanno**	**6.66**	**333**	P	**Pn**	**12 39 45.7**	**-0.6**
JHU				*e*S	**Sn**	**12 40 57.6**	**-5.2**
JYT	**Yasato**	**6.69**	**340**	P	**Pn**	**12 39 47.0**	**+0.4**
JYT				*e*S	**Sn**	**12 41 02.1**	**-1.3**
JHO	**Hitachi**	**6.95**	**344**	P	**Pn**	**12 39 48.6**	**-1.6**
JHO				S	**Sn**	**12 41 02.4**	**-7.4**
JRY	**Ryogami san**	**6.96**	**332**	P	**Pn**	**12 39 50.2**	**-0.2**
JRY				S	**Sn**	**12 41 06.4**	**-3.7**
JAG	**Ashikaga**	**7.11**	**336**	P	**Pn**	**12 39 52.1**	**-0.3**
JAG				*e*S	**Sn**	**12 41 09.4**	**-4.3**
INU	**Inuyama**	**7.37**	**319**	*e*Pn	**Pn**	**12 39 57.1**	**+1.1**
MJAR	**Matsushiro Arr**	**7.70**	**330**	Pn	**Pn**	**12 40 00.1**	**-0.5**
	2.9nm,0.3s,baz=41,slow=26,SNR=29						
MJAR				Sn	**Sn**	**12 41 22.5**	**-5.8**
	2.5nm,0.3s,baz=230,slow=33,SNR=5.1						
MJAR				LR	LR	12 44 19.9	
	comp=Z,64nm,18.6s,baz=140,slow=49						
MAJO	**Matsushiro**	**7.70**	**330**	*e*Pn	**Pn**	**12 40 01.3**	**+0.7**
MAJO				*e*Sn	**Sn**	**12 41 22.5**	**-5.8**
MAJO	**Matsushiro**	**7.70**	**330**	‖ *e*P	**Pn**	**12 40 00.9**	**+0.3**
MAT	**Matsushiro**	**7.70**	**330**	P	**Pn**	**12 40 00.2**	**-0.4**
MAT				S	**Sn**	**12 41 24.8**	**-3.5**
MJB9	**Matsu-Tunnel**	**7.70**	**330**	*e*Pn	**Pn**	**12 40 00.9**	**+0.3**
JNU	**Nakatsue**	**10.80**	**290**	LR	LR	12 44 52.0	
	comp=Z,85nm,18.5s,baz=108,slow=38						
ERM	**Erimo**	**12.04**	**1**	⇑ *e*P	**Pn**	**12 40 58.6**	**-1.4**
ERM					pmax	pmax	
	comp=Z,226nm,1.5s						
JOW	**Kunigami**	**13.32**	**260**	LR	LR	12 45 52.5	
	comp=Z,76nm,20.3s,baz=218,slow=35						
ASAJ	**Asahikawa**	**14.15**	**359**	Pn	**Pn**	**12 41 26.7**	**-2.1**
	comp=Z,1.0nm,0.3s,baz=214,slow=5.1,SNR=12						
ASAJ				Sn	Sn	12 43 54.1	-12
	comp=Z,0.6nm,0.3s,baz=252,slow=20,SNR=5.2						
SHO	**Shikotan**	**14.23**	**11**	*e*P	Pn	12 41 24.8	-5.1
SHO					pmax	pmax	
	comp=N,1.0nm,0.3s						
SHO					pmax	pmax	
	comp=E,1.0nm,0.3s						
SHO					pmax	pmax	
	comp=Z,3.0nm,0.3s						
KSRS	**Korea Array**	**14.59**	**305**	Pn	**Pn**	**12 41 35.1**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=110,slow=13,SNR=5.4						
KSRS				LR	LR	12 47 02.1	
	comp=Z,43nm,19.0s,baz=142,slow=37						
KSAR	**Wonju Array Be**	**14.62**	**305**	Pn	**Pn**	**12 41 35.1**	**-0.1**
KSAR	**Wonju Array Be**	**14.62**	**305**	P	**Pn**	**12 41 35.1**	**-0.1**
USRK	**Ussuriysk Ar.**	**16.69**	**331**	Pn	**Pn**	**12 42 00.9**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=145,slow=11,SNR=2.3						
YSS	**Yuzh-Sakhalins**	**16.98**	**359**	P	P	12 42 19.7	+12
CN2	**Changchun**	**19.64**	**320**	*e*P	**Pn**	**12 42 41.5**	**+2.8**
CN2					pmax	pmax	
	comp=Z,10.0nm,0.5s						
SSLB	**Suanglung**	**20.57**	**258**	*e*P	**P**	**12 42 48.7**	**+1.0**
	comp=Z,22nm,0.6s						
NJ2	**Nanjing**	**20.79**	**282**	*e*P	**P**	**12 42 51.0**	**+1.2**
NJ2					pmax	pmax	
	comp=Z,9.0nm,0.5s						
TYV	**Tymovskoe**	**20.90**	**359**	*e*P	P	12 42 40.3	-11
TYV					pmax	pmax	
	comp=Z,6.0nm,1.5s						
KLR	**Kul'dur**	**21.07**	**339**	*d*P	**P**	**12 42 52.5**	**-0.3**
	comp=Z,5.5nm,0.6s,baz=128,slow=11,SNR=16						
KLR	**Kul'dur**	**21.07**	**339**	*d*P	**P**	**12 42 53.4**	**+0.6**
GRNR	**Gornyy**	**21.38**	**349**	*e*P	**P**	**12 42 55.8**	**-0.3**
PETK	**Petropavlovsk-**	**25.53**	**21**	LR	LR	12 55 00.3	
	comp=Z,32nm,19.3s,baz=238,slow=40						
HIA	**Hailar**	**26.15**	**324**	*e*P	**P**	**12 43 41.9**	**-1.0**
	comp=Z,12nm,0.9s						
HIA	**Hailar**	**26.15**	**324**	*e*P	**P**	**12 43 41.9**	**-1.0**
HIA					pmax	pmax	
	comp=Z,12nm,0.9s						
ZEA	**Zeya**	**26.39**	**339**	*e*P	**P**	**12 43 45.2**	**+0.2**
ZEA					pmax	pmax	
	comp=Z,20nm,0.8s						
SONA1	**Songino Array**	**33.22**	**313**	*e*P	**P**	**12 44 46.6**	**+0.8**
SONA0	**Songino Array**	**33.22**	**313**	*e*P	**P**	**12 44 46.7**	**+0.9**
SONA0				*e*PcP	**PcP**	**12 47 28.2**	**-0.2**
SONM	**Songino Array**	**33.22**	**313**	P	**P**	**12 44 46.7**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=115,slow=8.4,SNR=7.8						
SONM				PcP	**PcP**	**12 47 28.2**	**-0.2**
	comp=Z,1.6nm,1.1s,baz=98,slow=1.6,SNR=4.2						
LZH	**Lanzhou**	**33.23**	**291**	*e*P	**P**	**12 44 48.5**	**+2.5**
LZH				pP	sP	12 44 55.0	+7.7
LZH				sP	pP	12 44 58.0	+11
LZH				*e*PP	**PP**	**12 45 59.3**	**-1.7**
LZH				pmax	pmax		
	comp=Z,25nm,1.2s						
LZH				pmax	pmax		
	comp=Z,89nm,4.3s						
SEY	**Seymchan**	**33.55**	**8**	P	**P**	**12 44 48.3**	**0.0**
	comp=Z,4.4nm,0.6s,baz=186,slow=7.8,SNR=12						
SEY	**Seymchan**	**33.55**	**8**	‖ *e*P	**P**	**12 44 48.7**	**+0.4**
CD2	**Chengdu**	**33.72**	**282**	*e*P	**P**	**12 44 50.0**	**-0.3**
GTA	**Gaotai**	**36.44**	**297**	*e*P	**P**	**12 45 16.8**	**+3.0**
GTA				pP	sP	12 45 22.8	+7.7
GTA				sP	pP	12 45 25.5	+11
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,32nm,5.2s						
GTA				LR	LR		
	comp=Z,130nm,18.4s						
GTA				LR	LR		
	comp=Z,140nm,18.1s						
GTA				LR	LR		
	comp=Z,93nm,17.1s						
BILL	**Bilibino**	**40.53**	**13**	⇑ *i*P	**P**	**12 45 48.0**	**+0.4**
BILL					pmax	pmax	
	comp=Z,11nm,1.0s						
CM31	**Chiang Mai Arr**	**41.54**	**264**	*e*P	**P**	**12 45 55.6**	**-0.9**
CMAR	**Chiang Mai Arr**	**41.54**	**264**	P	**P**	**12 45 55.5**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=64,slow=5.1,SNR=6.4						
TIXI	**Tiksi**	**42.46**	**353**	P	**P**	**12 46 02.9**	**-0.5**
	comp=Z,3.8nm,0.6s,baz=140,slow=6.3,SNR=6.7						
TIXI	**Tiksi**	**42.46**	**353**	⇑ *i*P	**P**	**12 46 03.2**	**-0.2**
WMQ	**Urumqi**	**45.54**	**304**	*e*P	**P**	**12 46 31.0**	**+2.4**
WMQ				sP	sP	12 46 38.5	+8.6
WMQ				pmax	pmax		
	comp=Z,22nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,310nm,4.5s						
WMQ				LR	LR		
	comp=Z,170nm,28.1s						
WMQ				LR	LR		
	comp=Z,300nm,29.1s						
ANM	**Nome**	**47.11**	**28**	*e*P	**P**	**12 46 40.6**	**0.0**
	comp=Z,9.3nm,0.8s						
ANM	**Nome**	**47.11**	**28**	*e*P	**P**	**12 46 40.6**	**0.0**
ANM					pmax	pmax	
	comp=Z,9.0nm,0.8s						
ZAA0	**Zalesovo Array**	**47.84**	**317**	*e*P	**P**	**12 46 45.1**	**-1.2**
	comp=Z,4.2nm,1.1s						
ZAA0				*e*PcP	**PcP**	**12 48 14.9**	**-0.2**
ZALV	**Zalesovo Beam**	**47.84**	**317**	P	**P**	**12 46 44.1**	**-2.3**
	comp=Z,1.5nm,0.6s,baz=92,slow=7.5,SNR=9.2						
ZALV				PcP	**PcP**	**12 48 14.9**	**-0.2**
	comp=Z,3.0nm,0.5s,baz=79,slow=3.3,SNR=10.0						
ZALV	**Zalesovo Beam**	**47.84**	**317**	*e*P	**P**	**12 46 45.9**	**-0.5**
ZALV				*e*PcP	**PcP**	**12 48 14.5**	**-0.5**
ZALV	**Zalesovo Beam**	**47.84**	**317**	*e*P	P	**12 46 45.9**	**-0.5**
ZALV				*e*		12 48 14.5	
ZAA1	**Zalesovo Array**	**47.84**	**317**	*e*P	**P**	**12 46 44.1**	**-2.3**
ZAA1				*e*PcP	**PcP**	**12 48 14.9**	**-0.2**
NVS	**Novosibirsk**	**48.85**	**318**	*e*P	**P**	**12 46 54.8**	**+0.7**
NVS				pmax	pmax		
	comp=Z,11nm,1.7s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.6s						
MK01	**Makanchi Array**	**49.25**	**308**	*e*P	**P**	**12 46 57.1**	**-0.2**
MK31	**Makanchi Array**	**49.25**	**308**	*e*P	**P**	**12 46 56.6**	**-0.8**
MK31	**Makanchi Array**	**49.25**	**308**	*e*P	**P**	**12 46 56.6**	**-0.8**
MK32	**Makanchi Array**	**49.25**	**308**	*e*P	**P**	**12 46 57.4**	**0.0**
MK32				*e*PcP	**PcP**	**12 48 18.8**	**-1.6**
MKAR	**Makanchi Array**	**49.25**	**308**	P	**P**	**12 46 57.4**	**0.0**
	comp=E,2.5nm,0.7s,baz=86,slow=9.2,SNR=22						
MKAR				PcP	**PcP**	**12 48 18.8**	**-1.6**
	comp=E,0.7nm,0.6s,baz=90,slow=4.3,SNR=2.7						
MKAR	**Makanchi Array**	**49.25**	**308**	*e*P	**P**	**12 46 56.1**	**-1.3**
	comp=E,19nm,0.8s						
MKAR				PcP	**PcP**	**12 48 18.8**	**-1.6**
MKAR	**Makanchi Array**	**49.25**	**308**	P	**P**	**12 46 57.4**	**0.0**
MKAR						12 48 18.8	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRAB	**Tennant Creek**	**50.28**	**191**	*e*P	**P**	**12 47 04.8**	**-0.6**
	comp=Z,5.3nm,0.6s						
WRAB	**Tennant Creek**	**50.28**	**191**	⇑ *e*P	**P**	**12 47 05.0**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,15nm,1.7s						
WB2	**Warramunga Arr**	**50.29**	**191**	*e*P	**P**	**12 47 04.4**	**-1.0**
	comp=Z,6.5nm,0.9s						
WB2				*e*P	**P**	**12 47 04.8**	**-0.6**
WB2				*e*PcP	**PcP**	**12 48 25.7**	**+1.4**
WR1	**Warramunga Arr**	**50.29**	**191**	*e*P	**P**	**12 47 04.2**	**-1.3**
	comp=Z,8.5nm,1.0s						
WR1				*e*PcP	**PcP**	**12 48 25.0**	**+0.6**
WRA	**Warramunga Arr**	**50.29**	**191**	P	**P**	**12 47 04.2**	**-1.3**
	comp=Z,4.3nm,0.7s,baz=11,slow=8.1,SNR=32						
WRA				PcP	**PcP**	**12 48 25.0**	**+0.6**
	comp=Z,2.5nm,0.7s,baz=1.9,slow=3.8,SNR=7.7						
PDGK	**Podgornoye**	**51.52**	**303**	P	**P**	**12 47 15.5**	**+0.7**
PDGK					pmax	pmax	
	comp=Z,15nm,1.0s						
KURK	**Kurchatov**	**51.53**	**313**	*e*P	**P**	**12 47 14.4**	**-0.1**
	comp=Z,4.9nm,0.9s						
KURK	**Kurchatov**	**51.53**	**313**	⇑ *i*P	**P**	**12 47 14.8**	**+0.3**
KURK					pmax	pmax	
	comp=Z,4.0nm,0.7s						
KDAK	**Kodiak Island**	**51.68**	**38**	P	**P**	**12 47 15.0**	**-0.5**
	comp=Z,14nm,1.0s,baz=228,slow=0.2,SNR=14						
IM3	**Indian Mountai**	**52.20**	**28**	*e*P	**P**	**12 47 19.5**	**+0.3**
IM3				*e*PcP	**PcP**	**12 48 31.9**	**+1.0**
PPLA	**Purkeypile**	**52.37**	**32**	*e*P	**P**	**12 47 21.1**	**+0.3**
	comp=Z,7.8nm,0.8s						
CAST	**Castle Rocks**	**52.48**	**31**	*e*P	**P**	**12 47 22.3**	**+0.8**
	comp=Z,6.4nm,0.8s						
SUA	**Susitna One**	**52.89**	**33**	*e*P	**P**	**12 47 24.5**	**-0.1**
	comp=Z,7.9nm,0.7s						
TRF	**Thorofare Moun**	**53.29**	**31**	*e*P	**P**	**12 47 27.5**	**-0.1**
	comp=Z,4.3nm,0.9s						
AS01	**Alice Springs**	**54.01**	**190**	*e*P	P	12 47 19.9	-13
AS31	**Alice Springs**	**54.01**	**190**	*e*P	**P**	**12 47 32.5**	**-0.6**
	comp=Z,0.7nm,0.7s						
AS31				*e*PcP	**PcP**	**12 48 38.3**	**0.0**
ASAR	**Alice Springs**	**54.01**	**190**	P	**P**	**12 47 32.5**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=5.0,slow=5.6,SNR=21						
ASAR				PcP	**PcP**	**12 48 38.3**	**0.0**
	comp=Z,1.0nm,0.7s,baz=11,slow=4.2,SNR=2.8						
SML	**Sawmill**	**54.06**	**33**	*e*P	**P**	**12 47 33.6**	**+0.5**
	comp=Z,19nm,1.1s						
SML	**Sawmill**	**54.06**	**33**	*e*P	**P**	**12 47 33.6**	**+0.5**
SML				pmax	pmax		
	comp=Z,19nm,1.1s						
TOLK	**Toolik Lake Re**	**54.26**	**25**	*e*P	**P**	**12 47 35.0**	**+0.5**
	comp=Z,7.0nm,1.0s						
NRN	**Naryn**	**54.37**	**302**	*e*P	**P**	**12 47 35.8**	**-0.3**
	comp=Z,4.9nm,1.0s						
NRN	**Naryn**	**54.37**	**302**	*e*P	**P**	**12 47 35.8**	**-0.3**
NRN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KSH	**Kashi**	**54.76**	**299**	P	**P**	**12 47 43.0**	**+4.3**
KSH				pP	sP	12 47 50.0	+10
KSH				PP	**PP**	**12 49 48.0**	**+6.8**
KSH				S	**S**	**12 55 21.5**	**+1.3**
KSH				SS	**SS**	**12 59 04.8**	**+1.8**
KSH				pmax	pmax		
	comp=Z,20nm,0.8s						
KSH				pmax	pmax		
	comp=Z,120nm,3.5s						
HDA	**Harding Lake**	**54.84**	**30**	*e*P	**P**	**12 47 37.9**	**-0.8**
	comp=Z,4.1nm,0.8s						
IL1	**Eielson Array**	**54.89**	**30**	*e*P	**P**	**12 47 38.1**	**-0.9**
ILAR	**Eielson Array**	**54.89**	**30**	P	**P**	**12 47 38.2**	**-0.8**
	comp=Z,3.2nm,0.8s,baz=256,slow=6.4,SNR=40						
ILB	**Eielson Array**	**54.89**	**30**	*e*P	**P**	**12 47 38.5**	**-0.5**
AAK	**Ala-Archa**	**55.25**	**303**	‖ *i*P	**P**	**12 47 42.8**	**+0.6**
AAK				pmax	pmax		
	comp=Z,12nm,1.7s						
OTUK	**Ortayu**	**55.83**	**310**	P	**P**	**12 47 46.9**	**+0.8**
OTUK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BRVK	**Borovoye**	**56.51**	**316**	*e*P	**P**	**12 47 51.0**	**+0.1**
	comp=Z,5.0nm,0.6s						
BRVK	**Borovoye**	**56.51**	**316**	*de*P	**P**	**12 47 51.0**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
SFK	**Sufi-Kurgan**	**56.52**	**300**	P	**P**	**12 47 52.8**	**+1.4**
MNAS	**Manas**	**56.72**	**303**	P	**P**	**12 47 53.2**	**+0.5**
MNAS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KK31	**Karatay Array**	**58.02**	**305**	*e*P	**P**	**12 48 01.7**	**-0.1**
KK31	**Karatay Array**	**58.02**	**305**	*e*P	**P**	**12 48 01.7**	**-0.1**
KKAR	**Karatay Array**	**58.02**	**305**	*e*P	**P**	**12 48 01.9**	**+0.1**
KKAR	**Karatay Array**	**58.02**	**305**	*e*P	**P**	**12 48 01.9**	**+0.1**
DAWY	**Dawson**	**58.14**	**30**	*e*P	**P**	**12 48 03.2**	**+0.9**
	comp=Z,3.6nm,0.8s						
NIL	**Nilore**	**58.35**	**293**	*e*P	**P**	**12 48 05.6**	**+1.4**
	comp=Z,9.9nm,0.8s						
NIL	**Nilore**	**58.35**	**293**	*e*P	**P**	**12 48 05.6**	**+1.4**
NIL				pmax	pmax		
	comp=Z,10.0nm,0.8s						
INK	**Inuvik**	**60.16**	**25**	P	**P**	**12 48 15.9**	**-0.2**
	comp=Z,3.2nm,0.5s,baz=298,slow=5.9,SNR=44						
INK	**Inuvik**	**60.16**	**25**	*e*P	**P**	**12 48 16.1**	**0.0**
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**60.16**	**25**	*e*P	**P**	**12 48 16.1**	**0.0**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
**STK

TPNV					pmax	pmax			
	comp=Z,5.0nm,1.1s								
AKASG	**Malin Array Be**	**80.74**	**324**		P		**P**	**12 50 21.5**	**-0.7**
	comp=Z,1.2nm,0.4s,baz=51,slow=5.7,SNR=7.1								
AKASG	**Malin Array Be**	**80.74**	**324**	*i*	P		**P**	**12 50 22.8**	**+0.7**
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.4s								
AKBB	**Malin Array Si**	**80.74**	**324**	*e*	P		**P**	**12 50 21.5**	**-0.6**
AKBB	**Malin Array Si**	**80.74**	**324**	*e*	P		**P**	**12 50 21.5**	**-0.6**
KIEV	**Kiev**	**80.75**	**324**	⇑	*i*	P	**P**	**12 50 22.0**	**-0.2**
KIEV					pmax	pmax			
	comp=Z,4.0nm,0.7s								
HFS	**Hagfors**	**81.09**	**337**		P		**P**	**12 50 23.4**	**-0.5**
	comp=Z,3.0nm,0.5s,baz=106,slow=3.2,SNR=12								
NC204	**NORSAR Array S**	**81.19**	**339**	*e*	P		**P**	**12 50 24.5**	**+0.1**
NB2	**NORSAR Subarra**	**81.23**	**338**		P		**P**	**12 50 24.3**	**-0.3**
	comp=Z,14nm,1.1s,baz=41,slow=5.3								
NB2	**NORSAR Subarra**	**81.23**	**338**		P		**P**	**12 50 23.9**	**-0.7**
NB2					pmax	pmax			
	comp=Z,5.0nm,1.1s								
NB200	**NORSAR Array S**	**81.23**	**338**	*e*	P		**P**	**12 50 24.1**	**-0.5**
NOA	**NORSAR Array B**	**81.23**	**338**		P		**P**	**12 50 24.1**	**-0.5**
	comp=Z,3.5nm,0.8s,baz=40,slow=5.1,SNR=11								
PD31	**Pinedale Array**	**81.70**	**45**	*e*	P		**P**	**12 50 27.8**	**0.0**
PDAR	**Pinedale Array**	**81.70**	**45**		P		**P**	**12 50 26.4**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=287,slow=1.6,SNR=12								
CCUT	**Cedar City**	**82.03**	**51**	*e*	P		**P**	**12 50 30.0**	**+0.4**
	comp=Z,2.8nm,0.9s								
LCMT	**Little Creek M**	**82.40**	**52**	*e*	P		**P**	**12 50 31.6**	**+0.2**
	comp=Z,4.5nm,0.8s								
KNB	**Kanab**	**82.68**	**51**	*e*	P		**P**	**12 50 33.2**	**+0.3**
	comp=Z,8.3nm,0.8s								
KNB	**Kanab**	**82.68**	**51**	*e*	P		**P**	**12 50 33.2**	**+0.3**
KNB					pmax	pmax			
	comp=Z,8.0nm,0.8s								
P18A	**Preston Nutter**	**82.99**	**48**	*e*	P		**P**	**12 50 34.9**	**+0.2**
	comp=Z,3.7nm,1.0s								
SRU	**San Rafael Swe**	**83.09**	**49**	*e*	P		**P**	**12 50 34.8**	**-0.2**
	comp=Z,3.3nm,0.7s								
SRU	**San Rafael Swe**	**83.09**	**49**	*e*	P		**P**	**12 50 34.8**	**-0.2**
SRU					pmax	pmax			
	comp=Z,3.0nm,0.7s								
PV21	**Cone Mtn., Par**	**84.40**	**49**	*e*	P		**P**	**12 50 42.3**	**+0.5**
	comp=Z,3.0nm,0.7s								
PV23	**Carpenter Ridg**	**84.44**	**49**	*e*	P		**P**	**12 50 42.5**	**+0.5**
	comp=Z,5.9nm,0.8s								
PV10	**Paradox Valley**	**84.46**	**49**	*e*	P		**P**	**12 50 42.3**	**+0.2**
PV14	**Lion Creek, Pa**	**84.47**	**49**	*e*	P		**P**	**12 50 42.6**	**+0.4**
	comp=Z,2.8nm,0.8s								
PV17	**East Wray Mesa**	**84.57**	**49**	*e*	P		**P**	**12 50 43.2**	**+0.6**
	comp=Z,3.3nm,0.8s								
PV16	**Nyswonger Mesa**	**84.58**	**49**	*e*	P		**P**	**12 50 42.6**	**0.0**
	comp=Z,4.4nm,1.0s								
BR101	**Keskin Array S**	**84.58**	**313**	*e*	P		**P**	**12 50 42.5**	**0.0**
BR131	**Keskin Array S**	**84.58**	**313**	*e*	P		**P**	**12 50 43.4**	**+0.8**
BRTR	**Keskin Array B**	**84.58**	**313**		P		**P**	**12 50 42.5**	**0.0**
	comp=Z,3.4nm,0.7s,baz=109,slow=4.6,SNR=17								
BRTR	**Keskin Array B**	**84.58**	**313**	*i*	P		**P**	**12 50 43.0**	**+0.4**
BRTR					pmax	pmax			
	comp=Z,4.0nm,0.7s								
PV11	**David Mesa, Pa**	**84.61**	**49**	*e*	P		**P**	**12 50 43.6**	**+0.8**
	comp=Z,6.6nm,0.7s								
RAYN	**Ar Rayn**	**84.64**	**294**	*e*	P		**P**	**12 50 43.2**	**+0.1**
	comp=Z,8.4nm,0.8s								
RAYN	**Ar Rayn**	**84.64**	**294**		P		**P**	**12 50 43.9**	**+0.9**
RAYN					pmax	pmax			
	comp=Z,8.0nm,0.8s								
PV12	**Saucer Basin,**	**84.65**	**49**	*e*	P		**P**	**12 50 44.1**	**+1.1**
	comp=Z,4.1nm,0.8s								
ULM	**Lac du Bonnet**	**84.68**	**33**		P		**P**	**12 50 41.2**	**-1.4**
	comp=Z,1.5nm,0.4s,baz=338,slow=6.0,SNR=4.1								
BUR04	**Bucovina Ar. S**	**84.72**	**323**	*e*	P		**P**	**12 50 42.8**	**-0.2**
PV13	**Radium Mtn., P**	**84.72**	**49**	*e*	P		**P**	**12 50 43.3**	**-0.1**
	comp=Z,2.5nm,0.7s								
N23A	**Red Feather La**	**84.99**	**45**	*e*	P		**P**	**12 50 45.9**	**+1.1**
	comp=Z,5.8nm,0.9s								
VYHS	**Vyhne**	**87.32**	**327**	*e*	P		**P**	**12 50 55.9**	**+0.1**
VYHS	**Vyhne**	**87.32**	**327**	*e*	P		**P**	**12 50 55.9**	**+0.1**
CLL	**Collm**	**87.91**	**331**	*e*	P		**P**	**12 51 00.0**	**+1.5**
CLL	**Collm**	**87.91**	**331**	*e*	P		**P**	**12 51 00.0**	**+1.5**
TX31	**Lajitas Ar. Si**	**93.34**	**53**	*e*	P		**P**	**12 51 22.5**	**-1.9**
TX31				*e*	P		**P**	**12 51 24.7**	**+0.3**
LTX	**Lajitas**	**93.34**	**53**	*e*	P		**P**	**12 51 24.8**	**+0.4**
LTX	**Lajitas**	**93.34**	**53**	*e*	P		**P**	**12 51 24.8**	**+0.4**
TXAR	**Lajitas Array**	**93.34**	**53**		P		**P**	**12 51 24.8**	**+0.4**
	comp=Z,3.1nm,0.8s,baz=297,slow=3.0,SNR=32								
QSPA	**South Pole Qui**	**119.71**	**180**		PKP		**PKPdf**	**12 56 57.8**	**-0.4**
	baz=359,slow=2.2								
TOA1	**Torodi Ar. Sit**	**123.19**	**313**	*e*	PKPdf		**PKPdf**	**12 57 05.5**	**-1.0**
TORD	**Torodi Ar. Bea**	**123.20**	**313**		PKP		**PKPdf**	**12 57 05.5**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=27,slow=0.8,SNR=3.8								
LPAZ	**La Paz**	**148.44**	**71**		PKPbc		**PKPdf**	**12 57 54.2**	**+0.7**
	comp=Z,4.2nm,0.8s,baz=318,slow=4.4,SNR=11								
LPAZ	**La Paz**	**148.44**	**71**	*e*	PKPdf		**PKPbc**	**12 57 54.7**	**+1.2**
PLCA	**Paso Flores**	**150.76**	**121**		PKPbc		**PKPbc**	**12 58 01.8**	**+0.4**
	comp=Z,3.8nm,0.8s,baz=252,slow=5.0,SNR=15								
PLCA	**Paso Flores**	**150.76**	**121**	*e*	PKPbc		**PKPbc**	**12 58 02.8**	**+1.4**

*ISCJB **26** 12:51:18.7±0.2,7.48S±0.02×129.01E±0.03,h131km, mb4.2/24,Error ellipse: s-maj=3.8km s-min=3.3km az=172.9*
*IDC **26** 12:51:18.0±2.6,7.37S×128.87E,h101km±24km,mb4.0/16, mb1 4.1/20,mb1mx4.0/43,mbtmp4.3/20,MS3.6/1, Ms1 3.6/1,ms1mx2.6/39,Error ellipse: s-maj=22.3km s-min=10.3km az=86.0*
*KLM **26** 12:51:18.0,7.64S×129.29E,h132km,mb4.7*
*NEIC **26** 12:51:21.1±0.6,7.51S×128.94E,h137km±6km,mb4.3/11, Error ellipse: s-maj=7.5km s-min=5.9km az=65.0*
*DJA **26** 12:51:21.2±0.3,8°S±3'×12°9E±', h109km±12km,M4.5/15, mb4.6/15,mB5.1/6,MLv4.6/9,Mw(mB)4.4/6*

ISC 26 12:51:20.1±0.3,7.59S±0.04×129.02E±0.04,h131km,n112, σ2s28/132,mb4.2/24,1C,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SAUI	**Saumlaki**	**2.29**	**100**	*e*	P	Pn	12 52 02.5	+4.9
SAUI				*e*	Sn	**Sn**	**12 52 26.3**	**-0.3**
SAUI	**Saumlaki**	**2.29**	**100**		P	Pn	12 52 04.8	+7.1
BNDI	**Bandanaira**	**3.17**	**16**		P	**Pn**	**12 52 11.9**	**+2.9**
NLAI	**Namlea**	**4.72**	**336**		P	**Pn**	**12 52 33.6**	**+4.1**
SOEI	**Soe**	**5.17**	**245**	*e*	Pn	**Pn**	**12 52 37.4**	**+1.8**
SOEI				*e*	Sn	**Sn**	**12 53 35.0**	**+0.7**
SOEI	**Soe**	**5.17**	**245**		P	**Pn**	**12 52 37.6**	**+2.0**
SOEI					S	**Sn**	**12 53 35.2**	**+0.9**
MTN	**Manton Dam**	**5.62**	**158**	*e*	Pn	**Pn**	**12 52 46.0**	**+4.4**
MTN				*e*	Sn	**Sn**	**12 53 47.2**	**+2.2**
FAKI	**Fak Fak**	**5.64**	**35**	*e*	Pn	**Pn**	**12 52 42.4**	**+0.5**
FAKI				*e*	Sn	**Sn**	**12 53 41.4**	**-4.3**
FAKI	**Fak Fak**	**5.64**	**35**		P	**Pn**	**12 52 42.7**	**+0.8**
	112nm,0.5s,4µm0.7nm							
FAKI					S	**Sn**	**12 53 42.8**	**-2.9**
	112nm,0.5s,4µm0.7nm							
BATI	**Baumata**	**5.90**	**243**		P	**Pn**	**12 52 46.6**	**+1.4**
	92nm,0.3s,baz=259,slow=1.6,SNR=123							
BATI					S	**Sn**	**12 53 49.8**	**-2.0**
	69nm,0.3s,baz=96,slow=19,SNR=7.0							
BATI	**Baumata**	**5.90**	**243**		P	**Pn**	**12 52 46.8**	**+1.5**
	285nm,1.0s,3µm1.0nm							
BATI					S	**Sn**	**12 53 50.6**	**-1.1**
	285nm,1.0s,3µm1.0nm							
SANI	**Sanana**	**6.28**	**331**		P	**Pn**	**12 52 52.5**	**+2.1**
	19nm,0.7s,0.1nm							
BBSI	**Bau Bau**	**6.74**	**288**		P	**Pn**	**12 52 59.8**	**+3.2**
	10nm,1.0s,0.0nm							
MMRI	**Maumere**	**6.79**	**261**	*e*	Pn	**Pn**	**12 52 57.6**	**+0.3**
MMRI	**Maumere**	**6.79**	**261**		P	**Pn**	**12 52 58.2**	**+0.9**
	60nm,0.5s,0.4nm							
SIJI	**Sorong**	**7.04**	**19**		P	**Pn**	**12 53 00.2**	**-0.5**
	6.2nm,0.3s,baz=260,slow=22,SNR=35							
SIJI					S	**Sn**	**12 54 16.2**	**-3.2**
	4.5nm,0.3s,baz=175,slow=22,SNR=8.8							
EDFI	**Ende, Flores**	**7.35**	**260**		P	**Pn**	**12 53 05.7**	**+0.8**
	39nm,0.7s,628nm0.2nm							
RKPI	**Ransiki, Papua**	**7.93**	**41**		P	**Pn**	**12 53 13.8**	**+1.2**
	183nm,0.8s,6µm1.3nm							
RKPI					S	**Sn**	**12 54 39.4**	**-1.5**
	183nm,0.8s,6µm1.3nm							
BASI	**Baing, Sumba**	**8.74**	**252**		P	**Pn**	**12 53 23.0**	**-0.5**
BKSI	**Bulukumba**	**9.12**	**284**		P	**Pn**	**12 53 30.9**	**+2.2**
	11nm,0.8s							
KMSI	**Cibinong**	**9.54**	**328**		P	**Pn**	**12 53 37.1**	**+2.8**
	76nm,1.1s							
WBSI	**Waikabubak, Su**	**9.74**	**257**		P	**Pn**	**12 53 37.6**	**+0.7**
	199nm,0.6s,2µm							
MRSI	**Marisa**	**10.68**	**318**		P	**Pn**	**12 53 52.7**	**+3.2**
	13nm,1.3s,919nm							
FITZ	**Fitzroy Crossi**	**10.95**	**197**		P	**Pn**	**12 53 52.8**	**-0.3**
	3.9nm,0.3s,baz=22,slow=11,SNR=172							
FITZ					S	**Sn**	**12 55 46.7**	**-7.2**
	6.0nm,0.3s,baz=50,slow=12,SNR=18							
FITZ	**Fitzroy Crossi**	**10.95**	**197**	*e*	Pn	**Pn**	**12 53 52.5**	**-0.6**
FITZ				*e*	Sn	**Sn**	**12 55 48.6**	**-5.3**
PLAI	**Plampang**	**11.20**	**263**		P	**Pn**	**12 53 55.2**	**-1.2**
MPSI	**Mapaga**	**12.03**	**310**		P	**P**	**12 54 11.9**	**-2.8**
	5.2nm,1.8s							
JAY	**Jayapura**	**12.68**	**67**		P	**Pn**	**12 54 17.5**	**+1.6**
	0.4nm,0.3s,baz=291,slow=13,SNR=2.5							
WRAB	**Tennant Creek**	**13.31**	**158**	*e*	Pn	**Pn**	**12 54 25.0**	**+1.0**
WRAB				*e*	Sn	**Sn**	**12 56 46.5**	**-4.6**
WR1	**Warramunga Arr**	**13.32**	**158**	*e*	Pn	**Pn**	**12 54 24.9**	**+0.7**
WR1				*e*	Sn	**Sn**	**12 56 45.6**	**-5.6**
WRA	**Warramunga Arr**	**13.32**	**158**		P	**Pn**	**12 54 24.9**	**+0.7**
	1.8nm,0.3s,baz=342,slow=13,SNR=65							
WRA					S	**Sn**	**12 56 45.6**	**-5.6**
	3.7nm,0.3s,baz=353,slow=20,SNR=9.7							
WB2	**Warramunga Arr**	**13.32**	**158**	*e*	Pn	**Pn**	**12 54 23.7**	**-0.4**
WB2				*e*	Pn	**P**	**12 54 25.5**	**-3.5**
WB2				*e*	Sn	**Sn**	**12 56 44.9**	**-6.4**
WB2				*e*	Sn	**Sn**	**12 56 45.4**	**-5.9**
WC3	**Warramunga Arr**	**13.35**	**158**	*e*	Pn	**Pn**	**12 54 25.4**	**+0.9**
WC3				*e*	Sn	**Sn**	**12 56 46.6**	**-5.3**
COEN	**Coen**	**15.27**	**116**	*e*	Pn	**P**	**12 54 52.7**	**+1.9**
	7.5nm,0.6s							
COEN				*e*	Sn	**Sn**	**12 57 34.5**	**-3.9**
MBWA	**Marble Bar**	**16.20**	**213**	*e*	Pn	**P**	**12 55 01.3**	**+0.3**
	12nm,0.8s							
AS31	**Alice Springs**	**16.66**	**164**	*e*	P	**P**	**12 55 08.0**	**+1.9**
	3.7nm,0.4s							
AS31				*e*	S	**Sn**	**12 58 06.6**	**-5.0**
ASAR	**Alice Springs**	**16.66**	**164**		P	**P**	**12 55 08.2**	**+2.1**
	1.7nm,0.3s,baz=342,slow=9.7,SNR=156							
ASAR					S	**Sn**	**12 58 06.6**	**-5.0**
	2.1nm,0.3s,baz=351,slow=29,SNR=6.5							
AS01	**Alice Springs**	**16.67**	**164**	*e*	P	**P**	**12 55 08.1**	**+1.9**
KKM	**Kota Kinabalu**	**18.62**	**316**		P	**Pn**	**12 55 30.0**	**+0.5**
STKI	**Sintang**	**19.07**	**293**		P	**Pn**	**12 55 40.3**	**+5.5**
SBUM	**Sibu**	**19.50**	**300**	*e*	P	**P**	**12 55 38.6**	**+1.3**
	6.3nm,0.8s							
SBUM	**Sibu**	**19.50**	**300**		P	**Pn**	**12 55 39.0**	**-0.8**
KSM	**Kuching**	**20.72**	**295**	*e*	P	**P**	**12 55 49.2**	**-1.2**
	22nm,0.8s							
KSM	**Kuching**	**20.72**	**295**		P	**P**	**12 55 50.0**	**-0.3**
MYKOM	**Kota Tinggi**	**26.78**	**289**		P	**P**	**12 56 47.0**	**-1.0**
STKA	**Stephens Creek**	**26.86**	**156**		P	**P**	**12 56 52.2**	**+3.7**
	1.5nm,0.4s,baz=335,slow=9.6,SNR=7.1							
STKA	**Stephens Creek**	**26.86**	**156**	*e*	P	**P**	**12 56 48.7**	**+0.2**
	0.8nm,1.0s							
NWAO	**Narrogin (SRO)**	**27.48**	**202**		P	**P**	**12 56 56.4**	**+2.4**
	5.4nm,0.8s,baz=345,slow=12,SNR=3.8							
NWAO	**Narrogin (SRO)**	**27.48**	**202**	*e*	P	**P**	**12 56 54.1**	**0.0**
	8.3nm,1.1s							
NWAO				*e*	P	**P**	**12 56 56.4**	**+2.4**
KULM	**Kulim**	**31.06**	**294**		P	**P**	**12 57 25.0**	**-1.0**
SUKH	**Sukhothai**	**38.26**	**311**		P	**P**	**12 58 28.9**	**+1.1**
	3.1nm,0.9s							
CM01	**Chiang Mai Arr**	**39.34**	**311**	*e*	P	**P**	**12 58 35.0**	**-1.8**
CM31	**Chiang Mai Arr**	**39.38**	**311**	*e*	P	**P**	**12 58 36.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**39.38**	**311**		P	**P**	**12 58 36.8**	**-0.3**
	2.8nm,0.8s,baz=143,slow=7.0,SNR=22							
CMMT	**Chiang Mai**	**39.59**	**312**		P	**P**	**12 58 39.0**	**+0.1**
	9.1nm,0.9s							
CMMT	**Chiang Mai**	**39.59**	**312**		P	**P**	**12 58 39.0**	**+0.1**
	9.1nm,0.9s							
CHTO	**Chiang Mai**	**39.60**	**312**	*e*	P	**P**	**12 58 36.8**	**-2.2**
	8.4nm,1.0s							
CHTO	**Chiang Mai**	**39.60**	**312**		P	**P**	**12 58 39.0**	**0.0**
	41nm,1.1s							
CHTO	**Chiang Mai**	**39.60**	**312**		P	**P**	**12 58 39.0**	**0.0**
JNU	**Nakatsue**	**40.52**	**2**		P	**P**	**12 58 45.9**	**-0.5**
	15nm,1.0s,baz=252,slow=3.2,SNR=3.3							
MJAR	**Matsushiro Arr**	**44.74**	**11**		P	**P**	**12 59 18.9**	**-1.5**
	2.5nm,0.8s,baz=196,slow=11,SNR=4.4							
MAJO	**Matsushiro**	**44.74**	**11**	*e*	P	**P**	**12 59 18.9**	**-1.5**
KSAR	**Wonju Array Be**	**44.81**	**359**		P	**P**	**12 59 19.9**	**-1.0**
KSRS	**Korea Array**	**44.82**	**359**		P	**P**	**12 59 19.9**	**-1.0**
	2.0nm,0.5s,baz=172,slow=9.3,SNR=7.0							
RPZ	**Rata Peaks**	**51.37**	**142**		LR	LR	13 21 12.9	
	comp=Z,54nm,18.1s,baz=80,slow=35							
USRK	**Ussurisk Ar.**	**51.62**	**3**		P	**P**	**13 00 12.9**	**-0.1**
	2.5nm,0.7s,baz=193,slow=5.6,SNR=6.5							
LSA	**Lhasa**	**51.96**	**317**	*e*	P	**P**	**13 00 16.3**	**-0.1**
	7.6nm,0.6s							
RAMN	**Ramite**	**53.55**	**312**	*e*	P	**P**	**13 00 27.5**	**-0.4**
	26nm,0.6s							
GTA	**Gaotai**	**54.03**	**332**	⇑	P	**P**	**13 00 31.0**	**0.0**
GTA					pP	pP	13 00 35.8	-26
GTA					sP	sP	13 00 38.0	-38
GTA					pmax	pmax		
	comp=Z,14nm,0.7s							
GTA					pmax	pmax		
	comp=Z,39nm,5.4s							
GTA					LR	LR		
	comp=N,220nm,21.6s							
GTA					LR	LR		
	comp=E,170nm,19.7s							
GTA					LR	LR		
	comp=Z,120nm,19.7s							
JIRN	**Jiri**	**54.25**	**312**	*e*	P	**P**	**13 00 32.3**	**-0.8**
GUN	**Gumba**	**54.62**	**312**	*e*	P	**P**	**13 00 35.0**	**-0.8**
	comp=Z,18nm,0.6s							
PKI	**Pulchoki**	**54.78**	**311**	*e*	P	**P**	**13 00 35.7**	**-1.2**
	comp=Z,8.3nm,0.6s							
PKIN	**Phulchoki**	**54.79**	**311**	*e*	P	**P**	**13 00 35.7**	**-1.2**
	comp=Z,6.8nm,0.6s							
DMN	**Daman**	**55.02**	**311**	*e*	P	**P**	**13 00 37.8**	**-0.8**
KOLN	**Koldanda**	**56.23**	**311**	*e*	P	**P**	**13 00 46.4**	**-0.8**
	comp=Z,16nm,0.8s							
DANN	**Dangsing**	**56.42**	**311**	*e*	P	**P**	**13 00 47.7**	**-0.9**
	comp=Z,11nm,0.7s							
SONA0	**Songino Array**	**58.70**	**342**	*e*	P	**P**	**13 01 03.3**	**-0.7**
SONM	**Songino Array**	**58.70**	**342**		P	**P**	**13 01 03.3**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=160,slow=4.6,SNR=9.3							
PETK	**Petropavlovsk-**	**65.19**	**19**		P	**P**	**13 01 47.8**	**+0.7**
	comp=Z,4.2nm,0.6s,baz=198,slow=4.5,SNR=14							
PEA1	**Petropavlovsk-**	**65.19**	**19**	*e*	P	**P**	**13 01 47.8**	**+0.7**
MK01	**Makanchi Array**	**68.17**	**327**	*e*	P	**P**	**13 02 06.0**	**-0.2**
MK31	**Makanchi Array**	**68.19**	**327**	*e*	P	**P**	**13 02 06.5**	**+0.1**
MK32	**Makanchi Array**	**68.19**	**327**	*e*	P	**P**	**13 02 06.3**	**0.0**
MKAR	**Makanchi Array**	**68.19**	**327**		P	**P**	**13 02 06.3**	**0.0**
	comp=Z,6.1nm,0.5s,baz=118,slow=8.3,SNR=142							
MKAR	**Makanchi Array**	**68.19**	**327**	*e*	P	**P**	**13 02 06.5**	**+0.1**
	comp=Z,45nm,0.5s							
SFK	**Sufi-Kurgan**	**69.69**	**318**	*e*	P	**P**	**13 02 15.3**	**-0.7**
	comp=Z,2.9nm,0.6s							
TKM2	**Tokmak 2**	**69.82**	**321**		P	**P**	**13 02 17.1**	**+0.4**
	SNR=6.8							
UCH	**Uchtor**	**70.14**	**320**		P	**P**	**13 02 19.8**	**+0.7**
	SNR=5.6							
AAK	**Ala-Archa**	**70.37**	**320**		P	**P**	**13 02 21.1**	**+1.0**
	SNR=5.1							
ARSB	**Arslanbob**	**70.68**	**319**	*e*	P	**P**	**13 02 21.7**	**-0.2**
	comp=Z,5.5nm,0.6s							
USP	**Ospenovka**	**70.69**	**321**		P	**P**	**13 02 21.9**	**0.0**
	SNR=8.9							
EKS2	**Erkin-Say**	**70.83**	**320**		P	**P**	**13 02 23.7**	**+0.9**
	SNR=8.0							
ZAA0	**Zalesovo Array**	**71.68**	**334**	*e*	P	**P**	**13 02 26.8**	**-0.7**
	comp=Z,4.9nm,0.6s							
ZALV	**Zalesovo Beam**	**71.68**	**334**		P	**P**	**13 02 26.5**	**-1.0**
	comp=Z,5.2nm,0.6s,baz=130,slow=5.3,SNR=22							
ZAA1	**Zalesovo Array**	**71.69**	**334**	*e*	P	**P**	**13 02 26.5**	**-1.0**
VNDA	**Vanda**	**71.98**	**173**		P	**P**	**13 02 31.4**	**+2.5**
	comp=Z,0.7nm,0.8s,baz=30,slow=1.8,SNR=4.6							
MAW	**Mawson**	**74.05**	**201**		P	**P**	**13 02 44.0**	**+2.8**
	comp=Z,1.8nm,0.5s,baz=107,slow=19,SNR=4.1							
PPT	**Papeete**	**79.59**	**106**	*e*	P	**P**	**13 03 11.7**	**-1.7**
ABKAR	**Akbulak array**	**82.37**	**322**	*e*	P	**P**	**13 03 26.7**	**-0.6**
QSPA	**South Pole Qui**	**82.39**	**180**		P	**P**	**13 03 29.7**	**+2.3**
	comp=Z,0.7nm,0.5s,baz=288,slow=3.3,SNR=4.4							
ILAR	**Eielson Array**	**94.29**	**25**		P	**P**	**13 04 23.4**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=248,slow=4.8,SNR=5.2							
BR101	**Keskin Array S**	**98.93**	**309**	*e*	P	**P**	**13 04 44.9**	**-1.1**
BRTR	**Keskin Array B**	**98.93**	**309**		P	**P**	**13 04 44.9**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=94,slow=4.1,SNR=2.4							
PDAR	**Pinedale Array**	**117.99**	**45**		PKP	**PKPdf**	**13 09 52.9**	**+0.9**
	comp=Z,0.1nm,0.5s,baz=226,slow=2.4,SNR=3.5							
LTX	**Lajitas**	**126.06**	**59**	*e*	PKPdf	**PKPdf**	**13 10 08.6**	**+0.9**
TXAR	**Lajitas Array**	**126.06**	**59**		PKP	**PKPdf**	**13 10 08.6**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=184,slow=1.8,SNR=4.7							
TORD	**Torodi Ar. Bea**	**127.97**	**281**		PKP	**PKPdf**	**13 10 12.6**	**+1.1**
	comp=Z,0.6nm,0.9s,baz=45,slow=1.7,SNR=2.9							
TOA1	**Torodi Ar. Sit**	**127.97**	**281**	*e*	PKPdf	**PKPdf**	**13 10 12.6**	**+1.1**
PLCA	**Paso Flores**	**128.65**	**161**		PKP	**PKPdf**	**13 10 14.4**	**+2.2**
	comp=Z,1.6nm,0.9s,baz=225,slow=4.3,SNR=5.1							
CPUP	**Villa Florida**	**145.72**	**170**		PKPbc	**PKPab**	**13 10 46.5**	**+1.6**
	comp=Z,3.0nm,0.8s,baz=159,slow=1.7,SNR=8.0							
LPAZ	**La Paz**	**150.83**	**144**		PKPbc	**PKPbc**	**13 11 01.5**	**+2.6**
	comp=Z,1.6nm,0.4s,baz=221,slow=3.8,SNR=10							
LPAZ	**La Paz**	**150.83**	**144**	*e*	PKPbc	**PKPbc**	**13 11 01.9**	**+3.0**

MEX 26 13:08:56.6±0.8,14.09N×92.23W,h91km±29km,MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
THIG		**0.82**	**357**	*i*	P	Pn	13 09 12.4	-1.9
THIG				*i*	S	Sn	13 09 26.4	-1.1
PCIG		**1.87**	**329**	*i*	P	Pn	13 09 25.3	-1.8
PCIG				*i*	S	Sn	13 09 49.8	-0.6
CCIG	**Comitan**	**2.18**	**2**	*i*	P	Pn	13 09 29.1	-2.4
CCIG				*e*	P		13 09 34.8	
CCIG				*i*	S	Sn	13 09 56.3	-1.7

*ISK **26** 13:12:45.5,38.77N×43.45E,h5km,ML3.3/9*
*DDA **26** 13:12:46.4,38.72N×43.53E,h7km,Ml3.2*
*ISCJB **26** 13:12:47.3±0.5,38.75N±0.03×43.49E±0.05,h9km±4km, Error ellipse: s-maj=7.1km s-min=3.7km az=27.3*

ISC 26 13:12:46.9±1.1,38.75N±0.03×43.49E±0.04,h15km±9km, n20,σ0s79/28,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VANB	**Van**	**0.17**	**206**	PG		**Pb**	**13 12 51.8**	**-0.1**
TVAN	**Van**	**0.23**	**196**	*i*	P	**Pg**	**13 12 51.8**	**-0.4**
TVAN				*i*	S	**Sb**	**13 12 56.9**	**0.0**
VMUR	**Van-Muradiye**	**0.25**	**16**	*i*	P	**Pg**	**13 12 51.8**	**-0.6**
VMUR				*i*	S	**Sb**	**13 12 57.7**	**+0.3**
ERCV	**ERCIS-VAN**	**0.29**	**337**	PG		**Pg**	**13 12 52.5**	**-0.7**
CLDR	**Caldiran**	**0.52**	**41**	PG		**Pg**	**13 12 56.7**	**-0.5**
CLDR				SG		**Sb**	**13 13 05.0**	**-0.2**
CLDR	**Caldiran**	**0.52**	**41**	*i*	P	**Pg**	**13 12 56.5**	**-0.7**
CLDR				*i*	S	**Sb**	**13 13 06.2**	**+1.0**
GEVA	**Gevas**	**0.55**	**218**	*i*	P	**Pg**	**13 12 56.9**	**-0.9**
GEVA				*i*	S	**Sb**	**13 13 07.0**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.60**	**276**	*i*	P	**Pg**	**13 12 58.7**	**0.0**
ADCV				*i*	S	**Sb**	**13 13 09.3**	**+1.8**
DYDN	**Diyadin**	**0.81**	**11**	*i*	P	**Pg**	**13 13 02.1**	**-0.5**
DYDN				*i*	S	**Sn**	**13 13 15.2**	**-0.6**
TUTA	**Tutak**	**0.83**	**321**	*

mb4.1/18,Error ellipse: s-maj=11.4km s-min=4.1km az=11.1

*IDC **26** 14:35:38.9±2.0,26°.02S×177°.58W,h162km±17km, mb3.8/12,mb1 4.1/13,mb1mx4.0/22,mbtmp4.3/13,Error ellipse: s-maj=18.2km s-min=16.9km az=171.0*

*NEIC **26** 14:35:39.6±1.4,26°.09S×177°.60W,h172km±13km, mb4.6/17,Error ellipse: s-maj=13.4km s-min=9.5km az=169.0*

ISC 26 14:35:37.5±0.5,26°.48S±0°.06×177°.7W±0°.1,h150km,n112, σ2s13/119,mb4.2/18,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**2.77**	**185**	P	Pn	14 36 30.0	+8.1
RIZ				S	Sn	14 37 10.5	+14
RAO	**Raoul Island**	**2.77**	**185**	P	Pn	14 36 29.4	+7.4
	405nm,0.3s,baz=317,slow=4.8,SNR=28						
RAO				S	Sn	14 37 09.4	+13
	836nm,0.3s,baz=84,slow=23,SNR=11						
GLKZ	**Green Lake**	**2.78**	**185**	P	Pn	14 36 29.9	+7.8
GLKZ				S	Sn	14 37 10.1	+13
WMGZ	**Waiomatatini S**	**11.79**	**195**	P	**Pn**	**14 38 19.2**	**-1.7**
WMGZ				S	**Sn**	**14 40 29.0**	**-2.2**
HAZ	**Te Kaha**	**11.89**	**198**	P	**Pn**	**14 38 21.1**	**-1.1**
HAZ				S	**Sn**	**14 40 31.3**	**-2.3**
PKGZ	**Pakihiroa**	**11.94**	**197**	P	**Pn**	**14 38 21.3**	**-1.7**
PKGZ				S	**Sn**	**14 40 31.3**	**-3.6**
PUZ	**Puketiti**	**12.06**	**196**	P	**Pn**	**14 38 21.8**	**-2.8**
PUZ				S	**Sn**	**14 40 34.7**	**-3.2**
RUGZ	**Raukumara Rang**	**12.11**	**198**	P	**Pn**	**14 38 25.3**	**0.0**
RUGZ				S	**Sn**	**14 40 35.8**	**-3.4**
MWZ	**Matawai**	**12.50**	**198**	P	**Pn**	**14 38 27.0**	**-3.2**
MWZ				S	**Sn**	**14 40 45.1**	**-3.3**
TKGZ	**Te Karaka**	**12.51**	**196**	P	**Pn**	**14 38 31.8**	**+1.5**
TKGZ				S	**Sn**	**14 40 46.6**	**-2.1**
URZ	**Urewera**	**12.55**	**199**	P	**Pn**	**14 38 29.0**	**-1.7**
	0.6nm,0.3s,baz=277,slow=5.4,SNR=9.1						
URZ				S	**Sn**	**14 40 47.3**	**-2.1**
	4.9nm,0.3s,baz=113,slow=21,SNR=15						
URZ	**Urewera**	**12.55**	**199**	P	**Pn**	**14 38 28.6**	**-2.2**
URZ				S	**Sn**	**14 40 47.6**	**-1.9**
RAGZ	**Rawiri**	**12.68**	**198**	P	**Pn**	**14 38 35.5**	**+2.9**
RAGZ				S	**Sn**	**14 40 49.5**	**-3.3**
RIGZ	**Rimuhau**	**12.79**	**196**	P	**Pn**	**14 38 33.1**	**-0.8**
RIGZ				S	**Sn**	**14 40 51.5**	**-3.8**
MUGZ	**Murupara**	**12.85**	**200**	P	**Pn**	**14 38 34.3**	**-0.4**
RTZ	**Ruatahuna**	**12.92**	**199**	P	**Pn**	**14 38 35.0**	**-0.6**
KNZ	**Kokohu**	**13.11**	**196**	P	**Pn**	**14 38 38.7**	**+0.7**
TLZ	**Tolley Road**	**13.13**	**204**	P	P	14 38 47.8	+4.8
RAHZ	**Arahi**	**13.17**	**198**	P	**P**	**14 38 43.9**	**+0.6**
MTHZ	**Maungataniwha**	**13.18**	**199**	P	**P**	**14 38 45.6**	**+2.1**
WHHZ	**Waihua**	**13.28**	**198**	P	**P**	**14 38 46.2**	**+1.8**
NMHZ	**Naumai**	**13.41**	**199**	P	**Pn**	**14 38 43.2**	**+1.3**
HIZ	**Hauiti**	**13.55**	**206**	*e*Pn	**P**	**14 38 48.9**	**+1.4**
BKZ	**Black Stump Fm**	**13.57**	**200**	*e*Pn	**Pn**	**14 38 43.0**	**-1.0**
BKZ	**Black Stump Fm**	**13.57**	**200**	P	**P**	**14 38 48.0**	**+0.1**
AFI	**Afiamalu**	**13.66**	**25**	P	Pn	14 38 34.7	-11
	10nm,0.3s,baz=32,slow=4.7,SNR=26						
AFI				S	Sn	14 40 51.0	-26
	1.4nm,0.3s,baz=66,slow=20,SNR=4.1						
MCHZ	**McNeill Hill**	**13.77**	**199**	P	**P**	**14 38 51.4**	**+1.5**
WTVZ	**West Tongariro**	**13.82**	**203**	P	**P**	**14 38 54.4**	**+3.7**
TWVZ	**Taurewa**	**13.83**	**203**	P	**P**	**14 38 54.5**	**+3.8**
CKHZ	**Cape Kidnapper**	**13.86**	**197**	P	**Pn**	**14 38 48.7**	**+1.2**
NGZ	**Ngauruhoe**	**13.87**	**202**	P	**P**	**14 38 54.4**	**+3.2**
COVZ	**Chateau Observ**	**13.91**	**203**	P	**P**	**14 38 55.5**	**+3.8**
TUVZ	**Tukino**	**13.93**	**202**	P	**P**	**14 38 55.3**	**+3.4**
BHHZ	**Black Hill Sta**	**14.00**	**200**	P	**Pn**	**14 38 50.0**	**+0.7**
KAHZ	**Kahuranaki**	**14.04**	**198**	P	**Pn**	**14 38 50.9**	**+1.0**
PKVZ	**Pokaka**	**14.06**	**203**	P	**P**	**14 38 55.5**	**+2.3**
VRZ	**Vera Road**	**14.12**	**205**	P	**P**	**14 38 58.2**	**+4.3**
PXZ	**Pawanui**	**14.27**	**197**	P	**P**	**14 38 57.9**	**+2.4**
PNHZ	**Pukenui**	**14.35**	**199**	P	**Pn**	**14 38 55.6**	**+1.9**
TSZ	**Takapari Road**	**14.55**	**200**	P	**Pn**	**14 38 54.7**	**-1.5**
DVHZ	**Dannevirke**	**14.71**	**199**	P	**P**	**14 39 02.8**	**+2.4**
PRWZ	**Pori Road**	**15.00**	**199**	P	**P**	**14 39 04.6**	**+0.9**
BFZ	**Birch Farm**	**15.04**	**198**	*e*Pn	**Pn**	**14 39 03.7**	**+1.3**
	80nm,1.4s						
BFZ	**Birch Farm**	**15.04**	**198**	P	**P**	**14 39 04.5**	**+0.4**
DZM	**Mont Dzumac**	**15.14**	**283**	P	**P**	**14 39 10.6**	**+5.1**
	0.4nm,0.3s,baz=56,slow=19,SNR=6.1						
DZM	**Mont Dzumac**	**15.14**	**283**	*e*Pn	**Pn**	**14 38 59.8**	**-4.1**
	29nm,1.2s						
TMWZ	**Te Maipa**	**15.54**	**198**	P	**P**	**14 39 10.6**	**+1.0**
SNZO	**South Karori**	**16.09**	**201**	*e*P	**P**	**14 39 16.1**	**+0.5**
	379nm,1.5s						
THZ	**Tophouse**	**17.11**	**205**	*e*P	**P**	**14 39 27.6**	**+0.6**
	116nm,1.9s						
KHZ	**Kahutara**	**17.46**	**202**	*e*P	**P**	**14 39 29.0**	**-1.7**
	36nm,0.5s						
LTZ	**Lake Taylor**	**18.23**	**204**	*e*P	**P**	**14 39 38.2**	**-1.1**
	72nm,1.6s						
OXZ	**Oxford**	**18.79**	**204**	*e*P	**P**	**14 39 44.5**	**-0.7**
	51nm,1.5s						
MQZ	**McQueen's Vall**	**18.91**	**202**	*e*P	**P**	**14 39 46.0**	**-0.5**
	190nm,1.9s						
RPZ	**Rata Peaks**	**19.49**	**205**	P	**Pn**	**14 39 58.3**	**+2.7**
	0.6nm,0.3s,baz=45,slow=19,SNR=3.7						
RPZ				S	**S**	**14 43 17.9**	**-6.9**
	1.1nm,0.3s,baz=306,slow=23,SNR=6.5						
STKA	**Stephens Creek**	**35.83**	**252**	P	**P**	**14 42 25.0**	**+2.2**
	1.5nm,0.5s,baz=98,slow=12,SNR=9.7						
STKA	**Stephens Creek**	**35.83**	**252**	*e*P	**P**	**14 42 22.8**	**0.0**
	1.4nm,1.1s						
AS01	**Alice Springs**	**43.72**	**263**	*e*P	**P**	**14 43 28.4**	**+0.3**
AS31	**Alice Springs**	**43.76**	**263**	*e*P	**P**	**14 43 29.1**	**+0.7**
	2.0nm,0.6s						
ASAR	**Alice Springs**	**43.76**	**263**	P	**P**	**14 43 29.4**	**+1.0**
	7.1nm,0.8s,baz=92,slow=7.4,SNR=95						
ASAR				PcP	**PcP**	**14 45 12.6**	**0.0**
	0.8nm,0.8s,baz=101,slow=5.0,SNR=3.3						
WB2	**Warramunga Arr**	**44.38**	**268**	*e*P	**P**	**14 43 33.5**	**+0.2**
WRAB	**Tennant Creek**	**44.39**	**268**	*e*P	**P**	**14 43 33.5**	**+0.1**
	7.2nm,0.5s						
WR1	**Warramunga Arr**	**44.39**	**268**	*e*P	**P**	**14 43 33.8**	**+0.3**
	9.4nm,0.8s						
WR1				*e*PcP	**PcP**	**14 45 14.0**	**-0.7**
WRA	**Warramunga Arr**	**44.40**	**268**	P	**P**	**14 43 33.8**	**+0.3**
	6.0nm,0.4s,baz=103,slow=7.7,SNR=66						
WRA				PcP	**PcP**	**14 45 14.0**	**-0.7**
	1.7nm,0.9s,baz=106,slow=3.5,SNR=5.3						
VNDA	**Vanda**	**52.01**	**186**	P	**P**	**14 44 35.7**	**+4.7**
	2.2nm,0.7s,baz=5.6,slow=7.2,SNR=22						
VNDA	**Vanda**	**52.01**	**186**	*e*P	**P**	**14 44 34.8**	**+3.8**
	2.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.77**	**267**	*e*P	**P**	**14 44 37.7**	**+0.2**
	12nm,1.1s						
QSPA	**South Pole Qui**	**63.62**	**180**	*e*P	**P**	**14 45 55.0**	**+2.8**
	4.9nm,0.9s						
MAW	**Mawson**	**76.08**	**200**	P	**P**	**14 47 10.6**	**+2.5**
	5.7nm,0.5s,baz=128,slow=5.2,SNR=18						
MAW	**Mawson**	**76.08**	**200**	*e*P	**P**	**14 47 10.1**	**+2.0**
	18nm,1.9s						
SNAA	**Sanae**	**82.05**	**178**	P	**P**	**14 47 42.1**	**+1.4**
PETK	**Petropavlovsk-**	**82.11**	**345**	P	**P**	**14 47 38.2**	**-2.6**
	3.4nm,0.9s,baz=90,slow=4.5,SNR=5.8						
PEA1	**Petropavlovsk-**	**82.11**	**345**	*e*P	**P**	**14 47 38.2**	**-2.6**
VNA3	**Neumayer Olymp**	**82.18**	**176**	P	**P**	**14 47 42.7**	**+1.4**
VNA2	**Neumayer--Watz**	**82.62**	**177**	P	**P**	**14 47 45.4**	**+1.9**
	baz=164,slow=2.7						
VNA1	**Neumayer--Stat**	**82.85**	**176**	P	**P**	**14 47 46.0**	**+1.3**
PLCA	**Paso Flores**	**84.96**	**133**	P	**P**	**14 47 57.0**	**+0.9**
	1.8nm,0.9s,baz=216,slow=5.8,SNR=3.9						
PLCA	**Paso Flores**	**84.96**	**133**	*e*P	**P**	**14 47 56.9**	**+0.9**
	23nm,1.8s						
NV01	**Mina Array Sit**	**85.16**	**43**	*e*P	**P**	**14 47 56.2**	**-0.9**
NVAR	**Mina Array Bea**	**85.16**	**43**	P	**P**	**14 47 56.2**	**-0.9**
	1.0nm,0.7s,baz=220,slow=7.6,SNR=7.2						
LTX	**Lajitas**	**90.02**	**57**	*e*P	**P**	**14 48 18.8**	**-1.6**
TXAR	**Lajitas Array**	**90.02**	**57**	P	**P**	**14 48 18.8**	**-1.6**
	0.5nm,0.8s,baz=201,slow=9.7,SNR=4.1						
CM01	**Chiang Mai Arr**	**92.36**	**289**	*e*P	**P**	**14 48 32.2**	**+0.8**
CM31	**Chiang Mai Arr**	**92.39**	**289**	*e*P	**P**	**14 48 33.5**	**+1.9**
CMAR	**Chiang Mai Arr**	**92.39**	**289**	P	**P**	**14 48 32.5**	**+1.0**
	1.2nm,0.7s,baz=137,slow=3.4,SNR=11						
CHTO	**Chiang Mai**	**92.55**	**290**	*e*P	**P**	**14 48 33.4**	**+1.2**
	2.8nm,0.8s						
PD31	**Pinedale Array**	**93.09**	**43**	*e*P	**P**	**14 48 32.8**	**-1.6**
PDAR	**Pinedale Array**	**93.09**	**43**	P	**P**	**14 48 33.1**	**-1.3**
	0.5nm,0.7s,baz=247,slow=1.9,SNR=4.7						
ILAR	**Eielson Array**	**94.05**	**13**	P	**P**	**14 48 36.1**	**-2.0**
	0.4nm,0.8s,baz=218,slow=5.6,SNR=3.4						
ZALV	**Zalesovo Beam**	**115.28**	**320**	PKP	**PKPdf**	**14 53 59.1**	**-1.7**
	0.8nm,0.5s,baz=236,slow=0.4,SNR=4.5						
ZAA1	**Zalesovo Array**	**115.28**	**320**	*e*PKiKP	**PKPdf**	**14 53 59.1**	**-1.7**
MK32	**Makanchi Array**	**115.45**	**311**	*e*PKPdf	**PKPdf**	**14 53 59.5**	**-1.8**
MKAR	**Makanchi Array**	**115.45**	**311**	PKP	**PKPdf**	**14 53 59.5**	**-1.8**
	0.6nm,0.6s,baz=194,slow=1.4,SNR=5.8						
BOSA	**Boshof**	**120.97**	**204**	PKP	**PKPdf**	**14 54 13.1**	**+0.3**
	4.2nm,0.9s,baz=138,slow=5.4,SNR=3.4						
ARA0	**ARCESS Array S**	**134.82**	**349**	*e*PKPdf	**PKPdf**	**14 54 36.0**	**-1.6**
ARCES	**ARCESS Array B**	**134.82**	**349**	PKP	**PKPdf**	**14 54 36.0**	**-1.6**
	5.9nm,0.9s,baz=35,slow=2.2,SNR=6.9						
FIA0	**FINESS Array S**	**141.55**	**342**	*e*PKPpre	PKPpre	14 54 42.5	
FINES	**FINESS Array B**	**141.55**	**342**	PKhKP	PKPpre	14 54 42.5	
	0.8nm,0.5s,baz=63,slow=4.3,SNR=9.3						
NC303	**NORSAR Array S**	**144.72**	**352**	*e*PKPdf	**PKPab**	**14 54 53.6**	**-1.4**
NC405	**NORSAR Array S**	**144.79**	**352**	*e*PKPbc	PKPbc	14 54 54.0	-1.3
NB201	**NORSAR Array S**	**144.91**	**352**	*e*PKPdf	PKPbc	14 54 54.1	-1.6
NB2	**NORSAR Subarra**	**144.92**	**352**	PKP	PKPbc	14 54 54.0	-1.8
	comp=Z,4.1nm,0.8s,baz=9.6,slow=3.5						
NB200	**NORSAR Array S**	**144.92**	**352**	*e*PKPdf	PKPbc	14 54 53.5	-2.3
NOA	**NORSAR Array B**	**144.92**	**352**	PKP	PKPbc	14 54 53.5	-2.3
	comp=Z,7.2nm,0.8s,baz=14,slow=2.4,SNR=23						
AKASG	**Malin Array Be**	**148.28**	**327**	PKPbc	**PKPdf**	**14 55 04.0**	**+1.9**
	comp=Z,3.5nm,0.5s,baz=46,slow=4.1,SNR=17						
AKBB	**Malin Array Si**	**148.28**	**327**	*e*PKPbc	**PKPdf**	**14 55 04.5**	**+2.4**
KIEV	**Kiev**	**148.29**	**327**	*e*PKPbc	**PKPdf**	**14 55 04.5**	**+2.5**
AK11	**Malin Array Si**	**148.32**	**327**	*e*PKPbc	**PKPdf**	**14 55 04.6**	**+2.4**
BR101	**Keskin Array S**	**150.80**	**305**	*e*PKPbc	**PKPbc**	**14 55 11.3**	**-1.1**
BR101				*e*PKPab	**PKPab**	**14 55 19.9**	**-0.2**
BR131	**Keskin Array S**	**150.80**	**305**	*e*PKPbc	**PKPbc**	**14 55 11.6**	**-0.9**
BRTR	**Keskin Array B**	**150.80**	**305**	PKPbc	**PKPbc**	**14 55 11.3**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=136,slow=2.4,SNR=9.8						
BRTR				PKPab	**PKPab**	**14 55 19.9**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=163,slow=2.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**166.72**	**177**	PKP	**PKPdf**	**14 55 24.2**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=9.9,slow=3.4,SNR=3.0						
TORD				PKPab	**PKPab**	**14 56 29.3**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=257,slow=3.8,SNR=4.5						
TOA1	**Torodi Ar. Sit**	**166.73**	**177**	*e*PKPdf	**PKPdf**	**14 55 24.2**	**-1.7**
TOA1				*e*PKPab	**PKPab**	**14 56 29.3**	**+0.2**

*IDC **26** 15:00:39.4±0.9, 11°.27N×84°.72W, h0km, mb3.8/6, mb1 4.1/8,mb1mx3.9/35,mbtmp3.8/8,ML3.5/2,MS3.2/4, Ms1 3.2/4,ms1mx2.8/32, Error ellipse: s-maj=24.7km s-min=9.8km az=91.0*

*ISCJB **26** 15:00:40.6±1.0, 10°.11N±0°.06×85°.94W±0°.04, h31km±6km, mb3.7/8,MS3.1/3, Error ellipse: s-maj=9.6km s-min=7.1km az=8.5*

*UCR **26** 15:00:40.1±1.3, 10°.13N×85°.99W, h20km±5km, MD4.0, ML3.4,mb4.2(NEIC)*

*NEIC **26** 15:00:44.9±0.9, 10°.48N×85°.43W, h61km±7km, mb4.2/1, Error ellipse: s-maj=36.5km s-min=8.4km az=218.0*

ISC 26 15:00:40.8±1.4,10°.07N±0°.06×85°.86W±0°.06,h29km±9km, n49,σ1s18/49,mb3.8/8,MS3.0/3,1C-2D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VCR	**Vista de Mar**	**0.23**	**77**	*i* P	**Pb**	**15 00 47.0**	**-0.4**
PLVR	**Palo Verde**	**0.57**	**61**	*i* P	**Pb**	**15 00 52.4**	**-0.1**
PLVR				*e*S	**Sn**	**15 01 02.5**	**+0.7**
LAPC	**Finca la Perla**	**0.81**	**31**	*i* P	**Pb**	**15 00 55.5**	**-0.9**
LAPC				*i* S	**Sb**	**15 01 07.6**	**+0.7**
GBS3	**Finca Las Im¯¡**	**0.81**	**29**	*i* P	**Pb**	**15 00 55.5**	**-0.8**
GBS3				*i* S	**Sb**	**15 01 07.5**	**+0.5**
GPS3	**Bodega del ICE**	**0.83**	**36**	*i* P	**Pb**	**15 00 56.4**	**-0.4**
GPS2	**Hotel Rinc¯‡n**	**0.84**	**36**	*i* P	**Pb**	**15 00 56.2**	**-0.7**
BUEV	**Buena Vista**	**0.85**	**32**	*i* P	**Pb**	**15 00 55.9**	**-1.1**
GPS1	**Guardaparques**	**0.86**	**36**	*i* P	**Pb**	**15 00 56.5**	**-0.7**
LIM1	**Limonal**	**0.86**	**44**	*i* P	**Pb**	**15 00 56.7**	**-0.5**
GB1A	**Borinquen Arri**	**0.87**	**31**	*i* P	**Pb**	**15 00 56.6**	**-0.8**
COLC	**Colonia**	**0.87**	**48**	*i* P	**Pb**	**15 00 57.1**	**-0.3**
GUAB	**Guayabo de Bag**	**0.88**	**44**	*i* P	**Pb**	**15 00 57.2**	**-0.4**
CUI	**Cuipilapa**	**0.90**	**50**	*i* P	**Pb**	**15 00 57.5**	**-0.4**
CUI				*i* S	**Sn**	**15 01 10.6**	**+0.9**
JTS	**JuntasAbangare**	**0.92**	**76**	Pg	**Pb**	**15 00 57.8**	**-0.4**
	268nm,0.3s,baz=360,slow=19,SNR=284						
JTS				Lg	Lg	15 01 13.5	
	240nm,0.3s,baz=14,slow=19,SNR=20						
HORNC	**Hornillas**	**0.92**	**46**	*i* P	**Pb**	**15 00 57.7**	**-0.6**
HORNC				*i* S	**Sn**	**15 01 11.3**	**+1.0**
MESS	**Mesas**	**0.93**	**45**	*e*P	**Pb**	**15 00 57.9**	**-0.6**
MESS				*i* P	**Pn**	**15 00 58.0**	**-0.1**
MESS				*e*S	**Sn**	**15 01 13.1**	**+2.6**
BUAI	**Buenos Aires**	**0.95**	**33**	*i* P	**Pb**	**15 00 57.9**	**-0.9**
ACAL	**Aguas Claras**	**0.98**	**55**	*i* P	**Pb**	**15 00 58.9**	**-0.5**
CEDE	**Laguna Cede¯–o**	**1.21**	**70**	*i* P	**Pb**	**15 01 03.5**	**+0.3**
HDC	**Heredia**	**1.72**	**92**	*e*Pn	**Pn**	**15 01 08.6**	**-0.4**
HDC	**Heredia**	**1.72**	**92**	*e*P	**Pb**	**15 01 12.5**	**+0.7**
LCR2	**La Lucha 2**	**1.86**	**100**	*e*P	**Pn**	**15 01 12.2**	**+1.2**
ACON	**Acoyapa**	**2.00**	**20**	IAML		15 01 43.7	
	comp=N,392nm,0.9s						
URSC	**Urasca**	**2.06**	**96**	*e*P	**Pb**	**15 01 16.3**	**-1.5**
CVTR	**Volcan Turrial**	**2.07**	**91**	*e*P	**Pn**	**15 01 16.2**	**+2.2**
BOAB	**BOACO BROADBAN**	**2.37**	**5**	*e*Pn	Pn	15 01 09.4	-8.3
ESPN	**Las Esperanzas**	**2.61**	**36**	*e*P	**Pn**	**15 01 21.3**	**+0.2**
ESPN				*e*S	**Sn**	**15 01 53.0**	**+1.3**
ESPN				IAML		15 02 08.9	
	comp=N,189nm,1.0s						
ESTN	**Estel**	**3.05**	**351**	*e*Pn	Pn	15 01 19.2	-8.0
CSGN	**Cosiguina Volc**	**3.33**	**330**	*e*Pn	**Pn**	**15 01 31.3**	**+0.2**
APG	**El Apazote**	**6.65**	**318**	Pn	**Pn**	**15 02 19.2**	**+2.3**
	comp=N,0.9nm,0.3s,baz=109,slow=12,SNR=4.6						
CCIG	**Comitan**	**8.69**	**316**	*e*Pn	**Pn**	**15 02 44.2**	**-0.6**
CMIG	**Matias Romero**	**11.21**	**309**	Pn	Pn	15 03 24.0	+4.9
	comp=N,0.4nm,0.3s,baz=113,slow=14,SNR=3.3						
ATAH	**Atahualpa**	**18.64**	**156**	LR	LR	15 10 53.2	
	comp=N,112nm,19.1s,baz=334,slow=32						
LTX	**Lajitas**	**25.39**	**321**	*e*P	**P**	**15 06 06.8**	**+0.9**
TXAR	**Lajitas Array**	**25.39**	**321**	P	**P**	**15 06 06.8**	**+0.9**
	comp=N,1.7nm,0.7s,baz=142,slow=9.8,SNR=16						
TX31	**Lajitas Ar. Si**	**25.39**	**321**	*e*P	**P**	**15 06 06.3**	**+0.3**
LPIG	**La Paz**	**27.15**	**304**	LR	LR	15 18 37.7	
	comp=N,38nm,18.9s,baz=191,slow=39						
PTGA	**Pitinga**	**27.91**	**111**	P	**P**	**15 06 26.5**	**-2.3**
	comp=N,1.4nm,0.3s,baz=330,slow=20,SNR=2.7						
PDAR	**Pinedale Array**	**38.59**	**332**	P	**P**	**15 08 00.5**	**-1.2**
	comp=N,0.3nm,0.5s,baz=119,slow=10,SNR=3.6						
PDAR				LR	LR	15 24 18.7	
	comp=N,14nm,19.7s,baz=91,slow=37						
NV11	**Mina Array Sit**	**40.42**	**320**	*e*P	**P**	**15 08 18.4**	**+1.5**
	comp=N,0.3nm,0.9s						
NV01	**Mina Array Sit**	**40.51**	**320**	*e*P	**P**	**15 08 18.9**	**+1.2**
NVAR	**Mina Array Bea**	**40.51**	**320**	P	**P**	**15 08 19.4**	**+1.7**
	comp=N,2.4nm,0.6s,baz=124,slow=7.9,SNR=20						
NVAR				PcP	**PcP**	**15 10 22.3**	**+2.3**
	comp=N,0.4nm,0.6s,baz=130,slow=2.8,SNR=3.1						
KVN	**Kaiserville**	**40.75**	**320**	*e*P	**P**	**15 08 20.9**	**+1.3**
	comp=N,2.7nm,0.6s						
YKA	**Yellowknife Ar**	**56.30**	**344**	P	**P**	**15 10 16.3**	**-2.4**
	comp=N,0.2nm,0.4s,baz=150,slow=6.5,SNR=3.2						
ILAR	**Eielson Array**	**68.81**	**336**	P	**P**	**15 11 41.1**	**-1.1**
	comp=N,0.6nm,0.7s,baz=128,slow=5.0,SNR=5.1						
ILAR				LR	LR	15 44 32.7	
	comp=N,27nm,18.2s,baz=170,slow=39						
ASAR	**Alice Springs**	**139.77**	**245**	PKhKP	PKPpre	15 20 07.5	
	comp=N,0.4nm,0.8s,baz=108,slow=2.1,SNR=3.5						
WR1	**Warramunga Arr**	**140.04**	**251**	*e*PKPpre	PKPpre	15 20 07.7	
WRA	**Warramunga Arr**	**140.04**	**251**	PKhKP	PKPpre	15 20 07.7	
	comp=N,0.3nm,0.7s,baz=95,slow=2.7,SNR=5.0						
CMAR	**Chiang Mai Arr**	**151.26**	**350**	PKPbc	**PKPbc**	**15 20 32.9**	**+0.3**
	comp=N,1.0nm,0.8s,baz=344,slow=3.5,SNR=8.8						

IDC 26 15:01:14.9±2.3,5°.33S×130°.56E,h0km,mb3.4/1, mb1 3.8/4,mb1mx3.5/33,mbtmp3.6/4,ML3.5/3,Error ellipse: s-maj=96.2km s-min=28.8km az=77.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.57**	**200**	Pn	Pn	15 04 30.1	+1.2
	0.1nm,0.3s,baz=20,slow=11,SNR=18						
FITZ				Sn	Sn	15 06 43.7	-17
	0.1nm,0.3s,baz=138,slow=12,SNR=3.9						
WRA	**Warramunga Arr**	**14.98**	**166**	Pn	Pn	15 04 48.3	+0.1
	0.2nm,0.3s,baz=348,slow=14,SNR=20						
WRA				Sn	Sn	15 07 22.1	-13
	0.3nm,0.3s,baz=329,slow=23,SNR=6.1						
ASAR	**Alice Springs**	**18.52**	**170**	P	P	15 05 32.1	-0.9
	0.3nm,0.3s,baz=348,slow=10,SNR=54						
ASAR				S	Sn	15 08 53.7	-7.1
	0.1nm,0.3s,baz=350,slow=26,SNR=5.3						
MKAR	**Makanchi Array**	**67.15**	**326**	P	P	15 12 10.7	0.0
	0.2nm,0.4s,baz=111,slow=7.7,SNR=4.8						

MAN 26 15:10:06.5,7°.80N×124°.82E,h29km,mb4.0,ML2.8,MS2.4, 2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**0.25**	**72**	*e*P	Pn	15 10 14.0	-0.4
BUKP				*e*S	Sn	15 10 21.8	+2.4
CGP	**Cagayan de Oro**	**0.66**	**349**	*e*P	Pn	15 10 20.1	+0.2
CGP				*e*S	Sn	15 10 30.4	+1.0
CTBH	**Cotabato--PC H**	**0.81**	**225**	*i*P	Pn	15 10 18.5	-3.5
PAGZ	**Pagadian**	**1.43**	**272**	*e*P	Pn	15 10 31.2	+0.7
PAGZ				*e*S	Sn	15 10 48.0	-0.3

TAP 26 15:13:03.4,23°.18N×121°.26E,h22km,ML1.3,A,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FULB	**Fuli**	**0.04**	**59**	P	Pb	15 13 07.7	+0.4
	baz=59						
FULB				S	Sb	15 13 10.4	+0.5
	baz=59						
CHKT	**Chengkung**	**0.13**	**129**	*e*P	Pb	15 13 08.6	-0.5
	baz=127						
TWF1	**Yuli**	**0.18**	**12**	P	Pb	15 13 08.7	-0.4
	baz=14						
TWF1				*e*S	Sb	15 13 13.2	+0.2
	baz=14						
YULB	**Yu-li**	**0.21**	**10**	P	Pb	15 13 09.3	0.0
	baz=9.0						
YULB				*e*S	Sb	15 13 13.7	+0.4
	baz=9.0						
ELDTW	**Lidau**	**0.22**	**273**	P	Pb	15 13 09.4	0.0
	baz=272						
ELDTW				*e*S	Sb	15 13 13.8	+0.2
	baz=272						
EHY	**Hungye**	**0.33**	**10**	*e*P	Pn	15 13 11.9	-1.1
	baz=11						
HGSD	**Ruisui**	**0.35**	**26**	*e*P	Pb	15 13 11.6	+0.7
	baz=26						
TWG	**Pinlang**	**0.40**	**206**	*e*P	Pb	15 13 11.9	+0.3
	baz=204						
YUS	**Yu-Shan**	**0.42**	**318**	*e*P	Pb	15 13 12.6	+0.2
	baz=316						
TTN	**Taitung**	**0.43**	**194**	*e*P	Pb	15 13 12.3	0.0
	baz=192						
VWDT	**VWDT**	**0.58**	**349**	*e*P	Pb	15 13 15.1	+0.1
	baz=349						
VWDT				*e*S	Sn	15 13 24.9	-0.3
	baz=349	

SGD	Sagiada	1.42	207	P	Pn	15 19 22.0	+0.1
IGT	Igoumenitsa	1.47	203	*e*Pg	Pg	15 19 24.1	-0.2
IGT				*e*Sg	Sn	15 19 44.9	+3.2
IGT	Igoumenitsa	1.47	203	P	Pn	15 19 22.2	-0.3
IGT				S	Sg	15 19 40.3	-3.0
IGT				AML	AML	15 19 47.7	
	comp=E,553µm,0.9s						
IGT				AML	AML	15 19 48.2	
	comp=N,655µm,0.6s						
IGT	Igoumenitsa	1.47	203	P	Pn	15 19 23.1	+0.6
IGT				S	Sn	15 19 44.5	+2.8
THL	Klokotos Trika	1.50	151	P	Pn	15 19 22.5	-0.5
THL	Klokotos Trika	1.50	151	P	Pn	15 19 22.4	-0.6
KEK	Kerkira	1.52	220	P	Pn	15 19 22.5	-0.8
SOH	Sokhos	1.73	91	P	Pn	15 19 25.9	-0.3
SOH				S	Sg	15 19 50.4	-1.4
SRS	Serrai	1.92	82	*e*Pg	Pn	15 19 29.5	+0.7
SRS				*e*Sg	Sg	15 19 57.5	-0.4
SRS	Serrai	1.92	82	P	Pn	15 19 28.9	+0.1
DRME	Dracevica, Mon	1.92	313	*e*Pn	Pn	15 19 30.3	+1.4
BARS	Barje	2.01	16	*e*Pn	Pn	15 19 29.5	-0.5
EVR	Evrytania	2.05	164	P	Pn	15 19 31.4	+0.8
EVR				S	Sb	15 19 59.0	+0.1
PDG	Podgorica	2.06	319	*e*Pn	Pn	15 19 32.4	+1.7
AGG	Agios Georgios	2.10	152	P	Pn	15 19 30.8	-0.4
AGG	Agios Georgios	2.10	152	P	Pn	15 19 30.8	-0.4
AGG				S	Sb	15 19 59.7	-0.6
XOR	Xorichti	2.22	132	P	Pn	15 19 32.5	-0.5
SELS	Selova	2.33	1	*e*Pn	Pn	15 19 34.9	+0.4
VTS	Vitosha	2.34	42	P	Pn	15 19 34.8	+0.1
ANX	Ano Chora	2.38	164	P	Pn	15 19 36.3	+1.1
HCY	Herceg Novi	2.48	310	*e*Pn	Pn	15 19 36.3	-0.3
SJES	Sjenica	2.51	341	*e*Pn	Pn	15 19 37.4	+0.4
KALE	Kalithea	2.62	161	P	Pn	15 19 39.5	+1.0
ZAPS	Zavoj	2.66	25	*e*Pn	Pn	15 19 39.4	+0.5
TREB	Trebinje	2.74	313	*e*Pn	Pn	15 19 40.4	+0.4
BRY	Bratogost	2.76	318	*e*Pn	Pn	15 19 40.9	+0.4
IVAS	Ivanjica	2.77	346	*e*Pn	Pn	15 19 39.7	-0.9
BOVS	Bovan	2.79	9	*e*Pn	Pn	15 19 40.1	-0.6
UPM	Unac-Piva	2.82	326	*e*Pn	Pb	15 19 46.5	-0.2
GRUS	Gruza	3.01	355	*e*Pn	Pn	15 19 43.9	+0.1
STON	Ston	3.21	309	*e*Pn	Pn	15 19 46.7	+0.2
STON	Ston	3.21	309	*e*Pn	Pn	15 19 45.5	-0.9
BBLS	Lazići	3.23	338	*e*Pn	Pn	15 19 47.2	+0.4
BBLS	Lazići	3.23	338	*e*Pn	Pn	15 19 47.0	+0.2
DIVS	Divibare	3.31	346	*e*Pn	Pn	15 19 47.8	-0.2
DIVS	Divibare	3.31	346	*e*Pn	Pn	15 19 47.7	-0.2

IDC 26 15:24:12.3±1.8, 1°.93N×127°.38E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/39, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=104.1km s-min=22.3km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.97	185	P	P	15 28 46.3	-0.1
	0.1nm,0.3s,baz=4.5,slow=10,SNR=5.7						
WRA	Warramunga Arr	22.78	163	P	P	15 29 17.0	+0.3
	1.2nm,0.6s,baz=343,slow=11,SNR=20						
ASAR	Alice Springs	26.22	166	P	P	15 29 48.9	-0.3
	0.3nm,0.5s,baz=344,slow=8.2,SNR=17						
MKAR	Makanchi Array	59.40	326	P	P	15 34 16.8	+0.1
	0.6nm,0.4s,baz=117,slow=7.7,SNR=12						

*ISCJB **26** 15:31:06.0±0.3, 51°.72N±0°.06×179°.49W±0°.03, h79km, mb4.3/42, Error ellipse: s-maj=8.1km s-min=2.8km az=176.0*
*AEIC **26** 15:31:05.8±0.0, 51°.48N×179°.53W, h77km*
*NEIC **26** 15:31:06.7±0.3, 51°.53N×179°.52W, h79km±2km, mb4.4/39, ML4.0(AEIC), Error ellipse: s-maj=7.8km s-min=3.2km az=181.0*
*IDC **26** 15:31:10.5±3.0, 51°.90N×179°.56W, h107km±26km, mb3.6/16, mb1 3.8/17, mb1mx3.6/47, mbtmp4.0/17, MS3.1/2, Ms1 3.1/2, ms1mx2.4/44, Error ellipse: s-maj=21.1km s-min=11.6km az=175.0*

ISC 26 15:31:06.8±0.6, 51°.65N±0°.10×179°.50W±0°.04, h79km, n139, σ1§41/139, mb4.4/42, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	Gareloi Lava P	0.47	75	P	Pn	15 31 20.3	+0.2
GAEA	Gareloi East	0.49	73	P	Pn	15 31 20.5	+0.2
CERAA	Semis' Rag'd T	0.57	298	P	Pn	15 31 21.1	+0.1
CERB	Semis' Cerberu	0.61	298	P	Pn	15 31 21.6	+0.2
CESW	Semis' Southwe	0.64	294	P	Pn	15 31 21.5	-0.1
CEAP	Semis' Anvil P	0.68	302	P	Pn	15 31 22.4	+0.4
CETU	Semis' Tuman	0.70	298	P	Pn	15 31 22.6	+0.3
AMKA	Amchitka	0.80	251	P	Pn	15 31 22.1	-1.3
AMKA				S	Sn	15 31 34.0	-1.7
TASE	Tanaga Southea	0.93	78	P	Pn	15 31 25.3	+0.3
TAFP	Tanaga Falls P	0.97	74	P	Pn	15 31 25.7	+0.2
TAPA	Tanaga Point A	1.06	80	P	Pn	15 31 26.7	+0.2
LSPA	Little Sitkin	1.24	285	P	Pn	15 31 29.0	+0.4
LSPA				S	Sn	15 31 45.9	+0.8
LSSA	Little Sitkin	1.27	285	P	Pn	15 31 29.3	+0.2
LSNW	Little Sitkin	1.27	286	P	Pn	15 31 29.2	0.0
KIMD	Kanaga Island	1.41	84	P	Pn	15 31 30.9	0.0
KICM	Kanaga Island	1.46	78	P	Pn	15 31 32.0	+0.5
KIKV	Kanaga Island	1.47	80	P	Pn	15 31 31.9	+0.3
KINC	Kanaga Island	1.50	78	P	Pn	15 31 32.5	+0.5
ADK	Adak	1.77	81	*e*Pn	Pn	15 31 35.5	0.0
ADAG	Mount Adagdak	1.83	78	P	Pn	15 31 36.9	+0.5
ETKA	Kagalaska Isla	1.93	82	P	Pn	15 31 37.8	0.0
GSSP	Great Sitkin S	2.11	76	P	Pn	15 31 40.7	+0.7
GSTD	Great Sitkin T	2.12	78	P	Pn	15 31 40.2	-0.1
GSTD				S	Sn	15 32 05.9	0.0
GSMY	Great Sitkin M	2.17	78	P	Pn	15 31 41.0	+0.1
GSIG	Igitkin Island	2.24	80	P	Pn	15 31 42.0	+0.2
ATKA	Atka Island	3.33	78	P	Pn	15 31 57.0	+0.5
KOFP	Korovin Flat P	3.40	77	P	Pn	15 31 58.3	+0.8
SMY	Shemya	4.09	288	P	Pn	15 32 07.7	+0.9
MREP	Makushin Rep't	8.04	69	P	Pn	15 33 02.6	+1.8
UNV	Unalaska Valle	8.19	69	*e*Pn	Pn	15 33 04.1	+1.9
AKUT	Akutan	8.67	68	*e*Pn	Pn	15 33 11.1	+1.9
WESP	Westdahl Peak	9.34	66	P	Pn	15 33 21.2	+2.7
SSLN	Shishaldin Nor	9.82	65	P	Pn	15 33 28.5	+3.5
FALS	False Pass	10.16	65	*e*Pn	Pn	15 33 31.3	+1.8
SDPT	Sand Point	11.91	64	*e*Pn	Pn	15 33 52.2	-1.1
CHGN	Chignik	13.24	61	*e*Pn	Pn	15 34 10.2	-1.0
PEA0B	Petropavlovsk-	13.99	285	*e*Pn	Pn	15 34 21.8	+0.5
PETK	Petropavlovsk-	13.99	285	P	P	15 34 24.3	-2.4
	0.3nm,0.3s,baz=94,slow=16,SNR=9.0						
ANM	Nome	14.89	24	*e*Pn	P	15 34 36.5	0.0
SII	Sitkinak Islan	15.60	62	*e*Pn	Pn	15 34 40.0	-1.8
	127nm,1.2s						
OHAK	Old Harbor	16.18	60	*e*Pn	Pn	15 34 45.5	-3.5
	204nm,1.8s						
SVW2	Sparrevohn	16.19	45	*e*P	P	15 34 52.3	+1.4
	38nm,1.8s						
KDAK	Kodiak Island	16.65	58	P	Pn	15 34 52.6	-2.3
	3.9nm,0.3s,baz=223,slow=0.6,SNR=87						
KDAK				S	Sn	15 37 51.0	-7.9
	0.2nm,0.3s,baz=253,slow=19,SNR=4.1						
CNPM	China Poot	17.70	53	*e*P	P	15 35 08.5	+0.9
	121nm,2.0s						
BILL	Bilibino	17.84	342	*e*P	Pn	15 35 10.8	+1.4
	23nm,1.9s						
BRLK	Bradley Lake	17.93	52	*e*P	P	15 35 10.9	+0.7
	128nm,1.8s						
SKT	Skwentna	18.32	45	*e*P	Pn	15 35 16.1	+0.9
	15nm,0.8s						
RDOG	Red Dog Mine	18.33	20	*e*P	Pn	15 35 17.3	+2.0
	6.4nm,0.6s						
PPLA	Purkeypile	18.40	42	*e*P	Pn	15 35 17.0	+0.7
	52nm,2.0s						
SUA	Susitna One	18.49	47	*e*P	P	15 35 17.0	+0.6
	13nm,1.2s						
CAST	Castle Rocks	18.67	40	*e*P	P	15 35 19.8	+1.6
	6.3nm,0.6s						
SEW	Seward	18.72	51	*e*P	P	15 35 18.9	+0.2
	115nm,1.8s						
RC01	Rabbit Creek A	18.84	48	*e*P	P	15 35 20.5	+0.5
	26nm,1.5s						
PMR	Palmer	19.26	47	*e*P	P	15 35 25.1	+0.5
	14nm,1.4s						
IM3	Indian Mountai	19.38	32	*e*P	P	15 35 26.9	+1.0
GHO	Glory Hole Cre	19.41	47	*e*P	P	15 35 25.5	-0.9
	80nm,2.0s						
BPAW	Bear Paw Mtn.	19.41	39	*e*P	P	15 35 27.6	+1.3
	4.5nm,0.7s						
TRF	Thorofare Moun	19.42	41	*e*P	P	15 35 27.1	+0.5
	35nm,1.8s						
SML	Sawmill	19.69	47	*e*P	P	15 35 28.9	-0.4
	66nm,1.8s						
MLY	Manley	19.94	37	*e*P	P	15 35 33.2	+1.2
	10nm,1.5s						
SCM	Sheep Creek Mo	20.16	47	*e*P	P	15 35 34.0	-0.5
	51nm,1.7s						
KLU	Klutina	20.72	49	*e*P	P	15 35 40.2	-0.4
	59nm,1.8s						
MDM	Murphy Dome	20.86	38	*e*P	P	15 35 41.9	-0.1
	18nm,1.7s						
CCB	Clear Creek Bu	20.90	39	*e*P	P	15 35 40.9	-1.4
ILAR	Eielson Array	21.31	39	P	P	15 35 46.2	-0.6
	0.9nm,0.6s,baz=238,slow=8.7,SNR=14						
ILAR				ScP	ScP	15 43 14.4	-3.1
	0.4nm,0.5s,baz=282,slow=3.8,SNR=10						
DOT	Dot Lake	22.10	43	*e*P	P	15 35 54.6	-0.6
	16nm,1.4s						
TOLK	Toolik Lake Re	22.24	29	*e*P	P	15 35 57.1	+0.4
	6.6nm,0.6s						
INK	Inuvik	27.49	35	P	P	15 36 44.2	-1.0
	0.5nm,0.4s,baz=242,slow=4.4,SNR=7.0						
DLBC	Dease Lake	28.57	57	P	P	15 36 54.9	-0.1
	1.1nm,0.3s,baz=225,slow=20,SNR=5.9						
DLBC				LR	LR	15 47 50.1	
	comp=Z,42nm,18.9s,baz=236,slow=35						
TIXI	Tiksi	30.19	330	ScP	ScP	15 43 38.8	-4.1
	1.7nm,0.3s,baz=24,slow=1.5,SNR=3.7						
USRK	Ussuriysk Ar.	32.83	276	P	P	15 37 32.1	-0.5
	1.0nm,0.5s,baz=63,slow=11,SNR=5.2						
H11N2	WAKE ISLAND Hy	33.59	204	T	T	16 14 38.3	
	baz=18,slow=76,SNR=78						
H11N3	WAKE ISLAND Hy	33.60	204	T	T	16 14 43.8	
	baz=18,slow=76,SNR=117						
H11N1	WAKE ISLAND Hy	33.61	204	T	T	16 14 30.1	
	baz=18,slow=76,SNR=84						
H11S1	WAKE ISLAND Hy	34.82	203	T	T	16 15 21.1	
	baz=17,slow=74,SNR=153						
H11S2	WAKE ISLAND Hy	34.83	203	T	T	16 15 17.4	
	baz=17,slow=74,SNR=94						
H11S3	WAKE ISLAND Hy	34.83	203	T	T	16 15 12.0	
	baz=17,SNR=92						
YKA	Yellowknife Ar	35.36	47	P	P	15 37 53.7	-0.6
	1.1nm,0.6s,baz=281,slow=7.1,SNR=14						
YBH	Yreka Blue Hor	39.27	82	P	P	15 38 29.6	+1.9
	3.0nm,0.8s,baz=313,slow=9.3,SNR=4.8						
PNTR	Pine Nut	42.75	83	*e*P	P	15 38 57.1	+0.8
	12nm,0.6s						
WAKR	Walker	43.20	83	*e*P	P	15 39 00.9	+0.9
	3.9nm,0.7s						
HLID	Hailey	43.29	74	*e*P	P	15 39 01.0	+0.4
	3.3nm,0.8s						
NV01	Mina Array Sit	43.95	83	*e*P	P	15 39 06.8	+0.7
NVAR	Mina Array Bea	43.95	83	P	P	15 39 07.1	+1.0
	2.4nm,0.6s,baz=296,slow=7.4,SNR=11						
YHH	Holmes Hill	44.71	71	*e*P	P	15 39 12.1	0.0
	3.6nm,0.6s						
HVU	Hansel Valley	45.30	75	*e*P	P	15 39 16.8	+0.1
	8.4nm,0.6s						
R11A	Troy Canyon, C	45.68	81	*e*P	P	15 39 19.7	0.0
	2.2nm,0.6s						
SONA1	Songino Array	46.12	296	*e*P	P	15 39 23.0	-0.1
SONM	Songino Array	46.14	296	P	P	15 39 23.4	+0.2
	2.1nm,0.5s,baz=64,slow=7.3,SNR=16						
SONM				LR	LR	15 58 26.7	
	comp=Z,20nm,21.0s,baz=7.5,slow=36						
TPNV	Topopah Spring	46.15	83	*e*P	P	15 39 23.7	+0.3
	6.6nm,0.7s						
DUG	Dugway, Tooele	46.23	77	*e*P	P	15 39 24.6	+0.6
	20nm,1.4s						
PSUT	Pine Spring	46.62	79	*e*P	P	15 39 27.6	+0.4
	4.9nm,0.5s						
BW06	Boulder Array	46.64	72	*e*P	P	15 39 27.2	-0.1
	6.1nm,1.4s						
PD31	Pinedale Array	46.64	72	*e*P	P	15 39 27.4	+0.1
PDAR	Pinedale Array	46.64	72	P	P	15 39 27.6	+0.3
	3.2nm,0.5s,baz=310,slow=3.2,SNR=42						
PDAR	Pinedale Array	46.64	72	*e*P	P	15 39 26.7	-0.6
GSC	Goldstone, Bar	46.86	85	*e*P	P	15 39 29.2	+0.3
	4.4nm,0.6s						
HHC	Hu-ho-hao-te	47.20	285	*e*P	P	15 39 33.3	+1.8
HHC				pmax	pmax		
	comp=Z,13nm,1.2s						
TMUT	Trail Mountain	47.76	77	*e*P	P	15 39 37.0	+0.8
	comp=Z,18nm,0.4s						
SRU	San Rafael Swe	48.29	77	*e*P	P	15 39 40.8	+0.7
	comp=Z,11nm,0.6s						
O20A	White River Ci	49.03	74	*e*P	P	15 39 45.8	0.0
	comp=Z,13nm,0.5s						
PV21	Cone Mtn., Par	49.58	76	*e*P	P	15 39 49.9	0.0
PV14	Lion Creek, Pa	49.67	76	*e*P	P	15 39 51.1	+0.4
PV22	Blue Mesa, Par	49.71	76	*e*P	P	15 39 50.6	-0.3
PV20	West Nyswonger	49.72	76	*e*P	P	15 39 51.1	+0.1
PV19	Morning Glory	49.73	76	*e*P	P	15 39 51.2	+0.1
PV16	Nyswonger Mesa	49.77	76	*e*P	P	15 39 51.8	+0.4
PV11	David Mesa, Pa	49.81	76	*e*P	P	15 39 52.0	+0.4
PV18	Skein Mesa, Pa	49.82	76	*e*P	P	15 39 52.2	+0.4
PV02	Paradox Valley	49.95	76	*e*P	P	15 39 52.9	+0.1
SPITS	Spitsbergen Ar	50.08	356	P	P	15 39 52.4	-0.5
	comp=Z,7.6nm,0.9s,baz=40,slow=9.4,SNR=4.7						
PV01	Paradox Valley	50.09	76	*e*P	P	15 39 54.1	+0.2
SMCO	Snowmass	50.39	74	*e*P	P	15 39 56.0	-0.3
	comp=Z,13nm,1.6s						
SDCO	Great Sand Dun	52.20	75	*e*P	P	15 40 10.2	+0.6
	comp=Z,3.7nm,0.9s						
T25A	Trinidad	53.25	75	*e*P	P	15 40 18.0	+0.6
	comp=Z,31nm,1.8s						
LZH	Lanzhou	54.89	286	*e*P	P	15 40 31.0	+1.8
LZH				pP	pP	15 40 50.8	+1.8
LZH				sP	sP	15 40 58.3	+0.5
LZH				*e*PP	PP	15 42 39.5	+6.9
LZH				pmax	pmax		
	comp=Z,30nm,1.0s						
LZH				pmax	pmax		
	comp=Z,170nm,5.4s						
GTA	Gaotai	55.06	291	*e*P	P	15 40 30.8	+0.4
GTA				pP	pP	15 40 34.5	-16
GTA				sP	sP	15 40 37.5	-21
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MNTX	Cornudas Mount	56.33	80	*e*P	P	15 40 39.7	+0.3
	comp=Z,2.9nm,0.8s						
ARCES	ARCESS Array B	57.75	350	P	P	15 40 48.0	-0.9
	comp=Z,2.4nm,0.9s,baz=18,slow=6.6,SNR=3.0						
WMOK	Wichita Mounta	58.23	73	*e*P	P	15 40 52.6	-0.2
	comp=Z,4.1nm,0.6s						
WMQ	Urumqi	58.83	302	*e*P	P	15 41 00.0	+3.1
TX31	Lajitas Ar. Si	59.04	81	*e*P	P	15 40 58.5	0.0
TXAR	Lajitas Array	59.04	81	P	P	15 40 58.9	+0.3
	comp=Z,1.0nm,0.5s,baz=302,slow=5.2,SNR=14						
MKAR	Makanchi Array	59.52	308	P	P	15 41 00.7	-0.9
	comp=Z,0.4nm,0.3s,baz=42,slow=7.0,SNR=12						
KMI	Kunming	63.26	277	P	P	15 41 25.5	-1.8
KMI				pP	pP	15 41 49.0	+1.5
KMI				pmax	pmax		
	comp=Z,9.0nm,1.3s						
LSA	Lhasa	66.94	289	*e*P	P	15 41 52.3	+0.9
	comp=Z,2.1nm,0.6s						
GUN	Gumba	71.35	291	*e*P	P	15 42 19.1	+0.6
	comp=Z,24nm,0.5s						
JIRN	Jiri	71.36	291	*e*P	P	15 42 19.4	+0.8
	comp=Z,20nm,0.6s						
RAMN	Ramite	71.65	290	*e*P	P	15 42 20.5	+0.3
	comp=Z,7.9nm,0.5s						
KKN	Kakani	71.79	292	*e*P	P	15 42 21.4	+0.4
	comp=Z,8.0nm,0.5s						
PKI	Pulchoki	71.88	292	*e*P	P	15 42 21.9	+0.2
	comp=Z,5.5nm,0.5s						
PKIN	Phulchoki	71.88	292	*e*P	P	15 42 21.9	+0.3
	comp=Z,5.5nm,0.5s						
DMN	Daman	72.03	292	*e*P	P	15 42 22.8	+0.3
DANN	Dangsing	72.24	293	*e*P	P	15 42 24.3	+0.5
KOLN	Koldanda	72.77	293	*e*P	P	15 42 27.0	+0.2
PYUN	Piuthan	72.87	294	*e*P	P	15 42 27.7	+0.3
AKASG	Malin Array Be	75.16	342	P	P	15 42 38.9	-1.2
	comp=Z,0.2nm,0.2s,baz=23,slow=6.3,SNR=2.5						
WRA	Warramunga Arr	81.91	223	P	P	15 43 18.7	+1.2
	comp=Z,0.3nm,0.8s,baz=32,slow=6.0,SNR=3.1						
ASAR	Alice Springs	85.39	222	P	P	15 43 36.5	+1.3
	comp=Z,0.3nm,0.9s,baz=25,slow=5.4,SNR=4.0						

NEIC 26 15:33:50.7±0.0, 33°.00N×116°.24W, h6km, ML3.6(PAS), After PAS., Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRR	Carrizo Plain	0.25	118	*e*Pg	Pg	15 33 55.6	-0.1
ERRC	Elmore Ranch	0.36	72	*e*Pg	Pg	15 33 58.2	+0.4
BAR	Barrett	0.49	229	*e*Pg	Pg	15 33 59.8	-0.3
BAR				*e*Sg	Sg	15 34 06.3	-0.3
ERPC	Ernies Place	0.55	118	*e*Pg	Pg	15 34 01.7	+0.4
BATC	Bat Cave Butte	0.56	36	*e*Pg	Pg	15 34 01.5	0.0
FRD	Ford Ranch, An	0.58	328	*e*Pg	Pg	15 34 01.7	-0.2
XPFO	Piæon Flat	0.63	343	*e*Pg	Pg	15 34 02.3	-0.6
PFO	Pinyon Flats O	0.64	343	*e*Pg	Pg	15 34 02.3	-0.7
FRK	Frink	0.64	51	*e*Pg	Pg	15 34 02.5	-0.5
CTCC	Cactus City	0.68	17	*e*Sg	Sg	15 34 13.0	+0.3
CTW	Cottonwood Mou	0.74	24	*e*Pg	Pg	15 34 04.2	-0.6
CPE	Camp Elliot	0.74	261	*e*Pg	Pg	15 34 04.2	-0.7
CPE				*e*Sg	Sg	15 34 14.3	-0.2
BACC	Bachelor Mtn.	0.91	312	*e*Pg	Pg	15 34 07.3	-0.8
BACC				*e*Sg	Sg	15 34 18.8	-1.1
DGR	Domenigoni Val	0.91	315	*e*Pg	Pg	15 34 07.7	-0.6
DGR				*e*Sg	Sg	15 34 19.6	-0.5
GLA	Glamis	1.18	87	*e*Pg	Pg	15 34 10.9	-2.6
SVD	Seven Oaks Dam	1.31	327	*e*Pg	Pn	15 34 15.4	-0.3
SVD				*e*Sn	Sb	15 34 32.5	-0.4
RSBC	Riverside Bore	1.33	317	*e*Pg	Pn	15 34 15.5	-0.3
RSBC				*e*Sn	Sb	15 34 32.1	-1.2
IRM	Iron Mountain	1.47	38	*e*Pn	Pn	15 34 16.3	-1.4
Y12C	Blythe	1.61	62	*e*Pn	Pn	15 34 17.4	-2.3
SSK	Sunset Peak	1.71	315	*e*Pn	Pn	15 34 21.6	+0.4
PEM	Pine Mountain	1.79	311	*e*Pn	Pn	15 34 23.0	+0.8
PEM				*e*Sn	Sb	15 34 46.6	0.0
GVRC	Garvey Reservo	1.89	304	*e*Pn	Pb	15 34 25.2	-0.4
MWC	Mount Wilson	1.95	309	*e*Pn	Pn	15 34 24.6	+0.1
HOLC	Holcomb Ridge	1.98	318	*e*Pn	Pn	15 34 25.9	+1.1
PASC	Pasadena Art C	2.00	306	*e*Pn	Pn	15 34 25.3	+0.3
JNH	Juniper Hills	2.03	316	*e*Pn	Pb	15 34 27.2	-0.9
DECC	Green Verdugo	2.15	306	*e*Pn	Pb	15 34 29.6	-0.5
CJV	Casa Juvan	2.20	314	*e*Pn	Pb	15 34 29.7	-1.3
LDFC	Landfair	2.27	24	*e*Pn	Pn	15 34 29.4	+0.6
GSC	Goldstone, Bar	2.34	348	*e*Pn	Pn	15 34 30.0	+0.2
SNCC	San Nicolas Is	2.77	276	*e*Pn	Pn	15 34 34.6	-1.0
ISA	Isabella, Lake	3.23	326	*e*Pn	Pn	15 34 43.5	+1.4
DAC	Darwin (Calif)	3.45	341	*e*Pn	Pn	15 34 45.7	+0.5
SHPR	Sheep Range	3.60	14	*e*Pn	Pn	15 34 46.3	-0.9
TPNV	Topopah Spring	3.94	360	*e*Pn	Pn	15 34 52.1	+0.3
PAGB	Antelope Grade	4.29	310	*e*Pn	Pn	15 34 54.9	-1.7
TUC	Tucson	4.65	97	*e*Pn	Pn	15 35 00.8	-0.7
LCMT	Little Creek M	4.69	31	*e*Pn	Pn	15 35 01.8	-0.4
WUAZ	Wupatki	4.74	57	*e*Pn	Pn	15 35 02.8	-0.1
KNB	Kanab	4.88	34	*e*Pn	Pn	15 35 04.9	0.0
MDPB	Devils Postpil	5.17	334	*e*Pn	Pn	15 35 09.7	+0.9
SZCU	Shurtz Canyon	5.25	28	*e*Pn	Pn	15 35 10.2	+0.3
R11A	Troy Canyon, C	5.36	5	*e*Pn	Pn	15 35 10.9	-0.4
NV11	Mina Array Sit	5.64	344	*e*Pn	Pn	15 35 13.5	-1.7
NV01	Mina Array Sit	5.67	343	*e*Pn	Pn	15 35 15.1	-0.5
PSUT	Pine Spring	5.85	19	*e*Pn	Pn	15 35 18.6	+0.5
RYN	Ryan	5.91	342	*e*Pg	Pg	15 35 40.4	-3.6
MTPU	Mount Pierson	6.01	32	*e*Pn	Pn	15 35 21.9	+1.4
MSU	Marysvale	6.41	30	*e*Pn	Pn	15 35 26.2	+0.3
PV13	Radium Mtn., P	7.93	47	*e*Pn	Pn	15 35 46.7	-0.1
PV14	Lion Creek, Pa	7.94	46	*e*Pn	Pn	15 35 49.0	+2.1

MEX 26 15:34:29.3±0.5, 16°.89N×99°.41W, h30km±14km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.43	267	*i* P	Pb	15 34 36.9	-1.8
ACX				*e*S	Sb	15 34 43.2	-1.9
ACP2	Acapulco	0.46	268	*i* P	Pb	15 34 37.2	-1.9
ACP2				*e*S	Sb	15 34 44.2	-1.6
CAIG	El Cayaco	0.84	281	*e*P	Pn	15 34 42.2	-2.9
CAIG				*e*S	Sb	15 34 52.9	-3.4
TLIG	Tlapa	1.05	50	*i* P	Pn	15 34 46.1	-1.9
TLIG				*e*S	Sn	15 34 58.1	-3.6
MEIG	Mezcala	1.05	349	*i* P	Pn	15 34 45.3	-2.7
MEIG

*NEIC **26** 15:52:53.3±0.4, 19°.23S×169°.74E, h10km, mb4.7/10, Error ellipse: s-maj=9.1km s-min=8.6km az=48.0*
*ISCJB **26** 15:52:55.3±0.4, 19°.41S±0°.06×169°.75E±0°.06, h33km, mb4.6/31, MS3.9/19, Error ellipse: s-maj=8.9km s-min=7.5km az=35.4*
*GCMT **26** 15:52:57.3±0.4, 19°.40S±0°.02×169°.85E±0°.04, h12km±1km, MW4.8/63, Moment Tensor Solution. s19,c23; s63,c81; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.07±.18; Mθθ=2.18±.14; Mϕϕ=-0.11±.10; Mrθ=-0.81±.33; Mrϕ=0.17±.08; Mθϕ=-0.32±.35; Best double couple: M=2.30500×10^16 NP1:ϕs=273.00000°, δ=35.00000°, λ=-78.00000°. NP2: ϕs=273.00000°, δ=35.00000°, λ=-78.00000°. Principal axes: T 2.3520, Plg11.0000°, Azm175.0000°; N -0.0980, Plg7.0000°, Azm83.0000°; P -2.2580, Plg77.0000°, Azm323.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 15:52:57.3±0.5, 19°.40S±0°.07×169°.78E±0°.08, h35km, n78, σ1§44/64, mb4.6/31, MS3.8/19, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.09**	**229**	Pn	**Pn**	**15 53 56.6**	**-0.9**
	13nm,0.3s,baz=62,slow=15,SNR=125						
DZM				Sn	**Sn**	**15 54 44.0**	**-0.3**
	24nm,0.3s,baz=80,slow=18,SNR=4.1						
DZM				LR	LR	15 55 22.7	
	comp=Z,2μm,18.1s,baz=60,slow=37						
DZM	**Mont Dzumac**	**4.09**	**229**	*e*Pn	**Pn**	**15 53 56.4**	**-1.1**
	52nm,0.3s						
DZM				*e*Sn	**Sn**	**15 54 44.7**	**+0.4**
	56nm,0.3s						
DZM				*e*LR	LR	15 54 53.8	
	2μm,24.9s						
HNR	**Honiara**	**13.74**	**315**	Pn	**Pn**	**15 56 10.4**	**+0.7**
	4.6nm,0.3s,baz=206,slow=16,SNR=3.2						
HNR				LR	LR	16 01 02.3	
	comp=Z,445nm,19.7s,baz=180,slow=36						
HNR	**Honiara**	**13.74**	**315**	*e*Pn	Pn	15 56 04.8	-4.8
RAO	**Raoul Island**	**14.88**	**134**	LR	LR	16 00 47.9	
	comp=Z,599nm,19.1s,baz=282,slow=32						
RAO	**Raoul Island**	**14.88**	**134**	*e*Pn	**Pn**	**15 56 26.5**	**+1.3**
	518nm,1.5s						
ARMA	**Armidale**	**19.75**	**233**	*e*P	**Pn**	**15 57 25.5**	**-0.5**
	39nm,1.4s						
URZ	**Urewera**	**19.84**	**163**	P	**P**	**15 57 24.8**	**-0.3**
	baz=329,slow=7.9,SNR=2.1						
URZ				LR	LR	16 03 28.6	
	comp=Z,949nm,19.5s,baz=352,slow=32						
CTA	**Charters Tower**	**22.15**	**264**	P	**P**	**15 57 53.0**	**+2.8**
	5.3nm,0.8s,baz=46,slow=12,SNR=3.9						
PMG	**Port Moresby**	**24.02**	**291**	LR	LR	16 05 58.2	
	comp=Z,112nm,19.4s,baz=124,slow=33						
PMG	**Port Moresby**	**24.02**	**291**	P	**P**	**15 58 05.7**	**-3.5**
CAN	**Canberra**	**24.25**	**225**	*e*P	**P**	**15 58 12.3**	**+1.1**
	21nm,1.1s						
RPZ	**Rata Peaks**	**24.26**	**178**	LR	LR	16 06 46.2	
	comp=Z,699nm,19.3s,baz=328,slow=34						
STKA	**Stephens Creek**	**28.19**	**238**	P	**P**	**15 58 47.4**	**+0.7**
	1.3nm,0.6s,baz=85,slow=15,SNR=2.4						
STKA				LR	LR	16 09 31.8	
	comp=Z,230nm,19.1s,baz=52,slow=35						
RAR	**Rarotonga**	**28.60**	**99**	LR	LR	16 07 41.3	
	comp=Z,64nm,20.6s,baz=269,slow=31						
WB2	**Warramunga Arr**	**33.32**	**263**	*e*P	**P**	**15 59 31.4**	**-0.8**
WRAB	**Tennant Creek**	**33.33**	**263**	*e*P	**P**	**15 59 31.3**	**-0.9**
	10.0nm,1.3s						
WRA	**Warramunga Arr**	**33.34**	**263**	P	**P**	**15 59 31.6**	**-0.7**
	2.5nm,0.6s,baz=98,slow=8.4,SNR=22						
WRA				PcP	**PcP**	**16 02 13.6**	**-0.2**
	0.8nm,1.0s,baz=90,slow=2.5,SNR=3.6						
WRA				LR	LR	16 12 09.2	
	comp=Z,102nm,18.7s,baz=115,slow=35						
AS01	**Alice Springs**	**33.54**	**256**	*e*P	**P**	**15 59 33.5**	**-0.5**
AS31	**Alice Springs**	**33.58**	**256**	*e*P	**P**	**15 59 34.2**	**-0.2**
	4.4nm,0.6s						
ASAR	**Alice Springs**	**33.58**	**256**	P	**P**	**15 59 34.0**	**-0.3**
	9.4nm,0.6s,baz=84,slow=8.8,SNR=168						
ASAR				LR	LR	16 12 48.9	
	comp=Z,192nm,18.9s,baz=102,slow=36						
MTN	**Manton Dam**	**37.63**	**274**	*e*P	**P**	**16 00 08.9**	**-0.3**
	13nm,0.8s						
TBI	**Tubuai**	**38.08**	**103**	*e*LQ	LQ	16 08 50.8	
	298nm,33.2s						
TBI				*e*LR	LR	16 10 26.2	
	253nm,35.2s						
PPT2	**Papeete2**	**38.53**	**94**	*e*LR	LR	16 10 42.8	
	193nm,26.2s						
PPT	**Papeete**	**38.53**	**94**	LR	LR	16 15 55.0	
	comp=Z,32nm,18.0s,baz=232,slow=36						
GUMO	**Guam**	**40.95**	**321**	LR	LR	16 15 44.8	
	comp=Z,256nm,20.1s,baz=125,slow=34						
FITZ	**Fitzroy Crossi**	**41.73**	**264**	P	**P**	**16 00 43.6**	**+0.3**
	5.4nm,0.7s,baz=106,slow=7.0,SNR=25						
FITZ	**Fitzroy Crossi**	**41.73**	**264**	*e*P	**P**	**16 00 43.3**	**+0.1**
	15nm,1.1s						
SIJI	**Sorong**	**41.97**	**291**	P	**P**	**16 00 45.3**	**+0.1**
	5.0nm,0.9s,baz=107,slow=12,SNR=4.2						
MBWA	**Marble Bar**	**46.82**	**259**	*e*P	**P**	**16 01 24.1**	**+0.1**
	14nm,0.9s						
TAOE	**Nuku Hiva Isla**	**49.52**	**85**	*e*LR	LR	16 15 46.5	
	58nm,26.4s						
VNDA	**Vanda**	**58.28**	**182**	P	**P**	**16 02 47.9**	**-0.1**
	1.3nm,1.0s,baz=360,slow=8.3,SNR=5.8						
VNDA				LR	LR	16 25 21.5	
	comp=Z,149nm,18.1s,baz=1.5,slow=34						
SBA	**Scott Base**	**58.51**	**181**	*e*P	**P**	**16 02 51.6**	**+2.1**
	20nm,1.3s						
LEM	**Lembang**	**61.53**	**273**	P	**P**	**16 03 12.2**	**+0.6**
	17nm,0.6s,baz=5.8,slow=5.5,SNR=6.1						
MJAR	**Matsushiro Arr**	**63.13**	**332**	LR	LR	16 31 54.9	
	comp=Z,31nm,18.6s,baz=115,slow=37						
KSRS	**Korea Array**	**68.93**	**325**	LR	LR	16 32 10.6	
	comp=Z,28nm,19.8s,baz=130,slow=34						
QSPA	**South Pole Qui**	**70.65**	**180**	*e*P	**P**	**16 04 10.7**	**+1.5**
	9.0nm,1.0s						
NJ2	**Nanjing**	**70.68**	**316**	*e*P	**P**	**16 04 08.0**	**-1.7**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**72.12**	**332**	LR	LR	16 31 52.4	
	comp=Z,71nm,21.9s,baz=124,slow=32						
PETK	**Petropavlovsk-**	**72.96**	**352**	P	**P**	**16 04 23.8**	**+0.8**
	4.2nm,0.9s,baz=138,slow=6.9,SNR=4.4						
PETK				LR	LR	16 31 25.4	
	comp=Z,163nm,20.1s,baz=146,slow=32						
CN2	**Changchun**	**74.86**	**328**	*e*P	**P**	**16 04 33.8**	**-0.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MAW	**Mawson**	**78.47**	**202**	LR	LR	16 37 20.2	
	comp=Z,129nm,18.2s,baz=212,slow=34						
KMI	**Kunming**	**78.79**	**302**	P	**P**	**16 04 57.0**	**-0.1**
KMI				pmax	pmax		
	comp=Z,18nm,1.0s						
CM01	**Chiang Mai Arr**	**79.00**	**294**	*e*P	**P**	**16 04 58.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**79.03**	**294**	P	**P**	**16 04 59.2**	**+0.9**
	1.1nm,0.8s,baz=125,slow=4.4,SNR=9.7						
CHTO	**Chiang Mai**	**79.18**	**294**	P	**P**	**16 05 01.9**	**+2.8**
	15nm,1.4s						
HHC	**Hu-ho-hao-te**	**80.68**	**319**	*e*P	**P**	**16 05 06.5**	**-0.4**
HHC				pmax	pmax		
	comp=Z,20nm,1.2s						
LZH	**Lanzhou**	**83.22**	**312**	*e*P	**P**	**16 05 19.5**	**-0.9**
LZH				pP	PcP	16 05 24.8	-0.1
LZH				sP	pP	16 05 28.5	-3.0
LZH				*e*PP	**PP**	**16 08 36.5**	**+4.1**
LZH				pmax	pmax		
	comp=Z,26nm,1.1s						
LZH				pmax	pmax		
	comp=Z,110nm,5.4s						
BILL	**Bilibino**	**87.23**	**359**	*e*P	**P**	**16 05 40.0**	**+0.5**
	31nm,1.5s						
ULN	**Ulaanbaatar**	**87.30**	**323**	*e*P	**P**	**16 05 39.4**	**-1.1**
	21nm,1.7s						
GTA	**Gaotai**	**87.61**	**313**	*e*P	**P**	**16 05 43.5**	**+1.3**
GTA				pP	PcP	16 05 47.0	+2.9
GTA				sP	pP	16 05 49.5	-3.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.4s						
SONM	**Songino Array**	**87.66**	**323**	P	**P**	**16 05 42.6**	**+0.4**
	2.0nm,0.9s,baz=147,slow=4.6,SNR=7.0						
SONA1	**Songino Array**	**87.66**	**323**	*e*P	**P**	**16 05 40.2**	**-2.1**
NV01	**Mina Array Sit**	**88.53**	**48**	*e*P	**P**	**16 05 44.9**	**-1.9**
NVAR	**Mina Array Bea**	**88.53**	**48**	P	**P**	**16 05 47.3**	**+0.6**
	1.0nm,0.7s,baz=224,slow=8.1,SNR=7.1						
SNAA	**Sanae**	**89.02**	**182**	P	**P**	**16 05 43.6**	**-4.8**
SNAA	**Sanae**	**89.02**	**182**	P	**P**	**16 05 47.3**	**-1.0**
	1.0nm,0.8s,baz=197,slow=16,SNR=3.2						
VNA3	**Neumayer Olymp**	**89.59**	**180**	P	**P**	**16 05 48.9**	**-2.1**
VNA2	**Neumayer--Watz**	**89.89**	**181**	P	**P**	**16 05 50.3**	**-2.0**
	baz=184,slow=4.1						
VNA1	**Neumayer--Stat**	**90.18**	**181**	P	**P**	**16 05 50.4**	**-3.3**
ILAR	**Eielson Array**	**90.24**	**17**	P	**P**	**16 05 52.9**	**-0.9**
	0.8nm,0.8s,baz=233,slow=4.6,SNR=11						
ILAR				LR	LR	16 44 03.1	
	comp=Z,99nm,18.5s,baz=224,slow=34						
PDAR	**Pinedale Array**	**96.36**	**47**	LR	LR	16 49 38.2	
	comp=Z,30nm,18.3s,baz=306,slow=35						
TXAR	**Lajitas Array**	**96.40**	**61**	LR	LR	16 41 26.0	
	comp=Z,33nm,20.5s,baz=0.0,slow=30						
WMQ	**Urumqi**	**97.69**	**314**	*e*P	**P**	**16 06 28.5**	**-0.1**
WMQ				pP	Pdif	16 06 33.3	+4.6
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WMQ				LR	LR		
	comp=E,340nm,19.9s						
WMQ				LR	LR		
	comp=Z,440nm,18.3s						
PLCA	**Paso Flores**	**98.07**	**138**	LR	LR	16 40 57.4	
	comp=Z,42nm,18.8s,baz=266,slow=29						
CONA	**Conrad Observa**	**144.54**	**329**	*e*pPKPdf	**PKPdf**	**16 12 31.4**	**+1.2**
	9.7nm,1.4s						
DIVS	**Divibare**	**144.75**	**321**	*e*PKPdf	**PKPab**	**16 12 29.5**	**0.0**
GERES	**GERESS Array B**	**144.87**	**332**	PKP	PKPbc	16 12 29.9	+0.1
	0.8nm,0.7s,baz=20,slow=4.3,SNR=7.6						
GEA0	**GERESS Array S**	**144.88**	**332**	*e*PKPdf	**PKPab**	**16 12 29.6**	**-0.3**
ARSA	**Arzberg**	**145.18**	**329**	*i* pPKPbc	**PKPdf**	**16 12 31.7**	**+0.5**
	5.0nm,1.1s						
LIT	**Litokhoron**	**145.19**	**313**	*e*PKPbc	**PKPbc**	**16 12 29.9**	**-1.2**
MOA	**Molln**	**145.35**	**331**	*e*pPKPbc	**PKPab**	**16 12 32.2**	**+0.7**
	5.7nm,1.1s						
FNA	**Florina**	**145.62**	**315**	*e*PKPbc	**PKPdf**	**16 12 31.1**	**-1.1**
SOKA	**Soboth**	**145.82**	**328**	*e*pPKPbc	**PKPab**	**16 12 33.3**	**-0.1**
	8.5nm,1.7s						
KBA	**Koelnbreinsper**	**146.34**	**330**	*e*pPKPdf	**PKPab**	**16 12 35.7**	**+0.2**
	8.9nm,1.3s						
ABTA	**Abfaltersbach**	**146.97**	**331**	*i* P	**PKPab**	**16 12 37.5**	**-0.3**
	2.8nm,0.6s						
DAVOX	**Davos/Dischmat**	**148.11**	**333**	PKPbc	**PKPbc**	**16 12 40.0**	**+0.4**
	3.3nm,0.6s,baz=190,slow=4.5,SNR=6.6						
TIP	**Timpagrande**	**149.49**	**316**	*e*PKPbc	**PKPbc**	**16 12 43.0**	**-0.2**

*SOME **26** 16:32:29.8, 40°.77N×77°.60E, h15km*
*KRNET **26** 16:32:30.7±0.1, 40°.83N×77°.52E, h9km, mb2.7*
*NNC **26** 16:32:32.2±3.2, 40°.93N×77°.66E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=25.7km s-min=16.7km az=173.0*

ISC 26 16:32:29.0±2.1, 40°.80N±0°.08×77°.53E±0°.03, h4km±13km, n36, σ1§07/61, 22C-13D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**1.32**	**299**	⇓*i*P	**Pg**	**16 32 55.1**	**+0.8**
NRN	baz=98			⇑*i*S	**Sn**	**16 33 13.5**	**+0.8**
	baz=98						
KDJ	**Kajisay**	**1.36**	**349**	⇑*i*P	**Pg**	**16 32 55.4**	**+0.4**
KDJ	baz=50			⇑*i*S	**Sg**	**16 33 14.3**	**+1.7**
	baz=50						
ULHL	**Ulahol**	**1.74**	**327**	P	**Pg**	**16 33 03.2**	**+0.8**
	SNR=18						
ULHL	**Ulahol**	**1.74**	**327**	⇑*i*P	**Pg**	**16 33 02.7**	**+0.3**
	baz=26						
ULHL				⇑*i*S	**Sg**	**16 33 25.5**	**+0.6**
	baz=26						
BOOM	**Boomskoye usch**	**2.07**	**325**	⇓*i*P	**Pg**	**16 33 07.8**	**-0.8**
	baz=25						
BOOM				⇓*i*S	**Sg**	**16 33 34.5**	**-1.0**
	baz=25						
KZA	**Kyzart**	**2.14**	**307**	P	**Pg**	**16 33 10.6**	**+0.6**
	SNR=12						
KZA	**Kyzart**	**2.14**	**307**	⇑*i*P	**Pg**	**16 33 09.4**	**-0.6**
	baz=7.0						
KZA				⇑*i*S	**Sg**	**16 33 37.8**	**0.0**
	baz=7.0						
TNSS	**Tian-Shan**	**2.28**	**349**	*e*P	**Pg**	**16 33 12.7**	**+0.1**
	10nm,0.4s						
TNSS				*e*S	**Sg**	**16 33 43.4**	**+1.1**
	23nm,0.4s						
IZV	**Izvestkoviy**	**2.34**	**343**	*e*P	**Pg**	**16 33 13.4**	**-0.4**
	4.7nm,0.1s						
IZV				*e*S	**Sg**	**16 33 45.0**	**+0.8**
	34nm,0.5s						
SATY	**Saty**	**2.35**	**16**	*e*P	**Pg**	**16 33 14.1**	**+0.1**
	6.1nm,0.3s						
SATY				*e*S	**Sg**	**16 33 45.4**	**+0.9**
	11nm,0.4s						
MDOK	**Medeo**	**2.39**	**351**	Pg	**Pb**	**16 33 12.2**	**-0.4**
	4.1nm,0.6s						
MDOK				⇑Lg	Lg	16 33 47.2	
	11nm,0.7s						
MDOK	**Medeo**	**2.39**	**351**	*e*P	**Pg**	**16 33 14.6**	**-0.2**
	5.0nm,0.4s						
MDOK				*e*S	**Sg**	**16 33 46.4**	**+0.6**
	8.8nm,0.6s						
KNDC	**Almaty**	**2.45**	**350**	⇑Pg	**Pb**	**16 33 12.9**	**-0.8**
	4.7nm,0.3s						
KNDC				⇑Lg	Lg	16 33 49.6	
	39nm,0.5s						
KOTS	**Kotyrbulak**	**2.46**	**353**	*e*P	**Pg**	**16 33 16.2**	**+0.2**
	2.9nm,0.1s						
KOTS				*e*S	**Sg**	**16 33 49.6**	**+1.8**
	44nm,0.3s						
ZHN	**Zhinishke**	**2.46**	**16**	*e*P	**Pg**	**16 33 15.2**	**-1.0**
	5.1nm,0.3s						
ZHN				*e*S	**Sg**	**16 33 47.3**	**-0.7**
	9.6nm,0.3s						
KST	**Kastek**	**2.53**	**333**	⇓*i*P	**Pg**	**16 33 17.7**	**+0.2**
	4.6nm,0.3s						
KST				⇓*i*S	**Sg**	**16 33 52.3**	**+2.0**
	11nm,0.6s						
TKM2	**Tokmak 2**	**2.57**	**326**	⇓Pg	**Pg**	**16 33 17.9**	**-0.3**
	2.2nm,0.7s						
TKM2				⇓Lg	Lg	16 33 52.6	
	2.3nm,0.5s						
TKM2	**Tokmak 2**	**2.57**	**326**	P	**Pg**	**16 33 18.7**	**+0.5**
	SNR=7.0						
TKM2	**Tokmak 2**	**2.57**	**326**	⇓*i*P	**Pb**	**16 33 15.3**	**-0.4**
	baz=26						
TKM2				⇓*i*S	**Sb**	**16 33 47.7**	**0.0**
	baz=26						
UZB	**Uzynbulak**	**2.60**	**25**	*e*P	**Pb**	**16 33 16.9**	**+0.8**
	3.3nm,0.3s						
UZB				*e*S	**Sg**	**16 33 51.2**	**-1.2**
	2.6nm,0.5s						
ARLS	**Aral**	**2.64**	**295**	⇓*i*P	**Pb**	**16 33 16.4**	**-0.5**
	baz=95						
ARLS				⇓*i*S	**Sb**	**16 33 48.4**	**-1.3**
	baz=95						
KBK	**Karagaybulak**	**2.68**	**315**	P	**Pg**	**16 33 20.2**	**-0.1**
	SNR=6.0						
KBK	**Karagaybulak**	**2.68**	**315**	⇓*i*P	**Pb**	**16 33 16.9**	**-0.7**
	baz=14						
KBK				⇓*i*S	**Sb**	**16 33 50.5**	**-0.5**
	baz=14						
SHLS	**Shalkode**	**2.76**	**31**	*e*P	**Pg**	**16 33 22.6**	**+0.7**
	5.5nm,0.2s						
SHLS				*e*S	**Sg**	**16 34 00.3**	**+2.6**
	11nm,0.4s						
DGS	**Degeres**	**2.77**	**332**	*e*P	**Pg**	**16 33 21.7**	**-0.4**
	5.2nm,0.5s						
DGS				*e*S	**Sg**	**16 33 58.6**	**+0.6**
	11nm,0.3s						
PDGK	**Podgornoye**	**2.92**	**29**	⇓Pn	**Pn**	**16 33 18.1**	**+1.8**
	0.7nm,0.4s						
PDGK				⇑Pg	**Pb**	**16 33 22.5**	**+0.8**
	3.1nm,0.5s						
PDGK				⇑Lg	Lg	16 34 01.5	
	8.9nm,0.7s						
PDGK	**Podgornoye**	**2.92**	**29**	⇑*i*P	**Pb**	**16 33 19.7**	**-1.9**
	baz=30						
PDGK				⇑*i*S	**Sb**	**16 33 55.9**	**-1.8**
	baz=30						
AAK	**Ala-Archa**	**2.92**	**310**	⇑Pn	**Pb**	**16 33 22.4**	**+0.7**
	1.8nm,0.5s						
AAK				⇑Lg	Lg	16 34 03.7	
	5.9nm,1.0s						
AAK	**Ala-Archa**	**2.92**	**310**	⇑*i*P	**Pb**	**16 33 20.1**	**-1.7**
	baz=10.0						
AAK				⇑*i*S	**Sb**	**16 33 56.0**	**-1.9**
	baz=10.0						
CHKK	**Chushkaly**	**3.08**	**353**	*e*P	**Pg**	**16 33 27.0**	**-1.0**
	3.2nm,0.5s						
CHKK				*e*S	**Sg**	**16 34 08.0**	**+0.1**
	49nm,0.2s						
AML	**Almayashu**	**3.18**	**296**	P	**Pg**	**16 33 30.2**	**+0.4**
	SNR=6.4						
KUU	**Kurty**	**3.22**	**344**	*e*P	**Pg**	**16 33 29.2**	**-1.4**
	1.7nm,0.8s						
KUU				⇑*i*S	**Sg**	**16 34 12.1**	**-0.2**
	6.8nm,0.5s						
USP	**Ospenovka**	**3.34**	**319**	P	**Pg**	**16 33 32.1**	**-1.0**
	SNR=8.8						
MRKS	**Merke**	**3.76**	**303**	*e*P	**Pg**	**16 33 39.7**	**-1.4**
	3.1nm,0.5s						
MRKS				*e*S	**Sg**	**16 34 29.0**	**-0.8**
	3.1nm,1.0s						
DJR	**Jarkent**	**3.91**	**25**	*e*P	**Pg**	**16 33 41.5**	**-2.3**
	1.0nm,0.5s						
DJR				*e*S	**Sg**	**16 34 33.1**	**-1.2**
	1.9nm,0.3s						
MNAS	**Manas**	**4.13**	**296**	⇑Pg	**Pg**	**16 33 47.7**	**-0.4**
	3.7nm,1.3s						
MNAS				⇑Lg	Lg	16 34 42.2	
	2.0nm,0.7s						

*ISCJB **26** 16:33:21.0±0.3, 7°.51S±0°.05×125°.79E±0°.06, h33km, mb4.1/18, MS3.5/1, Error ellipse: s-maj=9.3km s-min=5.0km az=148.3*
*NEIC **26** 16:33:24.6±1.6, 7°.44S×125°.79E, h46km±16km, mb4.7/2, Error ellipse: s-maj=15.0km s-min=10.4km az=52.0*
*IDC **26** 16:33:25.6±2.0, 7°.33S×125°.68E, h48km±20km, mb3.8/16, mb1 4.0/18, mb1mx3.8/43, mbtmp4.1/18, ML3.8/2, MS3.1/6, Ms1 3.1/6, ms1mx2.8/36, Error ellipse: s-maj=21.6km s-min=14.0km az=105.0*
*DJA **26** 16:33:25.9±0.7, 7°.S±4°×12°.5E±°, h10km, M4.0/6, mb4.3/2, MLv3.9/6*

ISC 26 16:33:23.5±0.5, 7°.52S±0°.05×125°.80E±0°.07, h35km, n52, σ1§98/53, mb4.0/18, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**2.69**	**214**	P	Pn	16 34 10.2	+5.8
BATI	**Baumata**	**3.40**	**218**	P	**Pn**	**16 34 17.3**	**+3.1**
	18nm,0.3s,baz=106,slow=1.4,SNR=36						
BATI				S	**Sn**	**16 34 58.0**	**+4.7**
	14nm,0.3s,baz=25,slow=23,SNR=6.4						
BATI				LR	LR	16 35 51.8	
	comp=Z,202nm,19.4s,baz=52,slow=42						
BATI	**Baumata**	**3.40**	**218**	P	**Pn**	**16 34 17.9**	**+3.7**
MMRI	**Maumere**	**3.70**	**252**	P	**Pn**	**16 34 18.2**	**0.0**
BBSI	**Bau Bau**	**3.79**	**302**	P	**Pn**	**16 34 17.8**	**-1.7**
EDFI	**Ende, Flores**	**4.25**	**253**	P	**Pn**	**16 34 26.0**	**+0.1**
SANI	**Sanana**	**5.44**	**2**	P	**Pn**	**16 34 45.8**	**+3.6**
	9.6nm,0.8s,0.1nm						
MTN	**Manton Dam**	**7.45**	**136**	*e*Pn	**Pn**	**16 35 12.4**	**+2.6**
SIJI	**Sorong**	**8.56**	**40**	P	**Pn**	**16 35 26.1**	**+1.0**
	0.6nm,0.3s,baz=275,slow=7.5,SNR=9.1						
FITZ	**Fitzroy Crossi**	**10.52**	**181**	P	**Pn**	**16 35 51.6**	**-0.3**
	1.6nm,0.3s,baz=15,slow=9.9,SNR=46						
FITZ				S	**Sn**	**16 37 44.2**	**-4.2**
	1.6nm,0.3s,baz=38,slow=8.5,SNR=6.8						
FITZ				LR	LR	16 39 54.7	
	comp=Z,104nm,20.3s,baz=8.5,slow=36						
FITZ	**Fitzroy Crossi**	**10.52**	**181**	*e*Pn	**Pn**	**16 35 50.9**	**-0.9**
FITZ				S	**Sn**	**16 37 44.2**	**-4.2**
DAV	**Davao City (W)**	**14.50**	**359**	LR	LR	16 42 13.8	
	comp=Z,31nm,21.1s,baz=346,slow=37						
WRAB	**Tennant Creek**	**14.87**	**147**	*e*Pn	**Pn**	**16 36 48.9**	**-2.4**
WRA	**Warramunga Arr**	**14.87**	**147**	P	**Pn**	**16 36 48.3**	**-3.0**
	0.6nm,0.3s,baz=323,slow=13,SNR=39						
WRA				S	Sn	16 39 25.9	-9.0
	0.8nm,0.3s,baz=332,slow=21,SNR=8.7						
WB2	**Warramunga Arr**	**14.87**	**147**	*e*Pn	**Pn**	**16 36 48.9**	**-2.4**
AS31	**Alice Springs**	**17.84**	**155**	*e*Pn	**Pn**	**16 37 28.7**	**-0.4**
ASAR	**Alice Springs**	**17.84**	**155**	P	**Pn**	**16 37 28.6**	**-0.5**
	0.4nm,0.3s,baz=324,slow=9.1,SNR=37						
ASAR				S	**Sn**	**16 40 41.7**	**-5.4**
	0.3nm,0.3s,baz=312,slow=18,SNR=8.3						
ASAR				LR	LR	16 44 51.6	
	comp=Z,104nm,18.6s,baz=323,slow=38						
AS01	**Alice Springs**	**17.86**	**155**	*e*P	**Pn**	**16 37 29.2**	**-0.2**
LEM	**Lembang**	**18.05**	**271**	LR	LR	16 45 59.5	
	comp=Z,61nm,18.2s,baz=136,slow=42						
COEN	**Coen**	**18.22**	**112**	*e*Pn	**Pn**	**16 37 36.1**	**+2.3**
	36nm,1.5s						
STKA	**Stephens Creek**	**28.35**	**151**	P	**P**	**16 39 16.4**	**+2.0**
	1.6nm,0.5s,baz=320,slow=14,SNR=3.2						
CMAR	**Chiang Mai Arr**	**36.99**	**315**	P	**P**	**16 40 28.7**	**-1.2**
	2.3nm,0.7s,baz=144,slow=6.9,SNR=21						
CMMT	**Chiang Mai**	**37.23**	**315**	P	**P**	**16 40 33.5**	**+1.5**
	6.8nm,1.4s						
CMMT	**Chiang Mai**	**37.23**	**315**	P	**P**	**16 40 33.5**	**+1.5**
KSAR	**Wonju Array Be**	**44.77**	**2**	P	**P**	**16 41 33.0**	**-0.8**
KSRS	**Korea Array**	**44.78**	**2**	P	**P**	**16 41 33.0**	**-0.9**
	0.9nm,0.7s,baz=173,slow=8.0,SNR=3.1						
MJAR	**Matsushiro Arr**	**45.35**	**14**	P	**P**	**16 41 38.5**	**+0.1**
	2.9nm,0.9s,baz=183,slow=9.8,SNR=4.1						
RAMN	**Ramite**	**51.15**	**314**	*e*P	**P**	**16 42 23.2**	**-0.5**
	22nm,0.7s						
JIRN	**Jiri**	**51.87**	**314**	*e*P	**P**	**16 42 28.2**	**-1.0**
	9.4nm,0.6s						
GUN	**Gumba**	**52.24**	**314**	*e*P	**P**	**16 42 31.0**

comp=Z,0.7nm,0.5s,baz=91,slow=7.5,SNR=11
BVAR Borovoye Array 63.63 320 P P 16 47 00.9 +0.2
comp=Z,0.6nm,0.4s,baz=96,slow=8.0,SNR=6.1
FINES FINESS Array B 83.81 335 P P 16 48 58.0 -0.1
comp=Z,2.3nm,1.0s,baz=64,slow=3.2,SNR=5.2

*IDC **26** 16:36:48.9±0.7, 32.°53N×88.°50E, h0km, mb3.6/13, mb1 3.8/17, mb1mx3.7/52, mbtmp3.7/17, ML3.3/4, MS3.4/13, Ms1 3.4/13, ms1mx3.2/39, Error ellipse: s-maj=26.1km s-min=15.2km az=49.0*
*ISCJB **26** 16:36:49.7±0.2, 32.°69N±0.°03×88.°34E±0.°04, h10km, mb3.8/16, MS3.4/11, Error ellipse: s-maj=4.6km s-min=3.8km az=177.8*
*BJI **26** 16:36:51.0, 32.°71N×88.°41E, h6km, mb4.3/19, mB4.4/4, Ms4.1/19, Ms7 3.9/18*
*NEIC **26** 16:36:54.1±0.5, 32.°69N×88.°36E, h35km, mb4.0/7, Error ellipse: s-maj=12.4km s-min=6.7km az=50.0*
*NDI **26** 16:36:55.0±2.4, 32.°55N×88.°32E, h24km±25km, ML3.1*
ISC 26 16:36:50.8±0.5, 32.°59N±0.°05×88.°32E±0.°04, h10km, n82, σ2s73/74, mb3.9/16, MS3.3/11, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**3.77**	**139**	Pn	**Pn**	**16 37 53.5**	**+4.1**
LSA				Sn	**Sb**	**16 38 42.5**	**-1.1**
LSA				LR	LR		
	comp=N,1μm,10.2s						
LSA				LR	LR		
	comp=E,800nm,9.5s						
LSA				LR	LR		
	comp=Z,2μm,8.1s						
LSA	**Lhasa**	**3.77**	**139**	*e*Pn	**Pn**	**16 37 52.1**	**+2.7**
GUN	**Gumba**	**5.12**	**205**	*e*P	**Pn**	**16 38 10.6**	**+2.8**
JIRN	**Jiri**	**5.25**	**201**	*e*P	**Pn**	**16 38 13.2**	**+3.6**
	88nm,0.6s						
GTK	**Tadong**	**5.26**	**177**	*e*P	**Pn**	**16 38 12.8**	**+3.2**
GTK				*e*S	**Sn**	**16 39 09.0**	**-1.4**
KKN	**Kakani**	**5.46**	**210**	*e*P	**Pn**	**16 38 15.4**	**+3.0**
PKIN	**Phulchoki**	**5.60**	**208**	*e*P	**Pn**	**16 38 16.6**	**+2.2**
PKI	**Pulchoki**	**5.60**	**207**	*e*P	**Pn**	**16 38 16.5**	**+2.0**
DMN	**Daman**	**5.69**	**210**	*e*P	**Pn**	**16 38 18.2**	**+2.6**
DANN	**Dangsing**	**5.77**	**224**	*e*P	**Pn**	**16 38 19.2**	**+2.4**
RAMN	**Ramite**	**5.81**	**195**	*e*P	**Pn**	**16 38 20.4**	**+3.1**
	80nm,0.5s						
TAWA	**Tawang**	**5.85**	**147**	*e*P	**Pn**	**16 38 19.1**	**+1.2**
KOLN	**Koldanda**	**6.30**	**222**	*e*P	**Pn**	**16 38 26.2**	**+2.2**
	12nm,0.4s						
PYUN	**Piuthan**	**6.42**	**227**	*e*P	**Pn**	**16 38 26.6**	**+1.0**
	18nm,0.4s						
ZIRO	**ZIRO**	**6.96**	**135**	*e*P	**Pn**	**16 38 34.5**	**+1.4**
TEZP	**TEZPUR**	**7.12**	**146**	*e*P	**Pn**	**16 38 36.4**	**+1.4**
SHL	**Shillong**	**7.66**	**155**	*e*Pn	**Pn**	**16 38 42.9**	**+0.2**
SHL	**Shillong**	**7.66**	**155**	*e*P	**Pn**	**16 38 43.6**	**+0.9**
MOKO	**MOKOCHONG**	**8.26**	**138**	*e*P	**Pn**	**16 38 52.6**	**+1.8**
MOKO				*e*S	**Sn**	**16 40 17.8**	**-6.5**
MOKO				IAML		16 41 58.2	
	comp=E,9.9nm,0.1s						
MOKO				IAML		16 41 58.4	
	comp=N,7.2nm,0.3s						
KOHI	**KOHIMA**	**8.51**	**142**	*e*P	**Pn**	**16 38 58.6**	**+4.3**
BOK	**Bokaro**	**9.02**	**194**	*e*P	**Pn**	**16 39 03.2**	**+2.1**
BOK				*e*S	Sn	16 40 33.0	-10
BOK				IAML		16 42 09.1	
	comp=N,11nm,0.1s						
BOK				IAML		16 42 09.3	
	comp=E,7.2nm,0.2s						
DDI	**Dehra Dun**	**9.05**	**258**	*e*P	**Pn**	**16 39 03.1**	**+1.5**
SMLA	**Simla**	**9.59**	**264**	*e*P	**Pn**	**16 39 11.1**	**+2.1**
SMLA				*e*S	**Sn**	**16 40 50.8**	**-6.0**
SMLA				IAML		16 41 06.6	
	comp=N,6.8nm,0.5s						
SMLA				IAML		16 41 07.1	
	comp=E,5.5nm,0.5s						
DHRM	**DHARAMSHALA**	**10.16**	**271**	*e*P	**Pn**	**16 39 18.0**	**+1.0**
DHRM				*e*S	Sn	16 41 03.9	-7.3
DHRM				IAML		16 42 15.3	
	comp=E,7.1nm,0.4s						
DHRM				IAML		16 42 17.9	
	comp=N,4.7nm,0.3s						
BRDH	**Bariadhala**	**10.30**	**163**	LR	LR	16 43 42.3	
	comp=N,236nm,18.1s,baz=12,slow=40						
SAIH	**SAIHA**	**10.88**	**156**	*e*P	**Pn**	**16 39 27.4**	**+0.6**
WMQ	**Urumqi**	**11.23**	**358**	*e*P	Pn	16 39 23.5	-7.9
WMQ	**Urumqi**	**11.23**	**358**	*e*P	Pn	16 39 34.8	+3.4
WMQ				LR	LR		
	comp=N,550nm,6.5s						
WMQ				LR	LR		
	comp=N,950nm,10.5s						
GTA	**Gaotai**	**11.53**	**51**	*e*P	**Pn**	**16 39 36.5**	**+0.9**
GTA				pP		16 39 44.0	
GTA				sP		16 39 47.5	
GTA				S	**Sn**	**16 41 47.0**	**+2.5**
GTA				pmax	pmax		
	comp=N,22nm,4.4s						
GTA				LR	LR		
	comp=N,600nm,15.2s						
GTA				LR	LR		
	comp=N,350nm,14.0s						
GTA				LR	LR		
	comp=N,280nm,11.6s						
NIL	**Nilore**	**12.68**	**279**	*e*Pn	**Pn**	**16 39 49.1**	**-2.1**
CD2	**Chengdu**	**13.25**	**93**	*e*P	Pn	16 39 51.0	-8.1
CD2				S	**Sn**	**16 42 19.5**	**-7.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=N,500nm,7.6s						
CD2				LR	LR		
	comp=E,670nm,8.3s						
CD2				LR	LR		
	comp=Z,710nm,7.9s						
LZH	**Lanzhou**	**13.30**	**71**	*e*P	P	16 40 04.0	-5.6
LZH				*e*PP	**PnPn**	**16 40 15.0**	**+7.4**
LZH				pmax	pmax		
	comp=Z,28nm,1.2s						
LZH				LR	LR		
	comp=Z,1μm,13.6s						
LZH				LR	LR		
	comp=Z,1μm,10.8s						
LZH				LR	LR		
	comp=Z,910nm,12.5s						
AAK	**Ala-Archa**	**14.83**	**316**	Pn	**P**	**16 40 23.5**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=128,slow=15,SNR=3.5						
AAK	**Ala-Archa**	**14.83**	**316**	*e*Pn	**Pn**	**16 40 21.4**	**+0.7**
MK01	**Makanchi Array**	**14.89**	**344**	*e*Pn	**Pn**	**16 40 19.3**	**-2.1**
MK31	**Makanchi Array**	**14.92**	**344**	*e*Pn	**Pn**	**16 40 19.8**	**-2.0**
MKAR	**Makanchi Array**	**14.92**	**344**	Pn	**Pn**	**16 40 19.7**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=160,slow=13,SNR=8.6						
MKAR				LR	LR	16 47 15.7	
	comp=Z,200nm,18.8s,baz=149,slow=42						
MKAR	**Makanchi Array**	**14.92**	**344**	*e*Pn	**Pn**	**16 40 19.6**	**-2.2**
KBL	**Kabul**	**16.18**	**282**	*e*Pn	**Pn**	**16 40 38.1**	**-0.4**
	comp=Z,9.9nm,1.1s						
CHTO	**Chiang Mai**	**16.71**	**143**	P	**P**	**16 40 49.6**	**+2.1**
	comp=Z,32nm,1.4s						
PAYA	**Payao**	**16.76**	**139**	P	**P**	**16 40 50.6**	**+2.6**
	comp=Z,5.0nm,0.9s,comp=Z,96nm						
CMAR	**Chiang Mai Arr**	**17.01**	**143**	Pn	**Pn**	**16 40 46.7**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=329,slow=12,SNR=4.0						
CMAR				LR	LR	16 47 08.7	
	comp=Z,36nm,21.9s,baz=6.0,slow=37						
KK31	**Karatay Array**	**17.51**	**312**	*e*Pn	**P**	**16 40 56.0**	**-0.3**
KKAR	**Karatay Array**	**17.51**	**312**	*e*Pn	**P**	**16 40 56.0**	**-0.3**
ENH	**Enshi**	**18.21**	**92**	*e*P	**P**	**16 41 03.8**	**-0.3**
	comp=Z,8.0nm,0.8s						
KURBB	**Kurchatov Array**	**19.42**	**341**	P	**P**	**16 41 16.7**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=156,slow=11,SNR=16						
KURK	**Kurchatov**	**19.48**	**341**	*e*P	**P**	**16 41 16.8**	**-0.9**
	comp=Z,7.2nm,1.3s						
PBKT	**Sadao Pong**	**19.64**	**141**	*e*P	**P**	**16 41 19.8**	**+0.2**
PBKT	**Sadao Pong**	**19.64**	**141**	P	**Pn**	**16 41 23.5**	**+2.5**
	comp=Z,9.5nm,1.7s						
UTHA	**Uthaitani**	**19.74**	**147**	P	**Pn**	**16 41 24.7**	**+2.4**
	comp=Z,5.1nm,0.9s						
HHC	**Hu-ho-hao-te**	**20.34**	**59**	*e*P	Pn	16 41 29.8	+0.5
HHC				S	**S**	**16 45 10.5**	**-4.8**
HHC				sS	pS	16 45 23.8	-1.6
HHC				SS	**SnSn**	**16 45 40.3**	**+7.3**
HHC				pmax	pmax		
	comp=Z,18nm,1.2s						
HHC				LR	LR		
	comp=Z,320nm,14.1s						
HHC				LR	LR		
	comp=Z,290nm,13.9s						
HHC				LR	LR		
	comp=Z,440nm,13.3s						
SONM	**Songino Array**	**20.48**	**37**	P	Pn	16 41 28.9	-2.1
	comp=Z,2.5nm,0.9s,baz=224,slow=13,SNR=7.6						
SONA1	**Songino Array**	**20.49**	**37**	*e*P	Pn	16 41 29.2	-1.9
CHAI	**Chaiyaphum**	**20.73**	**140**	P	Pn	16 41 39.0	+5.0
ULN	**Ulaanbaatar**	**20.83**	**37**	*e*P	**P**	**16 41 31.7**	**-1.0**
	comp=Z,7.2nm,0.9s						
ZAA0	**Zalesovo Array**	**21.50**	**354**	*e*P	**P**	**16 41 38.9**	**-0.7**
	comp=Z,10.0nm,1.3s						
ZALV	**Zalesovo Beam**	**21.50**	**354**	P	**P**	**16 41 39.5**	**0.0**
	comp=Z,3.1nm,0.9s,baz=172,slow=13,SNR=8.1						
ZALV	**Zalesovo Beam**	**21.50**	**354**	*e*P	**P**	**16 41 38.6**	**-0.9**
SRAK	**Srakaew**	**22.34**	**143**	P	**P**	**16 41 55.5**	**+6.6**
	comp=Z,24nm,0.9s						
BVAR	**Borovoye Array**	**24.17**	**333**	P	**P**	**16 42 07.4**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=160,slow=11,SNR=5.0						
BRVK	**Borovoye**	**24.23**	**333**	*e*P	**P**	**16 42 07.5**	**-0.1**
	comp=Z,16nm,1.8s						
GEYT	**Alibeck**	**25.17**	**291**	P	**P**	**16 42 18.2**	**+1.9**
	comp=Z,0.5nm,0.4s,baz=165,slow=6.2,SNR=3.9						
GEYT				LR	LR	16 54 01.6	
	comp=Z,91nm,18.8s,baz=15,slow=41						
PALK	**Pallekele**	**26.17**	**197**	LR	LR	16 52 41.8	
	comp=Z,70nm,18.7s,baz=302,slow=36						
ABKAR	**Akbulak array**	**26.92**	**317**	*e*P	**P**	**16 42 32.6**	**+0.6**
WSAR	**Wadi Sarin**	**27.76**	**258**	LR	LR	16 55 52.9	
	comp=Z,44nm,18.8s,baz=54,slow=41						
AKTO	**Aktyubinsk**	**28.57**	**318**	LR	LR	16 55 33.1	
	comp=Z,78nm,18.1s,baz=120,slow=39						
KSRS	**Korea Array**	**32.63**	**70**	LR	LR	16 56 42.7	
	comp=Z,34nm,20.1s,baz=273,slow=37						
USRK	**Ussuriysk Ar.**	**35.75**	**58**	LR	LR	16 59 44.6	
	comp=Z,53nm,21.5s,baz=244,slow=39						
MJAR	**Matsushiro Ar**	**40.91**	**70**	LR	LR	17 02 48.1	
	comp=Z,42nm,20.9s,baz=70,slow=38						
BRTR	**Keskin Array B**	**44.14**	**295**	P	**P**	**16 45 01.2**	**+1.5**
	comp=Z,1.1nm,1.1s,baz=125,slow=6.2,SNR=4.0						
BRTR				LR	LR	17 07 33.5	
	comp=Z,29nm,20.0s,baz=51,slow=42						
AKASG	**Malin Array Be**	**46.41**	**311**	P	**P**	**16 45 17.6**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=79,slow=7.4,SNR=4.8						
FINES	**FINESS Array B**	**48.77**	**326**	P	**P**	**16 45 36.3**	**+0.7**
	comp=Z,3.0nm,1.0s,baz=70,slow=8.1,SNR=2.5						
MLR	**Muntele Rosu**	**48.98**	**304**	*e*P	**P**	**16 45 37.5**	**-0.1**
	comp=Z,5.5nm,0.9s						
NOA	**NORSAR Array B**	**55.95**	**325**	P	**P**	**16 46 30.5**	**+1.6**
	comp=Z,1.2nm,0.9s,baz=83,slow=7.2,SNR=2.6						
GERES	**GERESS Array B**	**56.61**	**310**	P	**P**	**16 46 33.8**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=79,slow=6.9,SNR=6.4						
KEST	**Kesra**	**63.70**	**297**	LR	LR	17 22 42.3	
	comp=Z,41nm,18.3s,baz=272,slow=43						
WRA	**Warramunga Arr**	**68.30**	**133**	P	**P**	**16 47 51.0**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=327,slow=6.3,SNR=9.7						
ASAR	**Alice Springs**	**70.87**	**136**	P	**P**	**16 48 07.0**	**-1.2**
	comp=Z,1.1nm,0.9s,baz=324,slow=6.2,SNR=8.6						
ESDC	**Sonseca Array**	**71.64**	**306**	LR	LR	17 22 53.9	
	comp=Z,61nm,18.4s,baz=210,slow=38						
ILAR	**Eielson Array**	**73.87**	**21**	P	**P**	**16 48 25.1**	**-0.4**
	comp=Z,0.4nm,1.1s,baz=310,slow=4.2,SNR=2.7						
TORD	**Torodi Ar. Bea**	**80.23**	**279**	P	**P**	**16 49 02.2**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=52,slow=6.6,SNR=3.5						
CPUP	**Villa Florida**	**149.53**	**273**	PKPbc	**PKPbc**	**16 56 41.1**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=83,slow=4.1,SNR=3.1						

*DDA **26** 16:57:51.5, 37.°10N×35.°68E, h7km, Ml2.5*
*ISCJB **26** 16:57:53.0±0.6, 37.°00N±0.°05×35.°61E±0.°04, h23km±7km, Error ellipse: s-maj=7.6km s-min=5.6km az=7.7*
*ISK **26** 16:57:52.4, 37.°02N×35.°55E, h18km, ML2.1/5*
ISC 26 16:57:52.3±1.2, 37.°04N±0.°05×35.°62E±0.°03, h17km±10km, n9, σ0s78/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YURE	**YUREGIR**	**0.22**	**177**	PG	**Pb**	**16 57 57.7**	**-0.1**
YURE				SG	**Sg**	**16 58 01.5**	**+0.6**
KOZT	**Kozan**	**0.47**	**21**	PG	**Pn**	**16 58 03.1**	**-1.1**
KOZT				SG	**Sb**	**16 58 10.6**	**+1.9**
KRTD	**Karatas-Adana**	**0.48**	**200**	PG	**Pg**	**16 58 01.6**	**-0.3**
GULE	**Gulek**	**0.71**	**290**	*i* P	**Pb**	**16 58 06.4**	**0.0**
GULE				*i* S	**Sb**	**16 58 16.9**	**+0.9**
TAHT	**Tahtakopru-Hat**	**0.81**	**145**	PG	**Pn**	**16 58 08.9**	**0.0**
MERS	**Mersin**	**0.90**	**259**	PG	**Pg**	**16 58 09.1**	**-0.6**
MERS				SG	**Sb**	**16 58 21.4**	**+0.3**
KUZU	**Kuzuini**	**1.20**	**103**	*i* P	**Pb**	**16 58 14.8**	**+0.2**
KUZU				*i* S	**Sb**	**16 58 29.6**	**-0.2**
KERG	**Konya-Eregli**	**1.25**	**288**	*i* P	**Pn**	**16 58 15.1**	**0.0**
KERG				*i* S	**Sb**	**16 58 31.4**	**+0.1**
KEBE	**Keben-Mersin**	**1.64**	**249**	PN	**Pn**	**16 58 20.4**	**0.0**

MEX 26 17:17:57.7±0.5, 14.°04N×92.°33W, h81km±15km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.86**	**4**	*i* P	Pn	17 18 13.8	-1.4
THIG				*i* S	Sn	17 18 26.8	-1.4
PCIG		**1.86**	**333**	*e*P	Pn	17 18 26.7	-1.1
PCIG				*i* S	Sn	17 18 49.0	-1.7
CCIG	**Comitan**	**2.24**	**5**	*i* P	Pn	17 18 31.2	-1.8
CCIG				*e*P		17 18 36.5	
CCIG				*i* S	Sn	17 18 58.0	-1.9
TGIG		**2.83**	**344**	*i* P	Pn	17 18 39.9	-0.9
TGIG				*i* S	Sn	17 19 13.2	-0.8

NNC 26 17:30:12.1±3.7, 37.°64N×71.°34E, h0km, mb3.7, mpv3.3, 4C-4D, Error ellipse: s-maj=28.6km s-min=23.0km az=166.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.91**	**35**	⇓Pn	Pn	17 30 59.8	-0.1
	2.1nm,0.2s						
SFK				⇑Sn	Sn	17 31 37.3	+1.6
	7.1nm,0.3s						
MNAS	**Manas**	**4.93**	**10**	⇓Pn	Pn	17 31 27.8	+0.4
	4.0nm,0.4s						
MNAS				⇑Sn	Sn	17 32 26.1	+0.9
	7.5nm,0.7s						
KK31	**Karatay Array**	**5.50**	**354**	⇓Pn	Pn	17 31 36.2	+1.0
	0.8nm,0.3s,baz=181,slow=14						
KK31				⇑Sn	Sn	17 32 41.0	+1.9
	2.0nm,0.3s,baz=173,slow=22						
AAK	**Ala-Archa**	**5.55**	**25**	⇓Pn	Pn	17 31 35.0	-1.1
	1.7nm,0.3s						
AAK				⇑Sn	Sn	17 32 40.1	-0.5
	4.6nm,0.8s						

*IDC **26** 17:33:18.2±0.9, 20.°14N×120.°52E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.7/55, mbtmp3.8/10, MS3.0/1, Ms1 3.2/1, ms1mx2.4/43, Error ellipse: s-maj=52.0km s-min=14.2km az=63.0*
*ISCJB **26** 17:33:21.0±0.3, 20.°11N±0.°03×120.°33E±0.°05, h28km, mb3.9/12, MS2.8/1, Error ellipse: s-maj=7.9km s-min=3.8km az=157.3*
*NEIC **26** 17:33:21.4±3.2, 20.°11N×120.°48E, h20km±24km, mb4.5/3, Error ellipse: s-maj=14.4km s-min=6.9km az=67.0*
*MAN **26** 17:33:22.1, 19.°99N×120.°47E, h11km, mb4.8, ML3.7, MS3.6*
ISC 26 17:33:22.6±0.7, 20.°13N±0.°04×120.°43E±0.°07, h28km, n30, σ0s94/36, mb3.9/12, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBP	**Basco**	**1.48**	**78**	*e*P	**Pn**	**17 33 47.8**	**+0.5**
BBP				*e*S	**Sb**	**17 34 08.4**	**+0.7**
APYP	**Conner**	**2.38**	**161**	*e*P	**Pn**	**17 33 58.9**	**-0.9**
APYP				*e*S	**Sn**	**17 34 27.6**	**-0.5**
SGCP	**Mt. Cagua**	**2.42**	**141**	*e*P	**Pn**	**17 34 00.1**	**-0.3**
SGCP				*e*S	**Sn**	**17 34 29.1**	**0.0**
CVP	**Callao Caves**	**2.75**	**151**	⇓*i*P	**Pn**	**17 34 04.2**	**-0.7**
CVP				*i* S	**Sn**	**17 34 38.2**	**+1.0**
TPUB	**Ta-pu**	**3.16**	**3**	*e*Pn	**Pn**	**17 34 09.4**	**-1.1**
YULB	**Yu-li**	**3.35**	**14**	*e*Pn	**Pn**	**17 34 13.2**	**+0.2**
CAUP	**Cauayan**	**3.44**	**157**	*e*P	**Pn**	**17 34 16.9**	**+2.6**
CAUP				*e*S	**Sn**	**17 34 54.3**	**+0.2**
PALP	**Palanan**	**3.59**	**148**	*e*P	**Pn**	**17 34 17.4**	**+1.0**
PALP				*e*S	**Sb**	**17 35 05.8**	**-2.8**
SSLB	**Suanglung**	**3.67**	**8**	*e*Pn	**Pn**	**17 34 16.9**	**-0.6**
NACB	**Ninganchiao**	**4.17**	**15**	*e*Pn	**Pn**	**17 34 24.0**	**-0.3**
BALP	**Baler**	**4.50**	**166**	*e*P	**Pn**	**17 34 30.5**	**+1.6**
YHNB	**Yeheng**	**4.60**	**11**	*e*Pn	**Pn**	**17 34 31.1**	**+0.7**
CMAR	**Chiang Mai Arr**	**20.34**	**269**	P	**P**	**17 37 57.1**	**+0.2**
	0.5nm,0.8s,baz=77,slow=9.1,SNR=4.6						
CMAR				LR	LR	17 44 36.1	
	comp=Z,45nm,19.3s,baz=138,slow=33						
SIJI	**Sorong**	**23.42**	**152**	P	**P**	**17 38 28.6**	**-0.9**
	4.7nm,0.8s,baz=329,slow=8.5,SNR=5.3						
SONA0	**Songino Array**	**29.89**	**341**	*e*P	**P**	**17 39 28.0**	**+0.1**
SONM	**Songino Array**	**29.89**	**341**	P	**P**	**17 39 28.0**	**+0.1**
	1.1nm,0.8s,baz=157,slow=10,SNR=7.3						
SONA1	**Songino Array**	**29.89**	**341**	*e*P	**P**	**17 39 28.7**	**+0.7**
FITZ	**Fitzroy Crossi**	**38.33**	**172**	P	**P**	**17 40 41.0**	**-0.1**
	0.4nm,0.4s,baz=348,slow=9.3,SNR=2.6						
MK32	**Makanchi Array**	**40.85**	**320**	*e*P	**P**	**17 41 02.5**	**+0.5**
MKAR	**Makanchi Array**	**40.85**	**320**	P	**P**	**17 41 02.5**	**+0.5**
	0.9nm,0.8s,baz=114,slow=8.9,SNR=8.8						
WR1	**Warramunga Arr**	**42.09**	**160**	*e*P	**P**	**17 41 11.8**	**-0.5**
	19nm,1.8s						
WRA	**Warramunga Arr**	**42.09**	**160**	P	**P**	**17 41 11.8**	**-0.5**
	2.2nm,0.9s,baz=341,slow=9.1,SNR=12						
NRN	**Naryn**	**43.10**	**310**	*e*P	**P**	**17 41 22.4**	**+1.6**
	26nm,1.0s						
ZALV	**Zalesovo Beam**	**43.32**	**330**	P	**P**	**17 41 21.7**	**-0.2**
	1.1nm,0.7s,baz=129,slow=8.4,SNR=5.4						
ZAA1	**Zalesovo Array**	**43.32**	**330**	*e*P	**P**	**17 41 21.7**	**-0.2**
KURK	**Kurchatov**	**44.82**	**323**	*e*P	**P**	**17 41 34.4**	**+0.5**
KURBB	**Kurchatov Arra**	**44.83**	**323**	P	**P**	**17 41 34.4**	**+0.4**
	3.6nm,0.8s,baz=124,slow=7.5,SNR=20						
AS31	**Alice Springs**	**45.47**	**163**	*e*P	**P**	**17 41 39.5**	**0.0**
	1.9nm,1.4s						
ASAR	**Alice Springs**	**45.47**	**163**	P	**P**	**17 41 39.1**	**-0.4**
	0.3nm,0.3s,baz=344,slow=6.7,SNR=16						
GERES	**GERESS Array B**	**85.51**	**321**	P	**P**	**17 45 58.0**	**-0.2**
	0.9nm,0.7s,baz=67,slow=4.5,SNR=5.7						

*BJI **26** 17:35:38.5, 36.°55N×27.°66E, h14km, mb4.8/49, mB5.1/30, Ms5.0/29, Ms7 4.8/24*
*GII **26** 17:35:39.8±0.0, 36.°58N×27.°95E, h2km, mb4.6/1, MD4.5/1*
*NEIC **26** 17:35:41.8±0.0, 36.°66N×27.°99E, h0km, mb5.0/86, ML4.8(ISK), ML4.9(THE), After THE.*
NEIC Felt on Rhodes and Symi.
*DDA **26** 17:35:41.4, 36.°62N×27.°95E, h7km, Ml4.8*
*PDG **26** 17:35:41.9±0.6, 36.°64N×27.°96E, h16km±1km, ML4.8/12, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
*ISK **26** 17:35:41.2, 36.°61N×27.°96E, h11km, ML4.8/12*
*ATH **26** 17:35:41.9, 36.°65N×27.°91E, h26km, ML4.8/5, Error ellipse: s-maj=1.4km s-min=0.7km az=189.0*
*HLW **26** 17:35:41.8, 36.°58N×28.°09E, h7km±15km, Md4.4, Ml5.1*
*THE **26** 17:35:41.5, 36.°66N×28.°01E, h1km±1km, ML4.8/6, Error ellipse: s-maj=1.1km s-min=0.5km az=70.0*
*ISCJB **26** 17:35:42.2±0.2, 36.°57N±0.°01×27.°97E±0.°01, h27km±1km, mb4.9/150, MS4.0/21, Error ellipse: s-maj=2.1km s-min=1.4km az=13.0*
*MOS **26** 17:35:42.7±1.3, 36.°60N×27.°96E, h24km, mb5.1/46, Error ellipse: s-maj=3.9km s-min=2.4km az=111.0*
*GCMT **26** 17:35:43.8±0.4, 36.°61N±0.°04×27.°94E±0.°04, h19km±1km, MW4.8/69, Moment Tensor Solution. s19,c20; s69,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.86±.13; $M_{\theta\theta}$0.77±.09; $M_{\phi\phi}$1.09±.09; $M_{r\theta}$0.60±.19; $M_{\theta\phi}$0.51±.04; $M_{\phi r}$0.63±.17; Best double couple: M_o1.87700×10^{16} NP1:ϕ_s219.00000°, δ59.00000°, λ-88.00000°. NP2: ϕ_s35.00000°, δ31.00000°, λ-94.00000°. Principal axes: T 1.6780, Plg14.0000°, Azm307.0000°; N 0.3990, Plg2.0000°, Azm38.0000°; P -2.0760, Plg76.0000°, Azm136.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NIC **26** 17:35:43.5±0.2, 36.°67N×27.°99E, h17km, mb4.9, ML4.6*
*IDC **26** 17:35:44.5±2.9, 36.°58N×27.°91E, h29km±20km, mb4.4/32, mb1 4.5/45, mb1mx4.5/55, mbtmp4.6/45, ML4.1/11, MS3.7/20, Ms1 3.7/20, ms1mx3.5/52, Error ellipse: s-maj=10.3km s-min=8.4km az=167.0*
ISC 26 17:35:42.5±0.7, 36.°60N±0.°02×27.°96E±0.°01, h16km±4km, n1069, σ1s61/1163, mb5.0/149, MS3.8/22, 65C-47D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSB	**Marmaris-Mugla**	**0.22**	**57**	PG	**Pg**	**17 35 46.2**	**-1.5**
MRSB				SG	**Sg**	**17 35 50.0**	**-1.2**
DATC	**Datca-Mugla**	**0.29**	**304**	PG	**Pg**	**17 35 47.7**	**-1.1**
DATC				SG	**Sg**	**17 35 52.6**	**-0.5**
DAT	**Datca**	**0.34**	**293**	PG	**Pg**	**17 35 48.7**	**-0.9**
DAT	**Datca**	**0.34**	**293**	⇑*i*P	**Pg**	**17 35 48.6**	**-1.0**
DAT				*i* S	**Sg**	**17 35 52.7**	**-1.8**
ARG	**Arkhangelos**	**0.40**	**161**	PG	**Pg**	**17 35 49.6**	**-1.1**
ARG	**Arkhangelos**	**0.40**	**161**	P	**Pb**	**17 35 50.8**	**-0.5**
ARG				S	**Sb**	**17 35 58.7**	**+1.6**
ARG	**Arkhangelos**	**0.40**	**161**	P	**Pb**	**17 35 51.2**	**0.0**
ARG				S	**Sb**	**17 35 58.7**	**+1.6**
ARG				AML	AML	17 35 59.4	
ARG				AML	AML	17 36 03.2	
ARG	**Arkhangelos**	**0.40

AMGA AML AML 17 36 47.3
comp=E,33240µm,1.1s
AMGA AML AML 17 36 47.8
comp=N,27404µm,0.7s
AMGA Amorgos Island 1.68 279 P Pn 17 36 10.5 -0.7
DGB ˜zmir 1.69 330⇑ *i*P Pn 17 36 10.3 -1.0
DGB *i*S Sg 17 36 38.8 +1.8
GMLD Gumuldur 1.70 331 PN Pn 17 36 11.0 -0.5
ANAF Anafi Island 1.78 263 P Pn 17 36 12.6 0.0
ANAF S Sn 17 36 34.7 -0.3
ANAF AML AML 17 36 47.4
ANAF AML AML 17 36 49.2
ANAF Anafi Island 1.78 263 P Pn 17 36 12.6 0.0
MANT Manisa 1.95 14⇓ *i*P Pn 17 36 14.7 -0.5
MANT *i*S Sg 17 36 44.2 -1.1
MANT Manisa 1.95 14 *e*Pn Pn 17 36 14.8 -0.4
KORT Korkueli 1.96 77 PN Pn 17 36 15.9 +0.7
KORT Korkueli 1.96 77⇓ *i*P Pb 17 36 18.5 +0.6
KORT *i*S Sg 17 36 47.4 +1.8
KULA Kula-Manisa 2.00 16 PN Pn 17 36 15.2 -0.4
BRDR BURDUR-Merkez 2.00 56⇓ *i*P Pb 17 36 18.2 -0.5
BRDR *i*S Sg 17 36 46.0 -1.1
APE Apeiranthos 2.01 284 PN Pn 17 36 15.4 -0.3
APE Apeiranthos 2.01 284 P Pn 17 36 15.4 -0.3
APE Apeiranthos 2.01 284⇑ *i*P Pn 17 36 15.5 -0.3
APE Apeiranthos 2.01 284 P Pn 17 36 15.4 -0.3
APE S Sn 17 36 40.5 -0.1
APE Apeiranthos 2.01 284 P Pn 17 36 15.3 -0.5
APE Apeiranthos 2.01 284 *c*P Pn 17 36 15.1 -0.7
THR8 Santorini-Mono 2.01 265 P Pn 17 36 15.6 -0.1
SANT Santorini 2.03 264 *e*Pn Pn 17 36 15.9 -0.1
SANT Santorini 2.03 264⇑ *i*P Pn 17 36 15.9 -0.1
SANT Santorini 2.03 264 P Pn 17 36 16.0 -0.1
SANT S Sn 17 36 41.5 +0.4
SANT AML AML 17 36 54.1
comp=E,32815µm,1.0s
SANT AML AML 17 36 54.7
comp=N,27492µm,1.0s
SANT Santorini 2.03 264 P Pn 17 36 15.9 -0.1
SAP2K Karterados 2.04 266 P Pn 17 36 16.1 0.0
SAP2K Karterados 2.04 266 P Pn 17 36 16.1 0.0
THR2 Thira island, 2.04 267 P Pn 17 36 16.2 +0.1
THR2 Thira island, 2.04 267 P Pn 17 36 16.2 +0.1
THR2 Thira island, 2.04 267 P Pn 17 36 16.3 +0.1
ZKR Zakros 2.05 224 P Pn 17 36 17.0 +0.7
ZKR S Sb 17 36 43.1 -1.4
ZKR Zakros 2.05 224 P Pn 17 36 17.5 +1.2
ZKR Zakros 2.05 224 P Pn 17 36 17.0 +0.7
ZKR S Sb 17 36 43.1 -1.4
SFIR Foira Santorin 2.05 266 P Pn 17 36 16.4 +0.1
THR7 Fira-Santorini 2.05 266 P Pn 17 36 16.6 +0.2
THR7 Fira-Santorini 2.05 266 P Pn 17 36 16.5 +0.2
THT1 Athinios (Pele 2.05 265 P Pn 17 36 16.3 0.0
THT1 Athinios (Pele 2.05 265 P Pn 17 36 16.1 -0.2
THT2 Imerovigli 2.05 266 P Pn 17 36 16.7 +0.4
THT2 Imerovigli 2.05 266 P Pn 17 36 16.8 +0.4
STIA Sitia Lasithi 2.06 228 P Pn 17 36 17.1 +0.7
CMBO Columbo, Santo 2.06 267 P Pn 17 36 16.4 -0.1
CMBO Columbo, Santo 2.06 267 P Pn 17 36 16.6 +0.1
URLA Izmir 2.07 329 PN Pn 17 36 16.5 -0.1
URLA Izmir 2.07 329⇑ *i*P Pn 17 36 15.5 -1.1
URLA *i*S Sg 17 36 48.8 -0.4
THR3 Thira Island, 2.07 266 P Pn 17 36 16.6 0.0
THR3 Thira Island, 2.07 266 P Pn 17 36 16.7 +0.1
THR3 Thira Island, 2.07 266 P Pn 17 36 16.6 0.0
THR6 Thira Island, 2.08 264 P Pn 17 36 16.8 +0.1
THR6 Thira Island, 2.08 264 P Pn 17 36 16.9 +0.2
THR6 Thira Island, 2.08 264 P Pn 17 36 16.8 +0.1
SAP1 Santorini-Akro 2.08 264 P Pn 17 36 17.0 +0.2
SAP1 Santorini-Akro 2.08 264 P Pn 17 36 16.9 +0.2
KEMT Kemer-ANTALYA 2.09 89 PN Pn 17 36 17.1 +0.3
SAP4 Santorini-Oia 2.09 267 P Pn 17 36 17.1 +0.3
GOMA Golmarmara-Man 2.11 359 PN Pn 17 36 16.7 -0.4
THR9 Santorini-Faro 2.11 264 P Pn 17 36 17.0 -0.2
SAP3 Santorini-Thir 2.11 266 P Pn 17 36 17.1 -0.1
SAP3 Santorini-Thir 2.11 266 P Pn 17 36 17.1 -0.1
THR5 Thira Island, 2.11 266 P Pn 17 36 17.4 +0.2
THR5 Thira Island, 2.11 266 P Pn 17 36 17.1 -0.1
KHL Karahalli 2.12 35 PN Pn 17 36 17.7 +0.3
KHAL Karahalli 2.15 34⇓ *i*P Pn 17 36 17.9 +0.1
KHAL *i*S Sg 17 36 53.0 +1.3
IOSP Ios island 2.15 274 P Pn 17 36 17.5 -0.2
IOSP Ios island 2.15 274 P Pn 17 36 17.4 -0.3
CESE ˜e˜me 2.18 323 PN Pn 17 36 17.5 -0.6
AKHS Akhisar 2.28 357⇑ *i*P Pn 17 36 18.5 -1.0
AKHS *i*S Sg 17 36 56.0 0.0
NPS Neapolis 2.33 236 P Pn 17 36 20.4 +0.3
NPS S Sn 17 36 49.0 +0.6
NPS Neapolis 2.33 236 P Pn 17 36 20.8 +0.7
NPS Neapolis 2.33 236 P Pn 17 36 20.4 +0.3
NPS S Sn 17 36 49.0 +0.6
NPS Neapolis 2.33 236 P Pn 17 36 20.4 +0.3
NPS S Sn 17 36 49.0 +0.6
CHOS Chios island 2.34 320 P Pn 17 36 19.8 -0.6
CHOS Chios island 2.34 320 P Pn 17 36 19.2 -0.6
KZIL AFYON_Kizioren 2.40 46⇓ *i*P Pb 17 36 22.4 +1.2
KZIL *i*S Sg 17 36 58.6 -1.2
TNSA Tinos 2.43 294 P Pn 17 36 21.2 -0.3
TNSA S Sn 17 36 50.1 -0.8
LAST Lasithi 2.47 235 P Pn 17 36 22.9 +0.7
LAST S Sn 17 36 53.4 +1.3
LAST Lasithi 2.47 235 P Pn 17 36 22.9 +0.7
LAST Lasithi 2.47 235 P Pn 17 36 22.9 +0.7
LAST S Sn 17 36 53.4 +1.3
DEMI Demirci 2.52 13 *i*P Pn 17 36 22.2 -0.6
DEMI *i*S Sg 17 37 05.4 +2.0
BAGO Egridir - ISPA 2.65 57⇓ *i*P Pn 17 36 26.5 +1.8
BAGO *i*S Sg 17 37 07.5 -0.2
IACM Heraklion 2.68 242 P Pn 17 36 25.8 +1.0
IACM Heraklion 2.68 242 P Pn 17 36 25.9 +1.0
PSRA Psara 2.72 316 P Pn 17 36 25.6 +0.1
GDZ Gediz 2.76 25⇓ *i*P Pn 17 36 26.1 -0.1
GDZ *i*S Sg 17 37 11.2 -0.4
STEP BALIKESIR_Sava 2.78 356⇑ *i*P Pn 17 36 25.5 -0.9
STEP *i*S Sg 17 37 12.3 +0.3
IDI Anoyia 2.81 243 Pn Pn 17 36 27.3 +0.4
comp=N,77nm,0.3s,baz=62,slow=16,SNR=304
IDI Sn Sn 17 37 01.4 +0.9
comp=N,163nm,0.3s,baz=157,slow=12,SNR=11
IDI Anoyia 2.81 243⇓ *i*P Pn 17 36 27.6 +0.7
IDI Anoyia 2.81 243 P Pn 17 36 27.2 +0.3
SERI Serifos 2.84 282 P Pn 17 36 26.9 -0.3
MHLA Plaka, Milos I 2.85 274 P Pn 17 36 27.7 +0.4
MHLO Agia Marina, M 2.87 273 P Pn 17 36 28.0 +0.5
MHLO Agia Marina, M 2.87 273 P Pn 17 36 27.4 -0.1
AYVA Ayvalik 2.89 340 *i*P Pn 17 36 26.7 -1.1
AYVA *i*S Sg 17 37 12.8 -2.6
KEPZ Antalya-Kepez 2.94 83⇓ *i*P Pb 17 36 32.3 -2.3
KEPZ *i*S Sb 17 37 08.4 -1.9
PRK Paraskevi 2.96 334 P Pn 17 36 28.4 -0.5
PRK Paraskevi 2.96 334 P Pn 17 36 28.6 -0.3
PRK Paraskevi 2.96 334 P Pn 17 36 28.4 -0.5
PRK Paraskevi 2.96 334 P Pn 17 36 28.4 -0.5
SIVA Sivas 3.01 239 P Pn 17 36 30.7 +1.2
SIVA Sivas 3.01 239 P Pn 17 36 29.9 +0.5
SIVA Sivas 3.01 239 P Pn 17 36 30.7 +1.2
DURS Dursunbey 3.03 8⇓ *i*P Pn 17 36 29.3 -0.5
DURS *i*S Sg 17 37 19.9 0.0
SIGR SIGRI 3.10 328 P Pn 17 36 30.2 -0.5
SIGR SIGRI 3.10 328 P Pn 17 36 30.2 -0.5
BOLV Bolvadin 3.18 47⇓ *i*P Pn 17 36 34.1 +2.2
BOLV *i*S Sg 17 37 20.9 -3.8
VAM Vamos 3.27 250 P Pn 17 36 33.7 +0.6
VAM Vamos 3.27 250 P Pn 17 36 34.0 +0.9
VAM Vamos 3.27 250 P Pn 17 36 33.7 +0.6
VAM Vamos 3.27 250 P Pn 17 36 33.7 +0.6
DOGA KONYA_Doganhis 3.31 62⇓ *i*P Pn 17 36 36.5 +2.6
DOGA *i*S Sb 17 37 22.9 +1.8
IMMV Iera Moni Meta 3.42 252 P Pn 17 36 36.0 +0.8
EZN Ezine 3.47 339 P Pn 17 36 35.2 -0.7
EZN Ezine 3.47 339 P Pn 17 36 35.2 -0.7
EZN Ezine 3.47 339 P Pn 17 36 35.2 -0.7
GAZI Gazipasa 3.53 95⇓ *i*P Pb 17 36 41.2 -3.4
GAZI *i*S Sn 17 37 22.6 +4.5
DION Dionisos Attik 3.54 296 P Pn 17 36 37.4 +0.6
SKY Skiros Island 3.54 311 P Pn 17 36 37.2 +0.4
SKY Skiros Island 3.54 311 P Pn 17 36 37.3 +0.6
SKY Skiros Island 3.54 311 P Pn 17 36 37.2 +0.4
VLY Voula,Athens 3.56 292 P Pn 17 36 37.3 +0.3
VLY Voula,Athens 3.56 292 P Pn 17 36 37.5 +0.5

VLY Voula,Athens 3.56 292 P Pn 17 36 37.3 +0.3
PTL Penteli 3.57 295 P Pn 17 36 37.8 +0.5
PTL Penteli 3.57 295 P Pn 17 36 37.7 +0.5
PTL Penteli 3.57 295 P Pn 17 36 37.8 +0.5
ATHU Athens Univers 3.60 294 P Pn 17 36 38.1 +0.5
ATHU Athens Univers 3.60 294 P Pn 17 36 38.2 +0.5
ATHU Athens Univers 3.60 294 P Pn 17 36 38.1 +0.5
GVDS Gavdos 3.60 242 P Pb 17 36 41.8 -4.0
GVD Gavdhos 3.61 242 P Pn 17 36 40.7 +3.0
GVD Gavdhos 3.61 242 P Pn 17 36 38.8 +1.1
GVD Gavdhos 3.61 242 P Pn 17 36 40.7 +3.0
ATH Athens Observa 3.65 293 P Pn 17 36 38.9 +0.6
ATH Athens Observa 3.65 293 P Pn 17 36 38.9 +0.6
ATH Athens Observa 3.65 293 P Pn 17 36 38.9 +0.6
ATH Athens Observa 3.65 293 P Pn 17 36 38.9 +0.6
EREA Eretria 3.69 301 P Pn 17 36 39.5 +0.6
EREA Eretria 3.69 301 P Pn 17 36 39.4 +0.6
KNL Bal˜–kesir 3.69 355 *i*P Pn 17 36 37.7 -1.1
KNL *i*S Sg 17 37 37.8 -3.1
KMER Konya-Meram 3.71 70⇓ *i*P Pn 17 36 42.5 +3.2
KMER *i*S Sn 17 37 26.4 +3.8
KONT Konya--Tatoy 3.76 68⇓ *i*P Pn 17 36 42.4 +2.6
KONT *i*S Sg 17 37 42.2 -1.0
EFSA Agios Efstrati 3.76 322 P Pn 17 36 40.7 +0.9
KDHN Kadinhani 3.82 59⇓ *i*P Pn 17 36 42.8 +2.1
KDHN *i*S Sg 17 37 47.4 +2.2
ANKY Antikythira Is 3.84 260 P Pn 17 36 41.5 +0.6
ANKY Antikythira Is 3.84 260 P Pn 17 36 42.0 +1.1
ANKY Antikythira Is 3.84 260 P Pn 17 36 41.5 +0.6
DID Didima 3.89 285 P Pn 17 36 41.8 +0.2
DID Didima 3.89 285 P Pn 17 36 41.8 +0.2
GADA Gvkgeada 3.94 336 P Pn 17 36 41.9 -0.4
GADA Gvkgeada 3.94 336 P Pn 17 36 41.9 -0.4
PPCY Paphos 3.95 114 P Pn 17 36 43.4 +0.9
baz=297
LIA Limnos Island 3.96 327 P Pn 17 36 42.5 0.0
LIA Limnos Island 3.96 327 P Pn 17 36 42.6 +0.1
LIA Limnos Island 3.96 327 P Pn 17 36 42.5 0.0
MNVA Monemvasia 3.96 273 P Pn 17 36 43.4 +0.9
KYTH Kithira 3.98 267 P Pn 17 36 43.9 +1.1
KYTH Kithira 3.98 267 P Pn 17 36 44.2 +1.4
KYTH Kithira 3.98 267 P Pn 17 36 43.9 +1.1
ERMK Ermenek 3.98 88⇓ *i*P Pn 17 36 46.2 +3.2
ERMK *i*S Sb 17 37 36.0 -4.4
VILL Villia 4.02 294 P Pn 17 36 44.1 +0.6
ALFC Alefka 4.03 110 P Pn 17 36 44.0 +0.4
baz=293
ALFC S Sn 17 37 31.9 +1.5
VLI Veliai 4.04 273 P Pn 17 36 44.4 +0.7
VLI Veliai 4.04 273 P Pn 17 36 44.7 +0.9
VLI Veliai 4.04 273 P Pn 17 36 44.4 +0.7
VIL2 Platees 4.07 295 P Pn 17 36 44.1 0.0
AOS Alonnisos 4.13 310 P Pn 17 36 45.2 +0.3
AOS Alonnisos 4.13 310 P Pn 17 36 45.2 +0.3
LOUT Loutraki 4.21 291 P Pn 17 36 46.9 +0.8
LOUT Loutraki 4.21 291 P Pn 17 36 46.9 +0.8
SMTH Samothraki Isl 4.31 335 P Pn 17 36 47.0 -0.4
SMTH Samothraki Isl 4.31 335 P Pn 17 36 47.1 -0.4
SMTH Samothraki Isl 4.31 335 P Pn 17 36 47.0 -0.4
PROD Prodromos 4.36 294 P Pn 17 36 48.8 +0.8
SKIA Skiathos 4.39 307 P Pn 17 36 49.2 +0.8
SMIA Simia 4.40 303 P Pn 17 36 49.7 +1.0
SMIA Simia 4.40 303 P Pn 17 36 49.7 +1.0
SZAC Souni 4.41 113 P Pn 17 36 49.3 +0.6
baz=296
SZAC S Sn 17 37 41.2 +1.5
LKR Lokris 4.44 299 P Pn 17 36 49.1 -0.1
LKR Lokris 4.44 299 P Pn 17 36 49.3 +0.1
LKR Lokris 4.44 299 P Pn 17 36 49.1 -0.1
MAMC Mammari 4.50 107 P Pn 17 36 51.0 +1.0
baz=290
DYR Agios Nikonas 4.53 274 P Pn 17 36 52.4 +2.0
VLX Vlachokerasia 4.54 281 P Pn 17 36 51.0 +0.4
VLX Vlachokerasia 4.54 281 P Pn 17 36 51.0 +0.4
ALN Alexandroupoli 4.55 341 *e*Pn Pn 17 36 50.3 -0.3
ALN Alexandroupoli 4.55 341 P Pn 17 36 50.1 -0.6
ALN Alexandroupoli 4.55 341 *e*P Pn 17 36 50.3 -0.3
NEO Neokhori 4.62 307 P Pn 17 36 52.3 +0.6
NEO Neokhori 4.62 307 P Pn 17 36 52.3 +0.6
CSS Mathiatis 4.66 109 *e*Pn Pn 17 36 50.8 -1.4
CSS Mathiatis 4.66 109 P Pn 17 36 53.1 +0.9
baz=292
CSS S Sn 17 37 47.1 +1.2
CSS Mathiatis 4.66 109 P Pn 17 36 52.9 +0.7
CSS Mathiatis 4.66 109 Pn Pn 17 36 52.2 0.0
XOR Xorichti 4.67 308 P Pn 17 36 52.8 +0.4
XOR Xorichti 4.67 308 P Pn 17 36 52.8 +0.4
GUR Goura 4.68 288 P Pn 17 36 53.5 +1.0
GUR Goura 4.68 288 P Pn 17 36 53.5 +1.0
THAS Thassos island 4.74 329 P Pn 17 36 52.8 -0.5
KLV Kalavryta, Ach 4.85 289 P Pn 17 36 56.0 +1.1
KLV Kalavryta, Ach 4.85 289 P Pn 17 36 56.0 +1.1
FYTO Fytoko, Volos 4.86 307 P Pn 17 36 55.7 +0.8
FYTO Fytoko, Volos 4.86 307 P Pn 17 36 55.7 +0.8
FYTO Fytoko, Volos 4.86 307 P Pn 17 36 55.7 +0.8
OUR Ouranopolis 4.87 321 P Pn 17 36 55.2 +0.2
OUR Ouranopolis 4.87 321 P Pn 17 36 55.2 +0.2
OUR Ouranopolis 4.87 321 P Pn 17 36 55.2 +0.2
ITM Ithomi 4.87 279 *e*Pn Pn 17 36 58.3 +3.2
ITM Ithomi 4.87 279 P Pn 17 36 57.0 +1.9
RDO Rodhopi 4.92 338 P Pn 17 36 55.5 -0.3
RDO Rodhopi 4.92 338 P Pn 17 36 55.5 -0.3
KALE Kalithea 4.96 293 P Pn 17 36 57.4 +1.0
KALE Kalithea 4.96 293 P Pn 17 36 57.6 +1.1
KALE Kalithea 4.96 293 P Pn 17 36 57.4 +1.0
BR231 Keskin MP Arra 4.99 48 *e*Pn Pn 17 36 59.8 +3.0
PYL PYLOS 5.00 275 P Pn 17 36 59.5 +2.6
PYL PYLOS 5.00 275 P Pn 17 36 59.5 +2.6
TRIZ Trizonia 5.01 292 P Pn 17 36 58.4 +1.5
ANTO Ankara 5.01 48 *e*Pn Pn 17 37 00.1 +2.9
ANTO Ankara 5.01 48⇑ *i*P Pn 17 36 59.3 +2.5
LAKA Lakka 5.04 291 P Pn 17 36 58.8 +4.4
AGG Agios Georgios 5.08 300 *e*Pn Pn 17 36 59.3 +1.4
AGG Agios Georgios 5.08 300 P Pn 17 36 58.3 +0.4
AGG Agios Georgios 5.08 300 *e*P Pn 17 36 59.3 +1.4
AMT Artemida-Makis 5.09 282 P Pn 17 37 00.7 +2.6
EFP Efpalio 5.15 293 P Pn 17 37 00.4 +1.5
DRO Drossia 5.17 287 P Pn 17 37 00.6 +1.4
MAKR Makrakomi, Fth 5.21 299 P Pn 17 37 01.6 +1.8
MAKR Makrakomi, Fth 5.21 299 P Pn 17 37 00.6 +0.8
MAKR Makrakomi, Fth 5.21 299 P Pn 17 37 01.6 +1.8
EVR Evrytania 5.40 297 P Pn 17 37 04.3 +1.9
EVR Evrytania 5.40 297 P Pn 17 37 04.3 +1.9
BR131 Keskin Array S 5.46 53 *e*Pn Pn 17 37 05.6 +2.3
BRTR Keskin Array B 5.46 53 Pn Pn 17 37 05.5 +2.3
comp=N,11nm,0.3s,baz=232,slow=15,SNR=471
BRTR Sn Sn 17 38 08.7 +2.9
baz=236,slow=10,SNR=2.2
BRTR Keskin Array B 5.46 53 *i*P Pn 17 37 05.5 +2.3
BRTR pmax pmax
comp=Z,94nm,0.8s
PVO Paravola 5.49 293 P Pn 17 37 05.5 +1.9
LIT Litokhoron 5.54 311 *e*Pn Pn 17 37 05.2 +0.8
LIT Litokhoron 5.54 311 P Pn 17 37 05.0 +0.6
LIT Litokhoron 5.54 311 *e*P Pn 17 37 05.2 +0.8
SOH Sokhos 5.55 321 P Pn 17 37 05.0 +0.5
SOH pmax pmax
comp=Z,43nm,0.6s
THL Klokotos Trika 5.55 304 P Pn 17 37 05.0 +0.6
THE Thessaloniki 5.62 317 P Pn 17 37 06.6 +1.3
THE pmax pmax
comp=Z,79nm,0.7s
SRS Serrai 5.66 324 P Pn 17 37 06.1 +0.2
SRS Serrai 5.66 324 P Pn 17 37 06.1 +0.2
SRS Serrai 5.66 324 P Pn 17 37 06.1 +0.2
RZN Rozhen 5.68 335 *e*P Pn 17 37 06.8 +0.5
NVR Nevrokopi 5.72 327 P Pn 17 37 07.0 +0.2
NVR Nevrokopi 5.72 327 P Pn 17 37 07.0 +0.2
DIM Dimitrovgrad 5.76 342 *e*P Pn 17 37 07.0 -0.4
DIM Dimitrovgrad 5.76 342 P Pn 17 37 06.9 -0.4
MMB Musomiste 5.98 328 *e*P Pn 17 37 09.5 -0.8
KNT Kendrikon 6.03 321 P Pn 17 37 12.1 +1.0
KNT Kendrikon 6.03 321 P Pn 17 37 12.1 +1.0
KNT Kendrikon 6.03 321 P Pn 17 37 12.1 +1.0
PLD Plovdiv 6.05 336 P Pn 17 37 12.2 +0.9
VLS Valsamata 6.08 287 P Pn 17 37 14.1 +2.4
VLS Valsamata 6.08 287 P Pn 17 37 14.1 +2.4
VLS Valsamata 6.08 287 P Pn 17 37 14.1 +2.4
EVGI Lefkada island 6.14 291 P Pn 17 37 15.5 +2.9
GRG Griva 6.15 317 P Pn 17 37 14.1 +1.4

GRG Griva 6.15 317 P Pn 17 37 14.1 +1.4
GRG Griva 6.15 317 P Pn 17 37 14.1 +1.4
HBRG Burj al ‘Arab 6.21 165 AMP 17 38 00.0
baz=165
VAY Valandovo 6.32 320 *i*Pn Pn 17 37 16.3 +1.3
ILGA Ilgaz 6.32 44 *e*Pn Pn 17 37 18.0 +2.8
KKB Krupnik 6.48 326 *e*P Pn 17 37 17.9 +0.6
NEST Nestorio 6.63 307 P Pn 17 37 21.4 +2.1
FNA Florina 6.63 311 *e*Pn Pn 17 37 21.1 +1.7
FNA Florina 6.63 311 *e*P Pn 17 37 21.1 +1.7
IGT Igoumenitsa 6.70 298 P Pn 17 37 22.7 +2.5
IGT Igoumenitsa 6.70 298 *i*PN Pn 17 37 24.1 +3.9
IGT *i*SN Sg 17 39 29.1 +12
STIP Stip 6.79 320 *i*Pn Pn 17 37 21.7 +1.3
BIA Bitola 6.81 312 *i*Pn Pn 17 37 25.0 +3.3
SZH Strazhica 6.84 347 *e*P Pn 17 37 22.1 -0.1
HNTI Hanita 6.89 118 Pn Pn 17 37 22.0 -0.8
KBN Korca 6.91 308 *i*PN Pn 17 37 28.7 +5.5
KBN *i*SN Sg 17 39 41.3 +17
PVL Pavlikeni 6.92 344 *e*P Pn 17 37 24.8 +1.7
OFRI ‘Ofer 7.02 122 Pn Pn 17 37 23.6 -1.0
OFRI Sn Sn 17 38 43.8 -0.3
VTS Vitosha 7.02 330 *e*Pn Pn 17 37 25.9 +1.1
VTS Vitosha 7.02 330⇓ *i*P Pn 17 37 25.8 +1.1
VTS Vitosha 7.02 330 *e*P Pn 17 37 25.5 +0.7
VTS Vitosha 7.02 330 *e*P Pn 17 37 25.9 +1.1
RAZG Razgrad 7.05 351⇓ *i*P Pn 17 37 25.4 +0.4
SRN Sarande 7.07 300 *i*PN Pn 17 37 26.4 +1.1
SRN *i*SN Sg 17 39 33.6 +4.2
KRUS Krusevo 7.07 314 *i*Pn Pn 17 37 28.4 +1.9
PSN Preselentsi 7.08 1 *e*P Pn 17 37 24.0 -1.4
MMA0B Mount Meron ar 7.08 118 Pn Pn 17 37 24.8 -0.8
MMAI Mount Meron Ar 7.08 118 Pn Pn 17 37 25.4 -0.2
comp=Z,113nm,0.3s,baz=307,slow=12,SNR=316
MMAI Sn Sn 17 38 44.5 -1.3
comp=Z,44nm,0.3s,baz=309,slow=22,SNR=8.8
BLGI Bet Lehem HaGe 7.09 121 Pn Pn 17 37 24.9 -0.7
KEK Kerkira 7.14 298 P Pn 17 37 28.8 +2.5
KEK Kerkira 7.14 298 P Pn 17 37 28.8 +2.5
KSDI Kefar Szold 7.18 116 Pn Pn 17 37 26.4 -0.4
OHR Ohrid 7.18 311 *i*Pn Pn 17 37 29.7 +2.8
NATI Neve Ativ 7.20 115 Pn Pn 17 37 26.5 -0.5
TPE Tepelena 7.25 303 *i*PN Pn 17 37 28.1 +0.3
TPE *i*SN Sg 17 39 38.4 +3.5
SLTI Sal’it 7.28 125 Pn Pn 17 37 27.4 -0.9
HNAT Natroun 7.29 161 AMP 17 38 00.0
baz=162
SKO Skopje 7.38 319 *i*Pn Pn 17 37 31.3 +1.8
KOT Kottamia 7.39 153 AMP 17 38 00.0
baz=153
MMLI Mount Malkishu 7.42 122 Pn Pn 17 37 29.3 -0.9
MMLI Sn Sn 17 38 54.4 +0.4
HHAG Hagoal 7.47 151 AMP 17 38 00.0
baz=151
HMDT Nahal Hemdat 7.60 123 Pn Pn 17 37 32.4 -0.2
AMAZ Amatzia 7.67 129 Pn Pn 17 37 33.0 +0.5
SGRR Singureni 7.77 349⇑ *i*P Pn 17 37 36.6 +1.8
KZIT Kziot 7.80 135 Pn Pn 17 37 34.5 -0.9
TIRR Tirgusor 7.86 2 *e*Pn Pn 17 37 35.6 -0.5
TIRR Tirgusor 7.86 2⇓ *i*P Pn 17 37 35.6 -0.5
TIRR Tirgusor 7.86 2 *e*P Pn 17 37 35.6 -0.5
TIR Tirane 7.89 309 *e*Pn Pn 17 37 40.6 +4.0
TIR Tirane 7.89 309⇑ *i*P Pn 17 37 38.6 +2.0
TIR Tirane 7.89 309 *e*P Pn 17 37 40.6 +4.0
DSI Dead Sea 7.93 127 Pn Pn 17 37 36.5 -0.7
TLB Topalu 7.98 0⇑ *i*P Pn 17 37 37.2 -0.6
TLB Topalu 7.98 0 P Pn 17 37 37.1 -0.7
HARR Harsova 8.09 360⇑ *i*P Pn 17 37 39.2 0.0
MZDA Masada 8.10 128 Pn Pn 17 37 38.3 -1.1
HUMR Humele 8.24 345⇑ *i*P Pn 17 37 42.1 +0.7
RMNI Mount Ramon 8.24 135 Pn Pn 17 37 41.4 -0.1
ZFRI Zfri 8.52 133 Pn Pn 17 37 44.1 -1.0
PRNI Paran 8.56 135 Pn Pn 17 37 45.1 -0.7
CFR Carcaliu 8.57 1⇑ *i*P Pn 17 37 45.3 -0.6
ISR Istrita 8.58 353⇑ *i*P Pn 17 37 47.1 +1.0
ISR Istrita 8.58 353 P Pn 17 37 47.0 +1.0
ASF Jabal al Asfar 8.60 118 Pn Pn 17 37 46.6 +0.2
comp=Z,4.4nm,0.3s,baz=253,slow=4.2,SNR=25
ASF Sn Sn 17 39 24.6 +1.5
comp=Z,2.3nm,0.3s,baz=260,slow=11,SNR=2.8
PVY Plav 8.60 317⇓ *i*Pn Pn 17 37 48.1 +1.7
PVY *e*Sn Sn 17 39 21.3 -1.9
TLCR 8.61 4⇓ *i*P Pn 17 37 46.8 +0.5
ULC Ulcinj 8.62 311⇑ *i*Pn Pn 17 37 48.3 +1.7
ULC *e*Sn Sn 17 39 22.4 -1.2
ULC Ulcinj 8.62 311 P Pn 17 37 50.1 +3.5
DRME Dracevica, Mon 8.79 312⇓ *i*Pn Pn 17 37 50.5 +1.6
DRME *e*Sn Sn 17 39 26.3 -1.3
DRME Dracevica, Mon 8.79 312⇑ *i*P Pn 17 37 51.3 +2.4
HRFI Mount Harif 8.82 136 Pn Pn 17 37 48.9 -0.5
IVA Berane 8.82 318⇓ *i*Pn Pn 17 37 50.9 +1.5
IVA *e*Sn Sn 17 39 26.9 -1.7
PDG Podgorica 8.90 314⇑ *i*P Pn 17 37 52.8 +2.5
PDG Podgorica 8.90 314⇑ *i*P Pn 17 37 53.5 +3.2
TTG Podgorica 8.90 314⇑ *i*Pn Pn 17 37 52.2 +1.9
TTG *e*Sn Sn 17 39 28.9 -1.3
TTG Podgorica 8.90 314 *e*Pn Pn 17 37 52.9 +2.5
TTG Podgorica 8.90 314 *e*P Pn 17 37 52.9 +2.5
MBRI Mt Berech 8.94 137 Pn Pn 17 37 50.8 -0.2
KOME Kolasin 9.02 316⇓ *i*Pn Pn 17 37 54.2 +2.1
KOME *e*Sn Sn 17 39 31.3 -2.0
MLR Muntele Rosu 9.02 351 Pn Pn 17 37 53.9 +1.8
comp=Z,0.5nm,0.3s,baz=217,slow=6.0,SNR=15
MLR Muntele Rosu 9.02 351 *e*Pn Pn 17 37 53.1 +1.0
MLR Muntele Rosu 9.02 351⇑ *i*P Pn 17 37 53.4 +1.3
BUM Brajici-Budva 9.03 312⇓ *i*Pn Pn 17 37 54.4 +2.1
BUM *e*Sn Sn 17 39 32.0 -1.7
SEV Sevastopol’ 9.05 27 *e*P Pn 17 37 51.8 -0.6
SEV *e*S Sn 17 39 28.1 -5.7
EIL Elat 9.05 138 Pn Pn 17 37 52.7 +0.1
comp=Z,12nm,0.3s,baz=302,slow=5.2,SNR=56
EIL Sn Sn 17 39 30.5 -3.7
comp=Z,9.8nm,0.3s,baz=171,slow=19,SNR=4.2
VOIR 9.10 347⇓ *i*P Pn 17 37 53.0 -0.2
ARR Arges 9.12 345⇑ *i*P Pn 17 37 53.8 +0.4
CEME Cevo 9.17 313⇓ *i*Pn Pn 17 37 55.5 +1.4
CEME *e*Sn Sn 17 39 35.1 -1.6
YAL Yalta 9.18 29 *e*P Pn 17 37 55.9 +1.7
YAL *e*S Sn 17 39 33.4 -3.7
TIP Timpagrande 9.22 290 *e*Pn Pn 17 37 56.1 +1.2
TIP Timpagrande 9.22 290⇑ *i*P Pn 17 37 56.2 +1.3
TAR1 Taranto 9.24 298 *e*P Pn 17 37 55.6 +0.6
TAR1 S Sn 17 39 43.0 +4.5
NKME Niksic 9.28 314⇓ *i*Pn Pn 17 37 57.3 +1.6
NKME *e*Sn Sn 17 39 37.9 -1.8
HERR Herculane 9.28 335⇓ *i*P Pn 17 37 56.9 +1.3
NKY Niksic 9.29 315⇓ *i*Pn Pn 17 37 57.7 +1.9
NKY *e*Sn Sn 17 39 38.1 -1.9
FASA Fasano 9.30 300 *e*Pn Pn 17 37 56.7 +0.8
PLOR Plostina 9.30 354⇑ *i*P Pn 17 37 57.5 +1.6
PLOR Plostina 9.30 354 P Pn 17 37 57.5 +1.6
VRI Vrincioaia 9.31 355⇑ *i*P Pn 17 37 56.9 +0.9
VRI Vrincioaia 9.31 355 P Pn 17 37 56.8 +0.8
HCY Herceg Novi 9.36 312⇑ *i*Pn Pn 17 37 58.8 +2.1
HCY *e*Sn Sn 17 39 40.1 -1.5
HCY Herceg Novi 9.36 312 *e*P Pn 17 37 59.5 +2.8
MASS Massafra 9.38 299 *e*P Pn 17 37 57.4 +0.5
MASS S Sn 17 39 45.7 +3.7
HQLS 9.40 139 S Sn 17 39 37.5 -5.3
HQLS 9.40 139 P Pn 17 37 57.8 +0.5
ALU Alushta 9.44 29 *e*P Pn 17 37 56.5 -1.3
MDVR Moldovita 9.45 332⇓ *i*P Pn 17 37 58.4 +0.4
HAQS Haql 9.53 140 S Sn 17 39 40.6 -5.3
HAQS Haql 9.53 140 P Pn 17 37 59.0 0.0
SIM Simferopol’ 9.56 27 *e*P Pn 17 38 00.2 +0.8
SIM *e*S Sn 17 39 41.3 -5.1
DOPR Dopca 9.56 349⇓ *i*P Pn 17 38 00.0 +0.5
UPM Unac-Piva 9.59 316⇓ *i*Pn Pn 17 38 02.3 +2.3
UPM *e*Sn Sn 17 39 45.5 -1.9
UPM Unac-Piva 9.59 316 *e*P Pn 17 38 03.9 +3.9
SOI Samo 9.60 282 P Pn 17 38 00.8 +0.8
BRY Bratogost 9.60 314⇓ *i*Pn Pn 17 38 02.1 +1.9
BRY *e*Sn Sn 17 39 46.0 -1.8
BRY Bratogost 9.60 314 *e*P Pn 17 38 01.2 +1.0
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MATE Matera 9.69 298 ⇓ *i*P Pn 17 38 01.6 +0.4
CEL Celeste 9.74 283 *e*Pn Pn 17 38 02.9 +0.8
BBLS Lazići 9.77 321 ⇑ *i*P Pn 17 38 04.5 +2.1
SG1 Sgolgore (BA) 9.78 299 *e*P Pn 17 38 02.9 +0.4
SG1 S Sn 17 39 57.6 +5.6
SUDU Sudak 9.85 31 *e*P Pn 17 38 05.8 +2.4
SUDU *e*S Sn 17 39 51.7 -1.9
ATN Antennamare 10.07 283 P Pn 17 38 06.6 +0.1
JLOS 10.08 139 P Pn 17 38 06.4 -0.4
JLOS 10.08 139 S Sn 17 39 54.2 -5.3
RSHS 10.08 143 P Pn 17 38 07.8 +1.1
RSHS 10.08 143 S Sn 17 39 53.4 -6.0
STON Ston 10.08 312 *e*P Pn 17 38 06.6 0.0
BDAS Al Bad' 10.12 142 P Pn 17 38 06.3 -1.0
HAPS Han Pijesak,BI 10.16 320 *e*P Pn 17 38 08.7 +1.0
BZS Buzias 10.20 334 ⇑ *i*P Pn 17 38 09.0 +0.8
KIS Kishinev 10.41 3 *e*P Pn 17 38 18.0 +6.9
KIS *e*S Sn 17 40 03.0 -4.4
KIS LRM MLR 17 42 32.0
comp=Z,1µm,8.0s
KIS Kishinev 10.41 3 *e*P Pn 17 38 18.0 +6.9
KIS *e*S Sn 17 40 03.0 -4.4
KIS MLR MLR
comp=N,1µm,10.0s
KIS MLR MLR
comp=Z,1µm,10.0s
KIS MLR MLR
comp=E,1µm,8.0s
KIS MLR MLR
comp=Z,900nm,12.0s
BIZ Bicaz 10.43 353 ⇓ *i*P Pn 17 38 12.1 +0.8
FRGS Fruska Gora 10.54 327 *e*P Pn 17 38 19.6 +6.7
PRAR RASCA 10.84 354 ⇑ *i*P Pn 17 38 18.8 +1.9
VAE Valguarnera 10.87 279 Pn Pn 17 38 18.4 +0.9
comp=Z,2.4nm,0.3s,baz=314,slow=2.3,SNR=4.1
VAE Sn Sn 17 40 18.6 -0.1
comp=Z,1.6nm,0.3s,baz=287,slow=19,SNR=2.6
VAE LR LR 17 42 13.2
comp=Z,336nm,20.7s,baz=184,slow=36
WDD Wied Dalam 10.88 270 *e*Pn Pn 17 38 16.7 -0.9
WDD *e*Sn Sn 17 40 18.7 -0.3
ANN Anapa 10.89 38 *e*P Pn 17 38 15.4 -2.3
ANN *e*S Sn 17 40 16.9 -2.3
ANN pmax pmax
comp=Z,23nm,1.0s
ANN MLR MLR
comp=E,44nm,11.0s
ANN MLR MLR
comp=Z,222nm,11.0s
ANN MLR MLR
comp=N,198nm,11.0s
DRGR 10.91 341 ⇑ *i*P Pn 17 38 18.0 0.0
DRGR 10.91 341 P Pn 17 38 18.0 0.0
TBKS Tabuk 11.05 137 P Pn 17 38 20.6 +0.7
BUR04 Bucovina Ar. S 11.20 350 *e*Pn Pn 17 38 23.6 +1.6
BUR08 Bucovina Ar. S 11.23 350 *e*Pn Pn 17 38 24.1 +1.7
BLY Banja Luka 11.54 318 *e*Pn Pn 17 38 28.7 +2.2
BLY Banja Luka 11.54 318 ⇑ *i*P Pn 17 38 27.9 +1.4
BLY Banja Luka 11.54 318 ⇑ *i*P Pn 17 38 27.4 +0.9
CLTB Caltabellotta 11.82 279 *e*Pn Pn 17 38 33.5 +3.0
MORH M˙ţr ¡gy, Hung 11.88 327 ⇑ *e*Pn Pn 17 38 32.0 +0.9
MORH M˙ţr ¡gy, Hung 11.88 327 ⇑ *i*P Pn 17 38 31.3 +0.2
TRPA Tarpa 12.20 343 *e*Pn Pn 17 38 39.2 +3.7
BIDS Bi'r al Bayda' 12.35 139 P Pn 17 38 37.8 +0.1
AQU L'Aquila 12.63 302 *e*Pn Pn 17 38 44.0 +2.6
AQU L'Aquila 12.63 302 *e*P Pn 17 38 44.1 +2.6
AQU L'Aquila 12.63 302 *e*P P 17 38 49.3 -3.6
UZH Uzhgorod 12.73 343 *e*P Pn 17 38 45.7 +3.0
UZH *e*S Sn 17 41 08.8 +4.8
UZH MLR MLR
comp=N,330nm,10.0s
UZH MLR MLR
comp=E,350nm,10.0s
UZH MLR MLR
comp=Z,150nm,10.0s
PSZ Piszkesteto 12.79 335 *e*Pn Pn 17 38 44.2 +0.6
PSZ Piszkesteto 12.79 335 ⇑ *i*P Pn 17 38 45.5 +1.9
PSZ Piszkesteto 12.79 335 ⇑ *e*Pn Pn 17 38 48.2 +4.6
PSZ Piszkesteto 12.79 335 *e*P Pn 17 38 44.2 +0.6
AKH Akhalkalaki 13.00 64 *e*Pn Pn 17 38 50.1 +3.5
AKH Akhalkalaki 13.00 64 *e*P Pn 17 38 50.2 +3.5
BOJS Bojanci 13.07 317 *e*Pn Pn 17 38 46.0 -1.4
BOJS Bojanci 13.07 317 *e*Pn Pn 17 38 46.0 -1.4
KECS Kecovo 13.09 338 *e*P Pn 17 38 48.5 +0.8
KECS Kecovo 13.09 338 *e*PN Pn 17 38 48.5 +0.8
NEY Neytrino 13.12 55 ⇓ *e*P P 17 38 53.5 -5.0
CRES Cresnjev 13.16 318 ⇑ *i*P Pn 17 38 48.4 -0.3
KIV Kislovodsk 13.42 52 *e*Pn Pn 17 38 54.9 +2.6
KIV Kislovodsk 13.42 52 P P 17 39 04.4 +2.7
SNR=8.7
KIV Kislovodsk 13.42 52 *i* P P 17 38 57.2 -4.5
SNR=8.2
KIV Kislovodsk 13.42 52 *e*P Pn 17 38 55.6 +3.3
KIV pmax pmax
comp=Z,47nm,1.1s
KIV MLR MLR
comp=Z,116nm,11.0s
KVAR Kislovodsk Arr 13.43 52 Pn Pn 17 38 55.6 +3.2
baz=273,slow=17,SNR=4.4
KBZ Khabaz 13.45 53 Pn Pn 17 38 54.2 +1.6
comp=Z,0.1nm,0.3s,baz=257,slow=14,SNR=2.7
KBZ LR LR 17 45 45.7
comp=Z,247nm,18.5s,baz=278,slow=45
VISS Visnje 13.48 317 *i* Pn Pn 17 38 56.9 +3.8
VISS Visnje 13.48 317 *i* Pn Pn 17 38 56.9 +3.8
LVV L'vov 13.52 349 *e*P Pn 17 38 55.1 +1.5
LVV *e*S Sn 17 41 24.0 +0.6
LVV MLR MLR
comp=N,600nm,9.0s
LVV MLR MLR
comp=E,500nm,9.0s
LVV MLR MLR
comp=Z,800nm,9.0s
GNI Garni 13.63 70 Pn Pn 17 38 59.5 +4.1
comp=Z,0.4nm,0.3s,baz=187,slow=4.2,SNR=10
GNI Garni 13.63 70 *e*Pn P 17 38 59.9 -4.3
GNI Garni 13.63 70 P Pn 17 38 59.4 +4.1
SNR=10
GNI Garni 13.63 70 *i* P Pn 17 38 59.5 +4.1
SNR=7.7
GNI Garni 13.63 70 *d* iP Pn 17 38 59.1 +3.8
GNI pmax pmax
comp=Z,183nm,1.7s
VYHS Vyhne 13.65 333 *e*P Pn 17 38 56.4 +1.1
VYHS Vyhne 13.65 333 *e*PN Pn 17 38 56.4 +1.1
CEY Cerknica 13.67 316 *e*P Pn 17 38 58.3 +2.6
ZEI Tsey 13.73 58 *e*P Pn 17 38 59.1 +2.4
ZEI pmax pmax
comp=Z,23nm,0.9s
LJU Ljubljana 13.80 317 *e*P P 17 39 05.9 +0.1
NCK Nalchik 13.81 55 ⇓ *e*P P 17 39 02.0 -3.9
NCK pmax pmax
comp=Z,18nm,0.6s
PERS Pernice 13.87 320 *i* Pn Pn 17 39 01.3 +2.9
PERS Pernice 13.87 320 *i* Pn Pn 17 39 01.3 +2.9
SOKA Soboth 13.94 320 *e*Pn Pn 17 39 00.7 +1.3
comp=Z,6.2nm,1.2s
JAVS Javornik 13.97 316 *e*Pn Pn 17 39 00.3 +0.5
JAVS Javornik 13.97 316 *e*Pn Pn 17 39 00.3 +0.5
NIE Niedzica 13.98 339 *e*P P 17 39 05.4 -2.4
NIE Niedzica 13.98 339 *e*P P 17 39 05.4 -2.4
LANS Liptovska Anna 14.00 336 *e* P 17 39 10.4 +2.4
TRI Trieste 14.03 315 *e*Pn Pn 17 39 01.4 +0.9
TRI Trieste 14.03 315 *e*P Pn 17 39 01.4 +0.9
OBKA Obir 14.09 319 *e*Pn Pn 17 39 02.2 +0.8
comp=Z,16nm,1.0s
ARSA Arzberg 14.09 323 Pn Pn 17 39 03.8 +2.5
comp=Z,13nm,1.4s
AK11 Malin Array Si 14.11 3 *e*Pn Pn 17 39 04.3 +2.8
KIEV Kiev 14.12 3 *e*Pn Pn 17 39 04.8 +3.0
KIEV Kiev 14.12 3 P P 17 39 09.2 -0.1
KIEV Kiev 14.12 3 ⇓ *e*P P 17 39 05.6 -3.7
KIEV pmax pmax
comp=Z,10.0nm,1.7s
AKASG Malin Array Be 14.13 3 Pn Pn 17 39 01.9 0.0
comp=Z,0.5nm,0.3s,baz=187,slow=12,SNR=7.1
AKASG LR LR 17 44 24.7
comp=Z,240nm,18.0s,baz=180,slow=37
AKBB Malin Array Si 14.13 3 *e*Pn Pn 17 39 04.8 +2.9
AKBB Malin Array Si 14.13 3 *e*P Pn 17 39 04.8 +2.9
MODS Modra-Piesok 14.15 330 *e*P P 17 39 09.9 +0.2
MODS Modra-Piesok 14.15 330 *e*P P 17 39 09.9 +0.2
GOF Gofitskoye 14.19 49 *e*P P 17 39 07.1 -3.0
GOF pmax pmax
comp=Z,40nm,1.0s
SFI Santa Sofia 14.30 306 P P 17 39 09.5 -1.8
JAVC Velka Javorina 14.38 332 *e*PN P 17 39 14.8 +2.5
CONA Conrad Observa 14.42 326 P P 17 39 10.0 -2.7
comp=Z,9.8nm,1.4s
MYKA Terra Mystica 14.65 318 *e*P P 17 39 13.0 -2.3
comp=Z,18nm,1.0s
OJC Ojcow 14.84 339 *e*P P 17 39 23.7 +6.4
OKC Ostrava-Krasne 15.03 335 AMS AMS 17 46 20.0
comp=Z,1µm,12.7s
KRUC Moravsky 15.05 329 P P 17 39 21.2 +1.5
KRUC pmax pmax
comp=Z,26nm,0.8s
KRUC Moravsky 15.05 329 *e*PN P 17 39 21.5 +1.8
KEST Kesra 15.07 272 Pn Pn 17 39 15.7 +1.0
comp=Z,0.3nm,0.3s,baz=326,slow=6.0,SNR=13
KEST LR LR 17 45 58.2
comp=Z,159nm,20.2s,baz=343,slow=41
KBA Koelnbreinsper 15.09 318 *e*Pn Pn 17 39 15.2 +0.1
comp=Z,2.8nm,0.7s,SNR=28
KBA *e*P P 17 39 22.9 +2.7
comp=Z,41nm,0.9s
MOA Molln 15.12 322 *e*P P 17 39 18.7 -1.8
comp=Z,24nm,1.6s
VRAC Vranov 15.17 330 Pn P 17 39 21.9 +1.0
comp=Z,0.7nm,0.3s,baz=146,slow=10.0,SNR=14
VRAC Vranov 15.17 330 *e*PN P 17 39 22.9 +1.9
GROC Groznyy 15.18 59 *e*P Pn 17 39 16.9 +0.7
GROC *e*S Sn 17 42 05.7 +1.8
GROC pmax pmax
comp=Z,20nm,0.5s
MORC Moravsky Berou 15.19 333 *e*Pn P 17 39 19.8 -1.5
comp=Z,15nm,1.0s
MORC Moravsky Berou 15.19 333 *e*P P 17 39 19.8 -1.5
MORC pmax pmax
comp=Z,15nm,1.0s
MORC Moravsky Berou 15.19 333 *e*PN P 17 39 23.2 +2.0
ABTA Abfaltersbach 15.34 316 *e*Pn Pn 17 39 20.0 +1.7
comp=Z,3.5nm,0.6s,SNR=14
ABTA *e*P P 17 39 24.9 +1.9
comp=Z,37nm,0.8s
CTI Castel Tesino 15.45 313 P P 17 39 24.0 -0.2
TREC Trest 15.61 328 *e*P P 17 39 27.9 +2.0
TREC AMS AMS 17 46 20.0
comp=Z,2µm,11.0s
TREC Trest 15.61 328 *e*P P 17 39 27.9 +2.0
TREC MLR MLR
comp=Z,2µm,11.0s
GEA0 GERESS Array S 16.07 324 *e*Pn P 17 39 30.0 -1.1
GEC2 GERESS Array S 16.08 324 *e*Pn P 17 39 31.0 -0.2
comp=Z,79nm,1.6s
GEC2 GERESS Array S 16.08 324 *e*P P 17 39 31.0 -0.2
GEC2 pmax pmax
comp=Z,79nm,1.6s
GERES GERESS Array B 16.08 324 Pn P 17 39 30.3 -0.9
comp=Z,0.6nm,0.3s,baz=138,slow=12,SNR=22
GERES PcP PcP 17 44 22.9 -0.7
comp=Z,0.1nm,0.3s,baz=186,slow=2.7,SNR=4.3
GERES LR LR 17 46 59.2
comp=Z,435nm,19.6s,baz=128,slow=42
GERES ScP ScP 17 47 55.5 -1.7
comp=Z,0.1nm,0.3s,baz=100,slow=1.2,SNR=4.2
DPC Dobruska-Polom 16.11 332 *e*P P 17 39 34.8 +3.4
DPC *e*S S 17 42 38.8 -0.9
DPC AMS AMS 17 46 50.0
comp=Z,1µm,9.1s
DPC Dobruska-Polom 16.11 332 *e*P P 17 39 34.8 +3.4
DPC MLR MLR
comp=Z,1µm,9.1s
WTTA Wattenberg 16.13 316 P P 17 39 32.5 +0.6
comp=Z,56nm,1.2s
WATA Walderalm 16.20 317 *e*P P 17 39 33.6 +0.9
SNR=12
MAK Makhachkala 16.30 61 *e*P Pn 17 39 30.1 -0.5
MAK *e*S Sn 17 42 32.5 +1.5
MAK pmax pmax
comp=Z,115nm,1.0s
KHC Kasperske Hory 16.34 325 *e*Pn P 17 39 33.8 -0.2
comp=Z,8.8nm,0.8s
KHC Kasperske Hory 16.34 325 *e*P P 17 39 36.3 +2.3
KHC *ex* x 17 39 48.2
KHC *e*S S 17 42 46.1 +1.6
KHC AMS AMS 17 46 30.0
comp=Z,2µm,10.7s
KHC Kasperske Hory 16.34 325 *e*P P 17 39 33.8 -0.2
KHC pmax pmax
comp=Z,9.0nm,0.8s
SQTA Sankt Quirin 16.34 316 *e*Pn Pn 17 39 32.4 +1.1
comp=Z,18nm,0.9s
UPC Upice 16.35 332 *e*S S 17 42 46.4 +1.8
UPC AMS AMS 17 47 10.0
comp=Z,800nm,10.1s
GOPC GO Pecny, Ondr 16.38 328 *e*P P 17 39 36.4 +2.0
GOPC *ex* x 17 39 49.4
GOPC *e*S S 17 42 51.8 +6.6
GOPC AMS AMS 17 46 50.0
comp=Z,2µm,10.5s
GOPC GO Pecny, Ondr 16.38 328 *e*P P 17 39 36.4 +2.0
GOPC MLR MLR
comp=Z,2µm,10.5s
MOTA Moosalm 16.47 316 *e*Pn P 17 39 34.7 -0.9
comp=Z,15nm,0.8s,SNR=28
ABSA Djebel Ababsia 16.49 275 P P 17 39 35.4 -0.4
CMAH Djebel Manchou 16.50 276 P P 17 39 34.7 -1.2
VORD Divnogorie 16.50 26 *e*P P 17 39 37.0 +1.3
VORD pmax pmax
comp=Z,10.0nm,0.6s
FETA Feichten 16.50 314 *e*P P 17 39 36.6 +0.6
comp=Z,98nm,1.8s,SNR=29
KSP Ksiaz 16.52 333 *e*P P 17 39 36.8 +0.9
KSP Ksiaz 16.52 333 *e*P P 17 39 36.8 +0.9
FUORN Ofenpass-Fuorn 16.56 313 *e*Pn P 17 39 37.3 +0.6
comp=Z,67nm,1.1s
PRA Prague 16.64 328 AMS AMS 17 47 00.0
comp=Z,2µm,12.4s
VSR Storozhevoye 16.67 25 *e*P Pn 17 39 35.4 +0.2
VSR pmax pmax
comp=Z,5.0nm,0.5s
WET Wettzell 16.68 323 P P 17 39 38.1 +0.3
WET pmax pmax
comp=Z,25nm,1.5s
RETA Reutte 16.74 316 Pn Pn 17 39 36.9 +0.5
comp=Z,45nm,1.3s
FUR Furstenfeldbru 16.86 318 P P 17 39 42.5 +2.7
FUR pmax pmax
comp=Z,126nm,1.1s
DAVOX Davos/Dischmat 16.87 313 Pn P 17 39 41.2 +1.1
comp=Z,0.4nm,0.3s,baz=120,slow=11,SNR=8.5
PVCC Panska Ves 16.94 330 *e*P P 17 39 44.9 +4.3
PVCC AMS AMS 17 47 20.0
comp=Z,2µm,10.0s
PVCC Panska Ves 16.94 330 *e*P P 17 39 44.9 +4.3
PVCC MLR MLR
comp=Z,2µm,10.0s
CAEH 'Ain El Ouahch 16.94 277 P P 17 39 40.2 -0.5
TUE Stuetta 17.04 311 *e*Pn P 17 39 44.7 +2.7
comp=Z,34nm,1.2s
CKFL Kef-Lekhel 17.08 276 P P 17 39 42.0 -0.4
DAVA Damuels 17.14 314 *e*Pn P 17 39 43.0 0.0
comp=Z,34nm,0.8s
SAOF Saorge 17.20 302 P P 17 39 46.4 +2.8
SBF Sospel 17.25 301 *e*P Pn 17 39 43.1 +0.4
SBF pmax pmax
comp=Z,40nm,0.8s
GRB1 Grafenberg Arr 17.44 322 P P 17 39 48.2 +2.0
GRB1 pmax pmax
comp=Z,50nm,1.2s
BRG Berggiesshubel 17.46 329 *e*P P 17 39 47.7 +1.4
comp=Z,106nm,1.8s
BRG S S 17 43 09.0 +1.9
comp=N,593nm,12.7s
comp=E,647nm,11.6s
comp=Z,1µm,12.7s
BRG Berggiesshubel 17.46 329 *e*P P 17 39 47.7 +1.4
BRG pmax pmax
comp=Z,106nm,1.8s
BRG MLR MLR
comp=N,593nm,12.7s
BRG MLR MLR
comp=E,647nm,11.6s
BRG MLR MLR
comp=Z,1µm,12.7s
VRH Novokhopyorsk 17.61 30 *e*P P 17 39 49.4 +1.5
VRH pmax pmax
comp=Z,10.0nm,0.6s
NKC Novy Kostel 17.64 325 *e*P P 17 39 51.9 +3.6
NKC AMS AMS 17 47 20.0
comp=Z,2µm,9.5s
NKC Novy Kostel 17.64 325 *e*P P 17 39 51.9 +3.6
NKC MLR MLR
comp=Z,2µm,9.5s
FRF La Foret Royal 17.71 300 *e*P P 17 39 49.9 +0.7
FRF pmax pmax
comp=Z,45nm,1.0s
SUW Suwalki 17.73 351 *e*Pn P 17 39 49.2 -0.1
comp=Z,54nm,0.9s
SUW Suwalki 17.73 351 *e*P P 17 39 49.2 -0.1
SUW pmax pmax
comp=Z,54nm,0.9s
DFRA Djebel Bou Aff 17.74 276 P P 17 39 50.5 +0.8
LPSR Galich'ya Gora 17.77 22 *e*P P 17 39 52.0 +2.3
LPSR pmax pmax
comp=Z,10.0nm,0.8s
GRF Grafenberg Arr 17.85 322 P P 17 39 54.8 +4.1
GRF pmax pmax
comp=Z,35nm,1.2s
GRFO Grafenberg 17.85 322 *e*Pn P 17 39 50.4 -0.3
comp=Z,27nm,0.9s
GRFO Grafenberg 17.85 322 *e*P P 17 39 50.4 -0.3
GRFO pmax pmax
comp=Z,27nm,0.9s
MICGM Minsk 17.91 360 ⇑ *e*P P 17 39 53.0 +1.8
MICGM PM 17 39 54.0
comp=Z,0.1nm,1.0s
MICGM *e*LR LR 17 46 22.0
MNK Minsk 17.91 360 ⇑ *e*P P 17 39 53.0 +1.8
MNK pmax pmax
comp=Z,140nm,1.0s
MBDF Montbardon 17.98 303 *e*P P 17 39 54.3 +2.0
MBDF pmax pmax
comp=Z,34nm,1.0s
BNI Bardonecchia 18.15 304 *e*Pn P 17 39 56.8 +2.6
comp=Z,19nm,0.9s
BNI Bardonecchia 18.15 304 *e*P P 17 39 56.8 +2.6
BNI pmax pmax
comp=Z,19nm,0.9s
CLL Collm 18.18 329 *e*Pn P 17 39 57.5 +3.2
comp=Z,29nm,0.9s
CLL Collm 18.18 329 *e*P P 17 39 55.0 +0.8
CLL *i* 17 39 57.4
comp=Z,18nm,0.9s
CLL *i* 17 39 59.0
CLL *e*Pmax 17 40 02.0
CLL *e*PP PnPn 17 40 06.0 +0.8
CLL *e*S S 17 43 25.0 +3.3
comp=N,400nm,14.5s
CLL *e*S S 17 43 25.0 +3.3
comp=E,200nm,16.2s
CLL Lmax 17 47 00.0
CLL Collm 18.18 329 *e*P P 17 39 55.0 +0.8
SLE Schleitheim 18.19 314 P P 17 39 56.1 +1.6
SLE pmax pmax
comp=Z,38nm,1.0s
SENIN Lac Senin/Sane 18.25 309 *e*Pn P 17 39 57.0 +1.7
comp=Z,40nm,0.8s
LPG La Plagne 18.26 306 *e*P P 17 39 57.7 +2.1
LPG pmax pmax
comp=Z,25nm,0.7s
LPL La Plagne 18.28 306 *e*P P 17 39 57.0 +1.3
LPL pmax pmax
comp=Z,26nm,0.9s
MOX Moxa 18.31 325 P P 17 39 58.1 +2.4
MOX pmax pmax
comp=Z,54nm,1.1s
NACGM Naroch 18.33 358 *e* P 17 40 00.0 +4.1
STU Stuttgart 18.34 317 *e*Pn P 17 39 58.7 +2.7
comp=Z,46nm,0.9s
STU Stuttgart 18.34 317 *e*P P 17 39 58.7 +2.7
STU pmax pmax
comp=Z,46nm,0.9s
BFO Black Forest 18.58 315 *e*P Pn 17 40 00.7 +1.7
comp=Z,75nm,1.3s
BFO Black Forest 18.58 315 *ce*P Pn 17 40 01.3 +2.3
BFO pmax pmax
comp=Z,5.0nm,0.8s
ORIF Oris-en-Rattie 18.64 303 *e*P Pn 17 40 00.2 +0.4
ORIF pmax pmax
comp=Z,40nm,1.3s
KLNR Kaliningrad 18.79 346 ⇑ *e*P Pn 17 40 04.6 +3.2
CABF La Chapelle 19.12 308 *e*P Pn 17 40 06.3 +0.7
CABF pmax pmax
comp=Z,75nm,1.1s
ECH Echery 19.19 314 *e*P Pn 17 40 07.5 +1.1
comp=Z,32nm,1.0s
ECH Echery 19.19 314 *e*P Pn 17 40 07.5 +1.1
ECH pmax pmax
comp=Z,32nm,1.0s
VIVF Saint-Julien-l 19.44 302 *e*P Pn 17 40 09.3 -0.1
VIVF pmax pmax
comp=Z,27nm,1.1s
OBN Obninsk 19.44 15 P Pn 17 40 10.3 +1.0
comp=Z,1.7nm,0.3s,baz=70,slow=21,SNR=6.1
OBN Obninsk 19.44 15 ⇓ *e*P P 17 40 08.4 +0.4
OBN pmax pmax
comp=Z,10.0nm,0.8s
OBN MLR MLR
comp=Z,193nm,16.0s
HAU Haudompre 19.57 312 *e*P Pn 17 40 11.7 +0.8
HAU pmax pmax
comp=Z,59nm,1.0s
TNS Taunus Mts 19.58 320 P Pn 17 40 13.6 +2.5
SSB Saint Sauveur 19.65 303 *e*P P 17 40 11.0 +0.5
comp=Z,42nm,1.6s
SSB Saint Sauveur 19.65 303 *e*P P 17 40 11.0 +0.5
SSB pmax pmax
comp=Z,42nm,1.6s
RAYN Ar Rayn 19.96 126 *e*P Pn 17 40 17.4 +1.6
comp=Z,121nm,1.9s
RAYN Ar Rayn 19.96 126 P Pn 17 40 16.4 +0.6
RAYN Ar Rayn 19.96 126 *e*P Pn 17 40 17.4 +1.6
RAYN pmax pmax
comp=Z,121nm,1.9s
EMHD Djebel Mahouad 20.12 276 P Pn 17 40 18.6 +0.9
MOS Moscow 20.25 16 *e*P Pn 17 40 17.9 -0.9
MOS *e* 17 40 30.2
WLF Walferdange 20.50 316 *e*P P 17 40 20.3 +0.7
comp=Z,38nm,1.0s
WLF Walferdange 20.50 316 *e*P P 17 40 20.3 +0.7
WLF pmax pmax
comp=Z,39nm,1.0s
WLF Walferdange 20.50 316 ⇑ P Pn 17 40 22.6 +0.8
comp=Z,27nm,1.1s
SMF Signal de Mont 20.57 307 *e*P Pn 17 40 21.6 -1.1
SMF pmax pmax
comp=Z,104nm,1.2s
BSD Bornholm Skovb 20.57 338 *i* P P 17 40 19.5 -0.8
BSD Bornholm Skovb 20.57 338 *i* P P 17 40 19.5 -0.8
LOR Lormes 20.78 308 *e*P Pn 17 40 24.0 -1.2
LOR pmax pmax
comp=Z,26nm,1.0s
SSF Saint Saulge 20.93 308 *e*P P 17 40 24.6 +0.2
SSF pmax pmax
comp=Z,64nm,1.0s
AVF Avril sur Loir 20.93 307 *e*P Pn 17 40 25.7 -1.2
AVF pmax pmax
comp=Z,71nm,1.0s
MEM Membach 21.08 319 ⇑ P P 17 40 27.9 +1.9
comp=Z,29nm,1.0s
BGF Bois d'Agland 21.18 306 *e*P P 17 40 28.2 +1.1
BGF pmax pmax
comp=Z,45nm,1.0s
CAF Calviac 21.24 301 *e*P P 17 40 28.8 +1.0
EBNR Beni Rached 21.25 277 P P 17 40 32.1 +4.2
BCLA Clavier 21.36 317 ⇑ P P 17 40 30.8 +1.9
GIVF Givet 21.46 316 *e*P P 17 40 31.8 +1.8
GIVF pmax pmax
comp=Z,28nm,1.1s
TCF Toulx Ste Croi 21.52 305 *e*P P 17 40 33.1 +2.4
DOU Dourbes 21.58 316 ⇑ P P 17 40 33.1 +1.8
ETRT Tiaret 21.59 275 P P 17 40 41.9 +10
EANR 'Ain N'Sour 21.65 276 P P 17 40 35.7 +3.5
RJF Les Rejaudoux 21.71 302 *e*P P 17 40 34.5 +1.7
RJF pmax pmax
comp=Z,24nm,1.0s
BAIF Baives 21.78 316 *e*P P 17 40 35.3 +1.8
VSU Vasula 21.89 358 ⇑ *i*P P 17 40 35.2 +0.6
VSU pmax pmax
comp=Z,113nm,1.0s
PUL Pulkovo 23.24 3 ⇑ *e*P P 17 40 51.3 +2.6
PUL pmax pmax

comp=Z,117nm,0.5s
MUD Monsted U'grnd 23.55 333 *i* P **P 17 40 54.1 +2.2**
MUD Monsted U'grnd 23.55 333 *eP* **P 17 40 54.1 +2.2**
TAM Tamanrasset 23.78 241 *eP* **P 17 40 55.7 +1.1**
comp=Z,19nm,1.1s
TAM Tamanrasset 23.78 241 *eP* **P 17 40 55.7 +1.1**
TAM pmax pmax
comp=Z,19nm,1.1s
GEYT Alibeck 23.99 78 P **P 17 40 57.0 +0.7**
comp=Z,11nm,0.6s,baz=272,slow=6.8,SNR=65
GYA0B ALIBECK ARRAY 23.99 78 *eP* **P 17 40 57.2 +0.8**
comp=Z,69nm,1.2s
FLN La Foliniere 24.04 309 *eP* **P 17 40 56.0 -0.6**
FLN pmax pmax
comp=Z,38nm,0.9s
GRR Gorron 24.15 308 *eP* **P 17 40 57.3 -0.4**
GRR pmax pmax
comp=Z,110nm,1.2s
FINES FINESS Array B 24.90 358 P **P 17 41 04.8 +0.5**
comp=Z,19nm,0.9s,baz=157,slow=11,SNR=28
FINES PcP **PcP 17 44 38.9 -0.7**
comp=Z,1.5nm,0.6s,baz=45,slow=2.6,SNR=5.3
FINES LR LR 17 50 51.9
comp=Z,210nm,18.9s,baz=203,slow=36
FINES FINESS Array B 24.90 358 *i* P **P 17 41 05.4 +1.1**
FINES pmax pmax
comp=Z,20nm,0.9s
FIA1 FINESS Array S 24.90 358 *eP* **P 17 41 04.7 +0.3**
ES19 SONSECA Array 25.18 287 *eP* **P 17 41 07.4 +0.2**
ESDC Sonseca Array 25.23 287 P **P 17 41 07.8 +0.1**
comp=Z,4.8nm,0.5s,baz=80,slow=9.3,SNR=40
ESDC LR LR 17 51 36.6
comp=Z,109nm,18.1s,baz=70,slow=38
ESLA Sonseca Array 25.23 287 *eP* **P 17 41 07.8 +0.2**
comp=Z,12nm,0.8s
HFS Hagfors 25.28 343 P **P 17 41 08.2 +0.4**
comp=Z,17nm,1.0s,baz=155,slow=11,SNR=9.5
KLMR Klimovskoe 25.37 13 *eP* **P 17 41 07.1 -1.5**
KLMR pmax pmax
comp=Z,81nm,1.1s
KLMR Klimovskoe 25.37 13 *eP* **P 17 41 07.2 -1.4**
KLMR AMP 17 41 15.3
comp=Z,81nm,1.1s
QUIF Quistinic 25.50 306 *eP* **P 17 41 11.7 +1.8**
QUIF pmax pmax
comp=Z,105nm,1.7s
PAB San Pablo 25.53 287 *eP* **P 17 41 11.0 +0.5**
comp=Z,34nm,1.1s
PAB San Pablo 25.53 287 *eP* **P 17 41 11.0 +0.5**
PAB pmax pmax
comp=Z,34nm,1.1s
AKTO Aktyubinsk 25.61 48 P **P 17 41 11.2 +0.3**
comp=Z,26nm,0.7s,baz=251,slow=8.5,SNR=93
AKTO LR LR 17 56 20.6
comp=Z,107nm,18.7s,baz=253,slow=48
KONO Kongsberg 25.95 339 *eP* **P 17 41 14.5 +0.7**
comp=Z,47nm,1.2s
KONO Kongsberg 25.95 339 *eP* **P 17 41 14.5 +0.7**
KONO pmax pmax
comp=Z,47nm,1.2s
NORES NORESS Array B 26.33 342 P **P 17 41 17.9 +0.6**
NORES pmax pmax
comp=Z,1.0nm,0.4s
DAMY Dhamar 26.39 142 *es*P sP 17 41 25.0 -0.5
ABKAR Akbulak array 26.40 51 *eP* **P 17 41 18.6 +0.4**
NAO01 NORSAR Array S 26.59 341 *eP* **P 17 41 20.5 +0.8**
NB2 NORSAR Subarra 26.67 342 P **P 17 41 20.1 -0.4**
comp=Z,19nm,1.4s,baz=146,slow=10
NOA NORSAR Array B 26.67 342 P **P 17 41 20.9 +0.5**
comp=Z,2.6nm,0.7s,baz=146,slow=9.5,SNR=13
NOA LR LR 17 54 11.2
comp=Z,280nm,18.6s,baz=155,slow=42
NOA NORSAR Array B 26.67 342 P **P 17 41 21.0 +0.5**
UOSS Minazif 26.80 108 *eP* **P 17 41 22.9 +1.0**
comp=Z,19nm,0.9s
MDT Midelt 26.97 272 P **P 17 41 24.1 +0.5**
comp=Z,13nm,0.9s,baz=91,slow=12,SNR=9.4
PBRG Braganca 27.27 292 *eP* **P 17 41 24.7 -1.4**
comp=Z,41nm,1.3s
PRGR Permogore 27.41 18 *eP* **P 17 41 27.0 0.0**
PRGR pmax pmax
comp=Z,25nm,1.4s
MVO Moncorvo 27.50 290 *eP* **P 17 41 28.3 +0.1**
comp=Z,43nm,1.4s
PMRV Marv??o 27.89 287 *eP* **P 17 41 31.6 0.0**
comp=Z,23nm,1.6s
PCBR Castelo Branco 27.92 288 *eP* **P 17 41 30.1 -1.7**
comp=Z,36nm,1.3s
MTE Manteigas 27.93 289 *eP* **P 17 41 34.8 +2.8**
comp=Z,51nm,1.6s
POLO Lamas de Olo 28.07 291 *eP* **P 17 41 31.5 -1.8**
comp=Z,25nm,1.6s
PESTR Estremoz 28.10 286 *eP* **P 17 41 32.8 -0.7**
comp=Z,24nm,1.5s
PVIS Viseu 28.18 289 *eP* **P 17 41 34.6 +0.4**
comp=Z,52nm,2.1s
EKA Eskdalemuir Ar 28.26 321 P **P 17 41 35.5 +0.8**
comp=Z,4.6nm,0.6s,baz=110,slow=11,SNR=8.1
EKA PcP **PcP 17 44 47.2 -0.4**
comp=Z,0.3nm,0.3s,baz=114,slow=3.2,SNR=3.5
ATD Arta Tunnel 28.34 148 LR LR 17 54 37.8
comp=Z,62nm,18.4s,baz=336,slow=40
PVAQ Vaqueiros 28.41 282 *eP* **P 17 41 35.9 -0.3**
comp=Z,50nm,1.4s
ARU Arti 28.55 36 P **P 17 41 38.2 +0.9**
comp=Z,13nm,0.8s,baz=239,slow=9.1,SNR=16
ARU Arti 28.55 36 *eP* **P 17 41 37.3 0.0**
comp=Z,23nm,0.9s
ARU Arti 28.55 36 *d iP* **P 17 41 38.1 +0.9**
ARU pmax pmax
comp=Z,28nm,1.3s
PBDV Barranco-do-Ve 28.60 282 *eP* **P 17 41 37.6 -0.4**
comp=Z,56nm,1.6s
MESJ Messejana 28.73 284 *eP* **P 17 41 38.5 -0.6**
WSAR Wadi Sarin 29.59 108 P **P 17 41 47.3 +0.5**
comp=Z,2.6nm,0.8s,baz=344,slow=7.4,SNR=2.7
SVE Sverdlovsk 29.75 37⇑ *eP* **P 17 41 48.7 +0.8**
SVE pmax pmax
comp=Z,40nm,0.9s
ARCES ARCESS Array B 33.02 358 P **P 17 42 16.9 +0.2**
comp=Z,3.4nm,0.7s,baz=166,slow=8.3,SNR=13
ARCES LR LR 17 55 50.7
comp=Z,6.1nm,19.0s,baz=161,slow=36
KK31 Karatay Array 33.03 65 *eP* **P 17 42 18.0 +1.0**
KK31 Karatay Array 33.03 65 *eP* **P 17 42 18.0 +1.0**
KKAR Karatay Array 33.03 65 *eP* **P 17 42 18.0 +1.0**
KKAR Karatay Array 33.03 65 *eP* **P 17 42 18.0 +1.0**
TOA0 Torodi Ar. Sit 33.16 232 *eP* **P 17 42 16.5 -1.8**
TOA0 *eP*cP **PcP 17 45 01.4 +0.2**
TORD Torodi Ar. Bea 33.16 232 P **P 17 42 16.7 -1.6**
comp=Z,8.4nm,0.5s,baz=29,slow=7.8,SNR=78
TORD PcP **PcP 17 45 00.6 -0.6**
comp=Z,3.2nm,0.9s,baz=4.3,slow=5.9,SNR=3.8
KBL Kabul 33.30 81 *eP* **P 17 42 21.4 +1.7**
KBL Kabul 33.30 81 *eP* **P 17 42 21.4 +1.7**
BRVK Borovoye 33.65 47 *eP* **P 17 42 22.4 +0.2**
comp=Z,12nm,1.2s
BRVK Borovoye 33.65 47 P **P 17 42 23.3 +1.0**
SNR=5.5
BRVK Borovoye 33.65 47 *d iP* **P 17 42 23.0 +0.7**
BRVK pmax pmax
comp=Z,13nm,1.4s
BVAR Borovoye Array 33.71 47 LR LR 17 59 48.4
comp=Z,143nm,19.3s,baz=256,slow=43
EKS2 Erkin-Say 35.46 66 P **P 17 42 39.4 +1.2**
SNR=16
USP Ospenovka 35.93 65 P **P 17 42 42.7 +0.6**
SNR=5.6
AAK Ala-Archa 35.99 66 P **P 17 42 43.7 +0.9**
comp=Z,21nm,0.8s,baz=230,slow=4.8,SNR=46
AAK LR LR 17 59 57.4
comp=Z,124nm,18.6s,baz=269,slow=40
AAK Ala-Archa 35.99 66 P **P 17 42 44.2 +1.5**
SNR=15
AAK Ala-Archa 35.99 66 *eP* **P 17 42 44.0 +1.2**
comp=Z,31nm,1.0s
AAK Ala-Archa 35.99 66 P **P 17 42 44.0 +1.2**
SNR=16
AAK Ala-Archa 35.99 66 *i* P **P 17 42 44.3 +1.5**
SNR=50
AAK Ala-Archa 35.99 66 *d iP* **P 17 42 43.9 +1.1**
AAK pmax pmax
comp=Z,76nm,1.0s
UCH Uchtor 36.05 66 P **P 17 42 44.9 +1.2**
SNR=5.8
FRU Bishkek 36.06 65 *eP* **P 17 42 44.0 +0.8**
FRU *i* 17 44 05.0
FRU pmax pmax
comp=Z,120nm,1.8s
FRU1 Bishkek 36.07 65 *eP* **P 17 42 45.3 +2.0**
comp=Z,71nm,1.3s
FRU1 Bishkek 36.07 65 *eP* **P 17 42 45.3 +2.0**
FRU1 pmax pmax
comp=Z,71nm,1.3s
CHMS Chumysh 36.14 65 P **P 17 42 45.0 +1.1**
SNR=3
KBK Karagaybulak 36.32 66 P **P 17 42 47.1 +1.5**
SNR=13
KZA Kyzart 36.61 67 P **P 17 42 50.0 +1.6**
SNR=20
TKM2 Tokmak 2 36.76 65 P **P 17 42 49.9 +0.4**
SNR=15
KSH Kashi 37.57 71 P **P 17 42 55.3 -0.9**
KSH pP pP 17 43 00.5 -0.7
KSH PP **PnPn 17 44 22.8 0.0**
KSH S **S 17 48 41.5 -3.4**
KSH sS pS 17 48 49.8 -0.8
KSH SS **SnSn 17 51 12.5 -11**
KSH pmax pmax
comp=Z,19nm,0.6s
KSH pmax pmax
comp=Z,320nm,4.4s
KSH LR LR
comp=Z,190nm,6.4s
KSH LR LR
comp=Z,210nm,6.6s
KDJ Kajisay 38.03 66 *eP* **P 17 43 03.0 +3.0**
comp=Z,20nm,0.8s
KDJ Kajisay 38.03 66 *eP* **P 17 43 03.1 +3.0**
KDJ pmax pmax
comp=Z,20nm,0.8s
KURBB Kurchatov Arra 38.45 52 P **P 17 43 04.1 +0.8**
comp=Z,34nm,0.8s,baz=276,slow=8.6,SNR=86
KURBB PP **PP 17 44 30.9 -0.3**
comp=Z,2.1nm,0.8s,baz=278,slow=8.9,SNR=4.2
KURBB PcP **PcP 17 45 16.2 0.0**
comp=Z,2.3nm,0.8s,baz=280,slow=3.6,SNR=3.5
KURK Kurchatov 38.51 52 *eP* **P 17 43 04.6 +0.8**
comp=Z,36nm,1.0s
KURK PP **PP 17 44 30.9 -0.9**
KURK PcP **PcP 17 45 16.2 -0.2**
KURK Kurchatov 38.51 52 P **P 17 43 04.7 +0.8**
SNR=12
KURK Kurchatov 38.51 52 *d iP* **P 17 43 04.5 +0.7**
KURK pmax pmax
comp=Z,31nm,1.0s
KMBO Kilima Mbogo 38.51 165 P **P 17 43 05.2 +0.7**
comp=Z,0.4nm,0.4s,baz=27,slow=6.8,SNR=3.1
KMBO LR LR 18 00 44.1
comp=Z,86nm,18.3s,baz=282,slow=39
MK31 Makanchi Array 41.09 58 *eP* **P 17 43 26.4 +1.0**
MK31 Makanchi Array 41.09 58 *eP* **P 17 43 26.4 +1.0**
MKAR Makanchi Array 41.09 58 P **P 17 43 26.0 +0.6**
comp=Z,18nm,0.7s,baz=282,slow=6.4,SNR=43
MKAR Makanchi Array 41.09 58 *eP* **P 17 43 26.4 +1.0**
comp=Z,106nm,0.8s
MKAR Makanchi Array 41.09 58 *i* P **P 17 43 26.0 +0.6**
MKAR pmax pmax
comp=Z,18nm,0.7s
MK01 Makanchi Array 41.09 58 *eP* **P 17 43 26.0 +0.6**
NVS Novosibirsk 41.46 46⇑ *iP* **P 17 43 29.8 +1.5**
NVS *e* 17 45 04.3
NVS pmax pmax
comp=Z,44nm,1.0s
NVS pmax pmax
comp=N,13nm,1.1s
NVS pmax pmax
comp=E,22nm,1.1s
DBIC Dimbokro 42.24 233 P **P 17 43 34.6 -0.5**
comp=E,8.6nm,0.6s,baz=21,slow=8.7,SNR=15
DBIC LR LR 18 04 08.9
comp=E,119nm,18.4s,baz=19,slow=40
DBIC Dimbokro 42.24 233 *eP* **P 17 43 34.9 -0.2**
comp=E,32nm,1.4s
DBIC Dimbokro 42.24 233 *eP* **P 17 43 34.9 -0.2**
DBIC pmax pmax
comp=Z,32nm,1.4s
ZAA0 Zalesovo Array 42.37 47 *eP* **P 17 43 35.8 +0.1**
comp=Z,12nm,0.7s
ZALV Zalesovo Beam 42.37 47 P **P 17 43 35.9 +0.2**
comp=Z,11nm,0.6s,baz=266,slow=9.2,SNR=19
ZALV PP **PP 17 45 16.6 +2.9**
comp=Z,2.4nm,0.8s,baz=272,slow=11,SNR=3.7
ZALV LR LR 18 04 50.9
comp=Z,45nm,19.8s,baz=256,slow=41
TIC Toumodi 42.37 233 *eP* **P 17 43 38.3 +2.1**
KIC Kosan Boka 42.40 233 *eP* **P 17 43 35.8 -0.6**
comp=Z,36nm,0.9s
LIC Lamto 42.69 233 *eP* **P 17 43 37.7 -1.1**
comp=Z,43nm,0.8s
SCO Scoresbysund 42.84 338 *eP* **P 17 43 40.8 +1.5**
comp=Z,16nm,1.0s
SCO Scoresbysund 42.84 338 *i* P **P 17 43 40.1 +0.8**
SCO Scoresbysund 42.84 338 *eP* **P 17 43 40.1 +0.8**
DGZ Jazzator, Alta 44.20 53 *d iP* **P 17 43 51.6 +0.8**
DGZ pmax pmax
comp=Z,6.0nm,1.0s
WMQ Urumqi 45.32 62 P **P 17 44 01.5 +1.8**
WMQ pP sP 17 44 05.0 -1.8
WMQ sP pP 17 44 12.5 +7.7
WMQ pmax pmax
comp=Z,47nm,1.3s
WMQ pmax pmax
comp=Z,270nm,3.7s
WMQ LR LR
comp=Z,180nm,24.9s
NRIK Noril'sk 45.61 25 P **P 17 44 03.2 +1.6**
comp=Z,11nm,0.7s,baz=237,slow=3.3,SNR=11
PYUN Piuhan 46.71 84 *eP* **P 17 44 11.9 +0.9**
comp=Z,63nm,0.8s
DANN Dangsing 47.23 83 *eP* **P 17 44 16.2 +1.1**
comp=Z,174nm,0.6s
KOLN Koldanda 47.34 84 *eP* **P 17 44 16.5 +0.6**
comp=Z,78nm,0.9s
HVS Khovu-Aksy 47.99 51⇑ *iP* **P 17 44 21.7 +1.2**
HVS pmax pmax
comp=Z,13nm,0.8s
HYB Hyderabad 48.37 99 *i* P **P 17 44 24.0 +0.2**
SUMG Summit 48.47 338 *i* P **P 17 44 24.2 -0.1**
comp=Z,12nm,0.7s
SUMG Summit 48.47 338 *i* P **P 17 44 24.2 -0.1**
SUMG pmax pmax
comp=Z,12nm,0.7s
DMN Daman 48.62 83 *eP* **P 17 44 26.4 +0.5**
comp=Z,67nm,0.7s
KKN Kakani 48.68 83 *eP* **P 17 44 26.6 +0.3**
comp=Z,40nm,0.7s
PKIN Phulchoki 48.86 83 *eP* **P 17 44 28.0 +0.2**
comp=Z,74nm,1.0s
PKI Pulchoki 48.88 83 *eP* **P 17 44 28.0 0.0**
comp=Z,73nm,1.0s
GUN Gumba 49.10 83 *eP* **P 17 44 30.0 +0.3**
comp=Z,105nm,1.0s
JIRN Jiri 49.46 83 *eP* **P 17 44 32.4 -0.1**
comp=Z,40nm,0.7s
RAMN Ramite 50.10 83 *eP* **P 17 44 37.1 -0.1**
comp=Z,84nm,1.1s
KNGR Kungurtug, Tuv 50.46 51⇑ *iP* **P 17 44 42.7 +3.2**
LSA Lhasa 52.52 78 P **P 17 44 57.1 +1.5**
ZAK Zakamensk 54.09 50 *eP* **P 17 45 07.6 +1.2**
ZAK pmax pmax
comp=Z,20nm,1.1s
SHL Shillong 54.95 82 *eP* **P 17 45 12.4 -0.7**
comp=Z,18nm,1.0s
SHL Shillong 54.95 82 *eP* **P 17 45 12.4 -0.7**
SHL pmax pmax
comp=Z,18nm,1.0s
GTA Gaotai 55.28 64 P **P 17 45 15.8 +0.5**
GTA pP sP 17 45 22.0 -0.5
GTA sP pP 17 45 25.0 +4.5
GTA S **S 17 53 01.8 +3.2**
GTA pmax pmax
comp=Z,5.0nm,1.6s
GTA pmax pmax
comp=Z,120nm,5.7s
GTA LR LR
comp=Z,340nm,18.4s
GTA LR LR
comp=Z,520nm,18.7s
GTA LR LR
comp=Z,620nm,19.0s
PALK Pallekele 56.08 108 *i* P **P 17 45 19.8 -1.4**
TSUM Tsumeb 56.35 192 *eP* **P 17 45 24.2 +1.2**
comp=Z,9.5nm,0.8s
SONM Songino Array 56.81 52 P **P 17 45 27.2 +1.1**
comp=Z,8.1nm,0.7s,baz=290,slow=7.9,SNR=34
SONA1 Songino Array 56.81 52 *eP* **P 17 45 26.8 +0.7**
ULN Ulaanbaatar 57.22 52 *eP* **P 17 45 28.9 -0.1**
comp=Z,14nm,0.9s
ULN Ulaanbaatar 57.22 52 *d iP* **P 17 45 29.7 +0.7**
ULN pmax pmax
comp=Z,14nm,0.8s
BOD Bodaibo 57.92 39 *eP* **P 17 45 32.5 -1.0**
BOD pmax pmax
comp=Z,10.0nm,1.6s
TIXI Tiksi 59.02 21 *eP* **P 17 45 41.2 +0.2**
comp=Z,5.5nm,0.8s
TIXI Tiksi 59.02 21⇑ *iP* **P 17 45 41.4 +0.4**
TIXI pmax pmax
comp=Z,6.0nm,0.8s
LZH Lanzhou 59.53 66 *eP* **P 17 45 44.5 -0.8**
LZH pP pP 17 45 50.5 -0.1
LZH sP sP 17 45 53.8 +1.3
LZH *e*PP **PP 17 47 55.0 -1.5**
LZH pmax pmax
comp=Z,31nm,1.1s
LZH pmax pmax
comp=Z,200nm,6.5s
LZH LR LR
comp=Z,410nm,14.7s
LZH LR LR
comp=Z,400nm,15.0s
LZH LR LR
comp=Z,540nm,17.5s
LBTB Lobatse 61.32 182 *eP* **P 17 45 59.7 +2.3**
comp=Z,17nm,0.8s
LBTB Lobatse 61.32 182 *eP* **P 17 45 59.7 +2.3**
LBTB pmax pmax
comp=Z,17nm,0.8s
CD2 Chengdu 61.76 71 *eP* **P 17 45 59.5 -1.0**
CD2 S **S 17 54 22.5 -0.5**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,1μm,11.7s
CD2 LR LR
comp=Z,710nm,11.9s
CD2 LR LR
comp=Z,1μm,13.9s
BTO Baotou 62.00 59 *eP* **P 17 46 01.3 -0.7**
HHC Hu-ho-hao-te 62.95 58 *eP* **P 17 46 09.3 +1.0**
HHC S **S 17 54 36.3 -1.5**
HHC SS **SS 17 58 43.3 +0.6**
HHC pmax pmax
comp=Z,25nm,1.1s
HHC pmax pmax
comp=Z,180nm,5.0s
HHC LR LR
comp=Z,640nm,18.0s
HHC LR LR
comp=Z,380nm,17.3s
HHC LR LR
comp=Z,890nm,16.3s
SCHQ Schefferville 63.56 320 P **P 17 46 10.3 -1.7**
comp=Z,4.4nm,0.6s,baz=43,slow=5.9,SNR=5.3
KMI Kunming 63.76 77 P **P 17 46 14.5 +0.4**
KMI pP pP 17 46 18.0 -1.3
KMI sP sP 17 46 20.0 -1.3
KMI pmax pmax
comp=Z,10.0nm,1.5s
KMI pmax pmax
comp=Z,120nm,3.1s
CHTO Chiang Mai 63.98 85 *eP* **P 17 46 15.7 +0.4**
comp=Z,9.5nm,1.2s
CHTO Chiang Mai 63.98 85 *eP* **P 17 46 15.7 +0.4**
CHTO pmax pmax
comp=Z,9.0nm,1.2s
CHTO Chiang Mai 63.98 85 P **P 17 46 15.9 +0.6**
comp=Z,24nm,0.9s
CM31 Chiang Mai Arr 64.17 86 *eP* **P 17 46 17.1 +0.5**
CMAR Chiang Mai Arr 64.17 86 P **P 17 46 16.9 +0.4**
comp=Z,3.8nm,0.8s,baz=298,slow=7.9,SNR=35
CMAR PP **PP 17 48 33.0 -4.6**
comp=Z,0.9nm,0.6s,baz=294,slow=9.1,SNR=4.3
CM01 Chiang Mai Arr 64.20 86 *eP* **P 17 46 15.7 -1.1**
BOSA Boshof 64.91 183 P **P 17 46 22.4 +1.2**
comp=Z,9.5nm,0.8s,baz=356,slow=7.2,SNR=11
BOSA LR LR 18 17 34.2
comp=Z,63nm,18.1s,baz=30,slow=39
SUKH Sukhothai 65.24 86 P **P 17 46 25.1 +1.6**
comp=Z,4.5nm,0.9s
UTTA Uttaradit 65.84 85 P **P 17 46 32.0 +4.6**
comp=Z,2.5nm,0.9s
GYA Guiyang 66.15 74 *eP* **P 17 46 31.0 +1.5**
GYA pmax pmax
comp=Z,10.0nm,1.0s
PBKT Sadao Pong 66.81 86 *eP* **P 17 46 34.2 +0.6**
PBKT Sadao Pong 66.81 86 P **P 17 46 34.9 +1.3**
comp=Z,7.8nm,1.0s
PHET Kaeng Krachan 67.75 90 P P 17 46 46.1 +6.4
CHAI Chaiyaphum 67.99 86 P **P 17 46 42.4 +1.2**
comp=Z,5.0nm,0.9s
SRAK Srakaew 69.08 88 P **P 17 46 51.7 +3.7**
comp=Z,51nm,0.9s
CN2 Changchun 70.52 50 *eP* **P 17 46 58.8 +2.4**
CN2 pmax pmax
comp=Z,20nm,0.8s
BILL Bilibino 71.10 15 *eP* **P 17 47 01.9 +2.4**
BILL *e* 17 47 20.0
BILL *e* 17 49 39.1
BILL *e*PPP PPP 17 51 21.2
BILL pmax pmax
comp=Z,5.0nm,1.1s
KLR Kul'dur 71.19 42 LR LR 18 22 47.8
comp=Z,107nm,18.4s,baz=169,slow=40
KLR Kul'dur 71.19 42⇑ *eP* **P 17 47 03.9 +3.5**
SEY Seymchan 71.35 23⇑ *eP* **P 17 47 04.1 +3.0**
KCSI Kotacane, Aceh 71.73 99 P **P 17 47 02.6 -1.6**
comp=Z,16nm,1.1s
NJ2 Nanjing 72.37 63 *eP* **P 17 47 07.5 -0.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.9s
QIZ Qiongzhong 72.55 79 P **P 17 47 08.0 -1.0**
QIZ S **S 17 56 32.0 -1.2**
QIZ pmax pmax
comp=Z,23nm,2.2s
QIZ LR LR
comp=Z,850nm,14.7s
QIZ LR LR
comp=Z,990nm,15.7s
QIZ LR LR
comp=Z,1μm,15.2s
MDJ Mudanjiang 72.56 47 P **P 17 47 08.5 -0.3**
MDJ pmax pmax
comp=Z,8.0nm,1.0s
MDJ pmax pmax
comp=Z,190nm,3.0s
KULM Kulim 72.97 96 *eP* **P 17 47 11.6 0.0**
comp=Z,12nm,0.9s
PSI Prapat 73.08 99 P **P 17 47 12.7 +0.3**
comp=Z,3.7nm,0.4s,baz=360,slow=5.1,SNR=5.1
PSI Prapat 73.08 99 *eP* **P 17 47 12.2 -0.2**
comp=Z,21nm,1.2s
PSI Prapat 73.08 99 *eP* **P 17 47 12.2 -0.2**
PSI pmax pmax
comp=Z,21nm,1.2s
D53A Lac Vacive, Po 73.45 317 P **P 17 47 12.3 -1.6**
baz=54
USRK Ussuriysk Ar. 74.21 46 P **P 17 47 18.5 +0.1**
comp=Z,7.0nm,0.7s,baz=305,slow=3.8,SNR=16
TOLK Toolik Lake Re 75.06 359 *eP* **P 17 47 23.5 +0.5**
comp=Z,13nm,1.5s
TOLK Toolik Lake Re 75.06 359 P **P 17 47 22.8 -0.2**
baz=2.0
KS01 Wonju Array Si 75.57 54 *eP* **P 17 47 26.5 +0.1**
KSAR Wonju Array Be 75.58 54 P **P 17 47 26.9 +0.4**
KSAR Wonju Array Be 75.58 54 P **P 17 47 26.9 +0.4**
KSRS Korea Array 75.60 54 P **P 17 47 26.9 +0.3**
comp=Z,8.7nm,1.2s,baz=311,slow=4.8,SNR=6.6
N59A State Game Lan 75.97 311 P **P 17 47 28.0 -0.7**
baz=54
COLD Coldfoot 76.49 359 *eP* **P 17 47 31.5 +0.3**
comp=Z,16nm,1.6s
PDSI Padang 76.55 101 P P 17 47 37.2 +4.8
EPYK Eagle Plains 76.68 354 P **P 17 47 31.4 -1.0**
baz=13
YKA Yellowknife Ar 76.76 343 P **P 17 47 31.7 -1.0**

comp=Z,1.3nm,0.8s,baz=31,slow=5.5,SNR=4.9
SSPA Standing Stone 77.42 311 P P 17 47 35.3 -1.5
baz=52
RGRI Rengat 77.69 100 P P 17 47 36.6 -2.1
comp=Z,334nm,0.4s,comp=Z,44µm
IM3 Indian Mountai 77.74 1 eP P 17 47 37.9 -0.3
M54A Oil Creek Stat 77.94 313 P P 17 47 38.4 -1.4
baz=52
O56A Blue Knob Stat 78.06 311 P P 17 47 39.2 -1.3
baz=52
KRJI Kerinci 78.06 102 P P 17 47 49.3 +8.4
I48A Sherman Twp 78.55 317 P P 17 47 42.0 -1.1
baz=50
POKR Poker Plat Res 78.56 358 P P 17 47 41.2 -1.6
baz=3.8
MLY Manley 78.70 359 eP P 17 47 43.5 -0.1
comp=Z,5.8nm,1.0s
MDM Murphy Dome 78.73 358 eP P 17 47 43.8 +0.1
comp=Z,15nm,1.4s
IL1 Eielson Array 78.89 358 eP P 17 47 42.7 -1.9
ILAR Eielson Array 78.89 358 P P 17 47 43.8 -0.8
comp=Z,1.0nm,0.6s,baz=335,slow=3.6,SNR=15
CCB Clear Creek Bu 79.04 358 eP P 17 47 44.7 -0.7
comp=Z,10nm,1.2s
R58B Mineral 79.05 309 P P 17 47 44.5 -1.4
baz=52
DAWY Dawson 79.17 354 eP P 17 47 46.0 -0.2
comp=Z,6.9nm,0.9s
WRH Wood River Hil 79.22 358 eP P 17 47 45.9 -0.4
comp=Z,9.8nm,1.0s
HDA Harding Lake 79.25 358 eP P 17 47 46.0 -0.6
comp=Z,6.9nm,0.8s
HDA Harding Lake 79.25 358 P P 17 47 45.4 -1.1
baz=4.1
DSRI Dabo 79.55 98 P P 17 47 55.2 +6.2
BPAW Bear Paw Mtn. 79.64 360 eP P 17 47 48.1 -0.6
comp=Z,26nm,1.7s
O52A Adamsville 80.10 313 P P 17 47 50.2 -1.5
baz=50
P53A Whipple 80.24 312 eP P 17 47 52.2 -0.2
comp=Z,16nm,0.8s
P53A Whipple 80.24 312 P P 17 47 51.5 -0.9
baz=50
K47A Vermontville 80.25 316 P P 17 47 51.4 -1.0
baz=49
CAST Castle Rocks 80.32 0 eP P 17 47 51.9 -0.5
comp=Z,6.8nm,1.0s
ULM Lac du Bonnet 80.36 327 P P 17 47 53.2 +0.4
comp=Z,3.9nm,0.8s,baz=47,slow=7.1,SNR=3.0
ULM LR LR 18 24 36.0
comp=Z,68nm,20.3s,baz=75,slow=36
M49A Liberty Center 80.46 315 P P 17 47 52.4 -1.2
baz=49
O51A Pataskala 80.53 313 P P 17 47 53.0 -1.0
baz=50
P52A Corning 80.58 313 P P 17 47 52.4 -1.8
baz=50
ACSO Alum Creek Sta 80.70 314 P P 17 47 53.3 -1.5
baz=49
L47A Sherwood 80.83 316 P P 17 47 53.8 -1.6
baz=48
N49A Columbus Grove 80.94 315 P P 17 47 54.5 -1.6
baz=49
Q52A Bidwell 81.10 312 P P 17 47 55.5 -1.5
baz=50
O50A Cable 81.12 314 P P 17 47 55.3 -1.8
baz=49
I43A Langenfeld Bro 81.14 319 P P 17 47 55.6 -1.6
baz=47
F39A Loretta 81.16 322 P P 17 47 55.4 -1.8
baz=45
N48A Decatur 81.47 315 P P 17 47 57.4 -1.5
baz=48
O49A Covington 81.51 314 P P 17 47 57.5 -1.6
baz=49
I42A Draeger Farm, 81.54 319 P P 17 47 57.7 -1.6
baz=46
P50A Jamestown 81.58 314 P P 17 47 58.5 -1.0
baz=49
J43A Natural Harves 81.63 319 P P 17 47 58.3 -1.5
baz=47
MDSI Maura Dua 81.66 102 P P 17 47 59.9 -0.4
Q51A Peebles 81.69 313 eP P 17 47 59.2 -1.0
comp=Z,13nm,0.8s
Q51A Peebles 81.69 313 P P 17 47 58.9 -1.3
baz=49
G39A Holcombe 81.73 321 P P 17 47 58.6 -1.7
baz=45
H40A Chili 81.80 321 P P 17 47 59.0 -1.7
baz=46
N47A Urbana 81.83 315 P P 17 47 59.0 -1.9
baz=48
SCM Sheep Creek Mo 81.84 358 eP P 17 48 01.5 +0.9
comp=Z,31nm,1.1s
SCM Sheep Creek Mo 81.84 358 eP P 17 48 01.5 +0.9
SCM pmax pmax
comp=Z,31nm,1.1s
GHO Glory Hole Cre 81.94 359 eP P 17 48 00.8 -0.3
comp=Z,63nm,1.9s
SUA Susitna One 82.28 359 eP P 17 48 02.7 -0.2
comp=Z,14nm,1.0s
R51A Hillsboro 82.31 312 P P 17 48 02.1 -1.3
baz=49
N46A Monticello 82.40 316 P P 17 48 02.1 -1.7
baz=47
J41A Loganville 82.48 319 P P 17 48 02.6 -1.7
baz=46
K42A Prairie Point, 82.54 319 P P 17 48 02.7 -1.8
baz=46
Q49A Aurora 82.62 314 P P 17 48 03.7 -1.3
baz=48
P48A Milroy 82.62 314 P P 17 48 03.4 -1.6
baz=48
MJAR Matsushiro Arr 82.67 50 P P 17 48 05.5 +0.1
comp=Z,2.7nm,0.7s,baz=330,slow=3.4,SNR=5.0
T52A Hallie 82.73 311 P P 17 48 04.8 -0.8
baz=49
S51A Beattyville 82.75 312 P P 17 48 04.6 -1.2
baz=49
R50A Paris 82.76 313 P P 17 48 04.4 -1.3
baz=48
J40A Soldiers Grove 82.84 320 P P 17 48 04.6 -1.5
baz=45
SFIN Lafayette 82.95 316 P P 17 48 05.1 -1.6
baz=47
U53A Fall Branch 82.96 310 P P 17 48 04.5 -2.4
baz=49
Q48A North Vernon 83.15 314 P P 17 48 06.1 -1.7
baz=48
S50A Richmond 83.20 312 P P 17 48 06.1 -2.0
baz=48
L42A Oliver, Polo 83.25 318 P P 17 48 05.7 -2.5
baz=46
R49A Shelbyville 83.25 313 P P 17 48 06.9 -1.4
baz=48
J39A Decorah 83.38 320 P P 17 48 07.2 -1.6
baz=45
T51A Gray 83.40 312 P P 17 48 08.1 -1.0
baz=48
U52A Thorn Hill 83.43 311 P P 17 48 08.3 -1.0
baz=49
TZTN Tazewell 83.44 311 P P 17 48 08.0 -1.4
baz=49
V53A Saluda 83.56 310 eP P 17 48 13.1 +3.1
comp=Z,11nm,1.2s
V53A Saluda 83.56 310 P P 17 48 08.5 -1.5
baz=49
L41A Preston 83.64 319 P P 17 48 08.4 -1.8
baz=45
S49A Springfield 83.66 313 P P 17 48 08.5 -1.9
baz=48
N43A Stutzman Famil 83.72 317 P P 17 48 09.5 -1.2
baz=46
U51A La Follette 83.83 311 P P 17 48 10.5 -0.8
baz=48,SNR=9.1
T50A Nancy 83.90 312 P P 17 48 11.0 -0.7
baz=48,SNR=5.1
V52A Sevierville 83.93 311 P P 17 48 10.5 -1.3
baz=49
WCI Wyandotte Cave 83.95 314 P P 17 48 11.1 -0.8
baz=47
L40A Anamosa 84.03 319 eP P 17 48 10.9 -1.3
comp=Z,21nm,0.8s
L40A Anamosa 84.03 319 P P 17 48 10.2 -2.1
baz=45
R47A Wooly Knot Far 84.04 314 P P 17 48 11.0 -1.3
baz=47
W53A Cullowhee 84.10 310 P P 17 48 11.8 -1.1
baz=49
TKL Tuckaleechee C 84.16 310 eP P 17 48 12.6 -0.4
comp=Z,29nm,1.4s
TKL Tuckaleechee C 84.16 310 eP P 17 48 12.6 -0.4
TKL pmax pmax
comp=Z,29nm,1.4s
S48A Wiedeman Farm, 84.20 313 P P 17 48 11.8 -1.4
baz=48
T49A Edmonton 84.26 313 eP P 17 48 12.6 -0.9
comp=Z,16nm,1.1s
T49A Edmonton 84.26 313 P P 17 48 12.4 -1.1
baz=48
N42A Yates City 84.27 318 P P 17 48 11.8 -1.6
baz=45
U50A Jamestown 84.31 312 P P 17 48 12.4 -1.4
baz=48
L39A Vinton 84.40 320 P P 17 48 12.4 -1.7
baz=44
V51A Loudon 84.42 311 eP P 17 48 14.6 +0.3
comp=Z,42nm,1.6s
V51A Loudon 84.42 311 P P 17 48 13.5 -0.8
baz=48
P44A Sand Creek, Wi 84.43 316 P P 17 48 12.8 -1.5
baz=46
Q45A Warren Harvey, 84.56 315 P P 17 48 13.3 -1.7
baz=46
W52A Murphy 84.62 310 P P 17 48 13.8 -1.6
baz=48
X53A Estanollee 84.63 309 P P 17 48 14.5 -0.9
baz=49
OLIL Olney 84.64 315 eP P 17 48 14.4 -1.0
comp=Z,73nm,1.4s
Y54A Tignall 84.66 309 P P 17 48 15.1 -0.5
baz=49
S47A Hartford 84.72 314 P P 17 48 14.2 -1.6
baz=47
STKI Sintang 84.75 94 P P 17 48 22.8 +6.5
CPCT Cooper Cave 84.75 311 eP P 17 48 16.0 0.0
comp=Z,29nm,1.2s
T48A Bowling Green 84.76 313 P P 17 48 15.3 -0.8
baz=47,SNR=11
N41A Harden Midland 84.79 318 P P 17 48 14.7 -1.4
baz=45
U49A Red Boiling Sp 84.80 312 P P 17 48 15.7 -0.5
baz=48,SNR=8.8
P43A Skaggs, Pawnee 84.81 317 P P 17 48 15.0 -1.2
baz=46
X52A Dahlonega 84.93 310 P P 17 48 16.2 -0.7
baz=48
M39A Webster 84.95 319 P P 17 48 15.4 -1.4
baz=44
V50A Pikevile 84.96 311 P P 17 48 16.5 -0.5
baz=48,SNR=12
Q44A Meyer Farm, Va 85.05 316 P P 17 48 16.2 -1.2
baz=46
R45A Skylar, Fairfi 85.05 315 P P 17 48 16.3 -1.1
baz=46
N40A Mertquake, Sal 85.06 319 P P 17 48 15.5 -1.9
baz=44
W51A Cleveland 85.09 311 P P 17 48 17.0 -0.8
baz=48
S46A Don Dixon Farm 85.14 314 P P 17 48 16.7 -1.2
baz=46
Z54A Sparta 85.17 308 P P 17 48 17.4 -0.7
baz=49
SCIA State Center 85.18 320 P P 17 48 17.0 -1.1
baz=44
DGMT Dagmar 85.21 330 P P 17 48 16.8 -1.3
baz=37
O41A Passleys Farm, 85.23 318 P P 17 48 17.0 -1.3
baz=45
Y53A Monroe 85.23 309 P P 17 48 17.3 -1.1
baz=48
U48A Cassie Pea, Po 85.25 313 P P 17 48 17.3 -1.2
baz=47
T47A Sharon Grove 85.26 313 eP P 17 48 17.6 -1.0
comp=Z,24nm,1.1s
T47A Sharon Grove 85.26 313 P P 17 48 17.3 -1.2
baz=47
P42A Winchester 85.31 317 P P 17 48 17.6 -1.1
baz=45
155A Kite 85.33 307 P P 17 48 18.3 -0.6
baz=49
V49A McMinnville 85.38 312 P P 17 48 18.2 -1.0
baz=47
Q43A New Douglas 85.40 316 P P 17 48 18.0 -1.2
baz=46
W50A Signal Mountai 85.40 311 eP P 17 48 18.8 -0.6
comp=Z,29nm,1.0s
W50A Signal Mountai 85.40 311 P P 17 48 18.7 -0.6
baz=48,SNR=10
GOGA Godfrey 85.45 309 eP P 17 48 19.8 +0.3
comp=Z,28nm,1.6s
GOGA Godfrey 85.45 309 eP P 17 48 19.8 +0.3
GOGA pmax pmax
comp=Z,28nm,1.6s
GOGA Godfrey 85.45 309 P P 17 48 18.5 -1.0
baz=48
Y52A Lilburn 85.52 309 eP P 17 48 20.0 +0.1
comp=Z,21nm,1.0s
Y52A Lilburn 85.52 309 P P 17 48 19.1 -0.8
baz=48
ECSD EROS Data Cent 85.54 323 eP P 17 48 18.6 -1.2
comp=Z,34nm,2.0s
ECSD EROS Data Cent 85.54 323 P P 17 48 18.3 -1.5
baz=42
R44A Waltonville 85.54 315 P P 17 48 18.3 -1.5
baz=46
X51A Calhoun 85.55 310 eP P 17 48 19.8 -0.2
comp=Z,22nm,1.0s
X51A Calhoun 85.55 310 P P 17 48 19.3 -0.7
baz=48
N39A Derby Farms, D 85.55 319 eP P 17 48 18.7 -1.2
comp=Z,12nm,0.6s
N39A Derby Farms, D 85.55 319 P P 17 48 18.5 -1.4
baz=44
Z53A Monticello 85.60 309 P P 17 48 19.2 -1.1
baz=48
P41A Barry, Barry 85.64 317 P P 17 48 19.3 -1.1
baz=45
S45A Carrier Mills 85.64 315 P P 17 48 19.2 -1.3
baz=46
T46A Princeton 85.69 314 P P 17 48 18.9 -1.7
baz=46
U47A Clarksville 85.74 313 P P 17 48 19.2 -1.7
baz=47
SWET Sewanee 85.77 311 eP P 17 48 19.9 -1.3
comp=Z,14nm,1.3s
Q42A Golden Eagle 85.88 317 P P 17 48 20.1 -1.5
baz=45
V48A Smith Brothers 85.94 312 eP P 17 48 21.2 -0.8
comp=Z,16nm,1.2s
V48A Smith Brothers 85.94 312 P P 17 48 20.7 -1.3
baz=47
SIUC Southern Illin 85.98 315 eP P 17 48 21.4 -0.7
comp=Z,43nm,0.7s
R43A Red Bud 86.00 316 P P 17 48 20.7 -1.4
baz=45
S44A Carbondale 86.02 315 P P 17 48 20.9 -1.4
baz=46
W49A Belvidere 86.03 311 P P 17 48 21.1 -1.3
baz=47,SNR=6.8
X50B Fort Payne 86.10 311 P P 17 48 21.6 -1.2
baz=48
Y51A Rockmart 86.12 310 P P 17 48 22.6 -0.3
baz=48,SNR=12
Z52A Williamson 86.19 309 P P 17 48 22.5 -0.7
baz=48
Q41A Truxton 86.24 317 P P 17 48 21.8 -1.5
baz=45,SNR=7.5
WVT Waverly 86.28 313 eP P 17 48 22.0 -1.6
comp=Z,7.7nm,0.9s
WVT Waverly 86.28 313 eP P 17 48 22.0 -1.6
WVT pmax pmax
comp=Z,8.0nm,0.9s
WVT Waverly 86.28 313 P P 17 48 21.8 -1.8
baz=46
V47A Nunnelly 86.30 313 P P 17 48 21.9 -1.8
baz=46
U46A Springville 86.32 313 P P 17 48 22.4 -1.4
baz=46
W48A Pulaski 86.42 312 P P 17 48 23.1 -1.2
baz=47
R42A Luebbering 86.47 316 P P 17 48 23.3 -1.2
baz=45
FVM French Village 86.48 316 eP P 17 48 23.9 -0.7
comp=Z,19nm,0.6s
FVM French Village 86.48 316 eP P 17 48 23.9 -0.7
FVM pmax pmax
comp=Z,19nm,0.6s
X49A Woodville 86.48 311 P P 17 48 24.1 -0.5
baz=47,SNR=7.8
Y50A Piedmont 86.54 310 P P 17 48 24.0 -1.0
baz=47
S43A Fulton Ridge, 86.57 315 P P 17 48 24.2 -0.8
baz=45,SNR=18
Z51A Franklin 86.58 310 P P 17 48 24.5 -0.6
baz=48
T44A Benton 86.63 315 P P 17 48 24.0 -1.3
baz=45
V46A Holladay 86.67 313 P P 17 48 23.6 -1.9
baz=46,SNR=6.9
152A Waverly Hall 86.72 309 P P 17 48 25.1 -0.7
baz=48
W47A Westpoint 86.74 312 P P 17 48 24.2 -1.7
baz=46
R41A Rosebud 86.79 317 P P 17 48 24.9 -1.1
baz=44,SNR=16
S42A Caledonia 86.83 316 P P 17 48 25.3 -1.0
baz=45,SNR=9.9
CCM Cathedral Cave 86.88 316 eP P 17 48 25.7 -0.8
comp=Z,28nm,0.6s
CCM Cathedral Cave 86.88 316 eP P 17 48 25.7 -0.8
CCM pmax pmax
comp=Z,28nm,0.6s
CCM Cathedral Cave 86.88 316 P P 17 48 25.4 -1.1
baz=44
X48A Hartselle 86.95 311 eP P 17 48 25.7 -1.2
comp=Z,7.1nm,0.8s
X48A Hartselle 86.95 311 P P 17 48 25.8 -1.2
baz=47
Y49A Blount Mountai 86.97 311 eP P 17 48 26.2 -0.8
comp=Z,8.0nm,0.8s
Y49A Blount Mountai 86.97 311 P P 17 48 25.9 -1.1
baz=47
Z50A Ashland 87.08 310 eP P 17 48 26.9 -0.7
comp=Z,8.4nm,0.8s
Z50A Ashland 87.08 310 P P 17 48 26.2 -1.4
baz=47
PLAL Pickwick Lake 87.21 312 eP P 17 48 26.9 -1.3
comp=Z,9.4nm,0.9s
353A Camilla 87.29 308 P P 17 48 27.8 -0.7
baz=48
555A McAlpin 87.29 306 P P 17 48 28.0 -0.6
baz=49
PBMO Poplar Bluff 87.33 315 eP P 17 48 27.8 -0.9
comp=Z,32nm,1.1s
S41A Jillco Farms, 87.50 316 P P 17 48 28.8 -0.8
baz=44,SNR=17
Z49A Columbiana 87.50 310 P P 17 48 28.8 -0.8
baz=47
T42A Van Buren 87.53 316 eP P 17 48 28.9 -0.7
comp=Z,23nm,0.7s
T42A Van Buren 87.53 316 P P 17 48 28.7 -0.9
baz=45,SNR=19
251A Midway 87.54 309 P P 17 48 28.9 -0.9
baz=48
150A Eclectic 87.58 309 P P 17 48 29.0 -1.0
baz=47
LRAL Lakeview Retre 87.89 310 eP P 17 48 30.6 -0.8
comp=Z,24nm,1.4s
LRAL Lakeview Retre 87.89 310 P P 17 48 30.4 -1.0
baz=47
T41A Mountain View 87.89 316 P P 17 48 30.9 -0.5
baz=44,SNR=22
BGNE Belgrade 88.03 323 eP P 17 48 31.4 -0.7
comp=Z,28nm,0.8s
BGNE Belgrade 88.03 323 P P 17 48 30.7 -1.4
baz=40
149A Jones 88.06 310 P P 17 48 31.0 -1.3
baz=47
U42A Revenden 88.09 315 P P 17 48 31.5 -0.9
baz=44,SNR=12
250A Grady 88.16 309 P P 17 48 31.8 -0.9
baz=47
351A Pinckard 88.22 308 P P 17 48 32.4 -0.7
baz=47
Y46A Houston 88.44 312 P P 17 48 32.7 -1.3
baz=46
U41A Viola 88.48 316 P P 17 48 32.9 -1.4
baz=44
V42A Cord 88.56 315 P P 17 48 33.1 -1.6
baz=44
U40A Yellville 89.00 316 P P 17 48 35.0 -1.7
baz=44
V41A Mountainview 89.01 315 P P 17 48 35.5 -1.2
baz=44
WHAR Wooly Hollow 89.44 315 eP P 17 48 37.7 -1.0
comp=Z,9.7nm,0.9s
W41B Gary Mavity, V 89.50 315 P P 17 48 37.6 -1.4
baz=44
NEW Newport 89.96 338 P P 17 48 39.3 -1.7
baz=27
X40A Basin Creek Fa 90.33 315 P P 17 48 41.8 -1.2
baz=44
W39A Magazine 90.36 316 P P 17 48 42.0 -1.0
baz=43
BOZ Bozeman (W) 90.43 333 P P 17 48 42.4 -1.0
baz=31
MIAR Mount Ida 90.71 315 eP P 17 48 44.2 -0.5
comp=Z,15nm,1.0s
MIAR Mount Ida 90.71 315 eP P 17 48 44.2 -0.5
MIAR pmax pmax
comp=Z,15nm,1.0s
MIAR Mount Ida 90.71 315 P P 17 48 43.7 -1.0
baz=43
MPSI Mapaga 91.36 89 P P 17 48 56.4 +8.4
X37A Clayton 91.69 316 eP P 17 48 51.2 +2.0
comp=Z,14nm,1.1s
PDAR Pinedale Array 92.03 330 P P 17 48 49.0 -2.0
comp=Z,0.6nm,0.6s,baz=69,slow=4.6,SNR=6.8
PDAR LR LR 18 31 34.2
comp=Z,39nm,21.2s,baz=20,slow=36
N23A Red Feather La 92.06 327 P P 17 48 49.2 -2.0
baz=35
WMOK Wichita Mounta 93.43 319 P P 17 48 55.0 -2.4
baz=40
T25A Trinidad 94.39 324 P P 17 48 59.7 -2.2
baz=36
SDCO Great Sand Dun 94.42 325 eP P 17 49 00.5 -1.6
comp=Z,3.3nm,1.0s
SDCO Great Sand Dun 94.42 325 P P 17 49 00.0 -2.1
baz=36
I04A Tendick Farm, 95.58 339 P P 17 49 04.8 -2.2
baz=23
ANMO Albuquerque 97.14 324 LR LR 18 35 01.9
comp=Z,93nm,18.2s,baz=201,slow=37
N02D Trinity Center 98.25 338 P P 17 49 16.2 -3.0
baz=23
NVAR Mina Array Bea 99.10 334 P Pdif 17 49 22.4 -0.8
comp=Z,0.4nm,0.6s,baz=49,slow=4.1,SNR=3.4
MNTX Cornudas Mount 99.23 321 P Pdif 17 49 21.3 -2.4
baz=36
TXAR Lajitas Array 100.22 318 P Pdif 17 49 27.1 -1.2
comp=Z,1.0nm,0.9s,baz=47,slow=5.5,SNR=6.2
WRA Warramunga Arr 114.50 97 PKP PKPdf 17 54 21.2 -0.9
comp=Z,0.4nm,0.6s,baz=318,slow=1.8,SNR=4.9
ASAR Alice Springs 116.08 101 PKP PKPdf 17 54 24.4 -0.7
comp=Z,0.8nm,0.8s,baz=309,slow=1.6,SNR=13
PLCA Paso Flores 118.45 239 PKP PKPdf 17 54 29.3 +0.1
comp=Z,0.9nm,0.5s,baz=1.1,slow=0.9,SNR=6.4
QSPA South Pole Qui 126.44 180 ePKPdf PKPdf 17 54 43.4 -0.3

*JMA **26** 17:36:07.6±0.1, 23°.92N×121°.66E, h27km±2km*
*ISCJB **26** 17:36:08.4±0.2, 23°.94N±0°.01×121°.68E±0°.02, h26km±2km,*
Error ellipse: s-maj=2.6km s-min=1.7km az=32.8
*TAP **26** 17:36:08.2, 23°.94N×121°.64E, h30km, ML3.4, B*
ISC 26 17:36:08.7±0.9, 23°.94N±0°.02×121°.66E±0°.02, h28km±5km,
n104,σ0°75/169, 6C-11D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	Hwalien	0.06	310	⇑*i*P	Pb	17 36 13.7	+0.2
	baz=327						
HWA				*e*S	Sb	17 36 17.9	+1.2
	baz=327						
ESL	Shilin	0.24	239	⇓*i*P	Pb	17 36 14.8	-0.4
	baz=244						
ESL				*e*S	Sb	17 36 19.6	+0.1
	baz=244						
NACB	Ninganchiao	0.24	347	⇑P	Pb	17 36 14.7	-0.5
	baz=344						
NACB				S	Sb	17 36 19.5	-0.1
	baz=344						
EGFH	Guangfu	0.34	218	*e*P	Pb	17 36 16.3	-0.2

	baz=226						
EGFH				*e*S		**Sb**	**17 36 22.3 +0.4**
	baz=226						
WHF	**Hehuan Shan**	**0.41**	**300**	⇓*i*P		**Pb**	**17 36 17.2 -0.8**
	baz=294						
WHF				*e*S		**Sb**	**17 36 23.6 -0.7**
	baz=294						
CHGB	**Renai**	**0.46**	**286**	⇓P		**Pb**	**17 36 18.1 -0.5**
	baz=285						
CHGB				S		**Sb**	**17 36 24.6 -0.6**
	baz=285						
HGSD	**Ruisui**	**0.49**	**205**	*e*P		**Pb**	**17 36 19.5 +0.6**
	baz=214						
HGSD				*e*S		**Sn**	**17 36 27.7 +0.1**
	baz=214						
ENA	**Nanau**	**0.49**	**9**	*e*P		**Pb**	**17 36 18.5 -0.5**
	baz=20						
ENA				*e*S		**Sb**	**17 36 25.9 0.0**
	baz=20						
NANB	**Nanao**	**0.49**	**10**	P		**Pb**	**17 36 18.4 -0.6**
	baz=20						
NANB				S		**Sb**	**17 36 25.6 -0.3**
	baz=20						
VWDT	**VWDT**	**0.51**	**249**	⇓P		**Pb**	**17 36 18.9 -0.2**
	baz=240						
VWDT				*e*S		**Sb**	**17 36 25.8 -0.4**
	baz=240						
EHY	**Hungye**	**0.53**	**215**	*e*P		**Pb**	**17 36 18.3 -1.2**
	baz=221						
EHY				*e*S		**Sb**	**17 36 25.8 -1.0**
	baz=221						
TWT	**Tachien**	**0.54**	**306**	⇓*i*P		**Pb**	**17 36 19.5 -0.3**
	baz=305						
TWT				S		**Sb**	**17 36 26.9 -0.5**
	baz=305						
NNSB	**Datong**	**0.55**	**333**	⇓P		**Pb**	**17 36 19.2 -0.8**
	baz=328						
NNSB				S		**Sb**	**17 36 26.7 -0.8**
	baz=328						
TDCB	**Techi**	**0.55**	**305**	⇓P		**Pb**	**17 36 19.6 -0.4**
	baz=305						
TDCB				S		**Sb**	**17 36 26.8 -0.9**
	baz=305						
NNS	**Nan Shan**	**0.56**	**333**	P		**Pb**	**17 36 19.4 -0.8**
	baz=334						
NNS				*e*S		**Sb**	**17 36 27.2 -0.8**
	baz=334						
YULB	**Yu-li**	**0.64**	**211**	⇑P		**Pb**	**17 36 19.8 -1.5**
	baz=210						
YULB				*e*S		**Sb**	**17 36 28.2 -1.7**
	baz=210						
SSLB	**Suanglung**	**0.66**	**257**	⇑P		**Pb**	**17 36 21.1 -0.7**
	baz=261						
SSLB				S		**Sb**	**17 36 29.2 -1.4**
	baz=261						
TWF1	**Yuli**	**0.67**	**209**	⇑*i*P		**Pb**	**17 36 20.4 -1.5**
	baz=218						
TWF1				*e*S		**Sb**	**17 36 29.7 -1.2**
	baz=218						
TWC	**Suao**	**0.69**	**15**	*e*P		**Pb**	**17 36 21.9 -0.4**
	baz=25						
TWC				*e*S		**Sb**	**17 36 31.4 -0.1**
	baz=25						
SMLT	**Sun Moon Lake**	**0.69**	**266**	⇓*i*P		**Pb**	**17 36 21.9 -0.4**
	baz=264						
SMLT				S		**Sb**	**17 36 30.9 -0.7**
	baz=264						
ENTT	**Nioudou**	**0.70**	**353**	P		**Pb**	**17 36 21.6 -0.9**
	baz=355						
ENTT				*e*S		**Sb**	**17 36 31.0 -0.8**
	baz=355						
TYC	**Yuchr**	**0.73**	**267**	⇓P		**Pb**	**17 36 22.3 -0.6**
	baz=267						
TYC				S		**Sb**	**17 36 31.7 -0.8**
	baz=267						
EOS1	**EOS1**	**0.75**	**35**	*e*P		**Pn**	**17 36 23.4 0.0**
	baz=37						
EOS1				*e*S		**Sn**	**17 36 35.9 +2.1**
	baz=37						
YHNB	**Yeheng**	**0.77**	**341**	⇓P		**Pb**	**17 36 22.9 -0.8**
	baz=341						
YHNB				S		**Sb**	**17 36 32.3 -1.5**
	baz=341						
TWE	**Neicheng**	**0.78**	**1**	*e*P		**Pb**	**17 36 23.0 -0.7**
	baz=355						
TWE				*e*S		**Sb**	**17 36 33.3 -0.7**
	baz=355						
NSK	**Sanguang**	**0.78**	**340**	⇓P		**Pb**	**17 36 23.0 -0.8**
	baz=341						
NSK				*e*S		**Sb**	**17 36 32.6 -1.5**
	baz=341						
YUS	**Yu-Shan**	**0.78**	**235**	*e*P		**Pb**	**17 36 23.5 -0.6**
	baz=234						
YUS				*e*S		**Sb**	**17 36 33.5 -1.1**
	baz=234						
FULB	**Fuli**	**0.81**	**204**	*e*P		**Pb**	**17 36 23.4 -0.8**
	baz=215						
SLBB	**Yuanshan**	**0.81**	**359**	P		**Pb**	**17 36 23.8 -0.5**
	baz=360						
SLBB				*e*S		**Sb**	**17 36 34.8 -0.1**
	baz=360						
ILA	**Ilan**	**0.83**	**6**	*e*P		**Pn**	**17 36 24.6 0.0**
	baz=354						
ILA				*e*S		**Sb**	**17 36 35.4 +0.1**
	baz=354						
NWLT	**Wulai**	**0.85**	**351**	*e*P		**Pb**	**17 36 24.1 -0.7**
	baz=344						
NWLT				*e*S		**Sb**	**17 36 35.0 -0.9**
	baz=344						
WJS	**Zhushan**	**0.86**	**262**	*e*P		**Pn**	**17 36 25.0 0.0**
	baz=261						
WJS				*e*S		**Sn**	**17 36 37.1 +0.5**
	baz=261						
CHKT	**Chengkung**	**0.88**	**198**	*e*P		**Pn**	**17 36 24.6 -0.6**
	baz=211						
CHKT				*e*S		**Sb**	**17 36 36.8 +0.1**
	baz=211						
WNT	**Mingjian**	**0.89**	**266**	*e*P		**Pb**	**17 36 25.8 +0.2**
	baz=265						
WNT				*e*S		**Sn**	**17 36 37.9 +0.5**
	baz=265						
TWQ1	**Liyutan**	**0.90**	**297**	*e*P		**Pb**	**17 36 26.0 +0.2**
	baz=296						
TWQ1				*e*S		**Sn**	**17 36 39.1 +1.4**
	baz=296						
NSTT	**Nanjuang**	**0.91**	**319**	*e*P		**Pn**	**17 36 25.7 -0.1**
	baz=319						
NSTT				*e*S		**Sb**	**17 36 36.9 -0.9**
	baz=319						
LIOB	**Emei**	**0.91**	**320**	P		**Pb**	**17 36 25.9 -0.1**
	baz=320						
LIOB				*e*S		**Sb**	**17 36 37.8 0.0**
	baz=320						
TCU	**Taichung**	**0.92**	**283**	*e*P		**Pb**	**17 36 26.4 +0.4**
	baz=283						
NTC	**Toucheng**	**0.93**	**10**	*e*P		**Pb**	**17 36 26.1 -0.1**
	baz=1.0						
EGS		**0.94**	**16**	*e*P		**Pb**	**17 36 26.3 -0.1**
	baz=18						
NSY	**Sanyi**	**0.94**	**300**	*e*P		**Pb**	**17 36 27.1 +0.6**
	baz=299						
NSY				*e*S		**Sn**	**17 36 39.9 +1.1**
	baz=299						
ELDTW	**Lidau**	**0.95**	**218**	*e*P		**Pn**	**17 36 24.8 -1.6**
	baz=211						
ELDTW				*e*S		**Sb**	**17 36 37.4 -1.5**
	baz=211						
CHN5	**Tsauling**	**0.96**	**249**	⇑P		**Pb**	**17 36 26.7 0.0**
	baz=249						
CHN5				*e*S		**Sn**	**17 36 39.8 +0.6**
	baz=249						
WLTB	**Daxi**	**0.98**	**338**	*e*P		**Pn**	**17 36 26.7 0.0**
	baz=343						
WLTB				*e*S		**Sn**	**17 36 40.2 +0.5**
	baz=343						
NMLH	**Miaoli**	**0.99**	**307**	*e*P		**Pb**	**17 36 27.6 +0.4**
	baz=306						
NMLH				*e*S		**Sn**	**17 36 40.9 +1.0**
	baz=306						
PTSB	**Yuanli**	**1.00**	**300**	*e*P		**Pb**	**17 36 27.3 -0.2**
	baz=299						
PTSB				*e*S		**Sb**	**17 36 41.1 +0.7**
	baz=299						
WCHH	**Zhanghua**	**1.01**	**278**	*e*P		**Pn**	**17 36 27.1 0.0**
	baz=277						
WCHH				*e*S		**Sb**	**17 36 41.7 +1.1**
	baz=277						
WGK	**Gukeng**	**1.03**	**256**	*e*P		**Pb**	**17 36 28.1 +0.2**
	baz=255						
WGK				*e*S		**Sb**	**17 36 42.5 +1.4**
	baz=255						
TWA	**Mucha**	**1.04**	**356**	*e*P		**Pb**	**17 36 29.7 +1.5**
	baz=5.0						
TATO	**Taipei**	**1.04**	**352**	*e*P		**Pn**	**17 36 27.2 -0.4**
	baz=353						
SBCB	**Hsinchu**	**1.05**	**324**	*e*P		**Pb**	**17 36 28.3 +0.1**
	baz=334						
WDLH	**Douliu**	**1.05**	**257**	*e*P		**Pn**	**17 36 27.7 +0.1**
	baz=256						
WDLH				*e*S		**Sb**	**17 36 43.0 +1.3**
	baz=256						
NCUH	**Zhongli**	**1.11**	**337**	*e*P		**Pb**	**17 36 29.4 +0.1**
	baz=351						
NCU	**National Centr**	**1.11**	**338**	*e*P		**Pb**	**17 36 29.4 +0.1**
	baz=348						
NCU				*e*S		**Sb**	**17 36 44.5 +1.0**
	baz=348						
STYT	**Tauyuan**	**1.13**	**227**	*e*P		**Pn**	**17 36 28.9 +0.1**
	baz=215						
NWF	**Wu-fen Shan**	**1.13**	**6**	*e*P		**Pb**	**17 36 29.4 -0.3**
	baz=354						
WFSB	**Wu-fen Shan**	**1.13**	**6**	*e*P		**Pn**	**17 36 29.1 +0.3**
	baz=354						
TPUB	**Ta-pu**	**1.13**	**236**	*e*P		**Pn**	**17 36 29.3 +0.5**
	baz=228						
TPUB				*e*S		**Sb**	**17 36 44.0 -0.1**
	baz=228						
CHN4	**Tsaushan**	**1.14**	**239**	*e*P		**Pb**	**17 36 29.8 +0.1**
	baz=231						
CHN4				*e*S		**Sb**	**17 36 45.4 +1.3**
	baz=231						
CHN2	**Minshiung**	**1.15**	**250**	*e*P		**Pb**	**17 36 30.3 +0.2**
	baz=249						
TWS1	**Kuangyinshan**	**1.18**	**349**	*e*P		**Pb**	**17 36 30.0 -0.4**
	baz=1.0						
TWS1				*e*S		**Sb**	**17 36 45.6 +0.3**
	baz=1.0						
RLNB	**Erlin**	**1.19**	**268**	*e*P		**Pb**	**17 36 30.1 -0.5**
	baz=267						
RLNB				*e*S		**Sb**	**17 36 46.2 +0.7**
	baz=267						
YM01	**YM01**	**1.21**	**356**	*e*P		**Pn**	**17 36 29.8 -0.1**
	baz=357						
YM04	**YM04**	**1.22**	**355**	*e*P		**Pn**	**17 36 30.0 0.0**
	baz=356						
YM10	**YM10**	**1.22**	**356**	*e*P		**Pn**	**17 36 29.4 -0.6**
	baz=357						
YM05	**YM05**	**1.22**	**356**	*e*P		**Pn**	**17 36 29.4 -0.7**
	baz=357						
YM11	**YM11**	**1.22**	**357**	*e*P		**Pn**	**17 36 29.9 -0.2**
	baz=357						
YM07	**YM07**	**1.23**	**359**	*e*P		**Pn**	**17 36 29.9 -0.3**
	baz=359						
NTST	**Danshui**	**1.23**	**351**	*e*P		**Pb**	**17 36 30.9 -0.5**
	baz=352						
TWG	**Pinlang**	**1.23**	**206**	*e*P		**Pn**	**17 36 29.2 -1.0**
	baz=192						
YM03	**YM03**	**1.24**	**355**	*e*P		**Pb**	**17 36 31.1 -0.5**
	baz=356						
WTCT	**Ta-ch'eng**	**1.26**	**267**	*e*P		**Pb**	**17 36 31.2 -0.6**
	baz=278						
WTCT				*e*S		**Sb**	**17 36 48.3 +0.7**
	baz=278						
TWK	**Hsinying**	**1.26**	**238**	*e*P		**Pb**	**17 36 31.5 -0.4**
	baz=238						
TWK				*e*S		**Sb**	**17 36 48.2 +0.5**
	baz=238						
CHN1	**Nanshi**	**1.28**	**234**	*e*P		**Pb**	**17 36 31.8 -0.4**
	baz=234						
CHN1				*e*S		**Sb**	**17 36 48.7 +0.6**
	baz=234						
SGST	**Jiashian**	**1.30**	**229**	*e*P		**Pb**	**17 36 32.2 -0.4**
	baz=229						
SGST				*e*S		**Sb**	**17 36 49.7 +0.9**
	baz=229						
SLGT	**Liugui**	**1.32**	**225**	*e*P		**Pb**	**17 36 32.3 -0.6**
	baz=225						
SLGT				*e*S		**Sb**	**17 36 50.0 +0.6**
	baz=225						
YOJ	**Yonaguni jima**	**1.34**	**67**	*e*P		**Pn**	**17 36 31.3 -0.4**
	baz=68						
WSF	**Szhu**	**1.35**	**257**	*e*P		**Pn**	**17 36 32.1 +0.4**
	baz=256						
WSF				*e*S		**Sb**	**17 36 50.7 +0.6**
	baz=256						
CHN8	**Yiju**	**1.45**	**246**	*e*P		**Pn**	**17 36 33.9 +0.8**
	baz=246						
CHN8				*e*S		**Sb**	**17 36 53.3 +0.3**
	baz=246						
ECL	**Taimali**	**1.48**	**206**	*e*P		**Pn**	**17 36 32.5 -1.0**
	baz=195						
SSD	**Sandimen**	**1.51**	**219**	*e*P		**Pn**	**17 36 34.8 +0.8**
	baz=219						
SSD				*e*S		**Sb**	**17 36 54.7 -0.3**
	baz=219						
TWM1	**Shoushan**	**1.58**	**226**	*e*P		**Pb**	**17 36 37.5 +0.1**
	baz=236						
MASBT	**Mashibuluo**	**1.62**	**216**	*e*P		**Pn**	**17 36 35.8 +0.3**
	baz=215						
EAST	**Anshuo**	**1.72**	**206**	*e*P		**Pn**	**17 36 37.7 +0.8**
	baz=197						
SCZT	**Fangliau**	**1.83**	**212**	*e*P		**Pn**	**17 36 39.3 +1.0**
	baz=212						
IRIF	**Iriomote-Funau**	**1.94**	**78**	P		**Pn**	**17 36 41.2 +1.4**
IRIF				*e*S		**Sn**	**17 37 03.5 +0.2**
PHUB	**P'eng-hu**	**1.96**	**258**	*e*P		**Pn**	**17 36 40.2 +0.2**
	baz=257						
PHUB				*e*S		**Sn**	**17 37 04.3 +0.6**
	baz=257						
PNG	**Penghu**	**1.96**	**260**	*e*P		**Pn**	**17 36 40.0 -0.1**
	baz=258						
HATJ	**Hateruma jima**	**1.97**	**86**	*e*S		**Sn**	**17 37 05.0 +0.9**
TWKBT	**Hengchun**	**2.13**	**201**	*e*P		**Pn**	**17 36 43.2 +0.6**
	baz=192						
VCHM	**Qimei**	**2.17**	**251**	*e*P		**Pn**	**17 36 42.7 -0.3**
	baz=237						
JKRS	**Kuro-shima**	**2.17**	**82**	P		**Pn**	**17 36 43.9 +0.8**
JKRS				*e*S		**Sn**	**17 37 10.6 +1.5**
VWUC	**VWUC**	**2.27**	**298**	*e*P		**Pn**	**17 36 43.8 -0.5**
	baz=297						
JIJ	**Ishigaki jima**	**2.31**	**79**	P		**Pn**	**17 36 44.9 -0.1**
JIJ				S		**Sn**	**17 37 11.6 -0.9**
PTTC	**Pingtan**	**2.31**	**313**	*e*P		**Pn**	**17 36 44.3 -0.7**
	baz=310						
PTTC				*e*S		**Sn**	**17 37 10.9 -1.6**
	baz=310						
JISG	**Ishigakijimahi**	**2.51**	**75**	P		**Pn**	**17 36 47.5 -0.2**
JISG				*e*S		**Sn**	**17 37 16.4 -1.0**
PTMZ	**Houxiangcun**	**2.56**	**296**	*e*P		**Pn**	**17 36 47.9 -0.4**
	baz=294						
PTMZ				*e*S		**Sn**	**17 37 17.1 -1.4**
	baz=294						
MATB	**Ma-tsu**	**2.69**	**325**	*e*P		**Pn**	**17 36 50.6 +0.4**
	baz=323						
JTJ	**Tarama**	**2.87**	**75**	*e*S		**Sn**	**17 37 27.2 +1.0**
KNM	**Kinmen**	**2.98**	**280**	*e*P		**Pn**	**17 36 55.1 +1.0**
	baz=278						
KNMB	**Chin-men Tao**	**3.03**	**281**	*e*P		**Pn**	**17 36 54.6 -0.2**
	baz=280						
MHZQ	**Yeshan**	**3.21**	**313**	*e*P		**Pn**	**17 36 56.5 -0.8**
	baz=312						
XPSS	**Dashiqiu**	**3.26**	**336**	*e*P		**Pn**	**17 36 58.6 +0.6**
	baz=333						
AXDP	**Jialang**	**3.49**	**287**	*e*P		**Pn**	**17 37 01.0 -0.2**
	baz=286						

DJA 26 17:36:53.6±0.6, 8°S±8°×10°7E±°, h41km±18km, M3.9/9, MLv3.9/9, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKJI	**Sukabumi**	**0.56**	**336**	P	Pn	17 37 06.5	+1.3
DBJI	**Dramaga**	**0.96**	**358**	P	Pn	17 37 10.6	-0.1
DBJI				S	Sn	17 37 23.8	+0.6
CISI	**Cisompet, Garu**	**1.02**	**92**	P	Pn	17 37 11.7	+0.2
CISI				S	Sn	17 37 25.3	+0.7
LEM	**Lembang**	**1.07**	**50**	P	Pn	17 37 12.1	-0.2
LEM				S	Sn	17 37 29.4	+3.3
CGJI	**Cibinong**	**1.41**	**310**	P	Pn	17 37 16.9	+0.1
CGJI				S	Sn	17 37 34.1	-0.2
SBJI	**Serang**	**1.54**	**335**	P	Sn	17 37 38.5	+1.2
CMJI	**Cimerak**	**1.67**	**99**	P	Pn	17 37 20.4	+0.1
CMJI				S	Sn	17 37 39.7	-0.8
KPJI	**Karang Pucung**	**2.13**	**85**	P	Pn	17 37 26.9	+0.2
BLSI	**Bandar Lampung**	**2.63**	**324**	P	Pn	17 37 25.8	-7.8
KASI	**Kota Agung**	**3.02**	**311**	P	Pn	17 37 39.0	0.0
LWLI	**Liwa**	**3.68**	**312**	P	Pn	17 37 53.7	+5.6
MDSI	**Maura Dua**	**3.98**	**319**	P	Pn	17 37 52.3	+0.2

*ISCJB **26** 17:39:48.0±0.7, 8°.27S±0°.08×119°.57E±0°.06, h170km, mb3.6/2, Error ellipse: s-maj=11.2km s-min=7.2km az=25.2*
*DJA **26** 17:39:49.2±0.6, 8°S±5°×12°0E±°, h158km±6km, M3.4/8, MLv3.4/8*
*IDC **26** 17:39:52.4±2.4, 8°.39S×119°.78E, h191km±22km, mb3.3/3, mb1 3.3/6, mb1mx3.0/57, mbtmp3.8/6, MS3.2/1, Ms1 3.2/1, ms1mx2.4/22, Error ellipse: s-maj=75.2km s-min=18.8km az=29.0*

ISC 26 17:39:48.5±1.1, 8°.31S±0°.07×119°.57E±0°.06, h170km, n15, σ1§46/19, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**1.34**	**187**	P	**Pn**	**17 40 18.6**	**+0.4**
PLAI	**Plampang**	**1.84**	**254**	P	**Pn**	**17 40 23.5**	**+0.3**
EDFI	**Ende, Flores**	**2.15**	**102**	S	**Sn**	**17 40 56.2**	**0.0**
BASI	**Baing, Sumba**	**2.15**	**152**	P	**Pn**	**17 40 27.3**	**+0.7**
BASI				S	**Sn**	**17 40 57.4**	**+1.2**
MMRI	**Maumere**	**2.66**	**97**	P	**Pn**	**17 40 33.5**	**+0.9**
TWSI	**Taliwang, Sumb**	**2.69**	**261**	P	**Pn**	**17 40 33.1**	**+0.2**
BKSI	**Bulukumba**	**3.01**	**11**	P	**Pn**	**17 40 36.4**	**-0.5**
BATI	**Baumata**	**4.46**	**115**	P	**Pn**	**17 40 57.0**	**+1.6**
	4.1nm,0.3s,baz=331,slow=9.1,SNR=9.6						
BATI				S	**Sn**	**17 41 47.7**	**+0.1**
	7.8nm,0.3s,baz=338,slow=16,SNR=10.0						
BATI	**Baumata**	**4.46**	**115**	P	**Pn**	**17 40 56.3**	**+0.9**
FITZ	**Fitzroy Crossi**	**11.39**	**149**	P	**Pn**	**17 42 27.6**	**+1.2**
	0.2nm,0.3s,baz=322,slow=13,SNR=18						
FITZ				S	**Sn**	**17 44 28.8**	**-3.9**
	0.4nm,0.3s,baz=195,slow=18,SNR=11						
WRA	**Warramunga Arr**	**18.39**	**131**	P	**P**	**17 43 50.6**	**-0.2**
	0.5nm,0.3s,baz=303,slow=12,SNR=29						
WRA				S	**S**	**17 47 09.7**	**-2.5**
	0.1nm,0.3s,baz=303,slow=22,SNR=6.4						
ASAR	**Alice Springs**	**20.54**	**140**	P	**P**	**17 44 14.2**	**+0.3**
	1.5nm,0.3s,baz=314,slow=9.3,SNR=38						
ASAR				S	**S**	**17 47 52.7**	**-1.9**
	1.1nm,0.9s,baz=327,slow=22,SNR=7.2						
NWAO	**Narrogin (SRO)**	**24.60**	**185**	LR	LR	17 55 36.5	
	comp=Z,45nm,18.1s,baz=296,slow=38						
STKA	**Stephens Creek**	**31.14**	**142**	P	**P**	**17 45 52.0**	**+0.6**
	1.5nm,0.6s,baz=307,slow=10,SNR=3.0						
VNDA	**Vanda**	**72.58**	**171**	P	**P**	**17 50 57.5**	**+0.8**
	0.3nm,0.5s,baz=304,slow=8.4,SNR=3.1						

MEX 26 17:42:01.2±0.8, 16°.47N×98°.62W, h16km±11km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.48**	**99**	*e*P	Pg	17 42 08.9	-1.9
PNIG				*e*S	Sg	17 42 15.6	-1.7
TLIG	**Tlapa**	**1.09**	**3**	*e*P	Pb	17 42 17.6	-4.1
TLIG				*e*S	Sb	17 42 30.5	-5.2

*ATH **26** 17:44:11.1, 36°.67N×28°.04E, h29km±2km, ML2.9/3, Error ellipse: s-maj=4.2km s-min=1.3km az=213.0*
*ISK **26** 17:44:11.8, 36°.62N×27°.96E, h9km, ML2.6/13*
*ISCJB **26** 17:44:12.2±0.4, 36°.65N±0°.04×27°.98E±0°.03, h11km±4km, Error ellipse: s-maj=6.4km s-min=3.8km az=9.1*

ISC 26 17:44:11.7±1.0, 36°.70N±0°.04×28°.03E±0°.02, h19km±3km, n24, σ1§08/30, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSB	**Marmaris-Mugla**	**0.13**	**82**	PG	**Pg**	**17 44 16.5**	**+0.6**
MRSB				SG	**Sg**	**17 44 20.3**	**+1.6**
DATC	**Datca-Mugla**	**0.30**	**282**	PG	**Pg**	**17 44 17.7**	**-0.7**
DATC				SG	**Sg**	**17 44 22.3**	**-0.7**
DAT	**Datca**	**0.37**	**275**	PG	**Pg**	**17 44 18.8**	**-0.7**
DAT				SG	**Sg**	**17 44 23.9**	**-0.9**
ARG	**Arkhangelos**	**0.49**	**171**	PG	**Pg**	**17 44 20.8**	**-0.8**
ARG	**Arkhangelos**	**0.49**	**171**	P	**Pg**	**17 44 20.8**	**-0.8**
ARG				S	**Sb**	**17 44 28.6**	**+0.1**
ARG				AML	AML	17 44 29.6	
	comp=E,1877μm,0.3s						
ARG				AML	AML	17 44 29.7	
	comp=N,2725μm,0.3s						
TURN	**Turunc**	**0.49**	**69**	PG	**Pg**	**17 44 17.7**	**-3.9**
DALY	**Dalyan (Mu¨la**	**0.51**	**76**	PG	**Pn**	**17 44 23.6**	**-0.4**
MLSB	**Milas**	**0.63**	**341**	PG	**Pn**	**17 44 25.6**	**-0.1**
BODT	**Bodrum**	**0.68**	**302**	PG	**Pb**	**17 44 25.3**	**+0.3**
NIS1	**Nisyros Isl.**	**0.69**	**262**	PG	**Pb**	**17 44 24.1**	**-1.1**
NIS1	**Nisyros Isl.**	**0.69**	**262**	P	**Pb**	**17 44 25.0**	**-0.2**
NIS1				S	**Sg**	**17 44 35.0**	**+0.3**
NIS1				AML	AML	17 44 38.3	
	comp=N,2967μm,0.3s						
NIS1				AML	AML	17 44 38.7	
	comp=E,2766μm,0.2s						
NISR	**Nisiros**	**0.73**	**263**	P	**Pb**	**17 44 25.7**	**-0.2**
NISR				S	**Sg**	**17 44 36.7**	**+0.9**
NISR				AML	AML	17 44 36.8	
	comp=N,728μm,0.4s						
NISR				AML	AML	17 44 39.5	
	comp=E,2164μm,0.5s						
FETY	**Fethiye**	**0.85**	**94**	PG	**Pn**	**17 44 29.8**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**1.25**	**355**	PN	**Pg**	**17 44 36.3**	**+0.3**
AKAS	**Kas**	**1.35**	**110**	PN	**Pg**	**17 44 38.0**	**+0.2**
KSL	**Kastellorizon**	**1.36**	**113**	P	**Pn**	**17 44 35.7**	**-0.1**
SMG	**Samos**	**1.39**	**317**	P	**Pb**	**17 44 37.1**	**0.0**
ELL	**Elmali**	**1.51**	**88**	PN	**Pg**	**17 44 40.8**	**0.0**
KORT	**Korkueli**	**1.88**	**80**	PN	**Pb**	**17 44 46.0**	**+0.4**
URLA	**Izmir**	**2.01**	**326**	PN	**Pb**	**17 44 47.1**	**-0.7**
APE	**Apeiranthos**	**2.04**	**281**	PN	**Pn**	**17 44 46.4**	**+1.3**
ZKR	**Zakros**	**2.16**	**224**	P	**Pn**	**17 44 47.4**	**+0.6**
CHOS	**Chios island**	**2.31**	**318**	P	**Pn**	**17 44 50.1**	**+1.3**
LAST	**Lasithi**	**2.58**	**234**	P	**Pn**	**17 44 52.7**	**+0.2**

*ATH **26** 17:48:59.6, 36°.71N×28°.09E, h26km±2km, ML2.7/3, Error ellipse: s-maj=4.3km s-min=1.2km az=212.0*
*ISK **26** 17:49:00.0, 36°.60N×27°.97E, h4km, ML2.6/12*
*DDA **26** 17:49:00.8, 36°.63N×27°.95E, h7km, Ml3.0*
*ISCJB **26** 17:49:01.1±0.4, 36°.64N±0°.03×27°.97E±0°.03, h9km±3km, Error ellipse: s-maj=5.0km s-min=3.6km az=2.4*

ISC 26 17:49:00.3±1.1, 36°.59N±0°.03×27°.95E±0°.02, h19km±2km, n32, σ0§95/43, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSB	**Marmaris-Mugla**	**0.24**	**57**	PG	**Pg**	**17 49 05.3**	**-0.6**
MRSB				SG	**Sb**	**17 49 08.7**	**-0.5**
DATC	**Datca-Mugla**	**0.29**	**307**	PG	**Pb**	**17 49 06.4**	**-0.4**
DATC				SG	**Sb**	**17 49 11.3**	**+0.1**
DAT	**Datca**	**0.33**	**295**	PG	**Pb**	**17 49 07.4**	**-0.3**
DAT				SG	**Sb**	**17 49 12.9**	**+0.3**
DAT	**Datca**	**0.33**	**295**	*i* P	**Pb**	**17 49 07.2**	**-0.5**
DAT				*i* S	**Sb**	**17 49 12.6**	**0.0**
ARG	**Arkhangelos**	**0.40**	**159**	PG	**Pb**	**17 49 08.5**	**-0.3**
ARG	**Arkhangelos**	**0.40**	**159**	P	**Pn**	**17 49 10.0**	**-1.0**
ARG				S	**Sn**	**17 49 17.6**	**-0.4**
ARG

BODT	Bodrum	0.70	313	PG		Pn	17 49 14.1	-1.1
MLSB	Milas	0.72	349	PG		Pg	17 49 14.3	-0.2
FETY	Fethiye	0.91	87	PG		Pn	17 49 17.9	-0.2
AYDN	Tasoluk	1.07	357	*i* P		Pn	17 49 20.2	-0.2
AYDN				*i* S		Sg	17 49 35.0	-0.3
TAVA	DENIZLI_Tavas	1.17	41	*i* P		Pg	17 49 21.9	-1.0
TAVA				*i* S		Sg	17 49 39.1	+0.9
AYDB	Zeytinkoy-Aydi	1.36	358	PN		Pg	17 49 25.4	-1.1
AKAS	Kas	1.38	104	PN		Pg	17 49 26.8	-0.2
KSL	Kastellorizon	1.39	108	P		Pn	17 49 24.2	-0.4
SMG	Samos	1.43	322	P		Pb	17 49 25.9	-0.5
GOLH	Golhisar	1.45	63	*i* P		Pg	17 49 29.3	+1.2
GOLH				*i* S		Sg	17 49 50.5	+3.5
ELL	Elmali	1.58	84	PN		Pg	17 49 29.6	-1.2
DGB	˙zmir	1.69	330	*i* P		Pn	17 49 29.1	+0.3
DGB				*i* S		Sb	17 49 51.4	-0.3
MANT	Manisa	1.96	14	*i* P		Pb	17 49 34.2	-1.3
MANT				*i* S		Sg	17 50 03.4	-0.1
APE	Apeiranthos	2.00	285	PN		Pb	17 49 35.9	-0.2
KULA	Kula-Manisa	2.00	16	PN		Pb	17 49 35.5	-0.7
ZKR	Zakros	2.04	224	P		Pb	17 49 36.7	+0.1
URLA	Izmir	2.07	329	PN		Pb	17 49 36.4	-0.9
CHOS	Chios island	2.34	321	P		Pn	17 49 38.7	+0.8
LAST	Lasithi	2.46	235	P		Pb	17 49 42.6	-1.3

IDC ***26*** *17:52:57.7±0.4, 10˚.90N×122˚.37E, h0km, mb4.3/36, mb1 4.5/38, mb1mx4.4/51, mbtmp4.3/38, ML4.1/2, MS4.1/25, Ms1 4.1/25, ms1mx3.9/50, Error ellipse: s-maj=16.6km s-min=9.2km az=72.0*

MAN ***26*** *17:52:59.7, 11˚.02N×122˚.17E, h4km, mb5.6, ML4.6, MS4.9*

BJI ***26*** *17:53:01.2, 11˚.10N×122˚.50E, h10km, mb4.5/10, mB4.8/8, Ms4.5/9, Ms7 4.4/8*

MOS ***26*** *17:53:01.1±1.0, 10˚.92N×122˚.42E, h33km, mb4.7/31, Error ellipse: s-maj=11.4km s-min=6.0km az=116.7*

NEIC ***26*** *17:53:02.8±0.8, 10˚.97N×122˚.41E, h33km±5km, mb4.8/53, Error ellipse: s-maj=5.2km s-min=3.8km az=84.0*

NEIC Felt [V PIVS] at Valderrama; [IV PIVS] at San Jose and Sibalom; [III PIVS] at Calinog and Iloilo.

GCMT ***26*** *17:53:02.8±0.2, 11˚.13N±0˚.02×122˚.24E±0˚.02, h27km, MW5.0/83, Moment Tensor Solution. s49,c58; s83,c125; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.15±.18; Mθθ-0.09±.11; Mϕϕ-4.06±.14; Mrθ-1.92±.21; Mϕθ-1.18±.07; Mϕr-1.02±.23; Best double couple: M=4.78800×10^16 NP1:ϕs214.00000°, δ57.00000°, λ111.00000°. NP2: ϕs358.00000°, δ38.00000°, λ61.00000°. Principal axes: T 4.9220, Plg70.0000°, Azm170.0000°; N -0.2730, Plg18.0000°, Azm22.0000°; P -4.6530, Plg10.0000°, Azm289.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISCJB ***26*** *17:53:03.3±0.3, 11˚.01N±0˚.02×122˚.35E±0˚.03, h46km±3km, mb4.6/112, MS4.1/25 Error ellipse: s-maj=4.5km s-min=2.9km az=174.3*

KLM ***26*** *17:53:07.0, 10˚.80N×122˚.57E, h30km, mb5.0*

DJA ***26*** *17:53:09.5±0.7, 11˚N±4˚×12˚2E±˚, h81km±7km, M4.7/26, mb4.9/26, mB5.2/9, Mw(mB)4.5/9*

ISC 26 17:53:03.4±0.9, **10˚.97N**±0˚.02×**122˚.32E**±0˚.03, **h32**km±6km, **n309**, σt§81/314, **mb4.6**/112, **MS4.1**/25, **17C-16D, Panay**

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op	ISC	h m s	ISC
JAP	**San Jose, Anti**	**0.43**	**239**	⇑*i*P	**Pb**	**17 53 09.9**	**-2.9**
GUIM	**Jordan**	**0.43**	**142**	*e*P	**Pb**	**17 53 10.9**	**-2.0**
GUIM				*e*S	**Sn**	**17 53 19.5**	**-0.8**
KALP	**Kalibo**	**0.71**	**2**	⇑*e*P	**Pb**	**17 53 14.6**	**-2.8**
RCP	**Roxas**	**0.72**	**351**	⇑*e*P	**Pb**	**17 53 15.4**	**-2.2**
RCP				*e*S	**Sn**	**17 53 29.1**	**+1.7**
CUYO	**Cuyo Island**	**1.28**	**265**	*e*P	**Pn**	**17 53 22.3**	**-2.9**
OTRP	**Odiongan**	**1.42**	**348**	*e*P	**Pn**	**17 53 24.4**	**-2.6**
OTRP				*e*S	**Sn**	**17 53 43.7**	**-0.9**
LLP	**Lapu-Lapu**	**1.75**	**112**	⇓*e*P	**Pb**	**17 53 32.5**	**-2.3**
LLP				*e*S	**Sb**	**17 54 00.2**	**+3.8**
SNPH	**Sibulan**	**1.85**	**151**	⇑*i*P	**Pb**	**17 53 34.8**	**-1.9**
SNPH				*i* S	**Sb**	**17 54 02.0**	**+2.5**
MMPH	**Masbate**	**1.88**	**43**	*e*P	**Pb**	**17 53 34.8**	**-2.4**
MMPH				*e*S	**Sb**	**17 54 00.8**	**+0.4**
SJMP	**San Jose**	**1.89**	**322**	*e*P	**Pn**	**17 53 30.5**	**-3.0**
SJMP				*e*S	**Sn**	**17 53 57.6**	**+1.3**
TBP	**Tagbilaran**	**1.98**	**130**	⇓*i*P	**Pb**	**17 53 36.5**	**-2.3**
TBP				*i* S	**Sb**	**17 54 08.2**	**+5.1**
OCLP	**Ormoc**	**2.25**	**88**	*e*P	**Pb**	**17 53 39.0**	**-4.4**
OCLP				*e*S	**Sb**	**17 54 11.2**	**+0.3**
BUSP	**Coron**	**2.32**	**297**	*e*P	**Pn**	**17 53 36.2**	**-3.2**
BUSP				*e*S	**Sn**	**17 54 10.7**	**+3.9**
PLP	**Palo**	**2.62**	**85**	⇓*e*P	**Pn**	**17 53 44.0**	**+0.5**
MSLP	**Maasin**	**2.63**	**108**	*e*P	**Pb**	**17 53 45.4**	**-4.6**
MSLP				*e*S	**Sb**	**17 54 24.9**	**+3.1**
ENPP	**El Nido**	**2.85**	**275**	*e*P	**Pn**	**17 53 44.0**	**-2.7**
ENPP				*e*S	**Sn**	**17 54 14.4**	**-5.5**
PVCP	**Virac**	**3.17**	**34**	*e*P	**Pn**	**17 53 52.9**	**+1.7**
IPIL	**Ipil**	**3.17**	**175**	*e*P	**Pn**	**17 53 51.2**	**0.0**
IPIL				*e*S	**Sn**	**17 54 26.9**	**-0.9**
PAGZ	**Pagadian**	**3.27**	**161**	*e*P	**Pn**	**17 53 54.7**	**+2.1**
PAGZ				*e*S	**Sb**	**17 54 40.0**	**-0.3**
TGY	**Tagaytay City**	**3.39**	**337**	Pn	**Pn**	**17 53 54.2**	**0.0**
	70nm,0.3s,baz=311,slow=5.9,SNR=5.3						
TGY				LR	LR	17 55 28.3	
	comp=Z,6μm,18.4s,baz=198,slow=43						
CGP	**Cagayan de Oro**	**3.42**	**137**	⇓*e*P	**Pn**	**17 53 57.3**	**+2.6**
POLP	**Polillo Island**	**3.75**	**354**	*e*P	**Pn**	**17 53 60.0**	**+0.8**
ZCP	**Zamboanga City**	**4.02**	**183**	⇑*i*P	**Pn**	**17 54 02.7**	**-0.1**
ZCP				*i* S	**Sn**	**17 54 49.0**	**+0.2**
CTBH	**Cotabato--PC H**	**4.18**	**153**	⇓*e*P	**Pn**	**17 54 07.7**	**+2.6**
BIPH	**Bislig**	**4.85**	**124**	⇓*i*P	Pn	17 54 17.6	+3.3
SKMP	**Bagumbayan, Su**	**4.94**	**153**	*e*P	**Pn**	**17 54 18.5**	**+3.0**
DAV	**Davao City (W)**	**5.04**	**140**	Pn	Pn	17 54 21.8	+5.0
	79nm,0.3s,baz=56,slow=7.7,SNR=3.9						
DAV				LR	LR	17 56 38.2	
	comp=Z,4μm,19.3s,baz=224,slow=44						
DAV	**Davao City (W)**	**5.04**	**140**	*e*Pn	**Pn**	**17 54 15.7**	**-1.2**
DAV				*e*		17 54 20.3	
SMPP	**San Manuel, Pa**	**5.39**	**343**	*e*P	**Pn**	**17 54 21.9**	**+0.2**
KKM	**Kota Kinabalu**	**7.77**	**231**	*e*Pn	**Pn**	**17 54 56.4**	**+1.9**
KKM	**Kota Kinabalu**	**7.77**	**231**	P	Pn	17 55 00.0	+5.5
MRSI	**Marisa**	**10.43**	**182**	P	**Pn**	**17 55 31.6**	**+0.7**
KMSI	**Cibinong**	**10.46**	**171**	P	**Pn**	**17 55 35.0**	**+3.8**
MPSI	**Mapaga**	**10.83**	**193**	P	**Pn**	**17 55 36.7**	**+0.3**
TNTI	**Ternate**	**11.30**	**153**	*e*Pn	**Pn**	**17 55 44.0**	**+1.1**
TNTI	**Ternate**	**11.30**	**153**	P	**Pn**	**17 55 45.1**	**+2.2**
APSI	**Ampana**	**11.82**	**183**	P	Pn	17 55 55.1	+5.2
LUWI	**Luwuk**	**11.94**	**178**	*e*Pn	**Pn**	**17 55 54.4**	**+2.8**
LUWI	**Luwuk**	**11.94**	**178**	P	Pn	17 55 56.0	+4.4
SBUM	**Sibu**	**13.12**	**231**	*e*Pn	**Pn**	**17 56 09.3**	**+1.7**
SBUM	**Sibu**	**13.12**	**231**	P	**Pn**	**17 56 11.0**	**+3.4**
YOJ	**Yonaguni jima**	**13.44**	**3**	*e*Pn	**Pn**	**17 56 11.5**	**-0.5**
YOJ	**Yonaguni jima**	**13.44**	**3**	*e*P	**Pn**	**17 56 11.5**	**-0.5**
SANI	**Sanana**	**13.44**	**164**	P	**Pn**	**17 56 11.1**	**-0.9**
TTSI	**Tana Toraja**	**14.14**	**190**	P	**Pn**	**17 56 24.3**	**+2.7**
SIJI	**Sorong**	**14.75**	**142**	Pn	**Pn**	**17 56 27.9**	**-2.0**
	0.3nm,0.3s,baz=334,slow=13,SNR=3.6						
SIJI				LR	LR	18 02 50.4	
	comp=Z,267nm,19.4s,baz=292,slow=40						
SPSI	**Sidrap Palu**	**15.05**	**190**	P	**P**	**17 56 37.8**	**-1.1**
KSM	**Kuching**	**15.21**	**232**	*e*Pn	**Pn**	**17 56 37.4**	**+1.4**
	25nm,1.0s						
KSM	**Kuching**	**15.21**	**232**	P	**P**	**17 56 42.0**	**+1.3**
STKI	**Sintang**	**15.28**	**226**	P	**P**	**17 56 44.2**	**+2.7**
BNSI	**Bone**	**15.43**	**188**	P	**P**	**17 56 45.8**	**+2.7**
BKSI	**Bulukumba**	**16.33**	**188**	P	**P**	**17 56 54.8**	**+1.7**
BBSI	**Bau Bau**	**16.35**	**179**	P	**P**	**17 56 53.8**	**+0.4**
JOW	**Kunigami**	**16.75**	**19**	LR	LR	18 03 32.5	
	comp=Z,806nm,19.5s,baz=146,slow=38						
FAKI	**Fak Fak**	**16.97**	**144**	*e*Pn	**Pn**	**17 56 57.6**	**-1.0**
	69nm,1.5s						
FAKI	**Fak Fak**	**16.97**	**144**	P	**P**	**17 57 01.6**	**+1.3**
RKPI	**Ransiki, Papua**	**17.11**	**136**	P	**P**	**17 57 02.9**	**+1.1**
SKNT	**Sakolnakorn**	**18.76**	**291**	P	**Pn**	**17 57 27.4**	**+6.8**
SRPI	**Serui, Papua**	**18.83**	**132**	P	**Pn**	**17 57 22.9**	**+1.5**
MMRI	**Maumere**	**19.48**	**180**	*e*P	**Pn**	**17 57 28.3**	**-0.9**
	129nm,1.1s						
MMRI	**Maumere**	**19.48**	**180**	P	**Pn**	**17 57 28.6**	**-0.6**
EDFI	**Ende, Flores**	**19.60**	**182**	P	**Pn**	**17 57 30.2**	**-0.6**
	55nm,0.8s,553nm						
KMMI	**Kalianget**	**19.74**	**205**	P	**Pn**	**17 57 33.8**	**+1.5**
NONG	**Nongkai**	**19.84**	**293**	P	**Pn**	**17 57 40.1**	**+6.5**
SRAK	**Srakaew**	**20.02**	**281**	P	Pn	17 57 36.0	+0.3
	24nm,0.9s,362nm						

PLAI	**Plampang**	**20.18**	**193**	P		Pn	17 57 37.3	-0.2
SRBI	**Singaraja**	**20.20**	**201**	P		Pn	17 57 37.7	-0.1
GRJI	**Gresik**	**20.29**	**209**	P		Pn	17 57 39.5	+0.7
TWSI	**Taliwang, Sumb**	**20.31**	**196**	P		Pn	17 57 39.0	-0.1
	47nm,0.9s							
CHAI	**Chaiyaphum**	**20.37**	**286**	P		Pn	17 57 41.2	+1.4
	7.7nm,0.8s,71nm							
MYKOM	**Kota Tinggi**	**20.48**	**245**	*e*P		**P**	**17 57 40.4**	**+1.6**
	143nm,2.0s							
MYKOM	**Kota Tinggi**	**20.48**	**245**	P		Pn	17 57 44.0	+3.0
SOEI	**Soe**	**20.68**	**175**	*e*P		**P**	**17 57 40.6**	**-0.4**
	85nm,0.9s							
SOEI	**Soe**	**20.68**	**175**	P		Pn	17 57 42.5	-1.0
	71nm,0.8s,1μm							
WBSI	**Waikabubak, Su**	**20.68**	**188**	P		Pn	17 57 47.4	+4.0
PPBI	**Pangkal Pinang**	**20.72**	**232**	P		Pn	17 57 48.9	+5.0
DNP	**Denpasar**	**20.76**	**200**	P		Pn	17 57 44.3	0.0
JAGI	**Jajag, Banyuwa**	**20.95**	**203**	*e*P		**P**	**17 57 44.2**	**+0.4**
DSRI	**Dabo**	**20.98**	**238**	P		**P**	**17 57 45.5**	**+1.2**
BATI	**Baumata**	**21.08**	**176**	P		**P**	**17 57 44.5**	**-0.7**
	185nm,0.9s,baz=139,slow=0.5,SNR=36							
BATI	**Baumata**	**21.08**	**176**	P		**P**	**17 57 45.7**	**+0.4**
NGJI	**Ngawi**	**21.18**	**211**	P		**P**	**17 57 49.6**	**+3.3**
SMRI	**Semarang**	**21.45**	**214**	*e*P		**P**	**17 57 49.3**	**0.0**
	87nm,1.2s							
PBKT	**Sadao Pong**	**21.46**	**287**	*e*P		**P**	**17 57 51.0**	**+1.6**
	31nm,1.4s							
PBKT	**Sadao Pong**	**21.46**	**287**	P		P	17 57 58.3	+9.0
PWJI	**Pagerwojo**	**21.57**	**209**	P		**P**	**17 57 53.9**	**+3.4**
WOJI	**Wonogiri, Jawa**	**21.85**	**212**	P		**P**	**17 57 52.5**	**-1.1**
IPM	**Ipoh**	**22.05**	**255**	*e*P		**P**	**17 57 56.0**	**+0.2**
	157nm,2.0s							
UTTA	**Uttaradit**	**22.12**	**290**	P		P	17 58 06.4	+10
KULM	**Kulim**	**22.17**	**257**	*e*P		**P**	**17 57 57.6**	**+0.6**
	26nm,1.0s							
GUMO	**Guam**	**22.19**	**81**	LR		LR	18 05 16.4	
	comp=Z,179nm,21.4s,baz=236,slow=33							
NANT	**Nan**	**22.28**	**293**	P		**P**	**17 58 00.1**	**+1.9**
	4.9nm,0.7s							
GENI	**Genyem**	**22.29**	**126**	P		P	17 58 10.2	+12
KPJI	**Karang Pucung**	**22.54**	**217**	P		**P**	**17 58 04.5**	**+3.6**
	38nm,1.0s,1μm							
ENH	**Enshi**	**22.61**	**330**	*e*P		**P**	**17 58 00.9**	**-0.7**
	14nm,0.8s							
JAY	**Jayapura**	**22.67**	**125**	P		**P**	**17 58 01.0**	**-1.5**
	18nm,1.0s,baz=315,slow=11,SNR=3.0							
JAY	**Jayapura**	**22.67**	**125**	P		**P**	**17 58 01.0**	**-1.5**
UTHA	**Uthaitani**	**22.72**	**284**	P		**P**	**17 58 08.7**	**+5.8**
	3.3nm,0.8s							
SUKH	**Sukhothai**	**22.91**	**289**	P		**P**	**17 58 10.7**	**+5.8**
	6.1nm,0.8s							
LEM	**Lembang**	**22.95**	**220**	P		**P**	**17 58 07.8**	**+2.4**
	85nm,0.9s,baz=106,slow=7.3,SNR=22							
LEM				LR		LR	18 08 19.0	
	comp=Z,602nm,19.2s,baz=34,slow=40							
CBJI	**Citeko**	**23.14**	**222**	P		**P**	**17 58 11.3**	**+4.1**
	78nm,0.8s							
LAMP	**Lampang**	**23.17**	**292**	P		**P**	**17 58 10.0**	**+2.5**
	10nm,0.7s							
PAYA	**Payao**	**23.20**	**294**	P		**P**	**17 58 09.1**	**+1.3**
	13nm,0.7s,142nm							
KMI	**Kunming**	**23.29**	**310**	P		**P**	**17 58 11.8**	**+2.9**
KMI				S		**S**	**18 02 22.8**	**+3.2**
KMI				pmax		pmax		
	comp=Z,28nm,1.8s							
KMI				pmax		pmax		
	comp=Z,220nm,3.1s							
KMI				LR		LR		
	comp=N,490nm,15.4s							
KMI				LR		LR		
	comp=E,500nm,15.1s							
KMI				LR		LR		
	comp=Z,680nm,16.9s							
DBJI	**Dramaga**	**23.30**	**222**	P		**P**	**17 58 11.7**	**+2.8**
	35nm,1.0s							
UMPA	**Umpang Tak**	**23.38**	**285**	P		P	17 58 19.3	+10
CISI	**Cisompet, Garu**	**23.39**	**219**	*e*P		**P**	**17 58 10.2**	**+0.5**
	105nm,0.9s							
CISI	**Cisompet, Garu**	**23.39**	**219**	P		**P**	**17 58 11.3**	**+1.6**
	136nm,0.9s							
JNU	**Nakatsue**	**23.41**	**18**	LR		LR	18 08 12.2	
	comp=Z,449nm,19.4s,baz=189,slow=39							
BKNI	**Bangkinang**	**23.64**	**245**	*e*P		**P**	**17 58 11.7**	**-0.4**
	68nm,0.4s							
MDSI	**Maura Dua**	**23.70**	**231**	P		**P**	**17 58 12.9**	**+0.2**
	24nm,1.1s							
CM01	**Chiang Mai Arr**	**23.76**	**291**	*e*P		**P**	**17 58 13.1**	**-0.1**
CM01				*e*PcP		**PcP**	**18 01 56.8**	**+0.1**
SKJI	**Sukabumi**	**23.77**	**222**	P		**P**	**17 58 16.0**	**+2.7**
	189nm,1.0s,3μm							
CM31	**Chiang Mai Arr**	**23.78**	**291**	*e*P		**P**	**17 58 13.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**23.78**	**291**	P		**P**	**17 58 13.5**	**0.0**
	8.3nm,1.0s,baz=106,slow=7.6,SNR=21							
CMAR				PcP		**PcP**	**18 01 56.5**	**-0.3**
	1.8nm,0.9s,baz=132,slow=0.4,SNR=9.4							
CMAR	**Chiang Mai Arr**	**23.78**	**291**	*ce*P		**P**	**17 58 13.3**	**-0.2**
CMAR				pmax		pmax		
	comp=Z,9.0nm,1.0s							
CMMT	**Chiang Mai**	**23.87**	**292**	P		**P**	**17 58 17.3**	**+3.0**
	comp=Z,12nm,1.4s,comp=Z,274nm							
CHTO	**Chiang Mai**	**23.88**	**292**	*e*P		**P**	**17 58 14.9**	**+0.5**
	comp=Z,55nm,1.8s							
CHTO	**Chiang Mai**	**23.88**	**292**	*e*P		**P**	**17 58 14.9**	**+0.5**
CHTO				pmax		pmax		
	comp=Z,55nm,1.8s							
CHTO	**Chiang Mai**	**23.88**	**292**	P		**P**	**17 58 17.7**	**+3.3**
	comp=Z,53nm,1.4s							
CGJI	**Cibinong**	**24.06**	**224**	P		**P**	**17 58 17.1**	**+1.1**
	comp=Z,52nm,0.9s							
LWLI	**Liwa**	**24.14**	**230**	P		**P**	**17 58 18.0**	**+1.1**
	comp=Z,43nm,0.9s							
MASI	**Maura Aman, Be**	**24.41**	**236**	P		**P**	**17 58 22.0**	**+2.7**
	comp=Z,203nm,0.9s,comp=Z,4μm							
PSI	**Prapat**	**24.58**	**252**	P		**P**	**17 58 20.8**	**-0.3**
	comp=Z,11nm,0.8s,baz=1.3,slow=2.3,SNR=6.7							
PSI				LR		LR	18 08 15.5	
	comp=Z,395nm,18.1s,baz=90,slow=37							
PSI	**Prapat**	**24.58**	**252**	*e*P		**P**	**17 58 20.4**	**-0.6**
	comp=Z,15nm,0.8s							
PSI	**Prapat**	**24.58**	**252**	*e*P		**P**	**17 58 20.4**	**-0.6**
PSI				pmax		pmax		
	comp=Z,15nm,0.8s							
PDSI	**Padang**	**24.73**	**243**	P		**P**	**17 58 23.6**	**+1.4**
	comp=Z,40nm,0.9s,comp=Z,639nm							
KCSI	**Kotacane, Aceh**	**25.43**	**255**	P		**P**	**17 58 28.3**	**-0.3**
XAN	**Xi'an**	**26.03**	**334**	P		**P**	**17 58 38.8**	**+4.9**
XAN				pmax		pmax		
	comp=Z,10.0nm,0.9s							
GSI	**Gunungsitoli**	**26.38**	**250**	*e*P		**P**	**17 58 35.5**	**-1.6**
	comp=Z,18nm,0.9s							
KS15	**Wonju Array Si**	**26.83**	**10**	*e*P		**P**	**17 58 38.5**	**-2.5**
KSAR	**Wonju Array Be**	**26.83**	**10**	P		**P**	**17 58 40.9**	**-0.1**
KSAR	**Wonju Array Be**	**26.83**	**10**	P		**P**	**17 58 40.9**	**-0.1**
KSRS	**Korea Array**	**26.85**	**10**	P		**P**	**17 58 40.9**	**-0.3**
	comp=Z,3.4nm,0.8s,baz=181,slow=11,SNR=7.9							
KSRS				LR		LR	18 10 43.1	
	comp=Z,214nm,18.4s,baz=180,slow=40							
XMIS	**Christmas Isla**	**26.99**	**218**	*e*P		**P**	**17 58 40.9**	**-1.8**
	comp=Z,48nm,1.0s							
FITZ	**Fitzroy Crossi**	**29.07**	**173**	P		**P**	**17 58 59.2**	**-1.9**
	comp=Z,6.9nm,0.8s,baz=7.2,slow=4.9,SNR=21							
FITZ				PcP		**PcP**	**18 02 07.9**	**-1.0**
	comp=Z,3.2nm,0.8s,baz=1.5,slow=3.3,SNR=6.1							
FITZ	**Fitzroy Crossi**	**29.07**	**173**	*e*P		**P**	**17 58 59.6**	**-1.5**
	comp=Z,11nm,1.0s							
FITZ				PcP		**PcP**	**18 02 07.9**	**-1.0**
MAJO	**Matsushiro**	**29.23**	**27**	*e*P		**P**	**17 59 01.5**	**-1.0**
	comp=Z,31nm,1.4s							
MAJO	**Matsushiro**	**29.23**	**27**	⇓*e*P		**P**	**17 59 01.7**	**-0.8**
MAJO				pmax		pmax		
	comp=Z,12nm,1.3s							
MJAR	**Matsushiro Arr**	**29.23**	**27**	LR		LR	18 10 07.0	
	comp=Z,401nm,19.0s,baz=210,slow=35							
MJB9	**Matsu-Tunnel**	**29.23**	**27**	*e*P		**P**	**17 59 01.6**	**-0.9**
	comp=Z,35nm,1.4s							
SHL	**Shillong**	**32.24**	**301**	*e*P		**P**	**17 59 29.4**	**+0.1**
	comp=Z,37nm,0.9s							
SHL	**Shillong**	**32.24**	**301**	*e*P		**P**	**17 59 29.4**	**+0.1**
SHL				pmax		pmax		
	comp=Z,37nm,0.9s							
SHL	**Shillong**	**32.24**	**301**	*e*P		**P**	**17 59 31.0**	**+1.7**
WRAB	**Tennant Creek**	**32.91**	**159**	*e*P		**P**	**17 59 33.6**	**-1.5**
	comp=Z,9.3nm,1.0s							
WRAB	**Tennant Creek**	**32.91**	**159**	*e*P		**P**	**17 59 33.6**	**-1.5**
WRAB				pmax		pmax		
	comp=Z,9.0nm,1.0s							

WR1	**Warramunga Arr**	**32.92**	**159**	*e*P		**P**	**17 59 32.1**	**-3.0**
WR1				*e*PcP		**PcP**	**18 02 17.9**	**-1.3**
WRA	**Warramunga Arr**	**32.92**	**159**	P		**P**	**17 59 32.1**	**-3.0**
	comp=Z,3.3nm,0.5s,baz=332,slow=10,SNR=19							
WRA				PcP		**PcP**	**18 02 17.9**	**-1.3**
	comp=Z,1.7nm,0.8s,baz=333,slow=3.4,SNR=5.6							
WRA				LR		LR	18 14 49.9	
	comp=Z,218nm,21.5s,baz=280,slow=40							
WB2	**Warramunga Arr**	**32.92**	**159**	*e*P		**P**	**17 59 32.4**	**-2.8**
USRK	**Ussuriysk Ar.**	**34.15**	**12**	P		**P**	**17 59 45.4**	**-0.1**
	comp=Z,4.1nm,0.7s,baz=205,slow=6.7,SNR=8.9							
USRK				LR		LR	18 13 47.9	
	comp=Z,353nm,20.2s,baz=181,slow=37							
LSA	**Lhasa**	**34.49**	**307**	*e*P		**P**	**17 59 49.6**	**+0.3**
	comp=Z,5.3nm,0.8s							
LSA	**Lhasa**	**34.49**	**307**	*e*P		**P**	**17 59 49.6**	**+0.3**
LSA				pmax		pmax		
	comp=Z,5.0nm,0.8s							
GTA	**Gaotai**	**34.68**	**329**	⇑P		**P**	**17 59 53.0**	**+2.6**
GTA				pP		pP	17 59 57.5	-2.2
GTA				sP		sP	18 00 00.0	-3.6
GTA				pmax		pmax		
	comp=Z,3.0nm,1.5s							
GTA				pmax		pmax		
	comp=Z,110nm,6.4s							
GTA				LR		LR		
	comp=Z,340nm,18.7s							
GTA				LR		LR		
	comp=Z,520nm,18.7s							
GTA				LR		LR		
	comp=Z,650nm,19.4s							
ERM	**Erimo**	**35.91**	**27**	⇓*e*P		**P**	**17 59 59.7**	**-1.0**
ERM				pmax		pmax		
	comp=Z,152nm,1.2s							
AS31	**Alice Springs**	**36.24**	**162**	*e*P		**P**	**18 00 01.8**	**-2.0**
	comp=Z,2.1nm,0.6s							
ASAR	**Alice Springs**	**36.24**	**162**	P		**P**	**18 00 02.0**	**-1.8**
	comp=Z,3.0nm,0.5s,baz=342,slow=6.8,SNR=87							
ASAR				PcP		**PcP**	**18 02 27.7**	**-1.0**
	comp=Z,3.4nm,1.0s,baz=332,slow=1.9,SNR=7.9							
ASAR				ScP		**ScP**	**18 06 15.3**	**+2.3**
	comp=Z,0.4nm,0.8s,baz=354,slow=4.4,SNR=4.0							
AS01	**Alice Springs**	**36.25**	**162**	*e*P		**P**	**18 00 01.2**	**-2.7**
AS01				*e*PcP		**PcP**	**18 02 27.9**	**-0.8**
RAMN	**Ramite**	**37.17**	**300**	*e*P		**P**	**18 00 12.1**	**+0.1**
	comp=Z,53nm,0.9s							
ASAJ	**Asahikawa**	**37.39**	**24**	P		**P**	**18 00 13.0**	**-0.3**
	comp=Z,4.3nm,0.8s,baz=180,slow=18,SNR=1.7							
JIRN	**Jiri**	**37.74**	**301**	*e*P		**P**	**18 00 16.5**	**-0.5**
	comp=Z,80nm,0.7s							
GUN	**Gumba**	**38.08**	**302**	*e*P		**P**	**18 00 19.4**	**-0.5**
	comp=Z,119nm,0.9s							
PKI	**Pulchoki**	**38.37**	**301**	*e*P		**P**	**18 00 21.5**	**-0.8**
	comp=Z,36nm,0.8s							
PKIN	**Phulchoki**	**38.38**	**301**	*e*P		**P**	**18 00 21.7**	**-0.6**
	comp=Z,23nm,0.8s							
KKN	**Kakani**	**38.55**	**301**	*e*P		**P**	**18 00 23.0**	**-0.6**
	comp=Z,52nm,0.9s							
DMN	**Daman**	**38.63**	**301**	*e*P		**P**	**18 00 23.9**	**-0.5**
	comp=Z,79nm,1.0s							
KLR	**Kul'dur**	**38.94**	**10**	P		**P**	**18 00 26.0**	**-0

KBL	**Kabul**	53.74	305	*e*P		**P**	18 02 21.4	-1.7
	comp=E,8.9nm,0.6s							
KBL	**Kabul**	53.74	305	*e*P		**P**	18 02 21.4	-1.7
KBL					pmax	pmax		
	comp=E,9.0nm,0.6s							
KK31	**Karatay Array**	55.01	315	*e*P		**P**	18 02 31.5	-0.5
KK31	**Karatay Array**	55.01	315	*e*P		**P**	18 02 31.5	-0.5
KKAR	**Karatay Array**	55.01	315	*e*P		**P**	18 02 32.7	+0.7
KKAR	**Karatay Array**	55.01	315	*e*P		**P**	18 02 32.7	+0.7
OTUK	**Ortayu**	55.76	322	P		**P**	18 02 38.5	+1.2
OTUK					pmax	pmax		
	comp=E,5.0nm,0.9s							
SEY	**Seymchan**	56.16	16	⇃*i*P		**P**	18 02 40.2	+0.4
BVAR	**Borovoye Array**	58.91	326	P		**P**	18 02 59.4	0.0
	comp=E,0.8nm,0.5s,baz=126,slow=7.5,SNR=5.9							
BVAR					LR	LR	18 30 11.7	
	comp=E,134nm,20.1s,baz=96,slow=38							
BRVK	**Borovoye**	58.98	326	*e*P		**P**	18 02 58.4	-1.5
	comp=E,4.4nm,0.8s							
BRVK	**Borovoye**	58.98	326	⇃*e*P		**P**	18 02 58.9	-1.0
BRVK					pmax	pmax		
	comp=E,3.0nm,0.8s							
TIXI	**Tiksi**	60.77	2	P		**P**	18 03 10.7	-1.2
	comp=E,1.6nm,0.6s,baz=158,slow=4.5,SNR=10.0							
TIXI	**Tiksi**	60.77	2	⇑*e*P		**P**	18 03 10.2	-1.6
TIXI					pmax	pmax		
	comp=E,10.0nm,2.5s							
WSAR	**Wadi Sarin**	61.67	290	P		**P**	18 03 18.1	-0.8
	comp=E,4.1nm,0.7s,baz=134,slow=4.9,SNR=4.9							
NRIK	**Noril'sk**	62.42	347	P		**P**	18 03 22.6	-0.4
	comp=E,5.0nm,0.5s,baz=96,slow=5.7,SNR=2.0							
NRIK					LR	LR	18 32 35.0	
	comp=E,355nm,18.9s,baz=172,slow=38							
GEYT	**Alibeck**	63.02	307	P		**P**	18 03 27.8	+0.2
	comp=E,2.0nm,1.0s,baz=232,slow=3.6,SNR=5.8							
GYA0B	**ALIBECK ARRAY**	63.02	307	*e*P		**P**	18 03 25.3	-2.4
	comp=E,8.2nm,0.8s							
ABKAR	**Akbulak array**	63.82	320	*e*P		**P**	18 03 32.9	+0.2
BILL	**Bilibino**	63.83	17	⇑*e*P		**P**	18 03 32.4	0.0
BILL				*e*			18 04 08.0	
BILL				*e*			18 05 53.4	
BILL				*e*PPP		PPP	18 07 19.9	
BILL					pmax	pmax		
	comp=E,7.0nm,1.6s							
AKTO	**Aktyubinsk**	65.31	321	P		**P**	18 03 42.3	-0.1
	comp=E,2.5nm,0.8s,baz=108,slow=6.7,SNR=9.0							
SVE	**Sverdlovsk**	65.54	328	*e*P		**P**	18 03 43.5	-0.3
SVE					pmax	pmax		
	comp=E,9.0nm,0.9s							
ARU	**Arti**	66.52	327	P		**P**	18 03 49.9	-0.1
	comp=E,1.7nm,0.5s,baz=140,slow=2.8,SNR=4.9							
ARU	**Arti**	66.52	327	*e*P		**P**	18 03 49.9	-0.1
	comp=E,4.7nm,0.8s							
ARU	**Arti**	66.52	327	*d i*P		**P**	18 03 49.8	-0.2
ARU							18 04 19.6	
ARU							18 06 17.4	
ARU					PPP	PPP	18 07 51.2	
ARU					S	**S**	18 12 43.6	+5.0
ARU					SS	**SS**	18 16 55.2	-0.6
ARU					pmax	pmax		
	comp=E,6.0nm,1.7s							
RAYN	**Ar Rayn**	73.70	291	*e*P		**P**	18 04 34.1	-0.7
	comp=E,18nm,1.4s							
RAYN	**Ar Rayn**	73.70	291	*e*P		**P**	18 04 34.1	-0.7
RAYN					pmax	pmax		
	comp=E,18nm,1.4s							
NCK	**Nalchik**	74.37	312	⇃*e*P		**P**	18 04 37.4	-0.9
NCK					pmax	pmax		
	comp=E,3.0nm,0.8s							
KBZ	**Khabaz**	74.88	312	P		**P**	18 04 41.2	+0.1
	comp=E,2.2nm,0.9s,baz=150,slow=3.9,SNR=5.6							
KBZ					LR	LR	18 42 12.6	
	comp=E,156nm,18.1s,baz=67,slow=39							
NEY	**Neytrino**	75.01	312	⇃*e*P		**P**	18 04 42.3	+0.1
NEY					pmax	pmax		
	comp=E,1.0nm,0.8s							
KIV	**Kislovodsk**	75.03	313	*e*P		**P**	18 04 42.5	+0.3
KIV					pmax	pmax		
	comp=E,7.0nm,1.0s							
KIV					MLR	MLR		
	comp=E,167nm,18.0s							
SVW2	**Sparrevohn**	76.66	30	*e*P		**P**	18 04 47.4	-3.6
	comp=E,30nm,1.7s							
IM3	**Indian Mountai**	77.59	25	*e*P		**P**	18 04 56.1	0.0
CAST	**Castle Rocks**	78.30	27	*e*P		**P**	18 05 00.5	+0.3
	comp=E,8.6nm,0.8s							
OBN	**Obninsk**	78.67	324	⇃*e*P		**P**	18 05 04.3	+2.0
OBN				*e*			18 05 12.6	
OBN				*e*PPP		PPP	18 09 55.0	
OBN					pmax	pmax		
	comp=E,10.0nm,0.7s							
BPAW	**Bear Paw Mtn.**	78.77	27	*e*P		**P**	18 05 03.1	+0.3
	comp=E,13nm,1.0s							
MLY	**Manley**	78.85	26	*e*P		**P**	18 05 03.7	+0.5
	comp=E,6.7nm,0.8s							
SUA	**Susitna One**	78.99	29	*e*P		**P**	18 05 03.7	-0.4
	comp=E,11nm,0.9s							
COLD	**Coldfoot**	78.99	23	*e*P		**P**	18 05 03.9	0.0
	comp=E,5.2nm,1.0s							
TOLK	**Toolik Lake Re**	79.18	22	*e*P		**P**	18 05 05.7	+0.7
	comp=E,7.7nm,0.9s							
MDM	**Murphy Dome**	79.92	26	*e*P		**P**	18 05 06.9	-2.1
	comp=E,3.8nm,0.8s							
CCB	**Clear Creek Bu**	80.12	26	*e*P		**P**	18 05 09.8	-0.2
	comp=E,22nm,1.9s							
MIR	**Mirnyy**	80.24	191	⇃*i*P		**P**	18 05 09.0	-1.5
MIR					pmax	pmax		
	comp=E,42nm,1.0s							
IL1	**Eielson Array**	80.51	26	*e*P		**P**	18 05 11.6	-0.6
ILAR	**Eielson Array**	80.51	26	P		**P**	18 05 10.9	-1.3
	comp=E,1.4nm,0.8s,baz=249,slow=5.2,SNR=14							
ILB	**Eielson Array**	80.51	26	*e*P		**P**	18 05 11.9	-0.3
RIDG	**Independ'e Rid**	81.51	27	*e*P		**P**	18 05 17.7	+0.1
	comp=E,26nm,1.4s							
BR101	**Keskin Array S**	82.08	309	*e*P		**P**	18 05 19.7	-1.5
BR131	**Keskin Array S**	82.08	309	*e*P		**P**	18 05 20.0	-1.2
BRTR	**Keskin Array B**	82.08	309	P		**P**	18 05 19.7	-1.5
	comp=E,1.7nm,0.8s,baz=105,slow=5.0,SNR=11							
BRTR					LR	LR	18 47 09.3	
	comp=E,35nm,18.5s,baz=74,slow=40							
BRTR	**Keskin Array B**	82.08	309	*ce*P		**P**	18 05 20.8	-0.4
BRTR					pmax	pmax		
	comp=E,2.0nm,0.8s							
ARA0	**ARCESS Array S**	82.18	339	*e*P		**P**	18 05 20.4	-0.6
ARCES	**ARCESS Array B**	82.18	339	P		**P**	18 05 20.4	-0.6
	comp=E,12nm,0.8s,baz=69,slow=6.6,SNR=13							
ARCES					LR	LR	18 44 55.1	
	comp=E,5.6nm,19.4s,baz=118,slow=38							
ARCES	**ARCESS Array B**	82.18	339	*e*P		**P**	18 05 21.1	+0.1
ARCES	**ARCESS Array B**	82.18	339	*e*P		**P**	18 05 21.1	+0.1
RAR	**Rarotonga**	82.88	113	LR		LR	18 39 54.1	
	comp=E,51nm,18.4s,baz=286,slow=34							
CSS	**Mathiatis**	82.99	304	*e*P		**P**	18 05 25.3	-0.6
	comp=E,9.6nm,0.8s							
FIA0	**FINESS Array S**	83.43	331	*e*P		**P**	18 05 26.7	-0.8
FIA0	**FINESS Array S**	83.43	331	*e*P		**P**	18 05 26.7	-0.8
FINES	**FINESS Array B**	83.43	331	P		**P**	18 05 26.7	-0.8
	comp=E,2.0nm,0.8s,baz=62,slow=4.5,SNR=6.9							
FINES					LR	LR	18 46 04.7	
	comp=E,198nm,18.5s,baz=78,slow=38							
FINES	**FINESS Array B**	83.43	331	*i* P		**P**	18 05 28.2	+0.7
FINES					pmax	pmax		
	comp=E,2.0nm,0.8s							
AKASG	**Malin Array Be**	83.56	320	P		**P**	18 05 27.5	-0.9
	comp=E,0.3nm,0.3s,baz=69,slow=5.0,SNR=5.6							
AKBB	**Malin Array Si**	83.56	320	*e*P		**P**	18 05 27.5	-0.9
	comp=E,12nm,1.6s							
AKBB	**Malin Array Si**	83.56	320	*e*P		**P**	18 05 27.5	-0.9
AKBB					pmax	pmax		
	comp=E,12nm,1.6s							
KIEV	**Kiev**	83.57	320	⇑*e*P		**P**	18 05 28.9	+0.4
KIEV					pmax	pmax		
	comp=E,3.0nm,1.0s							
VSU	**Vasula**	83.65	328	⇑*e*P		**P**	18 05 29.0	+0.3
DAWY	**Dawson**	83.83	26	*e*P		**P**	18 05 30.2	+0.6
	comp=E,33nm,1.9s							
INK	**Inuvik**	85.06	21	*e*P		**P**	18 05 35.6	-0.1
	comp=E,20nm,1.0s							
INK	**Inuvik**	85.06	21	*e*P		**P**	18 05 35.6	-0.1
INK					pmax	pmax		
	comp=E,20nm,1.0s							
KMBO	**Kilima Mbogo**	85.37	268	P		**P**	18 05 38.8	+0.2
	comp=E,3.3nm,0.9s,baz=49,slow=8.7,SNR=12							
KMBO	**Kilima Mbogo**	85.37	268	*e*P		**P**	18 05 39.8	+1.1
	comp=E,5.2nm,1.0s							
KMBO	**Kilima Mbogo**	85.37	268	*e*P		**P**	18 05 39.8	+1.1
KMBO					pmax	pmax		
	comp=E,5.0nm,1.0s							
MLR	**Muntele Rosu**	86.69	316	P		**P**	18 05 43.2	-1.2
	comp=E,4.0nm,0.8s,baz=251,slow=1.7,SNR=6.7							
MLR	**Muntele Rosu**	86.69	316	*e*P		**P**	18 05 42.9	-1.5
	comp=E,5.1nm,0.9s							
MLR	**Muntele Rosu**	86.69	316	*e*P		**P**	18 05 42.9	-1.5
MLR					pmax	pmax		
	comp=E,5.0nm,0.9s							
BUR04	**Bucovina Ar. S**	86.73	318	*e*P		**P**	18 05 43.4	-1.2
BUR08	**Bucovina Ar. S**	86.73	318	*e*P		**P**	18 05 43.4	-1.2
KECS	**Kecovo**	89.59	319	*e*P		**P**	18 05 56.2	-1.8
KECS	**Kecovo**	89.59	319	*e*P		**P**	18 05 56.2	-1.8
LANS	**Liptovska Anna**	90.05	320	*e*P		**P**	18 06 02.3	+2.1
LANS	**Liptovska Anna**	90.05	320	*e*P		**P**	18 06 02.3	+2.1
NB200	**NORSAR Array S**	90.40	333	*e*P		**P**	18 05 59.4	-2.2
NOA	**NORSAR Array B**	90.40	333	P		**P**	18 05 59.4	-2.2
	comp=E,0.8nm,0.8s,baz=66,slow=4.9,SNR=3.8							
NOA					LR	LR	18 51 05.7	
	comp=E,151nm,18.7s,baz=45,slow=38							
VNDA	**Vanda**	91.13	172	P		**P**	18 06 03.5	-0.9
	comp=E,6.5nm,0.9s,baz=300,slow=5.5,SNR=27							
VNDA	**Vanda**	91.13	172	*e*P		**P**	18 06 03.9	-0.6
	comp=E,9.5nm,1.0s							
VNDA	**Vanda**	91.13	172	*e*P		**P**	18 06 03.9	-0.6
VNDA					pmax	pmax		
	comp=E,10.0nm,1.0s							
PPT	**Papeete**	91.48	107	LR		LR	18 41 44.8	
	comp=E,29nm,20.2s,baz=226,slow=32							
CLL	**Collm**	93.25	324	*e*pP		pP	18 06 23.0	-2.1
CLL	**Collm**	93.25	324	*e*P		P	18 06 22.0	+7.1
GERES	**GERESS Array B**	93.74	321	P		**P**	18 06 16.1	-1.2
	comp=E,0.6nm,0.8s,baz=46,slow=3.9,SNR=4.6							
YKA	**Yellowknife Ar**	94.67	23	P		**P**	18 06 20.5	-0.7
	comp=E,3.4nm,0.8s,baz=304,slow=4.5,SNR=16							
YKB5	**Yellowknife Ar**	94.67	23	*e*P		**P**	18 06 20.1	-1.1
TOA0	**Torodi Ar. Sit**	116.39	291	*e*PKPdf		**PKPdf**	18 11 43.6	-1.3
TORD	**Torodi Ar. Bea**	116.39	291	PKP		**PKPdf**	18 11 43.1	-1.8
	comp=E,1.8nm,0.9s,baz=77,slow=2.2,SNR=9.9							
TOA1	**Torodi Ar. Sit**	116.39	291	*e*PKPdf		**PKPdf**	18 11 43.1	-1.8
PLCA	**Paso Flores**	148.25	161	PKPbc		**PKPbc**	18 12 46.4	-0.4
	comp=E,6.9nm,0.9s,baz=233,slow=5.5,SNR=24							
PLCA	**Paso Flores**	148.25	161	*e*PKPbc		**PKPbc**	18 12 46.9	+0.1
PLCA	**Paso Flores**	148.25	161	*e*PKP2		**PKPbc**	18 12 46.9	+0.1
GO06	**Curarrehue**	148.98	159	*e*PKPdf		**PKPdf**	18 12 43.7	-1.0
CPUP	**Villa Florida**	164.72	181	PKP		**PKPdf**	18 13 04.0	-0.9
	comp=E,1.9nm,0.8s,baz=98,slow=3.8,SNR=4.7							
CPUP					PKPab	**PKPab**	18 13 59.1	-1.1
	comp=E,5.9nm,0.9s,baz=204,slow=3.9,SNR=8.5							
CPUP	**Villa Florida**	164.72	181	*e*PKPdf		**PKPdf**	18 13 02.4	-2.5
CPUP				*e*PKPab		**PKPab**	18 13 59.6	-0.5
CPUP	**Villa Florida**	164.72	181	*e*PKIKP		**PKPdf**	18 13 02.4	-2.5
CPUP				*e*			18 13 59.7	
LPAZ	**La Paz**	168.55	119	PKP		**PKPdf**	18 13 07.7	-1.2
	comp=E,4.0nm,0.9s,baz=39,slow=2.3,SNR=12							
LPAZ	**La Paz**	168.55	119	*e*PKPdf		**PKPdf**	18 13 09.1	+0.3
LPAZ	**La Paz**	168.55	119	*e*PKIKP		**PKPdf**	18 13 09.1	+0.3

MEX 26 17:54:07.1±0.9, 17°26N×95°01W, h140km±8km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	0.20	144	*i* P	Pn	17 54 24.8	-1.4
CMIG				*e*S	Sn	17 54 38.2	-2.4
VHO	**Vista Hermosa**	1.66	264	*i* P	Pn	17 54 37.2	-0.7
VHO				*e*S	Sn	17 54 60.0	-1.4
HUIG	**Huatulco**	1.82	216	*e*P	Pn	17 54 38.1	-1.5
HUIG				*i* S	Sn	17 55 03.2	-1.1
TGIG		1.86	104	*i* P	Pn	17 54 39.4	-0.7
TGIG				*e*S	Sn	17 55 03.0	-2.4
PCIG		2.31	132	*i* P	Pn	17 54 44.5	-0.9
PCIG				*i* S	Sn	17 55 12.8	-1.9

*SJA **26** 17:57:17.6±0.4, 21°.65S×68°.56W, h142km±7km, ML2.4, MW3.0*
*ISCJB **26** 17:57:18.5±0.7, 21°.63S±0°.03×68°.58W±0°.10, h137km±7km, mb3.8/2, Error ellipse: s-maj=14.6km s-min=5.1km az=2.3*
*GUC **26** 17:57:18.1±0.6, 21°.62S×68°.57W, h134km±5km, ML3.5*
*IDC **26** 17:57:18.5±0.8, 21°.71S×68°.20W, h122km±11km, mb3.7/2, mb1 3.8/4, mb1mx3.4/25, mbtmp4.1/4, Error ellipse: s-maj=33.6km s-min=13.1km az=104.0*

ISC 26 17:57:18.8±0.9, 21°.63S±0°.04×68°.52W±0°.09, h131km±8km, n27, σ0°.74/45, 9C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	0.69	256	*e*P	**Pn**	17 57 39.5	0.0
PB09	**IPOC Station P**	0.69	256	⇑*i*P	**Pn**	17 57 39.5	0.0
PB09				*i* S	**Sn**	17 57 55.4	+0.2
PB09				IAML		17 57 57.0	
	comp=N,689nm,0.7s						
LVC	**Limon Verde**	1.04	200	P	**Pn**	17 57 42.1	-0.6
	comp=N,126nm,0.3s,baz=38,slow=8.7,SNR=949						
LVC				S	**Sn**	17 58 00.1	-0.6
	comp=N,73nm,0.3s,baz=223,slow=15,SNR=58						
PB01	**IPOC Station P**	1.07	303	⇑*i*P	**Pn**	17 57 42.4	-0.3
PB01				*i* S	**Sn**	17 58 00.9	+0.2
PB01				IAML		17 58 01.7	
	comp=N,992nm,0.4s						
PB03	**IPOC Station P**	1.22	250	*e*P	**Pn**	17 57 44.1	0.0
PB03				*e*S	**Sn**	17 58 03.6	+0.2
PB03	**IPOC Station P**	1.22	250	⇑*i*P	**Pn**	17 57 44.1	0.0
PB03				*i* S	**Sn**	17 58 03.6	+0.2
PB03				IAML		17 58 06.0	
	comp=E,568nm,0.2s						
PB07	**IPOC Station P**	1.27	265	*e*P	**Pn**	17 57 44.7	0.0
PB07				*e*S	**Sn**	17 58 04.9	+0.5
PB07	**IPOC Station P**	1.27	265	⇑*i*P	**Pn**	17 57 44.8	0.0
PB07				*i* S	**Sn**	17 58 04.7	+0.3
PB07				IAML		17 58 07.4	
	comp=N,610nm,0.2s						
PB02	**IPOC Station P**	1.32	283	*e*P	**Pn**	17 57 44.9	-0.3
PB02				*e*S	**Sn**	17 58 05.3	+0.1
PB02	**IPOC Station P**	1.32	283	⇑*i*P	**Pn**	17 57 45.1	0.0
PB02				*i* S	**Sn**	17 58 05.2	+0.1
PB02				IAML		17 58 08.4	
	comp=E,1μm,0.2s						
PB06	**IPOC Station P**	1.45	222	⇑*i*P	**Pn**	17 57 46.6	0.0
PB06				*i* S	**Sn**	17 58 07.9	+0.1
PB06				IAML		17 58 09.1	
	comp=E,444nm,0.2s						
PB08	**IPOC Station P**	1.59	338	*e*P	**Pn**	17 57 49.0	+0.5
PB08				*e*S	**Sn**	17 58 11.8	+0.7
PB08	**IPOC Station P**	1.59	338	⇑*i*P	**Pn**	17 57 48.9	+0.5
PB08				*i* S	**Sn**	17 58 11.7	+0.7
PB08				IAML		17 58 14.7	
	comp=E,358nm,0.2s						
PB04	**IPOC Station P**	1.67	245	⇃*i*P	**Pn**	17 57 49.0	-0.1
PB04				*i* S	**Sn**	17 58 12.1	-0.1
PB04				IAML		17 58 19.0	
	comp=N,436nm,0.2s						
PB15	**IPOC Station P**	1.80	209	⇑*i*P	**Pn**	17 57 50.8	+0.1
PB15				*i* S	**Sn**	17 58 15.7	+0.6
PB05	**IPOC Station P**	1.98	232	*e*P	**Pn**	17 57 52.4	-0.4
PB05	**IPOC Station P**	1.98	232	⇑*i*P	**Pn**	17 57 52.5	-0.2
PB05				*i* S	**Sn**	17 58 18.6	-0.1
GO01	**Chusmiza**	2.05	342	*e*P	**Pn**	17 57 54.0	0.0
GO01				IAML		17 58 24.3	
	comp=N,575nm,0.2s						
PB11	**IPOC Station P**	2.14	330	*e*P	**Pn**	17 57 54.3	-0.5
PB11				*i* S	**Sn**	17 58 22.1	-0.2
PB11				IAML		17 58 24.4	
	comp=E,520nm,0.2s						
PSGC	**Pisagua**	2.52	323	⇃*i*P	**Pn**	17 57 58.4	-1.1
PSGC				*i* S	**Sn**	17 58 29.1	-1.6
PSGC				IAML		17 58 31.4	
	comp=E,274nm,0.3s						
MNMC	**Minye Minye**	2.68	338	*e*P	**Pn**	17 58 01.4	-0.3
MNMC				*i* S	**Sn**	17 58 35.0	+0.3
MNMC				IAML		17 58 37.1	
	comp=N,527nm,0.2s						
YJA	**Yavi**	2.84	102	IAML		17 58 03.6	
	comp=Z,9.2nm,0.3s						
LPAZ	**La Paz**	5.33	4	P	**Pn**	17 58 37.8	+0.9
	comp=Z,0.9nm,0.3s,baz=179,slow=9.8,SNR=19						
LPAZ				S	**Sn**	17 59 39.3	+1.6
	baz=205,slow=17,SNR=2.1						
SIV	**San Ignacio**	9.01	53	P	**Pn**	17 59 22.9	-3.0
	comp=Z,4.7nm,0.3s,baz=240,slow=15,SNR=14						
TORD	**Torodi Ar. Bea**	77.06	70	P	**P**	18 08 57.2	-0.8
	comp=Z,0.5nm,0.4s,baz=241,slow=5.1,SNR=5.9						
YKA	**Yellowknife Ar**	91.43	340	P	**P**	18 10 10.7	+1.2
	comp=Z,0.8nm,0.5s,baz=135,slow=4.6,SNR=12						
MKAR	**Makanchi Array**	145.52	36	PKPbc	**PKPab**	18 16 42.1	-0.1
	comp=Z,0.5nm,0.9s,baz=338,slow=2.5,SNR=4.3						

MAN 26 18:13:32.1, 9°.99N×124°.87E, h62km, mb4.5, ML3.4, MS3.2, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	0.15	355	*e*P	Pn	18 13 42.8	+1.2
MSLP				*e*S	Sn	18 13 49.8	+1.4
SCPH	**Surigao**	0.64	108	*e*P	Pn	18 13 47.7	+1.9
SCPH				*e*S	Sn	18 13 59.0	+3.2
OCLP	**Ormoc**	1.09	346	*e*P	Pn	18 13 51.9	+0.4
OCLP				*e*S	Sn	18 14 07.6	+1.8
PLP	**Palo**	1.18	5	⇑*e*P	Pn	18 13 50.8	-1.8
PLP				*e*S	Sn	18 14 03.1	-4.7
BESP	**Borongan**	1.70	19	*e*P	Pn	18 14 00.5	+0.9

*NIED **26** 18:20:00, 39°.30N×142°.10E, h41km, Mw3.9 Best double couple: M0 6.82000×10^14 NP1:φs 161.00000°, δ47.00000°, λ-10.00000°. NP2:φs 257.00000°, δ83.00000°, λ-137.00000°.*
*ISCJB **26** 18:20:37.6±0.7, 39°.33N±0°.03×142°.12E±0°.08, h56km±4km, mb3.7/11, Error ellipse: s-maj=11.3km s-min=4.7km az=14.6*
*JMA **26** 18:20:38.7, 39°.34N×142°.08E, h48km±1km, M3.9*
JMA Felt II J1.
*IDC **26** 18:20:40.5±2.2, 39°.31N×142°.01E, h68km±19km, mb3.4/11, mb1 3.6/14, mb1mx3.4/52, mbtmp3.7/14, MS3.0/1, Ms1 3.0/1, ms1mx2.5/30, Error ellipse: s-maj=22.4km s-min=13.3km az=101.0*

ISC 26 18:20:38.5±1.0, 39°.33N±0°.04×142°.08E±0°.08, h46km±8km, n35, σ1s17/40, mb3.7/11, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	0.32	321	P	**Pn**	18 20 47.7	+0.2
MIYJ				S	**Sn**	18 20 53.8	0.0
OFUJ	**Ofunato**	0.41	233	P	**Pn**	18 20 48.8	+0.5
OFUJ				S	**Sn**	18 20 55.8	+0.5
JOM	**Ohasama**	0.63	284	P	**Pn**	18 20 51.3	+0.1
JOM				S	**Sn**	18 21 00.6	+0.3
JTH	**Tanohata**	0.64	345	P	**Pn**	18 20 51.2	0.0
JTH				*e*S	**Sn**	18 21 00.0	-0.4
JKMT	**Kesennumamotoy**	0.70	223	P	**Pn**	18 20 52.3	+0.3
JKMT				S	**Sn**	18 21 01.8	0.0
JMK	**Ichinoseki**	0.77	241	P	**Pn**	18 20 53.2	+0.2
JMK				S	**Sn**	18 21 03.4	-0.1
JKZ	**Kuzumaki**	0.88	319	P	**Pn**	18 20 55.0	+0.5
JKZ				S	**Sn**	18 21 06.7	+0.5
JIO	**Ouri**	1.04	214	P	**Pn**	18 20 56.8	+0.1
JIO				S	**Sn**	18 21 09.6	-0.5
JRG	**Rokugo**	1.13	274	P	**Pn**	18 20 58.1	+0.3
JRG				*e*S	**Sn**	18 21 13.3	+1.1
JANG	**Nango**	1.13	337	P	**Pn**	18 20 57.8	-0.1
JANG				S	**Sn**	18 21 12.0	-0.4
JYK	**Kaneyama**	1.40	254	P	**Pn**	18 21 02.1	+0.5
JAH	**Hinai**	1.41	308	P	**Pn**	18 21 02.1	+0.4
MJAR	**Matsushiro Arr**	4.14	229	P	**Pn**	18 21 41.8	+2.7
	2.2nm,0.3s,baz=38,slow=11,SNR=21						
MAT	**Matsushiro**	4.14	229	P	**Pn**	18 21 41.9	+2.8
MAT				*e*S	**Sn**	18 22 29.3	+3.1
ASAJ	**Asahikawa**	4.80	4	P	**Pn**	18 21 50.3	+2.1
	0.9nm,0.3s,baz=194,slow=11,SNR=9.7						
ASAJ				S	**Sn**	18 22 45.4	+2.9
	0.5nm,0.3s,baz=18,slow=20,SNR=3.7						
USRK	**Ussuriysk Ar.**	8.98	306	P	**Pn**	18 22 46.4	+1.0
	0.3nm,0.3s,baz=126,slow=14,SNR=9.0						
JNU	**Nakatsue**	10.96	239	LR	LR	18 27 02.6	
	comp=Z,83nm,21.2s,baz=95,slow=35						
KSRS	**Korea Array**	11.27	265	P	Pn	18 23 22.1	+5.2
	0.2nm,0.3s,baz=68,slow=14,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	28.95	125	T	T	18 56 57.4	
	baz=318,slow=75,SNR=330						
H11N1	**WAKE ISLAND Hy**	28.96	125	T	T	18 56 58.0	
	baz=318,slow=75,SNR=250						
H11N3

MAJO	**Matsushiro**	**73.49**	**322**	*eP*	**P**	**18 50 11.5**	**+0.2**
TMUT	**Trail Mountain**	**85.57**	**44**	*eP*	**P**	**18 51 17.8**	**+0.5**
	20nm,0.7s						
ILAR	**Eielson Array**	**89.65**	**12**	P	**P**	**18 51 35.6**	**-0.3**
	0.6nm,0.8s,baz=202,slow=4.5,SNR=4.0						
CMAR	**Chiang Mai Arr**	**93.42**	**288**	P	**P**	**18 51 56.5**	**+2.0**
	1.0nm,0.9s,baz=109,slow=3.9,SNR=5.7						
AKASG	**Malin Array Be**	**146.09**	**332**	PKPbc	**PKPbc**	**18 58 17.6**	**-0.7**
	2.3nm,0.6s,baz=42,slow=4.2,SNR=12						
AKBB	**Malin Array Si**	**146.09**	**332**	*e*PKPdf	**PKPdf**	**18 58 16.2**	**-1.2**
KIEV	**Kiev**	**146.11**	**332**	*e*PKPdf	**PKPdf**	**18 58 16.3**	**-1.1**
AK11	**Malin Array Si**	**146.13**	**332**	*e*PKPdf	**PKPdf**	**18 58 17.0**	**-0.5**
BR101	**Keskin Array S**	**150.25**	**312**	*e*PKPbc	**PKPbc**	**18 58 29.6**	**-0.4**
BRTR	**Keskin Array B**	**150.25**	**312**	PKPbc	**PKPbc**	**18 58 29.6**	**-0.4**
	0.7nm,0.8s,baz=149,slow=2.6,SNR=5.0						

*ISCJB **26** 18:51:09.7±1.7,38.69N±0.06×43.60E±0.10,h31km±11km,*
Error ellipse: s-maj=15.1km s-min=6.4km az=36.5
*DDA **26** 18:51:10.9,38.72N×43.54E,h7km,Ml2.5*
ISC 26 18:51:10.1±1.3,38.73N±0.06×43.54E±0.07,h25km±8km,
n7,σ0§72/14,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**221**			PG	**Pb**	**18 51 15.7**	**0.0**
VANB						SG	**Sb**	**18 51 20.4**	**+1.0**
TVAN	**Van**	**0.23**	**207**	*i*	P		**Pb**	**18 51 15.5**	**-0.9**
TVAN				*i*	S		**Sb**	**18 51 20.7**	**+0.2**
VMUR	**Van-Muradiye**	**0.26**	**6**	*i*	P		**Pb**	**18 51 15.9**	**-0.9**
VMUR				*i*	S		**Sb**	**18 51 21.8**	**+0.4**
CLDR	**Caldiran**	**0.51**	**36**		PG		**Pb**	**18 51 21.0**	**+0.3**
CLDR					SG		**Sn**	**18 51 29.9**	**-0.3**
CLDR	**Caldiran**	**0.51**	**36**	*i*	P		**Pb**	**18 51 20.5**	**-0.2**
CLDR				*i*	S		**Sn**	**18 51 29.8**	**-0.3**
GEVA	**Gevas**	**0.56**	**222**	*i*	P		**Pb**	**18 51 20.7**	**-0.8**
GEVA				*i*	S		**Sb**	**18 51 30.3**	**+1.1**
ADCV	**BITLIS_Adilcev**	**0.64**	**277**	*i*	P		**Pb**	**18 51 22.5**	**-0.4**
ADCV				*i*	S		**Sn**	**18 51 33.5**	**+0.2**

*ISN **26** 18:52:01.0±1.2,37.42N×42.87E,h0km±4km,Ml3.9*
*ISK **26** 18:52:01.8,37.55N×42.72E,h9km,ML3.9/10*
*DDA **26** 18:52:02.1,37.55N×42.70E,h16km,Ml3.9*
*AZER **26** 18:52:09.4±2.4,38.30N×42.05E,h77km±165km,ml3.1/7,*
Error ellipse: s-maj=51.0km s-min=25.6km az=1.0
ISC 26 18:52:02.0±1.1,37.55N±0.03×42.73E±0.02,h5km±9km,
n43,σ1§24/71,7C-2D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIRT	**Sirnak**	**0.23**	**258**			PG	**Pg**	**18 52 06.9**	**+0.3**
SIRT						SG	**Sg**	**18 52 10.8**	**+1.1**
SIRN	**S¨–rnak**	**0.26**	**258**	*i*	P		**Pg**	**18 52 07.3**	**+0.3**
SIRN				*i*	S		**Sg**	**18 52 11.8**	**+1.4**
CUKT	**Cukurca**	**0.76**	**113**		PG		**Pg**	**18 52 16.9**	**+0.2**
CUKT					SG		**Sb**	**18 52 28.3**	**-0.4**
CUKT	**Cukurca**	**0.76**	**113**	*i*	P		**Pg**	**18 52 16.5**	**-0.2**
CUKT				*i*	S		**Sb**	**18 52 29.3**	**+0.6**
SRTM	**Siirt_Merkez**	**0.77**	**305**	*i*	P		**Pg**	**18 52 16.8**	**-0.1**
SRTM				*i*	S		**Sb**	**18 52 28.6**	**-0.3**
GEVA	**Gevas**	**0.81**	**19**	*i*	P		**Pg**	**18 52 17.4**	**-0.1**
GEVA				*i*	S		**Sb**	**18 52 28.9**	**-1.0**
TVAN	**Van**	**1.11**	**29**	*i*	P		**Pb**	**18 52 23.4**	**-0.6**
TVAN				*i*	S		**Sn**	**18 52 41.9**	**+1.5**
GURO	**Guroymak-BITLI**	**1.14**	**331**		PN		**Pg**	**18 52 23.9**	**0.0**
VANB	**Van**	**1.17**	**26**		PN		**Pg**	**18 52 23.6**	**-0.8**
BTMN	**Batman**	**1.20**	**287**	*i*	P		**Pg**	**18 52 25.2**	**0.0**
BTMN				*i*	S		**Sn**	**18 52 43.2**	**+0.8**
YOVA	**Hakkari_Y¨…kse**	**1.24**	**88**	*i*	P		**Pg**	**18 52 25.5**	**-0.4**
YOVA				*i*	S		**Sn**	**18 52 44.3**	**+0.7**
ADCV	**BITLIS_Adilcev**	**1.26**	**360**	*i*	P		**Pb**	**18 52 26.1**	**-0.2**
ADCV				*i*	S		**Sn**	**18 52 43.6**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.35**	**297**		PN		**Pg**	**18 52 27.4**	**-0.5**
SVAN					SN		**Sb**	**18 52 46.2**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.35**	**297**	*i*	P		**Pg**	**18 52 27.4**	**-0.5**
SVAN				*i*	S		**Sg**	**18 52 45.9**	**+0.4**
MARD	**Mardin**	**1.57**	**262**	*i*	P		**Pn**	**18 52 31.0**	**+0.3**
MARD				*i*	S		**Sn**	**18 52 51.8**	**+0.3**
VMUR	**Van-Muradiye**	**1.58**	**25**	*i*	P		**Pg**	**18 52 32.5**	**+0.1**
VMUR				*i*	S		**Sn**	**18 52 56.9**	**+4.9**
EKAR	**Karacoban**	**1.78**	**343**	*i*	P		**Pg**	**18 52 35.5**	**-0.7**
EKAR				*i*	S		**Sg**	**18 53 00.2**	**+0.9**
MAZI	**Mazidag**	**1.81**	**268**		PN		**Pn**	**18 52 33.7**	**-0.4**
CLDR	**Caldiran**	**1.84**	**30**		PN		**Pn**	**18 52 34.9**	**+0.3**
CLDR	**Caldiran**	**1.84**	**30**	*i*	P		**Pg**	**18 52 37.0**	**-0.4**
CLDR				*i*	S		**Sg**	**18 53 04.2**	**+2.9**
TUTA	**Tutak**	**1.85**	**2**	*i*	P		**Pb**	**18 52 35.6**	**-0.9**
TUTA				*i*	S		**Sg**	**18 53 01.7**	**+0.2**
BNGL	**BINGOL**	**1.87**	**319**	*i*	P		**Pn**	**18 52 35.4**	**+0.4**
BNGL				*i*	S		**Sg**	**18 53 02.2**	**0.0**
VRTB	**Varto-Mus**	**1.89**	**329**		PN		**Pn**	**18 52 35.2**	**0.0**
VRTB	**Varto-Mus**	**1.89**	**329**	*i*	P		**Pn**	**18 52 36.2**	**+1.0**
VRTB				*i*	S		**Sg**	**18 53 03.4**	**+0.6**
HANI	**Diyarbakir_Han**	**2.03**	**296**	*i*	P		**Pn**	**18 52 36.1**	**-0.9**
HANI				*i*	S		**Sn**	**18 52 59.5**	**-3.4**
AGRB	**Hanur-Agry**	**2.03**	**6**		PN		**Pn**	**18 52 37.3**	**+0.1**
DIYA	**Diyarbakir**	**2.10**	**281**	*i*	P		**Pn**	**18 52 38.0**	**0.0**
DIYA				*i*	S		**Sn**	**18 53 04.5**	**+0.1**
BNGB	**Bing¨¶l**	**2.16**	**312**		PN		**Pn**	**18 52 38.8**	**0.0**
BGOL	**Bingol**	**2.16**	**312**	*i*	P		**Pn**	**18 52 39.4**	**+0.5**
BGOL				*i*	S		**Sb**	**18 53 09.7**	**+0.8**
EATA	**Eleskirt**	**2.32**	**356**	*i*	P		**Pg**	**18 52 45.2**	**-1.2**
EATA				*i*	S		**Sg**	**18 53 18.4**	**+2.0**
ECAT	**Cat-ERZURUM**	**2.47**	**327**	*i*	P		**Pb**	**18 52 46.1**	**-0.9**
ECAT				*i*	S		**Sb**	**18 53 17.7**	**-0.2**
YEDI	**Yedisu-Bingol**	**2.55**	**318**		PN		**Pn**	**18 52 44.3**	**+0.4**
NAX	**Nakhchivan**	**2.71**	**52**	⇑	P		**Pg**	**18 52 52.2**	**-1.9**
NAX				⇓	S		**Sg**	**18 53 26.1**	**-3.1**
HYR	**Heyderabad**	**2.73**	**37**	⇑	P		**Pb**	**18 52 49.6**	**-1.8**
ORD	**Ordubad**	**2.92**	**61**	⇑	P		**Pg**	**18 52 57.0**	**-0.9**
ORD				⇑	S		**Sg**	**18 53 36.1**	**+0.3**
PTK	**Pertek**	**2.95**	**298**		PN		**Pn**	**18 52 49.7**	**0.0**
TNCL	**Tunceli-Merkez**	**2.95**	**303**	*i*	P		**Pn**	**18 52 50.9**	**+1.2**
TNCL				*i*	S		**Sg**	**18 53 36.4**	**-0.4**
ELZG	**Elazig**	**3.10**	**289**	*i*	P		**Pn**	**18 52 51.4**	**-0.4**
ELZG				*i*	S		**Sg**	**18 53 42.4**	**+0.7**
URFA	**Urfa**	**3.11**	**269**		PN		**Pn**	**18 52 52.1**	**+0.3**
GDB	**GEDABAY**	**3.94**	**36**	⇑	P		**Pn**	**18 53 05.8**	**+2.4**
QZX	**Qazax, Azerbai**	**4.06**	**30**	⇓	P		**Pn**	**18 53 04.3**	**-0.5**
GANJ	**Ganja**	**4.17**	**41**	⇑	P		**Pn**	**18 53 09.2**	**+2.8**
	SNR=7.7								
LRK	**Lerik**	**4.56**	**74**	⇑	P		**Pb**	**18 53 21.1**	**-1.6**

MEX 26 19:01:27.6±0.5,16.35N×98.20W,h16km±1km,MD3.5,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.08**	**60**	*i*	P		Pg	19 01 29.8	-1.1
PNIG				*i*	S		Sg	19 01 32.6	-0.5
TLIG	**Tlapa**	**1.25**	**344**	*e*	P		Pn	19 01 47.1	-3.5
TLIG				*i*	S		Sb	19 02 02.8	-4.2
VHO	**Vista Hermosa**	**1.58**	**63**	*i*	P		Pn	19 01 52.4	-2.8
VHO				*i*	S		Sn	19 02 11.0	-4.3

*NORS **26** 19:02:01.3±0.0,43.03N×44.92E,h11km,MPVA3.0*
*MOS **26** 19:02:01.5±0.0,43.01N×44.91E,h10km,MPVA2.9*
ISC 26 19:01:59.0±2.8,43.09N±0.07×45.2E±0.1,h14km±9km,n12,
σ0§77/24,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMGR	**Komgaron**	**0.23**	**261**	*i*	Pg		**Pg**	**19 02 04.5**	**+0.5**
KMGR				*i*	Sg		**Sg**	**19 02 06.9**	**-0.5**
VLKR	**Vladikavkaz**	**0.36**	**263**	*e*	Pg		**Pg**	**19 02 06.8**	**+0.3**
VLKR				*e*	Sg		**Sg**	**19 02 10.8**	**-0.6**
ARNR	**Ardon**	**0.65**	**278**	*e*	Pg		**Pn**	**19 02 13.3**	**-0.7**
ARNR				*e*	Sg		**Sg**	**19 02 21.4**	**+0.9**
LACR	**Lac**	**0.69**	**248**	*e*	Pg		**Pg**	**19 02 12.7**	**+0.1**
LACR				*e*	Sg		**Sg**	**19 02 20.6**	**-1.1**
KORR	**Kora**	**0.81**	**270**	*e*	Pg		**Pb**	**19 02 14.6**	**-0.3**
KORR				*e*	Sg		**Sb**	**19 02 24.2**	**-1.5**
GUDG	**Gudauri**	**0.81**	**219**		P		**Pn**	**19 02 16.2**	**-0.1**
GUDG					S		**Sb**	**19 02 26.1**	**+0.2**
STDR	**Stavd-Durt**	**0.85**	**289**	*i*	Pg		**Pn**	**19 02 16.3**	**-0.4**
STDR				*e*	Sg		**Sb**	**19 02 27.5**	**+0.5**
ZEI	**Tsey**	**0.98**	**252**	*e*	Pg		**Pg**	**19 02 18.8**	**+0.8**
ZEI				*e*	Sg		**Sb**	**19 02 30.4**	**-0.4**
DIGR	**Digorskoe uzhe**	**1.18**	**261**	*e*	Pg		**Pg**	**19 02 22.2**	**+0.4**
DIGR				*e*	Sg		**Sb**	**19 02 36.8**	**+0.1**
ONI	**Oni**	**1.36**	**249**		P		**Pg**	**19 02 25.4**	**+0.2**
ONI					S		**Sb**	**19 02 43.0**	**+1.3**
ONI	**Oni**	**1.36**	**249**	*e*	Pg		**Pg**	**19 02 25.4**	**+0.2**
ONI				*e*	Sg		**Sb**	**19 02 43.0**	**+1.3**
NEY	**Neytrino**	**1.80**	**276**	*e*	Pg		**Pb**	**19 02 32.1**	**+0.2**
NEY				*e*	Sg		**Sb**	**19 02 55.1**	**+0.8**

*SKO **26** 19:02:37.3,40.88N×21.06E,h31km,M0.6,ML1.1*
*THE **26** 19:02:39.1,40.87N×21.07E,h17km±2km,ML1.6/3,Error*
ellipse: s-maj=2.9km s-min=0.5km az=80.0
*BEO **26** 19:03:11.4±0.5,42.93N×21.92E,h0km±4km,ML1.5/10*
ISC 26 19:02:39.3±1.0,40.90N±0.03×21.04E±0.04,h14km±8km,
n19,σ1§71/30,7C,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BIA	**Bitola**	**0.25**	**61**		P		**Pg**	**19 02 44.7**	**0.0**
BIA					S		**Sb**	**19 02 49.1**	**-0.7**
BIA	**Bitola**	**0.25**	**61**	⇑	*i*Pg		**Pg**	**19 02 44.6**	**0.0**
BIA					*i* Sg		**Sb**	**19 02 49.1**	**-0.7**
BIA					*e*Lg	Lg		19 02 49.5	
	comp=N,71nm,0.2s								
BIA					*e*Lg	Lg		19 02 49.6	
	comp=E,36nm,0.2s								
OHR	**Ohrid**	**0.28**	**320**	⇑	*i*Pg		**Pg**	**19 02 45.2**	**-0.1**
OHR					*i* Sg		**Sb**	**19 02 50.6**	**-0.2**
OHR					*e*Lg	Lg		19 02 52.7	
	comp=N,24nm,0.4s								
OHR					*e*Lg	Lg		19 02 52.8	
	comp=E,22nm,0.5s								
FNA	**Florina**	**0.28**	**114**		P		**Pg**	**19 02 44.6**	**-0.6**
FNA					S		**Sg**	**19 02 48.9**	**-0.4**
KBN	**Korca**	**0.33**	**215**		P		**Pg**	**19 02 45.7**	**-0.5**
KBN					S		**Sg**	**19 02 51.0**	**+0.2**
NEST	**Nestorio**	**0.48**	**179**		P		**Pg**	**19 02 48.1**	**-0.8**
NEST					S		**Sg**	**19 02 55.6**	**+0.2**
KRUS	**Krusevo**	**0.50**	**19**	⇑	*i*Pg		**Pg**	**19 02 48.6**	**-0.6**
KRUS					*i* Sg		**Sg**	**19 02 56.3**	**+0.4**
KRUS					*e*Lg	Lg		19 02 56.6	
	comp=E,25nm,0.3s								
KRUS					*e*Lg	Lg		19 02 56.8	
	comp=N,31nm,0.4s								
BARS	**Barje**	**2.00**	**17**	⇑	*i*Pg		**Pn**	**19 03 13.5**	**+0.8**
BARS					*e*Sg		**Pg**	**19 03 15.6**	**-2.1**
SELS	**Selova**	**2.32**	**1**	⇑	*i*Pg		**Pg**	**19 03 23.1**	**-0.7**
SELS					*e*Sg		Sn	19 03 32.4	-13
SJES	**Sjenica**	**2.49**	**342**	*e*	Sg		Sn	19 03 37.0	-13
SJES	**Sjenica**	**2.49**	**342**	*e*	Pg		**Sg**	**19 03 57.6**	**-1.8**
ZAPS	**Zavoj**	**2.66**	**26**	*e*	Pg		**Pn**	**19 03 23.4**	**+1.7**
ZAPS				*e*	Sg		**Pg**	**19 03 31.2**	**+1.0**
IVAS	**Ivanjica**	**2.76**	**346**	*e*	Pg		Pg	19 03 38.0	+5.9
IVAS				*e*	Sg		**Sn**	**19 03 57.6**	**+1.3**
BOVS	**Bovan**	**2.78**	**10**	⇑	*i*Pg		**Pn**	**19 03 24.0**	**+0.6**
BOVS					*e*Sg		**Pg**	**19 03 34.8**	**+2.2**
GRUS	**Gruza**	**3.00**	**356**	⇑	*i*Pg		**Pg**	**19 03 35.2**	**-1.6**
GRUS					*e*Sg		Sn	19 03 52.1	-10
ZAGS	**Zajecar**	**3.04**	**17**	*e*	Pg		**Pn**	**19 03 28.4**	**+1.4**
DIVS	**Divibare**	**3.29**	**347**	*e*	Pg		**Pg**	**19 03 43.9**	**+1.5**
DIVS				*e*	Sg		**Sn**	**19 04 10.0**	**+0.5**
TRUS	**Trudelj**	**3.36**	**352**	*e*	Pg		**Pg**	**19 03 42.0**	**-1.6**
TRUS				*e*	Sg		**Sn**	**19 04 05.4**	**-5.6**
KUBS	**Kucevo**	**3.54**	**7**	*e*	Pg		**Pn**	**19 03 37.5**	**+3.6**
KUBS				*e*	Sg		Pg	19 03 58.0	+11

*IDC **26** 19:04:34.0±1.0,40.17N×72.95E,h0km,mb3.6/7,*
mb1 3.7/13,mb1mx3.5/42,mbtmp3.5/13,ML3.0/6,MS3.0/1,
Ms1 3.0/1,ms1mx2.2/51,Error ellipse: s-maj=17.5km
s-min=14.8km az=128.0
*KRNET **26** 19:04:36.3±0.1,40.34N×72.99E,h16km,mb3.8*
*SOME **26** 19:04:37.1,40.32N×73.08E,h10km*
*NNC **26** 19:04:37.1±0.6,40.30N×73.02E,h0km,mb4.0,mpv3.6,*
Error ellipse: s-maj=8.2km s-min=2.0km az=52.0
ISC 26 19:04:36.6±1.1,40.25N±0.03×72.90E±0.02,h5km±8km,
n75,σ1§84/116,mb3.6/7,40C-23D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.52**	**117**	⇑	P		**Pg**	**19 04 46.2**	**-0.4**
SFK	51nm,0.2s			⇓	S		**Sg**	**19 04 52.9**	**-0.5**
	729nm,0.4s								
SFK	**Sufi-Kurgan**	**0.52**	**117**	⇓	*i*P		**Pg**	**19 04 46.3**	**-0.4**
	baz=29								
SFK				⇓	*i*S		**Sg**	**19 04 53.3**	**-0.1**
	baz=29								
ARSB	**Arslanbob**	**1.07**	**3**	⇓	*i*P		**Pg**	**19 04 55.2**	**-2.0**
	baz=60								
ARSB				⇓	*i*S		**Sg**	**19 05 09.6**	**-1.5**
	baz=60								
DRK	**Karamyk**	**1.15**	**228**	⇑	*i*P		**Pn**	**19 05 00.2**	**+0.5**
	baz=27								
DRK				⇑	*i*S		**Sn**	**19 05 17.3**	**+1.4**
	baz=27								
BTK	**Batken**	**1.61**	**264**	⇑	*i*P		**Pg**	**19 05 07.6**	**+0.1**
	baz=61								
BTK				⇑	*i*S		**Sg**	**19 05 30.9**	**+2.6**
	baz=61								
ARK	**Arkit**	**1.70**	**336**	⇓	*i*P		**Pn**	**19 05 07.1**	**0.0**
	baz=32								
ARK				⇓	*i*S		**Sn**	**19 05 29.1**	**-0.2**
	baz=32								
ARLS	**Aral**	**1.93**	**33**	⇓	*i*P		**Pn**	**19 05 10.1**	**-0.2**
	baz=33								
ARLS				⇓	*i*S		**Sn**	**19 05 34.5**	**-0.6**
	baz=33								
AML	**Almayashu**	**1.97**	**17**		P		**Pn**	**19 05 11.3**	**+0.2**
	SNR=497								
AML	**Almayashu**	**1.97**	**17**	⇓	*i*P		**Pn**	**19 05 11.2**	**+0.2**
	baz=16								
AML				⇓	*i*S		**Sn**	**19 05 36.5**	**+0.2**
	baz=16								
MNAS	**Manas**	**2.25**	**352**	⇓	Pn		**Pn**	**19 05 15.9**	**+1.2**
	60nm,0.4s								
MNAS				⇓	Lg	Lg		19 05 45.8	
	186nm,0.5s								
MNAS	**Manas**	**2.25**	**352**	⇑	*i*P		**Pn**	**19 05 16.2**	**+1.5**
	baz=51								
MNAS				⇑	*i*S		**Sn**	**19 05 44.7**	**+1.7**
	baz=51								
UCH	**Uchtor**	**2.32**	**31**		P		**Pn**	**19 05 16.7**	**+0.8**
	SNR=88								
UCH	**Uchtor**	**2.32**	**31**	⇑	*i*P		**Pn**	**19 05 16.5**	**+0.6**
	baz=31								
UCH				⇑	*i*S		**Sn**	**19 05 45.7**	**+0.7**
	baz=31								
EKS2	**Erkin-Say**	**2.49**	**15**		P		**Pn**	**19 05 20.4**	**+2.4**
	SNR=54								
EKS2	**Erkin-Say**	**2.49**	**15**	⇑	*i*P		**Pn**	**19 05 18.5**	**+0.5**
	baz=14								
EKS2				⇑	*i*S		**Sn**	**19 05 49.9**	**+1.0**
	baz=14								
MRKS	**Merke**	**2.50**	**5**	*e*	P		**Pn**	**19 05 20.7**	**+2.6**
MRKS				*e*	S		**Sn**	**19 05 52.8**	**+3.7**
	412nm,0.3s								
KZA	**Kyzart**	**2.54**	**43**		P		**Pn**	**19 05 19.9**	**+0.9**
	SNR=30								
KZA	**Kyzart**	**2.54**	**43**	⇑	*i*P		**Pn**	**19 05 19.5**	**+0.6**
	baz=44								
KZA				⇑	*i*S		**Sn**	**19 05 51.3**	**+0.8**
	baz=44								
NRN	**Naryn**	**2.63**	**62**	⇑	*i*P		**Pn**	**19 05 20.4**	**+0.4**
	baz=63								
NRN				⇑	*i*S		**Sn**	**19 05 53.0**	**+0.5**
	baz=63								
AAK	**Ala-Archa**	**2.67**	**26**		Pn		**Pn**	**19 05 22.3**	**+1.9**
	16nm,0.3s,baz=192,slow=9.4,SNR=183								
AAK					Lg	Lg		19 05 56.7	
	54nm,0.3s,baz=323,slow=19,SNR=26								
AAK	**Ala-Archa**	**2.67**	**26**	⇑	Pn		**Pn**	**19 05 21.7**	**+1.3**
	39nm,0.5s								
AAK				⇓	Lg	Lg		19 05 57.0	
	158nm,0.6s								
AAK	**Ala-Archa**	**2.67**	**26**		P		**Pn**	**19 05 22.0**	**+1.6**
	SNR=22								
AAK	**Ala-Archa**	**2.67**	**26**	⇑	*i*P		**Pn**	**19 05 21.1**	**+0.7**
	baz=26								
AAK				⇑	*i*S		**Sn**	**19 05 54.0**	**+0.8**
	baz=26								
KBK	**Karagaybulak**	**2.85**	**32**		P		**Pn**	**19 05 24.9**	**+1.9**
	SNR=62								
FRU1	**Bishkek**	**2.86**	**26**	⇑	*i*P		**Pn**	**19 05 23.9**	**+0.8**
	baz=26								
FRU1				⇑	*i*S		**Sn**	**19 05 58.4**	**+0.4**
	baz=26								
IUG	**Iuzhnay**	**2.88**	**312**	*e*	P		**Pb**	**19 05 29.5**	**+1.0**
	38nm,0.4s								
IUG				*e*	S		**Sb**	**19 06 06.9**	**+2.8**
	268nm,0.3s								
CHMS	**Chumysh**	**3.07**	**26**		P		**Pn**	**19 05 27.6**	**+1.7**
	SNR=43								
CHMS	**Chumysh**	**3.07**	**26**	⇑	*i*P		**Pn**	**19 05 26.7**	**+0.8**
	baz=26								
CHMS				⇑	*i*S		**Sn**	**19 06 03.1**	**0.0**
	baz=26								
BOOM	**Boomskoye usch**	**3.20**	**45**	⇑	*i*P		**Pn**	**19 05 28.6**	**+0.9**
	baz=45								
BOOM				⇑	*i*S		**Sn**	**19 06 06.5**	**+0.2**
	baz=45								
ULHL	**Ulahol**	**3.21**	**51**		P		**Pn**	**19 05 28.7**	**+0.8**
	SNR=12								
ULHL	**Ulahol**	**3.21**	**51**	⇑	*i*P		**Pn**	**19 05 28.7**	**+0.8**
	baz=51								
ULHL				⇑	*i*S		**Sn**	**19 06 07.1**	**+0.4**
	baz=51								
CHM	**Chimkent**	**3.23**	**311**	*e*	P		**Pg**	**19 05 37.3**	**-1.2**
	46nm,0.3s								
CHM				*e*	S		**Sg**	**19 06 19.1**	**-1.3**
	470nm,0.4s								
USP	**Ospenovka**	**3.24**	**21**		P		**Pn**	**19 05 29.7**	**+1.5**
	SNR=12								
USP	**Ospenovka**	**3.24**	**21**	⇑	*i*P		**Pn**	**19 05 29.0**	**+0.8**
	baz=21								
USP				⇑	*i*S		**Sn**	**19 06 07.2**	**0.0**
	baz=21								
TKM2	**Tokmak 2**	**3.34**	**36**	⇑	Pn		**Pn**	**19 05 30.8**	**+1.0**
	1.4nm,0.3s								
TKM2				⇑	Pg		**Pb**	**19 05 35.6**	**-0.9**
	6.5nm,0.4s								
TKM2				⇑	Lg	Lg		19 06 17.6	
	61nm,0.6s								
TKM2	**Tokmak 2**	**3.34**	**36**		P		**Pn**	**19 05 31.2**	**+1.5**
	SNR=8.3								
TKM2	**Tokmak 2**	**3.34**	**36**	⇓	*i*P		**Pn**	**19 05 30.5**	**+0.7**
	baz=36								
TKM2				⇓	*i*S		**Sn**	**19 06 10.5**	**+0.5**
	baz=36								
KK31	**Karatay Array**	**3.36**	**329**	⇑	Pn		**Pn**	**19 05 31.4**	**+1.5**
	3.2nm,0.3s,baz=132,slow=12,SNR=623								
KK31				⇑	Pg		**Pb**	**19 05 37.4**	**+0.7**
	11nm,0.2s,baz=143,slow=15,SNR=36								
KK31				⇑	Sn		**Sn**	**19 06 12.3**	**+2.1**
	21nm,0.4s,baz=132,slow=23,SNR=4.0								
KK31					Lg	Lg		19 06 23.1	
	28nm,0.3s,baz=155,slow=26,SNR=5.2								
BRLS	**Borolday**	**3.60**	**321**	*e*	P		**Pb**	**19 05 41.9**	**+1.1**
	0.4nm,0.2s								
BRLS				*e*	S		**Sb**	**19 06 26.7**	**+1.9**
	17nm,0.5s								
KST	**Kastek**	**3.61**	**38**	*e*	P		**Pb**	**19 05 40.9**	**-0.1**
	10nm,0.5s								
KST				*e*	S		**Sb**	**19 06 25.9**	**+0.8**
	41nm,0.7s								
DGS	**Degeres**	**3.68**	**35**	*e*	P		**Pb**	**19 05 41.8**	**-0.4**
	19nm,0.6s								
DGS				*e*	S		**Sb**	**19 06 27.7**	**+0.6**
	96nm,0.4s								
MTBS	**Maitube**	**3.90**	**41**	*e*	P		**Pb**	**19 05 46.2**	**+0.2**
	6.2nm,0.3s								
MTBS				*e*	S		**Sb**	**19 06 35.2**	**+1.7**
	42nm,0.6s								
IZV	**Izvestkoviy**	**3.93**	**44**	*e*	P		**Pb**	**19 05 47.2**	**+0.7**
	27nm,0.6s								
IZV				*e*	S		**Sb**	**19 06 35.9**	**+1.5**
	100nm,0.5s								
TNSS	**Tian-Shan**	**4.11**	**46**	*e*	P		**Pb**

FINES	**FINES Array B**	**35.30**	**323**	P	**P**	**19 11 32.0**	**-0.2**
	1.7nm,0.9s,baz=114,slow=9.2,SNR=6.6							
ARCES	**ARCESS Array B**	**38.30**	**335**	P	**P**	**19 11 57.6**	**-0.1**
	2.2nm,1.0s,baz=92,slow=9.0,SNR=4.0							
NOA	**NORSAR Array B**	**42.36**	**321**	P	**P**	**19 12 30.9**	**-0.5**
	0.4nm,0.7s,baz=112,slow=5.5,SNR=2.6							
TORD	**Torodi Ar. Bea**	**67.32**	**268**	P	**P**	**19 15 30.4**	**-2.5**
	0.2nm,0.4s,baz=43,slow=5.5,SNR=6.6							
YKA	**Yellowknife Ar**	**77.42**	**4**	P	**P**	**19 16 30.3**	**-2.1**
	0.3nm,0.8s,baz=350,slow=6.2,SNR=4.2							
WRA	**Warramunga Arr**	**82.76**	**124**	P	**P**	**19 17 00.2**	**-1.6**
	0.4nm,1.0s,baz=330,slow=4.5,SNR=3.2							
ASAR	**Alice Springs**	**85.22**	**126**	P	**P**	**19 17 12.0**	**-2.3**
	0.3nm,0.9s,baz=318,slow=4.0,SNR=3.2							

IDC 26 19:16:16.6±49.0, 15.81S×172.35W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/35, mbtmp3.7/3, Error ellipse: s-maj=945.8km s-min=181.9km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**44.72**	**241**	P	P	19 24 32.1	+0.3
	0.7nm,0.4s,baz=60,slow=14,SNR=3.2						
WRA	**Warramunga Arr**	**50.74**	**257**	P	P	19 25 18.3	-0.5
	0.1nm,0.3s,baz=96,slow=6.9,SNR=5.8						
ASAR	**Alice Springs**	**50.95**	**252**	P	P	19 25 20.1	-0.2
	1.8nm,0.6s,baz=88,slow=8.3,SNR=29						

*BGR **26** 19:18:53.8±0.6, 43.85N×10.58E, h10km, ML3.6/2, Error ellipse: s-maj=13.3km s-min=8.9km az=105.0*
*IDC **26** 19:18:54.8±1.2, 44.27N×10.52E, h0km, mb3.4/4, mb1 3.7/6, mb1mx3.4/44, mbtmp3.5/6, ML3.6/2, MS3.2/1, Ms1 3.2/1, ms1mx2.1/36, Error ellipse: s-maj=40.2km s-min=14.5km az=118.0*
*PRU **26** 19:18:55.1±0.0, 44.12N×10.81E, h5km*
*ROM **26** 19:18:55.5±0.1, 44.118N±0.006×10.674E±0.007, h22km, ML3.2/79*
*ISCJB **26** 19:18:55.5±0.2, 44.12N±0.02×10.66E±0.02, h24km±2km, mb3.4/4, MS3.1/1, Error ellipse: s-maj=2.5km s-min=1.9km az=177.4*
*GEN **26** 19:18:55.6, 44.15N×10.70E, h19km±2km, Ml3.3*
*LDG **26** 19:18:56.7±0.1, 44.08N×10.73E, h10km, Ml3.5/24, Error ellipse: s-maj=2.9km s-min=2.3km az=145.0*

ISC 26 19:18:56.1±0.7, 44.10N±0.02×10.65E±0.02, h16km±4km, n193, σ1$71/248, mb3.4/4, 1D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDI	**Bagni Di Lucca**	**0.06**	**226**	*i* P	**Pg**	**19 18 59.5**	**+0.1**
BDI				S	**Sg**	**19 19 02.3**	**+0.9**
BDI				AML	AML		
	comp=E,51600μm,0.3s						
BDI				AML	AML		
	comp=N,91800μm,0.3s						
BDI				AML	AML		
	comp=E,53650μm,0.3s						
BDI				AML	AML		
	comp=N,90800μm,0.3s						
BDI				AML	AML		
	comp=E,51600μm,0.3s						
BDI				AML	AML		
	comp=N,91800μm,0.3s						
BDI				AML	AML		
	comp=E,53650μm,0.3s						
BDI				AML	AML		
	comp=N,90800μm,0.3s						
BDI				AML	AML		
	comp=E,51600μm,0.3s						
BDI				AML	AML		
	comp=E,53650μm,0.3s						
POPM	**Popiglio**	**0.09**	**128**	P	**Pg**	**19 18 59.7**	**+0.1**
POPM				S	**Sg**	**19 19 02.4**	**+0.6**
POPM	**Popiglio**	**0.09**	**128**	*e*P	**Pg**	**19 18 59.7**	**+0.1**
POPM				S	**Sg**	**19 19 02.5**	**+0.6**
POPM				AML	AML		
	comp=E,50850μm,0.3s						
POPM				AML	AML		
	comp=N,42750μm,0.9s						
POPM				AML	AML		
	comp=E,50850μm,0.3s						
POPM				AML	AML		
	comp=N,42750μm,0.9s						
POPM				AML	AML		
	comp=E,50850μm,0.3s						
POPM				AML	AML		
	comp=N,42750μm,0.9s						
POPM				AML	AML		
	comp=E,50850μm,0.3s						
SARO	**Sassorosso**	**0.20**	**294**	P	**Pg**	**19 19 00.6**	**-0.4**
SARO				S	**Sg**	**19 19 04.3**	**0.0**
VLC	**Villacollemand**	**0.20**	**287**	P	**Pg**	**19 19 00.8**	**-0.1**
VLC				S	**Sg**	**19 19 04.7**	**+0.4**
VLC				AML	AML		
	comp=E,18450μm,0.5s						
VLC				AML	AML		
	comp=N,17250μm,1.0s						
VLC				AML	AML		
	comp=E,18500μm,0.5s						
VLC				AML	AML		
	comp=N,16950μm,1.1s						
VLC				AML	AML		
	comp=E,18450μm,0.5s						
VLC				AML	AML		
	comp=N,17250μm,1.0s						
VLC				AML	AML		
	comp=E,18500μm,0.5s						
VLC				AML	AML		
	comp=N,16950μm,1.1s						
VLC				AML	AML		
	comp=E,18450μm,0.5s						
VLC				AML	AML		
	comp=N,17250μm,1.0s						
VLC				AML	AML		
	comp=E,18500μm,0.5s						
VLC				AML	AML		
	comp=E,18450μm,0.5s						
MAIM	**Mastiano**	**0.22**	**212**	P	**Pb**	**19 19 01.8**	**0.0**
MAIM				S	**Sb**	**19 19 06.0**	**+0.4**
MAIM	**Mastiano**	**0.22**	**212**	*i* P	**Pb**	**19 19 01.7**	**0.0**
MAIM				S	**Sb**	**19 19 06.4**	**+0.9**
MAIM				AML	AML		
	comp=E,3315μm,1.1s						
MAIM				AML	AML		
	comp=N,5620μm,0.9s						
MAIM				AML	AML		
	comp=E,3315μm,1.1s						
MAIM				AML	AML		
	comp=N,5620μm,0.9s						
MAIM				AML	AML		
	comp=E,3315μm,1.1s						
MAIM				AML	AML		
	comp=N,5620μm,0.9s						
MAIM				AML	AML		
	comp=N,5620μm,0.9s						
MAIM				AML	AML		
	comp=E,3315μm,1.1s						
PTF	**Prato**	**0.33**	**115**	P	**Pg**	**19 19 02.8**	**-0.3**
ZCCA	**Zocca**	**0.34**	**43**	*i* P	**Pg**	**19 19 03.0**	**-0.3**
ZCCA				AML	AML		
	comp=E,10370μm,0.5s						
ZCCA				AML	AML		
	comp=N,7330μm,0.5s						
ZCCA				AML	AML		
	comp=E,10110μm,0.5s						
ZCCA				AML	AML		
	comp=N,7525μm,1.2s						
ZCCA				AML	AML		
	comp=E,10370μm,0.5s						
ZCCA				AML	AML		
	comp=N,7330μm,0.5s						
ZCCA				AML	AML		
	comp=E,10110μm,0.5s						
ZCCA				AML	AML		
	comp=N,7525μm,1.2s						
ZCCA				AML	AML		
	comp=N,7325μm,0.5s						
ZCCA				AML	AML		
	comp=N,7525μm,1.2s						
ZCCA				AML	AML		
	comp=E,10110μm,0.5s						
ZCCA				AML	AML		
	comp=E,10375μm,0.5s						
FNVD	**Fontana Vidola**	**0.34**	**79**	*i* P	**Pg**	**19 19 02.4**	**-1.0**
FNVD				S	**Sg**	**19 19 07.6**	**-0.7**
FNVD				AML	AML		
	comp=E,9595μm,0.8s						
FNVD				AML	AML		
	comp=N,9540μm,0.6s						
FNVD				AML	AML		
	comp=E,9595μm,0.8s						
FNVD				AML	AML		
	comp=N,9540μm,0.6s						
FNVD				AML	AML		
	comp=N,9540μm,0.6s						
FNVD				AML	AML		
	comp=E,9595μm,0.8s						
ERBM	**Eremo**	**0.36**	**331**	*e*P	**Pg**	**19 19 02.9**	**-0.7**
ERBM				S	**Sg**	**19 19 08.5**	**-0.3**
ERBM				AML	AML		
	comp=E,3490μm,0.8s						
ERBM				AML	AML		
	comp=N,3645μm,0.6s						
ERBM				AML	AML		
	comp=E,3490μm,0.8s						
ERBM				AML	AML		
	comp=N,3645μm,0.6s						
ERBM				AML	AML		
	comp=E,3490μm,0.8s						
ERBM				AML	AML		
	comp=N,3645μm,0.6s						
EQUI	**Equi**	**0.37**	**280**	P	**Pg**	**19 19 03.1**	**-0.6**
EQUI				S	**Sg**	**19 19 08.4**	**-0.4**
PLMA	**Palmaria, Port**	**0.58**	**265**	P	**Pg**	**19 19 07.5**	**-0.1**
PLMA				S	**Sb**	**19 19 15.7**	**-0.2**
PLMA				AML	AML		
	comp=E,3265μm,0.5s						
PLMA				AML	AML		
	comp=N,5055μm,0.7s						
PLMA				AML	AML		
	comp=E,3265μm,0.5s						
PLMA				AML	AML		
	comp=N,5055μm,0.7s						
PLMA				AML	AML		
	comp=E,3265μm,0.5s						
PLMA				AML	AML		
	comp=N,5055μm,0.7s						
NOVE	**Novellara**	**0.70**	**4**	*e*P	**Pb**	**19 19 09.8**	**-0.1**
NOVE				AML	AML		
	comp=E,8125μm,0.4s						
NOVE				AML	AML		
	comp=N,3370μm,0.6s						
NOVE				AML	AML		
	comp=E,8125μm,0.4s						
NOVE				AML	AML		
	comp=N,3365μm,0.6s						
NOVE				AML	AML		
	comp=E,8120μm,0.4s						
NOVE				AML	AML		
	comp=N,3370μm,0.6s						
NOVE				AML	AML		
	comp=N,3370μm,0.6s						
NOVE				AML	AML		
	comp=E,8120μm,0.4s						
CSNT	**Castellina Chi**	**0.78**	**144**	*e*P	**Pb**	**19 19 11.2**	**-0.1**
CSNT				S	**Sg**	**19 19 22.3**	**+0.6**
CSNT				AML	AML		
	comp=E,1125μm,1.2s						
CSNT				AML	AML		
	comp=N,2620μm,0.5s						
CSNT				AML	AML		
	comp=E,1125μm,1.2s						
CSNT				AML	AML		
	comp=N,2620μm,0.5s						
CSNT				AML	AML		
	comp=E,1125μm,1.2s						
FIU	**Minerbio Fiu**	**0.81**	**48**	AML	AML		
	comp=N,20400μm,0.6s						
FIU				AML	AML		
	comp=E,27000μm,0.7s						
FIU				AML	AML		
	comp=E,27000μm,0.7s						
FIU				AML	AML		
	comp=N,20400μm,0.6s						
MSSA	**Maissana**	**0.84**	**285**	P	**Pb**	**19 19 12.1**	**-0.4**
MSSA				AML	AML		
	comp=E,1975μm,0.3s						
MSSA				AML	AML		
	comp=N,2615μm,0.7s						
MSSA				AML	AML		
	comp=E,1975μm,0.3s						
MSSA				AML	AML		
	comp=N,2615μm,0.7s						
MSSA				AML	AML		
	comp=N,2615μm,0.7s						
MSSA				AML	AML		
	comp=E,1975μm,0.3s						
ASQU	**Asqua**	**0.88**	**110**	P	**Pb**	**19 19 11.9**	**-1.1**
ASQU				AML	AML		
	comp=E,581μm,0.8s						
ASQU				AML	AML		
	comp=N,784μm,0.6s						
ASQU				AML	AML		
	comp=E,581μm,0.8s						
ASQU				AML	AML		
	comp=N,784μm,0.6s						
SFI	**Santa Sofia**	**0.88**	**103**	P	**Pb**	**19 19 11.9**	**-1.1**
SFI				AML	AML		
	comp=E,1070μm,1.3s						
SFI				AML	AML		
	comp=N,988μm,0.9s						
SFI				AML	AML		
	comp=E,1105μm,1.3s						
SFI				AML	AML		
	comp=N,971μm,0.9s						
SFI				AML	AML		
	comp=E,1070μm,1.3s						
SFI				AML	AML		
	comp=N,988μm,0.9s						
SFI				AML	AML		
	comp=E,1105μm,1.3s						
SFI				AML	AML		
	comp=N,969μm,0.9s						
SFI				AML	AML		
	comp=N,988μm,0.9s						
SFI				AML	AML		
	comp=E,1105μm,1.3s						
SFI				AML	AML		
	comp=E,1070μm,1.3s						
SFI				AML	AML		
	comp=N,969μm,0.9s						
FROS	**Frosini**	**0.96**	**158**	P	**Pb**	**19 19 13.8**	**-0.6**
FROS				AML	AML		
	comp=E,1760μm,0.5s						
FROS				AML	AML		
	comp=N,1285μm,0.4s						
FROS				AML	AML		
	comp=E,1760μm,0.5s						
FROS				AML	AML		
	comp=N,1285μm,0.4s						
FROS				AML	AML		
	comp=E,1760μm,0.5s						
FROS				AML	AML		
	comp=N,1285μm,0.4s						
TRIF	**Trifonti**	**1.00**	**170**	P	**Pb**	**19 19 15.2**	**+0.1**
TRIF				AML	AML		
	comp=E,701μm,0.6s						
TRIF				AML	AML		
	comp=N,592μm,0.6s						
TRIF				AML	AML		
	comp=E,700μm,0.6s						
TRIF				AML	AML		
	comp=N,592μm,0.6s						
TRIF				AML	AML		
	comp=N,592μm,0.6s						
TRIF				AML	AML		
	comp=E,700μm,0.6s						
SERM	**Sermide**	**1.02**	**27**	P	**Pb**	**19 19 15.1**	**-0.2**
SERM				AML	AML		
	comp=E,1075μm,0.5s						
SERM				AML	AML		
	comp=N,804μm,0.4s						
SERM				AML	AML		
	comp=E,1075μm,0.5s						
SERM				AML	AML		
	comp=N,804μm,0.4s						
SERM				AML	AML		
	comp=N,804μm,0.4s						
SERM				AML	AML		
	comp=E,1075μm,0.5s						
T0821	**Loc. Casaglia**	**1.02**	**38**	AML	AML		
	comp=N,7070μm,0.6s						
T0821				AML	AML		
	comp=E,4935μm,1.2s						
T0821				AML	AML		
	comp=N,7070μm,0.6s						
T0821				AML	AML		
	comp=E,5265μm,1.3s						
T0821				AML	AML		
	comp=N,7075μm,0.6s						
T0821				AML	AML		
	comp=E,4935μm,1.2s						
T0821				AML	AML		
	comp=N,7075μm,0.6s						
T0821				AML	AML		
	comp=E,5265μm,1.3s						
CRE	**Caprese Michel**	**1.05**	**117**	P	**Pb**	**19 19 15.0**	**-1.0**
CRE				AML	AML		
	comp=E,634μm,0.9s						
CRE				AML	AML		
	comp=N,666μm,1.1s						
CRE				AML	AML		
	comp=E,634μm,0.9s						
CRE				AML	AML		
	comp=N,666μm,1.1s						
CRE				AML	AML		
	comp=N,666μm,1.1s						
CRE				AML	AML		
	comp=E,634μm,0.9s						
BOB	**Bobbio (Coli)**	**1.09**	**308**	P	**Pg**	**19 19 17.6**	**+0.3**
BOB				AML	AML		
BOB				AML	AML		
BOB				AML	AML		
	comp=E,2325μm,0.6s						
BOB				AML	AML		
	comp=N,2130μm,0.5s						
BOB				AML	AML		
BOB				AML	AML		
BOB				AML	AML		
	comp=E,2325μm,0.6s						
BOB				AML	AML		
	comp=N,2130μm,0.5s						
BOB				AML	AML		
BOB				AML	AML		
	comp=N,2130μm,0.5s						
BOB				AML	AML		
	comp=E,2325μm,0.6s						
BOB				AML	AML		
GORR	**Gorreto**	**1.10**	**298**	P	**Pn**	**19 19 16.9**	**0.0**
GORR				S	**Sb**	**19 19 30.4**	**-0.4**
GORR	**Gorreto**	**1.10**	**298**	P	**Pn**	**19 19 16.9**	**0.0**
GORR				AML	AML		
	comp=E,1585μm,1.0s						
GORR				AML	AML		
	comp=N,1685μm,1.2s						
GORR				AML	AML		
	comp=E,1585μm,1.0s						
GORR				AML	AML		
	comp=N,1680μm,1.2s						
GORR				AML	AML		
	comp=E,1585μm,1.0s						
GORR				AML	AML		
	comp=N,1680μm,1.2s						
CAFI	**Castiglion Fio**	**1.23**	**129**	P	**Pn**	**19 19 17.5**	**-1.1**
CAFI				AML	AML		
	comp=E,268μm,0.7s						
CAFI				AML	AML		
	comp=N,2455μm,1.6s						
CAFI				AML	AML		
	comp=E,272μm,0.7s						
CAFI				AML	AML		
	comp=N,316μm,0.6s						
CAFI				AML	AML		
	comp=E,268μm,0.7s						
CAFI				AML	AML		
	comp=N,2455μm,1.6s						
CAFI				AML	AML		
	comp=E,271μm,0.7s						
CAFI				AML	AML		
	comp=N,316μm,0.6s						
CAFI				AML	AML		
	comp=E,271μm,0.7s						
CAFI				AML	AML		
	comp=E,268μm,0.7s						
CAFI				AML	AML		
	comp=N,2455μm,1.6s						
CAFI				AML	AML		
	comp=N,316μm,0.6s						
PARC	**Parchiule**	**1.23**	**111**	P	**Pn**	**19 19 17.4**	**-1.3**
PARC				AML	AML		
	comp=E,362μm,0.9s						
PARC				AML	AML		
	comp=N,504μm,0.8s						
PARC				AML	AML		
	comp=E,362μm,0.9s						
PARC				AML	AML		
	comp=N,504μm,0.8s						
PARC				AML	AML		
	comp=N,504μm,0.8s						
PARC				AML	AML		
	comp=E,362μm,0.9s						
CPGN	**Carpegna, Ital**	**1.24**	**103**	AML	AML		
	comp=N,634μm,0.7s						
CPGN				AML	AML		
	comp=E,513μm,0.7s						
CPGN				AML	AML		
	comp=N,634μm,0.7s						
CPGN				AML	AML		
	comp=E,556μm,1.0s						
CPGN				AML	AML		
	comp=N,669μm,0.8s						
CPGN				AML	AML		
	comp=E,514μm,0.7s						
CPGN				AML	AML		
	comp=E,554μm,1.0s						
CPGN				AML	AML		
	comp=N,675μm,0.8s						
CPGN				AML	AML		
	comp=E,514μm,0.7s						
CPGN				AML	AML		
	comp=N,634μm,0.7s						
CPGN				AML	AML		
	comp=N,675μm,0.8s						
CPGN				AML	AML		
	comp=E,554μm,1.0s						
BADI	**Badiali**	**1.29**	**117**	P	**Pn**	**19 19 18.4**	**-1.2**
BADI				AML	AML		
	comp=E,352μm,0.7s						
BADI				AML	AML		
	comp=N,592μm,0.7s						
BADI				AML	AML		
	comp=E,352μm,0.7s						
BADI				AML	AML		
	comp=N,592μm,0.7s						
BADI				AML	AML		
	comp=N,592μm,0.7s						
BADI				AML	AML		
	comp=E,352μm,0.7s						
CASP	**Castiglione de**	**1.32**	**173**	P	**Pn**	**19 19 19.5**	**-0.3**
CASP				AML	AML		
	comp=E,244μm,0.9s						

CASP AML AML
comp=N,294µm,0.6s
CASP AML AML
comp=N,294µm,0.6s
CASP AML AML
comp=E,244µm,0.9s
CTL8 Castelleone 1.33 332 AML AML
comp=N,858µm,0.3s
CTL8 AML AML
comp=E,1023µm,0.4s
CTL8 AML AML
comp=E,1023µm,0.4s
CTL8 AML AML
comp=N,858µm,0.3s
CELB S.Piero in Cam 1.39 194 P **Pn** 19 19 20.6 -0.3
CELB AML AML
comp=E,352µm,0.6s
CELB AML AML
comp=N,470µm,0.7s
CELB AML AML
comp=E,352µm,0.6s
CELB AML AML
comp=N,470µm,0.7s
ATPI Pietralunga - 1.42 117 P **Pn** 19 19 19.8 -1.5
ATPI AML AML
comp=E,337µm,0.6s
ATPI AML AML
comp=N,317µm,0.6s
ATPI AML AML
comp=E,337µm,0.6s
ATPI AML AML
comp=N,317µm,0.6s
ATPI AML AML
comp=E,337µm,0.6s
ATPI AML AML
comp=N,317µm,0.6s
ATPC Poggio Castell 1.45 115 P **Pn** 19 19 20.3 -1.4
ATPC AML AML
comp=E,363µm,0.6s
ATPC AML AML
comp=N,464µm,0.7s
ATPC AML AML
comp=E,363µm,0.6s
ATPC AML AML
comp=N,464µm,0.7s
ATPC AML AML
comp=N,464µm,0.7s
ATPC AML AML
comp=E,363µm,0.6s
TEOL Teolo 1.45 30 ‖ *e*Pg **Pb** 19 19 22.7 -0.1
TEOL *e*Sg **Sg** 19 19 44.6 +1.6
TEOL Teolo 1.45 30 *i* P **Pn** 19 19 20.8 -0.9
TEOL AML AML
comp=E,3085µm,0.5s
TEOL AML AML
comp=N,2540µm,1.0s
TEOL AML AML
comp=E,3085µm,0.5s
TEOL AML AML
comp=N,2540µm,1.0s
TEOL AML AML
comp=E,3085µm,0.5s
TEOL AML AML
comp=N,2540µm,1.0s
MCIV Monte Civitell 1.52 150 AML AML
comp=E,93µm,1.0s
MCIV AML AML
comp=N,108µm,0.9s
MCIV AML AML
comp=E,93µm,1.0s
MCIV AML AML
comp=N,108µm,0.9s
ATTE AVT- Monte Tez 1.53 126 AML AML
comp=N,304µm,0.9s
ATTE AML AML
comp=E,302µm,1.0s
ATTE AML AML
comp=E,302µm,1.0s
ATTE AML AML
comp=N,304µm,0.9s
SACS San Casciano d 1.55 143 AML AML
comp=E,126µm,0.8s
SACS AML AML
comp=E,132µm,0.8s
SACS AML AML
comp=N,167µm,0.7s
SACS AML AML
comp=E,126µm,0.8s
SACS AML AML
comp=N,156µm,0.7s
SACS AML AML
comp=E,126µm,0.8s
SACS AML AML
comp=N,156µm,0.7s
SACS AML AML
comp=N,156µm,0.7s
ROVR Rover¯¤ Verone 1.57 11 P **Pn** 19 19 22.6 -0.9
ROVR AML AML
comp=E,1062µm,0.3s
ROVR AML AML
comp=N,1135µm,0.3s
ROVR AML AML
comp=E,1062µm,0.3s
ROVR AML AML
comp=N,1135µm,0.3s
PCP Piancastagn 1.57 287 P **Pn** 19 19 22.5 -1.0
PCP AML AML
comp=E,337µm,1.5s
PCP AML AML
comp=N,396µm,1.5s
PCP AML AML
comp=N,396µm,1.5s
PCP AML AML
comp=E,337µm,1.5s
MARN Marana (Italy) 1.58 14 *e*Pn **Pn** 19 19 24.1 +0.5
MGAB Montegabbione 1.59 138 P **Pn** 19 19 22.8 -0.8
MGAB AML AML
comp=E,300µm,0.5s
MGAB AML AML
comp=N,272µm,1.2s
MGAB AML AML
comp=N,272µm,1.2s
MGAB AML AML
comp=E,300µm,0.5s
MAGA Magasa 1.67 359 P **Pn** 19 19 24.2 -0.6
MAGA AML AML
comp=E,2180µm,0.7s
MAGA AML AML
comp=N,1585µm,0.5s
MAGA AML AML
comp=N,1585µm,0.5s
MAGA AML AML
comp=E,2180µm,0.7s
ROTM Rocchetta Tana 1.81 295 AML AML
comp=N,2860µm,0.7s
ROTM AML AML
comp=E,1960µm,0.4s
ROTM AML AML
comp=N,2860µm,0.7s
ROTM AML AML
comp=E,1960µm,0.4s
DOSS Dosso del Somm 1.82 12 *e*Pn **Pn** 19 19 27.8 +0.9
RORO Rocca Rossa 1.86 271 P **Pn** 19 19 26.2 -1.1
RORO AML AML
comp=E,207µm,0.3s
RORO AML AML
comp=N,270µm,1.4s
RORO AML AML
comp=E,207µm,0.3s
RORO AML AML
comp=N,270µm,1.4s
MOMA Monte Martano 1.91 132 P **Pn** 19 19 27.0 -1.0
MOMA AML AML
comp=E,174µm,0.7s
MOMA AML AML
comp=N,164µm,0.5s
MOMA AML AML
comp=E,174µm,0.7s
MOMA AML AML
comp=N,164µm,0.5s
CGRP Cima Grappa 1.96 24 P **Pn** 19 19 27.1 -1.7
CGRP AML AML
comp=E,517µm,0.5s
CGRP AML AML
comp=N,516µm,0.7s
CGRP AML AML
comp=E,517µm,0.5s
CGRP AML AML
comp=N,516µm,0.7s
MABI Malga Bissina 1.96 357 P **Pn** 19 19 28.4 -0.4
MABI AML AML
comp=E,260µm,0.7s
MABI AML AML
comp=N,180µm,0.5s
MABI AML AML
comp=E,260µm,0.7s
MABI AML AML
comp=N,180µm,0.5s
PGF Pioggiola 1.97 218 *e*Pn **Pn** 19 19 28.4 -0.4
PGF *e*Sn **Sn** 19 19 52.3 -0.9
comp=N,120nm,0.6s
PGF Pioggiola 1.97 218 P **Pn** 19 19 28.5 -0.4
PGF AML AML
comp=E,156µm,1.4s
PGF AML AML
comp=N,262µm,1.2s
PGF AML AML
comp=N,262µm,1.2s
PGF AML AML
comp=E,156µm,1.4s
FDMO Fiordimonte 2.06 120 P **Pn** 19 19 29.1 -1.1
FDMO AML AML
comp=E,134µm,0.5s
FDMO AML AML
comp=N,118µm,0.6s
FDMO AML AML
comp=N,118µm,0.6s
FDMO AML AML
comp=E,134µm,0.5s
MUGIO Muggio 2.15 328 AML AML
comp=N,212µm,1.6s
MUGIO AML AML
comp=E,324µm,0.7s
MUGIO AML AML
comp=N,212µm,1.6s
MUGIO AML AML
comp=E,324µm,0.7s
AOI Ancona 2.20 103 P **Pn** 19 19 33.1 +1.0
AOI AML AML
comp=E,112µm,0.6s
AOI AML AML
comp=N,130µm,0.7s
AOI AML AML
comp=E,112µm,0.6s
AOI AML AML
comp=N,130µm,0.7s
SAOF Saorge 2.24 268 AML AML
comp=N,344µm,0.5s
SAOF AML AML
comp=E,318µm,0.6s
SAOF AML AML
comp=N,344µm,0.5s
SAOF AML AML
comp=N,344µm,0.5s
SAOF AML AML
comp=E,318µm,0.6s
SAOF AML AML
comp=E,318µm,0.6s
SMPL Sampolo 2.24 207 P **Pn** 19 19 33.1 +0.5
SMPL Sampolo 2.24 207 P **Pn** 19 19 33.1 +0.5
SMPL AML AML
comp=E,9880µm,0.4s
SMPL AML AML
comp=N,8165µm,0.5s
SMPL AML AML
comp=E,9880µm,0.4s
SMPL AML AML
comp=N,8165µm,0.5s
SMPL AML AML
comp=E,9880µm,0.4s
SMPL AML AML
comp=N,8165µm,0.5s
LNSS Leonessa 2.30 130 P **Pn** 19 19 32.5 -0.9
LNSS AML AML
comp=E,182µm,0.7s
LNSS AML AML
comp=N,182µm,0.4s
LNSS AML AML
comp=N,182µm,0.4s
LNSS AML AML
comp=E,182µm,0.7s
ENR Entracque 2.33 274 P **Pn** 19 19 33.7 -0.2
ENR AML AML
comp=E,134µm,1.4s
ENR AML AML
comp=N,205µm,1.1s
ENR AML AML
comp=N,205µm,1.1s
ENR AML AML
comp=E,134µm,1.4s
SBF Sospel 2.33 265 *e*Pn **Pn** 19 19 33.4 -0.5
SBF *e*Sn **Sn** 19 20 01.8 -0.5
comp=E,232nm,0.6s
LUCF Luceram 2.40 266 P **Pb** 19 19 40.0 +1.1
STV Sant Anna di V 2.40 275 P **Pn** 19 19 34.5 -0.3
STV AML AML
comp=E,108µm,0.3s
STV AML AML
comp=N,150µm,0.3s
STV AML AML
comp=N,150µm,0.3s
STV AML AML
comp=E,108µm,0.3s
APPI Appiano 2.41 9 P **Pn** 19 19 34.9 -0.1
APPI AML AML
comp=E,428µm,1.1s
APPI AML AML
comp=N,374µm,0.5s
APPI AML AML
comp=E,428µm,1.1s
APPI AML AML
comp=N,374µm,0.5s
KOSI Kohlern 2.42 12 P **Pn** 19 19 34.8 -0.3
KOSI AML AML
comp=E,336µm,1.0s
KOSI AML AML
comp=N,275µm,0.6s
KOSI AML AML
comp=E,336µm,1.0s
KOSI AML AML
comp=N,275µm,0.6s
DOI San Damiano 2.48 281 P **Pn** 19 19 35.2 -0.7
DOI AML AML
comp=E,286µm,1.4s
DOI AML AML
comp=N,283µm,0.3s
DOI AML AML
comp=E,286µm,1.4s
DOI AML AML
comp=N,283µm,0.3s
MOSI Grossmontoni 2.52 358 AML AML
comp=E,370µm,1.0s
MOSI AML AML
comp=E,370µm,1.0s
MOSI AML AML
comp=N,608µm,0.8s
MOSI AML AML
comp=N,608µm,0.8s
FUORN Ofenpass-Fuorn 2.53 354 AML AML
comp=N,145µm,0.6s
FUORN AML AML
comp=E,130µm,0.5s
FUORN AML AML
comp=E,130µm,0.5s
FUORN AML AML
comp=N,145µm,0.6s
MVIF Mont Vial 2.54 267 P **Pb** 19 19 40.0 -1.3
BHB Bricherasio 2.54 288 AML AML
comp=E,194µm,0.5s
BHB AML AML
comp=N,124µm,0.5s
BHB AML AML
comp=E,194µm,0.5s
BHB AML AML
comp=N,124µm,0.5s
TUE Stuetta 2.54 339 P **Pn** 19 19 37.7 +0.8
TUE AML AML
comp=E,166µm,1.1s
TUE AML AML
comp=N,178µm,0.6s
TUE AML AML
comp=N,178µm,0.6s
TUE AML AML
comp=E,166µm,1.1s
FIAM Fiamignano 2.57 135 AML AML
comp=E,86µm,0.6s
FIAM AML AML
comp=E,86µm,0.6s
FIAM AML AML
comp=N,88µm,0.7s
FIAM AML AML
comp=N,88µm,0.7s
PZZ Stroppo 2.57 280 P **Pn** 19 19 36.4 -0.8
PZZ AML AML
comp=E,230µm,0.6s
PZZ AML AML
comp=N,224µm,0.5s
PZZ AML AML
comp=N,224µm,0.5s
PZZ AML AML
comp=E,230µm,0.6s
ISO Isola 2.59 273 P **Pn** 19 19 37.5 0.0
STAL STALIGIAL 2.60 33 AML AML
comp=N,418µm,0.6s
STAL AML AML
comp=E,415µm,0.3s
STAL AML AML
comp=N,418µm,0.6s
STAL AML AML
comp=E,490µm,0.3s
STAL AML AML
comp=N,400µm,0.3s
STAL AML AML
comp=E,490µm,0.3s
STAL AML AML
comp=N,400µm,0.3s
STAL AML AML
comp=E,415µm,0.3s
CALF Calern 2.72 264 P **Pn** 19 19 38.7 -0.5
TRI Trieste 2.73 53 P **Pn** 19 19 37.8 -1.5
TRI AML AML
comp=E,214µm,0.5s
TRI AML AML
comp=N,200µm,0.7s
TRI AML AML
comp=E,214µm,0.5s
TRI AML AML
comp=N,200µm,0.7s
DAVOX Davos/Dischmat 2.73 349 Pn **Pn** 19 19 41.1 +1.6
comp=N,15nm,0.3s,baz=163,slow=11,SNR=150
DAVOX Davos/Dischmat 2.73 349 AML AML
comp=E,128µm,0.7s
DAVOX AML AML
comp=E,128µm,0.7s
DAVOX AML AML
comp=N,150µm,0.9s
DAVOX AML AML
comp=N,150µm,0.9s
FUSIO Fusio 2.74 330 AML AML
comp=N,135µm,1.0s
FUSIO AML AML
comp=E,259µm,0.6s
FUSIO AML AML
comp=N,135µm,1.0s
FUSIO AML AML
comp=E,259µm,0.6s
SURF Saint Ours 2.78 279 P **Pn** 19 19 40.0 -0.2
SABO M.te Sabotino 2.81 47 AML AML
comp=E,926µm,0.6s
SABO AML AML
comp=E,926µm,0.6s
SABO AML AML
comp=N,622µm,0.6s
SABO AML AML
comp=N,622µm,0.6s
FAGN Fagnano 2.82 130 AML AML
comp=N,188µm,0.5s
FAGN AML AML
comp=E,265µm,0.5s
FAGN AML AML
comp=N,188µm,0.5s
FAGN AML AML
comp=E,265µm,0.5s
LSD Lago del Serru 2.85 300 AML AML
comp=E,79µm,1.6s
LSD AML AML
comp=N,87µm,0.5s
LSD AML AML
comp=E,79µm,1.6s
LSD AML AML
comp=N,87µm,0.5s
MBDF Montbardon 2.85 284 *e*Pn **Pn** 19 19 41.0 -0.1
MBDF *e*Sn **Sn** 19 20 15.1 0.0
comp=N,59nm,0.5s
ROSI Rosskopf 2.88 10 AML AML
comp=E,280µm,1.4s
ROSI AML AML
comp=N,390µm,0.4s
ROSI AML AML
comp=E,280µm,1.4s
ROSI AML AML
comp=N,390µm,0.4s
FETA Feichten 2.92 1 *e*Pn **Pn** 19 19 42.6 +0.6
comp=N,2.4nm,0.3s,SNR=13
FETA *e*Pg **Pg** 19 19 51.7 -0.4
comp=N,25nm,0.4s
FETA Sn **Sn** 19 20 18.2 +1.4
comp=N,10nm,0.4s
FRF La Foret Royal 2.95 261 *e*Pn **Pn** 19 19 41.5 -0.8
FRF *e*Sn **Sn** 19 20 15.8 -1.5
comp=N,43nm,0.3s
ABTA Abfaltersbach 2.95 26 Pn **Pn** 19 19 42.3 -0.1
comp=N,29nm,0.4s,SNR=20
ABTA Pg **Pg** 19 19 52.0 -0.7
comp=N,22nm,0.4s
ABTA Sn **Sn** 19 20 17.9 +0.5
comp=N,32nm,0.7s
OGAG Argentiere 2.98 278 P **Pn** 19 19 44.0 +1.2
PTCC Patocco-Chiusa 2.99 39 AML AML
comp=E,122µm,0.5s
PTCC AML AML
comp=N,144µm,0.6s
PTCC AML AML
comp=E,122µm,0.5s
PTCC AML AML
comp=N,144µm,0.6s
RISI Rein 3.02 19 AML AML
comp=N,538µm,0.4s
RISI AML AML
comp=E,450µm,0.4s
RISI AML AML
comp=N,538µm,0.4s
RISI AML AML
comp=E,450µm,0.4s
NVLJ Novalja 3.06 80 *e*Pn **Pn** 19 19 44.4 +0.6
NVLJ Sn **Sn** 19 20 19.3 -0.7
PLONS Plons/SG 3.08 344 AML AML
comp=N,118µm,0.4s
PLONS AML AML
comp=E,98µm,0.7s
PLONS AML AML
comp=N,118µm,0.4s
PLONS AML AML
comp=E,98µm,0.7s
LMR La Mourre 3.10 257 *e*Pn **Pn** 19 19 43.4 -0.9
LMR *e*Sn **Sn** 19 20 20.2 -0.8
comp=E,58nm,0.3s
LPG La Plagne 3.11 298 *e*Pn **Pn** 19 19 46.0 +1.3
LPG La Plagne 3.11 298 *e*Pg **Pg** 19 19 55.4 -0.3
LPG *e*Sn **Sn** 19 20 21.0 -0.6
comp=E,51nm,0.5s
LPL La Plagne 3.13 298 *e*Pn **Pn** 19 19 46.3 +1.4
LPL La Plagne 3.13 298 *e*Pg **Pg** 19 19 55.6 -0.5
LPL *e*Sn **Sn** 19 20 22.1 +0.1
comp=E,37nm,0.4s
SQTA Sankt Quirin 3.14 7 *e*Pn **Pn** 19 19 46.2 +1.1
comp=E,22nm,0.3s,SNR=25
SQTA *e*Sn **Sb** 19 20 26.1 -3.6
comp=E,48nm,0.4s
BNALP Bannalp 3.18 331 AML AML
comp=N,110µm,1.5s
BNALP AML AML
comp=E,124µm,1.6s
BNALP AML AML
comp=N,110µm,1.5s
BNALP AML AML
comp=E,124µm,1.6s
DAVA Damuels 3.23 351 *i* Pn **Pn** 19 19 48.1 +1.8
comp=E,39nm,0.3s,SNR=15
DAVA *e*Sn **Sn** 19 20 27.2 +2.7
comp=E,36nm,0.4s
WTTA Wattenberg 3.24 12 *i* Pn **Pn** 19 19 48.8 +2.4
comp=E,25nm,0.3s,SNR=10
WTTA *e*Sn **Sn** 19 20 27.9 +3.3

	comp=E,49nm,0.7s							
WTTA	**Wattenberg**	**3.24**	**12**	AML	AML			
	comp=N,102μm,0.6s							
WTTA				AML	AML			
	comp=E,152μm,0.7s							
WTTA				AML	AML			
	comp=N,102μm,0.6s							
WTTA				AML	AML			
	comp=E,152μm,0.7s							
MOTA	**Moosalm**	**3.26**	**5**	*i* Pn	**Pn**	**19 19 48.2 +1.6**		
	comp=E,52nm,0.5s,SNR=58							
RSL	**Roselend**	**3.27**	**300**	P	**Pn**	**19 19 49.8 +2.9**		
MYKA	**Terra Mystica**	**3.29**	**39**	*e*Pn	**Pn**	**19 19 46.4 -0.6**		
	comp=E,4.0nm,0.3s							
MYKA				Pg	**Pg**	**19 19 58.8 -0.4**		
	comp=E,14nm,0.4s							
MYKA				*e*Sn	**Sn**	**19 20 26.1 +0.3**		
	comp=E,22nm,0.5s							
WATA	**Walderalm**	**3.30**	**11**	*i* Pn	**Pn**	**19 19 48.8 +1.6**		
	comp=E,41nm,0.5s,SNR=38							
OG25	**Le Caire**	**3.30**	**276**	P	**Pn**	**19 19 49.0 +1.7**		
OG25				S	**Sn**	**19 20 27.6 +1.4**		
LJU	**Ljubljana**	**3.36**	**53**	AML	AML			
	comp=N,1260μm,0.5s							
LJU				AML	AML			
	comp=E,830μm,0.6s							
LJU				AML	AML			
	comp=N,1260μm,0.5s							
LJU				AML	AML			
	comp=E,830μm,0.6s							
RETA	**Reutte**	**3.39**	**1**	*i* Pn	**Pn**	**19 19 49.8 +1.4**		
	comp=E,14nm,0.3s,SNR=7.3							
RETA				*e*Sn	**Sn**	**19 20 29.7 +1.5**		
	comp=E,4.6nm,0.3s							
PART	**Garmisch-Parte**	**3.41**	**5**	*e*Pn	**Pn**	**19 19 49.9 +1.3**		
PART				*e*Sn	**Sn**	**19 20 30.5 +1.8**		
PART				*e*Sg	**Sg**	**19 20 50.7 +5.1**		
ORIF	**Oris-en-Rattie**	**3.51**	**285**	*e*Pn	**Pn**	**19 51 59.1 +1.8**		
ORIF				*e*Sn	**Sn**	**19 20 30.7 -0.6**		
	comp=E,62nm,0.7s							
ORIF	**Oris-en-Rattie**	**3.51**	**285**	P	**Pn**	**19 19 52.2 +2.1**		
ORIF	**Oris-en-Rattie**	**3.51**	**285**	AML	AML			
	comp=N,59μm,1.1s							
ORIF				AML	AML			
	comp=E,58μm,0.4s							
ORIF				AML	AML			
	comp=N,59μm,1.1s							
ORIF				AML	AML			
	comp=E,58μm,0.4s							
KBA	**Koelnbreinsper**	**3.52**	**31**	*e*Pn	**Pn**	**19 19 50.9 +0.6**		
	comp=E,7.7nm,0.3s,SNR=6.8							
KBA				Pg	**Pg**	**19 20 02.7 -1.0**		
	comp=E,16nm,0.3s							
KBA				*e*Sn	**Sn**	**19 20 33.5 +1.7**		
	comp=E,33nm,0.6s							
BOJS	**Bojanci**	**3.56**	**65**	AML	AML			
	comp=N,72μm,0.7s							
BOJS				AML	AML			
	comp=E,62μm,0.7s							
BOJS				AML	AML			
	comp=E,62μm,0.7s							
BOJS				AML	AML			
	comp=N,72μm,0.7s							
UBR	**Ueberruh**	**3.60**	**354**	*e*Pn	**Pn**	**19 19 52.3 +1.1**		
UBR				*e*Sn	**Sn**	**19 20 34.5 +1.1**		
UBR				*e*Sg	**Sg**	**19 20 55.1 +3.4**		
OBKA	**Obir**	**3.65**	**47**	*i* Pn	**Pn**	**19 19 51.1 -1.0**		
	comp=N,4.3nm,0.3s							
OBKA				Sn	**Sn**	**19 20 34.7 -0.1**		
	comp=N,28nm,0.3s							
SMRF	**Simiane la Rot**	**3.66**	**270**	*e*Pn	**Pn**	**19 19 52.7 +0.6**		
SMRF	**Simiane la Rot**	**3.66**	**270**	*e*Pg	**Pg**	**19 20 04.8 -1.5**		
SMRF				*e*Sn	**Sn**	**19 20 35.4 +0.4**		
	comp=N,54nm,0.7s							
UDBI	**Udbina**	**3.69**	**82**	*e*Pn	**Pn**	**19 19 55.8 +3.2**		
OZLJ	**Ozalj**	**3.74**	**64**	*e*Pn	**Pn**	**19 19 52.9 -0.2**		
OZLJ				Sn	**Sn**	**19 20 35.7 -1.1**		
RJOB	**Jochberg**	**3.93**	**22**	*e*Pn	**Pn**	**19 19 56.8 +0.9**		
RJOB				*e*Sn	**Sn**	**19 20 43.9 +2.3**		
RJOB				*e*Sg	**Sg**	**19 21 07.3 +5.0**		
SOKA	**Soboth**	**4.02**	**49**	*e*Pn	**Pn**	**19 19 56.6 -0.4**		
	comp=N,4.0nm,0.4s							
SOKA				*e*Sn	**Sn**	**19 20 43.3 -0.5**		
	comp=N,18nm,0.6s							
CABF	**La Chapelle**	**4.08**	**310**	*e*Pn	**Pn**	**19 19 58.9 +1.0**		
CABF				*e*Sn	**Sn**	**19 20 43.9 -1.4**		
	comp=N,37nm,0.7s							
LOMF	**Lomont**	**4.21**	**322**	P	**Pn**	**19 20 00.5 +0.8**		
LOMF				S	**Sn**	**19 20 50.9 +2.4**		
KIZ	**Kirchzarten**	**4.30**	**335**	P	**Pn**	**19 20 00.7 -0.1**		
VIVF	**Saint-Julien-l**	**4.35**	**282**	*e*Pn	**Pn**	**19 20 01.9 +0.4**		
VIVF	**Saint-Julien-l**	**4.35**	**282**	*e*Pg	**Pg**	**19 20 17.0 -2.4**		
VIVF				*e*Sn	**Sn**	**19 20 50.0 -1.8**		
	comp=N,5.1nm,0.4s							
MOF	**Molkenrain**	**4.48**	**328**	P	**Pn**	**19 20 03.7 +0.3**		
MOF				S	**Sn**	**19 20 57.0 +1.8**		
MOA	**Molln**	**4.51**	**33**	*i* Pn	**Pn**	**19 20 03.8 0.0**		
	comp=N,18nm,0.3s,SNR=9.7							
MOA				*e*Sn	**Sn**	**19 20 56.7 +0.8**		
	comp=N,22nm,0.5s							
BFO	**Black Forest**	**4.53**	**340**	*e*Pn	**Pn**	**19 20 03.9 -0.1**		
BFO				*e*Sn	**Sn**	**19 20 52.9 -3.3**		
NORI	**Noerdlinger Ri**	**4.62**	**360**	*e*Pn	**Pn**	**19 20 04.1 -1.2**		
NORI				*e*Sn	**Sn**	**19 20 56.1 -2.4**		
ARSA	**Arzberg**	**4.64**	**46**	*i* Pn	**Pn**	**19 20 04.7 -0.8**		
	comp=N,15nm,0.3s,SNR=11							
ARSA				*e*Sn	**Sn**	**19 20 56.5 -2.6**		
	comp=N,14nm,0.7s							
OPP	**Oppenau**	**4.72**	**340**	P	**Pn**	**19 20 06.2 -0.3**		
ECH	**Echery**	**4.78**	**331**	P	**Pn**	**19 20 07.5 +0.1**		
ECH	**Echery**	**4.78**	**331**	*e*Pn	**Pn**	**19 20 07.6 +0.2**		
ECH				*e*Sn	**Sn**	**19 21 00.6 -1.8**		
WLS	**Welschbruch**	**4.88**	**333**	P	**Pn**	**19 20 09.0 +0.1**		
LASF	**Ste Croix**	**4.90**	**272**	*e*Pn	**Pn**	**19 20 09.4 +0.4**		
LASF				*e*Sn	**Sn**	**19 21 03.6 -1.7**		
	comp=N,4.0nm,0.3s							
CDF	**Champ du Feu**	**4.91**	**333**	*e*Pn	**Pn**	**19 20 08.4 -0.8**		
CDF				*e*Sn	**Sn**	**19 21 02.3 -3.4**		
	comp=N,30nm,0.4s							
HAU	**Haudompre**	**4.92**	**324**	*e*Pn	**Pn**	**19 20 09.6 +0.2**		
HAU				*e*Sn	**Sn**	**19 21 05.7 -0.2**		
	comp=N,62nm,0.3s							
GEC2	**GERESS Array S**	**5.19**	**23**	*e*Pn	**Pn**	**19 20 12.3 -0.8**		
GEC2				*e*Sn	**Sn**	**19 21 10.4 -2.2**		
GERES	**GERESS Array B**	**5.19**	**23**	Pn	**Pn**	**19 20 12.2 -0.9**		
	comp=N,3.0nm,0.3s,baz=196,slow=13,SNR=87							
GERES				Sn	**Sn**	**19 21 10.6 -2.1**		
	comp=N,3.0nm,0.3s,baz=192,slow=25,SNR=9.7							
THEF	**They Montfort**	**5.25**	**323**	P	**Pn**	**19 20 13.6 -0.2**		
LANF	**Langenberg**	**5.26**	**339**	P	**Pn**	**19 20 14.1 0.0**		
WET	**Wettzell**	**5.27**	**16**	*e*Pn	**Pn**	**19 20 13.3 -0.9**		
WET				*e*Sn	**Sn**	**19 21 11.7 -2.9**		
CONA	**Conrad Observa**	**5.27**	**42**	*e*Pn	**Pn**	**19 20 13.6 -0.6**		
	comp=N,7.2nm,0.5s							
CONA				Sn	**Sn**	**19 21 13.3 -1.4**		
	comp=N,19nm,0.6s							
STON	**Ston**	**5.27**	**101**	*e*Pn	**Pn**	**19 20 14.9 +0.8**		
STON				Sn	**Sn**	**19 21 15.1 +0.6**		
LBL	**Lubilhac**	**5.40**	**285**	P	**Pn**	**19 20 16.1 +0.1**		
KHC	**Kasperske Hory**	**5.42**	**21**	*e*PN	**Pn**	**19 20 15.5 -0.7**		
KHC				*e*SN	**Sn**	**19 21 14.8 -3.4**		
SMF	**Signal de Mont**	**5.43**	**300**	*e*Pn	**Pn**	**19 20 17.1 +0.7**		
SMF				*e*Sn	**Sn**	**19 21 16.6 -1.9**		
	comp=N,56nm,0.7s							
GRF	**Grafenberg Arr**	**5.61**	**4**	*e*Pn	**Pn**	**19 20 16.8 -1.9**		
GRF				*e*Pg	**Pg**	**19 20 41.5 -1.9**		
PAGF	**Fort de Pagny**	**5.61**	**324**	*e*Pn	**Pn**	**19 20 18.1 -0.7**		
PAGF				*e*Sn	**Sn**	**19 21 20.0 -2.9**		
	comp=N,14nm,0.3s,baz=142							
SFTF	**Sexfontaines**	**5.66**	**318**	*e*Pn	**Pn**	**19 20 20.4 +0.9**		
	baz=137							
SFTF				*e*Sn	**Sn**	**19 21 21.8 -2.3**		
	comp=N,8.5nm,0.4s							
AGO	**Saint Agoulin**	**5.67**	**293**	P	**Pn**	**19 20 20.6 +0.9**		
PYM	**Petit Puy Mans**	**5.67**	**290**	P	**Pn**	**19 20 20.2 +0.4**		
LOR	**Lormes**	**5.72**	**306**	*e*Pn	**Pn**	**19 20 20.7 +0.4**		
	baz=126							
LOR	**Lormes**	**5.72**	**306**	*e*Pg	**Pg**	**19 20 42.8 -2.7**		
LOR				*e*Sn	**Sn**	**19 21 22.6 -2.9**		
	comp=N,42nm,0.5s							
LOR	**Lormes**	**5.72**	**306**	P	**Pn**	**19 20 21.6 +1.3**		
ROTZ	**Rotzenmuhle**	**5.77**	**10**	*e*Pn	**Pn**	**19 20 19.3 -1.7**		
ROTZ				*e*Sn	**Sn**	**19 21 22.0 -4.7**		
AVF	**Avril sur Loir**	**5.80**	**300**	*e*Pn	**Pn**	**19 20 22.1 +0.7**		
AVF				*e*Sn	**Sn**	**19 21 24.6 -2.9**		
	comp=N,9.4nm,0.5s							
SSF	**Saint Saulge**	**5.82**	**303**	*e*Pn	**Pn**	**19 20 22.8 +1.0**		
SSF	**Saint Saulge**	**5.82**	**303**	*e*Pg	**Pg**	**19 20 44.5 -3.1**		
SSF				*e*Sn	**Sn**	**19 21 25.1 -3.0**		
	comp=N,27nm,0.5s							
MEZF	**Maizieres J'vi**	**5.87**	**321**	*e*Pn	**Pn**	**19 20 23.1 +0.8**		
MEZF				*e*Sn	**Sn**	**19 21 26.3 -2.9**		
	comp=N,6.6nm,0.4s							
BGF	**Bois d'Agland**	**6.03**	**297**	*e*Pn	**Pn**	**19 20 25.8 +1.3**		
BGF				*e*Sn	**Sn**	**19 21 31.6 -1.5**		
	comp=N,27nm,0.6s							
ABH	**Alteburg**	**6.16**	**341**	P	**Pn**	**19 20 26.2 -0.1**		
MTLF	**Montolieu**	**6.16**	**266**	*e*Pn	**Pn**	**19 20 26.3 -0.1**		
MTLF				*e*Sn	**Sn**	**19 21 33.9 -2.6**		
	comp=N,1.5nm,0.2s							
MTLF	**Montolieu**	**6.16**	**266**	P	**Pn**	**19 20 26.2 -0.1**		
TREC	**Trest**	**6.17**	**31**	*e*PN	**Pn**	**19 20 25.4 -1.1**		
TREC				*e*SN	**Sn**	**19 21 32.6 -4.0**		
CAF	**Calviac**	**6.20**	**281**	*e*Pn	**Pn**	**19 20 27.3 +0.4**		
MODS	**Modra-Piesok**	**6.27**	**45**	*e*PN	**Pn**	**19 20 25.8 -2.1**		
MODS				*e*SN	**Sn**	**19 21 34.5 -4.7**		
TNS	**Taunus Mts**	**6.30**	**347**	*e*Pn	**Pn**	**19 20 28.3 -0.1**		
TNS				*e*Sn	**Sn**	**19 21 36.5 -3.5**		
KRUC	**Moravsky**	**6.34**	**37**	*e*PN	**Pn**	**19 20 27.3 -1.6**		
KRUC				*e*SN	**Sn**	**19 21 37.5 -3.4**		
TCF	**Toulx Ste Croi**	**6.35**	**293**	*e*Pn	**Pn**	**19 20 29.4 +0.3**		
TCF				*e*Sn	**Sn**	**19 21 38.3 -2.9**		
	comp=N,3.8nm,0.3s							
SMOL	**Smolenice**	**6.44**	**44**	*e*PN	**Pn**	**19 20 28.6 -1.6**		
SMOL				*e*SN	**Sn**	**19 21 40.7 -2.6**		
HYF	**Humbligny**	**6.44**	**302**	*e*Sn	**Sn**	**19 21 40.5 -2.9**		
GOPC	**GO Pecny, Ondr**	**6.46**	**24**	*e*PN	**Pn**	**19 20 29.8 -0.7**		
GOPC				*e*SN	**Sn**	**19 21 39.9 -4.0**		
MONQ	**Montcuq**	**6.80**	**276**	P	**Pn**	**19 20 36.0 +0.8**		
PVCC	**Panska Ves**	**6.96**	**21**	*e*PN	**Pn**	**19 20 35.3 -2.0**		
PVCC				*e*SN	**Sn**	**19 21 52.7 -3.3**		
BRG	**Berggiesshubel**	**7.13**	**17**	PG	**Pn**	**19 20 38.2 -1.5**		
BRG				*e*		19 21 57.1		
BRG	**Berggiesshubel**	**7.13**	**17**	SG	**Sg**	**19 22 49.5 +4.8**		
	comp=N,5.1nm,0.9s							
VYHS	**Vyhne**	**7.17**	**49**	*e*PN	**Pn**	**19 20 38.5 -1.7**		
VYHS				*e*SN	**Sn**	**19 21 55.7 -5.6**		
DPC	**Dobruska-Polom**	**7.34**	**30**	*e*SN	**Sn**	**19 21 59.9 -5.7**		
UPC	**Upice**	**7.37**	**28**	*e*PN	**Pn**	**19 20 41.2 -1.8**		
UPC				*e*SN	**Sn**	**19 22 00.8 -5.4**		
FINES	**FINESS Array B**	**19.62**	**22**	P	**P**	**19 23 23.2 -0.4**		
	comp=N,0.3nm,0.3s,baz=206,slow=9.8,SNR=11							
JMIC	**Jan Mayen**	**28.57**	**347**	LR	LR	19 38 07.2		
	comp=N,44nm,18.6s,baz=80,slow=41							
TORD	**Torodi Ar. Bea**	**31.79**	**197**	P	**P**	**19 25 22.3 +2.5**		
	comp=N,0.4nm,0.9s,baz=2.9,slow=8.7,SNR=3.0							
MKAR	**Makanchi Array**	**48.71**	**60**	P	**P**	**19 27 40.4 +0.8**		
	comp=N,0.3nm,0.7s,baz=284,slow=8.3,SNR=2.8							
YKA	**Yellowknife Ar**	**65.09**	**335**	P	**P**	**19 29 35.1 -0.3**		
	comp=N,0.5nm,0.6s,baz=43,slow=5.9,SNR=6.1							
TXAR	**Lajitas Array**	**85.47**	**307**	P	**P**	**19 31 33.9 +0.6**		
	comp=N,0.2nm,0.8s,baz=74,slow=6.7,SNR=2.5							

*ATH **26** 19:22:24.8, 40°.95N×21°.05E, h21km±2km, ML2.4/4, Error ellipse: s-maj=5.8km s-min=1.6km az=132.0*
*TIR **26** 19:22:25.2, 40°.93N×21°.04E, h10km, Md3.1/4*
*SKO **26** 19:22:25.5, 40°.89N×21°.07E, h21km, M1.6, ML2.0*
*ISCJB **26** 19:22:26.5±0.4, 40°.91N±0°.02×21°.08E±0°.03, h5km±4km, Error ellipse: s-maj=3.8km s-min=3.2km az=174.8*
*THE **26** 19:22:26.2, 40°.91N×21°.08E, h0km±2km, ML2.1/7, Error ellipse: s-maj=3.1km s-min=1.0km az=335.0*

ISC 26 19:22:26.6±0.9, 40°.87N±0°.02×21°.05E±0°.02, h11km±7km, n33, σ1s20/51, 1C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BIA	**Bitola**	**0.25**	**55**	P		**Pg**	**Pg**	**19 22 31.5**	**-0.3**
BIA	**Bitola**	**0.25**	**55**	⇓*i*	Pg	**Pg**	**Pg**	**19 22 31.8**	**0.0**
BIA				*i*	Sg	**Sg**	**Sg**	**19 22 36.2**	**+0.8**
BIA				*e*	Lg	Lg	Lg	19 22 36.3	
	comp=E,216nm,0.3s								
BIA				*e*	Lg	Lg	Lg	19 22 36.3	
	comp=N,189nm,0.3s								
FNA	**Florina**	**0.26**	**110**	P		**Pg**	**Pg**	**19 22 31.8**	**-0.2**
FNA				S		**Sg**	**Sg**	**19 22 36.2**	**+0.6**
FNA				AML		AML	AML	19 22 36.2	
	comp=N,5272μm,0.3s								
FNA				AML		AML	AML	19 22 37.9	
	comp=E,6091μm,0.2s								
FNA	**Florina**	**0.26**	**110**	P		**Pg**	**Pg**	**19 22 31.8**	**-0.2**
FNA				S		**Sg**	**Sg**	**19 22 36.0**	**+0.4**
FNA	**Florina**	**0.26**	**110**	*i*	PG	**Pg**	**Pg**	**19 22 31.8**	**-0.2**
FNA				*i*	SG	**Sg**	**Sg**	**19 22 36.1**	**+0.6**
OHR	**Ohrid**	**0.30**	**322**	⇑*i*	Pg	**Pg**	**Pg**	**19 22 32.2**	**-0.6**
OHR				*i*	Sg	**Sg**	**Sg**	**19 22 38.1**	**+1.1**
OHR				*e*	Lg	Lg	Lg	19 22 38.6	
	comp=N,158nm,0.4s								
OHR				*e*	Lg	Lg	Lg	19 22 38.7	
	comp=E,135nm,0.3s								
KBN	**Korca**	**0.32**	**219**	P		**Pg**	**Pg**	**19 22 32.7**	**-0.3**
KBN				S		**Sb**	**Sb**	**19 22 38.4**	**-1.1**
KBN	**Korca**	**0.32**	**219**	*i*	PG	**Pg**	**Pg**	**19 22 32.8**	**-0.3**
KBN				*i*	SG	**Sb**	**Sb**	**19 22 38.6**	**-0.9**
NEST	**Nestorio**	**0.46**	**180**	P		**Pg**	**Pg**	**19 22 35.3**	**-0.3**
NEST				S		**Sb**	**Sb**	**19 22 43.3**	**-0.2**
NEST				AML		AML	AML	19 22 43.3	
	comp=E,1595μm,0.8s								
NEST				AML		AML	AML	19 22 43.6	
	comp=N,945μm,0.4s								
NEST	**Nestorio**	**0.46**	**180**	P		**Pg**	**Pg**	**19 22 35.3**	**-0.3**
NEST				S		**Sb**	**Sb**	**19 22 43.3**	**-0.2**
KRUS	**Krusevo**	**0.52**	**17**	⇓*i*	Pg	**Pg**	**Pg**	**19 22 35.6**	**-1.1**
KRUS				*i*	Sg	**Sg**	**Sg**	**19 22 43.5**	**-0.2**
KRUS				*e*	Lg	Lg	Lg	19 22 43.8	
	comp=E,138nm,0.4s								
KRUS				*e*	Lg	Lg	Lg	19 22 43.9	
	comp=N,149nm,0.4s								
PENT	**Pentalofos**	**0.68**	**174**	P		**Pb**	**Pb**	**19 22 39.3**	**-1.2**
PENT				S		**Sn**	**Sn**	**19 22 50.8**	**-2.0**
PENT	**Pentalofos**	**0.68**	**174**	P		**Pg**	**Pg**	**19 22 39.2**	**-0.5**
KZN	**Kozani**	**0.79**	**136**	P		**Pg**	**Pg**	**19 22 40.7**	**-1.0**
KZN	**Kozani**	**0.79**	**136**	P		**Pg**	**Pg**	**19 22 40.8**	**-1.0**
PHP	**Peshkopia**	**0.93**	**331**	P		**Pg**	**Pg**	**19 22 42.9**	**-1.7**
PHP	**Peshkopia**	**0.93**	**331**	*i*	PG	**Pg**	**Pg**	**19 22 42.8**	**-1.8**
PHP				*i*	SG	**Sb**	**Sb**	**19 22 58.5**	**+1.3**
GRG	**Griva**	**1.03**	**85**	P		**Pg**	**Pg**	**19 22 45.2**	**-1.2**
GRG				AML		AML	AML	19 23 04.4	
	comp=E,147μm,0.4s								
GRG				AML		AML	AML	19 23 04.6	
	comp=N,272μm,0.5s								
GRG	**Griva**	**1.03**	**85**	P		**Pg**	**Pg**	**19 22 45.0**	**-1.3**
GRG				S		**Sb**	**Sb**	**19 22 59.9**	**0.0**
STIP	**Stip**	**1.19**	**46**	*i*	Pg	**Pn**	**Pn**	**19 22 51.0**	**+1.9**
STIP				*i*	Sg	**Sn**	**Sn**	**19 23 10.1**	**+4.8**
STIP				*e*	Lg	Lg	Lg	19 23 10.5	
	comp=N,7.5nm,0.3s								
STIP				*e*	Lg	Lg	Lg	19 23 10.8	
	comp=E,8.4nm,0.3s								
VAY	**Valandovo**	**1.23**	**68**	*i*	Pg	**Pb**	**Pb**	**19 22 48.5**	**-1.4**
VAY				*i*	Sg	**Sb**	**Sb**	**19 23 05.5**	**-0.3**
VAY				*e*	Lg	Lg	Lg	19 23 06.5	
	comp=E,17nm,0.4s								
VAY				*e*	Lg	Lg	Lg	19 23 06.9	
	comp=N,18nm,0.6s								
LIT	**Litokhoron**	**1.34**	**125**	P		**Pb**	**Pb**	**19 22 51.2**	**-0.6**
LIT	**Litokhoron**	**1.34**	**125**	P		**Pb**	**Pb**	**19 22 51.1**	**-0.6**
LIT				S		**Sn**	**Sn**	**19 23 10.4**	**+1.3**
SGD	**Sagiada**	**1.41**	**207**	P		**Pg**	**Pg**	**19 22 53.8**	**+0.3**
KNT	**Kendrikon**	**1.43**	**78**	P		**Pn**	**Pn**	**19 22 51.6**	**-0.8**
KNT	**Kendrikon**	**1.43**	**78**	P		**Pn**	**Pn**	**19 22 51.7**	**-0.8**
IGT	**Igoumenitsa**	**1.45**	**203**	P		**Pg**	**Pg**	**19 22 54.5**	**+0.2**
IGT				S		**Sg**	**Sg**	**19 23 15.6**	**+2.5**
PUK	**Puka**	**1.46**	**324**	*i*	PN	Pn	Pn	19 22 45.4	-7.6
PUK				*i*	SN	**Sn**	**Sn**	**19 23 12.8**	**+0.7**
THL	**Klokotos Trika**	**1.50**	**150**	P		**Pn**	**Pn**	**19 22 53.0**	**-0.4**
THL	**Klokotos Trika**	**1.50**	**150**	P		**Pn**	**Pn**	**19 22 53.1**	**-0.3**
THL				S		**Sg**	**Sg**	**19 23 16.2**	**+1.4**
KEK	**Kerkira**	**1.50**	**220**	P		**Pg**	**Pg**	**19 22 55.1**	**-0.3**
AGG	**Agios Georgios**	**2.09**	**152**	P		**Pn**	**Pn**	**19 23 01.8**	**+0.2**
AGG				AML		AML	AML	19 23 36.2	
	comp=N,43μm,0.7s								
AGG				AML		AML	AML	19 23 40.6	
	comp=E,49μm,0.2s								
AGG	**Agios Georgios**	**2.09**	**152**	P		**Pn**	**Pn**	**19 23 01.8**	**+0.2**

*ISCJB **26** 19:26:57.8±1.2, 18°.6S±0°.2×169°.3E±0°.2, h246km, mb3.8/7, Error ellipse: s-maj=42.6km s-min=17.8km az=138.6*
*IDC **26** 19:26:60.0±3.3, 18°.91S×169°.53E, h264km±36km, mb3.5/7, mb1 3.7/8, mb1mx3.3/44, mbtmp4.1/8, Error ellipse: s-maj=72.7km s-min=20.4km az=160.0*

ISC 26 19:26:58.5±1.2, 18.7S±0.3×169.5E±0.2, h246km, n10, σ0s92/9, mb3.8/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.40**	**219**	P		P	**Pn**	**19 28 07.3**	**+0.3**
	2.0nm,0.3s,baz=169,slow=21,SNR=17								
CTA	**Charters Tower**	**21.93**	**263**	P		P	**P**	**19 31 34.1**	**+1.7**
	2.4nm,0.5s,baz=88,slow=13,SNR=3.8								
STKA	**Stephens Creek**	**28.32**	**237**	P		P	**P**	**19 32 29.1**	**-0.6**
	3.8nm,0.7s,baz=72,slow=13,SNR=5.4								
WRA	**Warramunga Arr**	**33.13**	**262**	P		P	**P**	**19 33 11.6**	**-0.5**
	0.8nm,0.4s,baz=82,slow=5.9,SNR=44								
ASAR	**Alice Springs**	**33.46**	**255**	P		P	**P**	**19 33 14.4**	**-0.5**
	9.7nm,0.5s,baz=82,slow=9.2,SNR=192								
FITZ	**Fitzroy Crossi**	**41.50**	**264**	P		P	**P**	**19 34 22.3**	**+0.1**
	1.8nm,0.4s,baz=73,slow=7.1,SNR=9.2								
NVAR	**Mina Array Bea**	**88.28**	**48**	P		P	**P**	**19 39 23.3**	**+0.7**
	0.3nm,0.5s,baz=238,slow=8.4,SNR=3.0								
ILAR	**Eielson Array**	**89.64**	**17**	P		P	**P**	**19 39 27.6**	**-0.4**
	0.2nm,0.6s,baz=231,slow=5.6,SNR=3.9								
ARCES	**ARCESS Array B**	**124.58**	**345**	PKP			**PKPdf**	**19 45 27.2**	**-0.8**
	2.2nm,0.9s,baz=64,slow=2.1,SNR=4.2								
GERES	**GERESS Array B**	**144.10**	**332**	PKP			PKPbc	19 46 03.9	+0.3
	0.3nm,0.5s,baz=57,slow=4.9,SNR=3.8								

*ISK **26** 19:30:35.4, 36°.63N×27°.96E, h6km, ML2.6/10*
*THE **26** 19:30:35.8, 36°.64N×27°.97E, h3km±3km, ML2.5/2, Error ellipse: s-maj=3.3km s-min=0.5km az=65.0*
*ATH **26** 19:30:35.7, 36°.66N×27°.99E, h22km±7km, ML2.6/3, Error ellipse: s-maj=11.4km s-min=1.5km az=213.0*
*DDA **26** 19:30:36.1, 36°.65N×27°.96E, h6km, Ml3.1*

ISC 26 19:30:36.4±0.9, 36°.65N±0°.03×27°.95E±0°.02, h11km±9km, n36, σ0s86/49, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRSB	**Marmaris-Mugla**	**0.21**	**70**	P		PG	**Pg**	**19 30 39.9**	**-1.0**
DATC	**Datca-Mugla**	**0.26**	**296**	P		PG	**Pg**	**19 30 41.4**	**-0.4**
DATC				S		SG	**Sg**	**19 30 46.3**	**+0.9**
DAT	**Datca**	**0.31**	**285**	P		PG	**Pg**	**19 30 42.3**	**-0.5**
DAT	**Datca**	**0.31**	**285**	*i*	P		**Pg**	**19 30 42.2**	**-0.5**
DAT				*i*	S		**Sb**	**19 30 48.6**	**-0.7**
ARG	**Arkhangelos**	**0.45**	**162**	P		PG	**Pg**	**19 30 44.5**	**-0.7**
ARG	**Arkhangelos**	**0.45**	**162**	P		P	**Pg**	**19 30 44.7**	**-0.6**
ARG				S			**Sg**	**19 30 51.9**	**+0.6**
ARG				AML		AML	AML	19 30 53.1	
	comp=N,1250μm,0.4s								
ARG				AML		AML	AML	19 30 53.3	
	comp=E,1449μm,0.3s								
ARG	**Arkhangelos**	**0.45**	**162**	P			**Pg**	**19 30 44.6**	**-0.7**
ARG				S			**Sg**	**19 30 51.6**	**+0.3**
TURN	**Turunc**	**0.57**	**66**	PG			Pg	19 30 41.2	-6.3
TURN				SG			Sg	19 30 45.9	-9.1
TURN	**Turunc**	**0.57**	**66**	*i*	P		Pg	19 30 41.2	-6.3
TURN				*i*	S		Sg	19 30 46.0	-9.0
DALY	**Dalyan (Mu¨la**	**0.59**	**73**	PG			**Pg**	**19 30 46.9

CHCP	**Chirah Chowk**	**4.65**	**179**	P	Pn	19 34 39.4	+6.9
CHMS	**Chumysh**	**4.82**	**14**	P	**Pn**	**19 34 37.7**	**+2.9**
	SNR=5.7						
TKM2	**Tokmak 2**	**4.95**	**21**	⇑Pn	**Pn**	**19 34 38.2**	**+1.6**
	3.9nm,0.5s						
TKM2				⇑Sn	**Sn**	**19 35 38.4**	**+5.7**
	15nm,0.6s						
TKM2	**Tokmak 2**	**4.95**	**21**	P	**Pn**	**19 34 38.3**	**+1.6**
	SNR=12						
KK31	**Karatay Array**	**5.20**	**338**	Pn	**Pn**	**19 34 41.0**	**+1.2**
	7.3nm,0.3s,baz=133,slow=13,SNR=405						
KK31				Sn	**Sn**	**19 35 35.0**	**-3.5**
	17nm,0.5s,baz=142,slow=26,SNR=6.5						
THW	**Thamme Wali**	**5.64**	**193**	P	Pn	19 34 51.9	+6.0
OTUK	**Ortayu**	**9.94**	**357**	⇑Pn	**Pn**	**19 35 43.6**	**-0.6**
	3.5nm,0.7s						
OTUK				⇓Sn	**Sn**	**19 37 36.8**	**+3.0**
	4.9nm,0.9s						
MKAR	**Makanchi Array**	**10.80**	**35**	P	**Pn**	**19 35 56.4**	**+0.5**
	0.1nm,0.3s,baz=226,slow=15,SNR=4.1						
GEYT	**Alibeck**	**11.88**	**273**	P	**Pn**	**19 36 06.1**	**-4.4**
	0.1nm,0.3s,baz=97,slow=12,SNR=2.6						
GEYT				S	**Sn**	**19 38 17.0**	**-4.1**
	0.7nm,0.3s,baz=121,slow=11,SNR=8.1						
WMQ	**Urumqi**	**12.24**	**59**	*eP*	**Pn**	**19 36 15.8**	**+0.6**
PYUN	**Piuthan**	**13.07**	**138**	*eP*	**Pn**	**19 36 24.5**	**-1.9**
	23nm,0.4s						
DANN	**Dangsing**	**13.29**	**135**	*eP*	**Pn**	**19 36 27.2**	**-2.1**
	17nm,0.3s						
KOLN	**Koldanda**	**13.66**	**137**	*eP*	**Pn**	**19 36 32.9**	**-1.1**
	8.7nm,0.4s						
GKN	**Gorkha**	**14.05**	**134**	*eP*	**Pn**	**19 36 36.8**	**-2.2**
	0.4nm,0.3s						
AB31	**Akbulak array**	**14.50**	**323**	⇓P	**Pn**	**19 36 43.7**	**-0.8**
	2.2nm,0.4s						
KKN	**Kakani**	**14.58**	**133**	*eP*	**Pn**	**19 36 43.1**	**-2.8**
PKIN	**Phulchoki**	**14.81**	**133**	*eP*	**Pn**	**19 36 46.9**	**-1.9**
	13nm,0.4s						
PKI	**Pulchoki**	**14.82**	**133**	*eP*	**Pn**	**19 36 47.0**	**-2.0**
	15nm,0.4s						
BVAR	**Borovoye Array**	**14.84**	**353**	P	**Pn**	**19 36 48.1**	**-0.6**
	0.2nm,0.3s,baz=160,slow=9.3,SNR=6.2						
GUN	**Gumba**	**14.84**	**131**	*eP*	**Pn**	**19 36 47.4**	**-1.9**
JIRN	**Jiri**	**15.21**	**131**	*eP*	**Pn**	**19 36 52.4**	**-1.6**
	12nm,0.3s						
RAMN	**Ramite**	**15.98**	**131**	*eP*	**Pn**	**19 37 00.6**	**-3.0**
AKTO	**Aktyubinsk**	**16.22**	**323**	P	**Pn**	**19 37 06.5**	**+0.5**
	0.8nm,0.3s,baz=154,slow=7.7,SNR=12						
AKTO	**Aktyubinsk**	**16.22**	**323**	⇑P	**P**	**19 37 07.4**	**+0.1**
	2.5nm,0.5s						
ZALV	**Zalesovo Beam**	**17.55**	**23**	P	**Pn**	**19 37 22.0**	**-0.2**
	0.6nm,0.3s,baz=212,slow=11,SNR=14						
GTA	**Gaotai**	**20.74**	**79**	*eP*	Pn	19 38 03.0	+2.8
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**36.99**	**324**	P	**P**	**19 40 26.1**	**+2.6**
	0.5nm,0.3s,baz=106,slow=10,SNR=6.7						
ARCES	**ARCESS Array B**	**40.16**	**336**	P	**P**	**19 40 52.0**	**+2.1**
	1.8nm,0.8s,baz=102,slow=9.0,SNR=5.6						
NOA	**NORSAR Array B**	**44.01**	**322**	P	**P**	**19 41 23.6**	**+2.3**
	0.3nm,0.6s,baz=91,slow=7.7,SNR=2.4						
TORD	**Torodi Ar. Bea**	**67.50**	**269**	P	**P**	**19 44 11.4**	**+1.8**
	0.1nm,0.5s,baz=41,slow=5.4,SNR=2.7						

*IDC **26** 19:37:37.1±2.7,24°.21S×179°.96E,h496km±29km, mb3.4/10,mb1 3.5/11,mb1mx3.3/44,mbtmp4.2/11,Error ellipse: s-maj=22.0km s-min=15.7km az=37.0*
*ISCJB **26** 19:37:38.4±0.7,24°.24S±0°.09×179°.9E±0°.1,h526km, mb3.8/10,Error ellipse: s-maj=16.2km s-min=11.8km az=166.0*

ISC 26 19:37:39.6±0.8,24°.3S±0°.1×179°.9E±0°.1,h526km,n17, σ1§36/19,mb3.8/10,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.09**	**189**	P		**P**	**P**	**19 40 40.5**	**+0.8**
	0.9nm,0.3s,baz=22,slow=8.4,SNR=3.7								
URZ				S			**S**	**19 43 06.5**	**-1.7**
	0.9nm,0.3s,baz=177,slow=22,SNR=7.0								
STKA	**Stephens Creek**	**34.48**	**249**	P			**P**	**19 43 44.2**	**+0.7**
	1.5nm,0.6s,baz=116,slow=12,SNR=7.1								
PMG	**Port Moresby**	**34.55**	**290**	P			**P**	**19 43 44.2**	**-0.1**
	12nm,0.8s,baz=161,slow=2.0,SNR=4.8								
ASAR	**Alice Springs**	**41.88**	**261**	P			**P**	**19 44 43.7**	**-0.2**
	1.2nm,0.5s,baz=92,slow=6.9,SNR=13								
WRA	**Warramunga Arr**	**42.29**	**267**	P			**P**	**19 44 46.8**	**-0.4**
	3.7nm,0.5s,baz=100,slow=8.3,SNR=67								
WRA				ScP			**ScP**	**19 49 33.5**	**+4.1**
	1.8nm,0.9s,baz=102,slow=4.7,SNR=9.6								
FITZ	**Fitzroy Crossi**	**50.71**	**266**	P			**P**	**19 45 51.5**	**+0.6**
	2.8nm,0.6s,baz=126,slow=8.3,SNR=14								
SIJI	**Sorong**	**52.49**	**289**	P			**P**	**19 46 03.0**	**-0.8**
	9.5nm,0.7s,baz=86,slow=8.0,SNR=12								
VNDA	**Vanda**	**53.94**	**185**	P			**P**	**19 46 14.1**	**+0.8**
	0.4nm,0.5s,baz=342,slow=5.3,SNR=6.6								
QSPA	**South Pole Qui**	**65.75**	**180**	P			**P**	**19 47 32.6**	**+0.5**
	3.3nm,0.6s,baz=36,slow=2.0,SNR=11								
SNAA	**Sanae**	**84.24**	**179**	P			**P**	**19 49 14.4**	**-0.9**
VNA3	**Neumayer Olymp**	**84.45**	**177**	P			**P**	**19 49 15.8**	**-0.5**
VNA2	**Neumayer--Watz**	**84.87**	**178**	P			**P**	**19 49 17.7**	**-0.6**
	baz=194,slow=3.6								
VNA1	**Neumayer--Stat**	**85.11**	**177**	P			**P**	**19 49 18.1**	**-1.3**
NVAR	**Mina Array Bea**	**85.12**	**44**	P			**P**	**19 49 19.8**	**-0.5**
	0.2nm,0.3s,baz=220,slow=5.4,SNR=2.5								
TXAR	**Lajitas Array**	**90.73**	**58**	P			**P**	**19 49 47.2**	**+0.5**
	0.5nm,0.6s,baz=224,slow=5.2,SNR=6.6								
BRTR	**Keskin Array B**	**147.76**	**307**	PKPbc			**PKPab**	**19 56 28.2**	**-1.5**
	0.5nm,0.6s,baz=84,slow=5.5,SNR=3.7								
TORD	**Torodi Ar. Bea**	**168.75**	**189**	PKPab			**PKPab**	**19 58 00.3**	**-0.4**
	0.4nm,0.6s,baz=197,slow=4.1,SNR=5.1								

*SOME **26** 19:39:48.8,40°.63N×77°.60E,h25km*
*KRNET **26** 19:39:49.2±0.1,40°.84N×77°.54E,h19km,mb3.3*
*NNC **26** 19:39:51.4±1.2,40°.93N×77°.71E,h0km,mb3.7,mpv3.3, Error ellipse: s-maj=10.5km s-min=6.9km az=150.0*
*ISCJB **26** 19:39:53.4±0.8,40°.74N±0°.04×77°.37E±0°.04,h10km,Error ellipse: s-maj=6.4km s-min=3.8km az=160.2*

ISC 26 19:39:50.1±1.2,40°.87N±0°.06×77°.58E±0°.03,h10km,n55, σ1§68/93,39C-17D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.29**	**347**	⇑*iP*			**Pn**	**19 40 14.0**	**-0.4**
	baz=49								
KDJ				⇑*iS*			**Sn**	**19 40 32.7**	**+0.8**
	baz=49								
NRN	**Naryn**	**1.32**	**296**	⇑*iP*			**Pn**	**19 40 13.8**	**-1.1**
	baz=97								
NRN				⇑*iS*			**Sb**	**19 40 32.1**	**-0.2**
	baz=97								
ULHL	**Ulahol**	**1.70**	**324**	P			**Pb**	**19 40 21.4**	**-0.3**
	SNR=47								
ULHL	**Ulahol**	**1.70**	**324**	⇓*iP*			**Pb**	**19 40 21.0**	**-0.6**
	baz=26								
ULHL				⇓*iS*			**Sg**	**19 40 44.6**	**-0.3**
	baz=26								
PRZ	**Przheval'sk**	**1.73**	**21**	⇑*iP*			**Pb**	**19 40 21.9**	**-0.1**
	baz=22								
PRZ				⇑*iS*			**Sg**	**19 40 46.1**	**+0.5**
	baz=22								
BOOM	**Boomskoye usch**	**2.03**	**323**	⇑*iP*			**Pb**	**19 40 26.8**	**-0.4**
	baz=25								
BOOM				⇑*iS*			**Sg**	**19 40 53.9**	**-1.5**
	baz=25								
KZA	**Kyzart**	**2.13**	**305**	P			**Pb**	**19 40 29.1**	**+0.1**
	SNR=37								
KZA	**Kyzart**	**2.13**	**305**	⇑*iP*			**Pb**	**19 40 27.8**	**-1.2**
	baz=7.0								
KZA				⇑*iS*			**Sb**	**19 40 56.5**	**+0.9**
	baz=7.0								
TNSS	**Tian-Shan**	**2.22**	**348**	*eP*			**Pg**	**19 40 31.6**	**-1.0**
	30nm,0.2s								
TNSS				*eS*			**Sg**	**19 41 02.2**	**+0.8**
	94nm,0.5s								
SATY	**Saty**	**2.27**	**15**	*eP*			**Pb**	**19 40 31.4**	**+0.1**
	18nm,0.3s								
SATY				*eS*			**Sg**	**19 41 01.8**	**-1.4**
	98nm,0.3s								
IZV	**Izvestkoviy**	**2.28**	**342**	*eP*			**Pb**	**19 40 31.6**	**+0.1**
	3.6nm,0.2s								
IZV				*eS*			**Sg**	**19 41 02.7**	**-0.8**
	116nm,0.3s								
MDOK	**Medeo**	**2.33**	**350**	Pn			**Pb**	**19 40 30.3**	**-1.9**
	15nm,0.4s								
MDOK				Lg			Lg	19 41 05.5	
	152nm,0.6s								
MDOK	**Medeo**	**2.33**	**350**	*eP*			**Pb**	**19 40 33.1**	**+0.9**
	22nm,0.3s								
MDOK				*eS*			**Sg**	**19 41 05.0**	**+0.1**
	122nm,0.6s								
KOTS	**Kotyrbulak**	**2.39**	**352**	*eP*			**Pg**	**19 40 34.8**	**-1.1**
	14nm,0.2s								
KOTS				*eS*			**Sg**	**19 41 07.7**	**+0.8**
	358nm,0.5s								
KNDC	**Almaty**	**2.39**	**349**	⇓Pg			**Pb**	**19 40 34.3**	**+1.0**
	16nm,0.3s								
KNDC				⇑Lg			Lg	19 41 08.1	
	371nm,0.6s								
MTBS	**Maitube**	**2.42**	**340**	*eP*			**Pb**	**19 40 34.7**	**+1.0**
	9.4nm,0.3s								
MTBS				*eS*			**Sg**	**19 41 08.0**	**+0.2**
	61nm,0.3s								
KST	**Kastek**	**2.48**	**331**	*eP*			**Pg**	**19 40 36.1**	**-1.6**
	25nm,0.3s								
KST				*eS*			**Sg**	**19 41 09.6**	**-0.3**
	48nm,0.5s								
TKM2	**Tokmak 2**	**2.53**	**325**	⇓Pg			**Pb**	**19 40 36.8**	**+1.1**
	4.0nm,0.3s								
TKM2				⇓Lg			Lg	19 41 10.8	
	9.7nm,0.5s								
TKM2	**Tokmak 2**	**2.53**	**325**	P			**Pb**	**19 40 36.6**	**+0.9**
	SNR=14								
TKM2	**Tokmak 2**	**2.53**	**325**	⇑*iP*			**Pb**	**19 40 33.5**	**-2.2**
	baz=26								
TKM2				⇑*iS*			**Sb**	**19 41 06.1**	**-0.9**
	baz=26								
ARLS	**Aral**	**2.64**	**293**	⇑*iP*			**Pb**	**19 40 36.0**	**-1.6**
	baz=94								
ARLS				⇑*iS*			**Sb**	**19 41 08.1**	**-2.1**
	baz=94								
KBK	**Karagaybulak**	**2.66**	**313**	P			**Pb**	**19 40 38.9**	**+1.0**
	SNR=12								
KBK	**Karagaybulak**	**2.66**	**313**	⇑*iP*			**Pn**	**19 40 35.3**	**+2.1**
	baz=14								
KBK				⇑*iS*			**Sb**	**19 41 08.9**	**-1.7**
	baz=14								
UCH	**Uchtor**	**2.67**	**302**	P			**Pg**	**19 40 40.1**	**-1.3**
	SNR=10								
UCH	**Uchtor**	**2.67**	**302**	⇑*iP*			**Pb**	**19 40 35.6**	**+2.0**
	baz=3.0								
UCH				⇑*iS*			**Sb**	**19 41 09.6**	**-1.7**
	baz=3.0								
SHLS	**Shalkode**	**2.68**	**31**	*eP*			**Pg**	**19 40 41.8**	**+0.3**
	18nm,0.3s								
SHLS				*eS*			**Sg**	**19 41 19.8**	**+3.5**
	62nm,0.5s								
KPKS	**Kokpek**	**2.72**	**17**	*eP*			**Pb**	**19 40 39.3**	**+0.4**
	28nm,0.4s								
KPKS				*eS*			**Sg**	**19 41 15.6**	**-1.9**
	52nm,0.3s								
DGS	**Degeres**	**2.73**	**331**	*eP*			**Pb**	**19 40 40.1**	**+1.1**
	15nm,0.5s								
DGS				*eS*			**Sg**	**19 41 17.0**	**-0.7**
	36nm,0.6s								
PDGK	**Podgornoye**	**2.84**	**29**	⇑Pn			**Pn**	**19 40 36.3**	**+0.7**
	3.1nm,0.5s								
PDGK				⇑Pg			**Pb**	**19 40 41.1**	**+0.2**
	18nm,0.4s								
PDGK				⇑Lg			Lg	19 41 19.5	
	53nm,0.5s								
PDGK	**Podgornoye**	**2.84**	**29**	⇑*iP*			**Pb**	**19 40 38.4**	**-2.6**
	baz=30								
PDGK				⇑*iS*			**Sb**	**19 41 14.2**	**-1.6**
	baz=30								
AAK	**Ala-Archa**	**2.91**	**308**	⇑Pn			**Pb**	**19 40 41.3**	**-0.8**
	23nm,0.7s								
AAK				⇑Lg			Lg	19 41 23.2	
	53nm,0.9s								
AAK	**Ala-Archa**	**2.91**	**308**	P			**Pb**	**19 40 43.4**	**+1.2**
	SNR=8.3								
AAK	**Ala-Archa**	**2.91**	**308**	⇑*iP*			**Pn**	**19 40 38.5**	**+1.9**
	baz=9.0								
AAK				⇑*iS*			**Sb**	**19 41 14.6**	**-3.2**
	baz=9.0								
KTBS	**Karatobe**	**2.92**	**347**	*eP*			**Pb**	**19 40 43.5**	**+1.3**
	10nm,0.3s								
KTBS				*eS*			**Sg**	**19 41 23.1**	**-0.7**
	60nm,0.3s								
CHMS	**Chumysh**	**3.00**	**316**	P			**Pb**	**19 40 44.8**	**+1.2**
	SNR=12								
CHMS	**Chumysh**	**3.00**	**316**	⇓*iP*			**Pn**	**19 40 39.9**	**+2.2**
	baz=17								
CHMS				⇓*iS*			**Sb**	**19 41 17.0**	**-3.2**
	baz=17								
CHKK	**Chushkaly**	**3.02**	**352**	*eP*			**Pb**	**19 40 45.3**	**+1.5**
	15nm,0.2s								
CHKK				*eS*			**Sg**	**19 41 26.1**	**-0.8**
	164nm,0.3s								
KUU	**Kurty**	**3.16**	**343**	*eP*			**Pb**	**19 40 47.4**	**+1.1**
	2.6nm,0.3s								
KUU				*eS*			**Sg**	**19 41 29.6**	**-1.9**
	34nm,0.8s								
AML	**Almayashu**	**3.18**	**295**	P			**Pb**	**19 40 48.7**	**+1.8**
	SNR=15								
AML	**Almayashu**	**3.18**	**295**	⇑*iP*			**Pn**	**19 40 42.5**	**+2.0**
	baz=95								
AML				⇑*iS*			**Sn**	**19 41 21.3**	**+2.6**
	baz=95								
SFK	**Sufi-Kurgan**	**3.23**	**256**	⇓Pn			**Pb**	**19 40 45.5**	**-2.2**
	2.7nm,0.4s								
SFK				⇓Lg			Lg	19 41 35.0	
	11nm,0.5s								
SFK	**Sufi-Kurgan**	**3.23**	**256**	⇓*iP*			**Pn**	**19 40 43.4**	**+2.4**
	baz=57								
SFK				⇓*iS*			**Sn**	**19 41 20.9**	**+1.3**
	baz=57								
MNBS	**Baschi**	**3.27**	**10**	*eP*			**Pb**	**19 40 48.8**	**+0.6**
	16nm,0.4s								
MNBS				*eS*			**Sg**	**19 41 32.1**	**-2.8**
	45nm,0.5s								
KTMS	**Ketmen**	**3.30**	**38**	*eP*			**Pb**	**19 40 49.0**	**+0.3**
	2.1nm,0.2s								
KTMS				*eS*			**Sg**	**19 41 32.3**	**-3.7**
	38nm,0.3s								
USP	**Ospenovka**	**3.32**	**317**	P			**Pb**	**19 40 50.4**	**+1.3**
	SNR=10								
USP	**Ospenovka**	**3.32**	**317**	⇑*iP*			**Pn**	**19 40 44.1**	**+2.0**
	baz=18								
USP				⇑*iS*			**Sn**	**19 41 24.7**	**+3.1**
	baz=18								
EKS2	**Erkin-Say**	**3.36**	**303**	P			**Pb**	**19 40 48.9**	**-1.0**
	SNR=6.5								
EKS2	**Erkin-Say**	**3.36**	**303**	⇓*iP*			**Pn**	**19 40 44.8**	**+2.0**
	baz=4.0								
EKS2				⇓*iS*			**Sn**	**19 41 25.7**	**+2.9**
	baz=4.0								
ARSB	**Arslanbob**	**3.50**	**279**	⇑*iP*			**Pn**	**19 40 46.5**	**+1.7**
	baz=80								
ARSB				⇑*iS*			**Sn**	**19 41 28.6**	**+2.2**
	baz=80								
MRKS	**Merke**	**3.75**	**301**	*eP*			**Pb**	**19 40 58.4**	**+1.9**
	4.6nm,0.2s								
MRKS				*eS*			**Sg**	**19 41 47.8**	**-2.8**
	7.2nm,0.7s								
DJR	**Jarkent**	**3.83**	**25**	*eP*			**Pb**	**19 40 59.5**	**+1.7**
	2.9nm,0.3s								
DJR				*eS*			**Sg**	**19 41 49.6**	**-3.3**
	8.6nm,0.5s								
MNAS	**Manas**	**4.13**	**295**	⇑Pg			**Pg**	**19 41 08.8**	**-0.5**
	4.1nm,0.7s								
MNAS				⇑Lg			Lg	19 42 02.2	
	6.0nm,0.6s								
MNAS	**Manas**	**4.13**	**295**	⇓*iP*			**Pn**	**19 40 55.3**	**+1.9**
	baz=95								
MNAS				⇓*iS*			**Sn**	**19 41 42.4**	**+0.6**
	baz=95								
KK31	**Karatay Array**	**5.72**	**295**	⇑Pg			**Pg**	**19 41 38.3**	**-1.4**
	0.3nm,0.3s,baz=115,slow=15,SNR=4.1								
KK31				⇑Lg			Lg	19 42 52.3	
	1.6nm,0.5s,baz=112,slow=29,SNR=5.7								
MK31	**Makanchi Array**	**6.83**	**28**	⇓Pn			**Pn**	**19 41 29.4**	**-0.9**
	0.4nm,0.3s,baz=203,slow=13,SNR=12								
MK31				⇓Pg			**Pb**	**19 41 52.4**	**+3.6**
	1.7nm,0.7s								
MK31				⇑Lg			Lg	19 43 22.5	
	1.3nm,0.6s								

DJA 26 19:43:56.3±0.9,0°N±3°×12°3E±°,h31km±18km,M3.7/8, mb3.9/1,MLv3.6/8,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.77**	**42**	P			**Pn**	**19 44 10.9**	**-0.1**
KMSI				S			Sn	19 44 23.3	+1.8
LUWI	**Luwuk**	**1.25**	**214**	P			**Pn**	**19 44 17.0**	**-0.6**
LUWI				S			Sb	19 44 35.6	+0.6
MRSI	**Marisa**	**1.60**	**287**	P			**Pn**	**19 44 21.4**	**-1.1**
MRSI				S			Sn	19 44 38.7	-3.4
APSI	**Ampana**	**2.03**	**244**	P			**Pn**	**19 44 29.3**	**+0.9**
SANI	**Sanana**	**3.24**	**129**	P			**Pn**	**19 44 41.1**	**-3.9**
MPSI	**Mapaga**	**3.59**	**275**	P			**Pn**	**19 44 52.1**	**+2.3**
TTSI	**Tana Toraja**	**4.74**	**230**	P			**Pn**	**19 45 05.4**	**-0.3**
SPSI	**Sidrap Palu**	**5.40**	**223**	P			**Pn**	**19 45 13.7**	**-1.1**
BNSI	**Bone**	**5.51**	**218**	P			**Pn**	**19 45 15.8**	**-0.5**

*IDC **26** 19:54:22.3±3.0, 14°.07N×92°.45W,h0km,mb3.6/3, mb1 3.9/6,mb1mx3.6/31,mbtmp3.5/6,ML3.6/3,MS2.2/1, Ms1 2.2/1,ms1mx1.9/34, Error ellipse: s-maj=59.9km s-min=16.9km az=172.0*
*MEX **26** 19:54:27.3±0.4, 14°.08N×92°.35W,h63km±22km,MD3.9*

ISC 26 19:54:28.8±1.5,14°.2N±0°.1×92°.46W±0°.08,h46km,n11, σ0§93/14,mb3.5/3,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THIG		**0.74**	**15**	*i* P			**Pn**	**19 54 42.1**	**-0.9**
THIG				*e*S			**Sn**	**19 54 53.3**	**0.0**
PCIG		**1.68**	**334**	*e*P			**Pn**	**19 54 54.9**	**-0.9**
PCIG				*e*S			**Sn**	**19 55 17.3**	**+1.2**
APG	**El Apazote**	**2.10**	**67**	Pn			**Pn**	**19 55 01.2**	**-0.5**
	21nm,0.3s,baz=195,slow=15,SNR=191								
APG				Lg			Lg	19 55 29.6	
	32nm,0.3s,baz=327,slow=12,SNR=7.7								
TGIG		**2.66**	**346**	*e*P			**Pn**	**19 55 09.3**	**+0.1**
TGIG				*i* S			**Sn**	**19 55 40.1**	**-0.1**
CMIG	**Matias Romero**	**3.72**	**321**	Pn			**Pn**	**19 55 23.2**	**-0.5**
	3.3nm,0.3s,baz=143,slow=12,SNR=18								
CMIG				Sn			**Sn**	**19 56 04.9**	**-1.3**
	6.2nm,0.3s,baz=100,slow=8.8,SNR=5.4								
CMIG				Lg			Lg	19 56 19.3	
	12nm,0.3s,baz=51,slow=16,SNR=13								
CMIG				LR			LR	19 57 03.2	
	comp=Z,36nm,21.5s,baz=36,slow=42								
JTS	**JuntasAbangare**	**8.29**	**117**	Lg			Lg	19 58 31.3	
	0.4nm,0.3s,baz=350,slow=18,SNR=3.1								
TXAR	**Lajitas Array**	**18.30**	**327**	P			**Pn**	**19 58 40.8**	**+1.4**
	0.0nm,0.3s,baz=142,slow=8.9,SNR=3.0								
NVAR	**Mina Array Bea**	**33.25**	**321**	P			**P**	**20 01 01.5**	**-0.5**
	0.4nm,0.6s,baz=130,slow=8.3,SNR=2.5								
YKA	**Yellowknife Ar**	**50.75**	**347**	P			**P**	**20 03 23.3**	**-0.5**
	1.0nm,0.6s,baz=152,slow=7.5,SNR=6.7								
ILAR	**Eielson Array**	**62.50**	**337**	P			**P**	**20 04 48.6**	**+1.3**
	0.2nm,0.8s,baz=143,slow=3.2,SNR=4.1								
CMAR	**Chiang Mai Arr**	**145.67**	**341**	PKPbc			**PKPab**	**20 14 03.4**	**-0.4**
	0.8nm,0.9s,baz=331,slow=3.1,SNR=5.6								

*NIED **26** 20:07:00,33°.30N×141°.90E,h5km,Mw4.7 Best double couple: M0 1.21000×10^16 NP1:φs348.00000°,δ52.00000°, λ49.00000°. NP2:φs223.00000°,δ54.00000°,λ129.00000°.*
*IDC **26** 20:07:55.6±0.5,33°.22N×141°.82E,h0km,mb4.4/27, mb1 4.5/33,mb1mx4.4/61,mbtmp4.4/33,ML4.1/4,MS4.1/31, Ms1 4.1/31,ms1mx4.0/46,Error ellipse: s-maj=13.2km s-min=10.2km az=102.0*
*JMA **26** 20:07:58.9±0.3,33°.32N×141°.88E,h66km,M4.2*
*BJI **26** 20:07:58.0,33°.20N×141°.70E,h30km,mb4.6/35,mB5.0/25, Ms4.8/25,Ms7 4.7/23*
*MOS **26** 20:07:59.1±1.1,33°.12N×141°.77E,h32km,mb4.9/34, MS4.0/6,Error ellipse: s-maj=10.0km s-min=5.4km az=121.3*
*ISCJB **26** 20:07:59.9±0.2,33°.18N±0°.03×141°.67E±0°.03,h34km, mb4.6/94,MS4.2/35,Error ellipse: s-maj=4.1km s-min=2.9km az=39.1*
*GCMT **26** 20:08:00.8±0.4,33°.43N±0°.04×141°.90E±0°.03,h16km±1km, MW4.8/72,Moment Tensor Solution. s22,c24; s72,c96; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.11±.16; Mθθ-0.49±.09; Mφφ-1.62±.10; Mrθ-0.70±.32; Mφθ-0.43±.06; Mφr0.32±.31; Best double couple: Mo2.04900×10^16 NP1:φs3.00000°,δ48.00000°,λ68.00000°. NP2: φs214.00000°,δ46.00000°,λ112.00000°. Principal axes: T 2.3300, Plg74.0000°, Azm203.0000°; N -0.5620, Plg16.0000°, Azm18.0000°; P -1.7680, Plg1.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **26** 20:08:00.8±1.6,33°.19N×141°.71E,h30km±11km,mb4.8/49 Error ellipse: s-maj=4.7km s-min=4.2km az=101.0*

ISC 26 20:08:00.8±0.4,33°.24N±0°.04×141°.96E±0°.05,h34km,n268, σ1§84/269,mb4.6/94,MS4.2/35,9C-11D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.63**	**330**	P			**Pn**	**20 08 24.6**	**-2.0**
JHJ2	**Mitsune**	**1.81**	**267**	*e*Pn			**Pn**	**20 08 27.8**	**-1.6**
JHJ2	**Mitsune**	**1.81**	**267**	P			**Pn**	**20 08 27.6**

KSRS Korea Array 12.21 294 Pn **Pn** **20 10 52.6 +0.3**
comp=N,0.4nm,0.3s,baz=106,slow=14,SNR=14
KSRS LR LR 20 15 03.8
comp=N,1µm,20.7s,baz=96,slow=35
KSAR Wonju Array Be 12.24 294 Pn **Pn** **20 10 52.6 0.0**
KSAR Wonju Array Be 12.24 294 P **Pn** **20 10 52.6 0.0**
USRK Ussuriysk Ar. 13.42 328 Pn **Pn** **20 11 06.6 -2.2**
comp=N,0.3nm,0.3s,baz=124,slow=15,SNR=4.3
JOW Kunigami 13.46 245 LR LR 20 14 46.5
comp=N,260nm,20.2s,baz=295,slow=31
YSS Yuzh-Sakhalins 13.71 2⇑*e*P **Pn** **20 11 09.6 -3.1**
YSS pmax pmax
comp=Z,30nm,0.8s
DL2 Dalian 17.37 295 P **Pn** **20 12 00.3 -0.2**
DL2 pmax pmax
comp=Z,38nm,1.2s
DL2 pmax pmax
comp=Z,540nm,9.8s
DL2 LR LR
comp=Z,1µm,12.7s
DL2 LR LR
comp=Z,1µm,14.5s
DL2 LR LR
comp=Z,3µm,15.3s
TYV Tymovskoe 17.62 1 *e*P **Pn** **20 11 58.7 -4.8**
TYV *e*S **Sn** **20 15 16.6 -2.0**
TYV pmax pmax
comp=Z,300nm,3.9s
TYV pmax pmax
comp=Z,16nm,1.5s
TYV smax smax
comp=E,14nm,1.4s
TYV smax smax
comp=N,400nm,3.6s
TYV MLR MLR
comp=N,2µm,16.0s
TYV MLR MLR
comp=Z,1µm,16.0s
KLR Kul'dur 17.70 338 P **Pn** **20 12 02.5 -2.0**
comp=Z,0.5nm,0.3s,baz=143,slow=10,SNR=12
KLR Kul'dur 17.70 338⇓*e*P **Pn** **20 12 02.8 -1.7**
SSE Sheshan 17.72 269 P **P** **20 12 12.0 +6.5**
SSE S **Sn** **20 15 22.5 +1.2**
SSE pmax pmax
comp=Z,14nm,0.8s
SSE pmax pmax
comp=Z,110nm,3.2s
SSE LR LR
comp=N,780nm,14.5s
SSE LR LR
comp=E,720nm,13.0s
GRNR Gornyy 17.99 349 *e*P **P** **20 12 10.0 +1.7**
GRNR pmax pmax
comp=Z,26nm,1.0s
GUMO Guam 19.74 172 P **P** **20 12 26.6 -1.1**
comp=Z,2.1nm,0.3s,baz=347,slow=14,SNR=2.1
PETK Petropavlovsk- 22.84 25 LR LR 20 23 45.2
comp=Z,536nm,19.2s,baz=207,slow=42
ZEA Zeya 23.02 337 *e*P **P** **20 13 03.1 +0.5**
ZEA *e*S **S** **20 17 15.0 +4.2**
ZEA *e*SS SnSn 20 18 14.0 +29
ZEA pmax pmax
comp=N,73nm,0.8s
ZEA pmax pmax
comp=E,52nm,0.8s
ZEA pmax pmax
comp=Z,110nm,0.8s
ZEA pmax pmax
comp=N,400nm,2.0s
ZEA pmax pmax
comp=Z,400nm,2.0s
ZEA smax smax
comp=E,500nm,9.0s
ZEA smax smax
comp=N,700nm,10.0s
ZEA MLR MLR
comp=N,800nm,16.0s
ZEA MLR MLR
comp=Z,1µm,16.0s
ZEA MLR MLR
comp=E,400nm,14.0s
WHN Wuhan 23.57 271 ⇓P **P** **20 13 05.8 -2.5**
WHN S **S** **20 17 18.0 -2.3**
WHN LR LR
comp=E,2µm,10.5s
WHN LR LR
comp=E,3µm,12.4s
WHN LR LR
comp=E,3µm,13.7s
TIY Taiyuan 24.41 289 *e*P **P** **20 13 15.0 -1.2**
TIY S **S** **20 17 33.5 -0.3**
TIY pmax pmax
comp=E,18nm,0.5s
TIY LR LR
comp=E,690nm,11.2s
TIY LR LR
comp=E,2µm,14.3s
TIY LR LR
comp=E,2µm,13.6s
H11N2 WAKE ISLAND Hy 25.98 115 T T 20 40 52.0
baz=306,slow=75,SNR=8.9
H11N1 WAKE ISLAND Hy 25.98 115 T T 20 40 43.3
baz=306,slow=75,SNR=7.5
H11N3 WAKE ISLAND Hy 25.99 115 T T 20 40 46.3
baz=306,slow=75,SNR=9.6
BTO Baotou 26.47 295 *e*P **P** **20 13 32.5 -2.4**
BTO S S 20 17 55.3 -11
H11S3 WAKE ISLAND Hy 26.56 117 T T 20 41 41.4
baz=305,slow=74
H11S1 WAKE ISLAND Hy 26.56 117 T T 20 41 33.3
baz=305,slow=74
H11S2 WAKE ISLAND Hy 26.58 117 T T 20 41 37.5
baz=305
TGY Tagaytay City 26.99 230 LR LR 20 24 18.6
comp=E,409nm,19.2s,baz=100,slow=37
XAN Xi'an 27.46 281 P **P** **20 13 42.3 -1.4**
XAN pP pP 20 13 52.0 -1.5
XAN pmax pmax
comp=E,9.0nm,1.9s
ENH Enshi 27.71 273 *e*P **P** **20 13 43.3 -2.8**
comp=E,23nm,0.9s
ULN Ulaanbaatar 29.99 310 *e*P **P** **20 14 05.7 -0.6**
comp=E,18nm,0.9s
ULN Ulaanbaatar 29.99 310*ce*P **P** **20 14 07.9 +1.6**
DAV Davao City (W) 30.15 214 LR LR 20 24 29.3
comp=E,370nm,20.9s,baz=86,slow=33
SONA1 Songino Array 30.41 309 *e*P **P** **20 14 11.2 +1.2**
SONA0 Songino Array 30.41 309 *e*P **P** **20 14 09.2 -0.7**
SONM Songino Array 30.41 309 P **P** **20 14 09.2 -0.7**
comp=E,7.3nm,0.7s,baz=112,slow=8.2,SNR=14
SONM LR LR 20 26 42.1
comp=E,466nm,18.5s,baz=114,slow=37
SEY Seymchan 30.44 9 P **P** **20 14 10.2 +0.4**
comp=E,3.6nm,0.6s,baz=187,slow=8.5,SNR=14
SEY Seymchan 30.44 9⇑*e*P **P** **20 14 10.5 +0.7**
BOD Bodaibo 31.02 331 *e*P **P** **20 14 15.7 +0.7**
BOD pmax pmax
comp=Z,27nm,1.9s
GTA Gaotai 34.28 293 ⇓P **P** **20 14 42.5 -1.4**
GTA pP pP 20 14 47.5 -6.3
GTA sP sP 20 14 50.8 -7.1
GTA S **S** **20 20 10.0 +1.1**
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA pmax pmax
comp=Z,58nm,5.2s
GTA LR LR
comp=Z,570nm,14.9s
GTA LR LR
comp=Z,800nm,14.9s
GTA LR LR
comp=Z,900nm,13.3s
SIJI Sorong 35.39 199 P **P** **20 14 51.7 -1.8**
comp=Z,9.2nm,0.7s,baz=346,slow=4.2,SNR=8.2
KNGR Kungurtug, Tuv 36.71 312⇓*e*P **P** **20 15 04.9 +0.3**
BILL Bilibino 37.56 15 *e*P **P** **20 15 14.6 +3.2**
BILL *e* 20 16 41.6
BILL *e*PPP PPP 20 17 01.2
BILL pmax pmax
comp=Z,7.0nm,1.0s
TIXI Tiksi 39.10 353 P **P** **20 15 23.4 -1.0**
comp=Z,1.1nm,0.7s,baz=170,slow=4.9,SNR=4.3
TIXI Tiksi 39.10 353*ce*P **P** **20 15 27.2 +2.8**
TIXI pmax pmax
comp=Z,2.0nm,0.8s
HVS Khovu-Aksy 39.18 312⇓*e*P **P** **20 15 27.0 +1.6**
HVS pmax pmax
comp=Z,4.0nm,0.7s
PBKT Sadao Pong 40.42 256 P **P** **20 15 38.6 +2.6**
comp=Z,16nm,1.1s
CMMT Chiang Mai 40.95 260 P **P** **20 15 39.5 -0.9**
comp=Z,9.6nm,1.1s
CHTO Chiang Mai 40.95 260 *e*P **P** **20 15 38.6 -1.8**
comp=Z,9.4nm,1.0s
CHTO Chiang Mai 40.95 260 *e*P **P** **20 15 38.6 -1.8**
CHTO pmax pmax
comp=Z,9.0nm,1.0s
CHTO Chiang Mai 40.95 260 P **P** **20 15 39.6 -0.8**
comp=Z,43nm,1.1s
CMAR Chiang Mai Arr 41.12 260 P **P** **20 15 39.5 -2.3**
comp=Z,1.7nm,0.7s,baz=49,slow=7.6,SNR=13
CMAR LR LR 20 34 52.0
comp=Z,259nm,19.4s,baz=62,slow=39
CMAR Chiang Mai Arr 41.12 260 *i* P **P** **20 15 41.0 -0.8**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CM01 Chiang Mai Arr 41.13 260 *e*P **P** **20 15 39.8 -2.1**
DGZ Jazzator, Alta 43.06 309*c i*P **P** **20 15 57.1 -0.3**
LSA Lhasa 43.14 280 *e*P **P** **20 15 57.5 -1.2**
comp=Z,19nm,1.7s
LSA Lhasa 43.14 280 *e*P **P** **20 15 57.5 -1.2**
LSA pmax pmax
comp=Z,19nm,1.7s
KSM Kuching 43.36 230 *e*P **P** **20 15 59.3 -0.7**
comp=Z,16nm,0.6s
SHL Shillong 43.95 274 P **P** **20 16 01.9 -3.1**
ZAA0 Zalesovo Array 44.86 315 *e*P **P** **20 16 11.4 -0.2**
comp=Z,4.5nm,0.9s
ZAA1 Zalesovo Array 44.86 315 *e*P **P** **20 16 10.5 -1.1**
ZAA1 *e*PcP **PcP** **20 17 52.6 -0.2**
ZALV Zalesovo Beam 44.86 315 P **P** **20 16 10.5 -1.1**
comp=Z,2.1nm,0.8s,baz=93,slow=5.8,SNR=7.3
ZALV PcP **PcP** **20 17 52.6 -0.2**
comp=Z,1.9nm,0.6s,baz=103,slow=2.5,SNR=3.7
ZALV LR LR 20 35 44.2
comp=Z,218nm,18.5s,baz=68,slow=37
ZALV Zalesovo Beam 44.86 315 *e*P **P** **20 16 11.2 -0.5**
ZALV PcP **PcP** **20 17 52.6 -0.2**
ZALV Zalesovo Beam 44.86 315 *i* P **P** **20 16 14.1 +2.5**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
NVS Novosibirsk 45.84 316 *e*P **P** **20 16 20.5 +1.1**
NVS pmax pmax
comp=Z,11nm,1.4s
NVS pmax pmax
comp=N,4.0nm,1.5s
NVS pmax pmax
comp=E,10.0nm,1.5s
BATI Baumata 46.59 205 P **P** **20 16 25.0 -0.6**
comp=E,16nm,0.7s,baz=50,slow=7.9,SNR=3.3
MK01 Makanchi Array 46.59 305 *e*P **P** **20 16 24.7 -0.7**
MK31 Makanchi Array 46.60 305 *e*P **P** **20 16 24.9 -0.6**
MK31 Makanchi Array 46.60 305 *e*P **P** **20 16 24.9 -0.6**
MK32 Makanchi Array 46.60 305 *e*P **P** **20 16 24.8 -0.7**
MKAR Makanchi Array 46.60 305 P **P** **20 16 24.8 -0.6**
comp=E,5.0nm,0.7s,baz=89,slow=9.3,SNR=37
MKAR LR LR 20 36 35.9
comp=E,210nm,19.4s,baz=80,slow=37
MKAR Makanchi Array 46.60 305 *e*P **P** **20 16 24.9 -0.6**
comp=E,38nm,0.6s
MKAR Makanchi Array 46.60 305 *i* P **P** **20 16 24.7 -0.8**
MKAR pmax pmax
comp=Z,5.0nm,0.7s
NRIK Noril'sk 46.91 337 LR LR 20 39 56.9
comp=Z,120nm,18.4s,baz=99,slow=41
RAMN Ramite 47.85 278 *e*P **P** **20 16 34.1 -1.6**
comp=Z,32nm,0.7s
JIRN Jiri 47.93 279 *e*P **P** **20 16 35.3 -1.2**
comp=Z,84nm,1.0s
GUN Gumba 48.10 279 *e*P **P** **20 16 36.6 -1.2**
PKI Pulchoki 48.61 279 *e*P **P** **20 16 39.7 -2.0**
PKIN Phulchoki 48.62 279 *e*P **P** **20 16 39.8 -1.9**
KKN Kakani 48.64 279 *e*P **P** **20 16 40.4 -1.4**
KURK Kurchatov 48.69 311 *e*P **P** **20 16 40.8 -0.8**
comp=Z,10nm,0.8s
KURK Kurchatov 48.69 311*ce*P **P** **20 16 40.4 -1.2**
KURK pmax pmax
comp=Z,6.0nm,0.6s
DMN Daman 48.84 279 *e*P **P** **20 16 41.8 -1.7**
PDGK Podgornoye 49.03 301 P **P** **20 16 43.3 -1.2**
PDGK pmax pmax
comp=Z,11nm,0.9s
KDAK Kodiak Island 49.67 40 P **P** **20 16 49.4 +0.4**
comp=Z,20nm,1.0s,baz=282,slow=9.3,SNR=4.0
DANN Dangsing 49.69 281 *e*P **P** **20 16 48.8 -1.2**
KOLN Koldanda 50.03 280 *e*P **P** **20 16 51.2 -1.2**
PYUN Piuthan 50.41 281 *e*P **P** **20 16 54.3 -1.0**
comp=Z,35nm,0.5s
LEM Lembang 51.49 226 P **P** **20 17 01.5 -1.9**
comp=Z,19nm,0.8s,baz=55,slow=12,SNR=6.7
TOLK Toolik Lake Re 51.66 26 *e*P **P** **20 17 06.4 +2.5**
comp=Z,7.6nm,0.9s
MDM Murphy Dome 51.92 30 *e*P **P** **20 17 07.8 +1.9**
comp=Z,5.8nm,0.8s
NRN Naryn 51.95 299 *e*P **P** **20 17 07.0 +0.1**
comp=Z,3.4nm,0.9s
NRN Naryn 51.95 299 *e*P **P** **20 17 07.0 +0.1**
NRN pmax pmax
comp=Z,3.0nm,0.9s
ILAR Eielson Array 52.49 31 P **P** **20 17 10.4 +0.3**
comp=Z,2.2nm,0.7s,baz=264,slow=6.0,SNR=21
ILAR LR LR 20 40 11.6
comp=Z,86nm,20.1s,baz=304,slow=37
ILB Eielson Array 52.49 31 *e*P **P** **20 17 11.0 +0.9**
IL1 Eielson Array 52.49 31 *e*P **P** **20 17 10.9 +0.8**
AAK Ala-Archa 52.76 301 *e*P **P** **20 17 12.0 -0.7**
comp=Z,5.8nm,1.1s
AAK Ala-Archa 52.76 301⇓*e*P **P** **20 17 13.8 +1.2**
AAK pmax pmax
comp=Z,18nm,2.5s
OTUK Ortayu 53.07 308 P **P** **20 17 14.6 -0.1**
OTUK pmax pmax
comp=Z,9.0nm,1.4s
WRAB Tennant Creek 53.37 189 *e*P **P** **20 17 16.7 -0.3**
comp=Z,9.8nm,0.6s
WRAB Tennant Creek 53.37 189*de*P **P** **20 17 17.0 0.0**
WRAB pmax pmax
comp=Z,12nm,1.0s
FITZ Fitzroy Crossi 53.38 199 *e*P **P** **20 17 17.7 +0.7**
comp=Z,20nm,0.6s
WB2 Warramunga Arr 53.38 189 *e*P **P** **20 17 16.1 -1.0**
WR1 Warramunga Arr 53.38 189 *e*P **P** **20 17 17.1 0.0**
comp=Z,12nm,0.5s
WRA Warramunga Arr 53.38 189 P **P** **20 17 17.1 0.0**
comp=Z,11nm,0.5s,baz=6.8,slow=7.7,SNR=289
WRA LR LR 20 40 23.5
comp=Z,97nm,18.1s,baz=15,slow=36
BRVK Borovoye 53.56 315⇑*e*P **P** **20 17 18.2 +0.1**
BRVK pmax pmax
comp=Z,10.0nm,1.6s
SFK Sufi-Kurgan 54.15 298 P **P** **20 17 23.3 +0.4**
MNAS Manas 54.22 301 P **P** **20 17 23.7 +0.3**
MNAS pmax pmax
comp=Z,3.0nm,1.7s
KK31 Karatay Array 55.48 303 *e*P **P** **20 17 32.1 -0.2**
KK31 Karatay Array 55.48 303 *e*P **P** **20 17 32.1 -0.2**
KKAR Karatay Array 55.48 303 *e*P **P** **20 17 32.1 -0.2**
KKAR Karatay Array 55.48 303 *e*P **P** **20 17 32.1 -0.2**
NIL Nilore 56.31 291 *e*P **P** **20 17 38.4 0.0**
comp=Z,14nm,0.8s
NIL Nilore 56.31 291 *e*P **P** **20 17 38.4 0.0**
NIL pmax pmax
comp=Z,14nm,0.8s
AS01 Alice Springs 57.10 189 *e*P **P** **20 17 43.7 -0.2**
AS31 Alice Springs 57.10 189 *e*P **P** **20 17 44.3 +0.4**
comp=Z,2.2nm,0.5s
ASAR Alice Springs 57.10 189 P **P** **20 17 44.0 +0.1**
comp=Z,2.6nm,0.5s,baz=1.9,slow=6.7,SNR=60
ASAR LR LR 20 41 53.8
comp=Z,87nm,18.8s,baz=14,slow=36
INK Inuvik 57.58 26 P **P** **20 17 47.4 +0.7**
comp=Z,1.2nm,0.8s,baz=292,slow=5.7,SNR=4.2
SVE Sverdlovsk 58.32 320 *e*P **P** **20 17 52.0 -0.1**
HYB Hyderabad 58.64 271 *i* P **P** **20 17 55.0 0.0**
KBL Kabul 59.26 293 *e*P **P** **20 17 58.4 -0.9**
comp=Z,8.4nm,1.1s
KBL Kabul 59.26 293 *e*P **P** **20 17 58.4 -0.9**
KBL pmax pmax
comp=Z,8.0nm,1.1s
DZM Mont Dzumac 59.75 154 *e*P **P** **20 18 06.7 +4.2**
comp=Z,80nm,1.6s
DZM Mont Dzumac 59.75 154 *e*LR LR 20 35 24.3
comp=Z,392nm,20.1s
ABKAR Akbulak array 60.77 312 *e*P **P** **20 18 08.4 -0.7**
AKTO Aktyubinsk 61.58 314 LR LR 20 46 16.4
comp=Z,199nm,18.0s,baz=65,slow=37
POO Poona 62.05 275 *e*P P 20 18 26.0 +7.7
PRGR Permogore 64.21 328 *e*P **P** **20 18 32.0 +0.2**
PRGR pmax pmax
comp=Z,6.0nm,0.9s
SPITS Spitsbergen Ar 64.33 349 LR LR 20 47 27.8
comp=Z,102nm,20.5s,baz=15,slow=37
STKA Stephens Creek 64.77 180 P **P** **20 18 35.6 -0.2**
comp=Z,2.5nm,0.8s,baz=348,slow=9.3,SNR=3.6
STKA Stephens Creek 64.77 180 *e*P **P** **20 18 35.6 -0.2**
comp=Z,1.3nm,0.6s
STKA Stephens Creek 64.77 180 *e*P **P** **20 18 35.6 -0.2**
STKA pmax pmax
comp=Z,1.0nm,0.6s
GEYT Alibeck 66.11 301 P **P** **20 18 44.2 -0.5**
comp=Z,0.8nm,0.7s,baz=46,slow=4.2,SNR=4.0
GEYT LR LR 20 49 29.5
comp=Z,106nm,18.4s,baz=30,slow=38
RES Resolute Bay 66.16 14 P **P** **20 18 44.1 -0.2**
comp=Z,2.5nm,0.9s,baz=309,slow=6.5,SNR=3.0
RES Resolute Bay 66.16 14 *e*P **P** **20 18 44.8 +0.5**
comp=Z,40nm,1.9s
RES Resolute Bay 66.16 14 *e*P **P** **20 18 44.8 +0.5**
RES pmax pmax
comp=Z,40nm,1.9s
YKA Yellowknife Ar 66.87 29 P **P** **20 18 49.1 +0.1**
comp=Z,1.1nm,1.0s,baz=300,slow=6.3,SNR=4.3
ARCES ARCESS Array B 67.71 340 LR LR 20 52 17.2
comp=Z,8.8nm,21.0s,baz=89,slow=39
OBN Obninsk 71.42 324 LR LR 20 53 14.9
comp=Z,67nm,19.4s,baz=360,slow=38
OBN Obninsk 71.42 324⇓*i*P **P** **20 19 19.3 +2.0**
OBN *e* 20 22 00.5
OBN *e*PPP PPP 20 23 39.9
OBN pmax pmax
comp=Z,19nm,2.0s
FIA0 FINESS Array S 72.39 333 *e*P **P** **20 19 22.2 -0.8**
FIA0 FINESS Array S 72.39 333 *e*P **P** **20 19 22.2 -0.8**
FINES FINESS Array B 72.39 333 P **P** **20 19 22.2 -0.8**
comp=Z,3.3nm,0.7s,baz=67,slow=6.4,SNR=11
FINES LR LR 20 55 38.9
comp=Z,156nm,18.6s,baz=58,slow=40
FINES FINESS Array B 72.39 333 *i* P **P** **20 19 23.1 0.0**
FINES pmax pmax
comp=Z,3.0nm,0.7s
KBZ Khabaz 73.74 312 P **P** **20 19 31.3 0.0**
comp=Z,5.8nm,0.9s,baz=81,slow=3.4,SNR=15
KBZ LR LR 20 54 44.1
comp=Z,162nm,18.5s,baz=68,slow=38
KIV Kislovodsk 73.75 312 *e*P **P** **20 19 31.6 0.0**
comp=Z,11nm,0.9s
KIV Kislovodsk 73.75 312 *e*P **P** **20 19 33.1 +1.5**
KIV *e*S **S** **20 29 03.1 +2.7**
KIV *e*SS **SS** **20 33 47.3 +3.6**
KIV pmax pmax
comp=Z,12nm,0.9s
KIV MLR MLR
comp=Z,163nm,18.0s
JMIC Jan Mayen 73.95 350 LR LR 20 54 25.9
comp=Z,35nm,20.2s,baz=231,slow=38
NEY Neytrino 74.09 311⇑*e*P **P** **20 19 35.7 +2.0**
NEY pmax pmax
comp=Z,1.0nm,0.9s
GNI Garni 74.36 308 LR LR 20 55 01.7
comp=Z,187nm,19.5s,baz=46,slow=38
GNI Garni 74.36 308⇓*e*P **P** **20 19 35.5 +0.2**
GNI pmax pmax
comp=Z,27nm,1.3s
SUMG Summit 74.47 0 *i* P **P** **20 19 37.1 +1.4**
comp=Z,8.0nm,0.6s
SUMG *i* 20 19 49.1
SUMG Summit 74.47 0 *i* P **P** **20 19 37.1 +1.4**
SUMG *i* 20 19 49.1
SUMG pmax pmax
comp=Z,8.0nm,0.6s
BEKR Beckworth 74.80 52 *e*P **P** **20 19 40.0 +2.1**
comp=Z,4.0nm,0.9s
CMB Columbia Colle 75.72 54 *e*P **P** **20 19 43.7 +0.6**
comp=Z,18nm,1.8s
CMB Columbia Colle 75.72 54 *e*P **P** **20 19 43.7 +0.6**
CMB pmax pmax
comp=Z,18nm,1.8s
LRM Limekiln Ridge 76.56 44 *e*P **P** **20 19 47.4 -0.5**
RYN Ryan 76.66 53 *e*P **P** **20 19 50.8 +2.2**
comp=Z,12nm,0.8s
KVN Kaiserville 76.72 52 *e*P **P** **20 19 50.8 +1.9**
comp=Z,15nm,1.5s
KVN Kaiserville 76.72 52 *e*P **P** **20 19 50.8 +1.9**
KVN pmax pmax
comp=Z,15nm,1.5s
DLMT Dillon 76.73 44 *e*P **P** **20 19 51.1 +2.3**
comp=Z,24nm,1.7s
NV01 Mina Array Sit 76.92 53 *e*P **P** **20 19 52.4 +2.3**
NVAR Mina Array Bea 76.92 53 P **P** **20 19 51.2 +1.2**
comp=Z,2.8nm,0.8s,baz=291,slow=5.5,SNR=16
NVAR LR LR 20 48 52.4
comp=Z,280nm,20.1s,baz=272,slow=32
BOZ Bozeman (W) 77.16 44 *e*P **P** **20 19 52.7 +1.5**
comp=Z,22nm,2.0s
AKASG Malin Array Be 77.58 323 P **P** **20 19 52.8 -0.5**
comp=Z,1.9nm,0.6s,baz=48,slow=6.2,SNR=8.5
AKASG LR LR 20 56 58.7
comp=Z,337nm,19.7s,baz=50,slow=38
AKBB Malin Array Si 77.58 323 *e*P **P** **20 19 52.5 -0.8**
comp=Z,4.0nm,0.6s
AKBB Malin Array Si 77.58 323 *e*P **P** **20 19 52.5 -0.8**
AKBB pmax pmax
comp=Z,4.0nm,0.6s
KIEV Kiev 77.60 323 *e*P **P** **20 19 52.6 -0.7**
comp=Z,3.8nm,0.7s
KIEV Kiev 77.60 323⇓*e*P **P** **20 19 52.9 -0.4**
KIEV pmax pmax
comp=Z,3.0nm,0.6s
HFS Hagfors 77.73 336 LR LR 20 57 57.2
comp=Z,374nm,19.4s,baz=49,slow=39
NB2 NORSAR Subarra 77.86 338 P **P** **20 19 54.3 -0.4**
comp=Z,1.2nm,0.6s,baz=40,slow=5.6
NB200 NORSAR Array S 77.86 338 *e*P **P** **20 19 54.4 -0.3**
NOA NORSAR Array B 77.86 338 P **P** **20 19 54.4 -0.3**
comp=Z,2.3nm,0.8s,baz=39,slow=5.6,SNR=11
NOA LR LR 20 58 54.2
comp=Z,220nm,20.0s,baz=25,slow=39
YHB Horse Butte 77.89 44 *e*P **P** **20 19 57.6 +2.2**
comp=Z,4.8nm,0.8s
YMR Madison River 78.07 44 *e*P **P** **20 19 56.2 -0.2**
comp=Z,7.4nm,1.0s
H17A Grant Village 78.46 44 *e*P **P** **20 20 00.5 +1.9**
comp=Z,27nm,1.6s
FXWY Fox Creek 78.63 45 *e*P **P** **20 20 02.2 +2.6**
comp=Z,19nm,2.0s
MOOW Moose Ponds 78.73 45 *e*P **P** **20 20 02.4 +2.3**
comp=Z,3.7nm,1.2s
RLMT Red Lodge 78.79 43 *e*P **P** **20 20 02.8 +2.4**
comp=Z,31nm,1.9s
TPNV Topopah Spring 79.08 53 *e*P **P** **20 20 04.2 +2.1**
comp=Z,9.5nm,1.3s
TPNV Topopah Spring 79.08 53 *e*P **P** **20 20 04.2 +2.1**
TPNV pmax pmax
comp=Z,10.0nm,1.3s
HWUT Hardware Ranch 79.47 47 *e*P **P** **20 20 06.3 +2.2**
comp=Z,3.5nm,0.9s
PSUT Pine Spring 79.78 51 *e*P **P** **20 20 08.2 +2.3**
comp=Z,5.3nm,1.1s
PD31 Pinedale Array 80.01 45 *e*P **P** **20 20 08.3 +1.3**
PDAR Pinedale Array 80.01 45 P **P** **20 20 08.3 +1.3**
comp=Z,0.9nm,0.6s,baz=277,slow=1.1,SNR=9.6
PDAR Pinedale Array 80.01 45 *e*P **P** **20 20 08.5 +1.4**
KIS Kishinev 80.08 320 *e*P P 20 20 25.0 +18
KIS LRM MLR 21 01 00.0
comp=Z,400nm,17.0s
CCUT Cedar City 80.66 51 *e*P **P** **20 20 12.7 +2.0**
comp=Z,5.8nm,1.3s
LCMT Little Creek M 81.04 52 *e*P **P** **20 20 14.5 +1.9**
comp=Z,3.6nm,0.7s
MTPU Mount Pierson 81.14 50 *e*P **P** **20 20 16.3 +2.9**
comp=Z,19nm,1.8s
P17A Butcher Ranch, 81.23 48 *e*P **P** **20 20 15.8 +2.3**
comp=Z,17nm,1.3s
KNB Kanab 81.32 51 *e*P **P** **20 20 16.6 +2.4**
comp=Z,21nm,1.5s
BORG Borgarnes 81.46 353 LR LR 21 00 11.8
comp=Z,58nm,18.2s,baz=20,slow=38
BUR08 Bucovina Ar. S 81.56 322 *e*P **P** **20 20 15.2 0.0**
SRU San Rafael Swe 81.57 49 *e*P **P** **20 20 16.6 +1.1**

comp=Z,8.8nm,0.8s
SRU San Rafael Swe 81.57 49 *e*P **P 20 20 16.6 +1.1**
SRU pmax pmax
comp=Z,9.0nm,0.8s
BUR04 Bucovina Ar. S 81.58 322 *e*P **P 20 20 15.1 -0.1**
BR101 Keskin Array S 81.72 312 *e*P **P 20 20 16.5 +0.4**
BR131 Keskin Array S 81.72 312 *e*P **P 20 20 16.3 +0.2**
BRTR Keskin Array B 81.72 312 P **P 20 20 16.5 +0.4**
comp=Z,3.6nm,0.8s,baz=105,slow=3.6,SNR=22
BRTR LR LR 21 01 55.8
comp=Z,98nm,18.1s,baz=64,slow=40
RAYN Ar Rayn 82.53 293 *e*P **P 20 20 20.6 0.0**
comp=Z,9.5nm,1.0s
RAYN Ar Rayn 82.53 293 *e*P **P 20 20 20.6 0.0**
RAYN pmax pmax
comp=Z,10.0nm,1.0s
PPT Papeete 82.54 117 LR LR 20 57 12.7
comp=Z,179nm,18.9s,baz=330,slow=36
PPT2 Papeete2 82.55 117 *e*LR LR 20 45 43.1
comp=Z,293nm,31.8s
PV09 Paradox Valley 82.81 48 *e*P **P 20 20 24.4 +2.3**
PV21 Cone Mtn., Par 82.87 48 *e*P **P 20 20 24.5 +2.1**
PV23 Carpenter Ridg 82.92 48 *e*P **P 20 20 24.8 +2.2**
PV14 Lion Creek, Pa 82.96 48 *e*P **P 20 20 24.7 +1.9**
PV20 West Nyswonger 83.01 48 *e*P **P 20 20 25.6 +2.6**
PV19 Morning Glory 83.02 49 *e*P **P 20 20 25.0 +2.0**
PV17 East Wray Mesa 83.05 49 *e*P **P 20 20 25.7 +2.5**
PV16 Nyswonger Mesa 83.06 48 *e*P **P 20 20 25.8 +2.5**
comp=Z,8.2nm,0.7s
PV05 Paradox Valley 83.08 49 *e*P **P 20 20 25.9 +2.5**
PV11 David Mesa, Pa 83.09 48 *e*P **P 20 20 26.3 +2.8**
PV12 Saucer Basin, 83.13 48 *e*P **P 20 20 25.8 +2.2**
comp=Z,57nm,1.8s
PV03 Paradox Valley 83.14 48 *e*P **P 20 20 25.8 +2.1**
PV13 Radium Mtn., P 83.21 49 *e*P **P 20 20 26.4 +2.4**
PV02 Paradox Valley 83.23 48 *e*P **P 20 20 26.7 +2.5**
KECS Kecovo 83.33 325 *e*P **P 20 20 23.6 -0.6**
KECS Kecovo 83.33 325 *e*P **P 20 20 23.5 -0.6**
LANS Liptovska Anna 83.35 326 *e*P **P 20 20 26.3 +2.0**
LANS Liptovska Anna 83.35 326 *e*P **P 20 20 26.3 +2.0**
PV01 Paradox Valley 83.38 48 *e*P **P 20 20 26.9 +1.9**
VYHS Vyhne 84.11 326 *e*P **P 20 20 29.1 +0.9**
VYHS pmax pmax
comp=Z,35nm,2.7s
VYHS Vyhne 84.11 326 *e*P **P 20 20 29.1 +0.9**
BRG Berggiesshubel 84.55 330 *e*P **P 20 20 30.0 -0.3**
comp=Z,3.6nm,0.8s
BRG Berggiesshubel 84.55 330 *e*P **P 20 20 30.0 -0.3**
BRG pmax pmax
comp=Z,4.0nm,0.8s
VRAC Vranov 84.55 328 LR LR 21 01 36.2
comp=Z,138nm,18.2s,baz=30,slow=38
CLL Collm 84.61 331 *e*P **P 20 20 30.6 -0.1**
comp=Z,6.9nm,0.8s
CLL Collm 84.61 331 *i* P **P 20 20 30.3 -0.3**
comp=Z,6.0nm,0.7s
CLL *e*PcP **PcP 20 20 34.0 -0.1**
CLL *e*pP **pP 20 20 41.0 -0.4**
CLL Collm 84.61 331 *e*P **P 20 20 30.6 -0.1**
CLL pmax pmax
comp=Z,7.0nm,0.8s
CSS Mathiatis 84.76 309 *e*P **P 20 20 31.6 -0.1**
comp=Z,9.2nm,0.9s
TAOE Nuku Hiva Isla 84.82 104 *e*LR LR 20 47 20.6
comp=Z,286nm,21.2s
GERES GERESS Array B 86.17 329 P **P 20 20 38.2 -0.4**
comp=Z,0.8nm,0.7s,baz=35,slow=4.9,SNR=6.5
GERES LR LR 21 02 41.1
comp=Z,179nm,18.7s,baz=38,slow=38
TBI Tubuai 86.19 121 *e*LR LR 20 47 50.6
comp=Z,234nm,21.2s
ANMO Albuquerque 86.68 50 ⇓*e*P **P 20 20 44.6 +3.1**
ANMO pmax pmax
comp=Z,2.0nm,1.3s
LTX Lajitas 92.07 53 *e*P **P 20 21 08.0 +1.2**
LTX Lajitas 92.07 53 *e*P **P 20 21 08.0 +1.2**
TXAR Lajitas Array 92.07 53 P **P 20 21 08.0 +1.2**
comp=Z,1.0nm,0.9s,baz=299,slow=5.2,SNR=5.9
KEST Kesra 98.31 323 LR LR 21 10 03.0
comp=Z,114nm,19.1s,baz=295,slow=38
LPAZ La Paz 148.04 65 PKPbc **PKPbc 20 27 44.3 +0.2**
comp=Z,3.1nm,0.7s,baz=319,slow=3.0,SNR=9.6

*ISK **26** 20:09:33.2, 38.87N×43.53E, h12km, ML2.0/3*
*ISCJB **26** 20:09:34.1±0.8, 38.88N±0.03×43.56E±0.07, h13km±6km, Error ellipse: s-maj=9.9km s-min=5.5km az=11.6*
*DDA **26** 20:09:34.2, 38.88N×43.53E, h7km, Ml2.6*
ISC 26 20:09:33.8±1.0, **38.88N**±0.04×**43.54E**±0.04, **h14**km±7km, **n9, σ0§54/16, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.11**	**14**	*i* P	**Pg**	**20 09 36.6**	**-0.6**
VMUR				*i* S	**Sg**	**20 09 40.1**	**+0.6**
VANB	**Van**	**0.31**	**202**	PG	**Pb**	**20 09 41.1**	**-0.1**
TVAN	**Van**	**0.37**	**196**	*i* P	**Pg**	**20 09 41.0**	**-0.4**
TVAN				*i* S	**Sb**	**20 09 48.4**	**+0.4**
CLDR	**Caldiran**	**0.39**	**49**	PG	**Pg**	**20 09 41.6**	**-0.2**
CLDR				SG	**Sg**	**20 09 48.1**	**+0.9**
CLDR	**Caldiran**	**0.39**	**49**	*i* P	**Pg**	**20 09 41.7**	**-0.1**
CLDR				*i* S	**Sb**	**20 09 48.5**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.64**	**263**	*i* P	**Pg**	**20 09 46.3**	**-0.1**
ADCV				*i* S	**Sb**	**20 09 56.4**	**+0.7**
TUTA	**Tutak**	**0.76**	**313**	*i* P	**Pg**	**20 09 48.4**	**-0.3**
TUTA				*i* S	**Sn**	**20 10 01.2**	**-0.7**
AGRB	**Hanur-Agry**	**0.81**	**329**	PG	**Pg**	**20 09 49.3**	**-0.2**
AGRB				SG	**Sb**	**20 10 01.3**	**+0.6**
GURO	**Guroymak-BITLI**	**1.22**	**255**	PN	**Pb**	**20 09 56.5**	**-0.3**

*DDA **26** 20:34:01.7, 39.65N×35.56E, h16km, Ml2.9*
*ISK **26** 20:34:01.5, 39.71N×35.60E, h5km, ML2.5/11*
ISC 26 20:34:02.2±0.9, **39.66N**±0.03×**35.56E**±0.02, **h14**km±7km, **n26, σ0§92/43, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOZ	**Yozgat**	**0.19**	**263**	PG	**Pg**	**20 34 06.7**	**0.0**
YOZ				SG	**Sg**	**20 34 10.2**	**+0.5**
CUSAR	**Sarkisla-SIVAS**	**0.58**	**115**	*i* P	**Pg**	**20 34 13.2**	**-0.5**
CUSAR				*i* S	**Sb**	**20 34 21.7**	**-0.7**
COAL	**Corum-Alaca**	**0.74**	**323**	*i* P	**Pg**	**20 34 16.1**	**-0.5**
COAL				*i* S	**Sb**	**20 34 27.8**	**+1.0**
BNN	**Bunyan**	**0.84**	**165**	PG	**Pb**	**20 34 18.8**	**+0.2**
CORM	**Corum**	**0.88**	**306**	PG	**Pg**	**20 34 17.9**	**-1.4**
CORM				SG	**Sb**	**20 34 31.5**	**+0.5**
CDAG	**Cicekdag**	**0.92**	**268**	*i* P	**Pg**	**20 34 19.4**	**-0.6**
CDAG				*i* S	**Sg**	**20 34 31.8**	**-0.2**
TOKA	**Tokat**	**0.96**	**47**	*i* P	**Pb**	**20 34 20.1**	**-0.6**
TOKA				*i* S	**Sn**	**20 34 33.6**	**-1.2**
TOKT	**Tokat**	**1.00**	**49**	PG	**Pg**	**20 34 20.1**	**-1.4**
CUALT	**Altinyayla-SIV**	**1.01**	**112**	*i* P	**Pb**	**20 34 21.1**	**-0.4**
CUALT				*i* S	**Sn**	**20 34 35.9**	**-0.1**
AVNS	**Nevsehir-Avano**	**1.02**	**213**	*i* P	**Pg**	**20 34 20.8**	**-1.1**
AVNS				*i* S	**Sb**	**20 34 35.9**	**+1.0**
SVSK	**Karacayir**	**1.14**	**77**	PN	**Pb**	**20 34 22.8**	**-0.8**
SVSK				SN	**Sn**	**20 34 38.3**	**-0.7**
CTAK	**Corum_Osmancik**	**1.15**	**329**	*i* P	**Pn**	**20 34 24.5**	**+0.5**
CTAK				*i* S	**Sn**	**20 34 40.8**	**+1.3**
SCER	**sogukcermik**	**1.23**	**80**	*i* P	**Pb**	**20 34 24.3**	**-0.9**
SCER				*i* S	**Sn**	**20 34 41.5**	**+0.1**
ERBA	**Erbaa**	**1.37**	**42**	*i* P	**Pg**	**20 34 27.6**	**-0.9**
ERBA				*i* S	**Sg**	**20 34 47.0**	**+0.7**
HAVZ	**Havza**	**1.41**	**5**	*i* P	**Pg**	**20 34 29.8**	**+0.5**
HAVZ				*i* S	**Sg**	**20 34 49.1**	**+1.3**
CUKAN	**kangal_SIVAS**	**1.52**	**103**	*i* P	**Pb**	**20 34 29.8**	**-0.4**
CUKAN				*i* S	**Sg**	**20 34 52.2**	**+1.1**
SERE	**Sereflikochisa**	**1.71**	**246**	PN	**Pb**	**20 34 33.3**	**-0.1**
ELDT	**Eldivan**	**1.83**	**297**	*i* P	**Pb**	**20 34 35.0**	**-0.6**
ELDT				*i* S	**Sg**	**20 35 00.2**	**-1.0**
BBAL	**Bala**	**1.89**	**267**	*i* P	**Pb**	**20 34 35.4**	**-1.0**
BBAL				*i* S	**Sg**	**20 35 02.6**	**-0.3**
AFSR	**Afˇar-Bala (A**	**1.94**	**264**	PN	**Pb**	**20 34 36.4**	**-0.9**
DIKM	**Dikmen**	**2.00**	**353**	PN	**Pn**	**20 34 36.3**	**+0.8**
KULU	**Kulu**	**2.08**	**253**	PN	**Pb**	**20 34 38.6**	**-1.1**
KKUL	**Konya-Kulu**	**2.10**	**257**	*i* P	**Pb**	**20 34 39.5**	**-0.6**
KKUL				*i* S	**Sg**	**20 35 09.3**	**-0.6**
ANTO	**Ankara**	**2.14**	**276**	PN	**Pb**	**20 34 39.3**	**-1.5**
SULT	**Sultanhani-AKS**	**2.16**	**228**	PN	**Pb**	**20 34 40.0**	**-1.2**
KIZT	**Kizilcal**	**2.96**	**256**	PN	**Pn**	**20 34 50.9**	**+2.0**

IDC 26 20:53:02.7±1.8, **47.66N×155.30E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.3/53, mbtmp3.5/4, ML2.9/2, Error ellipse: s-maj=65.0km s-min=33.5km az=114.0, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**5.67**	**15**	Pn	Pn	20 54 28.0	-0.1
	0.6nm,0.3s,baz=185,slow=12,SNR=11						
PETK				Sn	Sn	20 55 40.8	+6.9
	0.3nm,0.3s,baz=161,slow=14,SNR=2.6						
ASAJ	**Asahikawa**	**9.54**	**253**	Pn	Pn	20 55 21.3	+0.1
	0.2nm,0.3s,baz=65,slow=14,SNR=2.6						
WRA	**Warramunga Arr**	**69.88**	**201**	P	P	21 04 15.4	+0.2
	0.3nm,0.6s,baz=18,slow=6.6,SNR=5.1						
ASAR	**Alice Springs**	**73.56**	**200**	P	P	21 04 37.2	-0.1
	0.3nm,0.8s,baz=12,slow=5.7,SNR=4.1						

*IDC **26** 20:58:30.3±4.7, 36.16N×70.34E, h172km±42km, mb3.3/6, mb1 3.3/11, mb1mx3.0/46, mbtmp3.8/11, MS2.7/1, Ms1 2.7/1, ms1mx2.2/32, Error ellipse: s-maj=31.3km s-min=22.8km az=19.0*
*ISCJB **26** 20:58:34.6±0.6, 36.55N±0.04×70.42E±0.09, h213km, mb3.4/5, Error ellipse: s-maj=10.2km s-min=4.8km az=166.8*
*NNC **26** 20:58:36.7±3.7, 36.97N×70.16E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=30.7km s-min=23.7km az=156.0*
ISC 26 20:58:36.4±1.0, **36.59N**±0.07×**70.6E**±0.1, **h213**km, **n36, σ1§23/40, mb3.6/5, 7C-4D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.13**	**33**	⇑P	**Pn**	**20 59 40.5**	**+0.1**
	4.9nm,0.4s						
SFK				⇓S	**S**	**21 00 29.8**	**-0.8**
	56nm,0.4s						
AML	**Almayashu**	**6.04**	**23**	P	**Pn**	**21 00 04.5**	**-0.1**
	SNR=80						
MNAS	**Manas**	**6.08**	**14**	⇓P	**Pn**	**21 00 04.8**	**-0.1**
	3.6nm,0.3s						
MNAS				⇑S	**S**	**21 01 12.5**	**-2.5**
	72nm,0.6s						
UCH	**Uchtor**	**6.41**	**27**	P	**Pn**	**21 00 09.7**	**+0.3**
	SNR=36						
KK31	**Karatay Array**	**6.50**	**360**	⇑P	**Pn**	**21 00 09.0**	**-1.2**
	1.0nm,0.2s,baz=174,slow=13						
KK31				⇑S	**S**	**21 01 20.8**	**-4.0**
	32nm,0.7s,baz=182,slow=23						
EKS2	**Erkin-Say**	**6.55**	**21**	P	**Pn**	**21 00 11.3**	**+0.3**
	SNR=9.1						
KZA	**Kyzart**	**6.58**	**32**	P	**Pn**	**21 00 11.3**	**-0.3**
	SNR=5.2						
AAK	**Ala-Archa**	**6.76**	**26**	P	**Pn**	**21 00 13.8**	**+0.2**
	2.3nm,0.3s,baz=170,slow=6.6,SNR=49						
AAK				S	**S**	**21 01 29.6**	**-1.4**
	1.9nm,0.3s,baz=320,slow=20,SNR=32						
AAK	**Ala-Archa**	**6.76**	**26**	⇑P	**Pn**	**21 00 13.9**	**+0.2**
	5.1nm,0.6s						
AAK				⇑S	**S**	**21 01 29.2**	**-1.8**
	40nm,0.6s						
AAK	**Ala-Archa**	**6.76**	**26**	P	**Pn**	**21 00 14.2**	**+0.5**
	SNR=11						
KBK	**Karagaybulak**	**6.94**	**28**	P	**Pn**	**21 00 16.8**	**+0.8**
	SNR=6.5						
CHMS	**Chumysh**	**7.17**	**26**	P	**Pn**	**21 00 19.3**	**+0.5**
	SNR=6.0						
TKM2	**Tokmak 2**	**7.42**	**30**	⇑P	**Pn**	**21 00 22.4**	**+0.2**
	10nm,0.5s						
TKM2				⇓S	**S**	**21 01 48.7**	**+2.1**
	12nm,0.8s						
TKM2	**Tokmak 2**	**7.42**	**30**	P	**Pn**	**21 00 22.6**	**+0.4**
	SNR=25						
MKAR	**Makanchi Array**	**13.43**	**37**	P	**P**	**21 01 40.3**	**-0.6**
	0.6nm,0.3s,baz=214,slow=14,SNR=27						
PYUN	**Piuthan**	**13.49**	**125**	*e*P	**Pn**	**21 01 37.9**	**-1.9**
DANN	**Dangsing**	**13.84**	**123**	*e*P	**Pn**	**21 01 44.1**	**-0.1**
KOLN	**Koldanda**	**14.11**	**125**	*e*P	**Pn**	**21 01 45.9**	**-1.5**
AB31	**Akbulak array**	**14.83**	**332**	⇓P	**P**	**21 01 58.9**	**+2.6**
	1.4nm,0.6s						
KURBB	**Kurchatov Arra**	**15.16**	**20**	P	**P**	**21 01 59.7**	**-0.3**
	0.0nm,0.3s,baz=208,slow=10,SNR=5.4						
DMN	**Daman**	**15.23**	**122**	*e*P	**Pn**	**21 02 01.3**	**+0.2**
	5.0nm,0.4s						
KKN	**Kakani**	**15.23**	**121**	*e*P	**P**	**21 02 01.5**	**+0.2**
	9.9nm,0.4s						
PKIN	**Phulchoki**	**15.45**	**121**	*e*P	**Pn**	**21 02 04.1**	**+0.3**
PKI	**Pulchoki**	**15.46**	**121**	*e*P	**Pn**	**21 02 04.4**	**+0.4**
	15nm,0.6s						
GUN	**Gumba**	**15.58**	**119**	*e*P	**Pn**	**21 02 05.8**	**+0.4**
	5.0nm,0.3s						
JIRN	**Jiri**	**15.95**	**120**	*e*P	**P**	**21 02 09.6**	**+0.3**
	30nm,0.6s						
BVAR	**Borovoye Array**	**16.43**	**360**	P	**Pn**	**21 02 15.1**	**+0.1**
	0.3nm,0.3s,baz=156,slow=9.7,SNR=5.9						
AKTO	**Aktyubinsk**	**16.52**	**331**	P	**P**	**21 02 15.0**	**0.0**
	0.3nm,0.3s,baz=140,slow=11,SNR=12						
RAMN	**Ramite**	**16.67**	**121**	*e*P	**P**	**21 02 17.2**	**0.0**
	6.9nm,0.4s						
ZALV	**Zalesovo Beam**	**19.98**	**25**	P	**P**	**21 02 53.8**	**+1.4**
	2.0nm,0.3s,baz=219,slow=11,SNR=20						
OBN	**Obninsk**	**29.63**	**320**	LR	LR	21 18 48.9	
	comp=Z,15nm,19.1s,baz=218,slow=41						
FINES	**FINESS Array B**	**37.20**	**326**	P	**P**	**21 05 27.5**	**+0.6**
	2.1nm,0.8s,baz=142,slow=7.9,SNR=3.8						
ARCES	**ARCESS Array B**	**40.92**	**338**	P	**P**	**21 05 58.1**	**+0.6**
	1.5nm,0.6s,baz=99,slow=7.5,SNR=8.2						
TIXI	**Tiksi**	**45.83**	**22**	P	**P**	**21 06 37.9**	**+1.4**
	1.8nm,0.4s,baz=312,slow=2.0,SNR=4.3						
TORD	**Torodi Ar. Bea**	**65.36**	**268**	P	P	21 08 53.0	-3.2
	0.1nm,0.4s,baz=70,slow=6.6,SNR=4.0						
WRA	**Warramunga Arr**	**82.35**	**122**	P	**P**	**21 10 32.8**	**-1.7**
	0.3nm,0.9s,baz=323,slow=5.3,SNR=3.7						

*IDC **26** 21:11:57.5±0.9, 36.11N×141.25E, h0km, mb3.5/6, mb1 3.8/8, mb1mx3.5/40, mbtmp3.5/8, ML3.4/2, MS2.6/1, Ms1 2.6/1, ms1mx2.2/34, Error ellipse: s-maj=29.3km s-min=21.8km az=103.0*
*NIED **26** 21:12:00, 36.20N×141.10E, h38km, Mw3.7 Best double couple: M0 4.40000×10^14 NP1:φs=329.00000°, δ17.00000°, λ-111.00000°. NP2:φs=171.00000°, δ74.00000°, λ-84.00000°.*
*ISCJB **26** 21:12:02.1±0.7, 36.17N±0.04×141.09E±0.08, h46km±6km, mb3.5/6, Error ellipse: s-maj=10.5km s-min=7.0km az=171.6*
*JMA **26** 21:12:03.1±0.1, 36.16N×141.01E, h44km±2km, M3.6*
JMA Felt I J1.
ISC 26 21:12:01.7±1.6, **36.17N**±0.04×**141.07E**±0.06, **h28**km±11km, **n25, σ1§48/26, mb3.6/6, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHYU	**Hitachinakayam**	**0.43**	**294**	P	**Pn**	**21 12 12.7**	**+0.7**
JHYU				S	**Sn**	**21 12 19.3**	**+0.4**
JIHU	**Itakohorinouch**	**0.48**	**245**	P	**Pn**	**21 12 13.9**	**+1.1**
CHOJ	**Chosi**	**0.50**	**200**	P	**Pn**	**21 12 13.6**	**+0.6**
CHOJ				S	**Sn**	**21 12 20.8**	**+0.2**
JHO	**Hitachi**	**0.60**	**318**	P	**Pn**	**21 12 14.6**	**+0.2**
JHO				S	**Sb**	**21 12 22.6**	**+0.8**
JYT	**Yasato**	**0.71**	**275**	P	**Pn**	**21 12 16.2**	**+0.3**
JYT				S	**Sb**	**21 12 25.2**	**+0.3**
JSMT	**Sammumatsuo**	**0.73**	**224**	P	**Pn**	**21 12 17.0**	**+0.8**
JFK	**Kawauchi**	**1.21**	**353**	P	**Pb**	**21 12 23.0**	**-0.9**
JAG	**Ashikaga**	**1.33**	**282**	P	**Pb**	**21 12 25.1**	**-0.9**
JAG				S	**Sn**	**21 12 40.6**	**-0.7**
JFT	**Otama**	**1.47**	**337**	P	**Pb**	**21 12 28.3**	**-0.1**
JFT				*e*S	**Sn**	**21 12 45.9**	**+1.2**
MJAR	**Matsushiro Arr**	**2.34**	**280**	Pn	**Pn**	**21 12 39.9**	**+1.5**
	9.5nm,0.3s,baz=68,slow=31,SNR=35						
MJAR				Sn	**Sn**	**21 13 07.9**	**+1.7**
	13nm,0.3s,baz=43,slow=30,SNR=9.3						
MJAR				LR	LR	21 13 57.9	
	comp=Z,113nm,18.0s,baz=165,slow=49						
MAT	**Matsushiro**	**2.34**	**280**	P	**Pn**	**21 12 40.2**	**+1.8**
MAT				*e*S	**Sn**	**21 13 01.0**	**-5.2**
ASAJ	**Asahikawa**	**8.02**	**8**	Pn	**Pn**	**21 13 56.8**	**+0.4**
	0.5nm,0.3s,baz=221,slow=9.3,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**27.96**	**119**	T	T	21 47 08.7	
	baz=312,slow=75						
H11N1	**WAKE ISLAND Hy**	**27.97**	**119**	T	T	21 47 10.3	
	baz=312,slow=75						
H11N3	**WAKE ISLAND Hy**	**27.98**	**119**	T	T	21 47 06.3	
	baz=312,slow=75						
H11S1	**WAKE ISLAND Hy**	**28.64**	**121**	T	T	21 47 53.7	
	baz=315,slow=75						
H11S3	**WAKE ISLAND Hy**	**28.64**	**121**	T	T	21 47 57.3	
	baz=315,slow=75						
H11S2	**WAKE ISLAND Hy**	**28.65**	**121**	T	T	21 47 56.1	
	baz=315,slow=75						
KURBB	**Kurchatov Arra**	**46.32**	**309**	P	**P**	**21 20 25.2**	**+0.3**
	0.6nm,0.5s,baz=81,slow=7.4,SNR=2.7						
ILAR	**Eielson Array**	**50.37**	**32**	P	**P**	**21 20 54.3**	**-1.7**
	0.7nm,0.9s,baz=264,slow=6.4,SNR=5.2						
WRA	**Warramunga Arr**	**56.17**	**188**	P	**P**	**21 21 38.5**	**-0.5**
	0.3nm,0.5s,baz=5.4,slow=7.3,SNR=8.8						
ASAR	**Alice Springs**	**59.90**	**188**	P	**P**	**21 22 05.0**	**-0.2**
	0.1nm,0.3s,baz=11,slow=12,SNR=3.6						
NB2	**NORSAR Subarra**	**74.88**	**337**	P	P	21 23 51.9	+12
	comp=Z,0.5nm,0.6s,baz=40,slow=5.9						
NOA	**NORSAR Array B**	**74.88**	**337**	P	**P**	**21 23 40.0**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=39,slow=5.8,SNR=2.4						
PDAR	**Pinedale Array**	**78.47**	**45**	P	**P**	**21 24 01.5**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=298,slow=4.0,SNR=2.7						

*IDC **26** 21:13:39.7±0.7, 38.97N×49.17E, h0km, mb4.0/17, mb1 4.1/24, mb1mx4.0/51, mbtmp4.0/24, ML3.6/7, MS2.9/2, Ms1 2.9/2, ms1mx2.5/45, Error ellipse: s-maj=14.9km s-min=9.2km az=15.0*
*MOS **26** 21:13:40.7±1.3, 38.89N×49.31E, h18km, mb4.3/24, Error ellipse: s-maj=6.1km s-min=3.6km az=123.8*
*AZER **26** 21:13:41.9±0.0, 38.99N×49.03E, h9km, ml4.0/31, Error ellipse: s-maj=1.4km s-min=0.6km az=285.0*
*NEIC **26** 21:13:42.0±0.5, 38.99N×49.33E, h10km, mb4.1/13, Error ellipse: s-maj=10.5km s-min=5.8km az=6.0*
*THR **26** 21:13:43.0±0.4, 38.86N×49.11E, h27km±5km, ML3.8*
*ISCJB **26** 21:13:43.0±0.3, 38.84N±0.02×49.25E±0.02, h40km±3km, mb4.1/39, MS3.2/1, Error ellipse: s-maj=3.3km s-min=2.9km az=16.7*
*NNC **26** 21:13:47.9±2.7, 39.49N×49.91E, h0km, mb4.2, mpv4.3, Error ellipse: s-maj=34.3km s-min=16.5km az=52.0*
ISC 26 21:13:43.5±1.0, **38.97N**±0.02×**49.18E**±0.03, **h25**km±7km, **n222, σ1§93/252, mb4.2/39, 55C-54D, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKRN	**Lenkeran, Azer**	**0.41**	**230**	PG	**Pb**	**21 13 51.1**	**-1.0**
LKRN	**Lenkeran, Azer**	**0.41**	**230**	⇓P	**Pb**	**21 13 51.2**	**-1.0**
	SNR=2008						
LKRN				⇓S	**Sb**	**21 13 58.4**	**+0.3**
ASTR	**Astara**	**0.51**	**216**	⇑P	**Pb**	**21 13 53.0**	**-0.9**
	SNR=2846						
ASTR				⇓S	**Sb**	**21 14 01.8**	**+0.9**
GLBA	**Clilabad**	**0.67**	**294**	⇑P	**Pb**	**21 13 54.9**	**-1.6**
	SNR=1207						
GLBA				⇓S	**Sb**	**21 14 04.5**	**-0.9**
LRK	**Lerik**	**0.73**	**243**	⇓P	**Pb**	**21 13 56.3**	**-1.5**
	SNR=3057						
LRK				⇓S	**Sb**	**21 14 07.3**	**-0.2**
ALIB	**Äli-Bayra**	**0.99**	**352**	⇑P	**Pn**	**21 14 03.9**	**+2.1**
	SNR=99						
ALIB				⇑S	**Sn**	**21 14 16.9**	**+1.9**
GRMI	**Germi**	**1.02**	**261**	*e*Pg	**Pb**	**21 14 00.7**	**-1.7**
GRMI				*e*Sg	**Sb**	**21 14 13.9**	**-1.6**
GRMI				IAML		21 14 17.0	
	comp=N,3µm,0.2s						
GRMI				IAML		21 14 17.0	
	comp=E,3µm,0.3s						
SAAT	**Saatly**	**1.06**	**327**	⇑P	**Pb**	**21 14 03.5**	**+0.3**
	SNR=18						
SAAT				⇓S	**Sn**	**21 14 20.2**	**+3.4**
GOBA	**Gobu**	**1.49**	**17**	⇑Pn	**Pb**	**21 14 11.3**	**+0.8**
	SNR=4.3						
GOBA				⇑Sn	**Sb**	**21 14 30.6**	**+1.7**
GBS	**Qobustan**	**1.57**	**353**	⇑Pn	**Pb**	**21 14 11.5**	**-0.4**
GBS				⇓Sn	**Sb**	**21 14 32.9**	**+1.6**
KDMR	**Kurdemir**	**1.60**	**332**	⇓Pn	**Pn**	**21 14 10.7**	**+0.5**
	SNR=16						
KDMR				⇑Sn	**Sb**	**21 14 33.1**	**+1.0**
GALA	**Gala**	**1.62**	**27**	⇓Sn	**Sb**	**21 14 35.5**	**+2.8**
NDR	**Nardaran**	**1.72**	**21**	⇓Sg	**Sb**	**21 14 38.8**	**+3.2**
ZRD	**Zardab**	**1.74**	**319**	⇓Pn	**Pn**	**21 14 12.7**	**+0.6**
	SNR=13						
ZRD				⇓Sg	**Sb**	**21 14 37.2**	**+1.0**
PQL	**Pirkuli**	**1.87**	**346**	⇑Pn	**Pn**	**21 14 14.9**	**+0.9**
	SNR=122						
PQL				⇓Sn	**Sb**	**21 14 41.2**	**+1.2**
ATGJ	**Altiaghaj**	**1.89**	**354**	⇑Pn	**Pn**	**21 14 15.4**	**+1.1**
	SNR=21						
ATGJ				⇓Sn	**Sb**	**21 14 44.8**	**+4.1**
IML	**Ismayilli**	**1.97**	**337**	⇓Pn	**Pn**	**21 14 15.6**	**+0.2**
	SNR=61						
IML				⇓Sn	**Sb**	**21 14 43.7**	**+0.8**
BRDA	**Brd**	**2.01**	**310**	⇑Pn	**Pn**	**21 14 16.8**	**+1.0**
BRDA				⇑Sg	**Sn**	**21 14 43.4**	**-0.5**
SIZA	**Siyzn**	**2.11**	**354**	⇓Pn	**Pn**	**21 14 18.3**	**+1.1**
SIZA				⇑Sn	**Sb**	**21 14 46.5**	**-0.5**
QBL	**Gabala**	**2.22**	**333**	⇓Pn	**Pn**	**21 14 19.1**	**+0.3**
QBL				⇑Sn	**Sb**	**21 14 48.0**	**-2.1**
ZNJK	**Zanjan**	**2.33**	**190**	*e*Pn	**Pn**	**21 14 20.2**	**-0.3**
XNQ	**Khinaliq**	**2.34**	**340**	⇓Pn	**Pn**	**21 14 20.4**	**-0.1**
XNQ				⇓Sn	**Sb**	**21 14 51.8**	**-1.7**
MNGR	**Mingechevir, A**	**2.41**	**319**	PN	**Pn**	**21 14 21.5**	**+0.2**
MNGR	**Mingechevir, A**	**2.41**	**319**	⇓Pn	**Pn**	**21 14 22.0**	**+0.7**
MNGR			

GROC smax smax
comp=N,96nm,1.0s
AKH Akhalkalaki 4.99 301 *e*Pn **Pn 21 15 01.5 +4.6**
AKH Akhalkalaki 4.99 301 ⇓*i*P **Pn 21 15 01.3 +4.4**
AKH Akhalkalaki 4.99 301 *e*PN **Pn 21 15 01.5 +4.6**
GUDG Gudauri 4.99 316 P **Pn 21 14 58.5 +1.5**
VLKR Vladikavkaz 5.30 322 ⇓*i*P Pn 21 15 06.5 +5.4
LACR Lac 5.34 318 *d*iP **Pn 21 15 03.0 +1.3**
ZEI Tsey 5.52 315 *e*P **Pn 21 15 04.5 +0.2**
ZEI pmax pmax
comp=Z,43nm,0.5s
ARNR Ardon 5.60 320 ⇓*e*P **Pn 21 15 08.2 +3.1**
KORR Kora 5.64 318 ⇑*e*P **Pn 21 15 08.9 +3.2**
ONI Oni 5.65 312 P **Pn 21 15 07.5 +1.6**
LSNR Lesken 5.90 318 ⇑*e*P Pn 21 15 14.0 +4.7
NCK Nalchik 6.17 319 ⇓*e*P **Pn 21 15 16.2 +3.2**
NEY Neytrino 6.48 313 *ce*P **Pn 21 15 21.4 +4.0**
KBZ Khabaz 6.70 317 Pn **Pn 21 15 23.5 +3.3**
comp=Z,0.5nm,0.3s,baz=136,slow=11,SNR=20
KVAR Kislovodsk Arr 6.96 318 Pn **Pn 21 15 27.5 +3.5**
baz=20,slow=9.5,SNR=5.0
KVAR Sn **Sn 21 16 43.5 +1.2**
baz=45,slow=10.0,SNR=2.2
KIV Kislovodsk 6.96 318 *e*Pn **Pn 21 15 25.0 +1.0**
KIV Kislovodsk 6.96 318 *e*P **Pn 21 15 27.3 +3.3**
KIV pmax pmax
comp=Z,8.0nm,1.1s
GEYT Alibeck 7.09 96 Pn **Pn 21 15 24.6 -1.1**
comp=Z,1.0nm,0.3s,baz=63,slow=12,SNR=15
GEYT Sn **Sn 21 16 43.8 -1.7**
comp=Z,2.0nm,0.3s,baz=86,slow=21,SNR=4.6
GYA0B ALIBECK ARRAY 7.09 96 ⇓Pn **Pn 21 15 24.5 -1.2**
comp=Z,16nm,0.7s
GYA0B ⇑Sn **Sn 21 16 44.3 -1.3**
comp=Z,45nm,0.8s
GYA0B ALIBECK ARRAY 7.09 96 *e*Pn **Pn 21 15 24.9 -0.8**
GOF Gofitskoye 7.60 325 *ce*P Pn 21 15 37.5 +4.9
BRTR Keskin Array B 12.06 278 Pn **Pn 21 16 36.7 +2.9**
comp=Z,0.0nm,0.3s,baz=101,slow=12,SNR=3.2
MMAI Mount Meron Ar 12.63 246 LR LR 21 21 11.5
comp=Z,25nm,18.3s,baz=35,slow=36
AB31 Akbulak array 12.85 33 ⇑Pn **Pn 21 16 40.5 -3.9**
comp=Z,1.9nm,0.5s,baz=211,slow=13
AB31 ⇑Sn **Sn 21 18 59.1 -7.4**
comp=Z,2.7nm,0.5s,baz=218,slow=22
AB31 Akbulak array 12.85 33 P **Pn 21 16 40.5 -3.9**
AB31 pmax pmax
comp=Z,2.0nm,0.5s
ABKAR Akbulak array 12.85 33 *e*Pn **Pn 21 16 40.8 -3.6**
AKTO Aktyubinsk 13.06 26 Pn **Pn 21 16 44.8 -2.5**
comp=Z,1.3nm,0.3s,baz=218,slow=10,SNR=12
AKTO Sn Sn 21 19 01.8 -10
comp=Z,0.9nm,0.3s,baz=1.4,slow=18,SNR=4.4
AKTO Aktyubinsk 13.06 26 ⇑Pn **Pn 21 16 44.7 -2.6**
comp=Z,4.8nm,0.6s
AKTO ⇑Sn **Sn 21 19 03.0 -8.6**
comp=Z,5.8nm,0.5s
VRH Novokhopyorsk 13.30 339 *e*P **Pn 21 16 53.8 +3.2**
VRH pmax pmax
comp=Z,10.0nm,0.6s
VORD Divnogorie 13.87 333 *e*P **Pn 21 16 59.8 +1.6**
VORD pmax pmax
comp=Z,3.0nm,0.7s
VSR Storozhevoye 14.12 333 *e*P **Pn 21 17 04.8 +3.1**
VSR pmax pmax
comp=Z,4.0nm,0.4s
LPSR Galich'ya Gora 15.37 336 *e*P **Pn 21 17 20.5 +2.0**
LPSR pmax pmax
comp=Z,20nm,0.7s
RAYN Ar Rayn 15.72 193 *e*Pn **Pn 21 17 21.4 -1.9**
comp=Z,1.4nm,0.8s
RAYN Ar Rayn 15.72 193 *e*P **Pn 21 17 21.4 -1.9**
RAYN pmax pmax
comp=Z,1.0nm,0.8s
TLCR 16.32 299 ⇑*i*P **P 21 17 33.9 +0.3**
KBL Kabul 16.52 99 *e*Pn **Pn 21 17 34.2 +0.6**
comp=Z,7.6nm,0.5s
KBL Kabul 16.52 99 P **Pn 21 17 34.1 +0.5**
KBL pmax pmax
comp=Z,10.0nm,0.6s
KK31 Karatay Array 16.61 69 ⇑P **Pn 21 17 32.0 -2.5**
comp=Z,4.7nm,0.6s
KK31 Karatay Array 16.61 69 *e*Pn **Pn 21 17 33.2 -1.2**
KK31 Karatay Array 16.61 69 *e*P **Pn 21 17 33.3 -1.2**
KKAR Karatay Array 16.61 69 *e*Pn **Pn 21 17 33.2 -1.2**
KKAR Karatay Array 16.61 69 *e*P **Pn 21 17 33.3 -1.2**
TLB Topalu 16.72 296 ⇑*i*P **P 21 17 38.7 +0.7**
CFR Carcaliu 16.79 298 ⇓*i*P **P 21 17 39.2 +0.5**
CFR Carcaliu 16.79 298 P **P 21 17 39.3 +0.5**
CFR pmax pmax
comp=Z,10.0nm,1.6s
HARR Harsova 16.82 297 ⇑*i*P **P 21 17 40.7 +1.6**
HARR Harsova 16.82 297 P **P 21 17 40.6 +1.5**
VRI Vrincioaia 17.92 300 ⇓*i*P **P 21 17 52.2 +0.9**
VRI Vrincioaia 17.92 300 P **P 21 17 52.0 +0.7**
PLOR Plostina 17.97 300 ⇑*i*P P 21 18 01.4 +10
MNAS Manas 18.01 71 ⇓P **Pn 21 17 50.2 -1.9**
comp=Z,2.2nm,0.9s
MNAS Manas 18.01 71 P **Pn 21 17 50.2 -1.9**
MNAS pmax pmax
comp=Z,2.0nm,0.9s
OBN Obninsk 18.24 336 *e*P **Pn 21 17 54.2 -0.4**
OBN pmax pmax
comp=Z,18nm,0.9s
OBN MLR MLR
comp=Z,59nm,17.0s
AKASG Malin Array Be 18.31 316 P **Pn 21 17 56.0 +0.5**
comp=Z,1.6nm,0.3s,baz=124,slow=11,SNR=4.4
AKASG Malin Array Be 18.31 316 *e*P **Pn 21 17 57.4 +1.8**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
KIEV Kiev 18.32 316 *ce*P **Pn 21 17 56.3 +0.7**
KIEV pmax pmax
comp=Z,6.0nm,1.5s
MLR Muntele Rosu 18.36 298 *e*Pn **Pn 21 17 59.4 +3.0**
comp=Z,4.4nm,0.8s
MLR Muntele Rosu 18.36 298 ⇑*i*P **Pn 21 17 57.3 +0.9**
MLR Muntele Rosu 18.36 298 *e*P **Pn 21 17 59.4 +3.0**
MLR pmax pmax
comp=Z,4.0nm,0.8s
MOS Moscow 18.46 339 *e*P **P 21 17 56.2 -1.0**
MOS pmax pmax
comp=Z,47nm,0.8s
SFK Sufi-Kurgan 18.79 79 ⇓P **P 21 18 01.1 -0.1**
comp=Z,5.3nm,1.0s
SFK Sufi-Kurgan 18.79 79 P **Pn 21 18 01.8 0.0**
SFK pmax pmax
comp=Z,5.0nm,1.0s
DOPR Dopca 18.85 299 ⇑*i*P **Pn 21 18 02.9 +0.7**
OTUK Ortayu 19.10 53 ⇓P **P 21 18 04.0 -0.3**
comp=Z,11nm,0.9s
OTUK Ortayu 19.10 53 P **P 21 18 04.0 -0.3**
OTUK pmax pmax
comp=Z,11nm,0.9s
ARR Arges 19.24 297 ⇓*i*P Pn 21 18 15.6 +8.6
SVE Sverdlovsk 19.40 19 *e*P **Pn 21 18 08.2 -0.4**
SVE *e*S Sn 21 21 32.6 -13
SVE pmax pmax
comp=Z,15nm,0.7s
BURAR Bucovina Array 19.40 304 ⇑*i*P **P 21 18 07.9 +0.2**
BURAR Bucovina Array 19.40 304 P **P 21 18 07.8 +0.1**
AAK Ala-Archa 19.49 71 P **Pn 21 18 09.8 -0.2**
comp=Z,0.5nm,0.3s,baz=213,slow=7.7,SNR=16
AAK Ala-Archa 19.49 71 ⇓P **Pn 21 18 10.9 +0.9**
comp=Z,6.2nm,0.8s
AAK Ala-Archa 19.49 71 *e*P **Pn 21 18 10.3 +0.2**
AAK Ala-Archa 19.49 71 ⇓*e*P **Pn 21 18 10.9 +0.9**
AAK pmax pmax
comp=Z,4.0nm,0.6s
FRU1 Bishkek 19.59 71 *e*P **Pn 21 18 13.6 +2.4**
comp=Z,11nm,0.8s
FRU1 Bishkek 19.59 71 *e*P **Pn 21 18 13.6 +2.4**
FRU1 pmax pmax
comp=Z,11nm,0.8s
SRS Serrai 19.69 284 P **Pn 21 18 12.4 +0.1**
SRS pmax pmax
comp=Z,8.0nm,1.2s
IDI Anoyia 19.70 267 *e*P **Pn 21 18 12.3 -0.2**
comp=Z,14nm,1.0s
SOH Sokhos 19.88 284 P **Pn 21 18 14.8 +0.2**
SOH pmax pmax
comp=Z,7.0nm,1.3s
VTS Vitosha 19.97 289 *e*P **Pn 21 18 16.7 +1.0**
comp=Z,3.0nm,0.7s
VTS Vitosha 19.97 289 ⇑*i*P **P 21 18 14.7 +0.8**

THE Thessaloniki 20.19 283 P **P 21 18 17.5 +1.4**
THE pmax pmax
comp=Z,14nm,1.4s
KNT Kendrikon 20.21 285 P **P 21 18 17.0 +0.6**
KNT pmax pmax
comp=Z,8.0nm,1.7s
BRVK Borovoye 20.22 39 ⇑P **P 21 18 15.7 -0.7**
comp=Z,7.0nm,0.7s
BRVK Borovoye 20.22 39 *e*P **P 21 18 15.9 -0.5**
comp=Z,8.4nm,0.7s
BRVK Borovoye 20.22 39 *ce*P **P 21 18 16.1 -0.3**
BRVK pmax pmax
comp=Z,29nm,0.7s
BVA0 Borovoye Array 20.25 39 P **P 21 18 16.5 -0.3**
comp=Z,6.2nm,0.6s,baz=246,slow=8.2,SNR=51
BVA0 Borovoye Array 20.25 39 P **P 21 18 16.5 -0.3**
BVA0 pmax pmax
comp=Z,6.0nm,0.6s
BVAR Borovoye Array 20.25 39 P **P 21 18 16.5 -0.3**
comp=Z,7.2nm,0.5s,baz=249,slow=8.5,SNR=60
TKM2 Tokmak 2 20.31 70 ⇑P **P 21 18 18.4 +0.7**
comp=Z,8.8nm,0.7s
TKM2 Tokmak 2 20.31 70 P **P 21 18 18.4 +0.7**
TKM2 pmax pmax
comp=Z,9.0nm,0.7s
GRG Griva 20.59 284 P **P 21 18 20.8 +0.2**
GRG pmax pmax
comp=Z,5.0nm,1.7s
LVV L'vov 20.89 309 *e*P **P 21 18 20.6 -3.1**
LVV *i* 21 18 26.7
MDVR Moldovita 21.20 295 ⇓*i*P **P 21 18 27.2 0.0**
TRPA Tarpa 21.28 304 ⇓*i*P **P 21 18 28.0 +0.1**
BZS Buzias 21.38 297 P **P 21 18 30.0 +1.0**
BZS pmax pmax
comp=Z,3.0nm,0.8s
FNA Florina 21.38 284 *e*P **P 21 18 31.2 +2.1**
comp=Z,6.6nm,1.0s
FNA Florina 21.38 284 *e*P **P 21 18 31.2 +2.1**
FNA pmax pmax
comp=Z,7.0nm,1.0s
KDJ Kajisay 21.47 73 *e*P **P 21 18 33.6 +3.4**
comp=Z,10nm,0.8s
UZH Uzhgorod 21.57 305 *e*P **P 21 18 32.0 +1.0**
UZH *e* 21 18 50.7
KECS Kecovo 22.69 304 *e*P P 21 18 51.2 +8.1
KECS Kecovo 22.69 304 *es*P sP 21 18 51.2 -2.0
KLMR Klimovskoe 22.72 348 *e*P **P 21 18 39.2 -4.0**
KLMR pmax pmax
comp=Z,19nm,1.0s
KLMR Klimovskoe 22.72 348 *e*P **P 21 18 39.2 -4.0**
KLMR AMP 21 18 47.8
comp=Z,19nm,1.1s
PRGR Permogore 22.80 356 *e*P **P 21 18 41.4 -2.6**
PRGR *e*S **S 21 22 47.1 -4.2**
PRGR pmax pmax
comp=Z,23nm,0.6s
NIE Niedzica 23.05 306 P **P 21 18 47.5 +0.7**
NIE pmax pmax
comp=Z,2.0nm,1.2s
PDGK Podgornoye 23.17 69 P **P 21 18 50.3 +2.1**
PDGK pmax pmax
comp=Z,6.0nm,1.0s
LANS Liptovska Anna 23.51 305 *es*P sP 21 19 01.8 +0.1
OJC Ojcow 23.59 308 P **P 21 18 52.8 +0.6**
OJC pmax pmax
comp=Z,6.0nm,1.0s
KURBB Kurchatov Arra 23.70 51 P **P 21 18 53.9 +0.8**
comp=Z,8.5nm,0.7s,baz=258,slow=9.7,SNR=32
KURBB Kurchatov Arra 23.70 51 ⇓P **P 21 18 53.6 +0.5**
comp=Z,8.4nm,0.8s
VYHS Vyhne 23.76 304 *es*P sP 21 19 03.3 -0.9
KURK Kurchatov 23.78 51 ⇑P **P 21 18 54.2 +0.3**
comp=Z,14nm,0.9s
KURK Kurchatov 23.78 51 *e*P **P 21 18 54.3 +0.4**
KURK Kurchatov 23.78 51 P **P 21 18 53.9 0.0**
KURK pmax pmax
comp=Z,8.0nm,0.7s
VSU Vasula 24.27 331 ⇑*e*P **P 21 18 57.6 -0.8**
VSU pmax pmax
comp=Z,80nm,2.0s
TIP Timpagrande 25.10 281 *e*P **P 21 19 06.2 0.0**
comp=Z,5.0nm,0.9s
MK31 Makanchi Array 25.35 61 P **P 21 19 09.4 +1.1**
comp=Z,7.6nm,0.7s,baz=262,slow=6.6,SNR=45
MK31 Makanchi Array 25.35 61 *e*P **P 21 19 09.4 +1.1**
MK31 Makanchi Array 25.35 61 *e*P **P 21 19 09.4 +1.1**
MKAR Makanchi Array 25.35 61 P **P 21 19 09.4 +1.1**
comp=Z,6.1nm,0.7s,baz=263,slow=6.7,SNR=57
MK01 Makanchi Array 25.35 61 *e*P **P 21 19 09.2 +0.8**
KRUC Moravsky 25.46 304 P **P 21 19 09.7 +0.4**
KRUC pmax pmax
comp=Z,6.0nm,0.8s
JOF Joensuu 26.30 342 P **P 21 19 16.3 -0.4**
JOF pmax pmax
comp=Z,19nm,0.6s
FINES FINESS Array B 26.64 335 P **P 21 19 19.1 -0.6**
comp=Z,1.5nm,0.3s,baz=140,slow=11,SNR=17
FINES FINESS Array B 26.64 335 *e*P **P 21 19 19.9 +0.1**
FINES pmax pmax
comp=Z,2.0nm,0.3s
GERES GERESS Array B 27.18 303 P **P 21 19 24.3 -0.6**
comp=Z,0.3nm,0.5s,baz=74,slow=7.2,SNR=3.2
CLL Collm 28.04 308 *e*P **P 21 19 33.0 +0.5**
CLL Collm 28.04 308 *e*P **P 21 19 33.0 +0.5**
ZAA0 Zalesovo Array 28.39 46 *e*P **P 21 19 36.1 +0.6**
comp=Z,3.1nm,0.8s
ZALV Zalesovo Beam 28.39 46 P **P 21 19 35.5 -0.1**
comp=Z,1.8nm,0.5s,baz=261,slow=10,SNR=15
ZALV Zalesovo Beam 28.39 46 *e*P **P 21 19 36.0 +0.4**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
DGZ Jazzator, Alta 29.09 56 *c i*P **P 21 19 43.0 +0.9**
DGZ pmax pmax
comp=Z,2.0nm,0.6s
WMQ Urumqi 29.11 68 *e*P **P 21 19 44.0 +1.8**
WMQ pmax pmax
comp=Z,17nm,0.9s
NC405 NORSAR Array S 32.00 326 *e*P **P 21 20 07.0 -0.4**
NB2 NORSAR Subarra 32.19 326 P **P 21 20 07.9 -1.2**
comp=Z,1.8nm,0.6s,baz=116,slow=8.6
NB2 NORSAR Subarra 32.19 326 P **P 21 20 07.8 -1.3**
NB2 pmax pmax
comp=Z,2.0nm,0.6s
NOA NORSAR Array B 32.19 326 P **P 21 20 07.8 -1.3**
comp=Z,2.0nm,0.8s,baz=119,slow=8.3,SNR=14
NOA NORSAR Array B 32.19 326 *e*P **P 21 20 08.2 -0.9**
NOA pmax pmax
comp=Z,3.0nm,0.7s
KEV Kevo 33.02 346 *e*P **P 21 20 17.2 +1.0**
comp=Z,11nm,0.9s
ARCES ARCESS Array B 33.13 345 P **P 21 20 16.4 -0.8**
comp=Z,0.6nm,0.4s,baz=146,slow=8.4,SNR=9.3
ARCES ARCESS Array B 33.13 345 *e*P **P 21 20 17.3 +0.1**
ARCES pmax pmax
comp=Z,1.0nm,0.4s
KNGR Kungurtug, Tuv 35.62 55 ⇑*e*P **P 21 20 39.4 +0.3**
GTA Gaotai 38.82 73 *e*P **P 21 21 08.8 +2.3**
GTA pP sP 21 21 14.5 -2.6
GTA sP pP 21 21 17.5 +3.5
GTA pmax pmax
comp=Z,2.0nm,0.8s
ESDC Sonseca Array 40.61 288 P **P 21 21 21.8 +0.6**
comp=Z,0.4nm,0.5s,baz=68,slow=8.2,SNR=5.0
KMBO Kilima Mbogo 41.38 198 P **P 21 21 29.2 +1.2**
comp=Z,0.6nm,0.5s,baz=353,slow=7.9,SNR=3.5
KMBO Kilima Mbogo 41.38 198 *e*P **P 21 21 32.1 +4.1**
KMBO pmax pmax
comp=Z,1.0nm,0.5s
SPITS Spitsbergen Ar 41.58 350 P **P 21 21 28.6 -0.1**
comp=Z,26nm,1.0s,baz=146,slow=10,SNR=3.8
ULN Ulaanbaatar 42.08 58 *e*P **P 21 21 34.2 +0.9**
comp=Z,4.9nm,1.1s
ULN Ulaanbaatar 42.08 58 *ce*P **P 21 21 34.6 +1.3**
ULN pmax pmax
comp=Z,4.0nm,0.9s
LZH Lanzhou 42.90 76 *e*P **P 21 21 39.5 -0.7**
LZH pP pP 21 21 45.0 -2.8
LZH sP sP 21 21 47.0 -3.8
LZH *e*PP **PP 21 23 19.8 0.0**
LZH pmax pmax
comp=Z,25nm,1.0s
HHC Hu-ho-hao-te 46.98 67 *e*P **P 21 22 13.0 +0.5**
HHC pmax pmax
comp=Z,11nm,1.2s
CMAR Chiang Mai Arr 47.54 101 P **P 21 22 17.3 +0.3**
comp=Z,1.1nm,0.8s,baz=300,slow=8.3,SNR=7.4
CMAR PcP **PcP 21 23 47.3 +0.6**
comp=Z,0.4nm,0.7s,baz=299,slow=4.0,SNR=4.1
CMAR Chiang Mai Arr 47.54 101 *e*P **P 21 22 17.5 +0.5**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
TORD Torodi Ar. Bea 49.10 252 P **P 21 22 27.7 -1.3**
comp=Z,0.2nm,0.8s,baz=38,slow=8.3,SNR=2.8
TIXI Tiksi 50.33 24 P **P 21 22 36.7 -1.0**
comp=Z,1.8nm,0.4s,baz=304,slow=7.0,SNR=9.4
TIXI Tiksi 50.33 24 ⇑*e*P **P 21 22 39.0 +1.4**
TIXI pmax pmax
comp=Z,3.0nm,1.4s
KLR Kul'dur 57.38 51 ⇑*e*P **P 21 23 27.6 -1.9**
KSAR Wonju Array Be 59.95 64 P **P 21 23 47.2 -0.4**
KSAR Wonju Array Be 59.95 64 P **P 21 23 47.2 -0.4**
KSRS Korea Array 59.97 64 P **P 21 23 47.2 -0.5**
comp=Z,1.3nm,0.6s,baz=288,slow=6.0,SNR=3.8
SEY Seymchan 61.60 30 ⇑*e*P **P 21 23 59.6 +1.2**
BILL Bilibino 63.46 22 ⇓*e*P **P 21 24 11.3 +0.6**
BILL pmax pmax
comp=Z,7.0nm,1.4s
MJAR Matsushiro Arr 67.55 61 LR LR 21 58 33.9
comp=Z,16nm,20.6s,baz=205,slow=40
ILAR Eielson Array 75.82 7 P **P 21 25 26.3 -0.7**
comp=Z,0.6nm,0.8s,baz=334,slow=5.5,SNR=6.5
YKA Yellowknife Ar 78.04 352 P **P 21 25 38.6 -0.8**
comp=Z,1.1nm,0.6s,baz=12,slow=5.8,SNR=9.0

*NEIC **26** 21:14:04.8±0.0, 26.34N×111.26W, h12km, MD4.0(MEX), After MEX.*
MEX 26 21:14:05.0±0.3, 26.33N×111.26W, h15km, MD4.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
SRIG	**Santa Rosalia**	**1.32**	**319**	*e*P		Pn	21 14 25.2	-3.7
SRIG				*e*S		Sb	21 14 41.1	-5.0
SRIG	**Santa Rosalia**	**1.32**	**319**	*e*P		Pn	21 14 25.2	-3.7
SRIG				*e*S		Sb	21 14 41.1	-5.0
GUYB	**Guaymas**	**1.60**	**12**	*e*P		Pn	21 14 29.2	-3.5
GUYB				*e*S		Sn	21 14 48.2	-4.9
HSIG		**2.69**	**6**	*e*Pn		Pn	21 14 48.7	+0.9
SLBS	**Sierra La Lagu**	**2.89**	**155**	*e*Pn		Pn	21 14 48.0	-2.6
SLBS	**Sierra La Lagu**	**2.89**	**155**	*i* P		Pn	21 14 48.0	-2.7
SLBS				*e*S		Sn	21 15 20.2	-5.0
TUC	**Tucson**	**5.97**	**4**	*e*Pn		Pn	21 15 34.3	+1.3
MNTX	**Cornudas Mount**	**7.42**	**43**	*e*Pn		Pn	21 15 52.9	+0.1

*ISK **26** 21:20:32.9, 36.64N×27.96E, h10km, ML3.4/13*
*IDC **26** 21:20:32.1±1.4, 36.56N×27.91E, h0km, mb3.3/2, mb1 3.2/4, mb1mx3.1/37, mbtmp3.2/4, ML3.0/2, Error ellipse: s-maj=172.4km s-min=16.9km az=147.0*
*THE **26** 21:20:33.0, 36.66N×27.97E, h0km, ML3.4/5, Error ellipse: s-maj=0.7km s-min=0.4km az=33.0*
*DDA **26** 21:20:33.7, 36.66N×27.98E, h8km, Ml3.3*
*ATH **26** 21:20:33.1, 36.65N×27.92E, h25km±1km, ML3.1/5, Error ellipse: s-maj=2.7km s-min=0.9km az=204.0*
*ISCJB **26** 21:20:33.2±0.4, 36.60N±0.02×27.93E±0.02, h10km±3km, mb3.1/2, Error ellipse: s-maj=3.7km s-min=2.4km az=1.0*
*NIC **26** 21:20:34.0±0.3, 36.90N×28.12E, h12km, mb4.1, ML3.5*
ISC 26 21:20:33.7±0.9, 36.64N±0.02×27.95E±0.01, h10km±7km, n75, σ1.9s26/103, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
MRSB	**Marmaris-Mugla**	**0.22**	**69**		PG	**Pg**	**21 20 37.8**	**-0.4**
MRSB					SG	**Sg**	**21 20 41.3**	**0.0**
DATC	**Datca-Mugla**	**0.26**	**298**		PG	**Pg**	**21 20 38.9**	**0.0**
DAT	**Datca**	**0.31**	**287**		PG	**Pg**	**21 20 39.8**	**-0.1**
DAT					SG	**Sg**	**21 20 45.1**	**+1.0**
DAT	**Datca**	**0.31**	**287**	*i* P		**Pg**	**21 20 39.9**	**-0.1**
DAT				*i* S		**Sb**	**21 20 45.8**	**-0.7**
ARG	**Arkhangelos**	**0.45**	**161**	PG		**Pg**	**21 20 42.3**	**-0.1**
ARG	**Arkhangelos**	**0.45**	**161**	P		**Pg**	**21 20 42.5**	**0.0**
ARG				S		**Sb**	**21 20 50.0**	**-0.3**
ARG	**Arkhangelos**	**0.45**	**161**	P		**Pg**	**21 20 42.4**	**0.0**
ARG				S		**Sb**	**21 20 50.2**	**-0.1**
TURN	**Turunc**	**0.58**	**66**	PG		Pg	21 20 38.9	-6.0
TURN	**Turunc**	**0.58**	**66**	*i* P		Pg	21 20 39.0	-5.9
TURN				*i* S		Sg	21 20 42.9	-10
DALY	**Dalyan (Mu¨la**	**0.60**	**72**	PG		**Pb**	**21 20 44.8**	**-1.4**
DALY	**Dalyan (Mu¨la**	**0.60**	**72**	*i* P		**Pb**	**21 20 44.7**	**-1.4**
DALY				*i* S		**Sb**	**21 20 54.7**	**0.0**
NIS1	**Nisyros Isl.**	**0.62**	**267**	PG		**Pg**	**21 20 45.2**	**-0.4**
NIS1	**Nisyros Isl.**	**0.62**	**267**	P		**Pg**	**21 20 45.5**	**-0.1**
NIS1				S		**Sg**	**21 20 54.5**	**+0.7**
NIS1	**Nisyros Isl.**	**0.62**	**267**	P		**Pg**	**21 20 45.5**	**-0.1**
NIS1				S		**Sb**	**21 20 56.4**	**+1.1**
NISR	**Nisiros**	**0.66**	**268**	P		**Pg**	**21 20 46.3**	**-0.1**
NISR				S		**Sg**	**21 20 55.6**	**+0.6**
NISR				AML	AML		21 21 01.0	
	comp=E,8462μm,0.2s							
NISR				AML	AML		21 21 02.4	
	comp=N,6121μm,0.3s							
NISR	**Nisiros**	**0.66**	**268**	P		**Pb**	**21 20 46.9**	**-0.3**
NISR				S		**Sb**	**21 20 57.7**	**+1.3**
BODT	**Bodrum**	**0.66**	**310**	PG		**Pg**	**21 20 46.4**	**-0.1**
BODT	**Bodrum**	**0.66**	**310**	P		**Pg**	**21 20 46.3**	**-0.2**
BODT				S		**Sb**	**21 20 56.8**	**+0.2**
MLSB	**Milas**	**0.67**	**348**	PG		**Pb**	**21 20 46.5**	**-0.9**
FETY	**Fethiye**	**0.92**	**90**	PG		**Pb**	**21 20 50.6**	**-1.0**
FETY	**Fethiye**	**0.92**	**90**	P		**Pb**	**21 20 50.7**	**-0.9**
AYDN	**Tasoluk**	**1.02**	**357**	*i* P		**Pb**	**21 20 52.9**	**-0.6**
AYDN				*i* S		**Sn**	**21 21 07.9**	**-0.6**
TAVA	**DENIZLI_Tavas**	**1.13**	**43**	*i* P		**Pn**	**21 20 54.6**	**-1.0**
TAVA				*i* S		**Sn**	**21 21 12.4**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**1.31**	**358**	PN		**Pb**	**21 20 57.6**	**-0.8**
DNZL	**Cakiroluk**	**1.37**	**40**	*i* P		**Pg**	**21 21 00.8**	**+0.9**
DNZL				*i* S		**Sg**	**21 21 20.6**	**+2.9**
SMG	**Samos**	**1.39**	**321**	P		**Pn**	**21 20 58.2**	**-0.9**
SMG				AML	AML		21 21 23.3	
	comp=N,2053μm,0.4s							
SMG				AML	AML		21 21 28.1	
	comp=E,3259μm,0.3s							
SMG	**Samos**	**1.39**	**321**	P		**Pn**	**21 20 58.1**	**-0.9**
SMG				S		**Sg**	**21 21 17.9**	**-0.4**
AKAS	**Kas**	**1.40**	**106**	PN		**Pb**	**21 20 59.1**	**-0.8**
AKAS	**Kas**	**1.40**	**106**	*i* P		**Pg**	**21 21 00.2**	**-0.4**
AKAS				*i* S		**Sg**	**21 21 21.8**	**+3.2**
KSL	**Kastellorizon**	**1.41**	**110**	P		**Pg**	**21 21 00.3**	**-0.4**
KSL				AML	AML		21 21 27.7	
	comp=E,509μm,0.5s							
KSL				AML	AML		21 21 28.5	
	comp=N,430μm,0.9s							
KSL	**Kastellorizon**	**1.41**	**110**	P		**Pn**	**21 20 58.5**	**-0.8**
KSL				S		**Sg**	**21 21 18.1**	**-0.9**
GOLH	**Golhisar**	**1.43**	**65**	*i* P		**Pg**	**21 21 00.5**	**-0.6**
GOLH				*i* S		**Sg**	**21 21 23.7**	**+3.6**
ELL	**Elmali**	**1.58**	**85**	PN		**Pb**	**21 21 01.7**	**-1.3**
AMGA	**Amorgos Island**	**1.66**	**277**	P		**Pn**	**21 21 02.4**	**-0.4**
AMGA				AML	AML		21 21 33.2	
	comp=E,693μm,0.4s							
AMGA				AML	AML		21 21 37.5	
	comp=N,546μm,0.7s							
AMGA	**Amorgos Island**	**1.66**	**277**	P		**Pn**	**21 21 02.7**	**-0.1**
ANAF	**Anafi Island**	**1.77**	**262**	P		**Pn**	**21 21 03.3**	**-1.0**
ANAF	**Anafi Island**	**1.77**	**262**	P		**Pn**	**21 21 03.7**	**-0.7**
KULA	**Kula-Manisa**	**1.96**	**17**	PN		**Pn**	**21 21 07.2**	**+0.2**
KORT	**Korkueli**	**1.96**	**79**	PN		**Pn**	**21 21 07.1**	**0.0**
KORT	**Korkueli**	**1.96**	**79**	*i* P		**Pg**	**21 21 10.3**	**-1.0**
KORT				*i* S		**Sg**	**21 21 40.4**	**+3.6**
APE	**Apeiranthos**	**1.98**	**283**	P		**Pn**	**21 21 06.7**	**-0.6**
BRDR	**BURDUR-Merkez**	**1.99**	**57**	*i* P		**Pb**	**21 21 09.8**	**-0.2**
BRDR				*i* S		**Sg**	**21 21 36.0**	**-1.7**
URLA	**Izmir**	**2.03**	**328**	PN		**Pn**	**21 21 08.2**	**+0.3**
ZKR	**Zakros**	**2.07**	**223**	P		**Pn**	**21 21 08.5**	**+0.1**
ZKR	**Zakros**	**2.07**	**223**	P		**Pn**	**21 21 08.8**	**+0.4**
THR6	**Thira Island,**	**2.07**	**263**	P		**Pn**	**21 21 08.1**	**-0.3**
KHAL	**Karahalli**	**2.12**	**35**	*i* P		**Pb**	**21 21 11.1**	**-1.1**
KHAL				*i* S		**Sb**	**21 21 38.0**	**-0.7**
IOSP	**Ios island**	**2.14**	**273**	P		**Pn**	**21 21 09.1**	**-0.3**
CHOS	**Chios island**	**2.30**	**320**	P		**Pn**	**21 21 11.2**	**-0.5**
NPS	**Neapolis**	**2.34**	**235**	P		**Pn**	**21 21 11.9**	**-0.3**
NPS				AML	AML		21 21 51.5	
	comp=N,352μm,0.4s							
NPS				AML	AML		21 21 51.6	
	comp=E,402μm,0.4s							
NPS	**Neapolis**	**2.34**	**235**	P		**Pn**	**21 21 12.0**	**-0.1**

NPS				S	Sn	21 21 41.4	+0.5	
KZIL	AFYON_Kizioren	2.38	47	*i* P	Pb	21 21 14.4	-2.2	
KZIL				*i* S	Sb	21 21 43.0	-3.1	
LAST	Lasithi	2.49	234	P	Pn	21 21 14.7	+0.5	
BAGO	Egridir - ISPA	2.64	58	*i* P	Pb	21 21 18.3	-2.7	
BAGO				*i* S	Sg	21 22 04.2	+5.7	
IDI	Anoyia	2.82	242	Pn	Pn	21 21 18.4	-0.5	
	comp=E,2.8nm,0.3s,baz=51,slow=14,SNR=23							
IDI				Sn	Sn	21 21 52.9	0.0	
	comp=E,6.9nm,0.3s,baz=284,slow=12,SNR=6.1							
IDI	Anoyia	2.82	242	P	Pn	21 21 17.9	-0.9	
PRK	Paraskevi	2.92	334	P	Pn	21 21 19.7	-0.4	
PRK	Paraskevi	2.92	334	P	Pn	21 21 19.9	-0.2	
KEPZ	Antalya-Kepez	2.95	84	*i* P	Pb	21 21 23.9	-2.4	
KEPZ				*i* S	Sb	21 22 00.7	-1.7	
VAM	Vamos	3.27	249	P	Pn	21 21 26.4	+1.3	
DION	Dionisos Attik	3.50	295	P	Pn	21 21 28.6	+0.4	
EREA	Eretria	3.65	300	P	Pn	21 21 29.5	-0.7	
PPCY	Paphos	3.98	115	P	Pn	21 21 34.8	+0.1	
	baz=301							
ALFC	Alefka	4.06	110	P	Pn	21 21 35.4	-0.4	
	baz=296							
ALFC				S	Sn	21 22 23.9	+0.5	
AOS	Alonnisos	4.09	309	P	Pn	21 21 36.7	+0.5	
SMTH	Samothraki Isl	4.27	334	P	Pn	21 21 38.5	-0.2	
SZAC	Souni	4.43	114	P	Pn	21 21 41.1	+0.1	
	baz=300							
SZAC				S	Sn	21 22 33.7	+1.0	
ALN	Alexandroupoli	4.50	341	P	Pn	21 21 41.6	-0.3	
XOR	Xorichti	4.64	307	P	Pn	21 21 43.2	-0.6	
CSS	Mathiatis	4.69	109	P	Pn	21 21 44.8	+0.4	
	baz=296							
CSS				S	Sn	21 22 38.8	0.0	
CSS	Mathiatis	4.69	109	P	Pn	21 21 44.1	-0.3	
THAS	Thassos island	4.70	328	P	Pn	21 21 44.3	-0.3	
BRTR	Keskin Array B	5.44	54	Pn	Pn	21 21 57.0	+2.1	
	comp=E,0.5nm,0.3s,baz=240,slow=12,SNR=22							
BRTR				Sn	Sn	21 22 59.5	+1.8	
	baz=216,slow=24,SNR=2.0							
TORD	Torodi Ar. Bea	33.17	232	P	P	21 27 09.2	-1.3	
	comp=E,0.1nm,0.4s,baz=29,slow=8.8,SNR=3.7							
MKAR	Makanchi Array	41.07	58	P	P	21 28 18.6	+1.2	
	comp=E,0.3nm,0.7s,baz=265,slow=8.7,SNR=3.2							

IDC 26 21:35:39.2±2.2, 5.62S×151.01E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/42, mbtmp3.7/5, ML1.7/1, Error ellipse: s-maj=152.7km s-min=21.4km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	5.36	225	Pn	Pn	21 37 02.6	+2.0
	1.5nm,0.3s,baz=20,slow=15,SNR=2.8						
PMG				Sn	Sn	21 38 02.7	-0.4
	3.1nm,0.3s,baz=110,slow=16,SNR=5.5						
WRA	Warramunga Arr	21.58	227	P	P	21 40 30.5	-0.2
	1.1nm,0.6s,baz=54,slow=11,SNR=19						
ASAR	Alice Springs	24.36	221	P	P	21 40 58.9	-0.4
	1.1nm,0.7s,baz=55,slow=8.9,SNR=11						
FITZ	Fitzroy Crossi	27.71	241	P	P	21 41 29.4	-0.1
	1.2nm,0.6s,baz=74,slow=7.4,SNR=4.5						
ILAR	Eielson Array	83.59	22	P	P	21 48 08.9	-0.2
	0.5nm,0.5s,baz=242,slow=5.8,SNR=7.0						
BRTR	Keskin Array B	114.51	311	PKP	PKPdf	21 54 21.9	0.0
	0.3nm,0.7s,baz=36,slow=2.7,SNR=2.6						
GERES	GERESS Array B	123.80	327	PKP	PKPdf	21 54 39.7	+0.2
	0.4nm,0.6s,baz=66,slow=3.6,SNR=5.6						
TORD	Torodi Ar. Bea	148.84	286	PKPbc	PKPbc	21 55 29.1	-0.8
	0.8nm,0.6s,baz=87,slow=2.5,SNR=7.8						

ATH 26 21:41:42.8, 36.68N×27.99E, h21km±2km, ML2.7/3, Error ellipse: s-maj=3.2km s-min=1.6km az=195.0
ISK 26 21:41:42.7, 36.61N×27.96E, h9km, ML2.7/14
ISCJB 26 21:41:43.4±0.4, 36.63N±0.03×27.95E±0.02, h4km±4km, Error ellipse: s-maj=4.9km s-min=3.3km az=4.4
DDA 26 21:41:43.7, 36.64N×27.96E, h6km, Ml3.0

ISC 26 21:41:42.9±1.1, 36.64N±0.03×27.97E±0.02, h5km±10km, n36, σ2s23/48, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSB	Marmaris-Mugla	0.20	68	PG	Pg	21 41 47.6	+0.7
MRSB				SG	Sg	21 41 50.9	+1.3
DATC	Datca-Mugla	0.27	296	PG	Pg	21 41 48.9	+0.6
DAT	Datca	0.32	286	PG	Pg	21 41 49.8	+0.6
DAT	Datca	0.32	286	*i* P	Pg	21 41 49.9	+0.6
DAT				*i* S	Sb	21 41 56.5	-0.4
ARG	Arkhangelos	0.44	163	PG	Pg	21 41 51.3	-0.1
ARG				SG	Sg	21 41 57.7	+0.5
ARG	Arkhangelos	0.44	163	P	Pg	21 41 52.1	+0.6
ARG				S	Sb	21 41 59.1	-1.0
ARG				AML	AML	21 42 00.9	
	comp=N,2501μm,0.3s						
ARG				AML	AML	21 42 02.8	
	comp=E,2121μm,0.5s						
TURN	Turunc	0.56	65	PG	Pg	21 41 48.8	-5.0
TURN				SG	Sg	21 41 53.1	-8.0
TURN	Turunc	0.56	65	*i* P	Pg	21 41 48.7	-5.1
TURN				*i* S	Sg	21 41 53.1	-8.0
DALY	Dalyan (Mu˘la	0.58	72	PG	Pb	21 41 54.7	-0.9
DALY	Dalyan (Mu˘la	0.58	72	*i* P	Pb	21 41 54.9	-0.7
DALY				*i* S	Sb	21 42 03.5	-0.6
NIS1	Nisyros Isl.	0.63	267	PG	Pg	21 41 54.7	-0.4
NIS1	Nisyros Isl.	0.63	267	P	Pb	21 41 56.1	-0.4
NIS1				S	Sb	21 42 05.3	-0.4
NIS1				AML	AML	21 42 11.2	
	comp=N,3787μm,0.5s						
NIS1				AML	AML	21 42 12.3	
	comp=E,3071μm,0.6s						
MLSB	Milas	0.67	347	PG	Pb	21 41 56.7	-0.5
BODT	Bodrum	0.67	309	PG	Pb	21 41 56.7	-0.5
NISR	Nisiros	0.67	268	P	Pb	21 41 57.0	-0.2
FETY	Fethiye	0.90	90	PG	Pb	21 42 00.8	-0.3
AYDN	Tasoluk	1.02	356	*i* P	Pb	21 42 02.7	-0.5
AYDN				*i* S	Sn	21 42 18.2	-0.6
TAVA	DENIZLI_Tavas	1.12	42	*i* P	Pn	21 42 05.0	-0.4
TAVA				*i* S	Sn	21 42 22.1	+0.9
AYDB	Zeytinkoy-Aydi	1.31	357	PN	Pg	21 42 07.9	-0.1
DNZL	Cakiroluk	1.36	39	*i* P	Pg	21 42 10.6	+1.6
DNZL				*i* S	Sg	21 42 33.2	+6.6
AKAS	Kas	1.38	107	PN	Pb	21 42 08.9	-0.5
AKAS	Kas	1.38	107	*i* P	Pg	21 42 09.8	+0.4
AKAS				*i* S	Sg	21 42 30.8	+3.4
KSL	Kastellorizon	1.39	110	P	Pg	21 42 09.8	+0.1
KSL				S	Sg	21 42 29.2	+1.5
KSL				AML	AML	21 42 31.0	
	comp=E,177μm,0.6s						
KSL				AML	AML	21 42 33.4	
	comp=N,73μm,0.7s						
SMG	Samos	1.40	320	P	Pn	21 42 08.3	-0.8
GOLH	Golhisar	1.41	65	*i* P	Pg	21 42 10.6	+0.6
GOLH				*i* S	Sg	21 42 32.7	+4.4
ELL	Elmali	1.57	85	PN	Pb	21 42 11.7	-0.8
AMGA	Amorgos Island	1.68	277	P	Pb	21 42 14.0	-0.2
ANAF	Anafi Island	1.79	262	P	Pb	21 42 15.6	-0.6
KORT	Korkueli	1.95	79	PN	Pn	21 42 17.1	+0.3
KULA	Kula-Manisa	1.95	16	PN	Pn	21 42 17.2	+0.4
APE	Apeiranthos	2.00	283	PN	Pn	21 42 17.8	+0.4
APE	Apeiranthos	2.00	283	P	Pn	21 42 17.1	-0.3
URLA	Izmir	2.03	328	PN	Pn	21 42 18.2	+0.3
CHOS	Chios island	2.31	320	P	Pn	21 42 21.3	-0.5
NPS	Neapolis	2.35	235	P	Pn	21 42 23.1	+0.8
LAST	Lasithi	2.50	235	P	Pn	21 42 24.5	+0.1

IDC 26 21:44:52.2±1.7, 36.29N×28.19E, h0km, mb3.4/2, mb1 3.3/3, mb1mx3.1/40, mbtmp3.3/3, ML3.1/1, Error ellipse: s-maj=109.6km s-min=22.8km az=142.0
THE 26 21:44:53.9, 36.64N×27.96E, h0km, ML2.9/5, Error ellipse: s-maj=1.0km s-min=0.5km az=36.0
ATH 26 21:44:53.8, 36.64N×27.95E, h26km±1km, ML3.0/5, Error ellipse: s-maj=2.8km s-min=1.3km az=210.0
ISK 26 21:44:53.1, 36.64N×27.98E, h5km, ML3.2/16
DDA 26 21:44:54.0, 36.65N×27.96E, h8km, Ml3.2
ISCJB 26 21:44:54.1±0.4, 36.61N±0.02×27.95E±0.02, h8km±3km, mb3.2/2, Error ellipse: s-maj=4.0km s-min=2.8km az=178.3

ISC 26 21:44:53.7±1.1, 36.64N±0.02×27.95E±0.02, h6km±8km, n57, σ1s45/82, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSB	Marmaris-Mugla	0.21	68	PG	Pg	21 44 58.0	+0.1
MRSB				SG	Sg	21 45 01.5	+0.7
DATC	Datca-Mugla	0.26	297	PG	Pg	21 44 59.5	+0.6
DATC				SG	Sb	21 45 04.8	-0.9
DAT	Datca	0.32	287	PG	Pg	21 45 00.6	+0.6
DAT	Datca	0.32	287	*i* P	Pg	21 45 00.6	+0.6
DAT				*i* S	Sb	21 45 06.1	-1.2
ARG	Arkhangelos	0.44	162	PG	Pg	21 45 02.5	+0.2
ARG	Arkhangelos	0.44	162	P	Pg	21 45 02.7	+0.4
ARG				S	Sb	21 45 10.0	-0.8
ARG				AML	AML	21 45 11.3	
	comp=N,4931μm,0.3s						
ARG				AML	AML	21 45 13.9	
	comp=E,6054μm,0.4s						
ARG	Arkhangelos	0.44	162	P	Pg	21 45 02.7	+0.4
ARG				S	Sb	21 45 10.6	-0.2
TURN	Turunc	0.57	66	PG	Pg	21 44 59.3	-5.5
TURN	Turunc	0.57	66	*i* P	Pg	21 44 59.2	-5.5
TURN				*i* S	Sg	21 45 03.8	-8.4
DALY	Dalyan (Mu˘la	0.59	72	PG	Pg	21 45 05.0	-0.2
DALY	Dalyan (Mu˘la	0.59	72	*i* P	Pg	21 45 04.9	-0.2
DALY				*i* S	Sb	21 45 14.3	-0.8
NIS1	Nisyros Isl.	0.62	267	PG	Pb	21 45 06.7	-0.3
NIS1	Nisyros Isl.	0.62	267	P	Pg	21 45 06.4	+0.6
NIS1				S	Sb	21 45 15.4	-0.7
NIS1				AML	AML	21 45 20.2	
	comp=N,7916μm,0.4s						
NIS1				AML	AML	21 45 25.4	
	comp=E,7797μm,0.3s						
NIS1	Nisyros Isl.	0.62	267	P	Pb	21 45 06.8	-0.3
NIS1				S	Sb	21 45 16.6	+0.5
NISR	Nisiros	0.66	268	P	Pb	21 45 07.3	-0.4
NISR	Nisiros	0.66	268	P	Pb	21 45 07.5	-0.2
BODT	Bodrum	0.67	310	PG	Pg	21 45 06.9	+0.3
BODT	Bodrum	0.67	310	P	Pg	21 45 07.1	+0.5
BODT				S	Sb	21 45 18.3	+0.9
MLSB	Milas	0.67	348	PG	Pg	21 45 07.1	+0.4
FETY	Fethiye	0.91	90	PG	Pg	21 45 10.9	-0.3
FETY	Fethiye	0.91	90	P	Pb	21 45 11.6	-0.4
AYDN	Tasoluk	1.02	357	*i* P	Pg	21 45 13.3	-0.1
AYDN				*i* S	Sb	21 45 28.6	+0.9
TAVA	DENIZLI_Tavas	1.13	43	*i* P	Pg	21 45 15.1	-0.4
TAVA				*i* S	Sn	21 45 31.9	-0.2
AYDB	Zeytinkoy-Aydi	1.31	358	PN	Pn	21 45 18.4	-0.3
DNZL	Cakiroluk	1.37	39	*i* P	Pg	21 45 20.2	+0.2
DNZL				*i* S	Sn	21 45 39.2	+1.1
AKAS	Kas	1.39	106	PN	Pb	21 45 20.2	-0.1
AKAS	Kas	1.39	106	*i* P	Pg	21 45 20.6	+0.1
AKAS				*i* S	Sn	21 45 42.5	+3.9
SMG	Samos	1.39	321	P	Pn	21 45 19.0	-0.7
SMG				S	Sn	21 45 38.8	+0.4
SMG				AML	AML	21 45 44.1	
	comp=E,1412μm,0.5s						
SMG				AML	AML	21 45 46.2	
	comp=N,758μm,0.3s						
SMG	Samos	1.39	321	P	Pn	21 45 19.1	-0.7
SMG				S	Sg	21 45 38.7	+0.2
KSL	Kastellorizon	1.40	110	P	Pb	21 45 20.4	+0.1
KSL				S	Sn	21 45 39.2	+0.5
KSL				AML	AML	21 45 41.8	
	comp=E,372μm,0.6s						
KSL				AML	AML	21 45 50.4	
	comp=N,331μm,0.6s						
KSL	Kastellorizon	1.40	110	P	Pn	21 45 19.4	-0.5
KSL				S	Sn	21 45 39.8	+1.1
DENT	Denizli	1.41	37	PN	Pg	21 45 20.8	0.0
GOLH	Golhisar	1.42	65	*i* P	Pg	21 45 21.1	+0.1
GOLH				*i* S	Sn	21 45 40.6	+1.3
ELL	Elmali	1.58	85	PN	Pb	21 45 21.9	-0.5
DGB	˙zmir	1.65	329	*i* P	Pn	21 45 22.4	-0.8
DGB				*i* S	Sg	21 45 50.4	+3.6
GMLD	Gumuldur	1.66	330	PN	Pb	21 45 24.4	-0.3
AMGA	Amorgos Island	1.67	277	P	Pn	21 45 23.0	-0.5
ANAF	Anafi Island	1.78	262	P	Pn	21 45 25.3	+0.2
ANAF	Anafi Island	1.78	262	P	Pn	21 45 24.7	-0.4
MANT	Manisa	1.91	14	*i* P	Pb	21 45 28.3	-0.9
MANT				*i* S	Sg	21 45 56.3	+1.1
KULA	Kula-Manisa	1.96	16	PN	Pn	21 45 28.3	+0.7
KORT	Korkueli	1.96	79	PN	Pn	21 45 28.2	+0.6
KORT	Korkueli	1.96	79	*i* P	Pb	21 45 30.5	+0.6
KORT				*i* S	Sg	21 46 01.6	+4.9
BRDR	BURDUR-Merkez	1.99	57	*i* P	Pb	21 45 30.4	0.0
BRDR				*i* S	Sg	21 45 58.4	+0.7
APE	Apeiranthos	1.99	283	PN	Pb	21 45 29.5	-0.9
APE	Apeiranthos	1.99	283	P	Pn	21 45 27.4	-0.5
URLA	Izmir	2.03	328	PN	Pn	21 45 29.6	+1.1
ZKR	Zakros	2.07	223	P	Pn	21 45 29.7	+0.7
ZKR				S	Sn	21 45 54.3	-1.0
ZKR				AML	AML	21 46 04.3	
	comp=N,190μm,0.6s						
ZKR				AML	AML	21 46 08.7	
	comp=E,352μm,0.6s						
ZKR	Zakros	2.07	223	P	Pn	21 45 29.4	+0.3
ZKR				S	Sn	21 45 56.2	+1.0
THR6	Thira Island,	2.08	263	P	Pn	21 45 28.5	-0.6
KHAL	Karahalli	2.12	35	*i* P	Pn	21 45 30.6	+0.8
KHAL				*i* S	Sn	21 45 54.0	-2.6
CHOS	Chios island	2.31	320	P	Pn	21 45 32.1	-0.3
NPS	Neapolis	2.34	235	P	Pn	21 45 33.2	+0.4
LAST	Lasithi	2.49	234	P	Pn	21 45 34.9	0.0
BRTR	Keskin Array B	5.44	54	Pn	Pn	21 46 17.3	+1.8
	comp=E,0.6nm,0.3s,baz=233,slow=13,SNR=21						
BRTR				Sn	Sn	21 47 20.0	+1.6
	comp=E,0.1nm,0.3s,baz=232,slow=27,SNR=2.3						
TORD	Torodi Ar. Bea	33.18	232	P	P	21 51 29.9	-1.4
	comp=E,0.1nm,0.4s,baz=40,slow=8.4,SNR=4.2						
MKAR	Makanchi Array	41.07	58	P	P	21 52 37.9	-0.2
	comp=E,0.6nm,0.8s,baz=272,slow=7.5,SNR=3.5						

MEX 26 22:01:16.6±0.3, 27.38N×111.31W, h20km, MD3.5, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRIG	Santa Rosalia	0.83	266	*e*P	Pb	22 01 29.8	-2.6
	baz=86,slow=4.4						
SRIG				*e*S	Sb	22 01 40.1	-3.0

IDC 26 22:05:14.0±0.7, 41.57N×20.14E, h0km, mb3.8/11, mb1 3.9/18, mb1mx3.8/52, mbtmp3.8/18, ML3.5/7, MS2.9/8, Ms1 2.9/8, ms1mx2.6/45, Error ellipse: s-maj=12.1km s-min=10.3km az=7.0
THE 26 22:05:14.8, 41.82N×20.08E, h7km±1km, ML3.9/4, Error ellipse: s-maj=1.9km s-min=0.8km az=149.0
ISCJB 26 22:05:15.2±0.2, 41.667N±0.009×20.08E±0.01, h9km±1km, Error ellipse: s-maj=1.9km s-min=1.3km az=140.0
PDG 26 22:05:15.8±0.8, 41.66N×20.07E, h9km±1km, MD3.9/10, ML3.9/10, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0
SAR 26 22:05:15.4±0.6, 41.59N×20.15E, h4km±2km, ML4.2/1
SIK 26 22:05:15.6±3.1, 41.7N±0.2×20.1E±0.2, h0km, ML3.6, Error ellipse: s-maj=70.9km s-min=37.1km az=139.0
TIR 26 22:05:15.1, 41.66N×20.11E, h21km, Md4.0/9
LDG 26 22:05:16.9±0.2, 41.70N×20.26E, h10km, Ml3.8/7, Error ellipse: s-maj=4.2km s-min=2.5km az=163.0
MOS 26 22:05:16.8±1.1, 41.67N×20.11E, h20km, mb4.2/8, Error ellipse: s-maj=4.6km s-min=3.4km az=101.2
PRU 26 22:05:16.9±0.0, 41.33N×20.15E, h22km
SKO 26 22:05:16.1, 41.64N×20.08E, h10km
BEO 26 22:05:16.5±0.3, 41.62N×20.14E, h9km±2km, ML3.7/17

ISC 26 22:05:16.3±0.8, 41.66N±0.01×20.12E±0.01, h12km±6km, n352, σ1s93/476, 62C-32D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHP	Peshkopia	0.24	84	P	Pg	22 05 21.0	-0.5
PHP				S	Sg	22 05 25.7	+0.7
PHP	Peshkopia	0.24	84	*i* PG	Pg	22 05 21.2	-0.2
PHP				*i* SG	Sg	22 05 25.7	+0.7
TIR	Tirane	0.37	212	⇓*i* P	Pg	22 05 22.8	-0.8
TIR				*e*Sg	Sb	22 05 29.8	-0.6
TIR	Tirane	0.37	212	⇑*i* P	Pg	22 05 23.2	-0.4
TIR				S	Sb	22 05 29.7	-0.6
TIR	Tirane	0.37	212	P	Pg	22 05 23.4	-0.3
TIR				S	Sb	22 05 32.0	+1.6
TIR	Tirane	0.37	212	P	Pg	22 05 22.6	-1.0
TIR				S	Sb	22 05 29.6	-0.8
TIR	Tirane	0.37	212	*i* PG	Pg	22 05 22.9	-0.8
TIR				*i* SG	Sb	22 05 29.7	-0.6
TIR	Tirane	0.37	212	⇓*i* PG	Pg	22 05 23.3	-0.3
TIR	Tirane	0.37	212	⇓*i* PG	Pg	22 05 23.4	-0.3
PUK	Puka	0.42	336	*i* PG	Pg	22 05 23.9	-0.8
PUK				*i* SG	Sb	22 05 31.3	-0.7
BCI	Bajram Curri	0.71	357	*i* PG	Pg	22 05 28.8	-1.3
BCI				*i* SG	Sg	22 05 39.8	+0.4
ULC	Ulcinj	0.72	295	⇑*i* PG	Pg	22 05 28.8	-1.5
ULC				*e*Sg	Sb	22 05 39.5	-0.3
ULC	Ulcinj	0.72	295	P	Pg	22 05 28.6	-1.7
ULC				S	Sg	22 05 39.0	-0.8
ULC	Ulcinj	0.72	295	⇑*i* PG	Pg	22 05 29.0	-1.4
ULC	Ulcinj	0.72	295	⇓*i* PG	Pg	22 05 29.2	-1.1
PRZK	Prizren	0.73	41	⇓*i* PG	Pg	22 05 30.0	-0.4
PRZK				*i* Sg	Sg	22 05 38.1	-2.0
PRZK				*i* Sg	Sn	22 05 45.8	+2.3
PRZK	Prizren	0.73	41	⇓*i* PG	Pg	22 05 30.0	-0.4
PRZK				*i* Sg	Sg	22 05 40.1	+0.1
PRZK				*i* Sg	Sn	22 05 47.2	+3.7
OHR	Ohrid	0.75	137	⇑*i* PG	Pg	22 05 29.7	-1.2
OHR				*i* Sg	Sg	22 05 40.8	+0.1
OHR	Ohrid	0.75	137	P	Pg	22 05 29.5	-1.3
ZATK	Zatriq	0.87	25	⇑Pg	Pg	22 05 32.0	-1.2
ZATK				*i* Sg	Sg	22 05 43.6	-1.0
ZATK				*i* Sg	Sn	22 05 54.6	+7.5
ZATK	Zatriq	0.87	25	⇑Pg	Pg	22 05 32.0	-1.2
ZATK				*i* Sg	Sn	22 05 47.7	+0.6
ZATK				*i* Sg	Sb	22 05 56.4	+11
DRME	Dracevica, Mon	0.88	307	⇑*i* PG	Pg	22 05 31.2	-1.5
DRME				*e*Sg	Sg	22 05 44.8	+0.1
DRME	Dracevica, Mon	0.88	307	⇑*i* PG	Pg	22 05 31.6	-1.6
DRME				*e*Sg	Sb	22 05 45.8	+0.7
KRUS	Krusevo	0.90	109	⇑*i* PG	Pg	22 05 32.8	-0.8
KRUS				*i* Sg	Sb	22 05 46.1	+0.4
PVY	Plav	0.94	353	⇑*i* PG	Pg	22 05 33.5	-1.0
PVY				*e*Sg	Sb	22 05 48.0	+0.9
PDG	Podgorica	1.00	320	⇑*i* PG	Pb	22 05 34.5	-1.1
PDG				*e*Sg	Sg	22 05 49.2	+0.4
PDG	Podgorica	1.00	320	⇓*i* P	Pb	22 05 34.5	-1.1
PDG	Podgorica	1.00	320	⇑*i* PG	Pb	22 05 33.8	-1.8
PDG				*e*Sg	Sn	22 05 49.8	-0.5
TTG	Podgorica	1.00	320	⇑*i* PG	Pb	22 05 34.1	-1.5
TTG				*e*Sg	Sn	22 05 49.7	-0.5
TTG	Podgorica	1.00	320	P	Pb	22 05 33.6	-2.0
TTG				S	Sg	22 05 49.0	+0.2
SKO	Skopje	1.03	72	*e*Pg	Pb	22 05 35.7	-0.4
SKO				*e*Sg	Sn	22 05 50.4	-0.6
SKO	Skopje	1.03	72	P	Pb	22 05 35.0	-1.2
SKO	Skopje	1.03	72	⇑*i* PG	Pb	22 05 35.7	-0.4
SKO				*i* Sg	Sg	22 05 50.3	+0.6
SKO	Skopje	1.03	72	P	Pb	22 05 34.9	-1.2
BIA	Bitola	1.11	125	P	Pb	22 05 36.5	-0.9
BIA	Bitola	1.11	125	⇑*i* PG	Pb	22 05 36.5	-0.9
BIA				*i* Sg	Sg	22 05 52.0	-0.1
BUM	Brajici-Budva	1.12	305	⇓*i* PG	Pb	22 05 35.9	-1.7
BUM				*e*Sg	Sn	22 05 53.0	-0.1
KBN	Korca	1.15	154	P	Pb	22 05 37.2	-0.9
KBN	Korca	1.15	154	P	Pb	22 05 37.9	-0.2
KBN	Korca	1.15	154	*i* PG	Pb	22 05 37.0	-1.1
KBN				*i* SG	Sb	22 05 52.1	-0.9
BEY	Berane	1.22	352	⇓P	Pb	22 05 38.5	-0.7
BEY	Berane	1.22	352	⇓P	Pn	22 05 38.5	-0.7
IVA	Berane	1.22	352	⇓*i* PG	Pn	22 05 38.2	-1.1
IVA				*e*Sg	Sg	22 05 57.5	+1.8
CEME	Cevo	1.26	315	⇑*i* PG	Pn	22 05 38.5	-1.3
CEME				*e*Sg	Sg	22 05 57.8	+0.9
KOME	Kolasin	1.27	340	⇑*i* PG	Pn	22 05 38.6	-1.4
KOME				*e*Sg	Sg	22 05 58.8	+1.4
VLO	Vlora	1.28	202	P	Pb	22 05 40.2	-0.1
VLO				S	Sg	22 05 59.9	+2.4
VLO	Vlora	1.28	202	P	Pg	22 05 43.2	+2.3
FNA	Florina	1.29	132	P	Pn	22 05 39.3	-0.9
FNA				S	Sg	22 05 59.8	+1.9
FNA	Florina	1.29	132	P	Pn	22 05 38.6	-1.6
FNA	Florina	1.29	132	*i* PN	Pn	22 05 39.9	-0.2
FNA				*i* SN	Sb	22 05 53.3	-3.8
SMRK	Smrekonice	1.36	26	⇓P	Pg	22 05 42.1	-0.3
SMRK				*i* S	Sb	22 05 52.5	-6.5
SMRK				*i* S	Sg	22 06 06.7	+6.7
SMRK	Smrekonice	1.36	26	⇓P	Pg	22 05 42.1	-0.3
SMRK				*i* S	Sb	22 05 49.4	-10
SMRK				*i* S	Sg	22 06 07.7	+7.7
TPE	Tepelena	1.36	184	*i* PN	Pn	22 05 40.3	-0.8
TPE				*i* SN	Sg	22 06 00.0	-0.3
NKME	Niksic	1.41	322	⇑*i* PG	Pn	22 05 40.9	-0.9
NKME				*e*Sg	Sg	22 06 03.2	+1.6
NKY	Niksic	1.43	324	⇓*i* PG	Pn	22 05 41.6	-0.5
NKY				*e*Sg	Sg	22 06 03.9	+1.7
NKY	Niksic	1.43	324	P	Pn	22 05 41.2	-0.9
NKY				S	Sg	22 06 03.0	+0.8
NEST	Nestorio	1.43	150	P	Pn	22 05 42.1	0.0
HCY	Herceg Novi

KKB	**Krupnik**	**2.23**	**84**	*eP*	**Pb**	**22 05 54.8**	**-1.7**
KKB	**Krupnik**	**2.23**	**84**	P	**Pb**	**22 05 55.0**	**-1.5**
FASA	**Fasano**	**2.25**	**249**	*e*Pn	**Pn**	**22 05 53.1**	**-0.2**
FASA					Sn	**Pg**	**22 06 03.4**	**+4.0**
BBLS	**Lazići**	**2.27**	**347**	*e*Pn	**Pb**	**22 05 55.7**	**-1.5**
BBLS				*e*Sg	**Sg**	**22 06 30.1**	**+0.9**
BBLS	**Lazići**	**2.27**	**347**	*i*Pn	**Pn**	**22 05 55.4**	**+1.8**
BBLS				*e*Sn	**Sn**	**22 06 23.3**	**+1.8**
GRUS	**Gruza**	**2.27**	**11**	*e*Pn	**Pn**	**22 05 54.8**	**+1.2**
GRUS				*e*Sg	**Sg**	**22 06 29.7**	**+0.4**
BOVS	**Bovan**	**2.29**	**30**	*e*Pn	**Pn**	**22 05 54.2**	**+0.3**
LIT	**Litokhoron**	**2.38**	**130**	P	**Pn**	**22 05 55.8**	**+0.7**
LIT	**Litokhoron**	**2.38**	**130**	P	**Pn**	**22 05 55.8**	**+0.7**
THE	**Thessaloniki**	**2.38**	**115**	P	**Pn**	**22 05 55.3**	**+0.2**
THE	**Thessaloniki**	**2.38**	**115**	P	**Pn**	**22 05 56.5**	**+1.4**
TAR1	**Taranto**	**2.42**	**243**	*e*Pg	**Pn**	**22 05 57.4**	**+1.7**
DIVS	**Divibare**	**2.44**	**358**	*e*Pn	**Pn**	**22 05 57.6**	**+1.6**
DIVS				*e*Sg	**Sg**	**22 06 35.7**	**+1.0**
DIVS	**Divibare**	**2.44**	**358**	*i*Pn	**Pn**	**22 05 56.5**	**+0.5**
DIVS				*e*Sn	**Sb**	**22 06 28.4**	**-1.8**
ZAPS	**Zavoj**	**2.46**	**48**	*e*Pn	**Pn**	**22 05 57.8**	**+1.5**
ZAPS				*e*Sg	**Sg**	**22 06 35.5**	**+0.1**
MASS	**Massafra**	**2.47**	**246**	*e*Pg	**Pn**	**22 05 56.2**	**-0.1**
VTS	**Vitosha**	**2.48**	**67**	*e*Pn	**Pn**	**22 05 57.7**	**+1.1**
VTS				*e*Sg	**Sg**	**22 06 34.7**	**-1.3**
VTS	**Vitosha**	**2.48**	**67**	*i*P	**Pn**	**22 05 57.9**	**+1.4**
VTS	**Vitosha**	**2.48**	**67**	*e*P	**Pn**	**22 05 58.0**	**+1.4**
HORT	**Hortiatis**	**2.49**	**114**	P	**Pn**	**22 05 56.9**	**+0.2**
BAI	**Bari**	**2.50**	**258**	*e*Pn	**Pn**	**22 05 56.2**	**-0.5**
THL	**Klokotos Trika**	**2.54**	**145**	P	**Pn**	**22 05 58.0**	**+0.7**
TRUS	**Trudelj**	**2.57**	**5**	*e*Pn	**Pn**	**22 05 58.9**	**+1.2**
TRUS				*e*Sg	**Sg**	**22 06 34.2**	**+1.3**
HAPS	**Han Pijesak,BI**	**2.57**	**341**	*e*Pn	**Pn**	**22 05 59.2**	**+1.4**
HAPS				*e*Sn	**Sb**	**22 06 31.7**	**-2.3**
HAPS	**Han Pijesak,BI**	**2.57**	**341**	*i*Pn	**Pn**	**22 05 59.3**	**+1.4**
HAPS				*e*Sn	**Sb**	**22 06 32.2**	**-1.8**
SOH	**Sokhos**	**2.58**	**108**	P	**Pn**	**22 05 58.4**	**+0.6**
SOH	**Sokhos**	**2.58**	**108**	P	**Pn**	**22 05 58.5**	**+0.6**
ZAGS	**Zajecar**	**2.66**	**35**	*e*Pn	**Pn**	**22 05 59.8**	**+0.9**
SRS	**Serrai**	**2.67**	**101**	P	**Pn**	**22 05 59.5**	**+0.4**
SRS	**Serrai**	**2.67**	**101**	P	**Pn**	**22 05 59.3**	**+0.2**
MMB	**Musomiste**	**2.71**	**90**	*e*P	**Pb**	**22 06 02.6**	**-2.0**
MMB	**Musomiste**	**2.71**	**90**	P	**Pb**	**22 06 02.6**	**-2.0**
SG1	**Sgolgore (BA)**	**2.72**	**254**	*e*Pn	**Pn**	**22 05 59.9**	**+0.1**
SVIS	**Svilajnac**	**2.73**	**17**	*e*Pn	**Pn**	**22 06 01.9**	**+2.1**
SVIS				*e*Sg	**Sg**	**22 06 44.9**	**+1.0**
MATE	**Matera**	**2.77**	**250**	*i*P	**Pn**	**22 06 00.0**	**-0.4**
PLG	**Polygyros**	**2.83**	**116**	P	**Pn**	**22 06 02.2**	**+1.0**
PLG	**Polygyros**	**2.83**	**116**	P	**Pn**	**22 06 02.2**	**+1.0**
NVR	**Nevrokopi**	**2.83**	**95**	P	**Pn**	**22 06 00.9**	**-0.4**
LKD2	**Lefkada island**	**2.90**	**172**	P	**Pn**	**22 06 03.0**	**+0.8**
TEKS	**Tekeris**	**2.92**	**352**	*e*Pn	**Pn**	**22 06 04.2**	**+1.6**
TEKS				*e*Sg	**Sg**	**22 06 50.3**	**+0.2**
TEKS	**Tekeris**	**2.92**	**352**	*e*Pn	**Pn**	**22 06 03.9**	**+1.3**
TEKS				*e*Sn	**Sn**	**22 06 40.1**	**+2.5**
KUBS	**Kucevo**	**2.98**	**22**	*e*Pn	**Pn**	**22 06 03.3**	**0.0**
EVR	**Evrytania**	**3.03**	**154**	P	**Pn**	**22 06 06.0**	**+1.9**
EVGI	**Lefkada island**	**3.06**	**172**	P	**Pn**	**22 06 05.1**	**+0.6**
AGG	**Agios Georgios**	**3.13**	**147**	P	**Pn**	**22 06 06.7**	**+1.3**
PGB	**Panagyurishte**	**3.14**	**72**	P	**Pb**	**22 06 10.0**	**-2.0**
PGB				S	**Sn**	**22 06 44.4**	**+1.4**
BEO	**Beograd**	**3.16**	**5**	*e*Pn	**Pn**	**22 06 07.1**	**+1.3**
BEO				*e*Sg	**Sg**	**22 06 56.9**	**-0.8**
BEO	**Beograd**	**3.16**	**5**	P	**Pn**	**22 06 09.0**	**+3.2**
ORI	**Oriolo Calabro**	**3.21**	**241**	P	**Pn**	**22 06 09.2**	**+2.7**
OUR	**Ouranopolis**	**3.21**	**113**	P	**Pn**	**22 06 07.1**	**+0.6**
OUR	**Ouranopolis**	**3.21**	**113**	P	**Pn**	**22 06 07.7**	**+1.2**
PVO	**Paravola**	**3.22**	**160**	P	**Pn**	**22 06 07.6**	**+0.9**
XOR	**Xorichti**	**3.27**	**133**	P	**Pn**	**22 06 07.7**	**+0.3**
MDVR	**Moldovita**	**3.33**	**20**	*i*P	**Pn**	**22 06 08.8**	**+0.6**
PUNG	**Punghina**	**3.33**	**37**	*i*P	**Pn**	**22 06 09.1**	**+0.9**
NEO	**Neokhori**	**3.33**	**134**	P	**Pn**	**22 06 09.1**	**+0.8**
ANX	**Ano Chora**	**3.36**	**155**	P	**Pn**	**22 06 09.3**	**+0.7**
DOB	**Doboj**	**3.41**	**335**	*e*Pn	**Pn**	**22 06 10.2**	**+1.0**
RZN	**Rozhen**	**3.44**	**88**	*e*P	**Pb**	**22 06 13.7**	**-3.6**
RZN	**Rozhen**	**3.44**	**88**	P	**Pn**	**22 06 12.2**	**+2.3**
PLD	**Plovdiv**	**3.45**	**81**	*e*Pn	**Pn**	**22 06 10.0**	**+0.2**
PLD				*e*Sn	**Sn**	**22 06 50.7**	**+0.1**
PLD	**Plovdiv**	**3.45**	**81**	*e*P	**Pn**	**22 06 11.6**	**+1.8**
PLD	**Plovdiv**	**3.45**	**81**	P	**Pn**	**22 06 11.5**	**+1.8**
PLD				S	**Sn**	**22 06 51.8**	**+1.2**
DJES	**Djerdap**	**3.48**	**29**	*e*Pn	**Pn**	**22 06 11.5**	**+1.3**
VLS	**Valsamata**	**3.50**	**174**	P	**Pn**	**22 06 10.2**	**-0.3**
FRGS	**Fruska Gora**	**3.50**	**356**	*e*Pn	**Pn**	**22 06 11.6**	**+1.0**
FRGS	**Fruska Gora**	**3.50**	**356**	*i*Pn	**Pn**	**22 06 12.0**	**+0.5**
FRGS				*e*Sn	**Sn**	**22 06 53.2**	**+1.3**
EFP	**Efpalio**	**3.51**	**156**	P	**Pn**	**22 06 12.1**	**+1.5**
SKIA	**Skiathos**	**3.57**	**133**	P	**Pn**	**22 06 11.8**	**+0.4**
TIP	**Timpagrande**	**3.57**	**227**	*i*P	**Pn**	**22 06 10.7**	**-0.7**
TIP	**Timpagrande**	**3.57**	**227**	P	**Pn**	**22 06 10.8**	**-0.7**
KALE	**Kalithea**	**3.61**	**154**	P	**Pn**	**22 06 14.2**	**+2.1**
TRIZ	**Trizonia**	**3.62**	**155**	P	**Pn**	**22 06 14.3**	**+2.2**
THAS	**Thassos island**	**3.63**	**105**	P	**Pn**	**22 06 12.5**	**+0.3**
HERR	**Herculane**	**3.63**	**27**	*i*P	**Pn**	**22 06 13.1**	**+0.8**
RLS	**Riolos of Patr**	**3.74**	**163**	P	**Pn**	**22 06 15.7**	**+1.9**
SRE	**Strehaia**	**3.75**	**36**	*i*P	**Pn**	**22 06 15.2**	**+1.2**
BLY	**Banja Luka**	**3.76**	**326**	*e*Pn	**Pn**	**22 06 15.8**	**+1.7**
BLY				*e*Sg	**Sg**	**22 07 18.4**	**+1.4**
BLY	**Banja Luka**	**3.76**	**326**	*i*P	**Pn**	**22 06 15.3**	**+1.2**
BLY	**Banja Luka**	**3.76**	**326**	*i*Pn	**Pn**	**22 06 15.2**	**+1.2**
BLY				*e*Sn	**Sn**	**22 07 00.4**	**+2.2**
CRAR	**CRAIOVA**	**3.79**	**44**	*i*P	**Pn**	**22 06 17.1**	**+2.6**
CRAR	**CRAIOVA**	**3.79**	**44**	P	**Pn**	**22 06 17.1**	**+2.6**
BANR	**Banloc**	**3.79**	**11**	*i*P	**Pn**	**22 06 16.5**	**+2.0**
DRO	**Drossia**	**3.90**	**161**	P	**Pn**	**22 06 17.8**	**+1.8**
KLV	**Kalavryta, Ach**	**3.94**	**156**	P	**Pn**	**22 06 17.4**	**+0.9**
KDZ	**Kurdzhali**	**3.97**	**88**	*e*P	**Pb**	**22 06 24.2**	**-1.9**
GUR	**Goura**	**4.09**	**155**	P	**Pn**	**22 06 20.7**	**+2.0**
BZS	**Buzias**	**4.10**	**15**	*e*Pn	**Pn**	**22 06 19.3**	**+0.5**
BZS	**Buzias**	**4.10**	**15**	*i*Pn	**Pn**	**22 06 19.3**	**+0.5**
BZS	**Buzias**	**4.10**	**15**	P	**Pn**	**22 06 19.1**	**+0.3**
RDO	**Rodhopi**	**4.11**	**95**	P	**Pn**	**22 06 19.1**	**+0.3**
UDBI	**Udbina**	**4.29**	**313**	*i* Pn	**Pn**	**22 06 24.0**	**+2.6**
ALN	**Alexandroupoli**	**4.53**	**98**	P	**Pn**	**22 06 25.5**	**+0.9**
ALN	**Alexandroupoli**	**4.53**	**98**	P	**Pn**	**22 06 26.9**	**+2.3**
HUMR	**Humele**	**4.57**	**50**	*i*P	**Pn**	**22 06 26.8**	**+1.6**
LOT	**Lotru**	**4.62**	**34**	*i*P	**Pn**	**22 06 26.9**	**+0.9**
MORH	**M¨‡r¸igy, Hung**	**4.68**	**347**	*e*x	**Pn**	**22 06 28.2**	**+1.6**
MORH				*e*Sn	**Sn**	**22 07 20.6**	**-0.2**
MORH	**M¨‡r¸igy, Hung**	**4.68**	**347**	*i*Pn	**Pn**	**22 06 27.3**	**+0.9**
MORH				*e*Sn	**Sn**	**22 07 20.8**	**0.0**
SIRR	**Siria**	**4.74**	**13**	*i*P	**Pn**	**22 06 28.7**	**+1.2**
GMB	**Gambarie**	**4.80**	**225**	P	**Pn**	**22 06 32.4**	**+3.9**
GMB				S	**Sn**	**22 07 22.5**	**-1.6**
NVLJ	**Novalja**	**4.81**	**309**	*i* Pn	**Pn**	**22 06 29.3**	**+0.8**
NVLJ				Sn	**Sn**	**22 07 25.2**	**+1.0**
JMB	**Yambol**	**4.88**	**78**	*e*P	**Pn**	**22 06 30.1**	**+0.7**
ARR	**Arges**	**4.95**	**40**	*i*P	**Pn**	**22 06 32.1**	**+1.6**
AQU	**L'Aquila**	**5.05**	**280**	P	**Pn**	**22 06 35.9**	**+4.0**
AQU	**L'Aquila**	**5.05**	**280**	*i*Pn	**Pn**	**22 06 32.0**	**+0.1**
AQU				*e*Sn	**Sn**	**22 07 28.8**	**-1.4**
MTUR	**Matau**	**5.07**	**44**	*i*P	**Pn**	**22 06 33.9**	**+1.8**
MTUR	**Matau**	**5.07**	**44**	P	**Pn**	**22 06 33.9**	**+1.8**
OZLJ	**Ozalj**	**5.20**	**321**	*i* Pn	**Pn**	**22 06 35.8**	**+2.0**
CRES	**Cresnjev**	**5.36**	**323**	*i*Pn	**Pn**	**22 06 37.1**	**+1.0**
CRES				*e*Sn	**Sn**	**22 07 37.3**	**-0.4**
BEHE	**Becsehely**	**5.38**	**335**	*ex*	**Pn**	**22 06 39.0**	**+2.7**
BEHE	**Becsehely**	**5.38**	**335**	*e*Pn	**Pn**	**22 06 36.6**	**+0.3**
BEHE				*e*Sn	**Sn**	**22 07 37.6**	**-0.5**
SULR		**5.41**	**54**	*i*P	**Pn**	**22 06 38.5**	**+1.9**
TIH	**Tihany**	**5.48**	**344**	*i*Pn	**Pn**	**22 06 39.9**	**+2.3**
TIH				*ex*	**Sn**	**22 07 43.2**	**+2.7**
SECR		**5.49**	**50**	*i*P	**Pn**	**22 06 39.5**	**+1.6**
RIY	**Rijeka**	**5.50**	**314**	*e*Pn	**Pn**	**22 06 38.7**	**+0.8**
RIY				*e*Sn	**Sn**	**22 07 40.4**	**-0.6**
LEHL	**Lehliu**	**5.66**	**58**	*i*P	**Pn**	**22 06 42.3**	**+2.2**
MLR	**Muntele Rosu**	**5.71**	**46**	Pn	**Pn**	**22 06 42.9**	**+2.0**
	4.0nm,0.3s,baz=227,slow=4.9,SNR=67						
MLR				Sn	**Sn**	**22 07 47.9**	**+1.6**
	0.9nm,0.3s,baz=311,slow=19,SNR=3.2						
MLR				LR	LR	22 09 22.4	
	comp=Z,120nm,21.6s,baz=226,slow=43						
MLR	**Muntele Rosu**	**5.71**	**46**	*i*P	**Pn**	**22 06 42.9**	**+2.0**
DOPR	**Dopca**	**5.75**	**40**	*i*P	**Pn**	**22 06 43.1**	**+1.7**
CEY	**Cerknica**	**5.80**	**317**	*i*Pn	**Pn**	**22 06 43.0**	**+0.9**
CEY				*e*Sn	**Sn**	**22 07 48.0**	**-0.6**
ISR	**Istrita**	**5.82**	**51**	*i*P	**Pn**	**22 06 44.7**	**+2.3**
ISR	**Istrita**	**5.82**	**51**	P	**Pn**	**22 06 45.9**	**+3.5**
ISR				pmax	pmax		
	comp=Z,36nm,0.7s						
LTVH	**L¨tav¨rtes,**	**5.86**	**12**	*e*x	**Pn**	**22 06 45.2**	**+2.3**
LTVH				*ex*	**Sn**	**22 07 50.3**	**+0.3**
BUD	**Budapest**	**5.88**	**353**	*ex*	**Pn**	**22 06 44.8**	**+1.7**
BUD				*ex*	**Sn**	**22 07 52.8**	**+2.5**
BUD	**Budapest**	**5.88**	**353**	P	**Pn**	**22 06 45.1**	**+2.0**
LJU	**Ljubljana**	**5.96**	**319**	*e*Pn	**Pn**	**22 06 45.2**	**+0.9**
LJU				*e*Sn	**Sn**	**22 07 51.8**	**-0.7**
PGOR	**Pogoanele**	**5.97**	**55**	*i*P	**Pn**	**22 06 46.7**	**+2.3**
AMRR	**Amara**	**6.05**	**58**	*i*P	**Pn**	**22 06 47.4**	**+2.0**
VAE	**Valguarnera**	**6.07**	**228**	Pn	**Pn**	**22 06 42.9**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=101,slow=19,SNR=1.9						
VAE				Sn	**Sn**	**22 07 56.1**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=288,slow=19,SNR=2.9						
SOKA	**Soboth**	**6.21**	**326**	*e*Pn	**Pn**	**22 06 49.2**	**+1.4**
	comp=Z,13nm,0.7s,SNR=20						
SOKA				Sn	**Sn**	**22 07 59.4**	**+0.8**
	comp=Z,7.2nm,0.7s						
APE	**Apeiranthos**	**6.21**	**136**	*e*P	**Pn**	**22 06 47.8**	**0.0**
APE				pmax	pmax		
	comp=Z,59nm,1.3s						
GRER		**6.22**	**51**	*i*P	**Pn**	**22 06 49.7**	**+1.9**
PSZ	**Piszkesteto**	**6.26**	**359**	*i*P	**Pn**	**22 06 49.8**	**+1.3**
PSZ	**Piszkesteto**	**6.26**	**359**	*e*x	**Pn**	**22 06 49.9**	**+1.4**
PSZ				*ex*	**Sn**	**22 07 58.6**	**-1.3**
PSZ	**Piszkesteto**	**6.26**	**359**	P	**Pn**	**22 06 50.6**	**+2.1**
OBKA	**Obir**	**6.29**	**322**	*e*Pn	**Pn**	**22 06 51.0**	**+2.1**
	comp=Z,2.9nm,0.2s						
OBKA				Sn	**Sn**	**22 08 04.0**	**+3.2**
	comp=Z,20nm,0.7s						
PLOR	**Plostina**	**6.32**	**46**	*i*P	**Pn**	**22 06 51.2**	**+2.0**
PLOR	**Plostina**	**6.32**	**46**	P	**Pn**	**22 06 51.1**	**+1.9**
CRE	**Caprese Michel**	**6.33**	**291**	P	**Pn**	**22 06 51.2**	**+1.7**
VRI	**Vrincioaia**	**6.37**	**46**	*i*P	**Pn**	**22 06 51.8**	**+1.9**
VRI	**Vrincioaia**	**6.37**	**46**	P	**Pn**	**22 06 51.8**	**+1.9**
HARR	**Harsova**	**6.46**	**59**	*i*P	**Pn**	**22 06 52.8**	**+1.6**
HARR	**Harsova**	**6.46**	**59**	P	**Pn**	**22 06 52.7**	**+1.6**
ARSA	**Arzberg**	**6.49**	**331**	*e*Pn	**Pn**	**22 06 54.7**	**+3.2**
	comp=Z,7.8nm,0.5s						
ARSA				*e*Sn	**Sn**	**22 08 08.1**	**+2.8**
	comp=Z,11nm,0.5s						
SFI	**Santa Sofia**	**6.49**	**293**	P	**Pn**	**22 06 53.1**	**+1.5**
TLB	**Topalu**	**6.49**	**61**	*i*P	**Pn**	**22 06 52.6**	**+1.0**
TIRR	**Tirgusor**	**6.69**	**63**	*i*P	**Pn**	**22 06 57.0**	**+2.8**
TIRR	**Tirgusor**	**6.69**	**63**	P	**Pn**	**22 06 56.8**	**+2.6**
TRPA	**Tarpa**	**6.69**	**14**	*i*P	**Pn**	**22 06 55.3**	**+1.0**
TRPA	**Tarpa**	**6.69**	**14**	*i*Ex	**Pn**	**22 06 55.4**	**+1.1**
BIZ	**Bicaz**	**6.80**	**37**	*i*P	**Pn**	**22 06 57.9**	**+2.1**
MYKA	**Terra Mystica**	**6.81**	**319**	*e*Pn	**Pn**	**22 06 58.4**	**+2.3**
	comp=Z,3.6nm,0.4s						
CFR	**Carcaliu**	**6.81**	**56**	*i*P	**Pn**	**22 06 57.1**	**+1.1**
CFR	**Carcaliu**	**6.81**	**56**	P	**Pn**	**22 06 57.0**	**+1.1**
KECS	**Kecovo**	**6.83**	**2**	*e*P	**Pn**	**22 06 57.7**	**+1.5**
KECS				*e*		22 08 11.0	
KECS	**Kecovo**	**6.83**	**2**	*e*PN	**Pn**	**22 06 57.7**	**+1.5**
KECS				*e*SN	**Sn**	**22 08 11.0**	**-2.8**
VYHS	**Vyhne**	**6.89**	**353**	*e*P	**Pn**	**22 06 59.2**	**+2.1**
VYHS				*e*		22 08 12.0	
VYHS	**Vyhne**	**6.89**	**353**	*e*PN	**Pn**	**22 06 59.2**	**+2.1**
VYHS				*e*SN	**Sn**	**22 08 12.0**	**-3.4**
CONA	**Conrad Observa**	**6.96**	**336**	*e*Pn	**Pn**	**22 07 00.5**	**+2.4**
	comp=Z,2.3nm,0.4s						
CONA				*e*Sn	**Sn**	**22 08 20.7**	**+3.6**
	comp=Z,9.3nm,0.5s						
BURAR	**Bucovina Array**	**6.97**	**30**	*i*P	**Pn**	**22 07 01.3**	**+3.0**
BURAR	**Bucovina Array**	**6.97**	**30**	P	**Pn**	**22 07 01.3**	**+3.0**
MODS	**Modra-Piesok**	**7.01**	**344**	*e*P	**Pn**	**22 07 00.6**	**+1.9**
MODS				*e*		22 08 17.4	
MODS	**Modra-Piesok**	**7.01**	**344**	*e*PN	**Pn**	**22 07 00.6**	**+1.9**
MODS				*e*SN	**Sn**	**22 08 17.4**	**-0.9**
KOLL	**Kolacno**	**7.03**	**351**	*e*SN	**Sn**	**22 08 19.6**	**+1.0**
SMOL	**Smolenice**	**7.11**	**345**	*e*SN	**Sn**	**22 08 19.4**	**-1.4**
UZH	**Uzhgorod**	**7.14**	**12**	*e*P	Pn	22 07 05.3	+4.9
FVI	**Forni Avoltri**	**7.23**	**316**	P	Pn	22 07 06.6	+4.9
TLCR		**7.24**	**58**	*i*P	**Pn**	**22 07 04.0**	**+2.1**
TLCR		**7.24**	**58**	P	**Pn**	**22 07 04.0**	**+2.1**
KBA	**Koelnbreinsper**	**7.27**	**320**	*e*Pn	**Pn**	**22 07 04.2**	**+1.7**
	comp=Z,4.2nm,0.3s,SNR=16						
KBA	**Koelnbreinsper**	**7.27**	**320**	P	**Pn**	**22 07 04.6**	**+2.1**
KBA				pmax	pmax		
	comp=Z,21nm,0.8s						
IDI	**Anoyia**	**7.38**	**148**	Pn	**Pn**	**22 07 03.7**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=327,slow=15,SNR=4.6						
IDI				Sn	**Sn**	**22 08 24.1**	**-3.4**
	comp=Z,0.5nm,0.3s,baz=79,slow=16,SNR=3.7						
JAVC	**Velka Javorina**	**7.40**	**347**	*e*PN	**Pn**	**22 07 07.3**	**+3.2**
MOA	**Molln**	**7.46**	**328**	*e*Pn	**Pn**	**22 07 07.1**	**+2.2**
	comp=Z,3.2nm,0.4s,SNR=8.0						
MOA				*e*Sn	**Sn**	**22 08 32.1**	**+2.7**
	comp=Z,11nm,0.4s						
ABTA	**Abfaltersbach**	**7.46**	**316**	*e*Pn	**Pn**	**22 07 06.3**	**+1.3**
	comp=Z,2.6nm,0.3s,SNR=9.9						
ABTA				*e*Sn	**Sn**	**22 08 31.1**	**+1.6**
	comp=Z,14nm,0.5s						
LANS	**Liptovska Anna**	**7.51**	**357**	*e*P	**Pn**	**22 07 08.8**	**+3.3**
LANS				*e*		22 08 32.5	
LANS	**Liptovska Anna**	**7.51**	**357**	*e*PN	**Pn**	**22 07 08.8**	**+3.3**
LANS				*e*SN	**Sn**	**22 08 32.5**	**+2.0**
CTI	**Castel Tesino**	**7.53**	**308**	P	**Pn**	**22 07 04.9**	**-1.0**
NIE	**Niedzica**	**7.76**	**1**	P	**Pn**	**22 07 13.8**	**+4.8**
NIE				pmax	pmax		
	comp=Z,8.0nm,0.9s						
VRAC	**Vranov**	**8.04**	**343**	Pn	**Pn**	**22 07 14.5**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=148,slow=17,SNR=2.6						
VRAC				Sn	**Sn**	**22 08 36.6**	**-7.0**
	comp=Z,0.1nm,0.3s,baz=137,slow=19,SNR=1.9						
VRAC	**Vranov**	**8.04**	**343**	*e*PN	**Pn**	**22 07 15.8**	**+3.0**
WTTA	**Wattenberg**	**8.26**	**316**	*e*Pn	**Pn**	**22 07 19.2**	**+3.2**
	comp=Z,3.2nm,0.2s						
WTTA				Sn	**Sn**	**22 08 51.6**	**+2.4**
	comp=Z,12nm,0.5s						
OKC	**Ostrava-Krasne**	**8.29**	**351**	*e*SN	**Sn**	**22 08 50.9**	**+1.1**
TREC	**Trest**	**8.30**	**339**	*e*SN	**Sn**	**22 08 53.1**	**+3.1**
TREC				AMS	AMS	22 10 50.0	
	comp=Z,700nm,7.3s						
MORC	**Moravsky Berou**	**8.32**	**348**	*e*PN	**Pn**	**22 07 19.7**	**+3.1**
PGF	**Pioggiola**	**8.32**	**280**	*e*Pn	**Pn**	**22 07 16.3**	**-0.4**
WATA	**Walderalm**	**8.33**	**316**	*e*Pn	**Pn**	**22 07 18.9**	**+1.9**
	comp=Z,3.3nm,0.2s						
SQTA	**Sankt Quirin**	**8.46**	**314**	*e*Pn	**Pn**	**22 07 20.9**	**+2.3**
	comp=Z,6.5nm,0.4s,SNR=11						
SQTA				Sn	**Sn**	**22 08 57.4**	**+3.4**
	comp=Z,22nm,0.8s						
GERES	**GERESS Array B**	**8.49**	**330**	Pn	**Pn**	**22 07 20.7**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=149,slow=13,SNR=21						
GERES				Sn	**Sn**	**22 08 53.0**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=152,slow=23,SNR=2.5						
GERES				LR	LR	22 11 27.5	
	comp=Z,87nm,19.0s,baz=138,slow=44						
MOTA	**Moosalm**	**8.59**	**314**	*e*Pn	**Pn**	**22 07 21.6**	**+1.1**
	comp=Z,6.3nm,0.4s,SNR=8.6						
FETA	**Feichten**	**8.60**	**312**	Pn	**Pn**	**22 07 23.0**	**+2.3**
	comp=Z,5.1nm,0.5s						
FETA				Sn	**Sn**	**22 08 59.5**	**+1.9**
	comp=Z,7.9nm,0.7s						
KHC	**Kasperske Hory**	**8.77**	**331**	*e*PN	**Pn**	**22 07 24.9**	**+2.0**
KHC				*ex*	x	22 07 30.5	
KHC				*e*SN	**Sn**	**22 09 03.3**	**+1.7**
KHC				AMS	AMS	22 11 20.0	
	comp=Z,200nm,10.8s						
KHC	**Kasperske Hory**	**8.77**	**331**	*e*P	**Pn**	**22 07 24.9**	**+2.0**
KHC				*e*		22 09 03.3	
KHC				MLR	MLR		
	comp=Z,200nm,10.8s						
RETA	**Reutte**	**8.86**	**314**	*e*Sn	**Sn**	**22 09 06.6**	**+2.8**
	comp=Z,3.9nm,0.4s						
DAVOX	**Davos/Dischmat**	**8.96**	**308**	Pn	**Pn**	**22 07 27.0**	**+1.4**
	comp=Z,1.1nm,0.3s,baz=297,slow=23,SNR=12						
DAVOX				Sn	**Sn**	**22 09 00.1**	**-6.3**
	comp=Z,0.3nm,0.3s,baz=311,slow=19,SNR=1.6						
DAVOX				LR	LR	22 11 51.8	
	comp=Z,38nm,18.8s,baz=82,slow=44						
WET	**Wettzell**	**9.05**	**328**	P	**Pn**	**22 07 31.0**	**+4.3**
WET				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GOPC	**GO Pecny, Ondr**	**9.05**	**338**	*e*SN	**Sn**	**22 09 08.5**	**0.0**
GOPC				AMS	AMS	22 11 20.0	
	comp=Z,400nm,11.9s						
DPC	**Dobruska-Polom**	**9.08**	**344**	*e*PN	**Pn**	**22 07 31.0**	**+3.8**
DPC				*e*SN	**Sn**	**22 09 10.9**	**+1.6**
DPC				AMS	AMS	22 11 30.0	
	comp=Z,400nm,9.2s						
DPC	**Dobruska-Polom**	**9.08**	**344**	*e*P	**Pn**	**22 07 31.0**	**+3.8**
DPC				*e*		22 09 10.9	
DPC				MLR	MLR		
	comp=Z,400nm,9.2s						
DAVA	**Damuels**	**9.23**	**311**	*e*Pn	**Pn**	**22 07 31.7**	**+2.4**
	comp=Z,3.4nm,0.6s						
DAVA				Sn	**Sn**	**22 09 15.5**	**+2.5**
	comp=Z,11nm,0.6s						
UPC	**Upice**	**9.30**	**344**	AMS	AMS	22 11 50.0	
	comp=Z,300nm,7.3s						
SBF	**Sospel**	**9.59**	**288**	*e*Pn	**Pn**	**22 07 33.8**	**-0.3**
PVCC	**Panska Ves**	**9.67**	**338**	AMS	AMS	22 11 40.0	
	comp=Z,400nm,7.8s						
FRF	**La Foret Royal**	**10.12**	**285**	*e*Pn	**Pn**	**22 07 40.8**	**-0.5**
LMR	**La Mourre**	**10.19**	**284**	*e*Pn	**Pn**	**22 07 41.7**	**-0.6**
MBDF	**Montbardon**	**10.22**	**292**	*e*Pn	**Pn**	**22 07 41.9**	**-0.9**
MBDF				*e*Sn	**Sn**	**22 09 31.4**	**-5.9**
	comp=Z,3.1nm,0.5s						
LPG	**La Plagne**	**10.43**	**296**	*e*Pn	**Pn**	**22 07 45.3**	**-0.5**
LPG				*e*Sn	**Sn**	**22 09 36.5**	**-6.2**
	comp=Z,10nm,0.6s						
BRTR	**Keskin Array B**	**10.45**	**96**	Pn	**Pn**	**22 07 46.1**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=269,slow=9.7,SNR=3.1						
LPL	**La Plagne**	**10.45**	**296**	*e*Pn	**Pn**	**22 07 45.8**	**-0.2**
LPL				*e*Sn	**Sn**	**22 09 35.6**	**-

JISG **Ishigakijimahi** 0.98 248 P Pn 22 24 37.4 -0.7
JISG S Sn 22 24 51.1 +0.3
JIJ **Ishigaki jima** 1.22 241 P Pn 22 24 40.7 -0.6
JIJ eS Sn 22 24 55.2 -1.4
JKRS **Kuro-shima** 1.39 239 P Pn 22 24 43.3 -0.3
JKRS eS Sn 22 25 01.2 +0.4
IRIF **Iriomote-Funau** 1.57 247 P Pn 22 24 45.2 -0.9
IRIF eS Sn 22 25 06.3 +1.1
HATJ **Hateruma jima** 1.64 237 P Pn 22 24 46.0 -1.1
YOJ **Yonaguni jima** 2.15 257 ePn Pn 22 24 53.7 -0.4
JOW **Kunigami** 3.25 55 P Pn 22 25 09.7 +0.4
8.1nm,0.3s,baz=148,slow=16,SNR=13
JOW S Sn 22 25 46.5 -0.3
28nm,0.3s,baz=188,slow=17,SNR=3.7
TATO **Taipei** 3.47 271 ePn Pn 22 25 14.4 +2.2
NACB **Ninganchiao** 3.47 258 ePn Pn 22 25 12.2 -0.1
YHNB **Yeheng** 3.59 266 ePn Pn 22 25 16.0 +2.1
YULB **Yu-li** 3.98 248 ePn Pn 22 25 16.9 -2.5
SSLB **Suanglung** 4.14 254 ePn Pn 22 25 20.9 -0.6
TPUB **Ta-pu** 4.58 250 ePn Pn 22 25 27.6 0.0
NJ2 **Nanjing** 9.06 323 eP Pn 22 26 24.3 -4.6
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
JNU **Nakatsue** 9.47 30 LR LR 22 30 07.6
comp=Z,70nm,19.6s,baz=248,slow=37
KSAR **Wonju Array Be** 12.63 9 P Pn 22 27 17.1 -0.6
KSRS **Korea Array** 12.65 10 P Pn 22 27 17.1 -0.9
0.2nm,0.3s,baz=186,slow=14,SNR=2.8
KSRS LR LR 22 32 36.5
comp=Z,60nm,18.9s,baz=185,slow=40
MJAR **Matsushiro Arr** 15.98 41 P P 22 28 03.8 -1.8
0.1nm,0.3s,baz=235,slow=12,SNR=4.6
CN2 **Changchun** 18.79 0 eP P 22 28 35.0 -1.4
CN2 pmax pmax
comp=Z,10.0nm,0.6s
HHC **Hu-ho-hao-te** 19.56 327 eP Pn 22 28 45.8 -0.8
HHC pmax pmax
comp=Z,13nm,1.1s
CD2 **Chengdu** 19.93 292 eP P 22 28 47.0 -2.1
CD2 S S 22 32 27.8 -3.3
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.6s
CD2 LR LR
comp=E,320nm,13.9s
CD2 LR LR
comp=Z,330nm,19.9s
USRK **Ussuriysk Ar.** 19.95 14 P Pn 22 28 50.5 -0.5
0.1nm,0.3s,baz=185,slow=8.6,SNR=2.8
LZH **Lanzhou** 21.51 306 eP P 22 29 04.8 -1.4
LZH pP pP 22 29 09.0 -7.7
LZH sP sP 22 29 12.5 -10
LZH ePP PnPn 22 29 27.8 +0.2
LZH pmax pmax
comp=Z,28nm,0.9s
LZH pmax pmax
comp=Z,86nm,4.9s
LZH LR LR
comp=N,1μm,13.6s
LZH LR LR
comp=E,1μm,10.8s
LZH LR LR
comp=Z,1μm,11.4s
CHTO **Chiang Mai** 25.20 261 eP P 22 29 42.8 +0.2
3.1nm,0.8s
CM01 **Chiang Mai Arr** 25.31 260 eP P 22 29 43.6 0.0
CM31 **Chiang Mai Arr** 25.31 260 eP P 22 29 43.6 0.0
CMAR **Chiang Mai Arr** 25.31 260 P P 22 29 44.4 +0.8
0.9nm,0.4s,baz=60,slow=8.1,SNR=12
GTA **Gaotai** 25.83 310 ⇓P P 22 29 48.0 -0.2
GTA pP pP 22 29 52.8 -6.9
GTA sP sP 22 29 55.3 -10
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA pmax pmax
comp=Z,43nm,4.1s
GTA LR LR
comp=N,120nm,16.2s
GTA LR LR
comp=E,110nm,14.9s
GTA LR LR
comp=Z,57nm,16.2s
SONM **Songino Array** 27.29 332 P P 22 30 03.8 +2.4
2.5nm,0.5s,baz=147,slow=8.6,SNR=3.6
SONM LR LR 22 42 28.8
comp=Z,108nm,19.2s,baz=192,slow=40
KSM **Kuching** 27.48 214 eP P 22 30 05.7 +2.5
22nm,1.0s
WMQ **Urumqi** 35.90 311 eP P 22 31 17.3 +0.4
WMQ pP pP 22 31 23.5 -5.0
WMQ pmax pmax
comp=Z,15nm,1.1s
WMQ LR LR
comp=E,56nm,16.7s
WMQ LR LR
comp=Z,81nm,18.3s
PETK **Petropavlovsk-** 37.16 32 P P 22 31 27.3 -0.1
3.2nm,0.8s,baz=211,slow=5.9,SNR=4.7
MK01 **Makanchi Array** 40.44 314 eP P 22 31 54.5 -0.5
MK31 **Makanchi Array** 40.45 314 eP P 22 31 55.0 -0.2
MKAR **Makanchi Array** 40.45 314 P P 22 31 55.1 0.0
2.8nm,0.4s,baz=101,slow=10,SNR=62
MKAR **Makanchi Array** 40.45 314 eP P 22 31 55.0 -0.2
28nm,0.5s
ZAA0 **Zalesovo Array** 41.70 325 eP P 22 32 04.5 -0.8
2.0nm,0.7s
ZALV **Zalesovo Beam** 41.70 325 P P 22 32 04.3 -0.9
3.2nm,0.5s,baz=119,slow=8.8,SNR=14
ZALV LR LR 22 49 59.4
comp=Z,46nm,18.2s,baz=70,slow=37
ZALV **Zalesovo Beam** 41.70 325 eP P 22 32 03.9 -1.3
NRN **Naryn** 43.81 305 eP P 22 32 23.8 +0.9
3.4nm,0.8s
KURK **Kurchatov** 43.96 318 eP P 22 32 23.1 -0.4
KURBB **Kurchatov Arra** 43.99 318 P P 22 32 23.0 -0.8
1.0nm,0.6s,baz=109,slow=8.2,SNR=9.1
AAK **Ala-Archa** 45.05 306 P P 22 32 32.5 -0.1
0.4nm,0.4s,baz=90,slow=5.1,SNR=3.6
AAK LR LR 22 53 56.7
comp=Z,38nm,19.5s,baz=84,slow=40
WRA **Warramunga Arr** 45.49 168 P P 22 32 38.6 +2.5
1.6nm,0.9s,baz=355,slow=9.3,SNR=4.7
WB2 **Warramunga Arr** 45.50 168 eP P 22 32 46.1 +10
12nm,0.9s
NIL **Nilore** 45.81 293 eP P 22 32 39.4 +0.8
7.4nm,0.9s
KBL **Kabul** 49.23 295 eP P 22 33 06.4 +1.0
3.8nm,0.8s
BVAR **Borovoye Array** 49.49 319 P P 22 33 06.1 -0.6
0.5nm,0.3s,baz=112,slow=7.9,SNR=6.4
NRIK **Noril'sk** 49.68 343 P P 22 33 07.0 -0.9
3.3nm,0.9s,baz=114,slow=8.2,SNR=4.6
NRIK LR LR 22 56 14.5
comp=Z,40nm,19.3s,baz=172,slow=39
BILL **Bilibino** 49.70 19 eP P 22 33 07.1 -1.1
2.3nm,0.8s
ABKAR **Akbulak array** 55.60 314 eP P 22 33 52.1 +0.1
AKTO **Aktyubinsk** 56.85 315 P P 22 34 01.6 +0.6
0.9nm,0.5s,baz=81,slow=13,SNR=4.1
GEYT **Alibeck** 57.65 300 P P 22 34 07.1 +0.2
2.7nm,0.7s,baz=80,slow=17,SNR=11
IM3 **Indian Mountai** 63.80 27 eP P 22 34 49.1 +0.9
CAST **Castle Rocks** 64.70 30 eP P 22 34 57.3 +3.2
MLY **Manley** 65.12 28 eP P 22 34 58.2 +1.3
4.2nm,0.7s
TOLK **Toolik Lake Re** 65.24 24 eP P 22 34 58.7 +1.1
5.8nm,0.8s
RND **Reindeer** 66.14 29 eP P 22 35 03.6 +0.1
11nm,0.9s
MDM **Murphy Dome** 66.19 28 eP P 22 35 05.2 +1.4
8.4nm,0.6s
IL1 **Eielson Array** 66.79 28 eP P 22 35 08.5 +1.0
ILAR **Eielson Array** 66.79 28 P P 22 35 06.9 -0.6
0.7nm,0.5s,baz=257,slow=3.8,SNR=28
ILB **Eielson Array** 66.79 28 eP P 22 35 09.2 +1.7
KBZ **Khabaz** 67.91 309 P P 22 35 15.4 +0.4
5.6nm,0.9s,baz=135,slow=4.0,SNR=16
KVAR **Kislovodsk Arr** 68.00 309 P P 22 35 16.7 +1.0
2.5nm,0.6s,baz=86,slow=19,SNR=10
KIV **Kislovodsk** 68.01 309 eP P 22 35 16.4 +0.6
11nm,0.7s
AKH **Akhalkalaki** 68.05 307 eP P 22 35 18.0 +1.8
6.9nm,0.9s
SCRK **Sand Creek** 68.17 28 eP P 22 35 19.0 +2.5
3.3nm,0.8s

OBN **Obninsk** 69.21 322 P P 22 35 22.6 -0.3
1.7nm,0.3s,baz=346,slow=4.2,SNR=3.2
ARCES **ARCESS Array B** 70.21 338 P P 22 35 29.1 +0.3
2.9nm,0.9s,baz=60,slow=7.4,SNR=6.8
INK **Inuvik** 71.08 23 P P 22 35 34.8 +0.7
5.4nm,0.9s,baz=290,slow=6.2,SNR=12
INK **Inuvik** 71.08 23 eP P 22 35 35.7 +1.6
2.5nm,0.6s
FINES **FINESS Array B** 72.65 330 P P 22 35 43.8 +0.1
2.0nm,0.6s,baz=62,slow=6.0,SNR=20
AKASG **Malin Array Be** 74.77 319 P P 22 35 55.6 -0.7
1.7nm,0.4s,baz=61,slow=6.8,SNR=4.9
BR131 **Keskin Array S** 75.71 307 eP P 22 36 02.5 +0.3
BRTR **Keskin Array B** 75.71 307 P P 22 36 02.5 +0.3
4.8nm,0.8s,baz=102,slow=5.7,SNR=19
NB2 **NORSAR Subarra** 79.26 333 P P 22 36 20.9 -0.5
comp=Z,0.7nm,0.5s,baz=56,slow=5.6
NOA **NORSAR Array B** 79.26 333 P P 22 36 21.1 -0.3
comp=Z,0.8nm,0.5s,baz=54,slow=5.4,SNR=5.7
YKA **Yellowknife Ar** 80.76 24 P P 22 36 29.4 0.0
comp=Z,0.8nm,0.6s,baz=300,slow=5.4,SNR=6.5
VTS **Vitosha** 81.81 313 eP P 22 36 35.7 +0.2
comp=Z,4.5nm,0.9s
SUMG **Summit** 82.08 355 *i* P P 22 36 37.1 +0.3
comp=Z,17nm,0.7s
CLL **Collm** 83.66 324 eP P 22 36 45.0 +0.2
CLL epP pP 22 36 58.0 +0.4
CLL esP sP 22 37 03.0 +0.6
GERES **GERESS Array B** 84.59 322 P P 22 36 49.9 +0.2
comp=Z,0.7nm,0.6s,baz=62,slow=6.2,SNR=7.5
DAVOX **Davos/Dischmat** 87.88 322 P P 22 37 06.7 +0.6
comp=Z,1.8nm,0.6s,baz=133,slow=19,SNR=4.8
NVAR **Mina Array Bea** 93.27 45 P P 22 37 31.7 +0.3
comp=Z,0.3nm,0.6s,baz=278,slow=6.3,SNR=3.0
KEST **Kesra** 94.55 313 P P 22 37 35.0 -2.1
comp=Z,1.1nm,0.5s,baz=126,slow=2.3,SNR=4.1
PLCA **Paso Flores** 159.44 144 PKP PKPdf 22 44 13.2 -1.6
comp=Z,1.6nm,0.9s,baz=95,slow=1.3,SNR=3.0
LPAZ **La Paz** 164.75 58 PKP PKPdf 22 44 22.5 +0.9
comp=Z,1.1nm,0.8s,baz=73,slow=2.9,SNR=3.8

BJI **26** *22:25:39.6, 10˚.41N×127˚.50E, h40km, mb4.6/16, mB4.9/11, Ms4.2/4, Ms7 4.0/5*
IDC **26** *22:25:39.5±0.5, 10˚.58N×127˚.00E, h0km, mb4.3/32, mb1 4.3/34, mb1mx4.3/55, mbtmp4.3/34, ML4.3/2, MS3.3/10, Ms1 3.3/10, ms1mx3.0/38, Error ellipse: s-maj=20.8km s-min=10.2km az=80.0*
DJA **26** *22:25:40.1±0.6, 11˚.N±5˚×12˚.7E±˚, h10km, M4.6/6, mb4.6/6, mB6.2/1, Mw(mB)5.8/1*
MOS **26** *22:25:41.4±0.8, 10˚.52N×126˚.93E, h22km, mb4.8/18, Error ellipse: s-maj=13.8km s-min=7.2km az=117.5*
MAN **26** *22:25:43.7, 10˚.64N×126˚.58E, h1km, mb5.5, ML4.5, MS4.7*
ISCJB **26** *22:25:43.0±1.7, 10˚.64N±0˚.03×126˚.88E±0˚.04, h30km±12km, mb4.3/60, Error ellipse: s-maj=7.1km s-min=4.9km az=155.5*
NEIC **26** *22:25:45.0±0.2, 10˚.58N×126˚.92E, h35km, mb4.4/23, Error ellipse: s-maj=8.2km s-min=4.5km az=83.0*
ISC 26 22:25:43.2±1.9, 10˚.68N±0˚.04×126˚.87E±0˚.06, h18km±9km, n211, σ1°45/219, mb4.4/60, 10C-9D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.68**	**303**	*e*P		**Pn**	**22 26 09.8**	**-1.8**
BESP				*e*S		**Sn**	**22 26 32.1**	**-0.5**
PLP	**Palo**	**1.92**	**285**	⇑*i*P		**Pn**	**22 26 13.1**	**-1.8**
PLP				*e*S		**Sn**	**22 26 34.8**	**-3.9**
MSLP	**Maasin**	**2.05**	**255**	*e*P		**Pn**	**22 26 15.8**	**-1.0**
MSLP				*e*S		**Sn**	**22 26 42.5**	**+0.5**
BUTP	**Butuan**	**2.10**	**216**	*e*P		**Pn**	**22 26 17.5**	**0.0**
OCLP	**Ormoc**	**2.25**	**280**	*e*P		**Pn**	**22 26 18.6**	**-0.9**
BIPH	**Bislig**	**2.53**	**192**	⇑*i*P		**Pg**	**22 26 31.2**	**-0.6**
BIPH				*i* S		**Sn**	**22 26 48.4**	**-5.4**
LLP	**Lapu-Lapu**	**2.88**	**263**	*e*P		**Pn**	**22 26 27.6**	**-0.6**
LLP				*e*S		**Sn**	**22 26 59.6**	**-2.8**
CGP	**Cagayan de Oro**	**3.08**	**224**	⇓*e*P		**Pn**	**22 26 33.2**	**+2.2**
BUKP	**Musuan**	**3.31**	**213**	*e*P		**Pn**	**22 26 35.0**	**+0.8**
DAV	**Davao City (W)**	**3.81**	**200**	Pn		**Pn**	**22 26 40.6**	**-0.4**
	62nm,0.3s,baz=63,slow=14,SNR=2.2							
DAV						**Sn**	**22 27 30.0**	**+4.6**
	21nm,0.3s,baz=51,slow=7.2,SNR=4.5							
DAV	**Davao City (W)**	**3.81**	**200**	Pn		**Pn**	**22 26 40.6**	**-0.4**
DAV						**Sn**	**22 27 30.0**	**+4.6**
RCP	**Roxas**	**4.14**	**283**	⇓*e*P		**Pn**	**22 26 45.9**	**+0.3**
GUIM	**Jordan**	**4.21**	**270**	*e*P		**Pn**	**22 26 46.5**	**0.0**
TNTI	**Ternate**	**9.86**	**177**	*e*Pn		**Pn**	**22 28 03.8**	**-0.3**
TNTI				*e*Sn		Sn	22 29 41.4	-13
TNTI	**Ternate**	**9.86**	**177**	P		**Pn**	**22 28 04.0**	**-0.1**
SIJI	**Sorong**	**12.28**	**159**	Pn		**Pn**	**22 28 32.6**	**-4.7**
	0.7nm,0.3s,baz=0.0,slow=20,SNR=2.1							
LUWI	**Luwuk**	**12.34**	**200**	*e*Pn		**Pn**	**22 28 41.0**	**+2.9**
SANI	**Sanana**	**12.68**	**184**	P		Pn	22 28 37.7	-5.0
NACB	**Ninganchiao**	**14.33**	**340**	*e*Pn		**Pn**	**22 29 08.3**	**+3.1**
FAKI	**Fak Fak**	**14.53**	**158**	*e*Pn		**Pn**	**22 29 10.6**	**+2.5**
TTSI	**Tana Toraja**	**15.34**	**208**	P		**Pn**	**22 29 20.3**	**+1.4**
JOW	**Kunigami**	**16.12**	**5**	*e*Pn		**Pn**	**22 29 27.8**	**-1.1**
	26nm,1.0s							
SPSI	**Sidrap Palu**	**16.18**	**206**	P		**P**	**22 29 33.0**	**+0.2**
BNSI	**Bone**	**16.43**	**205**	P		**Pn**	**22 29 33.9**	**+1.0**
SBUM	**Sibu**	**16.69**	**242**	*e*Pn		**Pn**	**22 29 37.0**	**+0.7**
	7.2nm,1.0s							
BKSI	**Bulukumba**	**17.26**	**203**	P		**P**	**22 29 48.2**	**+3.4**
GUMO	**Guam**	**17.83**	**79**	LR		LR	22 34 29.7	
	comp=Z,214nm,21.3s,baz=290,slow=30							
STKI	**Sintang**	**18.59**	**236**	P		**Pn**	**22 30 01.9**	**+2.1**
KSM	**Kuching**	**18.83**	**242**	*e*P		**Pn**	**22 30 04.1**	**+1.4**
	22nm,1.0s							
MMRI	**Maumere**	**19.74**	**194**	*e*P		**P**	**22 30 11.9**	**-0.2**
	13nm,0.7s							
EDFI	**Ende, Flores**	**19.98**	**195**	P		**Pn**	**22 30 17.9**	**+1.3**
SOEI	**Soe**	**20.47**	**187**	*e*P		Pn	22 30 21.2	-1.2
	12nm,0.5s							
SOEI	**Soe**	**20.47**	**187**	P		Pn	22 30 23.5	+1.1
BATI	**Baumata**	**21.00**	**189**	P		**P**	**22 30 25.1**	**-0.7**
	21nm,0.5s,baz=18,slow=2.5,SNR=5.8							
BATI	**Baumata**	**21.00**	**189**	P		**P**	**22 30 25.1**	**-0.7**
BATI	**Baumata**	**21.00**	**189**	P		**P**	**22 30 26.0**	**+0.2**
JCJ	**Chichijima**	**21.79**	**39**	LR		LR	22 38 59.0	
	comp=Z,127nm,18.8s,baz=158,slow=37							
JNU	**Nakatsue**	**22.64**	**9**	LR		LR	22 40 43.1	
	comp=Z,46nm,18.1s,baz=174,slow=40							
MTN	**Mann Dam**	**23.75**	**170**	*e*P		**P**	**22 30 53.2**	**-1.5**
	26nm,1.1s							
MYKOM	**Kota Tinggi**	**24.51**	**250**	*e*P		**P**	**22 31 00.3**	**-1.4**
	12nm,1.0s							
KPJI	**Karang Pucung**	**25.28**	**226**	P		**P**	**22 31 11.5**	**+2.8**
ENH	**Enshi**	**25.33**	**323**	*e*P		**P**	**22 31 07.4**	**-1.7**
LEM	**Lembang**	**25.89**	**229**	P		**P**	**22 31 15.2**	**+0.9**
	13nm,0.5s,baz=93,slow=12,SNR=4.2							
LEM	**Lembang**	**25.89**	**229**	P		**P**	**22 31 15.2**	**+0.9**
LEM	**Lembang**	**25.89**	**229**	P		**P**	**22 31 15.3**	**+0.9**
KSRS	**Korea Array**	**26.67**	**2**	LR		LR	22 42 59.4	
	comp=Z,64nm,19.2s,baz=154,slow=39							
MDSI	**Maura Dua**	**27.16**	**237**	P		P	22 31 35.8	+10
MJAR	**Matsushiro Arr**	**27.71**	**20**	LR		LR	22 42 50.4	
	comp=Z,60nm,18.2s,baz=205,slow=37							
CM01	**Chiang Mai Arr**	**28.06**	**289**	*e*P		**P**	**22 31 33.0**	**-0.9**
CM31	**Chiang Mai Arr**	**28.09**	**289**	*e*P		**P**	**22 31 32.2**	**-1.9**
CM31				*e*PcP		**PcP**	**22 34 49.1**	**+0.6**
CMAR	**Chiang Mai Arr**	**28.09**	**289**	P		**P**	**22 31 32.2**	**-1.9**
	0.7nm,0.4s,baz=93,slow=7.3,SNR=4.4							
CMAR				PcP		**PcP**	**22 34 49.1**	**+0.6**
	0.4nm,0.4s,baz=64,slow=2.1,SNR=4.2							
CMAR				LR		LR	22 43 22.6	
	comp=Z,30nm,19.2s,baz=86,slow=38							
CMAR	**Chiang Mai Arr**	**28.09**	**289**	P		**P**	**22 31 32.2**	**-1.9**
CMAR				PcP		**PcP**	**22 34 49.1**	**+0.6**
CMAR	**Chiang Mai Arr**	**28.09**	**289**	P		**P**	**22 31 32.2**	**-1.9**
CMAR							22 34 49.1	
XAN	**Xi'an**	**28.47**	**328**	P		**P**	**22 31 37.8**	**+0.5**
XAN				pP		sP	22 31 48.5	+3.3
XAN				pmax		pmax		
	comp=Z,9.0nm,1.5s							
FITZ	**Fitzroy Crossi**	**28.62**	**182**	P		**P**	**22 31 36.6**	**-2.1**
	2.3nm,0.8s,baz=7.1,slow=8.1,SNR=4.4							
FITZ	**Fitzroy Crossi**	**28.62**	**182**	P		**P**	**22 31 36.6**	**-2.1**
PSI	**Prapat**	**28.82**	**256**	P		**P**	**22 31 40.6**	**-0.1**
	3.6nm,0.4s,baz=0.0,slow=4.0,SNR=2.3							
PSI	**Prapat**	**28.82**	**256**	P		**P**	**22 31 40.6**	**-0.1**
PSI	**Prapat**	**28.82**	**256**	P		**P**	**22 31 40.7**	**-0.1**
WRAB	**Tennant Creek**	**31.30**	**166**	*e*P		**P**	**22 32 00.8**	**-1.7**
	6.5nm,1.0s							
WRAB	**Tennant Creek**	**31.30**	**166**	⇓*e*P		**P**	**22 32 00.8**	**-1.7**
WRAB				pmax		pmax		
	comp=Z,9.0nm,1.3s							
WR1	**Warramunga Arr**	**31.31**	**166**	*e*P		**P**	**22 31 59.1**	**-3.4**
	comp=Z,3.5nm,1.1s							
WR1				*e*PcP		**PcP**	**22 34 56.4**	**-0.2**
WRA	**Warramunga Arr**	**31.31**	**166**	P		**P**	**22 31 59.1**	**-3.4**
	comp=Z,2.9nm,1.0s,baz=342,slow=9.0,SNR=7.7							
WRA				PcP		**PcP**	**22 34 56.4**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=342,slow=3.0,SNR=8.9							
WRA	**Warramunga Arr**	**31.31**	**166**	P		**P**	**22 31 59.1**	**-3.4**
WRA				PcP		**PcP**	**22 34 56.4**	**-0.2**
WRA	**Warramunga Arr**	**31.31**	**166**	*i* P		**P**	**22 32 01.0**	**-1.5**
WRA				pmax		pmax		
	comp=Z,3.0nm,1.0s							
WB2	**Warramunga Arr**	**31.31**	**166**	*e*P		**P**	**22 32 00.9**	**-1.7**
MSHR	**Mys Shultsa**	**32.00**	**6**	⇑*e*P		**P**	**22 32 10.4**	**+2.1**
USRK	**Ussuriysk Ar.**	**33.69**	**7**	P		**P**	**22 32 24.2**	**+1.1**
	comp=Z,2.9nm,0.8s,baz=168,slow=15,SNR=3.2							
USRK				LR		LR	22 44 29.7	
	comp=Z,28nm,21.8s,baz=138,slow=34							
USRK	**Ussuriysk Ar.**	**33.69**	**7**	P		**P**	**22 32 24.2**	**+1.1**
AS31	**Alice Springs**	**34.82**	**169**	*e*P		**P**	**22 32 31.1**	**-2.1**
	comp=Z,1.1nm,0.5s							
AS31				*e*PcP		**PcP**	**22 35 05.8**	**-0.6**
ASAR	**Alice Springs**	**34.82**	**169**	P		**P**	**22 32 31.1**	**-2.1**
	comp=Z,5.1nm,1.2s,baz=350,slow=5.0,SNR=16							
ASAR				PcP		**PcP**	**22 35 05.8**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=344,slow=2.6,SNR=7.8							
ASAR	**Alice Springs**	**34.82**	**169**	P		**P**	**22 32 31.1**	**-2.1**
ASAR				PcP		**PcP**	**22 35 05.8**	**-0.6**
ASAR	**Alice Springs**	**34.82**	**169**	P		**P**	**22 32 31.1**	**-2.1**
ASAR							22 35 05.9	
AS01	**Alice Springs**	**34.83**	**169**	*e*P		**P**	**22 32 31.2**	**-2.1**
BRDH	**Bariadhala**	**35.69**	**294**	LR		LR	22 48 32.8	
	comp=Z,29nm,18.7s,baz=172,slow=38							
ASAJ	**Asahikawa**	**35.98**	**19**	LR		LR	22 48 01.1	
	comp=Z,59nm,19.4s,baz=177,slow=37							
SHL	**Shillong**	**36.26**	**299**	*e*P		**P**	**22 32 47.0**	**+1.2**
	comp=Z,12nm,0.9s							
SHL	**Shillong**	**36.26**	**299**	*e*P		**P**	**22 32 47.0**	**+1.2**
SHL				pmax		pmax		
	comp=Z,12nm,0.9s							
GTA	**Gaotai**	**37.39**	**325**	⇑P		**P**	**22 32 56.3**	**+1.1**
GTA				pP		sP	22 33 04.0	+0.9
GTA				sP		pP	22 33 07.3	+6.5
GTA				pmax		pmax		
	comp=Z,13nm,1.5s							
GTA				pmax		pmax		
	comp=Z,110nm,4.8s							
GTA				LR		LR		
	comp=Z,140nm,17.5s							
GTA				LR		LR		
	comp=Z,130nm,19.0s							
GTA				LR		LR		
	comp=Z,83nm,18.7s							
LSA	**Lhasa**	**38.27**	**305**	*e*P		**P**	**22 33 01.5**	**-1.7**
	comp=Z,1.9nm,0.6s							
LSA	**Lhasa**	**38.27**	**305**	*e*P		**P**	**22 33 01.5**	**-1.7**
LSA				pmax		pmax		
	comp=Z,2.0nm,0.6s							
KLR	**Kul'dur**	**38.64**	**5**	P		**P**	**22 33 05.6**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=210,slow=3.8,SNR=4.4							
KLR	**Kul'dur**	**38.64**	**5**	P		**P**	**22 33 05.6**	**+0.2**
KLR	**Kul'dur**	**38.64**	**5**	⇓*e*P		**P**	**22 33 06.9**	**+1.5**
ULN	**Ulaanbaatar**	**40.64**	**339**	*ce*P		**P**	**22 33 24.9**	**+2.6**
ULN				pmax		pmax		
	comp=Z,9.0nm,1.8s							
SONA0	**Songino Array**	**40.85**	**339**	*e*P		**P**	**22 33 25.0**	**+1.0**
SONM	**Songino Array**	**40.85**	**339**	P		**P**	**22 33 25.0**	**+1.0**
	comp=Z,0.9nm,0.4s,baz=107,slow=2.0,SNR=3.6							
SONM	**Songino Array**	**40.85**	**339**	P		**P**	**22 33 25.0**	**+1.0**
SONM	**Songino Array**	**40.85**	**339**	P		**P**	**22 33 25.0**	**+1.0**
BBOO	**Buckleboo**	**44.13**	**169**	*e*P		**P**	**22 33 50.4**	**-0.2**
	comp=Z,32nm,1.0s							
STKA	**Stephens Creek**	**44.60**	**162**	P		**P**	**22 33 52.0**	**-2.5**
	comp=Z,3.1nm,0.7s,baz=336,slow=11,SNR=5.1							
STKA	**Stephens Creek**	**44.60**	**162**	P		**P**	**22 33 52.0**	**-2.5**
STKA	**Stephens Creek**	**44.60**	**162**	P		**P**	**22 33 52.0**	**-2.5**
PALK	**Pallekele**	**45.70**	**270**	*i* P		**P**	**22 34 03.5**	**-0.1**
PETK	**Petropavlovsk-**	**49.02**	**24**	P		**P**	**22 34 29.9**	**+1.0**
	comp=Z,2.4nm,0.5s,baz=187,slow=4.0,SNR=4.1							
PETK				LR		LR	22 53 57.5	
	comp=Z,32nm,21.7s,baz=236,slow=35							
PETK	**Petropavlovsk-**	**49.02**	**24**	P		**P**	**22 34 29.9**	**+1.0**
PETK	**Petropavlovsk-**	**49.02**	**24**	P		**P**	**22 34 29.9**	**+1.0**
PEA1	**Petropavlovsk-**	**49.02**	**24**	*e*P		**P**	**22 34 29.9**	**+1.0**
DGZ	**Jazzator, Alta**	**50.73**	**328**	*d* P		**P**	**22 34 43.6**	**+1.5**
DGZ				pmax		pmax		
	comp=Z,6.0nm,1.6s							
MK01	**Makanchi Array**	**52.04**	**322**	*e*P		**P**	**22 34 52.3**	**+0.5**
MK31	**Makanchi Array**	**52.06**	**322**	*e*P		**P**	**22 34 53.0**	**+1.0**
MK31	**Makanchi Array**	**52.06**	**322**	*e*P		**P**	**22 34 53.0**	**+1.0**
MK32	**Makanchi Array**	**52.06**	**322**	*e*P		**P**	**22 34 53.0**	**+1.0**
MKAR	**Makanchi Array**	**52.06**	**322**	P		**P**	**22 34 53.0**	**+1.0**
	comp=Z,1.8nm,0.5s,baz=115,slow=8.0,SNR=26							
MKAR	**Makanchi Array**	**52.06**	**322**	P		**P**	**22 34 53.0**	**+1.0**
MKAR	**Makanchi Array**	**52.06**	**322**	P		**P**	**22 34 53.0**	**+1.0**
PDGK	**Podgornoye**	**52.30**	**317**	P		**P**	**22 34 55.4**	**+1.5**
PDGK				pmax		pmax		
	comp=Z,12nm,1.1s							
NIL	**Nilore**	**53.99**	**304**	*e*P		**P**	**22 35 07.7**	**+1.3**
	comp=Z,8.7nm,1.0s							
NRN	**Naryn**	**54.00**	**314**	*e*P		**P**	**22 35 07.1**	**+0.4**
	comp=Z,3.2nm,0.8s							
NRN	**Naryn**	**54.00**	**314**	*e*P		**P**	**22 35 07.1**	**+0.4**
NRN				pmax		pmax		
	comp=Z,3.0nm,0.8s							
ZAA0	**Zalesovo Array**	**54.55**	**331**	*e*P		**P**	**22 35 09.6**	**-0.5**
	comp=Z,1.6nm,0.8s							
ZALV	**Zalesovo Beam**	**54.55**	**331**	P		**P**	**22 35 08.5**	**-1.6**
	comp=Z,1.1nm,0.4s,baz=131,slow=6.8,SNR=5.3							
ZALV	**Zalesovo Beam**	**54.55**	**331**	P		**P**	**22 35 08.5**	**-1.6**
ZALV	**Zalesovo Beam**	**54.55**	**331**	P		**P**	**22 35 08.5**	**-1.6**
ZAA1	**Zalesovo Array**	**54.55**	**331**	*e*P		**P**	**22 35 08.5**	**-1.6**
KZA	**Kyzart**	**54.74**	**314**	P		**P**	**22 35 14.7**	**+2.4**
	SNR=6.0							
KBK	**Karagaybulak**	**55.15**	**315**	P		**P**	**22 35 16.9**	**+2.0**
	SNR=6.1							
UCH	**Uchtor**	**55.31**	**314**	P		**P**	**22 35 18.5**	**+2.2**
	SNR=12							
AAK	**Ala-Archa**	**55.45**	**315**	P		**P**	**22 35 18.4**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=100,slow=8.2,SNR=5.0							
AAK	**Ala-Archa**	**55.45**	**315**	P		**P**	**22 35 18.4**	**+1.3**
AAK				*e*PcP		**PcP**	**22 36 13.8**	**

BRVK	**Borovoye**	**61.74**	**325**	*eP*		**P**		**22 36 01.3**	**+0.9**
	comp=Z,7.2nm,0.9s									
BRVK	**Borovoye**	**61.74**	**325**	*c iP*		**P**		**22 36 00.4**	**0.0**
BRVK					pmax	pmax				
	comp=Z,32nm,1.7s									
BILL	**Bilibino**	**62.85**	**16**⇑	*eP*		**P**		**22 36 08.3**	**+0.7**
BILL					pmax	pmax				
	comp=Z,11nm,1.6s									
NRIK	**Noril'sk**	**63.77**	**345**	P		**P**		**22 36 13.2**	**-0.5**
	comp=Z,2.6nm,1.0s,baz=131,slow=6.9,SNR=4.0									
GEYT	**Alibeck**	**66.77**	**307**	P		**P**		**22 36 34.3**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=86,slow=10,SNR=3.2									
GEYT	**Alibeck**	**66.77**	**307**	P		**P**		**22 36 34.3**	**+0.5**
ABKAR	**Akbulak array**	**66.95**	**319**	*eP*		**P**		**22 36 35.0**	**+0.4**
SVE	**Sverdlovsk**	**68.19**	**327**	*eP*		**P**		**22 36 42.3**	**0.0**
AKTO	**Aktyubinsk**	**68.39**	**320**	P		**P**		**22 36 44.5**	**+0.8**
	comp=Z,2.2nm,0.8s,baz=88,slow=10,SNR=8.1									
AKTO	**Aktyubinsk**	**68.39**	**320**	P		**P**		**22 36 44.5**	**+0.8**
AKTO	**Aktyubinsk**	**68.39**	**320**	P		**P**		**22 36 44.5**	**+0.8**
BPAW	**Bear Paw Mtn.**	**77.03**	**27**	*eP*		**P**		**22 37 36.1**	**+1.2**
	comp=Z,4.1nm,1.1s									
MLY	**Manley**	**77.17**	**26**	*eP*		**P**		**22 37 37.3**	**+1.6**
	comp=Z,0.3nm,0.8s									
RND	**Reindeer**	**77.96**	**27**	*eP*		**P**		**22 37 41.1**	**+0.9**
	comp=Z,5.8nm,1.2s									
RND	**Reindeer**	**77.96**	**27**	*eP*		**P**		**22 37 41.1**	**+0.9**
RND					pmax	pmax				
	comp=Z,6.0nm,1.2s									
AKH	**Akhalkalaki**	**78.08**	**310**	*eP*		**P**		**22 37 43.6**	**+2.2**
	comp=Z,6.9nm,1.0s									
KBZ	**Khabaz**	**78.37**	**313**	P		**P**		**22 37 43.4**	**+0.7**
	comp=Z,2.7nm,1.1s,baz=40,slow=8.0,SNR=5.2									
KBZ	**Khabaz**	**78.37**	**313**	P		**P**		**22 37 43.4**	**+0.7**
KBZ	**Khabaz**	**78.37**	**313**	P		**P**		**22 37 43.4**	**+0.7**
KVAR	**Kislovodsk Arr**	**78.50**	**313**	P		**P**		**22 37 44.1**	**+0.5**
	comp=Z,1.9nm,0.9s,baz=14,slow=8.3,SNR=2.9									
KVAR	**Kislovodsk Arr**	**78.50**	**313**	P		**P**		**22 37 44.1**	**+0.5**
KIV	**Kislovodsk**	**78.50**	**313**	*eP*		**P**		**22 37 44.1**	**+0.5**
	comp=Z,3.4nm,0.9s									
KIV	**Kislovodsk**	**78.50**	**313**	*eP*		**P**		**22 37 44.6**	**+1.0**
KIV					pmax	pmax				
	comp=Z,9.0nm,1.1s									
ILAR	**Eielson Array**	**78.81**	**26**	P		**P**		**22 37 44.2**	**-0.6**
	comp=Z,1.0nm,1.1s,baz=258,slow=4.4,SNR=4.6									
ILAR	**Eielson Array**	**78.81**	**26**	P		**P**		**22 37 44.2**	**-0.6**
ILAR	**Eielson Array**	**78.81**	**26**	P		**P**		**22 37 44.2**	**-0.6**
ILB	**Eielson Array**	**78.81**	**26**	*eP*		**P**		**22 37 44.2**	**-0.6**
SCRK	**Sand Creek**	**80.11**	**27**	*eP*		**P**		**22 37 52.6**	**+0.6**
OBN	**Obninsk**	**81.50**	**324**	P		**P**		**22 37 59.2**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=74,slow=5.3,SNR=3.6									
OBN	**Obninsk**	**81.50**	**324**	P		**P**		**22 37 59.2**	**-0.2**
OBN	**Obninsk**	**81.50**	**324**	*eP*		**P**		**22 37 59.4**	**0.0**
OBN					pmax	pmax				
	comp=Z,23nm,1.5s									
ARA0	**ARCESS Array S**	**84.01**	**340**	*eP*		**P**		**22 38 11.9**	**-0.4**
ARCES	**ARCESS Array B**	**84.01**	**340**	P		**P**		**22 38 11.9**	**-0.4**
	comp=Z,6.0nm,1.0s,baz=77,slow=5.5,SNR=9.3									
ARCES	**ARCESS Array B**	**84.01**	**340**	P		**P**		**22 38 11.9**	**-0.4**
ARCES	**ARCESS Array B**	**84.01**	**340**	P		**P**		**22 38 11.9**	**-0.4**
WHY	**Whitehorse**	**84.79**	**29**	*eP*		**P**		**22 38 15.9**	**-0.5**
	comp=Z,3.7nm,0.9s									
BR101	**Keskin Array S**	**85.73**	**309**	*eP*		**P**		**22 38 20.3**	**-1.4**
BRTR	**Keskin Array B**	**85.73**	**309**	P		**P**		**22 38 20.3**	**-1.4**
	comp=Z,1.1nm,0.7s,baz=120,slow=4.5,SNR=5.0									
BRTR	**Keskin Array B**	**85.73**	**309**	P		**P**		**22 38 20.3**	**-1.4**
BRTR	**Keskin Array B**	**85.73**	**309**	*ceP*		**P**		**22 38 21.1**	**-0.6**
FIA0	**FINESS Array S**	**85.81**	**332**	*eP*		**P**		**22 38 20.8**	**-0.6**
FIA0	**FINESS Array S**	**85.81**	**332**	*eP*		**P**		**22 38 20.8**	**-0.6**
FINES	**FINESS Array B**	**85.81**	**332**	P		**P**		**22 38 20.8**	**-0.6**
	comp=Z,2.7nm,0.4s,baz=80,slow=4.9,SNR=43									
FINES	**FINESS Array B**	**85.81**	**332**	P		**P**		**22 38 20.8**	**-0.6**
FINES	**FINESS Array B**	**85.81**	**332**	P		**P**		**22 38 20.8**	**-0.6**
AKASG	**Malin Array Be**	**86.62**	**321**	P		**P**		**22 38 24.6**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=62,slow=5.0,SNR=16									
AKASG	**Malin Array Be**	**86.62**	**321**	P		**P**		**22 38 24.6**	**-1.0**
AKASG	**Malin Array Be**	**86.62**	**321**	*ceP*		**P**		**22 38 25.5**	**-0.1**
KIEV	**Kiev**	**86.63**	**321**	*d iP*		**P**		**22 38 25.6**	**0.0**
KIEV					pmax	pmax				
	comp=Z,19nm,2.5s									
BUR04	**Bucovina Ar. S**	**89.93**	**319**	*eP*		**P**		**22 38 41.5**	**-0.1**
BUR08	**Bucovina Ar. S**	**89.93**	**319**	*eP*		**P**		**22 38 41.5**	**-0.1**
VNDA	**Vanda**	**90.26**	**173**	P		**P**		**22 38 40.8**	**-1.4**
	comp=Z,1.2nm,0.8s,baz=325,slow=5.0,SNR=6.2									
VNDA	**Vanda**	**90.26**	**173**	P		**P**		**22 38 40.8**	**-1.4**
VNDA	**Vanda**	**90.26**	**173**	P		**P**		**22 38 40.8**	**-1.4**
UZH	**Uzhgorod**	**91.51**	**320**⇑	*iP*		**P**		**22 38 48.7**	**0.0**
NB200	**NORSAR Array S**	**92.65**	**334**	*eP*		**P**		**22 38 53.2**	**-0.6**
NOA	**NORSAR Array B**	**92.65**	**334**	P		**P**		**22 38 53.3**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=77,slow=7.7,SNR=2.6									
NOA	**NORSAR Array B**	**92.65**	**334**	P		**P**		**22 38 53.2**	**-0.6**
NOA	**NORSAR Array B**	**92.65**	**334**	P		**P**		**22 38 53.3**	**-0.6**
YKA	**Yellowknife Ar**	**93.14**	**24**	P		**P**		**22 38 56.1**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=280,slow=4.1,SNR=4.2									
YKA	**Yellowknife Ar**	**93.14**	**24**	P		**P**		**22 38 56.1**	**+0.1**
YKA	**Yellowknife Ar**	**93.14**	**24**	P		**P**		**22 38 56.1**	**+0.1**
YKB5	**Yellowknife Ar**	**93.14**	**24**	*eP*		**P**		**22 38 56.1**	**+0.1**
GERES	**GERESS Array B**	**96.73**	**322**	P		**P**		**22 39 13.6**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=64,slow=6.1,SNR=5.0									
GERES	**GERESS Array B**	**96.73**	**322**	P		**P**		**22 39 13.6**	**+0.7**
GERES	**GERESS Array B**	**96.73**	**322**	P		**P**		**22 39 13.6**	**+0.7**
TORD	**Tordi Ar. Bea**	**120.66**	**292**	PKP		**PKPdf**		**22 44 34.4**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=87,slow=2.9,SNR=4.4									
TORD	**Tordi Ar. Bea**	**120.66**	**292**	PKP		**PKPdf**		**22 44 34.4**	**-0.7**
TOA1	**Tordi Ar. Sit**	**120.66**	**292**	*e*PKPdf		**PKPdf**		**22 44 34.4**	**-0.7**
PLCA	**Paso Flores**	**146.34**	**156**	PKPbc		**PKPdf**		**22 45 22.2**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=250,slow=1.7,SNR=7.6									
PLCA	**Paso Flores**	**146.34**	**156**	PKPbc		**PKPdf**		**22 45 22.2**	**+0.1**
PLCA	**Paso Flores**	**146.34**	**156**	PKP2		**PKPdf**		**22 45 22.3**	**+0.1**

*ISCJB **26** 22:27:37.8±0.5, 17°.66S±0°.04×69°.69W±0°.08, h146km±4km, mb4.2/11, Error ellipse: s-maj=12.1km s-min=6.3km az=14.1*
*GUC **26** 22:27:38.6±0.6, 17°.69S×69°.82W, h134km±4km, ML3.9*
*IDC **26** 22:27:39.4±1.1, 17°.67S×69°.47W, h140km±9km, mb3.9/9, mb1 4.1/12, mb1mx3.8/35, mbtmp4.4/12, Error ellipse: s-maj=18.3km s-min=9.6km az=101.0*
*NEIC **26** 22:27:39.4±0.0, 17°.63S×69°.81W, h131km, ML4.0(GUC), After GUC.*

ISC 26 22:27:38.3±0.7, 17°.65S±0°.05×69°.63W±0°.07, h132km±6km, n33, σ2≥00/45, mb4.3/11, 7C, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PB16	**IPOC Station P**	**0.70**	**171**⇑	*iP*		**Pn**	**22 28 01.0**	**+1.5**
PB16				*i*	S	**Sn**	**22 28 18.1**	**+2.5**
PB16				IAML			22 28 22.9	
	comp=N,749nm,0.6s							
PB12	**IPOC Station P**	**1.17**	**215**⇑	*iP*		**Pn**	**22 28 02.8**	**-0.3**
PB12				*i*	S	**Sn**	**22 28 21.4**	**-0.6**
PB12				IAML			22 28 22.6	
	comp=N,3μm,0.2s							
MNMC	**Minye Minye**	**1.48**	**179**⇑	*iP*		**Pn**	**22 28 08.2**	**+1.6**
MNMC				*i*	S	**Sn**	**22 28 30.1**	**+1.9**
MNMC				IAML			22 28 32.4	
	comp=E,3μm,0.2s							
LPAZ	**La Paz**	**1.97**	**47**	P		**Pn**	**22 28 14.3**	**+1.7**
	baz=238,slow=6.9							
LPAZ				S		**Sn**	**22 28 39.5**	**+0.8**
	comp=E,9.4nm,0.3s,baz=347,slow=19,SNR=6.7							
PSGC	**Pisagua**	**2.00**	**194**⇑	*eP*		**Pn**	**22 28 12.4**	**0.0**
PSGC				*i*	S	**Sn**	**22 28 38.5**	**-0.1**
PSGC				IAML			22 28 47.1	
	comp=N,498nm,0.4s							
GO01	**Chusmiza**	**2.06**	**169**	*eP*		**Pn**	**22 28 15.6**	**+2.1**
GO01				*e*S		**Sn**	**22 28 44.4**	**+3.9**
GO01				IAML			22 28 48.8	
	comp=N,2μm,0.1s							
PB11	**IPOC Station P**	**2.10**	**181**⇑	*eP*		**Pn**	**22 28 14.9**	**+1.2**
PB11				*e*S		**Sn**	**22 28 42.4**	**+1.4**
PB11				IAML			22 28 43.8	
	comp=E,1μm,0.2s							
PB08	**IPOC Station P**	**2.52**	**170**⇑	*eP*		**Pn**	**22 28 21.2**	**+2.0**
PB08				*e*S		**Sn**	**22 28 53.1**	**+2.5**
PB08				IAML			22 28 55.6	
	comp=E,883nm,0.5s							
PB01	**IPOC Station P**	**3.38**	**178**⇑	*iP*		**Pn**	**22 28 30.6**	**+0.6**
PB01				*i*	S	**Sn**	**22 29 08.9**	**-1.2**
PB02	**IPOC Station P**	**3.67**	**184**	*eP*		**Pn**	**22 28 34.2**	**+0.4**
PB02				*e*S		**Sn**	**22 29 14.6**	**-2.2**
LVC	**Limon Verde**	**4.99**	**172**	P		**Pn**	**22 28 53.3**	**+1.8**
	comp=E,10nm,0.3s,baz=4.3,slow=9.4,SNR=106							
LVC				S		**Sn**	**22 29 46.8**	**-1.7**
	comp=E,40nm,0.3s,baz=262,slow=23,SNR=22							
SIV	**San Ignacio**	**8.36**	**80**	P		**Pn**	**22 29 35.1**	**-1.5**
	comp=E,8.2nm,0.3s,baz=282,slow=9.6,SNR=119							
SIV					S	**Sn**	**22 31 05.3**	**-4.1**
	baz=0.0,slow=20,SNR=3.2							
NNA	**Nana**	**8.96**	**308**	Pn		**Pn**	**22 29 42.8**	**-1.9**
LCO	**Las Campanas**	**11.36**	**185**	*e*Pn		**Pn**	**22 30 12.7**	**-4.2**
LCO				*e*S		**Sn**	**22 32 16.8**	**-5.4**
PTGA	**Pitinga**	**19.31**	**30**	P		**P**	**22 31 52.0**	**-1.2**
	comp=E,2.1nm,0.3s,baz=208,slow=11,SNR=11							
PTGA	**Pitinga**	**19.31**	**30**	P		**P**	**22 31 52.0**	**-1.2**
PLCA	**Paso Flores**	**23.02**	**182**	P		**P**	**22 32 33.9**	**+2.0**
	comp=E,2.9nm,0.7s,baz=22,slow=11,SNR=13							
TXAR	**Lajitas Array**	**57.10**	**324**	P		**P**	**22 37 11.4**	**+0.3**
	comp=E,0.3nm,0.5s,baz=152,slow=7.9,SNR=3.4							
LIC	**Lamto**	**68.03**	**76**	*eP*		**P**	**22 38 23.5**	**-0.4**
	comp=E,13nm,0.3s							
TIC	**Toumodi**	**68.19**	**75**	*eP*		**P**	**22 38 28.1**	**+3.1**
KIC	**Kosan Boka**	**68.34**	**76**	*eP*		**P**	**22 38 25.7**	**-0.2**
	comp=E,41nm,0.6s							
DBIC	**Dimbokro**	**68.35**	**75**	P		**P**	**22 38 25.9**	**0.0**
	comp=E,17nm,0.6s,baz=229,slow=6.1,SNR=39							
PDAR	**Pinedale Array**	**70.45**	**330**	P		**P**	**22 38 40.8**	**+2.2**
	comp=E,0.4nm,0.5s,baz=75,slow=35,SNR=1.6							
ULM	**Lac du Bonnet**	**71.45**	**343**	P		**P**	**22 38 43.5**	**-0.6**
	comp=E,9.2nm,0.5s,baz=152,slow=6.3,SNR=25							
TORD	**Tordi Ar. Bea**	**76.74**	**71**	P		**P**	**22 39 13.9**	**-1.7**
	comp=E,6.3nm,0.7s,baz=258,slow=4.9,SNR=55							
TSUM	**Tsumeb**	**81.82**	**108**	P		**P**	**22 39 44.1**	**+0.8**
	comp=E,1.7nm,0.7s,baz=278,slow=7.1,SNR=4.2							
ESDC	**Sonseca Array**	**83.59**	**45**	P		**P**	**22 39 52.8**	**+0.8**
	comp=E,0.6nm,0.5s,baz=253,slow=4.9,SNR=7.4							
YKA	**Yellowknife Ar**	**87.34**	**341**	P		**P**	**22 40 10.4**	**+0.5**
	comp=E,1.6nm,0.5s,baz=133,slow=4.8,SNR=26							
YKA					pP	**pP**	**22 40 45.1**	**+1.5**
	comp=E,0.5nm,0.7s,baz=137,slow=5.1,SNR=3.6							
WRA	**Warramunga Arr**	**135.85**	**213**	PKP		**PKPdf**	**22 46 45.0**	**+0.7**
	comp=E,0.1nm,0.4s,baz=144,slow=1.6,SNR=5.3							
KURK	**Kurchatov**	**138.42**	**30**	PKPpre		PKPpre	22 46 45.3	
KURBB	**Kurchatov Arra**	**138.44**	**30**	PKhKP		PKPpre	22 46 45.3	
	comp=E,0.4nm,0.8s,baz=336,slow=2.0,SNR=2.6							
ZALV	**Zalesovo Beam**	**138.72**	**23**	PKP		**PKPdf**	**22 46 49.1**	**+0.7**
	comp=E,0.6nm,0.6s,baz=292,slow=4.5,SNR=3.2							
MKAR	**Makanchi Array**	**142.84**	**32**	PKP		**PKPdf**	**22 46 56.9**	**+0.7**
	comp=E,0.9nm,0.7s,baz=333,slow=2.6,SNR=3.7							

KRSC 26 22:31:20.1±1.3, 55°.11N×164°.09E, h43km±25km, ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BKI	**Bering**	**1.08**	**84**	*eP*		Pn	22 31 37.8	-1.0
BKI				*e*S		Sn	22 31 52.3	-0.3
KBTR	**Krutoberegovo**	**1.32**	**327**	*eP*		Pn	22 31 42.6	+0.5
KBTR				*e*S		Sn	22 31 56.7	-1.8
MKZ	**Mys Kozlova**	**1.47**	**249**	*eP*		Pn	22 31 47.2	+3.1
MKZ				*e*S		Sn	22 32 03.4	+1.2
ZLN	**Zelenaya**	**2.08**	**297**	*eP*		Pn	22 31 55.8	+3.2
ZLN				*e*S		Sn	22 32 20.2	+2.9
SMKR	**Semkarok**	**2.09**	**316**	*eP*		Pn	22 31 55.2	+2.5
SMKR				*e*S		Sn	22 32 19.7	+2.1
BZGR	**Bezymyannyi-Gr**	**2.10**	**295**	*eP*		Pn	22 31 55.9	+3.0
TUMD	**Tumrok D**	**2.12**	**274**	*eP*		Pn	22 31 56.4	+3.3
TUMD				*e*S		Sn	22 32 20.2	+2.0
LGNR	**Loginova**	**2.17**	**298**	*eP*		Pn	22 31 57.4	+3.5
KZV	**Kizimen**	**2.18**	**272**	*eP*		Pn	22 31 57.4	+3.4
KZV				*e*S		Sn	22 32 21.0	+1.1
BDR	**Baidarnaya**	**2.19**	**313**	*eP*		Pn	22 31 57.2	+3.1
BDR				*e*S		Sn	22 32 22.9	+2.9
BZMR	**Bezymyannaya**	**2.21**	**294**	*eP*		Pn	22 31 57.6	+3.2
BZWR	**Bezymyannyi-We**	**2.22**	**294**	*eP*		Pn	22 31 57.9	+3.4
SRKR	**Sorokina**	**2.26**	**314**	*eP*		Pn	22 31 58.4	+3.3
SRKR				*e*S		Sn	22 32 25.2	+3.4
TUMR	**Tumrok**	**2.27**	**276**	*eP*		Pn	22 31 59.1	+3.9
TUMR				*e*S		Sn	22 32 25.5	+3.5
KMNR	**Kamenistaya**	**2.29**	**288**	*eP*		Pn	22 31 59.3	+3.8
KIRR	**Kirishev**	**2.29**	**293**	*eP*		Pn	22 31 59.2	+3.6
KPT	**Kopyto**	**2.36**	**293**	*eP*		Pn	22 32 00.1	+3.6
KII	**Karymskiy**	**2.91**	**250**	*eP*		Pn	22 32 08.2	+4.3
KII				*e*S		Sn	22 32 41.5	+3.9
SPN	**Mys Shipunski**	**3.13**	**232**	*eP*		Pn	22 32 10.5	+3.6
SPN				*e*S		Sn	22 32 44.2	+1.3
NLC	**Nalytchevo**	**3.40**	**237**	*eS*		Sn	22 32 52.5	+2.9
SDLR	**Sedlovina**	**3.56**	**241**	*eP*		Pn	22 32 18.0	+5.0
SDLR				*e*S		Sn	22 32 57.1	+3.2
SMAR	**Somma**	**3.62**	**241**	*eP*		Pn	22 32 19.1	+5.3
KRX	**Arik**	**3.64**	**244**	*eS*		Sn	22 33 00.1	+4.3
AVH	**Avacha**	**3.65**	**242**	*eP*		Pn	22 32 18.5	+4.4
AVH				*e*S		Sn	22 32 59.5	+3.7
DALK	**Dalny**	**3.77**	**239**	*eP*		Pn	22 32 19.3	+3.6
DALK				*e*S		Sn	22 33 01.0	+2.3
GNL	**Ganaly**	**3.86**	**251**	*eP*		Pn	22 32 22.5	+5.4
KRMR	**Karymshinskiy**	**4.19**	**240**	*eP*		Pn	22 32 26.4	+4.9
KRMR				*e*S		Sn	22 33 13.2	+4.0
RUS	**Russkaya**	**4.26**	**233**	*eP*		Pn	22 32 27.1	+4.8
MTVR	**Mutnovka**	**4.38**	**236**	*eP*		Pn	22 32 29.0	+4.8

*IDC **26** 22:32:39.1±0.5, 10°.57N×126°.87E, h0km, mb4.0/23, mb1 4.1/23, mb1mx4.0/46, mbtmp4.0/23, MS3.2/2, Ms1 3.2/2, ms1mx2.6/40, Error ellipse: s-maj=26.2km s-min=11.7km az=78.0*
*ISCJB **26** 22:32:40.8±1.9, 10°.63N±0°.03×126°.91E±0°.04, h19km±14km, mb4.1/29, MS3.4/2, Error ellipse: s-maj=7.3km s-min=5.5km az=170.8*
*MAN **26** 22:32:43.4, 10°.65N×126°.60E, h2km, mb5.2, ML4.2, MS4.3*
*NEIC **26** 22:32:45.0±1.4, 10°.52N×126°.86E, h40km±13km, mb4.3/6, Error ellipse: s-maj=13.1km s-min=6.5km az=71.0*

ISC 26 22:32:41.9±3.4, 10°.61N±0°.04×126°.82E±0°.06, h16km±21km, n67, σ1≥06/76, mb4.2/29, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.54**	**238**	*eP*		**Pb**	**22 33 09.8**	**-0.3**
SCPH				*e*S		**Sb**	**22 33 29.4**	**-0.1**
BESP	**Borongan**	**1.67**	**306**	*eP*		**Pn**	**22 33 10.9**	**+0.4**
BESP				*e*S		**Sn**	**22 33 31.4**	**-0.2**
PLP	**Palo**	**1.89**	**287**⇑	*iP*		**Pn**	**22 33 13.3**	**-0.2**
PLP				*e*S		**Sn**	**22 33 35.9**	**-1.1**
MSLP	**Maasin**	**1.98**	**256**	*eP*		**Pn**	**22 33 16.0**	**+1.2**
MSLP				*e*S		**Sb**	**22 33 42.6**	**+0.5**
BUTP	**Butuan**	**2.01**	**216**	*eP*		**Pb**	**22 33 17.0**	**-1.2**
BUTP				*e*S		**Sb**	**22 33 42.7**	**-0.3**
OCLP	**Ormoc**	**2.21**	**282**	*eP*		**Pn**	**22 33 17.5**	**-0.5**
LLP	**Lapu-Lapu**	**2.82**	**264**	*eP*		**Pn**	**22 33 26.8**	**+0.5**
LLP				*e*S		**Sn**	**22 33 58.1**	**-1.9**
CNP	**Catarman**	**2.83**	**312**	*eP*		**Pn**	**22 33 26.1**	**-0.4**
BUKP	**Musuan**	**3.22**	**213**	*eP*		**Pn**	**22 33 34.6**	**+2.7**
DAV	**Davao City (W)**	**3.73**	**199**	Sn		**Sn**	**22 34 23.9**	**+1.4**
	39nm,0.3s,baz=12,slow=20,SNR=2.6							
DAV	**Davao City (W)**	**3.73**	**199**	*e*Pn		**Pn**	**22 33 38.8**	**0.0**
DAV				Sn		**Sn**	**22 34 23.9**	**+1.4**
RCP	**Roxas**	**4.10**	**284**⇓	*eP*		**Pn**	**22 33 46.1**	**+2.0**
TNTI	**Ternate**	**9.79**	**177**	*e*Pn		**Pn**	**22 35 01.1**	**-1.1**
GUMO	**Guam**	**17.90**	**79**	LR		LR	22 43 07.6	
	comp=Z,91nm,18.4s,baz=240,slow=35							
BATI	**Baumata**	**20.92**	**189**	P		**P**	**22 37 24.4**	**+0.4**
	15nm,0.6s,baz=40,slow=7.9,SNR=2.6							
BATI					LR	LR	22 47 04.7	
	comp=Z,47nm,19.8s,baz=264,slow=42							
MTN	**Manton Dam**	**23.70**	**169**	*eP*		**P**	**22 37 53.2**	**0.0**
ENH	**Enshi**	**25.35**	**323**	*eP*		**P**	**22 38 08.1**	**-0.3**
	8.2nm,1.0s							
CMAR	**Chiang Mai Arr**	**28.05**	**289**	P		**P**	**22 38 32.7**	**-0.2**
	0.4nm,0.3s,baz=98,slow=6.9,SNR=5.2							
FITZ	**Fitzroy Crossi**	**28.55**	**182**	P		**P**	**22 38 36.9**	**-0.3**
	2.2nm,1.1s,baz=4.1,slow=14,SNR=2.6							
WRA	**Warramunga Arr**	**31.25**	**166**	P		**P**	**22 39 00.2**	**-1.0**
	0.5nm,0.8s,baz=347,slow=8.8,SNR=5.1							
WRA					PcP	**PcP**	**22 41 55.6**	**0.0**
	0.4nm,0.5s,baz=342,slow=3.0,SNR=7.3							
WR1	**Warramunga Arr**	**31.25**	**166**	*eP*		**P**	**22 39 00.2**	**-1.0**
	3.0nm,1.1s							
WR1				*e*PcP		**PcP**	**22 41 55.6**	**0.0**
USRK	**Ussuriysk Ar.**	**33.76**	**7**	P		**P**	**22 39 23.7**	**+0.8**
	3.6nm,0.9s,baz=172,slow=12,SNR=4.1							
ASAR	**Alice Springs**	**34.77**	**169**	P		**P**	**22 39 30.9**	**-1.0**
	0.4nm,0.5s,baz=349,slow=7.5,SNR=5.9							
ASAR					PcP	**PcP**	**22 42 05.7**	**+0.3**
	0.5nm,0.5s,baz=342,slow=2.8,SNR=6.8							
AS01	**Alice Springs**	**34.77**	**168**	*eP*		**P**	**22 39 31.4**	**-0.5**
GTA	**Gaotai**	**37.41**	**325**	⇑P		**P**	**22 39 56.0**	**+1.5**
GTA				pP		sP	22 40 06.8	+5.6
GTA				sP		pP	22 40 10.5	+11
GTA				pmax		pmax		
	comp=Z,6.0nm,1.5s							
GTA				pmax		pmax		
	comp=Z,67nm,5.4s							
GTA				LR		LR		
	comp=N,260nm,18.7s							
GTA				LR		LR		
	comp=E,160nm,19.7s							
GTA				LR		LR		
	comp=Z,86nm,19.4s							
KLR	**Kul'dur**	**38.72**	**5**	P		**P**	**22 40 05.2**	**0.0**
	comp=Z,2.1nm,0.7s,baz=235,slow=4.0,SNR=5.7							
STKA	**Stephens Creek**	**44.56**	**162**	P		**P**	**22 40 52.5**	**-0.7**
	comp=Z,2.1nm,0.6s,baz=334,slow=11,SNR=4.8							
PETK	**Petropavlovsk-**	**49.11**	**24**	P		**P**	**22 41 29.9**	**+1.3**
	comp=Z,3.1nm,0.7s,baz=180,slow=5.8,SNR=2.4							
PEA1	**Petropavlovsk-**	**49.11**	**24**	*eP*		**P**	**22 41 29.9**	**+1.3**
MK01	**Makanchi Array**	**52.08**	**322**	*eP*		**P**	**22 41 52.3**	**+1.2**
MK31	**Makanchi Array**	**52.08**	**322**	*eP*		**P**	**22 41 52.5**	**+1.3**
MK32	**Makanchi Array**	**52.08**	**322**	*eP*		**P**	**22 41 52.6**	**+1.4**
MKAR	**Makanchi Array**	**52.08**	**322**	P		**P**	**22 41 52.6**	**+1.4**
	comp=Z,1.5nm,0.6s,baz=115,slow=8.1,SNR=14							
NRN	**Naryn**	**54.01**	**314**	*eP*		**P**	**22 42 07.1**	**+1.2**
	comp=Z,1.9nm,0.8s							
ZALV	**Zalesovo Beam**	**54.59**	**331**	P		**P**	**22 42 08.9**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=122,slow=8.8,SNR=4.5							
ZAA1	**Zalesovo Array**	**54.59**	**331**	*eP*		**P**	**22 42 08.9**	**-0.5**
AAK	**Ala-Archa**	**55.46**	**315**	P		**P**	**22 42 16.6**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=70,slow=6.4,SNR=3.8							
KURK	**Kurchatov**	**56.09**	**325**	P		**P**	**22 42 21.4**	**+1.1**
KURBB	**Kurchatov Arra**	**56.10**	**325**	P		**P**	**22 42 21.4**	**+1.0**
	comp=Z,2.0nm,0.5s,baz=120,slow=7.3,S

3.7nm,0.3s,baz=126,slow=23,SNR=5.5
DZM Mont Dzumac 17.28 307 LR LR 23 20 22.4
comp=Z,176nm,18.8s,baz=222,slow=34
ASAR Alice Springs 42.33 271 P **P 23 18 36.5 +0.6**
2.1nm,0.6s,baz=110,slow=7.4,SNR=22
WRA Warramunga Arr 43.60 276 P **P 23 18 46.5 +0.3**
3.2nm,0.8s,baz=118,slow=7.5,SNR=27
QSPA South Pole Qui 56.61 180 P **P 23 20 25.5 +1.2**
0.8nm,0.6s,baz=69,slow=4.9,SNR=4.1
FINES FINESS Array B 147.77 338 PKPbc **PKPbc 23 30 24.5 -0.8**
1.8nm,0.7s,baz=36,slow=3.4,SNR=12
BRTR Keskin Array B 153.30 293 PKPbc **PKPbc 23 30 39.3 -0.2**
0.7nm,0.8s,baz=111,slow=3.0,SNR=5.0
TORD Torodi Ar. Bea 159.73 182 PKPab **PKPab 23 31 18.0 -1.4**
0.4nm,0.8s,baz=153,slow=3.4,SNR=3.5

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*BJI **26** 23:13:47.8, 13˚.64N×93˚.58E, h43km, mb5.0/69, mB5.1/47, Ms4.4/62, Ms7 4.1/59*
*NDI **26** 23:13:50.4±3.1, 13˚.91N×93˚.83E, h54km, mb5.0, ML4.9, mb5.1(NEIC)*
*IDC **26** 23:13:50.6±0.3, 13˚.84N×93˚.65E, h37km±1km, mb4.6/28, mb1 4.7/31, mb1mx4.6/39, mbtmp4.8/31, ML5.0/3, MS4.0/31, Ms1 4.0/31, ms1mx3.8/52, Error ellipse: s-maj=10.8km s-min=9.0km az=41.0*
*MOS **26** 23:13:50.2±1.0, 13˚.86N×93˚.63E, h49km, mb5.2/59, Error ellipse: s-maj=6.4km s-min=4.0km az=115.8*
*ISCJB **26** 23:13:50.2±0.4, 13˚.97N±0˚.02×93˚.58E±0˚.02, h43km±4km, mb5.0/151, MS4.1/39, Error ellipse: s-maj=3.8km s-min=3.2km az=21.9*
*GCMT **26** 23:13:52.5±0.3, 13˚.97N±0˚.02×93˚.52E±0˚.02, h41km±1km, MW5.0/68, Moment Tensor Solution. s34,c42; s68,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.17±.20; $M_{\theta\theta}$0.47±.12; $M_{\phi\phi}$-2.64±.12; M_{rt}1.73±.14; $M_{\theta\phi}$1.07±.11; $M_{\phi r}$-1.09±.12; Best double couple: M◎3.35500×1016 NP1:ϕs137.00000°, δ66.00000°, λ62.00000°. NP2: ϕs10.00000°, δ36.00000°, λ136.00000°. Principal axes: T 3.2720, Plg59.0000°, Azm8.0000°; N 0.1680, Plg25.0000°, Azm149.0000°; P -3.4380, Plg17.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **26** 23:13:52.5±0.5, 13˚.85N×93˚.64E, h54km±4km, mb5.1/74 Error ellipse: s-maj=4.1km s-min=3.6km az=48.0*
NEIC Felt at Port Blair.
*DJA **26** 23:13:54.1±0.5, 14˚N±3˚×9˚4E±˚, h61km±5km, M4.8/10, mb4.8/10, mB5.1/1, Mw(mB)4.4/1*
*KLM **26** 23:14:02.0, 14˚.17N×93˚.03E, h58km, mb4.8*
ISC 26 23:13:51.2±0.3, **13˚.90N**±0˚.03×**93˚.57E**±0˚.03, **h40**km±2km, **h40**km:**pP-P, n469,** σ1$**59**/526, **mb5.0**/157, **MS4.0**/40, **56C-26D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**2.38**	**200**	*e*Pn	Pn	23 14 30.2	+2.5
SRDT	**SRDT**	**5.41**	**85**	P	**Pn**	**23 15 10.0**	**+0.6**
	736nm,0.7s,7μm2.5nm						
UMPA	**Umpang Tak**	**5.60**	**65**	P	**Pn**	**23 15 12.4**	**+0.3**
	335nm,0.8s,3μm1.0nm						
PHET	**Kaeng Krachan**	**5.98**	**99**	P	**Pn**	**23 15 18.5**	**+1.2**
	127nm,0.8s,1μm0.5nm						
CM01	**Chiang Mai Arr**	**6.86**	**48**	*e*Pn	**Pn**	**23 15 29.9**	**+0.6**
CM31	**Chiang Mai Arr**	**6.87**	**48**	*e*Pn	**Pn**	**23 15 30.8**	**+1.4**
CM31	**Chiang Mai Arr**	**6.87**	**48**	P	**Pn**	**23 15 30.9**	**+1.4**
	SNR=150						
CMAR	**Chiang Mai Arr**	**6.87**	**48**	Pn	**Pn**	**23 15 30.6**	**+1.2**
	16nm,0.3s,baz=240,slow=15,SNR=671						
CMAR				Sn	**Sn**	**23 16 45.8**	**-0.6**
	baz=231,slow=30,SNR=2.1						
CMAR				LR	LR	23 18 38.6	
	comp=Z,1μm,21.9s,baz=218,slow=42						
CHTO	**Chiang Mai**	**7.10**	**46**	*e*Pn	**Pn**	**23 15 33.6**	**+1.0**
CHTO				*e*S	**Sn**	**23 16 52.1**	**-0.1**
CHTO	**Chiang Mai**	**7.10**	**46**	P	**Pn**	**23 15 33.7**	**+1.0**
	SNR=59						
CHTO	**Chiang Mai**	**7.10**	**46**	*e*P	**Pn**	**23 15 33.6**	**+1.0**
CHTO				*e*S	**Sn**	**23 16 52.1**	**-0.1**
CHTO	**Chiang Mai**	**7.10**	**46**	P	**Pn**	**23 15 33.2**	**+0.5**
	1μm,0.7s,10μm3.5nm						
CMMT	**Chiang Mai**	**7.11**	**46**	P	**Pn**	**23 15 33.1**	**+0.4**
	259nm,0.7s,3μm0.8nm						
PATY	**Pattaya**	**7.17**	**97**	P	**Pn**	**23 15 34.2**	**+0.6**
	81nm,0.6s,666nm0.3nm						
LAMP	**Lampang**	**7.42**	**51**	P	**Pn**	**23 15 38.2**	**+1.2**
	124nm,0.7s,1μm0.4nm						
PKDT	**Phuket**	**7.59**	**141**	P	**Pn**	**23 15 44.0**	**+4.6**
	31nm,0.7s,451nm0.1nm						
PBKT	**Sadao Pong**	**7.62**	**69**	*e*Pn	**Pn**	**23 15 41.2**	**+1.4**
PBKT	**Sadao Pong**	**7.62**	**69**	P	**Pn**	**23 15 41.0**	**+1.2**
	725nm,0.7s,5μm2.0nm						
UTTA	**Uttaradit**	**7.73**	**60**	P	**Pn**	**23 15 42.9**	**+1.6**
	46nm,0.8s,462nm0.2nm						
KRAB	**Krabi**	**7.90**	**135**	P	**Pn**	**23 15 47.4**	**+3.8**
	55nm,0.6s,670nm0.2nm						
PAYA	**Payao**	**8.12**	**47**	P	**Pn**	**23 15 47.8**	**+1.2**
	169nm,0.8s,1μm0.5nm						
SRAK	**Srakaew**	**8.23**	**88**	P	Pn	23 15 57.7	+10
CHAI	**Chaiyaphum**	**8.38**	**75**	P	**Pn**	**23 15 52.7**	**+2.5**
	88nm,0.9s,938nm0.3nm						
SAIH	**SAIHA**	**8.56**	**356**	*e*P	**Pn**	**23 15 52.7**	**0.0**
SAIH				*e*S	Sn	23 17 18.3	-10
BRDH	**Bariadhala**	**8.91**	**348**	Pn	**Pn**	**23 15 58.0**	**+0.6**
	27nm,0.3s,baz=90,slow=20,SNR=2.9						
BRDH				Sn	**Sn**	**23 17 31.6**	**-5.0**
	32nm,0.3s,baz=51,slow=20,SNR=5.7						
BRDH				LR	LR	23 20 13.4	
	comp=Z,2μm,19.8s,baz=136,slow=43						
BELO	**BELONIA**	**9.51**	**348**	*e*P	**Pn**	**23 16 05.6**	**0.0**
BELO				*e*S	**Sn**	**23 17 43.2**	**-8.0**
BELO				IAML		23 18 34.6	
	comp=E,4μm,0.1s						
BELO				IAML		23 18 35.5	
	comp=N,4μm,0.5s						
BWNR	**Bhubaneshwar**	**9.77**	**312**	*ex*	**Pn**	**23 16 05.7**	**-3.5**
MLSI	**Meulaboh, Aceh**	**9.98**	**163**	P	**Pn**	**23 16 14.3**	**+2.2**
NONG	**Nongkai**	**10.10**	**65**	P	**Pn**	**23 16 16.7**	**+3.0**
	comp=N,3.1nm,0.9s,comp=N,358nm						
SKNT	**Sakolnakorn**	**10.49**	**72**	P	**Pn**	**23 16 22.5**	**+3.3**
	comp=N,77nm,1.4s,comp=N,893nm						
KULM	**Kulim**	**11.04**	**140**	*e*Pn	**Pn**	**23 16 25.2**	**-1.5**
KULM	**Kulim**	**11.04**	**140**	P	Pn	23 16 40.0	+13
KCSI	**Kotacane, Aceh**	**11.12**	**158**	P	**Pn**	**23 16 31.5**	**+3.7**
SHL	**Shillong**	**11.71**	**352**	*e*Pn	**Pn**	**23 16 33.0**	**-3.0**
SHL	**Shillong**	**11.71**	**352**	*e*P	**Pn**	**23 16 33.0**	**-3.0**
SHL	**Shillong**	**11.71**	**352**	*e*P	**Pn**	**23 16 32.5**	**-3.5**
SHL				*e*S	Sn	23 18 34.9	-11
SHL				IAML		23 19 20.2	
	comp=N,50nm,0.1s						
SHL				IAML		23 19 22.6	
	comp=E,51nm,0.0s						
KOHI	**KOHIMA**	**11.77**	**2**	*e*P	**Pn**	**23 16 34.7**	**-2.0**
BOK	**Bokaro**	**12.23**	**325**	*e*P	**Pn**	**23 16 42.9**	**+0.1**
PSI	**Prapat**	**12.24**	**154**	LR	LR	23 21 25.8	
	comp=E,464nm,21.2s,baz=271,slow=37						
PSI	**Prapat**	**12.24**	**154**	*e*Pn	**Pn**	**23 16 46.5**	**+3.4**
PSI	**Prapat**	**12.24**	**154**	*e*P	**Pn**	**23 16 46.5**	**+3.4**
MOKO	**MOKOCHONG**	**12.39**	**4**	*e*P	**Pn**	**23 16 43.0**	**-2.2**
MOKO				*e*S	Sn	23 18 48.6	-13
MOKO				IAML		23 19 02.2	
	comp=N,152nm,0.5s						
MOKO				IAML		23 19 04.9	
	comp=E,146nm,0.6s						
TEZP	**TEZPUR**	**12.67**	**357**	*e*P	**Pn**	**23 16 44.5**	**-4.3**
LKP	**Lekhapani**	**13.53**	**9**	*ex*	**Pn**	**23 17 02.0**	**+1.4**
ZIRO	**ZIRO**	**13.56**	**1**	*ex*	**Pn**	**23 16 57.4**	**-3.8**
ZIRO				IAmb	IAmb	23 16 58.0	
	comp=Z,45nm,0.4s						
TAWA	**Tawang**	**13.71**	**354**	*e*P	**Pn**	**23 17 01.1**	**-2.4**
KMI	**Kunming**	**14.11**	**36**	P	**Pn**	**23 17 12.0**	**+3.2**
KMI				pP	P	23 17 17.8	+2.1
KMI				sP		23 17 21.0	
KMI				PP	**PnPn**	**23 17 23.8**	**+6.8**
KMI				sS	S	23 20 05.5	+1.5
KMI				pmax	pmax		
	comp=Z,19nm,1.0s						
KMI				pmax	pmax		
	comp=Z,160nm,3.9s						
KMI				LR	LR		
	comp=Z,820nm,17.3s						
KMI				LR	LR		
	comp=Z,750nm,19.0s						
KMI				LR	LR		
	comp=Z,1μm,22.7s						
GTK	**Tadong**	**14.13**	**342**	*e*P	**Pn**	**23 17 09.6**	**+0.6**
PALK	**Pallekele**	**14.25**	**244**	Pn	**Pn**	**23 17 10.2**	**-0.4**
	comp=Z,1.8nm,0.3s,baz=115,slow=7.7,SNR=14						
PALK				Sn	Sn	23 19 35.8	-12
	comp=Z,1.4nm,0.3s,baz=119,slow=10,SNR=6.8						
PALK				LR	LR	23 22 37.5	
	comp=Z,1μm,19.6s,baz=117,slow=37						
PALK	**Pallekele**	**14.25**	**244**	*e*Pn	**Pn**	**23 17 10.0**	**-0.7**
PALK				Sn	Sn	23 19 35.8	-12
PALK				*e*S	Sn	23 19 36.7	-11
PALK	**Pallekele**	**14.25**	**244**	P	**Pn**	**23 17 10.3**	**-0.4**
MNSI	**Mandailing Nat**	**14.32**	**155**	P	**Pn**	**23 17 13.0**	**+1.6**
RAMN	**Ramite**	**14.52**	**334**	*e*Pn	**Pn**	**23 17 13.8**	**-0.6**
RAMN				*e*Sn	Sn	23 19 42.8	-11
	comp=Z,175nm,0.6s						
RAMN	**Ramite**	**14.52**	**334**	*e*P	**Pn**	**23 17 12.1**	**-2.3**
HYB	**Hyderabad**	**14.87**	**286**	*i* P	**Pn**	**23 17 19.0**	**+0.1**
HYB				*e*		23 19 37.0	
HYB				*e*S	**Sn**	**23 20 05.0**	**+2.4**
HYB	**Hyderabad**	**14.87**	**286**	*e*P	**Pn**	**23 17 19.8**	**+0.8**
HYB				IAmb	IAmb	23 17 27.1	
	comp=Z,93nm,1.3s						
JIRN	**Jiri**	**15.32**	**334**	*e*Pn	**Pn**	**23 17 22.8**	**-2.3**
JIRN	**Jiri**	**15.32**	**334**	*e*P	**Pn**	**23 17 22.7**	**-2.3**
BKNI	**Bangkinang**	**15.39**	**151**	P	**P**	**23 17 29.5**	**-0.2**
PKI	**Pulchoki**	**15.58**	**332**	*e*Pn	**Pn**	**23 17 26.5**	**-1.9**
PKI	**Pulchoki**	**15.58**	**332**	*e*P	**Pn**	**23 17 26.2**	**-2.2**
PKIN	**Phulchoki**	**15.59**	**332**	*e*Pn	**Pn**	**23 17 26.4**	**-2.1**
PKIN				*e*Sn	**Sn**	**23 20 10.0**	**-10**
	comp=Z,85nm,0.4s						
PKIN	**Phulchoki**	**15.59**	**332**	*e*P	**Pn**	**23 17 26.2**	**-2.3**
NGP	**Nagpur**	**15.60**	**300**	*e*P	**Pn**	**23 17 28.3**	**0.0**
NGP				IAmb	IAmb	23 17 30.4	
	comp=Z,66nm,0.7s						
GUN	**Gumba**	**15.67**	**334**	*e*Pn	**Pn**	**23 17 27.5**	**-2.0**
GUN	**Gumba**	**15.67**	**334**	*e*P	**Pn**	**23 17 27.5**	**-2.0**
DMN	**Daman**	**15.76**	**331**	*e*Pn	**Pn**	**23 17 30.5**	**-0.1**
DMN	**Daman**	**15.76**	**331**	*e*P	**Pn**	**23 17 29.3**	**-1.3**
	comp=Z,134nm,0.7s						
MYKOM	**Kota Tinggi**	**15.76**	**139**	P	P	23 17 48.0	+14
PPI	**Padang Panjang**	**15.79**	**154**	P	**Pn**	**23 17 30.4**	**-0.4**
KKN	**Kakani**	**15.83**	**332**	*e*Pn	**Pn**	**23 17 32.2**	**+0.7**
KKN				*e*Sn	Sn	23 20 15.1	-11
	comp=Z,182nm,0.8s						
KKN	**Kakani**	**15.83**	**332**	*e*P	**Pn**	**23 17 29.9**	**-1.6**
LSA	**Lhasa**	**15.88**	**352**	P	**Pn**	**23 17 33.8**	**+1.5**
LSA				pmax	pmax		
	comp=Z,11nm,0.7s						
LSA	**Lhasa**	**15.88**	**352**	*e*Pn	**Pn**	**23 17 33.4**	**+1.1**
	comp=Z,177nm,0.6s						
LSA				*e*S	**Sn**	**23 20 21.3**	**-6.2**
LSA	**Lhasa**	**15.88**	**352**	P	**P**	**23 17 36.0**	**+0.4**
LSA	**Lhasa**	**15.88**	**352**	*e*P	**Pn**	**23 17 33.4**	**+1.1**
LSA				*e*S	**Sn**	**23 20 21.3**	**-6.2**
LSA				pmax	pmax		
	comp=Z,177nm,0.6s						
PDSI	**Padang**	**16.23**	**155**	P	**Pn**	**23 17 36.5**	**+0.1**
GKN	**Gorkha**	**16.31**	**331**	*e*Pn	**Pn**	**23 17 37.7**	**+0.2**
GKN	**Gorkha**	**16.31**	**331**	*e*P	**Pn**	**23 17 35.6**	**-1.9**
QIZ	**Qiongzhong**	**16.42**	**70**	P	**Pn**	**23 17 38.5**	**-0.3**
QIZ				S	**Sn**	**23 20 38.3**	**-1.8**
QIZ				pmax	pmax		
	comp=Z,130nm,2.8s						
QIZ				LR	LR		
	comp=Z,760nm,18.6s						
QIZ				LR	LR		
	comp=Z,750nm,18.6s						
QIZ				LR	LR		
	comp=Z,920nm,17.2s						
QIZ	**Qiongzhong**	**16.42**	**70**	*e*Pn	**P**	**23 17 45.1**	**+4.0**
KOLN	**Koldanda**	**16.63**	**328**	*e*Pn	**Pn**	**23 17 42.0**	**+0.3**
KOLN				*e*Sn	Sn	23 20 34.6	-11
	comp=Z,154nm,0.6s						
SDSI	**Sungai Dareh**	**16.67**	**152**	P	**P**	**23 17 45.1**	**+1.1**
DANN	**Dangsing**	**17.02**	**329**	*e*Pn	**Pn**	**23 17 46.3**	**-0.3**
DANN				*e*Sn	Sn	23 20 43.2	-12
	comp=Z,123nm,0.6s						
DANN	**Dangsing**	**17.02**	**329**	*e*P	**Pn**	**23 17 46.5**	**-0.1**
	comp=Z,175nm,0.9s						
PYUN	**Piuthan**	**17.22**	**327**	*e*Pn	**Pn**	**23 17 49.4**	**+0.4**
PYUN				*e*Sn	Sn	23 20 48.4	-11
	comp=Z,211nm,0.7s						
PYUN	**Piuthan**	**17.22**	**327**	*e*P	**Pn**	**23 17 49.4**	**+0.4**
	comp=Z,76nm,0.5s						
GYA	**Guiyang**	**17.51**	**42**	⇑*i*P	**Pn**	**23 17 52.5**	**0.0**
GYA				pP	pP	23 18 02.0	-1.2
GYA				PP	**sP**	**23 18 09.3**	**+1.0**
GYA				S	**Sn**	**23 21 05.5**	**-1.1**
GYA				sS	S	23 21 19.8	+6.5
GYA				SS	**SnSn**	**23 21 28.0**	**+7.5**
GYA				pmax	pmax		
	comp=Z,60nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,4.8s						
GYA				LR	LR		
	comp=Z,610nm,16.2s						
GYA				LR	LR		
	comp=Z,570nm,16.5s						
GYA				LR	LR		
	comp=Z,590nm,16.4s						
KRJI	**Kerinci**	**17.71**	**153**	P	**P**	**23 17 55.4**	**-0.2**
BHPL	**Bhopal**	**17.88**	**304**	*e*P	**Pn**	**23 17 57.1**	**0.0**
BHPL				IAmb	IAmb	23 18 02.0	
	comp=Z,15nm,0.6s						
CD2	**Chengdu**	**19.35**	**27**	P	**P**	**23 18 13.3**	**-0.1**
CD2				pP	pP	23 18 23.5	+0.1
CD2				sP	sP	23 18 29.3	+0.8
CD2				S	**S**	**23 21 50.0**	**-0.4**
CD2				pmax	pmax		
	comp=Z,220nm,0.8s						
CD2				pmax	pmax		
	comp=Z,360nm,5.0s						
CD2				LR	LR		
	comp=Z,1μm,13.4s						
CD2				LR	LR		
	comp=Z,760nm,11.9s						
CD2				LR	LR		
	comp=Z,700nm,13.4s						
POO	**Poona**	**19.48**	**286**	*e*P	**Pn**	**23 18 16.9**	**+0.5**
POO				IAmb	IAmb	23 18 18.6	
	comp=Z,41nm,0.9s						
POO				*e*PP	**PnPn**	**23 18 31.5**	**+1.1**
PPBI	**Pangkal Pinang**	**20.25**	**141**	P	Pn	23 18 25.1	-0.4
	comp=Z,33nm,1.7s						
BOM	**Bombay**	**20.51**	**287**	*ex*	**P**	**23 18 24.7**	**-1.4**
BOM				AMP		23 18 25.6	
	comp=Z,96nm,0.5s						
BOM				*ex*	x	23 21 58.4	
KSM	**Kuching**	**20.66**	**125**	*e*P	**P**	**23 18 27.1**	**-0.6**
	comp=Z,17nm,1.1s						
KSM	**Kuching**	**20.66**	**125**	P	Pn	23 18 42.0	+12
MDSI	**Maura Dua**	**21.09**	**149**	P	**P**	**23 18 34.2**	**+1.9**
NDI	**New Delhi**	**21.14**	**317**	*e*P	**P**	**23 18 34.0**	**+1.2**
SBUM	**Sibu**	**21.66**	**120**	P	P	23 18 54.0	+15
DDI	**Dehra Dun**	**21.72**	**321**	*e*P	**P**	**23 18 38.9**	**-0.2**
ENH	**Enshi**	**21.93**	**39**	*e*P	**P**	**23 18 40.5**	**-0.9**
	comp=Z,320nm,0.9s						
STKI	**Sintang**	**22.44**	**126**	P	**P**	**23 18 49.0**	**+2.1**
	comp=Z,18nm,1.0s						
SMLA	**Simla**	**22.83**	**321**	*e*P	**P**	**23 18 52.4**	**+1.6**
SMLA				IAmb	IAmb	23 18 54.2	
	comp=Z,64nm,0.6s						
KKM	**Kota Kinabalu**	**23.62**	**107**	P	P	23 19 13.0	+14
LZH	**Lanzhou**	**23.94**	**21**	⇑P	**P**	**23 19 01.5**	**-0.3**
LZH				pP	pP	23 19 12.5	-0.2
LZH				sP	sP	23 19 20.5	+3.0
LZH				PP	**PnPn**	**23 19 38.3**	**+6.8**
LZH				S	**S**	**23 23 12.8**	**-3.1**
LZH				sS	sS	23 23 33.5	-0.5
LZH				SS	**SnSn**	**23 24 06.0**	**+7.8**
LZH				pmax	pmax		
	comp=Z,160nm,1.5s						
LZH				pmax	pmax		
	comp=Z,450nm,6.0s						
LZH				LR	LR		
	comp=Z,2μm,16.7s						
LZH				LR	LR		
	comp=Z,910nm,15.7s						
LZH				LR	LR		
	comp=Z,2μm,17.9s						
DHRM	**DHARAMSHALA**	**24.14**	**322**	*e*P	**P**	**23 19 04.7**	**+0.9**
DHRM				IAmb	IAmb	23 19 06.5	
	comp=Z,100nm,1.2s						
XAN	**Xi'an**	**24.41**	**32**	P	**P**	**23 19 04.5**	**-1.5**
XAN				pP	pP	23 19 13.3	-3.7
XAN				pmax	pmax		
	comp=Z,130nm,2.1s						
XAN				pmax	pmax		
	comp=Z,130nm,6.1s						
XAN				LR	LR		
	comp=Z,470nm,11.7s						
XAN				LR	LR		
	comp=Z,340nm,11.7s						
XAN				LR	LR		
	comp=Z,580nm,27.5s						
WHN	**Wuhan**	**25.31**	**46**	⇑P	**P**	**23 19 13.5**	**-0.7**
WHN				S	**S**	**23 23 32.0**	**-5.7**
WHN				LR	LR		
	comp=Z,850nm,5.0s						
WHN				LR	LR		
	comp=Z,880nm,5.6s						
WHN				LR	LR		
	comp=Z,2μm,19.9s						
GTA	**Gaotai**	**26.00**	**11**	⇑P	**P**	**23 19 21.5**	**+1.0**
GTA				pP	pP	23 19 32.0	+0.6
GTA				sP	sP	23 19 35.8	-0.5
GTA				PcP	**PcP**	**23 22 49.5**	**+1.4**
GTA				S	**S**	**23 23 51.3**	**+2.7**
GTA				sS	sS	23 24 06.5	-0.4
GTA				ScP	**ScP**	**23 26 24.8**	**+0.1**
GTA				PcS	**PcS**	**23 26 29.8**	**+0.8**
GTA				ScS	**ScS**	**23 30 13.0**	**-1.5**
GTA				pmax	pmax		
	comp=Z,93nm,1.0s						
GTA				pmax	pmax		
	comp=Z,190nm,6.5s						
GTA				LR	LR		
	comp=Z,310nm,17.1s						
GTA				LR	LR		
	comp=Z,250nm,19.4s						
GTA				LR	LR		
	comp=Z,320nm,18.4s						
TGY	**Tagaytay City**	**26.55**	**86**	LR	LR	23 29 28.6	
	comp=Z,189nm,20.3s,baz=306,slow=35						
NIL	**Nilore**	**26.96**	**320**	*e*P	**P**	**23 19 30.1**	**+1.0**
NIL				*e*S	S	23 24 17.2	+13
NIL	**Nilore**	**26.96**	**320**	*e*P	**P**	**23 19 30.1**	**+1.0**
SSLB	**Suanglung**	**27.67**	**65**	*e*P	**P**	**23 19 34.9**	**-0.8**
	comp=Z,28nm,0.9s						
NJ2	**Nanjing**	**29.34**	**48**	*e*P	**P**	**23 19 50.0**	**-0.4**
NJ2				pP	**pP**	**23 20 01.5**	**+0.1**
NJ2				S	**S**	**23 24 41.0**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,62nm,0.9s						
NJ2				LR	LR		
	comp=Z,720nm,15.2s						
NJ2				LR	LR		
	comp=Z,760nm,16.3s						
NJ2				LR	LR		
	comp=Z,880nm,19.5s						
KSH	**Kashi**	**29.85**	**332**	P	**P**	**23 19 54.0**	**-0.9**
KSH				pP	pP	23 20 05.0	-0.9
KSH				PP	**PnPn**	**23 20 52.0**	**+0.1**
KSH				S	**S**	**23 24 44.0**	**-5.3**
KSH				sS	sS	23 25 04.0	-3.6
KSH				SS	**SnSn**	**23 26 23.0**	**+0.8**
KSH				pmax	pmax		
	comp=Z,58nm,0.7s						
KSH				pmax	pmax		
	comp=Z,310nm,4.5s						
KSH				LR	LR		
	comp=Z,250nm,6.7s						
KSH				LR	LR		
	comp=Z,370nm,10.0s						
KSH				LR	LR		
	comp=Z,410nm,23.6s						
KBL	**Kabul**	**30.22**	**317**	*e*P	**P**	**23 19 59.9**	**+1.5**
	comp=Z,4.3nm,0.6s						
KBL	**Kabul**	**30.22**	**317**	*e*P	**P**	**23 19 59.9**	**+1.5**
KBL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WMQ	**Urumqi**	**30.24**	**352**	P	**P**	**23 19 59.8**	**+1.6**
WMQ				pP	pP	23 20 10.8	+1.6
WMQ				pmax	pmax		
	comp=Z,88nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,200nm,3.7s						
WMQ				LR	LR		
	comp=Z,520nm,29.9s						
WMQ				LR	LR		
	comp=Z,620nm,27.9s						
BTO	**Baotou**	**30.25**	**25**	*e*P	**P**	**23 19 58.0**	**-0.4**
TIA	**Tai'an**	**30.65**	**39**	P	**P**	**23 20 01.5**	**-0.4**
TIA				pmax	pmax		
	comp=Z,22nm,1.1s						
MRSI	**Marisa**	**31.09**	**113**	P	P	23 20 21.7	+16
HHC	**Hu-ho-hao-te**	**31.11**	**27**	*e*P	**P**	**23 20 08.3**	**+2.3**
HHC				S	**S**	**23 25 10.0**	**+1.0**
HHC				SS	**SnSn**	**23 26 57.8**	**+5.0**
HHC				pmax	pmax		
	comp=Z,20nm,1.1s						
HHC				pmax	pmax		
	comp=Z,170nm,5.7s						
HHC				LR	LR		
	comp=Z,230nm,13.3s						
HHC				LR	LR		
	comp=Z,350nm,13.5s						
HHC				LR	LR		
	comp=Z,790nm,14.7s						
SFK	**Sufi-Kurgan**	**31.41**	**330**	P	**P**	**23 20 10.0**	**+1.2**
SFK				pmax	pmax		
	comp=Z,20nm,1.1s						
KDJ	**Kajisay**	**31.51**	**336**	*e*P	**P**	**23 20 12.5**	**+2.9**
	comp=Z,22nm,1.0s						
KDJ	**Kajisay**	**31.51**	**336**	*e*P	**P**	**23 20 12.5**	**+2.9**
KDJ				pmax	pmax		
	comp=Z,22nm,1.0s						
PDGK	**Podgornoye**	**31.72**	**340**	P	**P**	**23 20 12.6**	**+1.2**
PDGK				pmax	pmax		
	comp=Z,20nm,1.0s						
LUWI	**Luwuk**	**32.52**	**115**	*e*P	**P**	**23 20 18.6**	**0.0**
	comp=Z,25nm,0.8s						
UCH	**Uchtor**	**32.69**	**333**	P	**P**	**23 20 21.1**	**+0.8**
	SNR=8.8						
BJT	**Baijiatuau**	**32.71**	**33**	*e*P	**P**	**23 20 20.4**	**+0.5**
	comp=Z,8.3nm,0.6s						
BJT	**Baijiatuau**	**32.71**	**33**	*e*P	**P**	**23 20 20.4**	**+0.5**
BJT				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TKM2	**Tokmak 2**	**32.80**	**335**	P	**P**	**23 20 21.9**	**+0.9**
	SNR=14						
KBK	**Karagaybulak**	**32.85**	**334**	P	**P**	**23 20 23.5**	**+2.1**
	SNR=9.5						
AML	**Almayashu**	**32.98**	**332**	P	**P**	**23 20 23.4**	**+0.7**
	SNR=15						
AAK	**Ala-Archa**	**33.03**	**334**	P	**P**	**23 20 25.0**	**+2.0**
	SNR=11						
AAK	**Ala-Archa**	**33.03**	**334**	*e

MKAR pPcP 23 23 23.9
comp=Z,2.8nm,0.8s,baz=112,slow=2.9,SNR=4.0
MKAR ScP **ScP** **23 26 50.5 -0.3**
comp=Z,1.7nm,1.0s,baz=164,slow=4.8,SNR=5.1
MKAR LR LR 23 38 23.9
comp=Z,241nm,21.9s,baz=162,slow=43
MKAR Makanchi Array 34.13 346 *eP* **P 23 20 32.9 +0.7**
comp=Z,143nm,0.9s
MKAR PcP **PcP** **23 23 08.9 0.0**
MKAR pPcP 23 23 23.9
MKAR ScP **ScP** **23 26 50.5 -0.3**
MKAR Makanchi Array 34.13 346 *eP* **P 23 20 32.9 +0.7**
MKAR 23 23 08.9
MKAR pmax pmax
comp=Z,143nm,0.9s
DL2 Dalian 35.12 40 P **P 23 20 41.0 +0.1**
DL2 *eS* **S 23 26 13.0 +2.0**
DL2 pmax pmax
comp=Z,51nm,1.0s
DL2 LR LR
comp=Z,370nm,13.6s
DL2 LR LR
comp=Z,300nm,14.0s
DL2 LR LR
comp=Z,340nm,16.9s
KK31 Karatay Array 35.22 330 *eP* **P 23 20 42.4 +0.7**
KK31 Karatay Array 35.22 330 *eP* **P 23 20 42.4 +0.7**
KKAR Karatay Array 35.22 330 *eP* **P 23 20 42.4 +0.7**
KKAR Karatay Array 35.22 330 *eP* **P 23 20 42.4 +0.7**
SONM Songino Array 35.47 15 P **P 23 20 45.1 +1.1**
comp=Z,34nm,1.1s,baz=198,slow=9.3,SNR=13
SONM LR LR 23 37 17.9
comp=Z,687nm,21.5s,baz=188,slow=40
ULN Ulaanbaatar 35.67 16 *eP* **P 23 20 45.5 -0.2**
comp=Z,22nm,1.1s
ULN Ulaanbaatar 35.67 16 P **P 23 20 46.3 +0.6**
SNR=5.7
ULN Ulaanbaatar 35.67 16*c iP* **P 23 20 46.1 +0.4**
ULN pmax pmax
comp=Z,25nm,1.3s
EDFI Ende, Flores 35.85 127 P **P 23 20 46.8 -0.8**
comp=Z,15nm,0.7s
DGZ Jazzator, Alta 36.05 353*c iP* **P 23 20 49.7 +0.8**
DGZ pmax pmax
comp=Z,18nm,0.8s
KNGR Kungurtug, Tuv 36.74 4*c iP* **P 23 20 56.8 +2.0**
HATD Hatta, Dubai 36.84 293 P **P 23 20 58.8 +3.0**
ASHO Ashiyiah 36.88 293 P **P 23 20 58.2 +2.0**
HVS Khovu-Aksy 37.13 0⇑*eP* **P 23 20 58.7 +0.7**
HVS pmax pmax
comp=Z,86nm,1.1s
ZAK Zakamensk 37.23 10 *eP* **P 23 20 59.2 +0.3**
ZAK pmax pmax
comp=Z,23nm,1.0s
FAQ Al Faqa, Dubai 37.31 293 P **P 23 21 02.5 +2.7**
ASUD Al Ashush, Dub 37.52 292 P **P 23 21 04.6 +3.0**
TJN Taejon 37.60 47*c iP* **P 23 21 01.6 -0.5**
KS15 Wonju Array Si 38.47 46 *eP* **P 23 21 09.2 -0.3**
KSAR Wonju Array Be 38.47 46 P **P 23 21 08.9 -0.5**
KSAR pP **pP** **23 21 19.3 -1.3**
KSAR Wonju Array Be 38.47 46 P **P 23 21 08.9 -0.5**
KSAR *PP **pP** **23 21 19.3 -1.3**
KSRS Korea Array 38.50 46 P **P 23 21 08.9 -0.8**
comp=Z,25nm,0.8s,baz=242,slow=8.8,SNR=41
KSRS pP **pP** **23 21 19.3 -1.6**
comp=Z,14nm,0.9s,baz=236,slow=8.8,SNR=6.7
KSRS LR LR 23 39 25.0
comp=Z,599nm,18.3s,baz=241,slow=40
KURK Kurchatov 38.67 345 *eP* **P 23 21 11.4 +0.5**
comp=Z,33nm,1.0s
KURK Kurchatov 38.67 345 P **P 23 21 11.4 +0.5**
SNR=20
KURK Kurchatov 38.67 345*c iP* **P 23 21 11.2 +0.3**
KURK pmax pmax
comp=Z,74nm,1.7s
GEYT Alibeck 39.49 314 P **P 23 21 19.4 +1.4**
comp=Z,2.8nm,0.7s,baz=116,slow=13,SNR=16
GEYT sP **sP** **23 21 34.5 +0.4**
comp=Z,10nm,0.9s,baz=112,slow=16,SNR=12
GEYT LR LR 23 40 30.5
comp=Z,69nm,18.0s,baz=60,slow=40
GYA0B ALIBECK ARRAY 39.49 314 *eP* **P 23 21 20.3 +2.3**
comp=Z,7.7nm,0.8s
CN2 Changchun 40.38 36 *eP* **P 23 21 25.3 0.0**
CN2 *es*P sP 23 21 43.0 +1.7
CN2 *eS* **S** **23 27 30.3 -0.4**
CN2 pmax pmax
comp=Z,50nm,1.1s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,330nm,16.0s
CN2 LR LR
comp=Z,370nm,16.0s
CN2 LR LR
comp=Z,560nm,17.0s
ZAA0 Zalesovo Array 40.54 352 *eP* **P 23 21 26.9 +0.4**
comp=Z,68nm,0.8s
ZALV Zalesovo Beam 40.54 352 P **P 23 21 26.8 +0.4**
comp=Z,74nm,0.7s,baz=177,slow=8.8,SNR=322
ZALV sP **sP** **23 21 41.8 -0.6**
comp=Z,23nm,0.7s,baz=180,slow=8.9,SNR=6.7
ZALV ScP **ScP** **23 27 11.9 -2.7**
comp=Z,0.7nm,0.5s,baz=164,slow=5.8,SNR=3.6
ZALV LR LR 23 42 00.3
comp=Z,138nm,20.1s,baz=72,slow=42
HIA Hailar 41.30 26 *eP* **P 23 21 33.0 +0.2**
comp=Z,20nm,0.8s
HIA Hailar 41.30 26 *eP* **P 23 21 33.0 +0.2**
HIA pmax pmax
comp=Z,20nm,0.8s
NVS Novosibirsk 41.64 351⇓*iP* **P 23 21 35.7 +0.3**
NVS *i* 23 21 50.2
NVS *eS* S 23 27 39.0 -10
NVS pmax pmax
comp=Z,43nm,1.0s
NVS pmax pmax
comp=N,34nm,1.3s
NVS pmax pmax
comp=E,18nm,1.3s
NVS smax smax
comp=N,7.0nm,1.6s
NVS smax smax
comp=E,12nm,1.6s
FAKI Fak Fak 41.84 111 P P 23 21 52.0 +14
BRVK Borovoye 43.22 340 *eP* **P 23 21 48.3 0.0**
comp=E,7.1nm,0.8s
BRVK Borovoye 43.22 340*c iP* **P 23 21 48.1 -0.2**
BRVK pmax pmax
comp=Z,7.0nm,0.7s
MDJ Mudanjiang 43.28 38 P **P 23 21 49.5 +0.6**
MDJ pmax pmax
comp=Z,15nm,1.3s
MDJ pmax pmax
comp=Z,350nm,4.5s
MBWA Marble Bar 43.30 143 *eP* **P 23 21 48.0 -1.3**
comp=Z,57nm,1.1s
USRK Ussuriysk Ar. 44.51 40 P **P 23 21 57.8 -1.1**
comp=Z,6.7nm,0.6s,baz=252,slow=8.3,SNR=14
USRK pP **pP** **23 22 09.2 -1.0**
comp=Z,4.9nm,0.7s,baz=253,slow=7.5,SNR=4.8
USRK LR LR 23 43 23.3
comp=Z,184nm,18.2s,baz=229,slow=40
ABKAR Akbulak array 44.75 329 *eP* **P 23 22 01.6 +1.0**
FITZ Fitzroy Crossi 44.85 134 LR LR 23 42 23.2
comp=Z,150nm,20.1s,baz=312,slow=38
FITZ Fitzroy Crossi 44.85 134 *eP* **P 23 22 00.6 -1.2**
comp=Z,12nm,0.6s
MJB9 Matsu-Tunnel 45.73 52 *eP* **P 23 22 09.2 +0.4**
comp=Z,46nm,1.0s
MAJO Matsushiro 45.73 52 *eP* **P 23 22 08.7 0.0**
comp=Z,43nm,0.9s
MAJO Matsushiro 45.73 52 *eP* **P 23 22 08.7 0.0**
MAJO pmax pmax
comp=Z,43nm,0.9s
MJAR Matsushiro Arr 45.73 52 P **P 23 22 08.3 -0.5**
comp=Z,17nm,1.1s,baz=265,slow=12,SNR=19
MJAR pP **pP** **23 22 19.1 -1.0**
comp=Z,6.7nm,0.8s,baz=266,slow=13,SNR=5.1
MJAR PcP **PcP** **23 23 46.0 -0.1**
comp=Z,9.6nm,0.7s,baz=237,slow=3.2,SNR=10
MJAR LR LR 23 43 03.0
comp=Z,256nm,19.3s,baz=255,slow=38
RAYN Ar Rayn 46.34 289 *eP* **P 23 22 15.8 +2.2**
comp=Z,23nm,1.5s
RAYN Ar Rayn 46.34 289 P **P 23 22 15.1 +1.4**

RAYN pmax pmax
comp=Z,23nm,1.5s
BOD Bodaibo 46.47 15 *eP* **P 23 22 13.8 -0.3**
BOD pmax pmax
comp=Z,44nm,1.2s
KLR Kul'dur 47.10 34*c iP* **P 23 22 17.7 -1.5**
ZEA Zeya 47.77 26 *eP* **P 23 22 24.6 +0.3**
ZEA pmax pmax
comp=Z,140nm,1.8s
SVE Sverdlovsk 49.64 337⇓*iP* **P 23 22 39.4 +0.7**
SVE pmax pmax
comp=Z,49nm,0.8s
GNI Garni 49.95 311 *eP* **P 23 22 43.5 +1.9**
comp=Z,24nm,1.1s
GNI Garni 49.95 311 *i* P **P 23 22 41.3 -0.3**
SNR=7.0
GNI Garni 49.95 311 *eP* **P 23 22 43.5 +1.9**
GNI pmax pmax
comp=Z,24nm,1.1s
GROC Groznyy 50.20 315 *eP* **P 23 22 42.1 -1.0**
GROC *e* 23 24 00.9
GROC *e* 23 24 37.2
GROC pmax pmax
comp=Z,21nm,0.9s
ERM Erimo 51.07 47⇑*eP* **P 23 22 47.4 -2.3**
ERM pmax pmax
comp=Z,429nm,1.5s
AKH Akhalkalaki 51.23 312⇑*iP* **P 23 22 52.7 +1.5**
KARS Kars 51.31 311 P **P 23 22 53.0 +1.3**
KARS pmax pmax
comp=Z,49nm,1.0s
ZEI Tsey 51.37 314 *eP* **P 23 22 53.0 +0.8**
ZEI pmax pmax
comp=Z,12nm,0.9s
NWAO Narrogin (SRO) 51.77 155 *eP* **P 23 22 52.0 -3.0**
comp=Z,131nm,1.4s
NWAO Narrogin (SRO) 51.77 155 *eP* **P 23 22 52.0 -3.0**
NWAO pmax pmax
comp=Z,131nm,1.4s
NCK Nalchik 51.81 315⇑*eP* **P 23 22 56.4 +1.1**
NCK pmax pmax
comp=Z,6.0nm,0.3s
NEY Neytrino 52.34 314⇓*eP* **P 23 23 00.7 +1.3**
NEY pmax pmax
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 52.35 129 P **P 23 22 58.1 -1.5**
comp=Z,10nm,0.8s,baz=312,slow=8.1,SNR=77
WRA pP **pP** **23 23 10.1 -1.0**
comp=Z,4.0nm,0.7s,baz=315,slow=9.4,SNR=3.4
WRA PcP **PcP** **23 24 09.4 -0.9**
comp=Z,4.5nm,0.7s,baz=315,slow=3.2,SNR=13
WRA pPcP 23 24 24.8
comp=Z,2.9nm,0.7s,baz=318,slow=3.3,SNR=5.3
WRA ScP **ScP** **23 28 00.0 -4.4**
comp=Z,1.1nm,0.8s,baz=311,slow=4.5,SNR=5.3
WRA LR LR 23 49 19.5
comp=Z,65nm,19.1s,baz=180,slow=41
WRA Warramunga Arr 52.35 129 *i* P **P 23 22 58.2 -1.3**
WRA pmax pmax
comp=Z,12nm,0.8s
WRAB Tennant Creek 52.35 129 *eP* **P 23 22 58.1 -1.4**
comp=Z,14nm,0.8s
WRAB *e*PcP **PcP** **23 24 09.2 -1.1**
WRAB Tennant Creek 52.35 129*c iP* **P 23 22 58.0 -1.5**
WRAB pmax pmax
comp=Z,11nm,0.8s
WB2 Warramunga Arr 52.36 129 *eP* **P 23 22 58.5 -1.1**
KBZ Khabaz 52.36 315 P **P 23 22 59.6 +0.3**
comp=Z,4.4nm,0.9s,baz=120,slow=7.2,SNR=11
KIV Kislovodsk 52.58 315 *eP* **P 23 23 02.0 +0.9**
comp=Z,29nm,0.9s
KIV Kislovodsk 52.58 315 P **P 23 23 02.2 +1.2**
SNR=6.5
KIV Kislovodsk 52.58 315 *i* P **P 23 23 02.4 +1.3**
SNR=13
KIV Kislovodsk 52.58 315 *eP* **P 23 23 01.8 +0.7**
KIV pmax pmax
comp=Z,35nm,1.0s
KIV MLR MLR
comp=Z,95nm,17.0s
GOF Gofitskoye 52.70 317 *eP* **P 23 23 02.3 +0.5**
ASAR Alice Springs 54.31 133 P **P 23 23 12.9 -1.0**
comp=Z,7.2nm,0.6s,baz=309,slow=6.6,SNR=62
ASAR pP **pP** **23 23 22.2 -3.4**
comp=Z,2.3nm,0.5s,baz=306,slow=6.7,SNR=6.0
ASAR PcP **PcP** **23 24 17.1 -0.6**
comp=Z,4.7nm,0.9s,baz=316,slow=3.6,SNR=8.0
ASAR pPcP 23 24 32.2
comp=Z,3.3nm,0.8s,baz=315,slow=4.1,SNR=5.3
ASAR ScP **ScP** **23 28 09.7 -3.3**
comp=Z,1.3nm,0.8s,baz=320,slow=4.7,SNR=6.1
ASAR pScP 23 28 22.7
comp=Z,0.5nm,0.8s,baz=318,slow=5.4,SNR=2.9
ASAR LR LR 23 48 32.5
comp=Z,114nm,19.1s,baz=304,slow=38
ASF Jabal al Asfar 54.62 300 LR LR 23 49 52.7
comp=Z,80nm,18.7s,baz=98,slow=40
NRIK Noril'sk 55.53 357 P **P 23 23 22.2 +0.2**
comp=Z,9.0nm,0.6s,baz=148,slow=5.0,SNR=17
NRIK LR LR 23 49 49.8
comp=Z,58nm,19.7s,baz=198,slow=39
VRH Novokhopyorsk 55.73 323 *eP* **P 23 23 23.4 -0.4**
VRH pmax pmax
comp=Z,40nm,0.7s
MMAI Mount Meron Ar 55.95 301 LR LR 23 50 59.3
comp=Z,115nm,19.9s,baz=105,slow=40
EIL Elat 56.10 296 LR LR 23 49 40.8
comp=Z,93nm,19.8s,baz=112,slow=38
ABPO Ambohimpanom 56.16 235 *eP* **P 23 23 28.4 +0.9**
comp=Z,25nm,0.8s
ABPO Ambohimpanom 56.16 235 *eP* **P 23 23 28.4 +0.9**
ABPO pmax pmax
comp=Z,25nm,0.8s
VORD Divnogorie 57.08 322 *eP* **P 23 23 32.5 -0.8**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 57.24 323 *eP* **P 23 23 33.3 -1.2**
VSR pmax pmax
comp=Z,10.0nm,0.7s
KMBO Kilima Mbogo 57.73 260 P **P 23 23 39.6 +0.7**
comp=Z,1.8nm,0.8s,baz=48,slow=7.0,SNR=7.4
KMBO LR LR 23 47 30.7
comp=Z,244nm,18.9s,baz=90,slow=35
KMBO Kilima Mbogo 57.73 260 *i* P **P 23 23 41.2 +2.3**
KMBO pmax pmax
comp=Z,1.0nm,0.6s
LPSR Galich'ya Gora 57.86 324 *eP* **P 23 23 38.1 -0.7**
LPSR pmax pmax
comp=Z,30nm,0.7s
PMG Port Moresby 58.00 111 P **P 23 23 39.5 -0.9**
comp=Z,8.6nm,0.3s,baz=264,slow=4.6,SNR=4.1
BR131 Keskin Array S 58.18 308 *eP* **P 23 23 41.4 -0.1**
BR131 Keskin Array S 58.18 308 P **P 23 23 41.4 -0.1**
SNR=6.3
BRTR Keskin Array B 58.18 308 P **P 23 23 41.3 -0.2**
comp=Z,6.6nm,0.8s,baz=118,slow=7.4,SNR=57
BRTR sP **sP** **23 23 57.6 -0.3**
comp=Z,6.3nm,0.8s,baz=123,slow=7.1,SNR=9.8
BRTR LR LR 23 52 23.1
comp=Z,81nm,19.9s,baz=98,slow=40
BRTR Keskin Array B 58.18 308 *i* P **P 23 23 41.5 -0.1**
BRTR pmax pmax
comp=Z,7.0nm,0.8s
PRGR Permogore 58.64 335⇑*iP* **P 23 23 43.6 -0.5**
PRGR pmax pmax
comp=Z,30nm,0.6s
SIM Simferopol' 58.76 314*c iP* **P 23 23 45.8 +0.5**
SIM pmax pmax
comp=Z,26nm,0.8s
MOS Moscow 59.70 327 *eP* **P 23 23 49.5 -2.1**
MOS *e* 23 24 05.8
MOS pmax pmax
comp=Z,32nm,0.8s
OBN Obninsk 60.05 326 *eP* **P 23 23 53.7 -0.2**
comp=Z,14nm,0.7s
OBN Obninsk 60.05 326*d iP* **P 23 23 53.5 -0.4**
OBN *e* 23 24 07.4
OBN *e* 23 24 38.7
OBN *e* 23 26 11.4
OBN *e*PPP PPP 23 27 30.9
OBN pmax pmax
comp=Z,39nm,1.3s
OBN MLR MLR
comp=Z,115nm,19.0s
TIXI Tiksi 61.48 12 *eP* **P 23 24 02.9 -0.5**
comp=Z,60nm,1.1s
TIXI Tiksi 61.48 12*c iP* **P 23 24 02.5 -0.9**
TIXI pmax pmax
comp=Z,54nm,1.0s
TLCR 62.50 314⇑*iP* **P 23 24 10.4 -0.3**
TLCR 62.50 314 ⇑*iP* **P 23 24 10.4 -0.3**
TIRR Tirgusor 62.69 313⇓*iP* **P 23 24 12.2 +0.2**
TIRR Tirgusor 62.69 313 ⇓*iP* **P 23 24 12.2 +0.2**
CFR Carcaliu 62.98 314⇑*iP* **P 23 24 13.8 -0.1**
CFR Carcaliu 62.98 314 ⇑*iP* **P 23 24 13.8 -0.1**
LEOM Leova 63.08 315⇑*iP* **P 23 24 14.9 +0.4**
LEOM Leova 63.08 315 ⇑*iP* **P 23 24 14.9 +0.4**
AKASG Malin Array Be 63.15 320 P **P 23 24 14.2 -0.8**
comp=Z,6.5nm,0.8s,baz=84,slow=5.0,SNR=24
AKBB Malin Array Si 63.15 320 *eP* **P 23 24 14.4 -0.5**
comp=Z,8.0nm,0.8s
KIEV Kiev 63.16 320 *eP* **P 23 24 14.0 -1.0**
comp=Z,7.3nm,0.8s
KIEV Kiev 63.16 320 P **P 23 24 14.2 -0.8**
KIEV Kiev 63.16 320*c iP* **P 23 24 14.1 -0.9**
KIEV pmax pmax
comp=Z,7.0nm,0.7s
AK11 Malin Array Si 63.18 320 *eP* **P 23 24 14.2 -1.0**
PETK Petropavlovsk- 63.52 37 P **P 23 24 16.4 -1.0**
comp=Z,9.5nm,0.8s,baz=225,slow=4.3,SNR=16
PETK pP **pP** **23 24 28.4 -0.9**
comp=Z,6.5nm,0.8s,baz=236,slow=4.1,SNR=2.7
PETK LR LR 23 53 18.5
comp=Z,117nm,21.6s,baz=238,slow=37
SEY Seymchan 63.75 26⇑*iP* **P 23 24 17.7 -1.0**
PGOR Pogoanele 63.75 313⇑*iP* **P 23 24 20.3 +1.3**
RAZG Razgrad 63.95 312⇓*iP* **P 23 24 20.7 +0.3**
VRI Vrincioaia 64.04 314⇓*iP* **P 23 24 21.7 +0.7**
VRI Vrincioaia 64.04 314 ⇓*iP* **P 23 24 21.7 +0.7**
ALN Alexandroupoli 64.08 309 *eP* **P 23 24 21.7 +0.5**
comp=Z,6.3nm,1.0s
ALN Alexandroupoli 64.08 309 *eP* **P 23 24 21.7 +0.5**
ALN pmax pmax
comp=Z,6.0nm,1.0s
ISR Istrita 64.09 314⇑*iP* **P 23 24 23.0 +1.6**
ISR Istrita 64.09 314 ⇑*iP* **P 23 24 23.0 +1.6**
PLOR Plostina 64.09 314⇑*iP* **P 23 24 22.2 +0.8**
PLOR Plostina 64.09 314 ⇑*iP* **P 23 24 22.2 +0.8**
MLR Muntele Rosu 64.55 314 *eP* **P 23 24 25.3 +0.9**
comp=Z,33nm,1.0s
MLR Muntele Rosu 64.55 314⇑*iP* **P 23 24 25.3 +0.9**
MLR Muntele Rosu 64.55 314 ⇑*iP* **P 23 24 25.3 +0.9**
PRAR RASCA 64.57 316⇑*iP* **P 23 24 24.7 +0.3**
BIZ Bicaz 64.60 316⇑*iP* **P 23 24 24.9 +0.3**
STKA Stephens Creek 64.72 136 P **P 23 24 25.0 -0.6**
comp=Z,2.3nm,0.6s,baz=312,slow=7.5,SNR=7.4
STKA pP **pP** **23 24 36.8 -0.6**
comp=Z,3.0nm,0.7s,baz=299,slow=6.0,SNR=3.3
STKA LR LR 23 54 00.3
comp=Z,57nm,20.8s,baz=336,slow=37
ZIMR 64.79 312⇓*iP* **P 23 24 26.3 +0.4**
ZIMR 64.79 312 ⇓*iP* **P 23 24 26.3 +0.4**
DOPR Dopca 64.98 314⇑*iP* **P 23 24 27.5 +0.3**
HUMR Humele 65.14 313⇑*iP* **P 23 24 28.5 +0.4**
VOIR 65.17 314⇓*iP* **P 23 24 28.0 -0.4**
VOIR 65.17 314 ⇓*iP* **P 23 24 28.0 -0.4**
BURAR Bucovina Array 65.28 316⇓*iP* **P 23 24 29.5 +0.4**
BURAR Bucovina Array 65.28 316 ⇓*iP* **P 23 24 29.5 +0.4**
NACGM Naroch 65.42 324 *e* **P 23 24 28.0 -1.7**
ARR Arges 65.45 314⇑*iP* **P 23 24 30.3 0.0**
VLAD Vladila 65.51 312⇑*iP* **P 23 24 30.5 0.0**
IDID Didziasalis 65.52 325 *eP* **P 23 24 30.7 +0.3**
IDID IAmb IAmb 23 24 32.0
comp=Z,14nm,1.0s
ARCR ARCALIA 65.81 316⇑*iP* **P 23 24 33.4 +1.0**
IIGN Ignalina 65.82 325 *eP* **P 23 24 32.7 +0.3**
IIGN IAmb IAmb 23 24 33.9
comp=Z,13nm,0.7s
IZAR Zarasai 65.88 325 *eP* **P 23 24 32.9 +0.2**
IZAR IAmb IAmb 23 24 34.1
comp=Z,9.8nm,0.6s
ISAL Salakas 65.91 325 *eP* **P 23 24 33.0 +0.1**
ISAL IAmb IAmb 23 24 34.5
comp=Z,12nm,1.1s
LOT Lotru 66.07 314⇓*iP* **P 23 24 33.9 -0.4**
VSU Vasula 66.17 328 *eP* **P 23 24 34.1 -0.3**
VSU IAmb IAmb 23 24 35.5
comp=Z,42nm,1.0s
VSU Vasula 66.17 328*ceP* **P 23 24 34.2 -0.3**
VSU pmax pmax
comp=Z,87nm,1.6s
CJR Cluj-Napoca 66.29 315⇑*iP* **P 23 24 36.3 +0.7**
CJR Cluj-Napoca 66.29 315 ⇑*iP* **P 23 24 36.3 +0.7**
VTS Vitosha 66.29 311 *eP* **P 23 24 35.7 -0.1**
comp=Z,10nm,0.9s
VTS Vitosha 66.29 311⇑*iP* **P 23 24 35.4 -0.4**
VTS Vitosha 66.29 311 *eP* **P 23 24 35.7 -0.1**
VTS pmax pmax
comp=Z,10.0nm,0.9s
LVV L'vov 66.31 318*d iP* **P 23 24 33.4 -2.2**
PUNG Punghina 66.58 312⇑*iP* **P 23 24 37.9 +0.5**
AGG Agios Georgios 66.86 307 *eP* **P 23 24 38.0 -1.4**
comp=Z,9.9nm,1.2s
AGG Agios Georgios 66.86 307 *eP* **P 23 24 38.0 -1.4**
AGG pmax pmax
comp=Z,10.0nm,1.2s
DRGR 66.90 315⇓*iP* **P 23 24 39.9 +0.4**
DRGR 66.90 315 ⇓*iP* **P 23 24 39.9 +0.4**
HERR Herculane 66.98 313⇓*iP* **P 23 24 40.5 +0.5**
TRPA Tarpa 67.12 317⇓*iP* **P 23 24 41.3 +0.5**
TRPA Tarpa 67.12 317⇑*eP* **P 23 24 41.2 +0.5**
KWP Kalwaria Pacla 67.14 318 *eP* **P 23 24 41.2 +0.3**
KWP Kalwaria Pacla 67.14 318 *eP* **P 23 24 41.2 +0.3**
FIA FINESS Array S 67.17 331 *eP* **P 23 24 40.5 -0.3**
FINES FINESS Array B 67.17 331 P **P 23 24 40.9 0.0**
comp=Z,11nm,0.7s,baz=97,slow=6.0,SNR=50
FINES sP **sP** **23 24 58.8 +1.4**
comp=Z,6.7nm,0.7s,baz=104,slow=8.0,SNR=5.8
FINES LR LR 23 57 34.4
comp=Z,113nm,19.7s,baz=59,slow=39
UZH Uzhgorod 67.33 317⇓*iP* **P 23 24 42.8 +0.7**
UZH *e* 23 24 56.4
UZH *i* 23 25 01.1
SUW Suwalki 67.35 323 *eP* **P 23 24 41.5 -0.6**
SUW Suwalki 67.35 323 *eP* **P 23 24 41.5 -0.6**
MDVR Moldovita 67.48 313⇑*iP* **P 23 24 42.9 -0.3**
LTVH L'tav'rtes, 67.50 316⇓*eP* P 23 24 37.9 -5.3
BZS Buzias 67.59 314 P **P 23 24 44.3 +0.5**
FNA Florina 67.61 309 *eP* **P 23 24 43.2 -0.9**
comp=Z,6.4nm,0.7s
FNA Florina 67.61 309 *eP* **P 23 24 43.2 -0.9**
FNA pmax pmax
comp=Z,6.0nm,0.7s
IGT Igoumenitsa 68.41 307 P **P 23 24 49.3 +0.2**
DIVS Divibare 68.69 312 *eP* **P 23 24 50.9 0.0**
comp=Z,6.8nm,0.9s
NIE Niedzica 68.69 318 *eP* **P 23 24 51.4 +0.7**
NIE Niedzica 68.69 318 *eP* **P 23 24 51.4 +0.7**
PSZ Piszkesteto 68.88 316 *eP* **P 23 24 52.1 +0.2**
comp=Z,15nm,0.9s
PSZ Piszkesteto 68.88 316⇑*iP* **P 23 24 52.1 +0.2**
PSZ Piszkesteto 68.88 316⇑*eP* **P 23 24 52.2 +0.2**
PSZ Piszkesteto 68.88 316 *eP* **P 23 24 52.1 +0.2**
PSZ pmax pmax
comp=Z,15nm,0.9s
OJC Ojcow 69.06 319 *eP* **P 23 24 52.9 -0.1**
OJC *e* 23 25 11.3
OJC Ojcow 69.06 319 *eP* **P 23 24 53.4 +0.4**
comp=Z,20nm,0.9s
OJC Ojcow 69.06 319 *eP* **P 23 24 52.9 -0.1**
OJC *e* 23 25 11.3
PDG Podgorica 69.21 310⇓*iP* **P 23 24 52.8 -1.2**
TTG Podgorica 69.21 310 *eP* **P 23 24 52.2 -1.8**
comp=Z,8.0nm,0.8s
TTG Podgorica 69.21 310 *eP* **P 23 24 52.2 -1.8**
TTG pmax pmax
comp=Z,8.0nm,0.8s
ARCES ARCESS Array B 69.44 340 P **P 23 24 55.6 +0.6**
comp=Z,8.0nm,0.7s,baz=92,slow=6.3,SNR=34
ARCES sP **sP** **23 25 11.8 +0.3**
comp=Z,5.6nm,0.7s,baz=90,slow=6.1,SNR=4.5
ARCES LR LR 23 59 47.8
comp=Z,6.5nm,18.8s,baz=123,slow=40
VYHS Vyhne 69.61 317 *eP* **P 23 24 56.4 0.0**
VYHS pmax pmax
comp=Z,5.0nm,1.0s
VYHS Vyhne 69.61 317 *eP* **P 23 24 56.4 0.0**
MORH M¨ŧr¡gy, Hung 69.68 314⇑*eP* **P 23 24 56.5 -0.3**
JAVC Velka Javorina 70.39 317 *eP* **P 23 25 01.9 +0.7**

MORC	Moravsky Berou	70.50	318	*e*P		P	23 25 02.0	+0.2	
	comp=Z,18nm,0.9s								
MORC	Moravsky Berou	70.50	318	⇑*i*P		P	23 25 02.3	+0.4	
MORC	Moravsky Berou	70.50	318	⇑P		P	23 25 02.3	+0.4	
MORC	Moravsky Berou	70.50	318	*e*P		P	23 25 02.1	+0.2	
BILL	Bilibino	70.74	22	*e*P		P	23 25 01.9	-1.1	
	comp=Z,13nm,1.1s								
BILL	Bilibino	70.74	22	⇑*e*P		P	23 25 01.7	-1.2	
BILL				pmax	pmax				
	comp=Z,23nm,1.7s								
LSZ	Lusaka	70.86	248	*e*P		P	23 25 05.7	+1.0	
	comp=Z,6.0nm,0.8s								
LSZ	Lusaka	70.86	248	*e*P		P	23 25 05.7	+1.0	
LSZ				pmax	pmax				
	comp=Z,6.0nm,0.8s								
VRAC	Vranov	71.11	318	*e*P		P	23 25 05.0	-0.5	
SOP	Sopron	71.12	316	⇑*e*P		P	23 25 05.7	+0.1	
SOP	Sopron	71.12	316	P		P	23 25 06.0	+0.4	
KRUC	Moravsky	71.24	317	*e*P		P	23 25 05.8	-0.5	
DPC	Dobruska-Polom	71.30	319	*e*P		P	23 25 07.6	+0.9	
DPC	Dobruska-Polom	71.30	319	*e*P		P	23 25 07.6	+0.9	
KSP	Ksiaz	71.32	319	*e*P		P	23 25 07.3	+0.5	
KSP				*e*			23 25 25.7		
KSP	Ksiaz	71.32	319	*e*P		P	23 25 07.3	+0.5	
KSP				*e*			23 25 25.7		
CONA	Conrad Observa	71.59	316	*e*P		P	23 25 08.5	-0.1	
	comp=Z,6.2nm,0.8s								
ARSA	Arzberg	71.83	315	*e*P		P	23 25 10.2	+0.2	
	comp=Z,6.7nm,0.9s								
SOKA	Soboth	72.18	315	*e*P		P	23 25 12.2	+0.1	
	comp=Z,15nm,1.3s,SNR=5.8								
PVCC	Panska Ves	72.42	319	*e*P		P	23 25 14.3	+1.0	
PVCC	Panska Ves	72.42	319	*e*P		P	23 25 14.3	+1.0	
OBKA	Obir	72.52	315	*e*P		P	23 25 14.3	+0.1	
	comp=Z,13nm,0.8s,SNR=6.7								
MOA	Molln	72.67	316	*e*P		P	23 25 14.8	-0.2	
	comp=Z,9.4nm,0.9s								
BRG	Berggiesshubel	72.81	319	*e*P		P	23 25 16.0	+0.3	
	comp=Z,14nm,0.9s								
BRG				*e*			23 25 33.1		
	comp=Z,11nm,0.9s								
BRG	Berggiesshubel	72.81	319	*e*P		P	23 25 16.0	+0.3	
BRG				*e*			23 25 33.1		
BRG				pmax	pmax				
	comp=Z,15nm,0.9s								
GEA0	GERESS Array S	73.01	317	*e*P		P	23 25 17.1	0.0	
GEC2	GERESS Array S	73.01	317	*e*P		P	23 25 17.4	+0.3	
	comp=Z,15nm,0.8s								
GEC2	GERESS Array S	73.01	317	*e*P		P	23 25 17.4	+0.3	
GEC2				pmax	pmax				
	comp=Z,15nm,0.8s								
GERES	GERESS Array B	73.01	317	P		P	23 25 17.6	+0.5	
	comp=Z,12nm,0.8s,baz=85,slow=6.0,SNR=107								
GERES				sP		PcP	23 25 32.6	-1.1	
	comp=Z,9.4nm,0.7s,baz=101,slow=6.9,SNR=13								
KHC	Kasperske Hory	73.09	317	*e*P		P	23 25 17.9	+0.5	
	comp=Z,3.3nm,0.9s								
KHC	Kasperske Hory	73.09	317	*e*P		P	23 25 17.7	+0.3	
KHC				*e*pP		pP	23 25 30.2	+0.8	
KHC	Kasperske Hory	73.09	317	*e*P		P	23 25 17.9	+0.5	
KHC				pmax	pmax				
	comp=Z,3.0nm,0.9s								
KBA	Koelnbreinsper	73.32	315	*i* P		P	23 25 18.4	-0.6	
	comp=Z,6.5nm,1.1s								
CLL	Collm	73.39	320	*e*P		P	23 25 19.0	-0.1	
	comp=Z,6.0nm,1.0s								
CLL	Collm	73.39	320	*i* P		P	23 25 18.6	-0.5	
	comp=Z,7.0nm,1.1s								
CLL	Collm	73.39	320	*e*P		P	23 25 19.0	-0.1	
CLL				pmax	pmax				
	comp=Z,6.0nm,1.0s								
ABTA	Abfaltersbach	73.91	315	*i* P		P	23 25 21.5	-0.9	
	comp=Z,5.9nm,1.0s								
NC405	NORSAR Array S	74.00	330	*e*P		P	23 25 22.5	0.0	
NC602	NORSAR Array S	74.00	330	*e*P		P	23 25 22.8	-0.2	
NORES	NORESS Array B	74.09	330	P		P	23 25 22.6	-0.4	
NORES				pmax	pmax				
	comp=Z,7.0nm,0.7s								
NB2	NORSAR Subarra	74.25	330	P		P	23 25 23.0	-1.0	
	comp=Z,9.8nm,0.8s,baz=90,slow=5.9								
NOA	NORSAR Array B	74.25	330	P		P	23 25 23.3	-0.7	
	comp=Z,4.6nm,0.8s,baz=90,slow=5.7,SNR=19								
NOA				pP		pP	23 25 36.5	+0.4	
	comp=Z,1.8nm,0.8s,baz=89,slow=5.8,SNR=3.8								
NOA				sP		sP	23 25 40.9	+0.3	
	comp=Z,2.2nm,0.7s,baz=89,slow=5.8,SNR=3.8								
NOA				LR	LR		00 01 53.3		
	comp=Z,65nm,21.2s,baz=105,slow=39								
WTTA	Wattenberg	74.47	316	*e*P		P	23 25 25.1	-0.6	
	comp=Z,7.0nm,0.7s								
WATA	Walderalm	74.51	316	*i* P		P	23 25 24.9	-1.0	
	comp=Z,4.1nm,0.6s								
SQTA	Sankt Quirin	74.77	316	*i* P		P	23 25 26.5	-0.9	
	comp=Z,9.0nm,0.7s,SNR=5.8								
MOTA	Moosalm	74.83	316	*i* P		P	23 25 26.5	-1.3	
	comp=Z,14nm,1.1s,SNR=7.6								
RETA	Reutte	75.05	316	*i* P		P	23 25 28.4	-0.5	
	comp=Z,10nm,0.7s,SNR=11								
FETA	Feichten	75.11	315	*i* P		P	23 25 28.7	-0.7	
	comp=Z,14nm,1.5s								
DAVA	Damuels	75.66	316	*i* P		P	23 25 32.3	-0.3	
	comp=Z,12nm,0.8s,SNR=9.3								
TUE	Stuetta	76.10	315	*e*P		P	23 25 35.2	0.0	
	comp=Z,6.8nm,0.9s								
BFO	Black Forest	76.61	317	*i* P		P	23 25 38.6	+0.8	
KEST	Kesra	77.39	304	P		P	23 25 42.8	+0.3	
	comp=Z,8.6nm,0.9s,baz=245,slow=3.2,SNR=8.0								
KEST				sP		sP	23 25 57.8	-1.3	
	comp=Z,13nm,0.9s,baz=317,slow=3.7,SNR=7.4								
BNI	Bardonecchia	78.12	314	*e*P		P	23 25 46.2	-0.2	
	comp=Z,9.9nm,1.0s								
BNI	Bardonecchia	78.12	314	*e*P		P	23 25 46.3	-0.2	
BNI				pmax	pmax				
	comp=Z,10.0nm,1.0s								
BOSA	Boshof	78.36	237	P		P	23 25 48.5	+0.5	
	comp=Z,4.0nm,0.6s,baz=78,slow=4.6,SNR=12								
BOSA				sP		sP	23 26 03.3	-1.4	
	comp=Z,7.4nm,0.6s,baz=56,slow=14,SNR=5.3								
BOSA				LR	LR		23 57 23.5		
	comp=Z,109nm,18.3s,baz=48,slow=33								
DAG	Danmarks Havn	81.50	348	*i* P		P	23 26 03.2	-0.8	
DAG	Danmarks Havn	81.50	348	*i* P		P	23 26 03.2	-0.8	
ANM	Nome	82.25	25	*e*P		P	23 26 09.1	+1.0	
	comp=Z,11nm,0.9s								
ANM	Nome	82.25	25	*e*P		P	23 26 09.1	+1.0	
ANM				pmax	pmax				
	comp=Z,11nm,0.9s								
TAM	Tamanrasset	82.96	292	*e*P		P	23 26 13.8	+1.0	
	comp=Z,6.7nm,1.0s								
TAM	Tamanrasset	82.96	292	*e*P		P	23 26 13.8	+1.0	
TAM				pmax	pmax				
	comp=Z,7.0nm,1.0s								
MAW	Mawson	84.29	191	LR	LR		23 57 35.2		
	comp=Z,234nm,21.1s,baz=67,slow=31								
SCO	Scoresbysund	85.16	342	*i* P		P	23 26 24.0	+1.1	
SCO	Scoresbysund	85.16	342	*i* P		P	23 26 24.0	+1.1	
IM3	Indian Mountai	86.30	22	*e*P		P	23 26 28.3	-0.3	
TOLK	Toolik Lake Re	86.48	19	*e*P		P	23 26 29.9	+0.4	
	comp=Z,22nm,0.8s								
TOLK	Toolik Lake Re	86.48	19	P		P	23 26 29.8	+0.3	
	baz=300								
ES19	SONSECA Array	86.87	310	*e*P		P	23 26 32.2	+0.1	
ESDC	Sonseca Array	86.93	310	P		P	23 26 32.2	-0.1	
	comp=Z,2.0nm,0.7s,baz=59,slow=4.8,SNR=9.5								
ESDC				sP		sP	23 26 47.4	-1.8	
	comp=Z,4.2nm,0.9s,baz=64,slow=4.9,SNR=7.8								
COLD	Coldfoot	86.97	20	*e*P		P	23 26 32.6	+0.6	
	comp=Z,4.2nm,1.0s								
SVW2	Sparrevohn	87.66	27	*e*P		P	23 26 36.2	+0.8	
	comp=Z,15nm,1.1s								
MLY	Manley	87.85	23	*e*P		P	23 26 36.3	+0.1	
	comp=Z,17nm,0.9s								
CAST	Castle Rocks	88.10	24	*e*P		P	23 26 37.8	+0.4	
	comp=Z,46nm,0.8s								
SUMG	Summit	88.17	347	*e*P		P	23 26 38.2	+0.1	
	comp=Z,27nm,1.0s								
SUMG	Summit	88.17	347	*i* P		P	23 26 37.8	-0.3	
SUMG	Summit	88.17	347	*e*P		P	23 26 38.2	+0.1	
SUMG				pmax	pmax				
	comp=Z,27nm,1.0s								
BPAW	Bear Paw Mtn.	88.21	23	*e*P		P	23 26 38.6	+0.6	
	comp=Z,34nm,1.0s								
PPLA	Purkeypile	88.30	25	*e*P		P	23 26 39.1	+0.5	
	comp=Z,24nm,1.2s								
TORD	Torodi Ar. Bea	88.68	283	P		P	23 26 41.0	-0.1	
	comp=Z,0.8nm,0.8s,baz=358,slow=10,SNR=6.9								
TORD				sP		sP	23 26 56.9	-1.0	
	comp=Z,5.4nm,0.8s,baz=91,slow=4.2,SNR=12								
TORD				PP		PP	23 30 09.4	-0.8	
	comp=Z,0.8nm,1.1s,baz=46,slow=6.6,SNR=3.5								
TORD				LR	LR		00 07 53.5		
	comp=Z,59nm,18.6s,baz=10.0,slow=36								
TRF	Thorofare Moun	88.80	24	*e*P		P	23 26 41.6	+0.7	
	comp=Z,12nm,0.8s								
MDM	Murphy Dome	88.81	22	*e*P		P	23 26 40.8	0.0	
	comp=Z,29nm,1.0s								
FYU	Fort Yukon	88.99	20	*e*P		P	23 26 43.2	+1.7	
	comp=Z,27nm,1.1s								
TCOL	CIGO, UAF Yank	88.99	22	P		P	23 26 42.0	+0.5	
	baz=301								
POKR	Poker Plat Res	89.02	22	P		P	23 26 41.6	-0.2	
	baz=302								
WRH	Wood River Hil	89.12	22	*e*P		P	23 26 42.1	-0.1	
	comp=Z,7.4nm,1.0s								
CCB	Clear Creek Bu	89.13	22	*e*P		P	23 26 41.6	-0.6	
	comp=Z,1.2nm,0.7s								
RND	Reindeer	89.38	24	*e*P		P	23 26 43.2	-0.3	
	comp=Z,13nm,1.1s								
IL1	Eielson Array	89.40	22	*e*P		P	23 26 41.9	-1.6	
ILAR	Eielson Array	89.40	22	P		P	23 26 42.5	-1.0	
	comp=Z,5.1nm,0.7s,baz=299,slow=4.2,SNR=56								
ILAR				pP		pP	23 26 55.5	-0.3	
	comp=Z,2.1nm,0.8s,baz=300,slow=4.5,SNR=6.8								
ILAR				PP		PP	23 30 14.6	+0.3	
	comp=Z,2.1nm,0.8s,baz=296,slow=7.1,SNR=4.3								
ILAR				LR	LR		00 13 23.1		
	comp=Z,149nm,19.3s,baz=312,slow=40								
ILB	Eielson Array	89.40	22	*e*P		P	23 26 42.9	-0.6	
HDA	Harding Lake	89.57	22	*e*P		P	23 26 43.4	-1.0	
	comp=Z,8.0nm,0.8s								
HDA	Harding Lake	89.57	22	P		P	23 26 43.1	-1.2	
	baz=302								
SUA	Susitna One	89.58	26	*e*P		P	23 26 44.7	+0.2	
	comp=Z,30nm,0.9s								
KULLO	Kullorsuaq	89.81	352	*i* P		P	23 26 45.8	+0.6	
KULLO	Kullorsuaq	89.81	352	*i* P		P	23 26 45.8	+0.6	
PMR	Palmer	90.19	25	*e*P		P	23 26 47.2	0.0	
	comp=Z,24nm,1.0s								
PMR	Palmer	90.19	25	*e*P		P	23 26 47.2	0.0	
PMR				pmax	pmax				
	comp=Z,24nm,1.0s								
RC01	Rabbit Creek A	90.19	26	*e*P		P	23 26 47.5	+0.3	
	comp=Z,46nm,0.8s								
BRLK	Bradley Lake	90.34	27	*e*P		P	23 26 47.8	-0.2	
	comp=Z,57nm,0.8s								
RIDG	Independ'e Rid	90.71	22	*e*P		P	23 26 49.6	-0.1	
	comp=Z,8.6nm,0.9s								
SCM	Sheep Creek Mo	90.80	24	*e*P		P	23 26 50.8	+0.6	
	comp=Z,30nm,1.2s								
SCM	Sheep Creek Mo	90.80	24	*e*P		P	23 26 50.8	+0.6	
SCM				pmax	pmax				
	comp=Z,30nm,1.2s								
SCRK	Sand Creek	90.89	22	*e*P		P	23 26 50.7	+0.1	
	comp=Z,11nm,0.8s								
SYO	Syowa Base	90.97	197	‖*e*P		P	23 26 51.4	+0.9	
SYO	Syowa Base	90.97	197	‖*e*pP		pP	23 27 05.2	+2.4	
INK	Inuvik	91.38	16	P		P	23 26 52.6	0.0	
	comp=Z,12nm,1.0s,baz=342,slow=6.5,SNR=22								
INK	Inuvik	91.38	16	*e*P		P	23 26 52.9	+0.2	
	comp=Z,9.1nm,0.8s								
INK	Inuvik	91.38	16	*e*P		P	23 26 52.9	+0.2	
INK				pmax	pmax				
	comp=Z,9.0nm,0.8s								
EPYK	Eagle Plains	91.81	18	P		P	23 26 54.3	-0.5	
	baz=312								
DAWY	Dawson	92.45	21	*e*P		P	23 26 57.4	-0.3	
	comp=Z,13nm,1.0s								
URZ	Urewera	93.51	128	P		P	23 27 01.3	-1.7	
	comp=Z,14nm,1.0s,baz=124,slow=4.0,SNR=4.8								
DBIC	Dimbokro	96.53	278	LR	LR		00 10 50.4		
	comp=Z,67nm,18.8s,baz=68,slow=35								
VNDA	Vanda	98.91	168	LR	LR		00 08 38.1		
	comp=Z,82nm,19.4s,baz=254,slow=33								
YKA	Yellowknife Ar	100.72	13	P		Pdif	23 27 34.8	-0.3	
	comp=Z,1.4nm,0.8s,baz=329,slow=4.1,SNR=6.9								
PDAR	Pinedale Array	119.74	19	PKP		PKPdf	23 32 37.1	-0.6	
	comp=Z,1.8nm,0.8s,baz=67,slow=1.9,SNR=12								
PDAR				pPKP		pPKPdf	23 32 48.4	-1.9	
	comp=Z,1.0nm,0.6s,baz=139,slow=12,SNR=6.7								
NVAR	Mina Array Bea	119.99	29	PKP		PKPdf	23 32 38.7	+0.5	
	comp=Z,3.1nm,0.6s,baz=307,slow=2.0,SNR=26								
NVAR				pPKP		pPKPdf	23 32 50.5	-0.4	
	comp=Z,3.5nm,0.9s,baz=302,slow=1.4,SNR=6.5								
NVAR				SKP			23 36 11.1		
	comp=Z,0.4nm,0.6s,baz=0.0,slow=1.5,SNR=3.6								
TXAR	Lajitas Array	133.91	21	PKP		PKPdf	23 33 04.8	-0.1	
	comp=Z,1.4nm,0.7s,baz=200,slow=1.4,SNR=13								
TXAR				pPKP		pPKPdf	23 33 17.2	-0.3	
	comp=Z,2.4nm,0.9s,baz=160,slow=0.8,SNR=5.1								
TXAR				SKPbc		SKPbc	23 36 30.5	-0.4	
	comp=Z,2.8nm,0.8s,baz=276,slow=1.0,SNR=14								
PLCA	Paso Flores	149.88	204	PKP		PKPdf	23 33 32.6	-0.1	
	comp=Z,3.5nm,1.1s,baz=190,slow=8.3,SNR=3.1								
PLCA				PKPbc		PKPbc	23 33 37.8	+0.3	
	comp=Z,7.7nm,0.9s,baz=312,slow=1.9,SNR=12								
PLCA				pPKP		pPKPdf	23 33 45.0	-0.4	
	comp=Z,3.8nm,0.8s,baz=252,slow=5.4,SNR=3.1								
CPUP	Villa Florida	150.09	241	PKPbc		PKPbc	23 33 36.7	-1.6	
	comp=Z,4.0nm,0.9s,baz=137,slow=3.7,SNR=7.2								
CPUP				pPKPbc		sPKPdf	23 33 50.5	0.0	
	comp=Z,12nm,1.1s,baz=151,slow=2.9,SNR=6.1								
LPAZ	La Paz	162.17	260	PKP		PKPdf	23 33 49.9	-0.2	
	comp=Z,0.9nm,0.7s,baz=175,slow=1.5,SNR=3.7								
LPAZ				PKPab		PKPab	23 34 37.4	+0.3	
	comp=Z,0.5nm,0.3s,baz=214,slow=6.0,SNR=2.5								

NSSP ***26*** *23:17:25.4, 38.52N×45.25E, h10km, Ms3.0*
DDA ***26*** *23:17:28.9, 38.48N×44.84E, h7km, Ml3.0*

ISC 26 23:17:26.6±1.6, 38.49N±0.03×45.11E±0.06, h2km±12km, n14, σ1s63/28, 1C-3D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
YOVA	Hakkari_Y…kse	1.11	216	*i* P		Pg	23 17 47.5	-0.4
YOVA				*i* S		Sn	23 18 05.5	+0.2
CLDR	Caldiran	1.14	305	*i* P		Pg	23 17 47.7	-0.7
CLDR				*i* S		Sb	23 18 03.2	-1.3
TVAN	Van	1.34	272	*i* P		Pn	23 17 50.6	-1.9
TVAN				*i* S		Sn	23 18 13.8	+2.8
DYDN	Diyadin	1.53	314	*i* P		Pb	23 17 55.0	-0.7
DYDN				*i* S		Sg	23 18 18.2	+2.5
IGDI	IGDIR	1.59	330	*i* P		Pn	23 17 55.5	-0.4
IGDI				*i* S		Sg	23 18 19.2	+1.4
GEVA	Gevas	1.62	264	*i* P		Pn	23 17 55.8	-0.6
GEVA				*i* S		Sg	23 18 19.4	+0.7
GNI	Garni	1.68	350	‖*i*P		Pn	23 17 57.1	-0.1
GNI				‖S		Sb	23 18 19.8	-0.2
CUKT	Cukurca	1.72	224	*i* P		Pb	23 17 58.9	-0.1
CUKT				*i* S		Sg	23 18 22.7	+0.9
VADZ	Vardenis	1.75	16	‖*i*P		Pb	23 17 59.0	-0.6
VADZ				‖S		Sb	23 18 22.7	+0.6
ADCV	BITLIS_Adilcev	1.90	280	*i* P		Pb	23 18 00.2	-1.9
ADCV				*i* S		Sg	23 18 29.1	+1.5
TUTA	Tutak	2.01	298	*i* P		Pb	23 18 02.3	-1.8
TUTA				*i* S		Sg	23 18 31.4	+0.2
EAK	Akyaka	2.48	333	*i* P		Pg	23 18 12.8	-1.4
EAK				*i* S		Sg	23 18 49.0	+2.6
EKAR	Karacoban	2.50	289	*i* P		Pg	23 18 13.6	-1.0
EKAR				*i* S		Sg	23 18 50.9	+4.0
SRTM	Siirt_Merkez	2.56	260	*i* P		Pn	23 18 10.0	+0.8
SRTM				*i* S		Sg	23 18 50.9	+2.0

ISCJB ***26*** *23:20:59.8±1.2, 32.66S±0.07×70.04W±0.05, h116km±10km, Error ellipse: s-maj=11.9km s-min=5.8km az=153.7*
GUC ***26*** *23:20:59.5±0.5, 32.47S×69.94W, h79km±17km, ML2.8*
SJA ***26*** *23:20:59.5±0.8, 32.65S×70.04W, h110km±6km, ML2.7, MW3.3*

ISC 26 23:21:00.5±2.7, 32.66S±0.07×70.05W±0.05, h111km±22km, n13, σ0s42/23, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FCH	Farellones	0.70	197	*e*P		Pn	23 21 19.1	-0.2
FCH				*i* S		Sn	23 21 33.7	+0.2
FCH				IAML			23 21 34.4	
	comp=E,447nm,0.2s							
PEL	Peldehue	0.72	228	*e*P		Pn	23 21 18.4	-0.8
PEL				*e*S		Sn	23 21 33.0	-0.3
PEL				IAML			23 21 35.0	
	comp=E,366nm,0.3s							
CLCH	Cerro Calan	0.84	209	*e*P		Pn	23 21 20.2	-0.1
CLCH				*i* S		Sn	23 21 36.0	+0.7
CLCH				IAML			23 21 40.9	
	comp=E,251nm,0.2s							
ROCH	El Roble	0.87	249	⇑*i*P		Pn	23 21 20.5	-0.2
ROCH				*e*S		Sn	23 21 36.1	+0.2
ROCH				IAML			23 21 37.8	
	comp=E,595nm,0.2s							
ROC1	El Roble	0.87	248	*e*P		Pn	23 21 20.5	-0.3
ROC1				*e*S		Sn	23 21 36.1	+0.1
ARCO	CERRO ARCO	0.96	101	*e*P		Pn	23 21 21.2	-0.3
ARCO				*e*S		Sn	23 21 37.0	-0.4
ARCO				IAML			23 21 39.2	
	comp=Z,126nm,0.2s							
ASAL	Salagasta	1.03	87	*e*P		Pn	23 21 22.1	0.0
ASAL				*e*S		Sn	23 21 38.7	+0.1
RTLS	Leoncito	1.07	37	*e*P		Pn	23 21 23.2	+0.4
RTLS				*e*S		Sn	23 21 40.1	+0.5
AAGR	Agrelo	1.11	113	*e*P		Pn	23 21 23.2	+0.1
AAGR				*e*S		Sn	23 21 40.6	+0.5
LMEL	Las Melosas	1.19	186	*e*P		Pn	23 21 24.6	+0.6
LMEL				IAML			23 21 49.4	
	comp=N,246nm,0.1s							
RTCV	Cerro Valdivia	1.51	59	*e*P		Pn	23 21 27.3	-0.2
RTCV				*e*S		Sn	23 21 47.5	-0.4
AMOG	MOGNA	2.17	38	*e*P		Pn	23 21 36.1	+0.3
ACAN	Cantantal	2.45	82	*e*P		Pn	23 21 38.7	-0.6

TIR ***26*** *23:21:04.4, 41.66N×20.11E, h7km, Md2.8/4*
SKO ***26*** *23:21:04.8, 41.65N×20.12E, h17km*
BEO ***26*** *23:21:04.2±0.8, 41.63N×20.24E, h8km±9km, ML1.8/6*

ISC 26 23:21:04.7±1.1, 41.65N±0.04×20.14E±0.04, h13km±10km, n7, σ0s98/14, Albania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PHP	Peshkopia	0.23	82	*i* PG		Pg	23 21 09.4	-0.2
PHP				*i* SG		Sg	23 21 13.8	+0.7
TIR	Tirane	0.37	214	*i* PG		Pg	23 21 11.8	-0.3
TIR				*i* SG		Sb	23 21 17.9	-0.7
PUK	Puka	0.43	335	*i* PG		Pg	23 21 12.6	-0.6
PUK				*i* SG		Sg	23 21 19.6	+0.4
BCI	Bajram Curri	0.72	356	*i* PG		Pg	23 21 16.8	-1.8
BCI				*i* SG		Sb	23 21 29.6	+0.9
OHR	Ohrid	0.73	137	*i* Pg		Pg	23 21 18.2	-0.8
OHR				*i* Sg		Sb	23 21 29.7	+0.4
KRUS	Krusevo	0.88	108	*i* Pg		Pg	23 21 20.9	-0.9
KRUS				*i* Sg		Sb	23 21 34.1	+0.5
STON	Ston	2.18	305	*e*Pn		Pn	23 21 40.7	+0.1
STON				Sn		Sb	23 22 12.3	+1.5

WEL 26 23:30:14.9, 39°S±1°×17°8E±°, h26km±2km, ML3.5/12, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MHGZ	Mahia Peninsul	0.17	346	P		Pg	23 30 20.6	+0.3
MHGZ				S		Sb	23 30 25.3	+1.3
KNZ	Kokohu	0.37	322	P		Pb	23 30 22.6	-0.3
KNZ				S		Sb	23 30 28.5	0.0
PRGZ	Paritu Road	0.40	351	P		Pb	23 30 23.7	+0.3
PRGZ				S		Sb	23 30 30.3	+1.0
WHHZ	Waihua	0.61	293	P		Pb	23 30 26.9	-0.1
WHHZ				S		Sb	23 30 35.8	+0.6
RIGZ	Rimuhau	0.63	346	P		Pb	23 30 27.3	+0.1
RIGZ				S		Sn	23 30 36.8	-0.5
SNGZ	Shannon Statio	0.72	318	P		Pb	23 30 28.5	-0.3
SNGZ				S		Sb	23 30 38.5	+0.2
ARHZ	Aropaoanui	0.75	274	P		Pb	23 30 29.4	+0.1
ARHZ				S		Sn	23 30 40.3	+0.1
CKHZ	Cape Kidnapper	0.77	243	P		Pn	23 30 29.8	-0.1
CKHZ				S		Sn	23 30 41.0	+0.4
RAHZ	Arahi	0.79	300	P		Pb	23 30 29.5	-0.4
RAHZ				S		Sb	23 30 40.5	+0.2
CNGZ	Carnagh Statio	0.85	13	P		Pn	23 30 31.1	0.0
TKGZ	Te Karaka	0.88	354	P		Pb	23 30 31.2	-0.2
TKGZ				S		Sn	23 30 44.1	+0.7
RAGZ	Rawiri	0.92	332	P		Pn	23 30 31.7

	0.7nm,0.8s							
ASAR	**Alice Springs**	**34.64**	**168**	P	**P**		**23 55 09.7**	**-1.2**
	0.9nm,0.6s,baz=350,slow=7.2,SNR=15							
ASAR				PcP	**PcP**		**23 57 44.0**	**-1.0**
	0.5nm,0.5s,baz=347,slow=1.5,SNR=5.9							
KLR	**Kul'dur**	**38.85**	**5**	P	**P**		**23 55 45.7**	**-0.6**
	1.9nm,0.6s,baz=177,slow=8.0,SNR=5.5							
STKA	**Stephens Creek**	**44.44**	**162**	P	**P**		**23 56 31.8**	**-0.5**
	1.1nm,0.6s,baz=337,slow=7.7,SNR=4.5							
PETK	**Petropavlovsk-**	**49.23**	**24**	P	**P**		**23 57 10.0**	**+0.4**
	2.9nm,0.7s,baz=208,slow=4.9,SNR=3.8							
PEA1	**Petropavlovsk-**	**49.24**	**24**	*eP*	**P**		**23 57 10.0**	**+0.4**
MK01	**Makanchi Array**	**52.16**	**322**	*eP*	**P**		**23 57 32.3**	**+0.4**
MK31	**Makanchi Array**	**52.18**	**322**	*eP*	**P**		**23 57 32.9**	**+0.9**
MK32	**Makanchi Array**	**52.18**	**322**	*eP*	**P**		**23 57 32.9**	**+0.9**
MKAR	**Makanchi Array**	**52.18**	**322**	P	**P**		**23 57 32.9**	**+0.9**
	2.1nm,0.6s,baz=119,slow=8.2,SNR=25							
ZALV	**Zalesovo Beam**	**54.69**	**331**	P	**P**		**23 57 49.8**	**-0.4**
	0.6nm,0.5s,baz=106,slow=4.7,SNR=3.8							
ZAA1	**Zalesovo Array**	**54.70**	**331**	*eP*	**P**		**23 57 49.8**	**-0.5**
KURK	**Kurchatov**	**56.19**	**325**	*eP*	**P**		**23 58 01.3**	**+0.2**
	5.2nm,0.9s							
KK31	**Karatay Array**	**58.47**	**314**	*eP*	**P**		**23 58 18.7**	**+1.2**
KKAR	**Karatay Array**	**58.47**	**314**	*eP*	**P**		**23 58 18.7**	**+1.2**
GEYT	**Alibeck**	**66.83**	**307**	P	**P**		**23 59 13.8**	**+0.4**
	0.3nm,0.4s,baz=193,slow=5.6,SNR=2.7							
ABKAR	**Akbulak array**	**67.06**	**319**	*eP*	**P**		**23 59 14.6**	**+0.1**
SCRK	**Sand Creek**	**80.32**	**27**	*eP*	**P**		**00 00 33.8**	**+1.5**
	8.2nm,1.1s							
ARA0	**ARCESS Array A**	**84.18**	**340**	*eP*	**P**		**00 00 51.8**	**-0.4**
ARCES	**ARCESS Array B**	**84.18**	**340**	P	**P**		**00 00 51.8**	**-0.4**
	2.2nm,0.7s,baz=80,slow=6.7,SNR=9.0							
BR101	**Keskin Array S**	**85.80**	**309**	*eP*	**P**		**00 01 00.6**	**-0.5**
BRTR	**Keskin Array B**	**85.80**	**309**	P	**P**		**00 01 00.6**	**-0.5**
	0.7nm,0.8s,baz=77,slow=4.2,SNR=4.6							
FIA0	**FINESS Array S**	**85.95**	**332**	*eP*	**P**		**00 01 00.7**	**-0.5**
FINES	**FINESS Array B**	**85.95**	**332**	P	**P**		**00 01 00.7**	**-0.5**
	1.0nm,0.4s,baz=71,slow=6.1,SNR=13							
AKASG	**Malin Array Be**	**86.73**	**321**	P	**P**		**00 01 05.2**	**0.0**
	0.5nm,0.5s,baz=62,slow=5.6,SNR=4.4							
AKBB	**Malin Array Si**	**86.73**	**321**	*eP*	**P**		**00 01 05.2**	**0.0**
	1.5nm,0.9s							
MAW	**Mawson**	**90.07**	**200**	LR	LR		00 40 15.8	
	comp=Z,165nm,19.2s,baz=59,slow=35							
VNDA	**Vanda**	**90.07**	**173**	P	**P**		**00 01 19.9**	**-0.6**
	0.4nm,0.6s,baz=322,slow=3.8,SNR=3.4							
YKA	**Yellowknife Ar**	**93.36**	**24**	P	**P**		**00 01 35.9**	**-0.2**
	0.6nm,0.7s,baz=296,slow=4.4,SNR=3.9							
PLCA	**Paso Flores**	**146.19**	**156**	PKPbc	**PKPab**		**00 08 02.7**	**+0.1**
	0.9nm,0.6s,baz=248,slow=5.2,SNR=4.1							

*IDC **26** 23:58:32.0±0.8, 18°.90N×64°.11W, h0km, mb4.0/11, mb1 4.2/14, mb1mx3.9/41, mbtmp4.0/14, ML4.0/3, MS3.2/9, Ms1 3.2/9, ms1mx2.9/30, Error ellipse: s-maj=16.9km s-min=15.4km az=115.0*

*ISCJB **26** 23:58:37.3±0.5, 18°.89N±0°.04×64°.30W±0°.02, h47km±3km, mb3.9/14, MS3.0/6, Error ellipse: s-maj=7.4km s-min=2.4km az=14.6*

*NEIC **26** 23:58:38.0±0.0, 18°.91N×64°.25W, h37km, mb3.9/2, MD3.9(RSPR), After RSPR.*

NEIC Felt [III] on Saint John and [II] on Saint Thomas. Also felt on Tortola.

*RSPR **26** 23:58:38.0, 18°.91N×64°.25W, h37km±2km, MD3.9/13*

*TRN **26** 23:58:38.0, 18°.75N×64°.35W, h30km*

ISC 26 23:58:36.7±1.3, 18°.89N±0°.05×64°.32W±0°.02, h31km±9km, n126, σ1§96/158, mb4.0/14, MS3.1/6, 21C-18D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ABV	**Anegada**	**0.16**	**185**	*eP*		**Pn**	**23 58 44.0**	**+0.9**
ABV	**Anegada**	**0.16**	**185**	*eP*		**Pn**	**23 58 44.0**	**+0.9**
ABV				*eS*		**Sn**	**23 58 49.2**	**+2.3**
ABVI	**Anegada Island**	**0.16**	**185**	*eP*		**Pn**	**23 58 44.0**	**+0.9**
ABVI				*eS*		**Sn**	**23 58 49.2**	**+2.3**
TBVI	**Tortola**	**0.55**	**211**	*eP*		**Pn**	**23 58 48.9**	**+0.5**
TBVI	**Tortola**	**0.55**	**211**	*eP*		**Pn**	**23 58 48.9**	**+0.5**
TBVI	**Tortola**	**0.55**	**211**	*eP*		**Pn**	**23 58 48.9**	**+0.5**
STVI	**Saint Thomas**	**0.81**	**228**	*eP*		**Pb**	**23 58 52.8**	**+0.5**
STVI				*eS*		**Sn**	**23 59 03.5**	**+0.6**
STVI	**Saint Thomas**	**0.81**	**228**	*eP*		**Pb**	**23 58 52.8**	**+0.5**
STVI	**Saint Thomas**	**0.81**	**228**	*eP*		**Pb**	**23 58 52.8**	**+0.5**
STVI				*eS*		**Sn**	**23 59 03.5**	**+0.6**
CUPR	**Culebra, Puert**	**1.08**	**238**	*eP*		**Pn**	**23 58 56.7**	**+0.9**
CUPR	**Culebra, Puert**	**1.08**	**238**	*eP*		**Pn**	**23 58 56.7**	**+0.9**
CUPR				*eS*		**Sb**	**23 59 11.0**	**+0.3**
CDVI	**St. Croix**	**1.21**	**201**	*ePn*		**Pb**	**23 58 59.1**	**0.0**
SMRT	**St. Maarten**	**1.45**	**125**	*ePn*		**Pn**	**23 59 02.4**	**+1.7**
SMRT				*eSn*		**Sn**	**23 59 19.8**	**+1.1**
SMRT	**St. Maarten**	**1.45**	**125**	*eP*		**Pn**	**23 59 01.7**	**+1.0**
SMRT				*eS*		**Sn**	**23 59 19.9**	**+1.3**
CBYP	**Canovanas**	**1.58**	**247**	*ePn*		**Pn**	**23 59 03.4**	**+0.7**
SABA	**Saba**	**1.62**	**141**	*ePn*		**Pn**	**23 59 04.7**	**+1.5**
SABA	**Saba**	**1.62**	**141**	*eP*		**Pb**	**23 59 05.9**	**-0.2**
SABA				*eS*		**Sn**	**23 59 25.0**	**+1.9**
SEUS	**St. Eustatius**	**1.88**	**137**	*ePn*		**Pn**	**23 59 07.4**	**+0.6**
SEUS	**St. Eustatius**	**1.88**	**137**	*eP*		**Pn**	**23 59 09.0**	**+2.3**
SEUS				*eS*		**Sn**	**23 59 31.4**	**+1.9**
SJG	**San Juan**	**1.90**	**246**	*eP*		**Pn**	**23 59 08.2**	**+1.2**
SJG	**San Juan**	**1.90**	**246**	Pn		**Pn**	**23 59 08.3**	**+1.2**
	81nm,0.3s,baz=71,slow=11,SNR=132							
SJG				Sn		**Sn**	**23 59 31.2**	**+1.3**
	263nm,0.3s,baz=66,slow=20,SNR=13							
SJG				LR		LR	00 00 04.1	
	comp=Z,640nm,18.6s,baz=66,slow=44							
SJG	**San Juan**	**1.90**	**246**	*eP*		**Pn**	**23 59 08.2**	**+1.2**
SJG				*eS*		**Sn**	**23 59 31.3**	**+1.3**
SJG				*eS*			23 59 32.0	
SJG	**San Juan**	**1.90**	**246**	*eP*		**Pn**	**23 59 08.2**	**+1.2**
SJG				*eS*		**Sn**	**23 59 31.3**	**+1.3**
EMPR	**Esperanza - Ma**	**2.14**	**259**	*eP*		**Pn**	**23 59 11.3**	**+1.0**
EMPR	**Esperanza - Ma**	**2.14**	**259**	*eP*		**Pn**	**23 59 11.3**	**+1.0**
EMPR				*eS*		**Sn**	**23 59 36.0**	**+0.3**
CELP	**Cerrillos**	**2.29**	**250**	*eP*		**Pn**	**23 59 13.9**	**+1.5**
CELP	**Cerrillos**	**2.29**	**250**	*eP*		**Pn**	**23 59 13.9**	**+1.5**
CELP	**Cerrillos**	**2.29**	**250**	*eP*		**Pn**	**23 59 13.9**	**+1.5**
ICMP	**Isla Caja de M**	**2.32**	**245**	*eP*		**Pn**	**23 59 15.5**	**+2.7**
ICMP	**Isla Caja de M**	**2.32**	**245**	*eP*		**Pn**	**23 59 15.5**	**+2.7**
ICMP				*eS*		**Sn**	**23 59 40.8**	**+0.5**
OBIP	**Obispado Ponce**	**2.33**	**249**	*eP*		**Pn**	**23 59 14.6**	**+1.7**
OBIP	**Obispado Ponce**	**2.33**	**249**	*eP*		**Pn**	**23 59 14.6**	**+1.7**
OBIP				*eS*		**Sn**	**23 59 41.6**	**+1.1**
OBIP	**Obispado Ponce**	**2.33**	**249**	*eP*		**Pn**	**23 59 14.6**	**+1.7**
OBIP				*eS*		**Sn**	**23 59 41.6**	**+1.1**
NEV	**Hard Times**	**2.41**	**136**	*eP*		**Pn**	**23 59 16.7**	**+2.6**
NEV				*eS*		**Sb**	**23 59 47.2**	**-1.6**
GBPR	**Guanica, Bosqu**	**2.60**	**250**	*eP*		**Pn**	**23 59 18.8**	**+2.3**
GBPR	**Guanica, Bosqu**	**2.60**	**250**	*eP*		**Pn**	**23 59 18.8**	**+2.3**
GBPR				*eS*		**Sn**	**23 59 50.2**	**+3.1**
GBPR	**Guanica, Bosqu**	**2.60**	**250**	*eP*		**Pn**	**23 59 18.8**	**+2.3**
GBPR				*eS*		**Sn**	**23 59 50.2**	**+3.1**
AGPR	**Aguadilla, PR**	**2.68**	**261**	*eP*		**Pn**	**23 59 19.5**	**+1.8**
AGPR	**Aguadilla, PR**	**2.68**	**261**	*eP*		**Pn**	**23 59 19.5**	**+1.8**
AGPR				*eS*		**Sn**	**23 59 51.0**	**+1.8**
AGPR	**Aguadilla, PR**	**2.68**	**261**	*eP*		**Pn**	**23 59 19.5**	**+1.8**
AGPR				*eS*		**Sn**	**23 59 51.0**	**+1.8**
ANWB	**Willy Bob**	**2.70**	**116**	*ePn*		**Pn**	**23 59 18.1**	**+0.2**
ANWB				*eSn*		**Sn**	**23 59 53.9**	**+4.3**
ANWB	**Willy Bob**	**2.70**	**116**	*eP*		**Pb**	**23 59 22.5**	**-1.8**
ANWB				*eS*		**Sn**	**23 59 53.5**	**+3.9**
AGP	**Aguadilla**	**2.72**	**260**	*ePn*		**Pn**	**23 59 19.2**	**+0.9**
LSP	**Las Mesas**	**2.72**	**255**	*eP*		**Pn**	**23 59 20.5**	**+2.2**
LSP				*eS*		**Sn**	**23 59 52.7**	**+2.4**
LSP	**Las Mesas**	**2.72**	**255**	*eP*		**Pn**	**23 59 20.5**	**+2.2**
LSP	**Las Mesas**	**2.72**	**255**	*eP*		**Pn**	**23 59 20.5**	**+2.2**
LSP				*eS*		**Sn**	**23 59 52.7**	**+2.4**
MPR	**Mayaguez**	**2.76**	**256**	*ePn*		**Pn**	**23 59 20.3**	**+1.5**
CRPR	**Cabo Rojo, PR**	**2.79**	**252**	*eP*		**Pn**	**23 59 21.1**	**+1.8**
CRPR	**Cabo Rojo, PR**	**2.79**	**252**	*eP*		**Pn**	**23 59 21.1**	**+1.8**
CRPR				*eS*		**Sn**	**23 59 54.5**	**+2.6**
CRPR	**Cabo Rojo, PR**	**2.79**	**252**	*eP*		**Pn**	**23 59 21.1**	**+1.8**
CRPR				*eS*		**Sn**	**23 59 54.5**	**+2.6**
MLYT	**Lee's Yard**	**2.96**	**136**	*eP*		**Pn**	**23 59 22.2**	**+0.6**
BPA	**Boggy Peak**	**2.98**	**128**	*eP*		**Pn**	**23 59 24.7**	**+2.8**
BPA				*eS*		**Sn**	**23 59 57.8**	**+1.3**
IDE	**Isla Desecheo**	**3.04**	**261**	*eP*		**Pn**	**23 59 24.2**	**+1.6**
IDE	**Isla Desecheo**	**3.04**	**261**	*eP*		**Pn**	**23 59 24.2**	**+1.6**
IDE	**Isla Desecheo**	**3.04**	**261**	*eP*		**Pn**	**23 59 24.2**	**+1.6**
IDE				*eS*		**Sn**	**00 00 00.1**	**+2.1**
SEG	**Port Louis**	**3.65**	**132**	*eP*		**Pn**	**23 59 32.9**	**+1.8**
CBE	**F"f', Capest**	**3.82**	**137**	*eP*		Pb	23 59 50.3	+6.9
TBG	**Guadaloupe-3**	**3.96**	**139**	*eP*		**Pn**	**23 59 37.6**	**+2.4**
TBG				*eS*		**Sn**	**00 00 18.8**	**-1.9**
TDBA	**Terre de Bas,**	**3.96**	**139**	*eP*		**Pb**	**23 59 50.4**	**+4.5**
DEG	**La Desirade**	**4.03**	**129**	*eP*		**Pn**	**23 59 38.7**	**+2.4**
DEG				*eS*		**Sn**	**00 00 22.2**	**-0.4**
H05N1	**Guadeloupe/Mar**	**4.03**	**129**	Pn		**Pn**	**23 59 39.1**	**+2.8**
H05N1				Sn		**Sn**	**00 00 23.0**	**+0.5**
MGG	**Marie-Galante**	**4.12**	**135**	*eP*		**Pn**	**23 59 40.1**	**+2.6**
MGG	**Marie-Galante**	**4.12**	**135**	*eS*		**Sn**	**00 00 25.5**	**+0.9**
MAGL	**Barre de l'ile**	**4.12**	**135**	*eP*		**Pb**	**23 59 49.1**	**+0.6**
MDPV	**Dominica, Penn**	**4.26**	**139**	*eS*		**Sn**	**00 00 27.9**	**-0.4**
MDVC	**Dominica, Viel**	**4.29**	**139**	*eP*		**Pn**	**23 59 42.3**	**+2.5**
MDVC	**Dominica, Viel**	**4.29**	**139**	*eS*		**Sn**	**00 00 32.5**	**+3.7**
MDPO	**Dominica; Chan**	**4.29**	**140**	*eP*		**Pn**	**23 59 43.8**	**+4.0**
MDPO	**Dominica; Chan**	**4.29**	**140**	*eS*		**Sn**	**00 00 30.4**	**+1.6**
BBL	**Barber's Block**	**4.31**	**140**	*eP*		**Pn**	**23 59 42.3**	**+2.1**
BBL	**Barber's Block**	**4.31**	**140**	*eS*		**Sn**	**00 00 27.9**	**-1.6**
MDN	**Morne-Daniel**	**4.52**	**141**	*eP*		**Pn**	**23 59 45.9**	**+2.8**
DBCT	**Belle View Cho**	**4.59**	**141**	*eP*		**Pn**	**23 59 45.8**	**+1.7**
DBCT	**Belle View Cho**	**4.59**	**141**	*eS*		**Sn**	**00 00 36.3**	**0.0**
PCM	**Pelee Case Pet**	**5.03**	**143**	*eP*		**Pn**	**23 59 52.1**	**+2.1**
GBMF	**Grand Be**	**5.07**	**143**	*eP*		**Pn**	**23 59 51.0**	**+0.3**
FDF	**Fort de France**	**5.13**	**143**	*eP*		**Pn**	**23 59 52.8**	**+1.3**
ZAM	**Aeronautique**	**5.33**	**143**	*eP*		**Pn**	**23 59 57.2**	**+3.1**
TRMF	**Trois Ilets**	**5.34**	**144**	*eP*		**Pn**	**23 59 56.0**	**+1.6**
LPMF	**Morne Lapointe**	**5.36**	**143**	*eP*		**Pn**	**23 59 52.6**	**-2.0**
H05S1	**Guadeloupe/Mar**	**5.55**	**143**	Pn		**Pn**	**00 00 00.7**	**+3.5**
H05S1				Sn		**Sn**	**00 01 00.2**	**+0.1**
MCLT	**Moule a Chique**	**6.09**	**147**	*eP*		**Pn**	**00 00 07.6**	**+3.0**
SVB	**Belmont**	**6.32**	**152**	*ePn*		**Pn**	**00 00 08.9**	**+1.2**
SVB	**Belmont**	**6.32**	**152**	*eP*		**Pn**	**00 00 08.3**	**+0.6**
SDDR	**Presa de Saban**	**6.60**	**272**	*ePn*		**Pn**	**00 00 13.8**	**+2.1**
SDDR				*eSn*		**Sn**	**00 01 28.0**	**+2.1**
GRTK	**Grand Turk**	**6.91**	**293**	*ePn*		**Pn**	**00 00 15.5**	**-0.4**
GRTK				*eS*		**Sn**	**00 01 27.4**	**-6.1**
TOSP	**Speyside**	**8.38**	**154**	*eP*		**Pn**	**00 00 40.3**	**+4.2**
TRN	**Trinidad (W)**	**8.67**	**161**	*eP*		**Pn**	**00 00 43.6**	**+3.6**
PCRV	**Puerto La Cruz**	**8.67**	**182**	Pn		**Pn**	**00 00 39.8**	**-0.3**
	1.3nm,0.3s,baz=344,slow=13,SNR=6.0							
PCRV				Sn		**Sn**	**00 02 14.4**	**-2.5**
	1.2nm,0.3s,baz=307,slow=20,SNR=3.3							
SDV	**Santo Domingo**	**11.68**	**212**	Pn		Pn	00 01 28.0	+6.5
	1.8nm,0.3s,baz=9.3,slow=11,SNR=4.2							
SDV				Sn		**Sn**	**00 03 25.7**	**-5.3**
	2.6nm,0.3s,baz=326,slow=18,SNR=4.7							
BBSR	**BB Station**	**13.43**	**359**	*ePn*		**Pn**	**00 01 41.4**	**-3.7**
OCAC	**Ocana**	**13.73**	**221**	*eP*		**Pn**	**00 01 49.1**	**-0.4**
GIRC	**Giron, Santand**	**14.57**	**217**	*eP*		**Pn**	**00 02 00.2**	**-0.9**
MOTC	**Monteria, Cord**	**14.90**	**229**	*eP*		**Pn**	**00 02 04.6**	**-0.8**
ZARC	**Zaragoza, Cauc**	**15.28**	**224**	*eP*		**Pn**	**00 02 11.1**	**+0.8**
RUSC	**La Rusia**	**15.49**	**215**	*eP*		**P**	**00 02 16.6**	**-1.1**
PTBC	**PUERTO BERRIO,**	**15.75**	**220**	*eP*		**P**	**00 02 19.3**	**-0.9**
CHIC	**Chingaza**	**16.89**	**214**	*eP*		**P**	**00 02 33.1**	**-0.1**
ROSC	**El Rosal**	**17.04**	**216**	P		**P**	**00 02 37.1**	**+2.4**
	3.0nm,0.3s,baz=101,slow=14,SNR=6.0							
ROSC				LR		LR	00 09 27.5	
	comp=Z,152nm,21.3s,baz=62,slow=38							
ROSC	**El Rosal**	**17.04**	**216**	*ePn*		**P**	**00 02 35.3**	**+0.6**
	8.3nm,0.6s							
RREF	**El Recreo**	**17.59**	**219**	*eP*		**Pn**	**00 02 39.9**	**-0.3**
MDP	**Montagnes des**	**17.82**	**139**	P		**Pn**	**00 02 43.2**	**+0.6**
	0.2nm,0.3s,baz=36,slow=16,SNR=2.5							
BCIP	**Isla Barro Col**	**17.88**	**239**	*ePn*		**P**	**00 02 45.1**	**+1.5**
PTGA	**Pitinga**	**19.96**	**167**	P		**P**	**00 03 06.1**	**-0.4**
	0.5nm,0.3s,baz=356,slow=14,SNR=5.3							
PTGA				LR		LR	00 11 08.7	
	comp=Z,56nm,18.8s,baz=9.0,slow=38							
JTS	**JuntasAbangare**	**21.70**	**250**	P		**P**	**00 03 26.7**	**+1.3**
	6.6nm,0.9s,baz=317,slow=6.6,SNR=4.0							
JTS				S		Sn	00 07 31.5	-2.5
	2.7nm,0.6s,baz=144,slow=19,SNR=2.8							
JTS				LR		LR	00 12 06.5	
	comp=Z,18nm,19.9s,baz=172,slow=37							
OTAV	**Otavalo**	**23.15**	**218**	*eP*		**P**	**00 03 41.6**	**+0.4**
	1.3nm,0.5s							
TKL	**Tuckaleechee C**	**23.97**	**318**	S		Sn	00 08 22.3	-5.5
	8.6nm,0.5s,baz=83,slow=22,SNR=7.6							
APG	**El Apazote**	**25.30**	**265**	P		**P**	**00 04 03.5**	**+2.6**
	2.8nm,0.7s,baz=45,slow=5.7,SNR=3.2							
APG				LR		LR	00 13 16.7	
	comp=Z,55nm,21.2s,baz=52,slow=35							
CMIG	**Matias Romero**	**29.11**	**271**	LR		LR	00 15 55.9	
	comp=Z,42nm,18.7s,baz=62,slow=36							
NNA	**Nana**	**33.08**	**203**	P		**P**	**00 05 09.0**	**-0.9**
	6.1nm,0.5s,baz=343,slow=11,SNR=3.9							
SIV	**San Ignacio**	**34.81**	**175**	P		**P**	**00 05 24.4**	**-0.5**
	2.7nm,0.5s,baz=7.8,slow=8.0,SNR=23							
LPAZ	**La Paz**	**35.16**	**186**	P		**P**	**00 05 28.5**	**-0.1**
	1.0nm,0.6s,baz=13,slow=3.0,SNR=5.0							
TXAR	**Lajitas Array**	**37.23**	**294**	PcP		**PcP**	**00 08 07.3**	**+2.1**
	0.3nm,0.5s,baz=125,slow=4.5,SNR=3.5							
TX31	**Lajitas Ar. Si**	**37.24**	**294**	*eP*		**P**	**00 05 46.8**	**+1.0**
LVC	**Limon Verde**	**41.49**	**186**	P		**P**	**00 06 18.8**	**-2.6**
	1.6nm,0.5s,baz=344,slow=5.5,SNR=4.0							
PDAR	**Pinedo Array**	**44.87**	**312**	P		**P**	**00 06 49.9**	**+1.3**
	1.7nm,0.8s,baz=112,slow=7.7,SNR=13							
PDAR				PcP		**PcP**	**00 08 30.8**	**+0.9**
	0.5nm,0.5s,baz=108,slow=5.8,SNR=4.3							
CPUP	**Villa Florida**	**45.46**	**171**	P		**P**	**00 06 49.7**	**-3.3**
	1.4nm,0.8s,baz=355,slow=9.4,SNR=3.8							
NVAR	**Mina Array Bea**	**50.47**	**305**	P		**P**	**00 07 33.9**	**+1.8**
	0.4nm,0.7s,baz=103,slow=7.5,SNR=3.6							
YKA	**Yellowknife Ar**	**55.53**	**334**	P		**P**	**00 08 09.0**	**+0.3**
	0.6nm,0.7s,baz=111,slow=7.8,SNR=3.8							
DBIC	**Dimbokro**	**59.00**	**94**	LR		LR	00 29 29.1	
	comp=Z,24nm,21.9s,baz=144,slow=32							
TORD	**Torodi Ar. Bea**	**63.40**	**84**	P		**P**	**00 09 04.2**	**+0.4**
	0.6nm,0.9s,baz=285,slow=7.4,SNR=2.9							
NOA	**NORSAR Array B**	**66.66**	**31**	LR		LR	00 35 37.5	
	comp=Z,13nm,19.3s,baz=305,slow=33							
ILAR	**Eielson Array**	**69.92**	**333**	P		**P**	**00 09 44.8**	**+0.2**
	0.5nm,0.8s,baz=100,slow=4.3,SNR=6.4							
FINES	**FINESS Array B**	**73.79**	**30**	P		**P**	**00 10 06.6**	**-1.2**
	2.2nm,0.8s,baz=255,slow=9.9,SNR=3.1							
FINES				LR		LR	00 41 51.6	
	comp=Z,12nm,18.1s,baz=358,slow=35							
WRA	**Warramunga Arr**	**162.37**	**264**	PKPab		**PKPab**	**00 19 23.6**	**-0.2**
	0.3nm,0.6s,baz=86,slow=4.3,SNR=3.4							
ASAR	**Alice Springs**	**162.37**	**251**	PKPab		**PKPab**	**00 19 23.4**	**-0.3**
	0.5nm,0.6s,baz=88,slow=3.8,SNR=4.2							

*ISCJB **27** 00:09:33.9±0.3, 3°.40N±0°.03×128°.07E±0°.04, h150km, mb4.3/41, Error ellipse: s-maj=6.4km s-min=3.7km az=163.2*

*DJA **27** 00:09:33.4±0.6, 4°N±6°×12°8E±°, h108km±7km, M4.2/6, mb4.5/6, mB4.2/1, MLv4.1/1, Mw(mB)3.3/1*

*NEIC **27** 00:09:34.5±0.9, 3°.44N×128°.10E, h142km±8km, mb4.5/13, Error ellipse: s-maj=12.4km s-min=6.4km az=68.0*

*IDC **27** 00:09:34.2±1.2, 3°.43N×128°.11E, h140km±12km, mb3.9/20, mb1 4.1/23, mb1mx3.9/40, mbtmp4.4/23, MS2.9/1, Ms1 2.9/1, ms1mx2.2/40, Error ellipse: s-maj=19.2km s-min=7.9km az=66.0*

ISC 27 00:09:35.5±0.4, 3°.38N±0°.05×127°.96E±0°.06, h150km, n98, σ1§45/100, mb4.3/39, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGSI	**Sangihe**	**2.45**	**277**	P		**Pn**	**00 10 12.8**	**-3.2**
SGSI				S		**Sn**	**00 10 42.1**	**-5.1**
TNTI	**Ternate**	**2.66**	**193**	*ePn*		**Pn**	**00 10 17.4**	**-1.3**
TNTI				*eSn*		**Sn**	**00 10 50.6**	**-1.4**
TNTI	**Ternate**	**2.66**	**193**	P		**Pn**	**00 10 17.9**	**-0.8**
TNTI				S		**Sn**	**00 10 52.0**	**0.0**
DAV	**Davao City (W)**	**4.37**	**327**	P		**Pn**	**00 10 37.8**	**-2.8**
	110nm,0.3s,baz=102,slow=3.1,SNR=5.1							
DAV				S		**Sn**	**00 11 31.8**	**+0.5**
	baz=260,slow=22,SNR=1.0							
KMSI	**Cibinong**	**4.86**	**235**	P		**Pn**	**00 10 46.4**	**-0.7**
SWI	**Sorong**	**5.35**	**142**	P		**Pn**	**00 10 51.8**	**-1.8**
SIJI	**Sorong**	**5.36**	**142**	P		**Pn**	**00 10 52.8**	**-1.0**
	38nm,0.3s,baz=298,slow=23,SNR=61							
SIJI				S		**Sn**	**00 11 52.0**	**-2.9**
	20nm,0.3s,baz=170,slow=23,SNR=20							
SANI	**Sanana**	**5.75**	**200**	P		**Pn**	**00 10 55.2**	**-3.7**
SANI				S		Sn	00 11 55.0	-9.1
MRSI	**Marisa**	**6.68**	**245**	P		**Pn**	**00 11 10.6**	**-0.7**
LUWI	**Luwuk**	**6.80**	**230**	*ePn*		**Pn**	**00 11 16.6**	**+3.6**
LUWI				*eSn*		**Sn**	**00 12 31.1**	**+1.7**
LUWI	**Luwuk**	**6.80**	**230**	P		**Pn**	**00 11 13.0**	**0.0**
FAKI	**Fak Fak**	**7.58**	**146**	*ePn*		**Pn**	**00 11 23.4**	**0.0**
FAKI	**Fak Fak**	**7.58**	**146**	P		**Pn**	**00 11 24.3**	**+0.8**
APSI	**Ampana**	**7.62**	**236**	P		**Pn**	**00 11 26.6**	**+2.7**
RKPI	**Ransiki, Papua**	**7.89**	**128**	P		**Pn**	**00 11 30.2**	**+2.7**
BNDI	**Bandanaira**	**8.09**	**166**	P		**Pn**	**00 11 30.2**	**0.0**
SPSI	**Sidrap Palu**	**10.97**	**228**	P		Pn	00 12 14.3	+5.9
EDFI	**Ende, Flores**	**13.58**	**207**	P		P	00 12 52.9	+6.7
JAY	**Jayapura**	**14.02**	**115**	P		**P**	**00 12 52.5**	**+1.5**
	1.6nm,0.3s,baz=306,slow=19,SNR=6.1							
BATI	**Baumata**	**14.16**	**198**	P		**Pn**	**00 12 50.6**	**+1.0**
	4.8nm,0.3s,baz=288,slow=8.3,SNR=4.0							
MTN	**Manton Dam**	**16.43**	**169**	*ePn*		**Pn**	**00 13 16.0**	**-1.6**
	13nm,0.6s							
PWJI	**Pagerwojo**	**19.70**	**235**	P		**Pn**	**00 13 56.7**	**+0.2**
	25nm,0.8s							
FITZ	**Fitzroy Crossi**	**21.47**	**186**	P		**P**	**00 14 10.7**	**-1.7**
	1.3nm,0.4s,baz=17,slow=8.7,SNR=15							
LEM	**Lembang**	**22.70**	**243**	P		**P**	**00 14 26.1**	**+1.2**
	16nm,0.5s,baz=232,slow=17,SNR=3.6							
PMG	**Port Moresby**	**22.96**	**124**	LR		LR	00 23 01.8	
	comp=Z,30nm,21.5s,baz=137,slow=35							
WRAB	**Tennant Creek**	**24.00**	**165**	*eP*		**P**	**00 14 36.0**	**-0.6**
	13nm,0.4s							
WRA	**Warramunga Arr**	**24.01**	**165**	P		**P**	**00

VNDA	**Vanda**	**82.93**	**173**	P		**P**	**00 21 43.2**	**+0.1**
	comp=E,0.7nm,0.6s,baz=319,slow=6.5,SNR=5.6							
MLY	**Manley**	**83.27**	**25**	*eP*		**P**	**00 21 46.7**	**+1.5**
	comp=E,4.4nm,0.8s							
TOLK	**Toolik Lake Re**	**84.12**	**21**	*eP*		**P**	**00 21 51.2**	**+1.8**
	comp=E,6.5nm,0.9s							
ILAR	**Eielson Array**	**84.89**	**25**	P		**P**	**00 21 53.0**	**-0.3**
	comp=E,0.8nm,0.7s,baz=242,slow=5.2,SNR=12							
ARCES	**ARCESS Array B**	**91.20**	**340**	P		**P**	**00 22 22.2**	**-1.1**
	comp=E,3.1nm,0.8s,baz=78,slow=7.6,SNR=8.3							
FINES	**FINESS Array B**	**92.72**	**332**	P		**P**	**00 22 29.3**	**-1.1**
	comp=E,0.8nm,0.4s,baz=53,slow=4.1,SNR=10							
AKASG	**Malin Array Be**	**92.94**	**321**	P		**P**	**00 22 30.3**	**-1.4**
	comp=E,0.3nm,0.4s,baz=72,slow=4.3,SNR=3.3							
YKA	**Yellowknife Ar**	**99.30**	**25**	P		**Pdif**	**00 22 58.5**	**-1.8**
	comp=E,0.5nm,0.8s,baz=297,slow=4.6,SNR=3.1							
NB2	**NORSAR Subarra**	**99.64**	**334**	P		**Pdif**	**00 23 00.4**	**-1.5**
	comp=Z,4.8nm,1.2s,baz=63,slow=5.1							
NOA	**NORSAR Array B**	**99.64**	**334**	P		**Pdif**	**00 23 00.5**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=62,slow=4.7,SNR=4.1							
TXAR	**Lajitas Array**	**120.83**	**53**	PKP		**PKPdf**	**00 28 10.7**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=132,slow=1.9,SNR=4.0							
TORD	**Torodi Ar. Bea**	**124.20**	**288**	PKP		**PKPdf**	**00 28 16.3**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=70,slow=1.4,SNR=5.4							

*ISCJB **27** 00:12:53.5±1.1,22.71S±0.08×68.04W±0.06, h160km±12km, Error ellipse: s-maj=13.6km s-min=7.3km az=21.6*
*SJA **27** 00:12:55.5±0.5,23.05S×68.01W,h40km±999km,ML2.3, MW2.8*
*GUC **27** 00:12:56.5±0.4,22.47S×68.13W,h144km±3km,ML3.9*

ISC 27 00:12:51.9±2.2,22.74S±0.08×68.05W±0.06, h176km±19km,n13,σ1s74/21,6C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.81**	**279**	*i*/*e*P		**Pn**		**00 13 19.6**	**+1.2**
LVC				*e*S		**Sn**		**00 13 37.0**	**-1.6**
PB06	**IPOC Station P**	**1.41**	**271**	*i*P		**Pn**		**00 13 25.2**	**+2.3**
PB06				*e*S		**Sn**		**00 13 46.8**	**+0.1**
PB09	**IPOC Station P**	**1.41**	**310**	*i*P		**Pn**		**00 13 24.4**	**+1.1**
PB09				*e*S		**Sn**		**00 13 45.4**	**-2.1**
PB07	**IPOC Station P**	**1.98**	**300**	*i*P		**Pn**		**00 13 30.2**	**+1.5**
PB07				*e*S		**Sn**		**00 13 55.0**	**-2.1**
PB07				IAML				00 13 55.6	
	comp=N,1μm,0.3s								
PB04	**IPOC Station P**	**1.99**	**281**	*i*P		**Pn**		**00 13 31.0**	**+2.2**
PB04				*e*S		**Sn**		**00 13 57.0**	**-0.2**
PB01	**IPOC Station P**	**2.15**	**321**	*i*P		**Pn**		**00 13 31.0**	**+0.5**
PB01				*e*S		**Sn**		**00 13 57.4**	**-3.1**
PB01				IAML				00 13 59.5	
	comp=E,773nm,0.2s								
PB02	**IPOC Station P**	**2.22**	**309**	*i*P		**Pn**		**00 13 32.2**	**+0.9**
PB02				*e*S		**Sn**		**00 13 59.5**	**-2.4**
PB02				IAML				00 14 01.0	
	comp=N,646nm,0.2s								
YJA	**Yavi**	**2.41**	**77**	*e*P		**Pn**		**00 13 36.0**	**+2.3**
YJA				IAML				00 13 38.0	
	comp=Z,7.9nm,0.6s								
YJA				*e*S		**Sn**		**00 14 06.2**	**+0.1**
HJA	**Humahuaca**	**2.47**	**101**	*e*P		**Pn**		**00 13 35.4**	**+0.9**
HJA				IAML				00 13 39.4	
	comp=Z,34nm,0.3s								
PB08	**IPOC Station P**	**2.78**	**338**	*e*P		**Pn**		**00 13 39.5**	**+1.3**
SLA	**San Lorenzo**	**3.05**	**131**	*e*P		**Pn**		**00 13 40.5**	**-0.7**
AZAP	**Zapla**	**3.11**	**119**	*e*P		**Pn**		**00 13 42.5**	**+0.6**
FSA	**Cafayete**	**3.85**	**151**	*e*P		**Pn**		**00 13 51.4**	**+0.2**

*THE **27** 00:17:15.5,41.82N×20.07E,h12km±2km,ML2.3/5, Error ellipse: s-maj=4.1km s-min=1.9km az=143.0*
*TIR **27** 00:17:16.0,41.68N×20.16E,h18km, Md3.2/5*
*BEO **27** 00:17:17.9±0.3,41.67N×20.13E,h3km±3km,ML2.1/11*
*SKO **27** 00:17:17.6,41.64N×20.13E,h4km*
*PDG **27** 00:17:18.2±0.2,41.70N×20.03E,h9km,ML2.5/12, Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*

ISC 27 00:17:17.1±0.9,41.68N±0.02×20.11E±0.02,h10km±8km, n61,σ1s13/105,5C-10D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.25**	**89**	P		**Pg**		**00 17 22.3**	**+0.1**
PHP				S		**Sg**		**00 17 26.7**	**+1.1**
PHP	**Peshkopia**	**0.25**	**89**	*i* PG		**Pg**		**00 17 22.3**	**+0.1**
PHP				*i* SG		**Sg**		**00 17 26.2**	**+0.6**
TIR	**Tirane**	**0.38**	**209**	*e*Pg		**Pg**		**00 17 23.9**	**-0.7**
TIR				*e*Sg		**Sg**		**00 17 30.6**	**+1.0**
TIR	**Tirane**	**0.38**	**209**	P		**Pg**		**00 17 24.4**	**-0.2**
TIR				S		**Sb**		**00 17 31.7**	**-0.1**
TIR	**Tirane**	**0.38**	**209**	*i* PG		**Pg**		**00 17 24.4**	**-0.2**
TIR				*i* SG		**Sb**		**00 17 32.3**	**+0.5**
PUK	**Puka**	**0.40**	**336**	*i* PG		**Pb**		**00 17 25.1**	**-1.2**
PUK				*i* SG		**Sb**		**00 17 32.7**	**+0.1**
BCI	**Bajram Curri**	**0.69**	**357**	*i* PG		**Pb**		**00 17 30.7**	**-0.6**
BCI				*i* SG		**Sn**		**00 17 42.9**	**-0.8**
ULC	**Ulcinj**	**0.71**	**294**	↓*i*Pg		**Pg**		**00 17 30.5**	**-0.3**
ULC				*e*Sg		**Sb**		**00 17 40.5**	**-0.9**
OHR	**Ohrid**	**0.77**	**137**	*i* Pg		**Pg**		**00 17 30.3**	**-1.6**
OHR				*i* Sg		**Sg**		**00 17 41.3**	**-0.6**
DRME	**Dracevica, Mon**	**0.86**	**307**	↓*i*Pg		**Pg**		**00 17 33.3**	**-0.3**
DRME				*e*Sg		**Sb**		**00 17 45.8**	**+0.1**
DRME	**Dracevica, Mon**	**0.86**	**307**	*e*Pn		**Pg**		**00 17 33.0**	**-0.6**
KRUS	**Krusevo**	**0.91**	**110**	↓↓*i*Pg		**Pg**		**00 17 33.3**	**-1.3**
KRUS				*i* Sg		**Sg**		**00 17 45.7**	**-0.8**
PVY	**Plav**	**0.92**	**353**	↓↓*i*Pg		**Pb**		**00 17 34.6**	**-0.7**
PVY				*e*Sg		**Sn**		**00 17 49.2**	**-0.5**
PDG	**Podgorica**	**0.98**	**320**	*e*Pg		**Pg**		**00 17 35.5**	**-0.5**
PDG				*e*Sg		**Sn**		**00 17 51.0**	**0.0**
PDG	**Podgorica**	**0.98**	**320**	*e*Pn		**Pb**		**00 17 35.7**	**-0.6**
TTG	**Podgorica**	**0.98**	**320**	↓↓*i*Pg		**Pg**		**00 17 35.6**	**-0.5**
TTG				*e*Sg		**Sn**		**00 17 50.1**	**-0.9**
SKO	**Skopje**	**1.04**	**73**	*e*Pg		**Pg**		**00 17 37.0**	**-0.2**
SKO				*e*Sg		**Sb**		**00 17 50.9**	**+0.1**
SKO	**Skopje**	**1.04**	**73**	P		**Pg**		**00 17 36.4**	**-0.6**
SKO				S		**Sb**		**00 17 50.9**	**+0.1**
SKO	**Skopje**	**1.04**	**73**	*i* Pg		**Pg**		**00 17 36.2**	**-0.8**
SKO				*i* Sg		**Sb**		**00 17 50.9**	**+0.1**
BUM	**Brajici-Budva**	**1.10**	**305**	↓↓*i*Pg		**Pg**		**00 17 37.3**	**-1.0**
BUM				*e*Sg		**Sn**		**00 17 53.7**	**-0.3**
BIA	**Bitola**	**1.13**	**125**	P		**Pg**		**00 17 37.2**	**-1.6**
BIA				S		**Sb**		**00 17 53.8**	**+0.4**
BIA	**Bitola**	**1.13**	**125**	*i* Pg		**Pg**		**00 17 37.4**	**-1.3**
BIA				*i* Sg		**Sg**		**00 17 52.7**	**-0.7**
KBN	**Korca**	**1.17**	**154**	P		**Pb**		**00 17 38.6**	**-0.9**
KBN				S		**Sn**		**00 17 58.8**	**+3.1**
KBN	**Korca**	**1.17**	**154**	*i* PG		**Pb**		**00 17 38.8**	**-0.8**
KBN				*i* SG		**Sn**		**00 17 56.5**	**+0.8**
IVA	**Berane**	**1.20**	**352**	↑*i*Pg		**Pn**		**00 17 40.2**	**+0.1**
IVA				*e*Sg		**Sn**		**00 17 58.4**	**+1.8**
CEME	**Cevo**	**1.24**	**315**	↓↓*i*Pg		**Pb**		**00 17 40.1**	**-0.6**
KOME	**Kolasin**	**1.25**	**340**	↑↑*i*Pg		**Pg**		**00 17 40.7**	**-0.5**
KOME				*e*Sg		**Sn**		**00 17 59.6**	**+1.8**
FNA	**Florina**	**1.31**	**133**	P		**Pn**		**00 17 40.5**	**-1.0**
FNA				S		**Sn**		**00 17 59.9**	**+0.8**
NKME	**Niksic**	**1.39**	**322**	↓↓*i*Pg		**Pb**		**00 17 42.7**	**-0.5**
NKME				*e*Sg		**Sg**		**00 18 03.6**	**+1.9**
NKY	**Niksic**	**1.40**	**324**	↓↓*i*Pg		**Pg**		**00 17 43.3**	**-0.8**
NKY				*e*Sg		**Sg**		**00 18 04.7**	**+2.4**
HCY	**Herceg Novi**	**1.43**	**303**	↑↑*i*Pg		**Pb**		**00 17 43.4**	**-0.4**
HCY				*e*Sg		**Sg**		**00 18 04.9**	**+1.9**
HCY	**Herceg Novi**	**1.43**	**303**	*e*Pn		**Pn**		**00 17 42.4**	**-0.7**
NEST	**Nestorio**	**1.45**	**150**	P		**Pn**		**00 17 43.5**	**0.0**
STIP	**Stip**	**1.56**	**89**	*i* Pn		**Pg**		**00 17 48.2**	**+1.2**
STIP				*i* Sg		**Sg**		**00 18 12.7**	**+5.6**
SJES	**Sjenica**	**1.58**	**356**	*e*Pg		**Pg**		**00 17 47.7**	**+0.2**
SJES				*e*Sg		**Sg**		**00 18 08.0**	**-0.1**
TREB	**Trebinje**	**1.67**	**309**	*e*Pg		**Pg**		**00 17 48.4**	**-0.7**
TREB				*e*Sg		**Sg**		**00 18 12.1**	**+1.3**
TREB	**Trebinje**	**1.67**	**309**	*e*Pn		**Pg**		**00 17 48.0**	**-1.1**
PENT	**Pentalofos**	**1.67**	**152**	P		**Pb**		**00 17 47.6**	**-0.5**
BRY	**Bratogost**	**1.69**	**317**	↑↑*i*Pn		**Pb**		**00 17 48.1**	**-0.3**
BRY				*e*Sn		**Sg**		**00 18 11.9**	**+0.5**
BRY	**Bratogost**	**1.69**	**317**	*e*Pn		**Pb**		**00 17 47.8**	**-0.6**
BARS	**Barje**	**1.70**	**48**	*e*Pg		**Pb**		**00 17 48.0**	**-0.5**
BARS				*e*Sg		**Sg**		**00 18 12.8**	**+1.0**
SELS	**Selova**	**1.71**	**26**	*e*Pg		**Pg**		**00 17 49.5**	**-0.4**
PLE	**Pljevlja**	**1.73**	**342**	↓↓*i*Pn		**Pg**		**00 17 49.8**	**-0.6**
PLE				*e*Sn		**Sg**		**00 18 13.7**	**+0.8**
UPM	**Unac-Piva**	**1.77**	**330**	↑↑*i*Pn		**Pg**		**00 17 49.8**	**-1.2**
UPM				*e*Sn		**Sg**		**00 18 14.2**	**+0.3**
UPM	**Unac-Piva**	**1.77**	**330**	*e*Pn		**Pg**		**00 17 51.1**	**+0.1**
SRN	**Sarande**	**1.80**	**183**	P		**Pb**		**00 17 49.2**	**-0.9**
SRN				S		**Sn**		**00 18 11.9**	**+0.8**
VAY	**Valandovo**	**1.88**	**100**	*e*Pg		**Pb**		**00 17 50.9**	**-0.7**
VAY				*e*Sg		**Sg**		**00 18 16.5**	**-1.1**
VAY	**Valandovo**	**1.88**	**100**	*i* Pn		**Pn**		**00 17 50.3**	**+1.0**
VAY				*i* Sg		**Sg**		**00 18 16.6**	**-1.1**
IVAS	**Ivanjica**	**1.90**	**1**	*e*Pg		**Pg**		**00 17 52.2**	**-1.3**
IVAS				*e*Sg		**Sg**		**00 18 17.0**	**-1.1**
STON	**Ston**	**2.15**	**304**	*e*Pn		**Pb**		**00 17 54.6**	**-1.5**
STON				Sn		**Sb**		**00 18 23.0**	**+0.2**
STON	**Ston**	**2.15**	**304**	*e*Pn		**Pn**		**00 17 54.1**	**+1.1**
BBLS	**Lazići**	**2.25**	**347**	*e*Pg		**Pb**		**00 17 58.3**	**+0.5**
BBLS				*e*Sg		**Sg**		**00 18 28.5**	**-0.8**
BBLS	**Lazići**	**2.25**	**347**	*e*Pn		**Pb**		**00 17 56.8**	**-1.0**
GRUS	**Gruza**	**2.25**	**11**	*e*Pn		**Pb**		**00 17 56.1**	**-1.8**
GRUS				*e*Sn		**Sb**		**00 18 24.5**	**-1.3**
DIVS	**Divibare**	**2.42**	**358**	*e*Pn		**Pb**		**00 17 59.5**	**-1.3**
DIVS	**Divibare**	**2.42**	**358**	*e*Pn		**Pb**		**00 17 59.1**	**-1.7**
HAPS	**Han Pijesak,Bl**	**2.55**	**341**	*e*Pn		**Pn**		**00 18 00.2**	**+1.5**
HAPS				*e*Sn		**Sb**		**00 18 32.9**	**-1.7**
HAPS	**Han Pijesak,Bl**	**2.55**	**341**	*e*Pn		**Pn**		**00 17 58.9**	**+0.2**
KUBS	**Kucevo**	**2.96**	**22**	*e*Pn		**Pn**		**00 18 05.0**	**+0.8**
MORH	**M¯‡r¡gy, Hung**	**4.66**	**347**	*e*Pn		**Pn**		**00 18 27.8**	**+0.3**
NVLJ	**Novalja**	**4.80**	**309**	*e*Pn		**Pn**		**00 18 30.6**	**+1.2**
NVLJ				Sn		**Sn**		**00 19 26.4**	**+1.4**

*ISK **27** 00:30:58.5,36.60N×27.96E,h9km,ML2.5/11*
*ISCJB **27** 00:30:59.4±0.4,36.61N±0.03×27.94E±0.03,h7km±4km, Error ellipse: s-maj=5.1km s-min=3.4km az=7.5*
*THE **27** 00:30:59.2,36.62N×27.96E,h2km±2km,ML2.4/2, Error ellipse: s-maj=2.9km s-min=0.6km az=206.0*
*ATH **27** 00:30:59.2,36.63N×27.96E,h28km±2km,ML2.5/2, Error ellipse: s-maj=4.8km s-min=2.0km az=210.0*
*DDA **27** 00:30:59.3,36.62N×27.94E,h7km,Ml2.8*

ISC 27 00:30:58.8±1.1,36.64N±0.03×27.97E±0.02,h4km±10km, n32,σ1s88/44,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRSB	**Marmaris-Mugla**	**0.20**	**67**	PG		**Pg**		**00 31 03.6**	**+1.0**
MRSB				SG		**Sg**		**00 31 07.1**	**+1.9**
DATC	**Datca-Mugla**	**0.28**	**295**	PG		**Pg**		**00 31 04.8**	**+0.6**
DAT	**Datca**	**0.33**	**286**	PG		**Pg**		**00 31 05.5**	**+0.3**
DAT	**Datca**	**0.33**	**286**	*i* P		**Pg**		**00 31 05.5**	**+0.3**
DAT				*i* S		**Sg**		**00 31 11.3**	**+1.8**
ARG	**Arkhangelos**	**0.44**	**164**	PG		**Pg**		**00 31 06.8**	**-0.4**
ARG	**Arkhangelos**	**0.44**	**164**	P		**Pg**		**00 31 08.1**	**+0.9**
ARG				S		**Sb**		**00 31 15.2**	**-0.8**
ARG				AML	AML			00 31 17.2	
	comp=N,870μm,0.2s								
ARG				AML	AML			00 31 19.0	
	comp=E,801μm,0.2s								
ARG	**Arkhangelos**	**0.44**	**164**	P		**Pg**		**00 31 08.2**	**+0.9**
ARG				S		**Sg**		**00 31 14.1**	**+1.1**
TURN	**Turunc**	**0.56**	**65**	PG		Pg		00 31 04.9	-4.6
TURN				SG		**Sg**		**00 31 09.4**	**-7.3**
TURN	**Turunc**	**0.56**	**65**	*i* P		Pg		00 31 05.0	-4.5
TURN				*i* S		**Sg**		**00 31 09.3**	**-7.3**
DALY	**Dalyan (Mu¨la**	**0.57**	**72**	PG		**Pg**		**00 31 10.8**	**+1.0**
DALY	**Dalyan (Mu¨la**	**0.57**	**72**	*i* P		**Pb**		**00 31 11.4**	**0.0**
DALY				*i* S		**Sb**		**00 31 20.2**	**+0.4**
NIS1	**Nisyros Isl.**	**0.64**	**267**	PG		**Pg**		**00 31 11.3**	**+0.2**
NIS1	**Nisyros Isl.**	**0.64**	**267**	P		**Pb**		**00 31 11.9**	**-0.5**
NIS1				S		**Sb**		**00 31 21.9**	**+0.2**
NIS1				AML	AML			00 31 26.0	
	comp=E,1478μm,0.3s								
NIS1				AML	AML			00 31 28.3	
	comp=N,1738μm,0.3s								
NIS1	**Nisyros Isl.**	**0.64**	**267**	P		**Pb**		**00 31 12.0**	**-0.5**
NIS1				S		**Sb**		**00 31 22.0**	**+0.2**
MLSB	**Milas**	**0.67**	**347**	PG		**Pg**		**00 31 12.7**	**+1.0**
BODT	**Bodrum**	**0.68**	**309**	PG		**Pg**		**00 31 12.3**	**+0.4**
BODT	**Bodrum**	**0.68**	**309**	P		**Pg**		**00 31 12.2**	**+0.4**
BODT				S		**Sb**		**00 31 23.1**	**+0.2**
NISR	**Nisiros**	**0.68**	**268**	P		**Pb**		**00 31 13.4**	**+0.2**
FETY	**Fethiye**	**0.89**	**90**	PG		**Pg**		**00 31 16.6**	**+0.7**
FETY	**Fethiye**	**0.89**	**90**	P		**Pg**		**00 31 16.8**	**+0.9**
FETY				S		**Sn**		**00 31 30.5**	**-0.9**
AYDN	**Tasoluk**	**1.02**	**356**	*i* P		**Pg**		**00 31 18.6**	**+0.2**
AYDN				*i* S		**Sb**		**00 31 33.8**	**+1.0**
TAVA	**DENIZLI_Tavas**	**1.11**	**42**	*i* P		**Pn**		**00 31 21.8**	**+0.6**
TAVA				*i* S		**Sn**		**00 31 38.5**	**+1.5**
AYDB	**Zeytinkoy-Aydi**	**1.31**	**357**	PN		**Pn**		**00 31 23.8**	**-0.1**
AKAS	**Kas**	**1.38**	**107**	PN		**Pn**		**00 31 24.6**	**-0.2**
KSL	**Kastellorizon**	**1.39**	**110**	P		**Pb**		**00 31 25.6**	**+0.4**
SMG	**Samos**	**1.40**	**320**	P		**Pn**		**00 31 24.2**	**-0.9**
SMG	**Samos**	**1.40**	**320**	P		**Pn**		**00 31 24.2**	**-0.9**
GOLH	**Golhisar**	**1.41**	**64**	*i* P		**Pg**		**00 31 27.9**	**+2.2**
GOLH				*i* S		**Sg**		**00 31 46.3**	**+2.4**
ELL	**Elmali**	**1.56**	**85**	PN		**Pn**		**00 31 27.5**	**+0.2**
CHOS	**Chios island**	**2.32**	**319**	P		**Pn**		**00 31 37.4**	**-0.3**
NPS	**Neapolis**	**2.36**	**235**	P		**Pn**		**00 31 38.2**	**0.0**
LAST	**Lasithi**	**2.51**	**235**	P		**Pn**		**00 31 39.9**	**-0.4**

*ISCJB **27** 00:41:02.4±0.5,4.92S±0.05×153.00E±0.08,h43km, mb4.2/19,MS3.2/2, Error ellipse: s-maj=10.8km s-min=7.5km az=2.7*
*NEIC **27** 00:41:05.3±1.1,4.91S×152.94E,h54km±9km,mb4.2/5, Error ellipse: s-maj=11.8km s-min=6.4km az=99.0*
*IDC **27** 00:41:05.2±3.7,4.94S×152.90E,h52km±32km,mb4.0/14, mb1 4.1/15,mb1mx4.0/33,mbtmp4.3/15,ML2.6/1,MS3.3/3, Ms1 3.3/3,ms1mx2.8/30,Error ellipse: s-maj=22.2km s-min=15.3km az=89.0*

ISC 27 00:41:04.1±0.7,4.91S±0.07×153.0E±0.1,h43km,n36, σ0s75/40,mb4.2/19,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.07**	**312**	*e*Pn		**Pn**		**00 41 23.6**	**+0.9**
RABL				*e*Sn		**Sn**		**00 41 36.5**	**0.0**
PMG	**Port Moresby**	**7.29**	**232**	P		**Pn**		**00 42 49.2**	**+1.1**
	6.0nm,0.3s,baz=47,slow=9.7,SNR=10								
PMG				S		**Sn**		**00 44 08.6**	**-0.9**
	5.0nm,0.3s,baz=16,slow=15,SNR=8.4								
PMG	**Port Moresby**	**7.29**	**232**	*e*Pn		**Pn**		**00 42 49.1**	**+1.1**
PMG				*e*S		Sn		00 43 49.8	-20
HNR	**Honiara**	**8.25**	**123**	LR		LR		00 46 30.4	
	comp=Z,166nm,19.2s,baz=298,slow=39								
DZM	**Mont Dzumac**	**21.48**	**144**	P		**P**		**00 45 49.8**	**+0.5**
	21nm,0.8s,baz=281,slow=4.5,SNR=16								
WRAB	**Tennant Creek**	**23.48**	**229**	*e*P		**P**		**00 46 10.2**	**0.0**
	6.9nm,0.8s								
WB2	**Warramunga Arr**	**23.49**	**229**	*e*P		**P**		**00 46 09.7**	**-0.5**
WR1	**Warramunga Arr**	**23.50**	**229**	*e*P		**P**		**00 46 09.9**	**-0.4**
	11nm,1.1s								
WR1				*e*PcP		**PcP**		**00 49 54.6**	**-0.7**
WRA	**Warramunga Arr**	**23.50**	**229**	P		**P**		**00 46 09.9**	**-0.4**
	4.9nm,0.7s,baz=54,slow=9.8,SNR=32								
WRA				PcP		**PcP**		**00 49 54.6**	**-0.8**
	0.7nm,0.8s,baz=55,slow=2.5,SNR=3.7								
WRA				LR		LR		00 56 04.0	
	comp=Z,66nm,18.5s,baz=50,slow=38								
AS01	**Alice Springs**	**26.15**	**223**	*e*P		**P**		**00 46 36.6**	**+2.0**
AS31	**Alice Springs**	**26.18**	**223**	*e*P		**P**		**00 46 35.2**	**+0.4**
	1.5nm,1.0s								
AS31				*e*PcP		**PcP**		**00 50 00.9**	**-0.4**
ASAR	**Alice Springs**	**26.18**	**223**	P		**P**		**00 46 35.2**	**+0.4**
	1.0nm,0.8s,baz=55,slow=8.2,SNR=7.6								
ASAR				PcP		**PcP**		**00 50 00.9**	**-0.4**
	0.4nm,0.6s,baz=54,slow=3.0,SNR=2.8								
STKA	**Stephens Creek**	**28.87**	**200**	LR		LR		00 58 24.0	
	comp=Z,74nm,18.7s,baz=29,slow=36								
FITZ	**Fitzroy Crossi**	**29.75**	**242**	P		**P**		**00 47 05.4**	**-1.3**
	2.9nm,0.7s,baz=49,slow=8.8,SNR=8.2								
JNU	**Nakatsue**	**43.24**	**333**	P		**P**		**00 49 01.5**	**+0.1**
	15nm,0.8s,baz=155,slow=3.9,SNR=6.1								
KSRS	**Korea Array**	**48.17**	**333**	P		**P**		**00 49 39.7**	**-0.5**
	1.0nm,0.4s,baz=151,slow=8.7,SNR=3.5								
KSAR	**Wonju Array Be**	**48.18**	**333**	P		**P**		**00 49 39.7**	**-0.6**
USRK	**Ussuriysk Ar.**	**52.41**	**341**	P		**P**		**00 50 12.9**	**+0.8**
	2.2nm,0.6s,baz=158,slow=8.2,SNR=4.1								
PETK	**Petropavlovsk-**	**57.94**	**3**	P		**P**		**00 50 52.9**	**+1.0**
	1.4nm,0.5s,baz=171,slow=7.1,SNR=8.4								
PEA1	**Petropavlovsk-**	**57.95**	**3**	*e*P		**P**		**00 50 52.9**	**+1.0**
CMAR	**Chiang Mai Arr**	**58.08**	**295**	P		**P**		**00 50 53.9**	**+0.4**
	2.1nm,0.6s,baz=115,slow=6.3,SNR=14								
VNDA	**Vanda**	**72.71**	**178**	P		**P**		**00 52 27.8**	**+0.6**
	1.8nm,0.7s,baz=325,slow=6.4,SNR=9.3								

MK01	**Makanchi Array**	**80.50**	**319**	*e*P		**P**		**00 53 12.2**	**+0.4**
MK32	**Makanchi Array**	**80.52**	**319**	*e*P		**P**		**00 53 12.0**	**+0.2**
MKAR	**Makanchi Array**	**80.52**	**319**	P		**P**		**00 53 12.0**	**+0.2**
	0.7nm,0.5s,baz=98,slow=7.1,SNR=13								
ZAA0	**Zalesovo Array**	**81.34**	**326**	*e*P		**P**		**00 53 16.0**	**0.0**
	2.2nm,0.8s								
ZALV	**Zalesovo Beam**	**81.34**	**326**	P		**P**		**00 53 15.9**	**0.0**
	2.0nm,0.6s,baz=113,slow=5.4,SNR=12								
ZAA1	**Zalesovo Array**	**81.34**	**326**	*e*P		**P**		**00 53 15.9**	**0.0**
ILAR	**Eielson Array**	**82.20**	**22**	P		**P**		**00 53 19.3**	**-1.0**
	0.5nm,0.7s,baz=252,slow=5.3,SNR=8.9								
ILB	**Eielson Array**	**82.20**	**22**	*e*P		**P**		**00 53 19.3**	**-1.0**
KURK	**Kurchatov**	**83.96**	**322**	*e*P		**P**		**00 53 28.7**	**-1.0**
	4.9nm,1.1s								
NRIK	**Noril'sk**	**86.12**	**341**	P		**P**		**00 53 40.3**	**+0.2**
	1.7nm,0.4s,baz=125,slow=3.9,SNR=3.7								
GERES	**GERESS Array B**	**124.24**	**329**	PKP		**PKPdf**		**00 59 58.1**	**-0.3**
	0.9nm,0.7s,baz=64,slow=3.1,SNR=7.4								
LPAZ	**La Paz**	**134.22**	**118**	PKP		**PKPdf**		**01 00 18.8**	**-0.1**
	2.2nm,1.0s,baz=257,slow=4.5,SNR=5.0								
TORD	**Torodi Ar. Bea**	**150.50**	**288**	PKPbc		**PKPbc**		**01 00 51.5**	**-0.8**
	4.8nm,0.7s,baz=64,slow=3.4,SNR=36								
DBIC	**Dimbokro**	**157.87**	**276**	PKPab		**PKPab**		**01 01 29.6**	**-0.7**
	1.8nm,0.8s,baz=37,slow=5.1,SNR=2.3								

*ISCJB **27** 01:02:59.4±1.1,5.34S±0.08×147.4E±0.2,h170km, mb3.9/5,Error ellipse: s-maj=27.8km s-min=11.6km az=5.6*
*IDC **27** 01:03:02.4±3.3,5.39S×147.37E,h186km±31km,mb3.7/5, mb1 3.9/7,mb1mx3.5/34,mbtmp4.2/7,MS3.0/1,Ms1 3.0/1, ms1mx2.3/28,Error ellipse: s-maj=38.3km s-min=22.9km az=125.0*

ISC 27 01:03:00.5±1.0,5.34S±0.10×147.3E±0.2,h170km,n9, σ2s15/12,mb3.6/5,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.04**	**183**	P		**Pn**		**01 04 03.9**	**+2.0**
	5.4nm,0.3s,baz=7.3,slow=9.4,SNR=7.1					

MNMC				*e*S	**Sn**	**01 54 20.6**	**+0.7**
PB02	**IPOC Station P**	**1.40**	**206**	*e*P	**Pn**	**01 54 09.6**	**+1.2**
PB02				*e*S	**Sn**	**01 54 29.8**	**+1.9**
PB02				IAML		01 54 34.1	
	comp=E,3μm,0.2s						
PB12	**IPOC Station P**	**1.76**	**324**⇑	*i*P	**Pn**	**01 54 13.0**	**+0.3**
PB12				*e*S	**Sn**	**01 54 35.5**	**-0.1**
PB12				IAML		01 54 41.3	
	comp=N,3μm,0.3s						
PB07	**IPOC Station P**	**1.77**	**200**⇓	*e*P	**Pn**	**01 54 14.2**	**+1.2**
PB07				*e*S	**Sn**	**01 54 36.8**	**+0.8**
PB07				IAML		01 54 40.5	
	comp=E,2μm,0.4s						
LPAZ	**La Paz**	**3.89**	**16**	P	**Pn**	**01 54 43.9**	**+2.7**
	comp=E,1.8nm,0.3s,baz=189,slow=7.7,SNR=45						
LPAZ				S	**Sn**	**01 55 27.8**	**+1.5**
	comp=E,1.7nm,0.3s,baz=186,slow=6.0,SNR=3.8						
CPUP	**Villa Florida**	**12.61**	**122**	P	**Pn**	**01 56 36.9**	**-1.2**
	comp=E,0.4nm,0.3s,baz=304,slow=14,SNR=8.6						
PLCA	**Paso Flores**	**20.64**	**183**	P	Pn	01 58 18.2	+1.4
	comp=E,1.9nm,0.7s,baz=20,slow=14,SNR=6.3						
DBIC	**Dimbokro**	**68.63**	**74**	P	**P**	**02 04 33.9**	**-0.6**
	comp=E,2.8nm,0.9s,baz=223,slow=4.7,SNR=7.0						
TORD	**Torodi Ar. Bea**	**77.17**	**71**	P	**P**	**02 05 23.8**	**-1.0**
	comp=E,0.9nm,0.3s,baz=255,slow=5.6,SNR=29						
H11S2	**WAKE ISLAND Hyl**	**27.37**	**278**	T	T	04 32 26.2	
	baz=101,slow=74,SNR=34						
H11S1	**WAKE ISLAND Hyl**	**27.38**	**278**	T	T	04 32 25.1	
	baz=101,slow=74,SNR=34						
H11S3	**WAKE ISLAND Hyl**	**27.39**	**278**	T	T	04 32 25.3	
	baz=101,slow=74,SNR=33						
H11N3	**WAKE ISLAND Hyl**	**27.42**	**280**	T	T	04 32 19.4	
	baz=100,slow=75,SNR=10						
H11N2	**WAKE ISLAND Hyl**	**27.43**	**280**	T	T	04 32 21.7	
	baz=100,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hyl**	**27.43**	**280**	T	T	04 32 21.2	
	baz=100,slow=75,SNR=10						
MKAR	**Makanchi Array**	**144.64**	**34**	PKP	**PKPdf**	**02 13 06.6**	**+0.3**
	comp=E,0.3nm,0.7s,baz=311,slow=2.3,SNR=5.1						

TAP 27 01:57:24.0, 24.55N×121.09E, h13km, ML2.0, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NSTT	**Nanjuang**	**0.12**	**315**	*i* P	Pg	01 57 27.4	+0.1
	baz=316						
LIOB	**Emei**	**0.12**	**325**	P	Pg	01 57 27.6	+0.3
	baz=324						
NMLH	**Miaoli**	**0.27**	**268**	*e*P	Pb	01 57 30.7	-0.1
	baz=267						
NMLH				*e*S	Sb	01 57 35.7	+0.3
	baz=267						
NNS	**Nan Shan**	**0.28**	**113**	*e*P	Pb	01 57 30.7	-0.3
	baz=112						
NNS				*e*S	Sb	01 57 35.6	-0.1
	baz=112						
YHNB	**Yeheng**	**0.29**	**65**	*e*P	Pb	01 57 30.9	-0.1
	baz=65						
YHNB				*e*S	Sb	01 57 35.7	-0.1
	baz=65						
NNSB	**Datong**	**0.29**	**114**	*e*P	Pb	01 57 30.9	-0.3
	baz=114						
NNSB				*e*S	Sb	01 57 35.7	-0.3
	baz=114						
TDCB	**Techi**	**0.30**	**168**	*e*P	Pb	01 57 31.1	-0.2
	baz=168						
TDCB				*e*S	Sb	01 57 35.8	-0.4
	baz=168						
NSY	**Sanyi**	**0.33**	**246**	*e*P	Pb	01 57 31.9	+0.1
	baz=245						
NSY				*e*S	Sb	01 57 37.0	+0.1
	baz=245						
TWQ1	**Liyutan**	**0.35**	**235**	P	Pb	01 57 32.1	0.0
	baz=235						
TWQ1				*e*S	Sb	01 57 37.8	+0.1
	baz=235						
NWLT	**Wulai**	**0.44**	**59**	*e*P	Pb	01 57 33.6	0.0
	baz=58						
NWLT				*e*S	Sb	01 57 40.9	+0.8
	baz=58						
CHGB	**Renai**	**0.49**	**171**	*e*P	Pb	01 57 34.7	0.0
	baz=171						
CHGB				*e*S	Sb	01 57 42.1	+0.2
	baz=171						
NACB	**Ninganchiao**	**0.59**	**129**	*e*P	Pb	01 57 36.4	+0.2
	baz=129						
NACB				*e*S	Sb	01 57 45.5	+1.0
	baz=129						
TYC	**Yuchr**	**0.68**	**198**	*e*P	Pb	01 57 37.9	+0.2
	baz=197						
TYC				*e*S	Sb	01 57 48.3	+1.3
	baz=197						
VWDT	**VWDT**	**0.79**	**177**	*e*P	Pb	01 57 40.0	+0.3
	baz=176						
VWDT				*e*S	Sb	01 57 50.9	+0.6
	baz=176						
YULB	**Yu-li**	**1.17**	**171**	*e*P	Pn	01 57 46.2	+0.1
	baz=170						
YULB				*e*S	Sn	01 58 01.9	+0.1
	baz=170						

TAP 27 01:57:27.2, 24.54N×121.05E, h8km±1km, ML2.1, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NSTT	**Nanjuang**	**0.10**	**332**	*e*P	Pg	01 57 30.1	+0.4
	baz=335						
NSTT				S	Sg	01 57 31.9	+0.6
	baz=335						
NSTT	**Nanjuang**	**0.10**	**332**	S	Pg	01 57 30.0	+0.3
	baz=316						
LIOB	**Emei**	**0.11**	**342**	P	Pg	01 57 30.3	+0.5
	baz=335						
LIOB				*i* S	Sg	01 57 32.3	+0.7
	baz=335						
LIOB	**Emei**	**0.11**	**342**	*e*S	Pg	01 57 30.2	+0.4
	baz=324						
NMLH	**Miaoli**	**0.24**	**270**	P	Pg	01 57 33.4	+1.3
	baz=269						
NMLH				S	Sg	01 57 37.3	+2.1
	baz=269						
NSY	**Sanyi**	**0.29**	**246**	*e*S	Sb	01 57 39.1	-0.7
	baz=244						
TDCB	**Techi**	**0.30**	**161**	*e*P	Pg	01 57 33.8	+0.6
	baz=162						
TDCB				*e*S	Sg	01 57 37.6	+0.4
	baz=162						
NNS	**Nan Shan**	**0.31**	**108**	*e*P	Pb	01 57 34.4	-0.7
	baz=117						
NNS				*e*S	Sg	01 57 38.5	+1.1
	baz=117						
TWQ1	**Liyutan**	**0.32**	**234**	*e*P	Pb	01 57 34.7	-0.5
	baz=232						
TWQ1				*e*S	Sb	01 57 39.7	-0.8
	baz=232						
NNSB	**Datong**	**0.32**	**110**	*e*P	Pg	01 57 34.2	+0.6
	baz=119						
NNSB				*e*S	Sg	01 57 38.6	+0.8
	baz=119						
YHNB	**Yeheng**	**0.32**	**66**	*e*P	Pg	01 57 33.7	+0.1
	baz=66						
YHNB				*e*S	Sg	01 57 38.1	+0.3
	baz=66						
NWLT	**Wulai**	**0.47**	**60**	*e*P	Pg	01 57 36.4	0.0
	baz=59						
NWLT				*e*S	Sg	01 57 43.2	+0.5
	baz=59						
CHGB	**Renai**	**0.49**	**167**	*e*P	Pb	01 57 37.6	-0.6
	baz=168						
CHGB				*e*S	Sg	01 57 44.1	+0.9
	baz=168						
TYC	**Yuchr**	**0.66**	**196**	*e*P	Pb	01 57 41.5	+0.5
	baz=186						
TYC				*e*S	Sb	01 57 50.2	0.0
	baz=186						

SJA 27 02:10:18.1±0.6, 33.79S×68.31W, h29km±2km, ML3.2, MW3.6, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AVIZ	**Vizcacheras**	**0.36**	**332**	*e*P	Pb	02 10 26.9	+0.4
AAGR	**Agrelo**	**0.83**	**328**	*e*P	Pb	02 10 34.7	+0.7
AAGR				*e*S	Sn	02 10 47.3	+2.0
RFA	**San Rafael**	**0.98**	**188**	*e*P	Pb	02 10 37.1	+0.5
RFA				*e*S	Sb	02 10 51.7	+2.4
ARCO	**CERRO ARCO**	**1.08**	**331**	*e*P	Pb	02 10 39.1	+0.8
ARCO				*e*S	Sb	02 10 55.0	+2.8
ARCO				IAML		02 10 57.1	
	comp=Z,679nm,0.3s						
ASAL	**Salagasta**	**1.28**	**340**	*e*P	Pb	02 10 42.4	+0.8
ACAN	**Cantantal**	**1.78**	**32**	*e*P	Pb	02 10 49.5	-0.6
AUSP	**Uspallata**	**1.81**	**330**	*e*P	Pb	02 10 50.3	-0.5
RTCV	**Cerro Valdivia**	**1.94**	**354**	*e*P	Pb	02 10 51.1	-1.6
RTLS	**Leoncito**	**2.16**	**337**	*e*P	Pb	02 10 55.0	-1.6
RTLS				IAML		02 11 28.2	
	comp=Z,192nm,0.9s						
ZON	**Zonda**	**2.26**	**352**	*e*P	Pn	02 10 56.0	+2.3
ROC1	**El Roble**	**2.41**	**289**	*e*P	Pb	02 10 58.8	-2.1
MRA	**San Martin**	**2.57**	**58**	*e*P	Pb	02 11 00.9	-2.7
MRA				IAML		02 11 42.2	
	comp=Z,151nm,0.2s						
AMOG	**MOGNA**	**2.85**	**357**	*e*P	Pn	02 11 04.4	+2.6
ACCO	**Cerro Coronel**	**3.26**	**348**	*e*P	Pn	02 11 10.8	+3.2
APLL	**PUNTA DE LOS L**	**3.71**	**25**	*e*P	Pn	02 11 15.9	+2.4
APLL				IAML		02 12 33.0	
	comp=Z,22nm,0.3s						
AGUA	**GUANDACOL**	**4.30**	**358**	*e*P	Pn	02 11 25.3	+3.6

IDC 27 02:12:29.3±3.7, 14.59S×72.30W, h141km±33km, mb3.1/2, mb1 3.5/4, mb1mx3.2/31, mbtmp3.7/4, Error ellipse: s-maj=83.9km s-min=27.5km az=33.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.36**	**113**	P	Pn	02 13 33.4	-1.2
	2.1nm,0.3s,baz=302,slow=9.6,SNR=52						
LPAZ				S	Sn	02 14 26.3	+1.1
	0.6nm,0.3s,baz=221,slow=24,SNR=38						
CPUP	**Villa Florida**	**18.23**	**132**	P	P	02 16 31.8	0.0
	0.3nm,0.3s,baz=312,slow=11,SNR=11						
TXAR	**Lajitas Array**	**53.15**	**325**	P	P	02 21 33.1	+0.2
	0.1nm,0.5s,baz=143,slow=9.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**78.26**	**73**	P	P	02 24 14.0	-0.2
	1.2nm,0.9s,baz=250,slow=4.8,SNR=5.3						

IDC 27 02:19:02.7±26.0, 19.12S×172.92W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.9/28, mbtmp4.2/4, Error ellipse: s-maj=484.0km s-min=165.9km az=74.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**38.41**	**262**	P	P	02 26 26.9	+0.6
	2.6nm,0.3s,baz=93,slow=9.8,SNR=6.5						
STKA	**Stephens Creek**	**42.69**	**243**	P	P	02 27 01.2	-0.3
	0.8nm,0.4s,baz=90,slow=11,SNR=2.0						
ASAR	**Alice Springs**	**49.49**	**255**	P	P	02 27 54.9	-0.5
	2.5nm,0.6s,baz=94,slow=7.8,SNR=24						
WRA	**Warramunga Arr**	**49.54**	**260**	P	P	02 27 55.6	-0.1
	1.1nm,0.3s,baz=96,slow=7.4,SNR=106						

*ISCJB **27** 02:28:06.9±0.4, 37.57N±0.01×118.79W±0.02, h11km±2km, Error ellipse: s-maj=3.0km s-min=2.1km az=161.4*
*NEIC **27** 02:28:06.6±0.0, 37.53N×118.82W, h6km, ML3.1(NCEDC), After NCEDC.*
NEIC Felt [II] at Mammoth Lakes. Also felt at June Lake and Bishop.
*NCEDC **27** 02:28:06.6, 37.53N×118.82W, h6km, ML3.1*
*ANF **27** 02:28:06.2±0.3, 37.49N×118.86W, h2km±2km, ML3.2/20, Error ellipse: s-maj=2.6km s-min=1.6km az=88.0*

ISC 27 02:28:06.5±0.8, 37.54N±0.02×118.85W±0.02, h10km±6km, n63, σ1.900/101, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLAC	**Mammoth, Mammo**	**0.09**	**4**	P	**Pg**	**02 28 09.2**	**-0.1**
	baz=171,SNR=1000						
MLAC				S	**Sg**	**02 28 11.4**	**+0.1**
	baz=171						
OMMB	**Old Mammoth Mi**	**0.14**	**300**	*e*Pg	**Pg**	**02 28 10.1**	**0.0**
TIN	**Tinemaha, Big**	**0.69**	**135**	P	**Pg**	**02 28 19.5**	**-0.4**
	baz=316,SNR=17						
TIN				S	**Sg**	**02 28 29.0**	**0.0**
	baz=316						
LHV	**Little Huntoon**	**0.76**	**21**	*e*Pg	**Pg**	**02 28 21.4**	**+0.2**
NV01	**Mina Array Sit**	**0.98**	**26**	*e*Pg	**Pg**	**02 28 24.8**	**-0.8**
NV01				*e*Sg	**Sg**	**02 28 38.1**	**-0.3**
NV11	**Mina Array Sit**	**1.04**	**31**	*e*Pg	**Pg**	**02 28 26.4**	**-0.3**
NV11				*e*Sg	**Sg**	**02 28 40.0**	**-0.3**
WAKR	**Walker**	**1.07**	**334**	*e*Pg	**Pb**	**02 28 27.5**	**+0.3**
WAKR				*e*Sn	**Sb**	**02 28 42.2**	**+0.8**
RYN	**Ryan**	**1.11**	**13**	*e*Pg	**Pg**	**02 28 28.0**	**0.0**
RYN				*e*Sg	**Sg**	**02 28 42.1**	**-0.4**
CWC	**Cottonwood Cre**	**1.26**	**151**	P	**Pn**	**02 28 29.5**	**-0.8**
	baz=332						
CWC				S	**Sb**	**02 28 45.7**	**-1.0**
	baz=332						
GRAC	**Grapevine Rang**	**1.30**	**114**	P	**Pb**	**02 28 31.0**	**0.0**
	baz=295,SNR=138						
GRAC				S	**Sn**	**02 28 48.6**	**+0.4**
	baz=295						
CMB	**Columbia Colle**	**1.32**	**292**	*e*Pn	**Pn**	**02 28 31.0**	**0.0**
CMB				*e*Sn	**Sb**	**02 28 47.7**	**-0.6**
MCUB	**Copperopolis B**	**1.47**	**288**	*e*Pn	**Pb**	**02 28 34.0**	**0.0**
YERR	**Yerington**	**1.48**	**348**	*e*Pn	**Pb**	**02 28 34.4**	**+0.2**
YERR				*e*Sn	**Sb**	**02 28 53.6**	**+0.5**
DAC	**Darwin (Calif)**	**1.61**	**141**	*e*Pn	**Pn**	**02 28 35.5**	**+0.3**
DAC				*e*Sn	**Sn**	**02 28 56.3**	**+0.2**
KVN	**Kaiserville**	**1.62**	**21**	*e*Pn	**Pg**	**02 28 37.1**	**-0.5**
KVN				*e*Sn	**Sn**	**02 28 55.4**	**-0.9**
PNTR	**Pine Nut**	**1.66**	**339**	*e*Pn	**Pb**	**02 28 37.8**	**+0.6**
PNTR				*e*Sn	**Sb**	**02 28 58.5**	**+0.2**
VES	**Vestal, Richgr**	**1.71**	**187**	Pb	**Pb**	**02 28 37.6**	**-0.4**
	baz=7.2,SNR=40						
VES				S	**Sb**	**02 28 59.4**	**-0.1**
	baz=7.2						
BRMM	**Rolling Bench**	**1.73**	**247**	*e*Pn	**Pb**	**02 28 38.9**	**+0.6**
RUBR	**Rubicon Trail**	**1.83**	**326**	*e*Pn	**Pb**	**02 28 40.4**	**+0.3**
RUBR				*e*Sn	**Sb**	**02 29 03.7**	**+0.5**
MPMC	**Manual Prospec**	**1.84**	**143**	P	**Pn**	**02 28 38.8**	**+0.6**
	baz=325,SNR=50						
MPMC				S	**Sb**	**02 29 03.2**	**-0.2**
	baz=325						
HSLM	**San Luis Dam**	**1.85**	**256**	*e*Pn	**Pb**	**02 28 40.9**	**+0.5**
VCNR	**Virginia City**	**1.86**	**340**	*e*Sn	**Sn**	**02 29 01.8**	**-0.6**
ISA	**Isabella, Lake**	**1.90**	**171**	*e*Pn	**Pb**	**02 28 41.0**	**-0.2**
ISA				*e*Sn	**Sn**	**02 29 03.2**	**+0.2**
ISA				*e*Sg	**Sg**	**02 29 06.5**	**-1.1**
ISA	**Isabella, Lake**	**1.90**	**171**	Pb	**Pb**	**02 28 41.1**	**-0.2**
	baz=352,SNR=115						
ISA				Sb	**Sb**	**02 29 06.1**	**+1.0**
	baz=352						
FURC	**Furnace Creek,**	**1.91**	**123**	Pb	**Pb**	**02 28 42.1**	**+0.6**
	baz=305						
FURC				Sb	**Sg**	**02 29 07.2**	**-0.8**
	baz=305						
SLD	**San Luis Dam**	**1.95**	**257**	*e*Pn	**Pb**	**02 28 42.1**	**0.0**
PMPB	**Monarch Peak**	**2.05**	**230**	*e*Pn	**Pb**	**02 28 43.6**	**-0.2**
PMPB				*e*Sn	**Sn**	**02 29 07.0**	**+0.3**
PAGB	**Antelope Grade**	**2.13**	**212**	*e*Pn	**Pb**	**02 28 44.4**	**-0.8**
PAGB				*e*Sn	**Sn**	**02 29 09.7**	**+1.0**
TPNV	**Topopah Spring**	**2.15**	**105**	*e*Pn	**Pn**	**02 28 43.2**	**+0.6**
TPNV				*e*Sn	**Sn**	**02 29 08.2**	**-1.3**
TPNV	**Topopah Spring**	**2.15**	**105**	P	**Pn**	**02 28 43.1**	**+0.5**
	baz=287,SNR=52						
TPNV				Sb	**Sg**	**02 29 15.1**	**-0.6**
	baz=287						
AFDM	**Forest Hills D**	**2.19**	**311**	*e*Pn	**Pb**	**02 28 46.7**	**+0.5**
AFDM				*e*Sn	**Sn**	**02 29 09.6**	**-0.4**
PAHR	**Pah Rah Range**	**2.20**	**349**	*e*Sn	**Sn**	**02 29 11.5**	**+0.9**
SAO	**San Andreas Ge**	**2.22**	**250**	*e*Pn	**Pb**	**02 28 45.7**	**-1.0**
SAO				*e*Sn	**Sn**	**02 29 11.0**	**+0.2**
FRP	**Fremont Peak**	**2.25**	**250**	*e*Pn	**Pb**	**02 28 46.0**	**-1.4**
LRMC	**Laurel Mtn Rad**	**2.26**	**155**	Pb	**Pb**	**02 28 47.6**	**+0.1**
	baz=336						
LRMC				Sb	**Sg**	**02 29 17.5**	**-1.7**
	baz=336						
BSMM	**Soledad Missio**	**2.37**	**242**	*e*Pn	**Pb**	**02 28 47.8**	**-1.5**
SMMC	**Simmler**	**2.41**	**203**	P	**Pn**	**02 28 48.1**	**+2.1**
	baz=23						
SMMC				Sb	**Sb**	**02 29 19.9**	**+0.2**
	baz=23						
ARVC	**Arvin**	**2.41**	**180**	Pb	**Pb**	**02 28 49.8**	**-0.2**
	baz=0.2,SNR=12						
ARVC				Sb	**Sb**	**02 29 20.8**	**+1.1**
	baz=0.2						
BEKR	**Beckworth**	**2.61**	**333**	*e*Pn	**Pn**	**02 28 49.7**	**+0.8**
BEKR				*e*Sn	**Sn**	**02 29 20.3**	**-0.3**
R11A	**Troy Canyon, C**	**2.70**	**72**	*e*Pn	**Pn**	**02 28 50.6**	**+0.4**
R11A				*e*Sn	**Sn**	**02 29 22.4**	**-0.5**
R11A	**Troy Canyon, C**	**2.70**	**72**	P	**Pn**	**02 28 50.7**	**+0.5**
	baz=253,SNR=37						
R11A				Sb	**Sg**	**02 29 31.6**	**-1.7**
	baz=253						
EDW2	**Edwards Air Fo**	**2.74**	**165**	P	**Pn**	**02 28 52.3**	**+1.7**
	baz=346,SNR=25						
EDW2				Sb	**Sb**	**02 29 31.3**	**+2.0**
	baz=346						
PKM	**Mcpherson Peak**	**2.76**	**197**	P	**Pn**	**02 28 51.9**	**+0.9**
	baz=17						
PKM				Sb	**Sb**	**02 29 30.2**	**+0.2**
	baz=17						
GSC	**Goldstone, Bar**	**2.77**	**143**	*e*Pn	**Pn**	**02 28 52.1**	**+1.0**
GSC				*e*Sn	**Sn**	**02 29 23.0**	**-1.7**
ORV	**Oroville**	**2.89**	**315**	*e*Pn	**Pb**	**02 28 56.5**	**-1.7**
ORV				*e*Sn	**Sb**	**02 29 35.3**	**+1.6**
OSI	**Osito Audit: C**	**2.92**	**178**	Sb	**Sb**	**02 29 35.6**	**+1.1**
	baz=359						
SHPR	**Sheep Range**	**3.12**	**108**	*e*Pn	**Pn**	**02 28 57.1**	**+1.1**
BMN	**Battle Mountai**	**3.15**	**23**	*e*Pn	**Pn**	**02 28 56.7**	**+0.3**
TUQ	**Turquoise Moun**	**3.15**	**131**	P	**Pn**	**02 28 57.2**	**+0.8**
	baz=313						
DECC	**Green Verdugo**	**3.31**	**173**	Pg	**Pg**	**02 29 09.3**	**-0.6**
	baz=353						
HEC	**Hector Ludlow**	**3.38**	**142**	P	**Pn**	**02 29 00.0**	**+0.6**
	baz=324						
O03E	**Paynes Creek**	**3.59**	**321**	Pb	**Pb**	**02 29 11.6**	**+1.5**
	baz=139						
GMRC	**Granite Mounta**	**3.77**	**136**	Pb	**Pb**	**02 29 13.4**	**+0.2**
	baz=318						
CIS	**Catalina Islan**	**4.14**	**175**	Sb	**Sb**	**02 30 13.1**	**+3.4**
	baz=356						
WDC	**Whiskeytown Da**	**4.18**	**318**	*e*Pn	**Pn**	**02 29 12.5**	**+2.2**
WDC				*e*Sg	**Sg**	**02 30 16.9**	**-3.9**
CCUT	**Cedar City**	**4.36**	**88**	*e*Pn	**Pn**	**02 29 14.9**	**+2.0**
PFO	**Pinyon Flats O**	**4.38**	**153**	*e*Pn	**Pn**	**02 29 14.0**	**+0.9**
LCMT	**Little Creek M**	**4.50**	**95**	*e*Pn	**Pn**	**02 29 15.8**	**+1.0**
LCMT				*e*Sn	**Sn**	**02 30 06.8**	**-0.5**
MOD	**Modoc Plateau**	**4.50**	**346**	*e*Pn	**Pn**	**02 29 14.5**	**-0.3**
W13A	**Hualapai Mount**	**4.69**	**120**	*e*Pn	**Pn**	**02 29 18.0**	**+0.5**
KNB	**Kanab**	**4.83**	**94**	*e*Pn	**Pn**	**02 29 18.8**	**-0.6**
Y12C	**Blythe**	**5.17**	**136**	*e*Pn	**Pn**	**02 29 24.2**	**+0.3**
MTPU	**Mount Pierson**	**5.30**	**83**	*e*Pn	**Pn**	**02 29 26.6**	**+0.5**

*ISK **27** 02:35:55.8, 36.66N×27.98E, h9km, ML2.9/8*
*ATH **27** 02:35:55.9, 36.65N×27.92E, h22km±1km, ML2.6/2, Error ellipse: s-maj=3.0km s-min=1.4km az=202.0*
*DDA **27** 02:35:55.6, 36.63N×27.94E, h7km, Ml3.1*
*ISCJB **27** 02:35:56.4±0.4, 36.64N±0.03×27.95E±0.02, h9km±3km, Error ellipse: s-maj=4.4km s-min=2.8km az=1.8*
*THE **27** 02:35:56.0, 36.65N×27.99E, h2km±3km, ML2.6/3, Error ellipse: s-maj=3.8km s-min=1.0km az=53.0*

ISC 27 02:35:55.7±1.1, 36.67N±0.02×27.98E±0.02, h4km±10km, n42, σ1.967/62, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSB	**Marmaris-Mugla**	**0.18**	**73**	P	**Pg**	**02 36 00.0**	**+0.8**
MRSB				SG	**Sg**	**02 36 03.5**	**+1.9**
DATC	**Datca-Mugla**	**0.28**	**290**	PG	**Pg**	**02 36 01.8**	**+0.8**
DATC				SG	**Sg**	**02 36 06.3**	**+1.7**
DAT	**Datca**	**0.33**	**281**	PG	**Pg**	**02 36 02.7**	**+0.6**
DAT				SG	**Sb**	**02 36 08.8**	**-1.2**
DAT	**Datca**	**0.33**	**281**	*i* P	**Pg**	**02 36 02.5**	**+0.4**
DAT				*i* S	**Sb**	**02 36 09.3**	**-0.7**
ARG	**Arkhangelos**	**0.46**	**165**	PG	**Pg**	**02 36 04.7**	**+0.1**
ARG				SG	**Sb**	**02 36 12.5**	**-1.1**
ARG	**Arkhangelos**	**0.46**	**165**	P	**Pg**	**02 36 05.0**	**+0.4**
ARG				S	**Sb**	**02 36 12.3**	**-1.4**
ARG				AML	AML	02 36 13.5	
	comp=N,1198μm,0.2s						
ARG				AML	AML	02 36 15.6	
	comp=E,1329μm,0.3s						
ARG	**Arkhangelos**	**0.46**	**165**	P	**Pg**	**02 36 05.0**	**+0.4**
ARG				S	**Sb**	**02 36 12.6**	**-1.1**
TURN	**Turunc**	**0.54**	**67**	PG	Pg	02 36 01.3	-4.8
TURN				SG	**Sg**	**02 36 05.5**	**-7.6**
TURN	**Turunc**	**0.54**	**67**	*i* P	Pg	02 36 01.3	-4.8
TURN				*i* S	**Sg**	**02 36 05.9**	**-7.1**
DALY	**Dalyan (Mu˘la**	**0.56**	**74**	PG	**Pg**	**02 36 06.9**	**+0.4**
DALY	**Dalyan (Mu˘la**	**0.56**	**74**	*i* P	**Pg**	**02 36 06.9**	**+0.4**
DALY				*i* S	**Sb**	**02 36 16.5**	**+0.1**
NIS1	**Nisyros Isl.**	**0.65**	**265**	PG	**Pg**	**02 36 08.4**	**+0.2**
NIS1	**Nisyros Isl.**	**0.65**	**265**	P	**Pg**	**02 36 08.4**	**+0.2**
NIS1				S	**Sg**	**02 36 17.0**	**+0.5**
NIS1				AML	AML	02 36 22.6	
	comp=E,2388μm,0.2s						
NIS1				AML	AML	02 36 25.0	
	comp=N,2988μm,0.3s						
NIS1	**Nisyros Isl.**	**0.65**	**265**	P	**Pb**	**02 36 09.1**	**-0.5**
NIS1				S	**Sb**	**02 36 19.8**	**+0.8**
MLSB	**Milas**	**0.65**	**345**	PG	**Pb**	**02 36 09.3**	**-0.4**
BODT	**Bodrum**	**0.67**	**307**	PG	**Pg**	**02 36 08.9**	**+0.4**
BODT	**Bodrum**	**0.67**	**307**	P	**Pg**	**02 36 09.1**	**+0.6**
BODT				S	**Sb**	**02 36 20.8**	**+1.2**
NISR	**Nisiros**	**0.69**	**266**	P	**Pg**	**02 36 09.2**	**+0.3**
NISR				S	**Sb**	**02 36 19.8**	**-0.3**
FETY	**Fethiye**	**0.89**	**92**	PG	**Pb**	**02 36 13.6**	**-0.1**
FETY	**Fethiye**	**0.89**	**92**	P	**Pb**	**02 36 13.7**	**0.0**
FETY				S	**Sb**	**02 36 25.9**	**0.0**
AYDN	**Tasoluk**	**1.00**	**355**	*i* P	**Pg**	**02 36 15.1**	**+0.2**
AYDN				*i* S	**Sb**	**02 36 29.8**	**+0.7**
TAVA	**DENIZLI_Tavas**	**1.09**	**43**	*i* P	**Pg**	**02 36 16.6**	**-0.1**
TAVA				*i* S	**Sn**	**02 36 34.2**	**+0.6**
AYDB	**Zeytinkoy-A

LIM1	**Limonal**	**1.12 338**	*i* P		Pg		02 42 45.5	-0.3
LIM1			*i* S		Sb		02 43 01.7	-0.1
GUAB	**Guayabo de Bag**	**1.12 339**	*i* P		Pg		02 42 45.5	-0.4
MESS	**Mesas**	**1.14 342**	*i* P		Pg		02 42 45.9	-0.4
MESS			*e*P		Pb		02 42 45.9	-1.1
GPS2	**Hotel Rinc^‡n**	**1.21 335**	*i* P		Pg		02 42 46.9	-0.7
NY14	**Universidad de**	**1.21 325**	*i* P		Pg		02 42 47.1	-0.5
GPS3	**Bodega del ICE**	**1.22 334**	*i* P		Pg		02 42 46.8	-0.9
GPS1	**Guardaparques**	**1.23 335**	*i* P		Pg		02 42 47.1	-0.8
LAPC	**Finca la Perla**	**1.26 332**	*i* P		Pg		02 42 47.4	-1.1
BUEV	**Buena Vista**	**1.27 334**	*i* P		Pg		02 42 47.7	-1.1
GBS3	**Finca Las Im^¡**	**1.28 331**	*i* P		Pg		02 42 47.9	-1.1
GB1A	**Borinquen Arri**	**1.29 334**	*i* P		Pg		02 42 48.0	-1.0
BUAI	**Buenos Aires**	**1.32 338**	*i* P		Pg		02 42 48.6	-0.9
EDBA	**Buenos Aires**	**1.61 107**	*e*P		Pn		02 42 52.3	-1.6
DRK0	**Durika**	**1.61 104**	*e*P		Pn		02 42 53.1	-1.0
CONN	**Concepcion**	**2.06 338**	*e*P		Pn		02 43 00.6	+0.4
ACON	**Acoyapa**	**2.33 352**	*e*P		Pn		02 43 03.0	-0.9
ACON			*e*S		Sb		02 43 35.4	-1.1
ESPN	**Las Esperanzas**	**2.58 12**	*e*P		Pn		02 43 07.1	-0.2
ESPN			*e*S		Sb		02 43 42.0	-1.8
ESPN			IAML				02 43 43.5	
	comp=N,104nm,1.0s							
COPN	**Copaltepe**	**3.05 326**	*e*P		Pn		02 43 14.9	+1.1

IDC 27 02:45:17.5±1.6,5°88S×146°22E,h0km,mb3.3/2, mb1 3.8/4,mb1mx3.4/39,mbtmp3.5/4,ML3.1/1,Error ellipse: s-maj=40.3km s-min=20.0km az=86.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PMG	**Port Moresby**	**3.62**	**165**	Pn		Pn	Pn	02 46 14.0	-0.9
	2.3nm,0.3s,baz=344,slow=12,SNR=2.4								
PMG				Pg		Pb		02 46 24.6	+2.2
	6.0nm,0.3s,baz=349,slow=5.2,SNR=17								
PMG				Lg		Lg		02 47 11.9	
	2.3nm,0.3s,baz=342,slow=21,SNR=1.5								
WRA	**Warramunga Arr**	**18.13**	**218**	P		Pn		02 49 30.9	0.0
	0.1nm,0.3s,baz=43,slow=12,SNR=15								
ASAR	**Alice Springs**	**21.29**	**213**	P		P		02 50 06.3	+0.4
	0.4nm,0.6s,baz=45,slow=11,SNR=2.9								
ILAR	**Eielson Array**	**85.68**	**23**	P		P		02 57 58.4	+0.4
	0.3nm,0.5s,baz=255,slow=5.0,SNR=5.1								
TORD	**Torodi Ar. Bea**	**144.31**	**284**	PKP		PKPbc		03 04 54.9	-0.1
	0.3nm,0.5s,baz=85,slow=3.4,SNR=5.9								

*IDC **27** 02:59:04.0±0.3,2°.95S×129°.21E,h0km,mb5.1/43, mb1 5.1/50,mb1mx5.1/54,mbtmp5.1/50,ML5.1/5,MS5.0/38, Ms1 5.1/38,ms1mx5.0/47,Error ellipse: s-maj=11.3km s-min=8.9km az=65.0*

*ISCJB **27** 02:59:07.0±0.6,2°.96S±0°.02×129°.27E±0°.02,h28km±4km, mb5.4/243,MS5.2/242,Error ellipse: s-maj=3.0km s-min=2.4km az=137.8*

*WEL **27** 02:59:06.0,2°.95S×129°.22E,h11km*

*NEIC **27** 02:59:06.5±0.8,2°.95S×129°.22E,h11km±5km,mb5.6/133, MS5.3/187,MW5.5,MW5.7,Error ellipse: s-maj=4.4km s-min=3.3km az=54.0,Moment Tensor Solution. s25 Moment tensor: Scale 10^17^Nm; Mrr0.72; Mθθ-1.97; Mφφ1.25; Mrθ-0.60; Mθφ0.92; Mφr1.21; Best double couple: M○2.40000×10^17^ NP1:φ=64.00000°,δ51.00000°, λ16.00000°. NP2:φ=324.00000°,δ78.00000°,λ140.00000°. Principal axes: T 2.2500, Plg37.0000°, Azm276.0000°; N 0.2300, Plg49.0000°, Azm129.0000°; P -2.4800, Plg17.0000°, Azm19.0000°;*

NEIC Felt [III] at Amahai and Ambon.

*BJI **27** 02:59:07.0,2°.90S×129°.20E,h20km,mb5.1/68,mB5.4/51, Ms5.2/79,Ms7 5.1/70*

*MOS **27** 02:59:07.2±1.2,2°.94S×129°.20E,h29km,mb5.7/60, MS5.1/35,Error ellipse: s-maj=8.1km s-min=4.7km az=114.6*

*NEIC **27** 02:59:08.0±0.0,2°.53S×129°.14E,h21km,Moment Tensor Solution. s22 Moment tensor: Scale 10^17^Nm; Mrr1.64; Mθθ-2.61; Mφφ0.97; Mrθ0.56; Mθφ2.21; Mφr2.71; Best double couple: M○4.20000×10^17^ NP1:φ=333.00000°, δ68.00000°,λ140.00000°. NP2:φ=80.00000°,δ54.00000°, λ28.00000°. Principal axes: T 4.5500, Plg43.0000°, Azm291.0000°; N -0.7900, Plg45.0000°, Azm128.0000°; P -3.7600, Plg8.0000°, Azm29.0000°;*

*GCMT **27** 02:59:09.5±0.1,2°.77S±0°.01×129°.22E±0°.01,h22km, MW5.7/134,Moment Tensor Solution. s134,c231; s131,c292; Duration: 1ŧ7 Moment tensor: Scale 10^17^ Nm; Mrr1.36±.04; Mθθ-2.37±.03; Mφφ1.02±.03; Mrθ-0.77±.06; Mθφ1.88±.03; Mφr2.76±.10; Best double couple: M○3.99900×10^17^ NP1:φ=332.00000°,δ77.00000°, λ129.00000°. NP2:φ=77.00000°,δ41.00000°,λ20.00000°. Principal axes: T 4.0470, Plg44.0000°, Azm280.0000°; N -0.0850, Plg38.0000°, Azm141.0000°; P -3.9510, Plg22.0000°, Azm33.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*DJA **27** 02:59:09.8±0.4,3°.5S±2°×12°9E±°,h34km±4km,M5.8/71, mb5.8/71,mB6.2/57,MLv5.8/9,Mw(mB)5.8/57,Mwp5.6/9*

*KLM **27** 02:59:12.0,2°.78S×129°.12E,h28km,mb5.7*

ISC 27 02:59:09.9±0.6,2°.94S±0°.03×129°.23E±0°.03,h35km±2km, n944,σ1ŧ84/901,mb5.5/246,MS5.2/246,37C-16D,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
BNDI	**Bandanaira**	**1.71**	**157**	P		**Pn**	**Pn**	**02 59 38.5**	**+1.3**
SIJI	**Sorong**	**2.90**	**45**	Pn		**Pn**	**Pn**	**02 59 51.3**	**-2.3**
	321nm,0.3s,baz=103,slow=5.2,SNR=1534								
SIJI				Sn			**Sn**	**03 00 22.9**	**-4.4**
	552nm,0.3s,baz=228,slow=2.2,SNR=11								
SIJI				LR		LR	LR	03 01 32.7	
	comp=Z,39μm,21.8s,baz=346,slow=51								
SWI	**Sorong**	**2.90**	**45**	P		**Pn**		**02 59 50.7**	**-2.9**
SWI	**Sorong**	**2.90**	**45**	P		**Pn**		**02 59 51.2**	**-2.4**
FAKI	**Fak Fak**	**3.02**	**90**	*e*Pn		**Pn**		**02 59 52.6**	**-2.6**
FAKI				*e*Sn		**Sn**		**03 00 30.3**	**+0.1**
FAKI	**Fak Fak**	**3.02**	**90**	P		**Pn**		**02 59 52.5**	**-2.7**
SANI	**Sanana**	**3.35**	**285**	P		**Pn**		**03 00 00.5**	**+0.6**
SANI				S		**Sn**		**03 00 37.7**	**-0.8**
TNTI	**Ternate**	**4.13**	**333**	*e*Pn		**Pn**		**03 00 09.7**	**-0.9**
TNTI				*e*Sn		**Sn**		**03 00 58.0**	**+0.3**
TNTI	**Ternate**	**4.13**	**333**	P		**Pn**		**03 00 09.5**	**-1.1**
RKPI	**Ransiki, Papua**	**5.15**	**74**	P		**Pn**		**03 00 22.1**	**-2.4**
SAUI	**Saumlaki**	**5.42**	**158**	*e*Pn		**Pn**		**03 00 29.9**	**+1.6**
SAUI				*e*Sn		**Sn**		**03 01 27.9**	**-1.5**
SAUI	**Saumlaki**	**5.42**	**158**	P		Pn		03 00 33.2	+5.0
MNI	**Manado**	**6.18**	**315**	P		**Pn**		**03 00 39.6**	**+0.8**
LUWI	**Luwuk**	**6.72**	**286**	*e*Pn		**Pn**		**03 00 45.0**	**-1.2**
LUWI				*e*Sn		**Sn**		**03 02 01.2**	**-0.4**
LUWI	**Luwuk**	**6.72**	**286**	P		**Pn**		**03 00 46.1**	**-0.1**
	2μm,0.7s,24μm22μm20nm								
SRPI	**Serui, Papua**	**7.09**	**82**	P		**Pn**		**03 00 52.1**	**+0.9**
BBSI	**Bau Bau**	**7.10**	**249**	P		Pn		03 00 56.3	+4.9
SOEI	**Soe**	**8.37**	**216**	*e*Pn		Pn		03 01 15.4	+6.4
SOEI				*e*Sn		**Sn**		**03 02 42.7**	**+0.3**
SOEI	**Soe**	**8.37**	**216**	P		Pn		03 01 15.5	+6.5
MMRI	**Maumere**	**8.96**	**231**	*e*Pn		**Pn**		**03 01 19.0**	**+2.0**
MMRI	**Maumere**	**8.96**	**231**	P		Pn		03 01 23.0	+6.1
BATI	**Baumata**	**9.09**	**217**	Pn		Pn		03 01 24.8	+6.0
	81nm,0.3s,baz=119,slow=1.4,SNR=38								
BATI				Lg		Lg		03 03 40.9	
	11nm,0.3s,baz=103,slow=19,SNR=1.1								
BATI				LR		LR		03 04 59.7	
	comp=Z,40μm,21.5s,baz=49,slow=39								
BATI	**Baumata**	**9.09**	**217**	P		Pn		03 01 25.1	+6.4
BNSI	**Bone**	**9.22**	**261**	P		**Pn**		**03 01 23.7**	**+3.3**
	639nm,0.9s,10μm								
BKSI	**Bulukumba**	**9.38**	**255**	P		**Pn**		**03 01 26.0**	**+3.3**
	785nm,1.6s,11μm9μm								
TTSI	**Tana Toraja**	**9.40**	**269**	P		**Pn**		**03 01 26.1**	**+3.2**
	556nm,0.9s,7μm								
EDFI	**Ende, Flores**	**9.46**	**232**	P		Pn		03 01 28.9	+5.1
SPSI	**Sidrap Palu**	**9.49**	**264**	P		**Pn**		**03 01 27.9**	**+3.6**
	488nm,1.2s,8μm10μm								
MTN	**Manton Dam**	**10.02**	**169**	P		**Pn**		**03 01 30.7**	**-0.7**
	baz=10.0,SNR=140								
MTN	**Manton Dam**	**10.02**	**169**	*e*Pn		**Pn**		**03 01 31.0**	**-0.4**
DAV	**Davao City (W)**	**10.59**	**340**	Pn		**Pn**		**03 01 36.8**	**-2.5**
	63nm,0.3s,baz=92,slow=10,SNR=1.9								
DAV	**Davao City (W)**	**10.59**	**340**‖	*e*P		Pn		03 01 47.0	+7.7
GENI	**Genyem**	**10.93**	**88**	P		**Pn**		**03 01 43.9**	**-0.1**
BASI	**Baing, Sumba**	**11.22**	**230**	P		Pn		03 01 56.3	+8.3
CTBH	**Cotabato--PC H**	**11.25**	**334**‖	*i*P		**Pn**		**03 01 49.1**	**+0.7**
JAY	**Jayapura**	**11.47**	**88**	Pn		**Pn**		**03 01 48.1**	**-3.3**
	4.2nm,0.3s,baz=233,slow=11,SNR=14								
JAY				Sn			**Sn**	**03 03 58.6**	**+0.1**
	0.7nm,0.3s,baz=107,slow=12,SNR=1.7								
JAY	**Jayapura**	**11.47**	**88**	P		**Pn**		**03 01 51.2**	**-0.2**
BUKP	**Musuan**	**11.53**	**339**	*e*P		**Pn**		**03 01 49.4**	**-2.7**
WBSI	**Waikabubak, Su**	**11.82**	**235**	P		**Pn**		**03 01 59.6**	**+3.4**
	729nm,1.1s,13μm								
SMKI	**Samarinda**	**12.27**	**281**	P		Pn		03 02 08.0	+5.8
BUTP	**Butuan**	**12.37**	**343**	*e*P		**Pn**		**03 02 04.7**	**+1.1**
BKB	**Balikpapan**	**12.44**	**277**	P		**Pn**		**03 02 09.1**	**+4.6**
IPIL	**Ipil**	**12.56**	**328**	*e*P		**Pn**		**03 02 06.3**	**+0.1**
KNRA	**Kununurra**	**12.66**	**182**	P		**Pn**		**03 02 06.9**	**-0.7**
	baz=13,SNR=154								
PLAI	**Plampang**	**12.80**	**242**	P		**Pn**		**03 02 13.3**	**+3.8**
	331nm,0.8s,11μm14μm								
TWSI	**Taliwang, Sumb**	**13.56**	**244**	P		**Pn**		**03 02 23.3**	**+3.4**
	642nm,1.1s,11μm								
MSLP	**Maasin**	**13.70**	**342**	*e*P		**P**		**03 02 29.7**	**-0.3**
MTKI	**Mura Teweh, K**	**14.46**	**278**	P		**P**		**03 02 35.4**	**-3.1**
	348nm,1.2s,11μm								
OCLP	**Ormoc**	**14.64**	**342**	*e*P		**Pn**		**03 02 36.8**	**+2.1**
SRBI	**Singaraja**	**14.85**	**249**	P		**Pn**		**03 02 40.0**	**+2.5**
	540nm,1.6s,8μm								
GUIM	**Jordan**	**15.01**	**334**	*e*P		**Pn**		**03 02 36.8**	**-2.8**
DNP	**Denpasar**	**15.06**	**247**	P		**P**		**03 02 43.1**	**-2.0**
DNP				pmax		pmax			
	comp=Z,689nm,1.5s								
DNP	**Denpasar**	**15.06**	**247**	P		**P**		**03 02 43.1**	**-2.0**
	comp=Z,702nm,1.4s,comp=Z,24μm								
IGBI	**Denpasar**	**15.17**	**247**	P		**P**		**03 02 44.3**	**-2.1**
	comp=Z,889nm,0.8s,comp=Z,15μmcomp=Z,16μm								
FITZ	**Fitzroy Crossi**	**15.47**	**193**	Pn		**Pn**		**03 02 42.7**	**-2.9**
	comp=Z,3.2nm,0.3s,baz=26,slow=9.9,SNR=96								
FITZ				Sn			**Sn**	**03 05 36.1**	**+0.2**
	comp=Z,1.7nm,0.3s,baz=282,slow=19,SNR=1.6								
FITZ				LR		LR	LR	03 09 29.5	
	comp=Z,12μm,19.3s,baz=24,slow=40								
FITZ	**Fitzroy Crossi**	**15.47**	**193**	P		**Pn**		**03 02 44.2**	**-1.4**
	baz=16,SNR=351								
FITZ	**Fitzroy Crossi**	**15.47**	**193**	*e*Pn		**Pn**		**03 02 44.5**	**-1.1**
	comp=Z,372nm,1.0s								
FITZ				*e*Sn		**Sn**		**03 05 36.1**	**+0.2**
KMMI	**Kalianget**	**15.74**	**254**	P		**P**		**03 02 53.1**	**+0.4**
	comp=Z,352nm,1.1s,comp=Z,4μm								
KKM	**Kota Kinabalu**	**15.77**	**304**	*e*Pn		**Pn**		**03 02 48.8**	**-0.8**
	comp=Z,548nm,1.8s								
KKM	**Kota Kinabalu**	**15.77**	**304**	P		**Pn**		**03 02 50.0**	**+0.4**
KDM	**Kudat**	**15.78**	**308**	P		**Pn**		**03 02 51.0**	**+1.4**
RCP	**Roxas**	**15.78**	**336**‖	*e*P		**P**		**03 02 54.3**	**+1.1**
JAGI	**Jajag, Banyuwa**	**15.97**	**249**	*e*Pn		**Pn**		**03 02 53.1**	**+1.0**
	comp=Z,714nm,1.1s								
JAGI	**Jajag, Banyuwa**	**15.97**	**249**	P		**P**		**03 02 53.8**	**-1.5**
	comp=Z,692nm,1.4s,comp=Z,10μmcomp=Z,15μm								
BLJI	**Banyuglugur**	**16.27**	**252**	P		**P**		**03 02 58.8**	**+0.1**
	comp=Z,754nm,0.9s,comp=Z,11μm								
BATP	**Bataraza**	**16.30**	**316**	*e*P		**P**		**03 02 58.5**	**-0.5**
ENPP	**El Nido**	**17.11**	**325**	*e*P		**Pn**		**03 03 06.4**	**-0.1**
GRJI	**Gresik**	**17.14**	**256**	P		**P**		**03 03 11.4**	**+3.1**
PVCP	**Virac**	**17.18**	**343**	*e*P		**Pn**		**03 03 00.5**	**-6.9**
SJMP	**San Jose**	**17.29**	**332**	*e*P		**P**		**03 03 10.4**	**+0.4**
PBKI	**Pangkalan Bun**	**17.54**	**270**	P		**P**		**03 03 16.6**	**+3.9**
COEN	**Coen**	**17.59**	**129**	P		**Pn**		**03 03 10.6**	**-1.9**
	baz=18,SNR=135								
COEN	**Coen**	**17.59**	**129**	*e*Pn		**Pn**		**03 03 10.1**	**-2.5**
	comp=Z,201nm,0.8s								
COEN				*e*Sn		**Sn**		**03 06 19.6**	**-8.0**
WRAB	**Tennant Creek**	**17.61**	**164**	*e*Pn		**Pn**		**03 03 08.3**	**-4.5**
	comp=Z,355nm,1.0s								
WRAB				*e*Sn		Sn		03 06 16.2	-12
WRAB	**Tennant Creek**	**17.61**	**164**	*de*P		**Pn**		**03 03 08.2**	**-4.5**
WRAB				pmax		pmax			
	comp=Z,33nm,0.6s								
WR1	**Warramunga Arr**	**17.62**	**164**	*e*Pn		**Pn**		**03 03 09.3**	**-3.5**
	comp=Z,262nm,0.9s								
WR1				*e*Sn		Sn		03 06 17.9	-10
WRA	**Warramunga Arr**	**17.62**	**164**	P		**Pn**		**03 03 09.3**	**-3.5**
	comp=Z,9.7nm,0.3s,baz=341,slow=13,SNR=146								
WRA				S		Sn		03 06 17.9	-10
	comp=Z,5.4nm,0.3s,baz=350,slow=20,SNR=4.1								
WRA				P3KPbc				03 38 05.0	
	comp=Z,0.0nm,0.3s,baz=167,slow=2.5,SNR=5.0								
WRA	**Warramunga Arr**	**17.62**	**164**	*i* P		**Pn**		**03 03 08.3**	**-4.5**
WRA				pmax		pmax			
	comp=Z,50nm,0.5s								
WB2	**Warramunga Arr**	**17.62**	**164**	*e*Pn		**Pn**		**03 03 08.3**	**-4.6**
TBJI	**Tambak Boyo**	**17.73**	**257**	P		**P**		**03 03 18.1**	**+3.2**
	comp=Z,622nm,1.7s,comp=Z,13μm								
SBUM	**Sibu**	**17.82**	**287**	*e*Pn		**P**		**03 03 16.0**	**+0.2**
	comp=Z,334nm,1.5s								
STKI	**Sintang**	**17.99**	**279**	P		**P**		**03 03 19.2**	**+1.5**
	comp=Z,257nm,1.3s								
PWJI	**Pagerwojo**	**18.06**	**253**	P		**Pn**		**03 03 17.8**	**-0.4**
MANU	**Maus Island**	**18.14**	**88**	*e*Pn		**P**		**03 03 21.3**	**+1.9**
	comp=Z,128nm,0.8s								
NGJI	**Ngawi**	**18.23**	**255**	P		**Pn**		**03 03 22.4**	**+2.1**
	comp=Z,909nm,1.4s,comp=Z,16μm								
PCJI	**Pacitan**	**18.70**	**253**	P		**P**		**03 03 24.8**	**-0.7**
LUBP	**Lubang**	**18.81**	**332**	*e*P		**P**		**03 03 26.7**	**0.0**
TGY	**Tagaytay City**	**18.82**	**334**	P		**P**		**03 03 26.8**	**-0.1**
	comp=Z,44nm,0.3s,baz=132,slow=6.9,SNR=4.7								
TGY				LR		LR		03 12 40.2	
	comp=Z,3μm,18.7s,baz=142,slow=43								
WOJI	**Wonogiri, Jawa**	**18.86**	**254**	P		**P**		**03 03 27.3**	**+0.1**
	comp=Z,867nm,1.4s,comp=Z,10μm								
PMG	**Port Moresby**	**18.94**	**111**	P		**P**		**03 03 28.3**	**+0.2**
	comp=Z,2.1nm,0.3s,baz=313,slow=8.1,SNR=17								
PMG				LR		LR		03 12 25.8	
	comp=Z,5μm,20.1s,baz=304,slow=42								
PMG	**Port Moresby**	**18.94**	**111**	*e*P		**Pn**		**03 03 28.8**	**-0.2**
	comp=Z,193nm,1.1s								
POLP	**Polillo Island**	**18.98**	**338**	*e*P		**P**		**03 03 27.7**	**-0.8**
SMRI	**Semarang**	**19.15**	**257**	*e*P		**Pn**		**03 03 32.1**	**+0.6**
	comp=Z,1μm,1.1s								
SMRI	**Semarang**	**19.15**	**257**	P		**Pn**		**03 03 32.1**	**+0.6**
	comp=Z,1μm,1.1s,comp=Z,22μm								
UGM	**Wanagama**	**19.26**	**254**	*e*P		**P**		**03 03 31.4**	**-0.2**
	comp=Z,2μm,1.4s								
UGM	**Wanagama**	**19.26**	**254**	P		**Pn**		**03 03 32.9**	**+0.1**
	comp=Z,895nm,1.3s,comp=Z,13μm								
KSM	**Kuching**	**19.41**	**283**	*e*P		**Pn**		**03 03 34.9**	**+0.2**
	comp=Z,806nm,1.5s								
BALP	**Baler**	**20.05**	**338**	*e*P		**P**		**03 03 38.8**	**-1.4**
QIS	**Mount Isa**	**20.22**	**151**	P		**P**		**03 03 40.5**	**-1.6**
	baz=20,SNR=249								
MBWA	**Marble Bar**	**20.33**	**206**	*e*P		**P**		**03 03 41.4**	**-1.9**
	comp=Z,419nm,1.1s								
MBWA				LR		LR			
	comp=Z,10μm,19.0s								
MBWA	**Marble Bar**	**20.33**	**206**	P		Pn		03 03 44.8	-0.6
	SNR=16								
KPJI	**Karang Pucung**	**20.68**	**257**	P		**P**		**03 03 46.9**	**-0.1**
	comp=Z,670nm,1.1s,comp=Z,6μm								
AS31	**Alice Springs**	**21.09**	**168**	*e*P		**P**		**03 03 49.9**	**-1.7**
	comp=Z,178nm,0.6s								
AS31				*e*S		**S**		**03 07 40.0**	**-4.5**
ASAR	**Alice Springs**	**21.09**	**168**	P		**P**		**03 03 49.8**	**-1.7**
	comp=Z,254nm,0.6s,baz=349,slow=10,SNR=1024								
ASAR				S		**S**		**03 07 40.0**	**-4.5**
	comp=Z,73nm,0.8s,baz=350,slow=20,SNR=11								
ASAR				LR		LR		03 12 49.1	
	comp=Z,9μm,18.1s,baz=352,slow=39								
ASAR				P3KPbc				03 37 49.2	
	comp=Z,0.4nm,0.6s,baz=157,slow=4.9,SNR=4.4								
AS01	**Alice Springs**	**21.10**	**168**	*e*P		**P**		**03 03 49.1**	**-2.5**
MTSU	**Mount Surprise**	**21.13**	**137**	P		**P**		**03 03 50.9**	**-1.1**
	baz=21,SNR=63								
JCJI	**Jatiwangi**	**21.18**	**260**	P		**P**		**03 03 54.5**	**+2.0**
	comp=Z,308nm,0.9s,comp=Z,10μm								
CMJI	**Cimerak**	**21.23**	**256**	P		**P**		**03 03 52.3**	**-0.8**
CISI	**Cisompet, Garu**	**21.80**	**257**	*e*P		**P**		**03 03 58.1**	**-1.2**
	comp=Z,306nm,0.7s								
CISI				LR		LR			
	comp=Z,10μm,21.0s								
CISI	**Cisompet, Garu**	**21.80**	**257**	P		**P**		**03 03 58.1**	**-1.2**
LEM	**Lembang**	**21.87**	**259**	P		**P**		**03 03 59.0**	**-1.0**
	comp=Z,88nm,0.8s,baz=81,slow=9.4,SNR=27								
LEM				S		**S**		**03 08 04.0**	**+3.8**
	comp=Z,41nm,0.9s,baz=325,slow=23,SNR=2.6								
LEM				LR		LR		03 14 55.1	
	comp=Z,12μm,18.9s,baz=100,slow=44								
WRKA	**Warakurna**	**21.98**	**182**	P		**P**		**03 03 59.2**	**-1.9**
	baz=22,SNR=625								
CBJI	**Citeko**	**22.57**	**260**	P		**P**		**03 04 08.1**	**+0.7**
	comp=Z,254nm,0.9s,comp=Z,9μm								
GUMO	**Guam**	**22.60**	**43**	P		**P**		**03 04 06.7**	**-1.0**
	comp=Z,32nm,0.4s,baz=190,slow=11,SNR=3.0								
GUMO				LR		LR		03 12 36.5	
	comp=Z,2μm,20.1s,baz=230,slow=36								
GUMO	**Guam**	**22.60**	**43**	*e*P		**P**		**03 04 06.7**	**-1.0**
	comp=Z,599nm,1.5s								
GUMO	**Guam**	**22.60**	**43**	*e*P		**P**		**03 04 06.7**	**-1.0**
GUMO				pmax		pmax			
	comp=Z,599nm,1.5s								
RABL	**Rabaul**	**22.93**	**94**	*e*P		**P**		**03 04 11.9**	**+0.7**
	comp=Z,454nm,0.8s								
RABL				LR		LR			
	comp=Z,10μm,20.0s								
SKJI	**Sukabumi**	**22.94**	**259**	P		**P**		**03 04 16.8**	**+5.5**
PPBI	**Pangkal Pinang**	**23.08**	**271**	P		**P**		**03 04 13.9**	**+1.1**
	comp=Z,314nm,1.3s,comp=Z,8μm								
SBJI	**Serang**	**23.24**	**261**	P		P		03 04 27.3	+13
CGJI	**Cibinong**	**23.73**	**260**	P		**P**		**03 04 16.1**	**-3.0**
CTA	**Charters Tower**	**23.80**	**137**	P		**P**		**03 04 18.9**	**-0.8**
	comp=Z,40nm,0.9s,baz=319,slow=13,SNR=30								
CTA				S		**S**		**03 08 35.7**	**+2.4**
	comp=Z,9.9nm,0.7s,baz=221,slow=17,SNR=1.7								
CTAO	**Charters Tower**	**23.80**	**137**	*e*P		**P**		**03 04 18.5**	**-1.2**
	comp=Z,171nm,0.9s								
CTAO				LR		LR			
	comp=Z,6μm,19.0s								
CTAO	**Charters Tower**	**23.80**	**137**	*e*P		**P**		**03 04 18.5**	**-1.2**
CTAO				pmax		pmax			
	comp=Z,171nm,0.9s								
CTAO				MLR		MLR			
	comp=Z,6μm,19.0s								
KLI	**Kotabumi**	**24.39**	**265**	P		**P**		**03 04 27.5**	**+2.3**
	comp=Z,284nm,1.1s,comp=Z,6μm								
GIRL	**Giralia**	**24.39**	**215**	P		**P**		**03 04 24.6**	**-0.5**
	baz=24,SNR=24								
XMIS	**Christmas Isla**	**24.57**	**251**	*e*P		**P**		**03 04 23.9**	**-3.0**
	comp=Z,140nm,0.8s								
XMIS				LR		LR			
	comp=Z,8μm,20.0s								
KASI	**Kota Agung**	**24.79**	**263**	P		**P**		**03 04 27.7**	**-1.2**
TPRI	**Tanjung Pinang**	**24.99**	**278**	P		**P**		**03 04 34.7**	**+4.0**
MDSI	**Maura Dua**	**25.04**	**266**	P		**P**		**03 04 31.4**	**+0.3**
	comp=Z,164nm,1.1s,comp=Z,3μm								
LWLI	**Liwa**	**25.19**	**265**	P		P		03 04 41.1	+8.5
MEEK	**Meekatharra**	**25.66**	**202**	P		**P**		**03 04 34.8**	**-1.9**
	baz=26,SNR=64								
MYKOM	**Kota Tinggi**	**25.80**	**280**	*e*P		**P**		**03 04 39.4**	**+1.4**
	comp=Z,239nm,0.9s								
MYKOM				LR		LR			
	comp=Z,7μm,21.0s								
MYKOM	**Kota Tinggi**	**25.80**	**280**	P		**P**		**03 04 40.0**	**+2.0**
MNAI	**Manna**	**26.25**	**266**	PFAKE				03 04 50.0	+7.8
MNAI				LR		LR			
	comp=Z,12μm,20.0s								
TWG	**Pinlang**	**26.82**	**343**	PFAKE				03 05 00.0	+13
TWG				LR		LR			
	comp=Z,8μm,22.0s								
MASI	**Maura Aman, Be**	**26.95**	**269**	P		**P**		**03 04 50.4**	**+1.9**
	comp=Z,897nm,1.4s,comp=Z,12μm								
YULB	**Yu-li**	**27.29**	**344**	*e*P		**P**		**03 04 51.3**	**-0.1**
	comp=Z,44nm,1.2s								
YULB

baz=31,SNR=16
PATS Pohnpei 30.62 71 PFAKE 03 05 30.0 +9.0
PATS LR LR
comp=Z,6μm,19.0s
EIDS Eidsvold 30.65 139 P **P** **03 05 20.0 -1.3**
baz=31,SNR=3.1
EIDS Eidsvold 30.65 139 *e*P **P** **03 05 20.1 -1.1**
comp=Z,66nm,1.5s
EIDS LR LR
comp=Z,6μm,22.0s
PSI Prapat 30.82 280 P **P** **03 05 22.5 -0.6**
comp=Z,197nm,0.8s,baz=180,slow=4.1,SNR=111
PSI S **S** **03 10 25.9 +1.1**
comp=Z,1.4nm,0.4s,baz=180,slow=22,SNR=1.5
PSI LR LR 03 18 51.4
comp=Z,7μm,20.8s,baz=90,slow=39
PSI Prapat 30.82 280 *e*P **P** **03 05 22.5 -0.6**
comp=Z,226nm,0.8s
PSI LR LR
comp=Z,7μm,20.0s
PSI Prapat 30.82 280 *e*P **P** **03 05 22.5 -0.6**
PSI pmax pmax
comp=Z,226nm,0.8s
PSI MLR MLR
comp=Z,7μm,20.0s
STKA Stephens Creek 31.05 159 P **P** **03 05 23.1 -1.6**
comp=Z,11nm,0.5s,baz=333,slow=10.0,SNR=30
STKA S **S** **03 10 21.1 -6.5**
comp=Z,8.7nm,1.1s,baz=257,slow=20,SNR=1.2
STKA LR LR 03 19 28.5
comp=Z,5μm,19.3s,baz=334,slow=39
STKA Stephens Creek 31.05 159 P **P** **03 05 23.3 -1.3**
baz=31,SNR=28
STKA Stephens Creek 31.05 159 *e*P **P** **03 05 23.3 -1.3**
comp=Z,10nm,0.9s
STKA *e*S **S** **03 10 21.1 -6.5**
STKA LR LR
comp=Z,1μm,19.0s
STKA Stephens Creek 31.05 159 *e*P **P** **03 05 23.3 -1.3**
STKA *e*S **S** **03 10 21.1 -6.5**
STKA pmax pmax
comp=Z,10.0nm,0.9s
STKA MLR MLR
comp=Z,1μm,19.0s
HNR Honiara 31.20 103 LR LR 03 19 48.1
comp=Z,4μm,21.5s,baz=266,slow=40
HNR Honiara 31.20 103 PFAKE 03 05 40.0 +14
HNR LR LR
comp=Z,3μm,21.0s
TSI Tuntungan 31.31 282 P **P** **03 05 29.1 +1.9**
comp=Z,151nm,0.7s
TRTT Trang 31.35 290 P **P** **03 05 29.2 +1.7**
comp=Z,39nm,1.4s,comp=Z,729nm
MUN Mundaring 31.37 202 P **P** **03 05 25.6 -1.9**
baz=32,SNR=6.0
HTT Hallett 31.66 164 P **P** **03 05 29.6 -0.5**
baz=32,SNR=8.1
SRAK Srakaew 31.79 303 P **P** **03 05 28.9 -2.4**
comp=Z,61nm,0.7s,comp=Z,764nm
SKNT Sakolnakorn 31.83 309 P **P** **03 05 34.3 +2.6**
comp=Z,23nm,1.1s
NWAO Narrogin (SRO) 31.88 199 P **P** **03 05 30.4 -1.5**
comp=Z,23nm,0.5s,baz=267,slow=8.9,SNR=23
NWAO Narrogin (SRO) 31.88 199 P **P** **03 05 30.6 -1.3**
baz=32,SNR=28
NWAO Narrogin (SRO) 31.88 199 *e*P **P** **03 05 31.1 -0.9**
NWAO LR LR
comp=Z,7μm,20.0s
GSI Gunungsitoli 31.92 277 *e*P **P** **03 05 31.6 -1.0**
comp=Z,277nm,1.0s
GSI *e*PcP **PcP** **03 08 24.0 +1.3**
GSI LR LR
comp=Z,10μm,21.0s
GSI Gunungsitoli 31.92 277 P **P** **03 05 32.3 -0.3**
comp=Z,352nm,1.2s,comp=Z,4μm
KRAB Krabi 31.94 291 P **P** **03 05 34.5 +1.8**
comp=Z,102nm,0.7s,comp=Z,2μm
KCSI Kotacane, Aceh 32.09 281 P **P** **03 05 33.7 -0.4**
comp=Z,117nm,1.6s,comp=Z,2μm
CBIJ Chichi jima 32.38 22 *e*P **P** **03 05 36.1 -0.2**
comp=Z,127nm,0.8s
JCJ Chichijima 32.38 22 LR LR 03 18 13.6
comp=Z,2μm,18.2s,baz=194,slow=36
CMSA Cobar Meteorol 32.40 153 P **P** **03 05 36.1 -0.5**
baz=32,SNR=13
TPTI 32.62 281 P **P** **03 05 38.5 -0.2**
comp=Z,62nm,0.7s,comp=Z,1μm
PKDT Phuket 32.64 289 P **P** **03 05 40.3 +1.4**
comp=Z,40nm,1.9s,comp=Z,810nm
CHAI Chaiyaphum 32.81 306 P **P** **03 05 41.4 +1.1**
comp=Z,19nm,0.7s,comp=Z,203nm
NONG Nongkai 33.11 310 P **P** **03 05 44.6 +1.7**
comp=Z,1.5nm,0.8s,comp=Z,96nm
LHMI Lhok Sumawe 33.25 284 *e*P **P** **03 05 44.9 +0.6**
comp=Z,276nm,1.0s
LHMI LR LR
comp=Z,4μm,20.0s
LHMI Lhok Sumawe 33.25 284 P **P** **03 05 46.1 +1.9**
comp=Z,223nm,1.1s,comp=Z,4μm
SNSI Sinabang, Aceh 33.31 279 P **P** **03 05 48.8 +4.0**
PHET Kaeng Krachan 33.34 299 P **P** **03 05 46.9 +1.9**
comp=Z,20nm,0.8s,comp=Z,188nm
COCO West Island 33.36 252 PFAKE 03 06 00.0 +15
COCO LR LR
comp=Z,4μm,20.0s
RKGY Rocky Gully 33.51 198 P **P** **03 05 45.4 -0.7**
baz=34,SNR=12
MLSI Meulaboh, Aceh 33.57 282 P **P** **03 05 46.7 -0.3**
comp=Z,969nm,1.3s,comp=Z,10μm
SRDT SRDT 34.43 301 P **P** **03 05 57.0 +2.6**
comp=Z,57nm,1.0s
ARMA Armidale 34.58 145 P **P** **03 05 55.9 +0.1**
baz=35,SNR=4.5
ARMA Armidale 34.58 145 *e*P **P** **03 05 55.9 +0.1**
comp=Z,51nm,1.0s
ARMA LR LR
comp=Z,3μm,20.0s
SSE Sheshan 34.71 348 P **P** **03 05 54.5 -2.1**
SSE S **S** **03 11 20.0 -4.4**
SSE pmax pmax
comp=Z,15nm,0.5s
SSE pmax pmax
comp=Z,140nm,4.7s
SSE LR LR
comp=Z,1μm,18.0s
SSE LR LR
comp=Z,820nm,21.0s
UTHA Uthaitani 34.73 303 P **P** **03 05 57.7 +0.7**
comp=Z,20nm,0.8s,comp=Z,162nm
UMPA Umpang Tak 35.54 303 P **P** **03 06 05.9 +1.9**
comp=Z,18nm,1.0s
SUKH Sukhothai 35.55 306 P **P** **03 06 05.3 +1.2**
comp=Z,20nm,0.7s
ARPS Mount Arapiles 35.61 162 P **P** **03 06 04.1 -0.3**
baz=36,SNR=19
JNU Nakatsue 35.90 2 P **P** **03 06 05.5 -1.4**
comp=Z,7.2nm,0.8s,baz=161,slow=18,SNR=3.1
JNU LR LR 03 21 34.7
comp=Z,5μm,18.5s,baz=186,slow=38
JNU Nakatsue 35.90 2 *e*P **P** **03 06 06.6 -0.3**
comp=Z,200nm,1.8s
JNU LR LR
comp=Z,5μm,19.0s
YNG Young 35.95 152 P **P** **03 06 07.5 +0.2**
baz=36,SNR=17
LAMP Lampang 36.11 307 P **P** **03 06 11.3 +2.4**
comp=Z,16nm,1.1s,comp=Z,183nm
NJ2 Nanjing 36.17 345 *e*P **P** **03 06 10.0 +0.8**
NJ2 S **S** **03 11 49.8 +2.9**
NJ2 pmax pmax
comp=Z,17nm,0.7s
NJ2 pmax pmax
comp=Z,330nm,4.9s
NJ2 LR LR
comp=Z,910nm,13.6s
NJ2 LR LR
comp=Z,2μm,19.0s
NJ2 LR LR
comp=Z,2μm,19.0s
WHN Wuhan 36.20 338 ⇓P **P** **03 06 10.8 +1.4**
WHN pP **pP** **03 06 18.5 -1.0**
WHN S **S** **03 11 49.8 +2.4**
WHN LR LR
comp=Z,1μm,10.7s
WHN LR LR
comp=Z,2μm,12.0s
WHN LR LR
comp=Z,5μm,17.1s

PAYA Payao 36.39 309 P **P** **03 06 13.7 +2.4**
comp=Z,19nm,1.0s,comp=Z,193nm
GYA Guiyang 36.47 325 ⇑*i*P **P** **03 06 13.8 +1.8**
GYA pP pP 03 06 22.5 +0.4
GYA PP **PP** **03 07 39.5 +4.1**
GYA S **S** **03 11 55.0 +3.1**
GYA ScP **ScP** **03 12 22.0 +2.2**
GYA SS **SnSn** **03 14 22.8 +0.5**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,160nm,5.4s
GYA LR LR
comp=Z,2μm,20.2s
GYA LR LR
comp=Z,1μm,20.5s
GYA LR LR
comp=Z,2μm,21.4s
CM01 Chiang Mai Arr 36.59 307 *e*P **P** **03 06 13.0 0.0**
CM31 Chiang Mai Arr 36.63 307 *e*P **P** **03 06 13.9 +0.6**
CM31 *e*PcP **PcP** **03 08 37.1 +1.1**
CM31 *e*S **S** **03 11 55.6 +1.3**
CM31 *e*ScP **ScP** **03 12 23.3 +2.9**
CM31 Chiang Mai Arr 36.63 307 P **P** **03 06 13.8 +0.6**
SNR=26
CMAR Chiang Mai Arr 36.63 307 P **P** **03 06 13.5 +0.2**
comp=Z,13nm,0.8s,baz=138,slow=6.2,SNR=50
CMAR PcP **PcP** **03 08 37.2 +1.1**
comp=Z,7.1nm,0.8s,baz=181,slow=2.1,SNR=5.0
CMAR S **S** **03 11 55.6 +1.3**
comp=Z,0.6nm,0.4s,baz=133,slow=22,SNR=2.4
CMAR ScP **ScP** **03 12 23.3 +2.9**
comp=Z,0.9nm,0.3s,baz=141,slow=4.8,SNR=4.2
CMAR LR LR 03 22 52.1
comp=Z,2μm,20.9s,baz=138,slow=39
CMAR Chiang Mai Arr 36.63 307 *ce*P **P** **03 06 14.0 +0.7**
CMAR pmax pmax
comp=Z,13nm,0.8s
CMMT Chiang Mai 36.81 307 P **P** **03 06 15.4 +0.5**
comp=Z,62nm,1.4s,comp=Z,2μm
CHTO Chiang Mai 36.82 307 *e*P **P** **03 06 15.4 +0.5**
comp=Z,228nm,1.5s
CHTO LR LR
comp=Z,3μm,22.0s
CHTO Chiang Mai 36.82 307 P **P** **03 06 15.5 +0.6**
SNR=40
CHTO Chiang Mai 36.82 307 *e*P **P** **03 06 15.4 +0.5**
CHTO pmax pmax
comp=Z,227nm,1.5s
CHTO MLR MLR
comp=Z,3μm,22.0s
CHTO Chiang Mai 36.82 307 P **P** **03 06 15.5 +0.6**
comp=Z,281nm,1.4s,comp=Z,9μm
CAN Canberra 37.07 153 *e*P **P** **03 06 16.5 -0.4**
comp=Z,87nm,0.9s
CAN LR LR
comp=Z,3μm,19.0s
CAN Canberra 37.07 153 *e*P **P** **03 06 16.5 -0.4**
CAN pmax pmax
comp=Z,87nm,0.9s
CAN MLR MLR
comp=Z,3μm,19.0s
CNB Canberra Magne 37.23 152 P **P** **03 06 17.5 -0.8**
baz=37,SNR=5.4
TOO Toolangi 37.56 159 P **P** **03 06 20.1 -0.9**
baz=38,SNR=9.2
KMI Kunming 37.93 319 P **P** **03 06 25.0 +0.5**
KMI pP pP 03 06 33.5 -1.1
KMI sP sP 03 06 37.8 -1.0
KMI PP **PnPn** **03 07 54.5 +1.4**
KMI S **S** **03 12 15.0 +0.6**
KMI sS ScP 03 12 29.5 +4.1
KMI SS **SnSn** **03 14 47.5 -10**
KMI pmax pmax
comp=Z,66nm,1.7s
KMI pmax pmax
comp=Z,420nm,3.1s
KMI LR LR
comp=Z,2μm,22.7s
KMI LR LR
comp=Z,1μm,20.7s
KMI LR LR
comp=Z,2μm,21.1s
ENH Enshi 38.03 332 *e*P **P** **03 06 25.6 +0.5**
comp=Z,40nm,0.9s
ENH LR LR
comp=Z,2μm,20.0s
INU Inuyama 38.78 10 PFAKE 03 06 40.0 +8.7
INU LR LR
comp=Z,5μm,20.0s
LHI Lord Howe Isla 39.97 139 PFAKE 03 06 50.0 +8.8
LHI LR LR
comp=Z,4μm,20.0s
KWAJ Kwajalein Atol 40.01 73 PFAKE 03 06 50.0 +8.2
KWAJ LR LR
comp=Z,3μm,22.0s
MJAR Matsushiro Arr 40.16 11 P **P** **03 06 40.5 -2.3**
comp=Z,7.9nm,0.8s,baz=193,slow=11,SNR=12
MJAR LR LR 03 23 18.1
comp=Z,2μm,20.1s,baz=205,slow=36
MAJO Matsushiro 40.17 11 *e*P **P** **03 06 43.1 +0.3**
comp=Z,40nm,0.9s
MAJO Matsushiro 40.17 11 ⇓*e*P **P** **03 06 41.7 -1.1**
MAJO pmax pmax
comp=Z,61nm,2.0s
MJB9 Matsu-Tunnel 40.17 11 *e*P **P** **03 06 43.3 +0.4**
comp=Z,40nm,0.9s
KS15 Wonju Array Si 40.20 358 *e*P **P** **03 06 45.0 +2.0**
KS15 *e*PcP **PcP** **03 08 46.4 -0.3**
KSAR Wonju Array Be 40.20 358 P **P** **03 06 42.5 -0.5**
KSAR Wonju Array Be 40.20 358 P **P** **03 06 42.5 -0.5**
KSRS Korea Array 40.21 358 P **P** **03 06 42.5 -0.6**
comp=Z,6.0nm,0.7s,baz=174,slow=9.4,SNR=18
KSRS PcP **PcP** **03 08 46.4 -0.3**
comp=Z,6.0nm,0.9s,baz=193,slow=3.3,SNR=4.5
KSRS LR LR 03 22 44.9
comp=Z,2μm,21.0s,baz=191,slow=35
KS01 Wonju Array Si 40.23 358 *e*P **P** **03 06 43.7 +0.4**
TIA Tai'an 40.56 345 P **P** **03 06 48.0 +1.9**
TIA S **S** **03 12 50.0 -3.2**
TIA SS **SS** **03 15 48.5 -5.5**
TIA pmax pmax
comp=Z,9.0nm,0.9s
TIA LR LR
comp=Z,980nm,19.8s
TIA LR LR
comp=Z,1μm,15.9s
TIA LR LR
comp=Z,2μm,21.6s
DZM Mont Dzumac 40.82 121 P **P** **03 06 48.0 -0.6**
comp=Z,10.0nm,0.5s,baz=260,slow=11,SNR=16
DZM Mont Dzumac 40.82 121 *e*P P 03 06 53.6 +5.0
comp=Z,96nm,1.5s
DZM *e*S **S** **03 13 05.7 +8.1**
comp=Z,1μm,35.2s
DZM *e*LR LR 03 18 13.8
comp=Z,4μm,25.8s
DZM Mont Dzumac 40.82 121 *e*P **P** **03 06 49.2 +0.6**
comp=Z,43nm,1.2s
DZM LR LR
comp=Z,2μm,21.0s
XAN Xi'an 41.47 334 P **P** **03 06 53.0 -0.6**
XAN pP pP 03 07 00.3 -3.5
XAN S **S** **03 13 00.8 -6.0**
XAN pmax pmax
comp=Z,230nm,8.2s
XAN LR LR
comp=Z,1μm,17.9s
XAN LR LR
comp=Z,2μm,19.2s
XAN LR LR
comp=Z,2μm,17.6s
CD2 Chengdu 41.51 326 P **P** **03 06 54.8 +0.8**
CD2 pP pP 03 07 02.5 -1.7
CD2 sP sP 03 07 05.5 -2.8
CD2 PP **PP** **03 08 31.3 +0.9**
CD2 S **S** **03 13 05.0 -2.5**
CD2 sS sS 03 13 23.5 -0.8
CD2 pmax pmax
comp=Z,50nm,0.5s
CD2 pmax pmax
comp=Z,590nm,5.2s
CD2 LR LR
comp=Z,4μm,21.1s
CD2 LR LR
comp=Z,4μm,17.3s

CD2 LR LR
comp=Z,3μm,21.1s
DL2 Dalian 42.23 351 P **P** **03 07 00.0 +0.3**
DL2 PP **PP** **03 08 44.8 +6.8**
DL2 S **S** **03 13 19.3 +1.5**
DL2 SS **SS** **03 16 24.5 -2.4**
DL2 pmax pmax
comp=Z,59nm,1.1s
DL2 pmax pmax
comp=Z,270nm,3.5s
DL2 LR LR
comp=Z,1μm,18.6s
DL2 LR LR
comp=Z,2μm,18.0s
DL2 LR LR
comp=Z,2μm,18.9s
MOO Moorlands 42.48 160 P **P** **03 07 02.0 +0.2**
baz=42,SNR=14
WAKE Wake Island 42.91 57 PFAKE 03 07 20.0 +14
WAKE LR LR
comp=Z,3μm,19.0s
TAU Tasmania Unive 42.94 160 *e*P **P** **03 07 05.5 0.0**
TAU LR LR
comp=Z,5μm,18.0s
TAU Tasmania Unive 42.94 160 *e*P **P** **03 07 05.5 0.0**
TAU MLR MLR
comp=Z,5μm,18.0s
TIY Taiyuan 43.35 341 *e*P **P** **03 07 06.8 -2.1**
TIY S **S** **03 13 32.5 -2.0**
TIY pmax pmax
comp=Z,30nm,0.5s
TIY pmax pmax
comp=Z,220nm,6.5s
TIY LR LR
comp=Z,960nm,15.3s
TIY LR LR
comp=Z,750nm,13.1s
TIY LR LR
comp=Z,1μm,21.5s
SAIH SAIHA 43.48 307 *e*P **P** **03 07 10.2 -0.1**
TARA Tarawa 43.89 85 PFAKE 03 07 30.0 +16
TARA LR LR
comp=Z,8μm,20.0s
IMP Imphal 43.99 311 *e*P **P** **03 07 13.3 -1.0**
LKP Lekhapani 44.06 315 *e*P **P** **03 07 12.6 -2.2**
LKP IAmb IAmb 03 07 15.9
comp=Z,148nm,1.4s
KOHI KOHIMA 44.37 312 *e*P **P** **03 07 15.4 -2.0**
BJT Baijiatuau 44.40 346 *e*P **P** **03 07 18.2 +1.0**
comp=Z,51nm,0.9s
BJT LR LR
comp=Z,2μm,20.0s
BJT Baijiatuau 44.40 346 *e*P **P** **03 07 18.2 +1.0**
BJT pmax pmax
comp=Z,51nm,0.9s
BJT MLR MLR
comp=Z,2μm,20.0s
MOKO MOKOCHONG 44.41 313 *e*P **P** **03 07 15.9 -1.8**
MOKO IAmb IAmb 03 07 19.6
BJI Beijing 44.42 346 P **P** **03 07 18.0 +0.7**
BJI S **S** **03 13 48.8 -1.0**
BJI pmax pmax
comp=Z,13nm,0.8s
BJI LR LR
comp=Z,1μm,24.5s
BRDH Bariadhala 44.65 307 P **P** **03 07 20.1 +0.7**
comp=Z,62nm,0.3s,baz=114,slow=8.0,SNR=19
BRDH LR LR 03 28 51.9
comp=Z,2μm,20.7s,baz=136,slow=40
DIBR DIBRUGARH 44.80 315 *e*P **P** **03 07 20.5 -0.2**
SILR SILCHAR 44.83 310 *e*P **P** **03 07 21.2 +0.3**
JORH JORHAT 44.85 313 *e*P **P** **03 07 20.9 -0.1**
SNY Shenyang 44.85 354 ⇓P **P** **03 07 21.8 +1.0**
SNY pmax pmax
comp=Z,22nm,0.7s
SNY pmax pmax
comp=Z,290nm,9.3s
SNY LR LR
comp=Z,2μm,18.7s
SNY LR LR
comp=Z,1μm,20.2s
SNY LR LR
comp=Z,4μm,20.5s
MSHR Mys Shultsa 45.34 2 ⇓*e*P **P** **03 07 25.3 +0.6**
ITAN ITANAGAR 45.47 313 *e*P **P** **03 07 25.0 -0.9**
ITAN IAmb IAmb 03 07 29.7
comp=Z,4μm,3.6s
LZH Lanzhou 45.50 331 ⇑P **P** **03 07 27.3 +1.1**
LZH pP pP 03 07 37.0 +0.5
LZH sP sP 03 07 41.0 +0.4
LZH S **S** **03 14 01.3 -4.7**
LZH sS sS 03 14 21.5 -1.4
LZH SS **SS** **03 17 26.0 -4.3**
LZH pmax pmax
comp=Z,84nm,1.4s
LZH pmax pmax
comp=Z,360nm,4.9s
LZH LR LR
comp=Z,2μm,17.9s
LZH LR LR
comp=Z,3μm,17.4s
LZH LR LR
comp=Z,4μm,17.9s
AGT Agartala 45.57 308 *e*P **P** **03 07 26.6 -0.2**
ZIRO ZIRO 45.60 314 *e*P **P** **03 07 26.8 -0.4**
TEZP TEZPUR 45.84 312 *e*P **P** **03 07 27.2 -1.7**
TEZP IAmb IAmb 03 07 30.2
comp=Z,262nm,2.0s
SHL Shillong 45.95 310 *e*P **P** **03 07 29.5 -0.5**
comp=Z,105nm,0.9s
SHL LR LR
comp=Z,1μm,20.0s
SHL Shillong 45.95 310 *e*P **P** **03 07 29.5 -0.5**
SHL pmax pmax
comp=Z,105nm,0.9s
SHL MLR MLR
comp=Z,1μm,20.0s
SHL Shillong 45.95 310 *e*P **P** **03 07 29.1 -0.9**
SHL IAmb IAmb 03 07 34.4
comp=Z,184nm,1.6s
GUWA GUWAHATI 46.44 311 *e*P **P** **03 07 33.5 -0.1**
GUWA IAmb IAmb 03 07 35.4
comp=Z,78nm,1.0s
HHC Hu-ho-hao-te 46.48 341 *e*P **P** **03 07 36.0 +2.2**
HHC PP **PP** **03 09 25.3 +1.8**
HHC S **S** **03 14 22.5 +2.7**
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,290nm,5.7s
HHC LR LR
comp=Z,1μm,19.9s
HHC LR LR
comp=Z,1μm,18.1s
HHC LR LR
comp=Z,2μm,18.2s
CN2 Changchun 46.66 356 *e*P **P** **03 07 35.0 0.0**
CN2 *e*pP pP 03 07 42.0 -3.3
CN2 *e*S **S** **03 14 20.3 -1.7**
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 LR LR
comp=Z,2μm,20.0s
CN2 LR LR
comp=Z,1μm,20.0s
CN2 LR LR
comp=Z,2μm,20.0s
BTO Baotou 46.77 340 *e*P P 03 07 43.0 +6.9
USA0B Ussuriysk Arra 47.00 3 *e*P **P** **03 07 38.4 +0.8**
comp=Z,41nm,1.1s
USA0B LR LR
comp=Z,4μm,20.0s
USRK Ussuriysk Ar. 47.00 3 P **P** **03 07 36.7 -0.9**
comp=Z,8.3nm,0.6s,baz=180,slow=8.0,SNR=17
USRK LR LR 03 28 07.5
comp=Z,3μm,18.6s,baz=178,slow=37
TAWA Tawang 47.08 313 *e*P **P** **03 07 39.4 +0.4**
TURI Tura 47.13 309 *e*P **P** **03 07 37.3 -1.7**
MDJ Mudanjiang 47.35 0 P **P** **03 07 41.5 +1.1**
MDJ pmax pmax
comp=Z,23nm,1.5s
MDJ pmax pmax
comp=Z,340nm,4.2s
MDJ Mudanjiang 47.35 0 PFAKE 03 07 50.0 +10
MDJ LR LR
comp=Z,2μm,19.0s

TEY Ternei 48.22 7⇑eP P 03 07 48.8 +1.7
TEY pmax pmax
comp=Z,30nm,0.7s
LSA Lhasa 48.79 314 P P 03 07 52.3 -0.1
LSA pmax pmax
comp=Z,12nm,0.9s
LSA Lhasa 48.79 314 eP P 03 07 52.8 +0.4
comp=Z,307nm,1.8s
LSA LR LR
comp=Z,800nm,22.0s
LSA Lhasa 48.79 314 P P 03 07 52.8 +0.4
LSA Lhasa 48.79 314 eP P 03 07 52.8 +0.4
LSA pmax pmax
comp=Z,307nm,1.8s
LSA MLR MLR
comp=Z,800nm,22.0s
YUK Yuzh-Kuril'sk 49.09 16 eP P 03 07 55.1 +1.3
YUK e 03 09 47.7
YUK S S 03 14 56.4 -0.1
YUK pmax pmax
comp=Z,1µm,1.6s
YUK pmax pmax
comp=N,687nm,1.3s
GTK Tadong 49.37 310 eP P 03 07 53.6 -2.9
PALK Pallekele 49.48 282 P P 03 07 56.8 -0.5
comp=N,18nm,0.8s,baz=116,slow=12,SNR=9.9
PALK LR LR 03 29 26.6
comp=N,2µm,21.5s,baz=116,slow=37
PALK Pallekele 49.48 282 eP P 03 07 56.4 -1.0
comp=N,88nm,1.3s
PALK Pallekele 49.48 282 *i* P P 03 07 57.0 -0.4
SNR=8.0
PALK Pallekele 49.48 282 eP P 03 07 56.4 -1.0
PALK pmax pmax
comp=Z,88nm,1.3s
BOK Bokaro 49.84 305 eP P 03 07 59.9 -0.1
BOK IAmb IAmb 03 08 02.6
comp=Z,97nm,1.8s
ODAN Odare 50.08 309 eP P 03 08 01.9 -0.1
GTA Gaotai 50.08 330 ⇑P P 03 08 01.0 -0.7
GTA pP pP 03 08 06.8 -5.2
GTA sP sP 03 08 09.8 -6.3
GTA ScP **ScP** **03 13 17.5 +3.1**
GTA S **S** **03 15 07.0 -3.8**
GTA ScS **ScS** **03 17 50.0 -0.6**
GTA pmax pmax
comp=Z,23nm,2.0s
GTA pmax pmax
comp=Z,250nm,5.1s
GTA LR LR
comp=Z,1µm,21.9s
GTA LR LR
comp=Z,1µm,20.0s
GTA LR LR
comp=Z,2µm,19.4s
RAMN Ramite 50.73 309 eP P 03 08 06.8 -0.2
comp=Z,185nm,0.6s
YSS Yuzh-Sakhalins 51.10 12⇓eP P 03 08 06.2 -2.8
YSS pmax pmax
comp=Z,59nm,1.3s
JIRN Jiri 51.40 309 eP P 03 08 11.6 -0.5
GUN Gumba 51.76 309 eP P 03 08 14.2 -0.6
comp=Z,91nm,0.5s
PKI Pulchoki 51.96 309 eP P 03 08 15.4 -0.9
comp=Z,115nm,1.1s
PKIN Phulchoki 51.97 309 eP P 03 08 16.0 -0.3
comp=Z,17nm,0.4s
KLR Kul'dur 52.01 2 P P 03 08 15.9 +0.1
comp=Z,12nm,0.7s,baz=216,slow=14,SNR=2.3
KLR Kul'dur 52.01 2*d*eP P 03 08 16.1 +0.3
OUZ Omahuta 52.13 134 eP P 03 08 17.3 +0.3
comp=Z,103nm,1.7s
OUZ LR LR
comp=Z,3µm,20.0s
KKN Kakani 52.16 309 eP P 03 08 16.8 -0.8
comp=Z,110nm,0.9s
DMN Daman 52.22 309 eP P 03 08 17.3 -0.8
comp=Z,102nm,0.8s
HIA Hailar 52.65 352 PFAKE 03 08 30.0 +9.4
HIA LR LR
comp=Z,3µm,19.0s
KOLN Koldanda 53.47 308 eP P 03 08 26.8 -0.5
comp=Z,431nm,1.1s
DANN Dangsing 53.61 309 eP P 03 08 27.7 -0.7
comp=Z,299nm,0.9s
DCZ Deep Cove 53.80 148 eP P 03 08 30.2 +1.1
comp=Z,160nm,1.3s
JCZ Jackson Bay 53.82 145 P P 03 08 29.8 +0.3
GRNR Gornyy 53.86 6 eP P 03 08 29.2 -0.2
GRNR pmax pmax
comp=Z,21nm,1.0s
HYB Hyderabad 53.91 294 *i* P P 03 08 29.0 -1.4
HYB eS S 03 16 04.0 +0.1
HYB Hyderabad 53.91 294 eP P 03 08 29.5 -0.9
HYB IAmb IAmb 03 08 44.2
comp=Z,86nm,1.1s
FOZ Fox Glacier 54.08 144 eP P 03 08 33.1 +1.8
comp=Z,77nm,1.0s
PYUN Piuthan 54.10 308 eP P 03 08 31.4 -0.5
comp=Z,452nm,1.1s
ULN Ulaanbaatar 54.20 342 eP P 03 08 31.8 -0.3
comp=Z,52nm,1.0s
ULN LR LR
comp=Z,1µm,21.0s
ULN Ulaanbaatar 54.20 342 P P 03 08 32.8 +0.7
SNR=22
ULN Ulaanbaatar 54.20 342*ce*P P 03 08 31.6 -0.5
ULN pmax pmax
comp=Z,62nm,2.0s
MLZ Mavora Lakes 54.26 147 eP P 03 08 32.4 -0.1
comp=Z,129nm,1.4s
MLZ Mavora Lakes 54.26 147 P P 03 08 32.1 -0.4
SONA0 Songino Array 54.38 341 eP P 03 08 32.8 -0.7
SONM Songino Array 54.38 341 P P 03 08 32.8 -0.7
comp=Z,10nm,0.7s,baz=144,slow=7.9,SNR=12
SONM LR LR 03 33 01.2
comp=Z,1µm,21.4s,baz=159,slow=38
SONA1 Songino Array 54.38 341 eP P 03 08 34.2 +0.7
WKZ Wanaka 54.41 146 eP P 03 08 34.0 +0.3
comp=Z,312nm,1.7s
WKZ Wanaka 54.41 146 P P 03 08 36.2 +2.5
WHZ Wether Hill Ro 54.50 148 eP P 03 08 34.6 +0.4
comp=Z,105nm,1.1s
HIZ Hauiti 54.58 137 PFAKE 03 08 50.0 +15
HIZ LR LR
comp=Z,800nm,18.0s
LBZ Lake Benmore 54.81 145 eP P 03 08 36.8 +0.3
comp=Z,274nm,1.4s
LBZ Lake Benmore 54.81 145 P P 03 08 36.4 -0.1
RPZ Rata Peaks 54.92 144 eP P 03 08 38.4 +1.1
comp=Z,230nm,1.4s
RPZ LR LR
comp=Z,4µm,20.0s
THZ Tophouse 54.96 141 eP P 03 08 38.6 +0.9
comp=Z,35nm,0.7s
THZ LR LR
comp=Z,5µm,20.0s
LTZ Lake Taylor 55.12 142 eP P 03 08 39.8 +1.0
comp=Z,180nm,1.6s
LTZ LR LR
comp=Z,5µm,20.0s
OXZ Oxford 55.28 143 eP P 03 08 40.5 +0.6
comp=Z,69nm,1.1s
ODZ Otahua Downs 55.47 145 eP P 03 08 38.2 -3.0
comp=Z,132nm,1.6s
ODZ LR LR
comp=Z,4µm,21.0s
MOVZ Moawhango 55.63 137 P P 03 08 43.0 +0.4
KHZ Kahutara 55.70 141 eP P 03 08 42.6 -0.3
comp=Z,41nm,0.7s
KHZ LR LR
comp=Z,6µm,19.0s
CRLZ Canterbury Las 55.77 143 eP P 03 08 43.8 +0.4
comp=Z,431nm,1.9s
MQZ McQueen's Vall 55.87 143 eP P 03 08 45.4 +1.3
comp=Z,59nm,0.8s
MQZ LR LR
comp=Z,3µm,20.0s
SNZO South Karori 55.87 140 eP P 03 08 44.3 +0.2
comp=Z,244nm,1.5s
SNZO LR LR
comp=Z,5µm,19.0s
BHHZ Black Hill Sta 55.88 137 P P 03 08 44.9 +0.6
BKZ Black Stump Fm 56.02 136 eP P 03 08 45.0 -0.4
comp=Z,54nm,0.8s
BKZ LR LR
comp=Z,2µm,22.0s
BKZ Black Stump Fm 56.02 136 P P 03 08 46.0 +0.6
URZ Urewera 56.03 135 eP P 03 08 46.0 +0.6
comp=Z,60nm,0.9s
URZ LR LR
comp=Z,3µm,21.0s
URZ Urewera 56.03 135 P P 03 08 46.0 +0.6
KRHZ Kereru 56.16 137 P P 03 08 46.9 +0.5
HAZ Te Kaha 56.29 134 P P 03 08 49.8 +2.6
CIT Chita 56.35 348 eP P 03 08 46.4 -1.1
CIT *e* 03 08 56.3
SNGZ Shannon Statio 56.43 136 P P 03 08 49.0 +0.7
ZEA Zeya 56.50 359 eP P 03 08 49.0 +0.6
ZEA *e* 03 18 36.0
ZEA pmax pmax
comp=Z,26nm,0.8s
ZEA MLR MLR
comp=N,1µm,16.0s
ZEA MLR MLR
comp=E,400nm,16.0s
ZEA MLR MLR
comp=Z,1µm,16.0s
RAO Raoul Island 56.51 123 LR LR 03 33 08.4
comp=Z,943nm,19.5s,baz=312,slow=36
BFZ Birch Farm 56.57 138 eP P 03 08 49.2 0.0
comp=Z,110nm,1.4s
BFZ LR LR
comp=Z,5µm,20.0s
MXZ Matakaoa Point 56.58 134 eP P 03 08 49.4 +0.1
comp=Z,51nm,0.7s
MXZ LR LR
comp=Z,3µm,20.0s
MXZ Matakaoa Point 56.58 134 P P 03 08 49.7 +0.4
DGAR Diego Garcia 56.68 263 PFAKE 03 09 00.0 +10
DGAR LR LR
comp=Z,2µm,19.0s
NKL Nikolayevsk 56.71 8 eP P 03 08 50.8 +0.9
NKL *e* 03 16 37.0
NKL pmax pmax
comp=Z,33nm,0.9s
NKL MLR MLR
comp=Z,2µm,14.0s
PUZ Puketiti 56.76 135 P P 03 08 51.6 +0.9
BHPL Bhopal 56.77 300 eP P 03 08 49.4 -1.6
BHPL IAmb IAmb 03 08 52.0
comp=Z,28nm,0.7s
HMDM Hanimaadhoo 56.77 280 PFAKE 03 09 00.0 +8.9
HMDM LR LR
comp=Z,3µm,18.0s
MNCI Minicoy 57.11 282 eP P 03 08 53.4 -0.1
comp=Z,665nm,1.6s
ZAK Zakamensk 57.60 341 eP P 03 08 56.9 +0.4
ZAK pmax pmax
comp=Z,14nm,1.3s
POO Poona 58.52 294 eP P 03 09 02.1 -1.3
POO IAmb IAmb 03 09 06.0
POO Poona 58.52 294 eP P 03 09 02.0 -1.3
DDI Dehra Dun 58.95 308 eP P 03 09 03.7 -2.5
NDI New Delhi 58.95 306 eP P 03 09 03.0 -3.2
AFI Afiamalu 59.22 104 LR LR 03 34 50.6
comp=Z,1µm,20.1s,baz=276,slow=36
MOY Mondy 59.46 340 eP P 03 09 09.2 -0.2
MOY pmax pmax
comp=Z,102nm,1.7s
WMQ Urumqi 59.60 326 P P 03 09 10.3 -0.2
WMQ pP pP 03 09 18.5 -2.5
WMQ S **S** **03 17 16.8 -1.6**
WMQ sS pS 03 17 30.5 -0.7
WMQ ScS **ScS** **03 18 56.0 -2.3**
WMQ pmax pmax
comp=Z,110nm,1.1s
WMQ pmax pmax
comp=Z,510nm,3.8s
WMQ LR LR
comp=Z,3µm,18.7s
WMQ LR LR
comp=Z,3µm,22.7s
WMQ LR LR
comp=Z,3µm,24.9s
SMLA Simla 59.98 309 eP P 03 09 12.2 -1.0
PEA0B Petropavlovsk- 60.75 19 eP P 03 09 18.4 +0.4
comp=Z,160nm,1.2s
PEA0B LR LR
comp=Z,2µm,22.0s
PETK Petropavlovsk- 60.75 19 P P 03 09 17.5 -0.6
comp=Z,54nm,0.8s,baz=194,slow=6.4,SNR=24
PETK LR LR 03 31 46.3
comp=Z,986nm,21.9s,baz=210,slow=32
PETK Petropavlovsk- 60.75 19 eP P 03 09 18.1 0.0
PETK Petropavlovsk- 60.75 19 eP P 03 09 18.1 0.0
PEA1 Petropavlovsk- 60.76 19 eP P 03 09 17.5 -0.6
PET Petropavlovsk 61.00 20 eP P 03 09 20.3 +0.6
PET *e*S S 03 17 35.2 -0.6
PET pmax pmax
comp=Z,134nm,1.0s
DHRM DHARAMSHALA 61.12 309 eP P 03 09 19.8 -1.4
BOD Bodaibo 61.80 351 eP P 03 09 25.5 +0.5
BOD pmax pmax
comp=Z,78nm,1.6s
HVS Khovu-Aksy 61.80 335⇑eP P 03 09 25.0 -0.3
HVS pmax pmax
comp=Z,71nm,1.0s
BHJ Bhuj 63.57 298 eP P 03 09 36.9 -0.6
DGZ Jazzator, Alta 63.60 331*c* *i*P P 03 09 36.5 -0.9
DGZ pmax pmax
comp=Z,14nm,1.1s
NIL Nilore 64.02 310 eP P 03 09 39.5 -0.9
comp=Z,32nm,0.8s
NIL LR LR
comp=Z,800nm,20.0s
NIL Nilore 64.02 310 eP P 03 09 39.5 -0.9
NIL pmax pmax
comp=Z,32nm,0.8s
NIL MLR MLR
comp=Z,800nm,20.0s
SHLS Shalkode 64.07 322 eP P 03 09 38.3 -2.3
comp=Z,82nm,1.9s
SHLS *i* S S 03 18 13.1 -2.0
UZB Uzynbulak 64.34 321⇑*i*P P 03 09 41.7 -0.7
comp=Z,64nm,2.1s
UZB *i* S S 03 18 19.4 +1.0
PRZ Przheval'sk 64.38 321 eP P 03 09 45.2 +2.4
comp=Z,76nm,1.0s
PRZ LR LR
comp=Z,900nm,22.0s
MK01 Makanchi Array 64.42 326 eP P 03 09 41.6 -1.1
MK31 Makanchi Array 64.44 326 eP P 03 09 42.4 -0.4
MK31 Makanchi Array 64.44 326 eP P 03 09 42.4 -0.4
MK32 Makanchi Array 64.44 326 eP P 03 09 41.9 -0.9
MKAR Makanchi Array 64.44 326 P P 03 09 41.9 -0.9
comp=Z,22nm,0.8s,baz=120,slow=7.8,SNR=81
MKAR S S 03 18 14.9 -4.4
comp=Z,0.3nm,0.7s,baz=126,slow=7.3,SNR=2.9
MKAR PKP2bc 03 38 33.0
comp=Z,0.9nm,0.9s,baz=280,slow=7.3,SNR=3.8
MKAR LR LR 03 40 05.8
comp=Z,728nm,21.9s,baz=122,slow=38
MKAR Makanchi Array 64.44 326 eP P 03 09 42.2 -0.6
comp=Z,140nm,0.7s
MKAR LR LR
comp=Z,200nm,21.0s
KSH Kashi 64.54 317 P P 03 09 45.0 +1.2
KSH sP pP 03 09 56.0 +1.6
KSH PP **PP** **03 12 08.8 +2.7**
KSH S **S** **03 18 19.5 -1.5**
KSH SS **SS** **03 22 32.3 +0.2**
KSH pmax pmax
comp=Z,51nm,1.0s
KSH LR LR
comp=Z,480nm,11.4s
KSH LR LR
comp=Z,3µm,22.1s
KSH LR LR
comp=Z,3µm,21.1s
CASY Casey 64.57 188 eP P 03 09 43.7 +0.4
comp=Z,65nm,0.9s
CASY LR LR
comp=Z,3µm,19.0s
MA2 Magadan 64.60 12 eP P 03 09 47.0 +3.4
comp=Z,33nm,0.8s
MA2 LR LR
comp=Z,1µm,21.0s
MA2 Magadan 64.60 12 eP P 03 09 47.0 +3.4
MA2 pmax pmax
comp=Z,33nm,0.8s
MA2 MLR MLR
comp=Z,1µm,21.0s
SATY Saty 64.68 321⇑*i*P P 03 09 44.1 -0.5
comp=Z,142nm,2.2s
SATY *e*PP **PP** **03 12 07.2 0.0**
SATY *e*S **S** **03 18 23.9 +1.3**
KPKS Kokpek 64.71 322 eP P 03 09 44.0 -0.8
comp=Z,126nm,1.7s
KPKS *i* S S 03 18 24.0 +1.0
KDJ Kajisay 64.99 320 eP P 03 09 48.9 +2.1
comp=Z,40nm,0.9s
KDJ LR LR
comp=Z,1µm,22.0s
NRN Naryn 65.42 319 eP P 03 09 48.7 -1.0
comp=Z,22nm,0.8s
NRN LR LR
comp=Z,2µm,22.0s
NRN Naryn 65.42 319 eP P 03 09 48.7 -1.0
NRN pmax pmax
comp=Z,22nm,0.8s
NRN MLR MLR
comp=Z,2µm,22.0s
MDOK Medeo 65.59 321⇑*i*P P 03 09 50.3 -0.2
comp=Z,515nm,2.4s
MDOK *i* S S 03 18 33.8 0.0
MDOK LR LR 03 38 25.3
comp=Z,658nm,22.2s
AAA Alma-Ata 65.69 321 eP P 03 09 52.7 +1.6
AAA eS S 03 18 35.7 +0.8
AAA pmax pmax
comp=Z,200nm,4.1s
AAA smax smax
comp=N,500nm,9.6s
AAA MLR MLR
comp=Z,800nm,16.0s
KZA Kyzart 66.22 319 P P 03 09 55.7 +0.7
SNR=17
TKM2 Tokmak 2 66.39 320 P P 03 09 58.8 +3.0
SNR=28
KUU Kurty 66.40 321⇑*i*P P 03 09 54.7 -0.9
comp=Z,221nm,2.0s
KUU *i* S S 03 18 44.3 +0.9
KBK Karagaybulak 66.69 319 P P 03 10 00.0 +2.4
SNR=7.5
UCH Uchtor 66.78 319 P P 03 10 02.0 +3.5
SNR=28
FRU1 Bishkek 66.97 319 PFAKE 03 10 10.0 +11
FRU1 LR LR
comp=Z,1µm,22.0s
AAK Ala-Archa 66.98 319 P P 03 09 58.9 -0.6
comp=Z,10nm,0.9s,baz=109,slow=4.5,SNR=22
AAK Ala-Archa 66.98 319 P P 03 10 01.0 +1.5
SNR=11
AAK Ala-Archa 66.98 319 eP P 03 09 59.5 +0.1
AAK LR LR
comp=Z,1µm,22.0s
AAK Ala-Archa 66.98 319 P P 03 09 59.2 -0.3
SNR=18
AAK Ala-Archa 66.98 319 *i* P P 03 09 58.8 -0.6
SNR=22
AAK Ala-Archa 66.98 319*c* *i*P P 03 09 59.1 -0.3
AAK pmax pmax
comp=Z,48nm,1.8s
AAK MLR MLR
comp=Z,2µm,24.0s
FRU Bishkek 66.99 319 eP P 03 09 58.5 -0.9
FRU MLR MLR
comp=E,2µm,24.0s
USP Ospenovka 67.27 320 P P 03 10 00.3 -0.8
SNR=22
AML Almayashu 67.27 318 P P 03 09 59.2 -2.4
SNR=26
EKS2 Erkin-Say 67.46 319 P P 03 10 05.9 +3.4
SNR=17
KBL Kabul 67.60 309 eP P 03 10 03.3 -0.3
comp=E,32nm,1.0s
KBL LR LR
comp=Z,700nm,21.0s
KBL Kabul 67.60 309 P P 03 10 04.2 +0.6
ZAA0 Zalesovo Array 67.63 333 eP P 03 10 01.6 -1.6
comp=Z,67nm,1.1s
ZAA0 LR LR
comp=Z,1µm,22.0s
ZALV Zalesovo Beam 67.63 333 P P 03 10 01.5 -1.7
comp=Z,19nm,0.8s,baz=113,slow=5.2,SNR=57
ZALV S S 03 18 51.6 -6.1
comp=Z,0.3nm,0.3s,baz=128,slow=9.3,SNR=2.1
ZALV PKP2ab 03 38 30.2
comp=Z,2.4nm,0.9s,baz=299,slow=3.1,SNR=6.8
ZALV LR LR 03 41 13.6
comp=Z,1µm,21.7s,baz=118,slow=37
ZALV Zalesovo Beam 67.63 333 eP P 03 10 01.0 -2.1
ZAA1 Zalesovo Array 67.63 333 eP P 03 10 01.5 -1.7
SEY Seymchan 67.99 11⇑eP P 03 10 05.0 -0.2
KURBB Kurchatov Arra 68.68 328 PKP2bc **P'P'bc** **03 38 25.8 +1.3**
comp=Z,0.6nm,0.2s,baz=298,slow=4.0,SNR=5.1
KURK Kurchatov 68.68 328 eP P 03 10 09.0 -0.8
comp=Z,99nm,0.8s
KURK LR LR
comp=Z,700nm,20.0s
KURK Kurchatov 68.68 328 P P 03 10 09.2 -0.6
SNR=38
KURK Kurchatov 68.68 328 eP P 03 10 09.0 -0.8
KURK pmax pmax
comp=Z,99nm,0.8s
KURK MLR MLR
comp=Z,700nm,20.0s
NVS Novosibirsk 68.92 334 eP P 03 10 09.8 -1.4
NVS *e* 03 10 35.2
NVS eS **S** **03 19 08.4 -4.6**
NVS *e* 03 20 05.6
NVS pmax pmax
comp=N,55nm,1.3s
NVS pmax pmax
comp=Z,88nm,1.3s
NVS pmax pmax
comp=E,59nm,1.4s
NVS smax smax
comp=N,76nm,2.7s
NVS smax smax
comp=E,57nm,2.2s
IUG Iuzhnay 69.74 317⇑*i*P P 03 10 15.6 -1.1
comp=E,38nm,1.7s
IUG LR LR 03 42 24.0
comp=E,240nm,16.9s
KK31 Karatay Array 69.81 318 eP P 03 10 16.2 -0.8
KK31 Karatay Array 69.81 318 eP P 03 10 16.2 -0.8
KKAR Karatay Array 69.81 318 eP P 03 10 16.2 -0.8
KKAR Karatay Array 69.81 318 eP P 03 10 16.2 -0.8
BRZS Berezniki 71.55 325⇑*i*P P 03 10 26.6 -0.9
comp=E,62nm,1.5s
BRZS *e*PP **PP** **03 13 05.8 -0.8**
BRZS *e*S **S** **03 19 44.7 +0.5**
BRZS LR LR 03 42 25.1
comp=E,261nm,21.6s
WBK Wadi Bani Khal 73.01 295 P P 03 10 37.4 +0.7
WSAR Wadi Sarin 73.43 295 P P 03 10 38.8 -0.3
comp=E,18nm,0.9s,baz=124,slow=6.2,SNR=13
WSAR S **S** **03 20 00.9 -5.7**
comp=E,3.4nm,1.0s,baz=218,slow=15,SNR=1.7
WSAR Wadi Sarin 73.43 295 P P 03 10 38.9 -0.3
SNR=12
BIDO Bidbid 73.94 295 P P 03 10 41.9 -0.3
SNR=20
BVAR Borovoye Array 74.25 328 P P 03 10 42.8 -0.5
comp=E,17nm,0.8s,baz=128,slow=8.5,SNR=28
BVAR LR LR 03 46 51.2
comp=E,520nm,20.4s,baz=113,slow=39
BRVK Borovoye 74.32 328 eP P 03 10 42.9 -0.9
comp=E,65nm,0.9s
BRVK LR LR
comp=Z,900nm,22.0s
BRVK Borovoye 74.32 328 P P 03 10 42.7 -1.1
SNR=27
BRVK Borovoye 74.32 328*d* *i*P P 03 10 42.2 -1.6
BRVK pmax pmax
comp=Z,77nm,1.7s
BRVK MLR MLR
comp=Z,868nm,23.0s
TIXI Tiksi 74.46 360 LR LR 03 42 31.5
comp=Z,2µm,21.9s,baz=192,slow=35
TIXI Tiksi 74.46 360 eP P 03 10 42.8 -1.4
comp=Z,22nm,0.7s
TIXI LR LR
comp=Z,2µm,21.0s
TIXI Tiksi 74.46 360 eP P 03 10 42.8 -1.4
TIXI pmax pmax

TIXI MLR MLR
comp=Z,22nm,0.7s
BILL Bilibino 75.37 14 *e*P **P** 03 10 50.2 +0.7
comp=Z,2µm,21.0s
BILL LR LR
comp=Z,18nm,1.2s
BILL Bilibino 75.37 14 *e*P **P** 03 10 50.2 +0.7
comp=Z,1µm,20.0s
BILL pmax pmax
comp=Z,18nm,1.2s
UOSS Minazif 75.92 296 *e*P **P** 03 10 53.6 0.0
BILL MLR MLR
comp=Z,51nm,1.2s
UOSS Minazif 75.92 296 P **P** 03 10 52.3 -1.3
UOSS LR LR
comp=Z,600nm,21.0s
UOSS Minazif 75.92 296 P **P** 03 10 52.4 -1.2
HATD Hatta, Dubai 75.96 296 P **P** 03 10 53.4 -0.5
SNR=7.4
HATD Hatta, Dubai 75.96 296 *i* P **P** 03 10 53.1 -0.8
SNR=6.6
ASHO Ashiyiah 76.00 296 P **P** 03 10 53.8 -0.3
SNR=7.9
ASHO Ashiyiah 76.00 296 *i* P **P** 03 10 53.7 -0.5
SNR=5.5
MSFE Esma-Masafi 76.03 297 P **P** 03 10 53.9 -0.3
ALNE Al Ain 76.17 296 *i* P **P** 03 10 54.6 -0.5
SNR=5.8
NAZ Nazwa, Dubai 76.41 296 P **P** 03 10 55.3 -1.0
FAQ Al Faqa, Dubai 76.43 296 P **P** 03 10 55.8 -0.7
FAQ Al Faqa, Dubai 76.43 296 P **P** 03 10 55.6 -0.9
VNDA Vanda 76.54 173 P **P** 03 10 54.6 -1.5
comp=Z,4.7nm,0.6s,baz=239,slow=2.8,SNR=3.4
VNDA LR LR 03 43 41.2
comp=Z,2µm,20.8s,baz=342,slow=35
VNDA Vanda 76.54 173 *e*P **P** 03 10 54.9 -1.2
comp=Z,18nm,0.8s
VNDA Vanda 76.54 173 P **P** 03 10 54.6 -1.5
VNDA pmax pmax
comp=Z,2.0nm,0.5s
ASUD Al Ashush, Dub 76.65 296 P **P** 03 10 58.1 +0.3
ASUD Al Ashush, Dub 76.65 296 P **P** 03 10 58.0 +0.3
GEYT Alibeck 77.03 310 P **P** 03 10 59.2 -0.4
comp=Z,3.7nm,0.6s,baz=144,slow=5.5,SNR=10
GEYT LR LR 03 49 23.7
comp=Z,222nm,21.1s,baz=260,slow=39
GYA0B ALIBECK ARRAY 77.03 310 *e*P **P** 03 11 00.5 +0.8
comp=Z,32nm,1.0s
WHFO Wadi Hawf 77.10 289 P **P** 03 10 59.2 -1.3
SDHHI Sand Hill 77.32 70 PFAKE 03 11 10.0 +8.3
SDHHI LR LR
comp=Z,2µm,20.0s
NPH North Pit 77.33 69 PFAKE 03 11 10.0 +8.2
NPH LR LR
comp=Z,2µm,20.0s
SBA Scott Base 77.43 172 *e*P **P** 03 11 01.5 +0.4
comp=Z,26nm,1.1s
SBA Scott Base 77.43 172 *e*P **P** 03 11 01.5 +0.4
SBA pmax pmax
comp=Z,26nm,1.1s
NRIK Noril'sk 77.46 346 P **P** 03 11 01.6 +0.2
comp=Z,30nm,0.9s,baz=128,slow=5.9,SNR=17
NRIK LR LR 03 47 53.2
comp=Z,2µm,20.6s,baz=146,slow=38
ABTO Aybut 77.48 288 P **P** 03 11 03.8 +1.2
MAW Mawson 78.43 201 P **P** 03 11 06.2 -0.5
comp=Z,30nm,0.7s,baz=82,slow=4.5,SNR=17
MAW PKKPbc **PKKPbc** 03 30 03.4 -3.3
comp=Z,5.2nm,0.6s,baz=302,slow=12,SNR=3.6
MAW LR LR 03 43 46.8
comp=Z,1µm,19.6s,baz=70,slow=34
MAW Mawson 78.43 201 P **P** 03 11 06.2 -0.5
baz=78,SNR=15
MAW Mawson 78.43 201 *e*P **P** 03 11 06.3 -0.5
comp=Z,16nm,1.0s
ABKAR Akbulak array 78.88 321 *e*P **P** 03 11 08.3 -1.3
AKTO Aktyubinsk 80.42 322 P **P** 03 11 17.7 -0.2
comp=Z,12nm,0.5s,baz=104,slow=8.5,SNR=38
PAE Paea 80.72 107 *e*P **P** 03 11 22.7 +2.4
comp=Z,6.4nm,1.0s
PPT Papeete 80.73 107 LR LR 03 45 45.8
comp=Z,385nm,21.9s,baz=270,slow=35
PPT2 Papeete2 80.73 107 *e*P **P** 03 11 23.2 +2.8
comp=Z,56nm,1.2s
PPT2 Papeete2 80.73 107 *e*S **S** 03 21 30.2 +3.8
comp=Z,934nm,25.5s
PPT2 Papeete2 80.73 107 *e*LR LR 03 36 46.2
comp=Z,3µm,32.2s
TBI Tubuai 80.87 113 *e*PP PP 03 14 29.8 +4.1
TBI *e*S **S** 03 21 30.9 +3.4
comp=Z,810nm,26.0s
TBI Tubuai 80.87 113 *e*LR LR 03 36 53.1
comp=Z,2µm,31.5s
SVE Sverdlovsk 80.92 329 *e*P **P** 03 11 21.0 +0.5
SVE *e*S **S** 03 21 23.4 -3.3
SVE pmax pmax
comp=Z,72nm,1.0s
SVE MLR MLR
comp=Z,772nm,24.0s
TIAR Tiarei 80.95 107 *e*P **P** 03 11 24.2 +2.7
comp=Z,15nm,1.1s
TVO Taravao 81.04 107 *e*P **P** 03 11 24.7 +2.7
comp=Z,22nm,1.2s
SDPT Sand Point 81.35 33 *e*P **P** 03 11 24.7 +2.0
comp=Z,259nm,1.5s
ABPO Ambohimpanom 81.49 251 *e*P **P** 03 11 25.1 +0.5
comp=Z,90nm,1.6s
ABPO LR LR
comp=Z,1µm,18.0s
ABPO Ambohimpanom 81.49 251 *e*P **P** 03 11 25.1 +0.5
ABPO pmax pmax
comp=Z,90nm,1.6s
ABPO MLR MLR
comp=Z,1µm,18.0s
OPO Ambohidratompo 81.53 252 P **P** 03 11 24.8 0.0
comp=Z,18nm,0.7s,baz=89,slow=6.7,SNR=8.4
ANM Nome 82.33 23 *e*P **P** 03 11 29.8 +2.0
comp=Z,33nm,1.2s
ANM Nome 82.33 23 *e*P **P** 03 11 29.8 +2.0
ANM pmax pmax
comp=Z,33nm,1.2s
PMOR Pomariorio Ree 82.37 105 *e*P **P** 03 11 31.6 +2.6
comp=Z,90nm,1.3s
VAH Vaihoa 82.62 105 *e*P **P** 03 11 32.7 +2.4
comp=Z,54nm,1.3s
RAYN Ar Rayn 85.41 294 *e*P **P** 03 11 44.5 0.0
comp=Z,117nm,1.2s
RAYN LR LR
comp=Z,2µm,22.0s
RAYN Ar Rayn 85.41 294 *e*P **P** 03 11 44.5 0.0
RAYN pmax pmax
comp=Z,117nm,1.2s
RAYN MLR MLR
comp=Z,2µm,22.0s
SVW2 Sparrevohn 85.44 28 *e*P **P** 03 11 44.6 +0.8
comp=Z,27nm,0.9s
SVW2 LR LR
comp=Z,1µm,22.0s
OHAK Old Harbor 85.70 32 *e*P **P** 03 11 46.5 +1.4
comp=Z,58nm,1.0s
DAMY Dhamar 85.74 285 *e*P **P** 03 11 49.4 +2.8
comp=Z,99nm,1.4s
DAMY LR LR
comp=Z,800nm,20.0s
MAK Makhachkala 85.93 313 *e*P **P** 03 11 45.4 -1.2
MAK *e* 03 15 05.3
MAK *e* 03 22 08.2
MAK pmax pmax
comp=Z,118nm,1.6s
KDAK Kodiak Island 86.19 32 PFAKE 03 12 00.0 +12
KDAK LR LR
comp=Z,1µm,22.0s
QSPA South Pole Qui 87.01 180 *e*P **P** 03 11 51.3 -0.3
comp=Z,57nm,1.1s
ATD Arta Tunnel 87.04 282 P **P** 03 11 52.2 -0.5
comp=Z,14nm,0.8s,baz=52,slow=2.1,SNR=7.4
ATD Arta Tunnel 87.04 282 *e*P **P** 03 11 55.0 +2.3
comp=Z,41nm,1.1s
ATD LR LR
comp=Z,700nm,21.0s
GROC Groznyy 87.20 313 *e*P **P** 03 11 50.3 -2.5
GROC *e* 03 15 17.8
GROC *e*S **SKSac** 03 22 16.4 -1.5
GROC pmax pmax
comp=Z,145nm,1.6s

IM3 Indian Mountai 87.41 24 *e*P **P** 03 11 52.2 -1.1
PPLA Purkeypile 87.41 27 *e*P **P** 03 11 56.4 +2.8
comp=Z,21nm,1.0s
BRLK Bradley Lake 87.44 30 *e*P **P** 03 11 54.3 +0.7
comp=Z,84nm,1.3s
SKT Skwentna 87.53 28 PFAKE 03 12 10.0 +16
SKT LR LR
comp=Z,800nm,19.0s
CAST Castle Rocks 87.56 26 *e*P **P** 03 11 54.8 +0.7
comp=Z,9.9nm,0.8s
GNI Garni 87.66 310 *e*P **P** 03 11 57.5 +2.2
comp=Z,51nm,1.0s
GNI Garni 87.66 310 P **P** 03 11 56.1 +0.8
SNR=8.1
GNI Garni 87.66 310 *i* P **P** 03 11 55.4 +0.1
SNR=5.8
GNI Garni 87.66 310 *c i* P **P** 03 11 55.4 +0.1
GNI pmax pmax
comp=Z,108nm,1.7s
SUA Susitna One 87.81 28 *e*P **P** 03 11 56.1 +0.6
comp=Z,38nm,1.0s
TBLG Delisi 87.82 312 *e*P **P** 03 11 56.6 +0.7
comp=Z,65nm,1.0s
TBLG Delisi 87.82 312 *e*P **P** 03 11 56.6 +0.7
TBLG pmax pmax
comp=Z,65nm,1.0s
BPAW Bear Paw Mtn. 88.17 26 *e*P **P** 03 11 58.3 +1.2
comp=Z,9.7nm,0.9s
SEW Seward 88.20 30 PFAKE 03 12 10.0 +13
SEW LR LR
comp=Z,2µm,22.0s
RC01 Rabbit Creek A 88.22 29 *e*P **P** 03 11 57.1 -0.2
comp=Z,38nm,1.1s
RC01 LR LR
comp=Z,1µm,20.0s
TRF Thorofare Moun 88.36 26 *e*P **P** 03 11 58.5 +0.4
comp=Z,87nm,1.9s
MLY Manley 88.44 25 *e*P **P** 03 11 58.5 +0.2
comp=Z,14nm,1.1s
ZEI Tsey 88.55 313 *e*P **P** 03 11 59.9 +0.4
ZEI pmax pmax
comp=Z,49nm,1.0s
PMR Palmer 88.59 28 *e*P **P** 03 11 58.5 -0.5
comp=Z,26nm,1.2s
PMR LR LR
comp=Z,900nm,20.0s
PMR Palmer 88.59 28 *e*P **P** 03 11 58.5 -0.5
PMR pmax pmax
comp=Z,26nm,1.2s
PMR MLR MLR
comp=Z,900nm,20.0s
AKH Akhalkalaki 88.72 311 *e*P **P** 03 12 01.1 +0.8
comp=Z,97nm,1.3s
AKH LR LR
comp=Z,300nm,21.0s
AKH Akhalkalaki 88.72 311⇑ *i* P **P** 03 12 01.0 +0.6
NCK Nalchik 88.83 313⇓ *e*P **P** 03 12 01.3 +0.7
NCK pmax pmax
comp=Z,100nm,2.2s
RND Reindeer 88.99 26 *e*P **P** 03 12 00.3 -0.7
comp=Z,24nm,0.8s
RND Reindeer 88.99 26 *e*P **P** 03 12 00.3 -0.7
RND pmax pmax
comp=Z,24nm,0.8s
COLD Coldfoot 89.04 23 *e*P **P** 03 12 01.9 +0.8
comp=Z,6.8nm,0.8s
KBZ Khabaz 89.36 314 P **P** 03 12 02.3 -0.7
comp=Z,5.4nm,0.7s,baz=106,slow=5.2,SNR=17
KBZ LR LR 03 57 21.0
comp=Z,453nm,20.2s,baz=74,slow=39
GOF Gofitskoye 89.36 315 *e*P **P** 03 12 06.4 +3.4
GOF pmax pmax
comp=Z,30nm,0.4s
NEY Neytrino 89.45 313⇑ *e*P **P** 03 12 04.4 +0.7
NEY pmax pmax
comp=Z,3.0nm,1.0s
GLI Glacier Island 89.47 29 PFAKE 03 12 10.0 +6.8
GLI LR LR
comp=Z,1µm,21.0s
SCM Sheep Creek Mo 89.47 28 *e*P **P** 03 12 04.5 +1.2
comp=Z,32nm,1.0s
WRH Wood River Hil 89.48 25 *e*P **P** 03 12 02.5 -0.6
comp=Z,16nm,1.0s
MDM Murphy Dome 89.48 25 *e*P **P** 03 12 02.8 -0.4
comp=Z,8.8nm,1.0s
PRGR Permogore 89.52 332 *e*P **P** 03 12 02.2 -1.2
PRGR pmax pmax
comp=Z,22nm,0.8s
KIV Kislovodsk 89.53 314 *e*P **P** 03 12 07.2 +3.2
comp=Z,22nm,0.8s
KIV Kislovodsk 89.53 314 *e*P **P** 03 12 03.6 -0.4
KIV *e* 03 22 30.7
KIV *e*SS SS 03 28 51.1 +2.4
KIV pmax pmax
comp=Z,14nm,1.0s
DHY Denali Highway 89.61 27 *e*P **P** 03 12 04.2 +0.2
comp=Z,21nm,0.9s
CCB Clear Creek Bu 89.62 25 *e*P **P** 03 12 02.0 -1.8
comp=Z,12nm,0.9s
TCOL CIGO, UAF Yank 89.63 25 P **P** 03 12 03.9 +0.1
baz=262
FID Port Fidalgo 89.75 29 PFAKE 03 12 20.0 +15
FID LR LR
comp=Z,2µm,20.0s
POKR Poker Plat Res 89.84 25 P **P** 03 12 04.0 -0.9
baz=263
HDA Harding Lake 89.96 26 *e*P **P** 03 12 04.4 -1.0
comp=Z,11nm,0.8s
HDA Harding Lake 89.96 26 P **P** 03 12 04.3 -1.0
baz=263
ILAR Eielson Array 90.03 25 P **P** 03 12 04.1 -1.6
comp=Z,5.1nm,0.9s,baz=263,slow=4.2,SNR=41
ILAR PKKPbc **PKKPbc** 03 29 38.7 -0.8
comp=Z,0.7nm,0.8s,baz=45,slow=3.1,SNR=7.1
ILAR LR LR 03 49 06.1
comp=Z,579nm,20.6s,baz=264,slow=33
ILB Eielson Array 90.03 25 *e*P **P** 03 12 04.5 -1.2
KLU Klutina 90.10 29 *e*P **P** 03 12 07.5 +1.3
comp=Z,17nm,1.2s
KLU LR LR
comp=Z,1µm,22.0s
DIV Divide 90.14 29 *e*P **P** 03 12 07.3 +0.9
comp=Z,20nm,0.8s
DIV LR LR
comp=Z,2µm,21.0s
TAOE Nuku Hiva Isla 90.17 99 *e*S **S** 03 22 59.4 -0.2
comp=Z,325nm,27.9s
TAOE *e*SS **SS** 03 29 05.2 +5.8
comp=Z,538nm,27.9s
TAOE *e*LQ LQ 03 37 10.9
comp=Z,2µm,30.8s
TAOE *e*LR LR 03 40 56.8
comp=Z,2µm,24.8s
PAX Paxson 90.46 27 *e*P **P** 03 12 09.3 +1.4
comp=Z,56nm,1.7s
PAX Paxson 90.46 27 *e*P **P** 03 12 09.3 +1.4
PAX pmax pmax
comp=Z,56nm,1.7s
BMRM Bremner River 90.69 29 *e*P **P** 03 12 09.8 +0.9
comp=Z,96nm,2.0s
BMRM LR LR
comp=Z,2µm,22.0s
RIDG Independ'e Rid 90.81 26 *e*P **P** 03 12 09.4 0.0
comp=Z,21nm,0.9s
FYU Fort Yukon 90.90 24 *e*P **P** 03 12 10.7 +1.0
comp=Z,20nm,0.9s
FURI Furi 90.99 279 PFAKE 03 12 20.0 +8.3
FURI LR LR
comp=Z,1µm,21.0s
SCRK Sand Creek 91.21 26 *e*P **P** 03 12 11.9 +0.5
comp=Z,7.7nm,1.0s
TGL Tana Glacier 91.54 29 *e*P **P** 03 12 14.1 +1.2
comp=Z,24nm,0.9s
TGL LR LR
comp=Z,1µm,20.0s
KMBO Kilima Mbogo 91.91 269 P **P** 03 12 14.5 -1.4
comp=Z,4.3nm,0.9s,baz=94,slow=19,SNR=19
KMBO LR LR 03 50 19.1
comp=Z,2µm,20.9s,baz=92,slow=34
KMBO Kilima Mbogo 91.91 269 *e*P **P** 03 12 17.0 +1.1
comp=Z,26nm,1.4s
KMBO LR LR
comp=Z,2µm,21.0s
KMBO Kilima Mbogo 91.91 269 P **P** 03 12 16.8 +0.8
SNR=13
KMBO Kilima Mbogo 91.91 269 *i* P **P** 03 12 16.3 +0.4
SNR=5.5

KMBO Kilima Mbogo 91.91 269 *i* P **P** 03 12 14.3 -1.6
KMBO pmax pmax
comp=Z,4.0nm,0.9s
VORD Divnogorie 92.22 321 *e*P **P** 03 12 15.3 -0.9
VORD pmax pmax
comp=Z,10.0nm,1.4s
VSR Storozhevoye 92.31 321 *e*P **P** 03 12 16.1 -0.5
VSR pmax pmax
comp=Z,7.0nm,1.2s
NAI Nairobi 92.36 269 PFAKE 03 12 30.0 +12
NAI LR LR
comp=Z,2µm,21.0s
KLMR Klimovskoe 92.41 331 *e*P **P** 03 12 14.0 -2.7
KLMR pmax pmax
comp=Z,10.0nm,0.7s
KLMR Klimovskoe 92.41 331 *e*P **P** 03 12 14.1 -2.7
KLMR AMP 03 12 21.2
comp=Z,10.0nm,0.7s
EGAK Eagle 92.48 25 *e*P **P** 03 12 17.9 +0.8
comp=Z,13nm,0.9s
LPSR Galich'ya Gora 92.50 322 *e*P **P** 03 12 17.3 -0.1
LPSR pmax pmax
comp=Z,10.0nm,1.0s
DAWY Dawson 93.23 26 *e*P **P** 03 12 21.4 +0.7
comp=Z,20nm,1.1s
MOS Moscow 93.32 326 *e*P **P** 03 12 17.1 -4.0
MOS *e*S **SKSac** 03 22 48.7 -4.0
MOS *e* 03 23 24.7
MOS pmax pmax
comp=Z,34nm,0.7s
ANN Anapa 93.33 315 *e*P **P** 03 12 20.6 -0.8
ANN *e**PP **pP** 03 12 32.5 +0.1
ANN *e*S **SKSac** 03 22 52.2 -1.1
ANN pmax pmax
comp=Z,36nm,0.9s
ASF Jabal al Asfar 93.52 302 P **P** 03 12 22.2 -0.6
comp=Z,3.7nm,0.9s,baz=54,slow=1.7,SNR=5.7
OBN Obninsk 93.92 325 PFAKE 03 12 40.0 +16
OBN LR LR
comp=Z,900nm,20.0s
OBN Obninsk 93.92 325⇓ *e*P **P** 03 12 24.5 +0.6
OBN *e* 03 16 10.3
OBN *i* SS SS 03 29 49.6 -1.4
OBN pmax pmax
comp=Z,12nm,0.6s
OBN MLR MLR
comp=Z,911nm,23.0s
HYT Haines Junctio 94.15 29 *e*P **P** 03 12 25.7 +0.7
comp=Z,25nm,1.2s
RKT Rikitea 94.19 113 *e*LR LR 03 43 05.1
comp=Z,1µm,31.5s
EPYK Eagle Plains 94.31 24 P **P** 03 12 25.3 -0.3
baz=272
MMAI Mount Meron Ar 94.80 303 P **P** 03 12 28.7 +0.1
comp=Z,0.9nm,0.6s,baz=101,slow=4.6,SNR=5.8
APA Apatity 94.93 337⇓ *i* P P 03 12 33.7 +5.4
APA pmax pmax
comp=Z,10.0nm,0.9s
APA MLR MLR
comp=Z,800nm,16.0s
EIL Elat 95.16 299 P **P** 03 12 29.6 -0.6
comp=Z,4.6nm,0.8s,baz=350,slow=0.4,SNR=4.2
INK Inuvik 95.41 22 *e*P **P** 03 12 30.2 -0.2
comp=Z,18nm,1.1s
INK Inuvik 95.41 22 *e*P **P** 03 12 30.2 -0.2
INK pmax pmax
comp=Z,18nm,1.1s
SIM Simferopol' 95.69 315 P **P** 03 12 32.7 +0.4
SIM 03 23 06.2
SIM S **S** 03 23 44.6 -2.7
SIM pmax pmax
comp=Z,19nm,0.8s
ILGA Ilgaz 96.08 311 PFAKE 03 12 50.0 +16
ILGA LR LR
comp=Z,800nm,22.0s
BR101 Keskin Array S 96.17 309 *e*P **P** 03 12 33.5 -1.3
BR101 *e*PP **PP** 03 16 29.6 +1.5
BR131 Keskin Array S 96.17 309 *e*P **P** 03 12 34.8 0.0
BRTR Keskin Array B 96.17 309 P **P** 03 12 33.5 -1.3
comp=Z,1.8nm,0.9s,baz=138,slow=5.2,SNR=11
BRTR PP **PP** 03 16 29.6 +1.5
comp=Z,1.6nm,0.9s,baz=113,slow=8.2,SNR=4.2
BRTR LR LR 04 02 58.4
comp=Z,288nm,21.1s,baz=72,slow=40
BRTR Keskin Array B 96.17 309 *i* P **P** 03 12 34.7 0.0
BRTR pmax pmax
comp=Z,2.0nm,0.9s
CSS Mathiatis 96.51 305 PFAKE 03 12 50.0 +14
CSS LR LR
comp=Z,700nm,20.0s
ANTO Ankara 96.82 310 PFAKE 03 12 50.0 +12
ANTO LR LR
comp=Z,400nm,20.0s
ARA0 ARCESS Array S 97.53 340 *e*P **P** 03 12 39.5 -0.6
ARCES ARCESS Array B 97.53 340 P **P** 03 12 39.5 -0.6
comp=Z,2nm,0.6s,baz=75,slow=6.6,SNR=18
ARCES ARCESS Array B 97.53 340 *e*P **P** 03 12 40.0 -0.1
KBS Kingsbay 97.96 350 PFAKE 03 12 50.0 +8.1
KBS LR LR
comp=Z,1µm,21.0s
MBAR Mbarara 98.45 269 PFAKE 03 13 00.0 +14
MBAR LR LR
comp=Z,600nm,19.0s
AKASG Malin Array Be 98.61 321 P **P** 03 12 43.3 -2.0
comp=Z,0.2nm,0.2s,baz=75,slow=4.7,SNR=4.0
AKBB Malin Array Si 98.61 321 *e*P **P** 03 12 43.3 -2.0
comp=Z,20nm,1.8s
AKBB LR LR
comp=Z,600nm,22.0s
AKBB Malin Array Si 98.61 321 *e*P **P** 03 12 43.3 -2.0
AKBB pmax pmax
comp=Z,20nm,1.8s
AKBB MLR MLR
comp=Z,600nm,22.0s
KIEV Kiev 98.62 321 PFAKE 03 13 00.0 +15
KIEV LR LR
comp=Z,600nm,22.0s
ISP Isparta 98.67 308 PFAKE 03 13 00.0 +14
ISP LR LR
comp=Z,600nm,22.0s
FIA0 FINESS Array S 98.85 332 *e*P **P** 03 12 43.9 -2.3
FIA0 FINESS Array S 98.85 332 *e*P **P** 03 12 43.9 -2.3
FINES FINESS Array B 98.85 332 P **P** 03 12 43.9 -2.3
comp=Z,2.4nm,0.7s,baz=82,slow=2.9,SNR=5.8
FINES PKiKP **PKiKP** 03 17 17.1 +0.1
comp=Z,2.0nm,0.8s,baz=93,slow=2.8,SNR=2.9
FINES LR LR 04 02 48.5
comp=Z,609nm,19.1s,baz=84,slow=39
MATP Matopo 99.01 249 P **Pdif** 03 12 47.2 -0.8
comp=Z,3.3nm,0.8s,baz=120,slow=5.2,SNR=5.7
MATP PP **PP** 03 16 48.2 -2.2
comp=Z,3.7nm,1.0s,baz=96,slow=9.7,SNR=4.5
VSU Vasula 99.03 329⇑ *e*P **Pdif** 03 12 46.3 -0.7
VSU pmax pmax
comp=Z,75nm,1.4s
VSU MLR MLR
comp=Z,2µm,22.0s
SNAA Sanae 99.40 194 Pdiff **Pdif** 03 12 47.9 -0.6
SNAA Sanae 99.40 194 *e*P **Pdif** 03 12 48.1 -0.5
comp=Z,27nm,1.6s
SNAA LR LR
comp=Z,1µm,21.0s
SNAA Sanae 99.40 194⇑ *e*P **Pdif** 03 12 47.7 -0.8
TIRR Tirgusor 99.78 314 PFAKE 03 13 00.0 +9.3
TIRR LR LR
comp=Z,300nm,20.0s
LSZ Lusaka 99.86 254 P **Pdif** 03 12 50.5 -1.3
comp=Z,5.1nm,0.7s,baz=89,slow=4.5,SNR=14
LSZ PP **PP** 03 16 55.2 -1.7
comp=Z,1.6nm,0.8s,baz=98,slow=9.4,SNR=3.5
LSZ Lusaka 99.86 254 *e*Pdif **Pdif** 03 12 50.5 -1.3
LSZ *e*PP **PP** 03 16 55.2 -1.7
LSZ LR LR
comp=Z,1µm,20.0s
LSZ Lusaka 99.86 254 *e*P **Pdif** 03 12 50.5 -1.3
LSZ *e* 03 16 55.2
LSZ MLR MLR
comp=Z,1µm,20.0s
CFR Carcaliu 99.90 315⇑ *i* P **Pdif** 03 12 53.2 +2.0
CFR Carcaliu 99.90 315⇑ P **Pdif** 03 12 53.2 +2.0
VRI Vrincioaia 100.81 316⇑ *i* P **Pdif** 03 12 55.3 0.0
VRI Vrincioaia 100.81 316⇑ P **Pdif** 03 12 55.3 0.0
BOSA Boshof 100.82 240 P **Pdif** 03 12 55.5 -0.3
comp=Z,5.8nm,0.8s,baz=91,slow=4.3,SNR=7.7
PLOR Plostina 100.86 316⇑ *i* P **Pdif** 03 13 00.2 +4.6

PLOR Plostina 100.86 316 ⇑P Pdif 03 13 00.2 +4.6
VNA2 Neumayer--Watz 100.98 193 Pdiff Pdif 03 12 55.9 +0.4
baz=138,slow=3.2
BIZ Bicaz 101.10 317 ⇑P Pdif 03 12 56.9 +0.4
VNA3 Neumayer Olymp 101.26 193 Pdiff Pdif 03 12 57.0 +0.3
MLR Muntele Rosu 101.40 316 ePdif Pdif 03 12 57.1 -1.0
MLR LR LR
comp=Z,600nm,22.0s
MLR Muntele Rosu 101.40 316 ⇑P Pdif 03 12 58.3 +0.2
MLR Muntele Rosu 101.40 316 eP Pdif 03 12 57.1 -1.0
MLR MLR MLR
comp=Z,600nm,22.0s
BURAR Bucovina Array 101.60 318 ⇑P Pdif 03 12 58.4 -0.5
BURAR Bucovina Array 101.60 318 ⇑P Pdif 03 12 58.4 -0.5
BUR04 Bucovina Ar. S 101.61 318 ePdif Pdif 03 12 58.9 -0.1
BUR08 Bucovina Ar. S 101.61 318 ePdif Pdif 03 12 59.5 +0.5
SUW Suwalki 101.78 325 PFAKE 03 13 10.0 +11
SUW LR LR
comp=Z,1μm,22.0s
ALN Alexandroupoli 101.88 311 PFAKE 03 13 10.0 +10
ALN LR LR
comp=Z,300nm,21.0s
VOIR 102.03 316 ⇓P Pdif 03 13 06.3 +5.5
VOIR 102.03 316 ⇓P Pdif 03 13 06.3 +5.5
ARR Arges 102.33 316 ⇑P Pdif 03 13 01.7 -0.4
SANT Santorini 102.82 306 PFAKE 03 13 20.0 +16
SANT LR LR
comp=Z,500nm,22.0s
UZH Uzhgorod 103.36 319 eP Pdif 03 13 06.6 +0.1
IDI Anoyia 103.39 305 PFAKE 03 13 20.0 +13
IDI LR LR
comp=Z,400nm,22.0s
DRGR 103.42 317 ⇑P Pdif 03 13 06.8 -0.2
DRGR 103.42 317 ⇑P Pdif 03 13 06.8 -0.2
VTS Vitosha 103.76 313 PFAKE 03 13 20.0 +11
VTS LR LR
comp=Z,300nm,21.0s
VTS Vitosha 103.76 313 ⇑P Pdif 03 13 14.7 +6.0
VTS Vitosha 103.76 313 ⇑P Pdif 03 13 14.7 +6.0
YKA Yellowknife Ar 104.46 25 Pdiff Pdif 03 13 13.2 +2.1
comp=Z,0.7nm,0.8s,baz=296,slow=4.8,SNR=4.0
YKA PKiKP PKiKP 03 17 25.8 -1.3
comp=Z,0.8nm,0.8s,baz=292,slow=2.1,SNR=4.2
YKA PKKPbc PKKPbc 03 28 58.1 -1.5
comp=Z,1.2nm,0.9s,baz=108,slow=2.9,SNR=4.9
YKB5 Yellowknife Ar 104.46 25 ePdif Pdif 03 13 13.2 +2.1
YKB5 ePKiKP PKiKP 03 17 26.9 -0.2
YKB5 ePKKPbc PKKPbc 03 28 58.1 -1.5
LIT Litokhoron 104.67 311 PFAKE 03 13 20.0 +7.4
LIT LR LR
comp=Z,500nm,22.0s
AGG Agios Georgios 104.96 310 PFAKE 03 13 30.0 +16
AGG LR LR
comp=Z,400nm,22.0s
PSZ Piszkesteto 105.08 319 PFAKE 03 17 40.0
PSZ LR LR
comp=Z,900nm,21.0s
VYHS Vyhne 105.64 320 ePP PP 03 17 42.7 +3.6
WDC Whiskeytown Da 105.73 49 PFAKE 03 17 40.0
WDC LR LR
comp=Z,2μm,21.0s
OKC Ostrava-Krasne 105.75 321 AMS AMS 04 11 20.0
comp=Z,700nm,22.3s
DIVS Divibare 105.81 315 PFAKE 03 17 40.0
DIVS LR LR
comp=Z,400nm,20.0s
GDXM Geysers 105.82 51 PFAKE 03 17 40.0
GDXM LR LR
comp=Z,2μm,20.0s
NB2 NORSAR Subarra 105.83 333 P Pdif 03 13 14.8 -2.5
comp=Z,11nm,1.4s,baz=68,slow=4.6
NB2 NORSAR Subarra 105.83 333 P Pdif 03 13 14.8 -2.5
baz=68,slow=4.6
NB200 NORSAR Array S 105.83 333 ePdif Pdif 03 13 14.9 -2.3
NOA NORSAR Array B 105.83 333 Pdiff Pdif 03 13 14.9 -2.3
comp=Z,1.2nm,0.8s,baz=68,slow=4.7,SNR=5.0
NOA NORSAR Array B 105.83 333 P Pdif 03 13 15.0 -2.3
MORC Moravsky Berou 106.14 321 PFAKE 03 17 40.0
MORC LR LR
comp=Z,600nm,22.0s
TIR Tirane 106.43 312 PFAKE 03 17 40.0
TIR LR LR
comp=Z,900nm,22.0s
TTG Podgorica 106.67 313 PFAKE 03 17 40.0
TTG LR LR
comp=Z,400nm,22.0s
DPC Dobruska-Polom 106.75 322 eSDIF Sdif 03 25 22.2 +2.0
DPC AMS AMS 04 08 00.0
comp=Z,800nm,21.8s
UPC Upice 106.89 322 eSDIF Sdif 03 25 24.8 +3.4
UPC AMS AMS 04 07 40.0
comp=Z,1μm,19.2s
KONO Kongsberg 107.14 332 PFAKE 03 17 40.0
KONO LR LR
comp=Z,1μm,21.0s
BEKR Beckworth 107.50 49 PFAKE 03 17 50.0
BEKR LR LR
comp=Z,1μm,20.0s
TREC Trest 107.56 321 AMS AMS 04 05 10.0
comp=Z,800nm,22.3s
PVCC Panska Ves 107.77 322 AMS AMS 04 06 40.0
comp=Z,800nm,21.8s
PMPB Monarch Peak 107.81 53 PFAKE 03 17 50.0
PMPB LR LR
comp=Z,1μm,18.0s
GOPC GO Pecny, Ondr 107.82 322 eSDIF Sdif 03 25 33.2 +4.1
GOPC AMS AMS 04 08 30.0
comp=Z,700nm,20.3s
PRA Prague 107.99 322 AMS AMS 04 15 00.0
comp=Z,700nm,16.7s
BRG Berggiesshubel 108.04 323 e(P) PP 03 17 49.3 -7.4
comp=Z,3.6nm,1.1s
comp=Z,861nm,21.0s
comp=N,558nm,16.7s
comp=E,442nm,16.7s
VCNR Virginia City 108.15 50 PFAKE 03 17 50.0
VCNR LR LR
comp=Z,900nm,20.0s
PNTR Pine Nut 108.22 50 PFAKE 03 17 50.0
PNTR LR LR
comp=Z,900nm,20.0s
CLL Collm 108.46 324 PFAKE 03 17 50.0
CLL LR LR
comp=Z,1μm,20.0s
CLL Collm 108.46 324 ePP PP 03 18 02.0 +2.3
CLL eSKSac SKSac 03 24 07.0 +0.5
CLL eSdif Sdif 03 25 34.0 -0.4
CLL eSP SP 03 27 17.0 -2.9
CLL ePS PS 03 27 32.0 +7.1
CLL ePPS PPS 03 28 21.0
CLL eSS SS 03 33 12.0 -1.0
CLL eSSS SSS 03 37 18.0
CLL e 03 43 24.0
CLL Lm MLR 04 11 00.0
comp=N,600nm,19.9s
CLL Lm MLR 04 11 00.0
comp=E,500nm,21.1s
CLL Lm MLR 04 11 00.0
comp=Z,1μm,19.3s
YERR Yerington 108.52 50 PFAKE 03 17 50.0
YERR LR LR
comp=Z,900nm,20.0s
KHC Kasperske Hory 108.81 321 PFAKE 03 17 50.0
KHC LR LR
comp=Z,300nm,22.0s
KHC Kasperske Hory 108.81 321 ePKP PKiKP 03 17 37.6 +1.9
KHC eSDIF 03 25 40.5
KHC AMS AMS 04 06 30.0
comp=Z,800nm,21.8s
GEC2 GERESS Array 5 108.82 321 PFAKE 03 17 50.0
GEC2 LR LR
comp=Z,600nm,20.0s
GERES GERESS Array B 108.82 321 PKiKP PKiKP 03 17 36.0 +0.2
comp=Z,1.7nm,0.8s,baz=80,slow=1.4,SNR=7.7
GERES PKKP PKKPdf 03 29 01.1 +0.4
comp=Z,0.6nm,0.8s,baz=243,slow=1.8,SNR=3.8
RYN Ryan 109.14 50 PFAKE 03 17 50.0
RYN LR LR
comp=Z,1μm,19.0s
NKC Novy Kostel 109.15 323 AMS AMS 04 15 10.0
comp=Z,900nm,20.1s
NV01 Mina Array Sit 109.35 50 ePdif Pdif 03 13 34.4 +0.7
NV01 ePKiKP PKiKP 03 17 37.6 +0.3
NVAR Mina Array Bea 109.35 50 Pdiff Pdif 03 13 34.4 +0.7
comp=Z,0.5nm,0.8s,baz=271,slow=5.9,SNR=2.6
NVAR PKiKP PKiKP 03 17 37.6 +0.3
comp=Z,0.9nm,0.9s,baz=278,slow=3.1,SNR=4.1
NVAR PKKPbc PKKPbc 03 28 42.8 -1.2
comp=Z,0.6nm,0.7s,baz=122,slow=5.4,SNR=4.2
TSUM Tsumeb 109.36 249 PFAKE 03 17 50.0
TSUM LR LR
comp=Z,1μm,22.0s
CUC Castrocucco 109.72 312 PFAKE 03 17 50.0
CUC LR LR
comp=Z,300nm,22.0s
BMN Battle Mountai 109.73 48 PFAKE 03 17 50.0
BMN LR LR
comp=Z,1μm,22.0s
ABTA Abfaltersbach 110.23 319 ePKiKP PKiKP 03 17 38.0 -0.5
comp=Z,3.5nm,0.8s
PASC Pasadena Art C 110.28 55 PFAKE 03 17 50.0
PASC LR LR
comp=Z,1μm,20.0s
WTTA Wattenberg 110.63 320 ePKiKP PKiKP 03 17 39.7 +0.3
comp=Z,7.8nm,0.9s
WATA Walderalm 110.65 320 ePKiKP PKiKP 03 17 37.0 -2.3
comp=Z,1.5nm,0.5s
SQTA Sankt Quirin 110.92 320 ePKiKP PKiKP 03 17 40.8 +1.0
comp=Z,2.4nm,0.8s
MOTA Moosalm 110.95 320 ePKiKP PKiKP 03 17 40.6 +0.7
comp=Z,1.3nm,0.4s
FETA Feichten 111.30 320 ePKiKP PKiKP 03 17 41.8 +1.2
comp=Z,7.3nm,1.3s
STU Stuttgart 111.65 322 PFAKE 03 17 50.0
STU LR LR
comp=Z,800nm,22.0s
FUORN Ofenpass-Fuorn 111.73 320 PFAKE 03 17 50.0
FUORN LR LR
comp=Z,900nm,21.0s
DAVA Damuels 111.75 320 ePKiKP PKiKP 03 17 42.2 +0.8
comp=Z,0.9nm,0.5s
DAVOX Davos/Dischmat 111.93 320 PKiKP PKiKP 03 17 41.5 -0.3
comp=Z,4.9nm,0.8s,baz=236,slow=8.5,SNR=7.1
SHPR Sheep Range 112.21 52 PFAKE 03 17 50.0
SHPR LR LR
comp=Z,1μm,20.0s
CLTB Caltabellotta 112.27 310 PFAKE 03 17 50.0
CLTB LR LR
comp=Z,500nm,21.0s
TUE Stuetta 112.38 320 PFAKE 03 17 50.0
TUE LR LR
comp=Z,800nm,22.0s
Y14A Wickenburg 114.53 54 PFAKE 03 18 00.0 +13
Y14A LR LR
comp=Z,1μm,20.0s
PD31 Pinedale Array 114.56 44 ePKiKP PKPdf 03 17 47.4 +0.3
PDAR Pinedale Array 114.56 44 PKP PKPdf 03 17 47.4 +0.3
comp=Z,3.5nm,1.2s,baz=191,slow=1.5,SNR=6.9
PDAR PKKPbc PKKPbc 03 28 25.1 -1.7
comp=Z,0.6nm,0.5s,baz=114,slow=4.7,SNR=5.8
BNI Bardonecchia 114.64 319 PFAKE 03 18 00.0 +13
BNI LR LR
comp=Z,1μm,20.0s
KEST Kesra 115.75 308 PKP PKPdf 03 17 48.2 -1.1
comp=Z,2.1nm,0.7s,baz=108,slow=4.0,SNR=4.0
KEST Kesra 115.75 308 ePKPdf PKPdf 03 17 48.2 -1.1
KEST LR LR
comp=Z,500nm,20.0s
PV23 Carpenter Ridg 116.38 48 ePKPdf PKPdf 03 17 53.8 +3.1
PV10 Paradox Valley 116.39 48 ePKPdf PKPdf 03 17 52.0 +1.3
O20A White River Ci 116.39 46 ePKPdf PKPdf 03 17 51.3 +0.6
PV14 Lion Creek, Pa 116.40 48 ePKPdf PKPdf 03 17 52.0 +1.2
PV17 East Wray Mesa 116.47 48 ePKPdf PKPdf 03 17 51.8 +0.9
PV11 David Mesa, Pa 116.53 48 ePKPdf PKPdf 03 17 53.8 +2.9
RWWY Rawlins 116.57 44 ePKPdf PKPdf 03 17 52.0 +1.0
PV13 Radium Mtn., P 116.62 48 ePKPdf PKPdf 03 17 52.8 +1.6
PV02 Paradox Valley 116.66 48 ePKPdf PKPdf 03 17 53.0 +1.8
K22A Casper 116.69 43 ePKPdf PKPdf 03 17 52.0 +1.0
TUC Tucson 116.73 55 ePKPdf PKPdf 03 17 52.8 +1.4
TUC Tucson 116.73 55 ePKIKP PKPdf 03 17 52.8 +1.4
PV01 Paradox Valley 116.81 48 ePKPdf PKPdf 03 17 52.4 +0.9
W18A Petrified Fore 116.83 52 PFAKE 03 18 00.0 +8.4
W18A LR LR
comp=Z,1μm,19.0s
MVCO Mesa Verde 117.16 49 ePKPdf PKPdf 03 17 53.8 +1.6
SMCO Snowmass 117.64 47 PFAKE 03 18 10.0 +17
SMCO LR LR
comp=Z,1μm,22.0s
RSSD Black Hills 117.75 41 ePKPdf PKPdf 03 17 53.1 0.0
RSSD Black Hills 117.75 41 ePKIKP PKPdf 03 17 53.1 0.0
S22A 4UR Ranch, Cre 118.24 48 ePKPdf PKPdf 03 17 56.1 +1.7
ISCO Idaho Springs 118.40 46 ePKPdf PKPdf 03 17 56.1 +1.5
SDCO Great Sand Dun 119.23 48 ePKPdf PKPdf 03 17 57.5 +1.3
ANMO Albuquerque 119.45 51 ePKPdf PKPdf 03 17 57.7 +1.1
ANMO Albuquerque 119.45 51 ⇓PKIKP PKPdf 03 17 58.1 +1.5
ANMO pmax pmax
comp=Z,7.0nm,1.0s
ULM Lac du Bonnet 119.45 31 PKP PKPdf 03 17 55.4 -0.5
comp=Z,2.3nm,0.8s,baz=296,slow=3.5,SNR=3.3
ULM PKKPbc PKKPbc 03 28 07.4 -2.0
comp=Z,2.4nm,0.8s,baz=64,slow=2.3,SNR=4.5
T25A Trinidad 120.25 48 ePKPdf PKPdf 03 17 59.6 +1.4
KSCO Kaye Shedlock' 120.83 46 ePKPdf PKPdf 03 18 00.2 +1.1
MNTX Cornudas Mount 121.31 54 ePKPdf PKPdf 03 18 01.4 +1.3
TAM Tamanrasset 122.08 295 ePKPdf PKPdf 03 18 03.0 +1.1
TAM LR LR
comp=Z,800nm,22.0s
TAM Tamanrasset 122.08 295 ePKIKP PKPdf 03 18 03.0 +1.1
TAM MLR MLR
comp=Z,800nm,22.0s
HPIG 122.39 60 ePKPdf PKPdf 03 18 02.9 +0.4
MSTX Muleshoe 122.64 51 ePKPdf PKPdf 03 18 03.2 +0.5
ECSD EROS Data Cent 122.65 38 ePKPdf PKPdf 03 18 01.4 -0.8
BGNE Belgrade 122.84 41 ePKPdf PKPdf 03 18 02.7 -0.1
AMTX Amarillo 123.14 50 ePKPdf PKPdf 03 18 04.5 +0.9
TX31 Lajitas Ar. Si 123.43 57 ePKPdf PKPdf 03 18 04.8 +0.4
TX31 ePKPdf PKiKP 03 18 05.1 +0.5
LTX Lajitas 123.43 57 ePKPdf PKPdf 03 18 04.0 -0.3
LTX Lajitas 123.43 57 ePKIKP PKPdf 03 18 04.0 -0.3
TXAR Lajitas Array 123.43 57 PKP PKPdf 03 18 04.0 -0.3
comp=Z,2.3nm,0.8s,baz=225,slow=1.3,SNR=24
TXAR PKKPbc PKKPab 03 27 52.6 -0.8
comp=Z,0.6nm,0.6s,baz=113,slow=5.2,SNR=10
TXAR Lajitas Array 123.43 57 PKIKP PKPdf 03 18 04.0 -0.3
ES19 SONSECA Array 124.00 317 ePKPdf PKPdf 03 18 05.1 0.0
ESDC Sonseca Array 124.05 317 PKP PKPdf 03 18 04.8 -0.4
comp=Z,0.5nm,0.5s,baz=46,slow=2.0,SNR=6.0
PBRG Braganca 124.80 321 ePKPdf PKPdf 03 18 06.3 -0.2
KSU1 Kansas State U 124.99 43 ePKPdf PKPdf 03 18 07.5 +0.6
MVO Moncorvo 125.32 320 ePKPdf PKPdf 03 18 18.7 +11
MVO Moncorvo 125.32 320 eLQ LQ 04 01 57.9
MVO eLR LR 04 10 14.6
comp=Z,602nm,20.0s
WMOK Wichita Mounta 125.39 49 ePKPdf PKPdf 03 18 08.1 +0.2
WMOK Wichita Mounta 125.39 49 ePKIKP PKPdf 03 18 08.1 +0.2
I39A Houston 125.63 36 ePKPdf PKPdf 03 18 07.2 -0.8
PGAV Gavieira, Arco 125.67 322 ePKPdf PKPdf 03 18 17.6 +9.3
POLO Lamas de Olo 125.70 321 ePKPdf PKPdf 03 18 13.5 +5.2
MTE Manteigas 126.06 320 eLQ LQ 04 02 47.9
MTE Manteigas 126.06 320 eLR LR 04 15 49.8
comp=Z,542nm,20.0s
ZAIG Zacatecas 126.14 64 PFAKE 03 18 20.0 +10
ZAIG LR LR
comp=Z,1μm,22.0s
JCT Junction City 126.23 54 ePKPdf PKPdf 03 18 10.0 +0.4
JCT Junction City 126.23 54 ePKIKP PKPdf 03 18 10.0 +0.4
PCBR Castelo Branco 126.31 319 ePKPdf PKPdf 03 18 10.4 +1.0
PMRV Marv??o 126.47 319 ePKPdf PKPdf 03 18 22.9 +13
PCAS Casmilo, Conde 126.86 320 ePKPdf PKPdf 03 18 12.6 +2.1
PESTR Estremoz 126.90 318 ePKPdf PKPdf 03 18 11.9 +1.3
PTOM Tomar 127.04 319 ePKPdf PKPdf 03 18 15.1 +4.3
TOC2 Torodi Ar. Sit 127.14 284 PFAKE 03 18 20.0 +8.3
TOC2 LR LR
comp=Z,900nm,20.0s
TOC3 Torodi Ar. Sit 127.15 284 PFAKE 03 18 20.0 +8.3
TOC3 LR LR
comp=Z,1μm,20.0s
TOB2 Torodi Ar. Sit 127.16 284 PFAKE 03 18 20.0 +8.3
TOB2 LR LR
comp=Z,900nm,20.0s
TOC1 Torodi Ar. Sit 127.16 284 PFAKE 03 18 20.0 +8.3
TOC1 LR LR
comp=Z,1μm,19.0s
TOB3 Torodi Ar. Sit 127.16 284 PFAKE 03 18 20.0 +8.3
TOB3 LR LR
comp=Z,900nm,19.0s
TOC4 Torodi Ar. Sit 127.17 284 PFAKE 03 18 20.0 +8.3
TOC4 LR LR
comp=Z,900nm,20.0s
TOA0 Torodi Ar. Sit 127.17 284 ePKPdf PKPdf 03 18 10.8 -0.9
TOA0 ePKPdf PKiKP 03 18 12.3 +0.1
TOA0 LR LR
comp=Z,900nm,19.0s
TORD Torodi Ar. Bea 127.17 284 PKP PKPdf 03 18 10.7 -1.0
comp=Z,11nm,1.0s,baz=77,slow=1.4,SNR=30
TOA1 Torodi Ar. Sit 127.17 284 ePKPdf PKPdf 03 18 10.7 -1.0
TOA1 LR LR
comp=Z,900nm,20.0s
TOB4 Torodi Ar. Sit 127.18 284 PFAKE 03 18 20.0 +8.3
TOB4 LR LR
comp=Z,900nm,19.0s
TOB5 Torodi Ar. Sit 127.18 284 PFAKE 03 18 20.0 +8.3
TOB5 LR LR
comp=Z,800nm,19.0s
TOC7 Torodi Ar. Sit 127.19 284 PFAKE 03 18 20.0 +8.3
TOC7 LR LR
comp=Z,800nm,19.0s
TOC5 Torodi Ar. Sit 127.19 284 PFAKE 03 18 20.0 +8.3
TOC5 LR LR
comp=Z,1μm,19.0s
833A Chaparral WMA, 127.31 56 ePKPdf PKPdf 03 18 14.1 +2.5
EVO Evora 127.35 318 ePKPdf PKPdf 03 18 16.8 +5.4
MDT Midelt 127.59 310 PKP PKPdf 03 18 11.9 -0.3
comp=Z,4.4nm,0.9s,baz=291,slow=2.3,SNR=7.1
PVAQ Vaqueiros 127.73 317 eLQ LQ 04 09 39.4
PVAQ eLR LR 04 17 55.4
comp=Z,685nm,20.0s
MESJ Messejana 127.85 317 ePKPdf PKPdf 03 18 16.1 +3.7
MOIG Morelia 128.08 67 PFAKE 03 18 30.0 +16
MOIG LR LR
comp=Z,1μm,22.0s
LNIG Linares 128.32 60 PFAKE 03 18 30.0 +16
LNIG LR LR
comp=Z,1μm,21.0s
JRQG Juriquilla Cam 128.53 66 PFAKE 03 18 30.0 +16
JRQG LR LR
comp=Z,2μm,21.0s
P42A Winchester 128.85 39 ePKPdf PKPdf 03 18 15.1 +0.8
W39A Magazine 128.86 46 ePKPdf PKPdf 03 18 15.5 +1.1
CCM Cathedral Cave 129.13 41 ePKPdf PKPdf 03 18 15.5 +0.6
MIAR Mount Ida 129.32 46 ePKPdf PKPdf 03 18 16.6 +1.3
FVM French Village 129.71 41 ePKPdf PKPdf 03 18 17.1 +1.2
T42A Van Buren 129.79 42 ePKPdf PKPdf 03 18 17.2 +1.1
UNM Universidad Na 130.01 67 PFAKE 03 18 30.0 +13
UNM LR LR
comp=Z,800nm,22.0s
TLIG Tlapa 130.95 69 PFAKE 03 18 30.0 +11
TLIG LR LR
comp=Z,1μm,21.0s
LVIG Laguna Verde 132.44 66 PFAKE 03 18 30.0 +8.4
LVIG LR LR
comp=Z,900nm,21.0s
WVT Waverly 132.47 41 ePKPdf PKPdf 03 18 21.7 +0.5
KOWA Kowa 132.48 287 PFAKE 03 18 30.0 +8.2
KOWA LR LR
comp=Z,1μm,22.0s
PLCA Paso Flores 132.92 159 PKP PKPdf 03 18 22.9 +0.8
comp=Z,9.6nm,0.7s,baz=262,slow=2.8,SNR=22
PLCA SKPab SKPab 03 21 51.5 +2.7
comp=Z,18nm,1.3s,baz=239,slow=6.1,SNR=5.8
PLCA Paso Flores 132.92 159 ePKPdf PKPdf 03 18 23.7 +1.6
PLCA eSKPbc SKPab 03 21 49.4 +0.6
PLAL Pickwick Lake 132.96 43 ePKPdf PKPdf 03 18 22.2 0.0
V48A Smith Brothers 133.36 41 ePKPdf PKPdf 03 18 23.4 +0.5
T49A Edmonton 133.36 39 ePKPdf PKPdf 03 18 23.9 +1.1
GO06 Curarrehue 133.60 158 ePKPdf PKPdf 03 18 24.6 +1.2
X48A Hartselle 133.95 43 ePKPdf PKPdf 03 18 23.8 -0.3
KIC Kosan Boka 134.01 276 eP PKPdf 03 18 24.5 -0.2
comp=Z,39nm,1.0s
DBIC Dimbokro 134.11 276 PKhKP PKPpre 03 18 14.6
comp=Z,1.7nm,0.5s,baz=154,slow=2.2,SNR=5.1
DBIC PKP PKPdf 03 18 23.7 -1.2
comp=Z,9.8nm,0.8s,baz=115,slow=3.5,SNR=7.1
DBIC SKPbc SKPbc 03 21 52.7 +0.8
comp=Z,7.5nm,0.8s,baz=88,slow=4.0,SNR=5.9
DBIC Dimbokro 134.11 276 PKPpre PKPpre 03 18 14.6
DBIC ePKPdf PKiKP 03 18 25.6 -0.6
DBIC eSKPbc SKPab 03 21 53.8 -0.9
DBIC Dimbokro 134.11 276 PKHKP PKPpre 03 18 14.6
DBIC e 03 18 25.6
TIC Toumodi 134.27 276 eP PKPdf 03 18 28.0 +2.8
LIC Lamto 134.30 276 eP PKPdf 03 18 26.0 +0.7
comp=Z,58nm,1.0s
W50A Signal Mountai 134.67 41 ePKPdf PKPdf 03 18 26.9 +1.4
LRAL Lakeview Retre 134.78 44 ePKPdf PKPdf 03 18 25.9 +0.2
V52A Sevierville 135.37 39 ePKPdf PKPdf 03 18 27.8 +1.1
TKL Tuckaleechee C 135.37 39 ePKPdf PKPdf 03 18 28.9 +2.1
Z50A Ashland 135.40 43 ePKPdf PKPdf 03 18 26.6 -0.3
W52A Murphy 135.63 40 ePKPdf PKPdf 03 18 29.0 +1.8
V53A Saluda 135.97 38 ePKPdf PKPdf 03 18 30.3 +2.4
Y52A Lilburn 136.30 41 ePKPdf PKPdf 03 18 31.1 +2.6
152A Waverly Hall 136.57 43 ePKPdf PKPdf 03 18 29.9 +0.9
TIGA Tifton 138.06 44 ePKPdf PKPdf 03 18 32.7 +0.9
MYIG MØrida 138.06 62 PFAKE 03 18 40.0 +8.0
MYIG LR LR
comp=Z,800nm,22.0s
APG El Apazote 139.09 70 PKP PKPdf 03 18 31.9 -2.5
comp=Z,2.9nm,0.7s,baz=311,slow=1.9,SNR=1.6
555A McAlpin 139.26 45 ePKPdf PKPdf 03 18 36.2 +2.2
ROC1 El Roble 139.46 153 eP PKPdf 03 18 30.8 -3.9
PEL Peldehue 139.47 154 ePKPpre PKPpre 03 18 27.9
PEL Peldehue 139.47 154 eP PKPpre 03 18 25.0
PEL Peldehue 139.47 154 ePKIKP PKPpre 03 18 27.9
TEIG Tepich 139.60 62 PFAKE 03 18 50.0 +15
TEIG LR LR
comp=Z,700nm,22.0s
AAGR Agrelo 140.30 156 eP PKPpre 03 18 28.6
ARCO CERRO ARCO 140.47 156 eP PKPpre 03 18 30.3
ASAL Salagasta 140.73 156 eP PKPpre 03 18 29.0
AUSP Uspallata 140.82 155 eP PKPpre 03 18 30.5
RTLS Leoncito 141.22 154 eP PKPpre 03 18 32.7
RTCV Cerro Valdivia 141.49 155 eP PKPpre 03 18 31.4
ACAN Cantantal 141.67 157 eP PKPpre 03 18 32.8
GO04 Tololo Observa 141.91 151 eP PKPpre 03 18 34.8
RTLL Cerro Villicun 141.98 155 eP PKPpre 03 18 33.4
MRA San Martin 142.08 159 eP PKPpre 03 18 34.2
AMOG MOGNA 142.31 155 eP PKPpre 03 18 34.8
TGUH Tegucigalpa,Un 142.31 71 PFAKE 03 18 50.0 +10
TGUH LR LR
comp=Z,500nm,22.0s
ACCO Cerro Coronel 142.36 154 eP PKPpre 03 18 35.6
AROD Rodeo 142.54 153 eP PKPpre 03 18 36.2
LCO Las Campanas 142.92 150 ePKPpre PKPpre 03 18 36.7
LCO Las Campanas 142.92 150 eP PKPpre 03 18 37.1
LCO Las Campanas 142.92 150 ePKIKP PKPpre 03 18 36.7
ESTN Estel 143.39 72 PFAKE 03 18 50.0 +8.1
ESTN LR LR
comp=Z,600nm,21.0s
AGUA GUANDACOL 143.56 153 eP PKPbc 03 18 39.2 0.0
APLL PUNTA DE LOS L 143.59 157 eP PKPab 03 18 38.2 -0.2
ACLC CERRO LA CRUZ 144.28 155 eP PKPab 03 18 40.6 -0.5
GO03 Copiap 144.31 150 eP PKPbc 03 18 42.1 +0.6
JTS JuntasAbangare 145.30 76 PKPbc PKPbc 03 18 44.8 -0.2
comp=Z,102nm,0.9s,baz=20,slow=5.2,SNR=44
JTS JuntasAbangare 145.30 76 ePKPbc PKPab 03 18 45.2 +0.1
JTS LR LR
comp=Z,1μm,21.0s
ESPN Las Esperanzas 145.56 73 ePKPdf PKPdf 03 18 45.6 +0.1
ESPN LR LR
comp=Z,400nm,21.0s
CYA Choya 145.61 156 eP PKPdf 03 18 44.3 -1.2
HDC Heredia 146.16 76 PFAKE 03 19 00.0 +11
HDC LR LR
comp=Z,900nm,21.0s
PB14 IPOC Station P 146.61 146 eP PKPdf 03 18 48.1 +0.5
AHML Horco Molle 147.27 155 eP PKPdf 03 18 49.2 +0.9
FSA Cafayete 147.58 154 eP PKPdf 03 18 50.1 +1.1
PB05 IPOC Station P 148.11 144 eP PKPdf 03 18 49.5 -0.4
PB15 IPOC Station P 148.25 146 eP PKPbc 03 18 53.9 +0.3
PB04 IPOC Station P 148.54 144 ePKPbc PKPbc 03 18 54.6 +0.3
PB04 IPOC Station P 148.54 144 eP PKPdf 03 18 52.2 +1.6
PB06 IPOC Station P 148.59 145 eP PKPdf 03 18 51.7 +1.0
PB03 IPOC Station P 149.00 144 eP PKPdf 03 18 51.1 -0.2
SLA San Lorenzo 149.00 153 eP PKPbc 03 18 54.7 -0.6
LVC Limon Verde 149.04 146 ePKPdf PKPbc 03 18 54.0 -1.8
LVC Limon Verde 149.04 146 eP PKPdf 03 18 53.2 +1.5
LVC Limon Verde 149.04 146 ePKP2 PKPbc 03 18 54.0 -1.8
PB07 IPOC Station P 149.16 144 eP PKPdf 03 18 52.0 +0.3
PB02 IPOC Station P 149.47 143 eP PKPdf 03 18 54.4 +2.3
PB09 IPOC Station P 149.49 145 eP PKPdf 03 18 52.2 +0.1
AZAP Zapla 149.63 154 eP PKPbc 03 18 57.0 -0.1
PB01 IPOC Station P 149.93 143 ePKPdf PKPdf 03 18 54.1 +1.3

PB01	**IPOC Station P**	**149.93**	**143**	*e*P		**PKPdf**	**03 18 53.1 +0.3**
NNA	**Nana**	**150.14**	**120**	PKPbc		**PKPbc**	**03 18 58.8 +0.5**
	comp=Z,52nm,0.9s,baz=257,slow=9.7,SNR=16						
NNA	**Nana**	**150.14**	**120**	*e*PKPbc		**PKPbc**	**03 18 59.4 +1.1**
CPUP	**Villa Florida**	**150.22**	**168**	PKPbc		**PKPbc**	**03 18 57.6 -0.4**
	comp=Z,25nm,0.9s,baz=167,slow=2.0,SNR=33						
AZU	**Azuero**	**150.25**	**79**	*e*P		**PKPdf**	**03 18 55.1 +1.7**
HJA	**Humahuaca**	**150.35**	**152**	*e*P		**PKPdf**	**03 18 55.3 +1.5**
ALOL	**LOMAS DE OLMED**	**150.46**	**155**	*e*P		**PKPbc**	**03 18 59.7 +0.9**
BCIP	**Isla Barro Col**	**150.46**	**77**	*e*pPKPdf		**PKPbc**	**03 18 58.8 -0.2**
BCIP	**Isla Barro Col**	**150.46**	**77**	*e*P		**PKPbc**	**03 18 57.3 -1.7**
PSGCX	**Pisagua**	**150.62**	**140**	*e*P		**PKPbc**	**03 18 58.9 -0.4**
ATAH	**Atahualpa**	**150.67**	**110**	PKPbc		**PKPbc**	**03 19 01.6 +1.5**
	comp=Z,56nm,0.8s,baz=168,slow=4.3,SNR=28						
UPA	**Univ. de Panam**	**150.79**	**77**	*e*P		**PKPbc**	**03 18 59.5 -0.2**
PB11	**IPOC Station P**	**150.79**	**141**	*e*PKPdf		**PKPdf**	**03 18 55.4 +1.1**
PB11	**IPOC Station P**	**150.79**	**141**	*e*P		**PKPdf**	**03 18 53.6 -0.6**
GO01	**Chusmiza**	**151.15**	**142**	*e*PKPdf		**PKPdf**	**03 18 56.6 +1.4**
YJA	**Yavi**	**151.18**	**151**	*e*P		**PKPdf**	**03 18 57.1 +2.0**
MNMC	**Minye Minye**	**151.30**	**141**	*e*PKPdf		**PKPdf**	**03 18 55.9 +0.7**
MNMCX	**Minye Minye**	**151.30**	**141**	*e*P		**PKPdf**	**03 18 55.6 +0.4**
PB16	**IPOC Station P**	**151.94**	**140**	*e*P		**PKPdf**	**03 18 57.0 +0.4**
OTAV	**Otavalo**	**152.21**	**95**	*e*PKPdf		**PKPdf**	**03 18 57.1 +0.1**
OTAV				LR		LR	
	comp=Z,700nm,20.0s						
OTAV	**Otavalo**	**152.21**	**95**	*e*P		**PKPbc**	**03 19 03.5 -0.2**
OTAV	**Otavalo**	**152.21**	**95**	*e*PKIKP		**PKPdf**	**03 18 57.1 +0.1**
OTAV				MLR		MLR	
	comp=Z,700nm,20.0s						
CMBC	**Cumbal**	**152.89**	**94**	*e*P		**PKPbc**	**03 19 02.9 -2.3**
POPC	**Popayan, Colom**	**154.12**	**90**	*e*P		**PKPbc**	**03 19 05.7 -1.9**
SOTA	**Rioblanco**	**154.18**	**91**	*e*P		**PKPbc**	**03 19 10.2 +2.1**
LPAZ	**La Paz**	**154.32**	**139**	PKPbc		**PKPbc**	**03 19 07.5 -0.9**
	comp=Z,7.4nm,0.7s,baz=221,slow=0.4,SNR=27						
LPAZ	**La Paz**	**154.32**	**139**	*e*PKPdf		**PKPdf**	**03 19 02.6 +2.6**
LPAZ				PKPbc		**PKPbc**	**03 19 07.5 -0.9**
LPAZ	**La Paz**	**154.32**	**139**	*e*P		**PKPdf**	**03 19 01.1 +1.0**
LPAZ	**La Paz**	**154.32**	**139**	*e*PKIKP		**PKPdf**	**03 19 02.7 +2.6**
LPAZ							03 19 07.5
YOTC	**Yotoco, Valle**	**154.45**	**87**	*e*P		**PKPbc**	**03 19 09.6 +1.4**
MOTC	**Monteria, Cord**	**154.58**	**76**	*e*P		**PKPbc**	**03 19 08.5 +0.2**
RREF	**El Recreo**	**155.41**	**85**	*e*P		**PKPdf**	**03 19 06.2 +4.5**
ZARC	**Zaragoza, Cauc**	**155.60**	**78**	*e*P		**PKPdf**	**03 19 00.1 -1.1**
PTBC	**PUERTO BERRIO**	**156.13**	**81**	*e*P		**PKPdf**	**03 19 02.9 +1.0**
ROSC	**El Rosal**	**156.43**	**85**	PKP		**PKPdf**	**03 19 01.4 -1.4**
	comp=Z,4.6nm,0.6s,baz=294,slow=14,SNR=3.2						
ROSC				PKPab		**PKPab**	**03 19 30.6 -0.8**
	comp=Z,10nm,0.9s,baz=63,slow=9.6,SNR=4.3						
BARC	**Barichara**	**157.38**	**80**	*e*P		**PKPdf**	**03 19 05.7 +1.9**
OBIP	**Obispado Ponce**	**158.41**	**45**	*e*PKPab		**PKPab**	**03 19 39.8 +0.7**
SJG	**San Juan**	**158.68**	**44**	PKPab		**PKPab**	**03 19 40.5 +0.3**
	comp=Z,9.1nm,0.8s,baz=333,slow=6.8,SNR=2.6						
CBYP	**Canovanas**	**158.78**	**43**	PFAKE			03 19 20.0 +15
CBYP				LR		LR	
	comp=Z,700nm,20.0s						
SDV	**Santo Domingo**	**159.39**	**72**	PKP		**PKPdf**	**03 19 06.2 +0.1**
	comp=Z,10nm,0.5s,baz=66,slow=2.8,SNR=5.9						
SDV	**Santo Domingo**	**159.39**	**72**	*e*PKPdf		**PKPdf**	**03 19 07.3 +1.1**
SDV				LR		LR	
	comp=Z,700nm,21.0s						
PTGA	**Pitinga**	**170.11**	**112**	PKP		**PKPdf**	**03 19 14.7 -0.6**
	comp=Z,5.9nm,0.8s,baz=307,slow=2.1,SNR=11						
PTGA				PKPab		**PKPab**	**03 20 32.2 +1.4**
	comp=Z,1.7nm,0.3s,baz=260,slow=3.2,SNR=4.1						
PTGA	**Pitinga**	**170.11**	**112**	*e*PKPdf		**PKPdf**	**03 19 15.7 +0.4**
PTGA				*e*PKPab		**PKPab**	**03 20 32.2 +1.4**

KRSC 27 03:02:17.9±1.1, 55°13N×162°91E, h60km±19km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.89**	**230**	*e*P	Pn	03 02 36.2	+1.8
MKZ				*e*S	Sn	03 02 48.4	+1.7
KBTR	**Krutoberegovo**	**1.08**	**357**	*e*P	Pn	03 02 37.7	+0.8
KBTR				*e*S	Sn	03 02 51.4	+0.3
KBG	**Krutoberegovo**	**1.14**	**354**	*e*P	Pn	03 02 38.5	+0.9
KBG				*e*S	Sn	03 02 53.7	+1.4
TUMD	**Tumrok D**	**1.44**	**274**	*e*P	Pn	03 02 44.2	+2.4
TUMD				*e*S	Sn	03 03 01.5	+1.8
ZLN	**Zelenaya**	**1.49**	**308**	*e*P	Pn	03 02 44.9	+2.4
ZLN				*e*S	Sn	03 03 02.9	+1.9
KZV	**Kizimen**	**1.50**	**270**	*e*P	Pn	03 02 44.8	+2.1
KZV				*e*S	Sn	03 03 02.9	+1.5
CIRR	**Tsirk**	**1.58**	**310**	*e*P	Pn	03 02 46.5	+2.8
LGNR	**Loginova**	**1.58**	**308**	*e*P	Pn	03 02 47.1	+3.2
LGNR				*e*S	Sn	03 03 06.8	+3.3
TUMR	**Tumrok**	**1.59**	**277**	*e*P	Pn	03 02 46.5	+2.6
TUMR				*e*S	Sn	03 03 05.8	+2.3
BZMR	**Bezymyannaya**	**1.60**	**301**	*e*S	Sn	03 03 05.8	+2.2
BZWR	**Bezymyannyi-We**	**1.61**	**302**	*e*P	Pn	03 02 46.0	+1.9
BZWR				*e*S	Sn	03 03 06.7	+2.8
SMKR	**Semkarok**	**1.67**	**331**	*e*P	Pn	03 02 46.4	+1.5
SMKR				*e*S	Sn	03 03 07.9	+2.6
KRSR	**Krestovskiy**	**1.72**	**310**	*e*P	Pn	03 02 47.6	+2.0
KRSR				*e*S	Sn	03 03 08.1	+1.6
BDR	**Baidarnaya**	**1.73**	**327**	*e*P	Pn	03 02 48.3	+2.6
BDR				*e*S	Sn	03 03 08.7	+1.9
KLY	**Klyuchi**	**1.75**	**314**	*e*P	Pn	03 02 46.8	+1.0
KLY				*e*S	Sn	03 03 08.1	+1.2
SRKR	**Sorokina**	**1.82**	**328**	*e*P	Pn	03 02 48.8	+1.9
SRKR				*e*S	Sn	03 03 09.6	+0.8
KOZ	**Kozyrevsk**	**1.96**	**300**	*e*P	Pn	03 02 51.6	+2.9
KOZ				*e*S	Sn	03 03 15.1	+2.9
KII	**Karymskiy**	**2.29**	**243**	*e*P	Pn	03 02 56.2	+2.9
KII				*e*S	Sn	03 03 22.8	+2.3
ESO	**Esso**	**2.52**	**290**	*e*P	Pn	03 02 58.7	+2.3
ESO				*e*S	Sn	03 03 27.7	+1.7
SPN	**Mys Shipunski**	**2.65**	**221**	*e*P	Pn	03 02 59.7	+1.6
SPN				*e*S	Sn	03 03 28.7	-0.4
SDLR	**Sedlovina**	**3.01**	**234**	*e*P	Pn	03 03 06.1	+3.0
AVH	**Avacha**	**3.08**	**234**	*e*P	Pn	03 03 07.8	+3.7
DALK	**Dalny**	**3.23**	**231**	*e*P	Pn	03 03 08.9	+2.9
KRMR	**Karymshinskiy**	**3.64**	**233**	*e*P	Pn	03 03 15.8	+4.1
KRMR				*e*S	Sn	03 03 56.2	+2.8
RUS	**Russkaya**	**3.75**	**226**	*e*P	Pn	03 03 16.4	+3.2
MTVR	**Mutnovka**	**3.86**	**229**	*e*P	Pn	03 03 18.2	+3.4

ISCJB 27 03:16:23.3±0.5, 3°06S±0°05×129°02E±0°04, h33km, mb3.9/2, Error ellipse: s-maj=7.1km s-min=5.5km az=165.9
DJA 27 03:16:25.7±0.4, 3°S±4°×12°9E±°, h53km±31km, M4.7/9, mb4.9/4, MLv4.6/9
IDC 27 03:16:27.9±3.5, 3°09S×129°30E, h76km±38km, mb3.6/2, mb1 3.9/5, mb1mx3.5/41, mbtmp4.0/5, ML3.8/3, Error ellipse: s-maj=34.9km s-min=15.0km az=82.0

ISC 27 03:16:24.4±0.8, 3°12S±0°07×129°06E±0°06, h33km, n15, σ1§14/17, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.62**	**149**	P	**Pb**	**03 16 53.6**	**-0.2**
SIJI	**Sorong**	**3.14**	**45**	P	**Pn**	**03 17 12.2**	**+0.6**
	72nm,0.3s,baz=240,slow=10,SNR=104						
SIJI				S	**Sn**	**03 17 47.5**	**-0.5**
	57nm,0.3s,baz=237,slow=15,SNR=17						
SWI	**Sorong**	**3.14**	**44**	P	**Pn**	**03 17 12.5**	**+0.9**
SWI				S	**Sn**	**03 17 47.6**	**-0.4**
FAKI	**Fak Fak**	**3.19**	**86**	P	**Pn**	**03 17 13.5**	**+1.2**
SANI	**Sanana**	**3.25**	**289**	P	**Pn**	**03 17 12.5**	**-0.7**
SANI				S	**Sn**	**03 17 49.4**	**-1.4**
RKPI	**Ransiki, Papua**	**5.35**	**73**	P	**Pn**	**03 17 42.2**	**+0.1**
KMSI	**Cibinong**	**6.27**	**306**	P	**Pn**	**03 17 54.8**	**+0.1**
APSI	**Ampana**	**7.73**	**286**	P	**Pn**	**03 18 17.0**	**+2.3**
MRSI	**Marisa**	**7.97**	**297**	P	**Pn**	**03 18 18.2**	**+0.2**
BKSI	**Bulukumba**	**9.18**	**256**	P	Pn	03 18 42.3	+7.6
SPSI	**Sidrap Palu**	**9.31**	**265**	P	Pn	03 18 47.2	+11
FITZ	**Fitzroy Crossi**	**15.26**	**192**	P	**Pn**	**03 19 58.5**	**+1.0**
	0.1nm,0.3s,baz=24,slow=13,SNR=4.7						
WRA	**Warramunga Arr**	**17.49**	**163**	P	**Pn**	**03 20 26.4**	**+0.4**
	0.5nm,0.3s,baz=340,slow=12,SNR=22						
ASAR	**Alice Springs**	**20.95**	**168**	P	**P**	**03 21 05.3**	**+0.5**
	6.4nm,0.7s,baz=350,slow=11,SNR=58						
ASAR				S	**S**	**03 24 54.2**	**-2.5**
	1.5nm,1.0s,baz=348,slow=22,SNR=4.5						
MKAR	**Makanchi Array**	**64.50**	**326**	P	**P**	**03 26 57.9**	**-0.2**
	0.5nm,0.7s,baz=117,slow=7.6,SNR=3.5						

ISCJB 27 03:19:08.7±0.4, 36°89N±0°03×5°16E±0°04, h13km, Error ellipse: s-maj=4.8km s-min=3.3km az=140.8
CRAAG 27 03:19:08.1, 36°59N×5°16E, Ml3.1
MDD 27 03:19:09.2±0.3, 36°63N×5°14E, h0km, mb4.3/9, Error ellipse: s-maj=5.5km s-min=3.6km az=40.0, PRXIMO
LDG 27 03:19:11.3, 36°57N×5°34E, h30km

ISC 27 03:19:07.4±0.8, 36°71N±0°04×5°18E±0°04, h13km, n66, σ2§28/95, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SET	**Setif**	**0.54**	**160**	P	**Pg**	**03 19 18.0**	**0.0**
SET	**Setif**	**0.54**	**160**	P	**Pg**	**03 19 18.0**	**0.0**
DFRA	**Djebel Bou Aff**	**0.59**	**106**	P	**Pg**	**03 19 19.8**	**+0.9**
DFRA	**Djebel Bou Aff**	**0.59**	**106**	P	**Pg**	**03 19 19.8**	**+0.9**
CKHR	**Kef el Ahmar**	**0.74**	**158**	P	**Pg**	**03 19 20.7**	**-1.1**
CKHR	**Kef el Ahmar**	**0.74**	**158**	P	**Pg**	**03 19 20.7**	**-1.1**
ATAF	**Djebel Tarf**	**1.11**	**221**	P	**Pb**	**03 19 28.5**	**+0.1**
ATAF	**Djebel Tarf**	**1.11**	**221**	P	**Pb**	**03 19 28.5**	**+0.1**
CASM	**Ain Smara**	**1.15**	**113**	P	**Pn**	**03 19 30.8**	**+1.6**
CASM	**Ain Smara**	**1.15**	**113**	P	**Pn**	**03 19 30.8**	**+1.6**
CTEI	**Djebel Teioual**	**1.19**	**123**	P	**Pb**	**03 19 30.7**	**+0.9**
CTEI	**Djebel Teioual**	**1.19**	**123**	P	**Pb**	**03 19 30.7**	**+0.9**
AKET	**Djebel Ketaf**	**1.24**	**238**	P	**Pn**	**03 19 31.0**	**+0.5**
AKET	**Djebel Ketaf**	**1.24**	**238**	P	**Pn**	**03 19 31.0**	**+0.5**
CKFL	**Kef-Lekhel**	**1.28**	**104**	P	**Pg**	**03 19 34.0**	**+1.9**
CKFL	**Kef-Lekhel**	**1.28**	**104**	P	**Pg**	**03 19 34.0**	**+1.9**
CAEH	**'Ain El Ouahch**	**1.35**	**87**	P	**Pg**	**03 19 35.5**	**+2.2**
CAEH	**'Ain El Ouahch**	**1.35**	**87**	P	**Pg**	**03 19 35.5**	**+2.2**
CMAH	**Djebel Manchou**	**1.81**	**92**	P	**Pn**	**03 19 40.1**	**+1.8**
CMAH	**Djebel Manchou**	**1.81**	**92**	P	**Pn**	**03 19 40.1**	**+1.8**
EMHD	**Djebel Mahouad**	**1.86**	**255**	P	**Pn**	**03 19 39.4**	**+0.3**
EMHD	**Djebel Mahouad**	**1.86**	**255**	P	**Pn**	**03 19 39.4**	**+0.3**
ETOS	**Mallorca**	**3.57**	**329**	P	**Pn**	**03 20 05.3**	**+2.8**
	11nm,0.2s,SNR=64						
ETOS				S	**Sn**	**03 20 45.1**	**+0.4**
	3.8nm,0.2s						
EIBI	**Ibiza**	**3.81**	**308**	P	**Pn**	**03 20 09.2**	**+3.4**
	2.9nm,0.2s,SNR=6.6						
EIBI				S	**Sn**	**03 20 51.5**	**+1.0**
	1.7nm,0.2s						
EBEN2	**Beniarda presa**	**4.69**	**296**	P	**Pn**	**03 20 20.3**	**+2.5**
	0.7nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**5.24**	**284**	P	**Pn**	**03 20 28.0**	**+2.6**
	0.7nm,0.2s,SNR=4.7						
CFON	**Fontmartina**	**5.47**	**338**	P	**Pn**	**03 20 31.3**	**+2.5**
	3.9nm,0.2s,SNR=7.5						
CFON				S	**Sn**	**03 21 30.2**	**-1.4**
	3.7nm,0.3s						
EPOB	**Poblet**	**5.63**	**327**	P	**Pn**	**03 20 33.6**	**+2.8**
	2.6nm,0.2s,SNR=16						
EPOB				S	**Sn**	**03 21 33.6**	**-1.7**
	1.2nm,0.2s						
ECHE	**Chera**	**5.63**	**303**	P	**Pn**	**03 20 34.4**	**+3.5**
	0.8nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**5.67**	**292**	P	**Pn**	**03 20 34.8**	**+3.3**
	5.7nm,0.3s,SNR=6.9						
ETOB				S	**Sn**	**03 21 36.4**	**0.0**
	0.5nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**5.68**	**320**	P	**Pn**	**03 20 33.3**	**+1.9**
	0.2nm,0.2s,SNR=7.9						
ERTA				S	**Sn**	**03 21 36.0**	**-0.6**
	0.4nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**5.74**	**311**	P	**Pn**	**03 20 35.7**	**+3.3**
	0.2nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**03 21 37.6**	**-0.5**
	0.2nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**6.00**	**344**	P	**Pn**	**03 20 38.7**	**+2.8**
	0.4nm,0.2s,SNR=7.9						
EJON				S	**Sn**	**03 21 43.7**	**-0.7**
	0.3nm,0.2s,SNR=7.9						
SJAF	**Saint Jean de**	**6.03**	**344**	P	**Pn**	**03 20 38.5**	**+2.2**
	0.1nm,0.2s,SNR=7.9						
SJAF				S	**Sn**	**03 21 43.3**	**-1.9**
	0.2nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**6.27**	**338**	P	**Pn**	**03 20 43.4**	**+3.7**
	0.8nm,0.1s,SNR=19						
CLLI				S	**Sn**	**03 21 50.8**	**-0.4**
	0.2nm,0.2s,SNR=5.0						
SESP	**Santiago Espad**	**6.30**	**285**	P	**Pn**	**03 20 44.1**	**+3.9**
	8.6nm,0.4s,SNR=7.9						
CSOR	**Sort**	**6.46**	**332**	P	**Pn**	**03 20 45.7**	**+3.4**
	1.5nm,0.2s,SNR=13						
CSOR				S	**Sn**	**03 21 56.6**	**+0.6**
	1.1nm,0.3s						
PGF	**Pioggiola**	**6.53**	**26**	*e*Pn	**Pn**	**03 20 44.5**	**+1.2**
PGF				*e*Sn	**Sn**	**03 21 55.1**	**-2.6**
	2.8nm,0.3s						
PGF	**Pioggiola**	**6.53**	**26**	P	**Pn**	**03 20 44.5**	**+1.2**
PGF				S	**Sn**	**03 21 55.1**	**-2.6**
	1.4nm,0.3s						
EQES	**Quesada**	**6.67**	**282**	P	**Pn**	**03 20 47.0**	**+1.8**
	0.4nm,0.2s,SNR=9.1						
LMR	**La Mourre**	**6.69**	**8**	*e*Pn	**Pn**	**03 20 47.2**	**+1.8**
LMR				*e*Sn	**Sn**	**03 21 59.3**	**-2.2**
	1.3nm,0.2s						
LMR	**La Mourre**	**6.69**	**8**	P	**Pn**	**03 20 47.2**	**+1.8**
LMR				S	**Sn**	**03 21 59.3**	**-2.2**
	0.6nm,0.2s						
FRF	**La Foret Royal**	**6.93**	**9**	*e*Pn	**Pn**	**03 20 50.4**	**+1.7**
FRF				*e*Sn	**Sn**	**03 22 05.3**	**-2.1**
	2.6nm,0.3s						
FRF	**La Foret Royal**	**6.93**	**9**	P	**Pn**	**03 20 50.4**	**+1.7**
FRF				S	**Sn**	**03 22 05.3**	**-2.1**
	1.3nm,0.3s						
MTLF	**Montolieu**	**7.00**	**342**	*e*Pn	**Pn**	**03 20 52.4**	**+2.8**
MTLF				*e*Sn	**Sn**	**03 22 07.6**	**-1.4**
	0.3nm,0.3s						
MTLF	**Montolieu**	**7.00**	**342**	P	**Pn**	**03 20 52.4**	**+2.8**
MTLF				S	**Sn**	**03 22 07.6**	**-1.4**
	0.2nm,0.3s						
SMRF	**Simiane la Rot**	**7.26**	**2**	*e*Sn	**Sn**	**03 22 14.1**	**-1.5**
	0.8nm,0.3s						
SMRF	**Simiane la Rot**	**7.26**	**2**	S	**Sn**	**03 22 14.1**	**-1.5**
	0.8nm,0.3s						
EPF	**Esparros**	**7.33**	**331**	*e*Pn	**Pn**	**03 20 58.4**	**+4.3**
EPF				*e*Sn	**Sn**	**03 22 15.9**	**-1.2**
	1.8nm,0.2s						
EPF	**Esparros**	**7.33**	**331**	P	**Pn**	**03 20 58.4**	**+4.3**
EPF				S	**Sn**	**03 22 15.9**	**-1.2**
	0.9nm,0.2s						
SBF	**Sospel**	**7.35**	**13**	*e*P	Pn	03 21 01.1	+6.7
SBF				*e*Sn	**Sn**	**03 22 14.4**	**-3.3**
	2.2nm,0.3s						
SBF	**Sospel**	**7.35**	**13**	P	Pn	03 21 01.1	+6.7
SBF				S	**Sn**	**03 22 14.4**	**-3.3**
	1.1nm,0.3s						
LASF	**Ste Croix**	**7.43**	**353**	*e*Pn	**Pn**	**03 20 58.0**	**+2.6**
LASF				*e*Sn	**Sn**	**03 22 17.6**	**-1.9**
	1.1nm,0.4s						
LASF	**Ste Croix**	**7.43**	**353**	P	**Pn**	**03 20 58.0**	**+2.6**
LASF				S	**Sn**	**03 22 17.6**	**-1.9**
	0.6nm,0.4s						
ETSF	**Etsaut**	**7.59**	**326**	*e*Pn	**Pn**	**03 21 01.4**	**+3.6**
ETSF				*e*Sn	**Sn**	**03 22 22.6**	**-1.1**
	2.2nm,0.4s						
ETSF	**Etsaut**	**7.59**	**326**	P	**Pn**	**03 21 01.4**	**+3.6**
ETSF				S	**Sn**	**03 22 22.6**	**-1.1**
	1.1nm,0.4s						
ATE	**Arette**	**7.80**	**326**	P	**Pn**	**03 21 04.4**	**+3.7**
	1.0nm,0.2s,SNR=7.9						
ATE				S	**Sn**	**03 22 26.9**	**-2.0**
	0.2nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**7.87**	**323**	P	**Pn**	**03 21 04.7**	**+3.2**
	0.7nm,0.2s,SNR=7.9						
IELO				S	**Sn**	**03 22 29.5**	**-0.9**
	0.3nm,0.3s,SNR=7.9						
PAB	**San Pablo**	**8.02**	**294**	P	**Pn**	**03 21 06.3**	**+2.6**
	0.2nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**8.06**	**324**	*e*Pn	**Pn**	**03 21 07.5**	**+3.3**
SJPF				*e*Sn	**Sn**	**03 22 33.9**	**-1.3**
	0.4nm,0.2s						
SJPF	**Ste Jean**	**8.06**	**324**	P	**Pn**	**03 21 07.5**	**+3.3**
SJPF				S	**Sn**	**03 22 33.9**	**-1.3**
	0.2nm,0.2s						
EALK	**Alkurruntz**	**8.28**	**324**	P	**Pn**	**03 21 11.1**	**+3.9**
	1.5nm,0.2s,SNR=7.9						
CAF	**Calviac**	**8.54**	**345**	*e*Pn	**Pn**	**03 21 13.7**	**+3.0**
CAF	**Calviac**	**8.54**	**345**	P	**Pn**	**03 21 13.7**	**+3.0**
RJF	**Les Rejaudoux**	**9.02**	**343**	*e*Pn	**Pn**	**03 21 19.7**	**+2.4**
RJF	**Les Rejaudoux**	**9.02**	**343**	P	**Pn**	**03 21 19.7**	**+2.4**

IDC 27 03:24:18.4±4.5, 5°52S×145°61E, h0km, mb3.0/1, mb1 3.7/3, mb1mx3.4/39, mbtmp3.5/3, ML2.6/2, Error ellipse: s-maj=68.8km s-min=44.6km az=48.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.16**	**158**	Pn	Pn	03 25 23.5	+0.3
	5.8nm,0.3s,baz=6.5,slow=7.5,SNR=13						
PMG				Sn	Sn	03 26 13.1	+0.5
	0.9nm,0.3s,baz=18,slow=19,SNR=3.5						
WRA	**Warramunga Arr**	**18.05**	**216**	P	Pn	03 28 30.4	-0.4
	0.1nm,0.3s,baz=43,slow=12,SNR=13						
ASAR	**Alice Springs**	**21.27**	**211**	P	P	03 29 06.9	+0.3
	1.1nm,0.8s,baz=31,slow=12,SNR=8.1						
TORD	**Torodi Ar. Bea**	**143.63**	**285**	PKP	PKPdf	03 43 55.6	-0.9
	0.4nm,0.8s,baz=72,slow=4.7,SNR=4.4						

ISK 27 03:32:38.9, 36°65N×27°96E, h5km, ML2.8/11
THE 27 03:32:39.7, 36°66N×27°97E, h0km±1km, ML2.8/2, Error ellipse: s-maj=1.5km s-min=0.7km az=4.0
ATH 27 03:32:39.2, 36°66N×28°02E, h26km, ML2.7/6, Error ellipse: s-maj=1.8km s-min=0.9km az=217.0
ISCJB 27 03:32:40.2±0.4, 36°63N±0°02×27°94E±0°02, h8km±3km, Error ellipse: s-maj=4.1km s-min=2.8km az=178.5
DDA 27 03:32:40.3, 36°66N×27°98E, h7km, Ml3.1

ISC 27 03:32:40.0±0.9, 36°61N±0°02×27°92E±0°02, h11km±8km, n49, σ0§98/71, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSB	**Marmaris-Mugla**	**0.25**	**64**	PG	**Pg**	**03 32 44.1**	**-1.2**
MRSB				SG	**Sg**	**03 32 47.5**	**-1.3**
DATC	**Datca-Mugla**	**0.26**	**307**	PG	**Pg**	**03 32 45.6**	**+0.2**
DAT	**Datca**	**0.30**	**295**	PG	**Pg**	**03 32 46.5**	**+0.3**
DAT				SG	**Sb**	**03 32 52.2**	**-0.3**
DAT	**Datca**	**0.30**	**295**	*i* P	**Pg**	**03 32 46.6**	**+0.3**
DAT				*i* S	**Sb**	**03 32 52.4**	**-0.1**
ARG	**Arkhangelos**	**0.42**	**157**	PG	**Pg**	**03 32 48.1**	**-0.3**
ARG				SG	**Sb**	**03 32 56.3**	**+0.4**
ARG	**Arkhangelos**	**0.42**	**157**	P	**Pb**	**03 32 48.7**	**-0.8**
ARG				S	**Sb**	**03 32 55.9**	**+0.1**
ARG				AML	AML	03 32 58.5	
	comp=N,1540μm,0.2s						
ARG				AML	AML	03 32 59.9	
	comp=E,2440μm,0.6s						
ARG	**Arkhangelos**	**0.42**	**157**	P	**Pb**	**03 32 48.7**	**-0.8**
ARG				S	**Sb**	**03 32 56.8**	**+0.9**
NIS1	**Nisyros Isl.**	**0.59**	**270**	PG	**Pg**	**03 32 51.5**	**-0.1**
NIS1	**Nisyros Isl.**	**0.59**	**270**	P	**Pb**	**03 32 53.0**	**+0.5**
NIS1				S	**Sn**	**03 33 02.5**	**-1.6**
NIS1				AML	AML	03 33 08.4	
	comp=E,3420μm,0.3s						
NIS1				AML	AML	03 33 09.2	
	comp=N,3593μm,0.4s						
NIS1	**Nisyros Isl.**	**0.59**	**270**	P	**Pb**	**03 32 53.1**	**+0.6**
NIS1				S	**Sn**	**03 33 03.4**	**-0.7**
TURN	**Turunc**	**0.61**	**64**	PG	Pg	03 32 45.4	-6.6
TURN				SG	Sg	03 32 49.4	-11
TURN	**Turunc**	**0.61**	**64**	*i* P	Pg	03 32 45.4	-6.6
TURN				*i* S	Sg	03 32 49.0	-11
DALY	**Dalyan (Mu¨la**	**0.63**	**70**	PG	**Pg**	**03 32 51.1**	**-1.1**
DALY	**Dalyan (Mu¨la**	**0.63**	**70**	*i* P	**Pg**	**03 32 51.2**	**+1.1**
DALY				*i* S	**Sg**	**03 33 00.7**	**+0.1**
NISR	**Nisiros**	**0.64**	**271**	P	**Pb**	**03 32 53.3**	**+0.2**
NISR				S	**Sn**	**03 33 03.6**	**-1.4**
NISR				AML	AML	03 33 09.2	

BODT	**Bodrum**	**0.71**	**298**	PG	**Pg**	**03 38 43.5**	**-0.1**
NIS1	**Nisyros lsl.**	**0.74**	**260**	PG	**Pb**	**03 38 41.7**	**-2.5**
NIS1	**Nisyros lsl.**	**0.74**	**260**	P	**Pb**	**03 38 43.6**	**-0.6**
NIS1				S	**Sn**	**03 38 55.5**	**-0.8**
NIS1				AML	AML	03 38 60.0	
	comp=N,1249μm,0.4s						
NIS1				AML	AML	03 39 01.1	
	comp=E,1276μm,0.6s						
NISR	**Nisiros**	**0.78**	**262**	P	**Pg**	**03 38 45.2**	**+0.2**
FETY	**Fethiye**	**0.81**	**96**	PG	**Pn**	**03 38 48.0**	**+1.7**
AYDN	**Tasoluk**	**0.94**	**350**	*i* P	**Pg**	**03 38 50.3**	**+2.3**
AYDN				*i* S	**Sn**	**03 39 05.3**	**+3.9**
TAVA	**DENIZLI_Tavas**	**0.99**	**42**	*i* P	Pg	03 38 52.6	+3.7
TAVA				*i* S	Sn	03 39 10.6	+8.0
AYDB	**Zeytinkoy-Aydi**	**1.22**	**353**	PN	**Pg**	**03 38 54.9**	**+1.5**
GOLH	**Golhisar**	**1.28**	**66**	*i* P	Pg	03 38 58.1	+3.7
GOLH				*i* S	Sg	03 39 20.7	+9.4
AKAS	**Kas**	**1.32**	**112**	PN	**Pg**	**03 38 56.9**	**+1.7**
AKAS	**Kas**	**1.32**	**112**	*i* P	**Pg**	**03 38 57.8**	**+2.6**
AKAS				*i* S	Sg	03 39 20.7	+8.3
SMG	**Samos**	**1.40**	**315**	P	**Pg**	**03 38 55.9**	**-0.8**
SMG				S	**Sg**	**03 39 15.2**	**+0.4**
SMG				AML	AML	03 39 21.6	
	comp=E,158μm,0.4s						
SMG				AML	AML	03 39 25.7	
	comp=N,89μm,0.3s						
ELL	**Elmali**	**1.46**	**89**	PN	**Pg**	**03 38 59.6**	**+1.7**
KORT	**Korkueli**	**1.83**	**81**	PN	**Pg**	**03 39 05.1**	**+0.1**
ANAF	**Anafi Island**	**1.90**	**259**	P	**Pb**	**03 39 02.8**	**-1.2**
ANAF				S	**Sb**	**03 39 28.7**	**+1.2**
ZKR	**Zakros**	**2.21**	**224**	P	**Pb**	**03 39 08.3**	**-1.0**
CHOS	**Chios island**	**2.31**	**316**	P	**Pb**	**03 39 08.5**	**-2.5**
LAST	**Lasithi**	**2.63**	**234**	P	**Pn**	**03 39 13.1**	**+1.6**

*ATH **27** 03:40:33.4,36°.68N×28°.05E,h29km±4km, ML2.0/3, Error ellipse: s-maj=7.0km s-min=1.1km az=212.0*
*ISK **27** 03:40:33.7,36°.63N×27°.98E,h13km, ML2.3/9*
*ISCJB **27** 03:40:34.3±0.5,36°.64N±0°.03×27°.98E±0°.03,h10km±4km, Error ellipse: s-maj=5.6km s-min=3.9km az=1.8*
*DDA **27** 03:40:34.5,36°.65N×27°.98E,h7km, Ml2.6*
ISC 27 03:40:32.6±1.1,**36°.64N**±0°.03×**27°.98E**±0°.02,**h4**km±9km,
n22,σ2§09/34,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSB	**Marmaris-Mugla**	**0.19**	**67**	PG	**Pg**	**03 40 38.3**	**+2.0**
MRSB				SG	**Sb**	**03 40 41.8**	**+3.0**
DATC	**Datca-Mugla**	**0.28**	**294**	PG	**Pg**	**03 40 39.9**	**+1.8**
DATC				SG	**Sb**	**03 40 44.8**	**-0.5**
DAT	**Datca**	**0.34**	**285**	PG	**Pg**	**03 40 40.8**	**+1.7**
DAT				SG	**Sb**	**03 40 46.8**	**-0.2**
DAT	**Datca**	**0.34**	**285**	*i* P	**Pg**	**03 40 40.8**	**+1.7**
DAT				*i* S	**Sb**	**03 40 47.1**	**+0.1**
ARG	**Arkhangelos**	**0.44**	**165**	PG	**Pg**	**03 40 41.9**	**+0.8**
ARG				SG	**Sb**	**03 40 49.8**	**-0.1**
ARG	**Arkhangelos**	**0.44**	**165**	P	**Pb**	**03 40 43.3**	**+0.3**
ARG				S	**Sb**	**03 40 50.9**	**+1.0**
ARG				AML	AML	03 40 51.9	
	comp=N,418μm,0.4s						
ARG				AML	AML	03 40 54.2	
	comp=E,352μm,0.3s						
TURN	**Turunc**	**0.55**	**65**	PG	Pg	03 40 39.4	-3.8
TURN				SG	**Sg**	**03 40 43.8**	**-6.5**
TURN	**Turunc**	**0.55**	**65**	*i* P	Pg	03 40 39.5	-3.7
TURN				*i* S	**Sg**	**03 40 43.7**	**-6.5**
DALY	**Dalyan (Mu¨la**	**0.57**	**72**	PG	**Pg**	**03 40 45.1**	**+1.6**
DALY				SG	**Sb**	**03 40 54.4**	**+0.9**
DALY	**Dalyan (Mu¨la**	**0.57**	**72**	*i* P	**Pb**	**03 40 45.5**	**+0.4**
DALY				*i* S	**Sb**	**03 40 54.1**	**+0.6**
NIS1	**Nisyros lsl.**	**0.65**	**267**	PG	**Pb**	**03 40 46.7**	**+0.2**
NIS1	**Nisyros lsl.**	**0.65**	**267**	P	**Pb**	**03 40 47.3**	**+0.8**
NIS1				S	**Sn**	**03 40 57.9**	**-1.4**
NIS1				AML	AML	03 41 03.6	
	comp=N,452μm,0.5s						
NIS1				AML	AML	03 41 04.2	
	comp=E,454μm,0.4s						
MLSB	**Milas**	**0.67**	**346**	PG	**Pb**	**03 40 47.6**	**+0.7**
BODT	**Bodrum**	**0.68**	**308**	PG	**Pb**	**03 40 47.3**	**+0.2**
FETY	**Fethiye**	**0.89**	**90**	PG	**Pg**	**03 40 50.7**	**+1.1**
AYDN	**Tasoluk**	**1.02**	**355**	*i* P	**Pg**	**03 40 53.4**	**+1.2**
AYDN				*i* S	**Sn**	**03 41 08.1**	**-0.4**
TAVA	**DENIZLI_Tavas**	**1.11**	**42**	*i* P	**Pn**	**03 40 56.2**	**+1.2**
TAVA				*i* S	**Sn**	**03 41 13.2**	**+2.4**
AYDB	**Zeytinkoy-Aydi**	**1.30**	**357**	PN	**Pg**	**03 40 58.5**	**+0.9**
SMG	**Samos**	**1.40**	**320**	P	**Pb**	**03 40 59.3**	**-0.1**
SMG				S	**Sn**	**03 41 17.2**	**-0.8**
SMG				AML	AML	03 41 25.4	
	comp=N,76μm,0.4s						
SMG				AML	AML	03 41 27.0	
	comp=E,76μm,0.5s						
ELL	**Elmali**	**1.55**	**86**	PN	**Pn**	**03 41 01.7**	**+0.6**
APE	**Apeiranthos**	**2.01**	**283**	P	**Pn**	**03 41 08.1**	**+0.7**
LAST	**Lasithi**	**2.51**	**235**	P	**Pn**	**03 41 15.6**	**+1.3**

*ATH **27** 04:01:45.0,36°.72N×28°.09E,h27km±1km, ML2.7/2, Error ellipse: s-maj=3.9km s-min=1.5km az=223.0*
*ISK **27** 04:01:46.3,36°.63N×27°.98E,h6km, ML2.7/10*
*DDA **27** 04:01:46.6,36°.63N×27°.97E,h7km, Ml2.9*
*ISCJB **27** 04:01:47.0±0.4,36°.65N±0°.03×27°.97E±0°.02,h10km±4km, Error ellipse: s-maj=5.2km s-min=3.2km az=177.3*
ISC 27 04:01:46.8±0.9,**36°.68N**±0°.03×**27°.93E**±0°.02,**h10**km±8km,
n33,σ0§81/43,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSB	**Marmaris-Mugla**	**0.22**	**81**	PG	**Pg**	**04 01 50.6**	**-0.8**
MRSB				SG	**Sg**	**04 01 53.9**	**-0.6**
DATC	**Datca-Mugla**	**0.23**	**290**	PG	**Pb**	**04 01 52.3**	**-0.7**
DATC				SG	**Sg**	**04 01 57.2**	**+2.5**
DAT	**Datca**	**0.28**	**280**	PG	**Pb**	**04 01 53.2**	**-0.8**
DAT				SG	**Sb**	**04 01 59.6**	**+0.8**
DAT	**Datca**	**0.28**	**280**	*i* P	**Pb**	**04 01 53.2**	**-0.8**
DAT				*i* S	**Sb**	**04 01 59.4**	**+0.5**
ARG	**Arkhangelos**	**0.49**	**161**	PG	**Pg**	**04 01 55.1**	**-1.2**
ARG	**Arkhangelos**	**0.49**	**161**	P	**Pg**	**04 01 55.5**	**-0.8**
ARG				S	**Sg**	**04 02 03.2**	**+0.4**
ARG				AML	AML	04 02 04.3	
	comp=N,1526μm,0.3s						
ARG				AML	AML	04 02 05.5	
	comp=E,1467μm,0.3s						
TURN	**Turunc**	**0.58**	**70**	PG	Pg	04 01 51.9	-6.1
TURN				SG	Sg	04 01 56.3	-9.3
TURN	**Turunc**	**0.58**	**70**	*i* P	Pg	04 01 51.9	-6.1
TURN				*i* S	Sg	04 01 56.0	-10
DALY	**Dalyan (Mu¨la**	**0.60**	**77**	PG	**Pg**	**04 01 57.5**	**-0.9**
DALY	**Dalyan (Mu¨la**	**0.60**	**77**	*i* P	**Pg**	**04 01 57.5**	**-0.9**
DALY				*i* S	**Sg**	**04 02 07.1**	**+0.8**
NIS1	**Nisyros lsl.**	**0.61**	**263**	PG	**Pb**	**04 01 59.2**	**-0.2**
NIS1	**Nisyros lsl.**	**0.61**	**263**	P	**Pb**	**04 01 59.6**	**+0.1**
NIS1				S	**Sn**	**04 02 10.5**	**-0.7**
NIS1				AML	AML	04 02 15.2	
	comp=N,1281μm,0.3s						
NIS1				AML	AML	04 02 16.3	
	comp=E,1822μm,0.3s						
BODT	**Bodrum**	**0.62**	**308**	PG	**Pb**	**04 01 59.8**	**+0.1**
MLSB	**Milas**	**0.63**	**349**	PG	**Pb**	**04 01 59.7**	**-0.1**
NISR	**Nisiros**	**0.65**	**264**	P	**Pb**	**04 02 00.3**	**+0.3**
NISR				S	**Sn**	**04 02 11.7**	**-0.4**
FETY	**Fethiye**	**0.93**	**92**	PG	**Pg**	**04 02 03.8**	**-0.9**
AYDN	**Tasoluk**	**0.98**	**358**	*i* P	**Pb**	**04 02 05.9**	**+0.1**
AYDN				*i* S	**Sn**	**04 02 19.8**	**-0.8**
TAVA	**DENIZLI_Tavas**	**1.11**	**45**	*i* P	**Pb**	**04 02 07.7**	**-0.4**
TAVA				*i* S	**Sn**	**04 02 24.7**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**1.27**	**359**	PN	**Pg**	**04 02 10.9**	**-0.2**
SMG	**Samos**	**1.35**	**320**	P	**Pn**	**04 02 10.8**	**-0.8**
GOLH	**Golhisar**	**1.42**	**67**	*i* P	**Pb**	**04 02 13.7**	**+0.2**
GOLH				*i* S	**Sg**	**04 02 33.2**	**+0.6**
AKAS	**Kas**	**1.43**	**108**	PN	**Pn**	**04 02 13.1**	**+0.3**
AKAS	**Kas**	**1.43**	**108**	*i* P	**Pn**	**04 02 13.1**	**+0.3**
AKAS				*i* S	**Sg**	**04 02 34.5**	**+1.8**
ELL	**Elmali**	**1.59**	**87**	PN	**Pn**	**04 02 15.4**	**+0.3**
ANAF	**Anafi Island**	**1.77**	**260**	P	**Pb**	**04 02 18.4**	**-0.8**
KULA	**Kula-Manisa**	**1.92**	**17**	PN	**Pb**	**04 02 21.0**	**-0.9**
APE	**Apeiranthos**	**1.96**	**282**	P	**Pn**	**04 02 20.0**	**0.0**
KORT	**Korkueli**	**1.97**	**80**	PN	**Pn**	**04 02 21.0**	**+0.7**
URLA	**Izmir**	**1.98**	**328**	PN	**Pb**	**04 02 22.2**	**-0.7**
ZKR	**Zakros**	**2.09**	**222**	P	**Pn**	**04 02 22.7**	**+0.9**
IOSP	**Ios island**	**2.12**	**272**	P	**Pn**	**04 02 22.2**	**0.0**
CHOS	**Chios island**	**2.26**	**319**	P	**Pn**	**04 02 24.2**	**0.0**
LAST	**Lasithi**	**2.50**	**233**	P	**Pn**	**04 02 27.9**	**+0.4**

*ISK **27** 04:11:48.5,37°.37N×36°.69E,h8km,ML1.7/7*
*ISCJB **27** 04:11:49.3±0.6,37°.34N±0°.04×36°.68E±0°.04,h6km±7km, Error ellipse: s-maj=6.8km s-min=4.5km az=39.4*
*DDA **27** 04:11:49.9,37°.36N×36°.69E,h7km, Ml2.5*
ISC 27 04:11:49.4±1.1,**37°.34N**±0°.04×**36°.69E**±0°.03,**h6**km±11km,
n11,σ0§59/17,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMRS	**Kahramanmaras**	**0.23**	**46**	PG	**Pg**	**04 11 53.5**	**-0.4**
KMRS				SG	**Sg**	**04 11 56.8**	**-0.2**
ANDN	**Andirin**	**0.36**	**311**	*i* P	**Pg**	**04 11 56.8**	**+0.3**
ANDN				*i* S	**Sg**	**04 12 02.1**	**+0.8**
GAZ	**Gaziantep**	**0.45**	**112**	PG	**Pg**	**04 11 57.9**	**-0.2**
GAZ				SG	**Sg**	**04 12 04.7**	**+0.8**
KUZU	**Kuzuini**	**0.65**	**152**	*i* P	**Pb**	**04 12 03.3**	**+0.2**
KUZU				*i* S	**Sb**	**04 12 12.3**	**0.0**
KOZT	**Kozan**	**0.70**	**281**	PG	**Pg**	**04 12 02.5**	**-0.4**
SAIM	**ADANA**	**0.80**	**323**	*i* P	**Pg**	**04 12 04.3**	**-0.4**
SAIM				*i* S	**Sb**	**04 12 16.8**	**+0.1**
TAHT	**Tahtakopru-Hat**	**1.05**	**203**	PG	**Pg**	**04 12 09.2**	**-0.3**
AKCD	**Akcadag**	**1.36**	**45**	*i* P	**Pg**	**04 12 15.7**	**+0.2**
AKCD				*i* S	**Sn**	**04 12 34.5**	**+1.0**
DARE	**Darende-Malaty**	**1.38**	**27**	PN	**Pn**	**04 12 14.3**	**-0.9**
BNN	**Bunyan**	**1.65**	**336**	PN	**Pn**	**04 12 18.4**	**-0.6**
URFA	**Urfa**	**1.70**	**86**	PN	**Pn**	**04 12 19.1**	**-0.5**

IDC 27 04:18:26.7±5.5,**27°.48S×141°.23E,h0**km,**mb1 3.6**/4,
mb1mx3.5/27,**mbtmp3.4**/4,**ML3.2**/4,**Error ellipse:**
s-maj=113.7km s-min=18.8km az=68.0,Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**4.39**	**176**	Pn	Pn	04 19 36.0	+1.4
	0.2nm,0.3s,baz=360,slow=19,SNR=3.2						
STKA				Pg	Pb	04 19 47.0	+2.2
	0.5nm,0.3s,baz=341,slow=14,SNR=5.2						
STKA				Sn	Sn	04 20 20.6	-5.9
	2.1nm,0.3s,baz=28,slow=15,SNR=4.9						
STKA				Lg	Lg	04 20 44.3	
	3.0nm,0.3s,baz=256,slow=23,SNR=7.8						
ASAR	**Alice Springs**	**7.62**	**298**	Pn	Pn	04 20 19.6	+0.5
	0.5nm,0.3s,baz=121,slow=13,SNR=18						
ASAR				Sn	Sn	04 21 40.2	-6.1
	0.5nm,0.3s,baz=121,slow=23,SNR=6.9						
WRA	**Warramunga Arr**	**9.80**	**319**	Pn	Pn	04 20 48.5	-0.6
	0.3nm,0.3s,baz=138,slow=13,SNR=14						
WRA				Sn	Sn	04 22 36.6	-3.3
	0.3nm,0.3s,baz=141,slow=25,SNR=6.7						
FITZ	**Fitzroy Crossi**	**17.12**	**300**	Pn	Pn	04 22 27.0	-0.6
	0.1nm,0.3s,baz=130,slow=10,SNR=6.0						

*ATH **27** 04:22:53.2,36°.68N×28°.02E,h26km±1km, ML2.8/3, Error ellipse: s-maj=3.5km s-min=1.5km az=222.0*
*ISK **27** 04:22:53.8,36°.64N×27°.98E,h8km, ML2.7/11*
*ISCJB **27** 04:22:54.4±0.4,36°.62N±0°.03×27°.96E±0°.02,h7km±4km, Error ellipse: s-maj=4.8km s-min=3.1km az=2.1*
*THE **27** 04:22:54.2,36°.63N×27°.97E,h2km±4km,ML2.6/2,Error ellipse: s-maj=4.4km s-min=0.9km az=222.0*
*DDA **27** 04:22:54.6,36°.66N×27°.97E,h7km, Ml2.9*
ISC 27 04:22:54.1±1.1,**36°.66N**±0°.02×**27°.97E**±0°.02,**h5**km±10km,
n36,σ1§46/53,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSB	**Marmaris-Mugla**	**0.19**	**73**	PG	**Pg**	**04 22 58.2**	**+0.3**
MRSB				SG	**Sg**	**04 23 01.8**	**+1.3**
DATC	**Datca-Mugla**	**0.26**	**292**	PG	**Pg**	**04 22 59.6**	**+0.4**
DATC				SG	**Sb**	**04 23 04.8**	**-1.4**
DAT	**Datca**	**0.32**	**282**	PG	**Pg**	**04 23 00.6**	**+0.3**
DAT				SG	**Sb**	**04 23 06.8**	**-1.1**
DAT	**Datca**	**0.32**	**282**	*i* P	**Pg**	**04 23 00.9**	**+0.6**
DAT				*i* S	**Sb**	**04 23 06.7**	**-1.1**
ARG	**Arkhangelos**	**0.46**	**164**	PG	**Pg**	**04 23 01.9**	**-1.0**
ARG				SG	**Sg**	**04 23 09.4**	**+0.4**
ARG	**Arkhangelos**	**0.46**	**164**	P	**Pg**	**04 23 03.0**	**+0.1**
ARG				S	**Sb**	**04 23 10.4**	**-1.4**
ARG				AML	AML	04 23 11.9	
	comp=N,2790μm,0.4s						
ARG				AML	AML	04 23 12.0	
	comp=E,1806μm,0.3s						
ARG	**Arkhangelos**	**0.46**	**164**	P	**Pg**	**04 23 03.0**	**+0.1**
ARG				S	**Sg**	**04 23 09.3**	**+0.3**
TURN	**Turunc**	**0.55**	**67**	*i* P	Pg	04 22 59.5	-5.3
TURN				*i* S	**Sg**	**04 23 04.1**	**-7.8**
DALY	**Dalyan (Mu¨la**	**0.57**	**74**	PG	**Pg**	**04 23 05.3**	**+0.2**
DALY	**Dalyan (Mu¨la**	**0.57**	**74**	*i* P	**Pg**	**04 23 05.3**	**+0.2**
DALY				*i* S	**Sb**	**04 23 14.3**	**-0.8**
NIS1	**Nisyros lsl.**	**0.64**	**265**	PG	**Pg**	**04 23 06.9**	**+0.6**
NIS1	**Nisyros lsl.**	**0.64**	**265**	P	**Pg**	**04 23 06.9**	**+0.6**
NIS1				S	**Sb**	**04 23 16.4**	**-0.4**
NIS1				AML	AML	04 23 20.5	
	comp=E,2543μm,0.4s						
NIS1				AML	AML	04 23 20.9	
	comp=N,2947μm,0.5s						
NIS1	**Nisyros lsl.**	**0.64**	**265**	P	**Pg**	**04 23 06.8**	**+0.6**
MLSB	**Milas**	**0.65**	**347**	PG	**Pg**	**04 23 07.1**	**+0.5**
BODT	**Bodrum**	**0.66**	**308**	PG	**Pg**	**04 23 06.9**	**+0.2**
BODT	**Bodrum**	**0.66**	**308**	P	**Pg**	**04 23 07.1**	**+0.4**
BODT				S	**Sb**	**04 23 17.9**	**+0.3**
NISR	**Nisiros**	**0.68**	**266**	P	**Pg**	**04 23 07.5**	**+0.5**
NISR				S	**Sb**	**04 23 17.5**	**-0.5**
NISR				AML	AML	04 23 21.7	
	comp=E,1926μm,0.4s						
NISR				AML	AML	04 23 22.0	
	comp=N,639μm,0.3s						
NISR	**Nisiros**	**0.68**	**266**	P	**Pg**	**04 23 07.7**	**+0.7**
NISR				S	**Sb**	**04 23 18.8**	**+0.8**
FETY	**Fethiye**	**0.90**	**91**	PG	**Pg**	**04 23 11.3**	**0.0**
FETY	**Fethiye**	**0.90**	**91**	P	**Pb**	**04 23 12.4**	**+0.2**
FETY				S	**Sb**	**04 23 24.9**	**+0.4**
AYDN	**Tasoluk**	**1.00**	**356**	*i* P	**Pg**	**04 23 13.5**	**+0.2**
AYDN				*i* S	**Sb**	**04 23 27.8**	**+0.4**
TAVA	**DENIZLI_Tavas**	**1.10**	**43**	*i* P	**Pb**	**04 23 15.5**	**-0.3**
TAVA				*i* S	**Sn**	**04 23 33.0**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**1.28**	**357**	PN	**Pn**	**04 23 18.4**	**-0.4**
SMG	**Samos**	**1.38**	**320**	P	**Pn**	**04 23 19.0**	**-1.1**
SMG	**Samos**	**1.38**	**320**	P	**Pn**	**04 23 18.8**	**-1.2**
AKAS	**Kas**	**1.39**	**107**	PN	**Pb**	**04 23 20.1**	**-0.5**
AKAS	**Kas**	**1.39**	**107**	*i* P	**Pg**	**04 23 20.8**	**+0.1**
AKAS				*i* S	**Sg**	**04 23 43.1**	**+4.4**
GOLH	**Golhisar**	**1.40**	**65**	*i* P	**Pg**	**04 23 21.4**	**+0.5**
GOLH				*i* S	**Sg**	**04 23 40.9**	**+1.8**
ELL	**Elmali**	**1.56**	**86**	PN	**Pn**	**04 23 22.7**	**0.0**
ANAF	**Anafi Island**	**1.79**	**261**	P	**Pn**	**04 23 25.1**	**-0.6**
KULA	**Kula-Manisa**	**1.93**	**16**	PN	**Pn**	**04 23 28.3**	**+0.6**
KORT	**Korkueli**	**1.94**	**79**	PN	**Pn**	**04 23 28.1**	**+0.2**
URLA	**Izmir**	**2.02**	**328**	PN	**Pn**	**04 23 29.4**	**+0.6**
ZKR	**Zakros**	**2.10**	**223**	P	**Pn**	**04 23 29.9**	**+0.1**
NPS	**Neapolis**	**2.36**	**235**	P	**Pn**	**04 23 33.4**	**-0.1**
LAST	**Lasithi**	**2.51**	**234**	P	**Pn**	**04 23 35.2**	**-0.5**

*NSSP **27** 04:24:39.2,41°.08N×47°.23E,h10km,Ms3.0*
*MOS **27** 04:24:40.7±0.0,41°.17N×47°.27E,h10km,MPVA3.9*
*NORS **27** 04:24:41.6±0.0,41°.15N×47°.35E,h10km,MPVA3.7*
*DRS **27** 04:24:42.2±0.0,41°.00N×47°.40E,h18km*
ISC 27 04:24:39.2±1.2,**41°.05N**±0°.03×**47°.24E**±0°.03,**h7**km±10km,
n34,σ1§20/60,7C,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEKA	**Sheki**	**0.16**	**348**	PG	**Pg**	**04 24 42.3**	**-0.3**
MNGR	**Mingechevir, A**	**0.30**	**203**	PG	**Pn**	**04 24 49.7**	**-0.3**
AKT	**Akhty**	**0.56**	**40**	*i*P*i*PG	**Pb**	**04 24 51.0**	**-0.5**
AKT				*e*		04 24 58.6	
AKT				pmax	pmax		
	comp=N,233nm,0.5s						
AKT				smax	smax		
	comp=N,577nm,0.7s						
AKT	**Akhty**	**0.56**	**40**	*i* Pg	**Pb**	**04 24 51.1**	**-0.5**
AKT				*e*Sg	**Sb**	**04 24 58.7**	**-1.1**
ZKTA	**Zakatala**	**0.75**	**322**	PG	**Pg**	**04 24 53.0**	**-0.6**
GANJ	**Ganja**	**0.81**	**240**	PG	**Pn**	**04 24 56.3**	**-0.8**
KSMR	**Kasumkent**	**0.86**	**50**	*e*PG	**Pb**	**04 24 55.5**	**-1.1**
KSMR				*e* S	**Sg**	**04 25 05.0**	**-2.1**
KSMR	**Kasumkent**	**0.86**	**50**	*e*Pg	**Pb**	**04 24 55.5**	**-1.1**
KSMR				*e*Sg	**Sg**	**04 25 05.0**	**-2.1**
KMKR	**Kumukh**	**1.08**	**354**	PG	**Pn**	**04 25 01.0**	**0.0**
KMKR				*e* S	**Sb**	**04 25 15.5**	**+0.6**
KMKR				pmax	pmax		
	comp=Z,28nm,0.3s						
KMKR	**Kumukh**	**1.08**	**354**	*e*Pg	**Pn**	**04 25 01.0**	**0.0**
KMKR				*e*Sg	**Sb**	**04 25 15.5**	**+0.6**
LGD	**Lagodekhi**	**1.09**	**316**	*e*PG	**Pg**	**04 25 00.0**	**0.0**
LGD				*e* S	**Sb**	**04 25 14.3**	**-0.4**
URKR	**Urkarakh**	**1.15**	**15**	*e*PG	**Pg**	**04 25 02.0**	**+0.7**
URKR				*e* S	**Sg**	**04 25 17.0**	**+0.7**
URKR	**Urkarakh**	**1.15**	**15**	*e*Pg	**Pg**	**04 25 02.0**	**+0.7**
URKR				*e*Sg	**Sg**	**04 25 17.0**	**+0.7**
DRN	**Derbent**	**1.27**	**39⇑**	*e*PG	**Pg**	**04 25 05.0**	**+1.4**
DRN				*e*		04 25 22.1	
DRN				pmax	pmax		
	comp=Z,62nm,0.5s						
DRN				smax	smax		
	comp=N,91nm,0.9s						
DRN	**Derbent**	**1.27**	**39**	*e*Pg	**Pg**	**04 25 05.2**	**+1.5**
DRN				*e*Sg	**Sg**	**04 25 22.2**	**+2.1**
GNBR	**Gunib**	**1.35**	**351⇑**	*e*PG	**Pn**	**04 25 03.4**	**-1.2**
GNBR				*e*		04 25 22.8	
GNBR				pmax	pmax		
	comp=Z,28nm,0.5s						
GNBR				smax	smax		
	comp=N,65nm,0.7s						
GNBR	**Gunib**	**1.35**	**351**	*e*Pg	**Pg**	**04 25 04.9**	**-0.3**
GNBR				*e*Sg	**Sb**	**04 25 23.1**	**+0.6**
VADZ	**Vardenis**	**1.44**	**233⇑**	*i*P	**Pg**	**04 25 07.7**	**+0.9**
VADZ				⇑*i*S	**Sg**	**04 25 28.6**	**+3.1**
BTLR	**Botlikh**	**1.78**	**335**	*e*PN	**Pg**	**04 25 13.2**	**-0.2**
BTLR				*e* S	**Sg**	**04 25 37.3**	**+0.8**
BTLR	**Botlikh**	**1.78**	**335**	*e*Pg	**Pg**	**04 25 13.2**	**-0.2**
BTLR				*e*Sg	**Sg**	**04 25 37.5**	**+1.0**
KRNR	**Karanay**	**1.79**	**352**	*e*PN	**Pg**	**04 25 13.5**	**-0.1**
KRNR				*e* S	**Sg**	**04 25 39.0**	**+2.2**
KRNR				pmax	pmax		
	comp=Z,19nm,0.4s						
KRNR	**Karanay**	**1.79**	**352**	*e*Pg	**Pg**	**04 25 13.5**	**-0.1**
KRNR				*e*Sg	**Sg**	**04 25 39.0**	**+2.2**
TBLG	**Delisi**	**2.00**	**291**	P	**Pb**	**04 25 15.0**	**-1.0**
TBLG				S	**Sb**	**04 25 41.3**	**+0.2**
TBLG	**Delisi**	**2.00**	**291**	*e*PN	**Pb**	**04 25 15.0**	**-1.0**
GNI	**Garni**	**2.11**	**246⇑**	*i*P	**Pg**	**04 25 19.0**	**-0.6**
GNI				⇑*i*S	**Sg**	**04 25 48.2**	**+1.3**
KZRT	**Kazreti**	**2.17**	**280**	P	**Pb**	**04 25 17.0**	**-1.8**
KZRT				S	**Sb**	**04 25 44.6**	**-1.4**
GROC	**Groznyy**	**2.40**	**334**	*e*Pn	**Pb**	**04 25 21.9**	**-0.9**
GROC				*e*Sn	**Sb**	**04 25 53.1**	**+0.5**
TRLG	**Trialeti**	**2.42**	**283**	P	**Pn**	**04 25 20.0**	**+0.7**
TRLG				S	**Sn**	**04 25 50.4**	**+1.1**
BGD	**Bogdanovka**	**2.76**	**276**	P	**Pb**	**04 25 28.2**	**-0.8**
BGD				S	**Sb**	**04 26 04.0**	**+0.9**
LACR	**Lac**	**2.83**	**310**	*e*PN	**Pb**	**04 25 29.1**	**-0.9**
LACR				*e* S	**Sb**	**04 26 06.2**	**+1.3**
LACR	**Lac**	**2.83**	**310**	*e*Pn	**Pb**	**04 25 28.6**	**-1.4**
LACR				*e*Sn	**Sb**	**04 26 05.4**	**+0.5**
AKH	**Akhalkalaki**	**2.85**	**278**	P	**Pb**	**04 25 28.5**	**-2.0**
AKH				S	**Sb**	**04 26 05.1**	**-0.6**
AKH	**Akhalkalaki**	**2.85**	**278**	*e*PN	**Pb**	**04 25 28.5**	**-2.0**
AKH				*e* S	**Sb**	**04 26 05.6**	**-0.1**
ZEI	**Tsey**	**3.04**	**306**	*e*Pn	**Pb**	**04 25 31.5**	**-2.2**
ZEI				*e*Sn	**Sb**	**04 26 10.9**	**-0.2**

*IDC **27** 04:26:06.3±5.8,27°.59S×141°.23E,h0km,mb1 3.1/3, mb1mx3.1/26,mbtmp2.9/3,ML2.6/3,Error ellipse: s-maj=119.9km s-min=21.6km az=70.0*
*ISCJB **27** 04:26:07.8±0.7,27°.80S±0°.06×140°.68E±0°.06,h10km, Error ellipse: s-maj=8.7km s-min=7.4km az=32.3*
*AUST **27** 04:26:08.6±0.0,27°.82S×140°.62E,h0km,Error ellipse: s-maj=0.2km s-min=0.1km az=339.0*
ISC 27 04:26:07.7±0.9,**27°.68S**±0°.07×**140°.88E**±0°.06,**h10**km,**n8,**
σ2§06/14,South Australia

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

comp=N,3µm,0.3s
PB03 IPOC Station P 2.82 258 *e*P **Pn 04 28 17.7 +0.1**
PB03 IPOC Station P 2.82 258 *e*P **Pn 04 28 17.2 -0.4**
PB03 *e*S **S 04 28 53.2 -1.8**
PB03 IAML 04 28 54.7
comp=E,4µm,0.3s
BS02 Patallajta 2.84 35 P **Pn 04 28 17.7 -0.3**
BS02 S **S 04 28 52.6 -3.1**
BS02 AML AML 04 28 57.7
comp=E,2µm,0.7s
BB05 Carapari 2.85 98 P **Pn 04 28 18.0 +0.1**
BB05 S **S 04 28 55.1 -0.4**
BB05 AML AML 04 28 59.1
comp=E,1µm,0.9s
PB06 IPOC Station P 2.87 244 P **Pn 04 28 17.0 -1.1**
PB06 *S* **S 04 28 53.9 -2.1**
PB06 IPOC Station P 2.87 244 *e*P **Pn 04 28 18.2 +0.1**
PB06 IPOC Station P 2.87 244 *i* P **Pn 04 28 17.7 -0.4**
PB06 *e*S **S 04 28 54.7 -1.3**
PB06 IAML 04 28 56.5
comp=E,2µm,0.2s
GO01 Chusmiza 2.88 308 *e*Pn **Pn 04 28 18.9 +0.3**
GO01 *e*S **S 04 28 59.4 +2.5**
GO01 Chusmiza 2.88 308⇑ *i*P **Pn 04 28 19.2 +0.6**
GO01 *i* S **S 04 28 59.2 +2.4**
PB07 IPOC Station P 2.90 264 *e*P **Pn 04 28 18.6 0.0**
PB07 IPOC Station P 2.90 264 *e*P **Pn 04 28 18.2 -0.3**
PB07 *e*S **S 04 28 54.7 -1.9**
PB07 IAML 04 28 55.6
comp=N,3µm,0.2s
PB02 IPOC Station P 2.91 272 P **Pn 04 28 17.4 -1.1**
PB02 S **S 04 28 53.5 -3.1**
PB02 IPOC Station P 2.91 272 *e*P **Pn 04 28 18.4 -0.2**
PB02 IPOC Station P 2.91 272 *e*P **Pn 04 28 18.0 -0.6**
PB02 *e*S **S 04 28 54.6 -2.1**
PB15 IPOC Station P 3.04 235 *e*P **Pn 04 28 19.9 -0.2**
BS03 Mojotorillo 3.10 47 P **Pn 04 28 21.3 +0.1**
AZAP Zapla 3.17 150 *e*P **Pn 04 28 22.0 +0.3**
AZAP IAML 04 29 09.4
comp=Z,177nm,0.5s
PB11 IPOC Station P 3.18 302 *e*Pn **Pn 04 28 21.6 -0.2**
PB11 *e*S **S 04 29 01.6 -0.9**
PB11 IPOC Station P 3.18 302 P **Pn 04 28 20.9 -0.9**
PB11 *S* **S 04 28 59.1 -3.4**
PB11 IPOC Station P 3.18 302 *e*P **Pn 04 28 21.6 -0.2**
PB11 IPOC Station P 3.18 302⇓ *i*P **Pn 04 28 21.5 -0.2**
PB11 *i* S **S 04 29 01.4 -1.2**
PB04 IPOC Station P 3.25 254 *e*Pn **Pn 04 28 22.2 -0.3**
PB04 *e*S **S 04 29 01.9 -1.9**
PB04 IPOC Station P 3.25 254 P **Pn 04 28 21.4 -1.1**
PB04 S **S 04 29 01.4 -2.4**
PB04 IPOC Station P 3.25 254 *e*P **Pn 04 28 22.4 -0.1**
PB04 IPOC Station P 3.25 254⇓ *e*P **Pn 04 28 22.2 -0.3**
PB04 *e*S **S 04 29 01.4 -2.4**
PB04 IAML 04 29 04.4
comp=N,2µm,0.2s
SLA San Lorenzo 3.45 160 *e*P **Pn 04 28 26.2 +1.3**
SLA IAML 04 28 28.5
comp=Z,71nm,0.6s
BS07 San Felipe 3.49 355 P **Pn 04 28 25.9 0.0**
MNMC Minye Minye 3.52 311 *e*Pn **Pn 04 28 26.1 +0.2**
MNMC *e*S **S 04 29 10.1 +0.2**
MNMC Minye Minye 3.52 311 P **Pn 04 28 25.4 -0.5**
MNMC S **S 04 29 07.4 -2.5**
MNMCX Minye Minye 3.52 311 *e*P **Pn 04 28 26.4 +0.5**
PSGC Pisagua 3.64 300 P **Pn 04 28 26.3 -0.9**
PSGC S **S 04 29 09.1 -3.2**
PSGCX Pisagua 3.64 300 *e*P **Pn 04 28 26.4 -0.8**
BB01 Montecillos 3.67 23 P **Pn 04 28 27.5 -0.2**
BB01 S **S 04 29 11.3 -2.0**
BB01 AML AML 04 29 12.6
comp=Z,1µm,0.7s
PB16 IPOC Station P 4.03 320 *e*P **Pn 04 28 33.5 +1.0**
PB10 IPOC Station P 4.04 239 *e*Pn **Pn 04 28 31.6 -0.4**
PB10 *e*S **S 04 29 18.0 -3.0**
PB10 IPOC Station P 4.04 239 P **Pn 04 28 31.5 -0.4**
PB10 IPOC Station P 4.04 239 *e*P **Pn 04 28 31.4 -0.5**
BS10 CO. Tuti 4.08 12 P **Pn 04 28 33.6 +0.6**
PB12 IPOC Station P 4.38 310 *e*P **Pn 04 28 34.6 -1.6**
PB14 IPOC Station P 4.59 226 *e*P **Pn 04 28 38.2 -0.8**
BBOJ La Paz, Jacaqu 4.66 343 P **Pn 04 28 41.8 +1.6**
FSA Cafayete 4.68 171 *e*P **Pn 04 28 41.5 +1.4**
BB03 San Joaqu´›n 4.76 23 P **Pn 04 28 41.9 +0.9**
BB0E La Paz, Chanca 4.76 346 P **Pn 04 28 42.5 +0.9**
BB02 La Guardia 4.82 43 P **Pn 04 28 41.5 -0.2**
BBOD La Paz, Gloria 5.10 340 P **Pn 04 28 46.8 +1.0**
LPAZ La Paz 5.30 346 P **Pn 04 28 49.4 +0.9**
comp=Z,37nm,0.3s,baz=155,slow=6.4,SNR=820
LPAZ *S* **S 04 29 49.4 -1.4**
baz=306,slow=18,SNR=1.0
LPAZ La Paz 5.30 346 *e*Pn **Pn 04 28 48.8 +0.3**
LPAZ *e*S **S 04 29 49.4 -1.4**
LPAZ La Paz 5.30 346 P **Pn 04 28 49.6 +1.1**
LPAZ La Paz 5.30 346 *e*P **Pn 04 28 48.8 +0.3**
LPAZ *e*S **S 04 29 49.4 -1.4**
BBOB La Paz, Bander 5.45 346 P **Pn 04 28 51.1 +0.9**
AHML Horco Molle 5.46 166 *e*P **Pn 04 28 50.6 +0.8**
GO03 Copiap 6.86 207 *e*Pn **Pn 04 29 05.5 -2.2**
GO03 *e*S **S 04 30 16.6 -10**
LCO Las Campanas 8.31 204 *e*Pn **Pn 04 29 23.7 -3.1**
LCO *e*S **S 04 30 53.2 -7.4**
LCO Las Campanas 8.31 204 *ce*P **Pn 04 29 24.8 -1.9**
GO04 Tololo Observa 9.39 202 *e*Pn **Pn 04 29 37.9 -2.9**
CPUP Villa Florida 9.91 121 P **Pn 04 29 43.9 -3.2**
comp=Z,0.2nm,0.3s,baz=304,slow=12,SNR=7.2
CPUP *S* S 04 31 18.9 -19
comp=Z,0.2nm,0.3s,baz=296,slow=12,SNR=4.4
ROC1 El Roble 12.07 197 *e*Pn **Pn 04 30 14.3 -0.6**
PEL Peldehue 12.14 196 *e*Pn **Pn 04 30 14.9 -0.7**
PEL Peldehue 12.14 196 *e*P **Pn 04 30 14.9 -0.7**
NNA Nana 13.47 313 P **Pn 04 30 33.2 +0.8**
comp=Z,2.0nm,0.3s,baz=163,slow=12,SNR=7.0
GO05 HualaæØ 14.23 197 *e*Pn **P 04 30 43.5 +0.6**
TRQA Tornquist 17.05 167 *e*P **P 04 31 14.2 +0.3**
comp=Z,8.9nm,0.8s
TRQA Tornquist 17.05 167 *e*P **P 04 31 14.2 +0.3**
TRQA pmax pmax
comp=Z,9.0nm,0.8s
SPB Sao Paulo 18.00 100 *e*P **P 04 31 24.9 +0.5**
comp=Z,21nm,0.9s
ATAH Atahualpa 18.14 320 P **P 04 31 27.5 +1.1**
comp=Z,0.5nm,0.3s,baz=157,slow=10,SNR=2.0
GO06 Curarrehue 18.50 191 *e*P **P 04 31 30.7 +0.9**
comp=Z,117nm,1.4s
PLCA Paso Flores 19.47 189 P **P 04 31 39.9 -0.3**
comp=Z,0.4nm,0.3s,baz=20,slow=10.0,SNR=13
PLCA Paso Flores 19.47 189 *e*P **P 04 31 41.1 +0.9**
comp=Z,35nm,1.4s
PLCA Paso Flores 19.47 189 *e*P **P 04 31 41.1 +0.9**
PLCA pmax pmax
comp=Z,35nm,1.4s
PTGA Pitinga 21.65 19 P **P 04 31 59.9 -3.4**
comp=Z,4.6nm,0.4s,baz=194,slow=10,SNR=16
PTGA Pitinga 21.65 19 *e*P **P 04 32 01.4 -1.9**
comp=Z,10nm,0.8s
PTGA *e*S **S 04 35 43.7 -4.9**
MDP Montagnes des 29.82 29 P **P 04 33 13.6 -3.2**
comp=Z,12nm,0.9s,baz=206,slow=5.9,SNR=4.8
EFI East Falkland 30.91 169 *i* P **P 04 33 25.2 -0.8**
EFI pmax pmax
comp=Z,52nm,1.1s
ANWB Willy Bob 39.20 8 *e*P **P 04 34 36.8 -0.2**
comp=Z,130nm,1.1s
OBIP Obispado Ponce 39.26 0 *e*P **P 04 34 37.1 -0.4**
comp=Z,69nm,1.5s
058A Arcadia 50.38 343 P **P 04 36 04.8 -0.2**
baz=162
758A Lake Helen 52.03 344 P **P 04 36 17.4 +0.1**
baz=163
757A Oxford 52.24 343 P **P 04 36 18.8 0.0**
baz=162
657A Interlachen 52.79 343 P **P 04 36 22.9 0.0**
baz=162
557A Orange Park 53.17 344 P **P 04 36 25.7 +0.1**
baz=162
353A Camilla 55.11 342 P **P 04 36 39.3 -0.3**
baz=160
254A Abbeville 55.41 343 P **P 04 36 41.0 -0.7**
baz=161
351A Pinckard 55.46 340 P **P 04 36 41.7 -0.4**
baz=158
NHSC New Hope 55.75 346 P **P 04 36 44.7 +0.6**
baz=165

349A Repton 56.05 339 P **P 04 36 46.3 0.0**
baz=157
447A Lucedale 56.05 337 P **P 04 36 46.4 +0.1**
baz=155
ZAIG Zacatecas 56.12 319 *e*P **P 04 36 48.3 +1.0**
comp=Z,4.7nm,0.8s
251A Midway 56.16 341 P **P 04 36 46.7 -0.4**
baz=159
347A Saraland 56.56 338 P **P 04 36 49.8 -0.1**
baz=155
249A Camden 56.60 339 P **P 04 36 50.1 0.0**
baz=157
Z52A Williamson 56.90 342 P **P 04 36 51.5 -0.7**
baz=160
248A Dixon Mills 56.91 339 P **P 04 36 51.7 -0.6**
baz=156
149A Jones 57.06 340 P **P 04 36 52.7 -0.7**
baz=158
Y54A Tignall 57.07 344 P **P 04 36 53.0 -0.5**
baz=162
247A Quitman 57.17 338 P **P 04 36 53.5 -0.6**
baz=156
148A Greensboro 57.36 339 P **P 04 36 54.8 -0.7**
baz=157
CNNC Cliffs of the 57.37 349 P **P 04 36 54.8 -0.6**
baz=167
Z50A Ashland 57.40 341 P **P 04 36 55.0 -0.7**
baz=158
344A Westbrook Farm 57.41 336 P **P 04 36 55.5 -0.3**
baz=153
LRAL Lakeview Retre 57.53 340 P **P 04 36 55.8 -0.8**
baz=157
Z49A Columbiana 57.53 340 P **P 04 36 56.3 -0.4**
baz=158
Y51A Rockmart 57.75 342 P **P 04 36 57.3 -0.8**
baz=160
146A Union 57.86 338 P **P 04 36 57.4 -1.5**
baz=155
Z48A Northport 58.02 340 P **P 04 36 59.4 -0.7**
baz=157
Z47A Carrollton 58.03 339 P **P 04 36 59.5 -0.6**
baz=156
Y49A Blount Mountai 58.11 341 P **P 04 36 59.9 -0.8**
baz=158
145A Houston Renfro 58.14 337 P **P 04 37 00.6 -0.3**
baz=154
HKT Hockley 58.26 330⇓ *e*P **P 04 37 02.0 +0.3**
HKT pmax pmax
comp=Z,37nm,1.2s
X51A Calhoun 58.31 342 P **P 04 37 01.6 -0.4**
baz=160
W53A Cullowhee 58.43 344 P **P 04 37 02.4 -0.6**
baz=162
X50B Fort Payne 58.44 342 P **P 04 37 02.5 -0.5**
baz=159
W52A Murphy 58.56 344 P **P 04 37 03.3 -0.5**
baz=161
Y47A UCPARC, Winfie 58.60 339 P **P 04 37 03.2 -0.9**
baz=157,SNR=5.2
833A Chaparral WMA, 58.67 326 *e*P **P 04 37 05.5 +0.9**
comp=Z,12nm,0.7s
833A Chaparral WMA, 58.67 326 P **P 04 37 05.3 +0.6**
baz=144
X49A Woodville 58.69 341 P **P 04 37 03.9 -0.8**
baz=158
Z45A Winona 58.75 338 *e*P **P 04 37 05.3 +0.2**
comp=Z,24nm,0.6s
Z45A Winona 58.75 338 P **P 04 37 05.0 0.0**
baz=155
241A Mo Tay, Goldon 58.78 334 *e*P **P 04 37 06.8 +1.5**
comp=Z,29nm,1.1s
V53A Saluda 58.82 345 P **P 04 37 05.3 -0.3**
baz=162
X48A Hartselle 58.85 340 *e*P **P 04 37 05.3 -0.5**
comp=Z,11nm,0.8s
X48A Hartselle 58.85 340 P **P 04 37 05.3 -0.5**
baz=158,SNR=6.6
Y46A Houston 58.92 339 P **P 04 37 05.6 -0.7**
baz=156
W50A Signal Mountai 59.03 342 *e*P **P 04 37 06.8 -0.3**
comp=Z,21nm,1.6s
W50A Signal Mountai 59.03 342 P **P 04 37 06.7 -0.4**
baz=160
Y45A Yeager Farm, C 59.14 338 P **P 04 37 07.8 0.0**
baz=155
X47A Russelville 59.17 340 P **P 04 37 07.2 -0.8**
baz=157,SNR=6.4
V52A Sevierville 59.18 344 P **P 04 37 07.2 -0.8**
baz=162
SWET Sewanee 59.23 342 *e*P **P 04 37 08.0 -0.4**
comp=Z,31nm,2.0s
W49A Belvidere 59.23 341 P **P 04 37 07.6 -0.8**
baz=159
NATX Nacogdoches 59.28 332 *e*P **P 04 37 09.0 +0.2**
comp=Z,27nm,0.7s
NATX Nacogdoches 59.28 332 P **P 04 37 09.6 +0.8**
baz=149
V51A Loudon 59.34 343 P **P 04 37 08.4 -0.6**
baz=161
V50A Pikeville 59.42 343 P **P 04 37 09.0 -0.6**
baz=160,SNR=6.9
U53A Fall Branch 59.42 345 P **P 04 37 09.2 -0.5**
baz=163
X46A Booneville 59.44 339 P **P 04 37 09.2 -0.7**
baz=156
W48A Pulaski 59.45 341 P **P 04 37 09.2 -0.7**
baz=158,SNR=6.5
VNA3 Neumayer Olymp 59.48 162 P **P 04 37 10.9 +1.2**
X45A UM Field Stati 59.60 338 P **P 04 37 10.1 -0.8**
baz=155
U52A Thorn Hill 59.64 345 P **P 04 37 10.4 -0.8**
baz=162
PLAL Pickwick Lake 59.67 340 *e*P **P 04 37 10.6 -0.8**
comp=Z,12nm,1.0s
OXF Oxford 59.68 338 *e*P **P 04 37 11.0 -0.4**
comp=Z,19nm,0.8s
OXF Oxford 59.68 338 *e*P **P 04 37 11.0 -0.4**
OXF pmax pmax
comp=Z,19nm,0.8s
OXF Oxford 59.68 338 P **P 04 37 11.0 -0.4**
baz=155
V49A McMinnville 59.73 342 P **P 04 37 10.9 -0.9**
baz=159,SNR=5.3
W47A Westpoint 59.76 340 P **P 04 37 11.2 -0.8**
baz=157,SNR=6.8
U51A La Follette 59.79 344 P **P 04 37 11.9 -0.3**
baz=161
W46A Michie 59.90 340 P **P 04 37 11.6 -1.3**
baz=156
X44A Crenshaw 59.93 338 P **P 04 37 12.1 -1.0**
baz=154
V48A Smith Brothers 59.98 341 *e*P **P 04 37 13.1 -0.3**
comp=Z,10nm,0.7s
V48A Smith Brothers 59.98 341 P **P 04 37 12.7 -0.8**
baz=158,SNR=8.3
R58B Mineral 60.03 350 P **P 04 37 13.3 -0.4**
baz=168
VNA2 Neumayer--Watz 60.03 161 P **P 04 37 14.3 +0.9**
baz=296,slow=6.0
U50A Jamestown 60.05 343 P **P 04 37 13.3 -0.7**
baz=160
W45A Hickory Valley 60.19 339 P **P 04 37 14.2 -0.7**
baz=156
X43A Marvell 60.21 337 P **P 04 37 15.2 +0.2**
baz=154
V47A Nunnelly 60.27 341 P **P 04 37 14.6 -0.9**
baz=158
T51A Gray 60.33 344 P **P 04 37 15.3 -0.5**
baz=161
U49A Red Boiling Sp 60.40 342 P **P 04 37 15.4 -0.9**
baz=159
V46A Holladay 60.43 340 P **P 04 37 15.4 -1.1**
baz=157
U48A Cassie Pea, Po 60.61 342 P **P 04 37 17.2 -0.5**
baz=159
T50A Nancy 60.61 343 P **P 04 37 17.0 -0.7**
baz=160
JCT Junction City 60.62 327 *e*P **P 04 37 18.4 +0.4**
comp=Z,5.6nm,0.8s
JCT Junction City 60.62 327 *e*P **P 04 37 18.4 +0.4**
JCT pmax pmax
comp=Z,6.0nm,0.8s
JCT Junction City 60.62 327 P **P 04 37 18.0 +0.1**
baz=144
WVT Waverly 60.65 341 *e*P **P 04 37 16.9 -1.1**
comp=Z,20nm,0.8s
WVT Waverly 60.65 341 *e*P **P 04 37 16.9 -1.1**
WVT pmax pmax
comp=Z,20nm,0.8s

WVT Waverly 60.65 341 P **P 04 37 17.4 -0.5**
baz=157
V45A Humboldt 60.65 339 P **P 04 37 17.6 -0.4**
baz=156
U47A Clarksville 60.77 341 P **P 04 37 18.0 -0.8**
baz=158,SNR=8.8
T49A Edmonton 60.88 343 P **P 04 37 18.9 -0.6**
baz=160
X40A Basin Creek Fa 60.91 335 P **P 04 37 19.4 -0.4**
baz=152
U46A Springville 60.97 340 P **P 04 37 19.4 -0.7**
baz=157
S50A Richmond 61.12 344 P **P 04 37 20.8 -0.4**
baz=161
T47A Sharon Grove 61.22 342 *e*P **P 04 37 21.2 -0.6**
comp=Z,16nm,0.9s
T47A Sharon Grove 61.22 342 P **P 04 37 20.7 -1.1**
baz=158,SNR=5.2
MIAR Mount Ida 61.25 335 *e*P **P 04 37 22.2 +0.1**
comp=Z,16nm,1.3s
MIAR Mount Ida 61.25 335 *e*P **P 04 37 22.2 +0.1**
MIAR pmax pmax
comp=Z,16nm,1.3s
MIAR Mount Ida 61.25 335 P **P 04 37 21.9 -0.2**
baz=151
W41B Gary Mavity, V 61.29 336 P **P 04 37 22.1 -0.2**
baz=153
T46A Princeton 61.51 341 P **P 04 37 23.0 -0.7**
baz=157
R51A Hillsboro 61.51 345 P **P 04 37 23.1 -0.6**
baz=162
S48A Wiedeman Farm, 61.54 343 P **P 04 37 23.0 -0.9**
baz=159
V42A Cord 61.54 337 P **P 04 37 23.6 -0.4**
baz=154
SNAA Sanae 61.67 161 P **P 04 37 25.5 +1.0**
SNAA Sanae 61.67 161 P **P 04 37 24.1 -0.4**
comp=Z,2.9nm,0.9s,baz=283,slow=7.3,SNR=6.4
SNAA Sanae 61.67 161 *e*P **P 04 37 24.1 -0.4**
comp=Z,21nm,2.0s
SNAA Sanae 61.67 161⇑ *e*P **P 04 37 25.6 +1.1**
S47A Hartford 61.72 342 P **P 04 37 24.0 -1.2**
baz=158
LTX Lajitas 61.76 323 *e*P **P 04 37 26.0 +0.3**
LTX Lajitas 61.76 323 *e*P **P 04 37 26.0 +0.3**
TXAR Lajitas Array 61.76 323 P **P 04 37 26.0 +0.3**
comp=Z,0.8nm,0.7s,baz=146,slow=8.6,SNR=13
TXAR Lajitas Array 61.76 323 P **P 04 37 26.0 +0.3**
TX31 Lajitas Ar. Si 61.76 323 *e*P **P 04 37 26.3 +0.6**
V41A Mountainview 61.80 337 P **P 04 37 25.0 -0.8**
baz=153,SNR=5.6
Q52A Bidwell 61.84 346 P **P 04 37 25.2 -0.7**
baz=163
W39A Magazine 61.90 335 *e*P **P 04 37 27.1 +0.7**
comp=Z,16nm,1.6s
W39A Magazine 61.90 335 P **P 04 37 26.6 +0.2**
baz=151
U42A Revenden 61.98 338 P **P 04 37 26.6 -0.3**
baz=154
X37A Clayton 62.02 333 *e*P **P 04 37 27.9 +0.8**
comp=Z,10nm,0.8s
S46A Don Dixon Farm 62.05 341 P **P 04 37 26.6 -0.7**
baz=158
T44A Benton 62.08 339 P **P 04 37 27.2 -0.4**
baz=156
PBMO Poplar Bluff 62.08 339 *e*P **P 04 37 27.4 -0.1**
comp=Z,16nm,1.1s
Q50A Georgetown 62.12 345 P **P 04 37 27.5 -0.3**
baz=162
Q51A Peebles 62.14 345 P **P 04 37 27.9 0.0**
baz=162
WCI Wyandotte Cave 62.14 343 P **P 04 37 27.1 -0.8**
baz=159
P53A Whipple 62.15 347 P **P 04 37 27.9 -0.1**
baz=164
U41A Viola 62.22 337 P **P 04 37 28.0 -0.5**
baz=153
S45A Carrier Mills 62.30 341 P **P 04 37 28.3 -0.7**
baz=157
T43A Greenville 62.31 339 P **P 04 37 28.5 -0.6**
baz=155,SNR=13
P52A Corning 62.45 347 P **P 04 37 29.5 -0.5**
baz=164
T42A Van Buren 62.54 338 P **P 04 37 30.2 -0.4**
baz=154
U40A Yellville 62.57 336 P **P 04 37 30.4 -0.5**
baz=152
N59A State Game Lan 62.62 352 P **P 04 37 31.0 0.0**
baz=170
Q48A North Vernon 62.65 343 P **P 04 37 30.1 -1.1**
baz=160
S43A Fulton Ridge, 62.68 339 P **P 04 37 30.6 -1.0**
baz=155
R45A Skylar, Fairfi 62.78 341 P **P 04 37 30.9 -1.3**
baz=157
T41A Mountain View 62.78 338 P **P 04 37 31.9 -0.3**
baz=154
P50A Jamestown 62.80 345 P **P 04 37 31.5 -0.8**
baz=162
Q47A Bedord North L 62.84 343 P **P 04 37 31.8 -0.7**
baz=159
O52A Adamsville 62.85 347 P **P 04 37 31.9 -0.7**
baz=164
HHAR Hobbs 62.91 336 *e*P **P 04 37 33.1 -0.1**
comp=Z,38nm,1.9s
P49A Miami Univ. Ec 62.95 344 P **P 04 37 32.3 -1.0**
baz=161
R44A Waltonville 62.98 340 P **P 04 37 32.5 -0.9**
baz=156
O51A Pataskala 63.05 346 P **P 04 37 33.2 -0.7**
baz=163
P48A Milroy 63.06 344 P **P 04 37 32.9 -1.1**
baz=160
S42A Caledonia 63.10 339 P **P 04 37 33.3 -1.0**
baz=155,SNR=7.4
FVM French Village 63.17 339 *e*P **P 04 37 34.5 -0.3**
comp=Z,16nm,1.1s
FVM French Village 63.17 339 *e*P **P 04 37 34.5 -0.3**
FVM pmax pmax
comp=Z,16nm,1.1s
ACSO Alum Creek Sta 63.21 346 P **P 04 37 34.3 -0.7**
baz=163
S41A Jillco Farms, 63.27 338 P **P 04 37 34.9 -0.5**
baz=154,SNR=11
R43A Red Bud 63.28 340 P **P 04 37 34.6 -0.8**
baz=156
Q45A Warren Harvey, 63.30 341 P **P 04 37 34.5 -1.0**
baz=157
P47A Martinsville 63.31 343 P **P 04 37 34.9 -0.7**
baz=159
CCM Cathedral Cave 63.51 339 *e*P **P 04 37 36.5 -0.5**
comp=Z,18nm,0.8s
CCM Cathedral Cave 63.51 339 *e*P **P 04 37 36.5 -0.5**
CCM pmax pmax
comp=Z,18nm,0.8s
CCM Cathedral Cave 63.51 339 P **P 04 37 36.5 -0.5**
baz=154
R42A Luebbering 63.56 339 P **P 04 37 36.8 -0.6**
baz=155,SNR=5.1
WMOK Wichita Mounta 63.63 331 P **P 04 37 37.4 -0.5**
baz=146
O48A Farmland 63.75 344 P **P 04 37 37.2 -1.2**
baz=161
R41A Rosebud 63.78 339 P **P 04 37 38.3 -0.4**
baz=154,SNR=8.5
O47A Sheridan 63.99 344 P **P 04 37 38.6 -1.5**
baz=160
N49A Columbus Grove 64.14 345 P **P 04 37 40.2 -0.8**
baz=162
Q41A Truxton 64.32 339 P **P 04 37 41.5 -0.7**
baz=154
SFIN Lafayette 64.37 343 P **P 04 37 41.2 -1.3**
baz=159
P43A Skaggs, Pawnee 64.39 341 P **P 04 37 41.5 -1.1**
baz=156
O45A Potomac 64.42 342 P **P 04 37 41.7 -1.1**
baz=158
N47A Urbana 64.47 344 P **P 04 37 42.5 -0.7**
baz=160
P42A Winchester 64.60 340 P **P 04 37 43.3 -0.7**
baz=155
M49A Liberty Center 64.62 346 P **P 04 37 43.2 -0.9**
baz=162
N46A Monticello 64.75 343 P **P 04 37 44.1 -0.9**
baz=159
MSTX Muleshoe 64.91 327 *e*P **P 04 37 46.6 +0.3**
comp=Z,22nm,1.1s

MSTX **Muleshoe** 64.91 327 P P 04 37 46.2 -0.1
baz=143
P41A **Barry, Barry** 64.92 339 P P 04 37 45.2 -0.8
baz=155
AMTX **Amarillo** 65.11 329 P P 04 37 46.8 -0.7
baz=144
HDIL **Hopedale** 65.17 341 P P 04 37 45.9 -1.7
baz=157
L48A **N Adams** 65.17 346 P P 04 37 46.4 -1.2
baz=162
O41A **Passleys Farm,** 65.26 340 P P 04 37 47.0 -1.3
baz=155
N43A **Stutzman Famil** 65.48 342 P P 04 37 48.9 -0.8
baz=157
N41A **Harden Midland** 65.78 340 P P 04 37 50.8 -0.8
baz=155
M43A **Waltham Townsh** 65.88 342 P P 04 37 51.5 -0.7
baz=157
K48A **Perry** 65.92 346 P P 04 37 51.6 -0.8
baz=162
K47A **Vermontville** 65.99 345 P P 04 37 51.9 -1.0
baz=161
LONY **Lake Ozonia** 66.15 354 P P 04 37 53.6 -0.2
baz=172
NVL **N'lazarevskaya** 66.16 159 eP P 04 37 55.5 +1.9
NVL pmax pmax
comp=Z,8.0nm,0.7s
N40A **Mertquake, Sal** 66.18 340 P P 04 37 53.1 -1.0
baz=154
K46A **Dorr** 66.19 345 P P 04 37 53.0 -1.2
baz=160
M41A **Milan** 66.29 341 P P 04 37 54.0 -0.8
baz=156
PKME **Peaks-Kenny Pk** 66.44 358 P P 04 37 55.6 -0.1
baz=177
LIC **Lamto** 66.48 73 eP P 04 37 54.7 -1.9
comp=Z,40nm,1.3s
J47A **Sunmer** 66.49 346 P P 04 37 55.4 -0.6
baz=161
L43A **Garden Prairie** 66.50 342 P P 04 37 55.4 -0.8
baz=158
L42A **Oliver, Polo** 66.61 342 P P 04 37 55.8 -1.0
baz=156
TIC **Toumodi** 66.67 72 eP P 04 37 55.5 -2.4
KIC **Kosan Boka** 66.79 73 eP P 04 37 57.3 -1.3
comp=Z,35nm,0.9s
DBIC **Dimbokro** 66.83 72 P P 04 37 57.8 -1.0
comp=Z,15nm,0.8s,baz=212,slow=6.8,SNR=13
DBIC **Dimbokro** 66.83 72 eP P 04 37 57.8 -1.0
comp=Z,14nm,0.8s
DBIC **Dimbokro** 66.83 72 eP P 04 37 57.8 -1.0
DBIC pmax pmax
comp=Z,14nm,0.8s
H52A **Wyevale** 66.87 350 P P 04 37 57.9 -0.5
baz=166
K43A **Burlington** 66.87 343 P P 04 37 57.7 -0.8
baz=158
M39A **Webster** 66.91 339 P P 04 37 57.8 -0.9
baz=154
L40A **Anamosa** 67.13 340 P P 04 37 59.7 -0.3
baz=155
I48A **Sherman Twp** 67.14 347 P P 04 37 59.4 -0.7
baz=163
K42A **Prairie Point,** 67.22 342 P P 04 38 00.5 -0.2
baz=157
L39A **Vinton** 67.43 340 P P 04 38 01.3 -0.7
baz=154
CBKS **Cedar Bluff** 67.45 333 eP P 04 38 03.2 +1.0
comp=Z,24nm,0.9s
CBKS **Cedar Bluff** 67.45 333 eP P 04 38 03.2 +1.0
CBKS pmax pmax
comp=Z,24nm,0.9s
CBKS **Cedar Bluff** 67.45 333 P P 04 38 03.0 +0.8
baz=147,SNR=6.7
J43A **Natural Harves** 67.52 343 P P 04 38 02.2 -0.3
baz=158
ANMO **Albuquerque** 67.57 325 eP P 04 38 04.6 +1.3
comp=Z,4.4nm,0.9s
ANMO **Albuquerque** 67.57 325 eP P 04 38 04.6 +1.3
ANMO pmax pmax
comp=Z,4.0nm,0.9s
ANMO **Albuquerque** 67.57 325 P P 04 38 04.2 +0.9
baz=140
JFWS **Jewell Farm** 67.61 342 P P 04 38 02.6 -0.5
baz=156
SCIA **State Center** 67.63 339 P P 04 38 03.1 -0.2
baz=153
K40A **Colesburg** 67.68 341 P P 04 38 02.8 -0.8
baz=155
H46A **Fife Lake** 67.81 346 P P 04 38 03.4 -0.9
baz=161
K39A **Oelwein** 67.92 340 P P 04 38 04.3 -0.7
baz=155
J41A **Loganville** 67.96 342 P P 04 38 04.1 -1.1
baz=156
TUC **Tucson** 68.05 321 eP P 04 38 07.7 +1.5
comp=Z,5.6nm,1.0s
TUC **Tucson** 68.05 321 eP P 04 38 07.7 +1.5
TUC pmax pmax
comp=Z,6.0nm,1.0s
TUC **Tucson** 68.05 321 P P 04 38 07.4 +1.2
baz=136
J40A **Soldiers Grove** 68.20 341 P P 04 38 06.4 -0.4
baz=156
E54A **Lac Daplat, Po** 68.23 352 P P 04 38 06.8 -0.1
baz=169
T25A **Trinidad** 68.23 328 P P 04 38 08.1 +0.7
baz=142
J39A **Decorah** 68.43 341 P P 04 38 07.5 -0.7
baz=155
I41A **Arkdale** 68.55 342 P P 04 38 08.5 -0.4
baz=157
E51A **G1948 Merrick** 68.65 351 P P 04 38 08.9 -0.5
baz=167
QSPA **South Pole Qui** 68.73 180 P P 04 38 11.0 +1.0
comp=Z,6.1nm,0.8s,baz=158,slow=3.2,SNR=9.0
QSPA **South Pole Qui** 68.73 180 eP P 04 38 11.7 +1.7
I39A **Houston** 68.85 341 P P 04 38 10.3 -0.5
baz=155
D54A **Lac Fusel, La** 68.87 353 P P 04 38 10.4 -0.4
baz=170
D53A **Lac Vacive, Po** 68.93 352 P P 04 38 11.0 -0.2
baz=169
BGNE **Belgrade** 68.99 335 eP P 04 38 11.9 +0.3
comp=Z,39nm,0.8s
BGNE **Belgrade** 68.99 335 P P 04 38 12.0 +0.3
baz=148
H40A **Chili** 69.22 342 P P 04 38 12.3 -0.7
baz=156
SDCO **Great Sand Dun** 69.25 328 eP P 04 38 15.1 +1.3
comp=Z,7.7nm,0.8s
SDCO **Great Sand Dun** 69.25 328 P P 04 38 15.1 +1.3
baz=141,SNR=11
G42A **Mountain** 69.25 344 P P 04 38 12.8 -0.4
baz=158
D50A **G1974 Best Tow** 69.32 351 P P 04 38 13.1 -0.5
baz=167
H39A **Augusta** 69.53 342 P P 04 38 14.4 -0.6
baz=155
D49A **Beulah Townshi** 69.67 349 P P 04 38 15.2 -0.5
baz=165
D47A **Chapleau** 69.77 348 P P 04 38 15.8 -0.5
baz=164
H38A **Maiden Rock** 69.82 341 P P 04 38 16.1 -0.6
baz=154
F41A **Three Lakes** 69.89 344 P P 04 38 16.8 -0.4
baz=158
S22A **4UR Ranch, Cre** 69.91 327 eP P 04 38 19.1 +1.3
comp=Z,27nm,0.9s
S22A **4UR Ranch, Cre** 69.91 327 P P 04 38 18.9 +1.1
baz=140
X16A **Lo Mia Camp, P** 69.94 322 eP P 04 38 20.0 +2.1
comp=Z,6.0nm,1.0s
G39A **Holcombe** 70.05 342 P P 04 38 17.1 -1.0
baz=156
OGNE **Ogallala** 70.20 332 P P 04 38 20.0 +0.7
baz=145
F40A **Park Falls** 70.33 343 P P 04 38 20.1 +0.3
baz=157
MVCO **Mesa Verde** 70.36 326 eP P 04 38 22.0 +1.5
comp=Z,16nm,1.4s
MVCO **Mesa Verde** 70.36 326 P P 04 38 21.9 +1.4
baz=139,SNR=5.5
ECSD **EROS Data Cent** 70.42 337 P P 04 38 19.9 -0.5
baz=150
SPMN **Marine on St.** 70.48 341 P P 04 38 20.2 -0.5
baz=154
F39A **Loretta** 70.55 342 P P 04 38 21.2 +0.1
baz=156
WUAZ **Wupatki** 70.69 323 eP P 04 38 24.5 +2.1
comp=Z,11nm,1.0s
WUAZ **Wupatki** 70.69 323 P P 04 38 24.1 +1.7
baz=136,SNR=8.2
E40A **Wakefield** 70.76 343 P P 04 38 22.7 +0.3
baz=157
F38A **Pierce - Schro** 70.87 342 P P 04 38 23.0 0.0
baz=155
ISCO **Idaho Springs** 70.91 329 P P 04 38 24.9 +1.1
baz=142
GLA **Glamis** 71.00 319 P P 04 38 26.0 +1.8
baz=133
SMCO **Snowmass** 71.08 328 eP P 04 38 26.8 +1.8
comp=Z,5.0nm,0.9s
PV13 **Radium Mtn., P** 71.25 326 eP P 04 38 27.4 +1.7
comp=Z,35nm,1.9s
PDMCI **Parker Dam,Lak** 71.44 320 P P 04 38 28.2 +1.5
baz=134
PV22 **Blue Mesa, Par** 71.51 326 eP P 04 38 29.0 +1.7
comp=Z,6.0nm,0.8s
IKP **In-Ko-Pah, Jac** 71.53 318 P P 04 38 29.2 +1.8
baz=132
PV21 **Cone Mtn., Par** 71.63 326 eP P 04 38 29.7 +1.6
comp=Z,8.6nm,1.2s
BC3 **Big Chuckawall** 71.80 319 P P 04 38 30.6 +1.6
baz=132
W13A **Hualapai Mount** 71.84 321 eP P 04 38 31.2 +1.8
comp=Z,2.7nm,0.8s
MONP2 **Monument Peak** 71.89 318 P P 04 38 31.3 +1.7
baz=132
C40A **Isle Royale Na** 71.92 344 P P 04 38 31.1 +1.8
baz=158
N23A **Red Feather La** 71.93 330 P P 04 38 31.1 +1.3
baz=142
IRM **Iron Mountain** 71.95 319 P P 04 38 31.5 +1.7
baz=133,SNR=5.2
BELC **Belle Mtn. Jos** 72.36 319 P P 04 38 34.1 +1.7
baz=132
PFO **Pinyon Flats O** 72.39 318 P P 04 38 34.5 +2.0
baz=132
FRD **Ford Ranch, An** 72.40 318 P P 04 38 34.6 +2.0
baz=132
O20A **White River Ci** 72.45 328 eP P 04 38 34.5 +1.7
comp=Z,15nm,1.0s
O20A **White River Ci** 72.45 328 P P 04 38 34.3 +1.5
baz=140,SNR=6.1
KNB **Kanab** 72.58 323 eP P 04 38 35.8 +2.2
comp=Z,18nm,0.9s
KNB **Kanab** 72.58 323 eP P 04 38 35.8 +2.2
KNB pmax pmax
comp=Z,18nm,0.9s
GMRC **Granite Mounta** 72.69 319 P P 04 38 36.3 +2.0
baz=133,SNR=9.2
LCMT **Little Creek M** 72.81 323 eP P 04 38 37.0 +2.1
comp=Z,4.4nm,0.9s
SRU **San Rafael Swe** 72.84 326 eP P 04 38 36.7 +1.5
comp=Z,11nm,0.7s
SRU **San Rafael Swe** 72.84 326 eP P 04 38 36.7 +1.5
SRU pmax pmax
comp=Z,11nm,0.7s
MTPU **Mount Pierson** 72.95 324 eP P 04 38 37.9 +1.9
comp=Z,4.0nm,0.7s
P18A **Pres Nutter** 73.08 326 eP P 04 38 38.6 +1.9
comp=Z,11nm,0.7s
HEC **Hector,Ludlow** 73.13 319 P P 04 38 38.8 +2.0
baz=132
P17A **Butcher Ranch,** 73.22 326 eP P 04 38 39.1 +1.8
comp=Z,11nm,0.9s
CCUT **Cedar City** 73.26 323 eP P 04 38 39.9 +2.2
comp=Z,9.4nm,0.8s
TUQ **Turquoise Moun** 73.28 320 P P 04 38 39.6 +1.8
baz=133
MSU **Marysvale** 73.29 324 eP P 04 38 40.0 +2.1
MSU **Marysvale** 73.29 324 eP P 04 38 40.0 +2.1
SCI2 **San Clemente I** 73.30 316 P P 04 38 39.8 +2.1
baz=130
TMUT **Trail Mountain** 73.34 325 eP P 04 38 39.9 +1.7
comp=Z,3.4nm,0.7s
CIS **Catalina Islan** 73.48 317 P P 04 38 40.7 +1.9
baz=130
BFSC **Mount Baldy Ra** 73.55 318 P P 04 38 40.5 +1.2
baz=131
RRX **Edison Barstow** 73.56 319 P P 04 38 42.0 +2.7
baz=132
SHPR **Sheep Range** 73.56 321 eP P 04 38 41.1 +1.7
comp=Z,4.5nm,0.9s
RSSD **Black Hills** 73.65 333 P P 04 38 40.9 +1.1
baz=144
GSC **Goldstone, Bar** 73.73 319 eP P 04 38 42.3 +2.0
comp=Z,8.7nm,1.4s
GSC **Goldstone, Bar** 73.73 319 eP P 04 38 42.3 +2.0
GSC pmax pmax
comp=Z,9.0nm,1.4s
GSC **Goldstone, Bar** 73.73 319 P P 04 38 42.1 +1.8
baz=132,SNR=5.5
MPU **Maple Canyon** 74.09 326 eP P 04 38 44.2 +1.8
comp=Z,6.1nm,0.9s
EDW2 **Edwards Air Fo** 74.18 318 P P 04 38 44.2 +1.3
baz=131,SNR=5.7
PSUT **Pine Spring** 74.23 323 eP P 04 38 45.4 +2.1
comp=Z,6.0nm,0.8s
NLU **North Lily Min** 74.28 325 eP P 04 38 45.5 +1.9
comp=Z,4.9nm,1.0s
LRMC **Laurel Mtn Rad** 74.38 319 P P 04 38 45.9 +1.8
baz=131
JLU **Jordanelle** 74.42 326 eP P 04 38 46.2 +1.8
comp=Z,7.6nm,0.8s
TPNV **Topopah Spring** 74.50 321 eP P 04 38 46.6 +1.8
comp=Z,7.7nm,1.0s
TPNV **Topopah Spring** 74.50 321 eP P 04 38 46.6 +1.8
TPNV pmax pmax
comp=Z,8.0nm,1.0s
TPNV **Topopah Spring** 74.50 321 P P 04 38 47.1 +2.2
baz=133,SNR=9.0
FURC **Furnace Creek,** 74.54 320 P P 04 38 46.9 +2.1
baz=132,SNR=5.8
SCZ2 **Santa Cruz Isl** 74.64 317 P P 04 38 47.4 +1.9
baz=130
MPMC **Manual Prospec** 74.65 319 P P 04 38 47.1 +1.4
baz=132,SNR=5.4
TCUT **Toone Canyon** 74.78 327 eP P 04 38 48.4 +1.9
comp=Z,7.2nm,0.8s
DUG **Dugway, Tooele** 74.84 325 eP P 04 38 48.5 +1.8
comp=Z,19nm,1.9s
DUG **Dugway, Tooele** 74.84 325 eP P 04 38 48.5 +1.8
DUG pmax pmax
comp=Z,19nm,1.9s
DUG **Dugway, Tooele** 74.84 325 P P 04 38 48.4 +1.7
baz=132
DAC **Darwin (Calif)** 74.85 320 eP P 04 38 48.8 +1.9
comp=Z,6.3nm,0.8s
DAC **Darwin (Calif)** 74.85 320 eP P 04 38 48.8 +1.9
DAC pmax pmax
comp=Z,6.0nm,0.8s
ISA **Isabella, Lake** 74.99 319 eP P 04 38 49.4 +1.9
comp=Z,6.6nm,0.8s
ISA **Isabella, Lake** 74.99 319 eP P 04 38 49.4 +1.9
ISA pmax pmax
comp=Z,7.0nm,0.8s
ISA **Isabella, Lake** 74.99 319 P P 04 38 49.6 +2.0
baz=131,SNR=8.2
R11A **Troy Canyon, C** 75.07 322 eP P 04 38 50.0 +1.9
comp=Z,3.3nm,0.8s
R11A **Troy Canyon, C** 75.07 322 P P 04 38 50.2 +2.1
baz=133,SNR=7.0
PD31 **Pinedale Array** 75.09 329 eP P 04 38 48.6 +0.5
PDAR **Pinedale Array** 75.09 329 P P 04 38 48.6 +0.5
comp=Z,1.1nm,0.5s,baz=119,slow=7.7,SNR=16
GRAC **Grapevine Rang** 75.20 320 P P 04 38 50.6 +1.9
baz=132
HWUT **Hardware Ranch** 75.22 327 eP P 04 38 50.1 +1.2
comp=Z,12nm,1.8s
CWC **Cottonwood Cre** 75.26 319 P P 04 38 51.2 +2.1
baz=131
PKM **Mcpherson Peak** 75.33 317 P P 04 38 51.4 +1.8
baz=130,SNR=5.6
SPUT **South Promonto** 75.45 326 eP P 04 38 51.8 +1.6
comp=Z,6.0nm,0.7s
VES **Vessal, Richgr** 75.48 318 P P 04 38 52.1 +1.8
baz=130
BGU **Big Grassy Mou** 75.48 326 eP P 04 38 51.4 +1.0
comp=Z,8.2nm,1.1s
TOA1 **Torodi Ar. Sit** 75.48 69 eP P 04 38 47.9 -2.8
TORD **Torodi Ar. Bea** 75.48 69 P P 04 38 47.9 -2.8
comp=Z,15nm,0.6s,baz=259,slow=4.7,SNR=132
SMMC **Simmler** 75.71 317 P P 04 38 53.7 +2.1
baz=130,SNR=5.0
AHID **Auburn Hatcher** 75.84 328 eP P 04 38 53.8 +1.4
comp=Z,8.7nm,0.8s
ULM **Lac du Bonnet** 75.90 341 P P 04 38 52.0 -0.3
comp=Z,6.3nm,0.6s,baz=155,slow=6.2,SNR=14
HVU **Hansel Valley** 75.96 326 eP P 04 38 54.3 +1.3
comp=Z,6.5nm,1.0s
HVU **Hansel Valley** 75.96 326 eP P 04 38 54.3 +1.3
HVU pmax pmax
comp=Z,7.0nm,1.0s
REDW **Red Top Meadow** 76.16 329 eP P 04 38 55.7 +1.4
comp=Z,7.1nm,0.9s
SNOW **Snow King Moun** 76.19 329 eP P 04 38 55.9 +1.5
comp=Z,15nm,1.5s
LOHW **Long Hollow** 76.23 329 eP P 04 38 55.7 +1.1
comp=Z,3.8nm,0.7s
TPAW **Teton Pass** 76.30 329 eP P 04 38 57.0 +1.9
comp=Z,5.4nm,0.8s
OMMB **Old Mammoth Mi** 76.58 320 eP P 04 38 58.5 +1.7
comp=Z,8.2nm,0.9s
IMW **Indian Meadow** 76.60 329 eP P 04 38 58.4 +1.7
comp=Z,6.1nm,0.8s
FLWY **Flagg Ranch** 76.62 329 eP P 04 38 58.8 +2.0
comp=Z,33nm,1.8s
LAO **LASA Array** 76.62 333 P P 04 38 57.6 +1.1
baz=142
MDPB **Devils Postpil** 76.64 320 eP P 04 38 58.9 +1.8
comp=Z,3.9nm,0.9s
NV01 **Mina Array Sit** 76.70 321 eP P 04 38 59.0 +1.6
NVAR **Mina Array Bea** 76.70 321 P P 04 38 59.0 +1.6
comp=Z,3.5nm,0.8s,baz=163,slow=6.5,SNR=25
RLMT **Red Lodge** 76.74 331 eP P 04 38 58.6 +1.2
comp=Z,35nm,1.9s
RLMT **Red Lodge** 76.74 331 P P 04 38 58.9 +1.5
baz=140
H17A **Grant Village** 76.80 329 P P 04 38 59.8 +2.0
baz=138
RYN **Ryan** 76.96 321 eP P 04 39 00.5 +1.8
comp=Z,4.1nm,0.9s
KVN **Kaiserville** 77.00 321 eP P 04 39 00.5 +1.6
comp=Z,8.4nm,0.9s
KVN **Kaiserville** 77.00 321 eP P 04 39 00.5 +1.6
KVN pmax pmax
comp=Z,8.0nm,0.9s
YMR **Madison River** 77.19 329 eP P 04 39 02.6 +2.6
comp=Z,8.2nm,1.0s
VNDA **Vanda** 77.22 190 P P 04 39 01.1 +1.7
comp=Z,0.9nm,0.8s,baz=116,slow=4.5,SNR=6.9
YHH **Holmes Hill** 77.22 329 eP P 04 39 02.3 +2.1
comp=Z,9.2nm,0.9s
DGMT **Dagmar** 77.24 336 P P 04 39 01.4 +1.5
baz=144
WAKR **Walker** 77.42 320 eP P 04 39 03.7 +2.3
comp=Z,7.2nm,1.3s
YERR **Yerington** 77.62 321 eP P 04 39 04.5 +2.1
comp=Z,4.7nm,0.7s
PNTR **Pine Nut** 77.90 321 eP P 04 39 06.2 +2.3
comp=Z,14nm,0.8s
VCNR **Virginia City** 78.06 321 eP P 04 39 06.9 +2.0
comp=Z,8.7nm,1.2s
HLID **Hailey** 78.08 327 eP P 04 39 06.6 +1.8
comp=Z,6.3nm,0.8s
HLID **Hailey** 78.08 327 P P 04 39 06.8 +2.0
baz=135
TSUM **Tsumeb** 78.15 106 eP P 04 39 06.3 +0.5
comp=Z,2.2nm,0.8s
PAHR **Pah Rah Range** 78.17 321 eP P 04 39 07.3 +1.9
comp=Z,14nm,0.9s
BOZ **Bozeman (W)** 78.19 330 P P 04 39 06.8 +1.4
baz=138
RUBR **Rubicon Trail** 78.20 320 eP P 04 39 07.3 +1.6
comp=Z,8.0nm,1.0s
MCMT **McKenzie Canyo** 78.21 328 eP P 04 39 07.4 +1.8
AFDM **Forest Hills D** 78.63 320 eP P 04 39 09.2 +1.5
comp=Z,4.8nm,0.9s
MFID **Camas Ranch** 78.71 326 eP P 04 39 10.1 +1.9
comp=Z,18nm,1.7s
BEKR **Beckworth** 78.85 321 eP P 04 39 10.8 +1.7
comp=Z,5.4nm,1.0s
EGMT **Eagleton** 79.17 332 P P 04 39 11.7 +1.1
baz=140
ORV **Oroville** 79.33 320 eP P 04 39 13.4 +1.9
comp=Z,11nm,1.1s
ORV **Oroville** 79.33 320 eP P 04 39 13.4 +1.9
ORV pmax pmax
comp=Z,11nm,1.1s
O03E **Paynes Creek** 79.97 320 P P 04 39 15.7 +0.6
baz=129
BMO **Blue Mountains** 80.47 326 eP P 04 39 18.8 +1.1
comp=Z,9.9nm,1.1s
O02D **Mt. Diablo Mer** 80.49 320 P P 04 39 18.6 +0.8
baz=128
WDC **Whiskeytown Da** 80.59 320 eP P 04 39 18.2 0.0
comp=Z,18nm,1.8s
WDC **Whiskeytown Da** 80.59 320 eP P 04 39 18.2 0.0
WDC pmax pmax
comp=Z,18nm,1.8s
N02D **Trinity Center** 80.94 321 P P 04 39 20.7 +0.6
baz=128
M04C **Macdoel** 80.94 322 P P 04 39 21.1 +0.9
baz=129
F10A **Beach Ranch, E** 81.20 327 eP P 04 39 22.8 +1.4
comp=Z,4.2nm,0.8s
M02C **Callahan** 81.28 321 P P 04 39 22.9 +0.9
baz=128
L04D **Klamath Falls** 81.48 322 P P 04 39 23.9 +0.9
baz=129
J05D **Fort Rock, OR** 81.55 323 P P 04 39 24.5 +1.1
baz=130
BOSA **Boshof** 81.71 117 P P 04 39 24.1 -0.6
comp=Z,20nm,1.3s,baz=244,slow=2.6,SNR=12
J04D **Umpqua Nationa** 82.02 323 P P 04 39 26.9 +1.0
baz=129
I05D **Terrebonne, OR** 82.29 324 P P 04 39 28.7 +1.6
baz=130
K02D **Willamette Mer** 82.57 321 P P 04 39 30.1 +1.5
baz=128
HAWA **Hanford** 82.67 326 eP P 04 39 30.2 +1.3
comp=Z,9.5nm,0.8s
C09A **Chrisman Ranch** 82.97 328 eP P 04 39 31.8 +1.3
comp=Z,9.2nm,0.8s
TAM **Tamanrasset** 83.04 62 eP P 04 39 31.8 +0.2
comp=Z,4.4nm,1.0s
TAM **Tamanrasset** 83.04 62 eP P 04 39 31.8 +0.2
TAM pmax pmax
comp=Z,4.0nm,1.0s
MAW **Mawson** 83.78 163 P P 04 39 35.1 +0.8
comp=Z,4.6nm,0.7s,baz=260,slow=11,SNR=4.4
LTY **Liberty** 83.82 326 eP P 04 39 35.9 +1.0
comp=Z,4.6nm,0.8s
ESDC **Sonseca Array** 84.43 44 P P 04 39 37.7 -0.4
comp=Z,2.8nm,0.8s,baz=249,slow=5.0,SNR=11
D04E **Lakebay** 84.87 325 P P 04 39 40.8 +0.8
baz=129
B05A **Bryant** 85.21 327 P P 04 39 42.4 +0.7
baz=130
LSZ **Lusaka** 89.00 106 eP P 04 40 01.8 +0.9
comp=Z,5.3nm,0.8s
LSZ **Lusaka** 89.00 106 eP P 04 40 01.8 +0.9
LSZ pmax pmax
comp=Z,5.0nm,0.8s
YKA **Yellowknife Ar** 91.83 340 P P 04 40 13.0 +0.4
comp=Z,3.6nm,0.7s,baz=128,slow=4.4,SNR=22
YKB5 **Yellowknife Ar** 91.83 340 eP P 04 40 12.8 +0.1
COLD **Coldfoot** 107.07 336 ePdif Pdif 04 41 23.2 +2.1
KBZ **Khabaz** 118.55 51 PKP PKPdf 04 45 52.4 +0.6
comp=Z,1.7nm,0.8s,baz=319,slow=2.0,SNR=4.7
BILL **Bilibino** 123.21 339⇑ ePKIKP PKPdf 04 46 04.5 +4.4
BILL *i* 04 52 51.5
BILL pmax pmax
comp=Z,3.0nm,1.3s
TIXI **Tiksi** 128.99 354⇑ iPKIKP PKPdf 04 46 10.9 -0.1
ABKAR **Akbulak array** 129.78 43 ePKPdf PKPdf 04 46 14.2 +1.0
AS01 **Alice Springs** 130.81 205 ePKPdf PKPdf 04 46 15.1 -1.0
AS31 **Alice Springs** 130.83 205 ePKPdf PKPdf 04 46 16.1 -0.1
ASAR **Alice Springs** 130.83 205 PKP PKPdf 04 46 16.1 -0.1
comp=Z,1.1nm,0.5s,baz=132,slow=1.9,SNR=13
SEY **Seymchan** 130.84 338 PKP PKPdf 04 46 14.8 +0.1
comp=Z,3.6nm,0.8s,baz=32,slow=15,SNR=5.0
WB2 **Warramunga Arr** 133.95 208 ePKPdf PKPdf 04 46 22.9 +0.8
WR1 **Warramunga Arr** 133.95 208 ePKPdf PKPdf 04 46 22.5 +0.4
WRA **Warramunga Arr** 133.95 208 PKP PKPdf 04 46 22.5 +0.4
comp=Z,1.3nm,0.7s,baz=155,slow=1.7,SNR=18
WRAB **Tennant Creek** 133.96 208⇓ iPKIKP PKPdf 04 46 20.3 -1.8
BRVK **Borovoye** 134.56 35⇓ ePKIKP PKPdf 04 46 22.1 0.0
KURK **Kurchatov** 140.20 34 ePKPdf PKPdf 04 46 32.4 -0.2
KURK **Kurchatov** 140.20 34⇓ iPKIKP PKPdf 04 46 34.2 +1.7
KURBB **Kurchatov Arra** 140.20 34 PKP PKPdf 04 46 32.4 -0.2

comp=Z,1.4nm,0.8s,baz=297,slow=2.6,SNR=10
ZAA1 Zalesovo Array 141.05 27 *e*PKPdf **PKPdf 04 46 35.0 +0.9**
ZAA0 Zalesovo Array 141.06 27 *e*PKPdf **PKPdf 04 46 34.6 +0.6**
ZALV Zalesovo Beam 141.06 27 PKhKP PKPpre 04 46 28.4
comp=Z,2.7nm,0.7s,baz=336,slow=3.3,SNR=6.2
ZALV PKP **PKPdf 04 46 35.0 +0.9**
comp=Z,5.1nm,0.7s,baz=290,slow=2.6,SNR=17
ZALV Zalesovo Beam 141.06 27 *c i*PKIKP PKPpre 04 46 30.0
AAK Ala-Archa 141.42 48‖ *e*PKIKP **PKPdf 04 46 34.8 -0.5**
KSH Kashi 141.53 52 *e*PKP PKPbc 04 46 36.5 -0.5
MK31 Makanchi Array 144.42 37 *e*PKPdf **PKPdf 04 46 40.0 -0.3**
MK31 Makanchi Array 144.42 37 *e*PKIKP **PKPdf 04 46 40.0 -0.3**
MK32 Makanchi Array 144.42 37 *e*PKPdf **PKPdf 04 46 39.9 -0.4**
MKAR Makanchi Array 144.42 37 PKP **PKPdf 04 46 39.9 -0.4**
comp=Z,15nm,0.7s,baz=314,slow=3.7,SNR=85
MK01 Makanchi Array 144.44 37 *e*PKPdf PKPbc 04 46 39.5 +0.1
DGZ Jazzator, Alta 145.21 30 *d i*PKP2 **PKPab 04 46 42.7 +0.6**
HVS Khovu-Aksy 146.68 23‖ *i*PKP2 **PKPab 04 46 46.9 -0.7**
HYB Hyderabad 147.10 91 *i* PKP **PKPbc 04 46 48.5 +0.4**
KNGR Kungurtug, Tuv 148.41 19⇑ *i*PKP2 **PKPbc 04 46 50.8 +0.1**
KLR Kul'dur 148.62 336 PKPbc **PKPbc 04 46 50.8 -0.3**
comp=Z,3.8nm,0.8s,baz=14,slow=3.7,SNR=8.5
KLR Kul'dur 148.62 330‖ *i*PKP2 **PKPbc 04 46 50.3 -0.8**
USRK Ussuriysk Ar. 152.51 330 PKPbc **PKPbc 04 47 01.3 +0.9**
comp=Z,2.5nm,0.5s,baz=278,slow=0.5,SNR=6.0
SONA1 Songino Array 153.11 10 *e*PKPbc **PKPbc 04 47 02.3 +0.4**
SONA0 Songino Array 153.12 10 *e*PKPbc **PKPbc 04 47 01.9 0.0**
SONM Songino Array 153.12 10 PKPbc **PKPbc 04 47 01.9 0.0**
comp=Z,4.7nm,0.6s,baz=298,slow=0.9,SNR=7.4
ULN Ulaanbaatar 153.19 9⇑ *i*PKIKP **PKPdf 04 46 54.8 +0.3**
MJAR Matsushiro Arr 153.58 310 PKPbc **PKPbc 04 47 02.9 -0.2**
comp=Z,1.3nm,0.6s,baz=90,slow=1.4,SNR=2.9
MAJO Matsushiro 153.59 310 *e*PKPbc **PKPbc 04 47 02.9 -0.2**
MAJO Matsushiro 153.59 310 *e*PKIKP **PKPbc 04 47 02.9 -0.2**
LZH Lanzhou 163.29 27 *e*PKP **PKPdf 04 47 05.5 -1.5**
LZH pPKP pPKPdf 04 48 03.0 +1.1
LZH sPKP 04 48 29.8
CD2 Chengdu 167.33 40 PKP **PKPdf 04 47 09.5 -0.8**

*ISCJB **27** 04:36:53.2±0.6, 39.°76N±0.°03×141.°88E±0.°08, h66km±3km, mb3.6/6, Error ellipse: s-maj=10.2km s-min=5.4km az=8.4*
*JMA **27** 04:36:54.5, 39.°76N×141.°85E, h58km± 1 km, M3.6*
JMA Felt I J1.
*IDC **27** 04:36:56.6±4.3, 39.°73N×141.°80E, h82km±41km, mb3.4/6, mb1 3.5/7, mb1mx3.2/46, mbtmp3.7/7, Error ellipse: s-maj=31.9km s-min=23.8km az=78.0*
ISC 27 04:36:54.1±0.9, 39.°76N±0.°04×141.°87E±0.°07, h59km±6km, n19, σ0°41/32, mb3.8/6, 3C-8D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.18**	**358**				**Pn**	**04 37 03.7**	**+0.3**
JTH						*e*S	**Sn**	04 37 10.2	+0.2
MIYJ	**Miyakonagasawa**	**0.19**	**192**				**Pn**	**04 37 03.8**	**+0.4**
MIYJ						S	**Sn**	04 37 10.1	0.0
JKEN	**Kujiedanarisaw**	**0.46**	**344**			P	**Pn**	**04 37 05.8**	**+0.2**
JKEN						S	**Sn**	04 37 14.0	+0.1
JKZ	**Kuzumaki**	**0.47**	**298**				**Pn**	**04 37 06.1**	**+0.3**
JKZ						S	**Sn**	04 37 14.1	-0.1
JOM	**Ohasama**	**0.53**	**237**				**Pn**	**04 37 06.4**	**0.0**
JOM						*e*S	**Sn**	04 37 14.9	-0.4
JANG	**Nango**	**0.67**	**336**				**Pn**	**04 37 08.0**	**0.0**
JANG						S	**Sn**	04 37 18.0	-0.1
JMK	**Ichinoseki**	**0.95**	**212**				**Pn**	**04 37 11.6**	**+0.1**
JMK						S	**Sn**	04 37 24.4	0.0
JRG	**Rokugo**	**1.02**	**249**				**Pn**	**04 37 12.3**	**-0.1**
JRG						*e*S	**Sn**	04 37 26.1	+0.1
JAH	**Hinai**	**1.04**	**295**				**Pn**	**04 37 12.9**	**+0.2**
JAH						*e*S	**Sn**	04 37 27.0	+0.6
JTM	**Tenmabayashi**	**1.19**	**329**				**Pn**	**04 37 14.8**	**+0.1**
JTM						*e*S	**Sn**	04 37 29.9	-0.1
JIO	**Ouri**	**1.37**	**197**				**Pn**	**04 37 17.2**	**+0.2**
JIO						*e*S	**Sn**	04 37 33.5	-0.6
JYK	**Kaneyama**	**1.45**	**235**				**Pn**	**04 37 18.1**	**0.0**
JYK						*e*S	**Sn**	04 37 36.1	+0.1
MJAR	**Matsushiro Arr**	**4.32**	**223**	P		P	**Pn**	**04 37 58.9**	**+1.5**
	0.5nm,0.3s,baz=27,slow=12,SNR=3.4								
ZALV	**Zalesovo Beam**	**40.39**	**310**	P		P		**04 44 26.1**	**0.0**
	1.4nm,0.5s,baz=88,slow=9.5,SNR=7.3								
MKAR	**Makanchi Array**	**43.03**	**300**	P		P		**04 44 47.8**	**0.0**
	0.7nm,0.6s,baz=86,slow=10,SNR=4.3								
KURBB	**Kurchatov Arra**	**44.65**	**306**	P		P		**04 45 00.4**	**-0.2**
	1.4nm,0.6s,baz=81,slow=8.4,SNR=7.7								
KURBB				pP		**pP**		**04 45 15.5**	**-0.4**
	0.9nm,0.5s,baz=81,slow=8.5,SNR=4.4								
ILAR	**Eielson Array**	**47.01**	**34**	P		P		**04 45 19.7**	**+0.6**
	0.2nm,0.6s,baz=263,slow=6.3,SNR=3.6								
WRA	**Warramunga Arr**	**59.81**	**188**	P		P		**04 46 53.0**	**-0.3**
	0.1nm,0.5s,baz=7.3,slow=7.2,SNR=2.6								
FINES	**FINESS Array B**	**66.58**	**332**	P		P		**04 47 37.1**	**-0.5**
	3.1nm,0.9s,baz=42,slow=2.3,SNR=3.8								

*IDC **27** 04:40:24.8±0.7, 32.°84S×57.°03E, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.8/44, mbtmp3.9/9, ML4.7/1, Error ellipse: s-maj=26.2km s-min=20.2km az=70.0*
*NEIC **27** 04:40:26.5±0.5, 32.°74S×57.°01E, h10km, mb4.2/4, Error ellipse: s-maj=15.8km s-min=10.7km az=65.0*
ISC 27 04:40:26.4±0.6, 32.°64S±0.°09×56.°9E±0.°1, h10km, n35, σ1°75/29, mb4.2/11, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**11.48**	**355**			*e*Pn	**Pn**	**04 43 09.5**	**-1.0**
ABPO	**Ambohimpanom**	**16.11**	**325**			*e*Pn	**Pn**	**04 44 15.0**	**+1.8**
	6.6nm,0.6s								
ABPO						*e*Sn	**Sn**	**04 47 07.7**	**-4.3**
OPO	**Ambohidratompo**	**16.51**	**326**	Pn			**P**	**04 44 22.5**	**+1.6**
	2.5nm,0.3s,baz=118,slow=18,SNR=12								
OPO						Sn	**Sn**	**04 47 16.7**	**-5.0**
	1.2nm,0.3s,baz=62,slow=17,SNR=4.1								
H08S2	**Diego Garcia H**	**28.77**	**34**	T		T		05 16 17.3	
	baz=206,slow=74,SNR=4.7								
H08S3	**Diego Garcia H**	**28.78**	**34**	T		T		05 16 18.1	
	baz=98,slow=74,SNR=8.6								
H08N3	**Diego Garcia H**	**29.26**	**30**	T		T		05 17 35.3	
	baz=204,slow=76,SNR=6.9								
H08N1	**Diego Garcia H**	**29.28**	**30**	T		T		05 17 36.2	
	baz=204,slow=76,SNR=3.7								
H08N2	**Diego Garcia H**	**29.29**	**30**	T		T		05 17 37.0	
	baz=204,slow=76,SNR=6.8								
H01W2	**Cape Leeuwin H**	**47.07**	**109**	T		T		05 38 54.0	
	baz=256,slow=75,SNR=13								
H01W3	**Cape Leeuwin H**	**47.07**	**109**	T		T		05 38 53.6	
	baz=256,slow=75,SNR=14								
H01W1	**Cape Leeuwin H**	**47.08**	**109**	T		T		05 38 52.5	
	baz=256,slow=75,SNR=18								
SNAA	**Sanae**	**49.94**	**201**	P		P	**P**	**04 49 19.5**	**-0.5**
SNAA	**Sanae**	**49.94**	**201**	P		P	**P**	**04 49 19.1**	**-0.9**
	2.2nm,0.9s,baz=183,slow=20,SNR=7.4								
SNAA	**Sanae**	**49.94**	**201**			*e*P	**P**	**04 49 19.1**	**-0.9**
	2.9nm,0.9s								
VNA2	**Neumayer--Watz**	**51.16**	**202**	P		P	**P**	**04 49 29.3**	**+0.1**
	baz=90,slow=6.8								
VNA3	**Neumayer Olymp**	**51.95**	**202**	P		P	**P**	**04 49 34.9**	**-0.2**
QSPA	**South Pole Qui**	**57.54**	**180**	P		P	**P**	**04 50 14.3**	**-1.5**
	1.3nm,0.6s,baz=255,slow=3.8,SNR=5.3								
VNDA	**Vanda**	**61.54**	**166**	P		P	**P**	**04 50 41.8**	**-1.3**
	1.5nm,0.9s,baz=268,slow=7.2,SNR=7.2								
CM01	**Chiang Mai Arr**	**64.77**	**45**			*e*P	**P**	**04 51 04.7**	**-0.6**
CM31	**Chiang Mai Arr**	**64.79**	**45**			*e*P	**P**	**04 51 06.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**64.79**	**45**	P		P	**P**	**04 51 06.2**	**+0.8**
	1.4nm,0.7s,baz=236,slow=6.8,SNR=7.2								
SHL	**Shillong**	**66.79**	**34**			*e*P	**P**	**04 51 18.5**	**+0.2**
	5.3nm,0.4s								
ASAR	**Alice Springs**	**67.15**	**104**	P		P	**P**	**04 51 19.9**	**-0.9**
	0.3nm,0.6s,baz=231,slow=5.9,SNR=3.7								
AS31	**Alice Springs**	**67.15**	**104**			*e*P	**P**	**04 51 19.9**	**-0.9**
	2.9nm,1.8s								
WR1	**Warramunga Arr**	**69.22**	**101**			*e*P	**P**	**04 51 33.1**	**-0.7**
WRA	**Warramunga Arr**	**69.22**	**101**	P		P	**P**	**04 51 33.1**	**-0.7**
	0.8nm,0.7s,baz=239,slow=5.3,SNR=5.1								
TORD	**Torodi Ar. Bea**	**69.66**	**301**	P		P	**P**	**04 51 37.4**	**+1.0**
	0.9nm,1.2s,baz=155,slow=11,SNR=3.0								
TOA1	**Torodi Ar. Sit**	**69.67**	**301**			*e*P	**P**	**04 51 37.4**	**+1.0**
BR101	**Keskin Array S**	**75.16**	**342**			*e*P	**P**	**04 52 10.6**	**+1.7**
BRTR	**Keskin Array B**	**75.16**	**342**	P		P	**P**	**04 52 10.6**	**+1.7**
	0.5nm,0.7s,baz=166,slow=6.7,SNR=3.3								
CUC	**Castrocucco**	**81.67**	**329**			*e*P	**P**	**04 52 48.1**	**+3.4**
	169nm,0.3s								
ILAR	**Eielson Array**	**144.67**	**17**	PKP			**PKPab**	**05 00 00.7**	**-0.5**
	0.5nm,0.6s,baz=320,slow=3.2,SNR=8.3								
ILB	**Eielson Array**	**144.67**	**17**	*e*PKPdf			**PKPab**	**05 00 00.7**	**-0.5**
YKA	**Yellowknife Ar**	**149.64**	**352**	PKPbc			**PKPbc**	**05 00 15.1**	**-0.3**
	0.4nm,0.7s,baz=356,slow=2.1,SNR=4.7								
YKB5	**Yellowknife Ar**	**149.64**	**352**	*e*PKPbc			**PKPbc**	**05 00 15.2**	**-0.3**

*SJA **27** 04:43:30.7±1.3, 31.°74S×72.°18W, h40km±25km, ML3.5, MW3.8*
*GUC **27** 04:43:32.5±0.7, 31.°66S×71.°65W, h43km±4km, ML3.5*
ISC 27 04:43:29.9±1.6, 31.°64S±0.°03×71.°76W±0.°07, h6km±13km, n27, σ1°15/34, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMCH	**Corbarbala**	**0.80**	**55**	⇑	*i*P		**Pn**	**04 43 47.9**	**+0.1**
CMCH						*e*S	**Sn**	**04 43 58.8**	**-1.4**
CMCH						IAML		04 44 01.7	
	comp=N,8μm,0.7s								
ROCH	**El Roble**	**1.48**	**155**			*e*P	**Pg**	**04 43 58.0**	**-0.2**
ROCH						*e*S	**Sg**	**04 44 17.4**	**0.0**
ROCH						IAML		04 44 24.7	
	comp=N,686nm,0.5s								
ROC1	**El Roble**	**1.48**	**155**			*e*P	**Pg**	**04 43 58.4**	**+0.1**
ROC1						*e*S	**Sg**	**04 44 18.3**	**+0.8**
GO04	**Tololo Observa**	**1.68**	**30**			*e*P	**Pg**	**04 44 02.4**	**+0.2**
GO04	**Tololo Observa**	**1.68**	**30**			*e*P	**Pb**	**04 44 01.5**	**+0.1**
GO04						*e*S	**Sg**	**04 44 23.9**	**0.0**
PEL	**Peldehue**	**1.76**	**149**			*e*P	**Pb**	**04 44 02.4**	**-0.2**
PEL						*e*S	**Sb**	**04 44 24.6**	**-0.4**
LSCH	**La Serena**	**1.78**	**15**			*e*P	**Pb**	**04 44 03.0**	**0.0**
LSCH						*e*S	**Sb**	**04 44 25.8**	**+0.3**
CLCH	**Cerro Calan**	**2.04**	**150**			*e*P	**Pb**	**04 44 06.8**	**-0.7**
CLCH						*e*S	**Sb**	**04 44 32.1**	**-1.0**
CLCH						IAML		04 44 37.5	
	comp=E,1μm,0.8s								
FCH	**Farellones**	**2.10**	**144**			*e*P	**Pb**	**04 44 07.5**	**-1.1**
FCH						*i* S	**Sb**	**04 44 34.1**	**-0.9**
FCH						IAML		04 44 40.5	
	comp=E,247nm,0.7s								
AUSP	**Uspallata**	**2.10**	**107**			*e*P	**Pg**	**04 44 10.2**	**-0.1**
RTLS	**Leoncito**	**2.11**	**95**			*e*P	**Pg**	**04 44 10.3**	**-0.1**
AROD	**Rodeo**	**2.45**	**54**			*e*P	**Pg**	**04 44 16.1**	**-0.9**
ACCO	**Cerro Coronel**	**2.54**	**66**			*e*P	**Pg**	**04 44 17.4**	**-1.2**
ZON	**Zonda**	**2.63**	**89**			*e*P	**Pb**	**04 44 18.2**	**+0.6**
ZON						IAML		04 44 56.9	
	comp=Z,126nm,0.4s								
ASAL	**Salagasta**	**2.66**	**112**			*e*P	**Pb**	**04 44 19.0**	**+0.9**
ARCO	**CERRO ARCO**	**2.68**	**117**			*e*P	**Pb**	**04 44 19.8**	**+1.3**
ARCO						IAML		04 44 30.3	
	comp=Z,134nm,0.5s								
ACDV	**Cuesta del Vie**	**2.70**	**58**			*e*P	**Pb**	**04 44 17.2**	**-1.6**
RTCV	**Cerro Valdivia**	**2.75**	**96**			*e*P	**Pb**	**04 44 19.8**	**+0.1**
LCO	**Las Campanas**	**2.77**	**20**			*e*P	**Pn**	**04 44 16.5**	**+1.3**
RTLL	**Cerro Villicun**	**2.83**	**85**			*e*P	**Pb**	**04 44 20.9**	**+0.1**
RTLL						IAML		04 45 07.2	
	comp=Z,143nm,0.3s								
AAGR	**Agrelo**	**2.87**	**121**			*e*P	**Pb**	**04 44 22.0**	**+0.3**
AMOG	**MOGNA**	**2.88**	**77**			*e*P	**Pb**	**04 44 21.9**	**0.0**
GO05	**HualaæØ**	**3.37**	**182**			*e*P	**Pn**	**04 44 23.4**	**+0.3**
AGUA	**GUANDACOL**	**3.54**	**54**			*e*P	**Pb**	**04 44 31.6**	**-1.6**
ACAN	**Cantantal**	**3.94**	**100**			*e*P	**Pb**	**04 44 37.3**	**-2.6**
APLL	**PUNTA DE LOS L**	**4.66**	**76**			*e*P	**Pn**	**04 44 44.8**	**+3.8**
APLL						IAML		04 45 48.0	
	comp=Z,48nm,0.4s								
ACLC	**CERRO LA CRUZ**	**4.70**	**63**			*e*P	Pn	04 44 46.0	+4.4

*IDC **27** 05:01:09.2±1.1, 13.°91N×92.°57W, h0km, mb4.1/8, mb1 4.3/12, mb1mx4.0/41, mbtmp4.0/12, ML3.5/4, MS3.5/1, Ms1 3.5/1, ms1mx2.8/31, Error ellipse: s-maj=33.5km s-min=17.7km az=48.0*
*MEX **27** 05:01:11.1±0.6, 13.°70N×92.°68W, h16km±22km, MD4.1*
*UCR **27** 05:01:12.9±1.6, 13.°92N×92.°57W, h20km±735km, ML3.6, mb4.3(NEIC)*
*ISCJB **27** 05:01:14.1±0.4, 13.°94N±0.°05×92.°53W±0.°03, h46km, mb4.3/77, Error ellipse: s-maj=7.6km s-min=2.7km az=27.5*
*NEIC **27** 05:01:15.2±0.6, 13.°92N×92.°55W, h39km±5km, mb4.3/85, MD4.1(MEX), Error ellipse: s-maj=6.4km s-min=3.8km az=206.0*
ISC 27 05:01:15.4±0.7, 13.°90N±0.°07×92.°66W±0.°05, h46km, n163, σ1°50/169, mb4.3/77, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**1.88**	**343**			*e*Pn	**Pn**	**05 01 41.6**	**-3.4**
PCIG		**1.88**	**343**			*e*P	**Pn**	**05 01 41.6**	**-3.4**
PCIG						*i* S	**Sn**	**05 02 05.3**	**-2.1**
APG	**El Apazote**	**2.40**	**62**			Pn	**Pn**	**05 01 50.2**	**-2.2**
	3.4nm,0.3s,baz=305,slow=20,SNR=4.1								
APG						Sn	**Sn**	**05 02 23.8**	**+3.2**
	47nm,0.3s,baz=297,slow=24,SNR=6.6								
APG						LR		05 02 53.4	
	comp=Z,892nm,18.1s,baz=354,slow=45								
TGIG		**2.90**	**351**			*e*Pn	**Pn**	**05 01 57.5**	**-1.6**
TGIG						*e*Sn	**Sn**	**05 02 32.2**	**-0.5**
TGIG		**2.90**	**351**			*e*P	**Pn**	**05 01 57.4**	**-1.6**
TGIG						*i* S	**Sn**	**05 02 32.2**	**-0.5**
RTR	**El Retiro**	**2.93**	**90**			*e*P	**Pn**	**05 01 57.2**	**-2.4**
CEVE	**Cerro Verde**	**2.95**	**91**			*e*P	**Pn**	**05 01 58.6**	**-1.4**
CEVE						*e*S	**Sn**	**05 02 33.3**	**-1.1**
CEVE						IAML		05 02 49.8	
	comp=Z,1μm,0.7s								
SBLS	**San Blas**	**2.95**	**91**			*e*P	**Pn**	**05 01 58.8**	**-1.2**
SNJE	**San Jose**	**2.97**	**90**			*e*P	**Pn**	**05 01 58.9**	**-1.3**
UNIC	**Santa Ana**	**3.01**	**88**			*e*P	**Pn**	**05 01 58.2**	**-2.5**
MTO3	**Montecristo**	**3.24**	**81**			*e*P	**Pn**	**05 02 01.1**	**-2.9**
BOQS	**Boqueron**	**3.29**	**92**			*e*P	**Pn**	**05 02 03.6**	**-1.0**
SNET	**Serv Nac Est T**	**3.34**	**93**			*e*P	**Pn**	**05 02 02.8**	**-2.4**
SNET						*e*S	**Sn**	**05 02 39.9**	**-3.8**
SNET						IAML		05 03 03.0	
	comp=Z,312nm,0.4s								
OPAM	**San Salvador**	**3.37**	**93**			IAML		05 03 05.5	
	comp=Z,193nm,0.3s								
LFU	**La Fuente**	**3.45**	**92**			*e*P	**Pn**	**05 02 05.0**	**-1.6**
LBRS	**Las Brisas**	**3.52**	**92**			*e*P	**Pn**	**05 02 05.5**	**-2.2**
PAVA	**Las Pavas**	**3.62**	**92**			*e*P	**Pn**	**05 02 07.4**	**-1.7**
PAVA						*e*S	**Sn**	**05 02 49.5**	**-1.2**
PAVA						IAML		05 03 08.3	
	comp=Z,176nm,0.4s								
HUIG	**Huatulco**	**3.82**	**300**			*e*Pn	Pn	05 02 07.8	-3.8
HUIG	**Huatulco**	**3.82**	**300**			*e*P	Pn	05 02 07.8	-3.8
HUIG						*e*S	**Sn**	**05 02 52.0**	**-3.3**
CMIG	**Matias Romero**	**3.83**	**326**			Pn	**Pn**	**05 02 09.0**	**-2.8**
	comp=Z,3.1nm,0.3s,baz=137,slow=12,SNR=39								
CMIG	**Matias Romero**	**3.83**	**326**			*e*Pn	**Pn**	**05 02 08.8**	**-3.1**
CMIG	**Matias Romero**	**3.83**	**326**			*e*P	**Pn**	**05 02 08.8**	**-3.1**
CMIG						*i* S	**Sn**	**05 02 53.8**	**-1.8**
TECA	**Tecapa**	**4.06**	**95**			*e*P	**Pn**	**05 02 14.2**	**-1.0**
PACA	**Pacayal**	**4.24**	**95**			*e*P	**Pn**	**05 02 16.0**	**-1.5**
LCND	**La Ca¯ada**	**4.68**	**97**			IAML		05 03 34.3	
	comp=Z,114nm,0.5s								
CSGN	**Cosiguina Vol**	**5.05**	**100**			*e*Pn	**Pn**	**05 02 27.4**	**-1.3**
TGUH	**Tegucigalpa,Un**	**5.23**	**88**			*e*Pn	**Pn**	**05 02 29.5**	**-1.6**
TGUH	**Tegucigalpa,Un**	**5.23**	**88**			*e*P	**Pn**	**05 02 28.2**	**-2.9**
CRIN	**San Cristobal**	**5.59**	**102**			*e*P	**Pn**	**05 02 34.5**	**-1.6**
CNGN	**Cerro Negro**	**5.97**	**103**			*e*P	**Pn**	**05 02 38.2**	**-3.1**
CNGN						IAML		05 04 09.3	
	comp=N,67nm,0.7s								
COPN	**Copaltepe**	**6.16**	**105**			*e*P	**Pn**	**05 02 41.1**	**-2.7**
ESTN	**Estel**	**6.17**	**97**			*e*Pn	**Pn**	**05 02 41.3**	**-2.8**
ESTN	**Estel**	**6.17**	**97**			*e*P	**Pn**	**05 02 41.9**	**-2.2**
MATN	**Matagalpa**	**6.62**	**98**			*e*P	**Pn**	**05 02 47.5**	**-2.8**
TLIG	**Tlapa**	**6.75**	**303**			*e*Pn	**Pn**	**05 02 52.1**	**0.0**
LVIG	**Laguna Verde**	**6.82**	**329**			*e*Pn	**Pn**	**05 02 52.7**	**-0.2**
TEIG	**Tepich**	**7.56**	**33**			*e*Pn	**Pn**	**05 03 01.8**	**-1.3**
JTS	**JuntasAbangare**	**8.35**	**115**			Pn	**Pn**	**05 03 11.4**	**-2.5**
	comp=N,0.5nm,0.3s,baz=22,slow=19,SNR=4.0								
JTS						Lg	Lg	05 05 26.7	
	baz=167,slow=19,SNR=5.7								
JTS	**JuntasAbangare**	**8.35**	**115**			*e*Pn	**Pn**	**05 03 14.3**	**+0.4**
JTS						Lg	Lg	05 05 26.7	
MOIG	**Morelia**	**9.98**	**306**			*e*Pn	**Pn**	**05 03 37.4**	**+0.9**
JRQG	**Juriquilla Cam**	**10.05**	**313**			*e*Pn	**Pn**	**05 03 38.1**	**+0.7**
833A	**Chaparral WMA,**	**15.66**	**337**			*e*Pn	**Pn**	**05 04 52.9**	**-0.1**
	comp=N,9.1nm,0.8s								
JCT	**Junction City**	**17.77**	**339**			*e*Pn	**P**	**05 05 20.3**	**+0.5**
	comp=N,4.9nm,0.7s								
HPIG		**17.78**	**319**			*e*Pn	**P**	**05 05 20.9**	**+0.9**
	comp=N,5.2nm,0.8s								
LTX	**Lajitas**	**18.44**	**328**			*e*P	**Pn**	**05 05 28.1**	**+0.5**
TX31	**Lajitas Ar. Si**	**18.44**	**328**			*e*P	**Pn**	**05 05 28.5**	**+0.8**
TX31						*e*P	**P**	**05 05 28.6**	**+1.4**
TXAR	**Lajitas Array**	**18.44**	**328**	P		P	**Pn**	**05 05 28.1**	**+0.5**
	comp=N,0.1nm,0.3s,baz=151,slow=13,SNR=19								
555A	**McAlpin**	**18.46**	**27**			*e*P	**Pn**	**05 05 28.2**	**+0.4**
	comp=N,25nm,0.8s								
147A	**Livingston**	**19.12**	**11**			*e*P	**Pn**	**05 05 35.5**	**-0.2**
	comp=N,18nm,0.9s								
TIGA	**Tifton**	**19.34**	**24**			*e*P	**Pn**	**05 05 37.4**	**-1.0**
	comp=N,13nm,0.8s								
ABTX	**Abilene, Hawle**	**19.70**	**342**			*e*P	**P**	**05 05 41.5**	**+0.6**
	comp=N,11nm,0.6s								
LRAL	**Lakeview Retre**	**19.74**	**14**			*e*P	**P**	**05 05 41.7**	**+0.4**
	comp=N,4.4nm,0.9s								
152A	**Waverly Hall**	**20.04**	**20**			*e*P	**P**	**05 05 45.2**	**+0.6**
	comp=N,7.2nm,0.8s								
ROSC	**El Rosal**	**20.20**	**115**			*e*P	**P**	**05 05 47.2**	**+0.4**
	comp=N,12nm,1.1s								
Z50A	**Ashland**	**20.22**	**17**			*e*P	**P**	**05 05 46.7**	**+0.1**
	comp=N,7.7nm,0.9s								
154A	**Montrose**	**20.57**	**23**			*e*P	**P**	**05 05 50.0**	**-0.4**
	comp=N,22nm,0.9s								
MIAR	**Mount Ida**	**20.57**	**358**			*e*P	**P**	**05 05 49.8**	**-0.6**
	comp=N,20nm,0.9s								
X43A	**Marvell**	**20.59**	**4**			*e*P	**P**	**05 05 50.9**	**+0.4**
	comp=N,34nm,0.8s								
X37A	**Clayton**	**20.75**	**354**			*e*P	**P**	**05 05 53.1**	**+0.8**
	comp=N,9.4nm,0.9s								
X48A	**Hartselle**	**21.09**	**13**			*e*P	**P**	**05 05 55.7**	**-0.2**
	comp=N,8.2nm,0.8s								
GDL2	**Guadalupe Moun**	**21.13**	**332**			*e*P	**P**	**05 05 56.7**	**+0.1**
GOGA	**Godfrey**	**21.15**	**22**			*e*P	**P**	**05 05 57.0**	**+0.4**
	comp=N,13nm,1.1s								
MNTX	**Cornudas Mount**	**21.21**	**329**			*e*P	**P**	**05 05 58.0**	**+0.7**
	comp=N,5.5nm,0.7s								
W39A	**Magazine**	**21.23**	**357**			*e*P	**P**	**05 05 58.9**	**+1.5**
	comp=N,2.4nm,0.5s								
Y52A	**Lilburn**	**21.36**	**20**			*e*P	**P**	**05 05 59.4**	**+0.6**
	comp=N,10nm,0.9s								
PLAL	**Pickwick Lake**	**21.40**	**10**			*e*P	**P**	**05 05 59.9**	**+0.7**
	comp=N,1.2nm,0.8s								
WMOK	**Wichita Mounta**	**21.48**	**346**			*e*P	**P**	**05 06 01.2**	**+1.1**
	comp=N,2.8nm,0.8s								
CPRX	**Cap Rock**	**21.61**	**334**			*e*P	**P**	**05 06 01.9**	**+0.2**
BANI	**BANI**	**21.88**	**75**			*e*P	**P**	**05 06 04.1**	**-0.6**
MSTX	**Muleshoe**	**21.99**	**337**			*e*P	**P**	**05 06 06.6**	**+0.9**
	comp=N,11nm,0.6s								
SWET	**Sewanee**	**22.08**	**15**			*e*P	**P**	**05 06 05.2**	**-1.3**
	comp=N,6.2nm,0.7s								
TUL1	**Leonard**	**22.10**	**353**			*e*P	**P**	**05 06 05.8**	**-0.9**
	comp=N,8.

	comp=N,2.3nm,0.9s							
GCMT	**Greycliff**	**34.89**	**339**	*e*P		**P**	**05 08 02.8**	**+0.2**
HLID	**Hailey**	**34.96**	**332**	*e*P		**P**	**05 08 03.7**	**+0.5**
	comp=N,4.1nm,1.0s							
MCMT	**McKenzie Canyo**	**35.29**	**335**	*e*P		**P**	**05 08 08.4**	**+2.2**
BEKR	**Beckworth**	**35.50**	**322**	*e*P		**P**	**05 08 09.8**	**+1.8**
	comp=N,1.0nm,0.9s							
DLMT	**Dillon**	**35.62**	**336**	*e*P		**P**	**05 08 10.6**	**+1.7**
	comp=N,5.2nm,0.9s							
HRY	**Holter Researc**	**36.45**	**338**	*e*P		**P**	**05 08 16.6**	**+0.6**
J08A	**Circle Bar Ran**	**36.78**	**328**	*e*P		**P**	**05 08 20.3**	**+1.5**
	comp=N,4.7nm,0.6s							
F10A	**Beach Ranch, E**	**38.09**	**332**	*e*P		**P**	**05 08 30.6**	**+0.7**
	comp=N,12nm,0.8s							
LPAZ	**La Paz**	**38.56**	**140**	P		**P**	**05 08 33.9**	**-0.8**
	comp=N,0.9nm,0.7s,baz=322,slow=11,SNR=5.2							
YKA	**Yellowknife Ar**	**50.98**	**347**	P		**P**	**05 10 12.1**	**-0.1**
	comp=N,5.4nm,0.6s,baz=150,slow=7.3,SNR=38							
YKB5	**Yellowknife Ar**	**50.98**	**347**	*e*P		**P**	**05 10 11.8**	**-0.4**
YKW3	**Yellowknife Ar**	**51.04**	**347**	*e*P		**P**	**05 10 12.5**	**-0.2**
	comp=N,7.0nm,0.8s							
INK	**Inuvik**	**60.35**	**344**	P		**P**	**05 11 18.9**	**-0.4**
	comp=N,2.1nm,0.7s,baz=108,slow=6.5,SNR=6.1							
IL1	**Eielson Array**	**62.68**	**337**	*e*P		**P**	**05 11 35.2**	**+0.1**
ILAR	**Eielson Array**	**62.68**	**337**	P		**P**	**05 11 35.8**	**+0.7**
	comp=N,1.2nm,0.8s,baz=124,slow=4.4,SNR=12							
ILB	**Eielson Array**	**62.68**	**337**	*e*P		**P**	**05 11 34.9**	**-0.2**
RND	**Reindeer**	**62.85**	**335**	*e*P		**P**	**05 11 37.4**	**+1.0**
	comp=N,9.7nm,1.2s							
TRF	**Thorofare Moun**	**63.46**	**335**	*e*P		**P**	**05 11 41.4**	**+0.9**
	comp=N,6.1nm,0.9s							
BPAW	**Bear Paw Mtn.**	**64.00**	**335**	*e*P		**P**	**05 11 43.8**	**-0.1**
	comp=N,5.7nm,1.0s							
CAST	**Castle Rocks**	**64.19**	**335**	*e*P		**P**	**05 11 44.9**	**-0.3**
	comp=N,6.8nm,0.4s							
MLY	**Manley**	**64.27**	**336**	*e*P		**P**	**05 11 46.2**	**+0.5**
	comp=N,4.1nm,0.8s							
KSH	**Kashi**	**125.82**	**11**	*e*PKP		**PKPdf**	**05 20 15.5**	**+2.8**
LZH	**Lanzhou**	**127.89**	**343**	*e*PKP		**PKPdf**	**05 20 20.0**	**+3.2**
LZH				pPKP		pPKPdf	05 20 27.8	-3.2
LZH				sPKP			05 20 32.0	
WR1	**Warramunga Arr**	**134.75**	**256**	*e*PKPdf		**PKPdf**	**05 20 29.4**	**-0.5**
WRA	**Warramunga Arr**	**134.75**	**256**	PKP		**PKPdf**	**05 20 29.4**	**-0.5**
	comp=N,0.6nm,0.7s,baz=86,slow=2.6,SNR=6.8							
ASAR	**Alice Springs**	**135.03**	**250**	PKP		**PKPdf**	**05 20 30.9**	**+0.6**
	comp=N,0.3nm,0.7s,baz=114,slow=1.1,SNR=3.9							
CMAR	**Chiang Mai Arr**	**145.88**	**340**	PKPbc		**PKPbc**	**05 20 51.0**	**+0.3**
	comp=N,2.9nm,0.7s,baz=336,slow=3.7,SNR=14							

TIR ***27*** *05:02:37.0, 41.˙63N×20.˙13E, h20km, Md3.0/6*
THE ***27*** *05:02:37.5, 41.˙71N×20.˙12E, h4km±3km, ML2.5/4, Error ellipse: s-maj=3.8km s-min=1.8km az=158.0*
BEO ***27*** *05:02:38.5±0.3, 41.˙65N×20.˙18E, h5km, ML2.3/11*
PDG ***27*** *05:02:38.2±0.3, 41.˙66N×20.˙01E, h8km, ML2.7/13, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
SKO ***27*** *05:02:38.1, 41.˙68N×20.˙10E, h0km*

ISC 27 05:02:38.0±1.0, 41.˚65N±0.˚02×20.˚09E±0.˚02, h7km±8km, n69, σ1§08/113, 8C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.26**	**81**	P		**Pg**	**05 02 42.5**	**-0.7**
PHP				S		**Sg**	**05 02 46.7**	**0.0**
PHP	**Peshkopia**	**0.26**	**81**	*i* Pg		**Pg**	**05 02 42.6**	**-0.7**
PHP				*i* Sg		**Sg**	**05 02 46.8**	**0.0**
TIR	**Tirane**	**0.34**	**210**	*e*Pg		**Pg**	**05 02 44.9**	**+0.2**
TIR				*e*Sg		**Sb**	**05 02 52.5**	**+0.4**
TIR	**Tirane**	**0.34**	**210**	P		**Pg**	**05 02 44.8**	**+0.1**
TIR				S		**Sb**	**05 02 51.7**	**-0.4**
TIR	**Tirane**	**0.34**	**210**	*i* Pg		**Pg**	**05 02 45.3**	**+0.6**
TIR				*i* Sg		**Sg**	**05 02 50.4**	**+1.2**
PUK	**Puka**	**0.42**	**340**	*i* Pg		**Pg**	**05 02 45.5**	**-0.8**
PUK				*i* Sg		**Sb**	**05 02 53.5**	**-1.1**
ULC	**Ulcinj**	**0.71**	**297**	↓*i* Pg		**Pg**	**05 02 50.5**	**-1.1**
ULC				*e*Sg		**Sg**	**05 03 01.1**	**+0.2**
BCI	**Bajram Curri**	**0.72**	**359**	*i* Pg		**Pg**	**05 02 51.8**	**-0.1**
OHR	**Ohrid**	**0.75**	**135**	↑*i* Pg		**Pg**	**05 02 51.4**	**-1.1**
OHR				*i* Sg		**Sg**	**05 03 02.5**	**+0.2**
DRME	**Dracevica, Mon**	**0.87**	**309**	↓*i* Pg		**Pg**	**05 02 53.6**	**-1.1**
DRME				*e*Sg		**Sg**	**05 03 06.2**	**+0.3**
DRME	**Dracevica, Mon**	**0.87**	**309**	*e*Pn		**Pg**	**05 02 53.2**	**-1.5**
KRUS	**Krusevo**	**0.91**	**107**	↑*i* Pg		**Pg**	**05 02 54.1**	**-1.4**
KRUS				*i* Sg		**Sg**	**05 03 07.0**	**-0.3**
PVY	**Plav**	**0.95**	**354**	↑*i* Pg		**Pg**	**05 02 55.0**	**-1.3**
PVY				*e*Sg		**Sb**	**05 03 09.9**	**0.0**
PDG	**Podgorica**	**1.00**	**322**	*e*Pg		**Pg**	**05 02 55.8**	**-1.4**
PDG				*e*Sg		**Sb**	**05 03 11.7**	**+0.6**
PDG	**Podgorica**	**1.00**	**322**	*e*Pn		**Pg**	**05 02 55.8**	**-1.6**
TTG	**Podgorica**	**1.00**	**322**	↑*i* Pg		**Pg**	**05 02 55.8**	**-1.4**
TTG				*e*Sg		**Sb**	**05 03 11.1**	**0.0**
SKO	**Skopje**	**1.06**	**72**	*i* Pg		**Pg**	**05 02 56.5**	**-1.8**
SKO				*i* Sg		**Sg**	**05 03 11.3**	**-0.8**
BUM	**Brajici-Budva**	**1.11**	**307**	↓*i* Pg		**Pg**	**05 02 57.9**	**-1.4**
BUM				*e*Sg		**Sb**	**05 03 14.3**	**+0.1**
BIA	**Bitola**	**1.12**	**124**	P		**Pg**	**05 02 57.6**	**-1.9**
BIA				S		**Sb**	**05 03 14.4**	**-0.1**
BIA	**Bitola**	**1.12**	**124**	*e*Pg		**Pg**	**05 02 58.3**	**-1.2**
BIA				*i* Sg		**Sb**	**05 03 14.6**	**+0.1**
KBN	**Korca**	**1.15**	**153**	P		**Pg**	**05 02 59.9**	**-0.1**
KBN				S		**Sn**	**05 03 18.9**	**+2.3**
KBN	**Korca**	**1.15**	**153**	*i* PG		**Pg**	**05 02 59.1**	**-0.9**
KBN				*i* SG		**Sn**	**05 03 17.4**	**+0.8**
IVA	**Berane**	**1.23**	**353**	↑*i* Pg		**Pg**	**05 03 00.2**	**-1.5**
IVA				*e*Sg		**Sn**	**05 03 19.7**	**+0.9**
CEME	**Cevo**	**1.25**	**316**	↓*i* Pg		**Pg**	**05 03 00.3**	**-1.8**
CEME				*e*Sg		**Sn**	**05 03 19.5**	**+0.2**
KOME	**Kolasin**	**1.28**	**341**	↑*i* Pg		**Pn**	**05 03 01.1**	**-1.3**
KOME				*e*Sg		**Sn**	**05 03 20.5**	**+0.6**
FNA	**Florina**	**1.30**	**131**	P		**Pn**	**05 03 01.1**	**-1.5**
FNA				S		**Sn**	**05 03 20.3**	**+0.1**
FNA	**Florina**	**1.30**	**131**	*i* PN		**Pn**	**05 03 01.1**	**-1.5**
FNA				*i* SN		**Sn**	**05 03 20.1**	**-0.2**
NKME	**Niksic**	**1.40**	**323**	↓*i* Pg		**Pn**	**05 03 03.1**	**-1.0**
NKME				*e*Sg		**Sg**	**05 03 24.9**	**+1.7**
NKY	**Niksic**	**1.42**	**325**	↑*i* Pg		**Pn**	**05 03 03.9**	**-0.5**
NKY				*e*Sg		**Sg**	**05 03 25.4**	**+1.6**
NEST	**Nestorio**	**1.43**	**149**	P		**Pn**	**05 03 04.3**	**-0.2**
HCY	**Herceg Novi**	**1.44**	**304**	↑*i* Pg		**Pn**	**05 03 03.6**	**-0.9**
HCY				*e*Sg		**Sg**	**05 03 25.5**	**+1.4**
HCY	**Herceg Novi**	**1.44**	**304**	*e*Pn		**Pn**	**05 03 03.7**	**-0.8**
STIP	**Stip**	**1.57**	**88**	*e*Pn		**Pg**	**05 03 08.7**	**+0.6**
STIP				*i* Sn		**Sg**	**05 03 32.7**	**+4.3**
SJES	**Sjenica**	**1.62**	**357**	*e*Pg		**Pb**	**05 03 08.2**	**-0.1**
SJES				*e*Sg		**Sg**	**05 03 30.1**	**+0.1**
TREB	**Trebinje**	**1.68**	**310**	*e*Pg		**Pb**	**05 03 08.7**	**-0.6**
TREB				*e*Sg		**Sg**	**05 03 34.0**	**+2.0**
TREB	**Trebinje**	**1.68**	**310**	*e*Pn		**Pn**	**05 03 08.6**	**+0.7**
BRY	**Bratogost**	**1.70**	**318**	↓*i* Pn		**Pn**	**05 03 08.4**	**+0.1**
BRY				*e*Sn		**Sg**	**05 03 32.8**	**0.0**
BRY	**Bratogost**	**1.70**	**318**	*e*Pn		**Pn**	**05 03 08.4**	**+0.1**
BARS	**Barje**	**1.73**	**47**	*e*Pn		**Pn**	**05 03 08.4**	**-0.2**
BARS				*e*Sn		**Sn**	**05 03 31.5**	**+0.5**
SELS	**Selova**	**1.75**	**25**	*e*Pn		**Pn**	**05 03 09.4**	**+0.6**
PLE	**Pljevlja**	**1.76**	**343**	↓*i* Pn		**Pn**	**05 03 09.5**	**+0.4**
PLE				*e*Sn		**Sg**	**05 03 34.8**	**+0.2**
UPM	**Unac-Piva**	**1.79**	**331**	↓*i* Pn		**Pn**	**05 03 10.0**	**+0.5**
UPM				*e*Sn		**Sg**	**05 03 35.1**	**-0.4**
UPM	**Unac-Piva**	**1.79**	**331**	*e*Pn		**Pb**	**05 03 11.5**	**+0.3**
VAY	**Valandovo**	**1.89**	**99**	*e*Pn		**Pn**	**05 03 09.8**	**-0.9**
VAY				*e*Sg		**Sb**	**05 03 36.3**	**-0.4**
VAY	**Valandovo**	**1.89**	**99**	*i* Pn		**Pn**	**05 03 11.0**	**+0.3**
VAY				*i* Sn		**Sb**	**05 03 36.4**	**-0.2**
IVAS	**Ivanjica**	**1.93**	**1**	*e*Pn		**Pn**	**05 03 11.3**	**-0.1**
IVAS				*e*Sg		**Sb**	**05 03 38.7**	**+0.8**
KEK	**Kerkira**	**1.94**	**187**	P		**Pn**	**05 03 12.0**	**+0.5**
STON	**Ston**	**2.16**	**305**	*e*Pn		**Pn**	**05 03 14.8**	**+0.5**
STON				Sn		**Sb**	**05 03 43.9**	**-0.5**
STON	**Ston**	**2.16**	**305**	*e*Pn		**Pn**	**05 03 14.3**	**-0.1**
BBLS	**Lazići**	**2.28**	**347**	*e*Pn		**Pn**	**05 03 17.5**	**+1.4**
BBLS				*e*Sg		**Sg**	**05 03 51.6**	**+0.5**
BBLS	**Lazići**	**2.28**	**347**	*e*Pn		**Pn**	**05 03 17.1**	**+1.0**
GRUS	**Gruza**	**2.29**	**11**	*e*Pn		**Pn**	**05 03 17.6**	**+1.4**
BOVS	**Bovan**	**2.32**	**30**	*e*Pn		**Pn**	**05 03 17.8**	**+1.2**
DIVS	**Divibare**	**2.45**	**358**	*e*Pn		**Pn**	**05 03 19.1**	**+0.5**
DIVS				*e*Sn		**Sn**	**05 03 50.5**	**+1.7**
DIVS	**Divibare**	**2.45**	**358**	*e*Pn		**Pn**	**05 03 18.2**	**-0.4**
BAI	**Bari**	**2.48**	**259**	*e*Pn		**Pn**	**05 03 15.0**	**-3.8**
BAI				Sn		**Sn**	**05 03 47.6**	**-1.7**
ZAPS	**Zavoj**	**2.49**	**48**	*e*Pn		**Pn**	**05 03 18.2**	**-0.8**
ZAPS				*e*Sn		**Sn**	**05 03 48.9**	**-0.7**
VTS	**Vitosha**	**2.50**	**67**	*e*Pn		**Pn**	**05 03 18.6**	**-0.7**
HAPS	**Han Pijesak,Bl**	**2.58**	**341**	*e*Pn		**Pn**	**05 03 20.9**	**+0.6**
HAPS				*e*Sn		**Sn**	**05 03 53.4**	**+1.4**
HAPS	**Han Pijesak,Bl**	**2.58**	**341**	*e*Pn		**Pn**	**05 03 20.8**	**+0.5**
TRUS	**Trudelj**	**2.59**	**5**	*e*Pn		**Pn**	**05 03 20.6**	**+0.3**
SG1	**Sgolgore (BA)**	**2.70**	**254**	*e*Pn		**Pb**	**05 03 27.4**	**+0.8**
SG1				Sn		**Sn**	**05 03 54.1**	**-0.7**
KUBS	**Kucevo**	**3.00**	**22**	*e*Pn		**Pn**	**05 03 26.5**	**+0.5**
FRGS	**Fruska Gora**	**3.52**	**357**	*e*Pn		**Pn**	**05 03 34.0**	**+0.9**
FRGS	**Fruska Gora**	**3.52**	**357**	*e*Pn		**Pn**	**05 03 33.4**	**+0.3**
UDBI	**Udbina**	**4.28**	**314**	*i* Pn		**Pn**	**05 03 45.5**	**+1.8**
MORH	**M¨‡r¡gy, Hung**	**4.69**	**348**	*e*Pn		**Pn**	**05 03 49.3**	**+0.2**
NVLJ	**Novalja**	**4.81**	**309**	*e*Pn		**Pn**	**05 03 51.2**	**+0.4**
CRES	**Cresnjev**	**5.36**	**323**	*e*Pn		**Pn**	**05 03 58.8**	**+0.4**

ISCJB ***27*** *05:12:24.8±0.9, 39.˚88N±0.˚06×143.˚50E±0.˚08, h6km, mb3.5/3, Error ellipse: s-maj=9.9km s-min=6.5km az=43.9*
IDC ***27*** *05:12:24.7±1.4, 39.˚87N×143.˚58E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/43, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=42.6km s-min=28.0km az=111.0*
JMA ***27*** *05:12:28.2±0.2, 39.˚89N×143.˚37E, h23km, M3.7*

ISC 27 05:12:25.7±1.1, 39.˚91N±0.˚07×143.˚43E±0.˚07, h6km, n17, σ1§12/20, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.20**	**272**	P		**Pg**	**05 12 48.9**	**+0.2**
MIYJ	**Miyakonagasawa**	**1.28**	**256**	P		**Pn**	**05 12 50.3**	**+0.2**
MIYJ				*e*S		**Sb**	**05 13 06.1**	**-0.8**
JKEN	**Kujiedanarisaw**	**1.35**	**283**	P		**Pn**	**05 12 51.2**	**+0.1**
JANG	**Nango**	**1.54**	**288**	P		**Pn**	**05 12 54.0**	**+0.3**
JOM	**Ohasama**	**1.70**	**256**	P		**Pn**	**05 12 57.0**	**+1.1**
JMK	**Ichinoseki**	**1.96**	**242**	P		**Pn**	**05 12 59.9**	**+0.5**
JTM	**Tenmabayashi**	**2.00**	**297**	P		**Pn**	**05 13 01.4**	**+1.3**
JTM				*e*S		**Sn**	**05 13 26.7**	**+1.2**
JAH	**Hinai**	**2.16**	**278**	*e*S		**Sn**	**05 13 29.7**	**+0.4**
JOT	**Ohata**	**2.33**	**310**	P		**Pn**	**05 13 06.3**	**+1.7**
JNBK	**Urakawa-nobuka**	**2.42**	**348**	P		**Pb**	**05 13 08.7**	**-1.0**
JYK	**Kaneyama**	**2.57**	**248**	P		**Pn**	**05 13 09.4**	**+1.5**
JCH	**Churui**	**2.71**	**359**	P		**Pn**	**05 13 11.5**	**+1.8**
JCH				*e*S		**Sn**	**05 13 42.4**	**-0.4**
MJAR	**Matsushiro Arr**	**5.30**	**232**	Pn		**Pn**	**05 13 47.7**	**+2.2**
	0.9nm,0.3s,baz=48,slow=12,SNR=4.4							
WMQ	**Urumqi**	**41.03**	**294**	*e*P		**P**	**05 20 08.8**	**-0.9**
ZALV	**Zalesovo Beam**	**41.21**	**310**	P		**P**	**05 20 11.3**	**+0.3**
	1.1nm,0.5s,baz=95,slow=8.5,SNR=5.3							
ILAR	**Eielson Array**	**46.23**	**34**	P		**P**	**05 20 51.2**	**-0.1**
	0.4nm,0.8s,baz=260,slow=6.4,SNR=4.6							
WRA	**Warramunga Arr**	**60.14**	**190**	P		**P**	**05 22 33.5**	**-0.6**
	0.3nm,0.6s,baz=6.2,slow=6.8,SNR=4.4							

MEX 27 05:25:11.8±0.5, 16.˚30N×98.˚21W, h13km±2km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.12**	**39**	*e*P		Pg	05 25 14.3	-0.8
PNIG				*i* S		Sg	05 25 17.0	-0.5
TLIG	**Tlapa**	**1.31**	**345**	*e*P		Pn	05 25 32.2	-3.7
TLIG				*e*S		Sb	05 25 47.5	-5.5

JMA ***27*** *05:28:13.8±0.2, 24.˚33N×122.˚33E, h68km±3km, M2.8*
TAP ***27*** *05:28:13.8, 24.˚43N×122.˚36E, h67km, ML3.2, B*
ISCJB ***27*** *05:28:14.1±0.3, 24.˚42N±0.˚02×122.˚37E±0.˚02, h65km±5km, Error ellipse: s-maj=3.4km s-min=2.3km az=167.0*

ISC 27 05:28:14.6±1.3, 24.˚41N±0.˚03×122.˚37E±0.˚02, h64km±8km, n74, σ0§65/143, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.26**	**302**	*e*P		**Pn**	**05 28 25.5**	**+0.7**
	baz=299							
EOS1				*e*S		**Sn**	**05 28 32.8**	**+0.6**
	baz=299							
TWC	**Suao**	**0.51**	**293**	P		**Pn**	**05 28 26.8**	**-0.2**
	baz=291							
TWC				*i* S		**Sn**	**05 28 36.1**	**+0.1**
	baz=291							
JYNG	**Yonagunijimaku**	**0.53**	**86**	P		**Pn**	**05 28 27.4**	**+0.2**
JYNG				*e*S		**Sn**	**05 28 36.8**	**+0.4**
NANB	**Nanao**	**0.56**	**272**	*e*P		**Pn**	**05 28 27.4**	**-0.2**
	baz=269							
NANB				*e*S		**Sn**	**05 28 37.3**	**+0.3**
	baz=269							
ENA	**Nanau**	**0.57**	**272**	*i* P		**Pn**	**05 28 27.6**	**0.0**
	baz=269							
ENA				S		**Sn**	**05 28 37.6**	**+0.5**
	baz=269							
EGS		**0.58**	**318**	*e*P		**Pn**	**05 28 27.6**	**-0.3**
	baz=317							
EGS				*e*S		**Sn**	**05 28 37.1**	**-0.3**
	baz=317							
YOJ	**Yonaguni jima**	**0.59**	**85**	*e*P		**Pn**	**05 28 28.2**	**+0.4**
	baz=86							
YOJ				*e*S		**Sn**	**05 28 37.7**	**+0.1**
	baz=86							
YOJ	**Yonaguni jima**	**0.59**	**85**	P		**Pn**	**05 28 28.0**	**+0.1**
YOJ				*e*S		**Sn**	**05 28 37.7**	**+0.1**
NTC	**Toucheng**	**0.66**	**312**	*e*P		**Pn**	**05 28 28.4**	**-0.2**
	baz=311							
NTC				*e*S		**Sn**	**05 28 38.7**	**-0.1**
	baz=311							
ILA	**Ilan**	**0.66**	**302**	*e*S		**Sn**	**05 28 39.4**	**+0.4**
	baz=301							
TWB1	**Santiao Chiao**	**0.69**	**330**	P		**Pn**	**05 28 28.7**	**-0.3**
	baz=330							
TWB1				S		**Sn**	**05 28 38.9**	**-0.6**
	baz=330							
TWE	**Neicheng**	**0.71**	**296**	P		**Pn**	**05 28 29.1**	**-0.1**
	baz=294							
TWE				S		**Sn**	**05 28 40.1**	**+0.2**
	baz=294							
NACB	**Ninganchiao**	**0.74**	**252**	*e*P		**Pn**	**05 28 28.9**	**-0.7**
	baz=249							
NACB				*e*S		**Sn**	**05 28 40.4**	**-0.2**
	baz=249							
TIPB	**Shuangxi**	**0.74**	**319**	P		**Pn**	**05 28 29.2**	**-0.5**
	baz=317							
TIPB				S		**Sn**	**05 28 40.4**	**-0.3**
	baz=317							
ENTT	**Nioudou**	**0.76**	**287**	*i* P		**Pn**	**05 28 30.1**	**+0.3**
	baz=286							
ENTT				S		**Sn**	**05 28 41.1**	**0.0**
	baz=286							
TWD	**Chiawan**	**0.78**	**245**	*i* P		**Pn**	**05 28 29.4**	**-0.7**
	baz=243							
TWD				S		**Sn**	**05 28 41.0**	**-0.4**
	baz=243							
NWF	**Wu-fen Shan**	**0.84**	**321**	*i* P		**Pn**	**05 28 30.7**	**-0.3**
	baz=320							
NWF				*i* S		**Sn**	**05 28 42.7**	**-0.3**
	baz=320							
WFSB	**Wu-fen Shan**	**0.84**	**321**	*e*P		**Pn**	**05 28 30.5**	**-0.3**
	baz=320							
WFSB				*e*S		**Sn**	**05 28 42.8**	**-0.1**
	baz=320							
NWLT	**Wulai**	**0.87**	**295**	*e*P		**Pn**	**05 28 31.6**	**+0.4**
	baz=293							
NWLT				*e*S		**Sn**	**05 28 43.8**	**+0.4**
	baz=293							
NNSB	**Datong**	**0.90**	**271**	*e*P		**Pn**	**05 28 31.3**	**-0.4**
	baz=269							
NNSB				*e*S		**Sn**	**05 28 43.9**	**-0.3**
	baz=269							
NNS	**Nan Shan**	**0.91**	**272**	P		**Pn**	**05 28 31.4**	**-0.3**
	baz=270							
NNS				*i* S		**Sn**	**05 28 44.6**	**+0.2**
	baz=270							
TWA	**Mucha**	**0.91**	**309**	*e*P		**Pn**	**05 28 31.4**	**-0.3**
	baz=307							
TWA				*e*S		**Sn**	**05 28 43.8**	**-0.5**
	baz=307							
YHNB	**Yeheng**	**0.94**	**286**	*e*P		**Pn**	**05 28 32.2**	**+0.1**
	baz=284							
YHNB				*e*S		**Sn**	**05 28 45.5**	**+0.4**
	baz=284							
NSK	**Sanguang**	**0.95**	**286**	P		**Pn**	**05 28 32.4**	**+0.1**
	baz=284							
NSK				S		**Sn**	**05 28 45.4**	**0.0**
	baz=284							
TATO	**Taipei**	**0.98**	**305**	*e*P		**Pn**	**05 28 32.3**	**-0.2**
	baz=304							
TATO				*e*S		**Sn**	**05 28 45.9**	**+0.1**
	baz=304							
YM07	**YM07**	**1.02**	**318**	*e*P		**Pn**	**05 28 32.5**	**-0.6**
	baz=317							
YM07				*e*S		**Sn**	**05 28 46.3**	**-0.6**
	baz=317							
YM01	**YM01**	**1.03**	**315**	*e*P		**Pn**	**05 28 33.1**	**-0.2**
	baz=314							
YM01				*e*S		**Sn**	**05 28 47.4**	**+0.3**
	baz=314							
ESL	**Shilin**	**1.04**	**235**	*e*P		**Pn**	**05 28 32.5**	**-0.9**
	baz=233							
ESL				*e*S		**Sn**	**05 28 46.7**	**-0.5**
	baz=233							
WHF	**Hehuan Shan**	**1.04**	**255**	P		**Pn**	**05 28 33.2**	**-0.5**
	baz=253							
WHF				S		**Sn**	**05 28 47.3**	**-0.6**
	baz=253							
YM11	**YM11**	**1.04**	**316**	*e*P		**Pn**	**05 28 32.9**	**-0.5**
	baz=315							
YM11				*e*S		**Sn**	**05 28 46.9**	**-0.5**
	baz=315							
YM10	**YM10**	**1.04**	**316**	*e*P		**Pn**	**05 28 32.9**	**-0.5**
	baz=314							
YM10				*e*S		**Sn**	**05 28 46.8**	**-0.6**
	baz=314							
YM05	**YM05**	**1.04**	**316**	*e*P		**Pn**	**05 28 32.9**	**-0.6**
	baz=315							
YM05				*e*S		**Sn**	**05 28 47.1**	**-0.3**
	baz=315							
YM08	**YM08**	**1.05**	**318**	*e*P		**Pn**	**05 28 32.9**	**-0.6**
	baz=317							
YM08				*e*S		**Sn**	**05 28 46.2**	**-1.2**
	baz=317							
YM04	**YM04**	**1.05**	**315**	P		**Pn**	**05 28 33.0**	**-0.6**
	baz=313							
YM04				S		**Sn**	**05 28 46.9**	**-0.8**
	baz=313							
YM03	**YM03**	**1.07**	**316**	*e*P		**Pn**	**05 28 33.9**	**0.0**
	baz=315							
YM03				*e*S		**Sn**	**05 28 47.7**	**-0.4**
	baz=315							
TWT	**Tachien**	**1.10**	**262**	P		**Pn**	**05 28 34.7**	**+0.5**
	baz=260							
TWT				S		**Sn**	**05 28 49.2**	**+0.4**
	baz=260							
TWS1	**Kuangyinshan**	**1.10**	**309**	*e*P		**Pn**	**05 28 33.9**	**-0.2**
	baz=308							
TDCB	**Techi**	**1.11**	**262**	*e*P		**Pn**	**05 28 34.7**	**+0.2**
	baz=260							
TDCB				*e*S		**Sn**	**05 28 48.9**	**-0.3**
	baz=260							
EGFH	**Guangfu**	**1.13**	**229**	*e*P		**Pn**	**05 28 33.6**	**-1.0**
	baz=228							
EGFH				*e*S		**Sn**	**05 28 49.0**	**-0.4**
	baz=228							
CHGB	**Renai**	**1.14**	**252**	*e*P		**Pn**	**05 28 34.6**	**-0.3**
	baz=251							
CHGB				*e*S		**Sn**	**05 28 49.6**	**-0.3**
	baz=251							
NCUH	**Zhongli**	**1.21**	**298**	*e*P		**Pn**	**05 28 35.6**	**+0.1**
	baz=296							
IRIF	**Iriomote-Funau**	**1.25**	**93**	P		**Pn**	**05 28 35.8**	**-0.2**
IRIF				*e*S		**Sn**	**05 28 51.7**	**-0.3**
LIOB	**Emei**	**1.25**	**281**	P		**Pn**	**05 28 36.4**	**+0.2**
	baz=279							
LIOB				*e*S		**Sn**	**05 28 52.3**	**+0.1**
	baz=279							
HGSD	**Ruisui**	**1.26**	**223**	*e*P		**Pn**	**05 28 35.4**	**-0.7**
	baz=222							
NSTT	**Nanjuang**	**1.26**	**280**	P		**Pn**	**05 28 36.7**	**+0.5**
	baz=279							
NSTT				*e*S		**Sn**	**05 28 52.6**	**+0.1**
	baz=279							

SLGT	**Liugui**	**2.12**	**228**	*e*P	**Pn**	**05**	**28**	**48.7**	**+0.9**
	baz=227								
SLGT				*e*S	**Sn**	**05**	**29**	**14.1**	**+1.1**
	baz=227								
JTJ	**Tarama**	**2.14**	**83**	P	**Pn**	**05**	**28**	**48.2**	**+0.2**
JTJ				S	**Sn**	**05**	**29**	**13.7**	**+0.2**
SSD	**Sandimen**	**2.30**	**224**	*e*P	**Pn**	**05**	**28**	**50.2**	**0.0**
	baz=223								
SSD				*e*S	**Sn**	**05**	**29**	**17.3**	**-0.1**
	baz=223								

IDC ***27*** *05:34:22.4±4.9, 14˚.20N×92˚.61W, h0km, mb3.8/2, mb1 3.9/5, mb1mx3.5/39, mbtmp3.5/5, ML3.1/3, Error ellipse: s-maj=86.0km s-min=17.2km az=179.0*
MEX ***27*** *05:34:24.8±0.5, 13˚.96N×92˚.61W, h17km±122km, MD4.0*
NEIC ***27*** *05:34:25.9±0.0, 14˚.02N×92˚.56W, h18km, MD4.0(MEX), After MEX.*

ISC 27 05:34:27.7±1.8, 14˚.2N±0˚.1×92˚.58W±0˚.08, h46km, n11, σ1§66/16, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		**0.78**	**23**	*e*P		**Pn**		**05 34 40.7**	**-1.6**
THIG				*e*S		**Sn**		**05 34 51.8**	**-1.1**
THIG		**0.78**	**23**	*e*P		**Pn**		**05 34 40.7**	**-1.6**
THIG				*e*S		**Sn**		**05 34 51.8**	**-1.1**
PCIG		**1.63**	**338**	*e*P		**Pn**		**05 34 51.3**	**-2.6**
PCIG		**1.63**	**338**	*e*P		**Pn**		**05 34 51.9**	**-2.0**
PCIG				*i*S		**Sn**		**05 35 13.9**	**+0.2**
APG	**El Apazote**	**2.20**	**68**	Pn		**Pn**		**05 35 01.3**	**-0.7**
	3.1nm,0.3s,baz=243,slow=8.2,SNR=79								
APG				Lg		Lg		05 35 33.6	
	6.7nm,0.3s,baz=343,slow=19,SNR=5.5								
TGIG		**2.63**	**349**	*e*P		**Pn**		**05 35 08.4**	**+0.7**
TGIG				*e*S		**Sn**		**05 35 40.0**	**+1.6**
TGIG		**2.63**	**349**	*e*P		**Pn**		**05 35 07.3**	**-0.4**
TGIG				*e*S		**Sn**		**05 35 40.0**	**+1.6**
CMIG	**Matias Romero**	**3.64**	**323**	Pn		**Pn**		**05 35 18.9**	**-2.7**
	2.2nm,0.3s,baz=159,slow=12,SNR=16								
TXAR	**Lajitas Array**	**18.23**	**328**	P		**Pn**		**05 38 38.4**	**+0.9**
	0.0nm,0.3s,baz=145,slow=9.2,SNR=9.1								
NVAR	**Mina Array Bea**	**33.17**	**321**	P		**P**		**05 41 01.9**	**+1.7**
	0.1nm,0.5s,baz=146,slow=7.5,SNR=5.1								
YKA	**Yellowknife Ar**	**50.71**	**347**	P		**P**		**05 43 22.2**	**-0.3**
	1.5nm,0.8s,baz=152,slow=7.3,SNR=9.1								

NEIC ***27*** *05:39:39.9±0.0, 18˚.56N×66˚.70W, h83km, MD3.1(RSPR), After RSPR.*

RSPR 27 05:39:39.9, 18˚.56N×66˚.70W, h83km±1km, MD3.1/6, 8C-14D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.18**	**117**	↑*e*P		Pn		05 39 51.6	-0.4
EMPR	**Esperanza - Ma**	**0.18**	**117**	↑*e*P		Pn		05 39 51.6	-0.4
EMPR				*e*S		Sn		05 40 00.8	-0.1
AGPR	**Aguadilla, PR**	**0.40**	**257**	↓*e*P		Pn		05 39 52.4	-0.7
AGPR	**Aguadilla, PR**	**0.40**	**257**	↓*e*P		Pn		05 39 52.4	-0.7
AGPR				*e*S		Sn		05 40 02.3	-0.6
AGPR	**Aguadilla, PR**	**0.40**	**257**	↓*e*P		Pn		05 39 52.4	-0.7
AGPR				*e*S		Sn		05 40 02.3	-0.6
CELP	**Cerrillos**	**0.50**	**166**	↓*e*P		Pn		05 39 53.5	-0.5
CELP				*e*S		Sn		05 40 03.7	-0.6
CELP	**Cerrillos**	**0.50**	**166**	↓*e*P		Pn		05 39 53.5	-0.5
CELP	**Cerrillos**	**0.50**	**166**	↓*e*P		Pn		05 39 53.5	-0.5
CELP				*e*S		Sn		05 40 03.7	-0.6
OBIP	**Obispado Ponce**	**0.52**	**170**	↓*e*P		Pn		05 39 54.0	-0.2
OBIP	**Obispado Ponce**	**0.52**	**170**	↓*e*P		Pn		05 39 54.0	-0.2
OBIP				*e*S		Sn		05 40 04.2	-0.5
OBIP	**Obispado Ponce**	**0.52**	**170**	↓*e*P		Pn		05 39 54.0	-0.2
OBIP				*e*S		Sn		05 40 04.2	-0.5
CRPR	**Cabo Rojo, PR**	**0.67**	**215**	↓*e*P		Pn		05 39 55.0	-0.6
CRPR	**Cabo Rojo, PR**	**0.67**	**215**	↓*e*P		Pn		05 39 55.0	-0.6
CRPR				*e*S		Sn		05 40 06.9	-0.3
CRPR	**Cabo Rojo, PR**	**0.67**	**215**	↓*e*P		Pn		05 39 55.0	-0.6
CRPR				*e*S		Sn		05 40 06.9	-0.3
IDE	**Isla Desecheo**	**0.75**	**257**	↑*e*P		Pn		05 39 55.7	-0.7
IDE	**Isla Desecheo**	**0.75**	**257**	↑*e*P		Pn		05 39 55.7	-0.7
IDE				*e*S		Sn		05 40 08.8	+0.2
IDE	**Isla Desecheo**	**0.75**	**257**	↑*e*P		Pn		05 39 55.7	-0.7
IDE				*e*S		Sn		05 40 08.8	+0.2
CBYP	**Canovanas**	**0.85**	**110**	↑*e*P		Pn		05 39 56.8	-0.7
CBYP	**Canovanas**	**0.85**	**110**	↑*e*P		Pn		05 39 56.8	-0.7
CBYP				*e*S		Sn		05 40 10.4	-0.3
CBYP	**Canovanas**	**0.85**	**110**	↑*e*P		Pn		05 39 56.8	-0.7
CBYP	**Canovanas**	**0.85**	**110**	↑*e*P		Pn		05 39 56.8	-0.7
CBYP	**Canovanas**	**0.85**	**110**	↑*e*P		Pn		05 39 56.8	-0.7
CBYP				*e*S		Sn		05 40 10.1	-0.6
CBYP				*e*S				05 40 10.4	

IDC 27 05:52:28.2±1.0, 55˚.79N×160˚.31E, h0km, mb3.4/5, mb1 3.7/6, mb1mx3.4/61, mbtmp3.4/6, ML2.2/1, Error ellipse: s-maj=31.6km s-min=18.1km az=150.0, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**3.09**	**211**	Pn		Pn		05 53 17.2	-1.0
	1.6nm,0.3s,baz=51,slow=14,SNR=15								
PETK				Pg		Pb		05 53 25.6	+1.6
	3.1nm,0.3s,baz=42,slow=15,SNR=14								
ILAR	**Eielson Array**	**26.88**	**49**	P		P		05 58 10.6	+0.3
	0.4nm,0.7s,baz=258,slow=8.1,SNR=7.0								
SONM	**Songino Array**	**33.49**	**279**	P		P		05 59 09.4	+0.4
	0.9nm,0.7s,baz=51,slow=7.6,SNR=2.9								
KURBB	**Kurchatov Arra**	**46.56**	**300**	P		P		06 00 56.6	-0.6
	0.5nm,0.8s,baz=59,slow=8.7,SNR=4.0								
NVAR	**Mina Array Bea**	**54.74**	**72**	P		P		06 02 00.1	+0.7
	0.3nm,0.6s,baz=316,slow=6.3,SNR=2.5								
TXAR	**Lajitas Array**	**69.48**	**68**	P		P		06 03 37.6	-0.8
	0.2nm,0.8s,baz=293,slow=4.7,SNR=2.6								

IDC 27 06:05:04.9±32.0, 20˚.98S×177˚.90W, h412km±307km, mb3.5/5, mb1 3.6/5, mb1mx3.2/39, mbtmp4.3/5, Error ellipse: s-maj=158.5km s-min=108.0km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.54**	**265**	P		P		06 11 09.2	+0.7
	3.5nm,0.4s,baz=87,slow=8.3,SNR=4.9								
STKA	**Stephens Creek**	**37.66**	**245**	P		P		06 11 42.9	-0.1
	2.0nm,0.5s,baz=81,slow=11,SNR=5.3								
ASAR	**Alice Springs**	**44.50**	**257**	P		P		06 12 37.6	-0.4
	3.7nm,0.5s,baz=94,slow=8.2,SNR=59								
WRA	**Warramunga Arr**	**44.63**	**262**	P		P		06 12 38.2	-0.8
	2.3nm,0.7s,baz=96,slow=8.1,SNR=24								
FITZ	**Fitzroy Crossi**	**53.05**	**263**	P		P		06 13 42.9	+0.7
	0.7nm,0.3s,baz=88,slow=5.5,SNR=6.1								
GERES	**GERESS Array B**	**150.68**	**344**	PKPbc		PKPbc		06 24 09.0	-0.2
	0.3nm,0.3s,baz=28,slow=4.4,SNR=3.1								

IDC ***27*** *06:12:24.4±1.0, 0˚.09S×126˚.00E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.6/47, mbtmp3.7/7, ML3.4/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/38, Error ellipse: s-maj=47.8km s-min=18.1km az=64.0*
ISCJB ***27*** *06:12:28.1±0.8, 0˚.1S±0˚.1×126˚.1E±0˚.1, h44km, mb3.6/5, Error ellipse: s-maj=23.1km s-min=14.0km az=151.7*

ISC 27 06:12:30.2±1.2, 0˚.1S±0˚.2×126˚.1E±0˚.2, h44km, n7, σ0§68/7, mb3.6/5, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.19**	**98**	Pn		**Pn**		**06 13 45.4**	**0.0**
	1.0nm,0.3s,baz=287,slow=19,SNR=5.8								
SIJI				LR		LR		06 16 42.7	
	comp=Z,153nm,18.8s,baz=336,slow=48								
FITZ	**Fitzroy Crossi**	**17.88**	**182**	P		**P**		**06 16 35.8**	**-0.3**
	0.1nm,0.3s,baz=12,slow=7.2,SNR=5.9								
WRA	**Warramunga Arr**	**21.29**	**158**	P		**P**		**06 17 12.7**	**-0.6**
	1.6nm,0.5s,baz=337,slow=11,SNR=27								
ASAR	**Alice Springs**	**24.60**	**163**	P		**P**		**06 17 47.4**	**+0.8**
	1.0nm,0.7s,baz=334,slow=8.0,SNR=10								
MKAR	**Makanchi Array**	**60.38**	**327**	P		**P**		**06 22 34.8**	**-0.3**
	0.3nm,0.4s,baz=127,slow=8.0,SNR=6.6								
ZALV	**Zalesovo Beam**	**63.74**	**334**	P		**P**		**06 22 58.0**	**+0.6**
	0.5nm,0.3s,baz=139,slow=6.8,SNR=2.8								
KURBB	**Kurchatov Arra**	**64.66**	**329**	P		**P**		**06 23 02.9**	**-0.5**
	0.3nm,0.6s,baz=128,slow=6.0,SNR=2.7								

ATH ***27*** *06:20:53.6, 36˚.68N×28˚.03E, h28km±2km, ML2.9/3, Error ellipse: s-maj=4.1km s-min=1.3km az=213.0*
ISCJB ***27*** *06:20:54.9±0.4, 36˚.65N±0˚.03×27˚.94E±0˚.02, h11km±3km, Error ellipse: s-maj=5.2km s-min=3.0km az=8.6*
ISK ***27*** *06:20:54.2, 36˚.62N×27˚.95E, h10km, ML2.7/14*
DDA ***27*** *06:20:54.9, 36˚.64N×27˚.92E, h7km, Ml2.9*
THE ***27*** *06:20:55.7, 36˚.67N×27˚.97E, h14km±5km, ML2.7/5, Error ellipse: s-maj=6.3km s-min=1.3km az=213.0*

ISC 27 06:20:55.1±0.9, 36˚.64N±0˚.03×27˚.92E±0˚.02, h12km±7km, n40, σ0§97/59, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRSB	**Marmaris-Mugla**	**0.24**	**71**	PG		**Pg**		**06 20 59.2**	**-0.9**
MRSB				SG		**Sg**		**06 21 02.3**	**-1.1**
DATC	**Datca-Mugla**	**0.24**	**300**	PG		**Pg**		**06 21 00.2**	**+0.1**
DATC				SG		**Sg**		**06 21 04.9**	**+1.4**
DAT	**Datca**	**0.29**	**288**	PG		**Pg**		**06 21 01.1**	**0.0**
DAT				SG		**Sb**		**06 21 06.7**	**-0.5**
DAT	**Datca**	**0.29**	**288**	*i* P		**Pg**		**06 21 01.0**	**-0.1**
DAT				*i* S		**Sb**		**06 21 06.3**	**-0.8**
ARG	**Arkhangelos**	**0.45**	**158**	PG		**Pg**		**06 21 02.2**	**-1.8**
ARG				SG		**Sg**		**06 21 09.9**	**-0.1**
ARG	**Arkhangelos**	**0.45**	**158**	P		**Pg**		**06 21 03.5**	**-0.5**
ARG				S		**Sb**		**06 21 11.0**	**-0.8**
ARG				AML		AML		06 21 12.6	
	comp=N,3099μm,0.3s								
ARG				AML		AML		06 21 13.2	
	comp=E,2826μm,0.3s								
ARG	**Arkhangelos**	**0.45**	**158**	P		**Pg**		**06 21 03.7**	**-0.3**
ARG				S		**Sb**		**06 21 12.4**	**+0.6**
NIS1	**Nisyros Isl.**	**0.60**	**267**	PG		**Pg**		**06 21 05.7**	**-1.0**
NIS1	**Nisyros Isl.**	**0.60**	**267**	P		**Pg**		**06 21 07.2**	**+0.5**
NIS1				S		**Sb**		**06 21 17.4**	**+1.5**
NIS1				AML		AML		06 21 24.6	
	comp=N,3608μm,0.6s								
NIS1				AML		AML		06 21 25.4	
	comp=E,3856μm,0.3s								
NIS1	**Nisyros Isl.**	**0.60**	**267**	P		**Pb**		**06 21 07.7**	**+0.2**
NIS1				S		**Sn**		**06 21 19.2**	**+0.1**
TURN	**Turunc**	**0.60**	**67**	PG		Pg		06 21 00.5	-6.2
TURN				SG		Sg		06 21 05.4	-9.2
TURN	**Turunc**	**0.60**	**67**	*i* P		Pg		06 21 00.5	-6.2
TURN				*i* S		Sg		06 21 05.2	-9.4
DALY	**Dalyan (Mu¨la**	**0.62**	**73**	PG		**Pg**		**06 21 06.6**	**-0.5**
DALY	**Dalyan (Mu¨la**	**0.62**	**73**	*i* P		**Pg**		**06 21 06.3**	**-0.8**
DALY				*i* S		**Sb**		**06 21 16.1**	**-0.4**
NISR	**Nisiros**	**0.64**	**268**	P		**Pb**		**06 21 08.0**	**-0.1**
NISR				S		**Sb**		**06 21 18.7**	**+1.7**
NISR				AML		AML		06 21 21.9	
	comp=E,1761μm,0.2s								
NISR				AML		AML		06 21 24.1	
	comp=N,1195μm,0.5s								
NISR	**Nisiros**	**0.64**	**268**	P		**Pb**		**06 21 08.4**	**+0.2**
NISR				S		**Sn**		**06 21 18.8**	**-1.2**
BODT	**Bodrum**	**0.65**	**311**	PG		**Pg**		**06 21 07.8**	**+0.1**
BODT	**Bodrum**	**0.65**	**311**	P		**Pg**		**06 21 07.5**	**-0.2**
BODT				S		**Sn**		**06 21 19.2**	**-1.1**
MLSB	**Milas**	**0.67**	**350**	PG		**Pg**		**06 21 07.9**	**-0.1**
FETY	**Fethiye**	**0.94**	**90**	PG		**Pg**		**06 21 12.5**	**-0.7**
FETY	**Fethiye**	**0.94**	**90**	P		**Pg**		**06 21 12.7**	**-0.5**
FETY				S		**Sb**		**06 21 25.6**	**-0.1**
AYDN	**Tasoluk**	**1.02**	**358**	*i* P		**Pg**		**06 21 14.3**	**-0.5**
AYDN				*i* S		**Sn**		**06 21 29.8**	**+0.2**
TAVA	**DENIZLI_Tavas**	**1.15**	**44**	*i* P		**Pg**		**06 21 17.1**	**0.0**
TAVA				*i* S		**Sn**		**06 21 34.6**	**+1.8**
AYDB	**Zeytinkoy-Aydi**	**1.31**	**359**	PN		**Pn**		**06 21 19.0**	**-0.3**
SMG	**Samos**	**1.37**	**321**	P		**Pn**		**06 21 19.5**	**-0.7**
SMG	**Samos**	**1.37**	**321**	P		**Pn**		**06 21 19.5**	**-0.7**
SMG				S		**Sb**		**06 21 35.4**	**-2.9**
AKAS	**Kas**	**1.42**	**106**	PN		**Pn**		**06 21 20.7**	**-0.2**
AKAS	**Kas**	**1.42**	**106**	*i* P		**Pg**		**06 21 22.1**	**-0.3**
AKAS				*i* S		**Sg**		**06 21 43.1**	**+2.3**
GOLH	**Golhisar**	**1.44**	**65**	*i* P		**Pg**		**06 21 22.6**	**-0.2**
GOLH				*i* S		**Sg**		**06 21 44.7**	**+3.1**
ELL	**Elmali**	**1.60**	**86**	PN		**Pn**		**06 21 23.3**	**-0.1**
DGB	**˙zmir**	**1.64**	**330**	*i* P		**Pn**		**06 21 23.0**	**-0.7**
DGB				*i* S		**Sn**		**06 21 44.7**	**0.0**
AMGA	**Amorgos Island**	**1.64**	**277**	P		**Pn**		**06 21 23.7**	**-0.1**
ANAF	**Anafi Island**	**1.75**	**261**	P		**Pn**		**06 21 25.2**	**-0.1**
KULA	**Kula-Manisa**	**1.96**	**17**	PN		**Pn**		**06 21 28.5**	**+0.2**
KORT	**Korkueli**	**1.98**	**79**	PN		**Pn**		**06 21 28.8**	**+0.2**
URLA	**Izmir**	**2.02**	**329**	PN		**Pn**		**06 21 29.2**	**+0.2**
IOSP	**Ios island**	**2.12**	**273**	P		**Pn**		**06 21 30.2**	**-0.1**
CHOS	**Chios island**	**2.29**	**320**	P		**Pn**		**06 21 32.1**	**-0.8**
CHOS	**Chios island**	**2.29**	**320**	P		**Pn**		**06 21 32.0**	**-0.8**
CHOS				S		**Sn**		**06 21 59.7**	**-1.3**
LAST	**Lasithi**	**2.47**	**234**	P		**Pn**		**06 21 36.0**	**+0.7**

ISN ***27*** *06:22:20.5±1.5, 33˚.17N×49˚.52E, h0km±25km, ML4.8*
SGS ***27*** *06:22:24.7, 33˚.81N×49˚.44E, h24km*
ISCJB ***27*** *06:22:25.6±0.1, 33˚.15N±0˚.02×49˚.22E±0˚.02, h10km, mb4.7/130, MS3.9/26, Error ellipse: s-maj=2.4km s-min=1.7km az=24.6*
GII ***27*** *06:22:25.7±0.0, 33˚.24N×49˚.28E, h2km*
THR ***27*** *06:22:26.6±0.3, 33˚.27N×49˚.45E, h28km±3km, ML4.7*
TEH ***27*** *06:22:26.2, 33˚.27N×49˚.27E, h4km, ML4.7*
MOS ***27*** *06:22:27.8±1.2, 33˚.18N×49˚.21E, h25km, mb4.9/55, Error ellipse: s-maj=5.6km s-min=3.3km az=123.7*
NEIC ***27*** *06:22:27.4±0.2, 33˚.22N×49˚.21E, h10km, mb4.8/52, ML4.7(THR), MN4.9(TEH), Error ellipse: s-maj=4.6km s-min=2.9km az=5.0*
BJI ***27*** *06:22:27.0, 33˚.20N×49˚.20E, h15km, mb4.7/31, mB5.0/20, Ms4.5/15, Ms7 4.2/15*
GCMT ***27*** *06:22:28.4±0.5, 33˚.12N±0˚.03×49˚.24E±0˚.02, h26km±2km, MW4.8/63, Moment Tensor Solution. s20,c21; s63,c86; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.28±.12; $M_{\theta\theta}$-1.48±.08; $M_{\phi\phi}$ 1.75±.09; $M_{r\theta}$0.90±.22; $M_{r\phi}$0.66±.08; $M_{\theta\phi}$-0.28±.19; Best double couple: M_o1.98800×10^{16} NP1:ϕ_s329.00000°, δ73.00000°, λ-158.00000°. NP2: ϕ_s233.00000°, δ69.00000°, λ-18.00000°. Principal axes: T 1.8840, Plg3.0000°, Azm100.0000°; N 0.2030, Plg62.0000°, Azm4.0000°; P -2.0930, Plg27.0000°, Azm192.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DSN ***27*** *06:22:29.3±0.4, 33˚.09N×49˚.23E, h24km, mb4.8/1 Error ellipse: s-maj=11.0km s-min=4.4km az=51.0*
OMAN ***27*** *06:22:30.2±0.6, 32˚.94N×49˚.22E, h24km, Error ellipse: s-maj=68.0km s-min=15.6km az=231.0*
IDC ***27*** *06:22:32.0±1.7, 33˚.36N×49˚.12E, h39km±14km, mb4.1/26, mb1 4.3/30, mb1mx4.2/46, mbtmp4.3/30, ML3.6/4, MS3.9/23, Ms1 3.9/23, ms1mx3.7/46, Error ellipse: s-maj=14.1km s-min=10.7km az=167.0*
AZER ***27*** *06:22:44.3±2.1, 34˚.30N×49˚.90E, h40km, ml4.7/4, ms3.2/3, Error ellipse: s-maj=22.1km s-min=13.2km az=155.0*

ISC 27 06:22:27.2±0.3, 33˚.30N±0˚.02×49˚.30E±0˚.02, h10km, n544, σ1§99/530, mb4.8/134, MS3.9/26, 36C-33D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHMZ	**Khomeyn**	**0.70**	**52**	*e*Pg		**Pg**		**06 22 39.4**	**-1.5**
KHMZ				*e*Sg		**Sg**		**06 22 48.5**	**-1.5**
KHMZ				IAML				06 22 52.6	
	comp=N,33μm,0.7s								
KHMZ	**Khomeyn**	**0.70**	**52**	*e*Pg		**Pg**		**06 22 39.2**	**-1.6**
KHMZ				*e*Sg		**Sg**		**06 22 48.5**	**-1.5**
KHMZ				IAML				06 22 52.3	
	comp=N,32μm,0.7s								
KHMZ	**Khomeyn**	**0.70**	**52**	*e*Pg		**Pg**		**06 22 39.3**	**-1.5**
IKMR	**Kamar-syah**	**0.80**	**286**	*e*Pg		**Pg**		**06 22 41.4**	**-1.2**
IKMR				IAMB		IAmb		06 23 06.7	
	comp=Z,0.0nm,0.8s								
HSAM	**Samen**	**1.07**	**328**	*e*Pg		**Pg**		**06 22 46.2**	**-1.7**
IKFM	**Kafar-mosalman**	**1.23**	**281**	*e*Pg		**Pb**		**06 22 49.3**	**-1.3**
IKFM				IAMB		IAmb		06 23 16.2	
	comp=E,0.0nm,0.4s								
IKFM				IAMB		IAmb		06 23 16.3	
	comp=N,0.0nm,0.6s								
IKFM				IAMB		IAmb		06 23 18.8	
	comp=Z,0.0nm,0.4s								
SHGR	**Shooshtar-Gavs**	**1.26**	**200**	*e*Pn		**Pg**		**06 22 50.6**	**-0.9**
SHGR				IAML				06 23 16.3	
	comp=N,13μm,0.6s								
SHGR				IAML				06 23 16.9	
	comp=E,16μm,0.7s								
SHGR	**Shooshtar-Gavs**	**1.26**	**200**	*e*Pn		**Pg**		**06 22 50.7**	**-0.8**
SHGR				IAML				06 23 16.3	
	comp=N,12μm,0.5s								
SHGR				IAML				06 23 16.9	
	comp=E,16μm,0.6s								
SHGR	**Shooshtar-Gavs**	**1.26**	**200**	*e*Pg		**Pg**		**06 22 50.5**	**-0.9**
ASAO	**Ashtian**	**1.38**	**26**	*e*Pg		**Pn**		**06 22 51.5**	**-1.2**
ASAO	**Ashtian**	**1.38**	**26**	*e*Pg		**Pn**		**06 22 51.6**	**-1.2**
ASAO	**Ashtian**	**1.38**	**26**	*e*Pg		**Pn**		**06 22 51.5**	**-1.2**
IPIR	**Pirpir**	**1.47**	**114**	*e*Pn		**Pn**		**06 22 53.0**	**-1.1**
IPIR				IAMB		IAmb		06 22 57.6	
	comp=Z,65μm,0.4s								
IPIR				IAMB		IAmb		06 22 57.9	
	comp=N,39μm,0.6s								
IPIR				IAMB		IAmb		06 23 24.4	
	comp=E,47μm,0.6s								
HAGD	**Aghdareh**	**1.52**	**355**	*e*Pn		**Pn**		**06 22 53.4**	**-1.3**
IKOM	**Komasi**	**1.73**	**301**	*e*Pn		**Pb**		**06 22 57.3**	**-1.8**
IKOM				IAMB		IAmb		06 23 32.1	
	comp=Z,0.0nm,0.8s								
IKOM				IAMB		IAmb		06 23 37.2	
	comp=N,0.0nm,0.8s								
ROKH	**ROKH**	**1.75**	**123**	*e*Pn		**Pb**		**06 22 58.1**	**-1.4**
ROKH				IAMB		IAmb		06 23 27.1	
	comp=E,0.0nm,1.8s								
ROKH				IAMB		IAmb		06 23 31.0	
	comp=Z,0.0nm,1.2s								
ROKH				IAMB		IAmb		06 23 32.4	
	comp=N,0.0nm,1.2s								
ZNGN	**Zangian**	**1.77**	**132**	*e*Pn		**Pn**		**06 22 57.8**	**-0.3**
ZNGN				IAMB		IAmb		06 23 29.0	
	comp=E,0.0nm,1.1s								
ZNGN				IAMB		IAmb		06 23 30.7	
	comp=Z,0.0nm,0.6s								
ZNGN				IAMB		IAmb		06 23 31.0	
	comp=N,0.0nm,0.8s								
IKLH	**Kolahrood**	**1.91**	**89**	*e*Pn		**Pn**		**06 23 00.2**	**+0.2**
IKLH				IAMB		IAmb		06 23 29.5	
	comp=E,80μm,0.9s								
IKLH				IAMB		IAmb		06 23 32.6	
	comp=Z,4μm,0.6s								
IKLH				IAMB		IAmb		06 23 35.7	
	comp=N,33nm,0.6s								
GHVR	**GHOM**	**2.03**	**54**	*e*Pn		**Pn**		**06 22 59.6**	**-2.0**
GHVR	**GHOM**	**2.03**	**54**	*e*Pn		**Pn**		**06 23 00.5**	**-1.1**
GHVR	**GHOM**	**2.03**	**54**	*e*Pn		**Pn**		**06 23 00.5**	**-1.1**
AHWZ	**Ahwaz**	**2.04**	**196**	*e*Pn		**Pb**		**06 23 02.6**	**-1.8**
AHWZ				IAMB		IAmb		06 23 38.1	
	comp=N,0.0nm,0.6s								
AHWZ				IAMB		IAmb		06 23 38.4	
	comp=E,0.0nm,0.4s								
AHWZ				IAMB		IAmb		06 23 40.5	
	comp=Z,0.0nm,0.7s								
HKZM	**Kohzaman**	**2.09**	**351**	*e*Pn		**Pn**		**06 23 03.2**	**+0.6**
IRAZ	**Razeghan**	**2.16**	**14**	*e*Pn		**Pb**		**06 23 04.9**	**-1.6**
IRAZ				IAMB		IAmb		06 23 43.6	
	comp=Z,67μm,0.6s								
IRAZ				IAMB		IAmb		06 23 44.6	
	comp=E,14μm,1.2s								
IRAZ				IAMB		IAmb		06 23 51.7	
	comp=N,54μm,0.8s								
IBRJ	**Brojen**	**2.16**	**130**	IAMB		IAmb		06 23 10.5	
	comp=Z,50μm,0.4s								
IBRJ				*e*Pn		**Pb**		**06 23 05.1**	**-1.5**
IBRJ				IAMB		IAmb		06 23 46.0	
	comp=E,50μm,0.7s								
IBRJ				IAMB		IAmb		06 23 51.7	
	comp=N,53μm,0.7s								
QABG	**Abgarm-Qazvin**	**2.41**	**5**	IAMB		IAmb		06 23 49.4	
	comp=N,0.0nm,0.8s								
QABG				*e*Pn		**Pb**		**06 23 08.6**	**-2.2**
QABG				IAMB		IAmb		06 23 51.5	
	comp=E,0.0nm,0.7s								
IGAR	**Gharneh**	**2.48**	**111**	IAMB		IAmb		06 23 55.4	
	comp=N,31μm,0.5s								
IGAR				*e*Pn		**Pb**		**06 23 09.4**	**-2.5**
IGAR				IAMB		IAmb		06 23 56.5	
	comp=Z,36μm,0.7s								
ILIN

IANJ IAMB IAmb 06 25 00.6
comp=Z,16μm,1.0s
ICHK Chekchek 4.43 102 *e*Pn **Pn 06 23 36.1 +1.4**
ICHK IAMB IAmb 06 24 52.2
comp=E,8μm,0.8s
ICHK IAMB IAmb 06 24 52.2
comp=Z,7μm,0.8s
ICHK IAMB IAmb 06 25 00.5
comp=N,8μm,0.7s
SHI Shiraz 4.57 142 *e*Pn **Pn 06 23 37.2 +0.7**
SHI IAMB IAmb 06 25 35.3
comp=Z,75μm,2.7s
IPAR Pars 4.71 136 *e*Pn **Pn 06 23 39.7 +1.1**
IPAR IAMB IAmb 06 24 42.4
comp=Z,8μm,0.8s
IPAR IAMB IAmb 06 24 44.7
comp=N,16μm,1.0s
IPAR IAMB IAmb 06 25 08.0
comp=E,7μm,0.9s
IBST Bostanabad 4.80 337 *e*Pn **Pn 06 23 41.5 +1.7**
IBST IAMB IAmb 06 24 01.6
comp=Z,2μm,0.5s
IBST IAMB IAmb 06 24 04.8
comp=N,2μm,0.9s
IBST IAMB IAmb 06 25 18.6
comp=E,3μm,1.2s
IMEH Mehriz 4.88 112 *e*Pn **Pn 06 23 42.0 +1.0**
IMEH IAMB IAmb 06 25 14.7
comp=N,7μm,0.8s
IMEH IAMB IAmb 06 25 16.1
comp=Z,5μm,0.8s
ASTR Astara 5.26 356 ⇓P **Pn 06 23 48.0 +2.1**
SNR=13
ASTR ⇓S **Sn 06 24 38.6 -8.0**
IHRS Heris 5.33 341 *e*Pn **Pn 06 23 49.4 +2.4**
IHRS IAMB IAmb 06 24 24.7
comp=Z,3μm,0.6s
IHRS IAMB IAmb 06 25 31.2
comp=E,7μm,1.0s
LRK Lerik 5.38 352 ⇑P **Pn 06 23 50.9 +3.1**
SNR=14
LRK ⇑S **Sn 06 24 43.6 -6.3**
LKRN Lenkeran, Azer 5.41 356 ⇓P **Pn 06 23 49.8 +1.9**
SNR=4.4
LKRN ⇑S **Sn 06 24 41.8 -8.4**
ISHB Shabestar 5.80 330 *e*Pn **Pn 06 23 56.1 +2.6**
ISHB IAMB IAmb 06 24 46.6
comp=Z,2μm,0.9s
ISHB IAMB IAmb 06 25 39.0
comp=N,4μm,0.8s
ISHB IAMB IAmb 06 25 51.2
comp=E,5μm,0.7s
GLBA Clilabad 5.97 353 ⇑P **Pn 06 23 58.3 +2.7**
SNR=9.1
GLBA ⇑S **Sn 06 24 55.4 -8.7**
TNSJ Nastanj 6.13 82 *e*Pn **Pn 06 23 59.4 +1.4**
TNSJ IAMB IAmb 06 26 12.1
comp=Z,0.0nm,1.1s
IMRD Marand 6.13 333 *e*Pn **Pn 06 24 00.6 +2.6**
IMRD IAMB IAmb 06 24 33.1
comp=E,4μm,0.6s
IMRD IAMB IAmb 06 24 42.1
comp=Z,3μm,0.6s
TPRV Parvadeh(Tabas 6.20 91 *e*Pn **Pn 06 24 00.5 +1.6**
TPRV IAMB IAmb 06 26 26.9
comp=Z,0.0nm,2.8s
ORD Ordubad 6.22 335 ⇓P Pn 06 24 04.4 +5.3
ORD ⇑S **Sn 06 25 07.1 -3.2**
TKDS Koohdasht(Taba 6.54 85 *e*Pn **Pn 06 24 05.2 +1.5**
TKDS IAMB IAmb 06 26 42.7
comp=Z,0.0nm,2.2s
NAX Nakhchivan 6.61 333 ⇓P Pn 06 24 10.7 +6.2
NAX ⇓S **Sn 06 25 21.0 +1.0**
ALIB Äli-Bayra 6.64 358 ⇓P **Pn 06 24 05.0 +0.2**
ALIB ⇑S Sn 06 25 10.7 -10
KHGB Koh Gabri 6.77 114 *e*Pn **Pn 06 24 07.5 +0.7**
KHGB IAMB IAmb 06 27 09.3
comp=Z,0.0nm,3.7s
SBZ Shahbuz 6.79 335 ⇑S **Sn 06 25 23.4 -1.0**
SIRT Sirnak 6.99 309 *e*Pn **Pn 06 24 10.4 +0.6**
KDMR Kurdemir 7.12 353 ⇓S **Sn 06 25 25.3 -6.9**
GALA Gala 7.12 5 ⇑S Sn 06 25 21.2 -11
VANB Van 7.13 319 *e*Pn **Pn 06 24 15.1 +3.4**
KRBR Kerman 7.17 116 *e*Pn **Pn 06 24 11.2 -1.2**
KRBR Kerman 7.17 116 *e*Pn **Pn 06 24 11.2 -1.2**
GBS Qobustan 7.22 358 ⇑P **Pn 06 24 14.4 +1.6**
GBS ⇓S **Sn 06 25 27.2 -7.8**
HYR Heyderabad 7.33 332 ⇓S **Sn 06 25 36.3 -1.5**
BOQSS 7.41 179 P **Pn 06 24 15.6 +0.2**
SBZV Sabzevar 7.49 63 *e*Pn **Pn 06 24 18.7 +1.9**
SBZV IAMB IAmb 06 26 50.2
comp=Z,0.0nm,2.8s
IML Ismayilli 7.53 354 ⇓S Sn 06 25 33.1 -9.4
ATGJ Altiaghaj 7.55 358 ⇑P **Pn 06 24 19.1 +1.7**
SNR=6.5
ATGJ ⇑S Sn 06 25 30.4 -13
GANJ Ganja 7.71 343 ⇓P Pn 06 24 23.7 +4.3
SNR=5.3
GANJ ⇑S **Sn 06 25 43.7 -3.1**
GNI Garni 7.75 333 *e*Pn **Pn 06 24 20.2 0.0**
GNI Garni 7.75 333 P Pn 06 24 26.1 +5.9
SNR=10
GNI Garni 7.75 333 *i* P Pn 06 24 25.4 +5.2
SNR=5.8
GNI Garni 7.75 333 *de*P Pn 06 24 25.9 +5.7
GNI pmax pmax
comp=Z,140nm,0.8s
XNQ Khinaliq 7.91 354 ⇑P **Pn 06 24 24.7 +2.2**
SNR=8.6
GDB GEDABAY 7.93 340 ⇓P Pn 06 24 27.1 +4.5
SNR=10
ISFR Sfrayin 8.04 60 *e*Pn **Pn 06 24 27.7 +3.3**
ISFR IAMB IAmb 06 24 33.4
comp=Z,2μm,0.6s
ISFR IAMB IAmb 06 24 36.4
comp=E,3μm,0.4s
ISFR IAMB IAmb 06 24 47.5
comp=N,2μm,0.5s
SEKA Sheki 8.07 349 ⇓P **Pn 06 24 27.3 +2.9**
SNR=10
QSAR Qusar 8.24 355 ⇑P **Pn 06 24 28.9 +2.1**
SNR=3.8
IKRD Kardeh 8.31 63 *e*Pn Pb 06 24 40.6 -11
IKRD IAMB IAmb 06 25 07.0
comp=N,379nm,0.6s
IKRD IAMB IAmb 06 27 56.5
comp=E,1μm,1.4s
IKRD IAMB IAmb 06 28 11.3
comp=Z,867nm,1.3s
QZX Qazax, Azerbai 8.35 339 ⇓P Pn 06 24 33.1 +4.8
SNR=5.6
IAKL Akhelmad 8.43 64 *e*Pn **Pn 06 24 32.2 +2.5**
IAKL IAMB IAmb 06 26 14.7
comp=N,671nm,0.9s
IAKL IAMB IAmb 06 27 39.4
comp=Z,891nm,1.1s
IAKL IAMB IAmb 06 27 41.9
comp=E,1μm,1.3s
GEYT Alibeck 8.53 55 Pn **Pn 06 24 35.0 +4.1**
comp=E,1.8nm,0.3s,baz=169,slow=8.3,SNR=11
GEYT LR LR 06 27 58.2
comp=E,387nm,19.3s,baz=270,slow=38
GYA0B ALIBECK ARRAY 8.53 55 *e*Pn **Pn 06 24 32.1 +1.3**
SLWS 8.56 172 P **Pn 06 24 31.0 -0.2**
IPAY Payeh 8.56 66 *e*Pn **Pn 06 24 33.8 +2.4**
IPAY IAMB IAmb 06 24 55.0
comp=Z,527nm,0.9s
IPAY IAMB IAmb 06 25 11.6
comp=N,655nm,0.7s
IPAY IAMB IAmb 06 27 42.8
comp=E,671nm,0.8s
ZKTA Zakatala 8.59 346 ⇑P **Pn 06 24 35.1 +3.6**
SNR=5.1
KARS Kars 8.84 328 P **Pn 06 24 36.3 +1.1**
TBLG Delisi 9.16 338 *e*Pn **Pn 06 24 41.2 +1.8**
TBLG Delisi 9.16 338 *e*P **Pn 06 24 41.2 +1.8**
AKH Akhalkalaki 9.31 332 *e*Pn **Pn 06 24 41.9 +0.2**
AKH Akhalkalaki 9.31 332 ⇓*i*P Pn 06 24 48.0 +6.3
AKH Akhalkalaki 9.31 332 *e*P **Pn 06 24 41.9 +0.2**
BTHS 9.32 171 S **Sn 06 26 23.1 -3.6**
BTHS 9.32 171 P **Pn 06 24 41.0 -0.7**
SHME Shamm 9.36 139 *i* P **Pn 06 24 41.6 -0.7**
SNR=7.5
IMYA Miami 9.38 68 *e*Pn **Pn 06 24 45.7 +3.1**
IMYA IAMB IAmb 06 27 47.3
comp=E,2μm,1.4s
IMYA IAMB IAmb 06 28 04.7
comp=N,2μm,1.3s
IMYA IAMB IAmb 06 28 05.6
comp=Z,969nm,1.4s
BANOM Banah 9.55 139 *i* P **Pn 06 24 43.8 -1.0**
SNR=38
MAK Makhachkala 9.74 352 *e*P **Pn 06 24 50.8 +3.4**
MAK *e*S **Sn 06 26 41.8 +5.0**
MAK pmax pmax
comp=Z,93nm,0.7s
MSFE Esma-Masafi 9.92 141 *i* P **Pn 06 24 48.5 -1.5**
SNR=16
NAZ Nazwa, Dubai 9.98 145 *i* P **Pn 06 24 50.1 -0.5**
SNR=19
AJN Ajban 10.03 149 *i* P **Pn 06 24 50.3 -1.0**
SNR=13
MDH Madha 10.04 141 *i* P **Pn 06 24 49.8 -1.7**
SNR=55
ASUD Al Ashush, Dub 10.13 147 *i* P **Pn 06 24 51.9 -0.8**
SNR=8.0
FAQ Al Faqa, Dubai 10.15 146 *i* P **Pn 06 24 52.4 -0.6**
SNR=17
UOSS Minazif 10.28 142 *e*Pn **Pn 06 24 53.2 -1.7**
UOSS *e*Sn **Sn 06 26 44.1 -6.1**
UOSS Minazif 10.28 142 P **Pn 06 24 53.5 -1.3**
SNR=5.5
UOSS Minazif 10.28 142 *i* P **Pn 06 24 53.2 -1.7**
SNR=34
UOSS Minazif 10.28 142 *e*Pn **Pn 06 24 53.2 -1.7**
RAYN Ar Rayn 10.30 200 *e*Pn **Pn 06 24 53.4 -1.8**
RAYN *e*Sn Sn 06 26 40.1 -11
RAYN Ar Rayn 10.30 200 *i* P **Pn 06 24 53.3 -1.8**
SNR=12
RAYN Ar Rayn 10.30 200 *e*P **Pn 06 24 53.4 -1.8**
RAYN *e* 06 26 40.2
RAYN Ar Rayn 10.30 200 *e*Pn **Pn 06 24 52.9 -2.2**
HATD Hatta, Dubai 10.35 143 P **Pn 06 24 55.3 -0.4**
SNR=6.9
HATD Hatta, Dubai 10.35 143 *i* P **Pn 06 24 54.9 -0.9**
SNR=36
ZEI Tsey 10.38 337 *e*P Pn 06 25 02.7 +6.4
ZEI pmax pmax
comp=Z,14nm,1.1s
ASHO Ashiyiah 10.43 144 P **Pn 06 24 56.4 -0.5**
SNR=9.3
ASHO Ashiyiah 10.43 144 *i* P **Pn 06 24 55.2 -1.6**
SNR=45
ALNE Al Ain 10.81 147 *i* P **Pn 06 25 00.0 -2.1**
SNR=9.4
NEY Neytrino 11.19 334 *i* P Pn 06 25 12.4 +5.1
NEY Neytrino 11.19 334 *e*Pn Pn 06 25 12.5 +5.2
KBZ Khabaz 11.55 336 Pn Pn 06 25 17.6 +5.6
comp=Z,0.2nm,0.3s,baz=137,slow=9.8,SNR=6.7
KBZ LR LR 06 30 08.6
comp=Z,737nm,21.5s,baz=153,slow=40
HMDT Nahal Hemdat 11.64 269 Pn **Pn 06 25 13.5 +0.1**
MMA0B Mount Meron ar 11.65 272 Pn **Pn 06 25 14.0 +0.4**
MMLI Mount Malkishu 11.70 270 Pn **Pn 06 25 14.7 +0.4**
ARQ Araqi 11.79 146 P **Pn 06 25 14.0 -1.4**
SNR=12
KVAR Kislovodsk Arr 11.82 336 Pn Pn 06 25 20.1 +4.2
baz=110,slow=23,SNR=8.5
KVAR LR LR 06 29 24.7
comp=Z,1μm,20.6s,baz=80,slow=35
KIV Kislovodsk 11.82 336 *e*Pn **Pn 06 25 19.0 +3.1**
KIV Kislovodsk 11.82 336 *i* P **Pn 06 25 18.6 +2.7**
SNR=9.0
KIV Kislovodsk 11.82 336 *e*P **Pn 06 25 18.9 +3.1**
KIV *e*S **Sn 06 27 30.3 +2.4**
KIV pmax pmax
comp=Z,22nm,1.1s
KIV MLR MLR
comp=Z,247nm,9.0s
BLGI Bet Lehem HaGe 11.86 271 Pn **Pn 06 25 16.5 +0.1**
DSI Dead Sea 11.89 265 Pn **Pn 06 25 16.4 -0.4**
OFRI 'Ofer 12.04 271 Pn **Pn 06 25 19.0 +0.1**
SLTI Sal'it 12.05 269 Pn **Pn 06 25 18.4 -0.6**
ZFRI Zfri 12.31 261 Pn **Pn 06 25 21.6 -0.9**
BIDO Bidbid 12.46 139 P **Pn 06 25 21.7 -2.9**
SNR=20
PRNI Paran 12.51 260 Pn **Pn 06 25 22.9 -2.4**
PRNI Paran 12.51 260 Pn **Pn 06 25 24.3 -1.0**
HRFI Mount Harif 12.58 259 Pn **Pn 06 25 26.0 -0.3**
HRFI Mount Harif 12.58 259 *e*Pn **Pn 06 25 27.0 +0.7**
BSY Bisya 12.62 144 P **Pn 06 25 25.0 -1.9**
SNR=29
RMNI Mount Ramon 12.64 262 Pn **Pn 06 25 26.7 -0.4**
MBRI Mt Berech 12.76 258 Pn **Pn 06 25 27.0 -1.8**
EIL Elat 12.77 257 Pn **Pn 06 25 26.7 -2.1**
EIL Elat 12.77 257 *e*Pn **Pn 06 25 28.6 -0.2**
SMDO Samad 12.79 141 P **Pn 06 25 27.1 -2.2**
SNR=34
KZIT Kziot 12.86 263 Pn **Pn 06 25 29.9 -0.2**
WSAR Wadi Sarin 12.96 138 P **Pn 06 25 28.6 -2.9**
SNR=16
CSS Mathiatis 13.33 282 *e*Pn **Pn 06 25 35.9 -0.7**
CSS Mathiatis 13.33 282 Pn **Pn 06 25 37.0 +0.5**
JMDO Jabal Madar 13.38 142 P **Pn 06 25 35.5 -1.7**
SNR=16
WBK Wadi Bani Khal 13.65 139 P **Pn 06 25 39.8 -1.1**
SNR=19
SZAC Souni 13.70 281 P **Pn 06 25 44.2 +2.7**
ALFC Alefka 13.94 282 P **Pn 06 25 47.4 +2.5**
BRTR Keskin Array B 14.12 301 Pn **Pn 06 25 49.7 +2.3**
comp=Z,0.3nm,0.3s,baz=119,slow=12,SNR=29
BRTR LR LR 06 32 18.7
comp=Z,953nm,20.9s,baz=110,slow=42
BRTR ScP **ScP 06 34 36.7 -3.8**
comp=Z,0.2nm,0.3s,baz=132,slow=3.5,SNR=3.8
BR101 Keskin Array S 14.12 301 *e*Pn **Pn 06 25 49.7 +2.3**
BR131 Keskin Array S 14.12 301 *e*Pn **Pn 06 25 48.0 +0.6**
BR131 Keskin Array S 14.12 301 P **Pn 06 25 49.4 +2.0**
SNR=18
PPCY Paphos 14.14 281 P **Pn 06 25 49.9 +2.4**
ILGA Ilgaz 14.62 306 *e*Pn **Pn 06 25 53.9 -0.4**
ANTO Ankara 14.78 301 *e*Pn **Pn 06 25 56.3 -0.1**
ANTO Ankara 14.78 301 P **P 06 25 59.1 -3.2**
SNR=7.4
ANTO Ankara 14.78 301 *e*P **Pn 06 25 56.3 -0.1**
ISP Isparta 15.93 292 *e*Pn **Pn 06 26 11.9 +0.4**
comp=Z,124nm,1.0s
ISP Isparta 15.93 292 ⇓*i*P **P 06 26 16.0 +0.8**
ISP Isparta 15.93 292 P **P 06 26 16.5 +1.3**
ISP Isparta 15.93 292 *e*P **Pn 06 26 11.9 +0.4**
ISP pmax pmax
comp=Z,124nm,1.0s
ABTO Aybut 16.29 166 P **Pn 06 26 14.4 -1.7**
SNR=15
KBL Kabul 16.44 80 *e*Pn **P 06 26 20.1 -0.9**
comp=Z,14nm,1.0s
KBL Kabul 16.44 80 *e*P **P 06 26 20.1 -0.9**
KBL pmax pmax
comp=Z,14nm,1.0s
SIM Simferopol' 16.52 319 P **P 06 26 22.9 +1.3**
SIM pmax pmax
comp=Z,18nm,0.6s
FETY Fethiye 16.90 287 P **Pn 06 26 22.8 -1.0**
FETY Fethiye 16.90 287 P **Pn 06 26 22.8 -1.0**
MANT Manisa 17.57 293 *e*Pn **P 06 26 32.0 -1.5**
comp=Z,64nm,0.9s
ABKAR Akbulak array 17.80 23 *e*Pn **P 06 26 36.5 +0.8**
ISK Istanbul-Kandi 17.87 302 P **P 06 26 36.9 +0.4**
ISK pmax pmax
comp=Z,50nm,0.9s
AKTO Aktyubinsk 18.28 18 P **P 06 26 43.0 +2.0**
BTK Batken 18.51 62 P **Pn 06 26 45.9 +2.1**
BTK pmax pmax
comp=Z,17nm,1.1s
VRH Novokhopyorsk 18.73 345 *e*P **Pn 06 26 46.7 +0.5**
VRH pmax pmax
comp=Z,130nm,0.8s
MUKL Al Mukalla 18.75 181 *e*P **P 06 26 43.6 -2.7**
VORD Divnogorie 19.11 340 *e*P **Pn 06 26 50.6 -0.3**
VORD pmax pmax
comp=Z,20nm,0.9s
DAMY Dhamar 19.17 195 *e*P **Pn 06 26 51.2 -1.0**
comp=Z,31nm,0.9s
KK31 Karatay Array 19.28 53 *e*P **Pn 06 26 54.5 +1.4**
KK31 Karatay Array 19.28 53 *e*P **Pn 06 26 54.5 +1.4**
KKAR Karatay Array 19.28 53 *e*P **Pn 06 26 54.5 +1.4**
KKAR Karatay Array 19.28 53 *e*P **Pn 06 26 54.5 +1.4**
VSR Storozhevoye 19.37 341 *e*P **Pn 06 26 55.9 +1.9**
VSR pmax pmax
comp=Z,40nm,0.8s
MFTR Murfatlar 19.52 310 ⇓*i*P **Pn 06 26 56.6 +0.8**
BDHA Al Bayda' 19.54 191 *e*P **Pn 06 26 54.7 -1.8**
TIRR Tirgusor 19.65 311 *e*P **Pn 06 26 56.9 -0.5**
comp=Z,21nm,0.9s
TIRR Tirgusor 19.65 311 ⇓*i*P **Pn 06 26 57.5 +0.1**
TIRR Tirgusor 19.65 311 *e*P **Pn 06 26 56.9 -0.5**
TIRR pmax pmax
comp=Z,21nm,0.9s
VORR Voronezh 19.77 341 P **Pn 06 27 01.0 +2.2**
VORR pmax pmax
comp=Z,250nm,1.4s
APE Apeiranthos 19.77 288 ⇑*i*P **Pn 06 26 58.6 -0.4**
LAST Lasithi 19.78 282 P **Pn 06 26 59.5 +0.4**
LAST Lasithi 19.78 282 P **Pn 06 26 59.5 +0.4**
SANT Santorini 19.80 286 *e*P **Pn 06 26 58.2 -1.1**
comp=Z,88nm,0.6s
SANT Santorini 19.80 286 ⇓*i*P **Pn 06 26 59.1 -0.2**
THR6 Thira Island, 19.84 286 P **Pn 06 26 59.5 -0.3**
GADA Gvkgeada 19.94 297 P **Pn 06 26 59.9 -1.0**
GADA Gvkgeada 19.94 297 P **Pn 06 26 59.9 -1.0**
NIL Nilore 19.98 82 *e*P Pn 06 27 01.4 0.0
comp=Z,20nm,0.8s
NIL Nilore 19.98 82 *e*P Pn 06 27 01.4 -0.1
NIL pmax pmax
comp=Z,20nm,0.8s
ALN Alexandroupoli 20.00 299 *e*P **Pn 06 27 00.9 -0.7**
comp=Z,87nm,1.0s
ALN Alexandroupoli 20.00 299 P **Pn 06 27 01.0 -0.7**
ALN Alexandroupoli 20.00 299 *e*P **Pn 06 27 00.9 -0.7**
ALN pmax pmax
comp=Z,87nm,1.0s
IDI Anoyia 20.25 282 P Pn 06 27 02.9 -1.9
comp=Z,259nm,0.9s,baz=82,slow=10,SNR=86
IDI Anoyia 20.25 282 *e*P Pn 06 27 03.1 -1.6
comp=Z,319nm,1.0s
IDI Anoyia 20.25 282 ⇑*i*P Pn 06 27 03.9 -0.8
IDI Anoyia 20.25 282 P **P 06 27 02.1 -0.7**
LIA Limnos Island 20.42 296 P Pn 06 27 05.7 -0.8
LIA Limnos Island 20.42 296 P Pn 06 27 05.7 -0.8
MNAS Manas 20.43 57 P Pn 06 27 07.5 +0.7
MNAS pmax pmax
comp=Z,5.0nm,1.0s
RDO Rodhopi 20.43 299 P Pn 06 27 05.8 -0.9
RDO Rodhopi 20.43 299 P Pn 06 27 05.8 -0.9
SFK Sufi-Kurgan 20.50 64 P Pn 06 27 07.9 +0.1
SFK pmax pmax
comp=Z,18nm,1.0s
RAZG Razgrad 20.52 307 ⇓*i*P Pn 06 27 07.3 -0.5
MHLO Agia Marina, M 20.66 286 P Pn 06 27 07.6 -1.8
LPSR Galich'ya Gora 20.69 342 *e*P **P 06 27 07.3 +0.1**
LPSR pmax pmax
comp=Z,120nm,0.9s
KIS Kishinev 20.71 317 *e*P **P 06 27 06.0 -1.5**
KIS *e*S **S 06 30 52.0 -6.7**
KIS *e*SS **SnSn 06 31 26.0 +7.9**
KIS *e*L L 06 36 40.0
KIS Kishinev 20.71 317 *e*P **P 06 27 06.0 -1.5**
KIS *i* 06 27 16.0
KIS *e*S **S 06 30 52.0 -6.7**
KIS *e*SS **SnSn 06 31 26.0 +7.9**
VAM Vamos 20.82 283 P Pn 06 27 09.1 -1.7
VAM Vamos 20.82 283 P Pn 06 27 09.5 -1.7
VAM Vamos 20.82 283 P Pn 06 27 09.5 -1.7
GVD Gavdhos 20.93 281 P **P 06 27 09.3 -0.7**
GVD Gavdhos 20.93 281 P **P 06 27 09.3 -0.7**
IMMV Iera Moni Meta 20.99 283 P **P 06 27 10.8 +0.1**
ISR Istrita 21.14 311 P **P 06 27 15.6 +3.3**
ISR pmax pmax
comp=Z,69nm,1.2s
PTL Penteli 21.17 290 P **P 06 27 13.7 +1.0**
PTL Penteli 21.17 290 P **P 06 27 13.7 +1.0**
VLY Voula,Athens 21.21 290 P **P 06 27 13.6 +0.6**
VLY Voula,Athens 21.21 290 P **P 06 27 13.6 +0.6**
PLD Plovdiv 21.30 301 P **P 06 27 16.4 +2.5**
VRI Vrincioaia 21.36 313 ⇓*i*P **P 06 27 15.9 +1.3**
VRI Vrincioaia 21.36 313 P **P 06 27 15.9 +1.3**
DID Didima 21.63 289 P **P 06 27 18.3 +0.7**
DID Didima 21.63 289 P **P 06 27 18.3 +0.7**
MLR Muntele Rosu 21.68 311 P **P 06 27 18.9 +0.8**
comp=Z,20nm,0.8s,baz=124,slow=4.2,SNR=15
MLR Muntele Rosu 21.68 311 *e*P **P 06 27 19.2 +1.1**
comp=Z,28nm,0.7s
MLR Muntele Rosu 21.68 311 ⇑*i*P **P 06 27 20.5 +2.3**
VLI Veliai 21.84 286 P **P 06 27 18.2 -1.6**
VLI Veliai 21.84 286 P **P 06 27 18.2 -1.6**
SRS Serrai 21.86 298 P **P 06 27 21.8 +1.8**
SRS pmax pmax
comp=Z,30nm,1.2s
AAK Ala-Archa 21.87 57 P **P 06 27 24.0 +3.7**
comp=Z,2.8nm,0.9s,baz=240,slow=14,SNR=3.1
AAK LR LR 06 36 57.1
comp=Z,360nm,18.7s,baz=254,slow=39
AAK Ala-Archa 21.87 57 *e*P **P 06 27 22.9 +2.6**
comp=Z,5.5nm,0.9s
AAK Ala-Archa 21.87 57 *i* P **P 06 27 25.3 +5.0**
AAK pmax pmax
comp=Z,5.0nm,1.1s
LKR Lokris 21.91 292 P **P 06 27 20.9 +0.4**
LKR Lokris 21.91 292 P **P 06 27 20.9 +0.4**
HUMR Humele 21.91 308 ⇓*i*P **P 06 27 21.4 +0.9**
SOH Sokhos 21.97 297 P **P 06 27 23.6 +2.4**
SOH pmax pmax
comp=Z,19nm,1.6s
THE Thessaloniki 22.22 297 P **P 06 27 26.0 +2.1**
THE pmax pmax
comp=Z,44nm,1.2s
VOIR 22.23 310 ⇑*i*P **P 06 27 25.9 +1.9**
VOIR 22.23 310 P **P 06 27 25.9 +1.9**
DOPR Dopca 22.24 312 ⇓*i*P **P 06 27 25.1 +1.0**
BIZ Bicaz 22.26 315 ⇑*i*P **P 06 27 25.3 +1.1**
KSH Kashi 22.30 66 P **P 06 27 24.0 -0.9**
KSH pP sP 06 27 31.0 +2.0
KSH PP **PnPn 06 27 50.3 +2.9**
KSH S **S 06 31 19.8 -10**
KSH SS **SnSn 06 31 57.5 0.0**
KSH pmax pmax
comp=Z,34nm,0.7s
KSH LR LR
comp=Z,1μm,14.9s
KSH LR LR
comp=Z,1μm,14.4s
KSH LR LR
comp=Z,970nm,15.3s
KNT Kendrikon 22.38 298 P **P 06 27 27.3 +1.7**
KNT pmax pmax
comp=Z,18nm,0.9s
ARR Arges 22.46 310 ⇑*i*P **P 06 27 28.4 +1.9**
ATD Arta Tunnel 22.47 197 P **P 06 27 29.5 +2.8**
comp=Z,9.7nm,0.6s,baz=17,slow=5.1,SNR=5.0
ATD Arta Tunnel 22.47 197 *e*P **P 06 27 26.4 -0.3**
comp=Z,20nm,0.9s
AGG Agios Georgios 22.47 292 *e*P **P 06 27 26.4 -0.2**
comp=Z,24nm,0.9s
AGG Agios Georgios 22.47 292 *e*P **P 06 27 26.4 -0.2**
AGG pmax pmax
comp=Z,24nm,0.9s
LIT Litokhoron 22.49 295 *e*P **P 06 27 27.5 +0.7**
comp=Z,27nm,1.0s
VTS Vitosha 22.50 302 *e*P **P 06 27 27.1 +0.2**
comp=Z,33nm,1.1s
VTS Vitosha 22.50 302 ⇑*i*P **P 06 27 28.4 +1.4**
VTS Vitosha 22.50 302 *e*P **P 06 27 27.1 +0.2**
VTS pmax pmax
comp=Z,33nm,1.1s
VAY Valandovo 22.65 298 *i* P **P 06 27 30.0 +1.6**
VAY Valandovo 22.65 298 P **P 06 27 30.4 +1.9**
NRN Naryn 22.66 61 *e*P **P 06 27 31.1 +2.2**
comp=Z,20nm,0.8s
NRN Naryn 22.66 61 P **P 06 27 31.1 +2.2**
ITM Ithomi 22.66 288 *e*P **P 06 27 28.1 -0.5**
comp=Z,38nm,0.7s
AKASG Malin Array Be 22.79 326 P **P 06 27 28.6 -1.2**
comp=Z,7.8nm,0.7s,baz=131,slow=8.9,SNR=29
AKASG ScP **ScP 06 34 56.2 -2.7**
comp=Z,0.2nm,0.2s,baz=95,slow=2.2,SNR=4.7
AKASG LR LR 06 37 11.1
comp=Z,408nm,20.7s,baz=105,slow=39
AKBB Malin Array Si 22.79 326 *e*P **P 06 27 29.8 0.0**
comp=Z,25nm,1.0s
KIEV Kiev 22.79 326 *e*P **P 06 27 29.2 -0.6**
comp=Z,24nm,1.0s
KIEV Kiev 22.79 326 *i* P **P 06 27 29.6 -0.2**
SNR=18
KIEV Kiev 22.79 326 *i* P **P 06 27 29.1 -0.7**

KIEV pmax pmax
comp=Z,13nm,0.9s
AK11 Malin Array Si 22.80 326 *e*P **P 06 27 29.7 -0.2**
OTUK Ortayu 22.84 42 P **P 06 27 35.4 +5.0**
OTUK pmax pmax
comp=Z,7.0nm,0.8s
STIP Stip 23.01 299 *i* P **P 06 27 32.0 -0.2**
LOT Lotru 23.06 309 ⇑*i*P **P 06 27 33.2 +0.4**
BURAR Bucovina Array 23.11 315 ⇓*i*P **P 06 27 34.2 +0.8**
BURAR Bucovina Array 23.11 315 P **P 06 27 34.2 +0.8**
BUR04 Bucovina Ar. S 23.12 315 *e*P **P 06 27 33.2 -0.2**
BUR08 Bucovina Ar. S 23.14 315 *e*P **P 06 27 33.7 +1.0**
SRE Strehaia 23.14 307 ⇑*i*P **P 06 27 38.6 +5.1**
FNA Florina 23.44 297 *e*P **P 06 27 36.4 -0.2**
comp=Z,19nm,0.8s
FNA Florina 23.44 297 *e*P **P 06 27 36.4 -0.2**
FNA pmax pmax
comp=Z,19nm,0.8s
BIA Bitola 23.52 297 *i* P **P 06 27 39.6 +2.2**
OBN Obninsk 23.56 342 P **P 06 27 37.4 -0.2**
comp=Z,4.6nm,0.3s,baz=154,slow=13,SNR=7.4
OBN LR LR 06 37 40.0
comp=Z,130nm,18.5s,baz=162,slow=39
OBN Obninsk 23.56 342 *e*P **P 06 27 37.4 -0.2**
comp=Z,32nm,0.7s
OBN Obninsk 23.56 342 *de*P **P 06 27 38.6 +1.0**
OBN *e*S **S 06 31 51.9 +0.3**
OBN pmax pmax
comp=Z,67nm,1.3s
OBN MLR MLR
comp=Z,399nm,19.0s
SKO Skopje 23.62 300 *i* P **P 06 27 38.8 +0.4**
KRUS Krusevo 23.64 298 *i* P **P 06 27 39.4 +0.7**
HERR Herculane 23.74 307 ⇑*i*P **P 06 27 40.7 +1.2**
MOS Moscow 23.86 344 *e*P P 06 27 57.0 +17
MOS *e* 06 28 18.4
MOS *e* 06 31 59.8
MOS pmax pmax
comp=Z,58nm,0.7s
OHR Ohrid 23.93 297 *i* P **P 06 27 42.3 +0.9**
ARU Arti 23.99 13 LR LR 06 38 32.4
comp=Z,164nm,18.9s,baz=201,slow=40
ARU Arti 23.99 13 *e*P **P 06 27 43.3 +1.5**
comp=Z,32nm,1.0s
ARU Arti 23.99 13 *d i*P **P 06 27 43.2 +1.5**
ARU 06 28 15.5
ARU S **S 06 32 00.5 +2.0**
ARU SS **SnSn 06 32 45.8 +7.3**
ARU pmax pmax
comp=Z,56nm,2.5s
IGT Igoumenitsa 24.06 293 P **P 06 27 43.9 +1.3**
MDVR Moldovita 24.18 306 ⇑*i*P **P 06 27 45.3 +1.6**
DRGR 24.27 312 ⇓*i*P **P 06 27 45.6 +1.0**
DRGR 24.27 312 P **P 06 27 45.5 +1.0**
NDI New Delhi 24.34 93 *e*P **P 06 27 46.0 +0.7**
BZS Buzias 24.52 308 ⇑*i*P **P 06 27 47.5 +0.7**
PRZ Przheval'sk 24.63 60 *e*P **P 06 27 49.4 +1.4**
comp=Z,15nm,1.0s
PRZ Przheval'sk 24.63 60 *e*P **P 06 27 49.4 +1.4**
PRZ pmax pmax
comp=Z,15nm,1.0s
TIR Tirane 24.66 298 *e*P **P 06 27 47.8 -0.3**
comp=Z,57nm,0.8s
TIR Tirane 24.66 298 ⇑*i*P **P 06 27 48.6 +0.5**
TIR Tirane 24.66 298 *e*P **P 06 27 47.8 -0.3**
TIR pmax pmax
comp=Z,57nm,0.8s
SIRR Siria 24.73 310 ⇓*i*P **P 06 27 50.0 +1.3**
SVE Sverdlovsk 24.78 15 *e*P **P 06 27 50.1 +1.1**
SVE pmax pmax
comp=Z,31nm,0.9s
BRVK Borovoye 24.81 31 *e*P **P 06 27 50.9 +1.6**
comp=Z,25nm,1.1s
BRVK Borovoye 24.81 31 P **P 06 27 51.9 +2.6**
SNR=9.5
BRVK Borovoye 24.81 31 *ce*P **P 06 27 50.6 +1.3**
BRVK pmax pmax
comp=Z,27nm,1.3s
LVV L'vov 24.92 319 *e*P **P 06 27 50.3 0.0**
TRPA Tarpa 24.95 314 ⇓*i*P **P 06 27 51.5 +0.9**
DIVS Divibare 25.16 304 *e*P **P 06 27 52.9 +0.3**
comp=Z,30nm,1.1s
DIVS Divibare 25.16 304 *e*P **P 06 27 52.6 -0.1**
PDG Podgorica 25.30 300 ⇓*i*P **P 06 27 54.4 +0.6**
PDG Podgorica 25.30 300 *e*P **P 06 27 55.7 +1.9**
DRME Dracevica, Mon 25.31 299 *e*P **P 06 27 55.8 +1.9**
UZH Uzhgorod 25.32 315 *e*P **P 06 27 56.1 +2.2**
UZH *i* 06 28 02.8
BBLS Lazići 25.51 303 *e*P **P 06 27 57.0 +1.2**
KWP Kalwaria Pacla 25.56 318 *e*P **P 06 27 56.8 +0.6**
KWP Kalwaria Pacla 25.56 318 *e*P **P 06 27 55.9 -0.2**
comp=Z,168nm,0.7s
KWP Kalwaria Pacla 25.56 318 *e*P **P 06 27 56.8 +0.6**
HCY Herceg Novi 25.86 300 *e*P **P 06 28 00.9 +2.0**
HAPS Han Pijesak,Bl 25.88 303 *e*P **P 06 28 01.0 +1.8**
BRY Bratogost 25.91 301 *e*P **P 06 28 01.2 +1.6**
TREB Trebinje 26.01 300 *e*P **P 06 28 00.5 +0.2**
MICGM Minsk 26.02 331 *e*P **P 06 28 01.0 +0.8**
MNK Minsk 26.02 331 *e*P **P 06 28 01.0 +0.8**
KECS Kecovo 26.34 314 *e*P **P 06 28 03.3 +0.1**
KECS pmax pmax
comp=Z,26nm,1.0s
KECS Kecovo 26.34 314 *e*P **P 06 28 03.3 +0.1**
PSZ Piszkesteto 26.47 312 *e*P **P 06 28 04.6 +0.1**
comp=Z,14nm,0.9s
PSZ Piszkesteto 26.47 312 ⇓*i*P **P 06 28 05.4 +0.9**
PSZ Piszkesteto 26.47 312 *e*P **P 06 28 04.6 +0.1**
PSZ pmax pmax
comp=Z,14nm,0.9s
MORH M¨‡r¨jgy, Hung 26.68 308 *e*P **P 06 28 06.4 +0.1**
TIP Timpagrande 26.80 292 *e*P **P 06 28 07.0 -0.6**
comp=Z,12nm,0.9s
TIP Timpagrande 26.80 292 ⇑*i*P **P 06 28 08.4 +0.8**
NIE Niedzica 26.85 315 *e*P **P 06 28 11.3 +3.5**
NIE Niedzica 26.85 315 *e*P **P 06 28 11.4 +3.5**
MATE Matera 26.94 295 ⇑*i*P **P 06 28 08.9 +0.2**
IDID Didziasalis 27.06 331 *e*P **P 06 28 10.6 +0.9**
IDID IAmb IAmb 06 28 13.9
comp=Z,5.8nm,0.9s
LANS Liptovska Anna 27.23 314 *e*P **P 06 28 13.1 +1.9**
LANS Liptovska Anna 27.23 314 *e*P **P 06 28 13.1 +1.9**
IIGN Ignalina 27.30 331 *e*P **P 06 28 12.7 +0.9**
IIGN IAmb IAmb 06 28 16.4
comp=Z,7.6nm,0.7s
VYHS Vyhne 27.35 313 *e*P **P 06 28 13.0 +0.7**
VYHS pmax pmax
comp=Z,14nm,1.9s
VYHS Vyhne 27.35 313 *e*P **P 06 28 13.0 +0.7**
CEL Celeste 27.46 290 *e*P **P 06 28 13.0 -0.4**
comp=Z,33nm,0.9s
ISAL Salakas 27.49 331 *e*P **P 06 28 14.4 +0.9**
ISAL IAmb IAmb 06 28 18.1
comp=Z,9.5nm,0.9s
KURBB Kurchatov Arra 27.53 42 P **P 06 28 15.7 +1.9**
comp=Z,1.9nm,0.8s,baz=246,slow=9.4,SNR=9.9
CUC Castrococco 27.57 294 *e*P **P 06 28 12.4 -2.0**
comp=Z,10nm,0.8s
IZAR Zarasai 27.57 331 *e*P **P 06 28 15.1 +0.9**
IZAR IAmb IAmb 06 28 18.2
comp=Z,8.1nm,0.6s
KURK Kurchatov 27.62 42 *e*P **P 06 28 15.9 +1.3**
KURK Kurchatov 27.62 42 *ce*P **P 06 28 18.9 +4.2**
KURK pmax pmax
comp=Z,7.0nm,1.7s
SUW Suwalki 27.75 326 *e*P **P 06 28 15.7 -0.2**
SUW Suwalki 27.75 326 *e*P **P 06 28 15.6 -0.2**
comp=Z,65nm,1.1s
SUW Suwalki 27.75 326 *e*P **P 06 28 15.6 -0.2**
SUW pmax pmax
comp=Z,65nm,1.1s
JAVC Velka Javorina 28.20 313 *e*P **P 06 28 18.9 -1.1**
KLMR Klimovskoe 28.29 350 *e*P **P 06 28 16.2 -4.3**
KLMR pmax pmax
comp=Z,23nm,0.9s
KLMR Klimovskoe 28.29 350 *e*P **P 06 28 16.3 -4.3**
KLMR AMP 06 28 32.5
comp=Z,23nm,0.9s
MK01 Makanchi Array 28.39 52 *e*P **P 06 28 23.3 +1.6**
MK31 Makanchi Array 28.39 52 *e*P **P 06 28 23.0 +1.3**
MK31 Makanchi Array 28.39 52 *e*P **P 06 28 23.0 +1.3**
MK32 Makanchi Array 28.39 52 *e*P **P 06 28 23.4 +1.7**
MKAR Makanchi Array 28.39 52 P **P 06 28 23.4 +1.7**
comp=Z,2.8nm,0.8s,baz=245,slow=9.1,SNR=14
MKAR Makanchi Array 28.39 52 *e*P **P 06 28 22.9 +1.1**
comp=Z,21nm,0.8s
MKAR Makanchi Array 28.39 52 *i* P **P 06 28 25.2 +3.5**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
PRGR Permogore 28.45 356 *e*P **P 06 28 21.8 -0.1**
PRGR pmax pmax
comp=Z,22nm,0.7s
SOP Sopron 28.50 310 P **P 06 28 25.6 +3.0**
MORC Moravsky Berou 28.63 315 *e*P **P 06 28 24.0 +0.2**
comp=Z,7.6nm,1.0s
MORC Moravsky Berou 28.63 315 ⇑*i*P **P 06 28 24.7 +0.9**
MORC Moravsky Berou 28.63 315 *e*P **P 06 28 24.0 +0.2**
MORC pmax pmax
comp=Z,8.0nm,1.0s
MORC Moravsky Berou 28.63 315 *e*P **P 06 28 24.0 +0.2**
CRES Cresnjev 28.71 306 *e*P **P 06 28 24.1 -0.4**
CONA Conrad Observa 29.02 310 *e*P **P 06 28 27.5 +0.1**
comp=Z,9.2nm,1.3s
VRAC Vranov 29.02 313 P **P 06 28 26.7 -0.6**
comp=Z,3.2nm,0.6s,baz=73,slow=11,SNR=4.4
VRAC Vranov 29.02 313 *e*P **P 06 28 29.6 +2.3**
KRUC Moravsky 29.06 313 *e*P **P 06 28 27.7 +0.2**
PYUN Piuthan 29.35 91 *e*P **P 06 28 30.9 +0.3**
comp=Z,11nm,0.7s
DPC Dobruska-Polom 29.58 315 *e*P **P 06 28 33.8 +1.6**
DPC Dobruska-Polom 29.58 315 *e*P **P 06 28 33.8 +1.6**
AQU L'Aquila 29.58 298 P **P 06 28 34.4 +2.1**
AQU pmax pmax
comp=Z,36nm,1.2s
DANN Dangsing 29.92 90 *e*P **P 06 28 36.4 +0.7**
comp=Z,64nm,1.1s
KOLN Koldanda 29.97 91 *e*P **P 06 28 37.0 +0.9**
MOA Molln 30.02 309 *e*P **P 06 28 36.4 +0.2**
comp=Z,9.9nm,0.6s
GOPC GO Pecny, Ondr 30.34 314 AMS AMS 06 42 30.0
comp=Z,300nm,20.9s
KBA Koelnbreinsper 30.43 308 *e*P **P 06 28 40.2 +0.3**
comp=Z,23nm,1.1s,SNR=8.7
KBA Koelnbreinsper 30.43 308 P **P 06 28 40.6 +0.7**
HYB Hyderabad 30.67 114 *i* P **P 06 28 43.0 +0.9**
GEA0 GERESS Array S 30.67 311 *e*P **P 06 28 41.5 -0.4**
GEC2 GERESS Array S 30.67 311 *e*P **P 06 28 41.6 -0.3**
comp=Z,3.9nm,0.7s
GEC2 GERESS Array S 30.67 311 *e*P **P 06 28 41.7 -0.3**
GEC2 pmax pmax
comp=Z,4.0nm,0.7s
GERES GERESS Array B 30.67 311 P **P 06 28 41.7 -0.3**
comp=Z,2.6nm,0.5s,baz=115,slow=9.3,SNR=16
GERES PcP **PcP 06 31 39.3 -0.5**
comp=Z,0.8nm,0.6s,baz=113,slow=3.0,SNR=4.1
GERES ScP **ScP 06 35 19.6 -2.9**
comp=Z,0.3nm,0.5s,baz=126,slow=2.3,SNR=4.8
GERES LR LR 06 42 29.0
comp=Z,134nm,20.2s,baz=112,slow=39
KHC Kasperske Hory 30.83 312 *e*P **P 06 28 43.2 -0.1**
comp=Z,2.2nm,0.9s
KHC Kasperske Hory 30.83 312 *e*P **P 06 28 46.0 +2.7**
KHC *ex* x 06 28 53.9
KHC Kasperske Hory 30.83 312 *e*P **P 06 28 43.2 -0.1**
KHC pmax pmax
comp=Z,2.0nm,0.9s
ABTA Abfaltersbach 30.91 307 *e*P **P 06 28 44.3 +0.3**
comp=Z,8.1nm,0.7s,SNR=5.9
DMN Daman 31.28 91 *e*P **P 06 28 48.1 +0.4**
comp=Z,26nm,0.8s
KKN Kakani 31.37 90 *e*P **P 06 28 48.8 +0.4**
comp=Z,49nm,1.1s
PKIN Phulchoki 31.53 91 *e*P **P 06 28 50.2 +0.2**
comp=Z,56nm,1.2s
PKI Pulchoki 31.55 91 *e*P **P 06 28 50.3 +0.1**
comp=Z,106nm,1.3s
WMQ Urumqi 31.55 59 *e*P P 06 28 55.0 +5.3
WMQ pP sP 06 29 01.0 +6.9
WMQ pmax pmax
comp=Z,37nm,1.5s
WMQ pmax pmax
comp=Z,410nm,3.7s
WMQ LR LR
comp=Z,250nm,19.1s
WMQ LR LR
comp=Z,220nm,16.3s
WTTA Wattenberg 31.61 307 *i* P **P 06 28 50.0 -0.3**
comp=Z,11nm,0.5s
WATA Walderalm 31.66 308 *i* P **P 06 28 50.2 -0.6**
comp=Z,14nm,0.5s
GUN Gumba 31.83 90 *e*P **P 06 28 53.4 +0.7**
SQTA Sankt Quirin 31.88 307 *i* P **P 06 28 52.2 -0.5**
comp=Z,31nm,0.5s,SNR=13
CLL Collm 31.89 315 *i* P **P 06 28 52.8 +0.3**
comp=Z,4.0nm,0.6s
CLL *i* pP **sP 06 28 56.4 -0.4**
comp=Z,7.0nm,1.0s
CLL *e* 06 29 03.0
CLL *e* PPP PPP 06 30 07.0
CLL *e* S **S 06 33 59.0 -4.1**
CLL *e* SSS SSS 06 36 06.0
CLL LmV 06 43 00.0
comp=Z,300nm,20.6s
CLL Collm 31.89 315 *i* P **P 06 28 52.8 +0.3**
CLL *i* 06 28 56.4
CLL *e* S **S 06 33 59.0 -4.1**
CLL pmax pmax
comp=Z,4.0nm,0.6s
CLL MLR MLR
comp=Z,300nm,20.6s
FIA0 FINESS Array S 31.89 339 *e*P **P 06 28 52.0 -0.3**
FIA0 FINESS Array S 31.89 339 *e*P **P 06 28 52.0 -0.3**
FINES FINESS Array B 31.89 339 P **P 06 28 52.0 -0.3**
comp=Z,2.6nm,0.6s,baz=146,slow=7.3,SNR=8.0
FINES LR LR 06 42 48.3
comp=Z,306nm,19.4s,baz=144,slow=38
FINES FINESS Array B 31.89 339 *i* P **P 06 28 53.0 +0.7**
FINES pmax pmax
comp=Z,3.0nm,0.6s
MOTA Moosalm 31.98 307 *e*P **P 06 28 52.5 -1.0**
comp=Z,12nm,0.5s,SNR=9.1
FETA Feichten 32.16 307 *i* P **P 06 28 54.9 -0.3**
comp=Z,20nm,0.5s,SNR=11
JIRN Jiri 32.17 90 *e*P **P 06 28 56.2 +0.5**
RETA Reutte 32.23 308 *i* P **P 06 28 54.8 -0.9**
comp=Z,9.3nm,0.5s
FUORN Ofenpass-Fuorn 32.40 306 *e*P **P 06 28 57.6 +0.2**
comp=Z,10nm,0.8s
ZALV Zalesovo Beam 32.47 40 PcP **PcP 06 31 45.2 +0.8**
comp=Z,0.9nm,0.7s,baz=217,slow=3.6,SNR=2.7
ZALV LR LR 06 43 03.8
comp=Z,76nm,18.6s,baz=252,slow=38
ZAA1 Zalesovo Array 32.47 40 *e*PcP **PcP 06 31 45.2 +0.8**
DGZ Jazzator, Alta 32.50 48 *i* P **P 06 29 01.5 +3.4**
DGZ pmax pmax
comp=Z,1.0nm,0.8s
RAMN Ramite 32.75 91 *e*P **P 06 29 00.7 0.0**
comp=Z,56nm,0.7s
DAVA Damuels 32.78 307 *i* P **P 06 29 00.0 -0.6**
comp=Z,41nm,0.5s,SNR=15
KEST Kesra 32.85 286 P **P 06 29 02.1 +0.9**
comp=Z,12nm,0.9s,baz=195,slow=1.3,SNR=7.6
KEST Kesra 32.85 286 *e*P **P 06 29 00.9 -0.4**
comp=Z,16nm,1.0s
TUE Stuetta 33.00 305 *e*P **P 06 29 02.4 -0.2**
comp=Z,6.4nm,0.6s
SENIN Lac Senin/Sane 34.39 305 *e*P **P 06 29 14.9 +0.2**
comp=Z,11nm,0.8s
MBDF Montbardon 34.59 302 *e*P **P 06 29 16.1 -0.3**
MBDF pmax pmax
comp=Z,26nm,0.6s
LPG La Plagne 34.67 303 *e*P **P 06 29 16.8 -0.4**
LPG pmax pmax
comp=Z,21nm,0.8s
BNI Bardonecchia 34.68 302 *e*P **P 06 29 17.0 -0.2**
comp=Z,81nm,0.8s
BNI Bardonecchia 34.68 302 *e*P **P 06 29 17.0 -0.2**
BNI pmax pmax
comp=Z,81nm,0.8s
LPL La Plagne 34.69 303 *e*P **P 06 29 16.9 -0.4**
LPL pmax pmax
comp=Z,37nm,0.8s
ORIF Oris-en-Rattie 35.24 302 *e*P **P 06 29 23.3 +1.4**
ORIF pmax pmax
comp=Z,10.0nm,0.7s
HAU Haudompre 35.26 308 *e*P **P 06 29 22.3 +0.4**
HAU pmax pmax
comp=Z,14nm,1.0s
VIVF Saint-Julien-l 36.09 302 *e*P **P 06 29 28.2 -0.9**
VIVF pmax pmax
comp=Z,16nm,1.1s
GIVF Givet 36.59 311 *e*P **P 06 29 34.2 +0.9**
GIVF pmax pmax
comp=Z,14nm,0.9s
SMF Signal de Mont 36.79 305 *e*P **P 06 29 34.3 -0.8**
SMF pmax pmax
comp=Z,37nm,0.6s
BAIF Baives 36.97 311 *e*P **P 06 29 36.6 +0.1**
BAIF pmax pmax
comp=Z,22nm,1.4s
NB2 NORSAR Subarra 37.04 330 P **P 06 29 35.9 -1.1**
comp=Z,1.5nm,0.6s,baz=122,slow=8.6
NB200 NORSAR Array S 37.04 330 *e*P **P 06 29 36.2 -0.8**
NOA NORSAR Array B 37.04 330 P **P 06 29 36.2 -0.8**
comp=Z,2.3nm,0.7s,baz=121,slow=8.3,SNR=9.1
NOA LR LR 06 45 47.5
comp=Z,326nm,21.4s,baz=130,slow=38
SSF Saint Saulge 37.06 306 *e*P **P 06 29 36.6 -0.7**
AVF Avril sur Loir 37.14 305 *e*P **P 06 29 37.1 -0.9**
AVF pmax pmax
comp=Z,26nm,0.9s
SHL Shillong 37.67 90 *e*P **P 06 29 42.5 -0.5**
comp=Z,20nm,0.4s
SHL Shillong 37.67 90 *e*P **P 06 29 42.5 -0.5**
SHL pmax pmax
comp=Z,20nm,0.4s
TCF Toulx Ste Croi 37.89 304 *e*P **P 06 29 44.8 +0.4**
TCF pmax pmax
comp=Z,18nm,0.9s
CAF Calviac 37.95 302 *e*P **P 06 29 46.7 +1.8**
CAF pmax pmax
comp=Z,12nm,1.1s
RJF Les Rejaudoux 38.34 303 *e*P **P 06 29 47.9 -0.3**
RJF pmax pmax
comp=Z,12nm,0.8s
ARA0 ARCESS Array S 38.64 347 *e*P **P 06 29 50.1 -0.3**
ARCES ARCESS Array B 38.64 347 P **P 06 29 50.1 -0.3**
comp=Z,4.9nm,0.9s,baz=146,slow=8.2,SNR=13
LDF La Druitiere 39.62 308 *e*P **P 06 29 57.3 -1.5**
LDF pmax pmax
comp=Z,42nm,1.4s
TAM Tamanrasset 39.78 266 *e*P **P 06 30 00.1 -0.5**
comp=Z,10nm,1.0s
TAM Tamanrasset 39.78 266 *e*P **P 06 30 00.1 -0.5**
TAM pmax pmax
comp=Z,10.0nm,1.0s
FLN La Foliniere 39.86 308 *e*P **P 06 29 58.8 -2.1**
FLN pmax pmax
comp=Z,82nm,1.4s
GRR Gorron 40.09 307 *e*P **P 06 30 01.6 -1.1**
GRR pmax pmax
comp=Z,36nm,1.0s
GTA Gaotai 40.70 66 *e*P **P 06 30 09.5 +1.4**
GTA pP sP 06 30 13.3 +0.8
GTA sP pP 06 30 16.0 +4.8
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,88nm,4.8s
GTA LR LR
comp=Z,220nm,15.4s
GTA LR LR
comp=Z,310nm,15.6s
GTA LR LR
comp=Z,210nm,14.6s
SGMF Saint Gilles 41.22 307 *e*P **P 06 30 10.2 -1.9**
QUIF Quistinic 41.62 307 *e*P **P 06 30 14.9 -0.4**
QUIF pmax pmax
comp=Z,17nm,0.6s
NRIK Noril'sk 41.90 19 P **P 06 30 18.1 +0.8**
comp=Z,1.5nm,0.4s,baz=162,slow=20,SNR=3.3
NRIK LR LR 06 50 40.4
comp=Z,121nm,18.7s,baz=184,slow=40
ES19 SONSECA Array 42.71 294 *e*P **P 06 30 24.3 -0.2**
ESDC Sonseca Array 42.77 294 P **P 06 30 24.6 -0.3**
comp=Z,1.7nm,0.6s,baz=74,slow=8.5,SNR=11
ESDC LR LR 06 51 45.3
comp=Z,69nm,18.0s,baz=70,slow=41
LZH Lanzhou 44.44 70 *e*P **P 06 30 39.5 +0.9**
LZH pP sP 06 30 47.5 +4.5
LZH sP pP 06 30 51.5 +10
LZH *e*PP **PP 06 32 25.8 +3.7**
LZH pmax pmax
comp=Z,25nm,1.1s
LZH pmax pmax
comp=Z,98nm,4.9s
LZH LR LR
comp=Z,900nm,16.8s
LZH LR LR
comp=Z,390nm,15.2s
LZH LR LR
comp=Z,390nm,16.3s
PBRG Braganca 44.55 298 *e*P **P 06 30 41.0 +1.8**
comp=Z,35nm,1.6s
SONA0 Songino Array 44.74 53 *e*P **P 06 30 41.4 +0.6**
SONM Songino Array 44.74 53 P **P 06 30 41.4 +0.6**
comp=Z,2.4nm,0.9s,baz=262,slow=10.0,SNR=5.5
MVO Moncorvo 44.85 297 *e*P **P 06 30 42.0 +0.3**
comp=Z,56nm,1.5s
ULN Ulaanbaatar 45.18 53 *e*P **P 06 30 45.6 +1.3**
comp=Z,11nm,1.0s
ULN Ulaanbaatar 45.18 53 *ce*P **P 06 30 46.6 +2.3**
ULN pmax pmax
comp=Z,10.0nm,0.8s
MTE Manteigas 45.36 296 *e*P **P 06 30 46.9 +1.1**
comp=Z,58nm,1.5s
POLO Lamas de Olo 45.39 297 *e*P **P 06 30 46.4 +0.4**
PCBR Castelo Branco 45.41 295 *e*P **P 06 30 46.8 +0.7**
comp=Z,40nm,2.1s
PMRV Marv??o 45.42 295 *e*P **P 06 30 49.2 +3.0**
comp=Z,21nm,1.6s
PGAV Gavieira, Arco 45.65 298 *e*P **P 06 30 48.9 +0.8**
comp=Z,84nm,2.0s
PESTR Estremoz 45.68 294 *e*P **P 06 30 48.1 -0.1**
comp=Z,29nm,1.6s
CD2 Chengdu 45.75 78 *e*P **P 06 30 49.0 0.0**
PBEJ Beja 46.06 293 *e*P **P 06 30 52.8 +1.5**
comp=Z,41nm,1.5s
PVAQ Vaqueiros 46.08 292 *e*P **P 06 30 52.0 +0.6**
comp=Z,31nm,1.8s
PTOM Tomar 46.16 295 *e*P **P 06 30 52.9 +0.9**
comp=Z,51nm,1.2s
PBDV Barranco-do-Ve 46.28 292 *e*P **P 06 30 56.1 +3.1**
comp=Z,65nm,1.5s
MESJ Messejana 46.38 293 *e*P P 06 30 57.7 +4.0
CHTO Chiang Mai 46.46 95 *e*P **P 06 30 55.4 +0.8**
comp=Z,5.4nm,0.8s
CHTO Chiang Mai 46.46 95 *e*P **P 06 30 55.4 +0.8**
CHTO pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 46.46 95 P **P 06 30 57.5 +2.9**
comp=Z,51nm,1.4s
CMMT Chiang Mai 46.47 95 P **P 06 30 57.4 +2.8**
comp=Z,12nm,1.3s
CMAR Chiang Mai Arr 46.63 96 P **P 06 30 55.8 -0.1**
comp=Z,3.1nm,0.5s,baz=293,slow=8.1,SNR=9.3
CMAR LR LR 06 54 00.1
comp=Z,62nm,18.9s,baz=300,slow=40
CMAR Chiang Mai Arr 46.63 96 *i* P **P 06 30 58.0 +2.1**
CMAR pmax pmax
comp=Z,3.0nm,0.5s
KMI Kunming 46.93 85 P **P 06 31 01.3 +2.9**
KMI pP sP 06 31 07.3 +4.5
KMI sP pP 06 31 11.0 +9.4
KMI pmax pmax
comp=Z,20nm,1.2s
KMI pmax pmax
comp=Z,39nm,3.1s
KMI LR LR
comp=Z,270nm,21.3s
KMI LR LR
comp=Z,200nm,22.2s
KMI LR LR
comp=Z,140nm,16.5s
TOA1 Torodi Ar. Sit 47.66 257 *e*P **P 06 31 02.1 -1.8**
TOA0 Torodi Ar. Sit 47.66 257 *e*P **P 06 31 02.3 -1.7**
TORD Torodi Ar. Bea 47.66 257 P **P 06 31 02.1 -1.8**
comp=Z,11nm,0.9s,baz=59,slow=5.4,SNR=49
TORD LR LR 06 52 16.3
comp=Z,144nm,19.6s,baz=0.0,slow=38
PBKT Sadao Pong 49.23 97 *e*P **P 06 31 15.8 -0.2**
comp=Z,11nm,1.1s
PBKT Sadao Pong 49.23 97 P **P 06 31 19.8 +3.7**
HHC Hu-ho-hao-te 49.33 62 *e*P **P 06 31 17.5 +0.8**
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax

	comp=Z,160nm,5.6s								
ABPO	**Ambohimpanom**	**52.06**	**182**	*e*P		**P**		**06 31 37.4**	**-0.1**
	comp=Z,23nm,1.1s								
ABPO	**Ambohimpanom**	**52.06**	**182**	*e*P		**P**		**06 31 37.4**	**-0.1**
ABPO				pmax		pmax			
	comp=Z,23nm,1.1s								
DAG	**Danmarks Havn**	**52.83**	**344**	*i* P		**P**		**06 31 43.2**	**+0.9**
	comp=Z,2.4nm,0.7s								
DAG	**Danmarks Havn**	**52.83**	**344**	*i* P		**P**		**06 31 43.2**	**+0.9**
DAG				pmax		pmax			
	comp=Z,2.0nm,0.7s								
TIXI	**Tiksi**	**55.50**	**22**	*i* P		**P**		**06 32 04.2**	**+2.4**
TIXI				pmax		pmax			
	comp=Z,5.0nm,1.4s								
DBIC	**Dimbokro**	**56.62**	**255**	P		**P**		**06 32 10.2**	**-0.5**
	comp=Z,8.7nm,0.9s,baz=5.0,slow=4.1,SNR=5.3								
DBIC				LR		LR		06 58 58.4	
	comp=Z,134nm,18.9s,baz=28,slow=39								
DBIC	**Dimbokro**	**56.62**	**255**	*e*P		**P**		**06 32 10.6**	**-0.1**
	comp=Z,14nm,1.0s								
KIC	**Kosan Boka**	**56.71**	**254**	*e*P		**P**		**06 32 10.7**	**-0.6**
	comp=Z,36nm,1.0s								
TIC	**Toumodi**	**56.77**	**255**	*e*P		**P**		**06 32 13.6**	**+1.8**
LIC	**Lamto**	**57.02**	**254**	*e*P		**P**		**06 32 13.0**	**-0.5**
	comp=Z,48nm,1.1s								
NJ2	**Nanjing**	**57.52**	**71**	*e*P		**P**		**06 32 18.5**	**+1.7**
NJ2				pmax		pmax			
	comp=Z,13nm,0.5s								
SUMG	**Summit**	**57.93**	**339**	*i* P		**P**		**06 32 20.8**	**+1.2**
	comp=Z,40nm,1.2s								
SUMG	**Summit**	**57.93**	**339**	*i* P		**P**		**06 32 20.8**	**+1.2**
SUMG				pmax		pmax			
	comp=Z,40nm,1.2s								
KLR	**Kul'dur**	**61.00**	**48**	P		**P**		**06 32 41.9**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=251,slow=18,SNR=1.9								
LBTB	**Lobatse**	**62.23**	**204**	*e*P		**P**		**06 32 49.4**	**+0.1**
	comp=Z,10nm,0.8s								
LBTB	**Lobatse**	**62.23**	**204**	*e*P		**P**		**06 32 49.4**	**+0.1**
LBTB				pmax		pmax			
	comp=Z,10.0nm,0.8s								
KS15	**Wonju Array Si**	**62.43**	**62**	*e*P		**P**		**06 32 52.4**	**+1.9**
KSAR	**Wonju Array Be**	**62.43**	**62**	P		**P**		**06 32 52.4**	**+1.9**
KSAR	**Wonju Array Be**	**62.43**	**62**	P		**P**		**06 32 52.4**	**+1.9**
KSRS	**Korea Array**	**62.46**	**62**	P		**P**		**06 32 52.4**	**+1.7**
	comp=Z,1.4nm,0.6s,baz=286,slow=7.3,SNR=6.1								
KSRS				LR		LR		07 00 54.8	
	comp=Z,67nm,20.7s,baz=290,slow=37								
USRK	**Ussuriysk Ar.**	**62.85**	**53**	LR		LR		07 02 23.9	
	comp=Z,164nm,20.7s,baz=276,slow=38								
BOSA	**Boshof**	**65.67**	**203**	P		**P**		**06 33 12.8**	**+0.9**
	comp=Z,7.7nm,0.5s,baz=24,slow=5.7,SNR=19								
BOSA				LR		LR		07 01 40.5	
	comp=Z,195nm,19.7s,baz=24,slow=36								
BOSA	**Boshof**	**65.67**	**203**	*e*P		**P**		**06 33 11.6**	**-0.2**
	comp=Z,9.4nm,0.7s								
BOSA	**Boshof**	**65.67**	**203**	*e*P		**P**		**06 33 11.6**	**-0.2**
BOSA				pmax		pmax			
	comp=Z,9.0nm,0.7s								
SEY	**Seymchan**	**66.47**	**29**	P		**P**		**06 33 18.1**	**+1.6**
	comp=Z,5.8nm,0.9s,baz=180,slow=20,SNR=4.2								
CGJI	**Cibinong**	**66.55**	**116**	P		P		06 33 32.4	+15
BILL	**Bilibino**	**68.68**	**21**↑	*e*P		**P**		**06 33 31.7**	**+1.3**
BILL				*e*				06 33 58.0	
BILL				*e*				06 36 03.6	
BILL				*e*PPP		PPP		06 37 46.9	
BILL				*e*SS		SS		06 47 06.3	+10
BILL				pmax		pmax			
	comp=Z,4.0nm,0.9s								
MJAR	**Matsushiro Arr**	**70.32**	**59**	LR		LR		07 07 29.3	
	comp=Z,46nm,20.7s,baz=305,slow=38								
MPSI	**Mapaga**	**73.66**	**10**	P		P		06 34 05.4	+4.0
PETK	**Petropavlovsk-**	**73.94**	**37**	LR		LR		07 08 59.3	
	comp=Z,93nm,19.0s,baz=272,slow=38								
SCHQ	**Schefferville**	**76.56**	**328**	P		**P**		**06 34 17.6**	**0.0**
	comp=Z,4.4nm,0.7s,baz=45,slow=1.4,SNR=8.2								
IM3	**Indian Mountai**	**79.44**	**9**	*e*P		**P**		**06 34 34.1**	**+0.7**
MDM	**Murphy Dome**	**81.10**	**7**	*e*P		**P**		**06 34 43.3**	**+1.0**
	comp=Z,4.9nm,0.9s								
IL1	**Eielson Array**	**81.43**	**7**	*e*P		**P**		**06 34 44.1**	**0.0**
ILAR	**Eielson Array**	**81.43**	**7**	P		**P**		**06 34 44.0**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=322,slow=4.4,SNR=9.4								
ILAR				LR		LR		07 17 53.8	
	comp=Z,37nm,18.0s,baz=329,slow=41								
ILAR	**Eielson Array**	**81.43**	**7**	P		**P**		**06 34 44.0**	**-0.1**
ILB	**Eielson Array**	**81.43**	**7**	*e*P		**P**		**06 34 44.0**	**-0.1**
CAST	**Castle Rocks**	**82.11**	**10**	*e*PcP		**PcP**		**06 34 52.9**	**-0.2**
SCRK	**Sand Creek**	**82.48**	**6**	*e*P		**P**		**06 34 50.3**	**+0.5**
	comp=Z,5.0nm,0.8s								
YKA	**Yellowknife Ar**	**83.66**	**353**	P		**P**		**06 34 54.5**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=14,slow=5.4,SNR=7.0								
YKB5	**Yellowknife Ar**	**83.66**	**353**	*e*P		**P**		**06 34 54.5**	**-1.1**
SUA	**Susitna One**	**84.17**	**10**	*e*P		**P**		**06 34 59.6**	**+1.1**
	comp=Z,5.7nm,0.9s								
QSPA	**South Pole Qui**	**123.14**	**180**	*e*PKPdf		**PKPdf**		**06 41 25.0**	**+1.8**

*MOS **27** 06:23:25.9±0.5,55.82N×160.40E,h1km,mb4.0/5, Error ellipse: s-maj=14.4km s-min=4.7km az=77.4*
*IDC **27** 06:23:26.4±1.0,55.95N×159.93E,h0km,mb3.7/7, mb1 4.0/8,mb1mx3.6/48,mbtmp3.7/8,ML2.3/1,MS3.0/4, Ms1 3.0/4,ms1mx2.6/46, Error ellipse: s-maj=37.7km s-min=19.1km az=127.0*
ISC 27 06:23:27.7±0.9,55.83N±0.04×160.36E±0.04,h9km±4km, n28,σ1§35/28,mb3.6/6,Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMNR	**Kamenistaya**	**0.10**	**223**	PN	**Pg**	**06 23 29.1**	**-1.1**
KIRR	**Kirishev**	**0.12**	**355**	PN	**Pb**	**06 23 29.7**	**-0.8**
BZMR	**Bezymyannaya**	**0.12**	**35**	PN	**Pb**	**06 23 29.4**	**-1.2**
BZWR	**Bezymyannyi-We**	**0.15**	**30**	PN	**Pb**	**06 23 30.2**	**-0.8**
KPT	**Kopyto**	**0.15**	**329**	PN	**Pb**	**06 23 30.8**	**-0.2**
BZGR	**Bezymyannyi-Gr**	**0.22**	**60**	PN	**Pb**	**06 23 31.1**	**-1.0**
ZLN	**Zelenaya**	**0.31**	**53**	PN	**Pg**	**06 23 33.6**	**-0.2**
LGNR	**Loginova**	**0.31**	**36**	PN	**Pg**	**06 23 33.9**	**0.0**
KOZ	**Kozyrevsk**	**0.36**	**310**	PN	**Pb**	**06 23 35.6**	**-0.6**
CIRR	**Tsirk**	**0.36**	**37**	PN	**Pg**	**06 23 34.6**	**-0.1**
KRSR	**Krestovskiy**	**0.40**	**16**	PN	**Pg**	**06 23 34.9**	**-0.6**
KLY	**Klyuchi**	**0.51**	**19**	PN	**Pb**	**06 23 37.6**	**-1.2**
KLY				S	**Sn**	**06 23 47.2**	**-2.8**
TUMR	**Tumrok**	**0.56**	**193**	PN	**Pb**	**06 23 38.7**	**-1.1**
KZV	**Kizimen**	**0.72**	**183**	PN	**Pb**	**06 23 40.8**	**-1.7**
BDR	**Baidarnaya**	**0.88**	**32**	PN	**Pb**	**06 23 43.4**	**-1.7**
SRKR	**Sorokina**	**0.94**	**28**	PN	**Pb**	**06 23 44.5**	**-1.7**
ESO	**Esso**	**0.94**	**276**	PN	**Pb**	**06 23 45.0**	**-1.2**
ESO				S	**Sn**	**06 23 59.8**	**-0.9**
SMKR	**Semkarok**	**0.97**	**39**	PN	**Pb**	**06 23 45.1**	**-1.6**
PETK	**Petropavlovsk-**	**3.14**	**211**	Pn	**Pn**	**06 24 18.8**	**+1.5**
	1.7nm,0.3s,baz=40,slow=11,SNR=12						
PETK				LR	LR	06 25 08.0	
	comp=Z,47nm,18.6s,baz=303,slow=32						
MA2	**Magadan**	**6.36**	**310**	LR	LR	06 27 44.0	
	comp=Z,135nm,20.7s,baz=100,slow=42						
TIXI	**Tiksi**	**20.69**	**332**	P	**P**	**06 28 05.4**	**-2.2**
	4.7nm,0.4s,baz=284,slow=3.1,SNR=13						
TIXI				LR	LR	06 37 15.4	
	comp=Z,49nm,18.7s,baz=266,slow=40						
ILAR	**Eielson Array**	**26.83**	**49**	P	**P**	**06 29 09.3**	**+1.3**
	0.7nm,0.8s,baz=260,slow=8.3,SNR=7.1						
YKA	**Yellowknife Ar**	**41.07**	**45**	P	**P**	**06 31 11.8**	**+0.8**
	0.8nm,0.7s,baz=299,slow=8.0,SNR=6.4						
NVAR	**Mina Array Bea**	**54.70**	**72**	P	**P**	**06 32 59.0**	**+1.7**
	0.1nm,0.5s,baz=297,slow=8.0,SNR=2.5						
TXAR	**Lajitas Array**	**69.44**	**68**	P	**P**	**06 34 37.4**	**+1.2**
	0.3nm,0.7s,baz=294,slow=6.8,SNR=3.1						
GNI	**Garni**	**69.92**	**313**	LR	LR	07 07 52.8	
	comp=Z,33nm,18.6s,baz=51,slow=38						
WRA	**Warramunga Arr**	**78.64**	**205**	P	**P**	**06 35 29.5**	**-0.2**
	0.6nm,0.8s,baz=18,slow=5.9,SNR=4.6						
ASAR	**Alice Springs**	**82.33**	**204**	P	**P**	**06 35 49.4**	**-0.1**
	1.3nm,0.9s,baz=20,slow=5.5,SNR=9.3						

MEX 27 06:26:44.9±0.5,16.81N×99.26W,h30km±7km,MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.57**	**276**	*e*P	Pb	06 26 54.3	-2.3
ACX				*e*S	Sb	06 27 01.7	-2.9
ACP2	**Acapulco**	**0.60**	**276**	*e*P	Pb	06 26 54.5	-2.5
ACP2				*e*S	Sb	06 27 03.1	-2.2
CAIG	**El Cayaco**	**0.99**	**284**	*e*P	Pn	06 27 00.6	-2.2
CAIG				*e*S	Sn	06 27 12.9	-2.9
MEIG	**Mezcala**	**1.16**	**343**	*e*P	Pn	06 27 02.7	-2.6
MEIG				*e*S	Sn	06 27 17.2	-2.9
ARIG	**Puente Sto Nin**	**1.79**	**325**	*e*P	Pn	06 27 12.2	-1.7
ARIG				*e*S	Sn	06 27 32.8	-2.9
ZIIG	**Zihuatanejo**	**2.25**	**291**	*i* P	Pn	06 27 18.4	-1.7
ZIIG				*i* S	Sn	06 27 44.0	-2.9

NNC 27 06:37:02.6±6.8,36.93N×70.49E,h198km±107km,mb2.6, mpv3.7,5C-5D,Error ellipse: s-maj=67.9km s-min=54.8km az=53.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.88**	**37**	⇓P	Pn	06 38 02.7	-0.3
	9.3nm,0.3s						
SFK				⇓S	Sn	06 38 51.0	+0.5
	12nm,0.5s						
AML	**Almayashu**	**5.76**	**24**	P	Pn	06 38 27.4	+0.4
	SNR=88						
MNAS	**Manas**	**5.77**	**15**	⇓P	Pn	06 38 27.6	+0.8
	2.6nm,0.4s						
MNAS				⇑S	Sn	06 39 35.0	+1.6
	3.3nm,0.4s						
UCH	**Uchtor**	**6.14**	**29**	P	Pn	06 38 32.1	+0.2
	SNR=11						
KK31	**Karatay Array**	**6.17**	**0**	⇑P	Pn	06 38 33.3	+1.4
	2.7nm,0.5s,baz=178,slow=12,SNR=47						
KK31				⇓S	Sn	06 39 43.6	+0.9
	1.6nm,0.4s,baz=188,slow=23,SNR=9.9						
EKS2	**Erkin-Say**	**6.26**	**23**	P	Pn	06 38 34.1	+0.9
	SNR=5.3						
AAK	**Ala-Archa**	**6.48**	**27**	⇑P	Pn	06 38 36.4	+0.3
	1.8nm,0.3s						
AAK				⇓S	Sn	06 39 51.9	+1.7
	3.5nm,0.5s						
KBK	**Karagaybulak**	**6.67**	**30**	P	Pn	06 38 39.1	+0.5
	SNR=5.6						
TKM2	**Tokmak 2**	**7.16**	**32**	⇑P	Pn	06 38 44.2	-0.7
	2.2nm,0.4s						
TKM2				⇑S	Sn	06 40 01.9	-4.3
	0.8nm,0.7s						
TKM2	**Tokmak 2**	**7.16**	**32**	P	Pn	06 38 45.0	+0.1
	SNR=7.1						

*ISCJB **27** 06:57:16.2±1.4,34.89N±0.07×23.7E±0.1,h28km±6km, Error ellipse: s-maj=16.1km s-min=8.3km az=147.0*
*ATH **27** 06:57:16.6,34.97N×23.85E,h32km±1km,ML2.5/4, Error ellipse: s-maj=3.7km s-min=1.5km az=57.0*
*THE **27** 06:57:17.1,34.92N×23.71E,h7km±5km,ML2.6/3, Error ellipse: s-maj=5.3km s-min=1.2km az=82.0*
ISC 27 06:57:17.6±1.9,34.98N±0.07×23.81E±0.06,h20km±3km, n17,σ0§70/23,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.27**	**120**	P	**Pb**	**06 57 23.2**	**-0.6**
GVD				S	**Sb**	**06 57 28.8**	**+0.7**
GVD				AML	AML	06 57 29.6	
	comp=E,4297μm,0.3s						
GVD				AML	AML	06 57 32.1	
	comp=N,2961μm,0.4s						
GVD	**Gavdhos**	**0.27**	**120**	P	**Pb**	**06 57 23.3**	**-0.6**
GVD				S	**Sb**	**06 57 29.3**	**+1.1**
GVDS	**Gavdos**	**0.27**	**119**	P	**Pb**	**06 57 23.0**	**-0.9**
IMMV	**Iera Moni Meta**	**0.51**	**16**	P	**Pb**	**06 57 27.3**	**-0.5**
IMMV				S	**Sb**	**06 57 35.4**	**+0.6**
IMMV				AML	AML	06 57 37.9	
	comp=E,1080μm,0.3s						
IMMV				AML	AML	06 57 40.4	
	comp=N,854μm,0.4s						
IMMV	**Iera Moni Meta**	**0.51**	**16**	P	**Pb**	**06 57 27.8**	**0.0**
IMMV				S	**Sn**	**06 57 37.1**	**-0.7**
VAM	**Vamos**	**0.54**	**37**	P	**Pb**	**06 57 28.0**	**-0.4**
VAM				AML	AML	06 57 39.4	
	comp=E,853μm,0.5s						
VAM				AML	AML	06 57 42.6	
	comp=N,623μm,0.4s						
CHAN	**Chania**	**0.58**	**19**	P	**Pb**	**06 57 29.1**	**0.0**
CHAN				S	**Sn**	**06 57 39.7**	**+0.2**
PRNS	**Prines Rethymn**	**0.69**	**55**	P	**Pb**	**06 57 30.9**	**-0.1**
SIVA	**Sivas**	**0.82**	**87**	P	**Pb**	**06 57 33.2**	**-0.1**
SIVA				AML	AML	06 57 50.5	
	comp=N,768μm,0.5s						
SIVA				AML	AML	06 57 51.5	
	comp=E,1184μm,0.5s						
SIVA	**Sivas**	**0.82**	**87**	P	**Pb**	**06 57 33.4**	**+0.2**
SIVA				S	**Sn**	**06 57 47.0**	**+1.4**
IDI	**Anoyia**	**0.94**	**70**	P	**Pb**	**06 57 34.1**	**-1.2**
ANKY	**Antikythira Is**	**0.98**	**335**	P	**Pn**	**06 57 36.1**	**-0.1**
LAST	**Lasithi**	**1.38**	**82**	P	**Pn**	**06 57 41.7**	**-0.1**
KYTH	**Kithira**	**1.43**	**335**	P	**Pn**	**06 57 42.6**	**+0.2**
KYTH	**Kithira**	**1.43**	**335**	P	**Pb**	**06 57 43.3**	**-0.3**
ANAF	**Anafi Island**	**2.11**	**49**	P	**Pn**	**06 57 51.1**	**-0.7**
IOSP	**Ios island**	**2.12**	**34**	P	**Pn**	**06 57 51.0**	**-0.9**

IDC 27 07:01:49.1±1.9,55.37N×161.21E,h0km,mb3.4/3, mb1 3.6/4,mb1mx3.3/59,mbtmp3.3/4,ML1.8/1,Error ellipse: s-maj=60.2km s-min=26.7km az=147.0,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**3.06**	**224**	Pn	Pn	07 02 38.8	+0.1
	0.6nm,0.3s,baz=44,slow=15,SNR=7.1						
ILAR	**Eielson Array**	**26.78**	**48**	P	P	07 07 30.7	+0.5
	0.7nm,1.1s,baz=255,slow=9.0,SNR=4.3						
YKA	**Yellowknife Ar**	**41.06**	**45**	P	P	07 09 33.2	-0.6
	0.2nm,0.3s,baz=308,slow=7.0,SNR=2.5						
ZALV	**Zalesovo Beam**	**42.13**	**301**	P	P	07 09 42.5	-0.2
	0.3nm,0.3s,baz=46,slow=10,SNR=1.7						

NNC 27 07:11:14.1±5.1,36.86N×69.86E,h192km±92km,mb2.7, mpv3.7,6C-4D,Error ellipse: s-maj=51.8km s-min=40.3km az=50.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**4.25**	**41**	⇑P	Pn	07 12 19.0	0.0
	8.4nm,0.3s						
SFK				⇓S	Sn	07 13 10.3	+0.4
	23nm,0.4s						
MNAS	**Manas**	**5.98**	**19**	⇑P	Pn	07 12 41.8	+0.8
	2.5nm,0.4s						
MNAS				⇓S	Sn	07 13 51.3	+1.6
	5.8nm,0.7s						
AML	**Almayashu**	**6.04**	**28**	P	Pn	07 12 42.3	+0.2
	SNR=28						
KK31	**Karatay Array**	**6.25**	**4**	⇓P	Pn	07 12 45.7	+1.2
	1.3nm,0.3s,baz=181,slow=12,SNR=71						
KK31				⇑S	Sn	07 13 56.8	+0.8
	1.2nm,0.5s,baz=192,slow=23,SNR=3.6						
UCH	**Uchtor**	**6.45**	**32**	P	Pn	07 12 47.6	+0.1
	SNR=18						
EKS2	**Erkin-Say**	**6.53**	**26**	P	Pn	07 12 48.8	+0.6
	SNR=17						
KZA	**Kyzart**	**6.67**	**37**	P	Pn	07 12 49.3	-1.0
	SNR=11						
AAK	**Ala-Archa**	**6.78**	**30**	⇓P	Pn	07 12 51.5	0.0
	3.5nm,0.6s						
AAK				⇑S	Sn	07 14 08.5	-0.2
	4.4nm,0.5s						
AAK	**Ala-Archa**	**6.78**	**30**	P	Pn	07 12 51.5	-0.1
	SNR=5.8						
ULHL	**Ulahol**	**7.29**	**41**	P	Pn	07 12 57.3	-0.9
	SNR=6.5						
TKM2	**Tokmak 2**	**7.49**	**34**	⇑P	Pn	07 12 59.5	-1.3
	2.2nm,0.6s						
TKM2				⇑S	Sn	07 14 24.4	-1.0
	2.6nm,0.8s						
TKM2	**Tokmak 2**	**7.49**	**34**	P	Pn	07 13 01.2	+0.5
	SNR=5.4						

*ISCJB **27** 07:13:06.5±0.5,27.80S±0.03×140.67E±0.05,h10km, Error ellipse: s-maj=6.4km s-min=4.9km az=177.1*
*AUST **27** 07:13:07.5±0.0,27.79S×140.75E,h0km, Error ellipse: s-maj=0.4km s-min=0.2km az=250.0*
*IDC **27** 07:13:09.3±1.9,27.88S×140.51E,h0km,mb1 4.1/5, mb1mx3.8/29,mbtmp3.9/5,ML3.5/5, Error ellipse: s-maj=27.1km s-min=16.4km az=66.0*
ISC 27 07:13:08.1±0.8,27.80S±0.05×140.73E±0.06,h10km,n15, σ2§30/26,South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QLP	**Quilpie**	**3.35**	**70**	P	**Pn**	**07 14 02.9**	**+2.4**
	baz=3.3,SNR=10						
QLP				S	**Sn**	**07 14 41.2**	**+0.7**
	baz=3.3						
STKA	**Stephens Creek**	**4.13**	**170**	Pn	**Pn**	**07 14 13.4**	**+2.2**
	0.7nm,0.3s,baz=341,slow=15,SNR=11						
STKA				Sn	**Sn**	**07 14 58.1**	**-1.5**
	19nm,0.3s,baz=168,slow=20,SNR=12						
STKA				Lg	Lg	07 15 21.0	
	20nm,0.3s,baz=75,slow=20,SNR=4.3						
STKA	**Stephens Creek**	**4.13**	**170**	P	**Pn**	**07 14 12.6**	**+1.4**
	baz=4.1,SNR=6.7						
STKA				S	**Sn**	**07 14 58.7**	**-0.9**
	baz=4.1						
CMSA	**Cobar Meteorol**	**5.70**	**132**	P	**Pn**	**07 14 33.4**	**+0.5**
	baz=5.7						
CMSA				S	**Sn**	**07 15 35.5**	**-2.9**
	baz=5.7						
HTT	**Hallett**	**5.82**	**195**	P	**Pn**	**07 14 36.2**	**+1.7**
	baz=5.9,SNR=4.4						
HTT				S	**Sn**	**07 15 42.8**	**+1.4**
	baz=5.9						
BBOO	**Buckleboo**	**6.42**	**218**	P	**Pn**	**07 14 43.8**	**+1.1**
	baz=6.4,SNR=19						
BBOO				S	**Sn**	**07 15 53.5**	**-2.5**
	baz=6.4						
RMQ	**Roma**	**7.28**	**81**	P	**Pn**	**07 14 55.1**	**+0.6**
	baz=7.2,SNR=5.7						
QIS	**Mount Isa**	**7.29**	**352**	P	**Pn**	**07 14 56.6**	**+2.0**
	baz=7.3,SNR=16						
QIS				S	**Sn**	**07 16 16.0**	**-1.5**
	baz=7.3						
AS09	**Alice Springs**	**7.36**	**302**	P	**Pn**	**07 14 58.0**	**+2.4**
	baz=7.4						
ASAR	**Alice Springs**	**7.40**	**302**	Pn	**Pn**	**07 14 57.1**	**+0.9**
	0.9nm,0.3s,baz=126,slow=13,SNR=33						
ASAR				Sn	**Sn**	**07 16 17.5**	**-2.9**
	1.2nm,0.3s,baz=123,slow=23,SNR=5.5						
ASAR				Lg	Lg	07 17 04.1	
	baz=119,slow=27,SNR=2.5						
ARPS	**Mount Arapiles**	**8.99**	**174**	P	**Pn**	**07 15 18.5**	**+0.5**
	baz=9.0,SNR=12						
ARPS				S	**Sn**	**07 16 54.4**	**-4.9**
	baz=9.0						
CTA	**Charters Tower**	**9.19**	**35**	Pn	**Pn**	**07 15 24.1**	**+3.3**
	0.6nm,0.3s,baz=207,slow=15,SNR=4.9						
CTA				Sn	**Sn**	**07 17 02.5**	**-1.9**
	0.7nm,0.3s,baz=311,slow=20,SNR=2.9						
CTA				Lg	Lg	07 18 10.5	
	0.4nm,0.3s,baz=301,slow=15,SNR=1.3						
WR8	**Warramunga Arr**	**9.66**	**323**	P	**Pn**	**07 15 27.7**	**+0.4**
	baz=9.7						
WRA	**Warramunga Arr**	**9.76**	**322**	Pn	**Pn**	**07 15 28.3**	**-0.4**
	0.6nm,0.3s,baz=140,slow=13,SNR=26						
WRA				Sn	**Sn**	**07 17 13.5**	**-4.9**
	0.5nm,0.3s,baz=144,slow=25,SNR=4.9						
WRA				Lg	Lg	07 18 20.7	
	0.1nm,0.3s,baz=149,slow=29,SNR=3.8						
FITZ	**Fitzroy Crossi**	**16.91**	**302**	Pn	**Pn**	**07 17 04.8**	**0.0**
	0.2nm,0.3s,baz=128,slow=16,SNR=12						

*NNC **27** 07:20:19.2±1.0,50.04N×78.82E,h0km,mb2.8,mpv2.4, Error ellipse: s-maj=17.5km s-min=5.1km az=76.0, Suspected Mining explosion.*
*IDC **27** 07:20:20.3±1.1,50.06N×78.73E,h0km,mb1 2.6/2, mb1mx2.6/52,mbtmp2.6/2,ML2.0/2, Error ellipse: s-maj=17.4km s-min=6.8km az=67.0*
ISC 27 07:20:16.3±1.2,50.00N±0.05×78.06E±0.08,h0km,n8, σ0§79/10,4C-4D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.69**	**26**	Pg	**Pb**	**07 20 31.2**	**0.0**
	0.7nm,0.3s,baz=166,slow=17,SNR=26						
KURBB				Lg	Lg	07 20 40.5	
	1.9nm,0.3s,baz=177,slow=32,SNR=41						
KURBB	**Kurchatov Arra**	**0.69**	**26**	⇑P	**Pb**	**07 20 31.1**	**0.0**
	5.6nm,0.4s						
KURBB				⇑S	**Sb**	**07 20 40.0**	**-1.3**
	22nm,0.7s						
KURK	**Kurchatov**	**0.80**	**26**	⇑P	**Pb**	**07 20 32.5**	**-0.5**
	3.0nm,0.4s						
KURK				⇑S	**Sg**	**07 20 41.9**	**0.0**
	6.7nm,0.6s						
OTUK	**Ortayu**	**4.15**	**247**	⇓Pn	**Pb**	**07 21 29.9**	**-0.3**
	0.4nm,0.3s						
OTUK				⇓Lg	Lg	07 22 40.6	
	1.1nm,0.5s						
MK31	**Makanchi Array**	**4.27**	**137**	⇓Pn	**Pn**	**07 21 22.9**	**+0.3**
	0.1nm,0.3s,baz=322,slow=10,SNR=20						
MK31				⇓Lg	Lg	07 22 25.1	
	2.9nm,0.6s,baz=324,slow=25,SNR=9.9						
MKAR	**Makanchi Array**	**4.27**	**137**	Pn	**Pn**	**07 21 23.5**	**+0.9**
	0.1nm,0.3s,baz=322,slow=9.6,SNR=17						
MKAR				Pg	**Pb**	**07 21 31.8**	**-0.5**
	0.2nm,0.3s,baz=340,slow=16,SNR=5.5						
MKAR				Lg	Lg	07 22 25.1	
	0.7nm,0.3s,baz=330,slow=25,SNR=11						
I46RU	**ZALESOVO INFRA**	**5.75**	**44**	*i*		07 58 10.0	
	baz=229,slow=333,SNR=1.1						
ZALV	**Zalesovo Beam**	**5.75**	**44**	Pn	**Pn**	**07 21 43.9**	**+1.1**
	0.2nm,0.3s,baz=234,slow=15,SNR=5.1						
ZALV				Lg	Lg	07 23 10.9	
	0.2nm,0.3

comp=N,100nm,0.3s,baz=322,slow=19,SNR=30

IDI	**Anoyia**	**0.85**	**55**	P	**Pb**	**07 29 32.2**	**-1.0**
ANKY	**Antikythira Is**	**1.22**	**331**	P	**Pb**	**07 29 40.5**	**+1.1**
ANKY				AML	AML	07 30 06.9	
	comp=N,1570μm,0.7s						
ANKY				AML	AML	07 30 08.9	
	comp=E,1468μm,0.9s						
ANKY	**Antikythira Is**	**1.22**	**331**	P	**Pb**	**07 29 40.7**	**+1.3**
LAST	**Lasithi**	**1.23**	**73**	P	**Pb**	**07 29 40.0**	**+0.3**
LAST				AML	AML	07 30 06.6	
	comp=N,675μm,1.0s						
LAST				AML	AML	07 30 09.4	
	comp=E,460μm,0.4s						
LAST	**Lasithi**	**1.23**	**73**	P	**Pb**	**07 29 40.3**	**+0.6**
LAST				S	**Sb**	**07 29 57.0**	**+1.7**
NPS	**Neapolis**	**1.37**	**70**	P	**Pb**	**07 29 43.5**	**+1.5**
NPS				AML	AML	07 30 18.5	
	comp=E,1079μm,0.7s						
NPS				AML	AML	07 30 18.8	
	comp=N,619μm,0.5s						
KYTH	**Kithira**	**1.66**	**331**	P	**Pb**	**07 29 47.9**	**+0.9**
KYTH				AML	AML	07 30 20.5	
	comp=E,860μm,0.7s						
KYTH				AML	AML	07 30 21.0	
	comp=N,694μm,0.6s						
KYTH	**Kithira**	**1.66**	**331**	P	**Pb**	**07 29 47.5**	**+0.5**
KYTH				S	**Sb**	**07 30 09.5**	**+2.0**
ZKR	**Zakros**	**1.82**	**80**	P	**Pb**	**07 29 50.3**	**+0.7**
MHLO	**Agia Marina, M**	**1.90**	**9**	P	**Pn**	**07 29 49.6**	**+1.7**
MHLO				AML	AML	07 30 24.6	
	comp=N,1625μm,0.5s						
MHLO				AML	AML	07 30 29.5	
	comp=E,1931μm,0.8s						
THR6	**Thira Island,**	**1.90**	**35**	P	**Pb**	**07 29 50.2**	**-0.9**
THR5	**Thira Island,**	**1.93**	**33**	P	**Pb**	**07 29 51.1**	**-0.4**
SANT	**Santorini**	**1.94**	**36**	P	**Pb**	**07 29 50.7**	**-1.1**
THR3	**Thira Island,**	**1.94**	**34**	P	**Pb**	**07 29 51.2**	**-0.6**
MHLA	**Plaka, Milos I**	**1.96**	**9**	P	**Pb**	**07 29 51.7**	**-0.3**
MHLA				AML	AML	07 30 35.1	
	comp=E,971μm,1.0s						
MHLA				AML	AML	07 30 36.4	
	comp=N,1208μm,1.2s						
ANAF	**Anafi Island**	**2.10**	**42**	P	**Pn**	**07 29 52.5**	**+1.9**
VLI	**Veliai**	**2.10**	**335**	P	**Pb**	**07 29 53.5**	**-1.0**
VLI				AML	AML	07 30 35.9	
	comp=E,300μm,0.6s						
VLI				AML	AML	07 30 36.0	
	comp=N,300μm,0.9s						
IOSP	**Ios island**	**2.17**	**28**	P	**Pn**	**07 29 53.4**	**+1.8**
SERI	**Serifos**	**2.38**	**9**	P	**Pn**	**07 29 56.4**	**+1.9**
DYR	**Agios Nikonas**	**2.39**	**325**	P	**Pb**	**07 29 58.5**	**-0.9**
DYR				AML	AML	07 30 51.5	
	comp=N,187μm,1.6s						
DYR				AML	AML	07 30 52.4	
	comp=E,171μm,0.8s						
AMGA	**Amorgos Island**	**2.52**	**36**	P	**Pn**	**07 29 58.4**	**+1.9**
APE	**Apeiranthos**	**2.56**	**28**	P	**Pn**	**07 29 58.7**	**+1.6**
DID	**Didima**	**2.77**	**347**	P	**Pn**	**07 30 01.8**	**+1.9**
DID				AML	AML	07 30 56.5	
	comp=N,193μm,0.6s						
DID				AML	AML	07 30 58.0	
	comp=E,246μm,0.5s						
VLX	**Vlachokerasia**	**2.89**	**333**	P	**Pb**	**07 30 04.9**	**-3.0**
TRIP	**Tripoli**	**3.07**	**333**	P	**Pn**	**07 30 07.6**	**+3.5**
DION	**Dionisos Attik**	**3.26**	**359**	P	**Pn**	**07 30 08.6**	**+1.9**
GUR	**Goura**	**3.41**	**337**	P	**Pn**	**07 30 11.4**	**+2.6**
VIL2	**Platees**	**3.45**	**350**	P	**Pn**	**07 30 10.4**	**+1.1**
PROD	**Prodromos**	**3.56**	**345**	P	**Pn**	**07 30 12.8**	**+1.9**
KLV	**Kalavryta, Ach**	**3.57**	**335**	P	**Pn**	**07 30 13.8**	**+2.8**
LAKA	**Lakka**	**3.80**	**335**	P	**Pn**	**07 30 16.7**	**+2.6**
TRIZ	**Trizonia**	**3.88**	**337**	P	**Pn**	**07 30 17.8**	**+2.6**
KALE	**Kalithea**	**3.89**	**337**	P	**Pn**	**07 30 17.7**	**+2.3**
CHOS	**Chios island**	**3.92**	**24**	P	**Pn**	**07 30 18.4**	**+2.5**
AGG	**Agios Georgios**	**4.42**	**342**	P	**Pn**	**07 30 25.5**	**+2.8**
BRTR	**Keskin Array B**	**9.09**	**55**	Pn	**Pn**	07 31 20.3	**-6.5**
	comp=E,0.2nm,0.3s,baz=240,slow=14,SNR=3.0						
MMAI	**Mount Meron Ar**	**9.62**	**98**	Pn	**Pn**	**07 31 31.3**	**-2.7**
	comp=E,1.1nm,0.3s,baz=286,slow=10,SNR=3.7						
GERES	**GERESS Array B**	**15.98**	**334**	Pn	**Pn**	**07 32 59.1**	**-1.1**
	comp=E,0.5nm,0.3s,baz=144,slow=13,SNR=2.8						
HFS	**Hagfors**	**26.22**	**348**	P	**P**	**07 34 49.3**	**-0.5**
	comp=E,2.2nm,0.6s,baz=161,slow=9.2,SNR=7.5						
NOA	**NORSAR Array B**	**27.51**	**346**	P	**P**	**07 35 00.8**	**-0.6**
	comp=E,0.4nm,0.6s,baz=145,slow=9.2,SNR=3.5						
TORD	**Torodi Ar. Bea**	**29.56**	**229**	P	**P**	**07 35 19.7**	**-0.3**
	comp=E,0.4nm,0.7s,baz=39,slow=8.2,SNR=3.6						
ARCES	**ARCESS Array B**	**34.79**	**1**	P	**P**	**07 36 03.3**	**-2.0**
	comp=E,1.5nm,0.8s,baz=188,slow=7.6,SNR=5.8						
SPITS	**Spitsbergen Ar**	**43.60**	**358**	P	**P**	**07 37 18.9**	**+0.1**
	comp=E,3.7nm,0.7s,baz=93,slow=8.7,SNR=4.2						
MKAR	**Makanchi Array**	**44.74**	**56**	P	**P**	**07 37 28.2**	**-0.1**
	comp=E,0.8nm,0.3s,baz=264,slow=8.4,SNR=10						
ZALV	**Zalesovo Beam**	**45.91**	**46**	P	**P**	**07 37 36.9**	**-0.6**
	comp=E,2.9nm,0.4s,baz=265,slow=9.2,SNR=14						
SONM	**Songino Array**	**60.42**	**50**	P	**P**	**07 39 24.7**	**+0.2**
	comp=E,0.5nm,0.5s,baz=284,slow=7.3,SNR=2.5						

IDC 27 07:33:13.0±3.9, 27.79S×141.29E, h0km, mb1 3.3/3, mb1mx3.3/39, mbtmp3.1/3, ML2.9/3, Error ellipse: s-maj=66.7km s-min=21.0km az=61.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**4.08**	**176**	Pn	Pn	07 34 17.3	+0.6
	0.1nm,0.3s,baz=347,slow=18,SNR=2.2						
STKA				Sn	Sn	07 35 07.3	+2.1
	1.0nm,0.3s,baz=277,slow=18,SNR=8.1						
STKA				Lg	Lg	07 35 30.8	
	0.9nm,0.3s,baz=255,slow=24,SNR=6.9						
ASAR	**Alice Springs**	**7.82**	**300**	Pn	Pn	07 35 06.8	-1.3
	0.4nm,0.3s,baz=121,slow=13,SNR=19						
ASAR				Sn	Sn	07 36 26.2	-11
	0.3nm,0.3s,baz=124,slow=22,SNR=5.5						
ASAR				Lg	Lg	07 37 24.4	
	0.1nm,0.3s,baz=125,slow=26,SNR=4.6						
WRA	**Warramunga Arr**	**10.07**	**319**	Pn	Pn	07 35 37.9	-1.0
	0.2nm,0.3s,baz=137,slow=13,SNR=8.2						
WRA				Sn	Sn	07 37 23.0	-10
	0.3nm,0.3s,baz=141,slow=26,SNR=4.3						
WRA				Lg	Lg	07 38 35.0	
	0.1nm,0.3s,baz=146,slow=28,SNR=3.2						

NEIC ***27*** *07:34:25.4±0.1, 17.68N×145.76E, h192km, mb5.3/295, MW5.4, Error ellipse: s-maj=2.7km s-min=2.3km az=130.0, Moment Tensor Solution. s30 Moment tensor: Scale 10^{17}Nm; M_{rr}0.81; $M_{\theta\theta}$0.17; $M_{\phi\phi}$-0.98; $M_{r\theta}$-0.42; $M_{\theta\phi}$-0.20; $M_{\phi r}$1.13; Best double couple: $M_0$1.50000×10^{17} NP1: ϕ_s213.00000°, δ25.00000°, λ135.00000°. NP2: ϕ_s346.00000°, δ73.00000°, λ72.00000°. Principal axes: T 1.5100, Plg58.0000°, Azm232.0000°; N 0.0100, Plg17.0000°, Azm352.0000°; P -1.5300, Plg26.0000°, Azm90.0000°;*

ISCJB ***27*** *07:34:25.2±0.4, 17.71N±0.02×145.77E±0.02, h201km±4km, mb5.1/467 Error ellipse: s-maj=3.0km s-min=2.4km az=156.9*

MOS ***27*** *07:34:25.6±1.0, 17.74N×145.62E, h211km, mb5.1/79, Error ellipse: s-maj=6.9km s-min=4.6km az=93.4*

BJI ***27*** *07:34:26.0, 17.70N×145.70E, h208km, mb4.8/50, mB5.0/48*

IDC ***27*** *07:34:27.5±0.8, 17.69N×145.80E, h218km±7km, mb4.5/41, mb1 4.5/45, mb1mx4.5/50, mbtmp5.0/45, Error ellipse: s-maj=8.5km s-min=4.9km az=93.0*

GCMT ***27*** *07:34:28.4±0.1, 17.66N±0.01×146.01E±0.01, h200km, MW5.5/129, Moment Tensor Solution. s108,c169; s129,c220; Duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.26±.02; $M_{\theta\theta}$0.61±.03; $M_{\phi\phi}$-0.35±.03; $M_{r\theta}$-0.46±.02; $M_{\theta\phi}$-0.82±.02; $M_{\phi r}$1.57±.02; Best double couple: $M_0$1.90300×10^{17} NP1:ϕ_s161.00000°, δ86.00000°, λ-60.00000°. NP2:ϕ_s259.00000°, δ30.00000°, λ-171.00000°. Principal axes: T 1.8970, Plg34.0000°, Azm226.0000°; N 0.0100, Plg30.0000°, Azm339.0000°; P -1.9080, Plg42.0000°, Azm99.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 07:34:27.1±0.4, 17.73N±0.03×145.81E±0.04, h212km±3km, h213km:pP-P, n895, σ1.39/944, mb5.2/464, 16C-6D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**1.03**	**182**	*e*Pn	**Pn**	**07 34 55.5**	**-2.9**
ANA2	**Anatahan**	**1.39**	**184**	*e*Pn	**Pn**	**07 34 58.7**	**-2.3**
GUMO	**Guam**	**4.22**	**193**	P	**Pn**	**07 35 30.4**	**-1.6**
	95nm,0.3s,baz=97,slow=5.2,SNR=25						
GUMO				S	**S**	**07 36 18.8**	**-4.1**
	194nm,0.3s,baz=18,slow=19,SNR=6.7						
JCJ	**Chichijima**	**9.90**	**341**	P	**Pn**	**07 36 44.2**	**-0.6**
	39nm,0.3s,baz=97,slow=21,SNR=11						
JCJ				S	**S**	**07 38 30.0**	**-5.9**
	128nm,0.3s,baz=307,slow=23,SNR=7.4						
CBIJ	**Chichi jima**	**9.90**	**341**	*e*Pn	**Pn**	**07 36 44.0**	**-0.9**
CBIJ				*e*Sn	**S**	**07 38 32.0**	**-3.9**
JHJ2	**Mitsune**	**16.24**	**342**	*e*P	**P**	**07 37 59.4**	**-3.4**
	3μm,2.0s						
PATS	**Pohnpei**	**16.31**	**130**	*e*P	Pn	07 38 13.7	+9.0
JOW	**Kunigami**	**18.56**	**302**	P	**Pn**	**07 38 30.3**	**-0.8**
	9.9nm,0.3s,baz=127,slow=15,SNR=10						
JOW	**Kunigami**	**18.56**	**302**	*e*P	**Pn**	**07 38 30.4**	**-0.8**
	102nm,0.8s						
INU	**Inuyama**	**19.21**	**338**	*e*P	**Pn**	**07 38 37.6**	**-1.0**
	188nm,1.2s						
MANU	**Manus Island**	**19.71**	**175**	*e*P	**P**	**07 38 41.4**	**+0.7**
	393nm,1.5s						
WAKE	**Wake Island**	**19.83**	**82**	*e*P	**P**	**07 38 42.4**	**+0.5**
	670nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**19.86**	**85**	T	T	08 00 09.3	
	baz=275,slow=74,SNR=3.3						
H11S1	**WAKE ISLAND Hy**	**19.87**	**85**	T	T	08 00 09.4	
	baz=275,slow=74,SNR=7.2						
H11S2	**WAKE ISLAND Hy**	**19.88**	**85**	T	T	08 00 10.8	
	baz=275,slow=74,SNR=6.1						
MJAR	**Matsushiro Arr**	**19.91**	**342**	P	**P**	**07 38 42.4**	**-0.2**
	4.4nm,0.3s,baz=163,slow=8.1,SNR=26						
MAJO	**Matsushiro**	**19.91**	**342**	*e*P	**P**	**07 38 42.4**	**-0.2**
	75nm,0.6s						
MAJO	**Matsushiro**	**19.91**	**342**	*e*P	**P**	**07 38 42.4**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,75nm,0.6s						
MAT	**Matsushiro**	**19.91**	**342**	P	**P**	**07 38 42.2**	**-0.4**
MAT				S	**S**	**07 42 13.3**	**-1.6**
MJB9	**Matsu-Tunnel**	**19.91**	**342**	*e*P	**P**	**07 38 42.6**	**-0.1**
	comp=Z,76nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**20.07**	**81**	P	**P**	**07 38 44.8**	**+0.6**
	baz=257,slow=14,SNR=15						
H11N1				T	T	08 00 15.1	
	baz=265,slow=74,SNR=10						
H11N2	**WAKE ISLAND Hy**	**20.07**	**81**	P	**P**	**07 38 45.2**	**+0.9**
	baz=257,slow=14,SNR=12						
H11N2				T	T	08 00 06.9	
	baz=265,slow=74,SNR=8.5						
H11N3	**WAKE ISLAND Hy**	**20.08**	**81**	P	**P**	**07 38 45.3**	**+0.9**
	baz=257,slow=14,SNR=13						
H11N3				T	T	08 00 27.3	
	baz=265,slow=74,SNR=7.4						
JNU	**Nakatsue**	**20.37**	**322**	P	**P**	**07 38 48.5**	**+0.8**
	comp=Z,10nm,0.6s,baz=233,slow=4.8,SNR=8.5						
JNU	**Na-jtsue**	**20.37**	**322**	*e*P	**P**	**07 38 48.9**	**+1.2**
	comp=Z,79nm,1.2s						
JAY	**Jayapura**	**20.74**	**195**	P	**P**	**07 38 50.2**	**-1.4**
	comp=Z,30nm,0.9s,baz=353,slow=8.8,SNR=7.6						
JAY	**Jayapura**	**20.74**	**195**	P	**P**	**07 38 52.2**	**+0.5**
GENI	**Genyem**	**20.95**	**196**	P	**P**	**07 38 53.9**	**+0.1**
BUTP	**Butuan**	**21.47**	**249**	*e*P	**P**	**07 39 01.7**	**+2.5**
MSLP	**Maasin**	**21.68**	**252**	*e*P	**P**	**07 39 02.3**	**+1.0**
YOJ	**Yonaguni jima**	**22.28**	**291**	*e*P	**P**	**07 39 08.7**	**+1.8**
	comp=Z,166nm,1.0s						
YOJ	**Yonaguni jima**	**22.28**	**291**	*e*P	**P**	**07 39 08.7**	**+1.8**
YOJ				pmax	pmax		
	comp=Z,166nm,1.0s						
DAV	**Davao City (W)**	**22.39**	**244**	*e*P	**P**	**07 39 10.2**	**+2.1**
	comp=Z,315nm,0.4s						
BUKP	**Musuan**	**22.45**	**247**	*e*P	**P**	**07 39 09.7**	**+1.0**
CGP	**Cagayan de Oro**	**22.52**	**249**	*e*P	**P**	**07 39 11.7**	**+2.6**
RABL	**Rabaul**	**22.67**	**163**	*e*P	**P**	**07 39 10.2**	**-0.3**
	comp=Z,126nm,0.8s						
DDMP	**Don Marcelino,**	**22.78**	**242**	*e*P	**P**	**07 39 11.3**	**-0.2**
CAUP	**Cauayan**	**22.91**	**272**	*e*P	**P**	**07 39 15.6**	**+3.0**
KWAJ	**Kwajalein Atol**	**22.98**	**110**	*e*P	**P**	**07 39 13.1**	**-0.3**
	comp=Z,638nm,1.0s						
KWAJ	**Kwajalein Atol**	**22.98**	**110**	*e*P	**P**	**07 39 13.1**	**-0.3**
KWAJ				pmax	pmax		
	comp=Z,638nm,1.0s						
RCP	**Roxas**	**23.13**	**258**	*e*P	**P**	**07 39 15.4**	**+0.7**
BALP	**Baler**	**23.29**	**269**	*e*P	**P**	**07 39 17.8**	**+1.7**
SWI	**Sorong**	**23.38**	**219**	P	**P**	**07 39 19.6**	**+2.6**
SWI				pmax	pmax		
	comp=Z,164nm,0.7s						
SWI	**Sorong**	**23.38**	**219**	P	**P**	**07 39 17.9**	**+0.9**
	comp=Z,167nm,0.7s,comp=Z,1μm						
SIJI	**Sorong**	**23.38**	**219**	P	**P**	**07 39 16.0**	**-1.0**
	baz=25,slow=4.9,SNR=50						
APYP	**Conner**	**23.39**	**274**	*e*P	**P**	**07 39 17.1**	**+0.1**
BOAC	**Boac**	**23.46**	**263**	*e*P	**P**	**07 39 19.2**	**+1.5**
CTBH	**Cotabato--PC H**	**23.47**	**246**	*i*P	**P**	**07 39 19.7**	**+1.9**
NACB	**Ninganchiao**	**23.48**	**290**	*e*P	**P**	**07 39 18.8**	**+1.0**
	comp=Z,48nm,0.6s						
OTRP	**Odiongan**	**23.57**	**260**	*e*P	**P**	**07 39 20.0**	**+1.3**
GUIM	**Jordan**	**23.58**	**256**	*e*P	**P**	**07 39 19.2**	**+0.5**
YULB	**Yu-li**	**23.61**	**288**	*e*P	**P**	**07 39 20.1**	**+1.0**
	comp=Z,38nm,0.6s						
TWG	**Pinlang**	**23.73**	**286**	*e*P	**P**	**07 39 20.6**	**+0.4**
	comp=Z,343nm,0.8s						
TATO	**Taipei**	**23.75**	**292**	*e*P	**P**	**07 39 21.6**	**+1.4**
	comp=Z,130nm,0.6s						
YHNB	**Yeheng**	**23.78**	**291**	*e*P	**P**	**07 39 21.7**	**+1.1**
	comp=Z,381nm,0.6s						
SSLB	**Suanglung**	**23.99**	**289**	*e*P	**P**	**07 39 23.7**	**+1.2**
	comp=Z,109nm,0.8s						
TGY	**Tagaytay City**	**24.18**	**265**	P	**P**	**07 39 25.9**	**+1.6**
	comp=Z,370nm,0.7s,baz=48,slow=2.2,SNR=7.3						
TGY	**Tagaytay City**	**24.18**	**265**	*e*P	**P**	**07 39 26.0**	**+1.6**
TPUB	**Ta-pu**	**24.21**	**287**	*e*P	**P**	**07 39 25.3**	**+0.8**
	comp=Z,323nm,2.0s						
ERM	**Erimo**	**24.31**	**355**	*i*P	**P**	**07 39 25.3**	**+0.2**
ERM				pmax	pmax		
	comp=Z,113nm,1.1s						
SJMP	**San Jose**	**24.39**	**261**	*e*P	**P**	**07 39 27.7**	**+1.5**
FAKI	**Fak Fak**	**24.49**	**214**	*e*P	**P**	**07 39 26.6**	**-0.5**
	comp=Z,277nm,0.6s						
FAKI	**Fak Fak**	**24.49**	**214**	P	**P**	**07 39 28.3**	**+1.2**
IPIL	**Ipil**	**24.69**	**249**	*e*P	**P**	**07 39 30.5**	**+1.6**
TJN	**Taejon**	**24.71**	**322**	*i*P	**P**	**07 39 28.5**	**-0.4**
TNTI	**Ternate**	**24.75**	**229**	*e*P	**P**	**07 39 28.5**	**-1.0**
	comp=Z,44nm,1.0s						
TNTI	**Ternate**	**24.75**	**229**	P	**P**	**07 39 34.3**	**+4.8**
CUYO	**Cuyo Island**	**24.96**	**257**	*e*P	**P**	**07 39 31.8**	**+0.4**
KSRS	**Korea Array**	**25.16**	**325**	P	**P**	**07 39 32.4**	**-0.5**
	comp=Z,8.1nm,0.5s,baz=144,slow=9.1,SNR=17						
KSRS				ScP	**ScP**	**07 46 18.6**	**-1.3**
	comp=Z,5.8nm,0.8s,baz=133,slow=3.1,SNR=9.0						
KS15	**Wonju Array Si**	**25.17**	**325**	*e*P	**P**	**07 39 32.6**	**-0.4**
KSAR	**Wonju Array Be**	**25.17**	**325**	P	**P**	**07 39 32.4**	**-0.6**
KSAR				ScP	**ScP**	**07 46 18.6**	**-1.4**
KSAR	**Wonju Array Be**	**25.17**	**325**	P	**P**	**07 39 32.4**	**-0.6**
KS01	**Wonju Array Si**	**25.19**	**325**	*e*P	**P**	**07 39 33.0**	**-0.2**
SSE	**Sheshan**	**26.00**	**305**	P	**P**	**07 39 40.3**	**-0.2**
SSE				S	**S**	**07 43 57.0**	**+1.8**
SSE				pmax	pmax		
	comp=Z,24nm,0.6s						
SSE				pmax	pmax		
	comp=Z,78nm,6.3s						
SSE				LR	LR		
	comp=Z,560nm,19.4s						
SSE				LR	LR		
	comp=Z,370nm,18.2s						
MNI	**Manado**	**26.20**	**234**	P	**P**	**07 39 44.3**	**+1.8**
MNI				pmax	pmax		
	comp=Z,231nm,1.0s						
QZH	**Quanzhou**	**26.31**	**291**	*i*P	**P**	**07 39 43.8**	**+0.4**
QZH				S	**S**	**07 44 05.8**	**+5.4**
QZH				sS	**sS**	**07 45 15.5**	**-1.1**
ASAJ	**Asahikawa**	**26.44**	**355**	P	**P**	**07 39 45.6**	**+1.3**
	comp=Z,28nm,0.6s,baz=128,slow=5.6,SNR=12						
ASAJ	**Asahikawa**	**26.44**	**355**	*e*P	**P**	**07 39 45.9**	**+1.6**
	comp=Z,277nm,1.7s						
PMG	**Port Moresby**	**27.00**	**177**	P	**P**	**07 39 48.6**	**-0.9**
	comp=Z,32nm,0.9s,baz=5.3,slow=9.1,SNR=7.4						
PMG	**Port Moresby**	**27.00**	**177**	*e*P	**P**	**07 39 47.8**	**-1.7**
	comp=Z,50nm,0.8s						
PMG	**Port Moresby**	**27.00**	**177**	P	**P**	**07 39 48.6**	**-0.9**
PMG				pmax	pmax		
	comp=Z,29nm,0.8s						
SANI	**Sanana**	**27.71**	**227**	P	P	07 40 03.1	+7.2
MSHR	**Mys Shultsa**	**27.73**	**336**	*i*P	**P**	**07 39 55.7**	**-0.1**
NJ2	**Nanjing**	**28.20**	**305**	*e*P	**P**	**07 40 00.0**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,1μm,10.8s						
NJ2				LR	LR		
	comp=Z,760nm,10.8s						
NJ2				LR	LR		
	comp=Z,520nm,10.3s						
TEY	**Ternei**	**28.29**	**346**	*e*P	P	07 39 53.4	-7.3
BATP	**Bataraza**	**28.64**	**256**	*e*P	**P**	**07 40 05.3**	**+1.2**
USA0B	**Ussuriysk Arra**	**28.84**	**339**	*e*P	**P**	**07 40 06.0**	**+0.4**
	comp=Z,31nm,1.1s						
USRK	**Ussuriysk Ar.**	**28.84**	**339**	P	**P**	**07 40 05.5**	**-0.1**
	comp=Z,2.7nm,0.6s,baz=146,slow=10,SNR=4.6						
USRK				ScP	**ScP**	**07 46 28.5**	**-2.4**
	comp=Z,2.6nm,0.7s,baz=176,slow=4.3,SNR=4.1						
MRSI	**Marisa**	**29.07**	**236**	P	**P**	**07 40 08.9**	**+0.9**
	comp=Z,42nm,1.4s,comp=Z,886nm						
YSS	**Yuzh-Sakhalins**	**29.25**	**356**	*e*P	**P**	**07 40 09.9**	**+0.7**
	comp=Z,74nm,1.2s						
YSS	**Yuzh-Sakhalins**	**29.25**	**356**	*e*P	**P**	**07 40 09.8**	**+0.7**
YSS				*e*		07 46 32.0	
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
LUWI	**Luwuk**	**29.37**	**233**	*e*P	**P**	**07 40 10.3**	**-0.4**
	comp=Z,147nm,1.0s						
LUWI	**Luwuk**	**29.37**	**233**	P	**P**	**07 40 12.2**	**+1.6**
	comp=Z,148nm,1.1s						
KDM	**Kudat**	**30.23**	**253**	P	**P**	**07 40 20.0**	**+1.8**
MPSI	**Mapaga**	**30.79**	**239**	P	**P**	**07 40 24.3**	**+1.1**
	comp=Z,29nm,1.0s,comp=Z,758nm						
GZH	**Guangzhou**	**30.85**	**285**	P	**P**	**07 40 24.8**	**+1.2**
GZH				S	**S**	**07 45 13.8**	**+2.2**
GZH				LR	LR		
	comp=Z,790nm,13.9s						
GZH				LR	LR		
	comp=Z,380nm,13.7s						
KKM	**Kota Kinabalu**	**31.14**	**252**	*e*P	**P**	**07 40 27.1**	**+0.7**
	comp=Z,148nm,0.8s						
CN2	**Changchun**	**31.16**	**331**	*e*P	**P**	**07 40 28.0**	**+2.0**
CN2				*e*S	**S**	**07 45 18.5**	**+2.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
WHN	**Wuhan**	**31.30**	**300**	P	**P**	**07 40 29.3**	**+1.9**
COEN	**Coen**	**31.59**	**185**	*e*P	**P**	**07 40 29.1**	**-1.0**
	comp=Z,16nm,0.8s						
TTSI	**Tana Toraja**	**32.91**	**234**	P	**P**	**07 40 42.9**	**+1.3**
	comp=Z,177nm,0.9s,comp=Z,3μm						
TYV	**Tymovskoe**	**33.15**	**356**	*e*P	**P**	**07 40 43.4**	**+0.2**
TYV				*e*S	**S**	**07 45 50.6**	**+4.0**
TYV				pmax	pmax		
	comp=Z,49nm,1.7s						
TYV				pmax	pmax		
	comp=Z,1μm,4.6s						
TYV				smax	smax		
	comp=E,34nm,2.0s						
KLR	**Kul'dur**	**33.42**	**343**	P	**P**	**07 40 44.6**	**-1.0**
	comp=E,10.0nm,0.5s,baz=157,slow=5.4,SNR=29						
KLR	**Kul'dur**	**33.42**	**343**	*i*P	**P**	**07 40 44.7**	**-0.9**
SMKI	**Samarinda**	**33.44**	**240**	P	**P**	**07 40 49.9**	**+3.6**
SPSI	**Sidrap Palu**	**33.54**	**232**	P	**P**	**07 40 47.3**	**+0.3**
	comp=E,95nm,1.0s,comp=E,963nm						
BNSI	**Bone**	**33.57**	**231**	P	**P**	**07 40 49.1**	**+1.8**
	comp=E,232nm,1.2s,comp=E,2μm						
MTN	**Manton Dam**	**33.66**	**206**	*e*P	**P**	**07 40 47.6**	**-0.4**
	comp=E,38nm,0.7s						
GRNR	**Gornyy**	**33.80**	**349**	*e*P	**P**	**07 40 48.8**	**-0.1**
GRNR				*e*		07 43 22.1	
GRNR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
BJI	**Beijing**	**33.90**	**317**	*e*P	**P**	**07 40 50.0**	**+0.1**
BJI				pmax	pmax		
	comp=Z,12nm,1.6s						
QIZ	**Qiongzhong**	**34.12**	**278**	P	**P**	**07 40 51.5**	**-0.6**
QIZ				S	**S**	**07 46 02.0**	**-0.3**
QIZ				pmax	pmax		
	comp=Z,22nm,2.0s						
QIZ				LR	LR		
	comp=Z,730nm,19.6s						
QIZ				LR	LR		
	comp=Z,520nm,11.8s						
QIZ				LR	LR		
	comp=Z,430nm,20.6s						
BKSI	**Bulukumba**	**34.17**	**230**	P	**P**	**07 40 53.6**	**+1.1**
	comp=Z,94nm,0.8s,comp=Z,836nm						
SOEI	**Soe**	**34.62**	**220**	*e*P	**P**	**07 40 55.1**	**-1.3**
	comp=Z,147nm,0.7s						
SOEI	**Soe**	**34.62**	**220**	P	**P**	**07 40 55.2**	**-1.3**
	comp=Z,203nm,0.9s,comp=Z,2μm						
MMRI	**Maumere**	**35.05**	**224**	*e*P	**P**	**07 40 59.6**	**-0.5**
	comp=Z,196nm,0.7s						
MMRI	**Maumere**	**35.05**	**224**

HIA	**Hailar**	**37.86**	**332**	*e*P	**P**	**07 41 23.3**	**-0.1**
HIA				pmax	pmax		
	comp=Z,12nm,0.6s						
STKI	**Sintang**	**38.06**	**246**	P	**P**	**07 41 26.1**	**+0.6**
	comp=Z,41nm,0.8s,comp=Z,20µm						
PLAI	**Plampang**	**38.25**	**229**	P	**P**	**07 41 27.1**	**0.0**
	comp=Z,310nm,0.8s,comp=Z,3µm						
KSM	**Kuching**	**38.43**	**249**	*e*P	**P**	**07 41 28.6**	**+0.1**
	comp=Z,116nm,1.0s						
ZEA	**Zeya**	**38.72**	**342**	*e*P	**P**	**07 41 32.9**	**+2.5**
ZEA				pmax	pmax		
	comp=Z,35nm,1.0s						
TWSI	**Taliwang, Sumb**	**38.84**	**230**	P	**P**	**07 41 31.8**	**-0.1**
	comp=Z,448nm,0.8s,comp=Z,4µm						
WRAB	**Tennant Creek**	**39.08**	**197**	*e*P	**P**	**07 41 33.6**	**-0.3**
	comp=Z,34nm,0.8s						
WRAB	**Tennant Creek**	**39.08**	**197**	*ce*P	**P**	**07 41 32.5**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,41nm,0.9s						
WB2	**Warramunga Arr**	**39.09**	**197**	*e*P	**P**	**07 41 33.4**	**-0.6**
	comp=Z,35nm,0.8s						
WR1	**Warramunga Arr**	**39.10**	**197**	*e*P	**P**	**07 41 32.8**	**-1.2**
	comp=Z,35nm,0.7s						
WR1				*e*ScP	**ScP**	**07 47 06.7**	**-0.9**
WR1				*e*S	**S**	**07 47 15.5**	**-2.1**
WRA	**Warramunga Arr**	**39.10**	**197**	P	**P**	**07 41 32.8**	**-1.2**
	comp=Z,21nm,0.7s,baz=7.8,slow=8.5,SNR=122						
WRA				ScP	**ScP**	**07 47 06.7**	**-0.9**
	comp=Z,5.6nm,0.8s,baz=15,slow=4.4,SNR=9.0						
WRA				S	**S**	**07 47 15.5**	**-2.1**
	comp=Z,2.9nm,0.9s,baz=20,slow=17,SNR=5.9						
SRBI	**Singaraja**	**39.64**	**232**	P	**P**	**07 41 39.7**	**+1.1**
	comp=Z,115nm,1.0s,comp=Z,2µm						
SKNT	**Sakolnakorn**	**39.87**	**275**	P	**P**	**07 41 43.4**	**+2.9**
	comp=Z,14nm,1.9s,comp=Z,1µm						
DNP	**Denpasar**	**40.03**	**231**	P	**P**	**07 41 42.6**	**+0.9**
	comp=Z,478nm,0.8s						
IGBI	**Denpasar**	**40.17**	**231**	P	**P**	**07 41 46.0**	**+3.1**
	comp=Z,173nm,0.8s						
CD2	**Chengdu**	**40.27**	**297**	P	**P**	**07 41 44.0**	**+0.3**
CD2				S	**S**	**07 47 35.5**	**+0.4**
CD2				pmax	pmax		
	comp=Z,50nm,0.5s						
CD2				pmax	pmax		
	comp=Z,350nm,6.0s						
CD2				LR	LR		
	comp=Z,890nm,12.9s						
CD2				LR	LR		
	comp=Z,670nm,12.4s						
CD2				LR	LR		
	comp=Z,450nm,14.4s						
NONG	**Nongkai**	**40.53**	**277**	P	**P**	**07 41 48.2**	**+2.3**
	comp=Z,1.4nm,1.6s						
KMI	**Kunming**	**40.63**	**288**	P	**P**	**07 41 48.8**	**+1.9**
KMI				pP	pP	07 42 29.5	-2.2
KMI				sP	sP	07 42 53.3	-2.5
KMI				PP	**PP**	**07 43 25.8**	**+0.7**
KMI				S	**S**	**07 47 45.0**	**+4.2**
KMI				sS	sS	07 48 57.8	-2.1
KMI				pmax	pmax		
	comp=Z,34nm,1.0s						
KMI				pmax	pmax		
	comp=Z,290nm,5.5s						
KMI				LR	LR		
	comp=Z,270nm,13.5s						
KMI				LR	LR		
	comp=Z,290nm,15.2s						
KMI				LR	LR		
	comp=Z,230nm,17.9s						
BLJI	**Banyuglugur**	**40.66**	**234**	P	**P**	**07 41 49.6**	**+2.7**
	comp=Z,173nm,1.6s,comp=Z,3µm						
JAGI	**Jajag, Banyuwa**	**40.69**	**233**	*e*P	**P**	**07 41 46.6**	**-0.6**
	comp=Z,99nm,0.9s						
JAGI	**Jajag, Banyuwa**	**40.69**	**233**	P	**P**	**07 41 48.5**	**+1.3**
	comp=Z,125nm,1.0s						
FITZ	**Fitzroy Crossi**	**40.76**	**210**	P	**P**	**07 41 47.5**	**-0.1**
	comp=Z,35nm,0.8s,baz=14,slow=7.4,SNR=87						
FITZ	**Fitzroy Crossi**	**40.76**	**210**	*e*P	**P**	**07 41 47.6**	**-0.1**
	comp=Z,40nm,0.9s						
LZH	**Lanzhou**	**41.27**	**305**	*e*P	**P**	**07 41 53.5**	**+1.5**
LZH				pP	pP	07 42 37.5	+0.6
LZH				sP	sP	07 42 58.0	-2.9
LZH				PP	**PP**	**07 43 33.3**	**+1.4**
LZH				S	**S**	**07 47 52.8**	**+2.8**
LZH				sS	sS	07 49 08.0	-1.3
LZH				SS	**SS**	**07 50 53.5**	**-8.9**
LZH				pmax	pmax		
	comp=Z,57nm,1.4s						
LZH				pmax	pmax		
	comp=Z,270nm,6.0s						
LZH				LR	LR		
	comp=Z,1µm,14.6s						
LZH				LR	LR		
	comp=Z,650nm,15.2s						
LZH				LR	LR		
	comp=Z,930nm,16.3s						
SMY	**Shemya**	**41.35**	**26**	*e*P	**P**	**07 41 53.0**	**+1.0**
	comp=Z,232nm,1.5s						
SMY	**Shemya**	**41.35**	**26**	*e*P	**P**	**07 41 53.1**	**+1.0**
SMY				pmax	pmax		
	comp=Z,232nm,1.5s						
CHAI	**Chaiyaphum**	**41.92**	**274**	P	**P**	**07 41 58.4**	**+1.2**
	comp=Z,36nm,0.9s,comp=Z,558nm						
MA2	**Magadan**	**41.94**	**4**	P	**P**	**07 41 58.5**	**+1.7**
	comp=Z,25nm,0.7s,baz=189,slow=5.7,SNR=8.3						
MA2	**Magadan**	**41.94**	**4**	*e*P	**P**	**07 41 58.5**	**+1.7**
	comp=Z,304nm,1.8s						
MA2	**Magadan**	**41.94**	**4**	*e*P	**P**	**07 41 58.5**	**+1.7**
MA2				pmax	pmax		
	comp=Z,304nm,1.8s						
FUNA	**Funafuti**	**42.05**	**126**	*e*P	**P**	**07 41 58.2**	**-0.1**
	comp=Z,178nm,1.4s						
NGJI	**Ngawi**	**42.10**	**237**	P	**P**	**07 42 02.5**	**+3.8**
	comp=Z,106nm,1.0s						
SRAK	**Srakaew**	**42.19**	**271**	P	**P**	**07 41 56.9**	**-2.5**
	comp=Z,282nm,1.0s,comp=Z,2µm						
PWJI	**Pagerwojo**	**42.23**	**236**	P	**P**	**07 41 59.3**	**-0.3**
	comp=Z,258nm,0.9s,comp=Z,3µm						
JOHN	**Johnston Islan**	**42.59**	**84**	*e*P	**P**	**07 42 02.9**	**+0.3**
	comp=Z,676nm,1.6s						
SMRI	**Semarang**	**42.73**	**238**	*e*P	**P**	**07 42 02.7**	**-1.0**
	comp=Z,286nm,1.4s						
AS01	**Alice Springs**	**42.74**	**196**	*e*P	**P**	**07 42 02.8**	**-0.9**
AS31	**Alice Springs**	**42.75**	**196**	*e*P	**P**	**07 42 03.6**	**-0.2**
	comp=Z,5.8nm,0.6s						
ASAR	**Alice Springs**	**42.76**	**196**	P	**P**	**07 42 02.8**	**-1.0**
	comp=Z,8.1nm,0.7s,baz=15,slow=8.1,SNR=66						
ASAR				PcP	**PcP**	**07 43 51.7**	**+0.4**
	comp=Z,7.2nm,0.9s,baz=24,slow=5.3,SNR=3.7						
ASAR				ScP	**ScP**	**07 47 22.2**	**+0.3**
	comp=Z,5.1nm,1.1s,baz=19,slow=4.1,SNR=6.4						
ASAR				S	**S**	**07 48 12.2**	**+0.7**
	comp=Z,5.4nm,0.9s,baz=18,slow=20,SNR=15						
PBKT	**Sadao Pong**	**42.78**	**275**	*e*P	**P**	**07 42 05.8**	**+1.7**
PBKT	**Sadao Pong**	**42.78**	**275**	P	**P**	**07 42 05.8**	**+1.7**
	comp=Z,73nm,1.4s,comp=Z,2µm						
WOJI	**Wonogiri, Jawa**	**42.81**	**236**	P	**P**	**07 42 05.6**	**+1.2**
	comp=Z,52nm,1.9s						
PCJI	**Pacitan**	**42.82**	**236**	P	**P**	**07 42 05.0**	**+0.5**
	comp=Z,205nm,1.2s,comp=Z,3µm						
EIDS	**Eidsvold**	**43.15**	**173**	*e*P	**P**	**07 42 06.4**	**-0.4**
	comp=Z,7.1nm,0.6s						
UGM	**Wanagama**	**43.17**	**237**	*e*P	**P**	**07 42 07.5**	**+0.2**
	comp=Z,373nm,1.1s						
UGM	**Wanagama**	**43.17**	**237**	P	**P**	**07 42 08.7**	**+1.4**
	comp=Z,315nm,1.2s,comp=Z,5µm						
PAYA	**Payao**	**43.49**	**280**	P	**P**	**07 42 11.4**	**+1.6**
	comp=Z,22nm,0.7s,comp=Z,224nm						
PATY	**Pattaya**	**43.53**	**270**	P	**P**	**07 42 13.5**	**+3.4**
ULN	**Ulaanbaatar**	**43.59**	**322**	*e*P	**P**	**07 42 10.9**	**+0.4**
	comp=Z,14nm,0.8s						
ULN	**Ulaanbaatar**	**43.59**	**322**	P	**P**	**07 42 09.4**	**-0.9**
	SNR=6.5						
ULN	**Ulaanbaatar**	**43.59**	**322**	*ce*P	**P**	**07 42 09.5**	**-0.9**
ULN				pmax	pmax		
	comp=Z,13nm,0.8s						
LAMP	**Lampang**	**43.80**	**278**	P	**P**	**07 42 13.9**	**+1.6**
	comp=Z,10nm,1.2s						
PPBI	**Pangkal Pinang**	**43.80**	**247**	P	**P**	**07 42 13.9**	**+1.6**
SUKH	**Sukhothai**	**43.93**	**277**	P	**P**	**07 42 14.9**	**+1.6**
	comp=Z,19nm,0.7s						
SONA0	**Songino Array**	**43.96**	**322**	*e*P	**P**	**07 42 13.2**	**-0.1**
SONA0				*e*ScP	**ScP**	**07 47 24.5**	**-2.3**
SONM	**Songino Array**	**43.96**	**322**	P	**P**	**07 42 13.2**	**-0.1**
	comp=Z,12nm,0.8s,baz=136,slow=8.9,SNR=21						
SONM				ScP	**ScP**	**07 47 24.5**	**-2.3**
	comp=Z,3.0nm,0.9s,baz=104,slow=4.6,SNR=4.1						
SONA1	**Songino Array**	**43.96**	**322**	*e*P	**P**	**07 42 13.7**	**+0.3**
KPJI	**Karang Pucung**	**44.12**	**239**	P	**P**	**07 42 15.1**	**+0.3**
	comp=Z,208nm,1.1s						
MYKOM	**Kota Tinggi**	**44.13**	**254**	*e*P	**P**	**07 42 16.3**	**+1.4**
	comp=Z,109nm,1.2s						
UTHA	**Uthaitani**	**44.39**	**274**	P	**P**	**07 42 18.7**	**+1.7**
	comp=Z,29nm,0.8s,comp=Z,228nm						
CMMT	**Chiang Mai**	**44.41**	**279**	P	**P**	**07 42 18.2**	**+1.0**
	comp=Z,35nm,0.9s,comp=Z,544nm						
CHTO	**Chiang Mai**	**44.41**	**279**	*e*P	**P**	**07 42 18.1**	**+0.9**
	comp=Z,34nm,1.0s						
CHTO	**Chiang Mai**	**44.41**	**279**	P	**P**	**07 42 18.2**	**+1.0**
	SNR=7.3						
CHTO	**Chiang Mai**	**44.41**	**279**	*e*P	**P**	**07 42 18.1**	**+0.9**
CHTO				pmax	pmax		
	comp=Z,34nm,1.0s						
CHTO	**Chiang Mai**	**44.41**	**279**	P	**P**	**07 42 18.4**	**+1.2**
	comp=Z,157nm,0.9s,comp=Z,2µm						
DZM	**Mont Dzumac**	**44.42**	**152**	P	**P**	**07 42 16.9**	**-0.2**
	comp=Z,21nm,0.7s,baz=342,slow=7.5,SNR=21						
DZM	**Mont Dzumac**	**44.42**	**152**	*e*P	**P**	**07 42 17.5**	**+0.4**
	comp=Z,145nm,1.5s						
DZM	**Mont Dzumac**	**44.42**	**152**	*e*LR	LR	07 54 42.6	
	comp=Z,267nm,22.4s						
DZM	**Mont Dzumac**	**44.42**	**152**	*e*P	**P**	**07 42 17.7**	**+0.6**
	comp=Z,74nm,1.3s						
CM01	**Chiang Mai Arr**	**44.45**	**278**	*e*P	**P**	**07 42 18.8**	**+1.4**
CM31	**Chiang Mai Arr**	**44.45**	**278**	*e*P	**P**	**07 42 19.2**	**+1.7**
CM31	**Chiang Mai Arr**	**44.45**	**278**	P	**P**	**07 42 19.1**	**+1.6**
	SNR=22						
CMAR	**Chiang Mai Arr**	**44.45**	**278**	P	**P**	**07 42 18.9**	**+1.4**
	comp=Z,56nm,0.9s,baz=70,slow=6.6,SNR=115						
CMAR				PcP	**PcP**	**07 43 57.7**	**+0.4**
	comp=Z,4.9nm,0.6s,baz=73,slow=1.4,SNR=4.6						
CMAR	**Chiang Mai Arr**	**44.45**	**278**	*i* P	**P**	**07 42 19.1**	**+1.6**
CMAR				pmax	pmax		
	comp=Z,59nm,0.9s						
PHET	**Kaeng Krachan**	**44.71**	**271**	P	**P**	**07 42 21.9**	**+2.4**
	comp=Z,30nm,0.9s,comp=Z,246nm						
UMPA	**Umpang Tak**	**44.84**	**275**	P	**P**	**07 42 22.9**	**+2.3**
	comp=Z,23nm,1.0s						
SRDT	**SRDT**	**44.91**	**273**	P	**P**	**07 42 22.9**	**+1.8**
	comp=Z,82nm,0.8s,comp=Z,5µm						
LEM	**Lembang**	**44.92**	**240**	P	**P**	**07 42 21.8**	**+0.4**
	comp=Z,38nm,0.5s,baz=55,slow=7.2,SNR=10						
ADK	**Adak**	**45.08**	**32**	*e*P	**P**	**07 42 23.2**	**+1.4**
	comp=Z,211nm,1.3s						
ADK	**Adak**	**45.08**	**32**	*e*P	**P**	**07 42 23.3**	**+1.4**
ADK				pmax	pmax		
	comp=Z,211nm,1.3s						
CISI	**Cisompet, Garu**	**45.16**	**239**	*e*P	**P**	**07 42 22.4**	**-0.7**
	comp=Z,105nm,0.7s						
CISI	**Cisompet, Garu**	**45.16**	**239**	P	**P**	**07 42 23.0**	**-0.1**
	comp=Z,175nm,1.0s,comp=Z,2µm						
GTA	**Gaotai**	**45.22**	**308**	⇓P	**P**	**07 42 25.0**	**+1.6**
GTA				PcP	**PcP**	**07 43 59.5**	**-0.2**
GTA				ScP	**ScP**	**07 47 31.0**	**-1.1**
GTA				S	**S**	**07 48 48.0**	**+0.8**
GTA				sS	sS	07 50 12.0	+4.4
GTA				ScS	**ScS**	**07 51 55.5**	**-2.0**
GTA				pmax	pmax		
	comp=Z,110nm,5.4s						
GTA				LR	LR		
	comp=Z,880nm,16.8s						
GTA				LR	LR		
	comp=Z,280nm,15.6s						
GTA				LR	LR		
	comp=Z,210nm,16.0s						
SKLT	**Songkhla**	**45.25**	**262**	P	**P**	**07 42 26.8**	**+3.1**
	comp=Z,138nm,1.2s,comp=Z,2µm						
SEY	**Seymchan**	**45.39**	**4**	P	**P**	**07 42 24.7**	**+0.6**
	comp=Z,12nm,0.7s,baz=178,slow=8.9,SNR=18						
SEY	**Seymchan**	**45.39**	**4**	*ce*P	**P**	**07 42 25.1**	**+1.0**
IPM	**Ipoh**	**45.74**	**259**	*e*P	**P**	**07 42 29.3**	**+1.7**
	comp=Z,128nm,1.5s						
IPM				*e*PcP	**PcP**	**07 44 02.7**	**+0.9**
KULM	**Kulim**	**45.81**	**260**	*e*P	**P**	**07 42 30.1**	**+1.9**
	comp=Z,120nm,1.2s						
KULM	**Kulim**	**45.81**	**260**	P	**P**	**07 42 31.0**	**+2.8**
TRTT	**Trang**	**45.93**	**264**	P	**P**	**07 42 31.6**	**+2.5**
	comp=Z,28nm,1.3s,comp=Z,363nm						
BLSI	**Bandar Lampung**	**46.15**	**244**	P	**P**	**07 42 34.2**	**+3.4**
	comp=Z,186nm,0.7s						
KLI	**Kotabumi**	**46.23**	**245**	P	**P**	**07 42 34.0**	**+2.6**
	comp=Z,89nm,1.5s						
KRAB	**Krabi**	**46.28**	**264**	P	**P**	**07 42 34.2**	**+2.3**
	comp=Z,109nm,0.7s,comp=Z,985nm						
MBWA	**Marble Bar**	**46.34**	**215**	*e*P	**P**	**07 42 31.9**	**-0.2**
	comp=Z,66nm,0.8s						
CGJI	**Cibinong**	**46.41**	**242**	P	**P**	**07 42 31.0**	**-1.8**
BOD	**Bodaibo**	**46.44**	**337**	*e*P	**P**	**07 42 32.2**	**-0.2**
BOD				pmax	pmax		
	comp=Z,20nm,2.0s						
ATKA	**Atka Island**	**46.53**	**33**	*e*P	**P**	**07 42 34.5**	**+1.3**
	comp=Z,249nm,0.9s						
KNTN	**Kanton**	**46.56**	**112**	*e*P	**P**	**07 42 34.3**	**+0.3**
	comp=Z,122nm,1.3s						
MDSI	**Maura Dua**	**46.63**	**246**	P	**P**	**07 42 34.7**	**+0.2**
	comp=Z,30nm,1.0s,comp=Z,852nm						
KASI	**Kota Agung**	**46.87**	**244**	P	**P**	**07 42 35.7**	**-0.7**
	comp=Z,163nm,1.1s,comp=Z,2µm						
ZAK	**Zakamensk**	**46.98**	**324**	*e*P	**P**	**07 42 34.7**	**-2.2**
ZAK				pmax	pmax		
	comp=Z,11nm,1.4s						
LWLI	**Liwa**	**46.99**	**245**	P	**P**	**07 42 38.4**	**+0.9**
	comp=Z,103nm,1.0s,comp=Z,13µm						
BKNI	**Bangkinang**	**47.28**	**253**	*e*P	**P**	**07 42 40.2**	**+0.6**
	comp=Z,53nm,0.5s						
BKNI				*e*PcP	**PcP**	**07 44 06.8**	**-0.5**
MASI	**Maura Aman, Be**	**47.70**	**249**	P	**P**	**07 42 45.4**	**+2.6**
	comp=Z,201nm,1.3s						
KRJI	**Kerinci**	**47.92**	**250**	P	**P**	**07 42 46.9**	**+2.3**
	comp=Z,170nm,0.8s,comp=Z,5µm						
ARMA	**Armidale**	**48.20**	**173**	*e*P	**P**	**07 42 46.5**	**0.0**
	comp=Z,86nm,2.0s						
PSI	**Prapat**	**48.29**	**258**	P	**P**	**07 42 48.7**	**+1.2**
	comp=Z,48nm,1.0s,baz=110,slow=0.0,SNR=30						
PSI	**Prapat**	**48.29**	**258**	*e*P	**P**	**07 42 48.9**	**+1.4**
	comp=Z,58nm,1.0s						
PSI				*e*PcP	**PcP**	**07 44 11.3**	**+0.3**
PSI	**Prapat**	**48.29**	**258**	*e*P	**P**	**07 42 48.9**	**+1.4**
PSI				*e*		07 44 11.3	
PSI				pmax	pmax		
	comp=Z,58nm,1.0s						
PDSI	**Padang**	**48.32**	**252**	P	**P**	**07 42 47.3**	**-0.3**
	comp=Z,50nm,0.8s,comp=Z,4µm						
MNSI	**Mandailing Nat**	**48.44**	**255**	P	**P**	**07 42 49.7**	**+1.2**
	comp=Z,82nm,0.8s						
XMIS	**Christmas Isla**	**48.57**	**238**	*e*P	**P**	**07 42 48.7**	**-0.7**
	comp=Z,177nm,0.8s						
KCSI	**Kotacane, Aceh**	**49.11**	**259**	P	**P**	**07 42 54.2**	**+0.6**
	comp=Z,94nm,0.8s,comp=Z,1µm						
LHMI	**Lhok Sumawe**	**49.32**	**262**	P	**P**	**07 42 58.8**	**+3.7**
	comp=Z,233nm,0.9s,comp=Z,3µm						
STKA	**Stephens Creek**	**49.49**	**185**	P	**P**	**07 42 55.1**	**-0.9**
	comp=Z,16nm,0.8s,baz=0.1,slow=9.1,SNR=24						
STKA	**Stephens Creek**	**49.49**	**185**	*e*P	**P**	**07 42 55.7**	**-0.4**
	comp=Z,3.0nm,0.8s						
STKA	**Stephens Creek**	**49.49**	**185**	*e*P	**P**	**07 42 55.7**	**-0.4**
PPSI	**Pulau Pagai**	**49.52**	**250**	P	**P**	**07 42 58.0**	**+1.4**
	comp=Z,146nm,1.0s,comp=Z,2µm						
SISI	**Saibi**	**49.74**	**253**	P	**P**	**07 42 58.0**	**-0.3**
	comp=Z,126nm,0.8s,comp=Z,1µm						
TPTI		**49.76**	**259**	P	**P**	**07 42 59.3**	**+0.8**
	comp=Z,40nm,0.9s						
GSI	**Gunungsitoli**	**50.09**	**256**	*e*P	**P**	**07 43 01.8**	**+0.8**
	comp=Z,204nm,0.9s						
GSI				*e*PcP	**PcP**	**07 44 18.8**	**+1.3**
GSI	**Gunungsitoli**	**50.09**	**256**	P	**P**	**07 43 02.3**	**+1.3**
	comp=Z,244nm,0.9s						
SHL	**Shillong**	**50.44**	**289**	*e*P	**P**	**07 43 03.8**	**+0.1**
	comp=Z,45nm,0.7s						
SHL	**Shillong**	**50.44**	**289**	*e*P	**P**	**07 43 03.8**	**+0.1**
SHL				pmax	pmax		
	comp=Z,45nm,0.7s						
SHL	**Shillong**	**50.44**	**289**	*e*P	**P**	**07 43 03.0**	**-0.7**
SHL				*e*S	S	07 49 48.0	-13
LHI	**Lord Howe Isla**	**50.60**	**165**	*e*P	**P**	**07 43 04.9**	**+0.6**
	comp=Z,82nm,1.1s						
LSA	**Lhasa**	**51.03**	**294**	P	**P**	**07 43 09.5**	**+1.1**
LSA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LSA	**Lhasa**	**51.03**	**294**	*e*P	**P**	**07 43 10.1**	**+1.7**
	comp=Z,17nm,0.6s						
LSA	**Lhasa**	**51.03**	**294**	*e*P	**P**	**07 43 10.1**	**+1.7**
LSA				pmax	pmax		
	comp=Z,17nm,0.6s						
BBOO	**Buckleboo**	**51.11**	**191**	*e*P	**P**	**07 43 08.2**	**0.0**
	comp=Z,31nm,0.8s						
FORT	**Forrest**	**51.16**	**200**	*e*P	**P**	**07 43 09.2**	**+0.6**
	comp=Z,65nm,0.8s						
KEKH	**Kekaha**	**51.20**	**76**	*e*P	**P**	**07 43 10.4**	**+1.2**
	comp=Z,297nm,0.9s						
UNV	**Unalaska Valle**	**51.39**	**34**	*e*P	**P**	**07 43 10.4**	**+0.3**
	comp=Z,102nm,0.8s						
AKUT	**Akutan**	**51.91**	**34**	*e*P	**P**	**07 43 14.3**	**+0.5**
	comp=Z,249nm,0.8s						
BILL	**Bilibino**	**51.95**	**10**	*e*P	**P**	**07 43 14.7**	**+0.7**
	comp=Z,86nm,1.2s						
BILL	**Bilibino**	**51.95**	**10**	⇑*e*P	**P**	**07 43 14.1**	**+0.1**
BILL				*e**PP	**pP**	**07 44 01.8**	**+0.9**
BILL				*e*		07 45 17.7	
BILL				*i* S	**S**	**07 50 18.6**	**-1.5**
BILL				pmax	pmax		
	comp=Z,62nm,1.1s						
AFI	**Afiamalu**	**52.34**	**124**	P	**P**	**07 43 17.8**	**+0.1**
	comp=Z,18nm,0.5s,baz=125,slow=5.9,SNR=6.1						
AFI	**Afiamalu**	**52.34**	**124**	*e*P	**P**	**07 43 18.5**	**+0.8**
	comp=Z,115nm,1.4s						
AFI	**Afiamalu**	**52.34**	**124**	*e*P	**P**	**07 43 18.5**	**+0.8**
AFI				pmax	pmax		
	comp=Z,115nm,1.4s						
KIP	**Kipapa**	**52.83**	**76**	*e*P	**P**	**07 43 22.9**	**+1.8**
	comp=Z,179nm,0.9s						
KIP	**Kipapa**	**52.83**	**76**	*ce*P	**P**	**07 43 22.8**	**+1.6**
KIP				pmax	pmax		
	comp=Z,2µm,2.5s						
CAN	**Canberra**	**52.85**	**177**	*e*P	**P**	**07 43 22.7**	**+1.7**
	comp=Z,54nm,1.6s						
CAN	**Canberra**	**52.85**	**177**	*e*P	**P**	**07 43 22.7**	**+1.7**
CAN				pmax	pmax		
	comp=Z,54nm,1.6s						
HON	**Honolulu**	**52.85**	**76**	*e*P	**P**	**07 43 23.4**	**+2.1**
	comp=Z,178nm,0.8s						
HON	**Honolulu**	**52.85**	**76**	*e*P	**P**	**07 43 23.4**	**+2.1**
HON				pmax	pmax		
	comp=Z,178nm,0.8s						
FALS	**False Pass**	**53.46**	**34**	*e*P	**P**	**07 43 26.0**	**+0.9**
	comp=Z,151nm,0.8s						
KHLH	**Kahului Airpor**	**54.36**	**77**	*e*P	**P**	**07 43 34.7**	**+2.4**
	comp=Z,232nm,0.9s						
HLK	**Haleakala**	**54.55**	**77**	*e*P	**P**	**07 43 36.3**	**+2.3**
	comp=Z,386nm,1.1s						
TIXI	**Tiksi**	**54.84**	**354**	*e*P	**P**	**07 43 36.3**	**+1.4**
	comp=Z,10nm,0.8s						
TIXI	**Tiksi**	**54.84**	**354**	*ce*P	**P**	**07 43 33.9**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,12nm,1.1s						
KKH	**Kailua Kona**	**54.91**	**78**	*e*P	**P**	**07 43 39.1**	**+2.9**
MHA	**Mahukona**	**54.94**	**77**	*e*P	**P**	**07 43 38.6**	**+2.2**
MHA	**Mahukona**	**54.94**	**77**	*e*P	**P**	**07 43 38.7**	**+2.2**
WMQ	**Urumqi**	**55.02**	**311**	P	**P**	**07 43 38.0**	**+1.2**
WMQ				pP	pP	07 44 29.0	+4.8
WMQ				pmax	pmax		
	comp=Z,76nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,280nm,3.6s						
WMQ				LR	LR		
	comp=Z,950nm,18.1s						
WMQ				LR	LR		
	comp=Z,380nm,24.3s						
WMQ				LR	LR		
	comp=Z,340nm,22.3s						
KHLU	**Kahalu'u**	**55.03**	**78**	*e*P	**P**	**07 43 38.7**	**+1.4**
	comp=Z,383nm,0.9s						
HUH	**Hualalai**	**55.07**	**78**	*e*P	**P**	**07 43 39.4**	**+1.7**
	comp=Z,228nm,1.0s						
RAMN	**Ramite**	**55.11**	**291**	*e*P	**P**	**07 43 38.2**	**+0.3**
	comp=Z,32nm,0.9s						
HPAH	**Hawaii Prepara**	**55.16**	**78**	*e*P	**P**	**07 43 39.8**	**+1.7**
	comp=Z,422nm,0.8s						
SDPT	**Sand Point**	**55.21**	**34**	*e*P	**P**	**07 43 38.5**	**+0.8**
	comp=Z,244nm,0.8s						
MWH	**Moku'aweowe**	**55.33**	**78**	*e*P	**P**	**07 43 41.9**	**+2.0**
	comp=Z,444nm,1.3s						
MLOA	**Mauna Loa Obse**	**55.34**	**78**	*e*P	**P**	**07 43 41.8**	**+1.9**
	comp=Z,572nm,1.5s						
KHU	**Kahuku**	**55.34**	**79**	*e*P	**P**	**07 43 41.6**	**+1.9**
	comp=Z,458nm,1.1s						
KHU	**Kahuku**	**55.34**	**79**	*e*P	**P**	**07 43 41.6**	**+1.9**
KHU				pmax	pmax		
	comp=Z,458nm,1.1s						
POHA	**Pohakuloa**	**55.35**	**78**	*e*P	**P**	**07 43 41.4**	**+1.7**
	comp=Z,429nm,0.9s						
HMH	**Humu'ula Sheep**	**55.41**	**78**	*e*P	**P**	**07 43 42.2**	**+2.0**
	comp=Z,586nm,1.4s						
JIRN	**Jiri**	**55.43**	**292**	*e*P	**P**	**07 43 40.9**	**+0.5**
	comp=Z,102nm,0.8s						
AIN	**Ainahou**	**55.47**	**78**	*e*P	**P**	**07 43 42.2**	**+1.7**
	comp=Z,498nm,0.9s						
MLH	**Mauna Loa**	**55.52**	**78**	*e*P	**P**	**07 43 42.6**	**+1.7**
	comp=Z,336nm,1.0s						
MLH	**Mauna Loa**	**55.52**	**78**	*e*P	**P**	**07 43 42.6**

comp=Z,1.3nm,0.7s,baz=107,slow=4.8,SNR=4.0
MKAR Makanchi Array 59.21 314 *e*P **P 07 44 05.6 -0.3**
comp=Z,108nm,1.2s
MKAR ScP **ScP 07 48 30.6 -1.7**
MKAR Makanchi Array 59.21 314 *i* P **P 07 44 06.4 +0.4**
MKAR pmax pmax
comp=Z,6.0nm,0.6s
OHAK Old Harbor 59.60 33 *e*P **P 07 44 09.6 +1.3**
comp=Z,75nm,1.0s
SVW2 Sparrevohn 59.62 29 *e*P **P 07 44 09.9 +1.4**
comp=Z,104nm,1.6s
RDOG Red Dog Mine 59.70 20 *e*P **P 07 44 10.3 +1.3**
comp=Z,43nm,1.0s
NVS Novosibirsk 59.94 324⇓ *i* P **P 07 44 10.2 -0.6**
NVS *e* 07 44 58.4
NVS *e*S **S 07 52 07.3 +1.5**
NVS pmax pmax
comp=N,15nm,1.3s
NVS pmax pmax
comp=E,35nm,1.3s
NVS pmax pmax
comp=Z,40nm,1.3s
NVS smax smax
comp=N,35nm,2.0s
NVS smax smax
comp=E,31nm,2.0s
KDAK Kodiak Island 60.11 33 P **P 07 44 12.7 +0.9**
comp=E,26nm,0.8s,baz=221,slow=2.0,SNR=68
CNPM China Poot 61.23 31 *e*P **P 07 44 20.1 +0.6**
comp=E,187nm,1.4s
BRLK Bradley Lake 61.46 31 *e*P **P 07 44 21.1 +0.1**
comp=E,219nm,2.0s
PRZ Przheval'sk 61.67 309 *e*P **P 07 44 24.3 +1.4**
comp=E,28nm,0.8s
PRZ Przheval'sk 61.67 309 *e*P **P 07 44 24.3 +1.4**
PRZ pmax pmax
comp=Z,28nm,0.8s
PPLA Purkeypile 61.71 27 *e*P **P 07 44 23.9 +1.2**
comp=Z,91nm,1.5s
SKT Skwentna 61.74 28 *e*P **P 07 44 23.0 +0.2**
comp=Z,34nm,0.9s
CAST Castle Rocks 61.91 27 *e*P **P 07 44 25.1 +1.2**
comp=Z,74nm,0.8s
SUA Susitna One 61.96 29 *e*P **P 07 44 24.4 0.0**
comp=Z,24nm,0.9s
IM3 Indian Mountai 62.06 24 *e*P **P 07 44 25.6 +0.8**
KURK Kurchatov 62.06 318 *e*P **P 07 44 24.4 -0.7**
comp=Z,49nm,0.8s
KURK Kurchatov 62.06 318 P **P 07 44 24.7 -0.3**
SNR=29
KURK Kurchatov 62.06 318 *ce*P **P 07 44 24.8 -0.3**
KURK pmax pmax
comp=Z,67nm,1.1s
SEW Seward 62.24 31 *e*P **P 07 44 26.6 +0.5**
comp=Z,327nm,1.9s
RC01 Rabbit Creek A 62.34 30 *e*P **P 07 44 27.0 +0.2**
comp=Z,45nm,0.9s
NRIK Noril'sk 62.55 340 P **P 07 44 27.2 -0.8**
comp=Z,18nm,0.6s,baz=109,slow=6.9,SNR=37
KDJ Kajisay 62.57 309 *e*P **P 07 44 31.0 +2.1**
comp=Z,34nm,1.2s
BPAW Bear Paw Mtn. 62.57 26 *e*P **P 07 44 29.5 +1.2**
comp=Z,80nm,1.0s
TRF Thorofare Moun 62.69 27 *e*P **P 07 44 29.8 +0.5**
comp=Z,52nm,0.9s
PMR Palmer 62.74 29 *e*P **P 07 44 29.7 +0.3**
comp=Z,41nm,1.0s
PMR Palmer 62.74 29 *e*P **P 07 44 29.7 +0.3**
PMR pmax pmax
comp=Z,41nm,1.0s
GHO Glory Hole Cre 62.88 29 *e*P **P 07 44 30.8 +0.4**
comp=Z,39nm,0.8s
MXZ Matakaoa Point 62.93 151 *e*P **P 07 44 29.7 -1.2**
comp=Z,128nm,1.4s
MLY Manley 62.94 25 *e*P **P 07 44 31.9 +1.1**
comp=Z,67nm,1.0s
URZ Urewera 62.97 153 P **P 07 44 30.2 -1.0**
comp=Z,18nm,0.8s,baz=4.5,slow=2.4,SNR=8.5
URZ Urewera 62.97 153 *e*P **P 07 44 30.4 -0.8**
comp=Z,38nm,1.2s
SML Sawmill 63.16 29 *e*P **P 07 44 32.7 +0.5**
comp=Z,127nm,0.9s
SML Sawmill 63.16 29 *e*P **P 07 44 32.7 +0.5**
SML pmax pmax
comp=Z,127nm,0.9s
BWN Browne 63.23 26 *e*P **P 07 44 33.6 +1.0**
comp=Z,106nm,1.0s
RND Reindeer 63.30 27 *e*P **P 07 44 32.9 -0.3**
comp=Z,34nm,0.9s
RND Reindeer 63.30 27 *e*P **P 07 44 32.9 -0.3**
RND pmax pmax
comp=Z,34nm,0.9s
MCK McKinley 63.35 27 *e*P **P 07 44 33.4 0.0**
comp=Z,94nm,1.6s
MCK McKinley 63.35 27 *e*P **P 07 44 33.4 0.0**
MCK pmax pmax
comp=Z,94nm,1.6s
NRN Naryn 63.45 308 *e*P **P 07 44 35.4 +0.5**
comp=Z,22nm,1.3s
NRN Naryn 63.45 308 *e*P **P 07 44 35.4 +0.5**
NRN pmax pmax
comp=Z,22nm,1.3s
BKZ Black Stump Fm 63.46 154 *e*P **P 07 44 33.9 -0.5**
comp=Z,26nm,0.7s
KSH Kashi 63.51 306 P **P 07 44 39.0 +3.9**
KSH sP sP 07 45 49.0 +2.0
KSH PP **PP 07 47 03.0 +5.6**
KSH S **S 07 52 51.8 +0.3**
KSH sS sS 07 54 14.8 -2.0
KSH SS **SS 07 57 04.8 +2.3**
KSH pmax pmax
comp=Z,91nm,1.7s
KSH pmax pmax
comp=Z,310nm,6.1s
KSH LR LR
comp=Z,340nm,5.3s
KSH LR LR
comp=Z,310nm,7.5s
KSH LR LR
comp=Z,660nm,17.2s
GLI Glacier Island 63.55 30 *e*P **P 07 44 35.6 +0.9**
comp=Z,52nm,1.0s
SCM Sheep Creek Mo 63.63 29 *e*P **P 07 44 36.7 +1.3**
comp=Z,128nm,0.9s
SCM Sheep Creek Mo 63.63 29 *e*P **P 07 44 36.7 +1.3**
SCM pmax pmax
comp=Z,128nm,0.9s
HYB Hyderabad 63.78 281 *i* P **P 07 44 36.0 -1.0**
HYB *e* 07 46 20.0
HYB *e*S **S 07 52 56.0 +0.8**
COLD Coldfoot 63.80 23 *e*P **P 07 44 38.0 +1.8**
comp=Z,10nm,0.9s
FID Port Fidalgo 63.82 30 *e*P **P 07 44 37.2 +0.7**
comp=Z,52nm,0.8s
DHY Denali Highway 63.88 28 *e*P **P 07 44 37.8 +0.8**
comp=Z,26nm,1.1s
WRH Wood River Hil 63.89 26 *e*P **P 07 44 36.9 0.0**
comp=Z,38nm,0.9s
MDM Murphy Dome 63.95 26 *e*P **P 07 44 38.4 +1.0**
comp=Z,42nm,0.9s
CCB Clear Creek Bu 64.05 26 *e*P **P 07 44 37.9 0.0**
comp=Z,35nm,1.3s
TCOL CIGO, UAF Yank 64.08 26 P **P 07 44 38.6 +0.5**
baz=256,SNR=7.7
COLA College 64.09 26 *e*P **P 07 44 38.9 +0.8**
comp=Z,28nm,0.8s
COLA College 64.09 26 *e*P **P 07 44 38.9 +0.8**
COLA pmax pmax
comp=Z,28nm,0.8s
EYAK Cordova Ski Ar 64.14 31 *e*P **P 07 44 39.6 +1.1**
comp=Z,46nm,0.9s
PALK Pallekele 64.15 270 P **P 07 44 39.9 +0.4**
comp=Z,10.0nm,0.8s,baz=151,slow=0.2,SNR=4.7
PALK Pallekele 64.15 270 *e*P **P 07 44 40.8 +1.3**
comp=Z,82nm,1.8s
KLU Klutina 64.22 30 *e*P **P 07 44 40.8 +1.5**
comp=Z,48nm,0.9s
DIV Divide 64.23 30 *e*P **P 07 44 40.2 +1.0**
comp=Z,57nm,1.1s
THZ Tophouse 64.28 158 *e*P **P 07 44 40.2 +0.4**
comp=Z,32nm,0.7s
POKR Poker Plat Res 64.32 26 P **P 07 44 39.6 -0.1**
baz=256,SNR=8.0
HDA Harding Lake 64.36 26 *e*P **P 07 44 39.5 -0.4**
comp=Z,33nm,0.9s
HDA Harding Lake 64.36 26 P **P 07 44 39.8 -0.1**
baz=257,SNR=28

FRU Bishkek 64.46 309 *i* P **P 07 44 41.0 -0.1**
FRU *e* 07 45 12.0
FRU *e* 07 45 27.0
FRU pmax pmax
comp=Z,45nm,1.9s
ILAR Eielson Array 64.46 26 P **P 07 44 40.0 -0.7**
comp=Z,29nm,0.8s,baz=257,slow=4.8,SNR=178
ILAR Eielson Array 64.46 26 P **P 07 44 40.0 -0.7**
ILB Eielson Array 64.46 26 *e*P **P 07 44 39.7 -1.0**
IL1 Eielson Array 64.46 26 *e*P **P 07 44 39.9 -0.7**
AAK Ala-Archa 64.56 309 *e*P **P 07 44 42.4 +0.5**
comp=Z,8.2nm,0.9s
AAK Ala-Archa 64.56 309 *e*P **P 07 44 42.4 +0.5**
AAK pmax pmax
comp=Z,8.0nm,0.9s
SNZO South Karori 64.56 156 *e*P **P 07 44 41.0 -0.4**
comp=Z,249nm,1.6s
BFZ Birch Farm 64.64 155 *e*P **P 07 44 41.3 -0.7**
comp=Z,120nm,1.4s
RAGM Ragged Mountai 64.64 31 *e*P **P 07 44 42.5 +0.6**
comp=Z,84nm,1.3s
PAX Paxson 64.70 28 *e*P **P 07 44 42.9 +0.6**
comp=Z,40nm,0.8s
PAX Paxson 64.70 28 *e*P **P 07 44 42.9 +0.6**
PAX pmax pmax
comp=Z,40nm,0.8s
HARP HAARP 64.75 29 *e*P **P 07 44 43.8 +1.3**
comp=Z,122nm,0.8s
BMRM Bremner River 64.76 30 *e*P **P 07 44 44.3 +1.6**
comp=Z,80nm,1.0s
FOZ Fox Glacier 64.82 161 *e*P **P 07 44 44.2 +1.1**
comp=Z,45nm,1.2s
LTZ Lake Taylor 64.96 159 *e*P **P 07 44 43.5 -0.6**
comp=Z,24nm,0.7s
KHZ Kahutara 65.08 158 *e*P **P 07 44 43.0 -1.9**
comp=Z,35nm,0.7s
RIDG Independ'e Rid 65.13 27 *e*P **P 07 44 45.7 +0.7**
comp=Z,76nm,0.9s
OXZ Oxford 65.36 159 *e*P **P 07 44 45.5 -1.1**
comp=Z,128nm,1.8s
RPZ Rata Peaks 65.38 160 P **P 07 44 44.9 -1.8**
comp=Z,17nm,0.8s,baz=88,slow=11,SNR=5.0
RPZ Rata Peaks 65.38 160 *e*P **P 07 44 45.6 -1.2**
comp=Z,56nm,1.3s
DOT Dot Lake 65.45 27 *e*P **P 07 44 47.6 +0.5**
comp=Z,62nm,0.8s
FYU Fort Yukon 65.53 24 *e*P **P 07 44 48.9 +1.5**
comp=Z,113nm,1.2s
SCRK Sand Creek 65.54 27 *e*P **P 07 44 47.9 +0.2**
comp=Z,54nm,1.0s
TGL Tana Glacier 65.59 31 *e*P **P 07 44 49.3 +1.2**
comp=Z,62nm,1.1s
LBZ Lake Benmore 65.71 161 *e*P **P 07 44 48.5 -0.4**
comp=Z,95nm,1.7s
CRLZ Canterbury Las 65.78 159 *e*P **P 07 44 49.4 +0.1**
comp=Z,195nm,1.5s
DCZ Deep Cove 65.82 164 *e*P **P 07 44 49.1 -0.4**
comp=Z,72nm,1.3s
MQZ McQueen's Vall 65.90 159 *e*P **P 07 44 49.9 -0.2**
comp=Z,328nm,2.0s
MLZ Mavora Lakes 65.99 163 *e*P **P 07 44 49.8 -0.9**
comp=Z,70nm,1.3s
NIL Nilore 66.09 299 *e*P **P 07 44 52.1 +0.4**
comp=Z,42nm,0.8s
NIL Nilore 66.09 299 *e*P **P 07 44 52.1 +0.4**
NIL pmax pmax
comp=Z,42nm,0.8s
ODZ Otahua Downs 66.44 161 *e*P **P 07 44 53.2 -0.2**
comp=Z,124nm,1.6s
PCA Pinnacle 66.79 32 *e*P **P 07 44 57.0 +1.3**
comp=Z,60nm,1.0s
EGAK Eagle 66.88 26 *e*P **P 07 44 56.6 +0.6**
comp=Z,51nm,1.5s
BRVK Borovoye 67.35 321 *e*P **P 07 44 58.7 -0.5**
comp=Z,40nm,1.0s
BRVK Borovoye 67.35 321 P **P 07 44 58.6 -0.6**
SNR=19
BRVK Borovoye 67.35 321 *ce*P **P 07 44 57.9 -1.3**
BRVK pmax pmax
comp=Z,41nm,1.0s
KKAR Karatay Array 67.46 310 *e*P **P 07 44 59.8 -0.4**
KKAR Karatay Array 67.46 310 *e*P **P 07 44 59.8 -0.4**
DAWY Dawson 67.56 27 *e*P **P 07 45 01.4 +1.0**
comp=Z,41nm,0.9s
POO Poona 67.93 283 *e*P **P 07 45 02.0 -1.5**
HYT Haines Junctio 68.20 31 *e*P **P 07 45 06.2 +1.6**
comp=Z,100nm,0.9s
EPYK Eagle Plains 68.88 25 P **P 07 45 09.6 +1.1**
baz=266
SKAG Skagway 69.25 32 *e*P **P 07 45 11.7 +0.8**
comp=Z,31nm,1.0s
KBL Kabul 69.45 301 *e*P **P 07 45 12.9 0.0**
comp=Z,20nm,1.0s
KBL Kabul 69.45 301 *e*P **P 07 45 12.9 0.0**
KBL pmax pmax
comp=Z,20nm,1.0s
WHY Whitehorse 69.48 31 *e*P **P 07 45 13.6 +1.1**
comp=Z,41nm,0.9s
BESE Bessie Mountai 69.50 33 *e*P **P 07 45 14.2 +1.7**
comp=Z,45nm,1.1s
JIS Juneau Island 69.75 34 *e*P **P 07 45 15.5 +1.6**
comp=Z,47nm,1.2s
INK Inuvik 70.22 23 P **P 07 45 17.0 +0.5**
comp=Z,36nm,0.8s,baz=269,slow=6.5,SNR=59
INK Inuvik 70.22 23 *e*P **P 07 45 17.1 +0.5**
comp=Z,30nm,0.8s
INK Inuvik 70.22 23 *e*P **P 07 45 17.1 +0.5**
INK pmax pmax
comp=Z,30nm,0.8s
DLBC Dease Lake 72.04 33 *e*P **P 07 45 29.5 +1.6**
comp=Z,56nm,1.0s
PPT2 Papeete2 72.61 115 *e*P **P 07 45 33.8 +1.9**
comp=Z,60nm,1.5s
PPT2 *e*S **S 07 54 35.7 -3.9**
comp=Z,193nm,28.2s
PPT2 Papeete2 72.61 115 *e*LR LR 08 07 55.3
comp=Z,373nm,24.5s
PAE Paea 72.64 116 *e*P **P 07 45 33.6 +1.7**
comp=Z,7.8nm,1.2s
SVE Sverdlovsk 72.72 325⇑ *e*P **P 07 45 31.4 -0.4**
SVE pmax pmax
comp=Z,32nm,1.4s
TIAR Tiarei 72.80 115 *e*P **P 07 45 34.7 +1.8**
comp=Z,26nm,1.2s
TVO Taravao 72.98 115 *e*P **P 07 45 36.0 +2.0**
comp=Z,32nm,1.4s
PMOR Pomariorio Ree 73.00 112 *e*P **P 07 45 35.9 +1.8**
comp=Z,256nm,1.4s
VAH Vaihoa 73.33 112 *e*P **P 07 45 37.7 +1.7**
comp=Z,89nm,1.5s
BBB Bella Bella 73.82 40 *e*P **P 07 45 39.0 +0.8**
comp=Z,88nm,1.4s
ARU Arti 73.91 325 *e*P **P 07 45 38.3 -0.5**
comp=Z,32nm,1.0s
ARU Arti 73.91 325 *c i*P **P 07 45 37.9 -0.8**
ARU *PP **pP** 07 46 30.2 +1.2
ARU 07 48 21.8
ARU S **S 07 54 53.8 +1.0**
ARU pmax pmax
comp=Z,64nm,1.7s
ABKAR Akbulak array 74.11 317 *e*P **P 07 45 39.0 -1.1**
TBI Tubuai 75.25 121 *e*S **S 07 55 06.0 -2.6**
comp=Z,387nm,32.2s
TBI Tubuai 75.25 121 *e*LR LR 08 09 09.6
comp=Z,281nm,28.5s
PGC Sidney 77.39 43 *e*P **P 07 46 00.0 +1.5**
GEYT Alibeck 77.55 306 P **P 07 45 59.9 +0.2**
comp=Z,2.1nm,0.6s,baz=77,slow=6.7,SNR=11
GYA0B ALIBECK ARRAY 77.55 306 *e*P **P 07 46 00.4 +0.7**
comp=Z,10.0nm,0.9s
TAOE Nuku Hiva Isla 77.72 103 *e*P **P 07 46 03.2 +2.0**
comp=Z,154nm,1.4s
E03A Lebam 77.77 45 *e*P **P 07 46 02.7 +1.9**
comp=Z,67nm,1.0s
A04D Lummi Island 77.85 43 P **P 07 46 03.3 +2.2**
baz=283,SNR=6.8
D03D Eldon 77.87 44 P **P 07 46 03.3 +2.0**
baz=283
KEBM Edson Butte 78.06 49 *e*P **P 07 46 04.4 +1.9**
comp=Z,128nm,1.2s
I02D Swisshome 78.12 47 P **P 07 46 04.2 +1.5**
baz=283
D04E Lakebay 78.16 44 P **P 07 46 04.8 +2.0**
baz=283
F04D Rainier, OR 78.25 45 P **P 07 46 05.0 +1.6**
baz=283
G03D McMinnville, O 78.28 46 P **P 07 46 05.0 +1.5**
baz=283,SNR=5.7
J01E Myrtle Point 78.28 48 P **P 07 46 04.8 +1.2**
baz=283
B05A Bryant 78.35 43 P **P 07 46 05.4 +1.5**
baz=284,SNR=20
COR Corvallis 78.39 47 *e*P **P 07 46 05.5 +1.3**
comp=Z,95nm,1.5s
COR Corvallis 78.39 47 *e*P **P 07 46 05.5 +1.3**
COR pmax pmax
comp=Z,95nm,1.5s
E04D Cinebar 78.44 45 P **P 07 46 06.2 +1.7**
baz=284,SNR=11
I03D Drain, OR 78.57 48 P **P 07 46 06.3 +1.1**
baz=284,SNR=7.7
K02D Willamette Mer 78.58 49 P **P 07 46 06.4 +1.0**
baz=284,SNR=7.3
D05A Enumclaw 78.67 44 *e*P **P 07 46 06.8 +1.0**
comp=Z,71nm,0.9s
KRMB Red Mountain 78.68 50 *e*P **P 07 46 07.6 +1.6**
comp=Z,70nm,1.8s
B06A Marblemount 78.69 43 *e*P **P 07 46 07.3 +1.6**
comp=Z,45nm,1.0s
L02E Cave Junction 78.75 49 P **P 07 46 07.7 +1.5**
baz=284,SNR=6.4
JCC Jacoby Creek, 78.75 51 *e*P **P 07 46 08.4 +2.2**
comp=Z,88nm,1.4s
YKW3 Yellowknife Ar 78.77 28 *e*P **P 07 46 06.4 +0.5**
comp=Z,21nm,0.9s
YKA Yellowknife Ar 78.79 28 P **P 07 46 06.2 +0.2**
comp=Z,18nm,0.8s,baz=289,slow=5.5,SNR=50
YKB5 Yellowknife Ar 78.79 28 *e*P **P 07 46 05.3 -0.7**
H04D Lebanon 78.80 47 P **P 07 46 08.0 +1.5**
baz=284,SNR=7.1
LON Longmire 78.90 44 *e*P **P 07 46 08.2 +1.2**
comp=Z,24nm,1.0s
LON Longmire 78.90 44 *e*P **P 07 46 08.2 +1.2**
LON pmax pmax
comp=Z,24nm,1.0s
KHMM Horse Mountain 78.96 51 *e*P **P 07 46 09.7 +2.1**
comp=Z,65nm,1.2s
HUMO Hull Mountain 79.11 49 *e*P **P 07 46 09.0 +0.8**
comp=Z,51nm,1.3s
KMRM Mail Ridge 79.13 51 *e*P **P 07 46 10.3 +1.9**
comp=Z,53nm,1.3s
H04A Detroit Lake 79.14 47 *e*P **P 07 46 09.4 +1.0**
comp=Z,64nm,1.0s
I04A Tendick Farm, 79.20 47 P **P 07 46 09.7 +1.0**
baz=284,SNR=13
C06D Leavenworth 79.22 43 P **P 07 46 09.6 +1.0**
baz=284,SNR=5.9
PRGR Permogore 79.31 331 *e*P **P 07 46 06.0 -2.8**
PRGR pmax pmax
comp=Z,12nm,0.8s
F05D White Salmon 79.35 45 P **P 07 46 10.7 +1.3**
baz=284,SNR=8.0
KCPM Cahto Peak 79.36 52 *e*P **P 07 46 11.4 +1.7**
comp=Z,113nm,1.2s
M02C Callahan 79.48 50 P **P 07 46 11.5 +1.2**
baz=284,SNR=13
YBH Yreka Blue Hor 79.50 50 *e*P **P 07 46 11.7 +1.3**
comp=Z,58nm,1.3s
YBH Yreka Blue Hor 79.50 50 *e*P **P 07 46 11.7 +1.3**
YBH pmax pmax
comp=Z,58nm,1.3s
LTY Liberty 79.53 44 *e*P **P 07 46 11.4 +0.9**
comp=Z,44nm,0.9s
J04D Umpqua Nationa 79.55 48 P **P 07 46 12.1 +1.3**
baz=284,SNR=8.2
G05D Wamic, OR 79.60 46 P **P 07 46 12.3 +1.5**
baz=285,SNR=5.5
L04D Klamath Falls 79.67 49 P **P 07 46 12.4 +1.0**
baz=284
N02D Trinity Center 79.69 50 P **P 07 46 13.0 +1.5**
baz=284,SNR=18
I05D Terrebonne, OR 79.82 47 P **P 07 46 13.2 +1.1**
baz=285,SNR=8.0
O02D Mt. Diablo Mer 79.83 51 P **P 07 46 13.9 +1.7**
baz=285,SNR=25
WDC Whiskeytown Da 79.91 51 *e*P **P 07 46 13.7 +1.2**
comp=Z,54nm,1.4s
WDC Whiskeytown Da 79.91 51 *e*P **P 07 46 13.7 +1.2**
WDC pmax pmax
comp=Z,55nm,1.4s
K04D Chiloquin, OR 79.96 48 P **P 07 46 14.3 +1.4**
baz=285,SNR=9.6
G06A Carlson Farm, 80.07 46 *e*P **P 07 46 14.6 +1.2**
comp=Z,61nm,1.6s
B08A Colville Reser 80.11 42 *e*P **P 07 46 14.4 +0.9**
comp=Z,54nm,0.8s
M04C Macdoel 80.11 49 P **P 07 46 15.1 +1.3**
baz=285,SNR=28
J05D Fort Rock, OR 80.16 48 P **P 07 46 15.2 +1.2**
baz=285,SNR=54
E07A Sunnyside 80.25 44 *e*P **P 07 46 15.6 +1.3**
comp=Z,49nm,1.0s
RES Resolute Bay 80.33 14 *e*P **P 07 46 14.4 +0.3**
comp=Z,48nm,1.0s
RES Resolute Bay 80.33 14 *e*P **P 07 46 14.4 +0.3**
RES pmax pmax
comp=Z,48nm,1.0s
F07A Phinny Hill Vi 80.38 45 *e*P **P 07 46 16.5 +1.6**
comp=Z,30nm,1.0s
HAWA Hanford 80.51 44 *e*P **P 07 46 17.0 +1.4**
comp=Z,37nm,1.0s
O03E Paynes Creek 80.53 51 P **P 07 46 16.6 +0.6**
baz=285,SNR=33
WSAR Wadi Sarin 80.68 291 P **P 07 46 18.0 +1.0**
SNR=5.5
D08A Wollman Farm, 80.73 44 *e*P **P 07 46 18.0 +1.2**
comp=Z,50nm,1.0s
E08A Dider Farm, El 80.80 44 *e*P **P 07 46 18.5 +1.4**
comp=Z,85nm,1.5s
ORV Oroville 80.94 51 *e*P **P 07 46 18.8 +0.7**
comp=Z,68nm,1.2s
ORV Oroville 80.94 51 *e*P **P 07 46 18.8 +0.7**
ORV pmax pmax
comp=Z,69nm,1.2s
C09A Chrisman Ranch 80.95 43 *e*P **P 07 46 18.8 +0.8**
comp=Z,34nm,0.9s
BIDO Bidbid 81.05 292 P **P 07 46 19.1 +0.2**
SNR=11
MOD Modoc Plateau 81.19 49 *e*P **P 07 46 20.4 +0.9**
comp=Z,57nm,1.1s
G08A Pilot Rock 81.20 45 *e*P **P 07 46 20.2 +0.7**
comp=Z,24nm,1.1s
E09A Wood Farm, Sta 81.40 44 *e*P **P 07 46 21.7 +1.4**
comp=Z,37nm,0.9s
AFDM Forest Hills D 81.50 52 *e*P **P 07 46 21.7 +0.6**
comp=Z,58nm,1.2s
NEW Newport 81.56 42 *e*P **P 07 46 21.8 +0.6**
comp=Z,40nm,1.0s
NEW Newport 81.56 42 *e*P **P 07 46 21.8 +0.6**
NEW pmax pmax
comp=Z,40nm,1.0s
NEW Newport 81.56 42 P **P 07 46 22.1 +0.9**
baz=287
BEKR Beckworth 81.71 51 *e*P **P 07 46 22.9 +0.6**
comp=Z,79nm,1.1s
APA Apatity 81.94 339⇑ *i*P **P 07 46 20.8 -1.9**
APA *i* *PP **pP** 07 47 10.8 -3.2
APA pmax pmax
comp=Z,6.0nm,0.6s
J08A Circle Bar Ran 82.08 47 *e*P **P 07 46 25.3 +1.2**
comp=Z,51nm,1.0s
RUBR Rubicon Trail 82.09 52 *e*P **P 07 46 25.2 +0.9**
comp=Z,73nm,1.2s
F10A Beach Ranch, E 82.16 44 *e*P **P 07 46 25.4 +1.0**
comp=Z,31nm,1.3s
CMB Columbia Colle 82.20 53 *e*P **P 07 46 25.4 +0.7**
comp=Z,59nm,1.1s
CMB Columbia Colle 82.20 53 *e*P **P 07 46 25.4 +0.7**
CMB pmax pmax
comp=Z,59nm,1.1s
WVOR Wild Horse Val 82.23 48 *e*P **P 07 46 25.8 +0.9**
comp=Z,50nm,1.1s
WVOR Wild Horse Val 82.23 48 *e*P **P 07 46 25.8 +0.9**
WVOR pmax pmax
comp=Z,50nm,1.1s
KLMR Klimovskoe 82.35 332 *e*P **P 07 46 22.0 -2.9**
KLMR pmax pmax
comp=Z,67nm,1.1s
KLMR Klimovskoe 82.35 332 *e*P **P 07 46 22.1 -2.9**
KLMR AMP 07 46 28.6
comp=Z,67nm,1.1s
UOSS Minazif 82.36 294 *e*P **P 07 46 26.0 +0.2**
comp=Z,17nm,0.8s
PMPB Monarch Peak 82.39 55 *e*P **P 07 46 27.0 +1.2**
comp=Z,82nm,1.3s

VCNR	Virginia City	82.39	51	*e*P		P	07 46 27.0	+1.1
	comp=Z,41nm,1.1s							
BMO	Blue Mountains	82.44	45	*e*P		P	07 46 26.7	+0.8
	comp=Z,50nm,1.0s							
BMO	Blue Mountains	82.44	45	*e*P		P	07 46 26.7	+0.8
BMO					pmax	pmax		
	comp=Z,50nm,1.0s							
HATD	Hatta, Dubai	82.46	294	P		P	07 46 26.2	0.0
PAHR	Pah Rah Range	82.47	51	*e*P		P	07 46 27.1	+0.9
	comp=Z,57nm,1.1s							
PNTR	Pine Nut	82.49	51	*e*P		P	07 46 27.8	+1.3
	comp=Z,74nm,1.1s							
WAKR	Walker	82.78	52	*e*P		P	07 46 28.8	+0.9
	comp=Z,76nm,1.5s							
YERR	Yerington	82.79	52	*e*P		P	07 46 29.0	+1.0
	comp=Z,91nm,1.2s							
PAGB	Antelope Grade	82.95	55	*e*P		P	07 46 29.8	+1.2
	comp=Z,85nm,1.1s							
SMMC	Simmler	83.27	55	P		P	07 46 31.5	+1.2
	baz=287,SNR=14							
MDPB	Devils Postpil	83.30	53	*e*P		P	07 46 31.4	+0.7
	comp=Z,33nm,1.2s							
OMMB	Old Mammoth Mi	83.37	53	*e*P		P	07 46 31.8	+0.7
	comp=Z,39nm,1.3s							
RYN	Ryan	83.43	52	*e*P		P	07 46 32.3	+1.1
	comp=Z,57nm,1.2s							
ARA0	ARCESS Array S	83.44	342	*e*P		P	07 46 29.1	-1.4
ARCES	ARCESS Array B	83.44	342	P		P	07 46 29.1	-1.4
	comp=Z,8.0nm,0.7s,baz=75,slow=6.7,SNR=26							
ARCES	ARCESS Array B	83.44	342	*e*P		P	07 46 29.5	-0.9
ARCES	ARCESS Array B	83.44	342	*e*P		P	07 46 29.5	-0.9
MLAC	Mammoth, Mammo	83.49	53	P		P	07 46 32.9	+1.3
	baz=287							
JTMT	Jette	83.53	42	*e*P		P	07 46 32.1	+0.6
	comp=Z,64nm,1.4s							
PKM	Mcpherson Peak	83.54	56	P		P	07 46 33.1	+1.3
	baz=287,SNR=31							
KVN	Kaiserville	83.62	51	*e*P		P	07 46 33.1	+0.9
	comp=Z,67nm,1.2s							
KVN	Kaiserville	83.62	51	*e*P		P	07 46 33.1	+0.9
KVN					pmax	pmax		
	comp=Z,67nm,1.2s							
NV01	Mina Array Sit	83.65	52	*e*P		P	07 46 33.3	+0.9
NVAR	Mina Array Bea	83.65	52	P		P	07 46 33.4	+1.0
	comp=Z,34nm,0.9s,baz=267,slow=5.8,SNR=145							
TULEG	Thule	83.65	8	*e*P		P	07 46 32.3	+1.0
	comp=Z,95nm,1.1s							
SBC	Santa Barbara	83.75	56	P		P	07 46 33.9	+1.3
	baz=287,SNR=6.3							
NV11	Mina Array Sit	83.76	52	*e*P		P	07 46 33.9	+1.1
	comp=Z,4.7nm,1.2s							
VES	Vestal, Richgr	83.83	54	P		P	07 46 33.1	+0.1
	baz=287,SNR=24							
BMN	Battle Mountai	83.84	50	*e*P		P	07 46 34.3	+1.0
	comp=Z,96nm,1.9s							
BMN	Battle Mountai	83.84	50	*e*P		P	07 46 34.3	+1.0
BMN					pmax	pmax		
	comp=Z,96nm,1.9s							
MFID	Camas Ranch	83.90	46	*e*P		P	07 46 34.4	+1.0
	comp=Z,74nm,1.0s							
SCZ2	Santa Cruz Isl	83.94	56	P		P	07 46 34.3	+0.6
	baz=287							
MSO	Missoula	84.05	43	*e*P		P	07 46 34.6	+0.4
	comp=Z,27nm,1.4s							
MSO	Missoula	84.05	43	P		P	07 46 34.2	+0.1
	baz=290							
TIN	Tinemaha, Big	84.12	53	P		P	07 46 35.9	+1.2
	baz=288,SNR=8.3							
ARVC	Arvin	84.24	55	P		P	07 46 36.1	+1.0
	baz=288,SNR=5.7							
SNCC	San Nicolas Is	84.25	57	*e*P		P	07 46 36.1	+0.9
	comp=Z,61nm,0.8s							
SNCC	San Nicolas Is	84.25	57	P		P	07 46 36.1	+0.9
	baz=287							
ISA	Isabella, Lake	84.36	55	*e*P		P	07 46 35.9	+0.1
	comp=Z,23nm,1.3s							
ISA	Isabella, Lake	84.36	55	*e*P		P	07 46 35.9	+0.1
ISA					pmax	pmax		
	comp=Z,23nm,1.3s							
ISA	Isabella, Lake	84.36	55	P		P	07 46 36.1	+0.2
	baz=288,SNR=15							
BLG	Laguna Peak, P	84.36	56	P		P	07 46 36.2	+0.4
	baz=288,SNR=7.2							
CWC	Cottonwood Cre	84.42	54	P		P	07 46 37.0	+0.7
	baz=288							
OSI	Osito Audit: C	84.48	56	*e*P		P	07 46 37.2	+0.7
	comp=Z,34nm,1.1s							
OSI	Osito Audit: C	84.48	56	P		P	07 46 37.1	+0.7
	baz=288							
GRAC	Grapevine Rang	84.80	53	P		P	07 46 38.9	+0.9
	baz=288,SNR=6.9							
HLID	Hailey	84.83	46	*e*P		P	07 46 39.0	+0.9
	comp=Z,39nm,1.0s							
HLID	Hailey	84.83	46	P		P	07 46 38.9	+0.8
	baz=290,SNR=40							
DAC	Darwin (Calif)	84.85	54	*e*P		P	07 46 39.1	+0.7
	comp=Z,68nm,1.8s							
DAC	Darwin (Calif)	84.85	54	*e*P		P	07 46 39.1	+0.7
DAC					pmax	pmax		
	comp=Z,68nm,1.8s							
VRH	Novokhopyorsk	84.87	322	*e*P		P	07 46 36.1	-1.8
VRH					pmax	pmax		
	comp=Z,7.0nm,0.6s							
DECC	Green Verdugo	84.89	56	P		P	07 46 39.0	+0.5
	baz=288							
EDW2	Edwards Air Fo	84.97	55	P		P	07 46 39.7	+0.9
	baz=288,SNR=25							
MPMC	Manual Prospec	85.00	54	P		P	07 46 40.0	+0.8
	baz=288,SNR=37							
LRMC	Laurel Mtn Rad	85.03	54	P		P	07 46 39.8	+0.6
	baz=288,SNR=20							
PASC	Pasadena Art C	85.03	56	*e*P		P	07 46 39.8	+0.6
	comp=Z,40nm,1.0s							
CIS	Catalina Islan	85.09	57	P		P	07 46 39.6	+0.1
	baz=288,SNR=23							
FMP	Fort Macarthur	85.09	56	P		P	07 46 40.0	+0.6
	baz=288							
MWC	Mount Wilson	85.12	56	*e*P		P	07 46 40.4	+0.6
	comp=Z,59nm,1.3s							
MWC	Mount Wilson	85.12	56	*e*P		P	07 46 40.4	+0.6
MWC					pmax	pmax		
	comp=Z,59nm,1.3s							
DAG	Danmarks Havn	85.23	356	*i* P		P	07 46 39.0	-0.2
	comp=Z,9.9nm,0.8s							
DAG	Danmarks Havn	85.23	356	*i* P		P	07 46 39.0	-0.2
DAG					pmax	pmax		
	comp=Z,7.0nm,0.8s							
MOS	Moscow	85.33	327	*e*P		P	07 46 38.2	-1.9
MOS				*e*			07 47 30.7	
FURC	Furnace Creek,	85.35	53	P		P	07 46 41.4	+0.8
	baz=288,SNR=29							
LRM	Limekiln Ridge	85.37	43	*e*P		P	07 46 41.4	+0.5
BFSC	Mount Baldy Ra	85.43	56	P		P	07 46 41.3	+0.1
	baz=288,SNR=11							
DLMT	Dillon	85.43	44	*e*P		P	07 46 41.8	+0.7
	comp=Z,85nm,1.6s							
MCMT	McKenzie Canyo	85.45	44	*e*P		P	07 46 42.2	+0.9
HRY	Holter Researc	85.45	42	*e*P		P	07 46 42.0	+0.9
TPNV	Topopah Spring	85.66	53	*e*P		P	07 46 43.2	+0.8
	comp=Z,44nm,1.1s							
TPNV	Topopah Spring	85.66	53	P		P	07 46 43.0	+0.6
	baz=289,SNR=40							
R11A	Troy Canyon, C	85.70	51	*e*P		P	07 46 43.6	+1.0
	comp=Z,66nm,1.4s							
R11A	Troy Canyon, C	85.70	51	P		P	07 46 43.4	+0.8
	baz=289,SNR=46							
RRX	Edison Barstow	85.75	55	P		P	07 46 43.5	+0.8
	baz=289							
GSC	Goldstone, Bar	85.76	54	*e*P		P	07 46 43.1	+0.3
	comp=Z,49nm,1.3s							
GSC	Goldstone, Bar	85.76	54	*e*P		P	07 46 43.1	+0.3
GSC					pmax	pmax		
	comp=Z,49nm,1.3s							
GSC	Goldstone, Bar	85.76	54	P		P	07 46 43.6	+0.7
	baz=289,SNR=24							
LPSR	Galich'ya Gora	85.92	324	*e*P		P	07 46 40.3	-2.8
LPSR					pmax	pmax		
	comp=Z,20nm,1.3s							
SHOC	Shoshone, Teco	85.98	54	P		P	07 46 44.4	+0.6
	baz=289,SNR=20							
BOZ	Bozeman (W)	85.99	43	P		P	07 46 44.6	+0.8
	baz=291,SNR=25							
MURC	Murrieta	86.00	56	P		P	07 46 44.3	+0.3
	baz=289,SNR=7.3							
BBRC	Big Bear Solar	86.00	55	P		P	07 46 44.4	+0.2
	baz=289							
OBN	Obninsk	86.14	327	⇓*e*P		P	07 46 43.6	-0.5
OBN				*e*PP		pP	07 47 37.0	+1.1
OBN				*e*			07 50 04.5	
OBN				*e*PPP		PPP	07 51 59.3	
OBN				*i* S		SKSac	07 56 46.0	-3.7
OBN					pmax	pmax		
	comp=Z,17nm,1.6s							
HEC	Hector,Ludlow	86.28	55	P		P	07 46 46.0	+0.6
	baz=289,SNR=19							
EGMT	Eagleton	86.28	41	*e*P		P	07 46 45.9	+0.7
	comp=Z,45nm,1.1s							
EGMT	Eagleton	86.28	41	P		P	07 46 45.8	+0.7
	baz=292							
109C	Camp Elliot, M	86.29	57	P		P	07 46 45.9	+0.6
	baz=289,SNR=9.3							
CPE	Camp Elliot	86.29	57	*e*P		P	07 46 46.0	+0.6
	comp=Z,46nm,0.9s							
VSR	Storozhevoye	86.35	323	*e*P		P	07 46 42.3	-2.9
VSR					pmax	pmax		
	comp=Z,20nm,1.5s							
QLMT	Earthquake Lak	86.39	44	*e*P		P	07 46 47.4	+1.5
TUQ	Turquoise Moun	86.40	54	P		P	07 46 46.7	+0.7
	baz=289,SNR=28							
FRD	Ford Ranch, An	86.50	56	P		P	07 46 46.7	+0.3
	baz=289,SNR=18							
ZEI	Tsey	86.55	314	*e*P		P	07 46 41.6	-5.1
ZEI					pmax	pmax		
	comp=Z,24nm,1.4s							
HVU	Hansel Valley	86.57	47	*e*P		P	07 46 47.8	+1.0
	comp=Z,82nm,1.2s							
PFO	Pinyon Flats O	86.57	56	*e*P		P	07 46 47.0	+0.2
	comp=Z,52nm,1.2s							
PFO	Pinyon Flats O	86.57	56	P		P	07 46 47.3	+0.4
	baz=289,SNR=31							
XPFO	Piæon Flat	86.58	56	*e*P		P	07 46 47.2	+0.3
	comp=Z,48nm,1.1s							
YHB	Horse Butte	86.58	44	*e*P		P	07 46 48.5	+1.7
	comp=Z,55nm,1.0s							
SHPR	Sheep Range	86.63	53	*e*P		P	07 46 48.3	+1.2
	comp=Z,34nm,1.1s							
BGU	Big Grassy Mou	86.69	48	*e*P		P	07 46 48.2	+0.8
	comp=Z,20nm,1.0s							
BAR	Barrett	86.70	57	*e*P		P	07 46 48.0	+0.6
	comp=Z,27nm,1.0s							
YMR	Madison River	86.76	44	*e*P		P	07 46 49.3	+1.6
	comp=Z,49nm,0.8s							
YHH	Holmes Hill	86.79	44	*e*P		P	07 46 49.4	+1.4
	comp=Z,44nm,1.3s							
BELC	Belle Mtn. Jos	86.81	55	P		P	07 46 48.2	+0.2
	baz=289,SNR=24							
GMRC	Granite Mounta	86.82	55	P		P	07 46 48.7	+0.6
	baz=289,SNR=24							
MONP2	Monument Peak	86.84	57	P		P	07 46 49.0	+0.7
	baz=289,SNR=36							
GNI	Garni	86.89	311	*ce*P		P	07 46 46.7	-1.6
GNI					pmax	pmax		
	comp=Z,35nm,1.1s							
KBZ	Khabaz	86.90	315	P		P	07 46 46.4	-1.7
	comp=Z,15nm,0.9s,baz=117,slow=2.2,SNR=22							
PSUT	Pine Spring	86.92	51	*e*P		P	07 46 49.3	+0.7
	comp=Z,62nm,0.9s							
YFT	Old Faithful	86.93	44	*e*P		P	07 46 49.9	+1.3
	comp=Z,26nm,0.9s							
YNR	Norris Junctio	86.94	44	*e*P		P	07 46 51.0	+2.5
	comp=Z,72nm,1.2s							
KIV	Kislovodsk	86.95	315	*e*P		P	07 46 46.8	-1.7
KIV				*e*			07 56 52.6	
KIV				*e*SS		SS	08 02 54.9	-1.2
KIV					pmax	pmax		
	comp=Z,24nm,1.1s							
KIV					MLR	MLR		
	comp=Z,88nm,20.0s							
YPP	Pitchstone Pla	87.02	44	*e*P		P	07 46 49.7	+0.7
	comp=Z,44nm,1.7s							
IMW	Indian Meadow	87.06	45	*e*P		P	07 46 50.5	+1.3
	comp=Z,29nm,0.9s							
DUG	Dugway, Tooele	87.10	49	*e*P		P	07 46 50.3	+1.0
	comp=Z,66nm,0.9s							
DUG	Dugway, Tooele	87.10	49	P		P	07 46 50.3	+1.0
DUG					pmax	pmax		
	comp=Z,66nm,1.0s							
DUG	Dugway, Tooele	87.10	49	P		P	07 46 50.3	+1.0
	baz=291							
FXWY	Fox Creek	87.10	45	*e*P		P	07 46 50.5	+1.1
	comp=Z,31nm,1.3s							
H17A	Grant Village	87.12	44	*e*P		P	07 46 52.2	+2.8
	comp=Z,41nm,1.1s							
H17A	Grant Village	87.12	44	P		P	07 46 52.1	+2.6
	baz=292							
LDFC	Landfair	87.15	54	*e*P		P	07 46 50.4	+0.8
	comp=Z,67nm,1.1s							
FLWY	Flagg Ranch	87.16	45	*e*P		P	07 46 51.3	+1.7
	comp=Z,43nm,0.9s							
IKP	In-Ko-Pah, Jac	87.16	57	P		P	07 46 50.3	+0.6
	baz=289,SNR=13							
NEY	Neytrino	87.19	315	*e*P		P	07 46 48.7	-1.0
NEY					pmax	pmax		
	comp=Z,3.0nm,1.0s							
TPAW	Teton Pass	87.21	45	*e*P		P	07 46 50.8	+0.9
	comp=Z,17nm,1.0s							
MOOW	Moose Ponds	87.25	45	*e*P		P	07 46 50.7	+0.7
	comp=Z,16nm,1.0s							
SWSC	Sam W. Stewart	87.31	56	P		P	07 46 50.7	+0.5
	baz=289,SNR=8.7							
REDW	Red Top Meadow	87.32	45	*e*P		P	07 46 51.2	+0.8
	comp=Z,48nm,1.6s							
AKH	Akhalkalaki	87.33	313	*e*P		P	07 46 49.8	-0.6
	comp=Z,30nm,1.2s							
SNOW	Snow King Moun	87.35	45	*e*P		P	07 46 51.4	+0.8
	comp=Z,72nm,2.0s							
BC3	Big Chuckawall	87.35	56	P		P	07 46 51.3	+0.7
	baz=290,SNR=30							
AHID	Auburn Hatcher	87.37	46	*e*P		P	07 46 51.3	+0.6
	comp=Z,49nm,1.2s							
LOHW	Long Hollow	87.40	45	*e*P		P	07 46 51.8	+1.0
	comp=Z,18nm,1.2s							
IRM	Iron Mountain	87.43	55	P		P	07 46 51.7	+0.8
	baz=290,SNR=24							
CCUT	Cedar City	87.63	51	*e*P		P	07 46 53.1	+1.1
	comp=Z,49nm,1.0s							
NEE2	Needles Airpor	87.63	54	P		P	07 46 52.6	+0.9
	baz=290							
CTU	Camp Tracy	87.68	48	*e*P		P	07 46 52.8	+0.7
	comp=Z,46nm,1.0s							
RLMT	Red Lodge	87.71	43	*e*P		P	07 46 53.5	+1.3
	comp=Z,32nm,1.1s							
RLMT	Red Lodge	87.71	43	P		P	07 46 53.9	+1.7
	baz=293,SNR=9.2							
NLU	North Lily Min	87.72	49	*e*P		P	07 46 53.3	+1.0
	comp=Z,52nm,1.0s							
TCUT	Toone Canyon	87.77	48	*e*P		P	07 46 53.0	+0.4
	comp=Z,46nm,0.8s							
FIA1	FINESS Array S	87.80	335	*e*P		P	07 46 49.4	-2.5
FIA0	FINESS Array S	87.80	335	*e*P		P	07 46 49.2	-2.8
FIA0	FINESS Array S	87.80	335	*e*P		P	07 46 49.2	-2.8
FINES	FINESS Array B	87.80	335	P		P	07 46 49.2	-2.8
	comp=Z,7.9nm,0.6s,baz=63,slow=4.8,SNR=23							
FINES	FINESS Array B	87.80	335	*i* P		P	07 46 49.7	-2.2
FINES					pmax	pmax		
	comp=Z,8.0nm,0.6s							
SZCU	Shurtz Canyon	87.82	51	*e*P		P	07 46 53.8	+1.0
	comp=Z,35nm,1.0s							
FFC	Flin Flon	87.85	33	*e*P		P	07 46 52.4	+0.1
	comp=Z,50nm,0.9s							
FFC	Flin Flon	87.85	33	*i* P		P	07 46 53.2	+0.9
LCMT	Little Creek M	87.91	52	*e*P		P	07 46 54.2	+1.0
	comp=Z,39nm,1.1s							
JLU	Jordanelle	87.93	48	*e*P		P	07 46 54.2	+0.9
	comp=Z,78nm,1.1s							
MPU	Maple Canyon	88.01	49	*e*P		P	07 46 54.5	+0.8
	comp=Z,53nm,1.1s							
GLA	Glamis	88.05	56	*e*P		P	07 46 55.2	+1.4
	comp=Z,30nm,0.8s							
GLA	Glamis	88.05	56	*e*P		P	07 46 55.2	+1.4
GLA					pmax	pmax		
	comp=Z,30nm,0.8s							
GLA	Glamis	88.05	56	P		P	07 46 54.8	+1.0
	baz=290,SNR=16							
Y12C	Blythe	88.05	55	*e*P		P	07 46 54.6	+0.9
	comp=Z,32nm,1.0s							
Y12C	Blythe	88.05	55	P		P	07 46 54.9	+1.2
	baz=290,SNR=16							
W13A	Hualapai Mount	88.08	54	*e*P		P	07 46 55.1	+0.9
	comp=Z,21nm,1.1s							
PDMCI	Parker Dam,Lak	88.16	55	P		P	07 46 55.1	+0.9
	baz=290,SNR=14							
MSU	Marysvale	88.16	50	*e*P		P	07 46 55.9	+1.4
MSU	Marysvale	88.16	50	*e*P		P	07 46 55.9	+1.4
KNB	Kanab	88.22	52	*e*P		P	07 46 56.1	+1.4
	comp=Z,94nm,1.1s							
KNB	Kanab	88.22	52	*e*P		P	07 46 56.1	+1.4
KNB					pmax	pmax		
	comp=Z,94nm,1.1s							
MTPU	Mount Pierson	88.33	51	*e*P		P	07 46 57.1	+1.7
	comp=Z,27nm,0.9s							
BW06	Boulder Array	88.42	45	P		P	07 46 55.8	+0.1
	baz=293							
PD31	Pinedale Array	88.43	45	*e*P		P	07 46 56.0	+0.4
PDAR	Pinedale Array	88.43	45	P		P	07 46 56.2	+0.6
	comp=Z,3.4nm,0.7s,baz=221,slow=1.5,SNR=26							
PDAR	Pinedale Array	88.43	45	*e*P		P	07 46 55.8	+0.2
PKCU	Pink Cliffs	88.45	51	*e*P		P	07 46 58.1	+2.2
	comp=Z,153nm,1.6s							
TMUT	Trail Mountain	88.58	49	*e*P		P	07 46 57.6	+1.1
	comp=Z,42nm,0.7s							
P17A	Butcher Ranch,	88.85	49	*e*P		P	07 46 59.0	+1.4
	comp=Z,56nm,1.1s							
113A	Mohawk Valley,	88.98	56	*e*P		P	07 46 59.0	+0.9
	comp=Z,28nm,1.0s							
LAO	LASA Array	89.02	41	*e*P		P	07 46 59.1	+1.0
	comp=Z,27nm,0.9s							
LAO	LASA Array	89.02	41	P		P	07 46 59.1	+1.0
	baz=295							
SRU	San Rafael Swe	89.14	49	*e*P		P	07 46 59.7	+0.7
	comp=Z,53nm,0.8s							
SRU	San Rafael Swe	89.14	49	*e*P		P	07 46 59.7	+0.7
SRU					pmax	pmax		
	comp=Z,53nm,0.8s							
P18A	Preston Nutter	89.15	49	*e*P		P	07 47 00.1	+0.9
	comp=Z,26nm,0.9s							
FCC	Fort Churchill	89.47	27	*e*P		P	07 47 00.3	+0.5
	comp=Z,41nm,1.1s							
FCC	Fort Churchill	89.47	27	*e*P		P	07 47 00.3	+0.5
FCC					pmax	pmax		
	comp=Z,41nm,1.1s							
WUAZ	Wupatki	89.85	53	*e*P		P	07 47 03.8	+1.4
	comp=Z,53nm,1.0s							
WUAZ	Wupatki	89.85	53	P		P	07 47 03.8	+1.4
	baz=292							
SUMG	Summit	89.87	1	*i* P		P	07 47 02.5	+0.5
	comp=Z,15nm,0.7s							
SUMG	Summit	89.87	1	*e*P		P	07 47 02.5	+0.5
SUMG					pmax	pmax		
	comp=Z,15nm,0.7s							
214A	Organ Pipe Nat	90.03	56	P		P	07 47 04.5	+1.4
	baz=291							
X16A	Lo Mia Camp, P	90.21	54	*e*P		P	07 47 05.2	+1.2
	comp=Z,30nm,1.4s							
O20A	White River Ci	90.37	47	*e*P		P	07 47 05.3	+0.6
	comp=Z,63nm,1.3s							
O20A	White River Ci	90.37	47	P		P	07 47 05.6	+0.8
	baz=294,SNR=26							
PV09	Paradox Valley	90.38	49	*e*P		P	07 47 05.8	+0.9
RWWY	Rawlins	90.45	46	*e*P		P	07 47 06.0	+0.8
	comp=Z,80nm,1.6s							
PV21	Cone Mtn., Par	90.47	49	*e*P		P	07 47 06.2	+1.0
	comp=Z,59nm,0.8s							
PV23	Carpenter Ridg	90.49	49	*e*P		P	07 47 06.4	+1.0
	comp=Z,111nm,0.9s							
PV10	Paradox Valley	90.50	49	*e*P		P	07 47 06.5	+1.1
PV14	Lion Creek, Pa	90.51	49	*e*P		P	07 47 06.1	+0.7
	comp=Z,109nm,0.8s							
K22A	Casper	90.52	45	*e*P		P	07 47 06.3	+1.0
	comp=Z,44nm,1.4s							
PV20	West Nyswonger	90.56	49	*e*P		P	07 47 06.3	+0.6
	comp=Z,91nm,0.9s							
PV19	Morning Glory	90.56	49	*e*P		P	07 47 06.5	+0.8
	comp=Z,83nm,0.9s							
PV05	Paradox Valley	90.57	50	*e*P		P	07 47 06.7	+1.0
PV17	East Wray Mesa	90.59	49	*e*P		P	07 47 06.5	+0.7
	comp=Z,89nm,0.9s							
PV16	Nyswonger Mesa	90.61	49	*e*P		P	07 47 06.7	+0.8
	comp=Z,68nm,0.8s							
PV22	Blue Mesa, Par	90.62	49	*e*P		P	07 47 06.6	+0.7
	comp=Z,66nm,1.4s							
PV18	Skein Mesa, Pa	90.64	49	*e*P		P	07 47 06.8	+0.7
	comp=Z,62nm,0.9s							
PV11	David Mesa, Pa	90.65	49	*e*P		P	07 47 06.8	+0.7
	comp=Z,93nm,0.8s							
PV03	Paradox Valley	90.68	49	*e*P		P	07 47 06.8	+0.6
PV12	Saucer Basin,	90.69	49	*e*P		P	07 47 07.0	+0.7
	comp=Z,90nm,1.0s							
PV13	Radium Mtn., P	90.74	49	*e*P		P	07 47 07.0	+0.5
	comp=Z,49nm,0.8s							
PV02	Paradox Valley	90.78	49	*e*P		P	07 47 07.2	+0.4
	comp=Z,51nm,0.8s							
PV01	Paradox Valley	90.93	49	*e*P		P	07 47 08.0	+0.6
W18A	Petrified Fore	91.24	53	*e*P		P	07 47 09.7	+0.8
	comp=Z,31nm,1.0s							
W18A	Petrified Fore	91.24	53	P		P	07 47 10.1	+1.3
	baz=293,SNR=26							
MVCO	Mesa Verde	91.35	50	*e*P		P	07 47 10.2	+0.8
	comp=Z,50nm,1.3s							
MVCO	Mesa Verde	91.35	50	P		P	07 47 10.2	+0.8
	baz=294							
TUC	Tucson	91.50	55	*e*P		P	07 47 11.5	+1.5
	comp=Z,25nm,1.1s							
TUC	Tucson	91.50	55	P		P	07 47 11.3	+1.3
TUC					pmax	pmax		
	comp=Z,25nm,1.1s							
TUC	Tucson	91.50	55	P		P	07 47 11.3	+1.3
	baz=292							
RSSD	Black Hills	91.52	43	*e*P		P	07 47 10.2	+0.2
	comp=Z,38nm,1.4s							
RSSD	Black Hills	91.52	43	P		P	07 47 10.6	+0.6
	baz=297							
N23A	Red Feather La	91.65	46	*e*P		P	07 47 12.1	+1.4
	comp=Z,94nm,1.1s							
N23A	Red Feather La	91.65	46	P		P	07 47 12.2	+1.4
	baz=295,SNR=36							
SMCO	Snowmass	91.65	48	*e*P		P	07 47 11.7	+0.7
	comp=Z,51nm,0.9s							
RAYN	Ar Rayn	92.08	295	*e*P		P	07 47

IDC ***27*** *07:55:54.0±0.8, 48°.69N×67°.39W, h0km, mb3.7/6, mb1 4.0/10, mb1mx3.7/46, mbtmp3.8/10, ML2.8/3, MS3.9/2, Ms1 3.9/2, ms1mx2.9/38, Error ellipse: s-maj=17.4km s-min=10.4km az=136.0*

ISCJB ***27*** *07:55:55.2±0.4, 48°.75N±0°.02×67°.43W±0°.03, h24km±4km, mb4.1/8, MS4.0/2, Error ellipse: s-maj=3.1km s-min=2.7km az=38.7*

NEIC ***27*** *07:55:56.0±0.0, 48°.82N×67°.35W, h17km, mb3.6/5, MN4.2(OTT), After OTT.*

NEIC Felt at Gaspe, Matane and Saint-Adelme. Also felt at Campbellton, New Brunswick.

OTT ***27*** *07:55:56.7±0.0, 48°.82N×67°.35W, h17km, MN4.2/43*

OTT 14km east from Matane, Qc. Felt Eastern Background Seismic Zone. Felt in Matane, Gaspe, Qc.

ISC 27 07:55:56.0±1.1, 48°.81N±0°.03×67°.38W±0°.03, h18km±4km, n164, σ1§95/266, mb3.8/8, 2C, Gaspe Peninsula

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GSQ	**Grosses Roches**	**0.20**	**59**	*e*Pg		**Pb**	**07 56 01.2**	**+0.3**
GSQ				*e*Sg		**Sb**	**07 56 04.5**	**+0.3**
GSQ	**Grosses Roches**	**0.20**	**59**	⇑PG		**Pb**	**07 56 01.2**	**+0.3**
GSQ				SG		**Sb**	**07 56 04.5**	**+0.3**
GSQ				Trac			07 56 04.6	
	comp=Z,8μm,0.1s							
CNQ	**Baie Comeau**	**0.68**	**318**	*e*Pb		**Pb**	**07 56 09.4**	**+0.2**
CNQ				*e*Sg		**Sb**	**07 56 18.7**	**+0.5**
CNQ	**Baie Comeau**	**0.68**	**318**	PG		**Pb**	**07 56 09.4**	**+0.2**
CNQ				SG		**Sb**	**07 56 18.7**	**+0.5**
CNQ				Trac			07 56 20.1	
	comp=Z,667nm,0.1s							
ICQ	**Pointe Anglais**	**0.72**	**5**	*e*Pb		**Pb**	**07 56 09.7**	**-0.3**
ICQ				*e*Sn		**Sg**	**07 56 19.3**	**-0.4**
ICQ	**Pointe Anglais**	**0.72**	**5**	⇑PG		**Pb**	**07 56 09.7**	**-0.3**
ICQ				SG		**Sg**	**07 56 19.3**	**-0.4**
ICQ				Trac			07 56 19.4	
	comp=Z,324nm,0.1s							
SMQ	**Clarke City**	**1.48**	**17**	PN		**Pn**	**07 56 22.0**	**+0.2**
SMQ				SN		**Sb**	**07 56 41.3**	**-0.2**
SMQ				Trac			07 56 42.0	
	comp=Z,511nm,0.1s							
BATG	**Bathurst New B**	**1.77**	**150**	*e*Pn		**Pn**	**07 56 26.5**	**+0.8**
BATG				*e*Sn		**Sn**	**07 56 48.4**	**+0.8**
BATG	**Bathurst New B**	**1.77**	**150**	PN		**Pn**	**07 56 26.4**	**+0.7**
BATG				SN		**Sn**	**07 56 48.3**	**+0.6**
BATG				Trac			07 56 51.5	
	comp=Z,513nm,0.1s							
A21	**Saint Andre**	**1.90**	**235**	*e*Pn		**Pn**	**07 56 28.7**	**+1.3**
A21				*e*Sn		**Sn**	**07 56 52.0**	**+1.1**
A21				*e*Sg		**Sg**	**07 56 57.5**	**+0.3**
A21	**Saint Andre**	**1.90**	**235**	PN		**Pn**	**07 56 28.7**	**+1.3**
A21				SN		**Sn**	**07 56 52.0**	**+1.1**
A21				Trac			07 56 56.9	
	comp=Z,2μm,0.2s							
A21				LG		Lg	07 56 57.5	
A64	**Saint Simeon**	**1.94**	**241**	*e*Sn		**Sn**	**07 56 52.5**	**+0.5**
A64				*e*Sg		**Sg**	**07 56 58.5**	**-0.1**
A64	**Saint Simeon**	**1.94**	**241**	SN		**Sn**	**07 56 52.5**	**+0.5**
A64				LG		Lg	07 56 58.5	
MNQ	**Manicouagan**	**1.95**	**333**	PN		**Pn**	**07 56 29.0**	**+0.8**
MNQ				SN		**Sb**	**07 56 54.1**	**-0.9**
MNQ				Trac			07 57 01.7	
	comp=Z,173nm,0.1s							
A61	**Sainte Mathild**	**2.13**	**239**	*e*Pn		**Pn**	**07 56 31.5**	**+0.9**
A61				*e*Sn		**Sn**	**07 56 57.3**	**+0.7**
A61				*e*Lg		Lg	07 57 03.8	
A61	**Sainte Mathild**	**2.13**	**239**	PN		**Pn**	**07 56 31.5**	**+0.9**
A61				SN		**Sn**	**07 56 57.3**	**+0.7**
A61				LG		Lg	07 57 03.8	
A61				Trac			07 57 04.5	
	comp=Z,578nm,0.1s							
PQI	**Presque Isle**	**2.18**	**192**	*e*Pn		**Pn**	**07 56 32.7**	**+1.4**
PQI				*e*Sn		**Sn**	**07 56 58.7**	**+0.9**
A16	**Riviere Ouelle**	**2.21**	**234**	*e*Pn		**Pn**	**07 56 33.2**	**+1.5**
A16				*e*Sn		**Sn**	**07 56 59.8**	**+1.2**
A16				*e*Lg		Lg	07 57 07.1	
A16	**Riviere Ouelle**	**2.21**	**234**	PN		**Pn**	**07 56 33.2**	**+1.5**
A16				SN		**Sn**	**07 56 59.8**	**+1.2**
A16				LG		Lg	07 57 07.1	
A16				Trac			07 57 07.8	
	comp=Z,844nm,0.2s							
LMQ	**La Malbaie**	**2.34**	**239**	*e*Pn		**Pn**	**07 56 34.6**	**+1.0**
LMQ				*e*Sn		**Sn**	**07 57 02.7**	**+0.9**
LMQ				*e*Lg		Lg	07 57 10.8	
LMQ	**La Malbaie**	**2.34**	**239**	PN		**Pn**	**07 56 34.6**	**+1.0**
LMQ				SN		**Sn**	**07 57 02.7**	**+0.9**
LMQ				Trac			07 57 10.1	
	comp=Z,572nm,0.1s							
LMQ				LG		Lg	07 57 10.8	
A54	**Misere**	**2.44**	**238**	*e*Pn		**Pn**	**07 56 36.4**	**+1.4**
A54				*e*Sn		**Sn**	**07 57 05.0**	**+0.7**
A54				*e*Lg		Lg	07 57 14.4	
A54	**Misere**	**2.44**	**238**	PN		**Pn**	**07 56 36.4**	**+1.4**
A54				SN		**Sn**	**07 57 05.0**	**+0.7**
A54				Trac			07 57 13.5	
	comp=Z,456nm,0.1s							
A54				LG		Lg	07 57 14.4	
DAQ	**Lac Daran**	**2.71**	**253**	*e*Pn		**Pn**	**07 56 39.7**	**+1.0**
DAQ				*e*Sn		**Sn**	**07 57 11.7**	**+0.7**
DAQ	**Lac Daran**	**2.71**	**253**	PN		**Pn**	**07 56 39.7**	**+1.0**
DAQ				SN		**Sn**	**07 57 11.7**	**+0.7**
DAQ				Trac			07 57 23.4	
	comp=Z,268nm,0.2s							
DMCQ	**Dolbeau-Mistas**	**3.10**	**275**	*e*Pn		**Pn**	**07 56 44.3**	**+0.4**
DMCQ				*e*Sn		**Sn**	**07 57 20.7**	**+0.2**
DMCQ				*e*Lg		Lg	07 57 37.7	
DMCQ	**Dolbeau-Mistas**	**3.10**	**275**	PN		**Pn**	**07 56 44.3**	**+0.4**
DMCQ				SN		**Sn**	**07 57 20.7**	**+0.2**
DMCQ				Trac			07 57 37.4	
	comp=Z,737nm,0.4s							
DMCQ				LG		Lg	07 57 37.7	
BCLQ	**Boischatel**	**3.17**	**235**	*e*Sn		**Sn**	**07 57 22.4**	**+0.1**
BCLQ				*e*Lg		Lg	07 57 35.5	
BCLQ	**Boischatel**	**3.17**	**235**	SN		**Sn**	**07 57 22.4**	**+0.1**
BCLQ				LG		Lg	07 57 35.5	
MCA4	**McAdam 4**	**3.21**	**179**	PN		**Pn**	**07 56 46.4**	**+1.0**
MCA4				SN		**Sn**	**07 57 22.6**	**-0.6**
MCA4				LG		Lg	07 57 40.5	
MCA4				Trac			07 57 41.9	
	comp=Z,13nm,0.0s							
ELNB	**Elgin, New Bru**	**3.32**	**152**	PN		**Pn**	**07 56 47.2**	**+0.2**
ELNB				SN		**Sn**	**07 57 24.8**	**-1.1**
ELNB				Trac			07 57 26.6	
	comp=Z,23nm,0.1s							
QCQ	**Quebec**	**3.32**	**234**	*e*Pn		**Pn**	**07 56 48.0**	**+1.1**
QCQ				*e*Sn		**Sn**	**07 57 28.2**	**+2.2**
QCQ	**Quebec**	**3.32**	**234**	PN		**Pn**	**07 56 48.0**	**+1.1**
QCQ				SN		**Sn**	**07 57 28.2**	**+2.2**
QCQ				Trac			07 57 38.4	
	comp=Z,424nm,0.3s							
NATG	**Natashquan Que**	**3.32**	**62**	PN		**Pn**	**07 56 47.4**	**+0.4**
NATG				SN		**Sn**	**07 57 25.8**	**-0.2**
NATG				LG		Lg	07 57 40.7	
NATG				Trac			07 57 45.3	
	comp=Z,257nm,0.3s							
LMN	**Caledonia Moun**	**3.43**	**148**	*e*Pn		**Pn**	**07 56 48.5**	**0.0**
LMN				*e*Sn		**Sn**	**07 57 26.7**	**-2.0**
LMN	**Caledonia Moun**	**3.43**	**148**	PN		**Pn**	**07 56 48.8**	**+0.2**
LMN				SN		**Sn**	**07 57 28.0**	**-0.8**
LMN				Trac			07 57 29.4	
	comp=Z,45nm,0.1s							
GGN	**Saint George**	**3.71**	**174**	*e*Pn		**Pn**	**07 56 52.8**	**+0.6**
GGN				*e*Sn		**Sn**	**07 57 34.1**	**-1.3**
GGN	**Saint George**	**3.71**	**174**	PN		**Pn**	**07 56 52.9**	**+0.6**
GGN				SN		**Sn**	**07 57 34.4**	**-1.1**
GGN				Trac			07 57 38.8	
	comp=Z,88nm,0.1s							
PKME	**Peaks-Kenny Pk**	**3.78**	**201**	*e*Pn		**Pn**	**07 56 54.8**	**+1.5**
PKME				*e*Sn		**Sn**	**07 57 36.9**	**-0.3**
PKME	**Peaks-Kenny Pk**	**3.78**	**201**	PN		**Pn**	**07 56 54.5**	**+1.2**
PKME				SN		**Sn**	**07 57 36.1**	**-1.1**
PKME				Trac			07 58 05.3	
	comp=Z,224nm,0.3s							
LATQ	**La Tuque**	**3.89**	**251**	PN		**Pn**	**07 56 55.6**	**+0.7**
LATQ				SN		**Sn**	**07 57 39.3**	**-0.8**
LATQ				LG		Lg	07 58 00.8	
LATQ				Trac			07 58 01.1	
	comp=Z,218nm,0.1s							
EMMW	**East Machias**	**4.10**	**181**	*e*Pn		**Pn**	**07 56 58.4**	**+0.8**
EMMW				*e*Sn		**Sn**	**07 57 43.1**	**-2.0**
EMMW	**East Machias**	**4.10**	**181**	PN		**Pn**	**07 56 58.3**	**+0.7**
EMMW				SN		**Sn**	**07 57 43.3**	**-1.8**
WBHL	**Wabush**	**4.12**	**4**	PN		**Pn**	**07 56 58.6**	**+0.6**
WBHL				SN		**Sn**	**07 57 44.4**	**-1.2**
WBHL				Trac			07 58 04.1	
	comp=Z,81nm,0.2s							
WBHL				LG		Lg	07 58 05.6	
DPQ	**Saint Jean**	**4.22**	**242**	*e*Pn		**Pn**	**07 57 00.1**	**+0.8**
DPQ				*e*Sn		**Sn**	**07 57 47.3**	**-0.8**
DPQ	**Saint Jean**	**4.22**	**242**	PN		**Pn**	**07 57 00.1**	**+0.8**
DPQ				SN		**Sn**	**07 57 47.3**	**-0.8**
DPQ				Trac			07 58 11.2	
	comp=Z,164nm,0.2s							
BECQ	**Becancour**	**4.24**	**236**	PN		**Pn**	**07 57 00.6**	**+1.0**
BECQ				SN		**Sn**	**07 57 48.5**	**-0.2**
BECQ				LG		Lg	07 58 10.2	
BECQ				Trac			07 58 14.9	
	comp=Z,84nm,0.2s							
WVL	**Waterville**	**4.52**	**201**	*e*Pn		**Pn**	**07 57 04.8**	**+1.3**
WVL				*e*Sn		**Sn**	**07 57 53.8**	**-1.8**
STUQ	**Sainte-Ursule**	**4.61**	**239**	PN		**Pn**	**07 57 05.7**	**+1.0**
STUQ				SN		**Sn**	**07 57 56.5**	**-1.3**
STUQ				LG		Lg	07 58 17.7	
STUQ				Trac			07 58 28.9	
	comp=Z,92nm,0.2s							
CHGQ	**Chibougamau**	**4.71**	**286**	PN		**Pn**	**07 57 05.6**	**-0.4**
CHGQ				SN		**Sn**	**07 57 58.8**	**-1.3**
CHGQ				LG		Lg	07 58 23.4	
CHGQ				Trac			07 58 29.9	
	comp=Z,147nm,0.3s							
MOQ	**Mont Orford**	**4.83**	**225**	*e*Pn		**Pn**	**07 57 09.2**	**+1.4**
MOQ				*e*Sn		**Sn**	**07 58 04.1**	**+0.9**
MOQ	**Mont Orford**	**4.83**	**225**	PN		**Pn**	**07 57 09.1**	**+1.4**
MOQ				SN		**Sn**	**07 58 02.4**	**-0.9**
MOQ				Trac			07 58 33.0	
	comp=Z,143nm,0.3s							
HAL	**Halifax**	**4.92**	**147**	*e*Pn		**Pn**	**07 57 09.5**	**+0.7**
HAL				*e*Sn		**Sn**	**07 58 03.0**	**-2.3**
HAL	**Halifax**	**4.92**	**147**	PN		**Pn**	**07 57 09.3**	**+0.5**
HAL				SN		**Sn**	**07 58 02.9**	**-2.3**
HAL				Trac			07 58 04.6	
	comp=Z,92nm,0.2s							
CHEG	**Cheticamp, Nov**	**4.94**	**111**	PN		**Pn**	**07 57 09.1**	**-0.2**
CHEG				SN		**Sn**	**07 58 03.0**	**-2.9**
CHEG				Trac			07 58 06.1	
	comp=Z,48nm,0.1s							
GBN	**Guysborough**	**5.25**	**128**	*e*Pn		**Pn**	**07 57 13.5**	**0.0**
GBN				*e*Sn		**Sn**	**07 58 08.6**	**-4.9**
GBN	**Guysborough**	**5.25**	**128**	PN		**Pn**	**07 57 13.3**	**-0.2**
GBN				SN		**Sn**	**07 58 10.5**	**-3.1**
GBN				Trac			07 58 12.2	
	comp=Z,39nm,0.2s							
MNTQ	**Montreal, Queb**	**5.39**	**235**	PN		**Pn**	**07 57 15.9**	**+0.4**
MNTQ				SN		**Sn**	**07 58 14.4**	**-2.6**
MNTQ				Trac			07 58 43.0	
	comp=Z,86nm,0.2s							
MNTQ				LG		Lg	07 58 44.5	
LBNH	**Lisbon**	**5.54**	**216**	*e*Pn		**Pn**	**07 57 18.1**	**+0.5**
LBNH				*e*Sn		**Sn**	**07 58 19.4**	**-1.4**
LBNH	**Lisbon**	**5.54**	**216**	PN		**Pn**	**07 57 18.0**	**+0.5**
LBNH				SN		**Sn**	**07 58 18.2**	**-2.5**
VT1	**Waterbury**	**5.81**	**222**	*e*Pn		**Pn**	**07 57 25.4**	**+4.2**
VT1				*e*Sn		**Sn**	**07 58 27.7**	**+0.3**
FRNY	**Flat Rock**	**5.83**	**229**	*e*Pn		**Pn**	**07 57 22.1**	**+0.7**
FRNY				*e*Sn		**Sn**	**07 58 26.0**	**-1.7**
FRNY	**Flat Rock**	**5.83**	**229**	PN		**Pn**	**07 57 21.8**	**+0.4**
FRNY				SN		**Sn**	**07 58 25.1**	**-2.6**
FRNY				LG		Lg	07 58 56.9	
ALFO	**Alfred**	**6.02**	**241**	PN		**Pn**	**07 57 24.6**	**+0.5**
ALFO				SN		**Sn**	**07 58 28.8**	**-3.6**
ALFO				Trac			07 59 05.9	
	comp=Z,143nm,0.4s							
ALFO				LG		Lg	07 59 06.9	
SCHQ	**Schefferville**	**6.04**	**3**	PN		**Pn**	**07 57 23.9**	**-0.4**
	1.4nm,0.3s,baz=143,slow=4.5,SNR=16							
SCHQ				Sn		**Sn**	**07 58 29.1**	**-4.0**
	7.4nm,0.3s,baz=285,slow=20,SNR=7.5							
SCHQ				Lg		Lg	07 58 59.6	
	18nm,0.3s,baz=277,slow=14,SNR=9.6							
SCHQ	**Schefferville**	**6.04**	**3**	*e*Pn		**Pn**	**07 57 24.5**	**+0.1**
SCHQ				*e*Sn		**Sn**	**07 58 29.4**	**-3.7**
SCHQ				Lg		Lg	07 58 59.6	
SCHQ	**Schefferville**	**6.04**	**3**	PN		**Pn**	**07 57 24.0**	**-0.4**
SCHQ				SN		**Sn**	**07 58 29.5**	**-3.6**
SCHQ				Trac			07 59 10.4	
	comp=Z,402nm,0.9s							
FFD	**Franklin Falls**	**6.11**	**211**	*e*Pn		**Pn**	**07 57 26.2**	**+1.0**
FFD				*e*Sn		**Sn**	**07 58 33.2**	**-1.4**
HNH	**Hanover**	**6.13**	**216**	*e*Pn		**Pn**	**07 57 25.7**	**+0.1**
HNH				*e*Sn		**Sn**	**07 58 34.3**	**-1.0**
VABQ	**Val Des Bois**	**6.30**	**246**	PN		**Pn**	**07 57 28.1**	**+0.2**
VABQ				SN		**Sn**	**07 58 35.8**	**-3.6**
VABQ				LG		Lg	07 59 10.1	
VABQ				Trac			07 59 21.4	
	comp=Z,108nm,0.3s							
GAC	**Glen Almond**	**6.33**	**244**	*e*Pn		**Pn**	**07 57 28.5**	**+0.3**
GAC				*e*Sn		**Sn**	**07 58 37.5**	**-2.5**
GAC	**Glen Almond**	**6.33**	**244**	PN		**Pn**	**07 57 28.5**	**+0.3**
GAC				PN		**Pn**	**07 57 31.8**	**+3.5**
GAC				SN		**Sn**	**07 58 37.5**	**-2.5**
GAC				SN		**Sn**	**07 58 39.5**	**-0.5**
GAC				LG		Lg	07 59 15.5	
GAC				Trac			07 59 17.1	
	comp=Z,127nm,0.3s							
GAC				Trac			07 59 20.1	
	comp=Z,118nm,0.3s							
LSQQ	**Lebel-sur-Quev**	**6.33**	**276**	PN		**Pn**	**07 57 26.8**	**-1.6**
LSQQ				SN		**Sn**	**07 58 35.5**	**-4.7**
LSQQ				Trac			07 59 14.7	
	comp=Z,84nm,0.2s							
ORIO	**Orleans, Innes**	**6.48**	**242**	PN		**Pn**	**07 57 31.0**	**+0.6**
ORIO				SN		**Sn**	**07 58 40.4**	**-3.5**
ORIO				LG		Lg	07 59 17.3	
ORIO				Trac			07 59 20.3	
	comp=Z,117nm,0.3s							
LONY	**Lake Ozonia**	**6.49**	**232**	*e*Pn		**Pn**	**07 57 30.6**	**+0.1**
LONY				*e*Sn		**Sn**	**07 58 40.2**	**-3.8**
LONY	**Lake Ozonia**	**6.49**	**232**	PN		**Pn**	**07 57 30.6**	**+0.2**
LONY				SN		**Sn**	**07 58 40.5**	**-3.5**
ORHO	**Orleans, Herit**	**6.50**	**242**	*e*Sn		**Sn**	**07 58 42.4**	**-1.7**
ORHO				*e*Lg		Lg	07 59 22.9	
ORHO	**Orleans, Herit**	**6.50**	**242**	SN		**Sn**	**07 58 42.4**	**-1.7**
ORHO				LG		Lg	07 59 22.9	
DRLN	**Deer Lake**	**6.51**	**82**	*e*Pn		**Pn**	**07 57 30.4**	**-0.4**
DRLN				*e*Sn		**Sn**	**07 58 40.4**	**-4.1**
DRLN	**Deer Lake**	**6.51**	**82**	PN		**Pn**	**07 57 30.1**	**-0.7**
DRLN				SN		**Sn**	**07 58 40.7**	**-3.8**
DRLN				Trac			07 58 51.0	
	comp=Z,1μm,1.8s							
WBO	**Williamsburg**	**6.62**	**238**	*e*Pn		**Pn**	**07 57 32.8**	**+0.6**
WBO				*e*Sn		**Sn**	**07 58 43.8**	**-3.3**
WBO	**Williamsburg**	**6.62**	**238**	PN		**Pn**	**07 57 32.8**	**+0.6**
WBO				SN		**Sn**	**07 58 43.8**	**-3.3**
WBO				Trac			07 59 27.4	
	comp=Z,121nm,0.4s							
OTT	**Ottawa**	**6.64**	**242**	PN		**Pn**	**07 57 33.6**	**+1.1**
OTT				SN		**Sn**	**07 58 45.3**	**-2.4**
OTT				LG		Lg	07 59 23.4	
OTT				Trac			07 59 25.9	
	comp=Z,131nm,0.3s							
VLDQ	**Val d'Or**	**6.74**	**268**	*e*Pn		**Pn**	**07 57 36.0**	**+2.1**
VLDQ				*e*Sn		**Sn**	**07 58 55.1**	**+4.9**
VLDQ	**Val d'Or**	**6.74**	**268**	PN		**Pn**	**07 57 34.8**	**+0.9**
VLDQ				SN		**Sn**	**07 58 51.0**	**+0.9**
VLDQ				LG		Lg	07 59 43.7	
VLDQ				Trac			07 59 53.4	
	comp=Z,300nm,1.1s							
NCB	**Newcomb**	**6.77**	**227**	*e*Pn		**Pn**	**07 57 34.7**	**+0.3**
NCB				*e*Sn		**Sn**	**07 58 49.8**	**-1.1**
NCB	**Newcomb**	**6.77**	**227**	PN		**Pn**	**07 57 34.6**	**+0.3**
NCB				SN		**Sn**	**07 58 47.6**	**-3.3**
NCB				LG		Lg	07 59 28.7	
MATQ	**Matagami**	**6.78**	**282**	PN		**Pn**	**07 57 32.5**	**-2.0**
MATQ				SN		**Sn**	**07 58 46.3**	**-4.9**
MATQ				LG		Lg	07 59 30.7	
MATQ				Trac			07 59 40.7	
	comp=Z,189nm,0.6s							
HRV	**Adam Dziewonsk**	**6.95**	**206**	*e*Pn		**Pn**	**07 57 37.2**	**+0.4**
HRV				*e*Sn		**Sn**	**07 58 51.8**	**-3.6**
ACCN	**Adirondack Com**	**6.96**	**221**	*e*Pn		**Pn**	**07 57 37.6**	**+0.6**
ACCN				*e*Sn		**Sn**	**07 58 54.7**	**-1.0**
WES	**Weston**	**6.99**	**205**	*e*Pn		**Pn**	**07 57 37.3**	**-0.1**
ANMO	**Albuquerque**	**93.78**	**52**	P		**P**	**07 47 21.6**	**+1.0**
	baz=295							
Y22D	**IRIS PASSCAL I**	**93.79**	**53**	P		**P**	**07 47 21.7**	**+1.1**
	baz=294							
LPM	**Los Pinos Moun**	**93.91**	**52**	*e*P		**P**	**07 47 22.6**	**+1.4**
OGNE	**Ogallala**	**94.28**	**45**	P		**P**	**07 47 22.4**	**-0.3**
	baz=298							
T25A	**Trinidad**	**94.35**	**49**	*e*P		**P**	**07 47 24.4**	**+1.2**
	comp=Z,20nm,1.1s							
T25A	**Trinidad**	**94.35**	**49**	P		**P**	**07 47 23.8**	**+0.7**
	baz=296,SNR=8.1							
AGMN	**Agassiz Nation**	**94.40**	**36**	P		**P**	**07 47 22.5**	**-0.3**
	baz=303							
SUSD	**Miller**	**94.58**	**41**	P		**P**	**07 47 23.7**	**-0.1**
	baz=300							
KSCO	**Kaye Shedlock'**	**94.77**	**47**	*e*P		**P**	**07 47 25.4**	**+0.5**
	comp=Z,30nm,1.1s							
KSCO	**Kaye Shedlock'**	**94.77**	**47**	P		**P**	**07 47 25.6**	**+0.7**
	baz=297							
BR101	**Keskin Array S**	**94.86**	**314**	*e*P		**P**	**07 47 23.6**	**-1.7**
BR131	**Keskin Array S**	**94.86**	**314**	*e*P		**P**	**07 47 23.4**	**-1.9**
BR131	**Keskin Array S**	**94.86**	**314**	P		**P**	**07 47 22.9**	**-2.4**
	SNR=6.9							
BRTR	**Keskin Array B**	**94.86**	**314**	P		**P**	**07 47 23.6**	**-1.7**
	comp=Z,7.0nm,0.9s,baz=93,slow=3.8,SNR=20							
BRTR	**Keskin Array B**	**94.86**	**314**	*i* P		**P**	**07 47 23.2**	**-2.1**
BRTR				pmax		pmax		
	comp=Z,7.0nm,0.9s							
SLBS	**Sierra La Lagu**	**95.40**	**63**	*e*P		**P**	**07 47 28.1**	**+0.1**
	comp=Z,19nm,1.0s							
VNDA	**Vanda**	**95.52**	**177**	P		**P**	**07 47 25.3**	**-1.9**
	comp=Z,0.2nm,0.7s,baz=330,slow=6.9,SNR=2.8							
VNDA	**Vanda**	**95.52**	**177**	*e*P		**P**	**07 47 26.6**	**-0.6**
VNDA	**Vanda**	**95.52**	**177**	*e*P		**P**	**07 47 26.6**	**-0.6**
MNTX	**Cornudas Mount**	**95.95**	**54**	*e*P		**P**	**07 47 31.1**	**+0.8**
	comp=Z,7.4nm,0.8s							
MNTX	**Cornudas Mount**	**95.95**	**54**	P		**P**	**07 47 31.2**	**+0.8**
	baz=295							
BUR04	**Bucovina Ar. S**	**96.04**	**324**	*e*P		**P**	**07 47 28.5**	**-2.0**
ECSD	**EROS Data Cent**	**96.39**	**40**	*e*P		**P**	**07 47 32.0**	**0.0**
	comp=Z,31nm,1.8s							
ECSD	**EROS Data Cent**	**96.39**	**40**	P		**P**	**07 47 31.7**	**-0.4**
	baz=302							
BGNE	**Belgrade**	**96.62**	**43**	P		**P**	**07 47 32.5**	**-0.7**
	baz=300							
CBKS	**Cedar Bluff**	**96.85**	**46**	P		**P**	**07 47 33.6**	**-0.7**
	baz=299							
MSTX	**Muleshoe**	**96.94**	**51**	P		**P**	**07 47 35.4**	**+0.5**
	baz=297							
AMTX	**Amarillo**	**97.33**	**50**	*e*P		Pdif	07 47 37.4	+0.8
	comp=Z,18nm,0.9s							
AMTX	**Amarillo**	**97.33**	**50**	P		Pdif	07 47 37.2	+0.6
	baz=298							
F37A	**Hinrichs Farm,**	**97.67**	**37**	P		Pdif	07 47 38.1	+0.3
	baz=305							
SPMN	**Marine on St.**	**97.85**	**38**	P		**P**	**07 47 38.1**	**-0.4**
	baz=305							
F38A	**Pierce - Schro**	**97.96**	**37**	P		**P**	**07 47 38.8**	**-0.2**
	baz=306							
TX31	**Lajitas Ar. Si**	**98.29**	**56**	*e*P		Pdif	07 47 41.6	+0.6
LTX	**Lajitas**	**98.29**	**56**	*e*P		Pdif	07 47 41.2	+0.2
LTX				*e*PP		**PP**	**07 51 41.6**	**-1.7**
LTX	**Lajitas**	**98.29**	**56**	*e*P		Pdif	07 47 41.2	+0.2
LTX				*e*			07 51 41.6	
TXAR	**Lajitas Array**	**98.29**	**56**	P		Pdif	07 47 41.2	+0.2
	comp=Z,0.6nm,0.5s,baz=249,slow=3.5,SNR=6.4							
TXAR				PP		**PP**	**07 51 41.6**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=248,slow=4.8,SNR=3.7							
G39A	**Holcombe**	**98.76**	**37**	P		**P**	**07 47 42.4**	**-0.2**
	baz=306							
F40A	**Park Falls**	**98.97**	**36**	P		Pdif	07 47 43.3	-0.3
	baz=307							
G40A	**Rib Lake**	**99.32**	**36**	P		**Pdif**	**07 47 45.0**	**-0.1**
	baz=307							
I39A	**Houston**	**99.39**	**38**	P		**Pdif**	**07 47 45.1**	**-0.4**
	baz=306							
WMOK	**Wichita Mounta**	**99.50**	**49**	*e*Pdif		**Pdif**	**07 47 46.5**	**+0.3**
	comp=Z,7.5nm,1.0s							
WMOK	**Wichita Mounta**	**99.50**	**49**	*e*P		**Pdif**	**07 47 46.5**	**+0.3**
WMOK				pmax		pmax		
	comp=Z,8.0nm,1.0s							
WMOK	**Wichita Mounta**	**99.50**	**49**	P		**Pdif**	**07 47 46.5**	**+0.3**
	baz=299,SNR=6.5							
J39A	**Decorah**	**99.58**	**39**	P		**Pdif**	**07 47 45.7**	**-0.6**
	baz=306							
CLL	**Collm**	**99.84**	**332**	*e*SKSac		**SKSac**	**07 58 02.0**	**-3.4**
CLL	

WES				*e*Sn		**Sn**	07 58 55.2 -1.2
BCX	**Boston College**	**7.00**	**204**	*e*Pn		**Pn**	07 57 38.1 +0.7
BCX				*e*Sn		**Sn**	07 58 52.7 -3.8
CRLO	**Chalk River**	**7.33**	**252**	*e*Pn		**Pn**	07 57 40.8 -1.2
CRLO				*e*Sn		**Sn**	07 58 59.9 -4.7
CRLO	**Chalk River**	**7.33**	**252**	PN		**Pn**	07 57 40.8 -1.2
CRLO				SN		**Sn**	07 58 59.9 -4.7
CRLO				Trac			07 59 47.7
	comp=Z,88nm,0.5s						
QUA2	**Belchertown**	**7.40**	**210**	*e*Pn		**Pn**	07 57 42.5 -0.5
QUA2				*e*Sn		**Sn**	07 59 02.7 -3.8
PEMO	**Pembroke**	**7.41**	**249**	PN		**Pn**	07 57 42.7 -0.4
PEMO				SN		**Sn**	07 59 02.9 -3.8
PEMO				Trac			07 59 46.1
	comp=Z,120nm,0.4s						
PEMO				LG	Lg		07 59 48.1
BRYW	**Bryant College**	**7.49**	**205**	*e*Pn		**Pn**	07 57 44.1 -0.1
BRYW				*e*Sn		**Sn**	07 59 06.0 -2.5
TRY	**Troy**	**7.50**	**218**	*e*Pn		**Pn**	07 57 44.6 +0.2
TRY				*e*Sn		**Sn**	07 59 07.4 -1.4
PLVO	**Plevna**	**7.63**	**244**	*e*Pn		**Pn**	07 57 45.8 -0.4
PLVO				*e*Sn		**Sn**	07 59 08.9 -3.3
PLVO	**Plevna**	**7.63**	**244**	PN		**Pn**	07 57 46.2 0.0
PLVO				Trac			07 59 59.9
	comp=Z,75nm,0.4s						
ALGO	**Algonquin Park**	**7.79**	**253**	PN		**Pn**	07 57 47.8 -0.6
ALGO				SN		**Sn**	07 59 12.2 -3.8
ALGO				LG			08 00 05.4
WEMQ	**Wemindji, Queb**	**7.93**	**306**	PN		**Pn**	07 57 48.6 -1.6
WEMQ				SN		**Sn**	07 59 13.4 -5.9
WEMQ				Trac			07 59 51.7
	comp=Z,690nm,1.6s						
WEMQ				LG	Lg		08 00 05.4
MKVL	**Makkovik**	**8.07**	**36**	SN		Sn	07 59 13.4 -9.5
EEO	**Eldee**	**8.18**	**259**	*e*Pn		**Pn**	07 57 51.9 -1.8
EEO				*e*Sn		**Sn**	07 59 20.9 -4.7
EEO	**Eldee**	**8.18**	**259**	PN		**Pn**	07 57 51.9 -1.8
EEO				SN		**Sn**	07 59 20.9 -4.7
EEO				Trac			08 00 18.6
	comp=Z,68nm,0.3s						
DELO	**Deloro Mine**	**8.25**	**242**	PN		**Pn**	07 57 54.3 -0.3
DELO				SN		**Sn**	07 59 23.5 -3.7
DELO				LG	Lg		08 00 11.4
DELO				Trac			08 00 15.1
	comp=Z,206nm,0.8s						
YLE	**Yale**	**8.46**	**210**	*e*Pn		**Pn**	07 57 57.5 0.0
BUKO	**Buck Lake**	**8.86**	**252**	SN		**Sn**	07 59 36.4 -6.0
BUKO				LG	Lg		08 00 38.6
BINY	**Binghamton**	**8.95**	**226**	*e*Pn		**Pn**	07 58 04.1 -0.2
BINY				*e*Sn		**Sn**	07 59 39.3 -5.3
SADO	**Sadowa**	**9.02**	**248**	Pn		**Pn**	07 58 03.5 -1.7
	0.5nm,0.3s,baz=74,slow=16,SNR=7.1						
SADO				Sn		**Sn**	07 59 39.9 -6.5
	3.9nm,0.3s,baz=126,slow=11,SNR=6.1						
SADO				Lg	Lg		08 00 29.9
	6.2nm,0.3s,baz=139,slow=22,SNR=5.3						
SADO	**Sadowa**	**9.02**	**248**	*e*Pn		**Pn**	07 58 04.0 -1.3
SADO				*e*Sn		**Sn**	07 59 40.9 -5.5
SADO				*e*Lg	Lg		08 00 28.8
SADO	**Sadowa**	**9.02**	**248**	PN		**Pn**	07 58 04.2 -1.0
SADO				SN		**Sn**	07 59 41.6 -4.7
SADO				Trac			08 00 22.8
	comp=Z,383nm,1.4s						
SADO				LG	Lg		08 00 41.2
PAL	**Palisades**	**9.07**	**213**	*e*Pn		**Pn**	07 58 08.1 +2.2
ODNJ	**Ogdensburg**	**9.26**	**216**	*e*Pn		**Pn**	07 58 09.6 +1.0
KSPA	**Keystone Colle**	**9.36**	**222**	*e*Pn		**Pn**	07 58 10.8 +0.9
PKRO	**Pickering**	**9.42**	**243**	PN		**Pn**	07 58 08.8 -1.9
MMNY	**Mt. Morris Dam**	**9.54**	**234**	*e*Pn		**Pn**	07 58 13.0 +0.7
N59A	**State Game Lan**	**9.88**	**220**	*e*Pn		**Pn**	07 58 17.4 +0.3
PAGS	**Pennsylvania G**	**10.86**	**221**	*e*Pn		**Pn**	07 58 30.1 -0.3
SSPA	**Standing Stone**	**11.06**	**226**	*e*Pn		**Pn**	07 58 33.1 -0.1
M54A	**Oil Creek Stat**	**11.33**	**234**	*e*Pn		**Pn**	07 58 37.3 +0.5
O56A	**Blue Knob Stat**	**11.68**	**227**	*e*Pn		**Pn**	07 58 43.3 +1.6
N54A	**Moraine State**	**11.88**	**233**	*e*Pn		**Pn**	07 58 43.9 -0.6
N51A	**Ashland**	**13.23**	**239**	*e*Pn		**Pn**	07 59 03.6 +0.9
E43A	**Lone Tree Farm**	**13.46**	**267**	*e*Pn		**Pn**	07 59 04.2 -1.7
O52A	**Adamsville**	**13.48**	**235**	*e*Pn		**Pn**	07 59 05.4 -0.8
P53A	**Whipple**	**13.69**	**232**	*e*Pn		**Pn**	07 59 08.3 -0.8
ACSO	**Alum Creek Sta**	**14.03**	**238**	*e*Pn		**P**	07 59 18.1 -3.4
N49A	**Columbus Grove**	**14.27**	**243**	*e*Pn		**Pn**	07 59 17.3 +0.3
G43A	**Wallace**	**14.29**	**263**	*e*Pn		**Pn**	07 59 18.4 +1.1
G42A	**Mountain**	**14.79**	**264**	*e*Pn		**Pn**	07 59 23.5 -0.5
O49A	**Covington**	**14.83**	**241**	*e*Pn		**Pn**	07 59 22.0 -2.7
COWI	**Conover**	**14.96**	**268**	*e*Pn		**P**	07 59 29.8 -2.1
BLA	**Blacksburg**	**14.98**	**224**	*e*Pn		**Pn**	07 59 26.9 +0.1
FRB	**Frobisher Bay**	**14.99**	**358**	Pn		**Pn**	07 59 24.6 -2.1
	0.8nm,0.3s,baz=184,slow=14,SNR=4.5						
FRB				Sn		Sn	08 01 57.2 -15
	0.5nm,0.3s,baz=90,slow=20,SNR=2.5						
Q51A	**Peebles**	**15.07**	**236**	*e*Pn		**Pn**	07 59 27.6 -0.3
	8.8nm,0.9s						
TZTN	**Tazewell**	**17.03**	**230**	*e*Pn		**P**	07 59 54.8 0.0
	4.4nm,1.1s						
TKL	**Tuckaleechee C**	**17.84**	**229**	P		**P**	08 00 06.1 +2.4
	0.1nm,0.3s,baz=14,slow=17,SNR=1.8						
TKL				Lg	Lg		08 05 07.7
	0.4nm,0.3s,baz=136,slow=23,SNR=3.7						
ULM	**Lac du Bonnet**	**18.51**	**285**	P		**Pn**	08 00 12.7 +1.4
	0.3nm,0.3s,baz=75,slow=9.0,SNR=4.1						
ULM				S		Sn	08 03 23.8 -14
	0.3nm,0.3s,baz=3.2,slow=18,SNR=2.3						
ULM				Lg	Lg		08 05 18.8
	0.6nm,0.3s,baz=168,slow=19,SNR=4.2						
ULM	**Lac du Bonnet**	**18.51**	**285**	*e*P		**Pn**	08 00 13.4 +2.1
	2.6nm,1.0s						
ULM				S		Sn	08 03 23.8 -14
ULM				Lg	Lg		08 05 18.8
W50A	**Signal Mountai**	**18.97**	**231**	*e*P		**Pn**	08 00 17.7 +0.7
	3.7nm,0.9s						
SFJD	**Kangerlussuaq**	**20.16**	**19**	*e*P		Pn	08 00 32.0 +1.1
CCM	**Cathedral Cave**	**20.31**	**247**	*e*P		**P**	08 00 31.5 +0.7
	2.4nm,0.8s						
ECSD	**EROS Data Cent**	**20.77**	**267**	*e*P		Pn	08 00 37.8 -0.4
W39A	**Magazine**	**23.73**	**245**	*e*P		**P**	08 01 08.8 +1.9
MIAR	**Mount Ida**	**24.05**	**243**	*e*P		**P**	08 01 11.3 +1.3
YKA	**Yellowknife Ar**	**29.20**	**316**	P		**P**	08 01 56.3 +0.3
	0.5nm,0.5s,baz=93,slow=9.2,SNR=6.9						
LTX	**Lajitas**	**33.80**	**248**	*e*P		**P**	08 02 38.1 +1.1
TXAR	**Lajitas Array**	**33.80**	**248**	P		**P**	08 02 38.1 +1.1
	0.4nm,0.6s,baz=22,slow=7.8,SNR=3.1						
NVAR	**Mina Array Bea**	**37.66**	**274**	P		**P**	08 03 10.7 +0.6
	0.2nm,0.5s,baz=30,slow=7.3,SNR=2.8						
ARA0	**ARCESS Array S**	**46.32**	**29**	*e*P		**P**	08 04 23.1 +3.0
ARCES	**ARCESS Array B**	**46.32**	**29**	P		**P**	08 04 23.1 +3.0
	1.9nm,0.9s,baz=325,slow=7.7,SNR=3.5						
AKASG	**Malin Array Be**	**57.95**	**48**	LR		LR	08 29 52.5
	comp=Z,70nm,20.9s,baz=70,slow=35						
LPAZ	**La Paz**	**64.80**	**181**	P		**P**	08 06 33.6 -0.5
	1.1nm,0.6s,baz=40,slow=7.1,SNR=7.5						
TOA1	**Torodi Ar. Sit**	**66.44**	**97**	*e*P		**P**	08 06 45.0 +0.7
TORD	**Torodi Ar. Bea**	**66.45**	**97**	P		**P**	08 06 45.0 +0.7
	0.1nm,0.3s,baz=284,slow=5.8,SNR=4.0						
SONM	**Songino Array**	**83.59**	**4**	LR		LR	08 46 53.1
	comp=Z,95nm,19.8s,baz=176,slow=36						
WMQ	**Urumqi**	**85.20**	**18**	*e*P		**P**	08 08 32.5 +1.4
HHC	**Hu-ho-hao-te**	**90.72**	**1**	*e*P		**P**	08 08 58.3 +0.6
HHC				pmax		pmax	
	comp=Z,17nm,0.7s						
HHC				pmax		pmax	
	comp=Z,230nm,5.3s						
LZH	**Lanzhou**	**95.12**	**7**	*e*P		**P**	08 09 16.0 -2.1
LZH				pP		pP	08 09 22.5 -1.7
LZH				sP		sP	08 09 25.0 -1.3
LZH				*e*PP		**PP**	08 13 06.8 +0.2
LZH				pmax		pmax	
	comp=Z,26nm,1.2s						
VNDA	**Vanda**	**145.71**	**197**	PKPbc		**PKPab**	08 15 32.6 +0.1
	comp=Z,0.6nm,0.7s,baz=130,slow=2.2,SNR=6.2						
WR1	**Warramunga Arr**	**146.33**	**321**	*e*PKPdf		**PKPbc**	08 15 35.7 +0.1
WRA	**Warramunga Arr**	**146.33**	**321**	PKPbc		**PKPbc**	08 15 35.7 +0.1
	comp=Z,0.5nm,0.8s,baz=24,slow=3.0,SNR=5.2						
ASAR	**Alice Springs**	**149.80**	**319**	PKPbc		**PKPbc**	08 15 44.8 0.0
	comp=Z,0.3nm,0.5s,baz=30,slow=2.5,SNR=4.1						

*ISCJB **27** 08:02:57.1±0.5,27.˚83S±0.˚04×140.˚69E±0.˚05,h10km, Error ellipse: s-maj=7.0km s-min=5.9km az=157.4*
*IDC **27** 08:02:58.7±1.9,27.˚81S×140.˚72E,h0km, mb1 3.6/5, mb1mx3.5/37, mbtmp3.4/5, ML3.4/5, Error ellipse: s-maj=37.7km s-min=16.1km az=69.0*
*AUST **27** 08:02:59.8±0.0,27.˚84S×140.˚71E,h5km, Error ellipse: s-maj=1.3km s-min=0.9km az=276.0*

ISC 27 08:02:58.7±0.8,27.˚76S±0.˚05×140.˚66E±0.˚06,h10km,n16, σ2^{s}41/23,South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QLP	**Quilpie**	**3.39**	**71**	P	**Pn**	**08 03 53.2**	**+1.5**
	baz=3.4						
QLP				S	**Sn**	**08 04 30.3**	**-1.8**
	baz=3.4						
STKA	**Stephens Creek**	**4.19**	**169**	Pn	**Pn**	**08 04 03.4**	**+0.7**
	1.1nm,0.3s,baz=344,slow=15,SNR=11						
STKA				Pg	**Pb**	**08 04 13.4**	**+0.9**
	1.5nm,0.3s,baz=345,slow=17,SNR=13						
STKA				Sn	**Sn**	**08 04 48.1**	**-3.5**
	2.5nm,0.3s,baz=274,slow=23,SNR=2.9						
STKA				Lg	Lg	08 05 09.1	
	7.4nm,0.3s,baz=299,slow=13,SNR=4.3						
STKA	**Stephens Creek**	**4.19**	**169**	P	**Pn**	**08 04 03.1**	**+0.4**
	baz=4.1						
CMSA	**Cobar Meteorol**	**5.78**	**132**	P	**Pn**	**08 04 23.6**	**-0.9**
	baz=5.7						
HTT	**Hallett**	**5.85**	**194**	P	**Pn**	**08 04 26.7**	**+1.2**
	baz=5.8						
BBOO	**Buckleboo**	**6.42**	**217**	P	**Pn**	**08 04 34.4**	**+1.1**
	baz=6.4						
QIS	**Mount Isa**	**7.23**	**352**	P	**Pn**	**08 04 47.7**	**+3.1**
	baz=7.3						
AS17	**Alice Springs**	**7.26**	**303**	P	**Pn**	**08 04 47.8**	**+2.9**
	baz=7.3						
ASAR	**Alice Springs**	**7.33**	**302**	Pn	**Pn**	**08 04 48.9**	**+3.0**
	0.2nm,0.3s,baz=132,slow=14,SNR=9.5						
ASAR				Sn	**Sn**	**08 06 07.8**	**-1.3**
	1.6nm,0.3s,baz=122,slow=22,SNR=8.5						
ARPS	**Mount Arapiles**	**9.04**	**174**	P	**Pn**	**08 05 08.7**	**-0.7**
	baz=9.0						
CTA	**Charters Tower**	**9.19**	**35**	Pn	**Pn**	**08 05 14.3**	**+3.0**
	0.5nm,0.3s,baz=211,slow=12,SNR=4.9						
CTA				Sn	**Sn**	**08 06 51.9**	**-3.0**
	0.6nm,0.3s,baz=311,slow=20,SNR=3.6						
WR8	**Warramunga Arr**	**9.59**	**323**	P	**Pn**	**08 05 18.0**	**+1.0**
	baz=9.7						
WRA	**Warramunga Arr**	**9.69**	**322**	Pn	**Pn**	**08 05 19.7**	**+1.4**
	0.4nm,0.3s,baz=138,slow=13,SNR=28						
WRA				Sn	**Sn**	**08 07 05.8**	**-1.4**
	0.9nm,0.3s,baz=142,slow=25,SNR=9.2						
WRA				Lg	Lg	08 08 08.5	
	0.5nm,0.3s,baz=139,slow=31,SNR=4.6						
WB0	**Warramunga Arr**	**9.80**	**323**	P	**Pn**	**08 05 21.1**	**+1.2**
	baz=9.9						
FORT	**Forrest**	**11.41**	**252**	P	**Pn**	**08 05 41.7**	**0.0**
	baz=11						
FITZ	**Fitzroy Crossi**	**16.83**	**302**	Pn	**Pn**	**08 06 55.3**	**+0.7**
	0.1nm,0.3s,baz=126,slow=11,SNR=3.4						
FITZ				Sn	**Sn**	**08 09 55.5**	**-6.2**
	0.1nm,0.3s,baz=217,slow=20,SNR=2.6						

IDC 27 08:06:05.8±4.9,5.˚26S×146.˚86E,h111km±40km,mb3.4/4, mb1 3.7/6,mb1mx3.4/43,mbtmp3.9/6,Error ellipse: s-maj=38.5km s-min=31.5km az=149.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.13**	**176**	P	Pn	08 07 08.9	+2.0
	2.5nm,0.3s,baz=0.0,slow=14,SNR=5.2						
PMG				S	Sn	08 07 53.8	-0.6
	9.6nm,0.3s,baz=47,slow=18,SNR=10						
WRA	**Warramunga Arr**	**19.02**	**219**	P	P	08 10 19.4	+0.3
	1.4nm,0.3s,baz=40,slow=12,SNR=14						
ASAR	**Alice Springs**	**22.16**	**213**	P	P	08 10 53.0	+0.1
	1.9nm,0.5s,baz=46,slow=8.1,SNR=14						
FITZ	**Fitzroy Crossi**	**24.35**	**237**	P	P	08 11 13.0	-0.6
	4.3nm,0.6s,baz=73,slow=8.6,SNR=12						
VNDA	**Vanda**	**72.66**	**177**	P	P	08 17 21.7	+0.8
	0.3nm,0.6s,baz=354,slow=3.1,SNR=4.2						
ILAR	**Eielson Array**	**84.86**	**23**	P	P	08 18 26.8	-1.1
	0.2nm,0.7s,baz=255,slow=5.2,SNR=1.9						

IDC 27 08:29:29.6±2.5,20.˚40N×121.˚31E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.6/45,mbtmp3.7/4,MS3.3/1,Ms1 3.3/1, ms1mx2.4/41,Error ellipse: s-maj=240.4km s-min=21.3km az=63.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**41.19**	**319**	P	P	08 37 15.6	-0.4
	1.1nm,1.0s,baz=108,slow=9.5,SNR=3.3						
WRA	**Warramunga Arr**	**42.07**	**162**	P	P	08 37 23.4	0.0
	2.0nm,0.9s,baz=343,slow=9.0,SNR=8.6						
ZALV	**Zalesovo Beam**	**43.51**	**329**	P	P	08 37 34.8	+0.1
	0.8nm,0.6s,baz=133,slow=6.3,SNR=3.7						
AAK	**Ala-Archa**	**44.97**	**310**	LR	LR	09 00 08.0	
	comp=Z,36nm,21.4s,baz=40,slow=41						
ASAR	**Alice Springs**	**45.49**	**164**	P	P	08 37 50.6	-0.3
	0.6nm,0.8s,baz=339,slow=5.0,SNR=6.0						

*NIED **27** 08:31:00,31.˚20N×128.˚80E,h11km,Mw4.1 Best double couple: Mo1.40000×10^{15} NP1:φs176.00000°,δ71.00000°, λ-179.00000°. NP2:φs86.00000°,δ89.00000°, λ-19.00000°.*
*JMA **27** 08:31:11.4±0.3,31.˚19N×128.˚80E,h7km±3km,M4.1*
*IDC **27** 08:31:11.9±1.0,31.˚11N×128.˚82E,h0km,mb3.5/5, mb1 3.7/9,mb1mx3.6/45,mbtmp3.6/9,ML3.4/4,MS2.5/2, Ms1 2.5/2,ms1mx2.4/28,Error ellipse: s-maj=27.0km s-min=17.9km az=97.0*
*ISCJB **27** 08:31:12.2±2.0,31.˚16N±0.˚04×128.˚80E±0.˚05, h15km±14km,mb3.5/5,Error ellipse: s-maj=8.2km s-min=5.4km az=141.2*

ISC 27 08:31:11.9±2.1,31.˚15N±0.˚05×128.˚85E±0.˚06,h3km±13km, n18,σ1^{s}01/26,mb3.5/5,4C-2D,Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSJ	**Shimokoshiki**	**0.91**	**54**	⇓P	**Pg**	**08 31 28.5**	**-0.9**
JSJ				*e*S	**Sg**	**08 31 41.8**	**+0.6**
JKC	**Kuchinoerabu**	**1.34**	**120**	P	**Pn**	**08 31 37.7**	**+0.1**
JKC				S	**Sg**	**08 31 55.8**	**+0.6**
JSU	**Suzuyama**	**1.42**	**75**	⇑P	**Pn**	**08 31 38.0**	**-0.7**
JSU				*e*S	**Sb**	**08 31 57.3**	**-0.2**
JFU	**Fukue jima 2**	**1.50**	**357**	P	**Pn**	**08 31 39.1**	**-0.7**
JFU				S	**Sn**	**08 31 57.7**	**-2.2**
JNN	**Nakanoshima**	**1.57**	**146**	P	**Pn**	**08 31 40.2**	**-0.6**
JYAK	**Yakushimahirau**	**1.69**	**122**	⇑P	**Pn**	**08 31 41.4**	**-1.0**
JTN	**Tanegashima 3**	**1.90**	**105**	⇑P	**Pn**	**08 31 44.6**	**-0.6**
JTN				*e*S	**Sn**	**08 32 10.0**	**+0.4**
JMTN	**Minamitane**	**1.92**	**112**	⇑P	**Pn**	**08 31 44.9**	**-0.6**
JMTN				*e*S	**Sn**	**08 32 09.6**	**-0.5**
JTZ	**Takazaki**	**2.05**	**68**	⇓P	**Pn**	**08 31 47.0**	**-0.3**
JNU	**Nakatsue**	**2.61**	**41**	Pn	**Pn**	**08 31 57.2**	**+2.1**
	27nm,0.3s,baz=266,slow=4.7,SNR=66						
JNU				Sn	**Sb**	**08 32 31.8**	**-0.2**
	25nm,0.3s,baz=311,slow=1.6,SNR=5.4						
KSRS	**Korea Array**	**6.34**	**353**	Pn	**Pn**	**08 32 46.9**	**+0.7**
	0.6nm,0.3s,baz=175,slow=14,SNR=6.2						
KSRS				Sn	**Sn**	**08 33 57.5**	**-1.6**
	1.8nm,0.3s,baz=171,slow=25,SNR=5.6						
KSRS				Lg	Lg	08 34 30.0	
	2.4nm,0.3s,baz=170,slow=32,SNR=5.8						
KSRS				LR	LR	08 34 44.8	
	comp=Z,18nm,20.7s,baz=166,slow=34						
MJAR	**Matsushiro Arr**	**9.46**	**53**	Pn	**Pn**	**08 33 29.8**	**+0.7**
	0.3nm,0.3s,baz=240,slow=14,SNR=3.5						
MJAR				LR	LR	08 37 30.8	
	comp=Z,74nm,18.2s,baz=60,slow=40						
KLR	**Kul'dur**	**18.19**	**6**	P	**P**	**08 35 27.4**	**+1.7**
	0.0nm,0.3s,baz=163,slow=19,SNR=2.2						
SONM	**Songino Array**	**23.91**	**321**	P	**P**	**08 36 27.3**	**+0.2**
	0.7nm,0.5s,baz=129,slow=5.7,SNR=2.7						
MKAR	**Makanchi Array**	**38.83**	**307**	P	**P**	**08 38 38.9**	**+0.8**
	0.6nm,0.7s,baz=104,slow=10,SNR=3.9						
WRA	**Warramunga Arr**	**51.07**	**173**	P	**P**	**08 40 15.9**	**+0.2**
	0.9nm,0.9s,baz=352,slow=8.6,SNR=3.9						
ASAR	**Alice Springs**	**54.72**	**174**	P	**P**	**08 40 43.0**	**+0.3**
	0.7nm,0.9s,baz=4.5,slow=13,SNR=6.2						
ILAR	**Eielson Array**	**59.88**	**30**	P	**P**	**08 41 17.9**	**-0.8**
	0.2nm,0.6s,baz=284,slow=9.3,SNR=4.4						

DJA 27 08:37:28.3±0.3,3.˚3S±3.˚3×12.˚1E±.˚,h10km,M3.4/11, MLv3.4/11,Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTSI	**Tana Toraja**	**1.52**	**255**	P	Pn	08 37 54.5	-1.0
TTSI				S	Sn	08 38 15.6	+0.2
APSI	**Ampana**	**1.77**	**12**	P	Pn	08 37 57.6	-1.5
SPSI	**Sidrap Palu**	**2.00**	**229**	P	Pn	08 38 01.9	-0.2
SPSI				S	Sb	08 38 28.7	-1.0
BNSI	**Bone**	**2.09**	**214**	P	Pn	08 38 04.8	+1.3
LUWI	**Luwuk**	**2.19**	**43**	P	Pn	08 38 06.1	+1.4
BKSI	**Bulukumba**	**2.89**	**204**	P	Pn	08 38 14.4	0.0
MRSI	**Marisa**	**3.18**	**12**	P	Pn	08 38 17.0	-1.5
MPSI	**Mapaga**	**3.29**	**335**	P	Pn	08 38 19.6	-0.3
CBJI	**Citeko**	**14.87**	**255**	P	P	08 41 06.6	+2.0

*IDC **27** 08:51:33.5±0.8,35.˚08N×2.˚89W,h0km,mb3.8/8, mb1 3.9/12,mb1mx3.7/53,mbtmp3.8/12,ML4.0/4,MS2.9/4, Ms1 2.9/4,ms1mx2.6/43,Error ellipse: s-maj=24.5km s-min=15.9km az=121.0*
*SFS **27** 08:51:34.0,34.˚90N×2.˚80W,h6km,ML3.4,HASSI BERNAKE (MARRUECOS)*
*MDD **27** 08:51:34.5±0.7,35.˚01N×2.˚87W,h7km±2km,mbLg3.5/35, Error ellipse: s-maj=6.4km s-min=4.8km az=24.0,PRXIMO MDD EMS: II-III INTENSIDAD MAXIMA-ESPAA.*
*CRAAG **27** 08:51:34.0,35.˚00N×2.˚88W,Ml3.6*
*IGIL **27** 08:51:34.5,35.˚00N×2.˚89W,h6km,ML3.3*
*CNRM **27** 08:51:34.7,35.˚02N×2.˚93W,h10km,ML4.2*
*INMG **27** 08:51:35.6±1.3,35.˚05N×2.˚97W,h10km±3km,ML3.3,Error ellipse: s-maj=5.3km s-min=3.7km az=118.0*
*LDG **27** 08:51:36.3±0.3,35.˚04N×2.˚88W,h10km,Ml3.1/3,Error ellipse: s-maj=5.7km s-min=3.1km az=179.0*

ISC 27 08:51:35.7±1.0,35.˚11N±0.˚03×2.˚92W±0.˚02,h18km±5km, n142,σ1^{s}79/206,mb3.9/8,MS3.0/3,3C-6D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MELI	**Melilla**	**0.19**	**355**	⇓P	**Pg**	**08 51 39.8**	**-0.6**
	3μm,0.3s,SNR=18						
MELI				S	**Sb**	**08 51 43.9**	**+0.3**
	7μm,0.2s,SNR=7.9						
MELI	**Melilla**	**0.19**	**355**	*i* P	**Pg**	**08 51 39.8**	**-0.6**
MELI				*i* S	**Sb**	**08 51 43.6**	**0.0**
EMEL	**Melilla**	**0.19**	**350**	⇓P	**Pg**	**08 51 40.0**	**-0.5**
	2μm,0.1s,SNR=18						
EMEL				S	**Sb**	**08 51 44.4**	**+0.5**
	31μm,0.2s,SNR=7.9						
EALB	**Alboran**	**0.83**	**353**	P	**Pb**	**08 51 51.5**	**-0.2**
	446nm,0.3s,SNR=23						
EALB				S	**Sn**	**08 52 04.7**	**+0.3**
	3μm,0.3s,SNR=8.8						
MPAL	**Palemas**	**0.85**	**278**	P	**Pn**	**08 51 53.0**	**+0.2**
MPAL	**Palemas**	**0.85**	**278**	S	**Sn**	**08 52 06.3**	**+1.5**
PVLZ	**Peæn de**	**1.14**	**274**	*i* P	**Pn**	**08 51 56.6**	**-0.1**
PVLZ				*e*S	**Sg**	**08 52 13.8**	**+1.2**
OLHC	**Oulhaca**	**1.23**	**83**	P	**Sn**	**08 52 14.0**	**-0.4**
OLHC	**Oulhaca**	**1.23**	**83**	P	**Sn**	**08 52 14.0**	**-0.4**
OTSS	**Djebel Tessala**	**1.75**	**84**	P	**Pn**	**08 52 04.2**	**-1.0**
OTSS	**Djebel Tessala**	**1.75**	**84**	P	**Pn**	**08 52 04.2**	**-1.0**
EBER	**Berja**	**1.79**	**1**	P	**Pn**	**08 52 06.1**	**+0.2**
	28nm,0.4s,SNR=21						
EBER				S	**Sn**	**08 52 23.8**	**-4.4**
	700nm,0.5s,SNR=6.2						
ELGU	**Los Guajares,**	**1.85**	**342**	⇓P	**Pn**	**08 52 05.2**	**-1.5**
	27nm,0.4s,SNR=18						
ELGU				S	**Sn**	**08 52 27.6**	**-2.0**
	427nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**1.95**	**17**	P	**Pn**	**08 52 06.4**	**-1.5**
	10nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**08 52 31.4**	**-0.5**
	336nm,0.4s,SNR=7.9						
USTO	**Oran**	**2.03**	**71**	P	**Pb**	**08 52 13.0**	**+0.9**
USTO	**Oran**	**2.03**	**71**	P	**Pb**	**08 52 13.0**	**+0.9**
EMAL	**Malaga-Limoner**	**2.06**	**324**	*i* P	**Pn**	**08 52 08.2**	**-1.2**
EMAL				*e*S	**Sn**	**08 52 32.4**	**-2.2**
CEUT	**Ceuta**	**2.11**	**292**	P	**Pn**	**08 52 08.9**	**-1.2**
CEUT	**Ceuta**	**2.11**	**292**	S	**Sn**	**08 52 36.1**	**+0.1**
EQUE	**Quentar**	**2.13**	**349**	P	**Pn**	**08 52 10.9

PVAQ S Sn 08 53 33.7 -1.3
PVAQ Vaqueiros 4.50 302 P Pn 08 52 42.5 -0.6
PAB San Pablo 4.57 346 ⇑P Pn 08 52 45.4 +1.3
3.0nm,0.1s,SNR=18
PAB S Sn 08 53 36.0 -0.9
62nm,1.0s,SNR=7.9
PBDV Barranco-do-Ve 4.58 299 *e*Pn Pn 08 52 43.6 -0.5
PBDV *e*Sn Sn 08 53 35.3 -1.7
PBDV A A 08 53 50.4
26nm,0.5s
PBDV Barranco-do-Ve 4.58 299 P Pn 08 52 43.6 -0.5
PBDV S Sn 08 53 35.3 -1.7
26nm,0.5s
ESDC Sonseca Array 4.63 350 Pn Pn 08 52 46.2 +1.3
13nm,0.3s,baz=172,slow=12,SNR=49
ESDC Sn Sn 08 53 38.2 0.0
4.8nm,0.3s,baz=177,slow=23,SNR=8.3
ESDC Lg Lg 08 53 52.0
10.0nm,0.3s,baz=164,slow=27,SNR=6.7
ESDC Sonseca Array 4.63 350 P Pn 08 52 45.6 +0.8
9.7nm,0.3s,baz=173,slow=12,SNR=43
ESDC S Sn 08 53 38.2 0.0
2.5nm,0.3s,baz=176,slow=23,SNR=3.8
ECHE Chera 4.74 19 P Pn 08 52 47.1 +0.8
6.6nm,0.3s,SNR=4.0
EBAD Badajoz 4.90 319 ⇓P Pn 08 52 48.5 0.0
13nm,0.2s,SNR=18
EBAD S Sn 08 53 42.4 -2.4
41nm,0.3s,SNR=7.9
PBEJ Beja 4.94 308 *e*Pn Pn 08 52 50.2 +1.2
PBEJ *e*Sn Sn 08 53 44.6 -1.0
PBEJ A A 08 53 51.2
21nm,0.5s
PBEJ Beja 4.94 308 P Pn 08 52 50.2 +1.2
PBEJ S Sn 08 53 44.6 -1.0
10nm,0.5s
MESJ Messejana 5.07 304 *e*P Pn 08 52 50.1 -0.7
MESJ *e*S Sn 08 53 45.1 -3.8
MESJ AML AML 08 53 55.2
comp=N,39nm,0.4s
MESJ Messejana 5.07 304 *e*Pn Pn 08 52 50.3 -0.5
MESJ *e*Sn Sn 08 53 47.1 -1.8
MESJ A A 08 53 52.7
comp=N,24nm,0.5s
MESJ Messejana 5.07 304 P Pn 08 52 50.3 -0.5
MESJ S Sn 08 53 47.1 -1.8
comp=N,24nm,0.5s
MORF Marmelete 5.13 297 *e*Pn Pn 08 52 51.7 0.0
MORF *e*Sn Sn 08 53 47.5 -3.0
MORF A A 08 54 01.0
comp=N,15nm,1.0s
MORF Marmelete 5.13 297 P Pn 08 52 51.7 0.0
MORF S Sn 08 53 47.5 -3.0
comp=N,15nm,1.0s
EIBI Ibiza 5.19 40 P Pn 08 52 51.3 -1.1
comp=N,10nm,0.2s,SNR=18
EIBI S Sn 08 53 48.7 -3.1
comp=N,18nm,0.3s,SNR=7.9
PFVI Vila Bisbo 5.19 295 *e*P Pn 08 52 52.5 0.0
PFVI *e*Sn Sn 08 53 48.1 -3.9
PFVI A A 08 54 12.9
comp=N,26nm,0.6s
PFVI Vila Bisbo 5.19 295 P Pn 08 52 52.1 -0.4
comp=N,12nm,0.4s,SNR=7.9
PFVI S Sn 08 53 49.3 -2.7
comp=N,44nm,0.6s,SNR=7.9
PTEO Sao Teotonio 5.28 299 *e*Pn Pn 08 52 53.6 -0.1
PTEO *e*Sn Sn 08 53 53.0 -1.1
PTEO A A 08 54 02.7
comp=N,19nm,0.9s
PTEO Sao Teotonio 5.28 299 P Pn 08 52 53.6 -0.1
PTEO S Sn 08 53 53.0 -1.1
comp=N,9.6nm,0.9s
PESTR Estremoz 5.30 316 *e*Pn Pn 08 52 54.4 +0.4
PESTR A A 08 53 58.8
comp=N,26nm,0.5s
EVO Evora 5.33 311 *e*Pn Pn 08 52 54.7 +0.3
EVO *e*Sn Sn 08 53 54.6 -0.7
EVO Evora 5.33 311 P Pn 08 52 54.7 +0.3
EVO S Sn 08 53 54.6 -0.7
EPLA Plasencia 5.55 334 P Pn 08 52 58.2 +0.8
comp=N,7.9nm,0.2s,SNR=11
EMOS Mosqueruela 5.59 20 P Pn 08 52 59.5 +1.3
comp=N,6.5nm,0.4s,SNR=12
PMRV Marv??o 5.60 322 *e*Pn Pn 08 52 59.3 +1.2
PMRV *e*Sn Sn 08 53 58.6 -3.3
PMRV A A 08 54 18.8
comp=N,26nm,0.6s
PMRV Marv??o 5.60 322 P Pn 08 52 59.3 +1.2
PMRV S Sn 08 53 58.6 -3.3
comp=N,26nm,0.6s
GUD Guadarrama 5.61 350 P Pn 08 52 59.2 +0.8
comp=N,2.4nm,0.2s,SNR=13
GUD S Sn 08 54 00.2 -2.3
comp=N,15nm,0.7s,SNR=4.0
PCBR Castelo Branco 5.96 324 *e*Pn Pn 08 53 03.4 +0.4
PCBR *e*Sn Sn 08 54 07.5 -3.2
PCBR A A 08 54 14.2
comp=N,18nm,0.6s
PCBR Castelo Branco 5.96 324 P Pn 08 53 03.4 +0.4
PCBR S Sn 08 54 07.5 -3.2
comp=N,8.9nm,0.6s
PMST Lisbon--Monsan 6.19 308 *e*Pn Pn 08 53 06.4 +0.2
PTOM Tomar 6.28 317 *e*Pn Pn 08 53 07.8 +0.4
PTOM *e*Sn Sn 08 54 16.8 -1.9
PTOM Tomar 6.28 317 P Pn 08 53 07.8 +0.4
PTOM S Sn 08 54 16.8 -1.9
ERTA Horta de San J 6.38 23 P Pn 08 53 10.3 +1.5
comp=N,8.8nm,0.3s,SNR=11
PMAFR Mafra 6.38 309 *e*Pn Pn 08 53 09.2 +0.4
PMAFR Mafra 6.38 309 P Pn 08 53 09.5 +0.7
comp=N,6.2nm,0.2s,SNR=7.9
MTE Manteigas 6.43 327 *e*Pn Pn 08 53 10.4 +0.9
MTE *e*Sn Sn 08 54 20.6 -1.9
MTE A A 08 54 26.5
comp=N,28nm,0.7s
MTE Manteigas 6.43 327 P Pn 08 53 10.4 +0.9
MTE S Sn 08 54 20.6 -1.9
comp=N,14nm,0.7s
TTIG Tnine Tiguoga, 6.50 227 P Pn 08 53 10.5 -0.1
TTIG Tnine Tiguoga, 6.50 227 S Sn 08 54 22.0 -2.5
ETOS Mallorca 6.51 43 P Pn 08 53 09.9 -0.7
comp=N,3.0nm,0.3s,SNR=10
ETOS S Sn 08 54 21.2 -3.2
comp=N,3.7nm,0.3s,SNR=7.9
PCAS Casmilo, Conde 6.63 320 *e*Pn Pn 08 53 13.0 +0.7
PCAS *e*Sn Sn 08 54 25.7 -1.7
PCAS A A 08 55 10.2
comp=N,20nm,0.6s
PVIS Viseu 6.84 326 *e*Pn Pn 08 53 15.7 +0.5
PVIS *e*Sn Sn 08 54 29.1 -3.5
PVIS Viseu 6.84 326 P Pn 08 53 15.7 +0.5
PVIS S Sn 08 54 29.1 -3.5
MVO Moncorvo 6.86 333 *e*Pn Pn 08 53 16.1 +0.7
MVO *e*Sn Sn 08 54 28.7 -4.4
MVO A A 08 54 39.6
comp=N,30nm,0.5s
MVO Moncorvo 6.86 333 ⇑P Pn 08 53 16.2 +0.7
comp=N,16nm,0.2s,SNR=18
MVO S Sn 08 54 28.6 -4.5
comp=N,40nm,0.6s,SNR=7.9
EPOB Poblet 6.98 26 P Pn 08 53 17.2 0.0
comp=N,4.1nm,0.3s,SNR=5.6
PBRG Braganca 7.33 337 *e*Pn Pn 08 53 22.5 +0.6
PBRG *e*Sn Sn 08 54 41.3 -3.3
PBRG Braganca 7.33 337 P Pn 08 53 22.5 +0.6
PBRG S Sn 08 54 41.3 -3.3
POLO Lamas de Olo 7.34 330 *e*Pn Pn 08 53 22.5 +0.5
POLO *e*Sn Sn 08 54 41.9 -3.0
POLO A A 08 54 49.9
comp=N,7.9nm,0.5s
ECAL Calabor 7.45 337 P Pn 08 53 24.7 +1.2
comp=N,13nm,0.3s,SNR=14
ECAL S Sn 08 54 43.9 -3.7
comp=N,16nm,0.3s,SNR=7.9
PCAB Cabril 7.71 330 *e*Pn Pn 08 53 27.9 +0.7
PCAB Cabril 7.71 330 Pn Pn 08 53 27.9 +0.7
CFON Fontmartina 7.86 31 P Pn 08 53 29.3 +0.2
comp=N,3.3nm,0.3s,SNR=6.8
ETSF Etsaut 7.99 13 *e*Pn Pn 08 53 30.8 -0.2
ETSF Etsaut 7.99 13 *e*P Pn 08 53 36.3 +5.3
ETSF *e*Sn Sn 08 54 56.7 -4.3
comp=N,1.9nm,0.3s
ETSF Etsaut 7.99 13 P Pn 08 53 30.8 -0.2
ETSF S Sn 08 54 56.7 -4.3
comp=N,0.9nm,0.3s
PGAV Gavieira, Arco 8.03 330 *e*Pn Pn 08 53 32.2 +0.7
PGAV *e*Sn Sn 08 55 02.1 +0.2
PGAV A A 08 55 06.4
comp=N,13nm,0.7s
SJPF Ste Jean 8.10 9 *e*Pn Pn 08 53 32.1 -0.3
SJPF Ste Jean 8.10 9 *e*P Pn 08 53 37.5 +5.1
SJPF *e*Sn Sn 08 54 59.8 -3.8
comp=N,0.6nm,0.2s
SJPF Ste Jean 8.10 9 P Pn 08 53 32.1 -0.3
SJPF S Sn 08 54 59.8 -3.8
comp=N,0.3nm,0.2s
EPF Esparros 8.30 17 *e*Pn Pn 08 53 34.7 -0.6
EPF *e*Sn Sn 08 55 04.1 -4.5
comp=N,2.1nm,0.3s
EPF Esparros 8.30 17 P Pn 08 53 34.7 -0.6
EPF S Sn 08 55 04.1 -4.5
comp=N,1.1nm,0.3s
KEST Kesra 10.03 83 Pn Pn 08 53 59.1 +0.1
comp=N,1.0nm,0.3s,baz=275,slow=14,SNR=4.0
LASF Ste Croix 10.36 28 *e*Pn Pn 08 54 02.2 -1.3
LASF Ste Croix 10.36 28 *e*P Pn 08 54 08.8 +5.3
LASF Ste Croix 10.36 28 P Pn 08 54 02.2 -1.3
CAF Calviac 10.52 20 *e*Pn Pn 08 54 05.3 -0.3
CAF Calviac 10.52 20 P Pn 08 54 05.3 -0.3
SMRF Simiane la Rot 11.01 34 *e*Pn Pn 08 54 11.6 -0.7
SMRF Simiane la Rot 11.01 34 P Pn 08 54 11.6 -0.7
FRF La Foret Royal 11.22 38 *e*P Pn 08 54 20.3 +5.1
FRF La Foret Royal 11.22 38 P Pn 08 54 20.3 +5.1
PGF Pioggiola 11.89 48 *e*P Pn 08 54 29.8 +5.4
PGF Pioggiola 11.89 48 P Pn 08 54 29.8 +5.4
GERES GERESS Array B 18.41 37 P Pn 08 55 51.9 +1.9
comp=N,0.1nm,0.3s,baz=263,slow=7.8,SNR=2.4
GERES LR LR 09 02 17.3
comp=N,55nm,20.4s,baz=259,slow=35
TORD Torodi Ar. Bea 22.26 168 P P 08 56 31.0 -0.8
comp=N,1.4nm,0.8s,baz=353,slow=4.6,SNR=8.8
MLR Muntele Rosu 24.21 56 LR LR 09 07 27.8
comp=N,49nm,18.1s,baz=230,slow=39
NOA NORSAR Array B 27.49 15 LR LR 09 09 15.2
comp=N,22nm,18.8s,baz=335,slow=39
AKASG Malin Array Be 27.95 46 P P 08 57 24.5 -0.5
comp=N,0.5nm,0.3s,baz=243,slow=10,SNR=2.3
MMAI Mount Meron Ar 31.69 83 P P 08 57 58.3 0.0
comp=N,0.7nm,0.3s,baz=316,slow=8.0,SNR=2.8
KURBB Kurchatov Arra 58.73 47 P P 09 01 33.4 +1.1
comp=N,2.0nm,0.8s,baz=294,slow=8.0,SNR=7.1
ZALV Zalesovo Beam 61.25 42 P P 09 01 50.4 +0.9
comp=N,0.6nm,0.6s,baz=256,slow=5.3,SNR=2.9
MKAR Makanchi Array 62.41 51 P P 09 01 58.6 +1.0
comp=N,1.0nm,0.7s,baz=295,slow=6.4,SNR=6.0
YKA Yellowknife Ar 68.51 332 P P 09 02 36.5 -0.1
comp=N,0.3nm,0.5s,baz=59,slow=6.4,SNR=5.9
PDAR Pinedale Array 77.62 314 P P 09 03 32.3 +1.1
comp=N,0.3nm,0.5s,baz=54,slow=7.5,SNR=3.5
LVC Limon Verde 84.87 238 LR LR 09 42 40.9
comp=N,137nm,18.6s,baz=196,slow=36
STKA Stephens Creek 150.32 94 PKPbc **PKPbc 09 11 26.7 +0.7**
comp=N,0.5nm,0.4s,baz=309,slow=4.7,SNR=3.9

DDA ***27*** *08:56:21.7,38.60N×37.47E,h7km,Ml2.5*
ISC 27 08:56:21.3±1.0,38.60N±0.04×37.45E±0.04,h7km±7km,n9,σ1°26/15,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
DARE	**Darende-Malaty**	**0.04**	**136**	*i*	PG	**Pg**	**08 56 22.6**	**-0.3**
DARE				*i*	SG	**Sg**	**08 56 24.1**	**+0.2**
CUGUR	**Gurin_S^VAS**	**0.19**	**312**	*i*	P	**Pg**	**08 56 25.4**	**+0.2**
ELBS	**KAHRAMANMARAS**	**0.37**	**222**	*i*	P	**Pg**	**08 56 28.9**	**+0.3**
ELBS				*i*	S	**Sb**	**08 56 36.1**	**-0.3**
AKCD	**Akcadag**	**0.48**	**129**	*i*	P	**Pg**	**08 56 30.6**	**0.0**
AKCD				*i*	S	**Sb**	**08 56 41.6**	**+2.1**
HEKM	**Malatya_Hekimh**	**0.49**	**55**	*i*	P	**Pg**	**08 56 30.3**	**-0.5**
HEKM				*i*	S	**Sb**	**08 56 39.2**	**-0.7**
CUKAN	**kangal_SIVAS**	**0.72**	**1**	*i*	P	**Pb**	**08 56 36.4**	**+0.1**
CUKAN				*i*	S	**Sg**	**08 56 45.7**	**+1.2**
SVSK	**Karacayir**	**1.36**	**345**	*e*	PG	**Pn**	**08 56 45.0**	**-1.8**
PTK	**Pertek**	**1.55**	**78**	*e*	PG	**Pn**	**08 56 47.5**	**-2.0**
KELT	**Kelkit**	**2.09**	**42**	*i*	P	**Pn**	**08 56 58.4**	**+1.5**
KELT				*i*	S	**Sb**	**08 57 27.0**	**+1.1**

ISCJB ***27*** *08:59:43.3±0.5,21.42S±0.05×66.80W±0.06,h200km, mb3.6/1,Error ellipse: s-maj=9.3km s-min=5.5km az=138.9*
SJA ***27*** *08:59:43.5±0.8,21.50S×66.81W,h199km±9km,ML3.0, MW3.3*
IDC ***27*** *08:59:51.4±8.2,20.47S×66.50W,h296km±70km,mb3.4/1, mb1 3.3/2,mb1mx2.9/18,mbtmp3.9/2,Error ellipse: s-maj=113.3km s-min=85.3km az=17.0*
ISC 27 08:59:41.3±1.0,21.44S±0.06×66.82W±0.07,h200km,n22,σ2°67/25,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
YJA	**Yavi**	**1.42**	**121**	*e*	P	**Pn**	**09 00 17.6**	**+2.8**
YJA				*e*	S	**Sn**	**09 00 42.7**	**+1.9**
YJA					IAML		09 00 45.7	
comp=Z,50nm,0.3s								
HJA	**Humahuaca**	**2.19**	**144**	*e*	P	**Pn**	**09 00 25.1**	**+2.7**
HJA				*e*	S	**Sn**	**09 00 55.3**	**+1.0**
HJA					IAML		09 00 58.5	
comp=Z,69nm,0.5s								
LVC	**Limon Verde**	**2.26**	**239**	*e*	P	**Pn**	**09 00 26.6**	**+3.6**
PB09	**IPOC Station P**	**2.28**	**261**	*e*	P	**Pn**	**09 00 26.6**	**+3.6**
PB01	**IPOC Station P**	**2.52**	**278**	*e*	P	**Pn**	**09 00 28.4**	**+2.9**
PB03	**IPOC Station P**	**2.79**	**257**	*e*	P	**Pn**	**09 00 31.8**	**+3.1**
PB06	**IPOC Station P**	**2.85**	**243**	*e*	P	**Pn**	**09 00 31.4**	**+2.0**
PB07	**IPOC Station P**	**2.87**	**264**	*e*	P	**Pn**	**09 00 32.6**	**+3.0**
PB02	**IPOC Station P**	**2.87**	**272**	*e*	P	**Pn**	**09 00 32.3**	**+2.8**
PB15	**IPOC Station P**	**3.02**	**234**	*e*	P	**Pn**	**09 00 28.5**	**-3.0**
AZAP	**Zapla**	**3.21**	**150**	*e*	P	**Pn**	**09 00 35.0**	**+1.3**
AZAP					IAML		09 01 20.6	
comp=Z,35nm,0.4s								
PB04	**IPOC Station P**	**3.22**	**253**	*e*	P	**Pn**	**09 00 36.4**	**+2.7**
PB05	**IPOC Station P**	**3.44**	**245**	*e*	P	**Pn**	**09 00 36.4**	**+0.1**
SLA	**San Lorenzo**	**3.49**	**160**	*e*	P	**Pn**	**09 00 39.3**	**+2.3**
PSGCX	**Pisagua**	**3.59**	**300**	*e*	P	**Pn**	**09 00 40.0**	**+1.7**
PB16	**IPOC Station P**	**3.99**	**320**	*e*	P	**Pn**	**09 00 46.8**	**+3.2**
PB12	**IPOC Station P**	**4.33**	**310**	*e*	P	**Pn**	**09 00 48.9**	**+1.5**
PB14	**IPOC Station P**	**4.58**	**225**	*e*	P	**Pn**	**09 00 52.6**	**+1.9**
FSA	**Cafayete**	**4.72**	**171**	*e*	P	**Pn**	**09 00 54.8**	**+2.4**
LPAZ	**La Paz**	**5.27**	**346**	*e*	P	**Pn**	**09 01 02.6**	**+2.7**
LPAZ					S	**Sn**	**09 02 01.0**	**-0.7**
comp=Z,2.1nm,0.3s,baz=155,slow=8.7,SNR=64								
baz=263,slow=18,SNR=1.3								
TORD	**Torodi Ar. Bea**	**75.51**	**69**	*e*	P	**P**	**09 11 00.6**	**-3.5**
comp=Z,0.6nm,0.3s,baz=247,slow=5.7,SNR=11								
MKAR	**Makanchi Array**	**144.42**	**37**		PKP	**PKPab**	**09 18 50.4**	**-2.1**
comp=Z,0.6nm,0.6s,baz=332,slow=4.1,SNR=3.8								

IDC ***27*** *09:04:24.1±1.8,38.86N×81.21E,h0km,mb3.9/5, mb1 3.8/9,mb1mx3.6/55,mbtmp3.7/9,ML2.9/4,MS2.9/2, Ms1 2.9/2,ms1mx2.4/31,Error ellipse: s-maj=31.5km s-min=25.8km az=108.0*
ISCJB ***27*** *09:04:26.0±1.0,39.07N±0.07×81.10E±0.06,h10km, mb3.8/5,MS2.9/1,Error ellipse: s-maj=11.0km s-min=6.6km az=159.7*
BJI ***27*** *09:04:30.0,39.08N×81.06E,h16km,mb3.9/1,ML3.8/9*
NNC ***27*** *09:04:37.0±4.0,39.41N×81.14E,h24km±21km,mb3.9, mpv3.5,Error ellipse: s-maj=28.5km s-min=24.7km az=25.0*
ISC 27 09:04:28.5±1.3,39.0N±0.1×80.98E±0.06,h10km,n18,σ2°83/24,mb3.8/5,5C-4D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
PDGK	**Podgornoye**	**4.45**	**346**	⇑P		**Pn**	**09 05 39.7**	**+3.6**
4.7nm,0.4s								
PDGK				⇓Sn		**Sn**	**09 06 27.4**	**-0.6**
60nm,0.5s								
PDGK				⇑Lg		Lg	09 06 46.0	
111nm,0.5s								
MDOK	**Medeo**	**5.09**	**326**	Pn		**Pn**	**09 05 49.1**	**+4.1**
3.1nm,0.5s								
MDOK				Sn		**Sn**	**09 06 44.1**	**+0.2**
10nm,0.5s								
MDOK				Lg		Lg	09 07 12.4	
56nm,0.8s								

TKM2 Tokmak 2 5.63 315 ⇓Pn Pn 09 05 54.7 +2.3
1.3nm,0.3s
TKM2 ⇑Lg Lg 09 07 30.7
9.4nm,0.5s
AAK Ala-Archa 6.10 308 Pn Pn 09 06 01.8 +3.0
0.2nm,0.3s,baz=127,slow=10,SNR=2.6
AAK Sn Sn 09 07 04.3 -4.4
0.9nm,0.3s,baz=216,slow=14,SNR=3.8
AAK Lg Lg 09 07 44.1
1.2nm,0.3s,baz=90,slow=20,SNR=3.0
AAK Ala-Archa 6.10 308 ⇑Pg Pg 09 06 27.0 +1.7
5.4nm,0.9s
AAK ⇓Lg Lg 09 07 45.2
20nm,1.0s
WMQ Urumqi 6.96 44 *e*Pn Pn 09 06 14.8 +4.3
WMQ Sn Sn 09 07 28.0 -1.8
WMQ Sg Sg 09 08 14.0 +2.2
WMQ smax smax
comp=N,75nm,1.5s
WMQ smax smax
comp=E,120nm,1.7s
MK31 Makanchi Array 7.83 7 ⇓Pn Pn 09 06 22.8 +0.4
1.1nm,0.3s,baz=180,slow=14
MK31 ⇑Sn Sn 09 07 46.0 -5.0
2.5nm,0.3s,baz=189,slow=24,SNR=14
MKAR Makanchi Array 7.83 7 Pn Pn 09 06 22.4 0.0
1.4nm,0.3s,baz=192,slow=13,SNR=34
MKAR Sn Sn 09 07 46.1 -4.9
4.8nm,0.3s,baz=187,slow=23,SNR=19
KURBB Kurchatov Arra 11.73 352 Pn Pn 09 07 15.0 -0.8
0.0nm,0.3s,baz=177,slow=13,SNR=4.3
KURBB Lg Lg 09 10 44.6
0.0nm,0.3s,baz=154,slow=34,SNR=3.2
ZALV Zalesovo Beam 15.16 9 Pn Pn 09 08 00.4 -2.1
0.2nm,0.3s,baz=183,slow=15,SNR=2.8
BVAR Borovoye Array 15.79 336 Pn Pn 09 08 13.9 +3.1
0.4nm,0.3s,baz=136,slow=9.2,SNR=11
BVAR LR LR 09 14 48.3
comp=Z,43nm,18.6s,baz=220,slow=39
SONM Songino Array 20.38 56 P P 09 09 06.9 +1.6
0.8nm,0.6s,baz=260,slow=8.6,SNR=2.3
BRTR Keskin Array B 36.27 287 P P 09 11 31.9 -0.2
1.1nm,0.7s,baz=104,slow=7.8,SNR=3.8
KSRS Korea Array 36.59 77 LR LR 09 28 14.1
comp=Z,17nm,18.3s,baz=315,slow=39
FINES FINESS Array B 40.08 322 P P 09 12 02.4 -1.2
3.8nm,1.1s,baz=116,slow=19,SNR=2.6
ARCES ARCESS Array B 42.07 334 P P 09 12 19.0 -1.0
2.1nm,0.8s,baz=102,slow=8.7,SNR=7.7
TORD Torodi Ar. Bea 73.57 274 P P 09 16 00.2 -1.8
0.5nm,0.5s,baz=46,slow=5.2,SNR=7.5
YKA Yellowknife Ar 78.05 7 P P 09 16 25.0 -1.9
0.2nm,0.5s,baz=340,slow=6.1,SNR=5.6

IDC ***27*** *09:19:59.0±0.6,10.79S×77.54W,h76km±6km,mb3.6/11, mb1 3.9/14,mb1mx3.7/32,mbtmp4.0/14,MS3.2/2, Ms1 3.2/2,ms1mx2.7/21,Error ellipse: s-maj=24.3km s-min=6.1km az=64.0*
ISCJB ***27*** *09:19:59.6±0.6,10.75S±0.08×77.5W±0.1,h100km, mb3.7/10,Error ellipse: s-maj=19.2km s-min=7.1km az=150.3*
ISC 27 09:20:00.7±0.6,10.76S±0.09×77.5W±0.2,h100km,n26,σ2°19/24,mb3.8/10,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
NNA	**Nana 1.36 153**			P		**Pn**	**09 20 24.0**	**-1.4**
617nm,0.3s,baz=331,slow=12,SNR=954								
NNA				S		**Sn**	**09 20 39.8**	**-4.2**
1µm,0.3s,baz=324,slow=14,SNR=23								
ATAH	**Atahualpa 3.72 346**			P		**Pn**	**09 20 56.3**	**-0.2**
32nm,0.3s,baz=179,slow=3.4,SNR=144								
ATAH				S		**Sn**	**09 21 38.0**	**-1.6**
23nm,0.3s,baz=80,slow=21,SNR=3.9								
LPAZ	**La Paz 10.61 122**			P		**Pn**	**09 22 30.4**	**+0.1**
0.5nm,0.3s,baz=276,slow=11,SNR=19								
LVC	**Limon Verde 14.35 146**			P		**P**	**09 23 26.1**	**+2.5**
0.9nm,0.3s,baz=304,slow=5.9,SNR=10								
SIV	**San Ignacio 16.78 110**			P		**P**	**09 23 50.1**	**-0.2**
0.4nm,0.3s,baz=301,slow=11,SNR=23								
SIV				LR		LR	09 31 09.0	
comp=Z,122nm,18.1s,baz=87,slow=40								
PTGA	**Pitinga 20.05 61**			P		Pn	09 24 27.0	-1.7
3.8nm,0.5s,baz=223,slow=14,SNR=8.2								
PTGA				LR		LR	09 31 43.9	
comp=Z,46nm,20.9s,baz=208,slow=35								
CPUP	**Villa Florida 24.53 132**			P		**P**	**09 25 13.4**	**+2.4**
3.0nm,0.8s,baz=317,slow=9.6,SNR=9.6								
PLCA	**Paso Flores 30.47 170**			P		**P**	**09 26 04.9**	**+0.8**
1.7nm,0.9s,baz=331,slow=7.4,SNR=3.1								
TXAR	**Lajitas Array 47.20 328**			P		**P**	**09 28 24.9**	**+1.2**
0.4nm,0.6s,baz=138,slow=11,SNR=3.0								
TXAR				pP		**pP**	**09 28 44.0**	**-3.3**
0.7nm,0.7s,baz=146,slow=9.1,SNR=3.4								
PDAR	**Pinedale Array 60.82 333**			P		**P**	**09 30 03.1**	**+0.4**
0.3nm,0.6s,baz=110,slow=8.1,SNR=5.0								
NVAR	**Mina Array Bea 62.02 324**			P		**P**	**09 30 12.4**	**+1.6**
0.9nm,0.7s,baz=138,slow=7.4,SNR=11								
ULM	**Lac du Bonnet 62.85 347**			P		**P**	**09 30 15.4**	**-0.4**
0.4nm,0.8s,baz=50,slow=1.2,SNR=3.2								
DBIC	**Dimbokro 74.33 80**			P		**P**	**09 31 28.8**	**+0.8**
2.6nm,0.7s,baz=154,slow=6.5,SNR=3.3								
YKA	**Yellowknife Ar 78.50 343**			P		**P**	**09 31 51.0**	**+0.6**
0.8nm,0.6s,baz=140,slow=6.0,SNR=13								
YKA				pP		**pP**	**09 32 11.2**	**-5.0**
0.7nm,0.6s,baz=140,slow=5.8,SNR=4.9								
TORD	**Torodi Ar. Bea 82.07 75**			P		**P**	**09 32 12.6**	**+1.9**
0.4nm,0.7s,baz=267,slow=8.7,SNR=3.1								
TORD				pP		**pP**	**09 32 32.6**	**-4.0**
1.4nm,0.9s,baz=232,slow=4.9,SNR=5.4								
ILAR	**Eielson Array 91.12 336**			P		**P**	**09 32 53.7**	**-0.2**
0.4nm,0.8s,baz=145,slow=1.8,SNR=4.5								
H11N3	**WAKE ISLAND Hyl 17.55 287**			T		T	11 47 08.5	
baz=94								
H11N2	**WAKE ISLAND Hyl 17.56 287**			T		T	11 47 07.0	
baz=94								
H11N1	**WAKE ISLAND Hyl 17.56 287**			T		T	11 47 05.2	
baz=94								
H11S2	**WAKE ISLAND Hyl 17.69 285**			T		T	11 47 19.2	
baz=94,slow=74,SNR=5.4								
H11S1	**WAKE ISLAND Hyl 17.69 285**			T		T	11 47 12.0	
baz=94,slow=74,SNR=6.4								
H11S3	**WAKE ISLAND Hyl 17.71 285**			T		T	11 47 16.4	
baz=94,slow=74,SNR=5.2								
ASAR	**Alice Springs 134.04 222**			PKP		**PKPdf**	**09 39 08.3**	**+1.1**
0.4nm,0.8s,baz=111,slow=1.4,SNR=5.7								
ZALV	**Zalesovo Beam 134.67 15**			PKP		**PKPdf**	**09 39 07.1**	**-0.3**
0.5nm,0.4s,baz=336,slow=3.1,SNR=2.6								
WRA	**Warramunga Arr 136.27 226**			PKP		**PKPdf**	**09 39 13.0**	**+1.5**
0.3nm,0.4s,baz=120,slow=2.1,SNR=8.2								
KSRS	**Korea Array 144.96 324**			PKP		**PKPdf**	**09 39 26.8**	**+0.2**
2.0nm,0.7s,baz=61,slow=3.1,SNR=6.2								

AZER ***27*** *09:19:60.0±1.8,38.38N×46.46E,h18km,ml3.2/20,Error ellipse: s-maj=3.0km s-min=0.6km az=29.0*
TEH ***27*** *09:20:01.9,38.45N×46.59E,h4km,ML3.1*
ISC 27 09:20:02.4±1.2,38.45N±0.03×46.57E±0.02,h4km±11km,n31,σ0°97/45,12C-20D,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
ITBZ	**Tabriz**	**0.39**	**237**	*e*	Pg	**Pg**	**09 20 10.1**	**0.0**
ITBZ					IAMB	IAmb	09 20 16.6	
comp=E,27µm,0.2s								
ITBZ					IAMB	IAmb	09 20 16.7	
comp=N,29µm,0.2s								
ITBZ					IAMB	IAmb	09 20 16.7	
comp=Z,18µm,0.2s								
IHRS	**Heris**	**0.40**	**109**		IAMB	IAmb	09 20 17.2	
comp=E,69µm,0.2s								
IHRS				*e*	Pg	**Pg**	**09 20 09.8**	**-0.3**
IHRS					IAMB	IAmb	09 20 17.9	
comp=Z,97µm,0.1s								
IHRS					IAMB	IAmb	09 20 17.9	
comp=N,168nm,0.1s								
ORD	**Ordubad**	**0.65**	**317**	⇓P		**Pg**	**09 20 15.0**	**+0.1**
ORD				⇑S		**Sb**	**09 20 24.8**	**-1.2**
IMRD	**Marand**	**0.72**	**291**	*e*	Pg	**Pg**	**09 20 16.2**	**-0.1**
IMRD					IAMB	IAmb	09 20 29.8	
comp=N,54nm,0.1s								
IMRD					IAMB	IAmb	09 20 30.8	
comp=Z,24µm,0.4s								
IMRD					IAMB	IAmb	09 20 33.8	

	comp=E,29μm,0.3s							
ISHB	**Shabestar**	**0.76**	**258**	*e*Pg		**Pg**	**09 20 17.1**	**0.0**
ISHB				IAMB		IAmb	09 20 30.3	
	comp=N,13μm,0.2s							
ISHB				IAMB		IAmb	09 20 33.1	
	comp=E,7μm,0.2s							
ISHB				IAMB		IAmb	09 20 39.0	
	comp=E,15μm,0.4s							
IBST	**Bostanabad**	**0.79**	**161**	*e*Pg		**Pg**	**09 20 16.4**	**-1.2**
IBST				IAMB		IAmb	09 20 16.7	
	comp=E,17μm,0.1s							
IBST				IAMB		IAmb	09 20 16.7	
	comp=N,12μm,0.1s							
IBST				*e*Sg		**Sg**	**09 20 28.2**	**+0.3**
IBST				IAMB		IAmb	09 20 29.5	
	comp=E,15μm,0.2s							
ISRB	**Sarab**	**1.07**	**125**	*e*Pg		**Pg**	**09 20 21.8**	**-1.2**
ISRB				IAMB		IAmb	09 20 38.2	
	comp=Z,5μm,0.4s							
ISRB				IAMB		IAmb	09 20 40.3	
	comp=N,11μm,0.2s							
ISRB				IAMB		IAmb	09 20 42.0	
	comp=E,12μm,0.2s							
GRMI	**Germi**	**1.10**	**71**	*e*Pg		**Pg**	**09 20 22.5**	**-1.0**
NAX	**Nakhchivan**	**1.10**	**311**	⇓P		**Pg**	**09 20 23.6**	**0.0**
	SNR=22							
NAX				⇑S		**Sn**	**09 20 40.2**	**-0.3**
SBZ	**Shahbuz**	**1.23**	**320**	⇓S		**Sn**	**09 20 43.1**	**-0.6**
LRK	**Lerik**	**1.41**	**82**	⇓P		**Pn**	**09 20 28.0**	**-1.0**
	SNR=7.0							
LRK				⇑S		**Sn**	**09 20 48.3**	**+0.2**
GLBA	**Clilabad**	**1.63**	**60**	⇓P		**Pb**	**09 20 33.1**	**+0.1**
	SNR=24							
GLBA				⇑S		**Sg**	**09 20 57.7**	**+2.9**
MAKU	**Maku**	**1.72**	**302**	*e*Pn		**Pn**	**09 20 33.5**	**+0.1**
ASTR	**Astara**	**1.75**	**86**	⇑P		**Pb**	**09 20 34.5**	**-0.6**
	SNR=14							
ASTR				⇓S		**Sg**	**09 20 59.2**	**+0.6**
LKRN	**Lenkeran, Azer**	**1.75**	**81**	P		**Pb**	**09 20 34.8**	**-0.4**
	SNR=12							
LKRN				⇑S		**Sg**	**09 20 59.6**	**+0.8**
HYR	**Heyderabad**	**1.84**	**314**	⇓P		**Pn**	**09 20 34.5**	**-0.4**
HYR				⇓S		**Sg**	**09 21 00.5**	**-1.0**
BRDA	**Brd**	**1.87**	**15**	⇓S		**Sg**	**09 21 03.6**	**+1.1**
ZRD	**Zardab**	**2.02**	**25**	⇑P		**Pn**	**09 20 38.4**	**+1.1**
	SNR=3.4							
ZRD				⇓S		**Sg**	**09 21 07.1**	**-0.2**
GANJ	**Ganja**	**2.20**	**355**	⇑P		**Pn**	**09 20 40.1**	**+0.3**
	SNR=4.9							
GANJ				⇓S		**Sb**	**09 21 10.5**	**+0.1**
GDB	**GEDABAY**	**2.35**	**345**	⇑P		**Pn**	**09 20 41.9**	**-0.1**
	SNR=14							
GDB				⇓S		**Sb**	**09 21 14.6**	**-0.3**
ZNJK	**Zanjan**	**2.45**	**136**	*e*Pn		**Pn**	**09 20 43.9**	**+0.5**
QZX	**Qazax, Azerbai**	**2.76**	**341**	⇑P		**Pn**	**09 20 47.9**	**+0.4**
	SNR=5.2							
QZX				⇓S		**Sn**	**09 21 23.0**	**+1.6**
GBS	**Qobustan**	**2.78**	**41**	⇓S		**Sb**	**09 21 26.3**	**-0.8**
SEKA	**Sheki**	**2.80**	**10**	⇓P		**Pn**	**09 20 49.1**	**+1.0**
	SNR=4.5							
SEKA				⇑S		**Sb**	**09 21 26.0**	**-1.6**
PQL	**Pirkuli**	**2.81**	**33**	⇓P		**Pn**	**09 20 49.4**	**+1.0**
	SNR=3.2							
PQL				⇓S		**Sb**	**09 21 27.3**	**-0.9**
XNQ	**Khinaliq**	**2.98**	**24**	⇓P		**Pn**	**09 20 51.3**	**+0.7**
	SNR=4.3							
ATGJ	**Altiaghaj**	**3.02**	**37**	⇓P		**Pn**	**09 20 52.1**	**+0.8**
	SNR=6.5							
QUBA	**Quba, Azerbaij**	**3.26**	**26**	⇓P		**Pn**	**09 20 54.6**	**+0.3**
	SNR=3.4							
QSAR	**Qusar**	**3.33**	**23**	⇑P		**Pn**	**09 20 55.7**	**+0.4**
	SNR=3.9							
HKZM	**Kohzaman**	**3.59**	**148**	*e*Pn		**Pn**	**09 21 01.4**	**+2.2**
QABG	**Abgarm-Qazvin**	**3.65**	**138**	*e*Pn		**Pn**	**09 21 01.5**	**+1.6**
QABG				IAMB		IAmb	09 22 09.0	
	comp=Z,0.0nm,0.9s							

MEX 27 09:43:43.4±0.7,**14°12N**×**91°68W,h23**km±45km,**MD3.9, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.97**	**324**	*i* P	Pb	09 43 59.0	-2.5
THIG				*e*S	Sb	09 44 10.2	-3.6
PCIG		**2.17**	**317**	*e*P	Pn	09 44 15.7	-2.4
PCIG				*e*S	Sn	09 44 41.3	-2.9
TGIG		**2.98**	**332**	*i* P	Pn	09 44 27.1	-2.4
TGIG				*i* S	Sn	09 45 01.8	-2.8

*ISCJB **27** 09:46:07.8±0.6,38°87N±0°04×37°79E±0°05,h14km±5km, Error ellipse: s-maj=7.3km s-min=6.3km az=139.3*
*ISK **27** 09:46:07.1,38°81N×37°86E,h14km, ML2.2/7*
*DDA **27** 09:46:07.3,38°85N×37°70E,h7km, Ml2.5*
ISC 27 09:46:07.9±1.0,**38°91N**±0°04×**37°82E**±0°04,**h14**km±7km, **n11,**σ1°**34/16,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	**Malatya_Hekimh**	**0.11**	**103**	*i* P	**Pg**	**09 46 11.1**	**-0.3**
HEKM				*i* S	**Sg**	**09 46 15.5**	**+1.8**
DARE	**Darende-Malaty**	**0.43**	**219**	PG	**Pg**	**09 46 14.9**	**-1.6**
DARE				SG	**Sg**	**09 46 21.2**	**-1.0**
CUKAN	**kangal_SIVAS**	**0.50**	**326**	*i* P	**Pg**	**09 46 16.9**	**-0.9**
CUKAN				*i* S	**Sg**	**09 46 25.2**	**+0.7**
AKCD	**Akcadag**	**0.61**	**173**	*i* P	**Pg**	**09 46 19.4**	**-0.6**
AKCD				*i* S	**Sn**	**09 46 34.7**	**+2.5**
KEMA	**Kemaliye**	**0.64**	**55**	*i* P	**Pg**	**09 46 19.3**	**-1.1**
KEMA				*i* S	**Sn**	**09 46 33.5**	**+0.8**
ILIC	**ilic-Erzincan**	**0.80**	**46**	PG	**Pn**	**09 46 24.3**	**-0.6**
SVSK	**Karacayir**	**1.20**	**328**	PN	**Pn**	**09 46 30.7**	**+0.5**
PTK	**Pertek**	**1.23**	**90**	PN	**Pb**	**09 46 29.8**	**-1.2**
BNN	**Bunyan**	**1.54**	**269**	PN	**Pn**	**09 46 35.6**	**+0.4**
TOKT	**Tokat**	**1.72**	**325**	PN	**Pn**	**09 46 38.7**	**+1.1**
YOZ	**Yozgat**	**2.08**	**291**	PN	**Pn**	**09 46 43.5**	**+1.0**

*DDA **27** 09:47:39.1,37°37N×38°83E,h7km,Ml2.5*
ISC 27 09:47:38.2±1.0,**37°41N**±0°04×**38°83E**±0°06,**h6**km±6km,**n6,** σ1°**35/11,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.04**	**355**	*i* PG	**Pg**	**09 47 39.5**	**-0.1**
URFA				*i* SG	**Sg**	**09 47 40.8**	**+0.3**
SANL	**SANLIURFA_Merk**	**0.27**	**151**	*i* P	**Pg**	**09 47 44.0**	**+0.6**
SANL				*i* S	**Sg**	**09 47 48.2**	**+1.2**
SURC	**SANLIURFA_SURC**	**0.55**	**198**	*i* P	**Pg**	**09 47 49.2**	**+0.4**
SURC				*i* S	**Sb**	**09 47 57.2**	**-1.3**
AKCD	**Akcadag**	**1.14**	**321**	*i* P	**Pg**	**09 48 01.6**	**+1.5**
AKCD				*i* S	**Sn**	**09 48 18.1**	**+1.2**
MAZI	**Mazidag**	**1.29**	**87**	*e*PG	**Pn**	**09 48 02.3**	**-0.6**
MAZI				*e*SG	**Sb**	**09 48 20.3**	**+0.4**
PTK	**Pertek**	**1.55**	**17**	*e*PG	**Pn**	**09 48 04.4**	**-2.2**

*NIED **27** 09:55:00,38°30N×141°90E,h65km,Mw3.6 Best double couple: M0 3.30000×10^14 NP1:φs307.00000°,δ43.00000°, λ56.00000°. NP2:φs169.00000°,δ56.00000°,λ117.00000°.*
*ISCJB **27** 09:55:30.8±0.7,38°27N±0°04×142°03E±0°08,h67km±6km, mb3.5/7,Error ellipse: s-maj=11.1km s-min=5.5km az=15.9*
*IDC **27** 09:55:30.1±2.4,38°26N×142°38E,h48km±23km,mb3.4/7, mb1 3.7/11,mb1mx3.5/44,mbtmp3.7/11,ML3.3/4,MS2.5/2, Ms1 2.5/2,ms1mx2.3/25,Error ellipse: s-maj=27.1km s-min=15.2km az=109.0*
*JMA **27** 09:55:33.1,38°31N×141°89E,h62km±1km,M4.0*
JMA Felt II J1.
ISC 27 09:55:30.7±1.4,**38°24N**±0°05×**142°14E**±0°09,**h53**km±12km, **n34,**σ1°**27/43,mb3.5/7,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.54**	**278**	P	**Pn**	**09 55 43.7**	**+1.1**
JIKH				S	**Sn**	**09 55 51.1**	**-0.1**
JIO	**Ouri**	**0.66**	**290**	P	**Pn**	**09 55 44.8**	**+0.7**
JIO				S	**Sn**	**09 55 53.0**	**-0.8**
JKMT	**Kesennumamotoy**	**0.78**	**318**	P	**Pn**	**09 55 46.4**	**+0.8**
JKMT				S	**Sn**	**09 55 55.9**	**-0.5**
OFUJ	**Ofunato**	**0.92**	**336**	P	**Pn**	**09 55 48.6**	**+1.1**
OFUJ				S	**Sn**	**09 55 59.9**	**+0.1**
JMK	**Ichinoseki**	**1.02**	**315**	P	**Pn**	**09 55 49.3**	**+0.6**
JMK				S	**Sn**	**09 56 01.0**	**-1.0**
JOFO	**Osakifurukawao**	**1.03**	**291**	P	**Pn**	**09 55 49.2**	**+0.3**
JOFO				S	**Sn**	**09 56 01.4**	**-1.0**
JMM	**Marumori**	**1.13**	**251**	P	**Pn**	**09 55 50.4**	**+0.2**
JMM				S	**Sn**	**09 56 03.2**	**-1.5**
JOU	**Okura**	**1.17**	**277**	P	**Pn**	**09 55 50.9**	**+0.1**
JOU				S	**Sn**	**09 56 03.9**	**-1.9**
JFK	**Kawauchi**	**1.33**	**230**	P	**Pn**	**09 55 54.0**	**+1.1**
JFK				S	**Sn**	**09 56 09.6**	**0.0**
JOM	**Ohasama**	**1.40**	**332**	P	**Pn**	**09 55 54.8**	**+0.9**
JOM				S	**Sn**	**09 56 10.8**	**-0.5**
JYK	**Kaneyama**	**1.56**	**297**	P	**Pn**	**09 55 56.0**	**0.0**
JYK				S	**Sn**	**09 56 13.5**	**-1.6**
JFT	**Otama**	**1.60**	**244**	P	**Pn**	**09 55 57.6**	**+1.0**
JFT				S	**Sn**	**09 56 15.8**	**-0.3**
JYS	**Shirataka**	**1.64**	**270**	P	**Pn**	**09 55 57.3**	**+0.2**
JYS				S	**Sn**	**09 56 15.8**	**-1.2**
JRG	**Rokugo**	**1.65**	**315**	P	**Pn**	**09 55 57.9**	**+0.6**
JRG				S	**Sn**	**09 56 17.0**	**-0.4**
JYA	**Atsumi**	**1.94**	**281**	P	**Pn**	**09 56 01.2**	**0.0**
MJAR	**Matsushiro Arr**	**3.56**	**243**	P	**Pn**	**09 56 25.0**	**+1.5**
	5.0nm,0.3s,baz=69,slow=10,SNR=34						
MJAR				S	**Sn**	**09 57 08.4**	**+4.1**
	0.5nm,0.3s,baz=57,slow=26,SNR=2.3						
MJAR				LR	LR	09 57 40.6	
	comp=Z,34nm,18.0s,baz=50,slow=35						
MAT	**Matsushiro**	**3.56**	**243**	P	**Pn**	**09 56 25.6**	**+2.1**
JHJ	**Hachijo jima 2**	**5.45**	**201**	P	**Pn**	**09 56 49.3**	**-0.1**
	8.9nm,0.3s,baz=66,slow=20,SNR=4.5						
JHJ				S	**Sn**	**09 57 48.0**	**-2.8**
	16nm,0.3s,baz=73,slow=19,SNR=4.5						
ASAJ	**Asahikawa**	**5.88**	**3**	P	**Pn**	**09 56 55.2**	**-0.1**
	0.7nm,0.3s,baz=198,slow=21,SNR=7.4						
USRK	**Ussuriysk Ar.**	**9.69**	**311**	P		**09 57 48.3**	**+0.9**
	0.3nm,0.3s,baz=123,slow=14,SNR=4.7						
JNU	**Nakatsue**	**10.48**	**244**	LR	LR	10 02 22.0	
	comp=Z,39nm,19.4s,baz=78,slow=39						
H11N2	**WAKE ISLAND Hy 28.30**	**124**		T	T	10 31 33.8	
	baz=316,slow=75,SNR=60						
H11N1	**WAKE ISLAND Hy 28.31**	**124**		T	T	10 31 38.9	
	baz=316,slow=75,SNR=55						
H11N3	**WAKE ISLAND Hy 28.32**	**124**		T	T	10 31 53.8	
	baz=316,slow=75,SNR=59						
H11S1	**WAKE ISLAND Hy 29.06**	**126**		T	T	10 32 41.0	
	baz=317						
H11S3	**WAKE ISLAND Hy 29.06**	**126**		T	T	10 32 38.1	
	baz=317						
H11S2	**WAKE ISLAND Hy 29.07**	**126**		T	T	10 32 42.7	
	baz=317						
MKAR	**Makanchi Array**	**43.98**	**301**	P	**P**	**10 03 32.7**	**0.0**
	0.6nm,0.6s,baz=87,slow=8.9,SNR=4.3						
ILAR	**Eielson Array**	**48.17**	**33**	P	**P**	**10 04 05.1**	**-0.1**
	0.2nm,0.7s,baz=278,slow=6.3,SNR=2.2						
WRA	**Warramunga Arr**	**58.33**	**189**	P	**P**	**10 05 20.8**	**+0.5**
	0.8nm,0.4s,baz=5.9,slow=6.8,SNR=10						
ASAR	**Alice Springs**	**62.06**	**189**	P	**P**	**10 05 46.4**	**+0.7**
	0.5nm,0.6s,baz=6.3,slow=4.5,SNR=7.7						
ARCES	**ARCESS Array B**	**63.08**	**339**	P	**P**	**10 05 53.4**	**+1.3**
	3.2nm,1.0s,baz=62,slow=9.5,SNR=3.2						
NOA	**NORSAR Array B**	**73.30**	**337**	P	**P**	**10 06 56.5**	**+0.3**
	0.3nm,0.8s,baz=30,slow=16,SNR=2.7						
PDAR	**Pinedale Array**	**76.41**	**46**	P	**P**	**10 07 12.0**	**-2.8**
	0.1nm,0.5s,baz=299,slow=3.7,SNR=2.5						

*SFS **27** 09:58:39.0,35°00N×2°80W,h6km,ML2.8,KARIET ARKMANE (MARRUECOS)*
*IGIL **27** 09:58:39.7,35°00N×2°89W,h0km,ML2.8*
*MDD **27** 09:58:40.1±0.9,35°03N×2°84W,h7km±3km,mbLg3.1/28, Error ellipse: s-maj=7.8km s-min=7.4km az=89.0,PRXIMO MDD EMS: II ÍNTENSIDAD MAXIMA-ESPAA.*
*CNRM **27** 09:58:40.8,35°06N×2°94W,h10km,ML3.8*
*ISCJB **27** 09:58:41.0±0.6,35°14N±0°03×2°93W±0°03,h28km±3km, Error ellipse: s-maj=6.1km s-min=3.9km az=145.2*
*INMG **27** 09:58:41.3±1.6,35°07N×2°94W,h13km±4km,ML2.9,Error ellipse: s-maj=8.1km s-min=4.9km az=124.0*
ISC 27 09:58:41.4±1.1,**35°17N**±0°04×**2°93W**±0°04,**h24**km±5km, **n74,**σ1°**78/124,5D,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MELI	**Melilla**	**0.12**	**357**	⇓P	**Pb**	**09 58 45.3**	**-1.0**
	623nm,0.1s,SNR=18						
MELI				S	**Sb**	**09 58 49.4**	**0.0**
	3μm,0.1s,SNR=7.9						
MELI	**Melilla**	**0.12**	**357**	*e*P	**Pb**	**09 58 45.2**	**-1.0**
MELI				*i* S	**Sb**	**09 58 49.2**	**-0.3**
EMEL	**Melilla**	**0.13**	**349**	⇓P	**Pb**	**09 58 45.5**	**-0.8**
	2μm,0.1s,SNR=18						
EMEL				S	**Sb**	**09 58 49.6**	**+0.1**
	7μm,0.1s,SNR=7.9						
EALB	**Alboran**	**0.77**	**353**	P	**Pn**	**09 58 56.7**	**-0.2**
	34nm,0.1s,SNR=5.7						
EALB				S	**Sn**	**09 59 09.8**	**+2.1**
	408nm,0.2s,SNR=6.7						
MPAL	**Palemas**	**0.83**	**274**	P	**Pn**	**09 58 58.9**	**+1.2**
MPAL	**Palemas**	**0.83**	**274**	S	**Sn**	**09 59 09.1**	**-0.1**
PVLZ	**Peæn de**	**1.13**	**271**	*e*P	**Pb**	**09 59 01.6**	**-0.7**
PVLZ				*e*S	**Sn**	**09 59 19.1**	**+2.7**
EBER	**Berja**	**1.73**	**1**	P	**Pn**	**09 59 10.4**	**+0.3**
	2.2nm,0.1s,SNR=4.0						
EBER				S	**Sn**	**09 59 33.1**	**+1.6**
	161nm,0.5s,SNR=9.7						
ELGU	**Los Guajares,**	**1.79**	**342**	P	**Pn**	**09 59 10.8**	**-0.1**
	3.6nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**09 59 33.2**	**+0.4**
	80nm,0.4s,SNR=7.9						
ENIJ	**Nijar,**	**1.89**	**18**	P	**Pn**	**09 59 12.0**	**-0.3**
	2.5nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	**09 59 37.1**	**+1.8**
	81nm,0.3s,SNR=7.9						
EMAL	**Malaga-Limoner**	**2.00**	**323**	*e*P	**Pn**	**09 59 13.9**	**+0.2**
EMAL				*e*S	**Sn**	**09 59 38.5**	**+0.5**
EQUE	**Quentar**	**2.07**	**349**	P	**Pb**	**09 59 16.6**	**-1.8**
	0.8nm,0.0s,SNR=7.1						
EQUE				S	**Sn**	**09 59 42.1**	**+2.1**
	49nm,0.4s,SNR=7.9						
CEUT	**Ceuta**	**2.08**	**291**	P	**Pn**	**09 59 14.2**	**-0.7**
CEUT	**Ceuta**	**2.08**	**291**	S	**Sn**	**09 59 41.0**	**+1.0**
CEU	**Ceuta**	**2.12**	**291**	P	**Pn**	**09 59 13.5**	**-1.9**
CEU				S	**Sn**	**09 59 38.0**	**-3.0**
CEU	**Ceuta**	**2.12**	**291**	*i* P	**Pn**	**09 59 13.5**	**-1.9**
CEU				*e*S	**Sn**	**09 59 38.0**	**-3.0**
EGOR	**Sierra Gorda,**	**2.16**	**334**	P	**Pn**	**09 59 16.7**	**+0.6**
	0.9nm,0.1s,SNR=4.0						
EGOR				S	**Sb**	**09 59 44.8**	**-1.6**
	67nm,0.4s,SNR=4.0						
RSA	**Sarsar**	**2.40**	**264**	P	**Pn**	**09 59 20.6**	**+1.4**
RSA	**Sarsar**	**2.40**	**264**	S	**Sn**	**09 59 48.2**	**+0.3**
EJIF	**Jimena Fronter**	**2.43**	**302**	P	**Pn**	**09 59 21.6**	**+2.0**
	8.4nm,0.2s,SNR=7.9						
IFR	**Ifrane**	**2.46**	**228**	*e*P	**Pn**	**09 59 19.3**	**-0.8**
IFR				*e*S	**Sb**	**09 59 57.8**	**+2.8**
ALJ	**Aljibe**	**2.60**	**302**	P	**Pb**	**09 59 24.8**	**-2.5**
ALJ	**Aljibe**	**2.60**	**302**	*e*P	**Pb**	**09 59 24.8**	**-2.5**
EQES	**Quesada**	**2.63**	**357**	P	**Pb**	**09 59 25.5**	**-2.5**
	1.5nm,0.1s,SNR=61						
EQES				S	**Sb**	**09 59 58.0**	**-1.9**
	76nm,0.4s,SNR=10						
LIJA	**Lijar**	**2.65**	**312**	P	**Pb**	**09 59 25.8**	**-2.6**
LIJA				S	**Sb**	**10 00 03.0**	**+2.5**
LIJA	**Lijar**	**2.65**	**312**	*i* P	**Pb**	**09 59 25.8**	**-2.6**
LIJA				*e*S	**Sb**	**10 00 03.0**	**+2.5**
SESP	**Santiago Espad**	**2.96**	**6**	⇓P	**Pn**	**09 59 29.8**	**+2.7**
	5.8nm,0.2s,SNR=18						
SESP				S	**Sn**	**10 00 05.6**	**+3.7**
	87nm,0.4s,SNR=7.9						
SESP	**Santiago Espad**	**2.96**	**6**	P	**Pn**	**09 59 29.7**	**+2.6**
SESP	**Santiago Espad**	**2.96**	**6**	S	**Sb**	**10 00 06.9**	**-2.5**
EMUR	**La Murta**	**2.99**	**26**	P	**Pn**	**09 59 27.5**	**+0.1**
	2.2nm,0.1s,SNR=9.5						
EMUR				S	**Sn**	**10 00 01.7**	**-0.8**
	25nm,0.3s,SNR=7.9						
HORN	**Hornachuelos**	**3.27**	**326**	P	**Pn**	**09 59 32.7**	**+1.5**
HORN	**Hornachuelos**	**3.27**	**326**	S	**Sb**	**10 00 14.5**	**-3.5**
EADA	**Adamuz**	**3.27**	**337**	P	**Pn**	**09 59 32.7**	**+1.5**
	0.9nm,0.1s,SNR=22						
EADA				S	**Sn**	**10 00 11.0**	**+1.6**
	28nm,0.4s,SNR=7.9						
ECAB	**El Cabril**	**3.53**	**326**	P	**Pn**	**09 59 36.1**	**+1.4**
	0.2nm,0.1s,SNR=11						
ECAB				S	**Sn**	**10 00 19.4**	**+3.7**
	9.2nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**3.64**	**17**	P	**Pn**	**09 59 38.5**	**+2.2**
	2.3nm,0.2s,SNR=18						
ETOB				S	**Sn**	**10 00 20.7**	**+2.1**
	26nm,0.5s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.98**	**312**	⇓P	**Pn**	**09 59 41.0**	**+0.1**
	2.4nm,0.1s,SNR=18						
EMIN				S	**Sn**	**10 00 27.5**	**+0.7**
	6.6nm,0.3s,SNR=7.9						
EBEN2	**Beniarda presa**	**4.13**	**31**	P	**Pn**	**09 59 44.0**	**+1.0**
	0.7nm,0.1s,SNR=7.9						
EBEN2				S	**Sn**	**10 00 30.8**	**+0.2**
	1.7nm,0.0s,SNR=7.9						
EGRO	**El Granado**	**4.37**	**304**	⇓P	**Pn**	**09 59 46.9**	**+0.6**
	4.8nm,0.1s,SNR=18						
EGRO				S	**Sn**	**10 00 37.2**	**+0.8**
	10nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**4.47**	**301**	*e*Pn	**Pn**	**09 59 48.0**	**+0.4**
PVAQ				*e*Sn	**Sn**	**10 00 38.5**	**-0.3**
PVAQ				A	A	10 00 46.5	
	21nm,0.4s						
PVAQ	**Vaqueiros**	**4.47**	**301**	P	**Pn**	**09 59 48.6**	**+1.0**
PVAQ				S	**Sn**	**10 00 39.3**	**+0.5**
PVAQ	**Vaqueiros**	**4.47**	**301**	P	**Pn**	**09 59 48.6**	**+1.0**
PAB	**San Pablo**	**4.51**	**346**	P	**Pn**	**09 59 50.4**	**+2.1**
	2.8nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**10 00 42.4**	**+2.3**
	9.0nm,0.5s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**4.55**	**299**	*e*Sn	**Sn**	**10 00 39.2**	**-1.6**
PBDV				A	A	10 00 57.6	
	8.8nm,0.6s						
PBDV	**Barranco-do-Ve**	**4.55**	**299**	S	**Sn**	**10 00 39.2**	**-1.6**
	8.8nm,0.6s						
ESDC	**Sonseca Array**	**4.57**	**350**	P	**Pn**	**09 59 51.8**	**+2.7**
	1.6nm,0.2s,baz=173,slow=12,SNR=13						
ESDC				S	**Sn**	**10 00 42.9**	**+1.4**
	baz=193,slow=38,SNR=7.9						
EBAD	**Badajoz**	**4.85**	**319**	P	**Pn**	**09 59 54.1**	**+1.3**
	1.9nm,0.1s,SNR=21						
EBAD				S	**Sn**	**10 00 48.4**	**+0.1**
	17nm,0.2s,SNR=7.9						
PBEJ	**Beja**	**4.89**	**307**	*e*Pn	**Pn**	**09 59 55.9**	**+2.4**
PBEJ				*e*Sn	**Sn**	**10 00 51.2**	**+1.9**
PBEJ				A	A	10 00 57.2	
	13nm,0.6s						
PBEJ	**Beja**	**4.89**	**307**	P	**Pn**	**09 59 55.9**	**+2.4**
PBEJ				S	**Sn**	**10 00 51.2**	**+1.9**
	6.3nm,0.6s						
MESJ	**Messejana**	**5.03**	**304**	*e*P	**Pn**	**09 59 55.6**	**+0.3**
MESJ				*e*S	**Sn**	**10 00 51.4**	**-1.3**
MESJ				AML	AML	10 00 56.5	
	comp=N,14nm,0.6s						
MESJ	**Messejana**	**5.03**	**304**	*e*Pn	**Pn**	**09 59 55.9**	**+0.6**
MESJ				*e*Sn	**Sn**	**10 00 53.6**	**+0.9**
MESJ				A	A	10 00 57.9	
	comp=N,11nm,0.5s						
MESJ	**Messejana**	**5.03**	**304**	P	**Pn**	**09 59 55.9**	**+0.6**
MESJ				S	**Sn**	**10 00 53.6**	**+0.9**
	comp=N,11nm,0.5s						
EIBI	**Ibiza**	**5.14**	**40**	P	**Pn**	**09 59 57.2**	**+0.3**
	comp=N,0.5nm,0.0s,SNR=7.3						
EIBI				S	**Sn**	**10 00 54.4**	**-1.1**
	comp=N,11nm,0.5s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.16**	**294**	*e*Pn	**Pn**	**09 59 57.4**	**+0.2**
PESTR	**Estremoz**	**5.25**	**316**	*e*Pn	**Pn**	**10 00 00.1**	**+1.7**
PESTR	**Estremoz**	**5.25**	**316**	P	**Pn**	**09 59 58.8**	**+0.4**
PESTR	**Estremoz**	**5.25**	**316**	S	**Sn**	**10 01 01.7**	**+3.6**
EVO	**Evora**	**5.28**	**311**	*e*Pn	**Pn**	**10 00 02.1**	**+3.3**
EVO				*e*Sn	**Sn**	**10 01 00.2**	**+1.3**
EVO				A	A	10 01 07.0	
	comp=N,11nm,0.4s						
EVO	**Evora**	**5.28**	**311**	P	**Pn**	**10 00 02.1**	**+3.3**
EVO				S	**Sn**	**10 01 00.2**	**+1.3**
	comp=N,11nm,0.4s						
PMRV	**Marv??o**	**5.54**	**321**	*e*Pn	**Pn**	**10 00 04.4**	**+2.0**
PMRV				*e*Sn	**Sn**	**10 01 06.6**	**+1.2**
PMRV				A	A	10 01 24.6	
	comp=N,10nm,0.5s						
PMRV	**Marv??o**	**5.54**	**321**	P	**Pn**	**10 00 04.4**	**+2.0**
PMRV				S	**Sn**	**10 01 06.6**	**+1.2**
	comp=N,10nm,0.5s						
GUD	**Guadarrama**	**5.55**	**350**	P	**Pn**	**10 00 04.7**	**+2.1**
	comp=N,0.5nm,0.1s,SNR=6.1						
GUD				S	**Sn**	**10 01 07.5**	**+1.7**
	comp=N,2.0nm,0.4s,SNR=7.9						
PCBR	**Castelo Branco**	**5.90**	**324**	*e*Pn	**Pn**	**10 00 08.9**	**+1.6**
PCBR				*e*Sn	**Sn**	**10 01 13.8**	**-0.3**
PCBR				A	A	10 01 20.1	
	comp=N,6.2nm,0.3s						
PCBR	**Castelo Branco**	**5.90**	**324**	P	**Pn**	**10 00 08.9**	**+1.6**
PCBR				S	**Sn**	**10 01 13.8**	**-0.

ASAR	Alice Springs	45.30	130	P		P	10 19 24.2	-1.9
	0.6nm,0.6s,baz=303,slow=7.5,SNR=15							
ASAR				LR		LR	10 38 26.4	
	comp=Z,36nm,20.5s,baz=253,slow=36							
KURBB	Kurchatov Arra	48.30	344	P		P	10 19 51.2	+2.2
	0.6nm,0.3s,baz=171,slow=6.6,SNR=3.8							
ZALV	Zalesovo Beam	49.98	350	P		P	10 20 02.1	+0.4
	2.0nm,0.7s,baz=180,slow=6.3,SNR=3.8							
BVAR	Borovoye Array	52.93	340	P		P	10 20 23.3	-0.7
	0.4nm,0.4s,baz=142,slow=7.3,SNR=3.3							

UCR ***27*** *10:15:23.9±1.7, 13°.24N×92°.25W, h83km±126km, ML4.0, mb4.6(NEIC)*

MEX ***27*** *10:15:23.3±0.6, 13°.36N×92°.15W, h10km, MD4.1*

GCMT ***27*** *10:15:25.3±0.5, 13°.47N±0°.03×92°.14W±0°.05, h14km±2km, MW4.8/70, Moment Tensor Solution. s13,c13; s70,c90; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr~1.13±.14; Mθθ 1.03±.09; Mϕϕ 0.09±.07; Mrθ 0.40±.18; Mϕϕ-0.25±.05; Mϕr~1.29±.29; Best double couple: M₀1.68100×10¹⁶ NP1:ϕs322.00000°, δ71.00000°, λ-68.00000°. NP2: ϕs90.00000°, δ29.00000°, λ-138.00000°. Principal axes: T 1.4040, Plg23.0000°, Azm35.0000°; N 0.5520, Plg21.0000°, Azm134.0000°; P -1.9590, Plg58.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MOS ***27*** *10:15:26.7±0.7, 13°.68N×91°.90W, h49km, mb4.7/31 Error ellipse: s-maj=12.2km s-min=5.0km az=108.6*

NEIC ***27*** *10:15:27.3±0.2, 13°.66N×91°.98W, h35km, mb4.6/224, MD4.1(MEX), Error ellipse: s-maj=4.2km s-min=2.8km az=203.0*

ISCJB ***27*** *10:15:28.0±0.4, 13°.70N±0°.02×91°.92W±0°.02, h61km±3km, mb4.5/208, Error ellipse: s-maj=4.4km s-min=2.7km az=36.2*

IDC ***27*** *10:15:30.7±2.6, 13°.62N×91°.87W, h75km±21km, mb4.0/16, mb1 4.2/19, mb1mx4.0/40, mbtmp4.3/19, MS3.6/20, Ms1 3.6/20, ms1mx3.4/42, Error ellipse: s-maj=27.2km s-min=11.1km az=53.0*

ISC 27 10:15:27.2±1.0, 13°.56N±0°.05×92°.14W±0°.05, h46km±9km, n761, σ1§22/764, mb4.6/210, MS3.7/20, 2C-1D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.34	355	*e*Pn	Pn	10 15 47.8	-1.7
THIG				*e*Sn	Sn	10 16 06.0	-0.2
THIG		1.34	355	*i* P	Pn	10 15 47.8	-1.7
THIG				*e*S	Sn	10 16 05.8	-0.4
APG	El Apazote	2.17	48	P	Pn	10 16 02.0	+0.9
	54nm,0.3s,baz=224,slow=8.4,SNR=528						
APG				S	Sn	10 16 33.5	+6.6
	77nm,0.3s,baz=315,slow=15,SNR=5.6						
APG				LR	LR	10 17 03.3	
	comp=Z,1μm,20.8s,baz=154,slow=48						
PCIG		2.37	334	*e*Pn	Pn	10 16 00.0	-3.6
PCIG				*e*Sn	Sn	10 16 33.5	+1.9
PCIG		2.37	334	*e*P	Pn	10 16 00.9	-2.8
PCIG				*i* S	Sn	10 16 32.5	+1.0
RTR	El Retiro	2.45	82	*e*P	Pn	10 16 04.9	+0.1
CEVE	Cerro Verde	2.46	84	*e*P	Pn	10 16 04.0	-1.1
CEVE				IAML		10 16 41.6	
	comp=Z,2μm,0.5s						
SBLS	San Blas	2.46	83	*e*P	Pn	10 16 04.0	-1.1
SNJE	San Jose	2.48	83	*e*P	Pn	10 16 04.5	-0.9
BOQS	Boqueron	2.79	86	*e*P	Pn	10 16 09.2	-0.4
MRL	Marmol	2.81	57	*e*P	Pn	10 16 10.6	+0.8
UEES	San Salvador	2.82	86	*e*P	Pn	10 16 09.4	-0.5
UEES				IAML		10 16 45.8	
	comp=Z,488nm,0.3s						
SNET	Serv Nac Est T	2.83	87	*e*P	Pn	10 16 09.2	-0.8
SNET				*e*S	Sn	10 16 44.7	+1.7
SNET				*e*S		10 16 45.3	
LFU	La Fuente	2.95	86	*e*P	Pn	10 16 11.9	+0.3
LFRS	El Faro	2.99	88	*e*P	Pn	10 16 12.3	0.0
LBRS	Las Brisas	3.02	86	*e*P	Pn	10 16 12.3	-0.3
PAVA	Las Pavas	3.12	87	*e*P	Pn	10 16 13.7	-0.4
TGIG		3.33	344	*e*Pn	Pn	10 16 16.2	-0.7
TGIG				*e*Sn	Sn	10 16 54.1	-1.3
TGIG		3.33	344	*e*P	Pn	10 16 16.2	-0.7
TGIG				*i* S	Sn	10 16 56.8	+1.4
PACA	Pacayal	3.71	91	*e*P	Pn	10 16 22.9	+0.7
PACA				*e*S	Sn	10 17 06.8	+2.0
LCND	La Ca˜–ada	4.14	93	*e*P	Pn	10 16 27.3	-0.7
LCND				*e*S	Sn	10 17 15.3	+0.1
CNCH	Conchagua	4.20	93	*e*P	Pn	10 16 27.1	-1.8
CMIG	Matias Romero	4.39	323	P	Pn	10 16 28.6	-2.9
	comp=Z,2.8nm,0.3s,baz=155,slow=12,SNR=55						
CMIG				S	Sn	10 17 18.6	-2.8
	comp=Z,9.6nm,0.3s,baz=163,slow=14,SNR=8.1						
CMIG				LR	LR	10 18 23.7	
	comp=Z,857nm,20.0s,baz=140,slow=38						
CSGN	Cosiguina Volc	4.50	97	*e*Pn	Pn	10 16 32.6	-0.3
CSGN				*e*Sn	Sn	10 17 23.9	-0.2
CSGN	Cosiguina Volc	4.50	97	*i* P	Pn	10 16 32.9	0.0
CSGN				*e*S	Sn	10 17 23.0	-1.1
CSGN				IAML		10 17 37.6	
	comp=N,844nm,0.5s						
CRIN	San Cristobal	5.03	99	*e*P	Pn	10 16 39.4	-0.9
CNGN	Cerro Negro	5.41	101	*e*P	Pn	10 16 43.2	-2.2
MOMN	Momotombo	5.58	101	*e*P	Pn	10 16 45.8	-1.9
COPN	Copaltepe	5.58	104	*e*P	Pn	10 16 47.7	-2.1
ESTN	Estel	5.64	94	*e*Pn	Pn	10 16 47.2	-1.4
ESTN				*e*Sn	Sn	10 17 50.9	-1.2
ESTN	Estel	5.64	94	*e*P	Pn	10 16 47.4	-1.2
MATN	Matagalpa	6.08	95	*i* P	Pn	10 16 53.2	-1.5
BOAB	BOACO BROADBAN	6.41	99	*e*Pn	Pn	10 16 56.5	-2.6
BOAB	BOACO BROADBAN	6.41	99	‖ *i*P	Pn	10 16 57.3	-1.8
ACON	Acoyapa	6.98	102	*e*P	Pn	10 17 04.5	-2.4
TLIG	Tlapa	7.36	304	*e*Pn	Pn	10 17 11.2	-1.1
TEIG	Tepich	7.59	29	*e*Pn	Pn	10 17 14.6	-0.7
MYIG	MÖrida	7.70	17	*e*Pn	Pn	10 17 17.0	+0.2
JTS	JuntasAbangare	7.75	114	P	Pn	10 17 17.9	+0.4
	comp=N,3.3nm,0.3s,baz=20,slow=15,SNR=17						
JTS				S	Sn	10 18 46.1	+2.1
	comp=N,3.0nm,0.3s,baz=0.8,slow=20,SNR=4.4						
JTS	JuntasAbangare	7.75	114	*e*Pn	Pn	10 17 17.6	+0.1
JTS	JuntasAbangare	7.75	114	*i* P	Pn	10 17 16.0	-1.5
ESPN	Las Esperanzas	7.76	99	*e*Pn	Pn	10 17 16.2	-1.5
ESPN	Las Esperanzas	7.76	99	*e*P	Pn	10 17 16.4	-1.3
HDC	Heredia	8.62	113	*e*Pn	Pn	10 17 30.4	+0.9
UNM	Universidad Na	8.86	311	*e*Pn	Pn	10 17 33.3	+0.3
UNM	Universidad Na	8.86	311	*e*P	Pn	10 17 33.3	+0.3
MOIG	Morelia	10.59	306	*e*Pn	Pn	10 17 57.2	+0.5
JRQG	Juriquilla Cam	10.65	313	*e*Pn	Pn	10 17 56.3	-1.2
LNIG	Linares	13.22	330	*e*Pn	Pn	10 18 32.3	-0.1
ZAIG	Zacatecas	13.48	314	*e*Pn	Pn	10 18 36.8	+0.5
PAYG	Puerto Ayora	14.26	172	*e*Pn	Pn	10 18 49.3	+2.7
833A	Chaparral WMA,	16.17	336	*e*Pn	Pn	10 19 10.6	-0.7
	comp=N,53nm,1.0s						
833A	Chaparral WMA,	16.17	336	P	Pn	10 19 11.3	0.0
	baz=153,SNR=10.0						
HKT	Hockley	16.66	349	*i* P	Pn	10 19 15.8	-1.7
MOTC	Monteria, Cord	16.84	105	*e*P	P	10 19 22.6	+1.2
441A	DeRidder	17.13	357	P	Pn	10 19 22.5	-0.9
	baz=176						
447A	Lucedale	17.45	10	P	P	10 19 27.3	-0.7
	baz=191						
342A	Flagon Creek P	17.73	359	P	P	10 19 31.3	+0.1
	baz=179						
345A	Thompson Farm,	17.77	6	P	P	10 19 31.8	+0.2
	baz=186						
344A	Westbrook Farm	17.85	4	P	P	10 19 32.5	0.0
	baz=184						
435B	Jarrell	17.86	345	*e*P	P	10 19 33.1	+0.6
	comp=N,16nm,0.6s						
435B	Jarrell	17.86	345	P	P	10 19 32.9	+0.4
	baz=162						
655A	Horseshoe Beac	17.88	26	P	Pn	10 19 31.9	-0.6
	baz=209						
HELC	Santa Helena	17.92	113	*e*P	P	10 19 34.1	+0.4
553A	Crawfordville	18.02	22	P	Pn	10 19 33.6	-0.7
	baz=204						
ZARC	Zaragoza, Cauc	18.02	108	*e*P	Pn	10 19 33.8	-0.7
347A	Saraland	18.06	10	P	P	10 19 35.2	+0.4
	baz=191						
656A	Willston	18.08	28	*e*P	Pn	10 19 34.2	-0.8
	comp=N,26nm,0.8s						
656A	Willston	18.08	28	P	Pn	10 19 34.4	-0.6
	baz=211						
348A	Jackson	18.19	12	*e*P	P	10 19 37.2	+1.1
	comp=N,30nm,0.8s						
348A	Jackson	18.19	12	P	P	10 19 36.1	-0.1
	baz=193						
NATX	Nacogdoches	18.26	353	*e*P	P	10 19 36.4	-0.6
	comp=N,19nm,0.8s						
JCT	Junction City	18.26	338	*e*P	Pn	10 19 38.0	+0.7
	comp=N,12nm,0.9s						
JCT	Junction City	18.26	338	*e*P	Pn	10 19 38.0	+0.7
JCT				pmax	pmax		
	comp=Z,12nm,0.9s						
JCT	Junction City	18.26	338	P	Pn	10 19 38.1	+0.7
	baz=155,SNR=5.2						
349A	Repton	18.28	14	P	Pn	10 19 36.9	-0.6
	baz=195						
SMLC	San Mart˜n de	18.34	103	*e*P	P	10 19 36.3	-1.8
HPIG		18.36	318	*e*P	Pn	10 19 39.4	+0.7
	comp=Z,5.5nm,1.1s						
241A	Mo Tay, Goldon	18.39	358	*e*P	Pn	10 19 38.7	-0.1
	comp=Z,43nm,0.8s						
241A	Mo Tay, Goldon	18.39	358	P	Pn	10 19 38.7	-0.1
	baz=177,SNR=6.3						
244A	Avery, Jackson	18.44	4	P	Pn	10 19 38.9	-0.5
	baz=184						
245A	Little AP, Sta	18.50	6	P	Pn	10 19 40.0	-0.1
	baz=186						
555A	McAlpin	18.53	26	*e*P	Pn	10 19 40.0	-0.6
	comp=Z,16nm,0.8s						
351A	Pinckard	18.63	18	P	Pn	10 19 41.7	0.0
	baz=200						
VBMS	Vicksburg	18.63	4	*e*P	Pn	10 19 41.8	+0.1
	comp=Z,47nm,0.7s						
VBMS	Vicksburg	18.63	4	P	Pn	10 19 41.2	-0.5
	baz=184						
453A	Whigham	18.66	21	*e*P	P	10 19 38.0	-3.4
	comp=Z,27nm,0.8s						
453A	Whigham	18.66	21	P	Pn	10 19 41.6	-0.4
	baz=204						
RREF	El Recreo	18.66	116	*e*P	P	10 19 36.1	-6.1
556A	Lake Butler	18.67	27	P	P	10 19 41.3	-0.2
	baz=210						
247A	Quitman	18.69	9	P	Pn	10 19 42.5	+0.1
	baz=190						
PTBC	PUERTO BERRIO,	18.75	110	*e*P	Pn	10 19 42.7	-0.6
454A	Quitman	18.79	23	P	Pn	10 19 43.1	-0.5
	baz=206						
248A	Dixon Mills	18.88	12	P	Pn	10 19 44.5	-0.3
	baz=193,SNR=6.2						
249A	Camden	18.90	13	P	Pn	10 19 44.4	-0.5
	baz=195,SNR=15						
OTAV	Otavalo	18.95	133	*e*P	Pn	10 19 45.9	-0.3
	comp=Z,6.5nm,1.0s						
OTAV	Otavalo	18.95	133	*e*P	Pn	10 19 45.9	-0.3
OTAV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
WHTX	Lake Whitney,	18.98	346	*e*P	Pn	10 19 46.4	+0.4
	comp=Z,26nm,0.9s						
WHTX	Lake Whitney,	18.98	346	P	Pn	10 19 45.4	-0.6
	baz=163						
LTX	Lajitas	18.99	328	*e*P	Pn	10 19 47.0	+0.9
LTX	Lajitas	18.99	328	*e*P	Pn	10 19 47.1	+0.9
TXAR	Lajitas Array	18.99	328	P	Pn	10 19 47.0	+0.9
	comp=Z,0.2nm,0.3s,baz=156,slow=12,SNR=14						
TXAR				LR	LR	10 27 48.8	
	comp=Z,84nm,18.3s,baz=0.0,slow=39						
352A	Blakely	19.03	19	*e*P	Pn	10 19 46.1	-0.4
	comp=Z,31nm,0.8s						
352A	Blakely	19.03	19	P	P	10 19 45.3	0.0
	baz=202						
143A	Socs Landing,	19.07	2	*e*P	P	10 19 45.8	0.0
	comp=Z,47nm,0.8s						
143A	Socs Landing,	19.07	2	P	P	10 19 46.0	+0.2
	baz=182						
SOTA	Rioblanco	19.10	125	*e*P	Pn	10 19 47.9	-0.1
250A	Grady	19.11	15	*e*P	Pn	10 19 47.2	-0.2
	comp=Z,25nm,0.9s						
250A	Grady	19.11	15	P	P	10 19 45.9	-0.4
	baz=197						
353A	Camilla	19.14	21	P	P	10 19 45.6	-1.1
	baz=204						
146A	Union	19.20	8	*e*P	Pn	10 19 47.8	-0.7
	comp=Z,25nm,0.8s						
147A	Livingston	19.35	10	*e*P	Pn	10 19 50.0	-0.3
	comp=Z,35nm,0.8s						
147A	Livingston	19.35	10	P	P	10 19 48.8	-0.1
	baz=191						
251A	Midway	19.45	17	P	P	10 19 50.1	+0.1
	baz=200,SNR=15						
TIGA	Tifton	19.45	22	*e*P	Pn	10 19 50.7	-0.8
	comp=Z,35nm,0.6s						
TIGA	Tifton	19.45	22	P	P	10 19 49.9	-0.2
	baz=205						
148A	Greensboro	19.45	12	P	Pn	10 19 50.4	-1.1
	baz=193,SNR=10						
456A	Hilliard	19.46	27	*e*P	P	10 19 47.9	-2.2
	comp=Z,54nm,1.1s						
252A	Lumpkin	19.57	19	P	P	10 19 51.5	+0.2
	baz=202,SNR=6.9						
149A	Jones	19.57	14	P	Pn	10 19 51.7	-1.2
	baz=195,SNR=8.1						
ROSC	El Rosal	19.59	115	P	P	10 19 52.7	+0.5
	comp=Z,0.9nm,0.3s,baz=336,slow=7.2,SNR=8.3						
ROSC	El Rosal	19.59	115	*e*P	P	10 19 51.7	-0.4
	comp=Z,5.4nm,0.6s						
Z41A	Richland Creek	19.62	358	*e*P	P	10 19 52.0	+0.2
	comp=Z,57nm,1.0s						
Z41A	Richland Creek	19.62	358	P	P	10 19 52.2	+0.4
	baz=178						
Z42A	Norrel Spur, H	19.62	0	P	P	10 19 52.0	+0.1
	baz=180						
SLBS	Sierra La Lagu	19.63	303	*e*P	Pn	10 19 54.1	+0.4
PRAC	Prado	19.65	118	*e*P	P	10 19 52.8	+0.4
Z44A	Pea Ridge, Bel	19.69	4	P	P	10 19 52.5	0.0
	baz=184						
Z46A	Louisville	19.76	8	P	P	10 19 53.8	+0.5
	baz=189,SNR=8.7						
150A	Eclectic	19.77	15	P	P	10 19 53.9	+0.4
	baz=197,SNR=26						
253A	Americus	19.82	20	*e*P	Pn	10 19 55.2	-0.7
	comp=Z,31nm,1.0s						
253A	Americus	19.82	20	P	P	10 19 54.0	-0.1
	baz=203						
Z45A	Winona	19.85	6	*e*P	P	10 19 54.5	+0.2
	comp=Z,49nm,1.0s						
Z45A	Winona	19.85	6	P	P	10 19 54.5	+0.2
	baz=187						
151A	Opelika	19.88	17	P	P	10 19 55.1	+0.4
	baz=199,SNR=18						
BARC	Barichara	19.90	109	*e*P	Pn	10 19 56.4	-0.8
Z47A	Carrollton	19.90	10	P	Pn	10 19 55.5	-1.3
	baz=191,SNR=45						
356A	Blackshear	19.93	26	P	P	10 19 55.1	-0.1
	baz=209						
LRAL	Lakeview Retre	19.95	13	*e*P	P	10 19 55.7	+0.3
	comp=Z,28nm,0.8s						
LRAL	Lakeview Retre	19.95	13	P	P	10 19 55.9	+0.5
	baz=194,SNR=16						
254A	Abbeville	20.02	22	P	P	10 19 56.2	0.0
	baz=206,SNR=9.8						
PAMC	Pamplona, Colo	20.09	106	*e*P	Pn	10 19 58.6	-1.0
LPIG	La Paz	20.12	304	LR	LR	10 27 53.1	
	comp=Z,108nm,19.0s,baz=108,slow=37						
Z48A	Northport	20.16	11	P	P	10 19 58.3	+0.5
	baz=193,SNR=15						
ABTX	Abilene, Hawle	20.18	341	*e*P	Pn	10 19 59.0	-1.2
	comp=Z,40nm,0.7s						
ABTX	Abilene, Hawle	20.18	341	P	P	10 19 58.6	+0.6
	baz=158,SNR=17						
Y42A	Garnett, Star	20.19	1	P	P	10 19 58.2	+0.2
	baz=180						
152A	Waverly Hall	20.19	18	*e*P	P	10 19 57.6	-0.5
	comp=Z,37nm,0.7s						
152A	Waverly Hall	20.19	18	P	P	10 19 58.2	+0.1
	baz=201,SNR=20						
FLOC	Florencia	20.19	125	*e*P	P	10 19 58.8	+0.5
Z49A	Columbiana	20.20	14	P	P	10 19 58.9	+0.7
	baz=196,SNR=20						
CHIC	Chingaza	20.21	114	*e*P	P	10 19 59.3	+0.4
Y41A	Eaglette Beard	20.23	359	P	P	10 19 58.4	-0.1
	baz=178						
RUSC	La Rusia	20.26	110	*e*P	Pn	10 20 00.7	-1.0
255A	Hazlehurst	20.32	24	*e*P	P	10 19 59.0	-0.4
	comp=Z,34nm,1.1s						
255A	Hazlehurst	20.32	24	P	P	10 19 59.3	-0.1
	baz=208,SNR=5.2						
Y45A	Yeager Farm, C	20.35	6	P	P	10 19 59.9	+0.1
	baz=187,SNR=7.8						
Y44A	Strider, Charl	20.39	5	P	P	10 20 00.3	+0.1
	baz=185						
Z50A	Ashland	20.41	15	*e*P	P	10 20 00.9	+0.4
	comp=Z,16nm,0.7s						
Z50A	Ashland	20.41	15	P	P	10 20 00.5	+0.1
	baz=197,SNR=16						
Y46A	Houston	20.45	8	P	P	10 20 01.1	+0.2
	baz=189,SNR=18						
153A	Fort Valley	20.46	20	P	P	10 20 00.2	-0.8
	baz=203						
256A	Glennville	20.60	25	P	P	10 20 02.2	-0.4
	baz=209,SNR=7.6						
Y47A	UCPARC, Winfie	20.62	10	P	P	10 20 02.8	+0.1
	baz=192,SNR=7.4						
Z51A	Franklin	20.66	17	P	P	10 20 03.5	+0.3
	baz=199,SNR=9.1						
154A	Montrose	20.68	22	*e*P	P	10 20 03.7	+0.3
	comp=Z,87nm,0.7s						
154A	Montrose	20.68	22	P	P	10 20 03.4	0.0
	baz=205,SNR=11						
Y48A	Jasper	20.76	12	P	P	10 20 04.4	+0.2
	baz=193,SNR=17						
Z52A	Williamson	20.77	19	P	P	10 20 04.4	0.0
	baz=201,SNR=14						
X40A	Basin Creek Fa	20.84	358	P	P	10 20 05.3	+0.2
	baz=178						
X41A	Kaden, Bauxite	20.84	359	P	P	10 20 05.4	+0.3
	baz=178						
Y49A	Blount Mountai	20.87	13	*e*P	P	10 20 05.8	+0.4
	comp=Z,33nm,0.9s						
Y49A	Blount Mountai	20.87	13	P	P	10 20 05.7	+0.4
	baz=195,SNR=11						
X43A	Marvell	20.90	3	P	P	10 20 06.4	+0.8
	baz=183						
X42A	Stuttgart	20.91	1	P	P	10 20 06.2	+0.4
	baz=181						
X45A	UM Field Stati	20.92	6	P	P	10 20 06.4	+0.5
	baz=187						
X44A	Crenshaw	20.92	5	P	P	10 20 05.8	-0.1
	baz=185						
MIAR	Mount Ida	20.93	357	*e*P	P	10 20 06.0	-0.1
	comp=Z,16nm,1.1s						
MIAR	Mount Ida	20.93	357	*e*P	P	10 20 06.0	-0.1
MIAR				pmax	pmax		
	comp=Z,16nm,1.1s						
MIAR	Mount Ida	20.93	357	P	P	10 20 06.2	+0.1
	baz=176						
155A	Kite	20.93	23	P	P	10 20 05.6	-0.4
	baz=207,SNR=18						
OXF	Oxford	21.00	6	*e*P	P	10 20 06.1	-0.7
	comp=Z,25nm,0.6s						
OXF	Oxford	21.00	6	*e*P	P	10 20 06.1	-0.7
OXF				pmax	pmax		
	comp=Z,25nm,0.6s						
OXF	Oxford	21.00	6	P	P	10 20 06.5	-0.3
	baz=187						
Y50A	Piedmont	21.06	15	P	P	10 20 07.8	+0.3
	baz=197,SNR=10						
UALR	University of	21.12	360	*e*P	P	10 20 08.7	+0.6
	comp=Z,18nm,0.8s						
Z53A	Monticello	21.13	20	P	P	10 20 08.0	-0.1
	baz=203,SNR=13						
X37A	Clayton	21.14	353	*e*P	P	10 20 08.5	+0.2
	comp=Z,27nm,0.9s						
X46A	Booneville	21.15	8	P	P	10 20 08.1	-0.3
	baz=189,SNR=13						
X47A	Russelville	21.22	10	P	P	10 20 08.7	-0.5
	baz=191,SNR=23						
Y51A	Rockmart	21.24	16	P	P	10 20 09.2	-0.2
	baz=199,SNR=16						
GOGA	Godfrey	21.28	20	*e*P	P	10 20 09.8	0.0
	comp=Z,21nm,0.8s						
GOGA	Godfrey	21.28	20	*e*P	P	10 20 09.8	0.0
GOGA				pmax	pmax		
	comp=Z,21nm,0.8s						
GOGA	Godfrey	21.28	20	P	P	10 20 09.4	-0.4
	baz=203,SNR=12						
X48A	Hartselle	21.30	12	*e*P	P	10 20 09.6	-0.5
	comp=Z,46nm,0.9s						
X48A	Hartselle	21.30	12	P	P	10 20 09.8	-0.3
	baz=193,SNR=27						
Z54A	Sparta	21.34	22	P	P	10 20 10.0	-0.5
	baz=205,SNR=12						
156A	Sylvania	21.35	25	P	P	10 20 10.3	-0.3
	baz=209,SNR=7.2						
Y52A	Lilburn	21.50	19	*e*P	P	10 20 12.2	0.0
	comp=Z,35nm,0.9s						
Y52A	Lilburn	21.50	19	P	P	10 20 12.1	0.0
	baz=202,SNR=15						
X49A	Woodville	21.51	13	P	P	10 20 12.3	0.0
	baz=195,SNR=21						
W41B	Gary Mavity, V	21.52	360	P	P	10 20 12.1	-0.2
	baz=179						
W39A	Magazine	21.59	356	*e*P	P	10 20 13.0	-0.2
	comp=Z,11nm,0.9s						
W39A	Magazine	21.59	356	P	P	10 20 13.2	0.0
	baz=175						
SDV	Santo Domingo	21.60	100	P	P	10 20 12.9	-0.6
	comp=Z,22nm,0.8s,baz=280,slow=4.9,SNR=10						
SDV	Santo Domingo	21.60	100	*e*P	P	10 20 12.8	-0.8
	comp=Z,28nm,0.9s						
X50B	Fort Payne	21.62	15	P	P	10 20 13.3	-0.2
	baz=197,SNR=39						
WHAR	Wooly Hollow	21.64	360	*e*P	P	10 20 13.6	0.0
	comp=Z,21nm,1.1s						
PLAL	Pickwick Lake	21.64	9	*e*P	P	10 20 12.4	-1.2
	comp=Z,19nm,0.6s						
Y53A	Monroe	21.65	20	P	P	10 20 13.6	-0.2
	baz=203,SNR=28						
GDL2	Guadalupe Moun	21.67	331	*e*P	P	10 20 15.3	+1.2
W46A	Michie	21.75	8	P	P	10 20 14.1	-0.7
	baz=190,SNR=6.5						
MNTX	Cornudas Mount	21.76	328	*e*P	P	10 20 15.3	+0.3
	comp=Z,12nm,1.0s						
MNTX	Cornudas Mount	21.76	328	P	P	10 20 15.1	+0.1
	baz=143,SNR=14						
WMOK	Wichita Mounta	21.92	345	*e*P	P	10 20 16.0	-0.7
	comp=Z,20nm,1.0s						
WMOK	Wichita Mounta	21.92	345	*e*P	P	10 20 16.0	-0.7
WMOK				pmax	pmax		
	comp=Z,19nm,1.0s						
WMOK	Wichita Mounta	21.92	345	P	P	10 20 15.7	-1.1
	baz=162,SNR=19						
X51A	Calhoun	21.93	16	*e*P	P	10 20 17.4	+0.6
	comp=Z,20nm,0.8s						
X51A	Calhoun	21.93	16	P	P	10 20 16.7	-0.1
	baz=199,SNR=7.4						
HBAR	Har

baz=152
W51A Cleveland 22.52 16 P P 10 20 22.5 -0.6
baz=199,SNR=11
V47A Nunnelly 22.56 10 P P 10 20 22.0 -1.5
baz=191,SNR=23
V48A Smith Brothers 22.60 11 eP P 10 20 23.1 -0.8
comp=Z,62nm,0.8s
V48A Smith Brothers 22.60 11 P P 10 20 22.5 -1.4
baz=193,SNR=51
HHAR Hobbs 22.68 356 eP P 10 20 24.0 -0.8
comp=Z,9.7nm,1.0s
W52A Murphy 22.69 18 eP P 10 20 25.4 +0.5
comp=Z,11nm,0.8s
W52A Murphy 22.69 18 P P 10 20 23.7 -1.2
baz=201,SNR=5.3
U41A Viola 22.69 0 P P 10 20 23.3 -1.6
baz=180
U40A Yellville 22.71 359 P P 10 20 23.6 -1.5
baz=178,SNR=6.0
U42A Revenden 22.71 2 P P 10 20 22.9 -2.2
baz=182,SNR=9.2
GLAT Glass 22.76 6 eP P 10 20 24.8 -0.8
comp=Z,91nm,1.1s
U43A Rector 22.77 4 P P 10 20 23.7 -2.0
baz=184,SNR=7.3
WVT Waverly 22.80 9 eP P 10 20 24.2 -1.9
comp=Z,33nm,0.6s
WVT Waverly 22.80 9 eP P 10 20 24.2 -1.9
WVT pmax pmax
comp=Z,33nm,0.6s
WVT Waverly 22.80 9 P P 10 20 24.9 -1.2
baz=190
V49A McMinnville 22.81 13 P P 10 20 25.2 -1.0
baz=195,SNR=30
CPCT Cooper Cave 22.85 16 eP P 10 20 26.3 -0.3
comp=Z,27nm,0.8s
PVMO Portageville 22.86 5 eP P 10 20 26.7 +0.1
comp=Z,74nm,0.9s
JSC Jenkinsville 22.87 24 eP P 10 20 26.4 -0.4
comp=Z,22nm,1.0s
JSC Jenkinsville 22.87 24 eP P 10 20 26.4 -0.4
JSC pmax pmax
comp=Z,22nm,1.0s
UTMT University of 22.88 7 eP P 10 20 25.1 -1.7
comp=Z,65nm,0.9s
U45A Rockin P Farm, 22.89 7 P P 10 20 25.3 -1.7
baz=188,SNR=7.4
BG3 Lake Jocassee 22.90 20 eP P 10 20 27.1 -0.1
comp=Z,24nm,0.8s
V50A Pikeville 22.91 15 P P 10 20 26.5 -0.7
baz=197,SNR=12
AMTX Amarillo 22.91 340 eP P 10 20 27.1 -0.3
comp=Z,53nm,0.8s
AMTX Amarillo 22.91 340 P P 10 20 26.9 -0.5
baz=155
U46A Springville 22.98 8 P P 10 20 26.3 -1.5
baz=190,SNR=22
W53A Cullowhee 22.99 19 P P 10 20 27.5 -0.6
baz=202,SNR=6.9
PAULI Pauline 23.14 22 eP P 10 20 28.4 -1.1
comp=Z,38nm,1.2s
PBMO Poplar Bluff 23.17 3 eP P 10 20 27.9 -1.9
comp=Z,29nm,0.6s
U47A Clarksville 23.20 10 P P 10 20 28.0 -2.0
baz=192,SNR=8.3
V51A Loudon 23.23 16 eP P 10 20 30.4 0.0
comp=Z,22nm,0.8s
V51A Loudon 23.23 16 P P 10 20 30.3 -0.1
baz=199,SNR=7.1
SRIG Santa Rosalia 23.23 309 eP P 10 20 32.3 +1.8
comp=Z,14nm,1.0s
TKL Tuckaleechee C 23.26 17 P P 10 20 30.4 -0.3
comp=Z,12nm,0.8s,baz=184,slow=9.6,SNR=26
TKL LR LR 10 30 37.5
comp=Z,254nm,20.5s,baz=204,slow=39
TKL Tuckaleechee C 23.26 17 eP P 10 20 30.6 0.0
comp=Z,33nm,1.1s
TKL Tuckaleechee C 23.26 17 eP P 10 20 30.7 0.0
TKL pmax pmax
comp=Z,33nm,1.1s
HSIG 23.26 314 eP P 10 20 31.3 +0.5
comp=Z,4.1nm,0.7s
T41A Mountain View 23.39 1 P P 10 20 30.8 -1.1
baz=180,SNR=7.2
T42A Van Buren 23.39 2 eP P 10 20 30.0 -1.9
comp=Z,16nm,0.9s
T42A Van Buren 23.39 2 P P 10 20 30.2 -1.7
baz=182,SNR=11
U48A Cassie Pea, Po 23.40 11 P P 10 20 30.6 -1.4
baz=193,SNR=14
V52A Sevierville 23.48 18 eP P 10 20 32.3 -0.5
comp=Z,24nm,1.0s
V52A Sevierville 23.48 18 P P 10 20 32.0 -0.8
baz=201,SNR=13
T43A Greenville 23.48 4 P P 10 20 31.4 -1.4
baz=184,SNR=14
T44A Benton 23.54 5 P P 10 20 31.9 -1.4
baz=186,SNR=5.1
U32A Winter Ranch, 23.54 346 eP P 10 20 33.3 -0.2
comp=Z,19nm,0.9s
U49A Red Boiling Sp 23.56 13 P P 10 20 32.3 -1.2
baz=195,SNR=42
V53A Saluda 23.56 19 eP P 10 20 33.4 -0.2
comp=Z,15nm,0.9s
V53A Saluda 23.56 19 P P 10 20 32.8 -0.8
baz=203,SNR=7.6
T45A Paducah 23.57 7 eP P 10 20 32.5 -1.1
comp=Z,50nm,0.6s
KMSC Kings Mountain 23.60 23 eP P 10 20 33.7 -0.3
comp=Z,40nm,0.9s
KMSC Kings Mountain 23.60 23 P P 10 20 32.9 -1.0
baz=207,SNR=17
U50A Jamestown 23.68 15 P P 10 20 33.7 -1.0
baz=198,SNR=34
121A Cookes Peak, D 23.69 325 P P 10 20 36.1 +1.1
baz=139,SNR=9.5
T46A Princeton 23.69 8 P P 10 20 33.3 -1.5
baz=190,SNR=20
T47A Sharon Grove 23.76 10 eP P 10 20 34.4 -1.0
comp=Z,85nm,0.8s
T47A Sharon Grove 23.76 10 P P 10 20 34.5 -0.9
baz=192,SNR=54
U51A La Follette 23.86 16 P P 10 20 35.7 -0.7
baz=200,SNR=20
S41A Jillco Farms, 23.93 1 P P 10 20 35.4 -1.6
baz=181
S43A Fulton Ridge, 23.98 4 P P 10 20 36.2 -1.3
baz=185,SNR=7.6
T48A Bowling Green 24.01 11 P P 10 20 36.2 -1.4
baz=193,SNR=15
U52A Thorn Hill 24.06 18 P P 10 20 37.6 -0.7
baz=201,SNR=6.4
S42A Caledonia 24.14 3 P P 10 20 37.0 -1.9
baz=183,SNR=6.4
TZTN Tazewell 24.15 17 eP P 10 20 38.6 -0.5
comp=Z,15nm,0.9s
TZTN Tazewell 24.15 17 P P 10 20 38.2 -0.8
baz=200,SNR=5.7
S44A Carbondale 24.17 6 P P 10 20 38.9 -0.2
baz=186,SNR=18
T49A Edmonton 24.18 13 eP P 10 20 38.3 -1.0
comp=Z,20nm,1.0s
T49A Edmonton 24.18 13 P P 10 20 38.0 -1.2
baz=196,SNR=12
SIUC Southern Illin 24.20 6 eP P 10 20 38.9 -0.5
comp=Z,82nm,0.8s
S45A Carrier Mills 24.23 7 P P 10 20 37.1 -2.6
baz=188
T50A Nancy 24.26 14 P P 10 20 38.7 -1.3
baz=197,SNR=16
U53A Fall Branch 24.27 19 P P 10 20 39.4 -0.8
baz=203,SNR=13
S46A Don Dixon Farm 24.35 9 P P 10 20 39.9 -0.9
baz=190,SNR=13
BNM Barren Site 24.35 330 eP P 10 20 43.0 +1.8
FVM French Village 24.37 3 eP P 10 20 40.3 -0.7
FVM French Village 24.37 3 eP P 10 20 40.3 -0.7
S47A Hartford 24.39 10 P P 10 20 40.3 -0.9
baz=192,SNR=13
CCM Cathedral Cave 24.41 2 eP P 10 20 40.7 -0.6
comp=Z,3.3nm,0.8s
CCM Cathedral Cave 24.41 2 eP P 10 20 40.7 -0.6
CCM pmax pmax
comp=Z,3.0nm,0.8s
T51A Gray 24.43 16 P P 10 20 40.5 -1.1
baz=199,SNR=16
LPM Los Pinos Moun 24.48 330 eP P 10 20 43.9 +1.6
LENM Lemitar 24.53 329 eP P 10 20 43.3 +0.5

S48A Wiedeman Farm, 24.60 12 P P 10 20 41.4 -1.7
baz=194,SNR=8.4
USIN University of 24.63 9 eP P 10 20 43.0 -0.3
comp=Z,79nm,0.8s
R41A Rosebud 24.65 1 P P 10 20 41.7 -1.8
baz=181,SNR=8.0
R42A Luebbering 24.65 3 P P 10 20 42.2 -1.3
baz=183
ATAH Atahualpa 24.68 146 P P 10 20 45.1 +0.6
comp=Z,4.0nm,0.6s,baz=289,slow=10,SNR=5.2
R43A Red Bud 24.69 4 P P 10 20 42.6 -1.3
baz=185,SNR=10
R44A Waltonville 24.74 6 P P 10 20 43.3 -1.0
baz=187,SNR=6.1
LAZ Ladron 24.80 329 eP P 10 20 44.4 -0.9
T52A Hallie 24.84 18 P P 10 20 44.2 -1.1
baz=201,SNR=9.4
R45A Skylar, Fairfi 24.87 7 P P 10 20 44.6 -0.9
baz=189,SNR=24
S49A Springfield 24.89 13 P P 10 20 44.6 -1.1
baz=196,SNR=20
R46A Gibon Southern 24.89 9 P P 10 20 45.0 -0.8
baz=190,SNR=5.8
ANMO Albuquerque 24.91 331 P P 10 20 47.8 +1.6
comp=Z,5.2nm,0.7s,baz=147,slow=12,SNR=36
ANMO Albuquerque 24.91 331 eP P 10 20 47.7 +1.4
comp=Z,6.6nm,0.9s
ANMO Albuquerque 24.91 331 i P P 10 20 47.0 +0.8
ANMO pmax pmax
comp=Z,66nm,6.4s
ANMO Albuquerque 24.91 331 P P 10 20 47.5 +1.3
baz=145
S50A Richmond 24.99 15 P P 10 20 45.8 -0.9
baz=198,SNR=11
SLM Saint Louis 25.03 4 eP P 10 20 46.4 -0.6
comp=Z,30nm,0.8s
SLM Saint Louis 25.03 4 eP P 10 20 46.4 -0.6
SLM pmax pmax
comp=Z,30nm,0.8s
WCI Wyandotte Cave 25.11 11 eP P 10 20 46.8 -0.9
comp=Z,108nm,0.8s
WCI Wyandotte Cave 25.11 11 eP P 10 20 46.8 -0.9
WCI pmax pmax
comp=Z,108nm,0.8s
WCI Wyandotte Cave 25.11 11 P P 10 20 47.3 -0.4
baz=193
CNNC Cliffs of the 25.12 28 eP P 10 20 47.2 -0.7
comp=Z,30nm,0.9s
R47A Wooly Knot Far 25.13 10 P P 10 20 46.9 -1.0
baz=193,SNR=20
S51A Beattyville 25.16 16 eP P 10 20 47.4 -0.8
comp=Z,18nm,0.8s
S51A Beattyville 25.16 16 P P 10 20 47.3 -0.9
baz=200,SNR=9.2
TUC Tucson 25.28 321 eP P 10 20 50.7 +1.2
comp=Z,6.9nm,1.1s
TUC Tucson 25.28 321 eP P 10 20 50.7 +1.2
TUC pmax pmax
comp=Z,7.0nm,1.1s
TUC Tucson 25.28 321 P P 10 20 50.3 +0.8
baz=133
Q42A Golden Eagle 25.29 3 P P 10 20 48.5 -0.9
baz=183
Q41A Truxton 25.30 2 P P 10 20 48.3 -1.2
baz=182,SNR=8.9
OLIL Olney 25.33 7 eP P 10 20 48.6 -1.1
comp=Z,55nm,0.8s
S52A Salyersville 25.34 17 P P 10 20 48.8 -1.1
baz=201
R48A Northridge Ran 25.36 12 P P 10 20 48.8 -1.2
baz=194,SNR=14
Q43A New Douglas 25.37 4 P P 10 20 49.3 -0.8
baz=185
Q44A Meyer Farm, Va 25.39 6 eP P 10 20 49.0 -1.3
comp=Z,139nm,0.6s
Q44A Meyer Farm, Va 25.39 6 P P 10 20 49.8 -0.5
baz=187
R49A Shelbyville 25.40 13 P P 10 20 48.9 -1.4
baz=196,SNR=7.7
SJG San Juan 25.40 76 LR LR 10 32 07.9
comp=Z,157nm,18.7s,baz=266,slow=40
Q45A Warren Harvey, 25.48 7 P P 10 20 50.5 -0.5
baz=189,SNR=9.2
R50A Paris 25.58 14 P P 10 20 50.9 -1.1
baz=198,SNR=8.2
KSU1 Kansas State U 25.74 352 eP P 10 20 52.9 -0.5
comp=Z,25nm,0.8s
KSU1 Kansas State U 25.74 352 P P 10 20 52.8 -0.7
baz=170,SNR=8.7
BLA Blacksburg 25.77 22 eP P 10 20 53.5 -0.3
comp=Z,15nm,1.1s
BLA Blacksburg 25.77 22 eP P 10 20 53.5 -0.3
BLA pmax pmax
comp=Z,15nm,1.1s
BLA Blacksburg 25.77 22 P P 10 20 53.1 -0.7
baz=207
Q47A Bedord North L 25.77 10 P P 10 20 52.7 -1.1
baz=192,SNR=6.2
R51A Hillsboro 25.79 16 P P 10 20 52.9 -1.0
baz=199,SNR=13
Q48A North Vernon 25.90 11 P P 10 20 53.8 -1.1
baz=194,SNR=7.6
T25A Trinidad 25.91 337 eP P 10 20 56.9 +1.6
comp=Z,43nm,1.1s
T25A Trinidad 25.91 337 P P 10 20 56.7 +1.4
baz=151,SNR=21
P42A Winchester 25.97 3 eP P 10 20 54.7 -0.8
comp=Z,7.8nm,0.6s
P42A Winchester 25.97 3 P P 10 20 53.9 -1.6
baz=184
BLO Bloomington 25.99 10 eP P 10 20 54.8 -0.9
comp=Z,37nm,0.9s
BLO Bloomington 25.99 10 eP P 10 20 54.8 -0.9
BLO pmax pmax
comp=Z,37nm,0.9s
P44A Sand Creek, Wi 25.99 6 P P 10 20 55.0 -0.7
baz=188,SNR=6.1
P41A Barry, Barry 26.03 2 P P 10 20 55.0 -1.1
baz=182
CBKS Cedar Bluff 26.04 346 eP P 10 20 55.4 -0.8
comp=Z,14nm,1.0s
CBKS Cedar Bluff 26.04 346 eP P 10 20 55.4 -0.8
CBKS pmax pmax
comp=Z,14nm,1.0s
R52A Catlettsburg 26.08 17 P P 10 20 55.5 -1.0
baz=201
Q49A Aurora 26.14 13 P P 10 20 56.0 -1.0
baz=196
P45A Graceland, Par 26.15 8 eP P 10 20 56.4 -0.9
comp=Z,42nm,0.8s
P45A Graceland, Par 26.15 8 P P 10 20 56.3 -0.9
baz=189,SNR=11
Q50A Georgetown 26.20 15 P P 10 20 56.2 -1.4
baz=198
P46A Rosedale 26.32 9 P P 10 20 57.9 -0.8
baz=190,SNR=12
P47A Martinsville 26.34 10 P P 10 20 57.8 -1.0
baz=193,SNR=5.5
214A Organ Pipe Nat 26.34 317 P P 10 20 59.2 +0.2
baz=129
P48A Milroy 26.47 12 P P 10 20 58.3 -1.7
baz=194,SNR=9.2
O41A Passleys Farm, 26.48 2 P P 10 20 58.5 -1.5
baz=182
Q51A Peebles 26.53 15 eP P 10 20 59.1 -1.5
comp=Z,40nm,0.8s
Q51A Peebles 26.53 15 P P 10 20 59.8 -0.8
baz=199,SNR=14
O44A Mansfield 26.68 6 P P 10 21 00.4 -1.5
baz=188
P49A Miami Univ. Ec 26.69 13 P P 10 21 00.4 -1.6
baz=196
W18A Petrified Fore 26.70 327 eP P 10 21 04.0 +1.6
comp=Z,9.9nm,0.9s
O43A Sugar Creek Fa 26.74 5 P P 10 21 01.2 -1.2
baz=186
Q52A Bidwell 26.77 17 P P 10 21 01.4 -1.3
baz=201
SDCO Great Sand Dun 26.86 336 eP P 10 21 05.2 +1.1
comp=Z,4.5nm,1.0s
SDCO Great Sand Dun 26.86 336 P P 10 21 05.1 +1.1
baz=150,SNR=18
O45A Potomac 26.87 7 P P 10 21 02.7 -0.9
baz=189,SNR=6.6
P50A Jamestown 26.97 14 P P 10 21 03.3 -1.2
baz=198
KSCO Kaye Shedlock' 26.99 342 eP P 10 21 05.8 +0.8
comp=Z,21nm,0.8s

KSCO Kaye Shedlock' 26.99 342 P P 10 21 05.1 +0.2
baz=157
HDIL Hopedale 27.01 5 eP P 10 21 04.2 -0.7
comp=Z,17nm,0.8s
HDIL Hopedale 27.01 5 P P 10 21 04.4 -0.5
baz=186
P51A Williamsport 27.03 16 eP P 10 21 04.2 -0.8
comp=Z,9nm,0.7s
P51A Williamsport 27.03 16 P P 10 21 04.3 -0.8
baz=199
N41A Harden Midland 27.07 2 eP P 10 21 05.2 -0.2
comp=Z,11nm,0.9s
N41A Harden Midland 27.07 2 P P 10 21 04.9 -0.5
baz=182
SFIN Lafayette 27.08 8 eP P 10 21 04.5 -1.0
comp=Z,28nm,0.8s
SFIN Lafayette 27.08 8 P P 10 21 04.2 -1.3
baz=190,SNR=8.5
O47A Sheridan 27.08 10 P P 10 21 03.9 -1.6
baz=192,SNR=6.2
X16A Lo Mia Camp, P 27.14 323 eP P 10 21 08.1 +1.7
comp=Z,4.7nm,1.0s
N40A Mertquake, Sal 27.22 1 P P 10 21 06.4 -0.4
baz=181
O48A Farmland 27.29 12 P P 10 21 05.6 -1.8
baz=195,SNR=5.1
N44A Piper City 27.36 7 P P 10 21 07.0 -0.9
baz=188
O49A Covington 27.40 13 eP P 10 21 06.9 -1.5
comp=Z,36nm,1.0s
O49A Covington 27.40 13 P P 10 21 06.7 -1.7
baz=196,SNR=6.7
N43A Stutzman Famil 27.40 5 P P 10 21 07.4 -1.0
baz=186,SNR=5.6
S22A 4UR Ranch, Cre 27.41 334 eP P 10 21 11.0 +2.1
comp=Z,10nm,1.0s
S22A 4UR Ranch, Cre 27.41 334 P P 10 21 10.2 +1.4
baz=147,SNR=8.3
R58B Mineral 27.41 25 P P 10 21 07.3 -1.3
baz=211
P52A Corning 27.43 17 P P 10 21 07.4 -1.3
baz=201
113A Mohawk Valley, 27.48 318 eP P 10 21 09.9 +0.7
comp=Z,3.4nm,1.0s
N45A Kentland 27.48 8 P P 10 21 08.0 -1.1
baz=189
P53A Whipple 27.51 18 eP P 10 21 09.5 +0.1
comp=Z,8.8nm,0.9s
P53A Whipple 27.51 18 P P 10 21 08.3 -1.1
baz=203
O50A Cable 27.52 14 P P 10 21 08.3 -1.2
baz=198
N46A Monticello 27.64 9 P P 10 21 09.1 -1.4
baz=191
MVCO Mesa Verde 27.71 331 eP P 10 21 12.8 +1.3
comp=Z,22nm,1.1s
MVCO Mesa Verde 27.71 331 P P 10 21 13.2 +1.6
baz=144,SNR=12
M41A Milan 27.75 3 P P 10 21 11.1 -0.4
baz=183
Y14A Wickenburg 27.75 321 eP P 10 21 12.9 +1.2
comp=Z,1.5nm,0.9s
ACSO Alum Creek Sta 27.76 15 eP P 10 21 10.6 -1.0
comp=Z,14nm,0.8s
ACSO Alum Creek Sta 27.76 15 P P 10 21 10.6 -1.0
baz=199,SNR=5.5
O51A Pataskala 27.78 16 P P 10 21 10.2 -1.5
baz=200
Q24A Divide 27.80 338 eP P 10 21 13.2 +0.8
WUAZ Wupatki 27.89 325 eP P 10 21 14.9 +1.8
comp=Z,8.0nm,1.0s
WUAZ Wupatki 27.89 325 P P 10 21 14.3 +1.2
baz=136,SNR=7.2
N48A Decatur 27.90 12 P P 10 21 11.1 -1.7
baz=195,SNR=8.8
M43A Waltham Townsh 27.91 5 P P 10 21 12.9 0.0
baz=186
M44A Midewin, Midew 27.95 7 eP P 10 21 12.3 -1.0
comp=Z,36nm,1.0s
M44A Midewin, Midew 27.95 7 P P 10 21 12.1 -1.2
baz=188
O52A Adamsville 27.96 17 eP P 10 21 12.6 -0.8
comp=Z,23nm,1.1s
O52A Adamsville 27.96 17 P P 10 21 12.4 -1.0
baz=201
M45A Boilermakers S 28.05 8 P P 10 21 12.9 -1.3
baz=190
N49A Columbus Grove 28.13 13 eP P 10 21 14.9 -0.1
GLA Glamis 28.36 317 eP P 10 21 18.6 +1.5
GLA Glamis 28.36 317 eP P 10 21 18.6 +1.5
L40A Anamosa 28.41 1 P P 10 21 17.0 -0.4
baz=182
L42A Oliver, Polo 28.42 4 eP P 10 21 17.5 +0.1
comp=Z,18nm,0.8s
L42A Oliver, Polo 28.42 4 P P 10 21 17.3 -0.1
baz=185
L41A Preston 28.45 3 P P 10 21 17.6 -0.1
baz=183
PV01 Paradox Valley 28.50 332 eP P 10 21 20.2 +1.7
Y12C Blythe 28.59 318 eP P 10 21 20.6 +1.5
comp=Z,3.2nm,0.8s
Y12C Blythe 28.59 318 P P 10 21 19.4 +0.3
baz=129
PV13 Radium Mtn., P 28.63 332 eP P 10 21 21.8 +2.1
comp=Z,22nm,1.2s
PV02 Paradox Valley 28.63 332 eP P 10 21 22.1 +2.3
comp=Z,22nm,1.2s
SMCO Snowmass 28.68 336 eP P 10 21 22.2 +1.9
comp=Z,12nm,1.1s
PV05 Paradox Valley 28.70 331 eP P 10 21 22.3 +2.0
ISCO Idaho Springs 28.70 338 eP P 10 21 22.5 +2.1
ISCO Idaho Springs 28.70 338 eP P 10 21 22.5 +2.1
ISCO Idaho Springs 28.70 338 P P 10 21 21.6 +1.2
baz=152
PDMCI Parker Dam,Lak 28.70 320 P P 10 21 21.0 +0.9
baz=130
M49A Liberty Center 28.71 13 P P 10 21 19.3 -0.7
baz=196
PV03 Paradox Valley 28.72 332 eP P 10 21 22.6 +2.1
PV18 Skein Mesa, Pa 28.74 332 eP P 10 21 22.6 +2.0
comp=Z,15nm,1.0s
PV12 Saucer Basin, 28.75 332 eP P 10 21 23.2 +2.4
comp=Z,35nm,1.0s
PV11 David Mesa, Pa 28.77 332 eP P 10 21 23.1 +2.2
comp=Z,14nm,0.9s
PV17 East Wray Mesa 28.79 332 eP P 10 21 23.1 +2.0
comp=Z,12nm,1.0s
PV16 Nyswonger Mesa 28.80 332 eP P 10 21 22.9 +1.7
comp=Z,15nm,1.1s
PV19 Morning Glory 28.83 332 eP P 10 21 23.0 +1.5
comp=Z,9.8nm,1.0s
PV20 West Nyswonger 28.85 332 eP P 10 21 23.3 +1.7
comp=Z,20nm,1.2s
PV14 Lion Creek, Pa 28.90 332 eP P 10 21 23.6 +1.5
comp=Z,23nm,1.1s
PV10 Paradox Valley 28.91 332 eP P 10 21 23.5 +1.3
PV22 Blue Mesa, Par 28.92 332 eP P 10 21 23.9 +1.7
comp=Z,15nm,0.9s
L47A Sherwood 28.95 11 P P 10 21 20.2 -1.9
baz=194
PV23 Carpenter Ridg 28.96 332 eP P 10 21 23.9 +1.3
comp=Z,21nm,0.8s
IKP In-Ko-Pah, Jac 28.98 315 P P 10 21 24.0 +1.3
baz=125
K41A Shullsburg 28.98 3 P P 10 21 21.3 -1.2
baz=183
M51A Elyria 29.00 16 P P 10 21 21.1 -1.5
baz=200
PV21 Cone Mtn., Par 29.03 332 eP P 10 21 24.7 +1.4
comp=Z,10nm,1.2s
K39A Oelwein 29.04 0 P P 10 21 22.4 -0.6
baz=180
PV09 Paradox Valley 29.05 332 eP P 10 21 25.0 +1.5
L48A N Adams 29.06 12 P P 10 21 21.3 -1.9
baz=195,SNR=5.8
W13A Hualapai Mount 29.07 321 eP P 10 21 25.5 +1.9
comp=Z,1.4nm,0.9s
SDMD Soldier's Deli 29.07 25 eP P 10 21 22.7 -0.6
comp=Z,8.9nm,0.8s
BC3 Big Chuckawall 29.14 317 P P 10 21 25.3 +1.2
baz=128,SNR=9.8
O56A Blue Knob Stat 29.15 22 eP P 10 21 23.5 -0.6
comp=Z,15nm,0.9s
O56A Blue Knob Stat 29.15 22 P P 10 21 23.7 -0.3
baz=208
K42A Prairie Point, 29.21 4 P P 10 21 25.1 +0.6
baz=185
IRM Iron Mountain 29.25 318 P P 10 21 25.9 +0.9

baz=129
N54A **Moraine State** 29.29 19 P P 10 21 24.6 -0.6
baz=204
JFWS **Jewell Farm** 29.29 3 eP P 10 21 25.4 +0.1
comp=Z,10nm,0.8s
JFWS **Jewell Farm** 29.29 3 eP P 10 21 25.4 +0.1
JFWS pmax pmax
comp=Z,10.0nm,0.8s
JFWS **Jewell Farm** 29.29 3 P P 10 21 25.3 +0.1
baz=183
MONP2 **Monument Peak** 29.34 315 P P 10 21 27.0 +1.0
baz=125
L49A **Milan** 29.36 13 P P 10 21 24.4 -1.4
baz=196
K47A **Vermontville** 29.66 11 P P 10 21 27.6 -0.8
baz=194
BELC **Belle Mtn. Jos** 29.71 317 P P 10 21 30.3 +1.1
baz=127
SSPA **Standing Stone** 29.72 22 eP P 10 21 28.5 -0.5
comp=Z,14nm,0.8s
SSPA **Standing Stone** 29.72 22 P P 10 21 28.3 -0.7
baz=209
J41A **Loganville** 29.76 3 P P 10 21 29.4 0.0
baz=184
MVL **Millersville** 29.77 25 eP P 10 21 29.1 -0.3
comp=Z,13nm,0.8s
XPFO **Pigeon Flat** 29.78 316 eP P 10 21 31.4 +1.6
comp=Z,3.2nm,1.0s
PFO **Pinyon Flats O** 29.78 316 eP P 10 21 31.5 +1.7
comp=Z,3.2nm,1.0s
PFO **Pinyon Flats O** 29.78 316 eP P 10 21 31.5 +1.7
PFO pmax pmax
comp=Z,3.0nm,1.0s
PFO **Pinyon Flats O** 29.78 316 P P 10 21 30.9 +1.1
baz=126
KNB **Kanab** 29.79 325 eP P 10 21 31.9 +2.0
comp=Z,8.9nm,1.2s
FRD **Ford Ranch, An** 29.81 316 P P 10 21 30.9 +0.8
baz=126
LDFC **Landfair** 29.81 320 eP P 10 21 32.6 +2.5
comp=Z,6.8nm,1.0s
PKCU **Pink Cliffs** 29.82 327 eP P 10 21 32.4 +2.1
comp=Z,1.0nm,0.7s
GMRC **Granite Mounta** 29.97 319 P P 10 21 32.4 +0.9
baz=129
O20A **White River Ci** 30.01 335 P P 10 21 32.7 +0.8
baz=147
LCMT **Little Creek M** 30.02 325 eP P 10 21 33.9 +2.0
comp=Z,3.7nm,1.2s
SRU **San Rafael Swe** 30.19 331 eP P 10 21 35.2 +1.8
comp=Z,7.4nm,1.2s
SRU **San Rafael Swe** 30.19 331 eP P 10 21 35.2 +1.8
SRU pmax pmax
comp=Z,7.0nm,1.2s
MTPU **Mount Pierson** 30.20 327 eP P 10 21 35.2 +1.5
comp=Z,5.5nm,0.9s
ECSD **EROS Data Cent** 30.31 354 P P 10 21 34.0 -0.3
baz=171
SZCU **Shurtz Canyon** 30.35 326 eP P 10 21 37.3 +2.3
comp=Z,13nm,1.2s
I43A **Langenfeld Bro** 30.41 6 P P 10 21 34.7 -0.5
baz=187
HEC **Hector,Ludlow** 30.43 318 P P 10 21 36.8 +1.3
baz=128
I41A **Arkdale** 30.45 3 P P 10 21 35.7 +0.2
baz=184
CCUT **Cedar City** 30.47 325 eP P 10 21 38.6 +2.6
comp=Z,5.2nm,1.1s
P18A **Preston Nutter** 30.47 332 eP P 10 21 38.0 +1.9
comp=Z,6.8nm,1.1s
BBRC **Big Bear Solar** 30.48 317 P P 10 21 37.5 +1.4
baz=126
MSU **Marysvale** 30.55 328 eP P 10 21 38.5 +1.8
MSU **Marysvale** 30.55 328 eP P 10 21 38.5 +1.8
TUQ **Turquoise Moun** 30.55 320 P P 10 21 37.8 +1.2
baz=129
P17A **Butcher Ranch,** 30.58 331 eP P 10 21 38.9 +2.0
comp=Z,6.9nm,0.8s
TMUT **Trail Mountain** 30.66 330 eP P 10 21 39.7 +1.9
comp=Z,5.5nm,1.1s
J49A **Marlette** 30.69 13 P P 10 21 35.5 -2.1
baz=197
TCRU **Three Creeks R** 30.76 328 eP P 10 21 40.4 +1.8
comp=Z,6.3nm,0.9s
SHPR **Sheep Range** 30.78 322 eP P 10 21 39.9 +1.3
comp=Z,3.3nm,1.1s
N59A **State Game Lan** 30.78 25 P P 10 21 37.3 -1.1
baz=212
BFSC **Mount Baldy Ra** 30.96 316 P P 10 21 40.7 +0.5
baz=125
CIS **Catalina Islan** 31.00 314 P P 10 21 41.3 +0.8
baz=123
H38A **Maiden Rock** 31.01 360 P P 10 21 39.8 -0.6
baz=179
SHOC **Shoshone, Teco** 31.07 320 P P 10 21 41.8 +0.7
baz=129
BRNJ **Basking Ridge** 31.09 26 eP P 10 21 40.4 -0.7
comp=Z,16nm,0.8s
TYNO **Tyneside** 31.27 17 P P 10 21 42.0 -0.7
baz=203
PASC **Pasadena Art C** 31.28 315 eP P 10 21 44.4 +1.5
comp=Z,3.5nm,0.8s
MPU **Maple Canyon** 31.43 331 eP P 10 21 46.3 +1.9
comp=Z,7.0nm,1.1s
H46A **Fife Lake** 31.44 10 P P 10 21 43.6 -0.5
baz=193
PSUT **Pine Spring** 31.45 326 eP P 10 21 46.6 +2.0
comp=Z,9.2nm,1.2s
K22A **Casper** 31.54 339 eP P 10 21 46.6 +1.3
comp=Z,9.2nm,0.8s
K22A **Casper** 31.54 339 P P 10 21 46.1 +0.8
baz=152
SPMN **Marine on St.** 31.56 359 eP P 10 21 46.4 +1.1
comp=Z,9.3nm,0.9s
SPMN **Marine on St.** 31.56 359 P P 10 21 45.4 +0.2
baz=178
G39A **Holcombe** 31.63 1 P P 10 21 43.5 -2.4
baz=182
PAL **Palisades** 31.64 27 eP P 10 21 45.1 -0.9
comp=Z,24nm,1.0s
PAL **Palisades** 31.64 27 eP P 10 21 45.1 -0.9
PAL pmax pmax
comp=Z,24nm,1.0s
PAL **Palisades** 31.64 27 P P 10 21 45.0 -1.0
baz=215
LRMC **Laurel Mtn Rad** 31.70 318 P P 10 21 48.0 +1.2
baz=127
SNCC **San Nicolas Is** 31.71 313 P P 10 21 48.5 +1.8
baz=122
TPNV **Topopah Spring** 31.73 322 eP P 10 21 49.3 +2.3
comp=Z,5.2nm,1.1s
TPNV **Topopah Spring** 31.73 322 eP P 10 21 49.3 +2.3
TPNV pmax pmax
comp=Z,5.0nm,1.1s
TPNV **Topopah Spring** 31.73 322 P P 10 21 47.9 +0.9
baz=131
BINY **Binghamton** 31.79 23 eP P 10 21 46.6 -0.7
comp=Z,20nm,0.8s
BINY **Binghamton** 31.79 23 P P 10 21 46.4 -0.9
baz=211,SNR=5.6
FURC **Furnace Creek,** 31.79 320 P P 10 21 48.4 +1.1
baz=129
G43A **Wallace** 31.82 6 P P 10 21 47.6 +0.1
baz=188
BRCO **Bruce Peninsul** 31.92 15 P P 10 21 48.1 -0.3
baz=200
MPMC **Manual Prospec** 31.93 319 P P 10 21 49.5 +0.6
baz=128,SNR=6.2
CTU **Camp Tracy** 32.02 331 eP P 10 21 50.6 +1.1
comp=Z,8.0nm,1.1s
RSSD **Black Hills** 32.11 344 eP P 10 21 51.1 +0.7
comp=Z,4.1nm,0.7s
RSSD **Black Hills** 32.11 344 eP P 10 21 51.1 +0.7
RSSD pmax pmax
comp=Z,4.0nm,0.7s
RSSD **Black Hills** 32.11 344 P P 10 21 50.9 +0.5
baz=158
DAC **Darwin (Calif)** 32.13 319 eP P 10 21 52.1 +1.5
comp=Z,1.0nm,0.6s
DAC **Darwin (Calif)** 32.13 319 eP P 10 21 52.1 +1.5
DAC pmax pmax
comp=Z,1.0nm,0.6s
DUG **Dugway, Tooele** 32.14 329 P P 10 21 51.5 +0.9
DUG pmax pmax
comp=Z,9.0nm,2.8s
TCUT **Toone Canyon** 32.20 332 eP P 10 21 53.2 +2.0
comp=Z,35nm,1.1s
R11A **Troy Canyon, C** 32.28 324 eP P 10 21 53.6 +1.7
comp=Z,1.4nm,0.9s
R11A **Troy Canyon, C** 32.28 324 P P 10 21 53.2 +1.3
baz=133
PKRO **Pickering** 32.30 18 P P 10 21 51.1 -0.6
baz=204
ISA **Isabella, Lake** 32.33 318 eP P 10 21 54.6 +2.4
ISA **Isabella, Lake** 32.33 318 eP P 10 21 54.6 +2.4
ISA **Isabella, Lake** 32.33 318 P P 10 21 53.3 +1.1
baz=126
F43A **Flat Rock, Esc** 32.44 6 P P 10 21 53.6 +0.7
baz=189
GRAC **Grapevine Rang** 32.44 321 P P 10 21 55.0 +1.8
baz=129
WLVO **Wesleyville** 32.47 19 P P 10 21 53.0 -0.2
baz=205
CWC **Cottonwood Cre** 32.54 319 P P 10 21 55.4 +1.2
baz=128
HWUT **Hardware Ranch** 32.66 332 eP P 10 21 56.7 +1.6
PD31 **Pinedale Array** 32.76 336 eP P 10 21 57.0 +0.9
PDAR **Pinedale Array** 32.76 336 P P 10 21 57.0 +0.9
comp=Z,3.1nm,0.9s,baz=139,slow=8.6,SNR=19
PDAR **Pinedale Array** 32.76 336 eP P 10 21 56.8 +0.7
BW06 **Boulder Array** 32.76 336 eP P 10 21 57.1 +1.0
BW06 **Boulder Array** 32.76 336 P P 10 21 56.7 +0.6
baz=147
BGU **Big Grassy Mou** 32.81 330 eP P 10 21 57.9 +1.5
comp=Z,4.1nm,1.0s
VES **Vestal, Richgr** 32.84 317 P P 10 21 56.4 -0.2
baz=125,SNR=5.7
TRY **Troy** 33.16 25 eP P 10 21 59.1 -0.2
comp=Z,18nm,0.8s
KLBO **Killbear Provi** 33.27 15 P P 10 21 57.8 -2.4
baz=201
HVU **Hansel Valley** 33.35 331 eP P 10 22 03.0 +1.9
comp=Z,6.9nm,0.9s
HVU **Hansel Valley** 33.35 331 eP P 10 22 03.0 +1.9
HVU pmax pmax
comp=Z,7.0nm,0.9s
AHID **Auburn Hatcher** 33.39 334 eP P 10 22 01.6 0.0
comp=Z,6.6nm,0.9s
PAGB **Antelope Grade** 33.55 316 eP P 10 22 04.4 +1.5
comp=Z,11nm,1.2s
BANO **Bancroft** 33.61 18 P P 10 22 02.9 -0.2
baz=205
E47A **Iron Bridge** 33.63 11 P P 10 22 02.2 -1.1
baz=195
REDW **Red Top Meadow** 33.78 335 eP P 10 22 06.1 +1.1
comp=Z,34nm,1.1s
ELK **Elko** 33.78 328 eP P 10 22 06.7 +1.7
comp=Z,3.7nm,0.8s
ELK **Elko** 33.78 328 eP P 10 22 06.7 +1.7
ELK pmax pmax
comp=Z,4.0nm,0.8s
SNOW **Snow King Moun** 33.82 335 eP P 10 22 06.9 +1.5
comp=Z,40nm,0.8s
NV11 **Mina Array Sit** 33.84 322 eP P 10 22 07.0 +1.6
comp=Z,0.9nm,1.1s
OMMB **Old Mammoth Mi** 33.84 320 eP P 10 22 07.3 +1.6
comp=Z,4.0nm,1.1s
LOHW **Long Hollow** 33.89 336 eP P 10 22 07.1 +1.2
comp=Z,13nm,0.9s
HRV **Adam Dziewonsk** 33.90 28 P P 10 22 04.7 -0.9
baz=218
MDPB **Devils Postpil** 33.91 320 eP P 10 22 08.2 +2.0
comp=Z,8.7nm,1.1s
NV01 **Mina Array Sit** 33.93 322 eP P 10 22 07.9 +1.6
NVAR **Mina Array Bea** 33.93 322 P P 10 22 08.4 +2.1
comp=Z,6.2nm,0.7s,baz=139,slow=8.5,SNR=46
NVAR PcP PcP 10 24 44.6 +0.6
comp=Z,1.1nm,0.8s,baz=159,slow=2.8,SNR=5.2
NVAR LR LR 10 38 18.4
comp=Z,129nm,19.6s,baz=94,slow=40
TPAW **Teton Pass** 33.93 335 eP P 10 22 07.6 +1.3
comp=Z,17nm,1.1s
NCB **Newcomb** 33.97 23 eP P 10 22 05.3 -1.1
comp=Z,10nm,0.9s
MOOW **Moose Ponds** 34.06 336 eP P 10 22 08.6 +1.3
comp=Z,5.0nm,0.9s
FXWY **Fox Creek** 34.08 335 eP P 10 22 08.6 +1.1
comp=Z,8.0nm,1.0s
RYN **Ryan** 34.19 322 eP P 10 22 10.6 +2.1
comp=Z,2.5nm,1.0s
KVN **Kaiserville** 34.21 323 eP P 10 22 09.7 +1.0
comp=Z,7.8nm,1.0s
KVN **Kaiserville** 34.21 323 eP P 10 22 09.7 +1.0
KVN pmax pmax
comp=Z,8.0nm,1.0s
IMW **Indian Meadow** 34.26 336 eP P 10 22 10.7 +1.5
comp=Z,6.6nm,0.8s
FLWY **Flagg Ranch** 34.32 336 eP P 10 22 11.2 +1.6
comp=Z,5.1nm,0.9s
LONY **Lake Ozonia** 34.39 22 P P 10 22 08.6 -1.4
baz=211
PEMO **Pembroke** 34.41 19 P P 10 22 09.0 -1.0
baz=206
ALGO **Algonquin Park** 34.41 17 P P 10 22 09.4 -0.7
baz=204
H17A **Grant Village** 34.53 336 eP P 10 22 13.6 +2.1
E51A **G1948 Merrick** 34.55 15 P P 10 22 09.8 -1.5
baz=202
RLMT **Red Lodge** 34.66 338 eP P 10 22 13.8 +1.2
comp=Z,3.9nm,0.9s
RLMT **Red Lodge** 34.66 338 P P 10 22 13.0 +0.4
baz=150
WAKR **Walker** 34.66 321 eP P 10 22 14.5 +1.9
comp=Z,1.7nm,0.9s
MDND **Maddock** 34.74 351 eP P 10 22 12.2 -0.8
comp=Z,38nm,0.9s
MDND **Maddock** 34.74 351 P P 10 22 12.5 -0.5
baz=167,SNR=7.3
ORIO **Orleans, Innes** 34.77 21 P P 10 22 12.3 -1.0
baz=209
YERR **Yerington** 34.84 322 eP P 10 22 15.2 +1.0
comp=Z,4.9nm,1.0s
PTGA **Pitinga** 34.90 111 LR LR 10 38 22.0
comp=Z,46nm,21.5s,baz=300,slow=40
PTGA **Pitinga** 34.90 111 eP P 10 22 14.7 -0.1
comp=Z,26nm,1.1s
YMR **Madison River** 34.91 336 eP P 10 22 15.9 +1.2
comp=Z,12nm,1.0s
YHH **Holmes Hill** 34.97 337 eP P 10 22 16.5 +1.2
comp=Z,1.6nm,0.8s
CMB **Columbia Colle** 34.97 319 eP P 10 22 17.1 +1.9
comp=Z,1.8nm,1.0s
CMB **Columbia Colle** 34.97 319 eP P 10 22 17.1 +1.9
CMB pmax pmax
comp=Z,2.0nm,1.0s
LAO **LASA Array** 35.08 343 P P 10 22 16.6 +0.6
baz=155
E54A **Lac Daplat, Po** 35.10 18 P P 10 22 15.1 -1.0
baz=206
PNTR **Pine Nut** 35.13 321 eP P 10 22 18.9 +2.2
comp=Z,8.5nm,1.0s
QLMT **Earthquake Lak** 35.23 336 eP P 10 22 19.2 +1.7
VCNR **Virginia City** 35.29 322 eP P 10 22 20.1 +2.1
comp=Z,3.6nm,1.0s
GCMT **Greycliff** 35.38 339 eP P 10 22 19.7 +1.1
PAHR **Pah Rah Range** 35.39 322 eP P 10 22 20.4 +1.6
comp=Z,4.6nm,1.1s
RUBR **Rubicon Trail** 35.44 321 eP P 10 22 21.9 +2.5
comp=Z,11nm,1.1s
HLID **Hailey** 35.49 332 eP P 10 22 21.2 +1.5
comp=Z,5.7nm,1.0s
HLID **Hailey** 35.49 332 P P 10 22 20.2 +0.5
baz=140,SNR=7.6
D53A **Lac Vacive, Po** 35.54 17 P P 10 22 18.5 -1.3
baz=204
MCMT **McKenzie Canyo** 35.81 335 eP P 10 22 24.9 +2.4
MOQ **Mont Orford** 35.87 24 eP P 10 22 21.8 -1.0
D54A **Lac Fusel, La** 35.91 18 P P 10 22 21.4 -1.6
baz=206
BOZ **Bozeman (W)** 35.95 336 eP P 10 22 25.0 +1.5
comp=Z,3.7nm,0.9s
BOZ **Bozeman (W)** 35.95 336 eP P 10 22 25.0 +1.5
BOZ pmax pmax
comp=Z,4.0nm,0.9s
MFID **Camas Ranch** 36.05 330 eP P 10 22 26.0 +1.6
comp=Z,7.6nm,1.1s
BEKR **Beckworth** 36.07 322 eP P 10 22 25.9 +1.2
comp=Z,8.2nm,1.2s
DLMT **Dillon** 36.14 335 eP P 10 22 26.7 +1.5
comp=Z,8.0nm,0.9s
DGMT **Dagmar** 36.21 346 eP P 10 22 26.0 +0.4
comp=Z,21nm,1.1s
ORV **Oroville** 36.58 320 eP P 10 22 31.0 +2.2
comp=Z,3.3nm,0.9s
ORV **Oroville** 36.58 320 eP P 10 22 31.0 +2.2
ORV pmax pmax
comp=Z,3.0nm,0.9s
ULM **Lac du Bonnet** 36.71 356 P P 10 22 27.6 -2.2
comp=Z,3.0nm,0.8s,baz=176,slow=8.9,SNR=3.6
ULM LR LR 10 39 52.0
comp=Z,77nm,21.6s,baz=144,slow=40
WVOR **Wild Horse Val** 36.78 327 eP P 10 22 32.2 +1.6
comp=Z,6.8nm,1.0s
WVOR **Wild Horse Val** 36.78 327 eP P 10 22 32.3 +1.6
WVOR pmax pmax
comp=Z,7.0nm,1.0s
HRY **Holter Researc** 36.95 337 eP P 10 22 32.3 +0.3
PKME **Peaks-Kenny Pk** 37.07 27 P P 10 22 31.4 -1.5
baz=218
O03E **Paynes Creek** 37.21 321 P P 10 22 34.9 +0.7
baz=127
J08A **Circle Bar Ran** 37.34 328 eP P 10 22 37.0 +1.7
comp=Z,19nm,0.6s
MOD **Modoc Plateau** 37.34 324 eP P 10 22 36.5 +1.0
comp=Z,3.0nm,0.9s
EGMT **Eagleton** 37.35 340 eP P 10 22 36.8 +1.4
comp=Z,31nm,1.1s
EGMT **Eagleton** 37.35 340 P P 10 22 35.8 +0.4
baz=151,SNR=7.6
LATQ **La Tuque** 37.40 22 P P 10 22 34.6 -1.0
baz=212
LSQQ **Lebel-sur-Quev** 37.54 16 P P 10 22 35.5 -1.3
baz=204
O02D **Mt. Diablo Mer** 37.74 320 P P 10 22 38.9 +0.1
baz=126
BMO **Blue Mountains** 37.83 330 eP P 10 22 41.5 +2.0
MSO **Missoula** 37.87 335 eP P 10 22 40.9 +1.1
comp=Z,6.8nm,1.1s
MSO **Missoula** 37.87 335 P P 10 22 40.5 +0.7
baz=144
LPAZ **La Paz** 37.98 141 P P 10 22 40.2 -1.4
comp=Z,1.4nm,0.8s,baz=308,slow=13,SNR=4.3
LPAZ LR LR 10 36 47.0
comp=Z,112nm,19.5s,baz=290,slow=34
LPAZ **La Paz** 37.98 141 eP P 10 22 40.5 -1.2
LPAZ **La Paz** 37.98 141 eP P 10 22 40.5 -1.2
MATQ **Matagami** 38.01 15 P P 10 22 39.3 -1.5
baz=203
M04C **Macdoel** 38.15 323 P P 10 22 43.5 +1.3
baz=128
KMRM **Mail Ridge** 38.34 320 eP P 10 22 45.8 +1.9
comp=Z,2.3nm,0.9s
M02C **Callahan** 38.51 322 P P 10 22 45.4 +0.2
baz=127
F10A **Beach Ranch, E** 38.63 332 eP P 10 22 47.1 +0.9
comp=Z,11nm,0.8s
L04D **Klamath Falls** 38.69 323 P P 10 22 47.6 +0.8
baz=128
JTMT **Jette** 38.75 336 eP P 10 22 48.4 +1.1
CHGQ **Chibougamau** 39.06 18 P P 10 22 48.0 -1.6
baz=208
J04D **Umpqua Nationa** 39.22 325 P P 10 22 52.5 +1.2
baz=130
E09A **Wood Farm, Sta** 39.45 332 eP P 10 22 53.7 +0.7
comp=Z,4.8nm,1.0s
I05D **Terrebonne, OR** 39.52 327 P P 10 22 54.5 +0.9
baz=132
I04A **Tendick Farm,** 39.75 325 P P 10 22 56.6 +1.1
baz=130
MDP **Montagnes des** 39.82 98 LR LR 10 41 01.1
comp=Z,44nm,19.5s,baz=216,slow=39
G05D **Wamic, OR** 40.11 328 P P 10 22 59.8 +1.4
baz=132
H04A **Detroit Lake** 40.20 326 eP P 10 23 00.4 +1.1
comp=Z,15nm,0.8s
I03D **Drain, OR** 40.21 324 P P 10 23 00.7 +1.4
baz=128
J01E **Myrtle Point** 40.21 323 P P 10 23 00.7 +1.4
baz=127
D08A **Wollman Farm,** 40.22 332 eP P 10 23 00.6 +1.3
comp=Z,2.3nm,1.1s
NEW **Newport** 40.33 334 P P 10 23 01.1 +0.9
NEW **Newport** 40.33 334 P P 10 23 01.0 +0.7
baz=140
H04D **Lebanon** 40.40 326 P P 10 23 01.5 +0.7
baz=130
C09A **Chrisman Ranch** 40.48 333 eP P 10 23 03.5 +2.1
comp=Z,10nm,0.9s
I02D **Swisshome** 40.75 325 P P 10 23 05.2 +1.6
baz=128
G03D **McMinnville, O** 41.12 326 P P 10 23 07.2 +0.4
baz=130
LON **Longmire** 41.39 329 eP P 10 23 10.4 +1.4
comp=Z,8.8nm,0.8s
LON **Longmire** 41.39 329 eP P 10 23 10.4 +1.4
LON pmax pmax
comp=Z,9.0nm,0.8s
E04D **Cinebar** 41.64 328 P P 10 23 12.1 +1.1
baz=132
D04E **Lakebay** 42.17 329 P P 10 23 15.8 +0.6
baz=132
SIV **San Ignacio** 42.49 133 P P 10 23 16.9 -1.5
comp=Z,2.4nm,0.5s,baz=308,slow=8.1,SNR=14
SIV LR LR 10 40 09.1
comp=Z,135nm,18.1s,baz=90,slow=35
LVC **Limon Verde** 42.55 147 LR LR 10 38 48.3
comp=Z,81nm,18.1s,baz=278,slow=33
D03D **Eldon** 42.57 329 P P 10 23 19.2 +0.7
baz=132
B05A **Bryant** 42.58 330 P P 10 23 19.3 +0.7
baz=134
SCHQ **Schefferville** 45.68 20 P P 10 23 42.5 -0.9
comp=Z,10nm,0.8s,baz=219,slow=3.5,SNR=5.8
SCHQ LR LR 10 43 19.7
comp=Z,197nm,20.9s,baz=268,slow=37
YKA **Yellowknife Ar** 51.42 347 P P 10 24 27.8 +0.5
comp=Z,7.6nm,0.7s,baz=149,slow=7.5,SNR=60
YKA PcP PcP 10 25 41.3 0.0
comp=Z,1.0nm,0.7s,baz=150,slow=3.5,SNR=3.9
YKB5 **Yellowknife Ar** 51.42 347 eP P 10 24 27.1 -0.3
YKW3 **Yellowknife Ar** 51.48 347 eP P 10 24 27.6 -0.2
comp=Z,13nm,0.9s
DLBC **Dease Lake** 53.00 336 eP P 10 24 40.6 +1.3
comp=Z,10nm,1.0s
PLCA **Paso Flores** 57.61 161 LR LR 10 43 49.3
comp=Z,113nm,19.5s,baz=232,slow=30
EPYK **Eagle Plains** 60.50 341 P P 10 25 32.4 +0.1
baz=128
INK **Inuvik** 60.82 344 eP P 10 25 36.0 +1.7
comp=Z,7.5nm,0.9s
INK **Inuvik** 60.82 344 eP P 10 25 36.0 +1.7
INK pmax pmax
comp=Z,8.0nm,0.9s
HDA **Harding Lake** 63.05 337 P P 10 25 50.0 +0.6
baz=117
IL1 **Eielson Array** 63.19 337 eP P 10 25 50.4 +0.1
ILAR **Eielson Array** 63.19 337 P P 10 25 50.9 +0.5
comp=Z,4.3nm,1.0s,baz=133,slow=4.2,SNR=29
ILB **Eielson Array** 63.19 337 eP P 10 25 51.0 +0.6
RND **Reindeer** 63.37 335 eP P 10 25 52.8 +1.2
comp=Z,19nm,1.0s
RND **Reindeer** 63.37 335 eP P 10 25 52.8 +1.2
RND pmax pmax
comp=Z,19nm,1.0s
POKR **Poker Plat Res** 63.55 337 P P 10 25 53.5 +0.7
baz=117
TCOL **CIGO, UAF Yank** 63.60 337 P P 10 25 53.8 +0.8
baz=116
CAST **Castle Rocks** 64.71 334 eP P 10 26 00.4 0.0
comp=Z,6.8nm,1.0s
IM3 **Indian Mountai** 66.31 337 eP P 10 26 10.3 -0.3
ESDC **Sonseca Array** 80.09 52 P P 10 27 31.2 -1.4
comp=Z,0.2nm,0.3s,baz=289,slow=4.0,SNR=3.6
BILL **Bilibino** 81.81 338 eP P 10 27 41.6 +0.5
BILL pmax pmax
comp=Z,6.0nm,1.1s
BILL MLR MLR
comp=Z,67nm,17.0s
NB2 **NORSAR Subarra** 84.59 28 P P 10 27 57.5 +1.9
comp=Z,0.8nm,0.8s,baz=289,slow=4.8
NB200 **NORSAR Array S** 84.59 28 eP P 10 27 56.3 +0.7
NOA **NORSAR Array B** 84.59 28 P P 10 27 56.3 +0.7
comp=Z,1.7nm,0.9s,baz=292,slow=4.7,SNR=4.2
NOA LR LR 11 04 48.6
comp=Z,12nm,21.8s,baz=285,slow=35
HFS **Hagfors** 86.05 29 LR LR 11 04 57.3
comp=Z,25nm,21.8s,baz=302,slow=34
ARA0 **ARCESS Array S** 86.59 18 eP P 10 28 04.2 -1.1
ARCES **ARCESS Array B** 86.59 18 P P 10 28 04.2 -1.1
comp=Z,2.4nm,0.9s,baz=298,slow=7.7,SNR=3.1
SEY **Seymchan** 89.09 336 i P P 10 28 18.2 +0.8
GERES **GERESS Array B** 90.03 39 LR LR 11 06 50.4

comp=Z,24nm,20.5s,baz=316,slow=34
TOA1 Torodi Ar. Sit 90.61 76 *e*P **P 10 28 23.4 -2.0**
TORD Torodi Ar. Bea 90.61 76 P **P 10 28 23.4 -2.0**
comp=Z,0.2nm,0.5s,baz=284,slow=5.0,SNR=2.6
TIXI Tiksi 90.66 348 P **P 10 28 24.6 +0.1**
comp=Z,2.4nm,0.7s,baz=12,slow=5.1,SNR=11
TIXI Tiksi 90.66 348 *i* P **P 10 28 24.4 -0.1**
TIXI pmax pmax
comp=Z,10.0nm,1.5s
FINES FINESS Array B 90.95 25 LR LR 11 08 42.8
comp=Z,20nm,18.4s,baz=345,slow=35
TAM Tamanrasset 91.72 66 P **P 10 28 30.8 +0.2**
TAM pmax pmax
comp=Z,2.0nm,0.6s
NRIK Noril'sk 97.31 0 LR LR 11 16 58.4
comp=Z,28nm,19.1s,baz=12,slow=38
AKASG Malin Array Be 98.17 33 LR LR 11 14 01.2
comp=Z,28nm,20.3s,baz=190,slow=36
OBN Obninsk 99.13 27 *ce*P **Pdif 10 29 03.9 +0.4**
OBN *e* 10 33 03.5
OBN pmax pmax
comp=Z,3.0nm,0.9s
OBN MLR MLR
comp=Z,30nm,16.0s
KURK Kurchatov 115.49 6 *i* PKIKP **PKPdf 10 34 04.2 +0.1**
HHC Hu-ho-hao-te 121.58 339 *e*P **PKPdf 10 34 18.0 +1.7**
NJ2 Nanjing 125.79 327 *e*P **PKPdf 10 34 25.3 +0.8**
NJ2 pmax pmax
comp=Z,14nm,0.7s
LZH Lanzhou 128.36 343 *e*PKP **PKPdf 10 34 31.3 +1.8**
LZH pPKP pPKPdf 10 34 41.8 -1.9
LZH sPKP 10 34 46.5
WR1 Warramunga Arr 135.15 255 *e*PKPdf **PKPdf 10 34 42.5 -0.1**
WRA Warramunga Arr 135.15 255 PKP **PKPdf 10 34 42.5 -0.1**
comp=Z,0.4nm,0.8s,baz=83,slow=1.7,SNR=3.4
ASAR Alice Springs 135.39 250 PKP **PKPdf 10 34 41.9 -1.0**
comp=Z,0.4nm,0.7s,baz=80,slow=2.1,SNR=5.3
PAYA Payao 145.21 340 P **PKPdf 10 35 01.2 +0.4**
comp=Z,5.8nm,0.8s
CHTO Chiang Mai 146.03 341 P **PKPbc 10 35 03.2 +0.3**
comp=Z,69nm,1.8s
CMMT Chiang Mai 146.03 341 P **PKPbc 10 35 03.1 +0.2**
comp=Z,15nm,1.7s
CMAR Chiang Mai Arr 146.36 341 PKPbc **PKPbc 10 35 04.5 +0.5**
comp=Z,4.9nm,0.8s,baz=342,slow=3.3,SNR=23

IDC 27 10:20:26.7±2.6, 33°23'S×178°26'W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/28, mbtmp3.8/3, ML3.8/1, Error ellipse: s-maj=68.7km s-min=43.7km az=131.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.28**	**216**	Pn	Pn	10 21 59.5	-1.0
	2.0nm,0.3s,baz=53,slow=10,SNR=21						
URZ				Sn	Sn	10 23 06.8	-6.1
	1.5nm,0.3s,baz=188,slow=19,SNR=9.7						
ASAR	**Alice Springs**	**42.82**	**270**	P	P	10 28 26.7	+0.2
	0.8nm,0.7s,baz=110,slow=7.2,SNR=17						
ASAR				PcP	PcP	10 30 18.6	+0.7
	0.2nm,0.7s,baz=104,slow=3.9,SNR=3.3						
WRA	**Warramunga Arr**	**44.06**	**275**	P	P	10 28 36.8	+0.2
	0.7nm,0.5s,baz=114,slow=7.6,SNR=11						
FINES	**FINESS Array B**	**147.70**	**338**	PKPbc	PKPdf	10 40 10.6	+0.9
	6.4nm,0.6s,baz=70,slow=33,SNR=25						

*ISCJB **27** 10:27:17.0±0.7, 42°54'N×0°02'×70°06'E±0°05, h0km, Error ellipse: s-maj=5.8km s-min=2.9km az=172.6*
*KRNET **27** 10:27:16.9±0.1, 42°44'N×70°14'E, h6km, mb2.4*
*NNC **27** 10:27:18.1±0.8, 42°57'N×70°11'E, h0km, mb2.9, mpv2.4, Error ellipse: s-maj=6.4km s-min=3.1km az=87.0, Suspected Mining explosion.*
ISC 27 10:27:16.5±1.2, 42°59'N±0°05×70°02'E±0°05, h0km, n24, σ0°99/46, 25C-17D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.46**	**343**	*e*P	**Pg**	**10 27 25.7**	**+0.4**
	baz=16						
BRLS				*e*S	**Sb**	**10 27 33.3**	**-1.7**
	baz=16						
KK07	**Karatay Array**	**0.61**	**35**	⇓P	**Pb**	**10 27 29.9**	**-0.2**
KK07				⇑S	**Sb**	**10 27 38.6**	**-0.6**
KK08	**Karatay Array**	**0.62**	**33**	⇑P	**Pb**	**10 27 30.2**	**0.0**
KK08				⇑S	**Sb**	**10 27 38.8**	**-0.6**
KK03	**Karatay Array**	**0.62**	**34**	⇑P	**Pb**	**10 27 30.1**	**-0.2**
KK03				⇑S	**Sb**	**10 27 38.4**	**-1.1**
KK06	**Karatay Array**	**0.63**	**36**	⇑P	**Pb**	**10 27 30.1**	**-0.2**
KK06				⇑S	**Sb**	**10 27 39.1**	**-0.6**
KK01	**Karatay Array**	**0.63**	**34**	⇑P	**Pb**	**10 27 30.1**	**-0.2**
KK01				⇑S	**Sb**	**10 27 39.0**	**-0.7**
KK02	**Karatay Array**	**0.63**	**35**	⇑P	**Pb**	**10 27 30.2**	**-0.2**
KK02				⇓S	**Sb**	**10 27 38.9**	**-0.8**
KK31	**Karatay Array**	**0.63**	**35**	⇓P	**Pb**	**10 27 30.3**	**-0.1**
	0.7nm,0.3s,baz=202,slow=17,SNR=31						
KK31				⇓S	**Sb**	**10 27 38.5**	**-1.1**
	2.4nm,0.3s,baz=203,slow=33,SNR=16						
KK04	**Karatay Array**	**0.63**	**34**	⇑P	**Pb**	**10 27 30.2**	**-0.1**
KK04				⇑S	**Sb**	**10 27 39.0**	**-0.8**
KK09	**Karatay Array**	**0.64**	**33**	⇑P	**Pb**	**10 27 30.3**	**-0.2**
KK09				⇑S	**Sb**	**10 27 39.4**	**-0.6**
KK05	**Karatay Array**	**0.64**	**35**	⇑P	**Pb**	**10 27 30.4**	**-0.2**
KK05				⇑S	**Sb**	**10 27 39.8**	**-0.3**
ARK	**Arkit**	**1.64**	**118**	⇓*i*P	**Pn**	**10 27 46.1**	**-0.6**
	baz=15						
ARK				*i*S	**Sn**	**10 28 05.4**	**-3.2**
	baz=15						
MNAS	**Manas**	**1.84**	**92**	⇓Pn	**Pn**	**10 27 49.4**	**0.0**
	2.3nm,0.4s						
MNAS				⇓Sn	**Sg**	**10 28 15.3**	**-0.1**
	2.1nm,0.4s						
MNAS	**Manas**	**1.84**	**92**	⇑*i*P	**Pn**	**10 27 49.8**	**+0.4**
	baz=88						
MNAS				⇑*i*S	**Sn**	**10 28 12.9**	**-0.5**
	baz=88						
MRKS	**Merke**	**2.37**	**85**	*e*P	**Pn**	**10 27 58.3**	**+1.7**
	baz=81						
MRKS				*e*S	**Sb**	**10 28 29.8**	**0.0**
	baz=81						
ARSB	**Arslanbob**	**2.54**	**119**	⇓*e*P	**Pn**	**10 28 00.0**	**+0.9**
	baz=17						
ARSB				⇓*e*S	**Sn**	**10 28 29.5**	**-1.3**
	baz=17						
BTK	**Batken**	**2.60**	**166**	⇓*i*P	**Pn**	**10 28 01.4**	**+1.6**
	baz=68						
BTK				⇓*i*S	**Sn**	**10 28 32.3**	**+0.2**
	baz=68						
AML	**Almayashu**	**2.76**	**98**	⇑*e*P	**Pn**	**10 28 03.6**	**+1.3**
	baz=95						
AML				⇑*i*S	**Sn**	**10 28 36.6**	**+0.1**
	baz=95						
EKS2	**Erkin-Say**	**2.77**	**87**	⇑*i*P	**Pn**	**10 28 03.7**	**+1.5**
	baz=84						
EKS2				⇑*i*S	**Sn**	**10 28 36.7**	**+0.3**
	baz=84						
AAK	**Ala-Archa**	**3.30**	**88**	⇓Pg	**Pb**	**10 28 15.1**	**-0.8**
	1.3nm,0.8s						
AAK				⇓Lg	Lg	10 28 59.4	
	1.7nm,0.6s						
UCH	**Uchtor**	**3.34**	**95**	⇓*i*P	**Pn**	**10 28 11.5**	**+1.1**
	baz=92						
UCH				⇓*i*S	**Sn**	**10 28 51.0**	**0.0**
	baz=92						
USP	**Ospenovka**	**3.36**	**77**	⇑*i*P	**Pn**	**10 28 11.8**	**+1.6**
	baz=74						
USP				⇑*i*S	**Sn**	**10 28 51.4**	**+0.6**
	baz=74						
TKM2	**Tokmak 2**	**4.12**	**83**	⇑Pg	**Pb**	**10 28 28.8**	**-1.1**
	1.4nm,0.8s						
TKM2				⇓Lg	Lg	10 29 23.4	
	1.4nm,0.7s						
DGS	**Degeres**	**4.27**	**79**	*e*P	**Pb**	**10 28 31.9**	**-0.6**
	baz=77						
DGS				*e*S	**Sb**	**10 29 26.6**	**+1.9**
	baz=77						

*ISCJB **27** 10:29:34.5±0.4, 6°04N±0°04×77°80W±0°04, h33km, mb3.5/6, Error ellipse: s-maj=7.2km s-min=4.2km az=144.6*
*RSNC **27** 10:29:35.3±1.1, 6°08N×77°71W, h48km±12km, ML3.6*
*IDC **27** 10:29:38.4±2.1, 5°80N×77°98W, h45km±22km, mb3.3/6, mb1 3.7/10, mb1mx3.5/27, mbtmp3.7/10, ML2.5/3, MS3.0/3, Ms1 3.0/3, ms1mx2.6/20, Error ellipse: s-maj=31.8km s-min=14.8km az=47.0*
ISC 27 10:29:36.4±0.7, 6°02N±0°05×77°76W±0°06, h35km, n24, σ1°69/26, mb3.5/6, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**0.41**	**60**	*e*P	**Pn**	**10 29 44.2**	**-1.5**
SOLC				*e*S	**Sn**	**10 29 51.1**	**-1.0**
SOLC				*i*		10 29 52.7	
	comp=Z,4μm,0.3s						
PTAC	**Punta Ardita,**	**1.12**	**358**	*e*P	**Pn**	**10 29 53.5**	**-2.1**
PTAC				*e*S	**Sn**	**10 30 06.9**	**-2.9**
PTAC				*i*		10 30 09.5	
	comp=N,4μm,0.2s						
PLMC	**San Jos'' del**	**1.84**	**127**	*e*P	**Pn**	**10 30 03.9**	**-1.7**
PLMC				*e*S	**Sn**	**10 30 25.6**	**-2.2**
MALC	**Bahia Malaga**	**2.04**	**168**	*e*P	**Pn**	**10 30 07.0**	**-1.2**
MALC				*i*		10 30 13.7	
	comp=N,173nm,0.2s						
HELC	**Santa Helena**	**2.23**	**86**	*e*P	**Pn**	**10 30 11.8**	**+0.7**
YOTC	**Yotoco, Valle**	**2.47**	**145**	*e*P	**Pn**	**10 30 12.6**	**-1.7**
ANIL	**Santa Ana**	**2.80**	**123**	*e*P	**Pn**	**10 30 19.4**	**+0.5**
ANIL				*i*		10 31 03.7	
	comp=N,71nm,0.4s						
ROSC	**El Rosal**	**3.62**	**109**	P	Pn	10 30 35.3	+4.9
	comp=N,1.1nm,0.3s,baz=288,slow=19,SNR=1.8						
MARP	**Paez Belalcaza**	**3.63**	**150**	*e*P	**Pn**	**10 30 32.3**	**+1.8**
BCIP	**Isla Barro Col**	**3.74**	**327**	*e*P	**Pn**	**10 30 29.3**	**-2.4**
BCIP				*i*		10 30 31.2	
	comp=Z,101nm,0.4s						
BCIP				*e*S	**Sn**	**10 31 12.2**	**-2.4**
SOTA	**Rioblanco**	**4.03**	**163**	*e*P	**Pn**	**10 30 35.8**	**-0.3**
CRUC	**La Cruz**	**4.50**	**170**	*e*P	**Pn**	**10 30 42.0**	**-0.4**
SDV	**Santo Domingo**	**7.62**	**68**	P	Pn	10 31 31.0	+5.8
	comp=Z,1.2nm,0.3s,baz=349,slow=16,SNR=2.8						
JTS	**JuntasAbangare**	**8.29**	**301**	P	**Pn**	**10 31 33.6**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=203,slow=15,SNR=3.6						
JTS				S	**Sn**	**10 33 08.6**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=6.3,slow=18,SNR=2.0						
JTS				LR	LR	10 34 30.0	
	comp=Z,108nm,19.0s,baz=182,slow=35						
ATAH	**Atahualpa**	**13.08**	**183**	LR	LR	10 38 09.1	
	comp=Z,53nm,18.3s,baz=339,slow=40						
NNA	**Nana**	**17.91**	**177**	P	**Pn**	**10 33 40.4**	**-2.6**
	comp=Z,0.4nm,0.3s,baz=320,slow=9.0,SNR=2.2						
NNA				LR	LR	10 41 20.9	
	comp=Z,35nm,18.9s,baz=2.5,slow=40						
LPAZ	**La Paz**	**24.13**	**157**	P	**P**	**10 34 51.1**	**+1.3**
	comp=Z,0.4nm,0.4s,baz=324,slow=8.9,SNR=2.9						
SIV	**San Ignacio**	**27.41**	**143**	P	**P**	**10 35 18.8**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=329,slow=12,SNR=7.8						
PDAR	**Pinedale Array**	**46.13**	**327**	P	**P**	**10 37 59.6**	**+1.8**
	comp=Z,0.5nm,0.8s,baz=112,slow=11,SNR=3.5						
NVAR	**Mina Array Bea**	**48.85**	**317**	P	**P**	**10 38 20.8**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=100,slow=6.8,SNR=3.7						
YKA	**Yellowknife Ar**	**62.50**	**342**	P	**P**	**10 39 57.0**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=95,slow=32,SNR=4.2						
ILAR	**Eielson Array**	**75.76**	**336**	P	**P**	**10 41 19.7**	**+1.3**
	comp=Z,0.2nm,0.7s,baz=122,slow=4.5,SNR=4.0						
ASAR	**Alice Springs**	**144.86**	**237**	PKP	**PKPab**	**10 49 09.4**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=116,slow=3.7,SNR=16						
WRA	**Warramunga Arr**	**145.89**	**243**	PKPbc	**PKPdf**	**10 49 12.9**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=98,slow=2.5,SNR=9.3						

*ISK **27** 10:29:54.8, 37°48N×27°82E, h3km, ML1.8/8*
*DDA **27** 10:29:55.9, 37°48N×27°87E, h7km, Ml2.7*
ISC 27 10:29:55.6±1.0, 37°46N±0°03×27°87E±0°04, h13km±9km, n14, σ0°61/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.18**	**205**	PG	**Pg**	**10 29 59.3**	**-0.4**
MLSB				SG	**Sg**	**10 30 03.3**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**0.49**	**2**	PG	**Pg**	**10 30 04.7**	**-0.6**
AYDB				SG	**Sg**	**10 30 11.9**	**0.0**
BODT	**Bodrum**	**0.60**	**229**	PG	**Pg**	**10 30 06.8**	**-0.5**
BODT				SG	**Sg**	**10 30 15.6**	**+0.4**
DAT	**Datca**	**0.76**	**198**	PG	**Pg**	**10 30 10.1**	**-0.4**
DAT	**Datca**	**0.76**	**198**	*i* P	**Pg**	**10 30 10.7**	**+0.2**
TURN	**Turunc**	**0.83**	**135**	PG	**Pg**	**10 30 09.9**	**-1.7**
TAVA	**DENIZLI_Tavas**	**0.83**	**89**	*i* P	**Pg**	**10 30 11.9**	**+0.1**
DALY	**Dalyan (Mu¨la**	**0.90**	**135**	PG	**Pn**	**10 30 13.9**	**0.0**
DALY	**Dalyan (Mu¨la**	**0.90**	**135**	*i* P	**Pn**	**10 30 14.0**	**0.0**
DGB	**¨zmir**	**0.98**	**307**	*i* P	**Pn**	**10 30 15.1**	**-0.1**
DGB				*i* S	**Sg**	**10 30 27.9**	**+0.4**
NIS1	**Nisyros Isl.**	**1.02**	**213**	PG	**Pn**	**10 30 15.7**	**0.0**
MANT	**Manisa**	**1.17**	**28**	*i* P	**Pg**	**10 30 18.3**	**+0.1**
FETY	**Fethiye**	**1.27**	**130**	PN	**Pg**	**10 30 20.6**	**+0.5**
URLA	**Izmir**	**1.35**	**312**	PN	**Pb**	**10 30 20.9**	**0.0**

MEX 27 10:36:11.7±0.8, 24°85N×110°44W, h10km±19km, MD3.7, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**0.75**	**171**	*e*P	Pg	10 36 24.1	-2.2
	baz=352,slow=3.8						
LPIG				*i* S	Sg	10 36 33.2	-2.8
SLBS	**Sierra La Lagu**	**1.24**	**159**	*e*P	Pn	10 36 31.7	-3.5
SLBS				*e*S	Sb	10 36 47.4	-4.0

*IDC **27** 10:50:57.4±2.2, 33°25S×178°51W, h0km, mb4.2/3, mb1 4.3/4, mb1mx3.9/23, mbtmp4.2/4, ML3.9/1, MS3.9/1, Ms1 3.9/1, ms1mx2.7/33, Error ellipse: s-maj=54.5km s-min=43.6km az=136.0*
*ISCJB **27** 10:51:00.5±3.2, 33°5S±0°1×178°4W±0°5, h41km, mb4.1/5, Error ellipse: s-maj=58.3km s-min=11.7km az=10.2*
*NEIC **27** 10:51:02.4±1.7, 33°44S×178°55W, h35km, mb4.2/2, Error ellipse: s-maj=35.4km s-min=12.5km az=96.0*
ISC 27 10:51:02.8±2.1, 33°5S±0°2×178°5W±0°3, h41km, n12, σ0°61/15, mb4.2/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.22**	**7**	LR	LR	10 53 05.2	
	comp=Z,2μm,20.4s,baz=196,slow=32						
MXZ	**Matakaoa Point**	**4.84**	**211**	*e*Pn	**Pn**	**10 52 12.3**	**-0.8**
URZ	**Urewera**	**5.96**	**215**	Pn	**Pn**	**10 52 28.4**	**0.0**
	2.6nm,0.3s,baz=258,slow=3.7,SNR=25						
URZ				Sn	**Sn**	**10 53 35.9**	**+0.5**
	2.5nm,0.3s,baz=92,slow=21,SNR=11						
BKZ	**Black Stump Fm**	**6.97**	**214**	*e*Pn	**Pn**	**10 52 42.1**	**-0.3**
CTA	**Charters Tower**	**33.98**	**284**	P	**P**	**10 57 41.7**	**-0.9**
	2.9nm,0.7s,baz=104,slow=12,SNR=3.8						
ASAR	**Alice Springs**	**42.59**	**270**	P	**P**	**10 58 56.1**	**+1.0**
	2.1nm,0.7s,baz=109,slow=7.2,SNR=31						
ASAR				PcP	**PcP**	**11 00 47.8**	**+0.9**
	0.6nm,0.9s,baz=115,slow=4.2,SNR=3.6						
WB2	**Warramunga Arr**	**43.85**	**276**	*e*P	**P**	**10 59 05.3**	**+0.1**
WRAB	**Tennant Creek**	**43.85**	**276**	*e*P	**P**	**10 59 05.5**	**+0.2**
	3.0nm,0.6s						
WR1	**Warramunga Arr**	**43.86**	**276**	*e*P	**P**	**10 59 05.8**	**+0.5**
	2.6nm,0.6s						
WR1				*e*PcP	**PcP**	**11 00 50.9**	**-0.2**
WRA	**Warramunga Arr**	**43.86**	**276**	P	**P**	**10 59 05.8**	**+0.5**
	2.1nm,0.6s,baz=116,slow=8.0,SNR=35						
WRA				PcP	**PcP**	**11 00 50.9**	**-0.2**
	0.3nm,0.8s,baz=127,slow=3.4,SNR=2.8						
FIA0	**FINESS Array S**	**147.83**	**338**	*e*PKPbc	**PKPbc**	**11 10 42.7**	**+0.2**
FINES	**FINESS Array B**	**147.83**	**338**	PKPbc	**PKPbc**	**11 10 42.7**	**+0.2**
	0.8nm,0.5s,baz=36,slow=3.6,SNR=5.4						

*IDC **27** 10:55:55.7±1.1, 34°87N×23°81E, h0km, mb3.9/11, mb1 4.0/16, mb1mx3.8/42, mbtmp3.8/16, ML3.9/4, MS3.5/3, Ms1 3.5/3, ms1mx2.6/47, Error ellipse: s-maj=23.3km s-min=11.1km az=168.0*
*THE **27** 10:55:58.6, 34°70N×23°99E, h23km±1km, ML3.8/3, Error ellipse: s-maj=3.0km s-min=1.8km az=223.0*
*ATH **27** 10:55:59.5, 34°79N×24°04E, h25km±1km, ML3.8/4, Error ellipse: s-maj=3.9km s-min=1.8km az=29.0*
ISC 27 10:55:59.4±0.8, 34°79N±0°06×24°07E±0°04, h24km±4km, n57, σ1°01/64, mb3.9/11, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.05**	**13**	P	**Pn**	**10 56 04.0**	**+0.3**
GVD				S	**Sb**	**10 56 07.1**	**+0.6**
GVD				AML	AML	10 56 07.3	
GVD				AML	AML	10 56 07.5	
GVD	**Gavdhos**	**0.05**	**13**	P	**Pn**	**10 56 04.0**	**+0.3**
GVD				S	**Sb**	**10 56 07.1**	**+0.6**
GVDS	**Gavdos**	**0.06**	**15**	P	**Pb**	**10 56 03.9**	**+0.2**
GVDS				S	**Sb**	**10 56 06.9**	**+0.3**
VAM	**Vamos**	**0.63**	**10**	P	**Pb**	**10 56 11.6**	**-0.1**
VAM				S	**Sn**	**10 56 21.9**	**-0.2**
VAM				AML	AML	10 56 28.7	
	comp=E,12749μm,0.5s						
VAM				AML	AML	10 56 28.9	
	comp=N,12910μm,0.3s						
VAM	**Vamos**	**0.63**	**10**	P	**Pb**	**10 56 11.5**	**-0.3**
VAM				S	**Sn**	**10 56 22.7**	**+0.6**
TMBK	**Timbaki Herakl**	**0.64**	**63**	P	**Pb**	**10 56 11.9**	**0.0**
TMBK				S	**Sn**	**10 56 23.3**	**+1.0**
SIVA	**Sivas**	**0.65**	**69**	P	**Pn**	**10 56 13.6**	**+0.5**
SIVA				S	**Sn**	**10 56 22.9**	**+0.4**
SIVA				AML	AML	10 56 28.7	
	comp=N,16115μm,0.5s						
SIVA				AML	AML	10 56 31.2	
	comp=E,14976μm,0.3s						
SIVA	**Sivas**	**0.65**	**69**	P	**Pn**	**10 56 13.2**	**+0.1**
IMMV	**Iera Moni Meta**	**0.68**	**354**	P	**Pb**	**10 56 12.2**	**-0.4**
IMMV				S	**Sn**	**10 56 23.5**	**+0.2**
IMMV				AML	AML	10 56 26.5	
	comp=N,16086μm,0.4s						
IMMV				AML	AML	10 56 27.1	
	comp=E,16507μm,0.4s						
IMMV	**Iera Moni Meta**	**0.68**	**354**	P	**Pb**	**10 56 12.0**	**-0.6**
IMMV				S	**Sn**	**10 56 24.8**	**+1.5**
PRNS	**Prines Rethymn**	**0.68**	**31**	P	**Pb**	**10 56 12.2**	**-0.4**
PRNS				S	**Sb**	**10 56 22.5**	**+1.0**
CHAN	**Chania**	**0.73**	**358**	P	**Pn**	**10 56 13.3**	**-0.9**
IDI	**Anoyia**	**0.84**	**53**	*e*P	**Pb**	**10 56 15.0**	**-0.3**
IDI				S	**Sn**	**10 56 27.8**	**+0.5**
IDI	**Anoyia**	**0.84**	**53**	Pg	**Pb**	**10 56 15.4**	**0.0**
	comp=E,21nm,0.3s,baz=237,slow=16,SNR=76						
IDI				Lg	Lg	10 56 29.3	
	comp=E,243nm,0.3s,baz=330,slow=20,SNR=50						
IDI				LR	LR	10 56 56.5	
	comp=E,164nm,21.1s,baz=244,slow=62						
LAST	**Lasithi**	**1.21**	**72**	P	**Pb**	**10 56 22.9**	**+1.1**
ANKY	**Antikythira Is**	**1.25**	**330**	P	**Pb**	**10 56 23.1**	**+0.8**
KYTH	**Kithira**	**1.69**	**331**	P	**Pb**	**10 56 30.7**	**+0.7**
SANT	**Santorini**	**1.94**	**35**	*e*P	**Pn**	**10 56 30.9**	**0.0**
SAP3	**Santorini-Thir**	**1.94**	**32**	P	**Pb**	**10 56 34.1**	**0.0**
ANAF	**Anafi Island**	**2.09**	**41**	P	**Pb**	**10 56 35.4**	**-1.2**
AMGA	**Amorgos Island**	**2.52**	**35**	P	**Pn**	**10 56 40.8**	**+2.0**
APE	**Apeiranthos**	**2.56**	**27**	*e*P	**Pn**	**10 56 39.4**	**-0.1**
APE	**Apeiranthos**	**2.56**	**27**	P	**P**	**10 56 41.1**	**+1.6**
NIS1	**Nisyros Isl.**	**3.11**	**53**	*e*P	**Pn**	**10 56 45.5**	**-1.5**
DAT	**Datca**	**3.45**	**55**	*e*P	**Pn**	**10 56 49.8**	**-1.9**
BODT	**Bodrum**	**3.47**	**48**	*e*P	**Pn**	**10 56 50.1**	**-1.8**
ARG	**Arkhangelos**	**3.60**	**66**	*e*P	**Pn**	**10 56 51.5**	**-2.2**
CHOS	**Chios island**	**3.93**	**23**	*e*P	**Pn**	**10 56 59.5**	**+1.2**
URLA	**Izmir**	**4.10**	**29**	*e*P	**Pn**	**10 57 02.2**	**+1.6**
TURN	**Turunc**	**4.23**	**59**	*e*P	Pn	10 56 56.1	-6.2
DALY	**Dalyan (Mu¨la**	**4.24**	**60**	*e*P	**Pn**	**10 57 01.4**	**-1.0**
FETY	**Fethiye**	**4.47**	**64**	*e*P	**Pn**	**10 57 05.3**	**-0.4**
AKAS	**Kas**	**4.74**	**71**	*e*P	**Pn**	**10 57 08.7**	**-0.8**
ELL	**Elmali**	**5.13**	**66**	*e*P	**Pn**	**10 57 13.2**	**-1.7**
KORT	**Korkueli**	**5.55**	**65**	*e*P	**Pn**	**10 57 19.9**	**-0.8**
SUTC	**Sutluce-Ispart**	**6.21**	**62**	*e*P	**Pn**	**10 57 29.1**	**-0.6**
BRTR	**Keskin Array B**	**9.08**	**54**	Pn	**Pn**	**10 58 10.9**	**+1.9**
	comp=E,0.1nm,0.3s,baz=233,slow=16,SNR=2.7						
MMAI	**Mount Meron Ar**	**9.58**	**97**	Pn	**Pn**	**10 58 17.9**	**+2.0**
	comp=E,1.7nm,0.3s,baz=314,slow=15,SNR=3.6						
EIL	**Elat**	**10.53**	**116**	Pn	**Pn**	**10 58 29.5**	**+0.7**
	comp=E,0.7nm,0.3s,baz=73,slow=1.5,SNR=6.5						
VRAC	**Vranov**	**15.52**	**341**	LR	LR	11 07 15.8	
	comp=E,29nm,18.4s,baz=31,slow=44						
GERES	**GERESS Array B**	**16.01**	**334**	Pn	**Pn**	**10 59 42.3**	**-0.7**
	comp=E,0.3nm,0.3s,baz=166,slow=9.1,SNR=2.5						
AKASG	**Malin Array Be**	**16.34**	**12**	Pn	**P**	**10 59 50.0**	**+0.1**
	comp=E,1.7nm,0.3s,baz=208,slow=10.0,SNR=5.1						
KBZ	**Khabaz**	**17.07**	**53**	Pn	**P**	**10 59 59.4**	**+1.5**
	comp=E,0.2nm,0.3s,baz=237,slow=6.5,SNR=4.2						
HFS	**Hagfors**	**26.25**	**348**	P	**P**	**11 01 32.1**	**-0.3**
	comp=E,2.0nm,0.4s,baz=148,slow=12,SNR=12						
FINES	**FINESS Array B**	**26.70**	**2**	P	**P**	**11 01 35.1**	**-1.4**
	comp=E,3.2nm,1.0s,baz=158,slow=11,SNR=3.8						
NB2	**NORSAR Subarra**	**27.54**	**346**	P	**P**	**11 01 43.0**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=156,slow=9.3						
NOA	**NORSAR Array B**	**27.54**	**346**	P	**P**	**11 01 43.1**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=153,slow=8.6,SNR=5.8						
AKTO	**Aktyubinsk**	**29.16**	**47**	P	**P**	**11 01 58.5**	**0.0**
	comp=Z,0.9nm,0.6s,baz=251,slow=6.6,SNR=5.0						
TORD	**Torodi Ar. Bea**	**29.57**	**229**	P	**P**	**11 02 03.0**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=42,slow=7.9,SNR=4.6						
ARU	**Arti**	**31.88**	**37**	LR	LR	11 17 04.9	
	comp=Z,56nm,21.4s,baz=345,slow=40						
ARCES	**ARCESS Array B**	**34.81**	**1**	P	**P**	**11 02 46.3**	**-1.6**
	comp=Z,3.7nm,1.1s,baz=182,slow=8.5,SNR=4.9						
MKAR	**Manchi Array**	**44.72**	**56**	P	**P**	**11 04 11.3**	**+0.7**
	comp=Z,1.1nm,0.3s,baz=265,slow=8.0,SNR=18						
ZALV	**Zalesovo Beam**

RAGZ	**Rawiri**	**6.13 214**	P		**Pn**	11 01 54.5	**-0.9**
RAGZ			S		**Sn**	11 03 02.7	**-1.8**
RIGZ	**Rimuhau**	**6.15 211**	P		**Pn**	11 01 55.3	**-0.4**
RIGZ			S		**Sn**	11 03 03.9	**-0.9**
TGRZ	**Tauranga**	**6.17 225**	P		**Pn**	11 01 58.4	**+2.4**
PRGZ	**Paritu Road**	**6.28 209**	P		**Pn**	11 01 56.4	**-1.1**
SNGZ	**Shannon Statio**	**6.40 213**	P		**Pn**	11 02 00.1	**+1.0**
MUGZ	**Murupara**	**6.43 218**	P		**Pn**	11 01 59.4	**-0.2**
RTZ	**Ruatahuna**	**6.43 216**	P		**Pn**	11 01 58.8	**-0.8**
KNZ	**Kokohu**	**6.45 210**	P		**Pn**	11 01 58.4	**-1.4**
MHGZ	**Mahia Peninsul**	**6.47 208**	P		**Pn**	11 01 59.2	**-0.8**
RAHZ	**Arahi**	**6.62 213**	P		**Pn**	11 02 02.6	**+0.4**
TOZ	**Tahuroa Road**	**6.64 228**	P		**Pn**	11 02 02.6	**+0.3**
MTHZ	**Maungataniwha**	**6.69 215**	P		**Pn**	11 02 03.0	**-0.1**
WHHZ	**Waihua**	**6.69 212**	P		**Pn**	11 02 03.7	**+0.7**
ALRZ	**Allen Road**	**6.71 219**	P		**Pn**	11 02 05.5	**+2.1**
NMHZ	**Naumai**	**6.89 214**	P		**Pn**	11 02 06.2	**+0.2**
ARHZ	**Aropaoanui**	**6.94 212**	P		**Pn**	11 02 06.7	**+0.1**
OUZ	**Omahuta**	**6.97 253**	*e*Pn		**Pn**	11 02 05.6	**-1.4**
BKZ	**Black Stump Fm**	**7.10 215**	*e*Pn		**Pn**	11 02 06.5	**-2.2**
BKZ			*e*Sn		**Sn**	11 03 25.0	**-3.3**
BKZ	**Black Stump Fm**	**7.10 215**	P		**Pn**	11 02 08.1	**-0.7**
MCHZ	**McNeill Hill**	**7.22 213**	P		**Pn**	11 02 09.7	**-0.7**
CKHZ	**Cape Kidnapper**	**7.24 210**	P		**Pn**	11 02 07.6	**-2.9**
KWHZ	**Kaweka Forest**	**7.34 214**	P		**Pn**	11 02 11.4	**-0.6**
KAHZ	**Kahuranaki**	**7.43 210**	P		**Pn**	11 02 10.7	**-2.6**
HIZ	**Hauiti**	**7.53 226**	*e*Pn		**Pn**	11 02 12.8	**-1.7**
NGZ	**Ngauruhoe**	**7.56 219**	P		**Pn**	11 02 15.8	**+0.7**
BHHZ	**Black Hill Sta**	**7.56 216**	P		**Pn**	11 02 14.9	**-0.2**
PXZ	**Pawanui**	**7.64 210**	P		**Pn**	11 02 15.9	**-0.1**
MOVZ	**Moawhango**	**7.65 217**	P		**Pn**	11 02 16.0	**-0.3**
VRZ	**Vera Road**	**7.99 223**	P		**Pn**	11 02 21.0	**+0.2**
TSZ	**Takapari Road**	**8.06 214**	P		**Pn**	11 02 21.5	**-0.3**
BFZ	**Birch Farm**	**8.44 210**	*e*Pn		**Pn**	11 02 25.3	**-1.8**
BFZ			*e*Sn		**Sn**	11 03 56.4	**-4.8**
BFZ	**Birch Farm**	**8.44 210**	P		**Pn**	11 02 26.1	**-1.0**
MRZ	**Mangatainoka R**	**8.71 213**	P		**Pn**	11 02 28.0	**-2.8**
SNZO	**South Karori**	**9.63 214**	*e*Pn		**Pn**	11 02 41.0	**-2.4**
KHZ	**Kahutara**	**11.04 214**	*e*Pn		**Pn**	11 02 59.9	**-2.7**
KHZ	**Kahutara**	**11.04 214**	P		**Pn**	11 02 60.0	**-2.7**
LTZ	**Lake Taylor**	**11.92 216**	*e*Pn		**Pn**	11 03 11.9	**-2.8**
OXZ	**Oxford**	**12.44 215**	*e*Pn		**Pn**	11 03 17.6	**-4.3**
MQZ	**McQueen's Vall**	**12.45 212**	*e*Pn		**Pn**	11 03 18.7	**-3.2**
RPZ	**Rata Peaks**	**13.21 216**	Pn		**Pn**	11 03 28.2	**-4.1**
	0.8nm,0.3s,baz=22,slow=19,SNR=4.3						
RPZ			Sn		Sn	11 05 44.1	-14
	0.9nm,0.3s,baz=311,slow=20,SNR=4.4						
RPZ	**Rata Peaks**	**13.21 216**	*e*Pn		**Pn**	11 03 29.9	**-2.4**
RPZ			Sn		Sn	11 05 44.1	-14
FOZ	**Fox Glacier**	**13.71 219**	*e*Pn		**Pn**	11 03 36.3	**-2.9**
ODZ	**Otahua Downs**	**14.40 213**	*e*Pn		**Pn**	11 03 45.2	**-3.3**
JCZ	**Jackson Bay**	**14.63 220**	P		**Pn**	11 03 49.2	**-2.6**
WKZ	**Wanaka**	**15.02 217**	*e*Pn		**Pn**	11 03 55.4	**-1.7**
	66nm,1.3s						
MLZ	**Mavora Lakes**	**15.86 217**	*e*Pn		**Pn**	11 04 06.9	**-0.9**
	54nm,1.4s						
WHZ	**Wether Hill Ro**	**16.31 216**	*e*Pn		**Pn**	11 04 13.2	**-0.4**
	70nm,1.5s						
DZM	**Mont Dzumac**	**17.65 306**	LR		LR	11 10 26.5	
	comp=Z,136nm,19.8s,baz=88,slow=34						
RAR	**Rarotonga**	**20.41 58**	LR		LR	11 11 28.9	
	comp=Z,91nm,20.7s,baz=276,slow=32						
PPT	**Papeete**	**30.20 65**	LR		LR	11 18 24.7	
	comp=Z,42nm,18.6s,baz=185,slow=36						
STKA	**Stephens Creek**	**33.70 261**	LR		LR	11 20 31.4	
	comp=Z,62nm,18.2s,baz=26,slow=36						
CTA	**Charters Tower**	**34.20 284**	P		**P**	**11 07 11.6**	**+1.8**
	4.7nm,0.7s,baz=121,slow=10,SNR=10						
ASAR	**Alice Springs**	**42.83 270**	P		**P**	**11 08 22.4**	**+0.2**
	4.9nm,0.7s,baz=111,slow=7.5,SNR=50						
ASAR			PcP		**PcP**	**11 10 14.2**	**+1.3**
	1.2nm,0.8s,baz=126,slow=4.9,SNR=5.2						
WRA	**Warramunga Arr**	**44.09 275**	P		**P**	**11 08 32.2**	**-0.2**
	6.0nm,0.6s,baz=116,slow=7.6,SNR=57						
WRA			PcP		**PcP**	**11 10 18.4**	**+1.1**
	0.7nm,0.7s,baz=111,slow=3.4,SNR=4.3						
VNDA	**Vanda**	**45.03 186**	LR		LR	11 23 10.0	
	comp=Z,63nm,20.5s,baz=252,slow=30						
SYO	**Syowa Base**	**74.09 193**⇑	*e*P		P	11 12 09.9	+10
SNAA	**Sanae**	**75.11 178**	P		P	11 12 18.4	+13
VNA3	**Neumayer Olymp**	**75.27 176**	P		P	11 12 20.3	+14
VNA2	**Neumayer--Watz**	**75.70 177**	P		P	11 12 22.9	+14
	baz=180,slow=4.0						
VNA1	**Neumayer--Stat**	**75.93 177**	P		P	11 12 21.6	+12
FINES	**FINESS Array B**	**147.92 338**	PKPbc		**PKPab**	**11 20 09.5**	**-1.2**
	2.1nm,0.5s,baz=37,slow=4.3,SNR=12						
MMAI	**Mount Meron Ar**	**151.92 278**	PKPbc		**PKPbc**	**11 20 21.2**	**+2.3**
	0.4nm,0.3s,baz=101,slow=5.3,SNR=2.5						
HFS	**Hagfors**	**152.19 347**	PKPbc		**PKPbc**	**11 20 21.9**	**+3.4**
	2.8nm,1.0s,baz=100,slow=1.8,SNR=3.7						
HFS			PKPab		**PKPab**	**11 20 29.3**	**+1.0**
	0.8nm,0.3s,baz=72,slow=6.7,SNR=5.0						
AKASG	**Malin Array Be**	**153.53 319**	PKPbc		**PKPbc**	**11 20 24.0**	**+2.3**
	0.5nm,0.4s,baz=54,slow=3.3,SNR=2.8						
BRTR	**Keskin Array B**	**153.74 293**	PKPbc		**PKPbc**	**11 20 24.7**	**+1.9**
	0.5nm,0.6s,baz=90,slow=1.4,SNR=2.6						
TORD	**Torodi Ar. Bea**	**159.78 180**	PKPab		**PKPab**	**11 21 03.3**	**+1.4**
	0.3nm,0.6s,baz=189,slow=4.4,SNR=3.8						

IDC 27 11:17:53.2±175.0, 50.41N×58.03E, h0km, Error ellipse: s-maj=0.0km s-min=0.0km az=114.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**0.00**	**65**	*i*		11 18 20.0	
	baz=246,slow=305,SNR=11						
I46RU	**ZALESOVO INFRA**	**16.76**	**67**	*i*		13 01 40.0	
	baz=260,slow=309,SNR=2.1						
I34MN	**SONGINO INFRAS**	**31.34**	**76**	*i*		14 26 00.0	
	baz=289,slow=330,SNR=0.5						

*NIED **27** 11:27:00, 24.70N×125.40E, h71km, Mw4.0 Best double couple: M0 1.26000×10^15 NP1:φs30.00000°, δ45.00000°, λ47.00000°. NP2:φs263.00000°, δ59.00000°, λ124.00000°.*
*JMA **27** 11:27:39.8±0.1, 24.74N×125.44E, h47km±1km, M3.7*
JMA Felt I J1.
*ISCJB **27** 11:27:40.8±0.5, 24.93N±0.08×125.36E±0.06, h42km, mb3.7/6, MS3.0/1, Error ellipse: s-maj=13.1km s-min=4.5km az=149.8*
*IDC **27** 11:27:40.0±0.9, 25.61N×125.08E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/40, mbtmp3.7/7, ML2.7/1, MS2.8/2, Ms1 2.8/2, ms1mx2.4/46, Error ellipse: s-maj=25.7km s-min=20.4km az=64.0*

ISC 27 11:27:41.3±1.0, 24.8N±0.1×125.38E±0.07, h42km, n19, σ1§09/26, mb3.7/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.08**	**160**	P	**Pn**	**11 27 47.0**	**-1.1**
JOGS				S	**Sn**	**11 27 52.3**	**-0.5**
JMJ	**Miyako jima 2**	**0.08**	**258**	P	**Pn**	**11 27 47.4**	**-0.7**
JMJ				*e*S	**Sn**	**11 27 53.0**	**+0.2**
JIKM	**Ikemajima**	**0.15**	**308**	P	**Pn**	**11 27 48.2**	**-0.3**
JIKM				S	**Sn**	**11 27 54.2**	**+0.8**
JIRB	**Irabujima**	**0.19**	**269**	P	**Pn**	**11 27 48.0**	**-0.7**
JIRB				S	**Sn**	**11 27 54.0**	**+0.1**
JTJ	**Tarama**	**0.64**	**253**	P	**Pn**	**11 27 53.1**	**-0.9**
JTJ				S	**Sn**	**11 28 02.8**	**-0.3**
JISG	**Ishigakijimahi**	**1.00**	**256**	P	**Pn**	**11 27 58.0**	**-0.9**
JISG				*e*S	**Sn**	**11 28 11.6**	**-0.2**
JIJ	**Ishigaki jima**	**1.22**	**248**	P	**Pn**	**11 28 01.3**	**-0.6**
JIJ				S	**Sn**	**11 28 17.9**	**+0.8**
JKRS	**Kuro-shima**	**1.38**	**245**	P	**Pn**	**11 28 03.9**	**-0.2**
JKRS				*e*S	**Sn**	**11 28 22.4**	**+1.3**
IRIF	**Iriomote-Funau**	**1.58**	**252**	P	**Pn**	**11 28 07.6**	**+0.8**
IRIF				*e*S	**Sn**	**11 28 28.1**	**+2.0**
HATJ	**Hateruma jima**	**1.63**	**242**	P	**Pn**	**11 28 08.1**	**+0.6**
HATJ				*e*S	**Sn**	**11 28 29.9**	**+2.7**
JOW	**Kunigami**	**3.28**	**52**	Pn	**Pn**	**11 28 30.6**	**+0.3**
	1.6nm,0.3s,baz=288,slow=20,SNR=8.4						
JOW				Sn	**Sn**	**11 29 09.8**	**+1.6**
	6.1nm,0.3s,baz=270,slow=27,SNR=4.3						
KSRS	**Korea Array**	**12.77**	**9**	LR	LR	11 36 00.0	
	comp=Z,18nm,19.0s,baz=180,slow=42						
SONM	**Songino Array**	**27.44**	**332**	LR	LR	11 44 40.9	
	comp=Z,35nm,18.0s,baz=144,slow=38						
MKAR	**Makanchi Array**	**40.59**	**314**	P	**P**	**11 35 16.1**	**-0.8**
	0.7nm,0.5s,baz=102,slow=11,SNR=9.4						
ZALV	**Zalesovo Beam**	**41.85**	**325**	P	**P**	**11 35 25.4**	**-1.7**
	0.7nm,0.5s,baz=97,slow=8.3,SNR=3.3						
WRA	**Warramunga Arr**	**45.35**	**168**	P	P	11 36 06.0	+10
	1.9nm,0.9s,baz=349,slow=8.7,SNR=9.0						
ASAR	**Alice Springs**	**48.91**	**170**	P	P	11 36 34.9	+12
	0.5nm,0.6s,baz=355,slow=15,SNR=7.9						
ILAR	**Eielson Array**	**66.88**	**28**	P	**P**	**11 38 29.9**	**+1.1**
	0.4nm,0.8s,baz=263,slow=5.4,SNR=7.9						
BRTR	**Keskin Array B**	**75.84**	**307**	P	**P**	**11 39 23.4**	**-0.2**
	0.8nm,0.8s,baz=72,slow=4.0,SNR=3.8						

MEX 27 11:48:02.4±0.5, 13.87N×92.21W, h94km±16km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.03**	**357**	*e*P	Pn	11 48 21.5	-1.2
THIG				*e*S	Sn	11 48 36.4	-1.7
PCIG		**2.07**	**332**	*e*P	Pn	11 48 34.4	-1.2
PCIG				*i* S	Sn	11 48 59.5	-1.4
TGIG		**3.02**	**343**	*i* P	Pn	11 48 47.7	-0.7
TGIG				*i* S	Sn	11 49 22.7	-1.1

*IDC **27** 11:54:11.6±11.0, 39.73N×141.72E, h0km, mb1 3.4/3, mb1mx3.1/62, mbtmp3.3/3, ML2.8/3, Error ellipse: s-maj=133.9km s-min=42.6km az=90.0*
*ISCJB **27** 11:54:19.6±0.6, 39.48N±0.05×140.78E±0.06, h10km±6km, Error ellipse: s-maj=10.7km s-min=5.2km az=139.0*
*JMA **27** 11:54:19.7, 39.51N×140.75E, h9km±1km, M3.3 Broadband fault plane solution: P waves. NP1: φs104.00000°, δ89.00000°, λ-2.00000°. NP2:φs194.00000°, δ88.00000°, λ-179.00000°. Principal axes: T Plg1.0000°, Azm149.0000°; N Plg88.0000°, Azm266.0000°; P Plg2.0000°, Azm59.0000°;*
JMA Felt I J1.

ISC 27 11:54:20.0±1.1, 39.49N±0.05×140.79E±0.05, h8km±10km, n14, σ1§37/13, 4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRG	**Rokugo**	**0.15**	**230**	⇓P	**Pg**	**11 54 23.0**	**-0.2**
JRG				S	**Sg**	**11 54 25.5**	**+0.2**
JSZI	**Iwateshizukuis**	**0.28**	**28**	⇓P	**Pg**	**11 54 25.6**	**+0.1**
JSZI				S	**Sg**	**11 54 29.5**	**+0.2**
JOM	**Ohasama**	**0.39**	**93**	⇓P	**Pg**	**11 54 27.7**	**+0.1**
JOM				S	**Sg**	**11 54 33.3**	**+0.5**
JYK	**Kaneyama**	**0.66**	**210**	⇓P	**Pg**	**11 54 32.2**	**-0.5**
JYK				S	**Sg**	**11 54 41.0**	**-0.4**
MAT	**Matsushiro**	**3.58**	**215**	P	**Pn**	**11 55 16.0**	**+0.2**
MJAR	**Matsushiro Arr**	**3.58**	**215**	Pn	**Pn**	**11 55 16.5**	**+0.7**
	0.5nm,0.3s,baz=35,slow=14,SNR=6.4						
MJAR				Sn	**Sb**	**11 56 08.7**	**+1.6**
	1.3nm,0.3s,baz=24,slow=27,SNR=8.6						
USRK	**Ussuriysk Ar.**	**8.07**	**308**	Pn	**Pn**	**11 56 16.3**	**-1.2**
	0.3nm,0.3s,baz=116,slow=15,SNR=3.4						
KSRS	**Korea Array**	**10.29**	**263**	Pn	**Pn**	**11 56 51.3**	**+3.4**
	0.4nm,0.3s,baz=73,slow=14,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**29.88**	**124**	T	T	12 31 00.9	
	baz=318						
H11N1	**WAKE ISLAND Hy**	**29.89**	**124**	T	T	12 31 05.7	
	baz=318						
H11N3	**WAKE ISLAND Hy**	**29.89**	**124**	T	T	12 31 02.5	
	baz=318						
H11S1	**WAKE ISLAND Hy**	**30.65**	**126**	T	T	12 31 59.2	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**30.65**	**126**	T	T	12 32 00.5	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**30.67**	**126**	T	T	12 32 03.5	
	baz=318						

NNC 27 11:57:37.5±1.3, 38.71N×66.32E, h9km±6km, mb3.7, mpv3.3, 1C-2D, Error ellipse: s-maj=11.6km s-min=7.8km az=120.0, Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.42**	**35**	⇓Pn	Pn	11 58 58.5	+0.1
	0.8nm,0.3s,baz=217,slow=14,SNR=15						
KK31				Sn	Sn	12 00 02.0	+1.2
	0.7nm,0.3s,baz=214,slow=31,SNR=3.5						
KK31				Lg	Lg	12 00 29.1	
	2.7nm,0.4s,baz=220,slow=28,SNR=4.4						
SFK	**Sufi-Kurgan**	**5.72**	**75**	⇑Pn	Pn	11 59 02.5	-0.2
	1.4nm,0.4s						
SFK				Lg	Lg	12 00 40.5	
	3.2nm,0.5s						
MNAS	**Manas**	**6.03**	**49**	⇓Pn	Pn	11 59 07.1	+0.1
	3.3nm,0.5s						
MNAS				Sn	Sn	12 00 17.1	+0.9
	5.4nm,0.9s						
MNAS				Lg	Lg	12 00 48.8	
	3.6nm,0.8s						

*BJI **27** 11:58:16.3, 2.91S×139.20E, h61km, mb5.1/63, mB5.2/36, Ms4.9/18, Ms7 4.6/18*
*ISCJB **27** 11:58:16.4±0.1, 2.68S±0.02×138.80E±0.02, h35km, mb5.1/152, MS3.9/28, Error ellipse: s-maj=3.1km s-min=2.6km az=167.7*
*MOS **27** 11:58:17.0±0.9, 2.67S×138.71E, h41km, mb5.3/50, Error ellipse: s-maj=9.2km s-min=5.2km az=105.3*
*NEIC **27** 11:58:19.4±0.3, 2.71S×138.75E, h51km±3km, mb5.2/103, Error ellipse: s-maj=2.5km s-min=2.1km az=69.0*
*IDC **27** 11:58:19.9±1.4, 2.67S×138.79E, h50km±13km, mb4.6/30, mb1 4.7/36, mb1mx4.6/50, mbtmp4.9/36, ML4.6/4, MS3.8/29, Ms1 3.8/29, ms1mx3.7/46, Error ellipse: s-maj=9.5km s-min=8.9km az=85.0*
*GCMT **27** 11:58:21.4±0.3, 2.66S±0.02×138.80E±0.02, h46km±1km, MW5.0/67, Moment Tensor Solution. s41,c49; s67,c84; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.52±.16; Mθθ 0.95±.11; Mφφ 1.58±. 12; Mrθ 1.62±.10; Mrφ 1.44±.08; Mθφ -1.68±.12; Best double couple: Ms3.51600×10^16 NP1:φs138.00000°, δ66.00000°, λ87.00000°. NP2: φs325.00000°, δ24.00000°, λ97.00000°. Principal axes: T 3.4120, Plg69.0000°, Azm41.0000°; N 0.2010, Plg3.0000°, Azm139.0000°; P -3.6190, Plg21.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **27** 11:58:21.1±0.4, 3°S±3°×13°9E±°, h37km±5km, M5.0/30, mb5.3/30, mB5.4/21, MLv5.5/6, Mw(mB)4.8/21*

ISC 27 11:58:18.2±0.2, 2.71S±0.03×138.76E±0.04, h35km, n612, σ1§49/625, mb5.2/150, MS3.9/27, 14C-3D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.41**	**85**	P	**Pn**	**11 58 43.3**	**+1.9**
GENI				S	**Sn**	**11 59 03.8**	**+5.0**
JAY	**Jayapura**	**1.95**	**84**	P	**Pn**	**11 58 49.5**	**+0.6**
	113nm,0.3s,baz=243,slow=8.8,SNR=182						
JAY				S	**Sn**	**11 59 13.5**	**+1.3**
	453nm,0.3s,baz=285,slow=20,SNR=13						
JAY	**Jayapura**	**1.95**	**84**	P	**Pn**	**11 58 49.7**	**+0.8**
JAY				S	**Sn**	**11 59 14.4**	**+2.1**
SRPI	**Serui, Papua**	**2.65**	**288**	P	**Pn**	**11 59 01.4**	**+2.9**
SRPI				S	**Sn**	**11 59 33.2**	**+3.8**
RKPI	**Ransiki, Papua**	**4.73**	**284**	P	**Pn**	**11 59 29.9**	**+2.8**
RKPI				S	**Sn**	**12 00 22.5**	**+1.7**
MMPI	**Merauke**	**5.94**	**164**	P	Pn	11 59 49.6	+5.8
MMPI				S	**Sn**	**12 00 56.2**	**+5.5**
FAKI	**Fak Fak**	**6.50**	**268**	*e*Pn	**Pn**	**11 59 52.8**	**+1.3**
FAKI				*e*Sn	**Sn**	**12 01 04.4**	**-0.2**
FAKI	**Fak Fak**	**6.50**	**268**	P	**Pn**	**11 59 54.8**	**+3.3**
FAKI				S	**Sn**	**12 01 06.0**	**+1.4**
SIJI	**Sorong**	**7.71**	**284**	P	**Pn**	**12 00 11.2**	**+3.2**
	54nm,0.3s,baz=60,slow=14,SNR=93						
SIJI				S	**Sn**	**12 01 34.1**	**-0.1**
	18nm,0.3s,baz=168,slow=23,SNR=6.6						
SIJI				LR	LR	12 04 05.1	
	comp=Z,1μm,21.7s,baz=156,slow=45						
SWI	**Sorong**	**7.72**	**284**	P	Pn	12 00 13.3	+5.2
SWI				pmax	pmax		
	comp=Z,278nm,0.6s						
SWI	**Sorong**	**7.72**	**284**	P	**Pn**	**12 00 12.2**	**+4.1**
MANU	**Manus Island**	**8.63**	**86**	*e*Pn	**Pn**	**12 00 22.3**	**+1.7**
BNDI	**Bandanaira**	**9.02**	**258**	P	**Pn**	**12 00 29.4**	**+3.4**
SAUI	**Saumlaki**	**9.09**	**235**	*e*Pn	**Pn**	**12 00 27.3**	**+0.4**
SAUI	**Saumlaki**	**9.09**	**235**	P	Pn	12 00 34.1	+7.2

PMG	**Port Moresby**	**10.68**	**129**	P	**Pn**	**12 00 51.1**	**+2.4**
	comp=Z,0.5nm,0.3s,baz=308,slow=11,SNR=6.0							
PMG				S	**Sn**	**12 02 47.0**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=117,slow=18,SNR=1.4							
PMG				LR	LR	12 06 25.8		
	comp=Z,944nm,20.7s,baz=314,slow=46							
PMG	**Port Moresby**	**10.68**	**129**	*e*Pn	**Pn**	**12 00 49.1**	**+0.4**	
PMG				*e*Sn	**Sn**	**12 02 47.0**	**-0.1**	
PMG	**Port Moresby**	**10.68**	**129**	P	**Pn**	**12 00 51.1**	**+2.4**	
PMG				S	**Sn**	**12 02 47.0**	**-0.1**	
PMG				pmax	pmax			
	comp=Z,1.0nm,0.3s							
PMG				smax	smax			
	comp=N,1.0nm,0.3s							
PMG				MLR	MLR			
	comp=Z,944nm,20.7s							
KDU	**Kakadu**	**11.70**	**212**	P	**Pn**	**12 01 03.8**	**+1.0**	
	baz=12,SNR=215							
TNTI	**Ternate**	**11.90**	**287**	*e*Pn	**Pn**	**12 01 06.1**	**+0.6**	
COEN	**Coen**	**12.00**	**159**	P	**Pn**	**12 01 08.7**	**+1.9**	
	baz=12,SNR=18							
COEN	**Coen**	**12.00**	**159**	*e*Pn	**Pn**	**12 01 07.2**	**+0.3**	
COEN				*e*Sn	**Sn**	**12 03 20.5**	**+1.0**	
MTN	**Manton Dam**	**12.58**	**216**	P	**Pn**	**12 01 15.9**	**+1.0**	
	baz=13,SNR=118							
MTN	**Manton Dam**	**12.58**	**216**	*e*Pn	**Pn**	**12 01 14.7**	**-0.1**	
MTN				*e*Sn	**Sn**	**12 03 31.2**	**-2.6**	
SANI	**Sanana**	**12.78**	**273**	P	**Pn**	**12 01 20.2**	**+2.7**	
RABL	**Rabaul**	**13.46**	**97**	*e*Pn	**Pn**	**12 01 27.7**	**+0.8**	
SOEI	**Soe**	**16.01**	**243**	*e*Pn	**Pn**	**12 02 01.7**	**+0.7**	
	comp=Z,1μm,1.2s							
SOEI	**Soe**	**16.01**	**243**	P	**Pn**	**12 02 04.4**	**+3.4**	
LUWI	**Luwuk**	**16.06**	**276**	*e*Pn	**Pn**	**12 02 01.7**	**+0.1**	
	comp=Z,210nm,1.1s							
KNRA	**Kununurra**	**16.22**	**217**	P	**Pn**	**12 02 03.4**	**-0.1**	
	baz=16,SNR=69							
MTSU	**Mount Surprise**	**16.27**	**161**	P	**Pn**	**12 02 06.4**	**+2.2**	
	baz=16,SNR=29							
DAV	**Davao City (W)**	**16.35**	**307**	LR	LR	12 07 59.8		
	comp=Z,56nm,21.5s,baz=134,slow=36							
BBSI	**Bau Bau**	**16.38**	**260**	P	**P**	**12 02 15.1**	**+7.0**	
BATI	**Baumata**	**16.74**	**243**	P	**Pn**	**12 02 10.2**	**+0.1**	
	comp=Z,4.4nm,0.3s,baz=65,slow=6.8,SNR=9.6							
BATI	**Baumata**	**16.74**	**243**	P	**Pn**	**12 02 12.9**	**+2.7**	
MRSI	**Marisa**	**17.11**	**280**	P	**P**	**12 02 20.1**	**+3.9**	
APSI	**Ampana**	**17.19**	**276**	P	**P**	**12 02 20.1**	**+3.0**	
GUMO	**Guam**	**17.29**	**20**	P	**Pn**	**12 02 17.6**	**+0.6**	
	comp=Z,1.3nm,0.3s,baz=156,slow=9.5,SNR=5.4							
GUMO				LR	LR	12 08 17.0		
	comp=Z,188nm,20.3s,baz=196,slow=35							
MMRI	**Maumere**	**17.46**	**250**	*e*Pn	**Pn**	**12 02 19.6**	**+0.5**	
	comp=Z,108nm,0.7s							
WRAB	**Tennant Creek**	**17.65**	**194**	*e*Pn	**Pn**	**12 02 21.5**	**0.0**	
	comp=Z,115nm,1.0s							
WRAB				*e*Sn	**Sn**	**12 05 29.9**	**-7.3**	
WRAB	**Tennant Creek**	**17.65**	**194**	*ce*P	**Pn**	**12 02 21.3**	**-0.2**	
WRAB				pmax	pmax			
	comp=Z,44nm,0.6s							
WB2	**Warramunga Arr**	**17.66**	**194**	*e*Pn	**Pn**	**12 02 20.6**	**-1.0**	
WB2				*e*Sn	**Sn**	**12 05 33.8**	**-3.6**	
WR1	**Warramunga Arr**	**17.66**	**194**	*e*Pn	**Pn**	**12 02 21.2**	**-0.4**	
	comp=Z,89nm,0.8s							
WR1				*e*Sn	Sn	12 05 25.4	-12	
WRA	**Warramunga Arr**	**17.66**	**194**	P	**Pn**	**12 02 21.2**	**-0.4**	
	comp=Z,5.2nm,0.3s,baz=9.5,slow=13,SNR=94							
WRA				S	Sn	12 05 25.4	-12	
	comp=Z,1.6nm,0.3s,baz=12,slow=22,SNR=8.8							
WRA				LR	LR	12 09 43.8		
	comp=Z,738nm,18.8s,baz=5.0,slow=39							
WRA	**Warramunga Arr**	**17.66**	**194**	*i* P	**Pn**	**12 02 20.3**	**-1.3**	
WRA				pmax	pmax			
	comp=Z,34nm,0.5s							
QIS	**Mount Isa**	**17.76**	**177**	P	**Pn**	**12 02 21.7**	**-1.1**	
	baz=18,SNR=23							
EDFI	**Ende, Flores**	**18.00**	**250**	P	**Pn**	**12 02 27.2**	**+1.2**	
BNSI	**Bone**	**18.69**	**264**	P	**Pn**	**12 02 38.5**	**+4.3**	
CTA	**Charters Tower**	**18.76**	**158**	P	**P**	**12 02 35.0**	**+0.6**	
	comp=Z,0.2nm,0.3s,baz=322,slow=12,SNR=2.9							
CTA				LR	LR	12 11 11.8		
	comp=Z,512nm,18.9s,baz=340,slow=41							
CTA	**Charters Tower**	**18.76**	**158**	*e*P	**P**	**12 02 35.0**	**+0.6**	
CTAO	**Charters Tower**	**18.76**	**158**	*e

STKA LR LR 12 16 58.9
comp=Z,456nm,21.1s,baz=354,slow=38
STKA Stephens Creek 29.14 175 P **P** **12 04 16.7 +0.7**
baz=29,SNR=7.9
STKA Stephens Creek 29.14 175 *eP* **P** **12 04 15.8 -0.2**
comp=Z,1.2nm,0.9s
CMSA Cobar Meteorol 29.41 168 P **P** **12 04 20.7 +2.3**
baz=30,SNR=12
FORT Forrest 29.70 199 *eP* **P** **12 04 20.8 -0.2**
comp=Z,35nm,0.7s
JCJ Chichijima 29.82 6 LR LR 12 15 04.1
comp=Z,175nm,20.2s,baz=318,slow=34
BBOO Buckleboo 30.05 185 *eP* **P** **12 04 23.5 -0.6**
comp=Z,14nm,1.1s
KPJI Karang Pucung 30.06 260 P P 12 04 37.3 +13
ARMA Armidale 30.13 157 P **P** **12 04 27.3 +2.3**
baz=30,SNR=5.8
HTT Hallett 30.56 180 P **P** **12 04 29.5 +0.8**
baz=31,SNR=9.3
MEEK Meekatharra 30.65 217 P **P** **12 04 31.1 +1.6**
baz=31,SNR=7.9
YULB Yu-li 31.03 328 *eP* **P** **12 04 31.3 -1.5**
comp=Z,30nm,1.3s
TPUB Ta-pu 31.31 327 *eP* **P** **12 04 34.1 -1.2**
comp=Z,45nm,1.3s
SSLB Suanglung 31.53 328 *eP* **P** **12 04 36.9 -0.4**
comp=Z,20nm,1.0s
YHNB Yeheng 32.03 329 *eP* **P** **12 04 41.6 -0.1**
comp=Z,64nm,1.5s
PPBI Pangkal Pinang 32.60 270 P **P** **12 04 44.6 -2.2**
KMBL Kambalda 32.65 207 P **P** **12 04 47.5 +0.5**
baz=33,SNR=5.4
YNG Young 32.69 165 P **P** **12 04 49.7 +2.3**
baz=33,SNR=5.3
DZM Mont Dzumac 33.07 128 P **P** **12 04 51.0 +0.1**
comp=Z,4.1nm,0.6s,baz=313,slow=18,SNR=5.5
DZM Mont Dzumac 33.07 128 *e*LR LR 12 13 47.2
comp=Z,987nm,28.2s
DZM Mont Dzumac 33.07 128 *eP* **P** **12 04 50.8 -0.1**
comp=Z,27nm,1.4s
CNB Canberra Magne 33.90 164 P **P** **12 05 00.7 +2.7**
baz=34,SNR=13
MORW Morawa 33.97 217 P **P** **12 04 59.2 +0.6**
baz=34,SNR=5.3
ARPS Mount Arapiles 34.01 176 P **P** **12 05 00.1 +1.3**
baz=34,SNR=6.6
MDSI Maura Dua 34.55 266 P **P** **12 05 04.3 +0.5**
BLDU Ballidu 34.72 215 P **P** **12 05 05.8 +0.8**
baz=35,SNR=7.9
KLBR Kellerberrin 34.89 212 P **P** **12 05 06.7 +0.2**
baz=35,SNR=21
TOO Toolangi 35.24 171 P **P** **12 05 11.9 +2.4**
baz=35,SNR=4.2
MUN Mundaring 36.03 214 P **P** **12 05 17.2 +0.9**
baz=36,SNR=3.3
NWAO Narrogin (SRO) 36.20 211 P **P** **12 05 17.8 0.0**
comp=Z,8.9nm,0.5s,baz=269,slow=6.1,SNR=13
NWAO Narrogin (SRO) 36.20 211 P **P** **12 05 18.2 +0.4**
baz=36,SNR=7.6
JNU Nakatsue 36.41 349 P **P** **12 05 18.3 -1.2**
comp=Z,12nm,0.8s,baz=165,slow=5.7,SNR=5.9
JNU Nakatsue 36.41 349 *eP* **P** **12 05 20.2 +0.7**
comp=Z,21nm,1.0s
MJAR Matsushiro Arr 39.05 359 P **P** **12 05 40.4 -1.4**
comp=Z,2.5nm,0.6s,baz=182,slow=9.3,SNR=9.0
MJAR LR LR 12 21 49.9
comp=Z,18nm,18.2s,baz=40,slow=36
MAJO Matsushiro 39.05 359 *eP* **P** **12 05 40.4 -1.4**
MAJO Matsushiro 39.05 359 *i* P **P** **12 05 40.9 -0.9**
MAJO pmax pmax
comp=Z,7.0nm,0.9s
MJB9 Matsu-Tunnel 39.06 359 *eP* **P** **12 05 41.2 -0.6**
comp=Z,43nm,1.6s
NJ2 Nanjing 39.40 333 *eP* **P** **12 05 46.0 +1.3**
NJ2 pmax pmax
comp=Z,14nm,0.8s
PSI Prapat 40.19 278 P **P** **12 05 52.0 +0.2**
comp=Z,14nm,0.9s,baz=180,slow=1.6,SNR=5.0
PSI Prapat 40.19 278 *eP* **P** **12 05 51.9 +0.1**
comp=Z,16nm,0.9s
WHN Wuhan 40.45 327 ⇑P **P** **12 05 54.8 +1.4**
TAU Tasmania Unive 40.75 170 *eP* **P** **12 05 56.9 +1.1**
comp=Z,52nm,1.5s
TAU Tasmania Unive 40.75 170 *eP* **P** **12 05 56.9 +1.1**
TAU pmax pmax
comp=Z,52nm,1.5s
KS15 Wonju Array Si 41.20 347 *eP* **P** **12 05 59.5 -0.1**
KSRS Korea Array 41.21 347 P **P** **12 05 59.7 +0.1**
comp=Z,5.0nm,0.7s,baz=163,slow=8.6,SNR=14
KSRS PcP **PcP** **12 07 58.4 +0.1**
comp=Z,3.6nm,1.0s,baz=161,slow=3.5,SNR=6.3
KSRS LR LR 12 21 20.3
comp=Z,58nm,21.4s,baz=156,slow=34
KS01 Wonju Array Si 41.24 347 *eP* **P** **12 05 59.1 -0.7**
KS01 *e*PcP **PcP** **12 07 59.0 +0.6**
GSI Gunungsitoli 41.36 275 *eP* **P** **12 06 00.6 -0.7**
comp=Z,18nm,0.7s
GYA Guiyang 42.46 315 *eP* **P** **12 06 10.8 +0.6**
GYA pmax pmax
comp=Z,10.0nm,1.0s
UTHA Uthaitani 42.92 296 P **P** **12 06 14.0 +0.1**
comp=Z,5.0nm,0.9s,comp=Z,51nm
ENH Enshi 43.09 322 *eP* **P** **12 06 14.4 -0.8**
comp=Z,50nm,0.7s
UMPA Umpang Tak 43.68 297 P P 12 06 29.0 +8.9
CM01 Chiang Mai Arr 44.45 300 *eP* **P** **12 06 26.1 -0.2**
CM01 *e*PcP **PcP** **12 08 10.3 +0.7**
CM31 Chiang Mai Arr 44.48 300 *eP* **P** **12 06 26.3 -0.2**
CMAR Chiang Mai Arr 44.48 300 P **P** **12 06 27.2 +0.8**
comp=Z,2.6nm,0.8s,baz=117,slow=6.3,SNR=15
CMAR PcP **PcP** **12 08 10.7 +1.0**
comp=Z,2.0nm,0.8s,baz=154,slow=2.4,SNR=4.6
KMI Kunming 44.56 311 P **P** **12 06 29.0 +1.7**
KMI pP sP 12 06 44.3 +2.5
KMI sP pP 12 06 50.0 +12
KMI pmax pmax
comp=Z,14nm,1.2s
KMI pmax pmax
comp=Z,110nm,4.6s
KMI LR LR
comp=Z,260nm,14.6s
KMI LR LR
comp=Z,130nm,16.3s
CMMT Chiang Mai 44.62 300 P **P** **12 06 29.1 +1.5**
comp=Z,5.8nm,1.0s
CHTO Chiang Mai 44.62 300 *eP* **P** **12 06 27.1 -0.5**
comp=Z,4.9nm,1.0s
CHTO *e*PcP **PcP** **12 08 10.7 +0.5**
CHTO Chiang Mai 44.62 300 *eP* **P** **12 06 27.1 -0.5**
CHTO *e* 12 08 10.7
CHTO pmax pmax
comp=Z,5.0nm,1.0s
CHTO Chiang Mai 44.62 300 P **P** **12 06 29.1 +1.5**
comp=Z,26nm,1.0s
XAN Xi'an 46.10 325 P **P** **12 06 39.3 +0.1**
XAN pmax pmax
comp=Z,26nm,1.2s
XAN pmax pmax
comp=Z,34nm,3.4s
ASAJ Asahikawa 46.74 4 P **P** **12 06 44.0 +0.1**
comp=Z,16nm,1.1s,baz=188,slow=15,SNR=3.4
ASAJ LR LR 12 24 52.8
comp=Z,151nm,20.6s,baz=161,slow=34
USA0B Ussuriysk Arra 47.09 353 *eP* **P** **12 06 46.3 -0.4**
comp=Z,16nm,1.0s
USRK Ussuriysk Ar. 47.09 353 P **P** **12 06 46.8 +0.2**
comp=Z,10nm,0.9s,baz=180,slow=8.7,SNR=14
USRK LR LR 12 22 17.5
comp=Z,136nm,21.6s,baz=162,slow=31
CD2 Chengdu 47.21 318 P **P** **12 06 49.0 +1.1**
CD2 pmax pmax
comp=Z,50nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
BJT Baijiatuan 47.30 336 *eP* **P** **12 06 48.0 -0.4**
comp=Z,20nm,0.8s
BJT Baijiatuan 47.30 336 *eP* **P** **12 06 48.0 -0.4**
BJT pmax pmax
comp=Z,20nm,0.8s
BJI Beijing 47.31 336⇑ *eP* **P** **12 06 48.3 -0.2**
BJI pmax pmax
comp=Z,21nm,1.4s
CN2 Changchun 47.82 347 *eP* **P** **12 06 52.0 -0.3**
CN2 *e*pP pP 12 07 07.0 +4.2
CN2 *e*S **S** **12 13 44.3 -2.5**
CN2 pmax pmax
comp=Z,20nm,1.0s

MDJ Mudanjiang 47.82 351 *eP* **P** **12 06 52.5 +0.1**
comp=Z,20nm,0.9s
RAO Raoul Island 48.86 127 LR LR 12 25 56.2
comp=Z,116nm,19.6s,baz=249,slow=34
YSS Yuzh-Sakhalins 49.58 4 *eP* **P** **12 07 05.4 -0.4**
comp=Z,77nm,1.5s
YSS Yuzh-Sakhalins 49.58 4⇑ *iP* **P** **12 07 05.1 -0.7**
YSS *e* 12 07 26.4
YSS pmax pmax
comp=Z,20nm,0.7s
MLZ Mavora Lakes 49.68 153 *eP* **P** **12 07 06.2 -0.5**
comp=Z,67nm,1.4s
URZ Urewera 49.79 140 LR LR 12 28 27.1
comp=Z,172nm,19.2s,baz=320,slow=36
URZ Urewera 49.79 140 *eP* **P** **12 07 07.6 +0.1**
comp=Z,82nm,1.6s
RPZ Rata Peaks 49.87 150 LR LR 12 27 41.6
comp=Z,94nm,21.9s,baz=335,slow=35
RPZ Rata Peaks 49.87 150 *eP* **P** **12 07 08.0 -0.1**
comp=Z,45nm,1.0s
BKZ Black Stump Fm 49.93 142 *eP* **P** **12 07 08.6 -0.2**
comp=Z,12nm,0.6s
HHC Hu-ho-hao-te 49.95 333 *eP* **P** **12 07 11.0 +2.1**
HHC pmax pmax
comp=Z,19nm,0.6s
HHC pmax pmax
comp=Z,140nm,5.2s
AFI Afiamalu 50.09 106 LR LR 12 26 48.1
comp=Z,128nm,20.0s,baz=298,slow=34
OXZ Oxford 50.09 149 *eP* **P** **12 07 10.2 +0.3**
comp=Z,70nm,1.6s
SNZO South Karori 50.20 145 *eP* **P** **12 07 11.0 +0.4**
comp=Z,300nm,1.4s
KHZ Kahutara 50.27 147 *eP* **P** **12 07 11.2 +0.1**
comp=Z,24nm,1.1s
BTO Baotou 50.48 332 *eP* **P** **12 07 11.0 -1.9**
LZH Lanzhou 50.51 323 *eP* **P** **12 07 14.3 +1.0**
LZH pP sP 12 07 30.8 +2.9
LZH sP pP 12 07 38.0 +14
LZH pmax pmax
comp=Z,31nm,1.9s
LZH pmax pmax
comp=Z,190nm,6.0s
LZH LR LR
comp=Z,620nm,11.9s
LZH LR LR
comp=Z,540nm,11.9s
LZH LR LR
comp=Z,370nm,13.6s
MQZ McQueen's Vall 50.68 148 *eP* **P** **12 07 15.0 +0.8**
comp=Z,190nm,1.7s
BFZ Birch Farm 50.71 143 *eP* **P** **12 07 14.4 -0.1**
comp=Z,40nm,0.7s
KLR Kul'dur 52.09 354 P **P** **12 07 24.9 +0.3**
comp=Z,19nm,0.6s,baz=183,slow=4.6,SNR=64
KLR LR LR 12 25 49.1
comp=Z,56nm,20.4s,baz=190,slow=32
KLR Kul'dur 52.09 354 *i* P **P** **12 07 24.8 +0.2**
HIA Hailar 54.33 345 *eP* **P** **12 07 40.6 -0.6**
comp=Z,23nm,1.0s
HIA Hailar 54.33 345 *eP* **P** **12 07 40.6 -0.6**
HIA pmax pmax
comp=Z,23nm,1.0s
GTA Gaotai 55.10 324 ⇑P **P** **12 07 47.5 +0.4**
GTA S **S** **12 15 27.5 -0.2**
GTA pmax pmax
comp=Z,17nm,1.1s
GTA pmax pmax
comp=Z,150nm,6.2s
GTA LR LR
comp=Z,350nm,18.1s
GTA LR LR
comp=Z,690nm,16.8s
GTA LR LR
comp=Z,800nm,16.2s
ZEA Zeya 57.06 352 *eP* **P** **12 08 00.5 -0.2**
ZEA pmax pmax
comp=N,130nm,1.8s
ZEA pmax pmax
comp=Z,160nm,1.8s
ULN Ulaanbaatar 57.49 335 *eP* **P** **12 08 03.7 -0.3**
comp=Z,18nm,0.6s
ULN Ulaanbaatar 57.49 335 *ce*P **P** **12 08 04.2 +0.2**
ULN pmax pmax
comp=Z,14nm,0.9s
SONA0 Songino Array 57.74 335 *eP* **P** **12 08 06.2 +0.5**
SONM Songino Array 57.74 335 P **P** **12 08 06.2 +0.5**
comp=Z,10nm,0.7s,baz=155,slow=8.3,SNR=36
SONM LR LR 12 33 17.5
comp=Z,174nm,19.6s,baz=174,slow=36
SONA1 Songino Array 57.75 335 *eP* **P** **12 08 05.3 -0.5**
PEA0B Petropavlovsk- 57.85 13 *eP* **P** **12 08 06.2 0.0**
comp=Z,186nm,1.6s
PETK Petropavlovsk- 57.85 13 P **P** **12 08 06.9 +0.7**
comp=Z,5.3nm,0.6s,baz=175,slow=6.8,SNR=12
PETK LR LR 12 29 03.3
comp=Z,96nm,21.6s,baz=225,slow=32
PEA1 Petropavlovsk- 57.85 13 *eP* **P** **12 08 06.9 +0.6**
PET Petropavlovsk 58.00 14 *i* P **P** **12 08 06.6 -0.6**
PET pmax pmax
comp=Z,82nm,1.2s
CIT Chita 58.56 342 *eP* **P** **12 08 11.4 +0.1**
CIT *e* 12 08 24.0
ZAK Zakamensk 61.01 335 *eP* **P** **12 08 27.6 -0.6**
ZAK pmax pmax
comp=Z,31nm,1.2s
RAR Rarotonga 62.48 112 LR LR 12 34 21.3
comp=Z,27nm,20.0s,baz=288,slow=35
SMY Shemya 62.73 23 *eP* **P** **12 08 39.9 +0.4**
comp=Z,86nm,1.2s
SMY Shemya 62.73 23 *eP* **P** **12 08 39.9 +0.4**
SMY pmax pmax
comp=Z,86nm,1.2s
MA2 Magadan 62.82 7 P **P** **12 08 40.2 +0.1**
comp=Z,16nm,0.8s,baz=187,slow=7.2,SNR=4.2
MA2 LR LR 12 34 19.8
comp=Z,36nm,20.2s,baz=160,slow=34
MOY Mondy 62.93 335 *eP* **P** **12 08 40.8 -0.4**
MOY pmax pmax
comp=Z,44nm,1.7s
BOD Bodaibo 63.53 346 *eP* **P** **12 08 44.5 -0.3**
BOD pmax pmax
comp=Z,28nm,1.8s
WMQ Urumqi 65.04 322 P **P** **12 08 56.0 +0.9**
WMQ pP pP 12 09 10.0 +4.1
WMQ sP sP 12 09 20.5 +11
WMQ PcP **PcP** **12 09 28.3 +0.5**
WMQ pmax pmax
comp=Z,72nm,1.1s
WMQ pmax pmax
comp=Z,220nm,3.8s
ADK Adak 66.15 28 *eP* **P** **12 09 01.6 -0.4**
comp=Z,36nm,0.8s
ADK Adak 66.15 28 *eP* **P** **12 09 01.6 -0.4**
ADK pmax pmax
comp=Z,36nm,0.8s
SEY Seymchan 66.28 7 P **P** **12 09 02.9 +0.3**
comp=Z,7.9nm,0.8s,baz=176,slow=8.2,SNR=8.1
SEY Seymchan 66.28 7 *i* P **P** **12 09 03.3 +0.7**
ATKA Atka Island 67.55 29 *eP* **P** **12 09 10.5 -0.4**
comp=Z,231nm,1.5s
DGZ Jazzator, Alta 68.31 327 *i* P **P** **12 09 15.7 -0.3**
DGZ pmax pmax
comp=Z,11nm,0.9s
MK01 Makanchi Array 69.80 322 *eP* **P** **12 09 24.5 -0.6**
MK31 Makanchi Array 69.82 322 *eP* **P** **12 09 24.8 -0.5**
MK31 Makanchi Array 69.82 322 *eP* **P** **12 09 24.8 -0.5**
MK32 Makanchi Array 69.82 322 *eP* **P** **12 09 25.7 +0.4**
MKAR Makanchi Array 69.82 322 P **P** **12 09 25.7 +0.4**
comp=Z,28nm,0.6s,baz=99,slow=8.8,SNR=264
MKAR Makanchi Array 69.82 322 *eP* **P** **12 09 24.8 -0.5**
comp=Z,122nm,0.6s
PDGK Podgornoye 70.10 318 P **P** **12 09 27.3 +0.1**
PDGK pmax pmax
comp=Z,9.0nm,1.1s
PRZ Przheval'sk 70.50 317 *eP* **P** **12 09 29.2 -0.5**
comp=Z,32nm,1.0s
PRZ Przheval'sk 70.50 317 *eP* **P** **12 09 29.2 -0.5**
PRZ pmax pmax
comp=Z,32nm,1.0s
KSH Kashi 71.12 313 P **P** **12 09 35.0 +1.5**
KSH pP sP 12 09 51.0 +2.6
KSH PP **PP** **12 12 16.0 +4.5**
KSH S **S** **12 18 43.5 -4.5**
KSH SS **SS** **12 23 20.5 -1.6**
KSH pmax pmax
comp=Z,28nm,0.9s
KSH pmax pmax
comp=Z,300nm,4.8s
KDJ Kajisay 71.20 316 *eP* **P** **12 09 34.1 +0.1**
comp=Z,15nm,0.9s
KDJ Kajisay 71.20 316 *eP* **P** **12 09 34.1 +0.1**
KDJ pmax pmax
comp=Z,15nm,0.9s
NIL Nilore 71.36 307 *eP* **P** **12 09 34.7 -0.3**
comp=Z,14nm,0.9s
NIL Nilore 71.36 307 *eP* **P** **12 09 34.7 -0.3**
NIL pmax pmax
comp=Z,14nm,0.9s
PPT Papeete 71.71 108 LR LR 12 39 20.6
comp=Z,20nm,18.2s,baz=294,slow=34
PPT2 Papeete2 71.71 108 *e*LR LR 12 31 45.1
comp=Z,264nm,34.0s
NRN Naryn 71.77 315 *eP* **P** **12 09 37.0 -0.6**
comp=Z,7.2nm,0.8s
ZAA0 Zalesovo Array 71.96 330 *eP* **P** **12 09 37.0 -1.0**
comp=Z,12nm,0.6s
ZALV Zalesovo Beam 71.96 330 P **P** **12 09 37.2 -0.9**
comp=Z,14nm,0.6s,baz=111,slow=6.4,SNR=54
ZALV Zalesovo Beam 71.96 330 *eP* **P** **12 09 36.9 -1.2**
ZAA1 Zalesovo Array 71.96 330 *eP* **P** **12 09 37.2 -0.9**
TBI Tubuai 72.21 114 *e*LR LR 12 31 56.7
comp=Z,273nm,32.8s
KZA Kyzart 72.52 316 P **P** **12 09 43.7 +1.5**
SNR=19
TKM2 Tokmak 2 72.58 317 P **P** **12 09 42.8 +0.5**
SNR=18
KBK Karagaybulak 72.93 316 P **P** **12 09 45.1 +0.7**
SNR=8.4
SFK Sufi-Kurgan 73.08 313 P **P** **12 09 46.2 +0.8**
SFK pmax pmax
comp=Z,15nm,1.2s
UCH Uchtor 73.09 316 P **P** **12 09 46.5 +0.9**
SNR=19
BILL Bilibino 73.16 10 *eP* **P** **12 09 44.5 -0.4**
comp=Z,16nm,1.0s
BILL Bilibino 73.16 10⇑ *eP* **P** **12 09 44.3 -0.6**
BILL *e* 12 10 00.5
BILL *e* 12 12 27.1
BILL pmax pmax
comp=Z,16nm,1.0s
BILL MLR MLR
comp=Z,76nm,15.0s
CHMS Chumysh 73.19 316 P **P** **12 09 45.9 +0.2**
SNR=5.9
NVS Novosibirsk 73.22 330⇑ *iP* **P** **12 09 45.0 -0.5**
NVS *e* 12 09 56.8
NVS pmax pmax
comp=N,14nm,1.4s
NVS pmax pmax
comp=E,21nm,1.4s
NVS pmax pmax
comp=Z,20nm,1.4s
FRU Bishkek 73.22 316 *eP* **P** **12 09 45.0 -0.9**
AAK Ala-Archa 73.24 316 P **P** **12 09 46.8 +0.6**
comp=Z,3.2nm,0.7s,baz=118,slow=4.9,SNR=10
AAK Ala-Archa 73.24 316 *eP* **P** **12 09 46.0 -0.1**
comp=Z,16nm,1.4s
AAK Ala-Archa 73.24 316 *eP* **P** **12 09 46.0 -0.1**
AAK pmax pmax
comp=Z,16nm,1.4s
USP Ospenovka 73.45 317 P **P** **12 09 47.7 +0.5**
SNR=14
AML Almayashu 73.63 315 P **P** **12 09 49.5 +0.7**
SNR=25
KURK Kurchatov 73.74 325 *eP* **P** **12 09 48.2 -0.5**
comp=Z,22nm,0.8s
KURK Kurchatov 73.74 325 *ce*P **P** **12 09 48.5 -0.2**
KURK pmax pmax
comp=Z,27nm,0.9s
EKS2 Erkin-Say 73.75 316 P **P** **12 09 49.5 +0.4**
SNR=13
KURBB Kurchatov Arra 73.75 325 P **P** **12 09 48.7 -0.1**
comp=Z,17nm,0.8s,baz=116,slow=5.5,SNR=49
TIXI Tiksi 74.50 357 *eP* **P** **12 09 51.8 -0.9**
comp=Z,20nm,1.1s
TIXI Tiksi 74.50 357 *ce*P **P** **12 09 51.3 -1.4**
TIXI pmax pmax
comp=Z,12nm,0.7s
MNAS Manas 74.58 315 P **P** **12 09 54.7 +0.7**
MNAS pmax pmax
comp=Z,17nm,1.2s
VNDA Vanda 75.78 175 P **P** **12 10 01.4 +1.4**
comp=Z,8.8nm,0.7s,baz=324,slow=6.7,SNR=88
VNDA LR LR 12 43 28.1
comp=Z,142nm,18.7s,baz=330,slow=36
SDPT Sand Point 76.11 31 *eP* **P** **12 10 01.9 -0.3**
comp=Z,173nm,1.2s
KK31 Karatay Array 76.16 316 *eP* **P** **12 10 02.4 -0.5**
KK31 Karatay Array 76.16 316 *eP* **P** **12 10 02.4 -0.5**
KKAR Karatay Array 76.16 316 *eP* **P** **12 10 02.5 -0.4**
KKAR Karatay Array 76.16 316 *eP* **P** **12 10 02.5 -0.4**
SBA Scott Base 76.54 174 *eP* **P** **12 10 03.8 -0.5**
comp=Z,7.7nm,0.8s
SBA Scott Base 76.54 174 *eP* **P** **12 10 03.8 -0.5**
SBA pmax pmax
comp=Z,8.0nm,0.8s
OTUK Ortayu 76.58 321 P **P** **12 10 05.4 +0.3**
OTUK pmax pmax
comp=Z,24nm,0.8s
ANM Nome 78.48 21 *eP* **P** **12 10 14.7 -0.7**
comp=Z,10.0nm,0.9s
ANM Nome 78.48 21 *eP* **P** **12 10 14.7 -0.7**
ANM pmax pmax
comp=Z,10.0nm,0.9s
BRVK Borovoye 79.41 325 *eP* **P** **12 10 19.4 -1.3**
comp=Z,34nm,0.7s
BRVK Borovoye 79.41 325 *ce*P **P** **12 10 20.6 -0.1**
BRVK pmax pmax
comp=Z,30nm,0.9s
NRIK Noril'sk 79.73 344 P **P** **12 10 22.1 0.0**
comp=Z,28nm,0.9s,baz=125,slow=5.7,SNR=18
SII Sitkinak Islan 79.84 31 *eP* **P** **12 10 21.7 -1.3**
comp=Z,78nm,1.1s
OHAK Cold Harbor 80.53 31 *eP* **P** **12 10 25.8 -0.8**
comp=Z,44nm,0.7s
TAOE Nuku Hiva Isla 80.79 98 *eS* **S** **12 20 38.6 +3.2**
comp=Z,113nm,26.6s
TAOE Nuku Hiva Isla 80.79 98 *e*LR LR 12 35 46.5
comp=Z,194nm,29.2s
SVW2 Sparrevohn 80.85 27 *eP* **P** **12 10 27.5 -0.9**
comp=Z,35nm,1.0s
RDOG Red Dog Mine 81.17 19 *eP* **P** **12 10 29.9 0.0**
comp=Z,13nm,0.8s
MAW Mawson 82.14 202 P **P** **12 10 36.8 +1.8**
comp=Z,3.9nm,0.7s,baz=73,slow=6.8,SNR=5.2
MAW LR LR 12 47 14.9
comp=Z,142nm,18.2s,baz=72,slow=36
MAW Mawson 82.14 202 *eP* **P** **12 10 34.5 -0.5**
comp=Z,3.7nm,1.1s
HOM Homer 82.16 29 *eP* **P** **12 10 34.7 -0.5**
comp=Z,192nm,0.9s
BRLK Bradley Lake 82.56 29 *eP* **P** **12 10 36.4 -1.1**
comp=Z,24nm,0.8s
PPLA Pureypile 83.00 26 *eP* **P** **12 10 38.6 -1.2**
comp=Z,8.6nm,0.7s
SUA Susitna One 83.17 27 *eP* **P** **12 10 39.4 -1.2**
comp=Z,20nm,0.8s
CAST Castle Rocks 83.23 25 *eP* **P** **12 10 40.0 -0.8**
comp=Z,12nm,0.8s
IM3 Indian Mountai 83.47 22 *eP* **P** **12 10 41.7 -0.3**
RC01 Rabbit Creek A 83.52 28 *eP* **P** **12 10 41.2 -1.1**
comp=Z,43nm,0.6s
PMR Palmer 83.94 27 *eP* **P** **12 10 43.1 -1.3**
comp=Z,30nm,0.9s
PMR Palmer 83.94 27 *eP* **P** **12 10 43.1 -1.3**
PMR pmax pmax
comp=Z,31nm,0.9s
TRF Thorofare Moun 84.00 25 *eP* **P** **12 10 42.9 -2.0**
comp=Z,14nm,1.2s
GEYT Alibeck 84.28 308 P **P** **12 10 47.6 +0.8**
comp=Z,1.1nm,0.3s,baz=269,slow=10,SNR=6.3
GYA0B ALIBECK ARRAY 84.28 308 *eP* **P** **12 10 46.2 -0.5**
comp=Z,34nm,1.6s
MLY Manley 84.32 24 *eP* **P** **12 10 45.8 -0.6**
comp=Z,28nm,1.2s
RND Reindeer 84.60 26 *eP* **P** **12 10 46.8 -1.1**
comp=Z,41nm,0.9s
RND Reindeer 84.60 26 *eP* **P** **12 10 46.8 -1.1**
RND pmax pmax
comp=Z,41nm,0.9s
GLI Glacier Island 84.69 28 *eP* **P** **12 10 47.8 -0.5**
comp=Z,42nm,0.8s

ABKAR	**Akbulak array**	84.75	320	*e*P		P	12 10 48.2	-0.6	
SCM	**Sheep Creek Mo**	84.84	27	*e*P		P	12 10 49.0	-0.1	
	comp=Z,43nm,0.9s								
SCM	**Sheep Creek Mo**	84.84	27	*e*P		P	12 10 49.0	-0.1	
SCM				pmax		pmax			
	comp=Z,43nm,0.9s								
DHY	**Denali Highway**	85.15	26	*e*P		P	12 10 50.0	-0.8	
	comp=Z,37nm,0.8s								
WRH	**Wood River Hil**	85.23	25	*e*P		P	12 10 49.7	-1.2	
	comp=Z,46nm,1.1s								
COLD	**Coldfoot**	85.23	22	*e*P		P	12 10 50.7	-0.2	
	comp=Z,10nm,1.1s								
MDM	**Murphy Dome**	85.31	24	*e*P		P	12 10 50.2	-1.1	
	comp=Z,6.1nm,0.7s								
DIV	**Divide**	85.38	28	*e*P		P	12 10 51.6	-0.2	
	comp=Z,65nm,0.7s								
KLU	**Klutina**	85.40	28	*e*P		P	12 10 51.6	-0.3	
	comp=Z,18nm,0.8s								
TCOL	**CIGO, UAF Yank**	85.44	24	P		P	12 10 50.9	-1.1	
	baz=254								
COLA	**College**	85.44	24	*e*P		P	12 10 51.1	-0.8	
	comp=Z,24nm,0.8s								
COLA	**College**	85.44	24	*e*P		P	12 10 51.1	-0.8	
COLA				pmax		pmax			
	comp=Z,24nm,0.8s								
POKR	**Poker Plat Res**	85.68	24	P		P	12 10 52.5	-0.7	
	baz=254								
HDA	**Harding Lake**	85.69	25	*e*P		P	12 10 51.4	-1.8	
	comp=Z,26nm,1.0s								
SVE	**Sverdlovsk**	85.77	327	*e*P		P	12 10 53.2	-0.5	
SVE				pmax		pmax			
	comp=Z,12nm,0.8s								
IL1	**Eielson Array**	85.81	24	*e*P		P	12 10 52.1	-1.7	
ILAR	**Eielson Array**	85.81	24	P		P	12 10 52.0	-1.8	
	comp=Z,21nm,0.7s,baz=264,slow=4.4,SNR=255								
ILAR				LR		LR	12 44 49.6		
	comp=Z,47nm,21.9s,baz=284,slow=32								
ILB	**Eielson Array**	85.81	24	*e*P		P	12 10 52.4	-1.4	
BMRM	**Bremner River**	85.89	28	*e*P		P	12 10 53.9	-0.4	
	comp=Z,32nm,1.0s								
PAX	**Paxson**	85.96	26	*e*P		P	12 10 54.0	-0.7	
	comp=Z,7.7nm,1.0s								
PAX	**Paxson**	85.96	26	*e*P		P	12 10 54.0	-0.7	
PAX				pmax		pmax			
	comp=Z,8.0nm,1.0s								
RIDG	**Independ'e Rid**	86.42	26	*e*P		P	12 10 56.5	-0.5	
	comp=Z,21nm,0.8s								
TGL	**Tana Glacier**	86.70	29	*e*P		P	12 10 58.2	-0.1	
	comp=Z,30nm,0.9s								
DOT	**Dot Lake**	86.74	26	*e*P		P	12 10 58.0	-0.4	
	comp=Z,16nm,0.8s								
ARU	**Arti**	86.82	327	P		P	12 10 57.7	-1.2	
	comp=Z,6.1nm,0.6s,baz=84,slow=1.4,SNR=10								
ARU	**Arti**	86.82	327	*e*P		P	12 10 57.4	-1.6	
	comp=Z,11nm,0.8s								
ARU	**Arti**	86.82	327	*c i*P		P	12 10 57.3	-1.6	
ARU				*PP		sP	12 11 15.0	+1.0	
ARU				S		S	12 21 17.8	-16	
ARU				pmax		pmax			
	comp=Z,15nm,1.0s								
SCRK	**Sand Creek**	86.84	26	*e*P		P	12 10 58.5	-0.6	
	comp=Z,9.8nm,0.8s								
FYU	**Fort Yukon**	86.93	23	*e*P		P	12 10 59.4	+0.2	
	comp=Z,87nm,1.3s								
QSPA	**South Pole Qui**	87.24	180	*e*P		P	12 11 01.2	+0.3	
	comp=Z,17nm,0.7s								
EGAK	**Eagle**	88.21	25	*e*P		P	12 11 05.0	-0.4	
	comp=Z,25nm,0.8s								
DAWY	**Dawson**	88.85	26	*e*P		P	12 11 08.4	-0.1	
	comp=Z,32nm,0.8s								
HYT	**Haines Junctio**	89.29	29	*e*P		P	12 11 10.3	-0.4	
	comp=Z,21nm,0.8s								
EPYK	**Eagle Plains**	90.26	24	P		P	12 11 15.0	-0.1	
	baz=264								
WHY	**Whitehorse**	90.55	29	*e*P		P	12 11 16.2	-0.5	
	comp=Z,14nm,0.8s								
SYO	**Syowa Base**	90.78	201	*e*P		P	12 11 17.6	+0.2	
SYO	**Syowa Base**	90.78	201	*e*pP		pP	12 11 32.0	+3.5	
INK	**Inuvik**	91.65	22	P		P	12 11 20.4	-1.0	
	comp=Z,4.7nm,1.0s,baz=244,slow=2.2								
PRGR	**Permogore**	93.86	331	*e*P		P	12 11 28.7	-3.0	
PRGR				pmax		pmax			
	comp=Z,6.0nm,0.5s								
KIV	**Kislovodsk**	96.25	314	*e*P		P	12 11 42.9	-0.3	
KIV				pmax		pmax			
	comp=Z,5.0nm,1.0s								
VRH	**Novokhopyorsk**	96.52	321	*e*P		P	12 11 41.4	-2.7	
VRH				pmax		pmax			
	comp=Z,10.0nm,0.5s								
M02C	**Callahan**	98.08	49	P		P	12 11 50.4	-1.1	
	baz=274								
VSR	**Storozhevoye**	98.12	321	*e*P		P	12 11 48.7	-2.7	
VSR				pmax		pmax			
	comp=Z,10.0nm,1.0s								
O02D	**Mt. Diablo Mer**	98.20	50	P		P	12 11 52.2	0.0	
	baz=273								
L04D	**Klamath Falls**	98.44	48	P		P	12 11 52.4	-0.8	
	baz=274								
O03E	**Paynes Creek**	98.95	50	P		P	12 11 55.5	0.0	
	baz=274								
J05D	**Fort Rock, OR**	99.14	47	P		Pdif	12 11 55.9	-0.5	
	baz=275								
OBN	**Obninsk**	99.18	325	*e*P		Pdif	12 11 53.4	-2.6	
OBN				*e*			12 15 55.0		
OBN				pmax		pmax			
	comp=Z,13nm,1.0s								
OBN				MLR		MLR			
	comp=Z,48nm,16.0s								
AFDM	**Forest Hills D**	99.69	51	*e*Pdif		Pdif	12 11 58.1	-0.6	
	comp=Z,5.2nm,1.0s								
YKA	**Yellowknife Ar**	100.04	27	P		Pdif	12 11 59.1	-0.6	
	comp=Z,1.2nm,0.7s,baz=288,slow=4.8,SNR=7.9								
YKB5	**Yellowknife Ar**	100.04	27	*e*Pdif		Pdif	12 11 59.2	-0.5	
BEKR	**Beckworth**	100.08	50	*e*Pdif		Pdif	12 12 00.4	-0.3	
ARA0	**ARCESS Array S**	100.52	341	*e*Pdif		Pdif	12 12 00.1	-1.7	
ARCES	**ARCESS Array B**	100.52	341	P		Pdif	12 12 00.1	-1.7	
	comp=Z,2.7nm,0.5s,baz=70,slow=7.4,SNR=18								
NV01	**Mina Array Sit**	101.81	51	*e*Pdif		Pdif	12 12 08.2	-0.3	
NVAR	**Mina Array Bea**	101.81	51	P		Pdif	12 12 08.5	+0.1	
	comp=Z,1.3nm,0.8s,baz=259,slow=5.5,SNR=11								
R11A	**Troy Canyon, C**	103.94	51	P		Pdif	12 12 17.6	-0.3	
	baz=278								
214A	**Organ Pipe Nat**	107.05	58	P		PKiKP	12 16 40.0	-1.2	
	baz=278								
PDAR	**Pinedale Array**	107.67	46	Pdiff		Pdif	12 12 36.1	+1.7	
	comp=Z,0.2nm,0.5s,baz=232,slow=1.0,SNR=3.2								
O20A	**White River Ci**	109.23	48	P		PKiKP	12 16 44.5	-0.7	
	baz=283								
MVCO	**Mesa Verde**	109.67	51	P		PKiKP	12 16 44.7	-1.5	
	baz=282								
S22A	**4UR Ranch, Cre**	110.85	51	P		PKiKP	12 16 47.5	-1.0	
	baz=283								
RSSD	**Black Hills**	111.19	43	P		PKiKP	12 16 47.8	-1.0	
	baz=288								
ANMO	**Albuquerque**	111.76	53	*c i*PKiKP		PKiKP	12 16 48.1	-2.1	
ANMO				pmax		pmax			
	comp=Z,12nm,2.5s								
ANMO	**Albuquerque**	111.76	53	P		PKiKP	12 16 49.4	-0.8	
	baz=282								
SDCO	**Great Sand Dun**	111.87	50	P		PKiKP	12 16 49.2	-1.2	
	baz=284								
T25A	**Trinidad**	112.86	51	P		PKiKP	12 16 50.9	-1.3	
	baz=285								
MNTX	**Cornudas Mount**	113.32	57	P		PKiKP	12 16 52.2	-0.8	
	baz=282								
CLL	**Collm**	113.76	326	*e*PKiKP		PKiKP	12 16 52.0	-1.2	
CLL				*e*			12 17 19.0		
CLL	**Collm**	113.76	326	*e*PKIKP		PKiKP	12 16 52.0	-1.2	
GERES	**GERESS Array B**	114.47	324	PKP		PKPdf	12 16 53.6	-1.1	
	comp=Z,1.0nm,0.5s,baz=48,slow=2.0,SNR=8.9								
LTX	**Lajitas**	115.25	59	*e*PKPdf		PKPdf	12 16 56.0	-0.9	
LTX	**Lajitas**	115.25	59	*e*PKIKP		PKPdf	12 16 56.0	-0.9	
TXAR	**Lajitas Array**	115.25	59	PKP		PKPdf	12 16 56.0	-0.9	
	comp=Z,0.4nm,0.4s,baz=194,slow=3.3,SNR=5.3								
TXAR	**Lajitas Array**	115.25	59	PKIKP		PKPdf	12 16 56.0	-0.9	
AMTX	**Amarillo**	115.59	52	P		PKPdf	12 16 56.1	-1.2	
	baz=286								
CBKS	**Cedar Bluff**	115.92	48	P		PKPdf	12 16 56.5	-1.3	
	baz=289								
ECSD	**EROS Data Cent**	116.35	42	P		PKPdf	12 16 56.8	-1.6	
	baz=294								
DAVOX	**Davos/Dischmat**	117.71	323	PKP		PKPdf	12 17 00.5	-0.7	
	comp=Z,2.9nm,0.5s,baz=174,slow=7.9,SNR=5.1								
WMOK	**Wichita Mounta**	117.92	52	P		PKPdf	12 17 00.1	-1.7	
	baz=288								
KSU1	**Kansas State U**	118.11	47	P		PKPdf	12 17 00.7	-1.2	
	baz=291								
SPMN	**Marine on St.**	118.17	39	P		PKPdf	12 17 00.2	-1.7	
	baz=298								
JCT	**Junction City**	118.26	57	*e*PKPdf		PKPdf	12 17 01.8	-0.8	
JCT	**Junction City**	118.26	57	*e*PKIKP		PKPdf	12 17 01.8	-0.8	
JCT	**Junction City**	118.26	57	P		PKPdf	12 17 01.3	-1.2	
	baz=285								
F38A	**Pierce - Schro**	118.40	38	P		PKPdf	12 17 01.2	-1.1	
	baz=299								
F39A	**Loretta**	119.00	37	P		PKPdf	12 17 02.1	-1.4	
	baz=300								
G39A	**Holcombe**	119.16	38	P		PKPdf	12 17 02.4	-1.4	
	baz=299								
EKA	**Eskdalemuir Ar**	119.20	336	PKP		PKPdf	12 17 03.0	-0.5	
	comp=Z,0.7nm,0.4s,baz=54,slow=3.6,SNR=3.4								
E40A	**Wakefield**	119.35	37	P		PKPdf	12 17 03.0	-1.1	
	baz=301								
H39A	**Augusta**	119.38	39	P		PKPdf	12 17 02.9	-1.3	
	baz=299								
F40A	**Park Falls**	119.48	37	P		PKPdf	12 17 02.4	-2.0	
	baz=300								
J39A	**Decorah**	119.74	40	P		PKPdf	12 17 02.6	-2.4	
	baz=298								
G40A	**Rib Lake**	119.76	38	P		PKPdf	12 17 03.4	-1.5	
	baz=300								
WHTX	**Lake Whitney,**	119.78	54	P		PKPdf	12 17 03.9	-1.4	
	baz=287								
K39A	**Oelwein**	119.91	41	P		PKPdf	12 17 02.9	-2.4	
	baz=297								
H40A	**Chili**	119.96	39	P		PKPdf	12 17 03.3	-2.1	
	baz=299								
F41A	**Three Lakes**	120.19	37	P		PKPdf	12 17 04.2	-1.5	
	baz=301								
M39A	**Webster**	120.27	42	P		PKPdf	12 17 04.1	-1.9	
	baz=296								
L40A	**Anamosa**	120.64	42	P		PKPdf	12 17 04.9	-1.8	
	baz=297								
M40A	**Pine Highland**	120.74	42	P		PKPdf	12 17 04.5	-2.4	
	baz=297								
J41A	**Loganville**	120.81	40	P		PKPdf	12 17 04.8	-2.2	
	baz=299								
JFWS	**Jewell Farm**	120.88	40	P		PKPdf	12 17 05.5	-1.7	
	baz=299								
K41A	**Shullsburg**	120.99	41	P		PKPdf	12 17 05.5	-1.9	
	baz=298								
HHAR	**Hobbs**	121.12	49	*e*PKPdf		PKPdf	12 17 06.5	-1.4	
I42A	**Draeger Farm,**	121.25	39	P		PKPdf	12 17 05.4	-2.4	
	baz=300								
J42A	**Columbus**	121.40	39	P		PKPdf	12 17 06.3	-1.8	
	baz=300								
N41A	**Harden Midland**	121.50	43	P		PKPdf	12 17 06.9	-1.5	
	baz=297								
K42A	**Prairie Point,**	121.53	40	P		PKPdf	12 17 06.3	-2.1	
	baz=299								
W39A	**Magazine**	121.63	50	P		PKPdf	12 17 07.7	-1.1	
	baz=291								
H43A	**Wildswept, Lux**	121.66	38	P		PKPdf	12 17 07.1	-1.5	
	baz=302								
O41A	**Passleys Farm,**	121.75	43	P		PKPdf	12 17 07.6	-1.3	
	baz=297								
U40A	**Yellville**	121.90	48	P		PKPdf	12 17 08.0	-1.3	
	baz=293								
Q41A	**Truxton**	122.02	45	P		PKPdf	12 17 08.5	-1.0	
	baz=296,SNR=7.0								
MIAR	**Mount Ida**	122.03	50	*e*PKPdf		PKPdf	12 17 08.9	-0.7	
R41A	**Roseboro**	122.19	46	P		PKPdf	12 17 08.6	-1.2	
	baz=295,SNR=14								
S41A	**Jillco Farms,**	122.22	46	P		PKPdf	12 17 08.6	-1.4	
	baz=294,SNR=6.6								
P42A	**Winchester**	122.36	44	*e*PKPdf		PKPdf	12 17 09.0	-1.0	
P42A	**Winchester**	122.36	44	P		PKPdf	12 17 09.1	-1.0	
	baz=297,SNR=9.8								
CCM	**Cathedral Cave**	122.39	46	*e*PKPdf		PKPdf	12 17 08.8	-1.4	
CCM	**Cathedral Cave**	122.39	46	*e*PKIKP		PKPdf	12 17 08.8	-1.4	
CCM	**Cathedral Cave**	122.39	46	P		PKPdf	12 17 09.2	-1.0	
	baz=295								
T41A	**Mountain View**	122.43	47	P		PKPdf	12 17 09.3	-1.1	
	baz=294								
U41A	**Viola**	122.60	48	P		PKPdf	12 17 09.1	-1.5	
	baz=294								
R42A	**Luebbering**	122.61	45	P		PKPdf	12 17 09.2	-1.5	
	baz=296,SNR=7.2								
X40A	**Basin Creek Fa**	122.62	50	P		PKPdf	12 17 10.0	-0.7	
	baz=292								
V41A	**Mountainview**	122.64	49	P		PKPdf	12 17 09.3	-1.5	
	baz=293								
W41B	**Gary Mavity, V**	122.81	49	P		PKPdf	12 17 09.7	-1.4	
	baz=293								
S42A	**Caledonia**	122.83	46	P		PKPdf	12 17 09.8	-1.3	
	baz=295,SNR=13								
D47A	**Chapleau**	122.88	33	P		PKPdf	12 17 10.0	-0.9	
	baz=308								
UALR	**University of**	122.89	50	*e*PKPdf		PKPdf	12 17 10.8	-0.5	
P43A	**Skaggs, Pawnee**	122.90	43	P		PKPdf	12 17 10.4	-0.7	
	baz=298								
T42A	**Van Buren**	122.93	47	*e*PKPdf		PKPdf	12 17 09.7	-1.5	
T42A	**Van Buren**	122.93	47	P		PKPdf	12 17 10.0	-1.3	
	baz=295,SNR=6.0								
FVM	**French Village**	123.00	45	*e*PKPdf		PKPdf	12 17 09.9	-1.4	
FVM	**French Village**	123.00	45	*e*PKIKP		PKPdf	12 17 10.0	-1.4	
Y41A	**Eaglette Beard**	123.01	51	P		PKPdf	12 17 10.7	-0.8	
	baz=292								
U42A	**Revenden**	123.10	48	P		PKPdf	12 17 10.2	-1.4	
	baz=294								
V42A	**Cord**	123.21	48	P		PKPdf	12 17 10.4	-1.4	
	baz=294								
R43A	**Red Bud**	123.23	45	P		PKPdf	12 17 10.5	-1.3	
	baz=296								
S43A	**Fulton Ridge,**	123.43	46	P		PKPdf	12 17 10.8	-1.5	
	baz=296,SNR=6.4								
T43A	**Greenville**	123.49	46	P		PKPdf	12 17 10.9	-1.5	
	baz=295,SNR=6.6								
PBMO	**Poplar Bluff**	123.52	47	*e*PKPdf		PKPdf	12 17 10.9	-1.5	
Q44A	**Meyer Farm, Va**	123.58	44	P		PKPdf	12 17 11.7	-0.7	
	baz=298								
G47A	**Hillman**	123.58	35	P		PKPdf	12 17 11.7	-0.6	
	baz=306								
P44A	**Sand Creek, Wi**	123.59	43	P		PKPdf	12 17 11.4	-1.1	
	baz=298								
E48A	**Lockeyer**	123.74	33	P		PKPdf	12 17 11.7	-0.9	
	baz=308								
O45A	**Potomac**	123.83	42	P		PKPdf	12 17 11.9	-1.0	
	baz=299								
R44A	**Waltonville**	123.84	45	P		PKPdf	12 17 11.9	-1.0	
	baz=297								
S44A	**Carbondale**	123.96	45	P		PKPdf	12 17 12.2	-1.0	
	baz=297								
T44A	**Benton**	123.99	46	P		PKPdf	12 17 12.2	-1.1	
	baz=296,SNR=5.5								
SCHQ	**Schefferville**	124.02	18	PKP		PKPdf	12 17 12.1	-0.8	
	comp=Z,3.8nm,0.6s,baz=340,slow=2.0,SNR=4.5								
SCHQ	**Schefferville**	124.02	18	*e*PKPdf		PKPdf	12 17 11.8	-1.1	
J47A	**Sunmer**	124.12	37	P		PKPdf	12 17 12.4	-0.9	
	baz=304								
P45A	**Graceland, Par**	124.16	43	*e*PKPdf		PKPdf	12 17 12.7	-0.9	
P45A	**Graceland, Par**	124.16	43	P		PKPdf	12 17 12.2	-1.3	
	baz=299								
Q45A	**Warren Harvey,**	124.18	44	P		PKPdf	12 17 12.8	-0.8	
	baz=298,SNR=9.4								
OLIL	**Olney**	124.30	44	*e*PKPdf		PKPdf	12 17 13.0	-0.8	
K47A	**Vermontville**	124.32	38	P		PKPdf	12 17 13.0	-0.8	
	baz=303								
R45A	**Skylar, Fairfi**	124.38	44	P		PKPdf	12 17 13.5	-0.5	
	baz=298								
S45A	**Carrier Mills**	124.45	45	P		PKPdf	12 17 13.4	-0.8	
	baz=297								
P46A	**Rosedale**	124.48	42	P		PKPdf	12 17 13.4	-0.8	
	baz=300								
D50A	**G1974 Best Tow**	124.54	31	P		PKPdf	12 17 13.3	-0.8	
	baz=311								
E50A	**Wahnapitae**	124.55	32	P		PKPdf	12 17 13.1	-0.9	
	baz=310								
K48A	**Perry**	124.79	38	P		PKPdf	12 17 13.7	-1.0	
	baz=304								
N47A	**Urbana**	124.84	40	P		PKPdf	12 17 13.6	-1.3	
	baz=302								
O47A	**Sheridan**	124.86	41	P		PKPdf	12 17 13.8	-1.1	
	baz=301								
L48A	**N Adams**	125.07	39	P		PKPdf	12 17 14.2	-1.0	
	baz=303								
W45A	**Hickory Valley**	125.11	48	P		PKPdf	12 17 14.2	-1.3	
	baz=295								
BLO	**Bloomington**	125.16	43	*e*PKPdf		PKPdf	12 17 14.6	-0.9	
BLO	**Bloomington**	125.16	43	*e*PKIKP		PKPdf	12 17 14.6	-0.9	
P47A	**Martinsville**	125.17	42	P		PKPdf	12 17 14.7	-0.8	
	baz=300								
OXF	**Oxford**	125.21	49	P		PKPdf	12 17 14.2	-1.5	
	baz=294								
T46A	**Princeton**	125.22	45	P		PKPdf	12 17 14.6	-1.1	
	baz=297,SNR=8.5								
VBMS	**Vicksburg**	125.26	52	P		PKPdf	12 17 15.3	-0.6	
	baz=292								
U46A	**Springville**	125.33	46	P		PKPdf	12 17 15.1	-0.8	
	baz=297								
Q47A	**Bedord North L**	125.34	43	P		PKPdf	12 17 15.0	-0.8	
	baz=300								
344A	**Westbrook Farm**	125.37	53	P		PKPdf	12 17 16.2	+0.1	
	baz=291								
Y45A	**Yeager Farm, C**	125.38	50	P		PKPdf	12 17 15.2	-0.8	
	baz=294								
L49A	**Milan**	125.39	38	P		PKPdf	12 17 14.5	-1.3	
	baz=304								
O48A	**Farmland**	125.52	41	P		PKPdf	12 17 15.1	-1.1	
	baz=302								
145A	**Houston Renfro**	125.58	51	P		PKPdf	12 17 16.1	-0.4	
	baz=293								
R47A	**Wooly Knot Far**	125.59	43	P		PKPdf	12 17 15.1	-1.2	
	baz=299,SNR=5.9								
M49A	**Liberty Center**	125.61	39	P		PKPdf	12 17 15.3	-1.0	
	baz=304								
V46A	**Holladay**	125.62	47	P		PKPdf	12 17 15.0	-1.5	
	baz=296,SNR=5.7								
WVT	**Waverly**	125.68	46	*e*PKPdf		PKPdf	12 17 15.2	-1.4	
WVT	**Waverly**	125.68	46	*e*PKIKP		PKPdf	12 17 15.2	-1.4	
WVT	**Waverly**	125.68	46	P		PKPdf	12 17 15.1	-1.4	
	baz=297								
D53A	**Lac Vacive, Po**	125.69	30	P		PKPdf	12 17 15.0	-1.2	
	baz=313								
P48A	**Milroy**	125.75	42	P		PKPdf	12 17 15.2	-1.4	
	baz=301								
WCI	**Wyandotte Cave**	125.78	43	P		PKPdf	12 17 15.9	-0.8	
	baz=300								
N49A	**Columbus Grove**	125.79	40	*e*PKPdf		PKPdf	12 17 15.7	-0.9	
N49A	**Columbus Grove**	125.79	40	P		PKPdf	12 17 15.6	-1.0	
	baz=303								
T47A	**Sharon Grove**	125.81	45	*e*PKPdf		PKPdf	12 17 16.0	-0.8	
T47A	**Sharon Grove**	125.81	45	P		PKPdf	12 17 15.6	-1.2	
	baz=298								
Q48A	**North Vernon**	125.82	42	P		PKPdf	12 17 16.0	-0.7	
	baz=300								
U47A	**Clarksville**	125.93	46	P		PKPdf	12 17 16.2	-0.8	
	baz=298								
V47A	**Nunnelly**	126.04	47	P		PKPdf	12 17 15.8	-1.5	
	baz=297,SNR=5.5								
Q49A	**Covington**	126.08	40	*e*PKPdf		PKPdf	12 17 16.3	-0.9	
Q49A	**Covington**	126.08	40	P		PKPdf	12 17 15.9	-1.4	
	baz=302								
P49A	**Miami Univ. Ec**	126.18	41	P		PKPdf	12 17 16.3	-1.2	
	baz=302								
E53A	**Dumoine, Ponti**	126.18	31	P		PKPdf	12 17 16.0	-1.2	
	baz=313								
S48A	**Wiedeman Farm,**	126.22	44	P		PKPdf	12 17 16.6	-1.0	
	baz=299,SNR=7.6								
W47A	**Westpoint**	126.25	47	P		PKPdf	12 17 16.2	-1.5	
	baz=296,SNR=8.7								
T48A	**Bowling Green**	126.25	45	P		PKPdf	12 17 16.8	-0.8	
	baz=299								
X47A	**Russelville**	126.37	48	P		PKPdf	12 17 16.1	-1.8	
	baz=296								
E54A	**Lac Daplat, Po**	126.39	30	P		PKPdf	12 17 16.4	-1.2	
	baz=313								
U48A	**Cassie Pea, Po**	126.43	45	P		PKPdf	12 17 16.8	-1.2	
	baz=298								
N50A	**Nevada**	126.52	39	P		PKPdf	12 17 17.0	-1.1	
	baz=304								
V48A	**Smith Brothers**	126.59	46	*e*PKPdf		PKPdf	12 17 17.0	-1.3	
V48A	**Smith Brothers**	126.59	46	P		PKPdf	12 17 17.1	-1.2	
	baz=297								
Y47A	**UCPARC, Winfie**	126.64	49	P		PKPdf	12 17 17.1	-1.4	
	baz=295								
S49A	**Springfield**	126.69	43	P		PKPdf	12 17 17.6	-0.8	
	baz=300								
P50A	**Jamestown**	126.74	41	P		PKPdf	12 17 17.4	-1.1	
	baz=303								
W48A	**Pulaski**	126.78	47	P		PKPdf	12 17 17.2	-1.5	
	baz=297,SNR=6.6								
247A	**Quitman**	126.82	51	P		PKPdf	12 17 18.3	-0.5	
	baz=294								
T49A	**Edmonton**	126.86	44	*e*PKPdf		PKPdf	12 17 17.5	-1.3	
T49A	**Edmonton**	126.86	44	P		PKPdf	12 17 17.7	-1.1	
	baz=299,SNR=5.1								
ACSO	**Alum Creek Sta**	126.93	40	P		PKPdf	12 17 17.9	-1.0	
	baz=304								
U49A	**Red Boiling Sp**	126.97	45	P		PKPdf	12 17 17.9	-1.2	
	baz=299								
X48A	**Hartselle**	127.00	48	*e*PKPdf		PKPdf	12 17 17.7	-1.4

	baz=301							
TKL	**Tuckaleechee C**	**128.81**	**45**	*e*PKPdf	**PKPdf**	**12 17 21.8**	**-0.8**
TKL	**Tuckaleechee C**	**128.81**	**45**	*e*PKIKP	**PKPdf**	**12 17 21.8**	**-0.8**
V52A	**Sevierville**	**128.84**	**45**	*e*PKPdf	**PKPdf**	**12 17 21.7**	**-0.9**
V52A	**Sevierville**	**128.84**	**45**	P	**PKPdf**	**12 17 22.3**	**-0.4**
	baz=300,SNR=6.1						
Z51A	**Franklin**	**128.90**	**48**	P	**PKPdf**	**12 17 22.1**	**-0.7**
	baz=297						
PLCA	**Paso Flores**	**129.15**	**151**	PKP	**PKPdf**	**12 17 23.7**	**+0.5**
	comp=Z,4.2nm,0.9s,baz=232,slow=5.0,SNR=9.2						
PLCA	**Paso Flores**	**129.15**	**151**	*e*PKPdf	**PKPdf**	**12 17 22.6**	**-0.6**
X52A	**Dahlonega**	**129.24**	**46**	P	**PKPdf**	**12 17 23.1**	**-0.4**
	baz=299						
251A	**Midway**	**129.27**	**50**	P	**PKPdf**	**12 17 23.0**	**-0.5**
	baz=296						
U53A	**Fall Branch**	**129.28**	**44**	P	**PKPdf**	**12 17 23.1**	**-0.4**
	baz=302						
Y52A	**Lilburn**	**129.47**	**47**	*e*PKPdf	**PKPdf**	**12 17 22.9**	**-1.0**
Y52A	**Lilburn**	**129.47**	**47**	P	**PKPdf**	**12 17 23.6**	**-0.3**
	baz=298,SNR=5.2						
V53A	**Saluda**	**129.48**	**44**	*e*PKPdf	**PKPdf**	**12 17 22.8**	**-1.1**
V53A	**Saluda**	**129.48**	**44**	P	**PKPdf**	**12 17 23.4**	**-0.5**
	baz=301,SNR=5.3						
W53A	**Cullowhee**	**129.48**	**45**	P	**PKPdf**	**12 17 23.7**	**-0.3**
	baz=300,SNR=5.9						
Z52A	**Williamson**	**129.53**	**48**	P	**PKPdf**	**12 17 23.6**	**-0.4**
	baz=298,SNR=5.1						
152A	**Waverly Hall**	**129.54**	**49**	*e*PKPdf	**PKPdf**	**12 17 23.2**	**-0.9**
152A	**Waverly Hall**	**129.54**	**49**	P	**PKPdf**	**12 17 23.8**	**-0.2**
	baz=297						
O56A	**Blue Knob Stat**	**129.65**	**37**	P	**PKPdf**	**12 17 23.8**	**-0.3**
	baz=308						
SSPA	**Standing Stone**	**129.82**	**36**	*e*PKPdf	**PKPdf**	**12 17 23.4**	**-0.9**
SSPA	**Standing Stone**	**129.82**	**36**	P	**PKPdf**	**12 17 23.8**	**-0.5**
	baz=309						
Y53A	**Monroe**	**129.82**	**47**	P	**PKPdf**	**12 17 24.2**	**-0.4**
	baz=299						
ESDC	**Sonseca Array**	**130.04**	**322**	PKP	**PKPdf**	**12 17 23.0**	**-1.8**
	comp=Z,0.3nm,0.4s,baz=194,slow=0.6,SNR=3.6						
Z53A	**Monticello**	**130.11**	**48**	P	**PKPdf**	**12 17 25.0**	**-0.1**
	baz=298						
GOGA	**Godfrey**	**130.12**	**47**	*e*PKPdf	**PKPdf**	**12 17 24.3**	**-0.8**
GOGA	**Godfrey**	**130.12**	**47**	*e*PKIKP	**PKPdf**	**12 17 24.3**	**-0.8**
GOGA	**Godfrey**	**130.12**	**47**	P	**PKPdf**	**12 17 24.8**	**-0.3**
	baz=299						
BLA	**Blacksburg**	**130.28**	**41**	P	**PKPdf**	**12 17 25.0**	**-0.4**
	baz=304						
Y54A	**Tignall**	**130.47**	**46**	P	**PKPdf**	**12 17 25.5**	**-0.3**
	baz=300						
HODGE	**Hodges**	**130.60**	**46**	*e*PKPdf	**PKPdf**	**12 17 25.8**	**-0.2**
Z54A	**Sparta**	**130.67**	**47**	P	**PKPdf**	**12 17 26.1**	**-0.1**
	baz=299						
KMSC	**Kings Mountain**	**130.78**	**44**	*e*PKPdf	**PKPdf**	**12 17 25.8**	**-0.5**
KMSC	**Kings Mountain**	**130.78**	**44**	P	**PKPdf**	**12 17 26.3**	**-0.1**
	baz=302						
254A	**Abbeville**	**130.94**	**49**	P	**PKPdf**	**12 17 26.3**	**-0.4**
	baz=298						
155A	**Kite**	**131.24**	**48**	P	**PKPdf**	**12 17 27.1**	**-0.1**
	baz=299						
555A	**McAlpin**	**132.02**	**51**	P	**PKPdf**	**12 17 29.2**	**+0.4**
	baz=297						
TOA0	**Torodi Ar. Sit**	**136.30**	**286**	*e*PKPdf	**PKPdf**	**12 17 34.8**	**-2.4**
TORD	**Torodi Ar. Bea**	**136.30**	**286**	PKP	**PKPdf**	**12 17 36.5**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=116,slow=3.4,SNR=12						
TOA1	**Torodi Ar. Sit**	**136.30**	**286**	*e*PKPdf	**PKPdf**	**12 17 36.5**	**-0.7**
DBIC	**Dimbokro**	**143.53**	**278**	PKP	PKPab	12 17 47.4	+0.6
	comp=Z,5.4nm,0.7s,baz=108,slow=3.1,SNR=8.1						
DBIC	**Dimbokro**	**143.53**	**278**	*e*PKPdf	PKPab	12 17 47.8	+1.0
GO01	**Chusmiza**	**144.67**	**130**	*e*PKPdf	**PKPab**	**12 17 51.3**	**-0.2**
MNMC	**Minye Minye**	**144.67**	**129**	*e*PKPdf	**PKPab**	**12 17 51.6**	**+0.3**
ROSC	**El Rosal**	**146.93**	**85**	PKPbc	**PKPdf**	**12 17 57.8**	**+1.1**
	comp=Z,7.0nm,0.3s,baz=172,slow=8.0,SNR=6.2						
ROSC	**El Rosal**	**146.93**	**85**	*e*PKPdf	**PKPdf**	**12 17 54.6**	**-2.2**
ROSC				*e*PKPbc	**PKPbc**	**12 17 58.7**	**+0.1**
CPUP	**Villa Florida**	**147.21**	**153**	PKPbc	**PKPdf**	**12 17 57.3**	**+0.9**
	comp=Z,21nm,0.9s,baz=227,slow=3.1,SNR=34						
CPUP	**Villa Florida**	**147.21**	**153**	*e*PKPdf	**PKPdf**	**12 17 55.8**	**-0.6**
CPUP	**Villa Florida**	**147.21**	**153**	*e*PKIKP	**PKPdf**	**12 17 55.8**	**-0.6**
LPAZ	**La Paz**	**147.41**	**126**	PKPbc	**PKPdf**	**12 17 58.5**	**+0.7**
	comp=Z,16nm,0.9s,baz=229,slow=1.1,SNR=30						
LPAZ	**La Paz**	**147.41**	**126**	*e*PKPdf	**PKPdf**	**12 17 57.4**	**-0.3**
SDV	**Santo Domingo**	**150.14**	**77**	*e*PKPdf	**PKPdf**	**12 18 00.8**	**-0.8**
SDV				*e*PKPbc	**PKPbc**	**12 18 06.3**	**-0.4**
CRPR	**Cabo Rojo, PR**	**150.43**	**57**	*e*PKPdf	**PKPdf**	**12 18 00.5**	**-1.3**
CRPR				*e*PKPbc	**PKPbc**	**12 18 06.0**	**-1.0**
OBIP	**Obispado Ponce**	**150.84**	**57**	*e*PKPdf	**PKPdf**	**12 18 02.2**	**-0.2**
OBIP				*e*PKPbc	**PKPbc**	**12 18 07.4**	**-0.6**
ICMP	**Isla Caja de M**	**150.98**	**57**	*e*PKPdf	**PKPdf**	**12 18 01.2**	**-1.4**
ICMP				*e*PKPbc	**PKPbc**	**12 18 07.4**	**-0.9**
SJG	**San Juan**	**151.18**	**56**	*e*PKPbc	**PKPdf**	**12 18 08.0**	**+5.1**
SJG	**San Juan**	**151.18**	**56**	*e*PKIKP	**PKPdf**	**12 18 08.0**	**+5.1**
CBYP	**Canovanas**	**151.35**	**56**	*e*PKPbc	**PKPdf**	**12 18 08.8**	**+5.6**
STVI	**Saint Thomas**	**152.05**	**55**	*e*PKPbc	**PKPdf**	**12 18 09.8**	**+5.5**

DJA 27 12:00:27.8±0.3,5°N±2°×9°8E±°,h10km,M3.9/7,MLv3.9/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**1.04**	**290**	P	Pg	12 00 46.4	-1.4
LHMI				S	Sn	12 01 02.9	-0.1
KCSI	**Kotacane, Aceh**	**1.36**	**187**	P	Pn	12 00 51.2	-1.7
KCSI				S	Sb	12 01 10.3	-0.5
TSI	**Tuntungan**	**1.51**	**155**	P	Pb	12 00 55.8	-0.1
MLSI	**Meulaboh, Aceh**	**1.64**	**248**	P	Pn	12 00 57.0	+0.3
MLSI				S	Sn	12 01 17.8	-0.1
TPTI		**1.77**	**205**	P	Pn	12 00 57.7	-0.9
TPTI				S	Sn	12 01 21.8	+0.6
MNSI	**Mandailing Nat**	**4.38**	**158**	P	Pn	12 01 34.8	+0.4

ATH 27 12:09:08.8,38°12N×22°07E,h16km±2km,ML1.1/8,Error ellipse: s-maj=2.9km s-min=0.9km az=124.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLV	**Kalavryta, Ach**	**0.10**	**140**	P	Pg	12 09 12.3	+0.1
KLV				S	Sg	12 09 14.6	+0.2
KLV				AML	AML	12 09 15.1	
	comp=N,170μm,0.1s						
KLV				AML	AML	12 09 15.1	
	comp=E,213μm,0.1s						
LAKA	**Lakka**	**0.14**	**329**	P	Pg	12 09 12.7	-0.1
LAKA				S	Sg	12 09 15.0	-0.4
LAKA				AML	AML	12 09 15.5	
	comp=E,197μm,0.2s						
LAKA				AML	AML	12 09 15.6	
	comp=N,428μm,0.3s						
TRIZ	**Trizonia**	**0.25**	**360**	P	Pg	12 09 14.0	-0.3
KALE	**Kalithea**	**0.28**	**11**	P	Pg	12 09 14.8	-0.1
KALE				S	Sg	12 09 19.5	+0.5
KALE				AML	AML	12 09 20.4	
	comp=E,55μm,0.1s						
KALE				AML	AML	12 09 20.8	
	comp=N,68μm,0.2s						
GUR	**Goura**	**0.28**	**130**	P	Pg	12 09 14.7	-0.1
GUR				S	Sg	12 09 18.8	-0.2
GUR				AML	AML	12 09 20.2	
	comp=N,195μm,0.3s						
GUR				AML	AML	12 09 21.0	
	comp=E,95μm,0.2s						
SERG	**Sergoula**	**0.30**	**358**	P	Pg	12 09 15.0	-0.1
SERG				S	Sg	12 09 19.7	+0.2
SERG				AML	AML	12 09 20.9	
	comp=E,70μm,0.3s						
SERG				AML	AML	12 09 21.2	
	comp=N,57μm,0.2s						
DRO	**Drossia**	**0.33**	**240**	P	Pg	12 09 15.6	-0.1
DRO				S	Sg	12 09 20.9	+0.4
DRO				AML	AML	12 09 22.5	
	comp=N,164μm,0.2s						
DRO				AML	AML	12 09 24.0	
	comp=E,165μm,0.2s						
EFP	**Efpalio**	**0.34**	**337**	P	Pg	12 09 15.7	-0.1
EFP				S	Sg	12 09 20.6	0.0
EFP				AML	AML	12 09 22.8	
	comp=N,64μm,0.2s						
EFP				AML	AML	12 09 23.3	
	comp=E,51μm,0.2s						
ANX	**Ano Chora**	**0.49**	**346**	P	Pg	12 09 18.3	-0.4
ANX				S	Sb	12 09 26.0	-0.2
ANX				AML	AML	12 09 27.4	
	comp=E,61μm,0.3s						
ANX				AML	AML	12 09 27.4	
	comp=N,50μm,0.3s						

*ISCJB **27** 12:11:41.3±0.5,36°.05N±0°.05×82°.65E±0°.06,h10km, mb3.5/7,Error ellipse: s-maj=7.5km s-min=6.3km az=148.4*
*BJI **27** 12:11:41.8,35°.86N×82°.40E,h11km,mb4.2/1,ML4.2/7, Ms3.8/3,Ms7 3.8/1*
*IDC **27** 12:11:44.5±5.8,35°.91N×82°.57E,h26km±41km,mb3.5/7, mb1 3.8/12,mb1mx3.6/53,mbtmp3.8/12,ML3.6/5,Error ellipse: s-maj=25.0km s-min=17.9km az=56.0*
*NEIC **27** 12:11:46.2±1.0,36°.20N×82°.51E,h10km,mb4.0/3, ML4.2(BJI),Error ellipse: s-maj=13.6km s-min=8.3km az=149.0*
*NNC **27** 12:11:48.5±4.2,36°.25N×82°.23E,h6km±19km,mb4.5, mpv4.2,Error ellipse: s-maj=29.7km s-min=23.7km az=103.0*

ISC 27 12:11:43.5±0.8,36°.01N±0°.07×82°.80E±0°.06,h10km,n41, σ1ᵍ92/47,mb3.6/7,9C-8D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**6.44**	**305**	Pg	**Pb**	**12 13 36.0**	**+0.3**
KSH				Sg	**Sb**	**12 14 57.5**	**+4.7**
KSH				smax	smax		
	comp=N,320nm,0.9s						
KSH				smax	smax		
	comp=E,590nm,1.2s						
PRZ	**Przheval'sk**	**7.31**	**334**	*e*Pn	**Pn**	**12 13 30.3**	**-0.2**
KDJ	**Kajisay**	**7.51**	**326**	*e*Pn	**Pn**	**12 13 32.2**	**-1.0**
NRN	**Naryn**	**7.59**	**318**	*e*Pn	**Pn**	**12 13 34.0**	**-0.4**
PDGK	**Podgornoye**	**7.74**	**342**	⇑Pn	**Pn**	**12 13 37.2**	**+0.9**
	19nm,0.7s						
PDGK				⇓Sn	**Sn**	**12 15 03.2**	**-1.0**
	56nm,0.6s						
PDGK				⇓Lg	Lg	12 15 40.5	
	108nm,1.0s						
NIL	**Nilore**	**8.20**	**256**	*e*Pn	**Pn**	**12 13 43.3**	**+0.8**
SFK	**Sufi-Kurgan**	**8.36**	**301**	⇓Pn	**Pn**	**12 13 42.1**	**-2.7**
	5.4nm,0.8s						
SFK				⇑Pg	**Pb**	**12 14 12.1**	**+3.7**
	73nm,1.3s						
SFK				⇑Lg	Lg	12 15 56.4	
	56nm,1.0s						
MDOK	**Medeo**	**8.41**	**330**	Pn	**Pn**	**12 13 45.3**	**-0.2**
	9.3nm,0.8s						
MDOK				Lg	Lg	12 15 59.7	
	58nm,1.4s						
WMQ	**Urumqi**	**8.66**	**24**	*e*P	**Pn**	**12 13 50.3**	**+1.4**
WMQ				S	**Sn**	**12 15 25.5**	**-1.1**
WMQ				smax	smax		
	comp=N,57nm,1.5s						
WMQ				smax	smax		
	comp=E,79nm,1.1s						
WMQ				LR	LR		
	comp=E,290nm,22.9s						
TKM2	**Tokmak 2**	**8.87**	**323**	⇑Pn	**Pn**	**12 13 51.5**	**-0.4**
	6.5nm,0.8s						
TKM2				⇓Pg	Pg	12 14 20.7	-12
	4.5nm,0.6s						
TKM2				⇓Lg	Lg	12 16 17.4	
	27nm,1.3s						
AAK	**Ala-Archa**	**9.23**	**318**	Pn	**Pn**	**12 13 57.3**	**+0.6**
	0.2nm,0.3s,baz=157,slow=15,SNR=5.5						
AAK				Pg		12 14 29.9	
	1.2nm,0.3s,baz=108,slow=7.8,SNR=7.5						
AAK				Lg	Lg	12 16 29.2	
	0.8nm,0.3s,baz=247,slow=16,SNR=3.5						
AAK	**Ala-Archa**	**9.23**	**318**	⇓Pg	Pn	12 14 30.0	+33
	11nm,0.9s						
AAK				⇑Lg	Lg	12 16 26.8	
	36nm,0.9s						
AAK	**Ala-Archa**	**9.23**	**318**	*e*Pn	**Pn**	**12 13 55.9**	**-0.9**
FRU1	**Bishkek**	**9.28**	**320**	*e*Pn	**Pn**	**12 13 55.9**	**-1.4**
MNAS	**Manas**	**10.27**	**312**	⇑Pn	**Pn**	**12 14 10.3**	**-0.7**
	3.1nm,0.8s						
MNAS				⇑Pg		12 14 45.8	
	8.1nm,1.0s						
MNAS				⇑Lg	Lg	12 17 01.3	
	21nm,1.2s						
MK01	**Makanchi Array**	**10.76**	**358**	*e*Pn	**Pn**	**12 14 18.0**	**+0.4**
MK01				*e*Sn	Sn	12 16 10.5	-7.6
MK31	**Makanchi Array**	**10.78**	**358**	⇓Pn	**Pn**	**12 14 19.3**	**+1.4**
	5.2nm,0.6s,baz=180,slow=12,SNR=74						
MK31				⇓Sn	**Sn**	**12 16 17.9**	**-0.8**
	3.0nm,0.5s,baz=185,slow=25						
MK31				⇑Lg	Lg	12 17 24.4	
	13nm,0.8s,baz=178,slow=28						
MK31	**Makanchi Array**	**10.78**	**358**	*e*Pn	**Pn**	**12 14 18.3**	**+0.4**
MK31				*e*Sn	**Sn**	**12 16 13.6**	**-5.0**
MKAR	**Makanchi Array**	**10.78**	**358**	Pn	**Pn**	**12 14 18.3**	**+0.4**
	1.9nm,0.3s,baz=181,slow=11,SNR=49						
MKAR				Sn	**Sn**	**12 16 18.1**	**-0.5**
	1.1nm,0.3s,baz=187,slow=25,SNR=5.8						
MKAR	**Makanchi Array**	**10.78**	**358**	*e*Pn	**Pn**	**12 14 18.3**	**+0.4**
MKAR				*e*Sn	**Sn**	**12 16 14.1**	**-4.5**
KK31	**Karatay Array**	**11.83**	**311**	*e*Pn	**Pn**	**12 14 31.0**	**-1.3**
KURBB	**Kurchatov Ara**	**14.93**	**349**	Pn	**Pn**	**12 15 12.3**	**-2.1**
	0.2nm,0.3s,baz=173,slow=12,SNR=18						
KURK	**Kurchatov**	**15.01**	**350**	*e*Pn	**Pn**	**12 15 14.6**	**-1.0**
ZAA0	**Zalesovo Array**	**18.00**	**4**	*e*Pn	**Pn**	**12 15 53.2**	**-0.4**
	12nm,0.9s						
ZALV	**Zalesovo Beam**	**18.00**	**4**	P	**Pn**	**12 15 53.4**	**-0.2**
	0.5nm,0.3s,baz=191,slow=12,SNR=25						
ZALV	**Zalesovo Beam**	**18.00**	**4**	*e*Pn	**Pn**	**12 15 52.9**	**-0.7**
CD2	**Chengdu**	**18.20**	**100**	*e*P	**Pn**	**12 15 57.3**	**+1.0**
BRVK	**Borovoye**	**19.19**	**337**	*e*P	**P**	**12 16 07.0**	**-0.2**
	15nm,0.7s						
GEYT	**Alibeck**	**19.80**	**283**	P	**P**	**12 16 10.9**	**-3.2**
	0.6nm,0.3s,baz=65,slow=10,SNR=3.3						
GYA0B	**ALIBECK ARRAY**	**19.80**	**283**	*e*P	**P**	**12 16 12.5**	**-1.6**
	6.9nm,0.9s						
SONM	**Songino Array**	**21.07**	**49**	P	**P**	**12 16 30.4**	**+2.5**
	2.0nm,0.9s,baz=246,slow=11,SNR=6.4						
SONA1	**Songino Array**	**21.08**	**49**	*e*P	**P**	**12 16 32.2**	**+4.2**
ABKAR	**Akbulak array**	**21.30**	**316**	*e*P	**P**	**12 16 29.1**	**-1.0**
CMAR	**Chiang Mai Arr**	**22.56**	**137**	P	**P**	**12 16 43.5**	**-0.4**
	1.0nm,0.7s,baz=309,slow=11,SNR=7.7						
BRTR	**Keskin Array B**	**38.60**	**291**	P	**P**	**12 19 05.2**	**-1.7**
	1.4nm,0.9s,baz=92,slow=6.2,SNR=4.8						
FIA1	**FINESS Array S**	**43.36**	**324**	*e*P	**P**	**12 19 46.7**	**+1.1**
IL1	**Eielson Array**	**72.30**	**20**	*e*P	**P**	**12 23 10.8**	**+2.0**
ILAR	**Eielson Array**	**72.30**	**20**	P	**P**	**12 23 08.0**	**-0.8**
	0.6nm,0.8s,baz=318,slow=3.9,SNR=7.5						
WRA	**Warramunga Arr**	**73.98**	**130**	P	P	12 23 17.8	-1.6
	0.4nm,0.6s,baz=322,slow=6.1,SNR=5.5						
ASAR	**Alice Springs**	**76.52**	**133**	P	**P**	**12 23 33.3**	**-0.6**
	0.3nm,0.7s,baz=319,slow=5.7,SNR=5.0						
YKA	**Yellowknife Ar**	**80.84**	**8**	P	**P**	**12 23 55.8**	**-1.3**
	0.6nm,0.8s,baz=347,slow=4.8,SNR=4.3						

*ISCJB **27** 12:15:13.4±0.2,30°.90N±0°.02×78°.44E±0°.02,h10km, mb4.2/71,MS3.9/15,Error ellipse: s-maj=3.3km s-min=2.1km az=42.7*
*IDC **27** 12:15:13.0±0.5,30°.83N×78°.35E,h0km,mb4.1/29, mb1 4.2/34,mb1mx4.2/60,mbtmp4.2/34,ML4.1/5,MS3.7/9, Ms1 3.7/9,ms1mx3.3/49,Error ellipse: s-maj=12.2km s-min=10.8km az=40.0*
*BJI **27** 12:15:15.6,30°.87N×78°.40E,h25km,mb4.4/35,mB4.8/28, ML4.8/2,Ms4.3/19,Ms7 4.0/15*
*NDI **27** 12:15:16.3±2.3,30°.86N×78°.43E,h12km,ML4.4, mb4.4(NEIC)*
*NEIC **27** 12:15:16.9±1.3,30°.90N×78°.42E,h23km±9km,mb4.4/31, Error ellipse: s-maj=5.4km s-min=3.7km az=216.0*
NEIC Felt at Chandigarh, Dehra Dun, Mussoorie and Srinagar.
*DMN **27** 12:15:17.2±0.4,30°.96N×78°.28E,h10km,MI5.4/6,Error ellipse: s-maj=22.5km s-min=7.1km az=29.0*
*MOS **27** 12:15:17.6±1.3,30°.97N×78°.46E,h42km,mb4.4/32,Error ellipse: s-maj=9.0km s-min=4.4km az=106.3*
*NNC **27** 12:15:30.7±7.8,31°.52N×78°.15E,h167km±102km,mb4.0, Error ellipse: s-maj=53.7km s-min=43.5km az=123.0*

ISC 27 12:15:14.9±0.3,30°.90N±0°.03×78°.40E±0°.03,h10km,n225, σ2ᵍ41/266,mb4.3/71,MS3.9/15,12C-9D,Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDI	**Dehra Dun**	**0.64**	**207**	*e*P	**Pb**	**12 15 28.8**	**+0.6**
DDI				*e*S	**Sb**	**12 15 38.3**	**+1.0**
DDI				IAML		12 15 40.5	
	comp=N,49μm,0.5s						
DDI				IAML		12 15 41.0	
	comp=E,40μm,0.0s						
SMLA	**Simla**	**1.08**	**283**	*e*P	**Pn**	**12 15 36.9**	**+0.8**
SMLA				*e*S	**Sn**	**12 15 52.5**	**+1.4**
SMLA				IAML		12 15 57.8	
	comp=E,8μm,0.1s						
SMLA				IAML		12 15 58.1	
	comp=N,7μm,0.1s						
DHRM	**DHARAMSHALA**	**2.24**	**308**	*e*P	**Pb**	**12 15 56.1**	**+0.5**
DHRM				*e*S	**Sb**	**12 16 23.7**	**+0.2**
DHRM				IAML		12 16 38.0	
	comp=N,3μm,0.5s						
DHRM				IAML		12 16 39.3	
	comp=E,5μm,0.3s						
NDI	**New Delhi**	**2.43**	**205**	*e*P	**Pn**	**12 15 56.0**	**+1.3**
NDI				*e*S	**Sn**	**12 16 24.0**	**-0.5**
PYUN	**Piuthan**	**4.88**	**124**	*e*Pn	**Pn**	**12 16 30.2**	**+1.7**
PYUN				*e*Sn	**Sn**	**12 17 24.4**	**-0.8**
	comp=E,635nm,0.4s						
SARP	**Sargodha**	**5.00**	**283**	P	**Pn**	**12 16 32.6**	**+2.6**
CHCP	**Chirah Chowk**	**5.14**	**304**	P	**Pn**	**12 16 35.5**	**+3.5**
NIL	**Nilore**	**5.15**	**304**	*e*Pn	**Pn**	**12 16 35.2**	**+3.1**
NIL				*e*Sn	**Sn**	**12 17 30.7**	**-0.9**
NIL	**Nilore**	**5.15**	**304**	*e*P	**Pn**	**12 16 35.2**	**+3.1**
NIL				*e*		12 17 30.7	
DANN	**Dangsing**	**5.31**	**117**	*e*Pn	**Pn**	**12 16 36.8**	**+2.2**
KOLN	**Koldanda**	**5.51**	**123**	*e*Pn	**Pn**	**12 16 38.9**	**+1.7**
KOLN				*e*Sn	**Sn**	**12 17 40.5**	**-0.2**
	comp=E,1μm,0.5s						
THW	**Thamme Wali**	**5.97**	**290**	P	**Pn**	**12 16 46.0**	**+2.7**
GKN	**Gorkha**	**6.16**	**116**	*e*Pn	**Pn**	**12 16 48.4**	**+2.3**
CEP	**Cherat**	**6.22**	**300**	P	**Pn**	**12 16 48.6**	**+1.8**
DMN	**Daman**	**6.71**	**118**	*e*Pn	**Pn**	**12 16 56.1**	**+2.3**
DMN				*e*Sn	**Sn**	**12 18 09.4**	**-1.1**
	comp=E,957nm,0.6s						
KKN	**Kakani**	**6.76**	**116**	*e*Pn	**Pn**	**12 16 56.3**	**+1.9**
KKN				*e*Sn	**Sn**	**12 18 10.2**	**-1.4**
	comp=E,326nm,0.2s						
PKIN	**Phulchoki**	**6.95**	**117**	*e*Pn	**Pn**	**12 16 58.5**	**+1.4**
PKI	**Pulchoki**	**6.97**	**117**	*e*Pn	**Pn**	**12 16 59.1**	**+1.8**
GUN	**Gumba**	**7.17**	**113**	*e*Pn	**Pn**	**12 17 01.7**	**+1.5**
JIRN	**Jiri**	**7.53**	**113**	*e*Pn	**Pn**	**12 17 07.0**	**+1.9**
BHPL	**Bhopal**	**7.67**	**187**	*e*P	**Pn**	**12 17 07.7**	**+0.9**
BHPL				*e*S	**Sn**	**12 18 27.7**	**-6.1**
BHPL				IAML		12 19 23.2	
	comp=E,240nm,0.5s						
BHPL				IAML		12 19 25.3	
RAMN	**Ramite**	**8.19**	**117**	*e*Pn	**Pn**	**12 17 14.6**	**+0.5**
KBL	**Kabul**	**8.68**	**297**	*e*Pn	**Pn**	**12 17 23.0**	**+2.3**
KBL				*e*Sn	**Sn**	**12 18 59.0**	**+0.3**
KBL	**Kabul**	**8.68**	**297**	*e*P	**Pn**	**12 17 23.0**	**+2.3**
KBL				*e*		12 18 59.0	
KSH	**Kashi**	**8.83**	**348**	P	**Pn**	**12 17 25.5**	**+2.9**
KSH				S	**Sn**	**12 18 54.3**	**-7.9**
KSH				smax	smax		
	comp=E,400nm,0.5s						
ODAN	**Odare**	**8.85**	**115**	*e*Pn	**Pn**	**12 17 24.3**	**+1.2**
ODAN				*e*Sn	**Sn**	**12 18 58.8**	**-4.2**
	comp=E,441nm,0.4s						
TAPN	**Taplejung**	**8.88**	**111**	*e*Pn	**Pn**	**12 17 24.9**	**+1.3**
TAPN				*e*Sn	**Sn**	**12 19 00.1**	**-3.7**
	comp=E,460nm,0.5s						
GTK	**Tadong**	**9.61**	**109**	*e*P	**Pn**	**12 17 31.6**	**-1.8**
BOK	**Bokaro**	**9.71**	**135**	*e*P	**Pn**	**12 17 34.3**	**-0.4**
BOK				*e*S	**Sn**	**12 19 16.4**	**-7.5**
BOK				IAML		12 20 34.6	
	comp=E,66nm,0.2s						
BOK				IAML		12 20 36.1	
	comp=N,37nm,0.5s						
NGP	**Nagpur**	**9.72**	**176**	*e*P	**Pn**	**12 17 33.9**	**-1.0**
NGP				*e*S	**Sn**	**12 19 17.5**	**-6.7**
SFK	**Sufi-Kurgan**	**9.93**	**338**	⇓Pn	**Pn**	**12 17 42.4**	**+4.5**
	comp=N,18nm,0.5s						
SFK				⇑Sn	**Sn**	**12 19 28.2**	**-1.3**
	comp=N,25nm,0.4s						
SFK	**Sufi-Kurgan**	**9.93**	**338**	P	**Pn**	**12 17 42.4**	**+4.5**
SFK				S	**Sn**	**12 19 28.2**	**-1.3**
SFK				pmax	pmax		
	comp=Z,18nm,0.5s						
SFK				smax	smax		
	comp=N,25nm,0.4s						
NRN	**Naryn**	**10.69**	**350**	*e*Pn	**Pn**	**12 17 49.5**	**+1.1**
NRN	**Naryn**	**10.69**	**350**	*e*P	**Pn**	**12 17 49.5**	**+1.1**
BHJ	**Bhuj**	**10.89**	**228**	*e*P	**Pn**	**12 17 51.4**	**+0.6**
BHJ				*e*S	Sn	12 19 43.6	-9.1
BHJ				IAML		12 21 08.2	
	comp=E,54nm,0.4s						
BHJ				IAML		12 21 08.3	
	comp=N,139nm,0.8s						
BTK	**Batken**	**11.03**	**328**	P	**Pn**	**12 17 54.0**	**+1.2**
BTK				S	**Sn**	**12 19 55.4**	**-0.8**
LSA	**Lhasa**	**11.09**	**93**	P	**Pn**	**12 17 52.5**	**-1.5**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
**

MNAS smax smax
comp=N,42nm,0.7s
POO Poona 12.98 200 *e*P **Pn 12 18 17.6 -2.0**
POO *e*S Sn 12 20 33.4 -11
POO IAML 12 22 05.4
comp=N,30nm,0.6s
POO IAML 12 22 06.4
comp=E,56nm,0.5s
SHL Shillong 13.02 111 *e*Pn **Pn 12 18 19.8 -0.3**
SHL *e*Sn **Sn 12 20 38.6 -6.6**
SHL Shillong 13.02 111 *e*P **Pn 12 18 19.8 -0.3**
SHL *e* 12 20 38.6
SHL Shillong 13.02 111 *e*P **Pn 12 18 18.4 -1.8**
SHL *e*S Sn 12 20 33.6 -12
SHL IAML 12 20 38.7
comp=E,70nm,1.2s
SHL IAML 12 20 42.8
comp=N,63nm,0.2s
TEZP TEZPUR 13.33 105 *e*P **Pn 12 18 23.7 -0.5**
HYB Hyderabad 13.42 179 *i*P **Pn 12 18 23.0 -2.5**
HYB *e*S **Sn 12 20 59.0 +4.2**
HYB *e* 12 23 24.0
HYB Hyderabad 13.42 179 *e*P **Pn 12 18 23.9 -1.6**
KK31 Karatay Array 13.71 335 Pn **Pn 12 18 28.3 -1.0**
comp=N,13nm,0.6s,baz=138,slow=13,SNR=78
KK31 ⇓Sn Sn 12 20 51.3 -10
comp=N,18nm,0.5s,baz=193,slow=40,SNR=4.7
KK31 Karatay Array 13.71 335 *e*Pn **Pn 12 18 28.7 -0.6**
KK31 Karatay Array 13.71 335 *e*P **Pn 12 18 28.7 -0.6**
KKAR Karatay Array 13.71 335 *e*Pn **Pn 12 18 28.6 -0.7**
KKAR Karatay Array 13.71 335 *e*P **Pn 12 18 28.6 -0.7**
VIS Vishakhapatnam 13.86 160 *i*P **Pn 12 18 30.4 -1.1**
VIS *i*x x 12 20 59.4
ZIRO ZIRO 13.91 100 *e*P **Pn 12 18 31.4 -0.9**
ITAN ITANAGAR 13.92 102 *e*P **Pn 12 18 32.2 0.0**
JORH JORHAT 14.50 103 *e*P **Pn 12 18 38.5 -1.7**
KOHI KOHIMA 14.77 107 *ex* **Pn 12 18 40.1 +1.1**
WMQ Urumqi 14.86 27 *e*P **Pn 12 18 46.3 +1.3**
WMQ pP P 12 18 52.8 +1.9
WMQ LR LR
comp=N,760nm,14.1s
WMQ LR LR
comp=N,670nm,16.7s
WMQ LR LR
comp=N,890nm,15.9s
MOKO MOKOCHONG 14.87 104 *e*P **Pn 12 18 43.7 -1.7**
IMP Imphal 15.02 110 *e*P **Pn 12 18 46.7 -0.6**
SAIH SAIHA 15.48 119 *e*P **Pn 12 18 52.4 -1.1**
LKP Lekhapani 15.66 99 *e*P **Pn 12 18 54.5 -1.1**
MK01 Makanchi Array 16.14 10 *e*Pn **Pn 12 19 00.8 -0.8**
MK31 Makanchi Array 16.16 10 ⇓Pn **Pn 12 19 00.6 -1.5**
comp=N,4.8nm,0.5s,baz=200,slow=14
MK31 ⇑Sn **Sn 12 21 54.6 -6.7**
comp=N,6.8nm,0.8s,baz=192,slow=23,SNR=3.6
MK31 Makanchi Array 16.16 10 *e*Pn **Pn 12 19 01.3 -0.7**
MK31 *e*Sn **Sn 12 21 55.8 -5.5**
MK31 Makanchi Array 16.16 10 *e*P **Pn 12 19 01.3 -0.7**
MK31 *e* 12 21 55.8
MK32 Makanchi Array 16.16 10 *e*Pn **Pn 12 19 00.8 -1.2**
MK32 *e*Sn **Sn 12 21 56.1 -5.2**
MKAR Makanchi Array 16.16 10 Pn **Pn 12 19 00.8 -1.2**
comp=N,1.0nm,0.3s,baz=193,slow=13,SNR=10
MKAR Sn **Sn 12 21 56.1 -5.2**
comp=N,0.9nm,0.3s,baz=187,slow=25,SNR=5.7
MKAR Makanchi Array 16.16 10 *e*Pn **Pn 12 19 01.4 -0.6**
comp=N,67nm,0.5s
MKAR *e*Sn **Sn 12 21 55.0 -6.2**
MKAR Makanchi Array 16.16 10 *i*P **Pn 12 19 01.2 -0.8**
MKAR pmax pmax
comp=Z,3.0nm,0.4s
OTUK Ortayu 17.93 347 P **P 12 19 27.4 +2.5**
OTUK pmax pmax
comp=Z,14nm,1.2s
GEYT Alibeck 18.12 298 P **P 12 19 27.0 -0.1**
comp=Z,0.5nm,0.3s,baz=117,slow=15,SNR=2.9
GYA0B ALIBECK ARRAY 18.12 298 *e*Pn **Pn 12 19 26.2 -0.6**
comp=Z,9.1nm,1.0s
WSAR Wadi Sarin 19.17 251 P **P 12 19 38.5 -0.1**
comp=Z,0.2nm,0.3s,baz=27,slow=6.8,SNR=2.0
GTA Gaotai 19.43 58 P **Pn 12 19 43.5 +0.8**
GTA pP sP 12 19 51.5 +5.8
GTA sP pP 12 19 56.0 +12
GTA S **S 12 23 25.0 +3.7**
GTA pmax pmax
comp=Z,9.0nm,1.3s
GTA LR LR
comp=Z,340nm,16.5s
GTA LR LR
comp=Z,680nm,16.2s
GTA LR LR
comp=Z,800nm,15.5s
KURBB Kurchatov Arra 19.71 0 P **P 12 19 44.5 +0.2**
comp=Z,0.7nm,0.3s,baz=189,slow=9.9,SNR=11
KURK Kurchatov 19.80 0 ⇑Pn **P 12 19 45.7 +0.4**
comp=Z,9.3nm,0.5s
KURK Kurchatov 19.80 0 *e*P **P 12 19 44.5 -0.8**
KURK Kurchatov 19.80 0*ce*P **P 12 19 45.5 +0.2**
KURK pmax pmax
comp=Z,36nm,0.6s
DGZ Jazzator, Alta 19.98 17 *i*P **Pn 12 19 48.4 -0.8**
DGZ pmax pmax
comp=Z,5.0nm,0.8s
LZH Lanzhou 21.82 69 *e*P **P 12 20 07.5 0.0**
LZH pP sP 12 20 18.0 +6.4
LZH sP pP 12 20 21.5 +11
LZH *e*PP **PnPn 12 20 38.0 +9.4**
LZH pmax pmax
comp=Z,26nm,1.1s
LZH pmax pmax
comp=Z,98nm,4.3s
LZH LR LR
comp=Z,620nm,11.9s
LZH LR LR
comp=Z,540nm,11.9s
LZH LR LR
comp=Z,370nm,13.6s
CHTO Chiang Mai 22.14 118 *e*P **P 12 20 11.0 +0.1**
comp=Z,11nm,0.8s
CHTO Chiang Mai 22.14 118 *e*P **P 12 20 11.0 +0.1**
CHTO pmax pmax
comp=Z,11nm,0.8s
CHTO Chiang Mai 22.14 118 P **P 12 20 12.3 +1.4**
comp=Z,78nm,1.8s
CMMT Chiang Mai 22.15 118 P **P 12 20 12.3 +1.3**
comp=Z,12nm,1.0s
KMI Kunming 22.23 99 P **P 12 20 15.3 +3.3**
KMI pP sP 12 20 25.0 +8.8
KMI S **S 12 24 11.3 -5.7**
KMI SS **SnSn 12 24 53.0 +9.1**
KMI pmax pmax
comp=Z,25nm,0.8s
KMI pmax pmax
comp=Z,220nm,5.3s
KMI LR LR
comp=Z,310nm,15.4s
KMI LR LR
comp=Z,180nm,15.0s
CM31 Chiang Mai Arr 22.36 119 *e*P **P 12 20 13.3 +0.1**
CMAR Chiang Mai Arr 22.36 119 P **P 12 20 14.1 +0.8**
comp=Z,14nm,1.2s,baz=309,slow=8.7,SNR=27
CM01 Chiang Mai Arr 22.39 119 *e*P **P 12 20 13.6 0.0**
PAYA Payao 22.54 116 P **P 12 20 20.1 +5.0**
comp=Z,7.0nm,0.7s,comp=Z,81nm
LAMP Lampang 22.84 118 P **P 12 20 23.4 +5.1**
comp=Z,6.3nm,0.8s
BRVK Borovoye 22.92 347 *e*P **P 12 20 19.1 +0.2**
comp=Z,10nm,0.8s
BRVK Borovoye 22.92 347*ce*P **P 12 20 19.8 +0.9**
BRVK pmax pmax
comp=Z,19nm,0.7s
ABKAR Akbulak array 23.04 328 *e*P **P 12 20 20.6 +0.5**
ABKAR *e*S **S 12 24 28.0 -2.8**
NANT Nan 23.50 116 P **P 12 20 25.0 -0.1**
comp=Z,8.7nm,0.9s,comp=Z,265nm
ZAA0 Zalesovo Array 23.50 10 *e*P **P 12 20 24.6 -0.1**
comp=Z,7.2nm,0.8s
ZALV Zalesovo Beam 23.50 10 P **P 12 20 25.1 +0.4**
comp=Z,6.2nm,0.5s,baz=199,slow=9.5,SNR=22
ZALV LR LR 12 30 34.8
comp=Z,389nm,18.6s,baz=250,slow=39
ZALV Zalesovo Beam 23.50 10 *e*P **P 12 20 24.6 -0.1**
ZAA1 Zalesovo Array 23.50 10 *e*P **P 12 20 25.1 +0.3**
PALK Pallekele 23.60 174 P **P 12 20 26.4 +0.3**
comp=Z,6.7nm,0.8s,baz=308,slow=2.3,SNR=3.8
PALK Pallekele 23.60 174 *e*P **P 12 20 26.2 +0.1**
comp=Z,13nm,1.0s
UTTA Uttaradit 24.01 118 P P 12 20 38.9 +9.0
NVS Novosibirsk 24.18 7 *e*P **P 12 20 31.4 +0.2**
NVS pmax pmax
comp=Z,8.0nm,0.8s
NVS pmax pmax
comp=N,3.0nm,0.5s
NVS pmax pmax
comp=E,2.0nm,0.5s
UTHA Uthaitani 24.57 124 P **P 12 20 37.2 +2.0**
PBKT Sadao Pong 25.04 120 *e*P **P 12 20 39.2 -0.1**
comp=E,24nm,1.2s
PBKT Sadao Pong 25.04 120 P **P 12 20 40.6 +1.3**
GYA Guiyang 25.16 93⇑*i*P **P 12 20 41.8 +1.2**
GYA pP sP 12 20 50.5 +5.6
GYA PP **PnPn 12 21 19.5 +5.1**
GYA S **S 12 25 00.8 -5.0**
GYA sS sS 12 25 16.3 +5.5
GYA pmax pmax
comp=E,20nm,1.0s
GYA pmax pmax
comp=E,110nm,4.9s
GYA LR LR
comp=E,410nm,17.2s
GYA LR LR
comp=E,370nm,17.5s
GYA LR LR
comp=E,390nm,17.4s
XAN Xi'an 25.90 75 P **P 12 20 47.3 +0.2**
XAN pP sP 12 20 56.0 +4.6
CHAI Chaiyaphum 26.22 119 P **P 12 20 53.3 +3.2**
SONA0 Songino Array 27.26 44 *e*P **P 12 21 01.3 +1.9**
SONM Songino Array 27.26 44 P **P 12 21 01.3 +1.9**
comp=E,1.7nm,0.6s,baz=235,slow=9.1,SNR=11
SONA1 Songino Array 27.27 44 *e*P **P 12 20 59.1 -0.4**
ULN Ulaanbaatar 27.67 44 *e*P **P 12 21 02.2 -0.8**
comp=E,3.2nm,0.9s
ULN Ulaanbaatar 27.67 44 *i*P **P 12 21 03.7 +0.7**
ULN pmax pmax
comp=Z,3.0nm,1.0s
HHC Hu-ho-hao-te 28.51 60 *e*P **P 12 21 10.5 -0.1**
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,280nm,6.1s
GNI Garni 28.76 298 LR LR 12 34 37.6
comp=Z,43nm,20.1s,baz=98,slow=40
ARU Arti 29.07 337 P **P 12 21 13.9 -1.3**
comp=Z,1.1nm,0.3s,baz=121,slow=15,SNR=2.4
ARU LR LR 12 33 44.5
comp=Z,264nm,19.0s,baz=153,slow=38
ARU Arti 29.07 337*c i*P **P 12 21 15.6 +0.4**
ARU 12 22 06.6
ARU 12 24 18.0
ARU S **S 12 26 05.9 -0.6**
ARU SS **SnSn 12 27 32.1 +2.0**
ARU pmax pmax
comp=Z,8.0nm,2.5s
ARU MLR MLR
comp=Z,118nm,11.0s
KIV Kislovodsk 30.96 305 *e*P **P 12 21 33.2 +0.9**
KIV pmax pmax
comp=Z,6.0nm,0.9s
KIV MLR MLR
comp=Z,74nm,15.0s
VRH Novokhopyorsk 33.81 318 *e*P P 12 22 02.7 +5.7
VRH pmax pmax
comp=Z,8.0nm,0.4s
NJ2 Nanjing 34.39 77 *e*P **P 12 22 02.5 +0.3**
NJ2 pmax pmax
comp=Z,14nm,0.5s
VSR Storozhevoye 35.31 317 *e*P **P 12 22 10.2 +0.2**
VSR pmax pmax
comp=Z,4.0nm,0.4s
LPSR Galich'ya Gora 35.94 319 *e*P **P 12 22 18.2 +2.9**
LPSR pmax pmax
comp=Z,6.0nm,0.4s
YOZ Yozgat 35.95 296 PG **P 12 22 16.3 +0.5**
BR101 Keskin Array S 37.25 296 *e*P **P 12 22 26.2 -0.7**
BRTR Keskin Array B 37.25 296 P **P 12 22 26.2 -0.7**
comp=Z,0.6nm,0.6s,baz=108,slow=9.3,SNR=3.2
OBN Obninsk 38.17 322⇑*e*P **P 12 22 35.2 +1.0**
OBN *e* 12 24 03.5
OBN *e*S S 12 28 16.3 -11
OBN *e*SS SS 12 31 38.8 +24
OBN pmax pmax
comp=Z,8.0nm,0.9s
OBN MLR MLR
comp=Z,70nm,15.0s
NRIK Noril'sk 38.84 5 P **P 12 22 38.1 -1.7**
comp=Z,1.8nm,0.5s,baz=146,slow=7.3,SNR=2.5
KSRS Korea Array 41.11 67 P **P 12 22 57.9 -1.2**
comp=Z,1.4nm,0.9s,baz=278,slow=8.4,SNR=4.3
KSRS LR LR 12 41 13.6
comp=Z,58nm,18.9s,baz=259,slow=38
AKASG Malin Array Be 41.26 313 P **P 12 23 00.1 0.0**
comp=Z,0.5nm,0.4s,baz=79,slow=6.9,SNR=8.7
AKASG Malin Array Be 41.26 313 *i*P **P 12 23 03.4 +3.3**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 41.26 313 *e*P **P 12 23 00.2 +0.1**
comp=Z,5.2nm,0.9s
AKBB Malin Array Si 41.26 313 *e*P **P 12 23 00.2 +0.1**
AKBB pmax pmax
comp=Z,5.0nm,0.9s
KIEV Kiev 41.27 313 *e*P **P 12 23 00.2 +0.1**
comp=Z,5.6nm,1.0s
KIEV Kiev 41.27 313 *i*P **P 12 23 00.7 +0.6**
KIEV pmax pmax
comp=Z,1.0nm,0.8s
AK11 Malin Array Si 41.29 313 *e*P **P 12 23 00.2 -0.1**
TGY Tagaytay City 42.42 103 LR LR 12 42 18.2
comp=Z,66nm,20.4s,baz=197,slow=38
MLR Muntele Rosu 42.97 305 *e*P **P 12 23 14.3 0.0**
comp=Z,6.9nm,0.8s
MLR Muntele Rosu 42.97 305 *e*P **P 12 23 14.3 0.0**
MLR pmax pmax
comp=Z,7.0nm,0.8s
BUR04 Bucovina Ar. S 43.55 308 *e*P **P 12 23 19.1 +0.2**
JOW Kunigami 43.58 82 P **P 12 23 19.1 -0.2**
comp=Z,20nm,0.8s,baz=192,slow=12
JOW Kunigami 43.58 82 *e*P **P 12 23 18.7 -0.6**
comp=Z,31nm,1.0s
JOF Joensuu 43.76 331 P **P 12 23 22.1 +1.8**
JOF pmax pmax
comp=Z,19nm,2.9s
KLR Kul'dur 43.77 49 P **P 12 23 21.1 +0.6**
comp=Z,2.9nm,0.6s,baz=274,slow=8.4,SNR=6.8
KLR Kul'dur 43.77 49 *i*P **P 12 23 19.3 -1.2**
USRK Ussuriysk Ar. 43.78 57 P **P 12 23 21.1 +0.4**
comp=Z,1.2nm,0.4s,baz=254,slow=7.6,SNR=4.0
USRK LR LR 12 43 46.5
comp=Z,94nm,18.6s,baz=274,slow=39
IDI Anoyia 44.59 290 *e*P **P 12 23 26.2 -1.3**
comp=Z,4.5nm,0.9s
FIA1 FINESS Array S 45.53 328 *e*P **P 12 23 35.0 +0.6**
comp=Z,9.9nm,0.9s
FIA0 FINESS Array S 45.53 328 *e*P **P 12 23 35.8 +1.5**
FIA0 FINESS Array S 45.53 328 *e*P **P 12 23 35.8 +1.5**
FINES FINESS Array B 45.53 328 P **P 12 23 35.8 +1.5**
comp=Z,2.4nm,0.6s,baz=91,slow=7.6,SNR=9.8
COCO West Island 46.36 155 *i*P **P 12 23 41.6 +0.2**
ARA0 ARCESS Array S 48.65 338 *e*P **P 12 23 59.3 +0.7**
ARCES ARCESS Array B 48.65 338 P **P 12 23 59.3 +0.7**
comp=Z,1.5nm,0.5s,baz=112,slow=7.4,SNR=16
ARE0 ARCESS Array S 48.65 338 *e*P **P 12 23 59.7 +1.1**
comp=Z,0.7nm,1.0s
TIXI Tiksi 48.86 19 P **P 12 23 59.8 -0.4**
comp=Z,4.8nm,0.4s,baz=256,slow=3.6,SNR=18
TIXI Tiksi 48.86 19*ce*P **P 12 24 00.4 +0.2**
TIXI pmax pmax
comp=Z,4.0nm,0.6s
KMBO Kilima Mbogo 50.41 239 P **P 12 24 12.0 -1.1**
comp=Z,0.6nm,0.3s,baz=66,slow=12,SNR=2.0
KMBO Kilima Mbogo 50.41 239 *e*P **P 12 24 12.7 -0.4**
comp=Z,3.8nm,1.0s
KMBO Kilima Mbogo 50.41 239 *e*P **P 12 24 12.7 -0.4**
KMBO pmax pmax
comp=Z,4.0nm,1.0s
GERES GERESS Array B 51.22 310 P **P 12 24 18.8 +0.2**
comp=Z,0.2nm,0.3s,baz=100,slow=3.0,SNR=2.5
JHJ Hachijo jima 2 51.44 70 LR LR 12 46 52.6
comp=Z,2μm,19.8s,baz=82,slow=37
NC405 NORSAR Array S 52.27 326 *e*P **P 12 24 26.3 +0.1**
NC303 NORSAR Array S 52.45 326 *e*P **P 12 24 28.1 +0.6**
NB201 NORSAR Array S 52.47 326 *e*P **P 12 24 28.6 +1.0**
NB2 NORSAR Subarra 52.51 326 P **P 12 24 27.9 -0.1**
comp=Z,3.8nm,0.7s,baz=94,slow=7.4
NB200 NORSAR Array S 52.51 326 *e*P **P 12 24 28.1 +0.2**
NOA NORSAR Array B 52.51 326 P **P 12 24 28.1 +0.2**
comp=Z,1.4nm,0.7s,baz=95,slow=7.2,SNR=7.7
KIBA Kibaya 53.77 235 *i*S **S 12 32 12.4 -0.5**
BILL Bilibino 60.96 25⇓*e*P **P 12 25 26.0 -1.8**
BILL *e* 12 26 13.7
BILL *e* 12 27 45.0
BILL *e*S **S 12 33 51.9 +6.1**
BILL pmax pmax
comp=Z,3.0nm,1.2s
BILL MLR MLR
comp=Z,206nm,16.0s
ESDC Sonseca Array 65.60 303 P **P 12 25 58.9 -0.2**
comp=Z,0.5nm,0.5s,baz=59,slow=6.0,SNR=4.5
TOA0 Torodi Ar. Sit 72.06 275 *e*P **P 12 26 39.5 -0.1**
comp=Z,6.0nm,0.8s
TOA1 Torodi Ar. Sit 72.06 275 *e*P **P 12 26 39.0 -0.6**
TORD Torodi Ar. Bea 72.06 275 P **P 12 26 39.0 -0.6**
comp=Z,2.9nm,0.6s,baz=36,slow=5.4,SNR=15
WRA Warramunga Arr 73.76 126 P **P 12 26 49.3 -0.3**
comp=Z,1.9nm,0.8s,baz=323,slow=5.7,SNR=17
WR1 Warramunga Arr 73.76 126 *e*P **P 12 26 49.3 -0.3**
comp=Z,5.7nm,0.9s
WRAB Tennant Creek 73.76 126 *e*P **P 12 26 50.5 +0.9**
comp=Z,4.8nm,0.8s
WRAB Tennant Creek 73.76 126 *e*P **P 12 26 50.5 +0.9**
WRAB pmax pmax
comp=Z,5.0nm,0.8s
WB2 Warramunga Arr 73.77 126 *e*P **P 12 26 49.2 -0.4**
WC3 Warramunga Arr 73.80 126 *e*P **P 12 26 49.7 0.0**
comp=Z,5.8nm,0.9s
IM3 Indian Mountai 75.51 19 *e*P **P 12 26 58.9 -0.2**
AS31 Alice Springs 75.97 129 *e*P **P 12 27 01.8 -0.6**
comp=Z,0.9nm,0.8s
ASAR Alice Springs 75.97 129 P **P 12 27 02.2 -0.1**
comp=Z,0.7nm,0.5s,baz=315,slow=5.9,SNR=16
MLY Manley 77.06 19 *e*P **P 12 27 08.4 +0.4**
comp=Z,4.1nm,1.0s
MDM Murphy Dome 77.81 18 *e*P **P 12 27 12.0 -0.1**
comp=Z,3.8nm,1.0s
CAST Castle Rocks 77.86 21 *e*P **P 12 27 12.7 +0.3**
comp=Z,8.2nm,1.1s
BOSA Boshof 77.88 226 P **P 12 27 11.7 -1.4**
comp=Z,2.2nm,0.7s,baz=47,slow=6.7,SNR=2.7
BOSA LR LR 12 58 08.8
comp=Z,52nm,20.4s,baz=44,slow=33
CCB Clear Creek Bu 78.17 19 *e*P **P 12 27 13.3 -0.8**
comp=Z,2.0nm,0.9s
PPLA Purkeypile 78.22 21 *e*P **P 12 27 14.0 -0.6**
comp=Z,1.7nm,1.0s
WRH Wood River Hil 78.23 19 *e*P **P 12 27 13.8 -0.6**
comp=Z,3.1nm,1.0s
INK Inuvik 78.28 12 P **P 12 27 14.6 0.0**
comp=Z,1.6nm,0.6s,baz=172,slow=0.4,SNR=9.0
INK Inuvik 78.28 12 *e*P **P 12 27 14.2 -0.4**
comp=Z,3.0nm,0.9s
ILAR Eielson Array 78.32 18 P **P 12 27 15.2 +0.2**
comp=Z,1.0nm,0.7s,baz=309,slow=5.4,SNR=15
ILAR LR LR 13 04 56.5
comp=Z,67nm,18.8s,baz=322,slow=38
ILB Eielson Array 78.32 18 *e*P **P 12 27 15.0 +0.1**
RIDG Independ'e Rid 79.69 18 *e*P **P 12 27 22.0 -0.5**
comp=Z,4.1nm,0.9s
SCRK Sand Creek 79.72 18 *e*P **P 12 27 22.7 -0.1**
comp=Z,1.7nm,1.0s
DAWY Dawson 80.78 16 *e*P **P 12 27 28.4 0.0**
comp=Z,5.2nm,1.1s
DBIC Dimbokro 80.83 272 P **P 12 27 28.2 -1.2**
comp=Z,1.1nm,0.5s,baz=56,slow=11,SNR=1.9
CTA Charters Tower 82.53 119 P **P 12 27 37.5 -0.7**
comp=Z,2.2nm,0.8s,baz=288,slow=6.4,SNR=2.0
YKA Yellowknife Ar 86.35 6 P **P 12 27 56.8 -0.1**
comp=Z,1.1nm,0.6s,baz=342,slow=5.1,SNR=16
YKB5 Yellowknife Ar 86.35 6 *e*P **P 12 27 56.3 -0.6**
STKA Stephens Creek 86.49 130 P **P 12 27 57.6 -0.4**
comp=Z,0.7nm,0.6s,baz=34,slow=3.6,SNR=2.6
LPAZ La Paz 146.21 288 PKPbc **PKPdf 12 34 56.2 +0.3**
comp=Z,1.1nm,0.7s,baz=334,slow=3.2,SNR=4.4

IDC ***27*** *12:19:06.4±13.0, 1°50S×97°32E, h0km, mb3.8/3, mb1 3.8/4, mb1mx3.5/57, mbtmp3.8/4, ML3.3/1, Error ellipse: s-maj=296.0km s-min=79.8km az=142.0*
DJA ***27*** *12:19:24.8±5.5, 1°N±29°×9°7E±4°4, h10km, M3.3/2, MLv3.3/2*
ISC 27 12:19:29.0±2.2,**1°4N**±0°2×**96°8E**±0°2,**h10km**,**n12**,σ0**96**/7,
mb3.9/3,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	
						h m s	ISC
GSI	**Gunungsitoli**	**0.82**	**98**	P		**Pg 12 19 45.1**	**+0.2**
TPTI		**1.87**	**13**	P		**Pn 12 19 59.9**	**-1.2**
PBSI	**Pulau Batu**	**2.11**	**134**	P		Pg 12 20 14.7	+5.1
KCSI	**Kotacane, Aceh**	**2.32**	**26**	P		**Pn 12 20 06.6**	**-0.7**
PSI	**Prapat**	**2.56**	**58**	Pn		**Pb 12 20 15.7**	**+0.5**
	1.7nm,0.3s,baz=180,slow=14,SNR=5.8						
MNSI	**Mandailing Nat**	**2.89**	**102**	P		**Pn 12 20 14.1**	**-1.0**
H08S2	**Diego Garcia H**	**25.83**	**249**	T		T 12 52 10.1	
	baz=70,slow=76,SNR=66						
H08S3	**Diego Garcia H**	**25.83**	**249**	T		T 12 52 11.4	
	baz=70,slow=76,SNR=251						
H08S1	**Diego Garcia H**	**25.85**	**249**	T		T 12 52 12.5	
	baz=70,slow=76,SNR=42						
MKAR	**Makanchi Array**	**46.92**	**346**	P		P 12 28 01.4	+1.5
	0.8nm,0.7s,baz=163,slow=7.9,SNR=4.6						
SONM	**Songino Array**	**46.98**	**9**	P		**P 12 28 00.7**	**+0.3**
	0.8nm,0.5s,baz=189,slow=8.5,SNR=3.9						
ZALV	**Zalesovo Beam**	**53.27**	**351**	P		**P 12 28 48.4**	**+0.5**
	0.5nm,0.3s,baz=164,slow=7.4,SNR=3.3						

ISCJB ***27*** *12:27:36.7±0.4, 7°14S±0°04×129°91E±0°05, h104km, mb3.8/6, Error ellipse: s-maj=7.7km s-min=5.3km az=34.5*
IDC ***27*** *12:27:38.0±2.0, 7°05S×129°84E, h100km±19km, mb3.6/6, mb1 3.8/10, mb1mx3.6/34, mbtmp4.1/10, Error ellipse: s-maj=24.8km s-min=14.4km az=76.0*
DJA ***27*** *12:27:39.2±0.6, 7°S±5°×13°0E±°, h132km±16km, M4.5/9, mb4.7/6, mB5.0/7, MLv4.7/9, Mw(mB)4.3/7*
ISC 27 12:27:37.8±0.6,**7°12S**±0°05×**129°84E**±0°05,**h104km**,**n22**,
σ2**75**/29,**mb4.0**/6,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	
						h m s	ISC
SAUI	**Saumlaki**	**1.69**	**121**	P		**Pn 12 28 11.0**	**+4.5**
SAUI				S		**Sn 12 28 32.7**	**+4.3**
BNDI	**Bandanaira**	**2.58**	**2**	P		**Pn 12 28 20.8**	**+2.7**
FAKI	**Fak Fak**	**4.81**	**30**	P		**Pn 12 28 48.1**	**0.0**
SOEI	**Soe**	**6.10**	**244**	P		**Pn 12 29 08.4**	**+2.8**
	138nm,0.5s,2μm						
SOEI				S		**Sn 12 30 16.9**	**+2.8**
	138nm,0.5s,2μm						
SIJI	**Sorong**	**6.37**	**13**	P		**Pn 12 29 09.4**	**+0.3**
	8.8nm,0.3s,baz=147,slow=22,SNR=24						
SIJI				S		**Sn 12 30 16.9**	**-3.6**
	4.2nm,0.3s,baz=287,slow=19,SNR=4.1						
SWI	**Sorong**	**6.37**	**13**	P		**Pn 12 29 09.3**	**+0.1**
	40nm,0.6s,2μm						
BATI	**Baumata**	**6.83**	**243**	P		**Pn 12 29 17.9**	**+2.4**
	52nm,0.3s,baz=236,slow=0.6,SNR=60						
BATI				S		**Sn 12 30 31.9**	**+0.1**
	20nm,0.3s,baz=112,slow=20,SNR=6.6						
BATI	**Baumata**	**6.83**	**243**	P		**Pn 12 29 17.8**	**+2.4**
	72nm,0.5s,1μm						
BATI				S		**Sn 12 30 34.0**	**+2.2**
	72nm,0.5s,1μm						
RKPI	**Ransiki, Papua**	**7.05**	**38**	P		**Pn 12 29 19.4**	**+0.9**
	138nm,0.6s,2μm						
EDFI	**Ende, Flores**	**8.23**	**258**	P		**Pn 12 29 36.3**	**+1.8**
FITZ	**Fitzroy Crossi**	**11.65**	**200**	P		**Pn 12 30 20.1**	**-0.8**
	2.4nm,0.3s,baz=34,slow=9.8,SNR=56						
FITZ				S		**Sn 12 32 21.4**	**-7.7**
	4.1nm,0.3s,baz=256,slow=22,SNR=6.5						
JAY	**Jayapura**	**11.75**	**68**	P		**Pn 12 30 21.8**	**-0.4**
	0.5nm,0.3s,baz=222,slow=15,SNR=2.9						
WRA	**Warramunga Arr**	**13.48**	**162**	P		**Pn 12 30 43.4**	**-1.5**
	1.9nm,0.3s,baz=335,slow=13,SNR=37						
WRA				S		Sn 12 33 02.4	-11
	2.5nm,0.3s,baz=337,slow=23,SNR=12						
ASAR	**Alice Springs**	**16.91**	**167**	P		**Pn 12 31 28.1**	**-0.1**
	1.1nm,0.3s,baz=338,slow=9.1,SNR=85						
ASAR				S		**Sn 12 34 30.6**	**-5.7**
	0.9nm,0.3s,baz=351,slow=26,SNR=8.1						
STKA	**Stephens Creek**	**26.97**	**158**	P		**P 12 33 10.8**	**+1.1**

2.0nm,0.3s,baz=340,slow=7.3,SNR=11
CMAR Chiang Mai Arr 39.68 310 P P 12 35 00.2 +0.2
0.5nm,0.5s,baz=138,slow=7.0,SNR=4.2
SONM Songino Array 58.50 342 P P 12 37 22.9 -0.4
0.5nm,0.3s,baz=157,slow=7.9,SNR=4.0
MKAR Makanchi Array 68.23 327 P P 12 38 27.9 +0.6
1.7nm,0.4s,baz=114,slow=8.9,SNR=46
ZALV Zalesovo Beam 71.62 334 P P 12 38 46.8 -1.0
0.9nm,0.4s,baz=120,slow=6.8,SNR=5.3
VNDA Vanda 72.35 173 P P 12 38 53.2 +1.3
0.3nm,0.8s,baz=23,slow=7.7,SNR=3.0
CPUP Villa Florida 146.03 168 PKPbc PKPbc 12 47 06.2 -0.2
1.2nm,0.5s,baz=146,slow=2.1,SNR=4.1
LPAZ La Paz 150.72 143 PKPbc PKPbc 12 47 21.5 +1.8
1.5nm,0.4s,baz=100,slow=2.3,SNR=11

*ISCJB **27** 12:38:45.4±0.2,3°.00S±0°.03×129°.28E±0°.02, h28km, mb4.4/39, MS3.6/17, Error ellipse: s-maj=3.9km s-min=3.5km az=9.9*
*NEIC **27** 12:38:47.3±2.0,2°.97S×129°.31E, h32km±15km, mb4.5/24, Error ellipse: s-maj=7.5km s-min=5.1km az=222.0*
*KLM **27** 12:38:47.0,2°.94S×129°.38E, h33km, mb4.7*
*DJA **27** 12:38:49.9±0.2,3°.S±2°.×12°.9E±°, h47km±3km, M4.8/43, mB5.2/19, mb5.0/43, MLv5.2/14, Mw(mB)4.6/19*
*IDC **27** 12:38:50.1±1.9,2°.99S×129°.44E, h53km±17km, mb4.0/20, mb1 4.1/23, mb1mx4.0/51, mbtmp4.3/23, ML4.5/5, MS3.6/20, Ms1 3.7/20, ms1mx3.5/38, Error ellipse: s-maj=16.1km s-min=8.6km az=86.0*
ISC 27 12:38:46.5±0.3,2°.93S±0°.03×129°.39E±0°.04, h28km, n149, σ2s13/145, mb4.5/39, MS3.6/17, 2C-1D, Seram

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.66 162**	**P**	**Pb**	**12 39 17.6**	**+1.2**
SIJI	**Sorong**	**2.78 42**	**P**	**Pb**	**12 39 32.6**	**-2.8**
	419nm,0.3s,baz=283,slow=12,SNR=175					
SIJI			S	**Sb**	**12 40 05.0**	**-4.1**
	180nm,0.3s,baz=174,slow=23,SNR=16					
SIJI			LR	LR	12 41 14.0	
	comp=Z,2μm,21.8s,baz=320,slow=52					
SWI	**Sorong**	**2.78 42**	**P**	**Pb**	**12 39 31.9**	**-3.6**
FAKI	**Fak Fak**	**2.85 90**	*e*Pn	**Pn**	**12 39 31.6**	**+1.4**
FAKI			*e*Sn	**Sn**	**12 39 58.6**	**-5.1**
FAKI	**Fak Fak**	**2.85 90**	P	**Pb**	**12 39 34.1**	**-2.7**
SANI	**Sanana**	**3.51 284**	P	**Pn**	**12 39 38.3**	**-0.9**
SANI			S	**Sn**	**12 40 15.8**	**-4.1**
TNTI	**Ternate**	**4.20 331**	*e*Pn	**Pn**	**12 39 49.0**	**+0.2**
TNTI			*e*Sn	**Sn**	**12 40 28.4**	**-8.5**
TNTI	**Ternate**	**4.20 331**	P	**Pn**	**12 39 48.9**	**+0.2**
RKPI	**Ransiki, Papua**	**4.99 74**	P	**Pn**	**12 40 03.3**	**+3.7**
	225nm,0.8s,6μm8.1nm					
SAUI	**Saumlaki**	**5.36 159**	*e*Pn	**Pn**	**12 40 04.1**	**-0.7**
SAUI			*e*Sn	**Sn**	**12 40 59.5**	**-6.2**
KMSI	**Cibinong**	**6.43 303**	P	**Pn**	**12 40 18.4**	**-1.0**
	241nm,0.6s,4μm3.6nm					
LUWI	**Luwuk**	**6.88 286**	*e*Pn	**Pn**	**12 40 24.9**	**-0.6**
LUWI			*e*Sn	**Sn**	**12 41 36.9**	**-6.1**
LUWI	**Luwuk**	**6.88 286**	P	**Pn**	**12 40 25.0**	**-0.6**
	230nm,0.5s,3μm1.2nm					
SRPI	**Serui, Papua**	**6.92 81**	P	**Pn**	**12 40 30.8**	**+4.6**
	136nm,0.5s,2.1nm					
BBSI	**Bau Bau**	**7.26 249**	P	**Pn**	**12 40 32.3**	**+1.5**
	29nm,1.1s,712nm0.1nm					
APSI	**Ampana**	**7.99 284**	P	**Pn**	**12 40 40.8**	**-0.1**
	468nm,0.8s,3μm1.5nm					
MRSI	**Marisa**	**8.18 294**	P	**Pn**	**12 40 41.8**	**-1.7**
	63nm,0.6s,1μm0.4nm					
SOEI	**Soe**	**8.48 217**	*e*Pn	**Pn**	**12 40 46.2**	**-1.4**
SOEI	**Soe**	**8.48 217**	P	Pn	12 40 52.9	+5.3
	128nm,1.0s,1μm					
MMRI	**Maumere**	**9.10 231**	*e*Pn	**Pn**	**12 40 57.9**	**+1.9**
MMRI			*e*Sn	**Sn**	**12 42 32.9**	**-4.6**
MMRI	**Maumere**	**9.10 231**	P	Pn	12 41 00.4	+4.4
BATI	**Baumata**	**9.20 218**	P	Pn	12 41 01.9	+4.5
	8.5nm,0.3s,baz=93,slow=0.7,SNR=17					
BATI			LR	LR	12 45 12.5	
	comp=Z,801nm,18.0s,baz=48,slow=42					
BATI	**Baumata**	**9.20 218**	P	Pn	12 41 02.4	+5.0
	44nm,0.6s					
BNSI	**Bone**	**9.38 261**	P	**Pn**	**12 41 02.3**	**+2.4**
	62nm,1.0s,922nm					
BKSI	**Bulukumba**	**9.54 255**	P	**Pn**	**12 41 03.9**	**+1.7**
	36nm,0.7s,482nm					
TTSI	**Tana Toraja**	**9.56 269**	P	**Pn**	**12 41 03.5**	**+1.1**
	70nm,0.8s,1μm					
EDFI	**Ende, Flores**	**9.59 233**	P	**Pn**	**12 41 06.6**	**+3.7**
	54nm,0.7s,752nm					
SPSI	**Sidrap Palu**	**9.66 264**	P	**Pn**	**12 41 05.5**	**+1.8**
	54nm,0.7s,684nm					
MTN	**Manton Dam**	**10.00 170**	*e*Pn	**Pn**	**12 41 08.3**	**0.0**
MTN			*e*Sn	**Sn**	**12 42 58.7**	**-1.0**
MPSI	**Mapaga**	**10.03 289**	P	**Pn**	**12 41 08.1**	**-0.7**
	24nm,1.2s,308nm					
DAV	**Davao City (W)**	**10.64 339**	LR	LR	12 45 51.2	
	comp=Z,358nm,21.6s,baz=1,5,slow=39					
GENI	**Genyem**	**10.77 88**	P	Pn	12 41 24.5	+5.5
	103nm,0.9s					
JAY	**Jayapura**	**11.31 88**	P	**Pn**	**12 41 30.1**	**+3.7**
	1.2nm,0.3s,baz=183,slow=15,SNR=6.1					
WBSI	**Waikabubak, Su**	**11.96 236**	P	**Pn**	**12 41 37.8**	**+2.4**
PLAI	**Plampang**	**12.95 243**	P	**Pn**	**12 41 52.0**	**+3.2**
	54nm,0.9s,777nm					
TWSI	**Taliwang, Sumb**	**13.71 245**	P	**Pn**	**12 42 01.8**	**+2.6**
SRBI	**Singaraja**	**15.01 249**	P	**P**	**12 42 19.1**	**-2.9**
FITZ	**Fitzroy Crossi**	**15.51 193**	P	**Pn**	**12 42 23.8**	**+0.4**
	0.6nm,0.3s,baz=30,slow=10,SNR=22					
FITZ			LR	LR	12 49 06.9	
	comp=Z,347nm,18.4s,baz=20,slow=40					
FITZ	**Fitzroy Crossi**	**15.51 193**	*e*Pn	**Pn**	**12 42 23.5**	**+0.1**
	14nm,0.8s					
KKM	**Kota Kinabalu**	**15.89 304**	P	**Pn**	**12 42 29.0**	**+0.5**
KMMI	**Kalianget**	**15.90 255**	P	**P**	**12 42 33.6**	**+1.7**
KDM	**Kudat**	**15.90 308**	P	**Pn**	**12 42 29.0**	**+0.5**
JAGI	**Jajag, Banyuwa**	**16.13 249**	*e*Pn	**Pn**	**12 42 29.8**	**-1.6**
	52nm,0.8s					
COEN	**Coen**	**17.47 130**	*e*Pn	**Pn**	**12 42 48.2**	**-0.1**
	16nm,0.8s					
WRAB	**Tennant Creek**	**17.58 164**	*e*Pn	**Pn**	**12 42 49.4**	**-0.3**
	14nm,0.6s					
WR1	**Warramunga Arr**	**17.58 164**	*e*Pn	**Pn**	**12 42 49.1**	**-0.5**
	18nm,0.8s					
WR1			*e*Sn	**Sn**	**12 45 56.8**	**-8.1**
WRA	**Warramunga Arr**	**17.58 164**	P	**Pn**	**12 42 49.2**	**-0.5**
	1.2nm,0.3s,baz=343,slow=12,SNR=30					
WRA			S	**Sn**	**12 45 56.8**	**-8.1**
	0.4nm,0.3s,baz=344,slow=22,SNR=5.3					
SBUM	**Sibu**	**17.98 287**	*e*Pn	**P**	**12 42 55.2**	**+0.2**
	4.9nm,0.9s					
SBUM	**Sibu**	**17.98 287**	P	**P**	**12 42 54.0**	**-0.9**
PWJI	**Pagerwojo**	**18.22 253**	P	**Pn**	**12 42 56.6**	**-0.9**
NGJI	**Ngawi**	**18.39 255**	P	**Pn**	**12 43 00.7**	**+1.1**
PMG	**Port Moresby**	**18.79 111**	P	**Pn**	**12 43 07.8**	**+3.3**
	1.9nm,0.3s,baz=180,slow=21,SNR=13					
PCJI	**Pacitan**	**18.86 253**	P	**Pn**	**12 43 04.7**	**-0.7**
WOJI	**Wonogiri, Jawa**	**19.02 254**	P	**P**	**12 43 05.3**	**-1.1**
SMRI	**Semarang**	**19.31 257**	*e*P	**Pn**	**12 43 10.0**	**-0.8**
	118nm,0.8s					
SMRI	**Semarang**	**19.31 257**	P	**Pn**	**12 43 11.3**	**+0.5**
KSM	**Kuching**	**19.57 283**	*e*P	**Pn**	**12 43 12.9**	**-0.9**
	18nm,1.1s					
KSM	**Kuching**	**19.57 283**	P	**Pn**	**12 43 13.0**	**-0.9**
MBWA	**Marble Bar**	**20.41 207**	*e*P	**P**	**12 43 19.7**	**-1.9**
	24nm,0.8s					
KPJI	**Karang Pucung**	**20.84 257**	P	**P**	**12 43 26.0**	**-0.2**
AS31	**Alice Springs**	**21.07 168**	*e*P	**P**	**12 43 29.2**	**+0.6**
	14nm,0.8s					
ASAR	**Alice Springs**	**21.07 168**	P	**P**	**12 43 29.6**	**+0.9**
	18nm,0.5s,baz=348,slow=11,SNR=103					
ASAR			S	**S**	**12 47 19.4**	**-2.6**
	4.8nm,0.8s,baz=347,slow=20,SNR=7.5					
AS01	**Alice Springs**	**21.08 168**	*e*P	**P**	**12 43 28.2**	**-0.5**
CISI	**Cisompet, Garu**	**21.96 257**	*e*P	**P**	**12 43 35.5**	**-2.9**
	36nm,0.7s					
LEM	**Lembang**	**22.03 259**	LR	LR	12 54 13.5	
	comp=Z,441nm,18.1s,baz=96,slow=42					
LEM	**Lembang**	**22.03 259**	P	**P**	**12 43 37.5**	**-1.8**
PPBI	**Pangkal Pinang**	**23.24 271**	P	**P**	**12 43 52.9**	**+1.1**
CTA	**Charters Tower**	**23.70 137**	P	**P**	**12 43 57.0**	**+0.8**
	2.0nm,0.8s,baz=314,slow=13,SNR=2.4					
CTAO	**Charters Tower**	**23.70 137**	*e*P	**P**	**12 43 56.6**	**+0.4**
	16nm,1.1s					
MDSI	**Maura Dua**	**25.21 266**	P	**P**	**12 44 09.9**	**-0.2**
MYKOM	**Kota Tinggi**	**25.96 280**	*e*P	**P**	**12 44 16.4**	**-0.5**
	14nm,0.8s					
MYKOM	**Kota Tinggi**	**25.96 280**	P	**P**	**12 44 16.0**	**-1.0**
PDSI	**Padang**	**28.98 273**	P	**P**	**12 44 43.8**	**-0.3**
PPI	**Padang Panjang**	**29.08 274**	P	**P**	**12 44 45.5**	**+0.5**
IPM	**Ipoh**	**29.28 284**	*e*P	**P**	**12 44 46.9**	**+0.1**
	21nm,1.1s					
JOW	**Kunigami**	**29.61 358**	LR	LR	12 54 55.2	
	comp=Z,138nm,20.6s,baz=137,slow=32					
KULM	**Kulim**	**29.85 286**	*e*P	**P**	**12 44 51.5**	**-0.2**
	11nm,0.8s					
KULM	**Kulim**	**29.85 286**	P	**P**	**12 44 51.0**	**-0.8**
MNSI	**Mandailing Nat**	**30.03 277**	P	**P**	**12 44 53.5**	**+0.1**
SISI	**Saibi**	**30.32 272**	P	**P**	**12 44 55.3**	**-0.7**
PSI	**Prapat**	**30.98 280**	*e*P	**P**	**12 45 00.8**	**-1.2**
	24nm,0.8s					
STKA	**Stephens Creek**	**31.00 160**	P	**P**	**12 45 02.2**	**+0.5**
	2.1nm,0.6s,baz=331,slow=13,SNR=5.0					
STKA			LR	LR	12 58 19.7	
	comp=Z,166nm,19.9s,baz=347,slow=38					
STKA	**Stephens Creek**	**31.00 160**	*e*P	**P**	**12 45 02.0**	**+0.3**
	1.0nm,0.8s					
NWAO	**Narrogin (SRO)**	**31.94 200**	LR	LR	12 58 05.3	
	comp=Z,230nm,21.9s,baz=318,slow=36					
UTHA	**Uthaitani**	**34.86 303**	P	**P**	**12 45 37.7**	**+2.0**
	4.6nm,0.8s					
SUKH	**Sukhothai**	**35.68 306**	P	**P**	**12 45 45.0**	**+2.3**
	4.9nm,0.8s					
JNU	**Nakatsue**	**35.89 2**	LR	LR	13 01 04.4	
	comp=Z,156nm,18.6s,baz=178,slow=37					
NJ2	**Nanjing**	**36.20 345**	*e*P	**P**	**12 45 47.8**	**+0.9**
NJ2			pmax	pmax		
	comp=Z,11nm,0.6s					
CM01	**Chiang Mai Arr**	**36.72 306**	*e*P	**P**	**12 45 52.1**	**+0.5**
CMAR	**Chiang Mai Arr**	**36.75 306**	P	**P**	**12 45 53.3**	**+1.4**
	comp=Z,3.3nm,0.8s,baz=137,slow=7.5,SNR=26					
CMAR			LR	LR	13 02 28.8	
	comp=Z,53nm,21.6s,baz=137,slow=38					
CMMT	**Chiang Mai**	**36.94 307**	P	**P**	**12 45 55.2**	**+1.7**
	comp=Z,14nm,0.9s					
CHTO	**Chiang Mai**	**36.94 307**	*e*P	**P**	**12 45 53.0**	**-0.5**
	comp=Z,10nm,0.8s					
CHTO	**Chiang Mai**	**36.94 307**	P	**P**	**12 45 55.3**	**+1.8**
	comp=Z,61nm,1.0s					
JHJ	**Hachijo jima 2**	**37.18 15**	LR	LR	13 02 15.0	
	comp=Z,59nm,18.2s,baz=268,slow=38					
KMI	**Kunming**	**38.03 319**	P	**P**	**12 46 04.8**	**+1.9**
KMI			pP	pP	12 46 12.0	+0.8
KMI			sP	sP	12 46 17.3	+2.7
KMI			pmax	pmax		
	comp=Z,11nm,1.2s					
KMI			pmax	pmax		
	comp=Z,74nm,3.1s					
MAJO	**Matsushiro**	**40.12 11**	*e*P	**P**	**12 46 19.9**	**0.0**
MJAR	**Matsushiro Arr**	**40.12 11**	P	**P**	**12 46 19.9**	**0.0**
	comp=Z,0.8nm,0.5s,baz=182,slow=7.4,SNR=3.5					
MJAR			LR	LR	13 05 15.1	
	comp=Z,21nm,18.1s,baz=200,slow=40					
KSRS	**Korea Array**	**40.20 358**	P	**P**	**12 46 22.4**	**+1.9**
	comp=Z,0.5nm,0.5s,baz=180,slow=8.9,SNR=2.9					
KSRS			LR	LR	13 02 14.2	
	comp=Z,69nm,20.0s,baz=183,slow=35					
LZH	**Lanzhou**	**45.57 331**	*e*P	**P**	**12 47 05.3**	**+1.0**
LZH			pP	sP	12 47 16.5	+0.3
LZH			sP	pP	12 47 20.8	+8.0
LZH			*e*PP	**PP**	**12 48 52.5**	**+1.2**
LZH			pmax	pmax		
	comp=Z,28nm,1.1s					
LZH			pmax	pmax		
	comp=Z,120nm,5.4s					
HHC	**Hu-ho-hao-te**	**46.52 341**	*e*P	**P**	**12 47 14.5**	**+2.9**
HHC			pmax	pmax		
	comp=Z,11nm,0.5s					
HHC			pmax	pmax		
	comp=Z,130nm,5.9s					
CN2	**Changchun**	**46.66 356**	*e*P	**P**	**12 47 14.5**	**+2.0**
GTA	**Gaotai**	**50.15 330**	*e*P	**P**	**12 47 41.3**	**+1.5**
GTA			pP	pP	12 47 48.5	+0.2
GTA			sP	sP	12 47 52.0	+0.3
GTA			pmax	pmax		
	comp=Z,4.0nm,1.1s					
RAMN	**Ramite**	**50.85 309**	*e*P	**P**	**12 47 46.2**	**+0.8**
	comp=Z,25nm,0.5s					
JIRN	**Jiri**	**51.52 309**	*e*P	**P**	**12 47 51.2**	**+0.7**
	comp=Z,15nm,0.6s					
GUN	**Gumba**	**51.88 309**	*e*P	**P**	**12 47 53.9**	**+0.7**
	comp=Z,21nm,0.5s					
PKI	**Pulchoki**	**52.08 309**	*e*P	**P**	**12 47 55.0**	**+0.3**
	comp=Z,6.1nm,0.5s					
KOLN	**Koldanda**	**53.59 308**	*e*P	**P**	**12 48 06.2**	**+0.5**
	comp=Z,23nm,0.7s					
DANN	**Dangsing**	**53.73 309**	*e*P	**P**	**12 48 07.2**	**+0.3**
	comp=Z,25nm,0.6s					
ULN	**Ulaanbaatar**	**54.24 342**	*e*P	**P**	**12 48 09.7**	**-0.3**
	comp=Z,3.7nm,0.8s					
SONA0	**Songino Array**	**54.42 341**	*e*P	**P**	**12 48 12.5**	**+1.2**
SONM	**Songino Array**	**54.42 341**	P	**P**	**12 48 12.5**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=162,slow=6.1,SNR=5.4					
SONA1	**Songino Array**	**54.43 341**	*e*P	**P**	**12 48 10.4**	**-1.0**
WMQ	**Urumqi**	**59.69 326**	*e*P	**P**	**12 48 50.5**	**+1.9**
WMQ			LR	LR		
	comp=E,88nm,23.1s					
WMQ			LR	LR		
	comp=Z,76nm,23.1s					
PETK	**Petropavlovsk-**	**60.69 19**	P	**P**	**12 48 55.7**	**+0.5**
	comp=Z,6.4nm,0.9s,baz=165,slow=6.0,SNR=3.1					
PETK			LR	LR	13 11 36.1	
	comp=Z,31nm,21.7s,baz=226,slow=32					
PEA1	**Petropavlovsk-**	**60.69 19**	*e*P	**P**	**12 48 55.7**	**+0.5**
MK01	**Makanchi Array**	**64.50 326**	*e*P	**P**	**12 49 20.3**	**-0.5**
MK31	**Makanchi Array**	**64.52 326**	*e*P	**P**	**12 49 20.7**	**-0.2**
MK32	**Makanchi Array**	**64.52 326**	*e*P	**P**	**12 49 21.7**	**+0.8**
MKAR	**Makanchi Array**	**64.52 326**	P	**P**	**12 49 21.7**	**+0.8**
	comp=Z,1.2nm,0.4s,baz=113,slow=8.1,SNR=14					
MKAR			LR	LR	13 19 33.4	
	comp=Z,36nm,20.8s,baz=102,slow=38					
ZAA0	**Zalesovo Array**	**67.69 333**	*e*P	**P**	**12 49 40.5**	**-0.6**
	comp=Z,2.7nm,0.8s					
ZALV	**Zalesovo Beam**	**67.69 333**	P	**P**	**12 49 41.3**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=119,slow=5.2,SNR=6.8					
ZALV			LR	LR	13 20 41.4	
	comp=Z,25nm,18.5s,baz=68,slow=37					
ZALV	**Zalesovo Beam**	**67.69 333**	*e*P	**P**	**12 49 38.2**	**-2.9**
ZAA1	**Zalesovo Array**	**67.70 333**	*e*P	**P**	**12 49 41.3**	**+0.2**
KURBB	**Kurchatov Arra**	**68.75 328**	P	**P**	**12 49 48.6**	**+0.8**
	comp=Z,2.9nm,0.6s,baz=127,slow=5.9,SNR=31					
KURK	**Kurchatov**	**68.76 328**	*e*P	**P**	**12 49 47.7**	**-0.1**
	comp=Z,6.8nm,0.8s					
BVAR	**Borovoye Array**	**74.33 327**	P	**P**	**12 50 22.0**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=108,slow=9.5,SNR=9.4					
TIXI	**Tiksi**	**74.45 360**	P	**P**	**12 50 22.6**	**+0.9**
	comp=Z,1.1nm,0.4s,baz=206,slow=3.5,SNR=4.4					
VNDA	**Vanda**	**76.53 173**	P	**P**	**12 50 34.0**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=316,slow=7.2,SNR=16					
VNDA	**Vanda**	**76.53 173**	*e*P	**P**	**12 50 33.8**	**+0.1**
	comp=Z,1.8nm,0.8s					
MAW	**Mawson**	**78.50 201**	P	**P**	**12 50 44.8**	**+0.1**
	comp=Z,2.7nm,0.5s,baz=97,slow=8.1,SNR=4.1					
MAW	**Mawson**	**78.50 201**	*e*P	**P**	**12 50 45.3**	**+0.6**
	comp=Z,1.7nm,1.1s					
ABKAR	**Akbulak array**	**78.97 321**	*e*P	**P**	**12 50 47.3**	**-0.4**
AKTO	**Aktyubinsk**	**80.51 322**	P	**P**	**12 50 56.7**	**+0.6**
	comp=Z,2.6nm,0.7s,baz=104,slow=7.8,SNR=11					
PPT	**Papeete**	**80.58 107**	LR	LR	13 27 02.3	
	comp=Z,36nm,18.2s,baz=284,slow=36					
OPO	**Ambohidratompo**	**81.69 252**	P	**P**	**12 51 04.0**	**+0.8**
	comp=Z,2.9nm,0.6s,baz=43,slow=3.8,SNR=5.2					
ARU	**Arti**	**81.96 328**	P	**P**	**12 51 03.0**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=153,slow=2.3,SNR=1.9					
RAYN	**Ar Rayn**	**85.56 294**	*e*P	**P**	**12 51 22.8**	**0.0**
	comp=Z,7.1nm,0.9s					
KDAK	**Kodiak Island**	**86.10 32**	P	**P**	**12 51 26.3**	**+1.6**
	comp=Z,6.2nm,0.6s,baz=303,slow=6.6,SNR=4.0					
SYO	**Syowa Base**	**87.21 201**	*e*P	**P**	**12 51 29.6**	**-0.3**
SYO	**Syowa Base**	**87.21 201**	*e*PcP	**PcP**	**12 51 33.2**	**+1.2**
SYO	**Syowa Base**	**87.21 201**	*e*pP	pP	12 51 38.9	0.0
ILAR	**Eielson Array**	**89.95 25**	P	**P**	**12 51 43.5**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=249,slow=5.2,SNR=4.5					
KMBO	**Kilima Mbogo**	**92.08 269**	LR	LR	13 30 07.3	
	comp=Z,67nm,20.7s,baz=96,slow=33					
BRTR	**Keskin Array B**	**96.29 309**	LR	LR	13 44 22.8	
	comp=Z,1nm,18.1s,baz=83,slow=41					
FINES	**FINESS Array B**	**98.92 332**	LR	LR	13 43 33.3	
	comp=Z,38nm,18.2s,baz=84,slow=39					
TORD	**Torodi Ar. Bea**	**127.33 284**	PKP	**PKPdf**	**12 57 50.0**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=133,slow=3.1,SNR=3.5					
TOA1	**Torodi Ar. Sit**	**127.33 284**	*e*PKPdf	**PKPdf**	**12 57 50.0**	**+0.3**
CPUP	**Villa Florida**	**150.19 168**	PKPbc	**PKPbc**	**12 58 37.0**	**+1.4**
	comp=Z,1.5nm,0.5s,baz=185,slow=6.6,SNR=4.2					
LPAZ	**La Paz**	**154.22 138**	PKPbc	**PKPbc**	**12 58 48.1**	**+2.3**
	comp=Z,0.8nm,0.6s,baz=45,slow=2.9,SNR=3.0					

*NEIC **27** 12:45:42.5±0.0, 18°.32N×68°.21W, h165km, MD3.3(RSPR), After RSPR.*
RSPR 27 12:45:42.5, 18°.32N×68°.21W, h165km±2km, MD3.2/4, 8C-2D, Mona Passage

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.70 84**	*e*P	Pn	12 46 07.5	+0.9
IDE	**Isla Desecheo**	**0.70 84**	*e*P	Pn	12 46 07.5	+0.9
IDE			*e*S	Sn	12 46 25.4	+0.4
CRPR	**Cabo Rojo, PR**	**1.09 106**	*e*P	Pn	12 46 09.1	-0.2
CRPR	**Cabo Rojo, PR**	**1.09 106**	*e*P	Pn	12 46 09.1	-0.2
DR12	**Loma Pena Alta**	**1.21 293**	*e*P	Pn	12 46 10.3	-0.1
DR12			*e*S	Sn	12 46 31.9	-0.1
DR12	**Loma Pena Alta**	**1.21 293**	*e*P	Pn	12 46 10.3	-0.1
CELP	**Cerrillos**	**1.57 99**	*e*P	Pn	12 46 14.0	+0.1
CELP			*e*S	Sn	12 46 38.2	+0.2
CELP	**Cerrillos**	**1.57 99**	*e*P	Pn	12 46 14.0	+0.1
CBYP	**Canovanas**	**2.24 91**	*e*P	Pn	12 46 21.8	+0.5
CBYP	**Canovanas**	**2.24 91**	*e*P	Pn	12 46 21.8	+0.5
CBYP			*e*S	Sn	12 46 51.4	+0.2
SDDR	**Presa de Saban**	**2.99 283**	*e*Pn	Pn	12 46 32.3	+1.9
SDDR			*e*Sn	Sn	12 47 14.8	+7.2

IDC 27 12:50:34.2±1.6, 7°.71S×129°.75E, h0km, mb3.6/2, mb1 3.8/6, mb1mx3.5/38, mbtmp3.7/6, ML3.8/4, Error ellipse: s-maj=43.0km s-min=22.2km az=83.0, Banda Sea

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.50 247**	Pn	Pn	12 52 13.3	+2.0
	5.7nm,0.3s,baz=58,slow=19,SNR=5.7					
BATI			Sn	Sn	12 53 15.7	-11
	4.7nm,0.3s,baz=108,slow=20,SNR=5.4					
FITZ	**Fitzroy Crossi**	**11.07 201**	Pn	Pn	12 53 13.9	-0.1
	0.4nm,0.3s,baz=25,slow=11,SNR=18					
FITZ			Sn	Sn	12 55 20.5	+1.8
	1.1nm,0.3s,baz=248,slow=20,SNR=8.7					
WRA	**Warramunga Arr**	**12.95 160**	Pn	Pn	12 53 39.6	-0.1
	0.5nm,0.3s,baz=338,slow=13,SNR=16					
WRA			Sn	Sn	12 56 04.9	+0.3
	0.6nm,0.3s,baz=334,slow=23,SNR=5.3					
ASAR	**Alice Springs**	**16.36 166**	Pn	Pn	12 54 24.9	-0.6
	0.1nm,0.3s,baz=342,slow=8.5,SNR=7.9					
MKAR	**Makanchi Array**	**68.68 327**	P	P	13 01 38.7	-0.9
	0.3nm,0.4s,baz=112,slow=7.7,SNR=5.8					
KURBB	**Kurchatov Arra**	**72.98 329**	P	P	13 02 06.4	+0.8
	0.3nm,0.5s,baz=131,slow=5.0,SNR=4.0					

DJA 27 13:09:53.1±0.8, 3°.S±4°.×12°.9E±°, h87km±24km, M4.3/6, mb4.6/1, mB5.1/1, MLv4.1/6, Mw(mB)4.5/1, Seram

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.80 158**	P	Pn	13 10 23.6	+1.0
SWI	**Sorong**	**2.82 46**	P	Pn	13 10 37.0	+0.8
SWI			S	Sn	13 11 09.8	+0.4
FAKI	**Fak Fak**	**3.02 92**	P	Pn	13 10 38.4	-0.4
FAKI			S	Sn	13 11 14.1	0.0
SANI	**Sanana**	**3.33 284**	P	Pn	13 10 42.3	-0.8
SANI			S	Sn	13 11 20.1	-1.6
RKPI	**Ransiki, Papua**	**5.12 75**	P	Pn	13 11 07.8	+0.5

MEX 27 13:16:46.2±0.6, 16°.03N×92°.75W, h235km±5km, MD3.7, Chiapas

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.55 235**	*e*P	Pn	13 17 15.9	-1.6
PCIG			*i* S	S	13 17 39.5	-2.5
TGIG		**0.83 335**	*e*P	Pn	13 17 17.8	-1.0
TGIG			*i* S	S	13 17 41.4	-3.0
THIG		**1.21 157**	*i* P	Pn	13 17 19.5	-1.5
THIG			*i* S	S	13 17 45.6	-2.6
CMIG	**Matias Romero**	**2.30 298**	*e*P	Pn	13 17 29.2	-1.2
CMIG			*i* S	S	13 18 01.8	-3.2
HUIG	**Huatulco**	**3.24 266**	*e*P	Pn	13 17 39.6	-0.9
HUIG			*e*S	S	13 18 21.0	-2.2
VHO	**Vista Hermosa**	**3.96 286**	*i* P	Pn	13 17 48.2	-0.8

comp=E,296µm,0.4s
ANAF AML AML 13 19 28.0
comp=N,350µm,0.4s
KORT Korkueli 1.95 79 PN Pb 13 18 59.3 -0.5
URLA Izmir 2.02 328 PN Pb 13 19 01.2 +0.2
URLA Izmir 2.02 328 *i* P **Pn 13 18 58.4 0.0**
URLA *i* S **Sg 13 19 32.7 +3.8**
ZKR Zakros 2.09 223 P Pn 13 18 59.9 +0.5
LAST Lasithi 2.51 234 P Pn 13 19 06.6 +1.4

DJA 27 13:21:19.8±1.5, 3°S±4°, 12°9E±°, h26km±15km, M4.3/10, mb4.4/7, mB4.9/3, MLv4.2/10, Mw(mB)4.2/3, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.84**	**159**	P	Pn	13 21 48.8	-1.0
SWI	**Sorong**	**2.78**	**47**	P	Pn	13 22 02.8	+0.1
SWI				S	Sn	13 22 36.3	+0.8
FAKI	**Fak Fak**	**3.01**	**93**	P	Pn	13 22 05.0	-0.8
SANI	**Sanana**	**3.33**	**283**	P	Pn	13 22 08.8	-1.5
RKPI	**Ransiki, Papua**	**5.09**	**76**	P	Pn	13 22 34.8	+0.3
	63nm,0.7s,1.5nm						
APSI	**Ampana**	**7.81**	**284**	P	Pn	13 23 12.2	+0.3
	38nm,0.9s,418nm0.1nm						
MRSI	**Marisa**	**7.99**	**294**	P	Pn	13 23 13.8	-0.5
TTSI	**Tana Toraja**	**9.41**	**268**	P	Pn	13 23 34.4	+0.6
BKSI	**Bulukumba**	**9.44**	**254**	P	Pn	13 23 35.3	+1.1
EDFI	**Ende, Flores**	**9.56**	**231**	P	Pn	13 23 37.8	+1.8

MEX 27 13:21:54.1±35.0, 24°66N×109°69W, h10km, MD3.5, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**0.79**	**226**	*e*P	Pg	13 22 07.8	-1.6
	baz=177,slow=1.6						
LPIG				*e*S	Sg	13 22 16.8	-2.9
SLBS	**Sierra La Lagu**	**1.00**	**194**	*e*P	Pn	13 22 16.0	+1.8
SLBS				*e*S	Sn	13 22 28.3	-0.1

UCR 27 13:33:11.6±1.6, 6°01N×82°55W, h35km±56km, MD4.2, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRU2	**Volcan**	**2.77**	**357**	*e*P	Pn	13 33 54.5	+0.8
BRU2				*e*S	Sn	13 34 26.7	+0.7
AZU	**Azuero**	**2.87**	**52**	*e*P	Pn	13 33 55.4	+0.5
AZU				*e*S	Sn	13 34 28.8	+0.7
DRK0	**Durika**	**3.31**	**348**	*e*P	Pn	13 34 01.6	+0.5
DRK0				*e*S	Sn	13 34 40.1	+0.9
ZANG	**Zanguenga, Cho**	**3.96**	**42**	*e*P	Pn	13 34 10.6	+0.8
LCR2	**La Lucha 2**	**3.98**	**339**	*e*P	Pn	13 34 10.7	+0.4
URSC	**Urasca**	**3.99**	**342**	*e*P	Pn	13 34 11.2	+0.7
CVTR	**Volcan Turrial**	**4.16**	**343**	*e*P	Pn	13 34 13.9	+0.9
FRIJ	**El Hiral**	**4.24**	**41**	*e*P	Pn	13 34 14.8	+1.1
HDC	**Heredia**	**4.26**	**339**	*e*P	Pn	13 34 14.6	+0.5
ARE1	**Arenal 1**	**4.92**	**334**	*e*P	Pn	13 34 24.9	+1.8
PLVR	**Palo Verde**	**5.13**	**327**	*e*P	Pn	13 34 25.6	-0.5
MESS	**Mesas**	**5.38**	**331**	*e*P	Pn	13 34 30.6	+1.1

*ISCJB **27** 13:37:10.0±0.3, 5°73N±0°04×82°65W±0°03, h15km, mb4.4/44, MS3.5/8, Error ellipse: s-maj=6.2km s-min=2.9km az=41.4*
*IDC **27** 13:37:09.7±0.8, 5°63N×82°76W, h0km, mb4.1/10, mb1 4.4/17, mb1mx4.2/41, mbtmp4.3/17, ML3.8/6, MS3.6/10, Ms1 3.6/10, ms1mx3.4/25, Error ellipse: s-maj=27.0km s-min=12.9km az=47.0*
*NEIC **27** 13:37:11.0±0.4, 5°70N×82°62W, h10km, mb4.6/38, Error ellipse: s-maj=9.2km s-min=5.5km az=45.0*
*UCR **27** 13:37:11.9±1.6, 5°91N×82°69W, h3km±31km, ML4.0, mb4.6(NEIC)*
*GCMT **27** 13:37:16.0±0.4, 5°64N±0°02×82°58W±0°04, h27km±1km, MW4.8/68, Moment Tensor Solution. s18,c19; s68,c86; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r=0.03±.13; $M_{\theta\theta}$=0.12±.10; $M_{\phi\phi}$=0.15±.12; $M_{r\theta}$=0.22±.17; $M_{r\phi}$=1.67±.08; $M_{\theta\phi}$=-0.39±.17; Best double couple: M_0=1.73200×10^{16} NP1:ϕ_s=3.00000°,δ83.00000°,λ=-168.00000°. NP2: ϕ_s=272.00000°,δ78.00000°,λ=-7.00000°. Principal axes: T 1.6690, Plg4.0000°, Azm137.0000°; N 0.1260, Plg76.0000°, Azm32.0000°; P -1.7950, Plg14.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 13:37:11.5±0.5, 5°68N±0°06×82°70W±0°06, h15km, n122, σ1.9 70/124, mb4.5/44, MS3.5/8, 1C, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRU2	**Volcan**	**3.10**	**0**	*e*P	**Pn**	**13 37 57.8**	**-2.2**
BRU2				*e*S	**Sn**	**13 38 37.8**	**+0.8**
AZU	**Azuero**	**3.20**	**49**	*e*P	**Pn**	**13 37 59.9**	**-1.4**
AZU				*i*		13 38 38.5	
	comp=N,431nm,0.6s						
AZU	**Azuero**	**3.20**	**49**	*e*P	**Pn**	**13 38 00.6**	**-0.7**
AZU				*e*S	**Sn**	**13 38 31.9**	**-7.3**
EDPN	**Palmar Norte**	**3.35**	**347**	*e*P	**Pn**	**13 38 01.8**	**-1.6**
DRK0	**Durika**	**3.60**	**351**	*e*P	**Pn**	**13 38 05.4**	**-1.7**
EDLM	**Las Mercedes**	**3.69**	**346**	*e*P	**Pn**	**13 38 06.4**	**-1.6**
LCR2	**La Lucha 2**	**4.24**	**342**	*e*P	**Pn**	**13 38 13.8**	**-2.0**
URSC	**Urasca**	**4.27**	**346**	*e*P	**Pn**	**13 38 15.3**	**-0.9**
CVTR	**Volcan Turrial**	**4.44**	**346**	*e*P	**Pn**	**13 38 18.0**	**-0.8**
BCIP	**Isla Barro Col**	**4.48**	**39**	*e*Pn	**Pn**	**13 38 18.4**	**-0.5**
BCIP	**Isla Barro Col**	**4.48**	**39**	*e*P	**Pn**	**13 38 17.6**	**-1.4**
BCIP				IAmb	IAmb	13 38 22.5	
	comp=Z,75nm,0.8s						
BCIP				*e*S	**Sn**	**13 39 12.6**	**+1.8**
BCIP	**Isla Barro Col**	**4.48**	**39**	*e*P	**Pn**	**13 38 18.3**	**-0.7**
HDC	**Heredia**	**4.52**	**342**	*e*Pn	**Pn**	**13 38 18.4**	**-1.2**
HDC	**Heredia**	**4.52**	**342**	*e*P	**Pn**	**13 38 18.8**	**-0.8**
UPA	**Univ. de Panam**	**4.54**	**44**	*e*P	**Pn**	**13 38 18.4**	**-1.4**
PTAC	**Punta Ardita,**	**5.08**	**73**	*e*P	**Pn**	**13 38 25.6**	**-1.5**
JTS	**JuntasAbangare**	**5.10**	**334**	Pn	**Pn**	**13 38 26.4**	**-1.0**
	comp=Z,31nm,0.3s,baz=139,slow=6.2,SNR=39						
JTS				*e*S	**Sn**	**13 39 24.3**	**-1.8**
	comp=Z,45nm,0.3s,baz=343,slow=22,SNR=11						
JTS	**JuntasAbangare**	**5.10**	**334**	*e*Pn	**Pn**	**13 38 25.6**	**-1.8**
JTS				*e*S	**Sn**	**13 39 24.3**	**-1.8**
ARE1	**Arenal 1**	**5.16**	**337**	*e*P	**Pn**	**13 38 27.6**	**-0.7**
GRGC	**Isla de Gorgon**	**5.24**	**120**	*e*P	**Pn**	**13 38 26.7**	**-2.7**
VCR	**Vista de Mar**	**5.29**	**327**	*e*P	**Pn**	**13 38 28.3**	**-1.9**
PLVR	**Palo Verde**	**5.33**	**331**	*e*P	**Pn**	**13 38 29.2**	**-1.7**
UPD2	**Meteti**	**5.46**	**58**	*e*P	**Pn**	**13 38 33.0**	**+1.5**
MALC	**Bahia Malaga**	**5.60**	**107**	*e*P	**Pn**	**13 38 33.6**	**-0.7**
MESS	**Mesas**	**5.60**	**334**	*e*P	**Pn**	**13 38 35.4**	**+0.9**
PLMC	**San Jos˜ del**	**6.44**	**97**	*e*P	**Pn**	**13 38 45.5**	**-0.4**
YOTC	**Yotoco, Valle**	**6.55**	**105**	*e*P	**Pn**	**13 38 46.5**	**-1.1**
DBBC	**Dabeiba**	**6.59**	**78**	*e*P	Pn	13 38 51.2	+3.2
ESPN	**Las Esperanzas**	**6.67**	**346**	*e*Pn	**Pn**	**13 38 48.1**	**-0.9**
ACON	**Acoyapa**	**6.71**	**339**	*e*P	**Pn**	**13 38 49.4**	**-0.2**
ACON				*e*S	**Sn**	**13 40 03.8**	**-2.1**
ACON				IAML		13 40 08.8	
	comp=N,191nm,1.4s						
CMBC	**Cumbal**	**6.77**	**134**	*e*P	**Pn**	**13 38 48.4**	**-2.5**
POPC	**Popayan, Colom**	**6.77**	**117**	*e*P	**Pn**	**13 38 49.8**	**-0.9**
OTAV	**Otavalo**	**6.87**	**142**	*e*Pn	**Pn**	**13 38 49.0**	**-3.3**
OTAV	**Otavalo**	**6.87**	**142**	*e*P	**Pn**	**13 38 49.6**	**-2.7**
CRUC	**La Cruz**	**7.04**	**125**	*e*P	**Pn**	**13 38 54.0**	**-0.5**
PCON	**Cinco Dias**	**7.11**	**118**	*e*P	**Pn**	**13 38 56.8**	**+1.1**
HELC	**Santa Helena**	**7.15**	**86**	*e*P	**Pn**	**13 38 54.8**	**-1.2**
MARP	**Paez Belalcaza**	**7.29**	**112**	*e*P	**Pn**	**13 38 58.2**	**+0.3**
BOAB	**BOACO BROADBAN**	**7.34**	**337**	*e*Pn	**Pn**	**13 38 57.9**	**-0.3**
BOAB	**BOACO BROADBAN**	**7.34**	**337**	*e*P	**Pn**	**13 38 59.2**	**+0.9**
ANIL	**Santa Ana**	**7.37**	**99**	*e*P	**Pn**	**13 38 59.6**	**+0.7**
COPN	**Copaltepe**	**7.52**	**330**	*e*P	**Pn**	**13 39 01.3**	**+0.6**
COPN				*e*S	**Sn**	**13 40 21.1**	**-4.6**
MOMN	**Momotombo**	**7.69**	**331**	*e*P	**Pn**	**13 39 03.7**	**+0.6**
PRAC	**Prado**	**8.03**	**104**	*e*P	**Pn**	**13 39 08.1**	**+0.3**
FLOC	**Florencia**	**8.12**	**120**	*e*P	**Pn**	**13 39 08.7**	**-0.4**
ESTN	**Estel**	**8.22**	**334**	*e*Pn	**Pn**	**13 39 10.2**	**-0.1**
PTBC	**PUERTO BERRIO,**	**8.24**	**84**	*e*P	**Pn**	**13 39 13.0**	**+2.3**
ROSC	**El Rosal**	**8.39**	**95**	Pn	**Pn**	**13 39 14.4**	**+1.4**
	comp=N,4.5nm,0.3s,baz=96,slow=16,SNR=9.5						
ROSC	**El Rosal**	**8.39**	**95**	*e*Pn	**Pn**	**13 39 09.5**	**-3.5**
CSGN	**Cosiguina Volc**	**8.69**	**327**	*e*Pn	**Pn**	**13 39 18.0**	**+1.1**
CHIC	**Chingaza**	**8.99**	**96**	*e*P	**Pn**	**13 39 23.4**	**+2.1**
RUSC	**La Rusia**	**9.57**	**88**	*e*P	**Pn**	**13 39 31.3**	**+2.0**
APG	**El Apazote**	**12.01**	**321**	Pn	**Pn**	**13 40 05.7**	**+3.3**
	comp=N,1.0nm,0.3s,baz=332,slow=22,SNR=16						
SDV	**Santo Domingo**	**12.39**	**74**	Pn	**Pn**	**13 40 08.4**	**+0.7**
	comp=N,1.1nm,0.3s,baz=249,slow=9.1,SNR=14						
SDV	**Santo Domingo**	**12.39**	**74**	*e*Pn	**Pn**	**13 40 08.5**	**+0.8**
ATAH	**Atahualpa**	**13.43**	**161**	Pn	**Pn**	**13 40 22.9**	**+0.8**
	comp=N,0.6nm,0.3s,baz=109,slow=22,SNR=3.8						
ATAH				LR	LR	13 44 52.6	
	comp=N,484nm,21.8s,baz=339,slow=34						
CMIG	**Matias Romero**	**16.46**	**315**	Pn	**Pn**	**13 41 01.2**	**-0.9**
	baz=117,slow=12,SNR=2.6						
CMIG				LR	LR	13 46 18.8	
	comp=N,258nm,21.7s,baz=122,slow=33						
SDDR	**Presa de Saban**	**17.28**	**39**	*e*Pn	**P**	**13 41 11.7**	**-2.2**
	comp=N,47nm,1.3s						
BANI	**BANI**	**17.46**	**43**	*e*Pn	**P**	**13 41 15.1**	**-0.8**
PCRV	**Puerto La Cruz**	**18.44**	**75**	P	**P**	**13 41 27.7**	**+1.0**
	comp=N,0.6nm,0.3s,baz=76,slow=1.4,SNR=3.1						
NNA	**Nana**	**18.49**	**162**	P	**Pn**	**13 41 28.0**	**+0.6**
	comp=N,0.6nm,0.3s,baz=355,slow=9.9,SNR=4.9						
NNA	**Nana**	**18.49**	**162**	*e*P	**Pn**	**13 41 27.9**	**+0.4**
	comp=N,44nm,1.1s						
TLIG	**Tlapa**	**19.50**	**309**	*e*P	**P**	**13 41 37.5**	**-1.0**
	comp=N,15nm,0.9s						
OBIP	**Obispado Ponce**	**19.95**	**51**	*e*P	**P**	**13 41 42.1**	**-1.1**
	comp=N,75nm,1.2s						
SJG	**San Juan**	**20.35**	**51**	P	Pn	13 41 48.4	-1.2
	comp=N,31nm,0.7s,baz=279,slow=7.0,SNR=8.6						
SJG	**San Juan**	**20.35**	**51**	*e*P	Pn	13 41 48.1	-1.5
	comp=N,49nm,1.0s						
CUPR	**Culebra, Puert**	**21.14**	**52**	*e*P	**P**	**13 41 55.3**	**-0.8**
	comp=N,70nm,1.1s						
PTGA	**Pitinga**	**23.58**	**105**	P	**P**	**13 42 24.5**	**+2.6**
	comp=N,2.5nm,0.7s,baz=301,slow=15,SNR=5.7						
PTGA				LR	LR	13 51 34.3	
	comp=N,137nm,18.6s,baz=269,slow=37						
LNIG	**Linares**	**24.98**	**322**	*e*P	**P**	**13 42 38.4**	**+3.6**
	comp=N,23nm,1.3s						
LPAZ	**La Paz**	**26.16**	**147**	P	**P**	**13 42 46.0**	**-0.2**
	comp=N,3.3nm,0.6s,baz=319,slow=7.2,SNR=13						
LPAZ				LR	LR	13 54 09.4	
	comp=N,256nm,20.0s,baz=297,slow=39						
LPAZ	**La Paz**	**26.16**	**147**	*e*P	**P**	**13 42 45.3**	**-0.9**
	comp=N,10nm,1.3s						
LRAL	**Lakeview Retre**	**27.51**	**352**	*e*P	**P**	**13 42 57.8**	**+0.2**
	comp=N,11nm,1.1s						
833A	**Chaparral WMA,**	**27.53**	**327**	*e*P	**P**	**13 43 01.7**	**+3.9**
	comp=N,124nm,2.0s						
GO01	**Chusmiza**	**28.48**	**153**	*e*P	**P**	**13 43 06.6**	**-0.3**
	comp=N,33nm,1.7s						
W50A	**Signal Mountai**	**29.48**	**356**	*e*P	**P**	**13 43 14.2**	**-0.9**
	comp=N,6.3nm,0.8s						
TKL	**Tuckaleechee C**	**29.85**	**358**	P	**P**	**13 43 16.9**	**-1.5**
	comp=N,2.7nm,0.7s,baz=190,slow=11,SNR=3.1						
V48A	**Smith Brothers**	**30.16**	**353**	*e*P	**P**	**13 43 20.8**	**-0.3**
	comp=N,7.7nm,0.7s						
SIV	**San Ignacio**	**30.36**	**135**	P	**P**	**13 43 21.8**	**-1.3**
	comp=N,2.2nm,0.8s,baz=312,slow=12,SNR=8.9						
TXAR	**Lajitas Array**	**30.76**	**322**	P	**P**	**13 43 27.2**	**+0.6**
	comp=N,0.3nm,0.5s,baz=135,slow=12,SNR=3.0						
TXAR				LR	LR	13 55 57.7	
	comp=N,50nm,20.9s,baz=0.0,slow=37						
S51A	**Beattyville**	**31.82**	**359**	*e*P	**P**	**13 43 34.7**	**-1.1**
	comp=N,15nm,0.9s						
CCM	**Cathedral Cave**	**33.16**	**348**	*e*P	**P**	**13 43 45.8**	**-1.6**
	comp=N,2.7nm,0.8s						
Q51A	**Peebles**	**33.20**	**359**	*e*P	**P**	**13 43 47.5**	**-0.4**
	comp=N,14nm,0.9s						
MNTX	**Cornudas Mount**	**33.48**	**323**	*e*P	**P**	**13 43 50.3**	**-0.1**
	comp=N,13nm,1.7s						
HDIL	**Hopedale**	**35.23**	**351**	*e*P	**P**	**13 44 04.3**	**-1.1**
	comp=N,37nm,0.6s						
N41A	**Harden Midland**	**35.64**	**349**	*e*P	**P**	**13 44 07.5**	**-1.4**
	comp=N,24nm,0.8s						
ANMO	**Albuquerque**	**36.46**	**326**	*e*P	**P**	**13 44 17.7**	**+1.4**
	comp=N,3.7nm,0.9s						
L40A	**Anamosa**	**37.02**	**349**	*e*P	**P**	**13 44 19.4**	**-1.2**
	comp=N,21nm,0.9s						
T25A	**Trinidad**	**37.07**	**331**	*e*P	**P**	**13 44 23.8**	**+2.4**
	comp=N,17nm,1.6s						
SDCO	**Great Sand Dun**	**38.08**	**330**	*e*P	**P**	**13 44 31.7**	**+1.6**
	comp=N,25nm,1.9s						
I39A	**Houston**	**38.81**	**350**	*e*P	**P**	**13 44 34.0**	**-1.8**
	comp=N,15nm,0.8s						
MVCO	**Mesa Verde**	**39.24**	**327**	*e*P	**P**	**13 44 41.1**	**+1.3**
	comp=N,8.3nm,1.1s						
WUAZ	**Wupatki**	**39.73**	**322**	*e*P	**P**	**13 44 45.1**	**+1.3**
	comp=N,6.1nm,1.1s						
SMCO	**Snowmass**	**39.92**	**330**	*e*P	**P**	**13 44 44.6**	**-1.0**
	comp=N,7.2nm,0.9s						
PV13	**Radium Mtn., P**	**40.11**	**327**	*e*P	**P**	**13 44 48.2**	**+1.2**
	comp=N,7.7nm,0.8s						
PV03	**Paradox Valley**	**40.19**	**327**	*e*P	**P**	**13 44 49.0**	**+1.4**
PV12	**Saucer Basin,**	**40.21**	**328**	*e*P	**P**	**13 44 49.8**	**+1.9**
	comp=N,65nm,1.9s						
CPUP	**Villa Florida**	**40.22**	**143**	LR	LR	14 02 12.0	
	comp=N,68nm,18.1s,baz=355,slow=37						
PV18	**Skein Mesa, Pa**	**40.22**	**327**	*e*P	**P**	**13 44 49.6**	**+1.7**
	comp=N,12nm,1.1s						
PV17	**East Wray Mesa**	**40.27**	**327**	*e*P	**P**	**13 44 49.5**	**+1.2**
	comp=N,6.9nm,0.9s						
KNB	**Kanab**	**41.59**	**323**	*e*P	**P**	**13 45 01.6**	**+2.3**
	comp=N,5.4nm,1.1s						
SRU	**San Rafael Swe**	**41.72**	**327**	*e*P	**P**	**13 45 02.0**	**+1.8**
	comp=N,6.0nm,0.9s						
SZCU	**Shurtz Canyon**	**42.13**	**323**	*e*P	**P**	**13 45 05.3**	**+1.6**
	comp=N,8.7nm,1.5s						
PDAR	**Pinedale Array**	**43.92**	**331**	P	**P**	**13 45 18.6**	**+0.5**
	comp=N,0.6nm,0.8s,baz=126,slow=7.5,SNR=5.0						
PDAR				LR	LR	14 05 15.4	
	comp=N,51nm,18.4s,baz=150,slow=38						
PDAR	**Pinedale Array**	**43.92**	**331**	*e*P	**P**	**13 45 18.2**	**+0.1**
REDW	**Red Top Meadow**	**44.99**	**331**	*e*P	**P**	**13 45 27.7**	**+1.0**
	comp=N,9.3nm,1.2s						
TPAW	**Teton Pass**	**45.14**	**331**	*e*P	**P**	**13 45 29.5**	**+1.6**
	comp=N,11nm,1.4s						
NV11	**Mina Array Sit**	**45.77**	**321**	*e*P	**P**	**13 45 34.0**	**+1.1**
	comp=N,0.5nm,1.4s						
ULM	**Lac du Bonnet**	**45.78**	**348**	P	**P**	**13 45 30.2**	**-2.3**
	comp=N,3.1nm,0.7s,baz=126,slow=6.9,SNR=3.6						
NV01	**Mina Array Sit**	**45.87**	**320**	*e*P	**P**	**13 45 34.2**	**+0.6**
NVAR	**Mina Array Bea**	**45.87**	**320**	P	**P**	**13 45 34.9**	**+1.3**
	comp=N,3.2nm,0.9s,baz=135,slow=7.4,SNR=15						
NVAR				LR	LR	14 04 05.6	
	comp=N,69nm,20.4s,baz=91,slow=35						
MDPB	**Devils Postpil**	**45.90**	**319**	*e*P	**P**	**13 45 35.0**	**+1.0**
	comp=N,5.0nm,0.9s						
WVOR	**Wild Horse Val**	**48.50**	**325**	*e*P	**P**	**13 45 54.8**	**+0.8**
	comp=N,8.9nm,1.2s						
YKA	**Yellowknife Ar**	**61.36**	**344**	P	**P**	**13 47 26.7**	**+0.2**
	comp=N,5.0nm,0.7s,baz=140,slow=6.5,SNR=39						
DAWY	**Dawson**	**70.82**	**337**	*e*P	**P**	**13 48 27.7**	**+0.3**
INK	**Inuvik**	**71.04**	**342**	P	**P**	**13 48 30.0**	**+1.4**
	comp=N,3.6nm,1.1s,baz=148,slow=4.5,SNR=4.1						
ILAR	**Eielson Array**	**74.07**	**336**	P	**P**	**13 48 47.5**	**+0.8**
	comp=N,1.0nm,0.7s,baz=118,slow=4.4,SNR=12						
ILAR				LR	LR	14 24 48.6	
	comp=N,35nm,18.1s,baz=84,slow=39						
NOA	**NORSAR Array B**	**86.98**	**29**	LR	LR	14 27 48.8	
	comp=N,8.4nm,18.8s,baz=285,slow=35						
KSH	**Kashi**	**130.91**	**22**	*e*PKP	**PKPdf**	**13 56 23.8**	**+0.7**
LZH	**Lanzhou**	**138.00**	**352**	*e*PKP	**PKPdf**	**13 56 32.8**	**-3.8**
LZH				pPKP	sPKPdf	13 56 43.5	0.0
LZH				sPKP		13 56 47.5	
ASAR	**Alice Springs**	**140.51**	**239**	PKP	**PKPdf**	**13 56 40.6**	**-0.6**
	comp=N,0.3nm,0.7s,baz=110,slow=2.8,SNR=4.0						
WRA	**Warramunga Arr**	**141.32**	**245**	PKP	**PKPdf**	**13 56 43.7**	**+0.9**
	comp=N,0.5nm,0.7s,baz=98,slow=1.9,SNR=6.2						
CMAR	**Chiang Mai Arr**	**155.96**	**356**	PKP	**PKPdf**	**13 57 07.8**	**+1.5**
	comp=N,0.2nm,0.3s,baz=2.5,slow=2.1,SNR=2.8						

*MDD **27** 13:40:22.0±1.0, 36°48N×8°32W, h21km±7km, mb3.8/2, mbLg2.7/24, Error ellipse: s-maj=10.1km s-min=5.1km az=40.0, PRXIMO*
*INMG **27** 13:40:22.2±1.2, 36°49N×8°29W, h14km±3km, ML2.5, Error ellipse: s-maj=5.1km s-min=2.1km az=49.0*
*IGIL **27** 13:40:22.5, 36°49N×8°32W, h16km, ML2.5*

ISC 27 13:40:21.8±1.5, 36°55N±0°06×8°26W±0°04, h28km±12km, n55, σ1.9 13/103, 4C-4D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBDV	**Barranco-do-Ve**	**0.74**	**20**	*e*P	**Pn**	**13 40 37.4**	**+1.0**
PBDV				*e*S	**Sn**	**13 40 49.2**	**+2.5**
PBDV				A	A	13 40 52.2	
	42nm,0.1s						
PBDV	**Barranco-do-Ve**	**0.74**	**20**	P	**Pn**	**13 40 37.4**	**+1.0**
PBDV				S	**Sn**	**13 40 49.2**	**+2.5**
	42nm,0.1s						
PFVI	**Vila Bisbo**	**0.74**	**322**	⇓*e*P	**Pb**	**13 40 36.0**	**-0.1**
PFVI				*e*S	**Sb**	**13 40 46.3**	**+0.4**
PFVI				A	A	13 40 48.1	
	54nm,0.1s						
PFVI	**Vila Bisbo**	**0.74**	**322**	⇓P	**Pb**	**13 40 36.1**	**-0.1**
	15nm,0.0s,SNR=18						
PFVI				S	**Sb**	**13 40 45.7**	**-0.2**
	162nm,0.1s,SNR=16						
MORF	**Marmelete**	**0.82**	**337**	*e*P	**Pn**	**13 40 37.6**	**+0.1**
MORF				*e*S	**Sn**	**13 40 48.8**	**+0.1**
MORF				AML	AML	13 40 50.0	
	comp=N,188nm,0.3s						
MORF	**Marmelete**	**0.82**	**337**	⇓*e*P	**Pn**	**13 40 37.6**	**+0.1**
MORF				*e*S	**Sn**	**13 40 49.3**	**+0.6**
MORF				A	A	13 40 51.3	
	comp=N,104nm,0.2s						
MORF	**Marmelete**	**0.82**	**337**	P	**Pn**	**13 40 37.6**	**+0.1**
MORF				S	**Sn**	**13 40 49.3**	**+0.6**
	comp=N,104nm,0.2s						
PVAQ	**Vaqueiros**	**0.95**	**27**	*e*P	**Pn**	**13 40 40.2**	**+0.9**
PVAQ				*e*S	**Sn**	**13 40 54.1**	**+2.1**
PVAQ				A	A	13 40 58.8	
	comp=N,35nm,0.2s						
PVAQ	**Vaqueiros**	**0.95**	**27**	P	**Pn**	**13 40 40.2**	**+0.9**
PVAQ				S	**Sn**	**13 40 54.1**	**+2.1**
	comp=N,35nm,0.2s						
PTEO	**Sao Teotonio**	**1.06**	**339**	*e*P	**Pb**	**13 40 41.3**	**-0.2**
PTEO				*e*S	**Sb**	**13 40 54.8**	**-0.2**
PTEO				A	A	13 40 57.0	
	comp=N,38nm,0.3s						
PTEO	**Sao Teotonio**	**1.06**	**339**	P	**Pb**	**13 40 41.3**	**-0.2**
PTEO				S	**Sb**	**13 40 54.8**	**-0.2**
	comp=N,19nm,0.3s						
EGRO	**El Granado**	**1.16**	**32**	⇑P	**Pb**	**13 40 43.3**	**+0.2**
	comp=N,47nm,0.1s,SNR=18						
EGRO				S	**Sn**	**13 40 58.8**	**+1.8**
	comp=N,15nm,0.1s,SNR=5.9						
MESJ	**Messejana**	**1.29**	**1**	*e*P	**Pb**	**13 40 44.9**	**-0.4**
MESJ				*e*S	**Sb**	**13 41 01.4**	**-0.1**
MESJ				AML	AML	13 41 02.2	
	comp=N,32nm,0.2s						
MESJ	**Messejana**	**1.29**	**1**	⇑*e*Pn	**Pb**	**13 40 45.0**	**-0.4**
MESJ				*e*Sn	**Sb**	**13 41 01.8**	**+0.3**
MESJ				A	A	13 41 02.0	
	comp=N,28nm,0.3s						
MESJ	**Messejana**	**1.29**	**1**	P	**Pb**	**13 40 45.0**	**-0.4**
MESJ				S	**Sb**	**13 41 01.8**	**+0.3**
	comp=N,28nm,0.3s						
PBEJ	**Beja**	**1.50**	**12**	*e*Pn	**Pb**	**13 40 48.8**	**-0.3**
PBEJ				*e*Sn	**Sb**	**13 41 07.6**	**-0.2**
PBEJ				A	A	13 41 17.7	
	comp=N,13nm,0.2s						
PBEJ	**Beja**	**1.50**	**12**	P	**Pb**	**13 40 48.8**	**-0.3**
PBEJ				S	**Sb**	**13 41 07.6**	**-0.2**
	comp=N,6.7nm,0.2s						
EMIN	**Mina Concepcio**	**1.75**	**46**	P	**Pn**	**13 40 50.9**	**+0.7**
	comp=N,2.6nm,0.1s,SNR=34						
EMIN				S	**Sn**	**13 41 12.2**	**+0.5**
	comp=N,2.9nm,0.1s,SNR=64						
EVO	**Evora**	**1.99**	**5**	*e*Pn	**Pb**	**13 40 56.3**	**-1.0**
EVO				*e*Sn	**Sb**	**13 41 20.6**	**-1.0**
EVO				A	A	13 41 21.1	
	comp=N,37nm,0.2s						
EVO	**Evora**	**1.99**	**5**	P	**Pb**	**13 40 56.3**	**-1.0**
EVO				S	**Sb**	**13 41 20.6**	**-1.0**
	comp=N,37nm,0.2s						
EJIF	**Jimena Fronter**	**2.25**	**92**	P	**Pn**	**13 40 58.8**	**+1.7**
	comp=N,2.1nm,0.2s,SNR=7.9						
**PEST

ELOB				S		Sn	13 42 39.0	-0.5
	comp=N,1.2nm,0.1s,SNR=7.9							
PGAV	**Gavieira, Arco**	**5.41**	**360**	*e*Pn		**Pn**	13 41 41.8	+1.2
PGAV				A		A	13 42 37.3	
	comp=N,3.6nm,0.8s							
PGAV				*e*Sn		**Sn**	13 42 39.4	-2.5
ECAL	**Calabor**	**5.51**	**12**	P		**Pn**	13 41 42.9	+0.9
	comp=N,0.7nm,0.1s,SNR=7.9							
ECAL				S		**Sn**	13 42 43.1	-1.3
	comp=N,0.8nm,0.1s,SNR=7.9							
EZAM	**Zamans**	**5.60**	**357**	S		**Sn**	13 42 44.9	-1.6
	comp=N,3.9nm,0.3s,SNR=7.9							
ETOB	**Tobarra**	**5.72**	**67**	⇑P		**Pn**	13 41 44.7	-0.2
	comp=N,1.4nm,0.1s,SNR=18							
ETOB				S		**Sn**	13 42 47.0	-2.7
	comp=N,1.1nm,0.1s,SNR=7.9							
EAGO	**Agolada(Pontev**	**6.25**	**1**	P		**Pn**	13 41 52.9	+0.9
	comp=N,0.3nm,0.1s,SNR=7.9							
EAGO				S		**Sn**	13 42 58.9	-3.6
	comp=N,1.2nm,0.1s,SNR=7.9							
EMOS	**Mosqueruela**	**7.20**	**56**	P		**Pn**	13 42 07.3	+2.1
	comp=N,0.6nm,0.1s,SNR=4.0							

ISCJB ***27*** *13:41:04.2±0.5, 47.98N±0.08×154.8E±0.1, h42km, mb3.9/12, MS2.9/2, Error ellipse: s-maj=14.0km s-min=7.2km az=43.0*

IDC ***27*** *13:41:10.4±2.3, 48.23N×154.44E, h88km±22km, mb3.4/11, mb1 3.7/16, mb1mx3.5/50, mbtmp3.8/16, MS3.1/4, Ms1 3.1/4, ms1mx2.7/34, Error ellipse: s-maj=24.0km s-min=11.1km az=135.0*

ISC 27 13:41:05.8±0.7, 48.1N±0.1×154.6E±0.1, h42km, n24, σ1§80/18, mb3.8/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.42**	**20**	P	**Pn**	**13 42 25.1**	**+1.1**
	4.8nm,0.3s,baz=171,slow=11,SNR=71						
PETK				S	**Sn**	**13 43 28.8**	**+3.7**
	baz=224,slow=10,SNR=2.0						
ASAJ	**Asahikawa**	**9.21**	**249**	P	**Pn**	**13 43 18.9**	**+2.8**
	5.1nm,0.3s,baz=61,slow=16,SNR=36						
ASAJ				LR	LR	13 46 24.5	
	comp=Z,146nm,18.2s,baz=7.0,slow=34						
KLR	**Kul'dur**	**15.12**	**283**	P	**P**	**13 44 39.2**	**-1.7**
	0.1nm,0.3s,baz=98,slow=12,SNR=3.1						
KLR				LR	LR	13 50 56.4	
	comp=Z,57nm,18.1s,baz=108,slow=39						
USRK	**Ussuriysk Ar.**	**16.11**	**264**	P	**P**	**13 44 50.2**	**-1.7**
	0.7nm,0.3s,baz=68,slow=12,SNR=14						
MJAR	**Matsushiro Arr**	**16.67**	**232**	P	**P**	**13 44 59.4**	**+1.2**
	0.3nm,0.3s,baz=37,slow=9.3,SNR=4.7						
KSRS	**Korea Array**	**22.15**	**251**	P	**P**	**13 45 59.7**	**+1.8**
	2.9nm,0.6s,baz=42,slow=10,SNR=9.7						
KSRS				LR	LR	13 54 05.5	
	comp=Z,30nm,18.1s,baz=50,slow=35						
H11N2	**WAKE ISLAND Hy**	**29.98**	**156**	T	T	14 18 56.5	
	baz=343,slow=74						
H11N1	**WAKE ISLAND Hy**	**30.00**	**156**	T	T	14 18 50.8	
	baz=343,slow=74						
H11N3	**WAKE ISLAND Hy**	**30.00**	**156**	T	T	14 18 54.4	
	baz=343						
H11S1	**WAKE ISLAND Hy**	**31.10**	**157**	T	T	14 20 18.0	
	baz=344,slow=76						
H11S3	**WAKE ISLAND Hy**	**31.11**	**157**	T	T	14 20 17.7	
	baz=344						
H11S2	**WAKE ISLAND Hy**	**31.12**	**157**	T	T	14 20 18.0	
	baz=344,slow=76						
SONM	**Songino Array**	**31.85**	**288**	LR	LR	14 00 48.4	
	comp=Z,30nm,20.1s,baz=17,slow=37						
ILAR	**Eielson Array**	**34.89**	**40**	P	**P**	**13 47 52.0**	**-0.8**
	1.1nm,1.0s,baz=273,slow=8.6,SNR=7.4						
MKAR	**Makanchi Array**	**47.22**	**297**	P	**P**	**13 49 33.3**	**-1.0**
	0.2nm,0.4s,baz=72,slow=6.2,SNR=2.5						
YKA	**Yellowknife Ar**	**49.27**	**38**	P	**P**	**13 49 49.6**	**-0.2**
	1.0nm,0.8s,baz=296,slow=7.7,SNR=4.3						
CMAR	**Chiang Mai Arr**	**53.65**	**257**	P	**P**	**13 50 23.1**	**-0.1**
	0.6nm,0.6s,baz=25,slow=6.5,SNR=4.9						
HNR	**Honiara**	**57.45**	**174**	P	**P**	**13 50 51.3**	**+1.0**
	66nm,0.7s,baz=146,slow=1.8,SNR=8.7						
NVAR	**Mina Array Bea**	**60.95**	**64**	P	**P**	**13 51 15.0**	**+0.2**
	0.6nm,0.6s,baz=285,slow=7.3,SNR=4.5						
PDAR	**Pinedale Array**	**63.17**	**55**	P	**P**	**13 51 29.0**	**-0.6**
	0.3nm,0.7s,baz=298,slow=3.2,SNR=4.5						
FINES	**FINESS Array B**	**63.26**	**335**	P	**P**	**13 51 26.3**	**-3.3**
	3.9nm,1.0s,baz=17,slow=8.0,SNR=4.0						
WRA	**Warramunga Arr**	**70.09**	**200**	P	**P**	**13 52 12.6**	**-0.9**
	0.8nm,1.0s,baz=19,slow=6.7,SNR=4.6						
ASAR	**Alice Springs**	**73.78**	**200**	P	**P**	**13 52 36.1**	**+0.5**
	0.2nm,0.5s,baz=17,slow=5.3,SNR=5.3						
TXAR	**Lajitas Array**	**75.98**	**62**	P	**P**	**13 52 48.0**	**-0.5**
	0.5nm,0.5s,baz=312,slow=5.6,SNR=4.0						

IDC 27 13:47:50.5±3.5, 19.67S×170.08E, h281km±47km, mb2.9/3, mb1 3.2/4, mb1mx3.0/22, mbtmp3.6/4, Error ellipse: s-maj=180.6km s-min=33.8km az=154.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.15**	**234**	P	Pn	13 48 57.6	+0.1
	1.5nm,0.3s,baz=106,slow=15,SNR=9.8						
DZM				S	S	13 49 46.5	-4.6
	2.0nm,0.3s,baz=130,slow=22,SNR=2.2						
WRA	**Warramunga Arr**	**33.59**	**263**	P	P	13 54 05.0	+0.1
	0.2nm,0.5s,baz=99,slow=8.8,SNR=2.8						
ASAR	**Alice Springs**	**33.79**	**257**	P	P	13 54 06.3	-0.3
	0.6nm,0.6s,baz=84,slow=8.8,SNR=14						
ASAR				pP	pP	13 54 53.5	-8.5
	0.8nm,0.8s,baz=86,slow=8.4,SNR=3.6						
ILAR	**Eielson Array**	**90.41**	**17**	P	P	14 00 18.9	-0.7
	0.4nm,0.7s,baz=232,slow=5.0,SNR=4.1						
ARCES	**ARCESS Array B**	**125.68**	**345**	PKP	PKPdf	14 06 18.5	+0.6
	6.4nm,1.2s,baz=22,slow=1.0,SNR=1.5						

NEIC ***27*** *14:12:18.8±0.8, 4.82S×153.39E, h46km±8km, mb4.3/7, Error ellipse: s-maj=11.4km s-min=8.5km az=115.0*

ISCJB ***27*** *14:12:19.4±0.7, 4.70S±0.08×153.16E±0.1, h55km, mb4.0/11, MS3.3/2, Error ellipse: s-maj=15.5km s-min=8.3km az=31.5*

IDC ***27*** *14:12:21.4±5.8, 4.69S×153.12E, h59km±50km, mb3.8/7, mb1 3.9/8, mb1mx3.6/34, mbtmp4.0/8, ML1.4/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/46, Error ellipse: s-maj=33.4km s-min=27.5km az=25.0*

ISC 27 14:12:20.9±0.8, 4.71S±0.09×153.2E±0.1, h55km, n23, σ0§76/23, mb4.2/11, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.11**	**297**	*e*Pn	**Pn**	**14 12 40.4**	**+0.1**
PMG	**Port Moresby**	**7.56**	**232**	P	**Pn**	**14 14 07.8**	**-0.8**
	0.4nm,0.3s,baz=261,slow=17,SNR=2.2						
PMG				S	**Sn**	**14 15 34.6**	**+1.7**
	3.3nm,0.3s,baz=156,slow=10.0,SNR=5.9						
PATS	**Pohnpei**	**12.57**	**24**	*e*Pn	**Pn**	**14 15 17.3**	**+0.2**
CTAO	**Charters Tower**	**16.70**	**203**	*e*Pn	**Pn**	**14 16 10.6**	**-0.7**
	17nm,1.5s						
DZM	**Mont Dzumac**	**21.53**	**144**	P	**P**	**14 17 06.9**	**+1.1**
	5.1nm,0.5s,baz=341,slow=18,SNR=7.0						
DZM				LR	LR	14 23 47.6	
	comp=Z,84nm,19.0s,baz=188,slow=32						
DZM	**Mont Dzumac**	**21.53**	**144**	*e*P	**P**	**14 17 06.7**	**+0.9**
	36nm,1.4s						
WRAB	**Tennant Creek**	**23.76**	**229**	*e*P	**P**	**14 17 28.8**	**+0.3**
	9.5nm,0.8s						
WB2	**Warramunga Arr**	**23.76**	**229**	*e*P	**P**	**14 17 28.9**	**+0.4**
	6.3nm,0.6s						
WR1	**Warramunga Arr**	**23.77**	**229**	*e*P	**P**	**14 17 28.9**	**+0.3**
	36nm,1.8s						
WRA	**Warramunga Arr**	**23.77**	**229**	P	**P**	**14 17 28.9**	**+0.3**
	3.2nm,0.4s,baz=51,slow=10.0,SNR=59						
AS31	**Alice Springs**	**26.45**	**223**	*e*P	**P**	**14 17 53.0**	**0.0**
	1.0nm,0.9s						
ASAR	**Alice Springs**	**26.45**	**223**	P	**P**	**14 17 53.0**	**0.0**
	1.1nm,0.6s,baz=54,slow=9.1,SNR=13						
BATI	**Baumata**	**29.73**	**258**	LR	LR	14 32 58.2	
	comp=Z,75nm,18.7s,baz=134,slow=42						
FITZ	**Fitzroy Crossi**	**30.01**	**241**	P	**P**	**14 18 24.1**	**-0.6**
	4.6nm,0.7s,baz=62,slow=7.4,SNR=28						
FITZ	**Fitzroy Crossi**	**30.01**	**241**	*e*P	**P**	**14 18 23.9**	**-0.8**
	4.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**58.16**	**295**	P	**P**	**14 22 10.4**	**+0.8**
	0.5nm,0.6s,baz=125,slow=5.2,SNR=5.0						
MK32	**Makanchi Array**	**80.49**	**319**	*e*P	**P**	**14 24 27.5**	**+0.3**
MKAR	**Makanchi Array**	**80.49**	**319**	P	**P**	**14 24 27.5**	**+0.3**
	0.5nm,0.6s,baz=98,slow=7.2,SNR=7.1						
ZALV	**Zalesovo Beam**	**81.27**	**326**	P	**P**	**14 24 30.4**	**-0.7**
	0.7nm,0.3s,baz=90,slow=4.6,SNR=2.2						
ZAA1	**Zalesovo Array**	**81.28**	**326**	*e*P	**P**	**14 24 30.4**	**-0.7**
TOA0	**Torodi Ar. Sit**	**150.61**	**288**	*e*PKPbc	**PKPbc**	**14 32 07.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**150.61**	**288**	PKPbc	**PKPbc**	**14 32 06.9**	**-0.9**
	2.5nm,0.8s,baz=33,slow=3.5,SNR=18						
TOA1	**Torodi Ar. Sit**	**150.62**	**288**	*e*PKPbc	**PKPbc**	**14 32 06.9**	**-0.9**

IDC 27 14:13:15.9±6.9, 10.72S×163.44E, h86km±29km, mb3.6/3, mb1 3.8/6, mb1mx3.4/37, mbtmp4.0/6, Error ellipse: s-maj=122.0km s-min=22.3km az=40.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.67**	**290**	P	Pn	14 14 09.8	-0.7
	22nm,0.3s,baz=204,slow=12,SNR=11						
HNR				S	Sn	14 14 53.5	+0.8
	50nm,0.3s,baz=159,slow=19,SNR=7.7						
HNR	**Honiara**	**3.67**	**290**	*e*P	Pn	14 14 11.0	+0.5
HNR				*e*S	Sn	14 14 53.0	+0.2
HNR	**Honiara**	**3.67**	**290**	*e*Pn	Pn	14 14 10.6	+0.1
DZM	**Mont Dzumac**	**11.64**	**166**	P	Pn	14 15 59.6	+0.4
	0.2nm,0.3s,baz=342,slow=14,SNR=8.2						
DZM				S	Sn	14 17 59.3	-8.1
	0.1nm,0.3s,baz=191,slow=16,SNR=2.4						
CTA	**Charters Tower**	**18.99**	**239**	P	P	14 17 29.8	-1.0
	0.1nm,0.3s,baz=42,slow=12,SNR=3.6						
STKA	**Stephens Creek**	**29.17**	**221**	P	P	14 19 08.4	-0.8
	1.5nm,0.7s,baz=45,slow=8.6,SNR=3.9						
WRA	**Warramunga Arr**	**29.48**	**248**	P	P	14 19 12.6	+0.5
	0.7nm,0.6s,baz=78,slow=9.6,SNR=3.4						
ASAR	**Alice Springs**	**30.93**	**242**	P	P	14 19 25.5	+0.5
	0.8nm,0.7s,baz=60,slow=12,SNR=5.1						

ISCJB ***27*** *14:24:50.6±0.6, 4.96S±0.07×152.95E±0.1, h43km, mb4.0/14, MS3.7/2, Error ellipse: s-maj=14.4km s-min=9.3km az=23.8*

IDC ***27*** *14:24:52.2±4.2, 4.93S×152.96E, h44km±37km, mb3.8/12, mb1 3.9/13, mb1mx3.7/44, mbtmp4.1/13, ML1.8/1, MS4.3/1, Ms1 4.3/1, ms1mx2.7/49, Error ellipse: s-maj=25.6km s-min=19.8km az=73.0*

NEIC ***27*** *14:24:53.0±1.4, 4.92S×152.95E, h54km±10km, mb4.4/4, Error ellipse: s-maj=15.0km s-min=9.0km az=90.0*

ISC 27 14:24:52.1±0.8, 4.89S±0.08×153.0E±0.1, h43km, n27, σ0§93/28, mb4.1/14, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.06**	**311**	*e*Pn	**Pn**	**14 25 11.5**	**+1.0**
PMG	**Port Moresby**	**7.30**	**232**	P	**Pn**	**14 26 37.9**	**+1.7**
	0.9nm,0.3s,baz=72,slow=16,SNR=4.6						
PMG				S	**Sn**	**14 27 56.2**	**-1.5**
	1.1nm,0.3s,baz=98,slow=4.6,SNR=4.0						
DZM	**Mont Dzumac**	**21.50**	**144**	P	**P**	**14 29 37.8**	**+0.4**
	4.3nm,0.6s,baz=258,slow=10,SNR=6.2						
DZM	**Mont Dzumac**	**21.50**	**144**	*e*P	**P**	**14 29 37.8**	**+0.4**
	22nm,1.2s						
WRAB	**Tennant Creek**	**23.49**	**229**	*e*P	**P**	**14 29 56.7**	**-1.5**
	9.3nm,0.8s						
WB2	**Warramunga Arr**	**23.49**	**229**	*e*P	**P**	**14 29 57.8**	**-0.5**
WR1	**Warramunga Arr**	**23.50**	**229**	*e*P	**P**	**14 29 58.4**	**0.0**
	6.8nm,0.9s						
WR1				*e*PcP	**PcP**	**14 33 43.9**	**+0.6**
WRA	**Warramunga Arr**	**23.50**	**229**	P	**P**	**14 29 58.4**	**0.0**
	5.3nm,0.8s,baz=53,slow=9.7,SNR=35						
WRA				PcP	**PcP**	**14 33 43.9**	**+0.6**
	0.4nm,0.9s,baz=46,slow=2.3,SNR=3.5						
ASAR	**Alice Springs**	**26.19**	**223**	P	**P**	**14 30 22.1**	**-0.8**
	1.2nm,0.8s,baz=55,slow=9.2,SNR=11						
STKA	**Stephens Creek**	**28.88**	**200**	LR	LR	14 42 25.7	
	comp=Z,37nm,19.2s,baz=17,slow=36						
FITZ	**Fitzroy Crossi**	**29.75**	**242**	P	**P**	**14 30 53.7**	**-1.1**
	1.1nm,0.5s,baz=37,slow=3.8,SNR=9.4						
FITZ	**Fitzroy Crossi**	**29.75**	**242**	*e*P	**P**	**14 30 53.5**	**-1.3**
	19nm,1.8s						
JNU	**Nakatsue**	**43.22**	**333**	P	**P**	**14 32 49.3**	**+0.1**
	6.0nm,0.7s,baz=72,slow=6.3,SNR=6.3						
JNU	**Nakatsue**	**43.22**	**333**	*e*P	**P**	**14 32 48.1**	**-1.1**
	48nm,1.6s						
CM01	**Chiang Mai Arr**	**58.03**	**295**	*e*P	**P**	**14 34 41.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**58.06**	**295**	P	**P**	**14 34 42.9**	**+1.5**
	1.5nm,0.8s,baz=110,slow=5.1,SNR=12						
VNDA	**Vanda**	**72.73**	**178**	P	**P**	**14 36 15.6**	**+0.3**
	0.8nm,0.7s,baz=0.0,slow=2.0,SNR=7.5						
MK32	**Makanchi Array**	**80.50**	**319**	*e*P	**P**	**14 37 00.2**	**+0.5**
MKAR	**Makanchi Array**	**80.50**	**319**	P	**P**	**14 37 00.2**	**+0.5**
	1.3nm,0.9s,baz=96,slow=7.8,SNR=5.2						
ZALV	**Zalesovo Beam**	**81.32**	**326**	P	**P**	**14 37 03.9**	**0.0**
	1.0nm,0.5s,baz=120,slow=7.1,SNR=5.0						
ZAA1	**Zalesovo Array**	**81.32**	**326**	*e*P	**P**	**14 37 03.9**	**0.0**
ILAR	**Eielson Array**	**82.19**	**22**	P	**P**	**14 37 06.9**	**-1.3**
	0.4nm,0.9s,baz=245,slow=5.9,SNR=4.1						
AAK	**Ala-Archa**	**84.85**	**313**	P	**P**	**14 37 23.6**	**+1.0**
	1.0nm,0.7s,baz=117,slow=4.5,SNR=3.1						
BVAR	**Borovoye Array**	**89.41**	**323**	P	**P**	**14 37 44.2**	**-0.1**
	2.0nm,0.8s,baz=103,slow=6.4,SNR=15						
PDAR	**Pinedale Array**	**98.79**	**48**	LR	LR	15 20 04.5	
	comp=Z,126nm,18.4s,baz=342,slow=34						
TORD	**Torodi Ar. Bea**	**150.49**	**288**	PKPbc	**PKPbc**	**14 44 39.4**	**-0.7**
	3.4nm,0.8s,baz=64,slow=3.4,SNR=20						
TOA1	**Torodi Ar. Sit**	**150.49**	**288**	*e*PKPbc	**PKPbc**	**14 44 39.4**	**-0.8**

ISCJB ***27*** *14:31:04.3±0.6, 17.8S±0.2×178.3W±0.2, h450km, mb3.7/6, Error ellipse: s-maj=24.3km s-min=13.8km az=138.3*

IDC ***27*** *14:31:04.6±2.3, 18.00S×178.18W, h442km±27km, mb3.4/7, mb1 3.6/8, mb1mx3.2/46, mbtmp4.2/8, Error ellipse: s-maj=29.5km s-min=14.4km az=139.0*

ISC 27 14:31:04.6±0.7, 17.8S±0.2×178.2W±0.1, h450km, n14, σ2§47/16, mb3.6/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.26**	**59**	P	**P**	**14 32 53.2**	**+0.9**
	2.5nm,0.3s,baz=116,slow=5.3,SNR=6.0						
AFI				S	**S**	**14 34 14.3**	**-6.1**
	0.4nm,0.3s,baz=255,slow=20,SNR=2.4						
URZ	**Urewera**	**20.80**	**191**	P	**P**	**14 35 11.5**	**-1.6**
	3.0nm,0.3s,baz=305,slow=2.6,SNR=18						
STKA	**Stephens Creek**	**38.88**	**241**	P	**P**	**14 37 50.7**	**+0.7**
	1.7nm,0.5s,baz=97,slow=10,SNR=7.4						
WRA	**Warramunga Arr**	**44.88**	**259**	P	**P**	**14 38 37.1**	**-0.7**
	0.7nm,0.3s,baz=96,slow=7.4,SNR=31						
ASAR	**Alice Springs**	**45.05**	**254**	P	**P**	**14 38 39.1**	**+0.1**
	5.5nm,0.4s,baz=90,slow=8.2,SNR=157						
ASAR				S	**S**	**14 44 39.1**	**-5.1**
	0.7nm,0.8s,baz=90,slow=15,SNR=5.7						
NVAR	**Mina Array Bea**	**79.19**	**44**	P	**P**	**14 42 24.4**	**+2.3**
	1.0nm,0.7s,baz=230,slow=9.8,SNR=6.8						
SEY	**Seymchan**	**83.73**	**347**	P	**P**	**14 42 45.2**	**+0.6**
	2.5nm,0.7s,baz=122,slow=6.6,SNR=5.3						
ILAR	**Eielson Array**	**85.73**	**13**	P	**P**	**14 42 54.9**	**+0.4**
	0.3nm,0.4s,baz=222,slow=5.5,SNR=9.1						
VNA3	**Neumayer Olymp**	**90.83**	**176**	P	**P**	**14 43 19.4**	**+0.9**
VNA2	**Neumayer--Watz**	**91.27**	**177**	P	**P**	**14 43 21.9**	**+1.4**
	baz=200,slow=3.5						
BRTR	**Keskin Array B**	**144.87**	**315**	PKPbc	**PKPab**	**14 49 51.5**	**+0.7**
	1.5nm,0.7s,baz=143,slow=2.8,SNR=6.9						
MMAI	**Mount Meron Ar**	**146.28**	**303**	PKPbc	**PKPab**	**14 49 55.8**	**-0.5**
	3.0nm,0.5s,baz=46,slow=4.6,SNR=3.6						
GERES	**GERESS Array B**	**147.57**	**345**	PKPbc	**PKPbc**	**14 49 58.7**	**+1.3**
	1.1nm,0.5s,baz=12,slow=3.7,SNR=7.5						
DAVOX	**Davos/Dischmat**	**150.35**	**349**	PKPbc	**PKPbc**	**14 50 05.0**	**+0.6**
	3.4nm,0.6s,baz=207,slow=16,SNR=4.0						

IDC ***27*** *14:34:33.2±1.2, 0.97N×124.45E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/63, mbtmp3.9/5, ML4.1/1, Error ellipse: s-maj=104.0km s-min=18.9km az=69.0*

ISCJB ***27*** *14:34:54.9±0.5, 0.38N±0.07×123.73E±0.07, h218km, mb4.3/1, Error ellipse: s-maj=9.7km s-min=8.8km az=145.7*

NEIC ***27*** *14:34:56.1±1.0, 0.48N×123.96E, h214km±11km, mb4.3/3, Error ellipse: s-maj=18.1km s-min=12.4km az=56.0*

DJA ***27*** *14:34:56.2±0.6, 0°N±4°×12°4E±°, h210km±5km, M3.6/9, mb3.7/1, MLv3.6/9*

ISC 27 14:34:56.3±0.8, 0.27N±0.08×123.81E±0.06, h218km, n20, σ1§48/23, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.34**	**29**	P	**Pn**	**14 35 25.0**	**0.0**
KMSI				S	**S**	**14 35 48.5**	**+0.9**
LUWI	**Luwuk**	**1.67**	**219**	*e*Pn	**Pn**	**14 35 33.0**	**-0.1**
LUWI	**Luwuk**	**1.67**	**219**	P	**Pn**	**14 35 32.9**	**-0.1**
LUWI				S	**S**	**14 35 59.6**	**-2.0**
MRSI	**Marisa**	**1.88**	**276**	P	**Pn**	**14 35 34.6**	**-0.4**
APSI	**Ampana**	**2.46**	**241**	P	**Pn**	**14 35 41.3**	**+0.4**
APSI				S	**S**	**14 36 14.5**	**-1.1**
SANI	**Sanana**	**3.17**	**137**	P	**Pn**	**14 35 47.7**	**-1.2**
TNTI	**Ternate**	**3.59**	**82**	*e*Pn	**Pn**	**14 35 52.6**	**-1.2**
TNTI	**Ternate**	**3.59**	**82**	P	**Pn**	**14 35 53.2**	**-0.6**
TTSI	**Tana Toraja**	**5.18**	**230**	P	**Pn**	**14 36 10.9**	**-2.5**
KSM	**Kuching**	**13.55**	**275**	*e*P	**P**	**14 38 04.7**	**+2.5**
FITZ	**Fitzroy Crossi**	**18.34**	**174**	P	**P**	**14 38 56.2**	**+1.4**
	0.5nm,0.3s,baz=1.1,slow=10.0,SNR=35						
FITZ	**Fitzroy Crossi**	**18.34**	**174**	*e*P	**P**	**14 38 56.1**	**+1.4**
	9.3nm,1.3s						
WRA	**Warramunga Arr**	**22.58**	**153**	P	**P**	**14 39 39.9**	**+1.4**
	6.9nm,0.5s,baz=336,slow=10,SNR=76						
WR1	**Warramunga Arr**	**22.58**	**153**	*e*P	**P**	**14 39 39.9**	**+1.4**
	6.1nm,0.6s						
WB2	**Warramunga Arr**	**22.59**	**153**	*e*P	**P**	**14 39 39.9**	**+1.4**
	6.3nm,0.5s						
ASAR	**Alice Springs**	**25.74**	**158**	P	**P**	**14 40 08.8**	**+1.8**
	0.4nm,0.4s,baz=340,slow=7.9,SNR=7.8						
SONA0	**Songino Array**	**49.73**	**345**	*e*P	**P**	**14 43 24.6**	**-2.0**
SONM	**Songino Array**	**49.73**	**345**	P	**P**	**14 43 24.6**	**-2.0**
	0.8nm,0.8s,baz=166,slow=7.6,SNR=4.9						
MK32	**Makanchi Array**	**58.81**	**328**	*e*P	**P**	**14 44 31.3**	**-0.6**
MKAR	**Makanchi Array**	**58.81**	**328**	P	**P**	**14 44 31.3**	**-0.6**
	0.9nm,0.5s,baz=118,slow=8.6,SNR=16						

IDC ***27*** *14:39:14.2±4.0, 17.84S×174.78W, h72km±52km, mb4.1/6, mb1 4.1/8, mb1mx3.7/40, mbtmp4.4/8, ML3.4/2, Error ellipse: s-maj=42.0km s-min=32.8km az=93.0*

NEIC ***27*** *14:39:14.8±4.4, 17.68S×174.80W, h80km±66km, mb4.3/3, Error ellipse: s-maj=49.3km s-min=14.4km az=48.0*

ISC 27 14:39:15.0±0.8, 17.7S±0.1×174.5W±0.1, h100km, n16, σ1§27/19, mb4.5/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.57**	**36**	P	**Pn**	**14 40 24.4**	**+2.4**
	9.2nm,0.3s,baz=203,slow=3.8,SNR=9.8						
AFI				S	**Sn**	**14 41 11.7**	**-2.3**
	23nm,0.3s,baz=39,slow=23,SNR=7.7						
AFI	**Afiamalu**	**4.57**	**36**	*e*Pn	**Pn**	**14 40 23.9**	**+1.9**
AFI				S	**Sn**	**14 41 11.7**	**-2.3**
RAR	**Rarotonga**	**14.35**	**107**	P	**P**	**14 42 37.4**	**-0.1**
	0.3nm,0.3s,baz=278,slow=10,SNR=3.0						
URZ	**Urewera**	**21.79**	**198**	P	**P**	**14 43 57.1**	**-1.6**
	6.5nm,0.4s,baz=22,slow=4.0,SNR=21						
BFZ	**Birch Farm**	**24.28**	**197**	*e*P	**P**	**14 44 23.6**	**+0.7**
	50nm,0.6s						
CTA	**Charters Tower**	**37.14**	**260**	P	**P**	**14 46 15.8**	**-0.6**
	4.9nm,0.9s,baz=94,slow=7.9,SNR=5.9						
STKA	**Stephens Creek**	**42.00**	**242**	P	**P**	**14 46 56.2**	**-0.3**
	1.0nm,0.5s,baz=86,slow=16,SNR=3.4						
STKA	**Stephens Creek**	**42.00**	**242**	*e*P	**P**	**14 46 56.8**	**+0.3**
	2.9nm,1.5s						
WB2	**Warramunga Arr**	**48.30**	**259**	*e*P	**P**	**14 47 46.5**	**-0.1**
WR1	**Warramunga Arr**	**48.32**	**259**	*e*P	**P**	**14 47 46.5**	**-0.1**
	5.5nm,0.4s						
WRA	**Warramunga Arr**	**48.32**	**259**	P	**P**	**14 47 46.5**	**-0.1**
	2.4nm,0.3s,baz=98,slow=7.1,SNR=102						
AS01	**Alice Springs**	**48.38**	**254**	*e*P	**P**	**14 47 46.3**	**-0.8**
AS31	**Alice Springs**	**48.42**	**254**	*e*P	**P**	**14 47 47.2**	**-0.2**
	2.8nm,0.8s						
ASAR	**Alice Springs**	**48.42**	**254**	P	**P**	**14 47 47.4**	**-0.1**
	10.0nm,0.7s,baz=88,slow=8.7,SNR=129						
ASAR				PcP	**PcP**	**14 49 13.3**	**+0.8**
	0.2nm,0.3s,baz=104,slow=3.9,SNR=2.7						
FITZ	**Fitzroy Crossi**	**56.72**	**260**	P	**P**	**14 48 48.9**	**+0.2**
	0

PAU A A 14 44 01.0
comp=Z,4μm,0.7s
PAU A A 14 44 01.0
comp=Z,3μm,0.7s
PAU Pauzhetka 3.54 18 *e*P **Pn 14 43 07.6 +0.3**
PAU *e*S **Sn 14 43 49.5 +1.7**
PAU Pauzhetka 3.54 18 PN **Pn 14 43 07.6 +0.3**
PAU S **Sn 14 43 49.5 +1.7**
KDTR Khodutka, Kamc 4.18 27 *e*P **Pn 14 43 15.4 -0.6**
KDTR Khodutka, Kamc 4.18 27 PN **Pn 14 43 15.4 -0.6**
MTVR Mutnovka 4.81 24 *e*P **Pn 14 43 24.1 -0.7**
MTVR Mutnovka 4.81 24 PN **Pn 14 43 24.1 -0.7**
GRL Gorelyy 4.84 23 *e*P **Pn 14 43 25.8 +0.5**
GRL Gorelyy 4.84 23 PN **Pn 14 43 25.8 +0.5**
RUS Russkaya 4.86 26 *e*P **Pn 14 43 23.5 -1.8**
RUS *e*S **Sn 14 44 18.3 -2.0**
RUS Russkaya 4.86 26 PN **Pn 14 43 23.5 -1.8**
KRMR Karymshinskiy 5.11 22 *e*P **Pn 14 43 29.2 +0.4**
KRMR Karymshinskiy 5.11 22 PN **Pn 14 43 29.2 +0.4**
PEA0B Petropavlovsk- 5.27 18 *e*Pn **Pn 14 43 31.0 -0.1**
PETK Petropavlovsk- 5.27 18 P **Pn 14 43 31.8 +0.8**
comp=Z,35nm,0.3s,baz=199,slow=14,SNR=166
PETK S **Sn 14 44 32.3 +1.8**
baz=201,slow=20,SNR=1.9
PETK LR LR 14 45 56.2
comp=Z,14μm,19.1s,baz=204,slow=42
PETK Petropavlovsk- 5.27 18 *e*Pn **Pn 14 43 31.0 -0.1**
PETK S **Sn 14 44 32.3 +1.8**
PETK Petropavlovsk- 5.27 18 *e*PN **Pn 14 43 31.0 -0.1**
PETK S **Sn 14 44 32.3 +1.8**
PET Petropavlovsk 5.42 24 *e*P **Pn 14 43 32.8 -0.3**
PET AMB AMB 14 43 34.6
comp=Z,2μm,4.0s
PET AMB AMB 14 43 34.6
comp=Z,6μm,4.0s
PET AMB AMB 14 43 39.0
comp=Z,220nm,0.6s
PET AMB AMB 14 43 39.0
comp=Z,200nm,0.6s
PET AMB AMB 14 43 39.0
comp=Z,350nm,0.6s
PET *e*S **Sn 14 44 33.0 -1.1**
PET A A 14 44 37.2
comp=Z,620nm,0.6s
PET A A 14 44 37.2
comp=Z,1μm,0.6s
PET A A 14 44 44.2
comp=Z,2μm,4.0s
PET AMS AMS 14 46 06.6
comp=Z,9μm,16.0s
PET AMS AMS 14 46 06.6
comp=Z,10μm,16.0s
PET AMS AMS 14 46 06.6
comp=Z,11μm,16.0s
PET Petropavlovsk 5.42 24 *e*P **Pn 14 43 32.4 -0.7**
PET *e*S **Sn 14 44 33.5 -0.6**
PET Petropavlovsk 5.42 24 *e*PN **Pn 14 43 34.1 +1.0**
PET pmax pmax
comp=Z,444nm,0.5s
PET MLR MLR
comp=Z,9μm,16.0s
PET MLR MLR
comp=Z,11μm,16.0s
DALK Dalny 5.46 24 *e*P **Pn 14 43 32.8 -0.7**
DALK Dalny 5.46 24 PN **Pn 14 43 32.8 -0.7**
UGLR Uglovaya 5.63 24 *e*P **Pn 14 43 36.0 -0.1**
UGLR Uglovaya 5.63 24 PN **Pn 14 43 36.0 -0.1**
KOK Koryaka 5.66 22 *e*P **Pn 14 43 36.8 +0.3**
KOK Koryaka 5.66 22 PN **Pn 14 43 36.8 +0.3**
AVH Avacha 5.66 23 *e*P **Pn 14 43 36.8 +0.3**
AVH Avacha 5.66 23 PN **Pn 14 43 36.8 +0.3**
SMAR Somma 5.68 23 *e*P **Pn 14 43 37.3 +0.5**
SMAR Somma 5.68 23 PN **Pn 14 43 37.3 +0.5**
SDLR Sedlovina 5.71 24 *e*P **Pn 14 43 36.3 -0.9**
SDLR Sedlovina 5.71 24 PN **Pn 14 43 36.3 -0.9**
KUR Kuril'sk 5.72 242 *i*P **Pn 14 43 39.6 +2.4**
KUR AMB AMB 14 43 42.0
comp=Z,3μm,2.7s
KUR AMB AMB 14 43 42.0
comp=Z,6μm,2.7s
KUR AMB AMB 14 43 57.0
comp=Z,420nm,0.5s
KUR AMB AMB 14 43 57.0
comp=Z,360nm,0.5s
KUR AMB AMB 14 43 57.0
comp=Z,1μm,0.5s
KUR *i*S **Sn 14 44 41.8 +0.3**
KUR A A 14 44 51.0
comp=Z,5μm,2.0s
KUR A A 14 44 51.0
comp=Z,4μm,2.0s
KUR A A 14 45 07.0
comp=Z,1μm,0.8s
KUR A A 14 45 07.0
comp=Z,860nm,0.8s
KUR AMS AMS 14 45 50.0
comp=Z,14μm,17.0s
KUR AMS AMS 14 45 50.0
comp=Z,4μm,17.0s
KUR AMS AMS 14 45 50.0
comp=Z,15μm,17.0s
KUR Kuril'sk 5.72 242*c i*PN **Pn 14 43 39.6 +2.4**
KUR *i*S **Sn 14 44 46.2 +4.7**
KUR pmax pmax
comp=Z,3μm,2.7s
KUR pmax pmax
comp=E,364nm,0.5s
KUR pmax pmax
comp=Z,1μm,0.5s
KUR pmax pmax
comp=N,424nm,0.4s
KUR smax smax
comp=E,856nm,0.9s
KUR smax smax
comp=N,1μm,0.7s
KUR smax smax
comp=N,5μm,1.6s
KUR smax smax
comp=E,4μm,1.9s
KUR MLR MLR
comp=E,4μm,17.0s
KUR MLR MLR
comp=Z,15μm,17.0s
KUR MLR MLR
comp=N,14μm,11.0s
KRX Arik 5.72 22 *e*P **Pn 14 43 37.7 +0.3**
KRX Arik 5.72 22 PN **Pn 14 43 37.7 +0.3**
GNL Ganaly 5.88 17 *e*P **Pn 14 43 40.8 +1.4**
GNL Ganaly 5.88 17 PN **Pn 14 43 40.8 +1.4**
SPN Mys Shipunski 5.91 31 *e*P **Pn 14 43 38.9 -0.8**
SPN Mys Shipunski 5.91 31 PN **Pn 14 43 38.9 -0.8**
KII Karymskiy 6.54 23 *e*P **Pn 14 43 48.9 +0.4**
KII Karymskiy 6.54 23 PN **Pn 14 43 48.9 +0.4**
SHO Shikotan 7.12 236 *i*P **Pn 14 43 55.5 -1.0**
SHO AMB AMB 14 44 03.0
comp=N,200nm,0.4s
SHO AMB AMB 14 44 03.0
comp=N,220nm,0.4s
SHO AMB AMB 14 44 03.0
comp=N,370nm,0.4s
SHO *e*S **Sn 14 45 14.4 -1.7**
SHO A A 14 45 31.0
comp=N,600nm,2.0s
SHO A A 14 45 31.0
comp=N,2μm,2.0s
SHO AMS AMS 14 46 19.4
comp=N,9μm,19.0s
SHO AMS AMS 14 46 19.4
comp=N,8μm,19.0s
SHO Shikotan 7.12 236*c i*PN **Pn 14 43 55.2 -1.3**
SHO pmax pmax
comp=N,198nm,0.4s
SHO pmax pmax
comp=Z,373nm,0.4s
SHO pmax pmax
comp=E,218nm,0.3s
YUK Yuzh-Kuril'sk 7.58 241 *i*P **Pn 14 44 03.0 +0.3**
YUK AMB AMB 14 44 06.0
comp=E,410nm,0.4s
YUK AMB AMB 14 44 06.0
comp=E,980nm,0.4s
YUK AMB AMB 14 44 06.0
comp=E,1μm,0.4s
YUK AMB AMB 14 44 11.0
comp=E,2μm,2.0s
YUK AMB AMB 14 44 11.0
comp=E,6μm,2.0s
YUK *i*S **Sn 14 45 27.1 -0.1**
YUK A A 14 45 36.0
comp=E,500nm,2.0s
YUK A A 14 45 36.0
comp=E,3μm,2.0s
YUK AMS AMS 14 47 05.1
comp=E,2μm,13.0s
YUK AMS AMS 14 47 05.1
comp=E,7μm,13.0s
YUK Yuzh-Kuril'sk 7.58 241*c i*PN **Pn 14 44 03.6 +0.9**
YUK pmax pmax
comp=Z,1μm,0.4s
YUK pmax pmax
comp=N,407nm,0.3s
YUK pmax pmax
comp=E,981nm,0.3s
YUK pmax pmax
comp=Z,2μm,1.5s
YUK MLR MLR
comp=E,2μm,13.0s
YUK MLR MLR
comp=Z,7μm,13.0s
LAGR Lagunnoye 7.61 241 *i*P **Pn 14 44 04.0 +0.9**
LAGR AMB AMB 14 44 14.0
comp=Z,3μm,0.6s
LAGR AMB AMB 14 44 14.0
comp=Z,1μm,0.6s
LAGR AMB AMB 14 44 14.0
comp=Z,730nm,0.6s
LAGR *i*S **Sn 14 45 30.0 +2.0**
LAGR AMS AMS 14 47 06.0
comp=Z,3μm,10.0s
LAGR Lagunnoye 7.61 241⇑ *i*PN **Pn 14 44 04.1 +0.9**
LAGR pmax pmax
comp=E,1μm,0.3s
LAGR pmax pmax
comp=Z,729nm,0.3s
LAGR pmax pmax
comp=N,3μm,0.6s
LAGR MLR MLR
comp=Z,3μm,10.0s
GRPR Tuman 7.65 241 *i*P **Pn 14 44 04.0 +0.3**
GRPR AMB AMB 14 44 07.0
comp=Z,250nm,0.4s
GRPR AMB AMB 14 44 07.0
comp=Z,240nm,0.4s
GRPR AMB AMB 14 44 07.0
comp=Z,1μm,0.4s
GRPR *i*S **Sn 14 45 30.0 +0.9**
GRPR A A 14 45 50.0
comp=Z,2μm,2.0s
GRPR AMS AMS 14 47 22.0
comp=Z,2μm,15.0s
GRPR AMS AMS 14 47 22.0
comp=Z,1μm,15.0s
GRPR Tuman 7.65 241*c i*PN **Pn 14 44 04.8 +1.1**
GRPR pmax pmax
comp=Z,1μm,0.4s
GRPR pmax pmax
comp=N,248nm,0.5s
GRPR pmax pmax
comp=E,238nm,0.2s
KZV Kizimen 7.73 23 *e*P **Pn 14 44 03.4 -1.4**
KZV Kizimen 7.73 23 PN **Pn 14 44 03.4 -1.4**
NEM2 Nemuro 2 8.05 237 P **Pn 14 44 07.4 -1.8**
NEM2 *e*S **Sn 14 45 33.5 -5.4**
JRA Rausu 8.07 242 P **Pn 14 44 10.5 +1.1**
YSS Yuzh-Sakhalins 8.39 267 *e*Pn **Pn 14 44 17.4 +3.6**
YSS Yuzh-Sakhalins 8.39 267 *e*P **Pn 14 44 17.2 +3.3**
YSS AMB AMB 14 44 18.7
comp=E,220nm,0.7s
YSS AMB AMB 14 44 18.7
comp=E,5μm,0.7s
YSS *e*S **Sn 14 45 48.1 +0.8**
YSS AMS AMS 14 47 53.0
comp=E,2μm,15.0s
YSS AMS AMS 14 47 53.0
comp=E,4μm,15.0s
YSS AMS AMS 14 47 53.0
comp=E,5μm,15.0s
YSS Yuzh-Sakhalins 8.39 267*ke*PN **Pn 14 44 17.7 +3.8**
YSS *e* 14 46 04.0
YSS pmax pmax
comp=Z,220nm,0.7s
YSS MLR MLR
comp=E,4μm,15.0s
YSS MLR MLR
comp=Z,5μm,15.0s
YSS MLR MLR
comp=N,2μm,14.0s
JNK Nakash 8.51 242 P **Pn 14 44 15.8 +0.3**
TYV Tymovskoe 8.52 293 *e*P **Pn 14 44 18.7 +3.2**
TYV AMB AMB 14 44 23.1
comp=N,130nm,1.0s
TYV AMB AMB 14 44 23.1
comp=N,5μm,1.0s
TYV *e*S **Sn 14 45 52.1 +1.9**
TYV A A 14 45 55.2
comp=N,30nm,1.0s
TYV AMS AMS 14 47 45.8
comp=N,12μm,16.0s
TYV AMS AMS 14 47 45.8
comp=N,12μm,16.0s
TYV Tymovskoe 8.52 293 *e*PN **Pn 14 44 19.7 +4.2**
TYV pmax pmax
comp=Z,132nm,1.1s
TYV MLR MLR
comp=N,12μm,16.0s
TYV MLR MLR
comp=Z,12μm,16.0s
UGL Uglegorsk 8.65 281 *e*P **Pn 14 44 20.7 +3.3**
UGL AMB AMB 14 44 23.0
comp=Z,450nm,0.9s
UGL AMB AMB 14 44 23.0
comp=Z,5μm,0.9s
UGL *e*S **Sn 14 45 55.0 +1.4**
UGL A A 14 46 08.0
comp=Z,240nm,0.9s
UGL AMS AMS 14 48 16.0
comp=Z,9μm,15.0s
UGL AMS AMS 14 48 16.0
comp=Z,15μm,15.0s
UGL AMS AMS 14 48 16.0
comp=Z,16μm,15.0s
UGL Uglegorsk 8.65 281 *e*PN **Pn 14 44 22.0 +4.6**
UGL pmax pmax
comp=Z,451nm,0.9s
UGL MLR MLR
comp=Z,16μm,15.0s
UGL MLR MLR
comp=N,9μm,15.0s
UGL MLR MLR
comp=E,15μm,15.0s
JTKR Abashiri--Toko 8.78 246 P **Pn 14 44 20.8 +1.6**
JAK Akkeshi 8.88 239 P **Pn 14 44 18.9 -1.6**
JAK *e*S **Sn 14 45 54.9 -4.3**
JMP Maruseppu 9.10 247 P **Pn 14 44 25.5 +1.9**
JAR Ashorobuto 9.24 243 P **Pn 14 44 25.9 +0.4**
JAR *e*S **Sn 14 46 08.0 -0.1**
OKH Okha 9.39 310 *e*P **Pn 14 44 31.7 +4.3**
OKH *e*S **Sn 14 46 15.1 +3.6**
OKH AMS AMS 14 49 01.8
comp=E,13μm,15.0s
OKH AMS AMS 14 49 01.8
comp=E,25μm,15.0s
OKH AMS AMS 14 49 01.8
comp=E,11μm,15.0s
OKH Okha 9.39 310 *e*PN Pn 14 44 40.0 +13
JOB Onbets 9.44 241 P **Pn 14 44 28.5 +0.4**
JOB *e*S **Sn 14 46 09.5 -3.3**
JWK2 Keihoku 9.45 258 P Pn 14 44 34.4 +6.0
ASAJ Asahikawa 9.52 250 P **Pn 14 44 31.7 +2.4**
comp=E,31nm,0.3s,baz=80,slow=14,SNR=209
ASAJ LR LR 14 48 00.3
comp=E,7μm,18.9s,baz=70,slow=36
ASAJ Asahikawa 9.52 250 *e*Pn **Pn 14 44 32.2 +2.9**
ASAJ Asahikawa 9.52 250 P **Pn 14 44 32.4 +3.1**
JKK2 Kamakawa 2 9.55 248 P **Pn 14 44 32.0 +2.3**
JCH Churui 9.89 240 P **Pn 14 44 33.1 -1.2**
JCH *e*S **Sn 14 46 18.2 -5.7**
JFR Furan 10.02 245 P **Pn 14 44 36.7 +0.5**
JAB Ashibetsu 10.06 247 P **Pn 14 44 39.0 +2.2**
JBT2 Biratori 2 10.38 244 P **Pn 14 44 40.5 -0.6**
ERM Erimo 10.38 238 *e*Pn **Pn 14 44 39.9 -1.3**
ERM Erimo 10.38 238 *e*P **Pn 14 44 41.2 +0.1**
ERM Erimo 10.38 238 *i*PN **Pn 14 44 41.2 +0.1**
JEM Erimo 10.38 238 P **Pn 14 44 40.0 -1.1**
NKL Nikolayevsk 10.41 304 *e*P **Pn 14 44 45.0 +3.6**
NKL AMB AMB 14 44 48.0
comp=E,90nm,1.0s
NKL AMS AMS 14 50 08.0
comp=E,8μm,14.0s
NKL AMS AMS 14 50 08.0
comp=E,6μm,14.0s
NKL AMS AMS 14 50 08.0
comp=E,17μm,14.0s
NKL Nikolayevsk 10.41 304 *e*PN **Pn 14 44 45.0 +3.6**
NKL pmax pmax
comp=E,90nm,1.0s
NKL pmax pmax
comp=Z,86nm,1.0s
NKL MLR MLR
comp=N,8μm,14.0s
NKL MLR MLR
comp=E,6μm,14.0s
NKL MLR MLR
comp=Z,17μm,14.0s
JNBK Urakawa-nobuka 10.45 241 P **Pn 14 44 39.6 -2.4**
JEW Eniwo 10.90 246 P **Pn 14 44 48.8 +0.6**
JNB Noboribetsu 11.36 245 P **Pn 14 44 52.9 -1.6**
JNB *e*S **Sn 14 46 56.2 -3.8**
JKB Kayabe 11.70 243 P **Pn 14 44 56.5 -2.7**
MA2 Magadan 11.75 349 P **Pn 14 45 00.1 +0.5**
comp=Z,4.5nm,0.3s,baz=170,slow=10.0,SNR=14
MA2 LR LR 14 50 14.3
comp=Z,5μm,18.8s,baz=162,slow=41
JSH Shimam 11.87 248 P **Pn 14 45 02.9 +1.4**
JYM2 Yakumo 2 11.97 245 P **Pn 14 45 01.8 -1.0**
JSR Shiriuchi 12.29 243 P **Pn 14 45 04.1 -3.0**
JTM Tenmabayashi 12.37 239 P **Pn 14 45 04.2 -4.1**
JTM *e*S Sn 14 47 13.7 -11
JANG Nango 12.40 236 P Pn 14 45 03.7 -5.0
JANG *e*S Sn 14 47 13.3 -12
GRNR Gornyy 12.40 289 *e*P **Pn 14 45 12.8 +4.1**
GRNR AMB AMB 14 45 15.7
comp=Z,50nm,1.0s
GRNR AMB AMB 14 45 15.7
comp=Z,5μm,1.0s
GRNR Gornyy 12.40 289 *e*PN **Pn 14 45 12.8 +4.1**
GRNR *e* 14 47 41.2
GRNR pmax pmax
comp=Z,52nm,1.0s
JTH Tanohata 12.51 234 P Pn 14 45 04.3 -5.9
JTH *e*S Sn 14 47 16.9 -11
JOSM Okushiri--Mats 12.54 247 P **Pn 14 45 09.4 -1.1**
SMY Shemya 12.99 62 *e*Pn **Pn 14 45 13.7 -2.9**
SMY Shemya 12.99 62 *e*PN **Pn 14 45 13.7 -2.9**
TEY Ternei 13.05 263 *e*P **Pn 14 45 20.5 +3.0**
TEY AMB AMB 14 45 21.9
comp=Z,30nm,1.0s
TEY AMB AMB 14 45 21.9
comp=Z,5μm,1.0s
TEY AMS AMS 14 51 35.8
comp=Z,3μm,15.0s
TEY AMS AMS 14 51 35.8
comp=Z,4μm,15.0s
TEY AMS AMS 14 51 35.8
comp=Z,3μm,15.0s
TEY Ternei 13.05 263⇑ *e*PN **Pn 14 45 21.0 +3.5**
TEY pmax pmax
comp=Z,30nm,1.1s
TEY MLR MLR
comp=E,4μm,15.0s
TEY MLR MLR
comp=N,3μm,16.0s
TEY MLR MLR
comp=Z,3μm,13.0s
OFUJ Ofunato 13.23 232 P Pn 14 45 14.7 -5.4
JRG Rokugo 13.56 235 P **Pn 14 45 20.8 -3.8**
JIO Ouri 13.86 231 P **Pn 14 45 24.4 -4.3**
JIO *e*S Sn 14 47 49.5 -12
JYA Atsumi 14.64 235 P **Pn 14 45 35.6 -3.5**
EKMR Ekimchan 14.85 298 *e*P **Pn 14 45 43.2 +1.2**
EKMR AMB AMB 14 49 01.9
comp=Z,50nm,0.8s
EKMR AMB AMB 14 49 01.9
comp=Z,5μm,0.8s
SEY Seymchan 14.92 355 P **Pn 14 45 42.6 -0.1**
comp=Z,1.0nm,0.3s,baz=168,slow=9.6,SNR=28
SEY Seymchan 14.92 355 *e*P **Pn 14 45 42.8 +0.1**
SEY Seymchan 14.92 355*ce*P **Pn 14 45 42.8 +0.1**
KLR Kul'dur 15.41 283 P **Pn 14 45 49.5 +0.1**
comp=Z,0.2nm,0.3s,baz=3.4,slow=19,SNR=5.2
KLR LR LR 14 52 05.9
comp=Z,5μm,18.7s,baz=91,slow=38
KLR Kul'dur 15.41 283 *e*P **Pn 14 45 47.4 -1.9**
KLR Kul'dur 15.41 283*d i*P **Pn 14 45 47.4 -1.9**
JFY Yanaizu 15.51 232 P **Pn 14 45 46.8 -3.8**
USA0B Ussuriysk Arra 16.43 265 *e*Pn **Pn 14 46 02.9 +0.6**
comp=Z,38nm,0.9s
USRK Ussuriysk Ar. 16.43 265 P **Pn 14 46 03.3 +1.0**
comp=Z,4.6nm,0.3s,baz=65,slow=13,SNR=44
USRK LR LR 14 52 17.1
comp=Z,2μm,18.6s,baz=69,slow=37
VLA Vladivostok 16.93 261 *e*P **Pn 14 46 08.1 -0.5**
VLA Vladivostok 16.93 261 *i*P **Pn 14 46 08.1 -0.5**
VLA pmax pmax
comp=Z,89nm,1.7s
MJAR Matsushiro Arr 16.95 233 P **Pn 14 46 06.0 -2.9**
comp=Z,1.9nm,0.3s,baz=27,slow=14,SNR=33
MJAR LR LR 14 53 10.7
comp=Z,2μm,18.1s,baz=50,slow=39
MJB9 Matsu-Tunnel 16.95 233 *e*Pn **Pn 14 46 06.7 -2.2**
comp=Z,331nm,1.7s
MAJO Matsushiro 16.95 233 *e*Pn **Pn 14 46 05.8 -3.1**
comp=Z,312nm,1.6s
MAJO Matsushiro 16.95 233 *i*P **Pn 14 46 05.6 -3.3**
MAJO pmax pmax
comp=Z,77nm,1.1s
BMKR Bomnak 17.55 302 *e*P **P 14 46 17.0 0.0**
BMKR AMB AMB 14 46 20.9
comp=Z,50nm,0.5s
MDJ Mudanjiang 17.88 268 P **P 14 46 21.0 +0.3**
MDJ pmax pmax
comp=Z,27nm,0.6s
MDJ LR LR
comp=Z,1μm,18.2s
MDJ LR LR
comp=Z,3μm,13.9s
MDJ LR LR
comp=Z,5μm,14.4s
MDJ Mudanjiang 17.88 268 *e*Pn **Pn 14 46 20.3 -0.1**
comp=Z,64nm,1.4s
ZEA Zeya 18.33 298 *e*P **Pn 14 46 28.0 +2.3**
ZEA AMB AMB 14 46 29.2
comp=Z,20nm,2.0s
ZEA AMB AMB 14 46 29.2
comp=Z,60nm,2.0s
ZEA AMB AMB 14 46 29.2
comp=Z,120nm,2.0s
ZEA AMS AMS 14 54 43.0
comp=Z,10μm,15.0s
ZEA AMS AMS 14 54 43.0
comp=Z,1μm,15.0s
ZEA Zeya 18.33 298 *e*P **Pn 14 46 28.0 +2.3**
ZEA pmax pmax
comp=E,64nm,1.8s
ZEA pmax pmax
comp=N,24nm,1.0s
ZEA pmax pmax
comp=Z,120nm,1.6s
ZEA MLR MLR
comp=Z,14μm,14.0s
ZEA MLR MLR
comp=E,10μm,15.0s
INU Inuyama 18.48 233 *e*P **P 14 46 26.3 -1.0**
comp=E,202nm,1.0s
ADK Adak 18.51 68 *e*P **P 14 46 26.4 -1.1**
comp=E,346nm,1.9s
ADK Adak 18.51 68 *e*P **P 14 46 26.4 -1.1**
ADK pmax pmax
comp=Z,346nm,1.9s
KROS Kirovskiy 18.58 300 *e*P **P 14 46 28.2 -0.1**
JHJ Hachijo jima 2 18.88 223 LR LR 14 55 45.5
comp=Z,356nm,20.1s,baz=58,slow=43
BILL Bilibino 20.77 12 *e*P **P 14 46 50.0 -2.0**
comp=Z,27nm,0.8s
BILL Bilibino 20.77 12*de*P **P 14 46 50.5 -1.5**
BILL *e* 14 47 09.2
BILL pmax pmax

comp=Z,13nm,0.8s
BILL MLR MLR
comp=Z,4μm,16.0s
KSRS Korea Array 22.46 252 P **P 14 47 11.2 +0.8**
comp=Z,52nm,0.7s,baz=52,slow=10,SNR=58
KSRS LR LR 14 56 38.1
comp=Z,2μm,18.5s,baz=58,slow=38
KS01 Wonju Array Si 22.47 252 *e*P **P 14 47 10.1 -0.4**
KS15 Wonju Array Si 22.49 252 *e*P **P 14 47 09.6 -1.2**
KSAR Wonju Array Be 22.49 252 P **P 14 47 11.2 +0.5**
KSAR Wonju Array Be 22.49 252 P **P 14 47 11.3 +0.5**
SNY Shenyang 23.02 266 ‖P **P 14 47 15.5 -0.7**
SNY pmax pmax
comp=Z,18nm,0.6s
SNY pmax pmax
comp=Z,570nm,6.2s
SNY LR LR
comp=Z,3μm,15.9s
SNY LR LR
comp=Z,3μm,18.2s
SNY LR LR
comp=Z,4μm,16.5s
HIA Hailar 23.20 286 *e*P **P 14 47 16.1 -2.0**
comp=Z,23nm,1.1s
HIA Hailar 23.20 286 *e*P **P 14 47 16.1 -2.0**
HIA pmax pmax
comp=Z,23nm,1.1s
TJN Taejon 23.48 250*c e*P **P 14 47 22.5 +1.7**
JNU Nakatsue 23.55 239 P **P 14 47 22.4 +0.9**
comp=Z,10nm,0.4s,baz=169,slow=3.6,SNR=24
JNU Nakatsue 23.55 239 *e*P **P 14 47 21.9 +0.3**
comp=Z,50nm,1.0s
DL2 Dalian 25.75 261 P **P 14 47 41.5 -0.1**
DL2 pP **pP 14 47 52.8 +0.4**
DL2 S **S 14 52 07.0 -0.7**
DL2 sS **sS 14 52 26.3 +0.4**
DL2 pmax pmax
comp=Z,99nm,0.9s
DL2 pmax pmax
comp=Z,460nm,3.6s
DL2 LR LR
comp=Z,2μm,11.4s
DL2 LR LR
comp=Z,1μm,13.1s
DL2 LR LR
comp=Z,2μm,13.1s
BOD Bodaibo 26.16 307 *e*P **P 14 47 43.4 -1.7**
BOD pmax pmax
comp=Z,19nm,1.9s
TIXI Tiksi 26.55 342 P **P 14 47 46.5 -1.9**
comp=Z,18nm,0.7s,baz=148,slow=8.2,SNR=44
TIXI Tiksi 26.55 342 *e*P **P 14 47 46.6 -1.8**
comp=Z,24nm,0.8s
TIXI Tiksi 26.55 342*c e*P **P 14 47 47.0 -1.4**
TIXI pmax pmax
comp=Z,8.0nm,0.6s
TIXI MLR MLR
comp=Z,2μm,16.0s
ANM Nome 26.81 38 *e*P **P 14 47 52.1 +1.2**
comp=Z,42nm,0.9s
ANM Nome 26.81 38 *e*P **P 14 47 52.1 +1.2**
ANM pmax pmax
comp=Z,42nm,0.9s
JOW Kunigami 29.79 234 P **P 14 48 17.6 -0.2**
comp=Z,25nm,0.9s,baz=270,slow=5.1,SNR=3.4
H11N2 WAKE ISLAND Hy 29.91 157 T T 15 20 02.9
baz=344,slow=76,SNR=170
H11N1 WAKE ISLAND Hy 29.92 157 T T 15 20 00.1
baz=344,slow=76,SNR=204
H11N3 WAKE ISLAND Hy 29.92 157 T T 15 20 03.5
baz=344,slow=76,SNR=131
TIA Tai'an 30.22 261 P **P 14 48 22.3 +0.8**
TIA pmax pmax
comp=Z,18nm,0.8s
TIA pmax pmax
comp=Z,410nm,3.8s
TIA LR LR
comp=Z,2μm,14.5s
TIA LR LR
comp=Z,2μm,15.5s
TIA LR LR
comp=Z,2μm,13.7s
SVW2 Sparrevohn 30.60 46 *e*P **P 14 48 25.4 +0.8**
comp=Z,13nm,0.8s
SSE Sheshan 30.81 249 P **P 14 48 27.0 +0.2**
SSE S **S 14 53 31.0 +3.5**
SSE pmax pmax
comp=Z,20nm,0.7s
SSE pmax pmax
comp=Z,170nm,3.2s
SSE LR LR
comp=Z,610nm,15.9s
SSE LR LR
comp=Z,740nm,16.1s
H11S1 WAKE ISLAND Hy 31.03 158 T T 15 21 26.0
baz=344,slow=76,SNR=1815
H11S3 WAKE ISLAND Hy 31.04 158 T T 15 21 26.0
baz=344,slow=76,SNR=3542
H11S2 WAKE ISLAND Hy 31.05 158 T T 15 21 27.6
baz=344,slow=76,SNR=2068
HHC Hu-ho-hao-te 31.51 273 *e*P **P 14 48 35.5 +2.5**
HHC PP **PnPn 14 49 39.5 +2.5**
HHC S **S 14 53 39.5 +0.9**
HHC pmax pmax
comp=Z,30nm,0.5s
HHC LR LR
comp=Z,2μm,13.0s
HHC LR LR
comp=Z,3μm,10.4s
HHC LR LR
comp=Z,4μm,10.4s
NJ2 Nanjing 31.65 253 *e*P **P 14 48 33.3 -0.9**
NJ2 S **S 14 53 41.8 +1.2**
NJ2 pmax pmax
comp=Z,9.0nm,0.8s
NJ2 LR LR
comp=Z,2μm,13.6s
NJ2 LR LR
comp=Z,2μm,16.8s
NJ2 LR LR
comp=Z,3μm,15.2s
ULN Ulaanbaatar 31.70 288 *e*P **P 14 48 34.2 -0.5**
comp=Z,35nm,1.5s
ULN Ulaanbaatar 31.70 288*c e*P **P 14 48 34.2 -0.5**
ULN pmax pmax
comp=Z,5.0nm,0.6s
IM3 Indian Mountai 31.89 37 *e*P **P 14 48 35.1 -0.8**
OHAK Old Harbor 31.91 54 *e*P **P 14 48 35.1 -1.1**
comp=Z,158nm,2.0s
SONA1 Songino Array 32.12 288 *e*P **P 14 48 37.8 -0.6**
SONM Songino Array 32.13 288 P **P 14 48 37.7 -0.7**
comp=Z,4.7nm,0.8s,baz=74,slow=8.0,SNR=29
SONM PcP **PcP 14 51 27.3 +0.7**
comp=Z,1.5nm,0.6s,baz=122,slow=2.6,SNR=4.5
SONM ScP **ScP 14 55 06.6 -0.2**
comp=Z,0.9nm,0.9s,baz=174,slow=3.0,SNR=4.5
SONM LR LR 15 02 49.3
comp=Z,4μm,18.3s,baz=72,slow=38
KDAK Kodiak Island 32.23 53 P **P 14 48 39.2 +0.3**
comp=Z,19nm,0.8s,baz=233,slow=7.2,SNR=11
KDAK LR LR 15 04 53.0
comp=Z,754nm,18.4s,baz=261,slow=42
PPLA Purkeypile 32.27 43 *e*P **P 14 48 40.3 +0.8**
comp=Z,117nm,2.0s
CAST Castle Rocks 32.34 42 *e*P **P 14 48 40.0 0.0**
comp=Z,9.0nm,0.8s
BTO Baotou 32.66 274 *e*P **P 14 48 42.0 -1.1**
BPAW Bear Paw Mtn. 32.86 41 *e*P **P 14 48 45.5 +1.0**
comp=Z,15nm,1.0s
SUA Susitna One 32.94 46 *e*P **P 14 48 45.6 +0.2**
comp=Z,22nm,1.0s
MLY Manley 33.03 39 *e*P **P 14 48 46.2 +0.2**
comp=Z,10nm,1.0s
TRF Thorofare Moun 33.15 42 *e*P **P 14 48 47.6 +0.4**
comp=Z,18nm,0.8s
ZAK Zakamensk 33.30 294 *e*P **P 14 48 47.3 -1.3**
ZAK pmax pmax
comp=Z,13nm,1.4s
RC01 Rabbit Creek A 33.44 46 *e*P **P 14 48 49.3 -0.3**
comp=Z,11nm,0.8s
COLD Coldfoot 33.46 35 *e*P **P 14 48 52.1 +2.5**
comp=Z,11nm,0.9s
PMR Palmer 33.70 45 *e*P **P 14 48 50.8 -1.0**
comp=Z,10nm,0.7s
PMR Palmer 33.70 45 *e*P **P 14 48 50.8 -1.0**
PMR pmax pmax
comp=Z,10.0nm,0.7s

RND Reindeer 33.79 42 *e*P **P 14 48 52.5 -0.2**
comp=Z,28nm,0.9s
RND Reindeer 33.79 42 *e*P **P 14 48 52.5 -0.2**
RND pmax pmax
comp=Z,28nm,0.9s
MDM Murphy Dome 34.09 39 *e*P **P 14 48 56.2 +1.0**
comp=Z,17nm,1.0s
WRH Wood River Hil 34.14 40 *e*P **P 14 48 56.2 +0.6**
comp=Z,128nm,2.0s
TCOL CIGO, UAF Yank 34.24 40 P **P 14 48 56.5 0.0**
baz=269
COLA College 34.25 40 *e*P **P 14 48 57.1 +0.6**
comp=Z,25nm,0.8s
COLA College 34.25 40 *e*P **P 14 48 57.1 +0.6**
COLA College 34.25 40 *e*P **P 14 48 57.1 +0.6**
COLA pmax pmax
comp=Z,25nm,0.8s
CCB Clear Creek Bu 34.26 40 *e*P **P 14 48 57.6 +1.0**
comp=Z,66nm,1.8s
MOY Mondy 34.33 297 *e*P **P 14 48 57.2 -0.3**
POKR Poker Plat Res 34.43 39 P **P 14 48 56.4 -1.7**
baz=269
DHY Denali Highway 34.47 43 *e*P **P 14 48 59.4 +0.8**
comp=Z,12nm,0.8s
SCM Sheep Creek Mo 34.55 45 *e*P **P 14 48 60.0 +0.7**
comp=Z,29nm,1.0s
HDA Harding Lake 34.63 40 *e*P **P 14 49 00.1 +0.3**
comp=Z,17nm,0.6s
HDA Harding Lake 34.63 40 P **P 14 48 59.9 0.0**
baz=270
ILAR Eielson Array 34.66 40 P **P 14 48 59.8 -0.3**
comp=Z,1.6nm,0.6s,baz=251,slow=8.0,SNR=28
ILAR PcP **PcP 14 51 32.3 -1.0**
comp=Z,0.8nm,0.5s,baz=287,slow=3.7,SNR=5.1
ILB Eielson Array 34.66 40 *e*P **P 14 48 59.6 -0.5**
IL1 Eielson Array 34.66 40 *e*P **P 14 49 00.1 0.0**
KLU Klutina 35.25 45 *e*P **P 14 49 06.0 +0.8**
comp=Z,16nm,0.8s
PAX Paxson 35.34 43 *e*P **P 14 49 07.0 +0.9**
comp=Z,7.1nm,0.8s
PAX Paxson 35.34 43 *e*P **P 14 49 07.0 +0.9**
PAX pmax pmax
comp=Z,7.0nm,0.8s
DIV Divide 35.35 46 *e*P **P 14 49 06.4 +0.2**
comp=Z,26nm,0.8s
YHNB Yeheng 35.36 241 *e*P **P 14 49 06.7 +0.1**
comp=Z,164nm,1.9s
FYU Fort Yukon 35.37 37 *e*P **P 14 49 07.0 +0.9**
comp=Z,252nm,1.9s
WHN Wuhan 35.54 255 ⇑P **P 14 49 08.5 +0.5**
WHN pP **pP 14 49 16.0 -3.1**
WHN pmax pmax
comp=Z,50nm,0.5s
WHN LR LR
comp=Z,1μm,9.9s
WHN LR LR
comp=Z,3μm,14.1s
WHN LR LR
comp=Z,3μm,15.9s
RIDG Independ'e Rid 35.58 42 *e*P **P 14 49 08.8 +0.7**
comp=Z,28nm,1.1s
DOT Dot Lake 35.93 42 *e*P **P 14 49 11.2 +0.1**
comp=Z,15nm,0.7s
SCRK Sand Creek 35.94 41 *e*P **P 14 49 11.9 +0.6**
comp=Z,13nm,1.1s
YULB Yu-li 36.39 239 *e*P **P 14 49 16.3 +0.9**
comp=Z,16nm,0.7s
QZH Quanzhou 36.81 244 *e*P **P 14 49 19.5 +0.6**
QZH S **S 14 55 04.5 +4.2**
QZH sS **sS 14 55 21.3 +2.5**
QZH LR LR
comp=Z,760nm,15.6s
QZH LR LR
comp=Z,840nm,12.3s
QZH LR LR
comp=Z,690nm,13.3s
TPUB Ta-pu 36.85 240 *e*P **P 14 49 20.1 +0.8**
comp=Z,49nm,1.0s
XAN Xi'an 36.94 265 P **P 14 49 20.3 +0.3**
XAN pP pP 14 49 30.8 -0.3
XAN pmax pmax
comp=Z,15nm,1.3s
XAN LR LR
comp=Z,670nm,22.0s
XAN LR LR
comp=Z,1μm,17.9s
XAN LR LR
comp=Z,2μm,15.8s
TWG Pinlang 36.97 239 *e*P **P 14 49 20.4 +0.1**
comp=Z,608nm,1.7s
EGAK Eagle 37.11 40 *e*P **P 14 49 20.2 -0.8**
comp=Z,14nm,0.8s
DAWY Dawson 37.95 41 *e*P **P 14 49 28.6 +0.4**
comp=Z,18nm,1.4s
NRIK Noril'sk 38.27 328 P **P 14 49 29.2 -1.6**
comp=Z,1.5nm,0.3s,baz=113,slow=7.7,SNR=2.9
NRIK LR LR 15 07 06.1
comp=Z,1μm,18.4s,baz=80,slow=39
EPYK Eagle Plains 38.79 37 P **P 14 49 36.4 +1.2**
baz=277
HVS Khovu-Aksy 38.83 298 *e*P **P 14 49 36.4 +0.5**
HVS Khovu-Aksy 38.83 298*d i*P **P 14 49 36.4 +0.5**
HVS pmax pmax
comp=Z,29nm,1.3s
ENH Enshi 38.90 260 *e*P **P 14 49 34.7 -1.9**
comp=Z,54nm,1.1s
LZH Lanzhou 39.16 271 ⇑P **P 14 49 37.3 -1.5**
LZH pP pP 14 49 50.5 +0.6
LZH sP sP 14 49 56.3 +1.6
LZH e PP **PnPn 14 51 13.0 +1.3**
LZH S **S 14 55 34.0 -2.1**
LZH sS sS 14 55 57.0 +2.5
LZH pmax pmax
comp=Z,110nm,1.5s
LZH pmax pmax
comp=Z,310nm,6.5s
LZH LR LR
comp=Z,3μm,14.6s
LZH LR LR
comp=Z,2μm,14.1s
LZH LR LR
comp=Z,3μm,16.8s
HYT Haines Junctio 39.38 46 *e*P **P 14 49 41.6 +1.2**
comp=Z,36nm,0.9s
INK Inuvik 39.79 33 P **P 14 49 44.6 +1.2**
comp=Z,7.1nm,0.5s,baz=292,slow=7.0,SNR=12
INK PcP **PcP 14 51 49.6 +0.8**
comp=Z,3.0nm,0.4s,baz=325,slow=3.9,SNR=8.2
INK Inuvik 39.79 33 *e*P **P 14 49 44.7 +1.2**
comp=Z,18nm,1.0s
INK PcP **PcP 14 51 49.6 +0.8**
INK Inuvik 39.79 33 *e*P **P 14 49 44.7 +1.2**
INK 14 51 49.6
INK pmax pmax
comp=Z,18nm,1.0s
GTA Gaotai 40.05 279 ⇑P **P 14 49 46.0 -0.2**
GTA pP pP 14 49 58.0 +0.6
GTA sP sP 14 50 02.3 +0.2
GTA PP **PnPn 14 51 22.5 +0.3**
GTA PcP **PcP 14 51 52.0 +1.6**
GTA ScP **ScP 14 55 37.5 +1.4**
GTA S **S 14 55 49.5 +0.1**
GTA sS sS 14 56 09.8 +1.9
GTA SS **SS 14 58 42.8 -4.5**
GTA ScS **ScS 14 59 51.5 +1.9**
GTA pmax pmax
comp=Z,18nm,1.1s
GTA pmax pmax
comp=Z,290nm,6.0s
GTA LR LR
comp=Z,2μm,15.9s
GTA LR LR
comp=Z,3μm,15.9s
GTA LR LR
comp=Z,4μm,16.8s
WHY Whitehorse 40.67 45 *e*P **P 14 49 52.9 +1.8**
comp=Z,16nm,0.8s
CD2 Chengdu 42.30 265 P **P 14 50 05.5 +0.9**
CD2 pP pP 14 50 16.5 +0.7
CD2 sP sP 14 50 21.5 +1.0
CD2 PP **PP 14 51 43.5 +0.6**
CD2 S **S 14 56 23.0 +0.3**
CD2 SS **SS 14 59 33.0 +1.1**
CD2 pmax pmax
comp=Z,110nm,0.7s
CD2 pmax pmax
comp=Z,300nm,5.0s
CD2 LR LR
comp=Z,2μm,15.9s
CD2 LR LR
comp=Z,1μm,17.4s
CD2 LR LR
comp=Z,2μm,17.9s
ZAA0 Zalesovo Array 42.88 305 *e*P **P 14 50 07.4 -1.6**
comp=Z,7.8nm,0.6s
ZALV Zalesovo Beam 42.88 305 P **P 14 50 07.8 -1.2**
comp=Z,8.3nm,0.5s,baz=62,slow=6.5,SNR=42
ZALV PcP **PcP 14 52 00.1 +0.9**
comp=Z,3.4nm,0.4s,baz=60,slow=2.4,SNR=5.9
ZALV LR LR 15 08 55.7
comp=Z,1μm,19.0s,baz=68,slow=37
ZALV Zalesovo Beam 42.88 305 *e*P **P 14 50 07.4 -1.6**
ZALV PcP **PcP 14 52 00.1 +0.9**
ZALV Zalesovo Beam 42.88 305 *e*P **P 14 50 07.4 -1.6**
ZALV 14 52 00.1
DGZ Jazzator, Alta 43.09 298*c i*P **P 14 50 11.4 +0.4**
DGZ pmax pmax
comp=Z,10.0nm,1.1s
GYA Guiyang 43.28 258 ⇑*i*P **P 14 50 13.3 +0.5**
GYA pP pP 14 50 25.5 +1.5
GYA PP **PP 14 51 56.0 +2.3**
GYA S **S 14 56 36.3 -1.1**
GYA sS sS 14 56 56.8 +0.7
GYA SS **SS 14 59 43.0 -8.5**
GYA pmax pmax
comp=Z,50nm,0.7s
GYA pmax pmax
comp=Z,130nm,5.5s
GYA LR LR
comp=Z,610nm,18.2s
GYA LR LR
comp=Z,570nm,18.5s
GYA LR LR
comp=Z,590nm,18.4s
NVS Novosibirsk 43.40 307 *e*P **P 14 50 12.2 -1.0**
NVS pmax pmax
comp=N,12nm,1.5s
NVS pmax pmax
comp=E,25nm,1.5s
NVS pmax pmax
comp=Z,24nm,1.5s
DLBC Dease Lake 43.70 47 LR LR 15 11 51.8
comp=Z,782nm,18.5s,baz=315,slow=41
DLBC Dease Lake 43.70 47 *e*P **P 14 50 17.6 +1.9**
comp=Z,17nm,0.8s
WMQ Urumqi 45.65 291 P **P 14 50 31.5 +0.1**
WMQ pP pP 14 50 42.8 +0.1
WMQ SS SS 15 00 27.5 -7.9
WMQ pmax pmax
comp=Z,19nm,1.1s
WMQ pmax pmax
comp=Z,140nm,3.8s
WMQ LR LR
comp=Z,3μm,17.5s
WMQ LR LR
comp=Z,2μm,16.1s
WMQ LR LR
comp=Z,4μm,17.5s
QIZ Qiongzhong 46.59 248 P **P 14 50 38.3 -0.6**
QIZ S **S 14 57 24.0 -1.0**
QIZ pmax pmax
comp=Z,330nm,2.5s
QIZ LR LR
comp=Z,730nm,16.7s
QIZ LR LR
comp=Z,950nm,18.6s
QIZ LR LR
comp=Z,1μm,14.7s
KMI Kunming 46.77 260 P **P 14 50 41.5 +0.9**
KMI pP pP 14 50 49.3 -2.7
KMI sP sP 14 50 52.3 -4.3
KMI PP **PP 14 52 27.8 -3.1**
KMI S **S 14 57 25.8 -2.3**
KMI SS **SS 15 00 47.8 -6.8**
KMI pmax pmax
comp=Z,36nm,1.7s
KMI pmax pmax
comp=Z,280nm,4.1s
KMI LR LR
comp=Z,2μm,18.3s
KMI LR LR
comp=Z,960nm,17.8s
KMI LR LR
comp=Z,940nm,19.8s
MK31 Makanchi Array 47.48 297 *e*P **P 14 50 44.3 -1.3**
MK31 Makanchi Array 47.48 297 *e*P **P 14 50 44.3 -1.3**
MKAR Makanchi Array 47.48 297 P **P 14 50 45.1 -0.5**
comp=Z,23nm,0.6s,baz=71,slow=8.9,SNR=254
MKAR LR LR 15 12 22.4
comp=Z,2μm,18.3s,baz=53,slow=38
MKAR Makanchi Array 47.48 297 *e*P **P 14 50 44.4 -1.2**
comp=Z,244nm,0.6s
MKAR Makanchi Array 47.48 297 *e*P **P 14 50 44.4 -1.2**
MKAR pmax pmax
comp=Z,244nm,0.6s
MK01 Makanchi Array 47.48 297 *e*P **P 14 50 44.6 -1.0**
KURK Kurchatov 47.70 303 *e*P **P 14 50 46.4 -0.8**
comp=Z,74nm,0.6s
KURK Kurchatov 47.70 303 *e*P **P 14 50 46.9 -0.3**
KURK Kurchatov 47.70 303 P **P 14 50 46.7 -0.5**
SNR=18
KURK Kurchatov 47.70 303*c e*P **P 14 50 46.9 -0.3**
KURK pmax pmax
comp=Z,62nm,0.6s
YKW3 Yellowknife Ar 49.01 38 *e*P **P 14 50 57.7 +0.6**
comp=Z,81nm,1.8s
YKA Yellowknife Ar 49.04 38 P **P 14 50 58.2 +0.9**
comp=Z,5.4nm,0.6s,baz=294,slow=7.1,SNR=45
YKA Yellowknife Ar 49.04 38 *e*P **P 14 50 58.1 +0.7**
YKB5 Yellowknife Ar 49.04 38 *e*P **P 14 50 57.2 -0.2**
RES Resolute Bay 49.11 19 *e*P **P 14 50 58.9 +1.1**
comp=Z,12nm,0.6s
RES Resolute Bay 49.11 19 *e*P **P 14 50 58.9 +1.1**
RES pmax pmax
comp=Z,12nm,0.6s
PDGK Podgornoye 50.98 295 P **P 14 51 12.0 -0.6**
PDGK pmax pmax
comp=Z,12nm,1.5s
BRVK Borovoye 51.04 309 *e*P **P 14 51 11.8 -0.9**
comp=Z,25nm,0.6s
BRVK Borovoye 51.04 309 *e*P **P 14 51 12.1 -0.5**
BRVK Borovoye 51.04 309 P **P 14 51 12.2 -0.5**
SNR=5.6
BRVK Borovoye 51.04 309*c e*P **P 14 51 12.1 -0.5**
BRVK pmax pmax
comp=Z,15nm,0.5s
SPITS Spitsbergen Ar 51.49 350 LR LR 15 12 57.0
comp=Z,609nm,20.7s,baz=25,slow=36
LSA Lhasa 51.50 273 *e*P **P 14 51 18.1 +1.1**
comp=Z,18nm,0.8s
LSA Lhasa 51.50 273 P **P 14 51 19.1 +2.0**
LSA Lhasa 51.50 273 *e*P **P 14 51 18.1 +1.1**
LSA pmax pmax
comp=Z,18nm,0.8s
NONG Nongkai 51.53 253 P **P 14 51 18.4 +1.7**
comp=Z,0.8nm,1.1s
SKNT Sakolnakorn 51.80 251 P **P 14 51 21.9 +3.1**
comp=Z,14nm,1.8s
PRZ Przheval'sk 52.12 294 *e*P **P 14 51 21.2 +0.1**
comp=Z,40nm,1.4s
PRZ Przheval'sk 52.12 294 *e*P **P 14 51 21.2 +0.1**
PRZ pmax pmax
comp=Z,40nm,1.4s
KDM Kudat 52.30 231 P **P 14 51 23.0 +0.5**
D03D Eldon 52.40 58 P **P 14 51 23.8 +0.9**
baz=303
OTUK Ortayu 52.48 303 P **P 14 51 23.4 -0.1**
OTUK pmax pmax
comp=Z,22nm,1.3s
B05A Bryant 52.56 57 P **P 14 51 25.5 +1.4**
baz=303
PAYA Payao 52.70 257 P **P 14 51 27.6 +2.1**
comp=Z,9.7nm,0.7s,comp=Z,107nm
KDJ Kajisay 53.06 295 *e*P **P 14 51 28.5 +0.4**
comp=Z,15nm,0.6s
KDJ Kajisay 53.06 295 *e*P **P 14 51 28.5 +0.4**
KDJ pmax pmax
comp=Z,15nm,0.6s
E04D Cinebar 53.24 59 P **P 14 51 31.0 +1.8**
baz=304
KKM Kota Kinabalu 53.36 231 P **P 14 51 31.0 +0.6**
UTTA Uttaradit 53.43 255 P **P 14 51 34.3 +3.5**

comp=Z,5.1nm,0.9s
LAMP Lampang 53.46 256 P P 14 51 33.8 +2.7
comp=Z,11nm,1.0s
ULHL Ulahol 53.57 295 P P 14 51 32.2 +0.4
SNR=9.3
TKM2 Tokmak 2 53.57 296 P P 14 51 31.8 0.0
SNR=15
CMMT Chiang Mai 53.70 257 P P 14 51 34.2 +1.4
comp=Z,32nm,1.0s,comp=Z,503nm
CHTO Chiang Mai 53.70 257 eP P 14 51 34.0 +1.2
comp=Z,113nm,1.6s
CHTO Chiang Mai 53.70 257 P P 14 51 34.4 +1.6
SNR=12
CHTO Chiang Mai 53.70 257 eP P 14 51 34.0 +1.2
CHTO pmax pmax
comp=Z,113nm,1.6s
CHTO Chiang Mai 53.70 257 P P 14 51 34.3 +1.5
comp=Z,146nm,1.0s,comp=Z,2µm
SHL Shillong 53.71 269 eP P 14 51 33.4 +0.4
comp=Z,78nm,0.7s
SHL Shillong 53.71 269 eP P 14 51 33.4 +0.4
SHL pmax pmax
comp=Z,78nm,0.7s
SHL Shillong 53.71 269 i P P 14 51 34.0 +1.0
SVE Sverdlovsk 53.71 317⇑ iP P 14 51 32.6 +0.2
SVE eS S 14 59 03.0 -0.4
SVE pmax pmax
comp=Z,12nm,0.7s
SVE MLR MLR
comp=Z,2µm,15.0s
CHAI Chaiyaphum 53.87 252 P P 14 51 35.4 +1.3
comp=Z,12nm,0.7s,comp=Z,101nm
CM31 Chiang Mai Arr 53.96 257 eP P 14 51 36.1 +1.4
CM31 Chiang Mai Arr 53.96 257 P P 14 51 36.6 +1.8
SNR=9.9
CMAR Chiang Mai Arr 53.96 257 P P 14 51 36.5 +1.8
comp=Z,7.4nm,0.6s,baz=33,slow=7.3,SNR=59
CMAR LR LR 15 15 41.4
comp=Z,979nm,19.8s,baz=55,slow=37
CM01 Chiang Mai Arr 53.98 257 eP P 14 51 36.0 +1.1
USP Ospenovka 54.02 297 P P 14 51 35.0 0.0
SNR=21
CHMS Chumysh 54.03 297 P P 14 51 35.2 +0.2
SNR=9.4
B08A Colville Reser 54.04 55 eP P 14 51 36.4 +1.3
comp=Z,9.1nm,0.8s
KBK Karagaybulak 54.11 296 P P 14 51 35.8 0.0
SNR=16
NRN Naryn 54.18 294 eP P 14 51 36.6 +0.1
comp=Z,12nm,1.3s
NRN Naryn 54.18 294 eP P 14 51 36.6 +0.1
NRN pmax pmax
comp=Z,12nm,1.3s
FRU Bishkek 54.21 297 i P P 14 51 36.0 -0.3
FRU pmax pmax
comp=Z,390nm,1.6s
SUKH Sukhothai 54.22 256 P P 14 51 40.0 +3.4
comp=Z,5.3nm,0.8s
KZA Kyzart 54.26 295 P P 14 51 37.9 +0.7
SNR=25
AAK Ala-Archa 54.39 296 P P 14 51 38.1 +0.2
SNR=17
AAK Ala-Archa 54.39 296 eP P 14 51 37.4 -0.4
comp=Z,16nm,0.6s
AAK Ala-Archa 54.39 296 eP P 14 51 37.8 0.0
AAK Ala-Archa 54.39 296 P P 14 51 37.7 -0.1
SNR=12
AAK Ala-Archa 54.39 296 i P P 14 51 38.0 +0.2
SNR=30
AAK Ala-Archa 54.39 296 c iP P 14 51 37.8 0.0
AAK pmax pmax
comp=Z,12nm,0.8s
I03D Drain, OR 54.41 62 P P 14 51 39.5 +1.8
baz=306
FAKI Fak Fak 54.59 208 P P 14 51 39.8 +0.5
G05D Wamic, OR 54.71 59 P P 14 51 41.4 +1.5
baz=306
E07A Sunnyside 54.78 57 eP P 14 51 41.4 +1.0
comp=Z,28nm,1.6s
EKS2 Erkin-Say 54.81 297 P P 14 51 41.0 +0.2
SNR=29
K02D Willamette Mer 54.81 63 P P 14 51 42.5 +1.8
baz=306
ARU Arti 54.88 318 P P 14 51 39.7 -1.3
comp=Z,10nm,0.3s,baz=53,slow=3.6,SNR=41
ARU Arti 54.88 318 eP P 14 51 39.6 -1.3
comp=Z,22nm,0.7s
ARU Arti 54.88 318 c iP P 14 51 39.9 -1.0
ARU 14 52 41.2
ARU 14 53 42.4
ARU S S 14 59 18.7 -0.5
ARU pmax pmax
comp=Z,19nm,0.6s
ARU MLR MLR
comp=Z,1µm,17.0s
I04A Tendick Farm, 54.91 61 P P 14 51 41.9 +0.5
baz=306
C09A Chrisman Ranch 54.95 55 eP P 14 51 42.3 +0.8
comp=Z,65nm,1.9s
D08A Wollman Farm, 55.02 56 eP P 14 51 43.3 +1.3
comp=Z,4.2nm,0.6s
HAWA Hanford 55.06 57 eP P 14 51 44.4 +2.0
comp=Z,7.7nm,0.9s
F07A Phinny Hill Vi 55.12 58 eP P 14 51 45.4 +2.6
comp=Z,12nm,0.8s
L02E Cave Junction 55.16 64 P P 14 51 42.6 -0.6
baz=306
AML Almayashu 55.17 296 P P 14 51 43.7 0.0
SNR=12
SRAK Srakaew 55.25 251 P P 14 51 43.4 -0.7
comp=Z,49nm,0.7s
HUMO Hull Mountain 55.28 63 eP P 14 51 46.0 +1.8
comp=Z,30nm,1.8s
NEW Newport 55.31 54 P P 14 51 46.1 +1.9
NEW Newport 55.31 54 P P 14 51 45.9 +1.7
baz=306
DAG Danmarks Havn 55.32 358⇑ iP P 14 51 43.9 +0.1
comp=Z,9.1nm,0.5s
DAG Danmarks Havn 55.32 358⇑ iP P 14 51 43.9 +0.1
DAG pmax pmax
comp=Z,6.0nm,0.5s
KSH Kashi 55.34 293 P P 14 51 47.0 +2.4
KSH sP sP 14 52 05.0 +4.2
KSH PP PP 14 53 53.0 +4.7
KSH S S 14 59 25.5 -0.5
KSH sS sS 14 59 47.8 +2.7
KSH SS SS 15 03 10.8 +0.6
KSH pmax pmax
comp=Z,100nm,1.5s
KSH pmax pmax
comp=Z,490nm,5.8s
KSH LR LR
comp=Z,4µm,16.0s
KSH LR LR
comp=Z,2µm,12.8s
KSH LR LR
comp=Z,7µm,17.4s
J04D Umpqua Nationa 55.41 62 P P 14 51 46.9 +1.6
baz=306
MRSI Marisa 55.43 222 P P 14 51 46.5 +1.2
comp=Z,32nm,1.9s,comp=Z,557nm
UMPA Umpang Tak 55.65 255 P P 14 51 51.5 +4.5
comp=Z,7.2nm,0.8s,comp=Z,898nm
MNAS Manas 55.67 297 P P 14 51 47.2 +0.2
MNAS pmax pmax
comp=Z,11nm,0.5s
UTHA Uthaitani 55.75 254 P P 14 51 50.0 +2.3
comp=Z,6.0nm,0.8s
E09A Wood Farm, Sta 55.77 57 eP P 14 51 48.7 +1.3
comp=Z,9.7nm,0.8s
J05D Fort Rock, OR 55.90 61 P P 14 51 50.9 +2.2
baz=307
L04D Klamath Falls 55.90 63 P P 14 51 51.1 +2.4
baz=307
YBH Yreka Blue Hor 55.95 64 P P 14 51 51.5 +2.5
comp=Z,5.7nm,0.8s,baz=323,slow=4.7,SNR=2.1
YBH Yreka Blue Hor 55.95 64 eP P 14 51 51.1 +2.1
comp=Z,61nm,1.9s
YBH Yreka Blue Hor 55.95 64 eP P 14 51 51.1 +2.1
YBH pmax pmax
comp=Z,61nm,1.9s
SANI Sanana 56.01 216 P P 14 51 48.9 -0.6
M02C Callahan 56.07 64 P P 14 51 51.8 +1.9
baz=307
JIRN Jiri 56.13 275 eP P 14 51 51.9 +1.1
comp=Z,104nm,0.4s
GUN Gumba 56.18 275 eP P 14 51 51.9 +0.8
comp=Z,89nm,0.4s
RAMN Ramite 56.33 274 eP P 14 51 53.0 +1.0
N02D Trinity Center 56.41 64 P P 14 51 53.8 +1.6
baz=307
M04C Macdoel 56.44 63 P P 14 51 54.5 +2.0
baz=307
KK31 Karatay Array 56.48 299 eP P 14 51 52.1 -0.5
KK31 Karatay Array 56.48 299 eP P 14 51 52.1 -0.5
KKAR Karatay Array 56.48 299 eP P 14 51 52.1 -0.5
KKAR Karatay Array 56.48 299 eP P 14 51 52.1 -0.5
SFK Sufi-Kurgan 56.55 294 P P 14 51 53.2 -0.3
SFK pmax pmax
comp=Z,7.0nm,0.5s
APA Apatity 56.59 337⇓ iP P 14 51 49.5 -3.5
APA pmax pmax
comp=Z,4.0nm,0.9s
APA MLR MLR
comp=Z,2µm,15.0s
F10A Beach Ranch, E 56.60 57 eP P 14 51 55.7 +2.1
comp=Z,35nm,1.7s
KKN Kakani 56.66 276 eP P 14 51 55.3 +1.0
comp=Z,55nm,0.5s
PKI Pulchoki 56.71 275 eP P 14 51 55.6 +0.7
comp=Z,40nm,0.4s
PKIN Phulchoki 56.72 275 eP P 14 51 55.6 +0.8
comp=Z,31nm,0.4s
WDC Whiskeytown Da 56.75 65 eP P 14 51 55.8 +1.2
comp=Z,6.6nm,0.8s
APSI Ampana 56.79 221 P P 14 51 56.0 +0.9
O02D Mt. Diablo Mer 56.84 65 P P 14 51 56.5 +1.2
baz=308
DMN Daman 56.89 276 eP P 14 51 57.3 +1.2
comp=Z,58nm,0.4s
PRGR Permogore 56.91 327 eP P 14 51 53.7 -1.7
PRGR pmax pmax
comp=Z,13nm,0.7s
GKN Gorkha 56.95 276 eP P 14 51 57.6 +1.3
comp=Z,1.9nm,0.4s
ARCES ARCESS Array B 56.98 341 P P 14 51 53.0 -2.8
comp=Z,3.7nm,0.5s,baz=44,slow=7.1,SNR=26
ARCES LR LR 15 21 44.3
comp=Z,84nm,18.8s,baz=16,slow=42
ARCES ARCESS Array B 56.98 341 eP P 14 51 53.7 -2.1
ARE0 ARCESS Array S 56.98 341 eP P 14 51 55.0 -0.7
JTMT Jette 57.15 53 eP P 14 51 57.7 +0.2
comp=Z,12nm,0.9s
BMO Blue Mountains 57.23 58 eP P 14 51 58.0 0.0
comp=Z,40nm,1.8s
BMO Blue Mountains 57.23 58 eP P 14 51 58.0 0.0
BMO pmax pmax
comp=Z,40nm,1.8s
MOD Modoc Plateau 57.28 62 eP P 14 51 58.7 +0.2
comp=Z,9.8nm,0.9s
DANN Dangsing 57.30 277 eP P 14 52 00.3 +1.3
comp=Z,194nm,0.5s
O03E Paynes Creek 57.37 64 P P 14 51 59.4 +0.4
baz=308
J08A Circle Bar Ran 57.47 60 eP P 14 52 02.4 +2.6
comp=Z,9.4nm,0.9s
PHET Kaeng Krachan 57.61 252 P P 14 52 04.4 +3.5
comp=Z,9.0nm,0.8s
KOLN Koldanda 57.79 277 eP P 14 52 03.4 +1.1
comp=Z,67nm,0.4s
KTK1 Kautokeino 57.89 342 eP P 14 52 01.6 -0.6
MSO Missoula 57.89 54 eP P 14 52 03.6 +0.9
comp=Z,12nm,0.9s
MSO Missoula 57.89 54 P P 14 52 04.3 +1.6
baz=308
WVOR Wild Horse Val 57.94 61 eP P 14 52 03.7 +0.6
comp=Z,8.9nm,0.9s
WVOR Wild Horse Val 57.94 61 eP P 14 52 03.7 +0.6
WVOR pmax pmax
comp=Z,9.0nm,0.9s
PYUN Piuthan 57.98 278 eP P 14 52 04.6 +1.0
comp=Z,43nm,0.5s
ORV Oroville 58.01 65 eP P 14 52 03.8 +0.4
comp=Z,6.8nm,0.8s
ORV Oroville 58.01 65 eP P 14 52 03.8 +0.4
ORV pmax pmax
comp=Z,7.0nm,0.8s
TRO Tromso 58.24 343 eP P 14 52 04.4 -0.2
SBUM Sibu 58.50 233 P P 14 52 08.0 +0.9
BEKR Beckworth 58.50 64 eP P 14 52 08.2 +1.1
comp=Z,47nm,2.0s
ABKAR Akbulak array 58.55 310 eP P 14 52 06.2 -0.9
AFDM Forest Hills D 58.70 65 eP P 14 52 09.5 +1.1
comp=Z,8.4nm,1.3s
AKTO Aktyubinsk 58.78 312 P P 14 52 07.7 -1.0
comp=Z,4.4nm,0.5s,baz=62,slow=8.8,SNR=17
FFC Flin Flon 58.85 41 eP P 14 52 09.7 +0.6
comp=Z,15nm,0.8s
FFC Flin Flon 58.85 41 eP P 14 52 10.7 +1.6
FFC Flin Flon 58.85 41 ceP P 14 52 10.7 +1.6
RUBR Rubicon Trail 59.14 65 epP pP 14 52 24.2 +1.0
SUMG Summit 59.23 5 eP P 14 52 11.9 0.0
comp=Z,73nm,0.6s
SUMG Summit 59.23 5⇑ iP P 14 52 13.2 +1.2
comp=Z,188nm,0.6s
SUMG Summit 59.23 5 eP P 14 52 11.9 0.0
SUMG pmax pmax
comp=Z,73nm,0.6s
VCNR Virginia City 59.29 64 eP P 14 52 13.2 +0.6
comp=Z,9.6nm,0.9s
EGMT Eagleton 59.38 51 eP P 14 52 12.8 -0.2
comp=Z,88nm,1.9s
EGMT Eagleton 59.38 51 P P 14 52 14.5 +1.6
baz=309
PNTR Pine Nut 59.45 64 eP P 14 52 13.9 +0.1
comp=Z,21nm,0.7s
DLMT Dillon 59.54 55 eP P 14 52 13.7 -0.5
comp=Z,8.4nm,0.8s
KLMR Klimovskoe 59.60 329 eP P 14 52 12.2 -1.9
KLMR pmax pmax
comp=Z,13nm,0.9s
KLMR Klimovskoe 59.60 329 eP P 14 52 12.3 -1.9
KLMR AMP 14 52 15.7
comp=Z,13nm,0.8s
CMB Columbia Colle 59.64 66 eP P 14 52 13.9 -0.9
comp=Z,29nm,1.8s
CMB Columbia Colle 59.64 66 eP P 14 52 13.9 -0.9
CMB pmax pmax
comp=Z,29nm,1.8s
HLID Hailey 59.66 57 eP P 14 52 15.7 +0.5
comp=Z,51nm,1.9s
HLID Hailey 59.66 57 P P 14 52 15.6 +0.5
baz=309
YERR Yerington 59.73 64 eP P 14 52 14.1 -1.5
comp=Z,12nm,1.0s
MCMT McKenzie Canyo 59.74 55 eP P 14 52 14.6 -1.1
WAKR Walker 59.92 65 eP P 14 52 16.2 -0.8
comp=Z,7.7nm,0.8s
BOZ Bozeman (W) 59.92 54 eP P 14 52 16.6 -0.1
comp=Z,17nm,0.8s
BOZ Bozeman (W) 59.92 54 eP P 14 52 16.7 -0.1
BOZ pmax pmax
comp=Z,17nm,0.8s
BOZ Bozeman (W) 59.92 54 P P 14 52 17.2 +0.4
baz=310
KSM Kuching 60.34 234 eP P 14 52 20.2 +0.4
comp=Z,72nm,1.7s
KSM Kuching 60.34 234 P P 14 52 21.0 +1.2
SPSI Sidrap Palu 60.34 222 P P 14 52 20.7 +0.9
comp=Z,14nm,1.5s
KVN Kaiserville 60.37 63 eP P 14 52 21.0 +0.9
comp=Z,9.1nm,0.9s
KVN Kaiserville 60.37 63 eP P 14 52 21.0 +0.9
KVN pmax pmax
comp=Z,9.0nm,0.9s
RYN Ryan 60.39 64 eP P 14 52 20.6 +0.4
comp=Z,8.7nm,0.8s
STEI Steigen 60.40 344 eP P 14 52 19.6 +0.1
OUL Oulu 60.44 338 P P 14 52 20.2 +0.4
OUL pmax pmax
comp=Z,26nm,0.5s
QLMT Earthquake Lak 60.51 55 eP P 14 52 21.5 +0.6
BNSI Bone 60.58 221 P P 14 52 22.1 +0.7
NV01 Mina Array Sit 60.65 64 eP P 14 52 21.8 -0.2
NVAR Mina Array Bea 60.65 64 P P 14 52 23.2 +1.2
comp=Z,6.5nm,0.8s,baz=289,slow=7.0,SNR=20
NVAR LR LR 15 14 17.7
comp=Z,190nm,21.7s,baz=288,slow=32
JOF Joensuu 60.68 334 P P 14 52 23.0 +1.5
JOF pmax pmax
comp=Z,18nm,0.7s
YHB Horse Butte 60.69 55 eP P 14 52 22.7 +0.5
comp=Z,20nm,0.8s
NIL Nilore 60.71 289 eP P 14 52 21.6 -0.6
comp=Z,56nm,1.2s
NIL Nilore 60.71 289 eP P 14 52 21.6 -0.6
NIL pmax pmax
comp=Z,56nm,1.2s
NV11 Mina Array Sit 60.74 64 eP P 14 52 22.6 +0.1
comp=Z,1.9nm,1.8s
YHH Holmes Hill 60.86 54 eP P 14 52 23.8 +0.4
comp=Z,14nm,0.8s
YMR Madison River 60.87 55 eP P 14 52 24.1 +0.6
comp=Z,13nm,0.8s
STKI Sintang 60.90 232 P P 14 52 25.8 +2.2
YFT Old Faithful 61.08 55 eP P 14 52 25.0 +0.2
comp=Z,18nm,1.0s
H17A Grant Village 61.26 55 P P 14 52 26.6 +0.5
baz=311
BKSI Bulukumba 61.40 220 P P 14 52 27.7 +0.8
NDI New Delhi 61.40 282 eP P 14 52 26.0 -0.9
RLMT Red Lodge 61.50 53 eP P 14 52 28.2 +0.6
comp=Z,18nm,1.1s
RLMT Red Lodge 61.50 53 P P 14 52 28.6 +0.9
baz=311
FXWY Fox Creek 61.51 56 eP P 14 52 28.2 +0.4
comp=Z,6.0nm,0.8s
MOOW Moose Ponds 61.59 55 eP P 14 52 28.9 +0.6
comp=Z,33nm,1.8s
TPAW Teton Pass 61.64 56 eP P 14 52 29.2 +0.5
comp=Z,34nm,1.4s
SCO Scoresbysund 61.69 359 eP P 14 52 28.9 +0.7
comp=Z,15nm,0.7s
SCO Scoresbysund 61.69 359⇑ iP P 14 52 29.3 +1.1
comp=Z,15nm,0.7s
SCO Scoresbysund 61.69 359 eP P 14 52 28.9 +0.7
SCO pmax pmax
comp=Z,15nm,0.7s
HVU Hansel Valley 61.73 58 eP P 14 52 30.1 +1.0
comp=Z,28nm,1.9s
HVU Hansel Valley 61.73 58 eP P 14 52 30.2 +1.0
HVU pmax pmax
comp=Z,28nm,1.9s
REDW Red Top Meadow 61.78 56 eP P 14 52 30.9 +1.3
comp=Z,56nm,1.6s
DGMT Dagmar 61.92 48 eP P 14 52 30.6 +0.4
comp=Z,40nm,0.8s
DGMT Dagmar 61.92 48 P P 14 52 31.0 +0.8
baz=312
AHID Auburn Hatcher 62.03 56 eP P 14 52 31.8 +0.5
comp=Z,19nm,1.7s
CWC Cottonwood Cre 62.07 66 P P 14 52 32.3 +0.7
baz=311
LAO LASA Array 62.07 50 eP P 14 52 31.8 +0.5
comp=Z,19nm,0.8s
LAO LASA Array 62.07 50 P P 14 52 32.6 +1.3
baz=312
MOR8 Moi Rana 62.10 343 eP P 14 52 29.3 -1.8
GRAC Grapevine Rang 62.14 65 P P 14 52 32.9 +1.0
baz=311
SPUT South Promonto 62.22 58 eP P 14 52 33.1 +0.6
comp=Z,6.5nm,0.9s
R11A Troy Canyon, C 62.33 63 eP P 14 52 33.5 +0.2
comp=Z,44nm,2.0s
R11A Troy Canyon, C 62.33 63 P P 14 52 34.2 +0.9
baz=311
ISA Isabella, Lake 62.34 67 eP P 14 52 33.3 +0.1
comp=Z,25nm,1.8s
ISA Isabella, Lake 62.34 67 eP P 14 52 33.3 +0.1
ISA pmax pmax
comp=Z,25nm,1.8s
ISA Isabella, Lake 62.34 67 P P 14 52 34.2 +1.0
baz=311
MPMC Manual Prospec 62.68 66 P P 14 52 36.2 +0.6
baz=311
DUG Dugway, Tooele 62.74 59 eP P 14 52 36.5 +0.5
comp=Z,27nm,1.4s
DUG Dugway, Tooele 62.74 59 eP P 14 52 36.5 +0.5
DUG Dugway, Tooele 62.74 59 eP P 14 52 36.5 +0.5
DUG pmax pmax
comp=Z,27nm,1.4s
DUG Dugway, Tooele 62.74 59 P P 14 52 36.7 +0.7
baz=311
KBL Kabul 62.77 292 eP P 14 52 35.0 -1.3
comp=Z,16nm,0.6s
KBL Kabul 62.77 292 eP P 14 52 35.0 -1.3
KBL pmax pmax
comp=Z,16nm,0.6s
FURC Furnace Creek, 62.79 65 P P 14 52 38.0 +1.9
baz=311
KULM Kulim 62.84 245 P P 14 52 37.0 +0.3
TPNV Topopah Spring 62.85 64 eP P 14 52 37.7 +1.0
comp=Z,10nm,0.9s
TPNV Topopah Spring 62.85 64 eP P 14 52 37.7 +1.0
TPNV pmax pmax
comp=Z,10.0nm,0.9s
TPNV Topopah Spring 62.85 64 P P 14 52 37.3 +0.6
baz=311
BW06 Boulder Array 62.89 55 P P 14 52 37.0 0.0
baz=312
PD31 Pinedale Array 62.89 55 eP P 14 52 36.9 -0.1
PDAR Pinedale Array 62.89 55 P P 14 52 37.8 +0.7
comp=Z,1.9nm,0.8s,baz=284,slow=1.9,SNR=16
PDAR Pinedale Array 62.89 55 eP P 14 52 37.0 0.0
LRMC Laurel Mtn Rad 62.94 66 P P 14 52 37.4 0.0
baz=312
EDW2 Edwards Air Fo 63.15 67 P P 14 52 39.8 +1.2
baz=312
NLU North Lily Min 63.33 59 eP P 14 52 40.0 0.0
comp=Z,6.6nm,1.8s
FIA1 FINESS Array S 63.35 335 eP P 14 52 39.1 -0.3
comp=Z,31nm,1.1s
FINES FINESS Array B 63.35 335 P P 14 52 39.3 -0.1
comp=Z,11nm,0.5s,baz=40,slow=7.3,SNR=73
FINES LR LR 15 22 53.0
comp=Z,1µm,20.0s,baz=25,slow=38
FINES FINESS Array B 63.35 335 eP P 14 52 39.5 +0.1
SFJD Kangerlussuaq 63.56 11 i P P 14 52 41.1 +0.4
comp=Z,16nm,0.5s
SFJD Kangerlussuaq 63.56 11 i P P 14 52 41.1 +0.4
SFJD pmax pmax
comp=Z,16nm,0.5s
GSC Goldstone, Bar 63.60 66 eP P 14 52 43.8 +2.2
comp=Z,4.8nm,0.8s
GSC Goldstone, Bar 63.60 66 eP P 14 52 43.8 +2.2
GSC pmax pmax
comp=Z,5.0nm,0.8s
GSC Goldstone, Bar 63.60 66 P P 14 52 41.4 -0.2
baz=312
MYKOM Kota Tinggi 63.72 240 eP P 14 52 44.2 +1.7
comp=Z,43nm,1.7s
MYKOM Kota Tinggi 63.72 240 P P 14 52 43.0 +0.5
BFSC Mount Baldy Ra 63.78 67 P P 14 52 43.3 +0.4
baz=312
EDFI Ende, Flores 63.83 217 P P 14 52 43.8 +0.6
TPRI Tanjung Pinang 64.03 239 P P 14 52 46.5 +1.9
NSS Namsos 64.04 343 eP P 14 52 43.8 -0.1
TUQ Turquoise Moun 64.05 65 P P 14 52 44.9 +0.3
baz=312
CCUT Cedar City 64.17 62 eP P 14 52 46.7 +1.1
comp=Z,6.6nm,0.9s
HEC Hector, Ludlow 64.20 66 P P 14 52 45.7 +0.1
baz=312
MSU Marysvale 64.23 60 eP P 14 52 46.4 +0.5
MSU Marysvale 64.23 60 eP P 14 52 46.4 +0.5
MURC Murrieta 64.49 68 P P 14 52 48.8 +1.4
baz=312
LCMT Little Creek M 64.60 62 eP P 14 52 48.5 +0.2
comp=Z,14nm,1.1s
K22A Casper 64.62 54 P P 14 52 49.1 +0.7
baz=313
ULM Lac du Bonnet 64.63 42 P P 14 52 48.5 +0.5
comp=Z,5.9nm,0.6s,baz=316,slow=7.6,SNR=13
ULM LR LR 15 22 28.5
comp=Z,575nm,20.5s,baz=300,slow=37
ULM Lac du Bonnet 64.63 42 eP P 14 52 48.2 +0.2
comp=Z,18nm,0.8s
ULM Lac du Bonnet 64.63 42 eP P 14 52 48.2 +0.2
ULM pmax pmax
comp=Z,19nm,0.8s
GMRC Granite Mounta 64.64 66 P P 14 52 49.1 +0.5
baz=312
LDFC Landfair 64.78 65 eP P 14 52 49.4 0.0
comp=Z,16nm,0.9s
SRU San Rafael Swe 64.78 59 eP P 14 52 49.8 +0.3
comp=Z,14nm,0.8s
SRU San Rafael Swe 64.78 59 eP P 14 52 49.8 +0.3
SRU pmax pmax
comp=Z,14nm,0.8s
KNB Kanab 64.85 62 eP P 14 52 50.2 +0.3

comp=Z,23nm,1.2s
KNB Kanab 64.85 62 *e*P **P 14 52 50.2 +0.3**
KNB pmax pmax
comp=Z,23nm,1.2s
OBN Obninsk 64.91 326 *e*P **P 14 52 49.3 -0.4**
OBN Obninsk 64.91 326⇓ *e*P **P 14 52 49.8 +0.1**
OBN *e* 14 53 23.3
OBN *e* 14 55 11.0
OBN *e*S **S 15 01 20.8 -7.1**
OBN pmax pmax
comp=Z,10.0nm,1.0s
OBN MLR MLR
comp=Z,1µm,18.0s
FRD Ford Ranch, An 64.93 67 P **P 14 52 51.5 +1.2**
baz=312
RSSD Black Hills 64.94 51 *e*P **P 14 52 50.6 +0.2**
comp=Z,20nm,0.8s
RSSD Black Hills 64.94 51 *e*P **P 14 52 50.6 +0.2**
RSSD pmax pmax
comp=Z,20nm,0.8s
RSSD Black Hills 64.94 51 P **P 14 52 51.2 +0.8**
baz=314
BELC Belle Mtn. Jos 64.96 66 P **P 14 52 51.6 +0.9**
baz=312
IRM Iron Mountain 65.38 66 P **P 14 52 53.1 -0.1**
baz=313
PLAI Plampang 65.55 221 P **P 14 52 55.1 +0.7**
VSU Vasula 65.59 333 *e*P **P 14 52 54.8 +0.7**
VSU IAmb IAmb 14 52 55.7
comp=Z,52nm,0.5s
PPBI Pangkal Pinang 65.65 236 P **P 14 52 57.6 +2.5**
VRH Novokhopyorsk 65.78 321 *e*P **P 14 52 54.0 -1.5**
VRH pmax pmax
comp=Z,30nm,0.7s
VRH MLR MLR
comp=Z,1µm,21.0s
LPSR Galich'ya Gora 65.89 323 *e*P **P 14 52 55.5 -0.7**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
PV09 Paradox Valley 66.00 59 *e*P **P 14 52 57.5 +0.1**
AGMN Agassiz Nation 66.03 44 *e*P **P 14 52 57.9 +0.7**
comp=Z,19nm,0.9s
AGMN Agassiz Nation 66.03 44 P **P 14 52 57.6 +0.4**
baz=316
PV21 Cone Mtn., Par 66.04 59 *e*P **P 14 52 58.0 +0.3**
comp=Z,14nm,0.9s
PV10 Paradox Valley 66.13 59 *e*P **P 14 52 58.7 +0.4**
N23A Red Feather La 66.14 55 *e*P **P 14 52 58.4 +0.1**
comp=Z,27nm,1.4s
N23A Red Feather La 66.14 55 P **P 14 52 59.2 +0.9**
baz=314
PV14 Lion Creek, Pa 66.14 59 *e*P **P 14 52 58.6 +0.3**
comp=Z,15nm,0.9s
PV22 Blue Mesa, Par 66.17 58 *e*P **P 14 52 59.0 +0.6**
comp=Z,11nm,0.8s
PV20 West Nyswonger 66.20 59 *e*P **P 14 52 58.3 -0.4**
comp=Z,13nm,0.8s
PV19 Morning Glory 66.21 59 *e*P **P 14 52 59.2 +0.4**
comp=Z,12nm,0.8s
PV17 East Wray Mesa 66.25 59 *e*P **P 14 52 59.6 +0.7**
comp=Z,23nm,0.7s
PV16 Nyswonger Mesa 66.25 59 *e*P **P 14 52 59.7 +0.7**
comp=Z,96nm,1.9s
MLSI Meulaboh, Aceh 66.25 248 P **P 14 52 59.2 +0.2**
PV11 David Mesa, Pa 66.28 59 *e*P **P 14 52 59.7 +0.6**
comp=Z,18nm,0.7s
PV18 Skein Mesa, Pa 66.30 59 *e*P **P 14 52 59.1 -0.2**
comp=Z,14nm,0.8s
PV05 Paradox Valley 66.30 59 *e*P **P 14 52 59.6 +0.2**
PV12 Saucer Basin, 66.31 59 *e*P **P 14 53 00.2 +0.8**
comp=Z,124nm,2.0s
GLA Glamis 66.32 66 P **P 14 53 00.9 +1.6**
baz=313
PV03 Paradox Valley 66.33 59 *e*P **P 14 52 59.8 +0.3**
PV13 Radium Mtn., P 66.41 59 *e*P **P 14 53 00.2 +0.2**
comp=Z,21nm,1.0s
PV02 Paradox Valley 66.42 59 *e*P **P 14 53 00.2 +0.1**
comp=Z,53nm,1.8s
WUAZ Wupatki 66.73 62 P **P 14 53 03.8 +1.7**
baz=314
SMCO Snowmass 66.75 57 *e*P **P 14 53 01.7 -0.8**
comp=Z,9.0nm,0.8s
VSR Storozhevoye 66.84 322 *e*P **P 14 53 02.5 +0.2**
VSR pmax pmax
comp=Z,8.0nm,0.5s
VSR MLR MLR
comp=Z,1µm,20.0s
DOMB Dombas 66.86 343 *e*P **P 14 53 02.3 0.0**
VORD Divnogorie 66.98 322 *e*P **P 14 53 02.6 -0.5**
VORD pmax pmax
comp=Z,8.0nm,0.6s
GEYT Alibeck 67.01 301 P **P 14 53 02.9 -0.7**
comp=Z,7.0nm,0.5s,baz=72,slow=9.5,SNR=21
GEYT LR LR 15 24 53.1
comp=Z,757nm,18.8s,baz=315,slow=38
GYA0B ALIBECK ARRAY 67.01 301 *e*P **P 14 53 02.8 -0.8**
comp=Z,14nm,0.6s
ISCO Idaho Springs 67.08 56 *e*P **P 14 53 04.4 0.0**
comp=Z,10nm,0.8s
ISCO Idaho Springs 67.08 56 *e*P **P 14 53 04.4 0.0**
ISCO pmax pmax
comp=Z,11nm,0.8s
ISCO Idaho Springs 67.08 56 P **P 14 53 04.7 +0.4**
baz=314
AKN Aaknes 67.12 344 *e*P **P 14 53 05.8 +1.9**
NC303 NORSAR Array S 67.14 342 *e*P **P 14 53 03.7 -0.3**
NC405 NORSAR Array S 67.17 342 *e*P **P 14 53 04.3 +0.1**
NC204 NORSAR Array S 67.22 342 *e*P **P 14 53 04.3 -0.3**
MVCO Mesa Verde 67.25 59 *e*P **P 14 53 07.4 +2.0**
comp=Z,9.8nm,0.9s
MVCO Mesa Verde 67.25 59 P **P 14 53 05.0 -0.4**
baz=314
NB201 NORSAR Array S 67.32 342 *e*P **P 14 53 05.2 0.0**
NB2 NORSAR Subarra 67.34 342 P **P 14 53 05.1 -0.2**
comp=Z,92nm,1.7s,baz=25,slow=6.2
NB2 NORSAR Subarra 67.34 342 P **P 14 53 05.1 -0.2**
baz=25,slow=6.2
NOA NORSAR Array B 67.34 342 P **P 14 53 05.5 +0.1**
comp=Z,7.4nm,0.6s,baz=26,slow=6.3,SNR=46
NOA LR LR 15 27 19.5
comp=Z,890nm,19.0s,baz=35,slow=40
NBO00 NORSAR Array S 67.44 342 *e*P **P 14 53 05.7 -0.3**
NBO00 NORSAR Array S 67.44 342 *e*P **P 14 53 06.6 +0.7**
NC602 NORSAR Array S 67.55 342 *e*P **P 14 53 06.6 0.0**
HFS Hagfors 67.62 340 P **P 14 53 08.0 +0.9**
comp=Z,22nm,0.4s,baz=66,slow=5.0,SNR=225
HFS Hagfors 67.62 340 P **P 14 53 08.0 +0.9**
S22A 4UR Ranch, Cre 67.83 58 *e*P **P 14 53 11.8 +2.6**
comp=Z,43nm,1.8s
S22A 4UR Ranch, Cre 67.83 58 P **P 14 53 09.9 +0.8**
baz=314
GSI Gunungsitoli 67.85 246 *e*P **P 14 53 10.0 +0.9**
comp=Z,148nm,1.9s
GSI Gunungsitoli 67.85 246 P **P 14 53 11.0 +1.9**
Q24A Divide 67.92 56 P **P 14 53 11.3 +1.5**
baz=315
PCJI Pacitan 68.09 228 P **P 14 53 10.7 +0.2**
IDID Didziasalis 68.18 331 *e*P **P 14 53 11.4 +0.8**
IDID IAmb IAmb 14 53 11.8
comp=Z,6.4nm,0.7s
HYA Hoyanger 68.20 344 *e*P **P 14 53 11.7 +1.1**
OGNE Ogallala 68.22 53 *e*P **P 14 53 11.5 +0.2**
comp=Z,37nm,0.8s
OGNE Ogallala 68.22 53 P **P 14 53 12.1 +0.8**
baz=316
HYB Hyderabad 68.26 272 *i*P **P 14 53 13.0 +1.2**
EYMN Ely 68.28 42 *e*P **P 14 53 11.1 -0.3**
comp=Z,26nm,0.9s
EYMN Ely 68.28 42 P **P 14 53 11.8 +0.4**
baz=319
214A Organ Pipe Nat 68.31 66 P **P 14 53 12.1 +0.2**
baz=314
IIGN Ignalina 68.32 331 *e*P **P 14 53 12.3 +0.8**
IIGN IAmb IAmb 14 53 12.7
comp=Z,18nm,0.5s
NACGM Naroch 68.51 331 *e* **P 14 53 12.0 -0.7**
NACGM *e*LQ LQ 15 22 18.0
NACGM *e*LR LR 15 26 20.0
SUE Sulen 68.56 345 *e*P **P 14 53 13.6 +0.7**
SDCO Great Sand Dun 68.58 57 *e*P **P 14 53 13.3 -0.6**
comp=Z,4.1nm,0.8s
SDCO Great Sand Dun 68.58 57 P **P 14 53 14.0 +0.2**
baz=315
MDSI Maura Dua 68.66 236 P **P 14 53 14.0 -0.1**
KONO Kongsberg 68.94 342 *ce*P **P 14 53 15.8 +0.5**
KONO pmax pmax
comp=Z,42nm,1.7s
KONO Kongsberg 68.94 342 *e*P **P 14 53 16.4 +1.1**
ECSD EROS Data Cent 68.99 47 *e*P **P 14 53 15.4 -0.6**
comp=Z,24nm,0.7s
ECSD EROS Data Cent 68.99 47 P **P 14 53 16.1 +0.2**
baz=317
ASK Askoy 69.02 345 *e*P **P 14 53 16.7 +1.0**
BER Bergen 69.09 344 *e*P **P 14 53 17.3 +1.1**
E38A The Farm, Brul 69.26 43 P **P 14 53 17.8 +0.3**
baz=319
ODD1 Odda 69.29 344 *e*P **P 14 53 18.7 +1.2**
TUC Tucson 69.30 65 P **P 14 53 18.8 +0.7**
baz=315
F37A Hinrichs Farm, 69.43 44 P **P 14 53 20.2 +1.6**
baz=319
F38A Pierce - Schro 69.60 43 P **P 14 53 20.3 +0.7**
baz=319
T25A Trinidad 69.62 57 *e*P **P 14 53 19.9 -0.3**
comp=Z,13nm,1.1s
T25A Trinidad 69.62 57 P **P 14 53 21.1 +0.9**
baz=316
GOF Gofitskoye 69.77 316⇓ *i*P **P 14 53 21.9 +1.2**
GOF pmax pmax
comp=Z,20nm,0.8s
BLS5 Blasjo 69.78 344 *e*P **P 14 53 21.7 +1.2**
E39A Mellen 69.88 42 P **P 14 53 21.1 -0.3**
baz=320
BGNE Belgrade 69.92 50 P **P 14 53 22.6 +0.9**
baz=317
ANMO Albuquerque 70.01 60 P **P 14 53 21.9 -0.6**
comp=Z,2.3nm,0.8s,baz=294,slow=8.1,SNR=7.7
ANMO LR LR 15 20 46.8
comp=Z,201nm,20.9s,baz=316,slow=33
ANMO Albuquerque 70.01 60 *e*P **P 14 53 24.5 +1.9**
comp=Z,7.4nm,0.9s
ANMO Albuquerque 70.01 60 *ce*P **P 14 53 22.3 -0.3**
ANMO pmax pmax
comp=Z,6.0nm,0.8s
ANMO Albuquerque 70.01 60 P **P 14 53 22.9 +0.4**
baz=315
F39A Loretta 70.07 43 P **P 14 53 23.0 +0.5**
baz=320
E40A Wakefield 70.12 42 P **P 14 53 22.8 0.0**
baz=320
WRAB Tennant Creek 70.23 201 *e*P **P 14 53 23.7 0.0**
comp=Z,15nm,0.9s
WRAB Tennant Creek 70.23 201 *ce*P **P 14 53 25.0 +1.3**
WRAB pmax pmax
comp=Z,21nm,2.5s
WRA Warramunga Arr 70.25 201 P **P 14 53 23.9 +0.2**
comp=Z,4.2nm,0.8s,baz=17,slow=6.4,SNR=22
WRA LR LR 15 21 13.9
comp=Z,259nm,21.9s,baz=25,slow=33
WRA Warramunga Arr 70.25 201 *i*P **P 14 53 24.2 +0.4**
WRA pmax pmax
comp=Z,4.0nm,0.8s
SUW Suwalki 70.40 332 *e*P **P 14 53 24.5 +0.1**
SUW Suwalki 70.40 332 *e*P **P 14 53 22.1 -2.3**
comp=Z,40nm,0.6s
SUW Suwalki 70.40 332 *e*P **P 14 53 22.1 -2.3**
SUW pmax pmax
comp=Z,40nm,0.6s
F40A Park Falls 70.43 42 P **P 14 53 24.2 -0.5**
baz=320
G39A Holcombe 70.43 43 P **P 14 53 24.4 -0.4**
baz=320
E41A Kenton 70.52 41 P **P 14 53 25.5 +0.2**
baz=320
DZM Mont Dzumac 70.61 169 *e*S **S 15 02 41.0 +4.0**
comp=Z,142nm,24.8s
DZM Mont Dzumac 70.61 169 *e*LR LR 15 14 52.9
comp=Z,832nm,23.9s
POO Poona 70.62 276 *ex* **P 14 53 26.0 -0.3**
SNART Snartemo 70.64 343 *e*P **P 14 53 27.1 +1.3**
NCK Nalchik 70.68 314 *i*P **P 14 53 26.5 +0.2**
NCK pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 70.77 315 *e*P **P 14 53 26.1 -0.9**
comp=Z,13nm,0.8s
KIV Kislovodsk 70.77 315 *e*P **P 14 53 27.6 +0.7**
KIV Kislovodsk 70.77 315 P **P 14 53 28.4 +1.4**
SNR=5.6
KIV Kislovodsk 70.77 315 *i*P **P 14 53 28.4 +1.4**
SNR=6.8
KIV Kislovodsk 70.77 315 *e*P **P 14 53 27.6 +0.7**
KIV *e*S **S 15 02 39.7 +1.1**
KIV pmax pmax
comp=Z,13nm,1.0s
KBZ Khabaz 70.84 315 P **P 14 53 27.9 +0.7**
comp=Z,6.1nm,0.5s,baz=82,slow=3.9,SNR=32
KBZ LR LR 15 28 10.0
comp=Z,850nm,19.7s,baz=32,slow=39
FITZ Fitzroy Crossi 70.97 210 *e*P **P 14 53 28.9 +0.7**
comp=Z,17nm,0.9s
CBKS Cedar Bluff 70.98 53 P **P 14 53 29.2 +0.9**
baz=317
E42A Champion 71.01 41 P **P 14 53 28.5 +0.2**
baz=321
F41A Three Lakes 71.02 42 *e*P **P 14 53 28.2 -0.2**
comp=Z,26nm,0.9s
F41A Three Lakes 71.02 42 P **P 14 53 29.0 +0.6**
baz=321
ZEI Tsey 71.06 313 *e*P **P 14 53 27.8 -1.1**
ZEI pmax pmax
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 71.12 327 P **P 14 53 28.7 -0.1**
comp=Z,7.7nm,0.4s,baz=32,slow=6.2,SNR=37
AKASG LR LR 15 27 19.7
comp=Z,590nm,19.8s,baz=25,slow=38
AKASG Malin Array Be 71.12 327 *i*P **P 14 53 28.7 -0.1**
AKASG pmax pmax
comp=Z,12nm,0.5s
AKBB Malin Array Si 71.12 327 *e*P **P 14 53 27.8 -1.1**
comp=Z,48nm,1.4s
KIEV Kiev 71.13 327 *e*P **P 14 53 27.6 -1.3**
comp=Z,51nm,1.5s
KIEV Kiev 71.13 327 *e*P **P 14 53 28.5 -0.3**
KIEV Kiev 71.13 327 *i*P **P 14 53 28.6 -0.3**
SNR=12
KIEV Kiev 71.13 327 *c i*P **P 14 53 28.5 -0.3**
KIEV pmax pmax
comp=Z,11nm,0.8s
AK11 Malin Array Si 71.16 327 *e*P **P 14 53 28.0 -1.1**
H40A Chili 71.30 43 P **P 14 53 29.4 -0.6**
baz=320
I39A Houston 71.36 44 *e*P **P 14 53 29.5 -0.9**
comp=Z,33nm,0.8s
I39A Houston 71.36 44 P **P 14 53 29.8 -0.6**
baz=320
E43A Lone Tree Farm 71.45 40 P **P 14 53 30.8 -0.2**
baz=322
SCHQ Schefferville 71.53 24 P **P 14 53 31.7 +0.4**
comp=Z,13nm,0.4s,baz=316,slow=5.3,SNR=51
SCHQ LR LR 15 30 59.4
comp=Z,367nm,18.1s,baz=334,slow=41
SCHQ Schefferville 71.53 24 *e*P **P 14 53 31.2 0.0**
comp=Z,114nm,1.9s
H41A Junction City 71.64 43 *e*P **P 14 53 31.7 -0.4**
comp=Z,18nm,0.8s
H41A Junction City 71.64 43 P **P 14 53 32.3 +0.3**
baz=320
J39A Decorah 71.66 45 P **P 14 53 31.9 -0.3**
baz=320
G42A Mountain 71.71 42 P **P 14 53 31.6 -0.9**
baz=321
F43A Flat Rock, Esc 71.80 41 P **P 14 53 33.4 +0.4**
baz=322
BSD Bornholm Skovb 71.81 337⇑ *i*P **P 14 53 33.2 +0.3**
comp=Z,42nm,0.6s
comp=Z,2µm,16.0s
BSD Bornholm Skovb 71.81 337⇑ *i*P **P 14 53 33.2 +0.3**
BSD pmax pmax
comp=Z,42nm,0.6s
BSD MLR MLR
comp=Z,2µm,16.0s
MUD Monsted U'grnd 71.97 341 *i*P **P 14 53 35.1 +1.3**
comp=Z,17nm,0.5s
MUD Monsted U'grnd 71.97 341 *i*P **P 14 53 35.1 +1.3**
MUD pmax pmax
comp=Z,17nm,0.5s
F44A Big Bay de Noc 72.02 40 P **P 14 53 35.1 +0.8**
baz=322
SCIA State Center 72.02 47 *e*P **P 14 53 34.2 -0.2**
comp=Z,92nm,0.6s
SCIA State Center 72.02 47 P **P 14 53 34.9 +0.5**
baz=319
G43A Wallace 72.02 41 *e*P **P 14 53 33.9 -0.5**
comp=Z,31nm,0.8s
G43A Wallace 72.02 41 P **P 14 53 34.8 +0.4**
baz=321
K39A Oelwein 72.06 45 P **P 14 53 34.2 -0.5**
baz=320
AKH Akhalkalaki 72.30 313 *e*P **P 14 53 36.2 -0.1**
comp=Z,15nm,1.0s
AKH Akhalkalaki 72.30 313⇓ *i*P **P 14 53 38.3 +2.0**
AKH Akhalkalaki 72.30 313 *e*P **P 14 53 36.2 -0.1**
AKH pmax pmax
comp=Z,15nm,1.0s
D46A Sault St. Mari 72.30 38 P **P 14 53 35.8 -0.2**
baz=323
K40A Colesburg 72.42 45 P **P 14 53 35.8 -1.0**
baz=320
J41A Loganville 72.44 44 P **P 14 53 36.0 -0.9**
baz=321
L39A Vinton 72.45 46 P **P 14 53 36.8 -0.2**
baz=320
ANN Anapa 72.53 319 *e*P **P 14 53 37.0 -0.3**
ANN *e**PP **pP 14 53 45.6 -3.7**
I42A Draeger Farm, 72.53 43 P **P 14 53 37.9 +0.4**
baz=321
GNI Garni 72.63 311 *e*P **P 14 53 40.7 +2.5**
comp=Z,64nm,1.4s
GNI Garni 72.63 311 *i*P **P 14 53 38.5 +0.2**
GNI pmax pmax
comp=Z,63nm,1.1s
RGN Rugen 72.73 338 *e*P **P 14 53 38.1 -0.2**
comp=Z,125nm,0.6s
AMTX Amarillo 72.78 57 *e*P **P 14 53 38.2 -0.9**
comp=Z,16nm,1.0s
AMTX Amarillo 72.78 57 P **P 14 53 39.7 +0.6**
baz=317
GKP Gorka Klasztor 72.82 335 *e*P **P 14 53 39.5 +0.6**
GKP Gorka Klasztor 72.82 335 *e*P **P 14 53 39.5 +0.6**
MSTX Muleshoe 72.83 58 *e*P **P 14 53 39.0 -0.5**
comp=Z,61nm,1.8s
MSTX Muleshoe 72.83 58 P **P 14 53 39.5 +0.1**
baz=317
M39A Webster 72.86 46 P **P 14 53 39.5 +0.1**
baz=320
L40A Anamosa 72.87 46 *e*P **P 14 53 38.6 -0.8**
comp=Z,27nm,0.7s
L40A Anamosa 72.87 46 P **P 14 53 39.3 -0.2**
baz=320
J42A Columbus 72.88 43 P **P 14 53 39.6 0.0**
baz=321
K41A Shullsburg 72.88 45 P **P 14 53 39.2 -0.3**
baz=321
F46A Macinaw City C 72.89 39 P **P 14 53 40.0 +0.5**
baz=323
MNTX Cornudas Mount 72.96 62 *e*P **P 14 53 39.9 -0.3**
comp=Z,25nm,1.6s
MNTX Cornudas Mount 72.96 62 P **P 14 53 41.1 +0.9**
baz=316
E47A Iron Bridge 72.96 38 P **P 14 53 40.0 +0.1**
baz=324
D48A Paudash Townsh 72.98 37 P **P 14 53 39.8 -0.2**
baz=324
BEL Belsk 73.02 332 *e*P **P 14 53 40.8 +0.7**
BEL Belsk 73.02 332 *e*P **P 14 53 40.8 +0.7**
D49A Beulah Townshi 73.08 36 P **P 14 53 40.3 -0.4**
baz=324
N39A Derby Farms, D 73.15 47 P **P 14 53 40.7 -0.4**
baz=320
K42A Prairie Point, 73.20 44 P **P 14 53 41.8 +0.4**
baz=321
L41A Preston 73.20 45 P **P 14 53 40.8 -0.6**
baz=321
M40A Post Highland 73.23 46 P **P 14 53 41.0 -0.6**
baz=320
LSQQ Lebel-sur-Quev 73.27 33 P **P 14 53 41.7 0.0**
baz=327
E48A Lockeyer 73.39 37 P **P 14 53 41.8 -0.7**
baz=324
CHGQ Chibougamau 73.47 31 P **P 14 53 42.5 -0.4**
baz=328
N40A Mertquake, Sal 73.59 47 P **P 14 53 43.5 -0.3**
baz=320
L42A Oliver, Polo 73.65 45 *e*P **P 14 53 43.4 -0.7**
comp=Z,31nm,0.9s
L42A Oliver, Polo 73.65 45 P **P 14 53 43.3 -0.7**
baz=321
H46A Fife Lake 73.68 40 P **P 14 53 43.3 -0.9**
baz=323
LVV L'vov 73.69 329 *e*P **P 14 53 41.3 -2.9**
LVV MLR MLR
comp=E,300nm,16.0s
LVV MLR MLR
comp=N,500nm,17.0s
LVV MLR MLR
comp=Z,500nm,17.0s
K43A Burlington 73.72 43 P **P 14 53 43.4 -1.1**
baz=322
D50A G1974 Best Tow 73.76 36 P **P 14 53 44.0 -0.6**
baz=325
SIM Simferopol' 73.85 321 *ce*P **P 14 53 45.8 +0.6**
SIM pmax pmax
comp=Z,18nm,0.8s
SIM MLR MLR
comp=Z,1µm,14.0s
AS01 Alice Springs 73.92 200 *e*P **P 14 53 46.5 +0.8**
AS31 Alice Springs 73.93 200 *e*P **P 14 53 46.3 +0.5**
comp=Z,27nm,0.6s
ASAR Alice Springs 73.94 200 P **P 14 53 47.1 +1.3**
comp=Z,3.2nm,0.5s,baz=14,slow=5.4,SNR=56
ASAR LR LR 15 23 28.9
comp=Z,249nm,21.8s,baz=18,slow=33
D51A Lot 18 Range I 74.00 35 P **P 14 53 46.0 -0.1**
baz=326
F49A Sandfield 74.03 38 P **P 14 53 45.1 -1.1**
baz=324
N41A Harden Midland 74.08 46 *e*P **P 14 53 46.3 -0.4**
comp=Z,66nm,0.8s
N41A Harden Midland 74.08 46 P **P 14 53 45.8 -0.8**
baz=321
KWP Kalwaria Pacla 74.30 330 *e*P **P 14 53 48.9 +1.1**
KWP Kalwaria Pacla 74.30 330 *e*P **P 14 53 48.9 +1.1**
KIS Kishinev 74.32 325 *e*P **P 14 53 46.0 -1.9**
comp=Z,200nm,1.8s
KIS Kishinev 74.32 325 *e*PP PP 14 56 50.0 +16
KIS *e*L L 15 20 20.0
KIS LRM MLR 15 30 08.0
comp=Z,1µm,16.0s
KIS Kishinev 74.32 325 *e*P **P 14 53 46.0 -1.9**
KIS *e* 14 54 09.0
KIS pmax pmax
comp=Z,150nm,1.8s
KIS MLR MLR
comp=N,1µm,16.0s
KIS MLR MLR
comp=Z,1µm,16.0s
KIS MLR MLR
comp=Z,1µm,16.0s
N42A Yates City 74.39 46 P **P 14 53 48.3 0.0**
baz=321
E51A G1948 Merrick 74.42 36 P **P 14 53 48.1 -0.4**
baz=326
WMOK Wichita Mounta 74.50 55 *e*P **P 14 53 49.0 -0.2**
comp=Z,9.8nm,0.8s
WMOK Wichita Mounta 74.50 55 *e*P **P 14 53 49.0 -0.2**
WMOK pmax pmax
comp=Z,10.0nm,0.8s
WMOK Wichita Mounta 74.50 55 P **P 14 53 49.5 +0.4**
baz=318
O41A Passleys Farm, 74.53 47 P **P 14 53 49.3 +0.1**
baz=321
D53A Lac Vacive, Po 74.65 34 P **P 14 53 49.7 -0.1**
baz=327
P41A Barry, Barry 74.78 47 P **P 14 53 50.9 +0.3**
baz=321
K46A Dorr 74.89 42 P **P 14 53 51.3 0.0**
baz=323
E52A Mattawa 74.95 35 P **P 14 53 51.2 -0.3**
baz=326
HDIL Hopedale 74.95 45 P **P 14 53 51.9 +0.2**
baz=322
ESPY Espiye-Giresun 74.97 315 *e*P **P 14 53 52.3 +0.5**
LEOM Leova 74.98 325⇓ *i*P **P 14 53 52.7 +1.0**
LEOM Leova 74.98 325 P **P 14 53 52.7 +1.0**
D54A Lac Fusel, La 74.98 34 P **P 14 53 51.6 -0.1**
baz=327
F52A Sundridge 75.09 36 P **P 14 53 52.7 +0.3**
baz=326
KLBO Killbear Provi 75.10 37 P **P 14 53 51.5 -1.0**
baz=325

BUR08 **Bucovina Ar. S** 75.13 328 *e*P P 14 53 53.1 +0.3
BUR04 **Bucovina Ar. S** 75.15 327 *e*P P 14 53 53.2 +0.4
BURAR **Bucovina Array** 75.15 327⇓ *i*P P 14 53 53.3 +0.5
BURAR **Bucovina Array** 75.15 327 P P 14 53 53.3 +0.5
P42A Winchester 75.20 47 *e*P P 14 53 52.7 -0.4
comp=Z,23nm,0.8s
P42A Winchester 75.20 47 P P 14 53 53.4 +0.3
baz=321
TUL1 Leonard 75.23 52 *e*P P 14 53 53.1 -0.3
comp=Z,13nm,0.6s
TUL1 Leonard 75.23 52 P P 14 53 53.7 +0.4
baz=319
KSP Ksiaz 75.24 334 *e*P P 14 53 54.0 +0.8
KSP Ksiaz 75.24 334 *e*P P 14 53 54.0 +0.8
E53A Dumoine, Ponti 75.25 35 P P 14 53 53.1 -0.2
baz=327
Q41A Truxton 75.25 48 P P 14 53 53.7 +0.3
baz=321
K47A Vermontville 75.26 41 P P 14 53 54.4 +1.1
baz=323
NIE Niedzica 75.28 331 *e*P P 14 53 54.8 +1.4
NIE Niedzica 75.28 331 *e*P P 14 53 54.8 +1.4
UZH Uzhgorod 75.30 330⇓ *i*P P 14 53 54.1 +0.6
UZH *e* 14 54 03.7
UZH *e*S **S** 15 03 27.5 -2.2
EKA Eskdalemuir Ar 75.30 347 P P 14 53 54.2 +0.8
comp=Z,16nm,0.4s,baz=19,slow=5.0,SNR=85
E54A Lac Daplat, Po 75.39 34 P P 14 53 53.8 -0.2
baz=327
BIZ Bicaz 75.40 327⇑ *i*P P 14 53 55.0 +0.9
K48A Perry 75.54 41 P P 14 53 55.4 +0.4
baz=324
OKC Ostrava-Krasne 75.58 333 *e*P P 14 54 00.9 +5.8
OKC *e*sP sP 14 54 13.2 +1.6
OKC AMS AMS 15 32 30.0
comp=Z,1µm,17.8s
OKC Ostrava-Krasne 75.58 333 *e*P P 14 54 00.9 +5.8
OKC *e* 14 54 13.2
OKC MLR MLR
comp=Z,1µm,17.8s
UPC Upice 75.62 334 *e*P P 14 53 56.4 +1.0
UPC AMS AMS 15 32 30.0
comp=Z,2µm,17.4s
UPC Upice 75.62 334 *e*P P 14 53 56.4 +1.0
UPC MLR MLR
comp=Z,2µm,17.4s
Q42A Golden Eagle 75.63 47 P P 14 53 55.8 +0.3
baz=321
TRPA Tarpa 75.65 329⇑ *i*P P 14 53 56.5 +1.0
TRPA Tarpa 75.65 329⇑ *e*PKKPbc P 14 53 56.9 +1.4
DPC Dobruska-Polom 75.67 334 *e*P P 14 53 57.5 +1.8
DPC *e*PCP **sP** 14 54 10.8 -1.4
DPC AMS AMS 15 32 40.0
comp=Z,1µm,18.4s
DPC Dobruska-Polom 75.67 334 *e*P P 14 53 57.5 +1.8
DPC *e* 14 54 10.8
DPC MLR MLR
comp=Z,1µm,18.4s
R41A Rosebud 75.69 48 P P 14 53 55.8 -0.1
baz=321
TX31 Lajitas Ar. Si 75.69 62 *e*P P 14 53 56.2 0.0
TXAR Lajitas Array 75.69 62 P P 14 53 57.2 +1.0
comp=Z,10.0nm,0.6s,baz=298,slow=4.5,SNR=51
CLL Collm 75.74 337 *e*P P 14 53 55.7 -0.3
comp=Z,46nm,0.7s
CLL Collm 75.74 337 *e*P P 14 53 55.7 -0.3
CLL Collm 75.74 337⇑ *i*P P 14 53 56.6 +0.6
comp=Z,110nm,1.4s
CLL *i* sP **sP** 14 54 10.9 -1.6
CLL *e*S **S** 15 03 34.0 -0.5
CLL *e*PS **PnS** 15 04 12.0 -2.3
CLL *e*(SS) 15 09 18.0
CLL *e* 15 12 42.0
CLL Lm MLR 15 30 00.0
comp=N,800nm,19.6s
CLL Lm MLR 15 30 00.0
comp=E,600nm,19.2s
CLL Lm MLR 15 30 00.0
comp=Z,1µm,20.4s
CLL Collm 75.74 337 *e*P P 14 53 55.7 -0.3
CLL pmax pmax
comp=Z,46nm,0.7s
LANS Liptovska Anna 75.77 332 *e*P P 14 53 58.1 +1.8
LANS Liptovska Anna 75.77 332 *e*P P 14 53 58.1 +1.8
MORC Moravsky Berou 75.82 333 *e*P P 14 53 57.0 +0.4
comp=Z,49nm,0.9s
MORC Moravsky Berou 75.82 333⇑ *i*P P 14 53 57.1 +0.5
MORC Moravsky Berou 75.82 333 *e*P P 14 53 57.0 +0.4
MORC pmax pmax
comp=Z,49nm,0.9s
MORC Moravsky Berou 75.82 333 *e*P P 14 53 57.6 +1.0
TLCR 75.83 324⇓ *i*P P 14 53 57.2 +0.6
BRG Berggiesshubel 75.88 336 *i*P P 14 53 57.6 +0.8
comp=Z,27nm,0.9s
BRG *e* 14 54 05.9
comp=Z,10nm,0.7s
comp=Z,1µm,18.0s
comp=N,850nm,16.2s
comp=E,550nm,16.2s
BRG Berggiesshubel 75.88 336 *i*P P 14 53 57.6 +0.8
BRG *e* 14 54 05.9
BRG pmax pmax
comp=Z,27nm,0.9s
BRG MLR MLR
comp=Z,1µm,18.0s
BRG MLR MLR
comp=N,850nm,16.2s
BRG MLR MLR
comp=E,550nm,16.2s
ARCR ARCALIA 75.91 328⇑ *i*P P 14 53 58.3 +1.3
G53A Haliburton 75.93 36 P P 14 53 57.2 +0.1
baz=326
HHAR Hobbs 75.93 51 *e*P P 14 53 56.9 -0.4
comp=E,19nm,0.7s
O45A Potomac 75.94 45 P P 14 53 57.5 +0.2
baz=322
CCM Cathedral Cave 75.94 48 *e*P P 14 53 57.0 -0.4
comp=E,14nm,0.8s
CCM Cathedral Cave 75.94 48 *e*P P 14 53 57.0 -0.4
CCM pmax pmax
comp=Z,15nm,0.8s
CCM Cathedral Cave 75.94 48 P P 14 53 57.0 -0.4
baz=321
DIKM Dikmen 75.99 318 *e*P P 14 53 59.2 +1.6
R42A Luebbering 75.99 48 P P 14 53 57.2 -0.5
baz=321
PETR Petresti 76.00 325⇓ *i*P P 14 53 59.0 +1.5
PEMO Pembroke 76.00 35 P P 14 53 57.4 -0.2
baz=327
PVCC Panska Ves 76.02 335 *e*P P 14 53 59.1 +1.5
PVCC *e*pP **pP** 14 54 10.7 +1.1
PVCC AMS AMS 15 30 20.0
comp=Z,1µm,21.0s
PVCC Panska Ves 76.02 335 *e*P P 14 53 59.1 +1.5
PVCC *e* 14 54 10.7
PVCC MLR MLR
comp=Z,1µm,21.0s
KECS Kecovo 76.03 331 *e*P P 14 53 57.5 -0.2
KECS pmax pmax
comp=Z,51nm,1.2s
KECS Kecovo 76.03 331 *e*P P 14 53 57.5 -0.2
S41A Jillco Farms, 76.05 49 P P 14 53 57.7 -0.4
baz=321
VRI Vrincioaia 76.07 326⇓ *i*P P 14 53 58.8 +0.8
VRI Vrincioaia 76.07 326 P P 14 53 58.7 +0.8
L48A N Adams 76.09 41 P P 14 53 58.3 +0.1
baz=324
CFR Carcaliu 76.10 324⇑ *i*P P 14 53 58.5 +0.4
PLOR Plostina 76.11 326⇓ *i*P P 14 53 59.3 +1.0
PLOR Plostina 76.11 326 P P 14 53 59.2 +1.0
P44A Sand Creek, Wi 76.12 46 P P 14 53 58.4 0.0
baz=322
SFIN Lafayette 76.13 44 P P 14 53 58.6 +0.2
baz=323
LATQ La Tuque 76.18 31 P P 14 53 59.1 +0.5
baz=329
ILIC ilic-Erzincan 76.20 314 *e*P P 14 54 00.6 +1.6
HPIG 76.24 65 *e*P P 14 53 59.0 -0.5
comp=Z,11nm,0.7s
BANO Bancroft 76.28 36 P P 14 53 59.4 +0.2
baz=327
Q44A Meyer Farm, Va 76.38 46 P P 14 54 00.1 +0.3
baz=322
S42A Caledonia 76.39 48 P P 14 54 00.1 +0.1
baz=321
FVM French Village 76.40 48 *e*P P 14 53 59.8 -0.2
comp=Z,15nm,0.8s
FVM French Village 76.40 48 *e*P P 14 53 59.8 -0.2
FVM pmax pmax
comp=Z,15nm,0.8s
R43A Red Bud 76.42 47 P P 14 54 00.1 0.0
baz=322
U40A Yellville 76.43 50 P P 14 54 00.4 +0.2
baz=320
TOKT Tokat 76.46 316 *e*P P 14 54 01.9 +1.5
PRA Prague 76.47 335 AMS AMS 15 30 20.0
comp=Z,1µm,22.3s
DOPR Dopca 76.48 326⇑ *i*P P 14 54 01.6 +1.2
P45A Graceland, Par 76.49 45 P P 14 54 01.1 +0.6
baz=322
CJR Cluj-Napoca 76.50 328⇓ *i*P P 14 54 01.6 +1.1
GOPC GO Pecny, Ondr 76.51 335 *e*P P 14 54 01.6 +1.2
GOPC *e*pP **pP** 14 54 13.4 +1.0
GOPC *e*sP **sP** 14 54 15.9 -1.0
GOPC AMS AMS 15 33 20.0
comp=Z,1µm,14.8s
GOPC GO Pecny, Ondr 76.51 335 *e*P P 14 54 01.6 +1.2
GOPC *e* 14 54 13.4
GOPC *e* 14 54 15.9
GOPC MLR MLR
comp=Z,1µm,14.8s
LTVH L˝tav˝rtes, 76.51 329⇑ *e*PKKPbc P 14 54 02.0 +1.6
VRAC Vranov 76.52 333⇓ *i*P P 14 54 01.5 +1.0
VRAC Vranov 76.52 333 P P 14 54 01.8 +1.3
VRAC pmax pmax
comp=Z,68nm,1.4s
VRAC Vranov 76.52 333 *e*P P 14 54 01.8 +1.3
VYHS Vyhne 76.55 332 *e*P P 14 54 01.9 +1.2
VYHS pmax pmax
comp=Z,14nm,0.8s
VYHS Vyhne 76.55 332 *e*P P 14 54 01.9 +1.2
G55A Calabogie 76.56 35 P P 14 54 00.3 -0.5
baz=327
SVSK Karacayir 76.57 316 *e*P P 14 54 02.7 +1.8
HARR Harsova 76.59 324⇓ *i*P P 14 54 02.0 +1.1
HARR Harsova 76.59 324 P P 14 54 02.0 +1.1
TIRR Tirgusor 76.59 324 *e*P P 14 54 00.7 -0.3
comp=Z,132nm,1.9s
TIRR Tirgusor 76.59 324⇓ *i*P P 14 54 01.6 +0.7
TIRR Tirgusor 76.59 324 *e*P P 14 54 00.7 -0.3
TIRR pmax pmax
comp=Z,132nm,1.9s
JAVC Velka Javorina 76.59 333 *e*P P 14 54 03.1 +2.1
PLVO Plevna 76.60 35 P P 14 54 00.3 -0.7
baz=327
TLB Topalu 76.63 324⇓ *i*P P 14 54 02.0 +0.8
BANOM Banah 76.64 294 *i*P P 14 54 02.7 +1.1
SNR=6.5
SHME Shamm 76.64 294 *i*P P 14 54 02.1 +0.5
SNR=8.8
WTSB Winterswijk 76.66 340 *e*P P 14 54 02.0 +0.8
comp=Z,45nm,0.9s
P46A Rosedale 76.68 45 P P 14 54 01.6 +0.1
baz=323
MLR Muntele Rosu 76.68 326 *e*P P 14 54 01.4 -0.2
comp=Z,44nm,0.7s
MLR Muntele Rosu 76.68 326⇓ *i*P P 14 54 02.1 +0.5
MLR Muntele Rosu 76.68 326 *e*P P 14 54 01.4 -0.2
MLR pmax pmax
comp=Z,44nm,0.7s
N48A Decatur 76.69 42 P P 14 54 01.9 +0.3
baz=324
MOX Moxa 76.71 337 P P 14 54 02.6 +1.1
MOX pmax pmax
comp=Z,39nm,1.4s
PSZ Piszkesteto 76.72 331 *e*P P 14 54 01.9 +0.2
comp=Z,27nm,1.0s
PSZ Piszkesteto 76.72 331⇓ *i*P P 14 54 02.6 +0.9
PSZ Piszkesteto 76.72 331⇑ *e*PKKPbc P 14 54 03.3 +1.6
PSZ Piszkesteto 76.72 331 *e*P P 14 54 01.9 +0.2
PSZ pmax pmax
comp=Z,27nm,1.0s
DRGR 76.74 329⇑ *i*P P 14 54 02.5 +0.6
DRGR 76.74 329 P P 14 54 02.4 +0.6
DRGR pmax pmax
comp=Z,63nm,1.4s
ISR Istrita 76.77 325⇓ *i*P P 14 54 02.7 +0.7
ISR Istrita 76.77 325 P P 14 54 03.3 +1.3
ISR pmax pmax
comp=Z,129nm,1.1s
Q45A Warren Harvey, 76.80 46 P P 14 54 01.9 -0.3
baz=322
KRUC Moravsky 76.80 333 P P 14 54 03.2 +1.1
KRUC pmax pmax
comp=Z,52nm,1.5s
KRUC Moravsky 76.80 333 *e*P P 14 54 03.2 +1.1
T42A Van Buren 76.81 49 *e*P P 14 54 01.9 -0.4
comp=Z,11nm,0.8s
T42A Van Buren 76.81 49 P P 14 54 01.8 -0.4
baz=321
W39A Magazine 76.84 52 *e*P P 14 54 01.9 -0.6
comp=Z,16nm,1.3s
W39A Magazine 76.84 52 P P 14 54 02.9 +0.4
baz=320
R44A Waltonville 76.86 47 P P 14 54 01.5 -1.0
baz=322
TREC Trest 76.86 334 *e*P P 14 54 03.7 +1.3
TREC *e*pP **pP** 14 54 16.4 +2.0
TREC AMS AMS 15 33 30.0
comp=Z,2µm,18.0s
TREC Trest 76.86 334 *e*P P 14 54 03.7 +1.3
TREC *e* 14 54 16.4
TREC MLR MLR
comp=Z,2µm,18.0s
NKC Novy Kostel 76.87 336 *e*P P 14 54 03.9 +1.5
NKC AMS AMS 15 33 30.0
comp=Z,1µm,14.1s
NKC Novy Kostel 76.87 336 *e*P P 14 54 03.9 +1.5
NKC MLR MLR
comp=Z,1µm,14.1s
S43A Fulton Ridge, 76.90 48 P P 14 54 03.0 +0.1
baz=322
U41A Viola 76.92 50 P P 14 54 03.0 0.0
baz=321
ALFO Alfred 76.93 33 P P 14 54 02.5 -0.3
baz=328
DRCO St. Marys Ceme 76.93 37 P P 14 54 03.0 +0.1
baz=326
WLVO Wesleyville 77.01 37 P P 14 54 03.3 0.0
baz=327
VOIR 77.06 326⇓ *i*P P 14 54 04.7 +1.0
VOIR 77.06 326 P P 14 54 04.7 +1.0
VOIR pmax pmax
comp=Z,83nm,1.1s
JCT Junction City 77.09 59 *e*P P 14 54 06.3 +2.3
comp=Z,45nm,1.6s
O48A Farmland 77.12 43 P P 14 54 03.8 -0.2
baz=324
ICOR Ion Corvin 77.12 324⇑ *i*P P 14 54 05.4 +1.5
MODS Modra-Piesok 77.14 333 *e*P P 14 54 04.7 +0.7
MODS pmax pmax
comp=Z,172nm,2.2s
MODS Modra-Piesok 77.14 333 *e*P P 14 54 04.7 +0.7
WSAR Wadi Sarin 77.15 290 P P 14 54 05.6 +1.1
comp=Z,8.2nm,0.6s,baz=51,slow=6.3,SNR=9.9
WSAR Wadi Sarin 77.15 290 P P 14 54 06.0 +1.5
SNR=6.8
ILGA Ilgaz 77.16 318 *e*P P 14 54 05.4 +0.9
comp=Z,241nm,1.6s
T43A Greenville 77.17 48 P P 14 54 04.4 0.0
baz=322
S44A Carbondale 77.21 47 P P 14 54 04.3 -0.2
baz=322
V41A Mountainview 77.23 50 P P 14 54 04.4 -0.3
baz=321
BIDO Bidbid 77.26 291 P P 14 54 06.5 +1.5
SNR=6.2
U42A Revenden 77.26 49 P P 14 54 04.4 -0.5
baz=321
ARR Arges 77.27 327⇓ *i*P P 14 54 06.3 +1.4
PBMO Poplar Bluff 77.34 48 *e*P P 14 54 05.2 -0.1
comp=Z,13nm,0.8s
BUD Budapest 77.38 331⇑ *e*PKKPbc P 14 54 06.8 +1.5
BUD Budapest 77.38 331 P P 14 54 07.6 +2.3
BUD pmax pmax
comp=Z,56nm,1.2s
DARE Darende-Malaty 77.41 315 *e*P P 14 54 07.7 +1.9
UOSS Minazif 77.41 293 *e*P P 14 54 05.9 0.0
comp=Z,199nm,1.6s
UOSS Minazif 77.41 293 P P 14 54 06.6 +0.7
UOSS Minazif 77.41 293 *i*P P 14 54 06.4 +0.5
SNR=7.9
MIAR Mount Ida 77.45 52 *e*P P 14 54 05.7 -0.2
comp=Z,19nm,0.7s
MIAR Mount Ida 77.45 52 *e*P P 14 54 05.7 -0.2
MIAR pmax pmax
comp=Z,19nm,0.7s
MIAR Mount Ida 77.45 52 P P 14 54 06.3 +0.4
baz=320
CORM Corum 77.45 317 *e*P P 14 54 05.8 -0.3
HATD Hatta, Dubai 77.54 293 P P 14 54 07.5 +0.9
HATD Hatta, Dubai 77.54 293 *i*P P 14 54 07.9 +1.3
SNR=6.0
WHAR Wooly Hollow 77.55 51 *e*P P 14 54 06.4 -0.1
comp=Z,13nm,0.9s
KHC Kasperske Hory 77.56 335 *e*P P 14 54 06.6 +0.2
comp=Z,64nm,1.6s
KHC Kasperske Hory 77.56 335 *e*P P 14 54 07.7 +1.3
KHC *e*pP **pP** 14 54 20.6 +2.2
KHC AMS AMS 15 31 20.0
comp=Z,2µm,19.1s
KHC Kasperske Hory 77.56 335 *e*P P 14 54 06.6 +0.2
KHC pmax pmax
comp=Z,64nm,1.6s
SIRR Siria 77.56 329⇓ *i*P P 14 54 07.6 +1.2
CANT Cankiri 77.56 318 *e*P P 14 54 08.4 +1.8
YOZ Yozgat 77.57 317 *e*P P 14 54 06.9 +0.2
Q47A Bedord North L 77.58 45 P P 14 54 06.6 0.0
baz=323
V42A Cord 77.61 50 P P 14 54 06.4 -0.4
baz=321
P48A Milroy 77.63 44 P P 14 54 06.8 -0.1
baz=324
R46A Gibon Southern 77.64 46 P P 14 54 07.1 +0.1
baz=323
W41B Gary Mavity, V 77.66 51 *e*P P 14 54 07.4 +0.3
comp=Z,19nm,0.8s
W41B Gary Mavity, V 77.66 51 P P 14 54 07.6 +0.5
baz=321
GRF Grafenberg Arr 77.69 337 P P 14 54 08.6 +1.6
GRF pmax pmax
comp=Z,91nm,1.3s
GRFO Grafenberg 77.69 337 *e*P P 14 54 06.9 -0.1
comp=Z,174nm,1.6s
GRFO Grafenberg 77.69 337 *e*P P 14 54 06.9 -0.1
GRFO pmax pmax
comp=Z,174nm,1.6s
ASHO Ashiyiah 77.69 293 P P 14 54 08.4 +0.9
ASHO Ashiyiah 77.69 293 *i*P P 14 54 08.4 +0.9
SNR=10
NAZ Nazwa, Dubai 77.71 294 P P 14 54 08.3 +0.7
SGRR Singureni 77.74 325⇑ *i*P P 14 54 07.7 +0.3
WET Wettzell 77.74 336 P P 14 54 08.7 +1.3
WET pmax pmax
comp=Z,67nm,1.3s
GEC2 GERESS Array S 77.78 335 *e*P P 14 54 07.8 +0.1
comp=Z,21nm,0.9s
GEC2 GERESS Array S 77.78 335 *e*P P 14 54 07.8 +0.1
GEC2 pmax pmax
comp=Z,21nm,0.9s
GERES GERESS Array B 77.78 335 P P 14 54 08.9 +1.2
comp=Z,12nm,0.6s,baz=32,slow=5.2,SNR=78
GERES LR LR 15 31 53.0
comp=Z,1µm,20.4s,baz=22,slow=38
GEA0 GERESS Array S 77.79 335 *e*P P 14 54 07.9 +0.2
FAQ Al Faqa, Dubai 77.93 293 *i*P P 14 54 09.5 +0.7
SNR=10
BNN Bunyan 77.96 316 *e*P P 14 54 10.3 +1.4
CONA Conrad Observa 77.97 333 *e*P P 14 54 10.2 +1.5
comp=Z,24nm,0.8s,SNR=13
HGN Heimansgroeve 77.98 341 *e*P P 14 54 09.6 +1.0
comp=Z,140nm,1.6s
SOP Sopron 77.98 333⇑ *e*P P 14 54 10.4 +1.7
SOP Sopron 77.98 333 P P 14 54 10.7 +2.0
SOP pmax pmax
comp=Z,48nm,1.7s
BEBN Eben Emael 78.00 341 ⇑P P 14 54 09.8 +1.1
R47A Wooly Knot Far 78.05 45 P P 14 54 08.9 -0.3
baz=323
MEM Membach 78.11 340 ⇑P P 14 54 10.2 +0.9
MEM ⇑sP **sP** 14 54 26.0 +0.2
comp=Z,31nm,0.9s
BZS Buzias 78.14 329⇑ *i*P P 14 54 09.8 +0.2
MOQ Mont Orford 78.15 32 *e*P P 14 54 10.1 +0.3
ASUD Al Ashush, Dub 78.18 294 *i*P P 14 54 11.1 +0.9
SNR=14
WCI Wyandotte Cave 78.21 45 *e*P P 14 54 10.4 +0.3
comp=Z,48nm,0.7s
WCI Wyandotte Cave 78.21 45 *e*P P 14 54 10.4 +0.3
WCI pmax pmax
comp=Z,49nm,0.7s
WCI Wyandotte Cave 78.21 45 P P 14 54 09.8 -0.3
baz=323
P50A Jamestown 78.26 42 P P 14 54 10.4 0.0
baz=324
TIH Tihany 78.26 332⇑ *e*P P 14 54 11.5 +1.3
BR131 Keskin Array S 78.27 318 *e*P P 14 54 10.9 +0.3
BR131 Keskin Array S 78.27 318 P P 14 54 11.5 +0.9
SNR=19
BRTR Keskin Array B 78.27 318 P P 14 54 11.6 +0.9
comp=Z,13nm,0.8s,baz=60,slow=3.3,SNR=72
BRTR LR LR 15 34 19.7
comp=Z,358nm,18.1s,baz=5.5,slow=40
R48A Northridge Ran 78.27 45 P P 14 54 10.7 +0.2
baz=324
ALNE Al Ain 78.34 293 *i*P P 14 54 12.0 +0.9
SNR=10.0
T46A Princeton 78.39 47 P P 14 54 11.0 -0.1
baz=323
AJN Ajban 78.44 294 P P 14 54 12.5 +0.9
BCLA Clavier 78.44 341 ⇑P P 14 54 12.2 +1.0
HERR Herculane 78.49 328⇓ *i*P P 14 54 11.7 +0.1
M54A Oil Creek Stat 78.50 39 P P 14 54 11.8 +0.1
baz=326
MOA Molln 78.52 334 *e*P P 14 54 12.9 +1.2
comp=Z,16nm,0.8s,SNR=6.0
LOD Lodumlu 78.53 318 *e*P P 14 54 12.9 +0.9
ANTO Ankara 78.53 318 *e*P P 14 54 12.7 +0.7
ANTO Ankara 78.53 318 *e*P P 14 54 12.4 +0.4
comp=Z,32nm,0.8s
ANTO Ankara 78.53 318⇓ *i*P P 14 54 13.3 +1.4
ANTO Ankara 78.53 318 P P 14 54 13.4 +1.4
SNR=11
ANTO Ankara 78.53 318 *e*P P 14 54 12.4 +0.4
ANTO pmax pmax
comp=Z,32nm,0.8s
MORH M¨ˆr¡gy, Hung 78.62 331⇑ *e*P P 14 54 12.6 +0.4
MORH M¨ˆr¡gy, Hung 78.62 331⇑ *i*P P 14 54 12.1 -0.1
ARSA Arzberg 78.68 333 *e*P P 14 54 13.9 +1.3
comp=Z,22nm,1.1s,SNR=11
O52A Adamsville 78.72 41 *e*P P 14 54 12.9 0.0
comp=Z,20nm,0.7s
O52A Adamsville 78.72 41 P P 14 54 12.9 0.0
baz=325
AFSR Af˜ar-Bala (A 78.75 318 *e*P P 14 54 12.6 -0.6
S48A Wiedeman Farm, 78.78 45 P P 14 54 13.4 +0.1
baz=324
Q50A Georgetown 78.79 43 P P 14 54 13.4 +0.1
baz=324
T47A Sharon Grove 78.81 46 *e*P P 14 54 16.2 +2.7
comp=Z,34nm,0.3s
T47A Sharon Grove 78.81 46 P P 14 54 13.1 -0.4
baz=323
N54A Moraine State 78.82 39 P P 14 54 13.8 +0.4
baz=326
MDVR Moldovita 78.83 328⇑ *i*P P 14 54 13.7 +0.2
SAUV Serdivan-Sakar 78.89 320 *e*P P 14 54 14.5 +0.7
DOU Dourbes 78.90 341 ⇑P P 14 54 13.7 0.0
Q51A Peebles 78.94 43 *e*P P 14 54 12.8 -1.3
comp=Z,18nm,0.8s
Q51A Peebles 78.94 43 P P 14 54 13.5 -0.6
baz=325
BEHE Becsehely 78.99 332⇑ *e*PKKPdf P 14 54 14.7 +0.4
BAIF Baives 79.02 341 *e*P P 14 54 15.7 +1.4
BAIF pmax pmax
comp=Z,58nm,1.8s
S49A Springfield 79.04 45 P P 14 54 15.1 +0.4
baz=324
T48A Bowling Green 79.06 46 P P 14 54 15.2 +0.4
baz=323
KOZT Kozan 79.07 315 *e*P P 14 54 16.3 +1.4
KULU Kulu 79.11 318 *e*P P 14 54 16.6 +1.4
WVT Waverly 79.14 47 *e*P P 14 54 15.2 -0.1
comp=Z,10nm,0.8s
WVT Waverly 79.14 47 *e*P P 14 54 15.2 -0.1
WVT pmax pmax

	comp=Z,10.0nm,0.8s									
WVT	**Waverly**		**79.14**	**47**	P		**P**	**14 54 14.9**	**-0.4**
	baz=323									
FRGS	**Fruska Gora**		**79.16**	**330**	⇑*i*P		**P**	**14 54 15.7**	**+0.4**
V46A	**Holladay**		**79.26**	**48**	P		**P**	**14 54 14.9**	**-1.0**
	baz=323									
SOKA	**Soboth**		**79.34**	**333**	*e*P		**P**	**14 54 17.3**	**+0.9**
	comp=Z,30nm,0.9s,SNR=14									
GROS	**Grobnik**		**79.40**	**333**	*i* P		**P**	**14 54 17.2**	**+0.6**
GROS	**Grobnik**		**79.40**	**333**	*i* P		**P**	**14 54 17.2**	**+0.6**
R51A	**Hillsboro**		**79.42**	**43**	P		**P**	**14 54 17.1**	**+0.3**
	baz=325									
T49A	**Edmonton**		**79.47**	**45**	*e*P		**P**	**14 54 17.0**	**-0.1**
	comp=Z,9.9nm,0.7s									
T49A	**Edmonton**		**79.47**	**45**	P		**P**	**14 54 17.2**	**+0.1**
	baz=324									
KBA	**Koelnbreinsper**		**79.48**	**334**	*e*P		**P**	**14 54 19.1**	**+1.9**
	comp=Z,36nm,0.5s,SNR=22									
KBA	**Koelnbreinsper**		**79.48**	**334**	P		**P**	**14 54 18.8**	**+1.6**
KBA					pmax	pmax				
	comp=Z,78nm,0.7s									
V47A	**Nunnelly**		**79.53**	**47**	P		**P**	**14 54 17.6**	**+0.1**
	baz=323									
SULT	**Sultanhani-AKS**		**79.56**	**317**	*e*P		**P**	**14 54 18.7**	**+1.0**
OXF	**Oxford**		**79.63**	**49**	*e*P		**P**	**14 54 17.9**	**-0.1**
	comp=Z,18nm,0.7s									
OXF	**Oxford**		**79.63**	**49**	*e*P		**P**	**14 54 17.9**	**-0.1**
OXF					pmax	pmax				
	comp=Z,18nm,0.7s									
OXF	**Oxford**		**79.63**	**49**	P		**P**	**14 54 18.0**	**+0.1**
	baz=322									
OBKA	**Obir**		**79.64**	**333**	*e*P		**P**	**14 54 19.3**	**+1.3**
	comp=Z,6.6nm,0.6s									
BFO	**Black Forest**		**79.68**	**338**	*e*P		**P**	**14 54 18.0**	**0.0**
	comp=Z,47nm,1.4s									
BFO	**Black Forest**		**79.68**	**338**	*i* P		**P**	**14 54 19.5**	**+1.4**
YURE	**YUREGIR**		**79.69**	**315**	*e*P		**P**	**14 54 19.7**	**+1.4**
KIZT	**Kizilcal**		**79.75**	**318**	*e*P		**P**	**14 54 18.6**	**-0.1**
WATA	**Walderalm**		**79.75**	**336**	*i* P		**P**	**14 54 20.4**	**+1.8**
	comp=Z,13nm,0.5s,SNR=6.3									
WTTA	**Wattenberg**		**79.80**	**336**	*e*P		**P**	**14 54 20.6**	**+1.8**
	comp=Z,31nm,0.7s,SNR=14									
MYKA	**Terra Mystica**		**79.80**	**334**	*e*P		**P**	**14 54 19.9**	**+1.1**
	comp=Z,7.3nm,0.5s									
RETA	**Reutte**		**79.83**	**336**	*e*P		**P**	**14 54 20.5**	**+1.6**
	comp=Z,24nm,1.0s,SNR=9.3									
U49A	**Red Boiling Sp**		**79.83**	**46**	P		**P**	**14 54 19.1**	**+0.1**
	baz=324									
CDF	**Champ du Feu**		**79.86**	**339**	*e*P		**P**	**14 54 19.6**	**+0.5**
CDF					pmax	pmax				
	comp=Z,86nm,1.5s									
MOTA	**Moosalm**		**79.87**	**336**	*e*P		**P**	**14 54 20.8**	**+1.6**
	comp=Z,52nm,1.1s,SNR=17									
T50A	**Nancy**		**79.87**	**45**	P		**P**	**14 54 19.6**	**+0.4**
	baz=324									
GCIS	**Gornji Cirnik**		**79.89**	**332**	*i* P		**P**	**14 54 19.8**	**+0.6**
GCIS	**Gornji Cirnik**		**79.89**	**332**	*i* P		**P**	**14 54 19.8**	**+0.6**
LEGS	**Legarje**		**79.91**	**333**	*i* P		**P**	**14 54 19.8**	**+0.5**
LEGS	**Legarje**		**79.91**	**333**	*i* P		**P**	**14 54 19.8**	**+0.5**
PLAL	**Pickwick Lake**		**79.93**	**48**	*e*P		**P**	**14 54 19.2**	**-0.4**
	comp=Z,9.0nm,0.8s									
V48A	**Smith Brothers**		**79.94**	**47**	P		**P**	**14 54 19.8**	**+0.1**
	baz=323									
S51A	**Beattyville**		**79.95**	**44**	*e*P		**P**	**14 54 20.3**	**+0.7**
S51A	**Beattyville**		**79.95**	**44**	P		**P**	**14 54 20.1**	**+0.5**
	baz=325									
SQTA	**Sankt Quirin**		**79.95**	**336**	*e*P		**P**	**14 54 21.5**	**+1.9**
	comp=Z,60nm,1.1s,SNR=17									
W47A	**Westpoint**		**79.95**	**48**	P		**P**	**14 54 19.7**	**0.0**
	baz=323									
MCWV	**Mont Chateau**		**79.96**	**40**	P		**P**	**14 54 20.2**	**+0.5**
	baz=326									
SSPA	**Standing Stone**		**79.97**	**38**	*e*P		**P**	**14 54 19.8**	**+0.1**
	comp=Z,46nm,1.5s									
SSPA	**Standing Stone**		**79.97**	**38**	P		**P**	**14 54 20.0**	**+0.2**
	baz=327									
CRES	**Cresnjev**		**79.98**	**333**	*e*P		**P**	**14 54 20.1**	**+0.4**
O56A	**Blue Knob Stat**		**80.00**	**39**	*e*P		**P**	**14 54 19.8**	**-0.2**
	comp=Z,84nm,2.0s									
O56A	**Blue Knob Stat**		**80.00**	**39**	P		**P**	**14 54 20.5**	**+0.6**
	baz=327									
ABTA	**Abfaltersbach**		**80.02**	**335**	*e*P		**P**	**14 54 21.0**	**+1.0**
	comp=Z,28nm,1.2s,SNR=6.1									
DIVS	**Divibare**		**80.03**	**329**	*e*P		**P**	**14 54 19.6**	**-0.5**
	comp=Z,39nm,1.2s									
DIVS	**Divibare**		**80.03**	**329**	⇑*i*P		**P**	**14 54 20.2**	**+0.1**
PLD	**Plovdiv**		**80.03**	**325**	P		**P**	**14 54 21.8**	**+1.8**
ECH	**Echery**		**80.08**	**339**	*e*P		**P**	**14 54 19.2**	**-1.0**
	comp=Z,107nm,1.9s									
ECH	**Echery**		**80.08**	**339**	*e*P		**P**	**14 54 19.2**	**-1.0**
ECH					pmax	pmax				
	comp=Z,107nm,1.9s									
LADK	**Ladik-KONYA**		**80.09**	**318**	*e*P		**P**	**14 54 20.9**	**+0.4**
SLE	**Schleitheim**		**80.17**	**338**	P		**P**	**14 54 22.0**	**+1.3**
SLE					pmax	pmax				
	comp=Z,21nm,1.1s									
MERS	**Mersin**		**80.18**	**315**	*e*P		**P**	**14 54 21.7**	**+0.7**
VTS	**Vitosha**		**80.18**	**326**	*e*P		**P**	**14 54 20.1**	**-0.9**
	comp=Z,32nm,0.8s									
VTS	**Vitosha**		**80.18**	**326**	⇑*i*P		**P**	**14 54 21.3**	**+0.3**
VTS	**Vitosha**		**80.18**	**326**	*e*P		**P**	**14 54 20.1**	**-0.9**
VTS					pmax	pmax				
	comp=Z,32nm,0.8s									
DAVA	**Damuels**		**80.25**	**337**	*e*P		**P**	**14 54 22.6**	**+1.3**
	comp=Z,32nm,1.1s,SNR=6.3									
FETA	**Feichten**		**80.27**	**336**	*e*P		**P**	**14 54 22.9**	**+1.5**
	comp=Z,28nm,1.1s,SNR=8.6									
KONT	**Konya--Tatoy**		**80.30**	**318**	*e*P		**P**	**14 54 21.6**	**0.0**
TAOE	**Nuku Hiva Isla**		**80.31**	**115**	*e*LR		LR	15 19 23.0	
	comp=Z,901nm,23.1s,baz=323									
T51A	**Gray**		**80.33**	**44**	P		**P**	**14 54 21.7**	**-0.1**
	baz=325									
U50A	**Jamestown**		**80.36**	**45**	P		**P**	**14 54 22.4**	**+0.5**
	baz=324									
V49A	**McMinnville**		**80.37**	**46**	P		**P**	**14 54 21.2**	**-0.8**
	baz=324									
W48A	**Pulaski**		**80.37**	**47**	P		**P**	**14 54 22.4**	**+0.4**
	baz=323									
CEY	**Cerknica**		**80.37**	**333**	*e*P		**P**	**14 54 21.8**	**0.0**
BLY	**Banja Luka**		**80.40**	**331**	⇑*i*P		**P**	**14 54 21.7**	**-0.2**
Y46A	**Houston**		**80.41**	**49**	P		**P**	**14 54 22.4**	**+0.2**
	baz=323									
X47A	**Russelville**		**80.41**	**48**	P		**P**	**14 54 22.2**	**0.0**
	baz=323									
BBLS	**Lazići**		**80.44**	**329**	⇑*i*P		**P**	**14 54 22.9**	**+0.6**
HAU	**Haudompre**		**80.47**	**339**	*e*P		**P**	**14 54 22.7**	**+0.4**
HAU					pmax	pmax				
	comp=Z,42nm,1.4s									
MZR	**Muzera**		**80.52**	**294**	*i* P		**P**	**14 54 24.1**	**+1.1**
	SNR=39									
ALN	**Alexandroupoli**		**80.53**	**323**	*e*P		**P**	**14 54 22.4**	**-0.3**
	comp=Z,33nm,1.3s									
ALN	**Alexandroupoli**		**80.53**	**323**	*e*P		**P**	**14 54 22.4**	**-0.3**
ALN					pmax	pmax				
	comp=Z,33nm,1.3s									
STKA	**Stephens Creek**		**80.54**	**192**	P		**P**	**14 54 23.0**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=136,slow=0.9,SNR=4.1									
STKA					LR		LR	15 28 22.4		
	comp=Z,268nm,21.7s,baz=22,slow=34									
N59A	**State Game Lan**		**80.59**	**37**	P		**P**	**14 54 23.5**	**+0.4**
	baz=328									
W49A	**Belvidere**		**80.71**	**47**	P		**P**	**14 54 23.8**	**0.0**
	baz=324									
PMOR	**Pomariorio Ree**		**80.73**	**125**	*e*T		T	16 23 32.0		
	comp=Z,8.6nm,0.2s									
FUORN	**Ofenpass-Fuorn**		**80.76**	**336**	*e*P		**P**	**14 54 24.4**	**+0.3**
	comp=Z,78nm,1.4s									
U51A	**La Follette**		**80.78**	**45**	P		**P**	**14 54 24.7**	**+0.6**
	baz=325									
SWET	**Sewanee**		**80.80**	**46**	*e*P		**P**	**14 54 24.1**	**-0.2**
	comp=Z,15nm,0.6s									
V50A	**Pikevile**		**80.83**	**46**	P		**P**	**14 54 24.9**	**+0.5**
	baz=324									
TZTN	**Tazewell**		**80.86**	**44**	P		**P**	**14 54 24.8**	**+0.2**
	baz=325									
X48A	**Hartselle**		**80.86**	**48**	*e*P		**P**	**14 54 24.0**	**-0.6**
	comp=Z,12nm,0.6s									
X48A	**Hartselle**		**80.86**	**48**	P		**P**	**14 54 24.0**	**-0.6**
	baz=323									
Y47A	**UCPARC, Winfie**		**80.90**	**49**	P		**P**	**14 54 24.2**	**-0.6**
	baz=323									
U52A	**Thorn Hill**		**81.07**	**44**	P		**P**	**14 54 25.4**	**-0.3**
	baz=325									
V51A	**Loudon**		**81.08**	**45**	P		**P**	**14 54 26.3**	**+0.5**
	baz=324									
W50A	**Signal Mountai**		**81.11**	**46**	P		**P**	**14 54 26.2**	**+0.2**
	baz=324									
TUE	**Stuetta**		**81.14**	**337**	*e*P		**P**	**14 54 26.7**	**+0.6**
	comp=Z,34nm,0.8s									
X49A	**Woodville**		**81.17**	**47**	P		**P**	**14 54 26.3**	**0.0**
	baz=324									
UPM	**Unac-Piva**		**81.19**	**329**	*e*P		**P**	**14 54 27.8**	**+1.4**
Y48A	**Jasper**		**81.23**	**48**	P		**P**	**14 54 24.8**	**-1.8**
	baz=323									
LDF	**La Druitiere**		**81.29**	**344**	*e*P		**P**	**14 54 27.3**	**+0.7**
LDF					pmax	pmax				
	comp=Z,67nm,1.6s									
SRS	**Serrai**		**81.30**	**325**	P		**P**	**14 54 27.8**	**+0.9**
SRS					pmax	pmax				
	comp=Z,27nm,1.5s									
STIP	**Stip**		**81.34**	**326**	*i* P		**P**	**14 54 26.1**	**-0.9**
Z47A	**Carrollton**		**81.35**	**49**	P		**P**	**14 54 26.9**	**-0.3**
	baz=323									
SKO	**Skopje**		**81.37**	**327**	*i* P		**P**	**14 54 28.0**	**+0.8**
V52A	**Sevierville**		**81.41**	**45**	*e*pP		pP	14 54 39.8	**+0.2**
V52A	**Sevierville**		**81.41**	**45**	P		**P**	**14 54 28.0**	**+0.5**
	baz=325									
W51A	**Cleveland**		**81.41**	**46**	P		**P**	**14 54 27.2**	**-0.3**
	baz=324									
U53A	**Fall Branch**		**81.46**	**44**	P		**P**	**14 54 27.4**	**-0.4**
	baz=325									
Z48A	**Northport**		**81.47**	**49**	P		**P**	**14 54 27.8**	**-0.1**
	baz=323									
TKL	**Tuckaleechee C**		**81.47**	**45**	P		**P**	**14 54 28.1**	**+0.2**
	comp=Z,2.0nm,0.5s,baz=306,slow=6.9									
VAY	**Valandovo**		**81.52**	**326**	*i* P		**P**	**14 54 28.4**	**+0.5**
MANT	**Manisa**		**81.52**	**320**	*e*P		**P**	**14 54 28.2**	**-0.2**
KNT	**Kendrikon**		**81.53**	**326**	P		**P**	**14 54 29.0**	**+0.9**
KNT					pmax	pmax				
	comp=Z,24nm,1.6s									
X50B	**Fort Payne**		**81.54**	**47**	P		**P**	**14 54 28.2**	**0.0**
	baz=324									
BRY	**Bratogost**		**81.58**	**329**	*e*P		**P**	**14 54 26.6**	**-1.9**
GRR	**Gorron**		**81.62**	**344**	*e*P		**P**	**14 54 29.2**	**+0.8**
GRR					pmax	pmax				
	comp=Z,72nm,1.6s									
Y49A	**Blount Mountai**		**81.65**	**48**	*e*P		**P**	**14 54 28.6**	**-0.2**
	comp=Z,16nm,0.7s									
Y49A	**Blount Mountai**		**81.65**	**48**	P		**P**	**14 54 29.0**	**+0.1**
	baz=324									
147A	**Livingston**		**81.66**	**50**	*e*P		**P**	**14 54 29.2**	**+0.4**
	comp=Z,32nm,0.8s									
147A	**Livingston**		**81.66**	**50**	P		**P**	**14 54 29.1**	**+0.2**
	baz=323									
LOR	**Lormes**		**81.73**	**341**	*e*P		**P**	**14 54 29.6**	**+0.6**
LOR					pmax	pmax				
	comp=Z,15nm,0.9s									
BLA	**Blacksburg**		**81.74**	**42**	P		**P**	**14 54 29.5**	**+0.2**
	baz=326									
PDG	**Podgorica**		**81.75**	**329**	⇓*i*P		**P**	**14 54 29.6**	**+0.5**
PDG	**Podgorica**		**81.75**	**329**	*e*P		**P**	**14 54 29.7**	**+0.6**
TTG	**Podgorica**		**81.75**	**329**	*e*P		**P**	**14 54 28.9**	**-0.3**
	comp=Z,32nm,1.1s									
TTG	**Podgorica**		**81.75**	**329**	*e*P		**P**	**14 54 28.9**	**-0.3**
TTG					pmax	pmax				
	comp=Z,32nm,1.1s									
SENIN	**Lac Senin/Sane**		**81.77**	**338**	*e*P		**P**	**14 54 29.3**	**-0.2**
	comp=Z,54nm,1.6s									
TREB	**Trebinje**		**81.81**	**329**	*e*P		**P**	**14 54 29.4**	**-0.1**
CABF	**La Chapelle**		**81.84**	**339**	*e*P		**P**	**14 54 30.5**	**+0.8**
CABF					pmax	pmax				
	comp=Z,128nm,2.1s									
GRG	**Griva**		**81.89**	**326**	*e*P		**P**	**14 54 31.6**	**+1.6**
GRG					pmax	pmax				
	comp=Z,15nm,2.0s									
V53A	**Saluda**		**81.92**	**44**	P		**P**	**14 54 29.7**	**-0.5**
	baz=325									
PPT	**Papeete**		**81.93**	**128**	LR		LR	15 23 17.9		
	comp=Z,400nm,20.1s,baz=310,slow=30									
PPT2	**Papeete2**		**81.95**	**128**	*e*S		**S**	**15 04 40.4**	**-1.1**
	comp=Z,691nm,32.8s									
PPT2	**Papeete2**		**81.95**	**128**	*e*LR		LR	15 20 14.4		
	comp=Z,681nm,21.8s,baz=320									
PPT2	**Papeete2**		**81.95**	**128**	*e*T		T	16 25 02.0		
	comp=Z,1.8nm,0.2s									
Y50A	**Piedmont**		**81.96**	**47**	P		**P**	**14 54 30.6**	**+0.2**
	baz=324									
KRUS	**Krusevo**		**81.97**	**327**	*i* P		**P**	**14 54 30.6**	**+0.1**
247A	**Quitman**		**81.98**	**50**	P		**P**	**14 54 32.0**	**+1.4**
	baz=323									
DRME	**Dracevica, Mon**		**81.99**	**328**	*e*P		**P**	**14 54 30.7**	**+0.3**
SSF	**Saint Saulge**		**82.01**	**341**	*e*P		**P**	**14 54 31.1**	**+0.7**
SSF					pmax	pmax				
	comp=Z,9.0nm,0.8s									
LRAL	**Lakeview Retre**		**82.02**	**49**	*e*P		**P**	**14 54 30.9**	**+0.2**
	comp=Z,9.7nm,0.7s									
LRAL	**Lakeview Retre**		**82.02**	**49**	P		**P**	**14 54 30.8**	**+0.1**
	baz=324									
SGMF	**Saint Gilles**		**82.06**	**345**	*e*P		**P**	**14 54 31.5**	**+0.8**
SGMF					pmax	pmax				
	comp=Z,201nm,1.9s									
Z49A	**Columbiana**		**82.12**	**48**	P		**P**	**14 54 31.1**	**-0.2**
	baz=324									
FORT	**Forrest**		**82.19**	**203**	*e*P		**P**	**14 54 31.8**	**+0.5**
	comp=Z,59nm,0.7s									
X52A	**Dahlonega**		**82.28**	**45**	P		**P**	**14 54 32.7**	**+0.6**
	baz=325									
Y51A	**Rockmart**		**82.28**	**47**	P		**P**	**14 54 32.3**	**+0.1**
	baz=324									
CSS	**Mathiatis**		**82.29**	**315**	*e*P		**P**	**14 54 32.1**	**-0.1**
	comp=Z,118nm,1.6s									
AVF	**Avril sur Loir**		**82.30**	**341**	*e*P		**P**	**14 54 32.7**	**+0.8**
AVF					pmax	pmax				
	comp=Z,11nm,0.6s									
SMF	**Signal de Mont**		**82.33**	**340**	*e*P		**P**	**14 54 32.8**	**+0.7**
SMF					pmax	pmax				
	comp=Z,82nm,1.5s									
OHR	**Ohrid**		**82.36**	**327**	*i* P		**P**	**14 54 32.1**	**-0.3**
Z50A	**Ashland**		**82.38**	**48**	*e*P		**P**	**14 54 32.5**	**-0.2**
	comp=Z,35nm,0.7s									
Z50A	**Ashland**		**82.38**	**48**	P		**P**	**14 54 32.9**	**+0.3**
	baz=324									
BG3	**Lake Jocassee**		**82.41**	**45**	*e*P		**P**	**14 54 32.9**	**+0.1**
	comp=Z,10nm,0.7s									
149A	**Jones**		**82.47**	**49**	P		**P**	**14 54 33.3**	**+0.2**
	baz=324									
X53A	**Estanollee**		**82.64**	**45**	P		**P**	**14 54 34.7**	**+0.8**
	baz=325									
Z51A	**Franklin**		**82.70**	**47**	P		**P**	**14 54 34.7**	**+0.4**
	baz=324									
LPL	**La Plagne**		**82.70**	**338**	*e*P		**P**	**14 54 35.8**	**+1.4**
LPL					pmax	pmax				
	comp=Z,32nm,0.9s									
LPG	**La Plagne**		**82.72**	**338**	*e*P		**P**	**14 54 36.0**	**+1.5**
LPG					pmax	pmax				
	comp=Z,82nm,1.4s									
249A	**Camden**		**82.80**	**49**	P		**P**	**14 54 35.1**	**+0.2**
	baz=324									
150A	**Eclectic**		**82.85**	**48**	P		**P**	**14 54 35.1**	**+0.1**
	baz=324									
TCF	**Toulx Ste Croi**		**83.02**	**341**	*e*P		**P**	**14 54 36.1**	**+0.3**
TCF					pmax	pmax				
	comp=Z,67nm,1.6s									
Y53A	**Monroe**		**83.03**	**46**	P		**P**	**14 54 36.8**	**+0.8**
	baz=325									
KMSC	**Kings Mountain**		**83.03**	**43**	*e*pP		pP	14 54 48.1	0.0
BNI	**Bardonecchia**		**83.15**	**338**	*e*P		**P**	**14 54 36.5**	**-0.1**
	comp=Z,111nm,2.0s									
BNI	**Bardonecchia**		**83.15**	**338**	*e*P		**P**	**14 54 36.5**	**-0.1**
BNI					pmax	pmax				
	comp=Z,111nm,2.0s									
Z52A	**Williamson**		**83.17**	**47**	P		**P**	**14 54 37.2**	**+0.4**
	baz=325									
250A	**Grady**		**83.23**	**49**	*e*P		**P**	**14 54 37.0**	**-0.1**
	comp=Z,23nm,0.7s									
250A	**Grady**		**83.23**	**49**	P		**P**	**14 54 37.8**	**+0.7**
	baz=324									
151A	**Opelika**		**83.26**	**48**	P		**P**	**14 54 37.1**	**-0.1**
	baz=324									
HODGE	**Hodges**		**83.35**	**45**	*e*P		**P**	**14 54 38.8**	**+1.1**
	comp=Z,26nm,1.5s									
MBDF	**Montbardon**		**83.43**	**338**	*e*P		**P**	**14 54 39.0**	**+0.9**
MBDF					pmax	pmax				
	comp=Z,83nm,1.8s									
152A	**Waverly Hall**		**83.45**	**47**	*e*P		**P**	**14 54 38.0**	**-0.1**
	comp=Z,13nm,1.0s									
152A	**Waverly Hall**		**83.45**	**47**	P		**P**	**14 54 38.5**	**+0.3**
	baz=325									
GOGA	**Godfrey**		**83.45**	**46**	P		**P**	**14 54 39.1**	**+0.9**
	baz=325									
Y54A	**Tignall**		**83.45**	**45**	P		**P**	**14 54 39.2**	**+1.0**
	baz=325									
SSB	**Saint Sauveur**		**83.45**	**340**	*e*P		**P**	**14 54 37.6**	**-0.4**
	comp=Z,77nm,1.6s									
SSB	**Saint Sauveur**		**83.45**	**340**	*e*P		**P**	**14 54 37.6**	**-0.4**
SSB					pmax	pmax				
	comp=Z,77nm,1.6s									
ORIF	**Oris-en-Rattie**		**83.47**	**338**	*e*P		**P**	**14 54 39.5**	**+1.3**
ORIF					pmax	pmax				
	comp=Z,56nm,1.4s									
Z53A	**Monticello**		**83.51**	**46**	P		**P**	**14 54 39.1**	**+0.7**
	baz=325									
251A	**Midway**		**83.57**	**48**	P		**P**	**14 54 38.7**	**-0.1**
	baz=324									
VIVF	**Saint-Julien-l**		**83.82**	**339**	*e*P		**P**	**14 54 41.1**	**+1.2**
VIVF					pmax	pmax				
	comp=Z,81nm,2.0s									
Z54A	**Sparta**		**83.89**	**46**	P		**P**	**14 54 40.6**	**+0.1**
	baz=325									
352A	**Blakely**		**84.31**	**48**	*e*P		**P**	**14 54 42.7**	**+0.2**
	comp=Z,33nm,0.7s									
352A	**Blakely**		**84.31**	**48**	P		**P**	**14 54 43.4**	**+0.9**
	baz=325									
254A	**Abbeville**		**84.73**	**47**	P		**P**	**14 54 45.9**	**+1.2**
	baz=325									
353A	**Camilla**		**84.77**	**48**	P		**P**	**14 54 46.0**	**+1.1**
	baz=325									
RAYN	**Ar Rayn**		**84.90**	**300**	*e*P		**P**	**14 54 45.9**	**+0.2**
	comp=Z,17nm,0.6s									
RAYN	**Ar Rayn**		**84.90**	**300**	*i* P		**P**	**14 54 46.7**	**+0.9**
	SNR=29									
RAYN	**Ar Rayn**		**84.90**	**300**	*e*P		**P**	**14 54 45.9**	**+0.2**
RAYN					pmax	pmax				
	comp=Z,17nm,0.6s									
TIGA	**Tifton**		**85.00**	**47**	P		**P**	**14 54 47.0**	**+1.0**
	baz=325									
ITM	**Ithomi**		**85.36**	**324**	*e*P		**P**	**14 54 46.9**	**-0.9**
	comp=Z,18nm,0.8s									
TIP	**Timpagrande**		**85.51**	**329**	⇓*i*P		**P**	**14 54 48.6**	**0.0**
IDI	**Anoyia**		**85.79**	**321**	*e*P		**P**	**14 54 48.3**	**-1.7**
	comp=Z,14nm,1.1s									
IDI	**Anoyia**		**85.79**	**321**	⇑*i*P		**P**	**14 54 49.1**	**-0.9**
MTLF	**Montolieu**		**85.83**	**340**	*e*P		**P**	**14 54 52.9**	**+2.9**
MTLF					pmax	pmax				
	comp=Z,73nm,2.2s									
TBI	**Tubuai**		**86.78**	**131**	*e*S		**S**	**15 05 28.2**	**-1.1**
	comp=Z,382nm,31.0s									
TBI	**Tubuai**		**86.78**	**131**	*e*LR		LR	15 22 17.5		
	comp=Z,956nm,25.0s,baz=329									
ETSF	**Etsaut**		**86.84**	**342**	*e*P		**P**	**14 54 57.0**	**+1.9**
ETSF					pmax	pmax				
	comp=Z,13nm,1.1s									
ESDC	**Sonseca Array**		**90.62**	**344**	P		**P**	**14 55 11.8**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=28,slow=5.8,SNR=5.7									
ESDC					LR		LR	15 40 44.5		
	comp=Z,566nm,20.3s,baz=355,slow=39									
KEST	**Kesra**		**91.07**	**333**	P		**P**	**14 55 14.9**	**-0.2**
	comp=Z,5.1nm,0.6s,baz=27,slow=1.6,SNR=4.6									
KEST					LR		LR	15 41 20.5		
	comp=Z,940nm,19.4s,baz=346,slow=39									
TORD	**Torodi Ar. Bea**		**114.55**	**331**	PKP		PKPdf	15 00 49.7	-1.2
	comp=Z,0.5nm,0.4s,baz=16,slow=2.2,SNR=7.9									
DBIC	**Dimbokro**		**122.64**	**336**	PKP		**PKPdf**	**15 01 05.2**	**-1.3**
	comp=Z,2.2nm,0.5s,baz=18,slow=2.9,SNR=4.5									
TIC	**Toumodi**		**122.71**	**336**	*e*P		**Pdif**	**14 57 35.6**	**-1.5**
KIC	**Kosan Boka**		**122.90**	**336**	*e*P		**Pdif**	**14 57 33.5**	**-4.4**
	comp=Z,88nm,2.0s									
LIC	**Lamto**		**123.11**	**336**	*e*P		**Pdif**	**14 57 31.9**	**-6.9**
	comp=Z,13nm,0.3s									
VNDA	**Vanda**		**125.44**	**178**	PKP		**PKPdf**	**15 01 09.4**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=302,slow=3.7,SNR=6.8									
VNDA	**Vanda**		**125.44**	**178**	*e*PKPdf		**PKPdf**	**15 01 10.4**	**+0.5**
LPAZ	**La Paz**		**132.55**	**63**	PKP		**PKPdf**	**15 01 26.4**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=66,slow=3.2,SNR=4.2								

MTN	**Manton Dam**	**15.40**	**152**	*e*P		**P**	**15 03 43.8**	**+0.8**
	14nm,0.6s							
FITZ	**Fitzroy Crossi**	**18.93**	**175**	P		**P**	**15 04 21.3**	**-0.1**
	1.0nm,0.3s,baz=353,slow=6.3,SNR=30							
FITZ	**Fitzroy Crossi**	**18.93**	**175**	*e*P		**P**	**15 04 21.1**	**-0.2**
	6.6nm,0.8s							
TPUB	**Ta-pu**	**22.52**	**352**	*e*P		**P**	**15 04 57.9**	**+0.3**
	193nm,1.7s							
WRAB	**Tennant Creek**	**23.07**	**154**	*e*P		**P**	**15 05 02.6**	**-0.1**
	23nm,0.7s							
WRA	**Warramunga Arr**	**23.08**	**154**	P		**P**	**15 05 02.7**	**0.0**
	24nm,0.6s,baz=337,slow=9.9,SNR=213							
WRA				ScP		**ScP**	**15 11 54.4**	**-3.7**
	0.3nm,0.6s,baz=335,slow=2.9,SNR=4.2							
WB2	**Warramunga Arr**	**23.08**	**154**	*e*P		**P**	**15 05 02.6**	**-0.1**
SURA	**Surathani**	**25.53**	**290**	P		P	15 05 34.1	+9.2
AS31	**Alice Springs**	**26.25**	**159**	*e*P		**P**	**15 05 31.5**	**+0.2**
	1.6nm,1.0s							
ASAR	**Alice Springs**	**26.25**	**159**	P		**P**	**15 05 31.6**	**+0.3**
	1.8nm,0.4s,baz=339,slow=6.8,SNR=55							
ASAR				PcP		**PcP**	**15 08 50.8**	**-0.3**
	0.4nm,0.3s,baz=351,slow=2.1,SNR=4.6							
ASAR				ScP		**ScP**	**15 12 04.0**	**-3.0**
	0.9nm,0.8s,baz=342,slow=2.6,SNR=10							
AS01	**Alice Springs**	**26.27**	**159**	*e*P		**P**	**15 05 31.4**	**-0.1**
CM01	**Chiang Mai Arr**	**30.06**	**307**	*e*P		**P**	**15 06 05.8**	**+0.7**
CMAR	**Chiang Mai Arr**	**30.10**	**307**	P		**P**	**15 06 04.4**	**-1.0**
	0.9nm,0.9s,baz=136,slow=7.1,SNR=7.3							
CMMT	**Chiang Mai**	**30.28**	**308**	P		**P**	**15 06 08.4**	**+1.3**
CHTO	**Chiang Mai**	**30.29**	**308**	*e*P		**P**	**15 06 07.6**	**+0.5**
	3.8nm,0.9s							
CHTO	**Chiang Mai**	**30.29**	**308**	P		**P**	**15 06 08.5**	**+1.4**
	20nm,1.1s							
KSRS	**Korea Array**	**36.59**	**5**	P		**P**	**15 07 01.4**	**+0.3**
	1.1nm,0.7s,baz=179,slow=9.2,SNR=3.9							
STKA	**Stephens Creek**	**36.63**	**154**	P		**P**	**15 07 02.2**	**+0.7**
	6.3nm,0.5s,baz=331,slow=8.5,SNR=25							
STKA	**Stephens Creek**	**36.63**	**154**	*e*P		**P**	**15 07 01.9**	**+0.3**
	1.5nm,0.7s							
MJAR	**Matsushiro Arr**	**37.89**	**19**	P		**P**	**15 07 11.3**	**-0.8**
	1.9nm,0.6s,baz=186,slow=8.7,SNR=3.1							
LZH	**Lanzhou**	**39.68**	**334**	*e*P		**P**	**15 07 30.5**	**+3.4**
LZH				pP		pP	15 08 22.0	+3.5
LZH				sP		sP	15 08 50.3	+3.3
LZH				*e*PP		**PnPn**	**15 09 14.0**	**+4.1**
LZH				pmax		pmax		
	comp=Z,29nm,1.1s							
LZH				pmax		pmax		
	comp=Z,110nm,5.6s							
HHC	**Hu-ho-hao-te**	**41.34**	**346**	*e*P		**P**	**15 07 44.0**	**+3.5**
HHC				pmax		pmax		
	comp=Z,12nm,0.5s							
HHC				pmax		pmax		
	comp=Z,540nm,6.1s							
CAN	**Canberra**	**42.96**	**149**	*e*P		**P**	**15 07 54.8**	**+1.2**
	comp=Z,12nm,0.6s							
USRK	**Ussuriysk Ar.**	**43.74**	**8**	P		**P**	**15 07 59.9**	**+0.4**
	comp=Z,2.0nm,0.4s,baz=193,slow=5.2,SNR=7.2							
RAMN	**Ramite**	**44.21**	**309**	*e*P		**P**	**15 08 04.1**	**+0.2**
	comp=Z,13nm,0.6s							
GTA	**Gaotai**	**44.22**	**333**	*e*P		**P**	**15 08 04.5**	**+0.9**
GTA				pP		pP	15 08 08.5	-48
GTA				sP		sP	15 08 11.5	-73
GTA				pmax		pmax		
	comp=Z,4.0nm,0.8s							
JIRN	**Jiri**	**44.88**	**310**	*e*P		**P**	**15 08 09.7**	**+0.4**
	comp=Z,15nm,0.4s							
GUN	**Gumba**	**45.24**	**310**	*e*P		**P**	**15 08 13.4**	**+1.3**
	comp=Z,16nm,0.4s							
PKI	**Pulchoki**	**45.44**	**309**	*e*P		**P**	**15 08 13.8**	**+0.2**
	comp=Z,4.7nm,0.4s							
KKN	**Kakani**	**45.65**	**309**	*e*P		**P**	**15 08 15.3**	**+0.2**
	comp=Z,8.8nm,0.6s							
KOLN	**Koldanda**	**46.95**	**308**	*e*P		**P**	**15 08 25.0**	**-0.2**
	comp=Z,26nm,0.7s							
DANN	**Dangsing**	**47.09**	**309**	*e*P		**P**	**15 08 26.5**	**+0.1**
	comp=Z,26nm,0.7s							
PYUN	**Piuthan**	**47.58**	**308**	*e*P		**P**	**15 08 29.8**	**-0.2**
	comp=Z,24nm,0.7s							
SONM	**Songino Array**	**49.19**	**344**	P		**P**	**15 08 40.9**	**-0.9**
	comp=Z,2.6nm,0.7s,baz=159,slow=6.1,SNR=17							
WMQ	**Urumqi**	**53.53**	**328**	*e*P		**P**	**15 09 15.0**	**+1.0**
NIL	**Nilore**	**57.51**	**310**	*e*P		**P**	**15 09 42.3**	**0.0**
	comp=Z,16nm,1.5s							
KSH	**Kashi**	**58.14**	**317**	*e*P		**P**	**15 09 51.0**	**+4.2**
MK01	**Makanchi Array**	**58.34**	**328**	*e*P		**P**	**15 09 46.8**	**-1.1**
MK31	**Makanchi Array**	**58.36**	**328**	*e*P		**P**	**15 09 46.5**	**-1.5**
MKAR	**Makanchi Array**	**58.36**	**328**	P		**P**	**15 09 47.0**	**-1.0**
	comp=Z,2.0nm,0.3s,baz=125,slow=8.3,SNR=44							
MKAR				ScP		**ScP**	**15 14 06.2**	**-6.0**
	comp=Z,0.5nm,0.8s,baz=132,slow=4.3,SNR=2.7							
ZALV	**Zalesovo Beam**	**61.91**	**335**	P		**P**	**15 10 09.6**	**-2.2**
	comp=Z,1.3nm,0.3s,baz=133,slow=6.4,SNR=5.6							
KURK	**Kurchatov**	**62.69**	**329**	*e*P		**P**	**15 10 15.4**	**-1.6**
	comp=Z,9.2nm,1.1s							
TIXI	**Tiksi**	**70.74**	**2**	P		**P**	**15 11 06.1**	**-1.2**
	comp=Z,2.8nm,0.3s,baz=180,slow=5.1,SNR=18							
TIXI	**Tiksi**	**70.74**	**2**	*e*P		**P**	**15 11 05.6**	**-1.8**
	comp=Z,5.8nm,1.1s							
NRIK	**Noril'sk**	**72.55**	**347**	P		**P**	**15 11 17.1**	**-1.0**
	comp=Z,4.2nm,0.7s,baz=129,slow=9.1,SNR=9.1							
ABKAR	**Akbulak array**	**72.60**	**322**	*e*P		**P**	**15 11 17.0**	**-1.9**
VNDA	**Vanda**	**80.98**	**172**	P		**P**	**15 12 04.6**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=313,slow=6.5,SNR=8.0							
ILAR	**Eielson Array**	**88.88**	**25**	P		**P**	**15 12 43.1**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=274,slow=4.1,SNR=3.0							
ARCES	**ARCESS Array B**	**92.13**	**340**	P		**P**	**15 12 57.0**	**-2.4**
	comp=Z,2.5nm,0.9s,baz=55,slow=6.4,SNR=4.8							

NEIC ***27*** *15:00:43.7±2.1,53.53°N×163.12°W,h16km±13km,mb4.1/6, ML3.4(AEIC),Error ellipse: s-maj=12.1km s-min=3.0km az=166.0*

AEIC ***27*** *15:00:44.7±0.0,53.46°N×163.15°W,h42km*

IDC ***27*** *15:00:45.1±2.6,54.19°N×163.69°W,h0km,mb3.9/10, mb1 3.9/13,mb1mx3.7/62,mbtmp3.8/13,ML3.3/3,MS3.8/1, Ms1 3.8/1,ms1mx3.0/48,Error ellipse: s-maj=66.8km s-min=17.7km az=158.0*

ISC 27 15:00:46.2±2.4,53.6N±0.1×163.20W±0.05,h24km±15km, n91,σ1°64/92,mb4.2/17,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISLZ	**Isanotski Laza**	**1.14**	**345**	P	**Pn**	**15 01 06.9**	**+0.2**
WESE	**West Dahl East**	**1.18**	**317**	P	**Pn**	**15 01 07.2**	**-0.1**
FALS	**False Pass**	**1.24**	**354**	P	**Pb**	**15 01 08.7**	**-0.3**
FALS				S	**Sb**	**15 01 26.7**	**+2.3**
WESP	**Westdahl Peak**	**1.25**	**315**	P	**Pn**	**15 01 08.2**	**0.0**
SSBA	**Shishaldin**	**1.27**	**335**	P	**Pn**	**15 01 08.8**	**+0.3**
SSBA				S	**Sb**	**15 01 29.2**	**+3.8**
WECS	**Westdahl Cape**	**1.30**	**315**	P	**Pn**	**15 01 09.1**	**+0.2**
DRIA	**Deer Island**	**1.45**	**22**	P	**Pn**	**15 01 10.6**	**-0.3**
AKSA	**Akutan Strait**	**1.56**	**290**	P	**Pn**	**15 01 11.9**	**-0.5**
AKSA				S	**Sn**	**15 01 32.2**	**+0.3**
DT1	**Dutton Round H**	**1.58**	**20**	P	**Pn**	**15 01 12.7**	**+0.1**
AKUT	**Akutan**	**1.61**	**290**	P	**Pn**	**15 01 12.7**	**-0.2**
AKUT				S	**Sb**	**15 01 34.3**	**-0.7**
AHB	**Akutan Harbor**	**1.62**	**289**	P	**Pn**	**15 01 12.9**	**-0.4**
ZRO	**Akutan Zero**	**1.71**	**287**	P	**Pn**	**15 01 13.9**	**-0.6**
DOL	**Dolgoi Island**	**1.71**	**27**	P	**Pn**	**15 01 14.6**	**+0.1**
AKLV	**Akutan Long Va**	**1.72**	**289**	P	**Pn**	**15 01 14.0**	**-0.6**
AKMO	**Akutan Morgan**	**1.73**	**287**	P	**Pn**	**15 01 14.0**	**-0.6**
AKMO				S	**Sn**	**15 01 36.4**	**+0.4**
AKGG	**Akutan Green G**	**1.75**	**290**	P	**Pn**	**15 01 14.6**	**-0.4**
AKRB	**Akutan Reef Bi**	**1.77**	**288**	P	**Pn**	**15 01 14.7**	**-0.6**
HAG	**Hague Volcano**	**1.86**	**24**	P	**Pn**	**15 01 17.3**	**+0.8**
PS4A	**Pavlof South-4**	**1.90**	**24**	P	**Pn**	**15 01 17.9**	**+1.0**
UNV	**Unalaska Valle**	**1.97**	**278**	P	**Pn**	**15 01 16.8**	**-1.2**
MNAT	**Makushin Natee**	**2.08**	**279**	P	**Pn**	**15 01 18.8**	**-0.8**
MREP	**Makushin Rep't**	**2.12**	**276**	P	**Pn**	**15 01 19.4**	**-0.7**
MSW	**Makushin Switc**	**2.15**	**279**	P	**Pn**	**15 01 19.7**	**-0.8**
MSW				S	**Sn**	**15 01 47.0**	**+0.7**
MGOD	**Makushin Gods**	**2.19**	**276**	P	**Pn**	**15 01 20.3**	**-0.7**
SDPT	**Sand Point**	**2.35**	**41**	P	**Pn**	**15 01 23.8**	**+0.7**
SDPT				S	**Sn**	**15 01 52.7**	**+1.5**
OKWE	**Okmok W'ng Wal**	**3.01**	**269**	P	**Pn**	**15 01 32.2**	**-0.1**
CHGN	**Chignik**	**3.85**	**44**	*e*Pn	**Pn**	**15 01 44.1**	**+0.3**
SII	**Sitkinak Islan**	**5.95**	**57**	*e*Pn	**Pn**	**15 02 11.6**	**-1.2**
OHAK	**Old Harbor**	**6.69**	**53**	*e*Pn	**Pn**	**15 02 21.9**	**-0.9**
KDAK	**Kodiak Island**	**7.30**	**51**	Pn	**Pn**	**15 02 30.1**	**-1.1**
	1.0nm,0.3s,baz=202,slow=7.0,SNR=12						
KDAK				Sn	**Sn**	**15 03 48.6**	**-4.5**
	baz=315,slow=20,SNR=3.3						
CNPM	**China Poot**	**8.86**	**43**	*e*Pn	**Pn**	**15 02 52.6**	**+0.1**
BRLK	**Bradley Lake**	**9.14**	**43**	*e*Pn	**Pn**	**15 02 55.6**	**-0.8**
SEW	**Seward**	**9.93**	**44**	*e*Pn	**Pn**	**15 03 06.5**	**-0.7**
SUA	**Susitna One**	**10.30**	**35**	*e*Pn	**Pn**	**15 03 11.7**	**-0.7**
RC01	**Rabbit Creek A**	**10.41**	**39**	*e*Pn	**Pn**	**15 03 13.9**	**+0.1**
GHO	**Glory Hole Cre**	**11.16**	**37**	*e*Pn	**Pn**	**15 03 21.7**	**-2.3**
FID	**Port Fidalgo**	**11.52**	**45**	*e*Pn	**Pn**	**15 03 27.1**	**-1.8**
EYAK	**Cordova Ski Ar**	**11.73**	**47**	*e*Pn	**Pn**	**15 03 29.9**	**-1.9**
SCM	**Sheep Creek Mo**	**11.79**	**39**	*e*Pn	**Pn**	**15 03 30.9**	**-1.8**
TRF	**Thorofare Moun**	**11.91**	**29**	*e*Pn	**Pn**	**15 03 34.3**	**-0.1**
DIV	**Divide**	**12.01**	**44**	*e*Pn	**Pn**	**15 03 34.3**	**-1.4**
RAGM	**Ragged Mountai**	**12.13**	**49**	*e*Pn	**Pn**	**15 03 34.0**	**-3.2**
KLU	**Klutina**	**12.14**	**43**	*e*Pn	**Pn**	**15 03 35.8**	**-1.7**
RND	**Reindeer**	**12.31**	**32**	*e*Pn	**Pn**	**15 03 36.5**	**-3.3**
BMRM	**Bremner River**	**12.42**	**46**	*e*Pn	**Pn**	**15 03 40.0**	**-1.3**
DHY	**Denali Highway**	**12.56**	**35**	*e*Pn	**Pn**	**15 03 41.1**	**-2.1**
HARP	**HAARP**	**12.95**	**40**	*e*Pn	**Pn**	**15 03 48.9**	**+0.4**
PAX	**Paxson**	**13.16**	**38**	*e*Pn	**Pn**	**15 03 49.6**	**-1.9**
RIDG	**Independ'e Rid**	**13.86**	**36**	*e*Pn	**Pn**	**15 03 59.3**	**-1.6**
IL1	**Eielson Array**	**13.89**	**30**	*e*Pn	**Pn**	**15 03 57.8**	**-3.5**
ILAR	**Eielson Array**	**13.89**	**30**	Pn	Pn	15 03 55.3	-6.0
	0.0nm,0.3s,baz=227,slow=13,SNR=2.4						
ILB	**Eielson Array**	**13.89**	**30**	*e*Pn	**Pn**	**15 03 58.1**	**-3.2**
EGAK	**Eagle**	**15.77**	**36**	*e*Pn	**Pn**	**15 04 21.7**	**-4.7**
	4.8nm,1.0s						
DAWY	**Dawson**	**16.04**	**40**	*e*Pn	**Pn**	**15 04 27.7**	**-2.3**
	27nm,1.8s						
WHY	**Whitehorse**	**16.80**	**54**	*e*Pn	**Pn**	**15 04 38.9**	**-0.8**
	24nm,1.8s						
INK	**Inuvik**	**20.27**	**32**	P	**P**	**15 05 17.0**	**-2.5**
	0.2nm,0.3s,baz=227,slow=7.9,SNR=4.0						
BILL	**Bilibino**	**20.41**	**327**	*e*P	**P**	**15 05 19.3**	**-1.7**
	15nm,1.7s						
PETK	**Petropavlovsk-**	**23.14**	**285**	P	**P**	**15 05 47.8**	**-2.6**
	3.6nm,0.7s,baz=86,slow=13,SNR=8.0						
PETK				LR	LR	15 15 18.0	
	comp=Z,206nm,18.3s,baz=38,slow=38						
YKA	**Yellowknife Ar**	**26.58**	**51**	P	**P**	**15 06 24.2**	**+2.3**
	0.7nm,0.6s,baz=273,slow=9.8,SNR=7.9						
PDAR	**Pinedale Array**	**36.54**	**85**	*e*PcP	**PcP**	**15 10 15.6**	**+2.6**
BLYC	**Blythe**	**39.48**	**100**	*e*P	**P**	**15 08 18.4**	**+4.0**
H11N2	**WAKE ISLAND Hy**	**40.89**	**226**	T	T	15 52 01.1	
	baz=25						
H11N3	**WAKE ISLAND Hy**	**40.90**	**226**	T	T	15 51 58.7	
	baz=25						
H11N1	**WAKE ISLAND Hy**	**40.91**	**226**	T	T	15 52 00.1	
	baz=25						
H11S1	**WAKE ISLAND Hy**	**42.06**	**225**	T	T	15 53 26.3	
	baz=26,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**42.07**	**225**	T	T	15 53 27.8	
	baz=26,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**42.08**	**225**	T	T	15 53 28.6	
	baz=26,slow=76,SNR=16						
SONM	**Songino Array**	**53.79**	**303**	P	**P**	**15 10 05.4**	**-1.1**
	1.0nm,0.8s,baz=36,slow=7.7,SNR=4.5						
Q51A	**Peebles**	**54.16**	**71**	*e*P	**P**	**15 10 09.6**	**+0.4**
	14nm,0.6s						
S51A	**Beattyville**	**54.99**	**72**	*e*P	**P**	**15 10 14.3**	**-0.9**
	46nm,0.8s						
HHC	**Hu-ho-hao-te**	**55.88**	**294**	*e*P	**P**	**15 10 23.8**	**+2.1**
HHC				pmax	pmax		
	comp=Z,30nm,0.5s						
HHC				pmax	pmax		
	comp=Z,920nm,6.3s						
ARCES	**ARCESS Array B**	**56.99**	**356**	P	**P**	**15 10 28.1**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=30,slow=9.8,SNR=5.5						
GTA	**Gaotai**	**63.14**	**300**	*e*P	P	15 11 18.3	+6.5
GTA				pP	sP	15 11 21.8	-0.6
GTA				sP	pP	15 11 24.3	+4.8
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
LZH	**Lanzhou**	**63.50**	**295**	*e*P	**P**	**15 11 14.0**	**-0.3**
LZH				pP	pP	15 11 19.3	-2.7
LZH				sP	sP	15 11 21.0	-3.9
LZH				*e*PP	**PP**	**15 13 37.5**	**+3.8**
LZH				pmax	pmax		
	comp=Z,30nm,1.0s						
LZH				pmax	pmax		
	comp=Z,130nm,4.3s						
BRVK	**Borovoye**	**64.76**	**328**	*e*P	**P**	**15 11 21.3**	**-0.7**
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**65.04**	**355**	P	**P**	**15 11 22.4**	**-1.3**
	comp=Z,2.2nm,0.8s,baz=355,slow=6.1,SNR=3.0						
MKAR	**Makanchi Array**	**65.55**	**317**	P	**P**	**15 11 26.2**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=42,slow=7.8,SNR=4.4						
WMQ	**Urumqi**	**65.60**	**311**	*e*P	**P**	**15 11 29.8**	**+2.0**
ABKAR	**Akbulak array**	**71.21**	**332**	*e*P	**P**	**15 12 02.4**	**-0.3**
AAK	**Ala-Archa**	**72.11**	**319**	*e*P	**P**	**15 12 08.7**	**+0.3**
	comp=Z,13nm,1.8s						
AKASG	**Malin Array Be**	**75.52**	**352**	P	**P**	**15 12 26.9**	**-1.1**
	comp=Z,1.1nm,0.4s,baz=14,slow=6.0,SNR=5.2						
GERES	**GERESS Array B**	**77.87**	**2**	P	**P**	**15 12 41.8**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=22,slow=5.6,SNR=5.2						
GUN	**Gumba**	**79.29**	**303**	*e*P	**P**	**15 12 49.8**	**-0.1**
	comp=Z,7.7nm,0.6s						
JIRN	**Jiri**	**79.34**	**302**	*e*P	**P**	**15 12 50.4**	**+0.2**
	comp=Z,13nm,0.4s						
RAMN	**Ramite**	**79.72**	**302**	*e*P	**P**	**15 12 51.9**	**-0.2**
	comp=Z,8.9nm,0.6s						
PKIN	**Phulchoki**	**79.81**	**303**	*e*P	**P**	**15 12 52.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**79.89**	**287**	P	**P**	**15 12 52.5**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=5.6,slow=4.5,SNR=6.3						
DMN	**Daman**	**79.93**	**303**	*e*P	**P**	**15 12 53.2**	**-0.1**
	comp=Z,6.8nm,0.7s						
DANN	**Dangsing**	**79.98**	**305**	*e*P	**P**	**15 12 53.8**	**+0.2**
	comp=Z,23nm,0.8s						
PYUN	**Piuthan**	**80.57**	**305**	*e*P	**P**	**15 12 56.5**	**-0.2**
	comp=Z,22nm,1.1s						
BRTR	**Keskin Array B**	**85.89**	**347**	P	**P**	**15 13 24.6**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=349,slow=2.5,SNR=4.5						

ISCJB ***27*** *15:02:24.4±0.5,52.4°N±0.2×173.46°W±0.09,h87km±4km, mb3.8/10,Error ellipse: s-maj=26.0km s-min=5.5km az=164.5*

NEIC ***27*** *15:02:24.9±0.0,52.02°N×173.41°W,h65km,ML3.7(AEIC), After AEIC.*

IDC ***27*** *15:02:25.9±3.2,52.31°N×173.45°W,h87km±28km,mb3.5/10, mb1 3.8/12,mb1mx3.4/59,mbtmp3.8/12,Error ellipse: s-maj=28.0km s-min=14.9km az=163.0*

ISC 27 15:02:24.7±0.7,52.3N±0.2×173.42W±0.06,h78km±6km, n34,σ1°42/40,mb3.9/10,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**0.39**	**276**	P	**Pn**	**15 02 38.3**	**+0.9**
KOFP	**Korovin Flat P**	**0.42**	**266**	P	**Pn**	**15 02 38.2**	**+0.6**
ATKA	**Atka Island**	**0.49**	**258**	P	**Pn**	**15 02 37.8**	**-0.3**
ATKA				S	**Sn**	**15 02 47.8**	**-0.2**
KOWE	**Korovin West**	**0.51**	**277**	P	**Pn**	**15 02 39.5**	**+1.1**
GSMY	**Great Sitkin M**	**1.65**	**262**	P	**Pn**	**15 02 52.2**	**+0.4**
GSTD	**Great Sitkin T**	**1.70**	**263**	P	**Pn**	**15 02 53.0**	**+0.4**
GSTD				S	**Sn**	**15 03 14.8**	**+1.1**
GSSP	**Great Sitkin S**	**1.71**	**264**	P	**Pn**	**15 02 53.3**	**+0.6**
ETKA	**Kagalaska Isla**	**1.90**	**258**	P	**Pn**	**15 02 55.2**	**+0.1**
ETKA				S	**Sn**	**15 03 18.7**	**+0.4**
ADAG	**Mount Adagdak**	**1.99**	**262**	P	**Pn**	**15 02 57.3**	**+1.0**
ADK	**Adak**	**2.06**	**259**	P	**Pn**	**15 02 57.7**	**+0.5**
ADK				S	**Sn**	**15 03 23.0**	**+0.9**
KIKV	**Kanaga Island**	**2.35**	**261**	P	**Pn**	**15 03 01.9**	**+0.7**
KIMD	**Kanaga Island**	**2.42**	**258**	P	**Pn**	**15 03 02.7**	**+0.6**
TAPA	**Tanaga Point A**	**2.76**	**261**	P	**Pn**	**15 03 07.4**	**+0.7**
TAFP	**Tanaga Falls P**	**2.84**	**264**	P	**Pn**	**15 03 08.2**	**+0.4**
NIKH	**Nikolski High**	**2.86**	**75**	P	**Pn**	**15 03 09.4**	**+1.4**
NIKH				S	**Sn**	**15 03 43.4**	**+2.0**
TASE	**Tanaga Southea**	**2.89**	**262**	P	**Pn**	**15 03 09.1**	**+0.6**
GAEA	**Gareloi East**	**3.33**	**263**	P	**Pn**	**15 03 14.8**	**+0.4**
CESW	**Semis' Southwe**	**4.35**	**267**	P	**Pn**	**15 03 29.2**	**+1.0**
KDAK	**Kodiak Island**	**13.12**	**57**	P	**Pn**	**15 05 28.5**	**+1.0**
	0.2nm,0.3s,baz=156,slow=20,SNR=3.6						
KDAK				S	**S**	**15 08 05.2**	**-6.2**
	0.1nm,0.3s,baz=218,slow=23,SNR=6.8						
ILAR	**Eielson Array**	**18.45**	**37**	P	**P**	**15 06 33.7**	**0.0**
	0.4nm,0.3s,baz=239,slow=9.2,SNR=21						
ILAR				ScP	**ScP**	**15 14 27.4**	**-1.4**
	0.1nm,0.3s,baz=289,slow=4.0,SNR=5.4						
INK	**Inuvik**	**24.79**	**35**	P	**P**	**15 07 38.1**	**-0.6**
	1.1nm,0.8s,baz=239,slow=5.9,SNR=2.2						
H11S1	**WAKE ISLAND Hy**	**37.16**	**212**	T	T	15 48 42.7	
	baz=16,slow=74						
H11S2	**WAKE ISLAND Hy**	**37.18**	**212**	T	T	15 48 43.2	
	baz=16,slow=74						
H11S3	**WAKE ISLAND Hy**	**37.18**	**212**	T	T	15 48 42.6	
	baz=16						
MJAR	**Matsushiro Arr**	**37.21**	**264**	P	**P**	**15 09 28.8**	**+0.6**
	1.8nm,0.7s,baz=39,slow=4.8,SNR=4.2						
PDAR	**Pinedale Array**	**42.84**	**76**	P	**P**	**15 10 16.2**	**+1.2**
	1.0nm,0.5s,baz=315,slow=3.1,SNR=12						
PDAR				pP	**pP**	**15 10 33.1**	**-0.9**
	0.8nm,0.5s,baz=294,slow=3.6,SNR=7.6						
KSRS	**Korea Array**	**42.94**	**274**	P	**P**	**15 10 16.8**	**+1.4**
	0.6nm,0.5s,baz=49,slow=8.0,SNR=2.9						
TXAR	**Lajitas Array**	**55.23**	**86**	P	**P**	**15 11 50.2**	**+0.6**
	0.5nm,0.5s,baz=327,slow=6.7,SNR=4.6						
ARCES	**ARCESS Array B**	**57.68**	**352**	P	**P**	**15 12 07.2**	**+0.8**
	5.2nm,1.1s,baz=15,slow=7.5,SNR=3.1						
MKAR	**Makanchi Array**	**62.01**	**311**	P	**P**	**15 12 35.3**	**-1.0**
	1.0nm,0.9s,baz=44,slow=5.5,SNR=2.8						
CMAR	**Chiang Mai Arr**	**74.19**	**280**	P	**P**	**15 13 53.6**	**+0.7**
	0.6nm,0.6s,baz=25,slow=7.0,SNR=6.9						
WRA	**Warramunga Arr**	**85.06**	**228**	P	**P**	**15 14 50.1**	**-1.5**
	0.2nm,0.5s,baz=35,slow=6.1,SNR=4.6						
ASAR	**Alice Springs**	**88.50**	**227**	P	**P**	**15 15 08.0**	**-0.2**
	0.6nm,0.7s,baz=23,slow=5.2,SNR=9.2						
ASAR				pP	**pP**	**15 15 27.2**	**-2.2**
	0.2nm,0.5s,baz=22,slow=5.1,SNR=4.4						
BOSA	**Boshof**	**152.56**	**322**	PKPbc	**PKPbc**	**15 22 12.2**	**+0.4**
	4.8nm,1.1s,baz=65,slow=0.8,SNR=4.6						

ISCJB ***27*** *15:05:30.8±1.5,12.25°N±0.05×88.57°W±0.04,h23km±10km, mb4.3/26,Error ellipse: s-maj=9.3km s-min=4.4km az=32.0*

NEIC ***27*** *15:05:30.5±4.7,12.25°N×88.51°W,h9km±29km,mb4.4/18, MD4.0(SNET),Error ellipse: s-maj=15.9km s-min=9.1km az=219.0*

NEIC Felt [I] at San Salvador.

IDC ***27*** *15:05:31.0±1.0,12.66°N×88.28°W,h0km,mb4.1/9, mb1 4.3/10,mb1mx4.0/45,mbtmp4.0/10,ML2.7/2,MS2.8/1, Ms1 2.8/1,ms1mx2.4/32,Error ellipse: s-maj=44.5km s-min=17.5km az=51.0*

UCR ***27*** *15:05:32.3±1.1,12.33°N×88.55°W,h27km±4km,ML3.9, mb4.4(NEIC)*

ISC 27 15:05:30.2±1.9,12.31°N±0.05×88.55°W±0.04,h7km±11km, n68,σ1°31/77,mb4.3/26,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCY	**Lacayo**	**1.14**	**13**	*e*P	**Pg**	**15 05 52.0**	**-0.1**
VSM	**San Miguel**	**1.15**	**14**	*e*P	**Pb**	**15 05 52.7**	**+0.1**
CSGN	**Cosiguina Volc**	**1.18**	**55**	*e*Pn	**Pn**	**15 05 53.3**	**+0.1**
CSGN	**Cosiguina Volc**	**1.18**	**55**	*e*P	**Pn**	**15 05 53.7**	**+0.5**
CSGN				*e*S	**Sn**	**15 06 08.9**	**-0.6**
PACA	**Pacayal**	**1.18**	**11**	IAML		15 06 26.8	
	comp=Z,24μm,0.6s						
TECA	**Tecapa**	**1.18**	**2**	*e*P	**Pg**	**15 05 52.8**	**-0.2**
LCND	**La Ca˜ada**	**1.19**	**33**	*e*P	**Pb**	**15 05 52.1**	**-1.0**
LCND				*e*S

comp=Z,5.1nm,0.9s,baz=329,slow=7.8,SNR=19
EGMT Eagleton 39.77 338 *e*P **P 15 13 03.9 +0.1**
comp=Z,12nm,0.8s
YKA Yellowknife Ar 53.47 345 P **P 15 14 50.2 -0.7**
comp=Z,4.0nm,0.7s,baz=138,slow=7.8,SNR=22
YKA PcP **PcP 15 15 58.0 +0.2**
comp=Z,0.5nm,0.6s,baz=147,slow=3.8,SNR=3.8
SPB Sao Paulo 53.76 132 *e*P **P 15 14 51.6 -2.0**
comp=Z,122nm,0.9s
DLBC Dease Lake 55.58 335 P **P 15 15 07.7 +1.3**
comp=Z,3.3nm,0.5s,baz=116,slow=11,SNR=4.2
IL1 Eielson Array 65.72 336 *e*P **P 15 16 14.5 -0.9**
ILAR Eielson Array 65.72 336 P **P 15 16 13.9 -1.5**
comp=Z,1.1nm,0.8s,baz=105,slow=4.9,SNR=7.1
KSH Kashi 126.47 15 *e*PKP **PKPdf 15 24 32.8 -1.9**
LZH Lanzhou 130.46 347 *e*PKP **PKPdf 15 24 39.3 -3.2**
LZH pPKP sPKPdf 15 24 50.8 +5.1
LZH sPKP 15 24 53.5
WRA Warramunga Arr 138.20 254 PKP **PKPdf 15 24 59.4 +2.2**
comp=Z,0.8nm,0.9s,baz=90,slow=2.3,SNR=5.4
ASAR Alice Springs 138.22 248 PKP **PKPdf 15 24 58.5 +1.4**
comp=Z,1.9nm,1.2s,baz=127,slow=2.9,SNR=4.2

NIED ***27*** *15:11:00,36.70N×141.10E,h44km,Mw3.9 Best double couple: M₀8.71000×10¹⁴ NP1:φ=247.00000°,δ36.00000°, λ-81.00000°. NP2:φ=56.00000°,δ55.00000°,λ-97.00000°.*
ISCJB ***27*** *15:11:08.3±0.7,36.72N±0.03×141.14E±0.06,h41km±6km, mb3.8/14,Error ellipse: s-maj=8.6km s-min=4.7km az=15.1*
JMA ***27*** *15:11:09.7±0.1,36.74N×141.04E,h42km±1km,M3.8*
JMA Felt II J1.
IDC ***27*** *15:11:10.2±2.7,36.75N×141.01E,h40km±24km,mb3.6/14, mb1 3.8/17,mb1mx3.6/42,mbtmp3.8/17,ML3.7/3,Error ellipse: s-maj=19.3km s-min=15.2km az=80.0*
ISC 27 15:11:08.4±1.4,**36.75N**±0.04×**141.15E**±0.06,**h28**km±9km, **n37**,σ0**94**/46,**mb3.7**/14,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.45**	**321**	P		**Pn**	**15 11 19.0**	**-0.1**
ONAJ				S		**Sn**	**15 11 25.3**	**-1.0**
JHO	**Hitachi**	**0.49**	**254**	P		**Pn**	**15 11 19.2**	**-0.3**
JHO				S		**Sb**	**15 11 25.5**	**0.0**
JFFD	**Fukushimafurud**	**0.58**	**306**	P		**Pn**	**15 11 20.7**	**-0.2**
JFFD				S		**Sb**	**15 11 28.0**	**-0.2**
JHYU	**Hitachinakayam**	**0.61**	**228**	P		**Pb**	**15 11 20.9**	**+0.3**
JHYU				S		**Sb**	**15 11 28.7**	**-0.2**
JFK	**Kawauchi**	**0.65**	**340**	P		**Pn**	**15 11 21.8**	**-0.1**
JFK				S		**Sn**	**15 11 30.2**	**-1.1**
JYT	**Yasato**	**0.93**	**236**	P		**Pn**	**15 11 25.1**	**-0.5**
JYT				S		**Sb**	**15 11 36.4**	**-1.5**
JFT	**Otama**	**1.01**	**320**	P		**Pb**	**15 11 27.5**	**+0.2**
JFT				S		**Sn**	**15 11 39.7**	**-0.2**
JMM	**Marumori**	**1.15**	**346**	P		**Pb**	**15 11 28.9**	**-0.8**
JMM				S		**Sn**	**15 11 43.1**	**-0.4**
JFY	**Yanaizu**	**1.33**	**300**	P		**Pn**	**15 11 31.4**	**+0.3**
JFY				*e*S		**Sn**	**15 11 47.5**	**-0.4**
JAG	**Ashikaga**	**1.40**	**257**	P		**Pn**	**15 11 32.1**	**0.0**
JAG				S		**Sn**	**15 11 48.0**	**-1.7**
JKT	**Katashina**	**1.53**	**271**	P		**Pn**	**15 11 34.3**	**+0.4**
JKT				S		**Sn**	**15 11 52.0**	**-0.9**
MJAR	**Matsushiro Arr**	**2.37**	**266**	Pn		**Pn**	**15 11 46.2**	**+0.6**
	9.4nm,0.3s,baz=63,slow=11,SNR=100							
MJAR				Sn		**Sn**	**15 12 13.4**	**-0.3**
	29nm,0.3s,baz=109,slow=26,SNR=12							
MAT	**Matsushiro**	**2.38**	**266**	P		**Pn**	**15 11 47.0**	**+1.5**
MAT				S		**Sn**	**15 12 15.2**	**+1.4**
JHJ	**Hachijo jima 2**	**3.79**	**198**	Pn		**Pn**	**15 12 04.5**	**-0.4**
	27nm,0.3s,baz=315,slow=23,SNR=11							
JHJ				Sn		**Sn**	**15 12 48.0**	**-0.7**
	26nm,0.3s,baz=82,slow=22,SNR=7.9							
ASAJ	**Asahikawa**	**7.44**	**8**	Pn		**Pn**	**15 12 55.7**	**+0.6**
	1.6nm,0.3s,baz=224,slow=12,SNR=20							
ASAJ				Sn		**Sn**	**15 14 17.2**	**-1.3**
	0.4nm,0.3s,baz=33,slow=12,SNR=2.7							
USRK	**Ussuriysk Ar.**	**10.20**	**320**	Pn		**Pn**	**15 13 36.2**	**+3.4**
	0.2nm,0.3s,baz=119,slow=12,SNR=2.5							
SONM	**Songino Array**	**27.77**	**304**	P		**P**	**15 16 53.7**	**-1.2**
	0.5nm,0.6s,baz=101,slow=9.0,SNR=3.7							
H11N2	**WAKE ISLAND Hy**	**28.19**	**120**	T		T	15 47 00.0	
	baz=313,slow=75,SNR=40							
H11N1	**WAKE ISLAND Hy**	**28.19**	**120**	T		T	15 47 00.7	
	baz=313,slow=75,SNR=58							
H11N3	**WAKE ISLAND Hy**	**28.20**	**120**	T		T	15 47 01.5	
	baz=313,slow=75,SNR=38							
H11S1	**WAKE ISLAND Hy**	**28.89**	**122**	T		T	15 47 52.3	
	baz=314,slow=75,SNR=85							
H11S3	**WAKE ISLAND Hy**	**28.89**	**122**	T		T	15 47 52.3	
	baz=314,slow=75,SNR=63							
H11S2	**WAKE ISLAND Hy**	**28.90**	**122**	T		T	15 47 53.5	
	baz=314,slow=75,SNR=77							
ZALV	**Zalesovo Beam**	**41.95**	**313**	P		**P**	**15 18 55.9**	**-0.6**
	0.6nm,0.5s,baz=98,slow=7.6,SNR=2.8							
MKAR	**Makanchi Array**	**44.09**	**302**	P		**P**	**15 19 12.8**	**-1.2**
	1.1nm,1.1s,baz=76,slow=7.1,SNR=3.9							
KURBB	**Kurchatov Arra**	**46.01**	**308**	P		**P**	**15 19 29.2**	**+0.1**
	1.0nm,0.4s,baz=83,slow=7.3,SNR=3.1							
ILAR	**Eielson Array**	**49.85**	**32**	P		**P**	**15 19 58.6**	**0.0**
	0.6nm,0.9s,baz=265,slow=6.1,SNR=5.5							
WRA	**Warramunga Arr**	**56.75**	**188**	P		**P**	**15 20 49.7**	**-0.1**
	0.8nm,0.6s,baz=5.3,slow=7.4,SNR=20							
ASAR	**Alice Springs**	**60.48**	**188**	P		**P**	**15 21 16.1**	**+0.4**
	0.5nm,0.9s,baz=2.6,slow=6.9,SNR=7.1							
ARCES	**ARCESS Array B**	**64.19**	**339**	P		**P**	**15 21 40.6**	**+0.5**
	2.0nm,0.9s,baz=63,slow=8.5,SNR=3.1							
NOA	**NORSAR Array B**	**74.37**	**337**	P		**P**	**15 22 43.0**	**-0.2**
	0.7nm,0.7s,baz=38,slow=5.8,SNR=3.6							
AKASG	**Malin Array Be**	**74.39**	**322**	P		**P**	**15 22 43.4**	**-0.1**
	1.9nm,0.4s,baz=46,slow=6.0,SNR=10.0							
NVAR	**Mina Array Bea**	**75.33**	**53**	P		**P**	**15 22 51.2**	**+1.7**
	0.6nm,0.8s,baz=308,slow=7.8,SNR=3.0							
PDAR	**Pinedale Array**	**78.02**	**45**	P		**P**	**15 23 05.0**	**+0.4**
	0.3nm,0.5s,baz=318,slow=1.2,SNR=2.9							
BRTR	**Keskin Array B**	**78.88**	**111**	P		**P**	**15 23 08.4**	**-0.9**
	0.8nm,0.8s,baz=96,slow=4.3,SNR=4.8							
GERES	**GERESS Array B**	**82.84**	**328**	P		**P**	**15 23 30.2**	**+0.1**
	0.6nm,0.4s,baz=39,slow=5.1,SNR=6.0							
LPAZ	**La Paz**	**147.02**	**60**	PKPbc		**PKPbc**	**15 30 50.3**	**+0.6**
	0.8nm,0.7s,baz=225,slow=4.8,SNR=4.3							

ISCJB ***27*** *15:28:45.1±0.6,37.09N±0.04×28.06E±0.04,h0km,Error ellipse: s-maj=5.4km s-min=4.6km az=28.9*
DDA ***27*** *15:28:45.9,37.20N×28.18E,h7km,Ml2.5,Suspected Mining explosion.*
ISK ***27*** *15:28:46.2,37.02N×27.99E,h19km±1km,ML1.9/6*
ISC 27 15:28:44.7±0.9,**37.09N**±0.04×**28.08E**±0.03,**h0**km,**n10**, σ0**53**/15,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.32**	**310**	PG		**Pb**	**15 28 53.4**	**+0.1**
MLSB				SG		**Sb**	**15 28 58.9**	**-0.1**
DATC	**Datca-Mugla**	**0.47**	**225**	PG		**Pg**	**15 28 54.1**	**+0.4**
DATC				SG		**Sg**	**15 28 59.3**	**-0.5**
TURN	**Turunc**	**0.47**	**117**	PG		**Pg**	**15 28 54.2**	**+0.4**
TURN				SG		**Sg**	**15 28 58.9**	**-1.0**
TURN	**Turunc**	**0.47**	**117**	*i* P		**Pg**	**15 28 54.4**	**+0.7**
DALY	**Dalyan (Mu¨la**	**0.54**	**121**	PG		**Pb**	**15 28 57.2**	**+0.2**
DALY				SG		**Sb**	**15 29 05.7**	**+0.5**
DAT	**Datca**	**0.54**	**228**	PG		**Pb**	**15 28 56.5**	**-0.6**
AYDN	**Tasoluk**	**0.59**	**344**	*i* P		**Pg**	**15 28 56.4**	**+0.4**
AYDN				*i* S		**Sg**	**15 29 03.9**	**+0.2**
TAVA	**DENIZLI_Tavas**	**0.76**	**60**	*i* P		**Pg**	**15 28 58.7**	**-0.6**
NIS1	**Nisyros Isl.**	**0.87**	**236**	PG		**Pg**	**15 29 01.7**	**+0.3**
FETY	**Fethiye**	**0.93**	**119**	PG		**Pn**	**15 29 05.0**	**0.0**

ISCJB ***27*** *15:40:53.7±1.9,56.06S±0.08×27.2W±0.2,h85km±17km, mb4.8/23,Error ellipse: s-maj=18.6km s-min=7.6km az=137.7*
IDC ***27*** *15:40:55.8±0.6,56.03S×27.10W,h89km±5km,mb4.4/11, mb1 4.5/13,mb1mx4.3/27,mbtmp4.8/13,MS2.8/1, Ms1 2.8/1,ms1mx2.7/19,Error ellipse: s-maj=17.9km s-min=11.8km az=67.0*
NEIC ***27*** *15:40:55.9±0.2,56.08S×27.28W,mb5.1/20,Error ellipse: s-maj=8.2km s-min=5.5km az=224.0*
ISC 27 15:40:55.8±0.6,**56.08S**±0.08×**27.24W**±0.09,**h91**km±4km, **h91**km:**pP-P,n107**,σ1s**23**/126,**mb4.9**/22,**1D,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.60**	**285**	*e*Pn		**Pn**	**15 42 16.2**	**-0.2**
VNA1	**Neumayer--Stat**	**16.78**	**158**	P		**P**	**15 44 46.0**	**+0.6**
VNA3	**Neumayer Olymp**	**16.97**	**160**	P		**Pn**	**15 44 46.3**	**-0.8**
VNA2	**Neumayer--Watz**	**17.17**	**158**	P		**Pn**	**15 44 48.4**	**-1.2**
	baz=314,slow=14							
EFI	**East Falkland**	**18.61**	**271**	*e*P		**P**	**15 45 05.7**	**+0.1**
	616nm,1.9s							
SNAA	**Sanae**	**18.73**	**156**	P		**P**	**15 45 06.8**	**-0.1**
SNAA	**Sanae**	**18.73**	**156**	P		**P**	**15 45 06.8**	**-0.1**
	11nm,0.3s,baz=306,slow=9.2,SNR=720							
SNAA				LR		LR	15 51 27.0	
	comp=Z,29nm,21.3s,baz=343,slow=34							
SNAA				ScP		**ScP**	**15 52 56.1**	**-1.4**
	0.3nm,0.3s,baz=305,slow=3.4,SNR=16							
SNAA	**Sanae**	**18.73**	**156**	*e*P		**P**	**15 45 06.7**	**-0.1**
	83nm,0.6s							
SNAA				ScP		**ScP**	**15 52 56.1**	**-1.4**
PMSA	**Palmer Station**	**19.86**	**229**	P		**P**	**15 45 20.8**	**+1.7**
	2.0nm,0.3s,baz=46,slow=7.5,SNR=4.9							
PMSA	**Palmer Station**	**19.86**	**229**	*e*P		**P**	**15 45 20.9**	**+1.7**
	129nm,1.5s							
SYO	**Syowa Base**	**31.58**	**141**	*e*P		**P**	**15 47 08.9**	**-0.2**
PLCA	**Paso Flores**	**31.98**	**280**	P		**P**	**15 47 12.1**	**-0.9**
	3.1nm,1.1s,baz=141,slow=6.5,SNR=3.2							
QSPA	**South Pole Qui**	**34.17**	**180**	P		**P**	**15 47 32.6**	**+0.6**
	7.8nm,0.4s,baz=31,slow=3.4,SNR=64							
QSPA	**South Pole Qui**	**34.17**	**180**	*e*P		**P**	**15 47 32.3**	**+0.4**
	82nm,1.7s							
CPUP	**Villa Florida**	**36.81**	**311**	P		**P**	**15 47 54.9**	**+0.2**
	4.3nm,0.7s,baz=143,slow=7.5,SNR=14							
CPUP				PcP		**PcP**	**15 50 15.1**	**+0.2**
	2.1nm,0.5s,baz=141,slow=3.4,SNR=6.2							
CPUP	**Villa Florida**	**36.81**	**311**	*e*P		**P**	**15 47 53.9**	**-0.8**
CPUP				*e*pP		**pP**	**15 48 14.5**	**-1.3**
CPUP				PcP		**PcP**	**15 50 15.1**	**+0.2**
PEL	**Peldehue**	**37.62**	**289**	*e*P		**P**	**15 48 00.8**	**-0.7**
	17nm,0.4s							
PEL				*e*pP		**pP**	**15 48 22.5**	**-0.2**
ROC1	**El Roble**	**37.92**	**289**	*e*P		**P**	**15 48 03.5**	**-0.9**
	9.7nm,0.5s							
GO04	**Tololo Observa**	**40.01**	**292**	*e*P		**P**	**15 48 21.0**	**-0.8**
	28nm,1.3s							
MAW	**Mawson**	**40.14**	**144**	P		**P**	**15 48 22.7**	**+0.6**
	8.2nm,0.4s,baz=225,slow=8.5,SNR=26							
MAW				ScP		**ScP**	**15 54 04.0**	**-1.0**
	4.8nm,0.7s,baz=283,slow=5.1,SNR=7.2							
MAW	**Mawson**	**40.14**	**144**	*e*P		**P**	**15 48 22.6**	**+0.4**
	3.0nm,0.6s							
MAW				ScP		**ScP**	**15 54 04.0**	**-1.0**
LVC	**Limon Verde**	**45.29**	**300**	P		**P**	**15 49 05.4**	**+0.7**
	20nm,0.4s,baz=146,slow=4.2,SNR=42							
LVC	**Limon Verde**	**45.29**	**300**	*e*P		**P**	**15 49 04.9**	**+0.2**
	24nm,0.5s							
SBA	**Scott Base**	**46.05**	**184**	*e*P		**P**	**15 49 10.6**	**+1.0**
	11nm,1.4s							
PB04	**IPOC Station P**	**46.13**	**299**	*e*P		**P**	**15 49 11.1**	**0.0**
	24nm,0.4s							
VNDA	**Vanda**	**46.54**	**183**	P		**P**	**15 49 14.4**	**+0.9**
	6.7nm,0.6s,baz=187,slow=6.6,SNR=50							
VNDA				pP		**pP**	**15 49 36.4**	**+1.2**
	3.3nm,0.6s,baz=190,slow=6.8,SNR=4.1							
VNDA				ScP		**ScP**	**15 54 29.4**	**-1.5**
	1.5nm,0.9s,baz=193,slow=3.4,SNR=7.0							
VNDA	**Vanda**	**46.54**	**183**	*e*P		**P**	**15 49 14.0**	**+0.6**
	7.1nm,0.6s							
VNDA				*e*pP		**pP**	**15 49 36.9**	**+1.7**
VNDA				ScP		**ScP**	**15 54 29.4**	**-1.5**
PB01	**IPOC Station P**	**46.90**	**301**	*e*P		**P**	**15 49 17.5**	**+0.4**
	43nm,0.5s							
GO01	**Chusmiza**	**47.94**	**302**	*e*P		**P**	**15 49 26.1**	**+0.6**
	36nm,0.7s							
H10S2	**ASCENSION HYDR**	**48.04**	**17**	T		T	16 41 45.3	
	baz=189,slow=75,SNR=49							
H10S3	**ASCENSION HYDR**	**48.04**	**17**	T		T	16 41 47.5	
	baz=189,slow=75,SNR=43							
H10S1	**ASCENSION HYDR**	**48.06**	**17**	T		T	16 41 44.7	
	baz=189,slow=75,SNR=37							
PB11	**IPOC Station P**	**48.08**	**301**	*e*P		**P**	**15 49 26.4**	**+0.2**
	20nm,0.6s							
PB11				*e*pP		**pP**	**15 49 48.4**	**+0.3**
MNMC	**Minye Minye**	**48.59**	**302**	*e*P		**P**	**15 49 31.0**	**+0.7**
	66nm,0.5s							
H10N1	**ASCENSION HYDR**	**49.16**	**17**	T		T	16 43 13.1	
	baz=192,slow=75							
H10N3	**ASCENSION HYDR**	**49.16**	**17**	T		T	16 43 15.2	
	baz=192,slow=75							
H10N2	**ASCENSION HYDR**	**49.17**	**17**	T		T	16 43 09.3	
	baz=192,slow=75							
LPAZ	**La Paz**	**50.37**	**305**	P		**P**	**15 49 45.2**	**+1.0**
	19nm,0.4s,baz=109,slow=5.2,SNR=91							
LPAZ				PcP		**PcP**	**15 51 01.6**	**0.0**
	2.5nm,0.5s,baz=68,slow=1.3,SNR=1.7							
LPAZ	**La Paz**	**50.37**	**305**	*e*P		**P**	**15 49 45.1**	**+0.9**
	20nm,0.5s							
LPAZ				PcP		**PcP**	**15 51 01.6**	**0.0**
PTGA	**Pitinga**	**61.18**	**322**	*e*P		**P**	**15 51 00.5**	**-0.3**
	3.2nm,0.8s							
DBIC	**Dimbokro**	**65.21**	**25**	P		**P**	**15 51 28.6**	**+1.3**
	1.3nm,0.4s,baz=217,slow=6.9,SNR=4.0							
OTAV	**Otavalo**	**69.65**	**304**	*e*P		**P**	**15 51 56.9**	**+1.0**
	8.9nm,0.6s							
CMBC	**Cumbal**	**69.98**	**305**	*e*P		**P**	**15 52 01.3**	**+3.4**
SOTA	**Rioblanco**	**70.48**	**306**	*e*P		**P**	**15 52 02.7**	**+1.6**
PRAC	**Prado**	**71.12**	**309**	*e*P		**P**	**15 52 04.7**	**+0.3**
CHIC	**Chingaza**	**71.44**	**310**	*e*P		**P**	**15 52 05.7**	**-1.0**
TOA0	**Torodi Ar. Sit**	**73.10**	**30**	*e*P		**P**	**15 52 17.6**	**+1.6**
	6.9nm,1.1s							
TORD	**Torodi Ar. Bea**	**73.10**	**30**	P		**P**	**15 52 15.5**	**-0.5**
	1.5nm,0.6s,baz=196,slow=7.1,SNR=14							
TORD				pP		**pP**	**15 52 37.4**	**-2.0**
	3.8nm,0.8s,baz=199,slow=5.6,SNR=5.5							
PTBC	**PUERTO BERRIO,**	**73.46**	**310**	*e*P		**P**	**15 52 16.0**	**-2.2**
ZARC	**Zaragoza, Cauc**	**74.49**	**311**	*e*P		**P**	**15 52 22.0**	**-2.2**
URIC	**Uribia, Colomb**	**77.11**	**315**	*e*P		**P**	15 52 34.0	-5.1
STKA	**Stephens Creek**	**91.88**	**171**	P		**P**	**15 53 53.5**	**-0.1**
	2.0nm,0.7s,baz=153,slow=4.5,SNR=5.2							
ASAR	**Alice Springs**	**98.97**	**163**	P		**Pdif**	**15 54 25.6**	**-0.5**
	1.0nm,0.6s,baz=186,slow=3.9,SNR=40							
ASAR				PP		**PP**	**15 58 24.4**	**-3.6**
	1.1nm,0.7s,baz=184,slow=6.7,SNR=9.8							
AS01	**Alice Springs**	**98.98**	**163**	*e*P		**Pdif**	**15 54 25.2**	**-0.9**
WRA	**Warramunga Arr**	**102.69**	**162**	P		**Pdif**	**15 54 42.3**	**-0.4**
	0.4nm,0.5s,baz=194,slow=4.3,SNR=9.2							
WRA				PP		**PP**	**15 58 51.0**	**-5.1**
	1.4nm,1.0s,baz=190,slow=5.7,SNR=6.3							
WRA				PKKPbc		**PKKPbc**	**16 10 41.1**	**+2.4**
	0.1nm,0.4s,baz=358,slow=2.9,SNR=6.0							
PDAR	**Pinedale Array**	**120.33**	**302**	PKP		**PKPdf**	**15 59 35.0**	**-0.7**
	0.2nm,0.4s,baz=111,slow=4.9,SNR=3.8							
NVAR	**Mina Array Bea**	**121.38**	**293**	PKP		**PKPdf**	**15 59 37.5**	**-0.4**
	0.3nm,0.3s,baz=132,slow=1.3,SNR=6.6							
FINES	**FINESS Array B**	**124.42**	**28**	PKP		**PKPdf**	**15 59 42.3**	**-0.3**
	3.1nm,0.9s,baz=132,slow=2.1,SNR=7.4							
CMAR	**Chiang Mai Arr**	**125.08**	**111**	PKP		**PKPdf**	**15 59 45.7**	**+0.4**
	0.4nm,0.6s,baz=248,slow=3.7,SNR=4.4							
G08A	**Pilot Rock**	**126.76**	**298**	*e*PKPdf		**PKPdf**	**15 59 48.6**	**+0.8**
ARCES	**ARCESS Array B**	**130.98**	**22**	PKP		**PKPdf**	**15 59 54.8**	**-0.1**
	0.6nm,0.5s,baz=236,slow=1.0,SNR=7.0							
ARCES				SKPbc		**SKPbc**	**16 03 09.9**	**-0.9**
	2.8nm,0.8s,baz=209,slow=1.7,SNR=3.6							
KMI	**Kunming**	**132.54**	**109**	PKP		**PKPdf**	**16 00 00.0**	**+0.4**
GYA	**Guiyang**	**135.68**	**112**	*e*Pdif		**Pdif**	**15 57 09.0**	**-0.2**
GYA				PKP		**PKiKP**	**16 00 06.5**	**-0.4**
GYA				sPKP			16 00 41.3	
GYA				PP		**PP**	**16 02 49.8**	**+5.6**
GYA				AMB		AMB		
	comp=Z,120nm,8.0s							
YKA	**Yellowknife Ar**	**136.17**	**318**	PKP		**PKPdf**	**16 00 05.2**	**+0.3**
	1.2nm,0.5s,baz=125,slow=2.2,SNR=13							
YKA				pPKP		**pPKPdf**	**16 00 29.1**	**-0.9**
	0.9nm,0.6s,baz=126,slow=2.3,SNR=3.7							
YKA				SKPbc		**SKPbc**	**16 03 26.1**	**-2.2**
	0.7nm,0.6s,baz=136,slow=4.0,SNR=7.4							
YKB5	**Yellowknife Ar**	**136.17**	**318**	*e*PKPdf		**PKPdf**	**16 00 04.8**	**-0.1**
CD2	**Chengdu**	**137.68**	**106**	PKP		**PKPdf**	**16 00 09.5**	**+0.7**
WMQ	**Urumqi**	**137.94**	**78**	*e*PKP		**PKPdf**	**16 00 09.0**	**+0.1**
WMQ				LR		LR		
	comp=E,31nm,22.7s							
WMQ				LR		LR		
	comp=Z,55nm,19.7s							
LZH	**Lanzhou**	**141.63**	**100**	*e*PKP		**PKPdf**	**16 00 15.3**	**-0.7**
LZH				sPKP			16 00 55.3	
LZH				LR		LR		
	comp=N,120nm,18.1s							
LZH				LR		LR		
	comp=E,120nm,17.9s							
LZH				LR		LR		
	comp=Z,170nm,20.2s							
GTA	**Gaotai**	**141.75**	**93**	*e*PKP		**PKPdf**	**16 00 17.5**	**+1.5**
GTA				sPKP			16 00 49.0	
ZALV	**Zalesovo Beam**	**142.41**	**64**	PKP		**PKPdf**	**16 00 14.0**	**-2.5**
	0.4nm,0.4s,baz=196,slow=3.2,SNR=3.2							
WHY	**Whitehorse**	**143.55**	**308**	*e*PKPpre		PKPpre	16 00 15.8	
HYT	**Haines Junctio**	**144.79**	**307**	*e*PKPdf		**PKPdf**	**16 00 20.9**	**+0.3**
PCA	**Pinnacle**	**145.74**	**305**	*e*PKPdf		**PKPdf**	**16 00 21.7**	**-0.6**
INK	**Inuvik**	**145.81**	**321**	PKPbc		**PKPbc**	**16 00 23.2**	**+0.5**
	18nm,0.7s,baz=71,slow=2.9,SNR=42							
INK	**Inuvik**	**145.81**	**321**	*e*PKPdf		**PKPbc**	**16 00 22.9**	**+0.2**
NJ2	**Nanjing**	**146.35**	**121**	*e*PKPbc		**PKPdf**	**16 00 24.0**	**-0.1**
DAWY	**Dawson**	**146.79**	**312**	*e*PKPdf		**PKPbc**	**16 00 25.5**	**-0.4**
EGAK	**Eagle**	**147.74**	**313**	*e*PKPbc		**PKPbc**	**16 00 27.8**	**-0.6**
DOT	**Dot Lake**	**148.64**	**310**	*e*PKPbc		**PKPbc**	**16 00 31.3**	**+0.5**
DIV	**Divide**	**148.65**	**305**	*e*PKPbc		**PKPbc**	**16 00 31.4**	**+0.5**
SCRK	**Sand Creek**	**148.70**	**311**	*e*PKPbc		**PKPbc**	**16 00 31.4**	**+0.3**
KLU	**Klutina**	**148.83**	**306**	*e*PKPbc		**PKPbc**	**16 00 32.1**	**+0.7**
RIDG	**Independ'e Rid**	**149.00**	**310**	*e*PKPbc		**PKPbc**	**16 00 32.4**	**+0.7**
PAX	**Paxson**	**149.06**	**308**	*e*PKPbc		**PKPbc**	**16 00 32.3**	**+0.4**
HHC	**Hu-ho-hao-te**	**149.27**	**102**	*e*PKPbc		**PKPdf**	**16 00 29.0**	**+0.2**
SCM	**Sheep Creek Mo**	**149.57**	**306**	*e*PKPbc		**PKPbc**	**16 00 34.0**	**+0.8**
DHY	**Denali Highway**	**149.93**	**308**	*e*PKPbc		**PKPbc**	**16 00 35.1**	**+1.0**
HDA	**Harding Lake**	**150.06**	**311**	*e*PKPbc		**PKPbc**	**16 00 35.5**	**+1.3**
IL1	**Eielson Array**	**150.11**	**312**	*e*PKPbc		**PKPbc**	**16 00 34.5**	**+0.2**
ILAR	**Eielson Array**	**150.11**	**312**	PKPbc		**PKPbc**	**16 00 35.0**	**+0.7**
	14nm,0.8s,baz=133,slow=3.1,SNR=133							
ILAR				pPKPbc		**pPKPbc**	**16 00 58.2**	**-1.2**
	5.6nm,0.9s,baz=111,slow=1.3,SNR=4.8							
ILB	**Eielson Array**	**150.11**	**312**	*e*PKPbc		**PKPbc**	**16 00 34.5**	**+0.1**
RC01	**Rabbit Creek A**	**150.47**	**304**	*e*PKPbc		**PKPbc**	**16 00 35.9**	**+0.6**
CCB	**Clear Creek Bu**	**150.47**	**311**	*e*PKPbc		**PKPbc**	**16 00 35.0**	**-0.2**
COLA	**College**	**150.54**	**312**	*e*PKPbc		**PKPbc**	**16 00 35.4**	**+0.2**
WRH	**Wood River Hil**	**150.56**	**311**	*e*PKPbc		**PKPbc**	**16 00 35.6**	**+0.2**
RND	**Reindeer**	**150.66**	**309**	*e*PKPbc		**PKPbc**	**16 00 36.4**	**+0.6**
MDM	**Murphy Dome**	**150.71**	**312**	*e*PKPbc		**PKPbc**	**16 00 35.5**	**-0.3**
MDM				*e*PKPab		**PKPab**	**16 00 43.8**	**+0.5**
SONM	**Songino Array**	**150.76**	**87**	PKPbc		**PKPbc**	**16 00 36.8**	**+0.2**
	1.8nm,0.6s,baz=224,slow=3.0,SNR=14							
KDAK	**Kodiak Island**	**150.81**	**296**	PKPbc		**PKPbc**	**16 00 36.7**	**+0.6**
	9.2nm,0.4s,baz=211,slow=1.5,SNR=16							
SUA	**Susitna One**	**151.04**	**304**	*e*PKPbc		**PKPbc**	**16 00 37.4**	**+0.6**
TRF	**Thorofare Moun**	**151.30**	**308**	*e*PKPbc		**PKPbc**	**16 00 37.7**	**+0.3**
BPAW	**Bear Paw Mtn.**	**151.73**	**310**	*e*PKPbc		**PKPbc**	**16 00 38.2**	**+0.1**
COLD	**Coldfoot**	**151.82**	**316**	*e*PKPdf		**PKPdf**	**16 00 34.3**	**+2.5**
CAST	**Castle Rocks**	**152.09**	**308**	*e*PKPdf		**PKPdf**	**16 00 31.0**	**

ALS	**Alishan**	**0.81**	**293**	⇓*i*	P	**Pb**	**15 52 57.2**	**-0.2**
	baz=292							
ALS					S	**Sb**	**15 53 07.8**	**-0.3**
	baz=292							
SSLB	**Suanglung**	**0.84**	**314**	⇓*i*	P	**Pn**	**15 52 57.2**	**-0.1**
	baz=313							
SSLB				*i*	S	**Sn**	**15 53 07.5**	**-1.1**
	baz=313							
TWD	**Chiawan**	**0.88**	**359**		P	**Pn**	**15 52 57.6**	**-0.1**
	baz=358							
TWD					S	**Sn**	**15 53 09.3**	**-0.1**
	baz=358							
TPUB	**Ta-pu**	**0.91**	**277**		P	**Pb**	**15 52 58.6**	**-0.3**
	baz=276							
TPUB					S	**Sb**	**15 53 11.0**	**+0.2**
	baz=276							
SLGT	**Liugui**	**0.91**	**258**		P	**Pb**	**15 52 58.4**	**-0.5**
	baz=257							
SLGT					S	**Sn**	**15 53 10.2**	**0.0**
	baz=257							
WTP	**Ta-pu**	**0.92**	**273**		P	**Pb**	**15 52 58.7**	**-0.4**
	baz=272							
WTP					S	**Sb**	**15 53 11.7**	**+0.6**
	baz=272							
CHN5	**Tsauling**	**0.95**	**295**		P	**Pb**	**15 52 59.5**	**-0.1**
	baz=294							
SMLT	**Sun Moon Lake**	**0.95**	**316**	⇓*i*	P	**Pn**	**15 52 59.2**	**+0.4**
	baz=315							
SMLT				*i*	S	**Sn**	**15 53 11.2**	**0.0**
	baz=315							
CHN4	**Tsaushan**	**0.95**	**280**		P	**Pb**	**15 52 59.7**	**+0.1**
	baz=279							
CHN4					S	**Sb**	**15 53 12.5**	**+0.6**
	baz=279							
CHGB	**Renai**	**0.95**	**335**		P	**Pn**	**15 52 59.1**	**+0.3**
	baz=334							
CHGB					S	**Sn**	**15 53 10.9**	**-0.6**
	baz=334							
SGST	**Jiashian**	**0.95**	**263**		P	**Pb**	**15 52 59.5**	**-0.2**
	baz=263							
SGST					S	**Sb**	**15 53 13.1**	**+1.1**
	baz=263							
NACB	**Ninganchiao**	**0.97**	**359**	*eP*		**Pn**	**15 52 58.9**	**-0.2**
	baz=358							
NACB				*eS*		**Sn**	**15 53 11.0**	**-0.8**
	baz=358							
CHN1	**Nanshi**	**1.00**	**270**	*eP*		**Pb**	**15 53 00.3**	**-0.1**
	baz=269							
CHN1				*eS*		**Sb**	**15 53 14.6**	**+1.3**
	baz=269							
WJS	**Zhushan**	**1.02**	**308**		P	**Pb**	**15 53 00.8**	**0.0**
	baz=306							
WJS					S	**Sb**	**15 53 14.9**	**+0.9**
	baz=306							
TWK	**Hsinying**	**1.04**	**274**	*eP*		**Pb**	**15 53 00.9**	**-0.2**
	baz=273							
TWK				*eS*		**Sb**	**15 53 14.3**	**-0.1**
	baz=273							
MASBT	**Mashibuluo**	**1.07**	**237**	*eP*		**Pn**	**15 53 00.4**	**0.0**
	baz=237							
MASBT				*eS*		**Sn**	**15 53 13.6**	**-0.6**
	baz=237							
WGK	**Gukeng**	**1.08**	**297**		P	**Pb**	**15 53 02.0**	**+0.2**
	baz=296							
WGK					S	**Sb**	**15 53 16.7**	**+1.1**
	baz=296							
WNT	**Mingjian**	**1.09**	**309**	*eP*		**Pb**	**15 53 02.0**	**+0.1**
	baz=308							
WNT				*eS*		**Sb**	**15 53 17.0**	**+1.1**
	baz=308							
WDLH	**Douliu**	**1.10**	**297**	*eP*		**Pb**	**15 53 02.5**	**+0.3**
	baz=296							
WDLH					S	**Sb**	**15 53 17.1**	**+0.9**
	baz=296							
TWT	**Tachien**	**1.13**	**339**	*eP*		**Pn**	**15 53 01.7**	**+0.4**
	baz=337							
TWT				*eS*		**Sn**	**15 53 16.1**	**+0.4**
	baz=337							
TDCB	**Techi**	**1.13**	**339**	*eP*		**Pb**	**15 53 02.1**	**-0.7**
	baz=337							
TDCB				*eS*		**Sn**	**15 53 16.1**	**+0.2**
	baz=337							
ENA	**Nanau**	**1.23**	**5**	*eP*		**Pn**	**15 53 02.9**	**+0.3**
	baz=5.0							
ENA				*eS*		**Sn**	**15 53 18.4**	**+0.2**
	baz=5.0							
WLGB	**Puzi**	**1.24**	**283**	*eP*		**Pb**	**15 53 03.7**	**-0.7**
	baz=282							
WLGB				*eS*		**Sb**	**15 53 20.2**	**+0.2**
	baz=282							
NNSB	**Datong**	**1.25**	**350**	*eP*		**Pn**	**15 53 03.2**	**+0.4**
	baz=349							
NNS	**Nan Shan**	**1.26**	**350**	*eP*		**Pn**	**15 53 03.2**	**+0.1**
	baz=349							
NNS				*eS*		**Sn**	**15 53 19.2**	**+0.3**
	baz=349							
TCU	**Taichung**	**1.28**	**318**	*eP*		**Pb**	**15 53 05.3**	**+0.2**
	baz=317							
TCU				*eS*		**Sb**	**15 53 21.7**	**+0.4**
	baz=317							
CHN8	**Yiju**	**1.30**	**277**	*eP*		**Pb**	**15 53 04.5**	**-0.9**
	baz=276							
CHN8				*eS*		**Sb**	**15 53 22.0**	**+0.2**
	baz=276							
WCHH	**Zhanghua**	**1.31**	**313**	*eP*		**Pb**	**15 53 05.2**	**-0.3**
	baz=311							
WCHH				*eS*		**Sb**	**15 53 22.4**	**+0.4**
	baz=311							
RLNB	**Erlin**	**1.34**	**301**	*eP*		**Pb**	**15 53 05.2**	**-1.0**
	baz=300							
RLNB				*eS*		**Sb**	**15 53 22.9**	**-0.1**
	baz=300							
WSF	**Szhu**	**1.35**	**289**	*eP*		**Pn**	**15 53 04.9**	**+0.8**
	baz=288							
WSF					S	**Sb**	**15 53 22.5**	**-0.7**
	baz=288							
WTCT	**Ta-ch'eng**	**1.39**	**299**	*eS*		**Sb**	**15 53 23.7**	**-0.8**
	baz=298							
YHNB	**Yeheng**	**1.48**	**352**	⇑*i*	P	**Pn**	**15 53 07.1**	**+1.0**
	baz=351							
YHNB				*eS*		**Sn**	**15 53 25.0**	**+0.5**
	baz=351							
NSK	**Sanguang**	**1.49**	**351**	*eP*		**Pb**	**15 53 07.4**	**-1.3**
	baz=350							
NSK				*eS*		**Sn**	**15 53 24.1**	**-0.5**
	baz=350							
NMLH	**Miaoli**	**1.53**	**331**	*eP*		**Pb**	**15 53 08.7**	**-0.7**
	baz=330							
NMLH				*eS*		**Sb**	**15 53 27.8**	**-0.7**
	baz=330							
NSTT	**Nanjuang**	**1.54**	**339**	*eP*		**Pb**	**15 53 08.6**	**-0.9**
	baz=338							
LIOB	**Emei**	**1.54**	**339**	*eP*		**Pb**	**15 53 08.8**	**-0.8**
	baz=338							
LIOB				*eS*		**Sb**	**15 53 28.4**	**-0.4**
	baz=338							
JYNG	**Yonagunijimaku**	**1.75**	**44**		S	**Sb**	**15 53 32.2**	**-2.4**
YOJ	**Yonaguni jima**	**1.80**	**45**		P	**Pb**	**15 53 11.8**	**-2.1**
YOJ					*eS*	**Sn**	**15 53 32.9**	**+0.9**
HATJ	**Hateruma jima**	**2.19**	**66**		P	**Pn**	**15 53 16.9**	**+1.2**
HATJ					S	**Sn**	**15 53 42.5**	**+0.9**
IRIF	**Iriomote-Funau**	**2.25**	**59**		P	**Pn**	**15 53 18.0**	**+1.5**
IRIF					*eS*	**Sn**	**15 53 44.9**	**+1.8**
JKRS	**Kuro-shima**	**2.43**	**64**		P	**Pn**	**15 53 20.5**	**+1.5**
JKRS					S	**Sn**	**15 53 49.3**	**+1.7**
JIJ	**Ishigaki jima**	**2.59**	**63**		P	**Pn**	**15 53 22.2**	**+0.9**
JIJ					S	**Sn**	**15 53 51.8**	**+0.1**
JISG	**Ishigakijimahi**	**2.83**	**60**		P	**Pn**	**15 53 25.3**	**+0.8**
JISG					S	**Sn**	**15 53 57.5**	**-0.1**
JTJ	**Tarama**	**3.17**	**62**		P	**Pn**	**15 53 30.2**	**+1.0**
JTJ					S	**Sn**	**15 54 06.8**	**+0.8**
JIRB	**Irabujima**	**3.64**	**63**		P	**Pn**	**15 53 36.6**	**+1.0**
JIRB					S	**Sn**	**15 54 17.1**	**-0.4**
JIKM	**Ikemajima**	**3.74**	**62**		P	**Pn**	**15 53 37.5**	**+0.4**
JIKM					*eS*	**Sn**	**15 54 19.8**	**-0.2**
JOGS	**Gusukube**	**3.80**	**65**		*eS*	**Sn**	**15 54 23.1**	**+1.5**

*IDC **27** 15:54:23.7±1.3,26°.80S×178°.57W,h313km,12km, mb3.6/13,mb1 3.8/13,mb1mx3.7/28,mbtmp4.3/13,Error ellipse: s-maj=15.1km s-min=12.8km az=168.0*
*WEL **27** 15:54:26.2±0.8,28°.S±10°×17°.6W±2°.3,h334km±6km*
ISC 27 15:54:26.3±0.6,27°.48S±0°.06×178°.15W±0°.09,h350km, n89,σ2s41/112,mb3.9/13,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**		**1.77 174**	P	**Pn**	**15 55 14.8**	**-1.3**
RIZ				S	**S**	**15 55 53.1**	**-2.9**
RAO	**Raoul Island**		**1.78 174**	P	**Pn**	**15 55 14.7**	**-1.4**
	766nm,0.3s,baz=220,slow=0.5,SNR=67						
RAO				S	**S**	**15 55 53.0**	**-3.1**
	739nm,0.3s,baz=90,slow=20,SNR=8.2						
GLKZ	**Green Lake**		**1.79 174**	P	**Pn**	**15 55 14.8**	**-1.3**
GLKZ				S	**S**	**15 55 52.4**	**-3.8**
GRZ	**Great Barrier**	**10.30**	**210**	P	**P**	**15 56 51.2**	**+2.2**
OUZ	**Omahuta**	**10.46**	**220**	P	**P**	**15 56 53.5**	**+2.8**
MXZ	**Matakaoa Point**	**10.49**	**196**	P	**Pn**	**15 56 48.6**	**-1.4**
MXZ				S	**S**	**15 58 46.8**	**-1.8**
WCZ	**Waipu Caves**	**10.58**	**215**	P	**P**	**15 56 55.4**	**+3.3**
KUZ	**Kuaotunu**	**10.60**	**208**	P	**P**	**15 56 53.5**	**+1.2**
WMGZ	**Waiomatatini S**	**10.71**	**195**	P	**Pn**	**15 56 49.9**	**-2.8**
WMGZ				S	**S**	**15 58 51.9**	**-1.0**
HAZ	**Te Kaha**	**10.81**	**197**	P	**Pn**	**15 56 51.4**	**-2.4**
HAZ				S	**S**	**15 58 54.5**	**-0.5**
PKGZ	**Pakihiroa**	**10.86**	**196**	P	**Pn**	**15 56 52.3**	**-2.1**
PKGZ				S	**S**	**15 58 54.1**	**-2.1**
PUZ	**Puketiti**	**10.99**	**195**	P	**Pn**	**15 56 52.5**	**-3.5**
PUZ				S	**S**	**15 58 57.0**	**-2.1**
RUGZ	**Raukumara Rang**	**11.03**	**198**	P	**Pn**	**15 56 55.1**	**-1.5**
RUGZ				S	**S**	**15 58 58.9**	**-1.3**
WHRZ	**Whale Island**	**11.13**	**200**	P	**P**	**15 57 02.1**	**+3.9**
WHRZ				S	**S**	**15 59 06.1**	**+3.8**
TWGZ	**Tauwhareparae**	**11.16**	**196**	P	**P**	**15 56 59.0**	**+0.5**
TWGZ				S	**S**	**15 59 02.7**	**-0.1**
TGRZ	**Tauranga**	**11.26**	**203**	P	**P**	**15 57 02.9**	**+3.4**
OPRZ	**Ohinepanea**	**11.26**	**202**	P	**Pn**	**15 56 58.3**	**-0.9**
MARZ	**Manawahe**	**11.35**	**201**	P	**P**	**15 57 02.3**	**+1.7**
CNGZ	**Carnagh Statio**	**11.39**	**195**	P	**Pn**	**15 56 58.1**	**-2.7**
CNGZ				S	**S**	**15 59 04.1**	**-3.9**
MWZ	**Matawai**	**11.42**	**197**	P	**Pn**	**15 56 57.4**	**-3.7**
MWZ				S	**S**	**15 59 05.9**	**-2.8**
TKGZ	**Te Karaka**	**11.44**	**196**	P	**Pn**	**15 56 57.4**	**-3.9**
TKGZ				S	**S**	**15 59 07.5**	**-1.4**
URZ	**Urewera**	**11.47**	**199**	P	**Pn**	**15 56 57.5**	**-4.1**
	37nm,0.3s,baz=316,slow=1.5,SNR=40						
URZ				S	**S**	**15 59 07.0**	**-2.6**
	14nm,0.3s,baz=30,slow=20,SNR=15						
URZ	**Urewera**	**11.47**	**199**	P	**Pn**	**15 56 59.3**	**-2.3**
URZ				S	**S**	**15 59 07.9**	**-1.7**
KARZ	**Kaharoa**	**11.52**	**203**	P	**P**	**15 57 06.5**	**+3.9**
OMRZ	**Omania**	**11.56**	**202**	P	**P**	**15 57 07.0**	**+4.0**
RAGZ	**Rawiri**	**11.60**	**198**	P	**Pn**	**15 57 01.1**	**-2.3**
RAGZ				S	**S**	**15 59 11.7**	**-1.1**
TARZ	**Mount Tarawera**	**11.63**	**201**	P	**P**	**15 57 08.0**	**+4.1**
RIGZ	**Rimuhau**	**11.71**	**196**	P	**Pn**	**15 57 03.6**	**-1.0**
RIGZ				S	**S**	**15 59 12.8**	**-2.3**
RRRZ	**Republican Roa**	**11.72**	**201**	P	**P**	**15 57 06.9**	**+2.1**
MUGZ	**Murupara**	**11.77**	**200**	P	**Pn**	**15 57 04.6**	**-0.6**
MUGZ				S	**S**	**15 59 14.9**	**-1.4**
RTZ	**Ruatahuna**	**11.84**	**199**	P	**P**	**15 57 06.0**	**-0.1**
GRRZ	**Galatos Road**	**11.87**	**203**	P	**Pn**	**15 57 08.9**	**+2.5**
PRGZ	**Paritu Road**	**11.89**	**195**	P	**P**	**15 57 05.4**	**-1.2**
SNGZ	**Shannon Statio**	**11.89**	**197**	P	**P**	**15 57 04.9**	**-1.8**
SNGZ				S	**S**	**15 59 18.4**	**-0.6**
ALRZ	**Allen Road**	**11.98**	**201**	P	**P**	**15 57 06.6**	**-1.0**
KNZ	**Kokohu**	**12.03**	**196**	P	**P**	**15 57 16.2**	**-2.0**
TLZ	**Tolley Road**	**12.05**	**204**	P	**Pn**	**15 57 11.6**	**+3.0**
MRHZ	**Matea Rd**	**12.21**	**200**	P	**Pn**	**15 57 11.3**	**+0.9**
HIZ	**Hauiti**	**12.47**	**206**	P	**Pn**	**15 57 16.8**	**+3.2**
BKZ	**Black Stump Fm**	**12.49**	**200**	P	**P**	**15 57 10.8**	**-2.5**
MCHZ	**McNeill Hill**	**12.69**	**198**	P	**Pn**	**15 57 16.6**	**+0.5**
KRVZ	**Karewarewa**	**12.69**	**203**	P	**Pn**	**15 57 17.2**	**+0.9**
NGZ	**Ngauruhoe**	**12.78**	**203**	P	**Pn**	**15 57 17.7**	**+0.4**
COVZ	**Chateau Observ**	**12.82**	**203**	P	**Pn**	**15 57 17.7**	**-0.1**
TRVZ	**Turoa**	**12.91**	**202**	P	**Pn**	**15 57 18.7**	**-0.2**
BHHZ	**Black Hill Sta**	**12.91**	**200**	P	**P**	**15 57 14.7**	**-3.3**
KRHZ	**Kereru**	**12.96**	**199**	P	**P**	**15 57 18.1**	**-0.4**
PKVZ	**Pokaka**	**12.97**	**203**	P	**P**	**15 57 19.1**	**+0.4**
VRZ	**Vera Road**	**13.04**	**205**	P	**Pn**	**15 57 20.1**	**-0.2**
PXZ	**Pawanui**	**13.19**	**197**	P	**P**	**15 57 19.5**	**-1.4**
PNHZ	**Pukenui**	**13.26**	**199**	P	**P**	**15 57 20.0**	**-1.8**
WPHZ	**Waipukurau**	**13.33**	**198**	P	**P**	**15 57 22.7**	**+0.1**
PKE	**Pukeiti**	**13.40**	**207**	P	**Pn**	**15 57 28.4**	**+3.9**
LRKZ	**Lake Rotokare**	**13.47**	**206**	P	**Pn**	**15 57 26.6**	**+1.4**
TSZ	**Takapari Road**	**13.47**	**200**	P	**P**	**15 57 20.9**	**-3.0**
PRHZ	**Porangahau**	**13.47**	**197**	P	**P**	**15 57 22.5**	**-1.5**
KHEZ	**Kahui Hut**	**13.48**	**207**	P	**Pn**	**15 57 28.3**	**+2.8**
WAZ	**Wanganui**	**13.51**	**203**	P	**P**	**15 57 24.9**	**+0.4**
DVHZ	**Dannevirke**	**13.63**	**199**	P	**P**	**15 57 25.9**	**+0.1**
POWZ	**Post Office Ro**	**13.83**	**200**	P	**Pn**	**15 57 29.7**	**+0.1**
BFZ	**Birch Farm**	**13.96**	**198**	P	**P**	**15 57 30.2**	**+0.8**
MRZ	**Mangatainoka R**	**14.14**	**200**	P	**P**	**15 57 28.7**	**-2.6**
AFI	**Afiamalu**	**14.75**	**25**	P	P	15 57 27.6	-11
	31nm,0.3s,baz=151,slow=3.0,SNR=74						
AFI				S	S	15 59 52.3	-25
	1.6nm,0.3s,baz=180,slow=20,SNR=2.4						
DZM	**Mont Dzumac**		**14.99 288**	P	**P**	**15 57 39.7**	**-1.4**
	2.7nm,0.3s,baz=93,slow=15,SNR=25						
RPZ	**Rata Peaks**	**18.40**	**205**	P	**P**	**15 58 15.2**	**-2.2**
	1.1nm,0.3s,baz=108,slow=3.6,SNR=6.3						
RPZ				S	**S**	**16 01 34.1**	**+5.0**
	1.3nm,0.3s,baz=54,slow=19,SNR=11						
STKA	**Stephens Creek**	**35.11**	**253**	P	**P**	**16 00 47.4**	**-0.6**
	1.0nm,0.5s,baz=104,slow=14,SNR=5.2						
ASAR	**Alice Springs**	**43.21**	**264**	P	**P**	**16 01 52.6**	**-1.8**
	1.2nm,0.4s,baz=97,slow=7.2,SNR=38						
ASAR				ScP	**ScP**	**16 06 58.7**	**+4.7**
	0.6nm,1.0s,baz=111,slow=4.1,SNR=3.6						
ASAR				S	**S**	**16 07 53.5**	**-1.2**
	0.7nm,0.9s,baz=88,slow=16,SNR=3.6						
WRA	**Warramunga Arr**	**43.94**	**269**	P	**P**	**16 01 57.6**	**-2.6**
	1.5nm,0.4s,baz=108,slow=5.9,SNR=25						
WRA				ScP	**ScP**	**16 07 01.0**	**+4.1**
	0.9nm,1.1s,baz=105,slow=6.1,SNR=3.8						
WRA				S	**S**	**16 08 02.0**	**-3.1**
	0.5nm,0.8s,baz=108,slow=14,SNR=3.7						
VNDA	**Vanda**		**50.98 185**	P	P	16 02 59.3	+6.4
	1.9nm,0.5s,baz=0.5,slow=8.5,SNR=26						
MAW	**Mawson**		**74.99 200**	P	**P**	**16 05 33.6**	**+4.1**
	1.6nm,0.4s,baz=135,slow=7.5,SNR=6.5						
MJAR	**Matsushiro Arr**	**75.78**	**325**	P	**P**	**16 05 31.2**	**-3.2**
	5.8nm,0.8s,baz=166,slow=6.4,SNR=11						
JNU	**Nakatsue**		**77.30 318**	P	**P**	**16 05 40.1**	**-2.9**
	5.2nm,0.9s,baz=110,slow=3.0,SNR=4.7						
SNAA	**Sanae**		**81.07 178**	P	**P**	**16 06 06.4**	**+3.6**
VNA3	**Neumayer Olymp**	**81.22**	**176**	P	**P**	**16 06 07.2**	**+3.8**
VNA2	**Neumayer--Watz**	**81.66**	**177**	P	**P**	**16 06 09.8**	**+4.1**
	baz=185,slow=3.3						
KSRS	**Korea Array**		**82.05 319**	P	**P**	**16 06 06.2**	**-1.9**
	2.2nm,0.9s,baz=140,slow=8.0,SNR=4.4						
PLCA	**Paso Flores**		**84.59 133**	P	**P**	**16 06 25.8**	**+4.4**
	4.4nm,0.8s,baz=217,slow=3.8,SNR=7.5						
USRK	**Ussuriysk Ar.**		**84.66 326**	P	**P**	**16 06 19.9**	**-1.2**
	1.2nm,0.6s,baz=146,slow=2.8,SNR=3.0						
NVAR	**Mina Array Bea**		**86.19 43**	P	**P**	**16 06 29.2**	**+0.1**
	1.3nm,0.8s,baz=216,slow=8.3,SNR=6.8						
TXAR	**Lajitas Array**		**90.92 57**	P	**P**	**16 06 52.4**	**+1.0**
	0.6nm,0.8s,baz=224,slow=3.5,SNR=4.9						
PDAR	**Pinedale Array**		**94.11 43**	P	**P**	**16 07 05.7**	**-0.3**
	0.2nm,0.6s,baz=208,slow=2.9,SNR=3.5						
MKAR	**Makanchi Array**	**115.78**	**311**	PKKPbc	PKKPbc	16 23 03.4	+2.2
	0.4nm,0.4s,baz=258,slow=2.7,SNR=7.0						
ARCES	**ARCESS Array B**	**135.71**	**348**	PKhKP	PKPpre	16 12 58.1	
	2.2nm,0.9s,baz=44,slow=4.0,SNR=3.7						
ARCES				PKP	**PKPdf**	**16 13 03.6**	**-1.0**
	0.7nm,0.5s,baz=54,slow=2.0,SNR=7.5						
FINES	**FINESS Array B**	**142.35**	**341**	PKhKP	PKPpre	16 13 09.6	
	1.9nm,0.9s,baz=35,slow=5.1,SNR=4.0						
NB2	**NORSAR Subarra**	**145.85**	**352**	PKP	**PKPbc**	**16 13 23.5**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=18,slow=2.8						
NOA	**NORSAR Array B**	**145.85**	**352**	PKPbc	**PKPdf**	**16 13 21.9**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=18,slow=2.7,SNR=3.8						
AKASG	**Malin Array Be**		**148.86 326**	PKPbc	**PKPbc**	**16 13 31.5**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=47,slow=3.9,SNR=5.7						
BRTR	**Keskin Array B**	**151.00**	**303**	PKPbc	**PKPbc**	**16 13 37.5**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=143,slow=5.0,SNR=3.7						
BRTR				PKPab	**PKPab**	**16 13 45.6**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=127,slow=4.3,SNR=5.2						
TORD	**Torodi Ar. Bea**	**165.74**	**179**	PKP	**PKPdf**	**16 13 50.3**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=358,slow=0.6,SNR=3.5						
TORD				PKPab	**PKPab**	**16 14 53.5**	**+2.1**
	comp=Z,0.9nm,0.6s,baz=184,slow=3.3,SNR=8.2						

TRN 27 16:06:35.6,15°.02N×59°.62W,h63km,MD3.7,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MVM	**Montagne Vaucl**		**1.32 250**	*eP*	Pn	16 06 59.2	+1.2

ZAM	**Aeronautique**	**1.44**	**252**	*eP*		Pn	16 07 00.5	+1.0
TRMF	**Trois Ilets**	**1.47**	**251**	*eP*		Pn	16 07 00.8	+0.8
BIM	**Bigot**	**1.49**	**251**	*eP*		Pn	16 07 01.6	+1.3
BIM				*eS*		Sn	16 07 20.7	+1.8
BAMF	**Morne Balai**	**1.50**	**263**	*eP*		Pn	16 07 02.2	+1.8
FDF	**Fort de France**	**1.51**	**260**	*eP*		Pn	16 07 01.6	+1.1
FDF				*eS*		Sn	16 07 21.2	+1.9
GBMF	**Grand Be**	**1.51**	**262**	*eP*		Pn	16 07 02.5	+1.9
CXM	**Morne La Croix**	**1.52**	**263**	*eP*		Pn	16 07 02.8	+2.1
CXM				*eS*		Sn	16 07 21.2	+1.6
PML	**Morne Lenard**	**1.53**	**261**	*eP*		Pn	16 07 02.7	+1.9
PCM	**Pelee Case Pet**	**1.56**	**263**	*eP*		Pn	16 07 03.0	+1.9
DLPL	**La Plaine**	**1.61**	**282**	*eP*		Pn	16 07 02.9	+1.1
DLPL				*eS*		Sn	16 07 23.8	+2.2
SLW	**Petit Monier**	**1.62**	**233**	*eP*		Pn	16 07 03.3	+1.3
SLW				*eS*		Sn	16 07 23.4	+1.4
SLPA	**Patience**	**1.71**	**228**	*eP*		Pn	16 07 05.3	+2.1
MDN	**Morne-Daniel**	**1.74**	**280**	*eP*		Pn	16 07 04.6	+1.0
MDN				*eS*		Sn	16 07 26.0	+1.1
SLB	**Belfond**	**1.82**	**230**	*eP*		Pn	16 07 06.8	+2.1
SLB				*eS*		Sn	16 07 28.4	+1.6
MCLT	**Moule a Chique**	**1.83**	**225**	*eP*		Pn	16 07 06.0	+1.2
MCLT				*eS*		Sn	16 07 28.7	+1.8
MDVC	**Dominica, Viel**	**1.83**	**289**	*eP*		Pn	16 07 07.0	+2.2
MDVC				*eS*		Sn	16 07 28.5	+1.6
SLDE	**Delcer**	**1.85**	**229**	*eP*		Pn	16 07 06.2	+1.2
MDPV	**Dominica, Penn**	**1.85**	**289**	*eP*		Pn	16 07 06.7	+1.7
MDPV				*eS*		Sn	16 07 29.6	+2.1
MAGL	**Barre de l'ile**	**1.86**	**300**	*eP*		Pn	16 07 07.4	+2.2
MAGL				*eS*		Sn	16 07 29.4	+1.8
BBGH	**Gun Hill**	**1.86**	**178**	*eP*		Pn	16 07 06.8	+1.5
BBGH				*eS*		Sn	16 07 30.4	+2.6
BBL	**Barber's Block**	**1.86**	**286**	*eP*		Pn	16 07 06.6	+1.4
BBL				*eS*		Sn	16 07 29.4	+1.6
MGG	**Marie-Galante**	**1.87**	**299**	*eP*		Pn	16 07 07.1	+1.8
MGG				*eS*		Sn	16 07 30.3	+2.3
DEG	**La Desirade**	**1.90**	**313**	*eP*		Pn	16 07 06.4	+0.6
DEG				*eS*		Sn	16 07 30.2	+1.4
BBSP	**Saint Philip**	**1.91**	**175**	*eP*		Pn	16 07 07.1	+1.2
BBSP				*eS*		Sn	16 07 31.4	+2.6
TDBA	**Terre de Bas,**	**2.12**	**293**	*eP*		Pn	16 07 10.1	+1.4
TDBA				*eS*		Sn	16 07 35.7	+1.7
TBG	**Guadaloupe-3**	**2.13**	**293**	*eP*		Pn	16 07 10.8	+1.9
TBG				*eS*		Sn	16 07 36.5	+2.3
CBE	**F"f", Capest**	**2.19**	**299**	*eP*		Pn	16 07 11.9	+2.3
CBE				*eS*		Sn	16 07 38.2	+2.5
SFAN	**Fancy Village**	**2.22**	**223**	*eP*		Pn	16 07 12.2	+2.2
FNG	**Fond-Bernard**	**2.25**	**298**	*eP*		Pn	16 07 13.0	+2.4
SSV	**Crater Summit**	**2.27**	**223**	*eP*		Pn	16 07 12.3	+1.4
SSV				*eS*		Sn	16 07 39.6	+1.8
SVCV	**St. Vincent, C**	**2.28**	**221**	*eP*		Pn	16 07 13.3	+2.3
SVCV				*eS*		Sn	16 07 40.5	+2.5
SVV	**Soufriere Volc**	**2.29**	**223**	*eP*		Pn	16 07 12.6	+1.5
SVV				*eS*		Sn	16 07 39.5	+1.2
ABD	**La Joyeuse, An**	**2.31**	**309**	*eP*		Pn	16 07 12.4	+1.0
ABD				*eS*		Sn	16 07 40.6	+1.9
SVB	**Belmont**	**2.35**	**223**	*eP*		Pn	16 07 13.4	+1.5
SVB				*eS*		Sn	16 07 42.0	+2.3
FCV	**Fort Charlotte**	**2.43**	**221**	*eP*		Pn	16 07 15.1	+2.1
FCV				*eS*		Sn	16 07 43.6	+2.0
BPA	**Boggy Peak**	**2.95**	**313**	*eP*		Pn	16 07 21.7	+1.6
BPA				*eS*		Sn	16 07 56.4	+1.9
MLYT	**Lee's Yard**	**3.00**	**305**	*eP*		Pn	16 07 22.4	+1.6
MLYT				*eS*		Sn	16 07 56.8	+1.2
GRSS	**Sisters**	**3.33**	**216**	*eS*

comp=E,1µm,0.7s,0.5nm,0.3s,baz=41,slow=18,SNR=136

MK31				⇓Sn	Sn	16 28 24.4	-5.1
	comp=E,1µm,0.3s,baz=34,slow=36,SNR=39							
KURK	Kurchatov	4.64	299	⇓Pn	Pn	16 28 27.2	+1.2
	comp=E,1µm,0.7s,1.8nm,0.7s							
KURK				⇓Sn	Sn	16 29 18.4	-1.6
	comp=E,1µm,0.3s,1.5nm,0.3s							
KURK				⇑Lg	Lg	16 29 37.9		
	comp=E,1µm,0.5s,18nm,0.5s							
KURBB	Kurchatov Arra	4.66	298	⇑Pn	Pn	16 28 27.1	+0.8
	comp=E,1µm,0.8s,1.9nm,0.8s							
KURBB				⇓Sn	Sn	16 29 18.2	-2.2
	comp=E,1µm,0.6s,4.9nm,0.6s							
KURBB				⇓Lg	Lg	16 29 39.0		
	comp=E,1µm,0.6s,27nm,0.6s							
KAPS	Kapalarasan	5.11	231	*e*P	Pn	16 28 39.5	+6.9
	comp=E,1µm,0.4s,0.7nm,0.4s							
KAPS				*e*S	Sn	16 29 38.3	+6.7
	comp=E,1µm,0.4s,7.2nm,0.4s							

ISK ***27*** *16:31:36.9,38˚.75N×43˚.43E,h18km, ML2.0/4*
ISCJB ***27*** *16:31:37.8±1.0,38˚.72N±0˚.04×43˚.54E±0˚.08,h26km±6km, Error ellipse: s-maj=11.7km s-min=5.4km az=22.2*
DDA ***27*** *16:31:38.7,38˚.76N×43˚.46E,h7km, Ml2.5*

ISC 27 16:31:38.0±1.3,38˚.74N±0˚.03×43˚.53E±0˚.05,h18km±6km, n10,σ1§63/19,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.18**	**217**	PG	**Pg**	**16 31 42.7**	**-0.1**
VANB				SG	**Sb**	**16 31 47.2**	**+1.4**
TVAN	**Van**	**0.23**	**204**	*i* P	**Pg**	**16 31 43.0**	**-0.6**
TVAN				*i* S	**Sb**	**16 31 48.5**	**+0.9**
VMUR	**Van-Muradiye**	**0.25**	**8**	*i* P	**Pg**	**16 31 43.6**	**-0.3**
VMUR				*i* S	**Sb**	**16 31 49.1**	**+0.8**
CLDR	**Caldiran**	**0.51**	**37**	PG	**Pg**	**16 31 47.9**	**-0.4**
CLDR				SG	**Sb**	**16 31 56.9**	**+1.2**
CLDR	**Caldiran**	**0.51**	**37**	*i* P	**Pg**	**16 31 48.1**	**-0.2**
CLDR				*i* S	**Sb**	**16 31 57.4**	**+1.7**
GEVA	**Gevas**	**0.56**	**221**	*i* P	**Pg**	**16 31 48.4**	**-0.9**
GEVA				*i* S	**Sb**	**16 31 58.1**	**+0.9**
TUTA	**Tutak**	**0.86**	**320**	*i* P	**Pg**	**16 31 53.6**	**-1.3**
TUTA				*i* S	**Sb**	**16 32 06.7**	**+0.6**
AGRB	**Hanur-Agry**	**0.93**	**334**	PG	**Pg**	**16 31 55.4**	**-0.8**
AGRB				SG	**Sg**	**16 32 07.5**	**-1.1**
GURO	**Guroymak-BITLI**	**1.19**	**261**	PN	**Pb**	**16 31 58.0**	**-2.1**
EKAR	**Karacoban**	**1.25**	**295**	*i* P	**Pg**	**16 32 02.3**	**+0.1**
EKAR				*i* S	**Sg**	**16 32 23.3**	**+4.7**

IDC 27 17:08:57.8±1.4,2˚.39S×140˚.14E,h0km,mb3.3/3, mb1 3.5/4,mb1mx3.3/26,mbtmp3.4/4,ML3.5/1,MS2.9/1, Ms1 2.9/1,ms1mx2.4/14,Error ellipse: s-maj=28.0km s-min=9.8km az=5.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**0.58**	**102**	Pg	Pg	17 09 09.2	+0.2
	comp=Z,38nm,21.4s,baz=220,slow=24,SNR=217						
JAY				Lg	Lg	17 09 16.9	
	comp=Z,38nm,21.4s,baz=163,slow=19,SNR=52						
BATI	**Baumata**	**18.11**	**244**	LR	LR	17 21 49.6	
	comp=Z,38nm,21.4s,baz=229,slow=43						
WRA	**Warramunga Arr**	**18.34**	**198**	P	Pn	17 13 13.1	-0.8
	comp=Z,38nm,0.3s,baz=21,slow=12,SNR=14						
FITZ	**Fitzroy Crossi**	**21.12**	**221**	P	P	17 13 43.5	-0.9
	comp=Z,38nm,0.7s,baz=45,slow=14,SNR=3.2						
ASAR	**Alice Springs**	**22.00**	**195**	P	P	17 13 54.1	+0.3
	comp=Z,38nm,0.3s,baz=26,slow=10,SNR=21						
MKAR	**Makanchi Array**	**70.41**	**322**	P	P	17 20 14.3	+0.3
	comp=Z,38nm,0.6nm,0.7s,baz=99,slow=8.9,SNR=5.2						

ISN ***27*** *17:18:59.4±1.0,37˚.65N×42˚.83E,h0km±40km, ML3.4*
ISK ***27*** *17:19:02.3,37˚.53N×42˚.72E,h2km, ML3.3/9*
DDA ***27*** *17:19:03.2,37˚.51N×42˚.69E,h17km, Ml3.4*

ISC 27 17:19:03.4±1.0,37˚.54N±0˚.03×42˚.72E±0˚.02,h10km±8km, n31,σ1§00/51,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIRT	**Sirnak**	**0.23**	**260**	PG	**Pg**	**17 19 08.2**	**+0.1**
SIRT				SG	**Sg**	**17 19 11.9**	**+0.7**
SIRN	**S¨–rnak**	**0.25**	**260**	*i* P	**Pg**	**17 19 08.5**	**+0.1**
SIRN				*i* S	**Sg**	**17 19 12.5**	**+0.7**
CUKT	**Cukurca**	**0.77**	**112**	PG	**Pg**	**17 19 17.6**	**-0.6**
CUKT				SG	**Sb**	**17 19 29.5**	**+0.1**
CUKT	**Cukurca**	**0.77**	**112**	*i* P	**Pb**	**17 19 17.9**	**-1.0**
CUKT				*i* S	**Sb**	**17 19 30.3**	**+0.9**
SRTM	**Siirt_Merkez**	**0.78**	**306**	*i* P	**Pb**	**17 19 18.0**	**-1.1**
SRTM				*i* S	**Sb**	**17 19 31.0**	**+1.4**
GEVA	**Gevas**	**0.82**	**19**	*i* P	**Pg**	**17 19 18.4**	**-0.8**
GEVA				*i* S	**Sb**	**17 19 30.4**	**-0.5**
TVAN	**Van**	**1.13**	**29**	*i* P	**Pn**	**17 19 25.1**	**-0.3**
TVAN				*i* S	**Sn**	**17 19 42.0**	**+0.9**
GURO	**Guroymak-BITLI**	**1.15**	**332**	PN	**Pg**	**17 19 24.6**	**-0.8**
VANB	**Van**	**1.18**	**26**	PN	**Pg**	**17 19 24.9**	**-1.1**
BTMN	**Batman**	**1.20**	**287**	*i* P	**Pn**	**17 19 26.2**	**-0.1**
BTMN				*i* S	**Sn**	**17 19 44.4**	**+1.6**
YOVA	**Hakkari_Y¨…kse**	**1.25**	**87**	*i* P	**Pn**	**17 19 27.4**	**+0.3**
YOVA				*i* S	**Sn**	**17 19 44.2**	**+0.1**
ADCV	**BITLIS_Adilcev**	**1.27**	**0**	*i* P	**Pn**	**17 19 27.7**	**+0.4**
ADCV				*i* S	**Sn**	**17 19 45.8**	**+1.3**
SVAN	**Silvan-Diyarba**	**1.35**	**297**	PN	**Pb**	**17 19 28.4**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.35**	**297**	*i* P	**Pb**	**17 19 28.6**	**-0.2**
SVAN				*i* S	**Sn**	**17 19 47.5**	**+1.2**
MARD	**Mardin**	**1.56**	**262**	*i* P	**Pg**	**17 19 32.5**	**-0.8**
MARD				*i* S	**Sg**	**17 19 53.4**	**+0.2**
VMUR	**Van-Muradiye**	**1.60**	**25**	*i* P	**Pg**	**17 19 33.8**	**-0.2**
VMUR				*i* S	**Sg**	**17 19 56.8**	**+2.1**
MLAZ	**Malazgirt-MUS**	**1.60**	**355**	PN	**Pg**	**17 19 33.2**	**-1.0**
EKAR	**Karacoban**	**1.79**	**344**	*i* P	**Pg**	**17 19 37.0**	**-0.7**
EKAR				*i* S	**Sg**	**17 20 01.9**	**+0.9**
MAZI	**Mazidag**	**1.81**	**268**	PN	**Pb**	**17 19 35.5**	**-1.1**
CLDR	**Caldiran**	**1.86**	**30**	PN	**Pb**	**17 19 36.7**	**-0.9**
TUTA	**Tutak**	**1.86**	**2**	*i* P	**Pb**	**17 19 37.1**	**-0.5**
TUTA				*i* S	**Sg**	**17 20 04.3**	**+1.0**
BNGL	**BINGOL**	**1.87**	**319**	*i* P	**Pb**	**17 19 36.8**	**-1.0**
BNGL				*i* S	**Sg**	**17 20 03.0**	**-0.7**
HANI	**Diyarbakir_Han**	**2.03**	**296**	*i* P	**Pn**	**17 19 37.3**	**-0.4**
HANI				*i* S	**Sn**	**17 20 00.9**	**-2.2**
AGRB	**Hanur-Agry**	**2.04**	**6**	PN	**Pb**	**17 19 39.7**	**-1.0**
DIYA	**Diyarbakir**	**2.09**	**281**	*i* P	**Pn**	**17 19 38.9**	**+0.4**
DIYA				*i* S	**Sg**	**17 20 09.4**	**-1.3**
BNGB	**Bing¨¶l**	**2.16**	**313**	PN	**Pn**	**17 19 40.4**	**+0.8**
BGOL	**Bingol**	**2.17**	**313**	*i* P	**Pn**	**17 19 40.6**	**+1.0**
BGOL				*i* S	**Sg**	**17 20 11.6**	**-1.4**
EATA	**Eleskirt**	**2.33**	**356**	*i* P	**Pg**	**17 19 47.0**	**-0.9**
EATA				*i* S	**Sg**	**17 20 19.2**	**+1.1**
YEDI	**Yedisu-Bingol**	**2.55**	**319**	PN	**Pn**	**17 19 46.5**	**+1.6**
PTK	**Pertek**	**2.95**	**298**	PN	**Pn**	**17 19 51.1**	**+0.7**
URFA	**Urfa**	**3.10**	**269**	PN	**Pn**	**17 19 53.7**	**+1.3**

SJA ***27*** *17:24:48.4±0.9,32˚.16S×71˚.76W,h27km±5km, ML3.5, MW3.7*
GUC ***27*** *17:24:49.2±0.5,32˚.02S×71˚.42W,h26km±3km, ML3.6*

ISC 27 17:24:47.3±2.3,32˚.02S±0˚.03×71˚.6W±0˚.1,h9km±13km,n22, σ1§09/31,1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**1.00**	**32**	*e*P	**Pb**	**17 25 06.9**	**+0.1**
CMCH				*i* S	**Sg**	**17 25 20.1**	**+0.7**
CMCH				IAML		17 25 23.8	
	comp=N,4µm,0.3s						
ROCH	**El Roble**	**1.08**	**151**	*e*P	**Pb**	**17 25 08.5**	**+0.2**
ROCH				*i* S	**Sn**	**17 25 23.3**	**-0.8**
ROCH				IAML		17 25 26.5	
	comp=N,1µm,0.4s						
ROC1	**El Roble**	**1.08**	**152**	*e*P	**Pb**	**17 25 08.5**	**+0.2**
ROC1				*e*S	**Sn**	**17 25 23.3**	**-0.8**
PEL	**Peldehue**	**1.37**	**145**	*e*P	**Pb**	**17 25 13.6**	**+0.5**
PEL				*e*S	**Sg**	**17 25 31.7**	**+0.3**
PEL	**Peldehue**	**1.37**	**145**	*e*P	**Pn**	**17 25 12.8**	**+0.1**
PEL				*i* S	**Sn**	**17 25 30.7**	**-0.3**
PEL				IAML		17 25 33.9	
	comp=E,1µm,0.3s						
CLCH	**Cerro Calan**	**1.65**	**147**	*e*P	**Pn**	**17 25 17.4**	**+0.9**
CLCH				*i* S	**Sb**	**17 25 38.5**	**-0.4**
CLCH				IAML		17 25 42.2	
	comp=E,1µm,0.7s						
FCH	**Farellones**	**1.72**	**140**	*e*P	**Pb**	**17 25 18.6**	**-0.6**
FCH				*e*S	**Sb**	**17 25 40.5**	**-0.6**
FCH				IAML		17 25 42.9	
	comp=E,1µm,0.2s						
AUSP	**Uspallata**	**1.91**	**97**	*e*P	**Pg**	**17 25 23.7**	**-0.2**
GO04	**Tololo Observa**	**1.98**	**21**	⇓*e*P	**Pn**	**17 25 21.5**	**+0.3**
GO04				*e*S	**Sb**	**17 25 48.9**	**+0.5**
GO04				IAML		17 25 52.8	
	comp=E,3µm,0.7s						
RTLS	**Leoncito**	**1.99**	**84**	*e*P	**Pg**	**17 25 25.1**	**-0.3**
RTLS				IAML		17 25 53.8	
	comp=Z,399nm,0.5s						
LSCH	**La Serena**	**2.13**	**9**	*e*S	**Sb**	**17 25 52.5**	**-0.1**
LMEL	**Las Melosas**	**2.18**	**147**	*e*P	**Pn**	**17 25 25.3**	**+1.5**
LMEL				*e*S	**Sb**	**17 25 52.4**	**-1.8**
LMEL				IAML		17 25 59.8	
	comp=N,802nm,0.1s						
ARCO	**CERRO ARCO**	**2.42**	**110**	*e*P	**Pg**	**17 25 32.7**	**-0.9**
ARCO				IAML		17 26 06.3	
	comp=Z,175nm,0.6s						
ASAL	**Salagasta**	**2.43**	**104**	*e*P	**Pg**	**17 25 33.7**	**-0.1**
AAGR	**Agrelo**	**2.59**	**115**	*e*P	**Pb**	**17 25 34.3**	**+0.4**
AROD	**Rodeo**	**2.61**	**45**	*e*P	**Pb**	**17 25 34.3**	**-0.2**
ACCO	**Cerro Coronel**	**2.62**	**58**	*e*P	**Pb**	**17 25 34.8**	**+0.3**
RTCV	**Cerro Valdivia**	**2.63**	**87**	*e*P	**Pb**	**17 25 34.3**	**-0.3**
RTLL	**Cerro Villicun**	**2.77**	**76**	*e*P	**Pb**	**17 25 36.1**	**-1.0**
RTLL				IAML		17 26 15.5	
	comp=Z,148nm,0.5s						
AMOG	**MOGNA**	**2.88**	**69**	*e*P	**Pb**	**17 25 37.4**	**-1.5**
AGUA	**GUANDACOL**	**3.70**	**48**	*e*P	**Pb**	**17 25 50.4**	**-2.4**
ACAN	**Cantantal**	**3.77**	**95**	*e*P	**Pn**	**17 25 49.1**	**+3.4**

BJI ***27*** *17:39:42.1,51˚.83N×179˚.19W,h104km,mb4.9/30, mB5.0/18*
AEIC ***27*** *17:39:46.6,51˚.65N×179˚.66W,h111km,ML4.3, MB4.7(NEIC)*
NEIC ***27*** *17:39:46.6±0.0,51˚.65N×179˚.66W,h111km,mb4.7/164, ML4.3(AEIC),After AEIC.*
ISCJB ***27*** *17:39:46.6±0.2,51˚.90N±0˚.03×179˚.69W±0˚.03, h120km±1km,mb4.7/173,Error ellipse: s-maj=5.8km s-min=2.5km az=173.2*
IDC ***27*** *17:39:47.9±0.5,51˚.93N×179˚.69W,h116km±3km,mb4.1/25, mb1 4.3/26,mb1mx4.1/55,mbtmp4.5/26,MS2.9/5, Ms1 2.9/5,ms1mx2.6/57,Error ellipse: s-maj=13.5km s-min=7.6km az=161.0*
MOS ***27*** *17:39:47.2±1.0,51˚.94N×179˚.69W,h122km,mb4.5/40, Error ellipse: s-maj=9.2km s-min=6.9km az=60.3*

ISC 27 17:39:47.3±0.4,51˚.81N±0˚.06×179˚.67W±0˚.03, h114km±2km,h114km;pP-P,n566,σ1§09/654,mb4.7/173, 15C-4D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CERAA	**Semis' Rag'd T**	**0.41**	**285**	P	**Pn**	**17 40 03.9**	**-0.2**
CERB	**Semis' Cerberu**	**0.45**	**287**	P	**Pn**	**17 40 04.2**	**0.0**
CESW	**Semis' Southwe**	**0.48**	**282**	P	**Pn**	**17 40 04.2**	**-0.3**
CEAP	**Semis' Anvil P**	**0.51**	**293**	P	**Pn**	**17 40 04.8**	**+0.2**
CETU	**Semis' Tuman**	**0.54**	**288**	P	**Pn**	**17 40 04.9**	**+0.1**
GALAA	**Gareloi Lava P**	**0.56**	**94**	P	**Pn**	**17 40 05.0**	**0.0**
GAEA	**Gareloi East**	**0.57**	**92**	P	**Pn**	**17 40 05.0**	**0.0**
AMKA	**Amchitka**	**0.77**	**237**	P	**Pn**	**17 40 05.6**	**-1.0**
AMKA				S	**Sn**	**17 40 19.6**	**-1.6**
TASE	**Tanaga Southea**	**1.01**	**88**	P	**Pn**	**17 40 09.0**	**0.0**
TAFP	**Tanaga Falls P**	**1.05**	**84**	P	**Pn**	**17 40 09.4**	**0.0**
TAFP				S	**Sn**	**17 40 26.1**	**+0.1**
LSPA	**Little Sitkin**	**1.10**	**279**	P	**Pn**	**17 40 10.2**	**+0.4**
LSNW	**Little Sitkin**	**1.14**	**279**	P	**Pn**	**17 40 10.1**	**0.0**
LSSA	**Little Sitkin**	**1.14**	**278**	P	**Pn**	**17 40 10.4**	**+0.2**
TAPA	**Tanaga Point A**	**1.15**	**89**	P	**Pn**	**17 40 10.3**	**-0.1**
KIMD	**Kanaga Island**	**1.51**	**91**	P	**Pn**	**17 40 14.3**	**-0.2**
KICM	**Kanaga Island**	**1.54**	**85**	P	**Pn**	**17 40 14.8**	**+0.1**
KICM				S	**Sn**	**17 40 36.1**	**+0.5**
KIKV	**Kanaga Island**	**1.55**	**86**	P	**Pn**	**17 40 15.1**	**+0.1**
KIWB	**Kanaga Island**	**1.56**	**87**	P	**Pn**	**17 40 15.1**	**+0.1**
KINC	**Kanaga Island**	**1.58**	**84**	P	**Pn**	**17 40 15.5**	**+0.3**
ADK	**Adak**	**1.85**	**86**	P	**Pn**	**17 40 18.4**	**-0.2**
ADK				S	**Sn**	**17 40 42.0**	**-0.4**
ADK	**Adak**	**1.85**	**86**	P	**Pn**	**17 40 18.4**	**-0.2**
ADK				S	**Sn**	**17 40 42.0**	**-0.4**
ADAG	**Mount Adagdak**	**1.91**	**84**	P	**Pn**	**17 40 19.7**	**+0.4**
ETKA	**Kagalaska Isla**	**2.03**	**87**	P	**Pn**	**17 40 20.5**	**-0.2**
ETKA				S	**Sn**	**17 40 46.3**	**-0.1**
GSSP	**Great Sitkin S**	**2.18**	**81**	P	**Pn**	**17 40 23.7**	**+1.0**
GSTD	**Great Sitkin T**	**2.20**	**82**	P	**Pn**	**17 40 22.9**	**-0.1**
GSMY	**Great Sitkin M**	**2.25**	**83**	P	**Pn**	**17 40 23.7**	**+0.1**
GSIG	**Igitkin Island**	**2.33**	**84**	P	**Pn**	**17 40 24.5**	**-0.1**
KOWE	**Korovin West**	**3.39**	**78**	P	**Pn**	**17 40 38.9**	**+0.3**
ATKA	**Atka Island**	**3.41**	**81**	P	**Pn**	**17 40 39.0**	**+0.3**
ATKA				S	**Sn**	**17 41 19.3**	**+0.9**
KOFP	**Korovin Flat P**	**3.47**	**80**	P	**Pn**	**17 40 40.4**	**+0.7**
SMY	**Shemya**	**3.94**	**286**	P	**Pn**	**17 40 47.7**	**+2.0**
SMY	**Shemya**	**3.94**	**286**	P	**Pn**	**17 40 47.7**	**+2.0**
NIKH	**Nikolski High**	**6.73**	**76**	*e*Pn	**Pn**	**17 41 21.9**	**-1.5**
OKTU	**Okmok Mt. Tuli**	**7.26**	**73**	P	**Pn**	**17 41 32.2**	**+1.6**
MSW	**Makushin Switc**	**8.08**	**70**	P	**Pn**	**17 41 43.5**	**+1.7**
MREP	**Makushin Rep't**	**8.09**	**71**	P	**Pn**	**17 41 43.4**	**+1.5**
UNV	**Unalaska Valle**	**8.23**	**70**	P	**Pn**	**17 41 44.9**	**+1.1**
AKMO	**Akutan Morgan**	**8.56**	**69**	P	**Pn**	**17 41 49.9**	**+1.7**
AKUT	**Akutan**	**8.71**	**69**	*e*Pn	**Pn**	**17 41 51.6**	**+1.4**
FALS	**False Pass**	**10.19**	**66**	*e*Pn	**Pn**	**17 42 10.0**	**-0.2**
SDPT	**Sand Point**	**11.94**	**65**	*e*Pn	**Pn**	**17 42 32.0**	**-1.6**
CHGN	**Chignik**	**13.25**	**62**	*e*Pn	**Pn**	**17 42 50.0**	**-0.8**
PEA0B	**Petropavlovsk-**	**13.85**	**284**	*e*Pn	**P**	**17 43 05.2**	**+2.2**
PEA1	**Petropavlovsk-**	**13.85**	**284**	*e*P	**P**	**17 43 04.4**	**+1.3**
PETK	**Petropavlovsk-**	**13.85**	**284**	P	**P**	**17 43 04.4**	**+1.3**
	0.4nm,0.3s,baz=72,slow=16,SNR=4.5						
ANM	**Nome**	**14.79**	**25**	*e*Pn	**P**	**17 43 13.7**	**+0.3**
ANM	**Nome**	**14.79**	**25**	*e*P	**P**	**17 43 13.7**	**+0.3**
SII	**Sitkinak Islan**	**15.62**	**62**	*e*Pn	**Pn**	**17 43 19.4**	**-1.4**
	75nm,0.6s						
SVW2	**Sparrevohn**	**16.15**	**45**	*e*Pn	**P**	**17 43 29.8**	**+1.4**
	65nm,1.6s						
OHAK	**Old Harbor**	**16.19**	**60**	*e*Pn	**Pn**	**17 43 26.8**	**-1.1**
	72nm,0.5s						
KDAK	**Kodiak Island**	**16.65**	**58**	P	**Pn**	**17 43 31.9**	**-1.6**
	14nm,0.3s,baz=188,slow=2.4,SNR=179						
KDAK				S	**Sn**	**17 46 29.6**	**-8.8**
	0.8nm,0.3s,baz=354,slow=19,SNR=7.3						
HOM	**Homer**	**17.52**	**52**	*e*P	**Pn**	**17 43 46.3**	**+2.3**
	347nm,1.1s						
BILL	**Bilibino**	**17.66**	**342**	*e*P	**Pn**	**17 43 47.7**	**+2.0**
	20nm,0.9s						
BILL	**Bilibino**	**17.66**	**342**	⇑*e*P	**P**	**17 43 45.2**	**+0.2**
BILL				*e*S	**S**	**17 47 01.7**	**-0.6**
BILL				pmax	pmax		
	comp=Z,18nm,1.0s						
CNPM	**China Poot**	**17.69**	**53**	*e*P	**P**	**17 43 44.4**	**-1.0**
	comp=Z,99nm,1.6s						
BRLK	**Bradley Lake**	**17.92**	**52**	*e*P	**P**	**17 43 45.8**	**-2.1**
	comp=Z,28nm,0.9s						
RDOG	**Red Dog Mine**	**18.22**	**20**	*e*P	**P**	**17 43 48.6**	**-2.5**
	comp=Z,39nm,0.8s						
SKT	**Skwentna**	**18.28**	**45**	*e*P	**Pn**	**17 43 54.4**	**+1.2**
	comp=Z,78nm,0.6s						
PPLA	**Purkeypile**	**18.36**	**42**	*e*P	**Pn**	**17 43 55.1**	**+0.9**
	comp=Z,44nm,0.8s						
SUA	**Susitna One**	**18.46**	**47**	*e*P	**Pn**	**17 43 55.1**	**-0.3**
	comp=Z,57nm,1.0s						
CAST	**Castle Rocks**	**18.62**	**41**	*e*P	**Pn**	**17 43 57.6**	**+0.3**
	comp=Z,31nm,0.9s						
SEW	**Seward**	**18.70**	**52**	*e*P	**P**	**17 43 55.1**	**-1.4**
	comp=Z,50nm,0.4s						
RC01	**Rabbit Creek A**	**18.81**	**49**	*e*P	**P**	**17 43 58.5**	**+0.8**
	comp=Z,24nm,1.1s						
PMR	**Palmer**	**19.23**	**48**	*e*P	**P**	**17 44 01.3**	**-0.9**
	comp=Z,18nm,1.4s						
PMR	**Palmer**	**19.23**	**48**	*e*P	**P**	**17 44 01.3**	**-0.9**
PMR				pmax	pmax		
	comp=Z,18nm,1.4s						
IM3	**Indian Mountai**	**19.30**	**33**	*e*P	**Pn**	**17 44 04.6**	**-0.6**
BPAW	**Bear Paw Mtn.**	**19.36**	**39**	*e*P	**Pn**	**17 44 05.7**	**-0.2**
	comp=Z,29nm,0.7s						
TRF	**Thorofare Moun**	**19.37**	**42**	*e*P	**Pn**	**17 44 05.5**	**-0.6**
	comp=Z,65nm,1.0s						
GHO	**Glory Hole Cre**	**19.38**	**47**	*e*P	**P**	**17 44 03.3**	**-0.6**
	comp=Z,18nm,0.5s						
SML	**Sawmill**	**19.66**	**47**	*e*P	**P**	**17 44 07.5**	**+0.6**
	comp=Z,24nm,0.6s						
SML	**Sawmill**	**19.66**	**47**	*e*P	**P**	**17 44 07.5**	**+0.6**
SML				pmax	pmax		
	comp=Z,24nm,0.6s						
MLY	**Manley**	**19.88**	**37**	*e*P	**Pn**	**17 44 10.8**	**-1.1**
	comp=Z,51nm,1.1s						
RND	**Reindeer**	**19.95**	**43**	*e*P	**P**	**17 44 10.6**	**+0.5**
	comp=Z,26nm,1.0s						
RND	**Reindeer**	**19.95**	**43**	*e*P	**P**	**17 44 10.6**	**+0.5**
RND				pmax	pmax		
	comp=Z,26nm,1.0s						
BWN	**Browne**	**19.99**	**40**	*e*P	**Pn**	**17 44 12.8**	**-0.4**
	comp=Z,115nm,1.0s						
GLI	**Glacier Island**	**20.01**	**50**	*e*P	**P**	**17 44 09.6**	**-1.1**
	comp=Z,134nm,1.8s						
MCK	**McKinley**	**20.04**	**42**	*e*P	**P**	**17 44 10.8**	**-0.1**
	comp=Z,19nm,0.8s						
MCK	**McKinley**	**20.04**	**42**	*e*P	**P**	**17 44 10.9**	**-0.1**
MCK				pmax	pmax		
	comp=Z,19nm,0.8s						
SCM	**Sheep Creek Mo**	**20.13**	**48**	*e*P	**P**	**17 44 12.2**	**+0.2**
	comp=Z,64nm,1.0s						
SCM	**Sheep Creek Mo**	**20.13**	**48**	*e*P	**P**	**17 44 12.2**	**+0.2**
SCM				pmax	pmax		
	comp=Z,64nm,1.0s						
MID	**Middleton Isla**	**20.13**	**55**	*e*P	**P**	**17 44 13.1**	**+1.2**
	comp=Z,191nm,0.9s						
FID	**Port Fidalgo**	**20.28**	**51**	*e*P	**P**	**17 44 13.0**	**-0.5**
	comp=Z,45nm,0.7s						
DHY	**Denali Highway**	**20.47**	**44**	*e*P	**P**	**17 44 16.3**	**+0.6**
	comp=Z,32nm,0.6s						
DHY				*e*S	**S**	**17 48 00.9**	**+2.5**
EYAK	**Cordova Ski Ar**	**20.59**	**52**	*e*P	**P**	**17 44 17.5**	**+0.6**
	comp=Z,44nm,1.4s						
WRH	**Wood River Hil**	**20.66**	**40**	*e*P	**P**	**17 44 17.2**	**-0.4**
	comp=Z,15nm,0.6s						
DIV	**Divide**	**20.69**	**50**	*e*P	**P**	**17 44 17.2**	**-0.8**
	comp=Z,14nm,0.7s						
KLU	**Klutina**	**20.70**	**49**	*e*P	**P**	**17 44 18.2**	**+0.1**
	comp=Z,39nm,1.2s						
KLU				*e*S	**S**	**17 48 03.2**	**+0.5**
MDM	**Murphy Dome**	**20.80**	**39**	*e*P	**P**	**17 44 19.4**	**+0.3**
	comp=Z,39nm,1.0s						
CCB	**Clear Creek Bu**	**20.84**	**40**	*e*P	**P**	**17 44 18.6**	**-0.9**
	comp=Z,24nm,1.1s						
TCOL	**CIGO, UAF Yank**	**20.91**	**39**	P	**P**	**17 44 21.5**	**+1.3**
	baz=246						
COLA	**College**	**20.92**	**39**	*e*P	**P**	**17 44 21.3**	**+1.0**
	comp=Z,24nm,0.8s						
COLA	**College**	**20.92**	**39**	*e*P	**P**	**17 44 21.3**	**+1.0**
COLA				pmax	pmax		
	comp=Z,24nm,0.8s						
RAGM	**Ragged Mountai**	**21.09**	**52**	*e*P	**P**	**17 44 22.4**	**+0.1**
	comp=Z,53nm,1.2s						
HDA	**Harding Lake**	**21.10**	**41**	*e*P	**P**	**17 44 17.9**	**-4.4**
	comp=Z,10nm,0.8s						
HDA	**Harding Lake**	**21.10**	**41**	P	**P**	**17 44 23.2**	**+0.9**
	baz=248						
COLD	**Coldfoot**	**21.17**	**32**	*e*P	**P**	**17 44 24.1**	**+1.1**
	comp=Z,16nm,1.2s						
POKR	**Poker Plat Res**	**21.18**	**39**	P	**P**	**17 44 23.8**	**+0.6**
	baz=246						
BMRM	**Bremner River**	**21.22**	**51**	*e*P	**P**	**17 44 21.8**	**-1.9**
	comp=Z,24nm,0.8s						
IL1	**Eielson Array**	**21.26**	**40**	*e*P	**P**	**17 44 22.8**	**-1.2**
ILAR	**Eielson Array**	**21.26**	**40**	P	**P**	**17 44 22.6**	**-1.4**
	comp=Z,5.6nm,0.6s,baz=239,slow=9.4,SNR=66						
ILAR				S	**S**	**17 48 12.3**	**-1.1**
	comp=Z,0.2nm,0.8s,baz=244,slow=21,SNR=2.7						
ILAR				PcP	**PcP**	**17 48 23.2**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=276,slow=3.2,SNR=9.6						
ILAR				ScP	**ScP**	**17 51 48.4**	**-1.7**
	comp=Z,1.6nm,0.5s,

comp=Z,1.5nm,0.8s,baz=282,slow=8.6,SNR=2.8
YKA PcP **PcP** 17 49 00.1 +1.5
comp=Z,0.3nm,0.4s,baz=286,slow=3.2,SNR=5.5
YKA ScP **ScP** 17 52 32.7 -0.9
comp=Z,3.0nm,0.7s,baz=296,slow=3.1,SNR=18
YKB5 Yellowknife Ar 35.33 47 *eP* **P** 17 46 31.2 +0.1
YKB5 *epP* **pP** 17 46 54.8 -1.7
YKB5 *ePcP* **PcP** 17 48 59.8 +1.2
YKB5 *eScP* **ScP** 17 52 32.4 -1.2
A04D Lummi Island 35.76 72 P **P** 17 46 38.0 +3.2
baz=297
D03D Eldon 36.08 74 P **P** 17 46 39.7 +2.0
baz=298
B05A Bryant 36.33 72 P **P** 17 46 41.7 +2.0
baz=298
E04D Cinebar 36.87 75 P **P** 17 46 46.9 +2.6
baz=300
CN2 Changchun 36.94 280 *eP* **P** 17 46 48.3 +3.3
LON Longmire 37.22 74 *eP* **P** 17 46 48.8 +1.4
LON Longmire 37.22 74 *eP* **P** 17 46 48.8 +1.4
LTY Liberty 37.65 73 *eP* **P** 17 46 51.7 +0.6
comp=Z,18nm,1.6s
I03D Drain, OR 37.87 79 P **P** 17 46 55.1 +2.3
baz=302
B08A Colville Reser 37.91 71 *eP* **P** 17 46 53.7 +0.5
comp=Z,4.7nm,1.0s
H04A Detroit Lake 38.05 77 *eP* **P** 17 46 55.2 +0.8
comp=Z,7.7nm,0.7s
KBO Bosley Butte 38.15 82 *eP* **P** 17 46 58.5 +3.1
comp=Z,127nm,1.7s
K02D Willamette Mer 38.23 81 P **P** 17 46 58.3 +2.3
baz=304
G05D Wamic, OR 38.29 76 P **P** 17 46 58.2 +1.8
baz=301
I04A Tendick Farm, 38.39 79 P **P** 17 46 58.6 +1.3
baz=303
G06A Carlson Farm, 38.70 76 *eP* **P** 17 47 01.2 +1.4
comp=Z,20nm,1.8s
HUMO Hull Mountain 38.71 81 *eP* **P** 17 47 01.5 +1.6
comp=Z,24nm,1.8s
KRMB Red Mountain 38.74 83 *eP* **P** 17 47 02.5 +2.2
comp=Z,47nm,1.8s
I05D Terrebonne, OR 38.75 77 P **P** 17 47 02.0 +1.7
baz=302
F07A Phinny Hill Vi 38.78 74 *eP* **P** 17 47 00.5 +0.1
comp=Z,16nm,0.4s
J04D Umpqua Nationa 38.88 79 P **P** 17 47 03.5 +2.0
baz=303
KSRS Korea Array 39.09 270 P **P** 17 47 04.2 +1.2
comp=Z,6.5nm,0.8s,baz=52,slow=8.0,SNR=18
KSRS LR LR 18 02 33.1
comp=Z,11nm,22.0s,baz=45,slow=35
KS01 Wonju Array Si 39.10 270 *eP* **P** 17 47 03.6 +0.4
KS15 Wonju Array Si 39.12 270 *eP* **P** 17 47 03.9 +0.5
KSAR Wonju Array Be 39.12 270 P **P** 17 47 04.2 +0.9
NEW Newport 39.24 70 *eP* **P** 17 47 04.2 -0.1
comp=Z,4.0nm,0.7s
NEW Newport 39.24 70 *eP* **P** 17 47 04.2 -0.1
NEW pmax pmax
comp=Z,4.0nm,0.7s
NEW Newport 39.24 70 P **P** 17 47 04.8 +0.5
baz=299
L04D Klamath Falls 39.33 81 P **P** 17 47 06.8 +1.6
baz=304
YBH Yreka Blue Hor 39.36 82 *eP* **P** 17 47 07.4 +2.0
YBH *epP* **pP** 17 47 33.2 +2.1
YBH Yreka Blue Hor 39.36 82 *eP* **P** 17 47 07.4 +2.0
YBH *e*PP **pP** 17 47 33.3 +2.1
J05D Fort Rock, OR 39.39 79 P **P** 17 47 07.9 +2.2
baz=303
M02C Callahan 39.46 82 P **P** 17 47 09.2 +3.0
baz=305
RES Resolute Bay 39.58 25 *eP* **P** 17 47 07.8 +1.1
comp=Z,27nm,1.8s
RES Resolute Bay 39.58 25 *eP* **P** 17 47 07.8 +1.1
RES pmax pmax
comp=Z,27nm,1.8s
KMRM Mail Ridge 39.62 84 *eP* **P** 17 47 10.2 +2.6
comp=Z,45nm,1.4s
N02D Trinity Center 39.80 83 P **P** 17 47 10.7 +1.7
baz=305
M04C Macdoel 39.86 81 P **P** 17 47 11.3 +1.7
baz=305
JNU Nakatsue 40.09 262 P **P** 17 47 12.4 +1.0
comp=Z,11nm,0.8s,baz=5.4,slow=3.2,SNR=7.3
JNU Nakatsue 40.09 262 *eP* **P** 17 47 12.8 +1.3
comp=Z,37nm,1.3s
MOD Modoc Plateau 40.73 80 *eP* **P** 17 47 18.2 +1.4
comp=Z,10nm,0.6s
BMO Blue Mountains 40.90 74 *eP* **P** 17 47 19.0 +0.9
comp=Z,3.5nm,0.8s
BMO Blue Mountains 40.90 74 *eP* **P** 17 47 19.0 +0.9
BMO pmax pmax
comp=Z,4.0nm,0.8s
J08A Circle Bar Ran 41.02 77 *eP* **P** 17 47 19.4 +0.3
comp=Z,3.6nm,0.6s
JTMT Jette 41.15 69 *eP* **P** 17 47 20.3 +0.1
comp=Z,25nm,1.6s
ORV Oroville 41.38 84 *eP* **P** 17 47 22.9 +0.9
comp=Z,3.7nm,0.8s
ORV Oroville 41.38 84 *eP* **P** 17 47 22.9 +0.9
ORV pmax pmax
comp=Z,4.0nm,0.8s
WVOR Wild Horse Val 41.45 78 *eP* **P** 17 47 23.7 +1.1
comp=Z,4.7nm,0.9s
WVOR Wild Horse Val 41.45 78 *eP* **P** 17 47 23.7 +1.1
WVOR pmax pmax
comp=Z,5.0nm,0.9s
MSO Missoula 41.83 70 *eP* **P** 17 47 25.3 -0.4
comp=Z,31nm,1.8s
MSO Missoula 41.83 70 P **P** 17 47 25.8 +0.1
baz=302
HRY Holter Researc 43.12 69 *eP* **P** 17 47 36.1 0.0
HLID Hailey 43.35 74 *eP* **P** 17 47 38.7 +0.7
comp=Z,4.9nm,0.8s
HLID Hailey 43.35 74 P **P** 17 47 38.9 +0.8
baz=305,SNR=6.5
BMN Battle Mountai 43.48 80 *eP* **P** 17 47 40.7 +1.5
comp=Z,8.7nm,0.5s
BMN Battle Mountai 43.48 80 *eP* **P** 17 47 40.7 +1.5
BMN pmax pmax
comp=Z,9.0nm,0.5s
MCMT McKenzie Canyo 43.56 72 *eP* **P** 17 47 39.8 -0.1
EGMT Eagleton 43.60 66 *eP* **P** 17 47 39.8 -0.2
comp=Z,43nm,2.0s
EGMT Eagleton 43.60 66 P **P** 17 47 39.7 -0.2
baz=302
NRIK Noril'sk 43.76 329 LR LR 18 06 23.0
comp=Z,22nm,20.7s,baz=92,slow=36
BOZ Bozeman (W) 43.85 70 *eP* **P** 17 47 41.6 -0.4
comp=Z,7.1nm,0.7s
BOZ Bozeman (W) 43.85 70 *eP* **P** 17 47 41.6 -0.4
BOZ pmax pmax
comp=Z,7.0nm,0.7s
BOZ Bozeman (W) 43.85 70 P **P** 17 47 42.0 0.0
baz=304,SNR=7.5
NV01 Mina Array Sit 44.04 83 *eP* **P** 17 47 44.7 +1.0
NV01 *ePcP* **PcP** 17 49 27.6 +0.5
NV01 *eScP* **ScP** 17 53 08.2 +0.1
NVAR Mina Array Bea 44.04 83 P **P** 17 47 45.0 +1.3
comp=Z,2.9nm,0.5s,baz=300,slow=7.4,SNR=21
NVAR *pP* **pP** 17 48 10.9 +1.0
comp=Z,4.0nm,0.9s,baz=307,slow=7.5,SNR=4.3
NVAR PcP **PcP** 17 49 27.4 +0.3
comp=Z,2.0nm,0.8s,baz=336,slow=2.0,SNR=4.6
NVAR ScP **ScP** 17 53 07.8 -0.3
comp=Z,1.5nm,0.8s,baz=295,slow=5.0,SNR=7.7
MDPB Devils Postpil 44.05 84 *eP* **P** 17 47 45.2 +1.3
comp=Z,9.2nm,0.7s
MDPB *ePcP* **PcP** 17 49 26.0 -1.3
NV11 Mina Array Sit 44.13 83 *eP* **P** 17 47 44.8 +0.5
comp=Z,0.5nm,1.1s
FFC Flin Flon 44.33 54*ceP* **P** 17 47 46.1 +0.5
FFC pmax pmax
comp=Z,59nm,2.5s
QLMT Earthquake Lak 44.39 71 *eP* **P** 17 47 45.7 -0.7
PAGB Antelope Grade 44.54 87 *eP* **P** 17 47 47.5 0.0
comp=Z,11nm,0.7s
YHB Horse Butte 44.58 71 *eP* **P** 17 47 48.0 +0.1
comp=Z,8.0nm,0.8s
YHH Holmes Hill 44.76 71 *eP* **P** 17 47 49.6 +0.2
comp=Z,12nm,1.2s
YMR Madison River 44.76 71 *eP* **P** 17 47 49.2 -0.2
comp=Z,44nm,2.0s
YFT Old Faithful 44.96 71 *eP* **P** 17 47 52.3 +1.3
comp=Z,6.4nm,0.7s
H17A Grant Village 45.14 71 *eP* **P** 17 47 53.6 +1.2
comp=Z,22nm,1.5s
H17A Grant Village 45.14 71 P **P** 17 47 54.0 +1.5
baz=305
VES Vestal, Richgr 45.19 86 P **P** 17 47 53.7 +1.1
baz=310
FLWY Flagg Ranch 45.25 71 *eP* **P** 17 47 53.9 +0.7
comp=Z,6.1nm,0.6s
PKM McPherson Peak 45.36 88 P **P** 17 47 55.2 +1.0
baz=311
HVU Hansel Valley 45.37 75 *eP* **P** 17 47 55.2 +1.1
comp=Z,7.8nm,0.6s
HVU Hansel Valley 45.37 75 *eP* **P** 17 47 55.2 +1.1
HVU pmax pmax
comp=Z,8.0nm,0.6s
MOOW Moose Ponds 45.42 72 *eP* **P** 17 47 55.0 +0.5
comp=Z,21nm,1.9s
CWC Cottonwood Cre 45.43 85 P **P** 17 47 56.2 +1.5
baz=310
TPAW Teton Pass 45.45 72 *eP* **P** 17 47 55.3 +0.4
comp=Z,5.7nm,1.2s
RLMT Red Lodge 45.49 69 *eP* **P** 17 47 54.6 -0.5
comp=Z,6.3nm,1.1s
RLMT Red Lodge 45.49 69 P **P** 17 47 55.4 +0.3
baz=305,SNR=5.2
GRAC Grapevine Rang 45.51 84 P **P** 17 47 56.4 +1.2
baz=310
REDW Red Top Meadow 45.58 72 *eP* **P** 17 47 56.7 +0.9
comp=Z,16nm,1.6s
ULN Ulaanbaatar 45.59 295*ceP* **P** 17 47 57.3 +1.5
ULN pmax pmax
comp=Z,11nm,2.5s
ISA Isabella, Lake 45.69 86 *eP* **P** 17 47 56.6 0.0
comp=Z,4.8nm,0.9s
ISA Isabella, Lake 45.69 86 *eP* **P** 17 47 56.6 0.0
ISA pmax pmax
comp=Z,5.0nm,0.9s
ISA Isabella, Lake 45.69 86 P **P** 17 47 56.6 0.0
baz=310
BGU Big Grassy Mou 45.73 76 *eP* **P** 17 47 57.8 +0.8
comp=Z,8.2nm,1.5s
R11A Troy Canyon, C 45.76 81 *eP* **P** 17 47 58.0 +0.8
comp=Z,4.9nm,0.6s
R11A Troy Canyon, C 45.76 81 P **P** 17 47 58.3 +1.0
baz=309,SNR=14
DAC Darwin (Calif) 45.83 84 *eP* **P** 17 47 58.7 +0.8
comp=Z,5.4nm,0.9s
DAC *ePcP* **PcP** 17 49 33.9 +0.6
DAC Darwin (Calif) 45.83 84 *eP* **P** 17 47 58.7 +0.8
DAC *e* 17 49 33.9
DAC pmax pmax
comp=Z,5.0nm,0.9s
SPUT South Promonto 45.85 75 *eP* **P** 17 47 58.8 +0.9
comp=Z,2.9nm,0.8s
SONA1 Songino Array 45.96 296 *eP* **P** 17 47 59.5 +0.8
SONA1 *ePcP* **PcP** 17 49 33.5 0.0
SONA0 Songino Array 45.97 296 *eP* **P** 17 47 59.6 +0.8
SONA0 *epP* **pP** 17 48 25.7 +0.6
SONA0 *ePcP* **PcP** 17 49 33.8 +0.3
SONA0 *eScP* **ScP** 17 53 15.6 -0.3
SONM Songino Array 45.97 296 P **P** 17 47 59.6 +0.8
comp=Z,1.9nm,0.6s,baz=61,slow=7.4,SNR=14
SONM pP **pP** 17 48 25.7 +0.6
comp=Z,1.4nm,0.7s,baz=57,slow=9.7,SNR=4.7
SONM PcP **PcP** 17 49 33.8 +0.3
comp=Z,1.2nm,0.6s,baz=61,slow=2.7,SNR=4.9
SONM ScP **ScP** 17 53 15.6 -0.3
comp=Z,3.5nm,0.8s,baz=49,slow=3.2,SNR=18
MPMC Manual Prospec 46.04 85 P **P** 17 48 00.7 +1.2
baz=310,SNR=5.7
FCC Fort Churchill 46.06 46 *eP* **P** 17 47 59.1 0.0
comp=Z,63nm,1.6s
FCC Fort Churchill 46.06 46 *eP* **P** 17 47 59.1 0.0
FCC pmax pmax
comp=Z,63nm,1.6s
FURC Furnace Creek, 46.16 84 P **P** 17 48 01.3 +1.1
baz=310
HWUT Hardware Ranch 46.20 75 *eP* **P** 17 48 00.5 -0.2
comp=Z,14nm,1.7s
TPNV Topopah Spring 46.23 83 *eP* **P** 17 48 02.3 +1.3
comp=Z,12nm,0.6s
TPNV Topopah Spring 46.23 83 *eP* **P** 17 48 02.3 +1.3
TPNV pmax pmax
comp=Z,12nm,0.6s
TPNV Topopah Spring 46.23 83 P **P** 17 48 02.1 +1.1
baz=310,SNR=20
LRMC Laurel Mtn Rad 46.30 85 P **P** 17 48 01.7 +0.2
baz=311
DUG Dugway, Tooele 46.30 77 *eP* **P** 17 48 02.6 +1.1
comp=Z,22nm,1.4s
DUG Dugway, Tooele 46.30 77 *eP* **P** 17 48 02.6 +1.1
DUG pmax pmax
comp=Z,22nm,1.4s
DUG Dugway, Tooele 46.30 77 P **P** 17 48 02.8 +1.3
baz=308,SNR=11
BLG Laguna Peak, P 46.34 88 P **P** 17 48 02.6 +0.9
baz=312
LAO LASA Array 46.34 66 *eP* **P** 17 48 01.8 +0.2
comp=Z,33nm,1.8s
LAO LASA Array 46.34 66 P **P** 17 48 01.6 -0.1
baz=304
EDW2 Edwards Air Fo 46.49 86 P **P** 17 48 03.5 +0.6
baz=311
BW06 Boulder Array 46.70 72 *eP* **P** 17 48 04.7 0.0
comp=Z,6.4nm,0.7s
BW06 Boulder Array 46.70 72 P **P** 17 48 04.9 +0.3
baz=306,SNR=12
PD31 Pinedale Array 46.70 72 *eP* **P** 17 48 04.7 0.0
PD31 *epP* **pP** 17 48 30.9 -0.1
PD31 *eScP* **ScP** 17 53 18.9 -0.2
PDAR Pinedale Array 46.70 72 P **P** 17 48 04.8 +0.2
comp=Z,4.2nm,0.5s,baz=306,slow=3.5,SNR=52
PDAR *pP* **pP** 17 48 32.0 +0.9
comp=Z,2.5nm,0.8s,baz=302,slow=2.8,SNR=3.3
PDAR ScP **ScP** 17 53 18.4 -0.7
comp=Z,3.0nm,0.9s,baz=325,slow=0.6,SNR=14
PDAR Pinedale Array 46.70 72 *eP* **P** 17 48 04.7 0.0
PDAR *epP* **pP** 17 48 31.4 +0.3
PDAR ScP **ScP** 17 53 18.4 -0.7
PSUT Pine Spring 46.70 79 *eP* **P** 17 48 06.1 +1.4
comp=Z,10.0nm,0.6s
PSUT *epP* **pP** 17 48 30.7 -0.5
NLU North Lily Min 46.90 77 *eP* **P** 17 48 06.5 +0.2
comp=Z,14nm,1.7s
GSC Goldstone, Bar 46.95 85 *eP* **P** 17 48 07.2 +0.7
comp=Z,9.7nm,0.8s
GSC *epP* **pP** 17 48 32.7 -0.3
GSC *ePcP* **PcP** 17 49 37.1 -0.1
GSC Goldstone, Bar 46.95 85 *eP* **P** 17 48 07.2 +0.7
GSC *e*PP **pP** 17 48 32.7 -0.3
GSC *e* 17 49 37.1
GSC pmax pmax
comp=Z,10.0nm,0.8s
GSC Goldstone, Bar 46.95 85 P **P** 17 48 07.5 +1.0
baz=311,SNR=8.1
HHC Hu-ho-hao-te 47.05 285 *eP* **P** 17 48 09.0 +1.7
HHC pmax pmax
comp=Z,27nm,0.5s
HHC pmax pmax
comp=Z,220nm,5.3s
BFSC Mount Baldy Ra 47.12 87 P **P** 17 48 08.8 +0.9
baz=312
TUQ Turquoise Moun 47.41 84 P **P** 17 48 10.8 +0.7
baz=311,SNR=6.3
SCI2 San Clemente I 47.41 89 P **P** 17 48 11.0 +0.9
baz=312
HEC Hector,Ludlow 47.55 85 P **P** 17 48 11.8 +0.6
baz=311
GUMO Guam 47.56 230 *eP* **P** 17 48 08.8 -2.5
comp=Z,409nm,1.4s
GUMO Guam 47.56 230 *eP* **P** 17 48 08.8 -2.5
GUMO pmax pmax
comp=Z,409nm,1.4s
CCUT Cedar City 47.62 80 *eP* **P** 17 48 13.1 +1.2
comp=Z,4.3nm,1.2s
MSU Marysvale 47.73 78 *eP* **P** 17 48 14.3 +1.6
MSU *epP* **pP** 17 48 40.0 +0.7
MSU *ePcP* **PcP** 17 49 41.6 +1.5
MSU Marysvale 47.73 78 *eP* **P** 17 48 14.3 +1.6
MSU *e*PP **pP** 17 48 40.0 +0.7
MSU *e* 17 49 41.6
TMUT Trail Mountain 47.83 77 *eP* **P** 17 48 14.6 +1.1
comp=Z,10nm,0.6s
TMUT *epP* **pP** 17 48 41.1 +1.0
GMRC Granite Mounta 48.00 85 P **P** 17 48 15.6 +0.9
baz=311,SNR=9.0
MTPU Mount Pierson 48.03 79 *eP* **P** 17 48 16.5 +1.4
comp=Z,3.6nm,0.7s
MTPU *epP* **pP** 17 48 42.5 +0.7
LCMT Little Creek M 48.04 81 *eP* **P** 17 48 16.2 +1.2
comp=Z,6.6nm,1.0s
LCMT *epP* **pP** 17 48 42.4 +0.8
LCMT *ePcP* **PcP** 17 49 41.7 +0.6
LDFC Landfair 48.15 84 *eP* **P** 17 48 16.1 +0.3
comp=Z,11nm,0.8s
LDFC *ePcP* **PcP** 17 49 42.3 +0.8
P18A Preston Nutter 48.20 76 *eP* **P** 17 48 17.5 +1.1
comp=Z,28nm,1.9s
P18A *ePcP* **PcP** 17 49 42.6 +0.7
NJ2 Nanjing 48.26 271 *eP* **P** 17 48 16.5 0.0
NJ2 pmax pmax
comp=Z,11nm,0.7s
FRD Ford Ranch, An 48.27 87 P **P** 17 48 17.9 +1.1
baz=312
PFO Pinyon Flats O 48.28 86 *eP* **P** 17 48 17.4 +0.5
comp=Z,26nm,1.9s
PFO Pinyon Flats O 48.28 86 *eP* **P** 17 48 17.4 +0.5
PFO pmax pmax
comp=Z,26nm,1.9s
PFO Pinyon Flats O 48.28 86 P **P** 17 48 16.3 -0.6
baz=312
XPFO Piæon Flat 48.29 86 *eP* **P** 17 48 17.6 +0.7
comp=Z,26nm,1.9s
KNB Kanab 48.29 80 *eP* **P** 17 48 18.6 +1.6
KNB *ePcP* **PcP** 17 49 43.4 +1.3
KNB Kanab 48.29 80 *eP* **P** 17 48 18.6 +1.6
KNB *e* 17 49 43.4
BELC Belle Mtn. Jos 48.31 86 P **P** 17 48 17.6 +0.5
baz=312
SRU San Rafael Swe 48.36 77 *eP* **P** 17 48 18.6 +1.1
comp=Z,6.5nm,0.5s
SRU San Rafael Swe 48.36 77 *eP* **P** 17 48 18.6 +1.1
SRU pmax pmax
comp=Z,7.0nm,0.5s
PATS Pohnpei 48.37 210 *eP* **P** 17 48 18.2 +0.7
comp=Z,2µm,2.0s
IRM Iron Mountain 48.73 85 P **P** 17 48 20.9 +0.7
baz=312,SNR=6.8
RWWY Rawlins 48.73 72 *eP* **P** 17 48 20.9 +0.5
comp=Z,67nm,2.0s
BAR Barrett 48.78 87 *eP* **P** 17 48 21.4 +0.8
comp=Z,11nm,0.8s
MONP2 Monument Peak 48.79 87 P **P** 17 48 21.5 +0.6
baz=312
BC3 Big Chuckawall 48.88 86 P **P** 17 48 20.9 -0.5
baz=312
W13A Hualapai Mount 48.89 83 *eP* **P** 17 48 22.3 +0.7
comp=Z,4.9nm,0.7s
O20A White River Ci 49.09 74 *eP* **P** 17 48 22.9 -0.1
comp=Z,20nm,1.5s
O20A White River Ci 49.09 74 P **P** 17 48 23.5 +0.5
baz=309
RSSD Black Hills 49.10 67 *eP* **P** 17 48 22.6 -0.4
comp=Z,23nm,1.9s
RSSD Black Hills 49.10 67 *eP* **P** 17 48 22.7 -0.4
RSSD pmax pmax
comp=Z,23nm,1.9s
RSSD Black Hills 49.10 67 P **P** 17 48 22.6 -0.4
baz=307
SWSC Sam W. Stewart 49.14 87 P **P** 17 48 24.5 +1.2
baz=312
IKP In-Ko-Pah, Jac 49.15 87 P **P** 17 48 24.4 +1.0
baz=313
PDMCI Parker Dam,Lak 49.26 84 P **P** 17 48 25.1 +1.0
baz=312
KBS Kingsbay 49.34 357 *eP* **P** 17 48 25.3 +1.1
comp=Z,125nm,1.9s
KBS Kingsbay 49.34 357 *eP* **P** 17 48 25.3 +1.1
KBS pmax pmax
comp=Z,125nm,1.9s
Y12C Blythe 49.39 85 P **P** 17 48 26.0 +0.8
baz=312
PV09 Paradox Valley 49.59 76 *eP* **P** 17 48 27.5 +0.5
PV21 Cone Mtn., Par 49.64 76 *eP* **P** 17 48 27.7 +0.3
comp=Z,4.4nm,0.8s
GLA Glamis 49.67 86 *eP* **P** 17 48 28.2 +0.8
comp=Z,12nm,0.7s
GLA Glamis 49.67 86 *eP* **P** 17 48 28.2 +0.8
GLA pmax pmax
comp=Z,12nm,0.7s
GLA Glamis 49.67 86 P **P** 17 48 28.4 +1.1
baz=312,SNR=5.2
PV23 Carpenter Ridg 49.69 76 *eP* **P** 17 48 28.3 +0.6
comp=Z,6.8nm,0.9s
PV10 Paradox Valley 49.72 76 *eP* **P** 17 48 29.2 +1.3
PV10 *epP* **pP** 17 48 55.2 +0.6
PV14 Lion Creek, Pa 49.73 76 *eP* **P** 17 48 29.1 +1.0
comp=Z,37nm,1.8s
PV22 Blue Mesa, Par 49.77 76 *eP* **P** 17 48 29.2 +0.9
PV22 *epP* **pP** 17 48 55.5 +0.5
PV20 West Nyswonger 49.79 76 *eP* **P** 17 48 29.4 +1.1
comp=Z,10nm,1.1s
PV19 Morning Glory 49.80 76 *eP* **P** 17 48 29.3 +0.8
comp=Z,17nm,1.4s
PV17 East Wray Mesa 49.83 76 *eP* **P** 17 48 29.6 +0.9
PV17 *epP* **pP** 17 48 55.6 +0.1
PV16 Nyswonger Mesa 49.84 76 *eP* **P** 17 48 29.4 +0.6
comp=Z,6.7nm,0.8s
PV11 David Mesa, Pa 49.87 76 *eP* **P** 17 48 29.4 +0.4
comp=Z,21nm,0.3s
PV05 Paradox Valley 49.88 77 *eP* **P** 17 48 29.8 +0.7
PV18 Skein Mesa, Pa 49.88 76 *eP* **P** 17 48 29.9 +0.8
PV18 *epP* **pP** 17 48 55.4 -0.5
ULM Lac du Bonnet 49.90 57 P **P** 17 48 28.1 -0.7
comp=Z,3.3nm,0.4s,baz=314,slow=7.0,SNR=9.9
ULM Lac du Bonnet 49.90 57 *eP* **P** 17 48 28.3 -0.5
comp=Z,12nm,1.5s
ULM Lac du Bonnet 49.90 57 *eP* **P** 17 48 28.3 -0.5
ULM pmax pmax
comp=Z,12nm,1.5s
PV12 Saucer Basin, 49.90 76 *eP* **P** 17 48 30.2 +0.9
PV12 *epP* **pP** 17 48 56.5 +0.4
SPA0 Spitsbergen Ar 49.91 356 *eP* **P** 17 48 29.1 +0.5
SPITS Spitsbergen Ar 49.91 356 LR LR 18 11 01.8
comp=Z,22nm,18.3s,baz=260,slow=38
PV03 Paradox Valley 49.92 76 *eP* **P** 17 48 30.0 +0.6
PV03 *epP* **pP** 17 48 56.4 +0.3
N23A Red Feather La 49.98 72 *eP* **P** 17 48 30.2 +0.4
comp=Z,8.5nm,1.2s
N23A Red Feather La 49.98 72 P **P** 17 48 30.0 +0.1
baz=309
PV13 Radium Mtn., P 49.99 76 *eP* **P** 17 48 30.6 +0.6
PV13 *epP* **pP** 17 48 56.1 -0.7
PV02 Paradox Valley 50.01 76 *eP* **P** 17 48 31.0 +0.9
PV02 *epP* **pP** 17 48 56.8 -0.1
WUAZ Wupatki 50.16 81 *eP* **P** 17 48 31.9 +0.7
comp=Z,6.5nm,1.0s
WUAZ Wupatki 50.16 81 P **P** 17 48 32.2 +1.0
baz=311
PV01 Paradox Valley 50.16 76 *eP* **P** 17 48 32.1 +0.9
PV01 *epP* **pP** 17 48 57.9 -0.1
SMCO Snowmass 50.45 74 *eP* **P** 17 48 33.4 -0.2
comp=Z,4.6nm,0.8s
MVCO Mesa Verde 50.80 77 *eP* **P** 17 48 36.8 +0.7
comp=Z,8.8nm,1.3s
MVCO Mesa Verde 50.80 77 P **P** 17 48 36.7 +0.6
baz=311
X16A Lo Mia Camp, P 50.84 82 *eP* **P** 17 48 37.5 +1.1
comp=Z,3.8nm,0.6s
ISCO Idaho Springs 50.86 73 P **P** 17 48 36.6 +0.1
baz=310
W18A Petrified Fore 51.42 80 *eP* **P** 17 48 41.7 +1.0
comp=Z,6.0nm,0.9s
W18A Petrified Fore 51.42 80 P **P** 17 48 41.3 +0.6
baz=312
S22A 4UR Ranch, Cre 51.46 76 P **P** 17 48 42.6 +1.6
baz=311
SDCO Great Sand Dun 52.26 75 *eP* **P** 17 48 48.0 +1.1
comp=Z,13nm,1.6s
SDCO Great Sand Dun 52.26 75 P **P** 17 48 46.8 -0.1
baz=311
TUC Tucson 52.67 83 *eP* **P** 17 48 50.5 +0.7
comp=Z,4.9nm,0.9s
TUC Tucson 52.67 83 *eP* **P** 17 48 50.5 +0.7
TUC pmax pmax
comp=Z,5.0nm,0.9s
TUC Tucson 52.67 83 P **P** 17 48 50.7 +0.8
baz=313
SSLB Suanglung 52.83 262 *eP* **P** 17 48 50.7 -0.3
comp=Z,20nm,1.0s
YULB Yu-li 52.91 261 *eP* **P** 17 48 51.2 -0.5
comp=Z,20nm,1.1s
SUMG Summit 53.01 14 *eP* **P** 17 48 52.2 0.0

comp=Z,18nm,1.3s
SUMG Summit 53.01 14 *i* P pP 17 49 21.3 +2.2
SUMG Summit 53.01 14 *e*P **P** **17 48 52.2 0.0**
SUMG pmax pmax
comp=Z,18nm,1.3s
XAN Xi'an 53.05 280 P **P** **17 48 52.8 +0.3**
XAN pmax pmax
comp=Z,8.0nm,1.2s
KSCO Kaye Shedlock' **53.14 72** P **P** **17 48 53.4 +0.2**
baz=311
ZAA1 Zalesovo Array 53.34 313 *e*ScP **ScP** **17 53 45.9 -1.2**
ZALV Zalesovo Beam 53.34 313 ScP **ScP** **17 53 45.9 -1.2**
comp=Z,0.7nm,0.8s,baz=46,slow=8.5,SNR=4.0
TPUB Ta-pu 53.39 261 *e*P **P** **17 48 55.2 +0.1**
comp=Z,80nm,1.6s
ECSD EROS Data Cent **53.53 63** P **P** **17 48 54.7 -1.1**
baz=310
ANMO Albuquerque 53.54 78 *ce*P **P** **17 48 56.8 +0.5**
ANMO pmax pmax
comp=Z,7.0nm,2.5s
EYMN Ely 53.59 57 *e*P **P** **17 48 55.8 -0.5**
comp=Z,28nm,1.4s
LENM Lemitar 53.75 79 *e*P **P** **17 48 58.5 +0.7**
121A Cookes Peak, D 54.37 81 P **P** **17 49 01.4 -0.9**
baz=313
E38A The Farm, Brul 54.42 58 *e*P **P** **17 49 01.7 -0.6**
comp=Z,94nm,1.9s
E38A The Farm, Brul 54.42 58 P **P** **17 49 01.3 -1.0**
baz=310
F37A Hinrichs Farm, 54.42 59 P **P** **17 49 01.9 -0.4**
baz=310
F38A Pierce - Schro 54.67 59 P **P** **17 49 03.9 -0.1**
baz=310
LZH Lanzhou 54.74 285 *e*P **P** **17 49 06.0 +1.0**
LZH pP pP 17 49 34.5 +2.4
LZH sP sP 17 49 46.5 +1.7
LZH *e*PP **PP** **17 51 10.0 +1.5**
LZH pmax pmax
comp=Z,23nm,1.1s
LZH pmax pmax
comp=Z,100nm,5.4s
DGZ Jazzator, Alta 54.84 308 *i* P **P** **17 49 06.6 +1.1**
GTA Gaotai 54.90 291 ‖P **P** **17 49 06.8 +0.7**
GTA pP pP 17 49 34.5 +1.3
GTA sP sP 17 49 46.5 +0.7
GTA S **S** **17 56 38.3 -0.4**
GTA pmax pmax
comp=Z,15nm,0.9s
GTA pmax pmax
comp=Z,94nm,5.6s
GTA LR LR
comp=Z,140nm,20.0s
GTA LR LR
comp=Z,140nm,18.1s
GTA LR LR
comp=Z,80nm,17.1s
CBKS Cedar Bluff 54.96 70 P **P** **17 49 06.6 +0.2**
baz=312
F39A Loretta 55.20 58 P **P** **17 49 07.2 -0.8**
baz=311
H38A Maiden Rock 55.29 60 P **P** **17 49 08.2 -0.4**
baz=311
E40A Wakefield 55.39 57 P **P** **17 49 08.9 -0.4**
baz=311
F40A Park Falls 55.62 58 P **P** **17 49 10.1 -0.8**
baz=311
E41A Kenton 55.86 57 P **P** **17 49 11.9 -0.7**
baz=311
I39A Houston 56.24 60 *e*P **P** **17 49 13.2 -2.2**
comp=Z,23nm,1.5s
I39A Houston 56.24 60 P **P** **17 49 14.1 -1.3**
baz=312
F41A Three Lakes 56.27 57 P **P** **17 49 14.8 -0.8**
baz=312
H40A Chili 56.34 59 P **P** **17 49 15.1 -1.0**
baz=312
MNTX Cornudas Mount 56.41 80 *e*P **P** **17 49 17.7 +0.9**
comp=Z,10nm,1.3s
MNTX *ep*P **pP** **17 49 43.5 -0.5**
MNTX Cornudas Mount 56.41 80 P **P** **17 49 17.4 +0.6**
baz=314
CPRX Cap Rock 56.41 78 *e*P **P** **17 49 17.1 +0.2**
MSTX Muleshoe 56.43 76 *e*P **P** **17 49 16.7 -0.3**
comp=Z,40nm,1.9s
MSTX Muleshoe 56.43 76 P **P** **17 49 17.0 0.0**
baz=313
J39A Decorah 56.49 61 P **P** **17 49 16.4 -0.8**
baz=312
E43A Lone Tree Farm 56.94 56 *e*P **P** **17 49 20.1 -0.2**
comp=Z,25nm,1.2s
G42A Mountain 56.96 57 *e*P **P** **17 49 20.1 -0.3**
comp=Z,21nm,1.3s
G42A Mountain 56.96 57 P **P** **17 49 20.1 -0.3**
baz=312
M39A Webster 57.48 63 P **P** **17 49 23.6 -0.5**
baz=313
ARA0 ARCESS Array S 57.58 350 *e*P **P** **17 49 24.0 -0.4**
ARA0 *ep*P **pP** **17 49 52.1 +0.3**
ARCES ARCESS Array B 57.58 350 P **P** **17 49 24.0 -0.4**
comp=Z,24nm,1.4s,baz=20,slow=8.3,SNR=11
ARCES pP **pP** **17 49 52.1 +0.3**
comp=Z,3.0nm,0.8s,baz=7.7,slow=9.9,SNR=3.1
I42A Draeger Farm, 57.61 59 P **P** **17 49 24.4 -0.7**
baz=313
K41A Shullsburg 57.74 61 P **P** **17 49 25.2 -0.8**
baz=313
H43A Windswept, Lux 57.82 58 *e*P **P** **17 49 26.3 -0.2**
comp=Z,53nm,1.4s
H43A Windswept, Lux 57.82 58 P **P** **17 49 26.3 -0.2**
baz=313
LVZ Lovozero 57.89 345 *e*P **P** **17 49 26.0 -0.6**
comp=Z,130nm,2.0s
LVZ Lovozero 57.89 345 *e*P **P** **17 49 26.0 -0.6**
LVZ pmax pmax
comp=Z,130nm,2.0s
L41A Preston 57.99 61 P **P** **17 49 27.0 -0.7**
baz=313
I43A Langenfeld Bro **58.02 58** P **P** **17 49 27.2 -0.7**
baz=313
K42A Prairie Point, 58.14 60 P **P** **17 49 28.2 -0.5**
baz=313
WMOK Wichita Mounta 58.29 73 *e*P **P** **17 49 30.5 +0.5**
comp=Z,18nm,2.0s
WMOK Wichita Mounta 58.29 73 P **P** **17 49 29.1 -0.8**
baz=314
KURK Kurchatov 58.33 313 *e*P **P** **17 49 29.8 -0.2**
KURK *ep*P **pP** **17 49 57.4 0.0**
KURK Kurchatov 58.33 313 *ce*P **P** **17 49 29.3 -0.6**
KURK pmax pmax
comp=Z,57nm,2.5s
CD2 Chengdu 58.36 281 *e*P **P** **17 49 27.0 -3.5**
WMQ Urumqi 58.65 302 *e*P **P** **17 49 34.0 +1.6**
WMQ pP pP 17 50 01.5 +1.6
WMQ sP sP 17 50 14.0 +1.6
WMQ LR LR
comp=Z,67nm,20.9s
WMQ LR LR
comp=Z,51nm,19.3s
N41A Harden Midland 58.73 63 P **P** **17 49 31.9 -0.9**
baz=313
LTX Lajitas 59.12 81 *e*P **P** **17 49 36.5 +0.6**
LTX *ep*P **pP** **17 50 03.0 -0.4**
LTX *e*PcP **PcP** **17 50 24.4 +1.1**
LTX *e*ScP **ScP** **17 54 12.8 -0.3**
TX31 Lajitas Ar. Si 59.12 81 *e*P **P** **17 49 36.0 +0.2**
TX31 *ep*P **pP** **17 50 02.6 -0.8**
TX31 *e*PcP **PcP** **17 50 23.8 +0.5**
TXAR Lajitas Array 59.12 81 P **P** **17 49 36.5 +0.6**
comp=Z,4.1nm,0.6s,baz=299,slow=4.5,SNR=27
TXAR pP **pP** **17 50 03.0 -0.4**
comp=Z,2.3nm,0.6s,baz=310,slow=5.1,SNR=5.9
TXAR PcP **PcP** **17 50 24.4 +1.1**
comp=Z,2.0nm,0.7s,baz=294,slow=3.9,SNR=5.6
TXAR ScP **ScP** **17 54 12.8 -0.3**
comp=Z,0.5nm,0.7s,baz=288,slow=3.7,SNR=3.7
M43A Waltham Townsh 59.27 61 P **P** **17 49 35.8 -0.7**
baz=314
P41A Barry, Barry 59.33 64 P **P** **17 49 36.6 -0.4**
baz=314
ANGG Ammassalik, Gr 59.34 17 *e*P **P** **17 49 35.6 -1.1**
comp=Z,136nm,1.4s
MK32 Makanchi Array 59.34 308 *e*P **P** **17 49 36.2 -0.9**
MKAR Makanchi Array 59.34 308 P **P** **17 49 36.2 -0.9**
comp=Z,0.7nm,0.3s,baz=50,slow=6.8,SNR=29
MKAR Makanchi Array 59.34 308 *ce*P **P** **17 49 36.7 -0.3**
MK01 Makanchi Array 59.35 308 *e*P **P** **17 49 35.6 -1.5**

HDIL Hopedale 59.70 62 P **P** **17 49 38.7 -0.8**
baz=314
Q41A Truxton 59.73 64 P **P** **17 49 39.2 -0.6**
baz=314
GYA Guiyang 59.74 275 *e*P **P** **17 49 41.3 +1.1**
GYA pmax pmax
comp=Z,100nm,1.0s
P42A Winchester 59.79 63 P **P** **17 49 39.5 -0.7**
baz=314
M44A Midewin, Midew 59.80 60 *e*P **P** **17 49 39.9 -0.3**
comp=Z,29nm,1.2s
SCHQ Schefferville 60.00 38 P **P** **17 49 41.5 +0.1**
comp=Z,4.8nm,0.9s,baz=348,slow=9.3,SNR=5.0
SCHQ Schefferville 60.00 38 *e*P **P** **17 49 41.7 +0.3**
comp=Z,18nm,1.1s
R41A Rosebud 60.11 65 P **P** **17 49 41.4 -1.0**
baz=314
Q42A Golden Eagle 60.15 64 P **P** **17 49 42.4 -0.3**
baz=314
P43A Skaggs, Pawnee 60.21 63 P **P** **17 49 42.7 -0.3**
baz=314
BRVK Borovoye 60.23 319 *i* P **P** **17 49 40.7 -2.3**
BRVK pmax pmax
comp=Z,2.0nm,0.8s
CCM Cathedral Cave 60.35 65 P **P** **17 49 43.6 -0.5**
baz=314
S41A Jilco Farms, 60.40 66 P **P** **17 49 43.4 -1.0**
baz=314
R42A Luebbering 60.45 65 P **P** **17 49 43.8 -0.9**
baz=314
TOBO Tobermory, Bru 60.50 53 P **P** **17 49 44.9 0.0**
baz=315
E51A G1948 Merrick 60.57 51 P **P** **17 49 43.3 -2.1**
baz=315
Q43A New Douglas 60.60 64 P **P** **17 49 44.4 -1.2**
baz=314
U40A Yellville 60.63 68 P **P** **17 49 45.4 -0.5**
baz=315
M46A Old House Fiel 60.69 59 P **P** **17 49 45.7 -0.6**
baz=315
O45A Potomac 60.77 61 P **P** **17 49 46.8 -0.1**
baz=315
S42A Caledonia 60.81 65 P **P** **17 49 46.3 -0.9**
baz=315
N46A Monticello 60.85 60 P **P** **17 49 46.9 -0.4**
baz=315
SFIN Lafayette 61.02 61 P **P** **17 49 47.7 -0.7**
baz=315
KLBO Killbear Provi 61.06 53 P **P** **17 49 47.9 -0.8**
baz=316
T42A Van Buren 61.16 66 P **P** **17 49 48.1 -1.4**
baz=315
F52A Sundridge 61.18 52 P **P** **17 49 48.3 -1.2**
baz=316
P45A Graceland, Par 61.27 62 P **P** **17 49 49.7 -0.5**
baz=315
S43A Fulton Ridge, 61.35 65 P **P** **17 49 50.2 -0.6**
baz=315
V41A Mountainview 61.43 68 P **P** **17 49 50.4 -1.0**
baz=315
MIAR Mount Ida 61.48 70 P **P** **17 49 51.9 +0.2**
baz=315
U42A Revenden 61.55 67 P **P** **17 49 51.6 -0.6**
baz=315
T43A Greenville 61.58 65 P **P** **17 49 51.8 -0.5**
baz=315
O47A Sheridan 61.62 60 P **P** **17 49 52.0 -0.6**
baz=315
E54A Lac Daplat, Po 61.75 50 P **P** **17 49 52.4 -0.9**
baz=316
W41B Gary Mavity, V 61.81 68 P **P** **17 49 53.5 -0.3**
baz=315
ARU Arti 61.95 328 LR LR 18 20 45.5
comp=Z,16nm,18.3s,baz=30,slow=40
ARU Arti 61.95 328 *e*P **P** **17 49 54.6 +0.1**
comp=Z,3.7nm,0.8s
ARU Arti 61.95 328 *c* /P **P** **17 49 53.2 -1.3**
ARU *PP **pP** **17 50 22.3 0.0**
ARU 17 50 33.8
ARU S **S** **17 58 08.3 -1.0**
ARU SS **SS** **18 02 11.1 -1.4**
ARU pmax pmax
comp=Z,5.0nm,1.7s
P47A Martinsville **62.10 61** P **P** **17 49 54.9 -0.9**
baz=315
N49A Columbus Grove 62.19 59 P **P** **17 49 55.6 -0.8**
baz=316
DRWO Darlington Wes 62.86 53 P **P** **17 50 01.3 +0.6**
baz=317
DELO Deloro Mine 62.94 52 P **P** **17 50 01.2 -0.1**
baz=317
LATQ La Tuque 63.09 47 P **P** **17 50 01.6 -0.7**
baz=318
T47A Sharon Grove 63.43 63 P **P** **17 50 04.3 -0.3**
baz=316
ALFO Alfred 63.43 49 P **P** **17 50 03.7 -0.7**
baz=318
WVT Waverly 63.64 65 P **P** **17 50 05.3 -0.7**
baz=316
OXF Oxford 63.91 67 P **P** **17 50 07.2 -0.6**
baz=316
Q51A Peebles 64.00 59 P **P** **17 50 08.0 -0.4**
baz=317
O52A Adamsville 64.01 58 P **P** **17 50 07.8 -0.7**
baz=317
V47A Nunnelly 64.03 65 P **P** **17 50 08.5 -0.1**
baz=316
U48A Cassie Pea, Po 64.08 63 P **P** **17 50 08.4 -0.5**
baz=316
T49A Edmonton 64.21 62 P **P** **17 50 09.3 -0.5**
baz=316
PLAL Pickwick Lake 64.33 66 *e*P **P** **17 50 10.7 +0.1**
comp=Z,10.0nm,1.2s
N54A Moraine State 64.35 56 P **P** **17 50 09.9 -0.7**
baz=317
R51A Hillsboro 64.40 60 P **P** **17 50 10.8 -0.2**
baz=317
W47A Westpoint 64.41 65 P **P** **17 50 10.8 -0.3**
baz=316
U49A Red Boiling Sp 64.50 63 P **P** **17 50 10.8 -0.9**
baz=317
T50A Nancy 64.65 62 P **P** **17 50 12.6 -0.1**
baz=317
W48A Pulaski 64.86 65 P **P** **17 50 13.5 -0.5**
baz=317
FIA0 FINESS Array S 65.25 347 *e*P **P** **17 50 15.2 -0.9**
FIA0 *ep*P **pP** **17 50 43.9 -0.1**
FIA0 FINESS Array S 65.25 347 *e*P **P** **17 50 15.2 -0.9**
FIA0 *e*PP **pP** **17 50 43.9 -0.1**
FINES FINESS Array B 65.25 347 P **P** **17 50 15.2 -0.9**
comp=Z,2.6nm,0.8s,baz=7.1,slow=7.7,SNR=4.4
FINES pP **pP** **17 50 43.9 -0.1**
comp=Z,4.1nm,0.9s,baz=32,slow=7.5,SNR=2.5
FINES FINESS Array B 65.25 347 *ce*P **P** **17 50 15.6 -0.4**
X48A Hartselle 65.30 65 P **P** **17 50 15.7 -1.1**
baz=317
MCWV Mont Chateau 65.39 57 P **P** **17 50 15.9 -1.4**
baz=318
BINY Binghamton 65.45 53 P **P** **17 50 15.8 -1.9**
baz=318
V50A Pikeville 65.49 63 P **P** **17 50 16.8 -1.3**
baz=317
Z47A Carrollton 65.63 67 P **P** **17 50 18.6 -0.4**
baz=317
X49A Woodville 65.66 65 P **P** **17 50 18.0 -1.2**
baz=317
SSPA Standing Stone 65.67 55 P **P** **17 50 17.5 -1.6**
baz=318
V51A Loudon 65.81 63 P **P** **17 50 19.4 -0.7**
baz=317
X50B Fort Payne 66.07 64 P **P** **17 50 21.2 -0.7**
baz=317
AAK Ala-Archa 66.17 309 *ce*P **P** **17 50 24.7 +2.2**
AAK pmax pmax
comp=Z,11nm,2.5s
LRAL Lakeview Retre 66.36 66 P **P** **17 50 23.2 -0.5**
baz=317
N59A State Game Lan 66.52 53 P **P** **17 50 23.3 -1.4**
baz=319
LSA Lhasa 66.79 289 *e*P **P** **17 50 25.0 -2.0**
comp=Z,10nm,0.5s
LSA Lhasa 66.79 289 *e*P **P** **17 50 25.0 -2.0**
LSA pmax pmax
comp=Z,11nm,0.5s
Z50A Ashland 66.81 65 P **P** **17 50 25.9 -0.6**
baz=318
NB2 NORSAR Subarra 67.17 354 P **P** **17 50 28.5 +0.1**
comp=Z,1.7nm,0.7s,baz=8.0,slow=6.5

NB200 NORSAR Array S 67.17 354 *e*P **P** **17 50 28.7 +0.3**
NB200 *ep*P **PcP** **17 50 55.7 +0.1**
NOA NORSAR Array B 67.17 354 P **P** **17 50 28.7 +0.3**
comp=Z,0.9nm,0.6s,baz=6.1,slow=6.3,SNR=5.1
NOA pP **PcP** **17 50 55.7 +0.1**
comp=Z,6.2nm,1.1s,baz=6.6,slow=6.3,SNR=5.6
ABKAR Akbulak array 67.27 322 *e*P **P** **17 50 28.9 -0.3**
X53A Estanollee 67.35 63 P **P** **17 50 28.5 -1.5**
baz=318
Y52A Lilburn 67.40 64 P **P** **17 50 29.4 -0.9**
baz=318
KSH Kashi 67.81 306 *e*P **P** **17 50 36.3 +3.4**
Z53A Monticello 68.11 64 P **P** **17 50 33.5 -1.2**
baz=318
Y54A Tignall 68.16 63 P **P** **17 50 34.2 -0.8**
baz=318
OBN Obninsk 69.28 339 ‖*e*P **P** **17 50 44.8 +3.3**
OBN *e*PP **pP** **17 51 07.3 -2.5**
OBN *e* 17 53 11.8
OBN *e*PPP PPP 17 54 58.6
OBN pmax pmax
comp=Z,3.0nm,0.8s
SHL Shillong 69.41 285 *e*P **P** **17 50 43.0 -0.1**
comp=Z,17nm,1.0s
SHL Shillong 69.41 285 *e*P **P** **17 50 43.0 -0.1**
SHL pmax pmax
comp=Z,17nm,1.0s
UTTA Uttaradit 69.97 273 P **P** **17 50 46.8 +0.4**
comp=Z,4.3nm,0.8s,comp=Z,41nm
CMMT Chiang Mai 70.16 275 P **P** **17 50 49.6 +2.0**
comp=Z,3.2nm,1.1s
CHTO Chiang Mai 70.16 275 P **P** **17 50 49.7 +2.1**
comp=Z,14nm,1.1s
CM31 Chiang Mai Arr 70.43 275 *e*P **P** **17 50 49.2 0.0**
CMAR Chiang Mai Arr 70.43 275 P **P** **17 50 49.4 +0.2**
comp=Z,2.2nm,0.6s,baz=27,slow=6.5,SNR=21
GUN Gumba 71.19 291 *e*P **P** **17 50 55.3 +1.1**
comp=Z,105nm,0.4s
JIRN Jiri 71.20 291 *e*P **P** **17 50 55.4 +1.2**
comp=Z,83nm,0.6s
LUWI Luwuk 71.41 243 *e*P **P** **17 50 52.8 -2.3**
comp=Z,39nm,0.7s
RAMN Ramite 71.50 290 *e*P **P** **17 50 56.7 +0.8**
comp=Z,54nm,0.4s
KKN Kakani 71.63 292 *e*P **P** **17 50 57.6 +1.0**
comp=Z,43nm,0.5s
PKI Pulchoki 71.72 291 *e*P **P** **17 50 58.1 +0.8**
comp=Z,32nm,0.5s
PKIN Phulchoki 71.72 291 *e*P **P** **17 50 58.0 +0.8**
comp=Z,30nm,0.5s
DMN Daman 71.87 292 *e*P **P** **17 50 59.1 +1.0**
comp=Z,13nm,0.5s
PMOR Pomariorio Ree 72.04 148 *e*P **P** **17 50 59.6 +0.9**
comp=Z,18nm,0.8s
DANN Dangsing 72.08 293 *e*P **P** **17 51 00.4 +1.0**
comp=Z,37nm,0.7s
VAH Vaihoa 72.34 147 *e*P **P** **17 51 01.2 +0.7**
comp=Z,18nm,0.8s
KOLN Koldanda 72.61 293 *e*P **P** **17 51 03.2 +0.7**
comp=Z,17nm,0.8s
PYUN Piuthan 72.71 293 *e*P **P** **17 51 03.7 +0.7**
comp=Z,31nm,0.9s
AKASG Malin Array Be 74.97 341 P **P** **17 51 15.2 -0.3**
comp=Z,1.9nm,0.4s,baz=22,slow=6.8,SNR=6.0
AKASG pP **pP** **17 51 44.8 +0.6**
comp=Z,2.1nm,0.5s,baz=20,slow=5.8,SNR=4.3
KIEV Kiev 74.98 341 *i* P **P** **17 51 13.6 -2.0**
KIEV pmax pmax
comp=Z,1.0nm,0.8s
MTN Manton Dam 77.14 229 *e*P **P** **17 51 27.7 -0.5**
comp=Z,19nm,0.7s
TRPA Tarpa 78.64 345 ‖ *i*P **P** **17 51 37.2 +1.0**
BUR08 Bucovina Ar. S 78.66 343 *e*P **P** **17 51 36.9 +0.4**
BUR04 Bucovina Ar. S 78.69 343 *e*P **P** **17 51 36.9 +0.3**
BUR04 *ep*P **pP** **17 52 04.8 -0.7**
BURAR Bucovina Array 78.69 343 ‖ *i*P **P** **17 51 37.3 +0.7**
GERES GERESS Array B 79.08 351 P **P** **17 51 38.7 -0.1**
comp=Z,0.6nm,0.5s,baz=19,slow=7.5,SNR=6.9
DRGR 79.92 345 ‖ *i*P pP 17 52 13.2 +1.0
VOIR 80.82 343 ‖ *i*P pP 17 52 19.6 +2.4
WRAB Tennant Creek 81.94 223 *e*P **P** **17 51 53.4 -0.7**
comp=Z,9.5nm,0.9s
WRAB Tennant Creek 81.94 223 *ce*P **P** **17 51 54.2 +0.1**
WRAB pmax pmax
comp=Z,18nm,2.5s
WB2 Warramunga Arr 81.94 223 *e*P **P** **17 51 52.3 -1.8**
WR1 Warramunga Arr 81.95 223 *e*P **P** **17 51 53.7 -0.5**
comp=Z,14nm,0.9s
WRA Warramunga Arr 81.95 223 P **P** **17 51 53.7 -0.5**
comp=Z,7.2nm,0.7s,baz=33,slow=6.0,SNR=98
FITZ Fitzroy Crossi 84.30 231 *e*P **P** **17 52 05.1 -1.2**
comp=Z,9.3nm,0.7s
BR101 Keskin Array S 84.33 335 *e*P **P** **17 52 05.5 -1.0**
BR101 *ep*P **pP** **17 52 36.5 +0.7**
BRTR Keskin Array B 84.33 335 P **P** **17 52 05.5 -1.0**
comp=Z,0.5nm,0.6s,baz=52,slow=2.0,SNR=4.3
BRTR pP **pP** **17 52 36.4 +0.7**
comp=Z,0.7nm,0.8s,baz=49,slow=2.6,SNR=3.3
AS01 Alice Springs 85.42 222 *e*P **P** **17 52 11.6 -0.3**
AS01 *ep*P **pP** **17 52 40.0 -1.1**
AS31 Alice Springs 85.44 222 *e*P **P** **17 52 11.7 -0.3**
comp=Z,2.0nm,0.9s
ASAR Alice Springs 85.44 222 P **P** **17 52 12.1 +0.2**
comp=Z,5.7nm,0.7s,baz=21,slow=5.2,SNR=82
STKA Stephens Creek 90.00 212 P **P** **17 52 34.5 +1.0**
comp=Z,12nm,0.6s,baz=0.1,slow=5.6,SNR=33
STKA Stephens Creek 90.00 212 *e*P **P** **17 52 33.7 +0.2**
comp=Z,3.0nm,0.8s
STKA Stephens Creek 90.00 212 *e*P **P** **17 52 33.7 +0.2**
STKA pmax pmax
comp=Z,3.0nm,0.8s
TOA1 Torodi Ar. Sit 115.30 359 *e*PKPdf **PKPdf** **17 58 15.3 -0.2**
TOA1 *e*SKPdf **SKPdf** **18 01 38.2 -2.0**
TOA1 *e*SP **SP** **18 08 48.1 +3.0**
TORD Torodi Ar. Bea 115.31 359 PKP **PKPdf** **17 58 15.3 -0.2**
comp=Z,0.3nm,0.4s,baz=354,slow=3.2,SNR=7.0
TORD SKP 18 01 38.2
comp=Z,0.4nm,0.6s,baz=337,slow=3.8,SNR=5.1
TORD PKKPbc **PKKPbc** **18 08 48.1 +0.2**
comp=Z,0.8nm,0.6s,baz=182,slow=3.1,SNR=8.4
DBIC Dimbokro 121.59 6 PKhKP PKPpre 17 58 24.4
comp=Z,0.9nm,0.4s,baz=52,slow=2.4,SNR=3.9
CPUP Villa Florida 130.08 82 SKPbc **SKPab** **18 01 54.5 -1.0**
comp=Z,2.2nm,0.7s,baz=320,slow=1.4,SNR=6.6
PLCA Paso Flores 131.61 106 SKPbc **SKPbc** **18 02 01.0 +0.2**
comp=Z,1.6nm,0.8s,baz=270,slow=3.0,SNR=2.9
QSPA South Pole Qui 141.56 180 PKhKP PKPpre 17 58 57.0
comp=Z,4.1nm,0.6s,baz=96,slow=0.1,SNR=19
MAW Mawson 146.49 218 PKPbc **PKPbc** **17 59 13.7 +0.1**
comp=Z,12nm,0.6s,baz=104,slow=5.5,SNR=21
MAW Mawson 146.49 218 *e*PKPdf **PKPbc** **17 59 13.6 0.0**
MAW Mawson 146.49 218 *e*PKP2 **PKPbc** **17 59 13.6 0.0**
BOSA Boshof 150.29 312 PKPbc **PKPbc** **17 59 25.1 +0.2**
comp=Z,9.1nm,0.7s,baz=18,slow=2.2,SNR=16

IDC 27 17:51:03.2 9.3, 30.85 179.73W, h365 km 107 km, mb2.3/2, mb1 2.7/3, mb1mx2.7/27, mbtmp3.3/3, Error ellipse: s-maj=107.7km s-min=47.0km az=1.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.84**	**199**	P	P	17 52 57.0	+0.5
	1.0nm,0.3s,baz=267,slow=5.2,SNR=7.4						
URZ				S	S	17 54 25.0	-2.2
	0.8nm,0.3s,baz=268,slow=23,SNR=6.3						
ASAR	**Alice Springs**	**41.60**	**268**	P	P	17 58 17.1	0.0
	0.1nm,0.6s,baz=100,slow=8.1,SNR=3.2						
WRA	**Warramunga Arr**	**42.63**	**274**	P	P	17 58 25.2	-0.1
	0.1nm,0.4s,baz=112,slow=7.8,SNR=5.1						
FINES	**FINESS Array B**	**145.04**	**339**	PKPbc	PKPdf	18 09 55.8	-0.9
	2.9nm,0.9s,baz=56,slow=4.5,SNR=4.6						

ISCJB ***27*** *18:04:30.0 0.4, 43.17N 0.02 0.45W 0.03, h8 km 4km, Error ellipse: s-maj=4.1km s-min=3.2km az=166.4*
STR ***27*** *18:04:31.9 0.3, 43°N 3 × °, h5km, M2.7/5, MLv2.7/5*
MDD ***27*** *18:04:31.8 0.2, 43.10N 0.47W, h8 km 5km, mbLg1.9/17, Error ellipse: s-maj=3.8km s-min=2.3km az=17.0, PRXIMO*
LDG ***27*** *18:04:31.7 0.0, 43.10N 0.47W, h2km, Md2.3/3, Ml2.3/6, Error ellipse: s-maj=1.1km s-min=0.7km az=170.0*
ISC 27 18:04:31.0 0.9, 43.13N 0.03 0.45W 0.02, h12 km 8km, n40, σ0 64/68, 1C-1D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.19**	**257**	⇑Pg	**Pg**	**18 04 35.0**	**-0.2**
	30nm,0.2s,SNR=18						
ATE				Lg	Lg	18 04 37.9	
	208nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.24**	**200**	*e*Pg	**Pg**	**18 04 35.9**	**-0.2**
ETSF				*e*Sg	**Sg**	**18 04 39.0**	**-0.6**
	298nm,0.4s						
ETSF	**Etsaut**	**0.24**	**200**	Pg	**Pg**	**18 04 35.9**	**-0.2**
ETSF				Lg	Lg	18 04 39.0	
	149nm,0.4s						
PYLO	**Lourdes**	**0.29**	**96**	Pg	**Pg**	**18 04 37.4**	**+0.4**
PYLO				Sg	**Sb**	**18 04 42.2**	**-0.8**
LABF	**Labassere**	**0.39**	**102**	Pg	**Pg**	**18 04 38.8**	**0.0**
LABF				Sg	**Sb**	**18 04 45.4**	**-0.5**
VIEF	**Viey**	**0.42**	**125**	Pg	**Pg**	**18 04 39.1**	**-0.2**
VIEF				Sg	**Sg**	**18 04 45.0**	**0.0**
SJPF	**Ste Jean**	**0.57**	**269**	*e*Pg	**Pg**	**18 04 41.7**	**-0.4**
SJPF				*e*Sg	**Sg**	**18 04 49.1**	**-0.5**
	15nm,0.2s						
SJPF	**Ste Jean**	**0.57**	**269**	Pg	**Pg**	**18 04 41.7**	**-0.4**
SJPF				Lg	Lg	18 04 49.1	
	7.3nm,0.2s						
EPF	**Esparros**	**0.59**	**99**	*e*Pg	**Pb**	**18 04 42.8**	**-0.4**
EPF				*e*Sg	**Sb**	**18 04 51.1**	**-0.3**
	18nm,0.2s						
EPF	**Esparros**	**0.59**	**99**	Pg	**Pb**	**18 04 42.8**	**-0.4**
EPF				Lg	Lg	18 04 51.1	
	8.8nm,0.2s						
IELO	**Elcoad**	**0.64**	**244**	Pg	**Pg**	**18 04 43.4**	**-0.1**
	1.5nm,0.2s,SNR=7.9						
IELO				Lg	Lg	18 04 51.8	
	16nm,0.2s,SNR=7.9						
RESF	**Ens**	**0.66**	**119**	Pg	**Pg**	**18 04 43.7**	**-0.1**
RESF				Sg	**Sb**	**18 04 53.6**	**0.0**
ECHI	**Chisagues Biel**	**0.66**	**134**	⇓Pg	**Pg**	**18 04 43.8**	**-0.1**
	0.9nm,0.3s,SNR=18						
ECHI				Lg	Lg	18 04 52.6	
	33nm,0.1s,SNR=7.9						
EORO	**Oroz-Betelu**	**0.67**	**250**	Pg	**Pg**	**18 04 43.9**	**-0.1**
	2.2nm,0.3s,SNR=7.9						
EORO				Lg	Lg	18 04 52.5	
	13nm,0.3s,SNR=7.9						
IPRE	**Itoiz**	**0.74**	**245**	Pg	**Pg**	**18 04 45.2**	**-0.1**
	0.2nm,0.0s,SNR=4.5						
IPRE				Lg	Lg	18 04 54.9	
	10nm,0.3s,SNR=7.2						
MLS	**Moulis**	**1.14**	**98**	Pg	**Pg**	**18 04 53.7**	**+0.8**
MLS				Pn	**Pn**	**18 04 54.6**	**+1.9**
MLS				Sg	**Sn**	**18 05 09.7**	**+1.3**
CSOR	**Sort**	**1.39**	**122**	Pg	**Pb**	**18 04 57.2**	**+0.3**
	1.4nm,0.2s,SNR=11						
CSOR				Lg	Lg	18 05 16.2	
	12nm,0.2s,SNR=9.8						
MONQ	**Montcuq**	**1.72**	**43**	Pg	**Pb**	**18 05 02.3**	**-0.1**
MONQ				Sg	**Sg**	**18 05 27.3**	**+1.0**
FNEB	**N˜bias**	**1.89**	**96**	Pg	**Pg**	**18 05 06.6**	**-0.6**
CLLI	**Llivia**	**1.90**	**109**	Pg	**Pg**	**18 05 07.3**	**0.0**
	2.2nm,0.4s,SNR=16						
CLLI				Lg	Lg	18 05 33.4	
	5.3nm,0.4s,SNR=7.1						
MTLF	**Montolieu**	**1.96**	**83**	*e*Pn	**Pn**	**18 05 04.5**	**+0.5**
MTLF	**Montolieu**	**1.96**	**83**	*e*Pg	**Pg**	**18 05 08.4**	**-0.1**
MTLF				*e*Sn	**Sn**	**18 05 28.4**	**-0.1**
MTLF				*e*Sg	**Sg**	**18 05 33.5**	**-0.5**
	1.5nm,0.2s						
MTLF	**Montolieu**	**1.96**	**83**	Pg	**Pg**	**18 05 07.8**	**-0.7**
MTLF	**Montolieu**	**1.96**	**83**	Pn	**Pn**	**18 05 04.5**	**+0.5**
MTLF				Pg	**Pg**	**18 05 08.4**	**-0.1**
MTLF				Sn	**Sn**	**18 05 28.4**	**-0.1**
MTLF				Lg	Lg	18 05 33.5	
	0.8nm,0.2s						
LFF	**La Frestale**	**2.00**	**25**	*e*Pn	**Pn**	**18 05 05.4**	**+0.8**
LFF	**La Frestale**	**2.00**	**25**	*e*Pg	**Pg**	**18 05 09.4**	**0.0**
LFF				*e*Sn	**Sn**	**18 05 29.5**	**0.0**
LFF				*e*Sg	**Sg**	**18 05 35.7**	**+0.3**
	9.6nm,0.2s						
LFF	**La Frestale**	**2.00**	**25**	Pn	**Pn**	**18 05 05.4**	**+0.8**
LFF				Pg	**Pg**	**18 05 09.4**	**0.0**
LFF				Sn	**Sn**	**18 05 29.5**	**0.0**
LFF				Lg	Lg	18 05 35.7	
	4.8nm,0.2s						
EPOB	**Poblet**	**2.10**	**147**	Pg	**Pg**	**18 05 10.2**	**-1.1**
	1.5nm,0.2s,SNR=7.9						
EPOB				Lg	Lg	18 05 37.5	
	6.6nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**2.25**	**165**	Pg	**Pb**	**18 05 12.5**	**+1.1**
	2.6nm,0.3s,SNR=7.9						
ERTA				Lg	Lg	18 05 41.6	
	11nm,0.6s,SNR=7.9						
CFON	**Fontmartina**	**2.53**	**122**	Pg	**Pg**	**18 05 18.4**	**-1.1**
	0.8nm,0.2s,SNR=4.0						
CFON				Lg	Lg	18 05 51.8	
	25nm,0.3s,SNR=7.4						
CAF	**Calviac**	**2.55**	**44**	*e*Pn	**Pn**	**18 05 12.7**	**+0.5**
CAF	**Calviac**	**2.55**	**44**	*e*Pg	**Pg**	**18 05 19.7**	**-0.2**
CAF				*e*Sn	**Sn**	**18 05 42.5**	**-0.7**
CAF				*e*Sg	**Sg**	**18 05 53.0**	**0.0**
	3.2nm,0.3s						
CAF	**Calviac**	**2.55**	**44**	Pn	**Pn**	**18 05 12.7**	**+0.5**
CAF				Pg	**Pg**	**18 05 19.7**	**-0.2**
CAF				Sn	**Sn**	**18 05 42.5**	**-0.7**
CAF				Lg	Lg	18 05 53.0	
	1.6nm,0.3s						
RJF	**Les Rejaudoux**	**2.59**	**32**	*e*Pn	**Pn**	**18 05 13.7**	**+1.0**
RJF	**Les Rejaudoux**	**2.59**	**32**	*e*Pg	**Pg**	**18 05 20.3**	**-0.4**
RJF				*e*Sn	**Sn**	**18 05 43.8**	**-0.3**
RJF				*e*Sg	**Sg**	**18 05 54.1**	**-0.2**
	5.9nm,0.3s						
RJF	**Les Rejaudoux**	**2.59**	**32**	Pn	**Pn**	**18 05 13.7**	**+1.0**
RJF				Pg	**Pg**	**18 05 20.3**	**-0.4**
RJF				Sn	**Sn**	**18 05 43.8**	**-0.3**
RJF				Lg	Lg	18 05 54.1	
	3.0nm,0.3s						
EMOS	**Mosqueruela**	**2.76**	**180**	Lg	Lg	18 05 56.7	
	4.5nm,0.6s,SNR=7.9						
LASF	**Ste Croix**	**3.27**	**72**	*e*Pn	**Pn**	**18 05 22.4**	**+0.4**
LASF	**Ste Croix**	**3.27**	**72**	*e*Pg	**Pg**	**18 05 32.5**	**-1.1**
LASF				*e*Sn	**Sn**	**18 05 59.5**	**-1.3**
	0.8nm,0.2s						
LASF	**Ste Croix**	**3.27**	**72**	Pn	**Pn**	**18 05 22.4**	**+0.4**
LASF				Pg	**Pg**	**18 05 32.5**	**-1.1**
LASF				Sn	**Sn**	**18 05 59.5**	**-1.3**
	0.4nm,0.2s						

*ISCJB **27** 18:05:23.7±0.3,43˚18N±0˙01×0˙54W±0˙02,h14km±2km, Error ellipse: s-maj=2.6km s-min=2.0km az=23.5*
*MDD **27** 18:05:26.8±0.2,43˚12N×0˙46W,h4km±2km,mbLg2.8/49, Error ellipse: s-maj=2.6km s-min=1.8km az=175.0, PRXIMO*
*STR **27** 18:05:27.2±0.2,43˚N±2˚×0˙5W±1˙0,h5km,M3.0/7, MLv3.0/7*
*LDG **27** 18:05:27.1±0.1,43˚13N×0˙45W,h2km,Md3.2/4,Ml3.3/36, Error ellipse: s-maj=1.2km s-min=0.9km az=137.0*
*INMG **27** 18:05:27.6±1.1,43˚06N×0˙48W,h4km±1km,ML2.4, Error ellipse: s-maj=1.9km s-min=1.2km az=16.0*

ISC 27 18:05:25.9±0.8,43˚16N±0˙02×0˙46W±0˙01,h17km±6km, n144,σ1§34/254,5C-1D,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.19**	**249**	Pg	**Pg**	**18 05 30.1**	**-0.5**
ATE				Sg	**Sg**	**18 05 32.9**	**-0.9**
ATE	**Arette**	**0.19**	**249**	⇑Pg	**Pg**	**18 05 30.2**	**-0.5**
	414nm,0.1s,SNR=18						
ATE				Lg	Lg	18 05 33.0	
	3µm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.27**	**196**	*e*Pg	**Pg**	**18 05 31.2**	**-0.7**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**18 05 33.6**	**-2.3**
	4µm,0.4s						
ETSF	**Etsaut**	**0.27**	**196**	Pg	**Pg**	**18 05 31.2**	**-0.7**
ETSF				Lg	Lg	18 05 33.6	
	2µm,0.4s						
PYLO	**Lourdes**	**0.30**	**101**	Pg	**Pg**	**18 05 32.7**	**+0.3**
PYLO				Sg	**Sg**	**18 05 37.3**	**+0.4**
LABF	**Labassere**	**0.40**	**105**	Pg	**Pg**	**18 05 34.1**	**0.0**
LABF				Sg	**Sg**	**18 05 40.5**	**+0.7**
VIEF	**Viey**	**0.45**	**127**	Pg	**Pg**	**18 05 34.3**	**-0.7**
VIEF				Sg	**Sg**	**18 05 41.6**	**+0.6**
SJPF	**Ste Jean**	**0.56**	**266**	*e*Pg	**Pg**	**18 05 36.4**	**-0.7**
	SNR=1.0						
SJPF	**Ste Jean**	**0.56**	**266**	*e*Pn	**Pn**	**18 05 40.5**	**+1.4**
SJPF				*e*Sg	**Sg**	**18 05 45.3**	**+0.6**
	374nm,0.3s						
SJPF	**Ste Jean**	**0.56**	**266**	Pg	**Pg**	**18 05 36.4**	**-0.7**
SJPF				Pn	**Pn**	**18 05 40.5**	**+1.4**
SJPF				Lg	Lg	18 05 45.3	
	187nm,0.3s						
EPF	**Esparros**	**0.60**	**102**	*e*Pg	**Pg**	**18 05 37.9**	**+0.2**
EPF				*e*Sg	**Sg**	**18 05 46.2**	**+0.5**
	182nm,0.3s						
EPF	**Esparros**	**0.60**	**102**	Pg	**Pg**	**18 05 37.9**	**+0.2**
EPF				Lg	Lg	18 05 46.2	
	91nm,0.3s						
OSSF	**Osses**	**0.60**	**280**	Pn	**Pg**	**18 05 38.8**	**+1.0**
OSSF				Sg	**Sg**	**18 05 46.0**	**+0.4**
IELO	**Elcoad**	**0.65**	**242**	⇓Pg	**Pg**	**18 05 38.3**	**-0.4**
	14nm,0.1s,SNR=18						
IELO				Lg	Lg	18 05 46.6	
	366nm,0.2s,SNR=7.9						
EORO	**Oroz-Betelu**	**0.68**	**247**	Pg	**Pg**	**18 05 39.0**	**-0.2**
	2.2nm,0.1s,SNR=18						
EORO				Lg	Lg	18 05 47.6	
	274nm,0.2s,SNR=7.9						
RESF	**Ens**	**0.68**	**121**	Pn	**Pb**	**18 05 40.6**	**+1.3**
RESF				Sg	**Sg**	**18 05 48.7**	**+0.4**
ECHI	**Chisagues Biel**	**0.69**	**136**	Pg	**Pg**	**18 05 39.0**	**-0.4**
ECHI				Sg	**Sg**	**18 05 47.7**	**-0.8**
ECHI	**Chisagues Biel**	**0.69**	**136**	⇑Pg	**Pg**	**18 05 38.8**	**-0.6**
	34nm,0.1s,SNR=18						
ECHI				Lg	Lg	18 05 47.4	
	152nm,0.1s,SNR=7.9						
IPRE	**Itoiz**	**0.75**	**242**	⇑Pg	**Pb**	**18 05 40.2**	**-0.2**
	28nm,0.3s,SNR=18						
IPRE				Lg	Lg	18 05 49.9	
	154nm,0.3s,SNR=22						
EARA	**Aranguren**	**0.91**	**245**	Pg	**Pb**	**18 05 43.8**	**+0.6**
EARA				Sg	**Sg**	**18 05 56.1**	**+0.6**
EARA	**Aranguren**	**0.91**	**245**	⇑Pg	**Pb**	**18 05 43.8**	**+0.6**
	28nm,0.4s,SNR=18						
EARA				Lg	Lg	18 05 55.0	
	107nm,0.3s,SNR=7.4						
MELF	**Melles**	**0.94**	**107**	Pn	**Pb**	**18 05 44.0**	**+0.3**
MELF				Sg	**Sg**	**18 05 57.2**	**+0.8**
MLS	**Moulis**	**1.15**	**99**	Pg	**Pb**	**18 05 48.6**	**+1.3**
MLS				Sg	**Sg**	**18 06 05.1**	**+1.8**
CSOR	**Sort**	**1.41**	**123**	Pg	**Pb**	**18 05 52.4**	**+0.6**
	16nm,0.3s,SNR=24						
CSOR				Lg	Lg	18 06 11.9	
	80nm,0.2s,SNR=5.0						
MONQ	**Montcuq**	**1.70**	**44**	Pn	**Pb**	**18 05 58.6**	**+1.9**
MONQ				Sg	**Sg**	**18 06 22.7**	**+1.9**
LRVF	**ch˜ɕteau la Ri**	**1.79**	**3**	Pn	**Pb**	**18 05 59.3**	**+1.0**
LRVF				Sg	**Sg**	**18 06 25.1**	**+1.4**
FNEB	**N˜bias**	**1.90**	**97**	Pg	**Pb**	**18 06 01.4**	**+1.4**
FNEB				Sg	**Sg**	**18 06 28.0**	**+1.1**
CLLI	**Llivia**	**1.91**	**110**	Pg	**Pb**	**18 06 01.7**	**+1.4**
	21nm,0.4s						
CLLI				Lg	Lg	18 06 28.8	
	47nm,0.3s,SNR=16						
CARF	**Carcanieres**	**1.93**	**102**	Pn	**Pn**	**18 05 58.1**	**+0.1**
CARF				Sg	**Sg**	**18 06 28.5**	**+0.4**
MTLF	**Montolieu**	**1.96**	**84**	*e*Pn	**Pn**	**18 05 58.9**	**+0.5**
	SNR=1.0						
MTLF	**Montolieu**	**1.96**	**84**	*e*Pg	**Pb**	**18 06 03.3**	**+2.1**
MTLF				*e*Sg	**Sg**	**18 06 29.4**	**+0.3**
	52nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**1.96**	**84**	Sg	**Sg**	**18 06 28.9**	**-0.1**
MTLF	**Montolieu**	**1.96**	**84**	Pn	**Pn**	**18 05 58.9**	**+0.5**
MTLF				Pg	**Pb**	**18 06 03.3**	**+2.1**
MTLF				Lg	Lg	18 06 29.4	
	26nm,0.2s						
LFF	**La Frestale**	**1.98**	**25**	*e*Pn	**Pn**	**18 06 00.3**	**+1.7**
	SNR=1.0						
LFF	**La Frestale**	**1.98**	**25**	*e*Pg	**Pg**	**18 06 04.4**	**+0.5**
	SNR=1.0						
LFF				*e*Sn	**Sn**	**18 06 24.3**	**+1.3**
LFF				*e*Sg	**Sg**	**18 06 30.3**	**+0.7**
	150nm,0.2s,SNR=1.0						
LFF	**La Frestale**	**1.98**	**25**	Pn	**Pn**	**18 06 00.3**	**+1.7**
LFF				Pg	**Pg**	**18 06 04.4**	**+0.5**
LFF				Sn	**Sn**	**18 06 24.3**	**+1.3**
LFF				Lg	Lg	18 06 30.3	
	75nm,0.2s						
EPOB	**Poblet**	**2.13**	**147**	Pn	**Pn**	**18 06 02.6**	**+1.8**
	4.5nm,0.3s,SNR=17						
EPOB				Pg	**Pb**	**18 06 05.9**	**+1.9**
	13nm,0.7s						
EPOB				Lg	Lg	18 06 32.9	
	39nm,0.2s,SNR=14						
ELAN	**Lanestosa**	**2.18**	**273**	Pn	**Pb**	**18 06 04.1**	**-0.8**
	7.8nm,0.6s,SNR=11						
ELAN				Lg	Lg	18 06 34.6	
	7.7nm,0.2s,SNR=4.6						
ERTA	**Horta de San J**	**2.27**	**165**	Pn	**Pn**	**18 06 03.4**	**+0.7**
	6.9nm,0.3s,SNR=12						
ERTA				Pg	**Pb**	**18 06 07.5**	**+1.0**
	6.5nm,0.5s,SNR=7.9						
ERTA				Sn	**Sn**	**18 06 30.9**	**+0.6**
	5.8nm,0.3s,SNR=5.5						
ERTA				Lg	Lg	18 06 37.0	
	29nm,0.2s,SNR=10						
EBR	**Ebro Roquetas**	**2.44**	**163**	Lg	Lg	18 06 42.6	
	294nm,0.2s,SNR=7.9						
CAF	**Calviac**	**2.54**	**45**	*e*Pn	**Pn**	**18 06 07.9**	**+1.6**
	SNR=1.0						
CAF	**Calviac**	**2.54**	**45**	*e*Pg	**Pg**	**18 06 14.5**	**0.0**
CAF				*e*Sn	**Sn**	**18 06 37.4**	**+0.6**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**18 06 47.8**	**+0.4**
	47nm,0.2s,SNR=1.0						
CAF	**Calviac**	**2.54**	**45**	Pn	**Pn**	**18 06 07.9**	**+1.6**
CAF				Pg	**Pg**	**18 06 14.5**	**0.0**
CAF				Sn	**Sn**	**18 06 37.4**	**+0.6**
CAF				Lg	Lg	18 06 47.8	
	23nm,0.2s						
SJAF	**Saint Jean de**	**2.55**	**104**	Pn	**Pn**	**18 06 08.0**	**+1.6**
	3.3nm,0.4s,SNR=7.9						
SJAF				Pg	**Pb**	**18 06 12.4**	**+1.3**
	2.4nm,0.3s,SNR=7.9						
SJAF				Sn	**Sn**	**18 06 38.6**	**+1.6**
	1.5nm,1.5s,SNR=7.9						
SJAF				Lg	Lg	18 06 47.2	
	7.8nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**2.55**	**122**	Pn	**Pn**	**18 06 09.4**	**+2.9**
	5.7nm,0.3s,SNR=14						
CFON				Lg	Lg	18 06 47.3	
	138nm,0.3s,SNR=7.4						
EJON	**La Jonquera**	**2.56**	**105**	Pn	**Pn**	**18 06 06.3**	**-0.3**
	0.6nm,0.2s,SNR=4.0						
EJON				Pg	**Pb**	**18 06 11.1**	**-0.3**
	3.7nm,0.3s,SNR=7.9						
EJON				Sn	**Sn**	**18 06 38.0**	**+0.6**
	16nm,3.0s,SNR=4.0						
EJON				Lg	Lg	18 06 49.0	
	14nm,0.2s,SNR=7.9						
RJF	**Les Rejaudoux**	**2.57**	**33**	*e*Pn	**Pn**	**18 06 08.6**	**+1.8**
	SNR=1.0						
RJF	**Les Rejaudoux**	**2.57**	**33**	*e*Pg	**Pg**	**18 06 15.0**	**-0.2**
RJF				*e*Sn	**Sn**	**18 06 38.5**	**+0.8**
RJF				*e*Sg	**Sg**	**18 06 49.3**	**+0.7**
	65nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**2.57**	**33**	Pn	**Pn**	**18 06 08.6**	**+1.8**
RJF				Pg	**Pg**	**18 06 15.0**	**-0.2**
RJF				Sn	**Sn**	**18 06 38.5**	**+0.8**
RJF				Lg	Lg	18 06 49.3	
	32nm,0.2s						
EMOS	**Mosqueruela**	**2.79**	**180**	Pn	**Pn**	**18 06 12.1**	**+2.2**
	7.3nm,0.3s,SNR=12						
EMOS				Sn	**Sn**	**18 06 41.3**	**-1.9**
	6.9nm,1.8s,SNR=7.9						
EMOS				Lg	Lg	18 06 51.9	
	8.6nm,0.2s,SNR=5.6						
CHIF	**Chize**	**2.98**	**1**	Pg	**Pb**	**18 06 21.1**	**+2.7**
LASF	**Ste Croix**	**3.27**	**72**	*e*Pn	**Pn**	**18 06 17.0**	**+0.7**
	SNR=1.0						
LASF	**Ste Croix**	**3.27**	**72**	*e*Pg	**Pg**	**18 06 27.6**	**-0.8**
LASF				*e*Sg	**Sg**	**18 07 09.1**	**-1.6**
	26nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	**3.27**	**72**	Pn	**Pn**	**18 06 17.0**	**+0.7**
LASF				Pg	**Pg**	**18 06 27.6**	**-0.8**
LASF				Lg	Lg	18 07 09.1	
	13nm,0.3s						
MFF	**Saint Martin d**	**3.45**	**4**	*e*Pn	**Pn**	**18 06 19.3**	**+0.5**
	SNR=1.0						
MFF	**Saint Martin d**	**3.45**	**4**	*e*Pg	**Pg**	**18 06 32.0**	**0.0**
MFF				*e*Sg	**Sg**	**18 07 15.7**	**-1.1**
	36nm,0.3s,SNR=1.0						
MFF	**Saint Martin d**	**3.45**	**4**	Pn	**Pn**	**18 06 19.3**	**+0.5**
MFF				Pg	**Pg**	**18 06 32.0**	**0.0**
MFF				Lg	Lg	18 07 15.7	
	18nm,0.3s						
EARI	**Arriondas**	**3.48**	**274**	Pn	**Pn**	**18 06 21.8**	**+2.6**
	15nm,0.9s,SNR=9.0						
EARI				Sn	**Sn**	**18 07 01.0**	**+1.1**
	14nm,6.6s,SNR=7.9						
ECHE	**Chera**	**3.58**	**186**	Pn	**Pn**	**18 06 21.6**	**+1.0**
	1.5nm,0.6s,SNR=7.9						
ECHE				Pg	**Pb**	**18 06 31.6**	**+2.8**
	0.6nm,0.1s,SNR=7.9						
ECHE				Sn	**Sn**	**18 07 02.1**	**-0.5**
	5.7nm,0.9s,SNR=7.9						
ECHE				Lg	Lg	18 07 17.5	
	9.4nm,0.3s,SNR=7.9						
TCF	**Toulx Ste Croi**	**3.66**	**30**	*e*Pn	**Pn**	**18 06 22.5**	**+0.7**
	SNR=1.0						
TCF	**Toulx Ste Croi**	**3.66**	**30**	*e*Pg	**Pg**	**18 06 35.3**	**-0.7**
TCF				*e*Sn	**Sn**	**18 07 03.0**	**-1.6**
TCF				*e*Sg	**Sg**	**18 07 24.1**	**+0.6**
	22nm,0.2s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.66**	**30**	Pn	**Pn**	**18 06 22.5**	**+0.7**
TCF				Pg	**Pg**	**18 06 35.3**	**-0.7**
TCF				Sn	**Sn**	**18 07 03.0**	**-1.6**
TCF				Lg	Lg	18 07 24.1	
	11nm,0.2s						
GUD	**Guadarrama**	**3.73**	**229**	Pn	**Pn**	**18 06 24.6**	**+1.8**
	2.1nm,0.3s,SNR=12						
GUD				Sn	**Sn**	**18 07 06.1**	**-0.3**
	4.4nm,1.1s,SNR=6.5						
VIVF	**Saint-Julien-l**	**4.07**	**64**	*e*Pn	**Pn**	**18 06 27.5**	**+0.1**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**4.07**	**64**	*e*Pg	**Pg**	**18 06 43.1**	**-0.8**
VIVF				*e*Sg	**Sg**	**18 07 34.6**	**-2.0**
	13nm,0.3s						
VIVF	**Saint-Julien-l**	**4.07**	**64**	Pn	**Pn**	**18 06 27.5**	**+0.1**
VIVF				Pg	**Pg**	**18 06 43.1**	**-0.8**
VIVF				Lg	Lg	18 07 34.6	
	6.3nm,0.3s						
BGF	**Bois d'Agland**	**4.13**	**33**	*e*Pn	**Pn**	**18 06 28.7**	**+0.5**
	SNR=1.0						
BGF	**Bois d'Agland**	**4.13**	**33**	*e*Pg	**Pg**	**18 06 44.0**	**-1.0**
BGF				*e*Sg	**Sg**	**18 07 37.7**	**-0.8**
	116nm,0.5s,SNR=1.0						
BGF	**Bois d'Agland**	**4.13**	**33**	Pn	**Pn**	**18 06 28.7**	**+0.5**
BGF				Pg	**Pg**	**18 06 44.0**	**-1.0**
BGF				Lg	Lg	18 07 37.7	
	58nm,0.5s						
ESDC	**Sonseca Array**	**4.36**	**218**	⇑Pn	**Pn**	**18 06 32.2**	**+0.7**
	4.0nm,0.3s,baz=40,slow=14,SNR=18						
ESDC				Sn	**Sn**	**18 07 21.1**	**-0.8**
	12nm,3.6s,baz=38,slow=24,SNR=7.9						
SMRF	**Simiane la Rot**	**4.46**	**77**	*e*Pn	**Pn**	**18 06 33.6**	**+0.9**
SMRF				*e*Sg	**Sg**	**18 07 46.9**	**-2.1**
	8.4nm,0.4s						
SMRF	**Simiane la Rot**	**4.46**	**77**	Pn	**Pn**	**18 06 33.6**	**+0.9**
SMRF				Lg	Lg	18 07 46.9	
	8.4nm,0.4s						
AVF	**Avril sur Loir**	**4.53**	**35**	*e*Pn	**Pn**	**18 06 33.5**	**-0.1**
	SNR=1.0						
AVF	**Avril sur Loir**	**4.53**	**35**	*e*Pg	**Pg**	**18 06 51.2**	**-1.4**
AVF				*e*Sn	**Sn**	**18 07 25.9**	**+0.1**
AVF				*e*Sg	**Sg**	**18 07 49.8**	**-1.4**
	21nm,0.4s						
AVF	**Avril sur Loir**	**4.53**	**35**	Pn	**Pn**	**18 06 33.5**	**-0.1**
AVF				Pg	**Pg**	**18 06 51.2**	**-1.4**
AVF				Sn	**Sn**	**18 07 25.9**	**+0.1**
AVF				Lg	Lg	18 07 49.8	
	10nm,0.4s						
ETOB	**Tobarra**	**4.58**	**191**	Pn	**Pn**	**18 06 36.4**	**+2.0**
	0.6nm,0.5s,SNR=7.1						
ETOB				Sn	**Sn**	**18 07 26.1**	**-1.2**
	8.9nm,0.9s,SNR=7.9						
SMF	**Signal de Mont**	**4.64**	**40**	*e*Pn	**Pn**	**18 06 35.2**	**+0.1**
	SNR=1.0						
SMF	**Signal de Mont**	**4.64**	**40**	*e*Pg	**Pg**	**18 06 54.0**	**-0.6**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**18 07 53.3**	**-1.3**
	11nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**4.64**	**40**	Pn	**Pn**	**18 06 35.2**	**+0.1**
SMF				Pg	**Pg**	**18 06 54.0**	**-0.6**
SMF				Lg	Lg	18 07 53.3	
	5.5nm,0.3s						
PAB	**San Pablo**	**4.65**	**220**	Pn	**Pn**	**18 06 36.1**	**+0.8**
	1.5nm,0.2s,SNR=7.9						
PAB				Pg	**Pb**	**18 06 50.1**	**+3.2**
	0.4nm,0.2s,SNR=7.9						
PAB				Sn	**Sn**	**18 07 27.4**	**-1.5**
	5.7nm,1.1s,SNR=7.9						
PAB				Lg	Lg	18 07 50.4	
	1.7nm,0.2s,SNR=7.9						
HYF	**Humbligny**	**4.66**	**27**	*e*Pn	**Pn**	**18 06 37.1**	**+1.7**
HYF	**Humbligny**	**4.66**	**27**	*e*Pg	**Pg**	**18 06 54.8**	**-0.2**
HYF				*e*Sn	**Sn**	**18 07 29.4**	**+0.4**
HYF				*e*Sg	**Sg**	**18 07 54.0**	**-1.3**
HYF	**Humbligny**	**4.66**	**27**	Pn	**Pn**	**18 06 37.1**	**+1.7**
HYF				Pg	**Pg**	**18 06 54.8**	**-0.2**
HYF				Sn	**Sn**	**18 07

	SNR=1.0							
GRR					*e*Sn	**Sn**	**18 07 42.0**	**-1.4**
	SNR=1.0							
GRR					*e*Sg	**Sg**	**18 08 12.3**	**-1.7**
	5.0nm,0.2s							
GRR	**Gorron**	**5.24**	**357**		Pn	**Pn**	**18 06 43.5**	**+0.1**
GRR					Sn	**Sn**	**18 07 42.0**	**-1.4**
GRR					Lg	Lg	18 08 12.3	
	2.5nm,0.2s							
MVO	**Moncorvo**	**5.27**	**250**	*e*Pn		**Pn**	**18 06 45.7**	**+1.8**
MVO					*e*Sg	**Sn**	**18 07 46.3**	**+2.0**
MVO	**Moncorvo**	**5.27**	**250**	*e*Pn		**Pn**	**18 06 45.4**	**+1.5**
MVO					*e*Sn	**Sn**	**18 07 43.7**	**-0.6**
MVO					A	A	18 07 47.6	
	3.4nm,0.2s							
MVO	**Moncorvo**	**5.27**	**250**	Pn		**Pn**	**18 06 45.3**	**+1.4**
	1.0nm,0.4s,SNR=7.9							
MVO					Sn	**Sn**	**18 07 43.1**	**-1.3**
	17nm,1.4s,SNR=7.9							
SGMF	**Saint Gilles**	**5.31**	**345**	*e*Pn		**Pn**	**18 06 45.0**	**+0.7**
	SNR=1.0							
SGMF	**Saint Gilles**	**5.31**	**345**	*e*Pg		**Pg**	**18 07 06.1**	**-1.3**
SGMF					*e*Sn	**Sn**	**18 07 44.8**	**-0.2**
SGMF					*e*Sg	**Sg**	**18 08 15.1**	**-1.0**
	7.5nm,0.3s							
SGMF	**Saint Gilles**	**5.31**	**345**	Pn		**Pn**	**18 06 45.0**	**+0.7**
SGMF					Pg	**Pg**	**18 07 06.1**	**-1.3**
SGMF					Sn	**Sn**	**18 07 44.8**	**-0.2**
SGMF					Lg	Lg	18 08 15.1	
	3.8nm,0.3s							
LDF	**La Druitiere**	**5.44**	**2**	*e*Pn		**Pn**	**18 06 46.5**	**+0.3**
	SNR=1.0							
LDF					*e*Sn	**Sn**	**18 07 47.7**	**-0.7**
LDF					*e*Sg	**Sg**	**18 08 18.7**	**-1.8**
	6.0nm,0.3s							
MBDF	**Montbardon**	**5.45**	**71**	*e*Sg		**Sg**	**18 08 18.0**	**-2.8**
	0.7nm,0.3s							
MBDF	**Montbardon**	**5.45**	**71**	Lg		Lg	18 08 18.0	
	0.3nm,0.3s							
ROSF	**Rostrenen**	**5.54**	**340**	*e*Pn		**Pn**	**18 06 48.3**	**+0.8**
	SNR=1.0							
ROSF					*e*Sn	**Sn**	**18 07 50.3**	**-0.5**
	1.3nm,0.1s							
ROSF					*e*Sg	**Sg**	**18 08 22.1**	**-1.6**
	8.6nm,0.3s							
ROSF	**Rostrenen**	**5.54**	**340**	Pn		**Pn**	**18 06 48.3**	**+0.8**
ROSF					Sn	**Sn**	**18 07 50.3**	**-0.5**
	0.6nm,0.1s							
ROSF					Lg	Lg	18 08 22.1	
	4.3nm,0.3s							
FLN	**La Foliniere**	**5.61**	**360**	*e*Pn		**Pn**	**18 06 49.1**	**+0.7**
FLN	**La Foliniere**	**5.61**	**360**	*e*Pg		**Pg**	**18 07 12.0**	**-1.2**
	baz=180							
FLN					*e*Sn	**Sn**	**18 07 51.6**	**-0.8**
FLN					*e*Sg	**Sg**	**18 08 23.9**	**-1.9**
	5.6nm,0.2s							
FLN	**La Foliniere**	**5.61**	**360**	Pn		**Pn**	**18 06 49.1**	**+0.7**
FLN					Pg	**Pg**	**18 07 12.0**	**-1.2**
FLN					Sn	**Sn**	**18 07 51.6**	**-0.8**
FLN					Lg	Lg	18 08 23.9	
	2.8nm,0.2s							
EAGO	**Agolada(Pontev**	**5.61**	**269**	Pn		**Pn**	**18 06 50.5**	**+2.0**
	0.5nm,0.2s,SNR=7.9							
LPL	**La Plagne**	**5.67**	**63**	*e*Sg		**Sg**	**18 08 25.5**	**-2.3**
	3.0nm,0.5s							
LPL	**La Plagne**	**5.67**	**63**	Lg		Lg	18 08 25.5	
	1.5nm,0.5s							
LPG	**La Plagne**	**5.68**	**63**	*e*Sg		**Sg**	**18 08 25.8**	**-2.2**
	4.1nm,0.5s							
LPG	**La Plagne**	**5.68**	**63**	Lg		Lg	18 08 25.8	
	2.0nm,0.5s							
EQES	**Quesada**	**5.71**	**201**	Pn		**Pn**	**18 06 51.1**	**+1.2**
	0.9nm,0.4s,SNR=7.9							
POLO	**Lamas de Olo**	**5.73**	**254**	*e*Pn		**Pn**	**18 06 52.0**	**+1.8**
POLO					*e*Sn	Sn	18 07 42.4	-13
POLO					A	A	18 08 13.1	
	1.8nm,0.8s							
POLO	**Lamas de Olo**	**5.73**	**254**	*e*Pn		**Pn**	**18 06 51.4**	**+1.2**
POLO					*e*Sn	**Sn**	**18 07 54.6**	**-1.0**
ELOB	**Lobios**	**5.77**	**260**	Pn		**Pn**	**18 06 51.9**	**+1.2**
	1.1nm,0.3s,SNR=4.0							
ELOB					Sn	**Sn**	**18 07 55.5**	**-0.9**
	5.4nm,0.7s,SNR=7.9							
CABF	**La Chapelle**	**5.79**	**51**	*e*Sg		**Sg**	**18 08 29.2**	**-2.5**
	4.0nm,0.4s							
CABF	**La Chapelle**	**5.79**	**51**	Lg		Lg	18 08 29.2	
	2.0nm,0.4s							
EADA	**Adamuz**	**5.88**	**214**	Sn		**Sn**	**18 07 56.6**	**-2.8**
	2.5nm,1.0s,SNR=7.9							
EADA					Lg	Lg	18 08 31.2	
	1.5nm,0.3s,SNR=7.9							
PGAV	**Gavieira, Arco**	**5.89**	**261**	*e*Pn		**Pn**	**18 06 55.5**	**+3.1**
PGAV					*e*Sn	Sn	18 07 48.6	-11
PGAV					A	A	18 08 03.7	
	5.2nm,0.8s							
PGAV	**Gavieira, Arco**	**5.89**	**261**	*e*Pn		**Pn**	**18 06 54.7**	**+2.3**
PGAV					*e*Sn	**Sn**	**18 07 59.9**	**+0.3**
ECAB	**El Cabril**	**6.32**	**218**	Pn		**Pn**	**18 06 59.3**	**+1.0**
	3.3nm,0.9s,SNR=6.0							
ECAB					Sn	**Sn**	**18 08 06.8**	**-3.3**
	6.0nm,1.1s,SNR=7.9							
SFTF	**Sexfontaines**	**6.35**	**35**	*e*Pn		**Pn**	**18 06 59.5**	**+0.9**
SFTF					*e*Sn	**Sn**	**18 08 09.3**	**-1.4**
	baz=215							
SFTF					*e*Sg	**Sg**	**18 08 47.1**	**-2.4**
	24nm,0.8s							
SFTF	**Sexfontaines**	**6.35**	**35**	Pn		**Pn**	**18 06 59.5**	**+0.9**
SFTF					Sn	**Sn**	**18 08 09.3**	**-1.4**
SFTF					Lg	Lg	18 08 47.1	
	24nm,0.8s							
PMRV	**Marv??o**	**6.41**	**237**	*e*Pn		**Pn**	**18 07 00.7**	**+1.2**
PMRV					*e*Sn	**Sn**	**18 08 09.7**	**-2.6**
PMRV					A	A	18 08 18.4	
	2.3nm,0.5s							
PMRV	**Marv??o**	**6.41**	**237**	Pn		**Pn**	**18 07 00.7**	**+1.2**
PMRV					Sn	**Sn**	**18 08 09.7**	**-2.6**
	2.3nm,0.5s							
MEZF	**Maizieres J'vi**	**6.59**	**34**	*e*Pn		**Pn**	**18 07 01.6**	**-0.2**
MEZF					*e*Sg	**Sg**	**18 08 54.8**	**-2.3**
	10nm,0.4s							
MEZF	**Maizieres J'vi**	**6.59**	**34**	Pn		**Pn**	**18 07 01.6**	**-0.2**
MEZF					Lg	Lg	18 08 54.8	
	10nm,0.4s							
EBAD	**Badajoz**	**6.63**	**231**	Pn		**Pn**	**18 07 03.4**	**+0.9**
	0.3nm,0.2s,SNR=7.9							
EBAD					Sn	**Sn**	**18 08 14.4**	**-3.2**
	1.6nm,1.3s,SNR=7.9							
HAU	**Haudompre**	**6.80**	**42**	*e*Sg		**Sg**	**18 09 00.8**	**-3.3**
	7.8nm,0.5s							
HAU	**Haudompre**	**6.80**	**42**	Lg		Lg	18 09 00.8	
	3.9nm,0.5s							
PAGF	**Fort de Pagny**	**6.91**	**36**	*e*Pn		**Pn**	**18 07 06.5**	**+0.2**
PAGF					*e*Sg	**Sg**	**18 09 04.4**	**-3.1**
	6.7nm,0.4s							

*ISCJB **27** 18:05:30.5±0.3, 67°.05N±0°.02×21°.05E±0°.05, h0km, Error ellipse: s-maj=3.0km s-min=2.8km az=169.2*
*UPP **27** 18:05:31.3±0.1, 67°.06N×20°.94E, h0km, ML2.0*
*NAO **27** 18:05:32.1±1.1, 67°.06N×21°.17E, ML2.6*
*HEL **27** 18:05:32.1, 67°.09N×21°.08E, h0km, ML2.1, Explosion*
*IDC **27** 18:05:33.8±0.8, 67°.01N×21°.49E, h0km, mb1 3.3/5, mb1mx3.1/61, mbtmp3.3/5, ML2.2/5, Error ellipse: s-maj=15.5km s-min=6.9km az=112.0*
*BER **27** 18:05:34.7±3.6, 67°.05N×21°.01E, h0km, ML1.7, ML2.6(NAO), Suspected explosion*

ISC 27 18:05:31.7±0.7, 67°.07N±0°.02×20°.97E±0°.02, h0km, n63, σ1§00/82, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DUNU	**Dundret**	**0.17**	**290**	P		**Pg**	**18 05 34.6**	**-0.3**
DUNU				S		**Sg**	**18 05 37.7**	**+0.7**
DUNU	**Dundret**	**0.17**	**290**	*i* P		**Pg**	**18 05 34.6**	**-0.3**
DUNU				*i* S		**Sg**	**18 05 37.7**	**+0.7**
MASU	**Masugnsbyn**	**0.56**	**45**	P		**Pg**	**18 05 42.3**	**-0.2**
MASU	**Masugnsbyn**	**0.56**	**45**	*i* P		**Pg**	**18 05 42.3**	**-0.2**
ERTU	**Ertsjaerv**	**0.70**	**136**	P		**Pg**	**18 05 44.5**	**-0.7**
ERTU	**Ertsjaerv**	**0.70**	**136**	*e*P		**Pg**	**18 05 44.4**	**-0.7**
PAJU	**Pajala**	**0.84**	**92**	P		**Pg**	**18 05 47.4**	**-0.4**
PAJU	**Pajala**	**0.84**	**92**	*i* P		**Pg**	**18 05 47.4**	**-0.4**
HARU	**Harads**	**0.91**	**180**	P		**Pg**	**18 05 48.1**	**-1.0**
HARU	**Harads**	**0.91**	**180**	*e*P		**Pg**	**18 05 48.1**	**-1.0**
KUA	**Kurravaara**	**0.93**	**345**	P		**Pg**	**18 05 48.5**	**-0.9**
KUA				S		**Sb**	**18 06 02.1**	**-1.3**
KUA	**Kurravaara**	**0.93**	**345**	*e*P		**Pg**	**18 05 48.5**	**-0.9**
KUA				*e*S		**Sb**	**18 06 02.1**	**-1.3**
RATU	**Laukkuluspa**	**0.93**	**326**	P		**Pg**	**18 05 48.4**	**-1.1**
RATU	**Laukkuluspa**	**0.93**	**326**	*e*P		**Pg**	**18 05 48.4**	**-1.1**
SALU	**Saltoluokta**	**1.01**	**289**	P		**Pg**	**18 05 50.1**	**-1.0**
SALU	**Saltoluokta**	**1.01**	**289**	*e*P		**Pg**	**18 05 50.1**	**-1.0**
LANU	**Lannavaara**	**1.06**	**21**	P		**Pg**	**18 05 51.0**	**-1.0**
LANU	**Lannavaara**	**1.06**	**21**	*e*P		**Pg**	**18 05 50.8**	**-1.3**
NIKU	**Nikkaluokta**	**1.10**	**318**	P		**Pg**	**18 05 51.5**	**-1.2**
NIKU	**Nikkaluokta**	**1.10**	**318**	*e*P		**Pg**	**18 05 51.5**	**-1.2**
KALU	**Kalix**	**1.54**	**141**	P		**Pn**	**18 05 59.5**	**-0.9**
KALU	**Kalix**	**1.54**	**141**	*e*P		**Pn**	**18 05 59.5**	**-0.9**
SJUU	**Sjulsmark**	**1.58**	**170**	P		**Pn**	**18 06 00.3**	**-0.6**
SJUU	**Sjulsmark**	**1.58**	**170**	*e*P		**Pn**	**18 06 00.3**	**-0.6**
TOF	**Tornio**	**1.67**	**125**	*e*PG		**Pn**	**18 06 01.8**	**-0.3**
TOF				MSG			18 06 21.4	
	comp=Z,18nm,0.2s							
HEF	**Hetta**	**1.69**	**36**	*e*P		**Pn**	**18 06 01.9**	**-0.6**
HEF				MSG			18 06 21.4	
	comp=Z,10nm,0.2s							
HEF				*e*SN		**Sn**	**18 06 24.6**	**-0.2**
HEF	**Hetta**	**1.69**	**36**	*e*P		**Pn**	**18 06 02.2**	**-0.3**
KIF	**Kilpisjarvi**	**1.95**	**358**	Pn		**Pb**	**18 06 07.1**	**-1.0**
KIF				Sn		**Sg**	**18 06 35.3**	**+1.0**
KIF	**Kilpisjarvi**	**1.95**	**358**	*e*PB		**Pb**	**18 06 06.9**	**-1.1**
KIF				MSG			18 06 30.7	
	comp=Z,45nm,0.2s							
KIF				*e*SG		**Sg**	**18 06 34.3**	**0.0**
KIF	**Kilpisjarvi**	**1.95**	**358**	*e*P		**Pb**	**18 06 07.2**	**-0.8**
KIF				*e*S		**Sg**	**18 06 35.1**	**+0.8**
RNF	**Rovaniemi**	**2.05**	**101**	*e*PB		**Pn**	**18 06 07.9**	**+0.6**
RNF				*e*SG		**Sg**	**18 06 36.9**	**-0.4**
KTK1	**Kautokeino**	**2.13**	**22**	*e*P		**Pb**	**18 06 09.7**	**-1.4**
KTK1				IAML			18 06 42.5	
	comp=Z,10nm,0.3s							
SGF	**Sodankyl**	**2.19**	**78**	*e*PB		**Pn**	**18 06 09.9**	**+0.6**
	baz=260							
SGF				*e*SG		**Sb**	**18 06 40.8**	**+0.9**
STEI	**Steigen**	**2.37**	**294**	*e*P		**Pn**	**18 06 12.4**	**+0.7**
BURU	**Burvik**	**2.50**	**176**	*e*P		**Pn**	**18 06 14.1**	**+0.6**
	baz=0.0							
MOR8	**Moi Rana**	**2.75**	**254**	*e*P		**Pn**	**18 06 17.4**	**+0.3**
OUL	**Oulu**	**2.83**	**132**	*e*PB		**Pn**	**18 06 19.8**	**+1.8**
	baz=319							
ARE0	**ARCESS Array S**	**3.00**	**32**	*e*P		**Pn**	**18 06 20.5**	**+0.1**
ARE0				*e*SB		**Sn**	**18 06 59.2**	**+2.2**
ARE0	**ARCESS Array S**	**3.00**	**32**	*e*P		**Pn**	**18 06 21.0**	**+0.6**
ARE0				IAML			18 07 04.5	
	comp=Z,6.9nm,0.2s							
ARA0	**ARCESS Array S**	**3.00**	**32**	Pn		**Pn**	**18 06 20.5**	**+0.1**
	baz=216,slow=14							
ARA0				Sn		**Sn**	**18 06 57.0**	**0.0**
	baz=212,slow=22							
ARA0	**ARCESS Array S**	**3.00**	**32**	Pn		**Pn**	**18 06 20.5**	**+0.1**
	baz=216,slow=14							
ARA0				Sn		**Sn**	**18 06 57.0**	**0.0**
	baz=212,slow=22							
ARCES	**ARCESS Array B**	**3.00**	**32**	Pn		**Pn**	**18 06 20.6**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=216,slow=14,SNR=46							
ARCES				Sn		**Sn**	**18 06 59.6**	**+2.6**
	comp=Z,0.8nm,0.3s,baz=205,slow=24,SNR=12							
LOF	**Lofoten**	**3.04**	**294**	*e*P		**Pn**	**18 06 20.9**	**-0.1**
LOF				IAML			18 07 10.3	
	comp=Z,4.7nm,0.3s							
OUF	**Merijarvi**	**3.12**	**148**	*e*P		**Pn**	**18 06 22.9**	**+0.8**
OUF				MSG			18 07 03.8	
	comp=Z,2.9nm,0.2s							
KONS	**Konsvik**	**3.16**	**263**	*e*P		**Pn**	**18 06 24.3**	**+1.7**
KONS				IAML			18 07 21.7	
	comp=Z,5.0nm,0.3s							
UMAU	**Umeaa**	**3.20**	**182**	*e*P		**Pn**	**18 06 23.4**	**+0.3**
VRF	**Varrio**	**3.40**	**74**	*e*P		**Pn**	**18 06 27.9**	**+1.9**
MSF	**Maaselka**	**3.44**	**106**	*e*PG		**Pb**	**18 06 33.1**	**-0.2**
	baz=290							
KEV	**Kevo**	**3.50**	**37**	*e*P		**Pn**	**18 06 27.4**	**+0.1**
KEV	**Kevo**	**3.50**	**37**	*e*P		**Pn**	**18 06 26.8**	**-0.5**
KU6	**Riekki**	**3.72**	**102**	*e*P		**Pn**	**18 06 30.2**	**-0.1**
VAF	**Ylistaro**	**4.10**	**169**	*e*P		**Pn**	**18 06 36.8**	**+1.3**
	baz=351							
NSS	**Namsos**	**4.50**	**240**	*e*P		**Pn**	**18 06 43.9**	**+2.9**
FIA0	**FINESS Array S**	**6.07**	**156**	Pn		**Pn**	**18 07 02.7**	**+0.2**
	baz=348,slow=14							
FIA0				Sn		**Sn**	**18 08 12.5**	**0.0**
	baz=347,slow=28							
FIA0	**FINESS Array S**	**6.07**	**156**	Pn		**Pn**	**18 07 02.7**	**+0.2**
	baz=348,slow=14							
FIA0				Sn		**Sn**	**18 08 12.5**	**0.0**
	baz=347,slow=28							
FINES	**FINESS Array B**	**6.07**	**156**	Pn		**Pn**	**18 07 03.3**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=351,slow=12,SNR=9.3							
FINES				Sn		**Sn**	**18 08 12.6**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=348,slow=26,SNR=3.5							
NOA	**NORSAR Array B**	**7.40**	**220**	Pn		**Pn**	**18 07 23.1**	**+2.2**
	comp=Z,0.0nm,0.3s,baz=8.9,slow=13,SNR=4.2							
NOA				Sn		**Sn**	**18 08 46.8**	**+1.3**
	comp=Z,0.0nm,0.3s,baz=48,slow=21,SNR=2.7							
NOA				Lg		Lg	18 09 27.9	
	comp=Z,0.0nm,0.3s,baz=42,slow=25,SNR=2.9							
NRA0	**NORESS Array S**	**7.58**	**218**	Pn		**Pn**	**18 07 23.1**	**-0.2**
	baz=34,slow=14							
NRA0	**NORESS Array S**	**7.58**	**218**	Pn		**Pn**	**18 07 23.1**	**-0.2**
	baz=34,slow=14							
HFS	**Hagfors**	**7.67**	**208**	Pn		**Pn**	**18 07 24.0**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=29,slow=13,SNR=4.6							
HFS				Sn		**Sn**	**18 08 51.0**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=41,slow=27,SNR=3.0							
HFS	**Hagfors**	**7.67**	**208**	Pn		**Pn**	**18 07 23.5**	**-1.0**
	baz=25,slow=14							
HFS	**Hagfors**	**7.67**	**208**	Pn		**Pn**	**18 07 23.5**	**-1.0**
	baz=25,slow=14							
SPITS	**Spitsbergen Ar**	**11.25**	**355**	Pn		**Pn**	**18 08 15.6**	**+2.1**
	baz=178,slow=27,SNR=2.4							

*ISK **27** 18:51:32.9, 36°.62N×27°.97E, h6km, ML2.8/8*
*ATH **27** 18:51:33.0, 36°.65N×27°.97E, h30km±2km, ML2.3/5, Error ellipse: s-maj=4.3km s-min=1.3km az=210.0*
*ISCJB **27** 18:51:33.4±0.5, 36°.60N±0°.03×27°.95E±0°.02, h2km±4km, Error ellipse: s-maj=4.8km s-min=2.9km az=2.3*
*THE **27** 18:51:33.5, 36°.63N×27°.96E, h8km±2km, ML2.4/2, Error ellipse: s-maj=2.6km s-min=0.5km az=242.0*
*DDA **27** 18:51:33.7, 36°.63N×27°.99E, h8km, Ml2.8*

ISC 27 18:51:32.9±1.1, 36°.62N±0°.03×27°.97E±0°.02, h4km±9km, n46, σ1§85/66, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MRSB	**Marmaris-Mugla**	**0.20**	**63**	PG		**Pg**	**18 51 37.6**	**+0.7**
MRSB				SG		**Sg**	**18 51 41.1**	**+1.5**
DATC	**Datca-Mugla**	**0.28**	**299**	PG		**Pg**	**18 51 39.1**	**+0.7**
DATC				SG		**Sg**	**18 51 43.7**	**+1.6**
DAT	**Datca**	**0.33**	**289**	PG		**Pg**	**18 51 39.9**	**+0.6**
DAT				SG		**Sg**	**18 51 45.2**	**+1.5**
DAT	**Datca**	**0.33**	**289**	*i* P		**Pg**	**18 51 39.9**	**+0.6**
DAT				*i* S		**Sb**	**18 51 46.5**	**-0.6**
ARG	**Arkhangelos**	**0.42**	**163**	PG		**Pg**	**18 51 41.9**	**+0.9**
ARG	**Arkhangelos**	**0.42**	**163**	P		**Pb**	**18 51 42.4**	**-0.5**
ARG				S		**Sb**	**18 51 50.2**	**+0.6**
ARG				AML		AML	18 51 51.4	
	comp=N,1314μm,0.3s							
ARG				AML		AML	18 51 51.5	
	comp=E,1303μm,0.4s							
TURN	**Turunc**	**0.57**	**64**	PG		Pg	18 51 38.8	-4.9
TURN				SG		**Sg**	**18 51 43.1**	**-8.0**
TURN	**Turunc**	**0.57**	**64**	*i* P		Pg	18 51 38.7	-5.0
TURN				*i* S		**Sg**	**18 51 43.3**	**-7.8**
DALY	**Dalyan (Mu˘la**	**0.58**	**70**	PG		**Pg**	**18 51 44.5**	**+0.5**
DALY	**Dalyan (Mu˘la**	**0.58**	**70**	*i* P		**Pg**	**18 51 44.1**	**+0.1**
DALY				*i* S		**Sb**	**18 51 53.2**	**-1.0**
NIS1	**Nisyros Isl.**	**0.64**	**268**	PG		**Pg**	**18 51 45.2**	**+0.1**
NIS1	**Nisyros Isl.**	**0.64**	**268**	P		**Pb**	**18 51 46.3**	**-0.3**
NIS1				S		**Sb**	**18 51 55.8**	**-0.1**
NIS1				AML		AML	18 52 02.3	
	comp=E,1988μm,0.5s							
NIS1				AML		AML	18 52 03.0	
	comp=N,1910μm,0.3s							
NIS1	**Nisyros Isl.**	**0.64**	**268**	P		**Pb**	**18 51 46.1**	**-0.5**
NIS1				S		**Sb**	**18 51 55.4**	**-0.5**
NISR	**Nisiros**	**0.68**	**269**	P		**Pb**	**18 51 46.9**	**-0.4**
BODT	**Bodrum**	**0.69**	**310**	PG		**Pg**	**18 51 46.4**	**+0.3**
BODT	**Bodrum**	**0.69**	**310**	P		**Pg**	**18 51 46.3**	**+0.2**
BODT				S		**Sb**	**18 51 57.3**	**0.0**
MLSB	**Milas**	**0.69**	**347**	PG		**Pb**	**18 51 46.9**	**-0.6**
FETY	**Fethiye**	**0.90**	**89**	PG		**Pg**	**18 51 50.5**	**+0.4**
FETY	**Fethiye**	**0.90**	**89**	P		**Pg**	**18 51 50.4**	**+0.4**
FETY				S		**Sb**	**18 52 03.8**	**+0.5**
DIDI	**Didim-Aydin**	**0.95**	**322**	PG		**Pg**	**18 51 51.6**	**+0.4**
AYDN	**Tasoluk**	**1.04**	**356**	*i* P		**Pg**	**18 51 53.0**	**+0.2**
AYDN				*i* S		**Sn**	**18 52 08.6**	**-0.7**
TAVA	**DENIZLI_Tavas**	**1.13**	**42**	*i* P		**Pn**	**18 51 55.6**	**+0.1**
TAVA				*i* S		**Sn**	**18 52 10.9**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.32**	**357**	PN		**Pg**	**18 51 58.8**	**+0.5**
DNZL	**Cakiroluk**	**1.37**	**39**	*i* P		**Pg**	**18 52 02.4**	**+3.3**
DNZL				*i* S		**Sn**	**18 52 18.0**	**+0.4**
AKAS	**Kas**	**1.37**	**106**	PN		**Pg**	**18 52 00.0**	**+0.8**
AKAS	**Kas**	**1.37**	**106**	*i* P		**Pg**	**18 52 00.3**	**+1.1**
AKAS				*i* S		**Sn**	**18 52 22.8**	**+5.1**
KSL	**Kastellorizon**	**1.38**	**109**	P		**Pn**	**18 51 59.1**	**+0.1**
KSL				AML		AML	18 52 21.2	
	comp=E,85μm,0.5s							
KSL				AML		AML	18 52 24.4	
	comp=N,60μm,0.5s							
SMG	**Samos**	**1.41**	**320**	P		**Pn**	**18 51 57.9**	**-1.4**
SMG				AML		AML	18 52 23.2	
	comp=N,188μm,0.3s							
SMG				AML		AML	18 52 23.6	
	comp=E,384μm,0.3s							
GOLH	**Golhisar**	**1.41**	**64**	*i* P		**Pg**	**18 52 00.6**	**+0.6**
GOLH				*i* S		**Sg**	**18 52 19.8**	**+1.5**
ELL	**Elmali**	**1.56**	**85**	PN		**Pn**	**18 52 01.9**	**+0.4**
AMGA	**Amorgos Island**	**1.68**	**278**	P		**Pn**	**18 52 02.0**	**-1.1**
AMGA				AML		AML	18 52 33.8	
	comp=N,58μm,0.4s							
AMGA				AML		AML	18 52 35.5	
	comp=E,49μm,0.2s							
ANAF	**Anafi Island**	**1.79**	**262**	P		**Pn**	**18 52 03.9**	**-0.7**
ANAF	**Anafi Island**	**1.79**	**262**	P		**Pn**	**18 52 02.9**	**-1.7**
KORT	**Korkueli**	**1.95**	**78**	PN		**Pn**	**18 52 07.4**	**+0.6**
KULA	**Kula-Manisa**	**1.97**	**16**	PN		**Pn**	**18 52 07.8**	**+0.7**
BRDR	**BURDUR-Merkez**	**1.98**	**57**	*i* P		**Pb**	**18 52 10.4**	**+0.8**
BRDR				*i* S		**Sg**	**18 52 36.9**	**+0.3**
SANT	**Santorini**	**2.04**	**264**	PN		**Pb**	**18 52 09.5**	**-1.0**
URLA	**Izmir**	**2.05**	**328**	PN		**Pb**	**18 52 09.1**	**+0.9**
URLA	**Izmir**	**2.05**	**328**	*i* P		**Pb**	**18 52 11.5**	**+0.8**
URLA				*i* S		**Sg**	**18 52 41.6**	**+2.9**
ZKR	**Zakros**	**2.07**	**224**	P		**Pn**	**18 52 08.0**	**-0.4**
KHAL	**Karahalli**	**2.12**	**34**	*e*P		**Pb**	**18 52 12.3**	**+0.3**
KHAL				*i* S		**Sb**	**18 52 38.6**	**-0.1**
CHOS	**Chios island**	**2.33**	**320**	PN		**Pn**	**18 52 12.7**	**+0.7**
CHOS	**Chios island**	**2.33**	**320**	P		**Pn**	**18 52 11.1**	**-0.9**
CHOS	**Chios island**	**2.33**	**320**	P		**Pn**	**18 52 10.9**	**-1.1**
CHOS				S		**Sn**	**18 52 39.0**	**-2.1**
LAST	**Lasithi**	**2.49**	**235**	P		**Pn**	**18 52 14.5**	**+0.2**
KEPZ	**Antalya-Kepez**	**2.93**	**83**	*i* P		**Pb**	**18 52 24.0**	**-1.7**
KEPZ				*i* S		**Sb**	**18 53 02.7**	**+0.8**

IDC 27 18:51:49.4±29.0, 17°.85S×178°.00W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/37, mbtmp3.8/4, Error ellipse: s-maj=553.7km s-min=140.8km az=85.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**39.00**	**241**	P		P	18 59 18.3	+0.5
	0.9nm,0.4s,baz=103,slow=9.7,SNR=5.7							
WRA	**Warramunga Arr**	**45.03**	**259**	P		P	19 00 07.2	0.0
	0.2nm,0.4s,baz=96,slow=7.9,SNR=5.6							
ASAR	**Alice Springs**	**45.18**	**254**	P		P	19 00 08.5	0.0
	1.8nm,0.5s,baz=91,slow=8.5,SNR=48							
FITZ	**Fitzroy Crossi**	**53.42**	**260**	P		P	19 01 10.6	-0.9
	0.8nm,0.8s,baz=108,slow=6.4,SNR=4.0							

**IDC 27 18:52:31.1±4.0, 6°.86S×148°.17E, h0km

BEO **27** *19:06:19.4±0.7, 40°.67N×19°.47E, h4km±2km, ML3.8/10*
MOS **27** *19:06:20.1±1.4, 40°.82N×19°.61E, h15km, mb4.6/10, Error ellipse: s-maj=4.0km s-min=3.2km az=98.5*
LDG **27** *19:06:20.3±0.1, 40°.78N×19°.59E, h10km, Ml4.5/6, Error ellipse: s-maj=4.4km s-min=2.8km az=34.0*
SKO **27** *19:06:20.5, 40°.63N×19°.65E, h3km*
ATH **27** *19:06:21.8, 40°.82N×19°.66E, h34km±2km, ML3.8/11, Error ellipse: s-maj=2.9km s-min=1.1km az=294.0*
TIR **27** *19:06:21.8, 40°.77N×19°.77E, h16km, Md3.9/8*
PDG **27** *19:06:21.9±0.6, 40°.76N×19°.64E, h21km±1km, MD4.0/6, ML3.9/11, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
NEIC **27** *19:06:21.8±0.0, 40°.77N×19°.77E, h16km, mb4.4/9, MW3.9, ML3.8(TIR), Moment Tensor Solution. s14 Moment tensor: Scale 10¹⁴Nm; Mrr-1.56; Mθθ2.26; Mφφ-0.70; Mrθ3.75; Mθφ-1.40; Mφr-6.25; Best double couple: M₀7.70000×10¹⁴ NP1:φs79.00000°, δ16.00000°, λ-158.00000°. NP2:φs327.00000°, δ84.00000°, λ-75.00000°. Principal axes: T 7.6200, Plg37.0000°, Azm44.0000°; N 0.1200, Plg15.0000°, Azm146.0000°; P -7.7400, Plg49.0000°, Azm253.0000°; After TIR.*
NEIC Felt at Berat.
THE **27** *19:06:22.2, 40°.78N×19°.81E, h0km±1km, ML3.8/8 Error ellipse: s-maj=1.4km s-min=0.3km az=307.0*
IDC **27** *19:06:25.3±1.4, 40°.78N×19°.71E, h49km±16km, mb3.7/18, mb1 3.8/27, mb1mx3.7/51, mbtmp3.9/27, ML3.8/7, MS3.0/13, Ms1 3.0/13, ms1mx2.8/57, Error ellipse: s-maj=13.9km s-min=9.6km az=140.0*

ISC 27 19:06:22.4±0.9, 40.78N±0°.02×19.69E±0°.02, h24km±7km, n461, σ1°60/554, mb4.3/26, MS3.1/9, 44C-18D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op		ISC	h	m	s	ISC
VLO	**Vlora**	**0.34**	**205**	P		**Pb**	**19**	**06**	**29.3**	**-0.6**
VLO				S		**Sb**	**19**	**06**	**35.4**	**+0.4**
VLO	**Vlora**	**0.34**	**205**	P		**Pb**	**19**	**06**	**29.3**	**-0.6**
VLO				S		**Sb**	**19**	**06**	**35.4**	**+0.4**
VLO	**Vlora**	**0.34**	**205**	*i* PG		**Pb**	**19**	**06**	**29.3**	**-0.6**
VLO				*i* SG		**Sn**	**19**	**06**	**36.6**	**-1.4**
TPE	**Tepelena**	**0.54**	**153**	*i* PG		**Pb**	**19**	**06**	**31.5**	**-1.7**
TPE				*i* SG		**Sb**	**19**	**06**	**40.5**	**-0.1**
TIR	**Tirane**	**0.59**	**13**	⇓*i* Pg		**Pb**	**19**	**06**	**33.7**	**-0.4**
TIR				*e*Sg		**Sn**	**19**	**06**	**44.6**	**+0.5**
TIR	**Tirane**	**0.59**	**13**	*e*Pg		**Pb**	**19**	**06**	**33.5**	**-0.5**
TIR	**Tirane**	**0.59**	**13**	P		**Pb**	**19**	**06**	**33.6**	**-0.4**
TIR				S		**Sb**	**19**	**06**	**42.3**	**+0.4**
TIR				AML		AML	19	06	46.0	
	comp=E,24054μm,0.4s									
TIR				AML		AML	19	06	53.3	
	comp=N,30076μm,0.7s									
TIR	**Tirane**	**0.59**	**13**	P		**Pb**	**19**	**06**	**33.4**	**-0.7**
TIR	**Tirane**	**0.59**	**13**	*e*P		**Pb**	**19**	**06**	**33.5**	**-0.5**
TIR	**Tirane**	**0.59**	**13**	*i* PG		**Pb**	**19**	**06**	**33.6**	**-0.4**
TIR				*i* SG		**Sb**	**19**	**06**	**42.9**	**+0.9**
KBN	**Korca**	**0.85**	**100**	P		**Pb**	**19**	**06**	**36.8**	**-1.7**
KBN				S		**Sb**	**19**	**06**	**47.0**	**-2.6**
KBN	**Korca**	**0.85**	**100**	P		**Pb**	**19**	**06**	**36.8**	**-1.7**
KBN				S		**Sb**	**19**	**06**	**49.6**	**0.0**
KBN	**Korca**	**0.85**	**100**	*i* PG		**Pb**	**19**	**06**	**36.8**	**-1.7**
KBN				*i* SG		**Sb**	**19**	**06**	**49.6**	**0.0**
OHR	**Ohrid**	**0.91**	**68**	⇑*i* Pg		**Pb**	**19**	**06**	**38.2**	**-1.3**
OHR				*i* Sg		**Sn**	**19**	**06**	**52.4**	**+0.3**
OHR	**Ohrid**	**0.91**	**68**	P		**Pb**	**19**	**06**	**38.9**	**-0.6**
SRN	**Sarande**	**0.93**	**165**	P		**Pb**	**19**	**06**	**38.8**	**-1.0**
SRN				S		**Sn**	**19**	**06**	**52.5**	**0.0**
SRN	**Sarande**	**0.93**	**165**	*i* PG		**Pb**	**19**	**06**	**39.6**	**-0.2**
SRN				*i* SG		**Sn**	**19**	**06**	**53.4**	**+0.9**
KASA	**Kassiopi**	**1.05**	**169**	P		**Pb**	**19**	**06**	**43.1**	**+1.2**
KASA				S		**Sn**	**19**	**06**	**57.4**	**+2.0**
KASA				AML		AML	19	07	00.9	
	comp=N,16946μm,0.6s									
KASA				AML		AML	19	07	01.2	
	comp=E,17184μm,0.5s									
KEK	**Kerkira**	**1.06**	**175**	P		**Pb**	**19**	**06**	**42.3**	**+0.1**
KEK				S		**Sn**	**19**	**06**	**57.3**	**+1.4**
KEK				AML		AML	19	07	00.8	
	comp=N,8051μm,0.4s									
KEK				AML		AML	19	07	01.4	
	comp=E,9745μm,0.4s									
KEK	**Kerkira**	**1.06**	**175**	P		**Pb**	**19**	**06**	**42.5**	**+0.3**
KEK				S		**Sn**	**19**	**06**	**58.3**	**+2.4**
PHP	**Peshkopia**	**1.07**	**32**	P		**Pb**	**19**	**06**	**40.9**	**-1.1**
PHP				S		**Sn**	**19**	**06**	**56.7**	**+0.5**
PHP	**Peshkopia**	**1.07**	**32**	P		**Pn**	**19**	**06**	**40.9**	**-1.1**
PHP				S		**Sn**	**19**	**06**	**56.7**	**+0.5**
PHP	**Peshkopia**	**1.07**	**32**	*i* PN		**Pn**	**19**	**06**	**41.0**	**-1.1**
PHP				*i* SN		**Sn**	**19**	**06**	**57.4**	**+1.2**
NEST	**Nestorio**	**1.10**	**109**	P		**Pn**	**19**	**06**	**42.3**	**-0.1**
NEST				S		**Sn**	**19**	**06**	**58.9**	**+2.0**
NEST				AML		AML	19	07	04.5	
	comp=E,6564μm,0.9s									
NEST				AML		AML	19	07	06.5	
	comp=N,3963μm,0.4s									
NEST	**Nestorio**	**1.10**	**109**	P		**Pn**	**19**	**06**	**41.2**	**-1.2**
NEST				S		**Sb**	**19**	**06**	**55.8**	**-0.9**
SCTE	**Santa Cesarea**	**1.17**	**233**	P		**Pn**	**19**	**06**	**43.4**	**+0.2**
SCTE				S		**Sb**	**19**	**07**	**00.3**	**+1.7**
SCTE				AML		AML	19	07	05.4	
	comp=E,5672μm,0.3s									
SCTE				AML		AML	19	07	07.8	
	comp=N,2216μm,0.5s									
ULC	**Ulcinj**	**1.23**	**344**	⇑*i* Pg		**Pb**	**19**	**06**	**44.7**	**-0.3**
ULC				*i* Sg		**Sb**	**19**	**07**	**03.2**	**+2.7**
ULC	**Ulcinj**	**1.23**	**344**	P		**Pb**	**19**	**06**	**44.7**	**-0.3**
ULC				S		**Sb**	**19**	**07**	**03.0**	**+2.5**
SGD	**Sagiada**	**1.23**	**160**	P		**Pb**	**19**	**06**	**45.7**	**+0.7**
SGD	**Sagiada**	**1.23**	**160**	P		**Pb**	**19**	**06**	**45.2**	**+0.2**
PENT	**Pentalofos**	**1.25**	**117**	P		**Pn**	**19**	**06**	**44.6**	**0.0**
PENT	**Pentalofos**	**1.25**	**117**	P		**Pn**	**19**	**06**	**44.5**	**0.0**
BIA	**Bitola**	**1.26**	**78**	P		**Pn**	**19**	**06**	**44.2**	**-0.5**
BIA	**Bitola**	**1.26**	**78**	*i* Pg		**Pn**	**19**	**06**	**44.6**	**0.0**
BIA				*i* Sg		**Sb**	**19**	**07**	**02.8**	**+1.3**
PUK	**Puka**	**1.27**	**7**	*i* PN		**Pb**	**19**	**06**	**46.4**	**+0.6**
PUK				*i* SN		**Sb**	**19**	**07**	**04.6**	**+2.8**
FNA	**Florina**	**1.28**	**89**	*e*P		**Pn**	**19**	**06**	**43.5**	**-1.4**
FNA	**Florina**	**1.28**	**89**	*e*Pn		**Pn**	**19**	**06**	**44.5**	**-0.4**
FNA				*e*Sn		**Sb**	**19**	**07**	**05.5**	**+3.5**
FNA	**Florina**	**1.28**	**89**	P		**Pn**	**19**	**06**	**44.8**	**-0.1**
FNA				S		**Sb**	**19**	**07**	**02.9**	**+0.9**
FNA				AML		AML	19	07	08.5	
	comp=E,12561μm,0.4s									
FNA				AML		AML	19	07	09.1	
	comp=N,18312μm,0.5s									
FNA	**Florina**	**1.28**	**89**	P		**Pn**	**19**	**06**	**44.4**	**-0.5**
FNA				S		**Sb**	**19**	**07**	**02.7**	**+0.7**
FNA	**Florina**	**1.28**	**89**	*e*P		**Pn**	**19**	**06**	**44.5**	**-0.4**
FNA				*e*			19	07	05.5	
KRUS	**Krusevo**	**1.32**	**63**	⇑*i* Pg		**Pn**	**19**	**06**	**45.9**	**+0.4**
KRUS				*i* Sg		**Sb**	**19**	**07**	**05.8**	**+2.7**
IGT	**Igoumenitsa**	**1.34**	**158**	P		**Pb**	**19**	**06**	**46.7**	**-0.1**
IGT				S		**Sb**	**19**	**07**	**05.3**	**+1.8**
IGT				AML		AML	19	07	11.6	
	comp=N,6708μm,0.6s									
IGT				AML		AML	19	07	12.5	
	comp=E,8796μm,0.7s									
IGT	**Igoumenitsa**	**1.34**	**158**	P		**Pb**	**19**	**06**	**46.7**	**-0.1**
IGT				S		**Sb**	**19**	**07**	**06.3**	**+2.8**
IGT	**Igoumenitsa**	**1.34**	**158**	P		**Pb**	**19**	**06**	**47.7**	**+0.9**
IGT				S		**Sb**	**19**	**07**	**06.3**	**+2.8**
JAN	**Janina**	**1.43**	**141**	P		**Pb**	**19**	**06**	**48.5**	**+0.1**
JAN				S		**Sb**	**19**	**07**	**06.2**	**0.0**
JAN				AML		AML	19	07	15.4	
	comp=N,6320μm,0.3s									
JAN				AML		AML	19	07	16.3	
	comp=E,10604μm,0.6s									
JAN	**Janina**	**1.43**	**141**	P		**Pb**	**19**	**06**	**47.9**	**-0.5**
JAN	**Janina**	**1.43**	**141**	P		**Pb**	**19**	**06**	**49.0**	**+0.6**
DRME	**Dracevica, Mon**	**1.46**	**345**	⇑*i* Pg		**Pb**	**19**	**06**	**48.2**	**-0.7**
DRME				*i* Sg		**Sb**	**19**	**07**	**08.8**	**+1.8**
DRME	**Dracevica, Mon**	**1.46**	**345**	*e*Pn		**Pb**	**19**	**06**	**48.5**	**-0.4**
BCI	**Bajram Curri**	**1.61**	**10**	*i* PN		**Pb**	**19**	**06**	**51.9**	**+0.4**
BCI				*i* SN		**Sb**	**19**	**07**	**14.4**	**+2.9**
BUM	**Brajici-Budva**	**1.64**	**339**	⇑*i* Pn		**Pn**	**19**	**06**	**50.4**	**+0.6**
BUM				*i* Sn		**Sb**	**19**	**07**	**12.8**	**+0.7**
KZN	**Kozani**	**1.66**	**106**	P		**Pb**	**19**	**06**	**51.6**	**-0.7**
KZN				S		**Sb**	**19**	**07**	**13.2**	**+0.4**
KZN				AML		AML	19	07	17.6	
	comp=N,3276μm,0.6s									
KZN				AML		AML	19	07	19.2	
	comp=E,5380μm,0.6s									
KZN	**Kozani**	**1.66**	**106**	P		**Pn**	**19**	**06**	**50.5**	**+0.4**
KZN	**Kozani**	**1.66**	**106**	P		**Pb**	**19**	**06**	**52.0**	**-0.3**
PDG	**Podgorica**	**1.68**	**349**	*e*Pg		**Pb**	**19**	**06**	**51.6**	**-1.1**
PDG				*e*Sg		**Sb**	**19**	**07**	**14.6**	**+1.2**
PDG	**Podgorica**	**1.68**	**349**	⇑*i* P		**Pb**	**19**	**06**	**51.5**	**-1.1**
PDG	**Podgorica**	**1.68**	**349**	S		**Sb**	**19**	**07**	**14.3**	**+0.8**
PDG	**Podgorica**	**1.68**	**349**	⇑*i* Pn		**Pn**	**19**	**06**	**51.4**	**+1.0**
TTG	**Podgorica**	**1.68**	**349**	⇑*i* Pn		**Pn**	**19**	**06**	**51.2**	**+0.8**
TTG				*i* Sn		**Sb**	**19**	**07**	**14.2**	**+0.8**
TTG	**Podgorica**	**1.68**	**349**	*e*Pn		**Pn**	**19**	**06**	**51.2**	**+0.8**
TTG				*e*Sn		**Sb**	**19**	**07**	**15.8**	**+2.3**
TTG	**Podgorica**	**1.68**	**349**	*e*		**Pn**	**19**	**06**	**51.2**	**+0.8**
TTG				*e*			19	07	15.8	
SKO	**Skopje**	**1.78**	**47**	*e*Pg		**Pb**	**19**	**06**	**53.6**	**-0.7**
SKO				*e*Sg		**Sb**	**19**	**07**	**20.8**	**+4.6**
SKO	**Skopje**	**1.78**	**47**	P		**Pb**	**19**	**06**	**53.4**	**-0.9**
SKO	**Skopje**	**1.78**	**47**	*i* Pn		**Pb**	**19**	**06**	**53.6**	**-0.7**
SKO				*i* Sg		**Sb**	**19**	**07**	**20.6**	**+4.4**
PVY	**Plav**	**1.83**	**6**	⇑*i* PN		**Pb**	**19**	**06**	**53.8**	**+1.3**
PVY				*i* Sn		**Sb**	**19**	**07**	**17.9**	**+0.2**
TAR1	**Taranto**	**1.84**	**263**	*e*Pn		**Pn**	**19**	**06**	**52.6**	**0.0**
CEME	**Cevo**	**1.86**	**342**	⇓*i* PN		**Pn**	**19**	**06**	**53.5**	**+0.6**
CEME				*i* Sn		**Sb**	**19**	**07**	**18.4**	**-0.2**
HCY	**Herceg Novi**	**1.89**	**332**	⇑*i* PN		**Pn**	**19**	**06**	**53.5**	**+0.2**
HCY				*i* Sn		**Sb**	**19**	**07**	**19.0**	**-0.5**
HCY	**Herceg Novi**	**1.89**	**332**	P		**Pn**	**19**	**06**	**53.5**	**+0.2**
HCY				S		**Sb**	**19**	**07**	**18.0**	**-1.5**
HCY	**Herceg Novi**	**1.89**	**332**	⇑*i* PN		**Pn**	**19**	**06**	**53.4**	**+0.2**
MASS	**Massafra**	**1.94**	**267**	*e*Pn		**Pn**	**19**	**06**	**53.7**	**-0.2**
NOCI	**Noci**	**1.99**	**271**	P		**Pn**	**19**	**06**	**54.5**	**-0.1**
NKME	**Niksic**	**2.06**	**345**	⇑*i* PN		**Pn**	**19**	**06**	**57.1**	**+1.4**
NKME				*i* Sn		**Sb**	**19**	**07**	**22.7**	**-1.7**
GRG	**Griva**	**2.07**	**84**	*e*P		**Pn**	**19**	**06**	**54.7**	**-1.0**
GRG	**Griva**	**2.07**	**84**	P		**Pn**	**19**	**06**	**56.8**	**+1.2**
GRG				S		**Sn**	**19**	**07**	**21.9**	**+1.2**
GRG				AML		AML	19	07	38.5	
	comp=N,2031μm,0.7s									
GRG				AML		AML	19	07	42.4	
	comp=E,1614μm,0.7s									
GRG	**Griva**	**2.07**	**84**	P		**Pn**	**19**	**06**	**56.6**	**+0.9**
GRG	**Griva**	**2.07**	**84**	*e*P		**Pn**	**19**	**06**	**56.5**	**+0.9**
KOME	**Kolasin**	**2.08**	**357**	⇑*i* PN		**Pn**	**19**	**06**	**57.6**	**+1.7**
KOME				*i* Sn		**Sb**	**19**	**07**	**23.8**	**-1.1**
TSLK	**Tsoukalades, L**	**2.09**	**159**	P		**Pn**	**19**	**06**	**57.0**	**+1.1**
STIP	**Stip**	**2.10**	**63**	*i* Pn		**Pb**	**19**	**07**	**00.1**	**+0.4**
IVA	**Berane**	**2.10**	**4**	⇑*i* PN		**Pn**	**19**	**06**	**57.9**	**+1.7**
IVA				*i* Sn		**Sb**	**19**	**07**	**25.2**	**-0.3**
NKY	**Niksic**	**2.10**	**346**	⇑*i* PN		**Pn**	**19**	**06**	**57.7**	**+1.5**
NKY				*i* Sn		**Sb**	**19**	**07**	**24.3**	**-1.2**
NKY	**Niksic**	**2.10**	**346**	P		**Pn**	**19**	**06**	**57.6**	**+1.4**
NKY				S		**Sb**	**19**	**07**	**24.0**	**-1.5**
LKD2	**Lefkada island**	**2.12**	**159**	P		**Pn**	**19**	**06**	**57.2**	**+0.7**
LKD2	**Lefkada island**	**2.12**	**159**	P		**Pn**	**19**	**06**	**57.3**	**+0.9**
BAI	**Bari**	**2.15**	**280**	*e*Pn		**Pn**	**19**	**06**	**57.0**	**+0.2**
BAI				Sn		**Sn**	**19**	**07**	**22.5**	**-0.2**
THL	**Klokotos Trika**	**2.15**	**123**	P		**Pn**	**19**	**06**	**58.5**	**+1.6**
THL				S		**Sn**	**19**	**07**	**24.5**	**+1.7**
THL				AML		AML	19	07	35.0	
	comp=E,1593μm,0.6s									
THL				AML		AML	19	07	38.3	
	comp=N,1268μm,0.8s									
THL	**Klokotos Trika**	**2.15**	**123**	P		**Pn**	**19**	**06**	**58.4**	**+1.6**
TREB	**Trebinje**	**2.18**	**333**	*e*Pn		**Pn**	**19**	**06**	**57.2**	**0.0**
TREB				*e*Sn		**Sn**	**19**	**07**	**24.5**	**+1.0**
TREB	**Trebinje**	**2.18**	**333**	*e*Pn		**Pn**	**19**	**06**	**57.2**	**0.0**
LIT	**Litokhoron**	**2.24**	**107**	*e*Pn		**Pn**	**19**	**06**	**59.5**	**+1.5**
LIT				*e*Sn		**Sb**	**19**	**07**	**32.0**	**+2.5**
LIT	**Litokhoron**	**2.24**	**107**	P		**Pn**	**19**	**06**	**59.5**	**+1.5**
LIT	**Litokhoron**	**2.24**	**107**	P		**Pn**	**19**	**06**	**59.3**	**+1.2**
LIT	**Litokhoron**	**2.24**	**107**	*e*P		**Pn**	**19**	**06**	**59.6**	**+1.5**
LIT				*e*			19	07	32.0	
VAY	**Valandovo**	**2.25**	**75**	*e*Pn		**Pn**	**19**	**06**	**59.5**	**+1.4**
VAY				*e*Sn		**Sb**	**19**	**07**	**31.0**	**+1.4**
VAY	**Valandovo**	**2.25**	**75**	P		**Pn**	**19**	**06**	**59.0**	**+0.9**
VAY	**Valandovo**	**2.25**	**75**	*i* Pn		**Pn**	**19**	**06**	**59.5**	**+1.4**
VAY	**Valandovo**	**2.25**	**75**	P		**Pn**	**19**	**06**	**59.0**	**+0.9**
SG1	**Sgolgore (BA)**	**2.28**	**273**	*e*Pn		**Pn**	**19**	**06**	**58.5**	**-0.2**
BRY	**Bratogost**	**2.29**	**338**	⇑*i* Pn		**Pn**	**19**	**06**	**58.9**	**0.0**
BRY				*i* Sn		**Sn**	**19**	**07**	**28.6**	**+2.2**
BRY	**Bratogost**	**2.29**	**338**	P		**Pn**	**19**	**06**	**58.9**	**0.0**
BRY				S		**Sn**	**19**	**07**	**28.0**	**+1.6**
BRY	**Bratogost**	**2.29**	**338**	*e*Pn		**Pn**	**19**	**06**	**59.2**	**+0.3**
KNT	**Kendrikon**	**2.46**	**80**	*e*P		**Pn**	**19**	**07**	**00.6**	**-0.5**
KNT	**Kendrikon**	**2.46**	**80**	P		**Pn**	**19**	**07**	**02.3**	**+1.2**
KNT				S		**Sn**	**19**	**07**	**32.3**	**+1.9**
KNT	**Kendrikon**	**2.46**	**80**	P		**Pn**	**19**	**07**	**02.1**	**+1.0**
KNT				S		**Sn**	**19**	**07**	**32.1**	**+1.7**
SJES	**Sjenica**	**2.49**	**5**	⇑*i* PN		**Pn**	**19**	**07**	**03.8**	**+2.2**
SJES				*e*Sn		**Sb**	**19**	**07**	**34.8**	**-2.0**
UPM	**Unac-Piva**	**2.49**	**347**	⇑*i* Pn		**Pn**	**19**	**07**	**02.5**	**+0.8**
UPM				*i* Sn		**Sn**	**19**	**07**	**33.7**	**+2.2**
UPM	**Unac-Piva**	**2.49**	**347**	*e*Pn		**Pb**	**19**	**07**	**04.9**	**-1.7**
THE	**Thessaloniki**	**2.50**	**92**	P		**Pn**	**19**	**07**	**03.3**	**+1.8**
PLE	**Pljevlja**	**2.56**	**355**	⇓*i* PN		**Pn**	**19**	**07**	**04.1**	**+1.5**
PLE				*i* Sn		**Sn**	**19**	**07**	**35.5**	**+2.5**
PLE	**Pljevlja**	**2.56**	**355**	P		**Pn**	**19**	**07**	**05.1**	**+2.5**
STON	**Ston**	**2.57**	**325**	*e*Pn		**Pn**	**19**	**07**	**02.7**	**+0.2**
STON				*e*Sn		**Sn**	**19**	**07**	**32.8**	**-0.1**
STON	**Ston**	**2.57**	**325**	*i* Pn		**Pn**	**19**	**07**	**02.5**	**+0.1**
STON				Sn		**Sn**	**19**	**07**	**32.1**	**-0.8**
STON	**Ston**	**2.57**	**325**	*e*Pn		**Pn**	**19**	**07**	**02.4**	**-0.1**
ORI	**Oriolo Calabro**	**2.57**	**255**	P		**Pn**	**19**	**07**	**03.1**	**+0.5**
PVO	**Paravola**	**2.58**	**146**	P		**Pn**	**19**	**07**	**04.2**	**+1.5**
BARS	**Barje**	**2.59**	**37**	⇓*i* PN		**Pn**	**19**	**07**	**04.7**	**+1.9**
BARS	**Barje**	**2.59**	**37**	⇓*i* PN		Pb	19	07	18.5	+10
BARS				*e*Sn		**Sb**	**19**	**07**	**39.7**	**+0.3**
HORT	**Hortiatis**	**2.60**	**93**	*e*P		**Pn**	**19**	**07**	**01.9**	**-1.2**
HORT	**Hortiatis**	**2.60**	**93**	P		**Pn**	**19**	**07**	**04.1**	**+1.0**
SELS	**Selova**	**2.67**	**23**	*e*Pn		**Pn**	**19**	**07**	**05.0**	**+1.1**
AGG	**Agios Georgios**	**2.68**	**130**	*e*P		**Pn**	**19**	**07**	**05.2**	**+2.0**
AGG	**Agios Georgios**	**2.68**	**130**	*e*Pn		**Pn**	**19**	**07**	**05.1**	**+0.9**
AGG	**Agios Georgios**	**2.68**	**130**	*e*P		**Pn**	**19**	**07**	**05.1**	**+0.9**
VLS	**Valsamata**	**2.69**	**165**	P		**Pn**	**19**	**07**	**04.0**	**-0.2**
TIP	**Timpagrande**	**2.76**	**236**	*e*Pn		**Pn**	**19**	**07**	**04.7**	**-0.5**
TIP	**Timpagrande**	**2.76**	**236**	⇓*i* P		**Pn**	**19**	**07**	**05.1**	**-0.1**
TIP	**Timpagrande**	**2.76**	**236**	S		**Sn**	**19**	**07**	**38.1**	**+0.3**
TIP	**Timpagrande**	**2.76**	**236**	P		**Pn**	**19**	**07**	**04.9**	**-0.4**
SOH	**Sokhos**	**2.78**	**88**	P		**Pn**	**19**	**07**	**06.4**	**+0.9**
SOH	**Sokhos**	**2.78**	**88**	P		**Pn**	**19**	**07**	**07.0**	**+1.5**
IVAS	**Ivanjica**	**2.82**	**7**	⇑*i* PN		**Pn**	**19**	**07**	**06.9**	**+0.8**
IVAS				*e*Sn		**Sb**	**19**	**07**	**43.3**	**-2.9**
PLG	**Polygyros**	**2.89**	**97**	P		**Pn**	**19**	**07**	**08.2**	**+1.2**
PLG	**Polygyros**	**2.89**	**97**	P		**Pn**	**19**	**07**	**08.5**	**+1.5**
EFP	**Efpalio**	**2.91**	**143**	P		**Pn**	**19**	**07**	**09.0**	**+1.8**
SRS	**Serrai**	**2.98**	**82**	P		**Pn**	**19**	**07**	**09.1**	**+0.9**
SRS	**Serrai**	**2.98**	**82**	P		**Pn**	**19**	**07**	**09.2**	**+1.0**
TRIZ	**Trizonia**	**3.03**	**142**	P		**Pn**	**19**	**07**	**10.7**	**+1.8**
XOR	**Xorichti**	**3.04**	**117**	P		**Pn**	**19**	**07**	**09.8**	**+0.8**
CUC	**Castrococco**	**3.06**	**256**	*e*Pn		**Pn**	**19**	**07**	**09.3**	**-0.1**
CUC	**Castrococco**	**3.06**	**256**	P		**Pn**	**19**	**07**	**10.6**	**+1.3**
LAKA	**Lakka**	**3.09**	**144**	P		**Pn**	**19**	**07**	**11.3**	**+1.5**
BBLS	**Lazići**	**3.10**	**356**	⇓*i* PN		**Pn**	**19**	**07**	**11.2**	**+1.4**
BBLS	**Lazići**	**3.10**	**356**	⇑*i* PN		**Pn**	**19**	**07**	**10.9**	**+1.1**
GRI	**Girifalco**	**3.19**	**233**	P		**Pn**	**19**	**07**	**12.9**	**+1.9**
VTS	**Vitosha**	**3.20**	**54**	⇓*i* PN		**Pn**	**19**	**07**	**13.7**	**+2.3**
VTS	**Vitosha**	**3.20**	**54**	*e*Pn		**Pn**	**19**	**07**	**13.2**	**+1.8**
VTS	**Vitosha**	**3.20**	**54**	⇑*i* P		**Pn**	**19**	**07**	**13.7**	**+2.3**
VTS	**Vitosha**	**3.20**	**54**	S		**Sb**	**19**	**07**	**53.3**	**-3.9**
VTS	**Vitosha**	**3.20**	**54**	P		**Pn**	**19**	**07**	**13.0**	**+1.6**
VTS	**Vitosha**	**3.20**	**54**	*e*P		**Pn**	**19**	**07**	**13.2**	**+1.8**
GRUS	**Gruza**	**3.20**	**13**	⇓*i* PN		**Pn**	**19**	**07**	**12.5**	**+1.3**
NVR	**Nevrokopi**	**3.21**	**78**	P		**Pn**	**19**	**07**	**12.5**	**+1.1**
BOVS	**Bovan**	**3.23**	**27**	⇓*i* PN		**Pn**	**19**	**07**	**13.1**	**+1.5**
BOVS				*e*Sn		**Sn**	**19**	**07**	**52.7**	**+3.5**
OUR	**Ouranopolis**	**3.30**	**96**	*e*P		**Pn**	**19**	**07**	**12.2**	**-0.4**
OUR	**Ouranopolis**	**3.30**	**96**	P		**Pn**	**19**	**07**	**13.6**	**+1.0**
OUR	**Ouranopolis**	**3.30**	**96**	P		**Pn**	**19**	**07**	**14.1**	**+1.5**
SKIA	**Skiathos**	**3.32**	**118**	P		**Pn**	**19**	**07**	**14.4**	**+1.5**
LKR	**Lokris**	**3.32**	**129**	P		**Pn**	**19**	**07**	**13.7**	**+0.8**
ZAPS	**Zavoj**	**3.32**	**40**	⇑*i* PN		**Pn**	**19**	**07**	**15.4**	**+2.4**
DIVS	**Divibare**	**3.33**	**4**	⇑*i* PN		**Pn**	**19**	**07**	**13.9**	**+0.8**
DIVS	**Divibare**	**3.33**	**4**	*e*Pn		**Pn**	**19**	**07**	**13.7**	**+0.6**
DIVS	**Divibare**	**3.33**	**4**	⇑*i* PN		**Pn**	**19**	**07**	**13.7**	**+0.6**
HAPS	**Han Pijesak,Bl**	**3.35**	**351**	*e*Pn		**Pn**	**19**	**07**	**13.5**	**+0.1**
HAPS	**Han Pijesak,Bl**	**3.35**	**351**	*e*Pn		**Pn**	**19**	**07**	**13.5**	**+0.1**
TRUS	**Trudelj**	**3.49**	**9**	*e*Pn		**Pn**	**19**	**07**	**16.2**	**+1.0**
ZAGS	**Zajecar**	**3.57**	**31**	⇑*i* PN		**Pn**	**19**	**07**	**18.0**	**+1.7**
AOS	**Alonnisos**	**3.60**	**115**	*e*P		**Pn**	**19**	**07**	**17.1**	**+0.4**
SVIS	**Svilajnac**	**3.67**	**17**	*e*Pn		**Pn**	**19**	**07**	**19.1**	**+1.5**
TEKS	**Tekeris**	**3.77**	**358**	⇑*i* Pn		**Pn**	**19**	**07**	**19.5**	**+0.4**
CEL	**Celeste**	**3.86**	**231**	*e*Pn		**Pn**	**19**	**07**	**20.0**	**-0.4**
SOI	**Samo**	**3.90**	**227**	P		**Pn**	**19**	**07**	**21.0**	**+0.2**
SOI				pmax	pmax					
	comp=Z,1.0nm,0.7s									
KUBS	**Kucevo**	**3.92**	**21**	⇑*i* Pn		**Pn**	**19**	**07**	**20.7**	**-0.4**
ITM	**Ithomi**	**3.99**	**153**	*e*Pn		**Pn**	**19**	**07**	**22.9**	**+0.8**
PLD	**Plovdiv**	**4.00**	**69**	*e*P		**Pn**	**19**	**07**	**22.5**	**+0.3**
PLD	**Plovdiv**	**4.00**	**69**	P		**Pn**	**19**	**07**	**24.

NIE	**Niedzica**	**8.65**	**3**	*e*P		**Pn**	**19 08 29.0**	**+2.9**
WTTA	**Wattenberg**	**8.70**	**321**	*e*Pn		**Pn**	**19 08 28.5**	**+1.7**
	comp=Z,4.2nm,0.2s,SNR=6.0							
WTTA				*e*Sn		**Sn**	**19 10 02.9**	**-1.3**
	comp=Z,14nm,0.3s							
WATA	**Walderalm**	**8.78**	**321**	*e*Pn		**Pn**	**19 08 28.9**	**+1.0**
	comp=Z,6.4nm,0.2s,SNR=11							
WATA				*e*Sn		**Sn**	**19 10 04.4**	**-1.7**
	comp=Z,8.0nm,0.3s							
VRAC	**Vranov**	**8.81**	**347**	LR	LR	LR	19 12 19.5	
	comp=Z,70nm,18.8s,baz=164,slow=40							
SQTA	**Sankt Quirin**	**8.88**	**319**	*e*Pn		**Pn**	**19 08 30.7**	**+1.5**
	comp=Z,10nm,0.4s,SNR=7.4							
SQTA				Sn		**Sn**	**19 10 07.1**	**-1.4**
	comp=Z,18nm,0.4s							
FUORN	**Ofenpass-Fuorn**	**8.98**	**314**	*e*Pn		**Pn**	**19 08 31.0**	**+0.2**
FUORN				*e*Sn		**Sn**	**19 10 06.2**	**-5.1**
FETA	**Feichten**	**8.98**	**317**	*e*Pn		**Pn**	**19 08 33.3**	**+2.6**
	comp=Z,2.6nm,0.4s							
FETA				Sn		**Sn**	**19 10 10.0**	**-1.2**
	comp=Z,8.4nm,0.6s							
AKAS	**Kas**	**9.00**	**117**	*e*P		**Pn**	**19 08 32.5**	**+1.5**
MOTA	**Moosalm**	**9.01**	**320**	*e*Pn		**Pn**	**19 08 31.3**	**+0.2**
	comp=Z,4.6nm,0.4s,SNR=7.7							
MOTA				*e*Sn		**Sn**	**19 10 09.3**	**-2.6**
	comp=Z,9.0nm,0.4s							
TREC	**Trest**	**9.02**	**342**	AMS	AMS	AMS	19 12 40.0	
KWP	**Kalwaria Pacla**	**9.11**	**12**	*e*Pn		**Pn**	**19 08 30.9**	**-1.4**
KWP	**Kalwaria Pacla**	**9.11**	**12**	*e*P		**Pn**	**19 08 30.9**	**-1.4**
GEA0	**GERESS Array S**	**9.11**	**334**	*e*Pn		**Pn**	**19 08 32.3**	**-0.1**
GEA0				*e*Sn		**Sn**	**19 10 12.6**	**-1.5**
GEC2	**GERESS Array S**	**9.12**	**334**	*e*Pn		**Pn**	**19 08 33.1**	**+0.6**
GEC2				*e*Sn		**Sn**	**19 10 12.2**	**-2.2**
GEC2	**GERESS Array S**	**9.12**	**334**	*e*P		**Pn**	**19 08 33.1**	**+0.6**
GEC2				*e*			19 10 12.2	
GERES	**GERESS Array B**	**9.12**	**334**	P		**Pn**	**19 08 31.8**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=155,slow=14,SNR=13							
GERES				S		**Sn**	**19 10 13.2**	**-1.2**
	comp=Z,1.8nm,0.3s,baz=153,slow=23,SNR=10							
GERES				LR	LR	LR	19 13 06.3	
	comp=Z,59nm,21.3s,baz=148,slow=44							
MORC	**Moravsky Berou**	**9.13**	**351**	*e*Sn		**Sn**	**19 10 11.6**	**-2.9**
RETA	**Reutte**	**9.28**	**319**	*e*Sn		**Sn**	**19 10 17.3**	**-1.0**
	comp=Z,13nm,0.5s							
DAVOX	**Davos/Dischmat**	**9.29**	**314**	P		**Pn**	**19 08 36.5**	**+1.6**
	comp=Z,1.5nm,0.3s,baz=93,slow=20,SNR=12							
DAVOX				S		**Sn**	**19 10 20.4**	**+1.7**
	comp=Z,2.1nm,0.3s,baz=169,slow=23,SNR=6.8							
KHC	**Kasperske Hory**	**9.41**	**335**	*e*Pn		**Pn**	**19 08 35.8**	**-0.7**
KHC				*e*Sn		**Sn**	**19 10 17.6**	**-3.7**
KHC	**Kasperske Hory**	**9.41**	**335**	*e*PN		**Pn**	**19 08 36.2**	**-0.2**
KHC				*ex*		x	19 08 48.8	
KHC				*e*SN		**Sn**	**19 10 17.7**	**-3.7**
KHC				AMS	AMS	AMS	19 13 30.0	
	comp=Z,300nm,15.0s							
KHC	**Kasperske Hory**	**9.41**	**335**	*e*P		**Pn**	**19 08 36.2**	**-0.2**
KHC				*e*			19 10 17.7	
KHC				MLR	MLR			
	comp=Z,300nm,15.0s							
TUE	**Stuetta**	**9.41**	**311**	*e*Pn		**Pn**	**19 08 36.3**	**-0.3**
TUE				*e*Sn		**Sn**	**19 10 17.2**	**-4.6**
KEST	**Kesra**	**9.56**	**242**	LR	LR	LR	19 13 04.4	
	comp=Z,50nm,20.0s,baz=2.5,slow=42							
KEST	**Kesra**	**9.56**	**242**	*e*Pn		**Pn**	**19 08 37.9**	**-0.8**
SBF	**Sospel**	**9.59**	**293**	*e*P		**Pn**	**19 08 41.6**	**+2.7**
SBF	**Sospel**	**9.59**	**293**	*e*P		**Pn**	**19 08 41.6**	**+2.7**
SBF	**Sospel**	**9.59**	**293**	*e*P		**Pn**	**19 08 41.6**	**+2.7**
DAVA	**Damuels**	**9.60**	**316**	*e*Pn		**Pn**	**19 08 41.4**	**+2.2**
	comp=Z,2.9nm,0.3s							
DAVA				Sn		**Sn**	**19 10 24.8**	**-1.5**
	comp=Z,5.8nm,0.3s							
GOPC	**GO Pecny, Ondr**	**9.76**	**341**	AMS	AMS	AMS	19 13 10.0	
	comp=Z,200nm,14.8s							
DPC	**Dobruska-Polom**	**9.86**	**347**	AMS	AMS	AMS	19 13 20.0	
	comp=Z,300nm,11.2s							
FRF	**La Foret Royal**	**10.07**	**290**	*e*P		**Pn**	**19 08 48.0**	**+2.5**
FRF	**La Foret Royal**	**10.07**	**290**	*e*P		**Pn**	**19 08 48.0**	**+2.5**
FRF	**La Foret Royal**	**10.07**	**290**	*e*P		**Pn**	**19 08 48.0**	**+2.5**
LMR	**La Mourre**	**10.13**	**289**	*e*P		**Pn**	**19 08 48.5**	**+2.2**
LMR	**La Mourre**	**10.13**	**289**	*e*P		**Pn**	**19 08 48.5**	**+2.2**
LMR	**La Mourre**	**10.13**	**289**	*e*P		**Pn**	**19 08 48.5**	**+2.2**
MBDF	**Montbardon**	**10.29**	**297**	*e*P		**Pn**	**19 08 49.2**	**+0.6**
MBDF	**Montbardon**	**10.29**	**297**	*e*P		**Pn**	**19 08 49.2**	**+0.6**
MBDF	**Montbardon**	**10.29**	**297**	*e*P		**Pn**	**19 08 49.2**	**+0.6**
BNI	**Bardonecchia**	**10.45**	**298**	*e*Pn		**Pn**	**19 08 49.4**	**-1.4**
BNI	**Bardonecchia**	**10.45**	**298**	*e*P		**Pn**	**19 08 49.4**	**-1.4**
LPG	**La Plagne**	**10.56**	**301**	*e*P		**Pn**	**19 08 52.8**	**+0.3**
LPG				*e*Sn		Sn	19 10 38.4	-12
	comp=Z,20nm,0.6s							
LPG	**La Plagne**	**10.56**	**301**	*e*P		**Pn**	**19 08 52.8**	**+0.3**
LPG				*e*Sn		Sn	19 10 38.4	-12
SENIN	**Lac Senin/Sane**	**10.58**	**306**	*e*Pn		**Pn**	**19 08 52.1**	**-0.6**
SENIN				*e*Sn		**Sn**	**19 10 44.6**	**-5.8**
LPL	**La Plagne**	**10.58**	**301**	*e*P		**Pn**	**19 08 51.6**	**-1.1**
LPL				*e*Sn		Sn	19 10 39.3	-11
	comp=Z,20nm,0.4s							
LPL	**La Plagne**	**10.58**	**301**	*e*P		**Pn**	**19 08 51.6**	**-1.1**
LPL				*e*Sn		Sn	19 10 39.3	-11
LPL	**La Plagne**	**10.58**	**301**	*e*P		**Pn**	**19 08 51.6**	**-1.1**
BR101	**Keskin Array S**	**10.72**	**91**	*e*Pn		**Pn**	**19 08 56.8**	**+2.3**
BR131	**Keskin Array S**	**10.72**	**91**	*e*Pn		**Pn**	**19 08 56.5**	**+2.0**
BRTR	**Keskin Array B**	**10.72**	**91**	P		**Pn**	**19 08 56.8**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=268,slow=12,SNR=12							
NKC	**Novy Kostel**	**10.73**	**334**	AMS	AMS	AMS	19 14 30.0	
ORIF	**Oris-en-Rattie**	**10.95**	**297**	*e*P		**Pn**	**19 08 59.9**	**+2.3**
ORIF				*e*Sn		Sn	19 10 48.9	-10
	comp=Z,26nm,0.9s							
ORIF	**Oris-en-Rattie**	**10.95**	**297**	*e*P		**Pn**	**19 08 59.9**	**+2.3**
ORIF				*e*Sn		Sn	19 10 48.9	-10
BFO	**Black Forest**	**11.07**	**317**	*e*Pn		**Pn**	**19 08 58.2**	**-1.0**
BFO	**Black Forest**	**11.07**	**317**	*e*P		**Pn**	**19 08 58.2**	**-1.0**
CABF	**La Chapelle**	**11.44**	**305**	*e*P		**Pn**	**19 09 04.7**	**+0.4**
CABF	**La Chapelle**	**11.44**	**305**	*e*P		**Pn**	**19 09 04.7**	**+0.4**
CABF	**La Chapelle**	**11.44**	**305**	*e*P		**Pn**	**19 09 04.7**	**+0.4**
CLL	**Collm**	**11.51**	**339**	*e*Pn		**Pn**	**19 09 05.0**	**-0.1**
CLL	**Collm**	**11.51**	**339**	*e*P		**Pn**	**19 09 05.0**	**-0.1**
ECH	**Echery**	**11.62**	**314**	*e*Pn		**Pn**	**19 09 07.2**	**+0.5**
ECH				*e*Sn		**Sn**	**19 11 07.4**	**-8.4**
ECH	**Echery**	**11.62**	**314**	*e*P		**Pn**	**19 09 07.3**	**+0.5**
CDF	**Champ du Feu**	**11.68**	**315**	*e*P		**Pn**	**19 09 08.9**	**+1.4**
CDF	**Champ du Feu**	**11.68**	**315**	*e*P		**Pn**	**19 09 08.9**	**+1.4**
CDF	**Champ du Feu**	**11.68**	**315**	*e*P		**Pn**	**19 09 08.9**	**+1.4**
AKASG	**Malin Array Be**	**11.94**	**31**	P		**Pn**	**19 09 12.2**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=217,slow=13,SNR=2.5							
AKBB	**Malin Array Si**	**11.94**	**31**	*e*Pn		**Pn**	**19 09 11.0**	**-0.1**
AKBB	**Malin Array Si**	**11.94**	**31**	*e*P		**Pn**	**19 09 11.0**	**-0.1**
HAU	**Haudompre**	**11.96**	**312**	*e*P		**Pn**	**19 09 11.6**	**+0.2**
HAU				*e*Sn		**Sn**	**19 11 17.7**	**-6.2**
	comp=Z,26nm,0.6s							
HAU	**Haudompre**	**11.96**	**312**	*e*P		**Pn**	**19 09 11.6**	**+0.2**
HAU				*e*Sn		**Sn**	**19 11 17.7**	**-6.2**
HAU	**Haudompre**	**11.96**	**312**	*e*P		**Pn**	**19 09 11.6**	**+0.2**
HAU				*e*			19 11 17.7	
SMF	**Signal de Mont**	**12.87**	**302**	*e*P		**Pn**	**19 09 22.3**	**-1.5**
SMF				*e*Sn		Sn	19 11 33.8	-12
SMF	**Signal de Mont**	**12.87**	**302**	*e*P		**Pn**	**19 09 22.3**	**-1.5**
SMF				*e*Sn		Sn	19 11 33.8	-12
SMF	**Signal de Mont**	**12.87**	**302**	*e*P		**Pn**	**19 09 22.3**	**-1.5**
LOR	**Lormes**	**13.10**	**305**	*e*P		**Pn**	**19 09 26.7**	**-0.2**
LOR				*e*Sn		Sn	19 11 41.7	-10
	comp=Z,6.0nm,0.3s							
LOR	**Lormes**	**13.10**	**305**	*e*P		**Pn**	**19 09 26.7**	**-0.2**
LOR				*e*Sn		Sn	19 11 41.7	-10
LOR	**Lormes**	**13.10**	**305**	*e*P		**Pn**	**19 09 26.7**	**-0.2**
AVF	**Avril sur Loir**	**13.24**	**302**	*e*P		**Pn**	**19 09 28.8**	**+0.1**
AVF	**Avril sur Loir**	**13.24**	**302**	*e*P		**Pn**	**19 09 28.8**	**+0.1**
AVF	**Avril sur Loir**	**13.24**	**302**	*e*P		**Pn**	**19 09 28.8**	**+0.1**
SSF	**Saint Saulge**	**13.24**	**304**	*e*Sn		Sn	19 11 41.6	-14
	comp=Z,143nm,1.9s							
SSF	**Saint Saulge**	**13.24**	**304**	*e*Sn		Sn	19 11 41.6	-14
BGF	**Bois d'Agland**	**13.48**	**301**	*e*P		**Pn**	**19 09 31.1**	**-1.0**
BGF	**Bois d'Agland**	**13.48**	**301**	*e*P		**Pn**	**19 09 31.1**	**-1.0**
BGF	**Bois d'Agland**	**13.48**	**301**	*e*P		**Pn**	**19 09 31.1**	**-1.0**
MMAI	**Mount Meron Ar**	**14.76**	**117**	P		**Pn**	**19 09 47.6**	**-2.0**
	comp=Z,0.7nm,0.3s,baz=314,slow=11,SNR=5.3							
MMAI				LR	LR	LR	19 17 21.3	
	comp=Z,26nm,18.2s,baz=300,slow=44							
EIL	**Elat**	**16.66**	**127**	P		**Pn**	**19 10 10.4**	**-3.8**
	comp=Z,0.5nm,0.3s,baz=350,slow=9.6,SNR=4.2							
KBZ	**Khabaz**	**17.42**	**73**	P		**P**	**19 10 26.2**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=284,slow=9.3,SNR=5.7							
ES19	**SONSECA Array**	**18.03**	**274**	*e*Pn		**P**	**19 10 32.9**	**+1.2**
ESDC	**Sonseca Array**	**18.09**	**274**	P		**P**	**19 10 33.6**	**+1.3**

	comp=Z,0.1nm,0.3s,baz=74,slow=11,SNR=3.7							
GNI	**Garni**	**19.06**	**84**	P		**Pn**	**19 10 44.4**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=121,slow=21,SNR=2.5							
HFS	**Hagfors**	**19.74**	**351**	P		**P**	**19 10 50.4**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=168,slow=15,SNR=8.5							
HFS				LR	LR		19 19 29.4	
	comp=Z,37nm,18.1s,baz=252,slow=40							
NC602	**NORSAR Array S**	**20.61**	**349**	*e*P		**P**	**19 10 59.6**	**0.0**
NAO01	**NORSAR Array S**	**20.81**	**348**	*e*P		**P**	**19 11 01.9**	**+0.1**
NC405	**NORSAR Array S**	**20.94**	**349**	*e*P		**P**	**19 11 02.8**	**-0.4**
NB201	**NORSAR Array S**	**20.94**	**349**	*e*P		Pn	19 11 05.4	-0.5
NB2	**NORSAR Subarra**	**20.95**	**348**	P		Pn	19 11 05.6	-0.4
	comp=Z,1.2nm,0.5s,baz=159,slow=9.3							
NB200	**NORSAR Array S**	**20.95**	**348**	*e*P		**P**	**19 11 04.3**	**+0.9**
NOA	**NORSAR Array B**	**20.95**	**348**	P		**P**	**19 11 04.3**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=160,slow=9.8,SNR=13							
NOA				LR	LR		19 20 15.9	
	comp=Z,28nm,20.1s,baz=160,slow=40							
EKA	**Eskdalemuir Ar**	**20.96**	**322**	P		**P**	**19 11 04.1**	**+0.5**
	comp=Z,2.5nm,0.6s,baz=111,slow=8.0,SNR=7.0							
MDT	**Midelt**	**20.97**	**255**	P		**P**	**19 11 04.8**	**+0.9**
	comp=Z,2.4nm,0.8s,baz=60,slow=9.8,SNR=3.6							
ESK	**Eskdalemuir**	**20.98**	**322**	*e*P		**P**	**19 11 03.7**	**+0.1**
	comp=Z,25nm,1.1s							
ESK	**Eskdalemuir**	**20.98**	**322**	*e*P		**P**	**19 11 03.7**	**+0.1**
ESK				pmax	pmax			
	comp=Z,25nm,1.1s							
NBO00	**NORSAR Array S**	**21.01**	**348**	*e*P		**P**	**19 11 06.3**	**+2.4**
FIA0	**FINESS Array S**	**21.06**	**9**	*e*P		**P**	**19 11 03.8**	**-0.7**
FIA0	**FINESS Array S**	**21.06**	**9**	*e*P		**P**	**19 11 03.8**	**-0.7**
FINES	**FINESS Array B**	**21.06**	**9**	P		**P**	**19 11 03.8**	**-0.7**
	comp=Z,2.1nm,0.4s,baz=169,slow=12,SNR=14							
FINES				LR	LR		19 20 20.6	
	comp=Z,83nm,19.6s,baz=233,slow=40							
FIA1	**FINESS Array S**	**21.06**	**9**	*e*P		**P**	**19 11 01.8**	**-2.7**
	comp=Z,29nm,1.4s							
NC303	**NORSAR Array S**	**21.10**	**349**	*e*P		**P**	**19 11 05.1**	**+0.1**
NC204	**NORSAR Array S**	**21.24**	**348**	*e*P		**P**	**19 11 06.0**	**-0.5**
AKTO	**Aktyubinsk**	**28.22**	**57**	P		**P**	**19 12 12.4**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=256,slow=8.6,SNR=6.5							
AKTO				LR	LR		19 24 42.5	
	comp=Z,30nm,20.5s,baz=294,slow=39							
ARA0	**ARCESS Array S**	**28.99**	**4**	*e*P		**P**	**19 12 18.2**	**-1.6**
ARCES	**ARCESS Array B**	**28.99**	**4**	P		**P**	**19 12 18.2**	**-1.6**
	comp=Z,1.0nm,0.7s,baz=198,slow=7.6,SNR=7.2							
ABKAR	**Akbulak array**	**29.40**	**60**	*e*P		**P**	**19 12 22.7**	**-1.0**
ARU	**Arti**	**29.61**	**45**	P		**P**	**19 12 25.5**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=267,slow=14,SNR=4.4							
ARU				LR	LR		19 24 57.1	
	comp=Z,34nm,19.5s,baz=99,slow=38							
ARU	**Arti**	**29.61**	**45**	*e*P		**P**	**19 12 24.8**	**-0.7**
	comp=Z,13nm,1.8s							
ARU	**Arti**	**29.61**	**45**	*e*P		**P**	**19 12 24.8**	**-0.7**
ARU				pmax	pmax			
	comp=Z,13nm,1.8s							
GEYT	**Alibeck**	**29.70**	**83**	P		**P**	**19 12 25.4**	**-1.1**
	comp=Z,1.3nm,0.5s,baz=304,slow=48,SNR=6.8							
GYA0B	**ALIBECK ARRAY**	**29.70**	**83**	*e*P		**P**	**19 12 24.7**	**-1.8**
	comp=Z,2.9nm,0.6s							
TOA1	**Torodi Ar. Sit**	**31.71**	**215**	*e*P		**P**	**19 12 43.8**	**-0.6**
TOA0	**Torodi Ar. Sit**	**31.72**	**215**	*e*P		**P**	**19 12 44.3**	**-0.1**
TORD	**Torodi Ar. Bea**	**31.72**	**215**	P		**P**	**19 12 43.8**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=14,slow=9.8,SNR=6.0							
BRVK	**Borovoye**	**35.93**	**53**	*e*P		**P**	**19 13 21.2**	**+0.5**
	comp=Z,14nm,1.1s							
BRVK	**Borovoye**	**35.93**	**53**	*e*P		**P**	**19 13 21.2**	**+0.5**
BRVK				pmax	pmax			
	comp=Z,14nm,1.1s							
KK31	**Karatay Array**	**37.41**	**69**	*e*P		**P**	**19 13 32.9**	**-0.5**
KK31	**Karatay Array**	**37.41**	**69**	*e*P		**P**	**19 13 32.9**	**-0.5**
KKAR	**Karatay Array**	**37.41**	**69**	*e*P		**P**	**19 13 32.5**	**-0.9**
KKAR	**Karatay Array**	**37.41**	**69**	*e*P		**P**	**19 13 32.5**	**-0.9**
AAK	**Ala-Archa**	**40.35**	**69**	*e*P		**P**	**19 13 58.5**	**+0.2**
	comp=Z,9.7nm,1.9s							
AAK	**Ala-Archa**	**40.35**	**69**	*e*P		**P**	**19 13 58.5**	**+0.2**
AAK				pmax	pmax			
	comp=Z,10.0nm,1.9s							
DBIC	**Dimbokro**	**40.42**	**220**	P		**P**	**19 13 58.8**	**-0.1**
	comp=Z,1.8nm,0.4s,baz=17,slow=8.1,SNR=6.5							
DBIC	**Dimbokro**	**40.42**	**220**	*e*P		**P**	**19 13 58.6**	**-0.3**
	comp=Z,7.8nm,1.0s							
KURK	**Kurchatov**	**41.29**	**56**	*e*P		**P**	**19 14 06.0**	**+0.3**
	comp=Z,2.7nm,0.3s							
KURK	**Kurchatov**	**41.29**	**56**	*e*P		**P**	**19 14 06.0**	**+0.3**
KURK				pmax	pmax			
	comp=Z,3.0nm,0.3s							
NVS	**Novosibirsk**	**43.42**	**49**	*e*P		**P**	**19 14 23.7**	**+0.8**
NVS				pmax	pmax			
	comp=N,2.0nm,1.0s							
NVS				pmax	pmax			
	comp=E,5.0nm,1.0s							
NVS				pmax	pmax			
	comp=Z,9.0nm,1.0s							
ZAA0	**Zalesovo Array**	**44.48**	**50**	*e*P		**P**	**19 14 31.2**	**-0.2**
	comp=Z,7.0nm,1.0s							
ZAA1	**Zalesovo Array**	**44.48**	**50**	*e*P		**P**	**19 14 31.2**	**-0.3**
ZALV	**Zalesovo Beam**	**44.48**	**50**	P		**P**	**19 14 31.2**	**-0.3**
	comp=Z,3.1nm,0.4s,baz=282,slow=8.6,SNR=19							
ZALV				LR	LR		19 34 18.5	
	comp=Z,18nm,19.4s,baz=40,slow=38							
ZALV	**Zalesovo Beam**	**44.48**	**50**	*e*P		**P**	**19 14 30.7**	**-0.8**
ZALV	**Zalesovo Beam**	**44.48**	**50**	*e*P		**P**	**19 14 30.7**	**-0.8**
MK31	**Makanchi Array**	**44.54**	**60**	*e*P		**P**	**19 14 31.3**	**-0.8**
MK31	**Makanchi Array**	**44.54**	**60**	*e*P		**P**	**19 14 31.3**	**-0.8**
MK32	**Makanchi Array**	**44.54**	**60**	*e*P		**P**	**19 14 31.4**	**-0.7**
MKAR	**Makanchi Array**	**44.54**	**60**	P		**P**	**19 14 31.4**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=288,slow=7.5,SNR=36							
MKAR	**Makanchi Array**	**44.54**	**60**	*e*P		**P**	**19 14 31.3**	**-0.8**
	comp=Z,25nm,1.1s							
MKAR	**Makanchi Array**	**44.54**	**60**	*e*P		**P**	**19 14 31.3**	**-0.8**
MKAR				pmax	pmax			
	comp=Z,25nm,1.1s							
MK01	**Makanchi Array**	**44.55**	**60**	*e*P		**P**	**19 14 31.4**	**-0.8**
NRIK	**Noril'sk**	**44.78**	**28**	LR		LR	19 33 56.4	
	comp=Z,22nm,18.6s,baz=98,slow=37							
WMQ	**Urumqi**	**49.10**	**63**	*e*P		**P**	**19 15 10.3**	**+2.4**
WMQ				pP		pP	19 15 14.8	-0.4
WMQ				sP		sP	19 15 19.5	+1.4
WMQ				pmax	pmax			
	comp=Z,28nm,1.5s							
WMQ				LR	LR			
	comp=E,61nm,22.5s							
WMQ				LR	LR			
	comp=Z,42nm,18.9s							
PYUN	**Piuhan**	**52.68**	**83**	*e*P		**P**	**19 15 33.8**	**-1.4**
	comp=Z,21nm,0.7s							
DANN	**Dangsing**	**53.13**	**82**	*e*P		**P**	**19 15 37.5**	**-1.1**
	comp=Z,33nm,0.8s							
KOLN	**Koldanda**	**53.31**	**83**	*e*P		**P**	**19 15 38.2**	**-1.7**
DMN	**Daman**	**54.53**	**82**	*e*P		**P**	**19 15 47.6**	**-1.2**
	comp=Z,26nm,0.9s							
KKN	**Kakani**	**54.57**	**82**	*e*P		**P**	**19 15 47.4**	**-1.7**
	comp=Z,9.0nm,0.5s							
PKIN	**Phulchoki**	**54.77**	**82**	*e*P		**P**	**19 15 48.8**	**-1.8**
	comp=Z,7.0nm,0.6s							
PKI	**Pulchoki**	**54.78**	**82**	*e*P		**P**	**19 15 49.0**	**-1.7**
	comp=Z,5.6nm,0.6s							
GUN	**Gumba**	**54.95**	**81**	*e*P		**P**	**19 15 50.6**	**-1.4**
	comp=Z,26nm,0.9s							
JIRN	**Jiri**	**55.32**	**82**	*e*P		**P**	**19 15 53.4**	**-1.3**
	comp=Z,28nm,0.4s							
RAMN	**Ramite**	**56.01**	**82**	*e*P		**P**	**19 15 57.8**	**-1.7**
	comp=Z,24nm,0.5s							
GTA	**Gaotai**	**59.19**	**63**	*e*P		**P**	**19 16 21.3**	**-0.3**
GTA				pP		pP	19 16 25.3	-3.7
GTA				sP		sP	19 16 27.5	-4.3
GTA				pmax	pmax			
	comp=Z,2.0nm,1.0s							
SONA1	**Songino Array**	**59.33**	**51**	*e*P		**P**	**19 16 22.5**	**+0.1**
SONA0	**Songino Array**	**59.33**	**51**	*e*P		**P**	**19 16 22.8**	**+0.4**
SONM	**Songino Array**	**59.33**	**51**	P		**P**	**19 16 22.8**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=291,slow=9.5,SNR=9.5							
SONM				LR	LR		19 44 15.9	
	comp=Z,36nm,19.1s,baz=228,slow=38							
LZH	**Lanzhou**	**63.63**	**64**	*e*P		**P**	**19 16 52.0**	**+0.3**
LZH				pP		pP	19 16 57.3	-1.9
LZH				sP		sP	19 17 01.3	-0.7
LZH				*e*PP		**PP**	**19 19 15.5**	**+4.1**
LZH				pmax	pmax			
	comp=Z,30nm,1.3s							
LZH				pmax	pmax			
	comp=Z,130nm,4.9s							
HHC	**Hu-ho-hao-te**	**66.11**	**56**	*e*P		**P**	**19 17 07.5**	**-0.2**
HHC				pmax	pmax			
	comp=Z,34nm,0.5s							
HHC				pmax	pmax			
	comp=Z,360nm,6.3s							
FCC	**Fort Churchill**	**66.69**	**329**	*e*P		**P**	**19 17 13.1**	**+2.2**
FCC	**Fort Churchill**	**66.69**	**329**	*e*P		**P**	**19 17 13.1**	**+2.2**
BOSA	**Boshof**	**69.23**	**175**	P		**P**	**19 17 27.7**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=354,slow=9.2,SNR=4.5							
CMAR	**Chiang Mai Arr**	**70.18**	**82**	P		**P**	**19 17 31.9**	**-1.5**
	comp=Z,1.5nm,0.9s,baz=304,slow=7.3,SNR=11							
CM01	**Chiang Mai Arr**	**70.21**	**82**	*e*P		**P**	**19 17 32.6**	**-1.0**
YKA	**Yellowknife Ar**	**70.73**	**339**	P		**P**	**19 17 36.7**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=40,slow=5.6,SNR=6.0							
CN2	**Changchun**	**72.58**	**47**	*e*P		**P**	**19 17 51.5**	**+4.0**
ILAR	**Eielson Array**	**74.26**	**354**	P		**P**	**19 17 58.0**	**+0.9**
	comp=Z,0.3nm,0.9s,baz=356,slow=5.9,SNR=5.2							
ILAR	**Eielson Array**	**74.26**	**354**	P		**P**	**19 17 58.0**	**+0.9**
KSAR	**Wonju Array Be**	**78.17**	**51**	P		**P**	**19 18 20.4**	**+0.8**
KSAR	**Wonju Array Be**	**78.17**	**51**	P		**P**	**19 18 20.5**	**+0.8**
KSRS	**Korea Array**	**78.18**	**51**	P		**P**	**19 18 20.4**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=321,slow=5.3,SNR=6.2							
KSRS				LR	LR		19 58 12.3	
	comp=Z,11nm,19.4s,baz=165,slow=40							
KSRS	**Korea Array**	**78.18**	**51**	P		**P**	**19 18 20.5**	**+0.7**
KSRS				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KSRS				MLR	MLR			
	comp=Z,11nm,19.4s							

*IDC **27** 19:09:33.6±2.4, 43°.25N×105°.47W, h0km, mb1 3.7/2, mb1mx3.2/43, mbtmp3.5/2, ML3.4/2, Error ellipse: s-maj=55.6km s-min=10.3km az=157.0*
*ISCJB **27** 19:09:35.7±0.7, 43°.53N±0°.06×105°.34W±0°.09, h0km, Error ellipse: s-maj=9.4km s-min=9.2km az=14.2*
*NEIC **27** 19:09:37.2±1.1, 43°.55N×105°.23W, h0km, ML3.0, Error ellipse: s-maj=16.6km s-min=13.7km az=152.0, Suspected Mining explosion.*
NEIC 85 km [53 miles] SSE of Gillette.

ISC 27 19:09:36.0±1.1, 43°.52N±0°.07×105°.37W±0°.06, h0km, n13, σ1°54/12, Wyoming

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JIKH			S	Sn	19 34 49.8	-0.2
JIO	**Ouri**	**1.00 304**	P	Pn	19 34 41.3	+0.5
JIO			S	Sn	19 34 53.9	+0.3
JKMT	**Kesennumamotoy**	**1.17 321**	P	Pn	19 34 43.6	+0.5
JKMT			S	Sn	19 34 57.9	+0.1
JMM	**Marumori**	**1.28 269**	P	Pn	19 34 45.3	+0.7
JMM			S	Sn	19 35 01.0	+0.5
JFK	**Kawauchi**	**1.33 247**	P	Pn	19 34 45.7	+0.4
JFK			S	Sn	19 35 02.0	+0.2
JMK	**Ichinoseki**	**1.41 319**	P	Pn	19 34 47.1	+0.8
JOU	**Okura**	**1.45 289**	P	Pn	19 34 48.6	+1.6
JOU			S	Sn	19 35 06.8	+2.0
JFT	**Otama**	**1.69 258**	P	Pn	19 34 51.9	+1.7
JOM	**Ohasama**	**1.80 331**	P	Pn	19 34 52.8	+1.1
JYK	**Kaneyama**	**1.91 303**	P	Pn	19 34 54.9	+1.7
JRG	**Rokugo**	**2.04 318**	P	Pn	19 34 57.0	+1.9
JANG	**Nango**	**2.57 345**	P	Pn	19 35 03.4	+1.1
MAT	**Matsushiro**	**3.62 249**	P	Pn	19 35 21.1	+4.3
MAT			*e*S	Sn	19 36 07.6	+9.4

WEL 27 19:46:52.4±1.0, 45°S±4′×16°7E±°, h5km, ML4.3/13, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.52**	**151**	P	Pb	19 47 03.3	-0.8
DCZ				S	Sb	19 47 10.5	-1.3
MSZ	**Milford Sound**	**0.87**	**68**	P	Pg	19 47 09.1	-0.1
MSZ				S	Sb	19 47 21.6	-0.4
MLZ	**Mavora Lakes**	**1.00**	**111**	P	Pg	19 47 11.5	-0.1
PYZ	**Puysegur Point**	**1.16**	**184**	P	Pg	19 47 13.6	-1.0
PYZ				S	Sb	19 47 30.3	+0.1
WHZ	**Wether Hill Ro**	**1.20**	**138**	P	Pg	19 47 14.4	-1.0
WKZ	**Wanaka**	**1.59**	**84**	P	Pb	19 47 21.9	-0.4
JCZ	**Jackson Bay**	**1.71**	**57**	P	Pn	19 47 21.5	-1.4
EAZ	**Earnscleugh**	**1.79**	**98**	P	Pb	19 47 25.1	-0.7
APZ	**The Paps**	**2.00**	**156**	P	Pn	19 47 27.7	+0.7
APZ				S	Sn	19 47 52.8	+0.4
TUZ	**Tuapeka**	**2.21**	**116**	P	Pn	19 47 30.3	+0.6
TUZ				S	Sn	19 47 58.5	+1.2
SYZ	**Scrubby Hill**	**2.24**	**134**	P	Pn	19 47 29.9	-0.2
SYZ				S	Sn	19 47 57.3	-0.8
LBZ	**Lake Benmore**	**2.50**	**77**	P	Pn	19 47 34.1	+0.4
FOZ	**Fox Glacier**	**2.63**	**57**	P	Pn	19 47 34.1	-1.4
ODZ	**Otahua Downs**	**2.73**	**92**	P	Pn	19 47 37.0	+0.1
HHSZ	**Highcliff Hill**	**2.81**	**109**	P	Pn	19 47 38.5	+0.5
RPZ	**Rata Peaks**	**3.32**	**68**	P	Pn	19 47 44.5	-0.5
RPZ				P	Pn	19 47 44.5	-0.5
WVZ	**Waitaha Valley**	**3.44**	**57**	P	Pn	19 47 44.7	-1.9
INZ	**Inchbonnie**	**4.07**	**57**	P	Pn	19 47 53.6	-1.7
OXZ	**Oxford**	**4.13**	**68**	P	Pn	19 47 56.0	-0.2
MQZ	**McQueen's Vall**	**4.40**	**75**	P	Pn	19 47 59.5	-0.3
AKCZ	**Akaroa Harbour**	**4.53**	**78**	P	Pn	19 48 01.3	-0.3
LTZ	**Lake Taylor**	**4.54**	**63**	P	Pn	19 48 02.2	+0.3
AMCZ	**Amberley**	**4.60**	**69**	P	Pn	19 48 02.5	-0.1
OKCZ	**Okains Bay**	**4.67**	**76**	P	Pn	19 48 03.6	-0.1
DSZ	**Denniston Nort**	**4.90**	**56**	P	Pn	19 48 05.9	-0.9
THZ	**Tophouse**	**5.51**	**56**	P	Pn	19 48 14.7	-0.5
KHZ	**Kahutara**	**5.53**	**64**	P	Pn	19 48 16.1	+0.7
QRZ	**Quartz Range**	**5.94**	**47**	P	Pn	19 48 18.9	-2.1
TUWZ	**Tuamarina**	**6.33**	**58**	P	Pn	19 48 27.0	+0.6
TCW	**Tory Channel**	**6.66**	**58**	P	Pn	19 48 31.2	+0.3
DUWZ	**D'Urville Isla**	**6.71**	**54**	P	Pn	19 48 30.9	-0.8
MRZ	**Mangatainoka R**	**7.78**	**59**	P	Pn	19 48 48.4	+2.1
KHEZ	**Kahui Hut**	**7.83**	**46**	P	Pn	19 48 46.4	-0.7
VRZ	**Vera Road**	**8.35**	**48**	P	Pn	19 48 54.6	+0.6
PKVZ	**Pokaka**	**8.54**	**51**	P	Pn	19 48 57.5	+0.7
NGZ	**Ngauruhoe**	**8.76**	**51**	P	Pn	19 49 01.1	+1.2

KRSC 27 19:52:05.2±0.7, 55.71N×162.64E, h64km±17km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.51**	**12**	*e*P	Pn	19 52 19.2	+1.7
KBTR				*e*S	Sn	19 52 28.2	+1.7
ZLN	**Zelenaya**	**1.08**	**287**	*e*P	Pn	19 52 25.7	+1.2
SMKR	**Semkarok**	**1.09**	**324**	*e*P	Pn	19 52 26.2	+1.6
SMKR				*e*S	Sn	19 52 40.1	+1.1
BZGR	**Bezymyannyi-Gr**	**1.12**	**282**	*e*S	Sn	19 52 39.4	-0.3
LGNR	**Loginova**	**1.16**	**289**	*e*P	Pn	19 52 27.0	+1.3
BDR	**Baidarnaya**	**1.17**	**318**	*e*P	Pn	19 52 27.5	+1.8
BDR				*e*S	Sn	19 52 42.7	+1.8
SRKR	**Sorokina**	**1.25**	**320**	*e*P	Pn	19 52 28.7	+2.0
SRKR				*e*S	Sn	19 52 44.1	+1.3
KLY	**Klyuchi**	**1.27**	**299**	*e*P	Pn	19 52 26.7	-0.1
KLY				*e*S	Sn	19 52 41.0	-2.0
KZV	**Kizimen**	**1.47**	**247**	*e*P	Pn	19 52 31.8	+2.2
TUMR	**Tumrok**	**1.48**	**254**	*e*P	Pn	19 52 32.5	+2.7
TUMR				*e*S	Sn	19 52 51.1	+2.8
KOZ	**Kozyrevsk**	**1.59**	**284**	*e*P	Pn	19 52 34.3	+3.1
BKI	**Bering**	**1.97**	**104**	*e*S	Sn	19 53 00.9	+1.1
SDLR	**Sedlovina**	**3.28**	**223**	*e*P	Pn	19 52 58.0	+3.8
SMAR	**Somma**	**3.32**	**224**	*e*P	Pn	19 52 57.5	+2.6
AVH	**Avacha**	**3.34**	**224**	*e*P	Pn	19 52 58.7	+3.6
GNL	**Ganaly**	**3.39**	**235**	*e*P	Pn	19 52 59.5	+3.7
DALK	**Dalny**	**3.52**	**222**	*e*P	Pn	19 52 59.4	+2.1
MTVR	**Mutnovka**	**4.17**	**221**	*e*P	Pn	19 53 08.7	+2.4

*ISCJB **27** 20:17:40.1±0.9, 24°.41S±0°.09×179°.4E±0°.2, h531km, mb3.5/9, Error ellipse: s-maj=23.0km s-min=11.6km az=175.5*
*IDC **27** 20:17:43.3±5.8, 24°.37S×179°.33E, h555km±64km, mb3.1/10, mb1 3.3/10, mb1mx3.2/30, mbtmp4.0/10, Error ellipse: s-maj=34.8km s-min=18.0km az=56.0*
ISC 27 20:17:40.9±0.9, 24°.5S±0°.1×179°.5E±0°.2, h531km, n16, σ1§14/16, mb3.5/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.86**	**188**	P	**P**	**20 20 37.3**	**-1.2**
	3.5nm,0.3s,baz=331,slow=3.7,SNR=13						
URZ				S	**S**	**20 23 03.4**	**-1.5**
	1.0nm,0.3s,baz=94,slow=22,SNR=5.3						
RPZ	**Rata Peaks**	**20.37**	**198**	P	**P**	**20 21 43.0**	**+2.0**
	4.4nm,0.4s,baz=358,slow=5.6,SNR=5.4						
STKA	**Stephens Creek**	**34.04**	**249**	P	**P**	**20 23 41.5**	**+0.7**
	1.2nm,0.3s,baz=92,slow=9.0,SNR=7.7						
ASAR	**Alice Springs**	**41.45**	**261**	P	**P**	**20 24 41.4**	**-0.1**
	1.8nm,0.6s,baz=95,slow=7.2,SNR=47						
WRA	**Warramunga Arr**	**41.88**	**267**	P	**P**	**20 24 44.1**	**-0.7**
	3.8nm,0.4s,baz=97,slow=8.4,SNR=170						
VNDA	**Vanda**	**53.74**	**185**	P	**P**	**20 26 14.2**	**+1.5**
	0.3nm,0.6s,baz=6.2,slow=4.8,SNR=3.5						
MJAR	**Matsushiro Arr**	**72.12**	**326**	P	**P**	**20 28 10.7**	**-0.9**
	0.5nm,0.4s,baz=163,slow=6.2,SNR=4.2						
MAW	**Mawson**	**77.01**	**201**	P	**P**	**20 28 39.0**	**+0.4**
	1.6nm,0.5s,baz=100,slow=6.1,SNR=3.6						
KSRS	**Korea Array**	**78.39**	**320**	P	**P**	**20 28 45.7**	**-0.7**
	0.7nm,0.7s,baz=120,slow=7.2,SNR=3.3						
CMAR	**Chiang Mai Arr**	**89.28**	**291**	P	**P**	**20 29 41.7**	**+0.9**
	0.5nm,0.7s,baz=142,slow=4.6,SNR=4.1						
TXAR	**Lajitas Array**	**91.17**	**58**	P	**P**	**20 29 50.0**	**+0.5**
	0.2nm,0.6s,baz=208,slow=7.2,SNR=2.9						
ARCES	**ARCESS Array B**	**132.37**	**348**	PKP	**PKPdf**	**20 35 53.1**	**-0.8**
	0.9nm,0.7s,baz=72,slow=2.9,SNR=3.2						
FINES	**FINESS Array B**	**138.86**	**341**	SKPbc	**SKPbc**	**20 38 51.7**	**+0.6**
	2.0nm,0.8s,baz=64,slow=4.4,SNR=5.6						
HFS	**Hagfors**	**143.04**	**348**	PKhKP	PKPpre	20 36 10.0	
	2.4nm,0.3s,baz=66,slow=4.0,SNR=25						
AKASG	**Malin Array Be**	**145.21**	**326**	PKPbc	**PKPdf**	**20 36 16.6**	**-1.0**
	0.5nm,0.3s,baz=44,slow=3.9,SNR=4.9						
BRTR	**Keskin Array B**	**147.54**	**306**	PKPbc	**PKPbc**	**20 36 24.6**	**-1.0**
	0.6nm,0.7s,baz=146,slow=4.4,SNR=4.2						

*NIED **27** 20:17:00, 36°.60N×141°.10E, h8km, Mw3.7 Best double couple: M₀4.62000×10¹⁴ NP1:φ₀189.00000°, δ43.00000°, λ-86.00000°. NP2:φ₀3.00000°, δ47.00000°, λ-94.00000°.*
*ISCJB **27** 20:17:47.4±0.9, 36°.63N±0°.03×141°.11E±0°.07, h21km±6km, mb3.7/13, MS3.8/1, Error ellipse: s-maj=9.4km s-min=4.5km az=18.9*
*JMA **27** 20:17:48.0, 36°.62N×141°.05E, h28km±1km, M3.9*
JMA Felt I J1.
*IDC **27** 20:17:53.4±2.4, 36°.63N×140°.89E, h56km±22km, mb3.4/13, mb1 3.7/17, mb1mx3.5/44, mbtmp3.7/17, ML2.8/4, MS3.3/3, Ms1 3.3/3, ms1mx2.6/26, Error ellipse: s-maj=22.6km s-min=11.9km az=77.0*
ISC 27 20:17:48.0±1.5, 36°.67N±0°.03×141°.00E±0°.05, h13km±9km, n37, σ0§91/41, mb3.7/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.35**	**261**	P	**Pb**	**20 17 56.2**	**0.0**
JHO				S	**Sb**	**20 18 02.2**	**+0.5**
ONAJ	**Iwakimizuishiy**	**0.46**	**339**	P	**Pb**	**20 17 58.3**	**+0.2**
ONAJ				S	**Sb**	**20 18 06.0**	**+1.0**
JHYU	**Hitachinakayam**	**0.47**	**226**	P	**Pb**	**20 17 57.6**	**-0.6**
JHYU				S	**Sb**	**20 18 04.7**	**-0.3**
JFFD	**Fukushimafurud**	**0.55**	**320**	P	**Pb**	**20 18 00.0**	**+0.4**
JFFD				S	**Sb**	**20 18 08.3**	**+0.8**
JFK	**Kawauchi**	**0.70**	**352**	P	**Pg**	**20 18 01.7**	**-0.1**
JFK				S	**Sb**	**20 18 11.8**	**-0.1**
JYT	**Yasato**	**0.79**	**236**	P	**Pg**	**20 18 02.6**	**-0.7**
JYT				S	**Sg**	**20 18 13.3**	**-0.3**
JSB	**Shiboa**	**0.92**	**289**	P	**Pn**	**20 18 06.5**	**-0.2**
JSB				*e*S	**Sn**	**20 18 19.0**	**-0.9**
JFT	**Otama**	**1.00**	**328**	P	**Pn**	**20 18 07.5**	**-0.4**
JFT				*e*S	**Sn**	**20 18 21.3**	**-0.6**
JMM	**Marumori**	**1.21**	**352**	P	**Pn**	**20 18 09.5**	**-1.2**
JMM				S	**Sb**	**20 18 25.4**	**-0.9**
JAG	**Ashikaga**	**1.27**	**259**	P	**Pn**	**20 18 10.4**	**-1.2**
MJAR	**Matsushiro Arr**	**2.25**	**268**	P	**Pn**	**20 18 25.5**	**+0.4**
	7.7nm,0.3s,baz=79,slow=11,SNR=58						
MJAR				S	**Sg**	**20 19 00.9**	**+0.5**
	24nm,0.3s,baz=84,slow=16,SNR=12						
MAT	**Matsushiro**	**2.25**	**268**	P	**Pn**	**20 18 25.9**	**+0.8**
MAT				S	**Sb**	**20 18 56.0**	**-0.5**
JHJ	**Hachijo jima 2**	**3.68**	**196**	P	**Pn**	**20 18 45.4**	**+0.7**
	9.4nm,0.3s,baz=108,slow=23,SNR=4.1						
JHJ				S	**Sn**	**20 19 30.2**	**+2.2**
	16nm,0.3s,baz=79,slow=22,SNR=3.3						
USRK	**Ussuriysk Ar.**	**10.18**	**320**	P	**Pn**	**20 20 15.9**	**+2.0**
	0.1nm,0.3s,baz=130,slow=13,SNR=3.6						
KSRS	**Korea Array**	**10.48**	**278**	P	**Pn**	**20 20 20.4**	**+2.3**
	0.1nm,0.3s,baz=12,slow=32,SNR=2.6						
KSRS				LR	LR	20 24 39.0	
	comp=Z,32nm,18.5s,baz=176,slow=39						
JOW	**Kunigami**	**14.60**	**231**	LR	LR	20 26 36.8	
	comp=Z,143nm,21.9s,baz=220,slow=36						
SONM	**Songino Array**	**27.72**	**305**	P	**P**	**20 23 36.4**	**+0.2**
	0.3nm,0.5s,baz=108,slow=9.5,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**28.25**	**120**	T	T	20 53 09.1	
	baz=312,slow=75,SNR=122						
H11N1	**WAKE ISLAND Hy**	**28.26**	**120**	T	T	20 53 10.6	
	baz=312,slow=75,SNR=125						
H11N3	**WAKE ISLAND Hy**	**28.27**	**120**	T	T	20 53 05.9	
	baz=312,slow=75,SNR=124						
H11S1	**WAKE ISLAND Hy**	**28.94**	**122**	T	T	20 53 56.5	
	baz=314,slow=75,SNR=277						
H11S3	**WAKE ISLAND Hy**	**28.94**	**122**	T	T	20 53 58.1	
	baz=314,slow=75,SNR=204						
H11S2	**WAKE ISLAND Hy**	**28.96**	**122**	T	T	20 53 55.1	
	baz=314,slow=75,SNR=194						
JAY	**Jayapura**	**38.98**	**180**	LR	LR	20 40 06.2	
	comp=Z,175nm,21.9s,baz=142,slow=34						
ZALV	**Zalesovo Beam**	**41.92**	**313**	P	**P**	**20 25 37.8**	**-0.3**
	1.8nm,0.6s,baz=96,slow=6.8,SNR=8.5						
MKAR	**Makanchi Array**	**44.03**	**302**	P	**P**	**20 25 54.9**	**-0.5**
	1.0nm,0.9s,baz=90,slow=11,SNR=3.8						
ILAR	**Eielson Array**	**49.98**	**32**	P	**P**	**20 26 41.3**	**-0.3**
	0.4nm,0.8s,baz=255,slow=8.3,SNR=4.1						
WRA	**Warramunga Arr**	**56.66**	**188**	P	**P**	**20 27 29.2**	**-1.9**
	1.6nm,0.7s,baz=4.7,slow=7.5,SNR=18						
ASAR	**Alice Springs**	**60.38**	**187**	P	**P**	**20 27 55.9**	**-1.2**
	0.9nm,0.8s,baz=6.1,slow=6.0,SNR=9.0						
YKA	**Yellowknife Ar**	**64.29**	**30**	P	**P**	**20 28 23.1**	**+0.4**
	0.3nm,0.6s,baz=302,slow=6.7,SNR=2.9						
FINES	**FINESS Array B**	**68.98**	**332**	P	**P**	**20 28 52.4**	**-0.3**
	2.4nm,1.0s,baz=47,slow=10,SNR=2.7						
NOA	**NORSAR Array B**	**74.39**	**337**	P	**P**	**20 29 25.3**	**-0.1**
	0.6nm,0.8s,baz=49,slow=5.9,SNR=2.6						
NVAR	**Mina Array Bea**	**75.47**	**53**	P	**P**	**20 29 33.0**	**+0.7**
	0.2nm,0.4s,baz=311,slow=3.2,SNR=3.6						
PDAR	**Pinedale Array**	**78.16**	**45**	P	**P**	**20 29 47.2**	**-0.2**
	0.3nm,0.6s,baz=343,slow=1.5,SNR=3.6						
GERES	**GERESS Array B**	**82.85**	**328**	P	**P**	**20 30 12.2**	**0.0**
	0.2nm,0.3s,baz=47,slow=7.1,SNR=3.1						
TXAR	**Lajitas Array**	**90.61**	**52**	P	**P**	**20 30 50.8**	**+0.3**
	0.4nm,0.9s,baz=328,slow=4.4,SNR=4.3						
LPAZ	**La Paz**	**147.16**	**60**	PKPbc	**PKPbc**	**20 37 31.8**	**-0.4**
	0.5nm,0.4s,baz=250,slow=13,SNR=2.9						

*BJI **27** 20:30:31.8, 3°.73N×126°.26E, h70km, mb4.6/44, mB5.1/26, Ms4.4/10, Ms7 4.1/10*
*MOS **27** 20:30:32.4±1.1, 4°.06N×126°.21E, h59km, mb5.0/35, Error ellipse: s-maj=10.7km s-min=5.5km az=114.6*
*KLM **27** 20:30:32.0, 4°.18N×126°.60E, h51km, mb4.7*
*IDC **27** 20:30:34.1±1.4, 3°.95N×126°.09E, h58km±11km, mb4.2/36, mb1 4.3/39, mb1mx4.2/55, mbtmp4.5/39, MS3.5/17, Ms1 3.5/17, ms1mx3.4/28, Error ellipse: s-maj=17.1km s-min=7.3km az=67.0*
*ISCJB **27** 20:30:34.5±0.4, 4°.06N±0°.02×126°.30E±0°.03, h78km±3km, mb4.6/121, Error ellipse: s-maj=5.1km s-min=3.0km az=163.7*
*DJA **27** 20:30:34.5±0.5, 4°N±4′×12°6E±°, h10km, M4.6/20, mB5.0/11, mb4.8/20, MLv4.9/10, Mw(mB)4.4/11*
*NEIC **27** 20:30:36.0±0.7, 4°.08N×126°.30E, h76km±7km, mb4.8/72, Error ellipse: s-maj=6.2km s-min=4.2km az=68.0*
*MAN **27** 20:30:36.7, 4°.14N×126°.18E, h69km, mb5.5, ML4.5, MS4.8*
ISC 27 20:30:35.6±0.6, 4°.04N±0°.03×126°.26E±0°.04, h69km±5km, n309, σ1§43/336, mb4.8/121, 13C-6D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.81**	**244**	P	**Pn**	**20 30 49.8**	**-1.9**
SGSI				S	**Sn**	**20 31 02.1**	**-1.5**
GSPH	**General Santos**	**2.42**	**327**	*e*P	**Pn**	**20 31 12.6**	**-0.4**
GSPH				*e*S	**Sn**	**20 31 44.5**	**+2.9**
MNI	**Manado**	**2.94**	**209**	P	**Pn**	**20 31 20.1**	**+0.1**
DAV	**Davao City (W)**	**3.09**	**347**	P	**Pn**	**20 31 22.8**	**+0.8**
	81nm,0.3s,baz=49,slow=7.2,SNR=2.3						
DAV				S	**Sn**	**20 31 58.3**	**+0.5**
	88nm,0.3s,baz=80,slow=22,SNR=6.0						
DAV				LR	LR	20 32 39.4	
	comp=Z,468nm,20.5s,baz=152,slow=40						
DAV	**Davao City (W)**	**3.09**	**347**	*e*Pn	**Pn**	**20 31 18.9**	**-3.1**
DAV				*e*Sn	**Sn**	**20 31 58.3**	**+0.5**
TNTI	**Ternate**	**3.43**	**161**	*e*Pn	**Pn**	**20 31 25.2**	**-1.5**
TNTI	**Ternate**	**3.43**	**161**	P	**Pn**	**20 31 25.4**	**-1.3**
TNTI				S	**Sn**	**20 32 05.5**	**-0.7**
CTBH	**Cotabato--PC H**	**3.74**	**328**	*e*P	**Pn**	**20 31 31.4**	**+0.4**
BUKP	**Musuan**	**4.00**	**343**	*e*P	**Pn**	**20 31 34.2**	**-0.3**
BUKP				*e*S	**Sn**	**20 32 19.5**	**-0.6**
BIPH	**Bislig**	**4.12**	**1**	*e*P	**Pn**	**20 31 38.6**	**+2.5**
BIPH				*i* S	**Sn**	**20 32 22.0**	**-1.1**
KMSI	**Cibinong**	**4.12**	**214**	P	**Pn**	**20 31 38.1**	**+1.9**
CGP	**Cagayan de Oro**	**4.65**	**341**	*e*P	Pn	20 31 48.5	+5.1
CGP				*e*S	Sn	20 32 50.0	+14
PAGZ	**Pagadian**	**4.74**	**323**	*e*P	**Pn**	**20 31 44.2**	**-0.4**
PAGZ				*e*S	**Sn**	**20 32 39.3**	**+1.0**
BUTP	**Butuan**	**4.94**	**353**	*e*P	**Pn**	**20 31 49.6**	**+2.3**
BUTP				*e*S	Sn	20 33 00.3	+17
ZCP	**Zamboanga City**	**5.06**	**305**	*i* P	**Pn**	**20 31 48.6**	**-0.3**
ZCP				*i* S	**Sn**	**20 32 42.5**	**-3.6**
MRSI	**Marisa**	**5.58**	**231**	P	**Pn**	**20 31 57.1**	**+1.1**
SANI	**Sanana**	**6.05**	**183**	P	**Pn**	**20 31 59.7**	**-2.9**
LUWI	**Luwuk**	**6.13**	**215**	*e*Pn	**Pn**	**20 32 06.9**	**+3.2**
LUWI	**Luwuk**	**6.13**	**215**	P	**Pn**	**20 32 07.9**	**+4.3**
	439nm,1.1s,5μm						
MSLP	**Maasin**	**6.21**	**347**	*e*P	**Pn**	**20 32 06.3**	**+1.5**
APSI	**Ampana**	**6.74**	**223**	P	**Pn**	**20 32 16.3**	**+4.4**
SWI	**Sorong**	**6.98**	**134**	P	**Pn**	**20 32 14.4**	**-0.8**
SIJI	**Sorong**	**6.99**	**134**	P	**Pn**	**20 32 14.2**	**-1.1**
	7.6nm,0.3s,baz=328,slow=13,SNR=24						
SIJI				S	**Sn**	**20 33 31.2**	**-2.2**
	4.0nm,0.3s,baz=182,slow=21,SNR=9.2						
SIJI				LR	LR	20 35 21.8	
	comp=Z,605nm,18.2s,baz=296,slow=41						
OCLP	**Ormoc**	**7.16**	**347**	*e*P	**Pn**	**20 32 18.6**	**+0.9**
MPSI	**Mapaga**	**7.34**	**240**	P	**Pn**	**20 32 21.0**	**+0.8**
FAKI	**Fak Fak**	**9.14**	**139**	*e*Pn	**Pn**	**20 32 43.6**	**-1.3**
FAKI	**Fak Fak**	**9.14**	**139**	P	**Pn**	**20 32 44.4**	**-0.4**
BNDI	**Bandanaira**	**9.25**	**157**	P	**Pn**	**20 32 48.3**	**+2.0**
TTSI	**Tana Toraja**	**9.54**	**223**	P	**Pn**	**20 32 52.3**	**+2.1**
KDM	**Kudat**	**9.81**	**287**	P	**Pn**	**20 32 54.0**	**+0.1**
KKM	**Kota Kinabalu**	**10.20**	**282**	*e*Pn	**Pn**	**20 33 02.1**	**+2.7**

SPSI	**Sidrap Palu**	**10.26**	**219**	P	Pn	20 33 04.9	+4.8
BNSI	**Bone**	**10.39**	**216**	P	**Pn**	**20 33 05.8**	**+3.9**
BKSI	**Bulukumba**	**11.14**	**213**	P	**Pn**	**20 33 14.5**	**+2.5**
TGY	**Tagaytay City**	**11.29**	**333**	LR	LR	20 38 05.6	
	comp=Z,516nm,18.8s,baz=200,slow=40						
MMRI	**Maumere**	**13.21**	**198**	*e*Pn	**Pn**	**20 33 42.5**	**+2.1**
MMRI	**Maumere**	**13.21**	**198**	P	P	20 33 55.0	+7.2
EDFI	**Ende, Flores**	**13.49**	**200**	P	**P**	**20 33 52.6**	**+1.6**
SOEI	**Soe**	**13.85**	**188**	*e*Pn	**Pn**	**20 33 49.8**	**+0.9**
SBUM	**Sibu**	**14.10**	**264**	*e*Pn	**P**	**20 33 55.5**	**-2.2**
BATI	**Baumata**	**14.38**	**190**	P	**P**	**20 34 00.2**	**-0.6**
	3.7nm,0.3s,baz=61,slow=1.6,SNR=9.1						
BATI	**Baumata**	**14.38**	**190**	P	**P**	**20 34 00.9**	**+0.1**
WBSI	**Waikabubak, Su**	**15.21**	**207**	P	**P**	**20 34 10.1**	**0.0**
STKI	**Sintang**	**15.29**	**255**	P	**P**	**20 34 12.4**	**+1.6**
PLAI	**Plampang**	**15.32**	**213**	P	**P**	**20 34 13.7**	**+2.4**
GENI	**Genyem**	**15.38**	**115**	P	**P**	**20 34 12.0**	**+0.1**
TWSI	**Taliwang, Sumb**	**15.76**	**216**	P	**P**	**20 34 17.3**	**+1.2**
JAY	**Jayapura**	**15.84**	**114**	P	**P**	**20 34 16.9**	**-0.1**
	1.3nm,0.3s,baz=314,slow=2.2,SNR=7.2						
KSM	**Kuching**	**16.13**	**261**	*e*Pn	**P**	**20 34 21.7**	**+1.5**
	38nm,0.6s						
JAGI	**Jajag, Banyuwa**	**17.32**	**224**	*e*Pn	**P**	**20 34 36.4**	**+2.9**
	25nm,0.7s						
MTN	**Manton Dam**	**17.46**	**164**	*e*Pn	**Pn**	**20 34 30.0**	**-4.5**
	15nm,0.6s						
TWG	**Pinlang**	**19.34**	**345**	*e*P	**P**	**20 34 51.4**	**-4.0**
	205nm,1.4s						
YULB	**Yu-li**	**19.83**	**346**	*e*P	**P**	**20 34 57.7**	**-3.1**
	65nm,1.7s						
TPUB	**Ta-pu**	**19.91**	**345**	*e*P	**P**	**20 34 58.9**	**-2.8**
	25nm,0.7s						
SSLB	**Suanglung**	**20.29**	**346**	*e*P	**P**	**20 35 03.8**	**-2.0**
	33nm,1.2s						
NACB	**Ninganchiao**	**20.52**	**348**	*e*P	**P**	**20 35 07.2**	**-1.1**
	31nm,1.2s						
GUMO	**Guam**	**20.68**	**62**	LR	LR	20 41 44.2	
	comp=Z,266nm,20.0s,baz=234,slow=32						
GUMO	**Guam**	**20.68**	**62**	*e*P	**P**	**20 35 08.4**	**-1.7**
	173nm,1.2s						
GUMO				*e*		20 41 44.2	
GUMO	**Guam**	**20.68**	**62**	*e*P	**P**	**20 35 08.4**	**-1.7**
GUMO				pmax	pmax		
	comp=Z,173nm,1.2s						
YHNB	**Yeheng**	**21.04**	**348**	*e*P	**P**	**20 35 11.8**	**-2.3**
	comp=Z,178nm,2.0s						
TATO	**Taipei**	**21.32**	**348**	*e*P	**P**	**20 35 14.9**	**-1.9**
	comp=Z,235nm,1.6s						
LEM	**Lembang**	**21.51**	**240**	P	**P**	**20 35 19.9**	**+0.7**
	comp=Z,6.4nm,0.3s,baz=155,slow=22,SNR=2.2						
CISI	**Cisompet, Garu**	**21.71**	**238**	*e*P	**P**	**20 35 22.1**	**+1.0**
	comp=Z,34nm,1.0s						
FITZ	**Fitzroy Crossi**	**22.00**	**182**	P	**P**	**20 35 24.0**	**-0.2**
	comp=Z,13nm,0.8s,baz=10.0,slow=9.1,SNR=32						
FITZ	**Fitzroy Crossi**	**22.00**	**182**	*e*P	**P**	**20 35 24.1**	**-0.2**
	comp=Z,12nm,0.8s						
MYKOM	**Kota Tinggi**	**22.49**	**265**	*e*P	**P**	**20 35 30.7**	**+1.1**
	comp=Z,13nm,0.9s						
MYKOM	**Kota Tinggi**	**22.49**	**265**	P	**P**	**20 35 30.0**	**+0.4**
JOW	**Kunigami**	**22.75**	**5**	P	**P**	**20 35 32.8**	**+0.6**
	comp=Z,17nm,0.7s,baz=229,slow=10.0,SNR=3.9						
JOW	**Kun

KS01 **Wonju Array Si** 33.31 2 *e*P P **P** **20 37 08.4 +1.6**
XAN **Xi'an** 33.93 334 P P **P** **20 37 10.8 -1.5**
XAN pmax pmax
comp=Z,11nm,0.9s
XAN pmax pmax
comp=Z,8.0nm,3.3s
CD2 **Chengdu** 34.12 324 *e*P P **P** **20 37 14.0 +0.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.8s
MAJO **Matsushiro** 34.17 17 *e*P P **P** **20 37 16.1 +1.9**
MAJO *e* 20 49 59.1
MAJO **Matsushiro** 34.17 17 *e*P P **P** **20 37 16.1 +1.9**
MJAR **Matsushiro Arr** 34.17 17 P P **P** **20 37 16.1 +1.9**
comp=Z,2.1nm,0.8s,baz=196,slow=10,SNR=5.3
MJAR LR LR 20 49 59.1
comp=Z,42nm,20.7s,baz=200,slow=34
BJT **Baijiatuau** 36.96 347 *e*P P **P** **20 37 37.2 -0.9**
comp=Z,14nm,0.7s
BJT **Baijiatuau** 36.96 347 *e*P P **P** **20 37 37.2 -0.9**
BJT pmax pmax
comp=Z,14nm,0.7s
BJI **Beijing** 36.98 347 P P **P** **20 37 38.0 -0.2**
BJI pmax pmax
comp=Z,12nm,1.0s
BJI **Beijing** 36.98 347 P P **P** **20 37 37.2 -1.0**
BJI pmax pmax
comp=Z,13nm,0.7s
NWAO **Narrogin (SRO)** 37.75 192 *e*P P **P** **20 37 45.1 +0.3**
comp=Z,156nm,1.9s
NWAO **Narrogin (SRO)** 37.75 192 *e*P P **P** **20 37 45.1 +0.3**
NWAO pmax pmax
comp=Z,156nm,1.9s
BBOO **Buckleboo** 37.81 166 *e*P P **P** **20 37 45.1 -0.3**
comp=Z,12nm,0.9s
EIDS **Eidsvold** 37.88 142 *e*P P **P** **20 37 45.2 -0.9**
comp=Z,11nm,0.9s
LZH **Lanzhou** 38.00 330 *e*P P **P** **20 37 50.5 +3.3**
LZH pP pP 20 38 06.8 +2.6
LZH sP sP 20 38 17.8 +5.6
LZH *e*PP **PnPn** **20 39 22.8 +5.5**
LZH pmax pmax
comp=Z,26nm,1.1s
LZH pmax pmax
comp=Z,98nm,4.3s
LZH LR LR
comp=Z,900nm,16.8s
LZH LR LR
comp=Z,390nm,15.2s
LZH LR LR
comp=Z,390nm,16.3s
STKA **Stephens Creek** 38.58 159 P P **P** **20 37 52.1 +0.2**
comp=Z,6.5nm,0.7s,baz=336,slow=8.1,SNR=12
STKA **Stephens Creek** 38.58 159 *e*P P **P** **20 37 52.2 +0.3**
comp=Z,2.2nm,0.8s
STKA **Stephens Creek** 38.58 159 *e*P P **P** **20 37 52.2 +0.3**
STKA pmax pmax
comp=Z,2.0nm,0.8s
HHC **Hu-ho-hao-te** 38.96 342 *e*P P **P** **20 37 56.5 +1.4**
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,140nm,6.2s
SHL **Shillong** 39.31 306 *e*P P **P** **20 37 57.5 -0.8**
comp=Z,37nm,0.8s
SHL **Shillong** 39.31 306 *e*P P **P** **20 37 57.5 -0.8**
SHL pmax pmax
comp=Z,37nm,0.8s
SHL **Shillong** 39.31 306 *e*P P **P** **20 37 58.0 -0.4**
CN2 **Changchun** 39.60 359 *e*P P **P** **20 38 03.0 +2.7**
USRK **Ussuriysk Ar.** 40.31 6 P P **P** **20 38 07.7 +1.5**
comp=Z,4.2nm,0.4s,baz=184,slow=7.6,SNR=13
USA0B **Ussuriysk Arra** 40.31 6 *e*P P **P** **20 38 07.6 +1.5**
comp=Z,21nm,1.2s
LSA **Lhasa** 41.88 311 P P **P** **20 38 20.0 +0.2**
LSA pmax pmax
comp=Z,2.0nm,0.9s
LSA **Lhasa** 41.88 311 *e*P P **P** **20 38 20.1 +0.2**
comp=Z,4.9nm,0.8s
LSA **Lhasa** 41.88 311 *e*P P **P** **20 38 20.1 +0.2**
LSA pmax pmax
comp=Z,5.0nm,0.8s
ARMA **Armidale** 41.98 146 *e*P P **P** **20 38 20.2 +0.1**
comp=Z,39nm,1.1s
H11N1 **WAKE ISLAND Hy** 42.55 65 T T 21 24 32.4
baz=254,slow=75,SNR=13
H11N2 **WAKE ISLAND Hy** 42.56 65 T T 21 24 32.4
baz=254,slow=75,SNR=7.7
H11N3 **WAKE ISLAND Hy** 42.57 65 T T 21 24 30.8
baz=254,slow=75,SNR=11
GTA **Gaotai** 42.59 329 *e*P P **P** **20 38 26.3 +1.2**
GTA pP pP 20 38 38.3 -4.0
GTA PcP **PcP** **20 40 17.5 +1.2**
GTA ScS ScS 20 48 20.3 +0.2
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,120nm,5.2s
GTA LR LR
comp=Z,140nm,17.1s
GTA LR LR
comp=Z,140nm,17.8s
GTA LR LR
comp=Z,190nm,17.5s
RAMN **Ramite** 44.19 305 *e*P P **P** **20 38 37.9 -0.3**
comp=Z,18nm,0.7s
CAN **Canberra** 44.60 153 *e*P P **P** **20 38 41.8 +0.7**
comp=Z,26nm,1.3s
CAN **Canberra** 44.60 153 *e*P P **P** **20 38 41.8 +0.7**
CAN pmax pmax
comp=Z,26nm,1.3s
JIRN **Jiri** 44.81 306 *e*P P **P** **20 38 42.6 -0.7**
comp=Z,20nm,0.5s
GUN **Gumba** 45.16 306 *e*P P **P** **20 38 45.4 -0.7**
comp=Z,14nm,0.4s
HIA **Hailar** 45.41 354 *e*P P **P** **20 38 47.2 -0.1**
comp=Z,29nm,0.9s
HIA **Hailar** 45.41 354*ce*P P **P** **20 38 48.2 +0.9**
HIA pmax pmax
comp=Z,29nm,1.0s
PKI **Pulchoki** 45.41 305 *e*P P **P** **20 38 46.9 -1.1**
comp=Z,5.6nm,0.5s
PKIN **Phulchoki** 45.42 305 *e*P P **P** **20 38 46.9 -1.2**
comp=Z,3.9nm,0.5s
KKN **Kakani** 45.60 306 *e*P P **P** **20 38 48.2 -1.2**
comp=Z,6.1nm,0.4s
DMN **Daman** 45.67 305 *e*P P **P** **20 38 49.0 -1.0**
comp=Z,8.2nm,0.6s
ULN **Ulaanbaatar** 46.68 342 *e*P P **P** **20 38 56.8 -0.7**
comp=Z,11nm,1.3s
ULN *e*PcP **PcP** **20 40 30.2 0.0**
ULN **Ulaanbaatar** 46.68 342*ce*P P **P** **20 38 57.2 -0.3**
ULN pmax pmax
comp=Z,5.0nm,1.0s
SONA0 **Songino Array** 46.86 342 *e*P P **P** **20 38 58.5 -0.4**
SONA0 *e*PcP **PcP** **20 40 31.3 +0.6**
SONA0 *e* 20 59 26.9
SONM **Songino Array** 46.86 342 P P **P** **20 38 58.5 -0.4**
comp=Z,1.7nm,0.5s,baz=164,slow=8.4,SNR=15
SONM PcP **PcP** **20 40 31.3 +0.6**
comp=Z,2.6nm,0.8s,baz=171,slow=4.6,SNR=5.8
SONM LR LR 20 59 26.9
comp=Z,70nm,18.5s,baz=156,slow=37
SONA1 **Songino Array** 46.87 342 *e*P P **P** **20 38 58.2 -0.7**
SONA1 *e*PcP **PcP** **20 40 31.1 +0.3**
KOLN **Koldanda** 46.96 305 *e*P P **P** **20 38 59.4 -0.7**
comp=Z,47nm,0.7s
DANN **Dangsing** 47.05 306 *e*P P **P** **20 39 00.0 -0.9**
comp=Z,44nm,0.5s
DZM **Mont Dzumac** 47.10 125 P P **P** **20 39 01.3 +0.3**
comp=Z,5.1nm,0.6s,baz=299,slow=8.0,SNR=5.7
DZM **Mont Dzumac** 47.10 125 *e*P P **P** **20 39 01.7 +0.6**
comp=Z,29nm,1.3s
LHI **Lord Howe Isla** 47.18 141 *e*P P **P** **20 39 02.2 +0.8**
comp=Z,208nm,1.5s
PYUN **Piuthan** 47.59 305 *e*P P **P** **20 39 04.3 -0.6**
comp=Z,28nm,0.5s
HYB **Hyderabad** 48.57 290 *i*P P P 20 39 18.0 +5.5
ZEA **Zeya** 49.55 1 *e*P P **P** **20 39 21.2 +1.9**
ZEA pmax pmax
comp=Z,12nm,1.0s
WMQ **Urumqi** 52.20 325 *e*P P **P** **20 39 40.3 +0.8**
WMQ LR LR
comp=Z,250nm,23.3s
WMQ LR LR
comp=Z,150nm,29.7s
WMQ LR LR
comp=Z,190nm,27.1s
HVS **Khovu-Aksy** 54.26 335 *i*P P **P** **20 39 54.3 -0.2**
HVS pmax pmax
comp=Z,7.0nm,0.9s
BOD **Bodaibo** 54.49 352 *e*P P **P** **20 39 56.2 +0.2**
BOD pmax pmax
comp=Z,20nm,1.4s
PEA0B **Petropavlovsk-** 55.33 22 *e*P P **P** **20 40 02.3 +0.3**
comp=Z,362nm,1.9s
PETK **Petropavlovsk-** 55.33 22 P P **P** **20 40 02.8 +0.7**
comp=Z,2.5nm,0.5s,baz=186,slow=4.9,SNR=7.2
PETK LR LR 21 02 54.0
comp=Z,19nm,21.2s,baz=195,slow=35
PETK **Petropavlovsk-** 55.33 22 *e*P P **P** **20 40 02.1 0.0**
PETK **Petropavlovsk-** 55.33 22 *e*P P **P** **20 40 02.1 0.0**
PEA1 **Petropavlovsk-** 55.33 22 *e*P P **P** **20 40 02.8 +0.7**
PEA1 *e* 21 02 54.0
DGZ **Jazzator, Alta** 56.09 331 *i*P P **P** **20 40 06.9 -1.0**
DGZ pmax pmax
comp=Z,1.0nm,1.2s
MK01 **Makanchi Array** 57.02 325 *e*P P **P** **20 40 12.9 -1.4**
MK01 *e*PcP **PcP** **20 41 08.0 -0.7**
MK31 **Makanchi Array** 57.03 325 *e*P P **P** **20 40 13.2 -1.2**
MK31 *e*PcP **PcP** **20 41 08.2 -0.6**
MK31 **Makanchi Array** 57.03 325 *e*P P **P** **20 40 13.2 -1.2**
MK31 *e* 20 41 08.2
MK32 **Makanchi Array** 57.03 325 *e*P P **P** **20 40 13.4 -1.0**
MK32 *e*PcP **PcP** **20 41 08.7 -0.1**
MK32 *e*ScP **ScP** **20 45 03.3 +0.8**
MK32 *e* 21 06 20.0
MKAR **Makanchi Array** 57.03 325 P P **P** **20 40 13.4 -1.0**
comp=Z,6.8nm,0.6s,baz=119,slow=7.5,SNR=62
MKAR PcP **PcP** **20 41 08.7 -0.1**
comp=Z,6.5nm,0.8s,baz=108,slow=4.7,SNR=7.5
MKAR ScP **ScP** **20 45 03.3 +0.8**
comp=Z,1.7nm,0.8s,baz=107,slow=4.2,SNR=5.5
MKAR LR LR 21 06 20.0
comp=Z,82nm,18.2s,baz=116,slow=38
MKAR **Makanchi Array** 57.03 325 *e*P P **P** **20 40 13.2 -1.2**
comp=Z,43nm,0.5s
MKAR *e*PcP **PcP** **20 41 08.5 -0.3**
MKAR ScP **ScP** **20 45 03.3 +0.8**
MKAR **Makanchi Array** 57.03 325 *e*P P **P** **20 40 13.2 -1.2**
MKAR *e* 20 41 08.5
MKAR pmax pmax
comp=Z,43nm,0.5s
PRZ **Przheval'sk** 57.17 319 *e*P P **P** **20 40 15.2 -0.4**
comp=Z,32nm,1.5s
PRZ *e*PcP **PcP** **20 41 10.2 +0.6**
PRZ **Przheval'sk** 57.17 319 *e*P P **P** **20 40 15.2 -0.4**
PRZ *e* 20 41 10.2
PRZ pmax pmax
comp=Z,32nm,1.5s
NIL **Nilore** 57.37 308 *e*P P **P** **20 40 16.1 -0.9**
comp=Z,22nm,1.0s
NIL **Nilore** 57.37 308 *e*P P **P** **20 40 16.1 -0.9**
NIL pmax pmax
comp=Z,23nm,1.0s
KSH **Kashi** 57.49 315 P P **P** **20 40 18.0 +0.1**
KSH pP pP 20 40 38.0 +2.1
KSH PP **PP** **20 42 29.0 +2.8**
KSH S **S** **20 48 05.3 -5.1**
KSH pmax pmax
comp=Z,36nm,1.3s
KSH pmax pmax
comp=Z,320nm,4.9s
KDJ **Kajisay** 57.80 318 *e*P P **P** **20 40 20.1 0.0**
comp=Z,11nm,1.2s
KDJ **Kajisay** 57.80 318 *e*P P **P** **20 40 20.1 0.0**
KDJ pmax pmax
comp=Z,11nm,1.2s
NRN **Naryn** 58.29 317 *e*P P **P** **20 40 23.0 -0.7**
comp=Z,9.3nm,1.4s
NRN *e*PcP **PcP** **20 41 14.4 +0.2**
NRN **Naryn** 58.29 317 *e*P P **P** **20 40 23.0 -0.7**
NRN *e* 20 41 14.4
NRN pmax pmax
comp=Z,9.0nm,1.4s
KZA **Kyzart** 59.07 318 P P **P** **20 40 29.1 -0.1**
SNR=7.9
TKM2 **Tokmak 2** 59.20 319 P P **P** **20 40 29.2 -0.7**
SNR=8.0
UCH **Uchtor** 59.63 317 P P **P** **20 40 33.2 +0.1**
SNR=12
AAK **Ala-Archa** 59.81 318 P P **P** **20 40 33.3 -0.8**
comp=Z,1.6nm,0.6s,baz=162,slow=5.0,SNR=5.6
AAK PcP **PcP** **20 41 20.0 0.0**
comp=Z,3.5nm,0.6s,baz=151,slow=6.1,SNR=8.2
AAK **Ala-Archa** 59.81 318 *e*P P **P** **20 40 33.3 -0.8**
AAK *e*PcP **PcP** **20 41 19.4 -0.7**
AAK **Ala-Archa** 59.81 318*ce*P P **P** **20 40 32.8 -1.2**
AAK pmax pmax
comp=Z,3.0nm,1.0s
ZAA0 **Zalesovo Array** 60.10 333 *e*P P **P** **20 40 33.9 -1.7**
comp=Z,2.5nm,0.9s
ZALV **Zalesovo Beam** 60.10 333 P P **P** **20 40 33.8 -1.7**
comp=Z,1.4nm,0.4s,baz=120,slow=6.0,SNR=8.5
ZALV LR LR 21 07 22.0
comp=Z,42nm,18.8s,baz=70,slow=37
ZALV **Zalesovo Beam** 60.10 333 *e*P P **P** **20 40 32.9 -2.6**
ZALV **Zalesovo Beam** 60.10 333 *e*P P **P** **20 40 32.9 -2.6**
ZAA1 **Zalesovo Array** 60.10 333 *e*P P **P** **20 40 33.8 -1.7**
ZAA1 *e* 21 07 22.0
AML **Almayashu** 60.14 317 P P **P** **20 40 37.2 +0.6**
SNR=10
EKS2 **Erkin-Say** 60.30 318 P P **P** **20 40 37.0 -0.3**
SNR=6.4
KBL **Kabul** 60.96 307 *e*P P **P** **20 40 40.8 -1.3**
comp=Z,14nm,0.8s
KBL **Kabul** 60.96 307 *e*P P **P** **20 40 40.8 -1.3**
KBL pmax pmax
comp=Z,14nm,0.8s
MNAS **Manas** 61.09 317 P P **P** **20 40 42.1 -0.7**
KURBB **Kurchatov Arra** 61.23 327 P P **P** **20 40 42.0 -1.3**
comp=Z,4.9nm,0.5s,baz=133,slow=5.4,SNR=54
KURK **Kurchatov** 61.23 328 *e*P P **P** **20 40 41.8 -1.5**
comp=Z,13nm,0.6s
KURK **Kurchatov** 61.23 328*ce*P P **P** **20 40 42.6 -0.7**
KURK pmax pmax
comp=Z,6.0nm,0.7s
NVS **Novosibirsk** 61.38 333 *e*P P 20 40 54.1 +10
SEY **Seymchan** 61.84 13 *i*P P **P** **20 40 47.5 +0.3**
LBZ **Lake Benmore** 62.20 146 *e*P P **P** **20 40 50.3 +0.4**
comp=Z,98nm,1.7s
THZ **Tophouse** 62.23 142 *e*P P **P** **20 40 50.1 -0.1**
comp=Z,58nm,1.3s
RPZ **Rata Peaks** 62.28 145 P P **P** **20 40 54.2 +3.7**
comp=Z,13nm,1.0s,baz=233,slow=5.1,SNR=4.0
RPZ **Rata Peaks** 62.28 145 *e*P P **P** **20 40 53.3 +2.8**
comp=Z,71nm,1.3s
KK31 **Karatay Array** 62.69 317 *e*P P **P** **20 40 51.7 -1.6**
KK31 *e*PcP **PcP** **20 41 31.5 0.0**
KK31 **Karatay Array** 62.69 317 *e*P P **P** **20 40 51.7 -1.6**
KK31 *e* 20 41 31.5
KKAR **Karatay Array** 62.69 317 *e*P P **P** **20 40 52.1 -1.2**
KKAR *e*PcP **PcP** **20 41 31.3 -0.1**
KKAR **Karatay Array** 62.69 317 *e*P P **P** **20 40 52.1 -1.2**
KKAR *e* 20 41 31.3
KHZ **Kahutara** 62.99 142 *e*P P **P** **20 40 53.9 -1.2**
comp=Z,105nm,1.6s
BVAR **Borovoye Array** 66.81 327 P P **P** **20 41 18.7 -1.1**
comp=Z,1.9nm,0.4s,baz=108,slow=4.8,SNR=17
BRVK **Borovoye** 66.88 327 *e*P P **P** **20 41 19.4 -0.9**
comp=Z,7.2nm,0.8s
BRVK **Borovoye** 66.88 327*ce*P P **P** **20 41 20.4 +0.1**
BRVK pmax pmax
comp=Z,33nm,1.3s
TIXI **Tiksi** 67.54 1 P P **P** **20 41 23.9 -0.2**
comp=Z,7.1nm,0.5s,baz=173,slow=4.5,SNR=39
TIXI **Tiksi** 67.54 1 *e*P P **P** **20 41 23.4 -0.7**
comp=Z,9.8nm,1.0s
TIXI **Tiksi** 67.54 1*ce*P P **P** **20 41 25.0 +0.9**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
BILL **Bilibino** 69.38 15 *e*P P **P** **20 41 35.8 +0.1**
BILL *e* 20 42 01.2
BILL *e* 20 44 10.6
BILL pmax pmax
comp=Z,3.0nm,1.2s
BILL MLR MLR
comp=Z,69nm,17.0s
NRIK **Noril'sk** 70.02 346 P P **P** **20 41 40.0 +0.4**
comp=Z,15nm,0.6s,baz=140,slow=6.1,SNR=9.8
NRIK LR LR 21 14 37.5
comp=Z,101nm,18.7s,baz=198,slow=38
GEYT **Alibeck** 70.33 309 P P **P** **20 41 41.8 -0.4**
comp=Z,2.3nm,0.8s,baz=243,slow=6.5,SNR=11
GYA0B **ALIBECK ARRAY** 70.33 309 *e*P P **P** **20 41 41.4 -0.8**
comp=Z,7.6nm,0.9s
ABKAR **Akbulak array** 71.61 321 *e*P P **P** **20 41 47.9 -1.7**
AKTO **Aktyubinsk** 73.13 322 P P **P** **20 41 57.7 -1.0**
comp=Z,8.5nm,0.8s,baz=102,slow=6.9,SNR=22
SVE **Sverdlovsk** 73.45 329 *e*P P **P** **20 41 59.5 -0.9**
SVE pmax pmax
comp=Z,12nm,0.9s
ARU **Arti** 74.42 328 P P **P** **20 42 05.1 -1.0**
comp=Z,4.8nm,0.4s,baz=93,slow=5.6,SNR=17
ARU **Arti** 74.42 328 *e*P P **P** **20 42 05.1 -1.0**
comp=Z,8.3nm,0.9s
ARU **Arti** 74.42 328*d i*P P **P** **20 42 05.6 -0.5**
ARU *PP **pP** **20 42 23.1 -1.7**
ARU 20 44 50.0
ARU S **S** **20 51 37.5 +2.2**
ARU SS **SS** **20 56 22.5 -0.3**
ARU pmax pmax
comp=Z,24nm,2.5s
RAYN **Ar Rayn** 79.93 293 *e*P P **P** **20 42 35.9 -1.8**
comp=Z,13nm,1.6s
RAYN **Ar Rayn** 79.93 293 *e*P P **P** **20 42 35.9 -1.8**
RAYN pmax pmax
comp=Z,13nm,1.6s
KDAK **Kodiak Island** 81.88 32 P P **P** **20 42 48.1 +0.8**
comp=Z,7.9nm,0.8s,baz=222,slow=14,SNR=2.3
AKH **Akhalkalaki** 81.92 311 *e*P P **P** **20 42 47.7 -0.4**
comp=Z,4.2nm,0.6s
AKH **Akhalkalaki** 81.92 311 *e*P P **P** **20 42 47.7 -0.4**
AKH pmax pmax
comp=Z,4.0nm,0.6s
PRGR **Permogore** 82.01 332 *e*P P **P** **20 42 45.6 -2.3**
PRGR pmax pmax
comp=Z,7.0nm,0.8s
IM3 **Indian Mountai** 82.25 24 *e*P P **P** **20 42 49.3 +0.2**
KBZ **Khabaz** 82.43 313 P P **P** **20 42 49.6 -0.9**
comp=Z,1.1nm,0.9s,baz=90,slow=5.1,SNR=2.5
KBZ LR LR 21 24 42.5
comp=Z,25nm,18.9s,baz=59,slow=39
KIV **Kislovodsk** 82.58 314 *e*P P **P** **20 42 51.1 -0.3**
KIV pmax pmax
comp=Z,5.0nm,0.9s
KIV MLR MLR
comp=Z,26nm,19.0s
CAST **Castle Rocks** 82.67 27 *e*P P **P** **20 42 50.9 -0.5**
comp=Z,14nm,1.2s
SUA **Susitna One** 83.12 29 *e*P P **P** **20 42 53.7 -0.1**
comp=Z,16nm,0.9s
BPAW **Bear Paw Mtn.** 83.22 26 *e*P P **P** **20 42 54.1 -0.1**
comp=Z,18nm,1.2s
MLY **Manley** 83.40 25 *e*P P **P** **20 42 55.8 +0.6**
comp=Z,17nm,1.0s
VRH **Novokhopyorsk** 83.45 321 *e*P P **P** **20 42 54.8 -0.7**
VRH pmax pmax
comp=Z,10.0nm,0.7s
RC01 **Rabbit Creek A** 83.58 29 *e*P P **P** **20 42 55.2 -0.9**
comp=Z,19nm,1.0s
VNDA **Vanda** 83.79 173 P P **P** **20 42 57.8 +1.0**
comp=Z,0.7nm,0.7s,baz=313,slow=7.5,SNR=5.9
VNDA **Vanda** 83.79 173 *e*P P **P** **20 42 57.3 +0.5**
VNDA **Vanda** 83.79 173 *e*P P **P** **20 42 57.3 +0.5**
COLD **Coldfoot** 83.79 23 *e*P P **P** **20 42 57.8 +0.7**
comp=Z,5.8nm,0.9s
PMR **Palmer** 83.90 29 *e*P P **P** **20 42 57.9 +0.2**
comp=Z,12nm,1.0s
PMR **Palmer** 83.90 29 *e*P P **P** **20 42 57.9 +0.2**
PMR pmax pmax
comp=Z,12nm,1.0s
WRH **Wood River Hil** 84.50 26 *e*P P **P** **20 43 01.4 +0.7**
comp=Z,20nm,1.3s
KLMR **Klimovskoe** 84.91 331 *e*P P **P** **20 43 01.0 -1.7**
KLMR pmax pmax
comp=Z,10.0nm,0.8s
KLMR **Klimovskoe** 84.91 331 *e*P P **P** **20 43 01.1 -1.7**
KLMR AMP 20 43 02.8
comp=Z,10.0nm,0.8s
VORD **Divnogorie** 84.97 321 *e*P P **P** **20 43 02.5 -0.8**
VORD pmax pmax
comp=Z,6.0nm,0.5s
ILAR **Eielson Array** 85.03 25 P P **P** **20 43 05.3 +2.0**
comp=Z,0.5nm,0.7s,baz=242,slow=4.8,SNR=6.0
ILB **Eielson Array** 85.03 25 *e*P P **P** **20 43 03.4 0.0**
VSR **Storozhevoye** 85.05 321 *e*P P **P** **20 43 02.1 -1.6**
VSR pmax pmax
comp=Z,10.0nm,1.3s
LPSR **Galich'ya Gora** 85.19 322 *e*P P **P** **20 43 02.0 -2.4**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
OBN **Obninsk** 86.54 325 P P **P** **20 43 10.2 -0.7**
comp=Z,2.6nm,0.5s,baz=35,slow=5.8,SNR=3.3
OBN **Obninsk** 86.54 325 *e*P P **P** **20 43 09.3 -1.7**
comp=Z,85nm,2.0s
OBN **Obninsk** 86.54 325 ||*e*P P **P** **20 43 10.0 -0.9**
OBN *e* 20 46 31.9
OBN *e*S **SKSac** **20 53 28.7 -2.7**
OBN pmax pmax
comp=Z,26nm,1.7s
OBN MLR MLR
comp=Z,45nm,20.0s
KMBO **Kilima Mbogo** 89.09 269 P P **P** **20 43 24.3 0.0**
comp=Z,0.8nm,0.7s,baz=40,slow=9.7,SNR=4.0
KMBO **Kilima Mbogo** 89.09 269 *e*P P **P** **20 43 24.1 -0.2**
comp=Z,14nm,2.0s
KMBO **Kilima Mbogo** 89.09 269*ce*P P **P** **20 43 26.1 +1.8**
BR101 **Keskin Array S** 89.46 310 *e*P P **P** **20 43 23.8 -1.7**
BR101 *e* 21 29 52.4
BRTR **Keskin Array B** 89.46 310 P P **P** **20 43 23.8 -1.7**
comp=Z,0.8nm,0.5s,baz=125,slow=6.2,SNR=6.6
BRTR LR LR 21 29 52.4
comp=Z,6.7nm,19.0s,baz=89,slow=40
ARA0 **ARCESS Array S** 90.00 340 *e*P P **P** **20 43 26.3 -0.9**
ARCES **ARCESS Array B** 90.00 340 P P **P** **20 43 26.3 -0.9**
comp=Z,5.1nm,0.6s,baz=84,slow=6.1,SNR=35
SPITS **Spitsbergen Ar** 90.09 349 P P **P** **20 43 28.6 +1.2**
comp=Z,1.2nm,0.4s,baz=81,slow=9.1,SNR=7.8
FIA0 **FINESS Array S** 91.34 332 *e*P P **P** **20 43 32.4 -1.1**
FIA0 *e* 21 27 57.3
FIA0 **FINESS Array S** 91.34 332 *e*P P **P** **20 43 32.4 -1.1**
FINES **FINESS Array B** 91.34 332 P P **P** **20 43 32.4 -1.1**
comp=Z,2.5nm,0.5s,baz=66,slow=4.2,SNR=21
FINES LR LR 21 27 57.3
comp=Z,32nm,18.8s,baz=45,slow=38
AKASG **Malin Array Be** 91.36 321 LR LR 21 27 05.5
comp=Z,24nm,20.9s,baz=280,slow=37
SYO **Syowa Base** 92.54 201 ⇑*e*P P **P** **20 43 39.6 +0.8**
VRI **Vrincioaia** 93.75 316 ⇑*i*P P **P** **20 43 47.7 +2.7**
MLR **Muntele Rosu** 94.35 316 ⇑*i*P P **P** **20 43 47.4 -0.6**
BURAR **Bucovina Array** 94.46 318 ||*i*P P **P** **20 43 49.0 +0.6**
BUR04 **Bucovina Ar. S** 94.46 318 *e*P P **P** **20 43 47.3 -1.1**
BUR08 **Bucovina Ar. S** 94.46 318 *e*P P **P** **20 43 47.8 -0.6**
IDI **Anoyia** 96.93 306 LR LR 21 35 29.9
comp=Z,13nm,18.0s,baz=72,slow=40
HFS **Hagfors** 97.53 332 P P **P** **20 44 00.5 -1.4**
comp=Z,2.9nm,0.6s,baz=88,slow=4.6,SNR=8.4
NB2 **NORSAR Subarra** 98.30 334 P P **P** **20 44 03.3 -2.1**
comp=Z,1.4nm,0.6s,baz=65,slow=4.4
NB2 **NORSAR Subarra** 98.30 334 P P **P** **20 44 03.3 -2.1**
baz=65,slow=4.4
NB200 **NORSAR Array S** 98.30 334 *e*P P **P** **20 44 04.0 -1.4**
NB200 *e* 21 31 56.2
NOA **NORSAR Array B** 98.30 334 P P **P** **20 44 04.0 -1.4**
comp=Z,2.3nm,0.7s,baz=66,slow=4.5,SNR=10
NOA LR LR 21 31 56.2
comp=Z,27nm,19.2s,baz=295,slow=38
BRG **Berggiesshubel** 100.71 323 *e*(P) **Pdif** **20 44 16.5 +0.2**
comp=Z,5.0nm,1.1s
BRG **Berggiesshubel** 100.71 323 *e*P **Pdif** **20 44 16.5 +0.2**
BRG pmax pmax
comp=Z,5.0nm,1.1s
GERES **GERESS Array B** 101.55 321 P **Pdif** **20 44 20.8 +0.5**
comp=Z,0.4nm,0.7s,baz=72,slow=4.3,SNR=3.7
LTX **Lajitas** 121.78 52 *e*PKPdf **PKPdf** **20 49 24.2 +1.6**
LTX **Lajitas** 121.78 52 *e*PKIKP **PKPdf** **20 49 24.2 +1.6**
TXAR **Lajitas Array** 121.78 52 PKP **PKPdf** **20 49 24.2 +1.6**
comp=Z,0.2nm,0.5s,baz=292,slow=2.4,SNR=2.8
TORD **Torodi Ar. Bea** 122.38 288 PKP **PKPdf** **20 49 23.7 -0.2**
comp=Z,0.5nm,0.6s,baz=111,slow=2.3,SNR=5.9
TOA1 **Torodi Ar. Sit** 122.38 288 *e*PKPdf **PKPdf** **20 49 23.7 -0.2**
T49A **Edmonton** 129.48 33 *e*PKPdf **PKPdf** **20 49 36.5 -0.5**
JTS **JuntasAbangare** 145.81 65 *c i*PKP2 **PKPab** **20 50 11.5 +2.9**

*IDC **27** 20:34:28.6±9.2, 23°.91S×179°.37E, h478km±87km, mb3.5/3, mb1 3.6/4, mb1mx3.1/32, mbtmp4.4/4, Error ellipse: s-maj=76.0km s-min=31.3km az=43.0*

ISC 27 20:34:33.8±1.8, 24°.2S±0°.1×179°.3E±0°.3, h537km, n8, σ1§04/8, mb4.0/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.13**	**187**	P	**P**	**20 37 33.1**	**-1.2**
	1.3nm,0.3s,baz=114,slow=2.3,SNR=3.7						
URZ				S	**S**	**20 40 03.7**	**+0.7**
	0.6nm,0.3s,baz=54,slow=19,SNR=3.2						
STKA	**Stephens Creek**	**33.99**	**248**	P	**P**	**20 40 33.9**	**+0.8**
	1.9nm,0.4s,baz=93,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**41.33**	**261**	P	**P**	**20 41 32.9**	**-0.2**
	2.8nm,0.6s,baz=92,slow=7.5,SNR=8.6						
WRA	**Warramunga Arr**	**41.72**	**267**	P	**P**	**20 41 35.2**	**-1.0**
	5.5nm,0.6s,baz=94,slow=8.5,SNR=85						
ARCES	**ARCESS Array B**	**132.04**	**348**	PKP	**PKPdf**	**20 52 46.0**	**+0.3**
	2.3nm,1.0s,baz=31,slow=2.1,SNR=3.4						
HFS	**Hagfors**	**142.71**	**348**	PKhKP	PKPpre	20 53 01.6	
	1.1nm,0.3s,baz=86,slow=4.6,SNR=9.4						
BRTR	**Keskin Array B**	**147.22**	**306**	PKPbc	**PKPbc**	**20 53 17.0**	**-0.3**
	0.5nm,0.6s,baz=68,slow=2.6,SNR=4.2						
TORD	**Torodi Ar. Bea**	**168.77**	**192**	PKPab	**PKPab**	**20 54 55.2**	**+1.3**
	0.2nm,0.5s,baz=153,slow=4.5,SNR=4.0						

*ISCJB **27** 20:44:42.5±0.6, 3°.06S±0°.05×136°.59E±0°.06, h32km, Error ellipse: s-maj=8.6km s-min=7.5km az=154.6*
*NEIC **27** 20:44:44.0±1.3, 2°.87S×136°.59E, h35km, mb4.5/7, Error ellipse: s-maj=21.9km s-min=13.9km az=29.0*

ISC 27 20:44:44.6±0.7, 3°.16S±0°.06×136°.65E±0°.08, h32km, n20, σ3§28/27, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.40**	**273**	*e*Pn	**Pn**	**20 45 48.9**	**-0.3**
FAKI				*e*Sn	**Sn**	**20 46 39.5**	**+0.2**
MTN	**Manton Dam**	**11.06**	**209**	*e*Pn	**Pn**	**20 47 24.2**	**+3.5**
MTN				*e*Sn	**Sn**	**20 49 27.0**	**+3.7**
COEN	**Coen**	**12.52**	**149**	*e*Pn	**Pn**	**20 47 44.1**	**+3.5**
COEN				*e*Sn	**Sn**	**20 49 54.7**	**-4.4**
SOEI	**Soe**	**13.93**	**241**	*e*Pn	**Pn**	**20 47 58.1**	**-1.9**
WRAB	**Tennant Creek**	**16.82**	**187**	*e*Pn	**Pn**	**20 48 37.6**	**-0.3**
	16nm,0.8s						
WRAB				*e*Sn	**Sn**	**20 51 39.5**	**-4.4**
WB2	**Warramunga Arr**	**16.83**	**187**	*e*Pn	**Pn**	**20 48 36.3**	**-1.7**
WB2				*e*Sn	**Sn**	**20 51 37.4**	**-6.7**
FITZ	**Fitzroy Crossi**	**18.35**	**215**	*e*P	**P**	**20 48 57.1**	**+0.5**
	6.8nm,1.3s						
FITZ				*e*Sn	**Sn**	**20 52 15.8**	**-5.1**
CTAO	**Charters Tower**	**19.26**	**152**	*e*P	**Pn**	**20 49 09.1**	**+1.3**
	26nm,1.6s						
AS01	**Alice Springs**	**20.55**	**187**	*e*P	Pn	20 49 23.8	+0.7
AS31	**Alice Springs**	**20.56**	**187**	*e*P	Pn	20 49 24.5	+1.3
	9.8nm,0.6s						
JAGI	**Jajag, Banyuwa**	**22.98**	**256**	*e*P	**P**	**20 49 50.6**	**+3.8**
	23nm,0.6s						
MBWA	**Marble Bar**	**24.31**	**221**	*e*P	**P**	**20 50 01.0**	**+1.6**
	41nm,1.5s						
FORT	**Forrest**	**28.64**	**196**	*e*P	**P**	**20 50 39.9**	**+1.4**
	45nm,1.3s						
KMI	**Kunming**	**43.27**	**312**	P	**P**	**20 52 40.0**	**-3.8**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HHC	**Hu-ho-hao-te**	**49.43**	**335**	*e*P	**P**	**20 53 31.5**	**-0.3**
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,170nm,5.4s						
LZH	**Lanzhou**	**49.63**	**325**	*e*P	**P**	**20 53 32.5**	**-0.9**
LZH				pP	**sP**	**20 53 46.0**	**-0.9**
LZH				sP	**pP**	**20 53 50.5**	**+7.4**
LZH				*e*PP	**PP**	**20 55 26.8**	**-1.3**
LZH				pmax	pmax		
	comp=Z,28nm,1.1s						
LZH				pmax	pmax		
	comp=Z,100nm,4.9s						
WKZ	**Wanaka**	**50.31**	**150**	*e*P	**P**	**20 53 38.6**	**+0.3**
	comp=Z,275nm,2.0s						
WHZ	**Wether Hill Ro**	**50.58**	**152**	*e*P	**P**	**20 53 40.6**	**+0.3**
	comp=Z,255nm,1.9s						
WMQ	**Urumqi**	**64.10**	**323**	*e*P	**P**	**20 55 15.0**	**-0.8**
WMQ				LR	LR		
	comp=E,88nm,13.5s						
WMQ				LR	LR		
	comp=Z,31nm,18.1s						
MK01	**Makanchi Array**	**68.88**	**323**	*e*P	**P**	**20 55 43.2**	**-3.0**

TRN 27 20:48:00.8, 14°.16N×61°.14W, h24km, M3.8(FDF), Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIM	**Bigot**	**0.36**	**11**	*e*P	Pn	20 48 10.8	+0.2
BIM				*e*S	Sn	20 48 16.2	-0.9
TRMF	**Trois Ilets**	**0.39**	**13**	*e*P	Pn	20 48 11.2	+0.3
LPMF	**Morne Lapointe**	**0.45**	**22**	*e*P	Pn	20 48 12.5	+0.8
MVM	**Montagne Vaucl**	**0.46**	**31**	*e*P	Pn	20 48 12.1	+0.2
MCLT	**Moule a Chique**	**0.49**	**156**	*e*P	Pn	20 48 12.8	+0.5
MCLT				*e*S	Sn	20 48 20.2	+0.2
PML	**Morne Lenard**	**0.62**	**356**	*e*P	Pn	20 48 14.6	+0.5
GBMF	**Grand Be**	**0.64**	**358**	*e*P	Pn	20 48 15.2	+0.8
CXM	**Morne La Croix**	**0.65**	**358**	*e*P	Pn	20 48 14.9	+0.2
BAMF	**Morne Balai**	**0.66**	**359**	*e*P	Pn	20 48 15.1	+0.4
PCM	**Pelee Case Pet**	**0.66**	**354**	*e*P	Pn	20 48 15.1	+0.4

*IDC **27** 21:04:30.9±1.1, 57°.74S×25°.38W, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.6/17, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=69.6km s-min=30.4km az=93.0*
*ISCJB **27** 21:04:35.6±1.8, 57°.9S±0°.1×24°.8W±0°.9, h40km, mb3.6/2, Error ellipse: s-maj=68.8km s-min=18.8km az=171.6*

ISC 27 21:04:36.9±1.2, 57°.9S±0°.2×25°.1W±0°.4, h40km, n10, σ0§58/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**14.68**	**158**	P	**Pn**	**21 08 01.1**	**-0.3**
VNA3	**Neumayer Olymp**	**14.89**	**160**	P	**Pn**	**21 08 03.3**	**-1.0**
VNA2	**Neumayer--Watz**	**15.07**	**157**	P	**Pn**	**21 08 06.7**	**0.0**
	baz=325,slow=13						
SNAA	**Sanae**	**16.61**	**155**	P	**Pn**	**21 08 26.9**	**+0.5**
SNAA	**Sanae**	**16.61**	**155**	Pn	**Pn**	**21 08 26.8**	**+0.3**
	0.3nm,0.3s,baz=326,slow=19,SNR=12						
VNDA	**Vanda**	**44.81**	**182**	P	**P**	**21 12 46.8**	**+0.8**
	0.8nm,0.8s,baz=181,slow=7.0,SNR=5.1						
TORD	**Torodi Ar. Bea**	**74.11**	**27**	P	**P**	**21 16 08.8**	**+0.1**
	0.5nm,0.5s,baz=208,slow=5.7,SNR=8.7						
YKA	**Yellowknife Ar**	**138.28**	**316**	PKP	**PKPdf**	**21 23 55.7**	**-0.4**
	0.4nm,0.5s,baz=128,slow=2.0,SNR=5.9						
SONM	**Songino Array**	**149.67**	**88**	PKPbc	**PKPbc**	**21 24 21.3**	**+0.1**
	0.6nm,0.4s,baz=217,slow=4.1,SNR=5.7						
ILAR	**Eielson Array**	**152.16**	**309**	PKPbc	**PKPbc**	**21 24 26.0**	**-0.4**
	1.2nm,0.8s,baz=126,slow=1.8,SNR=15						

*JMA **27** 21:05:41.8±0.1, 23°.36N×122°.97E, h52km, M1.9*
*TAP **27** 21:05:43.4, 23°.45N×122°.93E, h54km±1km, ML2.7, C*

ISC 27 21:05:39.6±1.4, 23°.35N±0°.04×122°.98E±0°.03, h20km±6km, n48, σ0§80/79, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**1.04**	**47**	P	**Pg**	**21 06 00.2**	**+0.4**
HATJ				*e*S	**Sn**	**21 06 13.4**	**+0.4**
JYNG	**Yonagunijimaku**	**1.10**	**359**	P	**Pg**	**21 06 01.2**	**+0.2**
JYNG				*e*S	**Sb**	**21 06 14.1**	**+0.2**
YOJ	**Yonaguni jima**	**1.11**	**2**	*e*P	**Pg**	**21 06 01.3**	**+0.2**
	baz=4.0						
YOJ				*e*S	**Sn**	**21 06 15.2**	**+0.3**
	baz=4.0						
YOJ	**Yonaguni jima**	**1.11**	**2**	P	**Pg**	**21 06 01.4**	**+0.2**
YOJ				*e*S	**Sn**	**21 06 15.3**	**+0.5**
IRIF	**Iriomote-Funau**	**1.20**	**35**	P	**Pg**	**21 06 02.7**	**-0.2**
IRIF				*e*S	**Sg**	**21 06 17.8**	**-0.9**
JKRS	**Kuro-shima**	**1.30**	**47**	P	**Pg**	**21 06 04.2**	**-0.5**
JKRS				*e*S	**Sb**	**21 06 19.8**	**+0.2**
EOS1	**EOS1**	**1.43**	**327**	P	**Pb**	**21 06 06.2**	**+0.7**
	baz=317						
EOS1				S	**Sn**	**21 06 22.9**	**+0.4**
	baz=317						
HGSD	**Ruisui**	**1.43**	**276**	*e*P	**Pn**	**21 06 05.2**	**+0.7**
	baz=272						
HGSD				*e*S	**Sn**	**21 06 21.8**	**-1.0**
	baz=272						
TWD	**Chiawan**	**1.46**	**300**	P	**Pn**	**21 06 05.6**	**+0.8**
	baz=290						
JIJ	**Ishigaki jima**	**1.47**	**46**	P	**Pb**	**21 06 06.2**	**-0.1**
JIJ				*e*S	**Sn**	**21 06 23.7**	**-0.1**
ESL	**Shilin**	**1.49**	**289**	P	**Pn**	**21 06 05.9**	**+0.6**
	baz=278						
CHKT	**Chengkung**	**1.50**	**261**	*e*P	**Pn**	**21 06 06.2**	**+0.8**
	baz=256						
CHKT				*e*S	**Sn**	**21 06 22.9**	**-1.5**
	baz=256						
NACB	**Ninganchiao**	**1.51**	**303**	*e*P	**Pn**	**21 06 06.0**	**+0.4**
	baz=293						
NACB				*e*S	**Sn**	**21 06 23.1**	**-1.6**
	baz=293						
EHY	**Hungye**	**1.53**	**276**	*e*P	**Pb**	**21 06 07.1**	**-0.2**
	baz=267						
TWF1	**Yuli**	**1.54**	**271**	||P	**Pb**	**21 06 07.3**	**-0.2**
	baz=267						
TWF1				S	**Sn**	**21 06 25.1**	**-0.4**
	baz=267						
YULB	**Yu-li**	**1.54**	**272**	*e*P	**Pb**	**21 06 07.2**	**-0.3**
	baz=268						
YULB				*e*S	**Sn**	**21 06 25.0**	**-0.5**
	baz=268						
ENA	**Nanau**	**1.56**	**314**	*e*P	**Pb**	**21 06 07.8**	**0.0**
	baz=323						
ENA				*e*S	**Sn**	**21 06 25.4**	**-0.5**
	baz=323						
VWDT	**VWDT**	**1.73**	**284**	*e*P	**Pb**	**21 06 10.1**	**-0.7**
	baz=274						
JISG	**Ishigakijimahi**	**1.74**	**44**	P	**Pb**	**21 06 09.6**	**-1.2**
CHGB	**Renai**	**1.80**	**294**	*e*P	**Pn**	**21 06 11.1**	**+1.4**
	baz=291						
CHGB				*e*S	**Sn**	**21 06 30.9**	**-1.2**
	baz=291						
ELDTW	**Lidau**	**1.81**	**265**	P	**Pn**	**21 06 11.1**	**+1.3**
	baz=262						
NNSB	**Datong**	**1.81**	**307**	*e*P	**Pb**	**21 06 11.3**	**-0.9**
	baz=314						
NNSB				*e*S	**Sn**	**21 06 32.0**	**-0.3**
	baz=314						
TWE	**Neicheng**	**1.82**	**319**	*e*P	**Pb**	**21 06 11.9**	**-0.3**
	baz=319						
ENTT	**Nioudou**	**1.82**	**315**	*e*P	**Pb**	**21 06 11.8**	**-0.5**
	baz=315						
TWGBT	**Beinan**	**1.82**	**254**	*e*P	**Pb**	**21 06 11.4**	**-0.9**
	baz=256						
TWGBT				*e*S	**Sn**	**21 06 32.5**	**+0.1**
	baz=256						
NNS	**Nan Shan**	**1.83**	**307**	P	**Pb**	**21 06 11.5**	**-0.9**
	baz=314						
NNS				*e*S	**Sn**	**21 06 31.3**	**-1.4**
	baz=314						
TWG	**Pinlang**	**1.83**	**254**	P	**Pb**	**21 06 11.9**	**-0.5**
	baz=256						
TWG				*e*S	**Sn**	**21 06 32.2**	**-0.4**
	baz=256						
TWT	**Tachien**	**1.88**	**299**	*e*P	**Pb**	**21 06 12.9**	**-0.5**
	baz=297						
TDCB	**Techi**	**1.89**	**299**	*e*P	**Pb**	**21 06 12.8**	**-0.8**
	baz=289						
TDCB				*e*S	**Sn**	**21 06 33.7**	**-0.7**
	baz=289						
SSLB	**Suanglung**	**1.91**	**284**	*e*P	**Pb**	**21 06 12.8**	**-1.0**
	baz=281						
SSLB				*e*S	**Sn**	**21 06 34.0**	**-0.5**
	baz=281						
YHNB	**Yeheng**	**1.97**	**312**	*e*P	**Pb**	**21 06 14.1**	**-0.8**
	baz=311						
YHNB				*e*S	**Sn**	**21 06 35.4**	**-0.7**
	baz=311						
SMLT	**Sun Moon Lake**	**1.98**	**286**	*e*P	**Pb**	**21 06 14.4**	**-0.6**
	baz=284						
ALS	**Alishan**	**2.00**	**275**	*e*P	**Pb**	**21 06 15.0**	**-0.5**
	baz=273						
TYC	**Yuchr**	**2.02**	**286**	*e*P	**Pn**	**21 06 13.9**	**+1.3**
	baz=285						
JTJ	**Tarama**	**2.04**	**50**	P	**Pb**	**21 06 14.6**	**-1.4**
JTJ				*e*S	**Sn**	**21 06 38.1**	**+0.4**
STYT	**Tauyuan**	**2.05**	**265**	*e*P	**Pb**	**21 06 15.1**	**-1.1**
	baz=257						
STYT				*e*S	**Sn**	**21 06 37.0**	**-1.0**
	baz=257						
CHN5	**Tsauling**	**2.12**	**277**	*e*P	**Pb**	**21 06 16.9**	**-0.6**
	baz=274						
CHN5				*e*S	**Sn**	**21 06 40.8**	**+0.8**
	baz=274						
TPUB	**Ta-pu**	**2.16**	**269**	*e*P	**Pb**	**21 06 17.8**	**-0.3**
	baz=271						
TPUB				*e*S	**Sn**	**21 06 42.1**	**+1.4**
	baz=271						
WTP	**Ta-pu**	**2.17**	**268**	*e*P	**Pb**	**21 06 18.1**	**-0.2**
	baz=271						
WTP				*e*S	**Sn**	**21 06 42.1**	**+0.9**
	baz=271						
EAST	**Anshuo**	**2.18**	**244**	*e*P	**Pn**	**21 06 16.5**	**+1.7**
	baz=250						
CHN4	**Tsaushan**	**2.19**	**271**	*e*P	**Pb**	**21 06 18.6**	**+0.1**
	baz=268						
LIOB	**Emei**	**2.21**	**306**	*e*P	**Pb**	**21 06 18.0**	**-0.9**
	baz=305						
LIOB				*e*S	**Sn**	**21 06 42.7**	**+0.7**
	baz=305						
NSTT	**Nanjuang**	**2.21**	**306**	*e*P	**Pb**	**21 06 18.6**	**-0.3**
	baz=316						
SGST	**Jiashian**	**2.22**	**264**	*e*P	**Pb**	**21 06 18.9**	**-0.1**
	baz=258						
SGST				*e*S	**Sb**	**21 06 45.0**	**-1.1**
	baz=258						
SSD	**Sandimen**	**2.24**	**255**	*e*P	**Pb**	**21 06 20.1**	**+0.7**
	baz=253						
CHN1	**Nanshi**	**2.26**	**266**	*e*P	**Pb**	**21 06 19.6**	**-0.1**
	baz=260						
CHN1				*e*S	**Sn**	**21 06 43.1**	**-0.1**
	baz=260						
MASBT	**Mashibuluo**	**2.28**	**252**	*e*P	**Pb**	**21 06 18.4**	**-1.7**
	baz=249						
TWK	**Hsinying**	**2.29**	**269**	*e*P	**Pb**	**21 06 20.1**	**-0.1**
	baz=271						
TWK				*e*S	**Sn**	**21 06 45.0**	**+1.0**
	baz=271						

*ATH **27** 21:21:52.5, 36°.69N×27°.91E, h11km±2km, ML2.5/9, Error ellipse: s-maj=3.5km s-min=1.2km az=44.0*
*THE **27** 21:21:53.5, 36°.66N×27°.95E, h0km±1km, ML2.8/3, Error ellipse: s-maj=1.2km s-min=0.6km az=185.0*
*ISK **27** 21:21:53.2, 36°.65N×27°.97E, h11km, ML3.1/12*
*DDA **27** 21:22:53.0, 36°.63N×27°.87E, h5km, Ml3.1*

ISC 27 21:21:53.1±0.9, 36°.63N±0°.02×27°.89E±0°.01, h12km±7km, n55, σ1§53/81, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DATC	**Datca-Mugla**	**0.23**	**305**	PG	**Pb**	**21 21 59.0**	**-0.2**
DATC				SG	**Sg**	**21 22 03.9**	**+2.7**
MRSB	**Marmaris-Mugla**	**0.26**	**70**	PG	**Pg**	**21 21 57.8**	**-0.7**
MRSB				SG	**Sg**	**21 22 01.3**	**-0.8**
DAT	**Datca**	**0.27**	**292**	PG	**Pb**	**21 22 00.2**	**+0.2**
DAT				SG	**Sb**	**21 22 05.7**	**+1.0**
DAT	**Datca**	**0.27**	**292**	*i* P	**Pb**	**21 22 00.3**	**+0.2**
DAT				*i* S	**Sb**	**21 22 05.7**	**+1.0**
ARG	**Arkhangelos**	**0.45**	**155**	PG	**Pg**	**21 22 00.6**	**-1.4**
ARG				SG	**Sg**	**21 22 09.4**	**+1.4**
ARG	**Arkhangelos**	**0.45**	**155**	P	**Pg**	**21 21.3**	**-0.6**
ARG				S	**Sb**	**21 22 09.9**	**+0.2**
ARG				AML	AML	21 22 11.4	
	comp=N,2739μm,0.3s						
ARG				AML	AML	21 22 13.6	
	comp=E,2895μm,0.5s						
NIS1	**Nisyros Isl.**	**0.58**	**268**	PG	**Pb**	**21 22 05.7**	**+0.6**
NIS1	**Nisyros Isl.**	**0.58**	**268**	P	**Pn**	**21 22 06.4**	**-0.7**
NIS1				S	**Sn**	**21 22 15.6**	**-1.0**
TURN	**Turunc**	**0.62**	**67**	PG	Pg	21 21 59.0	-6.1
TURN				SG	Sg	21 22 03.5	-10
TURN	**Turunc**	**0.62**	**67**	*i* P	Pg	21 21 59.1	-6.1
TURN				*i* S	Sg	21 22 03.6	-10
BODT	**Bodrum**	**0.64**	**313**	PG	**Pn**	**21 22 06.4**	**-1.5**
BODT	**Bodrum**	**0.64**	**313**	P	**Pn**	**21 22 06.5**	**-1.5**
BODT				S	**Sn**	**21 22 17.6**	**-0.5**
DALY	**Dalyan (Mu¨la**	**0.64**	**73**	PG	**Pb**	**21 22 04.9**	**-1.2**
DALY	**Dalyan (Mu¨la**	**0.64**	**73**	*i* P	**Pb**	**21 22 05.0**	**-1.2**
DALY				*i* S	**Sb**	**21 22 14.1**	**-1.0**
MLSB	**Milas**	**0.67**	**352**	PG	**Pn**	**21 22 06.7**	**-1.8**
DIDI	**Didim-Aydin**	**0.91**	**325**	PG	**Pn**	**21 22 11.6**	**-0.1**
FETY	**Fethiye**	**0.96**	**89**	PG	**Pg**	**21 22 10.9**	**-0.6**
FETY	**Fethiye**	**0.96**	**89**	P	**Pb**	**21 22 11.3**	**-0.3**
FETY				S	**Sn**	**21 22 25.6**	**-0.4**
AYDN	**Tasoluk**	**1.03**	**359**	*i* P	**Pn**	**21 22 13.0**	**-0.4**
AYDN				*i* S	**Sn**	**21 22 27.6**	**-0.2**
TAVA	**DENIZLI_Tavas**	**1.17**	**44**	*i* P	**Pn**	**21 22 14.9**	**-0.5**
TAVA				*i* S	**Sn**	**21 22 34.4**	**+3.1**
AYDB	**Zeytinkoy-Aydi**	**1.32**	**360**	PN	**Pg**	**21 22 17.7**	**-0.7**
SMG	**Samos**	**1.37**	**322**	P	**Pg**	**21 22 18.1**	**-1.3**
SMG				AML	AML	21 22 43.8	
	comp=E,838μm,0.4s						
SMG				AML	AML	21 22 43.9	
	comp=N,612μm,0.3s						
DNZL	**Cakiroluk**	**1.40**	**41**	*i* P	**Pg**	**21 22 20.9**	**+0.8**
DNZL				*i* S	**Sg**	**21 22 41.6**	**+3.3**
AKAS	**Kas**	**1.44**	**105**	PN	**Pb**	**21 22 19.4**	**-0.5**
AKAS	**Kas**	**1.44**	**105**	*i* P	**Pg**	**21 22 20.7**	**+0.1**
AKAS				*i* S	**Sg**	**21 22 44.2**	**+4.9**
KSL	**Kastellorizon**	**1.44**	**109**	P	**Pg**	**21 22 20.1**	**-0.7**
KSL				S	**Sg**	**21 22 40.2**	**+0.6**
KSL				AML	AML	21 22 52.7	
	comp=E,165μm,0.5s						
KSL				AML	AML	21 22 57.0	
	comp=N,125μm,0.5s						
GOLH	**Golhisar**	**1.47**	**65**	*i* P	**Pg**	**21 22 20.1**	**-1.1**
GOLH				*i* S	**Sg**	**21 22 42.2**	**+1.9**
AMGA	**Amorgos Island**	**1.62**	**278**	P	**Pb**	**21 22 22.3**	**-0.6**
AMGA				S	**Sg**	**21 22 45.8**	**+0.6**
AMGA				AML	AML	21 22 53.8	
	comp=E,243μm,0.6s						
AMGA				AML	AML	21 22 55.5	
	comp=N,158μm,0.3s						
ELL	**Elmali**	**1.62**	**85**	PN	**Pb**	**21 22 21.9**	**-1.2**
DGB	**˙zmir**	**1.63**	**331**	*i* P	**Pb**	**21 22 21.8**	**-1.4**
ANAF	**Anafi Island**	**1.73**	**262**	P	**Pb**	**21 22 25.2**	**+0.4**
ANAF				S	**Sg**	**21 22 49.0**	**+0.2**
ANAF				AML	AML	21 22 57.9	
	comp=N,465μm,0.4s						
ANAF				AML	AML	21 22 59.9	
	comp=E,610μm,0.5s						
ANAF	**Anafi Island**	**1.73**	**262**	P	**Pb**	**21 22 24.2**	**-0.6**
ANAF				S	**Sg**	**21 22 48.2**	**-0.6**
MANT	**Manisa**	**1.93**	**16**	*i* P	**Pg**	**21 22 29.2**	**-1.0**
MANT				*i* S	**Sg**	**21 22 56.7**	**+1.4**
APE	**Apeiranthos**	**1.95**	**284**	P	**Pb**	**21 22 26.8**	**-1.7**
APE				AML	AML	21 23 03.4	
	comp=N,99μm,0.3s						
APE				AML	AML	21 23 04.1	
	comp=E,65μm,0.4s						
KULA	**Kula-Manisa**	**1.98**	**18**	PN	**Pb**	**21 22 27.4**	**-1.7**
SANT	**Santorini**	**1.98**	**263**	PN	**Pb**	**21 22 28.1**	**-1.0**
SANT	**Santorini**	**1.98**	**263**	P	**Pb**	**21 22 28.8**	**-0.3**
KORT	**Korkueli**	**2.01**	**79**	PN	**Pn**	**21 22 27.3**	**+0.4**
KORT	**Korkueli**	**2.01**	**79**	*i* P	**Pg**	**21 22 30.5**	**-1.1**
KORT				*i* S	**Sg**	**21 22 59.4**	**+1.8**
CMBO	**Columbo, Santo**	**2.01**	**266**	P	**Pb**	**21 22 28.6**	**-1.0**
URLA	**Izmir**	**2.01**	**330**	PN	**Pb**	**21 22 27.9**	**-1.8**
URLA	**Izmir**	**2.01**	**330**	*i* P	**Pn**	**21 22 26.8**	**-0.1**
URLA				*i* S	**Sg**	**21 23 03.7**	**+5.9**
THR3	**Thira Island,**	**2.02**	**265**	P	**Pb**	**21 22 28.6**	**-1.1**
BRDR	**BURDUR-Merkez**	**2.03**	**58**	*i* P	**Pg**	**21 22 29.9**	**-2.2**
BRDR				*i* S	**Sg**	**21 22 59.7**	**+1.2**
ZKR	**Zakros**	**2.03**	**223**	P	**Pb**	**21 22 29.4**	**-0.6**
ZKR				AML	AML	21 23 06.6	
	comp=E,202μm,0.4s						
ZKR				AML	AML	21 23 09.0	
	comp=N,67μm,0.7s						
STIA	**Sitia Lasithi**	**2.04**	**226**	P	**Pn**	**21 22 28.8**	**+1.5**
STIA				S	**Sb**	**21 22 56.0**	**+0.6**
THR5	**Thira Island,**	**2.06**	**265**	P	**Pn**	**21 22 28.8**	**+1.3**
KHAL	**Karahalli**	**2.15**	**36**	*e*P	**Pn**	**21 22 29.2**	**+0.3**
KHAL				*i* S	**Sb**	**21 22 58.5**	**-0.3**
CHOS	**Chios island**	**2.28**	**321**	P	**Pn**	**21 22 31.1**	**+0.4**
NPS	**Neapolis**	**2.30**	**234**	P	**Pb**	**21 22 33.0**	**-1.5**
NPS				S	**Sb**	**21 23 03.9**	**+1.0**
NPS				AML	AML	21 23 04.1	
	comp=E,188μm,0.3s						
NPS				AML	AML	21 23 09.5	
	comp=N,134μm,0.6s						
LAST	**Lasithi**	**2.45**	**234**	P	**Pn**	**21 22 34.7**	**+1.8**
LAST				AML	AML	21 23 07.7	
	comp=E,56μm,0.7s						
LAST				AML	AML	21 23 19.4	
	comp=N,55μm,0.5s						
SUTC	**Sutluce-Ispart**	**2.62**	**70**	PN	**Pn**	**21 22 35.8**	**+0.4**
STEP	**BALIKESIR_Sava**	**2.75**	**357**	*i* P	**Pn**	**21 22 37.1**	**+0.1**
STEP				*i* S	**Sg**	**21 23 25.2**	**+3.9**
KEPZ	**Antalya-Kepez**	**2.99**	**84**	*i* P	**Pb**	**21 22 44.0**	**-2.4**
KEPZ				*i* S	**Sb**	**21 23 22.6**	**-0.2**
DURS	**Dursunbey**	**3.00**	**9**	*i* P	**Pn**	**21 22 40.9**	**+0.3**

DJA 27 21:23:51.0±1.2, 9°S±14°×11°3E±°, h10km, M3.7/6, MLv3.7/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PWJI	**Pagerwojo**	**1.31**	**318**	P	Pn	21 24 14.0	-1.4
BLJI	**Banyuglugur**	**1.53**	**35**	P	Pg	21 24 28.1	+7.7
IGBI	**Denpasar**	**2.42**	**86**	P	Pn	21 24 29.9	-0.8
DNP	**Denpasar**	**2.50**	**83**	P	Pn	21 24 32.3	+0.5
SRBI	**Singaraja**	**2.65**	**70**	P	Pn	21 24 31.3	-2.5

*SIGU **27** 21:26:34.6, 50°.28N×18°.78E, h6km, mb2.5*
*ISCJB **27** 21:26:34.5±0.3, 50°.28N±0°.02×18°.66E±0°.02, h0km, mb3.1/1, Error ellipse:

KSP	**Ksiaz**	**1.66 291**	*e*Pg	**Pg**	**21 27 08.0 +0.6**
KSP			*e*Sg	**Sg**	**21 27 30.0 +1.2**
KSP	**Ksiaz**	**1.66 291**	*e*Pg	**Pg**	**21 27 08.0 +0.6**
KSP			*e*Sg	**Sg**	**21 27 30.0 +1.2**
KSP	**Ksiaz**	**1.66 291**	*e*Pn	**Pn**	**21 27 06.1 +0.2**
KSP			*e*Sg	**Sg**	**21 27 30.4 +1.6**
VRAC	**Vranov**	**1.68 236**	Pg	**Pn**	**21 27 06.3 0.0**
	7.7nm,0.3s,baz=51,slow=13,SNR=49				
VRAC			Lg	Lg	21 27 30.2
	11nm,0.3s,baz=172,slow=22,SNR=14				
VRAC	**Vranov**	**1.68 236** ⇑	*i*P	**Pn**	**21 27 06.6 +0.2**
VRAC	**Vranov**	**1.68 236**	S	**Sg**	**21 27 30.0 +0.4**
VRAC	**Vranov**	**1.68 236**	*e*PN	**Pn**	**21 27 06.5 +0.2**
VRAC			*e*SG	**Sg**	**21 27 29.7 +0.1**
VRAC	**Vranov**	**1.68 236**	*e*Pn	**Pn**	**21 27 06.5 +0.2**
	baz=55				
VRAC			*e*Sg	**Sg**	**21 27 29.6 0.0**
	36nm,0.4s,baz=55				
KOLL	**Kolacno**	**1.70 187**	*e*PG	**Pg**	**21 27 09.4 +1.2**
KOLL			*e*SN	**Sg**	**21 27 31.5 +1.3**
UPC	**Upice**	**1.76 279**	*e*PG	**Pb**	**21 27 08.1 -0.6**
UPC			*e*SG	**Sg**	**21 27 33.0 +1.0**
	comp=Z,28nm,0.6s				
VYHS	**Vyhne**	**1.77 178**	*e*PN	**Pn**	**21 27 07.0 -0.5**
VYHS			*e*SN	**Sn**	**21 27 29.8 -1.0**
VYHS			*e*LG	Lg	21 27 37.9
KRUC	**Moravsky**	**1.94 232**	*e*PN	**Pn**	**21 27 10.1 +0.3**
KRUC			*e*SG	**Sg**	**21 27 37.4 -0.4**
KRUC	**Moravsky**	**1.94 232**	*e*Pn	**Pn**	**21 27 10.1 +0.3**
	baz=51				
KRUC			*e*Sg	**Sg**	**21 27 37.4 -0.4**
	31nm,0.6s,baz=51				
BEL	**Belsk**	**2.04 39**	*e*Pg	**Pg**	**21 27 16.2 +1.6**
BEL	**Belsk**	**2.04 39**	*e*Pg	**Pg**	**21 27 16.2 +1.6**
TREC	**Trest**	**2.31 246**	*e*PG	**Pn**	**21 27 16.6 +1.6**
TREC			*e*SG	**Sb**	**21 27 48.5 +1.1**
	comp=Z,24nm,0.6s				
PSZ	**Piszkesteto**	**2.47 162** ⇑	*i*P	**Pn**	**21 27 16.9 -0.3**
PSZ	**Piszkesteto**	**2.47 162**	*ex*	**Pg**	**21 27 23.7 +0.8**
GOPC	**GO Pecny, Ondr**	**2.56 264**	*e*PN	**Pn**	**21 27 18.1 -0.3**
GOPC			*e*PG	**Pb**	**21 27 22.7 +0.3**
GOPC			*e*SG	**Sb**	**21 27 55.9 +1.4**
	comp=Z,30nm,0.6s				
KWP	**Kalwaria Pacla**	**2.65 102**	*e*Pn	**Pb**	**21 27 21.9 -2.0**
KWP			*e*Pg	**Pg**	**21 27 26.2 0.0**
KWP			*e*Sn	**Sb**	**21 27 57.7 +0.8**
KWP			*e*Sg	**Sg**	**21 28 05.0 +4.4**
KWP	**Kalwaria Pacla**	**2.65 102**	*e*Pn	**Pb**	**21 27 21.9 -2.0**
KWP			*e*Pg	**Pg**	**21 27 26.2 0.0**
KWP			*e*Sn	**Sb**	**21 27 57.7 +0.8**
KWP			*e*Sg	**Sg**	**21 28 05.0 +4.4**
PVCC	**Panska Ves**	**2.67 277**	*e*PN	**Pn**	**21 27 19.9 0.0**
PVCC			*e*PG	**Pg**	**21 27 26.7 -0.1**
PVCC			*e*SG	**Sg**	**21 28 02.4 +0.9**
	comp=Z,30nm,0.5s				
PRA	**Prague**	**2.77 268**	*e*SG	**Sg**	**21 28 03.6 -0.9**
	comp=Z,30nm,0.8s				
STZU	**Stuzhytsa**	**2.82 115**	*i* Pn	**Pn**	**21 27 23.0 +1.1**
STZU			Pm		21 27 23.7
STZU			Sn	**Sn**	**21 27 58.3 +1.7**
STZU			Sm		21 28 27.4
CONA	**Conrad Observa**	**3.00 220**	Pn	**Pn**	**21 27 24.4 -0.1**
	1.0nm,0.4s				
CONA			Sn	**Sn**	**21 28 00.4 -0.8**
	7.5nm,0.4s				
BRG	**Berggiesshubel**	**3.11 283**	PG	**Pg**	**21 27 34.3 -0.9**
BRG			SG	**Sg**	**21 28 15.4 -0.1**
	15nm,0.7s				
BRG	**Berggiesshubel**	**3.11 283**	*e*Pg	**Pg**	**21 27 35.0 -0.2**
BRG			*e*Sg	**Sg**	**21 28 15.4 -0.1**
MUKU	**Mukachevo**	**3.16 124**	*e*Pn	**Pn**	**21 27 27.6 +1.1**
BERU	**Beregovo**	**3.27 127**	*e*Pn	**Pn**	**21 27 29.7 +1.6**
BRIU	**Brid**	**3.41 123**	*e*Pn	**Pn**	**21 27 31.5 +1.6**
FBE	**Freiberg**	**3.49 283**	*e*Pg	**Pg**	**21 27 43.7 +1.3**
FBE			*e*Sg	**Sg**	**21 28 26.7 -0.9**
KHC	**Kasperske Hory**	**3.53 253**	*e*PN	**Pn**	**21 27 32.0 +0.3**
KHC			*ex*	x	21 27 38.4
KHC			*ex*	x	21 27 41.5
KHC			*e*SG	**Sb**	**21 28 25.4 +3.0**
	comp=Z,13nm,0.5s				
MORS	**Morshin**	**3.54 107**	*e*Pn	**Pn**	**21 27 32.7 +0.9**
GEC2	**GERESS Array S**	**3.57 248**	*e*Pn	**Pn**	**21 27 34.1 +1.8**
GEC2			*e*Sg	**Sg**	**21 28 28.6 -1.6**
GERES	**GERESS Array B**	**3.57 248**	Pn	**Pn**	**21 27 33.6 +1.3**
	0.3nm,0.3s,baz=60,slow=14,SNR=9.0				
GERES			Pg	**Pg**	**21 27 42.9 -1.0**
	1.5nm,0.3s,baz=70,slow=19,SNR=11				
GERES			Lg	Lg	21 28 29.3
	1.7nm,0.3s,baz=61,slow=28,SNR=5.5				
MEZ	**Mezhgor'ye**	**3.58 117**	Pn	**Pn**	**21 27 34.1 +1.7**
ARSA	**Arzberg**	**3.69 216**	*e*Pn	**Pn**	**21 27 35.2 +1.4**
	0.8nm,0.3s				
CLL	**Collm**	**3.78 288**	*e*Pg	**Pg**	**21 27 46.0 -2.0**
CLL			*e*Sg	**Sg**	**21 28 37.0 0.0**
	comp=Z,18nm,0.8s				
CLL	**Collm**	**3.78 288**	*e*Pg	**Pg**	**21 27 47.4 -0.6**
CLL			*e*Sg	**Sg**	**21 28 37.0 0.0**
MOA	**Molln**	**3.80 232**	*e*Pn	**Pn**	**21 27 36.5 +1.1**
	comp=Z,0.3nm,0.2s				
MOA			Sg	**Sg**	**21 28 36.0 -1.7**
	comp=Z,10.0nm,0.6s				
WET	**Wettzell**	**3.96 256**	*e*Sg	**Sg**	**21 28 42.0 -0.8**
TANN	**Tannenbergstha**	**4.02 275**	*e*Pn	**Pn**	**21 27 39.2 +0.8**
TANN			*e*Sg	**Sg**	**21 28 43.3 -1.3**
NKC	**Novy Kostel**	**4.03 272**	*e*PN	**Pn**	**21 27 38.6 0.0**
NKC			*e*PG	**Pb**	**21 27 49.3 +1.9**
NKC			*e*SG	**Sg**	**21 28 43.9 -1.1**
	comp=Z,13nm,0.4s				
MORH	**M¨ɪr¡gy, Hung**	**4.05 181**	*ex*	**Pn**	**21 27 37.6 -1.2**
NSLU	**Nyzhne Selyshc**	**4.29 117**	Pn	Pn	21 27 35.6 -6.4
DRGR		**4.37 141** ⇑	*i*P	**Pn**	**21 27 42.7 -0.5**
KBA	**Koelnbreinsper**	**4.79 230**	Sg	**Sg**	**21 29 11.6 +2.4**
	comp=Z,3.8nm,0.6s				
BURAR	**Bucovina Array**	**5.03 119** ⇑	*i*P	**Pn**	**21 27 51.9 -0.5**
BZS	**Buzias**	**5.04 156** ⇑	*i*P	**Pn**	**21 27 52.3 -0.1**
AKASG	**Malin Array Be**	**6.71 82**	Pg	**Pb**	**21 28 37.1 +4.0**
	comp=Z,0.9nm,0.3s,baz=275,slow=15,SNR=7.4				
AKASG			Lg	Lg	21 30 07.7
	comp=Z,0.6nm,0.3s,baz=269,slow=26,SNR=4.5				
DAVOX	**Davos/Dischmat**	**6.83 243**	Pn	**Pn**	**21 28 19.2 +2.0**
	comp=Z,0.2nm,0.3s,baz=75,slow=9.6,SNR=2.0				
DAVOX			Lg	Lg	21 30 15.2
HFS	**Hagfors**	**10.30 346**	Pn	**Pn**	**21 29 06.9 +2.5**
	comp=Z,0.2nm,0.3s,baz=134,slow=14,SNR=4.1				
NOA	**NORSAR Array B**	**11.59 342**	Pn	**Pn**	**21 29 19.3 -2.8**
	comp=Z,0.0nm,0.3s,baz=151,slow=13,SNR=3.2				
FINES	**FINESS Array B**	**11.93 17**	Pn	**Pn**	**21 29 23.4 -3.4**
	comp=Z,0.5nm,0.3s,baz=196,slow=11,SNR=14				
ARCES	**ARCESS Array B**	**19.60 7**	Pn	**P**	**21 31 03.1 -2.0**
	comp=Z,0.2nm,0.3s,baz=191,slow=12,SNR=7.8				
MKAR	**Makanchi Array**	**41.10 69**	P	**P**	**21 34 21.3 +0.3**
	comp=Z,0.3nm,0.7s,baz=300,slow=7.4,SNR=3.5				

MOS **27** *21:32:01.5±1.1,56˚27N×112˚77E,h18km,mb3.9/11, Error ellipse: s-maj=9.6km s-min=6.5km az=72.6*

BYKL **27** *21:32:02.3±0.3,56˚32N×112˚70E*

IDC **27** *21:32:05.2±4.0,56˚24N×112˚69E,h33km±34km, mb3.5/16, mb1 3.8/20,mb1mx3.5/52,mbtmp3.8/20,ML3.3/3,MS3.1/9, Ms1 3.1/9,ms1mx2.8/39,Error ellipse: s-maj=18.6km s-min=13.6km az=161.0*

ISC 27 21:32:01.2±0.9,56˚36N±0˚03×112˚94E±0˚02,h3km±6km, n97,σ2s93/135,mb3.9/18,MS3.0/8,10C-3D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVKR	**Severomuysk**	**0.42 125** ⇑		*i*Pg	**Pb**	**21 32 11.9**	**+0.6**
SVKR				Pmax		21 32 14.4	
	3μm,0.2s						
SVKR				*e*Sg	**Sb**	**21 32 19.0**	**+0.9**
SVKR				Smax		21 32 19.6	
	33μm,0.6s						
SVKR	**Severomuysk**	**0.42 125** ⇑		*i*PG	**Pb**	**21 32 12.0**	**+0.6**
SVKR				*e*		21 32 18.7	
SVKR				pmax	pmax		
	comp=Z,3μm,0.6s						
SVKR				smax	smax		
	comp=N,3μm,0.7s						
YOA	**Uoyan**	**0.72 252**		*e*Pg	**Pg**	**21 32 13.9**	**-1.0**
YOA				Pmax		21 32 17.3	
	comp=N,1μm,0.2s						
YOA				*e*		21 32 20.1	
YOA				*e*Sg	**Sg**	**21 32 22.0**	**-2.2**
YOA				Smax		21 32 26.3	
	comp=N,14μm,0.6s						
YOA	**Uoyan**	**0.72 252**	⇑	*i*PG	**Pg**	**21 32 14.0**	**-1.0**
YOA				*e*		21 32 23.3	
YOA				pmax	pmax		
	comp=Z,801nm,0.2s						
YOA				smax	smax		
	comp=N,14μm,0.5s						
UKT	**Uakit**	**0.95 156** ⇑		*i*PG	**Pb**	**21 32 20.2**	**-0.2**
UKT				*e*		21 32 33.2	
UKT				pmax	pmax		
	comp=Z,2μm,0.6s						
UKT				smax	smax		
	comp=E,8μm,0.3s						
KMO	**Kumora**	**1.08 245** ⇑		*i*Pg	**Pg**	**21 32 20.1**	**-1.9**
KMO				*e*Pb	**Pn**	**21 32 22.6**	**-0.7**
KMO				*e*		21 32 25.6	
KMO				max		21 32 26.5	
	comp=E,558nm,0.1s						
KMO				*e*Sg	**Sg**	**21 32 33.3**	**-2.7**
KMO				Smax		21 32 34.5	
	comp=E,5μm,0.7s						
KMO				*e*Sb	**Sn**	**21 32 36.9**	**-1.9**
KMO	**Kumora**	**1.08 245** ⇑		*i*PG	**Pg**	**21 32 20.1**	**-1.9**
KMO				*e*		21 32 33.2	
KMO				pmax	pmax		
	comp=Z,197nm,0.3s						
KMO				smax	smax		
	comp=N,5μm,0.6s						
NLYR	**Nelyaty**	**1.54 84** ⇑		*i*Pg	**Pg**	**21 32 31.9**	**+1.2**
NLYR				*e*		21 32 39.1	
NLYR				max		21 32 47.9	
	comp=N,424nm,0.5s						
NLYR				*i* Sg	**Sg**	**21 32 54.7**	**+4.0**
NLYR				*e*		21 33 02.9	
NLYR				max		21 33 04.0	
	comp=N,3μm,0.9s						
NLYR	**Nelyaty**	**1.54 84** ⇓		*i*PN	**Pg**	**21 32 32.0**	**+1.2**
NLYR				*e*		21 32 54.1	
NLYR				pmax	pmax		
	comp=Z,319nm,0.8s						
NLYR				smax	smax		
	comp=E,3μm,1.0s						
BOD	**Bodaibo**	**1.58 21** ⇑		*i*Pg	**Pg**	**21 32 31.8**	**+0.4**
BOD				*e*		21 32 33.9	
BOD				max		21 32 38.9	
	comp=E,671nm,0.8s						
BOD				*e*Sg	**Sg**	**21 32 53.9**	**+2.1**
BOD				Smax		21 32 55.2	
	comp=E,3μm,0.2s						
BOD				*e*		21 32 55.9	
BOD	**Bodaibo**	**1.58 21**		*e*PN	**Pg**	**21 32 32.4**	**+1.0**
BOD				*e*		21 32 54.2	
BOD				pmax	pmax		
	comp=Z,599nm,0.5s						
BOD				smax	smax		
	comp=E,4μm,0.3s						
YLYR	**Ulyunkhan**	**1.79 215** ⇑		*i*Pg	**Pn**	**21 32 32.6**	**-0.5**
YLYR				*e*		21 32 34.2	
YLYR				max		21 32 38.8	
	comp=E,328nm,0.3s						
YLYR				*i* Sg	**Sn**	**21 32 55.5**	**-0.9**
YLYR				Smax		21 32 57.3	
	comp=E,5μm,0.4s						
YLYR	**Ulyunkhan**	**1.79 215** ⇑		*i*PN	**Pn**	**21 32 32.6**	**-0.5**
YLYR				*e*S	**Sn**	**21 32 55.1**	**-1.3**
YLYR				*e*		21 32 55.3	
YLYR				pmax	pmax		
	comp=Z,1μm,0.2s						
YLYR				smax	smax		
	comp=N,5μm,0.4s						
NIZ	**Nizh Angarsk**	**1.99 254**		*e*Pg	**Pn**	**21 32 35.4**	**-0.4**
NIZ				*e*		21 32 36.7	
NIZ				max		21 32 46.8	
	comp=N,192nm,0.7s						
NIZ				*e*Sg	**Sn**	**21 33 00.8**	**-0.5**
NIZ				Smax		21 33 03.2	
	comp=N,2μm,0.4s						
NIZ	**Nizh Angarsk**	**1.99 254**		*e*PN	**Pn**	**21 32 35.3**	**-0.5**
NIZ				*e*		21 32 36.6	
NIZ				*e*S	**Sn**	**21 32 59.3**	**-2.0**
NIZ				*e*		21 33 00.8	
NIZ				pmax	pmax		
	comp=Z,231nm,0.6s						
NIZ				smax	smax		
	comp=N,2μm,0.4s						
CRS	**Chara**	**2.99 77** ⇓		*i*Pn	**Pn**	**21 32 52.1**	**+2.5**
CRS				*e*Pg	**Pg**	**21 32 58.5**	**0.0**
CRS				*e*		21 33 04.1	
CRS				max		21 33 04.9	
	comp=N,318nm,0.7s						
CRS				*e*Sn	**Sn**	**21 33 28.9**	**+2.9**
CRS				*e*Sg	**Sg**	**21 33 40.0**	**+2.7**
CRS				*e*		21 33 46.7	
CRS				max		21 33 50.1	
	comp=N,733nm,1.0s						
SYVR	**Suvo**	**3.19 213**		*e*Pn	**Pn**	**21 32 51.0**	**-1.3**
SYVR				*e*Pg	**Pb**	**21 32 56.8**	**-1.7**
SYVR				*e*PgPg	**PnPn**	**21 32 59.3**	**-0.1**
SYVR				max		21 32 59.6	
	comp=N,129nm,0.5s						
SYVR				*e*		21 33 17.7	
SYVR				*e*Sg	**Sb**	**21 33 37.8**	**0.0**
SYVR				Smax		21 33 45.2	
	comp=N,1μm,1.1s						
SYVR	**Suvo**	**3.19 213**		*e*PN	**Pn**	**21 32 51.0**	**-1.3**
SYVR				*e*		21 32 56.9	
SYVR				*e*		21 33 37.2	
SYVR				pmax	pmax		
	comp=Z,132nm,0.4s						
SYVR				smax	smax		
	comp=N,1μm,0.6s						
KHNR	**Khani**	**3.93 79**		*e*	**Sn**	**21 33 53.7**	**+4.7**
KHNR				*e*Sg	**Sg**	**21 34 07.9**	**+0.6**
MXMB	**Maximikha**	**3.94 220**		*e*	**Pn**	**21 33 05.9**	**+3.4**
MXMB				*e*Pg	**Pb**	**21 33 10.4**	**-0.8**
MXMB				*e*Sg	**Sb**	**21 34 00.4**	**+1.1**
MXMB				*e*		21 34 06.3	
OGRR	**Ongureny**	**4.11 231**		*e*Pn	**Pn**	**21 33 05.0**	**+0.2**
OGRR				*e*		21 33 09.8	
OGRR				max		21 33 15.7	
	comp=N,43nm,0.4s						
OGRR				*e*Sn	**Sn**	**21 33 50.7**	**-2.7**
OGRR				*e*Sg	**Sb**	**21 34 06.1**	**+2.0**
OGRR				Smax		21 34 11.8	
	comp=N,351nm,0.6s						
OGRR	**Ongureny**	**4.11 231**		*e*PN	**Pn**	**21 33 05.1**	**+0.2**
OGRR				*e*		21 33 14.9	
OGRR				*e*S	**Sn**	**21 33 51.1**	**-2.3**
OGRR				*e*		21 34 05.9	
OGRR				pmax	pmax		
	comp=Z,51nm,0.6s						
OGRR				smax	smax		
	comp=E,368nm,1.2s						
CIT	**Chita**	**4.36 175**		*e*Pg	**Pb**	**21 33 19.8**	**+1.3**
CIT				Pmax		21 33 25.8	
	comp=E,93nm,0.4s						
CIT				*e*Sg	**Sg**	**21 34 16.7**	**-4.4**
CIT				*e*		21 34 19.6	
CIT				max		21 34 20.3	
	comp=E,679nm,0.3s						
CIT	**Chita**	**4.36 175**		*e*PN	**Pn**	**21 33 06.9**	**-1.5**
CIT				*e*		21 33 18.6	
CIT				*e*S	**Sn**	**21 33 59.5**	**-0.2**
CIT				*e*		21 34 16.3	
CIT				pmax	pmax		
	comp=Z,160nm,0.9s						
CIT				smax	smax		
	comp=E,944nm,0.8s						
TUP	**Tupik**	**4.44 113** ⇓		*i*Pn	**Pn**	**21 33 10.5**	**+1.0**
TUP				*e*		21 33 18.0	
TUP				*e*Pg	**Pb**	**21 33 23.2**	**+3.4**
TUP				Pmax		21 33 31.0	
	comp=E,48nm,0.5s						
TUP				*e*Sn	**Sn**	**21 34 00.3**	**-1.4**
TUP				*e*Sg	**Sg**	**21 34 23.0**	**-0.8**
TUP				Smax		21 34 34.7	
	comp=E,658nm,1.4s						
TUP	**Tupik**	**4.44 113**		*e*PN	**Pn**	**21 33 10.1**	**+0.6**
TUP				*e*		21 33 22.6	
TUP				*e*S	**Sn**	**21 34 00.7**	**-1.0**
TUP				*e*		21 34 21.9	
TUP				pmax	pmax		
	comp=Z,49nm,0.5s						
TUP				smax	smax		
	comp=N,612nm,1.2s						
KELR	**Kotokel**	**4.58 220**		*e*Pn	**Pn**	**21 33 10.5**	**-0.9**
KELR				*e*Pg	**Pb**	**21 33 22.4**	**+0.2**
KELR				*e*		21 33 26.4	
KELR				*e*Sg	**Sb**	**21 34 21.1**	**+3.3**
TRTB	**Turuntaevo**	**5.17 219**		*e*Pn	**Pn**	**21 33 17.6**	**-1.9**
TRTB				*e*Pg	**Pb**	**21 33 32.2**	**-0.1**
TRTB				*e*		21 33 36.7	
TRTB				*e*Sg	**Sb**	**21 34 38.6**	**+3.8**
TRTB				*e*		21 34 41.3	
TRG	**Tyrgan**	**5.26 230**		*e*Pn	**Pn**	**21 33 19.8**	**-1.0**
TRG				*e*		21 33 40.4	
TRG				max		21 33 41.1	
	comp=N,26nm,0.7s						
TRG				*e*Sg	**Sb**	**21 34 40.5**	**+3.1**
TRG				Smax		21 34 53.2	
	comp=N,310nm,1.2s						
TRG	**Tyrgan**	**5.26 230**		*e*PN	**Pn**	**21 33 21.0**	**+0.2**
TRG				*e*		21 33 35.2	
TRG				*e*S	**Sn**	**21 34 19.0**	**-2.9**
TRG				*e*		21 34 39.3	
TRG				pmax	pmax		
	comp=Z,18nm,0.3s						
TRG				smax	smax		
	comp=N,181nm,0.4s						
UUDB	**Ulan-Yde**	**5.46 217**		*e*	Pb	21 33 31.5	-5.8
UUDB				*e*		21 33 36.9	
UUDB				max		21 33 42.6	
	comp=N,58nm,0.6s						
UUDB				*e*Sg	**Sb**	**21 34 48.1**	**+4.9**
UUDB				Smax		21 35 00.7	
	comp=N,511nm,1.4s						
KAB	**Kabansk**	**5.68 223**		*e*Sg	**Sg**	**21 34 55.5**	**-7.9**
KAB				*e*		21 35 05.4	
KAB				max		21 35 24.8	
	comp=N,1μm,1.2s						
STDB	**Stepnoy Dvoret**	**5.70 225**		*e*	**Sn**	**21 34 35.2**	**+2.7**
STDB				*e*Sg	**Sb**	**21 34 54.9**	**+5.1**
HRMR	**Khuramsha**	**5.91 219**		*e*Pn	**Pn**	**21 33 28.3**	**-1.3**
HRMR				*e*Pg	**Pb**	**21 33 46.6**	**+1.8**
HRMR				Pmax		21 33 49.8	
	comp=N,68nm,0.6s						
HRMR				*e*Sg	**Sg**	**21 35 02.5**	**-8.3**
HRMR				*e*Sg	Sb	21 35 05.3	+9.4
HRMR				max		21 35 13.8	
	comp=N,1μm,0.6s						
BGT	**Bolshoye Golou**	**6.18 229**		*e*Pn	**Pn**	**21 33 32.6**	**-0.7**
BGT				*e*		21 33 38.9	
BGT				*e*Pg	**Pb**	**21 33 49.9**	**+0.5**
BGT				Pmax		21 34 13.8	
	comp=N,16nm,0.6s						
BGT				*e*Sg	**Sb**	**21 35 09.0**	**+5.3**
BGT				*e*		21 35 15.6	
BGT				max		21 35 28.0	
	comp=N,141nm,1.4s						
IRK	**Irkutsk**	**6.54 235**		*e*	**Sn**	**21 34 57.2**	**+4.0**
IRK				*e*		21 35 13.2	
IRK				*e*Sg	**Sb**	**21 35 20.3**	**+6.4**
IRK				Smax		21 35 26.1	
	comp=N,539nm,1.1s						
LSTR	**Listvyanka**	**6.55 230**		*e*	Pn	21 33 42.3	+3.9
LSTR				*e*		21 33 46.6	
LSTR				max		21 34 04.8	
	comp=N,14nm,1.0s						
LSTR				*e*		21 34 10.5	
LSTR				*e*		21 34 55.1	
LSTR				*e*		21 35 06.1	
LSTR				*e*Sg	**Sb**	**21 35 20.6**	**+6.2**
LSTR				Smax		21 35 27.2	
	comp=N,175nm,1.6s						
KPC	**Khapcheranga**	**6.67 183**		*e*Pn	**Pn**	**21 33 38.2**	**-2.0**
KPC				*e*		21 33 42.7	
KPC				*e*Pg	Pb	21 34 02.2	+4.3
KPC				Pmax		21 34 05.5	
	comp=N,31nm,0.7s						
KPC				*e*		21 35 15.8	
KPC				*e*Sg	**Sg**	**21 35 29.1**	**-6.3**
KPC				Smax		21 35 32.6	
	comp=N,431nm,1.2s						
KPC	**Khapcheranga**	**6.67 183**		*e*PN	**Pn**	**21 33 38.2**	**-2.0**
KPC				*e*		21 33 59.9	
KPC				*e*		21 35 28.3	
KPC				pmax	pmax		
	comp=Z,31nm,0.8s						
KPC				smax	smax		
	comp=E,432nm,1.6s						
TNDR	**Tynda**	**6.76 95**		*e*	Sn	21 34 49.6	-9.1
TNDR				*e*		21 35 24.2	
TNDR				*e*Sg	**Sg**	**21 35 35.9**	**-2.2**
IVK	**Ivanovka**	**6.78 231**		*e*	**Pn**	**21 33 45.0**	**+3.4**
IVK				*e*		21 33 57.4	
IVK				max		21 34 17.0	
	comp=E,19nm,1.0s						
IVK				*e*Sg	**Sb**	**21 35 26.8**	**+5.8**
IVK				Smax		21 35 38.6	
	comp=E,123nm,0.9s						
TLY	**Talaya**	**7.21 233**		*e*	Pb	21 34 00.8	-6.1
TLY				*e*		21 34 08.9	
TLY				max		21 34 15.8	
	comp=E,17nm,0.8s						
TLY				*e*Sn	**Sn**	**21 35 04.6**	**-5.1**
TLY				*e*Sg	**Sb**	**21 35 39.8**	**+6.6**
TLY				Smax		21 35 50.3	
	comp=E,109nm,1.2s						
ARS	**Arshan**	**7.61 239**		*e*Pn	**Pn**	**21 33 51.8**	**-1.2**
ARS				*e*		21 34 01.8	
ARS				*e*Pg	**Pb**	**21 34 15.5**	**+1.7**
ARS				Pmax		21 34 49.3	
	comp=E,19nm,0.4s						
ARS				*e*Sg	**Sb**	**21 35 51.6**	**+6.8**
ARS				*e*		21 35 54.8	
ARS				max		21 36 10.0	
	comp=E,518nm,0.8s						
ARS	**Arshan**	**7.61 239**		*e*PN	**Pn**	**21 33 51.1**	**-1.9**
ARS				*e*S	**Sb**	**21 35 51.5**	**+6.8**
ARS				smax	smax		
	comp=E,518nm,0.8s						
HIA	**Hailar**	**8.21 147**		*e*	**Sn**	**21 35 25.8**	**-8.5**
HIA				*e*		21 35 43.8	
HIA				*e*		21 36 03.7	
HIA				*e*Sg	**Sg**	**21 36 17.6**	**-6.9**
ZAK	**Zakamensk**	**8.31 228**		*e*Pn	Pn	21 33 51.5	-11
ZAK				*e*Pg	Pb	21 34 29.8	+4.0
ZAK				Pmax		21 34 37.6	
	comp=E,7.0nm,1.2s						
ZAK				*e*Sg	Sg	21 36 15.9	-12
ZAK				Smax		21 36 30.2	
	comp=E,89nm,1.2s						
MOY	**Mondy**	**8.46 241**		*e*	Pn	21 34 09.6	+4.9
MOY				max		21 34 40.0	
	comp=E,20nm,1.2s						
MOY				*e*Sn	**Sn**	**21 35 34.9**	**-5.7**
MOY				*e*		21 36 07.0	
MOY				*e*Sg	Sg	21 36 20.6	-12
MOY				Smax		21 36 22.5	
	comp=E,108nm,1.2s						
ORL	**Orlik**	**8.55 249**		*e*Pn	**Pn**	**21 34 05.5**	**-0.4**
ORL				*e*		21 34 36.7	
ORL				max		21 34 39.3	
	comp=E,21nm,0.5s						
ORL				*e*Sn	**Sn**	**21 35 38.8**	**-4.1**
ORL				*e*Sg	Sg	21 36 21.9	-14
ORL				Smax		21 36 34.7	
	comp=E,80nm,1.0s						
ORL	**Orlik**	**8.55 249**		*e*PN	**Pn

TDJR				*e*Sg	Sn	21 37 25.8	+53
KNGR	**Kungurtug, Tuv**	**10.84**	**244**	*e*Sg	Sn	21 37 31.6	+53
KNGR				*e*		21 37 37.3	
KZLR	**Kyzyl**	**11.81**	**255**	*e*Sg		21 38 04.5	
ERNS	**Erzin**	**12.24**	**248**	*e*Sg		21 38 17.2	
HVS	**Khovu-Aksy**	**12.51**	**253**	*i* P	**Pn**	**21 34 59.6**	**-0.5**
KLR	**Kul'dur**	**13.40**	**114**	Pn	**Pn**	**21 35 13.3**	**+1.2**
	comp=N,0.2nm,0.3s,baz=306,slow=11,SNR=5.2						
KLR				Lg	Lg	21 39 10.3	
	comp=N,0.3nm,0.3s,baz=35,slow=22,SNR=7.4						
KLR	**Kul'dur**	**13.40**	**114**	*i* P	**Pn**	**21 35 13.2**	**+1.0**
ZALV	**Zalesovo Beam**	**16.20**	**273**	*e*P	**P**	**21 35 47.6**	**-2.0**
	comp=N,0.2nm,0.3s,baz=54,slow=14,SNR=3.1						
ZALV	**Zalesovo Beam**	**16.20**	**273**	*e*P	**P**	**21 35 52.2**	**-0.7**
DGZ	**Jazzator, Alta**	**16.66**	**257**	*i* P	**P**	**21 35 56.7**	**-1.5**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TIXI	**Tiksi**	**16.76**	**18**	Pn	**Pn**	**21 35 51.4**	**-5.1**
	comp=Z,1.4nm,0.3s,baz=206,slow=9.1,SNR=29						
TIXI				Sn	Sn	21 38 49.8	-13
	comp=Z,0.7nm,0.3s,baz=300,slow=8.2,SNR=4.0						
TIXI				Lg	Lg	21 40 52.2	
	baz=313,slow=18,SNR=6.6						
TIXI				LR	LR	21 41 48.6	
	comp=Z,37nm,19.2s,baz=240,slow=34						
TIXI	**Tiksi**	**16.76**	**18**	*i* P	**P**	**21 35 58.7**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
NRIK	**Noril'sk**	**17.22**	**329**	LR	LR	21 43 12.7	
	comp=Z,85nm,21.2s,baz=154,slow=39						
SEY	**Seymchan**	**20.71**	**55**	P	Pn	21 36 44.7	+0.1
	comp=Z,0.8nm,0.3s,baz=14,slow=18,SNR=2.1						
KURK	**Kurchatov**	**21.01**	**269**	*i* P	**P**	**21 36 43.9**	**-1.7**
KURK				pmax	pmax		
	comp=Z,13nm,2.2s						
KURBB	**Kurchatov Arra**	**21.10**	**269**	P	**P**	**21 36 45.2**	**-1.5**
	comp=Z,2.8nm,0.7s,baz=57,slow=11,SNR=12						
MKAR	**Makanchi Array**	**21.15**	**256**	P	**P**	**21 36 45.7**	**-1.6**
	comp=Z,4.0nm,0.7s,baz=56,slow=9.5,SNR=27						
MKAR				LR	LR	21 45 17.9	
	comp=Z,48nm,21.1s,baz=25,slow=38						
KSRS	**Korea Array**	**21.41**	**146**	LR	LR	21 46 10.5	
	comp=Z,60nm,19.1s,baz=348,slow=40						
BVAR	**Borovoye Array**	**24.53**	**280**	P	**P**	**21 37 20.6**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=65,slow=12,SNR=6.6						
BVAR				LR	LR	21 47 46.9	
	comp=Z,30nm,18.7s,baz=72,slow=39						
BRVK	**Borovoye**	**24.57**	**280**	*i* P	**P**	**21 37 21.5**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MJAR	**Matsushiro Arr**	**26.12**	**129**	LR	LR	21 47 36.0	
	comp=Z,20nm,19.3s,baz=5.0,slow=36						
JNU	**Nakatsue**	**26.34**	**144**	LR	LR	21 48 56.6	
	comp=Z,60nm,18.9s,baz=300,slow=38						
AAK	**Ala-Archa**	**28.07**	**257**	P	**P**	**21 37 53.1**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=92,slow=4.2,SNR=4.1						
AAK	**Ala-Archa**	**28.07**	**257**	*i* P	**P**	**21 37 52.7**	**-1.2**
AAK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ARU	**Arti**	**29.44**	**293**	LR	LR	21 51 27.1	
	comp=Z,38nm,20.6s,baz=178,slow=40						
JHJ	**Hachijo jima 2**	**29.71**	**130**	LR	LR	21 50 20.5	
	comp=Z,34nm,19.7s,baz=88,slow=37						
ARCES	**ARCESS Array B**	**38.14**	**325**	P	**P**	**21 39 19.4**	**-1.8**
	comp=Z,2.4nm,1.0s,baz=67,slow=9.9,SNR=3.7						
ARCES	**ARCESS Array B**	**38.14**	**325**	*e*P	**P**	**21 39 20.0**	**-1.1**
ARCES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FINES	**FINESS Array B**	**41.99**	**314**	P	**P**	**21 39 52.0**	**-1.1**
	comp=Z,3.2nm,0.6s,baz=86,slow=9.8,SNR=9.1						
FINES	**FINESS Array B**	**41.99**	**314**	*i* P	**P**	**21 39 54.0**	**+0.9**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KIV	**Kislovodsk**	**44.73**	**285**	*e*P	**P**	**21 40 13.7**	**-1.9**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,23nm,16.0s						
KBZ	**Khabaz**	**44.77**	**285**	P	**P**	**21 40 15.9**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=34,slow=11,SNR=3.0						
KBZ	**Khabaz**	**44.77**	**285**	P	**P**	**21 40 16.0**	**+0.3**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**44.89**	**37**	P	**P**	**21 40 17.7**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=309,slow=10.0,SNR=5.9						
AKASG	**Malin Array Be**	**47.16**	**300**	P	**P**	**21 40 32.2**	**-2.3**
	comp=Z,0.4nm,0.4s,baz=44,slow=9.0,SNR=4.8						
NB2	**NORSAR Subarra**	**47.88**	**320**	P	**P**	**21 40 38.3**	**-1.8**
	comp=Z,1.9nm,0.6s,baz=50,slow=7.9						
NOA	**NORSAR Array B**	**47.88**	**320**	P	**P**	**21 40 38.2**	**-1.8**
	comp=Z,0.7nm,0.6s,baz=49,slow=7.5,SNR=5.9						
BRTR	**Keskin Array B**	**52.52**	**287**	P	**P**	**21 41 14.2**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=44,slow=8.5,SNR=3.5						
DPC	**Dobruska-Polom**	**53.36**	**308**	*e*P	**P**	**21 41 20.8**	**-0.7**
DPC	**Dobruska-Polom**	**53.36**	**308**	*e*P	**P**	**21 41 20.8**	**-0.7**
KHC	**Kasperske Hory**	**55.46**	**308**	*e*P	**P**	**21 41 36.0**	**-0.8**
KHC	**Kasperske Hory**	**55.46**	**308**	*e*P	**P**	**21 41 36.0**	**-0.8**
GERES	**GERESS Array B**	**55.62**	**308**	P	**P**	**21 41 36.9**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=39,slow=6.8,SNR=7.9						
ESDC	**Sonseca Array**	**70.50**	**313**	P	**P**	**21 43 15.9**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=25,slow=7.8,SNR=3.8						
NVAR	**Mina Array Bea**	**76.08**	**39**	P	**P**	**21 43 50.7**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=330,slow=6.0,SNR=4.7						
WRA	**Warramunga Arr**	**78.12**	**159**	P	**P**	**21 43 59.8**	**-1.6**
	comp=Z,0.2nm,0.7s,baz=352,slow=6.4,SNR=3.3						

IDC ***27*** *22:08:09.3±0.5, 3.°10S×129.°05E, h0km, mb4.2/18, mb1 4.3/22, mb1mx4.2/37, mbtmp4.2/22, ML3.9/3, MS3.5/12, Ms1 3.5/12, ms1mx3.2/30, Error ellipse: s-maj=17.4km s-min=12.4km az=68.0*

NEIC ***27*** *22:08:11.2±0.3, 2.°99S×129.°18E, h10km, mb4.4/24, Error ellipse: s-maj=8.3km s-min=5.1km az=57.0*

ISCJB ***27*** *22:08:12.1±0.2, 3.°02S±0.°03×129.°18E±0.°03, h28km, mb4.4/37, MS3.5/9, Error ellipse: s-maj=4.8km s-min=3.9km az=142.0*

DJA ***27*** *22:08:16.9±0.2, 3.°S±2.°×12.°9E±.°, h63km±4km, M4.7/36, mB5.1/12, mb4.7/36, MLv5.0/12, Mw(mB)4.5/12*

ISC 27 22:08:13.2±0.4, 2.°98S±0.°04×129.°36E±0.°05, h28km, n116, σ1°84/115, mb4.5/37, MS3.4/9, 1D, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.62**	**161**	P	**Pb**	**22 08 44.0**	**+1.5**
SIJI	**Sorong**	**2.83**	**42**	Pn	**Pb**	**22 09 00.9**	**-2.2**
	230nm,0.3s,baz=244,slow=14,SNR=344						
SIJI				Sn	**Sb**	**22 09 35.6**	**-1.8**
	161nm,0.3s,baz=214,slow=22,SNR=20						
SWI	**Sorong**	**2.83**	**42**	P	**Pb**	**22 09 00.9**	**-2.2**
FAKI	**Fak Fak**	**2.88**	**89**	*e*Pn	**Pb**	**22 09 03.0**	**-1.0**
FAKI				*e*Sn	**Sn**	**22 09 30.9**	**-0.2**
FAKI	**Fak Fak**	**2.88**	**89**	P	**Pb**	**22 09 03.0**	**-1.0**
TNTI	**Ternate**	**4.23**	**332**	*e*Pn	**Pn**	**22 09 15.1**	**-0.7**
TNTI	**Ternate**	**4.23**	**332**	P	**Pn**	**22 09 15.3**	**-0.5**
RKPI	**Ransiki, Papua**	**5.03**	**73**	P	Pn	22 09 32.0	+5.2
SAUI	**Saumlaki**	**5.33**	**159**	*e*Pn	**Pn**	**22 09 33.6**	**+2.6**
SAUI	**Saumlaki**	**5.33**	**159**	P	Pn	22 09 37.5	+6.5
KMSI	**Cibinong**	**6.43**	**303**	P	**Pn**	**22 09 46.1**	**-0.1**
LUWI	**Luwuk**	**6.86**	**286**	*e*Pn	**Pn**	**22 09 49.7**	**-2.3**
LUWI	**Luwuk**	**6.86**	**286**	P	**Pn**	**22 09 49.8**	**-2.3**
BBSI	**Bau Bau**	**7.22**	**250**	P	**Pn**	**22 09 59.6**	**+2.7**
APSI	**Ampana**	**7.98**	**285**	P	**Pn**	**22 10 06.3**	**-1.1**
MRSI	**Marisa**	**8.18**	**295**	P	**Pn**	**22 10 07.6**	**-2.5**
SOEI	**Soe**	**8.42**	**217**	*e*Pn	**Pn**	**22 10 17.8**	**+4.2**
SOEI	**Soe**	**8.42**	**217**	P	Pn	22 10 19.0	+5.4
MMRI	**Maumere**	**9.04**	**231**	*e*Pn	**Pn**	**22 10 22.3**	**+0.3**
MMRI	**Maumere**	**9.04**	**231**	P	**Pn**	**22 10 25.7**	**+3.7**
BATI	**Baumata**	**9.14**	**218**	Pn	**Pn**	**22 10 27.3**	**+3.9**
	3.4nm,0.3s,baz=199,slow=0.9,SNR=7.2						
BATI				LR	LR	22 14 34.5	
	comp=Z,444nm,18.8s,baz=18,slow=44						
BATI	**Baumata**	**9.14**	**218**	P	Pn	22 10 28.4	+5.0
BNSI	**Bone**	**9.34**	**261**	P	**Pn**	**22 10 27.4**	**+1.3**
BKSI	**Bulukumba**	**9.50**	**256**	P	**Pn**	**22 10 29.4**	**+1.1**
TTSI	**Tana Toraja**	**9.53**	**269**	P	**Pn**	**22 10 31.6**	**+2.9**
EDFI	**Ende, Flores**	**9.54**	**233**	P	**Pn**	**22 10 32.6**	**+3.7**
SPSI	**Sidrap Palu**	**9.62**	**264**	P	**Pn**	**22 10 30.6**	**+0.6**
MTN	**Manton Dam**	**9.96**	**170**	*e*Pn	**Pn**	**22 10 36.5**	**+2.0**
MTN				*e*Sn	**Sn**	**22 12 24.4**	**-0.9**
MPSI	**Mapaga**	**10.02**	**289**	P	**Pn**	**22 10 34.0**	**-1.4**
JAY	**Jayapura**	**11.34**	**88**	Pn	Pn	22 11 01.0	+7.5
	0.5nm,0.3s,baz=143,slow=20,SNR=2.5						
JAY	**Jayapura**	**11.34**	**88**	Pn	Pn	22 11 01.0	+7.5
BKB	**Balikpapan**	**12.57**	**278**	P	**Pn**	**22 11 12.0**	**+1.6**
PLAI	**Plampang**	**12.90**	**243**	P	**Pn**	**22 11 17.4**	**+2.6**
TWSI	**Taliwang, Sumb**	**13.66**	**245**	P	**Pn**	**22 11 26.0**	**+0.7**
SRBI	**Singaraja**	**14.96**	**250**	P	**Pn**	**22 11 43.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**15.46**	**193**	Pn	**Pn**	**22 11 47.8**	**-1.6**
	0.5nm,0.3s,baz=28,slow=8.0,SNR=16						
FITZ				LR	LR	22 17 59.8	
	comp=Z,147nm,19.8s,baz=26,slow=39						
FITZ	**Fitzroy Crossi**	**15.46**	**193**	*e*Pn	**Pn**	**22 11 49.4**	**-0.1**
	7.7nm,0.7s						
KMMI	**Kalianget**	**15.86**	**255**	P	**P**	**22 11 58.4**	**+0.3**
JAGI	**Jajag, Banyuwa**	**16.08**	**250**	*e*Pn	**Pn**	**22 11 56.6**	**-0.9**
	22nm,0.8s						
JAGI	**Jajag, Banyuwa**	**16.08**	**250**	P	**Pn**	**22 11 56.6**	**-0.9**
BLJI	**Banyuglugur**	**16.39**	**253**	P	**P**	**22 12 03.4**	**-0.7**
COEN	**Coen**	**17.46**	**129**	*e*Pn	**P**	**22 12 18.7**	**+2.7**
	24nm,1.1s						
WRAB	**Tennant Creek**	**17.54**	**164**	*e*Pn	**Pn**	**22 12 16.1**	**+0.2**
	6.9nm,0.7s						
WRAB				*e*S	**Sn**	**22 15 29.4**	**-1.1**
WRA	**Warramunga Arr**	**17.55**	**164**	P	**Pn**	**22 12 16.1**	**+0.2**
	1.3nm,0.3s,baz=348,slow=13,SNR=60						
WRA				S	**Sn**	**22 15 24.5**	**-6.1**
	0.3nm,0.3s,baz=349,slow=20,SNR=3.6						
WRA				LR	LR	22 19 48.8	
	comp=Z,175nm,19.3s,baz=330,slow=40						
WB2	**Warramunga Arr**	**17.55**	**164**	*e*Pn	**P**	**22 12 16.6**	**-0.2**
	8.2nm,0.7s						
WC3	**Warramunga Arr**	**17.57**	**164**	*e*Pn	**Pn**	**22 12 16.7**	**+0.5**
	8.8nm,0.6s						
NGJI	**Ngawi**	**18.35**	**256**	P	**P**	**22 12 25.4**	**-0.3**
PMG	**Port Moresby**	**18.80**	**111**	P	**Pn**	**22 12 33.2**	**+1.9**
	1.1nm,0.3s,baz=184,slow=14,SNR=3.4						
PMG				LR	LR	22 21 36.1	
	comp=Z,142nm,19.1s,baz=298,slow=42						
PMG	**Port Moresby**	**18.80**	**111**	*e*P	**P**	**22 12 30.6**	**0.0**
	2.4nm,0.3s						
PCJI	**Pacitan**	**18.82**	**253**	P	**P**	**22 12 27.4**	**-3.5**
WOJI	**Wonogiri, Jawa**	**18.98**	**255**	P	**P**	**22 12 29.7**	**-2.9**
SMRI	**Semarang**	**19.27**	**257**	*e*P	**P**	**22 12 35.0**	**-0.9**
	85nm,1.0s						
SMRI	**Semarang**	**19.27**	**257**	P	**P**	**22 12 35.0**	**-0.9**
KSM	**Kuching**	**19.55**	**283**	*e*P	**P**	**22 12 38.8**	**-0.2**
	9.9nm,0.9s						
MBWA	**Marble Bar**	**20.36**	**207**	*e*P	**P**	**22 12 45.2**	**-2.5**
	19nm,1.0s						
KPJI	**Karang Pucung**	**20.80**	**257**	P	**P**	**22 12 51.8**	**-0.7**
AS31	**Alice Springs**	**21.03**	**168**	*e*P	**P**	**22 12 55.7**	**+0.7**
	8.9nm,0.6s						
ASAR	**Alice Springs**	**21.03**	**168**	P	**P**	**22 12 55.6**	**+0.7**
	19nm,0.5s,baz=349,slow=11,SNR=292						
ASAR				S	**S**	**22 16 43.3**	**-4.5**
	2.4nm,0.7s,baz=346,slow=19,SNR=4.7						
ASAR				LR	LR	22 21 42.3	
	comp=Z,161nm,18.1s,baz=346,slow=39						
AS01	**Alice Springs**	**21.04**	**168**	*e*P	**P**	**22 12 55.3**	**+0.3**
LEM	**Lembang**	**22.00**	**259**	P	**P**	**22 13 00.6**	**-5.0**
	8.0nm,0.4s,baz=323,slow=20,SNR=2.3						
LEM				LR	LR	22 23 25.3	
	comp=Z,162nm,20.5s,baz=110,slow=42						
PPBI	**Pangkal Pinang**	**23.22**	**271**	P	**P**	**22 13 17.5**	**-0.8**
CTA	**Charters Tower**	**23.68**	**137**	P	**P**	**22 13 24.4**	**+1.6**
	2.0nm,0.7s,baz=324,slow=14,SNR=2.0						
MYKOM	**Kota Tinggi**	**25.94**	**280**	*e*P	**P**	**22 13 43.3**	**-0.2**
	10.0nm,0.8s						
PDSI	**Padang**	**28.95**	**273**	P	**P**	**22 14 09.2**	**-1.4**
	27nm,1.0s						
IPM	**Ipoh**	**29.27**	**285**	*e*P	**P**	**22 14 12.1**	**-1.2**
	14nm,1.0s						
JOW	**Kunigami**	**29.66**	**358**	LR	LR	22 24 26.6	
	comp=Z,95nm,21.6s,baz=122,slow=33						
KULM	**Kulim**	**29.84**	**286**	*e*P	**P**	**22 14 19.2**	**+0.9**
	7.1nm,0.7s						
MNSI	**Mandailing Nat**	**30.01**	**277**	P	**P**	**22 14 19.5**	**-0.4**
	13nm,0.6s						
PSI	**Prapat**	**30.96**	**280**	P	**P**	**22 14 26.6**	**-1.9**
	8.7nm,0.7s,baz=180,slow=1.3,SNR=6.4						
PSI	**Prapat**	**30.96**	**280**	*e*P	**P**	**22 14 26.5**	**-1.9**
	14nm,0.9s						
STKA	**Stephens Creek**	**30.96**	**159**	P	**P**	**22 14 28.7**	**+0.6**
	2.0nm,0.6s,baz=323,slow=13,SNR=4.7						
STKA				LR	LR	22 28 34.2	
	comp=Z,115nm,18.5s,baz=3.7,slow=40						
NWAO	**Narrogin (SRO)**	**31.89**	**200**	P	**P**	**22 14 33.9**	**-2.3**
	6.4nm,0.8s,baz=192,slow=19,SNR=3.4						
MLSI	**Meulaboh, Aceh**	**33.71**	**282**	P	**P**	**22 14 51.5**	**-0.9**
	50nm,1.0s						
CM01	**Chiang Mai Arr**	**36.73**	**307**	*e*P	**P**	**22 15 18.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**36.76**	**307**	P	**P**	**22 15 18.9**	**+0.3**
	2.1nm,0.7s,baz=141,slow=7.4,SNR=18						
CMMT	**Chiang Mai**	**36.94**	**307**	P	**P**	**22 15 20.7**	**+0.5**
	9.1nm,1.0s						
CHTO	**Chiang Mai**	**36.95**	**307**	*e*P	**P**	**22 15 20.4**	**+0.2**
	7.6nm,0.9s						
CHTO	**Chiang Mai**	**36.95**	**307**	P	**P**	**22 15 20.7**	**+0.5**
	41nm,0.9s						
MJAR	**Matsushiro Arr**	**40.18**	**11**	P	**P**	**22 15 48.4**	**+1.3**
	1.0nm,0.6s,baz=196,slow=11,SNR=3.6						
MJAR				LR	LR	22 31 52.6	
	comp=Z,32nm,21.1s,baz=20,slow=35						
KSRS	**Korea Array**	**40.25**	**358**	LR	LR	22 31 08.1	
	comp=Z,39nm,20.4s,baz=164,slow=34						
LZH	**Lanzhou**	**45.60**	**331**	*e*P	**P**	**22 16 34.3**	**+3.1**
LZH				pP	sP	22 16 46.3	+3.2
LZH				sP	pP	22 16 49.5	+10
LZH				*e*PP	**PP**	**22 18 24.5**	**+6.2**
LZH				pmax	pmax		
	comp=Z,21nm,1.1s						
LZH				pmax	pmax		
	comp=Z,95nm,4.3s						
HHC	**Hu-ho-hao-te**	**46.55**	**341**	*e*P	**P**	**22 16 41.3**	**+2.7**
HHC				pmax	pmax		
	comp=Z,23nm,0.6s						
HHC				pmax	pmax		
	comp=Z,390nm,5.4s						
LSA	**Lhasa**	**48.91**	**314**	*e*P	**P**	**22 16 58.2**	**+0.7**
	comp=Z,3.3nm,0.6s						
PALK	**Pallekele**	**49.62**	**282**	P	**P**	**22 17 01.4**	**-1.3**
	comp=Z,3.4nm,0.6s,baz=122,slow=2.4,SNR=3.1						
GTA	**Gaotai**	**50.18**	**330**	||P	**P**	**22 17 07.3**	**+0.6**
GTA				pP	pP	22 17 15.5	+0.3
GTA				sP	sP	22 17 20.0	+1.4
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
RAMN	**Ramite**	**50.86**	**309**	*e*P	**P**	**22 17 11.9**	**-0.3**
	comp=Z,21nm,0.6s						
JIRN	**Jiri**	**51.52**	**309**	*e*P	**P**	**22 17 16.6**	**-0.7**
	comp=Z,8.6nm,0.6s						
GUN	**Gumba**	**51.89**	**309**	*e*P	**P**	**22 17 19.3**	**-0.7**
	comp=Z,14nm,0.7s						
PKI	**Pulchoki**	**52.09**	**309**	*e*P	**P**	**22 17 20.4**	**-1.1**
	comp=Z,9.2nm,1.0s						
PKIN	**Phulchoki**	**52.10**	**309**	*e*P	**P**	**22 17 20.3**	**-1.2**
KKN	**Kakani**	**52.29**	**309**	*e*P	**P**	**22 17 22.0**	**-0.8**
	comp=Z,6.9nm,0.7s						
DMN	**Daman**	**52.34**	**309**	*e*P	**P**	**22 17 22.5**	**-0.8**
KOLN	**Koldanda**	**53.60**	**308**	*e*P	**P**	**22 17 32.0**	**-0.5**
	comp=Z,16nm,0.8s						
DANN	**Dangsing**	**53.74**	**309**	*e*P	**P**	**22 17 32.7**	**-0.9**
	comp=Z,16nm,0.6s						
PYUN	**Piuthan**	**54.23**	**308**	*e*P	**P**	**22 17 36.5**	**-0.6**
	comp=Z,21nm,1.0s						
ULN	**Ulaanbaatar**	**54.27**	**342**	*e*P	**P**	**22 17 37.3**	**+0.3**
	comp=Z,7.1nm,1.4s						
SONM	**Songino Array**	**54.45**	**341**	P	**P**	**22 17 38.7**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=151,slow=6.2,SNR=6.0						
WMQ	**Urumqi**	**59.71**	**326**	*e*P	**P**	**22 18 18.3**	**+2.8**
WMQ				pP	sP	22 18 32.3	+4.8
WMQ				LR	LR		
	comp=E,85nm,20.1s						
WMQ				LR	LR		
	comp=Z,84nm,21.7s						
PETK	**Petropavlovsk-**	**60.74**	**19**	P	**P**	**22 18 25.3**	**+3.0**
	comp=Z,4.7nm,0.8s,baz=189,slow=5.5,SNR=2.7						
MKAR	**Makanchi Array**	**64.55**	**326**	P	**P**	**22 18 47.6**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=126,slow=7.5,SNR=15						
ZAA0	**Zalesovo Array**	**67.72**	**333**	*e*P	**P**	**22 19 07.9**	**-0.1**
	comp=Z,1.6nm,0.6s						
ZALV	**Zalesovo Beam**	**67.72**	**333**	P	**P**	**22 19 07.3**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=131,slow=6.7,SNR=5.7						
ZALV				LR	LR	22 50 42.3	
	comp=Z,24nm,19.4s,baz=68,slow=38						
ZALV	**Zalesovo Beam**	**67.72**	**333**	*e*P	**P**	**22 19 07.7**	**-0.3**
KURK	**Kurchatov**	**68.78**	**328**	*e*P	**P**	**22 19 14.1**	**-0.6**
	comp=Z,4.3nm,0.9s						
BRVK	**Borovoye**	**74.42**	**327**	*e*P	**P**	**22 19 48.4**	**-0.3**
	comp=Z,3.4nm,0.8s						
VNDA	**Vanda**	**76.49**	**173**	P	**P**	**22 19 59.6**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=317,slow=7.5,SNR=17						
VNDA	**Vanda**	**76.49**	**173**	*e*P	**P**	**22 20 00.0**	**-0.1**
	comp=Z,1.6nm,1.0s						
GEYT	**Alibeck**	**77.16**	**310**	P	**P**	**22 20 03.6**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=123,slow=10,SNR=3.0						
ABKAR	**Akbulak array**	**78.99**	**321**	*e*P	**P**	**22 20 14.2**	**-0.3**
RAYN	**Ar Rayn**	**85.55**	**294**	*e*P	**P**	**22 20 48.7**	**-0.8**
	comp=Z,8.3nm,1.2s						
QSPA	**South Pole Qui**	**86.97**	**180**	*e*P	**P**	**22 20 54.8**	**-0.9**
	comp=Z,2.9nm,0.5s						
KBZ	**Khabaz**	**89.48**	**314**	P	**P**	**22 21 08.3**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=105,slow=4.9,SNR=3.3						
ILAR	**Eielson Array**	**90.00**	**25**	P	**P**	**22 21 10.7**	**+0.8**
	comp=Z,0.5nm,1.0s,baz=273,slow=5.1,SNR=3.0						
KMBO	**Kilima Mbogo**	**92.05**	**269**	P	**P**	**22 21 20.9**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=20,slow=9.0,SNR=4.3						
KMBO				LR	LR	22 59 06.7	
	comp=Z,33nm,21.0s,baz=92,slow=33						
TORD	**Torodi Ar. Bea**	**127.31**	**284**	PKP	**PKPdf**	**22 27 15.3**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=106,slow=1.9,SNR=5.5						
CPUP	**Villa Florida**	**150.15**	**168**	PKPbc	**PKPbc**	**22 28 02.1**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=203,slow=0.4,SNR=3.4						

IDC 27 22:40:32.2±6.3, 4.°59S×133.°22E, h0km, mb3.8/1, mb1 3.6/3, mb1mx3.4/21, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=383.8km s-min=30.8km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.30**	**176**	Pn	Pn	22 44 07.6	-2.0
	0.1nm,0.3s,baz=357,slow=12,SNR=6.4						
WRA				Sn	Sn	22 46 48.9	-11
	0.1nm,0.3s,baz=2.3,slow=23,SNR=4.2						
ASAR	**Alice Springs**	**18.98**	**178**	P	Pn	22 44 56.2	+0.2
	0.2nm,0.3s,baz=349,slow=9.4,SNR=7.7						
ASAR				S	Sn	22 48 19.5	-10
	0.1nm,0.3s,baz=358,slow=30,SNR=3.1						
MKAR	**Makanchi Array**	**68.04**	**325**	P	P	22 51 33.6	0.0
	0.7nm,0.6s,baz=112,slow=7.6,SNR=7.0						

IDC ***27*** *22:44:01.1±0.9, 38.°92N×22.°14E, h0km, mb3.6/9, mb1 3.7/16, mb1mx3.5/39, mbtmp3.6/16, ML3.3/7, MS2.4/1, Ms1 2.4/1, ms1mx2.0/26, Error ellipse: s-maj=17.6km s-min=14.8km az=83.0*

BEO ***27*** *22:44:02.4±0.8, 38.°89N×22.°26E, h10km, ML3.5/2*

PDG ***27*** *22:44:03.3±0.5, 39.°03N×22.°20E, h12km±1km, ML3.5/10, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*

ATH ***27*** *22:44:03.1, 39.°00N×22.°18E, h24km, ML3.4/24, Error ellipse: s-maj=0.7km s-min=0.5km az=203.0*

THE ***27*** *22:44:03.7, 38.°98N×22.°16E, h13km, ML3.6/15, Error ellipse: s-maj=0.6km s-min=0.3km az=279.0*

ISK ***27*** *22:45:33.8, 36.°62N×27.°96E, h4km, ML2.4/7*

DDA ***27*** *22:45:34.4, 36.°58N×27.°98E, h7km, Ml2.6, Suspected Mining explosion.*

ISC 27 22:44:04.1±0.8, 38.°98N±0.°01×22.°17E±0.°01, h18km±2km, n285, σ1°35/346, mb3.7/9, 17C-11D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAKR	**Makrakomi, Fth**	**0.04**	**314**	P	**Pg**	**22 44 06.6**	**-0.8**
MAKR	**Makrakomi, Fth**	**0

	comp=E,9604µm,0.5s								
SMIA	**Simia**	**0.81**	**97**	P	**Pb**	**22 44 19.6**	**-0.1**
SMIA				S	**Sb**	**22 44 31.1**	**+0.8**
NEO	**Neokhori**	**0.88**	**68**	P	**Pb**	**22 44 20.6**	**-0.2**
NEO				S	**Sb**	**22 44 32.8**	**+0.6**
NEO				AML	AML	22 44 37.0	
	comp=E,4319µm,0.7s						
NEO				AML	AML	22 44 41.7	
	comp=N,5856µm,0.4s						
NEO	**Neokhori**	**0.88**	**68**	P	**Pb**	**22 44 20.2**	**-0.6**
NEO				S	**Sn**	**22 44 34.0**	**+0.1**
XOR	**Xorichti**	**0.88**	**64**	P	**Pb**	**22 44 20.6**	**-0.2**
XOR				S	**Sb**	**22 44 32.5**	**+0.2**
XOR				AML	AML	22 44 36.9	
	comp=E,4834µm,0.5s						
XOR				AML	AML	22 44 37.6	
	comp=N,6062µm,0.5s						
XOR	**Xorichti**	**0.88**	**64**	P	**Pb**	**22 44 20.1**	**-0.7**
XOR				S	**Sb**	**22 44 33.7**	**+1.5**
PROD	**Prodromos**	**0.92**	**142**	P	**Pb**	**22 44 20.9**	**-0.6**
PROD				S	**Sb**	**22 44 34.3**	**+1.0**
PROD				AML	AML	22 44 38.5	
	comp=E,4687µm,0.3s						
PROD				AML	AML	22 44 40.7	
	comp=N,4313µm,0.3s						
KLV	**Kalavryta, Ach**	**0.94**	**181**	P	**Pb**	**22 44 21.4**	**-0.5**
KLV	**Kalavryta, Ach**	**0.94**	**181**	P	**Pg**	**22 44 20.7**	**-1.6**
KLV				S	**Sb**	**22 44 34.7**	**+0.8**
SKIA	**Skiathos**	**1.02**	**79**	P	**Pb**	**22 44 22.9**	**-0.4**
SKIA				S	**Sb**	**22 44 37.2**	**+0.9**
SKIA				AML	AML	22 44 41.5	
	comp=N,1829µm,0.9s						
SKIA				AML	AML	22 44 43.1	
	comp=E,1499µm,0.4s						
SKIA	**Skiathos**	**1.02**	**79**	P	**Pb**	**22 44 22.8**	**-0.4**
GUR	**Goura**	**1.05**	**173**	P	**Pb**	**22 44 23.3**	**-0.5**
GUR				S	**Sb**	**22 44 38.0**	**+0.7**
GUR				AML	AML	22 44 41.5	
	comp=N,9209µm,0.3s						
GUR				AML	AML	22 44 42.1	
	comp=E,8337µm,0.3s						
GUR	**Goura**	**1.05**	**173**	P	**Pg**	**22 44 22.8**	**-1.7**
GUR				S	**Sb**	**22 44 37.7**	**+0.4**
RLS	**Riolos of Patr**	**1.08**	**211**	P	**Pb**	**22 44 24.1**	**0.0**
RLS				S	**Sn**	**22 44 40.0**	**+1.3**
RLS				AML	AML	22 44 42.3	
	comp=E,2940µm,0.6s						
RLS				AML	AML	22 44 43.5	
	comp=N,2566µm,0.5s						
RLS	**Riolos of Patr**	**1.08**	**211**	P	**Pb**	**22 44 23.9**	**-0.2**
DRO	**Drossia**	**1.09**	**200**	P	**Pb**	**22 44 24.0**	**-0.4**
DRO				S	**Sn**	**22 44 40.6**	**+1.5**
DRO				AML	AML	22 44 45.2	
	comp=N,7981µm,0.3s						
DRO				AML	AML	22 44 49.2	
	comp=E,12194µm,0.5s						
DRO	**Drossia**	**1.09**	**200**	P	**Pg**	**22 44 23.6**	**-1.6**
MGNA	**Meganis ,,**	**1.13**	**254**	P	**Pn**	**22 44 25.4**	**+0.4**
LIT	**Litokhoron**	**1.14**	**12**	P	**Pb**	**22 44 24.6**	**-0.8**
LIT				S	**Sb**	**22 44 40.6**	**+0.8**
LIT				AML	AML	22 44 42.6	
	comp=N,4149µm,0.8s						
LIT				AML	AML	22 44 46.0	
	comp=E,3516µm,0.6s						
LIT	**Litokhoron**	**1.14**	**12**	P	**Pg**	**22 44 24.2**	**-2.0**
VIL2	**Platees**	**1.15**	**132**	P	**Pn**	**22 44 26.2**	**+0.9**
VIL2				S	**Sn**	**22 44 43.6**	**+3.0**
VIL2				AML	AML	22 44 49.0	
	comp=E,2090µm,0.4s						
VIL2				AML	AML	22 44 51.7	
	comp=N,973µm,0.3s						
LOUT	**Loutraki**	**1.18**	**147**	P	**Pn**	**22 44 25.9**	**+0.3**
LOUT				S	**Sb**	**22 44 41.6**	**+1.0**
LOUT				AML	AML	22 44 48.2	
	comp=E,392µm,0.4s						
LOUT				AML	AML	22 44 48.4	
	comp=N,378µm,0.7s						
LOUT	**Loutraki**	**1.18**	**147**	P	**Pb**	**22 44 25.4**	**-0.4**
TSLK	**Tsoukalades, L**	**1.20**	**263**	P	**Pb**	**22 44 26.1**	**-0.1**
LKD2	**Lefkada island**	**1.20**	**261**	P	**Pb**	**22 44 26.0**	**-0.3**
LKD2	**Lefkada island**	**1.20**	**261**	P	**Pg**	**22 44 25.5**	**-1.8**
VILL	**Villia**	**1.21**	**132**	P	**Pb**	**22 44 26.0**	**-0.5**
JAN	**Janina**	**1.23**	**304**	P	**Pn**	**22 44 26.9**	**+0.6**
JAN	**Janina**	**1.23**	**304**	P	**Pg**	**22 44 25.9**	**-1.9**
EVGI	**Lefkada island**	**1.24**	**254**	P	**Pg**	**22 44 26.4**	**-1.6**
EVGI	**Lefkada island**	**1.24**	**254**	P	**Pg**	**22 44 25.7**	**-2.3**
VTN	**Vitineika**	**1.32**	**216**	P	**Pb**	**22 44 29.2**	**+1.0**
ALNA	**Alonissos**	**1.33**	**82**	P	**Pb**	**22 44 27.8**	**-0.6**
AOS	**Alonnisos**	**1.34**	**81**	P	**Pg**	**22 44 26.3**	**-3.7**
AOS	**Alonnisos**	**1.34**	**81**	P	**Pg**	**22 44 27.9**	**-2.1**
AOS	**Alonnisos**	**1.34**	**81**	P	**Pg**	**22 44 27.3**	**-2.7**
KZN	**Kozani**	**1.36**	**347**	P	**Pn**	**22 44 28.3**	**+0.1**
KZN				S	**Sn**	**22 44 46.8**	**+1.0**
KZN				AML	AML	22 44 50.3	
	comp=N,2232µm,0.7s						
KZN				AML	AML	22 44 52.1	
	comp=E,2876µm,0.6s						
KZN	**Kozani**	**1.36**	**347**	P	**Pg**	**22 44 27.7**	**-2.6**
FSK	**Fiskardo**	**1.36**	**248**	P	**Pg**	**22 44 28.0**	**-2.4**
FSK	**Fiskardo**	**1.36**	**248**	P	**Pg**	**22 44 27.8**	**-2.6**
PENT	**Pentalofos**	**1.45**	**327**	P	**Pn**	**22 44 29.6**	**+0.1**
PENT	**Pentalofos**	**1.45**	**327**	P	**Pn**	**22 44 29.4**	**-0.1**
TRIP	**Tripoli**	**1.45**	**177**	P	**Pn**	**22 44 30.1**	**+0.6**
TRIP				S	**Sb**	**22 44 49.7**	**+0.9**
VLS	**Valsamata**	**1.48**	**238**	P	**Pn**	**22 44 30.1**	**+0.3**
VLS	**Valsamata**	**1.48**	**238**	P	**Pn**	**22 44 29.2**	**-0.6**
EREA	**Eretria**	**1.49**	**112**	P	**Pg**	**22 44 30.6**	**-2.1**
EREA				S	**Sg**	**22 44 49.9**	**-2.1**
EREA				AML	AML	22 44 54.1	
	comp=E,1569µm,0.3s						
EREA				AML	AML	22 44 55.6	
	comp=N,1309µm,0.4s						
EREA	**Eretria**	**1.49**	**112**	P	**Pn**	**22 44 30.0**	**+0.1**
AMT	**Artemida-Makis**	**1.49**	**194**	P	**Pg**	**22 44 31.4**	**-1.4**
IGT	**Igoumenitsa**	**1.53**	**292**	*e*Pg	**Pb**	**22 44 31.5**	**-0.4**
IGT				*e*Sg	**Sn**	**22 44 54.1**	**+4.1**
IGT	**Igoumenitsa**	**1.53**	**292**	P	**Pg**	**22 44 31.7**	**-1.9**
IGT	**Igoumenitsa**	**1.53**	**292**	P	**Pb**	**22 44 31.3**	**-0.6**
ATH	**Athens Observa**	**1.58**	**129**	P	**Pb**	**22 44 32.3**	**-0.4**
ATH				S	**Sn**	**22 44 52.1**	**+1.1**
ATH				AML	AML	22 44 57.7	
	comp=N,897µm,0.3s						
ATH				AML	AML	22 44 59.7	
	comp=E,1709µm,0.3s						
ATH	**Athens Observa**	**1.58**	**129**	P	**Pn**	**22 44 31.8**	**+0.7**
ATH				S	**Sn**	**22 44 51.3**	**+0.3**
VLX	**Vlachokerasia**	**1.62**	**174**	P	**Pb**	**22 44 33.3**	**-0.2**
VLX				S	**Sg**	**22 44 54.6**	**-1.7**
ATHU	**Athens Univers**	**1.62**	**128**	P	**Pb**	**22 44 32.7**	**-0.8**
ATHU	**Athens Univers**	**1.62**	**128**	P	**Pn**	**22 44 32.5**	**+0.8**
PTL	**Penteli**	**1.62**	**125**	P	**Pb**	**22 44 32.7**	**-0.7**
PTL	**Penteli**	**1.62**	**125**	P	**Pn**	**22 44 32.3**	**+0.5**
SGD	**Sagiada**	**1.63**	**293**	P	**Pg**	**22 44 34.0**	**-1.5**
SGD	**Sagiada**	**1.63**	**293**	P	**Pb**	**22 44 33.0**	**-0.6**
DION	**Dionisos Attik**	**1.65**	**123**	P	**Pb**	**22 44 33.2**	**-0.8**
NEST	**Nestorio**	**1.67**	**329**	P	**Pb**	**22 44 33.8**	**-0.6**
NEST	**Nestorio**	**1.67**	**329**	P	**Pn**	**22 44 32.6**	**0.0**
DID	**Didima**	**1.69**	**150**	P	**Pn**	**22 44 33.7**	**+0.9**
DID	**Didima**	**1.69**	**150**	P	**Pn**	**22 44 33.3**	**+0.5**
VLY	**Voula,Athens**	**1.70**	**131**	P	**Pb**	**22 44 33.9**	**-0.9**
VLY	**Voula,Athens**	**1.70**	**131**	P	**Pn**	**22 44 33.6**	**+0.8**
PLG	**Polygyros**	**1.70**	**35**	P	**Pn**	**22 44 32.4**	**-0.5**
PLG	**Polygyros**	**1.70**	**35**	P	**Pn**	**22 44 32.2**	**-0.7**
THE	**Thessaloniki**	**1.76**	**20**	P	**Pn**	**22 44 32.8**	**-0.8**
THE	**Thessaloniki**	**1.76**	**20**	P	**Pn**	**22 44 32.6**	**-1.0**
HORT	**Hortiatis**	**1.76**	**24**	*e*P	**Pn**	**22 44 31.1**	**-2.7**
HORT	**Hortiatis**	**1.76**	**24**	P	**Pn**	**22 44 32.9**	**-0.9**
HORT	**Hortiatis**	**1.76**	**24**	P	**Pn**	**22 44 32.9**	**-0.9**
ITM	**Ithomi**	**1.81**	**186**	P	**Pn**	**22 44 35.3**	**+1.0**
ITM	**Ithomi**	**1.81**	**186**	P	**Pb**	**22 44 36.6**	**0.0**
FNA	**Florina**	**1.90**	**341**	*e*Pn	**Pn**	**22 44 36.1**	**+0.4**
FNA				*e*Sg	**Sg**	**22 45 06.0**	**+0.6**
FNA	**Florina**	**1.90**	**341**	P	**Pn**	**22 44 36.0**	**+0.4**
FNA	**Florina**	**1.90**	**341**	P	**Pn**	**22 44 36.0**	**+0.4**
YDRA	**Hydra**	**1.92**	**148**	P	**Pb**	**22 44 37.4**	**-1.2**
OUR	**Ouranopolis**	**1.94**	**45**	P	**Pn**	**22 44 34.6**	**-1.5**
OUR	**Ouranopolis**	**1.94**	**45**	P	**Pn**	**22 44 36.1**	**-0.1**
OUR	**Ouranopolis**	**1.94**	**45**	P	**Pn**	**22 44 36.0**	**-0.1**
GRG	**Griva**	**1.98**	**5**	P	**Pn**	**22 44 36.4**	**-0.4**
GRG	**Griva**	**1.98**	**5**	P	**Pn**	**22 44 36.3**	**-0.4**
KEK	**Kerkira**	**1.98**	**292**	P	**Pb**	**22 44 38.9**	**-0.7**
KEK	**Kerkira**	**1.98**	**292**	P	**Pb**	**22 44 39.4**	**-0.2**
SOH	**Sokhos**	**2.05**	**26**	P	**Pn**	**22 44 37.9**	**+0.2**
SOH	**Sokhos**	**2.05**	**26**	P	**Pn**	**22 44 37.7**	**0.0**
PYL	**PYLOS**	**2.11**	**189**	P	**Pb**	**22 44 41.3**	**-0.5**
BIA	**Bitola**	**2.14**	**342**	*i* Pn	**Pn**	**22 44 40.0**	**+1.1**
DYR	**Agios Nikonas**	**2.22**	**177**	P	**Pn**	**22 44 41.9**	**+1.9**
KNT	**Kendrikon**	**2.25**	**14**	P	**Pn**	**22 44 40.7**	**+0.4**
KNT	**Kendrikon**	**2.25**	**14**	P	**Pn**	**22 44 40.4**	**0.0**
VLI	**Veliai**	**2.34**	**165**	P	**Pn**	**22 44 42.5**	**+0.9**
VLI				S	**Sn**	**22 45 11.0**	**+1.1**
VAY	**Valandovo**	**2.36**	**7**	*e*Pn	**Pn**	**22 44 41.9**	**+0.1**
VAY	**Valandovo**	**2.36**	**7**	*i* Pn	**Pn**	**22 44 42.1**	**+0.2**
VAY				*i* Sn	**Sn**	**22 45 09.6**	**-0.6**
OHR	**Ohrid**	**2.37**	**334**	*i* Pn	**Pn**	**22 44 43.5**	**+1.3**
OHR				*i* Sn	**Sn**	**22 45 12.7**	**+1.8**
MNVA	**Monemvasia**	**2.39**	**163**	P	**Pn**	**22 44 42.9**	**+0.6**
SRS	**Serrai**	**2.39**	**27**	*e*Pn	**Pn**	**22 44 42.3**	**-0.1**
SRS	**Serrai**	**2.39**	**27**	P	**Pn**	**22 44 42.3**	**-0.1**
SRS	**Serrai**	**2.39**	**27**	P	**Pn**	**22 44 42.1**	**-0.3**
KRUS	**Krusevo**	**2.49**	**344**	*i* Pn	**Pn**	**22 44 44.2**	**+0.5**
LIA	**Limnos Island**	**2.50**	**68**	P	**Pn**	**22 44 43.9**	**0.0**
LIA	**Limnos Island**	**2.50**	**68**	P	**Pn**	**22 44 43.8**	**0.0**
THAS	**Thassos island**	**2.54**	**50**	P	**Pn**	**22 44 43.9**	**-0.5**
SERI	**Serifos**	**2.58**	**134**	P	**Pn**	**22 44 45.5**	**+0.6**
NVR	**Nevrokopi**	**2.70**	**28**	P	**Pn**	**22 44 46.6**	**0.0**
NVR	**Nevrokopi**	**2.70**	**28**	P	**Pn**	**22 44 46.7**	**+0.1**
STIP	**Stip**	**2.71**	**0**	*i* Pn	**Pn**	**22 44 47.8**	**+1.1**
TNSA	**Tinos**	**2.76**	**121**	P	**Pn**	**22 44 49.4**	**+2.0**
KYTH	**Kithira**	**2.80**	**165**	P	**Pn**	**22 44 49.2**	**+1.3**
MHLA	**Plaka, Milos I**	**2.85**	**141**	P	**Pn**	**22 44 50.1**	**+1.4**
SIGR	**SIGRI**	**2.87**	**84**	P	**Pn**	**22 44 48.8**	**-0.1**
SIGR	**SIGRI**	**2.87**	**84**	P	**Pn**	**22 44 49.5**	**+0.6**
MHLO	**Agia Marina, M**	**2.89**	**142**	P	**Pn**	**22 44 50.1**	**+1.0**
TIR	**Tirane**	**2.95**	**324**	P	**Pn**	**22 44 51.3**	**+1.3**
SMTH	**Samothraki Isl**	**2.98**	**59**	P	**Pn**	**22 44 49.9**	**-0.6**
SKO	**Skopje**	**3.04**	**350**	*e*Pn	**Pn**	**22 44 52.0**	**+0.8**
SKO	**Skopje**	**3.04**	**350**	*i* Pn	**Pn**	**22 44 51.6**	**+0.4**
SCTE	**Santa Cesarea**	**3.07**	**292**	P	**Pn**	**22 44 52.5**	**+0.9**
CHOS	**Chios island**	**3.10**	**100**	P	**Pn**	**22 44 52.4**	**+0.3**
CHOS	**Chios island**	**3.10**	**100**	P	**Pn**	**22 44 53.1**	**+1.0**
GADA	**Gvkgeada**	**3.12**	**66**	P	**Pn**	**22 44 51.9**	**-0.4**
PRK	**Paraskevi**	**3.20**	**84**	P	**Pn**	**22 44 54.2**	**+0.8**
ANKY	**Antikythira Is**	**3.24**	**164**	P	**Pn**	**22 44 54.8**	**+0.8**
APE	**Apeiranthos**	**3.27**	**125**	P	**Pn**	**22 44 55.5**	**+1.1**
APE	**Apeiranthos**	**3.27**	**125**	*i*Pn	**Pn**	**22 44 55.4**	**+1.1**
APE	**Apeiranthos**	**3.27**	**125**	S	**Sn**	**22 45 31.2**	**-1.6**
APE	**Apeiranthos**	**3.27**	**125**	P	**Pn**	**22 44 55.5**	**+1.1**
EZN	**Ezine**	**3.33**	**74**	P	**Pn**	**22 44 54.8**	**-0.3**
RDO	**Rodhopi**	**3.37**	**49**	P	**Pn**	**22 44 53.4**	**-2.3**
RDO	**Rodhopi**	**3.37**	**49**	P	**Pn**	**22 44 55.4**	**-0.3**
URLA	**Izmir**	**3.52**	**99**	P	**Pn**	**22 44 58.5**	**+0.7**
ALN	**Alexandroupoli**	**3.54**	**56**	P	**Pn**	**22 44 56.5**	**-1.6**
ALN	**Alexandroupoli**	**3.54**	**56**	P	**Pn**	**22 44 57.8**	**-0.3**
CMBO	**Columbo, Santo**	**3.58**	**133**	P	**Pn**	**22 45 00.3**	**+1.5**
GELI	**Tayfur-Gelibol**	**3.61**	**66**	P	**Pn**	**22 44 58.5**	**-0.5**
AMGA	**Amorgos Island**	**3.64**	**125**	P	**Pn**	**22 45 00.9**	**+1.3**
DKL	**Dikili**	**3.69**	**87**	*e*P	**Pn**	**22 45 00.5**	**+0.4**
SANT	**Santorini**	**3.69**	**134**	*e*P	**Pn**	**22 45 01.9**	**+1.7**
VTS	**Vitosha**	**3.69**	**12**	*e*Pn	**Pn**	**22 45 01.1**	**+0.8**
ULC	**Ulcinj**	**3.72**	**324**	*i*Pn	**Pn**	**22 45 01.9**	**+1.2**
ULC				*e*Sn	**Sn**	**22 45 45.9**	**+1.9**
IMMV	**Iera Moni Meta**	**3.80**	**157**	P	**Pn**	**22 45 02.7**	**+1.0**
LPK	**Lapseki**	**3.80**	**67**	*e*P	**Pn**	**22 45 01.5**	**-0.2**
BARS	**Barje**	**3.84**	**356**	*e*Pn	**Pn**	**22 45 02.9**	**+0.6**
ANAF	**Anafi Island**	**3.88**	**131**	P	**Pn**	**22 45 04.2**	**+1.5**
SMG	**Samos**	**3.88**	**108**	P	**Pn**	**22 45 04.2**	**+1.4**
VAM	**Vamos**	**3.92**	**155**	P	**Pn**	**22 45 04.1**	**+0.7**
DRME	**Dracevica, Mon**	**3.93**	**326**	*i*Pn	**Pn**	**22 45 04.7**	**+1.3**
DRME				*e*Sn	**Sn**	**22 45 50.9**	**+1.8**
DRME	**Dracevica, Mon**	**3.93**	**326**	*e*Pn	**Pn**	**22 45 05.1**	**+1.7**
PVY	**Plav**	**3.98**	**336**	*i*Pn	**Pn**	**22 45 05.6**	**+1.3**
PVY				*e*Sn	**Sn**	**22 45 51.8**	**+1.2**
PDG	**Podgorica**	**4.10**	**328**	*i*P	**Pn**	**22 45 07.6**	**+1.9**
PDG	**Podgorica**	**4.10**	**328**	S	**Sn**	**22 45 56.0**	**+2.8**
PDG	**Podgorica**	**4.10**	**328**	*e*Pn	**Pn**	**22 45 07.3**	**+1.6**
TTG	**Podgorica**	**4.10**	**328**	*i*Pn	**Pn**	**22 45 07.1**	**+1.4**
TTG				*e*Sn	**Sn**	**22 45 54.4**	**+1.2**
BUM	**Brajici-Budva**	**4.15**	**324**	*i*Pn	**Pn**	**22 45 07.5**	**+0.9**
BUM				*e*Sn	**Sn**	**22 45 55.5**	**+0.9**
KRBG	**Karabiga-Canak**	**4.20**	**69**	*e*P	**Pn**	**22 45 07.1**	**0.0**
RKY	**Sarkoy-Tekirda**	**4.21**	**65**	*e*P	**Pn**	**22 45 07.2**	**-0.2**
TIP	**Timpagrande**	**4.22**	**274**	P	**Pn**	**22 45 09.2**	**+1.6**
IVA	**Berane**	**4.25**	**337**	*i*Pn	**Pn**	**22 45 09.0**	**+1.0**
IVA				*e*Sn	**Sn**	**22 45 58.4**	**+1.2**
IDI	**Anoyia**	**4.28**	**149**	*e*P	**Pn**	**22 45 10.2**	**+1.9**
IDI	**Anoyia**	**4.28**	**149**	Pn	**Pn**	**22 45 09.0**	**+0.7**
	comp=E,1.3nm,0.3s,baz=246,slow=11,SNR=17						
IDI				Sn	**Sn**	**22 45 56.9**	**-0.9**
	comp=E,4.5nm,0.3s,baz=78,slow=20,SNR=7.6						
DIDI	**Didim-Aydin**	**4.30**	**110**	PG	**Sn**	**22 45 51.8**	**-6.5**
ZAPS	**Zavoj**	**4.30**	**4**	*e*Pn	**Pn**	**22 45 09.6**	**+1.0**
SELS	**Selova**	**4.31**	**350**	*e*Pn	**Pn**	**22 45 08.6**	**-0.1**
NOCI	**Noci**	**4.33**	**296**	P	**Pn**	**22 45 10.5**	**+1.6**
CEME	**Cevo**	**4.33**	**326**	*i*Pn	**Pn**	**22 45 09.6**	**+0.5**
CEME				*e*Sn	**Sn**	**22 46 00.9**	**+1.7**
KOME	**Kolasin**	**4.36**	**333**	*i*Pn	**Pn**	**22 45 10.9**	**+1.5**
KOME				*e*Sn	**Sn**	**22 46 01.3**	**+1.5**
GVD	**Gavdhos**	**4.41**	**159**	P	**Pn**	**22 45 13.0**	**+2.9**
HCY	**Herceg Novi**	**4.45**	**322**	*i*Pn	**Pn**	**22 45 11.8**	**+1.2**
HCY				*e*Sn	**Sn**	**22 46 03.4**	**+1.7**
HCY	**Herceg Novi**	**4.45**	**322**	*e*Pn	**Pn**	**22 45 11.5**	**+0.9**
BODT	**Bodrum**	**4.49**	**114**	PG	Sn	22 45 46.7	-16
BODT	**Bodrum**	**4.49**	**114**	*e*P	**Pn**	**22 45 12.6**	**+1.5**
NKME	**Niksic**	**4.50**	**328**	*i*Pn	**Pn**	**22 45 12.8**	**+1.4**
NKME				*e*Sn	**Sn**	**22 46 04.5**	**+1.2**
EDRB	**Edirne**	**4.51**	**49**	*e*P	**Pn**	**22 45 10.9**	**-0.6**
NKY	**Niksic**	**4.52**	**329**	*i*Pn	**Pn**	**22 45 12.2**	**+0.5**
NKY				*e*Sn	**Sn**	**22 46 05.3**	**+1.4**
MATE	**Matera**	**4.53**	**293**	*i*P	**Pn**	**22 45 14.1**	**+2.4**
MATE	**Matera**	**4.53**	**293**	S	**Sn**	**22 45 59.0**	**-4.8**
NIS1	**Nisyros Isl.**	**4.62**	**119**	PG	Sn	22 45 46.5	-20
LAST	**Lasithi**	**4.64**	**144**	P	**Pn**	**22 45 15.0**	**+1.6**
BOVS	**Bovan**	**4.66**	**356**	*e*Pn	**Pn**	**22 45 13.5**	**0.0**
AYDN	**Tasoluk**	**4.68**	**105**	*i* P	Pg	22 45 54.5	+21
AYDN				*i* S	**Sn**	**22 46 10.1**	**+2.5**
TREB	**Trebinje**	**4.72**	**323**	*e*Pn	**Pn**	**22 45 14.6**	**+0.2**
MLSB	**Milas**	**4.73**	**109**	PG	Pg	22 45 46.3	+12
MLSB	**Milas**	**4.73**	**109**	*e*P	**Pn**	**22 45 15.9**	**+1.4**
BRY	**Bratogost**	**4.79**	**326**	*i*Pn	**Pn**	**22 45 16.7**	**+1.3**
BRY				*e*Sn	**Sn**	**22 46 11.4**	**+1.0**
BRY	**Bratogost**	**4.79**	**326**	*e*Pn	**Pn**	**22 45 16.7**	**+1.3**
PLE	**Pljevlja**	**4.83**	**335**	*i*Pn	**Pn**	**22 45 16.7**	**+0.8**
PLE				*e*Sn	**Sn**	**22 46 12.4**	**+1.0**
ZAGS	**Zajecar**	**4.83**	**1**	*e*Pn	**Pn**	**22 45 16.2**	**+0.4**
DAT	**Datca**	**4.83**	**116**	PG	Pg	22 45 41.5	+4.9
DAT	**Datca**	**4.83**	**116**	*i* P	Pg	22 45 41.5	+4.9
DAT				*i* S	Sn	22 45 47.5	-24
IVAS	**Ivanjica**	**4.84**	**342**	*e*Pn	**Pn**	**22 45 15.9**	**-0.1**
DATC	**Datca-Mugla**	**4.88**	**115**	PG	Pg	22 45 40.4	+3.0
DATC				SG	Sn	22 45 45.1	-27
UPM	**Unac-Piva**	**4.89**	**331**	*i*Pn	**Pn**	**22 45 17.2**	**+0.4**
UPM				*e*Sn	**Sn**	**22 46 13.7**	**+0.7**
GRUS	**Gruza**	**5.02**	**348**	*e*Pn	**Pn**	**22 45 18.9**	**+0.4**
ZKR	**Zakros**	**5.04**	**139**	P	**Pn**	**22 45 21.5**	**+2.9**
STON	**Ston**	**5.16**	**320**	*e*Pn	**Pn**	**22 45 20.7**	**+0.4**
STON				Sn	**Sn**	**22 46 15.7**	**+0.5**
STON	**Ston**	**5.16**	**320**	*e*Pn	**Pn**	**22 45 19.6**	**-0.7**
MRSB	**Marmaris-Mugla**	**5.28**	**114**	PG	**Pb**	**22 45 38.7**	**+2.9**
MRSB				SG	**Pg**	**22 45 42.4**	**-2.7**
BBLS	**Lazići**	**5.30**	**338**	*e*Pn	**Pn**	**22 45 23.0**	**+0.6**
BBLS	**Lazići**	**5.30**	**338**	*e*Pn	**Pn**	**22 45 23.2**	**+0.8**
DIVS	**Divibare**	**5.37**	**343**	*e*Pn	**Pn**	**22 45 23.7**	**+0.4**
DIVS	**Divibare**	**5.37**	**343**	*e*Pn	**Pn**	**22 45 23.4**	**+0.1**
TRUS	**Trudelj**	**5.40**	**346**	*e*Pn	**Pn**	**22 45 24.4**	**+0.7**
KUBS	**Kucevo**	**5.44**	**356**	*e*Pn	**Pn**	**22 45 22.5**	**-1.7**
ARG	**Arkhangelos**	**5.47**	**118**	PG	**Pb**	**22 45 42.6**	**+3.5**
TURN	**Turunc**	**5.50**	**111**	PG	Pg	22 45 40.1	-9.3
TURN				SG	Pg	22 45 44.2	-5.2
TURN	**Turunc**	**5.50**	**111**	*i* P	**Pb**	**22 45 40.1**	**+0.6**
TURN				*i* S	Sn	22 45 44.8	-43
TAVA	**DENIZLI_Tavas**	**5.52**	**104**	*i* P	Pg	22 45 56.8	+7.1
TAVA				*i* S	Sn	22 46 14.1	-14
DALY	**Dalyan (Mu¨la**	**5.56**	**111**	PG	**Pg**	**22 45 46.0**	**-4.5**
DALY	**Dalyan (Mu¨la**	**5.56**	**111**	*i* P	**Pg**	**22 45 45.8**	**-4.8**
DALY				*i* S	Pg	22 45 55.0	+4.4
HAPS	**Han Pijesak,Bl**	**5.64**	**336**	*e*Pn	**Pn**	**22 45 26.7**	**-0.4**
HERR	**Herculane**	**5.90**	**2**	*i*P	**Pn**	**22 45 30.4**	**-0.1**
HUMR	**Humele**	**5.92**	**20**	*i*P	**Pn**	**22 45 31.5**	**+0.6**
GOLH	**Golhisar**	**6.08**	**104**	*i* P	**Pg**	**22 46 02.7**	**+2.3**
GOLH				*i* S	Sn	22 46 25.6	-17
VAE	**Valguarnera**	**6.29**	**259**	Pn	**Pn**	**22 45 39.7**	**+3.7**
	comp=E,0.7nm,0.3s,baz=114,slow=6.6,SNR=3.7						
VAE				Sn	**Sn**	**22 46 47.3**	**-0.1**
	comp=E,1.0nm,0.3s,baz=274,slow=19,SNR=2.5						
FRGS	**Fruska Gora**	**6.42**	**345**	*e*Pn	**Pn**	**22 45 37.6**	**0.0**
ELL	**Elmali**	**6.51**	**108**	PN	Pg	22 46 03.4	-5.3
LOT	**Lotru**	**6.57**	**10**	*i*P	**Pn**	**22 45 40.0**	**+0.2**
BZS	**Buzias**	**6.64**	**357**	*i*P	**Pn**	**22 45 40.7**	**0.0**
BLY	**Banja Luka**	**6.86**	**329**	*i*P	**Pn**	**22 45 44.0**	**+0.3**
BLY	**Banja Luka**	**6.86**	**329**	*e*Pn	**Pn**	**22 45 43.9**	**+0.3**
MLR	**Muntele Rosu**	**7.08**	**22**	Pn	**Pn**	**22 45 48.2**	**+1.4**
	comp=E,1.0nm,0.3s,baz=146,slow=22,SNR=17						
MLR				Sn	**Sn**	**22 47 09.1**	**+2.2**
	comp=E,0.2nm,0.3s,baz=252,slow=19,SNR=1.8						
MLR	**Muntele Rosu**	**7.08**	**22**	*i*P	**Pn**	**22 45 48.3**	**+1.4**
DOPR	**Dopca**	**7.37**	**18**	*i*P	**Pn**	**22 45 51.4**	**+0.6**
PLOR	**Plostina**	**7.62**	**24**	*i*P	**Pn**	**22 45 55.9**	**+1.7**
VRI	**Vrincioaia**	**7.66**	**25**	*i*P	**Pn**	**22 45 57.0**	**+2.3**
MORH	**M¨ˆtr¨igy, Hung**	**7.68**	**341**	*e*PKPPKPd	**Pn**	**22 45 55.2**	**+0.2**
MORH	**M¨ˆtr¨igy, Hung**	**7.68**	**341**	*e*Pn	**Pn**	**22 45 54.8**	**-0.2**
CRES	**Cresnjev**	**8.45**	**326**	*e*Pn	**Pn**	**22 46 05.0**	**-0.5**
CEY	**Cerknica**	**8.86**	**322**	*e*Pn	**Pn**	**22 46 11.5**	**+0.4**
BURAR	**Bucovina Array**	**8.91**	**13**	*i*P	**Pn**	**22 46 13.6**	**+1.7**
BRTR	**Keskin Array B**	**8.91**	**82**	Pn	**Pn**	**22 46 14.2**	**+2.2**

MAN 27 23:35:07.5, 8°.07N×125°.20E, *h*42km, mb4.6, ML3.4, MS3.3, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.24**	**216**	*e*P	Pn	23 35 16.1	+0.7
BUKP				*e*S	Sn	23 35 23.9	+3.1
CGP	**Cagayan de Oro**	**0.63**	**307**	*e*P	Pn	23 35 21.2	+1.2
CGP				*i* S	Sn	23 35 31.5	+2.5
CTBH	**Cotabato--PC H**	**1.27**	**228**	*i* P	Pn	23 35 30.1	+1.4
CTBH				*i* S	Sn	23 35 45.2	+0.6

*ISCJB **28** 00:08:15.8±0.8, 7°.58S±0°.06×128°.35E±0°.08, h151km, mb3.5/4, Error ellipse: s-maj=11.3km s-min=8.9km az=169.1*
*IDC **28** 00:08:15.5±6.4, 7°.47S×128°.39E, h127km±65km, mb3.4/4, mb1 3.6/8, mb1mx3.4/32, mbtmp4.0/8, Error ellipse: s-maj=55.8km s-min=18.3km az=47.0*

ISC 28 00:08:17.1±1.1, 7°.73S±0°.08×128°.5E±0°.1, h151km, n8, σ2§40/12, mb3.6/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.34**	**242**	P	**Pn**	**00 09 34.9**	**-0.3**
	9.7nm,0.3s,baz=352,slow=7.1,SNR=5.1						
BATI				S	**Sn**	**00 10 35.8**	**-0.2**
	9.7nm,0.3s,baz=76,slow=21,SNR=10						
FITZ	**Fitzroy Crossi**	**10.67**	**195**	P	**Pn**	**00 10 46.5**	**+0.5**
	1.3nm,0.3s,baz=34,slow=9.7,SNR=22						
FITZ				S	**Sn**	**00 12 43.2**	**-0.8**
	1.1nm,0.3s,baz=298,slow=17,SNR=7.1						
WRA	**Warramunga Arr**	**13.42**	**155**	P	**Pn**	**00 11 23.1**	**+1.3**
	0.7nm,0.3s,baz=333,slow=11,SNR=41						
WRA				S	**Sn**	**00 13 46.2**	**-4.1**
	1.3nm,0.3s,baz=336,slow=23,SNR=9.1						
ASAR	**Alice Springs**	**16.69**	**162**	P	**Pn**	**00 12 06.5**	**+4.2**
	0.5nm,0.3s,baz=344,slow=11,SNR=25						
ASAR				S	**S**	**00 15 05.8**	**-2.0**
	0.3nm,0.3s,baz=318,slow=16,SNR=4.3						
STKA	**Stephens Creek**	**26.97**	**155**	P	**P**	**00 13 47.7**	**+3.0**
	0.7nm,0.4s,baz=333,slow=11,SNR=2.4						
SONM	**Songino Array**	**58.66**	**343**	P	**P**	**00 17 58.1**	**-0.6**
	0.7nm,0.8s,baz=171,slow=6.4,SNR=6.1						
MKAR	**Makanchi Array**	**68.00**	**328**	P	**P**	**00 18 59.2**	**-0.9**
	0.2nm,0.4s,baz=116,slow=8.0,SNR=6.5						
ZALV	**Zalesovo Beam**	**71.56**	**335**	P	**P**	**00 19 20.7**	**-0.9**
	0.7nm,0.6s,baz=134,slow=6.2,SNR=3.4						

*NEIC **28** 00:20:46.3±0.0, 19°.31N×68°.84W, h139km, MD4.0(RSPR), After RSPR.*

RSPR 28 00:20:46.3, 19°.31N×68°.84W, h139km±2km, MD4.0/11, 18C-6D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**0.73**	**225**	*e*P	Pn	00 21 07.6	-0.3
DR12				*e*S	Sn	00 21 22.0	-2.4
DR12	**Loma Pena Alta**	**0.73**	**225**	*e*P	Pn	00 21 07.6	-0.3
IDE	**Isla Desecheo**	**1.59**	**125**	*e*P	Pn	00 21 15.6	-0.4
IDE	**Isla Desecheo**	**1.59**	**125**	*e*P	Pn	00 21 15.6	-0.4
IDE				*e*S	Sn	00 21 38.7	0.0
AGPR	**Aguadilla, PR**	**1.84**	**117**	*e*P	Pn	00 21 18.6	-0.3
AGPR				*e*S	Sn	00 21 44.1	+0.3
AGPR	**Aguadilla, PR**	**1.84**	**117**	*e*P	Pn	00 21 18.6	-0.3
LSP	**Las Mesas**	**2.01**	**124**	*e*P	Pn	00 21 21.1	+0.2
LSP	**Las Mesas**	**2.01**	**124**	*e*P	Pn	00 21 21.1	+0.2
LSP				*e*S	Sn	00 21 48.0	+0.6
CRPR	**Cabo Rojo, PR**	**2.09**	**128**	*e*P	Pn	00 21 21.1	-0.7
CRPR				*e*S	Sn	00 21 49.4	+0.3
CRPR	**Cabo Rojo, PR**	**2.09**	**128**	*e*P	Pn	00 21 21.1	-0.7
SDDR	**Presa de Saban**	**2.34**	**262**	*e*Pn	Pn	00 21 26.5	+1.5
SDDR				*e*Sn	Sn	00 21 52.8	-1.8
EMPR	**Esperanza - Ma**	**2.34**	**110**	*e*S	Sn	00 21 55.0	+0.5
OBIP	**Obispado Ponce**	**2.46**	**120**	*e*P	Pn	00 21 26.7	+0.2
OBIP	**Obispado Ponce**	**2.46**	**120**	*e*P	Pn	00 21 26.7	+0.2
OBIP				*e*S	Sn	00 21 58.1	+0.8
CELP	**Cerrillos**	**2.47**	**119**	*e*P	Pn	00 21 26.7	+0.2
CELP				*e*S	Sn	00 21 57.8	+0.3
CELP	**Cerrillos**	**2.47**	**119**	*e*P	Pn	00 21 26.7	+0.2
SJG	**San Juan**	**2.81**	**115**	*e*P	Pn	00 21 30.9	+0.1
SJG	**San Juan**	**2.81**	**115**	*e*P	Pn	00 21 30.9	+0.1
SJG				*e*S	Sn	00 22 05.8	+0.5
CBYP	**Canovanas**	**3.01**	**110**	*e*P	Pn	00 21 33.5	+0.1
CBYP	**Canovanas**	**3.01**	**110**	*e*P	Pn	00 21 33.5	+0.1
CBYP				*e*S	Sn	00 22 10.6	+0.9
HUMP	**Col San Antoni**	**3.06**	**112**	*e*P	Pn	00 21 34.1	+0.1
HUMP	**Col San Antoni**	**3.06**	**112**	*e*P	Pn	00 21 34.1	+0.1
HUMP				*e*S	Sn	00 22 11.8	+0.9
MTP	**Monte Pirata**	**3.34**	**111**	*e*P	Pn	00 21 38.0	+0.4
MTP				*e*S	Sn	00 22 18.0	+0.6
MTP	**Monte Pirata**	**3.34**	**111**	*e*P	Pn	00 21 38.0	+0.4
CUPR	**Culebra, Puert**	**3.51**	**106**	*e*P	Pn	00 21 40.5	+0.6
CUPR	**Culebra, Puert**	**3.51**	**106**	*e*P	Pn	00 21 40.5	+0.6
CUPR				*e*S	Sn	00 22 22.4	+1.0

*CNRM **28** 00:21:17.0, 35°.76N×6°.86W, h5km, ML2.5*
*ISCJB **28** 00:21:18.4±0.5, 36°.18N±0°.03×6°.16W±0°.03, h10km, Error ellipse: s-maj=4.7km s-min=3.1km az=14.1*
*INMG **28** 00:21:20.9±1.2, 35°.91N×6°.20W, h31km, ML2.2, Error ellipse: s-maj=7.1km s-min=3.0km az=11.0*
*IGIL **28** 00:21:21.7, 36°.05N×6°.16W, h26km, ML2.3*
*MDD **28** 00:21:22.1±1.2, 36°.06N×6°.19W, h58km±22km, mb3.2/9, Error ellipse: s-maj=11.7km s-min=5.0km az=8.0, PRXIMO*

ISC 28 00:21:17.7±1.0, 36°.09N±0°.05×6°.17W±0°.03, h10km, n48, σ1§66/82, 1C-2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EJIF	**Jimena Fronter**	**0.67**	**57**	⇑P	**Pn**	**00 21 35.8**	**+2.5**
	2.0nm,0.1s,SNR=18						
RSA	**Sarsar**	**1.24**	**167**	P	**Pb**	**00 21 40.9**	**-0.3**
RSA	**Sarsar**	**1.24**	**167**	S	**Sb**	**00 21 57.3**	**0.0**
EMIN	**Mina Concepcio**	**1.73**	**347**	⇓P	**Pn**	**00 21 49.2**	**+1.4**
	4.3nm,0.8s,SNR=18						
EMIN				S	**Sn**	**00 22 09.4**	**-0.5**
	1.6nm,0.4s,SNR=6.9						
EGRO	**El Granado**	**1.79**	**324**	⇓P	**Pn**	**00 21 50.1**	**+1.4**
	3.0nm,0.4s,SNR=18						
EGRO				S	**Sn**	**00 22 11.2**	**-0.3**
	6.2nm,0.3s,SNR=21						
PVAQ	**Vaqueiros**	**1.81**	**317**	*e*Pn	**Pn**	**00 21 50.3**	**+1.3**
PVAQ				*e*Sn	**Sn**	**00 22 11.8**	**-0.2**
PVAQ				A	A	00 22 12.5	
	42nm,0.2s						
PVAQ	**Vaqueiros**	**1.81**	**317**	P	**Pn**	**00 21 48.0**	**-1.0**
PVAQ	**Vaqueiros**	**1.81**	**317**	S	**Sn**	**00 22 12.3**	**+0.3**
PBDV	**Barranco-do-Ve**	**1.83**	**310**	*e*Pn	**Pn**	**00 21 49.6**	**+0.4**
PBDV				*e*Sn	**Sn**	**00 22 12.2**	**-0.3**
PBDV				A	A	00 22 17.1	
	6.4nm,0.2s						
EGOR	**Sierra Gorda,**	**1.94**	**58**	S	**Sn**	**00 22 15.9**	**+0.5**
	2.2nm,0.4s,SNR=7.9						
ECAB	**El Cabril**	**2.07**	**17**	P	**Pn**	**00 21 53.8**	**+1.2**
	2.5nm,0.8s,SNR=7.7						
ECAB				S	**Sn**	**00 22 17.5**	**-1.0**
	53nm,1.9s						
ELGU	**Los Guajares,**	**2.19**	**68**	P	**Pn**	**00 21 57.0**	**+2.8**
	0.4nm,0.2s,SNR=7.9						
ELGU				S	**Sn**	**00 22 20.3**	**-1.1**
	7.1nm,0.4s,SNR=4.0						
MORF	**Marmelete**	**2.34**	**302**	*e*S	**Sn**	**00 22 23.4**	**-1.7**
MORF				AML	AML	00 22 25.6	
	comp=N,11nm,0.1s						
MORF	**Marmelete**	**2.34**	**302**	*e*Sn	**Sn**	**00 22 23.4**	**-1.7**
MORF				A	A	00 22 27.8	
	comp=N,7.1nm,0.1s						
MORF	**Marmelete**	**2.34**	**302**	S	**Sn**	**00 22 23.4**	**-1.7**
	comp=N,11nm,0.1s						
PBEJ	**Beja**	**2.37**	**325**	*e*Pn	**Pn**	**00 21 57.9**	**+1.3**
PBEJ				*e*Sn	**Sn**	**00 22 25.6**	**-0.1**
PBEJ				A	A	00 22 26.5	
	comp=N,7.8nm,0.1s						
PBEJ	**Beja**	**2.37**	**325**	P	**Pn**	**00 21 57.9**	**+1.3**
PBEJ				S	**Sn**	**00 22 25.6**	**-0.1**
	comp=N,3.9nm,0.1s						
PFVI	**Vila Bisbo**	**2.38**	**297**	*e*Sn	**Sn**	**00 22 24.3**	**-1.8**
PFVI	**Vila Bisbo**	**2.38**	**297**	P	**Pn**	**00 21 57.7**	**+0.9**
	comp=N,1.4nm,0.2s,SNR=4.0						
PFVI				S	**Sn**	**00 22 24.6**	**-1.5**
	comp=N,5.0nm,0.1s,SNR=7.9						
MESJ	**Messejana**	**2.40**	**317**	*e*P	**Pn**	**00 21 58.3**	**+1.3**
MESJ				*e*S	**Sn**	**00 22 25.1**	**-1.5**
MESJ				AML	AML	00 22 26.9	
	comp=N,18nm,0.0s						
MESJ	**Messejana**	**2.40**	**317**	*e*Pn	**Pn**	**00 21 58.4**	**+1.3**
MESJ				*e*Sn	**Sn**	**00 22 25.4**	**-1.2**
MESJ				A	A	00 22 26.8	
	comp=N,6.8nm,0.2s						
MESJ	**Messejana**	**2.40**	**317**	P	**Pn**	**00 21 58.3**	**+1.3**
MESJ				S	**Sn**	**00 22 25.1**	**-1.5**
EADA	**Adamuz**	**2.43**	**31**	P	**Pn**	**00 21 58.9**	**+1.4**
	comp=N,0.5nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**00 22 26.3**	**-1.1**
	comp=N,1.5nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**2.52**	**306**	*e*Pn	**Pn**	**00 21 59.4**	**+0.7**
PTEO				*e*Sn	**Sn**	**00 22 28.5**	**-0.9**
PTEO				A	A	00 22 33.7	
	comp=N,9.7nm,0.4s						
PTEO	**Sao Teotonio**	**2.52**	**306**	P	**Pn**	**00 21 59.4**	**+0.7**
PTEO				S	**Sn**	**00 22 28.5**	**-0.9**
	comp=N,4.8nm,0.4s						
EBAD	**Badajoz**	**2.75**	**346**	P	**Pn**	**00 22 03.7**	**+1.8**
	comp=N,4.0nm,1.0s,SNR=9.1						
EBAD				S	**Sn**	**00 22 34.3**	**-0.8**
	comp=N,5.5nm,1.0s,SNR=7.7						
EVO	**Evora**	**2.85**	**329**	*e*Pn	**Pn**	**00 22 04.8**	**+1.5**
EVO				*e*Sn	**Sn**	**00 22 38.5**	**+0.9**
EVO				A	A	00 22 40.3	
	comp=N,17nm,0.2s						
EVO	**Evora**	**2.85**	**329**	P	**Pn**	**00 22 04.8**	**+1.5**
EVO				S	**Sn**	**00 22 38.5**	**+0.9**
	comp=N,17nm,0.2s						
GORA	**Gorafe**	**2.87**	**60**	S	**Sn**	**00 22 38.2**	**0.0**
	comp=N,4.3nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**3.00**	**338**	*e*Pn	**Pn**	**00 22 07.1**	**+1.8**
PESTR				A	A	00 22 42.0	
	comp=N,3.1nm,0.6s						
EQES	**Quesada**	**3.01**	**54**	P	**Pn**	**00 22 07.8**	**+2.2**
	comp=N,0.3nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**00 22 40.8**	**-1.0**
	comp=N,1.4nm,0.4s,SNR=10.0						
PMRV	**Marv??o**	**3.47**	**344**	*e*Pn	**Pn**	**00 22 13.5**	**+1.6**
PMRV				*e*Sn	**Sn**	**00 22 53.1**	**0.0**
PMRV				A	A	00 22 53.2	
	comp=N,3.9nm,0.8s						
PMRV	**Marv??o**	**3.47**	**344**	P	**Pn**	**00 22 13.5**	**+1.6**
PMRV				S	**Sn**	**00 22 53.1**	**0.0**
	comp=N,3.9nm,0.8s						
SESP	**Santiago Espad**	**3.53**	**54**	P	**Pn**	**00 22 14.5**	**+1.7**
	comp=N,0.5nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**00 22 51.9**	**-2.8**
	comp=N,2.4nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**3.74**	**22**	P	**Pn**	**00 22 17.3**	**+1.7**
	comp=N,0.2nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**00 22 56.8**	**-2.9**
	comp=N,0.5nm,0.1s,SNR=7.9						
PMAFR	**Mafra**		**3.79**	**320**	*e*Sn	**Sn**	**00 22 59.3**	**-1.4**
PMAFR	**Mafra**		**3.79**	**320**	P	**Pn**	**00 22 17.8**	**+1.7**
	comp=N,0.4nm,0.1s,SNR=4.0						
PMAFR				S	**Sn**	**00 22 59.4**	**-1.4**
	comp=N,55nm,1.0s,SNR=8.2						
PCBR	**Castelo Branco**	**3.89**	**345**	*e*Pn	**Pn**	**00 22 19.8**	**+2.3**
PCBR				*e*Sn	**Sn**	**00 23 02.5**	**-0.7**
PCBR	**Castelo Branco**	**3.89**	**345**	P	**Pn**	**00 22 19.8**	**+2.3**
PCBR				S	**Sn**	**00 23 02.5**	**-0.7**
PTOM	**Tomar**	**3.95**	**334**	*e*Pn	**Pn**	**00 22 19.6**	**+1.3**
PTOM				*e*Sn	**Sn**	**00 23 03.8**	**-0.9**
PTOM				A	A	00 23 11.8	
	comp=N,4.7nm,0.8s						
PTOM	**Tomar**	**3.95**	**334**	P	**Pn**	**00 22 19.6**	**+1.3**
PTOM				S	**Sn**	**00 23 03.8**	**-0.9**
	comp=N,2.3nm,0.8s						
EPLA	**Plasencia**	**3.97**	**1**	P	**Pn**	**00 22 20.9**	**+2.2**
	comp=N,1.3nm,0.2s,SNR=18						
EPLA				S	**Sn**	**00 23 02.8**	**-2.6**
	comp=N,19nm,1.2s						
ESDC	**Sonseca Array**	**3.98**	**25**	P	**Pn**	**00 22 20.5**	**+1.7**
	comp=N,0.1nm,0.2s,baz=208,slow=13,SNR=4.0						
ESDC				S	**Sn**	**00 23 02.7**	**-3.0**
	comp=N,0.3nm,0.2s,baz=201,slow=23,SNR=5.7						
ETOB	**Tobarra**	**4.48**	**54**	P	**Pn**	**00 22 26.4**	**+0.7**
	comp=N,1.4nm,0.1s,SNR=7.9						
ETOB				S	**Sn**	**00 23 13.9**	**-4.0**
	comp=N,1.4nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**5.12**	**353**	*e*Pn	**Pn**	**00 22 36.5**	**+2.1**
MVO				*e*Sn	**Sn**	**00 23 30.4**	**-3.2**
MVO	**Moncorvo**	**5.12**	**353**	P	**Pn**	**00 22 36.6**	**+2.1**
	comp=N,8.1nm,0.8s,SNR=5.6						
MVO				S	**Sn**	**00 23 30.9**	**-2.7**
	comp=N,19nm,1.1s						
ECHE	**Chera**	**5.40**	**48**	P	**Pn**	**00 22 39.0**	**+0.7**
	comp=N,0.1nm,0.1s,SNR=7.9						
ECHE				S	**Sn**	**00 23 36.4**	**-4.1**
	comp=N,0.2nm,0.1s,SNR=4.0						
POLO	**Lamas de Olo**	**5.43**	**347**	*e*Sn	**Sn**	**00 23 39.4**	**-2.0**

*IDC **28** 00:31:15.1±1.4, 34°.75N×24°.10E, h0km, mb3.9/5, mb1 3.8/6, mb1mx3.4/37, mbtmp3.8/6, ML3.2/1, Error ellipse: s-maj=38.3km s-min=24.5km az=150.0*
*ATH **28** 00:31:19.6, 34°.83N×24°.07E, h23km±1km, ML3.1/4, Error ellipse: s-maj=2.2km s-min=1.1km az=211.0*
*THE **28** 00:31:21.7, 34°.93N×24°.12E, h0km±1km, ML2.8/6, Error ellipse: s-maj=1.6km s-min=0.7km az=224.0*

ISC 28 00:31:19.7±0.8, 34°.86N±0°.04×24°.05E±0°.03, h23km±5km, n57, σ1§46/73, mb3.8/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.04**	**118**	P	**Pb**	**00 31 23.5**	**-0.2**
GVD				S	**Sb**	**00 31 26.6**	**+0.2**
GVD				AML	AML	00 31 26.8	
GVD				AML	AML	00 31 26.9	
GVD	**Gavdhos**	**0.04**	**118**	P	**Pb**	**00 31 23.5**	**-0.2**
GVD				S	**Sb**	**00 31 26.6**	**+0.2**
GVDS	**Gavdos**	**0.04**	**110**	P	**Pb**	**00 31 23.4**	**-0.3**
GVDS				S	**Sb**	**00 31 26.5**	**+0.1**
VAM	**Vamos**	**0.56**	**13**	P	**Pb**	**00 31 31.0**	**+0.1**
VAM				S	**Sn**	**00 31 40.2**	**-0.7**
VAM	**Vamos**	**0.56**	**13**	P	**Pb**	**00 31 31.0**	**+0.1**
VAM				S	**Sb**	**00 31 39.1**	**+0.5**
IMMV	**Iera Moni Meta**	**0.60**	**355**	P	**Pb**	**00 31 31.6**	**0.0**
IMMV				S	**Sn**	**00 31 41.5**	**-0.4**
IMMV				AML	AML	00 31 46.3	
	comp=N,4367μm,0.3s						
IMMV				AML	AML	00 31 49.5	
	comp=E,3587μm,0.4s						
IMMV	**Iera Moni Meta**	**0.60**	**355**	P	**Pb**	**00 31 31.6**	**0.0**
IMMV				S	**Sn**	**00 31 41.7**	**-0.3**
TMBK	**Timbaki Herakl**	**0.63**	**70**	P	**Pb**	**00 31 32.5**	**+0.5**
TMBK				S	**Sn**	**00 31 41.5**	**-1.0**
PRNS	**Prines Rethymn**	**0.63**	**36**	P	**Pb**	**00 31 31.5**	**-0.5**
PRNS				S	**Sb**	**00 31 38.9**	**-1.5**
SIVA	**Sivas**	**0.65**	**75**	P	**Pb**	**00 31 32.8**	**+0.5**
SIVA				S	**Sn**	**00 31 42.1**	**-0.8**
SIVA				AML	AML	00 31 46.9	
	comp=E,3152μm,0.3s						
SIVA				AML	AML	00 31 47.9	
	comp=N,3612μm,0.3s						
SIVA	**Sivas**	**0.65**	**75**	P	**Pb**	**00 31 32.8**	**+0.5**
SIVA				S	**Sn**	**00 31 42.3**	**-0.7**
CHAN	**Chania**	**0.66**	**360**	P	**Pb**	**00 31 32.6**	**0.0**
CHAN				S	**Sb**	**00 31 41.5**	**+0.1**
KSTL	**Kastelli Herak**	**0.95**	**62**	P	**Pn**	**00 31 42.0**	**+4.4**
IACM	**Heraklion**	**0.95**	**62**	P	**Pn**	**00 31 38.2**	**+0.6**
IACM				S	**Sn**	**00 31 51.4**	**+0.9**
ANKY	**Antikythira Is**	**1.18**	**329**	P	**Pb**	**00 31 42.8**	**+1.4**
ANKY	**Antikythira Is**	**1.18**	**329**	P	**Pb**	**00 31 42.8**	**+1.4**
ANKY				S	**Sn**	**00 32 01.1**	**+5.0**
LAST	**Lasithi**	**1.21**	**75**	P	**Pb**	**00 31 42.2**	**+0.2**
LAST				AML	AML	00 32 07.6	
	comp=N,261μm,0.8s						
LAST				AML	AML	00 32 16.4	
	comp=E,263μm,0.5s						
LAST	**Lasithi**	**1.21**	**75**	P	**Pb**	**00 31 42.2**	**+0.2**
LAST				S	**Sn**	**00 31 59.5**	**+2.4**
NPS	**Neapolis**	**1.35**	**72**	P	**Pb**	**00 31 44.8**	**+0.6**
NPS	**Neapolis**	**1.35**	**72**	P	**Pb**	**00 31 45.2**	**+1.0**
NPS				S	**Sb**	**00 32 03.5**	**+2.4**
KYTH	**Kithira**	**1.62**	**330**	P	**Pb**	**00 31 50.5**	**+1.5**
STIA	**Sitia Lasithi**	**1.71**	**78**	P	**Pb**	**00 31 51.9**	**+1.4**
ZKR	**Zakros**	**1.80**	**81**	P	**Pb**	**00 31 53.7**	**+1.7**
THR6	**Thira Island,**	**1.86**	**36**	P	**Pb**	**00 31 52.6**	**-0.4**
THR6	**Thira Island,**	**1.86**	**36**	P	**Pb**	**00 31 53.0**	**+0.1**
THR5	**Thira Island,**	**1.88**	**34**	P	**Pb**	**00 31 53.1**	**-0.3**
THR5	**Thira Island,**	**1.88**	**34**	P	**Pb**	**00 31 53.1**	**-0.3**
THR5	**Thira Island,**	**1.88**	**34**	P	**Pb**	**00 31 53.1**	**-0.3**
THT1	**Athinios (Pele**	**1.90**	**36**	P	**Pb**	**00 31 52.2**	**-1.4**
THT1	**Athinios (Pele**	**1.90**	**36**	P	**Pb**	**00 31 52.8**	**-0.8**
SAP3	**Santorini-Thir**	**1.90**	**33**	P	**Pb**	**00 31 53.3**	**-0.3**
THR3	**Thira Island,**	**1.90**	**35**	P	**Pb**	**00 31 53.0**	**-0.7**
THR3	**Thira Island,**	**1.90**	**35**	P	**Pb**	**00 31 53.5**	**-0.2**
MHLA	**Plaka, Milos I**	**1.91**	**9**	P	**Pb**	**00 31 53.8**	**0.0**
THT2	**Imerovigli**	**1.93**	**35**	P	**Pb**	**00 31 53.8**	**-0.5**
THR2	**Thira island,**	**1.95**	**35**	P	**Pb**	**00 31 53.8**	**-0.7**
THR2	**Thira island,**	**1.95**	**35**	P	**Pb**	**00 31 54.4**	**-0.1**
CMBO	**Columbo, Santo**	**1.95**	**34**	P	**Pb**	**00 31 54.2**	**-0.4**
CMBO	**Columbo, Santo**	**1.95**	**34**	P	**Pb**	**00 31 54.1**	**-0.4**
ANAF	**Anafi Island**	**2.05**	**43**	P	**Pb**	**00 31 54.8**	**-1.5**
VLI	**Veliai**	**2.06**	**334**	P	**Pb**	**00 31 56.2**	**-0.3**
DYR	**Agios Nikonas**	**2.36**	**324**	P	**Pb**	**00 32 00.7**	**-0.8**
AMGA	**Amorgos Island**	**2.48**	**37**	P	**Pn**	**00 32 00.5**	**+1.8**
APE	**Apeiranthos**	**2.51**	**28**	P	**Pn**	**00 32 00.8**	**+1.6**
DID	**Didima**	**2.72**	**346**	P	**Pn**	**00 32 04.2**	**+2.2**
VLX	**Vlachokerasia**	**2.85**	**332**	P	**Pb**	**00 32 08.0**	**-1.9**
ITM	**Ithomi**	**2.89**	**324**	P	**Pb**	**00 32 08.2**	**-2.3**
VLY	**Voula,Athens**	**3.00**	**356**	P	**Pn**	**00 32 07.7**	**+1.9**
DION	**Dionisos Attik**	**3.22**	**358**	P	**Pn**	**00 32 10.8**	**+2.0**
GUR	**Goura**	**3.37**	**336**	P	**Pn**	**00 32 13.5**	**+2.5**
ARG	**Arkhangelos**	**3.59**	**67**	P	**Pn**	**00 32 16.1**	**+2.1**
BRTR	**Keskin Array B**	**9.05**	**55**	Pn	**Pn**	**00 33 28.6**	**-0.5**
	baz=236,slow=15,SNR=2.2						
MMAI	**Mount Meron Ar**	**9.61**	**98**	Pn	**Pn**	**00 33 32.1**	**-4.6**
	comp=E,0.3nm,0.3s,baz=288,slow=14,SNR=1.8						
HFS	**Hagfors**	**26.18**	**348**	P	**P**	**00 36 51.4**	**-0.7**
	comp=E,3.9nm,0.9s,baz=160,slow=10,SNR=3.3						
TORD	**Torodi Ar. Bea**	**29.60**	**229**	P	**P**	**00 37 21.7**	**-1.5**
	comp=E,0.2nm,0.7s,baz=39,slow=9.3,SNR=3.6						
KURBB	**Kurchatov Arra**	**42.02**	**51**	P	**P**	**00 39 08.9**	**-0.2**
	comp=E,0.8nm,0.4s,baz=271,slow=8.7,SNR=10						
MKAR	**Makanchi Array**	**44.70**	**56**	P	**P**	**00 39 30.5**	**-0.3**
	comp=E,0.7nm,0.6s,baz=269,slow=7.8,SNR=7.1						
ZALV	**Zalesovo Beam**	**45.87**	**46**	P	**P**	**00 39 39.1**	**-0.8**
	comp=E,1.2nm,0.4s,baz=272,slow=9.0,SNR=7.8						

*DDA **28** 00:34:05.7, 38°.73N×44°.79E, h7km, Ml2.7*
*ISK **28** 00:34:06.1, 38°.86N×44°.79E, h5km, ML3.5/5*

ISC 28 00:34:05.8±2.1, 38°.75N±0°.04×44°.78E±0°.09, h0km±14km, n16, σ1§05/21, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.78**	**301**	P	**Pg**	**00 34 21.3**	**-1.1**
CLDR				SG	**Sb**	**00 34 32.9**	**-0.7**
CLDR	**Caldiran**	**0.78**	**301**	*i* P	**Pb**	**00 34 21.2**	**-1.2**
CLDR				*i* S	**Sb**	**00 34 32.4**	**-1.2**
VMUR	**Van-Muradiye**	**0.97**	**285**	*i* P	**Pg**	**00 34 24.7**	**+0.2**
VMUR				*i* S	**Sb**	**00 34 39.8**	**+0.7**
TVAN	**Van**	**1.10**	**259**	*i* P	**Pg**	**00 34 27.0**	**+0.1**
VANB	**Van**	**1.10**	**262**	PN	**Pn**	**00 34 29.0**	**+0.4**
VANB				SN	**Sn**	**00 34 45.8**	**+1.3**
YOVA	**Hakkari_Y`…kse**	**1.22**	**199**	*i* P	**Pg**	**00 34 28.6**	**-0.6**
IGDI	**IGDIR**	**1.24**	**334**	*i* P	**Pn**	**00 34 32.1**	**+1.6**
GEVA	**Gevas**	**1.42**	**253**	*i* P	**Pn**	**00 34 31.1**	**-1.9**
GEVA				*i* S	**Sg**	**00 34 53.0**	**+1.6**
AGRB	**Hanur-Agry**	**1.62**	**301**	PN	**Pg**	**00 34 36.4**	**-0.4**
TUTA	**Tutak**	**1.67**	**294**	*i* P	**Pb**	**00 34 36.9**	**-0.5**
CUKT	**Cukurca**	**1.76**	**212**	PN	**Pg**	**00 34 40.4**	**+0.8**
CUKT	**Cukurca**	**1.76**	**212**	*i* P	**Pb**	**00 34 38.5**	**-0.5**
MLAZ	**Malazgirt-MUS**	**1.78**	**283**	PN	**Pb**	**00 34 39.1**	**-0.4**
EATA	**Eleskirt**	**2.10**	**303**	*i* P	**Pg**	**00 34 45.6**	**-0.4**
GURO	**Guroymak-BITLI**	**2.16**	**266**	PN	**Pb**	**00 34 44.9**	**-1.0**
SIRT	**Sirnak**	**2.23**	**237**	PN	**Pb**	**00 34 46.5**	**-0.5**

*NSSP **28** 00:34:42.9, 38°.68N×44°.75E, h10km, Ms3.6*
*TEH

GDB				⇑S	Sb	00 35 51.6	-1.6		
GDB	**GEDABAY**	2.20	21	*e*Pn	Pb	00 35 23.7	-1.7		
SRTM	**Siirt_Merkez**	2.29	254	*i* P	Pn	00 35 23.6	0.0		
KARS	**Kars**	2.33	328	PN	Pn	00 35 24.2	+0.1		
KARS	**Kars**	2.33	328	*e*Pn	Pn	00 35 24.4	+0.3		
GANJ	**Ganja** SNR=14	2.34	32	⇑P	Pb	00 35 25.9	-1.8		
GANJ				⇑S	Sb	00 35 54.4	-2.4		
GANJ	**Ganja**	2.34	32	*e*Pn	Pb	00 35 25.8	-1.8		
QZX	**Qazax, Azerbai** SNR=13	2.44	12	⇓P	Pb	00 35 26.9	-2.5		
QZX				⇑S	Sn	00 35 54.9	-1.0		
QZX	**Qazax, Azerbai**	2.44	12	*e*Pn	Pb	00 35 26.9	-2.5		
BRDA	**Brd** SNR=5.4	2.49	49	⇓P	Pb	00 35 28.5	-1.7		
BRDA				⇓S	Sb	00 35 59.4	-1.9		
BRDA	**Brd**	2.49	49	*e*Pn	Pb	00 35 28.5	-1.7		
GRMI	**Germi**	2.50	86	*e*Pn	Pn	00 35 27.1	+0.6		
VRTB	**Varto-Mus**	2.58	282	PN	Pn	00 35 28.0	+0.4		
VRTB	**Varto-Mus**	2.58	282	*e*Pn	Pn	00 35 28.7	+1.1		
BGD	**Bogdanovka**	2.73	342	P	Pg	00 35 36.6	-0.6		
BGD				S	Sg	00 36 18.6	+6.1		
MNGR	**Mingechevir, A** SNR=8.6	2.79	40	⇑P	Pb	00 35 33.1	-2.3		
MNGR				⇓S	Sn	00 36 05.2	+0.8		
MNGR	**Mingechevir, A**	2.79	40	*e*Pn	Pb	00 35 33.0	-2.3		
SVAN	**Silvan-Diyarba**	2.80	260	PN	Pn	00 35 31.3	+0.7		
SVAN	**Silvan-Diyarba**	2.80	260	*e*Pn	Pn	00 35 31.9	+1.3		
LRK	**Lerik** SNR=16	2.85	89	P	Pn	00 35 33.1	+1.8		
LRK				⇑S	Sb	00 36 11.3	-0.4		
LRK	**Lerik**	2.85	89	*e*Pn	Pn	00 35 33.0	+1.8		
AKH	**Akhalkalaki**	2.89	342	PN	Pn	00 35 32.6	+0.7		
AKH	**Akhalkalaki**	2.89	342	P	Pg	00 35 39.5	-0.9		
TRLG	**Trialeti**	2.91	351	P	Pb	00 35 36.9	-0.5		
TRLG				S	Sg	00 36 17.7	-0.5		
GLBA	**Ciilabad** SNR=14	2.93	78	P	Pn	00 35 34.3	+2.0		
GLBA	**Ciilabad**	2.93	78	*e*Pn	Pn	00 35 34.2	+2.0		
DDFL	**Dedoflistskaro**	2.98	21	P	Pg	00 35 41.1	-0.9		
DDFL				S	Sg	00 36 24.9	+4.3		
TBLG	**Delisi**	3.06	0	PN	Pn	00 35 35.3	+1.2		
TBLG	**Delisi**	3.06	0	P	Pg	00 35 42.6	-0.9		
TBLG				S	Sg	00 36 28.4	+5.3		
BNGB	**Bing˜¶l**	3.16	277	PN	Pn	00 35 36.4	+0.9		
SEKA	**Sheki** SNR=7.1	3.18	36	⇓P	Pn	00 35 38.0	+2.2		
SEKA				⇓S	Sb	00 36 19.0	-2.1		
SEKA	**Sheki**	3.18	36	*e*Pn	Pn	00 35 38.0	+2.2		
LKRN	**Lenkeran, Azer** SNR=14	3.19	88	P	Pn	00 35 37.6	+1.8		
LKRN				⇓S	Sb	00 36 19.1	-2.2		
LKRN	**Lenkeran, Azer**	3.19	88	*e*Pn	Pn	00 35 37.6	+1.8		
ASTR	**Astara** SNR=20	3.20	91	P	Pn	00 35 38.1	+2.0		
ASTR				⇓S	Sb	00 36 20.3	-1.4		
ASTR	**Astara**	3.20	91	*e*Pn	Pn	00 35 38.0	+2.0		
BINT	**Bingol**	3.30	275	*e*Pn	Pn	00 35 36.7	-0.8		
ZKTA	**Zakatala** SNR=12	3.31	26	⇓P	Pn	00 35 38.8	+1.2		
ZKTA				⇑S	Sn	00 36 19.4	+2.0		
ZKTA	**Zakatala**	3.31	26	*e*Pn	Pn	00 35 38.7	+1.2		
QBL	**Gabala** SNR=8.5	3.32	46	⇑P	Pn	00 35 38.4	+0.7		
QBL				⇑S	Sb	00 36 22.2	-2.8		
QBL	**Gabala**	3.32	46	*e*Pn	Pn	00 35 38.3	+0.7		
YEDI	**Yedisu-Bingol**	3.33	285	PN	Pn	00 35 38.6	+0.7		
YEDI	**Yedisu-Bingol**	3.33	285	*e*Pn	Pn	00 35 38.9	+1.0		
DUS	**Dusheti**	3.42	360	P	Pg	00 35 48.1	-2.3		
MAZI	**Mazidag**	3.57	252	PN	Pn	00 35 42.4	+1.2		
MAZI	**Mazidag**	3.57	252	*e*Pn	Pn	00 35 42.9	+1.7		
XNQ	**Khinaliq** SNR=7.4	3.64	45	⇑P	Pn	00 35 43.7	+1.4		
XNQ				⇑S	Sn	00 36 25.8	+0.1		
XNQ	**Khinaliq**	3.64	45	*e*Pn	Pn	00 35 43.6	+1.4		
PQL	**Pirkuli** SNR=10	3.67	54	⇓P	Pn	00 35 43.6	+0.9		
PQL	**Pirkuli**	3.67	54	*e*Pn	Pn	00 35 43.5	+0.9		
ZNJK	**Zanjan**	3.73	121	*e*Pn	Pn	00 35 44.5	+0.9		
GBS	**Qobustan** SNR=4.8	3.77	59	⇓P	Pn	00 35 44.1	+0.2		
GBS	**Qobustan**	3.77	59	*e*Pn	Pn	00 35 44.0	+0.2		
GUDG	**Gudauri**	3.80	357	P	Pg	00 35 54.7	-3.0		
ATGJ	**Altiaghaj** SNR=9.4	3.93	55	⇑P	Pn	00 35 47.7	+1.6		
ATGJ	**Altiaghaj**	3.93	55	*e*Pn	Pn	00 35 47.7	+1.6		
QSAR	**Qusar**	3.94	43	⇓P	Pn	00 35 47.2	+1.0		
QSAR	**Qusar**	3.94	43	*e*Pn	Pn	00 35 47.2	+1.0		
ONI	**Oni**	4.03	347	P	Pb	00 35 57.7	+1.2		
PTK	**Pertek**	4.16	275	PN	Pn	00 35 50.5	+1.2		
PTK	**Pertek**	4.16	275	*e*Pn	Pn	00 35 51.3	+2.0		
IVIS	**Veis** comp=Z,217nm,0.8s	4.48	157	IAMB	IAmb	00 37 30.0			
QABG	**Abgarm-Qazvin**	4.89	126	*e*Pn	Pn	00 36 00.7	+1.3		

*JMA **28** 00:35:12.6±0.2,24°.32N×122°.24E,h63km±4km,M2.2*
*ISCJB **28** 00:35:13.0±0.4,24°.42N±0°.03×122°.28E±0°.02,h60km±6km,*
Error ellipse: s-maj=4.3km s-min=2.6km az=166.5
*TAP **28** 00:35:13.0,24°.42N×122°.24E,h64km,ML3.0,B*
ISC 28 00:35:13.6±1.3,24°.41N±0°.04×122°.27E±0°.02,h58km±8km,
n54,σ0s83/94,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1** baz=322	0.19	316	*e*P	Pn	00 35 23.1	+0.4
EOS1				*e*S	Sn	00 35 30.9	+1.6
TWC	**Suao** baz=299	0.43	297	P	Pn	00 35 24.4	-0.3
TWC				S	Sn	00 35 33.0	+0.3
ENA	**Nanau** baz=272	0.48	272	P	Pn	00 35 24.6	-0.6
ENA				S	Sn	00 35 33.7	0.0
JYNG	**Yonaguni jima**	0.61	86	P	Pn	00 35 26.7	0.0
JYNG				*e*S	Sn	00 35 36.9	+0.7
TWE	**Neicheng** baz=303	0.63	299	P	Pn	00 35 26.8	-0.1
TWE				S	Sn	00 35 36.7	+0.2
NACB	**Ninganchiao** baz=242	0.66	249	P	Pn	00 35 26.1	-1.1
NACB				S	Sn	00 35 36.6	-0.7
YOJ	**Yonaguni jima** baz=85	0.67	86	*e*P	Pn	00 35 27.5	+0.1
YOJ				*e*S	Sn	00 35 38.0	+0.6
YOJ	**Yonaguni jima**	0.67	86	P	Pn	00 35 27.4	+0.1
YOJ				*e*S	Sn	00 35 37.8	+0.3
ENTT	**Nioudou** baz=284	0.68	289	P	Pn	00 35 27.4	-0.1
ENTT				*e*S	Sn	00 35 38.2	+0.5
TWD	**Chiawan** baz=233	0.70	242	P	Pn	00 35 27.5	-0.2
TWD				S	Sn	00 35 37.7	-0.4
NWLT	**Wulai** baz=306	0.79	297	P	Pn	00 35 28.9	+0.1
ENLB	**Shoufeng** baz=222	0.80	230	*e*P	Pn	00 35 28.4	-0.5
NNSB	**Datong** baz=265	0.81	271	P	Pn	00 35 29.0	-0.3
NNSB				*e*S	Sn	00 35 40.9	+0.2
NNS	**Nan Shan** baz=265	0.82	272	P	Pn	00 35 29.0	-0.4
NNS				S	Sn	00 35 40.9	0.0
YHNB	**Yeheng** baz=281	0.86	287	P	Pn	00 35 29.6	-0.1
YHNB				S	Sn	00 35 41.7	+0.1
NSK	**Sanguang** baz=281	0.87	288	P	Pn	00 35 30.0	+0.1
NSK				S	Sn	00 35 41.8	-0.2
WHF	**Hehuan Shan** baz=254	0.96	254	P	Pn	00 35 31.1	-0.3
WHF				S	Sn	00 35 44.2	-0.3
YM07	**YM07** baz=323	0.96	322	*e*P	Pn	00 35 31.6	+0.5
YM07				*e*S	Sn	00 35 43.0	-1.1
YM01	**YM01** baz=320	0.97	319	*e*S	Sn	00 35 43.5	-0.8
ESL	**Shilin** baz=224	0.97	232	P	Pn	00 35 30.5	-0.7
ESL				*e*S	Sn	00 35 43.3	-0.9
YM11	**YM11** baz=321	0.98	320	S	Sn	00 35 43.8	-0.8
YM10	**YM10** baz=320	0.98	319	*e*S	Sn	00 35 43.2	-1.4
YM08	**YM08** baz=322	0.99	321	*e*S	Sn	00 35 43.0	-1.7
YM04	**YM04** baz=319	0.99	318	*e*S	Sn	00 35 43.3	-1.5
TWT	**Tachien** baz=261	1.01	261	P	Pn	00 35 32.3	+0.4
TWT				S	Sn	00 35 45.8	+0.3
TDCB	**Techi** baz=261	1.03	261	P	Pn	00 35 32.2	+0.2
TDCB				*e*S	Sn	00 35 45.5	-0.3
CHGB	**Renai** baz=243	1.06	251	P	Pn	00 35 32.5	-0.1
CHGB				S	Sn	00 35 46.2	-0.4
EGFH	**Guangfu** baz=218	1.07	226	*e*S	Sn	00 35 46.0	-0.5
LIOB	**Emei** baz=283	1.17	282	P	Pn	00 35 34.2	+0.4
LIOB				S	Sn	00 35 48.9	0.0
NSTT	**Nanjuang** baz=282	1.18	281	P	Pn	00 35 34.2	+0.3
NSTT				*e*S	Sn	00 35 49.4	+0.4
HGSD	**Ruisui** baz=219	1.20	220	*e*P	Pn	00 35 34.0	-0.3
HGSD				*e*S	Sn	00 35 49.5	-0.2
VWDT	**VWDT** baz=230	1.23	238	*e*P	Pn	00 35 34.1	-0.4
VWDT				*e*S	Sn	00 35 49.3	-0.8
EHY	**Hungye** baz=223	1.25	224	P	Pn	00 35 34.0	-1.0
EHY				*e*S	Sn	00 35 49.2	-1.7
IRIF	**Iriomote-Funau**	1.33	93	P	Pn	00 35 35.6	-0.3
IRIF				*e*S	Sn	00 35 52.9	+0.2
YULB	**Yu-li** baz=220	1.35	221	*e*P	Pn	00 35 34.9	-1.4
YULB				*e*S	Sn	00 35 51.1	-2.1
SMLT	**Sun Moon Lake** baz=241	1.36	247	P	Pn	00 35 36.7	+0.2
SMLT				*e*S	Sn	00 35 54.0	+0.4
TWQ1	**Liyutan** baz=268	1.37	268	*e*P	Pn	00 35 35.9	-0.6
TWQ1				*e*S	Sn	00 35 54.0	+0.3
TWF1	**Yuli** baz=228	1.38	220	*e*P	Pn	00 35 35.8	-0.9
TWF1				S	Sn	00 35 52.6	-1.4
TYC	**Yuchr** baz=242	1.39	249	P	Pn	00 35 37.0	+0.2
TYC				*e*S	Sn	00 35 54.1	0.0
FULB	**Fuli** baz=207	1.51	217	*e*P	Pn	00 35 37.6	-0.8
FULB				S	Sn	00 35 56.1	-0.9
YUS	**Yu-Shan** baz=225	1.52	233	P	Pn	00 35 38.8	-0.2
YUS				*e*S	Sn	00 35 57.0	-1.0
JKRS	**Kuro-shima**	1.59	96	P	Pn	00 35 39.8	+0.3
JKRS				*e*S	Sn	00 35 59.3	+0.3
CHN5	**Tsauling** baz=232	1.67	241	*e*P	Pn	00 35 41.6	+1.0
CHN5				S	Sn	00 36 02.4	+1.4
JIJ	**Ishigaki jima**	1.71	91	P	Pn	00 35 40.6	-0.4
JIJ				*e*S	Sn	00 36 01.2	-0.6
WDLH	**Douliu** baz=246	1.74	246	*e*S	Sn	00 36 04.5	+1.9
JISG	**Ishigakijimahi**	1.86	84	P	Pn	00 35 42.4	-0.8
CHN4	**Tsaushan** baz=227	1.87	236	*e*S	Sn	00 36 07.1	+1.4
TPUB	**Ta-pu** baz=225	1.87	234	P	Pn	00 35 43.8	+0.5
TPUB				*e*S	Sn	00 36 07.1	+1.3
WTP	**Ta-pu** baz=232	1.91	233	*e*P	Pn	00 35 45.0	+1.1
WTP				S	Sn	00 36 09.3	+2.4
TWK	**Hsinying** baz=235	1.99	235	*e*S	Sn	00 36 10.2	+1.4
CHN1	**Nanshi** baz=232	2.01	233	*e*P	Pn	00 35 45.9	+0.6
CHN1				*e*S	Sn	00 36 10.6	+1.2
SLGT	**Liugui** baz=226	2.06	227	*e*S	Sn	00 36 11.2	+0.8
JTJ	**Tarama**	2.22	84	P	Pn	00 35 48.4	+0.3
JTJ				*e*S	Sn	00 36 13.7	-0.7
MASBT	**Mashibuluo** baz=219	2.34	220	*e*S	Sn	00 36 18.8	+1.5

*IDC **28** 00:56:14.3±1.1,33°.70S×178°.32W,h0km,mb4.5/3,*
mb1 4.6/6,mb1mx4.1/31,mbtmp4.5/6,ML4.0/3,MS3.6/6,
Ms1 3.5/6,ms1mx3.1/29,Error ellipse: s-maj=32.7km
s-min=27.0km az=134.0
*ISCJB **28** 00:56:18.0±0.7,33°.74S±0°.04×178°.4W±0°.1,h41km,*
mb4.3/7,MS3.6/5,Error ellipse: s-maj=13.1km
s-min=3.9km az=19.7
*WEL **28** 00:56:17.4±0.9,33°.S±8°.×17°.8W±1°.9,h33km,ML5.0/13*
*NEIC **28** 00:56:18.7±2.2,33°.73S×178°.38W,h28km±14km,mb4.3/5,*
Error ellipse: s-maj=12.7km s-min=7.4km az=94.0
ISC 28 00:56:19.6±0.7,33°.65S±0°.06×178°.3W±0°.1,h41km,n86,
σ1s73/110,mb4.4/7,MS3.6/5,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	4.38	5	P	Pn	00 57 18.6	-5.0
GLKZ				S	Sn	00 58 05.8	-7.7
RAO	**Raoul Island**	4.39	5	*e*Pn	Pn	00 57 25.1	+1.3
MXZ	**Matakaoa Point**	4.78	214	*e*Pn	Pn	00 57 27.8	-1.2
MXZ	**Matakaoa Point**	4.78	214	P	Pn	00 57 28.9	-0.1
MXZ				S	Sn	00 58 21.7	-1.4
WMGZ	**Waiomatatini S**	4.94	212	P	Pn	00 57 32.4	+1.2
WMGZ				S	Sn	00 58 28.1	+1.1
PKGZ	**Pakihiroa**	5.15	214	P	Pn	00 57 33.0	-1.2
PKGZ				S	Sn	00 58 33.0	+0.7
HAZ	**Te Kaha**	5.18	217	P	Pn	00 57 34.8	+0.2
HAZ				S	Sn	00 58 34.6	+1.5
PUZ	**Puketiti**	5.22	211	P	Pn	00 57 33.3	-1.8
PUZ				S	Sn	00 58 33.9	-0.1
RUGZ	**Raukumara Rang**	5.40	216	P	Pn	00 57 36.8	-0.9
RUGZ				S	Sn	00 58 37.9	-0.7
TWGZ	**Tauwhareparae**	5.42	212	P	Pn	00 57 37.4	-0.6
TWGZ				S	Sn	00 58 39.3	+0.1
CNGZ	**Carnagh Statio**	5.58	209	P	Pn	00 57 39.4	-0.8
WHRZ	**Whale Island**	5.68	221	P	Pn	00 57 42.3	+0.8
WHRZ				S	Sn	00 58 45.3	-0.1
MYRZ	**Mayor Island**	5.73	229	P	Pn	00 57 43.6	+1.5
MWZ	**Matawai**	5.76	215	P	Pn	00 57 40.7	-1.9
MWZ				S	Sn	00 58 47.1	-0.3
KUZ	**Kuaotunu**	5.77	236	P	Pn	00 57 43.0	+0.3
OPRZ	**Ohinepanea**	5.91	223	P	Pn	00 57 45.1	+0.5
URZ	**Urewera** 12nm,0.3s,baz=243,slow=1.7,SNR=48	5.91	218	Pn	Pn	00 57 44.3	-0.3
URZ	16nm,0.3s,baz=91,slow=24,SNR=11			Sn	Sn	00 58 50.0	-0.9
URZ	**Urewera**	5.91	218	*e*Pn	Pn	00 57 43.5	-1.0
URZ				*e*Sn	Sn	00 58 47.7	-3.3
URZ	**Urewera**	5.91	218	P	Pn	00 57 43.7	-0.8
URZ				S	Sn	00 58 49.8	-1.1
RAGZ	**Rawiri**	5.94	214	P	Pn	00 57 45.3	+0.1
RAGZ				S	Sn	00 58 51.4	-0.5
RIGZ	**Rimuhau**	5.96	211	P	Pn	00 57 44.8	-0.5
RIGZ				S	Sn	00 58 52.4	+0.1
PRGZ	**Paritu Road**	6.09	209	P	Pn	00 57 47.1	0.0
SNGZ	**Shannon Statio**	6.21	213	P	Pn	00 57 49.0	+0.3
SNGZ				S	Sn	00 58 58.2	-0.2
MUGZ	**Murupara**	6.25	218	P	Pn	00 57 48.9	-0.3
MUGZ				S	Sn	00 58 58.2	-1.1
RTZ	**Ruatahuna**	6.25	216	P	Pn	00 57 48.9	-0.4
RTZ				S	Sn	00 58 56.8	-2.6
KNZ	**Kokohu**	6.26	210	P	Pn	00 57 48.7	-0.7
KNZ				S	Sn	00 58 58.5	-1.2
MHGZ	**Mahia Peninsul**	6.28	208	P	Pn	00 57 48.5	-1.2
MHGZ				S	Sn	00 58 59.2	-0.9
RAHZ	**Arahi**	6.43	214	P	Pn	00 57 52.2	+0.4
RAHZ				S	Sn	00 59 01.9	-2.0
WHHZ	**Waihua**	6.50	212	P	Pn	00 57 53.3	+0.6
WHHZ				S	Sn	00 59 04.9	-0.6
MTHZ	**Maungataniwha**	6.50	216	P	Pn	00 57 52.7	-0.1
MTHZ				S	Sn	00 59 05.0	-0.6
ARHZ	**Aropaoanui**	6.75	213	P	Pn	00 57 56.3	+0.1
ARHZ				S	Sn	00 59 10.2	-1.6
OUZ	**Omahuta**	6.86	255	*e*Pn	Pn	00 57 58.4	+0.8
BKZ	**Black Stump Fm**	6.91	216	*e*Pn	Pn	00 57 58.1	-0.3
BKZ				*e*Sn	Sn	00 59 13.5	-2.3
BKZ	**Black Stump Fm**	6.91	216	P	Pn	00 57 57.6	-0.8
MCHZ	**McNeill Hill**	7.04	213	P	Pn	00 57 59.3	-0.8
RITZ	**Rihia Road**	7.09	220	P	Pn	00 58 01.9	+1.0
KWHZ	**Kaweka Forest**	7.15	215	P	Pn	00 58 01.0	-0.7
KAHZ	**Kahuranaki**	7.25	211	P	Pn	00 58 01.5	-1.5
KRHZ	**Kereru**	7.35	214	P	Pn	00 58 02.3	-2.1
MOVZ	**Moawhango**	7.47	218	P	Pn	00 58 05.5	-0.5
PNHZ	**Pukenui**	7.64	213	P	Pn	00 58 06.0	-2.4
BFZ	**Birch Farm**	8.25	210	*e*Pn	Pn	00 58 14.5	-2.2
BFZ				*e*Sn	Sn	00 59 45.9	-2.7
BFZ	**Birch Farm**	8.25	210	P	Pn	00 58 13.7	-3.0
MRZ	**Mangatainoka R**	8.53	213	P	Pn	00 58 16.8	-3.6
TMWZ	**Te Maipa**	8.75	210	P	Pn	00 58 20.6	-3.0
KIW	**Kapiti Island**	8.99	215	P	Pn	00 58 23.5	-3.5
THZ	**Tophouse**	10.67	218	*e*Pn	Pn	00 58 48.1	-1.8
THZ				*e*Sn	Sn	01 00 40.9	-7.0
THZ	**Tophouse**	10.67	218	P	Pn	00 58 46.0	-3.9
RPZ	**Rata Peaks** 1.0nm,0.3s,baz=34,slow=3.6,SNR=4.2	13.02	216	Pn	Pn	00 59 18.5	-3.5
RPZ				Sn	Sn	01 01 31.9	-14
DZM	**Mont Dzumac** 0.1nm,0.3s,baz=137,slow=19,SNR=2.2	17.70	307	P	Pn	01 00 22.1	-1.1
DZM	comp=Z,210nm,18.6s,baz=201,slow=34			LR	LR	01 06 21.9	
DZM	**Mont Dzumac** 13nm,0.8s	17.70	307	*e*Pn	Pn	01 00 22.1	-1.1
PPT	**Papeete** comp=Z,65nm,18.4s,baz=224,slow=34	30.33	65	LR	LR	01 13 31.8	
STKA	**Stephens Creek** comp=Z,62nm,18.7s,baz=26,slow=35	33.61	262	LR	LR	01 15 45.8	
CTA	**Charters Tower** 4.8nm,0.6s,baz=110,slow=12,SNR=6.7	34.18	284	P	P	01 03 02.6	+1.4
CTAO	**Charters Tower**	34.18	284	*e*P	P	01 03 02.4	+1.2
AS01	**Alice Springs**	42.72	271	*e*P	P	01 04 12.8	-0.1
AS31	**Alice Springs** 1.4nm,0.7s	42.76	271	*e*P	P	01 04 13.4	+0.2
AS31				*e*PcP	PcP	01 06 05.2	+0.9
ASAR	**Alice Springs** 4.5nm,0.7s,baz=110,slow=7.4,SNR=52	42.76	271	P	P	01 04 13.5	+0.2
ASAR	1.5nm,0.9s,baz=119,slow=4.4,SNR=5.6			PcP	PcP	01 06 05.2	+0.9
WRAB	**Tennant Creek** 4.7nm,0.7s	44.04	276	*e*P	P	01 04 22.8	-0.7
WR1	**Warramunga Arr** 6.6nm,0.8s	44.04	276	*e*P	P	01 04 23.4	-0.1
WR1				*e*PcP	PcP	01 06 09.8	+1.3
WRA	**Warramunga Arr** 5.6nm,0.8s,baz=114,slow=8.4,SNR=51	44.04	276	P	P	01 04 23.4	-0.2
WRA	0.7nm,0.7s,baz=121,slow=3.4,SNR=5.0			PcP	PcP	01 06 09.8	+1.3
CASY	**Casey** 3.9nm,0.7s	52.16	209	*e*P	P	01 05 26.6	+1.0
MBWA	**Marble Bar**	55.66	266	*e*P	P	01 05 52.0	+0.1
QSPA	**South Pole Qui**	56.47	180	*e*P	P	01 05 56.6	-0.6
SNAA	**Sanae**	74.93	179	P	P	01 08 00.5	+4.6
VNA3	**Neumayer Olymp**	75.09	176	P	P	01 07 59.4	+2.6
VNA2	**Neumayer--Watz** baz=174,slow=5.2	75.52	177	P	P	01 08 02.1	+2.9
LPIG	**La Paz** comp=Z,24nm,18.9s,baz=172,slow=30	86.48	58	LR	LR	01 40 14.4	
TXAR	**Lajitas Array** comp=Z,28nm,18.6s,baz=0.0,slow=32	94.36	58	LR	LR	01 46 32.8	
NEW	**Newport** comp=Z,33nm,19.0s,baz=231,slow=32	98.15	36	LR	LR	01 48 44.9	
MK32	**Makanchi Array**	119.61	309	*e*PKPdf	PKPdf	01 15 05.4	+0.7
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=94,slow=4.5,SNR=3.1	119.61	309	PKP	PKPdf	01 15 05.4	+0.7
ZALV	**Zalesovo Beam** 0.3nm,0.4s,baz=173,slow=2.5,SNR=2.7	120.24	317	PKP	PKPdf	01 15 06.2	+0.6
ZAA1	**Zalesovo Array**	120.25	317	*e*PKPdf	PKPdf	01 15 06.2	+0.6
KURK	**Kurchatov**	123.06	312	*e*PKPdf	PKPdf	01 15 12.6	+1.5
RAYN	**Ar Rayn**	140.47	267	*e*PKPdf	PKPdf	01 15 45.3	+0.5
KBZ	**Khabaz** 2.6nm,0.9s,baz=84,slow=9.2,SNR=5.5	146.59	300	PKPbc	PKPab	01 15 56.5	-1.0
FIA0	**FINESS Array S**	148.07	338	*e*PKPbc	PKPab	01 16 01.4	-1.4
FINES	**FINESS Array B** 3.6nm,0.6s,baz=43,slow=4.3,SNR=28	148.07	338	PKPbc	PKPab	01 16 01.4	-1.4
NB2	**NORSAR Subarra** comp=Z,0.6nm,0.6s,baz=17,slow=2.6	151.90	350	PKP	PKPbc	01 16 10.8	+1.4
NB200	**NORSAR Array S**	151.90	350	*e*PKPbc	PKPbc	01 16 09.4	+0.1
NOA	**NORSAR Array B** comp=Z,0.4nm,0.6s,baz=15,slow=4.1,SNR=3.6	151.90	350	PKPbc	PKPbc	01 16 09.4	+0.1
BR101	**Keskin Array S**	153.75	293	*e*PKPbc	PKPbc	01 16 16.1	+1.8
BRTR	**Keskin Array B** comp=Z,1.0nm,0.7s,baz=147,slow=3.7,SNR=8.8	153.75	293	PKPbc	PKPbc	01 16 16.1	+1.8
TORD	**Torodi Ar. Bea** comp=Z,0.6nm,0.6s,baz=182,slow=3.2,SNR=5.5	159.59	180	PKPab	PKPab	01 16 52.8	+0.1
TOA1	**Torodi Ar. Sit**	159.60	180	*e*PKPab	PKPab	01 16 52.8	+0.1

*MEX **28** 01:24:12.5±0.4,13°.70N×92°.68W,h67km±34km,MD3.9*
*IDC **28** 01:24:15.4±3.1,14°.41N×92°.59W,h0km,mb3.5/2,*
mb1 3.6/5,mb1mx3.4/44,mbtmp3.3/5,ML3.2/3,MS2.2/1,
Ms1 2.2/1,ms1mx1.9/27,Error ellipse: s-maj=49.5km
s-min=15.4km az=10.0
ISC 28 01:24:18.4±1.9,14°.1N±0°.1×92°.65W±0°.09,h46km,n8,
σ1s73/11,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.92	24	*i* P	Pn	01 24 32.9	-2.2
THIG			

OJC				*e*Sg	**Sg**	**01 36 52.0**	**+0.5**
OJC	**Ojcow**	**0.60**	**104**	*e*Pg	**Pg**	**01 36 43.2**	**-0.5**
OJC				*e*Sg	**Sg**	**01 36 52.0**	**+0.5**
OKC	**Ostrava-Krasne**	**0.72**	**222**	*e*PG	**Pg**	**01 36 46.2**	**+0.3**
OKC				*e*SG	**Sg**	**01 36 55.9**	**+0.7**
	comp=Z,14nm,0.4s						
MORC	**Moravsky Berou**	**1.05**	**236**	*e*PG	**Pg**	**01 36 51.9**	**-0.5**
MORC				*e*SG	**Sg**	**01 37 05.7**	**-0.3**
LANS	**Liptovska Anna**	**1.27**	**163**	*e*PG	**Pg**	**01 36 56.4**	**-0.2**
LANS				*e*SG	**Sg**	**01 37 13.2**	**+0.1**
NIE	**Niedzica**	**1.32**	**136**	*e*Pg	**Pg**	**01 36 56.8**	**-0.6**
NIE				*e*Sg	**Sb**	**01 37 14.9**	**+0.1**
NIE	**Niedzica**	**1.32**	**136**	*e*Pg	**Pg**	**01 36 56.8**	**-0.6**
NIE				*e*Sg	**Sb**	**01 37 14.9**	**+0.1**
DPC	**Dobruska-Polom**	**1.65**	**270**	*e*PG	**Pn**	**01 37 01.8**	**-0.3**
DPC				*e*SG	**Sn**	**01 37 23.6**	**-0.2**
	comp=Z,7.0nm,0.2s						
KSP	**Ksiaz**	**1.72**	**287**	*e*Pg	**Pn**	**01 37 03.7**	**+0.6**
KSP				*e*Sg	**Sb**	**01 37 27.4**	**+0.9**
KSP	**Ksiaz**	**1.72**	**287**	*e*Pg	**Pn**	**01 37 03.7**	**+0.6**
KSP				*e*Sg	**Sb**	**01 37 27.4**	**+0.9**
VRAC	**Vranov**	**1.83**	**235**	*e*PN	**Pn**	**01 37 04.8**	**+0.2**
VRAC				*e*SG	**Sn**	**01 37 29.5**	**+1.3**
UPC	**Upice**	**1.85**	**275**	*e*SG	**Sn**	**01 37 29.5**	**+0.8**
	comp=Z,3.4nm,0.2s						
VYHS	**Vyhne**	**1.88**	**181**	*e*PN	**Pn**	**01 37 04.7**	**-0.5**
VYHS				*e*SN	**Sn**	**01 37 28.2**	**-1.2**
VYHS				eLG	Lg	01 37 31.4	
KRUC	**Moravsky**	**2.08**	**232**	*e*PN	**Pn**	**01 37 08.1**	**+0.1**
KRUC				*e*SG	**Sb**	**01 37 36.7**	**-0.2**
TREC	**Trest**	**2.45**	**245**	*e*SG	**Sb**	**01 37 48.3**	**+0.7**
	comp=Z,4.2nm,0.2s						
GOPC	**GO Pecny, Ondr**	**2.68**	**262**	*e*PG	**Pb**	**01 37 20.4**	**-0.4**
GOPC				*e*SN	**Sn**	**01 37 47.6**	**-1.7**
GOPC				*e*SG	**Sb**	**01 37 55.0**	**+0.9**
PVCC	**Panska Ves**	**2.77**	**275**	*e*PG	**Pb**	**01 37 22.8**	**+0.5**
PVCC				*e*SG	**Sg**	**01 37 59.7**	**-1.4**
	comp=Z,6.4nm,0.2s						
PRA	**Prague**	**2.88**	**266**	*e*SG	**Sg**	**01 38 03.4**	**-1.3**
BRG	**Berggiesshubel**	**3.19**	**281**	SG	**Sg**	**01 38 13.9**	**-0.8**
	3.9nm,0.7s						
KHC	**Kasperske Hory**	**3.66**	**252**	*e*PN	**Pn**	**01 37 29.7**	**-0.1**
KHC				*ex*	x	01 37 36.6	
KHC				*ex*	x	01 37 41.6	
KHC				*e*SG	**Sb**	**01 38 24.9**	**+2.5**
	comp=Z,3.8nm,0.5s						
CLL	**Collm**	**3.85**	**286**	*e*Sg	**Sg**	**01 38 35.0**	**-0.8**

IDC ***28*** *01:42:11.9±0.5, 1°70'S×138°64'E, h0km, mb4.3/17, mb1 4.5/23, mb1mx4.4/49, mbtmp4.4/23, ML4.6/5, MS4.1/22, Ms1 4.1/22, ms1mx3.9/43, Error ellipse: s-maj=18.8km s-min=11.9km az=74.0*

NEIC ***28*** *01:42:15.9±2.6, 1°87S×138°65E, h26km±5km, mb4.7/28, Error ellipse: s-maj=13.0km s-min=8.7km az=148.0*

GCMT ***28*** *01:42:16.9±0.2, 1°58S±0°01'×138°57'E±0°02, h28km±1km, MW5.0/79, Moment Tensor Solution. s38,c43; s79,c109; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.76±.19; Mθθ=4.10±.14; Mφφ=-3.33±.15; Mrθ=0.00±.22; Mrφ=0.61±.11; Mθφ=0.02±.26; Best double couple: Mo=3.76600×10^16 NP1:φ=220.00000°, δ=90.00000°, λ=-180.00000°. NP2: φ=130.00000°, δ=90.00000°, λ=0.00000°. Principal axes: T 4.1500, Plg=0.0000°, Azm=355.0000°; N -0.7620, Plg=89.0000°, Azm=260.0000°; P -3.3810, Plg=1.0000°, Azm=85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISCJB ***28*** *01:42:16.3±0.3, 1°87S±0°04'×138°66E±0°03', h36km, mb4.5/51, MS4.2/22 Error ellipse: s-maj=5.4km s-min=4.2km az=30.0*

DJA ***28*** *01:42:17.0±1.4, 2°S±6'×13°9E±°, h12km±11km, M4.7/18, mB5.2/10, mb4.7/18, MLv5.0/7, Mw(mB)4.5/10*

BJI ***28*** *01:42:23.3, 1°78S×138°49E, h35km, mb4.8/31, mB5.0/14, Ms4.5/10, Ms7 4.2/10*

ISC 28 01:42:17.8±0.3, 1°99S±0°04'×138°66E±0°04', h36km, n156, σ2§44/136, mb4.6/51, MS4.1/22, 1C, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.62**	**112**	P	**Pn**	**01 42 44.7**	**+0.8**
GENI				S	**Sn**	**01 43 07.9**	**+4.4**
JAY	**Jayapura**	**2.11**	**104**	Pn	**Pn**	**01 42 50.1**	**-0.5**
	96nm,0.3s,baz=271,slow=10,SNR=322						
JAY				Sn	**Sn**	**01 43 15.8**	**+0.2**
	138nm,0.3s,baz=360,slow=16,SNR=7.3						
JAY				LR	LR	01 43 41.0	
	comp=Z,2μm,18.9s,baz=30,slow=40						
JAY	**Jayapura**	**2.11**	**104**	P	**Pn**	**01 42 50.1**	**-0.5**
SRPI	**Serui, Papua**	**2.42**	**273**	P	**Pn**	**01 42 54.4**	**-0.5**
RKPI	**Ransiki, Papua**	**4.51**	**276**	P	**Pn**	**01 43 25.0**	**+1.4**
FAKI	**Fak Fak**	**6.47**	**262**	*e*Pn	**Pn**	**01 43 51.0**	**+0.3**
FAKI				*e*Sn	**Sn**	**01 45 01.1**	**-2.2**
FAKI	**Fak Fak**	**6.47**	**262**	P	**Pn**	**01 43 51.4**	**+0.8**
FAKI				S	**Sn**	**01 45 05.0**	**+1.7**
SIJI	**Sorong**	**7.47**	**278**	Pn	**Pn**	**01 44 02.5**	**-1.9**
	1.9nm,0.3s,baz=90,slow=20,SNR=2.8						
SIJI				LR	LR	01 47 27.3	
	comp=Z,1μm,19.5s,baz=112,slow=42						
BNDI	**Bandanaira**	**9.10**	**254**	P	**Pn**	**01 44 29.0**	**+2.3**
PMG	**Port Moresby**	**11.21**	**131**	Pn	**Pn**	**01 44 58.6**	**+2.9**
	1.0nm,0.3s,baz=317,slow=19,SNR=2.5						
PMG	**Port Moresby**	**11.21**	**131**	*e*Pn	Pn	01 44 50.3	-5.4
TNTI	**Ternate**	**11.62**	**284**	*e*Pn	**Pn**	**01 44 58.6**	**-2.6**
KDU	**Kakadu**	**12.27**	**210**	P	**Pn**	**01 45 10.0**	**-0.1**
	baz=12,SNR=106						
SANI	**Sanana**	**12.66**	**270**	P	**Pn**	**01 45 17.1**	**+1.6**
COEN	**Coen**	**12.70**	**160**	P	**Pn**	**01 45 18.3**	**+2.2**
	baz=13,SNR=9.5						
COEN	**Coen**	**12.70**	**160**	*e*Pn	**Pn**	**01 45 19.6**	**+3.6**
COEN				*e*Sn	**Sn**	**01 47 33.4**	**-2.9**
MTN	**Manton Dam**	**13.11**	**214**	P	**Pn**	**01 45 22.4**	**+0.7**
	baz=13,SNR=8.7						
MTN	**Manton Dam**	**13.11**	**214**	*e*Pn	**Pn**	**01 45 21.1**	**-0.5**
MTN				*e*Sn	**Sn**	**01 47 42.0**	**-4.2**
LUWI	**Luwuk**	**15.91**	**273**	*e*Pn	**Pn**	**01 45 58.1**	**-1.1**
	41nm,0.7s						
SOEI	**Soe**	**16.25**	**241**	*e*Pn	**Pn**	**01 46 04.3**	**+0.6**
	36nm,0.7s						
SOEI	**Soe**	**16.25**	**241**	P	**Pn**	**01 46 05.2**	**+1.5**
BBSI	**Bau Bau**	**16.43**	**257**	P	**P**	**01 46 08.9**	**+0.7**
GUMO	**Guam**	**16.66**	**22**	LR	LR	01 52 23.8	
	comp=Z,474nm,18.5s,baz=207,slow=37						
KNRA	**Kununurra**	**16.74**	**215**	P	**Pn**	**01 46 10.1**	**+0.4**
	baz=17,SNR=18						
MTSU	**Mount Surprise**	**16.98**	**161**	P	**P**	**01 46 16.1**	**+1.8**
	baz=17,SNR=8.3						
BATI	**Baumata**	**16.99**	**241**	P	**Pn**	**01 46 12.6**	**-0.3**
	5.0nm,0.3s,baz=90,slow=8.1,SNR=2.1						
BATI	**Baumata**	**16.99**	**241**	P	**P**	**01 46 17.2**	**+2.7**
MMRI	**Maumere**	**17.63**	**247**	*e*Pn	**Pn**	**01 46 19.7**	**-1.1**
WB0	**Warramunga Arr**	**18.16**	**193**	P	**Pn**	**01 46 28.0**	**+0.8**
	baz=18						
EDFI	**Ende, Flores**	**18.17**	**248**	P	**Pn**	**01 46 33.2**	**+5.6**
WRAB	**Tennant Creek**	**18.33**	**193**	*e*P	**Pn**	**01 46 30.6**	**+1.2**
	29nm,0.6s						
WRAB				*e*Sn	Sn	01 49 42.0	-11
WB2	**Warramunga Arr**	**18.34**	**193**	*e*P	**P**	**01 46 29.0**	**-0.2**
WB2				*e*P	**Pn**	**01 46 30.5**	**+1.0**
WB2				*e*Sn	Sn	01 49 42.6	-11
WR1	**Warramunga Arr**	**18.34**	**193**	*e*P	**Pn**	**01 46 30.0**	**+0.5**
	33nm,0.8s						
WR1				*e*Sn	**Sn**	**01 49 46.2**	**-7.2**
WRA	**Warramunga Arr**	**18.34**	**193**	P	**Pn**	**01 46 30.0**	**+0.5**
	3.8nm,0.3s,baz=16,slow=12,SNR=212						
WRA				S	**Sn**	**01 49 46.2**	**-7.2**
	0.4nm,0.3s,baz=8.7,slow=21,SNR=6.5						
WRA				LR	LR	01 54 20.4	
	comp=Z,1μm,19.3s,baz=15,slow=39						
QIS	**Mount Isa**	**18.48**	**177**	P	**P**	**01 46 30.9**	**+0.1**
	baz=19,SNR=15						
BKSI	**Bulukumba**	**18.79**	**259**	P	**Pn**	**01 46 38.1**	**+3.1**
TTSI	**Tana Toraja**	**18.85**	**266**	P	**Pn**	**01 46 37.1**	**+1.4**
MPSI	**Mapaga**	**18.90**	**277**	P	**Pn**	**01 46 39.0**	**+2.7**
	9.3nm,0.8s						
SPSI	**Sidrap Palu**	**18.97**	**264**	P	**Pn**	**01 46 41.1**	**+4.0**
CTA	**Charters Tower**	**19.46**	**158**	P	**Pn**	**01 46 44.7**	**+1.8**
	1.7nm,0.3s,baz=338,slow=11,SNR=14						
CTA	**Charters Tower**	**19.46**	**158**	P	**Pn**	**01 46 44.8**	**+1.8**
	baz=20						
CTAO	**Charters Tower**	**19.46**	**158**	*e*P	**Pn**	**01 46 43.0**	**0.0**
	9.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.48**	**218**	P	Pn	01 46 54.9	-0.1
	11nm,0.8s,baz=49,slow=9.8,SNR=12						
FITZ				S	**S**	**01 50 33.9**	**-6.3**
	34nm,0.8s,baz=39,slow=1.8,SNR=10						
FITZ				LR	LR	01 55 57.3	
	comp=Z,574nm,19.0s,baz=40,slow=40						
FITZ	**Fitzroy Crossi**	**20.48**	**218**	P	**P**	**01 46 54.3**	**+1.6**
	baz=21,SNR=9.0						
FITZ	**Fitzroy Crossi**	**20.48**	**218**	*e*P	**P**	**01 46 52.2**	**-0.5**
	13nm,0.8s						
FITZ				*e*S	**S**	**01 50 33.9**	**-6.3**
WBSI	**Waikabubak, Su**	**20.61**	**248**	P	**P**	**01 46 55.3**	**+1.1**
PLAI	**Plampang**	**21.86**	**251**	P	**P**	**01 47 09.8**	**+2.2**
AS01	**Alice Springs**	**22.03**	**192**	*e*P	**P**	**01 47 10.2**	**+0.8**
AS01				*e*S	**S**	**01 51 12.8**	**+2.3**
AS31	**Alice Springs**	**22.04**	**192**	*e*P	**P**	**01 47 11.3**	**+1.8**
	14nm,0.8s						
AS31				*e*S	**S**	**01 51 11.3**	**+0.6**
ASAR	**Alice Springs**	**22.04**	**192**	P	**P**	**01 47 11.4**	**+1.9**
	25nm,0.7s,baz=23,slow=10,SNR=157						
ASAR				S	**S**	**01 51 11.3**	**+0.6**
	8.9nm,0.9s,baz=14,slow=23,SNR=10						
ASAR				LR	LR	01 56 35.3	
	comp=Z,1μm,19.2s,baz=15,slow=39						
ASPA	**Alice Springs**	**22.04**	**192**	P	**P**	**01 47 11.6**	**+2.1**
	baz=22						
TWSI	**Taliwang, Sumb**	**22.68**	**252**	P	**P**	**01 47 19.3**	**+2.8**
WRKA	**Warakurna**	**25.00**	**203**	P	**P**	**01 47 40.4**	**+1.9**
	baz=25,SNR=43						
QLP	**Quilpie**	**25.03**	**168**	P	**P**	**01 47 41.6**	**+3.0**
	baz=25,SNR=9.7						
EIDS	**Eidsvold**	**26.15**	**154**	P	**P**	**01 47 51.6**	**+2.8**
	baz=26,SNR=6.2						
EIDS	**Eidsvold**	**26.15**	**154**	*e*P	**P**	**01 47 52.8**	**+4.0**
	66nm,1.1s						
RMQ	**Roma**	**26.22**	**159**	P	**P**	**01 47 52.8**	**+3.3**
	baz=26,SNR=12						
MBWA	**Marble Bar**	**26.52**	**223**	*e*P	**P**	**01 47 53.0**	**+0.7**
	10nm,1.1s						
STKA	**Stephens Creek**	**29.86**	**175**	P	**P**	**01 48 23.2**	**+1.3**
	4.4nm,0.6s,baz=353,slow=10,SNR=14						
STKA				LR	LR	02 01 44.0	
	comp=Z,909nm,18.9s,baz=344,slow=39						
STKA	**Stephens Creek**	**29.86**	**175**	P	**P**	**01 48 23.2**	**+1.3**
	baz=30,SNR=9.8						
STKA	**Stephens Creek**	**29.86**	**175**	*e*P	**P**	**01 48 22.9**	**+1.0**
	1.7nm,0.8s						
CMSA	**Cobar Meteorol**	**30.13**	**168**	P	**P**	**01 48 27.1**	**+2.8**
	baz=30,SNR=7.7						
JOW	**Kunigami**	**30.36**	**341**	LR	LR	01 58 58.8	
	comp=Z,381nm,19.6s,baz=136,slow=34						
YOJ	**Yonaguni jima**	**30.37**	**331**	*e*P	**P**	**01 48 30.8**	**+4.3**
	54nm,1.0s						
YULB	**Yu-li**	**30.37**	**327**	*e*P	**P**	**01 48 29.9**	**+3.3**
	15nm,1.0s						
BBOO	**Buckleboo**	**30.76**	**184**	P	**P**	**01 48 33.0**	**+3.2**
	baz=31,SNR=6.5						
BBOO	**Buckleboo**	**30.76**	**184**	*e*P	**P**	**01 48 30.8**	**+1.0**
	12nm,0.9s						
HTT	**Hallett**	**31.28**	**180**	P	**P**	**01 48 36.6**	**+2.1**
	baz=32,SNR=11						
CAN	**Canberra**	**34.53**	**165**	*e*P	**P**	**01 49 06.6**	**+3.7**
	11nm,0.9s						
QIZ	**Qiongzhong**	**35.19**	**308**	P	P	01 49 13.5	+4.7
QIZ				S	**S**	**01 54 45.3**	**+5.3**
QIZ				pmax	pmax		
	comp=Z,44nm,2.0s						
QIZ				pmax	pmax		
	comp=Z,460nm,2.6s						
QIZ				LR	LR		
	comp=N,450nm,19.1s						
QIZ				LR	LR		
	comp=E,250nm,12.7s						
QIZ				LR	LR		
	comp=Z,230nm,20.6s						
MJAR	**Matsushiro Arr**	**38.34**	**359**	LR	LR	02 02 44.5	
	comp=Z,192nm,20.2s,baz=170,slow=32						
NJ2	**Nanjing**	**38.72**	**333**	*e*P	P	01 49 44.8	+6.3
NJ2				pmax	pmax		
	comp=Z,19nm,0.5s						
SKNT	**Sakolnakorn**	**39.06**	**300**	P	P	01 49 47.9	+6.3
	9.3nm,1.1s						
PSI	**Prapat**	**40.01**	**277**	P	**P**	**01 49 47.6**	**-2.2**
	4.9nm,0.7s,baz=179,slow=3.8,SNR=5.1						
PSI	**Prapat**	**40.01**	**277**	*e*P	**P**	**01 49 49.2**	**-0.6**
	10nm,0.7s						
NONG	**Nongkai**	**40.25**	**301**	P	P	01 49 58.0	+6.5
	0.3nm,0.9s						
CHAI	**Chaiyaphum**	**40.37**	**297**	P	**P**	**01 49 56.0**	**+3.4**
	5.6nm,1.0s						
KSRS	**Korea Array**	**40.49**	**347**	LR	LR	02 05 07.0	
	comp=Z,182nm,19.9s,baz=154,slow=34						
PBKT	**Sadao Pong**	**41.53**	**298**	P	P	01 50 11.8	+10
	9.5nm,1.5s						
UTTA	**Uttaradit**	**42.35**	**299**	P	P	01 50 15.6	+6.8
	2.5nm,0.8s						
UTHA	**Uthaitani**	**42.51**	**296**	P	P	01 50 17.0	+6.8
	4.9nm,0.9s						
NANT	**Nan**	**42.66**	**301**	P	P	01 50 18.9	+7.6
UMPA	**Umpang Tak**	**43.27**	**296**	P	P	01 50 24.2	+7.9
	5.3nm,0.9s,1μm						
LAMP	**Lampang**	**43.47**	**300**	P	P	01 50 25.7	+7.8
	4.0nm,0.9s						
CM01	**Chiang Mai Arr**	**44.01**	**299**	*e*P	**P**	**01 50 22.5**	**+0.3**
CM01				*e*PcP	**PP**	**01 52 06.0**	**+0.7**
KMI	**Kunming**	**44.02**	**310**	P	P	01 50 28.8	+6.3
KMI				pmax	pmax		
	comp=Z,13nm,0.5s						
CM31	**Chiang Mai Arr**	**44.04**	**299**	*e*P	**P**	**01 50 20.9**	**-1.6**
CMAR	**Chiang Mai Arr**	**44.04**	**299**	P	**P**	**01 50 20.9**	**-1.6**
	0.5nm,0.3s,baz=118,slow=5.8,SNR=4.2						
CMMT	**Chiang Mai**	**44.18**	**300**	P	P	01 50 31.1	+7.5
	6.5nm,1.0s						
CHTO	**Chiang Mai**	**44.18**	**300**	*e*P	**P**	**01 50 25.3**	**+1.7**
	4.3nm,0.8s						
CHTO	**Chiang Mai**	**44.18**	**300**	P	P	01 50 31.4	+7.8
	28nm,1.0s						
XAN	**Xi'an**	**45.46**	**325**	P	P	01 50 39.8	+6.2
XAN				pP	sP	01 50 49.0	+0.5
XAN				pmax	pmax		
	comp=Z,16nm,1.6s						
XAN				pmax	pmax		
	comp=Z,15nm,5.3s						
ASAJ	**Asahikawa**	**46.03**	**4**	LR	LR	02 09 20.5	
	comp=Z,179nm,19.5s,baz=178,slow=36						
USRK	**Ussuriysk Ar.**	**46.37**	**353**	P	**P**	**01 50 38.6**	**-1.9**
	2.4nm,0.7s,baz=190,slow=7.3,SNR=3.9						
USRK				LR	LR	02 06 20.3	
	comp=Z,362nm,20.6s,baz=142,slow=31						
CD2	**Chengdu**	**46.62**	**317**	*e*P	P	01 50 48.0	+5.2
BJI	**Beijing**	**46.62**	**336**	P	P	01 50 49.8	+7.3
BJI				pmax	pmax		
	comp=Z,13nm,1.3s						
HHC	**Hu-ho-hao-te**	**49.27**	**333**	*e*P	P	01 51 11.3	+8.1
HHC				sP	sP	01 51 24.5	+6.3
HHC				S	S	01 58 18.5	+11
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
HHC				pmax	pmax		
	comp=Z,170nm,4.6s						
HHC				LR	LR		
	comp=N,290nm,14.7s						
HHC				LR	LR		
	comp=E,200nm,13.5s						
HHC				LR	LR		
	comp=Z,280nm,17.7s						
LZH	**Lanzhou**	**49.88**	**323**	*e*P	P	01 51 12.8	+4.8
LZH				pP	sP	01 51 24.5	+1.5
LZH				sP	pP	01 51 30.3	+12
LZH				*e*PP	PP	01 53 12.3	+9.2
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
LZH				pmax	pmax		
	comp=Z,96nm,4.3s						
LZH				LR	LR		
	comp=N,600nm,16.8s						
LZH				LR	LR		
	comp=E,390nm,15.2s						
LZH				LR	LR		
	comp=Z,390nm,16.3s						
URZ	**Urewera**	**50.40**	**141**	P	**P**	**01 51 12.8**	**+1.1**
	8.5nm,0.7s,baz=275,slow=3.1,SNR=3.9						
RPZ	**Rata Peaks**	**50.53**	**150**	LR	LR	02 11 52.6	
	comp=Z,158nm,19.2s,baz=314,slow=35						
KLR	**Kul'dur**	**51.37**	**354**	P	**P**	**01 51 16.1**	**-2.6**
	4.2nm,0.8s,baz=167,slow=7.0,SNR=9.5						
KLR				LR	LR	02 09 16.4	
	comp=Z,191nm,20.3s,baz=175,slow=32						
GTA	**Gaotai**	**54.46**	**323**	*e*P	**P**	**01 51 40.3**	**-1.7**
GTA				pP	pP	01 51 46.3	-6.5
GTA				sP	sP	01 51 49.5	-7.6
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GTA	**Gaotai**	**54.46**	**323**	↑P	P	01 51 49.5	+7.5
GTA				pP	sP	01 51 55.3	-1.8
GTA				sP	pP	01 51 59.0	+6.2
GTA				PcP	PcP	01 52 55.3	+10
GTA				pmax	pmax		
	comp=Z,12nm,1.0s						
ULN	**Ulaanbaatar**	**56.79**	**335**	*e*P	P	01 52 03.7	+5.0
	comp=Z,1.6nm,0.7s						
SONA0	**Songino Array**	**57.05**	**335**	*e*P	**P**	**01 51 58.9**	**-1.5**
SONM	**Songino Array**	**57.05**	**335**	P	**P**	**01 51 58.9**	**-1.5**
	comp=Z,0.9nm,0.9s,baz=150,slow=7.6,SNR=4.8						
SONM				LR	LR	02 16 47.2	
	comp=Z,270nm,19.1s,baz=171,slow=36						
SONA1	**Songino Array**	**57.06**	**335**	*e*P	**P**	**01 51 59.5**	**-1.0**
PETK	**Petropavlovsk-**	**57.17**	**14**	P	**P**	**01 51 59.2**	**-1.8**
	comp=Z,4.8nm,0.8s,baz=193,slow=5.9,SNR=3.0						
PETK				LR	LR	02 15 09.8	
	comp=Z,108nm,20.7s,baz=194,slow=35						
PEA1	**Petropavlovsk-**	**57.18**	**14**	*e*P	**P**	**01 51 59.2**	**-1.9**
PALK	**Pallekele**	**58.55**	**280**	LR	LR	02 18 26.1	
	comp=Z,90nm,21.9s,baz=115,slow=37						
WMQ	**Urumqi**	**64.42**	**321**	P	P	01 52 55.5	+4.9
WMQ				pP	sP	01 53 08.8	+3.0
WMQ				pmax	pmax		
	comp=Z,33nm,0.9s						
WMQ				LR	LR		
	comp=Z,86nm,28.3s						
WMQ				LR	LR		
	comp=Z,120nm,24.1s						
MK01	**Makanchi Array**	**69.17**	**322**	*e*P	**P**	**01 53 19.1**	**-1.6**
MK31	**Makanchi Array**	**69.19**	**322**	*e*P	**P**	**01 53 19.9**	**-0.9**
MK32	**Makanchi Array**	**69.19**	**322**	*e*P	**P**	**01 53 19.6**	**-1.3**
MKAR	**Makanchi Array**	**69.19**	**322**	P	**P**	**01 53 19.6**	**-1.3**
	comp=Z,3.0nm,0.8s,baz=113,slow=8.2,SNR=17						
MKAR	**Makanchi Array**	**69.19**	**322**	*e*P	P	01 53 25.8	+4.9
	comp=Z,56nm,1.1s						
KSH	**Kashi**	**70.56**	**313**	P	P	01 53 36.5	+6.9
KSH				sP	PcP	01 53 50.5	-0.1
KSH				PcP	sP	01 53 57.5	+13
KSH				S	**S**	**02 02 45.0**	**+4.1**
KSH				SS	**SS**	**02 07 19.3**	**+6.4**
KSH				pmax	pmax		
	comp=Z,19nm,1.0s						
KSH				LR	LR		
	comp=Z,280nm,9.4s						
KSH				LR	LR		
	comp=Z,230nm,7.8s						
NRN	**Naryn**	**71.19**	**315**	*e*pP	pP	01 53 41.0	-3.8
ZAA0	**Zalesovo Array**	**71.29**	**330**	*e*P	**P**	**01 53 30.9**	**-2.7**
	comp=Z,2.9nm,0.6s						
ZALV	**Zalesovo Beam**	**71.29**	**330**	P	**P**	**01 53 31.1**	**-2.5**
	comp=Z,2.4nm,0.6s,baz=112,slow=6.3,SNR=12						
ZALV				LR	LR	02 25 20.5	
	comp=Z,68nm,19.1s,baz=70,slow=36						
ZALV	**Zalesovo Beam**	**71.29**	**330**	*e*P	**P**	**01 53 30.7**	**-2.8**
ZAA1	**Zalesovo Array**	**71.29**	**330**	*e*P	**P**	**01 53 31.1**	**-2.5**
AAK	**Ala-Archa**	**72.66**	**316**	*e*P	**P**	**01 53 40.2**	**-2.0**
	comp=Z,1.9nm,1.0s						
KURK	**Kurchatov**	**73.10**	**325**	*e*P	**P**	**01 53 43.0**	**-1.5**
	comp=Z,7.3nm,0.6s						
TIXI	**Tiksi**	**73.78**	**357**	P	**P**	**01 53 45.5**	**-2.6**
	comp=Z,1.2nm,0.7s,baz=141,slow=1.8,SNR=5.4						
VNDA	**Vanda**	**76.50**	**175**	P	**P**	**01 54 04.3**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=326,slow=7.2,SNR=6.1						
VNDA				LR	LR	02 28 46.0	
	comp=Z,222nm,18.1s,baz=352,slow=36						
BRVK	**Borovoye**	**78.77**	**325**	*e*P	**P**	**01 54 15.1**	**-1.6**
	comp=Z,7.4nm,0.7s						
NRIK	**Noril'sk**	**79.02**	**344**	P	**P**	**01 54 15.9**	**-1.9**
	comp=Z,8.5nm,0.9s,baz=129,slow=5.2,SNR=7.8						
NRIK				LR	LR	02 29 08.2	
	comp=Z,131nm,21.2s,baz=155,slow=36						
MAW	**Mawson**	**82.77**	**202**	LR	LR	02 29 21.4	
	comp=Z,158nm,19.5s,baz=60,slow=34						
RND	**Reindeer**	**84.00**	**26**	*e*P	**P**	**01 54 43.3**	**-1.0**
	comp=Z,15nm,1.1s						
ABKAR	**Akbulak array**	**84.14**	**320**	*e*P	**P**	**01 54 43.7**	**-1.5**
IL1	**Eielson Array**	**85.20**	**24**	*e*P	**P**	**01 54 46.5**	**-3.7**
ILAR	**Eielson Array**	**85.20**	**24**	P	**P**	**01 54 47.6**	**-2.6**
	comp=Z,2.3nm,0.9s,baz=261,slow=4.8,SNR=13						
ILAR				LR	LR	02 26 00.6	
	comp=Z,75nm,21.7s,baz=254,slow=31						
ILB	**Eielson Array**	**85.20**	**24**	*e*P	**P**	**01 54 47.6**	**-2.6**
AKTO	**Aktyubinsk**	**85.56**	**321**	P	**P**	**01 54 50.5**	**-1.8**
	comp=Z,0.8nm,0.7s,baz=68,slow=11,SNR=3.4						
DAWY	**Dawson**	**88.25**	**26**	*e*P	**P**	**01 55 04.3**	**-0.9**
	comp=Z,7.8nm,1.0s						
HYT	**Haines Junctio**	**88.71**	**29**	*e*P	**P**	**01 55 07.6**	**+0.1**
	comp=Z,7.7nm,1.1s						

TIR **28** *01:49:44.4, 42°.47N×20°.11E, h11km, Md4.3/8*
LDG **28** *01:49:45.1±0.2, 42°.54N×20°.12E, h10km, Ml4.5/15, Error ellipse: s-maj=5.2km s-min=3.3km az=3.0*
NEIC **28** *01:49:45.1±0.0, 42°.47N×20°.10E, h9km, mb4.3/6, MW4.1, MD4.3(TIR), ML4.2(PDG), ML4.3(SKO), Moment Tensor Solution. s24 Moment tensor: Scale 10¹⁵Nm; Mrr-0.99; Mθθ0.99; Mφφ0.00; Mrθ1.10; Mθφ-0.08; Mφr-0.13; Best double couple: M₀1.50000×10¹⁵ NP1:ϕ93.00000°, δ21.00000°, λ-93.00000°. NP2:ϕ276.00000°, δ69.00000°, λ-89.00000°. Principal axes: T 1.4900, Plg24.0000°, Azm5.0000°; N 0.0000, Plg1.0000°, Azm96.0000°; P -1.4900, Plg66.0000°, Azm188.0000°; After PDG.*
NEIC Felt at Prizren, Kosovo.
PDG **28** *01:49:45.2±0.6, 42°.48N×20°.14E, h3km, MD4.2/13, ML4.2/12 Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
BEO **28** *01:49:46.0±0.2, 42°.50N×20°.12E, h8km±2km, ML4.1/11*
SKO **28** *01:49:46.1, 42°.46N×20°.05E, h0km, M3.5, ML4.3*
MOS **28** *01:49:46.7±0.9, 42°.48N×20°.01E, h27km, mb4.4/11, Error ellipse: s-maj=4.1km s-min=2.6km az=104.6*
THE **28** *01:49:46.9, 42°.43N×20°.26E, h0km±2km, ML4.1/5, Error ellipse: s-maj=2.9km s-min=1.1km az=325.0*
PRU **28** *01:49:47.4±0.0, 42°.51N×20°.22E, h0km, M4.4*
ISC 28 01:49:46.0±0.7,**42°.47N**±0°.01×**20°.08E**±0°.01,**h8**km±4km, **n631**,σ1§**52**/779,**mb4.3**/31,**MS3.9**/5,**55C-39D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BCI	**Bajram Curri**	**0.10**	**186**	P	**Pg**	**ISC**	**01 49 47.6**	**-0.8**
BCI				S	**Sg**		**01 49 49.6**	**-0.4**
BCI	**Bajram Curri**	**0.10**	**186**	*i* PG	**Pg**		**01 49 47.6**	**-0.8**
BCI				*i* SG	**Sg**		**01 49 49.7**	**-0.4**
PVY	**Plav**	**0.16**	**324**	⇑*i*Pg	**Pg**		**01 49 49.2**	**-0.2**
PVY				*e*Sg	**Sg**		**01 49 51.4**	**-0.3**
PVY	**Plav**	**0.16**	**324**	P	**Pg**		**01 49 49.1**	**-0.3**
PVY				S	**Sg**		**01 49 51.0**	**-0.7**
ZATK	**Zatriq**	**0.40**	**93**	⇑Pg	**Pg**		**01 49 53.0**	**-0.9**
ZATK				*i* Sg	**Sb**		**01 50 01.2**	**-0.5**
ZATK				*i* Sg	Sg		01 50 08.6	+9.5
BEY	**Berane**	**0.43**	**341**	⇑Pg	**Pg**		**01 49 53.8**	**-0.6**
IVA	**Berane**	**0.43**	**341**	⇑*i*Pg	**Pg**		**01 49 53.7**	**-0.6**
IVA				*i* Sg	**Sg**		**01 50 00.5**	**+0.5**
IVA	**Berane**	**0.43**	**341**	P	**Pg**		**01 49 53.7**	**-0.6**
IVA				S	**Sg**		**01 50 00.0**	**0.0**
PUK	**Puka**	**0.45**	**198**	P	**Pg**		**01 49 53.7**	**-1.0**
PUK				S	**Sg**		**01 50 01.1**	**+0.6**
PUK	**Puka**	**0.45**	**198**	*i* PG	**Pg**		**01 49 53.8**	**-1.0**
PUK				*i* SG	**Sg**		**01 50 01.1**	**+0.6**
PRZK	**Prizren**	**0.56**	**117**	⇑Pg	**Pg**		**01 49 55.6**	**-1.2**
PRZK				*i* Sg	**Sg**		**01 50 05.2**	**+1.0**
PRZK				*i* Sg	**Sn**		**01 50 12.4**	**+2.5**
KOME	**Kolasin**	**0.57**	**313**	⇑*i*Pg	**Pg**		**01 49 56.2**	**-0.8**
KOME				*i* Sg	**Sg**		**01 50 05.1**	**+0.7**
PDG	**Podgorica**	**0.61**	**267**	*e*Pg	**Pg**		**01 49 56.7**	**-1.1**
PDG				*e*Sg	**Sg**		**01 50 06.7**	**+0.9**
PDG	**Podgorica**	**0.61**	**267**	⇑*i*P	**Pg**		**01 49 56.9**	**-0.9**
PDG				S	**Sg**		**01 50 05.5**	**-0.3**
PDG	**Podgorica**	**0.61**	**267**	⇑*i*Pg	**Pg**		**01 49 56.3**	**-1.5**
PDG				*e*Sg	**Sg**		**01 50 06.7**	**+0.9**
TTG	**Podgorica**	**0.61**	**267**	⇓*i*Pg	**Pg**		**01 49 56.6**	**-1.2**
TTG				*e*Sg	**Sb**		**01 50 07.3**	**-0.4**
TTG	**Podgorica**	**0.61**	**267**	*e*Pg	**Pg**		**01 49 56.2**	**-1.6**
TTG				*e*Sg	**Sg**		**01 50 04.9**	**-0.9**
TTG	**Podgorica**	**0.61**	**267**	*e*P	**Pg**		**01 49 56.2**	**-1.6**
TTG				*e*			01 50 04.9	
DRME	**Dracevica, Mon**	**0.72**	**247**	⇓*i*Pg	**Pg**		**01 49 58.5**	**-1.4**
DRME				*e*Sg	**Sb**		**01 50 11.4**	**+0.5**
DRME	**Dracevica, Mon**	**0.72**	**247**	⇑*i*Pg	**Pg**		**01 49 58.5**	**-1.4**
DRME				*e*Sg	**Sg**		**01 50 09.4**	**+0.1**
SMRK	**Smrekonice**	**0.75**	**57**	⇑Pg	**Pg**		**01 49 59.2**	**-1.2**
SMRK				*i* Sg	**Sg**		**01 50 10.4**	**+0.2**
SMRK				*i* Sg	**Sn**		**01 50 21.4**	**+6.9**
SJES	**Sjenica**	**0.80**	**354**	*e*Pg	**Pg**		**01 50 00.5**	**-0.8**
SJES				*e*Sg	**Sg**		**01 50 12.1**	**+0.4**
ULC	**Ulcinj**	**0.80**	**231**	⇓*i*Pg	**Pg**		**01 50 00.6**	**-0.8**
ULC				*e*Sg	**Sb**		**01 50 14.1**	**+1.0**
ULC	**Ulcinj**	**0.80**	**231**	P	**Pg**		**01 50 00.6**	**-0.8**
ULC				S	**Sg**		**01 50 12.0**	**+0.2**
ULC	**Ulcinj**	**0.80**	**231**	⇓P	**Pg**		**01 50 01.2**	**-0.2**
PHP	**Peshkopia**	**0.83**	**161**	*e*Pg	**Pg**		**01 50 00.1**	**-1.8**
PHP				*e*Sg	**Sg**		**01 50 13.0**	**+0.4**
PHP	**Peshkopia**	**0.83**	**161**	P	**Pg**		**01 50 00.1**	**-1.8**
PHP				S	**Sg**		**01 50 13.0**	**+0.4**
PHP	**Peshkopia**	**0.83**	**161**	*e*P	**Pg**		**01 50 00.1**	**-1.8**
PHP				*e*			01 50 13.0	
PHP	**Peshkopia**	**0.83**	**161**	*i* PG	**Pg**		**01 50 00.1**	**-1.8**
PHP				*i* SG	**Sb**		**01 50 13.6**	**-0.3**
CEME	**Cevo**	**0.86**	**276**	⇓*i*Pg	**Pg**		**01 50 01.0**	**-1.6**
CEME				*e*Sg	**Sn**		**01 50 16.1**	**-1.3**
NKY	**Niksic**	**0.88**	**294**	⇓*i*Pg	**Pg**		**01 50 01.7**	**-1.1**
NKY				*e*Sg	**Sb**		**01 50 16.1**	**+0.7**
NKY	**Niksic**	**0.88**	**294**	P	**Pg**		**01 50 01.6**	**-1.2**
NKY				S	**Sb**		**01 50 15.0**	**-0.4**
NKY	**Niksic**	**0.88**	**294**	P	**Pg**		**01 50 01.6**	**-1.2**
NKY				S	**Sb**		**01 50 15.0**	**-0.4**
NKME	**Niksic**	**0.89**	**290**	⇑*i*Pg	**Pg**		**01 50 01.5**	**-1.5**
NKME				*e*Sg	**Sn**		**01 50 16.5**	**-1.4**
BUM	**Brajici-Budva**	**0.90**	**260**	⇓*i*Pg	**Pg**		**01 50 02.1**	**-1.1**
BUM				*e*Sg	**Sn**		**01 50 17.2**	**-0.9**
BUM	**Brajici-Budva**	**0.90**	**260**	P	**Pg**		**01 50 01.9**	**-1.3**
BUM				S	**Sb**		**01 50 16.0**	**+0.1**
PLE	**Pljevlja**	**1.00**	**330**	⇓*i*Pg	**Pg**		**01 50 03.9**	**-1.3**
PLE				*e*Sg	**Sn**		**01 50 19.6**	**-1.2**
PLE	**Pljevlja**	**1.00**	**330**	P	**Pg**		**01 50 03.6**	**-1.6**
PLE				S	**Sg**		**01 50 16.0**	**-2.3**
PLE	**Pljevlja**	**1.00**	**330**	P	**Pg**		**01 50 03.6**	**-1.6**
PLE				S	**Sg**		**01 50 16.0**	**-2.3**
SELS	**Selova**	**1.07**	**45**	*e*Pg	**Pg**		**01 50 05.3**	**-1.2**
SELS				*e*Sg	**Sg**		**01 50 19.1**	**-1.4**
SELS	**Selova**	**1.07**	**45**	*e*Pg	**Pg**		**01 50 05.3**	**-1.2**
SELS				*e*Sg	**Sn**		**01 50 21.7**	**-0.7**
IVAS	**Ivanjica**	**1.11**	**3**	*e*Pg	**Pb**		**01 50 05.9**	**-1.6**
IVAS				*e*Sg	**Sg**		**01 50 21.0**	**-0.7**
SKO	**Skopje**	**1.12**	**116**	*e*Pg	**Pb**		**01 50 06.1**	**-1.5**
SKO				*e*Sg	**Sb**		**01 50 21.4**	**-0.9**
SKO	**Skopje**	**1.12**	**116**	*e*Pg	**Pb**		**01 50 05.9**	**-1.7**
SKO				*e*Sn	**Sb**		**01 50 21.5**	**-0.9**
SKO				*e*Sg	**Sg**		**01 50 22.6**	**+0.5**
SKO	**Skopje**	**1.12**	**116**	P	**Pb**		**01 50 05.9**	**-1.7**
SKO				S	**Sb**		**01 50 21.5**	**-0.9**
SKO	**Skopje**	**1.12**	**116**	*i* Pg	**Pb**		**01 50 06.4**	**-1.3**
SKO				*i* Sg	**Sn**		**01 50 24.4**	**+0.8**
SKO				*e*Lg	Lg		01 50 25.4	
	comp=E,706nm,0.8s							
SKO				*e*Lg	Lg		01 50 25.7	
	comp=N,345nm,0.5s							
SKO	**Skopje**	**1.12**	**116**	*e*P	**Pb**		**01 50 05.9**	**-1.7**
SKO				*e*			01 50 22.6	
TIR	**Tirane**	**1.13**	**188**	*e*Pg	**Pb**		**01 50 06.8**	**-1.0**
TIR				*e*Sg	**Sb**		**01 50 22.1**	**-0.5**
TIR	**Tirane**	**1.13**	**188**	*e*Pg	**Pb**		**01 50 06.4**	**-1.4**
TIR				*e*Sn	**Sn**		**01 50 24.6**	**+0.8**
TIR				*e*Sg	**Sg**		**01 50 25.4**	**+3.1**
TIR	**Tirane**	**1.13**	**188**	⇑*i*P	**Pb**		**01 50 06.2**	**-1.6**
TIR	**Tirane**	**1.13**	**188**	S	**Sn**		**01 50 24.6**	**+0.8**
TIR	**Tirane**	**1.13**	**188**	P	**Pb**		**01 50 06.4**	**-1.4**
TIR				S	**Sn**		**01 50 24.6**	**+0.8**
TIR	**Tirane**	**1.13**	**188**	*e*P	**Pb**		**01 50 06.4**	**-1.4**
TIR				*e*			01 50 24.6	
TIR	**Tirane**	**1.13**	**188**	*i* PN	**Pb**		**01 50 06.1**	**-1.6**
TIR				*i* SN	**Sn**		**01 50 23.8**	**0.0**
TIR	**Tirane**	**1.13**	**188**	⇑P	**Pb**		**01 50 06.2**	**-1.6**
UPM	**Unac-Piva**	**1.14**	**311**	⇓*i*Pg	**Pb**		**01 50 06.4**	**-1.6**
UPM				*e*Sg	**Sn**		**01 50 24.6**	**+0.4**
UPM	**Unac-Piva**	**1.14**	**311**	P	**Pb**		**01 50 06.3**	**-1.7**
UPM				S	**Sn**		**01 50 24.0**	**-0.2**
UPM	**Unac-Piva**	**1.14**	**311**	⇑P	**Pb**		**01 50 07.5**	**-0.5**
UPM	**Unac-Piva**	**1.14**	**311**	*e*Pg	**Pb**		**01 50 06.6**	**-1.4**
UPM				*e*Sg	**Sn**		**01 50 25.0**	**+0.8**
HCY	**Herceg Novi**	**1.18**	**270**	⇓*i*Pg	**Pb**		**01 50 07.2**	**-1.3**
HCY				*e*Sg	**Sn**		**01 50 26.9**	**+2.0**
HCY	**Herceg Novi**	**1.18**	**270**	P	**Pb**		**01 50 07.2**	**-1.3**
HCY				S	**Sn**		**01 50 25.0**	**+0.1**
HCY	**Herceg Novi**	**1.18**	**270**	P	**Pb**		**01 50 07.2**	**-1.3**
HCY				S	**Sn**		**01 50 25.0**	**+0.1**
HCY	**Herceg Novi**	**1.18**	**270**	⇓*i*Pg	**Pb**		**01 50 07.1**	**-1.4**
HCY				*e*Sg	**Sn**		**01 50 25.1**	**+0.1**
BRY	**Bratogost**	**1.22**	**291**	⇑*i*Pg	**Pb**		**01 50 07.8**	**-1.6**
BRY				*e*Sg	**Sn**		**01 50 28.0**	**+1.8**
BRY	**Bratogost**	**1.22**	**291**	P	**Pb**		**01 50 07.7**	**-1.6**
BRY				S	**Sn**		**01 50 26.0**	**-0.2**
BRY	**Bratogost**	**1.22**	**291**	P	**Pb**		**01 50 07.7**	**-1.6**
BRY				S	**Sn**		**01 50 26.0**	**-0.2**
BRY	**Bratogost**	**1.22**	**291**	⇑*i*Pg	**Pb**		**01 50 07.2**	**-2.1**
BRY				*e*Sg	**Sn**		**01 50 26.5**	**+0.3**
TREB	**Trebinje**	**1.30**	**282**	*e*Pg	**Pn**		**01 50 10.0**	**-0.5**
TREB	**Trebinje**	**1.30**	**282**	*e*Pg	**Pn**		**01 50 10.0**	**-0.5**
TREB	**Trebinje**	**1.30**	**282**	*e*Pg	**Pn**		**01 50 08.8**	**-1.7**
TREB				*e*Sg	**Sg**		**01 50 29.7**	**+1.8**
BARS	**Barje**	**1.33**	**74**	*e*Pg	**Pn**		**01 50 10.4**	**-0.4**
BARS	**Barje**	**1.33**	**74**	*e*Pn	Pg		01 50 20.4	+9.0
BARS				*e*Sg	**Sb**		**01 50 26.9**	**-1.4**
BARS	**Barje**	**1.33**	**74**	*e*Pg	**Pn**		**01 50 10.7**	**-0.1**
BARS				*e*Sg	**Sg**		**01 50 29.2**	**+0.6**
KRUS	**Krusevo**	**1.40**	**141**	*i* Pg	**Pn**		**01 50 10.2**	**-1.7**
KRUS				*i* Sg	**Sg**		**01 50 30.9**	**-0.1**
KRUS				*e*Lg	Lg		01 50 33.5	
	comp=E,2μm,0.4s							
KRUS				*e*Lg	Lg		01 50 34.1	
	comp=N,2μm,0.5s							
OHR	**Ohrid**	**1.46**	**158**	P	**Pn**		**01 50 11.3**	**-1.3**
OHR	**Ohrid**	**1.46**	**158**	*i* Pn	**Pn**		**01 50 11.3**	**-1.3**
OHR				*i* Sn	**Sg**		**01 50 33.2**	**+0.4**
OHR				*e*Lg	Lg		01 50 35.1	
	comp=N,12μm,1.0s							
OHR				*e*Lg	Lg		01 50 35.5	
	comp=E,7μm,0.6s							
OHR	**Ohrid**	**1.46**	**158**	P	**Pn**		**01 50 11.3**	**-1.3**
BBLS	**Lazi?i**	**1.48**	**341**	*e*Pg	**Pn**		**01 50 12.7**	**-0.3**
BBLS	**Lazi?i**	**1.48**	**341**	P	**Pn**		**01 50 12.3**	**-0.7**
BBLS				*e*Pg	**Pn**		**01 50 12.7**	**-0.3**
BBLS	**Lazi?i**	**1.48**	**341**	⇑*i*Pn	**Pn**		**01 50 12.5**	**-0.5**
BBLS				*e*Sn	**Sg**		**01 50 34.5**	**+0.8**
GRUS	**Gruza**	**1.49**	**18**	*e*Pg	**Pn**		**01 50 13.3**	**+0.2**
GRUS	**Gruza**	**1.49**	**18**	*e*Pg	**Pn**		**01 50 13.3**	**+0.2**
DIVS	**Divibare**	**1.63**	**358**	*e*Pg	**Pn**		**01 50 15.0**	**-0.1**
DIVS	**Divibare**	**1.63**	**358**	*e*Pg	**Pn**		**01 50 15.0**	**-0.1**
DIVS				*e*Sn	**Sb**		**01 50 37.1**	**0.0**
DIVS	**Divibare**	**1.63**	**358**	⇑*i*Pn	**Pn**		**01 50 14.6**	**-0.5**
DIVS				*e*Sn	**Sb**		**01 50 37.3**	**+0.2**
BOVS	**Bovan**	**1.67**	**45**	*e*Pg	**Pn**		**01 50 15.1**	**-0.4**
BIA	**Bitola**	**1.72**	**147**	*e*Pn	**Pn**		**01 50 16.7**	**+0.4**
BIA				*e*Sn	**Sn**		**01 50 38.5**	**+0.1**
BIA	**Bitola**	**1.72**	**147**	P	**Pn**		**01 50 16.7**	**+0.4**
BIA				S	**Sn**		**01 50 38.5**	**+0.1**
BIA	**Bitola**	**1.72**	**147**	*i* Pn	**Pn**		**01 50 16.7**	**+0.4**
BIA				*i* Sn	**Sg**		**01 50 42.4**	**+1.2**
BIA				*e*Lg	Lg		01 50 43.4	
	comp=N,962nm,0.6s							
BIA				*e*Lg	Lg		01 50 43.8	
	comp=E,1μm,0.5s							
STIP	**Stip**	**1.75**	**116**	*i* Pn	**Pb**		**01 50 17.4**	**-0.9**
STIP				*i* Sn	**Sg**		**01 50 46.1**	**+4.0**
TRUS	**Trudelj**	**1.77**	**8**	*e*Pg	**Pn**		**01 50 17.9**	**0.0**
STON	**Ston**	**1.80**	**284**	*e*Pn	**Pb**		**01 50 18.7**	**-0.5**
STON				*e*Sg	**Sg**		**01 50 44.6**	**+0.7**
STON	**Ston**	**1.80**	**284**	*i* Pn	**Pb**		**01 50 18.8**	**-0.5**
STON				*i* Sn	**Sg**		**01 50 44.4**	**+0.5**
STON	**Ston**	**1.80**	**284**	*e*Pn	**Pn**		**01 50 17.9**	**+0.6**
STON				*e*Sn	**Sb**		**01 50 42.0**	**+0.1**
HAPS	**Han Pijesak,Bl**	**1.82**	**333**	*e*Pg	**Pn**		**01 50 17.1**	**-0.6**
HAPS	**Han Pijesak,Bl**	**1.82**	**333**	⇓*i*Pn	**Pn**		**01 50 16.9**	**-0.8**
HAPS				*e*Sn	**Sb**		**01 50 41.9**	**-0.6**
KBN	**Korca**	**1.92**	**164**	P	**Pb**		**01 50 20.2**	**-1.0**
KBN	**Korca**	**1.92**	**164**	P	**Pn**		**01 50 19.5**	**+0.5**
KBN	**Korca**	**1.92**	**164**	*i* PN	**Pb**		**01 50 20.2**	**-1.0**
KBN				*i* SN	**Sg**		**01 50 46.6**	**-0.9**
FNA	**Florina**	**1.94**	**150**	*e*Pn	**Pn**		**01 50 20.0**	**+0.7**
FNA	**Florina**	**1.94**	**150**	*e*P	**Pn**		**01 50 19.6**	**+0.3**
FNA	**Florina**	**1.94**	**150**	*e*Pn	**Pn**		**01 50 20.0**	**+0.7**
FNA				*e*Sn	**Sb**		**01 50 44.9**	**-1.1**
FNA	**Florina**	**1.94**	**150**	P	**Pn**		**01 50 20.0**	**+0.7**
FNA				S	**Sb**		**01 50 44.9**	**-1.1**
FNA	**Florina**	**1.94**	**150**	*e*P	**Pn**		**01 50 20.0**	**+0.7**
FNA				*e*			01 50 44.9	
SVIS	**Svilajnac**	**1.98**	**24**	*e*Pn	**Pn**		**01 50 18.6**	**-1.1**
SVIS	**Svilajnac**	**1.98**	**24**	*e*Pn	**Pn**		**01 50 18.6**	**-1.1**
ZAPS	**Zavoj**	**2.04**	**66**	*e*Pg	**Pn**		**01 50 21.1**	**+0.4**
VLO	**Vlora**	**2.04**	**193**	*e*Pn	**Pb**		**01 50 22.2**	**-1.1**
VLO				*e*Sn	**Sb**		**01 50 48.1**	**-0.8**
VLO	**Vlora**	**2.04**	**193**	P	**Pb**		**01 50 22.2**	**-1.1**
VLO				S	**Sb**		**01 50 48.1**	**-0.8**
VLO	**Vlora**	**2.04**	**193**	*e*P	**Pb**		**01 50 22.2**	**-1.1**
VLO				*e*			01 50 48.1	
VLO	**Vlora**	**2.04**	**193**	*i* PN	**Pb**		**01 50 22.7**	**-0.6**
VLO				*i* SN	**Sg**		**01 50 52.0**	**+0.3**
ZAGS	**Zajecar**	**2.07**	**49**	*e*Pg	**Pn**		**01 50 21.2**	**+0.2**
TEKS	**Tekeris**	**2.12**	**349**	*e*Pn	**Pn**		**01 50 21.4**	**-0.3**
TEKS				*e*Sn	**Sb**		**01 50 49.4**	**-1.7**
TPE	**Tepelena**	**2.17**	**181**	P	**Pb**		**01 50 24.6**	**-0.9**
TPE	**Tepelena**	**2.17**	**181**	*i* PN	**Pb**		**01 50 24.6**	**-0.9**
TPE				*i* SN	**Sb**		**01 50 53.8**	**+1.2**
NEST	**Nestorio**	**2.18**	**160**	P	**Pn**		**01 50 23.2**	**+0.6**
NEST				S	**Sn**		**01 50 50.8**	**+1.1**
VAY	**Valandovo**	**2.18**	**121**	*e*Pn	**Pn**		**01 50 22.2**	**-0.3**
VAY	**Valandovo**	**2.18**	**121**	*e*Pn	**Pn**		**01 50 22.4**	**-0.1**
VAY	**Valandovo**	**2.18**	**121**	P	**Pn**		**01 50 22.4**	**-0.1**
VAY	**Valandovo**	**2.18**	**121**	*i* Pn	**Pn**		**01 50 22.5**	**-0.1**
VAY				*i* Sn	**Sb**		**01 50 53.0**	**+0.1**
VAY				*e*Lg	Lg		01 50 57.0	
	comp=E,1μm,1.3s							
VAY				*e*Lg	Lg		01 50 57.0	
	comp=N,1μm,0.8s							
VAY	**Valandovo**	**2.18**	**121**	*e*P	**Pn**		**01 50 22.4**	**-0.1**
KUBS	**Kucevo**	**2.26**	**30**	*e*Pn	**Pn**		**01 50 21.9**	**-1.8**
GRG	**Griva**	**2.30**	**130**	*e*P	**Pn**		**01 50 23.1**	**-1.1**
GRG	**Griva**	**2.30**	**130**	*e*Pn	**Pn**		**01 50 24.5**	**+0.3**
GRG				*e*Sn	**Sn**		**01 50 51.4**	**-1.3**
GRG	**Griva**	**2.30**	**130**	P	**Pn**		**01 50 24.5**	**+0.3**
GRG				S	**Sn**		**01 50 51.4**	**-1.3**
VTS	**Vitosha**	**2.31**	**86**	*e*Pn	**Pn**		**01 50 24.4**	**-0.1**
VTS	**Vitosha**	**2.31**	**86**	*e*Pn	**Pn**		**01 50 24.0**	**-0.5**
VTS				*e*Pg	**Pb**		**01 50 24.7**	**-3.3**
VTS				*e*Sn	**Sn**		**01 50 52.8**	**-0.5**
VTS	**Vitosha**	**2.31**	**86**	⇓*i*P	**Pn**		**01 50 24.4**	**-0.1**
VTS	**Vitosha**	**2.31**	**86**	S	**Sn**		**01 50 53.3**	**+0.1**
VTS	**Vitosha**	**2.31**	**86**	P	**Pn**		**01 50 24.4**	**-0.1**
VTS				S	**Sn**		**01 50 53.5**	**+0.3**
BEO	**Beograd**	**2.36**	**7**	*e*Pn	**Pn**		**01 50 23.2**	**-1.8**
BEO	**Beograd**	**2.36**	**7**	*e*Pn	**Pn**		**01 50 23.2**	**-1.8**
BEO	**Beograd**	**2.36**	**7**	*e*P	**Pn**		**01 50 23.2**	**-1.8**
PENT	**Pentalofos**	**2.41**	**160**	P	**Pn**		**01 50 26.7**	**+1.0**
KNT	**Kendrikon**	**2.48**	**121**	*e*P	**Pn**		**01 50 24.9**	**-1.7**
KNT	**Kendrikon**	**2.48**	**121**	P	**Pn**		**01 50 26.2**	**-0.4**
KNT	**Kendrikon**	**2.48**	**121**	P	**Pn**		**01 50 26.4**	**-0.2**
KNT	**Kendrikon**	**2.48**	**121**	P	**Pn**		**01 50 26.2**	**-0.4**
KZN	**Kozani**	**2.50**	**149**	P	**Pn**		**01 50 27.9**	**+0.8**
KZN	**Kozani**	**2.50**	**149**	P	**Pn**		**01 50 27.9**	**+0.8**
KZN	**Kozani**	**2.50**	**149**	P	**Pn**		**01 50 27.9**	**+0.8**
SRN	**Sarande**	**2.59**	**181**	P	**Pn**		**01 50 29.6**	**+1.5**
SRN	**Sarande**	**2.59**	**181**	P	**Pn**		**01 50 29.6**	**+1.5**
SRN				S	**Sn**		**01 51 01.5**	**+1.8**
SRN	**Sarande**	**2.59**	**181**	*i* PN	**Pn**		**01 50 29.7**	**+1.5**
MDVR	**Moldovita**	**2.60**	**27**	⇓*i*P	**Pn**		**01 50 28.0**	**-0.3**
MDVR	**Moldovita**	**2.60**	**27**	S	**Sb**		**01 51 02.9**	**-2.0**
DOB	**Doboj**	**2.68**	**328**	*e*Pn	**Pn**		**01 50 28.8**	**-0.6**
DOB	**Doboj**	**2.68**	**328**	*e*Pn	**Pn**		**01 50 29.6**	**+0.2**
FRGS	**Fruska Gora**	**2.70**	**356**	*e*Pn	**Pn**		**01 50 29.1**	**-0.6**
FRGS	**Fruska Gora**	**2.70**	**356**	⇑*i*Pn	**Pn**		**01 50 29.0**	**-0.9**
FRGS				*e*Sn	**Sn**		**01 51 03.2**	**+0.7**
BAI	**Bari**	**2.75**	**241**	⇑*i*Pn	**Pn**		**01 50 30.6**	**+0.2**
BAI				*e*Sn	**Sn**		**01 51 04.1**	**+0.3**
PUNG	**Punghina**	**2.76**	**48**	⇑*i*P	**Pn**		**01 50 30.4**	**0.0**
PUNG	**Punghina**	**2.76**	**48**	S	**Sn**		**01 51 05.9**	**+2.0**
KEK	**Kerkira**	**2.76**	**185**	P	**Pn**		**01 50 31.4**	**+0.9**
KEK	**Kerkira**	**2.76**	**185**	P	**Pn**		**01 50 31.4**	**+0.9**
KEK				S	**Sb**		**01 51 06.6**	**-2.9**
DJES	**Djerdap**	**2.82**	**38**	*e*Pn	**Pn**		**01 50 31.7**	**+0.3**
THE	**Thessaloniki**	**2.84**	**129**	*e*Pn	**Pn**		**01 50 31.4**	**-0.1**
THE	**Thessaloniki**	**2.84**	**129**	P	**Pn**		**01 50 31.4**	**-0.1**
THE	**Thessaloniki**	**2.84**	**129**	*e*P	**Pn**		**01 50 31.4**	**-0.1**
SGD	**Sagiada**	**2.85**	**178**	P	**Pn**		**01 50 33.4**	**+1.6**
TAR1	**Taranto**	**2.86**	**228**	*e*Pn	**Pn**		**01 50 32.6**	**+0.7**
MASS	**Massafra**	**2.87**	**231**	*e*Pn	**Pn**		**01 50 32.3**	**+0.3**
JAN	**Janina**	**2.87**	**168**	*e*Pn	**Pb**		**01 50 34.7**	**-2.7**
JAN	**Janina**	**2.87**	**168**	P	**Pb**		**01 50 34.7**	**-2.7**
HORT	**Hortiatis**	**2.94**	**129**	*e*P	**Pn**		**01 50 31.8**	**-1.2**
HORT	**Hortiatis**	**2.94**	**129**	P	**Pn**		**01 50 33.0**	**0.0**
HORT	**Hortiatis**	**2.94**	**129**	P	**Pn**		**01 50 33.0**	**0.0**
IGT	**Igoumenitsa**	**2.94**	**176**	*e*Pn	**Pn**		**01 50 34.5**	**+1.5**
IGT				*e*Sn	**Sn**		**01 51 10.3**	**+1.9**
IGT	**Igoumenitsa**	**2.94**	**176**	*e*Pn	**Pn**		**01 50 34.5**	**+1.5**
IGT	**Igoumenitsa**	**2.94**	**176**	P	**Pn**		**01 50 34.5**	**+1.5**
HERR	**Herculane**	**2.95**	**34**	⇓*i*P	**Pn**		**01 50 33.2**	**+0.1**
SRS	**Serrai**	**2.95**	**116**	*e*Pn	**Pn**		**01 50 33.2**	**+0.1**
SRS	**Serrai**	**2.95**	**116**	*e*Pn	**Pn**		**01 50 33.1**	**0.0**
SRS	**Serrai**	**2.95**	**116**	P	**Pn**		**01 50 33.1**	**0.0**
SRS	**Serrai**	**2.95**	**116**	*e*P	**Pn**		**01 50 33.1**	**0.0**
SOH	**Sokhos**	**2.95**	**123**	*e*Pn	**Pn**		**01 50 33.2**	**0.0**
SOH	**Sokhos**	**2.95**	**123**	P	**Pn**		**01 50 33.2**	**0.0**
SOH	**Sokhos**	**2.95**	**123**	*e*P	**Pn**		**01 50 33.2**	**0.0**
LIT	**Litokhoron**	**2.98**	**142**	*e*Pn	**Pn**		**01 50 34.0**	**+0.4**
LIT				*e*Sn	**Sn**		**01 51 07.6**	**-1.9**
LIT	**Litokhoron**	**2.98**	**142**	P	**Pn**		**01 50 34.0**	**+0.4**
LIT	**Litokhoron**	**2.98**	**142**	*e*P	**Pn**		**01 50 34.0**	**+0.4**
LIT				*e*			01 51 07.6	
BANR	**Banloc**	**3.01**	**14**	⇑*i*P	**Pn**		**01 50 34.2**	**+0.3**
SG1	**Sgolgore (BA)**	**3.02**	**239**	*e*Pn	**Pn**		**01 50 34.4**	**+0.2**
NVR	**Nevrokopi**	**3.03**	**110**	P	**Pn**		**01 50 34.2**	**-0.1**
NVR	**Nevr

BUD	**Budapest**	**5.07**	**352**	P		**Pn**	**01 51 01.8**	**-0.5**
BUD				pmax		pmax			
	comp=Z,127nm,0.5s								
LTVH	**L˜"tav˜"rtes,**	**5.08**	**14**	⇑*e*Pn		**Pn**	**01 51 03.4**	**+1.0**
AMT	**Artemida-Makis**	**5.08**	**165**	P		**Pn**	**01 51 04.0**	**+1.5**
ERIK	**Erikli-Kesan**	**5.15**	**108**	*e*P		**Pn**	**01 51 02.9**	**-0.4**
DOPR	**Dopca**	**5.17**	**46**	⇑*i*P		**Pn**	**01 51 04.1**	**+0.4**
MLR	**Muntele Rosu**	**5.20**	**52**	Pn		**Pn**	**01 51 05.4**	**+1.3**
	baz=229,slow=11								
MLR				Lg		Lg	01 52 32.8		
	comp=Z,1.4nm,0.3s,baz=228,slow=20,SNR=3.1								
MLR				LR		LR	01 53 07.2		
	comp=Z,113nm,20.1s,baz=254,slow=38								
MLR	**Muntele Rosu**	**5.20**	**52**	⇑*i*P		**Pn**	**01 51 05.5**	**+1.3**
CEY	**Cerknica**	**5.22**	**311**	*e*Pn		**Pn**	**01 51 04.8**	**+0.4**
CEY				*e*Sn		**Sn**	**01 52 04.7**	**-0.1**
GELI	**Tayfur-Gelibol**	**5.23**	**111**	*e*P		**Pn**	**01 51 04.1**	**-0.3**
PTL	**Penteli**	**5.28**	**146**	*e*Pn		**Pn**	**01 51 05.8**	**+0.7**
PTL	**Penteli**	**5.28**	**146**	P		**Pn**	**01 51 05.8**	**+0.7**
LEHL	**Lehliu**	**5.30**	**65**	⇑*i*P		**Pn**	**01 51 06.1**	**+0.8**
LJU	**Ljubljana**	**5.36**	**314**	*e*Pn		**Pn**	**01 51 06.1**	**-0.1**
LJU				*e*Sn		**Sn**	**01 52 07.5**	**-0.5**
VLX	**Vlachokerasia**	**5.39**	**160**	*e*Pn		**Pn**	**01 51 07.7**	**+1.0**
VLX	**Vlachokerasia**	**5.39**	**160**	P		**Pn**	**01 51 07.7**	**+1.0**
EZN	**Ezine**	**5.40**	**117**	*e*P		**Pn**	**01 51 06.8**	**0.0**
VLY	**Voula,Athens**	**5.42**	**147**	*e*Pn		**Pn**	**01 51 07.8**	**+0.8**
VLY	**Voula,Athens**	**5.42**	**147**	P		**Pn**	**01 51 07.8**	**+0.8**
LPK	**Lapseki**	**5.44**	**110**	*e*P		**Pn**	**01 51 08.1**	**+0.8**
PSZ	**Piszkesteto**	**5.45**	**359**	*e*Pn		**Pn**	**01 51 06.9**	**-0.7**
PSZ	**Piszkesteto**	**5.45**	**359**	⇓*i*P		**Pn**	**01 51 06.8**	**-0.8**
PSZ	**Piszkesteto**	**5.45**	**359**	⇓*e*Pn		**Pn**	**01 51 07.1**	**-0.5**
PSZ				*e*Sn		**Sn**	**01 52 08.5**	**-2.0**
PSZ	**Piszkesteto**	**5.45**	**359**	*e*P		**Pn**	**01 51 06.9**	**-0.7**
SIGR	**SIGRI**	**5.45**	**125**	*e*P		**Pn**	**01 51 06.4**	**-1.1**
ITM	**Ithomi**	**5.47**	**164**	*e*P		**Pn**	**01 51 09.1**	**+1.3**
ITM	**Ithomi**	**5.47**	**164**	*e*Pn		**Pn**	**01 51 08.2**	**+0.5**
ITM				*e*Sn		**Sn**	**01 52 09.8**	**-1.1**
ITM	**Ithomi**	**5.47**	**164**	P		**Pn**	**01 51 08.8**	**+1.0**
SRO	**Srobarova**	**5.49**	**347**	*e*P		**Pn**	**01 51 08.8**	**+0.8**
SRO				*e*			01 52 12.4		
SRO	**Srobarova**	**5.49**	**347**	*e*PN		**Pn**	**01 51 08.8**	**+0.8**
SRO				*e*SN		**Sn**	**01 52 12.4**	**+1.1**
SOKA	**Soboth**	**5.54**	**321**	*e*Pn		**Pn**	**01 51 09.5**	**+0.7**
	comp=Z,33nm,0.3s,SNR=15								
SOKA				Sn		**Sn**	**01 52 11.6**	**-1.1**
	comp=Z,23nm,0.6s								
TRI	**Trieste**	**5.59**	**308**	*e*Pn		**Pn**	**01 51 11.3**	**+2.0**
TRI				*e*Sn		**Sn**	**01 52 16.4**	**+2.7**
TRI	**Trieste**	**5.59**	**308**	*e*P		**Pn**	**01 51 11.3**	**+2.0**
TRI				*e*			01 52 16.4		
RKY	**Sarkoy-Tekirda**	**5.61**	**106**	*e*P		**Pn**	**01 51 09.8**	**+0.1**
OBKA	**Obir**	**5.66**	**317**	*e*Pn		**Pn**	**01 51 11.8**	**+1.4**
	comp=Z,23nm,0.3s								
BMR	**Baia Mare**	**5.74**	**24**	⇑*i*P		**Pn**	**01 51 12.1**	**+0.7**
ARSA	**Arzberg**	**5.78**	**327**	*e*Pn		**Pn**	**01 51 12.3**	**+0.3**
	comp=Z,40nm,0.3s,SNR=24								
ARSA				*e*Sn		**Sn**	**01 52 18.1**	**-0.3**
	comp=Z,43nm,0.5s								
SOP	**Sopron**	**5.78**	**336**	⇓*e*Pn		**Pn**	**01 51 12.1**	**+0.1**
SOP				*e*Sn		**Sn**	**01 52 16.1**	**-2.4**
SOP	**Sopron**	**5.78**	**336**	P		**Pn**	**01 51 12.3**	**+0.3**
SOP				pmax		pmax			
	comp=Z,49nm,0.7s								
KRBG	**Karabiga-Canak**	**5.81**	**108**	*e*P		**Pn**	**01 51 13.4**	**+1.1**
PLOR	**Plostina**	**5.81**	**52**	⇑*i*P		**Pn**	**01 51 14.3**	**+1.9**
PLOR	**Plostina**	**5.81**	**52**	P		**Pn**	**01 51 14.3**	**+1.9**
SBT4	**Kumbag-Tekirda**	**5.82**	**104**	*e*P		**Pn**	**01 51 13.7**	**+1.3**
VRI	**Vrinciaia**	**5.86**	**52**	⇑*i*P		**Pn**	**01 51 14.2**	**+1.0**
VRI	**Vrincioaia**	**5.86**	**52**	P		**Pn**	**01 51 14.1**	**+0.9**
CRLT	**Corlu**	**5.88**	**101**	*e*Pn		**Pg**	**01 51 41.6**	**+3.1**
TRPA	**Tarpa**	**5.92**	**16**	⇑*i*P		**Pn**	**01 51 14.0**	**+0.1**
TRPA	**Tarpa**	**5.92**	**16**	⇓*e*Pn		**Pn**	**01 51 14.0**	**+0.1**
TRPA				*e*Sn		**Sn**	**01 52 17.5**	**-4.4**
MRMT	**Marmara Adasi**	**5.94**	**106**	*e*P		**Pn**	**01 51 13.5**	**-0.7**
KECS	**Kecovo**	**6.02**	**3**	*e*P		**Pn**	**01 51 14.6**	**-0.7**
KECS				*e*			01 52 20.7		
KECS	**Kecovo**	**6.02**	**3**	*e*PN		**Pn**	**01 51 14.6**	**-0.7**
KECS				*e*SN		**Sn**	**01 52 20.7**	**-3.7**
VYHS	**Vyhne**	**6.09**	**352**	*e*P		**Pn**	**01 51 16.6**	**+0.3**
VYHS				*e*			01 52 26.1		
VYHS	**Vyhne**	**6.09**	**352**	*e*PN		**Pn**	**01 51 16.5**	**+0.3**
VYHS				*e*SN		**Sn**	**01 52 26.1**	**0.0**
ZST	**Bratislava**	**6.10**	**341**	*e*P		**Pn**	**01 51 16.1**	**-0.3**
ZST	**Bratislava**	**6.10**	**341**	*e*PN		**Pn**	**01 51 16.1**	**-0.3**
CHOS	**Chios island**	**6.11**	**130**	*e*P		**Pn**	**01 51 15.6**	**-1.1**
HARR	**Harsova**	**6.12**	**66**	⇑*i*P		**Pn**	**01 51 16.9**	**+0.3**
TLB	**Topalu**	**6.16**	**67**	⇑*i*P		**Pn**	**01 51 17.8**	**+0.6**
DKL	**Dikili**	**6.19**	**121**	*e*P		**Pn**	**01 51 18.2**	**+0.6**
BIZ	**Bicaz**	**6.20**	**42**	⇓*i*P		**Pn**	**01 51 18.7**	**+1.0**
CTYL	**Yalikoy Yolu**	**6.20**	**96**	*e*P		**Pn**	**01 51 18.6**	**+0.9**
MYKA	**Terra Mystica**	**6.20**	**314**	*e*Pn		**Pn**	**01 51 21.0**	**+3.2**
	comp=Z,14nm,0.4s								
CONA	**Conrad Observa**	**6.22**	**333**	*e*Pn		**Pn**	**01 51 18.1**	**0.0**
	comp=Z,3.5nm,0.3s								
CONA				Sn		**Sn**	**01 52 28.0**	**-1.4**
	comp=Z,57nm,0.5s								
EDC	**Edincik**	**6.22**	**107**	*e*P		**Pn**	**01 51 18.8**	**+0.7**
KOLL	**Kolacno**	**6.22**	**350**	*e*P		**Pn**	**01 51 18.5**	**+0.4**
KOLL				*e*			01 52 29.5		
KOLL	**Kolacno**	**6.22**	**350**	*e*PN		**Pn**	**01 51 18.5**	**+0.4**
KOLL				*e*SN		**Sn**	**01 52 29.5**	**+0.1**
MODS	**Modra-Piesok**	**6.23**	**342**	*e*P		**Pn**	**01 51 16.2**	**-2.0**
MODS				*e*			01 52 24.7		
MODS	**Modra-Piesok**	**6.23**	**342**	*e*PN		**Pn**	**01 51 16.2**	**-2.0**
MODS				*e*SN		**Sn**	**01 52 24.7**	**-4.8**
BURAR	**Bucovina Array**	**6.30**	**33**	⇓*i*P		**Pn**	**01 51 20.8**	**+1.5**
BURAR	**Bucovina Array**	**6.30**	**33**	P		**Pn**	**01 51 20.8**	**+1.5**
BUR04	**Bucovina Ar. S**	**6.30**	**33**	*e*Pn		**Pn**	**01 51 21.2**	**+1.9**
BUR08	**Bucovina Ar. S**	**6.32**	**33**	*e*Pn		**Pn**	**01 51 21.0**	**+1.5**
SMOL	**Smolenice**	**6.33**	**344**	*e*P		**Pn**	**01 51 20.2**	**+0.7**
SMOL				*e*			01 52 31.0		
SMOL	**Smolenice**	**6.33**	**344**	*e*PN		**Pn**	**01 51 20.2**	**+0.7**
SMOL				*e*SN		**Sn**	**01 52 31.0**	**-0.9**
UZH	**Uzhgorod**	**6.36**	**13**	*e*P		**Pn**	**01 51 20.7**	**+0.8**
UZH				*e*S		**Sn**	**01 52 34.9**	**+2.3**
UZH				MLR		MLR			
	comp=N,75nm,11.0s								
UZH				MLR		MLR			
	comp=E,40nm,11.0s								
TIRR	**Tirgusor**	**6.38**	**69**	*e*Pn		**Pn**	**01 51 23.5**	**+3.3**
TIRR	**Tirgusor**	**6.38**	**69**	⇑*i*P		**Pn**	**01 51 22.8**	**+2.6**
TIRR	**Tirgusor**	**6.38**	**69**	*e*P		**Pn**	**01 51 23.5**	**+3.3**
CTKS	**Kestanelik-??a**	**6.41**	**98**	*e*P		**Pn**	**01 51 20.3**	**-0.3**
CFR	**Carcaliu**	**6.42**	**62**	⇓*i*P		**Pn**	**01 51 20.9**	**+0.1**
CFR	**Carcaliu**	**6.42**	**62**	P		**Pn**	**01 51 20.8**	**0.0**
URLA	**Izmir**	**6.44**	**127**	*e*P		**Pn**	**01 51 21.5**	**+0.3**
BALB	**Balikesir**	**6.54**	**113**	*e*P		**Pn**	**01 51 22.3**	**-0.1**
JAVC	**Velka Javorina**	**6.61**	**346**	*e*PN		**Pn**	**01 51 22.2**	**-1.3**
VAE	**Valguarnera**	**6.62**	**223**	Pn		**Pn**	**01 51 23.7**	**+0.1**
	comp=E,0.4nm,0.3s,baz=98,slow=19,SNR=2.0								
VAE				Sn		**Sn**	**01 52 38.2**	**-0.9**
	comp=E,1.1nm,0.3s,baz=36,slow=19,SNR=2.1								
KBA	**Koelnbreinsper**	**6.65**	**316**	*e*Pn		**Pn**	**01 51 25.8**	**+1.7**
	comp=E,25nm,0.7s,SNR=8.2								
LANS	**Liptovska Anna**	**6.70**	**357**	*e*P		**Pn**	**01 51 26.1**	**+1.5**
LANS	**Liptovska Anna**	**6.70**	**357**	*e*PN		**Pn**	**01 51 26.1**	**+1.5**
MOA	**Molln**	**6.77**	**325**	*e*Pn		**Pn**	**01 51 27.0**	**+1.3**
	comp=E,12nm,0.3s,SNR=9.6								
MOA				*e*Sn		**Sn**	**01 52 41.8**	**-1.1**
	comp=E,27nm,0.6s								
APE	**Apeiranthos**	**6.83**	**140**	*e*P		**Pn**	**01 51 25.9**	**-0.6**
APE	**Apeiranthos**	**6.83**	**140**	⇓*i*P		**Pn**	**01 51 27.3**	**+0.8**
APE	**Apeiranthos**	**6.83**	**140**	*ce*P		**Pn**	**01 51 27.3**	**+0.8**
SBT5	**Esenkoy-Cinarc**	**6.85**	**103**	*e*P		**Pn**	**01 51 27.2**	**+0.6**
ARMT	**Armutlu**	**6.86**	**103**	*e*P		**Pn**	**01 51 27.8**	**+1.0**
TLCR		**6.88**	**64**	⇓*i*P		**Pn**	**01 51 27.7**	**+0.7**
ABTA	**Abfaltersbach**	**6.89**	**311**	*e*Pn		**Pn**	**01 51 29.4**	**+2.1**
	comp=E,6.9nm,0.2s,SNR=14								
ABTA				Sn		**Sn**	**01 52 48.0**	**+2.1**
	comp=E,56nm,0.9s								
NIE	**Niedzica**	**6.95**	**1**	*e*P		**Pn**	**01 51 29.9**	**+1.7**
NIE	**Niedzica**	**6.95**	**1**	*e*P		**Pn**	**01 51 29.9**	**+1.7**
KRUC	**Moravsky**	**7.08**	**340**	*e*PN		**Pn**	**01 51 29.2**	**-0.6**
KRUC				*e*SN		**Sn**	**01 52 50.6**	**+0.1**
VRAC	**Vranov**	**7.26**	**342**	Pn		**Pn**	**01 51 30.1**	**-2.2**
	comp=E,0.3nm,0.3s,baz=187,slow=17,SNR=2.9								
VRAC				Sn		**Sn**	**01 52 51.9**	**-3.0**
	comp=E,1.1nm,0.3s,baz=231,slow=14,SNR=2.2								
VRAC				LR		LR	01 54 22.2		
	comp=E,120nm,19.5s,baz=184,slow=38								
VRAC	**Vranov**	**7.26**	**342**	*e*PN		**Pn**	**01 51 32.0**	**-0.3**
VRAC				*e*SN		**Sn**	**01 52 52.7**	**-2.2**
VLC	**Villacollemand**	**7.27**	**287**	*e*Pn		**Pn**	**01 51 33.3**	**+0.8**
SANT	**Santorini**	**7.37**	**144**	*e*Pn		**Pn**	**01 51 35.4**	**+1.5**
KWP	**Kalwaria Pacla**	**7.39**	**13**	*e*P		**Pn**	**01 51 37.1**	**+3.0**
KWP	**Kalwaria Pacla**	**7.39**	**13**	*e*P		**Pn**	**01 51 37.1**	**+3.0**
AYDB	**Zeytinkoy-Aydi**	**7.49**	**124**	*e*P		**Pn**	**01 51 36.2**	**+0.6**
OKC	**Ostrava-Krasne**	**7.49**	**350**	⇑*e*PN		**Pn**	**01 51 36.4**	**+0.9**
OKC				*e*SN		**Sn**	**01 52 58.4**	**-2.2**
OKC				AMS		AMS	01 55 00.0		
	comp=E,500nm,10.6s								
OKC	**Ostrava-Krasne**	**7.49**	**350**	*e*P		**Pn**	**01 51 36.4**	**+0.9**
OKC				*e*			01 52 58.4		
OKC				MLR		MLR			
	comp=Z,500nm,10.6s								
MORC	**Moravsky Berou**	**7.52**	**347**	*e*Pn		**Pn**	**01 51 37.1**	**+1.2**
MORC	**Moravsky Berou**	**7.52**	**347**	⇑*i*P		**Pn**	**01 51 36.4**	**+0.5**
MORC	**Moravsky Berou**	**7.52**	**347**	*e*P		**Pn**	**01 51 37.1**	**+1.2**
MORC	**Moravsky Berou**	**7.52**	**347**	*e*PN		**Pn**	**01 51 36.7**	**+0.8**
MORC				*e*SN		**Sn**	**01 53 01.2**	**-0.1**
TREC	**Trest**	**7.54**	**336**	⇑*e*PN		**Pn**	**01 51 36.7**	**+0.5**
TREC				*e*SN		**Sn**	**01 52 59.4**	**-2.4**
TREC				AMS		AMS	01 55 00.0		
	comp=Z,1μm,7.5s								
TREC	**Trest**	**7.54**	**336**	*e*P		**Pn**	**01 51 36.7**	**+0.5**
TREC				*e*			01 52 59.4		
TREC				MLR		MLR			
	comp=Z,1μm,7.5s								
SIMA	**Simav-Kutahya**	**7.55**	**114**	*e*P		**Pn**	**01 51 36.7**	**+0.3**
MANT	**Manisa**	**7.58**	**119**	*e*Pn		**Pn**	**01 51 39.1**	**+2.2**
KULA	**Kula-Manisa**	**7.64**	**118**	*e*P		**Pn**	**01 51 37.4**	**-0.2**
WTTA	**Wattenberg**	**7.68**	**312**	*e*Pn		**Pn**	**01 51 40.8**	**+2.6**
	comp=Z,18nm,0.4s,SNR=8.5								
KIS	**Kishinev**	**7.69**	**51**	*e*		Pg	01 52 26.0	+13
KIS				LRM		MLR	01 55 30.0		
	comp=Z,400nm,12.0s								
TVSB	**Tavsanli**	**7.71**	**110**	*e*P		**Pn**	**01 51 39.0**	**+0.4**
BODT	**Bodrum**	**7.75**	**132**	*e*P		**Pn**	**01 51 39.7**	**+0.6**
WATA	**Walderalm**	**7.75**	**312**	*e*Pn		**Pn**	**01 51 42.3**	**+3.1**
	comp=Z,11nm,0.3s,SNR=31								
OJC	**Ojcow**	**7.76**	**359**	*e*P		**Pn**	**01 51 40.1**	**+1.1**
OJC	**Ojcow**	**7.76**	**359**	*e*Pn		**Pn**	**01 51 39.0**	**-0.1**
OJC	**Ojcow**	**7.76**	**359**	*e*P		**Pn**	**01 51 40.2**	**+1.1**
GEA0	**GERESS Array S**	**7.78**	**327**	*e*Pn		**Pn**	**01 51 40.5**	**+1.0**
GEC2	**GERESS Array S**	**7.79**	**327**	*e*Pn		**Pn**	**01 51 41.2**	**+1.6**
GEC2	**GERESS Array S**	**7.79**	**327**	*e*P		**Pn**	**01 51 41.2**	**+1.6**
GERES	**GERESS Array B**	**7.79**	**327**	Pn		**Pn**	**01 51 41.0**	**+1.4**
	comp=Z,1.8nm,0.3s,baz=152,slow=13,SNR=34								
GERES				Sn		**Sn**	**01 53 05.3**	**-2.7**
	comp=Z,0.6nm,0.3s,baz=142,slow=24,SNR=2.7								
GERES	**GERESS Array B**	**7.79**	**327**	P		**Pn**	**01 51 41.0**	**+1.4**
LVV	**L'vov**	**7.85**	**19**	*e*P		**Pn**	**01 51 42.5**	**+2.2**
LVV				*e*S		**Sn**	**01 53 04.3**	**-5.0**
LVV				MLR		MLR			
	comp=N,260nm,9.0s								
LVV				MLR		MLR			
	comp=E,150nm,9.0s								
LVV				MLR		MLR			
	comp=Z,260nm,9.0s								
MLSB	**Milas**	**7.85**	**129**	*e*P		**Pn**	**01 51 40.6**	**+0.1**
SQTA	**Sankt Quirin**	**7.89**	**310**	*e*Pn		**Pn**	**01 51 44.0**	**+2.9**
	comp=Z,3.6nm,0.2s								
SQTA				Sn		**Sn**	**01 53 14.8**	**+4.2**
	comp=Z,19nm,0.4s								
MOTA	**Moosalm**	**8.02**	**310**	*e*Pn		**Pn**	**01 51 46.1**	**+3.2**
	comp=Z,1.6nm,0.3s,SNR=21								
FETA	**Feichten**	**8.06**	**308**	*e*Pn		**Pn**	**01 51 45.8**	**+2.3**
	comp=Z,6.1nm,0.4s								
KHC	**Kasperske Hory**	**8.06**	**328**	*e*Pn		**Pn**	**01 51 44.5**	**+1.1**
KHC				*e*Sn		**Sn**	**01 53 12.4**	**-2.3**
KHC	**Kasperske Hory**	**8.06**	**328**	⇑*e*PN		**Pn**	**01 51 44.9**	**+1.5**
KHC				*e*SN		**Sn**	**01 53 13.6**	**-1.1**
KHC				AMS		AMS	01 55 20.0		
	comp=Z,700nm,10.9s								
KHC	**Kasperske Hory**	**8.06**	**328**	*e*P		**Pn**	**01 51 44.9**	**+1.5**
KHC				*e*			01 53 13.6		
KHC				MLR		MLR			
	comp=Z,700nm,10.9s								
IDI	**Anoyia**	**8.09**	**151**	*e*P		**Pn**	**01 51 42.6**	**-1.2**
IDI	**Anoyia**	**8.09**	**151**	Pn		**Pn**	**01 51 42.1**	**-1.7**
	comp=Z,1.2nm,0.3s,baz=334,slow=13,SNR=15								
IDI				Sn		**Sn**	**01 53 11.4**	**-4.0**
	comp=Z,2.6nm,0.3s,baz=290,slow=10,SNR=3.5								
IDI				LR		LR	01 55 42.9		
	comp=Z,127nm,19.1s,baz=299,slow=44								
GULT	**Gulveren**	**8.10**	**101**	*e*P		**Pn**	**01 51 44.8**	**+0.9**
FUORN	**Ofenpass-Fuorn**	**8.15**	**304**	*e*Pn		**Pn**	**01 51 46.6**	**+1.9**
PGF	**Pioggiola**	**8.19**	**274**	*e*P		**Pn**	**01 51 47.8**	**+2.6**
PGF	**Pioggiola**	**8.19**	**274**	*e*Pn		**Pn**	**01 51 47.8**	**+2.6**
PGF	**Pioggiola**	**8.19**	**274**	*e*P		**Pn**	**01 51 47.8**	**+2.6**
RETA	**Reutte**	**8.29**	**310**	*e*Pn		**Pn**	**01 51 49.3**	**+2.7**
	comp=Z,1.2nm,0.3s								
RETA				Sn		**Sn**	**01 53 24.9**	**+4.5**
	comp=Z,13nm,0.3s								
DPC	**Dobruska-Polom**	**8.30**	**343**	⇑*e*PN		**Pn**	**01 51 48.4**	**+1.8**
DPC				*ex*		x	01 51 56.7		
DPC				*e*SN		**Sn**	**01 53 19.4**	**-1.1**
DPC				AMS		AMS	01 55 30.0		
	comp=Z,700nm,10.7s								
DPC	**Dobruska-Polom**	**8.30**	**343**	*e*P		**Pn**	**01 51 48.4**	**+1.8**
DPC				*e*			01 53 19.4		
DPC				MLR		MLR			
	comp=Z,700nm,10.7s								
GOPC	**GO Pecny, Ondr**	**8.30**	**336**	⇑*e*PN		**Pn**	**01 51 48.1**	**+1.5**
GOPC				*ex*		x	01 51 51.6		
GOPC				*ex*		x	01 52 03.3		
GOPC				AMS		AMS	01 55 20.0		
	comp=Z,1μm,8.6s								
GOPC	**GO Pecny, Ondr**	**8.30**	**336**	*e*P		**Pn**	**01 51 48.1**	**+1.5**
GOPC				MLR		MLR			
	comp=Z,1μm,8.6s								
DAVOX	**Davos/Dischmat**	**8.46**	**304**	Pn		**Pn**	**01 51 51.0**	**+2.1**
	comp=Z,5.4nm,0.3s,baz=109,slow=9.3,SNR=45								
DAVOX				Sn		**Sn**	**01 53 26.1**	**+1.5**
	comp=Z,2.4nm,0.3s,baz=190,slow=19,SNR=6.2								
UPC	**Upice**	**8.52**	**342**	⇑*e*PN		**Pn**	**01 51 51.0**	**+1.5**
UPC				AMS		AMS	01 55 40.0		
	comp=Z,700nm,8.8s								
UPC	**Upice**	**8.52**	**342**	*e*P		**Pn**	**01 51 51.0**	**+1.5**
UPC				MLR		MLR			
	comp=Z,700nm,8.8s								
PRA	**Prague**	**8.55**	**335**	⇑AMS		AMS	01 55 30.0		
	comp=Z,900nm,8.5s								
TUE	**Stuetta**	**8.66**	**301**	*e*Pn		**Pn**	**01 51 54.0**	**+2.4**
TUE				*e*Sn		**Sn**	**01 53 25.6**	**-3.9**
DAVA	**Damuels**	**8.70**	**307**	*e*Pn		**Pn**	**01 51 54.9**	**+2.8**
	comp=Z,15nm,0.6s								
DAVA				Sn		**Sn**	**01 53 34.0**	**+3.6**
	comp=Z,23nm,0.4s								
PVCC	**Panska Ves**	**8.91**	**337**	⇑*e*PN		Pn	01 52 00.5	+5.6
PVCC				AMS		AMS	01 55 40.0		
	comp=Z,1μm,8.4s								
SBF	**Sospel**	**9.35**	**283**	*e*P		**Pn**	**01 52 02.1**	**+1.1**
SBF				*e*Sn		**Sn**	**01 53 37.5**	**-8.8**
	comp=Z,162nm,1.1s								
SBF	**Sospel**	**9.35**	**283**	*e*Pn		**Pn**	**01 52 02.1**	**+1.1**
SBF				*e*Sn		**Sn**	**01 53 37.5**	**-8.8**
SBF	**Sospel**	**9.35**	**283**	*e*P		**Pn**	**01 52 01.7**	**+0.7**
SBF				pmax		pmax			
	comp=Z,18nm,0.4s								
NKC	**Novy Kostel**	**9.39**	**328**	⇑*e*PN		**Pn**	**01 52 02.5**	**+1.0**
NKC				AMS		AMS	01 56 00.0		
	comp=Z,700nm,9.1s								
NKC	**Novy Kostel**	**9.39**	**328**	*e*P		**Pn**	**01 52 02.5**	**+1.0**
NKC				MLR		MLR			
	comp=Z,700nm,9.1s								
BRG	**Berggiesshubel**	**9.40**	**336**	*e*P		Pn	01 52 09.7	+8.0
	comp=Z,3.7nm,0.6s								
BRG				*e*			01 52 51.0		
BRG				*e*			01 53 47.0		
BRG				*e*			01 54 54.0		
	comp=Z,18nm,1.2s								
	comp=Z,960nm,7.9s								
	comp=N,426nm,10.2s								
	comp=E,349nm,10.2s								
BRG	**Berggiesshubel**	**9.40**	**336**	*e*P		Pn	01 52 09.7	+8.0
BRG				*e*			01 53 47.0		
BRG				pmax		pmax			
	comp=Z,4.0nm,0.6s								
BRG				pmax		pmax			
	comp=Z,18nm,1.2s								
BRG				MLR		MLR			
	comp=Z,960nm,7.9s								
BRG				MLR		MLR			
	comp=N,426nm,10.2s								
BRG				MLR		MLR			
	comp=E,349nm,10.2s								
ELL	**Elmali**	**9.49**	**124**	*e*P		**Pn**	**01 52 02.2**	**-0.8**
AKAS	**Kas**	**9.65**	**127**	*e*P		**Pn**	**01 52 04.6**	**-0.6**
KIZT	**Kizilcal**	**9.65**	**108**	*e*P		**Pn**	**01 52 05.4**	**+0.2**
FRF	**La Foret Royal**	**9.90**	**281**	*e*Pn		**Pn**	**01 52 06.4**	**-2.2**
FRF	**La Foret Royal**	**9.90**	**281**	*e*P		**Pn**	**01 52 11.0**	**+2.4**
FRF				*e*Sn		Sn	01 53 50.9	-9.0	
	comp=E,11nm,0.6s								
FRF	**La Foret Royal**	**9.90**	**281**	*e*Pn		**Pn**	**01 52 06.4**	**-2.2**
FRF				*e*Sn		Sn	01 53 50.9	-9.0	
FRF	**La Foret Royal**	**9.90**	**281**	*e*P		**Pn**	**01 52 06.4**	**-2.2**
FRF				*e*			01 53 50.9		
MBDF	**Montbardon**	**9.92**	**288**	*e*P		**Pn**	**01 52 10.3**	**+1.4**
MBDF				*e*Sn		Sn	01 53 51.2	-9.2	
	comp=E,50nm,0.7s								
MBDF	**Montbardon**	**9.92**	**288**	*e*Pn		**Pn**	**01 52 10.3**	**+1.4**
MBDF				*e*Sn		Sn	01 53 51.2	-9.2	
SENIN	**Lac Senin/Sane**	**9.94**	**297**	*e*Pn		**Pn**	**01 52 11.0**	**+1.8**
SENIN				*e*Sn		**Sn**	**01 53 55.1**	**-6.0**
LMR	**La Mourre**	**10.00**	**280**	*e*Sn		Sn	01 53 53.1	-9.1	
	comp=E,3.9nm,0.3s								
LMR	**La Mourre**	**10.00**	**280**	*e*Sn		Sn	01 53 53.1	-9.1	
BNI	**Bardonecchia**	**10.04**	**289**	*e*Pn		**Pn**	**01 52 10.3**	**-0.2**
BNI	**Bardonecchia**	**10.04**	**289**	*e*P		**Pn**	**01 52 10.3**	**-0.2**
LPG	**La Plagne**	**10.07**	**292**	*e*P		**Pn**	**01 52 12.8**	**+1.6**
LPG				*e*Sn		Sn	01 53 55.1	-9.4	
	comp=E,72nm,0.8s								
LPG	**La Plagne**	**10.07**	**292**	*e*Pn		**Pn**	**01 52 12.8**	**+1.6**
LPG				*e*Sn		Sn	01 53 55.1	-9.4	
LPG	**La Plagne**	**10.07**	**292**	*e*P		**Pn**	**01 52 12.8**	**+1.6**
LPG				*e*			01 53 55.1		
CLL	**Collm**	**10.08**	**334**	*e*Pn		**Pn**	**01 52 13.0**	**+2.1**
CLL				*e

VSR pmax pmax
comp=Z,6.0nm,0.6s
LPSR Galich'ya Gora 16.22 45 *e*P **Pn 01 53 33.4 -0.6**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
KIV Kislovodsk 16.54 77 *e*P **P 01 53 41.0 +0.1**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,27nm,12.0s
VSU Vasula 16.55 12 *i* P **P 01 53 40.2 -0.6**
VSU pmax pmax
comp=Z,176nm,0.9s
NEY Neytrino 16.61 80 *i* P **P 01 53 42.3 +0.5**
OBN Obninsk 16.62 35 ǁ *i* P **P 01 53 41.2 -0.4**
OBN *e*S **Sn 01 56 48.8 +5.2**
OBN pmax pmax
comp=Z,14nm,0.9s
OBN MLR MLR
comp=Z,71nm,16.0s
KBZ Khabaz 16.71 78 Pn **P 01 53 42.3 -0.3**
comp=Z,0.0nm,0.3s,baz=263,slow=8.1,SNR=2.2
VRH Novokhoporsk 17.14 52 *e*P **Pn 01 53 43.1 -2.6**
VRH pmax pmax
comp=Z,6.0nm,0.9s
NCK Nalchik 17.23 79 *i* P **P 01 53 48.7 +0.2**
NCK pmax pmax
comp=Z,3.0nm,1.0s
AKH Akhalkalaki 17.44 86 *e*Pn **P 01 53 53.7 +2.7**
comp=Z,5.8nm,0.8s
AKH Akhalkalaki 17.44 86 *e*P **P 01 53 53.7 +2.7**
AKH pmax pmax
comp=Z,6.0nm,0.8s
MOS Moscow 17.49 35 *e*P **P 01 53 53.4 +2.2**
MOS pmax pmax
comp=Z,26nm,0.6s
EIL Elat 17.50 132 P **Pn 01 53 48.9 -1.5**
comp=Z,0.3nm,0.3s,baz=32,slow=9.5,SNR=3.2
HFS Hagfors 18.12 350 P **Pn 01 53 57.6 -0.1**
comp=Z,0.3nm,0.3s,baz=168,slow=11,SNR=11
ESDC Sonseca Array 18.33 269 P **Pn 01 53 60.0 -0.6**
comp=Z,0.1nm,0.3s,baz=71,slow=12,SNR=4.9
GNI Garni 18.66 89 P **Pn 01 54 06.6 +2.0**
comp=Z,0.3nm,0.3s,baz=290,slow=23,SNR=4.3
GNI Garni 18.66 89 *e*P **Pn 01 54 07.4 +2.8**
GNI Garni 18.66 89 *i* P **Pn 01 54 05.1 +0.5**
GNI pmax pmax
comp=Z,25nm,1.1s
NC602 NORSAR Array S 19.02 347 *e*P **Pn 01 54 09.3 +0.7**
FIA0 FINESS Array S 19.34 9 *e*P **Pn 01 54 11.9 -0.7**
FINES FINESS Array B 19.34 9 P **Pn 01 54 11.9 -0.7**
comp=Z,0.7nm,0.3s,baz=182,slow=9.2,SNR=12
FINES LR LR 02 02 42.1
comp=Z,152nm,18.0s,baz=200,slow=40
NC405 NORSAR Array S 19.35 348 *e*P **P 01 54 11.8 +0.2**
NB2 NORSAR Subarra 19.36 347 P **P 01 54 12.0 +0.2**
comp=Z,11nm,1.1s,baz=160,slow=11
NB200 NORSAR Array S 19.36 347 *e*P **P 01 54 11.4 -0.4**
NOA NORSAR Array B 19.36 347 P **P 01 54 11.4 -0.4**
comp=Z,0.0nm,0.3s,baz=163,slow=10,SNR=10
NC303 NORSAR Array S 19.51 347 *e*P **Pn 01 54 15.4 +0.8**
NC204 NORSAR Array S 19.66 347 *e*P **P 01 54 15.4 +0.4**
EKA Eskdalemuir Ar 19.86 318 P **P 01 54 17.1 -0.1**
baz=113,slow=9.7,SNR=9.5
KLMR Klimovskoe 21.85 26 *e*P **P 01 54 37.8 -0.9**
KLMR pmax pmax
comp=Z,46nm,0.9s
KLMR Klimovskoe 21.85 26 *e*P **P 01 54 37.8 -0.9**
KLMR AMP 01 54 41.1
comp=Z,46nm,0.8s
TAM Tamanrasset 23.07 216 P **P 01 54 54.4 +2.3**
TAM pmax pmax
comp=Z,6.0nm,1.2s
PRGR Permogore 24.52 30 *e*P **P 01 55 05.1 -0.4**
PRGR pmax pmax
comp=Z,14nm,0.8s
AKTO Aktyubinsk 27.08 60 LR LR 02 09 46.2
comp=Z,20nm,18.2s,baz=283,slow=44
ARA0 ARCESS Array S 27.28 4 *e*P **P 01 55 28.8 -1.7**
ARCES ARCESS Array B 27.28 4 P **P 01 55 28.8 -1.7**
comp=Z,2.3nm,0.7s,baz=195,slow=8.8,SNR=9.3
RAYN Ar Rayn 28.31 124 *e*P **P 01 55 40.1 -0.1**
comp=Z,3.0nm,1.0s
RAYN Ar Rayn 28.31 124 *e*P **P 01 55 40.1 -0.1**
RAYN pmax pmax
comp=Z,3.0nm,1.0s
TOA1 Torodi Ar. Sit 33.27 214 *e*P **P 01 56 22.8 -1.2**
TOA0 Torodi Ar. Sit 33.28 214 *e*P **P 01 56 22.6 -1.4**
TORD Torodi Ar. Bea 33.28 214 P **P 01 56 22.8 -1.2**
comp=Z,10nm,0.7s,baz=302,slow=3.3,SNR=58
BRVK Borovoye 34.69 55 *e*P **P 01 56 36.9 +1.0**
comp=Z,13nm,0.9s
BRVK Borovoye 34.69 55 *ce*P **P 01 56 36.8 +0.9**
BRVK pmax pmax
comp=Z,5.0nm,0.9s
AAK Ala-Archa 39.49 71 *e*P **P 01 57 19.3 +2.2**
comp=Z,5.0nm,1.1s
AAK Ala-Archa 39.49 71 *ce*P **P 01 57 18.8 +1.8**
AAK pmax pmax
comp=Z,19nm,1.7s
KURK Kurchatov 40.11 57 *ce*P **P 01 57 20.2 -1.7**
KURK pmax pmax
comp=Z,3.0nm,1.0s
DBIC Dimbokro 41.92 219 P **P 01 57 37.1 0.0**
comp=Z,9.0nm,0.6s,baz=2.5,slow=9.2,SNR=18
DBIC Dimbokro 41.92 219 *e*P **P 01 57 37.4 +0.3**
comp=Z,10nm,0.7s
DBIC Dimbokro 41.92 219 *e*P **P 01 57 37.4 +0.3**
DBIC pmax pmax
comp=Z,10.0nm,0.7s
TIC Toumodi 42.02 219 *e*P **P 01 57 36.8 -1.1**
NVS Novosibirsk 42.09 50 *i* P P 01 57 30.9 -7.2
KIC Kosan Boka 42.14 218 *e*P **P 01 57 38.9 0.0**
comp=Z,35nm,0.9s
LIC Lamto 42.39 219 *e*P **P 01 57 41.0 0.0**
comp=Z,48nm,0.8s
ZAA1 Zalesovo Array 43.17 51 *e*P **P 01 57 46.9 0.0**
ZAA0 Zalesovo Array 43.18 51 *e*P **P 01 57 47.0 +0.1**
comp=Z,6.6nm,1.0s
ZALV Zalesovo Beam 43.18 51 P **P 01 57 46.9 0.0**
comp=Z,6.1nm,0.8s,baz=281,slow=8.7,SNR=15
ZALV Zalesovo Beam 43.18 51 *e*P **P 01 57 46.5 -0.4**
MK32 Makanchi Array 43.46 62 *e*P **P 01 57 49.1 -0.3**
MKAR Makanchi Array 43.46 62 P **P 01 57 49.1 -0.3**
comp=Z,1.2nm,0.6s,baz=277,slow=7.7,SNR=14
MKAR Makanchi Array 43.46 62 *ce*P **P 01 57 49.0 -0.4**
MK01 Makanchi Array 43.48 62 *e*P **P 01 57 49.9 +0.3**
DGZ Jazzator, Alta 45.84 57 *i* P **P 01 58 09.1 +0.6**
DGZ pmax pmax
comp=Z,3.0nm,0.8s
WMQ Urumqi 48.08 64 *e*P **P 01 58 29.0 +3.0**
SCHQ Schefferville 55.13 315 P **P 01 59 17.9 -0.6**
comp=Z,4.7nm,0.8s,baz=58,slow=9.5,SNR=4.4
TIXI Tiksi 55.77 21 *i* P **P 01 59 25.1 +2.4**
TIXI pmax pmax
comp=Z,1.0nm,0.8s
SONA0 Songino Array 58.05 52 *e*P **P 01 59 39.2 -0.3**
SONM Songino Array 58.05 52 P **P 01 59 39.2 -0.3**
comp=Z,1.5nm,0.8s,baz=299,slow=7.4,SNR=8.5
GTA Gaotai 58.16 64 *e*P **P 01 59 42.5 +2.1**
GTA pP sP 01 59 47.3 +3.4
GTA sP pP 01 59 49.5 +6.5
GTA pmax pmax
comp=Z,3.0nm,0.8s
ULN Ulaanbaatar 58.42 52 *i* P **P 01 59 42.8 +0.7**
ULN pmax pmax
comp=Z,2.0nm,0.9s
LZH Lanzhou 62.64 65 *e*P **P 02 00 11.5 +0.4**
LZH pP sP 02 00 17.0 +2.3
LZH sP pP 02 00 19.0 +5.3
LZH *e*PP **PP 02 02 30.8 +2.3**
LZH pmax pmax
comp=Z,32nm,1.0s
LZH pmax pmax
comp=Z,130nm,4.3s
HHC Hu-ho-hao-te 64.93 57 *e*P **P 02 00 26.5 +0.5**
HHC pmax pmax
comp=Z,18nm,1.0s
HHC pmax pmax
comp=Z,200nm,5.4s
BILL Bilibino 66.92 13 *e*P **P 02 00 37.7 -0.6**
BILL pmax pmax
comp=Z,3.0nm,1.5s
KMI Kunming 68.30 75 P **P 02 00 49.3 +1.3**
KMI pmax pmax
comp=Z,14nm,0.5s
YKA Yellowknife Ar 69.25 339 P **P 02 00 51.3 -1.7**
comp=Z,0.2nm,0.4s,baz=38,slow=5.7,SNR=4.9
YKB5 Yellowknife Ar 69.25 339 *e*P **P 02 00 51.4 -1.7**
CM31 Chiang Mai Arr 69.67 83 *e*P **P 02 00 55.1 -1.2**
CMAR Chiang Mai Arr 69.67 83 P **P 02 00 55.1 -1.2**
comp=Z,0.4nm,0.3s,baz=311,slow=8.2,SNR=4.6
CMAR Chiang Mai Arr 69.67 83 *ce*P **P 02 00 56.5 +0.2**
BOSA Boshof 70.89 175 P **P 02 01 03.3 -0.2**
comp=Z,2.3nm,0.7s,baz=352,slow=6.1,SNR=7.0
ILAR Eielson Array 72.61 354 P **P 02 01 12.4 -1.0**
comp=Z,0.2nm,0.8s,baz=17,slow=3.8,SNR=3.2
ILB Eielson Array 72.61 354 *e*P **P 02 01 12.4 -1.0**
KSRS Korea Array 76.88 51 LR LR 02 39 30.4
comp=Z,19nm,18.3s,baz=30,slow=39
PD31 Pinedale Array 83.83 325 *e*P **P 02 02 15.1 -1.1**
PDAR Pinedale Array 83.83 325 P **P 02 02 15.1 -1.1**
comp=Z,0.6nm,0.7s,baz=64,slow=5.1,SNR=5.9
PDAR LR LR 02 39 43.9
comp=Z,53nm,18.1s,baz=296,slow=36
ANMO Albuquerque 88.76 319 LR LR 02 41 37.7
comp=Z,65nm,20.0s,baz=301,slow=35
LTX Lajitas 91.78 313 *e*P **P 02 02 54.2 -0.4**
LTX Lajitas 91.78 313 *e*P **P 02 02 54.2 -0.4**
TXAR Lajitas Array 91.78 313 P **P 02 02 54.2 -0.4**
comp=Z,0.6nm,0.8s,baz=67,slow=3.7,SNR=7.2
TXAR LR LR 02 45 06.1
comp=Z,43nm,18.2s,baz=0.0,slow=36
WRA Warramunga Arr 120.93 89 PKP **PKPdf 02 08 36.6 -2.6**
comp=Z,0.2nm,0.7s,baz=345,slow=1.9,SNR=3.5
WR1 Warramunga Arr 120.94 89 *e*PKPdf **PKPdf 02 08 36.6 -2.6**
ASAR Alice Springs 122.86 93 PKP **PKPdf 02 08 40.1 -2.7**
comp=Z,1.3nm,0.8s,baz=328,slow=2.0,SNR=9.8
AS31 Alice Springs 122.86 93 *e*PKPdf **PKPdf 02 08 40.1 -2.7**

MEX 28 01:57:11.4±0.8, 18°21N×100°52W, h54km±8km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.18**	**66**	*e*P		Pn	01 57 18.3	-1.9
ARIG				*i* S		Sn	01 57 24.7	-1.7
MEIG	**Mezcala**	**0.90**	**108**	*e*P		Pn	01 57 26.8	-1.3
MEIG				*e*S		Sn	01 57 39.1	-1.2
PLIG	**Platanillo**	**0.99**	**79**	*e*P		Pn	01 57 28.1	-1.1
PLIG				*e*S		Sn	01 57 40.4	-1.9
ZIIG	**Zihuatanejo**	**1.08**	**237**	*e*P		Pn	01 57 28.9	-1.4
ZIIG				*e*S		Sn	01 57 42.2	-2.0
CAIG	**El Cayaco**	**1.18**	**168**	*e*P		Pn	01 57 30.0	-1.6
CAIG				*e*S		Sn	01 57 44.9	-1.7
ACX	**Acapulco**	**1.47**	**154**	*e*P		Pn	01 57 34.5	-1.2
ACX				*i* S		Sn	01 57 48.5	-5.4

IDC 28 02:01:14.0±7.5, 18°70S×178°00W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/37, mbtmp3.5/2, Error ellipse: s-maj=310.5km s-min=69.2km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.87**	**260**	P		P	02 09 30.5	-0.1
	0.2nm,0.3s,baz=98,slow=7.4,SNR=14							
ASAR	**Alice Springs**	**44.95**	**255**	P		P	02 09 31.1	-0.1
	0.4nm,0.6s,baz=78,slow=9.5,SNR=4.3							
BRTR	**Keskin Array B**	**145.61**	**314**	PKPbc		PKPdf	02 20 54.1	-0.7
	0.5nm,0.6s,baz=71,slow=3.4,SNR=3.6							

*IDC **28** 02:04:04.3±1.2, 22°14S×12°22W, h0km, mb4.2/5, mb1 4.3/5, mb1mx3.8/22, mbtmp4.2/5, MS3.5/5, Ms1 3.5/5, ms1mx3.2/22, Error ellipse: s-maj=49.7km s-min=25.5km az=88.0*
*ISCJB **28** 02:04:05.4±1.4, 22°1S±0°2×12°0W±0°4, h10km, mb4.1/5, MS3.4/5, Error ellipse: s-maj=47.1km s-min=22.3km az=178.6*
ISC 28 02:04:06.0±1.2, 22°1S±0°2×12°2W±0°3, h10km, n13, σ1§66/7, mb4.2/5, MS3.5/5, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
H10S2	**ASCENSION HYDR**	**13.30**	**349**	T		T	02 20 48.0	
	baz=170,slow=75,SNR=32							
H10S3	**ASCENSION HYDR**	**13.31**	**349**	T		T	02 20 52.8	
	baz=170,slow=75,SNR=32							
H10S1	**ASCENSION HYDR**	**13.32**	**349**	T		T	02 20 53.4	
	baz=170,slow=75,SNR=34							
BOSA	**Boshof**	**34.33**	**109**	P		**P**	**02 10 52.9**	**-0.4**
	3.5nm,1.0s,baz=270,slow=5.1,SNR=2.7							
BOSA				LR		LR	02 22 00.2	
	comp=Z,87nm,20.4s,baz=277,slow=31							
TORD	**Torodi Ar. Bea**	**37.60**	**23**	P		**P**	**02 11 21.5**	**+0.5**
	4.3nm,0.9s,baz=190,slow=7.5,SNR=22							
TORD				LR		LR	02 24 37.4	
	comp=Z,28nm,20.0s,baz=310,slow=33							
CPUP	**Villa Florida**	**41.23**	**255**	LR		LR	02 25 36.2	
	comp=Z,77nm,19.6s,baz=96,slow=31							
LPAZ	**La Paz**	**52.92**	**266**	LR		LR	02 35 09.2	
	comp=Z,35nm,18.8s,baz=84,slow=35							
MAW	**Mawson**	**64.05**	**156**	P		**P**	**02 14 40.4**	**+0.7**
	4.4nm,0.8s,baz=281,slow=5.2,SNR=4.4							
ROSC	**El Rosal**	**66.40**	**286**	LR		LR	02 43 42.7	
	comp=Z,39nm,18.1s,baz=146,slow=36							
GERES	**GERESS Array B**	**74.33**	**17**	P		**P**	**02 15 44.4**	**+0.7**
	0.4nm,0.7s,baz=204,slow=4.2,SNR=4.0							
VNDA	**Vanda**	**80.51**	**179**	P		**P**	**02 16 18.9**	**+1.0**
	2.2nm,1.0s,baz=180,slow=6.1,SNR=3.7							
WRA	**Warramunga Arr**	**126.91**	**140**	PKP		**PKPdf**	**02 23 08.3**	**-2.7**
	0.2nm,0.7s,baz=221,slow=1.9,SNR=2.5							
ILAR	**Eielson Array**	**128.16**	**337**	PKP		**PKPdf**	**02 23 10.8**	**-1.1**
	0.4nm,0.7s,baz=354,slow=0.9,SNR=4.8							

*IDC **28** 02:09:04.6±0.9, 20°66N×122°36E, h0km, mb3.6/7, mb1 3.9/8, mb1mx3.7/40, mbtmp3.8/8, ML4.1/1, Error ellipse: s-maj=30.8km s-min=18.9km az=68.0*
*ISCJB **28** 02:09:07.5±0.8, 20°58N±0°10×122°2E±0°1, h31km, mb3.6/7, Error ellipse: s-maj=16.6km s-min=12.2km az=36.7*
ISC 28 02:09:08.5±0.9, 20°6N±0°1×122°2E±0°1, h31km, n15, σ1§58/10, mb3.5/7, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BBP	**Basco**	**0.27**	**240** ǁ	*e*P		**Pb**	**02 09 14.2**	**-1.4**
BBP				*i* S		**Sb**	**02 09 18.4**	**-2.0**
JOW	**Kunigami**	**8.35**	**41**	Pn		**Pn**	**02 11 05.5**	**-1.9**
	5.6nm,0.3s,baz=195,slow=10,SNR=6.1							
CMAR	**Chiang Mai Arr**	**22.03**	**269**	P		**P**	**02 14 02.7**	**+2.0**
	1.4nm,0.8s,baz=64,slow=8.4,SNR=7.3							
SONM	**Songino Array**	**30.05**	**338**	P		**P**	**02 15 15.4**	**+0.5**
	0.4nm,0.5s,baz=163,slow=10,SNR=3.3							
MKAR	**Makanchi Array**	**41.62**	**318**	P		**P**	**02 16 54.7**	**+0.9**
	0.7nm,0.4s,baz=109,slow=9.7,SNR=16							
H11N1	**WAKE ISLAND Hy**	**41.86**	**83**	T		T	03 02 01.6	
	baz=278,slow=74,SNR=24							
H11N2	**WAKE ISLAND Hy**	**41.86**	**83**	T		T	03 01 58.9	
	baz=278,slow=74,SNR=20							
H11S3	**WAKE ISLAND Hy**	**41.87**	**85**	T		T	03 02 03.7	
	baz=281,slow=74,SNR=231							
H11N3	**WAKE ISLAND Hy**	**41.87**	**83**	T		T	03 02 05.6	
	baz=278,slow=74,SNR=18							
H11S1	**WAKE ISLAND Hy**	**41.88**	**85**	T		T	03 02 04.5	
	baz=281,slow=74,SNR=237							
H11S2	**WAKE ISLAND Hy**	**41.89**	**85**	T		T	03 02 01.9	
	baz=281,slow=74,SNR=184							
WRA	**Warramunga Arr**	**41.98**	**163**	P		**P**	**02 16 57.4**	**+0.5**
	0.4nm,0.6s,baz=345,slow=9.2,SNR=6.2							
ZALV	**Zalesovo Beam**	**43.80**	**329**	P		**P**	**02 17 11.6**	**+0.4**
	2.3nm,0.6s,baz=108,slow=7.7,SNR=10.0							
ASAR	**Alice Springs**	**45.43**	**165**	P		**P**	**02 17 26.1**	**+1.5**
	0.2nm,0.3s,baz=348,slow=8.7,SNR=3.0							
YKA	**Yellowknife Ar**	**85.91**	**23**	P		**P**	**02 21 45.4**	**+0.2**
	0.4nm,0.6s,baz=312,slow=4.7,SNR=4.3							

*DDA **28** 02:20:44.8, 36°65N×27°95E, h7km, Ml2.5*
*ISK **28** 02:20:44.5, 36°66N×27°96E, h6km, ML2.4/10*
*ISCJB **28** 02:20:45.1±0.4, 36°65N±0°03×27°96E±0°02, h7km±4km, Error ellipse: s-maj=5.1km s-min=3.0km az=6.3*
*THE **28** 02:20:45.0, 36°66N×27°97E, h4km±3km, ML2.3/4, Error ellipse: s-maj=3.2km s-min=0.8km az=203.0*
ISC 28 02:20:44.3±1.1, 36°67N±0°03×27°98E±0°02, h3km±10km, n30, σ1§99/45, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MRSB	**Marmaris-Mugla**	**0.18**	**74**	PG		**Pg**	**02 20 48.8**	**+1.0**
MRSB				SG		**Sg**	**02 20 52.1**	**+1.9**
DATC	**Datca-Mugla**	**0.27**	**290**	PG		**Pg**	**02 20 50.2**	**+0.6**
DATC				SG		**Sg**	**02 20 54.5**	**+1.3**
DAT	**Datca**	**0.33**	**281**	PG		**Pg**	**02 20 51.4**	**+0.7**
DAT	**Datca**	**0.33**	**281**	*i* P		**Pg**	**02 20 51.3**	**+0.6**
DAT				*i* S		**Sg**	**02 20 56.2**	**+1.2**
ARG	**Arkhangelos**	**0.46**	**165**	P		**Pg**	**02 20 53.7**	**+0.5**
ARG				S		**Sb**	**02 21 01.4**	**-1.0**
TURN	**Turunc**	**0.54**	**67**	PG		Pg	02 20 50.1	-4.6
TURN				SG		**Sg**	**02 20 54.2**	**-7.5**
TURN	**Turunc**	**0.54**	**67**	*i* P		Pg	02 20 50.0	-4.7
TURN				*i* S		**Sg**	**02 20 54.4**	**-7.3**
DALY	**Dalyan (Mu¨la**	**0.56**	**74**	PG		**Pb**	**02 20 56.2**	**-0.5**
DALY				SG		**Sb**	**02 21 04.5**	**-0.6**
DALY	**Dalyan (Mu¨la**	**0.56**	**74**	*i* P		**Pg**	**02 20 55.5**	**+0.4**
DALY				*i* S		**Sg**	**02 21 03.9**	**+1.5**
MLSB	**Milas**	**0.65**	**345**	PG		**Pg**	**02 20 57.4**	**+0.6**
NIS1	**Nisyros Isl.**	**0.65**	**265**	PG		**Pg**	**02 20 57.1**	**+0.3**
NIS1	**Nisyros Isl.**	**0.65**	**265**	P		**Pb**	**02 20 57.8**	**-0.5**
NIS1				S		**Sb**	**02 21 07.7**	**0.0**
BODT	**Bodrum**	**0.67**	**306**	PG		**Pg**	**02 20 57.6**	**+0.5**
BODT	**Bodrum**	**0.67**	**306**	P		**Pg**	**02 20 57.6**	**+0.5**
BODT				S		**Sb**	**02 21 07.6**	**-0.7**
NISR	**Nisiros**	**0.69**	**266**	P		**Pg**	**02 20 58.1**	**+0.6**
NISR				S		**Sb**	**02 21 08.9**	**+0.1**
FETY	**Fethiye**	**0.89**	**92**	PG		**Pb**	**02 21 02.5**	**+0.2**
FETY	**Fethiye**	**0.89**	**92**	P		**Pn**	**02 21 03.8**	**+0.1**
FETY				S		**Sb**	**02 21 15.0**	**+0.4**
AYDN	**Tasoluk**	**1.00**	**355**	*i* P		**Pb**	**02 21 04.0**	**-0.2**
AYDN				*i* S		**Sn**	**02 21 19.2**	**-0.6**
TAVA	**DENIZLI_Tavas**	**1.09**	**43**	*i* P		**Pg**	**02 21 05.5**	**+0.2**
TAVA				*i* S		**Sn**	**02 21 23.0**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**1.28**	**357**	PN		**Pn**	**02 21 09.6**	**+0.4**
AKAS	**Kas**	**1.38**	**108**	PN		**Pb**	**02 21 11.5**	**+0.7**
SMG	**Samos**	**1.39**	**319**	P		**Pn**	**02 21 09.5**	**-1.0**
SMG				S		**Sg**	**02 21 28.8**	**0.0**
GOLH	**Golhisar**	**1.39**	**65**	*i* P		**Pg**	**02 21 12.8**	**+1.9**
GOLH				*i* S		**Sn**	**02 21 34.5**	**+5.0**
ELL	**Elmali**	**1.55**	**86**	PN		**Pb**	**02 21 13.7**	**0.0**
AMGA	**Amorgos Island**	**1.69**	**276**	P		**Pn**	**02 21 13.5**	**-1.1**
AMGA				S		**Sn**	**02 21 35.1**	**-1.6**
KULA	**Kula-Manisa**	**1.92**	**16**	PN		**Pn**	**02 21 18.8**	**+0.8**
APE	**Apeiranthos**	**2.01**	**282**	PN		**Pn**	**02 21 19.5**	**+0.4**
APE	**Apeiranthos**	**2.01**	**282**	P		**Pn**	**02 21 17.9**	**-1.2**
URLA	**Izmir**	**2.02**	**327**	PN		**Pn**	**02 21 19.9**	**+0.6**
NPS	**Neapolis**	**2.38**	**235**	P		**Pn**	**02 21 24.0**	**-0.2**

*ISCJB **28** 03:03:34.8±2.3, 29°43S±0°05×72°0W±0°1, h15km±24km, Error ellipse: s-maj=17.6km s-min=7.5km az=15.2*
*SJA **28** 03:03:34.8±0.7, 29°47S×71°81W, h10km±10km, ML3.3, MW3.5*
*GUC **28** 03:03:35.2±0.5, 29°48S×71°76W, h50km±7km, ML3.8*
ISC 28 03:03:31.2±2.4, 29°52S±0°05×71°91W±0°10, h0km±13km, n21, σ1§63/25, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LSCH	**La Serena**	**0.70**	**124** ǁ	*i* P		**Pn**	**03 03 48.6**	**+0.4**
LSCH				*e*S		**Sn**	**03 03 58.4**	**-1.4**
LSCH				IAML			03 03 59.3	
	comp=N,4μm,0.5s							
GO04	**Tololo Observa**	**1.17**	**124** ǁ	*i* P		**Pn**	**03 03 56.1**	**+1.1**
GO04				*e*S		**Sn**	**03 04 11.9**	**+0.2**
GO04				IAML			03 04 16.0	
	comp=E,10μm,0.6s							
LCO	**Las Campanas**	**1.17**	**65**	*e*P		**Pn**	**03 03 55.8**	**+0.7**
LCO				*e*S		**Sn**	**03 04 10.5**	**-1.4**
LCO	**Las Campanas**	**1.17**	**65** ǁ	*i* P		**Pn**	**03 03 55.2**	**+0.2**
LCO				*e*S		**Sn**	**03 04 10.6**	**-1.2**
LCO				IAML			03 04 11.9	
	comp=E,2μm,0.3s							
VACH	**Vallenar**	**1.38**	**47**	*e*P		**Pg**	**03 03 57.9**	**+0.3**
VACH				*e*S		**Sn**	**03 04 14.6**	**-2.0**
CMCH	**Combarbala**	**1.83**	**155**	*i* P		**Pn**	**03 04 05.8**	**+1.9**
CMCH				*e*S		**Sn**	**03 04 27.9**	**0.0**
CMCH				IAML			03 04 34.7	
	comp=E,4μm,0.5s							
AROD	**Rodeo**	**2.21**	**108**	*e*P		**Pg**	**03 04 13.4**	**-0.2**
AROD				*e*S		**Sg**	**03 04 42.6**	**+0.2**
ACDV	**Cuesta del Vie**	**2.51**	**106**	*e*P		**Pg**	**03 04 19.0**	**-0.3**
ACCO	**Cerro Coronel**	**2.69**	**114**	*e*P		**Pb**	**03 04 20.9**	**+0.5**
AGUA	**GUANDACOL**	**2.98**	**90**	*e*P		**Pb**	**03 04 25.3**	**0.0**
RTLS	**Leoncito**	**3.20**	**136**	*e*P		**Pb**	**03 04 28.0**	**-1.1**
RTLS				IAML			03 05 17.8	
	comp=Z,142nm,0.6s							
AMOG	**MOGNA**	**3.28**	**116**	*e*P		**Pb**	**03 04 29.4**	**-0.9**
AUSP	**Uspallata**	**3.46**	**142**	*e*P		**Pb**	**03 04 31.7**	**-1.8**
RTLL	**Cerro Villicun**	**3.47**	**122**	IAML			03 05 33.7	
	comp=Z,96nm,0.7s							
ROC1	**El Roble**	**3.53**	**168**	*e*P		**Pn**	**03 04 29.5**	**+2.0**
ROC1				*e*S		**Sn**	**03 05 09.9**	**-0.2**
ASAL	**Salagasta**	**4.04**	**140**	*e*P		**Pb**	**03 04 39.8**	**-3.6**
ARCO	**CERRO ARCO**	**4.18**	**143**	IAML			03 05 54.8	
	comp=Z,65nm,0.7s							
ACLC	**CERRO LA CRUZ**	**4.32**	**90**	*e*P		**Pn**	**03 04 41.4**	**+3.1**
APLL	**PUNTA DE LOS L**	**4.75**	**102**	*e*P		**Pn**	**03 04 47.1**	**+3.0**
CYA	**Choya**	**5.46**	**80**	*e*P		Pn	03 04 58.5	+4.7
CYA				IAML			03 06 35.2	
	comp=Z,13nm,0.7s							
FSA	**Cafayete**	**6.25**	**59**	*e*P		Pb	03 05 15.4	-5.6
FSA				IAML			03 07 07.8	
	comp=Z,1.7nm,0.5s							

*DDA **28** 03:08:46.8, 38°.80N×43°.56E, h6km, Ml2.7*
*ISK **28** 03:08:46.6, 38°.81N×43°.54E, h7km, ML2.3/8*
*ISCJB **28** 03:08:47.4±0.6, 38°.81N±0°.03×43°.58E±0°.06, h12km±4km, Error ellipse: s-maj=7.7km s-min=4.3km az=18.5*
ISC 28 03:08:47.5±0.9, 38°.81N±0°.03×43°.56E±0°.04, h17km±7km, n22, σ1§06/29, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.18**	**3**	*i* P		**Pg**	**03 08 51.2**	**-1.1**
VMUR				*i* S		**Sg**	**03 08 55.9**	**+0.4**
VANB	**Van**	**0.25**	**212**	PG		**Pg**	**03 08 53.3**	**0.0**
VANB				SG		**Sg**	**03 08 58.3**	**+1.1**
ERCV	**ERCIS-VAN**	**0.27**	**320**	PG		**Pg**	**03 08 52.7**	**-1.0**
TVAN	**Van**	**0.31**	**203**	*i* P		**Pg**	**03 08 53.2**	**-1.0**
TVAN				*i* S		**Sb**	**03 08 58.5**	**-0.9**
CLDR	**Caldiran**	**0.43**	**40**	PG		**Pg**	**03 08 55.5**	**-1.0**
CLDR				SG		**Sg**	**03 09 02.5**	**0.0**
CLDR	**Caldiran**	**0.43**	**40**	*i* P		**Pg**	**03 08 55.7**	**-0.8**
CLDR				*i* S		**Sb**	**03 09 03.1**	**-0.1**
GEVA	**Gevas**	**0.63**	**219**	*i* P		**Pg**	**03 08 58.3**	**-1.8**
ADCV	**BITLIS_Adilcev**	**0.65**	**270**	*i* P		**Pg**	**03 08 59.8**	**-0.7**
ADCV				*i* S		**Sb**	**03 09 10.8**	**+1.3**
TUTA	**Tutak**

λ-68.00000°. NP2:ϕs149.00000°, δ46.00000°, λ-113.00000°. Principal axes: T 4.4000, Plg2.0000°, Azm75.0000°; N -0.1100, Plg16.0000°, Azm166.0000°; P -4.2900, Plg74.0000°, Azm340.0000°;

NEIC Felt [III] at Lagunas, Moyobamba and Yurimaguas. Felt at Cruzeiro do Sul, Brazil and at Cuenca and Malacatos, Ecuador.

IDC **28** 03:09:48.9±0.3, 4°.54S×76°.14W, h121km±2km, mb5.3/28, mb1 5.4/36, mb1mx5.4/37, mbtmp5.7/36, MS4.3/12, Ms1 4.3/12, ms1mx4.0/31 Error ellipse: s-maj=7.5km s-min=5.6km az=84.0

GCMT **28** 03:09:48.7±0.1, 4°.66S±0°.01×76°.22W±0°.01, h126km, MW5.7/130, Moment Tensor Solution. s130, c234; s130, c302; Duration: 1ᵍ7 Moment tensor: Scale 10¹⁷ Nm; Mrr=3.39±.03; Mθθ=0.64±.04; Mϕϕ4.03±.04; Mrθ=0.93±.03; Mrϕ=-1.27±.04; Mθr=0.54±.04; Best double couple: M₀4.07200×10¹⁷ NP1:ϕs5.00000°, δ51.00000°, λ-64.00000°. NP2:ϕs147.00000°, δ46.00000°, λ-118.00000°. Principal axes: T 4.3640, Plg2.0000°, Azm76.0000°; N -0.5890, Plg20.0000°, Azm167.0000°; P -3.7790, Plg70.0000°, Azm340.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function

ISCJB **28** 03:09:48.3±0.3, 4°.47S±0°.01×76°.17W±0°.02, h129km±2km, mb5.8/572 Error ellipse: s-maj=3.2km s-min=2.2km az=152.8

NEIC **28** 03:09:49.0±0.0, 4°.51S×75°.85W, h120km, Moment Tensor Solution. s55 Moment tensor: Scale 1017Nm; Mrr=3.20; Mθθ=0.02; Mϕϕ3.23; Mrθ=-1.03; Mθϕ=0.87; Mϕr=0.48; Best double couple: M₀3.50000×10¹⁷ NP1:ϕs3.00000°, δ50.00000°, λ-65.00000°. NP2:ϕs148.00000°, δ46.00000°, λ-116.00000°. Principal axes: T 3.4500, Plg1.0000°, Azm76.0000°; N 0.1300, Plg18.0000°, Azm167.0000°; P -3.5800, Plg71.0000°, Azm340.0000°;

IGQ **28** 03:09:52.2±1.4, 4°.5S±14°×7°.7W±2°.0, h12km, mB7.1/1, mb7.4/1, MLv5.8/5, Mw(mB)7.0/1

ISC 28 03:09:48.7±0.2, **4.60S**±0.03×**76.13W**±0.03, **h122**km±1km, **h122**km:**pP-P**, **n1927**, σ1ˢ**26**/2143, **mb5.9**/601, **37C-53D, Northern Peru**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.38**	**222**	P			**Pn**	**03 10 40.8**	**+0.2**
	1μm,0.3s,baz=33,slow=9.9,SNR=6441								
ATAH				S			**Sn**	**03 11 19.0**	**-1.5**
	1μm,0.3s,baz=93,slow=21,SNR=9.5								
PAT1	**Patacocha**	**3.84**	**323**	P			**Pn**	**03 10 45.1**	**-1.6**
ARRY	**Arrayan**	**3.85**	**323**	P			**Pn**	**03 10 44.6**	**-2.2**
RETU	**Refugio**	**3.89**	**323**	P			**Pn**	**03 10 45.4**	**-2.0**
RUN5	**Runtun**	**3.91**	**324**	P			**Pn**	**03 10 45.2**	**-2.2**
BIL2	**Estacion Bilba**	**3.92**	**323**	P			**Pn**	**03 10 46.0**	**-1.6**
JUI6	**Juive**	**3.92**	**323**	P			**Pn**	**03 10 45.8**	**-1.9**
PIS1	**Pisayambo**	**4.18**	**327**	P			**Pn**	**03 10 49.6**	**-1.6**
PIS1				S			**Sn**	**03 11 34.8**	**-4.8**
PISA	**Pisayambo**	**4.18**	**327**	P			**Pn**	**03 10 49.7**	**-1.5**
COV1	**Cotopaxi Volc**	**4.49**	**330**	P			**Pn**	**03 10 56.2**	**+0.6**
NAS2	**Nasa**	**4.57**	**329**	P			**Pn**	**03 10 55.7**	**-0.7**
PITA	**Cotopaxi Volc**	**4.63**	**330**	P			**Pn**	**03 10 56.7**	**-0.5**
LAV4	**Lava4-Reventad**	**4.72**	**341**	P			**Pn**	**03 10 57.0**	**-1.3**
YANA	**Yana**	**5.08**	**331**	P			**Pn**	**03 11 03.1**	**-0.1**
OTAV	**Otavalo**	**5.33**	**334**	*e*Pn			**Pn**	**03 11 06.5**	**-0.1**
OTAV				*e*Sn			Sn	03 11 49.5	-18
OTAV	**Otavalo**	**5.33**	**334**	*e*P			**Pn**	**03 11 06.6**	**-0.1**
COTA	**Cotacachi**	**5.38**	**336**	P			**Pn**	**03 11 08.7**	**+1.4**
CMBC	**Cumbal**	**5.76**	**343**	*e*P			**Pn**	**03 11 13.8**	**+1.4**
MAG1	**Magdalena**	**5.79**	**321**	P			**Pn**	**03 11 11.0**	**-1.3**
CPAS2	**Pasto**	**5.89**	**349**	*e*P			**Pn**	**03 11 15.3**	**+1.0**
GCUF	**Volcan Galeras**	**5.91**	**348**	*e*P			**Pn**	**03 11 13.1**	**-1.4**
CRUC	**La Cruz**	**6.18**	**352**	*e*P			**Pn**	**03 11 17.1**	**-0.9**
SOTA	**Rioblanco**	**6.71**	**356**	*e*P			**Pn**	**03 11 24.7**	**-0.5**
TUMC	**Tumaco**	**6.89**	**338**	*e*P			Pn	03 11 33.0	+5.8
POPC	**Popayan, Colom**	**7.11**	**356**	*e*P			**Pn**	**03 11 29.7**	**-0.8**
BETC	**Betania**	**7.26**	**5**	*e*P			**Pn**	**03 11 32.4**	**0.0**
NNA	**Nana**	**7.38**	**185**	P			**Pn**	**03 11 34.1**	**+0.3**
	262nm,0.3s,baz=348,slow=12,SNR=261								
NNA				S			**Sn**	**03 12 49.3**	**-6.8**
	2μm,0.3s,baz=245,slow=16,SNR=4.0								
NNA	**Nana**	**7.38**	**185**	*e*Pn			**Pn**	**03 11 33.8**	**0.0**
NNA				*e*Sn			**Sn**	**03 12 49.5**	**-6.6**
NNA	**Nana**	**7.38**	**185**	*i* P			**Pn**	**03 11 33.6**	**-0.3**
MARP	**Paez Belalcaza**	**7.39**	**1**	*e*P			**Pn**	**03 11 33.0**	**-1.3**
GUVC	**San Jose del G**	**7.91**	**26**	*e*P			**Pn**	**03 11 39.0**	**-2.1**
PRAC	**Prado**	**8.35**	**9**	*e*P			**Pn**	**03 11 46.2**	**-0.8**
YOTC	**Yotoco, Valle**	**8.53**	**359**	*e*P			**Pn**	**03 11 50.3**	**+0.8**
MALC	**Bahia Malaga**	**8.64**	**352**	*e*P			**Pn**	**03 11 51.6**	**+0.8**
PLMC	**San Jos¨ del**	**9.44**	**359**	*e*P			**Pn**	**03 12 01.6**	**-0.2**
CHIC	**Chingaza**	**9.47**	**15**	*e*P			**Pn**	**03 12 01.6**	**-0.9**
ROSC	**El Rosal**	**9.55**	**11**	P			**Pn**	**03 12 04.0**	**+0.5**
	3.6nm,0.3s,baz=179,slow=5.4,SNR=60								
ROSC				S			Sn	03 13 59.6	+10
	23nm,0.3s,baz=139,slow=19,SNR=1.5								
ROSC	**El Rosal**	**9.55**	**11**	*e*Pn			**Pn**	**03 12 04.5**	**+0.9**
ROSC				*e*Sn			Sn	03 13 59.6	+10
ROSC	**El Rosal**	**9.55**	**11**	*e*P			**Pn**	**03 12 04.6**	**-1.9**
CTAB	**Cerro Tablazo,**	**9.74**	**11**	*e*P			**Pn**	**03 12 08.3**	**+2.1**
NORC	**Norcasia**	**10.17**	**7**	*e*P			**Pn**	**03 12 10.2**	**-1.4**
RUSC	**La Rusia**	**10.86**	**16**	*e*P			**Pn**	**03 12 21.6**	**+0.3**
PTBC	**PUERTO BERRIO,**	**11.19**	**9**	*e*P			**Pn**	**03 12 22.9**	**-2.4**
GIRC	**Giron, Santand**	**11.96**	**14**	*e*P			**Pn**	**03 12 34.2**	**-1.4**
ZARC	**Zaragoza, Cauc**	**12.08**	**6**	*e*P			**Pn**	**03 12 39.5**	**+2.5**
UREC	**San Jos¨ de U**	**12.28**	**3**	*e*P			**Pn**	**03 12 39.5**	**-0.2**
OCAC	**Ocana**	**13.06**	**12**	*e*P			**Pn**	**03 12 50.1**	**+0.3**
LPAZ	**La Paz**	**14.02**	**147**	P			**Pn**	**03 12 59.1**	**-3.6**
	2.7nm,0.3s,baz=323,slow=12,SNR=76								
LPAZ				S			**Sn**	**03 15 35.2**	**-2.6**
	11nm,0.3s,baz=39,slow=6.5,SNR=2.3								
BCIP	**Isla Barro Col**	**14.16**	**345**	*e*Pn			**Pn**	**03 13 03.2**	**-0.7**
BCIP	**Isla Barro Col**	**14.16**	**345**	*e*P			**Pn**	**03 13 07.7**	**0.0**
SDV	**Santo Domingo**	**14.47**	**22**	P			**Pn**	**03 13 06.4**	**-1.7**
	36nm,0.3s,baz=202,slow=12,SNR=134								
SDV				S			**Sn**	**03 15 48.1**	**-0.1**
	19nm,0.3s,baz=324,slow=14,SNR=3.0								
SDV	**Santo Domingo**	**14.47**	**22**	*e*Pn			**Pn**	**03 13 06.6**	**-1.5**
SDV				*e*Sn			**Sn**	**03 15 45.4**	**-2.9**
PAYG	**Puerto Ayora**	**14.67**	**285**	*e*Pn			**Pn**	**03 13 08.8**	**-1.7**
BRU2	**Volcan**	**14.83**	**334**	*i*/*e*P			**Pn**	**03 13 11.8**	**-0.7**
PTJ1	**Puerto Jim¨ne**	**14.88**	**331**	*e*P			**Pn**	**03 13 13.6**	**+0.6**
EDSV	**San Vito**	**14.97**	**333**	*e*P			**P**	**03 13 15.8**	**-1.1**
EDBA	**Buenos Aires**	**15.42**	**332**	*e*P			**P**	**03 13 20.9**	**-0.8**
DRK0	**Durika**	**15.49**	**333**	*e*P			**Pn**	**03 13 20.9**	**0.0**
EDLM	**Las Mercedes**	**15.66**	**332**	*e*P			**Pn**	**03 13 23.0**	**+0.1**
MNMC	**Minye Minye**	**15.79**	**157**	*e*Pn			**Pn**	**03 13 22.6**	**-2.0**
	616nm,1.0s								
MNMC				*e*Sn			**Sn**	**03 16 18.2**	**-1.8**
URSC	**Urasca**	**16.24**	**332**	*e*P			**P**	**03 13 31.2**	**+0.3**
LCR2	**La Lucha 2**	**16.26**	**331**	*i*/*e*P			**P**	**03 13 30.8**	**-0.4**
PB11	**IPOC Station P**	**16.34**	**158**	*e*Pn			**Pn**	**03 13 29.0**	**-2.3**
	308nm,0.7s								
PB11				*e*Sn			**Sn**	**03 16 29.0**	**-4.0**
CVTR	**Volcan Turrial**	**16.39**	**332**	*e*P			**P**	**03 13 32.6**	**-0.2**
GO01	**Chusmiza**	**16.43**	**156**	*e*Pn			**Pn**	**03 13 31.9**	**-0.9**
	332nm,0.6s								
GO01				*e*Sn			**Sn**	**03 16 29.3**	**-6.5**
HDC	**Heredia**	**16.54**	**331**	*e*Pn			**P**	**03 13 34.2**	**0.0**
	610nm,1.1s								
HDC				*e*Sn			**Sn**	**03 16 31.9**	**-6.1**
HDC	**Heredia**	**16.54**	**331**	*e*P			**P**	**03 13 34.4**	**+0.1**
PTGA	**Pitinga**	**16.59**	**77**	P			**Pn**	**03 13 30.5**	**-3.8**
	4.4nm,0.3s,baz=261,slow=13,SNR=75								
PTGA				S			**Sn**	**03 16 37.7**	**-1.3**
	12nm,0.3s,baz=197,slow=20,SNR=2.0								
PTGA	**Pitinga**	**16.59**	**77**	*e*Pn			**Pn**	**03 13 30.1**	**-4.2**
	968nm,0.8s								
PTGA				*e*Sn			Sn	03 16 27.5	-12
URIC	**Uribia, Colomb**	**16.71**	**14**	*e*P			**Pn**	**03 13 34.0**	**-1.7**
JTS	**JuntasAbangare**	**17.21**	**329**	P			**Pn**	**03 13 42.5**	**+0.8**
	2.8nm,0.3s,baz=211,slow=6.0,SNR=59								
JTS				S			**Sn**	**03 16 51.4**	**-2.3**
	0.5nm,0.3s,baz=16,slow=14,SNR=2.0								
JTS	**JuntasAbangare**	**17.21**	**329**	*e*P			**P**	**03 13 40.4**	**-1.0**
	212nm,1.1s								
JTS				*e*S			**Sn**	**03 16 51.4**	**-2.3**
ARE1	**Arenal 1**	**17.23**	**330**	*i*/*e*P			**Pn**	**03 13 44.0**	**+1.8**
VCR	**Vista de Mar**	**17.42**	**327**	*e*P			**P**	**03 13 44.1**	**+0.2**
PLVR	**Palo Verde**	**17.46**	**328**	*i*/*e*P			**Pn**	**03 13 45.7**	**+0.7**
PB01	**IPOC Station P**	**17.57**	**159**	*e*P			**Pn**	**03 13 46.2**	**0.0**
	612nm,1.0s								
PB01				*e*S			**Sn**	**03 17 05.3**	**+2.7**
PB01	**IPOC Station P**	**17.57**	**159**	*e*P			**Pn**	**03 13 51.3**	**+5.0**
PB02	**IPOC Station P**	**17.69**	**161**	*e*P			**Pn**	**03 13 53.0**	**+5.4**
MESS	**Mesas**	**17.71**	**329**	*e*P			**Pn**	**03 13 48.5**	**+0.6**
PB07	**IPOC Station P**	**18.07**	**161**	*e*P			**Pn**	**03 13 54.8**	**+2.5**
PB09	**IPOC Station P**	**18.35**	**159**	*e*P			**Pn**	**03 13 57.7**	**+2.1**
PB03	**IPOC Station P**	**18.41**	**161**	*e*P			**Pn**	**03 13 57.0**	**+0.7**
ESPN	**Las Esperanzas**	**18.56**	**334**	*e*P			**P**	**03 13 56.9**	**+0.7**
	401nm,0.9s								
ESPN	**Las Esperanzas**	**18.56**	**334**	*e*P			**Pn**	**03 13 57.1**	**-0.8**
PB04	**IPOC Station P**	**18.56**	**162**	*e*P			**Pn**	**03 13 58.0**	**0.0**
	1μm,1.5s								
PB04				*e*S			**Sn**	**03 17 25.1**	**-1.2**
PB04	**IPOC Station P**	**18.56**	**162**	*e*P			**Pn**	**03 13 58.6**	**+0.6**
PCRV	**Puerto La Cruz**	**18.61**	**38**	P			**P**	**03 13 57.4**	**+0.5**
	13nm,0.3s,baz=206,slow=6.7,SNR=40								
PCRV				S			**S**	**03 17 23.1**	**+0.2**
	3.8nm,0.3s,baz=317,slow=15,SNR=4.0								
SIV	**San Ignacio**	**18.62**	**129**	P			**P**	**03 13 57.6**	**+0.6**
	14nm,0.3s,baz=313,slow=11,SNR=330								
SIV				S			**S**	**03 17 14.1**	**-9.0**
	8.9nm,0.3s,baz=240,slow=20,SNR=2.5								
PB05	**IPOC Station P**	**19.03**	**163**	*e*P			**Pn**	**03 14 03.6**	**+0.1**
PB06	**IPOC Station P**	**19.09**	**161**	*e*P			**Pn**	**03 14 04.2**	**0.0**
LVC	**Limon Verde**	**19.22**	**159**	P			**Pn**	**03 14 06.5**	**+0.5**
	5.8nm,0.3s,baz=336,slow=7.6,SNR=42								
LVC				S			**S**	**03 17 38.2**	**+2.9**
	3.6nm,0.3s,baz=336,slow=12,SNR=5.2								
LVC	**Limon Verde**	**19.22**	**159**	*e*P			**Pn**	**03 14 07.0**	**+1.0**
BOAB	**BOACO BROADBAND**	**19.41**	**331**	*e*P			**P**	**03 14 06.0**	**+0.5**
	134nm,1.1s								
PB10	**IPOC Station P**	**19.56**	**165**	*e*P			**Pn**	**03 14 09.2**	**-0.3**
	180nm,0.8s								
PB10	**IPOC Station P**	**19.56**	**165**	*e*P			**Pn**	**03 14 08.8**	**-0.8**
PB15	**IPOC Station P**	**19.59**	**161**	*e*P			**Pn**	**03 14 09.7**	**-0.4**
CNGN	**Cerro Negro**	**19.97**	**328**	*e*P			**P**	**03 14 10.0**	**-1.7**
YJA	**Yavi**	**20.27**	**150**	*e*P			Pn	03 14 17.5	-0.9
ESTN	**Estel**	**20.32**	**330**	*e*P			**P**	**03 14 15.5**	**+0.2**
	335nm,0.9s								
ESTN				*e*PcP			**PcP**	**03 18 24.1**	**+0.1**
ESTN	**Estel**	**20.32**	**330**	*e*P			**P**	**03 14 15.3**	**-0.1**
PB14	**IPOC Station P**	**20.66**	**165**	*e*P			Pn	03 14 21.6	-1.2
TPP	**Pointe-a-Pierr**	**20.81**	**45**	*e*P			Pn	03 14 22.7	-1.6
CSGN	**Cosiguina Volc**	**20.83**	**327**	*e*P			**P**	**03 14 21.8**	**+1.0**
	873nm,1.5s								
TRN	**Trinidad (W)**	**21.08**	**44**	*e*P			**P**	**03 14 25.5**	**+2.0**
TBH	**Brigand Hill**	**21.20**	**45**	*e*P			**P**	**03 14 25.5**	**+0.7**
HJA	**Huinahuaca**	**21.20**	**152**	*e*P			**P**	**03 14 27.6**	**+2.4**
TPR	**Prospect**	**21.89**	**44**	*e*P			**P**	**03 14 32.0**	**-0.1**
BOT	**Bacolet**	**21.92**	**44**	*e*P			**P**	**03 14 32.2**	**-0.2**
GRGR	**Grenville**	**21.99**	**41**	*e*P			**P**	**03 14 31.4**	**-1.7**
	842nm,1.0s								
GRHS	**Sauteurs**	**22.06**	**41**	*e*P			**P**	**03 14 35.7**	**+1.8**
GRSS	**Sisters**	**22.14**	**41**	*e*P			**P**	**03 14 35.4**	**+0.7**
TOSP	**Speyside**	**22.14**	**44**	*e*P			P	03 14 27.4	-7.3
PCJ	**Portland Cotta**	**22.22**	**357**	*i*P			**P**	**03 14 36.7**	**+1.2**
AZAP	**Zapla**	**22.23**	**152**	*e*P			**P**	**03 14 37.2**	**+1.3**
MCJ	**Malvern**	**22.43**	**356**	*i*/*e*P			**P**	**03 14 39.8**	**+2.1**
MCJ				*i*/*e*P			**P**	**03 14 40.3**	**+2.6**
SLA	**San Lorenzo**	**22.46**	**154**	*e*P			**P**	**03 14 41.2**	**+3.1**
STH	**Stony Hill**	**22.54**	**358**	*i*/*e*P			**P**	**03 14 39.9**	**+1.2**
CVJ	**Coleyville**	**22.72**	**357**	*i*/*e*P			**P**	**03 14 43.0**	**+2.4**
MTDJ	**Mount Denham**	**22.72**	**357**	*e*P			**P**	**03 14 42.0**	**+1.4**
	4μm,1.8s								
BBJ	**Bamboo Saint A**	**22.86**	**357**	*i*/*e*P			**P**	**03 14 43.8**	**+1.9**
FCV	**Fort Charlotte**	**23.01**	**40**	*e*P			**P**	**03 14 40.5**	**-2.8**
SVB	**Belmont**	**23.10**	**40**	*e*P			**P**	**03 14 42.2**	**-1.9**
	279nm,0.9s								
SVB	**Belmont**	**23.10**	**40**	*e*P			**P**	**03 14 41.9**	**-2.2**
SVV	**Soufriere Volc**	**23.15**	**40**	*e*P			**P**	**03 14 43.6**	**-1.0**
SVCV	**St. Vincent, C**	**23.16**	**40**	*e*P			**P**	**03 14 42.2**	**-2.5**
SSV	**Crater Summit**	**23.18**	**40**	*e*P			**P**	**03 14 44.4**	**-0.5**
LGNH	**LØogne**	**23.22**	**9**	*e*P			**P**	**03 14 46.8**	**+1.6**
	493nm,0.9s								
FSA	**Cafayete**	**23.50**	**157**	*e*P			**P**	**03 14 49.2**	**+1.3**
GO03	**Copiap**	**23.55**	**167**	*e*P			**P**	**03 14 49.7**	**+1.5**
	435nm,1.5s								
MCLT	**Moule a Chique**	**23.62**	**39**	*e*P			**P**	**03 14 46.0**	**-2.9**
SLB	**Belfond**	**23.65**	**39**	*e*P			**P**	**03 14 44.2**	**-5.0**
SDD	**Santo Domingo**	**23.71**	**15**	*e*P			**P**	**03 14 50.3**	**+0.7**
	329nm,1.0s								
SLPA	**Patience**	**23.75**	**39**	*e*P			**P**	**03 14 47.3**	**-2.7**
SDDR	**Presa de Saban**	**23.91**	**11**	*e*P			**P**	**03 14 52.8**	**+1.2**
	213nm,1.1s								
APG	**El Apazote**	**24.11**	**324**	P			**P**	**03 14 54.3**	**+0.8**
	280nm,0.9s,baz=156,slow=6.8,SNR=136								
APG				S			**S**	**03 19 04.2**	**+1.5**
	10nm,1.0s,baz=343,slow=12,SNR=1.9								
CRPR	**Cabo Rojo, PR**	**24.16**	**21**	*e*P			**P**	**03 14 53.2**	**-0.5**
	121nm,0.7s								
ICMP	**Isla Caja de M**	**24.27**	**23**	*e*P			**P**	**03 14 54.8**	**+0.2**
	228nm,0.7s								
FDF	**Fort de France**	**24.28**	**37**	*e*P			**P**	**03 14 53.5**	**-1.3**
	257nm,1.0s								
FDF	**Fort de France**	**24.28**	**37**	*e*P			**P**	**03 14 51.0**	**-3.8**
FDF	**Fort de France**	**24.28**	**37**	*e*P			**P**	**03 14 53.5**	**-1.3**
FDF				pmax		pmax			
	comp=Z,257nm,1.0s								
MPR	**Mayaguez**	**24.34**	**21**	*e*P			**P**	**03 14 55.3**	**0.0**
	comp=Z,340nm,0.8s								
AHML	**Horco Molle**	**24.35**	**156**	*e*P			**P**	**03 14 56.7**	**+1.2**
OBIP	**Obispado Ponce**	**24.38**	**22**	*e*P			**P**	**03 14 55.1**	**-0.6**
	comp=Z,254nm,0.8s								
GTBY	**Guantanamo Bay**	**24.39**	**2**	*e*P			**P**	**03 14 57.2**	**+1.4**
	comp=Z,1μm,1.0s								
AGP	**Aguadilla**	**24.52**	**21**	*e*P			**P**	**03 14 57.6**	**+0.6**
	comp=Z,368nm,1.0s								
SJG	**San Juan**	**24.62**	**23**	P			**P**	**03 14 57.5**	**-0.4**
	comp=Z,344nm,0.8s,baz=201,slow=6.1,SNR=128								
SJG				S			**S**	**03 19 06.3**	**-4.0**
	comp=Z,17nm,0.9s,baz=203,slow=13,SNR=1.9								
SJG	**San Juan**	**24.62**	**23**	*e*P			**P**	**03 14 57.3**	**-0.5**
	comp=Z,1μm,1.4s								
SJG				*e*S			**S**	**03 19 06.3**	**-4.0**
DLPL	**La Plaine**	**24.69**	**36**	*e*P			P	03 15 13.0	+14
BBL	**Barber's Block**	**24.71**	**36**	*e*P			**P**	**03 14 58.0**	**-0.7**
HUMP	**Col San Antoni**	**24.77**	**24**	*e*P			**P**	**03 14 58.4**	**-0.8**
	comp=Z,114nm,0.7s								
EMPR	**Esperanza - Ma**	**24.80**	**22**	*e*P			**P**	**03 15 01.2**	**+1.7**
	comp=Z,324nm,0.9s								
LCO	**Las Campanas**	**24.82**	**169**	*e*P			**P**	**03 14 60.0**	**0.0**
	comp=Z,154nm,0.9s								
LCO				*e*PcP			**PcP**	**03 18 31.3**	**-2.0**
LCO	**Las Campanas**	**24.82**	**169**	*e*P			**P**	**03 15 00.4**	**+0.5**
LCO	**Las Campanas**	**24.82**	**169**	*c*e*P*			**P**	**03 15 01.1**	**+1.2**
MTP	**Monte Pirata**	**24.85**	**25**	*e*P			**P**	**03 14 59.1**	**-0.8**
	comp=Z,144nm,1.0s								
CDVI	**St. Croix**	**24.88**	**27**	*e*P			**P**	**03 14 59.9**	**-0.4**
	comp=Z,323nm,0.8s								
CBYP	**Canovanas**	**24.88**	**24**	*e*P			**P**	**03 14 59.4**	**-1.0**
CBYP				*e*PcP			**PcP**	**03 18 32.8**	**-0.5**
MGG	**Marie-Galante**	**25.11**	**35**	*e*P			**P**	**03 15 02.2**	**-0.1**
CUPR	**Culebra, Puert**	**25.15**	**25**	*e*P			**P**	**03 15 01.7**	**-1.0**
	comp=Z,146nm,0.8s								
CUPR				*e*PcP			**PcP**	**03 18 33.9**	**+0.1**
MLYT	**Lee's Yard**	**25.27**	**33**	*e*P			**P**	**03 15 02.1**	**-1.7**
STVI	**Saint Thomas**	**25.33**	**25**	*e*P			**P**	**03 15 02.4**	**-1.9**
	comp=Z,190nm,0.8s								
MDP	**Montagnes des**	**25.36**	**68**	P			**P**	**03 15 05.0**	**+0.3**
	comp=Z,184nm,0.6s,baz=240,slow=8.7,SNR=97								
MDP				S			**S**	**03 19 21.9**	**-0.5**
	comp=Z,29nm,0.7s,baz=90,slow=20,SNR=2.6								
SABA	**Saba**	**25.48**	**30**	*e*P			**P**	**03 15 05.6**	**-0.1**
	comp=Z,195nm,0.9s								
SABA	**Saba**	**25.48**	**30**	*e*P			pP	03 15 32.9	+0.9
SEUS	**St. Eustatius**	**25.50**	**30**	*e*P			**P**	**03 15 01.0**	**-4.9**
DEG	**La Desirade**	**25.57**	**35**	*e*P			**P**	**03 15 04.5**	**-2.1**
SMRT	**St. Maarten**	**25.93**	**29**	*e*P			**P**	**03 15 08.9**	**-0.8**
	comp=Z,165nm,0.7s								
SMRT	**St. Maarten**	**25.93**	**29**	*e*P			pP	03 15 34.9	-1.2
ABVI	**Anegada Island**	**25.93**	**26**	*e*P			**P**	**03 15 08.7**	**-1.1**
	comp=Z,1μm,1.7s								
GO04	**Tololo Observa**	**25.93**	**169**	*e*P			**P**	**03 15 11.1**	**+1.1**
	comp=Z,262nm,1.0s								
ANWB	**Willy Bob**	**26.27**	**32**	*e*P			**P**	**03 15 11.5**	**-1.3**
ANWB	**Willy Bob**	**26.27**	**32**	*e*P			pP	03 15 42.9	+3.8
GRTK	**Grand Turk**	**26.41**	**11**	*e*P			**P**	**03 15 14.8**	**+0.8**
	comp=Z,502nm,0.8s								
TEIG	**Tepich**	**27.41**	**335**	*e*P			**P**	**03 15 22.9**	**-0.1**
	comp=Z,444nm,1.3s								
CPUP	**Villa Florida**	**28.12**	**142**	P			**P**	**03 15 29.5**	**+0.2**
	comp=Z,38nm,1.0s,baz=331,slow=10,SNR=35								
CPUP				PcP			**PcP**	**03 18 41.2**	**+0.5**
	comp=Z,20nm,0.9s,baz=270,slow=2.0,SNR=2.9								
CPUP				S			**S**	**03 20 06.0**	**+0.5**
	comp=Z,6.4nm,0.8s,baz=6.4,slow=19,SNR=1.6								
CPUP				P3KPbc				03 47 44.5	
	comp=Z,2.6nm,0.9s,baz=133,slow=4.6,SNR=4.5								
CPUP	**Villa Florida**	**28.12**	**142**	*e*P			**P**	**03 15 29.5**	**+0.2**
	comp=Z,94nm,1.1s								
CPUP				*e*PcP			**PcP**	**03 18 41.2**	**+0.5**
CPUP				*e*S			**S**	**03 20 06.0**	**+0.5**
CPUP	**Villa Florida**	**28.12**	**142**	*e*P			**P**	**03 15 29.5**	**+0.2**
CPUP				*e*				03 18 41.2	
CPUP				*e*S			**S**	**03 20 06.0**	**+0.5**
CPUP				pmax		pmax			
	comp=Z,95nm,1.1s								
CMIG	**Matias Romero**	**28.42**	**320**	P			**P**	**03 15 32.0**	**0.0**
	comp=Z,75nm,0.8s,baz=126,slow=6.7,SNR=38								
CMIG				PcP			**PcP**	**03 18 41.4**	**-0.2**
	comp=Z,28nm,0.9s,baz=100,slow=2.7,SNR=5.7								
CMIG				S			**S**	**03 20 09.3**	**-1.2**
	comp=Z,4.5nm,1.0s,baz=117,slow=6.8,SNR=2.1								
ROC1	**El Roble**	**28.63**	**171**	*e*P			**P**	**03 15 35.4**	**+1.3**
	comp=Z,138nm,0.9s								
MYIG	**MÓrida**	**28.70**	**333**	*e*P			**P**	**03 15 34.3**	**-0.2**
	comp=Z,1μm,1.2s								
PEL	**Peldehue**	**28.85**	**171**	*e*P			**P**	**03 15 37.4**	**+1.6**
	comp=Z,142nm,0.8s								
PEL	**Peldehue**	**28.85**	**171**	*e*P			**P**	**03 15 37.4**	**+1.6**
PEL				pmax		pmax			
	comp=Z,142nm,0.8s								
062Z	**Marathon**	**29.54**	**351**	P			**P**	**03 15 42.9**	**+1.1**
	baz=170								
GO05	**HualaæØ**	**30.51**	**173**	*e*P			**P**	**03 15 51.5**	**+1.2**
GO05				*e*pP			**pP**	**03 16 17.8**	**+0.8**
061Z	**Ochoppi**	**30.64**

baz=172,SNR=5.1
256A Glennville 36.79 352 P P 03 16 45.3 +0.6
baz=170,SNR=16
351A Pinckard 36.80 346 P P 03 16 44.9 +0.1
baz=164,SNR=21
255A Hazlehurst 36.82 351 eP P 03 16 45.2 +0.2
comp=Z,265nm,1.0s
255A Hazlehurst 36.82 351 P P 03 16 45.3 +0.3
baz=169,SNR=17
352A Blakely 36.84 347 eP P 03 16 45.1 -0.1
comp=Z,182nm,1.0s
352A Blakely 36.84 347 P P 03 16 45.1 -0.1
baz=165,SNR=21
254A Abbeville 36.98 350 P P 03 16 46.5 +0.2
baz=168,SNR=32
546A Slidell 37.00 340 P P 03 16 47.2 +0.7
baz=157
BRAL Brewton 37.06 344 eP P 03 16 47.2 +0.1
comp=Z,2µm,1.9s
BRAL ePP PnPn 03 18 19.3 +3.4
BRAL ePcP PcP 03 19 03.3 -2.0
BRAL Brewton 37.06 344 P P 03 16 47.2 +0.1
baz=162,SNR=12
448A Bay Minette 37.07 343 P P 03 16 47.2 +0.1
baz=160,SNR=6.0
LNIG Linares 37.08 323 eP P 03 16 47.7 +0.4
comp=Z,210nm,0.9s
LNIG epP pP 03 17 14.6 +0.1
350A Dozier 37.12 345 P P 03 16 47.5 0.0
baz=163,SNR=23
447A Lucedale 37.18 342 eP P 03 16 48.4 +0.4
comp=Z,341nm,1.0s
447A Lucedale 37.18 342 P P 03 16 48.2 +0.2
baz=159,SNR=7.7
253A Americus 37.24 349 P P 03 16 48.4 -0.2
baz=167,SNR=17
349A Repton 37.27 344 P P 03 16 49.0 +0.2
baz=162,SNR=63
252A Lumpkin 37.30 348 P P 03 16 48.9 -0.2
baz=166,SNR=30
446A Poplarville 37.40 341 P P 03 16 50.3 +0.5
baz=158,SNR=12
544A White Castle 37.40 338 P P 03 16 51.0 +1.2
baz=155
156A Sylvania 37.40 353 P P 03 16 50.7 +0.9
baz=171,SNR=19
RGRS Roger Stewart 37.50 354 eP P 03 16 51.3 +0.6
comp=Z,2µm,1.3s
RGRS ePcP PcP 03 19 07.3 +0.8
155A Kite 37.50 351 P P 03 16 51.2 +0.5
baz=170,SNR=28
ZAIG Zacatecas 37.52 318 eP P 03 16 52.6 +1.2
comp=Z,78nm,0.9s
ZAIG ePcP PcP 03 19 08.6 +1.3
348A Jackson 37.53 343 eP P 03 16 51.0 0.0
comp=Z,229nm,0.9s
348A ePcP PcP 03 19 07.8 +1.1
348A Jackson 37.53 343 P P 03 16 50.9 0.0
baz=160,SNR=14
251A Midway 37.54 347 P P 03 16 50.8 -0.3
baz=165,SNR=68
CSU Charleston Sou 37.56 355 eP P 03 16 52.2 +1.0
154A Montrose 37.60 350 eP P 03 16 51.9 +0.3
comp=Z,796nm,0.9s
154A Montrose 37.60 350 P P 03 16 51.8 +0.3
baz=168,SNR=69
250A Grady 37.63 346 eP P 03 16 51.5 -0.3
comp=Z,969nm,1.6s
250A Grady 37.63 346 P P 03 16 51.5 -0.3
baz=163,SNR=33
543A St. Martinvill 37.64 337 P P 03 16 52.8 +0.9
baz=154
445A Amite 37.67 340 P P 03 16 52.8 +0.7
baz=156,SNR=6.5
NHSC New Hope 37.70 354 eP P 03 16 53.0 +0.7
comp=Z,624nm,1.0s
NHSC New Hope 37.70 354 P P 03 16 53.1 +0.8
baz=173,SNR=27
347A Saraland 37.71 343 P P 03 16 52.5 0.0
baz=160,SNR=57
153A Fort Valley 37.76 349 P P 03 16 52.9 0.0
baz=167,SNR=12
444A Pine Grove 37.79 339 P P 03 16 54.1 +0.8
baz=156,SNR=18
249A Camden 37.85 345 P P 03 16 53.6 0.0
baz=162,SNR=82
151A Opelika 37.94 347 P P 03 16 54.0 -0.5
baz=165,SNR=32
542A Morse 37.94 337 P P 03 16 55.3 +0.9
baz=153
152A Waverly Hall 37.95 348 eP P 03 16 54.2 -0.3
comp=Z,166nm,0.8s
152A ePcP PcP 03 19 05.8 -2.2
152A Waverly Hall 37.95 348 P P 03 16 54.2 -0.3
baz=166,SNR=60
346A Big Creek Wild 37.98 341 eP P 03 16 54.9 0.0
comp=Z,234nm,0.8s
346A Big Creek Wild 37.98 341 P P 03 16 54.8 0.0
baz=158,SNR=17
Z55A Blythe 38.04 352 P P 03 16 55.8 +0.6
baz=170,SNR=28
345A Thompson Farm, 38.09 341 P P 03 16 56.0 +0.2
baz=157,SNR=19
248A Dixon Mills 38.13 344 P P 03 16 55.8 -0.2
baz=161,SNR=73
541A Lake Charles 38.14 336 P P 03 16 56.3 +0.1
baz=152
Z54A Sparta 38.16 351 P P 03 16 56.3 0.0
baz=169,SNR=70
150A Eclectic 38.18 346 P P 03 16 56.0 -0.4
baz=164,SNR=55
443A Delano Plantat 38.22 338 P P 03 16 57.2 +0.4
baz=154,SNR=7.9
KVTX Kingsville 38.25 328 eP P 03 16 58.9 +1.8
comp=Z,410nm,0.9s
Z53A Monticello 38.33 350 P P 03 16 57.5 -0.2
baz=168,SNR=63
247A Quitman 38.34 343 P P 03 16 57.4 -0.3
baz=160,SNR=37
149A Jones 38.35 345 P P 03 16 57.3 -0.6
baz=163,SNR=61
Z52A Williamson 38.39 349 P P 03 16 58.2 -0.1
baz=167,SNR=71
442A Mamou 38.42 337 P P 03 16 58.8 +0.4
baz=153,SNR=8.1
GO07 Milladeo Hill, 38.42 177 eP P 03 16 59.6 +1.3
comp=Z,312nm,1.3s
GOGA Godfrey 38.44 350 eP P 03 16 58.4 -0.2
comp=Z,128nm,0.8s
GOGA ePcP PcP 03 19 08.1 -1.4
GOGA Godfrey 38.44 350 eP P 03 16 58.4 -0.2
GOGA e 03 19 08.1
GOGA pmax pmax
comp=Z,129nm,0.8s
GOGA Godfrey 38.44 350 P P 03 16 58.4 -0.2
baz=168,SNR=58
246A Jackson Lee, B 38.46 342 P P 03 16 58.0 -0.8
baz=159
344A Westbrook Farm 38.46 340 eP P 03 16 59.0 +0.2
comp=Z,2µm,1.9s
344A Westbrook Farm 38.46 340 P P 03 16 59.0 +0.2
baz=156,SNR=41
148A Greensboro 38.60 344 P P 03 16 59.3 -0.6
baz=162,SNR=13
343A Vidalia 38.62 339 P P 03 17 00.1 0.0
baz=155,SNR=8.4
Z51A Franklin 38.67 348 P P 03 17 00.3 -0.3
baz=166,SNR=39
245A Little AP, Sta 38.71 341 P P 03 17 00.5 -0.4
baz=158,SNR=19
441A DeRidder 38.75 336 P P 03 17 01.7 +0.5
baz=152,SNR=8.9
Y54A Tignall 38.75 351 P P 03 17 01.2 0.0
baz=170,SNR=86
Z50A Ashland 38.77 347 eP P 03 17 01.1 -0.4
comp=Z,357nm,1.1s
Z50A Ashland 38.77 347 P P 03 17 01.1 -0.4
baz=164,SNR=141
147A Livingston 38.82 344 eP P 03 17 01.2 -0.6
comp=Z,223nm,1.0s
147A ePcP PcP 03 19 11.4 +0.7
147A Livingston 38.82 344 P P 03 17 01.1 -0.7
baz=160,SNR=18
LRAL Lakeview Retre 38.82 345 eP P 03 17 01.1 -0.7
comp=Z,264nm,1.0s
LRAL Lakeview Retre 38.82 345 P P 03 17 01.3 -0.5
baz=163,SNR=98
Z49A Columbiana 38.86 346 P P 03 17 01.6 -0.5
baz=163,SNR=73
Y53A Monroe 38.89 350 P P 03 17 02.3 -0.1
baz=168,SNR=88
342A Flagon Creek P 38.97 338 eP P 03 17 03.1 +0.1
comp=Z,407nm,1.0s
342A Flagon Creek P 38.97 338 P P 03 17 03.1 +0.1
baz=154,SNR=35
JSC Jenkinsville 38.97 353 eP P 03 17 03.2 +0.2
comp=Z,86nm,0.9s
JSC Jenkinsville 38.97 353 eP P 03 17 03.2 +0.2
JSC pmax pmax
comp=Z,86nm,0.9s
244A Avery, Jackson 38.98 340 P P 03 17 02.5 -0.7
baz=157,SNR=21
Y52A Lilburn 38.98 349 eP P 03 17 02.9 -0.3
comp=Z,125nm,1.0s
Y52A Lilburn 38.98 349 P P 03 17 02.9 -0.3
baz=167,SNR=27
146A Union 39.01 343 eP P 03 17 02.9 -0.6
comp=Z,244nm,1.0s
146A ePcP PcP 03 19 12.1 +0.7
146A Union 39.01 343 P P 03 17 02.8 -0.6
baz=159,SNR=12
HODGE Hodges 39.05 352 eP P 03 17 03.9 +0.2
comp=Z,452nm,1.5s
VBMS Vicksburg 39.09 340 eP P 03 17 03.4 -0.6
comp=Z,136nm,0.9s
VBMS Vicksburg 39.09 340 P P 03 17 03.5 -0.6
baz=157,SNR=11
243A Waterproof 39.11 339 P P 03 17 03.9 -0.3
baz=155,SNR=11
HKT Hockley 39.20 332 eP P 03 17 04.9 0.0
comp=Z,81nm,1.1s
HKT Hockley 39.20 332 eP P 03 17 04.9 0.0
HKT pmax pmax
comp=Z,81nm,1.1s
Y51A Rockmart 39.21 348 P P 03 17 04.6 -0.5
baz=166,SNR=104
145A Houston Renfro 39.25 341 P P 03 17 04.9 -0.5
baz=158,SNR=25
Z47A Carrollton 39.26 344 P P 03 17 04.8 -0.6
baz=161,SNR=119
Z48A Northport 39.29 345 P P 03 17 04.9 -0.8
baz=162,SNR=98
Y50A Piedmont 39.34 347 P P 03 17 05.6 -0.6
baz=165,SNR=53
144A Alexander Plac 39.44 341 P P 03 17 06.2 -0.7
baz=157
Y49A Blount Mountai 39.47 346 eP P 03 17 06.4 -0.8
comp=Z,114nm,0.6s
Y49A Blount Mountai 39.47 346 P P 03 17 06.3 -0.8
baz=164,SNR=61
X53A Estanollee 39.48 351 P P 03 17 07.0 -0.2
baz=169,SNR=50
Z46A Louisville 39.50 343 P P 03 17 07.2 -0.2
baz=160,SNR=11
PAULI Pauline 39.57 353 eP P 03 17 08.3 +0.3
comp=Z,182nm,0.8s
CNNC Cliffs of the 39.66 358 eP P 03 17 08.2 -0.5
comp=Z,626nm,1.9s
CNNC Cliffs of the 39.66 358 P P 03 17 08.9 +0.2
baz=177,SNR=14
833A Chaparral WMA, 39.67 327 eP P 03 17 09.5 +0.5
comp=Z,479nm,1.5s
833A Chaparral WMA, 39.67 327 P P 03 17 09.4 +0.5
baz=142,SNR=32
X52A Dahlonega 39.67 350 P P 03 17 08.5 -0.4
baz=168,SNR=53
Y48A Jasper 39.70 346 P P 03 17 08.0 -1.1
baz=163,SNR=87
241A Mo Tay, Goldon 39.77 337 eP P 03 17 08.7 -1.0
comp=Z,138nm,0.8s
241A Mo Tay, Goldon 39.77 337 P P 03 17 09.5 -0.2
baz=153,SNR=18
X51A Calhoun 39.81 349 eP P 03 17 09.7 -0.4
comp=Z,337nm,1.2s
X51A Calhoun 39.81 349 P P 03 17 09.6 -0.4
baz=166,SNR=37
KMSC Kings Mountain 39.83 353 eP P 03 17 09.8 -0.4
comp=Z,193nm,1.0s
KMSC Kings Mountain 39.83 353 P P 03 17 10.3 +0.2
baz=172,SNR=60
143A Socs Landing, 39.83 340 eP P 03 17 08.9 -1.3
comp=Z,239nm,1.0s
143A Socs Landing, 39.83 340 P P 03 17 09.1 -1.1
baz=156,SNR=8.7
Y47A UCPARC, Winfie 39.86 345 P P 03 17 09.5 -0.9
baz=162,SNR=43
X50B Fort Payne 39.88 348 P P 03 17 10.0 -0.6
baz=165,SNR=69
Z45A Winona 39.89 342 eP P 03 17 10.1 -0.6
comp=Z,219nm,0.9s
Z45A Winona 39.89 342 P P 03 17 10.1 -0.6
baz=159,SNR=16
BG3 Lake Jocassee 39.90 351 eP P 03 17 11.1 +0.3
comp=Z,288nm,1.0s
Z44A Pea Ridge, Bel 40.03 341 P P 03 17 11.3 -0.5
baz=158,SNR=24
RCBR Riachuelo 40.07 94 P P 03 17 12.3 -0.3
comp=Z,81nm,0.8s,baz=260,slow=9.9,SNR=21
RCBR Riachuelo 40.07 94 eP P 03 17 13.1 +0.5
RCBR Riachuelo 40.07 94 ceP P 03 17 14.4 +1.8
RCBR pmax pmax
comp=Z,166nm,1.3s
X49A Woodville 40.07 347 P P 03 17 11.4 -0.7
baz=164,SNR=89
W53A Cullowhee 40.11 351 P P 03 17 12.9 +0.3
baz=169,SNR=218
240A Hunter Patters 40.11 336 eP P 03 17 12.6 0.0
comp=Z,734nm,1.5s
240A Hunter Patters 40.11 336 P P 03 17 12.5 0.0
baz=152,SNR=12
Y46A Houston 40.12 343 P P 03 17 11.6 -1.0
baz=160,SNR=172
W52A Murphy 40.16 350 eP P 03 17 12.9 0.0
comp=Z,231nm,0.8s
W52A Murphy 40.16 350 P P 03 17 12.9 0.0
baz=168,SNR=76
X48A Hartselle 40.18 346 eP P 03 17 12.2 -0.9
comp=Z,142nm,0.7s
X48A Hartselle 40.18 346 P P 03 17 12.2 -0.9
baz=163,SNR=75
NATX Nacogdoches 40.24 335 eP P 03 17 13.7 +0.1
comp=Z,416nm,0.9s
NATX Nacogdoches 40.24 335 P P 03 17 13.7 +0.1
baz=151,SNR=37
Z43A Armstrong Fami 40.24 340 P P 03 17 12.4 -1.1
baz=156
Y45A Yeager Farm, C 40.30 343 P P 03 17 13.7 -0.4
baz=159,SNR=67
W51A Cleveland 40.37 349 P P 03 17 14.6 0.0
baz=167,SNR=157
X47A Russelville 40.45 345 P P 03 17 14.0 -1.3
baz=162,SNR=83
W50A Signal Mountai 40.52 348 eP P 03 17 15.3 -0.6
comp=Z,312nm,0.8s
W50A Signal Mountai 40.52 348 P P 03 17 15.5 -0.4
baz=166,SNR=147
Z42A Norrel Spur, H 40.54 339 P P 03 17 15.0 -1.0
baz=155,SNR=14
V53A Saluda 40.54 352 eP P 03 17 16.1 -0.1
comp=Z,144nm,0.7s
V53A Saluda 40.54 352 P P 03 17 16.1 -0.1
baz=170,SNR=61
Y44A Strider, Charl 40.60 342 P P 03 17 15.5 -1.0
baz=158,SNR=28
CPCT Cooper Cave 40.61 349 eP P 03 17 16.4 -0.1
comp=Z,291nm,0.9s
W49A Belvidere 40.64 347 P P 03 17 15.9 -1.0
baz=164,SNR=59
SWET Sewanee 40.66 348 eP P 03 17 16.3 -0.8
comp=Z,223nm,0.7s
X46A Booneville 40.68 344 P P 03 17 15.8 -1.4
baz=161,SNR=18
TKL Tuckaleechee C 40.68 350 eP P 03 17 16.7 -0.5
comp=Z,675nm,1.8s
TKL Tuckaleechee C 40.68 350 eP P 03 17 16.7 -0.5
TKL pmax pmax
comp=Z,675nm,1.8s
435B Jarrell 40.72 331 eP P 03 17 18.2 +0.6
comp=Z,757nm,1.0s
435B Jarrell 40.72 331 P P 03 17 18.3 +0.7
baz=146,SNR=81
Y43A Makayla and Ka 40.78 341 P P 03 17 17.0 -0.9
baz=157,SNR=5.4
X45A UM Field Stati 40.78 343 P P 03 17 16.3 -1.7
baz=160,SNR=17
W48A Pulaski 40.81 346 P P 03 17 17.5 -0.8
baz=163,SNR=164
Z41A Richland Creek 40.83 338 eP P 03 17 17.8 -0.6
comp=Z,151nm,0.8s
Z41A ePcP PcP 03 19 18.3 +1.2
Z41A Richland Creek 40.83 338 P P 03 17 17.8 -0.6
baz=154,SNR=27
V52A Sevierville 40.83 351 eP P 03 17 18.1 -0.3
comp=Z,339nm,0.9s
V52A Sevierville 40.83 351 P P 03 17 18.1 -0.3
baz=169,SNR=107
OXF Oxford 40.87 343 eP P 03 17 16.8 -1.9
comp=Z,178nm,0.9s
OXF Oxford 40.87 343 eP P 03 17 16.8 -1.9
OXF pmax pmax
comp=Z,178nm,0.9s
OXF Oxford 40.87 343 P P 03 17 16.7 -1.9
baz=160,SNR=35
V51A Loudon 40.92 350 eP P 03 17 18.9 -0.3
comp=Z,346nm,0.8s
V51A Loudon 40.92 350 P P 03 17 18.9 -0.3
baz=167,SNR=162
V50A Pikevile 40.93 349 P P 03 17 18.8 -0.4
baz=166,SNR=103
PLAL Pickwick Lake 40.95 345 eP P 03 17 17.1 -2.2
comp=Z,186nm,1.0s
Y42A Garnett, Star 40.99 340 P P 03 17 19.0 -0.8
baz=156,SNR=20
CCAR Cane Creek 41.06 340 eP P 03 17 19.9 -0.4
comp=Z,2µm,2.0s
CCAR ePcP PcP 03 19 19.0 +1.1
X44A Crenshaw 41.08 342 P P 03 17 18.6 -1.8
baz=158,SNR=6.6
W47A Westpoint 41.08 346 P P 03 17 19.3 -1.2
baz=162,SNR=112
W46A Michie 41.17 345 P P 03 17 19.3 -1.9
baz=161,SNR=37
V49A McMinnville 41.19 348 P P 03 17 20.4 -1.0
baz=165,SNR=93
U53A Fall Branch 41.19 352 P P 03 17 21.1 -0.3
baz=170,SNR=63
X43A Marvell 41.32 341 eP P 03 17 21.5 -0.9
comp=Z,184nm,1.1s
X43A ePcP PcP 03 19 19.2 +0.5
X43A Marvell 41.32 341 P P 03 17 21.4 -0.9
baz=157,SNR=7.3
Y41A Eaglette Beard 41.32 339 P P 03 17 21.6 -0.9
baz=155,SNR=25
U52A Thorn Hill 41.34 351 P P 03 17 22.1 -0.5
baz=169,SNR=87
V48A Smith Brothers 41.36 347 eP P 03 17 21.9 -0.9
comp=Z,500nm,0.8s
V48A Smith Brothers 41.36 347 P P 03 17 22.0 -0.7
baz=164,SNR=249
W45A Hickory Valley 41.41 344 P P 03 17 21.6 -1.5
baz=160,SNR=44
U51A La Follette 41.43 350 P P 03 17 22.8 -0.5
baz=168,SNR=74
TZTN Tazewell 41.51 351 eP P 03 17 23.7 -0.3
comp=Z,258nm,0.6s
TZTN Tazewell 41.51 351 P P 03 17 23.7 -0.3
baz=169,SNR=91
W44A Shelby Farms P 41.57 343 P P 03 17 23.0 -1.5
baz=159
JCT Junction City 41.59 329 eP P 03 17 25.2 +0.5
comp=Z,130nm,0.9s
JCT Junction City 41.59 329 eP P 03 17 25.2 +0.5
JCT pmax pmax
comp=Z,130nm,0.9s
JCT Junction City 41.59 329 P P 03 17 25.3 +0.5
baz=143,SNR=50
X42A Stuttgart 41.59 341 P P 03 17 23.6 -1.0
baz=156,SNR=12
U50A Jamestown 41.61 349 P P 03 17 24.1 -0.7
baz=167,SNR=163
V47A Nunnelly 41.61 346 P P 03 17 23.1 -1.7
baz=163,SNR=48
WHTX Lake Whitney, 41.67 332 eP P 03 17 25.8 +0.5
comp=Z,638nm,0.9s
WHTX Lake Whitney, 41.67 332 P P 03 17 25.9 +0.6
baz=147,SNR=105
V46A Holladay 41.73 345 P P 03 17 23.5 -2.3
baz=162,SNR=33
BLA Blacksburg 41.79 355 eP P 03 17 26.7 +0.5
comp=Z,136nm,0.8s
BLA Blacksburg 41.79 355 P P 03 17 26.8 +0.5
baz=174,SNR=34
W43A Forest City 41.79 342 P P 03 17 24.9 -1.4
baz=158
X41A Kaden, Bauxite 41.84 340 P P 03 17 25.5 -1.1
baz=155,SNR=22
U49A Red Boiling Sp 41.88 348 P P 03 17 25.9 -1.1
baz=166,SNR=64
V45A Humboldt 41.89 344 P P 03 17 25.3 -1.8
baz=161,SNR=20
X40A Basin Creek Fa 41.95 339 eP P 03 17 26.2 -1.4
comp=Z,212nm,1.8s
X40A Basin Creek Fa 41.95 339 P P 03 17 26.1 -1.4
baz=155,SNR=19
WVT Waverly 41.97 346 eP P 03 17 25.8 -1.9
comp=Z,114nm,0.8s
WVT Waverly 41.97 346 eP P 03 17 25.8 -1.9
WVT pmax pmax
comp=Z,114nm,0.8s
WVT Waverly 41.97 346 P P 03 17 25.8 -1.9
baz=162
T52A Hallie 41.98 352 P P 03 17 27.5 -0.3
baz=170,SNR=54
T51A Gray 41.99 351 P P 03 17 27.5 -0.3
baz=168,SNR=184
UALR University of 42.04 340 eP P 03 17 27.2 -1.1
comp=Z,545nm,1.7s
U48A Cassie Pea, Po 42.04 347 P P 03 17 27.1 -1.1
baz=164,SNR=76
U47A Clarksville 42.14 347 P P 03 17 27.4 -1.6
baz=163,SNR=64
HALT Halls 42.16 344 eP P 03 17 27.6 -1.7
comp=Z,772nm,1.5s
HALT ePcP PcP 03 19 21.9 +0.4
T50A Nancy 42.19 350 P P 03 17 28.5 -1.0
baz=167,SNR=60
W42A Bald Knob 42.22 341 P P 03 17 28.4 -1.4
baz=157,SNR=6.8
V44A Blytheville 42.24 343 P P 03 17 28.5 -1.4
baz=159,SNR=5.2
MIAR Mount Ida 42.27 338 eP P 03 17 28.9 -1.2
comp=Z,45nm,0.8s
MIAR Mount Ida 42.27 338 eP P 03 17 28.9 -1.2
MIAR pmax pmax
comp=Z,45nm,0.8s
MIAR Mount Ida 42.27 338 P P 03 17 28.9 -1.2
baz=154,SNR=17
U46A Springville 42.28 345 P P 03 17 28.4 -1.8
baz=162,SNR=66
W41B Gary Mavity, V 42.37 340 eP P 03 17 29.6 -1.3
comp=Z,81nm,0.8s
W41B Gary Mavity, V 42.37 340 P P 03 17 29.7 -1.2
baz=156,SNR=43
R58B Mineral 42.38 358 P P 03 17 31.5 +0.5
baz=177,SNR=44
V43A Jonesboro 42.39 343 P P 03 17 29.9 -1.2
baz=158,SNR=6.7
T49A Edmonton 42.41 349 eP P 03 17 30.1 -1.1
comp=Z,344nm,1.1s
T49A Edmonton 42.41 349 P P 03 17 30.2 -1.0
baz=166,SNR=101
HPIG 42.41 319 eP P 03 17 32.0 +0.4
comp=Z,101nm,1.2s
U45A Rockin P Farm, 42.41 345 P P 03 17 29.7 -1.6
baz=161,SNR=18
WHAR Wooly Hollow 42.49 340 eP P 03 17 30.7 -1.2
comp=Z,765nm,1.9s
S52A Salyersville 42.56 352 P P 03 17 31.9 -0.5
baz=170,SNR=5.9
U44B Burton Farm, H 42.56 344 P P 03 17 31.0 -1.5
baz=160,SNR=14
T48A Bowling Green 42.58 348 P P 03 17 31.4 -1.2
baz=165,SNR=47
S51A Beattyville 42.59 351 eP P 03 17 32.1 -0.6
comp=Z,200nm,0.8s
S51A Beattyville 42.59 351 P P 03 17 32.2 -0.6
baz=169,SNR=85
CHRN Cochrane 42.60 176 eP P 03 17 34.4 +1.8
comp=Z,93nm,1.1s
CBN Corbin Frederi 42.60 359 eP P 03 17 33.5 +0.7
comp=Z,162nm,0.8s
CBN Corbin Frederi 42.60 359 P P 03 17 33.3 +0.6
baz=178,SNR=14
T47A Sharon Grove 42.62 347 eP P 03 17 31.2 -1.7

comp=Z,180nm,0.8s
T47A **Sharon Grove** 42.62 347 P P 03 17 31.5 -1.5
baz=164,SNR=77
V42A **Cord** 42.67 342 P P 03 17 31.6 -1.8
baz=157,SNR=85
S50A **Richmond** 42.76 350 P P 03 17 33.5 -0.5
baz=168,SNR=108
U44A **Portageville** 42.81 344 P P 03 17 33.0 -1.4
baz=160,SNR=11
T46A **Princeton** 42.86 346 P P 03 17 33.2 -1.6
baz=163,SNR=72
LTX **Lajitas** 42.86 324 eP P 03 17 35.5 +0.3
LTX eP P 03 19 24.2 +0.1
LTX **Lajitas** 42.86 324 eP P 03 17 35.5 +0.3
LTX e 03 19 24.2
TXAR **Lajitas Array** 42.86 324 P P 03 17 35.5 +0.3
comp=Z,90nm,0.9s,baz=147,slow=8.9,SNR=578
TXAR PcP PcP 03 19 24.2 +0.1
comp=Z,32nm,0.9s,baz=145,slow=6.1,SNR=10.0
TX31 **Lajitas Ar. Si** 42.87 324 eP P 03 17 35.5 +0.3
U43A **Rector** 42.89 343 P P 03 17 33.7 -1.4
baz=159,SNR=57
V41A **Mountainview** 42.89 341 P P 03 17 33.7 -1.5
baz=156,SNR=122
W39A **Magazine** 42.92 339 eP P 03 17 35.0 -0.4
comp=Z,636nm,1.8s
W39A **Magazine** 42.92 339 P P 03 17 35.0 -0.4
baz=154,SNR=37
PARMO **Parma** 42.98 344 eP P 03 17 34.6 -1.2
comp=Z,684nm,0.7s
X37A **Clayton** 42.99 336 eP P 03 17 36.0 0.0
comp=Z,924nm,1.8s
S49A **Springfield** 43.02 349 P P 03 17 35.1 -1.1
baz=167,SNR=113
T45A **Paducah** 43.02 345 eP P 03 17 34.5 -1.7
comp=Z,319nm,0.9s
T45A **Paducah** 43.02 345 P P 03 17 34.4 -1.8
baz=162,SNR=7.5
S48A **Wiedeman Farm,** 43.04 348 P P 03 17 34.7 -1.7
baz=165,SNR=75
U42A **Revenden** 43.12 342 P P 03 17 35.4 -1.6
baz=158,SNR=60
R52A **Catlettsburg** 43.14 353 P P 03 17 36.4 -0.8
baz=170,SNR=21
S47A **Hartford** 43.15 347 P P 03 17 35.7 -1.6
baz=164,SNR=102
ABTX **Abilene, Hawle** 43.23 331 eP P 03 17 38.7 +0.7
comp=Z,529nm,0.9s
ABTX **Abilene, Hawle** 43.23 331 P P 03 17 38.7 +0.7
baz=144,SNR=259
R51A **Hillsboro** 43.24 351 P P 03 17 37.3 -0.6
baz=169,SNR=59
PBMO **Poplar Bluff** 43.28 343 eP P 03 17 36.7 -1.5
comp=Z,126nm,0.7s
U41A **Viola** 43.33 341 P P 03 17 37.0 -1.7
baz=157,SNR=84
SLBS **Sierra La Lagu** 43.33 312 eP P 03 17 39.7 +0.7
comp=Z,154nm,1.0s
T44A **Benton** 43.33 344 P P 03 17 36.8 -1.8
baz=160,SNR=5.4
R50A **Paris** 43.34 351 P P 03 17 38.0 -0.7
baz=168,SNR=102
S46A **Don Dixon Farm** 43.43 347 P P 03 17 37.6 -1.9
baz=163,SNR=41
R49A **Shelbyville** 43.49 350 P P 03 17 38.6 -1.3
baz=167,SNR=61
T43A **Greenville** 43.52 343 P P 03 17 38.6 -1.6
baz=159,SNR=96
S45A **Carrier Mills** 43.63 346 P P 03 17 39.2 -1.8
baz=162,SNR=17
WCI **Wyandotte Cave** 43.64 348 eP P 03 17 39.7 -1.5
comp=Z,291nm,1.1s
WCI **Wyandotte Cave** 43.64 348 eP P 03 17 39.7 -1.5
WCI pmax pmax
comp=Z,291nm,1.1s
WCI **Wyandotte Cave** 43.64 348 P P 03 17 39.7 -1.5
baz=165
U40A **Yellville** 43.65 340 P P 03 17 40.1 -1.2
baz=156,SNR=107
USIN **University of** 43.68 347 eP P 03 17 39.5 -2.0
comp=Z,775nm,1.4s
T42A **Van Buren** 43.70 343 eP P 03 17 39.8 -1.9
comp=Z,115nm,0.6s
T42A **Van Buren** 43.70 343 P P 03 17 39.8 -1.9
baz=158,SNR=113
Q52A **Bidwell** 43.71 353 P P 03 17 41.3 -0.4
baz=171,SNR=32
R48A **Northridge Ran** 43.73 349 P P 03 17 40.6 -1.2
baz=166,SNR=62
R47A **Wooly Knot Far** 43.76 348 P P 03 17 40.3 -1.8
baz=165,SNR=40
SDMD **Soldier's Deli** 43.79 359 eP P 03 17 42.9 +0.6
comp=Z,52nm,1.0s
S44A **Carbondale** 43.81 345 P P 03 17 40.9 -1.6
baz=161,SNR=79
SIUC **Southern Illin** 43.82 345 eP P 03 17 40.9 -1.7
comp=Z,304nm,0.9s
Q50A **Georgetown** 43.83 351 P P 03 17 41.6 -1.0
baz=169,SNR=47
R46A **Gibon Southern** 43.88 347 P P 03 17 41.4 -1.7
baz=164,SNR=31
Q51A **Peebles** 43.92 352 eP P 03 17 42.5 -0.9
comp=Z,89nm,0.9s
Q51A **Peebles** 43.92 352 P P 03 17 42.5 -0.9
baz=170,SNR=27
S43A **Fulton Ridge,** 43.92 344 P P 03 17 41.4 -2.0
baz=160,SNR=29
T41A **Mountain View** 43.92 342 P P 03 17 41.7 -1.8
baz=157,SNR=27
HHAR **Hobbs** 43.95 339 eP P 03 17 42.4 -1.3
comp=Z,475nm,1.7s
P53A **Whipple** 44.13 354 eP P 03 17 44.9 -0.2
comp=Z,168nm,0.8s
P53A **Whipple** 44.13 354 P P 03 17 45.0 0.0
baz=172,SNR=46
Q49A **Aurora** 44.14 350 P P 03 17 43.9 -1.2
baz=167,SNR=35
R45A **Skylar, Fairfi** 44.14 346 P P 03 17 43.5 -1.6
baz=162,SNR=46
MCWV **Mont Chateau** 44.17 356 eP P 03 17 45.7 +0.4
comp=Z,65nm,1.0s
MCWV **Mont Chateau** 44.17 356 P P 03 17 45.7 +0.4
baz=175,SNR=15
Q48A **North Vernon** 44.21 349 P P 03 17 44.4 -1.3
baz=166,SNR=57
R44A **Waltonville** 44.29 345 P P 03 17 44.6 -1.7
baz=161,SNR=44
S42A **Caledonia** 44.30 343 P P 03 17 44.1 -2.3
baz=159,SNR=25
PSUB **Penn St. - Bra** 44.31 1 eP P 03 17 46.9 +0.4
comp=Z,86nm,1.0s
TUL1 **Leonard** 44.31 337 eP P 03 17 46.0 -0.6
comp=Z,144nm,0.8s
TUL1 **Leonard** 44.31 337 P P 03 17 46.0 -0.6
baz=151,SNR=48
P51A **Williamsport** 44.33 352 eP P 03 17 45.5 -1.1
comp=Z,107nm,1.0s
P51A **Williamsport** 44.33 352 P P 03 17 45.5 -1.1
baz=170,SNR=20
Q47A **Bedord North L** 44.35 348 P P 03 17 45.5 -1.3
baz=165,SNR=145
P52A **Corning** 44.36 353 P P 03 17 46.2 -0.7
baz=171,SNR=40
MVL **Millersville** 44.38 360 eP P 03 17 47.9 +1.0
comp=Z,270nm,0.9s
FVM **French Village** 44.40 344 eP P 03 17 45.4 -1.7
comp=Z,162nm,0.8s
FVM **French Village** 44.40 344 eP P 03 17 45.6 -1.7
FVM pmax pmax
comp=Z,162nm,0.8s
S41A **Jillco Farms,** 44.42 342 P P 03 17 45.4 -2.0
baz=158,SNR=45
OLIL **Olney** 44.52 347 eP P 03 17 46.4 -1.7
comp=Z,149nm,0.8s
OLIL ePcP PcP 03 19 29.7 +0.4
R43A **Red Bud** 44.54 344 P P 03 17 46.8 -1.6
baz=160,SNR=38
P50A **Jamestown** 44.55 352 P P 03 17 47.4 -1.0
baz=169,SNR=53
WMOK **Wichita Mounta** 44.57 333 eP P 03 17 48.5 -0.1
comp=Z,228nm,0.9s
WMOK **Wichita Mounta** 44.57 333 P P 03 17 48.6 0.0
baz=147,SNR=242
BLO **Bloomington** 44.60 348 eP P 03 17 47.4 -1.4
comp=Z,271nm,0.6s
BLO ePcP PcP 03 19 30.1 +0.5
BLO **Bloomington** 44.60 348 eP P 03 17 47.4 -1.4
BLO e 03 19 30.1
BLO pmax pmax
comp=Z,271nm,0.6s
PAGS **Pennsylvania G** 44.61 359 eP P 03 17 49.3 +0.5
comp=Z,155nm,0.9s
P49A **Miami Univ. Ec** 44.62 351 P P 03 17 47.4 -1.5
baz=168,SNR=52
Q46A **CEJHS Indians,** 44.63 348 P P 03 17 47.1 -1.9
baz=164
P48A **Milroy** 44.67 350 P P 03 17 47.6 -1.8
baz=167,SNR=68
Q45A **Warren Harvey,** 44.68 347 P P 03 17 47.6 -1.9
baz=163,SNR=28
CCM **Cathedral Cave** 44.70 343 eP P 03 17 47.6 -2.0
comp=Z,88nm,0.8s
CCM **Cathedral Cave** 44.70 343 eP P 03 17 47.6 -2.0
CCM pmax pmax
comp=Z,88nm,0.8s
CCM **Cathedral Cave** 44.70 343 P P 03 17 47.6 -2.0
baz=158
O56A **Blue Knob Stat** 44.70 357 eP P 03 17 50.4 +0.7
comp=Z,200nm,0.9s
O56A **Blue Knob Stat** 44.70 357 P P 03 17 50.5 +0.9
baz=176,SNR=44
R42A **Luebbering** 44.78 344 P P 03 17 48.5 -1.8
baz=159,SNR=25
O52A **Adamsville** 44.80 354 eP P 03 17 49.8 -0.6
comp=Z,158nm,0.8s
O52A **Adamsville** 44.80 354 P P 03 17 49.8 -0.6
baz=172,SNR=41
P47A **Martinsville** 44.85 349 P P 03 17 49.4 -1.4
baz=166,SNR=99
Q44A **Meyer Farm, Va** 44.90 346 P P 03 17 49.2 -1.9
baz=162,SNR=37
O51A **Pataskala** 44.92 353 P P 03 17 50.4 -0.9
baz=171,SNR=24
SLM **Saint Louis** 44.96 344 eP P 03 17 50.0 -1.6
SLM ePcP PcP 03 19 31.3 +0.4
SLM **Saint Louis** 44.96 344 eP P 03 17 50.0 -1.6
SLM e 03 19 31.3
R41A **Rosebud** 44.96 343 P P 03 17 49.8 -1.9
baz=158,SNR=32
SSPA **Standing Stone** 45.04 358 eP P 03 17 52.9 +0.7
comp=Z,154nm,0.9s
SSPA **Standing Stone** 45.04 358 P P 03 17 53.0 +0.7
baz=178
ACSO **Alum Creek Sta** 45.05 353 eP P 03 17 51.6 -0.8
comp=Z,164nm,0.9s
ACSO **Alum Creek Sta** 45.05 353 P P 03 17 51.5 -0.9
baz=170,SNR=39
O50A **Cable** 45.06 352 P P 03 17 51.4 -1.0
baz=169,SNR=51
BRNJ **Basking Ridge** 45.08 2 eP P 03 17 53.3 +0.7
comp=Z,118nm,0.8s
Q43A **New Douglas** 45.10 345 P P 03 17 50.9 -1.8
baz=161,SNR=22
P46A **Rosedale** 45.17 348 P P 03 17 51.4 -1.9
baz=164,SNR=28
P45A **Graceland, Par** 45.20 347 eP P 03 17 51.4 -2.1
comp=Z,142nm,0.7s
P45A **Graceland, Par** 45.20 347 P P 03 17 51.4 -2.1
baz=164,SNR=17
O49A **Covington** 45.20 351 eP P 03 17 52.2 -1.3
comp=Z,148nm,0.9s
O49A **Covington** 45.20 351 P P 03 17 52.2 -1.3
baz=168,SNR=37
CPNY **Central Park** 45.21 2 eP P 03 17 53.8 +0.2
comp=Z,134nm,1.0s
N59A **State Game Lan** 45.30 0 eP P 03 17 55.2 +0.9
comp=Z,230nm,0.9s
N59A **State Game Lan** 45.30 0 P P 03 17 55.2 +0.9
baz=180,SNR=41
Q42A **Golden Eagle** 45.30 344 P P 03 17 52.6 -1.7
baz=160,SNR=5.5
P44A **Sand Creek, Wi** 45.34 346 P P 03 17 52.8 -1.9
baz=162,SNR=37
GDL2 **Guadalupe Moun** 45.39 326 eP P 03 17 56.3 +1.0
O48A **Farmland** 45.40 350 P P 03 17 53.7 -1.4
baz=167,SNR=134
PAL **Palisades** 45.43 2 eP P 03 17 55.6 +0.3
comp=Z,202nm,0.9s
PAL **Palisades** 45.43 2 eP P 03 17 55.6 +0.3
PAL pmax pmax
comp=Z,202nm,0.9s
PAL **Palisades** 45.43 2 P P 03 17 55.5 +0.3
baz=183,SNR=21
N54A **Moraine State** 45.48 356 eP P 03 17 56.0 +0.3
comp=Z,232nm,0.8s
N54A **Moraine State** 45.48 356 P P 03 17 56.0 +0.3
baz=175,SNR=49
ODNJ **Ogdensburg** 45.48 2 eP P 03 17 56.0 +0.2
comp=Z,72nm,0.8s
Q41A **Truxton** 45.53 343 P P 03 17 54.5 -1.6
baz=159,SNR=66
O47A **Sheridan** 45.56 349 P P 03 17 54.8 -1.6
baz=166,SNR=138
MNTX **Cornudas Mount** 45.60 324 eP P 03 17 56.8 0.0
comp=Z,126nm,0.8s
MNTX **Cornudas Mount** 45.60 324 P P 03 17 56.9 0.0
baz=137,SNR=194
N50A **Nevada** 45.61 353 P P 03 17 55.6 -1.1
baz=170,SNR=41
N51A **Ashland** 45.66 353 eP P 03 17 56.1 -1.0
comp=Z,112nm,0.8s
N51A **Ashland** 45.66 353 P P 03 17 56.1 -1.0
baz=171,SNR=21
P43A **Skaggs, Pawnee** 45.72 346 P P 03 17 55.9 -1.7
baz=161,SNR=34
YLE **Yale** 45.78 3 eP P 03 17 58.8 +0.7
comp=Z,279nm,0.8s
YLE ePcP PcP 03 19 34.6 +0.9
SFIN **Lafayette** 45.88 348 eP P 03 17 56.8 -2.0
comp=Z,133nm,0.6s
SFIN **Lafe** 45.88 348 P P 03 17 56.8 -2.0
baz=165,SNR=36
P42A **Winchester** 45.88 345 eP P 03 17 57.0 -1.9
comp=Z,70nm,0.7s
P42A **Winchester** 45.88 345 P P 03 17 57.0 -1.9
baz=160,SNR=28
MSTX **Muleshoe** 45.88 329 eP P 03 17 59.3 +0.2
comp=Z,323nm,0.9s
MSTX **Muleshoe** 45.88 329 P P 03 17 59.4 +0.2
baz=142,SNR=147
O45A **Potomac** 45.88 348 P P 03 17 56.8 -2.1
baz=164,SNR=31
N49A **Columbus Grove** 45.90 351 eP P 03 17 57.8 -1.2
comp=Z,1μm,2.0s
N49A **Columbus Grove** 45.90 351 P P 03 17 57.9 -1.2
baz=169,SNR=41
KSPA **Keystone Colle** 45.94 0 eP P 03 17 60.0 +0.7
comp=Z,138nm,0.9s
O44A **Mansfield** 45.95 347 P P 03 17 57.4 -2.0
baz=163,SNR=27
N48A **Decatur** 45.97 351 P P 03 17 58.1 -1.4
baz=168,SNR=46
M54A **Oil Creek Stat** 46.00 356 eP P 03 17 59.8 0.0
comp=Z,297nm,0.9s
M54A **Oil Creek Stat** 46.00 356 P P 03 17 59.9 0.0
baz=175,SNR=51
U32A **Winter Ranch,** 46.04 334 eP P 03 18 00.5 +0.2
comp=Z,793nm,0.9s
M51A **Elyria** 46.04 354 P P 03 17 59.1 -1.0
baz=172,SNR=15
AMTX **Amarillo** 46.05 330 eP P 03 18 00.6 +0.2
comp=Z,430nm,0.8s
AMTX **Amarillo** 46.05 330 P P 03 18 00.7 +0.2
baz=143
N47A **Urbana** 46.10 350 P P 03 17 59.0 -1.6
baz=167,SNR=102
P41A **Barry, Barry** 46.16 344 P P 03 17 59.2 -1.9
baz=159,SNR=47
ALLY **Alegheny Colle** 46.17 356 eP P 03 18 01.1 -0.1
comp=Z,992nm,1.7s
M50A **Fremont** 46.22 353 eP P 03 18 00.6 -0.9
comp=Z,311nm,0.8s
M50A **Fremont** 46.22 353 P P 03 18 00.5 -0.9
baz=170,SNR=44
O43A **Sugar Creek Fa** 46.28 346 P P 03 17 60.0 -2.0
baz=162,SNR=17
N46A **Monticello** 46.30 349 P P 03 18 00.4 -1.8
baz=165,SNR=42
EPT **El Paso** 46.31 323 eP P 03 18 02.3 -0.3
comp=Z,80nm,0.9s
O42A **Bath** 46.38 345 P P 03 18 00.9 -1.9
baz=161,SNR=24
M49A **Liberty Center** 46.41 352 P P 03 18 01.9 -1.1
baz=169,SNR=37
N45A **Kentland** 46.41 348 P P 03 18 00.9 -2.2
baz=164,SNR=27
BRYW **Bryant College** 46.48 5 eP P 03 18 03.9 +0.3
comp=Z,102nm,0.9s
N44A **Piper City** 46.49 347 P P 03 18 01.6 -2.1
baz=163,SNR=80
O41A **Passleys Farm,** 46.52 344 P P 03 18 01.7 -2.2
baz=160,SNR=18
M48A **Edgerton** 46.53 351 P P 03 18 02.5 -1.5
baz=168,SNR=9.2
HDIL **Hopedale** 46.53 346 eP P 03 18 02.1 -1.9
comp=Z,325nm,0.6s
HDIL **Hopedale** 46.53 346 P P 03 18 02.1 -1.9
baz=162,SNR=58
M47A **Cromwell** 46.55 350 P P 03 18 02.9 -1.2
baz=167,SNR=89
BINY **Binghamton** 46.58 0 eP P 03 18 05.2 +0.9
comp=Z,286nm,0.8s
BINY **Binghamton** 46.58 0 P P 03 18 05.2 +0.9
baz=180,SNR=75
GO09 **Cerro Castillo** 46.62 177 eP P 03 18 06.2 +1.7
comp=Z,302nm,1.4s
ERPA **Erie** 46.63 356 eP P 03 18 04.5 -0.2
comp=Z,223nm,0.8s
ERPA **Erie** 46.63 356 P P 03 18 04.5 -0.2
baz=175,SNR=22
M46A **Old House Fiel** 46.73 349 eP P 03 18 04.0 -1.6
comp=Z,419nm,0.9s
M46A **Old House Fiel** 46.73 349 P P 03 18 03.9 -1.6
baz=166,SNR=35
QUA2 **Belchertown** 46.78 4 eP P 03 18 06.1 +0.2
comp=Z,98nm,0.8s
N43A **Stutzman Famil** 46.87 346 P P 03 18 04.8 -1.8
baz=162,SNR=12
M45A **Boilermakers S** 46.88 349 P P 03 18 04.7 -1.9
baz=165,SNR=20
BCX **Boston College** 46.93 5 eP P 03 18 07.3 +0.3
comp=Z,132nm,1.4s
L48A **N Adams** 46.94 352 P P 03 18 05.7 -1.4
baz=169,SNR=32
N42A **Yates City** 46.97 346 P P 03 18 05.7 -1.7
baz=161,SNR=66
L49A **Milan** 47.00 352 P P 03 18 06.8 -0.8
baz=170,SNR=38
M44A **Midewin, Midew** 47.04 348 eP P 03 18 05.6 -2.3
comp=Z,696nm,1.7s
M44A **Midewin, Midew** 47.04 348 P P 03 18 05.6 -2.3
baz=164,SNR=24
HRV **Adam Dziewonsk** 47.07 5 eP P 03 18 08.6 +0.5
comp=Z,401nm,1.6s
HRV **Adam Dziewonsk** 47.07 5 P P 03 18 08.5 +0.5
baz=186
N41A **Harden Midland** 47.07 345 eP P 03 18 06.3 -1.9
comp=Z,314nm,1.2s
N41A **Harden Midland** 47.07 345 P P 03 18 06.1 -2.1
baz=160,SNR=6.9
L47A **Sherwood** 47.08 351 P P 03 18 06.9 -1.4
baz=168,SNR=102
MMNY **Mt. Morris Dam** 47.14 358 eP P 03 18 08.7 +0.1
comp=Z,506nm,1.5s
SRIG **Santa Rosalia** 47.15 314 eP P 03 18 09.4 +0.4
SRIG ePcP PcP 03 19 39.6 +0.8
TRY **Troy** 47.16 2 eP P 03 18 09.4 +0.6
comp=Z,187nm,1.0s
AAM **Ann Arbor** 47.18 352 eP P 03 18 07.9 -1.1
comp=Z,134nm,0.8s
AAM ePcP PcP 03 19 38.8 +0.3
AAM **Ann Arbor** 47.18 352 eP P 03 18 07.9 -1.1
AAM e 03 19 38.8
AAM pmax pmax
comp=Z,134nm,0.8s
AAM **Ann Arbor** 47.18 352 P P 03 18 07.8 -1.1
baz=170,SNR=15
HSIG 47.29 317 eP P 03 18 09.8 -0.3
comp=Z,53nm,0.9s
HSIG epP pP 03 18 42.1 +3.7
HSIG epCP PcP 03 19 39.4 +0.1
M43A **Waltham Townsh** 47.29 347 P P 03 18 07.8 -2.1
baz=162,SNR=73
L46A **Eue Claire** 47.30 350 P P 03 18 08.1 -1.8
baz=166,SNR=40
KSU1 **Kansas State U** 47.42 338 eP P 03 18 10.1 -0.9
comp=Z,432nm,1.3s
KSU1 **Kansas State U** 47.42 338 P P 03 18 10.0 -0.9
baz=152,SNR=66
N40A **Mertquake, Sal** 47.43 344 P P 03 18 09.0 -1.9
baz=159,SNR=19
M42A **Sheffield** 47.49 346 P P 03 18 09.4 -2.0
baz=161,SNR=11
K50A **Casco** 47.52 354 P P 03 18 10.2 -1.4
baz=171,SNR=21
MEDO **Medina** 47.59 358 P P 03 18 11.5 -0.6
baz=177
TYNO **Tyneside** 47.59 356 P P 03 18 11.8 -0.3
baz=175
M41A **Milan** 47.61 345 P P 03 18 10.4 -1.9
baz=160,SNR=69
121A **Cookes Peak, D** 47.61 323 P P 03 18 13.9 +1.1
baz=135,SNR=108
K49A **Clarkson** 47.63 353 P P 03 18 11.2 -1.2
baz=170,SNR=25
STCO **Saint Catharin** 47.66 357 P P 03 18 12.4 -0.3
baz=176
N39A **Derby Farms, D** 47.68 343 P P 03 18 11.1 -1.7
baz=158
K47A **Vermontville** 47.73 351 P P 03 18 11.8 -1.5
baz=168,SNR=53
K48A **Perry** 47.73 352 P P 03 18 12.1 -1.2
baz=169,SNR=83
L44A **Lake County Fo** 47.77 348 P P 03 18 11.5 -2.1
baz=164,SNR=12
ELFO **Elginfield** 47.80 355 P P 03 18 12.7 -1.1
baz=173
ACCN **Adirondack Com** 47.81 2 eP P 03 18 14.5 +0.6
comp=Z,201nm,1.4s
K46A **Dorr** 47.87 350 P P 03 18 12.4 -1.9
baz=167,SNR=47
M40A **Post Highland** 47.89 344 P P 03 18 12.6 -1.9
baz=159,SNR=46
L43A **Garden Prairie** 47.95 347 P P 03 18 13.1 -1.8
baz=163,SNR=78
L42A **Oliver, Polo** 47.99 346 eP P 03 18 13.2 -2.0
comp=Z,695nm,1.4s
L42A **Oliver, Polo** 47.99 346 P P 03 18 13.3 -2.0
baz=162,SNR=41
FFD **Franklin Falls** 48.02 4 eP P 03 18 16.0 +0.6
comp=Z,70nm,0.8s
TORO **Toronto--Lesli** 48.08 357 P P 03 18 16.0 +0.1
baz=176
BNM **Barren Site** 48.10 326 eP P 03 18 17.1 +0.6
ACTO **Acton** 48.12 356 P P 03 18 15.8 -0.3
baz=175
M39A **Webster** 48.14 344 P P 03 18 14.5 -1.9
baz=158,SNR=41
J49A **Marlette** 48.16 353 P P 03 18 14.8 -1.6
baz=171,SNR=19
J48A **Bridge Port** 48.17 352 P P 03 18 15.3 -1.3
baz=170,SNR=56
HNH **Hanover** 48.21 4 eP P 03 18 17.7 +0.8
comp=Z,128nm,1.0s
Y22D **IRIS PASSCAL I** 48.21 325 P P 03 18 18.4 +1.1
baz=137
LPM **Los Pinos Moun** 48.22 326 eP P 03 18 17.9 +0.5
J47A **Sunmer** 48.26 351 P P 03 18 16.0 -1.3
baz=168,SNR=119
L41A **Preston** 48.26 346 P P 03 18 15.3 -2.0
baz=161,SNR=46
DRWO **Darlington Wes** 48.30 357 P P 03 18 17.4 -0.2
baz=176
DRCO **St. Marys Ceme** 48.31 358 P P 03 18 17.4 -0.2
baz=176
LENM **Lemitar** 48.31 325 eP P 03 18 18.6 +0.5
WLVO **Wesleyville** 48.34 358 P P 03 18 17.6 -0.3
baz=177
K43A **Burlington** 48.37 348 eP P 03 18 16.1 -2.0
comp=Z,384nm,0.9s
K43A **Burlington** 48.37 348 P P 03 18 16.1 -2.0
baz=164,SNR=38
NCB **Newcomb** 48.38 2 eP P 03 18 17.0 -1.2
comp=Z,118nm,0.8s
CBKS **Cedar Bluff** 48.41 335 eP P 03 18 18.9 +0.3
comp=Z,498nm,0.9s
CBKS **Cedar Bluff** 48.41 335 eP P 03 18 18.9 +0.3
CBKS pmax pmax
comp=Z,498nm,0.9s
CBKS **Cedar Bluff** 48.41 335 P P 03 18 19.0 +0.4
baz=148,SNR=93
PKRO **Pickering** 48.41 357 P P 03 18 18.1 -0.3
baz=176
L40A **Anamosa** 48.43 345 eP P 03 18 16.7 -2.0

comp=Z,297nm,1.0s
L40A **Anamosa** 48.43 345 P P 03 18 16.7 -2.0
baz=160,SNR=47
J46A **Howard City** 48.49 351 P P 03 18 17.3 -1.8
baz=167,SNR=18
LAZ **Ladron** 48.58 325 eP P 03 18 21.0 +0.9
I52A **Shelburne** 48.58 356 P P 03 18 19.1 -0.7
baz=175,SNR=5.6
GO10 **Punta Arenas** 48.58 176 eP P 03 18 22.6 +3.0
comp=Z,265nm,1.0s
ANMO **Albuquerque** 48.59 326 eP P 03 18 20.9 +0.6
comp=Z,431nm,1.0s
ANMO **Albuquerque** 48.59 326 eP P 03 18 20.9 +0.6
ANMO pmax pmax
comp=Z,431nm,1.0s
ANMO **Albuquerque** 48.59 326 P P 03 18 21.1 +0.8
baz=138
BASO **Ashfield** 48.65 355 P P 03 18 19.6 -0.6
baz=173
K42A **Prairie Point,** 48.66 347 P P 03 18 18.5 -1.9
baz=162,SNR=43
I49A **Point Hope** 48.69 354 P P 03 18 18.9 -1.7
baz=171,SNR=8.9
L39A **Vinton** 48.69 344 P P 03 18 18.6 -2.0
baz=159,SNR=25
BWLO **Walkerton** 48.70 355 P P 03 18 20.0 -0.7
baz=167
J45A **Montague** 48.70 350 P P 03 18 18.4 -2.3
baz=166
K41A **Shullsburg** 48.72 346 P P 03 18 18.8 -2.0
baz=161,SNR=18
LBNH **Lisbon** 48.76 4 eP P 03 18 21.7 +0.6
comp=Z,100nm,0.9s
LBNH **Lisbon** 48.76 4 P P 03 18 21.8 +0.7
baz=186,SNR=22
VT1 **Waterbury** 48.80 3 eP P 03 18 21.9 +0.5
comp=Z,99nm,1.0s
SCIA **State Center** 48.83 343 eP P 03 18 20.1 -1.7
comp=Z,168nm,1.0s
SCIA epP pP 03 18 49.1 -1.1
SCIA **State Center** 48.83 343 P P 03 18 20.0 -1.7
baz=157,SNR=12
BRCO **Bruce Peninsul** 48.85 355 P P 03 18 21.1 -0.8
baz=173
DELO **Deloro Mine** 48.91 359 P P 03 18 21.9 -0.3
baz=178
I47A **Gladwin** 48.98 352 P P 03 18 21.2 -1.6
baz=169,SNR=41
JFWS **Jewell Farm** 48.99 346 eP P 03 18 21.0 -1.9
comp=Z,127nm,0.7s
JFWS **Jewell Farm** 48.99 346 eP P 03 18 21.0 -1.9
JFWS pmax pmax
comp=Z,127nm,0.7s
JFWS **Jewell Farm** 48.99 346 P P 03 18 21.1 -1.9
baz=161,SNR=30
K40A **Colesburg** 49.01 345 P P 03 18 21.0 -2.0
baz=160,SNR=27
LONY **Lake Ozonia** 49.02 1 eP P 03 18 23.4 +0.3
comp=Z,724nm,1.9s
LONY **Lake Ozonia** 49.02 1 P P 03 18 23.4 +0.3
baz=182,SNR=32
J43A **Natural Harves** 49.03 348 P P 03 18 21.5 -1.7
baz=164,SNR=27
I48A **Sherman Twp** 49.04 353 P P 03 18 21.8 -1.4
baz=170,SNR=24
I46A **Reed City** 49.04 351 P P 03 18 21.3 -1.9
baz=168,SNR=33
J42A **Columbus** 49.12 347 P P 03 18 22.1 -1.8
baz=163,SNR=16
H52A **Wyevale** 49.13 356 P P 03 18 23.1 -0.8
baz=175,SNR=24
BMRO **Meriville Lake** 49.18 355 P P 03 18 23.6 -0.8
baz=173
T25A **Trinidad** 49.19 330 eP P 03 18 25.6 +0.8
comp=Z,527nm,0.9s
T25A **Trinidad** 49.19 330 P P 03 18 25.8 +1.1
baz=141,SNR=328
K39A **Oelwein** 49.21 345 P P 03 18 22.3 -2.2
baz=159,SNR=33
SADO **Sadowa** 49.22 357 eP P 03 18 23.8 -0.8
comp=Z,477nm,1.4s
I45A **Fountain** 49.26 350 P P 03 18 22.9 -2.1
baz=167
FRNY **Flat Rock** 49.26 2 eP P 03 18 25.5 +0.6
comp=Z,237nm,0.9s
EFI **East Falkland** 49.27 165 eP P 03 18 26.8 +1.9
EFI epP pP 03 18 55.6 +2.2
EFI **East Falkland** 49.27 165 ceP P 03 18 25.9 +1.0
EFI pmax pmax
comp=Z,38nm,0.8s
WVL **Waterville** 49.28 6 eP P 03 18 25.6 +0.6
comp=Z,75nm,1.0s
TUC **Tucson** 49.31 321 eP P 03 18 26.0 +0.4
comp=Z,87nm,0.8s
TUC **Tucson** 49.31 321 eP P 03 18 26.0 +0.4
TUC pmax pmax
comp=Z,87nm,0.8s
TUC **Tucson** 49.31 321 P P 03 18 26.1 +0.4
baz=132
J41A **Loganville** 49.37 347 P P 03 18 24.0 -1.8
baz=162,SNR=26
BANO **Bancroft** 49.42 358 P P 03 18 25.6 -0.6
baz=178
PLVO **Plevna** 49.42 359 eP P 03 18 26.2 +0.1
comp=Z,265nm,1.0s
PLVO **Plevna** 49.42 359 P P 03 18 26.0 -0.1
baz=179
I43A **Langenfeld Bro** 49.46 349 P P 03 18 24.9 -1.5
baz=164,SNR=38
H48A **Harrisville** 49.50 353 P P 03 18 25.0 -1.7
baz=170,SNR=7.6
H47A **Mio** 49.51 352 P P 03 18 25.2 -1.6
baz=169,SNR=18
J40A **Soldiers Grove** 49.57 346 P P 03 18 25.3 -2.0
baz=161,SNR=24
H46A **Fife Lake** 49.59 351 P P 03 18 25.5 -2.0
baz=168,SNR=32
I42A **Draeger Farm,** 49.62 348 eP P 03 18 26.2 -1.5
comp=Z,290nm,0.7s
I42A **Draeger Farm,** 49.62 348 P P 03 18 26.3 -1.4
baz=163,SNR=39
EMMW **East Machias** 49.70 8 eP P 03 18 28.4 +0.2
comp=Z,54nm,0.8s
J39A **Decorah** 49.75 345 P P 03 18 26.5 -2.2
baz=160,SNR=72
GLMI **Grayling** 49.79 352 eP P 03 18 27.4 -1.5
comp=Z,214nm,1.0s
GLMI **Grayling** 49.79 352 P P 03 18 27.2 -1.7
baz=169,SNR=8.5
H45A **Beulah** 49.80 351 P P 03 18 27.1 -1.9
baz=167,SNR=8.5
MOQ **Mont Orford** 49.81 4 eP P 03 18 29.6 +0.4
KSCO **Kaye Shedlock'** 49.83 333 eP P 03 18 29.9 +0.4
comp=Z,435nm,1.0s
KSCO **Kaye Shedlock'** 49.83 333 P P 03 18 30.0 +0.5
baz=144,SNR=75
ORIO **Orleans, Innes** 49.83 1 P P 03 18 29.0 -0.2
baz=181
TOBO **Tobermory, Bru** 49.84 355 P P 03 18 27.7 -1.5
baz=173
KLBO **Killbear Provi** 49.87 356 P P 03 18 27.8 -1.7
baz=175
BUKO **Buck Lake** 49.90 357 P P 03 18 28.9 -0.9
baz=176
H43A **Windswept, Lux** 49.95 349 eP P 03 18 28.6 -1.6
comp=Z,316nm,1.1s
H43A **Windswept, Lux** 49.95 349 P P 03 18 28.6 -1.6
baz=165,SNR=10
I41A **Arkdale** 49.99 347 eP P 03 18 28.9 -1.5
comp=Z,143nm,0.8s
I41A **Arkdale** 49.99 347 P P 03 18 28.8 -1.7
baz=162,SNR=22
I40A **Norwalk** 50.00 346 P P 03 18 28.8 -1.8
baz=161,SNR=22
BGNE **Belgrade** 50.01 338 eP P 03 18 30.0 -0.7
comp=Z,1µm,1.4s
BGNE **Belgrade** 50.01 338 P P 03 18 30.0 -0.7
baz=151,SNR=76
PKME **Peaks-Kenny Pk** 50.02 6 eP P 03 18 31.1 +0.5
comp=Z,82nm,0.8s
PKME **Peaks-Kenny Pk** 50.02 6 P P 03 18 31.1 +0.5
baz=189,SNR=23
ALFO **Alfred** 50.02 1 P P 03 18 30.7 +0.1
baz=182
G47A **Hillman** 50.03 353 P P 03 18 29.1 -1.6
baz=170,SNR=6.0
PEMO **Pembroke** 50.06 359 P P 03 18 31.0 0.0
baz=178

H42A **Shiocton** 50.14 348 eP P 03 18 30.0 -1.5
comp=Z,328nm,0.8s
H42A **Shiocton** 50.14 348 P P 03 18 30.1 -1.5
baz=164,SNR=37
G45A **Suttons Bay** 50.15 351 P P 03 18 30.0 -1.6
baz=168,SNR=11
GGN **Saint George** 50.19 9 eP P 03 18 32.3 +0.4
comp=Z,388nm,1.6s
I39A **Houston** 50.19 346 eP P 03 18 30.1 -1.9
comp=Z,167nm,0.8s
I39A **Houston** 50.19 346 P P 03 18 30.1 -1.9
baz=160,SNR=37
SDCO **Great Sand Dun** 50.20 330 eP P 03 18 33.3 +0.7
comp=Z,459nm,1.0s
SDCO **Great Sand Dun** 50.20 330 P P 03 18 33.5 +0.9
baz=140,SNR=465
F52A **Sundridge** 50.25 357 P P 03 18 31.5 -0.9
baz=176,SNR=15
HAL **Halifax** 50.29 12 eP P 03 18 33.3 +0.6
comp=Z,111nm,1.2s
HAL **Halifax** 50.29 12 eP P 03 18 33.3 +0.6
HAL pmax pmax
comp=Z,111nm,1.2s
G46A **Petoskey** 50.30 352 P P 03 18 31.1 -1.7
baz=169,SNR=14
ALGO **Algonquin Park** 50.36 358 P P 03 18 32.8 -0.4
baz=178
214A **Organ Pipe Nat** 50.39 319 P P 03 18 34.5 +0.7
baz=129,SNR=146
F49A **Sandfield** 50.41 355 P P 03 18 31.8 -1.8
baz=172,SNR=5.9
F51A **Arnstein** 50.42 357 P P 03 18 32.2 -1.4
baz=175,SNR=13
USHA **Ushuaia** 50.47 174 P P 03 18 35.4 +1.5
comp=Z,111nm,0.9s,baz=1.4,slow=3.8,SNR=35
USHA pP pP 03 19 02.3 -0.2
comp=Z,172nm,1.1s,baz=347,slow=4.4,SNR=7.6
H41A **Junction City** 50.47 347 eP P 03 18 32.6 -1.5
comp=Z,263nm,0.8s
H41A **Junction City** 50.47 347 P P 03 18 32.6 -1.5
baz=162,SNR=56
F48A **Evansville** 50.54 354 P P 03 18 32.8 -1.7
baz=172,SNR=9.2
W18A **Petrified Fore** 50.58 324 eP P 03 18 36.2 +0.9
comp=Z,601nm,1.2s
W18A **Petrified Fore** 50.58 324 P P 03 18 36.3 +0.9
baz=134,SNR=222
H40A **Chili** 50.64 347 P P 03 18 33.9 -1.5
baz=162,SNR=55
G43A **Wallace** 50.70 349 eP P 03 18 34.1 -1.7
comp=Z,118nm,0.9s
G43A **Wallace** 50.70 349 P P 03 18 34.0 -1.8
baz=165,SNR=7.6
F46A **Macinaw City C** 50.74 352 P P 03 18 34.3 -1.7
baz=159,SNR=11
F45A **CMU Biological** 50.76 352 P P 03 18 34.5 -1.7
baz=168,SNR=6.9
E53A **Dumoine, Ponti** 50.77 359 P P 03 18 35.8 -0.5
baz=178,SNR=39
E54A **Lac Daplat, Po** 50.82 359 P P 03 18 36.4 -0.3
baz=179,SNR=44
G42A **Mountain** 50.82 349 eP P 03 18 35.2 -1.5
comp=Z,158nm,0.8s
G42A **Mountain** 50.82 349 P P 03 18 35.1 -1.5
baz=164,SNR=19
S22A **4UR Ranch, Cre** 50.88 329 eP P 03 18 38.3 +0.7
comp=Z,446nm,1.2s
S22A **4UR Ranch, Cre** 50.88 329 P P 03 18 38.4 +0.7
baz=139,SNR=349
H39A **Augusta** 50.91 346 P P 03 18 35.7 -1.7
baz=160,SNR=36
G41A **Antigo** 50.94 348 P P 03 18 36.1 -1.5
baz=163,SNR=44
E50A **Wahnapitae** 50.96 356 P P 03 18 36.2 -1.5
baz=174,SNR=15
Q24A **Divide** 50.97 331 eP P 03 18 38.7 +0.3
comp=Z,429nm,1.4s
Q24A **Divide** 50.97 331 P P 03 18 38.7 +0.3
baz=142,SNR=70
E51A **G1948 Merrick** 51.00 357 P P 03 18 37.3 -0.7
baz=176,SNR=69
X16A **Lo Mia Camp, P** 51.12 322 eP P 03 18 40.3 +0.9
comp=Z,155nm,1.0s
E48A **Lockeyer** 51.14 355 P P 03 18 37.7 -1.4
baz=172,SNR=26
H38A **Maiden Rock** 51.15 345 P P 03 18 37.4 -1.7
baz=159,SNR=11
OGNE **Ogallala** 51.15 335 eP P 03 18 39.8 +0.4
comp=Z,394nm,0.9s
OGNE **Ogallala** 51.15 335 P P 03 18 39.7 +0.4
146,SNR=71
F43A **Flat Rock, Esc** 51.16 350 P P 03 18 37.3 -1.9
baz=166,SNR=12
F44A **Big Bay de Noc** 51.18 351 P P 03 18 37.3 -2.0
baz=167,SNR=5.7
G40A **Rib Lake** 51.21 347 eP P 03 18 38.1 -1.6
comp=Z,84nm,0.8s
G40A **Rib Lake** 51.21 347 P P 03 18 38.1 -1.6
baz=162,SNR=18
E47A **Iron Bridge** 51.23 354 P P 03 18 38.1 -1.6
baz=171,SNR=17
LMN **Caledonia Moun** 51.23 10 eP P 03 18 39.9 +0.1
comp=Z,114nm,0.8s
E46A **Sault Ste Mari** 51.26 353 P P 03 18 38.1 -1.9
baz=170,SNR=15
F42A **Maple Grove Fa** 51.27 349 P P 03 18 38.4 -1.6
baz=165,SNR=11
E45A **Wooded Hills,** 51.37 352 P P 03 18 39.1 -1.6
baz=168,SNR=6.8
MVCO **Mesa Verde** 51.38 327 eP P 03 18 41.5 +0.2
comp=Z,815nm,1.7s
MVCO **Mesa Verde** 51.38 327 P P 03 18 41.7 +0.3
baz=137,SNR=107
F41A **Three Lakes** 51.43 348 eP P 03 18 39.7 -1.6
comp=Z,94nm,0.8s
F41A **Three Lakes** 51.43 348 P P 03 18 39.7 -1.6
baz=163,SNR=18
G39A **Holcombe** 51.45 346 P P 03 18 39.8 -1.6
baz=161,SNR=94
GBN **Guysborough** 51.47 13 eP P 03 18 41.4 -0.1
comp=Z,115nm,1.0s
D53A **Lac Vacive, Po** 51.47 359 P P 03 18 41.4 -0.2
baz=178,SNR=96
113A **Mohawk Valley,** 51.53 319 eP P 03 18 42.6 +0.4
comp=Z,75nm,1.1s
113A epP pP 03 19 12.3 +1.4
D54A **Lac Fusel, La** 51.53 360 P P 03 18 41.6 -0.4
baz=179,SNR=43
ECSD **EROS Data Cent** 51.54 341 eP P 03 18 40.4 -1.7
comp=Z,75nm,0.9s
ECSD **EROS Data Cent** 51.54 341 P P 03 18 40.4 -1.7
baz=154,SNR=52
D51A **Lot 18 Range I** 51.55 357 P P 03 18 40.8 -1.2
baz=176,SNR=13
PQI **Presque Isle** 51.55 7 eP P 03 18 42.4 +0.3
comp=Z,86nm,1.0s
D50A **G1974 Best Tow** 51.65 357 P P 03 18 41.5 -1.3
baz=175,SNR=21
E43A **Lone Tree Farm** 51.66 350 eP P 03 18 41.1 -1.9
comp=Z,117nm,0.8s
E43A **Lone Tree Farm** 51.66 350 P P 03 18 41.1 -1.9
baz=166,SNR=9.9
E44A **Grand Marais A** 51.73 351 P P 03 18 41.7 -1.7
baz=168
D46A **Sault St. Mari** 51.74 353 P P 03 18 41.5 -2.1
baz=170
COWI **Conover** 51.79 349 eP P 03 18 42.4 -1.5
comp=Z,282nm,1.6s
D48A **Paudash Townsh** 51.79 355 P P 03 18 42.3 -1.6
baz=173,SNR=30
SPMN **Marine on St.** 51.79 345 eP P 03 18 42.1 -1.9
comp=Z,690nm,1.9s
SPMN **Marine on St.** 51.79 345 P P 03 18 42.1 -1.9
baz=159,SNR=34
D47A **Chapleau** 51.80 354 P P 03 18 42.1 -1.9
baz=171
F40A **Park Falls** 51.82 348 P P 03 18 42.7 -1.5
baz=162,SNR=28
WUAZ **Wupatki** 51.83 323 eP P 03 18 45.4 +0.8
comp=Z,361nm,1.1s
WUAZ **Wupatki** 51.83 323 P P 03 18 45.5 +0.8
baz=133,SNR=190
LATQ **La Tuque** 51.84 3 P P 03 18 44.9 +0.6
baz=184
ISCO **Idaho Springs** 51.85 331 eP P 03 18 45.1 +0.2
comp=Z,330nm,1.5s
ISCO **Idaho Springs** 51.85 331 eP P 03 18 45.1 +0.2
ISCO pmax pmax
comp=Z,330nm,1.5s
ISCO **Idaho Springs** 51.85 331 P P 03 18 45.3 +0.4
baz=141,SNR=119
D49A **Beulah Townshi** 51.85 355 P P 03 18 42.9 -1.5
baz=173,SNR=18
E42A **Champion** 51.87 350 P P 03 18 42.9 -1.6
baz=165,SNR=9.1
F39A **Loretta** 51.99 347 P P 03 18 43.7 -1.7
baz=161,SNR=35
SMCO **Snowmass** 52.04 330 eP P 03 18 47.0 +0.6
comp=Z,721nm,2.0s
PV01 **Paradox Valley** 52.09 328 eP P 03 18 47.2 +0.6
E41A **Kenton** 52.10 349 P P 03 18 44.5 -1.7
baz=164,SNR=20
F37A **Hinrichs Farm,** 52.22 345 P P 03 18 45.5 -1.6
baz=159,SNR=34
PV02 **Paradox Valley** 52.23 328 eP P 03 18 48.4 +0.7
comp=Z,610nm,0.8s
PV13 **Radium Mtn., P** 52.24 327 eP P 03 18 48.4 +0.6
comp=Z,887nm,0.8s
F38A **Pierce - Schro** 52.25 346 P P 03 18 45.9 -1.4
baz=160,SNR=65
E40A **Wakefield** 52.27 348 P P 03 18 46.3 -1.2
baz=162,SNR=26
PV03 **Paradox Valley** 52.33 327 eP P 03 18 48.7 +0.4
PV05 **Paradox Valley** 52.33 327 eP P 03 18 48.6 +0.2
E39A **Mellen** 52.35 347 P P 03 18 46.7 -1.4
baz=162,SNR=30
PV12 **Saucer Basin,** 52.35 328 eP P 03 18 49.1 +0.6
comp=Z,669nm,1.0s
PV18 **Skein Mesa, Pa** 52.35 327 eP P 03 18 48.9 +0.4
comp=Z,543nm,0.9s
PV11 **David Mesa, Pa** 52.37 327 eP P 03 18 49.1 +0.4
comp=Z,487nm,1.0s
GLA **Glamis** 52.40 318 eP P 03 18 49.2 +0.5
comp=Z,108nm,1.0s
GLA **Glamis** 52.40 318 eP P 03 18 49.2 +0.5
GLA pmax pmax
comp=Z,108nm,1.0s
GLA **Glamis** 52.40 318 P P 03 18 49.2 +0.5
baz=128,SNR=29
PV16 **Nyswonger Mesa** 52.41 327 eP P 03 18 49.2 +0.3
comp=Z,438nm,1.0s
PV17 **East Wray Mesa** 52.41 327 eP P 03 18 49.2 +0.3
comp=Z,608nm,1.1s
BATG **Bathurst New B** 52.41 9 eP P 03 18 48.8 +0.3
comp=Z,150nm,0.9s
PV19 **Morning Glory** 52.44 327 eP P 03 18 49.5 +0.4
comp=Z,607nm,1.4s
PV20 **West Nyswonger** 52.45 327 eP P 03 18 49.5 +0.3
comp=Z,418nm,1.1s
PV22 **Blue Mesa, Par** 52.50 328 eP P 03 18 50.0 +0.4
comp=Z,1µm,1.9s
VLDQ **Val d'Or** 52.50 359 eP P 03 18 49.0 -0.1
comp=Z,345nm,1.3s
PV14 **Lion Creek, Pa** 52.51 327 eP P 03 18 49.8 +0.2
comp=Z,925nm,1.6s
PV10 **Paradox Valley** 52.52 327 eP P 03 18 49.5 -0.3
PV23 **Carpenter Ridg** 52.56 328 eP P 03 18 50.3 +0.2
comp=Z,187nm,1.1s
D41A **Chassel** 52.60 349 eP P 03 18 49.0 -0.9
comp=Z,333nm,1.8s
D41A **Chassel** 52.60 349 P P 03 18 50.8 +0.9
baz=164
PV21 **Cone Mtn., Par** 52.62 328 eP P 03 18 50.8 +0.3
comp=Z,747nm,1.9s
Y12C **Blythe** 52.64 319 eP P 03 18 50.9 +0.5
comp=Z,72nm,1.0s
Y12C **Blythe** 52.64 319 P P 03 18 50.9 +0.5
baz=129,SNR=24
PV09 **Paradox Valley** 52.66 327 eP P 03 18 50.9 0.0
PDMCI **Parker Dam,Lak** 52.74 320 P P 03 18 51.4 +0.3
baz=130,SNR=20
E38A **The Farm, Brul** 52.78 347 eP P 03 18 49.6 -1.6
comp=Z,176nm,0.9s
E38A **The Farm, Brul** 52.78 347 P P 03 18 49.7 -1.6
baz=161,SNR=29
N23A **Red Feather La** 52.86 332 eP P 03 18 52.5 +0.2
comp=Z,76nm,0.9s
N23A **Red Feather La** 52.86 332 P P 03 18 52.6 +0.3
baz=142,SNR=44
SUSD **Miller** 52.95 340 P P 03 18 51.4 -1.1
baz=151,SNR=14
PHWY **Pilot Hill** 52.96 332 eP P 03 18 53.1 +0.1
comp=Z,430nm,1.8s
SWSC **Sam W. Stewart** 52.98 318 P P 03 18 53.5 +0.5
baz=127,SNR=15
IKP **In-Ko-Pah, Jac** 53.02 317 P P 03 18 53.9 +0.6
baz=127,SNR=46
W13A **Hualapai Mount** 53.09 321 eP P 03 18 54.7 +0.7
comp=Z,460nm,1.8s
BC3 **Big Chuckawall** 53.18 319 P P 03 18 55.1 +0.6
baz=128,SNR=58
IRM **Iron Mountain** 53.29 319 P P 03 18 55.9 +0.7
baz=128,SNR=132
NEE2 **Needles Airpor** 53.34 320 P P 03 18 56.0 +0.5
baz=129,SNR=13
MONP2 **Monument Peak** 53.37 317 P P 03 18 56.5 +0.4
baz=127,SNR=41
O20A **White River Ci** 53.41 329 eP P 03 18 56.2 0.0
comp=Z,292nm,1.0s
O20A **White River Ci** 53.41 329 P P 03 18 56.7 +0.5
baz=139,SNR=129
BAR **Barrett** 53.41 317 eP P 03 18 56.5 +0.3
comp=Z,64nm,1.0s
LSQQ **Lebel-sur-Quev** 53.44 359 P P 03 18 55.5 -0.5
baz=179
PKCU **Pink Cliffs** 53.69 324 eP P 03 18 58.5 0.0
comp=Z,416nm,1.2s
KNB **Kanab** 53.70 324 eP P 03 18 59.4 +1.0
comp=Z,488nm,1.6s
KNB **Kanab** 53.70 324 eP P 03 18 59.4 +1.0
KNB pmax pmax
comp=Z,488nm,1.6s
BELC **Belle Mtn. Jos** 53.75 319 P P 03 18 59.4 +0.6
baz=128,SNR=102
XPFO **Piæon Flat** 53.82 318 eP P 03 18 59.7 +0.5
comp=Z,108nm,1.1s
PFO **Pinyon Flats O** 53.82 318 eP P 03 18 59.7 +0.4
comp=Z,99nm,1.0s
PFO **Pinyon Flats O** 53.82 318 eP P 03 18 59.7 +0.4
PFO pmax pmax
comp=Z,99nm,1.0s
PFO **Pinyon Flats O** 53.82 318 P P 03 18 59.9 +0.6
baz=127,SNR=80
109C **Camp Elliot, M** 53.83 317 P P 03 18 59.5 +0.3
baz=126,SNR=13
CPE **Camp Elliot** 53.83 317 eP P 03 18 59.5 +0.3
comp=Z,269nm,1.6s
CPE ePcP PcP 03 20 03.8 +0.4
LDFC **Landfair** 53.84 320 eP P 03 19 00.6 +1.2
comp=Z,715nm,2.0s
FRD **Ford Ranch, An** 53.85 318 P P 03 19 00.2 +0.7
baz=127,SNR=78
SRU **San Rafael Swe** 53.85 327 eP P 03 18 59.8 +0.3
comp=Z,523nm,1.2s
SRU **San Rafael Swe** 53.85 327 eP P 03 18 59.8 +0.3
SRU pmax pmax
comp=Z,523nm,1.2s
LCMT **Little Creek M** 53.95 323 eP P 03 19 00.9 +0.8
comp=Z,191nm,1.0s
GMRC **Granite Mounta** 54.02 320 P P 03 19 01.4 +0.7
baz=128,SNR=108
EYMN **Ely** 54.04 347 eP P 03 18 58.6 -1.8
comp=Z,102nm,0.8s
EYMN **Ely** 54.04 347 P P 03 18 58.7 -1.8
baz=161,SNR=18
P18A **Preston Nutter** 54.07 328 eP P 03 19 01.6 +0.4
comp=Z,736nm,1.6s
RWWY **Rawlins** 54.08 331 eP P 03 19 01.4 +0.2
comp=Z,484nm,1.3s
MATQ **Matagami** 54.15 359 P P 03 19 00.4 -0.7
baz=178
P17A **Butcher Ranch,** 54.23 327 eP P 03 19 02.6 +0.5
comp=Z,520nm,1.2s
CHGQ **Chibougamau** 54.31 1 P P 03 19 02.1 -0.2
baz=182
MURC **Murrieta** 54.31 318 P P 03 19 03.3 +0.6
baz=126,SNR=35
MSU **Marysvale** 54.35 325 eP P 03 19 02.4 -0.7
MSU **Marysvale** 54.35 325 eP P 03 19 02.4 -0.7
TMUT **Trail Mountain** 54.36 327 eP P 03 19 01.8 -1.4
comp=Z,109nm,0.9s
CCUT **Cedar City** 54.38 324 eP P 03 19 04.3 +1.0
comp=Z,183nm,1.2s
HEC **Hector,Ludlow** 54.48 319 P P 03 19 04.9 +0.9
baz=128,SNR=22
K22A **Casper** 54.51 333 eP P 03 19 04.2 +0.1

comp=Z,248nm,1.1s
K22A Casper 54.51 333 P **P** 03 19 04.3 +0.2
baz=142,SNR=82
BBRC Big Bear Solar 54.52 318 P **P** 03 19 05.7 +1.2
baz=127,SNR=47
TUQ Turquoise Moun 54.59 320 P **P** 03 19 05.3 +0.5
baz=128,SNR=24
RSSD Black Hills 54.61 336 *e*P **P** 03 19 05.2 +0.4
comp=Z,153nm,0.8s
RSSD Black Hills 54.61 336 *e*P **P** 03 19 05.2 +0.4
RSSD pmax pmax
comp=Z,153nm,0.8s
RSSD Black Hills 54.61 336 P **P** 03 19 05.3 +0.4
baz=145
SCI2 San Clemente I 54.87 316 P **P** 03 19 07.1 +0.3
baz=125,SNR=8.5
RRX Edison Barstow 54.94 319 P **P** 03 19 08.1 +0.9
baz=127
BFSC Mount Baldy Ra 55.00 318 P **P** 03 19 08.2 +0.4
baz=126,SNR=49
CIS Catalina Islan 55.02 317 P **P** 03 19 08.2 +0.4
baz=125,SNR=10
GSC Goldstone, Bar 55.07 319 *e*P **P** 03 19 08.8 +0.6
comp=Z,98nm,0.9s
GSC Goldstone, Bar 55.07 319 *e*P **P** 03 19 08.8 +0.6
GSC pmax pmax
comp=Z,98nm,0.9s
GSC Goldstone, Bar 55.07 319 P **P** 03 19 09.0 +0.8
baz=128,SNR=83
MPU Maple Canyon 55.10 327 *e*P **P** 03 19 08.8 +0.3
comp=Z,179nm,1.1s
SHOC Shoshone, Teco 55.10 320 P **P** 03 19 08.9 +0.6
baz=128,SNR=32
FMP Fort Macarthur 55.12 317 P **P** 03 19 09.1 +0.7
baz=125
MWC Mount Wilson 55.26 318 *e*P **P** 03 19 10.2 +0.5
comp=Z,112nm,0.9s
MWC Mount Wilson 55.26 318 *e*P **P** 03 19 10.2 +0.5
MWC pmax pmax
comp=Z,112nm,0.9s
NLU North Lily Min 55.29 327 *e*P **P** 03 19 10.3 +0.4
comp=Z,108nm,1.0s
PASC Pasadena Art C 55.31 318 *e*P **P** 03 19 10.4 +0.5
comp=Z,223nm,1.4s
PSUT Pine Spring 55.32 324 *e*P **P** 03 19 10.9 +0.8
comp=Z,174nm,1.0s
JLU Jordanelle 55.41 328 *e*P **P** 03 19 11.2 +0.4
comp=Z,329nm,1.1s
AGMN Agassiz Nation 55.44 344 *e*P **P** 03 19 09.3 -1.2
comp=Z,194nm,0.8s
AGMN Agassiz Nation 55.44 344 P **P** 03 19 09.4 -1.1
baz=156,SNR=96
DECC Green Verdugo 55.46 318 P **P** 03 19 11.7 +0.7
baz=126,SNR=7.5
EDW2 Edwards Air Fo 55.60 318 P **P** 03 19 12.3 +0.3
baz=126,SNR=74
CTU Camp Tracy 55.64 328 *e*P **P** 03 19 12.6 +0.3
comp=Z,533nm,1.9s
SNCC San Nicolas Is 55.70 316 *e*P **P** 03 19 13.0 +0.3
comp=Z,172nm,1.2s
SNCC *e*PcP **PcP** 03 20 10.9 +0.3
SNCC San Nicolas Is 55.70 316 P **P** 03 19 12.9 +0.3
baz=124,SNR=12
TPNV Topopah Spring 55.74 321 *e*P **P** 03 19 13.9 +0.9
comp=Z,167nm,1.2s
TPNV Topopah Spring 55.74 321 *e*P **P** 03 19 13.9 +0.9
TPNV pmax pmax
comp=Z,167nm,1.2s
TPNV Topopah Spring 55.74 321 P **P** 03 19 14.0 +0.9
baz=129,SNR=102
LRMC Laurel Mtn Rad 55.75 319 P **P** 03 19 13.7 +0.6
baz=127,SNR=66
TCUT Toone Canyon 55.76 328 *e*P **P** 03 19 13.7 +0.5
comp=Z,356nm,0.8s
FURC Furnace Creek, 55.82 321 P **P** 03 19 14.3 +0.8
baz=128,SNR=72
DUG Dugway, Tooele 55.87 326 *e*P **P** 03 19 14.6 +0.7
comp=Z,649nm,1.4s
DUG Dugway, Tooele 55.87 326 *e*P **P** 03 19 14.6 +0.7
DUG pmax pmax
comp=Z,649nm,1.4s
DUG Dugway, Tooele 55.87 326 P **P** 03 19 14.8 +0.9
baz=134,SNR=349
BLG Laguna Peak, P 55.87 317 P **P** 03 19 14.4 +0.5
baz=125,SNR=19
OSI Osito Audit: C 55.93 318 P **P** 03 19 14.5 +0.2
baz=126
MPMC Manual Prospec 55.97 320 P **P** 03 19 14.9 +0.1
baz=127,SNR=48
DRLN Deer Lake 56.03 15 *e*P **P** 03 19 14.5 -0.1
comp=Z,151nm,0.9s
BW06 Boulder Array 56.03 331 *e*P **P** 03 19 14.6 -0.5
comp=Z,376nm,1.4s
BW06 Boulder Array 56.03 331 P **P** 03 19 14.8 -0.3
baz=139,SNR=191
PD31 Pinedale Array 56.03 331 *e*P **P** 03 19 14.6 -0.6
PD31 *e*pP **pP** 03 19 43.9 -0.4
PD31 *e*PcP **PcP** 03 20 11.6 -0.4
PDAR Pinedale Array 56.03 331 P **P** 03 19 14.8 -0.3
comp=Z,97nm,0.9s,baz=131,slow=6.7,SNR=444
PDAR pP **pP** 03 19 43.9 -0.4
comp=Z,14nm,0.8s,baz=143,slow=10,SNR=2.9
PDAR PcP **PcP** 03 20 11.6 -0.4
comp=Z,36nm,1.0s,baz=133,slow=5.8,SNR=6.7
PDAR LR LR 03 47 38.3
comp=Z,167nm,18.6s,baz=146,slow=40
PDAR PKPPKP **P'P'df** 03 49 17.8 +5.0
comp=Z,3.9nm,1.1s,baz=354,slow=1.5,SNR=8.4
PDAR P4KPbc 03 56 27.6
comp=Z,4.0nm,0.9s,baz=138,slow=5.7,SNR=19
PDAR Pinedale Array 56.03 331 *e*P **P** 03 19 13.1 -2.0
PDAR pP **pP** 03 19 43.9 -0.4
MDND Maddock 56.15 341 *e*P **P** 03 19 15.4 -0.2
comp=Z,1µm,1.4s
MDND Maddock 56.15 341 P **P** 03 19 15.5 -0.2
baz=151,SNR=126
DAC Darwin (Calif) 56.17 320 *e*P **P** 03 19 16.3 +0.1
comp=Z,59nm,1.0s
DAC Darwin (Calif) 56.17 320 *e*P **P** 03 19 16.3 +0.1
DAC pmax pmax
comp=Z,59nm,1.0s
HWUT Hardware Ranch 56.19 328 *e*P **P** 03 19 14.7 -1.6
comp=Z,785nm,1.6s
SCZ2 Santa Cruz Isl 56.20 317 P **P** 03 19 16.4 +0.2
baz=124,SNR=22
R11A Troy Canyon, C 56.23 323 *e*P **P** 03 19 17.2 +0.6
comp=Z,170nm,1.2s
R11A Troy Canyon, C 56.23 323 P **P** 03 19 17.4 +0.9
baz=130,SNR=163
ARVC Arvin 56.30 318 P **P** 03 19 17.4 +0.5
baz=126,SNR=6.5
ISA Isabella, Lake 56.38 319 *e*P **P** 03 19 18.0 +0.5
comp=Z,272nm,1.8s
ISA Isabella, Lake 56.38 319 *e*P **P** 03 19 18.0 +0.5
ISA pmax pmax
comp=Z,272nm,1.8s
ISA Isabella, Lake 56.38 319 P **P** 03 19 18.2 +0.6
baz=126,SNR=62
SPUT South Promonto 56.45 328 *e*P **P** 03 19 18.2 +0.2
comp=Z,740nm,1.5s
GRAC Grapevine Rang 56.47 321 P **P** 03 19 18.9 +0.8
baz=128,SNR=55
BGU Big Grassy Mou 56.49 327 *e*P **P** 03 19 18.5 +0.1
comp=Z,241nm,1.1s
SBC Santa Barbara 56.50 317 P **P** 03 19 18.7 +0.4
baz=124
CWC Cottonwood Cre 56.59 320 P **P** 03 19 19.7 +0.6
baz=127
AHID Auburn Hatcher 56.80 330 *e*P **P** 03 19 20.2 -0.3
comp=Z,208nm,1.0s
PKM Mcpherson Peak 56.82 317 P **P** 03 19 21.2 +0.4
baz=125,SNR=51
VES Vestal, Richgr 56.88 319 P **P** 03 19 21.6 +0.6
baz=126,SNR=18
HVU Hansel Valley 56.95 328 *e*P **P** 03 19 21.3 -0.3
comp=Z,435nm,1.7s
HVU Hansel Valley 56.95 328 *e*P **P** 03 19 21.3 -0.3
HVU pmax pmax
comp=Z,435nm,1.7s
TIN Tinemaha, Big 57.05 320 P **P** 03 19 23.0 +0.7
baz=127,SNR=11
REDW Red Top Meadow 57.11 330 *e*P **P** 03 19 22.7 0.0
comp=Z,334nm,1.3s
SNOW Snow King Moun 57.13 330 *e*P **P** 03 19 23.0 0.0
comp=Z,257nm,1.2s
LOHW Long Hollow 57.17 331 *e*P **P** 03 19 23.1 -0.1
comp=Z,115nm,1.0s
SMMC Simmler 57.19 318 P **P** 03 19 23.9 +0.7
baz=125,SNR=24
ULM Lac du Bonnet 57.23 345 P **P** 03 19 21.9 -1.3
comp=Z,181nm,0.8s,baz=159,slow=7.3,SNR=232
ULM pP **pP** 03 19 51.3 -1.1
comp=Z,45nm,0.7s,baz=182,slow=7.6,SNR=4.6
ULM PcP **PcP** 03 20 15.8 -0.4
comp=Z,36nm,0.5s,baz=164,slow=3.7,SNR=9.2
ULM LR LR 03 43 07.0
comp=Z,282nm,21.5s,baz=158,slow=35
ULM PKP2bc 03 49 20.3
comp=Z,7.6nm,1.0s,baz=31,slow=2.8,SNR=6.8
ULM Lac du Bonnet 57.23 345 *e*P **P** 03 19 21.5 -1.7
comp=Z,233nm,0.9s
ULM pP **pP** 03 19 51.3 -1.1
TPAW Teton Pass 57.25 330 *e*P **P** 03 19 23.7 -0.1
comp=Z,140nm,1.0s
MOOW Moose Ponds 57.34 331 *e*P **P** 03 19 23.7 -0.7
comp=Z,210nm,1.5s
FXWY Fox Creek 57.40 330 *e*P **P** 03 19 24.6 -0.2
comp=Z,66nm,0.9s
IMW Indian Meadow 57.55 331 *e*P **P** 03 19 25.9 0.0
comp=Z,762nm,1.9s
FLWY Flagg Ranch 57.57 331 *e*P **P** 03 19 25.2 -0.7
comp=Z,363nm,1.0s
LAO LASA Array 57.59 336 *e*P **P** 03 19 25.5 -0.3
comp=Z,635nm,1.9s
LAO LASA Array 57.59 336 P **P** 03 19 25.5 -0.3
baz=144,SNR=38
PAGB Antelope Grade 57.59 318 *e*P **P** 03 19 26.4 +0.4
comp=Z,119nm,1.2s
RLMT Red Lodge 57.68 333 *e*P **P** 03 19 26.4 -0.3
comp=Z,95nm,0.9s
RLMT Red Lodge 57.68 333 P **P** 03 19 26.5 -0.1
baz=140,SNR=62
H17A Grant Village 57.74 331 *e*P **P** 03 19 27.8 +0.6
comp=Z,361nm,1.8s
H17A Grant Village 57.74 331 P **P** 03 19 27.8 +0.6
baz=138,SNR=39
YPP Pitchstone Pla 57.76 331 *e*P **P** 03 19 27.9 +0.5
comp=Z,124nm,1.1s
LKWY Lake 57.78 332 *e*P **P** 03 19 28.8 +1.3
comp=Z,99nm,0.9s
LKWY Lake 57.78 332 *e*P **P** 03 19 28.8 +1.3
LKWY pmax pmax
comp=Z,99nm,0.9s
MLAC Mammoth, Mammo 57.78 320 P **P** 03 19 28.3 +0.7
baz=127,SNR=18
NV11 Mina Array Sit 57.84 322 *e*P **P** 03 19 28.4 +0.5
comp=Z,14nm,1.2s
YFT Old Faithful 57.91 331 *e*P **P** 03 19 29.8 +1.5
comp=Z,318nm,1.3s
NV01 Mina Array Sit 57.93 322 *e*P **P** 03 19 28.1 -0.5
NVAR Mina Array Bea 57.93 322 P **P** 03 19 29.0 +0.4
comp=Z,94nm,1.0s,baz=135,slow=6.6,SNR=311
NVAR PcP **PcP** 03 20 19.6 +0.1
comp=Z,29nm,0.7s,baz=137,slow=4.4,SNR=10
NVAR LR LR 03 44 41.9
comp=Z,235nm,18.4s,baz=74,slow=36
NVAR PKP2bc 03 49 20.5
comp=Z,2.4nm,0.6s,baz=272,slow=4.2,SNR=12
NVAR P4KPbc 03 56 38.2
comp=Z,0.8nm,0.7s,baz=130,slow=5.9,SNR=6.1
MDPB Devils Postpil 57.94 320 *e*P **P** 03 19 29.0 +0.3
comp=Z,335nm,1.5s
LHV Little Huntoon 57.95 321 *e*P **P** 03 19 29.5 +1.1
YNR Norris Junctio 58.03 332 *e*P **P** 03 19 29.8 +0.7
comp=Z,74nm,1.0s
YMR Madison River 58.13 331 *e*P **P** 03 19 30.6 +0.8
comp=Z,618nm,1.5s
YHH Holmes Hill 58.16 331 *e*P **P** 03 19 30.8 +0.6
comp=Z,389nm,1.4s
PMPB Monarch Peak 58.24 318 *e*P **P** 03 19 31.1 +0.5
comp=Z,495nm,1.7s
DGMT Dagmar 58.27 338 *e*P **P** 03 19 30.8 +0.3
comp=Z,190nm,0.9s
DGMT Dagmar 58.27 338 P **P** 03 19 30.8 +0.3
baz=147,SNR=50
YHB Horse Butte 58.30 331 *e*P **P** 03 19 31.9 +0.8
comp=Z,343nm,0.9s
GCMT Greycliff 58.37 333 *e*P **P** 03 19 31.5 +0.1
QLMT Earthquake Lak 58.47 331 *e*P **P** 03 19 33.3 +1.1
BMN Battle Mountai 58.53 324 *e*P **P** 03 19 32.5 -0.2
BMN Battle Mountai 58.53 324 *e*P **P** 03 19 32.5 -0.2
BVYM Vineyard 58.95 318 *e*P **P** 03 19 35.5 +0.1
SAO San Andreas Ge 58.98 318 *e*P **P** 03 19 35.6 0.0
comp=Z,50nm,1.1s
SAO San Andreas Ge 58.98 318 *e*P **P** 03 19 35.6 0.0
SAO pmax pmax
comp=Z,50nm,1.1s
CMB Columbia Colle 59.01 320 *e*P **P** 03 19 35.9 0.0
comp=Z,62nm,1.1s
CMB Columbia Colle 59.01 320 *e*P **P** 03 19 35.9 0.0
CMB pmax pmax
comp=Z,62nm,1.1s
HOPE Hope Point 59.03 154 *e*P **P** 03 19 37.7 +2.1
comp=Z,221nm,0.9s
HLID Hailey 59.06 328 *e*P **P** 03 19 36.5 +0.2
comp=Z,197nm,1.1s
HLID Hailey 59.06 328 P **P** 03 19 36.8 +0.5
baz=134,SNR=187
BOZ Bozeman (W) 59.13 332 *e*P **P** 03 19 37.0 +0.3
comp=Z,414nm,1.1s
BOZ Bozeman (W) 59.13 332 *e*P **P** 03 19 37.0 +0.3
BOZ pmax pmax
comp=Z,414nm,1.1s
BOZ Bozeman (W) 59.13 332 P **P** 03 19 37.0 +0.3
baz=138,SNR=95
MCMT McKenzie Canyo 59.16 330 *e*P **P** 03 19 37.5 +0.5
DLMT Dillon 59.42 331 *e*P **P** 03 19 39.1 +0.4
comp=Z,216nm,1.2s
DLMT *e*sP **sP** 03 20 22.7 +1.2
RKT Rikitea 59.61 246 *e*P **P** 03 19 40.4 +0.2
comp=Z,110nm,0.9s
RKT *e*S **S** 03 27 39.8 -1.5
RKT comp=Z,2µm,26.0s *e*LQ LQ 03 34 54.4
RKT comp=Z,1µm,28.8s *e*LR LR 03 37 30.3
comp=Z,1µm,36.5s
MFID Camas Ranch 59.71 327 *e*P **P** 03 19 41.3 +0.6
comp=Z,695nm,0.9s
SCHQ Schefferville 59.72 6 P **P** 03 19 40.2 -0.1
comp=Z,218nm,0.9s,baz=194,slow=5.2,SNR=92
SCHQ PcP **PcP** 03 20 26.2 +0.2
comp=Z,91nm,0.7s,baz=208,slow=4.4,SNR=11
SCHQ Schefferville 59.72 6 *e*P **P** 03 19 40.3 -0.1
comp=Z,414nm,1.1s
SCHQ *e*PcP **PcP** 03 20 26.2 +0.2
AFDM Forest Hills D 59.92 321 *e*P **P** 03 19 42.0 0.0
comp=Z,235nm,1.6s
HRY Holter Researc 60.05 332 *e*P **P** 03 19 43.1 +0.2
EGMT Eagleton 60.12 335 *e*P **P** 03 19 43.2 -0.1
comp=Z,151nm,0.8s
EGMT Eagleton 60.12 335 P **P** 03 19 43.3 0.0
baz=140,SNR=76
ORV Oroville 60.60 321 *e*P **P** 03 19 47.5 +0.8
comp=Z,559nm,1.2s
WVOR Wild Horse Val 60.63 325 *e*P **P** 03 19 46.7 -0.3
comp=Z,288nm,1.1s
WVOR Wild Horse Val 60.63 325 *e*P **P** 03 19 46.7 -0.3
WVOR pmax pmax
comp=Z,288nm,1.1s
PMSA Palmer Station 60.68 174 P **P** 03 19 48.2 +1.5
comp=Z,65nm,0.7s,baz=359,slow=5.8,SNR=18
PMSA pP **pP** 03 20 17.3 +1.0
comp=Z,73nm,1.0s,baz=332,slow=4.0,SNR=4.3
MCCM Marconi Confer 60.69 319 *e*P **P** 03 19 47.6 +0.4
comp=Z,116nm,0.9s
J08A Circle Bar Ran 61.13 326 *e*P **P** 03 19 50.1 -0.2
comp=Z,101nm,0.9s
MSO Missoula 61.13 331 *e*P **P** 03 19 50.5 +0.3
comp=Z,592nm,1.2s
MSO Missoula 61.13 331 P **P** 03 19 50.7 +0.4
baz=136,SNR=227
O03E Paynes Creek 61.22 321 P **P** 03 19 50.2 -0.8
baz=126,SNR=35
MOD Modoc Plateau 61.27 324 *e*P **P** 03 19 51.3 -0.1
comp=Z,214nm,1.3s
HOPS Hopland Field 61.29 320 *e*P **P** 03 19 52.4 +1.1
comp=Z,165nm,1.4s
BMO Blue Mountains 61.47 328 *e*P **P** 03 19 51.9 -0.7
comp=Z,90nm,1.0s
BMO Blue Mountains 61.47 328 *e*P **P** 03 19 51.9 -0.7
BMO pmax pmax
comp=Z,90nm,1.0s
PICO Pico 61.51 41 *e*P **P** 03 19 52.5 -0.4
comp=Z,221nm,1.3s
ROSA Rosais 61.75 41 *e*P **P** 03 19 54.5 +0.1
comp=Z,159nm,1.0s
O02D Mt. Diablo Mer 61.77 321 P **P** 03 19 53.8 -0.8
baz=125,SNR=24
PMAN Manadas 61.80 41 *e*P **P** 03 19 54.5 -0.3
comp=Z,121nm,1.3s
WDC Whiskeytown Da 61.85 321 *e*P **P** 03 19 53.3 -1.7
comp=Z,60nm,0.8s
WDC Whiskeytown Da 61.85 321 *e*P **P** 03 19 53.3 -1.7
WDC pmax pmax
comp=Z,60nm,0.8s
JTMT Jette 61.95 332 *e*P **P** 03 19 56.1 +0.4
comp=Z,791nm,1.7s
KCPM Cahto Peak 62.00 320 *e*P **P** 03 19 57.8 +1.5
comp=Z,363nm,1.2s
PGRA Graciosa 62.09 41 *e*P **P** 03 19 56.6 -0.1
comp=Z,114nm,1.5s
M04C Macdoel 62.11 323 P **P** 03 19 57.2 +0.2
baz=126,SNR=98
I07A Izee 62.16 326 *e*P **P** 03 19 57.8 +0.6
comp=Z,205nm,1.1s
N02D Trinity Center 62.17 322 P **P** 03 19 56.1 -1.2
baz=125,SNR=30
F10A Beach Ranch, E 62.17 329 *e*P **P** 03 19 56.9 -0.3
comp=Z,378nm,1.2s
BSMT Bassoo Peak 62.26 332 *e*P **P** 03 19 58.6 +0.6
KMRM Mail Ridge 62.38 320 *e*P **P** 03 19 59.6 +0.9
comp=Z,267nm,1.2s
M02C Callahan 62.51 322 P **P** 03 19 58.8 -0.7
baz=125,SNR=19
K04D Chiloquin, OR 62.56 324 P **P** 03 20 00.3 +0.3
baz=127,SNR=22
YBH Yreka Blue Hor 62.61 322 *e*P **P** 03 19 59.1 -1.1
comp=Z,122nm,1.0s
YBH Yreka Blue Hor 62.61 322 *e*P **P** 03 19 59.1 -1.1
YBH pmax pmax
comp=Z,122nm,1.0s
G08A Pilot Rock 62.64 327 *e*P **P** 03 20 00.7 +0.3
comp=Z,290nm,1.1s
L04D Klamath Falls 62.65 323 P **P** 03 20 00.4 -0.2
baz=126,SNR=55
J05D Fort Rock, OR 62.66 324 P **P** 03 20 01.1 +0.6
baz=127,SNR=87
KHMM Horse Mountain 62.76 321 *e*P **P** 03 20 02.1 +0.8
comp=Z,671nm,1.5s
FFC Flin Flon 62.90 343 *e*P **P** 03 20 01.2 -0.6
comp=Z,375nm,1.4s
FFC Flin Flon 62.90 343 *ce*P **P** 03 20 01.0 -0.8
FFC pmax pmax
comp=Z,609nm,1.3s
JCC Jacoby Creek, 62.91 321 *e*P **P** 03 20 02.9 +0.8
comp=Z,595nm,1.4s
JCC *e*PcP **PcP** 03 20 40.3 +1.1
E09A Wood Farm, Sta 63.01 329 *e*P **P** 03 20 02.5 -0.1
comp=Z,574nm,2.0s
PSMN Pico do Norte, 63.01 44 *e*P **P** 03 20 02.7 -0.2
comp=Z,70nm,1.2s
CMLA Cha da Macela 63.07 43 *e*P **P** 03 20 03.1 -0.2
comp=Z,138nm,0.9s
CMLA Cha da Macela 63.07 43 *i* P **P** 03 20 04.6 +1.3
J04D Umpqua Nationa 63.14 324 P **P** 03 20 04.0 +0.2
baz=126,SNR=22
HUMO Hull Mountain 63.27 323 *e*P **P** 03 20 03.5 -1.0
comp=Z,37nm,1.1s
BART Pico Bartolome 63.32 44 *e*P **P** 03 20 04.7 -0.3
comp=Z,230nm,1.2s
I05D Terrebonne, OR 63.36 325 P **P** 03 20 05.9 +0.8
baz=128,SNR=110
L02E Cave Junction 63.40 322 P **P** 03 20 05.6 +0.2
baz=125
E08A Dider Farm, El 63.47 328 *e*P **P** 03 20 05.3 -0.4
comp=Z,123nm,1.3s
G06A Carlson Farm, 63.52 326 *e*P **P** 03 20 07.2 +1.1
comp=Z,677nm,1.6s
F07A Phinny Hill Vi 63.55 327 *e*P **P** 03 20 07.1 +0.9
comp=Z,251nm,1.1s
I04A Tendick Farm, 63.64 324 P **P** 03 20 06.6 -0.4
baz=126,SNR=30
HAWA Hanford 63.66 328 *e*P **P** 03 20 06.3 -0.6
comp=Z,66nm,0.9s
NEW Newport 63.67 331 *e*P **P** 03 20 06.8 -0.3
comp=Z,248nm,1.1s
NEW Newport 63.67 331 *e*P **P** 03 20 06.8 -0.3
NEW pmax pmax
comp=Z,248nm,1.1s
NEW Newport 63.67 331 P **P** 03 20 07.0 0.0
baz=133,SNR=135
K02D Willamette Mer 63.75 323 P **P** 03 20 08.1 +0.4
baz=125,SNR=66
D08A Wollman Farm, 63.77 329 *e*P **P** 03 20 07.8 +0.1
comp=Z,92nm,1.1s
G05D Wamic, OR 63.90 326 P **P** 03 20 09.8 +1.2
baz=128,SNR=76
C09A Chrisman Ranch 63.93 330 *e*P **P** 03 20 09.2 +0.4
comp=Z,219nm,1.3s
E07A Sunnyside 63.93 328 *e*P **P** 03 20 09.5 +0.7
comp=Z,214nm,1.0s
H04A Detroit Lake 64.05 325 *e*P **P** 03 20 09.3 -0.2
comp=Z,256nm,1.1s
I03D Drain, OR 64.14 324 P **P** 03 20 10.3 +0.2
baz=126,SNR=25
J01E Myrtle Point 64.17 323 P **P** 03 20 11.1 +0.7
baz=125,SNR=16
KEBM Edson Butte 64.25 323 *e*P **P** 03 20 12.3 +1.3
comp=Z,410nm,1.2s
H04D Lebanon 64.27 325 P **P** 03 20 10.5 -0.4
baz=126,SNR=9.1
F05D White Salmon 64.37 327 P **P** 03 20 12.4 +0.7
baz=128,SNR=24
COR Corvallis 64.63 325 *e*P **P** 03 20 14.0 +0.8
comp=Z,785nm,1.4s
COR Corvallis 64.63 325 P **P** 03 20 14.1 +0.8
COR pmax pmax
comp=Z,428nm,1.3s
I02D Swisshome 64.67 324 P **P** 03 20 14.4 +0.9
baz=125,SNR=18
FCC Fort Churchill 64.77 350 *e*P **P** 03 20 12.7 -1.2
comp=Z,152nm,1.0s
FCC Fort Churchill 64.77 350 *e*P **P** 03 20 12.7 -1.2
FCC pmax pmax
comp=Z,152nm,1.0s
LTY Liberty 64.81 328 *e*P **P** 03 20 14.9 +0.3
comp=Z,408nm,1.7s
B08A Colville Reser 64.83 330 *e*P **P** 03 20 14.7 0.0
comp=Z,168nm,1.1s
G03D McMinnville, O 64.98 325 P **P** 03 20 16.0 +0.4
baz=126,SNR=10
LON Longmire 65.10 327 *e*P **P** 03 20 16.5 +0.1
comp=Z,122nm,0.9s
LON Longmire 65.10 327 *e*P **P** 03 20 16.5 +0.1
LON pmax pmax
comp=Z,122nm,0.9s
C06D Leavenworth 65.35 329 P **P** 03 20 18.3 +0.3
baz=129,SNR=7.8
F04D Rainier, OR 65.35 326 P **P** 03 20 18.9 +0.9
baz=127,SNR=12
E04D Cinebar 65.39 327 P **P** 03 20 18.2 0.0
baz=127,SNR=25
D05A Enumclaw 65.47 327 *e*P **P** 03 20 19.0 +0.3
comp=Z,368nm,0.9s
D04E Lakebay 65.88 327 P **P** 03 20 22.0 +0.7
baz=128,SNR=22
E03A Lebam 65.94 326 *e*P **P** 03 20 22.5 +0.8
comp=Z,402nm,1.0s
MACI Morro de la Ar 65.97 56 *e*P **P** 03 20 24.0 +1.5
comp=Z,358nm,0.8s
B06A Marblemount 66.03 329 *e*P **P** 03 20 22.2 0.0
comp=Z,144nm,1.0s
B05A Bryant 66.19 328 P **P** 03 20 22.9 -0.4
baz=128,SNR=52
D03D Eldon 66.27 327 P **P** 03 20 24.3 +0.4
baz=127,SNR=76
A04D Lummi Island 66.79 328 P **P** 03 20 27.7 +0.6
baz=128,SNR=52
PGC Sidney 67.14 328 *e*P **P** 03 20 29.9 +0.6
comp=Z,304nm,1.2s
IVI Ivigtut 69.11 14 *e*P **P** 03 20 40.8 -0.5
comp=Z,202nm,0.9s
NRS Narsarsuaq 69.76 15 *i* P **P** 03 20 45.3 0.0
comp=Z,94nm,0.8s
NRS Narsarsuaq 69.76 15 *i* P **P** 03 20 45.3 0.0
NRS pmax pmax
comp=Z,200nm,0.8s
SHEL Horse Pasture 69.90 105 *e*P **P** 03 20 51.1 +3.9
comp=Z,102nm,0.8s
SHEL Horse Pasture 69.90 105 *e*P **P** 03 20 51.1 +3.9
SHEL pmax pmax
comp=Z,102nm,0.8s

VAH	**Vaihoa**		**70.97**	**256**	*e*P		**P**	**03 20 54.0**	**+0.4**
	comp=Z,247nm,1.2s									
VAH					*ep*P		**pP**	**03 21 25.0**	**+1.1**
	comp=Z,278nm,1.3s									
PMOR	**Pomariorio Ree**		**71.22**	**256**	*e*P		**P**	**03 20 55.8**	**+0.7**
	comp=Z,290nm,1.1s									
PMOR					*ep*P		**pP**	**03 21 26.8**	**+1.3**
	comp=Z,276nm,1.3s									
BBB	**Bella Bella**		**71.63**	**329**	*e*P		**P**	**03 20 57.8**	**+1.0**
	comp=Z,120nm,0.8s									
LIC	**Lamto**		**71.79**	**82**	*e*P		**P**	**03 20 59.1**	**+0.4**
	comp=Z,152nm,0.9s									
TIC	**Toumodi**		**71.85**	**82**	*e*P		**P**	**03 20 59.5**	**+0.5**
DBIC	**Dimbokro**		**72.02**	**82**	P		**P**	**03 21 00.7**	**+0.7**
	comp=Z,84nm,0.8s,baz=245,slow=5.6,SNR=116									
DBIC					LR		LR	03 53 12.9		
	comp=Z,186nm,18.3s,baz=222,slow=36									
DBIC	**Dimbokro**		**72.02**	**82**	*e*P		**P**	**03 21 00.8**	**+0.7**
	comp=Z,135nm,1.0s									
DBIC	**Dimbokro**		**72.02**	**82**	*e*P		**P**	**03 21 00.8**	**+0.8**
DBIC					pmax		pmax			
	comp=Z,135nm,1.0s									
KIC	**Kosan Boka**		**72.09**	**82**	*e*P		**P**	**03 21 01.2**	**+0.7**
	comp=Z,363nm,1.2s									
TVO	**Taravao**		**72.55**	**253**	*e*P		**P**	**03 21 03.5**	**+0.4**
	comp=Z,29nm,1.2s									
TVO					*ep*P		**pP**	**03 21 34.9**	**+1.3**
	comp=Z,34nm,1.3s									
TIAR	**Tiarei**		**72.64**	**253**	*e*P		**P**	**03 21 03.9**	**+0.3**
	comp=Z,20nm,1.0s									
PPTF	**Pamatai, Papee**		**72.84**	**253**	*e*P		**P**	**03 21 05.5**	**+0.6**
	comp=Z,310nm,1.4s									
PPT	**Papeete**		**72.86**	**253**	P		**P**	**03 21 05.7**	**+0.8**
	comp=Z,134nm,1.2s,baz=101,slow=6.5,SNR=8.2									
PPT					LR		LR	03 45 40.7		
	comp=Z,248nm,18.2s,baz=108,slow=30									
PPT2	**Papeete2**		**72.86**	**253**	*e*P		**P**	**03 21 05.4**	**+0.4**
	comp=Z,109nm,1.3s									
PPT2					*ep*P		**pP**	**03 21 36.9**	**+1.5**
	comp=Z,158nm,1.3s									
PPT2					*e*S		**S**	**03 30 21.3**	**-0.6**
	comp=Z,1µm,26.5s									
PPT2	**Papeete2**		**72.86**	**253**	*e*LR		LR	03 43 39.7		
	comp=Z,1µm,30.2s									
PAE	**Paea**		**72.86**	**253**	*e*P		**P**	**03 21 05.4**	**+0.5**
	comp=Z,25nm,1.0s									
PAE					*ep*P		**pP**	**03 21 36.8**	**+1.5**
	comp=Z,45nm,1.3s									
TBI	**Tubuai**		**72.89**	**247**	*e*S		**S**	**03 30 21.1**	**-0.9**
	comp=Z,924nm,26.0s									
TBI	**Tubuai**		**72.89**	**247**	*e*LQ		LQ	03 40 31.0		
	comp=Z,481nm,31.8s									
TBI					*e*LR		LR	03 43 41.0		
	comp=Z,626nm,36.5s									
YKA	**Yellowknife Ar**		**73.03**	**342**	P		**P**	**03 21 04.6**	**-0.4**
	comp=Z,106nm,0.8s,baz=140,slow=5.8,SNR=552									
YKA					PcP		**PcP**	**03 21 20.5**	**-0.6**
	comp=Z,18nm,0.8s,baz=138,slow=4.4,SNR=6.7									
YKA					pP		**pP**	**03 21 35.0**	**-0.5**
	comp=Z,8.8nm,0.6s,baz=141,slow=5.7,SNR=2.0									
YKB5	**Yellowknife Ar**		**73.03**	**342**	*e*P		**P**	**03 21 02.5**	**-2.5**
YKB5					*e*PcP		**PcP**	**03 21 20.5**	**-0.6**
YKW3	**Yellowknife Ar**		**73.09**	**342**	*e*P		**P**	**03 21 04.7**	**-0.6**
	comp=Z,1µm,2.0s									
SFJD	**Kangerlussuaq**		**73.72**	**10**	*e*P		**P**	**03 21 08.0**	**-0.9**
	comp=Z,150nm,1.4s									
SFJD	**Kangerlussuaq**		**73.72**	**10**	*i* P		**P**	**03 21 08.4**	**-0.5**
	comp=Z,90nm,1.0s									
SFJD	**Kangerlussuaq**		**73.72**	**10**	*i* P		**P**	**03 21 08.4**	**-0.5**
SFJD					pmax		pmax			
	comp=Z,90nm,1.0s									
DIB	**Dawson Inlet,**		**74.42**	**329**	*e*P		**P**	**03 21 14.4**	**+1.1**
	comp=Z,176nm,1.0s									
PFVI	**Vila Bisbo**		**74.96**	**50**	*e*P		**P**	**03 21 18.3**	**+1.6**
	comp=Z,264nm,1.5s									
MORF	**Marmelete**		**75.14**	**50**	*e*P		**P**	**03 21 17.3**	**-0.7**
MORF					AMb		AMB	03 21 22.3		
	comp=Z,217nm,1.4s									
MORF					*e*S		**S**	**03 30 46.0**	**-0.8**
MORF	**Marmelete**		**75.14**	**50**	*e*P		**P**	**03 21 19.3**	**+1.4**
	comp=Z,228nm,1.6s									
MORF	**Marmelete**		**75.14**	**50**	*e*P		**P**	**03 21 17.2**	**-0.7**
MORF					*e*S		**S**	**03 30 46.0**	**-0.8**
PTEO	**Sao Teotonio**		**75.16**	**49**	*e*P		**P**	**03 21 19.3**	**+1.4**
	comp=Z,120nm,1.3s									
PMST	**Lisbon--Monsan**		**75.19**	**48**	*e*P		**P**	**03 21 18.4**	**+0.4**
	comp=Z,279nm,1.5s									
LIS	**Lisbon**		**75.20**	**48**	*e*P		**P**	**03 21 17.7**	**-0.4**
LIS					AMb		AMB	03 21 26.9		
	comp=Z,147nm,1.6s									
LIS					*e*S		**S**	**03 30 46.6**	**-0.7**
LIS	**Lisbon**		**75.20**	**48**	*e*P		**P**	**03 21 17.7**	**-0.4**
LIS					*e*S		**S**	**03 30 46.6**	**-0.7**
MESJ	**Messejana**		**75.63**	**49**	*e*P		**P**	**03 21 20.2**	**-0.5**
MESJ					AMb		AMB	03 21 23.6		
	comp=Z,70nm,2.2s									
MESJ					*e*S		**S**	**03 30 51.5**	**-0.6**
MESJ	**Messejana**		**75.63**	**49**	*e*P		**P**	**03 21 21.6**	**+1.0**
	comp=Z,73nm,2.2s									
MESJ	**Messejana**		**75.63**	**49**	*e*P		**P**	**03 21 20.1**	**-0.5**
MESJ					*e*S		**S**	**03 30 51.4**	**-0.6**
ILULI	**Ilulissat**		**75.64**	**9**	⇓*i*P		**P**	**03 21 19.4**	**-0.5**
	comp=Z,108nm,0.8s									
ILULI	**Ilulissat**		**75.64**	**9**	⇓*i*P		**P**	**03 21 19.4**	**-0.5**
ILULI					pmax		pmax			
	comp=Z,110nm,0.8s									
PBDV	**Barranco-do-Ve**		**75.67**	**50**	*e*P		**P**	**03 21 21.8**	**+0.9**
	comp=Z,85nm,1.5s									
PVAQ	**Vaqueiros**		**75.88**	**50**	*e*P		**P**	**03 21 23.5**	**+1.5**
	comp=Z,54nm,1.6s									
CRAG	**Craig**		**75.89**	**331**	*e*P		**P**	**03 21 22.6**	**+0.9**
	comp=Z,371nm,1.7s									
PBEJ	**Beja**		**75.95**	**49**	*e*P		**P**	**03 21 24.2**	**+1.8**
	comp=Z,68nm,1.7s									
EVO	**Evora**		**76.00**	**49**	*e*P		**P**	**03 21 23.1**	**+0.5**
	comp=Z,99nm,1.5s									
WRAK	**Wrangell Islan**		**76.01**	**332**	*e*P		**P**	**03 21 23.0**	**+0.7**
	comp=Z,78nm,0.9s									
PTOM	**Tomar**		**76.03**	**47**	*e*P		**P**	**03 21 23.3**	**+0.5**
	comp=Z,141nm,1.5s									
DLBC	**Dease Lake**		**76.04**	**334**	*e*P		**P**	**03 21 23.3**	**+0.7**
	comp=Z,293nm,1.1s									
PCAS	**Casmilo, Conde**		**76.10**	**47**	*e*P		**P**	**03 21 23.9**	**+0.7**
	comp=Z,133nm,1.9s									
PTO	**Porto**		**76.37**	**46**	*e*P		**P**	**03 21 25.3**	**+0.6**
	comp=Z,120nm,1.1s									
PESTR	**Estremoz**		**76.41**	**48**	*e*P		**P**	**03 21 26.0**	**+1.0**
	comp=Z,130nm,1.6s									
PESTR	**Estremoz**		**76.41**	**48**	*e*P		**P**	**03 21 25.7**	**+0.7**
	comp=Z,45nm,1.1s									
PMRV	**Marv??o**		**76.73**	**48**	*e*P		**P**	**03 21 27.3**	**+0.5**
	comp=Z,72nm,1.6s									
PVIS	**Viseu**		**76.75**	**46**	*e*P		**P**	**03 21 27.2**	**+0.3**
	comp=Z,102nm,1.7s									
PCBR	**Castelo Branco**		**76.79**	**47**	*e*P		**P**	**03 21 27.8**	**+0.7**
	comp=Z,29nm,1.3s									
PGAV	**Gavieira, Arco**		**76.87**	**45**	*e*P		**P**	**03 21 27.6**	**-0.1**
	comp=Z,107nm,1.9s									
MTE	**Manteigas**		**76.91**	**47**	*e*P		**P**	**03 21 27.9**	**+0.1**
	comp=Z,60nm,2.1s									
MTE	**Manteigas**		**76.91**	**47**	*e*P		**P**	**03 21 28.4**	**+0.6**
	comp=Z,40nm,0.9s									
POLO	**Lamas de Olo**		**77.02**	**46**	*e*P		**P**	**03 21 28.3**	**-0.2**
	comp=Z,49nm,1.4s									
MVO	**Moncorvo**		**77.51**	**46**	*e*P		**P**	**03 21 31.2**	**0.0**
	comp=Z,125nm,1.7s									
PBRG	**Braganca**		**77.91**	**46**	*e*P		**P**	**03 21 33.1**	**-0.3**
	comp=Z,96nm,1.6s									
VNA3	**Neumayer Olymp**		**78.22**	**162**	P		**P**	**03 21 35.6**	**+1.1**
VNA3	**Neumayer Olymp**		**78.22**	**162**	pP		pP	03 22 06.6	+1.2
BESE	**Bessie Mountai**		**78.27**	**333**	*e*P		**P**	**03 21 36.0**	**+0.9**
	comp=Z,774nm,1.8s									
VNA1	**Neumayer--Stat**		**78.45**	**162**	P		**P**	**03 21 37.3**	**+1.6**
VNA1	**Neumayer--Stat**		**78.45**	**162**	pP		pP	03 22 07.0	+0.4
VNA2	**Neumayer--Watz**		**78.81**	**162**	P		**P**	**03 21 38.8**	**+1.1**
	baz=294,slow=5.7									
VNA2	**Neumayer--Watz**		**78.81**	**162**	pP		pP	03 22 10.4	+1.8
SKAG	**Skagway**		**78.92**	**333**	*e*P		**P**	**03 21 39.1**	**+0.7**
	comp=Z,228nm,1.7s									
PAB	**San Pablo**		**79.02**	**48**	*e*P		**P**	**03 21 38.9**	**-0.7**
	comp=Z,60nm,1.1s									
PAB	**San Pablo**		**79.02**	**48**	*e*P		**P**	**03 21 38.9**	**-0.7**
PAB					pmax		pmax			
	comp=Z,60nm,1.1s									
VAL	**Valentia**		**79.07**	**35**	⇑*i*P		**P**	**03 21 39.8**	**+0.4**
VAL					*i* S		**S**	**03 31 28.5**	**-0.1**
TOA1	**Torodi Ar. Sit**		**79.23**	**76**	*e*P		**P**	**03 21 39.6**	**-1.4**
TOA1					*ep*P		**pP**	**03 22 11.7**	**-0.3**
TOA0	**Torodi Ar. Sit**		**79.23**	**76**	*e*P		**P**	**03 21 41.3**	**+0.2**
	comp=Z,132nm,1.1s									
TORD	**Torodi Ar. Bea**		**79.23**	**76**	P		**P**	**03 21 39.7**	**-1.5**
	comp=Z,32nm,0.8s,baz=255,slow=4.3,SNR=104									
TORD					pP		**pP**	**03 22 11.7**	**-0.3**
	comp=Z,37nm,0.8s,baz=241,slow=4.9,SNR=5.7									
TORD					PKKPbc		**PKKPbc**	**03 40 29.5**	**-1.6**
	comp=Z,1.1nm,0.9s,baz=50,slow=1.7,SNR=5.2									
TORD					LR		LR	03 54 23.9		
	comp=Z,329nm,21.7s,baz=285,slow=34									
WHY	**Whitehorse**		**79.32**	**335**	*e*P		**P**	**03 21 40.9**	**+0.2**
	comp=Z,414nm,1.9s									
ESDC	**Sonseca Array**		**79.34**	**48**	P		**P**	**03 21 41.8**	**+0.5**
	comp=Z,14nm,0.9s,baz=258,slow=6.0,SNR=40									
ESDC					pP		**pP**	**03 22 12.0**	**-0.2**
	comp=Z,2.9nm,0.5s,baz=259,slow=5.7,SNR=3.3									
ESDC					LR		LR	03 52 34.4		
	comp=Z,183nm,21.0s,baz=250,slow=32									
ESLA	**Sonseca Array**		**79.34**	**48**	*e*P		**P**	**03 21 42.0**	**+0.8**
	comp=Z,125nm,1.7s									
ES19	**SONSECA Array**		**79.39**	**48**	*e*P		**P**	**03 21 41.9**	**+0.3**
KULLO	**Kullorsuaq**		**79.89**	**5**	⇓*i*P		**P**	**03 21 43.4**	**0.0**
	comp=Z,163nm,0.9s									
KULLO	**Kullorsuaq**		**79.89**	**5**	⇓*i*P		**P**	**03 21 43.4**	**0.0**
KULLO					pmax		pmax			
	comp=Z,160nm,0.9s									
BORG	**Borgarnes**		**79.95**	**21**	*i* P		**P**	**03 21 46.1**	**+2.2**
RES	**Resolute Bay**		**79.98**	**355**	*e*P		**P**	**03 21 43.6**	**-0.3**
	comp=Z,78nm,0.9s									
RES	**Resolute Bay**		**79.98**	**355**	*e*P		**P**	**03 21 43.6**	**-0.3**
RES					pmax		pmax			
	comp=Z,78nm,0.9s									
DHAK	**Deception Hill**		**80.06**	**332**	*e*P		**P**	**03 21 46.3**	**+1.6**
	comp=Z,318nm,0.9s									
SNAA	**Sanae**		**80.43**	**162**	P		**P**	**03 21 47.6**	**+1.1**
SNAA	**Sanae**		**80.43**	**162**	pP		pP	03 22 17.2	-0.4
SNAA	**Sanae**		**80.43**	**162**	P		**P**	**03 21 47.4**	**+0.8**
	comp=Z,153nm,1.0s,baz=273,slow=5.5,SNR=254									
SNAA					pP		**pP**	**03 22 18.3**	**+0.7**
	comp=Z,130nm,1.0s,baz=279,slow=4.5,SNR=13									
SNAA	**Sanae**		**80.43**	**162**	*e*P		**P**	**03 21 46.2**	**-0.4**
	comp=Z,279nm,1.2s									
SNAA					*ep*P		**pP**	**03 22 18.3**	**+0.7**
SNAA	**Sanae**		**80.43**	**162**	*ce*P		**P**	**03 21 47.1**	**+0.5**
HYT	**Haines Junctio**		**80.53**	**334**	*e*P		**P**	**03 21 48.4**	**+1.1**
	comp=Z,314nm,1.7s									
SUMG	**Summit**		**80.69**	**11**	*e*P		**P**	**03 21 48.5**	**+0.3**
	comp=Z,448nm,0.9s									
SUMG	**Sumit**		**80.69**	**11**	⇓*i*P		**P**	**03 21 48.8**	**+0.5**
	comp=Z,1µm,0.9s									
SUMG					*i*			03 22 19.8		
SUMG	**Summit**		**80.69**	**11**	⇓*i*P		**P**	**03 21 48.8**	**+0.5**
SUMG					*i*			03 22 19.8		
SUMG					pmax		pmax			
	comp=Z,1µm,0.9s									
TULEG	**Thule**		**81.13**	**2**	*e*P		**P**	**03 21 50.5**	**+0.5**
	comp=Z,345nm,1.0s									
PCA	**Pinnacle**		**81.43**	**333**	*e*P		**P**	**03 21 52.7**	**+0.7**
	comp=Z,145nm,1.0s									
CCA1	**Carmenellis**		**81.45**	**38**	⇓*e*P		**P**	**03 21 52.6**	**+0.3**
CCA1					IAmb		IAmb	03 21 53.7		
	comp=Z,137nm,0.9s									
XMAS	**Kiritimati**		**81.51**	**273**	*e*P		**P**	**03 21 53.9**	**+0.6**
	comp=Z,382nm,1.3s									
HMH	**Humu'ula Sheep**		**81.55**	**290**	*e*P		**P**	**03 21 54.6**	**+0.8**
	comp=Z,365nm,1.3s									
DSB	**Dublin**		**81.74**	**35**	*e*P		**P**	**03 21 53.1**	**-0.5**
	comp=Z,105nm,1.2s									
HPAH	**Hawaii Prepara**		**81.80**	**291**	*e*P		**P**	**03 21 55.5**	**+0.6**
	comp=Z,246nm,1.2s									
KHLU	**Kahalu'u**		**81.93**	**290**	*e*P		**P**	**03 21 56.4**	**+0.9**
	comp=Z,360nm,1.1s									
EANR	**'Ain N'Sour**		**82.40**	**53**	P		**P**	**03 21 59.0**	**+1.4**
ETRT	**Tiaret**		**82.45**	**54**	P		**P**	**03 21 58.0**	**0.0**
CLGH	**Cloghs, Cushen**		**82.49**	**33**	⇓*e*P		**P**	**03 21 57.7**	**+0.1**
CLGH					IAmb		IAmb	03 21 58.2		
	comp=Z,134nm,1.2s									
KHLH	**Kahului Airpor**		**82.60**	**292**	*e*P		**P**	**03 22 00.4**	**+1.6**
	comp=Z,259nm,1.2s									
ECHA	**Ech Chlef**		**82.65**	**53**	P		**P**	**03 22 00.0**	**+1.2**
YRC	**Rhoscolyn**		**82.77**	**35**	⇓*e*P		**P**	**03 21 59.1**	**+0.1**
INK	**Inuvik**		**82.77**	**342**	*e*P		**P**	**03 21 58.9**	**+0.2**
	comp=Z,464nm,1.1s									
INK	**Inuvik**		**82.77**	**342**	*e*P		**P**	**03 21 58.9**	**+0.2**
INK					pmax		pmax			
	comp=Z,464nm,1.1s									
DAWY	**Dawson**		**82.78**	**337**	*e*P		**P**	**03 21 59.0**	**+0.1**
	comp=Z,209nm,1.1s									
EBNR	**Beni Rached**		**82.81**	**53**	P		**P**	**03 22 02.0**	**+2.3**
EPYK	**Eagle Plains**		**82.85**	**339**	P		**P**	**03 21 59.6**	**+0.3**
	baz=119,SNR=92									
YLL	**Llanberis**		**82.97**	**35**	*e*P		**P**	**03 22 00.2**	**+0.1**
WIM	**Isle of Man**		**82.99**	**34**	⇓*e*P		**P**	**03 22 00.4**	**+0.2**
SCO	**Scoresbysund**		**83.05**	**16**	*e*P		**P**	**03 22 00.6**	**+0.6**
	comp=Z,89nm,0.8s									
SCO	**Scoresbysund**		**83.05**	**16**	*i* P		**P**	**03 22 00.7**	**+0.6**
	comp=Z,101nm,0.9s									
SCO	**Scoresbysund**		**83.05**	**16**	*i* P		**P**	**03 22 00.7**	**+0.6**
SCO					pmax		pmax			
	comp=Z,100nm,0.9s									
IOMK	**Kirk Michael**		**83.08**	**34**	⇓*e*P		**P**	**03 22 00.9**	**+0.3**
IOMK					IAmb		IAmb	03 22 02.0		
	comp=Z,243nm,1.5s									
RRH	**Rhenigidale**		**83.14**	**30**	*e*P		**P**	**03 22 00.2**	**-0.6**
WPM1	**Penmaenmawr**		**83.16**	**35**	⇓*e*P		**P**	**03 22 01.0**	**-0.1**
MCH1	**Michaelchurch**		**83.32**	**37**	*e*P		**P**	**03 22 01.2**	**-0.8**
MCH1					IAmb		IAmb	03 22 02.3		
	comp=Z,80nm,1.0s									
FOEL	**Foel Wylfa**		**83.45**	**36**	*e*P		**P**	**03 22 02.0**	**-0.6**
FOEL					IAmb		IAmb	03 22 03.1		
	comp=Z,55nm,0.9s									
KPL	**Plockton**		**83.47**	**31**	*e*P		**P**	**03 22 01.4**	**-1.1**
KPL					IAmb		IAmb	03 22 03.5		
	comp=Z,138nm,1.0s									
RRR	**Rubha Reidh**		**83.56**	**30**	⇓*e*P		**P**	**03 22 02.9**	**-0.1**
RAGM	**Ragged Mountai**		**83.57**	**332**	*e*P		**P**	**03 22 03.8**	**+0.7**
	comp=Z,427nm,1.2s									
KAC	**Achnashellach**		**83.70**	**31**	⇓*e*P		**P**	**03 22 03.7**	**-0.1**
GRR	**Gorron**		**83.71**	**40**	*e*P		**P**	**03 22 03.2**	**-0.8**
GRR					pmax		pmax			
	comp=Z,178nm,1.2s									
BMRM	**Bremner River**		**83.75**	**333**	*e*P		**P**	**03 22 04.4**	**+0.4**
	comp=Z,483nm,1.2s									
MFF	**Saint Martin d**		**83.75**	**42**	*e*P		**P**	**03 22 03.7**	**-0.6**
MFF					pmax		pmax			
	comp=Z,139nm,1.1s									
EGAK	**Eagle**		**83.78**	**337**	*e*P		**P**	**03 22 03.8**	**-0.2**
	comp=Z,980nm,1.7s									
EAB	**Aberfoyle**		**83.79**	**32**	⇓*e*P		**P**	**03 22 03.3**	**-0.9**
EMHD	**Djebel Mahouad**		**83.92**	**53**	P		**P**	**03 22 06.0**	**+0.5**
KESW	**Keswick, Cumbr**		**83.99**	**34**	⇓*e*P		**P**	**03 22 05.3**	**0.0**
INVG	**Invergeldie, C**		**84.02**	**32**	⇓*e*P		**P**	**03 22 05.1**	**-0.3**
INVG					IAmb		IAmb	03 22 05.8		
	comp=Z,46nm,0.9s									
FLN	**La Foliniere**		**84.04**	**40**	*e*P		**P**	**03 22 05.1**	**-0.6**
FLN					pmax		pmax			
	comp=Z,124nm,0.9s									
BHH	**Howats Hill**		**84.08**	**34**	*e*P		**P**	**03 22 05.6**	**-0.1**
EYAK	**Cordova Ski Ar**		**84.13**	**332**	*e*P		**P**	**03 22 06.0**	**+0.1**
	comp=Z,580nm,2.0s									
KIP	**Kipapa**		**84.14**	**292**	*ce*P		**P**	**03 22 07.4**	**+0.7**
KIP					pmax		pmax			
	comp=Z,633nm,1.2s									
ESK	**Eskdalemuir**		**84.15**	**33**	*i* P		**P**	**03 22 06.9**	**+0.8**
MDO	**Dochfour**		**84.16**	**31**	⇓*e*P		**P**	**03 22 05.8**	**-0.3**
LDF	**La Druitiere**		**84.23**	**40**	*e*P		**P**	**03 22 05.9**	**-0.8**
LDF					pmax		pmax			
	comp=Z,123nm,1.0s									
DIV	**Divide**		**84.34**	**333**	*e*P		**P**	**03 22 07.0**	**0.0**
	comp=Z,174nm,1.0s									
LBWR	**Ladybower, Pea**		**84.45**	**35**	*e*P		**P**	**03 22 07.4**	**-0.3**
LBWR					IAmb		IAmb	03 22 08.6		
	comp=Z,94nm,0.9s									
DOT	**Dot Lake**		**84.50**	**335**	*e*P		**P**	**03 22 07.8**	**+0.1**
	comp=Z,160nm,0.8s									
HARP	**HAARP**		**84.51**	**334**	*e*P		**P**	**03 22 07.9**	**+0.1**
	comp=Z,127nm,0.9s									
KLU	**Klutina**		**84.53**	**333**	*e*P		**P**	**03 22 08.1**	**+0.1**
	comp=Z,268nm,1.0s									
FID	**Port Fidalgo**		**84.53**	**332**	*e*P		**P**	**03 22 07.9**	**0.0**
	comp=Z,122nm,0.8s									
SCRK	**Sand Creek**		**84.59**	**336**	*e*P		**P**	**03 22 08.4**	**+0.1**
	comp=Z,107nm,0.8s									
RJF	**Les Rejaudoux**		**84.60**	**44**	*e*P		**P**	**03 22 07.8**	**-0.8**
RJF					pmax		pmax			
	comp=Z,115nm,1.1s									
EDU	**Dundee**		**84.60**	**32**	⇓*e*P		**P**	**03 22 08.7**	**+0.4**
ESY	**Stoneypath**		**84.64**	**33**	⇓*e*P		**P**	**03 22 08.5**	**0.0**
MCD	**Coleburn Disti**		**84.78**	**31**	⇓*e*P		**P**	**03 22 09.2**	**0.0**
PAX	**Paxson**		**84.85**	**335**	*e*P		**P**	**03 22 09.2**	**-0.3**
	comp=Z,213nm,1.0s									
PAX	**Paxson**		**84.85**	**335**	*e*P		**P**	**03 22 09.2**	**-0.3**
PAX					pmax		pmax			
	comp=Z,213nm,1.0s									
RIDG	**Independ'e Rid**		**84.86**	**335**	*e*P		**P**	**03 22 09.8**	**+0.3**
	comp=Z,221nm,0.9s									
GLI	**Glacier Island**		**84.86**	**332**	*e*P		**P**	**03 22 09.1**	**-0.4**
	comp=Z,132nm,0.8s									
CAF	**Calviac**		**84.90**	**44**	*e*P		**P**	**03 22 09.4**	**-0.8**
CAF					pmax		pmax			
	comp=Z,159nm,1.5s									
DRUM	**Mains of Drumt**		**84.99**	**32**	⇓*e*P		**P**	**03 22 10.2**	**-0.1**
DRUM					IAmb		IAmb	03 22 10.8		
	comp=Z,89nm,1.0s									
NVL	**N'lazarevskaya**		**85.02**	**161**	⇓*i*P		**P**	**03 22 12.0**	**+1.9**
NVL					*e**PP		**pP**	**03 22 44.1**	**+2.7**
NVL					*e*S		**S**	**03 32 25.1**	**-3.7**
NVL					pmax		pmax			
	comp=Z,158nm,1.0s									
HMNX	**Herstmonceux**		**85.05**	**38**	*e*P		**P**	**03 22 11.2**	**+0.5**
HMNX					IAmb		IAmb	03 22 12.2		
	comp=Z,593nm,1.5s									
TCF	**Toulx Ste Croi**		**85.28**	**43**	*e*P		**P**	**03 22 10.9**	**-1.1**
TCF					pmax		pmax			
	comp=Z,35nm,1.0s									
SCM	**Sheep Creek Mo**		**85.28**	**333**	*e*P		**P**	**03 22 11.9**	**+0.2**
	comp=Z,960nm,1.7s									
SCM	**Sheep Creek Mo**		**85.28**	**333**	*e*P		**P**	**03 22 11.9**	**+0.2**
SCM					pmax		pmax			
	comp=Z,960nm,1.7s									
QSPA	**South Pole Qui**		**85.49**	**180**	PKKPbc		PKKPbc	03 40 14.6	-5.0
	comp=Z,2.7nm,0.9s,baz=313,slow=5.5,SNR=5.4									
QSPA	**South Pole Qui**		**85.49**	**180**	*e*P		**P**	**03 22 13.6**	**+0.8**
	comp=Z,444nm,1.3s									
WACR	**West Acre**		**85.66**	**36**	*e*P		**P**	**03 22 13.7**	**+0.1**
WACR					IAmb		IAmb	03 22 14.6		
	comp=Z,391nm,1.0s									
DHY	**Denali Highway**		**85.70**	**334**	*e*P		**P**	**03 22 13.7**	**-0.2**
	comp=Z,295nm,1.8s									
SML	**Sawmill**		**85.72**	**333**	*e*P		**P**	**03 22 13.7**	**-0.2**
	comp=Z,598nm,1.3s									
SML	**Sawmill**		**85.72**	**333**	*e*P		**P**	**03 22 13.7**	**-0.2**
SML					pmax		pmax			
	comp=Z,598nm,1.3s									
BGF	**Bois d'Agland**		**85.76**	**43**	*e*P		**P**	**03 22 14.6**	**+0.2**
BGF					pmax		pmax			
	comp=Z,98nm,1.0s									
HDA	**Harding Lake**		**85.96**	**336**

BNI Bardonecchia 88.15 45 *e*P **P 03 22 27.0 +0.9**
comp=Z,50nm,1.4s
BNI Bardonecchia 88.15 45 *e*P **P 03 22 27.0 +0.9**
BNI pmax pmax
comp=Z,50nm,1.4s
LPL La Plagne 88.25 44 *e*P **P 03 22 26.2 -0.5**
LPL pmax pmax
comp=Z,23nm,1.0s
LPG La Plagne 88.26 44 *e*P **P 03 22 26.4 -0.4**
LPG pmax pmax
comp=Z,37nm,1.1s
TOLK Toolik Lake Re 88.28 339 P **P 03 22 26.3 +0.2**
baz=107
BEBN Eben Emael 88.36 39 ⇓P **P 03 22 27.0 +0.3**
BEBN ⇑pP **pP 03 22 58.4 +0.1**
WLF Walferdange 88.48 40 *e*P **P 03 22 27.8 +0.4**
comp=Z,58nm,0.9s
WLF *e*pP **pP 03 22 59.7 +0.8**
WLF Walferdange 88.48 40 *e*P **P 03 22 27.8 +0.4**
WLF *e**PP **pP 03 22 59.7 +0.8**
WLF pmax pmax
comp=Z,58nm,0.9s
WLF Walferdange 88.48 40 ⇑P **P 03 22 27.7 +0.3**
comp=Z,48nm,1.2s
WLF x x 03 22 36.2
WLF ⇓pP **pP 03 22 59.2 +0.3**
HGN Heimansgroeve 88.51 39 *i* P **P 03 22 27.6 +0.2**
comp=Z,123nm,1.2s
HGN *e*pP **pP 03 22 59.0 0.0**
SBF Sospel 88.52 46 *e*P **P 03 22 26.7 -1.1**
SBF pmax pmax
comp=Z,163nm,1.6s
MEM Membach 88.54 39 ⇑P **P 03 22 27.4 -0.2**
MEM ⇑pP **pP 03 22 58.8 -0.3**
comp=Z,38nm,2.1s
SENIN Lac Senin/Sane 88.76 43 *e*P **P 03 22 29.2 +0.1**
comp=Z,91nm,1.9s
SVW2 Sparrevohn 88.91 331 *e*P **P 03 22 28.5 -0.7**
comp=Z,239nm,1.1s
ECH Echery 88.93 42 *e*P **P 03 22 29.2 -0.3**
comp=Z,42nm,1.0s
ECH Echery 88.93 42 *e*P **P 03 22 29.2 -0.3**
ECH pmax pmax
comp=Z,42nm,1.0s
KEST Kesra 88.99 54 P **P 03 22 30.6 +0.4**
comp=Z,16nm,0.9s,baz=252,slow=3.2,SNR=7.1
KEST pP **pP 03 23 02.3 +0.6**
comp=Z,36nm,1.1s,baz=283,slow=2.9,SNR=5.2
KEST LR LR 04 00 24.6
comp=Z,160nm,20.5s,baz=302,slow=34
CDF Champ du Feu 89.03 41 *e*P **P 03 22 28.8 -1.3**
CDF pmax pmax
comp=Z,40nm,0.9s
IM3 Indian Mountai 89.15 336 *e*P **P 03 22 28.6 -1.5**
WTSB Winterswijk 89.23 38 *i* P **P 03 22 31.4 +0.6**
comp=Z,171nm,1.1s
WTSB *e*pP **pP 03 23 02.8 +0.4**
PGF Pioggiola 89.49 47 *e*P **P 03 22 32.7 +0.3**
PGF pmax pmax
comp=Z,164nm,1.8s
CHGN Chignik 89.52 326 *e*P **P 03 22 32.3 +0.3**
comp=Z,204nm,1.0s
BFO Black Forest 89.72 42 *e*P **P 03 22 31.9 -1.3**
comp=Z,23nm,1.1s
BFO Black Forest 89.72 42*ce*P **P 03 22 33.0 -0.2**
TUE Stuetta 90.18 44 *e*P **P 03 22 35.9 +0.2**
comp=Z,36nm,0.9s
STU Stuttgart 90.34 41 *e*P **P 03 22 36.3 +0.2**
comp=Z,79nm,1.2s
STU Stuttgart 90.34 41 *e*P **P 03 22 36.3 +0.2**
STU pmax pmax
comp=Z,79nm,1.2s
SDPT Sand Point 90.53 325 *e*P **P 03 22 37.0 +0.2**
comp=Z,636nm,1.4s
DAVA Damuels 90.64 43 *e*PcP **P 03 22 38.5 +0.8**
comp=Z,34nm,0.8s,SNR=10
DAVA *e*pP **pP 03 23 09.6 +0.3**
comp=Z,58nm,1.6s
FUORN Ofenpass-Fuorn 90.83 43 *e*P **P 03 22 39.0 +0.2**
comp=Z,70nm,1.6s
SBA Scott Base 91.06 191 P **P 03 22 40.7 +1.8**
SBA pmax pmax
comp=Z,75nm,1.2s
FETA Feichten 91.19 43 *e*PcP **P 03 22 40.9 +0.6**
comp=Z,34nm,1.1s,SNR=11
FETA *e*pP **pP 03 23 12.9 +1.1**
comp=Z,28nm,1.1s
MUD Monsted U'grnd 91.20 34 *i* P **P 03 22 40.1 +0.3**
comp=Z,91nm,1.3s
MUD Monsted U'grnd 91.20 34 *i* P **P 03 22 40.1 +0.3**
MUD pmax pmax
comp=Z,91nm,1.3s
RETA Reutte 91.25 43 *e*PcP **P 03 22 41.1 +0.6**
comp=Z,31nm,1.2s,SNR=7.1
RETA *e*pP **pP 03 23 12.9 +0.9**
comp=Z,36nm,1.3s,SNR=4.9
MOTA Moosalm 91.47 43 *e*PcP **P 03 22 41.8 +0.3**
comp=Z,30nm,0.9s,SNR=18
MOTA *e*pP **pP 03 23 13.8 +0.6**
comp=Z,26nm,0.8s,SNR=6.3
SQTA Sankt Quirin 91.53 43 *i* PcP **P 03 22 42.4 +0.6**
comp=Z,43nm,1.0s,SNR=13
SQTA *e*pP **pP 03 23 14.4 +0.9**
comp=Z,41nm,0.9s,SNR=7.4
FUR Furstenfeldbru 91.66 42 P **P 03 22 43.0 +0.7**
GRFO Grafenberg 91.75 40 *e*P **P 03 22 42.9 +0.3**
comp=Z,98nm,1.6s
GRFO *e*pP **pP 03 23 14.5 +0.3**
GRFO Grafenberg 91.75 40 *e*P **P 03 22 42.9 +0.3**
GRFO *e**PP **pP 03 23 14.5 +0.3**
GRFO pmax pmax
comp=Z,98nm,1.6s
GRF Grafenberg Arr 91.75 40 P **P 03 22 44.3 +1.6**
WATA Walderalm 91.79 43 *e*PcP **P 03 22 43.4 +0.3**
comp=Z,21nm,1.0s,SNR=10
WTTA Wattenberg 91.82 43 *e*PcP **P 03 22 44.0 +0.7**
comp=Z,23nm,1.0s,SNR=8.1
WTTA *e*pP **pP 03 23 15.9 +1.0**
comp=Z,54nm,1.4s
TSUM Tsumeb 92.00 109 *e*P **P 03 22 46.2 +1.5**
comp=Z,191nm,1.3s
MOX Moxa 92.09 40 P **P 03 22 45.2 +1.0**
VNDA Vanda 92.13 191 P **P 03 22 44.8 +0.9**
comp=Z,26nm,0.9s,baz=126,slow=3.9,SNR=60
VNDA pP **pP 03 23 15.5 0.0**
comp=Z,33nm,1.0s,baz=68,slow=2.0,SNR=9.6
VNDA PKKPbc **PKKPdf 03 39 57.7 -1.2**
comp=Z,1.6nm,1.0s,baz=331,slow=7.2,SNR=3.8
VNDA LR LR 03 55 48.1
comp=Z,169nm,21.4s,baz=88,slow=30
VNDA Vanda 92.13 191 *e*P **P 03 22 45.0 +1.2**
comp=Z,92nm,1.3s
VNDA Vanda 92.13 191 *e*P **P 03 22 45.1 +1.2**
VNDA pmax pmax
comp=Z,92nm,1.3s
FALS False Pass 92.16 325 *e*P **P 03 22 45.1 +0.8**
comp=Z,350nm,1.1s
ABTA Abfaltersbach 92.38 43 *e*PcP **P 03 22 46.2 +0.5**
comp=Z,40nm,1.4s,SNR=12
ABTA *e*pP **pP 03 23 18.5 +1.2**
comp=Z,62nm,1.5s
NBO00 NORSAR Array S 92.49 29 *e*P **P 03 22 47.0 +1.2**
NC204 NORSAR Array S 92.50 29 *e*P **P 03 22 46.9 +1.0**
NAO01 NORSAR Array S 92.52 29 *e*P **P 03 22 46.8 +0.9**
NKC Novy Kostel 92.59 40 *e*P **P 03 22 47.6 +1.1**
NKC *ex* x 03 22 56.3
NKC Novy Kostel 92.59 40 *e*P **P 03 22 47.6 +1.1**
NB2 NORSAR Subarra 92.70 29 P **P 03 22 47.0 +0.2**
comp=Z,130nm,1.7s,baz=264,slow=4.8
NB2 NORSAR Subarra 92.70 29 P **P 03 22 47.0 +0.2**
baz=264,slow=4.8
NB200 NORSAR Array S 92.70 29 *e*P **P 03 22 47.0 +0.2**
NB200 *e*pP **pP 03 23 17.9 -0.6**
NOA NORSAR Array B 92.70 29 P **P 03 22 47.0 +0.2**
comp=Z,24nm,1.0s,baz=268,slow=4.8,SNR=24
NOA pP **pP 03 23 17.8 -0.6**
comp=Z,14nm,1.2s,baz=269,slow=4.9,SNR=4.3
NOA NORSAR Array B 92.70 29 P **P 03 22 47.0 +0.2**
NB201 NORSAR Array S 92.74 29 *e*P **P 03 22 48.1 +1.1**
NC303 NORSAR Array S 92.79 29 *e*P **P 03 22 48.1 +1.0**
WET Wettzell 92.79 41 P **P 03 22 47.9 +0.4**
NC602 NORSAR Array S 92.83 29 *e*P **P 03 22 49.0 +1.6**
NC405 NORSAR Array S 92.95 29 *e*P **P 03 22 48.8 +0.9**
COP Copenhagen 92.95 35 ⇓*i*P **P 03 22 49.3 +1.3**
comp=Z,48nm,1.0s
COP *i* 03 23 18.0
COP Copenhagen 92.95 35 ⇓*i*P **P 03 22 49.3 +1.3**
COP *i* 03 23 18.0
COP pmax pmax
comp=Z,48nm,1.0s
KBA Koelnbreinsper 92.97 43 *e*PcP **P 03 22 48.9 +0.3**
comp=Z,26nm,1.6s,SNR=5.5
KBA *e*pP **pP 03 23 20.7 +0.5**
comp=Z,22nm,1.2s
KBA Koelnbreinsper 92.97 43 P **P 03 22 48.9 +0.3**
CLL Collm 93.01 39 *e*P **P 03 22 49.0 +0.7**
comp=Z,28nm,1.2s
CLL *e*pP **pP 03 23 20.9 +1.0**
CLL Collm 93.01 39 ⇓*i*P **P 03 22 48.9 +0.5**
comp=Z,38nm,1.3s
CLL *i* 03 22 57.9
comp=Z,14nm,1.0s
CLL *i* pP **pP 03 23 20.4 +0.4**
comp=Z,63nm,1.7s
CLL *e*PP **PP 03 26 31.0 -1.8**
CLL *es*PP 03 27 15.0
CLL *e*SKSac **SKSac 03 33 14.0 +3.0**
CLL *e*S **S 03 33 44.0 -0.2**
CLL *e* 03 34 14.0
CLL *es*S **sS 03 34 39.0 0.0**
CLL *e*PPS PPS 03 35 41.0
CLL *e*SS **SS 03 39 57.0 -4.3**
CLL *es*SS 03 40 54.0
CLL *e*SSS SSS 03 43 48.0
CLL *es*SSS 03 47 24.0
CLL Collm 93.01 39 *e*P **P 03 22 49.1 +0.7**
CLL *e**PP **pP 03 23 21.0 +1.0**
CLL pmax pmax
comp=Z,28nm,1.2s
MYKA Terra Mystica 93.15 44 *e*PcP **P 03 22 49.7 +0.5**
comp=Z,20nm,0.9s
MYKA *e*pP **pP 03 23 22.0 +1.1**
comp=Z,36nm,1.5s
KHC Kasperske Hory 93.25 41 *e*P **P 03 22 50.3 +0.6**
comp=Z,17nm,1.5s
KHC *e*pP **pP 03 23 21.9 +0.6**
KHC Kasperske Hory 93.25 41 *e*P **P 03 22 50.2 +0.6**
KHC *e*pP **pP 03 23 22.2 +1.0**
KHC *e*SKS **SKSac 03 33 14.3 +1.7**
KHC *e*SS **SS 03 40 01.4 -3.6**
KHC Kasperske Hory 93.25 41 *e*P **P 03 22 50.2 +0.6**
KHC *e* 03 23 22.2
KHC *e* 03 33 14.3
KHC *e*SS SS 03 40 01.4 -3.6
GEA0 GERESS Array S 93.31 41 *e*P **P 03 22 49.2 -0.7**
GEC2 GERESS Array S 93.31 41 *e*P **P 03 22 49.9 -0.1**
GEC2 *e*pP **pP 03 23 22.6 +1.0**
GEC2 GERESS Array S 93.31 41 *e*P **P 03 22 49.9 -0.1**
GEC2 *e**PP **pP 03 23 22.6 +1.0**
GERES GERESS Array B 93.31 41 P **P 03 22 49.9 -0.1**
comp=Z,2.1nm,0.7s,baz=270,slow=2.7,SNR=20
GERES pP **pP 03 23 21.4 -0.2**
comp=Z,2.9nm,0.8s,baz=235,slow=4.7,SNR=3.9
GERES PKKPbc **PKKPdf 03 39 56.9 -0.2**
comp=Z,1.8nm,0.7s,baz=64,slow=3.1,SNR=15
RGN Rugen 93.39 36 *e*P **P 03 22 50.6 +0.6**
comp=Z,194nm,1.1s
JAVS Javornik 93.40 44 *e*P **P 03 22 50.9 +0.4**
JAVS *i* 03 23 22.3
JAVS Javornik 93.40 44 *e*P **P 03 22 50.9 +0.4**
JAVS *i* 03 23 22.3
SUR Sutherland 93.41 123 *e*P **P 03 22 52.7 +1.7**
SUR *e*pP **pP 03 23 23.7 +1.1**
BRG Berggiesshubel 93.58 39 *i* P **P 03 22 51.7 +0.7**
comp=Z,38nm,1.2s
BRG *e* 03 23 00.8
comp=Z,55nm,1.7s
BRG pP **pP 03 23 23.2 +0.6**
comp=Z,82nm,1.9s
BRG SKS **SKSac 03 33 16.0 +1.8**
BRG S **S 03 33 49.0 -0.2**
BRG PS **sS 03 34 47.0 +2.9**
BRG SS **SS 03 40 05.0 -4.5**
BRG Berggiesshubel 93.58 39 *i* P **P 03 22 51.7 +0.7**
BRG *PP **pP 03 23 23.2 +0.6**
BRG 03 33 16.0
BRG S **S 03 33 49.0 -0.2**
BRG SS **SS 03 40 05.0 -4.5**
BRG pmax pmax
comp=Z,38nm,1.2s
BRG pmax pmax
comp=Z,55nm,1.7s
BRG pmax pmax
comp=Z,82nm,1.9s
MOA Molln 93.64 42 *e*PcP **PcP 03 22 51.8 0.0**
comp=Z,37nm,1.4s,SNR=8.9
MOA *e*pP **pP 03 23 23.5 +0.5**
comp=Z,31nm,1.3s
ANM Nome 93.79 334 *e*P **P 03 22 51.9 +0.2**
comp=Z,32nm,1.2s
ANM Nome 93.79 334 *e*P **P 03 22 51.9 +0.2**
ANM pmax pmax
comp=Z,32nm,1.2s
PRA Prague 93.85 40 *e*SKS **SKSac 03 33 15.8 +0.1**
PRA *e*SS **SS 03 40 19.2 +5.8**
PVCC Panska Ves 93.96 40 *e*P **P 03 22 53.8 +1.0**
PVCC *ex* x 03 23 00.3
PVCC Panska Ves 93.96 40 *e*P **P 03 22 53.8 +1.0**
GOPC GO Pecny, Ondr 94.07 40 *e*SKS **SKSac 03 33 21.5 +4.5**
GOPC *e*SS **SS 03 40 21.2 +4.5**
KBS Kingsbay 94.11 11 *e*P **P 03 22 54.4 +1.5**
comp=Z,57nm,1.1s
KBS Kingsbay 94.11 11 *e*P **P 03 22 54.4 +1.5**
KBS pmax pmax
comp=Z,57nm,1.1s
SOKA Soboth 94.11 44 *e*PcP **P 03 22 53.9 +0.2**
comp=Z,14nm,1.3s
PERS Pernice 94.17 44 *i* P **P 03 22 51.9 -2.0**
PERS Pernice 94.17 44 *i* P **P 03 22 51.9 -2.0**
BSD Bornholm Skovb 94.34 35 *i* P **P 03 22 55.3 +0.9**
comp=Z,52nm,0.9s
BSD Bornholm Skovb 94.34 35 *i* P **P 03 22 55.3 +0.9**
BSD pmax pmax
comp=Z,52nm,0.9s
AFI Afiamalu 94.37 256 *e*P **P 03 22 57.2 +1.7**
comp=Z,100nm,1.0s
AFI Afiamalu 94.37 256 *e*P **P 03 22 57.2 +1.7**
AFI pmax pmax
comp=Z,101nm,1.0s
ARSA Arzberg 94.47 43 *e*PcP **PcP 03 22 55.7 +0.1**
comp=Z,19nm,1.2s,SNR=7.3
ARSA *e*pP **pP 03 23 26.9 +0.1**
comp=Z,30nm,1.6s
TREC Trest 94.51 41 *e*P **P 03 22 56.3 +0.9**
TREC *e*pP **pP 03 23 27.9 +0.9**
TREC *e*SKS **SKSac 03 33 21.6 +2.3**
TREC *e*SS **SS 03 40 25.7 +2.8**
TREC Trest 94.51 41 *e*P **P 03 22 56.3 +0.9**
TREC *e* 03 23 27.9
TREC *e* 03 33 21.6
TREC *e*SS SS 03 40 25.7 +2.8
SYO Syowa Base 94.68 161 ⇑*i*P **P 03 22 55.8 +0.1**
CONA Conrad Observa 94.72 42 *e*PcP **PcP 03 22 57.1 +0.4**
comp=Z,25nm,1.2s,SNR=11
CONA *e*pP **pP 03 23 28.3 +0.3**
comp=Z,28nm,1.7s
UPC Upice 94.88 40 *e*P **P 03 22 58.1 +1.1**
UPC *e*SKS **SKSac 03 33 24.7 +3.5**
UPC Upice 94.88 40 *e*P **P 03 22 58.1 +1.1**
UPC *e* 03 33 24.7
SPA0 Spitsbergen Ar 94.98 12 *e*P **P 03 22 57.5 +0.6**
KSP Ksiaz 95.06 39 *e*P **P 03 22 57.9 0.0**
KSP *e*pP **pP 03 23 30.1 +0.6**
KSP Ksiaz 95.06 39 *e*P **P 03 22 57.9 0.0**
KSP *e**PP **pP 03 23 30.1 +0.6**
DPC Dobruska-Polom 95.07 40 *e*P **P 03 22 59.2 +1.2**
DPC *e*pP **pP 03 23 30.8 +1.2**
DPC *ex* x 03 23 47.5
DPC Dobruska-Polom 95.07 40 *e*P **P 03 22 59.2 +1.2**
DPC *e* 03 23 30.8
DPC *e* 03 23 47.5
KRUC Moravsky 95.10 41 *e*P **P 03 22 58.4 +0.4**
KRUC *e*pP **pP 03 23 29.9 +0.2**
SOP Sopron 95.18 43⇓*e*P **P 03 22 58.5 +0.1**
SOP Sopron 95.18 43 P **P 03 22 59.1 +0.7**
VRAC Vranov 95.23 41 ⇑*i*P **P 03 22 59.5 +0.8**
VRAC Vranov 95.23 41 *e*P **P 03 22 59.1 +0.4**
VRAC *e*pP **pP 03 23 30.7 +0.4**
BEHE Becsehely 95.31 44⇓*e*P **P 03 22 59.8 +0.8**
GKP Gorka Klasztor 95.67 37 *e*P **P 03 23 01.9 +1.4**
GKP *e*pP **pP 03 23 34.0 +1.8**
GKP Gorka Klasztor 95.67 37 *e*P **P 03 23 01.9 +1.4**
GKP *e**PP **pP 03 23 33.9 +1.8**
MODS Modra-Piesok 95.67 42 *i* P **P 03 22 58.9 -1.8**
MODS *e* 03 23 32.0
MODS Modra-Piesok 95.67 42 *e*P **P 03 22 58.9 -1.8**
MODS *e*pP **pP 03 23 31.9 -0.4**
SMOL Smolenice 95.77 42 *i* P **P 03 23 01.9 +0.8**
SMOL Smolenice 95.77 42 *e*P **P 03 23 01.9 +0.8**
MORC Moravsky Berou 95.86 41 *e*P **P 03 23 02.5 +0.9**
comp=Z,85nm,1.7s
MORC *e*pP **pP 03 23 34.1 +0.9**
MORC Moravsky Berou 95.86 41 ⇓*i*P **P 03 23 02.5 +0.9**
MORC Moravsky Berou 95.86 41 *e*P **P 03 23 02.5 +0.9**
MORC *e**PP **pP 03 23 34.1 +0.9**
MORC pmax pmax
comp=Z,85nm,1.7s
MORC Moravsky Berou 95.86 41 *e*P **P 03 23 02.4 +0.9**
MORC *e*pP **pP 03 23 34.0 +0.8**
JAVC Velka Javorina 95.94 41 *e*P **P 03 23 02.5 +0.6**
OKC Ostrava-Krasne 96.25 41 *e*P **P 03 23 04.4 +1.2**
OKC *e*SKS **SKSac 03 33 32.2 +3.7**
OKC Ostrava-Krasne 96.25 41 *e*P **P 03 23 04.4 +1.2**
OKC *e* 03 33 32.2
MORH M¨‡r¸igy, Hung 96.60 44⇓*e*P **P 03 23 05.4 +0.5**
VYHS Vyhne 96.71 42 *i* P **P 03 23 05.7 +0.3**
VYHS *e* 03 23 37.6
VYHS Vyhne 96.71 42 *e*P **P 03 23 05.7 +0.3**
VYHS *e*pP **pP 03 23 37.6 +0.5**
LANS Liptovska Anna 97.12 41 *i* P Pdif 03 23 08.6 +1.3
LANS *e* 03 23 40.7
LANS Liptovska Anna 97.12 41 *e*P Pdif 03 23 08.6 +1.3
LANS *e*pP pP 03 23 40.7 +1.8
OJC Ojcow 97.31 40 *e*P Pdif 03 23 09.1 +1.0
OJC *e*pP pP 03 23 40.6 +0.9
OJC Ojcow 97.31 40 *e*P Pdif 03 23 08.9 +0.8
comp=Z,61nm,1.5s
OJC *e*pP pP 03 23 40.9 +1.2
OJC Ojcow 97.31 40 *e*P Pdif 03 23 08.9 +0.8
OJC *e**PP pP 03 23 40.9 +1.2
OJC pmax pmax
comp=Z,61nm,1.5s
PSZ Piszkesteto 97.43 42⇓*e*P Pdif 03 23 09.1 +0.3
DIVS Divibare 97.57 46 *e*P Pdif 03 23 10.4 +0.9
DIVS *e*pP pP 03 23 42.1 +1.0
NIE Niedzica 97.65 41 *e*P Pdif 03 23 11.4 +1.7
NIE *e*pP pP 03 23 43.0 +1.6
NIE Niedzica 97.65 41 *e*P Pdif 03 23 11.4 +1.7
NIE *e**PP pP 03 23 42.9 +1.6
BOSA Boshof 97.76 120 P Pdif 03 23 11.2 +0.4
comp=Z,14nm,1.0s,baz=228,slow=3.3,SNR=10
BOSA pP pP 03 23 42.6 +0.1
comp=Z,17nm,0.9s,baz=231,slow=2.7,SNR=6.4
BOSA PKKPbc **PKKPbc 03 39 44.2 -1.9**
comp=Z,2.0nm,0.7s,baz=78,slow=4.1,SNR=4.3
BOSA LR LR 04 03 34.9
comp=Z,178nm,20.6s,baz=264,slow=33
KECS Kecovo 97.81 42 *i* P **P 03 23 09.9 -0.4**
KECS *e* 03 23 41.9
KECS Kecovo 97.81 42 *e*P **P 03 23 09.9 -0.4**
KECS *e*pP **pP 03 23 41.9 -0.1**
BEL Belsk 97.87 38 *e*P Pdif 03 23 12.0 +1.5
BEL *e*pP pP 03 23 45.0 +2.8
BEL Belsk 97.87 38 *e*P Pdif 03 23 12.0 +1.5
BEL *e**PP pP 03 23 45.0 +2.8
ARA0 ARCESS Array S 98.35 20 *e*P **P 03 23 11.7 -0.7**
ARA0 *e*PP **PP 03 27 13.2 -0.4**
ARCES ARCESS Array B 98.35 20 P **P 03 23 11.7 -0.7**
comp=Z,9.1nm,0.6s,baz=276,slow=3.7,SNR=50
ARCES PP **PP 03 27 13.2 -0.4**
comp=Z,7.5nm,1.0s,baz=235,slow=4.3,SNR=6.1
ARCES PKKPbc **PKKPbc 03 39 41.3 -4.7**
comp=Z,1.8nm,0.6s,baz=121,slow=3.5,SNR=8.1
SLIT Slitere, Latvi 98.37 33 *e*P **P 03 23 12.0 -0.6**
SLIT IAmb IAmb 03 23 13.6
comp=Z,459nm,1.0s
BZS Buzias 98.69 45⇓*i*P Pdif 03 23 15.2 +0.9
SUW Suwalki 99.17 36 *e*P **Pdif 03 23 16.9 +0.7**
SUW Suwalki 99.17 36 *e*P **Pdif 03 23 17.3 +1.0**
comp=Z,29nm,1.1s
SUW Suwalki 99.17 36 *e*P **Pdif 03 23 17.3 +1.0**
SUW pmax pmax
comp=Z,29nm,1.1s
TRPA Tarpa 99.19 42⇓*i*P **Pdif 03 23 15.6 -0.9**
KWP Kalwaria Pacla 99.21 41 *e*P **Pdif 03 23 18.1 +1.5**
KWP Kalwaria Pacla 99.21 41 *e*P **Pdif 03 23 18.1 +1.5**
DRGR 99.39 43⇑*i*P **Pdif 03 23 17.0 -0.6**
DRGR 99.39 43⇑*i*P **PKKPbc 03 39 40.3 -2.0**
DRGR 99.39 43 P **Pdif 03 23 16.9 -0.6**
FINES FINESS Array B 99.85 28 P **Pdif 03 23 19.0 -0.1**
comp=Z,11nm,0.9s,baz=265,slow=4.8,SNR=14
FINES PKKPbc **PKKPbc 03 39 38.2 -3.2**
comp=Z,4.6nm,0.7s,baz=108,slow=4.2,SNR=9.0
FIA1 FINESS Array S 99.85 28 *e*Pdif **Pdif 03 23 18.9 -0.2**
VTS Vitosha 99.97 48⇑*i*P **PKKPbc 03 39 39.3 -1.3**
VSU Vasula 100.62 31 *e*P **Pdif 03 23 22.3 -0.3**
VSU IAmb IAmb 03 23 23.9
comp=Z,97nm,1.0s
ISAL Salakas 100.70 34 *e*P **Pdif 03 23 23.6 +0.5**
ISAL IAmb IAmb 03 23 25.2
comp=Z,9.9nm,1.1s
IZAR Zarasai 100.75 34 *e*P **Pdif 03 23 24.6 +1.4**
IZAR IAmb IAmb 03 23 25.4
comp=Z,11nm,1.0s
IIGN Ignalina 100.79 35 *e*P **Pdif 03 23 24.8 +1.3**
IIGN IAmb IAmb 03 23 25.7
comp=Z,18nm,1.1s
ARR Arges 100.82 45⇑*i*P **Pdif 03 23 24.7 +0.8**
BUR08 Bucovina Ar. S 101.02 42 *e*Pdif **Pdif 03 23 26.7 +1.9**
BUR04 Bucovina Ar. S 101.03 43 *e*Pdif **Pdif 03 23 25.7 +0.9**
BURAR Bucovina Array 101.03 43⇓*i*P **Pdif 03 23 25.8 +0.9**
BURAR Bucovina Array 101.03 43⇑*i*P **PKKPbc 03 39 37.0 -0.7**
IDID Didziasalis 101.08 35 *e*P **Pdif 03 23 26.2 +1.5**
IDID IAmb IAmb 03 23 26.9
comp=Z,12nm,1.1s
VOIR 101.11 45⇑*i*P **Pdif 03 23 26.1 +0.9**
VOIR 101.11 45 P **Pdif 03 23 26.1 +0.9**
APA Apatity 101.62 22⇑*i*P **Pdif 03 23 25.8 -1.1**
APA pmax pmax
comp=Z,5.0nm,0.9s
IDI Anoyia 101.63 55 *e*Pdif **Pdif 03 23 28.7 +0.9**
IDI Anoyia 101.63 55⇑*i*P **Pdif 03 23 28.5 +0.7**
BIZ Bicaz 101.70 43⇑*i*P **Pdif 03 23 28.3 +0.6**
MLR Muntele Rosu 101.73 45⇓*i*P **PKKPbc 03 39 33.6 -2.0**
MAW Mawson 102.40 165 P **Pdif 03 23 31.4 +1.0**
comp=Z,4.5nm,0.8s,baz=278,slow=7.1,SNR=3.4
AKASG Malin Array Be 103.25 39 Pdiff **Pdif 03 23 34.4 -0.1**
comp=Z,0.2nm,0.3s,baz=272,slow=4.7,SNR=5.2
AKASG PP **PP 03 27 50.2 -0.8**
comp=Z,0.2nm,0.3s,baz=276,slow=6.8,SNR=6.5
AKASG PKKPbc **PKKPbc 03 39 28.8 -2.3**
comp=Z,2.0nm,0.7s,baz=80,slow=3.5,SNR=8.1
AKBB Malin Array Si 103.25 39 *e*Pdif **Pdif 03 23 34.4 -0.1**
AKBB *e*PP **PP 03 27 50.2 -0.8**
AKBB Malin Array Si 103.25 39 *e*P **Pdif 03 23 34.4 -0.1**
AKBB *e* 03 27 50.2
BILL Bilibino 104.33 340⇑*i*P **Pdif 03 23 39.2 +0.3**
BILL *i* 03 27 56.9
BILL *e*PS PS 03 37 50.5 +37
BILL *e*SS SS 03 42 54.8 +16
BILL pmax pmax
comp=Z,13nm,1.3s
KLMR Klimovskoe 106.30 27 *e*P **Pdif 03 23 46.0 -1.8**
KLMR *e* 03 28 11.7
KLMR pmax pmax
comp=Z,27nm,1.4s
KLMR Klimovskoe 106.30 27 *e*Pdif **Pdif 03 23 46.1 -1.8**
KLMR AMP 03 23 49.6
comp=Z,27nm,1.4s
KLMR *e*PP **PP 03 28 11.7 -1.5**
KLMR *e*PKKPbc **PKKPbc 03 39 17.8 -4.5**
OBN Obninsk 106.63 34 *i* P **Pdif 03 23 48.5 -0.9**
OBN *i* 03 28 20.0
OBN *i* PS PS 03 38 17.4 +40
OBN pmax pmax
comp=Z,8.0nm,1.0s
OBN pmax pmax
comp=Z,8.0nm,1.0s
MOS Moscow 107.02 33 *e*P **Pdif 03 23 58.7 +7.6**
MOS *e* 03 28 20.0
BRTR Keskin Array B 108.10 50 PKiKP **PKiKP 03 28 02.5 -0.3**
comp=Z,3.3nm,1.0s,baz=202,slow=2.0,SNR=8.5

BRTR PKKPbc **PKKPbc** 03 39 14.8 -1.3
comp=Z,1.0nm,0.7s,baz=116,slow=4.4,SNR=5.4
BRTR PKKP **PKKPab** 03 39 28.8 -0.2
comp=Z,1.6nm,0.8s,baz=111,slow=6.9,SNR=6.9
PRGR Permogore 108.69 25 *e*P **Pdif** 03 23 58.0 -0.4
PRGR pmax pmax
comp=Z,12nm,0.4s
VRH Novokhopyorsk 110.78 37 *e*PKIKP **PKiKP** 03 28 06.9 -0.4
VRH pmax pmax
comp=Z,20nm,0.8s
TIXI Tiksi 111.20 352 *i* P **Pdif** 03 24 08.2 -1.2
TIXI pmax pmax
comp=Z,3.0nm,0.9s
SEY Seymchan 111.90 338 PKiKP **PKiKP** 03 28 09.2 +0.1
comp=Z,4.6nm,0.8s,baz=156,slow=17,SNR=3.9
KMBO Kilima Mbogo 113.20 93 PKiKP **PKiKP** 03 28 13.2 -0.1
comp=Z,3.3nm,0.9s,baz=35,slow=4.8,SNR=8.0
KMBO PKKPbc **PKKPbc** 03 38 59.1 +0.3
comp=Z,1.0nm,0.4s,baz=33,slow=4.3,SNR=4.3
KMBO Kilima Mbogo 113.20 93 *e*PKiKP **PKiKP** 03 28 15.5 +2.2
DZM Mont Dzumac 113.34 244 *e*SP SP 03 38 28.6 -0.1
comp=Z,426nm,30.0s
KIV Kislovodsk 113.71 44 *i* PKIKP **PKiKP** 03 28 14.1 +0.9
KIV *e* 03 29 08.5
KIV *e*PS **PS** 03 38 47.0 +1.1
KIV *e*SS SS 03 44 48.8 +2.7
KIV pmax pmax
comp=Z,8.0nm,1.1s
KBZ Khabaz 113.92 44 PKiKP **PKiKP** 03 28 14.0 +0.5
comp=Z,15nm,0.8s,baz=247,slow=1.3,SNR=31
KBZ PKKPbc **PKKPbc** 03 38 56.0 -1.0
comp=Z,4.4nm,0.9s,baz=174,slow=2.9,SNR=5.6
KBZ Khabaz 113.92 44 *e*PKIKP **PKiKP** 03 28 14.0 +0.5
NRIK Noril'sk 114.45 6 PKKPbc PKKPbc 03 38 53.5 -2.5
comp=Z,4.7nm,0.5s,baz=113,slow=7.4,SNR=3.7
GNI Garni 116.31 47 PKiKP **PKiKP** 03 28 19.2 +0.7
GNI Garni 116.31 47 *c i*PKIKP **PKPdf** 03 28 19.7 +1.3
GNI pmax pmax
comp=Z,63nm,1.7s
ARU Arti 117.11 26 *e*PKPdf **PKPdf** 03 28 20.5 +1.3
ARU Arti 117.11 26 *i* PKIKP **PKPdf** 03 28 20.0 +0.8
ARU 03 29 33.1
ARU 03 35 20.7
ARU SS SS 03 45 28.1 -1.1
ATD Arta Tunnel 119.28 79 *e*PKPdf **PKPdf** 03 28 26.3 +1.6
DAMY Dhamar 120.67 76 *e*PKPdf **PKPdf** 03 28 29.6 +1.9
RAYN Ar Rayn 120.76 65 *e*PKPdf **PKPdf** 03 28 27.9 +0.6
RAYN Ar Rayn 120.76 65 *i* PKiKP **PKPdf** 03 28 27.9 +0.6
SNR=21
RAYN Ar Rayn 120.76 65 *e*PKIKP **PKPdf** 03 28 27.9 +0.6
CAN Canberra 121.96 223 *e*PKPdf **PKPdf** 03 28 29.1 -0.3
CAN Canberra 121.96 223 *e*PKIKP **PKPdf** 03 28 29.1 -0.3
ABKAR Akbulak array 122.04 32 *e*PKPdf **PKPdf** 03 28 29.6 +0.7
BRVK Borovoye 124.38 24 *e*PKPdf **PKPdf** 03 28 33.8 +0.4
BRVK Borovoye 124.38 24 PKiKP **PKiKP** 03 28 34.0 +0.3
SNR=9.7
BRVK Borovoye 124.38 24 P **PKiKP** 03 28 34.0 +0.3
SNR=9.7
BRVK Borovoye 124.38 24 *c i*PKIKP **PKPdf** 03 28 33.7 +0.4
BRVK pmax pmax
comp=Z,99nm,1.3s
EIDS Eidsvold 125.36 234 *e*PKPdf **PKPdf** 03 28 35.7 -0.4
YSS Yuzh-Sakhalins 126.13 328 *e*PKPdf **PKPdf** 03 28 36.5 -0.3
YSS Yuzh-Sakhalins 126.13 328 *e*PKIKP **PKPdf** 03 28 36.5 -0.3
BOD Bodaibo 126.33 353 *e*PKIKP **PKPdf** 03 28 34.8 -2.1
BOD *e* 03 29 06.7
BOD pmax pmax
comp=Z,35nm,1.6s
RER Riviere de l'E 126.33 120 *e*PKPdf **PKPdf** 03 28 39.8 +1.7
GEYT Alibeck 126.78 45 PKP **PKPdf** 03 28 38.3 -0.2
comp=Z,18nm,0.9s,baz=271,slow=6.7,SNR=31
GEYT pPKP **pPKPdf** 03 29 10.9 -0.5
comp=Z,9.1nm,1.0s,baz=298,slow=4.4,SNR=3.1
GYA0B ALIBECK ARRAY 126.78 45 *e*PKPdf **PKPdf** 03 28 39.1 +0.6
NVS Novosibirsk 127.20 15 ⇓ *i*PKIKP **PKPdf** 03 28 39.2 +0.6
NVS *i* 03 29 12.5
NVS *i* 03 30 40.7
NVS pmax pmax
comp=Z,70nm,1.3s
NVS pmax pmax
comp=N,2.0nm,0.4s
NVS pmax pmax
comp=E,19nm,1.2s
ZEA Zeya 127.42 343 *e*PKIKP PKPdf 03 28 54.8 +16
ZEA pmax pmax
comp=Z,96nm,1.8s
ASAJ Asahikawa 127.98 325 PKP **PKPdf** 03 28 40.4 -0.1
comp=Z,40nm,0.8s,baz=263,slow=3.8,SNR=13
ASAJ Asahikawa 127.98 325 *e*PKPdf **PKPdf** 03 28 40.8 +0.3
ZAA1 Zalesovo Array 128.40 14 *e*PKPdf **PKPdf** 03 28 41.2 +0.2
ZAA0 Zalesovo Array 128.40 14 *e*PKPdf **PKPdf** 03 28 41.3 +0.3
ZALV Zalesovo Beam 128.40 14 PKP **PKPdf** 03 28 41.2 +0.2
comp=Z,152nm,0.9s,baz=282,slow=2.7,SNR=293
ZALV pPKP **pPKPdf** 03 29 13.6 -0.4
comp=Z,22nm,0.9s,baz=302,slow=2.8,SNR=2.5
ZALV Zalesovo Beam 128.40 14 *e*PKPdf **PKPdf** 03 28 40.3 -0.7
ZALV Zalesovo Beam 128.40 14 PKiKP **PKPdf** 03 28 41.2 +0.2
ZALV 03 29 13.6
ZALV pmax pmax
comp=Z,149nm,0.9s
ZALV pmax pmax
comp=Z,22nm,0.9s
ERM Erimo 128.91 323 *e*PKPdf **PKPdf** 03 28 43.8 +1.6
ERM Erimo 128.91 323 *c i*PKIKP **PKPdf** 03 28 42.2 -0.1
ERM pmax pmax
comp=Z,127nm,1.3s
STKA Stephens Creek 128.97 222 PKP **PKPdf** 03 28 42.6 -0.2
comp=Z,61nm,0.8s,baz=44,slow=2.4,SNR=2.8
ASUD Al Ashush, Dub 129.32 62 *i* PKiKP **PKiKP** 03 28 44.6 +0.3
SNR=8.5
KURK Kurchatov 129.39 21 *e*PKPdf **PKPdf** 03 28 43.5 +0.6
KURK Kurchatov 129.39 21 PKiKP **PKiKP** 03 28 43.7 0.0
SNR=40
KURK Kurchatov 129.39 21 P **PKiKP** 03 28 43.7 0.0
SNR=40
KURK Kurchatov 129.39 21 *c i*PKIKP **PKPdf** 03 28 43.5 +0.6
KURK pmax pmax
comp=Z,1μm,1.0s
KURBB Kurchatov Arra 129.44 21 PKP **PKPdf** 03 28 43.5 +0.5
comp=Z,87nm,0.9s,baz=317,slow=2.5,SNR=15
KURBB PKKP **PKKPdf** 03 38 45.8 -3.4
comp=Z,0.2nm,0.4s,baz=158,slow=1.5,SNR=4.3
NAZ Nazwa, Dubai 129.51 61 *i* PKiKP **PKiKP** 03 28 44.4 -0.3
SNR=8.0
FAQ Al Faqa, Dubai 129.52 62 *i* PKiKP **PKiKP** 03 28 44.6 -0.1
SNR=8.8
KLR Kul'dur 129.62 337 PKP **PKPdf** 03 28 43.1 -0.3
comp=Z,40nm,1.0s,baz=42,slow=2.5,SNR=47
KLR PP **PP** 03 30 52.3 -2.2
comp=Z,28nm,1.1s,baz=8.2,slow=6.0,SNR=7.6
KLR Kul'dur 129.62 337 *c i*PKIKP **PKPdf** 03 28 43.4 -0.1
SHME Shamm 129.64 60 PKiKP **PKPdf** 03 28 44.6 +0.4
ALNE Al Ain 129.84 62 *i* PKiKP **PKiKP** 03 28 45.5 0.0
SNR=7.2
MSFE Esma-Masafi 129.85 61 *i* PKiKP **PKiKP** 03 28 45.4 -0.1
SNR=8.3
ASHO Ashiyiah 129.94 62 PKiKP **PKPdf** 03 28 44.6 -0.3
HATD Hatta, Dubai 129.97 61 PKiKP **PKPdf** 03 28 44.8 0.0
SNR=5.0
HATD Hatta, Dubai 129.97 61 P **PKPdf** 03 28 44.8 0.0
SNR=5.0
HATD Hatta, Dubai 129.97 61 *i* PKiKP **PKPdf** 03 28 45.2 +0.3
SNR=9.9
MDH Madha 129.99 61 PKiKP **PKiKP** 03 28 45.7 0.0
UOSS Minazif 130.00 61 *e*PKPdf **PKPdf** 03 28 44.9 0.0
UOSS Minazif 130.00 61 *i* PKiKP **PKPdf** 03 28 44.5 -0.4
SNR=6.8
TEY Ternei 130.60 330 *e*PKIKP **PKPdf** 03 28 45.8 +0.4
BSY Bisya 131.46 64 PKiKP **PKiKP** 03 28 49.9 +1.2
SNR=8.0
BSY Bisya 131.46 64 P **PKiKP** 03 28 49.9 +1.2
SNR=8.0
KK31 Karatay Array 131.61 33 *e*PKPdf **PKPdf** 03 28 48.1 +0.7
KKAR Karatay Array 131.61 33 *e*PKPdf **PKPdf** 03 28 48.1 +0.7
CTA Charters Tower 131.67 238 PKP **PKPdf** 03 28 48.0 -0.2
comp=Z,34nm,0.9s,baz=141,slow=2.0,SNR=13
CTA pPKP **pPKPdf** 03 29 21.2 0.0
comp=Z,21nm,1.1s,baz=65,slow=0.4,SNR=4.1
CTAO Charters Tower 131.67 238 *e*PKPdf **PKPdf** 03 28 48.2 -0.1
BBOO Buckleboo 131.87 217 *e*PKPdf **PKPdf** 03 28 47.7 -0.6
BIDO Bidbid 132.08 62 PKiKP **PKPdf** 03 28 49.1 +0.2
SNR=5.8
BIDO Bidbid 132.08 62 P **PKPdf** 03 28 49.1 +0.2
SNR=5.8
SMDO Samad 132.13 63 PKiKP **PKiKP** 03 28 50.3 +0.1
SNR=5.4
SMDO Samad 132.13 63 P **PKiKP** 03 28 50.3 +0.1
SNR=5.4
WSAR Wadi Sarin 132.60 63 PKiKP **PKPdf** 03 28 50.3 +0.5
SNR=9.7
WSAR Wadi Sarin 132.60 63 P **PKPdf** 03 28 50.3 +0.5
SNR=9.7
HVS Khovu-Aksy 132.84 9 *i* PKIKP **PKPdf** 03 28 49.2 -0.4
DGZ Jazzator, Alta 132.95 15 *i* PKIKP **PKPdf** 03 28 49.4 -0.6
MOY Mondy 133.03 2 *e*PKIKP **PKPdf** 03 28 50.8 +0.8
MOY pmax pmax
comp=Z,142nm,2.6s
USA0B Ussuriysk Arra 133.45 332 *e*PKPdf **PKPdf** 03 28 51.2 +0.4
USRK Ussuriysk Ar. 133.45 332 PKP **PKPdf** 03 28 50.8 -0.1
comp=Z,8.4nm,0.7s,baz=330,slow=1.2,SNR=14
USRK pPKP **pPKPdf** 03 29 23.9 +0.1
comp=Z,9.7nm,1.0s,baz=72,slow=6.2,SNR=3.4
HIA Hailar 133.49 346 *e*PKPdf **PKPdf** 03 28 50.9 +0.1
USP Ospenovka 133.54 30 P **PKPdf** 03 28 52.5 +1.4
SNR=19
EKS2 Erkin-Say 133.63 31 P **PKPdf** 03 28 53.2 +1.8
SNR=26
KNGR Kungurtug, Tuv 133.84 6 *i* PKIKP **PKPdf** 03 28 51.1 -0.5
CHMS Chumysh 133.87 30 P **PKPdf** 03 28 53.2 +1.4
SNR=10
FRU Bishkek 133.92 30 ⇓ *i*PKIKP **PKPdf** 03 28 52.0 +0.1
FRU *e* 03 29 22.0
FRU pmax pmax
comp=Z,160nm,2.0s
AML Almayashu 133.97 31 P **PKPdf** 03 28 53.8 +1.4
SNR=27
AAK Ala-Archa 134.01 30 PKP **PKPdf** 03 28 53.2 +1.0
comp=Z,24nm,0.7s,baz=205,slow=2.3
AAK Ala-Archa 134.01 30 P **PKPdf** 03 28 53.5 +1.4
SNR=23
AAK Ala-Archa 134.01 30 PKiKP **PKiKP** 03 28 53.8 +0.3
SNR=32
AAK Ala-Archa 134.01 30 P **PKiKP** 03 28 53.8 +0.3
SNR=32
AAK Ala-Archa 134.01 30 *i* PKiKP **PKPdf** 03 28 53.6 +1.4
SNR=26
AAK Ala-Archa 134.01 30 *i* PKIKP **PKPdf** 03 28 51.4 -0.8
MK32 Makanchi Array 134.01 21 *e*PKPdf **PKPdf** 03 28 51.4 -0.5
MKAR Makanchi Array 134.01 21 PKhKP PKPpre 03 28 46.9
comp=Z,9.2nm,1.0s,baz=15,slow=3.1,SNR=7.7
MKAR PKP **PKPdf** 03 28 51.4 -0.5
comp=Z,21nm,0.7s,baz=45,slow=5.5,SNR=42
MKAR pPKP pPKPdf 03 29 25.0 +0.1
comp=Z,5.4nm,0.8s,baz=325,slow=1.5,SNR=2.2
KBK Karagaybulak 134.22 30 P **PKPdf** 03 28 54.2 +1.6
SNR=10
UCH Uchtor 134.31 31 P **PKPdf** 03 28 55.0 +1.8
SNR=26
TKM2 Tokmak 2 134.34 29 P **PKPdf** 03 28 54.1 +1.2
SNR=16
ZAK Zakamensk 134.37 1 *e*PKIKP **PKPdf** 03 28 51.2 -1.3
ZAK *e* 03 29 23.2
ZAK pmax pmax
comp=Z,27nm,1.6s
ZAK pmax pmax
comp=Z,22nm,1.7s
ZAK pmax pmax
comp=Z,18nm,1.8s
PMG Port Moresby 134.67 252 PKP **PKPdf** 03 28 53.1 -0.9
comp=Z,18nm,0.9s,baz=58,slow=4.6,SNR=13
PMG Port Moresby 134.67 252 *e*PKPdf **PKPdf** 03 28 54.6 +0.6
KZA Kyzart 134.80 30 P **PKPdf** 03 28 55.9 +1.9
SNR=20
ULHL Ulahol 135.16 29 P **PKPdf** 03 28 56.4 +1.9
SNR=8.1
MJAR Matsushiro Arr 135.24 320 PKhKP PKPpre 03 28 40.6
comp=Z,0.9nm,0.5s,baz=353,slow=3.4,SNR=4.6
MJAR PKP **PKPdf** 03 28 53.9 -0.6
comp=Z,15nm,0.8s,baz=102,slow=0.7,SNR=30
MJAR SKPbc **SKPbc** 03 32 14.1 -0.2
comp=Z,0.7nm,0.4s,baz=50,slow=0.6,SNR=4.2
MAJO Matsushiro 135.24 320 *e*PKPdf **PKPdf** 03 28 54.1 -0.4
MAT Matsushiro 135.24 320 PKP **PKPdf** 03 28 53.8 -0.7
MJT9 Matsu-Tunnel 135.24 320 *e*PKPdf **PKPdf** 03 28 54.1 -0.4
PRZ Przheval'sk 136.00 27 *e*PKPdf **PKPdf** 03 28 58.1 +2.2
MANU Manus Island 136.04 262 *e*PKPdf **PKPdf** 03 28 57.7 +1.1
KBL Kabul 136.09 43 *e*PKPdf **PKPdf** 03 28 56.8 +0.4
CN2 Changchun 136.56 337 PKP **PKPdf** 03 28 51.8 -4.9
CN2 PP **PP** 03 31 38.5 -0.1
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,400nm,17.0s
INU Inuyama 136.73 319 *e*PKPdf **PKPdf** 03 28 57.3 +0.1
ULN Ulaanbaatar 136.81 357 PKiKP **PKPdf** 03 28 58.0 +0.7
SNR=11
ULN Ulaanbaatar 136.81 357 P **PKPdf** 03 28 58.0 +0.7
SNR=11
ULN Ulaanbaatar 136.81 357 *i* PKIKP **PKPdf** 03 28 56.6 -0.6
SONA0 Songino Array 136.87 358 *e*PKPdf **PKPdf** 03 28 57.0 -0.3
SONA0 *e*PP **PP** 03 31 39.8 -0.6
SONM Songino Array 136.87 358 PKhKP PKPpre 03 28 47.8
comp=Z,4.5nm,0.8s,baz=330,slow=2.6,SNR=24
SONM PKP **PKPdf** 03 28 57.0 -0.3
comp=Z,26nm,0.9s,baz=316,slow=0.8,SNR=38
SONM PP **PP** 03 31 39.8 -0.6
comp=Z,3.3nm,0.9s,baz=356,slow=7.6,SNR=3.6
KSH Kashi 137.05 32 PKP **PKPdf** 03 28 59.0 +1.1
KSH PP **PP** 03 31 46.3 +4.1
KSH SKS **SKSdf** 03 35 58.0 +0.2
KSH SS **SS** 03 49 41.3 +3.6
KSH AMB AMB
comp=Z,480nm,5.4s
KSH LR LR
comp=Z,270nm,8.8s
KSH LR LR
comp=Z,210nm,7.5s
KSH LR LR
comp=Z,430nm,17.6s
WMQ Urumqi 138.41 18 PKP **PKPdf** 03 29 00.0 -0.2
WMQ PP **PP** 03 31 53.0 +2.9
WMQ PKS **PKSdf** 03 32 32.8 -3.5
WMQ SS SS 03 49 54.5 +1.7
WMQ AMB AMB
comp=Z,540nm,4.1s
WMQ LR LR
comp=Z,510nm,39.1s
WMQ LR LR
comp=Z,500nm,39.5s
AS31 Alice Springs 139.42 225 *e*PKPpre PKPpre 03 28 53.0
AS31 *e*PKPdf **PKPdf** 03 29 02.0 -0.6
ASAR Alice Springs 139.42 225 PKhKP PKPpre 03 28 53.0
comp=Z,7.3nm,0.6s,baz=132,slow=3.5,SNR=28
ASAR PKP **PKPdf** 03 29 02.0 -0.6
comp=Z,58nm,0.9s,baz=122,slow=2.1,SNR=75
ASAR Alice Springs 139.42 225 PKHKP PKPpre 03 28 53.0
ASAR 03 29 02.0
KS01 Wonju Array Si 140.59 329 *e*PKPpre PKPpre 03 28 55.5
KSRS Korea Array 140.59 329 PKhKP PKPpre 03 28 56.6
comp=Z,17nm,0.8s,baz=48,slow=3.9,SNR=25
KSRS PKP **PKPdf** 03 29 03.1 -1.1
comp=Z,54nm,0.9s,baz=28,slow=2.2,SNR=33
KS15 Wonju Array Si 140.62 329 *e*PKPpre PKPpre 03 28 57.3
KS15 *e*PKPdf **PKPdf** 03 29 03.1 -1.2
KSAR Wonju Array Be 140.62 329 PKPpre PKPpre 03 28 56.6
KSAR PKP **PKPdf** 03 29 03.1 -1.2
KSAR Wonju Array Be 140.62 329 PKHKP PKPpre 03 28 56.6
KSAR 03 29 03.1
WB2 Warramunga Arr 141.37 230 *e*PKPpre PKPpre 03 28 58.9
WB2 *e*PKPpre PKPpre 03 28 59.2
WRAB Tennant Creek 141.38 230 *e*PKPpre PKPpre 03 28 59.2
WRAB Tennant Creek 141.38 230 *e*PKHKP PKPpre 03 28 59.2
WR1 Warramunga Arr 141.38 230 *e*PKPpre PKPpre 03 28 59.5
WR1 *e*PKPdf **PKPdf** 03 29 05.8 -0.4
WRA Warramunga Arr 141.38 230 PKhKP PKPpre 03 28 59.5
comp=Z,16nm,0.6s,baz=120,slow=3.0,SNR=129
WRA PKP **PKPdf** 03 29 05.8 -0.4
comp=Z,80nm,0.8s,baz=112,slow=2.2,SNR=85
JNU Nakatsue 142.06 322 PKhKP PKPpre 03 29 00.2
comp=Z,9.1nm,0.9s,baz=64,slow=6.9,SNR=3.6
BHJ Bhuj 142.13 57 *e*P **PKPdf** 03 29 04.0 -3.4
DL2 Dalian 142.23 337 PKP **PKPdf** 03 29 02.0 -5.1
DL2 sPKP 03 29 49.3
DL2 AMB AMB
comp=Z,260nm,6.6s
DHRM DHARAMSHALA 142.28 40 *ex* PKPpre 03 29 02.4
DHRM IAMs_20 IAMs_20 03 59 11.5
comp=Z,131nm,6.4s
JAY Jayapura 142.53 260 PKP **PKPdf** 03 29 07.7 -0.7
comp=Z,24nm,1.0s,baz=226,slow=10,SNR=4.4
JAY Jayapura 142.53 260 PKP **PKPdf** 03 29 04.2 -4.2
GENI Genyem 143.04 260 PKP PKPbc 03 29 06.3 -0.1
HHC Hu-ho-hao-te 143.25 350 *e*PKP PKPbc 03 29 06.3 -0.1
HHC PP **PP** 03 32 17.8 -1.7
HHC SKKS 03 38 59.3
HHC SS **SS** 03 50 44.5 -4.5
HHC AMB AMB
comp=Z,270nm,8.2s
SMLA Simla 143.57 40 *e*P PKPbc 03 29 07.7 +0.4
SMLA IAMs_20 IAMs_20 03 58 22.1
comp=Z,178nm,2.9s
BTO Baotou 143.73 352 *e*PKP PKPab 03 29 07.0 +0.1
DDI Dehra Dun 144.68 41 *e*P PKPbc 03 29 11.0 +0.2
DDI IAMs_20 IAMs_20 03 57 28.0
comp=Z,224nm,5.5s
GTA Gaotai 145.15 6 ⇓ PKPbc **PKPbc** 03 29 11.8 -0.4
GTA pPKP pPKPab 03 29 42.5 -1.9
GTA PP **PP** 03 32 33.5 +2.7
GTA SS SS 03 51 14.8 +4.1
GTA AMB AMB
comp=Z,310nm,7.3s
GTA LR LR
comp=Z,330nm,17.1s
GTA LR LR
comp=Z,180nm,18.7s
GTA LR LR
comp=Z,330nm,20.9s
TIY Taiyuan 146.12 348 PKPbc **PKPdf** 03 29 13.5 -0.6
TIY PP **PP** 03 32 38.5 +1.9
TIY AMB AMB
comp=Z,200nm,7.1s
TIY LR LR
comp=Z,170nm,19.0s
TIA Tai'an 146.26 341 PKPbc **PKPdf** 03 29 14.5 +0.2
BOM Bombay 146.52 62 *e*P **PKPdf** 03 29 12.1 -3.0
BOM IAMs_20 IAMs_20 04 12 56.2
comp=Z,3μm,38.7s
SRPI Serui, Papua 147.03 259 PKP **PKPdf** 03 29 15.8 -0.4
POO Poona 147.57 62 *e*P **PKPdf** 03 29 17.5 +0.6
POO IAMs_20 IAMs_20 04 01 07.1
comp=Z,224nm,3.2s
JOW Kunigami 147.88 316 PKP **PKPdf** 03 29 17.4 +0.1
comp=Z,374nm,1.0s,baz=69,slow=2.2,SNR=33
JOW PKPbc **PKPbc** 03 29 20.1 -0.2
comp=Z,374nm,1.0s,baz=336,slow=1.4,SNR=34
JOW pPKPbc **pPKPbc** 03 29 52.6 -0.4
comp=Z,155nm,1.1s,baz=21,slow=2.8,SNR=3.6
JOW Kunigami 147.88 316 *e*PKPdf **PKPdf** 03 29 17.8 +0.6
JOW *e*pPKPdf **pPKPbc** 03 29 52.6 -0.4
BHPL Bhopal 148.45 52 *e*P **PKPdf** 03 29 18.9 +0.7
BHPL IAMs_20 IAMs_20 03 59 27.9
comp=Z,482nm,1.5s
LZH Lanzhou 148.66 0 *e*PKPbc **PKPdf** 03 29 20.0 +1.5
LZH PKPab **PKiKP** 03 29 23.3 -0.4
LZH pPKP pPKPdf 03 29 47.0 -4.5
LZH sPKP 03 29 57.0
LZH PP **PP** 03 32 51.8 +0.3
LZH AMB AMB
comp=Z,690nm,6.9s
LZH LR LR
comp=Z,640nm,20.4s
FITZ Fitzroy Crossi 148.86 223 PKP **PKPdf** 03 29 18.9 -0.1
comp=Z,160nm,0.7s,baz=172,slow=1.8,SNR=110
FITZ PKPbc **PKPbc** 03 29 22.6 -0.5
comp=Z,160nm,0.8s,baz=182,slow=3.2,SNR=136
RKPI Ransiki, Papua 149.12 259 PKP **PKPdf** 03 29 19.9 +0.3
MNCI Minicoy 149.17 82 *e*PKPbc **PKPbc** 03 29 25.4 +1.4
NJ2 Nanjing 149.29 335 *e*PKPbc **PKPdf** 03 29 18.8 -0.5
PYUN Piuthan 149.33 38 *e*P **PKPdf** 03 29 20.4 +0.6
HMDM Hanimaadhoo 149.39 85 *e*PKPbc **PKPbc** 03 29 25.5 +1.0
DANN Dangsing 149.61 37 *e*P **PKPdf** 03 29 21.4 +1.0
SAUI Saumlaki 149.92 246 *e*PKPbc **PKPbc** 03 29 27.5 +1.6
SAUI Saumlaki 149.92 246 PKP **PKPdf** 03 29 22.6 +1.7
KOLN Koldanda 149.94 38 *e*P **PKPdf** 03 29 21.1 +0.3
MBWA Marble Bar 150.05 211 *e*PKPdf **PKPdf** 03 29 20.5 -0.4
XAN Xi'an 150.33 352 PKPbc **PKPdf** 03 29 21.0 0.0
XAN AMB AMB
comp=Z,1μm,3.8s
GKN Gorkha 150.39 36 *e*P **PKPdf** 03 29 22.8 +1.4
FAKI Fak Fak 150.68 256 *e*PKPdf **PKPdf** 03 29 21.8 -0.3
FAKI Fak Fak 150.68 256 PKP **PKPdf** 03 29 22.0 -0.1
NGP Nagpur 150.82 53 *e*P **PKPdf** 03 29 22.7 +0.6
KKN Kakani 150.93 36 *e*P **PKPdf** 03 29 22.9 +0.6
DMN Daman 150.96 36 *e*P **PKPdf** 03 29 22.9 +0.4
PKIN Phulchoki 151.15 36 *e*P **PKPdf** 03 29 22.8 0.0
PKI Pulchoki 151.16 36 *e*P **PKPdf** 03 29 22.8 -0.1
GUN Gumba 151.18 35 *e*P **PKPdf** 03 29 23.3 +0.4
JIRN Jiri 151.54 34 *e*P **PKPdf** 03 29 23.7 +0.2
SIJI Sorong 152.10 259 PKP **PKPdf** 03 29 24.0 -0.2
comp=Z,23nm,0.8s,baz=64,slow=2.4,SNR=31
SIJI PKPbc **PKPbc** 03 29 30.4 -0.5
comp=Z,95nm,0.7s,baz=61,slow=4.9,SNR=40
SWI Sorong 152.10 259 PKP **PKPdf** 03 29 23.7 -0.5
HYB Hyderabad 152.12 61 *e*P **PKPdf** 03 29 23.4 -0.8
HYB IAMs_20 IAMs_20 04 01 39.7
comp=Z,318nm,3.8s
LSA Lhasa 152.28 24 PKPbc **PKPdf** 03 29 25.5 +0.8
LSA Lhasa 152.28 24 *e*PKPdf **PKPdf** 03 29 26.0 +1.3
LSA Lhasa 152.28 24 *e*PKIKP **PKPdf** 03 29 26.0 +1.3
RAMN Ramite 152.32 35 *e*P **PKPdf** 03 29 25.0 +0.5
WHN Wuhan 152.37 340 PKPbc **PKPdf** 03 29 24.0 -0.1
BNDI Bandanaira 152.46 251 PKP **PKPdf** 03 29 24.4 -0.3
ODAN Odare 152.83 34 *e*P **PKPdf** 03 29 25.6 +0.3
YOJ Yonaguni jima 153.00 319 *e*PKPbc **PKPbc** 03 29 31.9 -0.6
GTK Tadong 153.12 31 *e*P **PKPdf** 03 29 25.4 -0.2
CD2 Chengdu 153.83 0 PKPbc **PKPdf** 03 29 27.0 +0.7
CD2 PP **PP** 03 33 19.3 -1.5
CD2 AMB AMB
comp=Z,470nm,4.4s
YHNB Yeheng 153.89 322 *e*PKPab **PKPab** 03 29 46.7 -1.4
ENH Enshi 153.92 349 *e*PKPdf **PKPdf** 03 29 26.7 +0.3
BOK Bokaro 154.21 41 *e*P **PKPdf** 03 29 25.6 -1.4
BOK IAMs_20 IAMs_20 04 02 48.8
comp=Z,558nm,1.6s
TAWA Tawang 154.43 25 *e*P **PKPdf** 03 29 26.3 -1.4
SSLB Suanglung 154.79 321 *e*PKPdf **PKPdf** 03 29 28.0 +0.1
YULB Yu-li 154.86 320 *e*PKPdf **PKPdf** 03 29 30.8 +2.9
SOEI Soe 155.18 235 *e*PKPdf **PKPdf** 03 29 29.9 +1.2
SOE Soe 155.18 235 PKP **PKPdf** 03 29 29.6 +0.9
SOEI PKP **PKPdf** 03 29 29.9 +1.2
QZH Quanzhou 155.32 326 PKP **PKPdf** 03 29 28.5 +0.1
QZH pPKP **PKPab** 03 29 54.3 +0.3
QZH PP **PP** 03 33 33.3 +3.4
TPUB Ta-pu 155.35 321 *e*PKPdf **PKPdf** 03 29 29.2 +0.6
BATI Baumata 155.41 233 PKP **PKPdf** 03 29 29.4 +0.4
comp=Z,18nm,0.5s,baz=146,slow=5.8,SNR=6.2
BATI PKPab **PKPab** 03 29 54.7 -0.1
comp=Z,74nm,0.8s,baz=45,slow=4.3,SNR=7.8
BATI Baumata 155.41 233 PKP **PKPdf** 03 29 29.3 +0.4
TURI Tura 155.45 31 *e*P **PKPdf** 03 29 27.2 -1.5
NLAI Namlea 155.52 252 PKP **PKPdf** 03 29 29.2 +0.1
GUWA GUWAHATI 155.56 27 *e*P **PKPdf** 03 29 27.6 -1.1
TEZP TEZPUR 155.68 25 *e*P **PKPdf** 03 29 27.8 -1.1
LKP Lekhapani 156.13 18 *e*P **PKPdf** 03 29 25.8 -3.7
JORH JORHAT 156.14 22 *e*P **PKPdf** 03 29 29.7 +0.2
SHL Shillong 156.19 28 *e*PKPdf **PKPdf** 03 29 29.9 0.0
SHL Shillong 156.19 28 *e*PKIKP **PKPdf** 03 29 29.9 0.0
SHL Shillong 156.19 28 *e*P **PKPdf** 03 29 28.9 -0.9
TNTI Ternate 156.23 261 PKP **PKPdf** 03 29 27.5 -2.5
BWNR Bhubaneshwar 156.49 47 *e*P **PKPdf** 03 29 27.2 -2.9
MOKO MOKOCHONG 156.62 22 *e*P **PKPdf** 03 29 29.7 -0.6
PALK Pallekele 156.80 82 PKP **PKPdf** 03 29 30.7 -0.1
comp=Z,21nm,1.2s,baz=113,slow=0.5,SNR=4.2
PALK PKPab **PKPab** 03 30 00.9 -0.1
comp=Z,32nm,1.1s,baz=110,slow=4.2,SNR=4.6
PALK Pallekele 156.80 82 *e*PKPdf **PKPdf** 03 29 30.7 -0.1
PALK *e*PKPab **pPKPdf** 03 30 02.4 -1.5
PALK Pallekele 156.80 82 *e*PKIKP **PKPdf** 03 29 30.7 -0.1
PALK *e* 03 30 02.4
SANI Sanana 156.94 254 PKP **PKPdf** 03 29 30.3 -0.6
KOHI KOHIMA 157.00 23 *e*P **PKPdf** 03 29 30.9 0.0
KOHI IAMs_20 IAMs_20 04 02 46.3
comp=Z,179nm,9.1s
SILR SILCHAR 157.28 27 *e*P **PKPdf** 03 29 29.3 -1.7
AGT Agartala 157.29 31 *e*P **PKPdf** 03 29 30.2 -0.9
MMRI Maumere 157.46 234 *e*PKPab **PKPab** 03 30 03.9 +0.3
MMRI Maumere 157.46 234 PKP **PKPdf** 03 29 30.5 -1.1
IMP Imphal 157.73 24 *e*P **PKPdf** 03 29 30.9 -0.8
BASI Baing, Sumba 157.78 228 PKP **PKPdf** 03 29 31.3 -0.6

EDFI	**Ende, Flores**	**157.83**	**233**	PKP	**PKPdf**	**03 29 30.8**	**+1.3**
BELO	**BELONIA**	**157.91**	**32**	*ex*	PKPpre	03 29 23.2	
GYA	**Guiyang**	**158.10**	**353**	*i* PKP	**PKPdf**	**03 29 32.3**	**+0.1**
GYA				pPKP	pPKPdf	03 30 03.5	-1.8
GYA				PKPab	**PKPab**	**03 30 07.8**	**+1.8**
GYA				PKS	**PKSdf**	**03 33 03.0**	**-3.1**
GYA				PP	**PP**	**03 33 47.5**	**+2.9**
GYA				AMB	AMB		
	comp=Z,180nm,8.4s						
BRDH	**Bariadhala**	**158.48**	**32**	PKP	**PKPdf**	**03 29 33.5**	**+0.9**
	comp=Z,55nm,0.3s,baz=72,slow=2.6,SNR=12						
BRDH				PKPab	**PKPab**	**03 30 07.5**	**-0.2**
	comp=Z,56nm,0.3s,baz=76,slow=12,SNR=6.6						
BBSI	**Bau Bau**	**158.81**	**242**	PKP	**PKPdf**	**03 29 33.9**	**+0.7**
WBSI	**Waikabubak, Su**	**159.04**	**228**	PKP	**PKPdf**	**03 29 33.8**	**+0.3**
SAIH	**SAIHA**	**159.33**	**30**	*eP*	**PKPdf**	**03 29 33.2**	**-0.6**
KMSI	**Cibinong**	**159.52**	**259**	PKP	**PKPdf**	**03 29 33.4**	**-0.6**
KMI	**Kunming**	**159.56**	**3**	PKP	**PKPdf**	**03 29 34.3**	**+0.2**
LUWI	**Luwuk**	**160.30**	**254**	*e*PKPdf	**PKPdf**	**03 29 35.6**	**+0.6**
LUWI				*e*PKPab	**PKPab**	**03 30 17.3**	**+1.2**
LUWI	**Luwuk**	**160.30**	**254**	PKP	**PKPdf**	**03 29 34.8**	**-0.1**
TGY	**Tagaytay City**	**160.71**	**300**	PKPab	**PKPab**	**03 30 17.8**	**-0.1**
	comp=Z,267nm,0.3s,baz=245,slow=2.9,SNR=5.2						
PLAI	**Plampang**	**160.76**	**226**	PKP	**PKPdf**	**03 29 34.2**	**-1.2**
BKSI	**Bulukumba**	**161.01**	**239**	PKP	**PKPdf**	**03 29 35.3**	**-0.4**
APSI	**Ampana**	**161.41**	**253**	PKP	**PKPdf**	**03 29 36.2**	**+0.1**
TWSI	**Taliwang, Sumb**	**161.46**	**224**	PKP	**PKPdf**	**03 29 35.4**	**-0.7**
BNSI	**Bone**	**161.48**	**241**	PKP	**PKPdf**	**03 29 35.8**	**-0.4**
MRSI	**Marisa**	**161.50**	**258**	PKP	**PKPdf**	**03 29 33.7**	**-2.5**
SPSI	**Sidrap Palu**	**161.98**	**242**	PKP	**PKPdf**	**03 29 36.5**	**-0.2**
TTSI	**Tana Toraja**	**162.35**	**245**	PKP	**PKPdf**	**03 29 37.2**	**+0.1**
IGBI	**Denpasar**	**162.56**	**220**	PKP	**PKPdf**	**03 29 36.5**	**-0.7**
DNP	**Denpasar**	**162.63**	**221**	PKP	**PKPdf**	**03 29 36.1**	**-1.2**
SRBI	**Singaraja**	**163.07**	**222**	PKP	**PKPdf**	**03 29 37.0**	**-0.7**
MPSI	**Mapaga**	**163.44**	**256**	PKP	**PKPdf**	**03 29 36.9**	**-1.2**
JAGI	**Jajag, Banyuwa**	**163.46**	**218**	PKP	**PKPdf**	**03 29 37.0**	**-1.1**
BLJI	**Banyuglugur**	**164.37**	**218**	PKP	**PKPdf**	**03 29 39.0**	**+0.1**
QIZ	**Qiongzhong**	**164.52**	**338**	*e*PKPab	**PKPab**	**03 30 35.7**	**+1.6**
KMMI	**Kalianget**	**164.66**	**221**	PKP	**PKPdf**	**03 29 38.9**	**-0.3**
CHTO	**Chiang Mai**	**165.07**	**18**	*e*PKPdf	**PKPdf**	**03 29 39.2**	**-0.2**
CHTO	**Chiang Mai**	**165.07**	**18**	PKPdf	**PKPdf**	**03 29 39.3**	**-0.2**
	SNR=19						
CHTO	**Chiang Mai**	**165.07**	**18**	P	**PKPdf**	**03 29 39.3**	**-0.2**
	SNR=19						
CHTO	**Chiang Mai**	**165.07**	**18**	*e*PKIKP	**PKPdf**	**03 29 39.2**	**-0.2**
PCJI	**Pacitan**	**165.35**	**210**	PKP	**PKPdf**	**03 29 39.1**	**-0.7**
SGKI	**Sangatta, Kali**	**165.37**	**250**	PKP	**PKPdf**	**03 29 41.3**	**+1.4**
CM31	**Chiang Mai Arr**	**165.41**	**19**	*e*PKPdf	**PKPdf**	**03 29 40.4**	**+0.6**
CM31				*e*PKPab	**PKPab**	**03 30 37.9**	**-0.2**
CM31				*ep*PKPab	**pPKPab**	**03 31 08.8**	**-1.0**
CM31				*e*PP	**PP**	**03 34 20.7**	**-3.0**
CMAR	**Chiang Mai Arr**	**165.41**	**19**	PKP	**PKPdf**	**03 29 39.9**	**+0.2**
	comp=Z,33nm,0.9s,baz=294,slow=1.9,SNR=126						
CMAR				pPKP	**pPKPdf**	**03 30 12.4**	**-0.5**
	comp=Z,18nm,1.0s,baz=304,slow=1.7,SNR=5.1						
CMAR				PKPab	**PKPab**	**03 30 37.8**	**-0.2**
	comp=Z,29nm,0.9s,baz=328,slow=5.7,SNR=16						
CMAR				pPKPab	**pPKPab**	**03 31 08.8**	**-1.0**
	comp=Z,6.2nm,0.8s,baz=336,slow=5.2,SNR=2.1						
CMAR				PP	**PP**	**03 34 20.7**	**-3.0**
	comp=Z,5.4nm,0.9s,baz=345,slow=5.5,SNR=6.9						
CM01	**Chiang Mai Arr**	**165.45**	**19**	*e*PKPdf	**PKPdf**	**03 29 38.9**	**-0.9**
GRJI	**Gresik**	**165.70**	**217**	PKP	**PKPdf**	**03 29 40.7**	**+0.6**
BKB	**Balikpapan**	**165.75**	**246**	PKP	**PKPdf**	**03 29 40.7**	**+0.6**
SMKI	**Samarinda**	**165.76**	**250**	PKP	**PKPdf**	**03 29 42.1**	**+1.9**
WOJI	**Wonogiri, Jawa**	**165.78**	**210**	PKP	**PKPdf**	**03 29 39.2**	**-0.9**
NGJI	**Ngawi**	**165.91**	**213**	PKP	**PKPdf**	**03 29 41.6**	**+1.4**
UGM	**Wanagama**	**165.91**	**208**	*e*PKPdf	**PKPdf**	**03 29 40.0**	**-0.3**
TBJI	**Tambak Boyo**	**166.14**	**215**	PKP	**PKPdf**	**03 29 40.1**	**-0.3**
SMRI	**Semarang**	**166.70**	**210**	PKP	**PKPdf**	**03 29 40.3**	**-0.6**
CMJI	**Cimerak**	**166.88**	**200**	PKP	**PKPdf**	**03 29 40.0**	**-1.0**
PBA	**Port Blair**	**166.94**	**57**	*e*PKPdf	PKPdf	03 29 41.6	+0.6
KPJI	**Karang Pucung**	**167.12**	**203**	PKP	**PKPdf**	**03 29 40.7**	**-0.5**
CISI	**Cisompet, Garu**	**167.30**	**198**	*e*PKPdf	**PKPdf**	**03 29 40.3**	**-1.1**
CISI	**Cisompet, Garu**	**167.30**	**198**	PKP	**PKPdf**	**03 29 40.5**	**-0.9**
KKM	**Kota Kinabalu**	**167.63**	**277**	*e*PKPdf	**PKPdf**	**03 29 41.9**	**+0.2**
MTKI	**Muara Teweh, K**	**167.69**	**244**	PKP	**PKPdf**	**03 29 42.2**	**+0.6**
PBKT	**Sadao Pong**	**167.77**	**13**	*e*PKPdf	**PKPdf**	**03 29 41.7**	**+0.2**
LEM	**Lembang**	**168.05**	**198**	PKP	**PKPdf**	**03 29 42.3**	**+0.2**
	comp=Z,47nm,0.8s,baz=124,slow=5.2,SNR=15						
LEM				PKPab	**PKPab**	**03 30 51.2**	**+1.3**
	comp=Z,58nm,0.8s,baz=148,slow=7.3,SNR=7.5						
LEM				pPKPab	**pPKPab**	**03 31 22.0**	**+0.3**
	comp=Z,112nm,1.2s,baz=181,slow=1.9,SNR=2.9						
LEM				PP	**PP**	**03 34 39.0**	**+1.6**
	comp=Z,14nm,0.5s,baz=129,slow=13,SNR=3.9						
LEM	**Lembang**	**168.05**	**198**	PKP	**PKPdf**	**03 29 41.3**	**-0.8**
SKJI	**Sukabumi**	**168.17**	**193**	PKP	**PKPdf**	**03 29 40.7**	**-1.2**
CGJI	**Cibinong**	**168.72**	**189**	PKP	**PKPdf**	**03 29 41.5**	**-0.8**
SBJI	**Serang**	**169.12**	**192**	PKP	**PKPdf**	**03 29 41.0**	**-1.5**
KASI	**Kota Agung**	**169.93**	**184**	PKP	**PKPdf**	**03 29 41.8**	**-1.2**
BLSI	**Bandar Lampung**	**170.01**	**181**	PKP	**PKPdf**	**03 29 41.1**	**-1.6**
LWLI	**Liwa**	**170.45**	**191**	PKP	**PKPdf**	**03 29 41.0**	**-2.5**
KLI	**Kotabumi**	**170.55**	**186**	PKP	**PKPdf**	**03 29 42.1**	**-1.3**
MDSI	**Maura Dua**	**170.97**	**182**	PKP	**PKPdf**	**03 29 41.5**	**-2.1**
STKI	**Sintang**	**171.17**	**240**	PKP	**PKPdf**	**03 29 42.7**	**-1.0**
SBUM	**Sibu**	**171.40**	**256**	*e*PKPdf	**PKPdf**	**03 29 43.4**	**-0.5**
PPSI	**Pulau Pagai**	**171.73**	**152**	PKP	**PKPdf**	**03 29 42.4**	**-1.6**
SNSI	**Sinabang, Aceh**	**172.16**	**106**	PKP	**PKPdf**	**03 29 42.4**	**-1.8**
SISI	**Saibi**	**172.42**	**141**	PKP	**PKPdf**	**03 29 44.1**	**-0.2**
MLSI	**Meulaboh, Aceh**	**172.55**	**92**	PKP	**PKPdf**	**03 29 42.0**	**-2.4**
KSM	**Kuching**	**172.86**	**244**	*e*PKPdf	**PKPdf**	**03 29 44.1**	**-0.5**
GSI	**Gunungsitoli**	**172.91**	**117**	*e*PKPdf	**PKPdf**	**03 29 44.0**	**-0.5**
GSI	**Gunungsitoli**	**172.91**	**117**	PKP	**PKPdf**	**03 29 42.7**	**-1.8**
PPBI	**Pangkal Pinang**	**172.91**	**199**	PKP	**PKPdf**	**03 29 43.4**	**-1.1**
KRJI	**Kerinci**	**172.93**	**160**	PKP	**PKPdf**	**03 29 42.4**	**-2.3**
LHMI	**Lhok Sumawe**	**173.07**	**85**	PKP	**PKPdf**	**03 29 43.1**	**-1.5**
TPTI		**173.19**	**101**	PKP	**PKPdf**	**03 29 43.4**	**-1.2**
PDSI	**Padang**	**173.55**	**148**	PKP	**PKPdf**	**03 29 41.7**	**-3.1**
KCSI	**Kotacane, Aceh**	**173.82**	**100**	PKP	**PKPdf**	**03 29 42.7**	**-2.2**
PPI	**Padang Panjang**	**173.90**	**145**	PKP	**PKPdf**	**03 29 42.0**	**-2.9**
SDSI	**Sungai Dareh**	**173.99**	**156**	PKP	**PKPdf**	**03 29 38.2**	**-6.7**
MNSI	**Mandailing Nat**	**174.29**	**131**	PKP	**PKPdf**	**03 29 43.4**	**-1.6**
TSI	**Tuntungan**	**174.59**	**101**	PKP	**PKPdf**	**03 29 42.7**	**-2.4**
PSI	**Prapat**	**174.75**	**110**	PKP	**PKPdf**	**03 29 43.9**	**-1.4**
	comp=Z,27nm,0.9s,baz=180,slow=1.7,SNR=28						
PSI				PKPab	**PKPab**	**03 31 20.5**	**+0.4**
	comp=Z,18nm,0.8s,baz=180,slow=2.6,SNR=8.8						
PSI				pPKPab	**pPKPab**	**03 31 51.0**	**-0.9**
	comp=Z,32nm,1.0s,baz=180,slow=4.1,SNR=4.1						
PSI				PP	**PP**	**03 35 13.2**	**+0.5**
	comp=Z,1.9nm,0.4s,baz=250,slow=0.0,SNR=5.3						
RGRI	**Rengat**	**174.85**	**163**	PKP	**PKPdf**	**03 29 44.3**	**-0.9**
BKNI	**Bangkinang**	**174.90**	**146**	PKP	**PKPdf**	**03 29 43.4**	**-1.8**
DSRI	**Dabo**	**174.91**	**188**	PKP	**PKPdf**	**03 29 43.1**	**-2.1**
TPRI	**Tanjung Pinang**	**176.29**	**190**	PKP	**PKPdf**	**03 29 45.0**	**-0.6**
KULM	**Kulim**	**176.72**	**78**	*e*PKPab	**PKPab**	**03 31 28.9**	**+0.2**
IPM	**Ipoh**	**177.16**	**92**	*e*PKPab	PKPab	03 31 31.3	+0.6

MEX 28 03:14:14.8±0.5, 13°88N×93°51W, h10km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.58**	**50**	*eP*	Pn	03 14 39.5	-3.4
THIG				*eS*	Sn	03 14 58.9	-4.4
PCIG		**1.83**	**9**	*eP*	Pn	03 14 43.0	-3.3
PCIG				*i* S	Sn	03 15 04.2	-5.4
TGIG		**2.90**	**7**	*i* P	Pn	03 14 59.0	-2.1
TGIG				*i* S	Sn	03 15 32.7	-3.5

DJA 28 03:22:14.8±2.1, 6°S±5°×107°E±°, h12km±18km, M3.5/5, MLv3.5/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**1.33**	**225**	P	Pn	03 22 38.2	-1.0
CGJI				S	Sb	03 22 55.7	-1.0
SKJI	**Sukabumi**	**1.33**	**184**	P	Pb	03 22 39.5	-0.2
SKJI				S	Sg	03 22 58.2	+0.5
KASI	**Kota Agung**	**2.14**	**274**	P	Pn	03 22 50.1	-0.2
LWLI	**Liwa**	**2.65**	**284**	P	Pn	03 22 58.8	+1.3
CMJI	**Cimerak**	**2.76**	**140**	P	Pn	03 22 57.8	-1.1
KPJI	**Karang Pucung**	**2.81**	**126**	P	Pn	03 22 59.1	-0.5

IDC 28 03:40:17.2±5.7, 64°13S×173°01E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.7/22, mbtmp3.8/4, ML2.9/1, MS3.8/3, Ms1 3.8/3, ms1mx3.4/16, Error ellipse: s-maj=212.9km s-min=27.4km az=70.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**13.90**	**190**	Pn	Pn	03 43 34.0	-0.9
	0.1nm,0.3s,baz=16,slow=14,SNR=9.1						
QSPA	**South Pole Qui**	**25.96**	**180**	LR	LR	03 55 03.9	
	comp=Z,268nm,18.1s,baz=138,slow=34						
URZ	**Urewera**	**26.02**	**7**	LR	LR	03 54 25.1	
	comp=Z,133nm,20.7s,baz=149,slow=33						
SNAA	**Sanae**	**44.44**	**182**	P	P	03 48 29.2	+0.1
	3.5nm,1.0s,baz=244,slow=17,SNR=5.6						
H01W1	**Cape Leeuwin H**	**45.71**	**281**	T	T	04 38 44.9	
	baz=147						
H01W2	**Cape Leeuwin H**	**45.72**	**281**	T	T	04 38 43.8	
	baz=147						
H01W3	**Cape Leeuwin H**	**45.73**	**281**	T	T	04 38 46.1	
	baz=147						
ASAR	**Alice Springs**	**47.87**	**309**	P	P	03 48 56.5	-0.1
	0.6nm,0.8s,baz=157,slow=8.6,SNR=7.1						
WRA	**Warramunga Arr**	**51.17**	**311**	P	P	03 49 21.8	-0.1
	0.9nm,1.0s,baz=156,slow=6.6,SNR=5.5						
HNR	**Honiara**	**55.39**	**344**	LR	LR	04 08 56.1	
	comp=Z,120nm,21.9s,baz=78,slow=31						

IDC 28 03:58:32.0±2.1, 6°47S×131°41E, h0km, mb3.8/1, mb1 3.9/5, mb1mx3.6/29, mbtmp3.7/5, ML3.7/4, Error ellipse: s-maj=91.9km s-min=25.0km az=85.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.57**	**359**	Pn	Pn	03 59 55.9	-0.3
	1.5nm,0.3s,baz=162,slow=20,SNR=4.2						
SIJI				Sn	Sn	04 00 54.3	-6.7
	1.0nm,0.3s,baz=193,slow=19,SNR=2.8						
FITZ	**Fitzroy Crossi**	**12.85**	**205**	Pn	Pn	04 01 35.4	-0.7
	0.6nm,0.3s,baz=26,slow=12,SNR=18						
FITZ				Sn	Sn	04 03 56.4	-3.6
	0.1nm,0.3s,baz=163,slow=19,SNR=5.2						
WRA	**Warramunga Arr**	**13.69**	**168**	Pn	Pn	04 01 47.2	-0.4
	0.3nm,0.3s,baz=350,slow=13,SNR=16						
WRA				Sn	Sn	04 04 13.5	-7.0
	0.1nm,0.3s,baz=351,slow=23,SNR=3.5						
ASAR	**Alice Springs**	**17.26**	**172**	P	Pn	04 02 35.5	+0.7
	0.3nm,0.3s,baz=351,slow=9.3,SNR=12						
MKAR	**Makanchi Array**	**68.56**	**326**	P	P	04 09 36.9	+0.2
	0.5nm,0.6s,baz=116,slow=7.6,SNR=4.5						

WEL 28 04:20:32.1±1.4, 38°S±5°×17°9E±1°0, h25km±9km, ML4.2/12, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.44**	**262**	P	Pn	04 20 42.1	-0.7
PUZ	**Puketiti**	**0.53**	**312**	P	Pb	04 20 43.0	+0.1
PUZ				S	Sn	04 20 51.9	-0.4
TWGZ	**Tauwhareparae**	**0.66**	**292**	P	Pb	04 20 45.4	+0.3
TWGZ				S	Sn	04 20 56.1	+0.5
WMGZ	**Waiomatatini S**	**0.66**	**336**	P	Pn	04 20 46.1	+0.1
WMGZ				S	Sn	04 20 56.4	+0.8
TKGZ	**Te Karaka**	**0.72**	**269**	P	Pb	04 20 46.2	+0.2
TKGZ				S	Sn	04 20 57.2	+0.3
PKGZ	**Pakihiroa**	**0.76**	**315**	P	Pb	04 20 47.0	+0.3
RIGZ	**Rimuhau**	**0.83**	**250**	P	Pb	04 20 48.1	+0.2
RIGZ				P	Pb	04 20 48.1	+0.1
PRGZ	**Paritu Road**	**0.85**	**234**	P	Pn	04 20 48.4	-0.1
MXZ	**Matakaoa Point**	**0.93**	**337**	P	Pn	04 20 50.2	+0.6
RUGZ	**Raukumara Rang**	**0.97**	**298**	P	Pn	04 20 49.8	-0.5
MWZ	**Matawai**	**0.97**	**275**	P	Pn	04 20 49.8	-0.5
MHGZ	**Mahia Peninsul**	**0.98**	**222**	P	Pb	04 20 50.5	-0.1
HAZ	**Te Kaha**	**1.02**	**311**	P	Pn	04 20 50.7	-0.1
HAZ				P	Pn	04 20 50.7	-0.1
HAZ				P	Pb	04 20 50.7	-0.4
KNZ	**Kokohu**	**1.04**	**235**	P	Pn	04 20 50.7	-0.3
RAGZ	**Rawiri**	**1.06**	**266**	P	Pn	04 20 51.2	-0.3
SNGZ	**Shannon Statio**	**1.17**	**252**	P	Pn	04 20 52.6	-0.4
URZ	**Urewera**	**1.31**	**277**	P	Pn	04 20 54.8	0.0
WHHZ	**Waihua**	**1.36**	**241**	P	Pb	04 20 56.2	-0.6
RAHZ	**Arahi**	**1.40**	**249**	P	Pb	04 20 56.9	-0.7
RTZ	**Ruatahuna**	**1.41**	**262**	P	Pb	04 20 57.4	-0.3
WHRZ	**Whale Island**	**1.52**	**291**	P	Pb	04 21 00.1	+0.5
MTHZ	**Maungataniwha**	**1.56**	**254**	P	Pn	04 20 58.2	-0.1
MUGZ	**Murupara**	**1.56**	**268**	P	Pn	04 20 58.8	+0.5
ARHZ	**Aropaoanui**	**1.61**	**238**	P	Pn	04 20 59.9	+0.9
EDRZ	**Edgecumbe**	**1.62**	**281**	P	Pb	04 21 01.2	-0.2
NMHZ	**Naumai**	**1.67**	**246**	P	Pn	04 21 00.5	+0.7
TARZ	**Mount Tarawera**	**1.78**	**275**	P	Pn	04 21 02.0	+0.6
CKHZ	**Cape Kidnapper**	**1.80**	**226**	P	Pn	04 21 01.2	-0.4
OPRZ	**Ohinepanea**	**1.83**	**288**	P	Pn	04 21 01.9	-0.1
MCHZ	**McNeill Hill**	**1.90**	**237**	P	Pn	04 21 03.8	+0.8
OMRZ	**Omania**	**1.91**	**279**	P	Pn	04 21 04.0	+0.9
BKZ	**Black Stump Fm**	**1.92**	**247**	P	Pn	04 21 03.5	+0.2
KAHZ	**Kahuranaki**	**2.00**	**226**	P	Pn	04 21 04.0	-0.4
KWHZ	**Kaweka Forest**	**2.08**	**241**	P	Pn	04 21 05.3	-0.2
PXZ	**Pawanui**	**2.18**	**222**	P	Pn	04 21 06.2	-0.6
KRHZ	**Kereru**	**2.22**	**236**	P	Pn	04 21 06.8	-0.6
BHHZ	**Black Hill Sta**	**2.36**	**242**	P	Pn	04 21 09.2	-0.1
WPHZ	**Waipukurau**	**2.43**	**227**	P	Pn	04 21 09.2	-1.1
PNHZ	**Pukenui**	**2.48**	**232**	P	Pn	04 21 10.2	-0.8
MOVZ	**Moawhango**	**2.54**	**246**	P	Pn	04 21 12.2	+0.3
TUVZ	**Tukino**	**2.57**	**250**	P	Pn	04 21 14.8	+2.5
NGZ	**Ngauruhoe**	**2.58**	**252**	P	Pb	04 21 13.8	-3.9
NGZ				P	Pn	04 21 13.0	+0.6
FWVZ	**Far West T-bar**	**2.64**	**251**	P	Pn	04 21 15.3	+2.0
TOZ	**Tahuroa Road**	**2.66**	**284**	P	Pn	04 21 15.6	+2.2
TSZ	**Takapari Road**	**2.72**	**232**	P	Pn	04 21 13.0	-1.3
DVHZ	**Dannirke**	**2.75**	**226**	P	Pn	04 21 13.1	-1.5
KUZ	**Kuaotunu**	**2.94**	**304**	P	Pn	04 21 16.8	-0.5
BFZ	**Birch Farm**	**2.98**	**220**	P	Pn	04 21 15.5	-2.3
PRWZ	**Pori Road**	**3.03**	**225**	P	Pn	04 21 17.5	-1.0
HIZ	**Hauiti**	**3.07**	**267**	P	Pn	04 21 20.4	+1.4
MKAZ	**Moumakai**	**3.14**	**294**	P	Pn	04 21 20.9	+0.9
MRZ	**Mangatainoka R**	**3.32**	**227**	P	Pn	04 21 20.9	-1.6
GRZ	**Great Barrier**	**3.41**	**309**	P	Pn	04 21 23.9	+0.2
TMWZ	**Te Maipa**	**3.47**	**219**	P	Pn	04 21 22.1	-2.5
OGWZ	**Otaki Gorge**	**3.66**	**228**	P	Pn	04 21 25.1	-2.0
MTW	**Mount Morrison**	**3.71**	**222**	P	Pn	04 21 25.0	-2.8
KHEZ	**Kahui Hut**	**3.81**	**255**	P	Pn	04 21 30.5	+1.3
PKE	**Pukeiti**	**3.81**	**257**	P	Pn	04 21 30.9	+1.7
WCZ	**Waipu Caves**	**4.31**	**304**	P	Pn	04 21 37.1	+1.0
DUWZ	**D'Urville Isla**	**4.43**	**236**	P	Pn	04 21 35.8	-1.9
TCW	**Tory Channel**	**4.43**	**230**	P	Pn	04 21 36.0	-1.8
CTZ	**Chatham Island**	**6.35**	**148**	P	Pn	04 22 05.8	+1.8

*ISCJB **28** 04:31:27.8±0.3, 15°59N±0°03×92°49W±0°03, h151km±3km, mb4.2/30, Error ellipse: s-maj=5.2km s-min=3.4km az=35.4*

*MEX **28** 04:31:28.5±0.8, 15°58N×92°62W, h158km±6km, MD4.0*

*NEIC **28** 04:31:28.9±0.3, 15°51N×92°50W, mb4.5/66, MD4.0(MEX), Error ellipse: s-maj=6.9km s-min=4.9km az=223.0*

*IDC **28** 04:31:29.6±0.8, 15°64N×92°33W, h158km±6km, mb3.8/12, mb1 4.0/14, mb1mx3.7/40, mbtmp4.3/14, MS2.8/1, Ms1 2.8/1, ms1mx2.4/29, Error ellipse: s-maj=20.4km s-min=7.8km az=41.0*

ISC 28 04:31:28.6±0.5, 15°60N±0°05×92°54W±0°05, h155km±5km, h155km:pP-P, n255, σ1979/284, mb4.2/30, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.66**	**279**	*e*Pn	**Pn**	**04 31 50.1**	**-1.3**
PCIG				*e*Sn	**Sn**	**04 32 06.8**	**-2.0**
PCIG		**0.66**	**279**	*e*P	**Pn**	**04 31 50.1**	**-1.3**
PCIG				*e*S	**Sn**	**04 32 06.8**	**-2.0**
THIG		**0.74**	**159**	*e*Pn	**Pn**	**04 31 51.2**	**-0.7**
THIG		**0.74**	**159**	*i* P	**Pn**	**04 31 51.2**	**-0.7**
TGIG		**1.30**	**335**	*e*Pn	**Pn**	**04 31 55.7**	**-0.9**
TGIG				*e*Sn	**Sn**	**04 32 15.6**	**-2.5**
TGIG		**1.30**	**335**	*e*P	**Pn**	**04 31 55.7**	**-0.9**
TGIG				*e*S	**Sn**	**04 32 15.6**	**-2.5**
APG	**El Apazote**	**2.09**	**106**	P	**Pn**	**04 32 04.3**	**-1.1**
	34nm,0.3s,baz=163,slow=15,SNR=268						
APG				S	**Sn**	**04 32 31.8**	**-1.8**
	107nm,0.3s,baz=342,slow=12,SNR=13						
APG				LR	LR	04 32 51.5	
	comp=Z,2μm,21.8s,baz=61,slow=43						
CMIG	**Matias Romero**	**2.69**	**304**	P	**Pn**	**04 32 11.0**	**-1.4**
	94nm,0.3s,baz=116,slow=7.5,SNR=976						
CMIG				S	**Sn**	**04 32 42.9**	**-3.3**
	674nm,0.3s,baz=349,slow=19,SNR=66						
CMIG				LR	LR	04 33 07.8	
	comp=Z,163nm,19.8s,baz=129,slow=34						
CMIG	**Matias Romero**	**2.69**	**304**	*e*P	**Pn**	**04 32 11.0**	**-1.4**
CMIG				*e*S	**Sn**	**04 32 42.7**	**-3.5**
HUIG	**Huatulco**	**3.44**	**273**	*e*Pn	**Pn**	**04 32 19.2**	**-2.6**
HUIG	**Huatulco**	**3.44**	**273**	*e*P	**Pn**	**04 32 19.2**	**-2.6**
HUIG				*i* S	**Sn**	**04 32 58.8**	**-4.3**
SNET	**Serv Nac Est T**	**3.73**	**120**	*e*P	**Pn**	**04 32 29.0**	**+3.4**
SNET				*e*S	**Sn**	**04 33 08.8**	**-1.0**
TGUH	**Tegucigalpa,Un**	**5.32**	**106**	*e*Pn	**Pn**	**04 32 47.4**	**+1.0**
LVIG	**Laguna Verde**	**5.52**	**319**	*e*Pn	**Pn**	**04 32 46.4**	**-2.6**
LVIG				*e*Sn	**Sn**	**04 33 45.4**	**-6.4**
CRIN	**San Cristobal**	**6.06**	**118**	*e*P	**Pn**	**04 32 58.1**	**+1.9**
CRIN				*e*S	**Sn**	**04 34 02.9**	**-2.0**
CRIN				IAML		04 34 20.8	
	comp=N,155nm,0.4s						
TLIG	**Tlapa**	**6.10**	**289**	*e*Pn	**Pn**	**04 32 57.3**	**+0.5**
TLIG				*e*Sn	**Sn**	**04 33 58.1**	**-7.8**
TEIG	**Tepich**	**6.13**	**41**	*e*Pn	**Pn**	**04 32 55.3**	**-1.9**
TEIG				*e*Sn	**Sn**	**04 34 02.4**	**-4.2**
CNGN	**Cerro Negro**	**6.45**	**118**	*e*P	**Pn**	**04 33 02.3**	**+0.8**
CNGN				*e*S	**Sn**	**04 34 11.4**	**-2.9**
COPN	**Copaltepe**	**6.70**	**120**	*e*P	**Pn**	**04 33 05.2**	**+0.4**
COPN				*e*S	**Sn**	**04 34 13.6**	**-6.6**
CAIG	**El Cayaco**	**7.56**	**282**	*e*P	**Pn**	**04 33 14.8**	**-1.3**
ESPN	**Las Esperanzas**	**8.69**	**112**	*e*Pn	**Pn**	**04 33 31.8**	**+0.5**
JRQG	**Juriquilla Cam**	**9.07**	**305**	*e*Pn	**Pn**	**04 33 39.1**	**+2.6**
JTS	**JuntasAbangare**	**9.09**	**125**	P	**Pn**	**04 33 36.3**	**-0.3**
	comp=N,6.3nm,0.3s,baz=23,slow=14,SNR=24						
JTS				S	**Sn**	**04 35 09.4**	**-8.1**
	comp=N,0.3nm,0.3s,baz=0.0,slow=19,SNR=2.7						
JTS	**JuntasAbangare**	**9.09**	**125**	*e*Pn	**Pn**	**04 33 36.7**	**+0.2**
JTS				*e*Sn	**Sn**	**04 35 15.9**	**-1.6**
MOIG	**Morelia**	**9.19**	**297**	*e*Pn	**Pn**	**04 33 40.0**	**+1.9**
LNIG	**Linares**	**11.30**	**326**	*e*Pn	**Pn**	**04 34 07.3**	**+1.6**
ZAIG	**Zacatecas**	**11.85**	**309**	*e*Pn	**Pn**	**04 34 15.4**	**+2.3**
833A

ABTX	Abilene, Hawle	18.13	340	P		P	04 35 30.4 +1.3
	baz=158,SNR=9.6						
Y42A	Garnett, Star	18.17	2	P		P	04 35 30.9 +1.5
	baz=182						
Y41A	Eaglette Beard	18.20	360	P		P	04 35 31.3 +1.6
	baz=180						
SLBS	Sierra La Lagu	18.25	299	*e*P		Pn	04 35 33.9 +1.7
	comp=N,19nm,0.5s						
CCAR	Cane Creek	18.25	2	*e*P		Pn	04 35 34.9 +2.8
	comp=N,31nm,0.7s						
Z48A	Northport	18.26	13	P		P	04 35 31.8 +1.4
	baz=195						
Y43A	Makayla and Ka	18.29	4	P		Pn	04 35 32.7 +0.2
	baz=185						
Z49A	Columbiana	18.34	16	P		P	04 35 32.6 +1.4
	baz=198,SNR=5.1						
Y45A	Yeager Farm, C	18.39	8	P		P	04 35 33.7 +2.0
	baz=189,SNR=6.6						
Y44A	Strider, Charl	18.40	6	P		P	04 35 33.1 +1.2
	baz=187						
152A	Waverly Hall	18.42	21	*e*P		P	04 35 33.9 +1.8
	comp=N,22nm,1.4s						
152A	Waverly Hall	18.42	21	P		P	04 35 33.2 +1.1
	baz=204						
Y46A	Houston	18.50	10	P		P	04 35 34.7 +1.7
	baz=191,SNR=15						
Z50A	Ashland	18.57	18	*e*P		P	04 35 35.6 +1.9
	comp=N,22nm,1.2s						
Z50A	Ashland	18.57	18	P		P	04 35 35.3 +1.5
	baz=200,SNR=5.9						
Y47A	UCPARC, Winfie	18.71	12	P		P	04 35 37.0 +1.7
	baz=194,SNR=8.5						
153A	Fort Valley	18.73	23	P		P	04 35 36.8 +1.3
	baz=207						
X40A	Basin Creek Fa	18.81	359	*e*P		Pn	04 35 40.6 +2.1
	comp=N,8.4nm,0.8s						
X41A	Kaden, Bauxite	18.81	0	P		P	04 35 37.5 +1.2
	baz=180						
Y48A	Jasper	18.87	14	P		P	04 35 38.4 +1.5
	baz=196						
MIAR	Mount Ida	18.89	357	*e*P		P	04 35 37.8 +0.7
	comp=N,30nm,1.0s						
MIAR	Mount Ida	18.89	357	P		P	04 35 37.9 +0.7
	baz=177,SNR=21						
X43A	Marvell	18.90	4	*e*P		Pn	04 35 40.1 +0.5
	comp=N,79nm,1.0s						
X43A	Marvell	18.90	4	P		Pn	04 35 39.6 0.0
	baz=185,SNR=5.3						
X45A	UM Field Stati	18.96	8	P		P	04 35 39.6 +1.7
	baz=189,SNR=8.0						
256A	Glennville	18.98	29	P		P	04 35 39.3 +1.2
	baz=213						
154A	Montrose	18.98	25	*e*P		P	04 35 39.4 +1.2
	comp=N,56nm,1.0s						
154A	Montrose	18.98	25	P		P	04 35 39.4 +1.2
	baz=209						
Z52A	Williamson	19.00	21	P		P	04 35 39.8 +1.4
	baz=204						
Y49A	Blount Mountai	19.00	16	*e*P		P	04 35 38.4 0.0
	comp=N,7.1nm,0.9s						
OXF	Oxford	19.04	8	*e*P		Pn	04 35 42.1 +0.8
	comp=N,77nm,1.0s						
OXF	Oxford	19.04	8	P		P	04 35 40.0 +1.2
	baz=189,SNR=10						
X37A	Clayton	19.08	353	*e*P		P	04 35 40.4 +1.2
	comp=N,21nm,0.8s						
UALR	University of	19.09	0	*e*P		P	04 35 41.2 +1.8
	comp=N,19nm,0.7s						
X46A	Booneville	19.21	10	P		P	04 35 42.4 +1.8
	baz=191,SNR=11						
X47A	Russellville	19.30	12	P		P	04 35 42.5 +0.8
	baz=194,SNR=8.1						
Z53A	Monticello	19.39	23	P		P	04 35 43.4 +0.8
	baz=207						
X48A	Hartselle	19.41	14	*e*P		P	04 35 44.6 +1.7
	comp=N,20nm,0.9s						
X48A	Hartselle	19.41	14	P		P	04 35 43.9 +1.1
	baz=196,SNR=6.5						
Y51A	Rockmart	19.43	19	P		P	04 35 43.7 +0.6
	baz=202						
W41B	Gary Mavity, V	19.49	1	*e*P		P	04 35 45.1 +1.4
	comp=N,8.1nm,0.8s						
W41B	Gary Mavity, V	19.49	1	P		P	04 35 45.0 +1.3
	baz=181						
GOGA	Godfrey	19.54	23	*e*P		P	04 35 45.9 +1.7
	comp=N,27nm,1.5s						
GOGA	Godfrey	19.54	23	P		P	04 35 45.2 +1.0
	baz=207						
WHAR	Wooly Hollow	19.61	1	*e*P		Pn	04 35 47.7 -0.3
	comp=N,8.4nm,0.9s						
Z54A	Sparta	19.63	25	P		P	04 35 45.9 +0.7
	baz=209						
X49A	Woodville	19.64	15	P		P	04 35 46.6 +1.3
	baz=198,SNR=11						
W45A	Hickory Valley	19.70	8	P		P	04 35 48.0 +2.0
	baz=189						
PLAL	Pickwick Lake	19.71	11	*e*P		Pn	04 35 49.8 +0.7
	comp=N,11nm,0.7s						
GDL2	Guadalupe Moun	19.72	329	*e*P		P	04 35 48.7 +2.4
Y52A	Lilburn	19.73	21	*e*P		P	04 35 47.6 +1.3
	comp=N,16nm,0.7s						
Y52A	Lilburn	19.73	21	P		P	04 35 47.7 +1.4
	baz=205						
X50B	Fort Payne	19.78	17	P		P	04 35 48.4 +1.6
	baz=200						
W46A	Michie	19.81	10	P		P	04 35 48.2 +1.1
	baz=192,SNR=7.5						
MNTX	Cornudas Mount	19.85	326	*e*P		P	04 35 49.0 +1.4
	comp=N,15nm,0.8s						
MNTX	Cornudas Mount	19.85	326	P		P	04 35 48.7 +1.1
	baz=141,SNR=22						
WMOK	Wichita Mounta	19.86	345	*e*P		P	04 35 49.9 +2.1
	comp=N,10nm,0.7s						
WMOK	Wichita Mounta	19.86	345	P		P	04 35 49.2 +1.4
	baz=162						
Y53A	Monroe	19.89	22	P		P	04 35 48.7 +0.6
	baz=206						
W47A	Westpoint	20.07	12	P		P	04 35 50.2 +0.3
	baz=194						
W48A	Pulaski	20.10	13	P		P	04 35 50.9 +0.7
	baz=196						
V41A	Mountainview	20.10	1	P		P	04 35 51.1 +0.8
	baz=181						
V42A	Cord	20.15	3	P		P	04 35 51.9 +1.1
	baz=183						
W49A	Belvidere	20.24	15	P		P	04 35 52.7 +1.0
	baz=198						
Y54A	Tignall	20.24	24	P		P	04 35 52.7 +0.9
	baz=208						
TUL1	Leonard	20.43	352	*e*P		P	04 35 55.3 +1.5
	comp=N,13nm,0.7s						
TUL1	Leonard	20.43	352	P		P	04 35 55.0 +1.1
	baz=171						
X52A	Dahlonega	20.46	21	P		P	04 35 54.6 +0.5
	baz=204						
MSTX	Muleshoe	20.49	335	*e*P		P	04 35 54.9 +0.4
	comp=N,12nm,1.1s						
MSTX	Muleshoe	20.49	335	P		P	04 35 54.6 +0.1
	baz=151,SNR=6.1						
V46A	Holladay	20.50	10	P		P	04 35 55.0 +0.5
	baz=192,SNR=6.5						
W50A	Signal Mountai	20.57	17	P		P	04 35 55.7 +0.4
	baz=200						
X53A	Estanollee	20.58	22	P		P	04 35 56.1 +0.7
	baz=206						
HHAR	Hobbs	20.63	357	*e*P		P	04 35 57.5 +1.5
	comp=N,9.6nm,1.3s						
V47A	Nunnelly	20.64	12	P		P	04 35 56.8 +0.8
	baz=194						
OTAV	Otavalo	20.66	136	*e*P		P	04 35 56.9 0.0
	comp=N,19nm,1.4s						
U40A	Yellville	20.67	359	P		P	04 35 57.0 +0.7
	baz=179						
U42A	Revenden	20.70	3	P		P	04 35 56.9 +0.3
	baz=183						
NHSC	New Hope	20.72	31	*e*P		P	04 35 59.1 +2.3
	comp=N,82nm,1.4s						
AMTX	Amarillo	20.88	339	*e*P		P	04 35 57.8 -0.9
	comp=N,22nm,0.6s						
CPCT	Cooper Cave	21.03	19	*e*P		P	04 36 01.1 +0.9
	comp=N,5.8nm,1.0s						
V50A	Pikevile	21.07	17	P		P	04 36 01.7 +1.1
	baz=200						
JSC	Jenkinsville	21.20	27	*e*P		P	04 36 02.0 0.0
	comp=N,21nm,1.4s						
TKL	Tuckaleechee C	21.46	20	P		P	04 36 06.3 +1.5
	comp=N,1.5nm,0.5s,baz=159,slow=14,SNR=3.3						
TKL	Tuckaleechee C	21.46	20	*e*P		P	04 36 06.3 +1.5
	comp=N,17nm,1.4s						
T43A	Greenville	21.49	5	P		P	04 36 06.3 +1.2
	baz=186						
U49A	Red Boiling Sp	21.68	15	P		P	04 36 07.5 +0.3
	baz=198						
121A	Cookes Peak, D	21.81	323	P		P	04 36 09.5 +0.7
	baz=137,SNR=10						
U50A	Jamestown	21.84	17	P		P	04 36 08.7 -0.1
	baz=200						
T47A	Sharon Grove	21.84	12	P		P	04 36 08.8 0.0
	baz=194						
KMSC	Kings Mountain	21.90	25	P		P	04 36 09.3 -0.1
	baz=210						
S44A	Carbondale	22.20	7	P		P	04 36 12.7 +0.4
	baz=188						
U52A	Thorn Hill	22.26	20	P		P	04 36 13.1 +0.1
	baz=204						
CCM	Cathedral Cave	22.40	3	*e*P		P	04 36 13.3 -1.0
	comp=N,5.2nm,0.8s						
BNM	Barren Site	22.41	328	*e*P		P	04 36 17.0 +2.2
SDV	Santo Domingo	22.41	105	P		P	04 36 13.8 -1.1
	comp=N,3.6nm,0.4s,baz=319,slow=12,SNR=6.5						
SDV	Santo Domingo	22.41	105	*e*P		P	04 36 14.0 -0.9
	comp=N,5.5nm,0.8s						
U53A	Fall Branch	22.51	21	P		P	04 36 15.7 +0.4
	baz=206						
LENM	Lemitar	22.60	327	*e*P		P	04 36 18.4 +1.9
LAZ	Ladron	22.87	328	*e*P		P	04 36 21.2 +2.2
ANMO	Albuquerque	22.96	330	P		P	04 36 21.3 +1.5
	comp=N,3.5nm,0.8s,baz=145,slow=13,SNR=17						
ANMO	Albuquerque	22.96	330	*e*P		P	04 36 21.5 +1.7
	comp=N,3.3nm,0.7s						
ANMO				*e*pP		pP	04 36 50.2 +1.4
ANMO	Albuquerque	22.96	330	P		P	04 36 21.1 +1.3
	baz=144						
R48A	Northridge Ran	23.46	13	P		P	04 36 25.0 +0.9
	baz=196						
TUC	Tucson	23.49	318	*e*P		P	04 36 26.8 +2.2
	comp=N,3.9nm,1.0s						
TUC	Tucson	23.49	318	P		P	04 36 25.7 +1.2
	baz=131						
CNNC	Cliffs of the	23.56	31	*e*P		P	04 36 24.9 -0.1
	comp=N,33nm,1.1s						
CNNC	Cliffs of the	23.56	31	P		P	04 36 25.4 +0.5
	baz=217						
KSU1	Kansas State U	23.68	352	*e*P		P	04 36 25.6 -0.5
	comp=N,16nm,0.8s						
KSU1	Kansas State U	23.68	352	P		P	04 36 25.9 -0.2
	baz=170						
T25A	Trinidad	23.90	336	*e*P		P	04 36 30.6 +2.2
	comp=N,10nm,0.8s						
T25A	Trinidad	23.90	336	P		P	04 36 29.7 +1.3
	baz=151,SNR=9.9						
CBKS	Cedar Bluff	23.98	346	*e*P		P	04 36 29.8 +1.0
	comp=N,16nm,1.1s						
CBKS	Cedar Bluff	23.98	346	P		P	04 36 29.4 +0.6
	baz=163						
214A	Organ Pipe Nat	24.61	315	P		P	04 36 36.4 +1.7
	baz=127						
Q51A	Peebles	24.69	17	P		P	04 36 36.5 +1.2
	baz=201						
SDCO	Great Sand Dun	24.86	335	P		P	04 36 38.6 +1.5
	baz=149						
KSCO	Kaye Shedlock'	24.95	341	P		P	04 36 39.5 +1.7
	baz=156						
SJG	San Juan	25.37	81	P		P	04 36 40.0 -1.7
	comp=N,4.3nm,0.5s,baz=329,slow=12,SNR=4.0						
N43A	Stutzman Famil	25.42	6	P		P	04 36 42.6 +0.8
	baz=187						
S22A	4UR Ranch, Cre	25.42	333	P		P	04 36 43.3 +1.0
	baz=146						
MVCO	Mesa Verde	25.76	330	P		P	04 36 46.7 +1.5
	baz=143						
GLA	Glamis	26.63	315	P		P	04 36 54.7 +1.8
	baz=126						
PDMCI	Parker Dam,Lak	26.92	318	P		P	04 36 56.8 +1.4
	baz=129						
SWSC	Sam W. Stewart	27.24	314	P		P	04 36 59.6 +1.3
	baz=124						
IKP	In-Ko-Pah, Jac	27.30	313	P		P	04 37 00.5 +1.6
	baz=123						
BC3	Big Chuckawall	27.41	315	P		P	04 37 01.5 +1.6
	baz=126,SNR=7.8						
MONP2	Monument Peak	27.65	313	P		P	04 37 03.8 +1.6
	baz=123						
PCRV	Puerto La Cruz	27.72	98	P		P	04 37 01.2 -1.5
	comp=N,13nm,0.9s,baz=0.0,slow=7.1,SNR=2.7						
BELC	Belle Mtn. Jos	27.97	315	P		P	04 37 06.3 +1.3
	baz=125						
LDFC	Landfair	28.03	318	*e*P		P	04 37 09.0 +3.6
	comp=N,8.6nm,0.9s						
PFO	Pinyon Flats O	28.07	314	*e*P		P	04 37 07.5 +1.7
	comp=N,3.4nm,1.1s						
PFO	Pinyon Flats O	28.07	314	P		P	04 37 06.8 +1.0
	baz=124						
FRD	Ford Ranch, An	28.11	314	P		P	04 37 08.2 +2.1
	baz=124						
GMRC	Granite Mounta	28.21	317	P		P	04 37 08.8 +1.8
	baz=127						
P18A	Preston Nutter	28.51	331	*e*P		P	04 37 11.4 +1.6
	comp=N,15nm,0.8s						
HEC	Hector, Ludlow	28.68	316	P		P	04 37 13.2 +2.0
	baz=126						
TPNV	Topopah Spring	29.91	320	P		P	04 37 23.8 +1.7
	baz=129						
LRMC	Laurel Mtn Rad	29.96	316	P		P	04 37 24.4 +1.9
	baz=125						
MPMC	Manual Prospec	30.16	317	P		P	04 37 26.3 +1.9
	baz=126,SNR=7.2						
PD31	Pinedale Array	30.75	335	*e*P		P	04 37 30.8 +1.3
PDAR	Pinedale Array	30.75	335	P		P	04 37 30.8 +1.3
	comp=N,0.2nm,0.5s,baz=128,slow=9.6,SNR=2.5						
REDW	Red Top Meadow	31.78	334	*e*P		P	04 37 38.5 -0.1
	comp=N,3.3nm,1.0s						
REDW				*e*pP		pP	04 38 14.3 +2.9
NV11	Mina Array Sit	32.02	320	*e*P		P	04 37 43.5 +2.9
	comp=N,0.5nm,1.0s						
NV11				*e*pP		pP	04 38 16.9 +3.4
NV01	Mina Array Sit	32.11	320	*e*P		P	04 37 44.1 +2.7
NV01				*e*pP		pP	04 38 17.2 +2.8
NVAR	Mina Array Bea	32.11	320	P		P	04 37 43.6 +2.2
	comp=N,8.3nm,0.7s,baz=133,slow=8.7,SNR=50						
NVAR				pP		pP	04 38 17.1 +2.8
	comp=N,9.1nm,1.0s,baz=128,slow=9.4,SNR=6.9						
WVOR	Wild Horse Val	34.88	325	*e*P		P	04 38 07.7 +2.4
	comp=N,4.1nm,1.1s						
J08A	Circle Bar Ran	35.42	327	*e*P		P	04 38 11.7 +1.8
	comp=N,10nm,0.7s						
J08A				*e*pP		pP	04 38 45.4 +2.3
LPAZ	La Paz	39.81	142	P		P	04 38 48.1 +0.5
	comp=N,2.6nm,0.7s,baz=341,slow=6.0,SNR=21						
LPAZ	La Paz	39.81	142	*e*P		P	04 38 47.8 +0.2
	comp=N,2.6nm,0.7s						
MNMC	Minye Minye	41.24	146	*e*P		P	04 39 00.5 +1.5
	comp=N,5.5nm,0.8s						
YKA	Yellowknife Ar	49.36	347	P		P	04 40 01.6 -0.3
	comp=N,2.1nm,0.5s,baz=151,slow=7.4,SNR=29						
YKB5	Yellowknife Ar	49.36	347	*e*P		P	04 40 01.6 -0.3
CPUP	Villa Florida	53.94	140	P		P	04 40 35.6 -0.9
	comp=N,8.5nm,1.0s,baz=336,slow=7.6,SNR=12						
CPUP	Villa Florida	53.94	140	*e*P		P	04 40 35.6 -0.9
	comp=N,8.1nm,0.9s						
GO05	HualaæØ	54.01	159	*e*P		P	04 40 38.0 +1.1
	comp=N,30nm,1.3s						
PLCA	Paso Flores	59.65	161	P		P	04 41 17.0 +0.4
	comp=N,2.5nm,1.1s,baz=22,slow=11,SNR=3.1						
PLCA	Paso Flores	59.65	161	*e*P		P	04 41 17.0 +0.4
	comp=N,12nm,1.5s						
ILAR	Eielson Array	61.17	337	P		P	04 41 27.5 +1.1
	comp=N,0.2nm,0.6s,baz=97,slow=6.0,SNR=4.2						
ILAR				pP		pP	04 42 04.0 +1.0
	comp=N,0.6nm,0.9s,baz=106,slow=7.4,SNR=3.7						
ILB	Eielson Array	61.17	337	*e*P		P	04 41 27.6 +1.1
ILB				*e*pP		pP	04 42 04.0 +1.0
ARA0	ARCESS Array S	84.79	18	*e*P		P	04 43 43.9 -1.3
ARCES	ARCESS Array B	84.79	18	P		P	04 43 43.9 -1.3
	comp=N,3.1nm,1.0s,baz=258,slow=4.5,SNR=2.5						
LZH	Lanzhou	126.31	344	*e*PKP		PKPdf	04 50 08.5 -5.1
LZH				pPKP		pPKPdf	04 50 52.3 -2.3
LZH				sPKP			04 51 12.8
WRA	Warramunga Arr	135.26	257	PKP		PKPdf	04 50 31.5 +0.8
	comp=N,0.3nm,0.9s,baz=84,slow=2.7,SNR=4.8						
WRA				pPKP		pPKPdf	04 51 11.4 -0.4
	comp=N,0.2nm,0.7s,baz=82,slow=2.1,SNR=1.8						

IDC 28 04:32:06.0±2.5, 15°33S×167°43E, h0km, mb3.3/2,
mb1 3.6/3, mb1mx3.5/24, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=56.1km s-min=46.5km az=113.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	6.77	188	Pn	Pn	04 33 46.2	-0.6
	1.5nm,0.3s,baz=85,slow=17,SNR=10.0						
DZM				Sn	Sn	04 34 57.2	-7.4
	0.4nm,0.3s,baz=150,slow=20,SNR=2.2						
WRA	Warramunga Arr	31.84	257	P	P	04 38 32.8	-0.1
	0.1nm,0.8s,baz=84,slow=9.2,SNR=2.5						
ASAR	Alice Springs	32.61	250	P	P	04 38 39.8	+0.1
	0.7nm,0.7s,baz=79,slow=9.3,SNR=8.6						
ARCES	ARCESS Array B	120.87	345	PKP	PKPdf	04 50 59.6	-0.2
	3.4nm,1.1s,baz=62,slow=2.1,SNR=4.1						

RSNC 28 04:35:08.9±1.5, 2°79N×75°07W, h0km±5km, ML3.9, Mw4.1, 3C-5D, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BETC	Betania	0.38	254	⇓*e*Pg	Pg	04 35 16.7	+0.5
MARP	Paez Belalcaza	0.88	273	⇓*i*P	Pg	04 35 25.2	-0.6
MARP				*e*S	Sg	04 35 37.8	+0.5
MARP				*i*		04 35 42.7	
	comp=Z,3μm,0.1s						
PRAC	Prado	0.94	11	⇑*i*P	Pg	04 35 25.0	-1.9
SJAC	San Juan de Ar	1.22	67	*i* P	Pg	04 35 30.7	-1.6
SJAC				*i*		04 35 45.8	
	comp=Z,3μm,0.3s						
FLOC	Florencia	1.33	206	⇑*i*P	Pg	04 35 31.9	-2.5
FLOC				*e*S	Sg	04 35 49.1	-2.6
FLOC				*i*		04 35 50.5	
	comp=Z,2μm,0.1s						
PCON	Cinco Dias	1.40	251	⇓*i*P	Pg	04 35 34.7	-1.1
PCON				*e*S	Sg	04 35 54.3	+0.3
PCON				*i*		04 35 55.2	
	comp=Z,1μm,0.2s						
POPC	Popayan, Colom	1.62	261	⇓*i*P	Pn	04 35 38.2	-0.8
POPC				*e*S	Sn	04 36 00.0	-0.6
POPC				*i*		04 36 02.2	
	comp=N,164nm,0.7s						
SOTA	Rioblanco	1.67	247	⇓*i*P	Pn	04 35 38.9	-0.9
SOTA				*e*S	Sn	04 36 02.3	+0.1
SOTA				*i*		04 36 03.8	
	comp=Z,1μm,0.3s						
ANIL	Santa Ana	1.72	349	*e*S	Sn	04 36 02.3	-1.0
ANIL				*i*		04 36 03.6	
	comp=Z,902nm,0.2s						
YOTC	Yotoco, Valle	1.74	313	⇑*e*P	Pn	04 35 39.1	-1.4
YOTC				*e*S	Sn	04 36 02.3	-1.1
TOLC	Tolima	1.80	352	*e*P	Pn	04 35 39.7	-1.8
TOLC				*e*S	Sn	04 36 04.2	-1.1
TOLC				*i*		04 36 06.0	
	comp=Z,431nm,0.2s						
VILC	Villavicencio,	1.90	46	*e*P	Pn	04 35 42.3	-0.5
VILC				*e*S	Sn	04 36 07.1	-0.4
VILC				*i*		04 36 11.6	
	comp=Z,1μm,0.3s						
CVER	Cruz Verde, Cu	1.99	30	*e*P	Pn	04 35 43.1	-1.1
RREF	El Recreo	2.12	353	*e*P	Pn	04 35 43.9	-2.2
RREF				*e*S	Sn	04 36 13.3	-0.1
ROSC	El Rosal	2.17	20	*e*P	Pn	04 35 45.9	-0.8
ROSC				*e*S	Sn	04 36 14.8	+0.3
ROSC				*i*		04 36 20.3	
	comp=Z,491nm,0.4s						
CRUC	La Cruz	2.23	237	*e*P	Pn	04 35 47.3	-0.2
CHIC	Chingaza	2.27	36	*e*P	Pn	04 35 47.2	-0.8
CHIC				*e*S	Sn	04 36 17.1	+0.2
CHIC				*i*		04 36 22.2	
	comp=N,1μm,0.4s						
CTAB	Cerro Tablazo,	2.37	21	*e*P	Pn	04 35 49.3	-0.2
PLMC	San Jos˜ del	2.42	330	*e*P	Pn	04 35 49.4	-0.5
PLMC				*i*		04 36 27.5	
	comp=N,2μm,0.2s						
GUVC	San Jose del G	2.46	96	*e*P	Pn	04 35 46.9	-3.4
GUVC				*i*		04 36 17.3	
	comp=N,2μm,0.4s						
GCUF	Volcan Galeras	2.75	236	*e*P	Pn	04 35 54.6	-0.1
NORC	Norcasia	2.76	4	*e*P	Pn	04 35 51.6	-2.9
HELC	Santa Helena	3.41	352	*e*P	Pn	04 36 03.0	-0.7
PTBC	PUERTO BERRIO,	3.77	9	*e*P	Pn	04 36 05.6	-2.8
TAMC	Tame, Arauca	4.88	42	*e*P	Pn	04 36 22.0	-1.7
PAMC	Pamplona, Colo	5.10	28	*e*P	Pn	04 36 26.0	-1.1

*ASRS **28** 04:50:02.5, 53°69N×91°07E, M2.7, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

NNC 28 04:50:16.1±2.3, 53°38N×90°25E, h0km, mb4.2, mpv3.9, 8C-3D, Error ellipse: s-maj=18.3km s-min=15.8km az=87.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	Zalesovo Array	3.28	282	⇑Pn	Pn	04 51 09.3	+0.6
	15nm,0.7s						
ZAA0				⇓Lg	Lg	04 52 01.5	
	83nm,0.8s						
KURK	Kurchatov	7.65	254	⇑Pn	Pn	04 52 06.9	-1.8
	4.8nm,0.8s						
KURK				⇑Sn	Sn	04 53 37.2	+1.2
	26nm,1.0s						
KURK				⇑Lg	Lg	04 54 19.8	
	62nm,1.0s						
KURBB	Kurchatov Arra	7.74	254	⇓Pn	Pn	04 52 08.6	-1.3
	9.2nm,0.9s						
KURBB				⇑Sn	Sn	04 53 38.4	+0.2
	72nm,0.9s						
KURBB				⇑Lg	Lg	04 54 19.8	
	81nm,1.0s						
MK31	Makanchi Array	8.34	221	⇑Pn	Pn	04 52 18.5	+0.4
	5.4nm,0.9s,baz=31,slow=12,SNR=24						
MK31				⇑Sn	Sn	04 53 56.0	+3.0
	5.5nm,1.1s,baz=34,slow=26,SNR=3.6						
MK31				⇓Lg	Lg	04 54 41.1	
	18nm,0.9s,baz=46,slow=28,SNR=3.8						

*IDC **28** 05:11:56.5±0.9, 51°59N×172°81W, h0km, mb3.6/10, mb1 3.9/11, mb1mx3.7/40, mbtmp3.6/11, ML4.0/1, Error ellipse: s-maj=28.9km s-min=18.4km az=164.0*
*ISCJB **28** 05:11:59.2±0.7, 51°46N±0°09×172°44W±0°06, h27km, mb3.6/10, Error ellipse: s-maj=13.7km s-min=4.6km az=170.3*
*NEIC **28** 05:12:00.4±0.0, 51°45N×172°46W, h42km, ML3.0(AEIC), After AEIC.*

ISC 28 05:12:00.9±0.9, 51°6N±0°1×172°56W±0°04, h27km, n28, σ1.9 23/28, mb3.7/10, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOFP	Korovin Flat P	1.17	306	P	Pb	05 12 22.6	+0.2
ATKA	Atka Island	1.18	302	P	Pn	05 12 21.9	+0.3
KOSE	Korovin Southe	1.19	310	P	Pb	05 12 23.4	+0.6
KOKL	Mount Kliuchef	1.25	306	P	Pb	05 12 24.1

baz=24
H11S3 **WAKE ISLAND Hy** 36.87 214 T T 05 58 39.0
baz=24
PDAR **Pinedale Array** 42.50 76 P P 05 19 54.5 +0.7
0.6nm,0.7s,baz=289,slow=2.7,SNR=7.1
TXAR **Lajitas Array** 54.75 86 P P 05 21 28.3 +0.2
0.2nm,0.7s,baz=312,slow=7.0,SNR=3.3
ARCES **ARCESS Array B** 58.46 353 P P 05 21 53.4 -0.4
1.4nm,0.8s,baz=26,slow=7.0,SNR=3.5
MKAR **Makanchi Array** 62.88 312 P P 05 22 24.1 -0.2
0.2nm,0.3s,baz=54,slow=8.5,SNR=2.6
NOA **NORSAR Array B** 67.67 358 P P 05 22 54.4 -0.7
0.8nm,0.7s,baz=347,slow=5.0,SNR=3.1
WRA **Warramunga Arr** 84.99 229 P P 05 24 32.4 -1.3
0.2nm,0.6s,baz=33,slow=5.2,SNR=3.2
ASAR **Alice Springs** 88.40 228 P P 05 24 50.3 0.0
0.4nm,0.5s,baz=30,slow=4.6,SNR=6.1

IDC ***28*** *05:28:18.8±0.5, 12.°61N×88.°39W, h0km, mb4.4/18, mb1 4.6/21,mb1mx4.4/42, mbtmp4.4/21, ML2.4/3, MS4.0/24, Ms1 4.0/24, ms1mx3.9/37, Error ellipse: s-maj=21.8km s-min=9.6km az=53.0*

UCR ***28*** *05:28:20.1±1.6, 12.°37N×88.°57W, h23km±7km, ML4.2, mb4.6(NEIC)*

ISCJB ***28*** *05:28:22.9±0.4, 12.°53N±0.°02×88.°42W±0.°02, h39km±3km, mb4.6/180, MS4.0/24, Error ellipse: s-maj=4.6km s-min=2.8km az=35.8*

GCMT ***28*** *05:28:23.0±0.3, 12.°35N±0.°02×88.°65W±0.°04, h12km, MW4.8/74, Moment Tensor Solution. s16,c17; s74,c101; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.74±.07; Mθθ 1.74±.06; Mϕϕ 0.00±.09; Mrθ 0.41±.26; Mθϕ -0.08±.06; Mϕr 0.33±.36; Best double couple: M0 1.81900×10^16 NP1:ϕ=262.00000°, δ52.00000°, λ-103.00000°. NP2: ϕs=103.00000°, δ40.00000°, λ-74.00000°. Principal axes: T 1.7890, Plg7.0000°, Azm1.0000°; N 0.0640, Plg10.0000°, Azm270.0000°; P -1.8490, Plg78.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***28*** *05:28:24.0±0.2, 12.°46N×88.°38W, h35km, mb4.6/192 Error ellipse: s-maj=3.8km s-min=2.7km az=218.0*

ISC 28 05:28:24.8±0.4, 12.°55N±0.°05×88.°43W±0.°04, h39km±3km, n605, σ1ϟ22/605, mb4.6/180, MS4.0/24, 2C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LCY	**Lacayo**	**0.88**	**8**	*eP*		**Pn**	**05 28 39.9**	**-0.9**
VSM	**San Miguel**	**0.89**	**10**	*eP*		**Pn**	**05 28 40.2**	**-0.9**
UESV	**Ojushtada**	**0.90**	**337**	*eP*		**Pn**	**05 28 42.5**	**+1.5**
BLLM	**Bellamira**	**0.91**	**12**	*eP*		**Pn**	**05 28 40.3**	**-0.8**
LCND	**La Ca¯ada**	**0.92**	**35**	*eP*		**Pn**	**05 28 39.9**	**-1.4**
LCND				*eS*		**Sn**	**05 28 56.1**	**+2.8**
LCND				IAML			05 29 04.6	
	comp=Z,6μm,0.4s							
PACA	**Pacayal**	**0.92**	**6**	*eP*		**Pn**	**05 28 40.2**	**-1.2**
PACA				*eS*		**Sn**	**05 28 56.4**	**+2.9**
CSGN	**Cosiguina Volc**	**0.95**	**63**	*eSn*		**Sn**	**05 28 54.4**	**+0.4**
CSGN	**Cosiguina Volc**	**0.95**	**63**	*eP*		**Pn**	**05 28 41.0**	**-0.7**
CSGN				*eS*		**Sn**	**05 28 56.9**	**+2.9**
CSGN				IAML			05 29 04.8	
	comp=N,70μm,0.6s							
SNVI	**San Vicente**	**1.13**	**339**	*eP*		**Pn**	**05 28 42.5**	**-1.8**
CAHU	**Cacacuatique**	**1.23**	**10**	*eP*		**Pn**	**05 28 45.6**	**-0.1**
LFRS	**El Faro**	**1.24**	**330**	*eP*		**Pn**	**05 28 43.0**	**-2.7**
PAVA	**Las Pavas**	**1.26**	**337**	*eP*		**Pn**	**05 28 44.4**	**-1.6**
PAVA				IAML			05 29 07.0	
	comp=Z,6μm,0.4s							
LOMA	**San Marcos**	**1.32**	**326**	*eP*		**Pn**	**05 28 44.0**	**-2.7**
LOMA				IAML			05 29 07.4	
	comp=Z,5μm,0.6s							
LBRS	**Las Brisas**	**1.33**	**333**	*eP*		**Pn**	**05 28 45.0**	**-1.9**
CRIN	**San Cristobal**	**1.35**	**83**	*eP*		**Pn**	**05 28 46.6**	**-0.6**
CRIN				*eS*		**Sn**	**05 29 06.9**	**+2.9**
LFU	**La Fuente**	**1.37**	**331**	*eP*		**Pn**	**05 28 45.4**	**-2.1**
SNET	**Serv Nac Est T**	**1.38**	**325**	*eP*		**Pn**	**05 28 45.2**	**-2.4**
SNET				*eS*		**Sn**	**05 29 04.2**	**-0.4**
SNET				IAML			05 29 14.6	
	comp=Z,2μm,0.2s							
BOQS	**Boqueron**	**1.45**	**325**	*eP*		**Pn**	**05 28 46.3**	**-2.4**
CNGN	**Cerro Negro**	**1.69**	**91**	*eP*		**Pn**	**05 28 48.2**	**-3.5**
LLGN	**La Laguna**	**1.69**	**342**	*eP*		**Pn**	**05 28 51.3**	**-0.6**
LLGN				IAML			05 28 57.7	
	comp=Z,3μm,0.6s							
CEVE	**Cerro Verde**	**1.73**	**318**	*eP*		**Pn**	**05 28 50.4**	**-2.1**
CEVE				IAML			05 29 26.7	
	comp=Z,6μm,0.4s							
SBLS	**San Blas**	**1.73**	**318**	*eP*		**Pn**	**05 28 50.2**	**-2.5**
UNIC	**Santa Ana**	**1.81**	**323**	*eP*		**Pn**	**05 28 51.3**	**-2.2**
COPN	**Copaltepe**	**1.83**	**101**	*eP*		**Pn**	**05 28 51.1**	**-2.6**
MOMN	**Momotombo**	**1.85**	**94**	*eP*		**Pn**	**05 28 51.8**	**-2.2**
TGUH	**Tegucigalpa,Un**	**1.87**	**37**	*ePn*		**Pn**	**05 28 54.8**	**+0.5**
TGUH				*eSn*		**Sn**	**05 29 13.9**	**-2.9**
MTO3	**Montecristo**	**2.05**	**334**	*eP*		**Pn**	**05 28 55.7**	**-1.3**
ESTN	**Estel**	**2.08**	**74**	*ePn*		**Pn**	**05 28 56.4**	**-0.8**
ESTN				*eSn*		**Sn**	**05 29 15.5**	**-6.5**
ESTN	**Estel**	**2.08**	**74**	*eP*		**Pn**	**05 28 55.9**	**-1.4**
MGAN	**Managua**	**2.17**	**100**	*eP*		**Pn**	**05 28 56.6**	**-1.7**
MGAN				*eS*		**Sn**	**05 29 23.6**	**-0.3**
MATN	**Matagalpa**	**2.47**	**81**	*eP*		**Pn**	**05 29 01.2**	**-1.4**
BOAB	**BOACO BROADBAN**	**2.70**	**92**	*ePn*		**Pn**	**05 29 03.8**	**-1.8**
BOAB	**BOACO BROADBAN**	**2.70**	**92**	*eP*		**Pn**	**05 29 03.7**	**-1.9**
APG	**El Apazote**	**3.15**	**321**	Pn		**Pn**	**05 29 09.7**	**-2.3**
	comp=Z,0.8nm,0.3s,baz=128,slow=5.4,SNR=12							
APG				Sn		**Sn**	**05 29 47.4**	**-1.0**
	comp=Z,13nm,0.3s,baz=127,slow=20,SNR=8.6							
ACON	**Acoyapa**	**3.23**	**100**	*eP*		**Pn**	**05 29 11.8**	**-1.1**
ESPN	**Las Esperanzas**	**4.05**	**95**	*ePn*		**Pn**	**05 29 24.4**	**+0.2**
ESPN	**Las Esperanzas**	**4.05**	**95**	*eP*		**Pn**	**05 29 24.8**	**+0.6**
JTS	**JuntasAbangare**	**4.08**	**123**	Pn		**Pn**	**05 29 21.7**	**-2.9**
	comp=Z,6.1nm,0.3s,baz=12,slow=18,SNR=26							
JTS				Sn		**Sn**	**05 30 12.4**	**+1.2**
	comp=Z,10.0nm,0.3s,baz=24,slow=14,SNR=3.1							
JTS				Lg		Lg	05 30 30.6	
	comp=Z,6.3nm,0.3s,baz=333,slow=18,SNR=2.6							
JTS				LR		LR	05 31 16.4	
	comp=Z,3μm,18.6s,baz=343,slow=44							
JTS	**JuntasAbangare**	**4.08**	**123**	*ePn*		**Pn**	**05 29 24.0**	**-0.7**
JTS				*e*			05 29 24.2	
JTS				*eSn*		**Sn**	**05 30 12.4**	**+1.2**
JTS				Lg		Lg	05 30 30.6	
JTS				*e*			05 31 16.4	
HDC	**Heredia**	**4.93**	**120**	*ePn*		**Pn**	**05 29 34.0**	**-2.4**
TEIG	**Tepich**	**7.64**	**1**	*ePn*		**Pn**	**05 30 14.6**	**+1.0**
CMIG	**Matias Romero**	**7.71**	**307**	Pn		**Pn**	**05 30 15.9**	**+1.4**
	comp=Z,1.2nm,0.3s,baz=129,slow=8.9,SNR=14							
CMIG				Sn		**Sn**	**05 31 41.0**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=134,slow=15,SNR=1.7							
LVIG	**Laguna Verde**	**10.48**	**314**	*ePn*		**Pn**	**05 30 54.8**	**+2.3**
TLIG	**Tlapa**	**10.99**	**298**	*ePn*		**Pn**	**05 31 01.2**	**+1.6**
JRQG	**Juriquilla Cam**	**14.08**	**307**	*ePn*		**Pn**	**05 31 44.4**	**+2.5**
ZARC	**Zaragoza, Cauc**	**14.27**	**109**	*eP*		**P**	**05 31 50.3**	**-0.6**
SMLC	**San Mart`n de**	**14.59**	**103**	*eP*		**P**	**05 31 53.6**	**-0.8**
YOTC	**Yotoco, Valle**	**14.66**	**124**	*eP*		**Pn**	**05 31 51.0**	**+1.2**
PTBC	**PUERTO BERRIO,**	**15.01**	**112**	*eP*		**P**	**05 31 58.4**	**-0.8**
NORC	**Norcasia**	**15.07**	**116**	*eP*		**Pn**	**05 31 56.9**	**+1.8**
059Z	**Ave Maria**	**15.21**	**25**	P		**Pn**	**05 31 55.3**	**-1.5**
	baz=206							
POPC	**Popayan, Colom**	**15.30**	**130**	*eP*		**P**	**05 32 02.3**	**-0.4**
OCAC	**Ocana**	**15.46**	**105**	*eP*		**P**	**05 32 04.2**	**-0.1**
SOTA	**Rioblanco**	**15.62**	**131**	*eP*		**P**	**05 32 08.3**	**+1.8**
MARP	**Paez Belalcaza**	**15.66**	**127**	*eP*		**Pn**	**05 32 02.3**	**-0.8**
058A	**Arcadia**	**15.71**	**22**	P		**Pn**	**05 32 02.3**	**-1.1**
	baz=204							
GCUF	**Volcan Galeras**	**15.72**	**135**	*eP*		**P**	**05 32 10.9**	**+3.3**
OTAV	**Otavalo**	**15.73**	**140**	*ePn*		**Pn**	**05 32 03.3**	**-0.8**
	comp=Z,5.2nm,1.0s							
CRUC	**La Cruz**	**15.76**	**133**	*eP*		**P**	**05 32 10.9**	**+3.1**
059A	**Moore Haven**	**15.89**	**24**	P		**Pn**	**05 32 02.3**	**-3.3**
	baz=206							
ROSC	**El Rosal**	**15.90**	**118**	Pn		**Pn**	**05 32 05.2**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=195,slow=20,SNR=2.7							
ROSC				LR		LR	05 37 38.8	
	comp=Z,303nm,21.8s,baz=320,slow=35							
ROSC	**El Rosal**	**15.90**	**118**	*ePn*		**Pn**	**05 32 04.6**	**-1.6**
	comp=Z,18nm,1.0s							
ROSC	**El Rosal**	**15.90**	**118**	*eP*		**P**	**05 32 11.6**	**+2.1**
PRAC	**Prado**	**16.01**	**122**	*eP*		**P**	**05 32 08.9**	**-1.4**
LNIG	**Linares**	**16.12**	**321**	*ePn*		**P**	**05 32 12.1**	**+0.6**
	comp=Z,31nm,0.9s							
957A	**Wimauma**	**16.12**	**20**	P		**Pn**	**05 32 07.9**	**-0.7**
	baz=202							
BARC	**Barichara**	**16.15**	**110**	*eP*		**P**	**05 32 13.6**	**+1.5**
958A	**Wauchula**	**16.21**	**22**	P		**Pn**	**05 32 10.2**	**+0.5**
	baz=204							
060A	**Indiantown**	**16.28**	**27**	P		**Pn**	**05 32 10.8**	**+0.3**
	baz=209							
PAMC	**Pamplona, Colo**	**16.33**	**107**	*eP*		**Pn**	**05 32 11.6**	**-0.2**
959A	**Okeechobee**	**16.49**	**24**	P		**Pn**	**05 32 13.9**	**+0.7**
	baz=206							
CHIC	**Chingaza**	**16.51**	**117**	*eP*		**P**	**05 32 15.6**	**-0.7**
RUSC	**La Rusia**	**16.52**	**112**	*eP*		**P**	**05 32 18.9**	**+2.5**
857A	**Zephyrhills**	**16.68**	**19**	P		**Pn**	**05 32 15.9**	**+0.3**
	baz=201							
FLOC	**Florencia**	**16.70**	**130**	*eP*		**Pn**	**05 32 14.4**	**-1.6**
ZAIG	**Zacatecas**	**16.87**	**309**	*ePn*		**P**	**05 32 20.1**	**+0.1**
	comp=Z,14nm,0.9s							
645A	**Chauvin**	**16.95**	**353**	P		**P**	**05 32 20.9**	**+0.4**
	baz=173							
655A	**Horseshoe Beac**	**17.55**	**15**	P		**P**	**05 32 28.7**	**+1.5**
	baz=197							
552A	**Lynn Haven**	**17.74**	**9**	P		**P**	**05 32 29.1**	**-0.1**
	baz=190							
SDV	**Santo Domingo**	**17.86**	**100**	P		**Pn**	**05 32 29.4**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=277,slow=6.6,SNR=9.6							
SDV				LR		LR	05 40 58.0	
	comp=Z,485nm,18.7s,baz=241,slow=43							
SDV	**Santo Domingo**	**17.86**	**100**	*ePn*		**Pn**	**05 32 29.5**	**-1.1**
	comp=Z,12nm,0.8s							
657A	**Interlachen**	**18.02**	**19**	P		**P**	**05 32 33.4**	**+1.1**
	baz=201							
658A	**Bunnell**	**18.07**	**21**	P		**P**	**05 32 34.2**	**+1.3**
	baz=203							
451A	**Vernon**	**18.15**	**7**	P		**Pn**	**05 32 36.2**	**+2.4**
	baz=188							
447A	**Lucedale**	**18.16**	**359**	P		**Pn**	**05 32 34.4**	**+0.4**
	baz=179							
555A	**McAlpin**	**18.21**	**15**	P		**P**	**05 32 33.5**	**-0.9**
	baz=197							
556A	**Lake Butler**	**18.24**	**17**	P		**Pn**	**05 32 35.4**	**+0.4**
	baz=199							
452A	**Marianna**	**18.46**	**9**	P		**Pn**	**05 32 39.5**	**+2.0**
	baz=190							
557A	**Orange Park**	**18.46**	**19**	P		**Pn**	**05 32 38.3**	**+0.8**
	baz=201							
BRAL	**Brewton**	**18.58**	**4**	P		**Pn**	**05 32 39.4**	**+0.5**
	baz=184							
453A	**Whigham**	**18.61**	**11**	P		**Pn**	**05 32 39.9**	**+0.5**
	baz=192							
HKT	**Hockley**	**18.63**	**339**	*eP*		**Pn**	**05 32 39.3**	**-0.3**
	comp=Z,16nm,1.1s							
833A	**Chaparral WMA,**	**18.74**	**329**	*eP*		**Pn**	**05 32 42.2**	**+1.2**
	comp=Z,47nm,0.7s							
833A	**Chaparral WMA,**	**18.74**	**329**	P		**Pn**	**05 32 41.6**	**+0.6**
	baz=145,SNR=21							
347A	**Saraland**	**18.77**	**360**	P		**Pn**	**05 32 41.9**	**+0.7**
	baz=180							
346A	**Big Creek Wild**	**18.77**	**357**	P		**Pn**	**05 32 41.5**	**+0.1**
	baz=177							
455A	**Stateville**	**18.78**	**15**	P		**P**	**05 32 40.8**	**+0.1**
	baz=196							
351A	**Pinckard**	**18.82**	**8**	P		**P**	**05 32 41.4**	**+0.3**
	baz=188							
344A	**Westbrook Farm**	**18.94**	**354**	*eP*		**Pn**	**05 32 44.2**	**+0.9**
	comp=Z,64nm,0.8s							
344A	**Westbrook Farm**	**18.94**	**354**	P		**P**	**05 32 42.7**	**+0.3**
	baz=173,SNR=9.2							
342A	**Flagon Creek P**	**19.08**	**350**	*eP*		**P**	**05 32 44.1**	**+0.1**
	comp=Z,41nm,0.9s							
342A	**Flagon Creek P**	**19.08**	**350**	P		**P**	**05 32 44.0**	**+0.1**
	baz=168							
353A	**Camilla**	**19.11**	**11**	P		**Pn**	**05 32 45.4**	**0.0**
	baz=192,SNR=8.1							
352A	**Blakely**	**19.12**	**9**	*eP*		**Pn**	**05 32 45.8**	**+0.3**
	comp=Z,66nm,0.9s							
352A	**Blakely**	**19.12**	**9**	P		**P**	**05 32 44.3**	**-0.1**
	baz=190,SNR=8.6							
TIGA	**Tifton**	**19.32**	**13**	*eP*		**Pn**	**05 32 47.5**	**-0.5**
	comp=Z,45nm,0.9s							
TIGA	**Tifton**	**19.32**	**13**	P		**P**	**05 32 46.5**	**-0.2**
	baz=194							
249A	**Camden**	**19.37**	**3**	P		**Pn**	**05 32 47.9**	**-0.7**
	baz=184							
355A	**Pearson**	**19.40**	**14**	P		**P**	**05 32 47.9**	**+0.4**
	baz=196							
247A	**Quitman**	**19.41**	**360**	P		**Pn**	**05 32 49.1**	**0.0**
	baz=179							
250A	**Grady**	**19.44**	**6**	*eP*		**P**	**05 32 48.5**	**+0.5**
	comp=Z,24nm,1.0s							
248A	**Dixon Mills**	**19.46**	**2**	P		**Pn**	**05 32 49.9**	**+0.2**
	baz=182							
244A	**Avery, Jackson**	**19.52**	**354**	P		**Pn**	**05 32 49.6**	**-0.6**
	baz=179							
356A	**Blackshear**	**19.57**	**16**	P		**P**	**05 32 50.0**	**+0.6**
	baz=198							
251A	**Midway**	**19.65**	**8**	P		**P**	**05 32 49.3**	**-0.9**
	baz=189							
252A	**Lumpkin**	**19.65**	**9**	P		**Pn**	**05 32 51.8**	**-0.1**
	baz=190,SNR=17							
VBMS	**Vicksburg**	**19.67**	**355**	*eP*		**Pn**	**05 32 51.7**	**-0.4**
	comp=Z,50nm,0.8s							
VBMS	**Vicksburg**	**19.67**	**355**	P		**Pn**	**05 32 52.0**	**-0.2**
	baz=174							
253A	**Americus**	**19.82**	**11**	P		**P**	**05 32 51.1**	**-1.0**
	baz=192							
254A	**Abbeville**	**19.88**	**13**	P		**Pn**	**05 32 53.8**	**-0.8**
	baz=195							
NATX	**Nacogdoches**	**19.96**	**344**	*eP*		**Pn**	**05 32 54.7**	**-0.9**
	comp=Z,29nm,0.7s							
NATX	**Nacogdoches**	**19.96**	**344**	P		**Pn**	**05 32 56.8**	**+1.2**
	baz=162							
146A	**Union**	**20.00**	**358**	*eP*		**P**	**05 32 54.5**	**+0.4**
	comp=Z,69nm,1.0s							
146A	**Union**	**20.00**	**358**	P		**Pn**	05 32 57.3	+1.3
	baz=178							
145A	**Houston Renfro**	**20.01**	**356**	P		**Pn**	05 32 57.1	+1.0
	baz=176							
149A	**Jones**	**20.01**	**4**	P		**Pn**	05 32 57.0	+0.8
	baz=184							
148A	**Greensboro**	**20.02**	**2**	P		**Pn**	05 32 55.8	-0.4
	baz=192,SNR=6.2							
435B	**Jarrell**	**20.03**	**336**	*eP*		**P**	**05 32 54.9**	**+0.5**
	comp=Z,23nm,0.6s							
435B	**Jarrell**	**20.03**	**336**	P		**Pn**	05 32 56.3	-0.1
	baz=153							
147A	**Livingston**	**20.03**	**0**	*eP*		**Pn**	05 32 55.4	-1.0
	comp=Z,38nm,0.8s							
147A	**Livingston**	**20.03**	**0**	P		**Pn**	05 32 56.1	-0.3
	baz=180							
255A	**Hazlehurst**	**20.05**	**15**	*eP*		**P**	**05 32 54.7**	**+0.1**
	comp=Z,70nm,0.9s							
255A	**Hazlehurst**	**20.05**	**15**	P		**Pn**	05 32 57.1	+0.5
	baz=197							
150A	**Eclectic**	**20.09**	**6**	P		**Pn**	05 32 57.1	0.0
	baz=187,SNR=9.8							
151A	**Opelika**	**20.09**	**8**	P		**Pn**	05 32 56.4	-0.6
	baz=189,SNR=12							
143A	**Socs Landing,**	**20.25**	**353**	*eP*		**Pn**	05 32 57.9	-1.0
	comp=Z,66nm,0.8s							
143A	**Socs Landing,**	**20.25**	**353**	P		**Pn**	05 32 59.5	+0.6
	baz=172							
256A	**Glennville**	**20.25**	**16**	P		**Pn**	05 32 59.3	+0.3
	baz=198							
152A	**Waverly Hall**	**20.31**	**9**	*eP*		**P**	**05 32 58.1**	**+0.6**
	comp=Z,21nm,0.8s							
152A	**Waverly Hall**	**20.31**	**9**	P		**Pn**	05 33 00.4	+0.7
	baz=190							
LRAL	**Lakeview Retre**	**20.43**	**3**	*eP*		**P**	**05 32 59.4**	**+0.6**
	comp=Z,19nm,1.1s							
LRAL	**Lakeview Retre**	**20.43**	**3**	P		**Pn**	05 33 01.9	+0.8
	baz=184							
Z46A	**Louisville**	**20.56**	**359**	P		**Pn**	05 33 01.5	-1.0
	baz=178							
154A	**Montrose**	**20.56**	**13**	*eP*		**P**	**05 33 00.8**	**+0.7**
	comp=Z,104nm,1.1s							
154A	**Montrose**	**20.56**	**13**	P		**Pn**	05 33 02.1	-0.5
	baz=195							
Z47A	**Carrollton**	**20.56**	**1**	P		**Pn**	05 33 01.3	-1.2
	baz=181,SNR=5.6							
Z49A	**Columbiana**	**20.62**	**5**	P		**Pn**	05 33 02.2	-1.1
	baz=185,SNR=9.3							
155A	**Kite**	**20.71**	**14**	P		**Pn**	05 33 03.2	-1.2
	baz=196,SNR=14							
JCT	**Junction City**	**20.72**	**331**	*eP*		**P**	**05 33 02.7**	**+0.7**
	comp=Z,36nm,0.9s							
JCT	**Junction City**	**20.72**	**331**	P		**P**	**05 33 02.6**	**+0.6**
	baz=147,SNR=11							
Z50A	**Ashland**	**20.74**	**6**	*eP*		**P**	**05 33 03.1**	**+1.0**
	comp=Z,17nm,0.8s							
Z50A	**Ashland**	**20.74**	**6**	P		**P**	**05 33 03.1**	**+1.0**
	baz=187,SNR=10							
Z45A	**Winona**	**20.76**	**357**	*eP*		**P**	**05 33 02.7**	**+0.4**
	comp=Z,20nm,0.8s							
Z52A	**Williamson**	**20.87**	**9**	P		**P**	**05 33 04.4**	**+0.8**
	baz=191							
Z51A	**Franklin**	**20.89**	**8**	P		Pn	05 33 06.4	0.0
	baz=189							
156A	**Sylvania**	**21.00**	**17**	P		Pn	05 33 08.2	+0.6
	baz=199							
Z41A	**Richland Creek**	**21.00**	**350**	*eP*		**P**	**05 33 06.1**	**+1.2**
	comp=Z,25nm,0.8s							
Z41A	**Richland Creek**	**21.00**	**350**	P		**P**	**05 33 08.0**	**+3.1**
	baz=168							
WHTX	**Lake Whitney,**	**21.06**	**338**	*eP*		**P**	**05 33 06.7**	**+1.2**
	comp=Z,17nm,0.8s							
WHTX	**Lake Whitney,**	**21.06**	**338**	P		**P**	**05 33 07.2**	**+1.6**
	baz=155							
Z53A	**Monticello**	**21.11**	**11**	P		**P**	**05 33 07.4**	**+1.3**
	baz=193,SNR=15							
Z54A	**Sparta**	**21.22**	**13**	P		**P**	**05 33 09.5**	**+2.3**
	baz=195							
Y46A	**Houston**	**21.24**	**359**	P		**P**	**05 33 08.8**	**+1.3**
	baz=179,SNR=16							
Y45A	**Yeager Farm, C**	**21.25**	**357**	P		**P**	**05 33 09.0**	**+1.5**
	baz=177							
GOGA	**Godfrey**	**21.26**	**12**	*eP*		**P**	**05 33 08.2**	**+0.6**
	comp=Z,23nm,0.8s							
GOGA	**Godfrey**	**21.26**	**12**	P		**P**	**05 33 10.3**	**+2.6**
	baz=193							
Y47A	**UCPARC, Winfie**	**21.27**	**1**	P		**P**	**05 33 08.9**	**+1.1**
	baz=181,SNR=8.2							
Y49A	**Blount Mountai**	**21.29**	**5**	*eP*		**P**	**05 33 08.5**	**+0.4**
	comp=Z,12nm,0.7s							
Y49A	**Blount Mountai**	**21.29**	**5**	P		**P**	**05 33 09.0**	**+1.0**
	baz=185							
Y48A	**Jasper**	**21.30**	**3**	P		**P**	**05 33 09.4**	**+1.3**
	baz=183							
Z55A	**Blythe**	**21.37**	**15**	P		**P**	**05 33 11.7**	**+2.8**
	baz=197							
Y50A	**Piedmont**	**21.39**	**6**	P		**P**	**05 33 11.2**	**+2.2**
	baz=187							
Y51A	**Rockmart**	**21.48**	**8**	P		**P**	**05 33 10.8**	**+0.8**
	baz=189,SNR=14							
CCAR	**Cane Creek**	**21.49**	**352**	*eP*		**P**	**05 33 10.7**	**+0.5**
	comp=Z,32nm,0.8s							
Y41A	**Eaglette Beard**	**21.58**	**350**	P		**P**	**05 33 11.7**	**+0.7**
	baz=169							
Y52A	**Lilburn**	**21.59**	**10**	*eP*		**P**	**05 33 12.0**	**+0.7**
	comp=Z,20nm,0.8s							
Y52A	**Lilburn**	**21.59**	**10**	P		**P**	**05 33 12.4**	**+1.1**
	baz=191							
HPIG		**21.60**	**314**	*eP*		**P**	**05 33 12.0**	**+0.4**
	comp=Z,23nm,0.9s							
AOPR	**Arecibo Observ**	**21.66**	**72**	*eP*		**P**	**05 33 11.2**	**-0.9**
	comp=Z,0.4nm,1.0s							
Y53A	**Monroe**	**21.67**	**11**	P		**P**	**05 33 12.9**	**+0.9**
	baz=193,SNR=17							
X45A	**UM Field Stati**	**21.80**	**358**	P		**P**	**05 33 14.9**	**+1.5**
	baz=177							
NHSC	**New Hope**	**21.81**	**19**	P		**P**	**05 33 15.4**	**+1.8**
	baz=202							
X48A	**Hartselle**	**21.84**	**3**	*eP*		**P**	**05 33 15.7**	**+1.8**
	comp=Z,14nm,0.9s							
Y54A	**Tignall**	**21.85**	**13**	P		**P**	**05 33 15.3**	**+1.3**
	baz=195,SNR=14							
X47A	**Russelville**	**21.88**	**1**	P		**P**	**05 33 14.7**	**+0.4**
	baz=181,SNR=18							
OXF	**Oxford**	**21.89**	**358**	*eP*		**P**	**05 33 15.0**	**+0.6**
	comp=Z,27nm,0.9s							
OXF	**Oxford**	**21.89**	**358**	P		**P**	**05 33 14.3**	**-0.1**
	baz=177							
LTX	**Lajitas**	**21.90**	**322**	*eP*		**P**	**05 33 14.5**	**-0.3**
LTX				*eS*		**S**	**05 37 14.9**	**+0.1**
TX31	**Lajitas Ar. Si**	**21.90**	**322**	*eP*		**P**	**05 33 15.2**	**+0.4**
TX31				*eP*		**P**	**05 33 15.5**	**+0.7**
TX31				*eS*		**S**	**05 37 15.9**	**+1.2**
TX31				*eS*		**S**	**05 37 16.3**	**+1.5**
TXAR	**Lajitas Array**	**21.90**	**322**	P		**P**	**05 33 14.5**	**-0.3**
	comp=Z,14nm,0.9s,baz=139,slow=8.5,SNR=31							
TXAR				PcP		**PcP**	**05 37 14.9**	**+1.7**
	comp=Z,1.7nm,0.8s,baz=144,slow=3.1,SNR=5.8							
TXAR				ScP		**ScP**	**05 40 54.3**	**+6.8**
	comp=Z,0.8nm,0.8s,baz=158,slow=5.8,SNR=8.2							
TXA

V48A	Smith Brothers	23.14	3	eP	P	05 33 27.9	+0.3		comp=Z,9.0nm,0.8s
V48A	Smith Brothers	23.14	3	P	P	05 33 26.9	-0.7		baz=184
V46A	Holladay	23.15	1	P	P	05 33 27.4	-0.3		baz=181
V47A	Nunnelly	23.19	2	P	P	05 33 28.1	-0.1		baz=182
V50A	Pikevile	23.22	7	P	P	05 33 28.2	-0.2		baz=188
V49A	McMinnville	23.23	5	P	P	05 33 28.1	-0.5		baz=186
V42A	Cord	23.31	354	P	P	05 33 29.0	-0.3		baz=173
STVI	Saint Thomas	23.34	73	eP	P	05 33 28.7	-1.0		comp=Z,48nm,0.9s
GNAR	Gosnell	23.36	357	eP	P	05 33 30.8	+1.0		comp=Z,42nm,1.0s
V41A	Mountainview	23.38	352	P	P	05 33 29.8	-0.2		baz=171,SNR=17
TKL	Tuckaleechee C	23.39	10	P	P	05 33 30.3	+0.2		comp=Z,27nm,0.8s,baz=186,slow=11,SNR=16
TKL				LR	LR	05 44 14.7			
TKL	Tuckaleechee C	23.39	10	eP	P	05 33 30.8	+0.7		comp=Z,324nm,18.0s,baz=201,slow=41 comp=Z,42nm,0.9s
KMSC	Kings Mountain	23.39	15	eP	P	05 33 31.2	+1.1		comp=Z,28nm,0.8s
KMSC	Kings Mountain	23.39	15	P	P	05 33 30.6	+0.4		baz=197
PCRV	Puerto La Cruz	23.44	93	P	P	05 33 30.2	-0.7		comp=Z,14nm,0.9s,baz=263,slow=4.0,SNR=5.2
V51A	Loudon	23.45	8	eP	P	05 33 31.3	+0.7		comp=Z,7.6nm,0.8s
V51A	Loudon	23.45	8	P	P	05 33 30.3	-0.3		baz=190
WVT	Waverly	23.49	1	eP	P	05 33 31.0	0.0		comp=Z,5.0nm,0.7s
WVT	Waverly	23.49	1	P	P	05 33 30.8	-0.2		baz=181
V53A	Saluda	23.57	11	eP	P	05 33 32.5	+0.6		comp=Z,21nm,0.8s
V53A	Saluda	23.57	11	P	P	05 33 32.0	+0.1		baz=194
V52A	Sevierville	23.60	10	eP	P	05 33 33.3	+1.2		comp=Z,16nm,0.9s
V52A	Sevierville	23.60	10	P	P	05 33 32.9	+0.8		baz=192
LPIG	La Paz	23.70	302	LR	LR	05 42 24.6			comp=Z,143nm,18.5s,baz=97,slow=36
U46A	Springville	23.71	0	P	P	05 33 32.4	-0.7		baz=180,SNR=23
U43A	Rector	23.79	356	P	P	05 33 33.9	+0.1		baz=175
U47A	Clarksville	23.81	2	P	P	05 33 33.1	-1.0		baz=183,SNR=10
U42A	Revenden	23.84	354	P	P	05 33 34.1	-0.2		baz=173
U41A	Viola	23.90	353	P	P	05 33 34.7	-0.2		baz=172
U48A	Cassie Pea, Po	23.92	4	P	P	05 33 33.8	-1.3		baz=184
U49A	Red Boiling Sp	23.98	5	P	P	05 33 35.3	-0.4		baz=186
U50A	Jamestown	23.98	7	P	P	05 33 35.2	-0.5		baz=188
WMOK	Wichita Mounta	24.01	339	eP	P	05 33 35.6	-0.4		comp=Z,12nm,0.8s
WMOK	Wichita Mounta	24.01	339	P	P	05 33 35.6	-0.4		baz=154,SNR=28
U40A	Yellville	24.04	351	P	P	05 33 36.0	-0.2		baz=169,SNR=28
PARMO	Parma	24.04	357	eP	P	05 33 36.7	+0.5		comp=Z,40nm,0.7s
U51A	La Follette	24.06	9	P	P	05 33 36.8	+0.4		baz=190
HHAR	Hobbs	24.15	349	eP	P	05 33 37.6	+0.4		comp=Z,13nm,1.0s
U52A	Thorn Hill	24.18	10	P	P	05 33 37.5	0.0		baz=192
TUL1	Leonard	24.19	345	eP	P	05 33 37.9	+0.3		comp=Z,48nm,1.1s
TUL1	Leonard	24.19	345	P	P	05 33 37.1	-0.6		baz=162,SNR=13
PBMO	Poplar Bluff	24.20	356	eP	P	05 33 37.1	-0.5		comp=Z,17nm,0.8s
U53A	Fall Branch	24.29	12	P	P	05 33 38.0	-0.6		baz=194
TZTN	Tazewell	24.29	10	eP	P	05 33 38.6	+0.1		comp=Z,15nm,1.1s
T47A	Sharon Grove	24.37	3	eP	P	05 33 38.0	-1.2		comp=Z,24nm,0.8s
T47A	Sharon Grove	24.37	3	P	P	05 33 37.8	-1.4		baz=183,SNR=14
T46A	Princeton	24.40	1	P	P	05 33 38.8	-0.6		baz=181
T44A	Benton	24.46	358	P	P	05 33 40.7	+0.7		baz=177
T43A	Greenville	24.49	356	P	P	05 33 39.3	-1.0		baz=176,SNR=7.4
T42A	Van Buren	24.50	355	eP	P	05 33 39.8	-0.6		comp=Z,8.1nm,0.8s
T42A	Van Buren	24.50	355	P	P	05 33 39.5	-0.8		baz=174
CNNC	Cliffs of the	24.52	21	eP	P	05 33 40.4	-0.2		comp=Z,21nm,0.9s
T41A	Mountain View	24.58	354	P	P	05 33 40.6	-0.5		baz=172
T50A	Nancy	24.58	7	P	P	05 33 40.7	-0.5		baz=188
T49A	Edmonton	24.59	6	eP	P	05 33 40.9	-0.4		comp=Z,15nm,1.0s
T49A	Edmonton	24.59	6	P	P	05 33 40.5	-0.7		baz=187
MNTX	Cornudas Mount	24.63	323	eP	P	05 33 41.1	-0.7		comp=Z,4.9nm,0.8s
MNTX	Cornudas Mount	24.63	323	P	P	05 33 40.5	-1.2		baz=137,SNR=12
T51A	Gray	24.64	9	P	P	05 33 40.3	-1.4		baz=190
S43A	Fulton Ridge,	24.96	357	P	P	05 33 43.8	-0.8		baz=176
S47A	Hartford	24.98	3	P	P	05 33 43.8	-0.9		baz=183
MSTX	Muleshoe	25.01	331	eP	P	05 33 44.4	-0.8		comp=Z,45nm,0.8s
MSTX				ePcP	PcP	05 37 21.4	+1.7		
MSTX	Muleshoe	25.01	331	P	P	05 33 43.9	-1.3		baz=145,SNR=32
SIUC	Southern Illin	25.07	359	eP	P	05 33 46.3	+0.7		comp=Z,16nm,0.8s
S48A	Wiedeman Farm,	25.09	4	P	P	05 33 44.2	-1.6		baz=185
S41A	Jillco Farms,	25.11	354	P	P	05 33 44.9	-1.1		baz=172
S42A	Caledonia	25.21	356	P	P	05 33 45.4	-1.4		baz=174
AMTX	Amarillo	25.28	334	eP	P	05 33 48.5	+0.9		comp=Z,41nm,0.9s
AMTX	Amarillo	25.28	334	P	P	05 33 48.0	+0.4		baz=148
S49A	Springfield	25.29	6	P	P	05 33 47.5	-0.1		baz=187
USIN	University of	25.32	1	eP	P	05 33 48.0	+0.2		comp=Z,12nm,0.7s
S51A	Beattyville	25.36	9	eP	P	05 33 48.9	+0.7		comp=Z,11nm,0.8s
S51A	Beattyville	25.36	9	P	P	05 33 48.3	+0.1		baz=191
CCM	Cathedral Cave	25.53	355	eP	P	05 33 49.3	-0.4		comp=Z,26nm,0.8s
CCM				ePcP	PcP	05 37 21.2	+0.7		
CCM	Cathedral Cave	25.53	355	P	P	05 33 48.9	-0.8		baz=174
U32A	Winter Ranch,	25.57	340	eP	P	05 33 50.2	0.0		comp=Z,30nm,0.8s
R46A	Gibon Southern	25.57	2	P	P	05 33 48.9	-1.2		baz=182
BLA	Blacksburg	25.59	15	eP	P	05 33 50.8	+0.4		comp=Z,20nm,1.0s
R44A	Waltonville	25.60	359	P	P	05 33 50.1	-0.2		baz=178
R45A	Skylar, Fairfi	25.64	0	P	P	05 33 49.6	-1.2		baz=180
WCI	Wyandotte Cave	25.65	4	eP	P	05 33 49.8	-1.0		comp=Z,28nm,0.8s
WCI	Wyandotte Cave	25.65	4	P	P	05 33 50.2	-0.6		baz=185
R43A	Red Bud	25.66	357	P	P	05 33 49.8	-1.1		baz=176
R47A	Wooly Knot Far	25.70	3	P	P	05 33 50.3	-0.9		baz=184
R42A	Luebbering	25.71	356	P	P	05 33 50.6	-0.8		baz=175
R41A	Rosebud	25.78	355	P	P	05 33 51.2	-0.8		baz=173,SNR=12
R49A	Shelbyville	25.80	6	P	P	05 33 50.6	-1.6		baz=187
R51A	Hillsboro	26.01	9	P	P	05 33 53.3	-0.8		baz=191
Q45A	Warren Harvey,	26.24	0	P	P	05 33 55.9	-0.3		baz=180
Q44A	Meyer Farm, Va	26.25	359	P	P	05 33 56.0	-0.2		baz=179
Q47A	Bedord North L	26.34	4	P	P	05 33 56.5	-0.6		baz=184
Q41A	Truxton	26.42	355	P	P	05 33 58.8	+1.0		baz=174
121A	Cookes Peak, D	26.66	321	P	P	05 34 00.1	-0.2		baz=134,SNR=6.1
SRIG	Santa Rosalia	26.71	307	eP	P	05 34 01.1	+0.5		comp=Z,9.5nm,0.8s
Q51A	Peebles	26.75	9	eP	P	05 34 00.7	-0.1		comp=Z,29nm,0.8s
Q51A	Peebles	26.75	9	P	P	05 34 01.0	+0.1		baz=191
Q52A	Bidwell	26.87	11	P	P	05 34 01.4	-0.5		baz=193
P47A	Martinsville	26.90	4	P	P	05 34 00.9	-1.2		baz=184
P48A	Milroy	26.94	5	P	P	05 34 01.2	-1.3		baz=186
NNA	Nana	26.95	154	LR	LR	05 44 16.9			comp=Z,75nm,18.1s,baz=341,slow=36
P42A	Winchester	26.98	357	eP	P	05 34 02.4	-0.5		comp=Z,6.1nm,0.6s
P42A	Winchester	26.98	357	P	P	05 34 02.1	-0.8		baz=176
P49A	Miami Univ. Ec	27.08	6	P	P	05 34 02.7	-1.0		baz=188
P41A	Barry, Barry	27.12	356	P	P	05 34 03.3	-0.8		baz=174
BNM	Barren Site	27.14	325	eP	P	05 34 05.3	+0.6		
P51A	Williamsport	27.25	9	eP	P	05 34 07.0	+1.8		comp=Z,14nm,0.9s
P51A	Williamsport	27.25	9	P	P	05 34 05.1	-0.1		baz=191
Y22D	IRIS PASSCAL I	27.25	325	eP	P	05 34 05.7	+0.1		comp=Z,29nm,0.9s
LPM	Los Pinos Moun	27.27	326	eP	P	05 34 05.7	-0.1		
LENM	Lemitar	27.35	325	eP	P	05 34 07.6	+1.2		
CBN	Corbin Frederi	27.39	19	eP	P	05 34 06.7	+0.3		comp=Z,22nm,0.6s
CBN	Corbin Frederi	27.39	19	P	P	05 34 06.3	-0.1		baz=204
KSU1	Kansas State U	27.43	346	eP	P	05 34 07.3	+0.5		comp=Z,27nm,1.1s
KSU1	Kansas State U	27.43	346	P	P	05 34 06.7	-0.1		baz=162
O41A	Passleys Farm,	27.55	356	P	P	05 34 07.1	-0.8		baz=175
P53A	Whipple	27.55	12	eP	P	05 34 08.0	+0.1		comp=Z,18nm,0.9s
P53A	Whipple	27.55	12	P	P	05 34 08.0	+0.1		baz=195
O45A	Potomac	27.60	1	P	P	05 34 07.5	-0.9		baz=181
LAZ	Ladron	27.61	325	eP	P	05 34 09.3	+0.4		
ANMO	Albuquerque	27.65	327	P	P	05 34 07.7	-1.4		comp=Z,1.0nm,0.6s,baz=148,slow=13,SNR=3.4
ANMO				PcP	PcP	05 37 27.0	+1.1		comp=Z,2.0nm,0.9s,baz=207,slow=2.3,SNR=3.0
ANMO				LR	LR	05 46 55.7			comp=Z,90nm,21.8s,baz=116,slow=40
ANMO	Albuquerque	27.65	327	eP	P	05 34 10.0	+0.8		comp=Z,2.9nm,0.8s
ANMO				ePcP	PcP	05 37 28.0	+2.2		
ANMO	Albuquerque	27.65	327	P	P	05 34 09.9	+0.8		baz=140
O47A	Sheridan	27.65	4	P	P	05 34 07.9	-0.9		baz=185
SFIN	Layette	27.75	2	P	P	05 34 08.5	-1.2		baz=183
O48A	Farmland	27.75	5	P	P	05 34 09.4	-0.4		baz=187
O49A	Covington	27.77	7	eP	P	05 34 09.5	-0.4		comp=Z,7.8nm,0.7s
O50A	Cable	27.82	8	P	P	05 34 09.4	-0.9		baz=190,SNR=7.1
HDIL	Hopedale	27.91	359	P	P	05 34 10.3	-0.8		baz=178
ACSO	Alum Creek Sta	27.99	9	eP	P	05 34 11.6	-0.3		comp=Z,20nm,0.8s
ACSO	Alum Creek Sta	27.99	9	P	P	05 34 11.1	-0.7		baz=191
O52A	Adamsville	28.07	11	eP	P	05 34 13.4	+0.8		comp=Z,18nm,0.9s
O52A	Adamsville	28.07	11	P	P	05 34 11.5	-1.1		baz=194
N41A	Haen Midland	28.13	356	eP	P	05 34 11.9	-1.2		comp=Z,18nm,1.1s
N41A	Harden Midland	28.13	356	P	P	05 34 11.7	-1.4		baz=175
N43A	Stutzman Famil	28.29	359	P	P	05 34 13.4	-1.1		baz=178
N47A	Urbana	28.33	4	P	P	05 34 14.2	-0.6		baz=186
N48A	Decatur	28.36	5	P	P	05 34 15.4	+0.3		baz=187
N40A	Mertquake, Sal	28.36	355	P	P	05 34 15.6	+0.4		baz=173
T25A	Trinidad	28.37	332	eP	P	05 34 16.4	+0.8		comp=Z,24nm,0.9s
T25A	Trinidad	28.37	332	P	P	05 34 16.2	+0.6		baz=146,SNR=13
TUC	Tucson	28.42	317	eP	P	05 34 19.9	+4.0		comp=Z,7.9nm,1.0s
N39A	Derby Farms, D	28.45	354	P	P	05 34 15.5	-0.5		baz=172
N50A	Nevada	28.50	8	P	P	05 34 15.6	-0.7		baz=191
N49A	Columbus Grove	28.51	7	eP	P	05 34 16.1	-0.4		comp=Z,13nm,0.9s
N49A	Columbus Grove	28.51	7	P	P	05 34 14.6	-1.9		baz=189
M40A	Post Highland	28.88	355	P	P	05 34 19.9	+0.1		baz=174
M39A	Wister	29.01	354	P	P	05 34 21.1	+0.1		baz=172
M49A	Liberty Center	29.08	7	P	P	05 34 21.8	+0.2		baz=189
M50A	Fremont	29.13	8	eP	P	05 34 21.2	-0.8		comp=Z,23nm,0.8s
M50A	Fremont	29.13	8	P	P	05 34 21.9	-0.1		baz=191
KSCO	Kaye Shedlock'	29.21	337	eP	P	05 34 22.9	0.0		comp=Z,28nm,0.8s
KSCO	Kaye Shedlock'	29.21	337	P	P	05 34 22.2	-0.8		baz=151,SNR=8.9
N54A	Moraine State	29.26	13	eP	P	05 34 23.2	0.0		comp=Z,18nm,0.8s
N54A	Moraine State	29.26	13	P	P	05 34 22.6	-0.6		baz=197
SDCO	Great Sand Dun	29.37	332	eP	P	05 34 25.4	+0.8		comp=Z,5.8nm,0.8s
SDCO	Great Sand Dun	29.37	332	P	P	05 34 24.6	+0.1		baz=144,SNR=13
PAGS	Pennsylvania G	29.44	18	eP	P	05 34 25.6	+0.8		comp=Z,22nm,1.0s
L47A	Sherwood	29.45	5	P	P	05 34 24.2	-0.6		baz=186
SSPA	Standing Stone	29.47	16	P	P	05 34 25.0	0.0		baz=201
L40A	Anamosa	29.51	356	eP	P	05 34 25.1	-0.2		comp=Z,25nm,0.8s
L40A	Anamosa	29.51	356	P	P	05 34 26.4	+1.0		baz=174
SCIA	State Center	29.55	353	eP	P	05 34 25.6	-0.1		comp=Z,15nm,0.4s
W18A	Petrified Fore	29.62	323	eP	P	05 34 27.2	+0.5		comp=Z,6.9nm,1.0s
W18A	Petrified Fore	29.62	323	P	P	05 34 26.2	-0.5		baz=134
L39A	Vinton	29.63	355	P	P	05 34 26.3	-0.2		baz=173
M54A	Oil Creek Stat	29.85	13	eP	P	05 34 28.6	+0.2		comp=Z,14nm,0.8s
M54A	Oil Creek Stat	29.85	13	P	P	05 34 27.5	-0.9		baz=197
BGNE	Belgrade	29.98	345	eP	P	05 34 29.6	0.0		comp=Z,24nm,0.6s
BGNE	Belgrade	29.98	345	P	P	05 34 29.5	-0.1		baz=161
S22A	4UR Ranch, Cre	30.00	330	eP	P	05 34 30.6	+0.4		comp=Z,11nm,0.8s
S22A				ePcP	PcP	05 37 34.3	+2.5		
S22A	4UR Ranch, Cre	30.00	330	P	P	05 34 30.5	+0.4		baz=142,SNR=11
K42A	Prairie Point,	30.13	359	P	P	05 34 31.3	+0.4		baz=178
K40A	Colesburg	30.14	356	P	P	05 34 31.0	+0.1		baz=175
K47A	Vermontville	30.16	5	P	P	05 34 30.5	-0.6		baz=186
X16A	Lo Mia Camp, P	30.18	320	eP	P	05 34 32.4	+0.7		comp=Z,2.8nm,0.8s
K39A	Oelwein	30.20	355	P	P	05 34 31.3	-0.2		baz=173
Q24A	Divide	30.21	334	eP	P	05 34 33.4	+1.4		comp=Z,8.9nm,1.1s
Q24A	Divide	30.21	334	P	P	05 34 32.4	+0.4		baz=146
JFWS	Jewell Farm	30.30	357	P	P	05 34 33.0	+0.7		baz=176
N59A	State Game Lan	30.36	19	P	P	05 34 31.9	-1.1		baz=205
K49A	Clarkson	30.43	7	P	P	05 34 32.5	-1.0		baz=190
MVCO	Mesa Verde	30.44	327	eP	P	05 34 34.8	+0.9		comp=Z,13nm,1.0s
OGNE	Ogallala	30.70	340	eP	P	05 34 36.5	+0.4		comp=Z,13nm,0.8s
OGNE	Ogallala	30.70	340	P	P	05 34 37.1	+1.0		baz=153
J43A	Natural Harves	30.72	0	P	P	05 34 35.8	-0.2		baz=180
J41A	Loganville	30.74	358	P	P	05 34 36.9	+0.7		baz=177
J40A	Soldiers Grove	30.80	357	P	P	05 34 37.2	+0.4		baz=176
WUAZ	Wupatki	30.87	322	eP	P	05 34 38.5	+0.8		
WUAZ				ePcP	PcP	05 37 36.5	+2.6		
ISCO	Idaho Springs	31.10	334	eP	P	05 34 40.4	+0.6		comp=Z,8.2nm,0.9s
ISCO				ePcP	PcP	05 37 37.0	+2.3		
ISCO	Idaho Springs	31.10	334	P	P	05 34 40.1	+0.2		baz=146,SNR=5.3
SMCO	Snowmass	31.20	331	eP	P	05 34 41.3	+0.4		comp=Z,9.7nm,0.8s
I42A	Draeger Farm,	31.24	359	P	P	05 34 39.1	-1.4		baz=179
I39A	Houston	31.31	356	P	P	05 34 40.8	-0.5		baz=174
PV02	Paradox Valley	31.31	328	eP	P	05 34 42.7	+1.1		comp=Z,5.4nm,0.8s
PV13	Radium Mtn., P	31.32	328	eP	P	05 34 43.6	+1.9		comp=Z,4.6nm,0.8s
PV03	Paradox Valley	31.41	328	eP	P	05 34 43.3	+0.8		
I41A	Arkdale	31.43	358	P	P	05 34 42.4	+0.1		baz=177
PV12	Saucer Basin,	31.43	328	eP	P	05 34 43.5	+0.8		comp=Z,13nm,0.8s
PV11	David Mesa, Pa	31.45	328	eP	P	05 34 43.3	+0.5		comp=Z,12nm,0.9s
PV17	East Wray Mesa	31.48	328	eP	P	05 34 43.3	+0.2		comp=Z,10nm,0.7s
PV16	Nyswonger Mesa	31.48	328	eP	P	05 34 43.7	+0.6		comp=Z,8.8nm,0.9s
PV19	Morning Glory	31.52	328	eP	P	05 34 44.3	+0.9		comp=Z,5.9nm,0.7s
PV20	West Nyswonger	31.53	328	eP	P	05 34 43.9	+0.4		comp=Z,7.6nm,0.7s
PV14	Lion Creek, Pa	31.59	328	eP	P	05 34 44.4	+0.4		comp=Z,6.7nm,0.8s
PV14				ePcP	PcP	05 37 38.6	+2.6		
PV10	Paradox Valley	31.60	328	eP	P	05 34 43.7	-0.4		
PV10				ePcP	PcP	05 37 37.8	+1.8		
PV23	Carpenter Ridg	31.64	328	eP	P	05 34 45.0	+0.4		comp=Z,8.5nm,0.8s
PDMCI	Parker Dam,Lak	31.86	317	P	P	05 34 46.8	+0.5		baz=127
ECSD	EROS Data Cent	31.87	349	eP	P	05 34 46.0	-0.1		comp=Z,11nm,1.1s
ECSD	EROS Data Cent	31.87	349	P	P	05 34 46.3	+0.2		baz=165
H40A	Chili	32.01	357	P	P	05 34 46.6	-0.8		baz=176
N23A	Red Feather La	32.15	335	eP	P	05 34 48.7	-0.3		comp=Z,9.3nm,0.8s
N23A	Red Feather La	32.15	335	P	P	05 34 49.4	+0.4		baz=147
SWSC	Sam W. Stewart	32.23	314	P	P	05 34 51.2	+1.7		baz=123
IKP	In-Ko-Pah, Jac	32.29	313	P	P	05 34 52.9	+2.8		baz=122
PHWY	Pilot Hill	32.29	336	eP	P	05 34 50.6	+0.4		comp=Z,13nm,0.9s
BC3	Big Chuckawall	32.38	315	P	P	05 34 53.1	+2.2		baz=124
IRM	Iron Mountain	32.45	316	P	P	05 34 51.9	+0.5		baz=125
O20A	White River Ci	32.56	331	eP	P	05 34 53.5	+1.0		comp=Z,25nm,0.8s
O20A	White River Ci	32.56	331	P	P	05 34 53.4	+0.8		baz=142,SNR=7.7
MONP2	Monument Peak	32.64	313	P	P	05 34 54.5	+1.1		baz=122
G39A	Holcombe	32.71	356	P	P	05 34 52.7	-0.8		baz=175
KNB	Kanab	32.74	322	eP	P	05 34 53.5	-0.7		comp=Z,3.3nm,1.0s
SPMN	Marine on St.	32.78	354	eP	P	05 34 52.6	-1.5		comp=Z,25nm,0.9s
SPMN	Marine on St.	32.78	354	P	P	05 34 53.1	-1.0		baz=172,SNR=13
SRU	San Rafael Swe	32.92	327	eP	P	05 34 56.6	+0.9		comp=Z,5.8nm,0.8s
BELC	Belle Mtn. Jos	32.94	315	P	P	05 34 56.5	+0.6		baz=124
LCMT	Little Creek M	32.99	322	eP	P	05 34 57.9	+1.7		comp=Z,2.6nm,0.9s
SUSD	Miller	33.04	346	P	P	05 34 56.3	-0.2		baz=161
PFO	Pinyon Flats O	33.05	314	eP	P	05 34 57.4	+0.6		comp=Z,3.9nm,0.9s
PFO	Pinyon Flats O	33.05	314	P	P	05 34 57.7	+0.9		baz=123
MTPU	Mount Pierson	33.06	324	eP	P	05 34 58.4	+1.3		comp=Z,4.4nm,0.8s
SADO	Sadowa	33.08	12	P	P	05 34 55.6	-1.1		comp=Z,11nm,0.8s,baz=205,slow=7.0,SNR=6.7
SADO				LR	LR	05 48 46.5			comp=Z,231nm,18.4s,baz=186,slow=37
FRD	Ford Ranch, An	33.09	314	P	P	05 34 59.0	+1.8		baz=123
F37A	Hinrichs Farm,	33.26	355	P	P	05 34 58.4	+0.1		baz=172
F40A	Park Falls	33.29	358	P	P	05 34 56.2	-2.4		baz=177
P17A	Butcher Ranch,	33.30	328	eP	P	05 34 59.4	+0.4		comp=Z,10.0nm,0.8s
RWWY	Rawlins	33.34	334	eP	P	05 35 00.2	+0.7		comp=Z,25nm,1.0s
TMUT	Trail Mountain	33.41	327	eP	P	05 35 03.5	+3.4		comp=Z,4.0nm,0.9s
TMUT				ePcP	PcP	05 37 43.5	+2.4		
F38A	Pierce - Schro	33.43	356	P	P	05 34 58.4	-1.4		baz=174
E39A	Mellen	33.77	357	P	P	05 35 01.3	-1.5		baz=176
K22A	Casper	33.86	336	eP	P	05 35 04.2	+0.4		comp=Z,26nm,1.0s
K22A	Casper	33.86	336	P	P	05 35 03.5	-0.3		baz=147,SNR=5.6
E38A	The Farm, Brul	34.05	356	P	P	05 35 05.6	+0.4		baz=174
MPU	Maple Canyon	34.16	327	eP	P	05 35 07.4	+0.9		comp=Z,6.6nm,0.9s
RSSD	Black Hills	34.20	340	eP	P	05 35 07.2	+0.3		comp=Z,10nm,0.7s
RSSD	Black Hills	34.20	340	P	P	05 35 07.3	+0.5		baz=152
BFSC	Mount Baldy Ra	34.23	314	P	P	05 35 08.5	+1.4		baz=122

PSUT	**Pine Spring**	**34.36**	**323**	*e*P		**P**	**05 35 08.4**	**+0.1**
	comp=Z,4.3nm,0.8s							
EDW2	**Edwards Air Fo**	**34.81**	**315**	P		**P**	**05 35 12.9**	**+0.9**
	baz=123							
TCUT	**Toone Canyon**	**34.86**	**329**	*e*P		**P**	**05 35 13.1**	**+0.5**
	comp=Z,8.7nm,0.8s							
DUG	**Dugway, Tooele**	**34.92**	**326**	*e*P		**P**	**05 35 13.5**	**+0.5**
	comp=Z,4.6nm,1.0s							
FURC	**Furnace Creek,**	**34.93**	**318**	P		**P**	**05 35 13.7**	**+0.8**
	baz=126							
LPAZ	**La Paz**	**34.98**	**144**	P		**P**	**05 35 13.5**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=334,slow=9.7,SNR=9.2							
LPAZ				LR		LR	05 49 51.0	
	comp=Z,304nm,19.2s,baz=317,slow=37							
D49A	**Beulah Townshi**	**35.12**	**8**	P		**P**	**05 35 14.3**	**-0.2**
	baz=192							
BW06	**Boulder Array**	**35.24**	**333**	P		**P**	**05 35 14.7**	**-1.1**
	baz=142							
PD31	**Pinedale Array**	**35.24**	**333**	*e*P		**P**	**05 35 16.3**	**+0.4**
PD31				*e*PcP		**PcP**	**05 37 46.7**	**+0.6**
PDAR	**Pinedale Array**	**35.24**	**333**	P		**P**	**05 35 14.9**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=108,slow=12,SNR=12							
PDAR				PcP		**PcP**	**05 37 46.7**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=127,slow=4.7,SNR=8.4							
PDAR				LR		LR	05 53 09.6	
	comp=Z,237nm,20.3s,baz=137,slow=42							
PDAR	**Pinedale Array**	**35.24**	**333**	*e*P		**P**	**05 35 15.7**	**-0.1**
PDAR				PcP		**PcP**	**05 37 46.7**	**+0.6**
R11A	**Troy Canyon, C**	**35.27**	**322**	*e*P		**P**	**05 35 18.0**	**+1.9**
	comp=Z,1.6nm,0.9s							
R11A	**Troy Canyon, C**	**35.27**	**322**	P		**P**	**05 35 15.7**	**-0.3**
	baz=130							
EYMN	**Ely**	**35.38**	**356**	P		**P**	**05 35 15.8**	**-0.9**
	baz=175							
SPUT	**South Promonto**	**35.53**	**328**	*e*P		**P**	**05 35 18.9**	**+0.6**
	comp=Z,7.8nm,1.1s							
BGU	**Big Grassy Mou**	**35.55**	**327**	*e*P		**P**	**05 35 18.4**	**0.0**
	comp=Z,4.4nm,1.1s							
BGU				*e*PcP		**PcP**	**05 37 49.0**	**+2.1**
GRAC	**Grapevine Rang**	**35.56**	**318**	P		**P**	**05 35 16.7**	**-1.7**
	baz=126							
HVU	**Hansel Valley**	**36.04**	**328**	*e*P		**P**	**05 35 23.4**	**+0.8**
	comp=Z,4.3nm,0.9s							
AGMN	**Agassiz Nation**	**36.18**	**352**	*e*P		**P**	**05 35 21.6**	**-1.8**
	comp=Z,48nm,1.1s							
AGMN	**Agassiz Nation**	**36.18**	**352**	P		**P**	**05 35 21.8**	**-1.7**
	baz=168,SNR=6.3							
REDW	**Red Top Meadow**	**36.30**	**332**	*e*P		**P**	**05 35 25.0**	**+0.1**
	comp=Z,24nm,1.1s							
SNOW	**Snow King Moun**	**36.33**	**332**	*e*P		**P**	**05 35 25.5**	**+0.3**
	comp=Z,18nm,0.8s							
LOHW	**Long Hollow**	**36.38**	**332**	*e*P		**P**	**05 35 25.7**	**+0.1**
	comp=Z,4.4nm,0.8s							
MDND	**Maddock**	**36.41**	**347**	*e*P		**P**	**05 35 26.0**	**+0.5**
	comp=Z,61nm,0.8s							
MDND	**Maddock**	**36.41**	**347**	P		**P**	**05 35 24.7**	**-0.8**
	baz=161							
TPAW	**Teton Pass**	**36.44**	**332**	*e*P		**P**	**05 35 26.6**	**+0.4**
	comp=Z,7.8nm,0.8s							
MNMC	**Minye Minye**	**36.54**	**149**	*e*P		**P**	**05 35 26.6**	**-0.6**
	comp=Z,8.3nm,1.1s							
MOOW	**Moose Ponds**	**36.55**	**332**	*e*P		**P**	**05 35 27.5**	**+0.4**
	comp=Z,5.3nm,1.0s							
FXWY	**Fox Creek**	**36.59**	**332**	*e*P		**P**	**05 35 27.8**	**+0.4**
	comp=Z,1.6nm,0.8s							
IMW	**Indian Meadow**	**36.75**	**332**	*e*P		**P**	**05 35 29.2**	**+0.4**
	comp=Z,4.4nm,0.7s							
IMW				*e*PcP		**PcP**	**05 37 52.7**	**+2.0**
FLWY	**Flagg Ranch**	**36.79**	**333**	*e*P		**P**	**05 35 30.0**	**+0.9**
	comp=Z,10nm,1.1s							
NV11	**Mina Array Sit**	**36.91**	**320**	*e*P		**P**	**05 35 31.3**	**+1.2**
	comp=Z,0.3nm,0.9s							
NV11				*e*PcP		**PcP**	**05 37 53.4**	**+2.3**
H17A	**Grant Village**	**36.98**	**333**	*e*P		**P**	**05 35 30.8**	**0.0**
	comp=Z,5.0nm,0.8s							
YPP	**Pitchstone Pla**	**36.99**	**333**	*e*P		**P**	**05 35 30.1**	**-0.7**
	comp=Z,4.4nm,1.1s							
NV01	**Mina Array Sit**	**37.01**	**319**	*e*P		**P**	**05 35 31.9**	**+0.9**
NV01				*e*PcP		**PcP**	**05 37 52.7**	**+1.2**
NVAR	**Mina Array Bea**	**37.01**	**319**	P		**P**	**05 35 32.0**	**+1.0**
	comp=Z,3.8nm,0.8s,baz=130,slow=7.7,SNR=14							
NVAR				PcP		**PcP**	**05 37 52.9**	**+1.4**
	comp=Z,3.5nm,0.8s,baz=122,slow=4.8,SNR=10							
NVAR				ScP		**ScP**	**05 41 42.5**	**+7.0**
	comp=Z,0.8nm,0.8s,baz=126,slow=5.8,SNR=4.6							
NVAR				LR		LR	05 53 26.4	
	comp=Z,152nm,18.0s,baz=95,slow=41							
RLMT	**Red Lodge**	**37.01**	**335**	*e*P		**P**	**05 35 31.0**	**+0.1**
	comp=Z,20nm,0.9s							
RLMT	**Red Lodge**	**37.01**	**335**	P		**P**	**05 35 30.5**	**-0.4**
	baz=145,SNR=5.2							
YFT	**Old Faithful**	**37.14**	**333**	*e*P		P	05 35 37.7	+5.6
	comp=Z,12nm,1.0s							
GO01	**Chusmiza**	**37.20**	**149**	*e*P		**P**	**05 35 31.2**	**-1.8**
	comp=Z,4.2nm,0.7s							
LAO	**LASA Array**	**37.20**	**340**	*e*P		**P**	**05 35 33.0**	**+0.7**
	comp=Z,26nm,1.1s							
LAO	**LASA Array**	**37.20**	**340**	P		**P**	**05 35 32.0**	**-0.3**
	baz=150							
YNR	**Norris Junctio**	**37.28**	**334**	*e*P		**P**	**05 35 34.4**	**+1.1**
	comp=Z,7.7nm,0.8s							
YMR	**Madison River**	**37.37**	**333**	*e*P		**P**	**05 35 35.5**	**+1.6**
	comp=Z,25nm,1.1s							
YHB	**Horse Butte**	**37.54**	**333**	*e*P		**P**	**05 35 36.0**	**+0.6**
	comp=Z,6.9nm,0.9s							
QLMT	**Earthquake Lak**	**37.70**	**333**	*e*P		**P**	**05 35 37.8**	**+1.0**
GCMT	**Greyciiff**	**37.72**	**336**	*e*P		**P**	**05 35 36.8**	**0.0**
ULM	**Lac du Bonnet**	**38.09**	**352**	P		**P**	**05 35 37.6**	**-2.0**
	comp=Z,15nm,0.9s,baz=166,slow=8.3,SNR=18							
ULM				LR		LR	05 53 41.1	
	comp=Z,307nm,21.6s,baz=170,slow=40							
ULM	**Lac du Bonnet**	**38.09**	**352**	*e*P		**P**	**05 35 37.7**	**-2.0**
	comp=Z,26nm,1.0s							
CMB	**Columbia Colle**	**38.13**	**317**	*e*P		**P**	**05 35 40.6**	**+0.3**
	comp=Z,3.3nm,1.0s							
DGMT	**Dagmar**	**38.14**	**343**	*e*P		**P**	**05 35 39.8**	**-0.4**
	comp=Z,48nm,0.8s							
DGMT	**Dagmar**	**38.14**	**343**	P		**P**	**05 35 39.8**	**-0.4**
	baz=155,SNR=15							
HLID	**Hailey**	**38.16**	**329**	*e*P		**P**	**05 35 41.4**	**+0.7**
	comp=Z,2.3nm,0.8s							
HLID	**Hailey**	**38.16**	**329**	P		**P**	**05 35 41.0**	**+0.3**
	baz=186							
MCMT	**McKenzie Canyo**	**38.34**	**332**	*e*P		**P**	**05 35 43.1**	**+0.8**
BOZ	**Bozeman (W)**	**38.39**	**334**	*e*P		**P**	**05 35 43.5**	**+1.0**
DLMT	**Dillon**	**38.64**	**332**	*e*P		**P**	**05 35 45.6**	**+1.0**
	comp=Z,16nm,1.1s							
HRY	**Holter Researc**	**39.35**	**334**	*e*P		**P**	**05 35 50.6**	**+0.1**
EGMT	**Eagleton**	**39.59**	**337**	*e*P		**P**	**05 35 52.5**	**+0.1**
EGMT	**Eagleton**	**39.59**	**337**	P		**P**	**05 35 52.4**	**-0.1**
	baz=146,SNR=21							
WVOR	**Wild Horse Val**	**39.66**	**324**	*e*P		**P**	**05 35 55.1**	**+2.0**
	comp=Z,4.2nm,0.9s							
WVOR				*e*PcP		**PcP**	**05 38 02.2**	**+2.7**
LVC	**Limon Verde**	**39.83**	**151**	P		**P**	**05 35 55.7**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=98,slow=7.1,SNR=2.7							
J08A	**Circle Bar Ran**	**40.17**	**326**	*e*P		**P**	**05 35 57.9**	**+0.6**
	comp=Z,4.1nm,0.8s							
MSO	**Missoula**	**40.36**	**333**	*e*P		**P**	**05 35 59.5**	**+0.7**
	comp=Z,8.5nm,1.1s							
MSO	**Missoula**	**40.36**	**333**	P		**P**	**05 35 59.0**	**+0.2**
	baz=140,SNR=11							
JTMT	**Jette**	**41.21**	**333**	*e*P		**P**	**05 36 06.4**	**+0.5**
	comp=Z,6.5nm,1.0s							
JTMT				*e*PcP		**PcP**	**05 38 05.5**	**+1.1**
F10A	**Beach Ranch, E**	**41.29**	**329**	*e*P		**P**	**05 36 07.2**	**+0.7**
	comp=Z,9.9nm,1.0s							
E07A	**Sunnyside**	**43.02**	**328**	*e*P		**P**	**05 36 21.8**	**+1.3**
	comp=Z,6.5nm,0.9s							
FFC	**Flin Flon**	**43.41**	**349**	*e*P		**P**	**05 36 22.8**	**-0.7**
	comp=Z,12nm,0.8s							
RPN	**Rapa Nui**	**44.35**	**207**	LR		LR	05 50 07.6	
	comp=Z,347nm,18.7s,baz=26,slow=30							
B05A	**Bryant**	**45.28**	**329**	P		**P**	**05 36 39.0**	**+0.4**
	baz=130							
SCHQ	**Schefferville**	**45.47**	**17**	P		**P**	**05 36 38.6**	**-1.3**
	comp=Z,12nm,0.8s,baz=216,slow=10,SNR=9.1							
SCHQ				LR		LR	05 57 04.4	
	comp=Z,800nm,18.7s,baz=194,slow=38							
SCHQ	**Schefferville**	**45.47**	**17**	*e*P		**P**	**05 36 38.6**	**-1.3**
	comp=Z,21nm,1.1s							
CPUP	**Villa Florida**	**49.07**	**142**	P		**P**	**05 37 06.4**	**-1.9**
	comp=Z,1.8nm,0.9s,baz=312,slow=7.0,SNR=3.4							
CPUP				LR		LR	05 58 55.2	
	comp=Z,156nm,18.4s,baz=331,slow=37							
CPUP	**Villa Florida**	**49.07**	**142**	*e*P		**P**	**05 37 06.4**	**-1.9**
	comp=Z,5.2nm,1.1s							

YKA	**Yellowknife Ar**	**53.27**	**345**	P		**P**	**05 37 37.9**	**-1.4**
	comp=Z,1.1nm,0.7s,baz=132,slow=8.1,SNR=56							
YKA				PcP		**PcP**	**05 38 46.3**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=147,slow=4.2,SNR=5.9							
YKB5	**Yellowknife Ar**	**53.27**	**345**	*e*P		**P**	**05 37 38.4**	**-1.0**
YKB5				*e*PcP		**PcP**	**05 38 46.4**	**-0.3**
YKW3	**Yellowknife Ar**	**53.33**	**345**	*e*P		**P**	**05 37 38.5**	**-1.3**
	comp=Z,27nm,1.0s							
PLCA	**Paso Flores**	**55.54**	**164**	P		**P**	**05 37 55.2**	**-1.0**
	comp=Z,3.5nm,0.9s,baz=10,slow=11,SNR=6.0							
PLCA				LR		LR	05 56 10.8	
	comp=Z,148nm,21.6s,baz=26,slow=30							
TAOE	**Nuku Hiva Isla**	**55.62**	**250**	*e*T		T	06 37 29.7	
	comp=Z,37nm,0.2s							
RKT	**Rikitea**	**57.73**	**232**	*e*T		T	06 40 10.7	
	comp=Z,6.0nm,0.2s							
DAWY	**Dawson**	**62.34**	**337**	*e*P		**P**	**05 38 42.0**	**-1.1**
	comp=Z,4.0nm,0.9s							
EPYK	**Eagle Plains**	**62.65**	**340**	P		**P**	**05 38 44.3**	**-0.8**
	baz=125							
INK	**Inuvik**	**62.83**	**343**	P		**P**	**05 38 45.1**	**-1.1**
	comp=Z,13nm,0.9s,baz=163,slow=6.8,SNR=7.3							
INK	**Inuvik**	**62.83**	**343**	*e*P		**P**	**05 38 45.5**	**-0.6**
	comp=Z,9.3nm,0.8s							
RIDG	**Independ'e Rid**	**64.31**	**336**	*e*P		**P**	**05 38 56.0**	**-0.1**
	comp=Z,8.2nm,0.8s							
PMOR	**Pomariorio Ree**	**64.92**	**247**	*e*T		T	06 49 11.4	
	comp=Z,8.4nm,0.2s							
HDA	**Harding Lake**	**65.43**	**336**	*e*P		**P**	**05 39 02.3**	**-1.0**
	comp=Z,19nm,1.2s							
IL1	**Eielson Array**	**65.55**	**336**	*e*P		**P**	**05 39 02.7**	**-1.4**
ILAR	**Eielson Array**	**65.55**	**336**	P		**P**	**05 39 02.6**	**-1.4**
	comp=Z,10nm,1.1s,baz=127,slow=4.0,SNR=21							
ILB	**Eielson Array**	**65.55**	**336**	*e*P		**P**	**05 39 03.0**	**-1.1**
RND	**Reindeer**	**65.82**	**335**	*e*P		**P**	**05 39 05.5**	**-0.5**
	comp=Z,28nm,0.9s							
POKR	**Poker Plat Res**	**65.90**	**337**	P		**P**	**05 39 04.6**	**-1.8**
	baz=114							
MLY	**Manley**	**67.17**	**336**	*e*P		**P**	**05 39 13.3**	**-1.2**
	comp=Z,14nm,1.0s							
PPT2	**Papeete2**	**67.39**	**245**	*e*LR		LR	05 59 44.5	
	comp=Z,281nm,21.5s							
COLD	**Coldfoot**	**67.75**	**338**	*e*P		**P**	**05 39 18.0**	**-0.1**
	comp=Z,8.3nm,1.0s							
TBI	**Tubuai**	**69.54**	**239**	*e*LQ		LQ	05 57 48.8	
	comp=Z,452nm,29.2s							
TBI				*e*LR		LR	06 00 41.8	
	comp=Z,716nm,27.2s							
TBI	**Tubuai**	**69.54**	**239**	*e*T		T	06 54 57.0	
	comp=Z,8.6nm,0.3s							
RDOG	**Red Dog Mine**	**72.65**	**338**	*e*P		**P**	**05 39 47.9**	**-0.1**
	comp=Z,9.2nm,0.7s							
DBIC	**Dimbokro**	**82.33**	**85**	LR		LR	06 13 53.2	
	comp=Z,46nm,19.9s,baz=259,slow=33							
NOA	**NORSAR Array B**	**83.74**	**29**	LR		LR	06 14 13.3	
	comp=Z,87nm,21.8s,baz=280,slow=33							
BILL	**Bilibino**	**84.08**	**339**	*e*P		**P**	**05 40 50.7**	**-0.5**
	comp=Z,6.5nm,0.9s							
AFI	**Afiamalu**	**86.66**	**255**	LR		LR	06 12 53.5	
	comp=Z,39nm,20.1s,baz=91,slow=31							
KHC	**Kasperske Hory**	**88.32**	**40**	AMS		AMS	06 20 40.0	
	comp=Z,300nm,21.7s							
GERES	**GERESS Array B**	**88.48**	**40**	LR		LR	06 18 29.1	
	comp=Z,104nm,18.1s,baz=298,slow=34							
GOPC	**GO Pecny, Ondr**	**88.83**	**39**	AMS		AMS	06 17 00.0	
	comp=Z,200nm,15.8s							
KEST	**Kesra**	**88.96**	**54**	LR		LR	06 14 51.1	
	comp=Z,56nm,20.9s,baz=232,slow=31							
TREC	**Trest**	**89.46**	**39**	AMS		AMS	06 21 40.0	
NRIK	**Noril'sk**	**98.27**	**1**	LR		LR	06 29 52.9	
	comp=Z,141nm,19.2s,baz=32,slow=38							
KURK	**Kurchatov**	**116.00**	**9**	*e*PKPdf		**PKPdf**	**05 47 02.8**	**-0.7**
KURBB	**Kurchatov Arra**	**116.07**	**9**	PKP		**PKPdf**	**05 47 02.8**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=349,slow=2.1,SNR=4.7							
SONA	**Songino Array**	**118.45**	**249**	*e*PKPdf		**PKPdf**	**05 47 07.7**	**-0.8**
SONM	**Songino Array**	**118.45**	**249**	PKP		**PKPdf**	**05 47 07.7**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=309,slow=0.9,SNR=3.4							
KSRS	**Korea Array**	**119.68**	**327**	PKP		**PKPdf**	**05 47 09.2**	**-1.8**
	comp=Z,1.9nm,0.8s,baz=346,slow=1.3,SNR=4.9							
KSAR	**Wonju Array Be**	**119.71**	**327**	PKP		**PKPdf**	**05 47 09.2**	**-1.8**
MK32	**Makanchi Array**	**120.35**	**7**	*e*PKPdf		**PKPdf**	**05 47 10.7**	**-1.4**
MKAR	**Makanchi Array**	**120.35**	**7**	PKP		**PKPdf**	**05 47 10.7**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=334,slow=2.7,SNR=4.2							
LZH	**Lanzhou**	**130.26**	**347**	*e*PKP		**PKPdf**	**05 47 31.5**	**-0.1**
LZH				pPKP		pPKPdf	05 47 41.3	-2.8
LZH				sPKP			05 47 46.5	
LZH				LR		LR		
	comp=N,100nm,17.9s							
LZH				LR		LR		
	comp=E,95nm,18.0s							
LZH				LR		LR		
	comp=Z,130nm,20.0s							
STKA	**Stephens Creek**	**130.33**	**239**	PKP		**PKPdf**	**05 47 31.9**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=271,slow=5.3,SNR=3.0							
CD2	**Chengdu**	**135.23**	**345**	PKP		**PKPdf**	**05 47 40.0**	**-0.9**
WB2	**Warramunga Arr**	**138.37**	**254**	*e*PKPdf		**PKPdf**	**05 47 46.2**	**-0.7**
AS31	**Alice Springs**	**138.38**	**249**	*e*PKPdf		**PKPdf**	**05 47 46.1**	**-0.7**
WR1	**Warramunga Arr**	**138.38**	**254**	PKPdf		**PKPdf**	**05 47 47.2**	**+0.3**
WRA	**Warramunga Arr**	**138.38**	**254**	PKP		**PKPdf**	**05 47 47.2**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=89,slow=2.2,SNR=13							
AS31	**Alice Springs**	**138.42**	**248**	*e*PKPdf		**PKPdf**	**05 47 46.8**	**-0.2**
ASAR	**Alice Springs**	**138.42**	**248**	PKP		**PKPdf**	**05 47 47.9**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=108,slow=2.4,SNR=8.9							
HYB	**Hyderabad**	**147.57**	**24**	*i* PKP		**PKPbc**	**05 48 05.0**	**-0.8**
CMAR	**Chiang Mai Arr**	**148.35**	**347**	PKPbc		**PKPdf**	**05 48 05.7**	**+1.2**
	comp=Z,6.3nm,0.7s,baz=342,slow=3.3,SNR=26							

*IDC **28** 05:30:05.4±0.5,41.66N×77.76E,h0km,mb4.3/26, mb1 4.5/31,mb1mx4.3/54,mbtmp4.3/31,ML3.8/5,MS3.6/14, Ms1 3.6/14,ms1mx3.3/49,Error ellipse: s-maj=9.9km s-min=9.1km az=10.0*

*MOS **28** 05:30:06.9±1.2,41.72N×77.86E,h17km,mb4.9/46,Error ellipse: s-maj=6.2km s-min=3.8km az=131.8*

MOS Felt (II-III) at Almaty.

*ISCJB **28** 05:30:07.9±0.6,41.66N±0.01×77.87E±0.02,h27km±4km, mb4.6/94,MS3.6/13,Error ellipse: s-maj=2.5km s-min=2.2km az=42.8*

*KRNET **28** 05:30:07.5±0.1,41.77N×77.77E,h22km,mb4.9*

*NNC **28** 05:30:08.1±0.6,41.80N×77.73E,h0km,mb5.0,mpv4.7, Error ellipse: s-maj=5.0km s-min=3.8km az=99.0*

*NEIC **28** 05:30:08.1±1.1,41.71N×77.79E,h15km±6km,mb4.7/26, Error ellipse: s-maj=5.9km s-min=4.2km az=171.0*

NEIC Felt at Chong-Kyzylsu. Felt [II] at Almaty, Kazakhstan.

*KNET **28** 05:30:09.2±1.1,41.86N×77.60E,h1km±2km,ml4.8, Error ellipse: s-maj=8.6km s-min=4.8km az=27.0*

*BJI **28** 05:30:09.1,41.82N×77.77E,h32km,mb4.3/21,mB4.5/16, ML4.5/10,Ms4.1/12,Ms7 3.9/12*

*SOME **28** 05:30:09.1,41.90N×77.70E,h15km*

ISC 28 05:30:08.5±0.7,41.75N±0.02×77.69E±0.02,h17km±4km, n373,σ1%67/444,mb4.7/96,MS3.6/14,65C-53D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
KDJ	**Kajisay**	**0.54**	**315**	*e*Pg	**Pg**	**05 30 19.1**	**-0.2**
KDJ				*e*Sg	**Sb**	**05 30 26.9**	**-0.2**
KDJ	**Kajisay**	**0.54**	**315**	⇓*i*P	**Pg**	**05 30 19.1**	**-0.2**
	baz=10.0						
KDJ				⇓*i*S	**Sg**	**05 30 26.2**	**-0.4**
	baz=10.0						
KDJ	**Kajisay**	**0.54**	**315**	*e*PG	**Pg**	**05 30 19.1**	**-0.2**
KDJ				*e*		05 30 26.9	
PRZ	**Przheval'sk**	**0.90**	**36**	*e*Pg	**Pb**	**05 30 23.6**	**-2.2**
PRZ				*e*Sg	**Sb**	**05 30 35.9**	**-1.7**
PRZ	**Przheval'sk**	**0.90**	**36**	⇓*i*P	**Pb**	**05 30 23.4**	**-2.4**
	baz=34						
PRZ				⇓*i*S	**Sb**	**05 30 34.9**	**-2.7**
	baz=34						
PRZ	**Przheval'sk**	**0.90**	**36**	*e*PG	**Pb**	**05 30 23.6**	**-2.2**
PRZ				*e*		05 30 35.9	
ULHL	**Ulahol**	**1.19**	**295**	⇓P	**Pn**	**05 30 29.8**	**-0.8**
	2μm,0.3s,SNR=6613						
ULHL				⇑S	**Sn**	**05 30 46.3**	**-0.1**
	5μm,0.2s						
ULHL	**Ulahol**	**1.19**	**295**	⇓*i*P	**Pn**	**05 30 29.8**	**-0.8**
	baz=93						
ULHL				⇓*i*S	**Sn**	**05 30 46.3**	**-0.1**
	baz=93						
ULHL	**Ulahol**	**1.19**	**295**	PG	**Pn**	**05 30 29.8**	**-0.8**
NRN	**Naryn**	**1.31**	**256**	*e*Pn	**Pn**	**05 30 32.1**	**-0.2**
NRN				*e*Sn	**Sg**	**05 30 50.8**	**-0.1**
NRN	**Naryn**	**1.31**	**256**	⇓*i*P	**Pn**	**05 30 32.0**	**-0.2**
	baz=56						
NRN				⇓*i*S	**Sg**	**05 30 51.5**	**+0.6**
	baz=56						
NRN	**Naryn**	**1.31**	**256**	*e*PG	**Pn**	**05 30 32.1**	**-0.2**
NRN				*e*		05 30 50.8	
TNSS	**Tian-Shan**	**1.40**	**337**	*e*P	**Pn**	**05 30 33.5**	**-0.1**
	5μm,0.5s						
TNSS				*e*S	**Sn**	**05 30 51.0**	**-0.8**
	9μm,0.4s						
SATY	**Saty**	**1.41**	**22**	*e*P	**Pn**	**05 30 32.8**	**-0.7**
	925nm,0.5s						
SATY				*e*S	**Sn**	**05 30 49.6**	**-2.1**
	12μm,0.4s						
MDOK	**Medeo**	**1.49**	**342**	⇑P	**Pb**	**05 30 34.9**	**-0.9**
	4μm,0.6s						
MDOK				⇑S	**Sb**	**05 30 54.6**	**+0.2**
	7μm,0.5s						
MDOK	**Medeo**	**1.49**	**342**	*e*P	**Pb**	**05 30 35.0**	**-0.9**
	5μm,0.6s						
MDOK				*e*S	**Sn**	**05 30 53.2**	**-0.5**
	9μm,0.6s						
BOOM	**Boomskoye usch**	**1.50**	**300**	⇓*e*P	**Pn**	**05 30 35.1**	**+0.3**
	baz=99						
BOOM				⇓*i*S	**Sg**	**05 30 55.7**	**-1.2**
	baz=99						
BOOM	**Boomskoye usch**	**1.50**	**300**	⇓*e*PN	**Pn**	**05 30 35.1**	**+0.3**
IZV	**Izvestkoviy**	**1.51**	**328**	*e*P	**Pb**	**05 30 35.4**	**-0.8**
	722nm,0.4s						
IZV				*e*S	**Sb**	**05 30 54.3**	**-0.8**
	2μm,0.3s						
ZHN	**Zhinishke**	**1.52**	**21**	*e*P	**Pn**	**05 30 35.0**	**0.0**
	698nm,0.3s						
ZHN				*e*S	**Sn**	**05 30 53.4**	**-1.0**
	3μm,0.3s						
KOTS	**Kotyrbulak**	**1.54**	**344**	*e*P	**Pb**	**05 30 36.0**	**-0.7**
	4μm,0.4s						
KOTS				*e*S	**Sb**	**05 30 55.0**	**-1.0**
	15μm,0.4s						
KNDC	**Almaty**	**1.56**	**340**	⇑P	**Pb**	**05 30 36.5**	**-0.5**
	6μm,0.7s						
KNDC				⇓S	**Sg**	**05 30 57.9**	**-0.9**
	15μm,0.5s						
AAA	**Alma-Ata**	**1.56**	**339**	*e*PN	**Pb**	**05 30 36.9**	**-0.1**
AAA				*e*S	**Sg**	**05 30 58.3**	**-0.7**
AAA				pmax	pmax		
	comp=Z,14μm,0.4s						
AAA				smax	smax		
	comp=N,12μm,0.4s						
AAA	**Alma-Ata**	**1.56**	**339**	*e*P	**Pb**	**05 30 36.9**	**-0.1**
	comp=N,15μm,0.4s						
AAA				*e*S	**Sb**	**05 30 56.4**	**-0.1**
	comp=N,10μm,0.3s						
MTBS	**Maitube**	**1.66**	**326**	*e*P	**Pb**	**05 30 37.9**	**-0.8**
	comp=N,2μm,0.4s						
MTBS				*e*S	**Sb**	**05 30 58.4**	**-1.1**
	comp=N,6μm,0.2s						
UZB	**Uzynbulak**	**1.71**	**35**	*e*P	**Pn**	**05 30 37.9**	**+0.3**
	comp=N,511nm,0.5s						
UZB				*e*S	**Sn**	**05 30 59.0**	**-0.1**
	comp=N,2μm,0.4s						
KURS	**Kuram**	**1.77**	**11**	*e*P	**Pb**	**05 30 39.5**	**-1.0**
	comp=N,1μm,0.7s						
KURS				*e*S	**Sb**	**05 31 00.8**	**-1.6**
	comp=N,4μm,0.7s						
KST	**Kastek**	**1.82**	**316**	*e*P	**Pb**	**05 30 41.1**	**-0.3**
	comp=N,4μm,0.5s						
KST				*e*S	**Sb**	**05 31 03.7**	**-0.2**
	comp=N,9μm,0.5s						
KZA	**Kyzart**	**1.85**	**281**	⇑S	**Sg**	**05 31 08.0**	**-0.2**
	comp=N,4μm,0.5s						
KZA	**Kyzart**	**1.85**	**281**	⇓*i*P	**Pb**	**05 30 41.4**	**-0.7**
	baz=80						
KZA				⇓*i*S	**Sb**	**05 31 06.5**	**+1.4**
	baz=80						
KZA	**Kyzart**	**1.85**	**281**	⇓*i*PN	**Pb**	**05 30 41.3**	**-0.8**
**KPKS

FRU *i* S **Sb** **05 31 25.0 +0.9**
FRU pmax pmax
comp=Z,880nm,1.0s
FRU smax smax
comp=E,15μm,1.6s
AAK Ala-Archa 2.53 291 Pn **Pb** **05 30 53.2 -0.4**
comp=E,662nm,0.3s,baz=104,slow=8.3,SNR=1978
AAK Lg Lg 05 31 28.4
comp=E,622nm,0.3s,baz=125,slow=23,SNR=39
AAK Ala-Archa 2.53 291 ⇑Pn **Pn** **05 30 51.1 +2.1**
comp=E,480nm,0.3s
AAK ⇑Lg Lg 05 31 27.6
comp=E,4μm,0.5s
AAK Ala-Archa 2.53 291 ⇓P **Pb** **05 30 53.5 -0.1**
comp=E,1μm,0.3s,SNR=1464
AAK Ala-Archa 2.53 291 *e*Pn **Pb** **05 30 53.1 -0.5**
AAK *e*Sn **Sg** **05 31 28.0 -2.0**
AAK Ala-Archa 2.53 291 *ce*PN **Pb** **05 30 53.0 -0.6**
AAK pmax pmax
comp=Z,2μm,0.6s
KSH Kashi 2.59 211 Pn **Pg** **05 30 59.5 +1.3**
KSH Sn Sg 05 31 41.8 +10
KSH smax smax
comp=Z,2μm,0.7s
KSH smax smax
comp=Z,2μm,0.5s
KTMS Ketmen 2.59 48 *e*P **Pb** **05 30 53.5 -1.1**
comp=Z,285nm,0.3s
KTMS *e*S **Sb** **05 31 25.2 -1.0**
comp=Z,2μm,0.5s
DJR Jarkent 3.00 30 *e*P **Pb** **05 31 01.4 -0.2**
comp=Z,222nm,0.5s
DJR *e*S **Sb** **05 31 38.5 +0.5**
comp=Z,831nm,0.5s
AML Almayashu 3.00 279 ⇑P **Pb** **05 31 00.6 -1.2**
comp=Z,733nm,0.3s,SNR=36
AML Almayashu 3.00 279 ⇓*e*P **Pn** **05 30 58.8 +3.1**
baz=78
AML ⇓*i*S **Sb** **05 31 35.2 -3.2**
baz=78
AML Almayashu 3.00 279 *e*PN **Pb** **05 30 59.1 -2.7**
EKS2 Erkin-Say 3.04 289 ⇓P **Pb** **05 31 00.4 -1.9**
comp=Z,1μm,0.5s,SNR=402
EKS2 Erkin-Say 3.04 289 ⇓*i*P **Pb** **05 30 59.2 -3.1**
baz=88
EKS2 ⇓*i*S **Sb** **05 31 36.0 -3.2**
baz=88
EKS2 Erkin-Say 3.04 289 *i* PN **Pb** **05 31 00.4 -1.9**
TDK Taldyqorghan 3.29 9 *e*P **Pb** **05 31 06.6 +0.2**
comp=Z,1μm,0.4s
TDK *e*S **Sb** **05 31 47.7 +1.6**
comp=Z,8μm,0.5s
MRKS Merke 3.46 288 *e*P **Pb** **05 31 10.7 +1.3**
comp=Z,758nm,0.2s
MRKS *e*S **Sb** **05 31 54.5 +3.4**
comp=Z,2μm,0.2s
ARSB Arslanbob 3.56 265 ⇑*i*P **Pn** **05 31 05.6 +2.5**
baz=64
ARSB ⇑*i*S **Sn** **05 31 48.7 +3.9**
baz=64
SFK Sufi-Kurgan 3.62 243 ⇑Pn **Pn** **05 31 05.8 +1.8**
comp=Z,5.3nm,0.4s
SFK ⇑Pg **Pb** **05 31 14.4 +2.2**
comp=Z,494nm,1.1s
SFK ⇑Lg Lg 05 32 04.4
comp=Z,684nm,0.7s
SFK Sufi-Kurgan 3.62 243 ⇑*e*P **Pn** **05 31 06.3 +2.3**
baz=43
SFK ⇑*i*S **Sn** **05 31 49.6 +3.2**
baz=43
SFK Sufi-Kurgan 3.62 243 PN **Pn** **05 31 05.8 +1.8**
SFK pmax pmax
comp=Z,5.0nm,0.4s
KAPS Kapalarasan 3.73 18 *e*P **Pb** **05 31 14.1 +0.1**
comp=Z,163nm,0.5s
KAPS *e*S **Sb** **05 32 00.4 +1.4**
comp=Z,582nm,0.5s
MNAS Manas 3.93 282 ⇑Pn **Pn** **05 31 12.2 +4.1**
comp=Z,16nm,0.6s
MNAS ⇑Pg **Pb** **05 31 17.8 +0.4**
comp=Z,155nm,0.5s
MNAS ⇑Lg Lg 05 32 12.6
comp=Z,1μm,1.0s
MNAS Manas 3.93 282 ⇓*i*P **Pn** **05 31 10.7 +2.6**
baz=82
MNAS ⇓*i*S **Sn** **05 31 56.7 +2.8**
baz=82
MNAS Manas 3.93 282 PN **Pn** **05 31 12.2 +4.1**
MNAS PG **Pb** **05 31 17.8 +0.4**
MNAS pmax pmax
comp=Z,16nm,0.6s
MNAS pmax pmax
comp=Z,155nm,0.5s
ARK Arkit 4.28 272 ⇑*i*P **Pn** **05 31 15.4 +2.4**
baz=72
ARK ⇑*e*S **Sn** **05 32 04.7 +2.1**
baz=72
DZA Taraz 4.85 286 *e*P **Pg** **05 31 38.4 -3.0**
comp=Z,383nm,0.7s
DZA *e*S **Sg** **05 32 41.9 -2.3**
comp=Z,769nm,0.4s
DRK Karamyk 5.03 245 ⇓*i*P **Pn** **05 31 25.7 +2.3**
baz=45
DRK ⇓*e*S **Sn** **05 32 22.6 +1.4**
baz=45
KK31 Karatay Array 5.48 287 ⇓Pn **Pn** **05 31 32.5 +3.1**
comp=Z,2.1nm,0.3s,baz=92,slow=12,SNR=328
KK31 ⇓Pg **Pb** **05 31 46.1 +2.3**
comp=Z,68nm,0.5s,baz=99,slow=15,SNR=208
KK31 ⇑Lg Lg 05 33 02.6
comp=Z,358nm,0.6s,baz=105,slow=29,SNR=19
IUG luzhnay 5.72 276 *e*P **Pg** **05 31 53.6 -4.6**
comp=Z,332nm,0.5s
IUG *e*S **Sg** **05 33 08.5 -3.7**
comp=Z,605nm,0.9s
MK01 Makanchi Array 6.01 32 *e*Pn **Pn** **05 31 38.0 +1.3**
MK31 Makanchi Array 6.02 32 ⇓Pn **Pn** **05 31 38.3 +1.5**
comp=Z,9.9nm,0.4s,baz=207,slow=15,SNR=9.5
MK31 ⇑Lg Lg 05 33 15.9
comp=Z,39nm,0.5s,baz=207,slow=15,SNR=9.5
MK31 Makanchi Array 6.02 32 *e*Pn **Pn** **05 31 38.5 +1.7**
MK31 Makanchi Array 6.02 32 *e*PN **Pn** **05 31 38.5 +1.7**
MK32 Makanchi Array 6.02 32 *e*Pn **Pn** **05 31 37.8 +1.0**
MKAR Makanchi Array 6.02 32 Pn **Pn** **05 31 37.8 +1.0**
comp=Z,1.7nm,0.3s,baz=204,slow=12,SNR=60
MKAR Lg Lg 05 33 17.7
comp=Z,15nm,0.3s,baz=218,slow=30,SNR=5.3
MKAR LR LR 05 34 19.5
comp=Z,232nm,21.4s,baz=212,slow=42
MKAR Makanchi Array 6.02 32 *e*Pn **Pn** **05 31 38.5 +1.7**
MKAR Lg Lg 05 33 17.7
MKAR Makanchi Array 6.02 32 *i* PN **Pn** **05 31 38.2 +1.4**
MKAR pmax pmax
comp=Z,12nm,0.7s
CHM Chimkent 6.05 278 PN **Pb** **05 31 51.7 -1.7**
CHM Chimkent 6.05 278 *e*P **Pg** **05 32 00.9 -3.4**
comp=Z,267nm,0.4s
CHM *e*S **Sg** **05 33 20.4 -2.2**
comp=Z,726nm,0.7s
OTUK Ortayu 7.52 332 ⇓Pn **Pn** **05 31 58.1 +0.8**
comp=Z,21nm,0.5s
OTUK ⇓Lg Lg 05 34 03.3
comp=Z,760nm,0.9s
OTUK Ortayu 7.52 332 P **Pn** **05 31 58.6 +1.3**
OTUK pmax pmax
comp=Z,21nm,0.5s
WMQ Urumqi 7.64 71 Pn **Pn** **05 31 59.0 -0.1**
WMQ Sn **Sn** **05 33 25.5 +0.2**
WMQ smax smax
comp=Z,380nm,1.1s
WMQ smax smax
comp=Z,540nm,0.9s
WMQ LR LR
comp=Z,2μm,6.3s
WMQ LR LR
comp=Z,2μm,4.9s
WMQ LR LR
comp=Z,380nm,7.1s
ZSN Zaisan 7.66 40 *e*P **Pb** **05 32 23.1 +2.3**
comp=Z,14nm,0.6s
CHCP Chirah Chowk 8.81 205 P **Pn** **05 32 17.8 +2.7**
NIL Nilore 8.82 205 *e*Pn **Pn** **05 32 17.8 +2.6**
NIL Nilore 8.82 205 *e*P **Pn** **05 32 17.8 +2.6**
KURBB Kurchatov Arra 8.89 3 Pn **Pn** **05 32 15.5 -0.6**
KURBB Lg Lg 05 34 45.1
comp=Z,0.4nm,0.3s,baz=191,slow=12,SNR=15
comp=Z,3.0nm,0.3s,baz=192,slow=30,SNR=9.2

KURBB Kurchatov Arra 8.89 3 ⇑Pn **Pn** **05 32 16.8 +0.7**
comp=Z,11nm,0.6s
KURBB ⇑Lg Lg 05 34 48.7
comp=Z,506nm,0.7s
KURK Kurchatov 8.99 4 ⇓Pn **Pn** **05 32 17.4 +0.1**
comp=Z,13nm,0.7s
KURK ⇓Lg Lg 05 34 52.7
comp=Z,348nm,0.8s
KURK Kurchatov 8.99 4 *e*Pn **Pn** **05 32 17.9 +0.5**
KURK Lg Lg 05 34 45.1
KURK Kurchatov 8.99 4 *i* P **Pn** **05 32 17.5 +0.1**
CEP Cherat 9.14 212 P **Pn** **05 32 21.3 +1.6**
DHRM DHARAMSHALA 9.55 187 *e*P **Pn** **05 32 24.3 -1.2**
DHRM *e*S Sn 05 34 03.5 -8.9
THW Thamme Wali 10.12 210 P **Pn** **05 32 33.9 +0.9**
SMLA Simla 10.61 182 *e*P **Pn** **05 32 38.0 -1.7**
SMLA *e*S Sn 05 34 26.6 -12
DDI Dehra Dun 11.41 178 *e*P **Pn** **05 32 49.3 -1.4**
BVA0 Borovoye Array 12.30 339 ⇓Pn **Pn** **05 33 03.9 +1.1**
comp=Z,35nm,0.9s,baz=150,slow=11,SNR=36
BVA0 ⇓Lg Lg 05 36 38.1
comp=Z,279nm,1.2s,baz=144,slow=27,SNR=8.0
BVA0 Borovoye Array 12.30 339 P **Pn** **05 33 03.9 +1.1**
BVA0 pmax pmax
comp=Z,35nm,0.9s
BVAR Borovoye Array 12.30 339 Pn **Pn** **05 33 02.0 -0.8**
comp=Z,2.1nm,0.3s,baz=146,slow=14,SNR=20
BVAR Lg Lg 05 36 29.1
comp=Z,3.5nm,0.3s,baz=144,slow=25,SNR=6.5
BVAR LR LR 05 37 57.4
comp=Z,408nm,19.7s,baz=165,slow=38
BVAR Borovoye Array 12.30 339 P **Pn** **05 33 02.0 -0.8**
BRVK Borovoye 12.36 339 ⇑Pn **Pn** **05 33 03.2 -0.4**
comp=Z,52nm,1.0s
BRVK ⇑Lg Lg 05 36 38.8
comp=Z,258nm,1.4s
BRVK Borovoye 12.36 339 *e*Pn **Pn** **05 33 03.0 -0.6**
BRVK Borovoye 12.36 339 *ce*P **Pn** **05 33 02.0 -1.6**
BRVK pmax pmax
comp=Z,17nm,0.8s
ZAA0 Zalesovo Array 13.10 19 *e*Pn **Pn** **05 33 13.7 +0.1**
ZALV Zalesovo Beam 13.10 19 Pn **Pn** **05 33 13.8 +0.2**
comp=Z,0.7nm,0.3s,baz=214,slow=15,SNR=15
ZALV Lg Lg 05 36 53.1
comp=Z,0.7nm,0.3s,baz=230,slow=24,SNR=2.7
ZALV LR LR 05 38 34.5
comp=Z,147nm,21.8s,baz=247,slow=39
ZALV Zalesovo Beam 13.10 19 *e*P **Pn** **05 33 13.6 0.0**
ZAA1 Zalesovo Array 13.10 19 *e*Pn **Pn** **05 33 13.8 +0.1**
NVS Novosibirsk 13.60 14 *e*P **P** **05 33 25.8 -3.5**
NVS *e*S **Sn** **05 35 50.3 -0.7**
DANN Dangsing 14.26 158 *e*P **Pn** **05 33 26.1 -3.8**
comp=Z,20nm,0.5s
PYUN Piuthan 14.29 161 *e*P **Pn** **05 33 26.9 -3.4**
comp=Z,59nm,0.7s
HVS Khovu-Aksy 14.46 44 *i* P **Pn** **05 33 32.7 +0.4**
HVS pmax pmax
comp=Z,9.0nm,0.9s
AB31 Akbulak array 14.51 307 ⇓Pn **Pn** **05 33 32.5 -0.5**
comp=Z,6.1nm,0.6s,baz=115,slow=15,SNR=85
AB31 ⇑Sn **Sn** **05 36 17.4 +4.2**
comp=Z,13nm,0.8s,baz=113,slow=26,SNR=3.6
AB31 ⇑Lg Lg 05 37 50.9
comp=Z,29nm,0.9s,baz=109,slow=26,SNR=3.6
AB31 Akbulak array 14.51 307 P **Pn** **05 33 32.4 -0.5**
AB31 S **Sn** **05 36 17.4 +4.2**
AB31 pmax pmax
comp=Z,6.0nm,0.6s
AB31 smax smax
comp=N,13nm,0.8s
ABKAR Akbulak array 14.51 307 *e*Pn **Pn** **05 33 33.1 +0.1**
KOLN Koldanda 14.77 159 *e*P **Pn** **05 33 33.7 -3.0**
comp=N,31nm,0.7s
KKN Kakani 15.25 154 *e*P **Pn** **05 33 40.0 -3.3**
GUN Gumba 15.35 152 *e*P **Pn** **05 33 41.9 -2.7**
comp=N,150nm,1.0s
DMN Daman 15.36 154 *e*P **Pn** **05 33 41.6 -3.1**
comp=N,70nm,1.0s
PKIN Phulchoki 15.49 154 *e*P **Pn** **05 33 43.0 -3.4**
comp=N,46nm,0.6s
PKI Pulchoki 15.50 153 *e*P **Pn** **05 33 43.3 -3.3**
comp=N,78nm,0.8s
GEYT Alibeck 15.51 262 Pn **Pn** **05 33 46.3 -0.1**
comp=N,0.7nm,0.3s,baz=58,slow=8.7,SNR=5.9
GEYT Lg Lg 05 38 05.5
comp=N,0.7nm,0.3s,baz=225,slow=43,SNR=3.1
GEYT LR LR 05 40 39.6
comp=N,90nm,19.1s,baz=20,slow=41
JIRN Jiri 15.69 151 *e*P **Pn** **05 33 46.3 -2.8**
comp=N,98nm,0.8s
AKTO Aktyubinsk 16.14 309 Pn **Pn** **05 33 53.9 -0.5**
comp=N,0.1nm,0.3s,baz=115,slow=13,SNR=3.9
AKTO Sn **S** **05 37 01.6 -4.3**
comp=N,0.3nm,0.3s,baz=331,slow=19,SNR=2.1
AKTO Lg Lg 05 38 40.2
comp=N,0.3nm,0.3s,baz=38,slow=19,SNR=2.9
AKTO LR LR 05 40 23.0
comp=N,330nm,18.1s,baz=126,slow=38
AKTO Aktyubinsk 16.14 309 ⇑Pn **Pn** **05 33 53.8 -0.5**
comp=N,17nm,1.1s
AKTO ⇓Sn **Sn** **05 36 58.1 +5.3**
comp=N,6.4nm,0.8s
AKTO ⇑Lg Lg 05 38 38.9
comp=N,64nm,1.2s
RAMN Ramite 16.48 151 *e*P **Pn** **05 33 56.8 -2.4**
comp=N,163nm,0.9s
GTK Tadong 16.95 145 *e*P **Pn** **05 34 01.8 -3.2**
GTA Gaotai 16.96 91 *e*P **Pn** **05 34 05.5 +0.4**
GTA pP sP 05 34 14.5 +0.5
GTA sP pP 05 34 19.0 +7.2
GTA S **Sn** **05 37 08.3 -4.9**
GTA pmax pmax
comp=N,4.0nm,1.0s
GTA pmax pmax
comp=N,84nm,5.4s
GTA LR LR
comp=N,220nm,13.3s
GTA LR LR
comp=N,360nm,14.3s
GTA LR LR
comp=N,360nm,12.7s
BHPL Bhopal 18.46 181 *e*P **P** **05 34 22.8 -0.7**
BHPL IAmb IAmb 05 34 24.0
comp=Z,158nm,0.1s
SVE Sverdlovsk 18.66 330 *e*P **Pn** **05 34 26.9 +1.2**
SVE *e*S **S** **05 38 00.2 +3.1**
SVE pmax pmax
comp=Z,24nm,1.0s
SVE MLR MLR
comp=Z,766nm,17.0s
MOY Mondy 18.73 50 *e*P **Pn** **05 34 33.8 +7.1**
BOK Bokaro 19.17 157 *e*P **Pn** **05 34 32.2 +0.1**
ARU Arti 19.20 326 P **P** **05 34 31.5 +0.2**
ARU Lg Lg 05 40 17.1
ARU LR LR 05 42 17.9
comp=Z,275nm,19.8s,baz=107,slow=38
ARU Arti 19.20 326 *e*P **Pn** **05 34 32.6 +0.3**
comp=Z,20nm,0.7s
ARU Lg Lg 05 40 17.1
ARU Arti 19.20 326 *e*P **Pn** **05 34 32.9 +0.6**
ARU S **Sn** **05 38 05.3 -1.6**
ARU pmax pmax
comp=Z,20nm,0.7s
ARU MLR MLR
comp=Z,350nm,16.0s
GUWA GUWAHATI 19.34 139 *e*P **P** **05 34 32.2 -0.8**
GUWA IAmb IAmb 05 34 32.8
comp=Z,9.9nm,0.4s
ZIRO ZIRO 19.40 132 *e*P **P** **05 34 33.2 -0.7**
ZIRO IAmb IAmb 05 34 34.4
comp=Z,13nm,0.3s
TEZP TEZPUR 19.55 136 *e*P **P** **05 34 34.4 -1.0**
SHL Shillong 19.96 140 *e*P **P** **05 34 39.5 -0.5**
comp=Z,12nm,0.7s
SHL Shillong 19.96 140 *e*P **P** **05 34 39.5 -0.5**
SHL pmax pmax
comp=Z,12nm,0.7s
SHL Shillong 19.96 140 *e*P **P** **05 34 38.8 -1.2**
SHL IAmb IAmb 05 34 46.5
comp=Z,138nm,2.6s
NGP Nagpur 20.57 176 *e*P **P** **05 34 46.5 0.0**
LKP Lekhapani 20.69 128 *e*P **P** **05 34 45.3 -2.4**
MOKO MOKOCHONG 20.71 133 *e*P **P** **05 34 47.4 -0.7**
KOHI KOHIMA 20.97 135 *e*P Pn 05 34 55.5 +2.0
KOHI IAmb IAmb 05 34 56.1
comp=Z,15nm,0.5s

LZH Lanzhou 21.08 97 *e*P **P** **05 34 54.0 +1.9**
LZH pP sP 05 35 06.5 +7.3
LZH sP pP 05 35 09.5 +13
LZH *e*PP **PnPn** **05 35 18.0 +6.9**
LZH pmax pmax
comp=Z,54nm,1.0s
LZH pmax pmax
comp=Z,220nm,4.3s
LZH LR LR
comp=Z,500nm,13.0s
LZH LR LR
comp=Z,560nm,11.4s
LZH LR LR
comp=Z,410nm,13.0s
SONA0 Songino Array 21.18 64 *e*P **P** **05 34 52.9 -0.1**
SONA0 *e*S Sn 05 38 57.6 +2.6
SONM Songino Array 21.18 64 P **P** **05 34 52.9 -0.1**
comp=Z,7.2nm,0.7s,baz=265,slow=11,SNR=15
SONM PcP **PcP** **05 38 57.6 -0.6**
comp=Z,1.1nm,0.6s,baz=234,slow=3.5,SNR=4.4
SONA1 Songino Array 21.19 64 *e*P **P** **05 34 52.5 -0.7**
IMP Imphal 21.61 136 *e*P **P** **05 34 56.3 -1.4**
ULN Ulaanbaatar 21.63 64 *e*P **P** **05 34 58.3 +0.5**
comp=Z,8.4nm,1.0s
ULN Ulaanbaatar 21.63 64 *e*P **P** **05 34 58.3 +0.5**
ULN pmax pmax
comp=Z,8.0nm,1.0s
BRDH Bariadhala 22.33 144 LR LR 05 45 35.0
comp=Z,103nm,19.2s,baz=334,slow=42
BWNR Bhubaneshwar 22.47 160 *ex* **P** **05 35 00.2 -6.6**
SAIH SAIHA 23.10 142 *e*P **P** **05 35 12.5 -1.2**
SAIH IAmb IAmb 05 35 28.4
comp=Z,1μm,4.2s
LATR Latur 23.28 183 *e*P **P** **05 35 14.7 -0.6**
CD2 Chengdu 23.54 109 *e*P **P** **05 35 19.3 +1.4**
WSAR Wadi Sarin 24.38 227 P **P** **05 35 26.1 +0.2**
comp=Z,6.7nm,0.9s,baz=133,slow=7.7,SNR=3.5
TBLG Delisi 24.51 281 *e*P **P** **05 35 28.1 +1.2**
comp=Z,6.0nm,0.5s
TBLG Delisi 24.51 281 *e*P **P** **05 35 28.1 +1.2**
TBLG pmax pmax
comp=Z,6.0nm,0.5s
GNI Garni 24.86 277 P **P** **05 35 32.8 +2.6**
comp=Z,4.9nm,0.4s,baz=179,slow=3.1,SNR=5.7
GNI LR LR 05 46 54.1
comp=Z,103nm,18.1s,baz=52,slow=40
GNI Garni 24.86 277 *e*P **P** **05 35 31.3 +1.1**
comp=Z,14nm,0.9s
GNI Garni 24.86 277 *ce*P **P** **05 35 34.0 +3.8**
GNI pmax pmax
comp=Z,90nm,1.7s
HHC Hu-ho-hao-te 25.37 81 *e*P **P** **05 35 37.0 +2.2**
HHC pmax pmax
comp=Z,20nm,1.0s
HHC pmax pmax
comp=Z,82nm,4.6s
AKH Akhalkalaki 25.49 281 *e*P **P** **05 35 37.8 +1.8**
comp=Z,6.3nm,1.0s
AKH Akhalkalaki 25.49 281 *e*P **P** **05 35 37.8 +1.8**
AKH pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 25.52 286 P P 05 35 43.8 +7.8
comp=Z,1.6nm,0.8s,baz=67,slow=10,SNR=2.7
KBZ LR LR 05 47 33.6
comp=Z,114nm,18.4s,baz=80,slow=41
KIV Kislovodsk 25.64 287 *e*P **P** **05 35 40.5 +3.3**
KIV pmax pmax
comp=Z,8.0nm,0.9s
KIV MLR MLR
comp=Z,114nm,14.0s
VRH Novokhopyorsk 26.28 303 *e*P **P** **05 35 42.9 +0.2**
VRH pmax pmax
comp=Z,10.0nm,0.9s
KMI Kunming 26.54 121 P **P** **05 35 47.8 +2.1**
KMI pmax pmax
comp=Z,9.0nm,0.6s
VORD Divnogorie 27.78 303 *e*P **P** **05 35 56.6 +0.4**
VORD pmax pmax
comp=Z,5.0nm,0.7s
VSR Storozhevoye 27.88 303 *e*P **P** **05 35 57.5 +0.4**
VSR pmax pmax
comp=Z,7.0nm,0.6s
NRIK Noril'sk 28.13 7 LR LR 05 49 30.3
comp=Z,50nm,18.4s,baz=198,slow=41
LPSR Galich'ya Gora 28.16 306 *e*P **P** **05 36 00.2 +0.5**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
CMAR Chiang Mai Arr 29.46 136 P **P** **05 36 11.8 +0.3**
comp=Z,0.4nm,0.3s,baz=312,slow=8.4,SNR=2.8
CM01 Chiang Mai Arr 29.50 136 *e*P **P** **05 36 09.6 -2.3**
OBN Obninsk 29.91 311 *ce*P **P** **05 36 15.0 -0.1**
OBN *i* 05 37 14.5
OBN pmax pmax
comp=Z,7.0nm,0.4s
OBN MLR MLR
comp=Z,119nm,18.0s
KLMR Klimovskoe 29.95 323 *e*P **P** **05 36 13.4 -2.0**
KLMR pmax pmax
comp=Z,18nm,1.5s
KLMR Klimovskoe 29.95 323 *e*P **P** **05 36 13.4 -2.0**
KLMR AMP 05 36 17.3
comp=Z,18nm,1.6s
BR101 Keskin Array S 33.17 281 *e*P **P** **05 36 45.3 +1.1**
BR131 Keskin Array S 33.17 281 *e*P **P** **05 36 45.8 +1.5**
BRTR Keskin Array B 33.17 281 P **P** **05 36 45.3 +1.1**
comp=Z,6.4nm,0.7s,baz=92,slow=8.9,SNR=33
BRTR LR LR 05 52 13.1
comp=Z,37nm,19.2s,baz=56,slow=40
BRTR Keskin Array B 33.17 281 *i* P **P** **05 36 45.7 +1.5**
BRTR pmax pmax
comp=Z,7.0nm,0.7s
NJ2 Nanjing 34.03 93 *e*P **P** **05 36 53.3 +1.7**
NJ2 pmax pmax
comp=Z,13nm,0.6s
AKASG Malin Array Be 34.16 302 P **P** **05 36 53.1 +0.7**
comp=Z,5.2nm,0.6s,baz=73,slow=9.1,SNR=27
AKASG Malin Array Be 34.16 302 *i* P **P** **05 36 53.0 +0.5**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKBB Malin Array Si 34.16 302 *e*P **P** **05 36 53.2 +0.7**
comp=Z,15nm,0.7s
KIEV Kiev 34.17 302 *e*P **P** **05 36 52.9 +0.3**
comp=Z,15nm,0.8s
KIEV Kiev 34.17 302 *de*P **P** **05 36 53.2 +0.7**
KIEV pmax pmax
comp=Z,18nm,1.0s
AK11 Malin Array Si 34.19 302 *e*P **P** **05 36 51.9 -0.9**
CFR Carcaliu 35.68 293 ⇑*i*P **P** **05 37 06.7 +1.1**
VSU Vasula 35.70 316 *i* P **P** **05 37 07.6 +2.0**
VSU pmax pmax
comp=Z,50nm,1.1s
HARR Harsova 35.93 292 ⇑*i*P **P** **05 37 09.2 +1.4**
FIA0 FINESS Array S 36.38 321 *e*P **P** **05 37 12.3 +0.8**
FIA0 FINESS Array S 36.38 321 *e*P **P** **05 37 12.3 +0.8**
FINES FINESS Array B 36.38 321 P **P** **05 37 12.3 +0.8**
comp=Z,5.1nm,0.6s,baz=108,slow=8.2,SNR=19
FINES LR LR 05 52 33.9
comp=Z,241nm,18.7s,baz=78,slow=37
VRI Vrincioaia 36.50 294 ⇓*i*P **P** **05 37 14.9 +2.2**
PLOR Plostina 36.55 294 ⇑*i*P **P** **05 37 15.1 +1.9**
BIZ Bicaz 36.70 296 ⇓*i*P **P** **05 37 16.2 +1.8**
ISR Istrita 36.79 293 ⇑*i*P **P** **05 37 18.2 +3.0**
MLR Muntele Rosu 37.12 294 *e*P **P** **05 37 19.4 +1.3**
comp=Z,14nm,0.9s
MLR Muntele Rosu 37.12 294 ⇓*i*P **P** **05 37 20.5 +2.4**
MLR Muntele Rosu 37.12 294 *e*P **P** **05 37 19.4 +1.3**
MLR pmax pmax
comp=Z,14nm,0.9s
BURAR Bucovina Array 37.16 297 ⇑*i*P **P** **05 37 19.6 +1.1**
BUR04 Bucovina Ar. S 37.17 297 *e*P **P** **05 37 19.5 +1.0**
BUR08 Bucovina Ar. S 37.17 297 *e*P **P** **05 37 19.4 +0.8**
LVV L'vov 37.57 301 *e*P **P** **05 37 19.2 -2.5**
SUW Suwalki 37.63 308 *e*P P 05 37 30.8 +8.6
SUW Suwalki 37.63 308 *e*P **P** **05 37 23.1 +0.9**
comp=Z,34nm,1.1s
SUW Suwalki 37.63 308 *e*P **P** **05 37 23.1 +0.9**
SUW pmax pmax
comp=Z,35nm,1.1s
VOIR 37.74 294 ⇑*i*P **P** **05 37 24.3 +1.0**
VOIR 37.74 294 P **P** **05 37 25.1 +1.8**
VOIR pmax pmax
comp=Z,7.0nm,0.9s
MTUR Matau 37.78 294 ⇑*i*P **P** **05 37 27.0 +3.3**
ARCR ARCALIA 37.84 297 ⇑*i*P **P** **05 37 26.4 +2.3**
KLR Kul'dur 37.92 60 P **P** **05 37 24.3 -0.4**

comp=Z,1.1nm,0.6s,baz=252,slow=9.6,SNR=3.0
KLR Kul'dur 37.92 60 *i* P P 05 37 28.9 +4.2
ARR Arges 38.04 294 ⇑ *i*P P 05 37 28.2 +2.3
KWP Kalwaria Pacla 38.44 301 *e*P P 05 37 30.9 +1.8
KWP Kalwaria Pacla 38.44 301 *e*P P 05 37 30.6 +1.5
comp=Z,38nm,1.0s
KWP Kalwaria Pacla 38.44 301 *e*P P 05 37 30.9 +1.8
KSAR Wonju Array Be 38.47 79 P P 05 37 30.1 +0.6
KSRS Korea Array 38.50 79 P P 05 37 30.1 +0.5
comp=Z,1.4nm,0.7s,baz=287,slow=9.1,SNR=2.6
KSRS LR LR 05 54 48.5
comp=Z,70nm,18.5s,baz=130,slow=39
ARA0 ARCESS Array S 38.52 334 *e*P P 05 37 30.0 +0.5
ARA0 *e*PcP PcP 05 39 41.5 -0.4
ARCES ARCESS Array B 38.52 334 P P 05 37 30.0 +0.5
comp=Z,5.9nm,0.7s,baz=99,slow=8.7,SNR=16
ARCES PcP PcP 05 39 41.5 -0.4
comp=Z,1.5nm,0.7s,baz=106,slow=3.9,SNR=5.3
TRPA Tarpa 38.83 299 ⇑ *i*P P 05 37 34.2 +1.8
UZH Uzhgorod 38.89 300 *e*P P 05 37 39.6 +6.7
UZH *i* 05 37 44.0
TIXI Tiksi 38.94 23 P P 05 37 32.6 -0.3
comp=Z,2.7nm,0.5s,baz=271,slow=6.5,SNR=8.4
TIXI Tiksi 38.94 23 *ce*P P 05 37 34.1 +1.2
TIXI pmax pmax
comp=Z,7.0nm,0.9s
DRGR 39.01 297 ⇑ *i*P P 05 37 35.5 +1.5
DRGR 39.01 297 P P 05 37 35.8 +1.8
VTS Vitosha 39.79 290 *e*P P 05 37 41.3 +0.6
comp=Z,8.1nm,0.9s
VTS Vitosha 39.79 290 ⇑ *i*P P 05 37 41.8 +1.1
VTS Vitosha 39.79 290 *e*P P 05 37 41.3 +0.6
VTS pmax pmax
comp=Z,8.0nm,0.9s
NIE Niedzica 40.03 301 *e*P P 05 37 44.2 +1.8
NIE Niedzica 40.03 301 *e*P P 05 37 44.2 +1.8
BZS Buzias 40.03 295 ⇑ *i*P P 05 37 44.3 +1.8
BZS Buzias 40.03 295 P P 05 37 44.2 +1.8
KECS Kecovo 40.10 300 *e*P P 05 37 43.4 +0.4
KECS pmax pmax
comp=Z,14nm,0.8s
KECS Kecovo 40.10 300 *e*P P 05 37 43.4 +0.4
OJC Ojcow 40.19 303 *e*P P 05 37 44.4 +0.7
OJC Ojcow 40.19 303 *e*P P 05 37 44.1 +0.4
comp=Z,24nm,1.1s
OJC Ojcow 40.19 303 *e*P P 05 37 44.1 +0.4
OJC pmax pmax
comp=Z,25nm,1.1s
MDVR Moldovita 40.19 294 ⇑ *i*P P 05 37 45.6 +1.8
PSZ Piszkesteto 40.61 299 ⇓ *e*P P 05 37 49.1 +1.8
LANS Liptovska Anna 40.61 301 *e*P P 05 37 49.1 +1.8
LANS Liptovska Anna 40.61 301 *e*P P 05 37 49.1 +1.8
DIVS Divibare 41.57 293 *e*P P 05 37 56.7 +1.5
comp=Z,19nm,0.8s
MORC Moravsky Berou 41.70 302 *e*P P 05 37 57.7 +1.4
comp=Z,8.9nm,1.0s
MORC Moravsky Berou 41.70 302 ⇓ *i*P P 05 37 57.7 +1.4
MORC Moravsky Berou 41.70 302 *e*P P 05 37 57.7 +1.4
MORC pmax pmax
comp=Z,9.0nm,1.0s
MORC Moravsky Berou 41.70 302 *e*P P 05 37 57.6 +1.4
JAVC Velka Javorina 41.83 301 *e*P P 05 37 59.7 +2.4
MORH M¯‡r¯igy, Hung 41.87 297 ⇓ *e*P P 05 37 58.9 +1.3
MODS Modra-Piesok 42.20 300 *e*P P 05 38 01.6 +1.3
MODS pmax pmax
comp=Z,13nm,1.3s
MODS Modra-Piesok 42.20 300 *e*P P 05 38 01.6 +1.3
DPC Dobruska-Polom 42.34 303 *e*P P 05 38 03.5 +2.1
DPC *ex* x 05 38 09.6
DPC Dobruska-Polom 42.34 303 *e*P P 05 38 03.5 +2.1
DPC *e* 05 38 09.6
VRAC Vranov 42.41 302 P P 05 38 04.9 +2.9
VRAC pmax pmax
comp=Z,4.0nm,1.0s
VRAC Vranov 42.41 302 *e*P P 05 38 03.5 +1.5
UPC Upice 42.50 304 *e*P P 05 38 04.7 +2.0
UPC *ex* x 05 38 10.5
UPC Upice 42.50 304 *e*P P 05 38 04.7 +2.0
UPC *e* 05 38 10.5
KRUC Moravsky 42.60 302 *e*P P 05 38 05.0 +1.5
TREC Trest 43.12 302 AMS AMS 05 59 30.0
comp=Z,200nm,21.3s
CONA Conrad Observa 43.23 300 *i* pP P 05 38 10.4 +1.7
comp=Z,10nm,0.9s,SNR=6.4
NC405 NORSAR Array S 43.29 320 *e*P P 05 38 09.8 +0.8
PVCC Panska Ves 43.40 304 *e*P P 05 38 12.1 +2.2
PVCC Panska Ves 43.40 304 *e*P P 05 38 12.1 +2.2
NC602 NORSAR Array S 43.41 319 *e*P P 05 38 10.5 +0.7
NORES NORESS Array B 43.41 319 P P 05 38 10.3 +0.5
NORES pmax pmax
comp=Z,4.0nm,0.5s
NC303 NORSAR Array S 43.45 320 *e*P P 05 38 10.9 +0.8
NB2 NORSAR Subarra 43.54 320 P P 05 38 11.0 0.0
comp=Z,4.9nm,0.6s,baz=85,slow=8.6
NB200 NORSAR Array S 43.54 320 *e*P P 05 38 11.3 +0.4
NOA NORSAR Array B 43.54 320 P P 05 38 11.3 +0.4
comp=Z,6.5nm,0.6s,baz=86,slow=8.0,SNR=28
NOA LR LR 05 56 45.7
comp=Z,197nm,18.4s,baz=275,slow=37
ARSA Arzberg 43.64 299 *e*P P 05 38 13.2 +1.2
comp=Z,6.5nm,0.9s
BRG Berggiesshubel 43.70 305 *i* P P 05 38 13.7 +1.4
comp=Z,6.3nm,0.8s
BRG Berggiesshubel 43.70 305 *i* P P 05 38 13.7 +1.4
comp=Z,6.3nm,0.8s
BRG Berggiesshubel 43.70 305 *i* P P 05 38 13.7 +1.4
BRG pmax pmax
comp=Z,6.0nm,0.8s
NC204 NORSAR Array S 43.73 320 *e*P P 05 38 13.3 +0.7
SOKA Soboth 44.13 299 *e*P P 05 38 17.2 +1.2
comp=Z,5.2nm,0.8s
CLL Collm 44.17 305 ⇓ *i*P P 05 38 17.3 +1.2
comp=Z,14nm,1.2s
CLL *es*P sP 05 38 24.0 +0.4
CLL *e* 05 38 29.0
CLL *e*(sPP) 05 40 09.0
CLL Lm MLR 05 59 00.0
comp=Z,100nm,19.8s
CLL LmV 06 24 00.0
comp=Z,100nm,19.6s
CLL Collm 44.17 305 ⇓ *i*P P 05 38 17.3 +1.2
CLL *e**PP sP 05 38 24.0 +0.4
CLL pmax pmax
comp=Z,14nm,1.2s
MOA Molln 44.29 300 *e*P P 05 38 18.2 +1.0
comp=Z,5.4nm,1.1s
GEC2 GERESS Array S 44.37 302 *e*P P 05 38 19.4 +1.5
comp=Z,5.5nm,0.9s
GERES GERESS Array B 44.37 302 P P 05 38 19.2 +1.3
comp=Z,2.2nm,0.6s,baz=70,slow=7.7,SNR=28
GERES GERESS Array B 44.37 302 P P 05 38 19.2 +1.3
GERES pmax pmax
comp=Z,4.0nm,0.9s
KHC Kasperske Hory 44.37 302 *e*P P 05 38 18.9 +1.1
comp=Z,1.4nm,0.7s
KHC Kasperske Hory 44.37 302 *e*P P 05 38 19.5 +1.7
KHC *ex* x 05 38 26.5
KHC Kasperske Hory 44.37 302 *e*P P 05 38 18.9 +1.1
KHC pmax pmax
comp=Z,1.0nm,0.7s
GEA0 GERESS Array S 44.37 302 *e*P P 05 38 19.0 +1.1
WTTA Wattenberg 46.16 300 *i* P P 05 38 33.6 +1.4
WATA Walderalm 46.18 300 *e*P P 05 38 33.5 +1.2
comp=Z,4.7nm,0.8s
SQTA Sankt Quirin 46.45 300 *e*P P 05 38 35.1 +0.7
comp=Z,8.5nm,0.6s
MOTA Moosalm 46.48 301 *i* P P 05 38 35.9 +1.2
comp=Z,14nm,0.9s,SNR=5.1
RETA Reutte 46.65 301 *e*P P 05 38 36.9 +1.0
comp=Z,10nm,0.6s,SNR=14
FETA Feichten 46.83 300 *e*P P 05 38 37.5 +0.1
comp=Z,7.9nm,0.9s
DAVA Damuels 47.29 301 *e*P P 05 38 42.0 +1.0
comp=Z,20nm,0.8s,SNR=9.7
BFO Black Forest 47.92 303 *e*P P 05 38 47.0 +1.2
comp=Z,10nm,1.0s
BFO Black Forest 47.92 303 *e*P P 05 38 47.0 +1.2
BFO pmax pmax
comp=Z,10.0nm,1.0s
CDF Champ du Feu 48.56 303 *e*P P 05 38 51.2 +0.5
CDF pmax pmax
comp=Z,9.0nm,1.0s
HAU Haudompre 49.28 303 *e*P P 05 38 56.6 +0.4
HAU pmax pmax
comp=Z,34nm,1.6s
LPG La Plagne 49.95 300 *e*P P 05 39 02.7 +1.0
LPG pmax pmax
comp=Z,32nm,1.4s
LPL La Plagne 49.95 300 *e*P P 05 39 02.1 +0.5
LPL pmax pmax
comp=Z,7.0nm,0.4s
BNI Bardonecchia 50.17 299 *e*P P 05 39 03.5 +0.4
comp=Z,16nm,1.0s
BNI Bardonecchia 50.17 299 *e*P P 05 39 03.6 +0.4
BNI pmax pmax
comp=Z,16nm,1.0s
MBDF Montbardon 50.23 299 *e*P P 05 39 03.4 -0.3
MBDF pmax pmax
comp=Z,11nm,0.8s
ORIF Oris-en-Rattie 50.74 299 *e*P P 05 39 07.3 -0.1
ORIF pmax pmax
comp=Z,32nm,1.3s
SMF Signal de Mont 51.37 302 *e*P P 05 39 12.0 0.0
SMF pmax pmax
comp=Z,142nm,2.1s
SSF Saint Saulge 51.42 303 *e*P P 05 39 12.4 0.0
SSF pmax pmax
comp=Z,11nm,1.2s
VIVF Saint-Julien-l 51.55 300 *e*P P 05 39 13.7 +0.3
VIVF pmax pmax
comp=Z,90nm,2.0s
BILL Bilibino 51.56 29 *e*P P 05 39 14.7 +1.6
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL MLR MLR
comp=Z,140nm,20.0s
AVF Avril sur Loir 51.62 302 *e*P P 05 39 13.9 0.0
AVF pmax pmax
comp=Z,14nm,0.7s
TCF Toulx Ste Croi 52.55 302 *e*P P 05 39 21.1 +0.3
TCF pmax pmax
comp=Z,46nm,1.7s
LDF La Druitiere 53.06 306 *e*P P 05 39 24.3 -0.2
LDF pmax pmax
comp=Z,17nm,0.9s
CAF Calviac 53.21 301 *e*P P 05 39 26.3 +0.6
CAF pmax pmax
comp=Z,52nm,1.8s
RJF Les Rejaudoux 53.40 301 *e*P P 05 39 28.0 +0.9
RJF pmax pmax
comp=Z,29nm,1.2s
GRR Gorron 53.59 306 *e*P P 05 39 28.4 0.0
GRR pmax pmax
comp=Z,11nm,0.8s
SGMF Saint Gilles 54.67 306 *e*P P 05 39 36.8 +0.5
SGMF pmax pmax
comp=Z,314nm,2.2s
ROSF Rostrenen 55.07 307 *e*P P 05 39 39.7 +0.5
ROSF pmax pmax
comp=Z,92nm,1.5s
EPF Esparros 55.16 299 *e*P P 05 39 40.5 +0.5
EPF pmax pmax
comp=Z,28nm,1.5s
ETSF Etsaut 55.81 300 *e*P P 05 39 45.3 +0.6
KMBO Kilima Mbogo 56.19 231 P P 05 39 46.7 -1.2
comp=Z,1.0nm,0.5s,baz=0.0,slow=13,SNR=5.7
KMBO Kilima Mbogo 56.19 231 *e*P P 05 39 46.7 -1.2
comp=Z,3.0nm,0.9s
KMBO Kilima Mbogo 56.19 231 *e*P P 05 39 46.7 -1.2
KMBO pmax pmax
comp=Z,3.0nm,0.9s
ES19 SONSECA Array 59.57 298 *e*P P 05 40 11.4 +0.2
ESDC Sonseca Array 59.62 298 P P 05 40 11.7 +0.2
comp=Z,2.9nm,0.6s,baz=52,slow=6.8,SNR=17
IM3 Indian Mountai 65.52 21 *e*P P 05 40 49.7 -0.6
INK Inuvik 67.79 12 P P 05 41 04.7 -0.1
comp=Z,2.9nm,0.7s,baz=354,slow=12,SNR=3.3
INK Inuvik 67.79 12 *e*P P 05 41 04.7 -0.1
comp=Z,6.8nm,0.8s
INK Inuvik 67.79 12 *e*P P 05 41 04.7 -0.1
INK pmax pmax
comp=Z,7.0nm,0.8s
IL1 Eielson Array 68.22 19 *e*P P 05 41 06.8 -0.8
ILAR Eielson Array 68.22 19 P P 05 41 06.8 -0.8
comp=Z,1.6nm,0.8s,baz=322,slow=5.3,SNR=14
ILB Eielson Array 68.22 19 *e*P P 05 41 06.8 -0.8
TOA1 Torodi Ar. Sit 70.95 271 *e*P P 05 41 23.2 -2.0
TOA0 Torodi Ar. Sit 70.95 271 *e*pP P 05 41 24.4 -0.8
TOA0 Torodi Ar. Sit 70.95 271 *e*P P 05 41 24.4 -0.8
comp=Z,14nm,0.7s
TORD Torodi Ar. Bea 70.95 271 P P 05 41 23.2 -2.0
comp=Z,10nm,0.6s,baz=35,slow=4.3,SNR=69
FITZ Fitzroy Crossi 74.23 133 P P 05 41 43.9 -0.6
comp=Z,1.7nm,0.8s,baz=301,slow=5.9,SNR=3.4
YKA Yellowknife Ar 75.63 6 P P 05 41 51.7 -0.3
comp=Z,2.9nm,0.7s,baz=346,slow=5.7,SNR=19
YKB5 Yellowknife Ar 75.63 6 *e*P P 05 41 51.8 -0.3
DBIC Dimbokro 80.04 270 P P 05 42 16.8 -0.6
comp=Z,7.0nm,0.6s,baz=33,slow=5.7,SNR=11
DBIC Dimbokro 80.04 270 *e*P P 05 42 16.5 -0.9
comp=Z,9.3nm,0.9s
DBIC Dimbokro 80.04 270 *e*P P 05 42 16.5 -0.9
DBIC pmax pmax
comp=Z,9.0nm,0.9s
KIC Kosan Boka 80.16 270 *e*PKP2 P 05 42 17.0 -1.0
comp=Z,25nm,0.8s
TIC Toumodi 80.18 270 *e*PKP2 P 05 42 17.1 -1.1
LIC Lamto 80.46 270 *e*PKP2 P 05 42 18.3 -1.4
comp=Z,57nm,1.0s
WR1 Warramunga Arr 80.67 127 *e*P P 05 42 19.8 -0.8
comp=Z,4.7nm,0.6s
WRA Warramunga Arr 80.67 127 P P 05 42 19.8 -0.8
comp=Z,2.6nm,0.6s,baz=325,slow=5.2,SNR=20
ASAR Alice Springs 83.30 130 P P 05 42 33.6 -0.7
comp=Z,0.9nm,0.7s,baz=328,slow=6.1,SNR=8.5
BOSA Boshof 85.12 224 P P 05 42 42.1 -1.5
comp=Z,1.0nm,0.5s,baz=1.8,slow=8.4,SNR=4.0
CTA Charters Tower 88.25 119 P P 05 42 58.2 -0.7
comp=Z,1.2nm,0.4s,baz=339,slow=8.4,SNR=4.6
JTMT Jette 90.25 8 *e*P P 05 43 07.9 -0.3
comp=Z,2.5nm,0.8s
IMW Indian Meadow 94.38 6 *e*P P 05 43 27.7 +0.1
comp=Z,1.9nm,0.8s
PDAR Pinedale Array 95.61 5 P P 05 43 31.2 -1.9
comp=Z,0.5nm,0.7s,baz=33,slow=3.5,SNR=4.4
NVAR Mina Array Bea 98.87 13 P P 05 43 47.0 -1.0
comp=Z,0.2nm,0.5s,baz=27,slow=3.0,SNR=2.5
LVC Limon Verde 146.18 294 PKPbc PKPdf 05 49 46.9 -0.5
comp=Z,4.3nm,0.6s,baz=8.5,slow=3.3,SNR=7.9
PLCA Paso Flores 156.16 262 PKPab PKPab 05 50 28.8 -0.8
comp=Z,3.2nm,0.9s,baz=136,slow=3.5,SNR=7.7

*IDC **28** 05:38:38.2±1.5, 10.89S×164.69E, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.0/42, mbtmp4.1/9, ML4.9/1, MS4.2/21, Ms1 4.2/21, ms1mx4.0/43, Error ellipse: s-maj=42.3km s-min=23.6km az=134.0*
*ISCJB **28** 05:38:41.6±0.5, 11.00S±0.08×164.57E±0.07, h29km, mb4.2/15, MS4.2/18, Error ellipse: s-maj=11.5km s-min=10.0km az=157.4*
*NEIC **28** 05:38:46.5±1.3, 10.88S×164.40E, h53km±12km, mb4.1/8, Error ellipse: s-maj=11.7km s-min=9.8km az=115.0*
ISC 28 05:38:43.2±0.8, **10.8S**±0.1×**164.66E**±0.10, **h29**km, **n52**, σ1§**34**/33, **mb4.2**/15, **MS4.1**/18, **Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
HNR	**Honiara**	**4.84**	**286**	Pn	**Pn**		**05 39 53.8**	**-0.4**
	54nm,0.3s,baz=152,slow=8.6,SNR=5.8							
HNR				Sn	**Sn**		**05 40 50.8**	**+1.6**
	23nm,0.3s,baz=61,slow=19,SNR=3.0							
HNR				LR	LR		05 41 53.3	
	comp=Z,5μm,19.4s,baz=108,slow=40							
HNR	**Honiara**	**4.84**	**286**	*e*P	**Pn**		**05 39 55.0**	**+0.9**
HNR				*e*S	**Sn**		**05 40 52.0**	**+2.8**
HNR	**Honiara**	**4.84**	**286**	*e*Pn	**Pn**		**05 39 53.5**	**-0.6**
HNR				*e*Pn	**Pn**		**05 39 53.8**	**-0.4**
HNR				*e*Sn	**Sn**		**05 40 50.8**	**+1.6**
DZM	**Mont Dzumac**	**11.31**	**172**	Pn	**Pn**		**05 41 24.7**	**+1.7**
	6.0nm,0.3s,baz=22,slow=6.6,SNR=58							
DZM				LR	LR		05 45 26.6	
	comp=Z,3μm,18.3s,baz=21,slow=36							
DZM	**Mont Dzumac**	**11.31**	**172**	*e*Pn	**Pn**		**05 41 25.5**	**+2.5**
PMG	**Port Moresby**	**17.28**	**273**	LR	LR		05 49 28.7	
	comp=Z,741nm,18.0s,baz=105,slow=38							
EIDS	**Eidsvold**	**19.35**	**220**	*e*P	**P**		**05 43 06.2**	**-0.3**
	5.5nm,0.9s							
H11S2	**WAKE ISLAND Hy**	**29.20**	**4**	T	T		06 14 59.3	
	baz=184,slow=76,SNR=231							
H11S3	**WAKE ISLAND Hy**	**29.21**	**4**	T	T		06 14 56.9	
	baz=184,slow=76,SNR=109							
H11S1	**WAKE ISLAND Hy**	**29.22**	**4**	T	T		06 14 56.3	
	baz=184,slow=76,SNR=120							
URZ	**Urewera**	**29.51**	**160**	LR	LR		05 55 45.1	
	comp=Z,782nm,18.9s,baz=3.5,slow=35							
STKA	**Stephens Creek**	**29.87**	**222**	P	**P**		**05 44 47.9**	**-0.4**
	2.4nm,0.8s,baz=51,slow=15,SNR=5.0							
STKA				LR	LR		05 56 02.9	
	comp=Z,574nm,18.9s,baz=31,slow=35							
STKA	**Stephens Creek**	**29.87**	**222**	*e*P	**P**		**05 44 46.6**	**-1.8**
	0.5nm,1.0s							
H11N1	**WAKE ISLAND Hy**	**30.43**	**4**	T	T		06 16 31.3	
	baz=184,slow=76,SNR=47							
H11N3	**WAKE ISLAND Hy**	**30.43**	**4**	T	T		06 16 28.5	
	baz=184,slow=76,SNR=35							
H11N2	**WAKE ISLAND Hy**	**30.45**	**4**	T	T		06 16 32.6	
	baz=184,slow=76,SNR=51							
WR1	**Warramunga Arr**	**30.55**	**249**	*e*P	**P**		**05 44 53.3**	**-1.3**
	3.3nm,1.1s							
WRA	**Warramunga Arr**	**30.56**	**249**	P	**P**		**05 44 53.3**	**-1.3**
	0.6nm,0.6s,baz=78,slow=9.3,SNR=5.0							
WRA				LR	LR		05 57 42.1	
	comp=Z,507nm,18.2s,baz=75,slow=37							
GUMO	**Guam**	**31.21**	**321**	LR	LR		05 55 56.5	
	comp=Z,688nm,21.6s,baz=110,slow=33							
AS31	**Alice Springs**	**31.94**	**242**	*e*P	**P**		**05 45 04.9**	**-1.8**
	0.5nm,0.7s							
ASAR	**Alice Springs**	**31.94**	**242**	P	**P**		**05 45 05.8**	**-0.9**
	0.4nm,0.5s,baz=62,slow=10.0,SNR=8.0							
ASAR				LR	LR		05 58 14.2	
	comp=Z,250nm,18.2s,baz=72,slow=37							
SIJI	**Sorong**	**34.61**	**284**	LR	LR		05 59 37.2	
	comp=Z,310nm,20.1s,baz=42,slow=36							
FITZ	**Fitzroy Crossi**	**38.40**	**255**	P	**P**		**05 46 01.8**	**-0.6**
	2.7nm,0.8s,baz=63,slow=6.3,SNR=4.3							
FITZ				LR	LR		06 01 05.5	
	comp=Z,140nm,19.0s,baz=80,slow=35							
FITZ	**Fitzroy Crossi**	**38.40**	**255**	*e*P	**P**		**05 46 01.3**	**-1.1**
	2.7nm,0.8s							
DAV	**Davao City (W)**	**42.77**	**293**	LR	LR		06 04 52.9	
	comp=Z,163nm,18.9s,baz=98,slow=37							
NWAO	**Narrogin (SRO)**	**48.70**	**236**	*e*P	P		05 47 19.4	-5.8
	65nm,0.6s							
JHJ	**Hachijo jima 2**	**49.72**	**332**	LR	LR		06 06 59.1	
	comp=Z,181nm,20.0s,baz=110,slow=34							
JOW	**Kunigami**	**51.47**	**317**	LR	LR		06 09 28.6	
	comp=Z,150nm,19.2s,baz=171,slow=36							
MJAR	**Matsushiro Arr**	**53.29**	**333**	LR	LR		06 09 04.8	
	comp=Z,103nm,21.5s,baz=170,slow=34							
KSRS	**Korea Array**	**59.10**	**326**	LR	LR		06 11 46.8	
	comp=Z,100nm,20.2s,baz=126,slow=34							
USRK	**Ussuriysk Ar.**	**62.28**	**334**	LR	LR		06 13 11.3	
	comp=Z,97nm,21.6s,baz=139,slow=33							
PETK	**Petropavlovsk-**	**63.96**	**355**	LR	LR		06 11 24.3	
	comp=Z,236nm,20.7s,baz=151,slow=31							
ULN	**Ulaanbaatar**	**77.50**	**324**	*e*P	**P**		**05 50 36.9**	**+0.6**
	3.4nm,0.9s							
SONA0	**Songino Array**	**77.86**	**324**	*e*P	**P**		**05 50 38.9**	**+0.6**
SONM	**Songino Array**	**77.86**	**324**	P	**P**		**05 50 38.9**	**+0.6**
	1.1nm,0.8s,baz=130,slow=4.5,SNR=5.4							
SONA1	**Songino Array**	**77.86**	**324**	*e*P	**P**		**05 50 38.9**	**+0.6**
QSPA	**South Pole Qui**	**79.17**	**180**	*e*pP	pP		05 50 59.0	+4.5
IM3	**Indian Mountai**	**82.51**	**16**	*e*P	**P**		**05 51 03.4**	**+0.6**
MDM	**Murphy Dome**	**83.36**	**18**	*e*P	**P**		**05 51 09.1**	**+1.9**
	7.0nm,1.1s							
HDA	**Harding Lake**	**83.39**	**19**	*e*P	**P**		**05 51 08.9**	**+1.6**
	15nm,1.2s							
IL1	**Eielson Array**	**83.65**	**19**	*e*P	**P**		**05 51 10.2**	**+1.5**
ILAR	**Eielson Array**	**83.65**	**19**	P	**P**		**05 51 08.6**	**-0.1**
	3.0nm,1.0s,baz=241,slow=5.3,SNR=12							
ILAR				LR	LR		06 22 13.9	
	comp=Z,194nm,21.7s,baz=234,slow=31							
ILB	**Eielson Array**	**83.65**	**19**	*e*P	**P**		**05 51 09.4**	**+0.7**
TIXI	**Tiksi**	**85.68**	**349**	LR	LR		06 25 03.1	
	comp=Z,233nm,21.9s,baz=50,slow=32							
NVAR	**Mina Array Bea**	**86.70**	**50**	LR	LR		06 24 41.6	
	comp=Z,127nm,18.6s,baz=272,slow=32							
PKCU	**Pink Cliffs**	**91.04**	**52**	*e*pP	pP		05 52 00.0	+5.1
MK32	**Makanchi Array**	**92.63**	**317**	*e*P	**P**		**05 51 52.2**	**-0.1**
MKAR	**Makanchi Array**	**92.63**	**317**	P	**P**		**05 51 52.2**	**-0.1**
	1.8nm,0.7s,baz=103,slow=6.6,SNR=11							
ZALV	**Zalesovo Beam**	**92.75**	**324**	P	**P**		**05 51 52.3**	**-0.3**
	0.7nm,0.6s,baz=100,slow=6.2,SNR=4.0							
ZAA1	**Zalesovo Array**	**92.76**	**324**	*e*P	**P**		**05 51 52.3**	**-0.3**
SNAA	**Sanae**	**97.26**	**184**	LR	LR		06 34 05.2	
	comp=Z,191nm,20.0s,baz=169,slow=34							
SFK	**Sufi-Kurgan**	**97.74**	**309**	*e*P	**P**		**05 52 13.5**	**-2.6**
	2.3nm,0.7s							

*IDC **28** 05:43:18.3±0.7, 12.55N×88.21W, h0km, mb4.1/14, mb1 4.3/16, mb1mx4.1/40, mbtmp4.1/16, ML2.9/3, MS3.6/12, Ms1 3.7/12, ms1mx3.4/35, Error ellipse: s-maj=33.5km s-min=13.5km az=59.0*
*ISCJB **28** 05:43:20.9±1.1, 12.37N±0.03×88.44W±0.03, h29km±7km, mb4.4/93, MS3.5/9, Error ellipse: s-maj=6.2km s-min=4.0km az=23.8*
*UCR **28** 05:43:20.2±1.2, 12.35N×88.60W, h19km±5km, ML3.9, mb4.4(NEIC)*
*NEIC **28** 05:43:23.5±0.4, 12.38N×88.35W, h38km±4km, mb4.4/98, Error ellipse: s-maj=5.2km s-min=3.1km az=220.0*
ISC 28 05:43:23.4±0.6, **12.40N**±0.06×**88.46W**±0.04, **h38**km±2km, **n312**, σ1§**34**/305, **mb4.4**/93, **MS3.6**/9, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
UESV	**Ojushtada**	**1.02**	**342**	*e*P	**Pn**		**05 43 43.2**	**+1.9**
UESV				IAML			05 44 03.9	
	comp=Z,2μm,0.7s							
LCY	**Lacayo**	**1.02**	**9**	*e*P	**Pn**		**05 43 40.4**	**-1.0**
CSGN	**Cosiguina Volc**	**1.05**	**57**	*e*Pn	**Pn**		**05 43 41.3**	**-0.4**
CSGN				*e*Sn	**Sn**		**05 43 52.5**	**-2.6**
CSGN	**Cosiguina Volc**	**1.05**	**57**	*e*P	**Pn**		**05 43 41.7**	**0.0**
CSGN				*e*S	**Sn**		**05 43 58.5**	**+3.4**
CSGN				IAML			05 44 10.7	
	comp=N,23μm,0.4s							
BLLM	**Bellamira**	**1.05**	**12**	*e*P	**Pn**		**05 43 40.9**	**-0.9**
LCND	**La Ca¯–ada**	**1.06**	**32**	*e*P	**Pn**		**05 43 40.4**	**-1.3**
LCND				*e*S	**Sn**		**05 43 56.5**	**+1.3**
LCND				IAML			05 44 06.9	
	comp=Z,3μm,0.4s							
SNVI	**San Vicente**	**1.26**	**343**	*e*P	**Pn**		**05 43 43.0**	**-1.6**
LFRS	**El Faro**	**1.35**	**334**	*e*P	**Pn**		**05 43 43.3**	**-2.5**
CAHU	**Cacauatique**	**1.38**	**10**	*e*P	**Pn**		**05 43 46.1**	**-0.2**
PAVA	**Las Pavas**	**1.38**	**340**	*e*P	**Pn**		**05 43 44.9**	**-1.4**
PAVA				IAML			05 44 08.4	
	comp=Z,3μm,0.5s							
LOMA	**San Marcos**	**1.42**	**331**	*e*P	**Pn**		**05 43 44.7**	**-2.0**
LOMA				*e*S	**Sn**		**05 44 04.1**	**-0.2**
LOMA				IAML			05 44 07.5	
	comp=Z,4μm,0.5s							
LBRS	**Las Brisas**	**1.44**	**337**	*e*P	**Pn**		**05 43 45.5**	**-1.6**
SNET	**Serv Nac Est T**	**1.48**	**330**	*e*P	**Pn**		**05 43 45.4**	**-2.2**
SNET				IAML			05 44 08.3	
	comp=Z,1μm,0.4s							
OPAM	**San Salvador**	**1.49**	**331**	*e*P	**Pn**		**05 43 45.9**	**-1.9**
OPAM				IAML			05 44 11.8	
	comp=Z,2μm,0.6s							
UEES	**San Salvador**	**1.52**	**330**	*e*P	**Pn**		**05 43 45.7**	**-2.5**
BOQS	**Boqueron**	**1.54**	**329**	*e*P	**Pn**		**05 43 46.7**	**-1.9**
CEVE	**Cerro Verde**	**1.81**	**321**	*e*P	**Pn**		**05 43 50.9**	**-1.5**
CEVE				IAML			05 44 23.0	
	comp=Z,3μm,0.4s							
LLGN	**La Laguna**	**1.82**	**345**	*e*P	**Pn**		**05 43 51.8**	**-0.5**
LLGN				IAML			05 43 56.5	
	comp=Z,2μm,0.6s							
SBLS	**San Blas**	**1.82**	**322**	*e*P	**Pn**		**05 43 50.8**	**-1.6**
COPN	**Copaltepe**	**1.84**	**97**	*e*P	**Pn**		**05 43 51.7**	**-0.8**
COPN				*e*S	**Sn**		**05 44 18.1**	**+3.6**
COPN				IAML			05 44 24.5	
	comp=Z,593nm,0.5s							
MOMN	**Momotombo**	**1.88**	**90**	*e*P	**Pn**		**05 43 52.3**	**-0.7**
UNIC	**Santa Ana**	**1.91**	**326**	*e*P	**Pn**		**05 43 51.8**	**-1.7**
UNIC				*e*S	**Sn**		**05 44 15.0**	**-1.3**
UNIC				IAML			05 44 16.7	
	comp=Z,869nm,0.6s							
TGUH	**Tegucigalpa,Un**	**2.01**	**35**	*e*Pn	**Pn**		**05 43 54.9**	**+0.1**
TGUH				*e*Sn	Sn		05 44 10.2	-8.5
ESTN	**Estel**	**2.15**	**71**	*e*Pn	**Pn**		**05 43 55.6**	**-1.3**
ESTN				*e*Sn	**Sn**		**05 44 19.9**	**-2.6**
MTO3	**Montecristo**	**2.17**	**336**	*e*P	**Pn**		**05 43 56.2**	**-1.0**
BOAB	**BOACO BROADBAN**	**2.73**	**89**	*e*Pn	**Pn**		**05 44 04.4**	**-0.3**
BOAB				*e*Sn	Sn		05 44 25.6	-11

APG **El Apazote** 3.24 323 Pn **Pn** 05 44 11.5 -0.5
comp=Z,1.2nm,0.3s,baz=172,slow=4.7,SNR=10.0
APG LR LR 05 45 39.9
comp=Z,1μm,21.2s,baz=164,slow=43
JTS **JuntasAbangare** 4.03 121 Pn **Pn** 05 44 24.6 +1.9
comp=Z,2.7nm,0.3s,baz=343,slow=13,SNR=16
JTS Lg Lg 05 45 24.9
comp=Z,0.9nm,0.3s,baz=165,slow=20,SNR=2.1
JTS LR LR 05 46 07.0
comp=Z,590nm,19.7s,baz=352,slow=43
JTS JuntasAbangare 4.03 121 *e*Pn **Pn** 05 44 21.6 -1.1
JTS *e* 05 44 24.9
JTS *e* 05 45 24.9
ESPN Las Esperanzas 4.07 92 *e*Pn **Pn** 05 44 20.9 -2.3
ESPN Las Esperanzas 4.07 92 *e* Pn 05 44 39.9 +17
HDC Heredia 4.89 119 *e*Pn **Pn** 05 44 33.6 -0.9
CMIG Matias Romero 7.77 308 Pn **Pn** 05 45 13.3 -0.7
comp=Z,0.5nm,0.3s,baz=156,slow=9.2,SNR=7.6
CMIG Sn Sn 05 46 58.6 +18
comp=Z,0.3nm,0.3s,baz=66,slow=20,SNR=2.1
CMIG LR LR 05 48 33.8
comp=Z,666nm,18.2s,baz=120,slow=40
TEIG Tepich 7.78 1 *e*Pn **Pn** 05 45 15.1 +1.0
TLIG Tlapa 11.03 299 *e*Pn **Pn** 05 46 00.6 +1.8
JRQG Juriquilla Cam 14.14 307 *e*Pn **Pn** 05 46 44.0 +2.6
MOIG Morelia 14.21 302 *e*Pn **Pn** 05 46 45.4 +3.1
ROSC El Rosal 15.86 117 Pn **P** 05 47 06.2 -1.6
baz=107,slow=19,SNR=2.2
ROSC El Rosal 15.86 117 *e*Pn **Pn** 05 47 02.5 -1.9
comp=Z,3.6nm,1.1s
LNIG Linares 16.21 322 *e*Pn **Pn** 05 47 07.6 -0.8
comp=Z,12nm,1.0s
ZAIG Zacatecas 16.93 309 *e*Pn **Pn** 05 47 18.4 +0.7
comp=Z,9.4nm,1.0s
SDV Santo Domingo 17.86 100 P **Pn** 05 47 26.6 -2.7
comp=Z,0.1nm,0.3s,baz=163,slow=19,SNR=2.6
SDV Santo Domingo 17.86 100 *e*Pn **Pn** 05 47 26.6 -2.7
SDV *e*P **P** 05 47 27.1 -2.7
833A Chaparral WMA, 18.84 329 *e*P **Pn** 05 47 41.2 +0.2
comp=Z,17nm,0.8s
833A Chaparral WMA, 18.84 329 P **Pn** 05 47 42.7 +1.7
baz=145
344A Westbrook Farm 19.07 354 *e*P **Pn** 05 47 43.3 -0.4
comp=Z,35nm,1.0s
342A Flagon Creek P 19.21 350 *e*P **Pn** 05 47 45.5 +0.1
comp=Z,22nm,1.0s
353A Camilla 19.25 11 P **Pn** 05 47 46.6 +0.7
baz=192
352A Blakely 19.26 9 *e*P **P** 05 47 45.3 +0.6
comp=Z,47nm,1.0s
352A Blakely 19.26 9 P **Pn** 05 47 46.1 +0.2
baz=190
249A Camden 19.52 3 P **Pn** 05 47 49.8 +0.8
baz=184
251A Midway 19.80 8 P **Pn** 05 47 52.7 +0.3
baz=188
252A Lumpkin 19.80 9 P **Pn** 05 47 52.9 +0.6
baz=190
VBMS Vicksburg 19.81 355 *e*P **P** 05 47 51.1 +0.4
comp=Z,30nm,0.8s
241A Mo Tay, Goldon 19.95 349 *e*P **P** 05 47 52.5 +0.3
comp=Z,14nm,0.9s
253A Americus 19.97 11 P Pn 05 47 54.1 -0.2
baz=192
254A Abbeville 20.02 13 P Pn 05 47 54.9 -0.1
baz=194
NATX Nacogdoches 20.09 344 *e*P **P** 05 47 54.7 +0.9
comp=Z,19nm,1.1s
435B Jarrell 20.14 337 *e*P Pn 05 47 55.5 -0.9
comp=Z,20nm,0.6s
435B Jarrell 20.14 337 P Pn 05 47 57.9 +1.4
baz=153
149A Jones 20.16 4 P Pn 05 47 56.8 +0.2
baz=184
148A Greensboro 20.16 2 P Pn 05 47 56.3 -0.3
baz=182
147A Livingston 20.18 0 *e*P **P** 05 47 55.1 +0.4
comp=Z,17nm,1.0s
147A Livingston 20.18 0 P Pn 05 47 56.2 -0.6
baz=180
150A Eclectic 20.23 6 P Pn 05 47 57.5 0.0
baz=187
151A Opelika 20.23 8 P Pn 05 47 56.8 -0.6
baz=188,SNR=5.3
143A Socs Landing, 20.38 353 *e*P **P** 05 47 56.9 -0.1
comp=Z,15nm,1.0s
152A Waverly Hall 20.46 9 *e*P **P** 05 47 57.1 -0.7
comp=Z,14nm,0.9s
152A Waverly Hall 20.46 9 P Pn 05 47 59.8 -0.3
baz=190
LRAL Lakeview Retre 20.58 3 *e*P **P** 05 47 59.8 +0.8
comp=Z,11nm,1.1s
LRAL Lakeview Retre 20.58 3 P Pn 05 48 00.4 -1.0
baz=184
Z46A Louisville 20.70 359 P Pn 05 48 02.8 0.0
baz=178
Z47A Carrollton 20.70 1 P Pn 05 48 03.1 +0.2
baz=181
154A Montrose 20.71 13 *e*P **P** 05 48 00.5 +0.1
comp=Z,20nm,0.9s
154A Montrose 20.71 13 P Pn 05 48 01.7 -1.2
baz=195
Z49A Columbiana 20.77 5 P Pn 05 48 03.1 -0.6
baz=185
JCT Junction City 20.83 331 *e*P **P** 05 48 02.5 +0.6
comp=Z,13nm,0.8s
JCT Junction City 20.83 331 P Pn 05 48 04.5 +0.1
baz=147
155A Kite 20.86 14 P Pn 05 48 03.7 -1.1
baz=196
Z50A Ashland 20.88 6 *e*P **P** 05 48 03.2 +0.8
comp=Z,12nm,1.0s
Z50A Ashland 20.88 6 P Pn 05 48 05.8 +0.7
baz=187
Z48A Northport 20.89 2 P Pn 05 48 06.0 +0.9
baz=182
Z51A Franklin 21.03 8 P **P** 05 48 07.6 +3.6
baz=189
Z53A Monticello 21.25 11 P **P** 05 48 08.4 +2.0
baz=193
Z54A Sparta 21.36 13 P **P** 05 48 10.1 +2.5
baz=195
Y46A Houston 21.38 359 P **P** 05 48 10.2 +2.5
baz=179
Y45A Yeager Farm, C 21.39 358 P **P** 05 48 10.6 +2.9
baz=177
GOGA Godfrey 21.40 12 P **P** 05 48 10.2 +2.3
baz=193
Y48A Jasper 21.44 3 P **P** 05 48 11.3 +3.0
baz=183
Y50A Piedmont 21.53 6 P **P** 05 48 11.9 +2.5
baz=187
Y51A Rockmart 21.62 8 P **P** 05 48 11.8 +1.5
baz=189
CCAR Cane Creek 21.63 353 *e*P **P** 05 48 11.0 +0.6
comp=Z,19nm,1.2s
HPIG 21.67 314 *e*P **P** 05 48 12.8 +1.7
comp=Z,12nm,1.0s
Y41A Eaglette Beard 21.71 351 P **P** 05 48 13.5 +2.2
baz=169
Y52A Lilburn 21.73 10 *e*P **P** 05 48 11.2 -0.3
comp=Z,10.0nm,0.8s
Y52A Lilburn 21.73 10 P **P** 05 48 13.0 +1.5
baz=191
Y53A Monroe 21.81 11 P **P** 05 48 13.7 +1.4
baz=193
ATAH Atahualpa 21.84 152 P **P** 05 48 12.5 -0.7
comp=Z,2.7nm,0.8s,baz=329,slow=18,SNR=2.4
ATAH LR LR 05 55 46.0
comp=Z,284nm,18.6s,baz=337,slow=34
X48A Hartselle 21.99 3 P **P** 05 48 13.8 -0.4
baz=183
LTX Lajitas 22.00 322 *e*P **P** 05 48 14.9 +0.5
LTX *e*S **S** 05 52 15.5 +0.3
TX31 Lajitas Ar. Si 22.00 322 *e*P **P** 05 48 15.8 +1.3
TX31 *e*S **S** 05 52 16.1 +0.8
TX31 *e*S Sn 05 52 18.9 -8.0
TXAR Lajitas Array 22.00 322 P **P** 05 48 14.9 +0.5
comp=Z,3.6nm,0.8s,baz=136,slow=9.2,SNR=18
TXAR PcP **PcP** 05 52 15.5 +3.4
comp=Z,1.1nm,0.8s,baz=96,slow=3.6,SNR=5.5
TXAR LR LR 05 58 43.2
comp=Z,135nm,19.4s,baz=0.0,slow=42
Y54A Tignall 22.00 13 P **P** 05 48 16.1 +1.7
baz=195,SNR=7.2
X47A Russelville 22.02 1 P **P** 05 48 15.4 +0.8
baz=181,SNR=5.7

OXF Oxford 22.02 358 *e*P **P** 05 48 15.2 +0.6
comp=Z,12nm,0.8s
X50B Fort Payne 22.11 6 P **P** 05 48 15.6 +0.1
baz=187
X43A Marvell 22.12 355 *e*P **P** 05 48 16.8 +1.1
comp=Z,16nm,1.1s
X41A Kaden, Bauxite 22.30 351 P **P** 05 48 18.2 +0.7
baz=169
HODGE Hodges 22.45 14 *e*P **P** 05 48 19.8 +0.7
comp=Z,14nm,0.8s
X52A Dahlonega 22.49 10 P **P** 05 48 19.8 +0.2
baz=191
X53A Estanollee 22.49 11 P **P** 05 48 18.9 -0.7
baz=193
MIAR Mount Ida 22.53 349 *e*P **P** 05 48 21.5 +1.5
comp=Z,21nm,1.0s
MIAR Mount Ida 22.53 349 P **P** 05 48 21.0 +1.0
baz=167
UALR University of 22.55 352 *e*P **P** 05 48 21.3 +1.1
comp=Z,14nm,0.9s
ABTX Abilene, Hawle 22.59 335 *e*P **P** 05 48 21.9 +1.2
comp=Z,14nm,0.8s
ABTX Abilene, Hawle 22.59 335 P **P** 05 48 22.1 +1.4
baz=150
W45A Hickory Valley 22.66 358 P **P** 05 48 22.4 +1.0
baz=178
W48A Pulaski 22.68 3 P **P** 05 48 22.1 +0.5
baz=184
W49A Belvidere 22.70 5 P **P** 05 48 22.0 +0.1
baz=185
JSC Jenkinsville 22.74 16 *e*P **P** 05 48 21.8 -0.5
comp=Z,31nm,1.1s
W47A Westpoint 22.76 2 P **P** 05 48 23.0 +0.6
baz=182
W50A Signal Mountai 22.87 7 P **P** 05 48 23.7 0.0
baz=188
W51A Cleveland 22.90 8 P **P** 05 48 24.0 0.0
baz=189
W41B Gary Mavity, V 22.93 352 *e*P **P** 05 48 25.2 +1.0
comp=Z,3.4nm,0.8s
W41B Gary Mavity, V 22.93 352 P **P** 05 48 23.9 -0.2
baz=170
X37A Clayton 22.96 345 *e*P **P** 05 48 26.8 +2.3
comp=Z,7.4nm,0.8s
WHAR Wolly Hollow 23.05 352 *e*P **P** 05 48 26.4 +1.0
comp=Z,11nm,0.9s
PAULI Pauline 23.12 14 *e*P **P** 05 48 26.7 +0.6
comp=Z,18nm,1.0s
W39A Magazine 23.20 349 *e*P **P** 05 48 30.0 +3.1
comp=Z,1.9nm,0.6s
W39A Magazine 23.20 349 P **P** 05 48 28.7 +1.8
baz=166
V48A Smith Brothers 23.28 3 *e*P **P** 05 48 28.2 +0.5
comp=Z,4.3nm,0.8s
V47A Nuelly 23.34 2 P **P** 05 48 28.5 +0.2
baz=182
V50A Pikevile 23.36 7 P **P** 05 48 28.6 0.0
baz=188
V49A McMinnville 23.37 5 P **P** 05 48 30.0 +1.3
baz=186
V42A Cord 23.45 354 P **P** 05 48 29.9 +0.5
baz=173
V41A Mountainview 23.52 352 P **P** 05 48 31.1 +1.1
baz=171
TKL Tuckaleechee C 23.54 10 P **P** 05 48 29.7 -0.5
comp=Z,16nm,1.0s,baz=170,slow=13,SNR=9.4
TKL LR LR 05 57 45.2
comp=Z,117nm,19.1s,baz=206,slow=37
TKL Tuckaleechee C 23.54 10 *e*P **P** 05 48 31.0 +0.7
comp=Z,26nm,1.0s
KMSC Kings Mountain 23.54 15 *e*P **P** 05 48 30.6 +0.3
comp=Z,12nm,0.9s
KMSC Kings Mountain 23.54 15 P **P** 05 48 30.3 0.0
baz=197
V53A Saluda 23.72 11 *e*P **P** 05 48 32.8 +0.8
comp=Z,14nm,1.0s
V53A Saluda 23.72 11 P **P** 05 48 32.7 +0.6
baz=194
V52A Sevierville 23.75 10 *e*P **P** 05 48 33.4 +1.1
comp=Z,10nm,1.0s
V52A Sevierville 23.75 10 P **P** 05 48 32.9 +0.7
baz=192
LPIG La Paz 23.75 302 LR LR 05 56 47.9
comp=Z,92nm,18.7s,baz=88,slow=34
U46A Springville 23.85 1 P **P** 05 48 33.4 +0.2
baz=180
U47A Clarksville 23.96 2 P **P** 05 48 33.3 -0.8
baz=183
U42A Revenden 23.98 354 P **P** 05 48 35.0 +0.7
baz=173
U41A Vici 24.04 353 P **P** 05 48 35.0 +0.1
baz=172
U48A Cassie Pea, Po 24.07 4 P **P** 05 48 35.2 0.0
baz=184
U49A Red Boiling Sp 24.13 5 P **P** 05 48 36.0 +0.3
baz=186
U50A Jamestown 24.13 7 P **P** 05 48 36.6 +0.8
baz=188
WMOK Wichita Mounta 24.13 339 *e*P **P** 05 48 36.1 +0.3
comp=Z,11nm,0.9s
WMOK Wichita Mounta 24.13 339 P **P** 05 48 35.9 +0.1
baz=154,SNR=14
U40A Yellville 24.18 351 P **P** 05 48 36.5 +0.3
baz=169,SNR=14
U51A La Follette 24.20 9 P **P** 05 48 36.3 -0.2
baz=190
HHAR Hobbs 24.28 349 *e*P **P** 05 48 38.4 +1.2
comp=Z,3.4nm,1.1s
TUL1 Leonard 24.32 345 *e*P **P** 05 48 38.0 +0.5
comp=Z,13nm,0.8s
TUL1 Leonard 24.32 345 P **P** 05 48 38.1 +0.5
baz=162
PBMO Poplar Bluff 24.34 356 *e*P **P** 05 48 37.5 -0.2
comp=Z,9.1nm,0.9s
T47A Sharon Grove 24.51 3 *e*P **P** 05 48 38.7 -0.5
comp=Z,14nm,0.8s
T47A Sharon Grove 24.51 3 P **P** 05 48 38.1 -1.1
baz=183
T46A Princeton 24.54 1 P **P** 05 48 38.7 -0.8
baz=181
T43A Greenville 24.63 356 P **P** 05 48 39.4 -0.9
baz=176
T42A Van Buren 24.64 355 *e*P **P** 05 48 41.2 +0.8
comp=Z,6.6nm,0.9s
T42A Van Buren 24.64 355 P **P** 05 48 39.8 -0.6
baz=174
MNTX Cornudas Mount 24.73 324 *e*P **P** 05 48 41.6 +0.3
comp=Z,6.1nm,0.9s
MNTX Cornudas Mount 24.73 324 P **P** 05 48 41.2 -0.1
baz=137,SNR=5.3
T49A Edmonton 24.74 6 P **P** 05 48 40.9 -0.3
baz=187
S43A Fulton Ridge, 25.10 357 P **P** 05 48 44.9 +0.3
baz=176
MSTX Muleshoe 25.12 331 *e*P **P** 05 48 45.0 +0.1
comp=Z,31nm,0.8s
MSTX Muleshoe 25.12 331 P **P** 05 48 44.7 -0.3
baz=145,SNR=21
AMTX Amarillo 25.39 334 *e*P **P** 05 48 47.6 +0.2
comp=Z,41nm,1.0s
AMTX Amarillo 25.39 334 P **P** 05 48 48.7 +1.3
baz=148
S49A Springfield 25.43 6 P **P** 05 48 47.9 +0.3
baz=187
CCM Cathedral Cave 25.67 355 *e*P **P** 05 48 50.2 +0.5
comp=Z,14nm,1.0s
CCM Cathedral Cave 25.67 355 P **P** 05 48 50.1 +0.4
baz=174
U32A Winter Ranch, 25.69 340 *e*P **P** 05 48 50.5 +0.5
comp=Z,26nm,1.0s
R41A Rosebud 25.92 355 P **P** 05 48 52.4 +0.4
baz=173
SRIG Santa Rosalia 26.77 307 *e*P **P** 05 49 01.2 +1.4
comp=Z,7.2nm,0.7s
NNA Nana 26.84 154 LR LR 06 00 03.6
comp=Z,75nm,18.0s,baz=352,slow=37
Q51A Peebles 26.90 9 *e*P **P** 05 49 00.9 0.0
comp=Z,15nm,0.9s
Q51A Peebles 26.90 9 P **P** 05 49 01.7 +0.8
baz=191
BNM Barren Site 27.24 326 *e*P **P** 05 49 05.3 +1.0
LENM Lemitar 27.45 325 *e*P **P** 05 49 07.6 +1.6
KSU1 Kansas State U 27.55 346 *e*P **P** 05 49 07.2 +0.5
comp=Z,13nm,0.9s
KSU1 Kansas State U 27.55 346 P **P** 05 49 08.0 +1.2
baz=162
LAZ Ladron 27.71 325 *e*P **P** 05 49 07.7 -0.8
ANMO Albuquerque 27.75 327 P **P** 05 49 09.1 +0.3
comp=Z,0.4nm,0.5s,baz=317,slow=19,SNR=2.5
ANMO Albuquerque 27.75 327 *e*P **P** 05 49 09.1 +0.3
comp=Z,0.9nm,0.9s
O50A Cable 27.96 8 P **P** 05 49 09.1 -1.3
baz=190
O51A Pataskala 28.11 10 P **P** 05 49 11.3 -0.4
baz=192
CBKS Cedar Bluff 28.15 341 *e*P **P** 05 49 12.4 +0.3
comp=Z,12nm,0.8s
CBKS Cedar Bluff 28.15 341 P **P** 05 49 12.8 +0.7
baz=156
N44A Piper City 28.28 1 P **P** 05 49 13.1 -0.1
baz=180
T25A Trinidad 28.48 333 *e*P **P** 05 49 16.4 +1.1
comp=Z,10nm,0.8s
T25A Trinidad 28.48 333 P **P** 05 49 16.5 +1.1
baz=146,SNR=6.3
TUC Tucson 28.50 318 *e*P **P** 05 49 16.8 +1.4
comp=Z,3.6nm,0.9s
N39A Derby Farms, D 28.59 354 P **P** 05 49 16.0 +0.1
baz=172
M39A Webster 29.14 354 P **P** 05 49 21.3 +0.4
baz=172
KSCO Kaye Shedlock' 29.33 337 *e*P **P** 05 49 23.5 +0.7
comp=Z,22nm,0.8s
KSCO Kaye Shedlock' 29.33 337 P **P** 05 49 24.0 +1.3
baz=151
N54A Moraine State 29.40 13 P **P** 05 49 22.0 -1.1
baz=197
SDCO Great Sand Dun 29.48 332 *e*P **P** 05 49 25.1 +0.9
comp=Z,7.4nm,1.1s
SDCO Great Sand Dun 29.48 332 P **P** 05 49 25.3 +1.1
baz=144,SNR=5.2
L47A Sherwood 29.60 5 P **P** 05 49 23.8 -1.1
baz=186
S22A 4UR Ranch, Cre 30.11 330 *e*P **P** 05 49 30.8 +1.0
comp=Z,4.5nm,1.0s
S22A 4UR Ranch, Cre 30.11 330 P **P** 05 49 31.6 +1.8
baz=142
Q24A Divide 30.32 334 *e*P **P** 05 49 31.5 -0.2
comp=Z,6.0nm,0.8s
MVCO Mesa Verde 30.54 327 P **P** 05 49 34.8 +1.3
baz=139
J41A Loganville 30.88 358 P **P** 05 49 36.5 +0.3
baz=177
ISCO Idaho Springs 31.21 334 *e*P **P** 05 49 40.6 +1.1
comp=Z,6.7nm,1.0s
ISCO Idaho Springs 31.21 334 P **P** 05 49 39.8 +0.2
baz=146
SMCO Snowmass 31.31 332 *e*P **P** 05 49 41.7 +1.2
comp=Z,4.8nm,1.0s
PV13 Radium Mtn., P 31.42 328 *e*P **P** 05 49 43.0 +1.6
comp=Z,1.3nm,0.8s
PV03 Paradox Valley 31.51 328 *e*P **P** 05 49 43.3 +1.2
PV12 Saucer Basin, 31.53 328 *e*P **P** 05 49 43.6 +1.3
comp=Z,6.3nm,0.8s
PV18 Skein Mesa, Pa 31.53 328 *e*P **P** 05 49 43.1 +0.8
comp=Z,6.1nm,0.7s
PV11 David Mesa, Pa 31.55 328 *e*P **P** 05 49 43.3 +0.9
comp=Z,7.2nm,0.9s
PV17 East Wray Mesa 31.59 328 *e*P **P** 05 49 43.3 +0.6
comp=Z,6.3nm,0.8s
PV16 Nyswonger Mesa 31.59 328 *e*P **P** 05 49 44.0 +1.2
comp=Z,5.8nm,1.0s
PV14 Lion Creek, Pa 31.69 328 *e*P **P** 05 49 44.9 +1.2
comp=Z,8.9nm,1.2s
ECSD EROS Data Cent 32.00 349 *e*P **P** 05 49 47.3 +1.2
comp=Z,7.1nm,1.0s
ECSD EROS Data Cent 32.00 349 P **P** 05 49 43.9 -2.2
baz=165
N23A Red Feather La 32.26 335 P **P** 05 49 49.6 +0.8
baz=147
SWSC Sam W. Stewart 32.30 314 P **P** 05 49 51.1 +2.3
baz=123
IKP In-Ko-Pah, Jac 32.36 313 P **P** 05 49 51.4 +1.9
baz=122
PHWY Pilot Hill 32.41 336 *e*P **P** 05 49 50.6 +0.5
comp=Z,9.0nm,1.0s
BC3 Big Chuckawall 32.45 315 P **P** 05 49 52.4 +2.1
baz=124
O20A White River Ci 32.67 331 *e*P **P** 05 49 53.4 +1.2
comp=Z,12nm,0.9s
O20A White River Ci 32.67 331 P **P** 05 49 54.6 +2.5
baz=142
MONP2 Monument Peak 32.72 313 P **P** 05 49 55.0 +2.3
baz=122
SPMN Marine on St. 32.92 354 *e*P **P** 05 49 54.4 +0.4
comp=Z,10nm,0.5s
SPMN Marine on St. 32.92 354 P **P** 05 49 54.2 +0.1
baz=172
SRU San Rafael Swe 33.02 328 *e*P **P** 05 49 56.3 +1.1
comp=Z,2.6nm,1.0s
MTPU Mount Pierson 33.16 324 *e*P **P** 05 49 58.5 +1.8
comp=Z,1.6nm,0.7s
FRD Ford Ranch, An 33.16 314 P **P** 05 49 58.6 +2.1
baz=123
P17A Butcher Ranch, 33.40 328 *e*P **P** 05 49 59.9 +1.4
comp=Z,6.0nm,1.0s
K22A Casper 33.97 336 *e*P **P** 05 50 04.4 +0.9
comp=Z,14nm,1.1s
K22A Casper 33.97 336 P **P** 05 50 03.9 +0.4
baz=147,SNR=5.3
MPU Maple Canyon 34.26 328 *e*P **P** 05 50 07.2 +1.1
comp=Z,3.0nm,0.9s
RSSD Black Hills 34.33 340 *e*P **P** 05 50 07.6 +1.0
comp=Z,6.3nm,0.9s
RSSD Black Hills 34.33 340 P **P** 05 50 07.7 +1.0
baz=152
EDW2 Edwards Air Fo 34.88 315 P **P** 05 50 13.8 +2.4
baz=123
LPAZ La Paz 34.88 144 P **P** 05 50 12.0 -0.2
comp=Z,0.6nm,0.8s,baz=54,slow=4.6,SNR=2.7
LPAZ LR LR 06 04 50.7
comp=Z,115nm,19.1s,baz=330,slow=37
LPAZ La Paz 34.88 144 *e*P **P** 05 50 11.7 -0.5
DUG Dugway, Tooele 35.02 327 P **P** 05 50 15.7 +3.1
baz=135
D48A Paudash Townsh 35.11 8 P **P** 05 50 14.5 +1.5
baz=191
BW06 Boulder Array 35.35 333 P **P** 05 50 18.2 +2.6
baz=142
PD31 Pinedale Array 35.35 333 *e*P **P** 05 50 15.6 +0.1
PD31 *e*PcP **PcP** 05 52 46.9 +1.7
PDAR Pinedale Array 35.35 333 P **P** 05 50 16.0 +0.5
comp=Z,1.0nm,0.8s,baz=120,slow=8.7,SNR=7.6
PDAR PcP **PcP** 05 52 46.9 +1.7
comp=Z,0.7nm,0.6s,baz=130,slow=3.9,SNR=5.4
R11A Troy Canyon, C 35.36 322 P **P** 05 50 18.7 +3.1
baz=130
D50A G1974 Best Tow 35.40 10 P **P** 05 50 17.9 +2.3
baz=194
HVU Hansel Valley 36.14 329 *e*P **P** 05 50 23.9 +1.7
AGMN Agassiz Nation 36.31 352 *e*P **P** 05 50 22.7 -0.6
comp=Z,12nm,0.9s
AGMN Agassiz Nation 36.31 352 P **P** 05 50 22.9 -0.4
baz=168
REDW Red Top Meadow 36.41 332 *e*P **P** 05 50 25.5 +1.0
comp=Z,7.8nm,0.8s
SNOW Snow King Moun 36.44 332 *e*P **P** 05 50 25.4 +0.6
comp=Z,8.3nm,0.8s
LOHW Long Hollow 36.49 333 *e*P **P** 05 50 26.1 +0.9
comp=Z,5.8nm,1.0s
MDND Maddock 36.54 347 *e*P **P** 05 50 25.8 +0.4
comp=Z,44nm,1.0s
MDND Maddock 36.54 347 P **P** 05 50 25.9 +0.5
baz=161
TPAW Teton Pass 36.55 332 *e*P **P** 05 50 27.2 +1.4
comp=Z,5.0nm,0.9s
MOOW Moose Ponds 36.66 333 *e*P **P** 05 50 27.9 +1.2
comp=Z,3.7nm,1.0s
FXWY Fox Creek 36.70 332 *e*P **P** 05 50 27.6 +0.5
comp=Z,2.2nm,1.0s
IMW Indian Meadow 36.86 333 *e*P **P** 05 50 29.9 +1.4
comp=Z,2.3nm,0.6s
NV01 Mina Array Sit 37.09 320 *e*P **P** 05 50 31.5 +1.1
NVAR Mina Array Bea 37.09 320 P **P** 05 50 31.5 +1.1
comp=Z,3.4nm,1.0s,baz=125,slow=7.8,SNR=6.6
NVAR PcP **PcP** 05 52 53.1 +2.6
comp=Z,2.3nm,0.8s,baz=135,slow=3.6,SNR=7.8
NVAR LR LR 06 08 54.3
comp=Z,84nm,18.0s,baz=90,slow=42
RLMT Red Lodge 37.13 335 *e*P **P** 05 50 30.7 +0.1
comp=Z,12nm,1.0s
RLMT Red Lodge 37.13 335 P **P** 05 50 31.4 +0.8
baz=145
YFT Old Faithful 37.25 333 *e*P **P** 05 50 32.7 +0.9
comp=Z,12nm,1.2s
LAO LASA Array 37.32 340 P **P** 05 50 33.2 +1.2

	baz=150						
YNR	**Norris Junctio**	**37.39**	**334**	*e*P	**P**	**05 50 33.8**	**+0.8**
	comp=Z,8.1nm,1.1s						
YMR	**Madison River**	**37.48**	**333**	*e*P	**P**	**05 50 34.6**	**+0.9**
	comp=Z,10.0nm,1.0s						
GCMT	**Greycliff**	**37.84**	**336**	*e*P	**P**	**05 50 36.6**	**0.0**
ULM	**Lac du Bonnet**	**38.23**	**352**	P	**P**	**05 50 38.0**	**-1.6**
	comp=Z,9.4nm,0.9s,baz=171,slow=9.6,SNR=10						
ULM				LR	LR	06 07 44.7	
	comp=Z,183nm,21.7s,baz=172,slow=38						
ULM	**Lac du Bonnet**	**38.23**	**352**	*e*P	**P**	**05 50 38.1**	**-1.4**
	comp=Z,14nm,0.9s						
HLID	**Hailey**	**38.27**	**329**	P	**P**	**05 50 41.1**	**+0.9**
	baz=136						
DGMT	**Dagmar**	**38.27**	**343**	*e*P	**P**	**05 50 40.2**	**+0.2**
	comp=Z,32nm,0.8s						
DGMT	**Dagmar**	**38.27**	**343**	P	**P**	**05 50 40.3**	**+0.2**
	baz=155						
MCMT	**McKenzie Canyo**	**38.45**	**332**	*e*P	**P**	**05 50 43.3**	**+1.4**
BOZ	**Bozeman (W)**	**38.50**	**334**	P	**P**	**05 50 43.7**	**+1.5**
	baz=142						
DLMT	**Dillon**	**38.75**	**333**	*e*P	**P**	**05 50 45.8**	**+1.6**
	comp=Z,4.7nm,1.0s						
HRY	**Holter Researc**	**39.47**	**335**	*e*P	**P**	**05 50 51.0**	**+0.8**
EGMT	**Eagleton**	**39.71**	**338**	*e*P	**P**	**05 50 53.0**	**+0.8**
	comp=Z,19nm,0.8s						
EGMT	**Eagleton**	**39.71**	**338**	P	**P**	**05 50 52.8**	**+0.6**
	baz=146,SNR=11						
O03E	**Paynes Creek**	**40.38**	**320**	P	**P**	**05 50 58.3**	**+0.4**
	baz=124						
MSO	**Missoula**	**40.47**	**333**	*e*P	**P**	**05 50 58.4**	**-0.1**
	comp=Z,8.4nm,1.1s						
MSO	**Missoula**	**40.47**	**333**	P	**P**	**05 50 58.5**	**0.0**
	baz=140						
JTMT	**Jette**	**41.32**	**334**	*e*P	**P**	**05 51 06.9**	**+1.3**
RPN	**Rapa Nui**	**44.21**	**207**	LR	LR	06 05 25.9	
	comp=Z,80nm,19.6s,baz=30,slow=30						
SCHQ	**Schefferville**	**45.61**	**17**	P	**P**	**05 51 38.4**	**-1.4**
	comp=Z,6.9nm,0.9s,baz=219,slow=14,SNR=2.6						
CPUP	**Villa Florida**	**48.98**	**142**	P	**P**	**05 52 07.4**	**+1.0**
	comp=Z,2.5nm,1.0s,baz=276,slow=8.9,SNR=3.1						
YKA	**Yellowknife Ar**	**53.40**	**345**	P	**P**	**05 52 38.4**	**-0.6**
	comp=Z,6.7nm,0.7s,baz=147,slow=6.0,SNR=37						
YKA				PcP	**PcP**	**05 53 45.9**	**0.0**
	comp=Z,1.1nm,0.6s,baz=146,slow=4.1,SNR=4.6						
YKB5	**Yellowknife Ar**	**53.40**	**345**	*e*P	**P**	**05 52 38.4**	**-0.6**
YKB5				*e*PcP	**PcP**	**05 53 45.9**	**0.0**
PLCA	**Paso Flores**	**55.41**	**164**	P	**P**	**05 52 53.4**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=336,slow=14,SNR=2.8						
EPYK	**Eagle Plains**	**62.77**	**340**	P	**P**	**05 53 45.3**	**+0.6**
	baz=125						
INK	**Inuvik**	**62.95**	**343**	*e*P	**P**	**05 53 45.9**	**+0.1**
	comp=Z,9.9nm,0.9s						
IL1	**Eielson Array**	**65.67**	**336**	*e*P	**P**	**05 54 02.7**	**-0.9**
ILAR	**Eielson Array**	**65.67**	**336**	P	**P**	**05 54 02.5**	**-1.1**
	comp=Z,3.6nm,1.0s,baz=122,slow=5.0,SNR=12						
ILB	**Eielson Array**	**65.67**	**336**	*e*P	**P**	**05 54 02.8**	**-0.8**
RND	**Reindeer**	**65.93**	**335**	*e*P	**P**	**05 54 06.0**	**+0.5**
	comp=Z,18nm,1.0s						
SUA	**Susitna One**	**66.08**	**332**	*e*PcP	**PcP**	**05 54 31.0**	**-5.7**
MLY	**Manley**	**67.28**	**336**	*e*P	**P**	**05 54 13.8**	**-0.2**
	comp=Z,5.7nm,0.9s						
TOLK	**Toolik Lake Re**	**68.19**	**340**	P	**P**	**05 54 19.6**	**-0.1**
	baz=113						
TIXI	**Tiksi**	**92.50**	**349**	P	**P**	**05 56 28.7**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=350,slow=6.1,SNR=2.8						
MK32	**Makanchi Array**	**120.49**	**7**	*e*PKPdf	**PKPdf**	**06 02 11.3**	**+0.1**
MKAR	**Makanchi Array**	**120.49**	**7**	PKP	**PKPdf**	**06 02 11.3**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=298,slow=3.1,SNR=3.0						
KSH	**Kashi**	**126.35**	**15**	*e*PKP	**PKPdf**	**06 02 25.0**	**+2.3**
LZH	**Lanzhou**	**130.39**	**347**	*e*PKP	**PKPdf**	**06 02 30.0**	**-0.6**
LZH				pPKP	pPKPdf	06 02 40.0	-2.9
LZH				sPKP		06 02 45.5	
WR1	**Warramunga Arr**	**138.31**	**254**	*e*PKPdf	**PKPdf**	**06 02 47.8**	**+2.2**
WRA	**Warramunga Arr**	**138.31**	**254**	PKP	**PKPdf**	**06 02 47.8**	**+2.2**
	comp=Z,0.6nm,0.6s,baz=88,slow=2.4,SNR=2.9						
CMAR	**Chiang Mai Arr**	**148.48**	**346**	PKPbc	**PKPbc**	**06 03 07.0**	**0.0**
	comp=Z,5.3nm,0.8s,baz=339,slow=3.0,SNR=14						

IDC ***28*** *05:44:07.7±5.5,3°.33S×131°.81E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.5/32, mbtmp3.7/3, ML3.4/1, MS3.9/1, Ms1 3.9/1, ms1mx2.8/37, Error ellipse: s-maj=378.7km s-min=28.9km az=73.0*

ISCJB ***28*** *05:44:10.5±1.0, 3°.66S±0°.09×131°.2E±0°.1, h24km, mb3.8/1, MS3.9/1, Error ellipse: s-maj=21.6km s-min=11.8km az=11.3*

DJA ***28*** *05:44:12.5±0.6, 3°S±5°×13°1E±°, h10km, M3.4/4, MLv3.4/4*

ISC 28 05:44:11.9±1.0, 3°.50S±0°.08×131°.2E±0°.1, h24km, n8, σ2ˢ49/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.17**	**61**	P	**Pn**	**05 44 34.0**	**+1.2**
BNDI	**Bandanaira**	**1.67**	**232**	P	**Pb**	**05 44 41.8**	**-0.2**
SWI	**Sorong**	**2.62**	**1**	P	**Pn**	**05 44 55.0**	**+2.3**
SWI				S	**Sn**	**05 45 19.9**	**-3.8**
RKPI	**Ransiki, Papua**	**3.55**	**56**	P	**Pn**	**05 45 07.0**	**+1.5**
WRA	**Warramunga Arr**	**16.63**	**170**	Pn	**Pn**	**05 48 01.2**	**-2.4**
	0.1nm,0.3s,baz=352,slow=13,SNR=7.2						
WRA				Sn	Sn	05 50 56.7	-11
	0.1nm,0.3s,baz=359,slow=23,SNR=4.0						
ASAR	**Alice Springs**	**20.22**	**173**	P	**P**	**05 48 46.4**	**+1.0**
	2.6nm,0.4s,baz=350,slow=11,SNR=25						
KLR	**Kul'dur**	**52.51**	**0**	LR	LR	06 14 55.4	
	comp=Z,127nm,21.3s,baz=114,slow=35						
MKAR	**Makanchi Array**	**66.02**	**325**	P	**P**	**05 54 57.4**	**+0.8**
	0.5nm,0.6s,baz=123,slow=8.4,SNR=6.4						

IDC ***28*** *05:57:01.1±0.9, 2°.78S×139°.93E, h0km, mb3.8/6, mb1 4.2/8, mb1mx3.9/36, mbtmp4.0/8, ML4.3/2, MS2.4/1, Ms1 2.4/1, ms1mx2.4/38, Error ellipse: s-maj=23.3km s-min=9.6km az=160.0*

ISC 28 05:57:04.5±0.9, 3°.1S±0°.1×140°.2E±0°.2, h35km, n13, σ2ˢ76/12, mb3.9/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.78**	**43**	Pg	**Pn**	**05 57 18.0**	**-1.1**
	394nm,0.3s,baz=240,slow=14,SNR=249						
JAY				Lg	Lg	05 57 27.3	
	728nm,0.3s,baz=150,slow=20,SNR=75						
JAY				LR	LR	05 57 47.5	
	comp=Z,464nm,20.6s,slow=57						
PMG	**Port Moresby**	**9.35**	**132**	LR	LR	06 03 59.7	
	comp=Z,24nm,21.4s,baz=356,slow=43						
WRA	**Warramunga Arr**	**17.69**	**198**	P	**P**	**06 01 11.5**	**+2.6**
	0.5nm,0.3s,baz=16,slow=12,SNR=20						
WRA				S	**Sn**	**06 04 20.4**	**-4.0**
	0.1nm,0.3s,baz=24,slow=22,SNR=4.0						
BATI	**Baumata**	**17.85**	**246**	P	**Pn**	**06 01 12.0**	**+1.7**
	6.5nm,0.3s,baz=286,slow=20,SNR=2.6						
FITZ	**Fitzroy Crossi**	**20.62**	**223**	P	**P**	**06 01 42.8**	**+1.8**
	2.0nm,0.8s,baz=54,slow=16,SNR=8.3						
FITZ				S	**S**	**06 05 25.0**	**-4.8**
	3.1nm,0.8s,baz=200,slow=15,SNR=4.0						
ASAR	**Alice Springs**	**21.33**	**196**	P	**P**	**06 01 52.3**	**+3.6**
	1.9nm,0.6s,baz=24,slow=10,SNR=28						
ASAR				S	**S**	**06 05 44.8**	**+0.9**
	0.6nm,0.9s,baz=13,slow=26,SNR=3.2						
H11S3	**WAKE ISLAND Hy**	**33.79**	**50**	T	T	06 38 53.6	
	baz=231,slow=75,SNR=17						
H11S2	**WAKE ISLAND Hy**	**33.80**	**50**	T	T	06 38 47.3	
	baz=231,slow=75,SNR=8.5						
H11S1	**WAKE ISLAND Hy**	**33.81**	**50**	T	T	06 38 48.6	
	baz=231,slow=75,SNR=11						
SONM	**Songino Array**	**58.70**	**334**	P	**P**	**06 06 58.6**	**-0.1**
	1.2nm,0.6s,baz=152,slow=7.1,SNR=4.4						
MKAR	**Makanchi Array**	**70.99**	**322**	P	**P**	**06 08 18.7**	**0.0**
	0.6nm,0.5s,baz=111,slow=7.9,SNR=9.4						
ZALV	**Zalesovo Beam**	**73.00**	**329**	P	**P**	**06 08 29.4**	**-1.1**
	0.7nm,0.5s,baz=123,slow=7.1,SNR=3.6						
ILAR	**Eielson Array**	**85.58**	**24**	P	**P**	**06 09 39.0**	**+0.1**
	0.8nm,0.7s,baz=254,slow=5.4,SNR=5.4						

DDA ***28*** *05:59:34.7, 39°.57N×28°.84E, h13km, MI3.1*

ISK ***28*** *05:59:34.5, 39°.57N×28°.81E, h5km, ML3.0/27*

ISC 28 05:59:35.1±0.9, 39°.57N±0°.02×28°.82E±0°.02, h10km±7km, n64, σ0ˢ64/83, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	**Dursunbey**	**0.16**	**284**	PG	**Pg**	**05 59 38.7**	**0.0**
DST				SG	**Sg**	**05 59 41.0**	**-0.2**
DURS	**Dursunbey**	**0.27**	**277**	*i* P	**Pg**	**05 59 40.7**	**+0.1**
DURS				*i* S	**Sg**	**05 59 44.6**	**+0.3**
ORLT	**Orhaneli**	**0.48**	**7**	PG	**Pg**	**05 59 44.8**	**+0.2**
SMAA	**Simav-Kutahya**	**0.48**	**165**	PG	**Pg**	**05 59 44.9**	**+0.3**
TVSB	**Tavsanli**	**0.51**	**103**	PG	**Pg**	**05 59 44.9**	**-0.2**
DEMI	**Demirci**	**0.53**	**189**	*i* P	**Pg**	**05 59 45.6**	**+0.1**
DEMI				*i* S	**Sg**	**05 59 52.4**	**-0.1**
GEDZ	**Gediz**	**0.70**	**138**	PG	**Pb**	**05 59 49.3**	**0.0**
GDZ	**Gediz**	**0.70**	**133**	*i* P	**Pg**	**05 59 48.5**	**-0.3**
GDZ				*i* S	**Sg**	**05 59 57.5**	**-0.5**
BALB	**Balikesir**	**0.73**	**276**	PG	**Pb**	**05 59 49.9**	**+0.1**
KCTX	**Karacabey (Bur**	**0.78**	**333**	PG	**Pg**	**05 59 50.2**	**0.0**
MDNY	**Mudanya-Bursa**	**0.80**	**4**	PG	**Pb**	**05 59 50.8**	**-0.3**
STEP	**BALIKESIR_Sava**	**0.87**	**258**	*i* P	**Pg**	**05 59 51.8**	**-0.1**
STEP				*i* S	**Sb**	**06 00 04.0**	**0.0**
GEMT	**Gemlik**	**0.91**	**18**	PG	**Pb**	**05 59 53.1**	**+0.1**
IZI	**Iznik**	**0.92**	**33**	PG	**Pb**	**05 59 53.1**	**-0.1**
GONE	**Gonen-Balikesi**	**0.99**	**299**	PG	**Pb**	**05 59 54.5**	**+0.1**
ARMT	**Armutlu**	**1.00**	**2**	PG	**Pb**	**05 59 54.4**	**-0.1**
CAVI	**Cavuskoy**	**1.01**	**51**	PG	**Pb**	**05 59 54.9**	**+0.2**
AKHS	**Akhisar**	**1.04**	**229**	*i* P	**Pg**	**05 59 55.0**	**-0.1**
AKHS				*i* S	**Sn**	**06 00 10.2**	**-0.1**
AKHS	**Akhisar**	**1.04**	**229**	*i* S	**Sb**	**06 00 09.0**	**+0.2**
KULA	**Kula-Manisa**	**1.06**	**187**	PG	**Pg**	**05 59 55.4**	**-0.1**
SBT5	**Esenkoy-Cinarc**	**1.06**	**3**	PG	**Pn**	**05 59 55.7**	**-0.3**
YLV	**Yalova**	**1.08**	**23**	PN	**Pb**	**05 59 55.7**	**-0.3**
MANT	**Manisa**	**1.09**	**191**	*i* P	**Pg**	**05 59 56.1**	**-0.1**
MANT				*i* S	**Sg**	**06 00 09.8**	**-0.6**
MANT	**Manisa**	**1.09**	**191**	*i* S	**Sg**	**06 00 09.0**	**-1.4**
GOMA	**Golmarmara-Man**	**1.11**	**219**	PN	**Pn**	**05 59 56.7**	**+0.1**
KNL	**Bal¯–kesir**	**1.22**	**306**	*i* P	**Pn**	**05 59 58.1**	**-0.1**
KNL				*i* S	**Sn**	**06 00 14.6**	**0.0**
KNL	**Bal¯–kesir**	**1.22**	**306**	*i* S	**Sn**	**06 00 14.7**	**0.0**
BUY	**Buyukada**	**1.30**	**10**	*i* P	**Pn**	**05 59 58.9**	**-0.4**
BUY				*i* S	**Sg**	**06 00 17.1**	**0.0**
KHAL	**Karahalli**	**1.31**	**156**	*i* P	**Pn**	**05 59 59.4**	**0.0**
KHAL				*i* S	**Sb**	**06 00 16.6**	**+0.1**
KHAL	**Karahalli**	**1.31**	**156**	*i* S	**Sn**	**06 00 16.9**	**0.0**
GPA	**Golpazari**	**1.35**	**57**	PN	**Pg**	**06 00 01.7**	**+0.6**
KHL	**Karahalli**	**1.36**	**156**	PN	**Pg**	**06 00 01.9**	**+0.7**
MRMT	**Marmara Adasi**	**1.40**	**318**	PN	**Pg**	**06 00 02.0**	**+0.1**
KRBG	**Karabiga-Canak**	**1.43**	**306**	PN	**Pb**	**06 00 02.0**	**+0.2**
GEYV	**SAKARYA_Geyve**	**1.46**	**51**	*i* P	**Pb**	**06 00 02.2**	**-0.1**
GEYV				*i* S	**Sg**	**06 00 22.6**	**+0.5**
KAVV	**Kandilli-Istan**	**1.51**	**7**	PN	**Pg**	**06 00 03.5**	**-0.5**
ISK	**Istanbul-Kandi**	**1.51**	**7**	PN	**Pg**	**06 00 03.7**	**-0.4**
DKL	**Dikili**	**1.56**	**252**	PN	**Pb**	**06 00 04.4**	**+0.3**
GULT	**Gulveren**	**1.56**	**56**	PN	**Pb**	**06 00 04.5**	**+0.3**
ESKT	**Eskisehir**	**1.57**	**91**	PN	**Pg**	**06 00 04.9**	**-0.4**
SBT4	**Kumbag-Tekirda**	**1.60**	**322**	PN	**Pb**	**06 00 04.8**	**+0.2**
SPNC	**Sapanca-Adapaz**	**1.60**	**45**	PN	**Pb**	**06 00 04.9**	**+0.2**
BGKT	**Bogazkoy**	**1.61**	**359**	PN	**Pb**	**06 00 05.0**	**+0.1**
SAUV	**Serdivan-Sakar**	**1.65**	**44**	PN	**Pb**	**06 00 05.7**	**+0.2**
KZIL	**AFYON_Kizioren**	**1.67**	**141**	*i* P	**Pn**	**06 00 05.0**	**+0.6**
KZIL				*i* S	**Sg**	**06 00 31.8**	**+3.1**
AYVA	**Ayvalik**	**1.67**	**262**	*i* S	**Sg**	**06 00 28.2**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.68**	**312**	PN	**Pb**	**06 00 06.2**	**0.0**
SART	**Tekirdag**	**1.68**	**312**	*i* P	**Pg**	**06 00 06.8**	**-0.6**
SART				*i* S	**Sg**	**06 00 29.5**	**+0.2**
SART	**Tekirdag**	**1.68**	**312**	*i* P	**Sg**	**06 00 06.8**	**-0.6**
SART				*i* S	**Sg**	**06 00 30.7**	**+1.5**
CTKS	**Kestanelik-??a**	**1.68**	**352**	PN	**Pb**	**06 00 06.2**	**+0.1**
KLYT	**Kilyos**	**1.69**	**6**	PN	**Pb**	**06 00 06.2**	**-0.1**
SILT	**Sile**	**1.71**	**21**	PN	**Pb**	**06 00 06.4**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.77**	**204**	PN	**Pb**	**06 00 07.5**	**-0.2**
KAND	**Kocaeli-Kandir**	**1.85**	**34**	P	**Pg**	**06 00 08.2**	**-0.5**
CTYL	**Yalikoy Yolu**	**1.95**	**348**	PN	**Pb**	**06 00 10.2**	**-0.4**
KIYI	**Yal¯koy-Catal**	**1.96**	**349**	PN	**Pb**	**06 00 09.9**	**-0.9**
SAHE	**Sakarya_HENDEK**	**2.02**	**50**	*i* P	**Pb**	**06 00 12.4**	**+0.5**
SAHE				*i* S	**Sg**	**06 00 40.6**	**+0.6**
MDUB	**Mudurnu**	**2.04**	**63**	PN	**Pb**	**06 00 11.5**	**-0.8**
KESN	**Edirne-Kesan**	**2.06**	**308**	*i* P	**Pg**	**06 00 14.1**	**-0.7**
KESN				*i* S	**Sg**	**06 00 40.7**	**-0.8**
KESN	**Edirne-Kesan**	**2.06**	**308**	*i* P	**Pb**	**06 00 13.6**	**+0.7**
KESN				*i* S	**Sb**	**06 00 39.5**	**+0.8**
SVRH	**Sivrihisar-ESK**	**2.10**	**92**	PN	**Pb**	**06 00 12.1**	**-1.1**
URLA	**Izmir**	**2.11**	**236**	*i* P	**Pg**	**06 00 14.6**	**-1.0**
URLA				*i* S	**Sg**	**06 00 44.7**	**+1.8**
DGB	**¯zmir**	**2.14**	**226**	*i* P	**Pg**	**06 00 16.2**	**+0.1**
DGB				*i* S	**Sg**	**06 00 43.4**	**-0.4**
KIZT	**Kizilcal**	**2.48**	**105**	PN	**Pb**	**06 00 17.8**	**-1.9**

IDC ***28*** *06:01:57.9±0.9, 26°.53N×142°.39E, h0km, mb4.1/9, mb1 4.2/10, mb1mx3.9/41, mbtmp4.0/10, ML3.8/1, MS3.8/3, Ms1 3.8/3, ms1mx3.0/53, Error ellipse: s-maj=40.7km s-min=14.1km az=81.0*

ISCJB ***28*** *06:02:00.7±1.0, 26°.53N±0°.08×142°.4E±0°.3, h31km, mb4.1/10, MS3.8/3, Error ellipse: s-maj=40.7km s-min=8.7km az=170.1*

ISC 28 06:02:02.6±1.0, 26°.57N±0°.09×142°.4E±0°.3, h31km, n19, σ0ˢ73/15, mb4.2/10, MS4.1/3, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.55**	**342**	Pn	**Pb**	**06 02 13.1**	**-0.9**
JCJ				Sn	**Sb**	**06 02 21.3**	**-0.4**
MJAR	**Matsushiro Arr**	**10.56**	**341**	Pn	**Pn**	**06 04 32.1**	**+0.3**
	0.7nm,0.3s,baz=162,slow=12,SNR=4.9						
H11S3	**WAKE ISLAND Hy**	**23.82**	**105**	T	T	06 31 45.3	
	baz=294,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**23.83**	**105**	T	T	06 31 45.4	
	baz=294,slow=75,SNR=18						
H11S2	**WAKE ISLAND Hy**	**23.84**	**105**	T	T	06 31 45.6	
	baz=294,slow=75,SNR=22						
KLR	**Kul'dur**	**24.08**	**343**	P	**P**	**06 07 16.9**	**+1.7**
	6.5nm,0.7s,baz=147,slow=7.5,SNR=18						
DAV	**Davao City (W)**	**25.13**	**222**	LR	LR	06 15 21.3	
	comp=Z,76nm,20.5s,baz=136,slow=32						
CMAR	**Chiang Mai Arr**	**40.77**	**268**	P	**P**	**06 09 41.6**	**+0.4**
	1.5nm,0.6s,baz=57,slow=8.7,SNR=6.9						
WRA	**Warramunga Arr**	**46.89**	**190**	P	**P**	**06 10 29.6**	**-0.6**
	11nm,0.5s,baz=12,slow=8.7,SNR=137						
ASAR	**Alice Springs**	**50.61**	**190**	P	**P**	**06 10 58.3**	**-0.5**
	0.7nm,0.6s,baz=18,slow=11,SNR=12						
MKAR	**Makanchi Array**	**50.94**	**310**	P	**P**	**06 11 01.0**	**-0.1**
	0.2nm,0.5s,baz=91,slow=11,SNR=2.9						
STKA	**Stephens Creek**	**58.12**	**181**	P	**P**	**06 11 53.1**	**-0.2**
	1.8nm,0.7s,baz=351,slow=5.9,SNR=3.3						
ARCES	**ARCESS Array B**	**74.09**	**341**	P	**P**	**06 13 36.0**	**+0.6**
	4.5nm,1.0s,baz=60,slow=15,SNR=3.6						
KBZ	**Khabaz**	**78.49**	**313**	P	**P**	**06 14 01.1**	**+0.3**
	2.4nm,0.8s,baz=74,slow=9.8,SNR=4.6						
KBZ				LR	LR	06 51 60.0	
	comp=Z,80nm,18.2s,baz=26,slow=38						
FINES	**FINESS Array B**	**78.49**	**334**	P	**P**	**06 14 00.5**	**+0.1**
	2.0nm,0.6s,baz=74,slow=5.0,SNR=9.7						
AKASG	**Malin Array Be**	**83.14**	**324**	LR	LR	06 56 09.9	
	comp=Z,84nm,18.2s,baz=45,slow=39						
NB2	**NORSAR Subarra**	**84.16**	**338**	P	**P**	**06 14 29.7**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=46,slow=4.8						
NOA	**NORSAR Array B**	**84.16**	**338**	P	**P**	**06 14 30.1**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=45,slow=4.8,SNR=4.6						
LPAZ	**La Paz**	**149.89**	**76**	PKPbc	**PKPbc**	**06 21 51.7**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=272,slow=4.6,SNR=6.6						

NEIC ***28*** *06:06:03.1±0.0, 17°.53N×94°.67W, h167km, MD4.0(MEX), After MEX.*

MEX 28 06:06:03.0±0.8, 17°.54N×94°.68W, h166km±7km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.49**	**204**	*e*P	Pn	06 06 25.2	-0.9
CMIG				*i* S	Sn	06 06 41.9	-2.1
CMIG	**Matias Romero**	**0.49**	**204**	*e*P	Pn	06 06 25.2	-0.9
CMIG				*i* S	Sn	06 06 41.9	-2.1
TUIG	**Tuzandepetl**	**0.55**	**26**	*i* P	Pn	06 06 24.7	-1.7
TUIG	**Tuzandepetl**	**0.55**	**26**	*i* P	Pn	06 06 24.7	-1.7
TUIG				*i* S	Sn	06 06 41.5	-3.0
TGIG		**1.67**	**117**	*i* P	Pn	06 06 34.8	-0.9
TGIG				*i* S	Sn	06 06 58.6	-2.1
TGIG		**1.67**	**117**	*i* P	Pn	06 06 34.8	-0.9
TGIG				*i* S	Sn	06 06 58.6	-2.1
VHO	**Vista Hermosa**	**2.02**	**257**	*e*P	Pn	06 06 38.9	-0.7
VHO				*e*S	Sn	06 07 05.8	-2.0
VHO	**Vista Hermosa**	**2.02**	**257**	*e*P	Pn	06 06 38.9	-0.7
VHO				*e*S	Sn	06 07 05.8	-2.0
HUIG	**Huatulco**	**2.23**	**218**	*e*P	Pn	06 06 39.7	-2.1
HUIG				*i* S	Sn	06 07 09.9	-2.0
HUIG	**Huatulco**	**2.23**	**218**	*e*P	Pn	06 06 39.7	-2.1
HUIG				*i* S	Sn	06 07 09.9	-2.0

WEL 28 06:13:28.0, 41°S±2°×17°4E±°, h62km±1km, ML3.9/16, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCW	**Tory Channel**	**0.21**	**227**	P	Pn	06 13 38.2	+0.5
TCW				S	Sn	06 13 45.3	+0.5
KIW	**Kapiti Island**	**0.39**	**58**	P	Pn	06 13 39.8	+0.7
CAW	**Cannon Point**	**0.45**	**95**	P	Pn	06 13 40.2	+0.6
BHW	**Baring Head**	**0.45**	**139**	P	Pn	06 13 40.1	+0.5
DUWZ	**D'Urville Isla**	**0.50**	**302**	P	Pn	06 13 40.3	+0.2
TUWZ	**Tuamarina**	**0.54**	**228**	P	Pn	06 13 40.7	+0.2
OGWZ	**Otaki Gorge**	**0.58**	**64**	P	Pn	06 13 41.6	+0.6
MSWZ	**Moikau Station**	**0.68**	**121**	P	Pn	06 13 42.5	+0.4
CMWZ	**Cape Campbell**	**0.71**	**196**	P	Pn	06 13 43.5	+1.0
PLWZ	**Palliser**	**0.77**	**131**	P	Pn	06 13 43.5	+0.3
MTW	**Mount Morrison**	**0.78**	**97**	P	Pn	06 13 43.6	+0.2
PAWZ	**Parunui Farm**	**0.78**	**114**	P	Pn	06 13 43.6	+0.3
BSWZ	**Blackbirch Sta**	**0.79**	**215**	P	Pn	06 13 43.6	+0.2
HOWZ	**Holdsworth Sta**	**0.80**	**78**	P	Pn	06 13 43.9	+0.2
NNZ	**Nelson**	**0.84**	**260**	P	Pn	06 13 44.0	-0.1
MRZ	**Mangatainoka R**	**0.93**	**64**	P	Pn	06 13 45.2	0.0
TRWZ	**Traveller**	**0.97**	**110**	P	Pn	06 13 45.9	+0.2
TMWZ	**Te Maipa**	**1.07**	**92**	P	Pn	06 13 47.1	0.0
OHWZ	**Ohakea**	**1.07**	**37**	P	Pn	06 13 47.9	+0.8
TIWZ	**Tintock**	**1.11**	**75**	P	Pn	06 13 47.5	-0.1
POWZ	**Post Office Ro**	**1.19**	**56**	P	Pn	06 13 48.3	-0.3
PRWZ	**Pori Road**	**1.24**	**66**	P	Pn	06 13 49.2	-0.1
CPWZ	**Castlepoint**	**1.31**	**84**	P	Pn	06 13 50.7	+0.4
WAZ	**Wanganui**	**1.37**	**17**	P	Pn	06 13 51.9	+0.9
THZ	**Tophouse**	**1.37**	**239**	P	Pn	06 13 50.4	-0.7
BFZ	**Birch Farm**	**1.40**	**74**	P	Pn	06 13 50.7	-0.6
DVHZ	**Dannevirke**	**1.50**	**60**	P	Pn	06 13 51.9	-0.8
QRZ	**Quartz Range**	**1.50**	**279**	P	Pn	06 13 52.5	-0.2
TSZ	**Takapari Road**	**1.52**	**49**	P	Pn	06 13 52.6	-0.4
KHZ	**Kahutara**	**1.52**	**207**	P	Pn	06 13 52.9	-0.1
LREZ	**Lake Rotokare**	**1.61**	**358**	P	Pn	06 13 55.3	+1.0
ANWZ	**Angora Road**	**1.63**	**69**	P	Pn	06 13 53.9	-0.7
NMEZ	**Namu Road**	**1.72**	**344**	P	Pn	06 13 56.5	+0.8
PREZ	**Palmer Road**	**1.74**	**352**	P	Pn	06 13 57.4	+1.3
PNHZ	**Pukenui**	**1.75**	**49**	P	Pn	06 13 55.3	-0.9
WPHZ	**Waipukurau**	**1.80**	**57**	P	Pn	06 13 56.1	-0.8
KHEZ	**Kahui Hut**	**1.81**	**349**	P	Pn	06 13 57.8	+0.8
PRHZ	**Porangahau**	**1.83**	**65**	P	Pn	06 13 56.4	-0.8
NBEZ	**Newall Road No**	**1.86**	**345**	P	Pn	06

IVK	**Ivanovka**	**0.76**	**247**	*e*Pg	**Pg**	06 18 44.7	-0.5
IVK				*e*Sg	**Sg**	06 18 54.6	-0.5
IVK				*e*Sb	**Sb**	06 18 57.3	+1.1
IVK				Pmax			
	comp=N,60nm,0.1s						
IVK				Smax			
	comp=N,635nm,0.1s						
IRK	**Irkutsk**	**0.79**	**280**	*e*Pg	**Pb**	06 18 46.8	+0.4
IRK				*i* Sg	**Sb**	06 18 58.1	+0.9
IRK				Pmax			
	comp=N,187nm,0.1s						
IRK				Smax			
	comp=N,1µm,0.3s						
IRK	**Irkutsk**	**0.79**	**280**	*e*PG	**Pn**	06 18 47.5	-0.2
IRK				*e*		06 18 58.3	
IRK				pmax	pmax		
	comp=Z,235nm,0.2s						
IRK				smax	smax		
	comp=N,1µm,0.3s						
TRG	**Tyrgan**	**0.82**	**37**	*e*Pg	**Pn**	06 18 48.1	-0.1
TRG				*e*Sg	**Sn**	06 19 00.8	+0.4
TRG				*e*Sb	**Sb**	06 19 03.4	+5.4
TRG				Pmax			
	comp=N,41nm,0.1s						
TRG				max			
	comp=N,833nm,0.2s						
TRG	**Tyrgan**	**0.82**	**37**	*e*PG	**Pn**	06 18 48.1	-0.1
TRG				*e*		06 19 00.8	
TRG				pmax	pmax		
	comp=Z,37nm,0.1s						
TRG				smax	smax		
	comp=N,715nm,0.2s						
HRMR	**Khuramsha**	**1.00**	**118**	*e*Pg	**Pg**	06 18 48.2	-1.5
HRMR				*e*Sg	**Sg**	06 19 01.1	-1.5
HRMR				Pmax			
	comp=N,201nm,0.1s						
HRMR				Smax			
	comp=N,1µm,0.3s						
TLY	**Talaya**	**1.25**	**251**	*e*Pg	**Pn**	06 18 53.8	-0.2
TLY				*e*Pb	**Pg**	06 18 54.7	+0.2
TLY				*e*Sg	**Sb**	06 19 10.0	-0.3
TLY				max			
	comp=N,35nm,0.1s						
TLY				Smax			
	comp=N,274nm,0.2s						
TRTB	**Turuntaevo**	**1.29**	**84**	*e*Pg	**Pb**	06 18 54.9	0.0
TRTB				*e*		06 19 08.5	
TRTB				*e*Sg	**Sg**	06 19 12.9	+0.9
TRTB				*e*Sb	**Sn**	06 19 14.6	+2.6
UUDB	**Ulan-Yde**	**1.33**	**99**	*e*Pg	**Pn**	06 18 54.8	-0.4
UUDB				*e*Sg	**Sb**	06 19 12.4	-0.3
UUDB				Pmax			
	comp=N,37nm,0.3s						
UUDB				Smax			
	comp=N,191nm,0.3s						
KELR	**Kotokel**	**1.69**	**66**	*e*Pg	**Pg**	06 19 02.5	-0.3
KELR				*e*Sg	**Sg**	06 19 25.3	+0.6
ARS	**Arshan**	**1.94**	**266**	*e*Pg	**Pb**	06 19 05.6	-0.3
ARS				*e*Sg	**Sb**	06 19 30.8	+0.7
ARS				*e*		06 19 33.2	
ARS				Pmax			
	comp=N,20nm,0.2s						
ARS				max			
	comp=N,234nm,0.3s						
ARS	**Arshan**	**1.94**	**266**	*e*PN	**Pb**	06 19 05.4	-0.5
ARS				*e*		06 19 30.6	
ARS				pmax	pmax		
	comp=Z,22nm,0.1s						
ARS				smax	smax		
	comp=E,407nm,0.6s						
OGRR	**Ongureny**	**1.98**	**38**	*e*Pg	**Pg**	06 19 08.2	-0.2
OGRR				*e*Sg	**Sg**	06 19 36.5	+2.4
OGRR				Pmax			
	comp=E,14nm,0.4s						
OGRR				Smax			
	comp=E,100nm,0.3s						
ZAK	**Zakamensk**	**2.24**	**220**	*e*Pn	**Pn**	06 19 07.6	0.0
ZAK				*e*Pg	**Pb**	06 19 09.6	-1.4
ZAK				*e*		06 19 34.1	
ZAK				*e*Sg	**Sb**	06 19 38.4	-0.3
ZAK				Pmax			
	comp=E,18nm,0.1s						
ZAK				Smax			
	comp=E,94nm,0.2s						
MXMB	**Maximikha**	**2.27**	**58**	*e*Sg	**Sg**	06 19 42.9	-0.4
MOY	**Mondy**	**2.85**	**263**	*e*Pg	**Pb**	06 19 20.6	-0.9
MOY				*e*Sg	**Sb**	06 19 58.5	+2.0
MOY				*e*		06 20 01.5	
MOY				Pmax			
	comp=E,20nm,0.3s						
MOY				Smax			
	comp=E,83nm,0.6s						
SYVR	**Suvo**	**3.12**	**58**	*e*Pg	**Pb**	06 19 27.8	+1.9
SYVR				*e*Sg	**Sg**	06 20 10.9	+0.4
SYVR				Smax			
	comp=E,26nm,0.6s						
ORL	**Orlik**	**3.54**	**279**	*e*Pn	**Pn**	06 19 25.1	-0.5
ORL				*e*Pg	**Pb**	06 19 34.0	+0.7
ORL				*e*Sg	**Sg**	06 20 21.7	-2.5
ORL				*e*		06 20 26.7	
ORL				max			
	comp=E,34nm,1.0s						
YLYR	**Ulyunkhan**	**4.36**	**48**	Pg	**Pg**	06 19 51.0	-2.8
YLYR				*e*Sg	**Sg**	06 20 48.3	-1.9
YLYR				Smax			
	comp=E,18nm,0.9s						
ULN	**Ulaanbaatar**	**4.36**	**166**	*e*Sg	**Sb**	06 20 40.6	+0.8
NIZ	**Nizh Angarsk**	**4.37**	**31**	*e*	**Pb**	06 19 44.2	-3.1
NIZ				*e*Sg	**Sg**	06 20 48.3	-2.4
NIZ				*e*		06 20 53.7	
NIZ				max			
	comp=E,23nm,0.5s						
KPC	**Khapcheranga**	**4.95**	**116**	Pg	**Pb**	06 19 56.6	-0.6
KPC				*e*Sg	**Sb**	06 21 01.1	+4.3
KPC				Smax			
	comp=E,30nm,0.9s						
KMO	**Kumora**	**5.05**	**39**	*e*	**Sb**	06 21 03.4	+3.9
KMO				*e*Sg	**Sg**	06 21 10.3	-2.1
KNGR	**Kungurtug, Tuv**	**5.25**	**257**	*e*	Sn	06 20 34.8	-15
KNGR				Sg	**Sg**	06 21 12.0	-6.9
TDJR	**Todzha**	**5.81**	**277**	*e*Sg	**Sg**	06 21 33.3	-3.5
TDJR				*e*		06 21 40.6	
ERNS	**Erzin**	**6.79**	**258**	Sg	**Sb**	06 21 57.8	+8.2
BOD	**Bodaibo**	**7.51**	**37**	*e*Sg	**Sg**	06 22 27.1	-4.2
BOD				Smax			
	comp=E,10.0nm,0.9s						

MEX 28 06:19:16.4±0.3, 30.77N×114.12W, h16km±10km, MD3.8, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**1.19**	**284**	*e*P	Pn	06 19 34.7	-4.0
SPIG				*e*S	Sb	06 19 49.4	-4.8
CBX	**Cerro Bola**	**2.67**	**306**	*e*P	Pn	06 19 55.8	-3.0
CBX				*i* S	Sn	06 20 26.3	-4.5

*IDC **28** 06:46:30.5±0.5, 12.86N×88.13W, h0km, mb4.3/14, mb1 4.5/17, mb1mx4.3/43, mbtmp4.3/17, ML3.4/4, MS4.1/32, Ms1 4.1/32, ms1mx4.1/40, Error ellipse: s-maj=27.3km s-min=11.5km az=60.0*

*UCR **28** 06:46:32.9±2.2, 12.54N×88.52W, h28km±7km, MD4.5, ML4.2, mb4.5(NEIC)*

*ISCJB **28** 06:46:33.3±0.8, 12.52N±0.02×88.45W±0.02, h32km±6km, mb4.5/182, MS4.1/29, Error ellipse: s-maj=4.5km s-min=2.7km az=40.3*

*GCMT **28** 06:46:34.2±0.3, 12.38N±0.02×88.57W±0.03, h12km, MW4.9/84, Moment Tensor Solution. s23,c25; s84,c118; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.36±.06; Mθθ2.26±.06; Mφφ0.10±.07; Mrθ0.38±.26; Mrφ-0.58±.06; Mθφ-0.48±.35; Best double couple: Mo2.46000×10^16 NP1:φ293.00000°, δ51.00000°, λ-79.00000°. NP2: φ96.00000°, δ40.00000°, λ-103.00000°. Principal axes: T 2.4550, Plg6.0000°, Azm15.0000°; N 0.0160, Plg9.0000°, Azm106.0000°; P -2.4650, Plg80.0000°, Azm251.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **28** 06:46:37.2±0.5, 12.57N×88.35W, h50km±4km, mb4.5/198*

Error ellipse: s-maj=5.0km s-min=3.2km az=47.0

ISC 28 06:46:34.0±1.3, 12.57N±0.04×88.44W±0.04, h23km±9km, n462, σ1&32/459, mb4.6/181, MS4.1/29, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCY	**Lacayo**	**0.86**	**10**	*e*P	**Pb**	06 46 49.7	-0.7
VSM	**San Miguel**	**0.87**	**11**	*e*P	**Pn**	06 46 50.6	-0.5
UESV	**Ojushtada**	**0.88**	**337**	*e*P	**Pn**	06 46 52.9	+1.9
PACA	**Pacayal**	**0.90**	**7**	*e*P	**Pb**	06 46 50.6	-0.5
PACA				*e*S	**Sn**	06 47 03.5	-0.3
LCND	**La Ca˜–ada**	**0.91**	**36**	*e*P	**Pb**	06 46 50.2	-1.0
LCND				*e*S	**Sn**	06 47 04.5	+0.7
LCND				IAML		06 47 16.6	
	comp=Z,4µm,0.6s						
CNCH	**Conchagua**	**0.92**	**40**	*e*P	**Pb**	06 46 50.9	-0.5
CSGN	**Cosiguina Volc**	**0.95**	**65**	*e*Pn	**Pn**	06 46 51.6	-0.4
CSGN				*e*Sn	**Sn**	06 47 05.3	+0.4
CSGN	**Cosiguina Volc**	**0.95**	**65**	*e*P	**Pn**	06 46 51.9	-0.1
CSGN				*e*S	**Sn**	06 47 07.2	+2.3
CSGN				IAML		06 47 22.4	
	comp=N,55µm,0.5s						
SNVI	**San Vicente**	**1.11**	**340**	*e*P	**Pn**	06 46 52.8	-1.5
LFRS	**El Faro**	**1.21**	**330**	*e*P	**Pn**	06 46 53.4	-2.2
CAHU	**Cacacuatique**	**1.22**	**11**	*e*P	**Pb**	06 46 56.2	-0.3
PAVA	**Las Pavas**	**1.24**	**337**	*e*P	**Pn**	06 46 54.6	-1.4
PAVA				IAML		06 47 18.2	
	comp=Z,6µm,0.4s						
LOMA	**San Marcos**	**1.29**	**327**	*e*P	**Pn**	06 46 54.7	-2.0
LOMA				*e*S	**Sn**	06 47 12.3	-0.9
LOMA				IAML		06 47 16.6	
	comp=Z,5µm,0.3s						
LBRS	**Las Brisas**	**1.30**	**333**	*e*P	**Pn**	06 46 55.4	-1.5
SNET	**Serv Nac Est T**	**1.35**	**325**	*e*P	**Pn**	06 46 55.3	-2.3
SNET				IAML		06 47 26.9	
	comp=Z,2µm,0.2s						
OPAM	**San Salvador**	**1.36**	**327**	*e*P	**Pn**	06 46 55.8	-1.8
OPAM				IAML		06 47 21.6	
	comp=Z,3µm,0.3s						
CRIN	**San Cristobal**	**1.36**	**84**	*e*S	**Sb**	06 47 16.6	+0.7
BOQS	**Boqueron**	**1.42**	**325**	*e*P	**Pn**	06 46 56.7	-1.9
LLGN	**La Laguna**	**1.67**	**343**	*e*P	**Pn**	06 47 01.6	-0.3
LLGN				IAML		06 47 07.2	
	comp=Z,3µm,0.6s						
CEVE	**Cerro Verde**	**1.70**	**318**	*e*P	**Pn**	06 47 02.1	-0.4
CEVE				IAML		06 47 25.9	
	comp=Z,5µm,0.4s						
CNGN	**Cerro Negro**	**1.70**	**92**	*e*P	**Pn**	06 47 00.1	-2.2
SBLS	**San Blas**	**1.71**	**318**	*e*P	**Pn**	06 47 01.1	-1.5
UNIC	**Santa Ana**	**1.79**	**323**	*e*P	**Pn**	06 47 01.7	-1.8
COPN	**Copaltepe**	**1.85**	**102**	*e*P	**Pn**	06 47 01.5	-2.7
COPN				*e*S	**Sn**	06 47 26.5	-0.4
COPN				IAML		06 47 33.2	
	comp=Z,2µm,0.7s						
TGUH	**Tegucigalpa,Un**	**1.87**	**37**	*e*Pn	**Pn**	06 47 05.0	+0.5
TGUH				*e*Sn	**Sn**	06 47 20.6	-6.8
MTO3	**Montecristo**	**2.03**	**334**	*e*P	**Pn**	06 47 06.3	-0.7
ESTN	**Estel**	**2.09**	**75**	*e*Pn	**Pn**	06 47 06.1	-1.6
ESTN				*e*Sn	**Sn**	06 47 28.1	-4.9
ESTN	**Estel**	**2.09**	**75**	*e*P	**Pn**	06 47 07.6	-0.1
MGAN	**Managua**	**2.18**	**101**	*e*S	**Sn**	06 47 35.1	-0.2
MASN	**Masaya**	**2.31**	**104**	*e*P	**Pb**	06 47 12.8	-2.2
MATN	**Matagalpa**	**2.48**	**81**	*e*P	**Pn**	06 47 12.2	-0.8
BOAB	**BOACO BROADBAN**	**2.71**	**92**	*e*Pn	**Pn**	06 47 15.0	-1.2
APG	**El Apazote**	**3.12**	**321**	Pn	**Pn**	06 47 21.1	-0.9
	comp=Z,4.9nm,0.3s,baz=333,slow=3.2,SNR=13						
APG				Sn	**Sn**	06 47 56.4	-2.3
	comp=Z,8.3nm,0.3s,baz=175,slow=23,SNR=6.6						
ACON	**Acoyapa**	**3.25**	**100**	*e*P	**Pn**	06 47 22.3	-1.2
MESS	**Mesas**	**3.66**	**119**	*e*P	**Pn**	06 47 28.7	-0.6
VCR	**Vista de Mar**	**3.67**	**131**	*e*P	**Pn**	06 47 27.6	-1.9
PLVR	**Palo Verde**	**3.75**	**126**	*e*P	**Pn**	06 47 29.4	-1.2
ESPN	**Las Esperanzas**	**4.06**	**95**	*e*P	**Pn**	06 47 35.7	+1.0
JTS	**JuntasAbangare**	**4.10**	**123**	Pn	**Pn**	06 47 34.4	-0.9
	comp=Z,3.2nm,0.3s,baz=166,slow=22,SNR=23						
JTS				Lg	Lg	06 48 28.4	
	comp=Z,7.8nm,0.3s,baz=326,slow=18,SNR=4.3						
JTS				LR	LR	06 49 26.9	
	comp=Z,3µm,18.8s,baz=336,slow=44						
JTS	**JuntasAbangare**	**4.10**	**123**	*e*Pn	**Pn**	06 47 35.1	-0.2
JTS				*e*		06 47 35.5	
JTS				Lg	Lg	06 48 28.4	
ARE1	**Arenal 1**	**4.21**	**119**	*e*P	**Pn**	06 47 37.0	+0.2
HDC	**Heredia**	**4.95**	**121**	*e*Pn	**Pn**	06 47 48.5	+1.4
HDC	**Heredia**	**4.95**	**121**	*e*P	**Pn**	06 47 46.8	-0.4
LCR2	**La Lucha 2**	**5.18**	**122**	*e*P	**Pn**	06 47 49.5	-0.8
CVTR	**Volcan Turrial**	**5.24**	**118**	*e*P	**Pn**	06 47 54.4	+3.0
URSC	**Urasca**	**5.32**	**120**	*e*P	**Pn**	06 47 53.4	+1.1
EDLM	**Las Mercedes**	**5.78**	**124**	*e*P	**Pn**	06 47 58.0	-0.4
DRK0	**Durika**	**6.07**	**122**	*e*P	**Pn**	06 48 01.4	-1.1
EDBA	**Buenos Aires**	**6.10**	**123**	*e*P	**Pn**	06 48 02.0	-0.8
EDSV	**San Vito**	**6.54**	**124**	*e*P	**Pn**	06 48 09.7	+0.8
BRU2	**Volcan**	**6.78**	**123**	*e*Pn	**Pn**	06 48 12.9	+0.6
ICCO	**Coco Island**	**7.11**	**169**	*e*P	**Pn**	06 48 13.5	-3.2
TEIG	**Tepich**	**7.62**	**1**	*e*Pn	**Pn**	06 48 25.9	+2.2
CMIG	**Matias Romero**	**7.68**	**307**	Pn	**Pn**	06 48 26.2	+1.7
	comp=Z,1.4nm,0.3s,baz=135,slow=8.3,SNR=24						
MYIG	**MÓrida**	**8.44**	**352**	*e*Pn	**Pn**	06 48 37.7	+2.9
TLIG	**Tlapa**	**10.97**	**298**	*e*Pn	**Pn**	06 49 12.7	+3.0
JRQG	**Juriquilla Cam**	**14.06**	**306**	*e*Pn	**Pn**	06 49 54.0	+2.0
MOIG	**Morelia**	**14.14**	**302**	*e*Pn	**Pn**	06 49 55.0	+1.8
061Z	**Ochoppi** baz=209	**15.01**	**27**	P	**Pn**	06 50 02.8	-1.9
059Z	**Ave Maria** baz=207	**15.20**	**25**	P	**Pn**	06 50 07.5	+0.2
060Z	**West Palm Beac** baz=209	**15.64**	**27**	P	**Pn**	06 50 13.1	+0.1
058A	**Arcadia** baz=204	**15.70**	**22**	P	**Pn**	06 50 14.7	+0.9
OTAV	**Otavalo** comp=Z,14nm,1.0s	**15.76**	**140**	*e*Pn	**Pn**	06 50 16.8	+1.7
059A	**Moore Haven** baz=207	**15.88**	**24**	P	**Pn**	06 50 17.2	+1.1
ROSC	**El Rosal**	**15.92**	**118**	Pn	**P**	06 50 18.9	-1.7
	comp=Z,0.5nm,0.3s,baz=339,slow=4.5,SNR=12						
ROSC				LR	LR	06 56 27.4	
	comp=Z,250nm,19.9s,baz=319,slow=38						
ROSC	**El Rosal** comp=Z,29nm,1.0s	**15.92**	**118**	*e*Pn	**P**	06 50 19.5	-1.1
LNIG	**Linares** comp=Z,30nm,1.1s	**16.09**	**321**	*e*Pn	**P**	06 50 22.4	+0.4
957A	**Wimauma** baz=202	**16.11**	**20**	P	**Pn**	06 50 19.1	0.0
958A	**Wauchula** baz=204	**16.20**	**22**	P	**Pn**	06 50 20.8	+0.6
060A	**Indiantown** baz=209	**16.27**	**27**	P	**Pn**	06 50 21.8	+0.7
959A	**Okeechobee** baz=206	**16.48**	**24**	P	**Pn**	06 50 23.6	-0.1
857A	**Zephyrhills** baz=201	**16.66**	**19**	P	**Pn**	06 50 25.2	-0.9
ZAIG	**Zacatecas** comp=Z,18nm,1.2s	**16.84**	**309**	*e*Pn	**P**	06 50 31.4	+0.8
858A	**St. Cloud** baz=204	**16.91**	**22**	P	**Pn**	06 50 28.5	-0.7
757A	**Oxford** baz=201	**17.34**	**19**	P	**Pn**	06 50 34.2	-0.3
656A	**Willston** baz=199	**17.60**	**17**	P	**P**	06 50 39.6	+1.0
758A	**Lake Helen** baz=204	**17.65**	**21**	P	**P**	06 50 40.2	+0.9
SDV	**Santo Domingo** comp=Z,0.4nm,0.3s,baz=255,slow=6.7,SNR=12	**17.87**	**100**	P	**Pn**	06 50 39.5	-1.9
SDV				LR	LR	06 59 08.4	
	comp=Z,557nm,19.1s,baz=258,slow=43						
SDV	**Santo Domingo** comp=Z,21nm,0.9s	**17.87**	**100**	*e*Pn	**Pn**	06 50 41.4	-0.1
554A	**Perry** baz=195	**17.98**	**13**	P	**P**	06 50 45.0	+2.2
657A	**Interlachen** baz=201	**18.00**	**19**	P	**P**	06 50 44.5	+1.4
658A	**Bunnell** baz=203	**18.05**	**21**	P	**P**	06 50 46.6	+2.9
451A	**Vernon** baz=188	**18.13**	**7**	P	**P**	06 50 48.1	+3.6
447A	**Lucedale** baz=179	**18.14**	**359**	P	**P**	06 50 48.4	+3.7
446A	**Poplarville** baz=177	**18.16**	**357**	P	**P**	06 50 46.7	+1.9
445A	**Amite** baz=174	**18.16**	**355**	P	**P**	06 50 46.8	+2.0
444A	**Pine Grove** baz=172	**18.19**	**354**	P	**P**	06 50 48.0	+2.9
555A	**McAlpin** baz=197	**18.19**	**15**	P	**P**	06 50 47.9	+2.8
450A	**Crestview** baz=186	**18.23**	**5**	P	**P**	06 50 48.6	+3.0
556A	**Lake Butler** baz=199	**18.23**	**17**	P	**P**	06 50 48.0	+2.4
448A	**Bay Minette** baz=182	**18.28**	**2**	P	**P**	06 50 48.4	+2.2
442A	**Mamou** baz=167	**18.43**	**349**	P	**Pn**	06 50 50.2	+2.2
452A	**Marianna** baz=190	**18.44**	**9**	P	**Pn**	06 50 50.3	+2.2
557A	**Orange Park** baz=201	**18.45**	**19**	P	**Pn**	06 50 49.1	+1.0
454A	**Quitman** baz=195	**18.60**	**13**	P	**Pn**	06 50 51.0	+1.0
HKT	**Hockley** comp=Z,9.4nm,1.1s	**18.61**	**340**	*e*P	**Pn**	06 50 51.5	+1.5
833A	**Chaparral WMA,** comp=Z,26nm,0.7s	**18.72**	**329**	*e*P	**Pn**	06 50 52.2	+0.8
833A	**Chaparral WMA,** baz=145,SNR=8.6	**18.72**	**329**	P	**Pn**	06 50 51.7	+0.3
346A	**Big Creek Wild** comp=Z,32nm,0.9s	**18.75**	**357**	*e*P	**Pn**	06 50 51.7	-0.2
346A	**Big Creek Wild** baz=177	**18.75**	**357**	P	**Pn**	06 50 52.4	+0.5
348A	**Jackson** comp=Z,33nm,1.0s	**18.76**	**1**	*e*P	**Pn**	06 50 52.9	+0.9
351A	**Pinckard** baz=188	**18.80**	**8**	P	**Pn**	06 50 53.4	+0.9
343A	**Vidalia** baz=170	**18.86**	**352**	P	**Pn**	06 50 53.6	+0.5
350A	**Dozier** baz=186	**18.86**	**6**	P	**Pn**	06 50 53.2	-0.1
344A	**Westbrook Farm** comp=Z,70nm,0.9s	**18.91**	**354**	*e*P	**Pn**	06 50 55.2	+1.3
344A	**Westbrook Farm** baz=173	**18.91**	**354**	P	**Pn**	06 50 55.1	+1.3
342A	**Flagon Creek P** comp=Z,33nm,1.0s	**19.06**	**350**	*e*P	**Pn**	06 50 57.1	+1.5
342A	**Flagon Creek P** baz=168	**19.06**	**350**	P	**Pn**	06 50 57.4	+1.8
353A	**Camilla** baz=192	**19.09**	**11**	P	**Pn**	06 50 56.5	+0.5
352A	**Blakely** comp=Z,73nm,1.0s	**19.10**	**9**	*e*P	**Pn**	06 50 57.5	+1.5
352A	**Blakely** baz=190,SNR=8.2	**19.10**	**9**	P	**Pn**	06 50 56.3	+0.2
TIGA	**Tifton** comp=Z,50nm,1.0s	**19.31**	**13**	*e*P	**Pn**	06 51 00.8	+2.2
TIGA	**Tifton** baz=194	**19.31**	**13**	P	**P**	06 50 57.3	-0.2
249A	**Camden** baz=184	**19.35**	**3**	P	**P**	06 50 58.3	+0.3
247A	**Quitman** baz=179	**19.39**	**360**	P	**Pn**	06 50 59.1	-0.5
245A	**Little AP, Sta** baz=176,SNR=9.1	**19.42**	**356**	P	**Pn**	06 50 59.7	-0.2
250A	**Grady** comp=Z,32nm,1.1s	**19.42**	**6**	*e*P	**Pn**	06 51 00.4	+0.4
248A	**Dixon Mills** baz=182	**19.45**	**2**	P	**Pn**	06 50 59.9	-0.3
244A	**Avery, Jackson** baz=179,SNR=8.9	**19.49**	**354**	P	**Pn**	06 51 00.9	+0.1
251A	**Midway** baz=189,SNR=13	**19.63**	**8**	P	**Pn**	06 51 02.8	+0.3
252A	**Lumpkin** baz=190,SNR=12	**19.64**	**9**	P	**Pn**	06 51 02.8	+0.3
VBMS	**Vicksburg** comp=Z,54nm,0.9s	**19.65**	**355**	*e*P	**Pn**	06 51 02.9	+0.2
VBMS	**Vicksburg** baz=174	**19.65**	**355**	P	**Pn**	06 51 02.0	-0.7
241A	**Mo Tay, Goldon** comp=Z,36nm,0.9s	**19.80**	**349**	*e*P	**Pn**	06 51 04.5	+0.1
241A	**Mo Tay, Goldon** baz=167	**19.80**	**349**	P	**P**	06 51 02.7	-0.1
253A	**Americus** comp=Z,20nm,0.9s	**19.80**	**11**	*e*P	**Pn**	06 51 04.9	+0.4
253A	**Americus** baz=192	**19.80**	**11**	P	**Pn**	06 51 03.6	-0.8
NATX	**Nacogdoches** comp=Z,60nm,1.1s	**19.94**	**344**	*e*P	**Pn**	06 51 06.5	+0.3
146A	**Union** comp=Z,50nm,1.1s	**19.98**	**358**	*e*P	**Pn**	06 51 06.5	-0.1
146A	**Union** baz=178,SNR=5.1	**19.98**	**358**	P	**Pn**	06 51 06.2	-0.5
240A	**Hunter Patters** comp=Z,34nm,0.8s	**19.99**	**347**	*e*P	**P**	06 51 05.3	+0.5
435B	**Jarrell** comp=Z,32nm,1.0s	**20.00**	**336**	*e*P	**P**	06 51 05.8	+0.7
148A	**Greensboro** baz=182	**20.00**	**2**	P	**Pn**	06 51 06.9	+0.1
147A	**Livingston** comp=Z,28nm,0.8s	**20.01**	**0**	*e*P	**P**	06 51 05.7	+0.6
147A	**Livingston** baz=180	**20.01**	**0**	P	**P**	06 51 05.2	+0.1
255A	**Hazlehurst** comp=Z,94nm,1.1s	**20.03**	**15**	*e*P	**Pn**	06 51 07.5	+0.3
144A	**Alexander Plac** baz=174	**20.05**	**355**	P	**Pn**	06 51 07.0	-0.5
150A	**Eclectic** baz=187,SNR=17	**20.07**	**6**	P	**Pn**	06 51 07.0	-0.7
151A	**Opelika** baz=189,SNR=17	**20.07**	**8**	P	**P**	06 51 06.3	+0.5
143A	**Socs Landing,** comp=Z,45nm,1.1s	**20.23**	**353**	*e*P	**Pn**	06 51 08.9	-0.5
143A	**Socs Landing,** baz=171	**20.23**	**353**	P	**Pn**	06 51 08.9	-0.6
152A	**Waverly Hall** comp=Z,16nm,0.9s	**20.30**	**9**	*e*P	**Pn**	06 51 09.8	-0.5
152A	**Waverly Hall** baz=190,SNR=13	**20.30**	**9**	P	**Pn**	06 51 09.4	-1.0
LRAL	**Lakeview Retre** comp=Z,13nm,0.9s	**20.41**	**3**	*e*P	**Pn**	06 51 12.0	+0.3
LRAL	**Lakeview Retre** baz=184,SNR=6.5	**20.41**	**3**	P	**Pn**	06 51 10.5	-1.2
Z46A	**Louisville** baz=178,SNR=13	**20.54**	**359**	P	**P**	06 51 11.6	+0.7
Z47A	**Carrollton** baz=181	**20.54**	**1**	P	**Pn**	06 51 11.9	-1.3
154A	**Montrose** comp=Z,102nm,1.1s	**20.54**	**13**	*e*P	**P**	06 51 11.7	+0.8
154A	**Montrose** baz=195	**20.54**	**13**	P	**P**	06 51 08.9	-2.0
JCT	**Junction City** comp=Z,42nm,1.1s	**20.69**	**331**	*e*P	**P**	06 51 12.4	-0.3
JCT	**Junction City** baz=147,SNR=13	**20.69**	**331**	P	**P**	06 51 11.6	-1.1
Z44A	**Pea Ridge, Bel** baz=174	**20.70**	**355**	P	**P**	06 51 12.7	+0.2
155A	**Kite** baz=196,SNR=7.4	**20.70**	**14**	P	**P**	06 51 13.3	+0.7
Z50A	**Ashland** comp=Z,17nm,0.8s	**20.72**	**6**	*e*P	**Pn**	06 51 15.3	0.0
Z45A	**Winona** comp=Z,17nm,0.8s	**20.74**	**357**	*e*P	**P**	06 51 13.5	+0.5
Z45A	**Winona** baz=176	**20.74**	**357**	P	**P**	06 51 13.2	+0.2
Z52A	**Williamson** baz=191	**20.85**	**10**	P	**P**	06 51 15.4	+1.1
Z51A	**Franklin** baz=189	**20.87**	**8**	P	**Pn**	06 51 15.6	-1.4
Z41A	**Richland Creek** comp=Z,18nm,0.8s	**20.98**	**350**	*e*P	**Pn**	06 51 17.8	-0.4
WHTX	**Lake Whitney,** comp=Z,13nm,0.7s	**21.03**	**338**	*e*P	**P**	06 51 16.8	+0.5
WHTX	**Lake Whitney,** baz=155	**21.03**	**338**	P	**P**	06 51 16.5	+0.2
Z53A	**Monticello** baz=193,SNR=12	**21.09**	**11**	P	**P**	06 51 17.9	+1.1
GOGA	**Godfrey** comp=Z,27nm,0.8s	**21.24**	**12**	*e*P	**P**	06 51 19.4	+1.0
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X47A **Russelville** 21.86 1 P P 06 51 24.5 -0.5
baz=181,SNR=8.8
OXF **Oxford** 21.86 358 eP P 06 51 26.3 +1.2
comp=Z,26nm,1.0s
LTX **Lajitas** 21.88 322 eP P 06 51 25.2 -0.3
LTX eS S 06 55 25.5 -0.8
TXAR **Lajitas Array** 21.88 322 P P 06 51 25.2 -0.3
comp=Z,5.7nm,0.8s,baz=143,slow=7.2,SNR=35
TXAR PcP PcP 06 55 25.5 +0.9
comp=Z,3.5nm,1.0s,baz=158,slow=2.9,SNR=8.3
TXAR ScP ScP 06 59 02.9 +2.3
comp=Z,0.7nm,0.9s,baz=149,slow=5.8,SNR=5.0
TXAR LR LR 07 01 43.5
comp=Z,279nm,19.8s,baz=0.0,slow=42
TX31 **Lajitas Ar. Si** 21.88 322 eP P 06 51 25.2 -0.3
TX31 eP P 06 51 26.5 +1.0
TX31 eS S 06 55 26.2 -0.1
TX31 eS S 06 55 27.5 +1.2
X49A **Woodville** 21.93 5 P P 06 51 25.0 -0.9
baz=185
X50B **Fort Payne** 21.94 6 P P 06 51 25.3 -0.7
baz=187
X43A **Marvell** 21.96 355 eP P 06 51 27.0 +0.9
comp=Z,45nm,1.1s
ATAH **Atahualpa** 21.97 152 P P 06 51 29.5 +2.6
comp=Z,17nm,0.9s,baz=6.8,slow=7.9,SNR=11
ATAH LR LR 06 58 55.5
comp=Z,938nm,18.4s,baz=333,slow=34
X51A **Calhoun** 22.14 8 P P 06 51 27.7 -0.4
baz=189
X41A **Kaden, Bauxite** 22.14 351 P P 06 51 28.7 +0.6
baz=169,SNR=5.4
X40A **Basin Creek Fa** 22.18 350 eP P 06 51 30.6 +2.0
comp=Z,5.9nm,0.9s
X40A **Basin Creek Fa** 22.18 350 P P 06 51 29.2 +0.6
baz=168,SNR=8.5
HODGE **Hodges** 22.29 14 eP P 06 51 31.0 +1.3
comp=Z,37nm,1.0s
PLAL **Pickwick Lake** 22.32 1 eP P 06 51 30.1 +0.1
comp=Z,10nm,1.0s
MIAR **Mount Ida** 22.37 349 eP P 06 51 31.8 +1.3
comp=Z,29nm,0.9s
MIAR **Mount Ida** 22.37 349 P P 06 51 31.3 +0.7
baz=167,SNR=20
UALR **University of** 22.39 352 eP P 06 51 33.2 +2.4
comp=Z,19nm,0.8s
ABTX **Abilene, Hawle** 22.45 335 eP P 06 51 31.1 -0.4
comp=Z,21nm,0.8s
ABTX **Abilene, Hawle** 22.45 335 P P 06 51 30.8 -0.7
baz=150,SNR=15
W48A **Pulaski** 22.51 3 P P 06 51 29.7 -2.4
baz=184
JSC **Jenkinsville** 22.58 16 eP P 06 51 33.5 +0.6
comp=Z,90nm,1.2s
SWET **Sewanee** 22.66 5 eP P 06 51 34.7 +1.0
comp=Z,9.8nm,0.9s
W50A **Signal Mountai** 22.71 7 eP P 06 51 34.4 +0.2
comp=Z,8.6nm,0.8s
W51A **Cleveland** 22.74 8 P P 06 51 34.1 -0.4
baz=189,SNR=5.8
W41B **Gary Mavity, V** 22.77 352 eP P 06 51 35.4 +0.6
comp=Z,16nm,1.0s
W52A **Murphy** 22.80 10 eP P 06 51 35.6 +0.4
comp=Z,23nm,1.1s
W52A **Murphy** 22.80 10 P P 06 51 34.9 -0.2
baz=191
X37A **Clayton** 22.81 345 eP P 06 51 36.8 +1.6
comp=Z,20nm,0.9s
BG3 **Lake Jocassee** 22.88 12 eP P 06 51 37.4 +1.4
comp=Z,10nm,1.1s
WHAR **Wooly Hollow** 22.89 352 eP P 06 51 36.6 +0.6
comp=Z,12nm,1.0s
PAULI **Pauline** 22.96 14 eP P 06 51 38.2 +1.5
comp=Z,33nm,1.0s
HBAR **Harrisburg** 22.97 355 eP P 06 51 37.9 +1.0
comp=Z,106nm,1.1s
W53A **Cullowhee** 23.00 11 P P 06 51 37.8 +0.4
baz=193
W39A **Magazine** 23.04 349 eP P 06 51 39.3 +1.7
comp=Z,12nm,1.0s
CPCT **Cooper Cave** 23.06 8 eP P 06 51 38.8 +1.0
comp=Z,7.6nm,1.0s
V48A **Smith Brothers** 23.12 3 eP P 06 51 39.1 +0.7
comp=Z,9.3nm,0.9s
SLBS **Sierra La Lagu** 23.20 301 eP P 06 51 40.7 +1.3
comp=Z,7.7nm,1.0s
GNAR **Gosnell** 23.34 357 eP P 06 51 40.6 0.0
comp=Z,61nm,1.0s
STVI **Saint Thomas** 23.34 73 eP P 06 51 39.6 -1.3
comp=Z,32nm,1.0s
V41A **Mountainview** 23.36 352 P P 06 51 40.5 -0.4
baz=171,SNR=23
TKL **Tuckaleechee C** 23.37 10 P P 06 51 39.2 -1.8
comp=Z,14nm,0.7s,baz=177,slow=11,SNR=12
TKL LR LR 07 01 31.5
comp=Z,188nm,18.6s,baz=194,slow=39
TKL **Tuckaleechee C** 23.37 10 eP P 06 51 41.3 +0.3
comp=Z,38nm,1.0s
KMSC **Kings Mountain** 23.38 15 eP P 06 51 41.8 +0.7
comp=Z,23nm,1.0s
V51A **Loudon** 23.43 8 eP P 06 51 42.1 +0.6
comp=Z,6.0nm,0.8s
WVT **Waverly** 23.47 1 eP P 06 51 42.4 +0.5
comp=Z,6.6nm,0.9s
V53A **Saluda** 23.56 12 eP P 06 51 43.3 +0.5
comp=Z,27nm,0.9s
V53A **Saluda** 23.56 12 P P 06 51 42.3 -0.5
baz=194,SNR=11
V52A **Sevierville** 23.58 10 eP P 06 51 44.0 +1.0
comp=Z,29nm,1.1s
V52A **Sevierville** 23.58 10 P P 06 51 41.5 -1.5
baz=192
GLAT **Glass** 23.61 358 eP P 06 51 42.4 -0.9
comp=Z,89nm,1.1s
UTMT **University of** 23.68 359 eP P 06 51 43.9 0.0
comp=Z,60nm,1.0s
LPIG **La Paz** 23.68 302 LR LR 07 02 04.3
comp=Z,234nm,19.2s,baz=110,slow=39
U46A **Springville** 23.69 1 P P 06 51 43.1 -1.0
baz=180,SNR=14
U48A **Cassie Pea, Po** 23.90 4 P P 06 51 44.4 -1.7
baz=184
WMOK **Wichita Mounta** 23.98 339 eP P 06 51 46.2 -0.7
comp=Z,26nm,1.1s
WMOK **Wichita Mounta** 23.98 339 P P 06 51 45.8 -1.1
baz=154,SNR=43
U40A **Yellville** 24.02 351 P P 06 51 46.4 -0.8
baz=169,SNR=36
HHAR **Hobbs** 24.13 349 eP P 06 51 48.5 +0.3
comp=Z,9.5nm,1.0s
TUL1 **Leonard** 24.17 345 eP P 06 51 49.5 +0.9
comp=Z,33nm,1.0s
TUL1 **Leonard** 24.17 345 P P 06 51 47.7 -0.9
baz=162,SNR=5.2
PBMO **Poplar Bluff** 24.17 356 eP P 06 51 48.1 -0.5
comp=Z,30nm,1.1s
TZTN **Tazewell** 24.28 10 eP P 06 51 49.5 -0.1
comp=Z,15nm,1.1s
U53A **Fall Branch** 24.28 12 P P 06 51 48.4 -1.1
baz=194,SNR=7.1
T47A **Sharon Grove** 24.35 3 eP P 06 51 49.1 -1.0
comp=Z,24nm,0.8s
GDL2 **Guadalupe Moun** 24.41 326 eP P 06 51 51.1 +0.2
T42A **Van Buren** 24.48 355 eP P 06 51 50.6 -0.7
comp=Z,8.8nm,0.7s
CNNC **Cliffs of the** 24.51 21 eP P 06 51 51.2 -0.4
comp=Z,41nm,1.1s
T49A **Edmonton** 24.57 6 eP P 06 51 51.4 -0.9
comp=Z,16nm,1.1s
MNTX **Cornudas Mount** 24.61 323 eP P 06 51 52.1 -0.6
comp=Z,6.7nm,1.1s
MNTX **Cornudas Mount** 24.61 323 P P 06 51 51.7 -0.9
baz=137,SNR=29
MSTX **Muleshoe** 24.99 331 eP P 06 51 55.4 -0.8
comp=Z,51nm,1.1s
MSTX **Muleshoe** 24.99 331 P P 06 51 55.1 -1.0
baz=145,SNR=30
SIUC **Southern Illin** 25.05 359 eP P 06 51 55.9 -0.6
comp=Z,20nm,0.9s
SMRT **St. Maarten** 25.05 74 eP P 06 51 54.6 -2.2
comp=Z,66nm,0.9s
AMTX **Amarillo** 25.25 334 eP P 06 51 58.8 +0.2
comp=Z,55nm,0.9s
S51A **Beattyville** 25.34 9 eP P 06 51 59.2 0.0
comp=Z,16nm,1.1s
CCM **Cathedral Cave** 25.51 355 eP P 06 52 00.1 -0.5
comp=Z,19nm,0.9s
CCM ePcP PcP 06 55 31.4 -0.7

U32A **Winter Ranch,** 25.55 340 eP P 06 52 00.2 -0.9
comp=Z,32nm,1.0s
BLA **Blacksburg** 25.57 15 eP P 06 52 01.0 -0.3
comp=Z,11nm,0.9s
WCI **Wyandotte Cave** 25.63 4 eP P 06 52 00.7 -1.0
comp=Z,17nm,0.8s
R41A **Rosebud** 25.76 355 P P 06 52 02.0 -1.0
baz=179,SNR=17
SRIG **Santa Rosalia** 26.68 307 eP P 06 52 12.7 +1.3
comp=Z,18nm,1.1s
Q51A **Peebles** 26.74 9 eP P 06 52 11.5 -0.4
comp=Z,18nm,0.8s
NNA **Nana** 26.98 154 LR LR 07 03 22.5
comp=Z,92nm,18.2s,baz=333,slow=37
BNM **Barren Site** 27.12 325 eP P 06 52 16.0 +0.4
Y22D **IRIS PASSCAL I** 27.23 325 eP P 06 52 17.2 +0.7
comp=Z,26nm,1.1s
P51A **Williamsport** 27.23 9 eP P 06 52 16.0 -0.2
comp=Z,11nm,0.8s
LPM **Los Pinos Moun** 27.24 326 eP P 06 52 18.0 +1.4
LENM **Lemitar** 27.32 325 eP P 06 52 18.8 +1.4
CBN **Corbin Frederi** 27.37 19 eP P 06 52 17.0 -0.5
comp=Z,18nm,0.8s
CBN **Corbin Frederi** 27.37 19 P P 06 52 15.1 -2.4
baz=204
KSU1 **Kansas State U** 27.40 346 eP P 06 52 18.1 +0.3
comp=Z,17nm,0.8s
P53A **Whipple** 27.53 12 eP P 06 52 19.2 +0.3
comp=Z,10nm,1.0s
LAZ **Ladron** 27.59 325 eP P 06 52 19.5 -0.3
ANMO **Albuquerque** 27.62 327 P P 06 52 20.9 +0.9
comp=Z,0.7nm,0.5s,baz=183,slow=19,SNR=4.9
ANMO PcP PcP 06 55 38.1 +0.7
comp=Z,3.9nm,1.1s,baz=166,slow=3.3,SNR=6.2
ANMO LR LR 07 04 43.9
comp=Z,170nm,21.5s,baz=205,slow=40
ANMO **Albuquerque** 27.62 327 eP P 06 52 21.3 +1.2
comp=Z,1.4nm,0.9s
ANMO ePcP PcP 06 55 42.0 +4.6
O50A **Cable** 27.80 8 P P 06 52 20.0 -1.3
baz=190,SNR=5.1
ACSO **Alum Creek Sta** 27.97 9 eP P 06 52 22.4 -0.5
comp=Z,21nm,1.1s
CBKS **Cedar Bluff** 28.00 341 eP P 06 52 23.2 0.0
comp=Z,33nm,1.0s
T25A **Trinidad** 28.35 332 eP P 06 52 27.2 +0.7
comp=Z,17nm,1.0s
T25A **Trinidad** 28.35 332 P P 06 52 25.7 -0.8
baz=146,SNR=12
TUC **Tucson** 28.39 317 eP P 06 52 28.2 +1.3
comp=Z,12nm,1.1s
N49A **Columbus Grove** 28.49 7 eP P 06 52 27.6 +0.1
comp=Z,21nm,1.1s
SDMD **Soldier's Deli** 28.64 19 eP P 06 52 28.5 -0.3
comp=Z,12nm,1.1s
KSCO **Kaye Shedlock'** 29.19 337 eP P 06 52 34.0 0.0
comp=Z,7nm,1.0s
KSCO **Kaye Shedlock'** 29.19 337 P P 06 52 33.2 -0.7
baz=151,SNR=9.0
SDCO **Great Sand Dun** 29.34 332 eP P 06 52 36.4 +0.9
comp=Z,16nm,1.1s
SDCO **Great Sand Dun** 29.34 332 P P 06 52 36.1 +0.6
baz=144,SNR=19
PAGS **Pennsylvania G** 29.42 18 eP P 06 52 36.0 +0.2
comp=Z,14nm,0.9s
L40A **Anoosa** 29.48 356 eP P 06 52 36.2 -0.1
comp=Z,19nm,0.9s
SCIA **State Center** 29.52 353 eP P 06 52 33.3 -3.4
comp=Z,16nm,0.8s
W18A **Petrified Fore** 29.59 323 eP P 06 52 38.0 +0.4
comp=Z,8.6nm,1.1s
BGNE **Belgrade** 29.96 345 eP P 06 52 40.5 -0.1
comp=Z,24nm,0.6s
S22A **4UR Ranch, Cre** 29.98 330 eP P 06 52 41.9 +0.8
comp=Z,14nm,1.1s
S22A ePcP PcP 06 55 45.4 +2.1
S22A **4UR Ranch, Cre** 29.98 330 P P 06 52 40.6 -0.5
baz=142,SNR=5.9
X16A **Lo Mia Camp, P** 30.16 320 eP P 06 52 43.6 +1.0
comp=Z,3.2nm,0.9s
Q24A **Divide** 30.18 334 eP P 06 52 43.2 +0.3
comp=Z,8.2nm,1.0s
MVCO **Mesa Verde** 30.41 327 eP P 06 52 46.0 +1.1
comp=Z,3.0nm,0.9s
OGNE **Ogallala** 30.68 340 eP P 06 52 47.5 +0.5
comp=Z,8.2nm,0.9s
113A **Mohawk Valley,** 30.68 315 eP P 06 52 48.4 +1.4
comp=Z,6.9nm,1.1s
113A ePcP PcP 06 55 46.2 +1.4
WUAZ **Wupatki** 30.84 322 eP P 06 52 49.9 +1.3
comp=Z,4.6nm,1.0s
WUAZ ePcP PcP 06 55 47.6 +2.2
ISCO **Idaho Springs** 31.07 334 eP P 06 52 52.3 +1.5
comp=Z,6.3nm,1.0s
ISCO **Idaho Springs** 31.07 334 P P 06 52 50.6 -0.2
baz=146,SNR=8.0
PV01 **Paradox Valley** 31.15 328 eP P 06 52 53.4 +2.1
SMCO **Snowmass** 31.18 331 eP P 06 52 52.0 +0.2
comp=Z,8.2nm,1.0s
PTGA **Pitinga** 31.19 113 LR LR 07 09 03.2
comp=Z,211nm,18.5s,baz=292,slow=44
PTGA **Pitinga** 31.19 113 eP P 06 52 52.2 +0.5
comp=Z,5.5nm,0.8s
PV02 **Paradox Valley** 31.29 328 eP P 06 52 53.5 +0.9
comp=Z,6.0nm,1.1s
PV13 **Radium Mtn., P** 31.29 328 eP P 06 52 54.4 +1.7
comp=Z,7.0nm,1.2s
PV05 **Paradox Valley** 31.38 328 eP P 06 52 54.2 +0.8
PV03 **Paradox Valley** 31.38 328 eP P 06 52 54.5 +1.1
PV12 **Saucer Basin,** 31.40 328 eP P 06 52 54.5 +0.9
comp=Z,7.2nm,0.8s
PV11 **David Mesa, Pa** 31.43 328 eP P 06 52 54.1 +0.4
comp=Z,9.3nm,1.0s
PV17 **East Wray Mesa** 31.46 328 eP P 06 52 54.6 +0.5
comp=Z,4.9nm,0.7s
PV16 **Nyswonger Mesa** 31.46 328 eP P 06 52 54.7 +0.6
comp=Z,3.6nm,0.8s
PV19 **Morning Glory** 31.49 328 eP P 06 52 54.9 +0.5
comp=Z,8.2nm,1.2s
PV14 **Lion Creek, Pa** 31.56 328 eP P 06 52 55.6 +0.6
comp=Z,6.1nm,1.0s
PV22 **Blue Mesa, Par** 31.56 329 eP P 06 52 55.8 +0.9
comp=Z,6.7nm,1.1s
GLA **Glenis** 31.58 315 eP P 06 52 56.5 +1.5
comp=Z,13nm,1.1s
PV09 **Paradox Valley** 31.71 328 eP P 06 52 56.7 +0.3
ECSD **EROS Data Cent** 31.84 349 eP P 06 52 56.1 -1.1
comp=Z,12nm,1.0s
ECSD **EROS Data Cent** 31.84 349 P P 06 52 56.1 -1.1
baz=165,SNR=10
PHWY **Pilot Hill** 32.27 336 eP P 06 53 01.3 +0.1
comp=Z,13nm,1.0s
O20A **White River Ci** 32.53 331 eP P 06 53 04.0 +0.5
comp=Z,14nm,0.9s
O20A **White River Ci** 32.53 331 P P 06 53 02.2 -1.3
baz=142,SNR=9.7
SPMN **Marine on St.** 32.76 354 eP P 06 53 03.5 -1.6
comp=Z,18nm,0.9s
SPMN **Marine on St.** 32.76 354 P P 06 53 03.2 -1.9
baz=172,SNR=7.0
SRU **San Rafael Swe** 32.89 327 eP P 06 53 05.9 -0.7
comp=Z,1.6nm,0.6s
XPFO **Pigeon Flat** 33.02 314 eP P 06 53 08.7 +0.9
comp=Z,8.2nm,1.1s
PFO **Pinyon Flats O** 33.03 314 eP P 06 53 09.7 +1.9
comp=Z,7.4nm,1.1s
MTPU **Mount Pierson** 33.04 324 eP P 06 53 08.7 +0.6
comp=Z,2.7nm,0.7s
SADO **Sadowa** 33.06 12 P P 06 53 06.2 -1.6
comp=Z,6.9nm,0.7s,baz=224,slow=11,SNR=4.5
SADO LR LR 07 06 47.0
comp=Z,334nm,19.6s,baz=184,slow=37
P18A **Preston Nutter** 33.13 328 eP P 06 53 09.2 +0.3
comp=Z,3.2nm,1.0s
RWWY **Rawlins** 33.32 334 eP P 06 53 12.3 +1.9
comp=Z,20nm,0.9s
TMUT **Trail Mountain** 33.39 327 eP P 06 53 16.9 +5.8
comp=Z,2.8nm,0.7s
K22A **Casper** 33.83 336 eP P 06 53 15.2 +0.4
comp=Z,13nm,1.0s
K22A **Casper** 33.83 336 P P 06 53 12.8 -2.0
baz=147,SNR=12
MPU **Maple Canyon** 34.14 327 eP P 06 53 17.7 +0.2
comp=Z,3.3nm,1.0s
RSSD **Black Hills** 34.18 340 eP P 06 53 18.3 +0.4
comp=Z,11nm,0.9s
GSC **Goldstone, Bar** 34.20 316 eP P 06 53 18.7 +0.7
comp=Z,2.0nm,1.0s

GSC ePcP PcP 06 55 57.5 +2.9
NLU **North Lily Min** 34.33 327 eP P 06 53 19.5 +0.3
comp=Z,0.1nm,0.6s
PEMO **Pembroke** 34.34 14 P P 06 53 21.2 +2.3
baz=199
JLU **Jordanelle** 34.47 328 eP P 06 53 20.8 +0.4
comp=Z,0.8nm,0.7s
DUG **Dugway, Tooele** 34.89 326 eP P 06 53 24.4 +0.4
comp=Z,2.6nm,1.0s
LPAZ **La Paz** 35.01 144 P P 06 53 26.0 +0.3
comp=Z,3.2nm,1.0s,baz=330,slow=9.3,SNR=8.9
LPAZ LR LR 07 08 01.2
comp=Z,366nm,19.0s,baz=312,slow=37
LPAZ **La Paz** 35.01 144 eP P 06 53 25.1 -0.5
LPAZ e 06 53 25.4
PD31 **Pinedale Array** 35.22 333 eP P 06 53 26.9 0.0
PD31 ePcP PcP 06 55 56.8 -0.8
PDAR **Pinedale Array** 35.22 333 P P 06 53 26.2 -0.6
comp=Z,1.0nm,0.6s,baz=125,slow=9.5,SNR=8.6
PDAR PcP PcP 06 55 56.8 -0.8
comp=Z,1.2nm,0.6s,baz=154,slow=3.5,SNR=6.6
PDAR LR LR 07 11 50.7
comp=Z,282nm,18.6s,baz=134,slow=43
BW06 **Boulder Array** 35.22 333 eP P 06 53 27.0 +0.2
comp=Z,3.0nm,0.8s
SPUT **South Promonto** 35.50 328 eP P 06 53 29.9 +0.7
BGU **Big Grassy Mou** 35.53 327 eP P 06 53 30.4 +0.9
comp=Z,2.7nm,1.0s
AHID **Auburn Hatcher** 35.93 331 eP P 06 53 33.2 +0.3
comp=Z,6.6nm,0.9s
AHID ePcP PcP 06 56 00.8 +1.2
HVU **Hansel Valley** 36.01 328 eP P 06 53 34.3 +0.7
comp=Z,3.3nm,1.1s
MDP **Montagnes des** 36.11 99 LR LR 07 09 40.0
comp=Z,343nm,18.4s,baz=287,slow=39
AGMN **Agassiz Nation** 36.15 352 eP P 06 53 33.2 -1.3
comp=Z,20nm,1.0s
AGMN **Agassiz Nation** 36.15 352 P P 06 53 32.4 -2.1
baz=158,SNR=11
REDW **Red Top Meadow** 36.27 332 eP P 06 53 35.6 -0.3
comp=Z,16nm,0.9s
SNOW **Snow King Moun** 36.31 332 eP P 06 53 35.8 -0.4
comp=Z,15nm,0.8s
LOHW **Long Hollow** 36.35 332 eP P 06 53 36.9 +0.4
comp=Z,5.5nm,1.1s
MDND **Maddock** 36.39 347 eP P 06 53 36.0 -0.5
comp=Z,71nm,1.0s
MDND **Maddock** 36.39 347 P P 06 53 34.7 -1.8
baz=161,SNR=13
TPAW **Teton Pass** 36.42 332 eP P 06 53 37.4 +0.3
comp=Z,5.6nm,0.9s
MOOW **Moose Ponds** 36.52 332 eP P 06 53 38.2 +0.2
comp=Z,3.0nm,0.9s
FXWY **Fox Creek** 36.57 332 eP P 06 53 39.5 +1.2
comp=Z,3.0nm,1.1s
IMW **Indian Meadow** 36.73 332 eP P 06 53 40.6 +0.8
comp=Z,3.8nm,0.6s
FLWY **Flagg Ranch** 36.77 333 eP P 06 53 40.5 +0.4
comp=Z,12nm,1.0s
NV11 **Mina Array Sit** 36.89 320 eP P 06 53 41.2 +0.1
comp=Z,0.4nm,1.1s
NV11 ePcP PcP 06 56 05.1 +2.5
H17A **Grant Village** 36.96 333 eP P 06 53 42.4 +0.6
comp=Z,6.3nm,1.0s
YPP **Pitchstone Pla** 36.96 333 eP P 06 53 43.3 +1.5
comp=Z,4.3nm,1.0s
NV01 **Mina Array Sit** 36.98 319 eP P 06 53 43.8 +1.8
NV01 ePcP PcP 06 56 03.6 +0.8
NVAR **Mina Array Bea** 36.98 319 P P 06 53 41.5 -0.4
comp=Z,1.3nm,0.8s,baz=139,slow=5.9,SNR=9.8
NVAR PcP PcP 06 56 03.0 +0.1
comp=Z,6.0nm,1.0s,baz=137,slow=2.3,SNR=9.7
NVAR LR LR 07 09 51.0
comp=Z,200nm,21.1s,baz=98,slow=38
RLMT **Red Lodge** 36.99 335 eP P 06 53 41.7 -0.2
comp=Z,28nm,1.0s
MDPB **Devils Postpil** 37.02 318 eP P 06 53 43.3 +0.9
comp=Z,4.7nm,0.9s
LATQ **La Tuque** 37.11 18 P P 06 53 44.9 +2.3
baz=206
YFT **Old Faithful** 37.12 333 eP P 06 53 44.7 +1.7
comp=Z,18nm,1.1s
YNR **Norris Junctio** 37.26 334 eP P 06 53 45.9 +1.7
comp=Z,8.6nm,1.0s
YMR **Madison River** 37.34 333 eP P 06 53 45.6 +0.6
comp=Z,13nm,1.0s
YHB **Horse Butte** 37.51 333 eP P 06 53 46.6 +0.3
comp=Z,7.4nm,0.9s
YHB ePcP PcP 06 56 05.7 +1.3
LSQQ **Lebel-sur-Quev** 37.60 12 P P 06 53 48.5 +1.7
baz=198
QLMT **Earthquake Lak** 37.68 333 eP P 06 53 48.0 +0.3
ULM **Lac du Bonnet** 38.07 352 P P 06 53 48.2 -2.5
comp=Z,8.5nm,0.6s,baz=171,slow=9.6,SNR=11
ULM LR LR 07 10 43.5
comp=Z,700nm,21.4s,baz=164,slow=38
ULM **Lac du Bonnet** 38.07 352 eP P 06 53 48.9 -1.8
comp=Z,9.4nm,0.8s
DGMT **Dagmar** 38.12 343 eP P 06 53 50.8 -0.5
comp=Z,56nm,0.8s
DGMT **Dagmar** 38.12 343 P P 06 53 48.7 -2.5
baz=154,SNR=16
MATQ **Matagami** 38.14 11 P P 06 53 53.2 +1.9
baz=197
HLID **Hailey** 38.14 329 eP P 06 53 52.4 +0.8
comp=Z,2.2nm,0.9s
PB01 **IPOC Station P** 38.24 151 eP P 06 53 53.6 +1.0
comp=Z,7.6nm,1.0s
MCMT **McKenzie Canyo** 38.32 332 eP P 06 53 54.2 +0.9
DLMT **Dillon** 38.61 332 eP P 06 53 56.4 +0.8
comp=Z,14nm,1.1s
LMN **Caledonia Moun** 38.76 27 eP P 06 53 58.0 +1.4
comp=Z,19nm,0.9s
MFID **Camas Ranch** 38.76 328 eP P 06 53 57.6 +0.9
comp=Z,1.1nm,0.8s
HRY **Holter Researc** 39.33 334 eP P 06 54 01.8 +0.3
EGMT **Eagleton** 39.57 337 eP P 06 54 02.8 -0.6
comp=Z,37nm,0.8s
EGMT **Eagleton** 39.57 337 P P 06 54 02.1 -1.4
baz=146,SNR=17
WVOR **Wild Horse Val** 39.64 324 eP P 06 54 04.9 +0.8
comp=Z,3.6nm,1.1s
WVOR ePcP PcP 06 56 13.4 +2.4
LVC **Limon Verde** 39.86 151 eP P 06 54 07.3 +0.9
comp=Z,11nm,1.1s
J08A **Circle Bar Ran** 40.15 326 eP P 06 54 08.2 -0.1
comp=Z,5.2nm,1.0s
MSO **Missoula** 40.34 333 eP P 06 54 10.7 +0.8
comp=Z,5.2nm,1.0s
MSO **Missoula** 40.34 333 P P 06 54 09.0 -0.9
baz=140,SNR=16
JTMT **Jette** 41.19 333 eP P 06 54 17.2 +0.2
comp=Z,4.7nm,1.2s
JTMT ePcP PcP 06 56 15.7 -0.2
F10A **Beach Ranch, E** 41.26 329 eP P 06 54 18.9 +1.3
comp=Z,6.8nm,1.0s
FFC **Flin Flon** 43.39 349 eP P 06 54 34.0 -0.5
comp=Z,11nm,0.8s
SCHQ **Schefferville** 45.45 17 P P 06 54 47.2 -3.9
comp=Z,4.4nm,0.7s,baz=218,slow=7.5,SNR=6.9
SCHQ LR LR 07 15 24.1
comp=Z,1μm,18.1s,baz=188,slow=38
FCC **Fort Churchill** 46.30 356 eP P 06 54 55.9 -1.8
comp=Z,22nm,1.1s
CPUP **Villa Florida** 49.10 142 P P 06 55 19.6 -0.2
comp=Z,6.9nm,1.1s,baz=351,slow=8.4,SNR=5.6
CPUP LR LR 07 17 14.6
comp=Z,196nm,18.0s,baz=325,slow=38
CPUP **Villa Florida** 49.10 142 eP P 06 55 18.7 -1.1
comp=Z,3.0nm,1.0s
YKA **Yellowknife Ar** 53.25 345 P P 06 55 48.1 -2.3
comp=Z,7.0nm,0.6s,baz=131,slow=8.7,SNR=54
YKA PcP PcP 06 56 56.5 -1.5
comp=Z,1.5nm,0.6s,baz=148,slow=3.6,SNR=7.3
YKA LR LR 07 20 37.9
comp=Z,52nm,21.9s,baz=156,slow=39
YKB5 **Yellowknife Ar** 53.25 345 eP P 06 55 48.2 -2.3
YKB5 ePcP PcP 06 56 56.5 -1.5
YKW3 **Yellowknife Ar** 53.31 345 eP P 06 55 48.5 -2.4
comp=Z,35nm,1.1s
DLBC **Dease Lake** 55.39 335 eP P 06 56 06.4 +0.1
comp=Z,20nm,0.9s
PLCA **Paso Flores** 55.56 164 P P 06 56 08.8 +1.1
comp=Z,1.7nm,0.7s,baz=9.4,slow=9.1,SNR=5.5
PLCA LR LR 07 14 21.1
comp=Z,179nm,21.5s,baz=19,slow=30
TAOE **Nuku Hiva Isla** 55.61 250 eLR LR 07 12 07.9

comp=Z,405nm,25.5s

TAOE	**Nuku Hiva Isla**	**55.61**	**250**	*e*T	T	07 55 43.1		
	comp=Z,41nm,0.2s							
RKT	**Rikitea**	**57.73**	**232**	*e*LR	LR	07 13 14.6		
	comp=Z,362nm,29.0s							
RKT	**Rikitea**	**57.73**	**232**	*e*T	T	07 58 21.0		
	comp=Z,11nm,0.3s							
HYT	**Haines Junctio**	**59.87**	**335**	*e*P	**P**	**06 56 38.1**	**+0.2**	
	comp=Z,3.4nm,1.0s							
RES	**Resolute Bay**	**62.21**	**358**	*e*P	**P**	**06 56 51.5**	**-1.8**	
	comp=Z,7.0nm,0.8s							
DAWY	**Dawson**	**62.31**	**337**	*e*P	**P**	**06 56 53.7**	**-0.6**	
	comp=Z,4.9nm,0.9s							
INK	**Inuvik**	**62.80**	**343**	*e*P	**P**	**06 56 56.1**	**-1.2**	
	comp=Z,20nm,1.0s							
KLU	**Klutina**	**63.80**	**333**	*e*P	**P**	**06 57 03.6**	**-0.6**	
	comp=Z,10nm,1.0s							
PMOR	**Pomariorio Ree**	**64.92**	**247**	*e*T	T	08 07 23.7		
	comp=Z,10nm,0.2s							
SML	**Sawmill**	**64.98**	**333**	*e*P	**P**	**06 57 11.9**	**0.0**	
	comp=Z,9.9nm,1.0s							
HDA	**Harding Lake**	**65.40**	**336**	*e*P	**P**	**06 57 14.3**	**-0.2**	
	comp=Z,19nm,1.1s							
IL1	**Eielson Array**	**65.52**	**336**	*e*P	**P**	**06 57 13.6**	**-1.7**	
ILAR	**Eielson Array**	**65.52**	**336**	P	**P**	**06 57 13.7**	**-1.6**	
	comp=Z,6.7nm,1.0s,baz=117,slow=4.6,SNR=22							
ILAR				LR	LR	07 32 10.9		
	comp=Z,196nm,18.3s,baz=117,slow=42							
ILB	**Eielson Array**	**65.52**	**336**	*e*P	**P**	**06 57 15.3**	**0.0**	
RND	**Reindeer**	**65.79**	**335**	*e*P	**P**	**06 57 16.6**	**-0.6**	
	comp=Z,32nm,1.1s							
MDM	**Murphy Dome**	**66.12**	**336**	*e*P	**P**	**06 57 19.2**	**0.0**	
	comp=Z,4.4nm,1.2s							
TRF	**Thorofare Moun**	**66.41**	**334**	*e*P	**P**	**06 57 21.3**	**0.0**	
	comp=Z,18nm,1.2s							
MLY	**Manley**	**67.14**	**336**	*e*P	**P**	**06 57 24.6**	**-1.2**	
	comp=Z,10nm,0.9s							
PPT2	**Papeete2**	**67.38**	**245**	*e*LR	LR	07 17 38.2		
	comp=Z,342nm,25.0s,baz=57							
TBI	**Tubuai**	**69.54**	**239**	*e*LR	LR	07 18 41.2		
	comp=Z,307nm,27.5s,baz=61							
TBI	**Tubuai**	**69.54**	**239**	*e*T	T	08 13 08.4		
	comp=Z,14nm,0.2s							
RAR	**Rarotonga**	**77.65**	**245**	LR	LR	07 24 42.1		
	comp=Z,194nm,19.2s,baz=73,slow=29							
ESDC	**Sonseca Array**	**77.88**	**52**	LR	LR	07 26 51.6		
	comp=Z,88nm,21.4s,baz=290,slow=31							
DBIC	**Dimbokro**	**82.34**	**85**	LR	LR	07 32 03.9		
	comp=Z,92nm,20.4s,baz=288,slow=33							
NOA	**NORSAR Array B**	**83.73**	**29**	LR	LR	07 32 23.3		
	comp=Z,133nm,21.9s,baz=280,slow=33							
BILL	**Bilibino**	**84.06**	**339**	*e*P	**P**	**06 59 02.0**	**-0.5**	
	comp=Z,5.6nm,1.0s							
AFI	**Afiamalu**	**86.65**	**255**	LR	LR	07 28 04.6		
	comp=Z,74nm,19.2s,baz=94,slow=29							
TORD	**Torodi Ar. Bea**	**87.33**	**77**	LR	LR	07 34 41.3		
	comp=Z,143nm,21.5s,baz=295,slow=33							
GERES	**GERESS Array B**	**88.47**	**40**	LR	LR	07 36 19.8		
	comp=Z,207nm,18.8s,baz=281,slow=34							
KEST	**Kesra**	**88.96**	**54**	LR	LR	07 34 54.0		
	comp=Z,88nm,20.0s,baz=266,slow=33							
VRAC	**Vranov**	**90.13**	**39**	LR	LR	07 36 27.3		
	comp=Z,203nm,20.2s,baz=218,slow=33							
TIXI	**Tiksi**	**92.34**	**349**	LR	LR	07 43 34.7		
	comp=Z,176nm,21.9s,baz=29,slow=37							
NRIK	**Noril'sk**	**98.25**	**1**	LR	LR	07 48 13.0		
	comp=Z,167nm,19.4s,baz=17,slow=38							
DZM	**Mont Dzumac**	**108.48**	**251**	*e*LR	LR	07 36 43.5		
	comp=Z,116nm,26.6s							
KURK	**Kurchatov**	**115.98**	**9**	*e*PKPdf	**PKPdf**	**07 05 13.4**	**-1.6**	
KURBB	**Kurchatov Arra**	**116.05**	**9**	PKP	**PKPdf**	**07 05 13.4**	**-1.8**	
	comp=Z,1.4nm,0.7s,baz=348,slow=2.0,SNR=14							
SONA0	**Songino Array**	**118.44**	**349**	*e*PKPdf	**PKPdf**	**07 05 19.6**	**-0.5**	
SONM	**Songino Array**	**118.43**	**349**	PKP	**PKPdf**	**07 05 19.6**	**-0.5**	
	comp=Z,0.9nm,0.6s,baz=301,slow=1.8,SNR=5.2							
KSRS	**Korea Array**	**119.65**	**327**	PKP	**PKPdf**	**07 05 22.9**	**+0.4**	
	comp=Z,4.1nm,1.0s,baz=131,slow=1.6,SNR=2.8							
KS15	**Wonju Array Si**	**119.68**	**327**	*e*PKPdf	**PKPdf**	**07 05 22.4**	**-0.2**	
KSAR	**Wonju Array Be**	**119.68**	**327**	PKP	**PKPdf**	**07 05 22.9**	**+0.3**	
MK32	**Makanchi Array**	**120.33**	**7**	*e*PKPdf	**PKPdf**	**07 05 20.9**	**-2.7**	
MKAR	**Makanchi Array**	**120.33**	**7**	PKP	**PKPdf**	**07 05 20.9**	**-2.7**	
	comp=Z,0.5nm,0.6s,baz=329,slow=2.2,SNR=4.5							
HHC	**Hu-ho-hao-te**	**123.72**	**342**	*e*P	**PKPdf**	**07 05 30.0**	**-0.4**	
GTA	**Gaotai**	**127.72**	**352**	*e*P	**PKPdf**	**07 05 38.8**	**+0.7**	
GTA				pP	pPKPdf	07 05 42.5	-3.5	
GTA				sP	sPKPdf	07 05 45.0	-3.7	
GTA				pmax	pmax			
	comp=Z,4.0nm,1.8s							
LZH	**Lanzhou**	**130.24**	**347**	*e*PKP	**PKPdf**	**07 05 43.5**	**+0.4**	
LZH				pPKP	sPKPdf	07 05 52.8	-0.9	
LZH				sPKP		07 05 57.3		
STKA	**Stephens Creek**	**130.33**	**239**	PKP	**PKPdf**	**07 05 45.2**	**+2.1**	
	comp=Z,0.7nm,0.3s,baz=309,slow=7.9,SNR=3.7							
AS01	**Alice Springs**	**138.37**	**249**	*e*PKPdf	**PKPdf**	**07 05 57.1**	**-1.3**	
WR1	**Warramunga Arr**	**138.37**	**254**	*e*PKPdf	**PKPdf**	**07 05 59.6**	**+1.2**	
WRA	**Warramunga Arr**	**138.37**	**254**	PKP	**PKPdf**	**07 05 59.6**	**+1.2**	
	comp=Z,1.3nm,0.6s,baz=88,slow=2.3,SNR=5.7							
ASAR	**Alice Springs**	**138.41**	**249**	PKP	**PKPdf**	**07 06 01.1**	**+2.6**	
	comp=Z,1.1nm,0.7s,baz=110,slow=2.1,SNR=6.9							
FITZ	**Fitzroy Crossi**	**146.71**	**256**	*e*PKPdf	**PKPdf**	**07 06 13.3**	**0.0**	
CHTO	**Chiang Mai**	**147.98**	**347**	*e*PKPdf	**PKPdf**	**07 06 14.5**	**-0.9**	
CHTO				*e*PKPbc	**PKPbc**	**07 06 17.1**	**-1.3**	
CMAR	**Chiang Mai Arr**	**148.32**	**347**	PKPbc	**PKPdf**	**07 06 17.2**	**+1.3**	
	comp=Z,5.2nm,0.8s,baz=344,slow=4.0,SNR=17							
CM01	**Chiang Mai Arr**	**148.35**	**347**	*e*PKPdf	**PKPdf**	**07 06 16.7**	**+0.7**	
PSI	**Prapat**	**163.07**	**334**	PKP	**PKPdf**	**07 06 36.8**	**+1.1**	
	comp=Z,3.2nm,0.5s,baz=184,slow=3.0,SNR=5.2							
PSI	**Prapat**	**163.07**	**334**	*e*PKPdf	**PKPdf**	**07 06 35.9**	**+0.1**	

IDC 28 06:50:13.2±1.7, 26°.66N×144°.01E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/55, mbtmp3.6/5, Error ellipse: s-maj=46.6km s-min=20.4km az=60.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.69**	**285**	Pn	Pn	06 50 43.8	-0.3
	18nm,0.3s,baz=299,slow=23,SNR=6.2						
JCJ				Sn	Sg	06 51 07.5	0.0
	69nm,0.3s,baz=277,slow=21,SNR=10						
SONM	**Songino Array**	**36.16**	**316**	P	P	06 57 18.2	+0.8
	0.6nm,0.6s,baz=134,slow=6.2,SNR=3.4						
WRA	**Warramunga Arr**	**47.27**	**192**	P	P	06 58 48.5	+0.1
	0.8nm,0.5s,baz=14,slow=8.4,SNR=13						
ASAR	**Alice Springs**	**50.98**	**192**	P	P	06 59 16.5	-0.3
	0.2nm,0.7s,baz=8.6,slow=8.7,SNR=2.9						
MKAR	**Makanchi Array**	**52.01**	**310**	P	P	06 59 24.1	-0.3
	1.0nm,0.8s,baz=90,slow=9.8,SNR=6.0						
KURBB	**Kurchatov Arra**	**54.51**	**315**	P	P	06 59 41.9	-0.8
	0.5nm,0.5s,baz=90,slow=8.2,SNR=5.6						

*DJA **28** 06:56:26.7±0.5, 7°.5S×7°.12E±°, h10km, M4.2/6, mb3.9/1, mB5.0/2, MLv4.3/6, Mw(mB)4.3/2*
*IDC **28** 06:56:32.4±5.8, 8°.50S×127°.76E, h168km±63km, mb3.3/2, mb1 3.4/5, mb1mx3.2/45, mbtmp3.8/5, Error ellipse: s-maj=68.9km s-min=18.6km az=38.0*
ISC 28 06:56:21.0±1.4, 7°.9S±0°.1×128°.26E±0°.09, h35km, n9, σ2s26/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**3.71**	**26**	P	Pn	06 57 23.2	+7.4
SOEI	**Soe**	**4.37**	**244**	P	Pn	**06 57 27.4**	**+2.4**
SOEI				S	**Sn**	**06 58 12.8**	**-1.9**
BATI	**Baumata**	**5.10**	**243**	P	**Pn**	**06 57 37.5**	**+2.6**
	19nm,0.3s,baz=256,slow=1.7,SNR=18						
BATI				S	**Sn**	**06 58 30.4**	**-2.2**
	36nm,0.3s,baz=245,slow=23,SNR=12						
BATI	**Baumata**	**5.10**	**243**	P	**Pn**	**06 57 37.1**	**+2.1**
BATI				S	**Sn**	**06 58 31.6**	**-1.0**
EDFI	**Ende, Flores**	**6.56**	**262**	P	**Pn**	**06 57 57.0**	**+1.9**
WRA	**Warramunga Arr**	**13.37**	**154**	P	**Pn**	**06 59 30.7**	**+2.3**
	0.7nm,0.3s,baz=327,slow=14,SNR=22						
WRA				S	**Sn**	**07 01 54.0**	**-1.9**
	1.3nm,0.3s,baz=332,slow=23,SNR=6.6						
ASAR	**Alice Springs**	**16.61**	**162**	P	**Pn**	**07 00 11.9**	**+0.6**
	0.3nm,0.3s,baz=334,slow=9.9,SNR=15						
ASAR				S	**Sn**	**07 03 12.3**	**-2.6**
	0.6nm,0.3s,baz=318,slow=21,SNR=7.1						
MKAR	**Makanchi Array**	**68.02**	**328**	P	**P**	**07 07 15.2**	**-1.6**
	0.4nm,0.5s,baz=125,slow=8.5,SNR=6.1						
KURBB	**Kurchatov Arra**	**72.36**	**329**	P	**P**	**07 07 41.7**	**-1.5**
	0.3nm,0.4s,baz=125,slow=5.2,SNR=4.8						

*IDC **28** 07:00:32.5±1.0, 12°.80N×88°.12W, h0km, mb4.2/9, mb1 4.3/13, mb1mx4.0/43, mbtmp4.1/13, ML3.2/4, MS3.7/3, Ms1 3.8/3, ms1mx3.1/39, Error ellipse: s-maj=35.0km s-min=17.6km az=42.0*
*UCR **28** 07:00:32.8±1.5, 12°.33N×88°.59W, h20km±5km, ML4.1, mb4.4(NEIC)*
*NEIC **28** 07:00:37.3±0.5, 12°.50N×88°.37W, h40km±4km, mb4.4/69, Error ellipse: s-maj=7.3km s-min=4.1km az=208.0*
ISC 28 07:00:33.0±1.1, 12°.44N±0°.05×88°.45W±0°.04, h10km±6km, n280, σ1s34/283, mb4.5/63, 4D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCY	**Lacayo**	**0.99**	**9**	*e*P	**Pn**	**07 00 53.1**	**0.0**
VSM	**San Miguel**	**0.99**	**10**	*e*P	**Pn**	**07 00 53.5**	**+0.2**
CSGN	**Cosiguina Volc**	**1.02**	**59**	*e*Pn	**Pg**	**07 00 51.4**	**-1.3**
CSGN				*e*Sn	**Sg**	**07 01 04.6**	**-1.4**
CSGN	**Cosiguina Volc**	**1.02**	**59**	*e*P	**Pn**	**07 00 54.1**	**+0.6**
LCND	**La Ca¯ada**	**1.02**	**32**	*i*P	**Pb**	**07 00 53.3**	**+0.5**
LCND				IAML		07 01 18.9	
	comp=Z,3μm,0.4s						
CNCH	**Conchagua**	**1.02**	**36**	*e*P	**Pn**	**07 00 53.7**	**+0.1**
PACA	**Pacayal**	**1.03**	**7**	*i*P	**Pn**	**07 00 53.7**	**+0.1**
PACA				*e*S	**Sn**	**07 01 10.5**	**+2.4**
SNVI	**San Vicente**	**1.22**	**342**	*e*P	**Pg**	**07 00 55.9**	**-0.7**
LFRS	**El Faro**	**1.31**	**333**	*e*P	**Pn**	**07 00 56.4**	**-1.1**
CAHU	**Cacacuatique**	**1.34**	**10**	*e*P	**Pg**	**07 00 58.9**	**+0.1**
CAHU				*e*S	**Sn**	**07 01 19.3**	**+3.4**
PAVA	**Las Pavas**	**1.35**	**340**	*i*P	**Pn**	**07 00 57.7**	**-0.3**
PAVA				IAML		07 01 19.8	
	comp=Z,4μm,0.4s						
CRIN	**San Cristobal**	**1.39**	**79**	*e*P	**Pn**	**07 00 59.3**	**+0.7**
CRIN				IAML		07 01 44.7	
	comp=E,2μm,0.7s						
LOMA	**San Marcos**	**1.39**	**330**	*e*P	**Pn**	**07 00 57.4**	**-1.1**
LOMA				*e*S	**Sn**	**07 01 17.1**	**+0.1**
LOMA				IAML		07 01 22.6	
	comp=Z,4μm,0.3s						
LBRS	**Las Brisas**	**1.41**	**336**	*i*P	**Pn**	**07 00 58.4**	**-0.4**
SNET	**Serv Nac Est T**	**1.45**	**329**	*e*P	**Pn**	**07 00 58.3**	**-1.1**
SNET				*e*S	**Sb**	**07 01 17.6**	**-1.1**
SNET				IAML		07 01 25.7	
	comp=Z,2μm,0.3s						
BOQS	**Boqueron**	**1.52**	**328**	*e*P	**Pn**	**07 00 59.6**	**-0.9**
CNGN	**Cerro Negro**	**1.71**	**88**	*e*P	**Pn**	**07 01 03.4**	**+0.4**
CNGN				*e*S	**Sg**	**07 01 31.9**	**+3.7**
CEVE	**Cerro Verde**	**1.79**	**320**	*e*P	**Pn**	**07 01 03.8**	**-0.4**
CEVE				*e*S	**Sb**	**07 01 28.0**	**-0.6**
CEVE				IAML		07 01 38.3	
	comp=Z,6μm,0.5s						
SBLS	**San Blas**	**1.80**	**321**	*e*P	**Pn**	**07 01 03.6**	**-0.7**
COPN	**Copaltepe**	**1.84**	**98**	*e*P	**Pn**	**07 01 03.9**	**-0.8**
COPN				*e*S	**Sb**	**07 01 30.5**	**+0.7**
RTR	**El Retiro**	**1.85**	**321**	*e*P	**Pn**	**07 01 04.6**	**-0.4**
MOMN	**Momotombo**	**1.87**	**91**	*e*P	**Pn**	**07 01 04.4**	**-0.7**
TGUH	**Tegucigalpa,Un**	**1.97**	**35**	*e*Pn	**Pn**	**07 01 07.7**	**+1.2**
ESTN	**Estel**	**2.13**	**72**	*e*Pn	**Pn**	**07 01 08.7**	**-0.1**
ESTN				*e*Sn	**Sn**	**07 01 28.2**	**-7.3**
ESTN	**Estel**	**2.13**	**72**	*e*P	**Pn**	**07 01 08.8**	**-0.1**
MTO3	**Montecristo**	**2.13**	**336**	*e*P	**Pn**	**07 01 09.2**	**+0.3**
MGAN	**Managua**	**2.17**	**98**	*e*P	**Pn**	**07 01 10.2**	**+0.9**
BOAB	**BOACO BROADBAN**	**2.72**	**90**	*e*Pn	**Pn**	**07 01 17.6**	**+0.8**
BOAB	**BOACO BROADBAN**	**2.72**	**90**	*e*P	**Pn**	**07 01 18.1**	**+1.3**
APG	**El Apazote**	**3.21**	**323**	Pn	**Pn**	**07 01 24.0**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=112,slow=5.2,SNR=8.6						
JTS	**JuntasAbangare**	**4.04**	**122**	Pn	**Pn**	**07 01 36.7**	**+1.7**
	comp=Z,3.9nm,0.3s,baz=351,slow=15,SNR=17						
JTS				Lg	Lg	07 02 38.9	
	comp=Z,2.1nm,0.3s,baz=274,slow=22,SNR=4.0						
JTS	**JuntasAbangare**	**4.04**	**122**	*e*Pn	**Pn**	**07 01 36.8**	**+1.7**
JTS				*e*		07 01 37.0	
JTS				*e*Sn	**Sg**	**07 02 38.9**	**-4.2**
ESPN	**Las Esperanzas**	**4.07**	**93**	*e*Pn	**Pn**	**07 01 36.4**	**+1.1**
HDC	**Heredia**	**4.90**	**119**	*e*Pn	**Pn**	**07 01 48.9**	**+1.9**
CMIG	**Matias Romero**	**7.75**	**307**	Pn	**Pn**	**07 02 28.7**	**+2.8**
	comp=Z,0.6nm,0.3s,baz=119,slow=11,SNR=11						
TLIG	**Tlapa**	**11.02**	**299**	*e*Pn	**Pn**	**07 03 13.9**	**+3.0**
YOTC	**Yotoco, Valle**	**14.63**	**124**	*e*P	**Pn**	**07 04 01.9**	**+1.5**
PTBC	**PUERTO BERRIO,**	**14.99**	**112**	*e*P	**P**	**07 04 09.9**	**-0.8**
POPC	**Popayan, Colom**	**15.26**	**129**	*e*P	**P**	**07 04 12.4**	**-1.5**
OCAC	**Ocana**	**15.46**	**104**	*e*P	P	07 04 36.5	+20
SOTA	**Rioblanco**	**15.57**	**130**	*e*P	**P**	**07 04 20.5**	**+2.8**
PCON	**Cinco Dias**	**15.61**	**129**	*e*P	**P**	**07 04 23.2**	**+5.1**
CRUC	**La Cruz**	**15.71**	**133**	*e*P	**P**	**07 04 20.2**	**+1.2**
ROSC	**El Rosal**	**15.88**	**117**	Pn	**Pn**	**07 04 18.1**	**+1.1**
	baz=81,slow=19,SNR=3.3						
ROSC	**El Rosal**	**15.88**	**117**	*e*Pn	**Pn**	**07 04 18.2**	**+1.1**
	comp=Z,6.8nm,1.0s						
PRAC	**Prado**	**15.98**	**122**	*e*P	**Pn**	**07 04 18.5**	**+0.4**
LNIG	**Linares**	**16.18**	**322**	*e*Pn	**P**	**07 04 22.1**	**-1.8**
	comp=Z,11nm,1.0s						
CHIC	**Chingaza**	**16.49**	**117**	*e*P	**Pn**	**07 04 20.1**	**-4.9**
RUSC	**La Rusia**	**16.50**	**112**	*e*P	**P**	**07 04 28.2**	**+0.3**
FLOC	**Florencia**	**16.65**	**129**	*e*P	**P**	**07 04 31.1**	**+1.9**
ZAIG	**Zacatecas**	**16.91**	**309**	*e*Pn	**P**	**07 04 31.7**	**-0.6**
	comp=Z,2.1nm,0.6s						
656A	**Willston**	**17.72**	**17**	P	**P**	**07 04 40.8**	**0.0**
	baz=199						
SDV	**Santo Domingo**	**17.86**	**100**	P	**Pn**	**07 04 41.5**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=265,slow=11,SNR=3.1						
451A	**Vernon**	**18.26**	**7**	P	**P**	**07 04 47.1**	**+0.4**
	baz=188						
BRAL	**Brewton**	**18.68**	**4**	P	**Pn**	**07 04 54.4**	**+2.7**
	baz=184						
453A	**Whigham**	**18.72**	**11**	P	**Pn**	**07 04 53.7**	**+1.5**
	baz=192						
833A	**Chaparral WMA,**	**18.82**	**329**	*e*P	**Pn**	**07 04 55.1**	**+1.7**
	comp=Z,15nm,0.6s						
833A	**Chaparral WMA,**	**18.82**	**329**	P	**Pn**	**07 04 55.6**	**+2.2**
	baz=145						
344A	**Westbrook Farm**	**19.04**	**354**	*e*P	**Pn**	**07 04 56.4**	**+0.4**
	comp=Z,30nm,0.8s						
353A	**Camilla**	**19.21**	**11**	P	**P**	**07 04 56.8**	**-0.5**
	baz=192						
352A	**Blakely**	**19.22**	**9**	*e*P	**Pn**	**07 04 59.3**	**+1.0**
	comp=Z,34nm,0.8s						
352A	**Blakely**	**19.22**	**9**	P	**Pn**	**07 04 59.9**	**+1.6**
	baz=190,SNR=6.3						
TIGA	**Tifton**	**19.43**	**13**	*e*P	**Pn**	**07 05 01.2**	**+0.4**
	comp=Z,58nm,1.1s						
TIGA	**Tifton**	**19.43**	**13**	P	**Pn**	**07 05 01.8**	**+1.0**
	baz=194						
249A	**Camden**	**19.48**	**3**	P	**Pn**	**07 05 02.3**	**+0.9**
	baz=184						
247A	**Quitman**	**19.52**	**360**	P	**Pn**	**07 05 02.5**	**+0.7**
	baz=179						
245A	**Little AP, Sta**	**19.54**	**356**	P	**Pn**	**07 05 02.6**	**+0.4**
	baz=176						
248A	**Dixon Mills**	**19.57**	**2**	P	**Pn**	**07 05 03.3**	**+0.9**
	baz=182						
244A	**Avery, Jackson**	**19.61**	**354**	P	**Pn**	**07 05 03.4**	**+0.4**
	baz=173						
251A	**Midway**	**19.76**	**8**	P	**Pn**	**07 05 05.2**	**+0.5**
	baz=189						
252A	**Lumpkin**	**19.76**	**9**	P	**Pn**	**07 05 05.2**	**+0.5**
	baz=190,SNR=5.1						
VBMS	**Vicksburg**	**19.77**	**355**	*e*P	**P**	**07 05 04.0**	**+0.6**
	comp=Z,21nm,0.8s						
VBMS	**Vicksburg**	**19.77**	**355**	P	**Pn**	**07 05 05.7**	**+0.9**
	baz=174						
254A	**Abbeville**	**19.98**	**13**	P	Pn	07 05 06.9	-0.4
	baz=195						
NATX	**Nacogdoches**	**20.06**	**344**	*e*P	**P**	**07 05 06.6**	**+0.2**
	comp=Z,14nm,0.9s						
146A	**Union**	**20.11**	**359**	P	Pn	07 05 09.3	+0.5
	baz=178						
435B	**Jarrell**	**20.11**	**337**	*e*P	**P**	**07 05 07.6**	**+0.5**
	comp=Z,14nm,0.6s						
149A	**Jones**	**20.12**	**4**	P	Pn	07 05 09.3	+0.3
	baz=184						
148A	**Greensboro**	**20.12**	**2**	P	Pn	07 05 09.7	+0.7
	baz=182						
150A	**Eclectic**	**20.19**	**6**	P	Pn	07 05 10.0	+0.2
	baz=187						
151A	**Opelika**	**20.19**	**8**	P	Pn	07 05 09.4	-0.5
	baz=189,SNR=6.8						
152A	**Waverly Hall**	**20.42**	**9**	*e*P	**P**	**07 05 10.5**	**+0.1**
	comp=Z,15nm,1.1s						
152A	**Waverly Hall**	**20.42**	**9**	P	Pn	07 05 12.4	-0.1
	baz=190						
LRAL	**Lakeview Retre**	**20.54**	**3**	P	Pn	07 05 13.9	0.0
	baz=184						
Z46A	**Louisville**	**20.66**	**359**	P	Pn	07 05 15.6	+0.3
	baz=178						
Z47A	**Carrollton**	**20.66**	**1**	P	Pn	07 05 14.7	-0.7
	baz=181						
154A	**Montrose**	**20.67**	**13**	P	Pn	07 05 14.7	-0.7
	baz=195						
Z49A	**Columbiana**	**20.73**	**5**	P	Pn	07 05 17.7	+1.6
	baz=185						
JCT	**Junction City**	**20.80**	**331**	*e*P	**P**	**07 05 15.3**	**+0.7**
	comp=Z,9.7nm,0.8s						
155A	**Kite**	**20.82**	**14**	P	Pn	07 05 17.5	+0.3
	baz=196						
Z50A	**Ashland**	**20.84**	**6**	*e*P	**P**	**07 05 15.1**	**+0.1**
	comp=Z,15nm,1.0s						
Z50A	**Ashland**	**20.84**	**6**	P	Pn	07 05 18.3	+0.8
	baz=187						
Z48A	**Northport**	**20.85**	**2**	P	Pn	07 05 19.1	+1.6
	baz=182						
Z45A	**Winona**	**20.86**	**357**	*e*P	**P**	**07 05 14.3**	**-0.9**
	comp=Z,12nm,0.6s						
Z52A	**Williamson**	**20.98**	**9**	P	**P**	**07 05 19.7**	**+3.2**
	baz=191						
Z51A	**Franklin**	**20.99**	**8**	P	**P**	**07 05 20.5**	**+3.9**
	baz=189						
Z41A	**Richland Creek**	**21.10**	**350**	*e*P	**P**	**07 05 17.2**	**-0.5**
	comp=Z,21nm,1.1s						
Z41A	**Richland Creek**	**21.10**	**350**	P	**P**	**07 05 20.6**	**+2.8**
	baz=168						
WHTX	**Lake Whitney,**	**21.14**	**338**	*e*P	**P**	**07 05 19.0**	**+0.7**
	comp=Z,6.7nm,0.7s						
WHTX	**Lake Whitney,**	**21.14**	**338**	P	**P**	**07 05 21.7**	**+3.4**
	baz=155						
Z53A	**Monticello**	**21.22**	**11**	P	**P**	**07 05 21.0**	**+2.0**
	baz=193						
Y46A	**Houston**	**21.34**	**359**	P	**P**	**07 05 22.7**	**+2.3**
	baz=179						
Y45A	**Yeager Farm, C**	**21.35**	**358**	P	**P**	**07 05 22.8**	**+2.4**
	baz=177						
GOGA	**Godfrey**	**21.36**	**12**	P	**P**	**07 05 22.0**	**+1.4**
	baz=193						
Y50A	**Piedmont**	**21.49**	**6**	P	**P**	**07 05 22.9**	**+0.9**
	baz=187						
Y51A	**Rockmart**	**21.58**	**8**	P	**P**	**07 05 24.7**	**+1.8**
	baz=189						
CCAR	**Cane Creek**	**21.59**	**352**	*e*P	**P**	**07 05 22.4**	**-0.6**
	comp=Z,30nm,1.2s						
HPIG		**21.65**	**314**	*e*P	**P**	**07 05 24.9**	**+0.9**
	comp=Z,11nm,1.1s						
Y41A	**Eaglette Beard**	**21.67**	**351**	P	**P**	**07 05 26.2**	**+2.2**
	baz=169						
Y52A	**Lilburn**	**21.70**	**10**	*e*P	**P**	**07 05 24.2**	**0.0**
	comp=Z,6.9nm,0.8s						
Y52A	**Lilburn**	**21.70**	**10**	P	**P**	**07 05 25.0**	**+0.8**
	baz=191						
Y53A	**Monroe**	**21.77**	**11**	P	**P**	**07 05 27.0**	**+2.0**
	baz=193						
NHSC	**New Hope**	**21.92**	**19**	P	**P**	**07 05 28.3**	**+1.8**
	baz=202						
X48A	**Hartselle**	**21.95**	**3**	P	**P**	**07 05 26.6**	**-0.2**
	baz=183						
Y54A	**Tignall**	**21.96**	**13**	P	**P**	**07 05 26.8**	**-0.2**
	baz=195						
LTX	**Lajitas**	**21.97**	**322**	*e*P	**P**	**07 05 28.6**	**+1.3**
LTX				*e*PcP	**PcP**	**07 09 25.9**	**-0.1**
TX31	**Lajitas Ar. Si**	**21.97**	**322**	*e*P	**P**	**07 05 28.3**	**+1.0**
TX31				*e*P	**P**	**07 05 28.7**	**+1.4**
TXAR	**Lajitas Array**	**21.97**	**322**	P	**P**	**07 05 28.6**	**+1.3**
	comp=Z,4.1nm,0.7s,baz=136,slow=9.2,SNR=21						
TXAR				PcP	**PcP**	**07 09 25.9**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=168,slow=3.2,SNR=6.0						
TXAR				ScP	**ScP

U40A	**Yellville**	**24.14**	**351**	P		**P**	**07 05 49.2**	**-0.1**
	baz=169,SNR=9.6							
U51A	**La Follette**	**24.16**	**9**	P		**P**	**07 05 49.1**	**-0.5**
	baz=190							
TUL1	**Leonard**	**24.29**	**345**	*eP*		**P**	**07 05 50.5**	**-0.1**
	comp=Z,17nm,1.1s							
TUL1	**Leonard**	**24.29**	**345**	P		**P**	**07 05 50.7**	**+0.1**
	baz=162							
PBMO	**Poplar Bluff**	**24.30**	**356**	*eP*		**P**	**07 05 50.3**	**-0.4**
	comp=Z,14nm,1.0s							
U53A	**Fall Branch**	**24.40**	**12**	P		**P**	**07 05 51.4**	**-0.3**
	baz=194							
T47A	**Sharon Grove**	**24.47**	**3**	*eP*		**P**	**07 05 51.6**	**-0.7**
	comp=Z,12nm,0.8s							
T47A	**Sharon Grove**	**24.47**	**3**	P		**P**	**07 05 51.4**	**-0.9**
	baz=183,SNR=6.5							
T43A	**Greenville**	**24.59**	**356**	P		**P**	**07 05 52.6**	**-0.7**
	baz=176							
T42A	**Van Buren**	**24.60**	**355**	*eP*		**P**	**07 05 52.8**	**-0.7**
	comp=Z,6.6nm,0.9s							
T42A	**Van Buren**	**24.60**	**355**	P		**P**	**07 05 52.7**	**-0.7**
	baz=174							
T41A	**Mountain View**	**24.68**	**354**	P		**P**	**07 05 54.1**	**-0.1**
	baz=172							
T49A	**Edmonton**	**24.70**	**6**	P		**P**	**07 05 53.1**	**-1.3**
	baz=187							
MNTX	**Cornudas Mount**	**24.70**	**324**	*eP*		**P**	**07 05 54.5**	**0.0**
MNTX	**Cornudas Mount**	**24.70**	**324**	P		**P**	**07 05 52.7**	**-1.7**
	baz=137							
T51A	**Gray**	**24.75**	**9**	P		**P**	**07 05 54.1**	**-0.7**
	baz=190							
MSTX	**Muleshoe**	**25.09**	**331**	*eP*		**P**	**07 05 57.5**	**-0.6**
	comp=Z,25nm,1.1s							
MSTX	**Muleshoe**	**25.09**	**331**	P		**P**	**07 05 57.0**	**-1.0**
	baz=145,SNR=11							
AMTX	**Amarillo**	**25.36**	**334**	*eP*		**P**	**07 06 00.8**	**+0.3**
	comp=Z,16nm,0.7s							
AMTX	**Amarillo**	**25.36**	**334**	P		**P**	**07 06 01.0**	**+0.5**
	baz=148							
CCM	**Cathedral Cave**	**25.63**	**355**	*eP*		**P**	**07 06 02.2**	**-0.5**
	comp=Z,8.2nm,0.8s							
CCM	**Cathedral Cave**	**25.63**	**355**	P		**P**	**07 06 02.7**	**0.0**
	baz=174							
R45A	**Skylar, Fairfi**	**25.74**	**0**	P		**P**	**07 06 03.6**	**-0.1**
	baz=180							
WCI	**Wyandotte Cave**	**25.75**	**4**	P		**P**	**07 06 03.9**	**+0.1**
	baz=185							
R43A	**Red Bud**	**25.76**	**357**	P		**P**	**07 06 04.2**	**+0.2**
	baz=176							
R41A	**Rosebud**	**25.88**	**355**	P		**P**	**07 06 04.1**	**-0.9**
	baz=173,SNR=5.8							
Q45A	**Warren Harvey,**	**26.34**	**1**	P		**P**	**07 06 07.9**	**-1.4**
	baz=180							
Q44A	**Meyer Farm, Va**	**26.36**	**359**	P		**P**	**07 06 08.0**	**-1.3**
	baz=179							
121A	**Cookes Peak, D**	**26.72**	**322**	P		**P**	**07 06 12.6**	**-0.4**
	baz=134							
SRIG	**Santa Rosalia**	**26.75**	**307**	*eP*		**P**	**07 06 12.9**	**-0.1**
	comp=Z,15nm,1.1s							
Q51A	**Peebles**	**26.86**	**9**	P		**P**	**07 06 12.3**	**-1.6**
	baz=191							
BNM	**Barren Site**	**27.21**	**326**	*eP*		**P**	**07 06 17.9**	**+0.4**
P51A	**Williamsport**	**27.35**	**9**	*eP*		**P**	**07 06 18.0**	**-0.3**
	comp=Z,7.4nm,1.0s							
LENM	**Lemitar**	**27.42**	**325**	*eP*		**P**	**07 06 19.4**	**+0.2**
KSU1	**Kansas State U**	**27.52**	**346**	*eP*		**P**	**07 06 19.6**	**-0.3**
	comp=Z,9.9nm,1.0s							
KSU1	**Kansas State U**	**27.52**	**346**	P		**P**	**07 06 20.0**	**+0.1**
	baz=162							
P53A	**Whipple**	**27.65**	**12**	P		**P**	**07 06 20.0**	**-1.0**
	baz=195							
LAZ	**Ladron**	**27.68**	**325**	*eP*		**P**	**07 06 19.7**	**-2.0**
ANMO	**Albuquerque**	**27.72**	**327**	P		**P**	**07 06 23.3**	**+1.4**
	comp=Z,0.5nm,0.4s,baz=155,slow=8.4,SNR=3.9							
O50A	**Cable**	**27.92**	**8**	P		**P**	**07 06 21.9**	**-1.5**
	baz=190							
O51A	**Pataskala**	**28.07**	**10**	P		**P**	**07 06 24.1**	**-0.7**
	baz=192							
CBKS	**Cedar Bluff**	**28.11**	**341**	*eP*		**P**	**07 06 25.2**	**0.0**
	comp=Z,10nm,1.0s							
O52A	**Adamsville**	**28.18**	**11**	P		**P**	**07 06 24.7**	**-1.0**
	baz=194							
T25A	**Trinidad**	**28.45**	**333**	*eP*		**P**	**07 06 29.3**	**+0.8**
	comp=Z,6.6nm,0.8s							
T25A	**Trinidad**	**28.45**	**333**	P		**P**	**07 06 28.8**	**+0.4**
	baz=146							
TUC	**Tucson**	**28.48**	**318**	*eP*		**P**	**07 06 29.8**	**+1.3**
	comp=Z,2.9nm,1.0s							
N39A	**Derby Farms, D**	**28.55**	**354**	P		**P**	**07 06 28.7**	**-0.3**
	baz=172							
M39A	**Webster**	**29.11**	**354**	P		**P**	**07 06 34.0**	**0.0**
	baz=172							
M50A	**Fremont**	**29.24**	**8**	*eP*		**P**	**07 06 34.7**	**-0.4**
	comp=Z,25nm,1.0s							
KSCO	**Kaye Shedlock'**	**29.30**	**337**	*eP*		**P**	**07 06 36.0**	**+0.1**
	comp=Z,12nm,0.6s							
KSCO	**Kaye Shedlock'**	**29.30**	**337**	P		**P**	**07 06 35.4**	**-0.5**
	baz=151,SNR=5.5							
SDCO	**Great Sand Dun**	**29.45**	**332**	*eP*		**P**	**07 06 38.0**	**+0.6**
	comp=Z,4.4nm,1.0s							
SDCO	**Great Sand Dun**	**29.45**	**332**	P		**P**	**07 06 37.1**	**-0.3**
	baz=144							
ALLY	**Alegheny Colle**	**29.99**	**13**	*eP*		**P**	**07 06 41.6**	**-0.2**
	comp=Z,27nm,0.9s							
S22A	**4UR Ranch, Cre**	**30.08**	**330**	*eP*		**P**	**07 06 43.6**	**+0.6**
	comp=Z,3.7nm,0.8s							
S22A				*e*PcP		**PcP**	**07 09 46.5**	**+1.7**
S22A	**4UR Ranch, Cre**	**30.08**	**330**	P		**P**	**07 06 42.1**	**-0.9**
	baz=142							
ISCO	**Idaho Springs**	**31.18**	**334**	*eP*		**P**	**07 06 53.4**	**+0.7**
	comp=Z,3.8nm,1.0s							
ISCO	**Idaho Springs**	**31.18**	**334**	P		**P**	**07 06 53.0**	**+0.2**
	baz=146							
I43A	**Langenfeld Bro**	**31.33**	**0**	P		**P**	**07 06 53.5**	**-0.1**
	baz=180							
PV12	**Saucer Basin,**	**31.50**	**328**	*eP*		**P**	**07 06 56.2**	**+0.7**
	comp=Z,5.2nm,1.0s							
PV17	**East Wray Mesa**	**31.56**	**328**	*eP*		**P**	**07 06 56.8**	**+0.9**
	comp=Z,6.5nm,1.1s							
ECSD	**EROS Data Cent**	**31.96**	**349**	P		**P**	**07 06 56.9**	**-2.3**
	baz=165							
O20A	**White River Ci**	**32.63**	**331**	*eP*		**P**	**07 07 06.2**	**+0.9**
	comp=Z,11nm,0.8s							
O20A	**White River Ci**	**32.63**	**331**	P		**P**	**07 07 06.0**	**+0.7**
	baz=142							
G39A	**Holcombe**	**32.81**	**356**	P		**P**	**07 07 03.2**	**-3.4**
	baz=175							
SPMN	**Marine on St.**	**32.88**	**354**	*eP*		**P**	**07 07 06.5**	**-0.7**
	comp=Z,12nm,0.5s							
SPMN	**Marine on St.**	**32.88**	**354**	P		**P**	**07 07 06.3**	**-0.9**
	baz=172,SNR=8.2							
F41A	**Three Lakes**	**33.19**	**359**	P		**P**	**07 07 08.0**	**-1.9**
	baz=179							
K22A	**Casper**	**33.94**	**336**	P		**P**	**07 07 16.4**	**-0.3**
	baz=147							
MPU	**Maple Canyon**	**34.23**	**327**	*eP*		**P**	**07 07 20.2**	**+0.9**
	comp=Z,4.1nm,1.1s							
LPAZ	**La Paz**	**34.91**	**144**	LR		LR	07 22 11.7	
	comp=Z,144nm,18.2s,baz=342,slow=37							
PD31	**Pinedale Array**	**35.32**	**333**	*eP*		**P**	**07 07 28.1**	**-0.6**
PD31				*e*PcP		**PcP**	**07 09 59.0**	**0.0**
PDAR	**Pinedale Array**	**35.32**	**333**	P		**P**	**07 07 28.1**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=134,slow=8.8,SNR=5.3							
PDAR				PcP		**PcP**	**07 09 59.0**	**0.0**
	comp=Z,0.3nm,0.5s,baz=143,slow=4.9,SNR=5.3							
R11A	**Troy Canyon, C**	**35.33**	**322**	P		**P**	**07 07 29.2**	**+0.4**
	baz=130							
AGMN	**Agassiz Nation**	**36.27**	**352**	*eP*		**P**	**07 07 34.9**	**-1.6**
	comp=Z,12nm,1.0s							
AGMN	**Agassiz Nation**	**36.27**	**352**	P		**P**	**07 07 34.7**	**-1.8**
	baz=168,SNR=7.3							
REDW	**Red Top Meadow**	**36.38**	**332**	*eP*		**P**	**07 07 37.8**	**+0.1**
	comp=Z,6.6nm,0.8s							
SNOW	**Snow King Moun**	**36.41**	**332**	*eP*		**P**	**07 07 38.4**	**+0.3**
	comp=Z,5.6nm,0.8s							
LOHW	**Long Hollow**	**36.46**	**333**	*eP*		**P**	**07 07 38.3**	**-0.1**
	comp=Z,1.6nm,0.9s							
MDND	**Maddock**	**36.51**	**347**	*eP*		**P**	**07 07 38.1**	**-0.4**
	comp=Z,30nm,0.9s							
MDND	**Maddock**	**36.51**	**347**	P		**P**	**07 07 38.0**	**-0.6**
	baz=161							
TPAW	**Teton Pass**	**36.52**	**332**	*eP*		**P**	**07 07 39.9**	**+0.9**
	comp=Z,3.7nm,0.7s							
MOOW	**Moose Ponds**	**36.63**	**333**	*eP*		**P**	**07 07 40.3**	**+0.4**
	comp=Z,1.9nm,1.0s							
NV01	**Mina Array Sit**	**37.07**	**320**	*eP*		**P**	**07 07 43.9**	**+0.2**
NV01				*e*PcP		**PcP**	**07 10 05.9**	**+1.5**
NVAR	**Mina Array Bea**	**37.07**	**320**	P		**P**	**07 07 45.1**	**+1.4**
	comp=Z,2.2nm,0.8s,baz=145,slow=6.8,SNR=10.0							
NVAR				PcP		**PcP**	**07 10 06.3**	**+2.0**
	comp=Z,2.8nm,0.9s,baz=136,slow=4.1,SNR=6.8							
RLMT	**Red Lodge**	**37.10**	**335**	*eP*		**P**	**07 07 43.5**	**-0.3**
	comp=Z,8.9nm,1.0s							
RLMT	**Red Lodge**	**37.10**	**335**	P		**P**	**07 07 43.5**	**-0.3**
	baz=145							
PPO	**Portuguese Can**	**37.20**	**314**	*e*pP		pP	07 07 54.8	+7.0
LAO	**LASA Array**	**37.28**	**340**	P		**P**	**07 07 44.1**	**-1.1**
	baz=150							
ULM	**Lac du Bonnet**	**38.19**	**352**	P		**P**	**07 07 50.4**	**-2.3**
	comp=Z,7.0nm,0.8s,baz=172,slow=8.2,SNR=11							
ULM				LR		LR	07 24 36.1	
	comp=Z,129nm,20.0s,baz=192,slow=38							
ULM	**Lac du Bonnet**	**38.19**	**352**	*eP*		**P**	**07 07 51.1**	**-1.6**
	comp=Z,7.7nm,0.8s							
DGMT	**Dagmar**	**38.23**	**343**	*eP*		**P**	**07 07 52.9**	**-0.3**
	comp=Z,22nm,0.7s							
DGMT	**Dagmar**	**38.23**	**343**	P		**P**	**07 07 53.0**	**-0.2**
	baz=155,SNR=6.8							
EGMT	**Eagleton**	**39.68**	**338**	*eP*		**P**	**07 08 06.0**	**+0.6**
	comp=Z,12nm,0.7s							
EGMT	**Eagleton**	**39.68**	**338**	P		**P**	**07 08 05.4**	**0.0**
	baz=146,SNR=7.8							
MSO	**Missoula**	**40.44**	**333**	*eP*		**P**	**07 08 12.3**	**+0.5**
	comp=Z,3.2nm,1.1s							
MSO	**Missoula**	**40.44**	**333**	P		**P**	**07 08 10.0**	**-1.8**
	baz=140							
I03D	**Drain, OR**	**43.24**	**323**	P		**P**	**07 08 32.9**	**-1.6**
	baz=125							
RPN	**Rapa Nui**	**44.25**	**207**	LR		LR	07 22 10.8	
	comp=Z,78nm,19.6s,baz=12,slow=29							
SCHQ	**Schefferville**	**45.57**	**17**	P		**P**	**07 08 50.5**	**-2.5**
	comp=Z,5.1nm,0.8s,baz=216,slow=6.4,SNR=7.0							
YKA	**Yellowknife Ar**	**53.36**	**345**	P		**P**	**07 09 51.2**	**-1.2**
	comp=Z,2.4nm,0.5s,baz=146,slow=6.5,SNR=37							
YKA				PcP		**PcP**	**07 10 58.7**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=146,slow=3.7,SNR=6.3							
YKB5	**Yellowknife Ar**	**53.36**	**345**	*e*P		**P**	**07 09 50.9**	**-1.5**
YKB5				*e*PcP		**PcP**	**07 10 58.7**	**-1.0**
YKW3	**Yellowknife Ar**	**53.42**	**345**	*e*P		**P**	**07 09 51.7**	**-1.1**
	comp=Z,8.3nm,1.0s							
IL1	**Eielson Array**	**65.63**	**336**	*e*P		**P**	**07 11 15.8**	**-1.3**
ILAR	**Eielson Array**	**65.63**	**336**	P		**P**	**07 11 16.1**	**-1.1**
	comp=Z,2.5nm,1.0s,baz=113,slow=4.5,SNR=16							
ILB	**Eielson Array**	**65.63**	**336**	*e*P		**P**	**07 11 16.2**	**-0.9**
RND	**Reindeer**	**65.90**	**335**	*e*P		**P**	**07 11 18.7**	**-0.2**
	comp=Z,9.3nm,1.0s							
KURK	**Kurchatov**	**116.10**	**9**	*e*PKPdf		**PKPdf**	**07 19 15.9**	**-0.6**
KURBB	**Kurchatov Arra**	**116.18**	**9**	PKP		**PKPdf**	**07 19 15.9**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=356,slow=2.6,SNR=4.3							
WMQ	**Urumqi**	**123.90**	**3**	*e*P		**PKPdf**	**07 19 32.3**	**+0.5**
LZH	**Lanzhou**	**130.35**	**347**	*e*PKP		**PKPdf**	**07 19 43.0**	**-1.5**
LZH				pPKP		sPKPdf	07 19 54.0	+4.8
LZH				sPKP			07 19 58.3	
WR1	**Warramunga Arr**	**138.33**	**254**	*e*PKPdf		**PKPdf**	**07 20 00.1**	**+0.4**
WRA	**Warramunga Arr**	**138.33**	**254**	PKP		**PKPdf**	**07 20 00.1**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=90,slow=2.4,SNR=11							
CMAR	**Chiang Mai Arr**	**148.44**	**347**	PKP		**PKPdf**	**07 20 16.8**	**-0.6**
	comp=Z,1.5nm,0.3s,baz=337,slow=4.4,SNR=11							
CMAR				PKPbc		**pPKPdf**	**07 20 20.0**	**-0.9**
	comp=Z,2.0nm,0.4s,baz=335,slow=4.0,SNR=12							

*IDC **28** 07:03:58.6±1.7, 40.56N×51.99E, h0km, mb3.2/2, mb1 3.6/7, mb1mx3.4/48, mbtmp3.5/7, ML3.5/5, MS2.6/3, Ms1 2.6/3, ms1mx2.3/31, Error ellipse: s-maj=28.8km s-min=13.3km az=0.0*

*AZER **28** 07:04:02.7±0.2, 40.59N×52.27E, h45km±3km, ml3.8/23, Error ellipse: s-maj=5.2km s-min=4.2km az=320.0*

*NNC **28** 07:04:12.2±6.7, 41.22N×53.57E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=85.4km s-min=17.8km az=74.0*

ISC 28 07:04:01.3±2.2, 40.68N±0.05×52.25E±0.05, h17km±14km, n38, σ2s25/54, 19C-20D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
NDR	**Nardaran**	**1.72**	**268**	↑S		**Sg**	**07 04 56.2**	**-0.6**
GOBA	**Gobu**	**1.93**	**263**	↑S		**Sb**	**07 04 59.9**	**0.0**
ATGJ	**Altiaghaj**	**2.52**	**275**	↓P		**Pn**	**07 04 43.6**	**+2.0**
ATGJ				↓S		**Sn**	**07 05 13.3**	**+1.3**
GBS	**Qobustan**	**2.52**	**268**	↑P		**Pb**	**07 04 44.4**	**-1.7**
GBS				↓S		**Sb**	**07 05 15.9**	**-1.0**
SIZA	**Siyzn**	**2.57**	**280**	↑P		**Pb**	**07 04 45.4**	**-1.6**
SIZA				↓S		**Sn**	**07 05 15.8**	**+2.7**
ALIB	**Äli-Bayra**	**2.58**	**255**	↓P		**Pb**	**07 04 46.5**	**-0.6**
ALIB				↑S		**Sb**	**07 05 18.9**	**+0.4**
PQL	**Pirkuli**	**2.78**	**274**	P		**Pn**	**07 04 47.7**	**+2.6**
	SNR=3.8							
PQL				↑S		**Sn**	**07 05 20.0**	**+1.6**
QUBA	**Quba, Azerbaij**	**2.92**	**285**	↓P		**Pn**	**07 04 50.0**	**+3.0**
QUBA				↑S		**Sn**	**07 05 21.6**	**-0.2**
IML	**Ismayilli**	**3.09**	**274**	↓S		**Sn**	**07 05 26.4**	**+0.5**
QSAR	**Qusar**	**3.12**	**287**	P		**Pn**	**07 04 52.4**	**+2.5**
	SNR=8.4							
QSAR				↓S		**Sn**	**07 05 27.2**	**+0.4**
XNQ	**Khinaliq**	**3.15**	**280**	↓P		**Pn**	**07 04 52.2**	**+1.9**
	SNR=41							
XNQ				↑S		**Sn**	**07 05 26.8**	**-0.8**
GLBA	**Clilabad**	**3.29**	**245**	P		**Pn**	**07 04 53.7**	**+1.7**
	SNR=23							
GLBA				↓S		**Sn**	**07 05 29.8**	**-1.0**
LKRN	**Lenkeran, Azer**	**3.32**	**235**	↓P		**Pn**	**07 04 53.8**	**+1.4**
	SNR=3.9							
LKRN				↑S		**Sn**	**07 05 30.1**	**-1.3**
QBL	**Gabala**	**3.36**	**276**	↑S		**Sn**	**07 05 31.6**	**-0.9**
ASTR	**Astara**	**3.40**	**233**	↑P		**Pn**	**07 04 54.9**	**+1.3**
ASTR				↑S		**Sn**	**07 05 31.1**	**-2.5**
ZRD	**Zardab**	**3.50**	**265**	↑S		**Sn**	**07 05 36.9**	**+0.9**
LRK	**Lerik**	**3.63**	**237**	P		**Pn**	**07 04 57.8**	**+0.9**
	SNR=50							
LRK				↑S		**Sn**	**07 05 36.5**	**-3.0**
SEKA	**Sheki**	**3.86**	**280**	P		**Pn**	**07 05 01.6**	**+1.6**
	SNR=4.4							
SEKA				↓S		**Sn**	**07 05 45.0**	**0.0**
BRDA	**Brd**	**3.89**	**266**	↓S		**Sn**	**07 05 47.0**	**+1.5**
ZKTA	**Zakatala**	**4.35**	**285**	↑S		**Sn**	**07 05 57.2**	**+0.2**
LGD	**Lagodekhi**	**4.67**	**286**	P		**Sn**	**07 06 04.2**	**-0.7**
LGD				S		**Sn**	**07 06 13.3**	**+8.5**
DDFL	**Dedoflistskaro**	**4.70**	**281**	P		**Sn**	**07 06 03.2**	**-2.4**
DDFL				S		**Sn**	**07 06 09.5**	**+3.9**
GDB	**GEDABAY**	**4.94**	**273**	↑P		**Pn**	**07 05 14.8**	**0.0**
	SNR=5.3							
ORD	**Ordubad**	**5.12**	**252**	↓P		**Pn**	**07 05 19.1**	**+1.8**
ORD				↓S		**Sn**	**07 06 14.5**	**-1.5**
GEYT	**Alibeck**	**5.32**	**119**	Pn		**Pn**	**07 05 21.8**	**+1.8**
	1.0nm,0.3s,baz=335,slow=10.0,SNR=4.4							
GEYT				Sn		**Sn**	**07 06 23.4**	**+2.6**
	2.7nm,0.3s,baz=306,slow=20,SNR=5.7							
GEYT				LR		LR	07 07 42.5	
	comp=Z,20nm,20.3s,baz=335,slow=41							
GYA0B	**ALIBECK ARRAY**	**5.32**	**119**	↓Pn		Pn	07 05 25.3	+5.3
	4.2nm,0.6s							
GYA0B				↑Sn		**Sn**	**07 06 24.0**	**+3.2**
	45nm,0.9s							
NAX	**Nakhchivan**	**5.40**	**256**	↑S		**Sn**	**07 06 24.6**	**+1.6**
HYR	**Heyderabad**	**5.74**	**263**	↓P		**Pn**	**07 05 27.0**	**+1.2**
KBZ	**Khabaz**	**7.58**	**297**	Pn		**Pn**	**07 05 49.6**	**-1.3**
	0.3nm,0.3s,baz=110,slow=8.0,SNR=13							
KBZ				Sn		Sn	07 07 06.8	-10
	0.4nm,0.3s,baz=139,slow=19,SNR=3.3							
KVAR	**Kislovodsk Arr**	**7.80**	**298**	Pn		**Pn**	**07 05 52.7**	**-1.4**
	baz=307,slow=20,SNR=4.4							
KVAR				Sn		Sn	07 07 12.7	-9.4
	baz=176,slow=18,SNR=5.1							
AB31	**Akbulak array**	**10.16**	**30**	↓Pn		**Pn**	**07 06 26.4**	**+0.1**
	0.2nm,0.2s,baz=204,slow=13							
AB31				↑Sn		Sn	07 08 12.8	-6.9
	1.2nm,0.3s,baz=203,slow=22,SNR=6.5							
AKTO	**Aktyubinsk**	**10.56**	**21**	Pn		**Pn**	**07 06 32.6**	**+0.8**
	0.4nm,0.3s,baz=203,slow=9.9,SNR=7.4							
AKTO				Sn		**Sn**	**07 08 23.4**	**-6.2**
	1.2nm,0.3s,baz=42,slow=24,SNR=11							
AKTO	**Aktyubinsk**	**10.56**	**21**	↓Pn		**Pn**	**07 06 33.1**	**+1.3**
	1.7nm,0.7s							
AKTO				↓Sn		Sn	07 08 22.6	-7.0
	4.1nm,0.5s							
ARU	**Aru**	**16.30**	**13**	LR		LR	07 16 12.8	
	comp=Z,28nm,18.9s,baz=119,slow=45							
BVAR	**Borovoye Array**	**17.45**	**39**	P		**Pn**	**07 08 04.5**	**+0.8**
	0.4nm,0.3s,baz=224,slow=12,SNR=6.2							
KURBB	**Kurchatov Arra**	**20.79**	**53**	P		**P**	**07 08 42.8**	**+1.3**
	0.6nm,0.7s,baz=255,slow=12,SNR=3.2							
MKAR	**Makanchi Array**	**22.47**	**64**	LR		LR	07 19 24.8	
	comp=Z,26nm,18.8s,baz=175,slow=41							
ZALV	**Zalesovo Beam**	**25.51**	**48**	P		**P**	**07 09 29.6**	**+1.0**
	0.3nm,0.4s,baz=233,slow=14,SNR=2.4							

*ISCJB **28** 07:11:54.9±0.4, 37.74N±0.02×29.24E±0.03, h1km±4km, Error ellipse: s-maj=3.5km s-min=3.0km az=25.5*

*ATH **28** 07:11:54.2, 37.84N×29.18E, h10km±31km, ML3.1/5, Error ellipse: s-maj=31.6km s-min=1.7km az=0.0*

*DDA **28** 07:11:54.9, 37.69N×29.27E, h7km, Ml3.5*

*ISK **28** 07:11:54.3, 37.73N×29.24E, h2km, ML3.5/25*

*THE **28** 07:11:56.2, 37.84N×29.23E, h0km±2km, ML3.3/5, Error ellipse: s-maj=6.7km s-min=1.8km az=47.0*

ISC 28 07:11:54.9±1.2, 37.76N±0.02×29.28E±0.02, h0km±10km, n63, σ1s04/82, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
DENT	**Denizli**	**0.20**	**267**	P		**Pg**	**07 11 58.8**	**+0.1**
DENT				S		**Sg**	**07 12 01.7**	**+0.5**
DNZL	**Cakiroluk**	**0.20**	**249**	*i* P		**Pg**	**07 11 59.6**	**+0.8**
TAVA	**DENIZLI_Tavas**	**0.42**	**225**	*i* P		**Pg**	**07 12 02.0**	**-0.8**
TAVA				*i* S		**Sg**	**07 12 08.0**	**-0.3**
GOLH	**Golhisar**	**0.57**	**157**	*i* P		**Pg**	**07 12 03.8**	**-2.0**
GOLH				*i* S		**Sb**	**07 12 16.3**	**-0.2**
KHL	**Karahalli**	**0.59**	**19**	PG		**Pg**	**07 12 06.7**	**+0.5**
KHL				SG		**Sb**	**07 12 16.8**	**-0.3**
BRDR	**BURDUR-Merkez**	**0.62**	**96**	*i* P		**Pg**	**07 12 06.1**	**-0.7**
KHAL	**Karahalli**	**0.63**	**15**	*i* P		**Pg**	**07 12 06.1**	**-0.9**
KHAL				*i* S		**Sb**	**07 12 18.5**	**+0.3**
KZIL	**AFYON_Kizioren**	**0.84**	**54**	*i* P		**Pg**	**07 12 11.7**	**+0.7**
KZIL				*i* S		**Sn**	**07 12 26.4**	**-0.8**
KULA	**Kula-Manisa**	**0.90**	**327**	PG		**Pg**	**07 12 12.2**	**+0.1**
MANT	**Manisa**	**0.92**	**322**	*i* P		**Pg**	**07 12 12.9**	**+0.3**
MANT				*i* S		**Sb**	**07 12 27.6**	**+0.7**
TURN	**Turunc**	**1.04**	**212**	PN		**Pn**	**07 12 18.7**	**+2.0**
TURN	**Turunc**	**1.04**	**212**	*i* P		**Pn**	**07 12 18.5**	**+1.9**
TURN				*i* S		**Sn**	**07 12 34.3**	**+2.5**
DALY	**Dalyan (Mu¨la**	**1.07**	**208**	PG		**Pg**	**07 12 14.3**	**-1.1**
DALY	**Dalyan (Mu¨la**	**1.07**	**208**	*i* P		**Pg**	**07 12 15.1**	**-0.2**
DALY				*i* S		**Sg**	**07 12 29.8**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.11**	**280**	PN		**Pg**	**07 12 16.1**	**-0.2**
AYDN	**Tasoluk**	**1.12**	**265**	*i* P		**Pg**	**07 12 16.3**	**0.0**
AYDN				*i* S		**Sg**	**07 12 30.9**	**+0.2**
ELL	**Elmali**	**1.13**	**154**	PN		**Pg**	**07 12 14.6**	**-2.0**
FETY	**Fethiye**	**1.14**	**188**	P		**Pg**	**07 12 15.3**	**-1.4**
KORT	**Korkueli**	**1.14**	**131**	PN		**Pg**	**07 12 17.3**	**+0.5**
KORT	**Korkueli**	**1.14**	**131**	*i* P		**Pg**	**07 12 16.3**	**-0.5**
KORT				*i* S		**Sn**	**07 12 34.3**	**-0.3**
GEDZ	**Gediz**	**1.28**	**5**	PN		**Pn**	**07 12 20.1**	**0.0**
MLSB	**Milas**	**1.28**	**249**	PN		**Pg**	**07 12 18.8**	**-0.7**
SIMA	**Simav-Kutahya**	**1.34**	**350**	PN		**Pb**	**07 12 21.8**	**+0.9**
SMAA	**Simav-Kutahya**	**1.36**	**350**	PN		**Pb**	**07 12 21.5**	**+0.3**
MRSB	**Marmaris-Mugla**	**1.36**	**220**	PN		**Pn**	**07 12 20.4**	**-0.7**
SUTC	**Sutluce-Ispart**	**1.39**	**101**	PN		**Pn**	**07 12 21.8**	**+0.1**
GOMA	**Golmarmara-Man**	**1.43**	**312**	PN		**Pn**	**07 12 21.4**	**-0.6**
KSL	**Kastellorizon**	**1.63**	**171**	P		**Pb**	**07 12 25.6**	**-0.2**
KSL				S		**Sg**	**07 12 50.4**	**+3.2**
KSL				AML

SDV	**Santo Domingo**	**22.73**	**101**	P	**P**	**07 17 58.3**	**-0.2**
	4.6nm,0.8s,baz=287,slow=8.9,SNR=6.3						
TKL	**Tuckaleechee C**	**22.88**	**20**	LR	LR	07 28 02.0	
	comp=Z,89nm,19.1s,baz=236,slow=39						
ANMO	**Albuquerque**	**23.78**	**332**	P	**P**	**07 18 10.1**	**+1.1**
	0.8nm,0.7s,baz=123,slow=7.8,SNR=5.3						
NVAR	**Mina Array Bea**	**32.72**	**322**	P	**P**	**07 19 30.7**	**+1.7**
	1.4nm,0.9s,baz=138,slow=8.3,SNR=6.4						
NVAR				LR	LR	07 33 53.2	
	comp=Z,84nm,18.7s,baz=90,slow=38						
YKA	**Yellowknife Ar**	**50.47**	**347**	P	**P**	**07 21 54.6**	**+0.9**
	4.0nm,0.9s,baz=149,slow=7.3,SNR=14						
ILAR	**Eielson Array**	**62.11**	**337**	P	**P**	**07 23 16.1**	**-0.7**
	1.8nm,1.1s,baz=134,slow=3.7,SNR=9.4						
CMAR	**Chiang Mai Arr**	**145.32**	**339**	PKPbc	**PKPbc**	**07 32 33.5**	**-1.4**
	1.8nm,0.6s,baz=337,slow=4.5,SNR=9.9						

*ISCJB **28** 07:16:23.9±0.4, 36°.62N±0°.03×27°.94E±0°.03, h9km±3km, Error ellipse: s-maj=4.9km s-min=3.6km az=8.4*
*ATH **28** 07:16:23.3, 36°.63N×27°.99E, h29km±1km, ML2.6/2, Error ellipse: s-maj=2.8km s-min=1.4km az=219.0*
*ISK **28** 07:16:23.1, 36°.60N×27°.94E, h7km, ML2.8/10*
*THE **28** 07:16:23.3, 36°.68N×28°.01E, h2km±3km, ML2.7/4, Error ellipse: s-maj=3.3km s-min=1.0km az=153.0*
*DDA **28** 07:16:24.0, 36°.61N×27°.94E, h7km, Ml2.6*

ISC 28 07:16:22.2±1.2, 36°.57N±0°.03×27°.88E±0°.02, h4km±11km, n38, σ1°78/54, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DATC	**Datca-Mugla**	**0.26**	**318**	PG	**Pb**	**07 16 29.1**	**-0.4**
DATC				SG	**Sb**	**07 16 33.9**	**-0.4**
DAT	**Datca**	**0.29**	**304**	PG	**Pb**	**07 16 30.1**	**0.0**
DAT				SG	**Sb**	**07 16 35.2**	**-0.1**
DAT	**Datca**	**0.29**	**304**	*i* P	**Pb**	**07 16 30.4**	**+0.3**
DAT				*i* S	**Sb**	**07 16 36.0**	**+0.7**
MRSB	**Marmaris-Mugla**	**0.30**	**59**	PG	**Pg**	**07 16 28.3**	**+0.3**
MRSB				SG	**Sg**	**07 16 32.0**	**+0.1**
ARG	**Arkhangelos**	**0.40**	**150**	PG	**Pb**	**07 16 31.4**	**-0.5**
ARG	**Arkhangelos**	**0.40**	**150**	P	**Pn**	**07 16 32.8**	**-1.9**
ARG				S	**Sb**	**07 16 39.6**	**+1.3**
ARG				AML	AML	07 16 42.1	
	comp=N,1644μm,0.2s						
ARG				AML	AML	07 16 42.5	
	comp=E,1823μm,0.3s						
ARG	**Arkhangelos**	**0.40**	**150**	P	**Pn**	**07 16 32.8**	**-1.9**
ARG				S	**Sb**	**07 16 40.2**	**+1.9**
NIS1	**Nisyros Isl.**	**0.56**	**274**	PG	**Pb**	**07 16 35.1**	**+0.4**
NIS1	**Nisyros Isl.**	**0.56**	**274**	P	**Pn**	**07 16 36.4**	**-0.7**
NIS1				S	**Sn**	**07 16 46.4**	**-0.5**
NIS1	**Nisyros Isl.**	**0.56**	**274**	P	**Pn**	**07 16 36.3**	**-0.7**
NIS1				S	**Sn**	**07 16 47.6**	**+0.8**
NISR	**Nisiros**	**0.61**	**275**	P	**Pn**	**07 16 37.3**	**-0.3**
NISR				S	**Sn**	**07 16 47.4**	**-0.3**
NISR				AML	AML	07 16 50.2	
	comp=E,1734μm,0.2s						
NISR				AML	AML	07 16 51.2	
	comp=N,1008μm,0.2s						
NISR	**Nisiros**	**0.61**	**275**	P	**Pn**	**07 16 37.3**	**-0.3**
NISR				S	**Sn**	**07 16 48.4**	**+0.6**
TURN	**Turunc**	**0.66**	**62**	PG	Pg	07 16 29.6	-5.3
TURN	**Turunc**	**0.66**	**62**	*i* P	Pg	07 16 29.5	-5.3
TURN				*i* S	**Sg**	**07 16 35.3**	**-8.1**
DALY	**Dalyan (Mu¨la**	**0.67**	**68**	PG	**Pb**	**07 16 35.8**	**-0.7**
DALY	**Dalyan (Mu¨la**	**0.67**	**68**	*i* P	**Pg**	**07 16 34.9**	**-0.3**
BODT	**Bodrum**	**0.67**	**318**	PG	**Pb**	**07 16 36.9**	**+0.4**
BODT	**Bodrum**	**0.67**	**318**	P	**Pb**	**07 16 36.7**	**+0.2**
BODT				S	**Sb**	**07 16 46.5**	**+0.3**
MLSB	**Milas**	**0.73**	**354**	PG	**Pg**	**07 16 36.4**	**+0.1**
FETY	**Fethiye**	**0.97**	**86**	PG	**Pn**	**07 16 41.6**	**-1.0**
AYDN	**Tasoluk**	**1.09**	**0**	*i* P	**Pn**	**07 16 43.7**	**-0.7**
AYDN				*i* S	**Sn**	**07 16 59.9**	**-0.1**
TAVA	**DENIZLI_Tavas**	**1.22**	**42**	*i* P	**Pg**	**07 16 47.9**	**+2.2**
TAVA				*i* S	**Sn**	**07 17 06.4**	**+3.2**
AYDB	**Zeytinkoy-Aydi**	**1.38**	**0**	PN	**Pg**	**07 16 48.6**	**-0.1**
SMG	**Samos**	**1.41**	**324**	P	**Pb**	**07 16 48.9**	**-0.3**
SMG	**Samos**	**1.41**	**324**	P	**Pb**	**07 16 48.8**	**-0.3**
SMG				S	**Sn**	**07 17 07.0**	**-0.8**
AKAS	**Kas**	**1.43**	**103**	PN	**Pg**	**07 16 50.1**	**+0.4**
AKAS	**Kas**	**1.43**	**103**	*i* P	**Pg**	**07 16 50.7**	**+1.0**
AKAS				*i* S	**Sg**	**07 17 13.2**	**+5.0**
GOLH	**Golhisar**	**1.51**	**63**	*i* P	**Pg**	**07 16 51.8**	**+0.7**
GOLH				*i* S	**Sg**	**07 17 14.4**	**+3.7**
AMGA	**Amorgos Island**	**1.62**	**280**	P	**Pg**	**07 16 53.9**	**+0.7**
AMGA	**Amorgos Island**	**1.62**	**280**	P	**Pg**	**07 16 53.9**	**+0.7**
ANAF	**Anafi Island**	**1.71**	**264**	P	**Pb**	**07 16 54.6**	**+0.4**
APE	**Apeiranthos**	**1.95**	**286**	PN	**Pb**	**07 16 58.2**	**-0.1**
ZKR	**Zakros**	**1.98**	**223**	P	**Pb**	**07 16 58.3**	**-0.5**
KORT	**Korkueli**	**2.03**	**77**	PN	**Pb**	**07 16 58.3**	**-1.5**
URLA	**Izmir**	**2.06**	**331**	PN	**Pn**	**07 16 58.4**	**+0.7**
CHOS	**Chios island**	**2.33**	**322**	PN	**Pn**	**07 16 58.6**	**-2.7**
CHOS	**Chios island**	**2.33**	**322**	P	**Pn**	**07 17 01.6**	**+0.3**
LAST	**Lasithi**	**2.40**	**235**	P	**Pb**	**07 17 05.1**	**-1.0**
LAST				S	**Sb**	**07 17 33.9**	**-2.1**

NNC 28 07:44:12.6±2.5, 54°.31N×86°.49E, h0km, mb3.5, mpv3.4, 6C-3D, Error ellipse: s-maj=44.9km s-min=12.6km az=166.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**1.05**	**250**	⇑P	Pg	07 44 32.3	-0.3
	4.0nm,0.6s						
ZAA0				⇓S	Sb	07 44 47.2	-0.6
	40nm,1.3s						
KURK	**Kurchatov**	**6.00**	**236**	⇓Pn	Pn	07 45 43.3	+0.8
	2.6nm,0.6s						
KURK				⇑Lg	Lg	07 47 25.7	
	8.5nm,1.0s						
KURBB	**Kurchatov Arra**	**6.11**	**236**	⇓Pn	Pn	07 45 46.0	+2.1
	4.3nm,0.6s						
KURBB				⇑Sn	Sn	07 46 53.2	-1.3
	4.1nm,0.8s						
KURBB				⇑Lg	Lg	07 47 26.8	
	8.8nm,0.9s						
MK31	**Makanchi Array**	**7.99**	**201**	⇑Pn	Pn	07 46 10.7	+0.9
	5.8nm,1.4s,baz=26,slow=13,SNR=11						
MK31				⇑Lg	Lg	07 48 28.7	
	6.4nm,1.1s,baz=21,slow=27,SNR=4.5						

*NIED **28** 07:48:00, 39°.20N×142°.40E, h44km, Mw3.9 Best double couple: M07.33000×1014 NP1:φ=273.00000°, δ=25.00000°, λ=-167.00000°. NP2:φ=171.00000°, δ=84.00000°, λ=-65.00000°.*
*ISCJB **28** 07:48:14.2±1.1, 39°.17N±0°.05×142°.4E±0°.1, h47km±11km, mb3.6/5, Error ellipse: s-maj=15.1km s-min=7.0km az=15.3*
*JMA **28** 07:48:14.3±0.1, 39°.21N×142°.39E, h31km±1km, M3.8 JMA Felt I J1.*
*IDC **28** 07:48:15.0±0.8, 39°.10N×142°.44E, h37km±7km, mb3.4/5, mb1 3.6/7, mb1mx3.4/54, mbtmp3.6/7, ML3.2/2, MS3.0/2, Ms1 3.0/2, ms1mx2.5/37, Error ellipse: s-maj=30.4km s-min=16.6km az=98.0*

ISC 28 07:48:14.9±0.9, 39°.16N±0°.04×142°.32E±0°.07, h33km±4km, n19, σ1°22/28, mb3.8/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.52**	**261**	P	**Pb**	**07 48 25.8**	**+0.1**
OFUJ				S	**Sb**	**07 48 33.8**	**+0.7**
MIYJ	**Miyakonagasawa**	**0.57**	**317**	P	**Pn**	**07 48 25.6**	**-1.0**
MIYJ				S	**Sb**	**07 48 33.4**	**-1.2**
JKMT	**Kesennumamotoy**	**0.75**	**242**	P	**Pn**	**07 48 29.3**	**+0.2**
JKMT				S	**Sn**	**07 48 39.9**	**+0.6**
JTH	**Tanohata**	**0.85**	**336**	P	**Pn**	**07 48 30.1**	**-0.5**
JOM	**Ohasama**	**0.86**	**292**	P	**Pn**	**07 48 30.7**	**+0.1**
JOM				S	**Sb**	**07 48 43.0**	**+0.4**
JMK	**Ichinoseki**	**0.88**	**257**	P	**Pn**	**07 48 31.5**	**+0.5**
JMK				S	**Sn**	**07 48 43.8**	**+1.2**
JIO	**Ouri**	**1.04**	**227**	P	**Pn**	**07 48 33.2**	**+0.1**
JIO				S	**Sn**	**07 48 46.9**	**+0.5**
JKZ	**Kuzumaki**	**1.12**	**317**	P	**Pn**	**07 48 34.4**	**0.0**
JKZ				S	**Sn**	**07 48 49.3**	**+0.6**
JRG	**Rokugo**	**1.33**	**281**	P	**Pn**	**07 48 38.5**	**+1.4**
JANG	**Nango**	**1.36**	**333**	P	**Pn**	**07 48 37.2**	**-0.4**
MJAR	**Matsushiro Arr**	**4.17**	**233**	Pn	**Pn**	**07 49 18.3**	**+2.0**
	1.5nm,0.3s,baz=39,slow=11,SNR=42						
MJAR				LR	LR	07 51 09.1	
	comp=Z,138nm,20.2s,baz=55,slow=41						
MAT	**Matsushiro**	**4.18**	**233**	P	Pn	07 49 20.9	+4.6
MAT				*e*S	**Sb**	**07 50 13.7**	**-3.9**
ASAJ	**Asahikawa**	**4.96**	**2**	Pn	**Pn**	**07 49 29.3**	**+2.3**
	0.8nm,0.3s,baz=307,slow=20,SNR=3.5						
JNU	**Nakatsue**	**11.04**	**240**	LR			
	comp=Z,81nm,18.1s,baz=112,slow=39				LR	07 55 26.1	
ZALV	**Zalesovo Beam**	**41.05**	**311**	P	**P**	**07 55 55.0**	**+0.2**
	0.7nm,0.6s,baz=100,slow=10,SNR=2.9						
KURBB	**Kurchatov Arra**	**45.29**	**306**	P	**P**	**07 56 28.9**	**-0.3**
	0.6nm,0.5s,baz=80,slow=8.4,SNR=4.8						
ILAR	**Eielson Array**	**47.32**	**33**	P	**P**	**07 56 44.1**	**-0.9**
	0.8nm,0.9s,baz=271,slow=5.9,SNR=6.5						
ILAR				pP	**pP**	**07 56 55.9**	**+1.1**
	0.5nm,0.8s,baz=255,slow=6.4,SNR=2.9						
WRA	**Warramunga Arr**	**59.27**	**189**	P	**P**	**07 58 12.7**	**-0.5**
	0.5nm,0.5s,baz=6.5,slow=7.1,SNR=17						
WRA				pP	**pP**	**07 58 22.8**	**-0.4**
	1.5nm,0.6s,baz=6.1,slow=7.1,SNR=9.4						
ASAR	**Alice Springs**	**62.99**	**189**	P	**P**	**07 58 37.8**	**-0.6**
	0.2nm,0.5s,baz=9.2,slow=6.7,SNR=4.0						
ASAR				pP	**pP**	**07 58 48.9**	**+0.3**
	0.7nm,0.7s,baz=10,slow=5.4,SNR=6.2						

*ISCJB **28** 07:54:53.5±1.2, 36°.5N±0°.1×71°.16E±0°.08, h150km, mb3.5/5, Error ellipse: s-maj=17.0km s-min=6.5km az=153.1*
*IDC **28** 07:54:53.9±3.4, 36°.41N×71°.23E, h164km±30km, mb3.2/5, mb1 3.5/11, mb1mx3.2/61, mbtmp3.9/11, Error ellipse: s-maj=27.1km s-min=19.2km az=0.0*
*NNC **28** 07:54:59.5±2.9, 37°.24N×70°.83E, h0km, mb4.6, mpv4.3, Error ellipse: s-maj=23.7km s-min=18.0km az=158.0*

ISC 28 07:54:54.0±1.1, 36°.56N±0°.09×71°.17E±0°.08, h150km, n30, σ2°.9/05/38, mb3.4/5, 7C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.91**	**27**	⇑P	**Pn**	**07 55 56.0**	**+2.7**
	39nm,0.3s						
SFK				⇑S	**Sn**	**07 56 38.6**	**-0.6**
	107nm,0.4s						
AML	**Almayashu**	**5.90**	**19**	P	**Pn**	**07 56 21.1**	**+1.4**
	SNR=215						
MNAS	**Maas**	**6.01**	**9**	⇓P	**Pn**	**07 56 22.4**	**+1.5**
	32nm,0.9s						
MNAS				⇑S	**Sn**	**07 57 25.7**	**-3.2**
	129nm,0.7s						
UCH	**Uchtor**	**6.23**	**24**	P	**Pn**	**07 56 25.3**	**+1.2**
	SNR=77						
KZA	**Kyzart**	**6.36**	**29**	P	**Pn**	**07 56 26.4**	**+0.7**
	SNR=8.3						
EKS2	**Erkin-Say**	**6.42**	**17**	P	**Pn**	**07 56 27.9**	**+1.5**
	SNR=14						
KK31	**Karatay Array**	**6.56**	**356**	⇓P	**Pn**	**07 56 29.6**	**+1.6**
	14nm,0.3s,baz=179,slow=13,SNR=401						
KK31				⇓S	**Sn**	**07 57 37.6**	**-4.1**
	14nm,0.3s,baz=184,slow=23,SNR=6.2						
AAK	**Ala-Archa**	**6.59**	**22**	P	**Pn**	**07 56 30.4**	**+1.7**
	7.6nm,0.3s,baz=178,slow=5.9,SNR=86						
AAK				S	**Sn**	**07 57 39.9**	**-2.9**
	3.6nm,0.3s,baz=127,slow=23,SNR=32						
AAK	**Ala-Archa**	**6.59**	**22**	⇓P	**Pn**	**07 56 30.0**	**+1.3**
	13nm,0.5s						
AAK				⇑S	**Sn**	**07 57 40.9**	**-2.0**
	61nm,0.7s						
AAK	**Ala-Archa**	**6.59**	**22**	P	**Pn**	**07 56 30.3**	**+1.7**
	SNR=27						
KBK	**Karagaybulak**	**6.75**	**24**	P	**Pn**	**07 56 32.2**	**+1.4**
	SNR=12						
ULHL	**Ulahol**	**6.91**	**33**	P	**Pn**	**07 56 34.4**	**+1.4**
	SNR=9.6						
CHMS	**Chumysh**	**7.00**	**22**	P	**Pn**	**07 56 35.1**	**+1.2**
	SNR=9.8						
USP	**Ospenovka**	**7.17**	**20**	P	**Pn**	**07 56 36.8**	**+0.5**
	SNR=18						
TKM2	**Tokmak 2**	**7.21**	**27**	⇓P	**Pn**	**07 56 38.0**	**+1.0**
	16nm,0.7s						
TKM2				⇑S	**Sn**	**07 57 56.9**	**-0.9**
	19nm,0.8s						
TKM2	**Tokmak 2**	**7.21**	**27**	P	**Pn**	**07 56 38.3**	**+1.3**
	SNR=29						
GEYT	**Alibeck**	**10.49**	**281**	P	**Pn**	**07 57 21.7**	**+1.2**
	0.5nm,0.3s,baz=91,slow=14,SNR=3.0						
GEYT				S	**Sn**	**07 59 15.9**	**-0.7**
	1.2nm,0.3s,baz=270,slow=20,SNR=4.8						
MKAR	**Makanchi Array**	**13.17**	**36**	P	**Pn**	**07 57 55.8**	**+0.6**
	0.4nm,0.3s,baz=213,slow=9.9,SNR=8.2						
KURBB	**Kurchatov Arra**	**15.03**	**18**	P	**Pn**	**07 58 16.1**	**-2.4**
	0.1nm,0.3s,baz=206,slow=11,SNR=8.9						
BVA0	**Borovoye Array**	**16.48**	**358**	⇓P	**Pn**	**07 58 40.6**	**+4.3**
	3.0nm,0.6s,baz=179,slow=17,SNR=21						
BVAR	**Borovoye Array**	**16.48**	**358**	P	**P**	**07 58 35.7**	**-0.6**
	1.0nm,0.3s,baz=174,slow=13,SNR=24						
BRVK	**Borovoye**	**16.51**	**358**	⇑P	**Pn**	**07 58 40.3**	**+3.6**
	4.0nm,0.6s						
AKTO	**Aktyubinsk**	**16.80**	**330**	P	**P**	**07 58 40.4**	**+0.6**
	1.7nm,0.3s,baz=134,slow=10,SNR=25						
AKTO	**Aktyubinsk**	**16.80**	**330**	⇑P	**Pn**	**07 58 44.5**	**+4.3**
	13nm,0.9s						
AKTO				S	**S**	**08 01 45.0**	**-1.8**
	3.4nm,0.8s						
ZALV	**Zalesovo Beam**	**19.81**	**24**	P	**P**	**07 59 11.8**	**-0.8**
	1.1nm,0.3s,baz=223,slow=12,SNR=17						
AKASG	**Malin Array Be**	**33.01**	**309**	P	**P**	**08 01 14.9**	**+0.3**
	0.2nm,0.3s,baz=84,slow=7.6,SNR=3.6						
ARCES	**ARCESS Array B**	**41.14**	**338**	P	**P**	**08 02 22.8**	**-0.2**
	2.8nm,0.8s,baz=108,slow=7.8,SNR=5.6						
NOA	**NORSAR Array B**	**44.41**	**323**	P	**P**	**08 02 49.7**	**+0.2**
	0.7nm,0.7s,baz=96,slow=7.6,SNR=3.2						
TORD	**Torodi Ar. Bea**	**65.85**	**269**	P	**P**	**08 05 21.4**	**-2.4**
	0.9nm,0.6s,baz=47,slow=5.5,SNR=9.1						
WRA	**Warramunga Arr**	**81.91**	**122**	P	**P**	**08 06 55.1**	**-1.8**
	0.2nm,0.7s,baz=324,slow=4.7,SNR=3.5						

IDC 28 08:03:14.4±1.8, 5°.84N×127°.12E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/38, mbtmp3.7/4, Error ellipse: s-maj=151.1km s-min=21.5km az=68.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.59**	**165**	P	P	08 08 54.9	+0.3
	0.8nm,0.4s,baz=345,slow=11,SNR=16						
ASAR	**Alice Springs**	**30.07**	**168**	P	P	08 09 25.2	-0.4
	0.2nm,0.5s,baz=339,slow=7.0,SNR=4.5						
MKAR	**Makanchi Array**	**56.07**	**324**	P	P	08 12 55.6	+0.2
	0.8nm,0.4s,baz=112,slow=7.5,SNR=26						
ZALV	**Zalesovo Beam**	**58.90**	**332**	P	P	08 13 14.8	-0.5
	0.9nm,0.5s,baz=138,slow=7.6,SNR=3.9						

UCR 28 08:03:20.3±2.4, 8°.47N×83°.01W, h15km±8km, MD3.6, 2C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTJ1	**Puerto Jim¯ne**	**0.29**	**283**	*i* P	Pg	08 03 26.1	-0.4
PTJ1				*e*S	Sb	08 03 32.5	+0.5
EDSV	**San Vito**	**0.35**	**6**	*e*P	Pg	08 03 27.7	+0.2
EDSV				*e*S	Sb	08 03 34.5	+0.7
BRU2	**Volcan**	**0.45**	**45**	*e*P	Pg	08 03 29.2	-0.2
BRU2				*i* S	Sb	08 03 37.0	+0.3
DRK0	**Durika**	**0.82**	**344**	*i* P	Pg	08 03 35.0	-1.3
DRK0				*e*S	Sb	08 03 47.3	-0.1
EDLM	**Las Mercedes**	**0.99**	**325**	*e*P	Pb	08 03 37.7	-1.4
URSC	**Urasca**	**1.55**	**331**	*e*P	Pn	08 03 46.4	-1.2
LCR2	**La Lucha 2**	**1.60**	**322**	*e*P	Pn	08 03 47.5	-0.7
LCR2				*e*S	Sn	08 04 08.4	-0.4
CVTR	**Volcan Turrial**	**1.71**	**334**	*e*P	Pn	08 03 50.8	+0.8
HDC	**Heredia**	**1.87**	**325**	⇓*e*P	Pn	08 03 52.9	+1.0
HDC				*i* S	Sn	08 04 16.2	+0.8
PNME	**Penonome**	**2.66**	**89**	*e*P	Pn	08 04 00.8	-1.9

IDC 28 08:06:35.6±2.5, 7°.33S×128°.35E, h0km, mb3.4/1, mb1 3.9/3, mb1mx3.5/37, mbtmp3.7/3, ML4.1/2, Error ellipse: s-maj=287.2km s-min=31.2km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.82**	**156**	Pn	Pn	08 09 51.7	-1.3
	1.1nm,0.3s,baz=331,slow=13,SNR=30						
WRA				Sn	Sn	08 12 16.2	-11
	0.6nm,0.3s,baz=334,slow=22,SNR=7.8						
ASAR	**Alice Springs**	**17.10**	**162**	P	P	08 10 37.3	-0.8
	0.5nm,0.3s,baz=348,slow=9.9,SNR=20						
MKAR	**Makanchi Array**	**67.61**	**328**	P	P	08 17 34.2	0.0
	0.1nm,0.3s,baz=116,slow=8.1,SNR=3.1						

*ISCJB **28** 08:15:24.0±1.2, 8°.3S±0°.1×119°.61E±0°.05, h170km, mb3.3/1, Error ellipse: s-maj=20.1km s-min=7.0km az=8.3*
*DJA **28** 08:15:24.9±0.6, 8°.5S×12°.0E±°, h160km±6km, M3.2/7, MLv3.2/7*
*IDC **28** 08:15:26.6±2.7, 8°.04S×119°.98E, h209km±21km, mb2.5/2, mb1 2.7/4, mb1mx2.6/42, mbtmp3.2/4, Error ellipse: s-maj=84.8km s-min=15.3km az=47.0*

ISC 28 08:15:23.2±1.2, 8°.3S±0°.1×119°.61E±0°.06, h170km, n9, σ1°58/13, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**1.38**	**189**	P	**Pn**	**08 15 53.9**	**+0.6**
WBSI				S	**Sn**	**08 16 16.6**	**0.0**
PLAI	**Plampang**	**1.90**	**253**	P	**Pn**	**08 15 59.7**	**+1.2**
PLAI				S	**Sn**	**08 16 26.4**	**+0.6**
EDFI	**Ende, Flores**	**2.11**	**103**	P	**Pn**	**08 16 01.7**	**+0.7**
BASI	**Baing, Sumba**	**2.16**	**154**	P	**Pn**	**08 16 02.3**	**+0.9**
TWSI	**Taliwang, Sumb**	**2.74**	**260**	P	**Pn**	**08 16 09.6**	**+1.3**
BATI	**Baumata**	**4.44**	**116**	P	**Pn**	**08 16 32.0**	**+2.3**
	5.5nm,0.3s,baz=333,slow=2.3,SNR=3.0						
BATI				S	**Sn**	**08 17 22.8**	**+1.0**
	7.5nm,0.3s,baz=90,slow=19,SNR=3.8						
WRA	**Warramunga Arr**	**18.39**	**131**	P	**P**	**08 19 25.1**	**-0.3**
	0.1nm,0.3s,baz=304,slow=12,SNR=4.2						
WRA				S	**S**	**08 22 43.3**	**-3.4**
	0.1nm,0.3s,baz=304,slow=27,SNR=5.2						
ASAR	**Alice Springs**	**20.54**	**140**	P	**P**	**08 19 49.2**	**+0.5**
	0.2nm,0.5s,baz=320,slow=9.7,SNR=5.1						
MKAR	**Makanchi Array**	**64.09**	**332**	P	**P**	**08 25 37.8**	**-1.3**
	0.2nm,0.4s,baz=141,slow=5.7,SNR=4.1						

*IDC **28** 08:36:05.1±0.7, 15°.50S×173°.10W, h0km, mb4.0/9, mb1 4.3/10, mb1mx4.1/25, mbtmp4.0/10, ML4.7/1, MS2.9/2, Ms1 2.9/2, ms1mx2.8/38, Error ellipse: s-maj=35.7km s-min=15.3km az=132.0*
*NEIC **28** 08:36:06.8±0.2, 15°.52S×173°.13W, h10km, mb4.5/50, Error ellipse: s-maj=9.8km s-min=4.2km az=135.0*
*ISCJB **28** 08:36:08.8±0.2, 15°.26S±0°.05×173°.28W±0°.09, h29km, mb4.4/64, MS2.8/1, Error ellipse: s-maj=14.5km s-min=3.5km az=29.2*
*WEL **28** 08:36:17.8±1.1, 16°.5S±15°×17°.5W±6°.0, h0km*

ISC 28 08:36:09.6±0.5, 15°.54S±0°.08×173°.0W±0°.1, h29km, n123, σ1°43/125, mb4.5/64, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.99**	**35**	Pn	**Pn**	**08 36 41.0**	**-0.3**
	249nm,0.3s,baz=184,slow=1.7,SNR=274						
AFI				Sn	**Sn**	**08 37 02.7**	**-2.6**
	316nm,0.3s,baz=22,slow=19,SNR=15						
AFI	**Afiamalu**	**1.99**	**35**	*e*Pn	**Pn**	**08 36 40.9**	**-0.5**
AFI				Pn	**Pn**	**08 36 41.0**	**-0.3**
AFI				*e*Sn	**Sn**	**08 37 02.6**	**-2.6**
KNTN	**Kanton**	**12.74**	**6**	*e*Pn	**Pn**	**08 39 08.3**	**-0.7**
RAR	**Rarotonga**	**13.73**	**116**	LR	LR	08 43 23.4	
	comp=Z,46nm,20.9s,baz=285,slow=32						
GLKZ	**Green Lake**	**14.40**	**198**	P	**Pn**	**08 39 28.5**	**-3.1**
GLKZ				S	Sn	08 41 58.8	-12
DZM	**Mont Dzumac**	**20.54**	**248**	*e*LR	LR	08 45 59.3	
	290nm,28.1s						
PPT	**Papeete**	**22.51**	**98**	LR	LR	08 47 26.9	
	comp=Z,38nm,20.3s,baz=276,slow=30						
PPT2	**Papeete2**	**22.51**	**98**	*e*LR	LR	08 46 10.6	
	183nm,27.5s						
GRZ	**Great Barrier**	**23.07**	**204**	P	**P**	**08 41 11.6**	**-1.2**
MXZ	**Matakaoa Point**	**23.26**	**198**	P	**P**	**08 41 16.0**	**+1.3**
WCZ	**Waipu Caves**	**23.27**	**207**	P	**P**	**08 41 14.3**	**-0.5**
KUZ	**Kuaotunu**	**23.40**	**203**	P	**P**	**08 41 16.8**	**+0.7**
TBI	**Tubuai**	**23.46**	**113**	*e*LQ	LQ	08 45 41.5	
	252nm,30.0s						
TBI				*e*LR	LR	08 46 40.7	
	161nm,29.8s						
WMGZ	**Waiomatatini S**	**23.47**	**197**	P	**P**	**08 41 20.2**	**+3.5**
WMGZ				S	**S**	**08 45 29.2**	**+0.8**
HAZ	**Te Kaha**	**23.60**	**199**	P	**P**	**08 41 19.0**	**+1.0**
PKGZ	**Pakihiroa**	**23.63**	**198**	P	**P**	**08 41 21.2**	**+2.8**
PKGZ				S	**S**	**08 45 30.1**	**-1.1**
WIAZ	**Waiheke Island**	**23.67**	**204**	P	**P**	**08 41 19.7**	**+1.0**
MBAZ	**Motutapu North**	**23.74**	**205**	P	**P**	**08 41 19.8**	**+0.4**
PUZ	**Puketiti**	**23.75**	**197**	P	**P**	**08 41 22.4**	**+2.9**
RUGZ	**Raukumara Rang**	**23.82**	**199**	P	**P**	**08 41 22.1**	**+1.8**

E07A	**Sunnyside**	**78.08**	**34**	*e*P	**P**	**08 48 06.3**	**+0.6**
	8.7nm,1.0s						
MSU	**Marysvale**	**78.23**	**44**	*e*P	**P**	**08 48 08.1**	**+1.1**
E08A	**Dider Farm, El**	**78.47**	**35**	*e*P	**P**	**08 48 08.6**	**+0.8**
	5.7nm,1.0s						
BMO	**Blue Mountains**	**78.48**	**37**	*e*P	**P**	**08 48 08.5**	**+0.4**
	6.6nm,1.1s						
MFID	**Camas Ranch**	**78.53**	**39**	*e*P	**P**	**08 48 08.8**	**+0.4**
	6.0nm,1.0s						
DUG	**Dugway, Tooele**	**78.68**	**43**	*e*P	**P**	**08 48 10.2**	**+0.8**
	2.6nm,1.0s						
D08A	**Wollman Farm,**	**78.89**	**34**	*e*P	**P**	**08 48 11.0**	**+0.9**
	8.7nm,1.0s						
E09A	**Wood Farm, Sta**	**78.99**	**35**	*e*P	**P**	**08 48 11.6**	**+0.9**
	4.7nm,0.9s						
F10A	**Beach Ranch, E**	**79.18**	**36**	*e*P	**P**	**08 48 11.9**	**0.0**
	7.3nm,0.8s						
TMUT	**Trail Mountain**	**79.28**	**44**	*e*P	**P**	**08 48 13.7**	**+0.8**
	9.3nm,1.0s						
MPU	**Maple Canyon**	**79.36**	**43**	*e*P	**P**	**08 48 13.8**	**+0.7**
	5.2nm,1.1s						
B08A	**Colville Reser**	**79.46**	**33**	*e*P	**P**	**08 48 13.8**	**+0.5**
	3.7nm,1.0s						
HLID	**Hailey**	**79.47**	**39**	*e*P	**P**	**08 48 14.5**	**+0.9**
	5.3nm,0.9s						
SPUT	**South Promonto**	**79.49**	**42**	*e*P	**P**	**08 48 14.3**	**+0.5**
	4.9nm,1.1s						
HVU	**Hansel Valley**	**79.53**	**41**	*e*P	**P**	**08 48 14.6**	**+0.6**
	3.7nm,1.0s						
DHAK	**Deception Hill**	**79.58**	**17**	*e*P	**P**	**08 48 13.0**	**-0.7**
	330nm,1.2s						
SRU	**San Rafael Swe**	**79.65**	**45**	*e*P	**P**	**08 48 15.9**	**+1.2**
	5.9nm,1.1s						
P17A	**Butcher Ranch,**	**79.68**	**44**	*e*P	**P**	**08 48 15.4**	**+0.5**
	8.1nm,1.1s						
C09A	**Chrisman Ranch**	**79.69**	**34**	*e*P	**P**	**08 48 15.1**	**+0.6**
	7.2nm,1.0s						
JLU	**Jordanelle**	**79.78**	**43**	*e*P	**P**	**08 48 16.4**	**+0.9**
	6.1nm,1.2s						
TCUT	**Toone Canyon**	**80.07**	**42**	*e*P	**P**	**08 48 17.8**	**+0.8**
	13nm,0.9s						
PV09	**Paradox Valley**	**80.30**	**46**	*e*P	**P**	**08 48 18.0**	**-0.4**
PV19	**Morning Glory**	**80.31**	**46**	*e*P	**P**	**08 48 18.4**	**+0.1**
	7.7nm,0.9s						
PV17	**East Wray Mesa**	**80.31**	**46**	*e*P	**P**	**08 48 18.8**	**+0.4**
	9.2nm,1.2s						
PV14	**Lion Creek, Pa**	**80.31**	**46**	*e*P	**P**	**08 48 19.3**	**+0.9**
	7.4nm,1.0s						
LTX	**Lajitas**	**80.34**	**56**	*e*P	**P**	**08 48 19.4**	**+0.8**
TX31	**Lajitas Ar. Si**	**80.34**	**56**	*e*P	**P**	**08 48 18.9**	**+0.4**
TX31				*e*P	**P**	**08 48 19.6**	**+1.0**
TXAR	**Lajitas Array**	**80.34**	**56**	P	**P**	**08 48 19.4**	**+0.8**
	2.1nm,1.0s,baz=232,slow=6.2,SNR=14						
PV13	**Radium Mtn., P**	**80.35**	**46**	*e*P	**P**	**08 48 19.3**	**+0.7**
	7.7nm,1.1s						
PV23	**Carpenter Ridg**	**80.36**	**46**	*e*P	**P**	**08 48 19.4**	**+0.7**
	6.6nm,0.8s						
PV11	**David Mesa, Pa**	**80.38**	**46**	*e*P	**P**	**08 48 19.9**	**+1.2**
	5.2nm,1.0s						
PV21	**Cone Mtn., Par**	**80.44**	**46**	*e*P	**P**	**08 48 20.4**	**+1.3**
	5.4nm,0.9s						
PV12	**Saucer Basin,**	**80.44**	**46**	*e*P	**P**	**08 48 20.0**	**+0.9**
	11nm,1.1s						
PV01	**Paradox Valley**	**80.52**	**46**	*e*P	**P**	**08 48 20.4**	**+0.9**
PV22	**Blue Mesa, Par**	**80.55**	**46**	*e*P	**P**	**08 48 20.6**	**+0.9**
	2.9nm,1.0s						
ANMO	**Albuquerque**	**80.57**	**50**	*e*P	**P**	**08 48 20.7**	**+0.9**
	2.2nm,1.0s						
S22A	**4UR Ranch, Cre**	**81.56**	**47**	*e*P	**P**	**08 48 26.5**	**+1.3**
	5.5nm,1.0s						
REDW	**Red Top Meadow**	**81.56**	**41**	*e*P	**P**	**08 48 26.3**	**+1.3**
	1.4nm,1.0s						
IMW	**Indian Meadow**	**81.78**	**40**	*e*P	**P**	**08 48 26.8**	**+0.6**
	3.0nm,0.9s						
PD31	**Pinedale Array**	**82.09**	**42**	*e*P	**P**	**08 48 28.1**	**+0.3**
PDAR	**Pinedale Array**	**82.09**	**42**	P	**P**	**08 48 28.1**	**+0.3**
	1.5nm,0.8s,baz=202,slow=4.7,SNR=12						
PDAR	**Pinedale Array**	**82.09**	**42**	*e*P	**P**	**08 48 27.4**	**-0.3**
SMCO	**Snowmass**	**82.11**	**46**	*e*P	**P**	**08 48 28.2**	**+0.1**
	4.4nm,1.0s						
YMR	**Madison River**	**82.16**	**39**	*e*P	**P**	**08 48 28.6**	**+0.5**
	1.2nm,0.8s						
BOZ	**Bozeman (W)**	**82.24**	**38**	*e*P	**P**	**08 48 30.1**	**+1.8**
	3.9nm,0.9s						
YHH	**Holmes Hill**	**82.29**	**39**	*e*P	**P**	**08 48 30.0**	**+1.1**
	5.2nm,1.2s						
ILAR	**Eielson Array**	**82.50**	**11**	P	**P**	**08 48 28.7**	**-0.4**
	1.0nm,0.8s,baz=220,slow=4.9,SNR=11						
HRY	**Holter Researc**	**82.70**	**37**	*e*P	**P**	**08 48 30.7**	**0.0**
MSTX	**Muleshoe**	**82.91**	**52**	*e*P	**P**	**08 48 32.5**	**+0.4**
	7.0nm,1.1s						
ABTX	**Abilene, Hawle**	**84.80**	**54**	*e*P	**P**	**08 48 41.2**	**-0.5**
	11nm,1.0s						
HHC	**Hu-ho-hao-te**	**89.43**	**313**	*e*P	**P**	**08 49 06.5**	**+2.5**
HHC				pmax	pmax		
	comp=Z,14nm,1.1s						
HHC				pmax	pmax		
	comp=Z,120nm,5.2s						
YKA	**Yellowknife Ar**	**90.06**	**23**	P	**P**	**08 49 06.4**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=237,slow=3.8,SNR=4.2						
KMI	**Kunming**	**91.47**	**296**	P	**P**	**08 49 15.8**	**+1.8**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LZH	**Lanzhou**	**93.65**	**306**	*e*P	**P**	**08 49 26.5**	**+2.7**
LZH				pP	sP	08 49 36.5	0.0
LZH				sP	pP	08 49 39.8	+6.7
LZH				*e*PP	PP	08 52 09.3	-60
LZH				pmax	pmax		
	comp=Z,48nm,1.1s						
LZH				pmax	pmax		
	comp=Z,290nm,4.8s						
KSH	**Kashi**	**115.89**	**307**	*e*PKP	**PKPdf**	**08 54 51.8**	**+1.8**
KECS	**Kecovo**	**145.34**	**344**	*e*PKP	**PKPbc**	**08 55 44.3**	**-0.2**
VYHS	**Vyhne**	**145.73**	**346**	*e*PKP	**PKPab**	**08 55 47.2**	**+1.0**
MODS	**Modra-Piesok**	**146.19**	**348**	*e*PKP	**PKPab**	**08 55 47.7**	**-0.2**
GERES	**GERESS Array B**	**146.34**	**352**	PKPbc	**PKPbc**	**08 55 48.0**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=335,slow=6.8,SNR=3.5						
BR101	**Keskin Array S**	**146.53**	**321**	*e*PKPdf	**PKPbc**	**08 55 49.0**	**+0.3**
BRTR	**Keskin Array B**	**146.53**	**321**	PKPbc	**PKPbc**	**08 55 49.0**	**+0.3**
	comp=Z,3.2nm,0.9s,baz=104,slow=0.5,SNR=11						

*IDC **28** 08:36:19.7±7.5,34°.93N×135°.10E,h202km±111km, mb3.0/2,mb1 3.1/3,mb1mx2.8/50,mbtmp3.4/3,Error ellipse: s-maj=128.2km s-min=26.0km az=57.0*
*ISCJB **28** 08:36:24.1±0.6,35°.8N±0°.1×136°.4E±0°.1,h309km,mb3.0/2, Error ellipse: s-maj=19.9km s-min=11.7km az=156.1*
*JMA **28** 08:36:24.4±0.3,35°.85N×136°.41E,h309km±3km,M3.0*
ISC 28 08:36:24.8±1.1,35°.8N±0°.1×136°.46E±0°.10,h309km,n13, σ1§23/15,Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYTA	**Yamagatataniai**	**0.28**	**126**	P	**Pn**	**08 37 03.9**	**-0.2**
JFM	**Mihama**	**0.45**	**239**	P	**Pn**	**08 37 04.2**	**-0.2**
JWT	**Wachi**	**0.98**	**241**	P	**Pn**	**08 37 05.9**	**-0.2**
JIE	**Ise**	**1.38**	**171**	P	**Pn**	**08 37 08.5**	**+0.3**
MJAR	**Matsushiro Arr**	**1.62**	**61**	P	**Pn**	**08 37 09.6**	**0.0**
	1.0nm,0.3s,baz=244,slow=8.1,SNR=8.9						
MJAR				S	**S**	**08 37 49.1**	**+3.8**
	0.5nm,0.3s,baz=222,slow=21,SNR=5.0						
JWY	**Kouya**	**1.69**	**205**	P	**Pn**	**08 37 10.5**	**+0.2**
JYN	**Shimob**	**1.72**	**98**	P	**Pn**	**08 37 10.1**	**-0.3**
JRY	**Ryogami san**	**2.00**	**82**	P	**Pn**	**08 37 12.7**	**+0.3**
JOD2	**Odawara 2**	**2.21**	**102**	P	**Pn**	**08 37 14.2**	**+0.2**
JAG	**Ashikaga**	**2.52**	**74**	P	**Pn**	**08 37 15.8**	**-0.8**
JAG				S	**S**	**08 37 56.6**	**-1.4**
JSD	**Sado**	**2.69**	**32**	P	**Pn**	**08 37 17.9**	**-0.3**
MKAR	**Makanchi Array**	**41.42**	**303**	P	**P**	**08 43 41.4**	**-0.2**
	0.5nm,0.5s,baz=94,slow=8.4,SNR=4.0						
WRA	**Warramunga Arr**	**55.44**	**182**	P	**P**	**08 45 27.4**	**-0.6**
	0.4nm,0.5s,baz=0.8,slow=7.9,SNR=9.0						

*ISCJB **28** 08:47:42.3±0.3,59°.85N±0°.02×24°.06E±0°.04,h0km, Error ellipse: s-maj=3.0km s-min=3.0km az=158.1*
*NAO **28** 08:47:44.2±1.0,59°.78N×24°.06E,ML2.7*
*HEL **28** 08:47:44.0±0.1,59°.81N×23°.99E,h0km,ML2.5, ML2.3(UPP),Explosion*
*IDC **28** 08:47:45.3±1.0,59°.88N×24°.03E,h0km,mb1 3.6/4, mb1mx3.2/64,mbtmp3.6/4,ML3.4/4,Error ellipse: s-maj=13.9km s-min=9.3km az=166.0*
*LVSN **28** 08:47:45.1±4.5,59°.78N×24°.01E,h0km±46km,ML2.7*
*BER **28** 08:47:45.2±2.8,59°.77N×24°.03E,h0km,ML2.7(NAO),*

Suspected explosion
*UPP **28** 08:47:46.7±3.9,59°.92N×23°.64E,h0km±29km,ML2.3*
ISC 28 08:47:42.5±0.7,59°.79N±0°.02×23°.98E±0°.03,h0km,n57, σ1§37/84,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.47**	**26**	*e*P	**Pg**	**08 47 52.5**	**+0.9**
MEF				*e*S	**Sg**	**08 47 58.7**	**+1.0**
MEF	**Metsahovi**	**0.47**	**26**	*e*P	**Pb**	**08 47 52.7**	**-1.0**
MEF				*e*S	**Sg**	**08 47 59.2**	**+1.4**
MEF				AML	AML	08 48 02.6	
	comp=N,108nm,0.4s						
MEF				AML	AML	08 48 03.0	
	comp=E,166nm,0.3s						
MEF				AML	AML	08 48 04.0	
	comp=Z,211nm,0.3s						
ARBE	**Arbavere**	**1.08**	**109**	*e*PB	**Pb**	**08 48 04.0**	**-0.1**
ARBE				*e*SB	**Sb**	**08 48 18.1**	**-0.6**
MTSE	**Matsula**	**1.09**	**185**	*e*P	**Pg**	**08 48 03.6**	**+0.3**
MTSE				*e*SB	**Sb**	**08 48 19.2**	**+0.4**
MTSE	**Matsula**	**1.09**	**185**	*e*P	**Pg**	**08 48 03.6**	**+0.3**
MTSE				*e*S	**Sg**	**08 48 17.7**	**+0.4**
RAF	**Rauma**	**1.65**	**319**	*e*PG	**Pb**	**08 48 13.6**	**-0.2**
RAF				MSG		08 48 32.8	
	comp=Z,64nm,0.2s						
RAF				*e*SN	**Sg**	**08 48 37.1**	**+1.5**
RAF	**Rauma**	**1.65**	**319**	*e*P	**Pb**	**08 48 13.9**	**0.0**
RAF				*e*S	**Sg**	**08 48 36.7**	**+1.1**
RAF				AML	AML	08 48 40.7	
	comp=E,70nm,0.2s						
RAF				AML	AML	08 48 41.0	
	comp=Z,77nm,0.2s						
RAF				AML	AML	08 48 41.0	
	comp=N,70nm,0.3s						
VJF	**Virojoki**	**1.94**	**66**	*e*P	**Pb**	**08 48 17.7**	**-1.0**
VJF				MSG		08 48 41.3	
	comp=Z,53nm,0.2s						
VJF				*e*SG	**Sb**	**08 48 43.1**	**-0.2**
VSU	**Vasula**	**1.95**	**132**	Pn	**Pb**	**08 48 18.6**	**-0.2**
VSU				Lg	Lg	08 48 43.5	
VSU	**Vasula**	**1.95**	**132**	*e*PG	**Pb**	**08 48 18.8**	**0.0**
	baz=310						
VSU				*e*SB	**Sb**	**08 48 43.5**	**-0.1**
VSU	**Vasula**	**1.95**	**132**	Pn	**Pb**	**08 48 18.6**	**-0.2**
VSU				Lg	Lg	08 48 43.5	
VSU	**Vasula**	**1.95**	**132**	*e*P	**Pb**	**08 48 18.8**	**0.0**
VSU				*e*S	**Sb**	**08 48 43.6**	**0.0**
VSU				AML	AML	08 48 44.5	
	comp=E,234nm,0.3s						
VSU				AML	AML	08 48 48.6	
	comp=N,319nm,0.2s						
VSU				AML	AML	08 48 48.8	
	comp=Z,242nm,0.3s						
FIA0	**FINESS Array S**	**1.95**	**31**	Pn	**Pb**	**08 48 19.2**	**+0.3**
	baz=208,slow=16						
FIA0				Lg	Lg	08 48 45.5	
FIA0	**FINESS Array S**	**1.95**	**31**	*e*PG	**Pb**	**08 48 18.5**	**-0.4**
FIA0				*e*SG	**Sb**	**08 48 43.8**	**0.0**
FIA0	**FINESS Array S**	**1.95**	**31**	Pn	**Pb**	**08 48 19.2**	**+0.3**
	baz=208,slow=16						
FIA0				Lg	Lg	08 48 45.5	
FINES	**FINESS Array B**	**1.95**	**31**	Pn	**Pb**	**08 48 19.0**	**+0.1**
	comp=Z,8.5nm,0.3s,baz=209,slow=16,SNR=130						
AAL	**Aland**	**2.04**	**283**	P	**Pb**	**08 48 19.8**	**-0.7**
AAL				*e*S	**Sn**	**08 48 44.4**	**+0.2**
AAL	**Aland**	**2.04**	**283**	*e*P	**Pb**	**08 48 19.6**	**-0.8**
AAL				*e*S	**Sn**	**08 48 44.5**	**+0.3**
SLIT	**Slitere, Latvi**	**2.34**	**203**	*e*P	**Pb**	**08 48 24.9**	**-0.7**
SLIT				*e*S	**Sn**	**08 48 50.2**	**-1.4**
SLIT				AML	AML	08 48 57.8	
	comp=Z,276nm,0.3s						
SLIT				AML	AML	08 48 59.1	
	comp=E,414nm,0.3s						
SLIT				AML	AML	08 48 59.5	
	comp=N,340nm,0.3s						
KEF	**Keuruu**	**2.42**	**10**	*e*PG	**Pb**	**08 48 26.5**	**-0.4**
KEF				*e*S	**Sn**	**08 48 51.5**	**-2.1**
KAF	**Kangasniemi**	**2.59**	**25**	*e*PB	**Pb**	**08 48 28.8**	**-1.0**
KAF				MSG		08 48 59.7	
	comp=Z,18nm,0.2s						
KAF				*e*SG	**Sb**	**08 49 02.9**	**+0.8**
NRTU	**Norrtaelje**	**2.71**	**270**	P	**Pn**	**08 48 29.1**	**+1.8**
NRTU	**Norrtaelje**	**2.71**	**270**	*e*P	**Pn**	**08 48 29.1**	**+1.8**
GRAU	**Graesoe**	**2.78**	**284**	P	**Pn**	**08 48 29.1**	**+0.8**
GRAU	**Graesoe**	**2.78**	**284**	*e*P	**Pn**	**08 48 29.1**	**+0.8**
FORU	**Forsmark**	**2.97**	**284**	P	**Pn**	**08 48 32.7**	**+1.9**
FORU	**Forsmark**	**2.97**	**284**	*e*P	**Pn**	**08 48 32.7**	**+1.9**
FLYU	**Flymyra**	**3.09**	**279**	P	**Pn**	**08 48 34.1**	**+1.7**
FLYU	**Flymyra**	**3.09**	**279**	*e*P	**Pn**	**08 48 34.1**	**+1.7**
SUF	**Sumiainen**	**3.12**	**19**	*e*PB	**Pb**	**08 48 36.8**	**-2.0**
	baz=198						
SUF				MSG		08 49 15.0	
	comp=Z,4.9nm,0.2s						
SUF				*e*SB	**Sb**	**08 49 16.3**	**-1.0**
NYNU	**Nynaeshamn**	**3.16**	**258**	P	**Pn**	**08 48 35.5**	**+2.1**
NYNU	**Nynaeshamn**	**3.16**	**258**	*e*P	**Pn**	**08 48 35.5**	**+2.1**
VAF	**Ylistaro**	**3.32**	**350**	*e*PB	**Pb**	**08 48 39.8**	**-2.5**
VAF				*e*SB	**Sb**	**08 49 21.0**	**-2.1**
FIBU	**Brunna**	**3.35**	**275**	P	**Pn**	**08 48 38.1**	**+2.0**
OSTU	**Oestervaala**	**3.47**	**280**	P	**Pn**	**08 48 38.8**	**+1.1**
OSTU	**Oestervaala**	**3.47**	**280**	*e*P	**Pn**	**08 48 38.8**	**+1.1**
BACU	**Backbrunna**	**3.47**	**274**	P	**Pn**	**08 48 39.5**	**+1.7**
BACU	**Backbrunna**	**3.47**	**274**	*e*P	**Pn**	**08 48 39.5**	**+1.7**
IGGU	**Iggoen**	**3.49**	**291**	P	**Pn**	**08 48 39.2**	**+1.3**
IGGU	**Iggoen**	**3.49**	**291**	*e*P	**Pn**	**08 48 39.2**	**+1.3**
HEMU	**Hemsoen**	**4.08**	**318**	*e*P	**Pn**	**08 48 48.1**	**+2.1**
	baz=130						
UMAU	**Umeaa**	**4.39**	**341**	*e*PG	**Pb**	**08 49 03.0**	**+2.5**
	baz=161						
UMAU				*e*SG	**Sg**	**08 50 00.5**	**-3.0**
OUF	**Merijarvi**	**4.61**	**4**	*e*P	**Pn**	**08 48 56.1**	**+2.8**
JOF	**Joensuu**	**4.72**	**45**	*e*P	**Pn**	**08 48 56.2**	**+1.3**
JOF				*e*S	**Sn**	**08 49 50.8**	**+0.6**
HFS	**Hagfors**	**5.18**	**278**	Pn	**Pn**	**08 49 02.9**	**+1.6**
	comp=Z,1.0nm,0.3s,baz=96,slow=15,SNR=20						
HFS				Pg	**Pb**	**08 49 15.3**	**+1.4**
	comp=Z,1.5nm,0.3s,baz=95,slow=16,SNR=9.9						
HFS				Sn	**Sn**	**08 50 01.5**	**-0.2**
	comp=Z,2.0nm,0.3s,baz=78,slow=28,SNR=7.9						
HFS	**Hagfors**	**5.18**	**278**	Pn	**Pn**	**08 49 02.3**	**+1.0**
	baz=98,slow=10						
HFS				Sn	**Sn**	**08 50 00.5**	**-1.2**
	baz=81,slow=28						
HFS	**Hagfors**	**5.18**	**278**	Pn	**Pn**	**08 49 02.3**	**+1.0**
	baz=98,slow=10						
HFS				Sn	**Sn**	**08 50 00.5**	**-1.2**
	baz=81,slow=28						
NRA0	**NORESS Array S**	**6.26**	**284**	Pn	**Pn**	**08 49 16.2**	**+0.1**
	baz=83,slow=16						
NRA0				Sn	**Sn**	**08 50 26.3**	**-2.0**
	baz=92,slow=28						
NRA0	**NORESS Array S**	**6.26**	**284**	Pn	**Pn**	**08 49 16.2**	**+0.1**
	baz=83,slow=16						
NRA0				Sn	**Sn**	**08 50 26.3**	**-2.0**
	baz=92,slow=28						
NB2	**NORSAR Subarra**	**6.45**	**287**	Pn	**Pn**	**08 49 19.0**	**+0.3**
	baz=96,slow=14						
NB2	**NORSAR Subarra**	**6.45**	**287**	Pn	**Pn**	**08 49 19.0**	**+0.3**
	baz=96,slow=14						
NOA	**NORSAR Array B**	**6.45**	**287**	Pn	**Pn**	**08 49 17.8**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=90,slow=13,SNR=58						
NOA				Sn	**Sn**	**08 50 31.2**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=131,slow=19,SNR=6.4						
BSD	**Bornholm Skovb**	**6.78**	**230**	*i*P	Pg	08 49 47.5	-4.7
BSD				*e*S	**Sn**	**08 50 36.4**	**-4.5**
AKASG	**Malin Array Be**	**9.59**	**160**	Pn	**Pn**	**08 50 00.6**	**-1.0**
	comp=Z,1.2nm,0.3s,baz=341,slow=13,SNR=4.0						
ARA0	**ARCESS Array S**	**9.80**	**3**	Pn	**Pn**	**08 50 05.0**	**+0.5**
	baz=174,slow=14						
ARA0	**ARCESS Array S**	**9.80**	**3**	Pn	**Pn**	**08 50 05.0**	**+0.5**
	baz=174,slow=14						
ARCES	**ARCESS Array B**	**9.80**	**3**	Pn	**Pn**	**08 50 04.8**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=178,slow=14,SNR=93						

IDC 28 08:48:09.4±0.9,59°.85N×23°.95E,h0km,mb1 3.4/4, mb1mx3.1/65,mbtmp3.3/4,ML3.2/4,Error ellipse: s-maj=11.9km s-min=7.1km az=139.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**1.91**	**32**	Pn	Pn	08 48 43.4	+0.3
	7.4nm,0.3s,baz=215,slow=15,SNR=12						
FINES				Lg	Lg	08 49 09.5	
	16nm,0.3s,baz=221,slow=26,SNR=9.3						
HFS	**Hagfors**	**5.16**	**278**	Pn	**Pn**	**08 49 27.0**	**-0.7**
	0.8nm,0.3s,baz=95,slow=15,SNR=4.7						
HFS				Pg	Pb	08 49 38.4	-1.9
	1.4nm,0.3s,baz=99,slow=17,SNR=6.3						
HFS				Sn	Sn	08 50 23.6	-4.3
	5.1nm,0.3s,baz=85,slow=30,SNR=12						
NOA	**NORSAR Array B**	**6.41**	**286**	Pn	Pn	08 49 42.2	-2.8
	0.1nm,0.3s,baz=92,slow=14,SNR=8.4						
AKASG	**Malin Array Be**	**9.65**	**160**	Pn	Pn	08 50 24.0	-5.3
	1.1nm,0.3s,baz=327,slow=19,SNR=3.0						
ARCES	**ARCESS Array B**	**9.74**	**3**	Pn	Pn	08 50 29.4	-1.1
	0.8nm,0.3s,baz=180,slow=13,SNR=8.7						

IDC 28 08:48:28.9±2.6,59°.76N×24°.17E,h0km,mb1 3.5/3, mb1mx3.1/64,mbtmp3.4/3,ML3.0/3,Error ellipse: s-maj=35.1km s-min=8.7km az=142.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**1.94**	**28**	Pn	Pb	08 49 04.2	-0.8
	5.7nm,0.3s,baz=209,slow=14,SNR=8.4						
FINES				Lg	Lg	08 49 29.7	
	9.7nm,0.3s,baz=212,slow=31,SNR=6.6						
HFS	**Hagfors**	**5.28**	**279**	Pn	Pn	08 49 47.5	-1.4
	0.6nm,0.3s,baz=106,slow=15,SNR=3.4						
NOA	**NORSAR Array B**	**6.55**	**287**	Pn	Pn	08 50 03.4	-2.9
	0.1nm,0.3s,baz=92,slow=13,SNR=8.1						
ARCES	**ARCESS Array B**	**9.84**	**3**	Pn	Pn	08 50 49.7	-1.6
	0.6nm,0.3s,baz=177,slow=14,SNR=4.9						

*IDC **28** 08:54:40.2±3.0,13°.80S×65°.93E,h0km,mb3.9/8, mb1 3.9/9,mb1mx3.7/63,mbtmp3.9/9,ML3.9/1,MS3.6/3, Ms1 3.6/3,ms1mx3.3/40,Error ellipse: s-maj=90.5km s-min=23.9km az=149.0*
ISC 28 08:54:42.1±3.1,13°.9S±0°.5×66°.0E±0°.4,h15km,n21, σ0§63/10,mb4.0/8,MS3.6/3,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**8.90**	**46**	T	T	09 05 52.6	
	baz=227,slow=76,SNR=22						
H08S2	**Diego Garcia H**	**8.92**	**47**	T	T	09 05 49.5	
	baz=227,slow=76,SNR=113						
H08S3	**Diego Garcia H**	**8.92**	**46**	T	T	09 05 54.1	
	baz=227,slow=76,SNR=1142						
H08N3	**Diego Garcia H**	**8.98**	**34**	T	T	09 05 50.5	
	baz=212,slow=75,SNR=3093						
H08N1	**Diego Garcia H**	**8.99**	**34**	T	T	09 05 51.6	
	baz=212,slow=75,SNR=2675						
H08N2	**Diego Garcia H**	**9.00**	**34**	T	T	09 05 56.5	
	baz=212,slow=75,SNR=3721						
OPO	**Ambohidratompo**	**18.63**	**253**	P	**Pn**	**08 58 59.9**	**+0.1**
	0.4nm,0.3s,baz=66,slow=15,SNR=2.8						
KMBO	**Kilima Mbogo**	**31.12**	**292**	P	**P**	**09 01 01.4**	**+0.7**
	0.8nm,0.4s,baz=68,slow=7.3,SNR=8.2						
KMBO				LR	LR	09 12 04.5	
	comp=Z,87nm,18.9s,baz=210,slow=34						
LBTB	**Lobatse**	**39.51**	**248**	LR	LR	09 16 57.8	
	comp=Z,105nm,18.2s,baz=352,slow=34						
SUR	**Sutherland**	**45.05**	**238**	LR	LR	09 17 57.1	
	comp=Z,69nm,19.9s,baz=326,slow=31						
H01W3	**Cape Leeuwin H**	**48.05**	**125**	T	T	09 54 54.9	
	baz=284,slow=75,SNR=54						
H01W2	**Cape Leeuwin H**	**48.05**	**125**	T	T	09 54 55.0	
	baz=284,slow=75,SNR=72						
H01W1	**Cape Leeuwin H**	**48.07**	**125**	T	T	09 54 56.1	
	baz=284,slow=75,SNR=64						
MKAR	**Makanchi Array**	**62.16**	**13**	P	**P**	**09 05 02.5**	**-0.2**
	0.3nm,0.6s,baz=208,slow=8.6,SNR=2.7						
KURBB	**Kurchatov Arra**	**65.18**	**9**	P	**P**	**09 05 22.0**	**-0.5**
	0.5nm,0.5s,baz=212,slow=6.7,SNR=6.7						
BVAR	**Borovoye Array**	**66.75**	**3**	P	**P**	**09 05 33.1**	**+0.5**
	0.1nm,0.3s,baz=167,slow=7.2,SNR=2.4						
TORD	**Torodi Ar. Bea**	**69.11**	**290**	P	**P**	**09 05 47.2**	**-1.0**
	1.8nm,1.1s,baz=98,slow=4.4,SNR=7.0						
ZALV	**Zalesovo Beam**	**69.46**	**12**	P	**P**	**09 05 49.6**	**0.0**
	0.5nm,0.5s,baz=206,slow=9.3,SNR=3.4						
DBIC	**Dimbokro**	**73.19**	**281**	P	**P**	**09 06 12.9**	**-0.1**
	3.6nm,0.8s,baz=90,slow=10,SNR=3.3						
ESDC	**Sonseca Array**	**83.95**	**313**	P	**P**	**09 07 11.9**	**0.0**
	0.1nm,0.3s,baz=67,slow=9.9,SNR=3.6						
PDAR	**Pinedale Array**	**150.97**	**353**	PKPbc	**PKPbc**	**09 14 35.8**	**+0.

RKPI **Ransiki, Papua** 4.85 38 P Pn 08 57 27.3 -1.4
SANI **Sanana** 6.11 302 P Pn 08 57 46.3 +0.3
2µm,0.5s,21µm21µm7.5nm
SRPI **Serui, Papua** 6.12 56 P Pn 08 57 43.4 -2.8
3µm,0.5s,43µm14µm68nm
TNTI **Ternate** 7.16 328 ePn Pn 08 58 00.0 -0.3
TNTI **Ternate** 7.16 328 P Pn 08 58 00.0 -0.3
519nm,0.9s,7µm15µm2.5nm
KDU **Kakadu** 7.42 170 P Pn 08 57 59.5 -4.3
baz=7.4,SNR=1000
MTN **Manton Dam** 7.46 180 P Pn 08 58 01.3 -3.1
baz=7.4,SNR=427
MTN **Manton Dam** 7.46 180 ePn Pn 08 58 00.7 -3.7
SOEI **Soe** 8.12 237 ePn Pn 08 58 14.4 +0.7
SOEI **Soe** 8.12 237 P Pn 08 58 14.3 +0.7
3µm,1.0s,34µm
BBSI **Bau Bau** 8.56 269 P Pn 08 58 24.3 +4.8
657nm,1.1s,17µm
BATI **Baumata** 8.87 236 P Pn 08 58 23.4 -0.3
120nm,0.3s,baz=120,slow=1.2,SNR=45
BATI S Sn 09 00 03.9 +1.7
229nm,0.3s,baz=49,slow=20,SNR=7.2
BATI **Baumata** 8.87 236 P Pn 08 58 23.6 -0.1
678nm,0.8s,9µm
MNI **Manado** 9.24 317 P Pn 08 58 28.5 -0.2
MNI pmax pmax
comp=Z,987nm,1.0s
LUWI **Luwuk** 9.40 297 ePn Pn 08 58 31.9 +0.9
LUWI **Luwuk** 9.40 297 P Pn 08 58 31.4 +0.4
comp=Z,1µm,1.0s,comp=Z,14µm
MMRI **Maumere** 9.45 249 ePn Pn 08 58 34.9 +3.3
MMRI **Maumere** 9.45 249 P Pn 08 58 33.8 +2.2
comp=Z,2µm,1.3s,comp=Z,44µmcomp=Z,21µm
MMPI **Merauke** 9.66 109 P Pn 08 58 31.0 -3.5
comp=Z,2µm,0.7s,comp=Z,27µm
JAY **Jayapura** 9.92 74 P Pn 08 58 35.0 -3.1
comp=Z,23nm,0.3s,baz=159,slow=6.4,SNR=88
JAY S Sn 09 00 20.2 -7.7
baz=144,slow=19
JAY LR LR 09 03 44.5
comp=Z,1µm,20.5s,slow=45
JAY **Jayapura** 9.92 74 P Pn 08 58 34.3 -3.8
comp=Z,6µm,1.1s,comp=Z,69µm
EDFI **Ende, Flores** 9.99 250 P Pn 08 58 40.5 +1.3
comp=Z,1µm,1.4s,comp=Z,28µm
KNRA **Kununurra** 10.54 193 P Pn 08 58 42.5 -4.0
baz=10,SNR=453
BKSI **Bulukumba** 11.00 270 P Pn 08 58 55.9 +3.2
comp=Z,2µm,1.4s,comp=Z,26µmcomp=Z,11µm
BNSI **Bone** 11.06 274 P Pn 08 58 57.3 +3.7
comp=Z,2µm,1.6s,comp=Z,27µm
SPSI **Sidrap Palu** 11.44 276 P Pn 08 59 02.7 +3.9
comp=Z,822nm,1.8s,comp=Z,18µm
TTSI **Tana Toraja** 11.54 281 P Pn 08 59 03.5 +3.3
comp=Z,628nm,1.0s,comp=Z,12µm
BASI **Baing, Sumba** 11.55 245 P Pn 08 59 01.5 +1.1
comp=Z,886nm,0.5s,comp=Z,16µm
WBSI **Waikabubak, Su** 12.43 249 P Pn 08 59 11.5 -0.9
comp=Z,783nm,0.6s,comp=Z,13µm
PALU **Palau** 13.02 15 P Pn 08 59 20.8 +0.5
baz=13,SNR=29
MATI **Mati** 13.15 338 eP Pn 08 59 22.6 +0.5
SKMP **Bagumbayan, Su** 13.51 331 eP Pn 08 59 25.2 -1.7
DAV **Davao City (W)** 13.53 336 P Pn 08 59 26.5 -0.6
comp=Z,101nm,0.3s,baz=89,slow=1.8,SNR=12
DAV LR LR 09 06 23.4
comp=Z,1µm,19.5s,baz=108,slow=45
DAV **Davao City (W)** 13.53 336 ||i/P Pn 08 59 26.1 -1.0
PLAI **Plampang** 13.73 255 P Pn 08 59 27.5 -2.3
comp=Z,632nm,0.7s,comp=Z,11µm
FITZ **Fitzroy Crossi** 13.78 203 ePn Pn 08 59 24.2 -6.3
CTBH **Cotabato--PC H** 14.26 331 ⇑i/P Pn 08 59 35.3 -1.4
SGKI **Sangatta, Kali** 14.36 289 P P 08 59 42.0 -1.1
comp=Z,761nm,1.3s,comp=Z,9µm
BUKP **Musuan** 14.47 335 eP Pn 08 59 39.0 -0.5
TWSI **Taliwang, Sumb** 14.57 256 P Pn 08 59 40.5 -0.3
comp=Z,232nm,1.6s,comp=Z,6µm
COEN **Coen** 14.60 127 ePn Pn 08 59 35.0 -6.3
SMKI **Samarinda** 14.76 289 P Pn 08 59 44.3 +1.1
comp=Z,327nm,1.4s,comp=Z,5µm
BKB **Balikpapan** 14.81 285 P P 08 59 46.0 -2.0
comp=Z,493nm,1.2s,comp=Z,8µm
WRAB **Tennant Creek** 14.84 168 deP Pn 08 59 35.7 -8.5
WRAB pmax pmax
comp=Z,940nm,1.7s
WR1 **Warramunga Arr** 14.84 168 ePn Pn 08 59 36.7 -7.6
WR1 eSn Sn 09 02 12.7 -15
WR1 e 09 12 44.9
WRA **Warramunga Arr** 14.84 168 P Pn 08 59 36.7 -7.6
comp=Z,8.5nm,0.3s,baz=351,slow=13,SNR=248
WRA S Sn 09 02 12.7 -15
comp=Z,59nm,0.3s,baz=213,slow=10,SNR=5.2
WRA PKiKP **PKiKP** 09 12 44.9 -1.4
comp=Z,0.2nm,0.3s,baz=321,slow=1.2,SNR=4.8
CGP **Cagayan de Oro** 15.14 335 ||eP Pn 08 59 48.3 +0.1
PAGZ **Pagadian** 15.23 329 eP Pn 08 59 45.7 -3.6
DCPH **Dipolog City** 15.87 331 ⇑eP P 09 00 01.1 +1.2
SRBI **Singaraja** 16.08 259 P Pn 08 59 58.2 -1.8
comp=Z,257nm,1.0s,comp=Z,5µm
DNP **Denpasar** 16.18 257 P Pn 09 00 02.1 +0.8
DNP pmax pmax
comp=Z,712nm,0.5s
DNP **Denpasar** 16.18 257 P Pn 09 00 00.4 -0.9
comp=Z,758nm,0.5s
IGBI **Denpasar** 16.27 257 P Pn 09 00 01.1 -1.3
comp=Z,919nm,0.5s,comp=Z,17µm
PMG **Port Moresby** 16.36 105 P Pn 09 00 01.5 -2.2
comp=Z,8.5nm,0.3s,baz=299,slow=9.2,SNR=42
PMG S Sn 09 02 49.9 -15
comp=Z,18nm,0.3s,baz=205,slow=21,SNR=7.1
PMG LR LR 09 07 16.1
comp=Z,4µm,20.5s,baz=280,slow=40
PMG **Port Moresby** 16.36 105 ePn Pn 09 00 01.8 -1.9
comp=Z,374nm,0.8s
PMG e 09 07 16.1
PMG **Port Moresby** 16.36 105 eP Pn 09 00 01.8 -1.9
PMG pmax pmax
comp=Z,374nm,0.8s
MSLP **Maasin** 16.60 338 eP P 09 00 10.2 +2.3
MTKI **Muara Teweh, K** 16.82 284 P Pn 09 00 08.8 -0.5
comp=Z,304nm,0.4s,comp=Z,12µm
LLP **Lapu-Lapu** 17.13 335 eP Pn 09 00 12.2 -0.9
LLP eS S 09 03 32.9 +4.4
JAGI **Jajag, Banyuwa** 17.17 259 ePn Pn 09 00 11.9 -1.8
comp=Z,949nm,1.3s
JAGI **Jajag, Banyuwa** 17.17 259 P Pn 09 00 09.7 -4.0
comp=Z,563nm,0.7s,comp=Z,9µm
KMMI **Kalianget** 17.18 263 P P 09 00 15.2 +0.8
comp=Z,1µm,1.3s,comp=Z,9µm
PLP **Palo** 17.51 339 ||eP Pn 09 00 17.3 -0.5
OCLP **Ormoc** 17.54 338 eP Pn 09 00 16.8 -1.4
BESP **Borongan** 17.77 341 eP Pn 09 00 21.1 +0.2
GUIM **Jordan** 18.01 332 eP P 09 00 23.0 -0.5
MTSU **Mount Surprise** 18.08 136 P P 09 00 21.6 -2.7
baz=18,SNR=902
AS31 **Alice Springs** 18.41 172 eP P 09 00 24.3 -3.6
comp=Z,309nm,0.7s
AS31 eS S 09 03 40.5 -14
ASAR **Alice Springs** 18.41 172 P P 09 00 23.2 -4.7
comp=Z,22nm,0.3s,baz=350,slow=14,SNR=405
ASAR S S 09 03 40.5 -14
comp=Z,16nm,0.3s,baz=349,slow=25,SNR=4.8
ASAR LR LR 09 08 31.9
comp=Z,4µm,19.0s,baz=350,slow=40
AS01 **Alice Springs** 18.42 172 eP P 09 00 24.4 -3.6
KKM **Kota Kinabalu** 18.73 307 eP P 09 00 30.2 -1.3
comp=Z,1µm,1.4s
KKM **Kota Kinabalu** 18.73 307 P P 09 00 32.0 +0.5
RCP **Roxas** 18.76 334 ||eP Pn 09 00 33.5 +0.5
KDM **Kudat** 18.78 310 P Pn 09 00 33.0 -0.2
CUYO **Cuyo Island** 18.99 328 eP Pn 09 00 36.0 +0.3
MBWA **Marble Bar** 19.25 214 eP P 09 00 36.1 -0.9
comp=Z,514nm,0.6s
BATP **Bataraza** 19.36 316 eP P 09 00 38.0 -0.2
PBKI **Pangkalan Bun** 19.62 277 P P 09 00 39.5 -1.7
comp=Z,483nm,1.3s,comp=Z,7µm
WRKA **Warakurna** 19.78 188 P P 09 00 40.9 -1.9
baz=20,SNR=199
OTRP **Odiongan** 19.80 333 eP Pn 09 00 46.7 +1.5
PCJI **Pacitan** 20.05 261 P P 09 00 43.7 -2.1
comp=Z,1µm,0.6s,comp=Z,11µm
PVCP **Virac** 20.06 340 eP P 09 00 47.0 +1.2
ENPP **El Nido** 20.17 325 eP Pn 09 00 48.9 -0.6
WOJI **Wonogiri, Jawa** 20.26 262 P P 09 00 45.5 -2.6
comp=Z,320nm,1.3s,comp=Z,5µm
AUQP **San Andres** 20.37 336 eP Pn 09 00 54.8 +2.9

STKI **Sintang** 20.38 285 P P 09 00 47.4 -2.0
comp=Z,101nm,1.4s
BUSP **Coron** 20.39 328 eP P 09 00 50.5 +1.0
SBUM **Sibu** 20.45 292 eP P 09 00 50.1 0.0
comp=Z,322nm,1.4s
SBUM **Sibu** 20.45 292 P P 09 00 50.0 -0.1
UGM **Wanagama** 20.66 262 eP P 09 00 50.4 -2.1
comp=Z,868nm,1.4s
UGM **Wanagama** 20.66 262 P P 09 00 50.1 -2.4
comp=Z,324nm,0.8s,comp=Z,9µm
SMRI **Semarang** 20.67 264 eP P 09 00 52.9 +0.3
comp=Z,998nm,1.6s
SMRI **Semarang** 20.67 264 P P 09 00 52.1 -0.5
comp=Z,307nm,1.6s,comp=Z,8µm
CTAO **Charters Tower** 20.74 136 eP P 09 00 53.1 -0.2
comp=Z,927nm,1.0s
CTAO LR LR
comp=Z,8µm,19.0s
CTAO **Charters Tower** 20.74 136 eP P 09 00 53.1 -0.2
CTAO pmax pmax
comp=Z,927nm,1.0s
CTAO MLR MLR
comp=Z,8µm,19.0s
BOAC **Boac** 20.84 334 eP P 09 00 54.7 +0.4
RABL **Rabaul** 20.96 88 eP P 09 00 56.5 +0.8
comp=Z,434nm,0.9s
GQP **Guinayangan** 20.99 336 ⇑eP P 09 00 56.8 +0.9
TGY **Tagaytay City** 21.82 332 P P 09 01 05.4 +0.6
comp=Z,346nm,0.6s,baz=19,slow=6.9,SNR=6.9
KSM **Kuching** 21.91 287 eP P 09 01 04.1 -1.7
comp=Z,133nm,0.9s
CMJI **Cimerak** 22.70 263 P P 09 01 09.1 -5.2
comp=Z,413nm,1.5s,comp=Z,5µm
BALP **Baler** 23.00 336 eP P 09 01 17.1 -0.2
GUMO **Guam** 23.21 36 P P 09 01 18.7 -0.6
comp=Z,341nm,1.0s,baz=192,slow=6.5,SNR=8.0
GUMO **Guam** 23.21 36 PFAKE 09 01 30.0 +11
GUMO LR LR
comp=Z,2µm,19.0s
CISI **Cisompet, Garu** 23.31 263 eP P 09 01 16.6 -3.7
comp=Z,3µm,1.6s
CISI **Cisompet, Garu** 23.31 263 P P 09 01 16.8 -3.6
comp=Z,632nm,1.1s
LEM **Lembang** 23.46 265 P P 09 01 18.9 -2.9
comp=Z,110nm,0.6s,baz=65,slow=6.9,SNR=62
LEM LR LR 09 13 00.5
comp=Z,2µm,21.3s,baz=82,slow=43
LEM **Lembang** 23.46 265 P P 09 01 19.0 -2.9
LEM pmax pmax
comp=Z,110nm,0.6s
LEM MLR MLR
comp=Z,2µm,21.3s
LEM **Lembang** 23.46 265 P P 09 01 20.3 -1.6
comp=Z,2µm,0.9s,comp=Z,76µm
SMPP **San Manuel, Pa** 23.74 334 eP P 09 01 24.3 +0.1
GIRL **Giralia** 23.74 222 P P 09 01 23.6 -0.6
baz=24,SNR=64
CAUP **Cauayan** 23.99 338 eP P 09 01 27.9 +1.5
CBJI **Cirebon** 24.21 266 P P 09 01 25.1 -3.4
comp=Z,410nm,0.7s,comp=Z,10µm
BOLP **Bolinao** 24.28 333 eP P 09 01 27.9 -1.1
DBJI **Dramaga** 24.31 266 P P 09 01 27.1 -2.4
comp=Z,120nm,1.6s,comp=Z,51µm
MEEK **Meekatharra** 24.34 208 P P 09 01 28.4 -1.2
baz=24,SNR=33
SKJI **Sukabumi** 24.52 265 P P 09 01 28.5 -2.8
comp=Z,483nm,1.2s,comp=Z,7µm
QLP **Quilpie** 24.54 151 P P 09 01 31.0 -0.3
baz=25,SNR=154
CVP **Callao Caves** 24.68 338 eP P 09 01 33.0 +0.3
SBJI **Serang** 24.92 267 P P 09 01 32.5 -2.5
comp=Z,260nm,1.5s
APYP **Conner** 25.05 337 eP P 09 01 35.4 -0.6
PPBI **Pangkal Pinang** 25.17 276 P P 09 01 35.6 -1.7
comp=Z,150nm,1.6s,comp=Z,5µm
CGJI **Cibinong** 25.36 266 P P 09 01 35.3 -3.7
comp=Z,188nm,0.8s,comp=Z,3µm
FORT **Forrest** 25.48 186 P P 09 01 39.1 -0.7
baz=26,SNR=118
FORT **Forrest** 25.48 186 eP P 09 01 38.9 -0.9
comp=Z,620nm,0.8s
XMIS **Christmas Isla** 25.77 257 eP P 09 01 41.1 -1.7
comp=Z,733nm,1.4s
BLSI **Bandar Lampung** 25.81 269 P P 09 01 39.8 -3.2
comp=Z,177nm,0.4s
KLI **Kotabumi** 26.21 270 P P 09 01 46.5 -0.2
comp=Z,237nm,0.6s
KASI **Ka Agung** 26.55 268 P P 09 01 46.9 -2.8
comp=Z,103nm,0.9s,comp=Z,2µm
MDSI **Maura Dua** 26.90 271 P P 09 01 50.8 -2.1
comp=Z,33nm,1.3s,comp=Z,1µm
RMQ **Roma** 26.92 143 P P 09 01 52.9 0.0
baz=27,SNR=31
DSRI **Dabo** 26.98 279 P P 09 01 52.0 -1.6
comp=Z,144nm,1.1s,comp=Z,8µm
LWLI **Liwa** 27.00 269 P P 09 01 51.3 -2.6
comp=Z,77nm,1.0s,comp=Z,12µm
KMBL **Kambalda** 27.32 197 P P 09 01 55.8 -0.7
baz=27,SNR=144
TPRI **Tanjung Pinang** 27.32 282 P P 09 01 55.5 -1.2
EIDS **Eidsvold** 27.59 138 P P 09 01 58.4 -0.5
baz=28,SNR=18
EIDS **Eidsvold** 27.59 138 eP P 09 01 58.4 -0.5
comp=Z,280nm,1.4s
MORW **Morawa** 27.61 210 P P 09 01 58.0 -1.1
baz=28,SNR=20
BBOO **Buckleboo** 27.71 171 P P 09 01 58.9 -1.0
baz=28,SNR=88
BBOO **Buckleboo** 27.71 171 eP P 09 01 58.9 -1.0
comp=Z,508nm,1.4s
STKA **Stephens Creek** 28.15 161 P P 09 02 03.1 -0.7
comp=Z,158nm,1.0s,baz=348,slow=7.9,SNR=190
STKA LR LR 09 14 07.9
comp=Z,2µm,18.3s,baz=327,slow=38
STKA **Stephens Creek** 28.15 161 P P 09 02 03.2 -0.7
baz=28,SNR=161
STKA **Stephens Creek** 28.15 161 eP P 09 02 03.0 -0.8
comp=Z,48nm,0.9s
STKA e 09 14 07.9
MYKOM **Kota Tinggi** 28.19 284 eP P 09 02 03.2 -1.2
comp=Z,167nm,1.4s
MYKOM **Kota Tinggi** 28.19 284 P P 09 02 04.0 -0.4
BLDU **Ballidu** 28.59 207 P P 09 02 07.0 -0.8
baz=29,SNR=11
HNR **Honiara** 28.82 100 LR LR 09 14 52.0
comp=Z,1µm,18.2s,baz=267,slow=39
HNR **Honiara** 28.82 100 eP pP 09 02 27.0 +0.1
HNR **Honiara** 28.82 100 epP **pP** 09 02 30.0 +3.1
HNR e 09 14 52.0
HNR LR LR
comp=Z,2µm,20.0s
HTT **Hallett** 28.87 166 P P 09 02 09.9 -0.4
baz=29,SNR=56
MASI **Maura Aman, Be** 28.93 273 P P 09 02 08.3 -2.7
comp=Z,106nm,1.4s,comp=Z,5µm
KLBR **Kellerberrin** 28.99 204 P P 09 02 10.8 -0.5
baz=29,SNR=194
RGRI **Rengat** 29.21 279 P P 09 02 11.6 -1.9
comp=Z,305nm,0.4s
CMSA **Cobar Meteorol** 29.41 154 P P 09 02 14.3 -0.7
baz=30,SNR=125
TWG **Pinlang** 29.68 341 eP P 09 02 15.0 -2.4
comp=Z,464nm,1.5s
KRJI **Kerinci** 29.81 275 P P 09 02 16.7 -2.2
comp=Z,170nm,0.8s,comp=Z,8µm
MUN **Mundaring** 29.98 206 P P 09 02 19.5 -0.6
baz=30,SNR=39
SDSI **Sungai Dareh** 30.01 277 P P 09 02 18.8 -1.7
comp=Z,56nm,1.0s,comp=Z,3µm
YULB **Yu-li** 30.14 342 eP P 09 02 20.4 -1.1
comp=Z,57nm,0.8s
TPUB **Ta-pu** 30.27 341 eP P 09 02 21.4 -1.3
comp=Z,113nm,1.0s
NWAO **Narrogin (SRO)** 30.37 204 P P 09 02 23.1 -0.5
baz=30,SNR=21
NWAO **Narrogin (SRO)** 30.37 204 eP P 09 02 22.9 -0.6
comp=Z,83nm,0.6s
NWAO LR LR
comp=Z,3µm,19.0s
NWAO **Narrogin (SRO)** 30.37 204 eP P 09 02 22.9 -0.6
NWAO pmax pmax
comp=Z,83nm,0.6s
NWAO MLR MLR
comp=Z,3µm,19.0s
BKNI **Bangkinang** 30.61 280 P P 09 02 23.5 -2.3
comp=Z,225nm,0.9s,comp=Z,5µm
SSLB **Suanglung** 30.61 341 eP P 09 02 24.8 -1.0

comp=Z,87nm,1.0s
YOJ **Yonaguni jima** 30.67 345 eP P 09 02 27.5 +1.3
comp=Z,289nm,1.3s
YOJ **Yonaguni jima** 30.67 345 eP P 09 02 27.5 +1.3
YOJ pmax pmax
comp=Z,289nm,1.3s
PDSI **Padang** 30.96 277 P P 09 02 25.8 -3.2
comp=Z,81nm,0.5s,comp=Z,8µm
PPI **Padang Panjang** 31.10 278 P P 09 02 27.3 -2.9
comp=Z,122nm,1.7s,comp=Z,2µm
YHNB **Yeheng** 31.31 343 eP P 09 02 30.7 -1.3
comp=Z,80nm,0.9s
ARMA **Armidale** 31.52 145 P P 09 02 34.5 +0.6
baz=32,SNR=24
ARMA **Armidale** 31.52 145 eP P 09 02 33.8 0.0
comp=Z,345nm,1.8s
TATO **Taipei** 31.57 343 PFAKE 09 02 50.0 +16
TATO LR LR
comp=Z,853nm,21.0s
IPM **Ipoh** 31.64 287 eP P 09 02 33.6 -1.4
comp=Z,118nm,1.3s
RKGY **Rocky Gully** 31.95 202 P P 09 02 38.3 +0.9
baz=32,SNR=59
QIZ **Qiongzhong** 32.05 320 P P 09 02 39.3 +0.8
QIZ sP **pP** 09 02 57.3 +1.9
QIZ S **S** 09 07 44.0 -1.6
QIZ pmax pmax
comp=Z,100nm,1.3s
QIZ LR LR
comp=Z,1µm,18.6s
QIZ LR LR
comp=Z,1µm,12.8s
QIZ LR LR
comp=Z,1µm,16.7s
QIZ **Qiongzhong** 32.05 320 eP P 09 02 39.2 +0.8
comp=Z,241nm,1.4s
QIZ epP **pP** 09 02 54.3 -1.2
QIZ LR LR
comp=Z,2µm,20.0s
JOW **Kunigami** 32.10 355 P P 09 02 39.0 +0.3
comp=Z,74nm,0.9s,baz=167,slow=10.0,SNR=12
JOW LR LR 09 14 59.3
comp=Z,2µm,21.6s,baz=168,slow=35
JOW **Kunigami** 32.10 355 eP P 09 02 39.7 +0.9
comp=Z,162nm,1.0s
JOW e 09 14 59.3
MNSI **Mandailing Nat** 32.13 280 P P 09 02 36.9 -2.3
comp=Z,118nm,0.8s
KULM **Kulim** 32.25 289 eP P 09 02 38.8 -1.5
comp=Z,114nm,0.8s
KULM **Kulim** 32.25 289 P P 09 02 40.0 -0.3
SISI **Saibi** 32.26 276 P P 09 02 38.4 -2.0
comp=Z,73nm,0.5s,comp=Z,991nm
QZH **Quanzhou** 32.49 338 ⇑i/P P 09 02 42.3 +0.1
QZH pP **pP** 09 02 58.0 -1.2
QZH pmax pmax
comp=Z,68nm,0.6s
QZH pmax pmax
comp=Z,610nm,7.1s
QZH LR LR
comp=Z,910nm,18.9s
QZH LR LR
comp=Z,540nm,18.5s
ARPS **Mount Arapiles** 32.78 164 P P 09 02 44.9 +0.3
baz=33,SNR=32
SKLT **Songkhla** 32.92 292 P P 09 02 45.6 -0.5
comp=Z,193nm,1.2s,comp=Z,3µm
YNG **Young** 32.95 153 P P 09 02 46.6 +0.4
baz=33,SNR=25
GZH **Guangzhou** 33.19 329 P P 09 02 51.0 +2.7
GZH S **S** 09 08 05.5 +2.4
GZH SS **SnSn** 09 10 08.3 -1.2
GZH LR LR
comp=Z,1µm,25.1s
GZH LR LR
comp=Z,870nm,25.9s
PSI **Prapat** 33.21 283 P P 09 02 46.0 -2.8
comp=Z,58nm,1.0s,baz=180,slow=3.2,SNR=43
PSI **Prapat** 33.21 283 eP P 09 02 45.2 -3.6
comp=Z,104nm,1.1s
PSI **Prapat** 33.21 283 P P 09 02 46.0 -2.8
PSI pmax pmax
comp=Z,58nm,1.0s
MGCD **Mangrove Creek** 33.38 149 P P 09 02 50.6 +0.8
baz=33,SNR=18
TSI **Tuntungan** 33.73 284 P P 09 02 51.2 -2.0
comp=Z,112nm,0.4s
JCJ **Chichijima** 33.96 18 P P 09 02 54.8 -0.2
comp=Z,85nm,0.5s,baz=294,slow=19,SNR=3.9
JCJ LR LR 09 15 03.9
comp=Z,2µm,20.4s,baz=198,slow=33
TRTT **Trang** 34.02 292 P P 09 02 55.1 -0.6
comp=Z,105nm,1.3s,comp=Z,1µm
CAN **Canberra** 34.07 153 P P 09 02 56.2 +0.2
baz=34
CAN **Canberra** 34.07 153 eP P 09 02 56.1 +0.1
comp=Z,192nm,1.0s
CAN **Canberra** 34.07 153 eP P 09 02 56.1 +0.1
CAN pmax pmax
comp=Z,192nm,1.0s
GSI **Gunungsitoli** 34.19 280 P P 09 02 53.0 -4.3
comp=Z,171nm,1.6s,comp=Z,2µm
CNB **Canberra Magne** 34.23 153 P P 09 02 57.8 +0.4
baz=34,SNR=66
KCSI **Kotacane, Aceh** 34.50 284 P P 09 02 56.5 -3.4
comp=Z,38nm,0.6s,comp=Z,582nm
COCO **West Island** 34.58 256 PFAKE 09 03 10.0 +9.5
COCO LR LR
comp=Z,1µm,20.0s
KRAB **Krabi** 34.61 293 P P 09 03 00.7 -0.1
comp=Z,132nm,0.8s,comp=Z,7µm
TOO **Toolangi** 34.65 160 P P 09 03 02.0 +1.1
baz=35,SNR=66
SRAK **Srakaew** 34.71 304 P P 09 02 57.5 -4.1
SKNT **Sakolnakorn** 34.83 310 P P 09 03 02.7 0.0
comp=Z,125nm,0.7s,comp=Z,2µm
TPTI **Pattaya** 35.01 283 P P 09 03 00.9 -3.4
comp=Z,45nm,1.3s,comp=Z,560nm
PATY **Pattaya** 35.15 301 P P 09 03 08.1 +2.7
PKDT **Phuket** 35.29 292 P P 09 03 05.6 -1.1
SNSI **Sinabang, Aceh** 35.64 282 P P 09 03 05.5 -4.2
comp=Z,56nm,1.4s
LHMI **Lhok Sumawe** 35.75 287 eP P 09 03 08.7 -1.9
comp=Z,259nm,0.6s
LHMI **Lhok Sumawe** 35.75 287 P P 09 03 09.3 -1.3
comp=Z,360nm,0.7s,comp=Z,3µm
CHAI **Chaiyaphum** 35.77 307 P P 09 03 10.7 -0.1
comp=Z,92nm,1.1s,comp=Z,761nm
MLSI **Meulaboh, Aceh** 36.01 285 P P 09 03 11.2 -1.6
comp=Z,311nm,1.4s,comp=Z,3µm
NONG **Nongkai** 36.12 311 P P 09 03 13.4 -0.4
comp=Z,8.4nm,1.2s,comp=Z,83nm
SRDT **SRDT** 37.32 302 P P 09 03 24.8 +0.8
comp=Z,217nm,1.6s,comp=Z,4µm
SSE **Sheshan** 37.46 346 P P 09 03 27.3 +2.4
SSE S **S** 09 09 07.5 -1.0
SSE pmax pmax
comp=Z,46nm,1.0s
UTHA **Uthaitani** 37.66 304 P P 09 03 26.9 +0.1
comp=Z,91nm,0.9s,comp=Z,819nm
UTTA **Uttaradit** 37.94 308 P P 09 03 29.4 +0.3
comp=Z,93nm,1.2s,comp=Z,808nm
DZM **Mont Dzumac** 37.95 119 P P 09 03 29.0 -0.4
comp=Z,24nm,0.8s,baz=286,slow=7.5,SNR=17
DZM **Mont Dzumac** 37.95 119 eP P 09 03 29.5 +0.1
comp=Z,63nm,1.1s
DZM epP **pP** 09 03 43.2 -3.4
comp=Z,310nm,1.1s
DZM **Mont Dzumac** 37.95 119 eLR LR 09 14 05.2
comp=Z,4µm,32.2s
DZM **Mont Dzumac** 37.95 119 eP P 09 03 29.0 -0.4
comp=Z,190nm,1.2s
JNU **Nakatsue** 38.25 360 P P 09 03 31.6 0.0
comp=Z,189nm,0.9s,baz=208,slow=3.3,SNR=57
JNU **Nakatsue** 38.25 360 eP P 09 03 32.1 +0.5
comp=Z,213nm,0.9s
UMPA **Umpang Tak** 38.47 304 P P 09 03 33.7 0.0
comp=Z,61nm,1.1s,comp=Z,3µm
SUKH **Sukhothai** 38.52 307 P P 09 03 34.6 +0.6
comp=Z,92nm,1.0s,comp=Z,938nm
NJ2 **Nanjing** 38.99 343 eP P 09 03 39.0 +1.3
NJ2 pP **pP** 09 03 52.0 -3.0
NJ2 sP **sP** 09 03 57.5 -5.7
NJ2 S **S** 09 09 32.0 +0.5
NJ2 pmax pmax
comp=Z,75nm,1.2s
NJ2 pmax pmax

comp=Z,670nm,3.5s
NJ2 LR LR
comp=Z,1μm,24.9s
NJ2 LR LR
comp=Z,1μm,18.4s
NJ2 LR LR
comp=Z,860nm,21.7s
LAMP Lampang 39.10 308 P **P** **09 03 39.4 +0.5**
comp=Z,106nm,0.9s,comp=Z,975nm
WHN Wuhan 39.14 337 ⇓P **P** **09 03 40.5 +1.5**
WHN S **S** **09 09 34.5 +0.6**
WHN pmax pmax
comp=Z,440nm,1.0s
WHN LR LR
comp=Z,3μm,26.5s
WHN LR LR
comp=Z,4μm,29.7s
WHN LR LR
comp=Z,5μm,29.9s
PAYA Payao 39.39 309 P **P** **09 03 41.5 +0.2**
comp=Z,80nm,1.1s,comp=Z,787nm
GYA Guiyang 39.53 324 ⇓*i*P **P** **09 03 43.0 +0.5**
GYA pP pP 09 04 00.8 +0.9
GYA PP **PnPn** **09 05 21.3 +3.1**
GYA PcP **PcP** **09 05 51.5 +2.5**
GYA ScP **ScP** **09 09 34.3 +2.6**
GYA S **S** **09 09 44.5 +4.3**
GYA sS sS 09 10 10.0 +0.3
GYA SS **SS** **09 12 35.3 -2.2**
GYA ScS **ScS** **09 13 43.3 -1.0**
GYA pmax pmax
comp=Z,110nm,0.9s
GYA pmax pmax
comp=Z,180nm,5.4s
GYA LR LR
comp=Z,2μm,19.2s
GYA LR LR
comp=Z,2μm,19.5s
GYA LR LR
comp=Z,2μm,20.4s
CM01 Chiang Mai Arr 39.57 307 *e*P **P** **09 03 43.5 +0.6**
MOO Moorlands 39.60 161 P **P** **09 03 43.9 +1.2**
baz=40,SNR=28
CM31 Chiang Mai Arr 39.60 307 *e*P **P** **09 03 43.9 +0.8**
CM31 Chiang Mai Arr 39.60 307 P **P** **09 03 43.8 +0.8**
SNR=102
CMAR Chiang Mai Arr 39.60 307 P **P** **09 03 43.8 +0.6**
comp=Z,102nm,0.5s,baz=136,slow=7.0,SNR=345
CMMT Chiang Mai 39.80 308 P **P** **09 03 44.8 +0.1**
comp=Z,364nm,1.3s,comp=Z,3μm
CHTO Chiang Mai 39.80 308 *e*P **P** **09 03 45.2 +0.5**
comp=Z,280nm,0.9s
CHTO LR LR
comp=Z,1μm,20.0s
CHTO Chiang Mai 39.80 308 P **P** **09 03 45.3 +0.6**
SNR=98
CHTO Chiang Mai 39.80 308 *e*P **P** **09 03 45.2 +0.5**
CHTO pmax pmax
comp=Z,280nm,0.9s
CHTO MLR MLR
comp=Z,1μm,20.0s
CHTO Chiang Mai 39.80 308 P **P** **09 03 44.9 +0.2**
comp=Z,2μm,1.3s,comp=Z,14μm
TAU Tasmania Unive 40.06 161 *e*P **P** **09 03 47.0 +0.5**
comp=Z,122nm,1.0s
TAU LR LR
comp=Z,4μm,19.0s
TAU Tasmania Unive 40.06 161 *e*P **P** **09 03 47.0 +0.5**
TAU pmax pmax
comp=Z,122nm,1.0s
TAU MLR MLR
comp=Z,4μm,19.0s
INU Inuyama 40.84 7 *e*P **P** **09 03 53.3 +0.2**
comp=Z,246nm,0.7s
KMI Kunming 40.99 319 P **P** **09 03 56.0 +1.2**
KMI pP pP 09 04 11.0 -1.2
KMI sP sP 09 04 16.8 -3.6
KMI PP **PnPn** **09 05 33.5 -2.0**
KMI S **S** **09 10 01.3 -0.9**
KMI SS **SS** **09 13 05.8 -1.1**
KMI pmax pmax
comp=Z,200nm,1.4s
KMI pmax pmax
comp=Z,810nm,3.1s
KMI LR LR
comp=Z,310nm,16.1s
KMI LR LR
comp=Z,440nm,14.0s
ENH Enshi 41.05 331 *e*P **P** **09 03 55.0 +0.1**
comp=Z,231nm,1.3s
ENH LR LR
comp=Z,599nm,20.0s
TJN Taejon 41.65 355*ce*P **P** **09 04 00.4 +0.8**
MJAR Matsushiro Arr 42.18 8 P **P** **09 04 03.8 -0.3**
comp=Z,169nm,0.8s,baz=189,slow=10.0,SNR=293
MJAR LR LR 09 18 59.3
comp=Z,2μm,21.9s,baz=195,slow=32
MJAR Matsushiro Arr 42.18 8 P **P** **09 04 03.8 -0.3**
MJAR pmax pmax
comp=Z,157nm,0.8s
MAJO Matsushiro 42.18 8 *e*P **P** **09 04 03.4 -0.6**
comp=Z,328nm,0.8s
MAJO *e* 09 18 59.3
MAJO LR LR
comp=Z,2μm,21.0s
MAJO Matsushiro 42.18 8*c i*P **P** **09 04 03.8 -0.2**
MAJO pmax pmax
comp=Z,341nm,0.9s
MAT Matsushiro 42.18 8 P **P** **09 04 02.8 -1.2**
MAT S S 09 10 09.8 -9.2
MJB9 Matsu-Tunnel 42.18 8 *e*P **P** **09 04 03.4 -0.6**
comp=Z,342nm,0.8s
WAKE Wake Island 42.65 54 PFAKE 09 04 20.0 +12
WAKE LR LR
comp=Z,3μm,21.0s
KS15 Wonju Array Si 42.67 356 *e*P **P** **09 04 10.0 +2.1**
KS15 *ep*P **pP** **09 04 28.8 +3.3**
KSAR Wonju Array Be 42.67 356 P **P** **09 04 08.8 +0.8**
KSAR pP **pP** **09 04 28.8 +3.3**
KSAR Wonju Array Be 42.67 356 P **P** **09 04 08.8 +0.8**
KSAR *PP **pP** **09 04 28.8 +3.3**
KSRS Korea Array 42.68 356 P **P** **09 04 08.8 +0.8**
comp=Z,13nm,0.6s,baz=170,slow=8.4,SNR=39
KSRS pP **pP** **09 04 28.8 +3.3**
comp=Z,44nm,0.7s,baz=181,slow=9.3,SNR=14
KSRS Korea Array 42.68 356 P **P** **09 04 08.8 +0.8**
KSRS *PP **pP** **09 04 28.8 +3.3**
KSRS pmax pmax
comp=Z,14nm,0.6s
KSRS pmax pmax
comp=Z,44nm,0.7s
KS01 Wonju Array Si 42.70 356 *e*P **P** **09 04 08.9 +0.7**
TIA Tai'an 43.38 343 P **P** **09 04 13.8 +0.1**
TIA sP **pP** **09 04 32.5 +1.2**
TIA S **S** **09 10 32.0 -4.6**
TIA pmax pmax
comp=Z,54nm,1.2s
TIA LR LR
comp=Z,650nm,18.0s
TIA LR LR
comp=Z,810nm,15.1s
XAN Xi'an 44.45 333 P **P** **09 04 22.3 -0.1**
XAN S **S** **09 10 45.0 -7.4**
XAN ScS **ScS** **09 14 12.3 -1.7**
XAN pmax pmax
comp=Z,150nm,1.3s
XAN pmax pmax
comp=Z,240nm,3.1s
XAN LR LR
comp=Z,690nm,13.7s
XAN LR LR
comp=Z,730nm,15.3s
CD2 Chengdu 44.56 326 ⇑P **P** **09 04 23.0 -0.3**
CD2 pP pP 09 04 37.5 -3.5
CD2 sP sP 09 04 44.5 -4.6
CD2 PP **PP** **09 06 08.5 -0.1**
CD2 S **S** **09 10 56.5 +2.4**
CD2 SS **ScS** **09 14 14.3 -0.5**
CD2 pmax pmax
comp=Z,160nm,0.7s
CD2 pmax pmax
comp=Z,640nm,4.1s
CD2 LR LR
comp=Z,1μm,21.9s
CD2 LR LR
comp=Z,1μm,18.9s
CD2 LR LR
comp=Z,2μm,25.8s
DL2 Dalian 44.90 349 P **P** **09 04 27.0 +1.2**
DL2 sP **pP** **09 04 45.0 +1.6**
DL2 S **S** **09 10 58.5 -0.1**
DL2 pmax pmax
comp=Z,100nm,1.2s
DL2 pmax pmax
comp=Z,1μm,4.4s
DL2 LR LR
comp=Z,950nm,17.1s
DL2 LR LR
comp=Z,1μm,15.9s
DL2 LR LR
comp=Z,1μm,16.0s
TIY Taiyuan 46.25 339 *e*P **P** **09 04 37.0 +0.4**
TIY pP **pP** **09 04 55.5 +1.2**
TIY S **S** **09 11 17.3 -0.9**
TIY sS **sS** **09 11 44.5 -3.8**
TIY ScS **ScS** **09 14 27.5 +2.0**
TIY pmax pmax
comp=Z,140nm,0.5s
TIY LR LR
comp=Z,410nm,13.4s
TIY LR LR
comp=Z,450nm,15.4s
TIY LR LR
comp=Z,650nm,15.9s
SAIH SAIHA 46.47 308 *e*P **P** **09 04 38.4 -0.2**
IMP Imphal 47.01 311 *e*P **P** **09 04 40.2 -2.6**
LKP Lekhapani 47.11 315 *e*P **P** **09 04 42.5 -0.9**
BJT Baijiatuan 47.20 344 PFAKE 09 05 00.0 +16
BJT LR LR
comp=Z,972nm,20.0s
BJI Beijing 47.22 344 P **P** **09 04 44.5 +0.5**
BJI pP **pP** **09 05 00.5 -1.3**
BJI S **S** **09 11 27.5 -4.3**
BJI pmax pmax
comp=Z,180nm,1.2s
BJI LR LR
comp=Z,550nm,21.6s
BJI LR LR
comp=Z,770nm,23.7s
KOHI KOHIMA 47.40 312 *e*P **P** **09 04 44.9 -1.0**
SNY Shenyang 47.45 352 ⇓P **P** **09 04 46.5 +0.7**
SNY S **S** **09 11 39.5 +4.5**
SNY pmax pmax
comp=Z,60nm,0.7s
SNY pmax pmax
comp=Z,1μm,3.6s
SNY LR LR
comp=Z,2μm,15.2s
SNY LR LR
comp=Z,960nm,25.0s
SNY LR LR
comp=Z,2μm,29.9s
MOKO MOKOCHONG 47.45 313 *e*P **P** **09 04 45.0 -1.3**
BRDH Bariadhala 47.63 307 P **P** **09 04 48.5 +1.0**
comp=Z,252nm,0.6s,baz=90,slow=8.6,SNR=34
MSHR Mys Shultsa 47.69 360⇑*e*P **P** **09 04 50.1 +2.5**
FUNA Funafuti 47.76 97 *ep*P **pP** **09 05 10.0 +3.5**
FUNA LR LR
comp=Z,3μm,19.0s
SILR SILCHAR 47.84 310 *e*P **P** **09 04 49.6 +0.4**
JORH JORHAT 47.89 314 *e*P **P** **09 04 48.4 -1.1**
BELO BELONIA 48.07 308 *e*P **P** **09 04 51.8 +0.9**
VLA Vladivostok 48.23 1⇓*e*P **P** **09 04 51.6 -0.2**
VLA pmax pmax
comp=Z,166nm,1.4s
ERM Erimo 48.38 12 *e*P **P** **09 04 54.2 +1.2**
comp=Z,89nm,1.0s
ERM LR LR
comp=Z,670nm,21.0s
ERM Erimo 48.38 12*ce*P **P** **09 04 54.6 +1.6**
ERM pmax pmax
comp=Z,108nm,0.8s
LZH Lanzhou 48.52 330 ⇑P **P** **09 04 55.3 +0.9**
LZH pP pP 09 05 14.0 +1.8
LZH sP sP 09 05 20.5 +0.2
LZH PP **PP** **09 06 49.5 +1.6**
LZH S **S** **09 11 48.8 -1.9**
LZH sS sS 09 12 19.5 -1.6
LZH SS **SS** **09 15 20.8 -0.9**
LZH pmax pmax
comp=Z,420nm,1.5s
LZH pmax pmax
comp=Z,1μm,4.9s
LZH LR LR
comp=Z,1μm,17.1s
LZH LR LR
comp=Z,2μm,17.4s
LZH LR LR
comp=Z,3μm,18.4s
AGT Agartala 48.56 308 *e*P **P** **09 04 55.8 +1.1**
TEZP TEZPUR 48.87 312 *e*P **P** **09 04 56.2 -0.9**
SHL Shillong 48.97 311 *e*P **P** **09 04 57.3 -0.8**
SHL IAmb IAmb 09 04 58.8
comp=Z,212nm,1.0s
SHL *i*x x 09 11 50.0
OUZ Omahuta 49.09 133 *e*P **P** **09 05 00.3 +1.7**
comp=Z,110nm,1.4s
CN2 Changchun 49.18 355 *e*P **P** **09 04 59.0 -0.1**
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 Changchun 49.18 355 *e*P **P** **09 05 02.5 +3.4**
CN2 *es*P sP 09 05 25.3 +0.3
CN2 *eS* **S** **09 12 03.8 +4.3**
CN2 SS **SS** **09 15 32.0 +0.1**
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,560nm,19.0s
CN2 LR LR
comp=Z,610nm,19.0s
CN2 LR LR
comp=Z,690nm,19.0s
USA0B Ussuriysk Arra 49.32 1 *e*P **P** **09 05 01.4 +1.3**
comp=Z,87nm,0.9s
USRK Ussuriysk Ar. 49.32 1 P **P** **09 05 00.9 +0.8**
comp=Z,28nm,0.6s,baz=183,slow=6.9,SNR=52
USRK LR LR 09 24 59.4
comp=Z,543nm,21.9s,baz=155,slow=35
HHC Hu-ho-hao-te 49.35 340 *e*P **P** **09 05 01.5 +0.9**
HHC pP pP 09 05 20.5 +2.0
HHC PP **PP** **09 06 53.5 -1.9**
HHC S **S** **09 11 59.8 -2.4**
HHC sS sS 09 12 26.3 -6.3
HHC SS **SS** **09 15 33.5 -1.4**
HHC pmax pmax
comp=Z,98nm,1.2s
HHC pmax pmax
comp=Z,520nm,4.4s
HHC LR LR
comp=Z,440nm,14.7s
HHC LR LR
comp=Z,620nm,15.4s
GUWA GUWAHATI 49.46 311 *e*P **P** **09 05 00.5 -1.0**
BTO Baotou 49.67 339 *e*P **P** **09 05 03.0 -0.1**
BTO S **S** **09 12 03.5 -3.2**
MDJ Mudanjiang 49.75 359 P **P** **09 05 04.8 +1.4**
MDJ pP pP 09 05 19.5 -1.8
MDJ sP sP 09 05 26.3 -3.0
MDJ PP **PP** **09 06 59.3 +0.6**
MDJ S **S** **09 12 09.8 +2.5**
MDJ sS sS 09 12 35.3 -2.4
MDJ ScS **ScS** **09 14 51.0 +2.7**
MDJ SS **SS** **09 15 44.0 +3.1**
MDJ pmax pmax
comp=Z,72nm,0.9s
MDJ LR LR
comp=Z,900nm,31.9s
MDJ LR LR
comp=Z,870nm,27.1s
MDJ LR LR
comp=Z,1μm,31.1s
MDJ Mudanjiang 49.75 359 *e*P **P** **09 05 04.8 +1.4**
comp=Z,156nm,0.9s
MDJ LR LR
comp=Z,1μm,20.0s
TAWA Tawang 50.11 313 *e*P **P** **09 05 07.2 +0.3**
TURI Tura 50.14 310 *e*P **P** **09 05 06.8 0.0**
ASAJ Asahikawa 50.30 11 P **P** **09 05 08.8 +1.2**
comp=Z,60nm,0.7s,baz=218,slow=9.7,SNR=32
ASAJ Asahikawa 50.30 11 *e*P **P** **09 05 08.8 +1.2**
comp=Z,74nm,0.8s
TEY Ternei 50.38 5⇑*e*P **P** **09 05 07.9 -0.3**
TEY pmax pmax
comp=Z,30nm,1.2s
TEY pmax pmax
comp=E,20nm,1.2s
DHUB DHUBRI 50.65 310 *e*P **P** **09 05 09.7 -0.9**
DHUB IAmb IAmb 09 05 12.1
comp=Z,134nm,1.0s
YUK Yuzh-Kuril'sk 50.90 14 *i*P **P** **09 05 11.1 -1.0**
FOZ Fox Glacier 51.02 144 *e*P **P** **09 05 13.3 +0.2**
comp=Z,54nm,0.9s
WHZ Wether Hill Ro 51.45 148 *e*P **P** **09 05 16.5 +0.2**
comp=Z,296nm,1.7s
TOZ Tahuroa Road 51.61 135 P **P** **09 05 19.3 +1.7**
LBZ Lake Benmore 51.75 145 *e*P **P** **09 05 19.1 +0.6**
comp=Z,117nm,0.8s
LSA Lhasa 51.83 315 P **P** **09 05 20.8 +0.8**
LSA pmax pmax
comp=Z,160nm,1.4s
LSA Lhasa 51.83 315 *e*P **P** **09 05 20.9 +1.0**
comp=Z,140nm,0.8s
LSA *e*S **S** **09 12 36.6 -1.1**
LSA LR LR
comp=Z,436nm,21.0s
RPZ Rata Peaks 51.86 144 P **P** **09 05 19.9 +0.6**
comp=Z,57nm,0.7s,baz=292,slow=1.2,SNR=22
PALK Pallekele 51.89 283 P **P** **09 05 19.1 -1.0**
comp=Z,41nm,0.6s,baz=116,slow=5.9,SNR=31
PALK Pallekele 51.89 283 *e*P **P** **09 05 18.9 -1.2**
comp=Z,72nm,0.8s
PALK Pallekele 51.89 283 *i*P **P** **09 05 18.8 -1.3**
SNR=13
THZ Tophouse 51.89 141 *e*P **P** **09 05 20.3 +0.6**
comp=Z,80nm,0.7s
LTZ Lake Taylor 52.05 142 *e*P **P** **09 05 21.2 +0.3**
comp=Z,136nm,1.3s
OXZ Oxford 52.22 143 *e*P **P** **09 05 22.1 +0.1**
comp=Z,60nm,0.7s
GTK Tadong 52.39 311 *e*P **P** **09 05 22.9 -0.8**
GTK IAmb IAmb 09 05 25.6
comp=Z,133nm,0.8s
KUR Kuril'sk 52.52 15⇑*e*P **P** **09 05 25.9 +1.8**
KHZ Kahutara 52.64 141 *e*P **P** **09 05 25.1 0.0**
comp=Z,107nm,0.8s
BOK Bokaro 52.79 305 *e*P **P** **09 05 25.1 -1.5**
SNZO South Karori 52.80 139 PFAKE 09 05 40.0 +14
SNZO LR LR
comp=Z,2μm,19.0s
BHHZ Black Hill Sta 52.82 137 P **P** **09 05 26.5 -0.2**
BKZ Black Stump Fm 52.96 136 *e*P **P** **09 05 27.6 -0.1**
comp=Z,72nm,0.9s
BKZ Black Stump Fm 52.96 136 P **P** **09 05 27.6 -0.1**
URZ Urewera 52.98 135 P **P** **09 05 26.3 -1.4**
comp=Z,5.5nm,0.4s,baz=250,slow=8.7,SNR=12
URZ Urewera 52.98 135 P **P** **09 05 27.3 -0.5**
MTHZ Maungataniwha 53.06 136 P **P** **09 05 28.6 +0.2**
YSS Yuzh-Sakhalins 53.07 10 *e*P **P** **09 05 28.7 +0.5**
comp=Z,122nm,0.8s
YSS LR LR
comp=Z,807nm,20.0s
YSS Yuzh-Sakhalins 53.07 10⇑*e*P **P** **09 05 28.4 +0.3**
YSS *e**SP **pP** **09 05 49.0 +2.8**
YSS *eS* **S** **09 12 47.6 -5.3**
YSS *e*SS **SKiKP** **09 16 37.0 -3.0**
YSS pmax pmax
comp=Z,60nm,0.9s
YSS MLR MLR
comp=N,900nm,16.0s
YSS MLR MLR
comp=Z,1μm,16.0s
ODAN Odare 53.08 309 *e*P **P** **09 05 29.0 +0.1**
comp=Z,676nm,0.8s
TAPN Taplejung 53.08 310 *e*P **P** **09 05 29.2 +0.2**
comp=Z,699nm,0.4s
KRHZ Kereru 53.10 137 P **P** **09 05 28.5 -0.2**
GTA Gaotai 53.11 330 ⇑P **P** **09 05 29.0 +0.2**
GTA pP pP 09 05 46.8 -0.1
GTA sP sP 09 05 54.5 -0.4
GTA PcP **PcP** **09 06 38.0 +1.7**
GTA PP **PP** **09 07 27.5 -1.9**
GTA ScP **ScP** **09 10 23.5 -4.3**
GTA PcS **PcS** **09 10 34.5 -0.8**
GTA S **S** **09 12 52.5 -1.6**
GTA sS sS 09 13 26.0 +1.2
GTA ScS **ScS** **09 15 12.3 +0.2**
GTA SS **SS** **09 16 32.0 -2.6**
GTA pmax pmax
comp=Z,130nm,1.8s
GTA pmax pmax
comp=Z,650nm,5.7s
GTA LR LR
comp=Z,330nm,19.4s
GTA LR LR
comp=Z,740nm,18.4s
GTA LR LR
comp=Z,650nm,21.3s
PNHZ Pukenui 53.11 137 P **P** **09 05 28.1 -0.7**
NMHZ Naumai 53.15 136 P **P** **09 05 30.0 +0.9**
MCHZ McNeill Hill 53.23 136 P **P** **09 05 30.0 +0.4**
RAHZ Arahi 53.26 136 P **P** **09 05 29.8 0.0**
MWZ Matawai 53.31 135 P **P** **09 05 30.2 0.0**
ARHZ Aropaoanui 53.35 136 P **P** **09 05 29.1 -1.4**
SNGZ Shannon Statio 53.38 135 P **P** **09 05 30.7 0.0**
KAHZ Kahuranaki 53.52 137 P **P** **09 05 31.7 0.0**
RAO Raoul Island 53.59 123 PFAKE 09 05 40.0 +7.6
RAO LR LR
comp=Z,3μm,21.0s
RIGZ Rimuhau 53.64 135 P **P** **09 05 31.6 -1.0**
RAMN Ramite 53.73 309 *e*P **P** **09 05 34.2 +0.5**
comp=Z,988nm,0.6s
KLR Kul'dur 54.34 0 P **P** **09 05 37.6 +0.1**
comp=Z,24nm,0.9s,baz=174,slow=4.3,SNR=24
KLR LR LR 09 27 56.8
comp=Z,747nm,21.6s,baz=174,slow=35
KLR PKP2ab 09 36 29.4
comp=Z,1.7nm,0.8s,baz=32,slow=7.4,SNR=3.7
KLR Kul'dur 54.34 0*de*P **P** **09 05 38.5 +1.0**
KLR *i* *PP **pP** **09 05 52.1 -3.5**
JIRN Jiri 54.40 310 *e*P **P** **09 05 38.9 +0.1**
comp=Z,651nm,0.7s
GUN Gumba 54.76 310 *e*P **P** **09 05 41.5 +0.1**
comp=Z,689nm,0.5s
PKI Pulchoki 54.96 309 *e*P **P** **09 05 42.5 -0.3**
PKIN Phulchoki 54.97 309 *e*P **P** **09 05 42.4 -0.4**
KKN Kakani 55.17 309 *e*P **P** **09 05 44.1 0.0**
comp=Z,843nm,1.0s
DMN Daman 55.21 309 *e*P **P** **09 05 44.6 +0.1**
comp=Z,1μm,1.1s
HIA Hailar 55.28 351 PFAKE 09 06 00.0 +16
HIA LR LR
comp=Z,1μm,22.0s
GKN Gorkha 55.77 309 *e*P **P** **09 05 48.3 0.0**
GRNR Gornyy 56.07 4 *e*P **P** **09 05 50.2 +0.3**
GRNR pmax pmax
comp=N,17nm,0.9s
GRNR pmax pmax
comp=Z,12nm,0.9s
KOLN Koldanda 56.46 308 *e*P **P** **09 05 53.7 +0.3**
comp=Z,929nm,0.7s
DANN Dangsing 56.61 309 *e*P **P** **09 05 54.6 +0.1**
HYB Hyderabad 56.65 295 *i*P **P** **09 05 53.0 -1.7**
comp=Z,200nm,1.0s
HYB *es*P **pP** **09 06 15.0 +2.1**
HYB *eS* **S** **09 13 36.0 -6.1**
HYB Hyderabad 56.65 295 *e*P **P** **09 05 52.3 -2.4**
AFI Afiamalu 56.78 103 P **P** **09 05 55.8 +0.1**
comp=Z,22nm,0.9s,baz=72,slow=20,SNR=3.6
AFI LR LR 09 30 21.9
comp=Z,565nm,20.9s,baz=264,slow=36
AFI Afiamalu 56.78 103 *e*P **P** **09 05 55.8 +0.1**
comp=Z,186nm,1.2s
AFI *e* 09 30 21.9
AFI LR LR
comp=Z,1μm,20.0s
TYV Tymovskoe 56.85 9 *e*P **P** **09 05 53.4 -1.9**
TYV *eS* **S** **09 13 42.0 -1.4**
TYV pmax pmax
comp=Z,28nm,0.9s
TYV pmax pmax
comp=Z,1μm,5.3s
TYV smax smax
comp=N,800nm,4.2s
TYV smax smax
comp=N,20nm,1.7s
KNTN Kanton 57.01 90 *ep*P pP 09 06 19.2 +3.6

ULN Ulaanbaatar 57.07 341 eP P 09 05 58.4 +1.2
comp=N,287nm,1.5s
ULN eS S 09 13 48.5 +1.7
ULN LR LR
comp=Z,645nm,22.0s
ULN Ulaanbaatar 57.07 341 P P 09 05 58.5 +1.3
SNR=38
ULN Ulaanbaatar 57.07 341 *c iP* **P 09 05 58.2 +1.0**
ULN pmax pmax
comp=Z,174nm,1.3s
PYUN Piuthan 57.09 308 eP P 09 05 58.1 +0.3
comp=Z,2µm,1.0s
SONA0 Songino Array 57.26 340 eP P 09 05 59.5 +1.0
SONA0 *e* 09 33 24.9
SONM Songino Array 57.26 340 P **P 09 05 59.5 +1.0**
comp=Z,36nm,0.6s,baz=163,slow=5.9,SNR=160
SONM LR LR 09 33 25.0
comp=Z,536nm,18.9s,baz=166,slow=39
SONM PKP2bc 09 35 55.3
comp=Z,2.0nm,1.1s,baz=282,slow=2.5,SNR=6.8
SONA1 Songino Array 57.27 340 eP P 09 05 59.3 +0.7
SONA1 eS S **09 13 50.8 +1.4**
DGAR Diego Garcia 58.35 265 PFAKE 09 06 20.0 +13
DGAR LR LR
comp=Z,419nm,22.0s
ZEA Zeya 58.95 357 *eP* **P 09 06 09.8 -0.2**
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=N,86nm,1.2s
ZEA pmax pmax
comp=Z,150nm,1.2s
ZEA pmax pmax
comp=Z,700nm,6.0s
ZEA MLR MLR
comp=N,500nm,16.0s
CIT Chita 59.08 347 *eP* **P 09 06 09.0 -2.1**
CIT *e* 09 06 29.8
BHPL Bhopal 59.64 301 *eP* **P 09 06 14.6 -0.9**
ZAK Zakamensk 60.50 340 *eP* **P 09 06 21.9 +1.0**
ZAK pmax pmax
comp=Z,65nm,1.4s
POO Poona 61.25 294 *eP* **P 09 06 24.1 -2.4**
IRK Irkutsk 61.76 342 *eP* **P 09 06 30.1 +0.8**
IRK *e* 09 06 47.8
IRK pmax pmax
comp=Z,263nm,1.8s
NDI New Delhi 61.92 306 *eP* **P 09 06 30.0 -0.8**
DDI Dehra Dun 61.94 308 *eP* **P 09 06 30.5 -0.5**
MOY Mondy 62.37 339 *eP* **P 09 06 34.7 +1.2**
MOY pmax pmax
comp=Z,367nm,1.4s
PEA0B Petropavlovsk- 62.40 18 *eP* **P 09 06 35.5 +2.0**
comp=Z,309nm,1.1s
PETK Petropavlovsk- 62.40 18 P **P 09 06 35.0 +1.5**
comp=Z,56nm,1.0s,baz=180,slow=5.5,SNR=29
PETK LR LR 09 29 39.6
comp=Z,748nm,21.5s,baz=208,slow=32
PETK Petropavlovsk- 62.40 18 *eP* **P 09 06 34.4 +0.9**
PETK Petropavlovsk- 62.40 18 P **P 09 06 35.0 +1.5**
PETK pmax pmax
comp=Z,56nm,1.0s
PEA1 Petropavlovsk- 62.40 18 *eP* **P 09 06 35.0 +1.4**
PEA1 *e* 09 29 39.6
CASY Casey 62.52 189 *eP* **P 09 06 33.9 -0.1**
comp=Z,44nm,0.7s
CASY LR LR
comp=Z,141nm,20.0s
PET Petropavlovsk 62.62 18 *eP* **P 09 06 35.9 +1.0**
PET *eS* **S 09 14 56.8 -0.7**
WMQ Urumqi 62.66 326 ⇑ *iP* **P 09 06 36.8 +1.3**
WMQ sP pP 09 06 58.5 +4.4
WMQ PcP **PcP 09 07 16.3 +2.5**
WMQ S **S 09 14 57.5 -1.1**
WMQ ScS **SKSac 09 16 19.0 -2.8**
WMQ SS **SS 09 19 13.3 +8.8**
WMQ pmax pmax
comp=Z,1µm,1.1s
WMQ pmax pmax
comp=Z,1µm,3.6s
WMQ LR LR
comp=Z,2µm,31.1s
WMQ LR LR
comp=Z,2µm,32.9s
WMQ LR LR
comp=Z,2µm,36.7s
SMLA Simla 62.98 309 *eP* **P 09 06 38.2 +0.5**
DHRM DHARAMSHALA 64.12 310 *eP* **P 09 06 45.3 -0.3**
BOD Bodaibo 64.46 350 *eP* **P 09 06 47.0 0.0**
BOD *e* 09 07 06.4
BOD pmax pmax
comp=Z,116nm,1.5s
BHJ Bhuj 66.39 298 *eP* **P 09 06 58.8 -1.4**
ZSN Zaisan 66.48 328 ⇑ *iP* **P 09 07 01.3 +0.9**
comp=Z,20nm,0.9s
ZSN *i* S **S 09 15 45.1 -0.4**
MIR Mirnyy 66.54 196 ⇓ *iP* **P 09 07 01.0 +0.7**
MIR *e* 09 07 23.0
MIR *e* 09 09 31.0
MIR *e*PPP PPP 09 11 10.0
MIR eS **S 09 15 48.0 +2.5**
MIR *e*PS **PnS 09 16 26.0 +10**
MIR pmax pmax
comp=Z,162nm,1.5s
MIR MLR MLR
comp=N,1µm,16.0s
MIR MLR MLR
comp=E,500nm,16.0s
MIR MLR MLR
comp=Z,1µm,16.0s
MA2 Magadan 66.56 11 P **P 09 07 01.7 +1.2**
comp=Z,27nm,0.8s,baz=149,slow=5.9,SNR=3.1
NIL Nilore 67.03 310 *eP* **P 09 07 04.4 +0.3**
comp=Z,140nm,0.6s
NIL LR LR
comp=Z,346nm,22.0s
NIL Nilore 67.03 310 *eP* **P 09 07 04.4 +0.3**
NIL pmax pmax
comp=Z,140nm,0.6s
NIL MLR MLR
comp=Z,346nm,22.0s
SHLS Shalkode 67.13 321 ⇑ *iP* **P 09 07 04.2 -0.5**
comp=Z,223nm,1.3s
SHLS eS **S 09 15 50.7 -3.1**
YAK Yakutsk 67.18 359 *eP* **P 09 07 04.6 +0.2**
YAK *e**PP **pP 09 07 20.1 -3.0**
YAK *e* 09 07 28.7
YAK *e* 09 09 35.9
YAK eS **S 09 15 54.7 +1.4**
YAK *e**SS sS 09 16 37.6 +13
YAK *e* 09 16 50.7
YAK eSS **SS 09 20 16.5 +2.5**
YAK pmax pmax
comp=N,46nm,1.4s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK pmax pmax
comp=Z,89nm,0.8s
YAK pmax pmax
comp=Z,30nm,1.4s
YAK pmax pmax
comp=E,57nm,0.9s
YAK pmax pmax
comp=N,150nm,2.5s
YAK smax smax
comp=E,496nm,3.3s
YAK smax smax
comp=N,463nm,2.8s
UZB Uzynbulak 67.40 321 ⇑ *iP* **P 09 07 07.4 +1.0**
comp=N,168nm,1.5s
UZB *i* S **S 09 15 57.0 -0.1**
PRZ Przheval'sk 67.45 320 *eP* **P 09 07 08.9 +2.1**
comp=N,369nm,1.1s
MK01 Makanchi Array 67.47 326 *eP* **P 09 07 07.6 +0.9**
MK31 Makanchi Array 67.49 326 *eP* **P 09 07 07.8 +1.0**
MK31 Makanchi Array 67.49 326 *eP* **P 09 07 07.8 +1.0**
MK32 Makanchi Array 67.49 326 *eP* **P 09 07 07.8 +1.0**
MK32 *ep*P **pP 09 07 28.4 +2.8**
MK32 eS **S 09 15 56.7 -1.0**
MK32 *e* 09 38 24.5
MKAR Makanchi Array 67.49 326 P **P 09 07 07.8 +1.0**
comp=N,253nm,0.4s,baz=114,slow=8.1,SNR=2326
MKAR pP **pP 09 07 28.4 +2.8**
comp=N,194nm,0.6s,baz=123,slow=7.8,SNR=9.1
MKAR S **S 09 15 56.7 -1.0**
comp=N,1.4nm,1.0s,baz=113,slow=15,SNR=2.9
MKAR PKPPKP **P'P'df 09 35 31.9 +2.0**
comp=N,1.1nm,0.8s,baz=278,slow=1.8,SNR=4.7
MKAR LR LR 09 38 24.5
comp=N,315nm,20.9s,baz=112,slow=37
MKAR Makanchi Array 67.49 326 *eP* **P 09 07 07.7 +1.0**
comp=N,2µm,0.4s
MKAR pP **pP 09 07 28.4 +2.8**
MKAR S **S 09 15 56.7 -1.0**
KSH Kashi 67.60 317 P **P 09 07 08.8 +1.1**
KSH pP pP 09 07 25.0 -1.5
KSH PP **PP 09 09 40.8 +3.1**
KSH S **S 09 15 57.5 -2.0**
KSH sS pS 09 16 25.5 +3.7
KSH SS **SS 09 20 20.3 -1.4**
KSH pmax pmax
comp=N,240nm,0.7s
SATY Saty 67.74 321 ⇑ *iP* **P 09 07 09.7 +1.2**
comp=N,412nm,1.5s
SATY *i* S **S 09 16 01.4 +0.4**
KPKS Kokpek 67.78 321 ⇑ *iP* **P 09 07 09.7 +1.0**
comp=N,332nm,1.3s
KPKS *i* S **S 09 16 01.4 0.0**
KDJ Kajisay 68.05 320 *eP* **P 09 07 12.8 +2.3**
comp=N,147nm,0.9s
KDJ Kajisay 68.05 320 *eP* **P 09 07 12.9 +2.3**
KDJ pmax pmax
comp=Z,147nm,0.9s
NRN Naryn 68.48 318 *eP* **P 09 07 13.7 +0.2**
comp=Z,108nm,1.0s
NRN Naryn 68.48 318 *eP* **P 09 07 13.7 +0.2**
NRN pmax pmax
comp=Z,108nm,1.0s
MDOK Medeo 68.65 320 *iP* **P 09 07 15.5 +1.2**
comp=Z,2µm,1.0s
MDOK *i* S **S 09 16 12.3 +0.3**
ULHL Ulahol 68.72 319 P **P 09 07 15.8 +1.0**
SNR=40
TDK Taldyqorghan 68.75 323 *iP* **P 09 07 15.9 +1.2**
comp=Z,556nm,1.7s
TDK *eS* **S 09 16 12.9 +0.1**
KZA Kyzart 69.28 319 P **P 09 07 20.2 +1.6**
SNR=166
TKM2 Tokmak 2 69.46 320 P **P 09 07 20.1 +0.8**
SNR=175
KUU Kurty 69.46 321 ⇑ *iP* **P 09 07 20.1 +1.0**
comp=Z,614nm,1.4s
KUU *eS* **S 09 16 21.1 -0.2**
SFK Sufi-Kurgan 69.52 316 *eP* **P 09 07 20.9 +1.1**
comp=Z,118nm,0.9s
SFK Sufi-Kurgan 69.52 316 *eP* **P 09 07 20.9 +1.1**
SFK pmax pmax
comp=Z,118nm,0.9s
KBK Karagaybulak 69.75 319 P **P 09 07 22.5 +1.3**
SNR=63
UCH Uchtor 69.84 319 P **P 09 07 23.4 +1.4**
SNR=209
SEY Seymchan 69.97 10 P **P 09 07 23.6 +1.8**
comp=Z,32nm,0.7s,baz=186,slow=4.4,SNR=74
SEY pP **PcP 09 07 43.6 -0.1**
comp=Z,81nm,0.7s,baz=245,slow=3.6,SNR=12
SEY Seymchan 69.97 10 ⇑ *eP* **P 09 07 22.6 +0.8**
FRU1 Bishkek 70.03 319 *eP* **P 09 07 23.3 +0.6**
comp=Z,135nm,1.2s
FRU1 Bishkek 70.03 319 *eP* **P 09 07 23.3 +0.6**
FRU1 pmax pmax
comp=Z,135nm,1.2s
AAK Ala-Archa 70.04 319 P **P 09 07 24.1 +1.2**
comp=Z,91nm,0.9s,baz=115,slow=5.1,SNR=178
AAK LR LR 09 43 28.4
comp=Z,190nm,18.3s,baz=94,slow=40
AAK Ala-Archa 70.04 319 P **P 09 07 24.2 +1.2**
SNR=114
AAK Ala-Archa 70.04 319 *eP* **P 09 07 24.1 +1.2**
AAK *e* 09 43 28.4
AAK LR LR
comp=Z,482nm,19.0s
AAK Ala-Archa 70.04 319 P **P 09 07 24.2 +1.3**
SNR=100
AAK Ala-Archa 70.04 319 *iP* **P 09 07 24.2 +1.3**
SNR=147
AAK Ala-Archa 70.04 319 *c iP* **P 09 07 23.8 +0.9**
AAK pmax pmax
comp=Z,167nm,1.2s
CHMS Chumysh 70.04 319 P **P 09 07 23.4 +0.7**
SNR=30
FRU Bishkek 70.05 319 *i* P **P 09 07 22.0 -0.8**
FRU *i* 09 07 46.0
FRU *e* 09 16 26.0
FRU pmax pmax
comp=Z,280nm,2.0s
USP Ospenovka 70.33 320 P **P 09 07 25.4 +0.9**
SNR=134
AML Almayashu 70.34 318 P P 09 07 19.1 -5.9
SNR=5.6
ARSB Arslanbob 70.45 317 *eP* **P 09 07 26.4 +1.0**
comp=Z,351nm,0.9s
EKS2 Erkin-Say 70.52 319 P **P 09 07 27.2 +1.4**
SNR=152
KBL Kabul 70.60 309 *eP* **P 09 07 26.9 +0.4**
comp=Z,194nm,1.0s
KBL Kabul 70.60 309 P **P 09 07 26.9 +0.4**
KBL pmax pmax
comp=Z,1µm,2.2s
ZAA0 Zalesovo Array 70.62 333 *eP* **P 09 07 25.8 -0.1**
comp=Z,142nm,0.8s
ZAA0 *eS* **S 09 16 32.9 -1.4**
ZALV Zalesovo Beam 70.62 333 P **P 09 07 25.8 -0.2**
comp=Z,88nm,0.6s,baz=120,slow=5.1,SNR=219
ZALV pP **PcP 09 07 47.7 +1.1**
comp=Z,77nm,0.7s,baz=123,slow=3.9,SNR=7.6
ZALV S **S 09 16 31.6 -2.7**
comp=Z,4.4nm,0.9s,baz=133,slow=10,SNR=8.9
ZALV Zalesovo Beam 70.62 333 *eP* **P 09 07 25.7 -0.3**
ZALV pP **PcP 09 07 47.7 +1.1**
ZALV *eS* **S 09 16 32.2 -2.1**
ZAA1 Zalesovo Array 70.63 333 *eP* **P 09 07 25.8 -0.2**
ZAA1 *ep*P **PcP 09 07 47.7 +1.1**
ZAA1 *eS* **S 09 16 31.6 -2.8**
BTK Batken 71.41 315 *eP* **P 09 07 31.9 +0.8**
comp=Z,628nm,1.7s
BTK Batken 71.41 315 *eP* **P 09 07 31.9 +0.8**
BTK pmax pmax
comp=Z,628nm,1.7s
BTLS Baital 71.45 321 ⇑ *iP* **P 09 07 31.9 +0.7**
comp=Z,103nm,1.3s
BTLS *eS* **S 09 16 44.3 0.0**
KURK Kurchatov 71.72 328 *eP* **P 09 07 33.3 +0.6**
comp=Z,362nm,1.0s
KURK *eS* **S 09 16 47.5 +0.4**
KURK LR LR
comp=Z,761nm,20.0s
KURK Kurchatov 71.72 328 P **P 09 07 33.2 +0.5**
SNR=114
KURK Kurchatov 71.72 328 *c iP* **P 09 07 33.2 +0.5**
KURK pmax pmax
comp=Z,390nm,1.1s
NVS Novosibirsk 71.91 333 ⇓ *iP* **P 09 07 34.1 +0.4**
NVS *i* *PP **PcP 09 07 48.4 -3.6**
NVS *i* S **S 09 16 48.3 -0.8**
NVS pmax pmax
comp=N,120nm,1.3s
NVS pmax pmax
comp=Z,242nm,1.3s
NVS pmax pmax
comp=E,90nm,0.8s
NVS smax smax
comp=N,162nm,1.9s
NVS smax smax
comp=E,115nm,1.6s
ADK Adak 72.17 31 *eP* **P 09 07 36.7 +1.4**
comp=E,308nm,1.8s
ADK LR LR
comp=Z,2µm,21.0s
ADK Adak 72.17 31 *eP* **P 09 07 36.7 +1.4**
ADK pmax pmax
comp=Z,308nm,1.8s
ADK MLR MLR
comp=Z,2µm,21.0s
IUG Iuzhnay 72.80 317 ⇑ *iP* **P 09 07 40.5 +1.1**
comp=Z,226nm,1.5s
IUG *eS* **S 09 17 00.1 0.0**
KK31 Karatay Array 72.87 318 *eP* **P 09 07 40.3 +0.5**
KK31 Karatay Array 72.87 318 *eP* **P 09 07 40.3 +0.5**
KKAR Karatay Array 72.87 318 *eP* **P 09 07 40.3 +0.5**
KKAR Karatay Array 72.87 318 *eP* **P 09 07 40.3 +0.5**
BRLS Borolday 73.29 318 *eS* **S 09 17 04.2 -1.3**
VNDA Vanda 73.95 173 P **P 09 07 45.4 0.0**
comp=Z,23nm,0.7s,baz=320,slow=6.4,SNR=102
VNDA pP **pP 09 08 07.4 +3.0**
comp=Z,27nm,0.8s,baz=303,slow=6.0,SNR=6.4
VNDA LR LR 09 40 26.0
comp=Z,497nm,19.1s,baz=344,slow=36
HON Honolulu 74.25 66 *ep*P pP 09 08 12.2 +5.0
KIP Kipapa 74.26 66 *ep*P pP 09 08 11.5 +4.2
RER Riviere de l'E 74.51 250 *eP* **P 09 07 49.3 -0.6**
comp=Z,163nm,1.3s
BRZS Berezniki 74.61 325 ⇑ *iP* **P 09 07 50.3 +0.6**
comp=Z,80nm,0.9s
BRZS *i* S **S 09 17 19.1 -0.8**
SBA Scott Base 74.82 173 PFAKE 09 08 00.0 +10
SBA LR LR
comp=Z,620nm,20.0s
WBK Wadi Bani Khal 75.76 295 P **P 09 07 57.6 +0.7**
SNR=9.8
KHLU Kahalu'u 75.84 68 *ep*P pP 09 08 21.4 +4.8
HUH Hualalai 75.91 68 *ep*P pP 09 08 22.1 +4.9
MWH Moku'aweowe 76.10 69 *ep*P pP 09 08 22.9 +4.2
MLOA Mauna Loa Obse 76.13 68 *ep*P pP 09 08 23.1 +4.4
WSAR Wadi Sarin 76.19 295 P **P 09 08 00.1 +0.6**
comp=Z,132nm,0.9s,baz=183,slow=4.0,SNR=83
WSAR Wadi Sarin 76.19 295 P **P 09 08 00.2 +0.8**
SNR=30
POHA Pohakuloa 76.21 68 *ep*P pP 09 08 23.3 +4.5
HMH Humu'ula Sheep 76.22 68 *ep*P pP 09 08 24.0 +4.9
MLH Mauna Loa 76.29 69 *ep*P pP 09 08 24.1 +4.8
PUH Pauahi 76.43 69 *ep*P pP 09 08 24.7 +4.7
JMDO Jabal Madar 76.49 294 P **P 09 08 02.2 +1.1**
SNR=8.7
BIDO Bidbid 76.71 296 P **P 09 08 03.1 +0.8**
SNR=46
TIXI Tiksi 76.85 359 P **P 09 08 01.9 -0.1**
comp=Z,29nm,0.6s,baz=169,slow=4.1,SNR=117
TIXI LR LR 09 42 28.8
comp=Z,263nm,21.7s,baz=179,slow=36
TIXI Tiksi 76.85 359 *eP* **P 09 08 01.9 -0.1**
TIXI *e* 09 42 28.8
TIXI LR LR
comp=Z,426nm,20.0s
TIXI Tiksi 76.85 359 *de*P **P 09 08 01.4 -0.6**
TIXI pmax pmax
comp=Z,118nm,1.8s
TIXI MLR MLR
comp=Z,384nm,21.0s
MAW Mawson 76.91 201 P **P 09 08 02.9 +0.4**
baz=77,SNR=34
BILL Bilibino 77.25 13 PFAKE 09 08 20.0 +16
BILL LR LR
comp=Z,1µm,21.0s
BILL Bilibino 77.25 13 ⇓ *eP* **P 09 08 04.5 +0.1**
BILL *eS* **S 09 17 50.9 +2.7**
BILL *e*SS SS 09 22 59.2 +12
BILL pmax pmax
comp=Z,28nm,1.8s
BVAR Borovoye Array 77.29 327 P **P 09 08 05.4 +0.5**
comp=Z,80nm,0.7s,baz=125,slow=7.4,SNR=284
BVAR pP **pP 09 08 28.0 +3.9**
comp=Z,103nm,0.9s,baz=128,slow=6.6,SNR=8.4
BVAR Borovoye Array 77.29 327 P **P 09 08 05.4 +0.5**
BVAR pmax pmax
comp=Z,79nm,0.7s
BRVK Borovoye 77.36 327 *eP* **P 09 08 05.6 +0.3**
comp=Z,175nm,0.9s
BRVK *eS* **S 09 17 48.4 -1.7**
BRVK LR LR
comp=Z,228nm,22.0s
BRVK Borovoye 77.36 327 P **P 09 08 05.8 +0.5**
SNR=97
BRVK Borovoye 77.36 327 *c iP* **P 09 08 05.5 +0.2**
BRVK *i* *PP **pP 09 08 22.2 -2.2**
BRVK pmax pmax
comp=Z,293nm,1.3s
BSY Bisya 77.39 295 P **P 09 08 07.0 +0.9**
SNR=6.0
HOQ Hoqain 77.45 295 P **P 09 08 07.7 +1.2**
SNR=13
ARQ Araqi 78.11 295 P **P 09 08 11.4 +1.3**
SNR=19
TBI Tubuai 78.16 113 *eS* **S 09 18 01.6 +1.8**
comp=Z,461nm,34.0s
TBI Tubuai 78.16 113 *eLQ* LQ 09 29 12.4
TBI *eLR* LR 09 32 47.0
comp=Z,1µm,33.0s
PAE Paea 78.18 107 *eP* **P 09 08 12.9 +2.3**
comp=Z,4.2nm,0.8s
PPT2 Papeete2 78.18 107 *eP* **P 09 08 12.9 +2.2**
comp=Z,29nm,1.3s
PPT2 *ep*P **pP 09 08 28.0 -1.9**
comp=Z,96nm,1.1s
PPT2 *eS* **S 09 18 03.3 +2.9**
comp=Z,807nm,32.8s
PPT2 Papeete2 78.18 107 *eLR* LR 09 32 47.0
comp=Z,3µm,35.5s
PPT Papeete 78.18 107 LR LR 09 40 51.1
comp=Z,236nm,20.1s,baz=270,slow=34
TIAR Tiarei 78.40 107 *eP* **P 09 08 14.0 +2.1**
comp=Z,4.9nm,0.9s
TIAR *ep*P **pP 09 08 29.0 -2.0**
comp=Z,29nm,1.3s
TVO Taravao 78.49 107 *eP* **P 09 08 14.8 +2.4**
comp=Z,5.3nm,0.7s
MDH Madha 78.70 297 *iP* **P 09 08 12.6 -0.7**
SNR=9.8
UOSS Minazif 78.71 297 *eP* **P 09 08 13.8 +0.4**
comp=Z,93nm,0.8s
UOSS Minazif 78.71 297 P **P 09 08 13.3 -0.2**
SNR=8.3
UOSS Minazif 78.71 297 *iP* **P 09 08 13.2 -0.2**
SNR=9.7
HATD Hatta, Dubai 78.75 296 P **P 09 08 14.0 +0.4**
SNR=16
HATD Hatta, Dubai 78.75 296 *iP* **P 09 08 14.0 +0.4**
SNR=26
ASHO Ashiyiah 78.79 296 P **P 09 08 14.3 +0.4**
SNR=14
ASHO Ashiyiah 78.79 296 *iP* **P 09 08 14.3 +0.4**
SNR=16
BANOM Banah 78.82 298 P **P 09 08 14.7 +0.7**
SNR=7.9
BANOM Banah 78.82 298 *iP* **P 09 08 14.7 +0.7**
SNR=24
MSFE Esma-Masafi 78.83 297 *iP* **P 09 08 14.8 +0.7**
SNR=9.6
ALNE Al Ain 78.94 296 *iP* **P 09 08 15.2 +0.5**
SNR=29
SHME Shamm 78.98 298 *iP* **P 09 08 15.7 +0.7**
SNR=8.0
NAZ Nazwa, Dubai 79.20 297 P **P 09 08 16.3 +0.2**
SNR=13
NAZ Nazwa, Dubai 79.20 297 *iP* **P 09 08 16.3 +0.2**
SNR=24
FAQ Al Faqa, Dubai 79.22 296 P **P 09 08 16.6 +0.4**
SNR=9.4
FAQ Al Faqa, Dubai 79.22 296 *iP* **P 09 08 16.5 +0.4**
SNR=39
RBK Rabkut 79.24 289 P **P 09 08 17.0 +0.6**
SNR=12
UMQ Umm Al-Quwin 79.30 297 P **P 09 08 17.8 +1.1**
ASUD Al Ashush, Dub 79.43 296 P **P 09 08 18.2 +0.9**
SNR=6.0
ASUD Al Ashush, Dub 79.43 296 *iP* **P 09 08 18.0 +0.7**
SNR=18
WHFO Wadi Hawf 79.71 289 P **P 09 08 18.6 -0.4**
SNR=16
PMOR Pomariorio Ree 79.91 104 *eP* **P 09 08 22.0 +1.9**
comp=Z,36nm,1.4s
PMOR *ep*P **pP 09 08 37.0 -2.3**
comp=Z,77nm,1.1s
GEYT Alibeck 80.04 310 P **P 09 08 20.4 0.0**
comp=Z,53nm,1.0s,baz=99,slow=9.5,SNR=64
GEYT pP **pP 09 08 43.5 +3.9**
comp=Z,23nm,0.7s,baz=76,slow=6.3,SNR=6.1
GEYT LR LR 09 50 00.5
comp=Z,132nm,20.0s,baz=5.0,slow=40
GYA0B ALIBECK ARRAY 80.04 310 *eP* **P 09 08 21.4 +0.9**
comp=Z,143nm,1.1s
ABTO Aybut 80.07 289 P **P 09 08 21.0 0.0**
SNR=29
VAH Vaihoa 80.15 104 *eP* **P 09 08 23.3 +1.9**
comp=Z,9.3nm,0.9s
VAH *ep*P **pP 09 08 38.4 -2.2**
comp=Z,67nm,1.4s

NRIK **Noril'sk** 80.24 346 P P 09 08 21.2 +0.5
comp=Z,24nm,0.6s,baz=132,slow=5.4,SNR=69
MZR **Muzera** 80.81 294 *i* P P 09 08 25.3 +0.5
SNR=17
ABKAR **Akbulak array** 81.94 321 *e*P P 09 08 30.1 -0.2
ABPO **Ambohimpanom** 82.56 252 *e*P P 09 08 33.6 -0.8
comp=Z,100nm,1.5s
ABPO **Ambohimpanom** 82.56 252 *e*P P 09 08 33.6 -0.8
ABPO pmax pmax
comp=Z,100nm,1.5s
OPO **Ambohidratompo** 82.63 252 P P 09 08 34.6 -0.1
comp=Z,33nm,0.6s,baz=85,slow=4.9,SNR=49
AKTO **Aktyubinsk** 83.48 322 P P 09 08 38.3 +0.1
comp=Z,18nm,0.4s,baz=110,slow=8.4,SNR=77
AKTO LR LR 09 50 57.5
comp=Z,170nm,18.1s,baz=118,slow=39
ANM **Nome** 83.76 23 *e*P P 09 08 40.8 +1.5
comp=Z,160nm,2.0s
ANM **Nome** 83.76 23 *e*P P 09 08 40.8 +1.5
ANM pmax pmax
comp=Z,160nm,2.0s
SVE **Sverdlovsk** 83.96 329 *d* iP P 09 08 40.8 +0.3
SVE *e*S S 09 18 53.1 -5.6
SVE pmax pmax
comp=Z,401nm,1.4s
QSPA **South Pole Qui** 84.63 180 P P 09 08 43.0 -0.9
baz=282,slow=1.7
QSPA **South Pole Qui** 84.63 180 *e*P P 09 08 43.3 -0.6
QSPA comp=Z,64nm,0.7s
LR LR
comp=Z,930nm,20.0s
ARU **Arti** 84.92 328 P P 09 08 44.9 -0.4
comp=Z,53nm,0.5s,baz=101,slow=2.9,SNR=76
ARU PP PP 09 12 03.8 +0.9
comp=Z,22nm,1.0s,baz=118,slow=5.4,SNR=3.9
ARU **Arti** 84.92 328 *e*P P 09 08 42.5 -2.8
comp=Z,115nm,0.9s
ARU *e*PP PP 09 12 03.8 +0.9
ARU **Arti** 84.92 328 *c* iP P 09 08 45.1 -0.2
ARU *PP pP 09 08 58.4 -6.3
ARU 09 12 00.9
ARU PPP PPP 09 13 53.2
ARU S S 09 19 05.0 -3.3
ARU SS SS 09 24 43.4 +0.9
ARU pmax pmax
comp=Z,250nm,1.7s
SYO **Syowa Base** 85.62 201 ⇓ iP P 09 08 48.4 -0.2
RDOG **Red Dog Mine** 86.16 20 *e*P P 09 08 52.0 +0.7
comp=Z,22nm,0.9s
SVW2 **Sparrevohn** 86.64 28 *e*P P 09 08 55.1 +1.3
comp=Z,60nm,1.0s
OHAK **Old Harbor** 86.70 32 *e*P P 09 08 55.3 +1.2
comp=Z,127nm,1.0s
KDAK **Kodiak Island** 87.21 31 PFAKE 09 09 10.0 +13
KDAK LR LR
comp=Z,1μm,22.0s
TAOE **Nuku Hiva Isla** 87.90 99 *e*LR LR 09 37 16.3
comp=Z,610nm,24.5s
RAYN **Ar Rayn** 88.14 294 *e*P P 09 09 01.9 0.0
comp=Z,147nm,0.9s
RAYN LR LR
comp=Z,483nm,20.0s
RAYN **Ar Rayn** 88.14 294 *i* P P 09 09 02.1 +0.2
SNR=145
RAYN **Ar Rayn** 88.14 294 *e*P P 09 09 01.9 0.0
RAYN pmax pmax
comp=Z,147nm,0.9s
RAYN MLR MLR
comp=Z,483nm,20.0s
DAMY **Dhamar** 88.22 285 *e*P P 09 09 04.8 +2.1
comp=Z,600nm,1.5s
CNPM **China Poot** 88.31 30 *e*P P 09 09 02.8 +0.9
comp=Z,122nm,1.2s
BRLK **Bradley Lake** 88.54 30 *e*P P 09 09 04.0 +1.1
comp=Z,65nm,1.0s
PPLA **Purkeypile** 88.67 26 *e*P P 09 09 05.0 +1.3
comp=Z,124nm,1.5s
IM3 **Indian Mountai** 88.82 23 *e*P P 09 09 03.1 -0.9
CAST **Castle Rocks** 88.85 26 *e*P P 09 09 06.0 +1.7
comp=Z,104nm,1.8s
MAK **Makhachkala** 88.97 313 *e*P P 09 09 03.8 -1.5
MAK *e*PP pP 09 09 18.3 -6.5
MAK *e* 09 12 32.9
MAK *e* 09 19 27.5
MAK pmax pmax
comp=Z,41nm,0.3s
RC01 **Rabbit Creek A** 89.38 29 *e*P P 09 09 07.7 +0.8
comp=Z,61nm,0.8s
ATD **Arta Tunnel** 89.41 282 *e*P P 09 09 09.6 +1.6
comp=Z,87nm,1.0s
PMR **Palmer** 89.77 28 *e*P P 09 09 08.5 -0.1
comp=Z,153nm,1.9s
PMR **Palmer** 89.77 28 *e*P P 09 09 08.5 -0.1
PMR pmax pmax
comp=Z,153nm,1.9s
MLY **Manley** 89.80 25 *e*P P 09 09 09.3 +0.5
comp=Z,24nm,0.7s
KNK **Knik Glacier** 90.06 28 *e*P P 09 09 11.2 +1.2
comp=Z,58nm,1.0s
SML **Sawmill** 90.19 28 *e*P P 09 09 11.3 +0.7
comp=Z,66nm,1.1s
GROC **Groznyy** 90.24 313 *e*P P 09 09 11.6 +0.4
GROC *e* 09 12 46.2
GROC pmax pmax
comp=Z,130nm,1.2s
RND **Reindeer** 90.26 26 *e*P P 09 09 10.2 -0.8
comp=Z,48nm,0.8s
RND **Reindeer** 90.26 26 *e*P P 09 09 10.2 -0.8
RND pmax pmax
comp=Z,49nm,0.8s
COLD **Coldfoot** 90.50 22 *e*P P 09 09 12.5 +0.6
comp=Z,16nm,1.0s
SCM **Sheep Creek Mo** 90.66 28 *e*P P 09 09 14.8 +1.9
comp=Z,40nm,1.0s
GNI **Garni** 90.67 310 *e*P P 09 09 14.3 +0.8
comp=Z,97nm,1.4s
GNI LR LR
comp=Z,229nm,20.0s
GNI **Garni** 90.67 310 P P 09 09 14.5 +1.0
SNR=10
GNI **Garni** 90.67 310 *i* P P 09 09 14.4 +0.8
SNR=8.6
GNI **Garni** 90.67 310 *c* iP P 09 09 14.0 +0.4
GNI pmax pmax
comp=Z,177nm,1.7s
WRH **Wood River Hil** 90.80 25 *e*P P 09 09 12.5 -0.9
comp=Z,25nm,0.8s
MDM **Murphy Dome** 90.83 25 *e*P P 09 09 13.2 -0.4
comp=Z,17nm,1.0s
TBLG **Delisi** 90.85 312 *e*P P 09 09 13.9 -0.2
comp=Z,59nm,1.1s
TBLG **Delisi** 90.85 312 *e*P P 09 09 13.9 -0.2
TBLG pmax pmax
comp=Z,59nm,1.1s
DHY **Denali Highway** 90.86 27 *e*P P 09 09 13.9 0.0
comp=Z,27nm,0.7s
TCOL **CIGO, UAF Yank** 90.97 25 P P 09 09 14.0 -0.1
baz=260
COLA **College** 90.97 25 *e*pP pP 09 09 32.9 -0.7
COLA LR LR
comp=Z,791nm,20.0s
TOLK **Toolik Lake Re** 91.03 21 P P 09 09 14.8 +0.3
baz=258
POKR **Poker Plat Res** 91.19 25 P P 09 09 14.3 -0.9
baz=260
KLU **Klutina** 91.27 28 *e*pP pP 09 09 34.2 -1.0
HDA **Harding Lake** 91.27 25 *e*P P 09 09 15.1 -0.5
comp=Z,22nm,0.8s
HDA **Harding Lake** 91.27 25 P P 09 09 14.5 -1.1
baz=260
DIV **Divide** 91.28 29 *e*P P 09 09 16.2 +0.4
comp=Z,42nm,0.9s
ILAR **Eielson Array** 91.36 25 P P 09 09 14.7 -1.3
comp=Z,4.6nm,0.8s,baz=272,slow=4.1,SNR=45
ILAR pP pP 09 09 38.1 +2.6
comp=Z,12nm,0.7s,baz=271,slow=4.3,SNR=12
ILAR PKKPbc PKKPdf 09 26 37.1 +0.4
comp=Z,0.6nm,0.6s,baz=122,slow=0.2,SNR=6.3
ILAR LR LR 09 47 49.2
comp=Z,181nm,18.9s,baz=270,slow=34
ILB **Eielson Array** 91.36 25 *e*pP pP 09 09 38.1 +2.6
ILB *e* 09 47 49.2
RKT **Rikitea** 91.47 113 *e*LR LR 09 38 54.1
comp=Z,842nm,31.0s
ZEI **Tsey** 91.58 313 *e*P P 09 09 16.0 -1.8
ZEI pmax pmax
comp=Z,63nm,1.4s

PAX **Paxson** 91.70 27 *e*P P 09 09 18.0 +0.3
comp=Z,43nm,1.4s
PAX **Paxson** 91.70 27 *e*P P 09 09 18.0 +0.3
PAX pmax pmax
comp=Z,43nm,1.4s
AKH **Akhalkalaki** 91.75 311 *e*P P 09 09 19.3 +0.7
comp=Z,109nm,1.4s
AKH **Akhalkalaki** 91.75 311 ⇑ *i*P P 09 09 19.0 +0.5
AKH **Akhalkalaki** 91.75 311 P P 09 09 20.0 +1.5
BMRM **Bremner River** 91.83 29 *e*P P 09 09 19.2 +0.9
comp=Z,61nm,1.4s
KARS **Kars** 91.98 310 P P 09 09 21.9 +2.3
RIDG **Independ'e Rid** 92.09 26 *e*P P 09 09 20.0 +0.6
comp=Z,26nm,0.7s
FYU **Fort Yukon** 92.31 23 *e*P P 09 09 21.4 +1.2
comp=Z,204nm,1.8s
KBZ **Khabaz** 92.40 314 P P 09 09 20.0 -1.2
comp=Z,13nm,1.1s,baz=112,slow=4.9,SNR=13
KBZ **Khabaz** 92.40 314 P P 09 09 20.0 -1.2
KBZ pmax pmax
comp=Z,13nm,1.1s
DOT **Dot Lake** 92.42 26 *e*P P 09 09 21.2 +0.2
comp=Z,22nm,0.7s
NEY **Neytrino** 92.48 313 ⇓ *e*P P 09 09 22.1 +0.2
NEY pmax pmax
comp=Z,13nm,1.7s
SCRK **Sand Creek** 92.49 26 *e*P P 09 09 21.5 +0.1
comp=Z,14nm,1.0s
PRGR **Permogore** 92.53 332 *e*P P 09 09 18.9 -2.5
PRGR pmax pmax
comp=Z,45nm,0.9s
KVAR **Kislovodsk Arr** 92.56 314 LR LR 09 56 30.0
comp=Z,144nm,21.6s,baz=222,slow=39
KIV **Kislovodsk** 92.57 314 PFAKE 09 09 30.0 +7.8
KIV LR LR
comp=Z,221nm,20.0s
KIV **Kislovodsk** 92.57 314 *e*P P 09 09 21.7 -0.5
KIV *e* 09 13 03.7
KIV *e* 09 19 50.5
KIV *e*SS SS 09 26 36.9 +2.5
KIV pmax pmax
comp=Z,11nm,1.0s
VRH **Novokhopyorsk** 93.77 321 *e*P P 09 09 26.0 -1.3
VRH pmax pmax
comp=Z,50nm,1.6s
KMBO **Kilima Mbogo** 93.79 269 P P 09 09 28.6 -0.1
comp=Z,17nm,0.8s,baz=69,slow=5.0,SNR=39
KMBO LR LR 09 47 41.3
comp=Z,274nm,21.9s,baz=94,slow=33
KMBO **Kilima Mbogo** 93.79 269 *e*P P 09 09 29.1 +0.5
comp=Z,49nm,1.1s
KMBO *e*pP pP 09 09 50.9 +2.7
KMBO LR LR
comp=Z,289nm,20.0s
KMBO **Kilima Mbogo** 93.79 269 *i* P P 09 09 29.0 +0.3
SNR=26
KMBO **Kilima Mbogo** 93.79 269 *i* P P 09 09 29.1 +0.5
KMBO pmax pmax
comp=Z,17nm,0.8s
EGAK **Eagle** 93.80 25 PFAKE 09 09 40.0 +13
EGAK LR LR
comp=Z,516nm,20.0s
NVL **N'lazarevskaya** 94.27 197 ⇑ *i*P P 09 09 30.1 +0.8
NVL *e*S SKSac 09 19 59.7 +1.8
NVL pmax pmax
comp=Z,8.0nm,0.7s
DAWY **Dawson** 94.52 26 *e*P P 09 09 30.6 0.0
comp=Z,28nm,0.8s
HYT **Haines Junctio** 95.27 29 *e*pP pP 09 10 00.3 +6.5
VORD **Divnogorie** 95.29 321 *e*P P 09 09 32.6 -1.7
VORD pmax pmax
comp=Z,40nm,1.7s
VSR **Storozhevoye** 95.38 321 *e*P P 09 09 32.8 -1.9
VSR pmax pmax
comp=Z,20nm,1.3s
KLMR **Klimovskoe** 95.43 331 *e*P P 09 09 31.4 -3.3
KLMR *e* 09 13 21.7
KLMR pmax pmax
comp=Z,130nm,1.4s
KLMR **Klimovskoe** 95.43 331 *e*P P 09 09 31.5 -3.3
KLMR AMP 09 09 35.3
comp=Z,130nm,1.4s
KLMR *e*PP PP 09 13 21.7 -4.4
LPSR **Galich'ya Gora** 95.56 322 *e*P P 09 09 33.7 -1.8
LPSR pmax pmax
comp=Z,60nm,1.4s
EPYK **Eagle Plains** 95.70 24 P P 09 09 35.6 -0.3
baz=270
MOS **Moscow** 96.37 325 *e*P P 09 09 36.5 -2.6
MOS *e* 09 09 50.1
MOS *e* 09 13 29.4
MOS pmax pmax
comp=Z,70nm,1.1s
ANN **Anapa** 96.38 314 *e*P P 09 09 49.4 +10
ANN pmax pmax
comp=Z,93nm,1.1s
ASF **Jabal al Asfar** 96.42 302 P P 09 09 40.4 +0.3
baz=112,slow=1.1
INK **Inuvik** 96.90 22 P P 09 09 40.9 -0.4
comp=Z,8.1nm,1.0s,baz=276,slow=8.2,SNR=13
INK **Inuvik** 96.90 22 *e*P P 09 09 40.6 -0.6
comp=Z,16nm,0.8s
OBN **Obninsk** 96.98 325 P P 09 09 40.9 -1.0
comp=Z,7.4nm,0.5s,baz=80,slow=6.9,SNR=12
OBN LR LR 09 56 56.6
comp=Z,38nm,21.1s,baz=68,slow=38
OBN **Obninsk** 96.98 325 *e*P P 09 09 40.9 -1.0
comp=Z,43nm,0.7s
OBN LR LR
comp=Z,219nm,22.0s
OBN **Obninsk** 96.98 325 *d* iP P 09 09 40.5 -1.4
OBN *e* 09 13 38.7
OBN *e*S SKSac 09 20 16.7 +4.1
OBN *i* 09 22 23.9
OBN *e*SS SS 09 27 49.7 +14
OBN pmax pmax
comp=Z,53nm,0.8s
OBN MLR MLR
comp=Z,342nm,25.0s
LVZ **Lovozero** 97.37 338 *e*pP pP 09 10 01.5 -1.6
LVZ LR LR
comp=Z,229nm,20.0s
LVZ **Lovozero** 97.37 338 ⇑ *e*P P 09 09 42.2 -1.3
LVZ pmax pmax
comp=Z,68nm,1.0s
SNAA **Sanae** 97.54 193 P Pdif 09 09 44.4 +0.1
SNAA **Sanae** 97.54 193 *e*P P 09 09 44.1 -0.2
comp=Z,13nm,0.9s
SNAA **Sanae** 97.54 193 *i* P P 09 09 43.8 -0.5
APA **Apatity** 97.87 337 ⇓ *i*P P 09 09 44.4 -1.3
APA pmax pmax
comp=Z,6.0nm,1.1s
APA MLR MLR
comp=Z,700nm,16.0s
SIM **Simferopol'** 98.73 315 P Pdif 09 09 50.1 0.0
SIM *e*SS SS 09 27 57.0 -4.5
SIM pmax pmax
comp=Z,15nm,1.1s
VNA2 **Neumayer--Watz** 99.10 193 P Pdif 09 09 52.9 +1.7
baz=139,slow=4.5
BR101 **Keskin Array S** 99.17 309 *e*P Pdif 09 09 51.1 -1.3
BR101 *e*pP pP 09 10 13.9 +2.0
BR101 *e*PP PP 09 13 53.0 -2.7
BR131 **Keskin Array S** 99.17 309 *e*pP pP 09 10 15.1 +3.1
BRTR **Keskin Array B** 99.17 309 P Pdif 09 09 51.1 -1.3
comp=Z,3.8nm,0.9s,baz=123,slow=4.6,SNR=12
BRTR pP pP 09 10 13.9 +2.0
comp=Z,6.0nm,0.9s,baz=116,slow=5.6,SNR=7.1
BRTR PP PP 09 13 53.0 -2.7
comp=Z,6.6nm,1.1s,baz=119,slow=7.7,SNR=4.2
VNA3 **Neumayer Olymp** 99.34 192 P Pdif 09 09 53.8 +1.5
ANTO **Ankara** 99.82 309 PFAKE 09 10 10.0 +15
ANTO LR LR
comp=Z,216nm,22.0s
KEV **Kevo** 99.87 340 PFAKE 09 10 10.0 +15
KEV LR LR
comp=Z,1μm,21.0s
MBAR **Mbarara** 100.33 268 PFAKE 09 10 10.0 +12
MBAR LR LR
comp=Z,576nm,19.0s
ARA0 **ARCESS Array S** 100.43 340 *e*Pdif Pdif 09 09 56.6 -0.5
ARA0 *e*PKiKP PKiKP 09 14 22.9 -0.6
ARCES **ARCESS Array B** 100.43 340 P Pdif 09 09 56.6 -0.5
comp=Z,8.2nm,0.7s,baz=85,slow=4.6,SNR=44
ARCES PKiKP PKiKP 09 14 22.9 -0.6
comp=Z,0.6nm,0.3s,baz=106,slow=1.5,SNR=18
ARCES PKKPbc PKKPbc 09 26 12.3 -3.4
comp=Z,2.5nm,0.9s,baz=246,slow=2.1,SNR=6.2
ARE0 **ARCESS Array S** 100.43 340 *e*Pdif Pdif 09 09 57.3 +0.2
KBS **Kingsbay** 100.64 350 PFAKE 09 10 10.0 +12
KBS LR LR
comp=Z,466nm,21.0s
LSZ **Lusaka** 101.05 253 *e*Pdif Pdif 09 10 01.0 -0.2
LSZ LR LR
comp=Z,326nm,21.0s
LSZ **Lusaka** 101.05 253 *e*P Pdif 09 10 01.0 -0.2
LSZ MLR MLR
comp=Z,326nm,21.0s
BOSA **Boshof** 101.30 240 P Pdif 09 10 01.5 -0.6
comp=Z,5.3nm,0.5s,baz=91,slow=2.9,SNR=13
AKASG **Malin Array Be** 101.67 321 P Pdif 09 10 01.9 -1.1
comp=Z,0.6nm,0.4s,baz=74,slow=3.8,SNR=7.8
AKASG PP PP 09 14 19.7 +5.7
comp=Z,1.2nm,0.6s,baz=65,slow=7.9,SNR=5.0
AKBB **Malin Array Si** 101.67 321 *e*Pdif Pdif 09 10 01.9 -1.1
AKBB *e*PP PP 09 14 19.7 +5.7
AKBB **Malin Array Si** 101.67 321 *e*P Pdif 09 10 01.9 -1.1
AKBB *e* 09 14 19.7
KIEV **Kiev** 101.68 321 PFAKE 09 10 10.0 +7.0
KIEV LR LR
comp=Z,330nm,20.0s
KIEV **Kiev** 101.68 321 ⇑ *e*P Pdif 09 10 01.1 -1.9
KIEV pmax pmax
comp=Z,9.0nm,1.4s
LBTB **Lobatse** 101.75 243 *e*Pdif Pdif 09 10 04.0 -0.1
FIA1 **FINESS Array S** 101.86 332 *e*Pdif Pdif 09 10 02.9 -0.7
FIA0 **FINESS Array S** 101.86 332 *e*Pdif Pdif 09 10 02.3 -1.3
FIA0 *e*PKiKP PKiKP 09 14 26.2 -0.1
FIA0 **FINESS Array S** 101.86 332 *e*P Pdif 09 10 02.3 -1.3
FINES **FINESS Array B** 101.86 332 P Pdif 09 10 02.3 -1.3
comp=Z,4.7nm,0.6s,baz=48,slow=6.0,SNR=19
FINES PKiKP PKiKP 09 14 26.2 -0.1
comp=Z,1.3nm,0.3s,baz=13,slow=3.0,SNR=9.0
FINES **FINESS Array B** 101.86 332 *i* P Pdif 09 10 03.2 -0.4
FINES pmax pmax
comp=Z,5.0nm,0.6s
CFR **Carcaliu** 102.95 315 ⇑ *i*P Pdif 09 10 09.2 +0.4
CFR **Carcaliu** 102.95 315 ⇑ P Pdif 09 10 09.2 +0.4
VRI **Vrincioaia** 103.86 316 ⇑ *i*P Pdif 09 10 13.6 +0.7
VRI **Vrincioaia** 103.86 316 ⇑ P Pdif 09 10 13.6 +0.7
SUR **Sutherland** 104.11 235 PFAKE 09 10 30.0 +15
SUR LR LR
comp=Z,837nm,19.0s
MLR **Muntele Rosu** 104.45 315 *e*Pdif Pdif 09 10 15.6 0.0
MLR **Muntele Rosu** 104.45 315 ⇑ *i*P Pdif 09 10 15.9 +0.2
MLR **Muntele Rosu** 104.45 315 ⇑ P Pdif 09 10 15.9 +0.2
D03D **Eldon** 104.54 42 P Pdif 09 10 17.5 +1.7
baz=278
BURAR **Bucovina Array** 104.67 318 ⇑ *i*P Pdif 09 10 16.3 -0.2
BURAR **Bucovina Array** 104.67 318 ⇑ P Pdif 09 10 16.3 -0.2
BUR04 **Bucovina Ar. S** 104.67 318 *e*Pdif Pdif 09 10 16.2 -0.3
BUR08 **Bucovina Ar. S** 104.67 318 *e*Pdif Pdif 09 10 16.8 +0.2
B05A **Bryant** 105.09 42 P PKiKP 09 14 33.9 +1.3
baz=279
YKA **Yellowknife Ar** 105.76 26 Pdiff Pdif 09 10 20.6 -0.3
comp=Z,0.4nm,0.7s,baz=293,slow=4.9,SNR=3.3
YKA PKiKP PKiKP 09 14 33.2 -0.1
comp=Z,2.6nm,0.4s,baz=293,slow=2.0,SNR=39
YKA sPKiKP sPKiKP 09 14 56.6 -4.6
comp=Z,5.1nm,0.7s,baz=295,slow=1.7,SNR=14
YKA PKKPbc PKKPbc 09 25 56.2 -3.4
comp=Z,1.3nm,0.4s,baz=114,slow=3.4,SNR=21
YKA PKKP PKKPab 09 26 12.8 -1.5
comp=Z,2.8nm,0.7s,baz=106,slow=5.2,SNR=12
YKB5 **Yellowknife Ar** 105.76 26 *e*Pdif Pdif 09 10 20.6 -0.3
YKB5 *e*PKiKP PKiKP 09 14 32.8 -0.5
UZH **Uzhgorod** 106.43 319 *e*P Pdif 09 10 23.5 -0.7
UZH *e* 09 24 04.5
J05D **Fort Rock, OR** 106.44 47 P PKiKP 09 14 36.3 +0.9
baz=278
DRGR 106.48 317 ⇑ *i*P Pdif 09 10 24.6 0.0
DRGR 106.48 317 ⇑ P Pdif 09 10 24.6 0.0
DAG **Danmarks Havn** 106.75 353 *i* P PKiKP 09 14 41.4 +6.6
VTS **Vitosha** 106.80 313 ⇑ *i*P Pdif 09 10 26.1 -0.1
VTS **Vitosha** 106.80 313 ⇑ P Pdif 09 10 26.1 -0.1
HAWA **Hanford** 107.13 43 PFAKE 09 14 50.0
HAWA LR LR
comp=Z,789nm,20.0s
KECS **Kecovo** 107.64 319 *i* P Pdif 09 10 29.1 -0.5
KECS **Kecovo** 107.64 319 *e*PDIF Pdif 09 10 29.1 -0.5
NEW **Newport** 108.35 41 PFAKE 09 14 50.0
NEW LR LR
comp=Z,557nm,20.0s
WVOR **Wild Horse Val** 108.46 47 PFAKE 09 14 50.0
WVOR LR LR
comp=Z,744nm,20.0s
VYHS **Vyhne** 108.70 319 *i* P Pdif 09 10 34.9 +0.5
VYHS **Vyhne** 108.70 319 *e*PDIF Pdif 09 10 34.9 +0.5
OKC **Ostrava-Krasne** 108.82 321 AMS AMS 10 05 20.0
comp=Z,200nm,19.0s
NB2 **NORSAR Subarra** 108.83 334 P Pdif 09 10 33.5 -1.1
comp=Z,15nm,1.2s,baz=68,slow=4.6
NB2 **NORSAR Subarra** 108.83 334 P Pdif 09 10 33.2 -1.4
NB2 pmax pmax
comp=Z,2.0nm,0.6s
NB2 **NORSAR Subarra** 108.83 334 P Pdif 09 10 33.5 -1.1
baz=68,slow=4.6
NB200 **NORSAR Array S** 108.83 334 *e*Pdif Pdif 09 10 33.4 -1.3
NB200 *e*PP PP 09 15 00.5 -6.1
NOA **NORSAR Array B** 108.83 334 Pdiff Pdif 09 10 33.4 -1.3
comp=Z,3.7nm,0.9s,baz=67,slow=4.5,SNR=10
NOA PP PP 09 15 00.5 -6.1
comp=Z,1.6nm,0.8s,baz=63,slow=7.8,SNR=4.4
BMO **Blue Mountains** 108.96 44 PFAKE 09 14 50.0
BMO LR LR
comp=Z,735nm,22.0s
PMSA **Palmer Station** 109.16 173 PFAKE 09 14 50.0
PMSA LR LR
comp=Z,642nm,19.0s
MORC **Moravsky Berou** 109.21 321 *e*PKP PP 09 15 04.0 -5.8
NV01 **Mina Array Sit** 109.36 51 *e*Pdif Pdif 09 10 38.9 +1.1
NV01 *e*PKiKP PKiKP 09 14 40.7 -0.4
NV01 *e*PP PP 09 15 14.9 +3.4
NVAR **Mina Array Bea** 109.36 51 Pdiff Pdif 09 10 38.9 +1.1
comp=Z,0.8nm,0.7s,baz=289,slow=4.5,SNR=4.4
NVAR PKiKP PKiKP 09 14 40.7 -0.4
comp=Z,1.1nm,0.6s,baz=255,slow=2.2,SNR=4.9
NVAR PP PP 09 15 14.9 +3.4
comp=Z,1.8nm,0.7s,baz=245,slow=3.5,SNR=4.5
NVAR PKKPbc PKKPbc 09 25 47.9 0.0
comp=Z,2.2nm,0.6s,baz=109,slow=5.0,SNR=12
NVAR PKKP PKKPab 09 25 58.7 -0.2
comp=Z,4.7nm,0.7s,baz=107,slow=5.2,SNR=17
JAVC **Velka Javorina** 109.36 320 *e*PKP PP 09 15 06.1 -4.8
PDG **Podgorica** 109.71 313 ⇑ *i*P Pdif 09 10 29.3 -10
DPC **Dobruska-Polom** 109.81 322 AMS AMS 10 07 20.0
comp=Z,500nm,24.5s
VRAC **Vranov** 109.93 321 *e*PKP PP 09 15 05.3 -10
CIS **Catalina Islan** 109.95 57 P PKiKP 09 14 43.7 +1.6
baz=277
UPC **Upice** 109.96 322 AMS AMS 10 07 20.0
comp=Z,600nm,21.9s
EDW2 **Edwards Air Fo** 110.11 55 P PKiKP 09 14 43.2 +0.8
baz=278
KRUC **Moravsky** 110.12 321 *e*PKP PP 09 15 05.2 -11
TSUM **Tsumeb** 110.26 247 PFAKE 09 15 00.0
TSUM LR LR
comp=Z,374nm,20.0s
LRMC **Laurel Mtn Rad** 110.28 54 P PKiKP 09 14 43.1 +0.3
baz=278
GRAC **Grapevine Rang** 110.31 53 P PKiKP 09 14 44.4 +1.7
baz=279
MPMC **Manual Prospec** 110.36 54 P PKiKP 09 14 44.1 +1.0
baz=278
TREC **Trest** 110.63 321 AMS AMS 10 06 50.0
comp=Z,300nm,21.3s
PVCC **Panska Ves** 110.83 322 AMS AMS 10 01 40.0
comp=Z,300nm,20.0s
GOPC **GO Pecny, Ondr** 110.89 322 AMS AMS 10 07 30.0
comp=Z,400nm,24.4s
GSC **Goldstone, Bar** 111.02 54 P PKiKP 09 14 45.7 +1.6
baz=279
TPNV **Topopah Spring** 111.20 53 P PKiKP 09 14 45.5 +1.0
baz=280
HLID **Hailey** 111.27 45 PFAKE 09 15 00.0
HLID LR LR
comp=Z,693nm,20.0s
HLID **Hailey** 111.27 45 P PKiKP 09 14 45.8 +1.3
baz=283
FRD **Ford Ranch, An** 111.44 56 P PKiKP 09 14 45.5 +0.4

baz=278
R11A Troy Canyon, C 111.48 51 P **PKiKP** 09 14 46.7 +1.7
baz=281
CLL Collm 111.53 323 *e*Pdif **Pdif** 09 10 47.0 +0.2
CLL *e*PKiKP **PKiKP** 09 14 45.0 +0.5
CLL *e*PP **PP** 09 15 26.0 -0.3
CLL *es*PP 09 15 47.0
CLL *e*PPP PPP 09 18 00.0
CLL *e*SKSac **SKSac** 09 21 18.0 -1.6
CLL *e*Sdif **Sdif** 09 23 01.0 +0.4
CLL *e*SP **SP** 09 24 45.0 -5.3
CLL *e*PPS PPS 09 26 07.0
CLL *e*SS **SS** 09 30 47.0 -8.6
CLL *e* 09 41 54.0
CLL Collm 111.53 323 *e*P **Pdif** 09 10 47.0 +0.2
CLL *e* 09 14 45.0
PFO Pinyon Flats O 111.55 56 PFAKE 09 15 00.0
PFO LR LR
comp=Z,717nm,20.0s
PFO Pinyon Flats O 111.55 56 P **PKiKP** 09 14 46.5 +1.2
baz=278
TPFO Pinon Flats 111.55 56 P **PKiKP** 09 14 46.7 +1.5
baz=278
PERS Pernice 111.61 318 *i* PKiKP **PKiKP** 09 14 45.0 +0.1
PERS *i* PP **sPKiKP** 09 15 14.4 +1.7
PERS Pernice 111.61 318 *i* PKiKP **PKiKP** 09 14 45.0 +0.1
PERS *i* PP **sPKiKP** 09 15 14.4 +1.7
SOKA Soboth 111.65 318 *e*PKiKP **PKiKP** 09 14 46.0 +1.0
comp=Z,14nm,1.5s
MONP2 Monument Peak 111.68 57 P **PKiKP** 09 14 47.2 +1.6
baz=278
TUQ Turquoise Moun 111.71 54 P **PKiKP** 09 14 46.8 +1.2
baz=279
BELC Belle Mtn. Jos 111.87 56 P **PKiKP** 09 14 46.8 +0.9
baz=279
KHC Kasperske Hory 111.87 321 *e*PKP **PKiKP** 09 14 45.5 +0.2
KHC *ex* x 09 15 09.4
KHC *ex* x 09 15 18.6
KHC AMS AMS 10 08 30.0
comp=Z,600nm,20.4s
GERES GERESS Array B 111.89 321 PKiKP **PKiKP** 09 14 44.7 -0.7
comp=Z,1.7nm,0.5s,baz=76,slow=1.9,SNR=10
GEA0 GERESS Array S 111.89 321 *e*Pdif **Pdif** 09 10 47.6 -1.0
IKP In-Ko-Pah, Jac 111.97 57 P **PKiKP** 09 14 47.5 +1.5
baz=278
VISS Visnje 112.02 317 *e*PKiKP **PKiKP** 09 14 46.6 +1.0
VISS *i* PP **pPKiKP** 09 15 09.2 +3.2
VISS Visnje 112.02 317 *e*PKiKP **PKiKP** 09 14 46.6 +1.0
VISS *i* PP **pPKiKP** 09 15 09.2 +3.2
GMRC Granite Mounta 112.03 55 P **PKiKP** 09 14 47.5 +1.4
baz=279
SWSC Sam W. Stewart 112.19 57 P **PKiKP** 09 14 47.7 +1.4
baz=278
BC3 Big Chuckawall 112.37 56 P **PKiKP** 09 14 47.5 +0.7
baz=279
JAVS Javornik 112.52 318 *i* PKiKP **PKiKP** 09 14 46.6 -0.1
JAVS *i* PP **pPKiKP** 09 15 10.5 +3.5
JAVS Javornik 112.52 318 *i* PKiKP **PKiKP** 09 14 46.6 -0.1
JAVS *i* PP **pPKiKP** 09 15 10.5 +3.5
SUMG Summit 112.53 357 *i* P pPKiKP 09 15 10.8 +4.1
comp=Z,44nm,1.1s
IRM Iron Mountain 112.54 55 P **PKiKP** 09 14 47.8 +0.8
baz=279
BOZ Bozeman (W) 112.67 43 PFAKE 09 15 00.0
BOZ LR LR
comp=Z,611nm,21.0s
SCO Scoresbysund 112.68 351 *i* P pPKiKP 09 15 09.9 +3.5
comp=Z,9.2nm,1.0s
Y12C Blythe 113.12 56 P **PKiKP** 09 14 49.2 +1.1
baz=279
EGMT Eagleton 113.16 40 PFAKE 09 15 00.0
EGMT LR LR
comp=Z,629nm,22.0s
EGMT Eagleton 113.16 40 P **PKiKP** 09 14 48.6 +0.7
baz=289
DUG Dugway, Tooele 113.20 48 PFAKE 09 15 00.0
DUG LR LR
comp=Z,499nm,21.0s
DUG Dugway, Tooele 113.20 48 P **PKiKP** 09 14 49.2 +0.9
baz=283
ABTA Abfaltersbach 113.29 319 *e*PKiKP **PKiKP** 09 14 47.9 -0.2
comp=Z,5.9nm,0.6s
ABTA *ep*PKiKP **pPKiKP** 09 15 10.8 +2.4
comp=Z,14nm,0.9s
PDMCI Parker Dam,Lak 113.34 55 P **PKiKP** 09 14 49.6 +1.1
baz=280
WTTA Wattenberg 113.70 320 *e*PKiKP **PKiKP** 09 14 49.4 +0.4
comp=Z,9.2nm,0.5s
WTTA *ep*PKPdf **pPKiKP** 09 15 12.2 +2.9
comp=Z,16nm,0.8s
WATA Walderalm 113.71 320 *e*PKiKP **PKiKP** 09 14 49.9 +0.9
comp=Z,6.1nm,0.4s
WATA *ep*PKPdf **pPKiKP** 09 15 12.6 +3.3
comp=Z,9.7nm,0.7s
H17A Grant Village 113.73 44 P **PKiKP** 09 14 50.9 +1.6
baz=287
HWUT Hardware Ranch 113.78 47 PFAKE 09 15 00.0
HWUT LR LR
comp=Z,641nm,22.0s
LKWY Lake 113.80 43 PFAKE 09 15 00.0
LKWY LR LR
comp=Z,984nm,22.0s
AHID Auburn Hatcher 113.81 45 PFAKE 09 15 00.0
AHID LR LR
comp=Z,774nm,22.0s
SQTA Sankt Quirin 113.99 320 *e*PKiKP **PKiKP** 09 14 50.5 +1.0
comp=Z,0.3nm,0.2s
SQTA *ep*PKiKP **pPKiKP** 09 15 13.4 +3.6
comp=Z,12nm,0.8s
MOTA Moosalm 114.01 320 *e*PKiKP **PKiKP** 09 14 49.7 +0.1
comp=Z,3.3nm,0.4s
MOTA *ep*PKiKP **pPKiKP** 09 15 13.1 +3.3
comp=Z,12nm,0.8s
FETA Feichten 114.36 320 *e*PKiKP **PKiKP** 09 14 50.9 +0.6
comp=Z,2.1nm,0.5s
RLMT Red Lodge 114.40 43 PFAKE 09 15 00.0 +10
RLMT LR LR
comp=Z,833nm,19.0s
RLMT Red Lodge 114.40 43 P PKPdf 09 14 52.0 +1.5
baz=288
DAVA Damuels 114.82 320 *e*PKiKP PKPdf 09 14 51.4 +0.2
comp=Z,5.9nm,0.4s
214A Organ Pipe Nat 114.84 57 P PKPdf 09 14 51.8 +0.3
baz=280
BW06 Boulder Array 114.90 45 PFAKE 09 15 00.0 +8.4
BW06 LR LR
comp=Z,507nm,20.0s
BW06 Boulder Array 114.90 45 P PKPdf 09 14 52.0 +0.5
baz=287
PD31 Pinedale Array 114.90 45 *e*PKiKP PKPdf 09 14 52.5 +0.9
PDAR Pinedale Array 114.90 45 PKP PKPdf 09 14 52.1 +0.6
comp=Z,2.3nm,0.7s,baz=254,slow=1.7,SNR=15
PDAR PKKPbc **PKKPbc** 09 25 27.6 -2.1
comp=Z,2.3nm,0.5s,baz=105,slow=5.3,SNR=14
FFC Flin Flon 114.94 31 PFAKE 09 15 00.0 +9.1
FFC LR LR
comp=Z,580nm,20.0s
FFC Flin Flon 114.94 31 *i* PKiKP PKPdf 09 14 51.8 +0.9
SRU San Rafael Swe 115.18 49 *e*PKPdf **PKPdf** 09 14 52.9 +0.8
SRU San Rafael Swe 115.18 49 *e*PKiKP **PKPdf** 09 14 52.9 +0.8
WUAZ Wupatki 115.34 53 *e*PKPdf **PKPdf** 09 14 53.8 +1.3
WUAZ LR LR
comp=Z,476nm,19.0s
WUAZ Wupatki 115.34 53 P **PKPdf** 09 14 52.7 +0.2
baz=282
TUE Stuetta 115.44 319 *e*PKPdf **PKPdf** 09 14 52.4 0.0
X16A Lo Mia Camp, P 115.51 54 *e*PKPdf **PKPdf** 09 14 54.4 +1.5
LAO LASA Array 115.88 40 *e*PKPdf **PKPdf** 09 14 54.3 +1.2
LAO LR LR
comp=Z,556nm,22.0s
LAO LASA Array 115.88 40 P **PKPdf** 09 14 53.6 +0.5
baz=291
PV09 Paradox Valley 116.39 50 *e*PKPdf **PKPdf** 09 14 55.9 +1.3
DGMT Dagmar 116.46 38 PFAKE 09 15 10.0 +16
DGMT LR LR
comp=Z,685nm,22.0s
DGMT Dagmar 116.46 38 P **PKPdf** 09 14 54.3 +0.2
baz=294
TUC Tucson 116.47 57 *e*PKPdf **PKPdf** 09 14 55.9 +1.2
TUC LR LR
comp=Z,748nm,21.0s
TUC Tucson 116.47 57 *e*PKiKP **PKPdf** 09 14 55.9 +1.2
TUC MLR MLR
comp=Z,748nm,21.0s
TUC Tucson 116.47 57 P **PKPdf** 09 14 55.3 +0.6
baz=281
PV10 Paradox Valley 116.49 50 *e*PKPdf **PKPdf** 09 14 56.0 +1.2
PV21 Cone Mtn., Par 116.49 49 *e*PKPdf **PKPdf** 09 14 56.6 +1.9
PV23 Carpenter Ridg 116.49 50 *e*PKPdf **PKPdf** 09 14 56.3 +1.5
PV14 Lion Creek, Pa 116.50 50 *e*PKPdf **PKPdf** 09 14 55.9 +1.2
PV05 Paradox Valley 116.52 50 *e*PKPdf **PKPdf** 09 14 56.4 +1.6
PV19 Morning Glory 116.55 50 *e*PKPdf **PKPdf** 09 14 56.3 +1.5
PV20 West Nyswonger 116.55 50 *e*PKPdf **PKPdf** 09 14 55.7 +0.9
PV17 East Wray Mesa 116.57 50 *e*PKPdf **PKPdf** 09 14 56.0 +1.1
PV16 Nyswonger Mesa 116.60 50 *e*PKPdf **PKPdf** 09 14 56.1 +1.1
O20A White River Ci 116.61 48 *e*PKPdf **PKPdf** 09 14 56.0 +1.1
O20A White River Ci 116.61 48 P **PKPdf** 09 14 55.7 +0.8
baz=287
PV18 Skein Mesa, Pa 116.62 50 *e*PKPdf **PKPdf** 09 14 55.6 +0.7
PV11 David Mesa, Pa 116.64 50 *e*PKPdf **PKPdf** 09 14 56.2 +1.2
PV22 Blue Mesa, Par 116.64 49 *e*PKPdf **PKPdf** 09 14 55.8 +0.8
PV03 Paradox Valley 116.67 50 *e*PKPdf **PKPdf** 09 14 56.0 +1.0
PV12 Saucer Basin, 116.68 50 *e*PKPdf **PKPdf** 09 14 56.3 +1.2
PV13 Radium Mtn., P 116.71 50 *e*PKPdf **PKPdf** 09 14 56.3 +1.1
W18A Petrified Fore 116.74 53 *e*PKPdf **PKPdf** 09 14 56.5 +1.3
W18A Petrified Fore 116.74 53 P **PKPdf** 09 14 55.8 +0.6
baz=283
PV02 Paradox Valley 116.76 50 *e*PKPdf **PKPdf** 09 14 56.9 +1.6
PV01 Paradox Valley 116.91 50 *e*PKPdf **PKPdf** 09 14 56.6 +1.1
MVCO Mesa Verde 117.20 51 *e*PKPdf **PKPdf** 09 14 56.8 +0.6
MVCO LR LR
comp=Z,490nm,19.0s
MVCO Mesa Verde 117.20 51 P **PKPdf** 09 14 57.1 +1.0
baz=285
SMCO Snowmass 117.82 48 *e*PKPdf **PKPdf** 09 14 58.7 +1.2
N23A Red Feather La 118.05 46 P **PKPdf** 09 14 58.6 +0.9
baz=289
RSSD Black Hills 118.25 42 *e*PKPdf **PKPdf** 09 14 57.8 -0.1
RSSD Black Hills 118.25 42 *e*PKiKP **PKPdf** 09 14 57.8 -0.1
RSSD Black Hills 118.25 42 P **PKPdf** 09 14 58.1 +0.2
baz=292
ESK Eskdalemuir 118.28 332 PFAKE 09 15 10.0 +13
ESK LR LR
comp=Z,665nm,21.0s
S22A 4UR Ranch, Cre 118.34 50 *e*PKPdf **PKPdf** 09 14 59.8 +1.4
S22A 4UR Ranch, Cre 118.34 50 P **PKPdf** 09 14 59.3 +0.9
baz=286
ISCO Idaho Springs 118.63 47 *e*PKPdf **PKPdf** 09 14 60.0 +1.1
ISCO LR LR
comp=Z,646nm,22.0s
ISCO Idaho Springs 118.63 47 *e*PKiKP **PKPdf** 09 15 00.0 +1.1
ISCO MLR MLR
comp=Z,646nm,22.0s
ISCO Idaho Springs 118.63 47 P **PKPdf** 09 14 60.0 +1.1
baz=288
KEST Kesra 118.74 308 PP PP 09 16 15.7 -2.1
comp=Z,19nm,1.0s,baz=208,slow=1.8,SNR=4.4
KEST Kesra 118.74 308 *e*PP PP 09 16 15.0 -2.7
121A Cookes Peak, D 118.90 56 P **PKPdf** 09 15 00.5 +1.0
baz=283
LAZ Ladron 118.98 54 *e*PKPdf **PKPdf** 09 15 01.4 +1.8
LENM Lemitar 119.17 54 *e*PKPdf **PKPdf** 09 15 00.9 +0.9
Y22D IRIS PASSCAL I 119.24 54 P **PKPdf** 09 15 02.0 +1.9
baz=284
SDCO Great Sand Dun 119.35 49 *e*PKPdf **PKPdf** 09 15 01.3 +0.9
SDCO LR LR
comp=Z,813nm,22.0s
SDCO Great Sand Dun 119.35 49 P **PKPdf** 09 15 01.5 +1.1
baz=287
ANMO Albuquerque 119.39 53 *e*PKPdf **PKPdf** 09 15 01.3 +0.9
ANMO LR LR
comp=Z,441nm,20.0s
ANMO Albuquerque 119.39 53 *i*PKiKP **PKPdf** 09 15 01.7 +1.3
ANMO pmax pmax
comp=Z,18nm,1.3s
ANMO Albuquerque 119.39 53 P **PKPdf** 09 15 01.3 +0.9
baz=285
LPM Los Pinos Moun 119.41 54 *e*PKPdf **PKPdf** 09 15 01.8 +1.3
BNM Barren Site 119.46 54 *e*PKPdf **PKPdf** 09 15 01.8 +1.2
MDND Maddock 119.50 37 *e*PKPdf **PKPdf** 09 15 00.1 +0.2
MDND Maddock 119.50 37 P **PKPdf** 09 14 59.7 -0.3
baz=298
HOPE Hope Point 119.70 188 PFAKE 09 15 10.0 +10
HOPE LR LR
comp=Z,801nm,22.0s
EPT El Paso 120.13 56 *e*PKPdf **PKPdf** 09 15 02.9 +1.1
T25A Trinidad 120.36 50 *e*PKPdf **PKPdf** 09 15 03.4 +1.2
T25A Trinidad 120.36 50 P **PKPdf** 09 15 02.4 +0.3
baz=288
ULM Lac du Bonnet 120.43 33 PKP **PKPdf** 09 15 01.4 -0.2
comp=Z,11nm,0.6s,baz=314,slow=2.2,SNR=28
ULM PKKPbc **PKKPab** 09 25 06.9 -2.7
comp=Z,8.7nm,0.7s,baz=100,slow=5.3,SNR=11
ULM Lac du Bonnet 120.43 33 *e*PKPdf **PKPdf** 09 15 01.1 -0.5
OGNE Ogallala 120.81 45 PFAKE 09 15 10.0 +7.2
OGNE LR LR
comp=Z,813nm,22.0s
KSCO Kaye Shedlock' 121.08 47 *e*PKPdf **PKPdf** 09 15 04.7 +1.2
KSCO Kaye Shedlock' 121.08 47 P **PKPdf** 09 15 04.1 +0.7
baz=290
MNTX Cornudas Mount 121.08 56 *e*PKPdf **PKPdf** 09 15 04.3 +0.8
MNTX LR LR
comp=Z,574nm,21.0s
MNTX Cornudas Mount 121.08 56 P **PKPdf** 09 15 03.8 +0.4
baz=284
SUSD Miller 121.45 40 P **PKPdf** 09 15 04.4 +0.6
baz=296
AGMN Agassiz Nation 121.47 35 PFAKE 09 15 20.0 +16
AGMN LR LR
comp=Z,855nm,20.0s
AGMN Agassiz Nation 121.47 35 P **PKPdf** 09 15 03.2 -0.5
baz=301
GDL2 Guadalupe Moun 121.79 55 *e*PKPdf **PKPdf** 09 15 06.6 +1.7
HPIG 121.87 62 *e*PKPdf **PKPdf** 09 15 05.5 +0.2
MSTX Muleshoe 122.58 53 *e*PKPdf **PKPdf** 09 15 06.7 +0.3
MSTX Muleshoe 122.58 53 P **PKPdf** 09 15 06.4 0.0
baz=287
TX31 Lajitas Ar. Si 123.08 58 *e*PKPdf **PKPdf** 09 15 07.7 +0.2
TX31 *e*PKPdf **PKiKP** 09 15 08.2 +0.5
LTX Lajitas 123.08 58 *e*PKPdf **PKPdf** 09 15 08.0 +0.5
LTX Lajitas 123.08 58 *e*PKiKP **PKPdf** 09 15 08.0 +0.5
TXAR Lajitas Array 123.08 58 PKP **PKPdf** 09 15 08.0 +0.5
comp=Z,2.4nm,0.5s,baz=222,slow=1.2,SNR=69
TXAR pPKP **pPKPdf** 09 15 30.1 +2.3
comp=Z,6.0nm,0.8s,baz=244,slow=2.0,SNR=10
TXAR PKKPbc **PKKPab** 09 24 58.8 0.0
comp=Z,1.1nm,0.5s,baz=100,slow=6.2,SNR=24
TXAR Lajitas Array 123.08 58 PKiKP **PKPdf** 09 15 08.0 +0.5
TXAR pmax pmax
comp=Z,2.0nm,0.4s
AMTX Amarillo 123.16 52 *e*PKPdf **PKPdf** 09 15 09.2 +1.7
AMTX Amarillo 123.16 52 P **PKPdf** 09 15 07.7 +0.2
baz=289
CBKS Cedar Bluff 123.25 46 *e*PKPdf **PKPdf** 09 15 08.7 +1.2
CBKS LR LR
comp=Z,546nm,20.0s
CBKS Cedar Bluff 123.25 46 *e*PKiKP **PKPdf** 09 15 08.7 +1.2
CBKS MLR MLR
comp=Z,546nm,20.0s
CBKS Cedar Bluff 123.25 46 P **PKPdf** 09 15 07.9 +0.5
baz=292
ECSD EROS Data Cent 123.28 40 *e*PKPdf **PKPdf** 09 15 07.3 0.0
ECSD LR LR
comp=Z,682nm,22.0s
ECSD EROS Data Cent 123.28 40 P **PKPdf** 09 15 06.8 -0.6
baz=298
BGNE Belgrade 123.31 43 *e*PKPdf **PKPdf** 09 15 07.0 -0.5
BGNE Belgrade 123.31 43 P **PKPdf** 09 15 07.5 0.0
baz=295
EYMN Ely 124.10 33 *e*PKPdf **PKPdf** 09 15 09.6 +0.8
EYMN LR LR
comp=Z,946nm,21.0s
EYMN Ely 124.10 33 P **PKPdf** 09 15 08.4 -0.3
baz=306
NRS Narsarsuaq 124.25 358 *i* P **PKPdf** 09 15 08.5 -0.1
NRS *i* 09 15 32.0
NRS Narsarsuaq 124.25 358 *e*PKiKP **PKPdf** 09 15 08.5 -0.1
U32A Winter Ranch, 124.70 49 *e*PKPdf **PKPdf** 09 15 11.2 +0.8
F37A Hinrichs Farm, 124.71 36 P **PKPdf** 09 15 09.9 -0.1
baz=303
TAM Tamanrasset 124.82 294 *e*PKPdf **PKPdf** 09 15 12.1 +1.1
TAM Tamanrasset 124.82 294 *e*PKiKP **PKPdf** 09 15 12.1 +1.1
E38A The Farm, Brul 124.84 35 P **PKPdf** 09 15 10.5 +0.3
baz=305
SPMN Marine on St. 124.88 37 *e*PKPdf **PKPdf** 09 15 10.8 +0.4
SPMN Marine on St. 124.88 37 P **PKPdf** 09 15 10.5 +0.1
baz=303
F38A Pierce - Schro 125.02 36 P **PKPdf** 09 15 10.7 +0.1
baz=304
KSU1 Kansas State U 125.36 45 *e*PKPdf **PKPdf** 09 15 12.0 +0.5
KSU1 LR LR
comp=Z,868nm,21.0s
KSU1 Kansas State U 125.36 45 P **PKPdf** 09 15 11.8 +0.4
baz=295
ZAIG Zacatecas 125.40 66 *e*PKPdf **PKPdf** 09 15 14.1 +1.8
WMOK Wichita Mounta 125.46 51 *e*PKPdf **PKPdf** 09 15 12.2 +0.4
WMOK LR LR
comp=Z,394nm,19.0s
WMOK Wichita Mounta 125.46 51 *e*PKiKP **PKPdf** 09 15 12.2 +0.4
WMOK MLR MLR
comp=Z,394nm,19.0s
WMOK Wichita Mounta 125.46 51 P **PKPdf** 09 15 12.0 +0.2
baz=291
ABTX Abilene, Hawle 125.49 53 *e*PKPdf **PKPdf** 09 15 12.8 +0.8
ABTX Abilene, Hawle 125.49 53 P **PKPdf** 09 15 12.0 0.0
baz=289
E39A Mellen 125.54 34 P **PKPdf** 09 15 11.6 0.0
baz=306
F39A Loretta 125.60 35 P **PKPdf** 09 15 11.8 +0.1
baz=305
G39A Holcombe 125.81 36 P **PKPdf** 09 15 12.2 +0.1
baz=304
E40A Wakefield 125.87 34 P **PKPdf** 09 15 12.3 +0.1
baz=306
JCT Junction City 126.01 56 *e*PKPdf **PKPdf** 09 15 13.7 +0.7
JCT LR LR
comp=Z,450nm,20.0s
JCT Junction City 126.01 56 *e*PKiKP **PKPdf** 09 15 13.7 +0.7
JCT MLR MLR
comp=Z,450nm,20.0s
JCT Junction City 126.01 56 P **PKPdf** 09 15 13.6 +0.7
baz=287
F40A Park Falls 126.05 35 P **PKPdf** 09 15 12.8 +0.2
baz=306
H39A Augusta 126.08 37 P **PKPdf** 09 15 12.9 +0.2
baz=304
SCIA State Center 126.35 40 PFAKE 09 15 30.0 +17
SCIA LR LR
comp=Z,643nm,20.0s
E41A Kenton 126.37 34 P **PKPdf** 09 15 13.1 0.0
baz=307
G40A Rib Lake 126.38 35 *e*PKPdf **PKPdf** 09 15 13.4 +0.2
G40A Rib Lake 126.38 35 P **PKPdf** 09 15 13.4 +0.2
baz=305
I39A Houston 126.39 38 *e*PKPdf **PKPdf** 09 15 12.9 -0.4
I39A Houston 126.39 38 P **PKPdf** 09 15 13.1 -0.2
baz=303
COWI Conover 126.50 34 PFAKE 09 15 30.0 +17
COWI LR LR
comp=Z,1μm,21.0s
J39A Decorah 126.56 38 P **PKPdf** 09 15 13.2 -0.4
baz=303
H40A Chili 126.64 36 P **PKPdf** 09 15 13.0 -0.7
baz=305
F41A Three Lakes 126.73 34 *e*PKPdf **PKPdf** 09 15 14.8 +0.9
F41A Three Lakes 126.73 34 P **PKPdf** 09 15 14.1 +0.2
baz=307
K39A Oelwein 126.78 39 P **PKPdf** 09 15 14.1 0.0
baz=302
I40A Norwalk 126.92 37 P **PKPdf** 09 15 14.0 -0.3
baz=304
833A Chaparral WMA, 126.96 58 *e*PKPdf **PKPdf** 09 15 16.3 +1.5
833A Chaparral WMA, 126.96 58 P **PKPdf** 09 15 14.8 0.0
baz=286
E42A Champion 126.97 33 P **PKPdf** 09 15 14.7 +0.4
baz=308
G41A Antigo 127.00 35 P **PKPdf** 09 15 14.9 +0.5
baz=306
L39A Vinton 127.02 40 P **PKPdf** 09 15 14.6 +0.1
baz=302
ES19 SONSECA Array 127.06 317 *e*PKPdf **PKPdf** 09 15 12.5 +0.5
H41A Junction City 127.07 36 *e*PKPdf **PKPdf** 09 15 14.8 +0.2
H41A Junction City 127.07 36 P **PKPdf** 09 15 14.6 +0.1
baz=305
ESDC Sonseca Array 127.11 317 PKP **PKPdf** 09 15 15.0 +0.2
comp=Z,1.3nm,0.6s,baz=23,slow=2.5,SNR=7.4
ESDC PP **PP** 09 17 15.0 +1.1
comp=Z,4.7nm,0.8s,baz=57,slow=6.7,SNR=9.2
J40A Soldiers Grove 127.12 38 P **PKPdf** 09 15 14.5 -0.2
baz=304
M39A Webster 127.24 40 P **PKPdf** 09 15 14.8 -0.1
baz=301
K40A Colesburg 127.25 39 P **PKPdf** 09 15 15.0 0.0
baz=303
F42A Maple Grove Fa 127.26 34 P **PKPdf** 09 15 15.2 +0.3
baz=308
I41A Arkdale 127.27 36 P **PKPdf** 09 15 15.3 +0.3
baz=305
TUL1 Leonard 127.28 48 *e*PKPdf **PKPdf** 09 15 16.0 +0.8
TUL1 Leonard 127.28 48 P **PKPdf** 09 15 16.0 +0.8
baz=294
N39A Derby Farms, D 127.33 41 P **PKPdf** 09 15 15.9 +0.7
baz=300
G42A Mountain 127.41 35 P **PKPdf** 09 15 16.0 +0.9
baz=307
WHTX Lake Whitney, 127.45 53 *e*PKPdf **PKPdf** 09 15 16.5 +0.8
WHTX Lake Whitney, 127.45 53 P **PKPdf** 09 15 16.5 +0.8
baz=290
E43A Lone Tree Farm 127.50 33 P **PKPdf** 09 15 16.1 +0.8
baz=309
L40A Anamosa 127.54 39 *e*PKPdf **PKPdf** 09 15 15.4 -0.1
L40A Anamosa 127.54 39 P **PKPdf** 09 15 15.4 -0.1
baz=302
J41A Loganville 127.57 37 P **PKPdf** 09 15 15.5 0.0
baz=304
JFWS Jewell Farm 127.68 38 *e*PKPdf **PKPdf** 09 15 15.7 -0.1
JFWS LR LR
comp=Z,918nm,22.0s
JFWS Jewell Farm 127.68 38 *e*PKiKP **PKPdf** 09 15 15.7 -0.1
JFWS MLR MLR
comp=Z,918nm,22.0s
JFWS Jewell Farm 127.68 38 P **PKPdf** 09 15 15.7 -0.1
baz=304
M40A Post Highland 127.70 40 P **PKPdf** 09 15 16.0 +0.2
baz=302
435B Jarrell 127.74 55 *e*PKPdf **PKPdf** 09 15 16.8 +0.5
435B Jarrell 127.74 55 P **PKPdf** 09 15 16.6 +0.4
baz=289
F43A Flat Rock, Esc 127.75 33 P **PKPdf** 09 15 16.6 +0.8
baz=309
LNIG Linares 127.75 63 *e*PKPdf **PKPdf** 09 15 16.4 -0.1
H42A Shiocton 127.79 35 *e*PKPdf **PKPdf** 09 15 15.6 -0.3
G43A Wallace 127.81 34 P **PKPdf** 09 15 16.7 +0.8
baz=308
K41A Shullsburg 127.82 38 P **PKPdf** 09 15 16.2 +0.1
baz=304
PBRG Braganca 127.86 321 *e*PKPdf **PKPdf** 09 15 20.9 +4.7
N40A Mertquake, Sal 127.93 41 P **PKPdf** 09 15 16.5 +0.2
baz=301
I42A Draeger Farm, 127.93 36 P **PKPdf** 09 15 16.2 0.0
baz=306
L41A Preston 127.99 39 P **PKPdf** 09 15 16.6 +0.3
baz=303
X37A Clayton 128.12 50 *e*PKPdf **PKPdf** 09 15 17.7 +0.9
J42A Columbus 128.13 37 P **PKPdf** 09 15 16.7 +0.1
baz=305
K42A Prairie Point, 128.31 38 P **PKPdf** 09 15 16.9 -0.1
baz=305
M41A Milan 128.34 40 P **PKPdf** 09 15 17.2 +0.1
baz=302
I43A Langenfeld Bro 128.38 36 P **PKPdf** 09 15 17.6 +0.6
baz=306
MVO Moncorvo 128.39 320 *e*PKPdf **PKPdf** 09 15 17.1 -0.2
KVTX Kingsville 128.45 59 PFAKE 09 15 30.0 +12
KVTX LR LR
comp=Z,389nm,19.0s
HHAR Hobbs 128.48 47 *e*PKPdf **PKPdf** 09 15 17.8 +0.3
N41A Harden Midland 128.49 41 P **PKPdf** 09 15 18.1 +0.7
baz=302
J43A Natural Harves 128.52 36 P **PKPdf** 09 15 17.6 +0.3
baz=306
L42A Oliver, Polo 128.54 39 *e*PKPdf **PKPdf** 09 15 18.3 +0.9
L42A Oliver, Polo 128.54 39 P **PKPdf** 09 15 17.6 +0.2
baz=304
SCHQ Schefferville 128.56 13 PKP **PKPdf** 09 15 17.9 +0.8
comp=Z,7.6nm,0.7s,baz=330,slow=1.2,SNR=10
SCHQ Schefferville 128.56 13 *e*PKPdf **PKPdf** 09 15 18.6 +1.5
O41A Passleys Farm, 128.78 41 P **PKPdf** 09 15 18.0 +0.1
baz=301
P41A Barry, Barry 128.89 42 P **PKPdf** 09 15 18.3 +0.1
baz=301
E46A Sault Ste Mari 128.92 31 P **PKPdf** 09 15 18.9 +0.9
baz=312
N42A Yates City 128.95 40 P **PKPdf** 09 15 18.7 +0.5
baz=303
K43A Burlington 128.96 37 P **PKPdf** 09 15 18.5 +0.3
baz=306
L43A Garden Prairie 129.01 38 P **PKPdf** 09 15 18.8 +0.4

baz=305
D47A Chapleau 129.05 30 P PKPdf 09 15 18.9 +0.6
baz=314
W39A Magazine 129.06 48 ePKPdf PKPdf 09 15 19.4 +0.8
W39A Magazine 129.06 48 P PKPdf 09 15 19.1 +0.5
baz=295
G45A Suttons Bay 129.07 33 P PKPdf 09 15 19.2 +0.8
baz=310
F46A Macinaw City C 129.08 32 P PKPdf 09 15 19.3 +1.0
baz=311
MTE Manteigas 129.13 319 ePKPdf PKPdf 09 15 18.4 -0.3
Q41A Truxton 129.14 43 P PKPdf 09 15 18.7 0.0
baz=300
U40A Yellville 129.24 46 P PKPdf 09 15 18.9 -0.1
baz=297
O42A Bath 129.26 41 P PKPdf 09 15 18.9 +0.1
baz=302
M43A Waltham Townsh 129.30 39 P PKPdf 09 15 19.0 +0.1
baz=304
G46A Petoskey 129.32 32 P PKPdf 09 15 18.9 0.0
baz=311
R41A Rosebud 129.36 43 P PKPdf 09 15 19.3 +0.2
baz=300
PCBR Castelo Branco 129.38 319 ePKPdf PKPdf 09 15 20.6 +1.5
E47A Iron Bridge 129.38 30 P PKPdf 09 15 19.6 +0.7
baz=313
P42A Winchester 129.41 42 ePKPdf PKPdf 09 15 19.6 +0.5
P42A Winchester 129.41 42 P PKPdf 09 15 19.5 +0.3
baz=301
HKT Hockley 129.44 55 ePKIKP PKPdf 09 15 20.7 +1.3
N43A Stutzman Famil 129.44 39 P PKPdf 09 15 19.6 +0.4
baz=304
S41A Jillco Farms, 129.45 44 P PKPdf 09 15 19.2 -0.1
baz=299
MIAR Mount Ida 129.49 49 ePKPdf PKPdf 09 15 20.5 +1.0
MIAR LR LR
comp=Z,966nm,20.0s
MIAR Mount Ida 129.49 49 P PKPdf 09 15 20.1 +0.6
baz=295
PMRV Marv??o 129.54 318 ePKPdf PKPdf 09 15 19.9 +0.5
CCM Cathedral Cave 129.57 44 ePKPdf PKPdf 09 15 19.9 +0.4
CCM Cathedral Cave 129.57 44 ePKIKP PKPdf 09 15 19.9 +0.4
CCM Cathedral Cave 129.57 44 P PKPdf 09 15 19.8 +0.4
baz=300
HDIL Hopedale 129.57 40 ePKPdf PKPdf 09 15 20.2 +0.8
HDIL LR LR
comp=Z,688nm,20.0s
HDIL Hopedale 129.57 40 P PKPdf 09 15 19.7 +0.3
baz=303
D48A Paudash Townsh 129.60 29 P PKPdf 09 15 19.7 +0.4
baz=315
TOA0 Torodi Ar. Sit 129.60 283 ePKPdf PKPdf 09 15 19.6 -0.6
TOA0 ePKPdf PKiKP 09 15 19.8 -1.1
TORD Torodi Ar. Bea 129.60 283 PKhKP PKPpre 09 15 15.7
comp=Z,5.5nm,0.4s,baz=71,slow=2.3,SNR=24
TORD PKP PKPdf 09 15 19.7 -0.5
comp=Z,22nm,0.6s,baz=62,slow=2.7,SNR=5.8
TORD pPKP pPKPdf 09 15 42.8 +2.3
comp=Z,36nm,0.9s,baz=84,slow=1.9,SNR=12
TORD SKPbc SKPab 09 18 35.0 -0.6
comp=Z,13nm,0.7s,baz=90,slow=3.6,SNR=12
TOA1 Torodi Ar. Sit 129.61 283 ePKPpre PKPpre 09 15 15.7
TOA1 ePKPdf PKPdf 09 15 19.7 -0.5
Q42A Golden Eagle 129.63 42 P PKPdf 09 15 20.1 +0.5
baz=301
H46A Fife Lake 129.64 33 P PKPdf 09 15 20.5 +1.1
baz=310
T41A Mountain View 129.70 45 P PKPdf 09 15 20.2 +0.3
baz=298
O43A Sugar Creek Fa 129.71 40 P PKPdf 09 15 19.8 +0.1
baz=303
D49A Beulah Townshi 129.75 28 P PKPdf 09 15 19.9 +0.3
baz=316
NATX Nacogdoches 129.75 53 ePKPdf PKPdf 09 15 21.4 +1.3
NATX LR LR
comp=Z,842nm,22.0s
NATX Nacogdoches 129.75 53 P PKPdf 09 15 20.5 +0.5
baz=292
R42A Luebbering 129.77 43 P PKPdf 09 15 20.0 +0.1
baz=300
GLMI Grayling 129.77 33 PFAKE 09 15 30.0 +10
GLMI LR LR
comp=Z,973nm,22.0s
GLMI Grayling 129.77 33 P PKPdf 09 15 20.6 +0.9
baz=311
I46A Reed City 129.89 34 P PKPdf 09 15 20.1 +0.2
baz=309
M44A Midewin, Midew 129.90 38 P PKPdf 09 15 21.2 +1.2
baz=305
U41A Viola 129.91 46 P PKPdf 09 15 20.6 +0.4
baz=298
E48A Lockeyer 129.92 30 P PKPdf 09 15 20.6 +0.7
baz=315
TLIG Tlapa 129.92 72 ePKPdf PKPdf 09 15 22.9 +2.0
P43A Skaggs, Pawnee 129.92 41 P PKPdf 09 15 20.6 +0.4
baz=302
V41A Mountainview 130.00 47 P PKPdf 09 15 20.6 +0.2
baz=297
PLCA Paso Flores 130.01 158 PKP PKPdf 09 15 20.8 +0.4
comp=Z,5.5nm,0.6s,baz=298,slow=1.5,SNR=24
PLCA SKPbc SKPab 09 18 36.1 -0.7
comp=Z,4.1nm,0.8s,baz=236,slow=3.5,SNR=4.1
PLCA Paso Flores 130.01 158 ePKPdf PKPdf 09 15 21.2 +0.8
PLCA Paso Flores 130.01 158 ePKIKP PKPdf 09 15 21.2 +0.8
S42A Caledonia 130.03 44 P PKPdf 09 15 20.6 +0.2
baz=300
X40A Basin Creek Fa 130.07 49 ePKPdf PKPdf 09 15 22.1 +1.5
WHAR Wooly Hollow 130.12 47 ePKPdf PKPdf 09 15 22.0 +1.4
H47A Mio 130.14 33 P PKPdf 09 15 21.2 +0.8
baz=311
J46A Howard City 130.15 35 P PKPdf 09 15 21.0 +0.6
baz=309
FVM French Village 130.17 43 ePKPdf PKPdf 09 15 21.5 +0.8
FVM French Village 130.17 43 ePKIKP PKPdf 09 15 21.5 +0.8
Q43A New Douglas 130.17 42 P PKPdf 09 15 21.8 +1.1
baz=302
N44A Piper City 130.18 39 P PKPdf 09 15 21.0 +0.5
baz=304
T42A Van Buren 130.18 45 ePKPdf PKPdf 09 15 21.4 +0.7
T42A Van Buren 130.18 45 P PKPdf 09 15 21.7 +1.0
baz=299
W41B Gary Mavity, V 130.21 47 ePKPdf PKPdf 09 15 21.4 +0.7
W41B Gary Mavity, V 130.21 47 P PKPdf 09 15 21.3 +0.5
baz=296
X41A Kaden, Bauxite 130.31 48 P PKPdf 09 15 21.7 +0.7
baz=296
UALR University of 130.31 48 ePKPdf PKPdf 09 15 21.9 +0.9
O44A Mansfield 130.32 40 P PKPdf 09 15 21.6 +0.7
baz=304
LSQQ Lebel-sur-Quev 130.33 24 P PKPdf 09 15 20.7 +0.1
baz=322
R43A Red Bud 130.36 43 P PKPdf 09 15 21.4 +0.4
baz=301
M45A Boilermakers S 130.38 38 P PKPdf 09 15 21.3 +0.3
baz=306
U42A Revenden 130.40 46 P PKPdf 09 15 21.5 +0.4
baz=298
Y41A Eaglette Beard 130.50 49 P PKPdf 09 15 22.4 +1.0
baz=295
D50A G1974 Best Tow 130.53 28 P PKPdf 09 15 21.5 +0.4
baz=318
N45A Kentland 130.53 39 P PKPdf 09 15 22.3 +1.0
baz=305
V42A Cord 130.54 46 P PKPdf 09 15 21.9 +0.5
baz=298
P44A Sand Creek, Wi 130.60 41 P PKPdf 09 15 22.1 +0.7
baz=303
S43A Fulton Ridge, 130.62 44 P PKPdf 09 15 21.5 0.0
baz=300
CHGQ Chibougamau 130.64 22 P PKPdf 09 15 21.2 0.0
baz=326
Q44A Meyer Farm, Va 130.65 42 ePKPdf PKPdf 09 15 23.1 +1.6
Q44A Meyer Farm, Va 130.65 42 P PKPdf 09 15 22.3 +0.8
baz=302
E50A Wahnapitae 130.65 29 P PKPdf 09 15 22.3 +1.0
baz=316
GO06 Curarrehue 130.66 157 ePKPdf PKPdf 09 15 23.0 +1.3
J47A Sumner 130.68 34 P PKPdf 09 15 22.4 +0.9
baz=310
T43A Greenville 130.72 44 P PKPdf 09 15 22.5 +0.8
baz=300
PBMO Poplar Bluff 130.76 45 ePKPdf PKPdf 09 15 22.4 +0.6
MESJ Messejana 130.91 317 ePKPdf PKPdf 09 15 21.8 -0.2
MESJ ePP PP 09 17 38.9 +0.3
MESJ AMS AMS 10 20 50.1
comp=Z,188nm,36.1s
MESJ Messejana 130.91 317 ePKPdf PKPdf 09 15 22.2 +0.2

K47A Vermontville 130.94 35 P PKPdf 09 15 22.6 +0.6
baz=309
R44A Waltonville 130.95 42 P PKPdf 09 15 23.2 +1.1
baz=302
U43A Rector 130.98 45 P PKPdf 09 15 23.3 +1.1
baz=299
N46A Monticello 130.99 38 P PKPdf 09 15 23.1 +1.0
baz=306
SFIN Lafayette 131.06 39 P PKPdf 09 15 23.7 +1.5
baz=305
LIS Lisbon 131.07 318 ePP PP 09 17 39.9 +0.3
LIS AMS AMS 10 23 10.0
comp=E,1µm,14.9s
S44A Carbondale 131.12 43 P PKPdf 09 15 23.4 +1.0
baz=301
SIUC Southern Illin 131.13 43 ePKPdf PKPdf 09 15 23.7 +1.2
P45A Graceland, Par 131.13 40 ePKPdf PKPdf 09 15 23.6 +1.1
P45A Graceland, Par 131.13 40 P PKPdf 09 15 23.5 +1.1
baz=304
E51A G1948 Merrick 131.16 28 P PKPdf 09 15 23.0 +0.7
baz=318
T44A Benton 131.20 44 P PKPdf 09 15 23.2 +0.6
baz=300
Q45A Warren Harvey, 131.22 41 P PKPdf 09 15 23.4 +0.8
baz=303
J48A Bridge Port 131.22 34 P PKPdf 09 15 23.4 +0.9
baz=311
Z42A Norrsk Spur, H 131.25 50 P PKPdf 09 15 24.4 +1.6
baz=295
L47A Sherwood 131.26 36 P PKPdf 09 15 23.4 +0.8
baz=308
PARMO Parma 131.29 45 ePKPdf PKPdf 09 15 24.4 +1.6
OLIL Olney 131.34 41 ePKPdf PKPdf 09 15 24.3 +1.5
K48A Perry 131.36 34 P PKPdf 09 15 23.7 +0.9
baz=310
M47A Cromwell 131.39 37 P PKPdf 09 15 24.1 +1.2
baz=308
F51A Arnstein 131.41 29 P PKPdf 09 15 23.9 +1.1
baz=317
P46A Rosedale 131.43 40 P PKPdf 09 15 24.0 +1.0
baz=305
R45A Skylar, Fairfi 131.46 42 P PKPdf 09 15 23.9 +0.8
baz=302
MORF Marmelete 131.48 317 ePP PP 09 17 42.5 +0.1
MORF AMS AMS 10 25 42.9
comp=N,316nm,19.6s
D53A Lac Vacive, Po 131.56 26 P PKPdf 09 15 23.9 +0.9
baz=320
N47A Urbana 131.63 37 P PKPdf 09 15 24.0 +0.7
baz=307
O47A Sheridan 131.72 38 P PKPdf 09 15 24.4 +0.9
baz=306
L48A N Adams 131.72 36 P PKPdf 09 15 24.4 +0.9
baz=309
E52A Mattawa 131.73 28 P PKPdf 09 15 24.4 +1.1
baz=318
F52A Sundridge 131.79 28 P PKPdf 09 15 24.6 +1.1
baz=317
AAM Ann Arbor 131.94 35 PFAKE 09 15 40.0 +16
AAM LR LR
comp=Z,1µm,22.0s
AAM Ann Arbor 131.94 35 P PKPdf 09 15 24.8 +0.9
baz=310
D54A Lac Fusel, La 131.96 25 P PKPdf 09 15 24.6 +0.8
baz=321
L49A Milan 132.00 35 P PKPdf 09 15 25.5 +1.5
baz=310
N48A Decatur 132.05 37 P PKPdf 09 15 25.2 +1.1
baz=308
P47A Martinsville 132.10 39 P PKPdf 09 15 25.6 +1.4
baz=305
E53A Dumoine, Ponti 132.11 27 P PKPdf 09 15 25.4 +1.3
baz=320
BLO Bloomington 132.12 40 ePKPdf PKPdf 09 15 24.7 +0.4
BLO Bloomington 132.12 40 ePKIKP PKPdf 09 15 24.7 +0.4
Y44A Strider, Charl 132.25 48 P PKPdf 09 15 25.8 +1.1
baz=297
ALGO Algonquin Park 132.26 27 P PKPdf 09 15 25.3 +1.0
baz=319
E54A Lac Daplat, Po 132.28 26 P PKPdf 09 15 25.3 +0.9
baz=320
M49A Liberty Center 132.29 36 P PKPdf 09 15 25.7 +1.1
baz=309
Q47A Bedord North L 132.31 40 P PKPdf 09 15 26.6 +1.9
baz=305
O48A Parkland 132.33 38 P PKPdf 09 15 25.1 +0.4
baz=307
H52A Wyevale 132.35 30 P PKPdf 09 15 26.0 +1.4
baz=316
T46A Princeton 132.38 43 P PKPdf 09 15 25.4 +0.5
baz=302
W45A Hickory Valley 132.44 46 P PKPdf 09 15 26.1 +1.1
baz=299
N49A Columbus Grove 132.51 36 ePKPdf PKPdf 09 15 25.9 +0.9
N49A Columbus Grove 132.51 36 P PKPdf 09 15 25.9 +0.9
baz=305
U46A Springville 132.54 44 P PKPdf 09 15 25.9 +0.7
baz=301
OXF Oxford 132.58 47 ePKPdf PKPdf 09 15 25.9 +0.6
R47A Wooly Knot Far 132.61 41 P PKPdf 09 15 25.3 0.0
baz=304
G53A Haliburton 132.61 29 P PKPdf 09 15 26.1 +1.0
baz=318
ELFO Elginfield 132.63 32 P PKPdf 09 15 26.3 +1.1
baz=314
P48A Milo 132.64 39 P PKPdf 09 15 26.2 +0.9
baz=306
244A Avery, Jackson 132.74 50 P PKPdf 09 15 27.5 +1.9
baz=295
Q48A North Vernon 132.76 40 P PKPdf 09 15 26.8 +1.3
baz=306
VBMS Vicksburg 132.79 50 P PKPdf 09 15 27.9 +2.1
baz=296
WCI Wyandotte Cave 132.80 41 ePKPdf PKPdf 09 15 25.5 -0.1
WCI Wyandotte Cave 132.80 41 ePKIKP PKPdf 09 15 25.5 -0.1
WCI Wyandotte Cave 132.80 41 P PKPdf 09 15 26.9 +1.3
baz=304
PEMO Pembroke 132.84 27 P PKPdf 09 15 25.9 +0.5
baz=320
M50A Fremont 132.87 35 P PKPdf 09 15 27.0 +1.4
baz=310
V46A Holladay 132.87 45 P PKPdf 09 15 26.0 +0.2
baz=301
O49A Covington 132.87 37 ePKPdf PKPdf 09 15 26.6 +0.9
O49A Covington 132.87 37 P PKPdf 09 15 26.7 +0.9
baz=308
WVT Waverly 132.90 44 P PKPdf 09 15 26.4 +0.5
baz=301
T47A Sharon Grove 132.94 43 ePKPdf PKPdf 09 15 27.0 +1.0
T47A Sharon Grove 132.94 43 P PKPdf 09 15 26.6 +0.6
baz=303
344A Westbrook Farm 132.95 51 P PKPdf 09 15 28.5 +2.4
baz=295
R48A Northridge Ran 132.97 40 P PKPdf 09 15 27.5 +1.5
baz=305
BANO Bancroft 133.02 28 P PKPdf 09 15 26.8 +1.0
baz=319
W46A Michie 133.02 46 P PKPdf 09 15 26.4 +0.3
baz=300
P49A Miami Univ. Ec 133.04 38 P PKPdf 09 15 26.7 +0.7
baz=307
U47A Clarksville 133.11 43 P PKPdf 09 15 27.5 +1.2
baz=302
F55A Otter Lake 133.12 26 P PKPdf 09 15 26.7 +0.8
baz=321
N50A Nevada 133.22 36 P PKPdf 09 15 27.7 +1.4
baz=310
Q49A Aurora 133.24 39 P PKPdf 09 15 27.7 +1.3
baz=306
V47A Nunnelly 133.27 44 P PKPdf 09 15 27.0 +0.4
baz=301
S48A Wiedeman Farm, 133.28 41 P PKPdf 09 15 27.3 +0.8
baz=304
Y46A Houston 133.28 47 P PKPdf 09 15 27.3 +0.6
baz=298
PLAL Pickwick Lake 133.31 46 ePKPdf PKPdf 09 15 26.8 +0.1
LATQ La Tuque 133.33 22 P PKPdf 09 15 27.2 +0.9
baz=326
O50A Cable 133.33 37 P PKPdf 09 15 27.6 +1.1
baz=309
G55A Calabogie 133.40 27 P PKPdf 09 15 27.8 +1.3
baz=320
PLVO Plevna 133.40 27 P PKPdf 09 15 27.4 +0.9
baz=320
M51A Elyria 133.41 35 P PKPdf 09 15 28.2 +1.6
baz=311
DRWO Darlington Wes 133.48 30 P PKPdf 09 15 27.8 +1.1
baz=317

R49A Shelbyville 133.49 40 P PKPdf 09 15 27.9 +1.0
baz=306
DRCO St. Marys Ceme 133.49 30 P PKPdf 09 15 27.7 +1.0
baz=317
W47A Westpoint 133.52 45 P PKPdf 09 15 27.6 +0.6
baz=301
DELO Deloro Mine 133.54 28 P PKPdf 09 15 27.9 +1.1
baz=319
P50A Jamestown 133.56 38 P PKPdf 09 15 28.3 +1.3
baz=308
345A Thompson Farm, 133.56 51 P PKPdf 09 15 29.6 +2.4
baz=295
N51A Ashland 133.57 35 P PKPdf 09 15 28.1 +1.1
baz=311
U48A Cassie Pea, Po 133.58 43 P PKPdf 09 15 28.9 +1.7
baz=303
ACSO Alum Creek Sta 133.66 36 ePKPdf PKPdf 09 15 28.0 +0.8
ACSO LR LR
comp=Z,572nm,20.0s
ACSO Alum Creek Sta 133.66 36 P PKPdf 09 15 28.0 +0.8
baz=310
X47A Russelville 133.70 46 P PKPdf 09 15 28.5 +1.1
baz=300
S49A Springfield 133.71 41 P PKPdf 09 15 28.2 +0.8
baz=305
H55A Tweed 133.72 28 P PKPdf 09 15 28.0 +0.9
baz=319
ORIO Orleans, Innes 133.78 26 P PKPdf 09 15 27.9 +0.7
baz=322
V48A Smith Brothers 133.80 44 ePKPdf PKPdf 09 15 27.9 +0.3
V48A Smith Brothers 133.80 44 P PKPdf 09 15 27.8 +0.3
baz=302
Q50A Georgetown 133.91 39 P PKPdf 09 15 27.5 -0.2
baz=307
ALFO Alfred 133.91 25 P PKPdf 09 15 28.7 +1.3
baz=323
T49A Edmonton 133.93 42 ePKPdf PKPdf 09 15 27.9 +0.1
T49A Edmonton 133.93 42 P PKPdf 09 15 28.3 +0.5
baz=304
O51A Pataskala 133.93 36 P PKPdf 09 15 28.1 +0.4
baz=310
Y47A UCPARC, Winfie 134.01 47 P PKPdf 09 15 28.7 +0.7
baz=299
R50A Paris 134.03 39 P PKPdf 09 15 28.8 +0.9
baz=307
W48A Pulaski 134.04 45 P PKPdf 09 15 28.4 +0.4
baz=301
P51A Williamsport 134.08 37 ePKPdf PKPdf 09 15 28.4 +0.4
P51A Williamsport 134.08 37 P PKPdf 09 15 28.8 +0.8
baz=309
MEDO Medina 134.13 30 P PKPdf 09 15 28.7 +0.7
baz=317
Q51A Peebles 134.19 38 ePKPdf PKPdf 09 15 28.8 +0.6
Q51A Peebles 134.19 38 P PKPdf 09 15 29.1 +0.9
baz=308
X48A Hartselle 134.31 46 ePKPdf PKPdf 09 15 28.8 +0.2
X48A Hartselle 134.31 46 P PKPdf 09 15 29.2 +0.6
baz=301
S50A Richmond 134.34 40 P PKPdf 09 15 30.3 +1.8
baz=306
V49A McMinnville 134.42 43 P PKPdf 09 15 29.0 +0.3
baz=303
T50A Nancy 134.44 41 P PKPdf 09 15 29.3 +0.6
baz=305
Z48A Northport 134.48 47 P PKPdf 09 15 29.8 +0.9
baz=299
R51A Hillsboro 134.49 39 P PKPdf 09 15 29.9 +1.1
baz=307
Y48A Jasper 134.50 46 P PKPdf 09 15 29.3 +0.4
baz=300
W49A Belvidere 134.52 44 P PKPdf 09 15 29.2 +0.3
baz=302
P52A Corning 134.54 36 P PKPdf 09 15 29.6 +0.8
baz=310
M54A Oil Creek Stat 134.68 33 ePKPdf PKPdf 09 15 29.9 +0.8
M54A Oil Creek Stat 134.68 33 P PKPdf 09 15 29.9 +0.8
baz=314
SWET Sewanee 134.70 44 ePKPdf PKPdf 09 15 30.4 +1.0
U50A Jamestown 134.78 42 P PKPdf 09 15 30.4 +1.0
baz=304
X49A Woodville 134.79 45 P PKPdf 09 15 30.4 +0.9
baz=301
LONY Lake Ozonia 134.84 26 PFAKE 09 15 40.0 +11
LONY LR LR
comp=Z,913nm,22.0s
LONY Lake Ozonia 134.84 26 P PKPdf 09 15 30.5 +1.2
baz=322
S51A Beattyville 134.88 40 ePKPdf PKPdf 09 15 30.7 +1.1
S51A Beattyville 134.88 40 P PKPdf 09 15 30.7 +1.1
baz=307
N54A Moraine State 134.88 34 ePKPdf PKPdf 09 15 30.1 +0.7
N54A Moraine State 134.88 34 P PKPdf 09 15 30.2 +0.7
baz=314
Q52A Bidwell 134.89 37 P PKPdf 09 15 30.1 +0.6
baz=309
V50A Pikeville 135.02 43 P PKPdf 09 15 29.9 0.0
baz=304
R52A Catlettsburg 135.05 38 P PKPdf 09 15 30.9 +1.1
baz=308
T51A Gray 135.05 41 P PKPdf 09 15 31.0 +1.1
baz=306
LRAL Lakeview Retre 135.05 47 ePKPdf PKPdf 09 15 28.8 -1.2
LRAL Lakeview Retre 135.05 47 P PKPdf 09 15 30.8 +0.8
baz=300
Y49A Blount Mountai 135.07 46 ePKPdf PKPdf 09 15 30.1 +0.1
Y49A Blount Mountai 135.07 46 P PKPdf 09 15 30.9 +0.9
baz=301
P53A Whipple 135.07 36 ePKPdf PKPdf 09 15 30.5 +0.6
P53A Whipple 135.07 36 P PKPdf 09 15 31.1 +1.2
baz=311
TRQA Tornquist 135.13 165 PFAKE 09 15 40.0 +10
TRQA LR LR
comp=Z,503nm,19.0s
W50A Signal Mountai 135.13 44 P PKPdf 09 15 31.0 +0.9
baz=303
S52A Salyersville 135.18 39 P PKPdf 09 15 31.2 +1.1
baz=307
X50B Fort Payne 135.29 45 P PKPdf 09 15 31.3 +0.8
baz=302
Z49A Columbiana 135.31 47 P PKPdf 09 15 31.2 +0.7
baz=300
U51A La Follette 135.34 41 P PKPdf 09 15 32.3 +1.8
baz=305
NCB Newcomb 135.51 26 ePKPdf PKPdf 09 15 31.7 +1.1
W51A Cleveland 135.53 43 P PKPdf 09 15 32.4 +1.6
baz=304
TZTN Tazewell 135.56 41 ePKPdf PKPdf 09 15 32.0 +1.2
TZTN Tazewell 135.56 41 P PKPdf 09 15 32.3 +1.5
baz=306
PQI Presque Isle 135.61 19 ePKPdf PKPdf 09 15 31.2 +0.6
Z50A Ashland 135.72 46 ePKPdf PKPdf 09 15 31.4 +0.1
Z50A Ashland 135.72 46 P PKPdf 09 15 32.3 +1.0
baz=301
U52A Thorn Hill 135.76 41 P PKPdf 09 15 32.8 +1.5
baz=306
MCWV Mont Chateau 135.85 35 P PKPdf 09 15 32.5 +1.2
baz=313
BRAL Brewton 135.91 50 PFAKE 09 15 40.0 +8.4
BRAL LR LR
comp=Z,857nm,22.0s
TKL Tuckaleechee C 135.92 42 ePKPdf PKPdf 09 15 31.7 +0.1
TKL Tuckaleechee C 135.92 42 ePKIKP PKPdf 09 15 31.7 +0.1
V52A Sevierville 135.93 42 ePKPdf PKPdf 09 15 32.8 +1.2
V52A Sevierville 135.93 42 P PKPdf 09 15 32.8 +1.2
baz=305
150A Eclectic 135.98 47 P PKPdf 09 15 31.9 +0.2
baz=300
BINY Binghamton 136.07 29 ePKPdf PKPdf 09 15 32.5 +0.8
BINY LR LR
comp=Z,1µm,20.0s
BINY Binghamton 136.07 29 P PKPdf 09 15 32.7 +1.1
baz=319
250A Grady 136.11 48 ePKPdf PKPdf 09 15 32.6 +0.6
250A Grady 136.11 48 P PKPdf 09 15 32.9 +0.9
baz=299
KIC Kosan Boka 136.13 274 ePKIKP PKPdf 09 15 32.8 +0.3
comp=Z,41nm,0.6s
W52A Murphy 136.13 43 P PKPdf 09 15 33.1 +1.1
baz=304
O56A Blue Knob Stat 136.15 33 ePKPdf PKPdf 09 15 32.8 +0.9
O56A Blue Knob Stat 136.15 33 P PKPdf 09 15 33.1 +1.2
baz=315
Z51A Franklin 136.23 46 P PKPdf 09 15 33.1 +0.9
baz=302
SSPA Standing Stone 136.25 32 ePKPdf PKPdf 09 15 32.2 +0.1
SSPA Standing Stone 136.25 32 P PKPdf 09 15 33.0 +0.9
baz=316

DBIC	**Dimbokro**	**136.25**	**274**	PKhKP	PKPpre	09 15 21.0
	comp=Z,8.0nm,0.5s,baz=88,slow=2.1,SNR=12					
DBIC				PKP	**PKPdf**	**09 15 33.2 +0.5**
	comp=Z,18nm,0.4s,baz=83,slow=1.8,SNR=21					
DBIC				SKPbc	**SKPbc**	**09 18 57.5 -1.4**
	comp=Z,7.4nm,0.7s,baz=90,slow=6.0,SNR=8.0					
DBIC	**Dimbokro**	**136.25**	**274**	*e*PKPdf	**PKPdf**	**09 15 32.6 -0.2**
DBIC	**Dimbokro**	**136.25**	**274**	*e*PKIKP	**PKPdf**	**09 15 32.6 -0.2**
LBNH	**Lisbon**	**136.27**	**24**	P	**PKPdf**	**09 15 33.5 +1.5**
	baz=326					
U53A	**Fall Branch**	**136.29**	**40**	P	**PKPdf**	**09 15 33.5 +1.3**
	baz=307					
PKME	**Peaks-Kenny Pk**	**136.41**	**21**	PFAKE		09 15 40.0 +7.9
PKME				LR	LR	
	comp=Z,637nm,20.0s					
PKME	**Peaks-Kenny Pk**	**136.41**	**21**	P	**PKPdf**	**09 15 33.1 +1.0**
	baz=330					
LIC	**Lamto**	**136.42**	**273**	*e*PKIKP	**PKPdf**	**09 15 33.2 +0.1**
	comp=Z,96nm,0.4s					
TIC	**Toumodi**	**136.42**	**274**	*e*PKIKP	**PKPdf**	**09 15 33.2 +0.1**
X52A	**Dahlonega**	**136.43**	**43**	P	**PKPdf**	**09 15 33.1 +0.5**
	baz=304					
151A	**Opelika**	**136.53**	**47**	P	**PKPdf**	**09 15 33.7 +0.9**
	baz=301					
V53A	**Saluda**	**136.55**	**41**	*e*PKPdf	**PKPdf**	**09 15 33.7 +0.9**
V53A	**Saluda**	**136.55**	**41**	P	**PKPdf**	**09 15 34.0 +1.2**
	baz=306					
W53A	**Cullowhee**	**136.61**	**42**	P	**PKPdf**	**09 15 34.3 +1.3**
	baz=305					
251A	**Midway**	**136.69**	**47**	P	**PKPdf**	**09 15 34.2 +1.1**
	baz=300					
Y52A	**Lilburn**	**136.72**	**44**	*e*PKPdf	**PKPdf**	**09 15 33.7 +0.6**
Y52A	**Lilburn**	**136.72**	**44**	P	**PKPdf**	**09 15 34.5 +1.4**
	baz=303					
Z52A	**Williamson**	**136.84**	**46**	P	**PKPdf**	**09 15 34.1 +0.8**
	baz=302					
BG3	**Lake Jocassee**	**136.86**	**42**	*e*PKPdf	**PKPdf**	**09 15 34.4 +1.1**
152A	**Waverly Hall**	**136.89**	**46**	*e*PKPdf	**PKPdf**	**09 15 34.0 +0.6**
152A	**Waverly Hall**	**136.89**	**46**	P	**PKPdf**	**09 15 34.7 +1.2**
	baz=301					
Y53A	**Monroe**	**137.06**	**44**	P	**PKPdf**	**09 15 35.2 +1.5**
	baz=304					
BLA	**Blacksburg**	**137.12**	**38**	*e*PKPdf	**PKPdf**	**09 15 34.4 +0.6**
BLA				LR	LR	
	comp=Z,696nm,21.0s					
BLA	**Blacksburg**	**137.12**	**38**	*e*PKIKP	**PKPdf**	**09 15 34.4 +0.6**
BLA				MLR	MLR	
	comp=Z,696nm,21.0s					
BLA	**Blacksburg**	**137.12**	**38**	P	**PKPdf**	**09 15 35.2 +1.4**
	baz=310					
N59A	**State Game Lan**	**137.14**	**30**	*e*PKPdf	**PKPdf**	**09 15 34.0 +0.3**
N59A	**State Game Lan**	**137.14**	**30**	P	**PKPdf**	**09 15 35.0 +1.4**
	baz=319					
PAGS	**Pennsylvania G**	**137.16**	**32**	*e*PKPdf	**PKPdf**	**09 15 34.4 +0.7**
252A	**Lumpkin**	**137.23**	**47**	P	**PKPdf**	**09 15 35.8 +1.7**
	baz=301					
352A	**Blakely**	**137.35**	**48**	P	**PKPdf**	**09 15 36.4 +2.1**
	baz=300					
Z53A	**Monticello**	**137.38**	**45**	P	**PKPdf**	**09 15 35.8 +1.4**
	baz=303					
GOGA	**Godfrey**	**137.39**	**45**	*e*PKPdf	**PKPdf**	**09 15 35.1 +0.8**
GOGA				LR	LR	
	comp=Z,791nm,21.0s					
GOGA	**Godfrey**	**137.39**	**45**	*e*PKIKP	**PKPdf**	**09 15 35.1 +0.8**
GOGA				MLR	MLR	
	comp=Z,791nm,21.0s					
GOGA	**Godfrey**	**137.39**	**45**	P	**PKPdf**	**09 15 35.7 +1.4**
	baz=303					
MVL	**Millersville**	**137.52**	**32**	*e*PKPdf	**PKPdf**	**09 15 35.0 +0.7**
253A	**Americus**	**137.63**	**47**	P	**PKPdf**	**09 15 35.9 +1.1**
	baz=302					
Y54A	**Tignall**	**137.68**	**44**	P	**PKPdf**	**09 15 35.8 +1.0**
	baz=305					
PAULI	**Pauline**	**137.71**	**42**	*e*PKPdf	**PKPdf**	**09 15 36.0 +1.1**
HODGE	**Hodges**	**137.76**	**43**	*e*PKPdf	**PKPdf**	**09 15 35.6 +0.6**
KMSC	**Kings Mountain**	**137.83**	**41**	*e*PKPdf	**PKPdf**	**09 15 35.5 +0.4**
KMSC	**Kings Mountain**	**137.83**	**41**	P	**PKPdf**	**09 15 35.8 +0.7**
	baz=307					
Z54A	**Sparta**	**137.92**	**44**	P	**PKPdf**	**09 15 36.9 +1.6**
	baz=304					
353A	**Camilla**	**137.94**	**48**	P	**PKPdf**	**09 15 37.0 +1.6**
	baz=301					
R58B	**Mineral**	**138.13**	**35**	*e*PKPdf	**PKPdf**	**09 15 36.5 +1.0**
R58B	**Mineral**	**138.13**	**35**	P	**PKPdf**	**09 15 37.5 +1.9**
	baz=314					
CBN	**Corbin Frederi**	**138.25**	**34**	PFAKE		09 15 50.0 +14
CBN				LR	LR	
	comp=Z,659nm,19.0s					
JSC	**Jenkinsville**	**138.40**	**42**	*e*PKPdf	**PKPdf**	**09 15 38.4 +2.2**
JSC	**Jenkinsville**	**138.40**	**42**	*e*PKIKP	**PKPdf**	**09 15 38.4 +2.2**
GBN	**Guysborough**	**138.58**	**14**	*e*PKPdf	**PKPdf**	**09 15 37.7 +1.6**
NHSC	**New Hope**	**139.82**	**43**	PFAKE		09 15 50.0 +11
NHSC				LR	LR	
	comp=Z,506nm,20.0s					
LCO	**Las Campanas**	**139.89**	**150**	PFAKE		09 15 50.0 +11
LCO				LR	LR	
	comp=Z,474nm,22.0s					
CNNC	**Cliffs of the**	**139.96**	**38**	PFAKE		09 15 50.0 +11
CNNC				LR	LR	
	comp=Z,486nm,20.0s					
GO03	**Copiap**	**141.28**	**149**	*e*PKPdf	**PKPdf**	**09 15 41.4 -0.3**
PLVR	**Palo Verde**	**143.50**	**80**	*e*P	**PKPdf**	**09 15 45.8 -0.3**
JTS	**JuntasAbangare**	**143.90**	**80**	PFAKE		09 16 00.0 +13
JTS				LR	LR	
	comp=Z,366nm,21.0s					
PB10	**IPOC Station P**	**144.34**	**144**	*e*PKPdf	**PKPdf**	**09 15 46.9 -0.2**
HDC	**Heredia**	**144.75**	**80**	*e*PKPbc	**PKPdf**	**09 15 49.2 +0.9**
HDC	**Heredia**	**144.75**	**80**	*e*P	**PKPdf**	**09 15 49.1 +0.9**
LCR2	**La Lucha 2**	**144.88**	**81**	*e*P	PKPbc	09 15 48.1 +0.3
CVTR	**Volcan Turrial**	**145.09**	**80**	*e*P	**PKPdf**	**09 15 49.5 +0.4**
EDPN	**Palmar Norte**	**145.47**	**82**	*e*P	**PKPab**	**09 15 52.0 +2.3**
PB04	**IPOC Station P**	**145.48**	**144**	*e*PKPdf	**PKPab**	**09 15 50.3 +0.6**
DRK0	**Durika**	**145.66**	**81**	*e*P	**PKPab**	**09 15 51.1 +0.5**
EDSV	**San Vito**	**145.96**	**82**	*e*P	**PKPab**	**09 15 52.4 +0.7**
LVC	**Limon Verde**	**145.98**	**145**	PKPbc	**PKPbc**	**09 15 51.4 +0.1**
	comp=Z,45nm,0.6s,baz=216,slow=1.6,SNR=55					
LVC	**Limon Verde**	**145.98**	**145**	*e*PKPdf	**PKPbc**	**09 15 51.4 +0.1**
LVC				*e*PKPdf	**PKPab**	**09 15 52.2 +0.4**
LVC				LR	LR	
	comp=Z,363nm,21.0s					
BRU2	**Volcan**	**146.24**	**82**	*e*P	**PKPab**	**09 15 52.5 -0.3**
PB01	**IPOC Station P**	**146.86**	**143**	*e*PKPdf	**PKPbc**	**09 15 52.6 -0.9**
NNA	**Nana**	**147.26**	**122**	PKPbc	**PKPbc**	**09 15 54.7 -0.1**
	comp=Z,68nm,0.8s,baz=288,slow=3.4,SNR=16					
NNA	**Nana**	**147.26**	**122**	*e*PKPbc	**PKPbc**	**09 15 54.7 -0.1**
NNA				LR	LR	
	comp=Z,220nm,20.0s					
NNA	**Nana**	**147.26**	**122**	*i* PKP2	**PKPbc**	**09 15 55.0 +0.3**
CPUP	**Villa Florida**	**147.46**	**166**	PKP	**PKPdf**	**09 15 52.8 +0.5**
	comp=Z,47nm,0.7s,baz=218,slow=2.8,SNR=44					
CPUP				PKPbc	**PKPbc**	**09 15 55.5 +0.5**
	comp=Z,47nm,0.7s,baz=200,slow=1.6,SNR=44					
CPUP	**Villa Florida**	**147.46**	**166**	*e*PKPdf	**PKPdf**	**09 15 53.2 +0.9**
CPUP	**Villa Florida**	**147.46**	**166**	*e*PKIKP	**PKPdf**	**09 15 53.3 +0.9**
ATAH	**Atahualpa**	**148.00**	**112**	PKPbc	**PKPbc**	**09 15 56.2 -1.1**
	comp=Z,23nm,0.6s,baz=238,slow=1.2,SNR=17					
GO01	**Chusmiza**	**148.08**	**142**	*e*PKPdf	**PKPdf**	**09 15 55.2 +1.0**
MNMC	**Minye Minye**	**148.23**	**140**	*e*PKPdf	**PKPdf**	**09 15 54.7 +0.5**
BCIP	**Isla Barro Col**	**149.02**	**81**	*e*PKPdf	**PKPdf**	**09 15 56.7 +1.5**
BCIP				LR	LR	
	comp=Z,542nm,19.0s					
MTDJ	**Mount Denham**	**149.19**	**63**	*e*PKPbc	**PKPbc**	**09 16 01.0 +1.2**
MTDJ				LR	LR	
	comp=Z,368nm,20.0s					
BBSR	**BB Station**	**149.29**	**27**	*e*PKPbc	**PKPbc**	**09 15 59.4 -0.1**
OTAV	**Otavalo**	**150.00**	**99**	*e*PKPdf	**PKPdf**	**09 15 59.0 +1.6**
OTAV				LR	LR	
	comp=Z,289nm,21.0s					
OTAV	**Otavalo**	**150.00**	**99**	*e*PKIKP	**PKPdf**	**09 15 59.0 +1.6**
OTAV				MLR	MLR	
	comp=Z,289nm,21.0s					
GTBY	**Guantanamo Bay**	**150.61**	**58**	*e*PKPbc	**PKPbc**	**09 16 03.5 +0.5**
GTBY				LR	LR	
	comp=Z,373nm,21.0s					
CMBC	**Cumbal**	**150.73**	**98**	*e*P	**PKPbc**	**09 16 06.0 +1.9**
PTAC	**Punta Ardita,**	**151.14**	**85**	*e*P	**PKPbc**	**09 16 04.2 -0.3**
SPB	**Sao Paulo**	**151.21**	**183**	*e*PKPdf	**PKPdf**	**09 15 59.3 +0.9**
SPB				*e*PKPbc	**PKPbc**	**09 16 04.4 0.0**
GCUF	**Volcan Galeras**	**151.25**	**97**	*e*P	**PKPdf**	**09 15 59.7 +0.3**
LPAZ	**La Paz**	**151.26**	**139**	PKP	**PKPdf**	**09 15 59.2 -0.2**
	comp=Z,8.2nm,0.9s,baz=338,slow=1.1,SNR=28					
LPAZ				PKPbc	**PKiKP**	**09 16 06.2 +0.3**
	comp=Z,34nm,0.4s,baz=285,slow=1.3,SNR=210					
LPAZ	**La Paz**	**151.26**	**139**	*e*PKPdf	**PKPdf**	**09 15 59.9 +0.5**
LPAZ				*e*PKPbc	**PKiKP**	**09 16 06.2 +0.3**

LPAZ	**La Paz**	**151.26**	**139**	*e*PKIKP	**PKPdf**	**09 15 59.9 +0.5**
CRUC	**La Cruz**	**151.69**	**97**	*e*P	**PKPbc**	**09 16 07.5 +1.3**
PCON	**Cinco Dias**	**152.34**	**95**	*e*P	**PKPbc**	**09 16 08.8 +0.9**
YOTC	**Yotoco, Valle**	**152.55**	**92**	*e*P	**PKPbc**	**09 16 06.8 -1.0**
PLMC	**San Jos˜ del**	**152.66**	**90**	*e*P	**PKPbc**	**09 16 08.2 +0.1**
MARP	**Paez Belalcaza**	**152.84**	**94**	*e*P	**PKPbc**	**09 16 06.8 -1.9**
GRTK	**Grand Turk**	**153.07**	**51**	PFAKE		09 16 10.0 +1.4
GRTK				LR	LR	
	comp=Z,438nm,20.0s					
MOTC	**Monteria, Cord**	**153.16**	**81**	*e*P	**PKPbc**	**09 16 05.5 -3.5**
UREC	**San Jos˜ de U**	**153.37**	**83**	*e*P	**PKPbc**	**09 16 08.8 -0.7**
HELC	**Santa Helena**	**153.43**	**87**	*e*P	**PKPdf**	**09 16 02.7 -0.3**
ANIL	**Santa Ana**	**153.52**	**91**	*e*P	**PKPbc**	**09 16 12.8 +2.6**
PRAC	**Prado**	**153.98**	**92**	*e*P	**PKPbc**	**09 16 08.2 -2.8**
ZARC	**Zaragoza, Cauc**	**154.05**	**84**	*e*P	**PKPdf**	**09 16 04.8 +2.0**
SMRC	**Santa Marta, M**	**154.23**	**75**	*e*P	**PKPbc**	**09 16 11.5 +0.2**
SDDR	**Presa de Saban**	**154.25**	**56**	*e*PKPbc	**PKPbc**	**09 16 11.7 +0.4**
SDDR				LR	LR	
	comp=Z,465nm,22.0s					
ROSC	**El Rosal**	**154.61**	**90**	PKP	**PKPdf**	**09 16 04.5 +0.3**
	comp=Z,8.7nm,1.0s,baz=202,slow=2.8,SNR=7.5					
ROSC				PKPbc	**PKiKP**	**09 16 12.8 +0.1**
	comp=Z,17nm,0.5s,baz=311,slow=23,SNR=9.8					
ROSC	**El Rosal**	**154.61**	**90**	*e*PKPdf	**PKPdf**	**09 16 04.6 +0.5**
ROSC				*e*PKPbc	**PKPbc**	**09 16 14.2 +1.5**
ROSC	**El Rosal**	**154.61**	**90**	*e*P	**PKPbc**	**09 16 14.1 +1.5**
SMLC	**San Mart˜n de**	**154.72**	**81**	*e*P	**PKPbc**	**09 16 11.5 -0.9**
SJAC	**San Juan de Ar**	**154.87**	**94**	*e*P	**PKPbc**	**09 16 14.8 +1.9**
CHIC	**Chingaza**	**155.19**	**91**	*e*P	**PKPdf**	**09 16 05.5 +0.5**
SIV	**San Ignacio**	**155.59**	**150**	PKP	**PKPdf**	**09 16 05.2 +0.3**
	comp=Z,3.7nm,0.7s,baz=262,slow=3.0,SNR=20					
SIV				PKPab	**PKPab**	**09 16 31.4 +0.4**
	comp=Z,6.4nm,0.7s,baz=242,slow=2.8,SNR=9.7					
GIRC	**Giron, Santand**	**155.72**	**85**	*e*P	**PKPdf**	**09 16 10.2 +4.8**
RUSC	**La Rusia**	**155.86**	**88**	*e*P	**PKPdf**	**09 16 06.8 +0.9**
TAMC	**Tame, Arauca**	**157.14**	**86**	*e*P	**PKPdf**	**09 16 09.5 +2.4**
SDV	**Santo Domingo**	**158.09**	**80**	PKP	**PKPdf**	**09 16 08.6 +0.2**
	comp=Z,39nm,1.0s,baz=268,slow=4.5					
SDV				pPKP	**pPKPdf**	**09 16 31.3 +2.5**
	comp=Z,46nm,0.9s,baz=280,slow=6.0,SNR=4.9					
SDV	**Santo Domingo**	**158.09**	**80**	*e*PKPdf	**PKPdf**	**09 16 08.6 +0.2**
SDV				pPKP	**pPKPdf**	**09 16 31.3 +2.5**
SDV				LR	LR	
	comp=Z,406nm,22.0s					
CRPR	**Cabo Rojo, PR**	**158.15**	**53**	*e*PKPdf	**PKPdf**	**09 16 08.2 +0.1**
SJG	**San Juan**	**158.85**	**52**	PFAKE		09 16 20.0 +11
SJG				LR	LR	
	comp=Z,387nm,22.0s					
HUMP	**Col San Antoni**	**159.06**	**51**	*e*PKPdf	**PKPdf**	**09 16 09.2 0.0**
MTP	**Monte Pirata**	**159.32**	**51**	*e*PKPdf	**PKPdf**	**09 16 09.0 -0.5**
GRGR	**Grenville**	**165.65**	**61**	PFAKE		09 16 30.0 +14
GRGR				LR	LR	
	comp=Z,547nm,19.0s					
PTGA	**Pitinga**	**167.35**	**118**	PKP	**PKPdf**	**09 16 17.0 -0.3**
	comp=Z,5.9nm,0.8s,baz=280,slow=2.3,SNR=12					
PTGA				pPKP	**pPKPdf**	**09 16 40.5 +2.9**
	comp=Z,8.1nm,0.8s,baz=326,slow=1.2,SNR=5.9					
PTGA	**Pitinga**	**167.35**	**118**	*e*PKPdf	**PKPdf**	**09 16 17.5 +0.2**
PTGA				pPKP	**pPKPdf**	**09 16 40.5 +2.9**

*JMA **28** 08:59:04.4±0.3,24°.86N×122°.37E,h0km±3km, M2.5*
*TAP **28** 08:59:04.1,24°.90N×122°.43E,h18km, ML2.6, C*
*ISCJB **28** 08:59:05.1±0.6,24°.88N±0°.03×122°.38E±0°.02,h10km±4km,*
Error ellipse: s-maj=5.7km s-min=3.0km az=27.7

ISC 28 08:59:04.6±1.1,24°.87N±0°.04×122°.39E±0°.02,h13km±12km, n35,σ0°29/54,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.40**	**216**	P	**Pb**	**08 59 13.5**	**0.0**
	baz=218						
EOS1				*e*S	**Sb**	**08 59 19.8**	**+0.3**
	baz=218						
EGS		**0.42**	**266**	*e*P	**Pg**	**08 59 13.3**	**+0.3**
	baz=256						
TIPB	**Shuangxi**	**0.52**	**281**	P	**Pb**	**08 59 15.2**	**-0.4**
	baz=277						
TIPB				S	**Sb**	**08 59 22.9**	**-0.2**
	baz=277						
TWC	**Suao**	**0.56**	**242**	P	**Pg**	**08 59 15.6**	**+0.1**
	baz=241						
TWC				*e*S	**Sb**	**08 59 24.3**	**+0.2**
	baz=241						
NWF	**Wu-fen Shan**	**0.59**	**290**	*e*P	**Pb**	**08 59 16.8**	**0.0**
	baz=286						
NWF				*e*S	**Sb**	**08 59 25.0**	**0.0**
	baz=286						
WFSB	**Wu-fen Shan**	**0.59**	**290**	*e*P	**Pb**	**08 59 16.7**	**0.0**
	baz=286						
WFSB				*e*S	**Sb**	**08 59 24.9**	**0.0**
	baz=286						
JYNG	**Yonagunijimaku**	**0.66**	**130**	P	**Pb**	**08 59 17.9**	**0.0**
JYNG				S	**Sb**	**08 59 27.1**	**+0.2**
TWE	**Neicheng**	**0.68**	**257**	*e*P	**Pb**	**08 59 18.0**	**-0.2**
	baz=247						
YOJ	**Yonaguni jima**	**0.70**	**126**	*e*P	**Pb**	**08 59 18.6**	**0.0**
	baz=120						
YOJ				*e*S	**Sb**	**08 59 28.1**	**0.0**
	baz=120						
YOJ	**Yonaguni jima**	**0.70**	**126**	P	**Pb**	**08 59 18.2**	**-0.4**
YOJ				*e*S	**Sb**	**08 59 28.0**	**-0.1**
ENA	**Nanau**	**0.74**	**233**	*e*P	**Pg**	**08 59 19.0**	**0.0**
	baz=232						
ENA				*e*S	**Sb**	**08 59 30.1**	**+0.7**
	baz=232						
TWA	**Mucha**	**0.74**	**278**	*e*P	**Pb**	**08 59 19.2**	**-0.2**
	baz=276						
YM07	**YM07**	**0.76**	**293**	P	**Pb**	**08 59 19.8**	**+0.1**
	baz=290						
YM07				*e*S	**Sg**	**08 59 29.6**	**+0.2**
	baz=290						
ENTT	**Nioudou**	**0.79**	**253**	*e*P	**Pb**	**08 59 20.4**	**+0.3**
	baz=251						
YM08	**YM08**	**0.79**	**293**	*e*P	**Pb**	**08 59 20.0**	**-0.3**
	baz=291						
YM01	**YM01**	**0.79**	**290**	*e*P	**Pn**	**08 59 21.3**	**-0.2**
	baz=287						
YM01				*e*S	**Sb**	**08 59 31.3**	**+0.4**
	baz=287						
YM11	**YM11**	**0.80**	**292**	*e*P	**Pb**	**08 59 20.1**	**-0.3**
	baz=275						
YM11				*e*S	**Sb**	**08 59 31.4**	**+0.3**
	baz=275						
YM10	**YM10**	**0.80**	**291**	*e*P	**Pg**	**08 59 20.0**	**-0.2**
	baz=288						
NWLT	**Wulai**	**0.81**	**263**	*e*P	**Pg**	**08 59 20.2**	**-0.2**
	baz=262						
TWY	**Chenhua**	**0.82**	**299**	P	**Pb**	**08 59 20.7**	**0.0**
	baz=296						
TWY				*e*S	**Sb**	**08 59 32.1**	**+0.4**
	baz=296						
YM04	**YM04**	**0.82**	**290**	*e*P	**Pb**	**08 59 21.0**	**+0.2**
	baz=287						
YM04				*e*S	**Sb**	**08 59 31.6**	**-0.2**
	baz=287						
TATO	**Taipei**	**0.83**	**277**	*e*P	**Pg**	**08 59 20.4**	**-0.2**
	baz=275						
TATO				*e*S	**Sb**	**08 59 31.8**	**0.0**
	baz=275						
YM03	**YM03**	**0.83**	**292**	*e*P	**Pb**	**08 59 21.2**	**+0.3**
	baz=289						
YHNB	**Yeheng**	**0.94**	**258**	P	**Pg**	**08 59 22.7**	**-0.2**
	baz=265						
YHNB				S	**Sb**	**08 59 35.7**	**+0.4**
	baz=265						
NSK	**Sanguang**	**0.96**	**258**	*e*P	**Pg**	**08 59 22.9**	**-0.3**
	baz=266						
NACB	**Ninganchiao**	**1.00**	**226**	*e*P	**Pg**	**08 59 23.6**	**-0.4**
	baz=236						
NACB				*e*S	**Sg**	**08 59 36.6**	**-0.6**
	baz=236						
NNSB	**Datong**	**1.02**	**244**	*e*P	**Pg**	**08 59 24.1**	**-0.2**
	baz=243						
NNS	**Nan Shan**	**1.02**	**245**	*e*P	**Pb**	**08 59 24.2**	**0.0**
	baz=233						
NNS				*e*S	**Sb**	**08 59 38.2**	**+0.6**
	baz=233						
WHF	**Hehuan Shan**	**1.26**	**235**	*e*P	**Pg**	**08 59 28.7**	**-0.1**
	baz=234						
TDCB	**Techi**	**1.28**	**241**	*e*P	**Pb**	**08 59 28.9**	**+0.3**
	baz=233						
NSTT	**Nanjuang**	**1.29**	**259**	*e*P	**Pg**	**08 59 30.1**	**+0.7**
	baz=258						
IRIF	**Iriomote-Funau**	**1.33**	**113**	S	**Sg**	**08 59 47.9**	**+0.3**
CHGB	**Renai**	**1.37**	**234**	*e*P	**Pg**	**08 59 30.8**	**-0.3**
	baz=233						
HATJ	**Hateruma jima**	**1.52**	**122**	P	**Pg**	**08 59 34.1**	**+0.2**
HATJ				S	**Sg**	**08 59 53.9**	**+0.2**
VWDT	**VWDT**	**1.59**	**226**	*e*P	**Pb**	**08 59 33.7**	**-0.2**
	baz=210						

NNC 28 09:32:27.1±3.0,37°.06N×70°.01E,h0km,mb4.0,mpv3.6, 7C-3D,Error ellipse: s-maj=23.6km s-min=20.6km az=154.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.02**	**42**	⇑Pn	Pn	09 33 30.6	+0.4
	2.4nm,0.3s						
SFK				⇑Sn	Sn	09 34 20.3	+2.2
	14nm,0.4s						
MNAS	**Manas**	**5.75**	**19**	⇓Pn	Pn	09 33 54.9	+1.0
	3.3nm,0.5s						
MNAS				⇑Sn	Sn	09 35 02.4	+1.8
	15nm,0.6s						
AML	**Almayashu**	**5.81**	**28**	P	Pn	09 33 54.6	-0.3
	SNR=68						
KK31	**Karatay Array**	**6.05**	**4**	⇓Pn	Pn	09 33 58.7	+0.9
	0.9nm,0.2s,baz=187,slow=13,SNR=19						
KK31				⇑Sn	Sn	09 35 08.9	+1.2
	2.1nm,0.5s,baz=184,slow=22,SNR=5.4						
UCH	**Uchtor**	**6.22**	**33**	P	Pn	09 33 59.7	-0.8
	SNR=27						
EKS2	**Erkin-Say**	**6.30**	**26**	P	Pn	09 34 01.6	+0.2
	SNR=5.7						
KZA	**Kyzart**	**6.44**	**37**	P	Pn	09 33 58.7	-4.9
	SNR=5.5						
AAK	**Ala-Archa**	**6.55**	**30**	⇑Pn	Pn	09 34 03.6	-1.2
	4.2nm,0.6s						
AAK				⇑Sn	Sn	09 35 19.4	-0.9
	11nm,0.7s						
AAK	**Ala-Archa**	**6.55**	**30**	P	Pn	09 34 04.3	-0.5
	SNR=5.2						
TKM2	**Tokmak 2**	**7.25**	**35**	⇓Pn	Pn	09 34 12.6	-1.9
	7.0nm,0.5s						
TKM2				⇑Sn	Sn	09 35 38.0	+0.3
	2.5nm,0.7s						
TKM2	**Tokmak 2**	**7.25**	**35**	P	Pn	09 34 12.8	-1.8
	SNR=16						

*ISCJB **28** 09:32:55.6±0.6, 15°.35S±0°.06×167°.5E±0°.1,h124km, mb4.2/16, Error ellipse: s-maj=16.9km s-min=8.2km az=3.3*
*NEIC **28** 09:32:55.9±2.1, 15°.30S×167°.58E,h114km±19km,mb4.4/5, Error ellipse: s-maj=16.0km s-min=13.4km az=147.0*
*IDC **28** 09:32:56.1±3.1, 15°.30S×167°.53E,h114km±26km,mb3.8/9, mb1 4.0/10,mb1mx3.7/28,mbtmp4.2/10,MS3.8/1, Ms1 3.8/1,ms1mx3.0/31,Error ellipse: s-maj=28.9km s-min=22.2km az=96.0*

ISC 28 09:32:56.7±0.8,15°.33S±0°.08×167°.6E±0°.2,h124km,n32, σ0°99/32,mb4.0/15,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.80**	**189**	P	**Pn**	**09 34 35.3**	**+1.2**
	22nm,0.3s,baz=33,slow=9.2,SNR=279						
DZM				S	**Sn**	**09 35 48.5**	**-1.7**
	8.9nm,0.3s,baz=150,slow=23,SNR=7.9						
DZM	**Mont Dzumac**	**6.80**	**189**	*e*Pn	**Pn**	**09 34 33.4**	**-0.7**
DZM				*e*Sn	**Sn**	**09 35 51.0**	**+0.8**
EIDS	**Eidsvold**	**18.44**	**235**	*e*P	**Pn**	**09 37 04.4**	**+0.1**
	11nm,0.7s						
AFI	**Afiamalu**	**19.97**	**89**	LR	LR	09 44 15.6	
	comp=Z,290nm,21.0s,baz=248,slow=34						
WRAB	**Tennant Creek**	**32.02**	**257**	*e*P	**P**	**09 39 11.2**	**-0.4**
	25nm,2.4s						
WR1	**Warramunga Arr**	**32.03**	**257**	*e*P	**P**	**09 39 10.2**	**-1.5**
	31nm,2.0s						
WRA	**Warramunga Arr**	**32.03**	**257**	P	**P**	**09 39 10.2**	**-1.5**
	0.9nm,0.7s,baz=80,slow=6.1,SNR=12						
AS31	**Alice Springs**	**32.80**	**250**	*e*P	**P**	**09 39 17.8**	**-0.7**
	1.0nm,0.4s						
ASAR	**Alice Springs**	**32.80**	**250**	P	**P**	**09 39 17.5**	**-1.0**
	1.1nm,0.4s,baz=76,slow=9.0,SNR=40						
ASAR				ScP	**ScP**	**09 45 35.5**	**+1.9**
	0.7nm,0.8s,baz=100,slow=3.3,SNR=4.6						
BBOO	**Buckleboo**	**33.50**	**233**	*e*P	**P**	**09 39 25.1**	**+0.7**
	39nm,1.9s						
VNDA	**Vanda**	**62.28**	**181**	P	**P**	**09 43 05.4**	**+0.3**
	1.1nm,0.5s,baz=2.6,slow=7.4,SNR=9.7						
VNDA	**Vanda**	**62.28**	**181**	*e*P	**P**	**09 43 05.6**	**+0.5**
KLR	**Kul'dur**	**71.69**	**336**	P	**P**	**09 44 05.4**	**

ZIIG				*i* S		**Sn**	**09 44 56.4**	**-0.4**
MMIG	**Aquila**	**1.12**	**262**	*e*P		**Pn**	**09 44 42.2**	**-0.8**
MMIG				*e*S		**Sn**	**09 44 56.2**	**-1.6**
MOIG	**Morelia**	**1.54**	**37**	*e*P		**Pn**	**09 44 47.7**	**-1.1**
MOIG				*i* S		**Sn**	**09 45 07.1**	**-1.0**
EZ5V		**1.69**	**307**	*e*P		**Pn**	**09 44 50.8**	**0.0**
EZ5V				*i* S		**Sn**	**09 45 11.0**	**-0.7**
ARIG	**Puente Sto Nin**	**1.75**	**95**	*e*P		**Pn**	**09 44 51.5**	**+0.1**
ARIG				*e*S		**Sn**	**09 45 11.8**	**-0.9**
R15V		**1.85**	**293**	*e*P		**Pn**	**09 44 53.0**	**+0.1**
R15V				*i* S		**Sn**	**09 45 15.8**	**+0.4**
MEIG	**Mezcala**	**2.49**	**102**	*e*P		**Pn**	**09 45 01.8**	**+0.4**
MEIG				*e*S		**Sn**	**09 45 31.6**	**+0.9**
PLIG	**Platanillo**	**2.54**	**91**	*e*P		**Pn**	**09 45 02.5**	**+0.3**
PLIG				*i* S		**Sn**	**09 45 32.3**	**+0.3**
CJM	**Chamela**	**2.91**	**292**	*e*P		**Pn**	**09 45 08.1**	**+1.1**
CJM				*e*S		**Sn**	**09 45 42.1**	**+1.2**
CMIG	**Matias Romero**	**7.08**	**100**	Pn		**Pn**	**09 46 06.0**	**+1.9**
	0.9nm,0.3s,baz=266,slow=14,SNR=36							
CMIG				Sn		**Sn**	**09 47 20.5**	**-2.7**
	3.1nm,0.3s,baz=120,slow=16,SNR=9.9							
CMIG				Lg		Lg	09 48 05.7	
	0.9nm,0.3s,baz=1.7,slow=17,SNR=4.8							
TXAR	**Lajitas Array**	**10.92**	**353**	Pn		**Pn**	**09 46 58.2**	**+1.5**
	0.1nm,0.3s,baz=174,slow=12,SNR=16							
TXAR				Lg		Lg	09 50 12.8	
	0.0nm,0.3s,baz=162,slow=29,SNR=5.0							
NVAR	**Mina Array Bea**	**24.37**	**328**	P		**P**	**09 49 35.6**	**+0.4**
	1.3nm,0.8s,baz=152,slow=11,SNR=6.6							
PDAR	**Pinedale Array**	**25.04**	**347**	P		**P**	**09 49 40.0**	**-1.4**
	0.4nm,0.7s,baz=139,slow=7.0,SNR=3.9							
ILAR	**Eielson Array**	**55.02**	**338**	P		**P**	**09 53 47.0**	**-0.5**
	0.6nm,0.8s,baz=160,slow=4.7,SNR=6.2							

WEL 28 09:46:47.1±1.5,37°S±13°×17°9E±°,h12km,ML4.2/6,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.90**	**256**	P	Pg	09 47 03.7	-0.7
MXZ				S	Sb	09 47 16.9	+0.5
WMGZ	**Waiomatatini S**	**0.91**	**239**	P	Pg	09 47 04.7	+0.1
WMGZ				S	Sn	09 47 18.2	-0.6
PUZ	**Puketiti**	**1.16**	**231**	P	Pb	09 47 08.2	-0.8
PUZ				S	Sb	09 47 23.7	-0.3
PKGZ	**Pakihiroa**	**1.18**	**243**	P	Pb	09 47 08.5	-0.9
PKGZ				P	Pb	09 47 08.5	-0.9
PKGZ				S	Sb	09 47 24.5	-0.1
HAZ	**Te Kaha**	**1.35**	**252**	P	Pn	09 47 11.5	-0.2
HAZ				S	Sn	09 47 29.5	0.0
TWGZ	**Tauwhareparae**	**1.39**	**233**	P	Pn	09 47 12.0	-0.4
TWGZ				S	Sn	09 47 30.4	-0.4
CNGZ	**Carnagh Statio**	**1.47**	**220**	P	Pn	09 47 13.4	0.0
RUGZ	**Raukumara Rang**	**1.50**	**245**	P	Pn	09 47 14.2	+0.3
TKGZ	**Te Karaka**	**1.64**	**228**	P	Pn	09 47 14.6	-1.1
MWZ	**Matawai**	**1.78**	**236**	P	Pn	09 47 16.9	-0.8
RIGZ	**Rimuhau**	**1.87**	**223**	P	Pn	09 47 18.0	-1.0
RAGZ	**Rawiri**	**1.94**	**233**	P	Pn	09 47 19.3	-0.6
PRGZ	**Paritu Road**	**1.97**	**217**	P	Pn	09 47 19.2	-1.1
WHRZ	**Whale Island**	**1.99**	**251**	P	Pn	09 47 20.5	-0.1
URZ	**Urewera**	**2.03**	**243**	P	Pn	09 47 20.5	-0.6
MHGZ	**Mahia Peninsul**	**2.15**	**213**	P	Pn	09 47 21.2	-1.5
KNZ	**Kokohu**	**2.15**	**219**	P	Pn	09 47 21.5	-1.3
SNGZ	**Shannon Statio**	**2.16**	**228**	P	Pn	09 47 21.8	-1.2
EDRZ	**Edgecumbe**	**2.24**	**250**	P	Pn	09 47 23.6	-0.5
MARZ	**Manawahe**	**2.25**	**253**	P	Pn	09 47 23.6	-0.6
RTZ	**Ruatahuna**	**2.29**	**236**	P	Pn	09 47 24.4	-0.4
OPRZ	**Ohinepanea**	**2.31**	**257**	P	Pn	09 47 24.1	-0.8
MUGZ	**Murupara**	**2.36**	**241**	P	Pn	09 47 24.9	-0.8
RAHZ	**Arahi**	**2.40**	**229**	P	Pn	09 47 25.4	-0.8
WHHZ	**Waihua**	**2.42**	**224**	P	Pn	09 47 25.6	-0.9
TARZ	**Mount Tarawera**	**2.46**	**248**	P	Pn	09 47 26.7	-0.4
RRRZ	**Republican Roa**	**2.49**	**246**	P	Pn	09 47 26.9	-0.6
OMRZ	**Omania**	**2.52**	**252**	P	Pn	09 47 27.8	-0.1
TGRZ	**Tauranga**	**2.52**	**261**	P	Pn	09 47 27.1	-0.8
HLRZ	**Highlands Stat**	**2.58**	**249**	P	Pn	09 47 28.2	-0.4
KARZ	**Kaharoa**	**2.59**	**254**	P	Pn	09 47 28.1	-0.7
PRRZ	**Plateau Road**	**2.64**	**243**	P	Pn	09 47 28.6	-0.9
HSRZ	**Hossack Road**	**2.67**	**248**	P	Pn	09 47 29.6	-0.4
NMHZ	**Naumai**	**2.68**	**229**	P	Pn	09 47 29.2	-0.9
ARHZ	**Aropaoanui**	**2.69**	**224**	P	Pn	09 47 29.1	-1.0
ALRZ	**Allen Road**	**2.70**	**243**	P	Pn	09 47 29.5	-0.9
BKZ	**Black Stump Fm**	**2.92**	**231**	P	Pn	09 47 32.1	-1.3
CKHZ	**Cape Kidnapper**	**2.94**	**218**	P	Pn	09 47 31.6	-1.9
MCHZ	**McNeill Hill**	**2.98**	**225**	P	Pn	09 47 32.8	-1.4
KUZ	**Kuaotunu**	**3.00**	**281**	P	Pn	09 47 33.0	-1.5
TOZ	**Tahuroa Road**	**3.12**	**262**	P	Pn	09 47 35.2	-0.9
KWHZ	**Kaweka Forest**	**3.12**	**228**	P	Pn	09 47 34.5	-1.7
KAHZ	**Kahuranaki**	**3.14**	**218**	P	Pn	09 47 34.4	-1.9
TLZ	**Tolley Road**	**3.21**	**251**	P	Pn	09 47 36.4	-0.9
KRHZ	**Kereru**	**3.30**	**225**	P	Pn	09 47 36.9	-1.7
PXZ	**Pawanui**	**3.33**	**216**	P	Pn	09 47 36.1	-2.9
GRZ	**Great Barrier**	**3.35**	**288**	P	Pn	09 47 39.0	-0.3
BHHZ	**Black Hill Sta**	**3.38**	**230**	P	Pn	09 47 38.0	-1.8
MKAZ	**Moumakai**	**3.39**	**273**	P	Pn	09 47 39.1	-0.8
KRVZ	**Karewarewa**	**3.43**	**238**	P	Pn	09 47 39.8	-0.7
WIAZ	**Waiheke Island**	**3.46**	**278**	P	Pn	09 47 40.0	-0.7
WTVZ	**West Tongariro**	**3.48**	**238**	P	Pn	09 47 40.6	-0.6
NGZ	**Ngauruhoe**	**3.50**	**238**	P	Pn	09 47 40.7	-0.8
MOVZ	**Moawhango**	**3.52**	**233**	P	Pn	09 47 40.7	-1.0
COVZ	**Chateau Observ**	**3.55**	**238**	P	Pn	09 47 41.6	-0.6
WPHZ	**Waipukurau**	**3.56**	**220**	P	Pn	09 47 39.7	-2.4
PNHZ	**Pukenui**	**3.58**	**223**	P	Pn	09 47 39.9	-2.5
ETAZ	**East Tamaki Re**	**3.59**	**275**	P	Pn	09 47 42.3	-0.3
KBAZ	**Karaka Road Bo**	**3.61**	**273**	P	Pn	09 47 43.1	+0.3
PRHZ	**Porangahau**	**3.62**	**216**	P	Pn	09 47 39.8	-3.2
MBAZ	**Motutapu North**	**3.65**	**278**	P	Pn	09 47 43.4	+0.1
ABAZ	**Army Bay**	**3.73**	**280**	P	Pn	09 47 44.8	+0.3
EPAZ	**Eden Park BICE**	**3.75**	**276**	P	Pn	09 47 45.2	+0.4
HBAZ	**Herne Bay Bore**	**3.77**	**276**	P	Pn	09 47 45.4	+0.5
HIZ	**Hauiti**	**3.77**	**251**	P	Pn	09 47 45.0	-0.1
AWAZ	**Awhitu Peninsu**	**3.81**	**273**	P	Pn	09 47 45.9	+0.4
TSZ	**Takapari Road**	**3.81**	**224**	P	Pn	09 47 42.7	-3.0
ANWZ	**Angora Road**	**3.85**	**215**	P	Pn	09 47 42.8	-3.3
DVHZ	**Dannevirke**	**3.88**	**220**	P	Pn	09 47 43.4	-3.1
WTAZ	**Waiatarua**	**3.88**	**275**	P	Pn	09 47 47.1	+0.5
RVAZ	**Riverhead Bore**	**3.90**	**277**	P	Pn	09 47 46.7	-0.1
BFZ	**Birch Farm**	**4.13**	**215**	P	Pn	09 47 46.4	-3.6
POWZ	**Post Office Ro**	**4.15**	**222**	P	Pn	09 47 46.5	-3.8
PRWZ	**Pori Road**	**4.17**	**219**	P	Pn	09 47 47.8	-2.7
WAZ	**Wanganui**	**4.21**	**234**	P	Pn	09 47 51.2	+0.1
WCZ	**Waipu Caves**	**4.30**	**288**	P	Pn	09 47 52.2	-0.2
MRZ	**Mangatainoka R**	**4.45**	**221**	P	Pn	09 47 50.9	-3.4
LREZ	**Lake Rotokare**	**4.45**	**240**	P	Pn	09 47 54.9	+0.5
KHEZ	**Kahui Hut**	**4.66**	**244**	P	Pn	09 47 58.6	+1.3
OGWZ	**Otaki Gorge**	**4.77**	**222**	P	Pn	09 47 55.2	-3.6
KIW	**Kapiti Island**	**4.95**	**224**	P	Pn	09 47 57.8	-3.4
OUZ	**Omahuta**	**5.15**	**293**	P	Pn	09 48 04.3	+0.3
DUWZ	**D'Urville Isla**	**5.48**	**229**	P	Pn	09 48 05.5	-3.0
TCW	**Tory Channel**	**5.53**	**224**	P	Pn	09 48 06.1	-3.2
NNZ	**Nelson**	**6.06**	**229**	P	Pn	09 48 13.0	-3.4
QRZ	**Quartz Range**	**6.37**	**235**	P	Pn	09 48 17.6	-3.2
CTZ	**Chatham Island**	**7.06**	**156**	P	Pn	09 48 29.9	-0.3

IDC 28 09:59:26.9±2.5,20°47N×121°30E,h0km,mb3.5/5, mb1 3.6/5,mb1mx3.4/41,mbtmp3.5/5,Error ellipse: s-maj=245.3km s-min=19.4km az=63.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**41.13**	**319**	P	P	10 07 12.2	-0.7
	0.2nm,0.6s,baz=128,slow=7.3,SNR=2.1						
WRA	**Warramunga Arr**	**42.15**	**162**	P	P	10 07 20.6	-0.7
	0.9nm,0.9s,baz=343,slow=8.9,SNR=5.0						
ZALV	**Zalesovo Beam**	**43.44**	**329**	P	P	10 07 31.5	+0.1
	0.4nm,0.4s,baz=134,slow=8.3,SNR=2.6						
KURBB	**Kurchatov Arra**	**45.05**	**322**	P	P	10 07 44.6	+0.2
	1.1nm,0.8s,baz=123,slow=7.8,SNR=7.9						
ASAR	**Alice Springs**	**45.56**	**164**	P	P	10 07 49.1	+0.4
	0.3nm,0.6s,baz=353,slow=7.0,SNR=3.3						

*IDC **28** 10:16:42.7±1.2, 17°.70S×176°.21W, h0km, mb4.0/5, mb1 4.3/5, mb1mx3.9/51, mbtmp4.0/5, MS4.1/11, Ms1 4.1/11, ms1mx3.7/40, Error ellipse: s-maj=47.9km s-min=26.6km az=136.0*

*ISCJB **28** 10:16:48.5±0.5, 18°.01S±0°.08×176°.5W±0°.1, h35km, mb4.7/12, MS4.1/9, Error ellipse: s-maj=15.7km s-min=8.6km az=30.8*

*GCMT **28** 10:16:51.9±0.4, 17°.32S±0°.03×176°.80W±0°.02, h18km±2km, MW4.9/73, Moment Tensor Solution. s12,c15; s73,c99; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr0.19±.15; Mθθ-1.87±.14; Mϕϕ 1.68±.11; Mrθ 1.56±.41; Mθϕ 1.63±.12; Mϕr1.32±.38; Best double couple: Mo3.13500×10^16^ NP1:ϕs67.00000°,δ84.00000°,λ38.00000°. NP2: ϕs332.00000°,δ52.00000°,λ173.00000°. Principal axes: T 3.3800, Plg31.0000°, Azm297.0000°; N -0.4890, Plg51.0000°, Azm74.0000°; P -2.8910, Plg21.0000°, Azm194.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **28** 10:16:53.9±0.8, 17°.92S×176°.48W, h79km±8km, mb4.5/4 Error ellipse: s-maj=10.8km s-min=6.1km az=122.0*

ISC 28 10:16:48.6±0.8,17°.9S±0°.2×176°.4W±0°.2,h35km,n36, σ1§67/20,mb4.8/13,MS4.1/9,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.94**	**49**	*e*Pn	Pn	10 18 20.2	+6.0
FUNA	**Funafuti**	**10.29**	**335**	*e*Pn	Pn	10 19 18.9	+5.1
KNTN	**Kanton**	**15.72**	**17**	*e*Pn	**P**	**10 20 31.2**	**0.0**
	46nm,1.2s						
RAR	**Rarotonga**	**15.97**	**105**	LR	LR	10 25 30.9	
	comp=Z,421nm,20.4s,baz=274,slow=33						
DZM	**Mont Dzumac**	**16.68**	**253**	LR	LR	10 25 41.1	
	comp=Z,397nm,18.6s,baz=120,slow=32						
DZM	**Mont Dzumac**	**16.68**	**253**	*e*LQ	LQ	10 23 51.8	
	2µm,28.6s						
DZM				*e*LR	LR	10 24 37.9	
	383nm,23.2s						
DZM	**Mont Dzumac**	**16.68**	**253**	*e*Pn	**P**	**10 20 40.8**	**-1.1**
	67nm,1.8s						
DZM				*e*PcP	PcP	10 25 41.1	+13
MXZ	**Matakaoa Point**	**20.12**	**192**	*e*P	Pn	10 21 21.9	+0.4
	101nm,1.4s						
URZ	**Urewera**	**21.05**	**194**	P	**P**	**10 21 31.9**	**+2.3**
	9.6nm,1.0s,baz=6.3,slow=9.2,SNR=5.8						
URZ				LR	LR	10 28 43.9	
	comp=Z,852nm,21.0s,baz=47,slow=34						
HNR	**Honiara**	**24.50**	**287**	LR	LR	10 29 56.6	
	comp=Z,508nm,19.4s,baz=124,slow=32						
PPT2	**Papeete2**	**25.50**	**93**	*e*LQ	LQ	10 27 31.6	
	359nm,29.0s						
PPT2				*e*LR	LR	10 28 43.8	
	811nm,27.0s,baz=265						
PPT	**Papeete**	**25.51**	**93**	LR	LR	10 29 49.7	
	comp=Z,207nm,19.6s,baz=276,slow=31						
TBI	**Tubuai**	**25.73**	**107**	*e*LR	LR	10 28 47.6	
	833nm,28.2s,baz=286						
RPZ	**Rata Peaks**	**27.83**	**200**	*e*P	**P**	**10 22 35.0**	**+0.4**
	133nm,1.6s						
FOZ	**Fox Glacier**	**28.08**	**202**	*e*P	**P**	**10 22 37.8**	**+0.9**
	72nm,1.3s						
TAOE	**Nuku Hiva Isla**	**36.30**	**80**	*e*LR	LR	10 33 32.7	
	251nm,28.4s						
RKT	**Rikitea**	**39.01**	**105**	*e*LR	LR	10 34 57.8	
	651nm,28.2s						
WR1	**Warramunga Arr**	**46.55**	**259**	*e*P	**P**	**10 25 13.0**	**-0.2**
	24nm,1.9s						
WRA	**Warramunga Arr**	**46.55**	**259**	P	**P**	**10 25 13.0**	**-0.2**
	1.4nm,0.9s,baz=96,slow=6.8,SNR=6.3						
AS01	**Alice Springs**	**46.62**	**254**	*e*P	**P**	**10 25 13.8**	**0.0**
AS31	**Alice Springs**	**46.66**	**254**	*e*P	**P**	**10 25 13.8**	**-0.4**
	1.6nm,0.8s						
ASAR	**Alice Springs**	**46.66**	**254**	P	**P**	**10 25 14.6**	**+0.5**
	4.6nm,0.8s,baz=88,slow=8.2,SNR=35						
ASAR				LR	LR	10 45 00.3	
	comp=Z,181nm,18.0s,baz=22,slow=36						
KSRS	**Korea Array**	**76.02**	**317**	LR	LR	10 57 58.6	
	comp=Z,56nm,18.5s,baz=167,slow=33						
YBH	**Yreka Blue Hor**	**77.31**	**38**	LR	LR	10 55 01.7	
	comp=Z,152nm,18.8s,baz=258,slow=30						
LTX	**Lajitas**	**84.36**	**57**	*e*P	**P**	**10 29 14.7**	**-3.0**
TXAR	**Lajitas Array**	**84.36**	**57**	P	**P**	**10 29 14.7**	**-3.0**
	0.7nm,1.1s,baz=270,slow=3.6,SNR=4.1						
HDA	**Harding Lake**	**85.14**	**12**	*e*P	P	10 29 25.3	+4.6
	8.1nm,0.6s						
HDA				*e*S	**S**	**10 39 51.6**	**+4.0**
CCB	**Clear Creek Bu**	**85.18**	**12**	*e*P	**P**	**10 29 21.7**	**+0.9**
	21nm,1.9s						
ILAR	**Eielson Array**	**85.47**	**12**	P	**P**	**10 29 21.6**	**-0.7**
	1.4nm,1.0s,baz=205,slow=4.0,SNR=6.1						
ILAR				LR	LR	10 59 17.4	
	comp=Z,121nm,21.2s,baz=110,slow=30						
ILB	**Eielson Array**	**85.47**	**12**	*e*P	**P**	**10 29 22.5**	**+0.2**
BOZ	**Bozeman (W)**	**86.12**	**40**	*e*P	**P**	**10 29 27.4**	**+1.3**
	10nm,0.8s						
FYU	**Fort Yukon**	**87.38**	**12**	*e*P	**P**	**10 29 31.9**	**+0.3**
	18nm,0.7s						
NNA	**Nana**	**95.22**	**104**	LR	LR	11 03 39.0	
	comp=Z,186nm,20.9s,baz=314,slow=30						
LVC	**Limon Verde**	**98.45**	**117**	LR	LR	11 04 54.8	
	comp=Z,100nm,21.1s,baz=322,slow=29						
BR101	**Keskin Array S**	**146.16**	**316**	*e*PKPdf	**PKPab**	**10 36 25.4**	**-0.9**
BRTR	**Keskin Array B**	**146.16**	**316**	PKPbc	**PKPab**	**10 36 25.4**	**-0.9**
	0.9nm,0.8s,baz=134,slow=6.2,SNR=3.7						

*NEIC **28** 10:22:02.4±1.4, 18°.95N×121°.22E, h24km±10km, mb4.9/27, Error ellipse: s-maj=5.1km s-min=4.0km az=109.0*

NEIC Felt [III PIVS] at Claveria and Sanchez-Mira and [II PIVS] at Aparri.

*IDC **28** 10:22:03.8±4.2, 19°.01N×121°.26E, h33km±31km, mb4.2/36, mb1 4.3/39, mb1mx4.3/61, mbtmp4.5/39, ML4.2/3, MS4.2/27, Ms1 4.2/27, ms1mx4.0/50, Error ellipse: s-maj=12.8km s-min=9.6km az=74.0*

*BJI **28** 10:22:03.7, 19°.39N×120°.95E, h12km, mb4.6/49, mB4.9/37, ML4.5/4, Ms4.6/51, Ms7 4.5/47*

*ISCJB **28** 10:22:05.0±0.4, 19°.13N±0°.02×121°.24E±0°.03, h55km±4km, mb4.6/96, MS4.2/36, Error ellipse: s-maj=4.7km s-min=3.2km az=1.7*

*MOS **28** 10:22:04.8±1.1, 19°.06N×121°.29E, h60km, mb5.0/30, Error ellipse: s-maj=9.1km s-min=5.5km az=106.1*

*GCMT **28** 10:22:04.4±0.3, 19°.20N±0°.02×120°.94E±0°.02, h39km, MW5.1/71, Moment Tensor Solution. s52,c68; s71,c101; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr5.89±.29; Mθθ-0.45±.20; Mϕϕ-5.44±.21; Mrθ-1.05±.15; Mθϕ-2.64±.10; Mϕr-1.10±.15; Best double couple: Mo6.42000×10^16^ NP1:ϕs209.00000°,δ52.00000°,λ97.00000°. NP2: ϕs18.00000°,δ39.00000°,λ81.00000°. Principal axes: T 6.1020, Plg82.0000°, Azm154.0000°; N 0.6400, Plg5.0000°, Azm24.0000°; P -6.7380, Plg6.0000°, Azm294.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MAN **28** 10:22:05.3, 19°.08N×121°.23E, h21km, mb5.6, ML4.7, MS5.0*

*KLM **28** 10:22:06.0, 19°.01N×120°.96E, h33km, mb4.9*

ISC 28 10:22:02.8±0.5,19°.06N±0°.03×121°.08E±0°.04,h22km±3km, n267,σ1§87/277,mb4.8/92,MS4.2/36,14C-12D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.22**	**132**	*e*P	**Pb**	**10 22 26.0**	**+0.7**
SGCP				*e*S	**Sn**	**10 22 41.9**	**+1.5**
CVP	**Callao Caves**	**1.52**	**152**	⇓*i*P	**Pb**	**10 22 29.9**	**-0.4**
CVP				*i* S	**Sb**	**10 22 49.7**	**+0.5**
BBP	**Basco**	**1.60**	**31**	*e*P	**Pn**	**10 22 30.5**	**+0.7**
BBP				*e*S	**Sb**	**10 22 51.0**	**-0.7**
PALP	**Palanan**	**2.36**	**147**	*e*P	**Pb**	**10 22 43.5**	**-1.2**
PALP				*e*S	**Sb**	**10 23 16.8**	**+3.3**
BOLP	**Bolinao**	**2.89**	**203**	*e*P	**Pb**	**10 22 52.3**	**-1.4**
BOLP				*e*S	**Sb**	**10 23 32.2**	**+3.6**
SCZP	**Santa Cruz**	**3.45**	**199**	*e*P	**Pb**	**10 23 00.7**	**-2.6**
SCZP				*e*S	**Sb**	**10 23 40.4**	**-4.4**
TWG	**Pinlang**	**3.74**	**360**	*e*Pn	**Pn**	**10 22 58.4**	**-0.9**
TPUB	**Ta-pu**	**4.24**	**354**	*e*Pn	**Pn**	**10 23 05.8**	**-0.4**
TPUB				*e*Sn	**Sn**	**10 23 52.0**	**-3.0**
YULB	**Yu-li**	**4.32**	**3**	*e*Pn	**Pn**	**10 23 07.7**	**+0.5**
YULB				*e*Sn	**Sn**	**10 23 57.2**	**+0.3**
SSLB	**Suanglung**	**4.71**	**359**	*e*Pn	**Pn**	**10 23 13.0**	**+0.5**
TGY	**Tagaytay City**	**4.93**	**182**	Pn	Pn	10 23 20.4	+4.7
	98nm,0.3s,baz=350,slow=4.4,SNR=15						
TGY				Lg	Lg	10 24 29.6	
	77nm,0.3s,baz=15,slow=20,SNR=2.1						
TGY				LR	LR	10 25 41.5	
	comp=Z,3µm,20.3s,baz=318,slow=44						

NACB	**Ninganchiao**	**5.11**	**5**	*e*Pn		**Pn**	**10 23 18.5**	**+0.4**
NACB				*e*Sn		**Sn**	**10 24 17.0**	**+0.6**
GQP	**Guinayangan**	**5.29**	**165**	⇓*e*P		**Pn**	**10 23 23.9**	**+3.3**
GQP				*e*S		**Sn**	**10 24 19.6**	**-1.2**
YHNB	**Yeheng**	**5.59**	**3**	*e*Pn		**Pn**	**10 23 26.6**	**+1.9**
YOJ	**Yonaguni jima**	**5.67**	**18**	*e*Pn		**Pn**	**10 23 27.9**	**+2.2**
YOJ	**Yonaguni jima**	**5.67**	**18**	*e*P		**Pn**	**10 23 27.9**	**+2.2**
TATO	**Taipei**	**5.90**	**4**	*e*Pn		**Pn**	**10 23 32.4**	**+3.4**
QZH	**Quanzhou**	**6.29**	**339**	⇑*i*Pn		**Pn**	**10 23 32.8**	**-1.5**
QZH				Sn		**Sn**	**10 24 39.0**	**-6.6**
QZH				LR	LR			
	comp=N,2µm,17.1s							
QZH				LR	LR			
	comp=E,1µm,19.9s							
QZH				LR	LR			
	comp=Z,3µm,19.4s							
RCP	**Roxas**	**7.63**	**168**	⇑*e*P		Pn	10 23 59.4	+6.7
MCO	**Taipa Grande**	**7.68**	**295**	P		**Pn**	**10 23 53.0**	**-0.4**
GZH	**Guangzhou**	**8.26**	**300**	P		**Pn**	**10 24 00.0**	**-1.4**
GZH				S		**Sn**	**10 25 27.3**	**-6.7**
GZH				smax		smax		
	comp=N,140nm,0.7s							
GZH				smax		smax		
	comp=E,160nm,1.0s							
JOW	**Kunigami**	**10.18**	**39**	Pn		**Pn**	**10 24 28.6**	**+0.9**
	6.9nm,0.3s,baz=199,slow=18,SNR=15							
JOW				Sn		**Sn**	**10 26 16.7**	**-4.5**
	baz=294,slow=20,SNR=1.8							
JOW	**Kunigami**	**10.18**	**39**	*e*Pn		**Pn**	**10 24 26.5**	**-1.2**
JOW				Sn		**Sn**	**10 26 16.7**	**-4.5**
QIZ	**Qiongzhong**	**10.63**	**272**	*e*Pn		**Pn**	**10 24 32.9**	**-1.0**
	58nm,0.6s							
DAV	**Davao City (W)**	**12.70**	**159**	LR		LR	10 30 52.4	
	comp=Z,3µm,18.6s,baz=4.0,slow=42							
KDM	**Kudat**	**12.76**	**199**	P		**Pn**	**10 25 04.0**	**+1.0**
WHN	**Wuhan**	**12.96**	**333**	⇓P		**Pn**	**10 25 03.5**	**-2.2**
WHN				S		**Sn**	**10 27 31.0**	**+1.8**
WHN				LR	LR			
	comp=N,3µm,12.6s							
WHN				LR	LR			
	comp=E,1µm,12.4s							
WHN				LR	LR			
	comp=Z,4µm,17.9s							
NJ2	**Nanjing**	**13.09**	**352**	*e*P		**Pn**	**10 25 07.5**	**0.0**
NJ2				pmax		pmax		
	comp=Z,13nm,0.5s							
GYA	**Guiyang**	**15.19**	**302**	⇑*i*P		**Pn**	**10 25 35.3**	**-0.9**
GYA				PP		**sP**	**10 25 50.3**	**+0.1**
GYA				S		**Sn**	**10 28 27.8**	**+3.8**
GYA				pmax		pmax		
	comp=Z,20nm,0.7s							
GYA				pmax		pmax		
	comp=Z,120nm,4.7s							
GYA				LR	LR			
	comp=N,510nm,15.2s							
GYA				LR	LR			
	comp=E,470nm,14.5s							
GYA				LR	LR			
	comp=Z,490nm,16.4s							
ENH	**Enshi**	**15.34**	**319**	*e*Pn		**Pn**	**10 25 38.9**	**+0.9**
	170nm,1.5s							
SKNT	**Sakolnakorn**	**16.40**	**265**	P		**P**	**10 25 55.6**	**+1.2**
	11nm,2.1s,2µm							
JNU	**Nakatsue**	**16.52**	**30**	Pn		**Pn**	**10 25 54.0**	**+0.8**
	0.4nm,0.3s,baz=173,slow=7.0,SNR=6.2							
JNU				LR	LR	10 32 32.3		
	comp=Z,442nm,21.1s,baz=184,slow=38							
JNU	**Nakatsue**	**16.52**	**30**	*e*Pn		**Pn**	**10 25 53.7**	**+0.4**
	121nm,1.5s							
NONG	**Nongkai**	**17.04**	**270**	P		**P**	**10 26 05.0**	**+3.5**
	0.5nm,0.8s,74nm							
KMI	**Kunming**	**18.03**	**293**	P		**P**	**10 26 14.0**	**+1.3**
KMI				pP		pP	10 26 17.3	-1.6
KMI				sP		sP	10 26 18.5	-3.3
KMI				PP		**PnPn**	**10 26 29.5**	**+6.0**
KMI				S		**Sn**	**10 29 33.5**	**+0.5**
KMI				pmax		pmax		
	comp=Z,28nm,1.5s							
KMI				pmax		pmax		
	comp=Z,360nm,6.8s							
KMI				LR	LR			
	comp=N,920nm

comp=Z,780nm,17.2s
BJI LR LR
comp=Z,560nm,17.2s
BJI LR LR
comp=Z,360nm,19.6s
UMPA Umpang Tak 21.37 266 P **P** **10 26 54.3 +5.4**
comp=Z,94nm,1.1s
INU Inuyama 21.49 38 *e*P **P** **10 26 49.8 -0.3**
comp=Z,114nm,1.0s
SANI Sanana 21.52 167 P **P** **10 26 47.7 -2.8**
SRDT SRDT 21.54 261 P **P** **10 26 55.2 +4.4**
comp=Z,22nm,1.4s,comp=Z,1µm
JHJ Hachijo jima 2 21.82 46 LR LR 10 33 38.1
comp=Z,607nm,20.4s,baz=250,slow=32
JHJ2 Mitsune 21.83 46 *e*P **P** **10 26 53.3 -0.5**
comp=Z,298nm,1.2s
TTSI Tana Toraja 22.00 183 P **P** **10 27 01.8 +6.1**
SIJI Sorong 22.19 152 P **P** **10 26 56.8 -0.9**
comp=Z,5.9nm,0.4s,baz=281,slow=22,SNR=5.9
LZH Lanzhou 22.77 322 *e*P **P** **10 27 05.8 +1.9**
LZH pP pP 10 27 09.5 -0.7
LZH sP sP 10 27 12.0 -1.1
LZH PP **PnPn** **10 27 31.8 +3.5**
LZH S **S** **10 31 13.5 +1.7**
LZH sS pS 10 31 18.8 -0.3
LZH pmax pmax
comp=Z,77nm,1.1s
LZH pmax pmax
comp=Z,470nm,4.8s
LZH LR LR
comp=Z,2µm,16.8s
LZH LR LR
comp=Z,1µm,14.1s
LZH LR LR
comp=Z,2µm,15.7s
SPSI Sidrap Palu 22.92 183 P **P** **10 27 07.4 +2.0**
NLAI Namlea 22.94 164 P **P** **10 27 09.3 +3.7**
MAJO Matsushiro 23.02 37 *e*P **P** **10 27 05.5 -0.8**
comp=Z,35nm,1.3s
MAJO Matsushiro 23.02 37 *e*P **P** **10 27 05.6 -0.8**
MAJO pmax pmax
comp=Z,35nm,1.3s
MAT Matsushiro 23.02 37 P **P** **10 27 05.0 -1.4**
MAT S **S** **10 31 17.2 +1.4**
MJAR Matsushiro Arr 23.02 37 P **P** **10 27 05.5 -0.8**
comp=Z,2.2nm,0.6s,baz=221,slow=9.8,SNR=5.3
MJAR LR LR 10 34 51.8
comp=Z,159nm,20.4s,baz=225,slow=33
MJB9 Matsu-Tunnel 23.02 37 *e*P **P** **10 27 05.6 -0.8**
comp=Z,36nm,1.3s
HHC Hu-ho-hao-te 23.20 341 *e*P **P** **10 27 11.0 +2.7**
HHC sP sP 10 27 18.3 +0.8
HHC S **S** **10 31 20.5 +1.5**
HHC sS pS 10 31 27.5 +1.5
HHC pmax pmax
comp=Z,22nm,1.0s
HHC pmax pmax
comp=Z,210nm,5.2s
HHC LR LR
comp=Z,1µm,15.9s
HHC LR LR
comp=Z,600nm,14.9s
HHC LR LR
comp=Z,830nm,14.7s
GUMO Guam 23.45 100 LR LR 10 34 25.1
comp=Z,637nm,20.6s,baz=272,slow=32
BTO Baotou 23.48 338 *e*P **P** **10 27 17.8 +6.8**
TRTT Trang 23.57 245 P **P** **10 27 13.5 +1.4**
comp=Z,21nm,0.8s,comp=Z,329nm
KRAB Krabi 23.81 246 P **P** **10 27 16.5 +2.2**
comp=Z,38nm,0.8s,comp=Z,2µm
MYKOM **Kota Tinggi 24.07 227** P **P** **10 27 17.0 +0.2**
BKSI Bulukumba 24.25 182 P **P** **10 27 21.1 +2.8**
CN2 Changchun 24.94 8 *e*P **P** **10 27 25.8 +1.4**
CN2 *es*P sP 10 27 32.8 -1.1
CN2 *e*S **S** **10 31 46.5 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,620nm,19.0s
CN2 LR LR
comp=Z,670nm,19.0s
CN2 LR LR
comp=Z,660nm,22.0s
USRK Ussuriysk Ar. 26.68 18 P **P** **10 27 42.5 +2.3**
comp=Z,5.5nm,0.9s,baz=197,slow=9.2,SNR=6.7
USRK LR LR 10 38 14.9
comp=Z,273nm,20.5s,baz=191,slow=36
PSI Prapat 27.04 236 P **P** **10 27 44.8 +1.0**
comp=Z,7.1nm,0.6s,baz=0.2,slow=5.0,SNR=12
PSI PcP **PcP** **10 31 04.5 -0.6**
comp=Z,6.5nm,0.7s,baz=182,slow=1.3,SNR=5.8
PSI LR LR 10 39 01.1
comp=Z,654nm,18.9s,baz=89,slow=37
PSI Prapat 27.04 236 *e*P **P** **10 27 43.8 -0.1**
comp=Z,36nm,1.3s
PSI *e*PcP **PcP** **10 31 04.8 -0.3**
PSI Prapat 27.04 236 *e*P **P** **10 27 43.8 -0.1**
PSI *e* 10 31 04.8
PSI pmax pmax
comp=Z,36nm,1.3s
LHMI Lhok Sumawe 27.25 243 *e*P **P** **10 27 44.3 -1.3**
comp=Z,68nm,0.9s
GTA Gaotai 27.36 322 ⇑P **P** **10 27 47.5 +0.9**
GTA pP sP 10 27 56.8 +0.7
GTA sP pP 10 28 00.8 +7.5
GTA PcP **PcP** **10 31 05.8 +0.3**
GTA S **S** **10 32 29.3 +3.8**
GTA pmax pmax
comp=Z,4.0nm,1.4s
GTA pmax pmax
comp=Z,62nm,4.4s
GTA LR LR
comp=Z,410nm,18.4s
GTA LR LR
comp=Z,460nm,16.8s
GTA LR LR
comp=Z,720nm,16.8s
MMRI Maumere 27.54 178 *e*P **P** **10 27 46.0 -2.2**
comp=Z,121nm,1.7s
SHL Shillong 27.74 289 *e*P **P** **10 27 51.4 +1.2**
comp=Z,18nm,0.4s
SHL Shillong 27.74 289 *e*P **P** **10 27 51.4 +1.2**
SHL pmax pmax
comp=Z,18nm,0.4s
JAGI Jajag, Banyuwa 28.20 195 *e*P **P** **10 27 52.2 -1.9**
comp=Z,19nm,1.0s
JAY Jayapura 28.84 136 LR LR 10 37 10.4
comp=Z,571nm,21.9s,baz=346,slow=32
GSI Gunungsitoli 29.02 235 *e*P **P** **10 28 00.3 -1.1**
comp=Z,24nm,0.8s
BATI Baunata 29.19 175 LR LR 10 40 43.7
comp=Z,508nm,21.8s,baz=314,slow=38
CISI Cisompet, Garu 29.50 208 *e*P **P** **10 28 04.8 -1.0**
comp=Z,29nm,0.8s
HIA Hailar 30.15 358 *ce*P **P** **10 28 10.3 -0.9**
HIA pmax pmax
comp=Z,10.0nm,1.0s
ULN Ulaanbaatar 30.92 341 *e*P **P** **10 28 19.5 +1.4**
comp=Z,19nm,1.1s
ULN Ulaanbaatar 30.92 341⇓*e*P **P** **10 28 19.3 +1.2**
ULN pmax pmax
comp=Z,14nm,1.7s
SONM Songino Array 31.10 341 P **P** **10 28 20.6 +0.9**
comp=Z,5.6nm,1.0s,baz=161,slow=9.3,SNR=20
SONM PcP **PcP** **10 31 13.6 -1.2**
comp=Z,1.2nm,0.8s,baz=134,slow=4.3,SNR=3.5
SONM LR LR 10 42 08.4
comp=Z,796nm,18.5s,baz=178,slow=39
SONA1 **Songino Array 31.10 341** *e*P **P** **10 28 19.8 +0.1**
KLR Kul'dur 31.30 14 P **P** **10 28 21.0 -0.3**
comp=Z,4.7nm,0.6s,baz=238,slow=5.9,SNR=10
KLR PcP **PcP** **10 31 14.7 -0.4**
comp=Z,1.2nm,0.6s,baz=270,slow=7.1,SNR=3.2
KLR LR LR 10 42 19.3
comp=Z,614nm,20.4s,baz=197,slow=39
YSS Yuzh-Sakhalins 33.01 28 *e*P P 10 28 47.5 +11
YSS *e* 10 29 12.8
YSS pmax pmax
comp=Z,20nm,1.1s
ZAK Zakamensk 34.32 340 *e*P **P** **10 28 46.6 -1.2**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
ZEA Zeya 34.94 6 *e*P **P** **10 28 52.0 -0.9**
ZEA pmax pmax
comp=Z,35nm,1.0s
FITZ Fitzroy Crossi 37.20 173 *e*P **P** **10 29 10.5 -2.0**
comp=Z,6.8nm,0.9s
WMQ Urumqi 37.29 319 *e*P **P** **10 29 15.0 +1.7**
WMQ LR LR
comp=Z,1µm,18.7s
WMQ LR LR
comp=Z,620nm,17.9s
WMQ LR LR
comp=Z,770nm,17.9s
BOD Bodaibo 39.06 354 *e*P **P** **10 29 27.0 -0.8**
BOD pmax pmax
comp=Z,17nm,1.9s
COCO West Island 39.19 219 *i* P **P** **10 29 31.9 +2.5**
DGZ Jazzator, Alta 40.70 327 *c i*P **P** **10 29 43.0 +1.1**
DGZ pmax pmax
comp=Z,4.0nm,1.0s
WRAB Tennant Creek 40.88 161 *e*P **P** **10 29 39.9 -3.5**
comp=Z,30nm,1.5s
WRAB Tennant Creek 40.88 161⇓*e*P **P** **10 29 41.6 -1.8**
WRAB pmax pmax
comp=Z,10.0nm,1.3s
WRA Warramunga Arr 40.88 161 P **P** **10 29 40.1 -3.4**
comp=Z,3.8nm,0.6s,baz=341,slow=9.1,SNR=65
WRA PcP **PcP** **10 31 43.6 -0.4**
comp=Z,2.6nm,0.4s,baz=345,slow=3.3,SNR=13
WB2 Warramunga Arr 40.89 161 *e*P **P** **10 29 40.5 -2.9**
PALK Pallekele 40.92 259 *i* P **P** **10 29 41.1 -2.9**
MKAR Makanchi Array 42.07 320 P **P** **10 29 53.9 +1.0**
comp=Z,5.1nm,0.9s,baz=113,slow=9.3,SNR=19
MKAR PcP **PcP** **10 31 47.1 -0.4**
comp=Z,6.1nm,1.0s,baz=114,slow=5.9,SNR=5.4
MKAR Makanchi Array 42.07 320 *e*P **P** **10 29 54.0 +1.0**
MKAR *e*pP **sP** **10 30 01.2 -1.4**
MKAR PcP **PcP** **10 31 47.1 -0.4**
MKAR Makanchi Array 42.07 320 *ce*P **P** **10 29 54.5 +1.5**
MKAR pmax pmax
comp=Z,5.0nm,0.9s
H11S3 WAKE ISLAND Hy 43.09 83 T T 11 15 54.1
baz=278,slow=75,SNR=177
H11S1 WAKE ISLAND Hy 43.10 83 T T 11 15 45.3
baz=278,slow=75,SNR=124
H11S2 WAKE ISLAND Hy 43.10 83 T T 11 15 47.3
baz=278,slow=75,SNR=97
H11N1 WAKE ISLAND Hy 43.11 81 T T 11 15 43.1
baz=277,slow=75,SNR=438
H11N2 WAKE ISLAND Hy 43.12 81 T T 11 16 03.5
baz=277,slow=75,SNR=485
H11N3 WAKE ISLAND Hy 43.13 81 T T 11 15 55.5
baz=277,slow=75,SNR=271
KSH Kashi 43.77 308 P P **10 30 10.8 +3.8**
KSH sP sP 10 30 17.5 +0.8
KSH PP **PcP** **10 31 54.5 +0.9**
KSH S **S** **10 36 42.5 +6.0**
KSH sS sS 10 36 49.5 +1.6
KSH SS **SS** **10 39 51.0 -1.6**
KSH pmax pmax
comp=Z,36nm,1.0s
KSH pmax pmax
comp=Z,250nm,5.3s
KSH LR LR
comp=Z,620nm,13.3s
KSH LR LR
comp=Z,1µm,16.5s
KSH LR LR
comp=Z,2µm,18.5s
PETK Petropavlovsk- 44.22 31 P P **10 30 09.4 -0.8**
comp=Z,8.8nm,0.9s,baz=226,slow=3.4,SNR=9.7
PETK PcP **PP** **10 31 53.3 -0.1**
comp=Z,8.3nm,1.0s,baz=289,slow=4.4,SNR=3.0
PETK LR LR 10 50 25.7
comp=Z,145nm,18.1s,baz=221,slow=38
NRN Naryn 44.26 310 *e*P **P** **10 30 13.5 +2.3**
comp=Z,17nm,1.0s
NRN Naryn 44.26 310 P P **10 30 13.5 +2.3**
AS31 Alice Springs 44.27 163 *e*P **P** **10 30 09.2 -1.8**
comp=Z,4.1nm,0.3s
ASAR Alice Springs 44.27 163 P **P** **10 30 08.7 -2.3**
comp=Z,3.6nm,0.4s,baz=343,slow=7.0,SNR=46
AS01 Alice Springs 44.28 163 *e*P **P** **10 30 08.6 -2.5**
ZAA0 Zalesovo Array 44.55 330 *e*P **P** **10 30 13.1 +0.2**
comp=Z,25nm,1.6s
ZALV Zalesovo Beam 44.55 330 P **P** **10 30 13.4 +0.5**
comp=Z,3.0nm,0.7s,baz=118,slow=8.1,SNR=14
ZALV Zalesovo Beam 44.55 330 *e*P **P** **10 30 12.9 +0.1**
ZALV Zalesovo Beam 44.55 330 *e*P **P** **10 30 13.0 +0.1**
AAK Ala-Archa 45.67 311 P **P** **10 30 24.1 +1.9**
comp=Z,1.5nm,0.4s,baz=67,slow=3.8,SNR=4.3
AAK Ala-Archa 45.67 311⇓*e*P **P** **10 30 23.7 +1.5**
AAK pmax pmax
comp=Z,7.0nm,1.4s
NVS Novosibirsk 45.83 330 *i* P **P** **10 30 23.8 +0.8**
KURK Kurchatov 46.04 323 *e*P **P** **10 30 25.3 +0.5**
comp=Z,16nm,0.9s
KURK Kurchatov 46.04 323 *ce*P **P** **10 30 25.2 +0.5**
KURK pmax pmax
comp=Z,13nm,1.7s
KURBB **Kurchatov Arra 46.05 323** P **P** **10 30 25.9 +1.1**
comp=Z,6.0nm,0.8s,baz=121,slow=7.7,SNR=28
BTK Batken 47.77 307 P **P** **10 30 40.0 +1.5**
KBL Kabul 48.43 300 *e*P **P** **10 30 44.3 +0.4**
comp=Z,17nm,1.0s
KBL Kabul 48.43 300 *e*P **P** **10 30 44.3 +0.4**
KBL pmax pmax
comp=Z,17nm,1.0s
KKAR Karatay Array 48.62 311 *e*P **P** **10 30 46.4 +1.3**
KKAR *e*PcP **PcP** **10 32 10.2 -0.2**
SEY Seymchan 48.83 18 P **P** **10 30 45.9 -0.3**
comp=Z,4.8nm,0.9s,baz=240,slow=7.7,SNR=7.4
SEY PcP **PcP** **10 32 10.3 -0.3**
comp=Z,3.3nm,0.6s,baz=173,slow=4.6,SNR=6.1
SEY Seymchan 48.83 18⇓*e*P **P** **10 30 43.3 -2.9**
BVAR Borovoye Array 51.64 323 P **P** **10 31 08.9 +1.2**
comp=Z,1.8nm,0.6s,baz=112,slow=12,SNR=18
BVAR PcP **PcP** **10 32 20.6 -0.6**
comp=Z,3.2nm,0.9s,baz=100,slow=6.5,SNR=4.3
BVAR LR LR 10 55 29.2
comp=Z,273nm,18.3s,baz=98,slow=39
BRVK Borovoye 51.71 323 *e*P **P** **10 31 08.6 +0.3**
comp=Z,15nm,1.0s
BRVK Borovoye 51.71 323 *c i*P **P** **10 31 08.9 +0.7**
BRVK pmax pmax
comp=Z,25nm,1.7s
TIXI Tiksi 52.79 3 P **P** **10 31 15.0 -0.9**
comp=Z,28nm,1.1s,baz=161,slow=5.3,SNR=40
TIXI Tiksi 52.79 3 *e*P **P** **10 31 14.7 -1.2**
comp=Z,51nm,1.2s
TIXI Tiksi 52.79 3 *c i*P **P** **10 31 14.5 -1.4**
TIXI pmax pmax
comp=Z,52nm,1.3s
BBOO Buckleboo 53.53 164 *e*P **P** **10 31 20.4 -1.4**
comp=Z,21nm,0.9s
NRIK Noril'sk 54.32 346 P **P** **10 31 27.4 +0.3**
comp=Z,42nm,1.1s,baz=134,slow=6.9,SNR=25
NRIK LR LR 10 56 36.6
comp=Z,421nm,18.6s,baz=141,slow=38
STKA Stephens Creek 54.33 158 P **P** **10 31 26.1 -1.6**
comp=Z,1.6nm,0.5s,baz=339,slow=6.9,SNR=7.8
STKA LR LR 10 56 37.1
comp=Z,108nm,19.6s,baz=11,slow=38
BILL Bilibino 56.53 19 *e*P **P** **10 31 41.3 -1.8**
comp=Z,37nm,1.6s
BILL Bilibino 56.53 19⇓*e*P **P** **10 31 42.6 -0.5**
BILL pmax pmax
comp=Z,11nm,1.7s
BILL MLR MLR
comp=Z,302nm,23.0s
ABKAR **Akbulak array 57.02 317** *e*P **P** **10 31 47.6 +0.7**
GEYT Alibeck 57.41 303 P **P** **10 31 51.0 +1.0**
comp=Z,0.9nm,0.3s,baz=77,slow=6.5,SNR=5.3
SVE Sverdlovsk 58.16 326⇓*e*P **P** **10 31 55.3 +0.5**
SVE pmax pmax
comp=Z,41nm,1.3s
AKTO Aktyubinsk 58.43 318 P **P** **10 31 57.2 +0.4**
comp=Z,4.1nm,0.9s,baz=93,slow=5.2,SNR=13
ARU Arti 59.18 325 *e*P **P** **10 32 02.2 +0.3**
comp=Z,19nm,1.0s
ARU Arti 59.18 325 *c i*P **P** **10 32 02.4 +0.5**
ARU 10 34 10.2
ARU S **S** **10 40 11.1 +2.9**
ARU pmax pmax
comp=Z,34nm,1.7s
ARU MLR MLR
comp=Z,414nm,19.0s
DZM Mont Dzumac 60.32 131 P **P** **10 32 09.5 -0.8**
comp=Z,2.6nm,0.7s,baz=291,slow=18,SNR=2.0
DZM Mont Dzumac 60.32 131 *e*LR LR 10 50 02.7
comp=Z,454nm,22.2s
PRGR Permogore 66.51 330 *e*P **P** **10 32 48.9 -1.7**
PRGR pmax pmax
comp=Z,9.0nm,0.8s
GNI Garni 67.69 306 P **P** **10 33 00.6 +1.8**
comp=Z,3.4nm,0.3s,baz=199,slow=0.8,SNR=5.3
GNI Garni 67.69 306 *de*P **P** **10 33 00.3 +1.6**
GNI pmax pmax
comp=Z,43nm,1.3s
ZEI Tsey 68.03 309 *e*P **P** **10 33 00.0 -0.9**
ZEI pmax pmax
comp=Z,11nm,1.0s
AKH Akhalkalaki 68.48 308 *e*P **P** **10 33 05.4 +1.7**
comp=Z,19nm,1.3s
KBZ Khabaz 68.66 310 P **P** **10 33 04.5 0.0**
comp=Z,7.0nm,0.9s,baz=169,slow=7.1,SNR=8.2
VRH Novokhopyorsk 68.77 318 *e*P **P** **10 33 03.8 -1.2**
VRH pmax pmax
comp=Z,10.0nm,0.8s
KIV Kislovodsk 68.78 311 *e*P **P** **10 33 05.8 +0.4**
KIV pmax pmax
comp=Z,21nm,1.1s
KIV MLR MLR
comp=Z,234nm,17.0s
NEY Neytrino 68.84 310⇓*e*P **P** **10 33 07.0 +1.1**
NEY pmax pmax
comp=Z,1.0nm,0.9s
RAYN Ar Rayn 69.82 289 *e*P **P** **10 33 12.0 -0.2**
comp=Z,15nm,1.0s
RAYN Ar Rayn 69.82 289 *e*P **P** **10 33 12.0 -0.2**
RAYN pmax pmax
comp=Z,15nm,1.0s
VORD Divnogorie 70.31 318 *e*P **P** **10 33 14.0 -0.6**
VORD pmax pmax
comp=Z,4.0nm,0.7s
VSR Storozhevoye 70.37 319 *e*P **P** **10 33 13.7 -1.2**
VSR pmax pmax
comp=Z,10.0nm,1.2s
LPSR Galich'ya Gora 70.37 320 *e*P **P** **10 33 13.2 -1.7**
LPSR pmax pmax
comp=Z,9.0nm,0.8s
IM3 Indian Mountai 70.81 26 *e*P **P** **10 33 17.0 -0.4**
OBN Obninsk 71.48 323⇑*e*P **P** **10 33 22.5 +0.9**
OBN *e* 10 33 37.2
OBN *i* S **S** **10 42 31.0 -7.9**
OBN pmax pmax
comp=Z,8.0nm,1.0s
OBN MLR MLR
comp=Z,111nm,16.0s
CAST Castle Rocks 71.74 28 *e*P **P** **10 33 23.3 +0.2**
comp=Z,26nm,1.3s
MLY Manley 72.14 26 *e*P **P** **10 33 26.0 +0.5**
comp=Z,25nm,1.3s
KDAK Kodiak Island 72.15 34 P **P** **10 33 24.0 -1.6**
comp=Z,8.3nm,0.6s,baz=348,slow=2.7,SNR=7.8
KDAK Kodiak Island 72.15 34 P **P** **10 33 24.0 -1.6**
RND Reindeer 73.18 28 *e*P **P** **10 33 30.8 -0.9**
MDM Murphy Dome 73.21 26 *e*P **P** **10 33 31.8 0.0**
comp=Z,30nm,1.3s
PMR Palmer 73.34 30 *e*P **P** **10 33 30.5 -2.0**
comp=Z,22nm,1.3s
PMR Palmer 73.34 30 *e*P **P** **10 33 30.5 -2.0**
PMR pmax pmax
comp=Z,22nm,1.3s
WRH Wood River Hil 73.34 27 *e*P **P** **10 33 33.0 +0.4**
comp=Z,21nm,1.4s
SML Sawmill 73.67 30 *e*P **P** **10 33 33.9 -0.7**
SML *e*PcP **pP** **10 33 41.9 0.0**
ILAR Eielson Array 73.81 26 P P **10 33 33.4 -1.9**
comp=Z,0.9nm,0.9s,baz=263,slow=4.3,SNR=9.1
SCM Sheep Creek Mo 74.14 30 *e*P **P** **10 33 37.0 -0.4**
SCM Sheep Creek Mo 74.14 30 *e*P **P** **10 33 37.0 -0.4**
ARCES **ARCESS Array B 74.25 339** P **P** **10 33 37.3 -0.5**
comp=Z,1.8nm,0.5s,baz=72,slow=7.9,SNR=13
ARCES LR LR 11 10 06.7
comp=Z,11nm,19.3s,baz=356,slow=39
PAX Paxson 74.77 28 *e*P **P** **10 33 41.4 +0.3**
PAX Paxson 74.77 28 *e*P **P** **10 33 41.4 +0.3**
RIDG Independ'e Rid 74.88 27 *e*P **P** **10 33 40.9 -0.8**
SCRK Sand Creek 75.20 27 *e*P **P** **10 33 43.0 -0.5**
FINES FINESS Array B 75.82 330 P **P** **10 33 46.1 -0.9**
comp=Z,4.6nm,0.8s,baz=64,slow=4.4,SNR=6.2
FINES FINESS Array B 75.82 330 *i* P **P** **10 33 46.5 -0.5**
FINES pmax pmax
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 76.16 307 P **P** **10 33 48.5 -1.1**
comp=Z,1.3nm,0.9s,baz=132,slow=8.5,SNR=8.3
BRTR Keskin Array B 76.16 307 *ce*P **P** **10 33 49.2 -0.4**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
AKASG **Malin Array Be 76.64 319** P **P** **10 33 50.4 -1.4**
comp=Z,0.6nm,0.3s,baz=62,slow=5.9,SNR=13
AKASG LR LR 11 09 36.7
comp=Z,127nm,19.7s,baz=95,slow=37
AKASG **Malin Array Be 76.64 319** *ce*P **P** **10 33 51.0 -0.9**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 76.64 319 *e*P **P** **10 33 51.0 -0.9**
AKBB Malin Array Si 76.64 319 *e*P **P** **10 33 51.0 -0.9**
KIEV Kiev 76.66 319 *e*P **P** **10 33 51.0 -0.9**
comp=Z,7.9nm,1.1s
KIEV Kiev 76.66 319 *e*P **P** **10 33 51.0 -0.9**
KIEV pmax pmax
comp=Z,8.0nm,1.1s
AK11 Malin Array Si 76.68 319 *e*P **P** **10 33 51.6 -0.5**
NACGM **Naroch 77.05 324** *e* **P** **10 33 53.0 -1.1**
DAWY **Dawson 77.13 26** *e*P **P** **10 33 54.0 -0.5**
INK Inuvik 78.00 21 P **P** **10 33 58.2 -0.9**
comp=Z,6.4nm,0.8s,baz=300,slow=9.9,SNR=5.9
BUR04 **Bucovina Ar. S 80.00 317** *e*P **P** **10 34 10.2 -0.5**
BUR08 **Bucovina Ar. S 80.00 317** *e*P **P** **10 34 10.7 0.0**
WHY Whitehorse 80.24 29 *e*P **P** **10 34 12.1 +0.4**
KWP Kalwaria Pacla 80.97 319 *e*P **P** **10 34 15.5 -0.2**
KWP Kalwaria Pacla 80.97 319 *e*P **P** **10 34 15.5 -0.2**
UZH Uzhgorod 81.55 318⇓*i*P **P** **10 34 19.0 +0.2**
UZH *e* 10 34 37.8
OPO Ambohidratompo 81.60 247 P **P** **10 34 19.8 +0.1**
comp=Z,8.3nm,0.9s,baz=42,slow=6.9,SNR=5.1
HFS Hagfors 81.98 331 LR LR 11 13 35.1
comp=Z,271nm,18.4s,baz=68,slow=38
NIE Niedzica 82.52 320 *e*P **P** **10 34 24.0 +0.1**
NIE Niedzica 82.52 320 *e*P **P** **10 34 24.0 +0.1**
OJC Ojcow 82.54 321 *e*P **P** **10 34 23.6 -0.4**
OJC Ojcow 82.54 321 *e*P **P** **10 34 23.6 -0.4**
NB2 NORSAR Subarra 82.70 333 P **P** **10 34 22.9 -1.7**
comp=Z,12nm,1.7s,baz=66,slow=4.8
NOA NORSAR Array B 82.70 333 P **P** **10 34 23.7 -1.0**
comp=Z,1.1nm,0.8s,baz=65,slow=4.9,SNR=3.5
NOA LR LR 11 14 19.4
comp=Z,504nm,18.9s,baz=65,slow=38
VTS Vitosha 82.92 313 *e*P **P** **10 34 26.6 +0.3**
VTS Vitosha 82.92 313 *e*P **P** **10 34 26.6 +0.3**
RES Resolute Bay 83.71 9 P **P** **10 34 28.4 -1.2**
comp=Z,6.7nm,1.1s,baz=337,slow=5.8,SNR=5.1
MORC Moravsky Berou 84.06 321 *e*P P 10 34 36.6 +4.7
IDI Anoyia 84.08 305 LR LR 11 17 34.6
comp=Z,47nm,19.4s,baz=60,slow=40
JAVC Velka Javorina 84.33 320 *e*P **P** **10 34 34.2 +0.9**
KSP Ksiaz 84.38 322 *e*P **P** **10 34 33.4 0.0**
KSP Ksiaz 84.38 322 *e*P **P** **10 34 33.4 0.0**
KMBO Kilima Mbogo 84.53 267 P **P** **10 34 35.8 +0.7**
comp=Z,4.1nm,0.9s,baz=54,slow=5.6,SNR=9.4
KMBO LR LR 11 09 54.4
comp=Z,108nm,21.0s,baz=100,slow=34
KMBO Kilima Mbogo 84.53 267 *e*P **P** **10 34 36.6 +1.4**
KMBO Kilima Mbogo 84.53 267 *e*P **P** **10 34 36.6 +1.4**
VRAC Vranov 84.81 320 LR LR 11 16 43.8
comp=Z,143nm,18.9s,baz=38,slow=39
VRAC Vranov 84.81 320 *e*P **P** **10 34 35.6 0.0**
KRUC Moravsky 85.02 320 *e*P **P** **10 34 36.4 -0.3**
CASY Casey 85.45 184 *e*P **P** **10 34 38.6 +0.4**
BRG Berggiesshubel 85.73 323 *e*P **P** **10 34 40.1 0.0**
comp=Z,13nm,1.4s
BRG *e* 10 34 47.8
comp=Z,8.0nm,1.4s
BRG Berggiesshubel 85.73 323 *e*P **P** **10 34 40.2 0.0**
BRG pmax pmax
comp=Z,13nm,1.4s
CLL Collm 86.08 323 *e*P **P** **10 34 41.0 -0.9**
CLL LmV 11 18 00.0
comp=Z,200nm,20.0s
CLL Collm 86.08 323 *e*P **P** **10 34 41.0 -0.9**
GERES **GERESS Array B 86.73 321** P **P** **10 34 44.5 -0.8**

comp=Z,0.3nm,0.4s,baz=60,slow=5.3,SNR=6.8
GERES LR LR 11 16 07.6
comp=Z,91nm,19.2s,baz=64,slow=37
YKA Yellowknife Ar 87.71 23 P **P 10 34 48.9 -0.6**
comp=Z,4.9nm,0.6s,baz=307,slow=4.7,SNR=44
YKA Yellowknife Ar 87.71 23 P **P 10 34 49.0 -0.6**
DAVOX Davos/Dischmat 89.96 320 LR LR 11 18 43.7
comp=Z,141nm,18.7s,baz=8.5,slow=38
PPT Papeete 94.99 107 LR LR 11 12 33.7
comp=Z,64nm,19.3s,baz=306,slow=32
PPT2 Papeete2 95.00 107 *e*LR LR 11 06 04.3
comp=Z,214nm,24.5s
TBI Tubuai 96.87 112 *e*LR LR 11 06 49.3
comp=Z,179nm,26.2s
NVAR Mina Array Bea 100.22 43 PKPPKP **P'P'df 11 00 26.6 +1.4**
comp=Z,0.7nm,0.7s,baz=147,slow=1.8,SNR=5.1
TAOE Nuku Hiva Isla 101.08 96 *e*LR LR 11 08 51.4
comp=Z,359nm,25.2s
TORD Torodi Ar. Bea 112.26 293 PKKPab PKKPab 10 51 35.9 -1.8
comp=Z,1.0nm,1.1s,baz=286,slow=5.4,SNR=3.9
TXAR Lajitas Array 115.36 43 PKP **PKPdf 10 40 43.0 -0.5**
comp=Z,0.6nm,0.6s,baz=193,slow=1.0,SNR=21
SDV Santo Domingo 149.92 24 *e*PKPdf **PKPdf 10 41 47.4 -0.4**
SDV *e*PKPbc **PKPbc 10 41 51.7 -0.9**
ROSC El Rosal 151.82 34 PKPbc **PKPbc 10 41 57.1 -0.2**
comp=Z,6.9nm,0.3s,baz=78,slow=9.3,SNR=8.4
PLCA Paso Flores 156.21 158 PKPbc PKPbc 10 42 04.2
comp=Z,3.3nm,1.0s,baz=225,slow=4.3,SNR=4.3
PLCA PKPab **PKPab 10 42 24.1 +0.4**
comp=Z,8.2nm,1.0s,baz=238,slow=5.1,SNR=8.7
LPAZ La Paz 170.79 74 PKP **PKPdf 10 42 11.1 +0.2**
comp=Z,2.2nm,1.1s,baz=342,slow=3.2,SNR=6.3
CPUP Villa Florida 172.62 191 PKPab **PKPab 10 43 35.6 -0.2**
comp=Z,2.3nm,0.9s,baz=175,slow=6.1,SNR=5.1

*NIED **28** 10:23:00,41.6°N×143.0°E,h29km,Mw3.8 Best double couple: M₀6.18000×10¹⁴ NP1:φ₀269.00000°,δ67.00000°, λ0.00000°. NP2:φ₀179.00000°,δ90.00000°,λ157.00000°.*
*IDC **28** 10:23:02.8±1.2,41.44N×143.57E,h0km,mb3.7/3, mb1 3.9/6,mb1mx3.6/54,mbtmp3.7/6,ML3.8/3,Error ellipse: s-maj=42.0km s-min=21.3km az=108.0*
*NEIC **28** 10:23:05.5±1.8,41.55N×143.39E,h22km±14km,mb4.3/1, Error ellipse: s-maj=14.2km s-min=6.9km az=116.0*
NEIC Recorded [2 JMA] in southern Hokkaido.
*JMA **28** 10:23:06.4±0.2,41.62N×143.00E,h29km±2km,M3.9*
JMA Felt II J1.

ISC 28 10:23:04.7±1.6,41°52N±0.0'×143°05E±0.0'05,h17km±11km, n43,σ1ᵉ985/46,mb4.2/6,2C-3D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.50**	**9**		*e*Pn		**Pb**	**10 23 15.2**	**+0.2**
ERM					*e*Sn		**Sg**	**10 23 21.0**	**-0.5**
JEM	**Erimo**	**0.50**	**9**	⇓P			**Pb**	**10 23 15.1**	**0.0**
JEM				*e*S			**Sg**	**10 23 21.2**	**-0.3**
JNBK	**Urakawa-nobuka**	**0.79**	**344**	⇑P			**Pb**	**10 23 19.5**	**-0.5**
JNBK				*e*S			**Sb**	**10 23 29.2**	**-1.3**
JTHR	**Tokachihiroo**	**0.79**	**13**	⇓P			**Pb**	**10 23 19.8**	**-0.3**
JTHR				*e*S			**Sb**	**10 23 29.2**	**-1.3**
JSHD	**Hidakashinhida**	**0.99**	**334**	⇑P			**Pb**	**10 23 22.8**	**-0.6**
JCH	**Churui**	**1.12**	**12**	P			**Pb**	**10 23 24.7**	**-0.9**
JBT2	**Biratori 2**	**1.36**	**338**	P			**Pn**	**10 23 28.2**	**-0.7**
JARK	**Aomorirokkasho**	**1.37**	**249**	P			**Pn**	**10 23 29.6**	**+0.6**
JARK				*e*S			**Sn**	**10 23 46.9**	**+0.1**
JIAM	**Iburiatsuma**	**1.39**	**323**	P			**Pb**	**10 23 29.9**	**-0.3**
JIAM				*e*S			**Sn**	**10 23 46.6**	**-0.6**
JOB	**Onbets**	**1.50**	**23**	P			**Pn**	**10 23 31.2**	**+0.3**
JOT	**Ohata**	**1.51**	**265**	⇓P			**Pn**	**10 23 31.3**	**+0.3**
JKB	**Kayabe**	**1.56**	**284**	P			**Pn**	**10 23 31.1**	**-0.5**
JKB				*e*S			**Sn**	**10 23 49.5**	**-1.9**
JANG	**Nango**	**1.63**	**226**	P			**Pn**	**10 23 33.4**	**+0.7**
JTM	**Tenmabayashi**	**1.67**	**245**	P			**Pb**	**10 23 34.4**	**-0.5**
JFR	**Furan**	**1.68**	**349**	P			**Pn**	**10 23 32.2**	**-1.1**
JEW	**Eniwo**	**1.78**	**318**	P			**Pn**	**10 23 34.5**	**-0.2**
ASAJ	**Asahikawa**	**2.62**	**353**	Pn			**Pn**	**10 23 47.6**	**+1.4**
ASAJ	16nm,0.3s,baz=199,slow=9.6,SNR=53						**Sn**	**10 24 19.0**	**+1.4**
ASAJ	**Asahikawa**	**2.62**	**353**	*e*Pn			**Pn**	**10 23 46.7**	**+0.5**
ASAJ	12nm,0.3s,baz=309,slow=27,SNR=7.8						**Sn**	**10 24 19.0**	**+1.4**
YSS	**Yuzh-Sakhalins**	**5.44**	**358**	*e*Pn			**Pn**	**10 24 24.7**	**-0.2**
MJB9	**Matsu-Tunnel**	**6.24**	**219**	*e*Pn			**Pn**	**10 24 40.0**	**+4.0**
MJB9				*e*Sn			**Sn**	**10 25 42.2**	**-4.7**
MAJO	**Matsushiro**	**6.24**	**219**	*e*Pn			**Pn**	**10 24 39.5**	**+3.5**
MAJO				*e*Sn			**Sn**	**10 25 42.1**	**-4.8**
MAT	**Matsushiro**	**6.24**	**219**	P			**Pn**	**10 24 39.5**	**+3.5**
MJAR	**Matsushiro Arr**	**6.24**	**219**	Pn			**Pn**	**10 24 39.3**	**+3.3**
	1.6nm,0.3s,baz=35,slow=12,SNR=14								
USA0B	**Ussuriysk Arra**	**8.55**	**292**	*e*Pn			**Pn**	**10 25 09.6**	**+1.8**
KSRS	**Korea Array**	**12.37**	**256**	Pn			Pn	10 26 06.2	+6.2
	0.3nm,0.3s,baz=61,slow=14,SNR=5.4								
KS15	**Wonju Array Si**	**12.40**	**256**	*e*Pn			**Pn**	**10 26 04.6**	**+4.1**
KSAR	**Wonju Array Be**	**12.40**	**256**	Pn			Pn	10 26 06.2	+5.7
CBIJ	**Chichi jima**	**14.41**	**183**	*e*Pn			**Pn**	**10 26 27.2**	**-0.7**
PETK	**Petropavlovsk-**	**15.23**	**35**	*e*Pn			**Pn**	**10 26 36.3**	**-2.5**
TWG	**Pinlang**	**26.21**	**231**	*e*P			**P**	**10 28 39.4**	**+0.7**
	156nm,1.1s								
H11N2	**WAKE ISLAND Hy**	**29.70**	**130**	T			T	11 00 31.7	
	baz=323,slow=75,SNR=150								
H11N1	**WAKE ISLAND Hy**	**29.71**	**130**	T			T	11 00 32.9	
	baz=323,slow=75,SNR=166								
H11N3	**WAKE ISLAND Hy**	**29.72**	**130**	T			T	11 00 23.6	
	baz=323,slow=75,SNR=136								
H11S1	**WAKE ISLAND Hy**	**30.56**	**132**	T			T	11 01 29.5	
	baz=324,slow=76,SNR=377								
H11S3	**WAKE ISLAND Hy**	**30.56**	**132**	T			T	11 01 29.6	
	baz=324,slow=76,SNR=285								
H11S2	**WAKE ISLAND Hy**	**30.58**	**132**	T			T	11 01 28.6	
	baz=324,slow=76,SNR=261								
CM31	**Chiang Mai Arr**	**43.98**	**252**	*e*P			**P**	**10 31 11.6**	**+0.4**
ILAR	**Eielson Array**	**45.06**	**35**	P			**P**	**10 31 19.2**	**-0.1**
	0.6nm,1.0s,baz=253,slow=5.6,SNR=3.7								
ILB	**Eielson Array**	**45.06**	**35**	*e*P			**P**	**10 31 19.1**	**-0.1**
WR1	**Warramunga Arr**	**61.68**	**189**	*e*P			**P**	**10 33 21.8**	**+0.1**
	7.7nm,1.3s								
WRA	**Warramunga Arr**	**61.68**	**189**	P			**P**	**10 33 21.8**	**+0.1**
	1.2nm,0.7s,baz=8.4,slow=6.9,SNR=5.9								
AS31	**Alice Springs**	**65.41**	**189**	*e*P			**P**	**10 33 47.1**	**+0.7**
	4.3nm,1.8s								
ASAR	**Alice Springs**	**65.41**	**189**	P			**P**	**10 33 47.1**	**+0.7**
	0.6nm,0.8s,baz=23,slow=7.3,SNR=2.7								

*ISK **28** 10:25:48.9,37.83N×32.31E,h17km,ML1.4/4*
DDA 28 10:25:47.4,37.71N×32.45E,h11km,MI2.3,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMER	**Konya-Meram**	**0.08**	**310**	*i* P			Pg	10 25 50.5	+0.4
KMER				*i* S			Sg	10 25 52.0	-0.1
KONT	**Konya--Tatoy**	**0.24**	**343**	PG			Pg	10 25 52.9	+0.4
KONT				SG			Sg	10 25 56.0	+0.1
KONT	**Konya--Tatoy**	**0.24**	**343**	*i* P			Pg	10 25 52.7	+0.2
KONT				*i* S			Sg	10 25 56.7	+0.8
LADK	**Ladik-KONYA**	**0.49**	**352**	PG			Pg	10 25 57.1	0.0
LADK				SG			Sg	10 26 03.0	-0.6
DOGA	**KONYA_Doganhis**	**0.73**	**303**	*i* P			Pg	10 26 01.3	-0.3
DOGA				*i* S			Sb	10 26 12.4	+0.1
KDHN	**Kadinhani**	**0.85**	**342**	*i* P			Pg	10 26 03.7	-0.1
KDHN				*i* S			Sg	10 26 14.8	-0.1
CHBY	**Cihanbeyli**	**0.93**	**22**	PG			Pn	10 26 06.5	-0.1
CHBY				SG			Sn	10 26 19.3	-0.7
KIZT	**Kizilcal**	**1.25**	**339**	PN			Pn	10 26 10.4	-0.5
KIZT				SN			Sb	10 26 25.6	-1.6

*PGC **28** 10:29:22.7,52.28N×132.37W,h17km,113km Ssw of Sandspit, Bc Haida Gwaii Region*
*IDC **28** 10:29:22.8±1.9,52.33N×132.10W,h0km,mb3.5/3, mb1 3.8/7,mb1mx3.5/67,mbtmp3.5/7,ML3.4/4,MS3.1/3, Ms1 3.1/3,ms1mx2.7/54,Error ellipse: s-maj=30.3km s-min=7.7km az=61.0*

ISC 28 10:29:25.6±1.0,52.81N±0.0'09×131.65W±0.0'08,h10km,n18, σ2ᵉ45/12,mb3.6/3,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H02S1	**DAWSON INLET T**	**0.64**	**309**			Pg	**Pb**	**10 29 39.6**	**+0.8**
H02S1						Lg	Lg	10 29 51.8	
H02N1	**VAN INLET T-PH**	**0.70**	**310**			Pg	**Pn**	**10 29 40.8**	**-0.9**
H02N1						Lg	Lg	10 29 53.4	
BBB	**Bella Bella**	**2.25**	**105**	Pn			**Pn**	**10 30 01.6**	**-1.3**
	4.1nm,0.3s,baz=269,slow=5.0,SNR=115								
BBB						Sn	**Sn**	**10 30 30.1**	**-0.5**
	21nm,0.3s,baz=18,slow=23,SNR=6.1								
BBB						Lg	Lg	10 30 36.7	
	25nm,0.3s,baz=175,slow=23,SNR=6.8								
BBB						LR	LR	10 31 12.9	
	comp=Z,280nm,20.2s,baz=330,slow=45								
DLBC	**Dease Lake**	**5.72**	**9**	Pn			Pb	10 30 58.7	-6.8
	1.3nm,0.3s,baz=194,slow=12,SNR=23								
DLBC						Sn	**Sb**	**10 32 09.4**	**-4.6**
	0.3nm,0.3s,baz=250,slow=17,SNR=3.5								
DLBC						Lg	Lg	10 32 37.4	
	0.7nm,0.3s,baz=302,slow=25,SNR=3.4								
DLBC						LR	LR	10 33 38.4	
	comp=Z,202nm,21.3s,baz=256,slow=41								
NEW	**Newport**	**10.30**	**110**	LR			LR	10 35 43.7	
	comp=Z,108nm,21.0s,baz=359,slow=37								
YKA	**Yellowknife Ar**	**13.28**	**36**	Pn			**Pn**	**10 32 37.9**	**+4.0**
	0.1nm,0.3s,baz=227,slow=12,SNR=9.0								
ILAR	**Eielson Array**	**14.30**	**333**	Pn			**P**	**10 32 55.0**	**-0.2**
	0.0nm,0.3s,baz=168,slow=13,SNR=2.7								
NVAR	**Mina Array Bea**	**17.10**	**142**	Pn			**Pn**	**10 33 23.4**	**-1.4**
	0.1nm,0.3s,baz=302,slow=8.4,SNR=3.4								
PDAR	**Pinedale Array**	**17.86**	**115**	P			**P**	**10 33 36.1**	**+1.2**
	0.1nm,0.3s,baz=299,slow=9.5,SNR=8.8								
ULM	**Lac du Bonnet**	**22.26**	**82**	P			**P**	**10 34 24.6**	**+2.1**
	2.0nm,0.8s,baz=285,slow=16,SNR=2.0								
ANMO	**Albuquerque**	**25.26**	**125**	P			**P**	**10 34 50.2**	**-1.8**
	0.3nm,0.3s,baz=297,slow=2.3,SNR=3.0								
TXAR	**Lajitas Array**	**31.20**	**128**	P			**P**	**10 35 43.5**	**-1.4**
	0.7nm,0.9s,baz=326,slow=7.7,SNR=6.2								
H11N2	**WAKE ISLAND Hy**	**57.32**	**259**	T			T	11 41 13.7	
	baz=39,slow=76,SNR=49								
H11N3	**WAKE ISLAND Hy**	**57.32**	**259**	T			T	11 41 20.1	
	baz=39,slow=76,SNR=41								
H11N1	**WAKE ISLAND Hy**	**57.33**	**259**	T			T	11 41 21.2	
	baz=39,slow=76,SNR=28								
H11S1	**WAKE ISLAND Hy**	**58.38**	**259**	T			T	11 42 35.7	
	baz=27,SNR=3.7								
H11S2	**WAKE ISLAND Hy**	**58.39**	**259**	T			T	11 42 45.5	
	baz=27								
H11S3	**WAKE ISLAND Hy**	**58.40**	**259**	T			T	11 42 35.2	
	baz=27								

IDC 28 11:02:51.7±1.2,0.19N×121.65E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.6/57,mbtmp3.8/5,Error ellipse: s-maj=137.0km s-min=19.2km az=64.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.55**	**149**	P		P	P	11 08 04.2	+0.1
	2.2nm,0.5s,baz=325,slow=11,SNR=35								
ASAR	**Alice Springs**	**26.53**	**154**	P		P	P	11 08 31.8	+0.4
	0.8nm,0.5s,baz=343,slow=14,SNR=33								
STKA	**Stephens Creek**	**37.06**	**151**	P		P	P	11 10 02.9	-0.8
	1.2nm,0.5s,baz=321,slow=13,SNR=3.8								
SONM	**Songino Array**	**49.28**	**346**	P		P	P	11 11 42.5	0.0
	0.4nm,0.6s,baz=165,slow=7.4,SNR=3.2								
MKAR	**Makanchi Array**	**57.75**	**329**	P		P	P	11 12 44.4	-0.2
	0.3nm,0.5s,baz=122,slow=8.7,SNR=5.1								

IDC 28 11:05:49.5±5.2,18.49S×169.47E,h261km±49km,mb3.3/3, mb1 3.4/4,mb1mx3.2/42,mbtmp3.9/4,Error ellipse: s-maj=99.0km s-min=41.7km az=163.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.56**	**218**	P		P	Pn	11 07 00.4	-0.1
	0.6nm,0.3s,baz=116,slow=16,SNR=13								
STKA	**Stephens Creek**	**28.44**	**237**	P		P	P	11 11 20.9	+0.3
	1.0nm,0.6s,baz=45,slow=10.0,SNR=3.5								
WRA	**Warramunga Arr**	**33.17**	**262**	P		P	P	11 12 01.8	-0.3
	0.4nm,0.6s,baz=95,slow=8.4,SNR=12								
ASAR	**Alice Springs**	**33.53**	**255**	P		P	P	11 12 05.2	0.0
	3.0nm,0.4s,baz=82,slow=9.0,SNR=79								
ARCES	**ARCESS Array B**	**124.40**	**345**	PKP			PKPdf	11 24 16.6	-0.2
	2.2nm,1.1s,baz=58,slow=2.2,SNR=3.9								

*ISCJB **28** 11:11:06.1±0.4,59.80N±0.03×23.83E±0.05,h0km,Error ellipse: s-maj=4.2km s-min=3.3km az=139.4*
*IDC **28** 11:11:07.5±1.1,59.79N×24.00E,h0km,mb1 3.4/4, mb1mx3.1/51,mbtmp3.3/4,ML3.1/4,Error ellipse: s-maj=12.9km s-min=6.5km az=143.0*
*HEL **28** 11:11:07.2±0.1,59.77N×23.85E,h0km,ML2.4, ML2.4(UPP),Explosion*
*NAO **28** 11:11:07.0±1.0,59.72N×24.03E,ML2.4*
*UPP **28** 11:11:08.9±2.4,59.81N×23.60E,h0km,ML2.4*
*LVSN **28** 11:11:08.7±3.7,59.80N×23.96E,h0km±39km,ML2.6*
*BER **28** 11:11:08.5±3.9,59.73N×23.86E,h0km,ML2.4(NAO), Suspected explosion*

ISC 28 11:11:05.2±0.7,59.75N±0.02×23.94E±0.04,h0km,n49, σ1ᵉ24/69,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.52**	**26**	*e*P			**Pg**	**11 11 16.6**	**+1.5**
MEF				*e*S			**Sg**	**11 11 23.0**	**+1.1**
MEF	**Metsahovi**	**0.52**	**26**	*e*P			**Pg**	**11 11 16.6**	**+1.5**
MEF				*e*S			**Sg**	**11 11 23.1**	**+1.1**
MEF					AML	AML		11 11 24.3	
	comp=E,113nm,0.3s								
MEF					AML	AML		11 11 27.2	
	comp=N,81nm,0.3s								
MEF					AML	AML		11 11 27.3	
	comp=Z,121nm,0.6s								
NUR	**Nurmijrvi**	**0.84**	**25**	*e*P			**Pg**	**11 11 22.0**	**+0.8**
NUR				*e*S			**Sg**	**11 11 32.3**	**+0.2**
MTSE	**Matsula**	**1.04**	**184**	*e*P			**Pb**	**11 11 26.4**	**+0.4**
MTSE				*e*S			**Sg**	**11 11 39.3**	**+0.8**
MTSE	**Matsula**	**1.04**	**184**	*e*P			**Pb**	**11 11 26.6**	**+0.6**
MTSE				*e*S			**Sb**	**11 11 40.6**	**+0.5**
PVF	**Pernaja**	**1.25**	**49**	*e*P			**Pb**	**11 11 30.1**	**+0.5**
PVF				*e*S			**Sb**	**11 11 46.3**	**+0.2**
PVF					MSG			11 11 53.2	
	comp=Z,58nm,0.2s								
RAF	**Rauma**	**1.67**	**321**	*e*P			**Pn**	**11 11 36.2**	**+0.5**
RAF				*e*S			**Sn**	**11 11 57.4**	**-0.4**
RAF					MSG			11 12 02.6	
	comp=Z,30nm,0.2s								
RAF	**Rauma**	**1.67**	**321**	*e*P			**Pn**	**11 11 36.2**	**+0.5**
RAF				*e*S			**Sn**	**11 11 58.6**	**+0.8**
RAF					AML	AML		11 12 02.3	
	comp=N,68nm,0.2s								
RAF					AML	AML		11 12 02.6	
	comp=E,94nm,0.2s								
RAF					AML	AML		11 12 03.3	
	comp=Z,50nm,0.2s								
VSU	**Vasula**	**1.94**	**131**	Pn			**Pg**	**11 11 42.4**	**+0.2**
VSU				Lg			Lg	11 12 08.5	
VSU	**Vasula**	**1.94**	**131**	Pn			**Pg**	**11 11 42.4**	**+0.2**
VSU				Lg			Lg	11 12 08.5	
VSU	**Vasula**	**1.94**	**131**	*e*P			**Pg**	**11 11 42.7**	**+0.5**
VSU				*e*S			**Sg**	**11 12 08.0**	**+0.8**
VSU					AML	AML		11 12 10.2	
	comp=N,147nm,0.3s								
VSU					AML	AML		11 12 11.0	
	comp=Z,97nm,0.3s								
VSU					AML	AML		11 12 12.3	
	comp=E,166nm,0.4s								
FIA0	**FINESS Array S**	**2.00**	**31**	Pn			**Pb**	**11 11 42.9**	**+0.5**
	baz=203,slow=16								
FIA0					Sn		**Sb**	**11 12 08.3**	**+0.6**
	baz=199,slow=28								
FIA0					Lg	Lg		11 12 10.7	
	baz=216,slow=28								
FIA0	**FINESS Array S**	**2.00**	**31**	Pn			**Pb**	**11 11 42.9**	**+0.5**
	baz=203,slow=16								
FIA0					Sn		**Sb**	**11 12 08.3**	**+0.6**
	baz=199,slow=28								
FIA0					Lg	Lg		11 12 10.7	
	baz=216,slow=28								
FINES	**FINESS Array B**	**2.00**	**31**	Pn			**Pb**	**11 11 42.8**	**+0.5**
	comp=E,6.2nm,0.3s,baz=208,slow=14,SNR=138								
FINES					Lg	Lg		11 12 08.8	
	comp=E,12nm,0.3s,baz=234,slow=24,SNR=24								
AAL	**Aland**	**2.03**	**284**	P			**Pn**	**11 11 42.1**	**+1.5**
AAL				S			**Sn**	**11 12 07.1**	**+0.5**
AAL	**Aland**	**2.03**	**284**	*e*P			**Pn**	**11 11 42.1**	**+1.5**
AAL				*e*S			**Sn**	**11 12 06.8**	**+0.2**
SLIT	**Slitere, Latvi**	**2.30**	**203**	*e*P			**Pb**	**11 11 47.5**	**+0.1**
SLIT				*e*S			**Sb**	**11 12 18.1**	**+1.9**
SLIT					AML	AML		11 12 19.0	
	comp=Z,136nm,0.2s								
SLIT					AML	AML		11 12 19.2	
	comp=N,311nm,0.2s								
SLIT					AML	AML		11 12 19.8	
	comp=E,424nm,0.3s								
NRTU	**Norrtaelje**	**2.69**	**271**	P			**Pn**	**11 11 50.9**	**+1.3**
NRTU	**Norrtaelje**	**2.69**	**271**	*e*P			**Pn**	**11 11 50.9**	**+1.3**
GRAU	**Graesoe**	**2.77**	**285**	P			**Pn**	**11 11 51.6**	**+0.8**
GRAU	**Graesoe**	**2.77**	**285**	*e*P			**Pn**	**11 11 51.6**	**+0.8**
FORU	**Forsmark**	**2.96**	**285**	P			**Pn**	**11 11 54.7**	**+1.4**
FORU	**Forsmark**	**2.96**	**285**	*e*P			**Pn**	**11 11 54.7**	**+1.4**
FLYU	**Flymyra**	**3.07**	**280**	P			**Pn**	**11 11 56.8**	**+1.9**
FLYU	**Flymyra**	**3.07**	**280**	*e*P			**Pn**	**11 11 56.8**	**+1.9**
NYNU	**Nynaeshamn**	**3.13**	**259**	P			**Pn**	**11 11 57.4**	**+1.7**
NYNU	**Nynaeshamn**	**3.13**	**259**	*e*P			**Pn**	**11 11 57.4**	**+1.7**
FIBU	**Brunna**	**3.33**	**275**	P			**Pn**	**11 11 59.6**	**+1.2**
FIBU	**Brunna**	**3.33**	**275**	*e*P			**Pn**	**11 11 59.6**	**+1.2**
BACU	**Backbrunna**	**3.46**	**275**	P			**Pn**	**11 12 01.7**	**+1.6**
BACU	**Backbrunna**	**3.46**	**275**	*e*P			**Pn**	**11 12 01.7**	**+1.6**
IGGU	**Iggoen**	**3.48**	**292**	P			**Pn**	**11 12 01.9**	**+1.4**
IGGU	**Iggoen**	**3.48**	**292**	*e*P			**Pn**	**11 12 01.9**	**+1.4**
ARNU	**Arnoeviken**	**3.77**	**304**	P			**Pn**	**11 12 05.6**	**+1.2**
ARNU	**Arnoeviken**	**3.77**	**304**	*e*P			**Pn**	**11 12 05.6**	**+1.2**
FALU	**Falun**	**4.13**	**284**	P			**Pn**	**11 12 10.5**	**+1.2**
FALU	**Falun**	**4.13**	**284**	*e*P			**Pn**	**11 12 10.5**	**+1.2**
HFS	**Hagfors**	**5.17**	**279**	Pn			**Pn**	**11 12 25.1**	**+1.5**
	comp=E,0.8nm,0.3s,baz=88,slow=15,SNR=20								
HFS					Pg		**Pb**	**11 12 36.2**	**-0.1**
	comp=E,0.9nm,0.3s,baz=97,slow=16,SNR=8.8								
HFS					Sn		**Sn**	**11 13 23.1**	**-0.9**
	comp=E,1.1nm,0.3s,baz=98,slow=26,SNR=6.9								
HFS					Lg	Lg		11 13 40.3	
	comp=E,1.8nm,0.3s,baz=96,slow=30,SNR=7.8								
HFS	**Hagfors**	**5.17**	**279**	Pn			**Pn**	**11 12 25.1**	**+1.5**
	baz=103,slow=12								
HFS					Sn		**Sn**	**11 13 23.2**	**-0.7**
	baz=97,slow=28								
HFS	**Hagfors**	**5.17**	**279**	Pn			**Pn**	**11 12 25.1**	**+1.5**
	baz=103,slow=12								
HFS					Sn		**Sn**	**11 13 23.2**	**-0.7**
	baz=97,slow=28								
NRA0	**NORESS Array S**	**6.25**	**284**	Pn			**Pn**	**11 12 38.2**	**-0.4**
	baz=106,slow=14								
NRA0	**NORESS Array S**	**6.25**	**284**	Pn			**Pn**	**11 12 38.2**	**-0.4**
	baz=106,slow=14								
NB2	**NORSAR Subarra**	**6.44**	**287**	Pn			**Pn**	**11 12 40.8**	**-0.3**
	baz=96,slow=14								
NB2	**NORSAR Subarra**	**6.44**	**287**	Pn			**Pn**	**11 12 40.8**	**-0.3**
	baz=96,slow=14								
NOA	**NORSAR Array B**	**6.44**	**287**	Pn			**Pn**	**11 12 40.9**	**-0.2**
	comp=E,0.1nm,0.3s,baz=92,slow=13,SNR=24								
NOA					Sn		**Sn**	**11 13 53.5**	**-1.8**
	comp=E,0.1nm,0.3s,baz=134,slow=14,SNR=3.8								
AKASG	**Malin Array Be**	**9.55**	**159**	Pn			**Pn**	**11 13 21.7**	**-2.0**
	comp=E,0.7nm,0.3s,baz=344,slow=13,SNR=3.0								
ARA0	**ARCESS Array S**	**9.85**	**3**	Pn			**Pn**	**11 13 27.6**	**-0.2**
	baz=175,slow=14								
ARA0	**ARCESS Array S**	**9.85**	**3**	Pn			**Pn**	**11 13 27.6**	**-0.2**
	baz=175,slow=14								
ARCES	**ARCESS Array B**	**9.85**	**3**	Pn			**Pn**	**11 13 27.6**	**-0.2**
	comp=E,0.3nm,0.3s,baz=180,slow=15,SNR=14								
ARCES					Sn		**Sn**	**11 15 14.1**	**-4.8**
	comp=E,0.4nm,0.3s,baz=181,slow=24,SNR=3.8								

*JMA **28** 11:13:21.9±0.2,32.28N×138.20E,h410km,M3.0*
*ISCJB **28** 11:13:24.2±0.9,32.2N±0.1×138.02E±0.08,h376km, mb3.6/7,Error ellipse: s-maj=16.8km s-min=8.9km az=164.1*
*IDC **28** 11:13:24.8±1.7,32.20N×138.03E,h379km±10km,mb3.3/7, mb1 3.3/10,mb1mx3.0/61,mbtmp4.0/10,Error ellipse: s-maj=42.2km s-min=27.4km az=174.0*

ISC 28 11:13:24.5±1.1,32.2N±0.1×138.05E±0.08,h376km,n24, σ1ᵉ21/28,mb3.6/7,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.47**	**81**	P		P	**Pn**	**11 14 15.6**	**+0.5**
JHJ	**Hach

H01W1	**Cape Leeuwin H**	**15.43**	**359**	T	T	11 49 01.0		
	baz=179,slow=74,SNR=43							
H01W3	**Cape Leeuwin H**	**15.44**	**359**	T	T	11 49 08.8		
	baz=179,slow=74,SNR=38							
STKA	**Stephens Creek**	**27.32**	**58**	P	P	11 35 49.7	+1.8	
	0.9nm,0.6s,baz=225,slow=14,SNR=3.1							
STKA				LR	LR	11 44 32.7		
	comp=Z,64nm,21.4s,baz=206,slow=32							
ASAR	**Alice Springs**	**30.64**	**37**	P	P	11 36 17.5	+0.1	
	0.8nm,0.6s,baz=213,slow=7.4,SNR=6.8							
VNDA	**Vanda**	**32.48**	**163**	LR	LR	11 49 10.4		
	comp=Z,95nm,18.5s,baz=276,slow=35							
WRA	**Warramunga Arr**	**34.20**	**35**	P	P	11 36 47.1	-1.6	
	2.2nm,1.0s,baz=203,slow=8.3,SNR=8.7							
QSPA	**South Pole Qui**	**39.80**	**180**	P	P	11 37 35.8	-0.1	
	1.1nm,0.7s,baz=310,slow=6.0,SNR=4.3							
PMG	**Port Moresby**	**48.97**	**45**	LR	LR	11 57 09.6		
	comp=Z,41nm,21.2s,baz=112,slow=33							
H08S2	**Diego Garcia H**	**54.96**	**306**	T	T	12 38 27.2		
	baz=149,slow=76,SNR=5.5							
H08S1	**Diego Carcia H**	**54.97**	**306**	T	T	12 38 28.1		
	baz=149							
H08S3	**Diego Garcia H**	**54.98**	**306**	T	T	12 38 28.9		
	baz=149,slow=76,SNR=13							
HNR	**Honiara**	**55.40**	**59**	LR	LR	12 02 05.5		
	comp=Z,20nm,18.7s,baz=254,slow=35							
CMAR	**Chiang Mai Arr**	**69.83**	**344**	P	P	11 41 14.3	+0.6	
	0.6nm,0.3s,baz=188,slow=5.0,SNR=3.2							
TXAR	**Lajitas Array**	**144.55**	**112**	PKP	PKPdf	11 49 39.3	-0.4	
	0.3nm,0.7s,baz=205,slow=4.0,SNR=3.4							
YKA	**Yellowknife Ar**	**151.05**	**46**	PKPbc	PKPbc	11 49 54.1	-0.9	
	0.8nm,0.7s,baz=281,slow=1.9,SNR=5.5							

IDC 28 11:51:36.1±1.4,3.39S×148.27E,h0km,mb3.4/4, mb1 3.7/4,mb1mx3.5/22,mbtmp3.5/4,MS3.1/3,Ms1 3.1/3, ms1mx2.7/22,Error ellipse: s-maj=65.6km s-min=24.6km az=110.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**17.20**	**349**	LR	LR	12 01 11.7	
	comp=Z,54nm,18.1s,baz=93,slow=34						
WRA	**Warramunga Arr**	**21.35**	**218**	P	P	11 56 25.6	+0.6
	1.0nm,0.6s,baz=43,slow=10,SNR=22						
WRA				PcP	PcP	12 00 27.2	-2.5
	0.4nm,0.9s,baz=58,slow=2.9,SNR=3.1						
ASAR	**Alice Springs**	**24.48**	**213**	P	P	11 56 58.0	+0.8
	0.9nm,0.7s,baz=43,slow=7.6,SNR=13						
KLR	**Kul'dur**	**54.33**	**347**	LR	LR	12 23 13.6	
	comp=Z,18nm,18.4s,baz=128,slow=35						
PETK	**Petropavlovsk-**	**56.84**	**7**	LR	LR	12 21 46.9	
	comp=Z,16nm,21.4s,baz=110,slow=32						
SONM	**Songino Array**	**62.78**	**330**	P	P	12 02 03.5	0.0
	0.4nm,0.7s,baz=134,slow=4.2,SNR=2.6						
ILAR	**Eielson Array**	**82.59**	**23**	P	P	12 04 01.9	+1.0
	0.3nm,0.8s,baz=246,slow=6.5,SNR=3.0						
TORD	**Torodi Ar. Bea**	**145.58**	**288**	PKPbc	PKPdf	12 11 16.3	-1.2
	0.2nm,0.6s,baz=66,slow=2.4,SNR=2.7						

*NEIC **28** 12:06:54.8±0.4,9.55S×107.94E,h10km,mb4.4/5,Error ellipse: s-maj=8.9km s-min=6.4km az=41.0*
*ISCJB **28** 12:06:55.8±0.4,9.54S±0.04×107.91E±0.03,h30km, mb4.2/11,MS4.6/1,Error ellipse: s-maj=5.8km s-min=4.7km az=171.2*
*IDC **28** 12:06:55.6±1.7,9.23S×108.06E,h0km,mb3.8/6, mb1 3.8/7,mb1mx3.6/42,mbtmp3.8/7,ML3.9/1,MS2.7/1, Ms1 2.7/1,ms1mx2.4/34,Error ellipse: s-maj=70.6km s-min=19.0km az=55.0*
*DJA **28** 12:06:59.6±1.3,9.7S±10×10.8E±.,h10km,M4.2/8,mb4.8/7, mB5.1/2,MLv3.9/8,Mw(mB)4.4/2*
ISC 28 12:06:57.8±0.6,9.49S±0.05×107.89E±0.05,h30km,n43, σ1.9s39/50,mb4.2/11,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**1.78**	**18**	P	**Pn**	**12 07 25.2**	**-1.4**
CISI	**Cisompet, Garu**	**1.92**	**358**	*e*Pn	**Pn**	**12 07 27.4**	**-1.2**
CISI				*e*Sn	**Sn**	**12 07 51.7**	**-0.1**
CISI	**Cisompet, Garu**	**1.92**	**358**	P	**Pn**	**12 07 27.5**	**-1.1**
KPJI	**Karang Pucung**	**2.38**	**26**	P	**Pn**	**12 07 35.1**	**+0.3**
XMIS	**Christmas Isla**	**2.42**	**246**	*e*Pn	**Pn**	**12 07 35.2**	**-0.1**
XMIS				*e*Sn	**Sn**	**12 08 02.7**	**-1.3**
LEM	**Lembang**	**2.66**	**354**	Pn	**Pn**	**12 07 38.9**	**+0.1**
	27nm,0.3s,baz=134,slow=12,SNR=16						
LEM				LR	LR	12 08 13.0	
	comp=Z,165nm,21.4s,baz=51,slow=32						
LEM				Sn	**Sb**	**12 08 15.2**	**-2.0**
	25nm,0.3s,baz=339,slow=22,SNR=8.9						
LEM	**Lembang**	**2.66**	**354**	P	**Pn**	**12 07 39.8**	**+1.0**
UGM	**Wanagama**	**3.04**	**59**	*e*Pn	**Pn**	**12 07 43.3**	**-0.6**
UGM				*e*Sn	**Sn**	**12 08 18.1**	**-1.2**
WOJI	**Wonogiri, Jawa**	**3.42**	**62**	P	**Pn**	**12 07 50.2**	**+1.1**
PCJI	**Pacitan**	**3.49**	**69**	P	**Pn**	**12 07 51.1**	**+1.0**
SMRI	**Semarang**	**3.50**	**46**	*e*Pn	**Pn**	**12 07 50.3**	**0.0**
SMRI				*e*Sn	**Sn**	**12 08 31.3**	**+0.6**
PWJI	**Pagerwojo**	**4.13**	**70**	P	**Pn**	**12 07 58.9**	**0.0**
JAGI	**Jajag, Banyuwa**	**6.27**	**81**	*e*Pn	**Pn**	**12 08 28.4**	**+0.1**
JAGI				*e*Sn	**Sn**	**12 09 37.4**	**-1.5**
JAGI	**Jajag, Banyuwa**	**6.27**	**81**	P	**Pn**	**12 08 28.4**	**+0.1**
	56nm,0.7s,1μm						
SRBI	**Singaraja**	**7.37**	**80**	P	**Pn**	**12 08 45.1**	**+1.7**
TWSI	**Taliwang, Sumb**	**8.91**	**86**	P	**Pn**	**12 09 05.8**	**+1.2**
	37nm,0.7s						
PLAI	**Plampang**	**9.78**	**87**	P	**Pn**	**12 09 18.2**	**+1.6**
GSI	**Gunungsitoli**	**14.85**	**316**	*e*Pn	**Pn**	**12 10 26.2**	**+0.3**
MBWA	**Marble Bar**	**16.26**	**137**	*e*Pn	**Pn**	**12 10 42.2**	**-2.0**
	71nm,1.9s						
KKM	**Kota Kinabalu**	**17.52**	**29**	*e*Pn	**Pn**	**12 10 58.7**	**-1.4**
	34nm,1.3s						
LHMI	**Lhok Sumawe**	**18.24**	**323**	*e*P	**Pn**	**12 11 07.3**	**-1.6**
	75nm,0.9s						
SAUI	**Saumlaki**	**23.18**	**88**	*e*P	**P**	**12 12 00.1**	**-2.2**
	143nm,0.4s						
PBKT	**Sadao Pong**	**26.78**	**345**	*e*P	**P**	**12 12 35.9**	**+0.6**
WRA	**Warramunga Arr**	**27.57**	**115**	P	**P**	**12 12 44.2**	**+1.7**
	0.2nm,0.6s,baz=289,slow=11,SNR=3.5						
WR1	**Warramunga Arr**	**27.57**	**115**	*e*P	**P**	**12 12 44.2**	**+1.7**
	11nm,1.4s						
FORT	**Forrest**	**28.31**	**141**	*e*P	**P**	**12 12 47.1**	**-1.9**
	36nm,1.0s						
ASAR	**Alice Springs**	**28.57**	**123**	P	**P**	**12 12 53.8**	**+2.3**
	0.2nm,0.6s,baz=300,slow=8.4,SNR=3.5						
ASAR				PcP	**PcP**	**12 16 05.6**	**+3.1**
	0.2nm,0.6s,baz=321,slow=2.2,SNR=5.0						
AS31	**Alice Springs**	**28.57**	**123**	*e*P	**P**	**12 12 50.9**	**-0.5**
	1.8nm,1.4s						
AS31				*e*PcP	**PcP**	**12 16 05.6**	**+3.1**
AS01	**Alice Springs**	**28.61**	**123**	*e*P	**P**	**12 12 49.4**	**-2.4**
COEN	**Coen**	**34.81**	**101**	*e*P	**P**	**12 13 45.4**	**-0.9**
	15nm,1.4s						
SONA0	**Songino Array**	**57.09**	**359**	*e*P	**P**	**12 16 42.4**	**+1.0**
SONM	**Songino Array**	**57.09**	**359**	P	**P**	**12 16 42.4**	**+1.0**
	0.8nm,0.5s,baz=177,slow=8.6,SNR=5.4						
MK01	**Makanchi Array**	**60.49**	**340**	*e*P	**P**	**12 17 05.3**	**+0.3**
MK31	**Makanchi Array**	**60.51**	**340**	*e*P	**P**	**12 17 05.8**	**+0.6**
MK32	**Makanchi Array**	**60.51**	**340**	*e*P	**P**	**12 17 05.5**	**+0.3**
MKAR	**Makanchi Array**	**60.51**	**340**	P	**P**	**12 17 05.5**	**+0.3**
	3.0nm,0.6s,baz=143,slow=7.5,SNR=29						
MKAR	**Makanchi Array**	**60.51**	**340**	*e*P	**P**	**12 17 06.0**	**+0.9**
KLR	**Kul'dur**	**62.11**	**17**	P	**P**	**12 17 15.7**	**-0.2**
	1.6nm,0.8s,baz=297,slow=11,SNR=3.1						
KURBB	**Kurchatov Arra**	**65.08**	**340**	P	**P**	**12 17 36.5**	**+1.2**
	0.3nm,0.3s,baz=158,slow=5.5,SNR=7.2						
KURK	**Kurchatov**	**65.13**	**340**	*e*P	**P**	**12 17 36.5**	**+0.8**
ARU	**Arti**	**77.23**	**334**	LR	LR	12 57 16.5	
	comp=Z,262nm,18.1s,baz=142,slow=39						
LTX	**Lajitas**	**144.47**	**52**	*e*PKPdf	**PKPdf**	**12 26 33.8**	**+1.7**
TXAR	**Lajitas Array**	**144.47**	**52**	PKP	**PKPdf**	**12 26 33.8**	**+1.7**
	0.1nm,0.3s,baz=349,slow=0.9,SNR=4.5						

*ISCJB **28** 12:11:42.1±0.3,22.69N±0.03×96.01E±0.04,h10km, mb4.4/24,MS3.3/9,Error ellipse: s-maj=6.3km s-min=3.2km az=137.4*
*IDC **28** 12:11:42.3±0.8,22.65N×95.95E,h0km,mb4.0/13, mb1 4.1/14,mb1mx3.9/45,mbtmp4.0/14,ML4.1/1,MS3.4/9, Ms1 3.4/9,ms1mx3.0/41,Error ellipse: s-maj=28.4km s-min=11.9km az=59.0*
*NEIC **28** 12:11:44.0±0.3,22.69N×96.03E,h10km,mb4.3/6,Error ellipse: s-maj=11.8km s-min=5.0km az=59.0*
*NDI **28** 12:11:43.6±2.2,22.57N×96.06E,h10km,ML4.1,*

mb4.3(NEIC)
*BJI **28** 12:11:46.6,23.04N×95.82E,h10km,mb4.3/22,mB4.6/15, ML4.3/3,Ms4.0/11,Ms7 3.8/12*
ISC 28 12:11:44.5±0.4,22.78N±0.04×95.93E±0.04,h10km,n79, σ2.38/86,mb4.3/24,MS3.4/9,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**2.73**	**319**	*e*P	**Pb**	**12 12 32.4**	**-1.2**
IMP				*e*S	**Sb**	**12 13 07.1**	**0.0**
SAIH	**SAIHA**	**2.73**	**264**	*e*P	**Pn**	**12 12 30.9**	**+2.3**
SAIH				*e*S	**Sn**	**12 13 02.0**	**+0.2**
KOHI	**KOHIMA**	**3.36**	**331**	*e*P	**Pn**	**12 12 40.8**	**+3.5**
KOHI				*e*S	**Sn**	**12 13 21.5**	**+4.2**
MOKO	**MOKOCHONG**	**3.75**	**340**	*e*P	**Pn**	**12 12 46.2**	**+3.6**
MOKO				*e*S	**Sn**	**12 13 28.6**	**+1.7**
AGT	**Agartala**	**4.44**	**285**	*ex*	Sn	12 13 35.7	-8.0
SHL	**Shillong**	**4.62**	**308**	*e*Pn	**Pn**	**12 12 57.5**	**+2.9**
SHL				*e*Sn	**Sn**	**12 13 51.4**	**+3.0**
SHL	**Shillong**	**4.62**	**308**	*e*P	**Pn**	**12 12 56.2**	**+1.6**
SHL				*e*S	**Sn**	**12 13 50.5**	**+2.1**
TEZP	**TEZPUR**	**4.76**	**324**	*e*P	**Pn**	**12 12 57.9**	**+1.6**
CHTO	**Chiang Mai**	**4.85**	**144**	*e*Pn	**Pn**	**12 12 55.2**	**-2.5**
CHTO				*e*Sg	**Sb**	**12 12 12.9**	**+4.7**
CHTO	**Chiang Mai**	**4.85**	**144**	P	**Pn**	**12 12 55.3**	**-2.4**
CMMT	**Chiang Mai**	**4.86**	**144**	P	**Pn**	**12 12 55.2**	**-2.5**
PAYA	**Payao**	**5.01**	**132**	P	**Sb**	**12 14 17.1**	**+4.3**
	2μm203nm,0.8s						
PAYA	**Payao**	**5.01**	**132**	P	**Pn**	**12 12 57.5**	**-2.4**
ZIRO	**ZIRO**	**5.08**	**339**	*e*P	**Pn**	**12 13 02.8**	**+1.8**
CM31	**Chiang Mai Arr**	**5.15**	**146**	*e*Pn	**Pn**	**12 13 00.0**	**-1.7**
CMAR	**Chiang Mai Arr**	**5.15**	**146**	Pn	**Pn**	**12 12 59.6**	**-2.1**
	1.9nm,0.3s,baz=321,slow=13,SNR=54						
CMAR				Pg	**Pb**	**12 13 15.5**	**+0.8**
	7.4nm,0.3s,baz=326,slow=17,SNR=41						
CMAR				Lg	Lg	12 14 19.6	
	6.3nm,0.3s,baz=311,slow=16,SNR=4.3						
CMAR				LR	LR	12 15 19.4	
	comp=Z,412nm,20.1s,baz=12,slow=43						
CM01	**Chiang Mai Arr**	**5.19**	**146**	*e*Pn	**Pn**	**12 12 58.0**	**-4.2**
LAMP	**Lampang**	**5.48**	**140**	P	**Sb**	**12 14 32.4**	**+6.3**
LAMP	**Lampang**	**5.48**	**140**	P	**Pn**	**12 13 04.4**	**-1.9**
TAWA	**Tawang**	**6.04**	**323**	*e*P	**Pn**	**12 13 15.6**	**+1.3**
TAWA				*e*S	**Sn**	**12 14 23.3**	**-0.3**
TAWA				IAML		12 14 29.7	
	comp=E,209nm,0.8s						
TAWA				IAML		12 14 29.9	
	comp=N,301nm,0.4s						
DHUB	**DHUBRI**	**6.29**	**302**	*e*P	**Pn**	**12 13 18.4**	**+1.0**
DHUB				*e*S	**Sn**	**12 14 28.0**	**-1.4**
SUKH	**Sukhothai**	**6.32**	**146**	P	**Sb**	**12 14 44.7**	**-5.6**
SUKH	**Sukhothai**	**6.32**	**146**	P	**Pn**	**12 13 16.2**	**-1.6**
	comp=N,13nm,1.1s,comp=N,0.3nm						
UTTA	**Uttaradit**	**6.63**	**138**	P	**Sn**	**12 14 34.2**	**-3.6**
	comp=N,478nmcomp=N,12nm,0.7s						
UTTA	**Uttaradit**	**6.63**	**138**	P	**Pn**	**12 13 19.9**	**-2.2**
	comp=N,5.4nm,0.7s,comp=N,91nmcomp=N,0.2nm						
KMI	**Kunming**	**6.65**	**68**	P	**Pn**	**12 13 21.0**	**-1.6**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KMI				pmax	pmax		
	comp=Z,71nm,3.8s						
KMI				LR	LR		
	comp=N,520nm,4.7s						
KMI				LR	LR		
	comp=E,1μm,7.4s						
KMI				LR	LR		
	comp=Z,1μm,9.0s						
KMI	**Kunming**	**6.65**	**68**	Pg	**Pg**	**12 13 51.0**	**-1.0**
KMI				Sg	**Sg**	**12 15 15.3**	**-2.8**
KMI				smax	smax		
	comp=N,170nm,1.2s						
KMI				smax	smax		
	comp=E,170nm,1.2s						
KMI				LR	LR		
	comp=N,520nm,4.7s						
KMI				LR	LR		
	comp=E,1μm,7.4s						
KMI				LR	LR		
	comp=Z,1μm,9.0s						
UMPA	**Umpang Tak**	**7.10**	**157**	P	Pn	12 13 37.0	+8.4
PBKT	**Sadao Pong**	**7.79**	**142**	*e*Pn	**Pn**	**12 13 35.8**	**-2.2**
PBKT				*e*Lg	Lg	12 15 46.1	
PBKT	**Sadao Pong**	**7.79**	**142**	P	**Pn**	**12 13 38.4**	**+0.3**
	comp=Z,14nm,0.5s,comp=Z,0.5nm						
UTHA	**Uthaitani**	**7.92**	**155**	P	**Pn**	**12 13 41.4**	**+1.6**
	comp=Z,4.7nm,0.6s,comp=Z,162nmcomp=Z,0.3nm						
LSA	**Lhasa**	**8.11**	**329**	Pn	**Pn**	**12 13 44.0**	**+1.1**
LSA				*e*Sn	**Sn**	**12 15 23.3**	**+8.4**
RAMN	**Ramite**	**9.43**	**298**	*e*P	**Pn**	**12 14 01.7**	**+0.9**
JIRN	**Jiri**	**10.06**	**301**	*e*P	**Pn**	**12 14 10.5**	**+1.0**
GUN	**Gumba**	**10.42**	**301**	*e*P	**Pn**	**12 14 15.5**	**+1.1**
	comp=Z,29nm,0.4s						
PKI	**Pulchoki**	**10.65**	**299**	*e*P	**Pn**	**12 14 18.3**	**+0.7**
	comp=Z,14nm,0.4s						
PKIN	**Phulchoki**	**10.66**	**299**	*e*P	**Pn**	**12 14 18.6**	**+0.9**
	comp=Z,12nm,0.3s						
KKN	**Kakani**	**10.85**	**300**	*e*P	**Pn**	**12 14 21.1**	**+1.0**
KOLN	**Koldanda**	**12.21**	**297**	*e*P	**Pn**	**12 14 37.7**	**-1.1**
	comp=Z,13nm,0.5s						
DANN	**Dangsing**	**12.30**	**299**	*e*P	**Pn**	**12 14 39.2**	**-0.9**
	comp=Z,9.1nm,0.3s						
LZH	**Lanzhou**	**14.93**	**26**	*e*P	**Pn**	**12 15 15.0**	**-0.9**
LZH				pP	P	12 15 19.8	-1.8
LZH				sP		12 15 22.3	
LZH				PP	**PnPn**	**12 15 25.3**	**+1.3**
LZH				pmax	pmax		
	comp=Z,23nm,1.4s						
LZH				pmax	pmax		
	comp=Z,96nm,4.8s						
LZH				LR	LR		
	comp=Z,610nm,11.9s						
LZH				LR	LR		
	comp=Z,430nm,10.2s						
LZH				LR	LR		
	comp=Z,520nm,11.4s						
XAN	**Xi'an**	**15.99**	**43**	P	**P**	**12 15 33.3**	**+0.1**
XAN				pmax	pmax		
	comp=Z,13nm,0.9s						
GTA	**Gaotai**	**16.90**	**10**	*e*P	**P**	**12 15 45.0**	**+1.6**
GTA				pP	sP	12 15 50.8	+3.3
GTA				sP	pP	12 15 54.5	+8.3
KCSI	**Kotacane, Aceh**	**19.23**	**174**	P	**Pn**	**12 16 14.4**	**+4.4**
	comp=Z,19nm,1.3s						
PSI	**Prapat**	**20.08**	**171**	P	**P**	**12 16 18.6**	**+0.2**
	comp=Z,8.1nm,0.8s,baz=360,slow=7.7,SNR=8.8						
PSI	**Prapat**	**20.08**	**171**	*e*P	**P**	**12 16 18.4**	**0.0**
	comp=Z,17nm,1.1s						
PALK	**Pallekele**	**21.28**	**226**	LR	LR	12 26 59.0	
	comp=Z,60nm,18.4s,baz=130,slow=43						
BTO	**Baotou**	**21.38**	**31**	*e*P	**P**	**12 16 36.5**	**+4.1**
WMQ	**Urumqi**	**22.06**	**344**	P	**P**	**12 16 42.0**	**+2.5**
WMQ				sP	sP	12 16 49.5	+5.8
WMQ				pmax	pmax		
	comp=Z,30nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,200nm,3.6s						
WMQ				LR	LR		
	comp=Z,130nm,17.3s						
WMQ				LR	LR		
	comp=Z,120nm,17.3s						
HHC	**Hu-ho-hao-te**	**22.32**	**33**	*e*P	**P**	**12 16 41.5**	**-0.9**
HHC				pmax	pmax		
	comp=Z,14nm,0.8s						
HHC				pmax	pmax		
	comp=Z,170nm,6.3s						
NIL	**Nilore**	**22.68**	**303**	*e*P	**P**	**12 16 46.0**	**-0.3**
	comp=Z,77nm,0.6s						
BKNI	**Bangkinang**	**22.87**	**167**	*e*P	**P**	**12 16 49.9**	**+1.6**
	comp=Z,82nm,0.4s						
KSH	**Kashi**	**23.79**	**319**	P	**P**	**12 16 58.8**	**+1.2**
KSH				sP	sP	12 17 05.8	+4.0
KSH				S	S	**12 21 11.3**	**-1.9**
KSH				pmax	pmax		
	comp=Z,26nm,0.6s						
KSH				pmax	pmax		
	comp=Z,350nm,4.6s						
KDJ	**Kajisay**	**24.85**	**325**	*e*P	**P**	**12 17 10.4**	**+3.0**
	comp=Z,39nm,1.2s						
SONM	**Songino Array**	**26.36**	**16**	P	**P**	**12 17 22.3**	**+1.3**
	comp=Z,1.1nm,0.6s,baz=216,slow=9.3,SNR=6.4						
SONM				LR	LR	12 28 49.0	
	comp=Z,126nm,21.3s,baz=178,slow=39						
MKAR	**Makanchi Array**	**26.36**	**339**	P	**P**	**12 17 22.1**	**+1.3**
	comp=Z,3.9nm,0.7s,baz=145,slow=11,SNR=8.8						
MKAR				LR	LR	12 29 18.3	
	comp=Z,62nm,19.3s,baz=164,slow=40						
ULN	**Ulaanbaatar**	**26.56**	**17**	*e*P	**P**	**12 17 23.0**	**+0.2**
	comp=Z,9.9nm,1.5s						
AAK	**Ala-Archa**	**26.65**	**323**	P	**P**	**12 17 25.5**	**+1.8**
	comp=Z,4.7nm,0.8s,baz=131,slow=5.0,SNR=16						
AAK	**Ala-Archa**	**26.65**	**323**	*e*P	**P**	**12 17 24.5**	**+0.8**
	comp=Z,5.6nm,0.8s						
PPBI	**Pangkal Pinang**	**26.72**	**157**	P	**P**	**12 17 27.9**	**+3.6**
HMDM	**Hanimaadhoo**	**27.08**	**238**	*e*P	**P**	**12 17 28.7**	**+1.1**
	comp=Z,266nm,1.2s						
KURBB	**Kurchatov Arra**	**30.93**	**338**	P	**P**	**12 18 01.9**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=149,slow=8.6,SNR=14						
KURK	**Kurchatov**	**30.98**	**338**	*e*P	**P**	**12 18 01.9**	**0.0**
	comp=Z,3.7nm,0.8s						
KSRS	**Korea Array**	**31.12**	**55**	LR	LR	12 31 54.3	
	comp=Z,33nm,19.7s,baz=238,slow=39						
ZALV	**Zalesovo Beam**	**32.23**	**348**	P	**P**	**12 18 13.1**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=151,slow=8.0,SNR=4.1						
ZALV	**Zalesovo Beam**	**32.23**	**348**	*e*P	**P**	**12 18 13.8**	**+1.0**
CISI	**Cisompet, Garu**	**32.32**	**158**	*e*P	**P**	**12 18 13.1**	**-1.0**
	comp=Z,54nm,1.3s						
BRVK	**Borovoye**	**35.98**	**334**	*e*P	**P**	**12 18 46.1**	**+0.6**
	comp=Z,2.3nm,0.8s						
USRK	**Ussuriysk Ar.**	**36.47**	**45**	P	**P**	**12 18 49.2**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=248,slow=8.4,SNR=4.5						
MJAR	**Matsushiro Arr**	**38.91**	**60**	P	**P**	**12 19 10.0**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=259,slow=10,SNR=4.4						
MJAR				LR	LR	12 36 56.6	
	comp=Z,91nm,18.0s,baz=260,slow=39						
AKTO	**Aktyubinsk**	**40.39**	**323**	P	**P**	**12 19 21.9**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=133,slow=9.4,SNR=3.6						
ARU	**Arti**	**43.31**	**331**	LR	LR	12 40 20.0	
	comp=Z,62nm,18.6s,baz=118,slow=40						
TIXI	**Tiksi**	**52.37**	**13**	*e*P	**P**	**12 20 56.0**	**-0.4**
	comp=Z,4.6nm,0.5s						
OBN	**Obninsk**	**54.17**	**322**	LR	LR	12 45 02.5	
	comp=Z,33nm,21.3s,baz=164,slow=37						
WRA	**Warramunga Arr**	**56.65**	**136**	P	**P**	**12 21 26.1**	**-2.1**
	comp=Z,1.5nm,0.7s,baz=327,slow=7.8,SNR=8.1						
AKASG	**Malin Array Be**	**58.05**	**316**	P	**P**	**12 21 36.3**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=85,slow=5.2,SNR=4.2						
ASAR	**Alice Springs**	**59.11**	**139**	P	**P**	**12 21 44.4**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=319,slow=7.1,SNR=19						
NOA	**NORSAR Array B**	**67.81**	**328**	LR	LR	12 54 52.9	
	comp=Z,20nm,20.3s,baz=298,slow=38						
GERES	**GERESS Array B**	**68.19**	**315**	P	**P**	**12 22 44.2**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=64,slow=6.1,SNR=4.1						

*ISCJB **28** 12:11:45.1±0.5,31.14N±0.05×130.4E±0.1,h149km±4km, mb3.8/7,Error ellipse: s-maj=15.5km s-min=8.8km az=1.0*
*IDC **28** 12:11:45.3±7.2,31.08N×130.24E,h132km±57km,mb3.4/6, mb1 3.4/7,mb1mx3.2/39,mbtmp3.7/7,Error ellipse: s-maj=81.9km s-min=17.5km az=66.0*
*JMA **28** 12:11:47.2±0.1,31.14N×130.40E,h139km±1km,M3.2*
ISC 28 12:11:46.2±0.8,31.11N±0.05×130.32E±0.09,h146km±6km, n17,σ0.99/24,mb3.6/7,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSU	**Suzuyama**	**0.41**	**16**	P	**Pn**	**12 12 06.9**	**+0.1**
JSU				S	**Sn**	**12 12 21.6**	**-0.8**
JTSR	**Tashiro 2**	**0.52**	**84**	P	**Pn**	**12 12 07.1**	**-0.2**
JTSR				S	**Sn**	**12 12 22.1**	**-1.1**
JTN	**Tanegashima 3**	**0.73**	**129**	P	**Pn**	**12 12 08.7**	**+0.2**
JTN				S	**Sn**	**12 12 25.0**	**-0.4**
JSJ	**Shimokoshiki**	**0.77**	**318**	P	**Pn**	**12 12 08.8**	**0.0**
JSJ				S	**Sn**	**12 12 25.6**	**-0.4**
JMTN	**Minamitane**	**0.87**	**145**	P	**Pn**	**12 12 09.8**	**+0.2**
JMTN				S	**Sn**	**12 12 27.2**	**-0.1**
JYAK	**Yakushimahirau**	**0.89**	**169**	P	**Pn**	**12 12 10.1**	**+0.4**
JYAK				S	**Sn**	**12 12 27.1**	**-0.5**
JTZ	**Takazaki**	**1.02**	**40**	P	**Pn**	**12 12 10.7**	**-0.1**
JTZ				S	**Sn**	**12 12 28.4**	**-1.2**
JNN	**Nakanoshima**	**1.32**	**197**	P	**Pn**	**12 12 14.8**	**+1.1**
JNN				S	**Sn**	**12 12 36.1**	**+1.4**
JOW	**Kunigami**	**4.63**	**203**	P	**Pn**	**12 12 53.6**	**-1.0**
	1.8nm,0.3s,baz=80,slow=16,SNR=3.6						
JOW				S	**Sn**	**12 13 44.9**	**-3.1**
	2.7nm,0.3s,baz=122,slow=22,SNR=8.3						
MKAR	**Makanchi Array**	**39.86**	**307**	P	**P**	**12 19 05.8**	**+0.3**
	0.7nm,0.8s,baz=95,slow=9.

comp=Z,40nm,18.7s,baz=234,slow=35
ASAR **Alice Springs** **25.27 219** P P 12 56 58.5 0.0
0.8nm,0.3s,baz=52,slow=9.3,SNR=36
ILAR **Eielson Array** **82.47 22** P P 13 03 52.3 0.0
0.3nm,0.6s,baz=247,slow=5.5,SNR=6.0

DJA 28 12:56:37.4±1.5, 8°S±5°×11°4E±°, h10km, M2.3/3, MLv2.3/3, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**0.38**	**147**	P	Pg	12 56 45.4	+0.4
JAGI				S	Sb	12 56 52.1	-0.2
BLJI	**Banyuglugur**	**0.53**	**320**	P	Pn	12 56 52.7	+1.7
SRBI	**Singaraja**	**1.26**	**87**	P	Pn	12 57 00.9	-0.2

JMA 28 12:58:11.4, 35°.77N×137°.56E, h10±1km, M3.2, 1C-1D Broadband fault plane solution: P waves. NP1: ϕ_s261.00000°, δ87.00000°, λ-160.00000°. **NP2:** ϕ_s170.00000°, δ70.00000°, λ-3.00000°. **Principal axes:** T Plg12.0000°, Azm34.0000°; N Plg70.0000°, Azm269.0000°; P Plg16.0000°, Azm127.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGF	**Kuroka**	**0.24**	**224**	⇑P	Pg	12 58 16.2	-0.1
JGF				S	Sg	12 58 19.6	+0.1
JYTA	**Yamagatataniai**	**0.69**	**256**	P	Pg	12 58 24.6	-0.2
JYTA				S	Sg	12 58 33.6	-0.3
JYN	**Shimob**	**0.85**	**108**	⇓P	Pg	12 58 27.6	-0.1
JYN				S	Sb	12 58 39.3	-0.4
JTT	**Ttatey**	**0.85**	**348**	P	Pg	12 58 27.9	0.0
JTT				S	Sg	12 58 39.0	0.0
SHZ3	**Shizuoka 3**	**0.88**	**143**	P	Pg	12 58 27.8	-0.6
SHZ3				S	Sg	12 58 39.6	-0.2
MAT	**Matsushiro**	**0.93**	**34**	P	Pg	12 58 28.8	-0.6
MAT				S	Sg	12 58 41.1	-0.4

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*KRAR **28** 13:07:50.0±0.2, 53°.68N×87°.41E, M2.7, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
NNC 28 13:07:54.3±2.1, 53°.68N×87°.43E, h0km, mb3.8, mpv3.4, 8C-7D, Error ellipse: s-maj=17.5km s-min=9.5km az=45.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**1.57**	**281**	⇑P	Pn	13 08 22.1	-1.3
	8.9nm,0.3s						
ZAA0				⇑S	Sn	13 08 44.4	-0.1
	14nm,0.3s						
KURK	**Kurchatov**	**6.17**	**245**	⇑Pn	Pn	13 09 28.7	+2.0
	4.6nm,1.3s						
KURK				⇓Sn	Sn	13 10 40.3	+2.4
	1.0nm,0.3s						
KURK				⇑Lg	Lg	13 11 10.7	
	18nm,0.7s						
KURBB	**Kurchatov Arra**	**6.27**	**244**	⇑Pn	Pn	13 09 30.3	+2.3
	2.4nm,0.4s						
KURBB				⇓Sn	Sn	13 10 40.3	0.0
	10nm,0.6s						
KURBB				⇑Lg	Lg	13 11 13.8	
	26nm,0.7s						
MK31	**Makanchi Array**	**7.63**	**208**	⇓Pn	Pn	13 09 47.4	+0.6
	0.5nm,0.2s,baz=30,slow=14,SNR=66						
MK31				⇓Sn	Sn	13 11 12.6	-1.3
	1.3nm,0.5s,baz=34,slow=26,SNR=6.0						
MK31				⇑Lg	Lg	13 11 55.5	
	8.7nm,0.9s,baz=30,slow=31,SNR=3.9						
BVA0	**Borovoye Array**	**10.21**	**273**	⇓Pn	Pn	13 10 23.5	+1.5
	2.8nm,0.7s						
BVA0				⇓Sn	Sn	13 12 19.6	+2.5
	3.3nm,0.8s						
BRVK	**Borovoye**	**10.27**	**273**	⇓Pn	Pn	13 10 24.2	+1.5
	1.2nm,0.5s						
BRVK				⇑Sn	Sn	13 12 19.0	+0.6
	3.8nm,0.9s						

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*ISCJB **28** 13:11:15.5±0.4, 24°.81N±0°.02×122°.12E±0°.02, h4km±4km, Error ellipse: s-maj=3.8km s-min=2.9km az=160.8*
*JMA **28** 13:11:16.2, 24°.84N×122°.03E, h44km, M2.5*
*TAP **28** 13:11:16.1, 24°.82N×122°.02E, h18km, ML3.0, B*
ISC 28 13:11:15.9±0.9, 24°.81N±0°.02×122°.08E±0°.02, h15km±7km, n65, σ0s48/89, 12C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIPB	**Shuangxi**	**0.28**	**306**	⇑*i*P	**Pg**	**13 11 21.8**	**-0.1**
	baz=303						
TIPB				*i*S	**Sg**	**13 11 25.4**	**-0.6**
	baz=303						
TWC	**Suao**	**0.28**	**227**	⇑*i*P	**Pg**	**13 11 22.0**	**+0.1**
	baz=221						
TWC				S	**Sg**	**13 11 25.6**	**-0.4**
	baz=221						
ILA	**Ilan**	**0.30**	**263**	*e*P	**Pg**	**13 11 22.4**	**+0.2**
	baz=252						
ILA				*e*S	**Sg**	**13 11 26.5**	**0.0**
	baz=252						
NWF	**Wu-fen Shan**	**0.38**	**315**	⇑*i*P	**Pg**	**13 11 23.7**	**+0.1**
	baz=316						
NWF				S	**Sg**	**13 11 29.2**	**+0.4**
	baz=316						
WFSB	**Wu-fen Shan**	**0.38**	**315**	⇑P	**Pg**	**13 11 23.7**	**+0.1**
	baz=317						
WFSB				S	**Sg**	**13 11 29.1**	**+0.4**
	baz=317						
TWE	**Neicheng**	**0.38**	**258**	⇑*i*P	**Pg**	**13 11 23.7**	**+0.1**
	baz=248						
TWE				S	**Sg**	**13 11 28.7**	**-0.2**
	baz=248						
SLBB	**Yuanshan**	**0.40**	**263**	P	**Pg**	**13 11 24.4**	**+0.3**
	baz=260						
SLBB				S	**Sg**	**13 11 30.0**	**+0.4**
	baz=260						
TWA	**Mucha**	**0.48**	**291**	P	**Pg**	**13 11 25.6**	**+0.2**
	baz=285						
TWA				S	**Sg**	**13 11 31.8**	**-0.1**
	baz=285						
ENA	**Nanau**	**0.48**	**219**	*e*P	**Pb**	**13 11 26.0**	**-0.1**
	baz=215						
ENA				*e*S	**Sb**	**13 11 32.9**	**-0.2**
	baz=215						
ENTT	**Nioudou**	**0.49**	**251**	*e*P	**Pg**	**13 11 26.0**	**+0.3**
	baz=246						
YM07	**YM07**	**0.56**	**312**	⇑*i*P	**Pb**	**13 11 27.3**	**-0.1**
	baz=313						
TATO	**Taipei**	**0.56**	**288**	⇑P	**Pb**	**13 11 27.2**	**-0.3**
	baz=279						
YM01	**YM01**	**0.57**	**307**	⇑*e*P	**Pn**	**13 11 28.7**	**-0.9**
	baz=307						
YM11	**YM11**	**0.58**	**308**	⇑P	**Pb**	**13 11 27.8**	**-0.1**
	baz=309						
YM08	**YM08**	**0.58**	**311**	P	**Pg**	**13 11 27.5**	**+0.1**
	baz=312						
YM10	**YM10**	**0.58**	**307**	⇑*i*P	**Pb**	**13 11 27.9**	**0.0**
	baz=307						
YM05	**YM05**	**0.59**	**308**	⇑P	**Pb**	**13 11 27.9**	**0.0**
	baz=308						
YM04	**YM04**	**0.60**	**305**	*e*P	**Pb**	**13 11 28.2**	**0.0**
	baz=306						
YM03	**YM03**	**0.61**	**308**	P	**Pg**	**13 11 28.2**	**+0.2**
	baz=308						
TWY	**Chenhua**	**0.64**	**317**	⇑P	**Pb**	**13 11 28.8**	**0.0**
	baz=319						
YHNB	**Yeheng**	**0.65**	**258**	P	**Pg**	**13 11 28.5**	**-0.1**
	baz=263						
YHNB				S	**Sg**	**13 11 36.9**	**-0.4**
	baz=263						
NSK	**Sanguang**	**0.67**	**259**	P	**Pg**	**13 11 28.8**	**-0.2**
	baz=264						
NSK				S	**Sg**	**13 11 36.9**	**-0.8**
	baz=264						
TWS1	**Kuangyinshan**	**0.67**	**296**	*e*P	**Pb**	**13 11 29.9**	**+0.6**
	baz=297						
NNS	**Nan Shan**	**0.74**	**241**	*e*P	**Pb**	**13 11 30.7**	**+0.1**
	baz=237						
NACB	**Ninganchiao**	**0.77**	**215**	⇓P	**Pb**	**13 11 31.1**	**+0.2**
	baz=213						
NACB				S	**Sb**	**13 11 41.2**	**-0.1**
	baz=213						
PCYT	**Pengchaiyu**	**0.82**	**360**	*e*P	**Pb**	**13 11 32.2**	**+0.2**
	baz=350						
NCU	**National Centr**	**0.82**	**282**	*e*P	**Pn**	**13 11 32.9**	**-0.2**
	baz=280						
TWD	**Chiawan**	**0.84**	**211**	*e*P	**Pg**	**13 11 32.4**	**+0.1**
	baz=209						
TWD				*e*S	**Sg**	**13 11 43.2**	**-0.1**
	baz=209						
JYNG	**Yonagunijimaku**	**0.86**	**114**	P	**Pg**	**13 11 32.8**	**+0.1**
JYNG				*e*S	**Sg**	**13 11 44.9**	**+0.8**
YOJ	**Yonaguni jima**	**0.92**	**112**	P	**Pb**	**13 11 33.5**	**-0.1**
	baz=112						
YOJ				*e*S	**Sg**	**13 11 45.9**	**+0.3**
	baz=112						
YOJ	**Yonaguni jima**	**0.92**	**112**	P	**Pb**	**13 11 33.4**	**-0.1**
YOJ				S	**Sg**	**13 11 46.1**	**+0.4**
LIOB	**Emei**	**0.98**	**261**	*e*P	**Pn**	**13 11 36.0**	**+0.8**
	baz=259						
TWT	**Tachien**	**0.99**	**236**	*e*P	**Pn**	**13 11 35.9**	**+0.4**
	baz=225						
WHF	**Hehuan Shan**	**0.99**	**229**	*e*P	**Pg**	**13 11 35.4**	**+0.2**
	baz=227						
WHF				*e*S	**Sg**	**13 11 48.7**	**+0.6**
	baz=227						
SBCB	**Hsinchu**	**0.99**	**270**	*e*P	**Pn**	**13 11 36.4**	**+1.1**
	baz=283						
NSTT	**Nanjuang**	**0.99**	**260**	*e*P	**Pn**	**13 11 36.5**	**+1.1**
	baz=270						
TDCB	**Techi**	**1.00**	**237**	*e*P	**Pg**	**13 11 35.2**	**0.0**
	baz=226						
CHGB	**Renai**	**1.11**	**228**	*e*P	**Pg**	**13 11 37.5**	**+0.1**
	baz=220						
CHGB				*e*S	**Sn**	**13 11 52.3**	**0.0**
	baz=220						
ESL	**Shilin**	**1.15**	**211**	*e*P	**Pb**	**13 11 37.7**	**+0.2**
	baz=217						
ESL				*e*S	**Sg**	**13 11 53.6**	**+0.6**
	baz=217						
TWQ1	**Liyutan**	**1.27**	**249**	*e*P	**Pg**	**13 11 40.9**	**+0.5**
	baz=266						
VWDT	**VWDT**	**1.35**	**219**	*e*P	**Pb**	**13 11 41.5**	**+0.5**
	baz=218						
SMLT	**Sun Moon Lake**	**1.41**	**230**	*e*P	**Pg**	**13 11 42.9**	**-0.2**
	baz=228						
TYC	**Yuchr**	**1.43**	**231**	*e*P	**Pg**	**13 11 43.7**	**+0.3**
	baz=223						
HGSD	**Ruisui**	**1.44**	**205**	*e*P	**Pb**	**13 11 42.8**	**+0.4**
	baz=220						
SSLB	**Suanglung**	**1.44**	**226**	*e*P	**Pb**	**13 11 42.7**	**+0.2**
	baz=225						
EHY	**Hungye**	**1.47**	**208**	*e*P	**Pb**	**13 11 42.6**	**-0.3**
	baz=208						
YULB	**Yu-li**	**1.58**	**207**	*e*P	**Pn**	**13 11 43.9**	**+0.5**
	baz=207						
IRIF	**Iriomote-Funau**	**1.58**	**107**	P	**Pn**	**13 11 42.7**	**-0.7**
IRIF				S	**Sn**	**13 12 03.4**	**-0.1**
TWF1	**Yuli**	**1.61**	**206**	*e*P	**Pb**	**13 11 45.0**	**-0.4**
	baz=218						
HATJ	**Hateruma jima**	**1.74**	**115**	P	**Pn**	**13 11 45.7**	**0.0**
HATJ				S	**Sn**	**13 12 07.6**	**0.0**
FULB	**Fuli**	**1.75**	**204**	*e*P	**Pb**	**13 11 47.3**	**-0.5**
	baz=217						
CHN5	**Tsauling**	**1.75**	**227**	*e*P	**Pg**	**13 11 49.5**	**-0.1**
	baz=227						
JKRS	**Kuro-shima**	**1.85**	**107**	P	**Pn**	**13 11 46.9**	**-0.2**
JKRS				*e*S	**Sn**	**13 12 09.0**	**-1.3**
ELDTW	**Lidau**	**1.88**	**211**	*e*P	**Pb**	**13 11 49.7**	**-0.3**
	baz=199						
JIJ	**Ishigaki jima**	**1.93**	**103**	P	**Pn**	**13 11 48.5**	**+0.2**
JIJ				S	**Sn**	**13 12 12.0**	**-0.3**
TPUB	**Ta-pu**	**2.00**	**222**	*e*P	**Pb**	**13 11 52.6**	**+0.6**
	baz=222						
STYT	**Tauyuan**	**2.03**	**217**	*e*P	**Pb**	**13 11 52.3**	**-0.3**
	baz=217						
JISG	**Ishigakijimahi**	**2.04**	**96**	P	**Pn**	**13 11 50.6**	**+0.8**
JISG				S	**Sn**	**13 12 15.4**	**+0.3**
WTP	**Ta-pu**	**2.05**	**221**	*e*P	**Pb**	**13 11 53.2**	**+0.3**
	baz=221						
TWK	**Hsinying**	**2.11**	**224**	*e*P	**Pb**	**13 11 52.8**	**-1.2**
	baz=223						
CHN1	**Nanshi**	**2.15**	**222**	*e*P	**Pb**	**13 11 54.4**	**-0.1**
	baz=221						
MATB	**Ma-tsu**	**2.35**	**305**	*e*P	**Pn**	**13 11 54.3**	**+0.3**
	baz=303						
VWUC	**VWUC**	**2.39**	**275**	*e*P	**Pn**	**13 11 54.7**	**+0.1**
	baz=274						
SSD	**Sandimen**	**2.44**	**213**	*e*P	**Pb**	**13 11 58.6**	**-1.0**
	baz=214						
MASBT	**Mashibuluo**	**2.55**	**212**	*e*P	**Pb**	**13 11 59.8**	**-1.7**
	baz=212						

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*ATH **28** 13:17:15.4, 36°.77N×28°.21E, h11km±2km, ML2.7/3, Error ellipse: s-maj=4.4km s-min=1.6km az=242.0*
*ISK **28** 13:17:16.5, 36°.65N×27°.97E, h5km, ML2.8/10*
*DDA **28** 13:17:17.6, 36°.66N×27°.97E, h7km, Ml3.0*
ISC 28 13:17:16.7±1.1, 36°.64N±0°.03×27°.96E±0°.02, h6km±10km, n28, σ2s48/41, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSB	**Marmaris-Mugla**	**0.21**	**68**	PG	**Pg**	**13 17 21.4**	**+0.6**
MRSB				SG	**Sg**	**13 17 24.8**	**+1.3**
DATC	**Datca-Mugla**	**0.27**	**297**	PG	**Pg**	**13 17 22.9**	**+1.0**
DATC				SG	**Sb**	**13 17 27.8**	**-1.0**
DAT	**Datca**	**0.32**	**287**	PG	**Pg**	**13 17 23.9**	**+0.9**
DAT	**Datca**	**0.32**	**287**	*i* P	**Pg**	**13 17 23.7**	**+0.8**
DAT				*i* S	**Sb**	**13 17 29.6**	**-0.7**
ARG	**Arkhangelos**	**0.44**	**162**	P	**Pg**	**13 17 25.6**	**+0.4**
ARG				S	**Sb**	**13 17 34.0**	**+0.2**
ARG				AML	AML	13 17 34.9	
	comp=N,2181μm,0.3s						
ARG				AML	AML	13 17 35.4	
	comp=E,1610μm,0.4s						
TURN	**Turunc**	**0.57**	**65**	PG	**Pg**	13 17 22.5	-5.1
TURN				SG	**Sg**	**13 17 26.9**	**-8.1**
TURN	**Turunc**	**0.57**	**65**	*i* P	Pg	13 17 22.4	-5.1
TURN				*i* S	**Sg**	**13 17 27.1**	**-7.9**
DALY	**Dalyan (Mu¨la**	**0.59**	**72**	PG	**Pb**	**13 17 28.8**	**-0.5**
DALY				SG	**Sb**	**13 17 37.9**	**0.0**
DALY	**Dalyan (Mu¨la**	**0.59**	**72**	*i* P	**Pg**	**13 17 28.2**	**+0.2**
DALY				*i* S	**Sb**	**13 17 36.3**	**-1.6**
NIS1	**Nisyros Isl.**	**0.63**	**267**	PG	**Pg**	**13 17 29.6**	**+0.8**
NIS1	**Nisyros Isl.**	**0.63**	**267**	P	**Pn**	**13 17 31.1**	**-1.1**
NIS1				S	**Sn**	**13 17 42.6**	**0.0**
NIS1				AML	AML	13 17 45.8	
	comp=N,2518μm,0.4s						
NIS1				AML	AML	13 17 48.5	
	comp=E,1735μm,0.4s						
BODT	**Bodrum**	**0.67**	**309**	PG	**Pb**	**13 17 30.3**	**-0.5**
MLSB	**Milas**	**0.67**	**347**	PG	**Pb**	**13 17 30.8**	**-0.1**
FETY	**Fethiye**	**0.90**	**90**	PG	**Pb**	**13 17 34.9**	**+0.1**
AYDN	**Tasoluk**	**1.02**	**356**	*i* P	**Pb**	**13 17 36.3**	**-0.5**
AYDN				*i* S	**Sn**	**13 17 51.4**	**-1.0**
TAVA	**DENIZLI_Tavas**	**1.12**	**42**	*i* P	**Pb**	**13 17 38.1**	**-0.5**
TAVA				*i* S	**Sn**	**13 17 56.2**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**1.31**	**358**	PN	**Pg**	**13 17 42.4**	**+0.6**
DNZL	**Cakiroluk**	**1.36**	**39**	*i* P	**Pg**	**13 17 44.9**	**+2.1**
DNZL				*i* S	**Sg**	**13 18 06.0**	**+5.5**
AKAS	**Kas**	**1.39**	**106**	PN	**Pg**	**13 17 43.8**	**+0.5**
AKAS	**Kas**	**1.39**	**106**	*i* P	**Pg**	**13 17 44.1**	**+0.8**
AKAS				*i* S	**Sg**	**13 18 05.6**	**+4.3**
SMG	**Samos**	**1.40**	**320**	P	**Pn**	**13 17 42.2**	**-0.5**
SMG				S	**Sg**	**13 18 01.8**	**+0.3**
SMG				AML	AML	13 18 05.9	
	comp=N,228μm,0.4s						
SMG				AML	AML	13 18 07.4	
	comp=E,249μm,0.6s						
GOLH	**Golhisar**	**1.42**	**65**	*i* P	**Pg**	**13 17 44.7**	**+0.9**
GOLH				*i* S	**Sg**	**13 18 07.5**	**+5.3**
ELL	**Elmali**	**1.57**	**85**	PN	**Pg**	**13 17 47.1**	**+0.3**
AMGA	**Amorgos Island**	**1.67**	**277**	P	**Pg**	**13 17 49.1**	**+0.4**
ANAF	**Anafi Island**	**1.78**	**262**	P	**Pg**	**13 17 51.9**	**+1.0**
KORT	**Korkueli**	**1.95**	**79**	PN	**Pb**	**13 17 52.3**	**-0.4**
URLA	**Izmir**	**2.03**	**328**	PN	**Pb**	**13 17 53.5**	**-0.5**
CHOS	**Chios island**	**2.31**	**320**	P	**Pn**	**13 17 55.8**	**+0.4**

MEX 28 13:24:36.8±0.6, 16°.96N×100°.55W, h14km±8km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.28**	**72**	*e*P	Pg	13 24 42.0	-0.7
CAIG				*i* S	Sg	13 24 47.0	+0.3
ACP2	**Acapulco**	**0.64**	**98**	*e*P	Pg	13 24 47.8	-1.5
ACP2				*i* S	Sg	13 24 55.4	-2.4
ACX	**Acapulco**	**0.67**	**98**	*e*P	Pg	13 24 48.2	-1.6
ACX				*i* S	Sg	13 24 55.2	-3.5
ZIIG	**Zihuatanejo**	**1.09**	**306**	*i* P	Pb	13 24 53.7	-3.6
ZIIG				*i* S	Sb	13 25 07.8	-3.6
MEIG	**Mezcala**	**1.30**	**43**	*e*P	Pn	13 24 57.0	-3.7
MEIG				*e*S	Sb	13 25 13.1	-4.7
ARIG	**Puente Sto Nin**	**1.32**	**8**	*e*P	Pn	13 24 57.0	-4.0
ARIG				*i* S	Sb	13 25 12.8	-5.6

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*IDC **28** 13:25:17.5±2.6, 12°.35N×88°.25W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.7/30, mbtmp3.8/5, ML2.4/1, Error ellipse: s-maj=63.4km s-min=47.0km az=51.0*
*ISCJB **28** 13:25:20.9±0.9, 12°.32N±0°.07×88°.57W±0°.05, h35km, mb3.7/5, Error ellipse: s-maj=10.6km s-min=5.1km az=24.4*
*UCR **28** 13:25:21.3±1.7, 12°.45N×88°.54W, h72km±46km, ML3.6*
ISC 28 13:25:23.2±1.1, 12°.40N±0°.09×88°.51W±0°.06, h35km, n24, σ1s32/27, mb3.9/5, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSM	**San Miguel**	**1.05**	**13**	*e*P	**Pn**	**13 25 41.4**	**-0.2**
TECA	**Tecapa**	**1.09**	**1**	*e*P	**Pn**	**13 25 40.5**	**-1.6**
LCND	**La Ca¯–ada**	**1.09**	**34**	*e*P	**Pn**	**13 25 41.0**	**-1.0**
LCND				*e*S	**Sn**	**13 25 55.4**	**-0.5**
LCND				IAML		13 26 00.4	
	comp=Z,1μm,0.4s						
CNCH	**Conchagua**	**1.09**	**37**	IAML		13 26 03.7	
	comp=Z,794nm,0.4s						
CSGN	**Cosiguina Volc**	**1.09**	**58**	*e*P	**Pn**	**13 25 42.8**	**+0.7**
CSGN				*e*S	**Sn**	**13 25 57.5**	**+1.4**
LFRS	**El Faro**	**1.33**	**336**	*e*P	**Pn**	**13 25 43.7**	**-1.7**
PAVA	**Las Pavas**	**1.37**	**343**	*e*S	**Sn**	**13 26 02.2**	**-0.7**
PAVA				IAML		13 26 06.6	
	comp=Z,1μm,0.3s						
LOMA	**San Marcos**	**1.40**	**333**	*e*P	**Pn**	**13 25 44.8**	**-1.5**
LOMA				*e*S	**Sn**	**13 26 03.3**	**-0.3**
LOMA				IAML		13 26 07.9	
	comp=Z,953nm,0.4s						
CRIN	**San Cristobal**	**1.46**	**78**	*e*P	**Pn**	**13 25 46.3**	**-0.8**
CRIN				IAML		13 26 18.0	
	comp=E,1μm,0.2s						
LFU	**La Fuente**	**1.46**	**337**	*e*P	**Pn**	**13 25 45.3**	**-1.8**
BOQS	**Boqueron**	**1.52**	**331**	*e*P	**Pn**	**13 25 46.8**	**-1.4**
CNGN	**Cerro Negro**	**1.78**	**87**	*e*P	**Pn**	**13 25 50.8**	**-0.6**
CNGN				*e*S	**Sn**	**13 26 12.7**	**-0.2**
SNJE	**San Jose**	**1.81**	**324**	*e*P	**Pn**	**13 25 50.0**	**-2.0**
COPN	**Copaltepe**	**1.89**	**96**	*e*P	**Pn**	**13 25 51.4**	**-1.7**
COPN				IAML		13 26 26.4	
	comp=Z,351nm,0.6s						
MOMN	**Momotombo**	**1.93**	**90**	*e*P	**Pn**	**13 25 52.4**	**-1.2**
MATN	**Matagalpa**	**2.58**	**78**	*e*P	**Pn**	**13 26 00.5**	**-2.1**
APG	**El Apazote**	**3.21**	**324**	Pn	**Pn**	**13 26 13.6**	**+2.2**
	comp=Z,0.4nm,0.3s,baz=111,slow=10,SNR=2.2						
TXAR	**Lajitas Array**	**21.96**	**322**	P	**P**	**13 30 15.8**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=141,slow=11,SNR=9.9						
TKL	**Tuckaleechee C**	**23.55**	**10**	P	**P**	**13 30 31.0**	**+0.6**
	comp=Z,3.2nm,0.7s,baz=173,slow=5.3,SNR=3.8						
ULM	**Lac du Bonnet**	**38.22**	**352**	P	**P**	**13 32 39.8**	**+0.1**
	comp=Z,3.7nm,0.9s,baz=152,slow=7.6,SNR=3.8						
YKA	**Yellowknife Ar**	**53.39**	**345**	P	**P**	**13 34 38.1**	**-1.0**
	comp=Z,1.6nm,0.7s,baz=134,slow=8.0,SNR=13						
ILAR	**Eielson Array**	**65.65**	**336**	P	**P**	**13 36 03.3**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=174,slow=4.6,SNR=4.8						
WRA	**Warramunga Arr**	**138.26**	**254**	PKP	**PKPdf**	**13 44 47.0**	**+1.3**
	comp=Z,0.2nm,0.8s,baz=94,slow=2.3,SNR=3.5						
CMAR	**Chiang Mai Arr**	**148.47**	**346**	PKPbc	**PKPbc**	**13 45 07.6**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=349,slow=3.5,SNR=8.5						

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*ISK **28** 13:34:56.5, 39°.96N×33°.11E, h11km±1km, ML2.0/5*
*DDA **28** 13:34:56.8, 39°.77N×33°.23E, h8km, Ml2.6, Suspected Mining explosion.*
*ISCJB **28** 13:34:58.2±0.7, 39°.88N±0°.04×33°.11E±0°.05, h0km, Error ellipse: s-maj=5.8km s-min=4.8km az=31.4*
ISC 28 13:34:57.5±0.9, 39°.79N±0°.05×33°.14E±0°.04, h0km, n9, σ0s92/15, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANTO	**Ankara**	**0.27**	**286**	PG	**Pg**	**13 35 01.4**	**-1.3**
ANTO				SG	**Sg**	**13 35 06.5**	**+0.2**
LOD	**Lodumlu**	**0.30**	**289**	PG	**Pg**	**13 35 02.8**	**-0.5**
LOD				SG	**Sg**	**13 35 07.1**	**-0.1**
AFSR	**Af¯ar-Bala (A**	**0.35**	**188**	PG	**Pb**	**13 35 06.9**	**+0.3**
AFSR				SG	**Sb**	**13 35 14.5**	**+1.7**
ELDT	**Eldivan**	**0.73**	**18**	*e*P	**Pg**	**13 35 10.5**	**-1.0**
ELDT				*e*S	**Sg**	**13 35 22.2**	**+1.2**
KULU	**Kulu**	**0.76**	**188**	PG	**Pn**	**13 35 14.8**	**-0.7**
CMDR	**Camlidere-ANKA**	**0.86**	**324**	*i* P	**Pg**	**13 35 13.8**	**-0.2**
CMDR				*i* S	**Sn**	**13 35 29.9**	**-0.6**
CORM	**Corum**	**1.21**	**71**	PN	**Pg**	**13 35 19.8**	**-0.9**
BCAM	**Yenicaga**	**1.31**	**322**	*i* P	**Pg**	**13 35 22.4**	**-0.2**
BCAM				*i* S	**Sn**	**13 35 42.2**	**+0.8**
ILGA	**Ilgaz**	**1.33**	**19**	*e*P	**Pg**	**13 35 22.6**	**-0.4**

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*ATH **28** 13:37:00.5, 36°.70N×28°.06E, h26km±1km, ML3.1/3, Error ellipse: s-maj=3.7km s-min=1.2km az=214.0*
*THE **28** 13:37:01.6, 36°.65N×27°.97E, h0km±1km, ML3.0/3, Error ellipse: s-maj=1.5km s-min=0.6km az=47.0*
*ISK **28** 13:37:01.3, 36°.59N×27°.95E, h6km, ML3.2/14*
*ISCJB **28** 13:37:02.3±0.4, 36°.61N±0°.03×27°.94E±0°.02, h9km±3km, Error ellipse: s-maj=4.6km s-min=3.0km az=179.6*
*DDA **28** 13:37:02.2, 36°.66N×27°.92E, h19km, Ml3.3*
ISC 28 13:37:02.5±0.9, 36°.62N±0°.02×27°.93E±0°.02, h11km±7km, n49, σ1s08/66, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSB	**Marmaris-Mugla**	**0.24**	**66**	PG	**Pg**	**13 37 06.4**	**-1.1**
MRSB				SG	**Sg**	**13 37 10.2**	**-0.6**
DATC	**Datca-Mugla**	**0.26**	**303**	PG	**Pg**	**13 37 07.7**	**-0.1**
DATC				SG	**Sg**	**13 37 12.6**	**+1.3**
DAT	**Datca**	**0.30**	**291**	PG	**Pg**	**13 37

TAVA	**DENIZLI_Tavas**	**1.16**	**43**	*i*	P	**Pb**	**13 37 23.6**	**-0.9**
TAVA				*i*	S	**Sn**	**13 37 41.8**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**1.32**	**359**		PN	**Pn**	**13 37 26.9**	**-0.2**
DNZL	**Cakiroluk**	**1.39**	**40**	*i*	P	**Pb**	**13 37 28.7**	**+0.1**
DNZL				*i*	S	**Sg**	**13 37 52.4**	**+5.0**
SMG	**Samos**	**1.39**	**322**		P	**Pn**	**13 37 26.6**	**-1.3**
SMG	**Samos**	**1.39**	**322**		P	**Pn**	**13 37 26.8**	**-1.1**
AKAS	**Kas**	**1.41**	**105**		PN	**Pn**	**13 37 27.9**	**-0.3**
AKAS	**Kas**	**1.41**	**105**	*i*	P	**Pb**	**13 37 28.7**	**-0.2**
AKAS				*i*	S	**Sg**	**13 37 50.4**	**+2.6**
DENT	**Denizli**	**1.44**	**38**		PN	**Pn**	**13 37 28.5**	**0.0**
GOLH	**Golhisar**	**1.45**	**64**	*i*	P	**Pg**	**13 37 30.0**	**-0.3**
GOLH				*i*	S	**Sg**	**13 37 48.8**	**-0.3**
ELL	**Elmali**	**1.60**	**85**		PN	**Pn**	**13 37 30.5**	**-0.3**
AMGA	**Amorgos Island**	**1.65**	**278**		P	**Pn**	**13 37 31.1**	**-0.3**
AMGA	**Amorgos Island**	**1.65**	**278**		P	**Pn**	**13 37 30.7**	**-0.7**
GMLD	**Gumuldur**	**1.66**	**331**		PN	**Pb**	**13 37 32.3**	**-0.8**
ANAF	**Anafi Island**	**1.76**	**262**		P	**Pn**	**13 37 32.7**	**-0.2**
MANT	**Manisa**	**1.93**	**15**	*i*	P	**Pn**	**13 37 34.7**	**-0.8**
MANT				*i*	S	**Sg**	**13 38 06.0**	**+1.3**
APE	**Apeiranthos**	**1.98**	**284**		PN	**Pn**	**13 37 35.3**	**-0.7**
APE	**Apeiranthos**	**1.98**	**284**		P	**Pn**	**13 37 35.2**	**-0.7**
KORT	**Korkueli**	**1.98**	**78**		PN	**Pn**	**13 37 35.9**	**-0.2**
KORT	**Korkueli**	**1.98**	**78**	*i*	P	**Pb**	**13 37 39.1**	**+0.5**
KORT				*i*	S	**Sg**	**13 38 07.9**	**+1.7**
SANT	**Santorini**	**2.00**	**264**		PN	**Pn**	**13 37 36.8**	**+0.5**
URLA	**Izmir**	**2.04**	**329**		PN	**Pn**	**13 37 37.6**	**+0.9**
ZKR	**Zakros**	**2.05**	**223**		P	**Pn**	**13 37 37.8**	**+0.9**
KHAL	**Karahalli**	**2.14**	**35**	*i*	P	**Pn**	**13 37 39.0**	**+0.7**
KHAL				*i*	S	**Sb**	**13 38 07.4**	**-0.7**
CHOS	**Chios island**	**2.31**	**320**		P	**Pn**	**13 37 39.5**	**-1.0**
NPS	**Neapolis**	**2.32**	**235**		P	**Pn**	**13 37 41.0**	**+0.4**
LAST	**Lasithi**	**2.46**	**235**		P	**Pn**	**13 37 43.6**	**+0.9**
SUTC	**Sutluce-Ispart**	**2.60**	**70**		PN	**Pn**	**13 37 45.6**	**+1.0**

*ISCJB **28** 13:41:00.8±0.6, 50°.22N±0°.04×19°.22E±0°.03, h0km, Error ellipse: s-maj=5.5km s-min=2.9km az=17.0*
*PRU **28** 13:41:02.6±0.0, 50°.21N×19°.26E, h0km*
*WAR **28** 13:41:02.7, 50°.18N×19°.34E, h1km, Mw2.8*

ISC 28 13:41:02.2±0.9, 50°.16N±0°.04×19°.30E±0°.02, h0km, n18, σ0s74/33, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OJC	**Ojcow**	**0.32**	**80**	*e*Pg		**Pg**	**13 41 08.4**	**0.0**
OJC				*e*Sg		**Sg**	**13 41 12.9**	**+0.3**
OJC	**Ojcow**	**0.32**	**80**	*e*Pg		**Pg**	**13 41 08.4**	**0.0**
OJC				*e*Sg		**Sg**	**13 41 12.9**	**+0.3**
OKC	**Ostrava-Krasne**	**0.81**	**247**	*e*PG		**Pg**	**13 41 19.1**	**-0.1**
OKC				*e*SG		**Sg**	**13 41 29.3**	**+1.0**
	comp=Z,32nm,0.4s							
NIE	**Niedzica**	**0.98**	**139**	*e*Pg		**Pg**	**13 41 21.3**	**+0.2**
NIE				*e*Sg		**Sb**	**13 41 36.0**	**+0.3**
NIE	**Niedzica**	**0.98**	**139**	*e*Pg		**Pg**	**13 41 21.3**	**+0.2**
NIE				*e*Sg		**Sb**	**13 41 36.0**	**+0.3**
LANS	**Liptovska Anna**	**1.02**	**174**	*e*PG		**Pg**	**13 41 22.2**	**+0.5**
LANS				*e*SG		**Sb**	**13 41 37.0**	**+0.3**
MORC	**Moravsky Berou**	**1.20**	**252**	*e*PG		**Pg**	**13 41 25.1**	**-0.1**
MORC				*e*SG		**Sg**	**13 41 40.9**	**+0.1**
KOLL	**Kolacno**	**1.69**	**201**	*e*PG		**Pg**	**13 41 35.1**	**+0.5**
KOLL				*e*SN		**Sg**	**13 41 57.2**	**+0.7**
VYHS	**Vyhne**	**1.70**	**191**	*e*PN		**Pn**	**13 41 32.6**	**-0.5**
VYHS				*e*SN		**Sn**	**13 41 54.8**	**-0.7**
VYHS				eLg			13 42 00.6	
DPC	**Dobruska-Polom**	**1.92**	**277**	*e*PG		**Pn**	**13 41 35.7**	**-0.6**
DPC				*e*SG		**Sn**	**13 42 01.6**	**+0.4**
	comp=Z,25nm,0.5s							
VRAC	**Vranov**	**1.96**	**245**	*e*PN		**Pn**	**13 41 36.7**	**0.0**
VRAC				*e*SG		**Sb**	**13 42 03.7**	**+0.1**
KSP	**Ksiaz**	**2.04**	**291**	*e*Pg		**Pg**	**13 41 42.4**	**+1.1**
KSP				*e*Sg		**Sg**	**13 42 07.2**	**-0.5**
KSP	**Ksiaz**	**2.04**	**291**	*e*Pg		**Pg**	**13 41 42.4**	**+1.1**
KSP				*e*Sg		**Sg**	**13 42 07.2**	**-0.5**
UPC	**Upice**	**2.14**	**281**	*e*SG		**Sb**	**13 42 08.8**	**-0.1**
	comp=Z,19nm,0.5s							
KRUC	**Moravsky**	**2.19**	**241**	*e*PN		**Pb**	**13 41 42.3**	**-0.4**
KRUC				*e*SG		**Sb**	**13 42 11.1**	**+0.8**
GOPC	**GO Pecny, Ondr**	**2.92**	**267**	*e*PG		**Pg**	**13 41 57.5**	**-0.7**
GOPC				*e*SG		**Sb**	**13 42 33.3**	**+1.8**
	comp=Z,8.8nm,0.5s							
PVCC	**Panska Ves**	**3.06**	**279**	*e*SG		**Sg**	**13 42 40.3**	**0.0**
	comp=Z,23nm,0.4s							
KHC	**Kasperske Hory**	**3.86**	**257**	*ex*		x	13 42 16.7	
KHC				*e*SG		**Sg**	**13 43 04.0**	**-2.2**
	comp=Z,9.1nm,0.5s							

*ISCJB **28** 13:41:58.3±0.6, 8°.83N±0°.03×126°.42E±0°.05, h63km±6km, mb4.1/18, Error ellipse: s-maj=9.0km s-min=4.3km az=155.5*
*MAN **28** 13:41:59.0, 8°.83N×126°.34E, h23km, mb4.8, ML3.7, MS3.7*
*IDC **28** 13:41:58.0±0.8, 8°.84N×126°.36E, h38km±7km, mb3.8/13, mb1 4.0/15, mb1mx3.8/47, mbtmp4.1/15, ML4.5/2, MS3.0/17, Ms1 3.0/17, ms1mx2.9/36, Error ellipse: s-maj=28.8km s-min=10.8km az=81.0*
*NEIC **28** 13:41:58.8±0.5, 8°.89N×126°.48E, h48km±5km, mb4.3/9, Error ellipse: s-maj=11.0km s-min=5.2km az=85.0*
*DJA **28** 13:42:10.6±2.8, 8°.N±24°×12°.7E±1°.0, h63km±10km, M4.5/7, mb4.4/7, mB5.4/2, MLv4.5/1, Mw(mB)4.9/2*

ISC 28 13:41:58.7±0.6, 8°.86N±0°.03×126°.42E±0°.06, h41km±7km, n69, σ1s79/72, mb4.1/19, MS2.9/13, 3C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BIPH	**Bislig**	**0.68**	**185**	‖*e*P		**Pn**	**13 42 11.7**	**-0.1**
BIPH				*e*S		**Sn**	**13 42 20.4**	**-0.8**
BUTP	**Butuan**	**0.80**	**278**	*e*P		**Pn**	**13 42 12.6**	**-1.0**
BUTP				*e*S		**Sn**	**13 42 25.3**	**+1.0**
BUKP	**Musuan**	**1.66**	**234**	*e*P		**Pn**	**13 42 25.8**	**+0.4**
BUKP				*e*S		**Sn**	**13 42 46.1**	**+0.5**
CGP	**Cagayan de Oro**	**1.76**	**257**	‖*e*P		**Pn**	**13 42 26.1**	**-0.6**
CGP				*e*S		**Sn**	**13 42 45.7**	**-2.1**
MATI	**Mati**	**1.91**	**185**	*e*P		**Pn**	**13 42 30.3**	**+1.5**
MATI				*e*S		**Sn**	**13 42 53.1**	**+1.5**
DAV	**Davao City (W)**	**1.97**	**205**	Pn		**Pn**	**13 42 32.8**	**+3.3**
	139nm,0.3s,baz=45,slow=2.9,SNR=1							
DAV				Sn		**Sn**	**13 42 56.9**	**+3.9**
	90nm,0.3s,baz=84,slow=22,SNR=6.3							
DAV	**Davao City (W)**	**1.97**	**205**	*e*Pn		**Pn**	**13 42 31.9**	**+2.4**
DAV				Sn		**Sn**	**13 42 56.9**	**+3.9**
MSLP	**Maasin**	**2.00**	**309**	*e*P		**Pn**	**13 42 31.1**	**+1.2**
MSLP				*e*S		**Sn**	**13 42 57.0**	**+3.3**
TBP	**Tagbilaran**	**2.66**	**288**	*e*P		**Pn**	**13 42 39.4**	**+0.3**
TBP				*i* S		**Sn**	**13 43 11.5**	**+1.4**
PLP	**Palo**	**2.70**	**328**	‖*e*P		**Pn**	**13 42 41.5**	**+1.9**
PLP				*e*S		**Sn**	**13 43 14.8**	**+3.8**
CTBH	**Cotabato--PC H**	**2.70**	**233**	⍑*i*P		**Pn**	**13 42 40.1**	**+0.4**
OCLP	**Ormoc**	**2.82**	**321**	*e*P		**Pn**	**13 42 43.1**	**+1.9**
LLP	**Lapu-Lapu**	**2.82**	**301**	*e*P		**Pn**	**13 42 40.9**	**-0.5**
LLP				*e*S		**Sn**	**13 43 15.8**	**+1.7**
PAGZ	**Pagadian**	**3.17**	**252**	*e*P		**Pn**	**13 42 47.4**	**+1.2**
SNPH	**Sibulan**	**3.18**	**279**	‖*e*P		**Pn**	**13 42 46.7**	**+0.4**
SNPH				*e*S		**Sn**	**13 43 22.4**	**-0.7**
IPIL	**Ipil**	**3.96**	**255**	*e*P		**Pn**	**13 42 59.4**	**+2.5**
RCP	**Roxas**	**4.51**	**307**	⍑*e*P		**Pn**	**13 43 06.8**	**+2.3**
SIJI	**Sorong**	**10.80**	**153**	Pn		**Pn**	**13 44 31.6**	**+0.7**
	1.5nm,0.3s,baz=352,slow=13,SNR=8.0							
SIJI				LR		LR	13 49 28.4	
	comp=Z,38nm,19.2s,baz=320,slow=42							
SANI	**Sanana**	**10.85**	**182**	P		**Pn**	**13 44 31.0**	**-0.5**
	20nm,0.7s,375nm							
TTSI	**Tana Toraja**	**13.54**	**209**	P		**P**	**13 45 13.1**	**-3.4**
	20nm,0.8s							
SPSI	**Sidrap Palu**	**14.36**	**208**	P		**P**	**13 45 25.3**	**-0.4**
BNSI	**Bone**	**14.60**	**206**	P		**P**	**13 45 27.8**	**-0.6**
	39nm,0.9s							
TWG	**Pinlang**	**14.80**	**340**	*e*Pn		**Pn**	**13 45 25.0**	**-0.3**
SBUM	**Sibu**	**15.50**	**247**	*e*Pn		**P**	**13 45 39.2**	**+0.9**
	5.8nm,1.0s							
STKI	**Sintang**	**17.26**	**240**	P		**P**	**13 46 03.9**	**+6.0**
MMRI	**Maumere**	**17.87**	**194**	*e*P		**P**	**13 46 05.0**	**+0.4**
	15nm,0.8s							
JOW	**Kunigami**	**17.96**	**5**	LR		LR	13 53 16.4	
	comp=Z,63nm,19.7s,baz=119,slow=38							
EDFI	**Ende, Flores**	**18.12**	**195**	P		Pn	13 46 21.6	+14
SOEI	**Soe**	**18.62**	**187**	*e*P		**P**	**13 46 12.8**	**-0.2**
	27nm,0.9s							
SOEI	**Soe**	**18.62**	**187**	P		**Pn**	**13 46 18.2**	**+4.6**
GUMO	**Guam**	**18.69**	**74**	LR		LR	13 52 02.8	
	comp=Z,28nm,21.2s,baz=252,slow=32							
BATI	**Baumata**	**19.14**	**188**	P		**P**	**13 46 18.8**	**+0.2**
	3.2nm,0.3s,baz=243,slow=2.9,SNR=7.9							
BATI				LR		LR	13 54 03.3	
	comp=Z,107nm,20.8s,baz=316,slow=38							
BATI	**Baumata**	**19.14**	**188**	P		**Pn**	**13 46 20.8**	**+1.0**
	17nm,1.0s							
JCJ	**Chichijima**	**23.48**	**37**	LR		LR	13 56 57.6	
	comp=Z,21nm,18.6s,baz=270,slow=38							
JNU	**Nakatsue**	**24.49**	**9**	LR		LR	13 58 20.3	
	comp=Z,22nm,18.9s,baz=129,slow=40							
IPM	**Ipoh**	**25.59**	**262**	*e*P		**P**	**13 47 23.0**	**-1.4**
	12nm,1.0s							
PBKT	**Sadao Pong**	**25.96**	**290**	*e*P		**P**	**13 47 28.2**	**+0.6**
	3.6nm,0.8s							
FITZ	**Fitzroy Crossi**	**26.80**	**182**	P		**P**	**13 47 34.4**	**-0.8**
	2.4nm,0.6s,baz=360,slow=8.7,SNR=9.4							
FITZ				LR		LR	13 58 46.2	
	comp=Z,31nm,21.3s,baz=20,slow=38							
FITZ	**Fitzroy Crossi**	**26.80**	**182**	*e*P		**P**	**13 47 34.7**	**-0.4**
	25nm,1.6s							
JHJ	**Hachijo jima 2**	**27.11**	**25**	LR		LR	13 59 00.7	
	comp=Z,38nm,18.6s,baz=322,slow=38							
CMAR	**Chiang Mai Arr**	**28.32**	**293**	P		**P**	**13 47 49.0**	**+0.2**
	0.7nm,0.8s,baz=93,slow=7.0,SNR=6.6							
KSRS	**Korea Array**	**28.50**		3 LR		LR	13 59 01.9	
	comp=Z,29nm,21.1s,baz=210,slow=36							
MAJO	**Matsushiro**	**29.57**	**19**	*e*P		**P**	**13 47 58.9**	**-0.8**
MAJO				*e*			14 00 01.1	
MJAR	**Matsushiro Arr**	**29.57**	**19**	P		**P**	**13 47 58.9**	**-0.8**
	1.5nm,0.7s,baz=192,slow=9.7,SNR=4.5							
MJAR				LR		LR	14 00 01.1	
	comp=Z,28nm,18.5s,baz=200,slow=37							
WR1	**Warramunga Arr**	**29.66**	**165**	*e*P		**P**	**13 47 59.5**	**-1.2**
	52nm,0.8s							
WR1				*e*pP		**pP**	**13 48 10.2**	**-1.7**
WR1				*e*			14 02 51.8	
WRA	**Warramunga Arr**	**29.66**	**165**	P		**P**	**13 47 59.5**	**-1.2**
	2.5nm,0.6s,baz=347,slow=9.5,SNR=24							
WRA				pP		**pP**	**13 48 10.2**	**-1.7**
	1.3nm,0.7s,baz=348,slow=9.8,SNR=5.0							
WRA				LR		LR	14 02 51.8	
	comp=Z,16nm,18.3s,baz=220,slow=42							
AS31	**Alice Springs**	**33.14**	**167**	*e*P		**P**	**13 48 30.5**	**-0.8**
	1.9nm,1.1s							
ASAR	**Alice Springs**	**33.14**	**167**	P		**P**	**13 48 30.7**	**-0.6**
	1.9nm,0.8s,baz=358,slow=8.1,SNR=30							
ASAR				PcP		**PcP**	**13 51 13.3**	**-0.6**
	0.3nm,0.5s,baz=344,slow=3.0,SNR=4.3							
AS01	**Alice Springs**	**33.15**	**167**	*e*P		**P**	**13 48 30.4**	**-1.1**
USRK	**Ussuriysk Ar.**	**35.54**	**7**	P		**P**	**13 48 52.3**	**+0.6**
	4.8nm,0.7s,baz=205,slow=7.3,SNR=9.5							
USRK				pP		**pP**	**13 49 02.5**	**-0.6**
	6.1nm,0.9s,baz=203,slow=8.5,SNR=5.0							
KLR	**Kul'dur**	**40.48**		5 P		**P**	**13 49 33.8**	**+0.3**
	0.7nm,0.5s,baz=173,slow=5.3,SNR=4.1							
SONM	**Songino Array**	**42.39**	**340**	LR		LR	14 07 14.1	
	comp=Z,28nm,18.5s,baz=206,slow=36							
BBOO	**Buckleboo**	**42.44**	**168**	*e*P		**P**	**13 49 49.8**	**+0.1**
	13nm,0.7s							
STKA	**Stephens Creek**	**43.03**	**161**	P		**P**	**13 49 54.7**	**+0.3**
	5.3nm,0.7s,baz=337,slow=9.0,SNR=9.3							
STKA				LR		LR	14 10 25.2	
	comp=Z,18nm,20.1s,baz=26,slow=40							
PETK	**Petropavlovsk-**	**50.85**	**24**	pP		pP	13 51 07.1	0.0
	3.1nm,0.7s,baz=202,slow=2.9,SNR=2.5							
PEA1	**Petropavlovsk-**	**50.86**	**24**	*e*pP		pP	13 51 07.1	0.0
MK32	**Makanchi Array**	**53.24**	**323**	*e*P		**P**	**13 51 11.9**	**-1.2**
MKAR	**Makanchi Array**	**53.24**	**323**	P		**P**	**13 51 11.9**	**-1.3**
	0.6nm,0.6s,baz=125,slow=6.5,SNR=5.0							
ZALV	**Zalesovo Beam**	**55.93**	**332**	P		**P**	**13 51 32.3**	**-0.2**
	1.0nm,0.3s,baz=104,slow=12,SNR=8.2							
ZALV				LR		LR	14 18 31.5	
	comp=Z,5.9nm,21.0s,baz=240,slow=39							
ZAA1	**Zalesovo Array**	**55.93**	**332**	*e*P		**P**	**13 51 32.3**	**-0.2**
ZAA1				*e*			14 18 31.4	
KURK	**Kurchatov**	**57.31**	**326**	*e*P		**P**	**13 51 40.5**	**-1.8**
KURBB	**Kurchatov Arra**	**57.31**	**326**	P		**P**	**13 51 40.5**	**-1.9**
	0.6nm,0.6s,baz=125,slow=6.8,SNR=5.8							
TIXI	**Tiksi**	**62.75**	**1**	P		**P**	**13 52 18.2**	**-1.1**
	1.8nm,0.7s,baz=193,slow=3.1,SNR=7.6							
NRIK	**Noril'sk**	**65.41**	**346**	LR		LR	14 24 15.1	
	comp=Z,24nm,19.2s,baz=100,slow=39							
ILAR	**Eielson Array**	**80.64**	**26**	P		**P**	**13 54 07.7**	**+0.7**
	0.3nm,0.7s,baz=242,slow=4.7,SNR=5.0							
ILAR				pP		**pP**	**13 54 19.0**	**-0.4**
	0.6nm,0.7s,baz=250,slow=6.2,SNR=3.7							
FINES	**FINESS Array B**	**87.20**	**332**	LR		LR	14 36 41.4	
	comp=Z,31nm,18.2s,baz=22,slow=38							
NOA	**NORSAR Array B**	**94.08**	**334**	LR		LR	14 40 12.5	
	comp=Z,12nm,19.9s,baz=280,slow=37							
PLCA	**Paso Flores**	**144.86**	**157**	PKP		**PKPab**	**14 01 29.1**	**-1.7**
	3.1nm,0.8s,baz=238,slow=3.1,SNR=7.9							
PLCA	**Paso Flores**	**144.86**	**157**	*e*PKPdf		PKPbc	14 01 30.5	-0.4

IDC 28 13:47:13.9±175.0, 50°.41N×58°.04E, h0km, Error ellipse: s-maj=0.0km s-min=0.0km az=116.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I31KZ	**AKTYUBINSK INF**	**0.00**	**62**	*i*			13 48 10.0	
	baz=244,slow=308,SNR=3.9							
I46RU	**ZALESOVO INFRA**	**16.76**	**67**	*i*			15 26 00.0	
	baz=259,slow=300,SNR=1.5							
I34MN	**SONGINO INFRAS**	**31.34**	**76**	*i*			16 52 20.0	
	baz=288,slow=325,SNR=0.8							

*NIED **28** 13:55:00, 20°.40N×120°.60E, h47km, Mw4.0 Best double couple: M₀1.14000×10¹⁵ NP1:φs91.00000°, δ49.00000°, λ154.00000°. NP2:φs199.00000°, δ71.00000°, λ44.00000°.*
*IDC **28** 13:55:08.8±0.7, 20°.10N×120°.44E, h0km, mb4.1/15, mb1 4.2/16, mb1mx3.9/47, mbtmp4.0/16, ML3.3/1, MS3.1/4, Ms1 3.1/4, ms1mx2.6/44, Error ellipse: s-maj=30.3km s-min=14.3km az=65.0*
*ISCJB **28** 13:55:11.5±0.3, 20°.17N±0°.02×120°.44E±0°.04, h28km, mb4.2/19, MS3.0/1, Error ellipse: s-maj=5.0km s-min=3.2km az=10.5*
*JMA **28** 13:55:12.9±0.4, 20°.37N×120°.58E, h0km, M4.0*
*NEIC **28** 13:55:13.9±0.4, 20°.15N×120°.50E, h35km, mb4.6/3, Error ellipse: s-maj=9.8km s-min=6.7km az=102.0*
*MAN **28** 13:55:14.4, 20°.02N×120°.47E, h45km, mb5.1, ML4.0, MS4.1*

ISC 28 13:55:13.1±0.5, 20°.14N±0°.03×120°.40E±0°.06, h28km, n53, σ0s96/61, mb4.2/19, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BBP	**Basco**	**1.50**	**78**	‖*e*P		**Pn**	**13 55 38.4**	**+0.3**
BBP				*i* S		**Sb**	**13 55 58.0**	**-0.8**
APYP	**Conner**	**2.40**	**161**	*e*P		**Pn**	**13 55 49.5**	**-1.0**
APYP				*e*S		**Sn**	**13 56 18.0**	**-1.1**
SGCP	**Mt. Cagua**	**2.44**	**140**	*e*P		**Pn**	**13 55 50.3**	**-0.8**
SGCP				*e*S		**Sn**	**13 56 19.1**	**-1.0**
TWG	**Pinlang**	**2.74**	**13**	*e*Pn		**Pn**	**13 55 54.4**	**-0.8**
TPUB	**Ta-pu**	**3.15**	**4**	*e*Pn		**Pn**	**13 55 59.4**	**-1.5**
YULB	**Yu-li**	**3.34**	**14**	*e*Pn		**Pn**	**13 56 02.5**	**-1.0**
CAUP	**Cauayan**	**3.45**	**157**	*e*P		**Pn**	**13 56 06.4**	**+1.4**
CAUP				*e*S		**Sn**	**13 56 44.9**	**-0.1**
PALP	**Palanan**	**3.61**	**148**	*e*P		**Pn**	**13 56 08.4**	**+1.2**
SSLB	**Suanglung**	**3.67**	**8**	*e*Pn		**Pn**	**13 56 06.8**	**-1.2**
BALP	**Baler**	**4.52**	**166**	*e*P		**Pn**	**13 56 21.3**	**+1.6**
YHNB	**Yeheng**	**4.60**	**11**	*e*Pn		**Pn**	**13 56 21.8**	**+0.9**
JYNG	**Yonagunijimaku**	**4.89**	**28**	P		**Pn**	**13 56 26.5**	**+1.7**
JYNG				S		**Sn**	**13 57 21.2**	**+0.7**
YOJ	**Yonaguni jima**	**4.93**	**29**	*e*Pn		**Pn**	**13 56 25.4**	**+0.1**
HATJ	**Hateruma jima**	**5.01**	**38**	P		**Pn**	**13 56 28.3**	**+1.8**
HATJ				S		**Sn**	**13 57 24.5**	**+1.0**
IRIF	**Iriomote-Funau**	**5.19**	**36**	P		**Pn**	**13 56 30.0**	**+1.1**
IRIF				*e*S		**Sn**	**13 57 27.9**	**+0.1**
JKRS	**Kuro-shima**	**5.27**	**39**	P		**Pn**	**13 56 31.5**	**+1.5**
JKRS				S		**Sn**	**13 57 29.9**	**+0.1**
JIJ	**Ishigaki jima**	**5.45**	**39**	P		**Pn**	**13 56 33.2**	**+0.8**
JIJ				*e*S		**Sn**	**13 57 32.2**	**-2.0**
JISG	**Ishigakijimahi**	**5.71**	**39**	P		**Pn**	**13 56 36.9**	**+0.8**
JISG				S		**Sn**	**13 57 39.6**	**-1.2**
JTJ	**Tarama**	**5.99**	**41**	P		**Pn**	**13 56 40.3**	**+0.4**
JTJ				S		**Sn**	**13 57 46.8**	**-0.7**
JIRB	**Irabujima**	**6.42**	**43**	S		**Sn**	**13 57 56.8**	**-1.3**
JIKM	**Ikemajima**	**6.53**	**42**	S		**Sn**	**13 58 00.3**	**-0.7**
KSAR	**Wonju Array Be**	**18.43**	**19**	P		**P**	**13 59 24.8**	**-1.5**
KSRS	**Korea Array**	**18.45**	**19**	P		**P**	**13 59 24.8**	**-1.7**
	0.1nm,0.3s,baz=200,slow=10,SNR=3.0							
CMAR	**Chiang Mai Arr**	**20.32**	**269**	P		**P**	**13 59 47.4**	**+0.2**
	0.4nm,0.6s,baz=84,slow=9.2,SNR=4.2							
CMAR				LR		LR	14 07 06.3	
	comp=Z,56nm,18.8s,baz=124,slow=35							
SIJI	**Sorong**	**23.44**	**152**	P		**P**	**14 00 19.6**	**-0.6**
	6.5nm,0.7s,baz=28,slow=2.9,SNR=6.1							
GUMO	**Guam**	**24.29**	**102**	LR		LR	14 07 59.1	
	comp=Z,27nm,21.6s,baz=320,slow=32							
BRDH	**Bariadhala**	**26.88**	**281**	LR		LR	14 11 31.8	
	comp=Z,33nm,21.9s,baz=156,slow=36							
SONA0	**Songino Array**	**29.87**	**341**	*e*P		**P**	**14 01 18.9**	**+0.7**
SONM	**Songino Array**	**29.87**	**341**	P		**P**	**14 01 18.9**	**+0.7**
	2.3nm,1.0s,baz=161,slow=9.4,SNR=9.0							
MK32	**Makanchi Array**	**40.83**	**320**	*e*P		**P**	**14 02 52.7**	**+0.4**
MKAR	**Makanchi Array**	**40.83**	**320**	P		**P**	**14 02 52.7**	**+0.4**
	1.0nm,0.7s,baz=116,slow=8.2,SNR=7.9							
WR1	**Warramunga Arr**	**42.11**	**160**	*e*P		**P**	**14 03 02.1**	**-0.8**
	23nm,0.8s							
WRA	**Warramunga Arr**	**42.11**	**160**	P		**P**	**14 03 02.1**	**-0.9**
	3.9nm,1.1s,baz=342,slow=9.1,SNR=11							
NRN	**Naryn**	**43.08**	**310**	*e*P		**P**	**14 03 12.2**	**+1.1**
	7.5nm,1.1s							
ZALV	**Zalesovo Beam**	**43.30**	**330**	P		**P**	**14 03 11.9**	**-0.3**
	2.0nm,0.8s,baz=113,slow=8.2,SNR=7.2							
ZALV	**Zalesovo Beam**	**43.30**	**330**	*e*P		**P**	**14 03 12.2**	**-0.1**
ZAA1	**Zalesovo Array**	**43.30**	**330**	*e*P		**P**	**14 03 11.9**	**-0.3**
NIL	**Nilore**	**43.80**	**298**	*e*P		**P**	**14 03 16.4**	**-0.3**
	10nm,0.9s							
KURK	**Kurchatov**	**44.80**	**323**	*e*P		**P**	**14 03 24.9**	**+0.6**
KURBB	**Kurchatov Arra**	**44.80**	**323**	P		**P**	**14 03 24.9**	**+0.5**
	5.1nm,0.8s,baz=125,slow=7.5,SNR=37							
ASAR	**Alice Springs**	**45.49**	**163**	P		**P**	**14 03 29.5**	**-0.6**
	1.0nm,0.8s,baz=335,slow=7.8,SNR=11							
HNR	**Honiara**	**48.76**	**123**	LR		LR	14 21 08.3	
	comp=Z,30nm,19.3s,baz=208,slow=32							
BVAR	**Borovoye Array**	**50.39**	**323**	P		**P**	**14 04 08.7**	**+0.9**
	3.5nm,0.7s,baz=92,slow=12,SNR=11							
TIXI	**Tiksi**	**51.75**	**3**	P		**P**	**14 04 17.6**	**-0.1**
	0.4nm,0.2s,baz=128,slow=5.2,SNR=4.5							
AKTO	**Aktyubinsk**	**57.20**	**318**	P		**P**	**14 04 57.6**	**0.0**
	0.7nm,0.5s,baz=119,slow=10,SNR=2.7							
ARU	**Arti**	**57.93**	**325**	P		**P**	**14 05 02.3**	**-0.3**
	2.3nm,0.5s,baz=326,slow=2.1,SNR=3.9							
ARU	**Arti**	**57.93**	**325**	*e*P		**P**	**14 05 02.8**	**+0.1**
	20nm,1.8s							
KBZ	**Khabaz**	**67.47**	**310**	P		**P**	**14 06 07.5**	**+1.1**
	1.9nm,0.9s,baz=177,slow=6.8,SNR=3.9							
BPAW	**Bear Paw Mtn.**	**71.49**	**28**	*

comp=N,348μm,0.5s
CHOS Chios island 2.54 316 P **Pn 14 16 55.4 +0.8**
LAST Lasithi 2.68 239 P **Pn 14 16 55.7 -0.8**
KEPZ Antalya-Kepez 2.68 82 *i* P **Pb 14 16 60.0 -1.1**

IDC 28 14:28:39.6±7.9, 20°.51S×169°.25E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.5/20, mbtmp3.3/3, Error ellipse: s-maj=353.8km s-min=38.7km az=150.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
WRA	**Warramunga Arr**	**32.73**	**265**	P		P	14 35 14.4	+0.1
	0.2nm,0.5s,baz=95,slow=8.5,SNR=3.5							
ASAR	**Alice Springs**	**32.85**	**258**	P		P	14 35 14.9	-0.4
	0.4nm,0.8s,baz=84,slow=9.4,SNR=4.1							
ILAR	**Eielson Array**	**91.44**	**17**	P		P	14 41 46.6	-0.6
	0.2nm,0.7s,baz=239,slow=4.7,SNR=4.1							
GERES	**GERESS Array B**	**145.61**	**331**	PKPbc		PKPbc	14 48 20.2	0.0
	0.6nm,0.6s,baz=45,slow=2.1,SNR=4.1							

*ISCJB **28** 14:35:22.9±1.0, 41°.38N±0°.05×47°.23E±0°.04, h11km±11km, Error ellipse: s-maj=8.1km s-min=4.9km az=17.4*
*DRS **28** 14:35:23.8±0.0, 41°.38N×47°.17E, h12km*
*MOS **28** 14:35:23.3±0.0, 41°.46N×47°.29E, h16km, MPVA3.6*
ISC 28 14:35:23.8±1.4, 41°.37N±0°.05×47°.27E±0°.04, h19km±3km, n11, σ0968/22, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
AKT	**Akhty**	**0.36**	**72**	*e*Pg		**Pg**	**14 35 30.7**	**-0.8**
AKT				*i*Sg		**Sg**	**14 35 36.9**	**+0.2**
KSMR	**Kasumkent**	**0.68**	**70**	*e*Pg		**Pg**	**14 35 38.0**	**+0.7**
KSMR				*e*Sg		**Sg**	**14 35 46.5**	**+0.1**
KMKR	**Kumukh**	**0.77**	**350**	*e*Pg		**Pb**	**14 35 38.5**	**-0.2**
KMKR				*e*Sg		**Sg**	**14 35 49.0**	**-0.3**
URKR	**Urkarakh**	**0.84**	**19**	*e*Pg		**Pn**	**14 35 40.5**	**-0.2**
URKR				*e*Sg		**Sn**	**14 35 52.3**	**-0.2**
DDFL	**Dedoflistskaro**	**0.87**	**275**	P		**Pb**	**14 35 40.7**	**+0.3**
DDFL				S		**Sb**	**14 35 51.6**	**-0.1**
DRN	**Derbent**	**1.03**	**50**	*e*Pg		**Pb**	**14 35 43.0**	**0.0**
DRN				*e*Sg		**Sn**	**14 35 58.0**	**+1.0**
GNBR	**Gunib**	**1.04**	**347**	*e*Pg		**Pb**	**14 35 42.4**	**-0.9**
GNBR				*e*Sg		**Sb**	**14 35 56.7**	**+0.2**
XNZR	**Khunzakh**	**1.24**	**340**	*e*Pg		**Pn**	**14 35 45.5**	**-0.8**
XNZR				*e*Sg		**Sn**	**14 36 02.7**	**+0.1**
UNCR	**Uncukul**	**1.39**	**345**	*e*Pg		**Pg**	**14 35 50.0**	**-0.6**
UNCR				*e*Sg		**Sg**	**14 36 10.5**	**+1.7**
DBC	**Dubki**	**1.68**	**349**	*i*Pg		**Pg**	**14 35 56.6**	**+0.4**
DBC				*i*Sg		**Sg**	**14 35 58.8**	**+0.7**
TRLG	**Trialeti**	**2.39**	**275**	P		**Pn**	**14 36 01.8**	**-0.2**
TRLG				S		**Sn**	**14 36 30.9**	**0.0**

*IDC **28** 14:49:03.5±2.6, 1°.79S×134°.56E, h0km, mb3.7/2, mb1 3.9/5, mb1mx3.6/41, mbtmp3.8/5, ML3.8/4, Error ellipse: s-maj=41.8km s-min=29.6km az=21.0*
*ISCJB **28** 14:49:05.6±0.7, 1°.79S±0°.09×134°.55E±0°.06, h30km, mb3.7/2, Error ellipse: s-maj=13.1km s-min=6.8km az=21.4*
*DJA **28** 14:49:05.3±0.9, 2°.S±8°×13°.5E±°, h16km±8km, M4.7/4, mb4.6/4, mB5.3/1, MLv4.7/4, Mw(mB)4.7/1*
ISC 28 14:49:06.4±1.4, 1°.6S±0°.1×134°.62E±0°.08, h30km, n13, σ1§83/15, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
RKPI	**Ransiki, Papua**	**0.46**	**286**	P		**Pn**	**14 49 15.8**	**-1.2**
SRPI	**Serui, Papua**	**1.63**	**98**	P		**Pn**	**14 49 33.3**	**+0.2**
FAKI	**Fak Fak**	**2.69**	**242**	P		**Pn**	**14 49 47.6**	**0.0**
SIJI	**Sorong**	**3.44**	**283**	Pn		**Pn**	**14 49 58.4**	**+0.4**
	33nm,0.3s,baz=108,slow=19,SNR=174							
SIJI					Sn	**Sn**	**14 50 37.4**	**-0.4**
	27nm,0.3s,baz=119,slow=24,SNR=11							
SWI	**Sorong**	**3.45**	**283**	P		**Pn**	**14 49 58.8**	**+0.7**
BNDI	**Bandanaira**	**5.51**	**239**	P		**Pb**	**14 50 44.7**	**+2.8**
JAY	**Jayapura**	**6.14**	**98**	Pn		**Pn**	**14 50 38.0**	**+2.9**
	0.9nm,0.3s,baz=266,slow=19,SNR=5.3							
NLAI	**Namlea**	**7.68**	**258**	P		**Pn**	**14 50 56.8**	**+0.5**
SANI	**Sanana**	**8.64**	**267**	P		**Pn**	**14 51 07.8**	**-1.6**
WRA	**Warramunga Arr**	**18.19**	**181**	P		**P**	**14 53 15.6**	**-1.3**
	0.3nm,0.3s,baz=2.9,slow=12,SNR=10.0							
WRA				S		Sn	14 56 25.8	-13
	0.1nm,0.3s,baz=3.6,slow=23,SNR=3.1							
FITZ	**Fitzroy Crossi**	**18.58**	**208**	P		**P**	**14 53 20.6**	**-0.6**
	0.2nm,0.3s,baz=21,slow=14,SNR=6.2							
FITZ				S		Sn	14 56 32.7	-16
	0.5nm,0.3s,baz=205,slow=8.7,SNR=5.5							
ASAR	**Alice Springs**	**21.91**	**182**	P		**P**	**14 53 56.4**	**-0.9**
	1.6nm,0.6s,baz=7.6,slow=12,SNR=32							
ASAR				S		**S**	**14 57 53.9**	**-4.0**
	1.4nm,0.8s,baz=7.0,slow=24,SNR=6.4							
STKA	**Stephens Creek**	**30.79**	**168**	P		**P**	**14 55 19.3**	**-0.1**
	1.4nm,0.8s,baz=346,slow=12,SNR=2.3							

MAN 28 15:02:26.5, 9°.76N×125°.62E, h16km, mb4.3, ML3.1, MS2.8, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
BUTP	**Butuan**	**0.79**	**180**	*e*P		Pb	15 02 40.7	-1.1
BUTP				*e*S		Sn	15 02 54.8	+0.4
MSLP	**Maasin**	**0.83**	**297**	*e*P		Pb	15 02 42.2	-0.5
MSLP				*e*S		Sn	15 02 55.3	-0.3
BUKP	**Musuan**	**1.95**	**196**	*e*P		Pn	15 02 59.8	+0.8

*NIED **28** 15:07:00, 27°.40N×143°.00E, h5km, Mw4.8 Best double couple: M0 1.69000×10^16 NP1:φs187.00000°, δ30.00000°, λ99.00000°. NP2:φs356.00000°, δ61.00000°, λ85.00000°.*
*ISCJB **28** 15:07:36.6±0.9, 27°.25N±0°.02×143°.25E±0°.03, h15km±6km, mb5.0/218, MS4.0/47, Error ellipse: s-maj=4.0km s-min=3.1km az=30.3*
*IDC **28** 15:07:36.4±0.4, 27°.21N×143°.25E, h0km, mb4.3/29, mb1 4.8/36, mb1mx4.8/46, mbtmp4.8/36, ML4.5/7, MS3.9/36, Ms1 3.9/36, ms1mx3.9/45, Error ellipse: s-maj=13.9km s-min=10.0km az=88.0*
*MOS **28** 15:07:38.1±0.9, 27°.23N×143°.29E, h24km, mb5.3/74, Error ellipse: s-maj=7.9km s-min=4.2km az=110.5*
*BJI **28** 15:07:42.9, 27°.28N×142°.98E, h55km, mb5.0/67, mB5.1/40, Ms4.4/44, Ms7 4.1/42*
*NEIC **28** 15:07:43.1±0.7, 27°.24N×143°.19E, h54km±6km, mb5.1/119, Error ellipse: s-maj=4.3km s-min=2.9km az=125.0*
NEIC Recorded [1 JMA] in the Chichijima-retto.
*JMA **28** 15:07:44.3±0.1, 27°.35N×142°.98E, h81km, M5.3*
JMA Felt I J1.
*GCMT **28** 15:07:45.1±0.3, 27°.41N±0°.02×143°.16E±0°.02, h38km±1km, MW5.0/77, Moment Tensor Solution. s35,c42; s77,c109; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.85±.17; Mθθ 0.20±.12; Mφφ -2.05±.12; Mrθ -0.67±.11; Mθφ -1.77±.07; Mφr 2.09±.12; Best double couple: M0 3.43100×10^16 NP1:φs358.00000°, δ69.00000°, λ.56.00000°. NP2: φs241.00000°, δ39.00000°, λ146.00000°. Principal axes: T 3.3640, Plg53.0000°, Azm227.0000°; N 0.1300, Plg32.0000°, Azm11.0000°; P -3.4970, Plg17.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 28 15:07:42.4±0.5, 27°.34N±0°.03×143°.23E±0°.04, h44km±4km, h44km:pP-P, n546, σ1§47/587, mb5.0/222, MS4.0/49, 31C-16D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
CBIJ	**Chichi jima**	**0.96**	**256**	*e*Pn		**Pn**	**15 08 00.9**	**+1.4**
CBIJ	**Chichi jima**	**0.96**	**256**	P		**Pn**	**15 08 00.6**	**+1.3**
CBIJ				S		**Sn**	**15 08 12.9**	**+0.9**
JHHJ	**Haha-jima-NKT**	**1.17**	**233**	P		**Pn**	**15 08 03.5**	**+1.1**
JHHJ				S		**Sn**	**15 08 18.4**	**+1.2**
JAOM	**Aogashimamukai**	**5.93**	**330**	P		**Pn**	**15 09 08.9**	**+1.2**
JAOM				*e*S		**Sn**	**15 10 14.5**	**+0.1**
JHCJ	**Hachijojimakas**	**6.44**	**333**	P		**Pn**	**15 09 13.6**	**-1.1**
JHCJ				*e*S		**Sn**	**15 10 23.3**	**-3.7**
JHJ2	**Mitsune**	**6.47**	**334**	*e*Pn		**Pn**	**15 09 14.2**	**-0.9**
JHJ2	**Mitsune**	**6.47**	**334**	P		**Pn**	**15 09 14.1**	**-1.0**
JHJ2				S		**Sn**	**15 10 25.2**	**-2.4**
JHJ	**Hachijo jima 2**	**6.49**	**333**	Pn		**Pn**	**15 09 13.8**	**-1.6**
	65nm,0.3s,baz=81,slow=23,SNR=56							
JHJ					Sn	**Sn**	**15 10 21.8**	**-6.3**
	187nm,0.3s,baz=77,slow=13,SNR=14							
JMKN	**Mikurajimanish**	**7.25**	**335**	P		**Pn**	**15 09 25.3**	**-0.5**
JMKN				*e*S		**Sn**	**15 10 43.7**	**-3.1**
BSO1	**Boso 1**	**7.55**	**346**	P		**Pn**	**15 09 29.9**	**+0.5**
BSO1				S		**Sn**	**15 10 49.7**	**-3.6**
BSO3	**Boso 3**	**7.80**	**343**	P		**Pn**	**15 09 33.3**	**+0.2**
TK02	**Tokai 2**	**8.10**	**326**	P		**Pn**	**15 09 39.5**	**+2.2**
TK02				S		**Sn**	**15 11 10.2**	**+2.8**
TTO1	**TONANKAI O.B.S**	**8.38**	**320**	P		**Pn**	**15 09 42.2**	**+1.2**
JOD2	**Odawara 2**	**8.66**	**337**	P		**Pn**	**15 09 45.8**	**+0.7**
JOD2				*e*S		**Sn**	**15 11 17.8**	**-3.7**
JAA	**Atsumi**	**8.95**	**326**	P		**Pn**	**15 09 50.4**	**+1.3**
JIE	**Ise**	**8.99**	**323**	P		**Pn**	**15 09 50.7**	**+1.0**
JIE				*e*S		**Sn**	**15 11 25.6**	**-4.0**
JYN	**Shimob**	**9.07**	**335**	P		**Pn**	**15 09 51.9**	**+1.1**
JYN				*e*S		**Sn**	**15 11 32.3**	**+0.8**
JKN2	**Miekihoku**	**9.12**	**321**	P		**Pn**	**15 09 52.3**	**+0.9**
JTNC	**Tanabenakahech**	**9.21**	**316**	P		**Pn**	**15 09 53.8**	**+1.1**
JRY	**Ryogami san**	**9.41**	**338**	P		**Pn**	**15 09 55.5**	**+0.1**
JRY				*e*S		**Sn**	**15 11 37.6**	**-2.2**
JAO	**Obara**	**9.41**	**329**	P		**Pn**	**15 09 56.3**	**+0.8**
JWY	**Kouya**	**9.50**	**318**	P		**Pn**	**15 09 57.8**	**+1.2**
INU	**Inuyama**	**9.59**	**328**	*e*Pn		**Pn**	**15 09 58.7**	**+0.8**
JAG	**Ashikaga**	**9.61**	**341**	P		**Pn**	**15 09 57.1**	**-1.1**
JKT	**Katashina**	**9.99**	**341**	P		**Pn**	**15 10 02.8**	**-0.6**
MJAR	**Matsushiro Arr**	**10.12**	**336**	Pn		**Pn**	**15 10 04.5**	**-0.7**
	22nm,0.3s,baz=166,slow=12,SNR=187							
MJAR					Sn	Sn	15 11 46.3	-11
	5.1nm,0.3s,baz=121,slow=14,SNR=3.6							
MJAR					LR	LR	15 14 45.6	
	comp=Z,424nm,19.2s,baz=180,slow=42							
MAJO	**Matsushiro**	**10.12**	**336**	*e*Pn		**Pn**	**15 10 04.9**	**-0.3**
MAJO	**Matsushiro**	**10.12**	**336**	*e*P		**Pn**	**15 10 04.9**	**-0.3**
MAT	**Matsushiro**	**10.12**	**336**	P		**Pn**	**15 10 04.7**	**-0.4**
MAT				S		**Sn**	**15 11 54.3**	**-3.0**
MJB9	**Matsu-Tunnel**	**10.12**	**336**	*e*Pn		**Pn**	**15 10 04.8**	**-0.4**
JGN	**Niukaw**	**10.19**	**332**	P		**Pn**	**15 10 07.6**	**+1.5**
JTO	**Tosashimizu**	**10.57**	**304**	P		**Pn**	**15 10 13.5**	**+2.2**
JHS	**Saijyo**	**11.54**	**314**	P		**Pn**	**15 10 25.7**	**+1.1**
JNU	**Nakatsue**	**12.13**	**301**	Pn		**Pn**	**15 10 33.4**	**+0.6**
	2.3nm,0.3s,baz=138,slow=3.0,SNR=13							
JNU	**Nakatsue**	**12.13**	**301**	*e*Pn		**Pn**	**15 10 34.2**	**+1.4**
JOW	**Kunigami**	**13.34**	**271**	Pn		**Pn**	**15 10 49.4**	**+0.2**
	1.8nm,0.3s,baz=104,slow=13,SNR=3.8							
JOW					LR	LR	15 15 13.3	
	comp=Z,548nm,20.3s,baz=344,slow=34							
ERM	**Erimo**	**14.64**	**360**	*e*Pn		**Pn**	**15 11 03.7**	**-3.0**
ERM	**Erimo**	**14.64**	**360**	*i*P		**Pn**	**15 11 05.8**	**-0.9**
TJN	**Taejon**	**16.20**	**308**	*e*P		**P**	**15 11 29.1**	**-0.4**
KSRS	**Korea Array**	**16.38**	**312**	Pn		**P**	**15 11 31.2**	**-0.3**
	4.9nm,0.3s,baz=119,slow=12,SNR=87							
KSRS					LR	LR	15 17 18.6	
	comp=Z,608nm,21.4s,baz=123,slow=35							
KS15	**Wonju Array Si**	**16.40**	**312**	*e*Pn		**P**	**15 11 31.1**	**-0.6**
KSAR	**Wonju Array Be**	**16.40**	**312**	Pn		**P**	**15 11 31.2**	**-0.5**
KSAR	**Wonju Array Be**	**16.40**	**312**	P		**P**	**15 11 31.2**	**-0.5**
KS01	**Wonju Array Si**	**16.41**	**312**	*e*Pn		**P**	**15 11 31.2**	**-0.6**
ASAJ	**Asahikawa**	**16.75**	**358**	Pn		**Pn**	**15 11 33.2**	**-0.7**
	4.4nm,0.3s,baz=216,slow=10,SNR=25							
ASAJ					Sn	**Sn**	**15 14 30.3**	**-8.6**
	3.3nm,0.3s,baz=112,slow=30,SNR=4							
ASAJ					LR	LR	15 18 06.2	
	comp=Z,260nm,21.2s,baz=158,slow=37							
ASAJ	**Asahikawa**	**16.75**	**358**	*e*Pn		**Pn**	**15 11 33.1**	**-0.7**
	184nm,1.7s							
ASAJ					Sn	**Sn**	**15 14 30.3**	**-8.6**
SHO	**Shikotan**	**16.75**	**9**	*i*P		**Pn**	**15 11 31.8**	**-2.0**
SHO					pmax	pmax		
	comp=Z,42nm,0.5s							
SHO					pmax	pmax		
	comp=N,24nm,0.4s							
SHO					pmax	pmax		
	comp=E,19nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**16.80**	**7**	*e*P		**Pn**	**15 11 31.8**	**-2.6**
YUK					pmax	pmax		
	comp=Z,129nm,0.6s							
YUK					pmax	pmax		
	comp=N,76nm,0.2s							
YUK					pmax	pmax		
	comp=E,79nm,0.4s							
MSHR	**Mys Shultsa**	**18.11**	**330**	*e*P		**Pn**	**15 11 52.4**	**+1.8**
KUR	**Kuril'sk**	**18.24**	**11**	P		**P**	**15 11 50.9**	**-1.1**
VLA	**Vladivostok**	**18.25**	**333**	*c i*P		**Pn**	**15 11 54.7**	**+2.5**
YOJ	**Yonaguni jima**	**18.41**	**266**	*e*P		**Pn**	**15 11 54.6**	**+0.2**
	comp=E,110nm,0.8s							
YOJ	**Yonaguni jima**	**18.41**	**266**	*e*P		**Pn**	**15 11 54.7**	**+0.2**
YOJ					pmax	pmax		
	comp=Z,110nm,0.8s							
USRK	**Ussuriysk Ar.**	**19.11**	**335**	P		**P**	**15 12 01.8**	**+0.3**
	comp=Z,2.1nm,0.3s,baz=150,slow=10,SNR=73							
USRK					LR	LR	15 20 10.7	
	comp=Z,184nm,18.9s,baz=140,slow=39							
USA0B	**Ussuriysk Arra**	**19.11**	**335**	*e*P		**P**	**15 12 00.8**	**-0.7**
	comp=Z,88nm,0.9s							
YSS	**Yuzh-Sakhalins**	**19.59**	**359**	*e*P		**P**	**15 12 05.5**	**-1.2**
	comp=Z,67nm,0.9s							
YSS	**Yuzh-Sakhalins**	**19.59**	**359**	*e*P		**Pn**	**15 12 12.9**	**+4.6**
YSS				*e*S		**S**	**15 15 45.8**	**+0.4**
YSS					pmax	pmax		
	comp=Z,40nm,0.9s							
YSS					MLR	MLR		
	comp=N,200nm,16.0s							
YSS					MLR	MLR		
	comp=Z,200nm,16.0s							
NACB	**Ninganchiao**	**19.74**	**266**	*e*P		**P**	**15 12 09.0**	**+0.4**
	comp=Z,41nm,0.7s							
YHNB	**Yeheng**	**19.82**	**267**	*e*P		**P**	**15 12 09.5**	**0.0**
	comp=Z,38nm,0.7s							
YULB	**Yu-li**	**20.20**	**264**	*e*P		**P**	**15 12 13.6**	**0.0**
	comp=Z,51nm,0.7s							
SSLB	**Suanglung**	**20.40**	**265**	*e*P		**P**	**15 12 16.4**	**+0.5**
	comp=Z,216nm,1.0s							
MDJ	**Mudanjiang**	**20.43**	**331**	P		Pn	15 12 17.3	-1.0
MDJ					pP	sP	15 12 29.5	-2.4
MDJ					sP	pP	15 12 37.0	+11
MDJ					S	**S**	**15 16 03.3**	**+1.2**
MDJ					pmax	pmax		
	comp=Z,100nm,0.9s							
MDJ					pmax	pmax		
	comp=Z,630nm,3.5s							
MDJ	**Mudanjiang**	**20.43**	**331**	*e*P		**P**	**15 12 15.8**	**-0.1**
	comp=Z,111nm,0.8s							
TWG	**Pinlang**	**20.56**	**262**	*e*P		**P**	**15 12 17.0**	**-0.5**
	comp=Z,503nm,0.6s							
TPUB	**Ta-pu**	**20.82**	**264**	*e*P		**P**	**15 12 20.8**	**+0.5**
	comp=Z,96nm,0.7s							
DL2	**Dalian**	**21.40**	**308**	P		**P**	**15 12 26.8**	**+0.4**
DL2				S		**S**	**15 16 21.5**	**-0.1**
DL2					pmax	pmax		
	comp=Z,81nm,0.7s							
DL2					LR	LR		
	comp=Z,470nm,20.1s							
DL2					LR	LR		
	comp=Z,580nm,19.4s							
DL2					LR	LR		
	comp=Z,720nm,18.6s							
SNY	**Shenyang**	**21.63**	**317**	⇑P		**P**	**15 12 28.8**	**0.0**
SNY					pmax	pmax		
	comp=Z,30nm,1.1s							
NJ2	**Nanjing**	**21.68**	**288**	*e*P		**P**	**15 12 28.8**	**-0.6**
NJ2					pmax	pmax		
	comp=Z,15nm,0.5s							
CN2	**Changchun**	**21.82**	**323**	*e*P		**P**	**15 12 31.5**	**+0.7**
CN2				*e*sP		sP	15 12 53.3	+6.3
CN2				*e*S		**S**	**15 16 30.0**	**+0.4**
CN2					pmax	pmax		
	comp=Z,10.0nm,0.7s							
CN2					pmax	pmax		
	comp=Z,200nm,4.0s							
CN2					LR	LR		
	comp=Z,520nm,18.0s							
CN2					LR	LR		
	comp=Z,600nm,18.0s							
CN2					LR	LR		
	comp=Z,620nm,21.0s							
QZH	**Quanzhou**	**22.24**	**269**	*i*P		**P**	**15 12 36.8**	**+1.3**
QZH					pmax	pmax		
	comp=Z,65nm,0.9s							
CAUP	**Cauayan**	**22.33**	**247**	*e*P		**P**	**15 12 38.1**	**+1.6**
APYP	**Conner**	**22.35**	**250**	*e*P		**P**	**15 12 35.6**	**-1.2**
H11N2	**WAKE ISLAND Hy**	**22.95**	**104**	T		T	15 35 42.3	
	baz=297,slow=74,SNR=8.4							
H11N1	**WAKE ISLAND Hy**	**22.96**	**104**	T		T	15 35 42.3	
	baz=297,slow=74,SNR=6.9							
H11N3	**WAKE ISLAND Hy**	**22.97**	**104**	T		T	15 35 42.3	
	baz=297,slow=74,SNR=6.2							
BALP	**Baler**	**23.17**	**245**	*e*P		**P**	**15 12 44.7**	**-0.6**
H11S3	**WAKE ISLAND Hy**	**23.30**	**107**	T		T	15 36 04.0	
	baz=294,slow=75,SNR=4.3							
H11S1	**WAKE ISLAND Hy**	**23.30**	**107**	T		T	15 36 04.5	
	baz=294,slow=75,SNR=3.4							
H11S2	**WAKE ISLAND Hy**	**23.31**	**107**	T		T	15 36 05.5	
	baz=294,slow=75,SNR=3.2							
KLR	**Kul'dur**	**23.59**	**341**	P		**P**	**15 12 51.1**	**+2.0**
	comp=Z,29nm,0.7s,baz=148,slow=7.2,SNR=32							
KLR	**Kul'dur**	**23.59**	**341**	*c e*P		**P**	**15 12 50.7**	**+1.6**
SMPP	**San Manuel, Pa**	**23.68**	**247**	*e*P		**P**	**15 12 48.1**	**-2.1**
TIA	**Tai'an**	**23.84**	**298**	P		**P**	**15 12 50.5**	**-1.1**
TIA				S		**S**	**15 17 06.0**	**+1.5**
TIA					pmax	pmax		
	comp=Z,40nm,0.9s							
TIA					LR	LR		
	comp=Z,300nm,16.9s							
TIA					LR	LR		
	comp=Z,370nm,21.3s							
TIA					LR	LR		
	comp=Z,430nm,21.0s							
GRNR	**Gornyy**	**23.97**	**349**	*e*P		P	15 13 01.2	+8.6
GRNR					pmax	pmax		
	comp=Z,19nm,0.6s							
SCZP	**Santa Cruz**	**24.50**	**247**	*e*P		**P**	**15 12 55.6**	**-2.2**
TGY	**Tagaytay City**	**24.61**	**242**	P		**P**	**15 12 58.5**	**-0.3**
	comp=Z,451nm,0.8s,baz=60,slow=3.3,SNR=13							
TGY					LR	LR	15 21 31.6	
	comp=Z,323nm,18.9s,baz=118,slow=34							
WHN	**Wuhan**	**25.45**	**284**	⇓P		**P**	**15 13 06.5**	**+0.3**
WHN				S		**S**	**15 17 24.8**	**-5.5**
WHN					LR	LR		
	comp=Z,1μm,20.0s							
WHN					LR	LR		
	comp=Z,990nm,24.0s							
BJI	**Beijing**	**25.72**	**306**	P		**P**	**15 13 14.0**	**+5.4**
BJI				S		**S**	**15 17 45.0**	**+11**
BJI					pmax	pmax		
	comp=Z,17nm,0.8s							
BJI					LR	LR		
	comp=N,200nm,14.2s							
BJI					LR	LR		
	comp=E,470nm,18.1s							
BJI					LR	LR		
	comp=Z,390nm,25.5s							
DAV	**Davao City (W)**	**26.21**	**223**	LR		LR	15 21 55.5	
	comp=Z,367nm,21.5s,baz=31,slow=33							
CTBH	**Cotabato--PC H**	**26.92**	**225**	⇓*i*P		**P**	**15 13 19.4**	**-0.2**
PETK	**Petropavlovsk-**	**27.91**	**19**	LR		LR	15 25 51.8	
	comp=Z,86nm,20.4s,baz=210,slow=39							
HIA	**Hailar**	**28.41**	**327**	*e*P		**P**	**15 13 33.3**	**+0.6**
	comp=Z,45nm,0.8s							
HIA	**Hailar**	**28.41**	**327**	*e*P		**P**	**15 13 33.3**	**+0.6**
HIA					pmax	pmax		
	comp=Z,45nm,0.8s							
ZEA	**Zeya**	**28.90**	**340**	*e*P		**P**	**15 13 37.8**	**+0.8**
ZEA					pmax	pmax		
	comp=N,71nm,1.0s							
ZEA					pmax	pmax		
	comp=Z,120nm,1.0s							
ZEA					MLR	MLR		
	comp=Z,200nm,16.0s							
HHC	**Hu-ho-hao-te**	**29.31**	**306**	*e*P		**P**	**15 13 42.5**	**+1.6**
HHC				S		**S**	**15 18 34.5**	**+3.2**
HHC				sS		sS	15 18 51.8	+0.9
HHC					pmax	pmax		
	comp=Z,17nm,1.1s							
HHC					pmax	pmax		
	comp=Z,120nm,5.7s							
HHC					LR	LR		
	comp=Z,300nm,15.2s							
HHC					LR	LR		
	comp=Z,450nm,14.6s							
HHC					LR	LR		
	comp=Z,320nm,15.1s							
ENH	**Enshi**	**29.65**	**284**	*e*P		**P**	**15 13 41.4**	**-2.6**
	comp=Z,22nm,0.8s							
XAN	**Xi'an**	**30.16**	**291**	P		**P**	**15 13 47.8**	**-0.6**
XAN				pP		pP	15 13 56.8	-3.3
XAN					pmax	pmax		
	comp=Z,19nm,0.8s							
XAN					pmax	pmax		
	comp=Z,21nm,3.8s							
SIJI	**Sorong**	**30.31**	**204**	LR		LR	15 23 26.4	
	comp=Z,436nm,21.8s,slow=32							
QIZ	**Qiongzhong**	**31.71**	**262**	P		**P**	**15 14 03.0**	**+0.8**
QIZ				S		**S**	**15 19 05.5**	**-3.6**
QIZ					pmax	pmax		
	comp=Z,46nm,0.8s							
QIZ					LR	LR		
	comp=Z,220nm,15.7s							
QIZ					LR	LR		
	comp=Z,240nm,24.5s							
QIZ					LR	LR		
	comp=Z,350nm,29.4s							
QIZ	**Qiongzhong**	**31.71**	**262**	*e*P		**P**	**15 14 01.5**	**-0.7**
	comp=Z,36nm,0.8s							
FAKI	**Fak Fak**	**31.89**	**201**	*e*P		**P**	**15 14 02.0**	**-1.7**
	comp=Z,34nm,0.9s							
FAKI	**Fak Fak**	**31.89**	**201**	P		**P**	**15 14 03.0**	**-0.7**
GYA	**Guiyang**	**32.55**	**277**	⇑*i*P		**P**	**15 14 08.8**	**-0.9**
GYA				pP		sP	15 14 26.5	-0.1
GYA				PP		**PnPn**	**15 15 20.3**	**+2.2**
GYA				S		**S**	**15 19 19.5**	**-2.8**
GYA				sS		sS	15 19 46.5	+4.5
GYA				SS		**SnSn**	**15 21 18.0**	**-1.0**
GYA					pmax	pmax		
	comp=Z,20nm,0.8s							
GYA					pmax	pmax		
	com

SONM LR LR 15 30 29.4
comp=Z,194nm,18.2s,baz=128,slow=39
YAK Yakutsk 35.85 349 *e*P **P 15 14 37.8 +0.2**
YAK pmax pmax
comp=Z,21nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.0s
SEY Seymchan 36.10 7 P **P 15 14 41.7 +1.9**
comp=E,7.9nm,0.7s,baz=185,slow=7.0,SNR=18
SEY Seymchan 36.10 7⇓ *e*P **P 15 14 42.0 +2.2**
KMI Kunming 36.28 276 P **P 15 14 42.3 +0.2**
KMI pP sP 15 14 59.3 +0.2
KMI sP pP 15 15 03.5 +10
KMI pmax pmax
comp=E,50nm,0.8s
KMI pmax pmax
comp=E,73nm,3.1s
KMI LR LR
comp=E,170nm,14.9s
KMI LR LR
comp=E,140nm,13.7s
KMI LR LR
comp=E,170nm,12.3s
PMG Port Moresby 36.72 174 P **P 15 14 43.7 -1.8**
comp=E,10.0nm,0.7s,baz=336,slow=7.5,SNR=4.4
PMG PcP **PcP 15 17 07.7 +0.2**
comp=E,8.2nm,0.7s,baz=0.0,slow=3.0,SNR=3.8
BOD Bodaibo 36.74 334 *e*P **P 15 14 42.1 -3.2**
BOD pmax pmax
comp=Z,24nm,1.0s
SKNT Sakolnakorn 37.65 262 P **P 15 14 53.9 +0.4**
comp=Z,25nm,1.1s
GTA Gaotai 37.87 300 ⇑P **P 15 14 54.8 -0.5**
GTA pP sP 15 15 10.3 -2.1
GTA sP pP 15 15 17.0 +10
GTA PcP **PcP 15 17 12.0 +1.1**
GTA S **S 15 20 41.8 -2.0**
GTA pmax pmax
comp=Z,11nm,1.1s
GTA pmax pmax
comp=Z,80nm,5.4s
GTA LR LR
comp=Z,360nm,20.9s
GTA LR LR
comp=Z,340nm,19.0s
GTA LR LR
comp=Z,350nm,20.3s
NONG Nongkai 37.98 265 P **P 15 14 56.8 +0.5**
comp=Z,3.0nm,0.9s
ZAK Zakamensk 38.05 318 *e*P **P 15 14 58.0 +1.4**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
SBUM Sibu 38.63 236 *e*P **P 15 15 00.1 -1.7**
comp=Z,12nm,1.1s
SBUM Sibu 38.63 236 P **P 15 15 01.0 -0.8**
MTKI Muara Teweh, K 39.16 229 P **P 15 15 07.1 +0.9**
CHAI Chaiyaphum 39.83 262 P **P 15 15 11.6 -0.2**
comp=Z,17nm,1.1s,comp=Z,178nm
HNR Honiara 39.98 154 LR LR 15 29 56.7
comp=Z,141nm,21.4s,baz=344,slow=34
PAYA Payao 40.43 268 P **P 15 15 17.6 +0.8**
comp=Z,6.7nm,0.9s
SRAK Srakaew 40.56 259 P **P 15 15 14.3 -3.6**
comp=Z,354nm,0.8s,comp=Z,3µm
KSM Kuching 40.70 236 *e*P **P 15 15 17.0 -2.0**
comp=Z,59nm,2.0s
KSM Kuching 40.70 236 P **P 15 15 18.0 -1.0**
STKI Sintang 40.80 234 P **P 15 15 19.6 -0.2**
LAMP Lampang 40.93 267 P **P 15 15 21.4 +0.5**
comp=Z,7.5nm,0.9s
MMRI Maumere 41.14 213 *e*P **P 15 15 20.2 -2.3**
comp=Z,79nm,0.8s
MMRI Maumere 41.14 213 P **P 15 15 22.3 -0.2**
SOEI Soe 41.20 209 *e*P **P 15 15 20.9 -2.2**
comp=Z,164nm,0.9s
SOEI Soe 41.20 209 P **P 15 15 22.0 -1.2**
SUKH Sukhothai 41.30 266 P **P 15 15 24.7 +0.7**
comp=Z,2.8nm,0.7s
CMMT Chiang Mai 41.44 268 P **P 15 15 24.7 -0.4**
comp=Z,33nm,1.0s
CHTO Chiang Mai 41.44 268 *e*P **P 15 15 24.0 -1.1**
comp=Z,30nm,1.0s
CHTO Chiang Mai 41.44 268 *e*P **P 15 15 24.0 -1.1**
CHTO pmax pmax
comp=Z,30nm,1.0s
CHTO Chiang Mai 41.44 268 P **P 15 15 24.8 -0.3**
comp=Z,150nm,1.1s
EDFI Ende, Flores 41.50 213 P **P 15 15 25.0 -0.6**
CM01 Chiang Mai Arr 41.56 267 *e*P **P 15 15 25.2 -0.9**
CM01 *e*PcP **PcP 15 17 24.1 +1.2**
CM31 Chiang Mai Arr 41.57 267 *e*P **P 15 15 25.2 -1.0**
CMAR Chiang Mai Arr 41.57 267 P **P 15 15 26.1 -0.1**
comp=Z,13nm,0.9s,baz=57,slow=8.4,SNR=72
CMAR PcP **PcP 15 17 24.4 +1.6**
comp=Z,3.1nm,0.9s,baz=120,slow=0.6,SNR=7.7
CMAR LR LR 15 31 45.9
comp=Z,127nm,21.9s,baz=74,slow=35
MTN Manton Dam 41.63 198 *e*P **P 15 15 25.4 -1.1**
comp=Z,75nm,1.3s
BATI Baumata 41.87 210 P **P 15 15 27.5 -1.0**
comp=Z,153nm,0.5s,baz=15,slow=0.8,SNR=25
BATI LR LR 15 31 12.1
comp=Z,188nm,20.3s,baz=36,slow=34
BATI Baumata 41.87 210 P **P 15 15 28.0 -0.5**
UTHA Uthaitani 42.21 263 P **P 15 15 31.9 +0.6**
comp=Z,11nm,0.7s,comp=Z,142nm
UMPA Umpang Tak 42.47 264 P **P 15 15 35.6 +2.1**
comp=Z,9.2nm,1.0s,comp=Z,828nm
SRDT SRDT 42.98 262 P **P 15 15 38.3 +0.6**
comp=Z,30nm,1.4s
BILL Bilibino 43.02 12 *e*P **P 15 15 38.3 +1.1**
comp=Z,12nm,0.6s
BILL Bilibino 43.02 12⇓ *e*P **P 15 15 39.0 +1.7**
BILL *e*S **S 15 22 00.6 +1.1**
BILL pmax pmax
comp=Z,11nm,1.7s
BILL MLR MLR
comp=Z,120nm,18.0s
PHET Kaeng Krachan 43.15 259 P **P 15 15 40.3 +1.3**
comp=Z,14nm,0.9s,comp=Z,131nm
PLAI Plampang 43.60 218 P **P 15 15 42.2 -0.3**
TWSI Taliwang, Sumb 44.02 219 P **P 15 15 44.9 -1.0**
comp=Z,47nm,0.8s
KMMI Kalianget 44.39 224 P **P 15 15 49.7 +0.8**
comp=Z,51nm,0.8s,comp=Z,380nm
SRBI Singaraja 44.45 222 P **P 15 15 49.7 +0.3**
comp=Z,17nm,0.7s
TIXI Tiksi 45.07 354 P **P 15 15 54.8 +1.1**
comp=Z,5.2nm,0.6s,baz=141,slow=6.6,SNR=51
TIXI Tiksi 45.07 354 *e*P **P 15 15 54.5 +0.8**
comp=Z,10.0nm,0.9s
TIXI Tiksi 45.07 354*c i*P **P 15 15 54.5 +0.8**
TIXI pmax pmax
comp=Z,6.0nm,0.8s
JAGI Jajag, Banyuwa 45.39 222 *e*P **P 15 15 55.6 -1.3**
comp=Z,57nm,0.9s
JAGI Jajag, Banyuwa 45.39 222 P **P 15 15 56.2 -0.7**
comp=Z,84nm,1.0s,comp=Z,968nm
MYKOM Kota Tinggi 45.46 243 *e*P **P 15 15 57.0 -0.4**
comp=Z,89nm,1.6s
MYKOM Kota Tinggi 45.46 243 P **P 15 15 56.0 -1.5**
TPRI Tanjung Pinang 45.46 241 P **P 15 15 58.4 +0.9**
LSA Lhasa 45.51 286 *e*P **P 15 15 58.3 0.0**
comp=Z,8.0nm,0.8s
LSA Lhasa 45.51 286 *e*P **P 15 15 58.3 0.0**
LSA pmax pmax
comp=Z,8.0nm,0.8s
TRTT Trang 45.51 253 P **P 15 15 59.3 +1.4**
comp=Z,10nm,1.2s
KRAB Krabi 45.74 254 P **P 15 16 00.5 +0.8**
comp=Z,37nm,1.1s,comp=Z,1µm
SHL Shillong 45.74 280 *e*P **P 15 15 58.7 -1.2**
comp=Z,31nm,0.8s
SHL Shillong 45.74 280 *e*P **P 15 15 58.7 -1.2**
SHL pmax pmax
comp=Z,31nm,0.8s
SHL Shillong 45.74 280 *e*P **P 15 16 00.0 +0.1**
KULM Kulim 46.04 249 *e*P **P 15 16 01.4 -0.7**
comp=Z,35nm,1.2s
KULM Kulim 46.04 249 P **P 15 16 03.0 +0.9**
IPM Ipoh 46.18 248 *e*P **P 15 16 02.5 -0.7**
comp=Z,19nm,0.8s
PPBI Pangkal Pinang 46.21 237 P **P 15 16 03.4 0.0**
PWJI Pagerwojo 46.49 225 P **P 15 16 01.9 -3.7**

WOJI Wonogiri, Jawa 46.92 226 P **P 15 16 09.1 +0.2**
comp=Z,22nm,1.0s
WMQ Urumqi 47.19 306 P **P 15 16 11.8 +0.9**
WMQ pP pP 15 16 25.3 +2.3
WMQ sP sP 15 16 33.0 +4.8
WMQ S **S 15 23 01.3 +0.6**
WMQ pmax pmax
comp=Z,270nm,1.5s
WMQ pmax pmax
comp=Z,190nm,4.1s
WMQ LR LR
comp=Z,470nm,27.9s
WMQ LR LR
comp=Z,310nm,22.9s
WMQ LR LR
comp=Z,330nm,26.1s
CTAO Charters Tower 47.23 176 *e*P **P 15 16 10.4 -0.8**
comp=Z,12nm,0.8s
CTAO Charters Tower 47.23 176 *e*P **P 15 16 10.4 -0.8**
CTAO pmax pmax
comp=Z,12nm,0.8s
WRAB Tennant Creek 47.77 191 *e*P **P 15 16 14.7 -0.7**
comp=Z,116nm,0.8s
WRAB Tennant Creek 47.77 191*c i*P **P 15 16 14.7 -0.7**
WRAB pmax pmax
comp=Z,106nm,0.9s
DGZ Jazzator, Alta 47.77 314*c i*P **P 15 16 16.7 +1.3**
DGZ pmax pmax
comp=Z,11nm,1.0s
WB2 Warramunga Arr 47.78 191 *e*P **P 15 16 14.8 -0.7**
WRA Warramunga Arr 47.78 191 P **P 15 16 14.9 -0.6**
comp=Z,98nm,0.8s,baz=12,slow=8.5,SNR=276
WRA S **S 15 23 15.2 +6.0**
comp=Z,1.5nm,1.1s,baz=8.7,slow=15,SNR=2.7
WRA LR LR 15 36 43.5
comp=Z,66nm,19.2s,baz=355,slow=37
KPJI Karang Pucung 47.85 229 P **P 15 16 15.3 -0.9**
comp=Z,259nm,0.9s,comp=Z,2µm
FITZ Fitzroy Crossi 48.28 203 LR LR 15 33 49.0
comp=Z,93nm,20.7s,baz=22,slow=33
FITZ Fitzroy Crossi 48.28 203 *e*P **P 15 16 19.2 -0.2**
comp=Z,46nm,0.9s
LEM Lembang 48.38 231 P **P 15 16 20.2 -0.2**
LEM pmax pmax
comp=Z,151nm,0.9s
CBJI Citeko 48.62 232 P **P 15 16 22.6 +0.5**
comp=Z,47nm,1.1s
CISI Cisompet, Garu 48.77 230 *e*P **P 15 16 20.3 -3.0**
comp=Z,49nm,0.9s
CISI Cisompet, Garu 48.77 230 P **P 15 16 23.3 0.0**
comp=Z,64nm,1.2s
DBJI Dramaga 48.79 232 P **P 15 16 23.3 -0.1**
LHMI Lhok Sumawe 49.19 252 *e*P **P 15 16 25.8 -0.7**
comp=Z,57nm,0.8s
MDSI Maura Dua 49.21 236 P **P 15 16 25.6 -1.1**
comp=Z,84nm,1.1s,comp=Z,669nm
ANM Nome 49.33 26 *e*P **P 15 16 28.2 +1.3**
comp=Z,22nm,0.9s
ANM Nome 49.33 26 *e*P **P 15 16 28.2 +1.3**
ANM pmax pmax
comp=Z,22nm,0.9s
KCSI Kotacane, Aceh 49.41 250 P **P 15 16 26.8 -1.4**
comp=Z,26nm,1.0s
MNSI Mandailing Nat 49.47 245 P **P 15 16 27.9 -0.7**
comp=Z,65nm,0.8s
LWLI Liwa 49.66 236 P **P 15 16 29.5 -0.7**
comp=Z,33nm,1.1s,comp=Z,3µm
ZAA0 Zalesovo Array 49.92 319 *e*P **P 15 16 31.8 +0.2**
comp=Z,19nm,1.1s
ZALV Zalesovo Beam 49.92 319 P **P 15 16 32.6 +1.1**
comp=Z,6.5nm,0.6s,baz=101,slow=6.3,SNR=30
ZALV PcP **PcP 15 17 51.4 +0.1**
comp=Z,7.7nm,0.6s,baz=126,slow=3.1,SNR=5.9
ZALV LR LR 15 38 13.8
comp=Z,142nm,18.3s,baz=74,slow=37
ZALV Zalesovo Beam 49.92 319 *e*P **P 15 16 31.7 +0.2**
ZALV PcP **PcP 15 17 51.4 +0.1**
RAMN Ramite 50.01 283 *e*P **P 15 16 33.0 0.0**
comp=Z,103nm,1.0s
JIRN Jiri 50.19 284 *e*P **P 15 16 34.9 +0.4**
comp=Z,204nm,0.9s
GUN Gumba 50.40 285 *e*P **P 15 16 36.3 +0.2**
comp=Z,116nm,0.8s
GSI Gunungsitoli 50.80 247 *e*P **P 15 16 37.6 -1.2**
comp=Z,38nm,0.6s
GSI *e*PcP **PcP 15 17 55.2 -0.1**
PKI Pulchoki 50.89 284 *e*P **P 15 16 39.2 -0.5**
comp=Z,57nm,1.1s
PKIN Phulchoki 50.90 284 *e*P **P 15 16 39.3 -0.4**
comp=Z,44nm,1.2s
KKN Kakani 50.95 285 *e*P **P 15 16 40.1 +0.1**
comp=Z,67nm,1.0s
NVS Novosibirsk 50.96 320 *i* P **P 15 16 41.4 +2.0**
MK01 Makanchi Array 51.03 309 *e*P **P 15 16 40.2 0.0**
MK31 Makanchi Array 51.04 309 *e*P **P 15 16 40.4 +0.2**
MK31 Makanchi Array 51.04 309 *e*P **P 15 16 40.4 +0.2**
MKAR Makanchi Array 51.04 309 P **P 15 16 40.8 +0.5**
comp=Z,2.2nm,0.5s,baz=87,slow=10,SNR=30
MKAR LR LR 15 39 10.1
comp=Z,290nm,21.1s,baz=86,slow=37
MKAR Makanchi Array 51.04 309 *e*P **P 15 16 40.3 +0.1**
comp=Z,51nm,0.6s
DMN Daman 51.14 285 *e*P **P 15 16 41.4 -0.1**
comp=Z,71nm,1.1s
AS01 Alice Springs 51.49 191 *e*P **P 15 16 42.3 -1.4**
AS31 Alice Springs 51.50 191 *e*P **P 15 16 42.4 -1.3**
comp=Z,5.8nm,0.6s
ASAR Alice Springs 51.50 191 P **P 15 16 42.8 -1.0**
comp=Z,12nm,0.7s,baz=6.1,slow=6.0,SNR=244
ASAR PcP **PcP 15 17 57.7 +0.1**
comp=Z,3.8nm,0.7s,baz=12,slow=4.2,SNR=5.6
ASAR LR LR 15 37 31.8
comp=Z,161nm,21.9s,baz=7.5,slow=35
RDOG Red Dog Mine 51.65 23 *e*P **P 15 16 45.1 +0.7**
comp=Z,23nm,0.9s
DANN Dangsing 52.12 286 *e*P **P 15 16 49.2 +0.4**
comp=Z,113nm,1.0s
KOLN Koldanda 52.39 285 *e*P **P 15 16 50.8 0.0**
comp=Z,66nm,1.1s
NRIK Noril'sk 52.77 338 P **P 15 16 53.7 +1.1**
comp=Z,9.7nm,0.7s,baz=110,slow=8.9,SNR=29
NRIK PcP **PcP 15 18 02.7 +1.0**
comp=Z,15nm,0.8s,baz=112,slow=6.9,SNR=4.2
NRIK LR LR 15 41 19.0
comp=Z,106nm,19.5s,baz=126,slow=38
PYUN Piuthan 52.84 286 *e*P **P 15 16 54.2 +0.1**
comp=Z,100nm,1.1s
EIDS Eidvold 52.94 171 *e*P **P 15 16 52.8 -1.6**
comp=Z,7.5nm,0.6s
PDGK Podgornoye 53.16 305 P **P 15 16 56.6 +0.4**
PDGK pmax pmax
comp=Z,28nm,0.8s
MBWA Marble Bar 53.30 208 *e*P **P 15 16 56.1 -1.0**
comp=Z,40nm,1.0s
KURK Kurchatov 53.48 314 *e*P **P 15 16 58.6 +0.4**
KURK Kurchatov 53.48 314*c i*P **P 15 16 58.8 +0.6**
KURK pmax pmax
comp=Z,60nm,0.8s
KURBB Kurchatov Arra 53.54 314 P **P 15 16 59.6 +1.0**
baz=90,slow=8.0
DZM Mont Dzumac 54.00 153 *e*LR LR 15 32 56.5
comp=Z,374nm,24.1s
PRZ Przheval'sk 54.04 304 *e*P **P 15 17 03.2 +0.5**
comp=Z,28nm,0.6s
PRZ Przheval'sk 54.04 304 *e*P **P 15 17 03.2 +0.5**
PRZ pmax pmax
comp=Z,28nm,0.6s
IM3 Indian Mountai 54.41 27 *e*P **P 15 17 05.5 +0.7**
CAST Castle Rocks 54.62 30 *e*P **P 15 17 04.6 -1.7**
comp=Z,16nm,0.7s
TRF Thorofare Moun 55.42 30 *e*P **P 15 17 13.2 +0.9**
comp=Z,60nm,1.8s
MLY Manley 55.46 28 *e*P **P 15 17 13.2 +0.8**
comp=Z,12nm,0.9s
PMR Palmer 55.74 32 *e*P **P 15 17 15.1 +0.8**
comp=Z,10nm,0.7s
NRN Naryn 55.94 303 *e*P **P 15 17 14.4 -2.2**
comp=Z,13nm,1.4s
NRN Naryn 55.94 303 *e*P **P 15 17 14.4 -2.2**
NRN pmax pmax
comp=Z,13nm,1.4s
TKM2 Tokmak 2 56.04 305 P **P 15 17 18.3 +1.1**
SNR=8.9
RND Reindeer 56.05 30 *e*P **P 15 17 17.5 +0.8**
comp=Z,66nm,1.8s
RND Reindeer 56.05 30 *e*P **P 15 17 17.5 +0.8**
RND pmax pmax
comp=Z,66nm,1.8s
SML Sawmill 56.13 32 *e*P **P 15 17 18.1 +0.8**
comp=Z,24nm,1.0s
SML Sawmill 56.13 32 *e*P **P 15 17 18.1 +0.8**
SML pmax pmax
comp=Z,24nm,1.0s
KSH Kashi 56.26 301 *e*P **P 15 17 23.0 +4.4**
KZA Kyzart 56.41 304 P **P 15 17 22.1 +2.0**
SNR=12
MDM Murphy Dome 56.51 28 *e*P **P 15 17 20.9 +1.1**
comp=Z,16nm,0.7s
TOLK Toolik Lake Re 56.54 24 *e*P **P 15 17 20.8 +0.7**
comp=Z,17nm,1.1s
TOLK Toolik Lake Re 56.54 24 P **P 15 17 20.8 +0.7**
baz=259
KBK Karagaybulak 56.55 305 P **P 15 17 21.8 +1.0**
SNR=12
SCM Sheep Creek Mo 56.61 32 *e*P **P 15 17 22.3 +1.6**
comp=Z,26nm,0.8s
SCM Sheep Creek Mo 56.61 32 *e*P **P 15 17 22.3 +1.6**
SCM pmax pmax
comp=Z,26nm,0.8s
CCB Clear Creek Bu 56.65 29 *e*P **P 15 17 21.5 +0.7**
comp=Z,7.4nm,0.7s
TCOL CIGO, UAF Yank 56.65 28 P **P 15 17 22.5 +1.6**
baz=264
POKR Poker Plat Res 56.86 28 P **P 15 17 22.8 +0.5**
baz=264
AAK Ala-Archa 56.88 305 P **P 15 17 24.2 +1.1**
SNR=6.2
AAK Ala-Archa 56.88 305 *e*P **P 15 17 22.7 -0.4**
AAK Ala-Archa 56.88 305*ce*P **P 15 17 23.7 +0.6**
AAK pmax pmax
comp=Z,9.0nm,1.3s
UCH Uchtor 56.93 304 P **P 15 17 25.3 +1.5**
SNR=11
IL1 Eielson Array 57.06 29 *e*P **P 15 17 23.0 -0.8**
ILAR Eielson Array 57.06 29 P **P 15 17 23.9 +0.2**
comp=Z,2.6nm,0.9s,baz=260,slow=5.6,SNR=17
ILAR LR LR 15 42 25.8
comp=Z,57nm,19.9s,baz=287,slow=37
ILAR Eielson Array 57.06 29 P **P 15 17 24.0 +0.2**
ILAR pmax pmax
comp=Z,3.0nm,0.9s
ILAR MLR MLR
comp=Z,57nm,20.0s
ILB Eielson Array 57.06 29 *e*P **P 15 17 22.6 -1.1**
KLU Klutina 57.26 33 *e*P **P 15 17 23.8 -1.6**
comp=Z,14nm,0.8s
EKS2 Erkin-Say 57.41 305 P **P 15 17 27.5 +0.8**
SNR=6.7
AML Almayashu 57.55 304 P **P 15 17 29.5 +1.5**
SNR=17
OTUK Ortayu 57.70 312 P **P 15 17 29.4 +0.8**
OTUK pmax pmax
comp=Z,54nm,0.9s
SFK Sufi-Kurgan 58.05 302 P **P 15 17 32.3 +0.9**
SFK pmax pmax
comp=Z,11nm,0.7s
SCRK Sand Creek 58.26 30 *e*P **P 15 17 32.6 +0.2**
comp=Z,17nm,0.7s
MNAS Manas 58.36 305 P **P 15 17 34.9 +1.4**
MNAS pmax pmax
comp=Z,7.0nm,1.6s
BVAR Borovoye Array 58.50 317 P **P 15 17 34.9 +0.9**
comp=Z,15nm,0.5s,baz=92,slow=7.5,SNR=6.5
BRVK Borovoye 58.56 317 *e*P **P 15 17 35.1 +0.6**
BRVK Borovoye 58.56 317*c i*P **P 15 17 35.4 +0.9**
BRVK pmax pmax
comp=Z,23nm,0.8s
STKA Stephens Creek 58.90 182 P **P 15 17 36.1 -0.8**
comp=Z,16nm,0.7s,baz=346,slow=7.6,SNR=38
STKA LR LR 15 43 46.9
comp=Z,92nm,19.7s,baz=23,slow=37
STKA Stephens Creek 58.90 182 *e*P **P 15 17 36.0 -1.0**
comp=Z,3.3nm,0.7s
FORT Forrest 59.58 195 *e*P **P 15 17 40.7 -0.9**
comp=Z,50nm,0.6s
KK31 Karatay Array 59.70 306 *e*P **P 15 17 42.9 +0.3**
KK31 Karatay Array 59.70 306 *e*P **P 15 17 42.9 +0.3**
KKAR Karatay Array 59.70 306 *e*P **P 15 17 42.9 +0.3**
KKAR Karatay Array 59.70 306 *e*P **P 15 17 42.9 +0.3**
HYB Hyderabad 60.06 275 *i* P **P 15 17 45.0 -0.4**
BBOO Buckleboo 60.20 187 *e*P **P 15 17 44.9 -1.0**
comp=Z,27nm,1.0s
DAWY Dawson 60.28 30 *e*P **P 15 17 47.7 +1.5**
comp=Z,9.9nm,0.8s
EPYK Eagle Plains 61.32 27 P **P 15 17 55.1 +1.9**
baz=273
INK Inuvik 62.43 25 P **P 15 18 01.8 +1.2**
comp=Z,4.7nm,0.8s,baz=279,slow=6.5,SNR=17
INK Inuvik 62.43 25 *e*P **P 15 18 01.5 +1.0**
comp=Z,22nm,1.3s
WHY Whitehorse 62.66 33 *e*P **P 15 18 01.4 -1.0**
comp=Z,63nm,1.9s
KBL Kabul 62.75 297 *e*P **P 15 18 01.1 -2.5**
comp=Z,14nm,0.8s
KBL Kabul 62.75 297 *e*P **P 15 18 01.1 -2.5**
KBL pmax pmax
comp=Z,14nm,0.8s
SVE Sverdlovsk 63.60 323 *e*P **P 15 18 09.7 +1.1**
SVE pmax pmax
comp=Z,37nm,0.8s
TOO Toolangi 64.60 178 P **P 15 18 15.5 +0.3**
ARU Arti 64.81 322 P **P 15 18 17.9 +1.5**
comp=Z,21nm,0.8s,baz=81,slow=3.6,SNR=39
ARU LR LR 15 48 00.0
comp=Z,100nm,21.2s,baz=88,slow=37
ARU Arti 64.81 322 *e*P **P 15 18 17.4 +0.9**
ARU Arti 64.81 322*c i*P **P 15 18 17.6 +1.1**
ARU 15 20 37.1
ARU PPP PPP 15 22 12.4
ARU S **S 15 26 57.3 +3.3**
ARU SS **SS 15 31 07.4 +2.1**
ARU pmax pmax
comp=Z,37nm,1.0s
NWAO Narrogin (SRO) 64.83 204 *e*P **P 15 18 15.3 -1.4**
comp=Z,157nm,1.4s
NWAO Narrogin (SRO) 64.83 204 *e*P **P 15 18 15.4 -1.4**
NWAO pmax pmax
comp=Z,157nm,1.4s
ABKAR Akbulak array 65.59 314 *e*P **P 15 18 21.9 +0.2**
AKTO Aktyubinsk 66.51 316 LR LR 15 50 14.1
comp=Z,142nm,18.0s,baz=76,slow=38
PRGR Permogore 69.81 330 *e*P **P 15 18 47.0 -1.0**
PRGR pmax pmax
comp=Z,29nm,0.8s
GEYT Alibeck 70.15 303 P **P 15 18 51.5 +0.9**
comp=Z,5.1nm,0.8s,baz=69,slow=8.1,SNR=13
GEYT LR LR 15 52 16.4
comp=Z,83nm,21.2s,baz=355,slow=38
GYA0B ALIBECK ARRAY 70.15 303 *e*P **P 15 18 48.5 -2.2**
comp=Z,11nm,0.9s
YKW3 Yellowknife Ar 71.46 29 *e*P **P 15 18 56.4 -1.7**
comp=Z,11nm,1.0s
YKA Yellowknife Ar 71.49 29 P **P 15 18 59.2 +1.0**
comp=Z,4.4nm,0.8s,baz=294,slow=5.9,SNR=23
YKB5 Yellowknife Ar 71.49 29 *e*P **P 15 18 57.4 -0.9**
RES Resolute Bay 71.61 14 P **P 15 18 59.7 +0.9**
comp=Z,5.2nm,0.7s,baz=345,slow=4.7,SNR=11
RES Resolute Bay 71.61 14 *e*P **P 15 18 59.3 +0.6**
comp=Z,17nm,0.9s
APA Apatity 72.18 338⇑ *i*P **P 15 19 02.3 0.0**
APA pmax pmax
comp=Z,17nm,0.8s
APA MLR MLR
comp=Z,500nm,16.0s
D03D Eldon 72.71 45 P **P 15 19 05.8 0.0**
baz=292
KLMR Klimovskoe 72.84 330 *e*P **P 15 19 05.9 -0.4**
KLMR pmax pmax
comp=Z,25nm,0.8s
KLMR Klimovskoe 72.84 330 *e*P **P 15 19 05.9 -0.4**
KLMR AMP 15 19 07.8
comp=Z,25nm,0.8s
B05A Bryant 73.06 44 P **P 15 19 08.4 +0.5**
baz=292
ARCES ARCESS Array B 73.62 341 P **P 15 19 11.9 +1.1**
comp=Z,4.0nm,0.7s,baz=50,slow=8.4,SNR=9.9
MSF Maaselka 74.52 337 P **P 15 19 17.4 +1.3**
B08A Colville Reser 74.72 43 *e*P **P 15 19 17.6 -0.1**
comp=Z,14nm,0.8s
JOF Joensuu 75.28 334 P **P 15 19 21.6 +1.1**
JOF pmax pmax
comp=Z,49nm,1.2s
DAG Danmarks Havn 75.54 356 *i* P **P 15 19 22.1 +0.3**

comp=Z,5.8nm,0.8s
DAG *i* 15 19 43.0
DAG Danmarks Havn 75.54 356 *i* P **P 15 19 22.1 +0.3**
DAG *i* 15 19 43.0
DAG pmax pmax
comp=Z,4.0nm,0.8s
C09A Chrisman Ranch 75.60 44 *e*P **P 15 19 23.2 +0.5**
comp=Z,13nm,0.8s
VRH Novokhopyorsk 75.91 321 *e*P P 15 19 33.5 +9.1
VRH pmax pmax
comp=Z,20nm,0.6s
MOS Moscow 76.03 326 *e*P **P 15 19 25.0 0.0**
MOS *e* 15 19 35.6
MOS pmax pmax
comp=Z,31nm,0.6s
OUL Oulu 76.07 337 P **P 15 19 25.7 +0.7**
NEW Newport 76.10 43 *e*P **P 15 19 25.4 -0.2**
comp=Z,17nm,0.8s
NEW Newport 76.10 43 *e*P **P 15 19 25.4 -0.2**
NEW pmax pmax
comp=Z,17nm,0.8s
NEW Newport 76.10 43 P **P 15 19 26.4 +0.8**
baz=295
E09A Wood Farm, Sta 76.22 45 *e*P **P 15 19 26.4 +0.2**
comp=Z,16nm,0.9s
G08A Pilot Rock 76.22 46 *e*P **P 15 19 26.9 +0.5**
comp=Z,15nm,1.2s
O03E Paynes Creek 76.39 52 P **P 15 19 28.3 +0.8**
baz=294
LPSR Galich'ya Gora 76.83 323 *e*P **P 15 19 29.7 +0.2**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
GROC Groznyy 76.86 312 *e*P **P 15 19 27.8 -2.1**
GROC pmax pmax
comp=Z,38nm,1.1s
OBN Obninsk 76.86 326*c i*P **P 15 19 30.2 +0.6**
OBN *i* 15 19 39.5
OBN *i* 15 22 23.3
OBN *e*S S 15 29 32.1 +18
OBN pmax pmax
comp=Z,35nm,1.3s
OBN MLR MLR
comp=Z,118nm,21.0s
VSR Storozhevoye 77.34 321 *e*P **P 15 19 32.6 +0.1**
VSR pmax pmax
comp=Z,30nm,1.3s
J08A Circle Bar Ran 77.36 48 *e*P **P 15 19 33.7 +0.8**
comp=Z,13nm,1.0s
SUF Sumiainen 77.36 335 P **P 15 19 33.0 +0.7**
VORD Divnogorie 77.39 321 *e*P **P 15 19 32.6 -0.1**
VORD pmax pmax
comp=Z,10.0nm,0.8s
KULLO Kullorsuaq 77.46 5 *i*P **P 15 19 32.5 -0.2**
comp=Z,18nm,0.8s
KULLO *i* 15 19 52.9
KULLO Kullorsuaq 77.46 5 *i*P **P 15 19 32.5 -0.2**
KULLO pmax pmax
comp=Z,18nm,0.8s
BMO Blue Mountains 77.47 46 *e*P **P 15 19 33.7 +0.2**
BMO Blue Mountains 77.47 46 *e*P **P 15 19 33.7 +0.2**
JTMT Jette 78.04 42 *e*P **P 15 19 37.0 +0.4**
FIA1 FINESS Array S 78.14 334 *e*P **P 15 19 36.9 +0.3**
FINES FINESS Array B 78.14 334 P **P 15 19 37.5 +0.8**
comp=Z,5.4nm,0.5s,baz=64,slow=5.5,SNR=17
FINES LR LR 15 58 22.0
comp=Z,59nm,18.2s,baz=32,slow=39
NCK Nalchik 78.17 313⇓ *i*P **P 15 19 38.4 +1.1**
NCK pmax pmax
comp=Z,11nm,0.8s
ZEI Tsey 78.29 312 *e*P **P 15 19 35.5 -2.7**
ZEI pmax pmax
comp=Z,12nm,0.8s
CMB Columbia Colle 78.34 53 *e*P **P 15 19 38.5 +0.2**
comp=Z,15nm,0.7s
CMB Columbia Colle 78.34 53 *e*P **P 15 19 38.5 +0.2**
CMB pmax pmax
comp=Z,15nm,0.7s
KBZ Khabaz 78.53 313 P **P 15 19 40.5 +1.4**
comp=Z,31nm,0.9s,baz=86,slow=2.7,SNR=61
KBZ LR LR 15 57 31.4
comp=Z,93nm,19.7s,baz=64,slow=38
KIV Kislovodsk 78.56 314 *e*P **P 15 19 40.6 +1.1**
KIV pmax pmax
comp=Z,36nm,1.0s
KIV MLR MLR
comp=Z,108nm,18.0s
MSO Missoula 78.67 43 *e*P **P 15 19 40.1 0.0**
comp=Z,23nm,1.7s
NEY Neytrino 78.86 313⇓ *e*P **P 15 19 42.8 +1.5**
NEY pmax pmax
comp=Z,4.0nm,1.1s
PMOR Pomariorio Ree 78.91 113 *e*T T 16 44 45.0
comp=Z,8.2nm,0.2s
PPT Papeete 78.94 116 LR LR 15 47 27.0
comp=Z,144nm,19.8s,baz=312,slow=30
PPT2 Papeete2 78.95 116 *e*LR LR 15 44 02.5
comp=Z,213nm,22.2s
MFID Camas Ranch 79.06 47 *e*P **P 15 19 42.8 +0.5**
comp=Z,22nm,1.0s
AKH Akhalkalaki 79.18 311⇑ *i*P **P 15 19 45.2 +2.1**
VSU Vasula 79.63 331 *e*P **P 15 19 45.4 +0.6**
VSU IAmb IAmb 15 19 47.1
comp=Z,172nm,1.0s
VSU Vasula 79.63 331*c i*P **P 15 19 45.5 +0.6**
VSU pmax pmax
comp=Z,173nm,1.3s
NV01 Mina Array Sit 79.64 52 *e*P **P 15 19 46.0 +0.4**
NVAR Mina Array Bea 79.64 52 P **P 15 19 47.1 +1.4**
comp=Z,1.2nm,0.5s,baz=295,slow=6.0,SNR=7.5
NVAR LR LR 15 46 52.3
comp=Z,96nm,20.6s,baz=272,slow=30
NV11 Mina Array Sit 79.74 52 *e*P **P 15 19 47.0 +0.8**
comp=Z,1.9nm,1.4s
HLID Hailey 79.90 46 *e*P **P 15 19 47.6 +0.6**
comp=Z,7.2nm,0.9s
HLID Hailey 79.90 46 P **P 15 19 47.5 +0.6**
baz=298
HRY Holter Researc 80.00 42 *e*P **P 15 19 48.4 +1.0**
VES Vestal, Richgr 80.23 55 P **P 15 19 46.8 -1.9**
baz=297
SUMG Summit 80.35 1 *i*P **P 15 19 49.8 +0.7**
SUMG *i* 15 20 10.8
SUMG Summit 80.35 1 *i*P **P 15 19 49.8 +0.7**
SUMG pmax pmax
comp=Z,20nm,0.9s
EGMT Eagleton 80.57 41 *e*P **P 15 19 49.9 -0.4**
comp=Z,11nm,0.8s
EGMT Eagleton 80.57 41 P **P 15 19 50.0 -0.4**
baz=300
CWC Cottonwood Cre 80.69 54 P **P 15 19 50.1 -1.2**
baz=297
FFC Flin Flon 81.04 32 *i*P **P 15 19 54.0 +1.4**
DAC Darwin (Calif) 81.11 54 *e*P **P 15 19 52.3 -1.3**
comp=Z,18nm,1.3s
DAC Darwin (Calif) 81.11 54 *e*P **P 15 19 52.3 -1.3**
DAC pmax pmax
comp=Z,18nm,1.3s
MPMC Manual Prospec 81.29 54 P **P 15 19 55.2 +0.7**
baz=297,SNR=8.8
LRMC Laurel Mtn Rad 81.42 55 P **P 15 19 56.2 +1.0**
baz=297,SNR=5.3
IZAR Zarasai 81.46 329 *e*P **P 15 19 55.8 +1.0**
IZAR IAmb IAmb 15 19 57.0
comp=Z,20nm,1.0s
EDW2 Edwards Air Fo 81.46 55 P **P 15 19 55.9 +0.5**
baz=297,SNR=9.8
ANN Anapa 81.47 316 *e*P **P 15 19 54.5 -0.5**
ANN pmax pmax
comp=Z,101nm,1.0s
IDID Didziasalis 81.49 329 *e*P **P 15 19 55.9 +0.9**
IDID IAmb IAmb 15 19 57.1
comp=Z,14nm,0.8s
R11A Troy Canyon, C 81.57 51 *e*P **P 15 19 55.4 -0.6**
comp=Z,28nm,1.5s
R11A Troy Canyon, C 81.57 51 P **P 15 19 56.9 +0.9**
baz=298
ISAL Salakas 81.62 329 *e*P **P 15 19 56.8 +1.1**
ISAL IAmb IAmb 15 19 57.9
comp=Z,16nm,0.8s
IIGN Ignalina 81.71 329 *e*P **P 15 19 57.0 +0.9**
IIGN IAmb IAmb 15 19 58.2
comp=Z,13nm,0.6s
NACGM Naroch 81.72 328 *e* **P 15 19 56.0 -0.2**
TPNV Topopah Spring 81.76 53 *e*P **P 15 19 57.4 +0.4**
comp=Z,9.1nm,0.7s
TPNV Topopah Spring 81.76 53 *e*P **P 15 19 57.4 +0.4**
TPNV pmax pmax
comp=Z,9.0nm,0.7s
TPNV Topopah Spring 81.76 53 P **P 15 19 57.8 +0.8**
baz=298,SNR=6.0
H17A Grant Village 81.92 44 P **P 15 20 01.1 +3.3**
baz=300
IMW Indian Meadow 81.94 45 *e*P **P 15 19 57.5 -0.5**
comp=Z,15nm,0.9s
FLWY Flagg Ranch 82.00 44 *e*P **P 15 19 57.8 -0.4**
comp=Z,12nm,0.8s
FXWY Fox Creek 82.02 45 *e*P **P 15 19 58.1 -0.2**
comp=Z,19nm,1.4s
GSC Goldstone, Bar 82.13 54 P **P 15 19 58.8 -0.1**
baz=298,SNR=5.9
MOOW Moose Ponds 82.14 45 *e*P **P 15 19 58.0 -0.9**
comp=Z,9.1nm,1.1s
TPAW Teton Pass 82.14 45 *e*P **P 15 20 00.5 +1.5**
comp=Z,13nm,0.8s
TBI Tubuai 82.22 121 *e*LR LR 15 45 44.5
comp=Z,291nm,25.8s,baz=302
LOHW Long Hollow 82.30 45 *e*P **P 15 20 00.1 +0.4**
comp=Z,6.0nm,0.9s
RLMT Red Lodge 82.35 43 *e*P **P 15 20 00.3 +0.4**
comp=Z,14nm,0.6s
AHID Auburn Hatcher 82.41 46 *e*P **P 15 20 00.8 +0.4**
comp=Z,12nm,0.9s
DUG Dugway, Tooele 82.57 49 *e*P **P 15 20 01.5 +0.4**
comp=Z,18nm,0.6s
DUG Dugway, Tooele 82.57 49 *e*P **P 15 20 01.5 +0.4**
DUG pmax pmax
comp=Z,18nm,0.6s
DUG Dugway, Tooele 82.57 49 P **P 15 20 02.7 +1.5**
baz=300
MURC Murrieta 82.64 56 P **P 15 20 03.3 +1.8**
baz=298
HWUT Hardware Ranch 82.69 47 *e*P **P 15 20 02.0 +0.2**
comp=Z,12nm,0.8s
HEC Hector,Ludlow 82.69 55 P **P 15 20 01.7 -0.1**
baz=298
TUQ Turquoise Moun 82.71 54 P **P 15 20 00.1 -1.8**
baz=298,SNR=9.5
AKASG Malin Array Be 82.97 324 P **P 15 20 02.7 -0.1**
comp=Z,12nm,0.7s,baz=50,slow=5.4,SNR=51
AKASG LR LR 15 58 55.0
comp=Z,80nm,19.4s,baz=65,slow=37
AKBB Malin Array Si 82.97 324 *e*P **P 15 20 02.6 -0.2**
comp=Z,20nm,0.8s
KIEV Kiev 82.98 324 *e*P **P 15 20 02.6 -0.3**
comp=Z,21nm,0.9s
KIEV Kiev 82.98 324*c i*P **P 15 20 02.6 -0.3**
KIEV pmax pmax
comp=Z,17nm,0.9s
AK11 Malin Array Si 83.01 324 *e*P **P 15 20 02.4 -0.6**
FRD Ford Ranch, An 83.13 56 P **P 15 20 06.6 +2.5**
baz=298
PFO Pinyon Flats O 83.18 56 P **P 15 20 07.4 +3.0**
baz=298,SNR=8.9
GMRC Granite Mounta 83.20 54 P **P 15 20 04.2 -0.4**
baz=298,SNR=13
LAO LASA Array 83.32 40 P **P 15 20 07.8 +3.0**
baz=303
BELC Belle Mtn. Jos 83.33 55 P **P 15 20 04.6 -0.6**
baz=298,SNR=6.5
BW06 Boulder Array 83.39 45 *e*P **P 15 20 05.0 -0.4**
comp=Z,0.0nm,1.0s
BW06 Boulder Array 83.39 45 P **P 15 20 06.1 +0.7**
baz=301
PD31 Pinedale Array 83.39 45 *e*P **P 15 20 04.7 -0.8**
PDAR Pinedale Array 83.39 45 P **P 15 20 06.2 +0.8**
comp=Z,0.6nm,0.6s,baz=222,slow=1.2,SNR=5.1
PDAR LR LR 15 53 24.5
comp=Z,166nm,20.0s,baz=300,slow=33
PDAR Pinedale Array 83.39 45 *e*P **P 15 20 05.0 -0.4**
SIM Simferopol' 83.41 318*d i*P **P 15 20 06.4 +1.2**
SIM S **S 15 30 22.3 -0.9**
SIM pmax pmax
comp=Z,28nm,0.9s
NC405 NORSAR Array S 83.51 339 *e*P **P 15 20 05.1 -0.4**
MONP2 Monument Peak 83.54 56 P **P 15 20 08.3 +1.9**
baz=298,SNR=6.9
NC204 NORSAR Array S 83.70 339 *e*P **P 15 20 06.4 -0.1**
NB2 NORSAR Subarra 83.73 339 P **P 15 20 06.4 -0.2**
comp=Z,14nm,1.1s,baz=43,slow=5.3
NOA NORSAR Array B 83.73 339 P **P 15 20 06.8 +0.2**
comp=Z,3.4nm,0.9s,baz=48,slow=4.6,SNR=7.2
NOA PP **PP 15 23 18.9 -0.2**
comp=Z,0.6nm,0.8s,baz=46,slow=7.1,SNR=2.8
NOA LR LR 16 01 28.5
comp=Z,73nm,21.8s,baz=60,slow=38
IRM Iron Mountain 83.88 55 P **P 15 20 08.7 +0.8**
baz=299,SNR=8.0
IKP In-Ko-Pah, Jac 83.89 56 P **P 15 20 07.2 -0.8**
baz=298
SUW Suwalki 83.93 329 *e*P **P 15 20 06.1 -1.5**
comp=Z,86nm,0.9s
SUW Suwalki 83.93 329 *e*P **P 15 20 06.1 -1.5**
SUW pmax pmax
comp=Z,86nm,0.9s
KONO Kongsberg 85.31 338⇑ *e*P **P 15 20 15.2 +0.7**
KONO pmax pmax
comp=Z,44nm,1.6s
K22A Casper 85.34 44 *e*P **P 15 20 14.7 -0.5**
comp=Z,12nm,0.9s
SFJD Kangerlussuaq 85.38 5 *i*P **P 15 20 15.4 +0.7**
SFJD *i* 15 20 36.4
SFJD Kangerlussuaq 85.38 5 *i*P **P 15 20 15.4 +0.7**
O20A White River Ci 85.61 47 P **P 15 20 15.5 -1.2**
baz=302
PV09 Paradox Valley 85.89 49 *e*P **P 15 20 18.2 -0.1**
PV21 Cone Mtn., Par 85.96 48 *e*P **P 15 20 18.8 +0.3**
comp=Z,17nm,0.8s
PV23 Carpenter Ridg 86.00 49 *e*P **P 15 20 19.0 +0.3**
comp=Z,24nm,0.8s
PV10 Paradox Valley 86.02 49 *e*P **P 15 20 19.1 +0.3**
RSSD Black Hills 86.03 42 *e*P **P 15 20 18.7 0.0**
comp=Z,23nm,1.5s
RSSD Black Hills 86.03 42 *e*P **P 15 20 18.7 0.0**
RSSD pmax pmax
comp=Z,23nm,1.5s
RSSD Black Hills 86.03 42 P **P 15 20 19.1 +0.4**
baz=305
PV14 Lion Creek, Pa 86.03 49 *e*P **P 15 20 19.2 +0.4**
comp=Z,28nm,0.8s
PV20 West Nyswonger 86.08 49 *e*P **P 15 20 19.3 +0.3**
comp=Z,20nm,0.8s
PV22 Blue Mesa, Pa 86.10 48 *e*P **P 15 20 18.5 -0.7**
comp=Z,8.8nm,1.0s
PV17 East Wray Mesa 86.12 49 *e*P **P 15 20 18.6 -0.7**
comp=Z,42nm,1.2s
PV05 Paradox Valley 86.13 49 *e*P **P 15 20 19.1 -0.3**
PV16 Nyswonger Mesa 86.13 49 *e*P **P 15 20 18.7 -0.7**
comp=Z,16nm,0.8s
LVV L'vov 86.17 325 *e*P **P 15 20 16.1 -2.9**
PV11 David Mesa, Pa 86.17 49 *e*P **P 15 20 19.1 -0.4**
comp=Z,45nm,1.3s
PV18 Sinbad Mesa, Pa 86.17 49 *e*P **P 15 20 19.0 -0.5**
comp=Z,20nm,1.0s
PV12 Saucer Basin, 86.20 49 *e*P **P 15 20 19.9 +0.1**
comp=Z,26nm,1.2s
PV03 Paradox Valley 86.21 49 *e*P **P 15 20 18.9 -0.8**
PV13 Radium Mtn., P 86.28 49 *e*P **P 15 20 19.4 -0.7**
comp=Z,47nm,1.7s
PV02 Paradox Valley 86.31 49 *e*P **P 15 20 19.3 -0.9**
comp=Z,35nm,1.5s
PV01 Paradox Valley 86.46 49 *e*P **P 15 20 20.1 -0.9**
BR131 Keskin Array S 86.52 313 *e*P **P 15 20 19.6 -1.5**
BRTR Keskin Array B 86.52 313 P **P 15 20 20.9 -0.1**
comp=Z,5.1nm,0.8s,baz=91,slow=2.8,SNR=21
BRTR LR LR 16 02 42.1
comp=Z,52nm,21.4s,baz=76,slow=38
BRTR Keskin Array B 86.52 313 P **P 15 20 21.0 -0.1**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BRTR MLR MLR
comp=Z,52nm,21.4s
214A Organ Pipe Nat 86.66 56 P **P 15 20 22.9 +1.1**
baz=300
N23A Red Feather La 86.67 45 *e*P **P 15 20 22.6 +0.6**
comp=Z,39nm,1.4s
N23A Red Feather La 86.67 45 P **P 15 20 23.1 +1.2**
baz=304
ULM Lac du Bonnet 86.73 33 P **P 15 20 22.1 +0.3**
comp=Z,3.1nm,0.8s,baz=324,slow=4.4,SNR=3.6
ULM LR LR 15 58 16.7
comp=Z,36nm,20.3s,baz=298,slow=35
ULM Lac du Bonnet 86.73 33 P **P 15 20 22.1 +0.3**
ULM pmax pmax
comp=Z,5.0nm,1.1s
ULM MLR MLR
comp=Z,36nm,20.3s
BIZ Bicaz 86.86 322⇑ *i*P **P 15 20 22.8 +0.3**
BUR08 Bucovina Ar. S 86.92 323 *e*P **P 15 20 21.9 -0.9**
BUR04 Bucovina Ar. S 86.92 323 *e*P **P 15 20 22.2 -0.6**
BURAR Bucovina Array 86.92 323⇑ *i*P **P 15 20 23.4 +0.5**
BURAR Bucovina Array 86.92 323⇑ P **P 15 20 23.4 +0.5**
SMCO Snowmass 86.95 47 *e*P **P 15 20 23.2 -0.4**
comp=Z,11nm,1.0s
MVCO Mesa Verde 87.00 49 *e*P **P 15 20 23.3 -0.4**
comp=Z,9.7nm,1.2s
ISCO Idaho Springs 87.48 46 *e*P **P 15 20 25.9 -0.2**
comp=Z,8.6nm,1.3s
ISCO Idaho Springs 87.48 46 *e*P **P 15 20 25.9 -0.2**
ISCO pmax pmax
comp=Z,9.0nm,1.3s
ISCO Idaho Springs 87.48 46 P **P 15 20 24.1 -2.0**
baz=304
UZH Uzhgorod 87.80 325 *e*P **P 15 20 28.5 +1.6**
UZH *i* 15 20 34.0
UZH *e* 15 20 42.1
S22A 4UR Ranch, Cre 87.83 48 P **P 15 20 28.1 +0.4**
baz=303
OJC Ojcow 87.98 328 P **P 15 20 29.2 +1.4**
OJC pmax pmax
comp=Z,8.0nm,1.1s
TRPA Tarpa 88.00 325⇓ *i*P **P 15 20 27.0 -0.9**
AGMN Agassiz Nation 88.00 35 *e*P **P 15 20 27.7 -0.2**
comp=Z,20nm,1.1s
AGMN Agassiz Nation 88.00 35 P **P 15 20 27.2 -0.7**
baz=310
VOIR 88.36 322⇑ *i*P **P 15 20 29.6 -0.2**
VOIR 88.36 322⇑ P **P 15 20 29.6 -0.2**
ARR Arges 88.64 322⇑ *i*P **P 15 20 31.8 +0.7**
SDCO Great Sand Dun 88.70 48 P **P 15 20 31.2 -0.6**
baz=304
KECS Kecovo 88.81 326 *e*P **P 15 20 31.0 -0.7**
KECS pmax pmax
comp=Z,10.0nm,0.8s
KECS Kecovo 88.81 326 *e*P **P 15 20 31.0 -0.7**
KECS *es*P **sP 15 20 51.9 +2.2**
MORC Moravsky Berou 89.35 328⇑ *i*P **P 15 20 34.5 +0.2**
MORC Moravsky Berou 89.35 328⇑ P **P 15 20 34.5 +0.2**
MORC Moravsky Berou 89.35 328 *e*P **P 15 20 34.3 0.0**
PSZ Piszkesteto 89.48 326 *e*P **P 15 20 34.4 -0.5**
comp=Z,12nm,0.9s
PSZ Piszkesteto 89.48 326 P **P 15 20 35.9 +0.9**
PSZ pmax pmax
comp=Z,13nm,1.3s
DPC Dobruska-Polom 89.52 329 *e*P **P 15 20 35.1 0.0**
DPC *ep*P **pP 15 20 46.5 -1.7**
DPC *es*P **sP 15 20 54.2 +1.1**
DPC Dobruska-Polom 89.52 329 *e*P **P 15 20 35.1 0.0**
DPC *e* 15 20 46.5
ANMO Albuquerque 89.61 50 *e*P **P 15 20 34.2 -1.7**
comp=Z,10nm,1.4s
ANMO Albuquerque 89.61 50 *e*P **P 15 20 34.3 -1.7**
ANMO pmax pmax
comp=Z,11nm,1.4s
ANMO Albuquerque 89.61 50 P **P 15 20 35.4 -0.6**
baz=304
VYHS Vyhne 89.61 327 *e*P **P 15 20 36.0 +0.5**
VYHS pmax pmax
comp=Z,7.0nm,0.8s
VYHS Vyhne 89.61 327 *e*P **P 15 20 36.0 +0.5**
VYHS *es*P **sP 15 20 56.4 +2.9**
JAVC Velka Javorina 89.92 328 *e*P **P 15 20 38.2 +1.2**
VRAC Vranov 90.12 328⇑ *i*P **P 15 20 38.3 +0.4**
VRAC Vranov 90.12 328⇑ P **P 15 20 38.3 +0.4**
VRAC Vranov 90.12 328 *e*P **P 15 20 38.2 +0.4**
BRG Berggiesshubel 90.20 331 *e*P **P 15 20 37.9 -0.3**
comp=Z,7.0nm,1.1s
BRG Berggiesshubel 90.20 331 *e*P **P 15 20 37.9 -0.3**
BRG pmax pmax
comp=Z,7.0nm,1.1s
CLL Collm 90.29 331⇓ *i*P **P 15 20 38.5 -0.1**
comp=Z,9.0nm,0.9s
CLL *ep*P **pP 15 20 52.0 +0.3**
CLL *es*P **sP 15 20 59.0 +2.4**
CLL *ep*PP 15 24 24.0
CLL *e*S **S 15 31 29.0 -0.5**
CLL Collm 90.29 331⇓ *i*P **P 15 20 38.5 -0.1**
CLL *e*S **S 15 31 29.0 -0.5**
CLL pmax pmax
comp=Z,9.0nm,0.9s
KRUC Moravsky 90.39 328 P **P 15 20 39.4 +0.3**
KRUC pmax pmax
comp=Z,12nm,0.9s
KRUC Moravsky 90.39 328 *e*P **P 15 20 39.1 0.0**
EYMN Ely 90.42 33 P **P 15 20 40.0 +0.7**
baz=314
MODS Modra-Piesok 90.45 327 *e*P **P 15 20 39.3 -0.1**
MODS pmax pmax
comp=Z,10.0nm,1.2s
MODS Modra-Piesok 90.45 327 *e*P **P 15 20 39.3 -0.1**
ECSD EROS Data Cent 90.53 39 P **P 15 20 40.5 +0.6**
baz=310
MDVR Moldovita 90.60 323⇑ *i*P **P 15 20 40.0 -0.3**
KHC Kasperske Hory 91.63 330 *e*P **P 15 20 45.1 +0.2**
KHC *ep*P **pP 15 20 57.7 -0.4**
KHC Kasperske Hory 91.63 330 *e*P **P 15 20 45.1 +0.2**
KHC *e* 15 20 57.7
GEC2 GERESS Array S 91.78 329 *e*P **P 15 20 44.9 -0.8**
comp=Z,4.4nm,0.9s
GEC2 GERESS Array S 91.78 329 *e*P **P 15 20 44.9 -0.8**
GEC2 pmax pmax
comp=Z,4.0nm,0.9s
GERES GERESS Array B 91.78 329 P **P 15 20 45.5 -0.3**
comp=Z,2.7nm,0.8s,baz=57,slow=4.9,SNR=15
GERES LR LR 16 05 21.3
comp=Z,124nm,21.3s,baz=106,slow=38
GEA0 GERESS Array S 91.79 329 *e*P **P 15 20 44.6 -1.2**
MNTX Cornudas Mount 92.16 53 *e*P **P 15 20 47.7 0.0**
comp=Z,5.3nm,0.8s
MNTX Cornudas Mount 92.16 53 P **P 15 20 49.1 +1.4**
baz=304
PERS Pernice 92.71 327 *e*P **P 15 20 50.7 +0.7**
PERS Pernice 92.71 327 *e*P **P 15 20 50.7 +0.7**
JAVS Javornik 93.75 327 *i*P **P 15 20 54.1 -0.8**
JAVS Javornik 93.75 327 *i*P **P 15 20 54.1 -0.8**
TX31 Lajitas Ar. Si 94.71 54 *e*P **P 15 21 00.2 +0.6**
TXAR Lajitas Array 94.71 54 P **P 15 21 01.0 +1.4**
comp=Z,0.5nm,0.5s,baz=315,slow=4.2,SNR=5.9
TXAR LR LR 15 58 40.6
comp=Z,69nm,20.7s,baz=0.0,slow=32
TOA0 Torodi Ar. Sit 125.12 312 *e*PKPdf **PKPdf 15 26 37.4 -1.5**
TORD Torodi Ar. Bea 125.12 312 PKP **PKPdf 15 26 37.6 -1.2**
comp=Z,1.4nm,0.6s,baz=13,slow=2.4,SNR=9.4
TORD PP **PP 15 28 20.0 -7.6**
comp=Z,1.4nm,1.1s,baz=66,slow=4.9,SNR=3.5
SNAA Sanae 131.82 194 PKP **PKPdf 15 26 48.5 -1.5**
VNA2 Neumayer--Watz 133.33 193 PKP **PKPdf 15 26 53.6 +0.8**
VNA3 Neumayer Olymp 133.50 192 PKP **PKPdf 15 26 54.0 +0.9**
DBIC Dimbokro 134.22 313 PKP **PKPdf 15 26 57.4 +1.2**
comp=Z,3.7nm,0.9s,baz=313,slow=8.1,SNR=2.9
MNMC Minye Minye 148.82 82 *e*PKPbc **PKPbc 15 27 26.9 +0.6**
LPAZ La Paz 148.96 76 PKP **PKPdf 15 27 23.8 +0.8**
comp=Z,10nm,0.7s,baz=310,slow=3.3,SNR=6.9
LPAZ PKPbc **PKiKP 15 27 27.9 -0.4**
comp=Z,10nm,0.7s,baz=308,slow=4.1,SNR=38
LPAZ La Paz 148.96 76 *e*PKPdf **PKPdf 15 27 23.0 0.0**
LPAZ *e*PKPbc **PKPbc 15 27 27.7 +0.6**
PB11 IPOC Station P 148.99 83 *e*PKPbc **PKPbc 15 27 26.8 +0.3**
PLCA Paso Flores 149.18 124 PKPbc **PKPbc 15 27 26.9 +0.7**
comp=Z,2.8nm,0.6s,baz=254,slow=3.3,SNR=8.5
GO01 Chusmiza 149.37 83 *e*PKPdf **PKPdf 15 27 23.3 -0.1**
GO01 *e*PKPbc **PKiKP 15 27 28.5 -0.4**
PB01 IPOC Station P 149.56 85 *e*PKPbc **PKPbc 15 27 28.1 +0.3**
GO04 Tololo Observa 150.09 104 *e*PKPbc **PKPbc 15 27 28.8 -0.2**

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*ISCJB **28** 15:32:51.3±0.3,41°.34N±0°.01×22°.41E±0°.02,h2km±2km, mb3.5/3, Error ellipse: s-maj=2.3km s-min=1.9km az=136.4*
*SKO **28** 15:32:51.6,41°.30N×22°.40E,h20km, M2.5, ML3.1*
*ATH **28** 15:32:52.4,41°.27N×22°.43E,h21km, ML3.3/12, Error ellipse: s-maj=1.8km s-min=0.6km az=163.0*
*IDC **28** 15:32:52.5±1.1,41°.16N×22°.29E,h0km, mb3.5/4, mb1 3.7/12, mb1mx3.5/39, mbtmp3.5/12, ML3.3/8, Error ellipse: s-maj=16.5km s-min=14.1km az=29.0*

*PDG **28** 15:32:52.6±0.4,41°.30N×22°.43E,h19km,ML3.5/12,Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
*THE **28** 15:32:53.1,41°.27N×22°.42E,h4km±1km,ML3.4/5,Error ellipse: s-maj=1.5km s-min=0.5km az=114.0*
*BEO **28** 15:32:53.3±0.3,41°.38N×22°.51E,h11km±2km,ML3.1/8*

ISC 28 15:32:53.3±0.8,41°30N±0'.02×22°.42E±0'.02,h11km±5km, n167,σ1°§11/208,mb3.5/3,16C-20D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VAY	**Valandovo**	**0.11**	**78**	*e*Pg		**Pg**	**15 32 56.1**	**-0.1**
VAY				*e*Sg		**Sg**	**15 32 58.2**	**-0.1**
VAY	**Valandovo**	**0.11**	**78**	P		**Pg**	**15 32 55.9**	**-0.3**
VAY				S		**Sg**	**15 32 58.1**	**-0.2**
VAY	**Valandovo**	**0.11**	**78**	⇑*i*Pg		**Pg**	**15 32 55.8**	**-0.3**
VAY				*i* Sg		**Sg**	**15 32 58.4**	**+0.1**
VAY				*e*Lg		Lg	15 32 58.7	
	comp=E,3μm,0.3s							
VAY				*e*Lg		Lg	15 32 58.8	
	comp=N,11μm,0.5s							
GRG	**Griva**	**0.34**	**183**	P		**Pg**	**15 32 59.5**	**-0.6**
GRG				S		**Sg**	**15 33 04.4**	**-0.2**
GRG				AML		AML	15 33 05.7	
	comp=E,20685μm,0.2s							
GRG				AML		AML	15 33 05.9	
	comp=N,21271μm,0.2s							
GRG	**Griva**	**0.34**	**183**	P		**Pg**	**15 32 59.6**	**-0.5**
GRG				S		**Sg**	**15 33 04.4**	**-0.2**
KNT	**Kendrikon**	**0.38**	**110**	P		**Pg**	**15 33 00.5**	**-0.4**
KNT				S		**Sg**	**15 33 06.1**	**+0.1**
KNT				AML		AML	15 33 06.3	
	comp=E,14508μm,0.3s							
KNT				AML		AML	15 33 06.8	
	comp=N,23846μm,0.1s							
KNT	**Kendrikon**	**0.38**	**110**	P		**Pg**	**15 33 00.6**	**-0.3**
KNT				S		**Sg**	**15 33 06.2**	**+0.2**
STIP	**Stip**	**0.43**	**336**	⇑*i*Pg		**Pg**	**15 33 00.9**	**-0.9**
STIP				*i* Sg		**Sg**	**15 33 08.0**	**+0.3**
STIP				*e*Lg		Lg	15 33 08.7	
	comp=E,1μm,0.7s							
STIP				*e*Lg		Lg	15 33 09.0	
	comp=N,860nm,0.3s							
THE	**Thessaloniki**	**0.78**	**148**	P		**Pg**	**15 33 06.7**	**-1.7**
THE				AML		AML	15 33 21.8	
	comp=E,2578μm,0.6s							
THE				AML		AML	15 33 23.8	
	comp=N,3573μm,0.6s							
THE	**Thessaloniki**	**0.78**	**148**	P		**Pg**	**15 33 06.6**	**-1.7**
SOH	**Sokhos**	**0.85**	**124**	P		**Pg**	**15 33 08.7**	**-0.9**
SOH				S		**Sg**	**15 33 20.2**	**-0.6**
SOH				AML		AML	15 33 21.4	
	comp=E,9346μm,0.6s							
SOH				AML		AML	15 33 22.2	
	comp=N,10397μm,0.5s							
SOH	**Sokhos**	**0.85**	**124**	P		**Pg**	**15 33 08.8**	**-0.9**
SOH				S		**Sg**	**15 33 20.4**	**-0.4**
HORT	**Hortiatis**	**0.87**	**143**	P		**Pg**	**15 33 08.7**	**-1.3**
HORT				S		**Sg**	**15 33 20.3**	**-1.0**
HORT				AML		AML	15 33 22.6	
	comp=E,1622μm,0.5s							
HORT				AML		AML	15 33 25.4	
	comp=N,2990μm,0.6s							
HORT	**Hortiatis**	**0.87**	**143**	P		**Pg**	**15 33 08.6**	**-1.4**
BIA	**Bitola**	**0.87**	**252**	P		**Pg**	**15 33 09.3**	**-0.9**
BIA	**Bitola**	**0.87**	**252**	⇓*i*Pg		**Pg**	**15 33 09.2**	**-0.9**
BIA				*i* Sg		**Sg**	**15 33 21.2**	**-0.4**
BIA				*e*Lg		Lg	15 33 21.6	
	comp=E,421nm,0.5s							
BIA				*e*Lg		Lg	15 33 21.8	
	comp=N,314nm,0.5s							
KRUS	**Krusevo**	**0.89**	**275**	⇓*i*Pg		**Pg**	**15 33 08.7**	**-1.7**
KRUS				*i* Sg		**Sg**	**15 33 20.4**	**-1.6**
KRUS				*e*Lg		Lg	15 33 21.0	
	comp=N,402nm,0.3s							
KRUS				*e*Lg		Lg	15 33 21.4	
	comp=E,256nm,0.4s							
SRS	**Serrai**	**0.90**	**101**	P		**Pg**	**15 33 09.6**	**-1.1**
SRS				S		**Sg**	**15 33 22.1**	**-0.3**
SRS				AML		AML	15 33 23.2	
	comp=E,2284μm,0.2s							
SRS				AML		AML	15 33 25.6	
	comp=N,1835μm,0.2s							
SRS	**Serrai**	**0.90**	**101**	P		**Pg**	**15 33 09.8**	**-0.8**
SRS				S		**Sg**	**15 33 22.4**	**0.0**
KTI	**Kastanea**	**0.93**	**194**	P		**Pg**	**15 33 10.2**	**-1.0**
FNA	**Florina**	**0.94**	**237**	P		**Pg**	**15 33 10.1**	**-1.3**
FNA	**Florina**	**0.94**	**237**	P		**Pg**	**15 33 09.9**	**-1.5**
FNA				S		**Sg**	**15 33 23.6**	**-0.1**
SKO	**Skopje**	**1.00**	**313**	*e*Pg		**Pg**	**15 33 11.4**	**-1.1**
SKO				*e*Sg		**Sg**	**15 33 24.2**	**-1.3**
SKO	**Skopje**	**1.00**	**313**	P		**Pg**	**15 33 11.4**	**-1.1**
SKO	**Skopje**	**1.00**	**313**	⇓*i*Pg		**Pg**	**15 33 11.3**	**-1.2**
SKO				*e*Sg		**Sg**	**15 33 23.9**	**-1.7**
SKO				*e*Lg		Lg	15 33 26.5	
	comp=E,67nm,0.3s							
SKO				*e*Lg		Lg	15 33 26.8	
	comp=N,189nm,0.6s							
NVR	**Nevrokopi**	**1.09**	**87**	P		**Pb**	**15 33 13.2**	**-0.9**
NVR				S		**Sb**	**15 33 28.0**	**-0.3**
NVR				AML		AML	15 33 28.1	
	comp=N,2090μm,0.5s							
NVR				AML		AML	15 33 30.9	
	comp=E,3237μm,0.6s							
NVR	**Nevrokopi**	**1.09**	**87**	P		**Pb**	**15 33 13.2**	**-0.9**
KZN	**Kozani**	**1.10**	**207**	P		**Pb**	**15 33 12.9**	**-1.5**
KZN				AML		AML	15 33 33.0	
	comp=N,9160μm,0.7s							
KZN				AML		AML	15 33 34.6	
	comp=E,11188μm,0.6s							
KZN	**Kozani**	**1.10**	**207**	P		**Pb**	**15 33 12.9**	**-1.5**
LIT	**Litokhoron**	**1.20**	**177**	P		**Pn**	**15 33 14.3**	**-1.6**
LIT	**Litokhoron**	**1.20**	**177**	P		**Pn**	**15 33 14.6**	**-1.3**
PLG	**Polygyros**	**1.21**	**140**	P		**Pn**	**15 33 14.9**	**-1.1**
PLG				AML		AML	15 33 34.9	
	comp=E,2303μm,0.6s							
PLG				AML		AML	15 33 36.6	
	comp=N,1512μm,0.6s							
PLG	**Polygyros**	**1.21**	**140**	P		**Pn**	**15 33 14.9**	**-1.1**
OHR	**Ohrid**	**1.24**	**262**	⇓*i*Pg		**Pn**	**15 33 15.1**	**-1.5**
OHR				*i* Sg		**Sb**	**15 33 32.2**	**-0.5**
OHR				*e*Lg		Lg	15 33 34.5	
	comp=N,645nm,0.7s							
OHR				*e*Lg		Lg	15 33 34.6	
	comp=E,370nm,0.7s							
NEST	**Nestorio**	**1.36**	**230**	P		**Pn**	**15 33 17.6**	**-0.7**
NEST				S		**Sn**	**15 33 36.5**	**+0.1**
NEST				AML		AML	15 33 40.4	
	comp=N,2353μm,0.5s							
NEST				AML		AML	15 33 40.8	
	comp=E,2030μm,0.9s							
NEST	**Nestorio**	**1.36**	**230**	P		**Pn**	**15 33 17.8**	**-0.5**
VTS	**Vitosha**	**1.42**	**24**	*e*Pg		**Pn**	**15 33 18.5**	**-0.7**
VTS				*e*Sg		**Sn**	**15 33 36.1**	**-1.8**
VTS	**Vitosha**	**1.42**	**24**	⇑*i*P		**Pn**	**15 33 19.4**	**+0.2**
VTS				S		**Sb**	**15 33 38.4**	**+0.4**
VTS	**Vitosha**	**1.42**	**24**	P		**Pn**	**15 33 18.9**	**-0.3**
PENT	**Pentalofos**	**1.47**	**222**	P		**Pn**	**15 33 19.8**	**0.0**
PENT	**Pentalofos**	**1.47**	**222**	P		**Pn**	**15 33 19.7**	**-0.1**
OUR	**Ouranopolis**	**1.52**	**129**	P		**Pn**	**15 33 20.3**	**-0.1**
OUR				S		**Sb**	**15 33 41.1**	**+0.3**
OUR				AML		AML	15 33 43.0	
	comp=E,1681μm,0.5s							
OUR				AML		AML	15 33 45.9	
	comp=N,1682μm,0.5s							
OUR	**Ouranopolis**	**1.52**	**129**	P		**Pn**	**15 33 20.1**	**-0.3**
KVLA	**Kavala**	**1.53**	**103**	P		**Pn**	**15 33 20.2**	**-0.2**
PHP	**Peshkopia**	**1.54**	**285**	P		**Pn**	**15 33 20.1**	**-0.6**
BARS	**Barje**	**1.58**	**344**	*e*Pg		**Pn**	**15 33 20.3**	**-1.0**
BARS	**Barje**	**1.58**	**344**	*e*Pn		Pg	15 33 35.9	+12
BARS				*e*Sg		**Sn**	**15 33 41.7**	**-0.1**
THL	**Klokotos Trika**	**1.76**	**190**	P		**Pn**	**15 33 23.3**	**-0.2**
THL	**Klokotos Trika**	**1.76**	**190**	P		**Pn**	**15 33 23.4**	**-0.2**
MEV	**Metsovon**	**1.76**	**211**	P		**Pn**	**15 33 23.2**	**-0.6**
MEV	**Metsovon**	**1.76**	**211**	P		**Pn**	**15 33 23.4**	**-0.4**
THAS	**Thassos island**	**1.87**	**111**	P		**Pn**	**15 33 24.7**	**-0.4**
TIR	**Tirana**	**1.93**	**272**	*e*Pn		**Pb**	**15 33 27.2**	**-1.2**
TIR				*e*Sn		**Sb**	**15 33 53.2**	**+0.8**
FYTO	**Fytoko, Volos**	**1.93**	**168**	P		**Pn**	**15 33 25.3**	**-0.6**
FYTO	**Fytoko, Volos**	**1.93**	**168**	P		**Pn**	**15 33 26.3**	**+0.3**
ZAPS	**Zavoj**	**1.98**	**4**	*e*Pn		**Pn**	**15 33 26.9**	**+0.1**
XOR	**Xorichti**	**2.02**	**163**	P		**Pn**	**15 33 27.0**	**-0.3**
XOR				AML		AML	15 33 51.9	
	comp=N,1165μm,1.0s							
XOR				AML		AML	15 33 52.8	
	comp=E,1154μm,0.5s							
XOR	**Xorichti**	**2.02**	**163**	P		**Pn**	**15 33 26.9**	**-0.3**
JAN	**Janina**	**2.03**	**217**	P		**Pn**	**15 33 27.5**	**+0.1**
NEO	**Neokhori**	**2.08**	**163**	P		**Pn**	**15 33 27.9**	**-0.2**
NEO	**Neokhori**	**2.08**	**163**	P		**Pn**	**15 33 27.7**	**-0.4**
SELS	**Selova**	**2.15**	**334**	*e*Pn		**Pn**	**15 33 27.6**	**-1.5**
PVY	**Plav**	**2.25**	**306**	⇑*i*Pn		**Pn**	**15 33 30.1**	**-0.4**
PVY				*e*Sn		**Sn**	**15 33 59.1**	**+0.8**
AGG	**Agios Georgios**	**2.27**	**182**	P		**Pn**	**15 33 30.6**	**-0.1**
AGG	**Agios Georgios**	**2.27**	**182**	P		**Pn**	**15 33 30.6**	**-0.1**
SKIA	**Skiathos**	**2.27**	**159**	P		**Pn**	**15 33 30.2**	**-0.6**
MAKR	**Makrakomi, Fth**	**2.29**	**186**	P		**Pn**	**15 33 31.3**	**+0.3**
MAKR	**Makrakomi, Fth**	**2.29**	**186**	P		**Pn**	**15 33 31.4**	**+0.4**
BLKB	**Belogradchik**	**2.33**	**5**	S		**Sn**	**15 33 59.3**	**-0.9**
SGD	**Sagiada**	**2.37**	**225**	P		**Pn**	**15 33 32.7**	**+0.7**
IGT	**Igoumenitsa**	**2.38**	**223**	P		**Pn**	**15 33 32.6**	**+0.4**
BOVS	**Bovan**	**2.40**	**347**	*e*Pn		**Pn**	**15 33 31.7**	**-0.7**
BOVS				*e*Sg		**Sb**	**15 34 07.7**	**+1.8**
AOS	**Alonnisos**	**2.40**	**152**	P		**Pn**	**15 33 31.8**	**-0.6**
AOS	**Alonnisos**	**2.40**	**152**	P		**Pn**	**15 33 31.9**	**-0.6**
EVR	**Evrytania**	**2.42**	**191**	P		**Pn**	**15 33 32.8**	**-0.1**
IVA	**Berane**	**2.45**	**311**	⇓*i*Pn		**Pn**	**15 33 33.6**	**+0.3**
IVA				*e*Sn		**Sn**	**15 34 04.0**	**+0.7**
ULC	**Ulcinj**	**2.47**	**287**	⇑*i*Pn		**Pn**	**15 33 34.0**	**+0.5**
ULC				*e*Sn		**Sn**	**15 34 04.1**	**+0.4**
SMIA	**Simia**	**2.49**	**166**	P		**Pn**	**15 33 34.0**	**+0.3**
SMTH	**Samothraki Isl**	**2.50**	**108**	P		**Pn**	**15 33 33.4**	**-0.4**
ZAGS	**Zajecar**	**2.52**	**357**	*e*Pn		**Pn**	**15 33 33.6**	**-0.5**
DRME	**Dracevica, Mon**	**2.58**	**291**	⇓*i*Pn		**Pn**	**15 33 35.8**	**+0.8**
DRME				*e*Sn		**Sn**	**15 34 07.3**	**+1.0**
DRME	**Dracevica, Mon**	**2.58**	**291**	*e*Pn		**Pn**	**15 33 36.8**	**+1.8**
PDG	**Podgorica**	**2.62**	**297**	*e*Pn		**Pn**	**15 33 37.5**	**+2.0**
PDG				*e*Sn		**Sn**	**15 34 08.7**	**+1.4**
PDG	**Podgorica**	**2.62**	**297**	*e*Pn		**Pn**	**15 33 36.5**	**+1.0**
TTG	**Podgorica**	**2.62**	**297**	⇑*i*Pn		**Pn**	**15 33 35.6**	**+0.1**
TTG				*e*Sn		**Sn**	**15 34 08.0**	**+0.7**
KOME	**Kolasin**	**2.66**	**307**	⇓*i*Pn		**Pn**	**15 33 35.9**	**-0.3**
KOME				*e*Sn		**Sn**	**15 34 08.6**	**+0.1**
ANX	**Ano Chora**	**2.73**	**188**	P		**Pn**	**15 33 37.4**	**+0.4**
PVO	**Paravola**	**2.76**	**195**	P		**Pn**	**15 33 38.1**	**+0.7**
ALN	**Alexandroupoli**	**2.77**	**97**	P		**Pn**	**15 33 37.5**	**0.0**
TSLK	**Tsoukalades, L**	**2.82**	**209**	P		**Pn**	**15 33 38.9**	**+0.8**
BUM	**Brajici-Budva**	**2.82**	**292**	⇓*i*Pn		**Pn**	**15 33 38.3**	**0.0**
BUM				*e*Sn		**Sn**	**15 34 13.1**	**+0.7**
IVAS	**Ivanjica**	**2.83**	**324**	*e*Pn		**Pn**	**15 33 37.2**	**-1.3**
LKD2	**Lefkada island**	**2.85**	**209**	P		**Pn**	**15 33 38.6**	**-0.1**
GRUS	**Gruza**	**2.88**	**335**	*e*Pn		**Pn**	**15 33 38.1**	**-1.0**
SERG	**Sergoula**	**2.89**	**186**	P		**Pn**	**15 33 39.3**	**0.0**
CEME	**Cevo**	**2.90**	**297**	⇓*i*Pn		**Pn**	**15 33 39.9**	**+0.5**
CEME				*e*Sn		**Sn**	**15 34 14.5**	**+0.3**
KALE	**Kalithea**	**2.91**	**184**	P		**Pn**	**15 33 39.7**	**+0.1**
TRIZ	**Trizonia**	**2.94**	**185**	P		**Pn**	**15 33 40.6**	**+0.7**
NKME	**Niksic**	**2.97**	**301**	⇓*i*Pn		**Pn**	**15 33 40.1**	**-0.3**
NKME				*e*Sn		**Sn**	**15 34 16.8**	**+0.8**
PLE	**Pljevlja**	**3.03**	**313**	⇑*i*Pn		**Pn**	**15 33 40.9**	**-0.4**
PLE				*e*Sn		**Sn**	**15 34 17.8**	**+0.2**
PROD	**Prodromos**	**3.06**	**173**	P		**Pn**	**15 33 41.9**	**+0.4**
VLAD	**Vladila**	**3.07**	**28**	S		**Sb**	**15 34 22.2**	**-3.1**
VIL2	**Platees**	**3.15**	**168**	P		**Pn**	**15 33 43.8**	**+1.0**
HCY	**Herceg Novi**	**3.15**	**293**	⇓*i*Pn		**Pn**	**15 33 42.9**	**+0.1**
HCY				*e*Sn		**Sn**	**15 34 21.0**	**+0.6**
HCY	**Herceg Novi**	**3.15**	**293**	*e*Pn		**Pn**	**15 33 47.9**	**-1.4**
KUBS	**Kucevo**	**3.16**	**350**	*e*Pn		**Pn**	**15 33 40.4**	**-2.6**
FSK	**Fiskardo**	**3.17**	**207**	P		**Pn**	**15 33 43.6**	**+0.5**
UPM	**Unac-Piva**	**3.23**	**307**	⇑*i*Pn		**Pn**	**15 33 44.0**	**-0.1**
UPM				*e*Sn		**Sn**	**15 34 22.9**	**+0.3**
UPM	**Unac-Piva**	**3.23**	**307**	*e*Pn		**Pb**	**15 33 51.3**	**+0.6**
TRUS	**Trudelj**	**3.28**	**334**	*e*Pn		**Pn**	**15 33 43.6**	**-1.0**
BRY	**Bratogost**	**3.31**	**300**	⇓*i*Pn		**Pn**	**15 33 45.0**	**0.0**
BRY				*e*Sn		**Sn**	**15 34 24.8**	**+0.4**
BRY	**Bratogost**	**3.31**	**300**	*e*Pn		**Pn**	**15 33 45.6**	**+0.6**
DIVS	**Divibare**	**3.32**	**328**	*e*Pn		**Pn**	**15 33 44.2**	**-1.1**
DIVS	**Divibare**	**3.32**	**328**	*e*Pn		**Pn**	**15 33 44.2**	**-1.1**
TREB	**Trebinje**	**3.35**	**296**	*e*Pn		**Pn**	**15 33 47.1**	**+1.6**
TREB				*e*Sn		**Sn**	**15 34 25.6**	**+0.3**
TREB	**Trebinje**	**3.35**	**296**	*e*Pn		**Pb**	**15 33 49.4**	**-3.2**
GUR	**Goura**	**3.36**	**181**	P		**Pn**	**15 33 46.1**	**+0.4**
DRO	**Drossia**	**3.38**	**190**	P		**Pn**	**15 33 46.6**	**+0.6**
BBLS	**Lazići**	**3.40**	**320**	*e*Pn		**Pn**	**15 33 45.8**	**-0.7**
BBLS	**Lazići**	**3.40**	**320**	*e*Pn		**Pn**	**15 33 45.6**	**-0.7**
MDVR	**Moldovita**	**3.52**	**352**	⇓*i*P		**Pn**	**15 33 46.6**	**-1.3**
HERR	**Herculane**	**3.58**	**360**	⇑*i*P		**Pn**	**15 33 47.7**	**-1.0**
HAPS	**Han Pijesak,Bl**	**3.78**	**319**	*e*Pn		**Pn**	**15 33 50.6**	**-1.0**
HAPS	**Han Pijesak,Bl**	**3.78**	**319**	*e*Pn		**Pn**	**15 33 50.3**	**-1.3**
STON	**Ston**	**3.85**	**296**	*e*Pn		**Pb**	**15 34 02.0**	**+0.8**
TEKS	**Tekeris**	**3.88**	**328**	*e*Pn		**Pn**	**15 33 52.1**	**-0.8**
TEKS	**Tekeris**	**3.88**	**328**	*e*Pn		**Pn**	**15 33 52.1**	**-0.8**
SGRR	**Singureni**	**3.92**	**41**	⇑*i*P		**Pg**	**15 34 05.6**	**-2.8**
FRGS	**Fruska Gora**	**4.30**	**335**	*e*Pn		**Pn**	**15 33 57.6**	**-1.1**
FRGS	**Fruska Gora**	**4.30**	**335**	*e*Pn		**Pn**	**15 33 57.2**	**-1.5**
BZS	**Buzias**	**4.36**	**353**	*e*Pn		**Pn**	**15 33 57.6**	**-1.8**
BZS	**Buzias**	**4.36**	**353**	⇓*i*P		**Pn**	**15 33 57.5**	**-1.8**
VOIR		**4.56**	**24**	⇑*i*P		**Pn**	**15 34 02.4**	**+0.2**
MLR	**Muntele Rosu**	**4.92**	**30**	Pn		**Pn**	**15 34 10.5**	**+3.3**
	comp=E,1.1nm,0.3s,baz=250,slow=8,9,SNR=9.5							
MLR				Sn		**Sn**	**15 35 04.7**	**+0.6**
	comp=E,1.1nm,0.3s,baz=151,slow=18,SNR=5.0							
MLR	**Muntele Rosu**	**4.92**	**30**	⇓*i*P		**Pn**	**15 34 08.5**	**+1.3**
BLY	**Banja Luka**	**5.16**	**314**	*e*Pn		**Pn**	**15 34 10.9**	**+0.5**
TLB	**Topalu**	**5.27**	**50**	⇑*i*P		**Pn**	**15 34 12.3**	**+0.4**
HARR	**Harsova**	**5.28**	**48**	⇓*i*P		**Pn**	**15 34 12.6**	**+0.7**
PLOR	**Plostina**	**5.49**	**33**	⇑*i*P		**Pn**	**15 34 15.6**	**+0.6**
MORH	**M¯‡r¡gy, Hung**	**5.63**	**332**	⇓*ex*		**Pn**	**15 34 16.0**	**-0.8**
MORH	**M¯‡r¡gy, Hung**	**5.63**	**332**	*e*Pn		**Pn**	**15 34 15.9**	**-0.8**
CFR	**Carcaliu**	**5.70**	**45**	⇑*i*P		**Pn**	**15 34 18.5**	**+0.8**
IDI	**Anoyia**	**6.30**	**161**	Pn		**Pn**	**15 34 26.9**	**+0.7**
	comp=E,1.3nm,0.3s,baz=357,slow=13,SNR=10							
IDI	**Anoyia**	**6.30**	**161**	⇑*i*P		**Pn**	**15 34 27.8**	**+1.6**
BURAR	**Bucovina Array**	**6.63**	**17**	⇓*i*P		**Pn**	**15 34 31.5**	**+0.9**
CRES	**Cresnjev**	**6.79**	**314**	*e*Pn		**Pn**	**15 34 31.0**	**-1.8**
TRPA	**Tarpa**	**6.83**	**1**	⇑*i*P		**Pn**	**15 34 32.7**	**-0.6**
PSZ	**Piszkesteto**	**6.86**	**346**	⇓*i*P		**Pn**	**15 34 32.4**	**-1.4**
PSZ	**Piszkesteto**	**6.86**	**346**	⇓*ex*		**Pn**	**15 34 33.0**	**-0.8**
CEY	**Cerknica**	**7.31**	**310**	*e*Pn		**Pn**	**15 34 37.7**	**-2.3**
KECS	**Kecovo**	**7.32**	**350**	*e*PN		Pn	15 34 45.2	+5.2
SOKA	**Soboth**	**7.57**	**318**	*i* Pn		**Pn**	**15 34 44.3**	**+0.7**
SOKA				Sn		**Sn**	**15 36 11.5**	**+2.2**
	comp=E,1.4nm,0.4s							
VYHS	**Vyhne**	**7.63**	**342**	*e*PN		**Pn**	**15 34 44.1**	**-0.2**
OBKA	**Obir**	**7.71**	**315**	*e*Pn		**Pn**	**15 34 46.5**	**+1.0**
	comp=E,2.1nm,0.3s							
MODS	**Modra-Piesok**	**7.96**	**334**	*e*PN		**Pn**	**15 34 47.9**	**-1.0**
BRTR	**Keskin Array B**	**8.69**	**87**	Pn		**Pn**	**15 35 03.1**	**+4.1**
	comp=E,1.1nm,0.3s,baz=287,slow=15,SNR=2.9							
GERES	**GERESS Array B**	**9.74**	**324**	Pn		**Pn**	**15 35 15.8**	**+2.5**
	comp=E,0.3nm,0.3s,baz=150,slow=14,SNR=9.0							
DPC	**Dobruska-Polom**	**10.00**	**337**	*e*PN		**Pn**	**15 35 18.6**	**+1.8**
DPC				*ex*		x	15 35 23.1	
KHC	**Kasperske Hory**	**10.01**	**324**	*e*PN		**Pn**	**15 35 20.0**	**+3.1**
KHC				*ex*		x	15 35 26.0	
AKASG	**Malin Array Be**	**10.52**	**24**	Pn		**Pn**	**15 35 27.2**	**+3.3**
	comp=E,0.3nm,0.3s,baz=208,slow=12,SNR=2.2							
DAVOX	**Davos/Dischmat**	**10.56**	**305**	Pn		**Pn**	**15 35 25.1**	**+0.5**
	comp=E,0.3nm,0.3s,baz=150,slow=12,SNR=3.6							
KBZ	**Khabaz**	**15.29**	**74**	Pn		**P**	**15 36 34.0**	**+0.2**
	comp=E,0.0nm,0.3s,baz=266,slow=13,SNR=3.6							
HFS	**Hagfors**	**19.62**	**347**	P		**Pn**	**15 37 25.3**	**+2.5**
	comp=E,0.1nm,0.3s,baz=152,slow=16,SNR=2.6							
NOA	**NORSAR Array B**	**20.92**	**345**	P		Pn	15 37 38.3	+0.2
	comp=E,0.3nm,0.6s,baz=149,slow=8.8,SNR=3.0							
TORD	**Torodi Ar. Bea**	**33.38**	**219**	P		**P**	**15 39 30.4**	**-1.2**
	comp=E,1.2nm,0.7s,baz=34,slow=8.7,SNR=9.0							
MKAR	**Makanchi Array**	**42.47**	**62**	P		**P**	**15 40 49.5**	**+1.3**
	comp=E,0.5nm,0.7s,baz=270,slow=8.6,SNR=2.6							
ZALV	**Zalesovo Beam**	**42.55**	**51**	P		**P**	**15 40 49.0**	**+0.3**
	comp=E,0.3nm,0.3s,baz=270,slow=7.2,SNR=2.6							

*IDC **28** 15:36:30.3±3.7,27°.46S×141°.42E,h0km,mb1 4.2/3, mb1mx3.7/20,mbtmp3.9/3,ML3.5/4,Error ellipse: s-maj=59.1km s-min=16.3km az=65.0,Queensland*

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
STKA	**Stephens Creek**	**4.41**	**178**	Pn		Pn	15 37 39.9	+1.3
	0.2nm,0.3s,baz=344,slow=12,SNR=5.8							
STKA				Pg		Pb	15 37 50.9	+2.2
	0.6nm,0.3s,baz=347,slow=14,SNR=6.2							
STKA				Sn		Sn	15 38 25.7	-4.9
	2.9nm,0.3s,baz=297,slow=20,SNR=10.0							
STKA				Lg		Lg	15 38 48.4	
	2.1nm,0.3s,baz=337,slow=5.6,SNR=5.3							
ASAR	**Alice Springs**	**7.76**	**297**	Pn		Pn	15 38 24.6	-0.1
	1.3nm,0.3s,baz=125,slow=14,SNR=29							
ASAR				Sn		Sn	15 39 44.0	-9.4
	1.6nm,0.3s,baz=124,slow=23,SNR=8.5							
ASAR				Lg		Lg	15 40 33.8	
	baz=116,slow=27,SNR=2.6							
WRA	**Warramunga Arr**	**9.89**	**318**	Pn		Pn	15 38 55.0	+1.1
	0.8nm,0.3s,baz=137,slow=13,SNR=13							
WRA				Sn		Sn	15 40 40.1	-5.6
	0.7nm,0.3s,baz=138,slow=22,SNR=6.8							
WRA				Lg		Lg	15 41 48.3	
	0.3nm,0.3s,baz=138,slow=28,SNR=2.4							
FITZ	**Fitzroy Crossi**	**17.26**	**299**	Pn		Pn	15 40 31.1	-1.7
	0.5nm,0.3s,baz=124,slow=9.8,SNR=11							

*NNC **28** 15:40:45.4±3.3,36°.81N×69°.49E,h0km,mb4.2,mpv4.1, Error ellipse: s-maj=26.9km s-min=20.3km az=159.0*

ISC 28 15:40:44.6±3.3,36°.5N±0'.2×69°.5E±0'.1,h48km,n15, σ1°§02/21,9C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MNAS	**Manas**	**6.45**	**20**	⇑P		**Pn**	**15 42 18.4**	**+1.3**
	7.5nm,0.6s							
MNAS				⇑S		**Sn**	**15 43 29.3**	**-0.1**
	4.6nm,0.4s							
AML	**Almayashu**	**6.53**	**29**	P		**Pn**	**15 42 19.2**	**+0.8**
	SNR=76							
KK31	**Karatay Array**	**6.68**	**6**	⇑P		**Pn**	**15 42 21.8**	**+1.7**
	4.7nm,0.4s,baz=200,slow=18,SNR=44							
KK31				⇑S		**Sn**	**15 43 35.5**	**+0.6**
	4.2nm,0.4s							
UCH	**Uchtor**	**6.95**	**32**	P		**Pn**	**15 42 24.8**	**+0.6**
	SNR=38							
EKS2	**Erkin-Say**	**7.02**	**27**	P		**Pn**	**15 42 26.7**	**+1.9**
	SNR=27							
KZA	**Kyzart**	**7.17**	**37**	P		**Pn**	**15 42 26.9**	**-0.2**
	SNR=16							
AAK	**Ala-Archa**	**7.28**	**31**	⇑P		**Pn**	**15 42 29.2**	**+0.7**
	10nm,0.4

CONA				*e*Sg	Sg	16 24 28.5	+0.8
	2.4nm,0.2s							
MOA	**Molln**	**0.85**	**288**	Pg	Pn	16 24 31.7	-0.3
	0.3nm,0.1s							
MOA				*i* Sg	Sb	16 24 42.0	-0.3
	0.7nm,0.2s							

*ISK **28** 16:25:10.0,34˚.48N×25˚.42E,h14km,ML3.5/7*
*HLW **28** 16:25:12.3,34˚.54N×25˚.75E,h2km±6km,Md3.2,Ml2.9*
*THE **28** 16:25:13.2,34˚.56N×25˚.51E,h0km±2km,ML3.4/4, Error ellipse: s-maj=3.6km s-min=1.0km az=171.0*
*IDC **28** 16:25:13.3±2.3,34˚.69N×25˚.58E,h30km±14km,mb3.7/10, mb1 3.8/16,mb1mx3.6/44,mbtmp3.8/16,ML4.0/4,MS2.6/1, Ms1 2.6/1,ms1mx2.0/38, Error ellipse: s-maj=22.8km s-min=15.6km az=11.0*
*ATH **28** 16:25:14.0,34˚.67N×25˚.47E,h32km±1km,ML3.3/8, Error ellipse: s-maj=3.1km s-min=1.0km az=350.0*
*DDA **28** 16:26:09.0,34˚.36N×25˚.55E,h15km,Ml3.5*

ISC 28 16:25:12.9±1.2,34˚.60N±0˚.04×25˚.57E±0˚.03,h27km±9km, n83,σ1§77/98,mb3.9/10,1C,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**0.57**	**353**	P	**Pb**	**16 25 24.5**	**0.0**
LAST				AML	AML	16 25 34.6	
	comp=E,3831µm,0.3s						
LAST				AML	AML	16 25 34.9	
	comp=N,5296µm,0.5s						
LAST	**Lasithi**	**0.57**	**353**	P	**Pb**	**16 25 24.6**	**+0.2**
LAST				S	**Sn**	**16 25 34.3**	**+0.4**
NPS	**Neapolis**	**0.67**	**3**	P	**Pb**	**16 25 26.3**	**+0.3**
NPS				S	**Sb**	**16 25 35.9**	**+0.9**
NPS				AML	AML	16 25 38.4	
	comp=N,4838µm,0.3s						
NPS				AML	AML	16 25 39.5	
	comp=E,4702µm,0.4s						
NPS	**Neapolis**	**0.67**	**3**	P	**Pb**	**16 25 26.4**	**+0.4**
NPS				S	**Sn**	**16 25 38.1**	**+1.9**
STIA	**Sitia Lasithi**	**0.74**	**35**	P	**Pn**	**16 25 29.2**	**+1.6**
ZKR	**Zakros**	**0.74**	**46**	P	**Pn**	**16 25 29.3**	**+1.7**
ZKR				S	**Sn**	**16 25 40.2**	**+2.1**
ZKR				AML	AML	16 25 47.5	
	comp=N,4542µm,0.4s						
ZKR				AML	AML	16 25 49.1	
	comp=E,5478µm,0.4s						
ZKR	**Zakros**	**0.74**	**46**	P	**Pn**	**16 25 29.3**	**+1.7**
ZKR				S	**Sn**	**16 25 41.5**	**+3.4**
SIVA	**Sivas**	**0.75**	**304**	P	**Pb**	**16 25 27.2**	**-0.2**
SIVA				S	**Sb**	**16 25 37.2**	**-0.1**
SIVA				AML	AML	16 25 43.9	
	comp=E,22534µm,0.6s						
SIVA				AML	AML	16 25 46.0	
	comp=N,20078µm,0.6s						
SIVA	**Sivas**	**0.75**	**304**	P	**Pb**	**16 25 27.3**	**-0.2**
SIVA				S	**Sn**	**16 25 39.6**	**+1.4**
TMBK	**Timbaki Herakl**	**0.81**	**306**	P	**Pn**	**16 25 28.6**	**0.0**
KSTL	**Kastelli Herak**	**0.81**	**330**	P	**Pb**	**16 25 26.1**	**-2.4**
KSTL				S	**Sb**	**16 25 36.4**	**-2.7**
IACM	**Heraklion**	**0.82**	**330**	P	**Pb**	**16 25 28.4**	**-0.1**
IDI	**Anoyia**	**0.89**	**321**	PG	**Pb**	**16 25 28.2**	**-1.6**
IDI				SG	**Sb**	**16 25 41.4**	**+0.1**
IDI	**Anoyia**	**0.89**	**321**	Pg	**Pb**	**16 25 28.5**	**-1.3**
	comp=N,37nm,0.3s,baz=174,slow=7.8,SNR=161						
IDI				Lg	Lg	16 25 41.0	
	comp=N,218nm,0.3s,baz=222,slow=15,SNR=23						
IDI	**Anoyia**	**0.89**	**321**	P	**Pb**	**16 25 29.5**	**-0.3**
IDI				AML	AML	16 25 47.6	
	comp=E,2641µm,0.5s						
IDI				AML	AML	16 25 48.8	
	comp=N,2695µm,0.3s						
PRNS	**Prines Rethymn**	**1.16**	**312**	P	**Pb**	**16 25 35.3**	**+0.9**
GVD	**Gavdhos**	**1.24**	**282**	P	**Pb**	**16 25 35.6**	**-0.1**
GVD				S	**Sb**	**16 25 51.0**	**-0.4**
GVD				AML	AML	16 25 59.3	
	comp=N,3080µm,0.4s						
GVD				AML	AML	16 26 01.3	
	comp=E,3595µm,0.4s						
GVD	**Gavdhos**	**1.24**	**282**	P	**Pb**	**16 25 36.0**	**+0.3**
VAM	**Vamos**	**1.38**	**306**	P	**Pb**	**16 25 37.5**	**-0.6**
VAM				S	**Sb**	**16 25 54.7**	**-0.7**
VAM				AML	AML	16 26 00.8	
	comp=E,2839µm,0.6s						
VAM				AML	AML	16 26 05.2	
	comp=N,2438µm,1.1s						
VAM	**Vamos**	**1.38**	**306**	P	**Pb**	**16 25 38.2**	**+0.1**
IMMV	**Iera Moni Meta**	**1.56**	**304**	P	**Pn**	**16 25 39.9**	**+1.0**
IMMV				S	**Sn**	**16 25 58.3**	**+0.1**
IMMV				AML	AML	16 26 08.1	
	comp=E,2940µm,0.9s						
IMMV				AML	AML	16 26 09.7	
	comp=N,1558µm,0.5s						
IMMV	**Iera Moni Meta**	**1.56**	**304**	P	**Pb**	**16 25 40.9**	**-0.3**
THR6	**Thira Island,**	**1.76**	**356**	P	**Pb**	**16 25 43.6**	**-1.0**
ANAF	**Anafi Island**	**1.77**	**5**	P	**Pb**	**16 25 43.9**	**-0.7**
SANT	**Santorini**	**1.77**	**357**	PN	**Pn**	**16 25 42.8**	**+1.0**
SANT	**Santorini**	**1.77**	**357**	P	**Pn**	**16 25 43.3**	**+1.5**
THT1	**Athinios (Pele**	**1.79**	**356**	P	**Pb**	**16 25 43.9**	**-1.1**
THR8	**Santorini-Mono**	**1.81**	**358**	P	**Pb**	**16 25 45.5**	**+0.1**
THR3	**Thira Island,**	**1.81**	**356**	P	**Pb**	**16 25 44.8**	**-0.7**
THR5	**Thira Island,**	**1.83**	**354**	P	**Pb**	**16 25 44.4**	**-1.3**
THR2	**Thira island,**	**1.85**	**357**	P	**Pn**	**16 25 44.7**	**+1.8**
AMGA	**Amorgos Island**	**2.25**	**7**	P	**Pn**	**16 25 50.2**	**+1.8**
ANKY	**Antikythira Is**	**2.25**	**305**	P	**Pn**	**16 25 49.1**	**+0.8**
MHLO	**Agia Marina, M**	**2.29**	**336**	P	**Pn**	**16 25 50.3**	**+1.4**
MHLA	**Plaka, Milos I**	**2.34**	**337**	P	**Pn**	**16 25 51.5**	**+2.0**
NISR	**Nisiros**	**2.38**	**32**	P	**Pn**	**16 25 52.5**	**+2.4**
APE	**Apeiranthos**	**2.47**	**359**	PN	**Pn**	**16 25 51.9**	**+0.5**
APE	**Apeiranthos**	**2.47**	**359**	P	**Pn**	**16 25 52.6**	**+1.2**
ARG	**Arkhangelos**	**2.64**	**52**	PN	**Pn**	**16 25 55.9**	**+2.2**
KYTH	**Kithira**	**2.65**	**310**	P	**Pn**	**16 25 55.3**	**+1.5**
DAT	**Datca**	**2.69**	**37**	PN	**Pn**	**16 25 56.7**	**+2.3**
DAT	**Datca**	**2.69**	**37**	*i* P	**Pn**	**16 25 57.1**	**+2.7**
BODT	**Bodrum**	**2.84**	**29**	PN	**Pn**	**16 25 58.9**	**+2.4**
VLI	**Veliai**	**3.01**	**315**	P	**Pn**	**16 26 00.3**	**+1.4**
SLUM	**Salum**	**3.11**	**186**	P	**Pn**	**16 26 01.6**	**+1.4**
	baz=189						
SLUM				S	**Sn**	**16 26 37.2**	**+0.8**
	baz=189						
MLSB	**Milas**	**3.23**	**33**	PN	**Pn**	**16 26 04.3**	**+2.4**
SMG	**Samos**	**3.27**	**18**	P	**Pn**	**16 26 04.5**	**+2.1**
DALY	**Dalyan (Mu˘la**	**3.35**	**48**	PN	**Pn**	**16 26 06.5**	**+3.1**
DALY	**Dalyan (Mu˘la**	**3.35**	**48**	*i* P	**Pn**	**16 26 06.7**	**+3.2**
DALY				*i* S	**Sn**	**16 26 44.4**	**+2.1**
TURN	**Turunc**	**3.35**	**47**	PN	**Pn**	**16 26 02.2**	**-1.3**
FETY	**Fethiye**	**3.51**	**54**	PN	**Pn**	**16 26 08.0**	**+2.2**
AYDN	**Tasoluk**	**3.58**	**31**	*i* P	**Pn**	**16 26 10.2**	**+3.4**
AKAS	**Kas**	**3.68**	**63**	PN	**Pn**	**16 26 10.7**	**+2.6**
AKAS	**Kas**	**3.68**	**63**	*i* P	**Pn**	**16 26 09.9**	**+1.7**
AKAS				*i* S	**Sn**	**16 26 45.5**	**-5.2**
AYDB	**Zeytinkoy-Aydi**	**3.83**	**29**	PN	**Pn**	**16 26 13.2**	**+2.9**
ITM	**Ithomi**	**3.92**	**312**	PN	**Pn**	**16 26 11.7**	**+0.3**
TAVA	**DENIZLI_Tavas**	**3.94**	**42**	*i* P	**Pn**	**16 26 14.5**	**+2.8**
ELL	**Elmali**	**4.13**	**57**	PN	**Pn**	**16 26 17.2**	**+2.8**
GOLH	**Golhisar**	**4.18**	**50**	*i* P	**Pn**	**16 26 17.8**	**+2.8**
KULA	**Kula-Manisa**	**4.64**	**32**	PN	**Pn**	**16 26 24.2**	**+3.0**
SWA2		**5.34**	**181**	P	**Pn**	**16 26 32.1**	**+1.3**
	baz=183						
KEPZ	**Antalya-Kepez**	**5.42**	**63**	*i* P	**Pn**	**16 26 34.8**	**+2.8**
GLL	**Jalalah**	**7.22**	**132**	P	**Pn**	**16 26 57.7**	**+1.0**
	baz=132						
RSH		**7.76**	**116**	P	**Pn**	**16 27 04.4**	**+0.3**
	baz=115						
HFRF	**Wahat Farafira**	**7.79**	**162**	P	**Pn**	**16 27 05.2**	**+0.7**
	baz=162						
BRTR	**Keskin Array B**	**8.23**	**49**	Pn	**Pn**	**16 27 12.4**	**+1.8**
	comp=N,0.1nm,0.3s,baz=219,slow=14,SNR=2.9						
MMAI	**Mount Meron Ar**	**8.34**	**98**	Pn	**Pn**	**16 27 11.7**	**-0.4**
	comp=N,2.4nm,0.3s,baz=294,slow=11,SNR=6.7						
MMAI				Sn	**Sn**	**16 28 42.3**	**-3.0**
	comp=N,2.5nm,0.3s,baz=266,slow=21,SNR=4.3						
EIL	**Elat**	**9.35**	**119**	Pn	**Pn**	**16 27 25.3**	**-0.5**
	comp=N,0.7nm,0.3s,baz=341,slow=5.3,SNR=9.2						
EIL				Sn	**Sn**	**16 29 06.0**	**-4.2**
	comp=N,1.0nm,0.3s,baz=355,slow=12,SNR=6.0						
MLR	**Muntele Rosu**	**10.89**	**1**	LR	LR	16 32 20.8	
	comp=N,34nm,21.3s,baz=238,slow=40						
KBZ	**Khabaz**	**16.22**	**51**	Pn	**P**	**16 29 02.2**	**+0.5**
	comp=N,0.4nm,0.3s,baz=217,slow=8.8,SNR=19						
AKASG	**Malin Array Be**	**16.32**	**8**	Pn	**Pn**	**16 28 59.5**	**-0.5**
	comp=N,1.0nm,0.3s,baz=198,slow=11,SNR=3.5						
GERES	**GERESS Array B**	**16.74**	**332**	Pn	**Pn**	**16 29 05.9**	**+0.4**
	baz=147,slow=13,SNR=2.6						
ESDC	**Sonseca Array**	**24.02**	**291**	P	**P**	**16 30 26.9**	**+1.3**
	comp=N,1.6nm,0.6s,baz=107,slow=4.4,SNR=5.9						
HFS	**Hagfors**	**26.70**	**347**	P	**P**	**16 30 48.4**	**-1.1**
	comp=N,4.5nm,1.0s,baz=149,slow=14,SNR=2.7						
FINES	**FINESS Array B**	**26.87**	**1**	P	**P**	**16 30 49.0**	**-2.0**
	comp=N,4.0nm,0.9s,baz=155,slow=11,SNR=8.3						
TORD	**Torodi Ar. Bea**	**30.39**	**231**	P	**P**	**16 31 23.6**	**+0.8**
	comp=N,0.2nm,0.4s,baz=26,slow=8.3,SNR=2.6						
ARCES	**ARCESS Array B**	**34.99**	**360**	P	P	16 32 00.1	-2.5
	comp=N,2.3nm,1.0s,baz=179,slow=9.7,SNR=4.7						
MKAR	**Makanchi Array**	**43.81**	**56**	P	**P**	**16 33 16.7**	**+0.3**
	comp=N,0.5nm,0.3s,baz=279,slow=8.5,SNR=4.1						
ZALV	**Zalesovo Beam**	**45.15**	**46**	P	**P**	**16 33 26.8**	**-0.1**
	comp=N,1.4nm,0.4s,baz=280,slow=8.9,SNR=5.4						
SONM	**Songino Array**	**59.59**	**50**	P	**P**	**16 35 13.1**	**-1.2**
	comp=N,0.4nm,0.5s,baz=300,slow=7.5,SNR=2.6						
SCHQ	**Schefferville**	**63.83**	**320**	P	**P**	**16 35 41.5**	**-1.2**
	comp=N,6.1nm,1.1s,baz=45,slow=1.4,SNR=4.0						
YKA	**Yellowknife Ar**	**78.09**	**342**	P	**P**	**16 37 08.6**	**-0.3**
	comp=N,0.2nm,0.5s,baz=34,slow=5.4,SNR=5.0						
BIPH	**Bislig**	**94.19**	**77**	*i* P	**P**	**16 38 31.2**	**+1.4**

*ISCJB **28** 16:42:18.5±1.1,49˚.9N±0˚.2×28˚.9W±0˚.2,h10km,mb3.6/7, MS3.3/15, Error ellipse: s-maj=29.6km s-min=20.7km az=20.9*
*IDC **28** 16:42:18.7±1.4,49˚.92N×28˚.91W,h0km,mb3.6/7, mb1 3.8/7,mb1mx3.5/34,mbtmp3.6/7,MS3.3/15, Ms1 3.4/15,ms1mx3.1/33, Error ellipse: s-maj=40.2km s-min=27.6km az=16.0*

ISC 28 16:42:20.3±1.2,49˚.9N±0˚.2×28˚.9W±0˚.2,h10km,n19, σ1§01/8,mb3.5/7,MS3.3/15,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**20.36**	**111**	LR	LR	16 52 57.3	
	comp=Z,75nm,21.5s,baz=300,slow=31						
NOA	**NORSAR Array B**	**24.90**	**48**	LR	LR	16 56 52.2	
	comp=Z,71nm,18.7s,baz=270,slow=35						
GERES	**GERESS Array B**	**27.50**	**76**	LR	LR	16 58 04.1	
	comp=Z,65nm,20.3s,baz=295,slow=34						
FINES	**FINESS Array B**	**32.08**	**48**	P	**P**	**16 48 47.0**	**0.0**
	2.2nm,0.6s,baz=270,slow=5.7,SNR=6.4						
FINES				LR	LR	17 01 14.9	
	comp=Z,80nm,18.1s,baz=210,slow=35						
AKASG	**Malin Array Be**	**36.31**	**66**	P	**P**	**16 49 22.6**	**-1.2**
	0.4nm,0.5s,baz=294,slow=7.0,SNR=2.3						
AKASG				LR	LR	17 04 46.3	
	comp=Z,51nm,19.2s,baz=280,slow=37						
BRTR	**Keskin Array B**	**44.32**	**78**	LR	LR	17 10 12.6	
	comp=Z,26nm,18.0s,baz=272,slow=38						
TORD	**Torodi Ar. Bea**	**44.40**	**135**	P	**P**	**16 50 31.2**	**+0.2**
	0.3nm,0.4s,baz=335,slow=6.4,SNR=2.6						
KBZ	**Khabaz**	**47.79**	**68**	LR	LR	17 11 15.2	
	comp=Z,34nm,19.8s,baz=320,slow=36						
PDAR	**Pinedale Array**	**53.59**	**295**	P	**P**	**16 51 41.7**	**+0.1**
	0.4nm,0.8s,baz=81,slow=12,SNR=2.3						
PDAR				LR	LR	17 12 19.2	
	comp=Z,32nm,18.9s,baz=72,slow=34						
ILAR	**Eielson Array**	**55.99**	**333**	P	**P**	**16 51 57.7**	**-0.7**
	0.3nm,0.8s,baz=44,slow=6.3,SNR=4.1						
ILAR				LR	LR	17 14 57.2	
	comp=Z,24nm,20.7s,baz=40,slow=35						
TXAR	**Lajitas Array**	**58.65**	**279**	LR	LR	17 15 57.8	
	comp=Z,27nm,19.8s,baz=0.0,slow=34						
ROSC	**El Rosal**	**58.92**	**236**	LR	LR	17 14 03.4	
	comp=Z,22nm,21.9s,baz=254,slow=32						
LPIG	**La Paz**	**66.54**	**280**	LR	LR	17 22 04.3	
	comp=Z,56nm,18.9s,baz=29,slow=36						
MKAR	**Makanchi Array**	**66.82**	**44**	P	**P**	**16 53 12.4**	**+0.6**
	0.7nm,0.6s,baz=316,slow=4.0,SNR=4.4						
LPAZ	**La Paz**	**74.43**	**219**	LR	LR	17 22 47.7	
	comp=Z,21nm,20.4s,baz=321,slow=33						
SONM	**Songino Array**	**75.28**	**29**	P	**P**	**16 54 04.8**	**+1.5**
	0.3nm,0.5s,baz=322,slow=9.1,SNR=2.7						
BOSA	**Boshof**	**91.76**	**135**	LR	LR	17 36 32.5	
	comp=Z,14nm,18.1s,baz=344,slow=36						
CMAR	**Chiang Mai Arr**	**97.85**	**49**	LR	LR	17 43 54.9	
	comp=Z,9.3nm,18.3s,baz=225,slow=38						
ASAR	**Alice Springs**	**150.56**	**33**	PKPbc	**PKPbc**	**17 02 11.4**	**-0.8**
	0.4nm,0.7s,baz=343,slow=1.0,SNR=6.0						

*ISCJB **28** 16:46:36.6±0.6,27˚.86S×0˚.04×140˚.66E±0˚.05,h10km, Error ellipse: s-maj=7.0km s-min=6.0km az=146.6*
*IDC **28** 16:46:36.9±4.0,27˚.60S×141˚.08E,h0km,mb1 3.2/3, mb1mx3.1/23,mbtmp3.0/3,ML2.6/3, Error ellipse: s-maj=67.3km s-min=17.9km az=63.0*
*AUST **28** 16:46:38.5±0.0,27˚.87S×140˚.66E,h10km, Error ellipse: s-maj=0.1km s-min=0.1km az=4.0*

ISC 28 16:46:36.8±0.9,27˚.75S±0˚.06×140˚.87E±0˚.06,h10km,n10, σ1§87/16,South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QLP	**Quilpie**	**3.21**	**70**	P	**Pb**	**16 47 33.1**	**-0.9**
	baz=3.4						
QLP				S	**Sb**	**16 48 11.6**	**-1.6**
	baz=3.4						
STKA	**Stephens Creek**	**4.16**	**171**	Pn	**Pn**	**16 47 44.5**	**+4.0**
	0.1nm,0.3s,baz=344,slow=20,SNR=2.3						
STKA				Pg	**Pg**	**16 47 55.1**	**-1.5**
	0.3nm,0.3s,baz=352,slow=12,SNR=4.8						
STKA				Sn	**Sn**	**16 48 29.4**	**+0.2**
	1.4nm,0.3s,baz=3.1,slow=20,SNR=12						
STKA				Lg	Lg	16 48 51.9	
	1.1nm,0.3s,baz=254,slow=23,SNR=5.8						
STKA	**Stephens Creek**	**4.16**	**171**	P	**Pn**	**16 47 42.1**	**+1.6**
	baz=4.1						
STKA				S	**Sn**	**16 48 29.3**	**+0.1**
	baz=4.1						
CMSA	**Cobar Meteorol**	**5.64**	**133**	P	**Pn**	**16 48 02.9**	**+2.0**
	baz=5.7						
HTT	**Hallett**	**5.91**	**196**	P	**Pn**	**16 48 04.2**	**-0.3**
	baz=5.8						
HTT				S	**Sn**	**16 49 09.9**	**-2.4**
	baz=5.8						
BBOO	**Buckleboo**	**6.54**	**218**	P	**Pn**	**16 48 14.4**	**+1.3**
	baz=6.3						
AS19	**Alice Springs**	**7.42**	**301**	P	**Pn**	**16 48 26.6**	**+1.3**
	baz=7.3						
ASAR	**Alice Springs**	**7.48**	**301**	Pn	**Pn**	**16 48 28.9**	**+2.8**
	0.2nm,0.3s,baz=126,slow=14,SNR=22						
ASAR				Sn	**Sn**	**16 49 50.6**	**-0.5**
	0.2nm,0.3s,baz=120,slow=23,SNR=7.1						
ASAR				Lg	Lg	16 50 38.4	
	baz=124,slow=28,SNR=2.5						
WRA	**Warramunga Arr**	**9.80**	**321**	Pn	**Pn**	**16 48 57.7**	**-0.3**
	0.1nm,0.3s,baz=141,slow=14,SNR=1.7						
FORT	**Forrest**	**11.59**	**252**	P	**Pn**	**16 49 22.3**	**0.0**
	baz=11						

*ISK **28** 17:00:13.9,38˚.75N×43˚.46E,h16km,ML2.5/4*
*ISCJB **28** 17:00:14.3±1.2,38˚.73N±0˚.05×43˚.54E±0˚.07,h26km±8km, Error ellipse: s-maj=10.7km s-min=6.2km az=33.8*
*DDA **28** 17:00:15.2,38˚.76N×43˚.47E,h7km,Ml2.6*

ISC 28 17:00:14.9±1.0,38˚.76N±0˚.04×43˚.48E±0˚.04,h17km±8km, n10,σ0§79/17,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**204**	PG	**Pb**	**17 00 19.8**	**0.0**
VANB				SG	**Sg**	**17 00 23.9**	**+1.3**
TVAN	**Van**	**0.23**	**194**	*i* P	**Pg**	**17 00 19.6**	**-0.9**
TVAN				*i* S	**Sg**	**17 00 24.7**	**+0.5**
VMUR	**Van-Muradiye**	**0.24**	**17**	*i* P	**Pg**	**17 00 20.1**	**-0.5**
VMUR				*i* S	**Sg**	**17 00 25.3**	**+0.8**
ERCV	**ERCIS-VAN**	**0.29**	**337**	PG	**Pg**	**17 00 20.1**	**-1.2**
CLDR	**Caldiran**	**0.52**	**41**	PG	**Pg**	**17 00 24.6**	**-0.7**
CLDR				SG	**Sb**	**17 00 32.9**	**-0.1**
CLDR	**Caldiran**	**0.52**	**41**	*i* P	**Pg**	**17 00 24.9**	**-0.5**
CLDR				*i* S	**Sb**	**17 00 33.6**	**+0.7**
ADCV	**BITLIS_Adilcev**	**0.59**	**275**	*i* P	**Pb**	**17 00 26.8**	**-0.2**
ADCV				*i* S	**Sb**	**17 00 36.1**	**+1.0**
TUTA	**Tutak**	**0.83**	**321**	*i* P	**Pg**	**17 00 30.8**	**-0.4**
TUTA				*i* S	**Sb**	**17 00 42.5**	**+0.5**
AGRB	**Hanur-Agry**	**0.90**	**335**	PG	**Pb**	**17 00 32.2**	**-0.1**
GURO	**Guroymak-BITLI**	**1.15**	**260**	PN	**Pb**	**17 00 35.7**	**-0.8**

*ISCJB **28** 17:09:26.9±0.6,27˚.84S±0˚.04×140˚.64E±0˚.05,h10km, Error ellipse: s-maj=6.6km s-min=6.0km az=171.8*

*IDC **28** 17:09:27.0±3.7,27˚.65S×140˚.99E,h0km,mb1 3.5/4, mb1mx3.4/27,mbtmp3.3/4,ML2.9/4, Error ellipse: s-maj=67.0km s-min=15.8km az=63.0*
*AUST **28** 17:09:29.1±0.0,27˚.83S×140˚.70E,h10km, Error ellipse: s-maj=0.1km s-min=0.1km az=298.0*

ISC 28 17:09:29.0±0.9,27.76S±0˚.05×140˚.65E±0˚.06,h10km,n11, σ1§96/20,South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QLP	**Quilpie**	**3.40**	**71**	P	**Pn**	**17 10 23.0**	**+0.8**
	baz=3.4						
QLP				S	**Sn**	**17 11 01.6**	**-1.0**
	baz=3.4						
STKA	**Stephens Creek**	**4.18**	**169**	Pn	**Pn**	**17 10 32.9**	**0.0**
	0.1nm,0.3s,baz=351,slow=18,SNR=1.3						
STKA				Pg	**Pb**	**17 10 45.0**	**+2.4**
	0.4nm,0.3s,baz=354,slow=12,SNR=7.0						
STKA				Sn	**Sn**	**17 11 18.7**	**-3.0**
	1.5nm,0.3s,baz=301,slow=19,SNR=5.1						
STKA				Lg	Lg	17 11 41.8	
	1.6nm,0.3s,baz=62,slow=17,SNR=3.7						
STKA	**Stephens Creek**	**4.18**	**169**	P	**Pn**	**17 10 33.1**	**+0.3**
	baz=4.1						
STKA				S	**Sn**	**17 11 19.2**	**-2.6**
	baz=4.1						
CMSA	**Cobar Meteorol**	**5.78**	**132**	P	**Pn**	**17 10 53.2**	**-1.6**
	baz=5.7						
HTT	**Hallett**	**5.84**	**194**	P	**Pn**	**17 10 56.5**	**+0.8**
	baz=5.8						
HTT				S	**Sn**	**17 12 01.3**	**-1.5**
	baz=5.8						
BBOO	**Buckleboo**	**6.41**	**217**	P	**Pn**	**17 11 04.4**	**+1.0**
	baz=6.4						
BBOO				S	**Sn**	**17 12 13.5**	**-3.2**
	baz=6.4						
AS19	**Alice Springs**	**7.26**	**302**	P	**Pn**	**17 11 17.5**	**+2.3**
	baz=7.3						
AS19				S	**Sn**	**17 12 35.7**	**-2.0**
	baz=7.3						
ASAR	**Alice Springs**	**7.32**	**302**	Pn	**Pn**	**17 11 18.6**	**+2.5**
	0.3nm,0.3s,baz=124,slow=14,SNR=26						
ASAR				Sn	**Sn**	**17 12 37.2**	**-2.1**
	0.5nm,0.3s,baz=124,slow=22,SNR=8.9						
ASAR				Lg	Lg	17 13 28.3	
	0.1nm,0.3s,baz=128,slow=28,SNR=4.3						
WRA	**Warramunga Arr**	**9.69**	**322**	Pn	**Pn**	**17 11 49.0**	**+0.5**
	0.2nm,0.3s,baz=141,slow=13,SNR=6.4						
WRA				Sn	**Sn**	**17 13 35.4**	**-2.1**
	0.2nm,0.3s,baz=138,slow=22,SNR=5.4						
WRA				Lg	Lg	17 14 37.7	
	baz=130,slow=28,SNR=1.8						
FORT	**Forrest**	**11.40**	**252**	P	**Pn**	**17 12 12.5**	**+0.6**
	baz=11						
FITZ	**Fitzroy Crossi**	**16.83**	**302**	Pn	**Pn**	**17 13 24.8**	**0.0**
	0.1nm,0.3s,baz=143,slow=15,SNR=4.1						

IDC 28 17:29:30.4±7.7,10.73S×165.72E,h131km±31km,mb3.3/3, mb1 3.5/5,mb1mx3.3/26,mbtmp4.0/5,Error ellipse: s-maj=98.1km s-min=21.3km az=47.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.83**	**282**	P	Pn	17 30 53.9	-0.8
	9.2nm,0.3s,baz=147,slow=11,SNR=5.8						
HNR				S	Sn	17 32 01.5	+1.1
	11nm,0.3s,baz=268,slow=21,SNR=5.0						
DZM	**Mont Dzumac**	**11.30**	**177**	P	Pn	17 32 09.3	+1.1
	3.3nm,0.3s,baz=31,slow=21,SNR=19						
DZM				S	Sn	17 34 11.1	-1.7
	0.4nm,0.3s,baz=164,slow=20,SNR=5.2						
STKA	**Stephens Creek**	**30.65**	**223**	P	P	17 35 33.0	+0.4
	2.0nm,1.1s,baz=55,slow=13,SNR=4.0						
WRA	**Warramunga Arr**	**31.57**	**249**	P	P	17 35 40.2	-0.6
	0.7nm,0.8s,baz=80,slow=8.7,SNR=3.4						
ASAR	**Alice Springs**	**32.91**	**243**	P	P	17 35 52.5	-0.1
	0.4nm,0.8s,baz=70,slow=8.3,SNR=9.5						

MEX 28 17:49:16.1±0.7,14.15N×92.19W,h137km±21km,MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.76**	**354**	*e*P	Pn	17 49 32.6	-5.1
THIG				*i* S	Sn	17 49 51.6	-2.5
PCIG		**1.84**	**327**	*e*P	Pn	17 49 47.6	-1.0
PCIG				*i* S	Sn	17 50 11.3	-2.2
TGIG		**2.77**	**341**	*i* P	Pn	17 49 57.3	-2.8
TGIG				*i* S	Sn	17 50 31.2	-2.8

MAN 28 17:58:37.9,12.38N×123.52E,h11km,mb4.3,ML3.1, MS2.9,1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.11**	**103**	*i* P	Pb	17 58 41.7	-0.3
MM

LCO eSn Sn 18 07 13.8 -1.2
LCO Las Campanas 3.78 252 ⇑iP Pn 18 06 29.8 +0.3
LCO eS Sn 18 07 14.3 -0.7
RTLL Cerro Villicun 3.80 205 eP Pn 18 06 28.8 -0.8
RTLL IAML 18 07 17.0
comp=Z,1μm,0.5s
AZAP Zapla 3.90 21 eP Pn 18 06 32.5 +1.3
SJA San Juan 4.01 205 eP Pn 18 06 31.7 -0.5
SJA IAML 18 06 31.9
comp=Z,733nm,0.3s
ZON Zonda 4.07 206 eP Pn 18 06 32.3 -0.7
ZON IAML 18 07 21.2
comp=Z,644nm,0.5s
RTCV Cerro Valdivia 4.30 202 eP Pn 18 06 35.0 -1.1
GO04 Tololo Observa 4.32 237 ePn Pn 18 06 36.0 -0.4
GO04 eSn Sn 18 07 25.7 -1.8
ASTB Santa Barbara 4.37 27 eP Pn 18 06 38.7 +1.6
ACAN Cantantal 4.40 186 eP Pn 18 06 36.3 -1.0
RTLS Leoncito 4.55 210 eP Pn 18 06 38.8 -0.6
RTLS IAML 18 06 41.0
comp=Z,808nm,0.3s
MRA San Martin 4.58 171 eP Pn 18 06 38.1 -1.5
MRA IAML 18 07 29.8
comp=Z,574nm,0.6s
ALOL LOMAS DE OLMED 4.69 31 eP Pn 18 06 42.4 +1.2
PB14 IPOC Station P 4.71 313 eP Pn 18 06 42.9 +1.3
HJA Humahuaca 4.78 13 eP Pn 18 06 44.7 +2.1
AUSP Uspallata 4.95 208 eP Pn 18 06 44.2 -0.4
ASAL Salagasta 5.07 202 eP Pn 18 06 44.8 -1.2
PB15 IPOC Station P 5.33 330 eP Pn 18 06 50.7 +1.1
ARCO CERRO ARCO 5.33 202 eP Pn 18 06 48.2 -1.3
ARCO IAML 18 07 49.9
comp=Z,372nm,0.4s
AAGR Agrelo 5.53 200 eP Pn 18 06 50.7 -1.3
AAGR eP Pn 18 06 50.7 -1.3
PB10 IPOC Station P 5.62 320 ePn Pn 18 06 53.6 +0.4
LVC Limon Verde 5.65 338 P Pn 18 06 55.2 +1.2
comp=Z,39nm,0.3s,baz=157,slow=8.1,SNR=265
LVC S Sn 18 07 57.2 -1.6
comp=Z,55nm,0.3s,baz=252,slow=19,SNR=19
LVC Limon Verde 5.65 338 ePn Pn 18 06 55.2 +1.2
LVC eSn Sn 18 07 56.9 -2.0
YJA Yavi 5.77 10 eP Pn 18 06 58.0 +2.4
AVIZ Vizcacheras 5.81 196 eP Pn 18 06 54.2 -1.4
PEL Peldehue 6.31 213 ePn Pn 18 07 00.7 -1.5
ROC1 El Roble 6.34 216 ePn Pn 18 07 00.1 -2.8
PB04 IPOC Station P 6.39 329 ePn Pn 18 07 03.2 -0.3
RFA San Rafael 7.04 193 eP Pn 18 07 09.6 -2.3
RFA IAML 18 07 11.7
comp=Z,270nm,0.3s
PB01 IPOC Station P 7.30 338 ePn Pn 18 07 15.0 -0.4
CPUP Villa Florida 8.41 82 P Pn 18 07 28.1 -1.9
comp=Z,1,3nm,0.3s,baz=263,slow=12,SNR=74
GO05 HualaæØ 8.43 211 ePn Pn 18 07 25.8 -4.4
GO01 Chusmiza 8.52 343 ePn Pn 18 07 30.8 -1.0
PB11 IPOC Station P 8.56 340 ePn Pn 18 07 30.1 -1.9
MNMC Minye Minye 9.13 342 ePn Pn 18 07 37.8 -2.0
TRQA Tornquist 10.86 160 ePn Pn 18 07 59.3 -2.7
LPAZ La Paz 11.63 353 P Pn 18 08 12.3 -0.3
comp=Z,9.3nm,0.3s,baz=173,slow=9.1,SNR=73
LPAZ S Sn 18 10 17.3 -4.8
comp=Z,0.7nm,0.3s,baz=24,slow=20,SNR=3.1
LPAZ La Paz 11.63 353 ePn Pn 18 08 11.5 -1.2
LPAZ S Sn 18 10 17.3 -4.8
GO06 Curarrehue 12.35 198 ePn Pn 18 08 19.6 -1.7
SIV San Ignacio 12.90 25 P Pn 18 08 27.0 -1.4
comp=Z,3.8nm,0.3s,baz=222,slow=14,SNR=96
SIV LR LR 18 14 30.1
comp=Z,63nm,21.8s,baz=280,slow=42
PLCA Paso Flores 13.22 193 P Pn 18 08 31.4 -0.9
comp=Z,0.6nm,0.3s,baz=40,slow=8.4,SNR=15
SPB Sao Paulo 17.79 80 eP P 18 09 26.2 -0.3
comp=Z,36nm,0.9s
NNA Nana 18.50 327 P Pn 18 09 35.7 -0.9
comp=Z,1.3nm,0.3s,baz=167,slow=11,SNR=5.0
NNA Nana 18.50 327 eP Pn 18 09 37.4 +0.8
comp=Z,18nm,0.9s
CHRN Cochrane 19.89 192 eP Pn 18 09 51.6 -1.1
comp=Z,25nm,0.9s
ATAH Atahualpa 23.47 329 P P 18 10 26.3 +0.6
comp=Z,6.3nm,0.7s,baz=161,slow=9.4,SNR=3.7
PTGA Pitinga 27.74 14 P P 18 11 03.5 -0.2
comp=Z,30nm,0.3s,baz=200,slow=11,SNR=87
SOTA Rioblanco 31.36 341 eP P 18 11 39.3 +3.2
PCON Cinco Dias 31.48 341 eP P 18 11 40.0 +2.7
POPC Popayan, Colom 31.77 341 eP P 18 11 41.3 +1.9
PRAC Prado 32.41 344 eP P 18 11 45.3 +0.5
CHIC Chingaza 33.05 347 eP P 18 11 50.7 -0.1
ROSC El Rosal 33.38 346 LR LR 18 26 00.1
comp=Z,59nm,18.1s,baz=242,slow=37
PTBC PUERTO BERRIO, 35.05 346 eP P 18 12 06.0 -1.6
ZARC Zaragoza, Cauc 36.06 346 eP P 18 12 14.0 -2.2
OCAC Ocana 36.49 349 eP P 18 12 16.0 -4.0
SDV Santo Domingo 36.76 353 P P 18 12 21.1 -1.2
comp=Z,8.0nm,0.4s,baz=149,slow=5.9,SNR=13
SDV Santo Domingo 36.76 353 eP P 18 12 21.3 -1.1
comp=Z,23nm,1.1s
MOTC Monteria, Cord 37.49 345 eP P 18 12 28.0 -0.2
PCRV Puerto La Cruz 37.88 3 P P 18 12 31.4 -0.1
comp=Z,28nm,0.9s,baz=22,slow=3.3,SNR=4.4
FDF Fort de France 42.70 8 eP P 18 13 10.1 -1.0
comp=Z,176nm,1.3s
OBIP Obispado Ponce 45.66 360 eP P 18 13 32.8 -1.7
comp=Z,32nm,0.5s
MTDJ Mount Denham 47.05 346 eP P 18 13 46.8 +1.3
TEIG Tepich 52.22 334 eP P 18 14 25.0 +0.6
comp=Z,22nm,0.6s
VNA3 Neumayer Olymp 53.38 160 P P 18 14 32.7 +0.3
VNA3 Neumayer Olymp 53.38 160 pP pP 18 15 12.0 +0.1
VNA1 Neumayer--Stat 53.59 159 P P 18 14 34.6 +0.7
VNA2 Neumayer--Watz 53.96 160 P P 18 14 36.8 +0.2
baz=289,slow=8.3
VNA2 Neumayer--Watz 53.96 160 pP pP 18 15 16.2 +0.1
062Z Marathon 54.13 344 P P 18 14 37.9 -0.4
baz=164
061Z Ochoppi 55.19 344 P P 18 14 46.4 +0.6
baz=165
SNAA Sanae 55.59 160 P P 18 14 48.5 +0.2
SNAA Sanae 55.59 160 P P 18 14 48.3 0.0
comp=Z,6.4nm,0.6s,baz=293,slow=7.5,SNR=67
SNAA pP pP 18 15 28.0 -0.1
comp=Z,4.3nm,0.7s,baz=282,slow=9.4,SNR=4.8
SNAA Sanae 55.59 160 eP P 18 14 48.3 0.0
comp=Z,25nm,1.3s
SNAA pP pP 18 15 28.0 -0.1
656A Willston 58.94 344 P P 18 15 11.7 -0.4
baz=164
555A McAlpin 59.76 344 P P 18 15 18.0 +0.2
baz=163
553A Crawfordville 60.21 342 P P 18 15 21.3 +0.5
baz=162
453A Whigham 60.81 343 P P 18 15 24.8 -0.1
baz=162
353A Camilla 61.25 343 P P 18 15 27.5 -0.3
baz=162
254A Abbeville 61.59 344 P P 18 15 29.7 -0.3
baz=163
155A Kite 62.04 345 P P 18 15 32.8 -0.3
baz=164
349A Repton 62.09 340 P P 18 15 33.7 +0.3
baz=159
154A Montrose 62.18 344 P P 18 15 33.7 -0.3
baz=164
446A Poplarville 62.26 338 P P 18 15 35.1 +0.5
baz=157
251A Midway 62.27 342 P P 18 15 34.4 -0.3
baz=161
250A Grady 62.41 341 P P 18 15 34.9 -0.6
baz=160
152A Waverly Hall 62.63 343 P P 18 15 36.7 -0.3
baz=162
Z54A Sparta 62.71 345 P P 18 15 37.5 0.0
baz=164
150A Eclectic 62.93 342 P P 18 15 38.8 -0.1
baz=161,SNR=6.1
Y54A Tignall 63.28 345 P P 18 15 40.9 -0.3
baz=164
Y53A Monroe 63.48 344 P P 18 15 42.0 -0.6
baz=163
Z50A Ashland 63.51 342 eP P 18 15 42.8 0.0
comp=Z,16nm,0.7s
Z50A Ashland 63.51 342 P P 18 15 42.5 -0.3
baz=161,SNR=10
Y52A Lilburn 63.60 344 P P 18 15 43.1 -0.3
baz=163
LRAL Lakeview Retre 63.61 341 P P 18 15 43.0 -0.4
baz=160
Z49A Columbiana 63.62 341 P P 18 15 43.1 -0.5
baz=160
342A Flagon Creek P 63.83 336 P P 18 15 45.4 +0.5
baz=155
244A Avery, Jackson 63.85 337 P P 18 15 46.2 +1.1
baz=156
Y51A Rockmart 63.89 343 P P 18 15 45.2 -0.2
baz=162,SNR=5.0
X53A Estanollee 64.03 345 P P 18 15 46.2 0.0
baz=164
Y50A Piedmont 64.06 342 P P 18 15 46.4 0.0
baz=161
Z47A Carrollton 64.08 340 P P 18 15 46.5 0.0
baz=159
Z48A Northport 64.09 341 P P 18 15 46.4 -0.2
baz=159
833A Chaparral WMA, 64.12 328 eP P 18 15 48.8 +1.9
comp=Z,42nm,0.8s
833A Chaparral WMA, 64.12 328 P P 18 15 48.5 +1.6
baz=148
Y49A Blount Mountai 64.21 342 eP P 18 15 47.2 -0.2
comp=Z,12nm,0.8s
Y49A Blount Mountai 64.21 342 P P 18 15 47.1 -0.4
baz=161
KMSC Kings Mountain 64.22 347 P P 18 15 47.9 +0.6
baz=166
X52A Dahlonega 64.27 344 P P 18 15 47.4 -0.3
baz=163
X51A Calhoun 64.47 343 eP P 18 15 49.3 +0.3
comp=Z,26nm,0.8s
X51A Calhoun 64.47 343 P P 18 15 48.9 -0.2
baz=162,SNR=5.0
X50B Fort Payne 64.58 343 P P 18 15 49.4 -0.4
baz=161
W53A Cullowhee 64.64 345 P P 18 15 49.8 -0.4
baz=164
Y47A UCPARC, Winfie 64.67 341 P P 18 15 50.1 -0.2
baz=159
143A Socs Landing, 64.70 337 eP P 18 15 51.7 +1.2
comp=Z,47nm,0.7s
143A Socs Landing, 64.70 337 P P 18 15 51.6 +1.0
baz=156
W52A Murphy 64.74 344 P P 18 15 51.4 +0.5
baz=163
X48A Hartselle 64.95 341 eP P 18 15 52.5 +0.3
comp=Z,15nm,0.7s
X48A Hartselle 64.95 341 P P 18 15 52.1 0.0
baz=160
Y46A Houston 64.95 340 P P 18 15 51.9 -0.3
baz=158
W51A Cleveland 65.01 344 P P 18 15 52.4 -0.1
baz=162
V53A Saluda 65.04 345 P P 18 15 52.7 0.0
baz=164
Y45A Yeager Farm, C 65.15 339 P P 18 15 53.4 0.0
baz=158
W50A Signal Mountai 65.19 343 eP P 18 15 54.2 +0.4
comp=Z,16nm,0.8s
W50A Signal Mountai 65.19 343 P P 18 15 54.0 +0.3
baz=162
CPCT Cooper Cave 65.23 344 eP P 18 15 54.3 +0.4
comp=Z,10nm,0.8s
W49A Belvidere 65.36 342 P P 18 15 54.8 0.0
baz=161
W48A Pulaski 65.56 342 P P 18 15 56.1 0.0
baz=160,SNR=5.7
V50A Pikevile 65.58 344 P P 18 15 56.0 -0.2
baz=162,SNR=7.1
U53A Fall Branch 65.65 346 P P 18 15 56.2 -0.5
baz=164
OXF Oxford 65.71 339 eP P 18 15 57.1 +0.2
comp=Z,25nm,1.0s
OXF Oxford 65.71 339 P P 18 15 56.3 -0.6
baz=158
U51A La Follette 65.99 345 P P 18 15 59.1 +0.2
baz=163
JCT Junction City 66.13 329 P P 18 15 59.7 -0.2
baz=148
V47A Nunnelly 66.37 342 P P 18 16 00.7 -0.5
baz=160,SNR=5.8
WHTX Lake Whitney, 66.39 332 eP P 18 16 02.6 +1.2
comp=Z,14nm,0.6s
WHTX Lake Whitney, 66.39 332 P P 18 16 02.3 +0.8
baz=150
V46A Holladay 66.52 341 P P 18 16 01.6 -0.6
baz=159,SNR=5.8
T51A Gray 66.54 345 P P 18 16 01.9 -0.4
baz=163
WVT Waverly 66.74 341 eP P 18 16 03.4 -0.2
comp=Z,31nm,0.6s
WVT Waverly 66.74 341 P P 18 16 03.3 -0.3
baz=160
X40A Basin Creek Fa 66.82 337 P P 18 16 04.4 +0.3
baz=155
U47A Clarksville 66.88 342 P P 18 16 04.1 -0.4
baz=160,SNR=5.7
TX31 Lajitas Ar. Si 67.05 325 eP P 18 16 06.9 +1.1
TXAR Lajitas Array 67.05 325 P P 18 16 06.5 +0.7
comp=Z,2.7nm,0.8s,baz=146,slow=8.1,SNR=16
MIAR Mount Ida 67.13 336 eP P 18 16 07.0 +0.9
comp=Z,5.9nm,0.8s
MIAR Mount Ida 67.13 336 P P 18 16 06.2 +0.1
baz=154,SNR=5.1
W41B Gary Mavity, V 67.24 337 eP P 18 16 07.3 +0.7
comp=Z,13nm,0.9s
W41B Gary Mavity, V 67.24 337 P P 18 16 07.0 +0.3
baz=156,SNR=5.3
WHAR Wood Hollow 67.36 337 eP P 18 16 08.5 +1.1
comp=Z,7.2nm,0.7s
U44B Burton Farm, H 67.38 340 P P 18 16 07.7 +0.2
baz=158
V42A Cord 67.53 338 P P 18 16 08.2 -0.3
baz=156
U43A Rector 67.73 339 P P 18 16 09.3 -0.5
baz=157
V41A Mountainview 67.76 338 P P 18 16 10.1 +0.1
baz=159,SNR=9.6
W39A Magazine 67.79 336 eP P 18 16 11.7 +1.5
comp=Z,14nm,0.6s
W39A Magazine 67.79 336 P P 18 16 11.1 +0.9
baz=154,SNR=7.5
PARMO Parma 67.80 340 eP P 18 16 11.2 +1.0
comp=Z,117nm,0.7s
S47A Hartford 67.86 343 P P 18 16 09.8 -0.8
baz=161
ABTX Abilene, Hawle 67.88 330 eP P 18 16 12.3 +1.5
comp=Z,9.3nm,0.8s
ABTX Abilene, Hawle 67.88 330 P P 18 16 11.2 +0.3
baz=149
U42A Revenden 67.98 339 P P 18 16 11.3 0.0
baz=157,SNR=5.5
Q52A Bidwell 68.09 347 P P 18 16 11.8 -0.2
baz=165
PBMO Poplar Bluff 68.11 340 eP P 18 16 12.5 +0.3
comp=Z,32nm,0.7s
U41A Viola 68.19 338 P P 18 16 12.8 +0.1
baz=156,SNR=9.4
WCI Wyandotte Cave 68.31 343 P P 18 16 13.1 -0.2
baz=161
MCWV Mont Chateau 68.32 349 P P 18 16 14.1 +0.7
baz=167
T43A Greenville 68.35 340 P P 18 16 13.5 -0.2
baz=158,SNR=5.5
LIC Lamto 68.36 70 eP P 18 16 12.3 -1.9
comp=Z,31nm,0.9s
P53A Whipple 68.43 348 P P 18 16 14.9 +0.9
baz=166
U40A Yellville 68.51 337 P P 18 16 14.9 +0.2
baz=155,SNR=8.0
T42A Van Buren 68.55 339 eP P 18 16 15.0 +0.1
comp=Z,5.8nm,0.9s
T42A Van Buren 68.55 339 P P 18 16 15.5 +0.6
baz=157
TIC Toumodi 68.60 70 eP P 18 16 13.1 -2.6
S44A Carbondale 68.61 341 P P 18 16 14.7 -0.5
baz=159
KIC Kosan Boka 68.67 70 eP P 18 16 14.4 -1.8
comp=Z,17nm,0.5s
Q49A Aurora 68.70 345 P P 18 16 14.7 -1.1
baz=163
O56A Blue Knob Stat 68.71 350 P P 18 16 16.7 +0.9
baz=169
P52A Corning 68.71 347 P P 18 16 15.1 -0.7
baz=165
S43A Fulton Ridge, 68.74 340 P P 18 16 15.5 -0.6
baz=158
DBIC Dimbokro 68.75 70 P P 18 16 15.0 -1.6
comp=Z,8.3nm,0.6s,baz=209,slow=4.0,SNR=48
DBIC Dimbokro 68.75 70 eP P 18 16 15.1 -1.5
comp=Z,8.6nm,0.7s
T41A Mountain View 68.78 339 P P 18 16 16.5 +0.2
baz=156,SNR=12
HHAR Hobbs 68.82 337 eP P 18 16 17.5 +0.9
comp=Z,8.2nm,0.7s
Q48A North Vernon 68.83 344 P P 18 16 16.6 +0.1
baz=162
R45A Skylar, Fairfi 68.89 342 P P 18 16 16.2 -0.8
baz=160
N59A State Game Lan 68.98 353 P P 18 16 18.3 +0.9
baz=171
R44A Waltonville 69.07 341 P P 18 16 18.0 0.0
baz=159
O52A Adamsville 69.12 348 P P 18 16 18.2 -0.1
baz=166
S42A Caledonia 69.14 340 P P 18 16 18.1 -0.4
baz=157,SNR=12
TUL1 Leonard 69.17 335 P P 18 16 19.5 +0.8
baz=153
P49A Miami Univ. Ec 69.17 345 P P 18 16 17.8 -0.8
baz=163
FVM French Village 69.22 340 eP P 18 16 19.4 +0.4
comp=Z,21nm,0.7s
S41A Jilco Farms, 69.27 339 P P 18 16 19.6 +0.3
baz=156,SNR=26
O51A Pataskala 69.30 347 P P 18 16 19.5 +0.1
baz=165
WMOK Wichita Mounta 69.32 332 P P 18 16 20.0 +0.2
baz=150
Q45A Warren Harvey, 69.42 342 P P 18 16 19.1 -1.0
baz=160
ACSO Alum Creek Sta 69.46 347 P P 18 16 20.5 +0.1
baz=164
O50A Cable 69.51 346 P P 18 16 20.0 -0.8
baz=164
CCM Cathedral Cave 69.54 339 eP P 18 16 21.3 +0.3
comp=Z,24nm,0.6s
CCM Cathedral Cave 69.54 339 P P 18 16 21.0 +0.1
baz=157
R42A Luebbering 69.61 340 P P 18 16 21.4 0.0
baz=157,SNR=7.7
N54A Moraine State 69.61 349 eP P 18 16 22.6 +1.2
comp=Z,21nm,0.6s
N54A Moraine State 69.61 349 P P 18 16 21.3 -0.1
baz=167
O49A Covington 69.71 346 P P 18 16 22.0 +0.1
baz=163
R41A Rosebud 69.80 339 P P 18 16 22.6 +0.1
baz=157,SNR=11
SYO Syowa Base 69.82 158 ⇑eP P 18 16 22.0 -0.3
SYO Syowa Base 69.82 158 ⇑eX PcP 18 16 40.0 -3.7
MNTX Cornudas Mount 69.82 325 eP P 18 16 23.3 +0.4
comp=Z,5.3nm,0.9s
MNTX Cornudas Mount 69.82 325 P P 18 16 22.8 -0.1
baz=144,SNR=7.0
Q43A New Douglas 69.89 341 P P 18 16 22.6 -0.5
baz=158
O48A Farmland 69.96 345 P P 18 16 22.8 -0.6
baz=163
N51A Ashland 70.00 347 P P 18 16 22.8 -0.9
baz=165
P44A Sand Creek, Wi 70.08 342 P P 18 16 24.0 -0.2
baz=159
M54A Oil Creek Stat 70.09 350 P P 18 16 24.4 +0.1
baz=168
Q42A Golden Eagle 70.11 340 P P 18 16 24.3 -0.1
baz=158
Q41A Truxton 70.36 340 P P 18 16 25.9 0.0
baz=157,SNR=5.7
N49A Columbus Grove 70.38 346 P P 18 16 25.9 -0.1
baz=164,SNR=5.0
MSTX Muleshoe 70.42 329 eP P 18 16 27.3 +0.7
comp=Z,12nm,0.8s
MSTX Muleshoe 70.42 329 P P 18 16 27.0 +0.5
baz=146,SNR=7.0
N48A Decatur 70.50 345 P P 18 16 25.6 -1.1
baz=163
SFIN Lafayette 70.54 344 P P 18 16 26.8 -0.2
baz=161
O45A Potomac 70.58 343 P P 18 16 26.5 -0.7
baz=160
N47A Urbana 70.67 345 P P 18 16 27.3 -0.5
baz=162
P42A Winchester 70.68 341 eP P 18 16 27.8 0.0
comp=Z,14nm,0.5s
P42A Winchester 70.68 341 P P 18 16 27.9 +0.1
baz=158
AMTX Amarillo 70.69 330 P P 18 16 28.4 +0.2
baz=148
M49A Liberty Center 70.86 346 P P 18 16 28.5 -0.4
baz=164
VNDA Vanda 70.95 190 P P 18 16 30.8 +1.8
comp=Z,4.8nm,0.9s,baz=142,slow=7.0,SNR=8.2
P41A Barry, Barry 70.97 340 P P 18 16 29.1 -0.5
baz=157
M48A Edgerton 71.03 346 P P 18 16 29.1 -0.8
baz=163
O43A Sugar Creek Fa 71.03 342 P P 18 16 29.2 -0.7
baz=159
HDIL Hopedale 71.28 342 P P 18 16 30.9 -0.6
baz=159
L48A N Adams 71.41 346 P P 18 16 31.7 -0.5
baz=163
L49A Milan 71.43 347 P P 18 16 32.7 +0.4
baz=164
319A Douglas 71.60 322 eP P 18 16 35.4 +1.6
L47A Sherwood 71.61 345 P P 18 16 32.7 -0.7
baz=163
N43A Stutzman Famil 71.61 342 P P 18 16 33.3 -0.1
baz=159,SNR=9.3
121A Cookes Peak, D 71.71 324 P P 18 16 36.0 +1.5
baz=142
N42A Yates City 71.74 341 P P 18 16 33.9 -0.3
baz=158
LBNH Lisbon 71.94 356 P P 18 16 36.6 +1.3
baz=175
K48A Perry 72.17 347 P P 18 16 36.2 -0.5
baz=164
N40A Mertquake, Sal 72.24 340 P P 18 16 37.0 -0.1
baz=157,SNR=6.2
K46A Dorr 72.41 345 P P 18 16 37.1 -1.1
baz=162
N39A Derby Farms, D 72.51 340 eP P 18 16 39.0 +0.2
comp=Z,23nm,0.6s
N39A Derby Farms, D 72.51 340 P P 18 16 38.7 -0.1
baz=156,SNR=6.8
L43A Garden Prairie 72.66 343 P P 18 16 39.4 -0.2
baz=160
M40A Post Highland 72.70 341 P P 18 16 39.5 -0.3
baz=157,SNR=6.8
PKME Peaks-Kenny Pk 72.84 358 P P 18 16 41.2 +0.6
baz=177
M39A Webster 72.96 340 P P 18 16 41.7 +0.3
baz=156
ANMO Albuquerque 72.97 327 eP P 18 16 43.8 +2.0
comp=Z,4.8nm,0.7s
ANMO Albuquerque 72.97 327 P P 18 16 42.8 +1.0
baz=144
L41A Preston 73.03 342 P P 18 16 41.9 +0.1
baz=158
K43A Burlington 73.04 343 P P 18 16 41.8 -0.1
baz=160
L40A Anamosa 73.22 341 eP P 18 16 43.2 +0.3
L40A Anamosa 73.22 341 P P 18 16 42.8 -0.1
baz=157,SNR=8.1
CBKS Cedar Bluff 73.22 334 eP P 18 16 44.6 +1.6
comp=Z,17nm,0.8s
CBKS Cedar Bluff 73.22 334 P P 18 16 43.9 +0.8
baz=150
K42A Prairie Point, 73.37 343 P P 18 16 43.8 0.0
baz=159
I48A Sherman Twp 73.41 347 P P 18 16 43.8 -0.2
baz=164
K41A Shullsburg 73.47 342 P P 18 16 44.4 +0.1
baz=158
L39A Vinton 73.50 341 P P 18 16 44.4 -0.2
baz=157
J43A Natural Harves 73.69 344 P P 18 16 45.8 +0.1
baz=160
JFWS Jewell Farm 73.74 342 eP P 18 16 46.1 +0.2
comp=Z,19nm,0.6s
JFWS Jewell Farm 73.74 342 P P 18 16 45.8 -0.1
baz=158,SNR=5.7
T25A Trinidad 73.79 329 eP P 18 16 48.7 +2.0
T25A Trinidad 73.79 329 P P 18 16 47.5 +0.9

baz=146,SNR=7.2
J42A **Columbus** 73.81 343 P P 18 16 46.8 +0.4
baz=159
PEMO **Pembroke** 73.85 352 P P 18 16 47.2 +0.8
baz=170
214A **Organ Pipe Nat** 74.00 320 P P 18 16 49.5 +1.7
baz=138
K39A **Oelwein** 74.00 341 P P 18 16 47.1 -0.3
baz=157,SNR=5.8
J41A **Loganville** 74.09 342 P P 18 16 48.1 +0.1
baz=159
ALGO **Algonquin Park** 74.22 352 P P 18 16 49.1 +0.4
baz=169
I42A **Draeger Farm,** 74.30 343 P P 18 16 49.8 +0.7
baz=160
H45A **Beulah** 74.31 346 P P 18 16 50.2 +1.0
baz=162
J40A **Soldiers Grove** 74.32 342 P P 18 16 49.7 +0.4
baz=158
J39A **Decorah** 74.53 341 P P 18 16 50.9 +0.4
baz=157
E54A **Lac Daplat, Po** 74.59 352 P P 18 16 50.9 +0.1
baz=170
SDCO **Great Sand Dun** 74.78 329 eP P 18 16 54.3 +1.9
comp=Z,4.2nm,1.0s
SDCO **Great Sand Dun** 74.78 329 P P 18 16 53.7 +1.2
baz=145,SNR=6.5
F48A **Evansville** 74.79 348 P P 18 16 52.1 +0.1
baz=165
BGNE **Belgrade** 74.88 336 eP P 18 16 53.7 +1.1
BGNE **Belgrade** 74.88 336 P P 18 16 53.1 +0.5
baz=151
I39A **Houston** 74.96 342 eP P 18 16 53.0 +0.1
I39A **Houston** 74.96 342 P P 18 16 52.6 -0.3
baz=157
E51A **G1948 Merrick** 74.98 351 P P 18 16 52.8 -0.2
baz=168
LATQ **La Tuque** 75.13 356 P P 18 16 54.2 +0.5
baz=174
H41A **Junction City** 75.16 343 P P 18 16 54.0 -0.1
baz=159
D54A **Lac Fusel, La** 75.24 353 P P 18 16 54.6 +0.1
baz=171
D53A **Lac Vacive, Po** 75.28 352 P P 18 16 55.1 +0.4
baz=170
H40A **Chili** 75.36 343 P P 18 16 55.1 -0.2
baz=158
S22A **4UR Ranch, Cre** 75.39 328 eP P 18 16 57.9 +1.9
S22A **4UR Ranch, Cre** 75.39 328 P P 18 16 57.6 +1.6
baz=144
G42A **Mountain** 75.45 344 P P 18 16 56.4 +0.7
baz=160
E47A **Iron Bridge** 75.52 348 P P 18 16 57.1 +1.0
baz=165
G41A **Antigo** 75.60 344 P P 18 16 56.8 +0.2
baz=160
Q24A **Divide** 75.62 330 eP P 18 16 59.2 +2.0
Q24A **Divide** 75.62 330 P P 18 16 58.8 +1.6
baz=145,SNR=10
D50A **G1974 Best Tow** 75.65 351 P P 18 16 57.1 +0.3
baz=168
WUAZ **Wupatki** 75.90 324 eP P 18 17 00.9 +2.1
comp=Z,8.1nm,0.8s
WUAZ **Wupatki** 75.90 324 P P 18 16 59.8 +1.1
baz=140,SNR=7.3
G40A **Rib Lake** 75.91 343 P P 18 16 59.6 +1.2
baz=159
H38A **Maiden Rock** 75.93 341 P P 18 16 59.4 +1.0
baz=157
GLA **Glamis** 75.95 320 eP P 18 17 01.0 +2.0
comp=Z,6.9nm,1.0s
GLA **Glamis** 75.95 320 P P 18 17 00.0 +1.1
baz=137
F41A **Three Lakes** 76.08 344 P P 18 16 59.7 +0.4
baz=160
G39A **Holcombe** 76.18 342 P P 18 17 00.3 +0.4
baz=158
Y12C **Blythe** 76.29 320 P P 18 17 02.0 +1.2
baz=138
ECSD **EROS Data Cent** 76.40 338 eP P 18 17 01.6 +0.4
comp=Z,14nm,0.6s
ECSD **EROS Data Cent** 76.40 338 P P 18 17 01.4 +0.3
baz=153,SNR=11
IKP **In-Ko-Pah, Jac** 76.40 319 P P 18 17 02.9 +1.3
baz=136
E42A **Champion** 76.44 345 P P 18 17 01.7 +0.4
baz=161
F40A **Park Falls** 76.50 343 P P 18 17 02.3 +0.7
baz=159
ISCO **Idaho Springs** 76.51 330 eP P 18 17 04.2 +1.9
comp=Z,6.8nm,0.9s
ISCO **Idaho Springs** 76.51 330 P P 18 17 03.6 +1.4
baz=145,SNR=6.6
SMCO **Snowmass** 76.62 329 eP P 18 17 05.2 +2.2
PV13 **Radium Mtn., P** 76.67 327 eP P 18 17 05.4 +2.3
comp=Z,9.4nm,1.0s
F39A **Loretta** 76.70 343 P P 18 17 03.2 +0.4
baz=158
BC3 **Big Chuckawall** 76.75 320 P P 18 17 05.2 +1.7
baz=137,SNR=6.4
MONP2 **Monument Peak** 76.76 319 P P 18 17 05.1 +1.4
baz=136
PV14 **Lion Creek, Pa** 76.94 327 eP P 18 17 06.8 +2.2
comp=Z,20nm,1.6s
IRM **Iron Mountain** 76.94 320 P P 18 17 05.8 +1.3
baz=137,SNR=6.3
PV22 **Blue Mesa, Par** 76.95 327 eP P 18 17 06.7 +2.0
comp=Z,10nm,1.3s
F37A **Hinrichs Farm,** 76.99 342 P P 18 17 04.5 +0.1
baz=156
F38A **Pierce - Schro** 77.00 342 P P 18 17 04.8 +0.4
baz=157
LSQQ **Lebel-sur-Quev** 77.15 353 P P 18 17 05.7 +0.5
baz=170
D41A **Chassel** 77.19 345 P P 18 17 06.3 +0.9
baz=160
XPFO **Piæon Flat** 77.29 319 eP P 18 17 08.7 +2.2
FRD **Ford Ranch, An** 77.30 319 P P 18 17 08.1 +1.6
baz=136
PFO **Pinyon Flats O** 77.30 319 eP P 18 17 08.7 +2.2
comp=Z,3.8nm,0.7s
PFO **Pinyon Flats O** 77.30 319 P P 18 17 08.4 +1.9
baz=136
BELC **Belle Mtn. Jos** 77.31 320 P P 18 17 08.8 +2.1
baz=137
N23A **Red Feather La** 77.55 331 P P 18 17 09.6 +1.6
baz=145
TORD **Torodi Ar. Bea** 77.66 68 P P 18 17 05.9 -2.9
comp=Z,9.1nm,0.7s,baz=257,slow=4.8,SNR=49
TORD pP pP 18 17 50.1 -1.1
comp=Z,3.2nm,0.9s,baz=261,slow=4.9,SNR=2.3
GMRC **Granite Mounta** 77.69 320 P P 18 17 10.5 +1.8
baz=137,SNR=8.4
CHGQ **Chibougamau** 77.76 355 P P 18 17 09.0 +0.4
baz=173
KNB **Kanab** 77.80 324 eP P 18 17 11.9 +2.5
SUSD **Miller** 77.82 337 P P 18 17 11.4 +2.3
baz=151
O20A **White River Ci** 77.97 329 eP P 18 17 12.7 +2.4
O20A **White River Ci** 77.97 329 P P 18 17 12.5 +2.3
baz=143
LCMT **Little Creek M** 78.02 323 eP P 18 17 12.9 +2.4
HEC **Hector,Ludlow** 78.10 320 P P 18 17 12.6 +1.7
baz=136,SNR=5.3
SRU **San Rafael Swe** 78.24 327 eP P 18 17 13.5 +1.8
MTPU **Mount Pierson** 78.25 325 eP P 18 17 14.4 +2.4
CCUT **Cedar City** 78.48 324 eP P 18 17 15.9 +2.8
P18A **Preston Nutter** 78.51 327 eP P 18 17 15.5 +2.1
MSU **Marysvale** 78.60 325 eP P 18 17 16.0 +2.2
P17A **Butcher Ranch,** 78.63 327 eP P 18 17 16.1 +2.2
SHPR **Sheep Range** 78.67 322 eP P 18 17 16.6 +2.5
BOSA **Boshof** 78.67 116 P P 18 17 14.2 -0.3
comp=Z,3.3nm,0.5s,baz=249,slow=2.9,SNR=14
GSC **Goldstone, Bar** 78.71 320 eP P 18 17 16.3 +2.0
GSC **Goldstone, Bar** 78.71 320 P P 18 17 16.5 +2.2
baz=136
TMUT **Trail Mountain** 78.72 326 eP P 18 17 16.8 +2.2
K22A **Casper** 79.23 331 eP P 18 17 19.3 +2.3
K22A **Casper** 79.23 331 P P 18 17 19.1 +2.0
baz=145
RSSD **Black Hills** 79.43 334 eP P 18 17 19.5 +1.4
RSSD **Black Hills** 79.43 334 P P 18 17 19.3 +1.1
baz=147
PSUT **Pine Spring** 79.48 324 eP P 18 17 21.0 +2.5
MPU **Maple Canyon** 79.48 326 eP P 18 17 20.8 +2.3
TPNV **Topopah Spring** 79.59 322 eP P 18 17 21.3 +2.2
TPNV **Topopah Spring** 79.59 322 P P 18 17 20.7 +1.6
baz=137
MPMC **Manual Prospec** 79.64 320 P P 18 17 21.5 +2.1
baz=136
NLU **North Lily Min** 79.66 326 eP P 18 17 21.8 +2.3
JLU **Jordanelle** 79.85 327 eP P 18 17 22.7 +2.1
ISA **Isabella, Lake** 79.92 319 P P 18 17 22.7 +1.9
baz=135
DUG **Dugway, Tooele** 80.20 326 eP P 18 17 24.2 +1.9
DUG **Dugway, Tooele** 80.20 326 P P 18 17 23.8 +1.5
baz=140,SNR=5.8
TCUT **Toone Canyon** 80.23 327 eP P 18 17 24.6 +2.1
AGMN **Agassiz Nation** 80.25 341 eP P 18 17 22.9 +0.7
AGMN **Agassiz Nation** 80.25 341 P P 18 17 22.5 +0.3
baz=154,SNR=6.8
R11A **Troy Canyon, C** 80.25 323 eP P 18 17 24.6 +2.0
R11A **Troy Canyon, C** 80.25 323 P P 18 17 24.2 +1.5
baz=137,SNR=7.3
BW06 **Boulder Array** 80.66 329 eP P 18 17 25.9 +1.1
BW06 **Boulder Array** 80.66 329 P P 18 17 25.6 +0.8
baz=142,SNR=8.4
PD31 **Pinedale Array** 80.66 329 eP P 18 17 25.8 +1.0
PDAR **Pinedale Array** 80.66 329 P P 18 17 25.6 +0.8
comp=Z,3.7nm,0.5s,baz=122,slow=7.1,SNR=51
PDAR **Pinedale Array** 80.66 329 eP P 18 17 25.5 +0.7
HWUT **Hardware Ranch** 80.68 328 eP P 18 17 26.2 +1.3
BGU **Big Grassy Mou** 80.87 326 eP P 18 17 27.6 +1.7
SPUT **South Promonto** 80.88 327 eP P 18 17 27.5 +1.6
MDND **Maddock** 81.02 338 eP P 18 17 27.7 +1.4
MDND **Maddock** 81.02 338 P P 18 17 27.2 +1.0
baz=151,SNR=5.4
HVU **Hansel Valley** 81.39 327 eP P 18 17 29.8 +1.2
REDW **Red Top Meadow** 81.71 329 eP P 18 17 31.7 +1.4
SNOW **Snow King Moun** 81.75 329 eP P 18 17 32.5 +1.9
NVAR **Mina Array Bea** 81.78 321 P P 18 17 31.8 +1.0
comp=Z,1.4nm,0.5s,baz=140,slow=5.8,SNR=4.9
LOHW **Long Hollow** 81.80 329 eP P 18 17 32.2 +1.5
TPAW **Teton Pass** 81.86 329 eP P 18 17 32.7 +1.5
MOOW **Moose Ponds** 81.97 329 eP P 18 17 32.9 +1.3
FXWY **Fox Creek** 82.01 329 eP P 18 17 33.1 +1.3
ULM **Lac du Bonnet** 82.01 342 P P 18 17 31.1 -0.3
comp=Z,5.1nm,0.7s,baz=147,slow=9.5,SNR=7.6
ULM **Lac du Bonnet** 82.01 342 eP P 18 17 31.9 +0.5
IMW **Indian Meadow** 82.17 329 eP P 18 17 34.1 +1.3
FLWY **Flagg Ranch** 82.21 330 eP P 18 17 34.8 +2.0
H17A **Grant Village** 82.40 330 P P 18 17 35.2 +1.3
baz=142
LAO **LASA Array** 82.42 334 eP P 18 17 35.0 +1.3
LAO **LASA Array** 82.42 334 P P 18 17 34.1 +0.4
baz=145
YFT **Old Faithful** 82.56 330 eP P 18 17 37.8 +3.1
YMR **Madison River** 82.78 330 eP P 18 17 38.1 +2.3
YHH **Holmes Hill** 82.83 330 eP P 18 17 38.2 +2.0
YHB **Horse Butte** 82.95 330 eP P 18 17 39.0 +2.3
DGMT **Dagmar** 83.14 336 eP P 18 17 38.8 +1.5
DGMT **Dagmar** 83.14 336 P P 18 17 38.4 +1.1
baz=147,SNR=6.1
PAHR **Pah Rah Range** 83.28 322 eP P 18 17 40.6 +2.1
HLID **Hailey** 83.53 327 eP P 18 17 41.5 +1.8
HLID **Hailey** 83.53 327 P P 18 17 41.0 +1.4
baz=139,SNR=16
MCMT **McKenzie Canyo** 83.76 329 eP P 18 17 42.8 +2.0
BOZ **Bozeman (W)** 83.80 330 P P 18 17 41.9 +1.0
baz=141
DLMT **Dillon** 84.05 329 eP P 18 17 44.0 +1.8
EGMT **Eagleton** 84.91 333 P P 18 17 46.9 +0.5
baz=143
J08A **Circle Bar Ran** 85.39 325 eP P 18 17 50.6 +1.7
BMO **Blue Mountains** 85.89 327 eP P 18 17 52.4 +1.1
TAM **Tamanrasset** 85.90 62 eP P 18 17 52.3 +0.4
M04C **Macdoel** 86.06 322 P P 18 17 53.4 +1.1
baz=133
YBH **Yreka Blue Hor** 86.51 322 P P 18 17 54.9 +0.5
comp=Z,3.9nm,0.7s,baz=98,slow=3.0,SNR=8.1
L04D **Klamath Falls** 86.61 322 P P 18 17 55.3 +0.3
baz=133
JTMT **Jette** 86.62 330 eP P 18 17 56.3 +1.4
F10A **Beach Ranch, E** 86.66 327 eP P 18 17 57.0 +1.9
J05D **Fort Rock, OR** 86.77 323 P P 18 17 57.2 +1.5
baz=134
LSZ **Lusaka** 87.11 106 eP P 18 17 59.8 +1.7
I05D **Terrebonne, OR** 87.55 324 P P 18 18 01.2 +1.9
baz=134
K02D **Willamette Mer** 87.68 322 P P 18 18 02.6 +2.6
baz=132
G05D **Wamic, OR** 88.17 325 P P 18 18 03.5 +1.3
baz=134
I03D **Drain, OR** 88.18 323 P P 18 18 04.1 +2.0
baz=132
C09A **Chrisman Ranch** 88.48 328 eP P 18 18 04.7 +1.2
ESDC **Sonseca Array** 88.96 43 P P 18 18 07.1 +1.0
comp=Z,1.3nm,0.6s,baz=242,slow=3.6,SNR=7.6
ES19 **SONSECA Array** 89.02 43 eP P 18 18 06.8 +0.5
D03D **Eldon** 90.63 326 P P 18 18 14.4 +0.8
baz=132
B05A **Bryant** 90.63 327 P P 18 18 13.5 0.0
baz=133
A04D **Lummi Island** 91.24 327 P P 18 18 16.9 +0.6
baz=133
YKA **Yellowknife Ar** 97.88 340 P Pdif 18 18 46.5 +0.1
comp=Z,0.9nm,0.5s,baz=133,slow=4.4,SNR=13
CLL **Collins** 105.19 40 ePP PP 18 23 40.0 -2.7
ASAR **Alice Springs** 125.06 203 PKP **PKPdf** 18 24 11.2 -0.2
comp=Z,4.1nm,0.4s,baz=134,slow=1.7,SNR=114
ASAR pPKP **pPKPdf** 18 24 57.9 +0.9
comp=Z,3.9nm,0.8s,baz=143,slow=2.0,SNR=10
WRA **Warramunga Arr** 128.31 205 PKP **PKPdf** 18 24 18.1 +0.4
comp=Z,3.2nm,0.3s,baz=154,slow=2.0,SNR=90
WRA pPKP **pPKPdf** 18 25 04.2 +1.0
comp=Z,6.2nm,0.7s,baz=167,slow=1.6,SNR=14
WRA SKPbc SKPbc 18 27 21.7
comp=Z,0.5nm,0.6s,baz=154,slow=2.7,SNR=5.6
MMRI **Maumere** 142.70 195 PKP **PKPdf** 18 24 45.4 +0.9
EDFI **Ende, Flores** 142.71 194 PKP **PKPdf** 18 24 41.0 -3.6
PLAI **Plampang** 143.26 187 PKP PKPbc 18 24 42.6 -0.3
TWSI **Taliwang, Sumb** 143.44 186 PKP PKPbc 18 24 43.3 -0.1
IGBI **Denpasar** 143.47 183 PKP PKPbc 18 24 43.9 +0.4
BNDI **Bandanaira** 144.06 209 PKP **PKPab** 18 24 44.8 +0.1
PCJI **Pacitan** 144.07 176 PKP PKPbc 18 24 46.0 +0.8
SRBI **Singaraja** 144.20 183 PKP PKPbc 18 24 46.3 +0.7
UGM **Wanagama** 144.30 175 PKP PKPbc 18 24 46.5 +0.5
CISI **Cisompet, Garu** 144.36 170 PKP **PKPab** 18 24 46.0 +0.1
FAKI **Fak Fak** 144.40 214 PKP **PKPab** 18 24 45.9 -0.1
WOJI **Wonogiri, Jawa** 144.41 176 PKP PKPbc 18 24 46.5 +0.2
BLJI **Banyuglugur** 144.58 180 PKP **PKPab** 18 24 45.9 -0.7
RKPI **Ransiki, Papua** 144.60 218 PKP PKPbc 18 24 47.1 +0.2
KPJI **Karang Pucung** 144.72 172 PKP PKPbc 18 24 47.7 +0.5
CGJI **Cibinong** 144.91 167 PKP **PKPab** 18 24 48.1 +0.3
LEM **Lembang** 145.04 170 PKP **PKPdf** 18 24 48.8 0.0
KMMI **Kalianget** 145.26 181 PKP **PKPab** 18 24 49.6 +0.4
BBSI **Bau Bau** 145.66 196 PKP **PKPab** 18 24 51.1 +0.4
KASI **Kota Agung** 145.69 164 PKP **PKPbc** 18 24 50.5 +0.2
LWLI **Liwa** 146.07 163 PKP **PKPab** 18 24 52.2 -0.2
HYB **Hyderabad** 146.31 101 *i* PKP **PKPbc** 18 24 52.0 -0.1
HYB *e* 18 25 37.5
BKSI **Bulukumba** 146.35 192 PKP **PKPbc** 18 24 52.7 +0.4
NLAI **Namlea** 146.36 205 PKP **PKPab** 18 24 53.2 -0.2
ZALV **Zalesovo Beam** 146.59 31 PKPbc **PKPbc** 18 24 51.0 -0.8
comp=Z,14nm,0.5s,baz=293,slow=3.4,SNR=48
ZALV pPKPbc pPKPab 18 25 37.9 +0.4
comp=Z,16nm,0.9s,baz=296,slow=4.2,SNR=5.1
MDSI **Maura Dua** 146.61 163 PKP **PKPdf** 18 24 51.7 +0.5
KSH **Kashi** 147.00 60 PKPbc **PKPdf** 18 24 52.5 +1.2
KSH PP **PP** 18 28 23.8 +3.8
KSH SKS **SKSdf** 18 31 43.5 -0.2
BNSI **Bone** 147.25 192 PKP **PKPbc** 18 24 54.5 -0.3
SPSI **Sidrap Palu** 147.74 192 PKP **PKPbc** 18 24 55.5 -0.6
SANI **Sanana** 147.87 204 PKP **PKPbc** 18 24 55.6 -0.9
SISI **Saibi** 147.87 152 PKP **PKPbc** 18 24 55.2 -1.3
KRJI **Kerinci** 148.06 157 PKP **PKPbc** 18 24 56.4 -0.7
MKAR **Makanchi Array** 149.18 44 PKPbc **PKPbc** 18 24 59.5 +0.6
comp=Z,11nm,0.7s,baz=288,slow=3.2,SNR=70
MKAR pPKPbc **pPKPbc** 18 25 44.9 +0.7
comp=Z,8.1nm,0.9s,baz=316,slow=1.9,SNR=4.7
PPBI **Pangkal Pinang** 149.32 166 PKP **PKPbc** 18 24 59.0 -1.2
GSI **Gunungsitoli** 149.54 147 PKP **PKPbc** 18 25 01.2 +0.5
LUWI **Luwuk** 149.86 199 PKP **PKPbc** 18 25 01.3 -0.2
TNTI **Ternate** 149.90 209 PKP **PKPbc** 18 24 59.9 -1.7
MJAR **Matsushiro Arr** 157.35 299 PKPab **PKPab** 18 25 38.6 -0.2
comp=Z,2.1nm,0.7s,baz=101,slow=3.5,SNR=4.2
SONM **Songino Array** 159.35 13 PKP **PKPdf** 18 25 09.7 +1.0
comp=Z,1.3nm,1.0s,baz=325,slow=2.3,SNR=6.7
SONM PKPab **PKPab** 18 25 47.6 +0.5
comp=Z,2.4nm,0.7s,baz=327,slow=4.3,SNR=13
CMAR **Chiang Mai Arr** 163.75 122 PKP **PKPdf** 18 25 15.2 +1.2
comp=Z,0.8nm,0.8s,baz=233,slow=2.7,SNR=6.0
CMAR pPKP **pPKPdf** 18 26 02.2 +2.4
comp=Z,1.2nm,0.9s,baz=245,slow=2.6,SNR=6.1
GTA **Gaotai** 163.90 41 ⇓PKP **PKPdf** 18 25 15.0 +1.3
GTA pPKP pPKPdf 18 26 00.5 +1.0
KSRS **Korea Array** 164.50 312 PKPab **PKPab** 18 26 09.8 -0.1
comp=Z,1.5nm,0.6s,baz=43,slow=5.8,SNR=6.5
KSAR **Wonju Array Be** 164.53 312 PKPab **PKPab** 18 26 09.8 -0.3
LZH **Lanzhou** 168.49 42 ePKP **PKPdf** 18 25 16.0 -1.4
LZH pPKP pPKPdf 18 25 59.3 -4.0
LZH sPKP 18 26 15.3
LZH LR LR
comp=N,100nm,18.1s
LZH LR LR
comp=E,97nm,18.0s
LZH LR LR
comp=Z,140nm,20.2s

*NNC **28** 18:06:32.6±0.4, 42°.70N×71°.89E, h0km, mb2.9, mpv2.7,*
Error ellipse: s-maj=16.0km s-min=2.2km az=23.0
*SOME **28** 18:06:33.7, 42°.77N×72°.03E, h5km*
*KRNET **28** 18:06:33.4±0.1, 42°.74N×71°.96E, h18km, mb2.8*
*KNET **28** 18:06:35.0±1.1, 42°.78N×72°.16E, h0km, ml2.2, Error*
ellipse: s-maj=8.9km s-min=6.5km az=55.0

ISC 28 18:06:32.9±1.1, 42°.79N±0°.03×72°.00E±0°.01, h3km±10km, n51, σ1^{s}32/95, 32C-18D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
MNAS	**Manas**	**0.47**	**129**	⇑P	**Pg**	**18 06 42.5**	**+0.4**
MNAS	7.6nm,0.2s			⇑S	**Sg**	**18 06 48.9**	**+0.6**
MNAS	126nm,0.4s **Manas**	**0.47**	**129**	⇑*i*P	**Pg**	**18 06 42.6**	**+0.5**
MNAS	baz=21			⇑*i*S	**Sg**	**18 06 48.8**	**+0.6**
DZA	baz=21 **Taraz**	**0.51**	**282**	*e*P	**Pg**	**18 06 42.8**	**+0.1**
DZA	baz=89			*e*S	**Sg**	**18 06 49.2**	**0.0**
DZA	baz=89 **Taraz**	**0.51**	**282**	*e*P	**Pg**	**18 06 42.8**	**+0.1**
DZA	48nm,0.1s			*e*S	**Sg**	**18 06 49.2**	**0.0**
MRKS	198nm,0.2s **Merke**	**0.90**	**92**	*e*P	**Pn**	**18 06 51.6**	**-1.0**
MRKS	baz=89			*e*S	**Sb**	**18 07 04.1**	**+0.4**
MRKS	baz=89 **Merke**	**0.90**	**92**	*e*P	**Pn**	**18 06 51.5**	**-1.0**
MRKS	4.3nm,0.1s			*e*S	**Sb**	**18 07 04.0**	**+0.4**
ARK	26nm,0.2s **Arkit**	**0.99**	**182**	⇓*i*P	**Pg**	**18 06 51.9**	**0.0**
ARK	baz=79			⇓*i*S	**Sg**	**18 07 05.0**	**+0.3**
JBG	baz=79 **Jabagly**	**1.14**	**252**	*e*P	**Pb**	**18 06 54.3**	**-1.0**
JBG	baz=96			*e*S	**Sg**	**18 07 08.9**	**-0.6**
KK31	baz=96 **Karatay Array**	**1.14**	**287**	⇑P	**Pb**	**18 06 53.8**	**-1.5**
KK31	1.1nm,0.2s,baz=110,slow=17,SNR=44			⇑S	**Sb**	**18 07 08.1**	**-2.4**
EKS2	7.3nm,0.3s,baz=120,slow=27,SNR=12 **Erkin-Say**	**1.31**	**95**	⇓P	**Pg**	**18 06 59.1**	**+1.0**
EKS2	2.3nm,0.1s,SNR=33			⇓*i*S	**Sg**	**18 07 16.4**	**+1.3**
EKS2	baz=93 **Erkin-Say**	**1.31**	**95**	⇓*i*P	**Pg**	**18 06 58.8**	**+0.7**
AML	baz=93 **Almayashu**	**1.41**	**117**	⇑P	**Pb**	**18 06 59.9**	**-0.3**
AML	5.5nm,0.3s,SNR=24			⇓S	**Sn**	**18 07 18.2**	**-0.9**
AML	23nm,0.4s **Almayashu**	**1.41**	**117**	⇑*i*P	**Pb**	**18 06 59.7**	**-0.4**
AML	baz=15			⇑*i*S	**Sn**	**18 07 18.3**	**-0.9**
IUG	baz=15 **Iuzhnay**	**1.59**	**247**	*e*P	**Pb**	**18 07 02.6**	**-0.5**
IUG	baz=48			*e*S	**Sb**	**18 07 23.3**	**-0.3**
IUG	baz=48 **Iuzhnay**	**1.59**	**247**	*e*P	**Pb**	**18 07 02.6**	**-0.5**
IUG	25nm,0.2s			*e*S	**Sb**	**18 07 23.2**	**-0.3**
BRLS	26nm,0.3s **Borolday**	**1.61**	**279**	*e*P	**Pg**	**18 07 04.2**	**+0.4**
BRLS	baz=73			*e*S	**Sg**	**18 07 25.9**	**+1.2**
BRLS	baz=73 **Borolday**	**1.61**	**279**	*e*P	**Pg**	**18 07 04.2**	**+0.4**
BRLS	0.6nm,0.2s			*e*S	**Sg**	**18 07 25.9**	**+1.2**
ARSB	23nm,0.4s **Arslanbob**	**1.63**	**153**	⇑*i*P	**Pb**	**18 07 03.1**	**-0.7**
ARSB	baz=51			⇑*i*S	**Sb**	**18 07 23.6**	**-1.2**
AAK	baz=51 **Ala-Archa**	**1.84**	**94**	Pn	**Pg**	**18 07 08.0**	**-0.2**
AAK	5.5nm,0.3s			Lg	Lg	18 07 34.0	
AAK	6.1nm,0.3s **Ala-Archa**	**1.84**	**94**	⇑P	**Pg**	**18 07 08.4**	**+0.2**
AAK	4.2nm,0.2s,SNR=19			⇑S	**Sg**	**18 07 33.7**	**+1.6**
AAK	13nm,0.2s **Ala-Archa**	**1.84**	**94**	⇓*i*P	**Pg**	**18 07 08.1**	**-0.2**
AAK	baz=92			⇓*i*S	**Sg**	**18 07 32.6**	**+0.5**
USP	baz=92 **Ospenovka**	**1.89**	**74**	⇑P	**Pb**	**18 07 08.3**	**+0.2**
USP	2.0nm,0.2s,SNR=5.5			⇑S	**Sg**	**18 07 34.0**	**+0.3**
USP	**Ospenovka**	**1.89**	**74**	⇑*i*P	**Pg**	**18 07 08.9**	**-0.3**
USP	baz=73			⇑*i*S	**Sg**	**18 07 34.1**	**+0.4**
UCH	baz=73 **Uchtor**	**1.94**	**106**	⇓P	**Pg**	**18 07 10.0**	**0.0**
UCH	4.2nm,0.2s,SNR=9.7 **Uchtor**	**1.94**	**106**	⇑*i*P	**Pg**	**18 07 09.6**	**-0.5**
UCH	baz=4.0			⇑*i*S	**Sg**	**18 07 34.9**	**-0.3**
ARLS	baz=4.0 **Aral**	**1.95**	**117**	⇑*e*P	**Pb**	**18 07 09.0**	**-0.2**
ARLS	baz=15			⇑*i*S	**Sb**	**18 07 34.1**	**+0.1**
CHMS	baz=15 **Chumysh**	**2.03**	**83**	⇓P	**Pb**	**18 07 10.7**	**+0.3**
CHMS	2.7nm,0.3s,SNR=6.7 **Chumysh**	**2.03**	**83**	⇑*i*P	**Pb**	**18 07 10.4**	**-0.1**
CHMS	baz=82			⇑*i*S	**Sg**	**18 07 37.3**	**-0.9**
KBK	baz=82 **Karagaybulak**	**2.17**	**92**	⇓P	**Pb**	**18 07 13.6**	**+0.6**
KBK	1.4nm,0.1s,SNR=9.3 **Karagaybulak**	**2.17**	**92**	⇓*i*P	**Pb**	**18 07 12.6**	**-0.4**
KBK	baz=91			⇓*i*S	**Sb**	**18 07 40.4**	**0.0**
KZA	baz=91 **Kyzart**	**2.50**	**105**	⇑P	**Pg**	**18 07 20.2**	**-0.8**
KZA	5.3nm,0.3s,SNR=22 **Kyzart**	**2.50**	**105**	⇑*i*P	**Pb**	**18 07 17.0**	**-1.8**
KZA	baz=4.0			⇑*i*S	**Sb**	**18 07 48.6**	**-1.6**
TKM2	baz=4.0 **Tokmak 2**	**2.65**	**86**	⇓Pn	**Pb**	**18 07 18.9**	**-2.2**
TKM2	1.9nm,0.5s			⇓Lg	Lg	18 07 57.9	
TKM2	5.3nm,0.5s **Tokmak 2**	**2.65**	**86**	⇑*i*P	**Pb**	**18 07 19.4**	**-1.7**
TKM2	baz=85			⇑*i*S	**Sb**	**18 07 52.3**	**-1.7**
BTLS	baz=85 **Baital**	**2.69**	**33**	*e*P	**Pb**	**18 07 23.0**	**+1.2**
BTLS				*e*S	**Sg**	**18 07 58.8**	**-0.7**
BTK	**Batken**	**2.87**	**199**	⇑*i*P	**Pn**	**18 07 21.4**	**+1.8**
BTK	baz=98			⇑*e*S	**Sn**	**18 07 55.6**	**+0.9**
BOOM	baz=98 **Boomskoye usch**	**2.92**	**94**	⇓*i*P	**Pb**	**18 07 22.8**	**-2.9**
BOOM	baz=93			⇓*i*S	**Sn**	**18 07 58.0**	**+1.9**
KST	baz=93 **Kastek**	**2.92**	**84**	*e*P	**Pb**	**18 07 26.1**	**+0.4**
	baz=83						

KST					*e*S		**Sg**	**18 08 04.9**	**-1.8**
	baz=83								
KST	**Kastek**	**2.92**	**84**	*e*P			**Pb**	**18 07 26.1**	**+0.4**
	1.0nm,0.2s								
KST					*e*S		**Sg**	**18 08 04.9**	**-1.8**
	17nm,0.6s								
SFK	**Sufi-Kurgan**	**2.99**	**157**	⇑Pn			**Pn**	**18 07 21.7**	**+0.2**
	0.8nm,0.6s								
SFK				⇓Pg			**Pb**	**18 07 28.2**	**+1.2**
	1.5nm,0.4s								
SFK				⇑Lg			Lg	18 08 07.0	
	3.8nm,0.4s								
KUU	**Kurty**	**3.35**	**69**	*e*P			**Pb**	**18 07 34.4**	**+1.4**
	baz=69								
KUU					*e*S		**Sg**	**18 08 19.1**	**-1.4**
	baz=69								
KUU	**Kurty**	**3.35**	**69**	*e*P			**Pb**	**18 07 34.4**	**+1.4**
	1.2nm,0.4s								
KUU					*e*S		**Sg**	**18 08 19.1**	**-1.4**
	4.1nm,0.3s								
IZV	**Izvestkoviy**	**3.40**	**84**	*e*P			**Pb**	**18 07 34.4**	**+0.6**
	baz=83								
IZV					*e*S		**Sg**	**18 08 18.7**	**-3.3**
	baz=83								
IZV	**Izvestkoviy**	**3.40**	**84**	*e*P			**Pb**	**18 07 34.4**	**+0.6**
	1.2nm,0.4s								
IZV					*e*S		**Sg**	**18 08 18.8**	**-3.3**
	5.6nm,0.4s								
TNSS	**Tian-Shan**	**3.64**	**84**	*e*P			**Pb**	**18 07 38.5**	**+0.4**
	baz=84								
TNSS					*e*S		**Sb**	**18 08 25.2**	**+2.4**
	baz=84								
TNSS	**Tian-Shan**	**3.64**	**84**	*e*P			**Pb**	**18 07 38.5**	**+0.4**
	0.4nm,0.1s								
TNSS					*e*S		**Sb**	**18 08 25.1**	**+2.4**
	3.6nm,0.5s								
MDOK	**Medeo**	**3.72**	**82**	*e*P			**Pb**	**18 07 41.2**	**+1.9**
	baz=82								
MDOK					*e*S		**Sg**	**18 08 30.2**	**-2.2**
	baz=82								
MDOK	**Medeo**	**3.72**	**82**	*e*P			**Pb**	**18 07 41.2**	**+1.9**
	0.6nm,0.2s								
MDOK					*e*S		**Sg**	**18 08 30.2**	**-2.2**
	5.7nm,0.5s								
CHKK	**Chushkaly**	**3.79**	**72**	*e*P			**Pb**	**18 07 42.4**	**+1.9**
	baz=71								
CHKK					*e*S		**Sg**	**18 08 33.3**	**-1.3**
	baz=71								
CHKK	**Chushkaly**	**3.79**	**72**	*e*P			**Pb**	**18 07 42.4**	**+1.9**
	1.1nm,0.2s								
CHKK					*e*S		**Sg**	**18 08 33.3**	**-1.3**
	5.9nm,0.2s								
MNBS	**Baschi**	**4.83**	**72**	*e*P			**Pg**	**18 08 04.9**	**-0.7**
MNBS					*e*S		**Sg**	**18 09 12.2**	**+4.0**

*MOS **28** 18:08:48.2±3.4,48°.01N×155°.44E,h102km,mb3.8/7,Error ellipse: s-maj=21.1km s-min=10.0km az=77.2*
*KRSC **28** 18:08:48.2±1.5,48°.01N×155°.44E,h102km±31km,ML4.3*
*SKHL **28** 18:08:50.0±0.7,48°.00N×155°.25E,h43km±1km,mb3.9/3*
*ISCJB **28** 18:08:52.1±0.8,48°.32N±0°.09×154°.9E±0°.1,h43km, mb3.7/14,MS3.1/4,Error ellipse: s-maj=18.3km s-min=4.3km az=40.9*
*IDC **28** 18:08:54.7±3.4,48°.40N×154°.80E,h47km±31km,mb3.5/14, mb1 3.7/16,mb1mx3.6/41,mbtmp3.8/16,ML2.8/2,MS3.1/6, Ms1 3.1/6,ms1mx2.7/41,Error ellipse: s-maj=26.6km s-min=17.3km az=143.0*

ISC 28 18:08:53.4±0.9,48°.3N±0°.1×155°.0E±0°.1,h43km,n43, σ1§39/46,mb3.6/14,MS3.2/4,1C-1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
SKR	**Severo-Kuril's**	**2.54**	**17**	*e*P			**Pn**	**18 09 31.6**	**-0.4**
SKR						AMB	AMB	18 09 32.1	
	50nm,1.0s								
SKR						AMB	AMB	18 09 32.1	
	3μm,1.0s								
SKR					*e*S		**Sn**	**18 10 03.3**	**+1.6**
SKR						A	A	18 10 07.3	
	130nm,0.6s								
SKR						A	A	18 10 07.3	
	128nm,0.6s								
SKR	**Severo-Kuril's**	**2.54**	**17**	*e*P			**Pn**	**18 09 31.9**	**-0.1**
SKR					*e*S		**Sn**	**18 10 03.9**	**+2.2**
SKR	**Severo-Kuril's**	**2.54**	**17**	*e*PN			**Pn**	**18 09 34.7**	**+2.7**
SKR					*e*S		**Sn**	**18 10 03.3**	**+1.6**
SKR						pmax	pmax		
	comp=Z,137nm,0.6s								
SKR						smax	smax		
	comp=E,88nm,0.7s								
SKR						smax	smax		
	comp=N,380nm,0.7s								
PAU	**Pauzhetka**	**3.43**	**20**	*e*P			**Pn**	**18 09 44.6**	**+0.4**
PAU					*e*S		**Sn**	**18 10 25.0**	**+1.5**
KDTR	**Khodutka, Kamc**	**4.08**	**28**	*e*P			**Pn**	**18 09 51.8**	**-1.4**
KDTR					*e*S		**Sn**	**18 10 38.5**	**-1.1**
KDTR	**Khodutka, Kamc**	**4.08**	**28**	PN			**Pn**	**18 09 51.8**	**-1.4**
KDTR					S		**Sn**	**18 10 38.5**	**-1.1**
MTVR	**Mutnovka**	**4.70**	**25**	*e*P			**Pn**	**18 10 01.3**	**-0.6**
MTVR					*e*S		**Sn**	**18 10 54.4**	**-0.8**
MTVR	**Mutnovka**	**4.70**	**25**	PN			**Pn**	**18 10 01.3**	**-0.6**
MTVR					S		**Sn**	**18 10 54.4**	**-0.8**
KRMR	**Karymshinskiy**	**5.00**	**23**	*e*P			**Pn**	**18 10 06.3**	**+0.5**
KRMR	**Karymshinskiy**	**5.00**	**23**	PN			**Pn**	**18 10 06.3**	**+0.5**
PETK	**Petropavlovsk-**	**5.16**	**19**	P			**Pn**	**18 10 08.8**	**+0.9**
	comp=N,1.6nm,0.3s,baz=179,slow=13,SNR=32								
PETK						S	Sn	18 11 19.5	+13
	baz=109,slow=20,SNR=1.7								
PETK						LR	LR	18 12 42.1	
	comp=N,196nm,19.5s,baz=197,slow=45								
PET	**Petropavlovsk**	**5.32**	**25**	*e*P			**Pn**	**18 10 11.8**	**+1.7**
PET					*e*S		**Sn**	**18 11 10.1**	**+0.1**
PET						A	A	18 11 11.4	
	comp=N,50nm,0.8s								
PET						A	A	18 11 11.4	
	comp=N,48nm,0.8s								
KUR	**Kuril'sk**	**5.74**	**241**	*e*P			**Pn**	**18 10 16.4**	**+0.5**
KUR						AMB	AMB	18 10 17.2	
	comp=N,10.0nm,0.6s								
KUR						AMB	AMB	18 10 17.2	
	comp=N,3μm,0.6s								
KUR					*e*S		**Sn**	**18 11 19.9**	**-0.6**
KUR						A	A	18 11 30.8	
	comp=N,50nm,0.7s								
KUR						A	A	18 11 30.8	
	comp=N,38nm,0.7s								
KUR	**Kuril'sk**	**5.74**	**241**	*c i*PN			**Pn**	**18 10 16.3**	**+0.4**
KUR					*e*S		**Sn**	**18 11 21.1**	**+0.6**
KUR						pmax	pmax		
	comp=Z,74nm,0.6s								
KUR						pmax	pmax		
	comp=N,27nm,0.2s								
KUR						pmax	pmax		
	comp=E,12nm,0.1s								
KUR						smax	smax		
	comp=N,29nm,0.7s								
KUR						smax	smax		
	comp=E,49nm,0.9s								
SPN	**Mys Shipunski**	**5.81**	**32**	S			**Sn**	**18 11 19.5**	**-2.8**
SHO	**Shikotan**	**7.16**	**235**	*e*P			**Pn**	**18 10 32.1**	**-3.3**
SHO						AMB	AMB	18 10 33.6	
	comp=E,20nm,0.8s								
SHO						AMB	AMB	18 10 33.6	
	comp=E,6.0nm,0.8s								
SHO	**Shikotan**	**7.16**	**235**	*d i*PN			**Pn**	**18 10 32.1**	**-3.3**
SHO						pmax	pmax		
	comp=Z,22nm,0.3s								
SHO						pmax	pmax		
	comp=E,16nm,0.2s								
SHO						pmax	pmax		
	comp=N,21nm,0.9s								
USRK	**Ussuriysk Ar.**	**16.39**	**264**	P			**Pn**	**18 12 40.5**	**+0.3**
	comp=N,0.3nm,0.3s,baz=70,slow=13,SNR=4.7								
USRK						LR	LR	18 18 48.0	
	comp=N,37nm,21.3s,baz=108,slow=36								
KSRS	**Korea Array**	**22.46**	**251**	P			**P**	**18 13 48.3**	**-0.3**
	comp=N,1.7nm,0.5s,baz=46,slow=11,SNR=6.3								
KSRS						LR	LR	18 22 18.4	
	comp=N,32nm,18.2s,baz=42,slow=36								
TIXI	**Tiksi**	**26.40**	**342**	P			**P**	**18 14 24.8**	**-0.5**
	comp=N,0.9nm,0.5s,baz=109,slow=14,SNR=8.0								
H11N2	**WAKE ISLAND Hy**	**30.05**	**157**	T			T	18 46 41.3	
	baz=344								
H11N1	**WAKE ISLAND Hy**	**30.07**	**157**	T			T	18 46 49.1	
	baz=344								
H11N3	**WAKE ISLAND Hy**	**30.07**	**157**	T			T	18 46 39.5	
	baz=344								
H11S1	**WAKE ISLAND Hy**	**31.18**	**158**	T			T	18 48 01.4	
	baz=344,slow=76,SNR=130								
H11S3	**WAKE ISLAND Hy**	**31.18**	**158**	T			T	18 48 07.6	
	baz=344,slow=76,SNR=144								
H11S2	**WAKE ISLAND Hy**	**31.19**	**158**	T			T	18 48 07.3	
	baz=344,slow=76,SNR=80								
SONM	**Songino Array**	**32.04**	**288**	P			**P**	**18 15 15.5**	**-0.3**
	comp=N,0.4nm,0.6s,baz=298,slow=7.5,SNR=3.4								
ZALV	**Zalesovo Beam**	**42.76**	**305**	P			**P**	**18 16 44.4**	**-1.7**
	comp=N,0.2nm,0.4s,baz=69,slow=7.9,SNR=3.3								
MKAR	**Makanchi Array**	**47.37**	**297**	P			**P**	**18 17 22.3**	**-0.6**
	comp=N,0.5nm,0.4s,baz=69,slow=7.9,SNR=2.9								
MKAR						LR	LR	18 39 09.2	
	comp=N,2.0nm,0.7s,baz=66,slow=7.5,SNR=14								
YKA	**Yellowknife Ar**	**48.96**	**38**	P			**P**	**18 17 35.2**	**+0.3**
	comp=N,23nm,18.1s,baz=359,slow=38								
BVAR	**Borovoye Array**	**50.87**	**309**	LR			LR	18 40 20.7	
	comp=N,24nm,19.0s,baz=66,slow=37								
CMAR	**Chiang Mai Arr**	**53.94**	**257**	P			**P**	**18 18 13.3**	**+0.6**
	comp=N,0.7nm,0.8s,baz=34,slow=7.4,SNR=6.0								
FINES	**FINESS Array B**	**63.20**	**335**	P			**P**	**18 19 16.3**	**-0.3**
	comp=N,9.5nm,1.2s,baz=70,slow=2.8,SNR=4.5								
FINES	**FINESS Array B**	**63.20**	**335**	P			**P**	**18 19 16.3**	**-0.3**
FINES						pmax	pmax		
	comp=Z,6.0nm,1.1s								
NB2	**NORSAR Subarra**	**67.19**	**342**	P			**P**	**18 19 43.3**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**67.19**	**342**	P			**P**	**18 19 43.2**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=26,slow=6.2,SNR=3.6								
AKASG	**Malin Array Be**	**70.98**	**327**	P			**P**	**18 20 05.1**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=29,slow=5.9,SNR=3.1								
ASAR	**Alice Springs**	**74.05**	**200**	P			**P**	**18 20 27.0**	**+2.4**
	comp=Z,0.4nm,1.1s,baz=11,slow=6.5,SNR=4.8								
ASAR	**Alice Springs**	**74.05**	**200**	P			**P**	**18 20 27.0**	**+2.4**
PALK	**Pallekle**	**74.13**	**263**	LR			LR	18 55 53.0	
	comp=Z,13nm,18.7s,baz=126,slow=38								
TXAR	**Lajitas Array**	**75.67**	**62**	P			**P**	**18 20 33.9**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=301,slow=3.8,SNR=4.1								
GERES	**GERESS Array B**	**77.63**	**335**	P			**P**	**18 20 46.2**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=38,slow=5.0,SNR=4.7								
BRTR	**Keskin Array B**	**78.13**	**318**	P			**P**	**18 20 48.8**	**+0.8**
	comp=Z,1.1nm,0.9s,baz=57,slow=4.6,SNR=5.0								

*ISCJB **28** 19:12:26.9±0.3,21°.81S±0°.03×68°.52W±0°.05,h133km±4km, mb3.7/7,Error ellipse: s-maj=7.8km s-min=4.9km az=167.8*
*SJA **28** 19:12:26.9±0.7,21°.83S×68°.50W,h126km±5km,ML3.3, MW3.2*
*IDC **28** 19:12:26.5±0.8,21°.80S×68°.16W,h110km±9km,mb3.7/7, mb1 3.8/11,mb1mx3.7/25,mbtmp4.0/11,Error ellipse: s-maj=19.4km s-min=15.9km az=132.0*
*GUC **28** 19:12:27.4±0.7,21°.80S×68°.60W,h130km±6km,ML3.7*

ISC 28 19:12:27.7±0.8,21°.79S±0°.04×68°.48W±0°.05,h124km±6km, n51,σ1§02/63,mb4.0/7,12C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PB09	**IPOC Station P**	**0.71**	**269**	*e*P			**Pn**	**19 12 47.8**	**+0.1**
PB09					*e*S		**Sn**	**19 13 02.9**	**0.0**
PB09	**IPOC Station P**	**0.71**	**269**	⇑*i*P			**Pn**	**19 12 47.9**	**+0.1**
PB09					*e*S		**Sn**	**19 13 03.0**	**0.0**
PB09						IAML		19 13 06.3	
	comp=E,1μm,0.7s								
LVC	**Limon Verde**	**0.91**	**206**	P			**Pn**	**19 12 49.2**	**-0.5**
	comp=E,530nm,0.3s,baz=20,slow=7.6,SNR=3072								
LVC						S	**Sn**	**19 13 05.5**	**-0.8**
	comp=E,210nm,0.3s,baz=248,slow=19,SNR=47								
LVC						LR	LR	19 13 22.6	
	comp=E,131nm,19.2s,baz=250,slow=53								
PB01	**IPOC Station P**	**1.20**	**308**	*e*P			**Pn**	**19 12 52.2**	**0.0**
PB01	**IPOC Station P**	**1.20**	**308**	⇑*i*P			**Pn**	**19 12 52.1**	**-0.1**
PB01					*i*S		**Sn**	**19 13 10.7**	**0.0**
PB01						IAML		19 13 13.7	
	comp=E,1μm,0.5s								
PB03	**IPOC Station P**	**1.21**	**257**	*e*P			**Pn**	**19 12 52.1**	**-0.3**
PB03					*e*S		**Sn**	**19 13 10.7**	**-0.4**
PB03	**IPOC Station P**	**1.21**	**257**	⇑*i*P			**Pn**	**19 12 52.1**	**-0.3**
PB03					*i*S		**Sn**	**19 13 10.8**	**-0.4**
PB03						IAML		19 13 11.9	
	comp=E,1μm,0.1s								
PB07	**IPOC Station P**	**1.31**	**272**	*e*P			**Pn**	**19 12 53.5**	**0.0**
PB07	**IPOC Station P**	**1.31**	**272**	⇑*i*P			**Pn**	**19 12 53.2**	**-0.3**
PB07					*i*S		**Sn**	**19 13 13.1**	**0.0**
PB07						IAML		19 13 14.1	
	comp=N,1μm,0.1s								
PB06	**IPOC Station P**	**1.36**	**228**	*e*P			**Pn**	**19 12 54.0**	**-0.2**
PB06	**IPOC Station P**	**1.36**	**228**	⇑*i*P			**Pn**	**19 12 53.9**	**-0.2**
PB06					*i*S		**Sn**	**19 13 13.8**	**-0.3**
PB06						IAML		19 13 14.7	
	comp=E,1μm,0.6s								
PB02	**IPOC Station P**	**1.40**	**289**	*e*P			**Pn**	**19 12 54.7**	**+0.3**
PB02	**IPOC Station P**	**1.40**	**289**	⇑*i*P			**Pn**	**19 12 54.2**	**-0.3**
PB02						IAML		19 13 20.6	
	comp=E,1μm,0.3s								
PB04	**IPOC Station P**	**1.64**	**250**	*e*P			**Pn**	**19 12 56.9**	**-0.4**
PB04	**IPOC Station P**	**1.64**	**250**	⇑*i*P			**Pn**	**19 12 56.8**	**-0.4**
PB04					*i*S		**Sn**	**19 13 19.1**	**-0.7**
PB04						IAML		19 13 20.8	
	comp=E,1μm,0.4s								
PB15	**IPOC Station P**	**1.69**	**213**	*e*P			**Pn**	**19 12 57.6**	**-0.2**
PB15	**IPOC Station P**	**1.69**	**213**	⇑*i*P			**Pn**	**19 12 57.6**	**-0.2**
PB15					*i*S		**Sn**	**19 13 21.1**	**+0.4**
PB08	**IPOC Station P**	**1.75**	**339**	*e*P			**Pn**	**19 13 00.1**	**+1.2**
PB08	**IPOC Station P**	**1.75**	**339**	⇑*i*P			**Pn**	**19 13 00.0**	**+1.2**
PB08					*i*S		**Sn**	**19 13 24.0**	**+1.4**
PB08						IAML		19 13 25.5	
	comp=E,638nm,0.2s								
PB05	**IPOC Station P**	**1.92**	**236**	*e*P			**Pn**	**19 12 59.8**	**-0.7**
PB05	**IPOC Station P**	**1.92**	**236**	IAML				19 13 30.3	
	comp=E,755nm,0.4s								
GO01	**Chusmiza**	**2.21**	**342**	⇑*i*P			**Pn**	**19 13 05.3**	**+0.7**
GO01					*i*S		**Sn**	**19 13 34.2**	**+1.6**
GO01						IAML		19 13 40.5	
	comp=E,953nm,0.0s								
PB11	**IPOC Station P**	**2.30**	**331**	*e*P			**Pn**	**19 13 05.5**	**+0.2**
PB11	**IPOC Station P**	**2.30**	**331**	⇑*i*P			**Pn**	**19 13 05.3**	**0.0**
PB11					*i*S		**Sn**	**19 13 33.9**	**-0.2**
PB11						IAML		19 13 35.8	
	comp=N,1μm,0.3s								
PB10	**IPOC Station P**	**2.58**	**228**	*e*P			**Pn**	**19 13 08.4**	**-0.2**
PB10	**IPOC Station P**	**2.58**	**228**	*e*P			**Pn**	**19 13 08.2**	**-0.5**
PSGC	**Pisagua**	**2.67**	**324**	⇑*i*P			**Pn**	**19 13 08.8**	**-1.2**
PSGC					*i*S		**Sn**	**19 13 40.2**	**-2.3**
PSGC						IAML		19 13 42.3	
	comp=E,353nm,0.5s								
PSGCX	**Pisagua**	**2.67**	**324**	*e*P			**Pn**	**19 13 08.8**	**-1.1**
YJA	**Yavi**	**2.78**	**99**	*e*P			**Pn**	**19 13 12.6**	**+0.9**
MNMCX	**Minye Minye**	**2.84**	**338**	*e*P			**Pn**	**19 13 13.0**	**+0.6**
HJA	**Humahuaca**	**3.17**	**117**	*e*P			**Pn**	**19 13 17.6**	**+0.9**
HJA						IAML		19 13 19.2	
	comp=Z,74nm,0.4s								
PB16	**IPOC Station P**	**3.57**	**344**	*e*P			**Pn**	**19 13 23.1**	**+0.9**
PB12	**IPOC Station P**	**3.60**	**331**	*e*P			**Pn**	**19 13 20.6**	**-1.6**
AZAP	**Zapla**	**3.97**	**128**	*e*P			**Pn**	**19 13 27.5**	**+0.3**
AZAP						IAML		19 13 29.1	
	comp=Z,31nm,0.3s								
SLA	**San Lorenzo**	**4.00**	**137**	*e*P			**Pn**	**19 13 28.2**	**+0.7**
SLA						IAML		19 13 29.4	
	comp=Z,32nm,0.6s								
ALOL	**LOMAS DE OLMED**	**4.61**	**117**	*e*P			**Pn**	**19 13 34.2**	**-1.4**
LPAZ	**La Paz**	**5.48**	**3**	P			**Pn**	**19 13 45.8**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=296,slow=11,SNR=4.9								
SIV	**San Ignacio**	**9.07**	**52**	P			**Pn**	**19 14 32.1**	**-3.7**
	comp=Z,8.6nm,0.3s,baz=247,slow=12,SNR=126								
CPUP	**Villa Florida**	**11.14**	**116**	P			Pn	19 14 57.0	-6.5
	comp=Z,0.1nm,0.3s,baz=291,slow=15,SNR=2.0								
PLCA	**Paso Flores**	**18.97**	**185**	P			**P**	**19 16 37.9**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=21,slow=14,SNR=3.4								
PTGA	**Pitinga**	**22.51**	**23**	P			**P**	**19 17 16.1**	**-1.2**
	comp=Z,4.4nm,0.3s,baz=192,slow=20,SNR=5.4								
TXAR	**Lajitas Array**	**61.09**	**325**	P			**P**	**19 22 29.8**	**+0.9**
	comp=Z,0.4nm,0.9s,baz=145,slow=6.8,SNR=3.8								
DBIC	**Dimbokro**	**68.43**	**73**	P			**P**	**19 23 15.9**	**-0.8**
	comp=Z,1.3nm,0.4s,baz=215,slow=8.1,SNR=4.6								
PDAR	**Pinedale Array**	**74.56**	**330**	P			**P**	**19 23 54.3**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=122,slow=6.7,SNR=3.4								
NVAR	**Mina Array Bea**	**75.97**	**322**	P			**P**	**19 24 03.1**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=104,slow=6.9,SNR=2.3								
TORD	**Torodi Ar. Bea**	**77.07**	**70**	P			**P**	**19 24 06.9**	**-0.9**
	comp=Z,1.9nm,0.4s,baz=253,slow=5.5,SNR=46								
YKA	**Yellowknife Ar**	**91.59**	**340**	P			**P**	**19 25 20.5**	**+0.4**

IDC 28 19:28:55.4±6.8,21°.24S×170°.06E,h129km±39km,mb3.2/2, mb1 3.4/3,mb1mx3.2/31,mbtmp3.5/3,Error ellipse: s-maj=174.8km s-min=50.7km az=158.0,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
DZM	**Mont Dzumac**	**3.46**	**256**	P			Pn	19 29 48.4	+0.3
	2.7nm,0.3s,baz=98,slow=19,SNR=56								
DZM						S	Sn	19 30 29.1	+0.2
	12nm,0.3s,baz=131,slow=19,SNR=17								
WRA	**Warramunga Arr**	**33.42**	**266**	P			P	19 35 21.9	-0.1
	0.3nm,0.4s,baz=100,slow=8.3,SNR=9.1								
ASAR	**Alice Springs**	**33.45**	**259**	P			P	19 35 22.4	+0.1
	0.4nm,0.5s,baz=80,slow=8.6,SNR=7.5								
GERES	**GERESS Array B**	**146.61**	**331**	PKPbc			PKPdf	19 48 20.8	+0.7
	0.1nm,0.3s,baz=54,slow=2.5,SNR=3.6								
	comp=Z,0.8nm,0.7s,baz=134,slow=4.4,SNR=7.5								
ASAR	**Alice Springs**	**129.84**	**207**	PKP			**PKPdf**	**19 31 23.9**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=124,slow=1.5,SNR=8.1								
WRA	**Warramunga Arr**	**132.91**	**210**	PKP			**PKPdf**	**19 31 30.4**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=157,slow=1.8,SNR=10								
ZALV	**Zalesovo Beam**	**142.04**	**26**	PKP			**PKPdf**	**19 31 46.7**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=215,slow=4.8,SNR=2.7								
MKAR	**Makanchi Array**	**145.63**	**36**	PKPbc			**PKPdf**	**19 31 51.0**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=289,slow=4.4,SNR=2.6								

*NIED **28** 19:43:00,23°.40N×120°.60E,h17km,Mw3.8 Best double couple: M₀4.78000×10¹⁴ NP1:φ₀310.00000°,δ83.00000°, λ-3.00000°. NP2:φ₀40.00000°,δ87.00000°,λ-173.00000°.*
*IDC **28** 19:43:47.1±1.6,23°.66N×121°.60E,h0km,mb3.4/5, mb1 3.6/5,mb1mx3.4/41,mbtmp3.5/5,MS2.5/1,Ms1 2.7/1, ms1mx2.3/24,Error ellipse: s-maj=51.0km s-min=24.3km az=67.0*
*BJI **28** 19:43:48.0,23°.42N×120°.63E,h9km,ML3.4/3*
*JMA **28** 19:43:51.2±0.1,23°.42N×120°.63E,h6km±1km,M3.9*
*TAP **28** 19:43:51.2,23°.39N×120°.65E,h11km,ML4.0,B*
*ASIES **28** 19:43:51.8,23°.39N×120°.65E,h14km,MW3.4*
*ISCJB **28** 19:43:52.2±0.1,23°.391N±0°.009×120°.62E±0°.01, h19km±1km,mb3.4/4,MS2.3/1,Error ellipse: s-maj=1.7km s-min=1.5km az=16.1*

ISC 28 19:43:51.8±0.7,23°.41N±0°.01×120°.63E±0°.01,h17km±4km, n130,σ0§94/220,mb3.4/4,27C-34D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CHN4	**Tsaushan**	**0.07**	**210**	⇑*i*P			**Pg**	**19 43 54.1**	**-1.0**
CHN4	baz=230					S	**Sg**	**19 43 56.4**	**-0.8**
	baz=230								
TPUB	**Ta-pu**	**0.11**	**181**	⇑P			**Pg**	**19 43 54.3**	**-1.2**
TPUB	baz=191					S	**Sg**	**19 43 56.5**	**-1.4**
	baz=191								
WTP	**Ta-pu**	**0.17**	**185**	⇑*i*P			**Pg**	**19 43 55.3**	**-0.9**
WTP	baz=190					*i*S	**Sg**	**19 43 58.2**	**-0.9**
	baz=190								
CHN2	**Minshiung**	**0.19**	**310**	⇓*i*P			**Pg**	**19 43 56.8**	**+0.4**
CHN2	baz=310					S	**Sg**	**19 44 01.0**	**+1.5**
	baz=310								
ALS	**Alishan**	**0.19**	**58**	⇓*i*P			**Pg**	**19 43 56.2**	**-0.5**
ALS	baz=59					*i*S	**Sg**	**19 43 59.8**	**-0.2**
	baz=59								
CHN5	**Tsauling**	**0.19**	**13**	⇑*i*P			**Pg**	**19 43 56.2**	**-0.4**
CHN5	baz=14					*i*S	**Sg**	**19 44 00.5**	**+0.7**
	baz=14								
TWK	**Hsinying**	**0.20**	**222**	⇑*i*P			**Pg**	**19 43 56.1**	**-0.5**
TWK	baz=226					S	**Sg**	**19 43 59.7**	**-0.1**
	baz=226								
CHY	**Chiayi**	**0.21**	**294**	⇓*i*P			**Pg**	**19 43 57.0**	**+0.3**
CHY	baz=297					*e*S	**Sg**	**19 44 01.4**	**+1.3**
	baz=297								
CHN1	**Nanshi**	**0.24**	**203**	⇑*i*P			**Pg**	**19 43 56.8**	**-0.5**
CHN1	baz=208					*i*S	**Sg**	**19 44 01.1**	**0.0**
	baz=208								
STYT	**Tauyuan**	**0.27**	**155**	⇓*i*P			**Pg**	**19 43 57.3**	**-0.5**
STYT	baz=147					S	**Sg**	**19 44 01.7**	**-0.3**
	baz=147								
WGK	**Gukeng**	**0.28**	**347**	⇑*i*P			**Pg**	**19 43 58.5**	**+0.1**
WGK	baz=346					*e*S	**Sb**	**19 44 04.

TAI1	**Yung-k'ang**	**0.52**	**225**	*e*P	**Pb**	**19 44 03.3**	**+0.8**
	baz=238							
TAI1				*e*S	**Sb**	**19 44 11.7**	**+1.9**
	baz=238							
SMLT	**Sun Moon Lake**	**0.53**	**28**⇑*i*P		**Pb**	**19 44 02.8**	**+0.1**
	baz=25							
SMLT				*e*S	**Sb**	**19 44 11.6**	**+1.5**
	baz=25							
TYC	**Yuchr**	**0.53**	**23**⇑*i*P		**Pb**	**19 44 02.8**	**+0.1**
	baz=21							
TYC				S	**Sb**	**19 44 11.2**	**+1.1**
	baz=21							
RLNB	**Erlin**	**0.54**	**332**	⇓P	**Pb**	**19 44 02.9**	**+0.1**
	baz=321							
RLNB				S	**Sb**	**19 44 11.5**	**+1.2**
	baz=321							
WMLT	**Mailiao**	**0.54**	**316**	*e*P	**Pb**	**19 44 02.8**	**-0.1**
	baz=316							
WMLT				*e*S	**Sb**	**19 44 11.2**	**+0.9**
	baz=316							
WTCT	**Ta-ch'eng**	**0.55**	**325**	⇓*i*P	**Pb**	**19 44 03.0**	**0.0**
	baz=314							
WTCT				S	**Sb**	**19 44 11.9**	**+1.2**
	baz=314							
VWDT	**VWDT**	**0.58**	**54**	⇓P	**Pb**	**19 44 03.3**	**-0.2**
	baz=57							
VWDT				*e*S	**Sb**	**19 44 12.1**	**+0.6**
	baz=57							
YULB	**Yu-li**	**0.61**	**92**	⇓P	**Pb**	**19 44 03.4**	**-0.7**
	baz=100							
YULB				S	**Sb**	**19 44 11.6**	**-0.8**
	baz=100							
TWF1	**Yuli**	**0.61**	**95**	⇓P	**Pb**	**19 44 03.6**	**-0.5**
	baz=104							
TWF1				S	**Sb**	**19 44 11.9**	**-0.6**
	baz=104							
EHY	**Hungye**	**0.64**	**81**	⇓*i*P	**Pb**	**19 44 04.2**	**-0.4**
	baz=80							
EHY				*e*S	**Sb**	**19 44 12.7**	**-0.6**
	baz=80							
FULB	**Fuli**	**0.65**	**109**	⇓*e*P	**Pb**	**19 44 04.8**	**+0.1**
	baz=108							
FULB				*e*S	**Sb**	**19 44 13.7**	**+0.3**
	baz=108							
SSD	**Sandimen**	**0.66**	**180**	⇓P	**Pg**	**19 44 04.6**	**-0.2**
	baz=172							
SSD				*e*S	**Sb**	**19 44 14.2**	**+0.3**
	baz=172							
SGLT	**Jiouru**	**0.70**	**191**	*e*P	**Pn**	**19 44 06.8**	**-0.1**
	baz=192							
TWG	**Pinlang**	**0.71**	**145**	⇓*i*P	**Pb**	**19 44 05.4**	**-0.4**
	baz=146							
TWG				S	**Sb**	**19 44 15.6**	**+0.2**
	baz=146							
TWGBT	**Beinan**	**0.72**	**145**	⇓P	**Pg**	**19 44 05.4**	**-0.5**
	baz=146							
TWGBT				S	**Sb**	**19 44 15.7**	**+0.1**
	baz=146							
HGSD	**Ruisui**	**0.73**	**84**	⇓P	**Pb**	**19 44 06.3**	**+0.2**
	baz=89							
HGSD				S	**Sb**	**19 44 16.5**	**+0.6**
	baz=89							
TCU	**Taichung**	**0.73**	**3**	⇑P	**Pb**	**19 44 06.6**	**+0.4**
	baz=2.0							
TCU				S	**Sn**	**19 44 17.5**	**-0.7**
	baz=2.0							
CHKT	**Chengkung**	**0.74**	**115**	⇓P	**Pb**	**19 44 06.7**	**+0.4**
	baz=114							
CHKT				*e*S	**Sb**	**19 44 17.6**	**+1.4**
	baz=114							
EGFH	**Guangfu**	**0.77**	**71**	*e*P	**Pb**	**19 44 06.8**	**0.0**
	baz=61							
EGFH				*e*S	**Sb**	**19 44 16.8**	**-0.3**
	baz=61							
MASBT	**Mashibuluo**	**0.80**	**180**	⇓P	**Pg**	**19 44 06.9**	**-0.4**
	baz=172							
MASBT				S	**Sb**	**19 44 18.1**	**+0.4**
	baz=172							
TTN	**Taitung**	**0.81**	**144**	*e*P	**Pb**	**19 44 07.8**	**+0.4**
	baz=144							
TTN				*e*S	**Sn**	**19 44 19.7**	**-0.4**
	baz=144							
CHGB	**Renai**	**0.81**	**38**	⇓P	**Pb**	**19 44 07.5**	**-0.2**
	baz=35							
CHGB				*e*S	**Sb**	**19 44 19.1**	**+0.6**
	baz=35							
ESL	**Shilin**	**0.84**	**61**	⇓*i*P	**Pb**	**19 44 07.8**	**-0.1**
	baz=67							
ESL				*e*S	**Sb**	**19 44 20.0**	**+1.1**
	baz=67							
ECL	**Taimali**	**0.86**	**160**	⇓P	**Pg**	**19 44 08.0**	**-0.7**
	baz=148							
ECL				*e*S	**Sb**	**19 44 20.4**	**+0.8**
	baz=148							
KAU	**Kaohsiung**	**0.89**	**200**	*e*P	**Pb**	**19 44 09.2**	**+0.3**
	baz=217							
WDGT	**Dungji**	**0.91**	**261**	⇓*i*P	**Pg**	**19 44 08.4**	**-1.0**
	baz=262							
WDGT				*e*S	**Sg**	**19 44 20.8**	**-0.6**
	baz=262							
WHF	**Hehuan Shan**	**0.93**	**38**	*e*P	**Pb**	**19 44 09.8**	**-0.1**
	baz=37							
WHF				*e*S	**Sb**	**19 44 23.1**	**+1.0**
	baz=37							
TWQ1	**Liyutan**	**0.94**	**8**⇑*i*P		**Pn**	**19 44 10.1**	**-0.2**
	baz=7.0							
TWQ1				*e*S	**Sn**	**19 44 23.9**	**+0.6**
	baz=7.0							
TDCB	**Techi**	**0.97**	**30**	⇑P	**Pb**	**19 44 09.8**	**-0.4**
	baz=28							
TDCB				S	**Sn**	**19 44 24.2**	**0.0**
	baz=28							
TWT	**Tachien**	**0.97**	**31**	*e*P	**Pg**	**19 44 09.8**	**-0.9**
	baz=28							
TWT				*e*S	**Sn**	**19 44 25.2**	**+0.7**
	baz=28							
PHUB	**P'eng-hu**	**0.98**	**276**	⇓*e*P	**Pg**	**19 44 09.4**	**-1.3**
	baz=277							
PHUB				*e*S	**Sg**	**19 44 22.9**	**-0.7**
	baz=277							
PNG	**Penghu**	**1.00**	**279**	⇓P	**Pg**	**19 44 10.0**	**-1.2**
	baz=280							
PNG				*e*S	**Sg**	**19 44 23.5**	**-0.8**
	baz=280							
NSY	**Sanyi**	**1.01**	**7**⇑*i*P		**Pn**	**19 44 11.5**	**+0.3**
	baz=5.0							
NSY				*e*S	**Sn**	**19 44 25.9**	**+0.9**
	baz=5.0							
PTSB	**Yuanli**	**1.03**	**4**⇑*i*P		**Pn**	**19 44 11.8**	**+0.3**
	baz=2.0							
PTSB				S	**Sn**	**19 44 26.6**	**+1.0**
	baz=2.0							
SCZT	**Fangliau**	**1.03**	**181**	P	**Pg**	**19 44 11.3**	**-0.6**
	baz=173							
SCZT				*e*S	**Sb**	**19 44 25.9**	**+1.3**
	baz=173							
EAST	**Anshuo**	**1.04**	**169**	⇓P	**Pg**	**19 44 11.4**	**-0.7**
	baz=177							
EAST				S	**Sb**	**19 44 25.8**	**+0.9**
	baz=177							
HWA	**Hwalien**	**1.05**	**58**	*e*P	**Pn**	**19 44 12.3**	**+0.5**
	baz=56							
HWA				*e*S	**Sn**	**19 44 27.3**	**+1.1**
	baz=56							
TAW	**Tawu**	**1.08**	**167**	*e*P	**Pg**	**19 44 11.8**	**-0.8**
	baz=175							
TAW				*e*S	**Sn**	**19 44 27.1**	**+0.4**
	baz=175							
WLCH	**Liuqiu**	**1.08**	**192**	*e*P	**Pn**	**19 44 13.4**	**+1.2**
	baz=194							
TWP	**Hsiaoliuchiu**	**1.09**	**193**	*e*P	**Pb**	**19 44 12.5**	**+0.3**
	baz=216							
TWD	**Chiawan**	**1.11**	**53**	⇓P	**Pn**	**19 44 12.8**	**+0.3**
	baz=63							
TWD				*e*S	**Sn**	**19 44 28.2**	**+0.8**
	baz=63							
VCHM	**Qimei**	**1.12**	**260**	⇓P	**Pb**	**19 44 11.6**	**-1.2**
	baz=261							
VCHM				*e*S	**Sg**	**19 44 26.2**	**-2.0**
	baz=261							
NACB	**Ninganchiao**	**1.16**	**49**	⇑P	**Pb**	**19 44 13.1**	**-0.4**
	baz=48							
NACB				*e*S	**Sn**	**19 44 29.2**	**+0.3**
	baz=48							
NNS	**Nan Shan**	**1.23**	**33**	⇑P	**Pb**	**19 44 14.3**	**-0.4**
	baz=40							
NNS				*e*S	**Sn**	**19 44 31.9**	**+1.2**
	baz=40							
NSTT	**Nanjuang**	**1.26**	**16**⇑*i*P		**Pg**	**19 44 15.1**	**-1.0**
	baz=14							
NSTT				S	**Sn**	**19 44 32.6**	**+1.4**
	baz=14							
LIOB	**Emei**	**1.28**	**16**⇑*i*P		**Pg**	**19 44 15.4**	**-1.0**
	baz=14							
LIOB				*e*S	**Sn**	**19 44 33.5**	**+1.8**
	baz=14							
HEN	**Hengchun**	**1.40**	**176**	*e*P	**Pn**	**19 44 17.1**	**+0.5**
	baz=177							
SBCB	**Hsinchu**	**1.41**	**13**	⇑P	**Pb**	**19 44 17.4**	**-0.3**
	baz=12							
SBCB				S	**Sg**	**19 44 36.6**	**-0.8**
	baz=12							
NSK	**Sanguang**	**1.42**	**28**	⇑P	**Pb**	**19 44 18.0**	**0.0**
	baz=16							
NSK				*e*S	**Sg**	**19 44 36.8**	**-1.1**
	baz=16							
YHNB	**Yeheng**	**1.43**	**28**	⇑P	**Pb**	**19 44 17.7**	**-0.3**
	baz=16							
YHNB				*e*S	**Sg**	**19 44 37.2**	**-0.7**
	baz=16							
ENA	**Nanau**	**1.43**	**45**	*e*P	**Pb**	**19 44 17.8**	**-0.3**
	baz=44							
ENA				*e*S	**Sg**	**19 44 37.3**	**-0.8**
	baz=44							
TWK1	**Hengchun**	**1.47**	**174**	*e*P	**Pn**	**19 44 18.0**	**+0.4**
	baz=169							
TWKBT	**Hengchun**	**1.47**	**173**	*e*P	**Pn**	**19 44 18.4**	**+0.8**
	baz=169							
ENTT	**Nioudou**	**1.49**	**35**	*e*P	**Pb**	**19 44 19.0**	**-0.1**
	baz=27							
TSEB	**Hengchuen, Pin**	**1.52**	**171**	*e*P	**Pb**	**19 44 20.0**	**+0.4**
	baz=189							
NWLT	**Wulai**	**1.57**	**30**	*e*P	**Pb**	**19 44 20.0**	**-0.5**
	baz=29							
LAY	**Lan-yu**	**1.61**	**148**	*e*P	**Pn**	**19 44 19.6**	**+0.1**
	baz=137							
LAY				*e*S	**Sn**	**19 44 40.7**	**+0.8**
	baz=137							
TWE	**Neicheng**	**1.61**	**36**	*e*P	**Pb**	**19 44 21.2**	**+0.1**
	baz=35							
TWC	**Suao**	**1.63**	**43**	*e*P	**Pb**	**19 44 21.6**	**+0.2**
	baz=42							
TWC				*e*S	**Sg**	**19 44 42.9**	**-1.5**
	baz=42							
NCU	**National Centr**	**1.63**	**18**	*e*P	**Pn**	**19 44 20.1**	**+0.4**
	baz=1.0							
NCU				*e*S	**Sb**	**19 44 42.1**	**+0.3**
	baz=1.0							
TATO	**Taipei**	**1.74**	**27**	*e*P	**Pn**	**19 44 21.9**	**+0.6**
	baz=25							
TATO				*e*S	**Sb**	**19 44 45.8**	**+0.8**
	baz=25							
TWA	**Mucha**	**1.79**	**29**	*e*P	**Pn**	**19 44 23.0**	**+1.1**
	baz=37							
TAP	**Taipei**	**1.81**	**26**	*e*P	**Pn**	**19 44 23.2**	**+1.1**
	baz=25							
TAP				*e*S	**Sb**	**19 44 46.6**	**-0.2**
	baz=25							
TWS1	**Kuangyinshan**	**1.83**	**23**	*e*P	**Pn**	**19 44 23.3**	**+0.9**
	baz=4.0							
EGS		**1.86**	**40**	*e*P	**Pb**	**19 44 25.4**	**+0.1**
	baz=39							
VWUC	**VWUC**	**1.91**	**326**	*e*P	**Pn**	**19 44 23.0**	**-0.6**
	baz=324							
YM04	**YM04**	**1.92**	**25**	*e*P	**Pn**	**19 44 24.4**	**+0.6**
	baz=5.0							
YM04				*e*S	**Sn**	**19 44 49.1**	**+1.5**
	baz=5.0							
YM01	**YM01**	**1.93**	**26**	*e*P	**Pb**	**19 44 25.5**	**-1.1**
	baz=8.0							
YM01				*e*S	**Sb**	**19 44 49.7**	**-0.6**
	baz=8.0							
YM10	**YM10**	**1.93**	**26**	⇑P	**Pn**	**19 44 24.7**	**+0.7**
	baz=7.0							
YM10				*e*S	**Sn**	**19 44 49.4**	**+1.5**
	baz=7.0							
YM05	**YM05**	**1.94**	**26**	⇑P	**Pn**	**19 44 24.7**	**+0.6**
	baz=7.0							
YM05				*e*S	**Sn**	**19 44 49.5**	**+1.3**
	baz=7.0							
YM03	**YM03**	**1.94**	**25**	⇑P	**Pn**	**19 44 24.6**	**+0.5**
	baz=5.0							
YM03				*e*S	**Sb**	**19 44 50.0**	**-0.9**
	baz=5.0							
YM11	**YM11**	**1.95**	**26**⇑*e*P		**Pn**	**19 44 24.8**	**+0.6**
	baz=7.0							
YM11				*e*S	**Sb**	**19 44 49.9**	**-1.0**
	baz=7.0							
NWF	**Wu-fen Shan**	**1.96**	**32**	*e*P	**Pn**	**19 44 25.4**	**+1.1**
	baz=31							
WFSB	**Wu-fen Shan**	**1.96**	**32**	*e*P	**Pn**	**19 44 25.4**	**+1.1**
	baz=31							
YM08	**YM08**	**1.97**	**26**	*e*P	**Pn**	**19 44 24.8**	**+0.3**
	baz=8.0							
YM07	**YM07**	**1.97**	**27**	*e*P	**Pn**	**19 44 25.1**	**+0.6**
	baz=26							
YM07				*e*S	**Sb**	**19 44 50.7**	**-1.0**
	baz=26							
TWY	**Chenhua**	**2.06**	**25**	*e*P	**Pn**	**19 44 26.9**	**+1.3**
	baz=8.0							
TWY				*e*S	**Sn**	**19 44 52.1**	**+1.3**
	baz=8.0							
PTMZ	**Houxiangcun**	**2.13**	**320**	*e*P	**Pn**	**19 44 26.1**	**-0.5**
	baz=319							
PTTC	**Pingtan**	**2.22**	**340**	*e*P	**Pn**	**19 44 27.2**	**-0.7**
	baz=338							
KNM	**Kinmen**	**2.25**	**297**	*e*P	**Pn**	**19 44 29.1**	**+0.8**
	baz=295							
KNMB	**Chin-men Tao**	**2.30**	**297**	*e*P	**Pn**	**19 44 28.6**	**-0.4**
	baz=297							
JYNG	**Yonagunijimaku**	**2.36**	**64**	P	**Pn**	**19 44 31.1**	**+1.4**
JYNG				S	**Sb**	**19 45 01.0**	**-1.7**
QZH	**Quanzhou**	**2.41**	**310**	Pn	**Pn**	**19 44 29.8**	**-0.6**
QZH				Sn	**Sn**	**19 44 57.5**	**-2.0**
QZH				*smax*	*smax*		
	comp=N,220nm,0.4s							
QZH				*smax*	*smax*			
	comp=E,260nm,0.5s							
YOJ	**Yonaguni jima**	**2.42**	**64**	*e*P	**Pn**	**19 44 31.9**	**+1.3**
	baz=64							
YOJ				*e*S	**Sn**	**19 45 00.9**	**+1.2**
	baz=64							
YOJ	**Yonaguni jima**	**2.42**	**64**	P	**Pn**	**19 44 32.0**	**+1.5**
YOJ				*e*S	**Sb**	**19 45 02.8**	**-1.5**
PCYT	**Pengchaiyu**	**2.57**	**30**	*e*P	**Pn**	**19 44 33.5**	**+0.8**
	baz=29							
ZPLA	**Ao Xicun**	**2.69**	**282**	*e*P	**Pn**	**19 44 33.7**	**-0.6**
	baz=282							
MATB	**Ma-tsu**	**2.80**	**347**	*e*P	**Pn**	**19 44 35.1**	**-0.7**
	baz=346							
AXDP	**Jialang**	**2.85**	**302**	*e*P	**Pn**	**19 44 36.0**	**-0.5**
	baz=300							
ZZJH	**Jiuhuzhen**	**2.94**	**292**	*e*P	**Pn**	**19 44 37.4**	**-0.3**
	baz=292							
HATJ	**Hateruma jima**	**2.98**	**77**	P	**Pn**	**19 44 39.6**	**+1.3**
HATJ				*e*S	**Sn**	**19 45 14.9**	**+1.3**
IRIF	**Iriomote-Funau**	**2.98**	**71**	P	**Pn**	**19 44 40.0**	**+1.7**
IRIF				*e*S	**Sn**	**19 45 15.7**	**+2.0**
MHZQ	**Yeshan**	**3.05**	**332**	*e*P	**Pn**	**19 44 39.2**	**0.0**
	baz=330							
JKRS	**Kuro-shima**	**3.20**	**74**	P	**Pn**	**19 44 43.1**	**+1.8**
JKRS				*e*S	**Sn**	**19 45 21.0**	**+1.9**
LYJJ	**Jianjiangzhen**	**3.22**	**346**	*e*P	**Pn**	**19 44 41.0**	**-0.6**
	baz=345							
JIJ	**Ishigaki jima**	**3.35**	**73**	P	**Pn**	**19 44 44.9**	**+1.5**
JIJ				S	**Sn**	**19 45 24.2**	**+1.3**
XPSS	**Dashiqiu**	**3.53**	**354**	*e*P	**Pn**	**19 44 45.2**	**-0.6**
	baz=352							
JISG	**Ishigakijimahi**	**3.56**	**70**	P	**Pn**	**19 44 47.1**	**+0.8**
JISG				S	**Sn**	**19 45 28.8**	**+0.7**
JTJ	**Tarama**	**3.92**	**71**	P	**Pn**	**19 44 52.9**	**+1.7**
JTJ				*e*S	**Sn**	**19 45 38.0**	**+1.2**
JIRB	**Irabujima**	**4.38**	**70**	P	**Pn**	**19 45 01.5**	**+3.9**
JIRB				*e*S	**Sn**	**19 45 49.1**	**+0.8**
JIKM	**Ikemajima**	**4.48**	**69**	*e*S	**Sn**	**19 45 51.8**	**+1.2**
VDOS	**Pratas Island**	**4.51**	**234**	*e*P	**Pn**	**19 45 01.0**	**+1.6**
	baz=238							
JOGS	**Gusukube**	**4.57**	**72**	*e*S	**Sn**	**19 45 54.6**	**+1.8**
CMAR	**Chiang Mai Arr**	**20.84**	**260**	P	Pn	19 48 40.9	+5.5
	0.4nm,0.8s,baz=65,slow=8.4,SNR=5.1							
CMAR				LR	LR	19 56 47.0		
	comp=Z,12nm,18.5s,baz=190,slow=36							
SONM	**Songino Array**	**26.89**	**339**	P	**P**	**19 49 31.1**	**-0.8**
	0.2nm,0.5s,baz=163,slow=10,SNR=2.6							
WMQ	**Urumqi**	**33.83**	**315**	*e*P	**P**	**19 50 35.5**	**+2.2**
MKAR	**Makanchi Array**	**38.55**	**317**	P	**P**	**19 51 14.1**	**+0.6**
	0.4nm,0.6s,baz=113,slow=9.3,SNR=4.5							
ZALV	**Zalesovo Beam**	**40.62**	**328**	P	**P**	**19 51 30.8**	**+0.1**
	1.4nm,0.5s,baz=119,slow=7.7,SNR=5.2							
WRA	**Warramunga Arr**	**45.12**	**162**	P	**P**	**19 52 05.0**	**-2.4**
	0.3nm,0.5s,baz=344,slow=9.0,SNR=3.4							

MDD ***28*** *20:06:14.1±1.0,35˚.05N×2˚.94W, h8km±3km, mbLg2.6/18, Error ellipse: s-maj=9.9km s-min=7.7km az=116.0, PRXIMO*

SFS ***28*** *20:06:14.0,35˚.18N×2˚.91W, h24km, ML2.7, NADOR (MARRUECOS)*

CNRM ***28*** *20:06:14.8,35˚.04N×2˚.82W, h20km, ML2.8*

ISCJB ***28*** *20:06:15.2±0.6,35˚.21N±0˚.04×3˚.01W±0˚.05, h25km±3km, Error ellipse: s-maj=7.5km s-min=5.2km az=142.0*

ISC 28 20:06:14.5±1.1,**35˚.18N**±0˚.04×**2˚.89W**±0˚.05,**h26**km±5km, **n45**,σ1**s69**/74,**1D**,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MELI	**Melilla**	**0.12**	**342**	P	**Pb**	**20 06 18.6**	**-0.8**
	54nm,0.1s,SNR=7.9						
MELI				S	**Sb**	**20 06 22.4**	**-0.3**
	1μm,0.2s,SNR=7.9						
MELI	**Melilla**	**0.12**	**342**	*e*P	**Pb**	**20 06 18.5**	**-0.9**
MELI				*i* S	**Sb**	**20 06 22.3**	**-0.4**
EMEL	**Melilla**	**0.14**	**336**	⇓P	**Pb**	**20 06 18.8**	**-0.8**
	691nm,0.2s,SNR=18						
EMEL				S	**Sb**	**20 06 22.8**	**-0.2**
	3μm,0.2s,SNR=7.9						
EALB	**Alboran**	**0.77**	**351**	S	**Sn**	**20 06 40.8**	**+0.4**
	164nm,0.2s,SNR=7.9						
MPAL	**Palemas**	**0.86**	**273**	P	**Pn**	**20 06 32.0**	**+1.0**
MPAL	**Palemas**	**0.86**	**273**	S	**Sn**	**20 06 46.1**	**+3.4**
EBER	**Berja**	**1.72**	**360**	P	**Pn**	**20 06 44.1**	**+1.3**
	0.2nm,0.2s,SNR=5.7						
EBER				S	**Sb**	**20 07 05.6**	**-1.1**
	33nm,0.4s,SNR=5.0						
ELGU	**Los Guajares,**	**1.79**	**341**	P	**Pn**	**20 06 44.5**	**+0.7**
	3.2nm,0.2s,SNR=7.9						
ELGU				S	**Sn**	**20 07 06.0**	**+0.2**
	42nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**1.87**	**17**	P	**Pn**	**20 06 45.4**	**+0.5**
	2.0nm,0.3s,SNR=7.9						
ENIJ				S	**Sn**	**20 07 07.8**	**+0.1**
	17nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**2.07**	**348**	P	**Pb**	**20 06 49.8**	**-1.7**
	SNR=7.9						
EQUE				S	**Sn**	**20 07 15.0**	**+2.2**
	13nm,0.5s,SNR=7.9						
EGOR	**Sierra Gorda,**	**2.17**	**333**	P	**Pn**	**20 06 50.2**	**+1.2**
	0.5nm,0.1s,SNR=7.9						
EGOR				S	**Sn**	**20 07 13.9**	**-1.2**
	5.6nm,0.3s,SNR=7.9						
RSA	**Sarsar**	**2.43**	**264**	P	**Pn**	**20 06 54.9**	**+2.3**
RSA	**Sarsar**	**2.43**	**264**	S	**Sb**	**20 07 27.3**	**+0.2**
EJIF	**Jimena Fronter**	**2.45**	**302**	P	**Pn**	**20 06 54.7**	**+1.9**
	1.2nm,0.2s,SNR=7.9						
IFR	**Ifrane**	**2.48**	**229**	*e*P	**Pb**	**20 06 57.4**	**-1.1**
EQES	**Quesada**	**2.62**	**357**	P	**Pb**	**20 06 58.4**	**-2.5**
	1.0nm,0.2s,SNR=13						
EQES				S	**Sb**	**20 07 30.6**	**-2.1**
	16nm,0.2s,SNR=7.9						
MDT	**Midelt**	**2.76**	**212**	P	**Pn**	**20 06 56.4**	**-0.7**
SESP	**Santiago Espad**	**2.95**	**5**	P	**Pn**	**20 07 03.1**	**+3.3**
	SNR=7.9						
SESP				S	**Sb**	**20 07 38.6**	**-3.6**
	15nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**2.95**	**5**	P	**Pn**	**20 07 03.2**	**+3.3**
SESP	**Santiago Espad**	**2.95**	**5**	S	**Sb**	**20 07 40.2**	**-1.9**
EMUR	**La Murta**	**2.97**	**26**	P	**Pn**	**20 07 01.8**	**+1.8**
	SNR=7.9						
EMUR				S	**Sn**	**20 07 34.6**	**-0.2**
	4.7nm,0.3s,SNR=7.9						
HORN	**Hornachuelos**	**3.28**	**325**	P	**Pn**	**20 07 06.5**	**+2.4**
HORN	**Hornachuelos**	**3.28**	**325**	S	**Sb**	**20 07 50.6**	**-0.8**
EADA	**Adamuz**	**3.28**	**336**	P	**Pn**	**20 07 06.6**	**+2.4**
	0.4nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**20 07 43.5**	**+1.1**
	5.3nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**3.54**	**326**	P	**Pn**	**20 07 09.0**	**+1.3**
	0.0nm,0.2s,SNR=5.8						
ECAB				S	**Sn**	**20 07 49.7**	**+1.0**
	1.4nm,0.3s						
ETOB	**Tobarra**	**3.62**	**17**	P	**Pn**	**20 07 11.7**	**+2.7**
	0.2nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**20 07 52.5**	**+1.6**
	3.1nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.00**	**311**	P	**Pn**	**20 07 15.1**	**+1.1**
	0.2nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**20 08 00.1**	**0.0**
	2.0nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**4.39**	**304**	P	**Pn**	**20 07 20.1**	**+0.7**
	0.6nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**20 08 06.5**	**-3.3**
	2.8nm,0.3s,SNR=7.9						
PVAQ	**Vaqueiros**	**4.49**	**301**	*e*Pn	**Pn**	**20 07 21.2**	**+0.4**
PVAQ				*e*Sn	**Sn**	**20 08 11.6**	**-0.6**
PVAQ	**Vaqueiros**	**4.49**	**301**	P	**Pn**	**20 07 21.2**	**+0.4**
PVAQ				S	**Sn**	**20 08 11.6**	**-0.6**
PAB	**San Pablo**	**4.51**	**346**	P	**Pn**	**20 07 24.2**	**+3.0**
	0.1nm,0.3s,SNR=7.9						
PAB				S	**Sn**	**20 08 13.1**	**+0.2**
	0.6nm,0.3s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**4.57**	**298**	*e*Pn	**Pn**	**20 07 22.5**	**+0.6**
PBDV				*e*Sn	**Sn**	**20 08 14.1**	**-0.1**
PBDV	**Barranco-do-Ve**	**4.57**	**298**	P	**Pn**	**20 07 22.5**	**+0.6**
PBDV				S	**Sn**	**20 08 14.1**	**-0.1**
ESDC	**Sonseca Array**	**4.57**	**350**	P	**Pn**	**20 07 24.7**	**+2.7**
	0.7nm,0.1s,baz=171,slow=12,SNR=6.9						
EBAD	**Badajoz**	**4.86**	**318**	P	**Pn**	**20 07 27.4**	**+1.4**
	1.0nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**20 08 21.6**	**+0.2**
	4.4nm,0.2s,SNR=7.9						
MESJ	**Messejana**	**5.05**	**303**	*e*Pn	**Pn**	**20 07 29.3**	**+0.8**
MESJ				*e*Sn	**Sn**	**20 08 25.0**	**-1.0**
MESJ	**Messejana**	**5.05**	**303**	P	**Pn**	**20 07 29.3**	**+0.8**
MESJ				S	**Sn**	**20 08 25.0**	**-1.0**
PESTR	**Estremoz**	**5.26**	**316**	*e*Pn	**Pn**	**20 07 34.0**	**+2.5**
PTEO	**Sao Teotonio**	**5.27**	**298**	*e*Pn	**Pn**	**20 07 33.0**	**+1.5**
PTEO				*e*Sn	**Sn**	**20 08 31.5**	**+0.1**
PTEO	**Sao Teotonio**	**5.

URFA Urfa 1.35 85 PN **Pn** 20 14 00.6 +0.3

*NEIC **28** 20:25:13.9±0.7,43.15N×104.98W,h0km,ML3.2,Error ellipse: s-maj=10.2km s-min=8.3km az=52.0,Suspected Mining explosion.*
NEIC 54 km [34 miles] NE of Douglas.
*IDC **28** 20:25:14.4±3.0,42.92N×105.03W,h0km,mb1 3.5/2, mb1mx3.1/46,mbtmp3.3/2,ML2.9/2,Error ellipse: s-maj=60.3km s-min=10.7km az=161.0*
ISC 28 20:25:16.9±1.3,43.64N±0.08×105.08W±0.06,h0km,n13,σ1§68/12,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.90**	**57**	*e*Pg	**Pn**	**20 25 36.3**	**-0.6**
LAO	**LASA Array**	**3.15**	**346**	*e*Pn	**Pb**	**20 26 11.8**	**-2.0**
RLMT	**Red Lodge**	**3.34**	**298**	*e*Pn	**Pn**	**20 26 11.3**	**+0.7**
PDAR	**Pinedale Array**	**3.39**	**257**	Pn	**Pn**	**20 26 11.4**	**+0.2**
PDAR	1.6nm,0.3s,baz=90,slow=15,SNR=10			Lg	Lg	20 26 57.9	
BW06	11nm,0.3s,baz=88,slow=31,SNR=16 **Boulder Array**	**3.39**	**257**	*e*Pn	**Pn**	**20 26 12.0**	**+0.8**
OGNE	**Ogallala**	**3.52**	**139**	*e*Pg	**Pn**	**20 26 13.9**	**+1.0**
ISCO	**Idaho Springs**	**3.86**	**186**	*e*Pn	Pn	20 26 07.3	-10
LKWY	**Lake**	**3.94**	**285**	*e*Pn	**Pn**	**20 26 21.1**	**+2.2**
LKWY				*e*Pg	**Pg**	**20 26 32.0**	**-0.4**
AHID	**Auburn Hatcher**	**4.49**	**261**	*e*Pn	**Pn**	**20 26 28.4**	**+2.1**
BOZ	**Bozeman (W)**	**5.07**	**295**	*e*Pn	**Pn**	**20 26 34.6**	**+0.4**
EGMT	9.4nm,1.0s **Eagleton**	**5.46**	**325**	*e*Pn	**Pn**	**20 26 41.8**	**+2.2**
I10CA	8.2nm,0.6s **LAC DU BONNET**	**9.02**	**40**	*i*		21 20 00.0	
ULM	baz=216,slow=314,SNR=3.5 **Lac du Bonnet**	**9.12**	**40**	Pn	**Pn**	**20 27 31.7**	**+2.0**
ULM	0.2nm,0.3s,baz=219,slow=18,SNR=2.5			Pg		20 28 03.5	
ULM	0.4nm,0.3s,baz=222,slow=16,SNR=3.1			Lg	Lg	20 30 06.5	
	0.3nm,0.3s,baz=127,slow=20,SNR=3.1						

*ISCJB **28** 20:31:26.5±0.5,63.45N±0.02×151.20W±0.06,h9km±4km, mb3.5/1,MS3.7/2,Error ellipse: s-maj=4.3km s-min=3.7km az=28.0*
*NEIC **28** 20:31:27.3±0.0,63.44N×151.17W,h11km,ML3.1(AEIC), After AEIC.*
*IDC **28** 20:31:27.8±1.9,63.59N×151.10W,h0km,mb3.4/1, mb1 3.4/5,mb1mx3.3/52,mbtmp3.2/5,ML2.6/4,MS2.6/2, Ms1 2.6/2,ms1mx2.3/25,Error ellipse: s-maj=29.0km s-min=12.5km az=118.0*
ISC 28 20:31:26.7±1.2,63.49N±0.03×151.19W±0.03,h7km±9km, n56,σ1§01/61,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAST	**Castle Rocks**	**0.41**	**261**	*e*Pg	**Pg**	**20 31 35.0**	**+0.5**
TRF	**Thorofare Moun**	**0.41**	**94**	*e*Pg	**Pg**	**20 31 35.3**	**+0.6**
TRF				S	**Sg**	**20 31 40.8**	**+0.8**
BPAW	**Bear Paw Mtn.**	**0.62**	**8**	*e*Pg	**Pb**	**20 31 40.5**	**+0.6**
BPAW				S	**Sb**	**20 31 49.0**	**+0.2**
CHUM	**Lake Minchumin**	**0.64**	**309**	*e*Pg	**Pb**	**20 31 40.5**	**+0.4**
CHUM				S	**Sb**	**20 31 49.5**	**+0.2**
PPLA	**Purkeypile**	**0.74**	**218**	*e*Pg	**Pg**	**20 31 40.3**	**-0.6**
PPLA				S	**Sg**	**20 31 48.9**	**-1.7**
HUR	**Hurricane**	**0.87**	**125**	*e*Pg	**Pg**	**20 31 42.7**	**-0.6**
BWN	**Browne**	**1.03**	**47**	*e*Pn	**Pn**	**20 31 48.2**	**+0.7**
MCK	**McKinley**	**1.04**	**75**	*e*Pg	**Pg**	**20 31 46.5**	**0.0**
RND	**Reindeer**	**1.05**	**93**	*e*Pg	**Pg**	**20 31 46.3**	**-0.6**
SKT	**Skwentna**	**1.52**	**186**	*e*Pn	**Pn**	**20 31 54.0**	**-0.2**
MLY	**Manley**	**1.56**	**7**	*e*Pn	**Pn**	**20 31 55.5**	**+0.6**
WRH	**Wood River Hil**	**1.69**	**53**	*e*Pn	**Pn**	**20 31 55.9**	**-0.7**
DHY	**Denali Highway**	**1.77**	**102**	*e*Pn	**Pn**	**20 31 58.2**	**+0.4**
DHY				S	**Sn**	**20 32 21.6**	**+0.9**
MDM	**Murphy Dome**	**1.97**	**40**	*e*Pn	**Pn**	**20 32 00.1**	**-0.2**
GHO	**Glory Hole Cre**	**2.01**	**148**	*e*Pn	**Pn**	**20 32 00.6**	**-0.5**
COLA	**College**	**2.02**	**45**	*e*Pn	**Pn**	**20 32 02.6**	**+1.5**
SUA	**Susitna One**	**2.04**	**174**	*e*Pn	**Pn**	**20 32 01.5**	**0.0**
HDA	**Harding Lake**	**2.09**	**62**	*e*Pn	**Pn**	**20 32 02.4**	**+0.3**
PMR	**Palmer**	**2.13**	**152**	*e*Pn	**Pn**	**20 32 02.2**	**-0.3**
SML	**Sawmill**	**2.14**	**141**	*e*Pn	**Pn**	**20 32 02.6**	**-0.2**
SPCG	**Spurr Capps Gl**	**2.23**	**190**	P	**Pn**	**20 32 04.5**	**+0.3**
SPNN	**North Nagishla**	**2.24**	**199**	*e*Pn	**Pn**	**20 32 04.5**	**+0.2**
TT01	**Tatalina**	**2.27**	**257**	*e*Pn	**Pn**	**20 32 03.6**	**-0.9**
ILAR	**Eielson Array**	**2.29**	**54**	Pn	**Pn**	**20 32 04.0**	**-0.7**
ILAR	0.6nm,0.3s,baz=237,slow=13,SNR=24			Lg	Lg	20 32 37.6	
ILAR	17nm,0.3s,baz=240,slow=29,SNR=20			LR	LR	20 32 41.5	
ILB	comp=Z,38nm,20.9s,baz=200,slow=34 **Eielson Array**	**2.29**	**54**	*e*Pn	**Pn**	**20 32 04.3**	**-0.4**
IL1	**Eielson Array**	**2.29**	**54**	*e*Pn	**Pb**	**20 32 07.0**	**-1.2**
FIB	**Fire Island**	**2.38**	**168**	*e*Pn	**Pn**	**20 32 07.7**	**+1.8**
SCM	**Sheep Creek Mo**	**2.44**	**131**	*e*Pn	**Pn**	**20 32 06.8**	**0.0**
KNK	**Knik Glacier**	**2.44**	**147**	*e*Pn	**Pn**	**20 32 07.6**	**+0.8**
RC01	**Rabbit Creek A**	**2.50**	**164**	*e*Pn	**Pn**	**20 32 08.5**	**+0.8**
PAX	**Paxson**	**2.64**	**99**	*e*Pn	**Pn**	**20 32 10.8**	**+1.1**
IM3	**Indian Mountai**	**2.74**	**338**	*e*Pn	**Pn**	**20 32 12.0**	**+1.1**
RIDG	**Independ'e Rid**	**2.85**	**82**	*e*Pn	**Pn**	**20 32 14.3**	**+1.7**
PWL	**Port Wells**	**2.96**	**152**	*e*Pn	**Pn**	**20 32 15.2**	**+1.2**
HARP	**HAARP**	**2.96**	**109**	*e*Pn	**Pn**	**20 32 16.1**	**+2.0**
SVW2	**Sparrevohn**	**3.15**	**223**	*e*Pn	**Pn**	**20 32 16.2**	**-0.5**
KLU	**Klutina**	**3.16**	**127**	*e*Pn	**Pn**	**20 32 18.6**	**+1.8**
RED	**Redoubt Volcan**	**3.17**	**194**	P	**Pn**	**20 32 19.2**	**+2.2**
PRP	**Porcupine Dome**	**3.19**	**48**	*e*Pn	**Pn**	**20 32 17.5**	**+0.2**
DOT	**Dot Lake**	**3.19**	**84**	*e*Pn	**Pn**	**20 32 17.2**	**0.0**
SCRK	**Sand Creek**	**3.24**	**78**	*e*Pn	**Pn**	**20 32 18.4**	**+0.4**
GLI	**Glacier Island**	**3.24**	**142**	*e*Pn	**Pn**	**20 32 18.0**	**+0.1**
DIV	**Divide**	**3.46**	**131**	*e*Pn	**Pn**	**20 32 22.1**	**+1.1**
COLD	**Coldfoot**	**3.78**	**6**	*e*Pn	**Pn**	**20 32 27.5**	**+2.2**
BMRM	**Bremner River**	**3.98**	**126**	*e*Pn	**Pn**	**20 32 28.5**	**+0.4**
FYU	**Fort Yukon**	**3.99**	**37**	*e*Pn	**Pn**	**20 32 28.8**	**+0.6**
EGAK	**Eagle**	**4.58**	**69**	*e*Pn	**Pn**	**20 32 37.3**	**+1.0**
BM3	**Burnt Mountain**	**4.81**	**32**	*e*Pn	**Pn**	**20 32 39.5**	**+0.1**
DAWY	**Dawson**	**5.27**	**78**	*e*Pn	**Pn**	**20 32 46.7**	**+0.9**
KDAK	**Kodiak Island**	**5.76**	**187**	Pn	**Pn**	**20 32 52.8**	**+0.3**
KDAK	0.1nm,0.3s,baz=336,slow=20,SNR=1.4			Sn	**Sn**	**20 33 58.3**	**-0.4**
INK	baz=274,slow=9.3,SNR=1.8 **Inuvik**	**8.68**	**48**	Pn	**Pn**	**20 33 32.2**	**-0.1**
INK	0.1nm,0.3s,baz=243,slow=12,SNR=2.5			Sn	**Sn**	**20 35 07.7**	**-2.6**
YKA	0.1nm,0.3s,baz=233,slow=13,SNR=2.7 **Yellowknife Ar**	**16.51**	**77**	Pn	**Pn**	**20 35 16.7**	**-1.6**
PDAR	0.0nm,0.3s,baz=290,slow=11,SNR=3.0 **Pinedale Array**	**31.61**	**111**	LR	LR	20 50 07.8	
PFO	comp=Z,36nm,20.4s,baz=86,slow=35 **Pinyon Flats O**	**36.85**	**128**	LR	LR	20 52 08.1	
LTX	comp=Z,558nm,19.9s,baz=238,slow=34 **Lajitas**	**45.56**	**116**	*e*P	**P**	**20 39 48.1**	**+1.2**
TXAR	**Lajitas Array** 0.3nm,0.5s,baz=330,slow=7.2,SNR=3.8	**45.56**	**116**	P	**P**	**20 39 48.1**	**+1.2**

*ATH **28** 20:31:39.3,36.68N×28.06E,h31km±1km,ML2.5/3,Error ellipse: s-maj=3.6km s-min=1.2km az=215.0*
*ISK **28** 20:31:39.9,36.64N×27.97E,h10km,ML2.6/12*
*ISCJB **28** 20:31:40.6±0.4,36.64N±0.03×27.97E±0.03,h10km±4km, Error ellipse: s-maj=5.0km s-min=3.4km az=172.5*
*DDA **28** 20:31:40.0,36.61N×27.98E,h7km,Ml2.9*
ISC 28 20:31:39.8±1.0,36.65N±0.03×27.97E±0.02,h10km±8km, n27,σ1§53/39,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSB	**Marmaris-Mugla**	**0.19**	**69**	PG	**Pg**	**20 31 44.6**	**+0.6**
MRSB				SG	**Sg**	**20 31 47.9**	**+1.1**
DATC	**Datca-Mugla**	**0.27**	**294**	PG	**Pg**	**20 31 46.1**	**+0.7**
DAT	**Datca**	**0.33**	**285**	PG	**Pg**	**20 31 47.2**	**+0.8**
DAT				SG	**Sb**	**20 31 52.3**	**-0.9**
DAT	**Datca**	**0.33**	**285**	*i* P	**Pg**	**20 31 47.0**	**+0.6**
DAT				*i* S	**Sb**	**20 31 53.1**	**-0.1**
ARG	**Arkhangelos**	**0.45**	**164**	PG	**Pg**	**20 31 49.1**	**+0.5**
ARG				SG	**Sb**	**20 31 55.8**	**-0.8**
ARG	**Arkhangelos**	**0.45**	**164**	P	**Pb**	**20 31 49.4**	**-0.5**
ARG				S	**Sb**	**20 31 57.1**	**+0.5**
ARG	comp=N,1083µm,0.3s			AML	AML	20 31 58.1	
ARG	comp=E,1123µm,0.4s			AML	AML	20 31 58.1	
TURN	**Turunc**	**0.56**	**66**	PG	Pg	20 31 45.8	-4.8
TURN	**Turunc**	**0.56**	**66**	*i* P	Pg	20 31 45.7	-5.0
TURN				*i* S	**Sg**	**20 31 50.2**	**-7.8**
DALY	**Dalyan (Mu¨la**	**0.57**	**73**	PG	**Pb**	**20 31 51.5**	**-0.5**
DALY	**Dalyan (Mu¨la**	**0.57**	**73**	*i* P	**Pg**	**20 31 51.2**	**+0.2**
DALY				*i* S	**Sb**	**20 31 59.7**	**-0.5**
NIS1	**Nisyros Isl.**	**0.64**	**266**	PG	**Pg**	**20 31 51.9**	**-0.3**
NIS1	**Nisyros Isl.**	**0.64**	**266**	P	**Pb**	**20 31 53.4**	**+0.2**
NIS1				S	**Sn**	**20 32 04.4**	**-0.8**
NIS1	comp=N,2262µm,0.5s			AML	AML	20 32 09.2	
NIS1	comp=E,1485µm,1.0s			AML	AML	20 32 14.5	
MLSB	**Milas**	**0.67**	**347**	PG	**Pb**	**20 31 53.4**	**-0.2**
BODT	**Bodrum**	**0.67**	**308**	PG	**Pg**	**20 31 53.3**	**+0.4**
NISR	**Nisiros**	**0.68**	**267**	P	**Pb**	**20 31 53.9**	**+0.2**
NISR				S	**Sn**	**20 32 05.7**	**-0.4**
FETY	**Fethiye**	**0.90**	**90**	PG	**Pb**	**20 31 57.7**	**+0.2**
AYDN	**Tasoluk**	**1.01**	**356**	*i* P	**Pb**	**20 31 59.9**	**+0.3**
AYDN				*i* S	**Sn**	**20 32 14.2**	**-0.4**
TAVA	**DENIZLI_Tavas**	**1.11**	**42**	*i* P	**Pb**	**20 32 01.0**	**-0.2**
TAVA				*i* S	**Sn**	**20 32 18.1**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**1.30**	**357**	PN	**Pb**	**20 32 04.8**	**+0.3**
AKAS	**Kas**	**1.38**	**107**	PN	**Pb**	**20 32 05.7**	**-0.1**
SMG	**Samos**	**1.39**	**320**	P	**Pn**	**20 32 05.3**	**-0.1**
SMG				S	**Sn**	**20 32 23.1**	**-0.8**
GOLH	**Golhisar**	**1.40**	**65**	*i* P	**Pg**	**20 32 08.3**	**+1.5**
GOLH				*i* S	**Sg**	**20 32 27.2**	**+2.2**
ELL	**Elmali**	**1.56**	**86**	PN	**Pb**	**20 32 08.9**	**0.0**
KORT	**Korkueli**	**1.94**	**79**	PN	**Pn**	**20 32 13.3**	**+0.3**
KULA	**Kula-Manisa**	**1.94**	**16**	PN	**Pn**	**20 32 14.2**	**+1.2**
NPS	**Neapolis**	**2.36**	**235**	P	**Pn**	**20 32 19.9**	**+1.2**
NPS				S	**Sn**	**20 32 47.8**	**+0.1**
NPS	comp=N,70µm,0.7s			AML	AML	20 32 52.1	
NPS	comp=E,72µm,0.6s			AML	AML	20 32 52.2	
LAST	**Lasithi**	**2.51**	**234**	P	**Pn**	**20 32 22.0**	**+1.2**

*ISCJB **28** 20:35:06.8±0.4,37.53N±0.03×72.10E±0.06,h113km, mb3.6/10,Error ellipse: s-maj=6.9km s-min=4.3km az=159.8*
*IDC **28** 20:35:07.1±3.2,37.41N×72.17E,h110km±25km,mb3.4/11, mb1 3.6/17,mb1mx3.3/59,mbtmp3.9/17,MS2.2/1, Ms1 2.2/1,ms1mx1.9/24,Error ellipse: s-maj=27.2km s-min=17.8km az=171.0*
*NNC **28** 20:35:12.2±2.5,38.17N×71.75E,h0km,mb4.3,mpv4.0, Error ellipse: s-maj=19.8km s-min=13.3km az=168.0*
ISC 28 20:35:08.6±0.6,37.68N±0.04×72.10E±0.07,h113km,n49, σ2§10/58,mb3.8/10,5C-9D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.57**	**25**	⇓P	**Pn**	**20 35 52.1**	**+2.9**
SFK	27nm,0.2s			⇑S	**Sn**	**20 36 22.4**	**+2.0**
CEP	166nm,0.2s **Cherat**	**3.86**	**182**	P	**Pn**	**20 36 08.9**	**+2.7**
CEP				S	**Sn**	**20 36 53.0**	**+2.2**
CHCP	**Chirah Chowk**	**4.13**	**166**	P	Pn	20 36 12.6	+2.9
AML	**Almayashu** SNR=42	**4.61**	**15**	P	**Pn**	**20 36 18.4**	**+2.0**
MNAS	**Manas**	**4.81**	**4**	⇑P	**Pn**	**20 36 21.1**	**+2.1**
MNAS	9.9nm,0.3s			⇓S	**Sn**	**20 37 13.1**	**-0.5**
THW	79nm,0.4s **Thamme Wali**	**4.89**	**184**	P	**Pn**	**20 36 21.5**	**+1.5**
UCH	**Uchtor** SNR=37	**4.90**	**21**	P	**Pn**	**20 36 22.4**	**+1.9**
KZA	**Kyzart** SNR=6.8	**5.01**	**28**	P	**Pn**	**20 36 23.3**	**+1.4**
EKS2	**Erkin-Say** SNR=144	**5.13**	**14**	P	**Pn**	**20 36 25.7**	**+2.4**
AAK	**Ala-Archa**	**5.28**	**20**	P	**Pn**	**20 36 27.7**	**+2.5**
AAK	10.0nm,0.3s,baz=185,slow=8.3,SNR=138			S	**Sn**	**20 37 24.3**	**-0.6**
AAK	7.4nm,0.3s,baz=314,slow=22,SNR=26 **Ala-Archa**	**5.28**	**20**	⇓P	**Pn**	**20 36 27.7**	**+2.5**
AAK	8.1nm,0.3s			⇓S	**Sn**	**20 37 24.3**	**-0.6**
AAK	126nm,0.7s **Ala-Archa** SNR=22	**5.28**	**20**	P	**Pn**	**20 36 27.8**	**+2.5**
KBK	**Karagaybulak** SNR=21	**5.42**	**23**	P	**Pn**	**20 36 29.5**	**+2.3**
KK31	**Karatay Array**	**5.55**	**348**	⇓P	**Pn**	**20 36 30.7**	**+1.9**
KK31	5.9nm,0.3s,baz=147,slow=11,SNR=344			⇓S	**Sn**	**20 37 29.8**	**-1.4**
ULHL	50nm,0.3s **Ulahol** SNR=31	**5.56**	**34**	P	**Pn**	**20 36 30.4**	**+1.3**
CHMS	**Chumysh** SNR=21	**5.68**	**20**	P	**Pn**	**20 36 32.9**	**+2.3**
USP	**Ospenovka** SNR=7.0	**5.87**	**17**	P	**Pn**	**20 36 34.8**	**+1.6**
TKM2	**Tokmak 2**	**5.87**	**26**	⇓P	**Pn**	**20 36 35.2**	**+1.8**
TKM2	9.1nm,0.7s			⇓S	**Sn**	**20 37 41.7**	**+2.2**
TKM2	18nm,0.6s **Tokmak 2** SNR=11	**5.87**	**26**	P	**Pn**	**20 36 35.0**	**+1.6**
GEYT	**Alibeck**	**11.07**	**276**	P	**Pn**	**20 37 42.8**	**-0.8**
GEYT	0.3nm,0.3s,baz=94,slow=8.7,SNR=6.4			S	Sn	20 39 38.5	-6.8
MKAR	1.0nm,0.3s,baz=118,slow=18,SNR=8.8 **Makanchi Array**	**11.82**	**36**	P	**Pn**	**20 37 54.0**	**+0.5**
PYUN	0.2nm,0.3s,baz=225,slow=16,SNR=13 **Piuthan**	**13.22**	**133**	*e*P	**Pn**	**20 38 08.8**	**-3.3**
DANN	5.6nm,0.3s **Dangsing**	**13.49**	**130**	*e*P	**Pn**	**20 38 13.0**	**-2.7**
KURBB	7.8nm,0.3s **Kurchatov Arra**	**13.73**	**17**	P	**Pn**	**20 38 20.3**	**+2.1**
KOLN	0.3nm,0.3s,baz=207,slow=10,SNR=34 **Koldanda**	**13.82**	**132**	*e*P	**Pn**	**20 38 17.7**	**-2.2**
AB31	3.2nm,0.3s **Akbulak array**	**14.53**	**327**	P	**Pn**	**20 38 29.0**	**+0.5**
AB31	1.3nm,0.6s,baz=133,slow=14,SNR=25			S	**Sn**	**20 41 05.7**	**-3.0**
KKN	1.2nm,0.4s,baz=131,slow=23,SNR=6.0 **Kakani**	**14.83**	**128**	*e*P	**Pn**	**20 38 29.8**	**-3.0**
DMN	**Daman**	**14.85**	**129**	*e*P	**Pn**	**20 38 30.9**	**-2.2**
PKIN	**Phulchoki** 2.9nm,0.3s	**15.05**	**128**	*e*P	**Pn**	**20 38 33.2**	**-2.4**
PKI	**Pulchoki**	**15.06**	**128**	*e*P	**Pn**	**20 38 33.6**	**-2.2**
GUN	**Gumba**	**15.12**	**126**	*e*P	**Pn**	**20 38 33.9**	**-2.7**
BVA0	**Borovoye Array** 2.0nm,0.4s,baz=165,slow=12,SNR=71	**15.39**	**356**	⇓P	**Pn**	**20 38 41.6**	**+2.2**
BVAR	**Borovoye Array** 2.0nm,0.3s,baz=160,slow=12,SNR=54	**15.39**	**356**	P	**Pn**	**20 38 38.7**	**-0.6**
BVAR	0.2nm,0.3s,baz=165,slow=24,SNR=7.9			S	**Sn**	**20 41 23.3**	**-6.1**
BRVK	**Borovoye** 5.8nm,0.9s	**15.43**	**356**	⇑P	**Pn**	**20 38 41.7**	**+1.8**
JIRN	**Jiri** 15nm,0.3s	**15.50**	**126**	*e*P	**Pn**	**20 38 39.0**	**-2.3**
AKTO	**Aktyubinsk** 0.4nm,0.3s,baz=129,slow=13,SNR=6.0	**16.24**	**326**	P	**P**	**20 38 52.6**	**+1.7**
AKTO	0.3nm,0.3s,baz=158,slow=20,SNR=4.1			S	Sn	20 41 40.7	-9.3
AKTO	**Aktyubinsk** 4.1nm,1.1s	**16.24**	**326**	⇑P	**P**	**20 38 52.4**	**+1.5**
AKTO	2.5nm,0.6s			⇑S	**Sn**	**20 41 47.2**	**-2.8**
ZALV	**Zalesovo Beam** 0.9nm,0.3s,baz=218,slow=10.0,SNR=26	**18.48**	**24**	P	**P**	**20 39 15.6**	**+0.2**
ARU	**Arti** 2.4nm,0.7s,baz=117,slow=11,SNR=5.5	**20.83**	**339**	P	**P**	**20 39 42.2**	**+1.4**
ARU	comp=Z,5.6nm,18.8s,baz=298,slow=38			LR	LR	20 48 37.1	
SONM	**Songino Array** 0.4nm,0.7s,baz=261,slow=9.6,SNR=3.8	**26.95**	**57**	P	**P**	**20 40 39.4**	**0.0**
FINES	**FINESS Array B** 2.6nm,0.8s,baz=121,slow=7.4,SNR=5.6	**37.01**	**325**	P	**P**	**20 42 08.1**	**+1.3**
ARCES	**ARCESS Array B** 0.6nm,0.4s,baz=108,slow=8.0,SNR=6.5	**40.40**	**337**	P	**P**	**20 42 36.2**	**+1.2**
HFS	**Hagfors** 1.0nm,0.5s,baz=105,slow=11,SNR=6.1	**42.69**	**321**	P	**P**	**20 42 54.9**	**+1.1**
NOA	**NORSAR Array B** 0.3nm,0.5s,baz=99,slow=6.7,SNR=2.7	**43.97**	**322**	P	**P**	**20 43 05.0**	**+0.7**
TORD	**Torodi Ar. Bea** 0.9nm,0.6s,baz=48,slow=5.9,SNR=8.9	**66.62**	**269**	P	**P**	**20 45 46.0**	**-1.2**
INK	**Inuvik** 1.3nm,0.6s,baz=358,slow=3.8,SNR=6.6	**72.59**	**10**	P	**P**	**20 46 23.6**	**+0.6**
ILAR	**Eielson Array** 0.3nm,0.9s,baz=352,slow=5.5,SNR=4.1	**73.40**	**16**	P	**P**	**20 46 27.3**	**-0.6**
YKA	**Yellowknife Ar** 1.0nm,0.5s,baz=351,slow=5.6,SNR=12	**80.02**	**3**	P	**P**	**20 47 05.4**	**+0.3**
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=328,slow=5.2,SNR=3.7	**81.88**	**123**	P	**P**	**20 47 14.0**	**-1.6**

*ISCJB **28** 20:48:04.8±0.5,43.65N±0.04×105.14W±0.06,h0km,Error ellipse: s-maj=6.6km s-min=4.7km az=35.7*
*IDC **28** 20:48:04.5±2.6,43.32N×105.21W,h0km,mb1 3.4/2, mb1mx3.2/36,mbtmp3.3/2,ML1.9/1,Error ellipse: s-maj=56.9km s-min=9.4km az=155.0*
*ANF **28** 20:48:05.1±0.8,43.58N×105.21W,ML3.1/5,Error ellipse: s-maj=16.9km s-min=6.3km az=139.0*
*NEIC **28** 20:48:06.0±0.7,43.65N×105.08W,h0km,ML3.0,Error ellipse: s-maj=10.4km s-min=9.5km az=162.0,Suspected Mining explosion.*
NEIC 74 km [46 miles] WSW of Newcastle.
ISC 28 20:48:05.7±0.9,43.60N±0.04×105.20W±0.04,h0km,n21, σ1§07/23,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.99**	**58**	*e*Pn	**Pg**	**20 48 23.9**	**-0.8**
RSSD	**Black Hills**	**0.99**	**58**	P	**Pg**	**20 48 24.3**	**-0.4**
K22A	baz=238 **Casper**	**1.35**	**226**	P	**Pg**	**20 48 30.4**	**-1.2**
K22A	baz=46			S	**Sb**	**20 48 49.4**	**-0.6**
N23A	baz=46 **Red Feather La**	**2.76**	**192**	P	**Pn**	**20 48 52.0**	**+0.6**
N23A	baz=13			Sb	**Sb**	**20 49 31.5**	**+1.1**
LAO	baz=13 **LASA Array**	**3.17**	**347**	*e*Pn	**Pn**	**20 48 57.3**	**+0.3**
RLMT	**Red Lodge**	**3.29**	**299**	*e*Pn	**Pn**	**20 48 58.8**	**+0.1**
RLMT	**Red Lodge** baz=115	**3.29**	**299**	P	**Pn**	**20 48 59.2**	**+0.5**
BW06	**Boulder Array**	**3.29**	**257**	*e*Pn	**Pn**	**20 48 59.5**	**+0.8**
BW06	**Boulder Array** baz=73	**3.29**	**257**	P	**Pn**	**20 48 58.8**	**+0.1**
BW06	baz=73			Sb	**Sb**	**20 49 46.7**	**+0.8**
PDAR	**Pinedale Array**	**3.29**	**257**	Pn	**Pn**	**20 48 59.9**	**+1.1**
PDAR	2.8nm,0.3s,baz=78,slow=15,SNR=21			Lg	Lg	20 49 45.4	
OGNE	8.6nm,0.3s,baz=78,slow=34,SNR=12 **Ogallala**	**3.54**	**137**	*e*Pn	**Pn**	**20 49 03.1**	**+1.0**
ISCO	**Idaho Springs**	**3.81**	**185**	*e*Pn	**Pn**	**20 49 06.7**	**+0.8**
ISCO	**Idaho Springs** 5.5nm,0.7s	**3.81**	**185**	Pb	**Pb**	**20 49 13.4**	**-0.5**
DGMT	**Dagmar** baz=188	**4.92**	**8**	P	**Pn**	**20 49 21.1**	**+0.2**
BOZ	**Bozeman (W)** 7.1nm,0.9s	**5.01**	**296**	*e*Pn	**Pn**	**20 49 22.4**	**+0.2**
BOZ	**Bozeman (W)** baz=111	**5.01**	**296**	P	**Pn**	**20 49 22.6**	**+0.5**
HWUT	**Hardware Ranch** 5.5nm,0.7s	**5.10**	**249**	*e*Pn	**Pn**	**20 49 26.3**	**+2.8**
EGMT	**Eagleton** 17nm,1.0s	**5.45**	**326**	*e*Pn	**Pn**	**20 49 30.5**	**+2.3**
EGMT	**Eagleton** baz=142	**5.45**	**326**	P	**Pn**	**20 49 28.8**	**+0.6**
I10CA	**LAC DU BONNET** baz=217,slow=316,SNR=1.5	**9.11**	**40**	*i*		21 44 00.0	
ULM	**Lac du Bonnet** 0.2nm,0.3s,baz=226,slow=15,SNR=3.0	**9.21**	**41**	Pn	**Pn**	**20 50 19.4**	**-0.3**
ULM	0.2nm,0.3s,baz=286,slow=20,SNR=3.0			Lg	Lg	20 52 53.1	

*NNC **28** 20:49:35.9±5.1,59.57N×60.80E,h0km,mb3.6,mpv3.5, Error ellipse: s-maj=62.8km s-min=30.8km az=19.0*
MIRAS 28 20:49:28.1±0.0,60.21N×60.01E,h1km,ML3.3/4,5C-2D, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVUR	**Severouralsk**	**0.02**	**223**	⇑*i* P	Pg	20 49 26.3	-2.2
SVUR				⇑*i* S	Sg	20 49 27.9	-0.8
PR1R	**Pomanovo**	**1.95**	**239**	*i* P	Pn	20 50 02.1	-0.1
PR1R				*e*S	Sb	20 50 28.5	-0.5
PR1R	177µm,0.4s			*e*S	Sb	20 50 28.6	-0.5
PR1R	163µm,0.5s			*e*S	Sb	20 50 28.6	-0.5
PR0R	**Verkhnechusovs**	**2.50**	**217**	*e*P	Pn	20 50 10.5	+0.6
PR0R				*e*S	Sb	20 50 43.6	-1.3
PR0R	625µm,0.3s			*e*S	Sb	20 50 43.6	-1.3
BRVK	361µm,0.3s **Borovoye** 2.8nm,1.3s	**9.13**	**137**	⇑Pn	Pn	20 51 38.4	-2.3
BRVK	1.7nm,0.6s			⇑Sn	Sn	20 53 14.8	-9.2
BVA0	**Borovoye Array** 1.9nm,0.8s,baz=324,slow=13,SNR=11	**9.19**	**137**	⇓Pn	Pn	20 51 39.8	-1.8
BVA0	1.3nm,0.4s,baz=334,slow=24,SNR=8.3			⇓Sn	Sn	20 53 16.8	-8.8
AB31	**Akbulak array** 0.3nm,0.6s,baz=9.8,slow=12,SNR=4.8	**10.98**	**180**	Pn	Pn	20 52 05.2	-1.0

*ISCJB **28** 21:14:05.2±0.5,42.53N±0.02×18.44E±0.04,h2km±3km, Error ellipse: s-maj=5.4km s-min=3.2km az=147.1*
*SAR **28** 21:14:05.5±0.4,42.50N×18.42E,h3km±1km,ML2.6/1*
*BEO **28** 21:14:06.5±0.4,42.53N×18.42E,h4km±2km,ML2.5/11*
ISC 28 21:14:06.0±1.3,42.54N±0.03×18.44E±0.03,h0km±11km, n30,σ1§16/53,2C-3D,Northwestern Balkan Peninsula

| Code | Station Name | Δ° | AZ° |

MORH				*e*Sn	**Sn**	**21 15 47.0**	**-1.1**
BZS	**Buzias**	**3.84**	**36**	*e*Pn	**Pn**	**21 15 06.1**	**-0.1**

WEL 28 21:21:21.0, 44°S±4°×16°8E±°, h33km, ML3.8/6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCZ	**Jackson Bay**	**0.38**	**59**	P	Pn	21 21 30.3	+0.1
JCZ				S	Sn	21 21 36.9	+0.6
MSZ	**Milford Sound**	**0.50**	**216**	P	Pb	21 21 31.7	+0.1
MSZ				S	Sn	21 21 39.2	-0.2
WKZ	**Wanaka**	**0.74**	**139**	P	Pb	21 21 35.5	-0.1
WKZ				S	Sn	21 21 45.0	-0.4
MLZ	**Mavora Lakes**	**1.11**	**188**	P	Pn	21 21 40.9	+0.6
MLZ				S	Sb	21 21 55.7	-0.2
EAZ	**Earnscleugh**	**1.19**	**145**	P	Pb	21 21 42.4	-0.6
EAZ				S	Sb	21 21 57.4	-0.7
LBZ	**Lake Benmore**	**1.33**	**96**	P	Pb	21 21 45.1	-0.3
DCZ	**Deep Cove**	**1.47**	**215**	P	Pn	21 21 45.5	+0.4
WHZ	**Wether Hill Ro**	**1.65**	**190**	P	Pn	21 21 48.6	+1.0
WHZ				S	Sn	21 22 09.2	+1.5
ODZ	**Otahua Downs**	**1.82**	**116**	P	Pn	21 21 50.6	+0.6
TUZ	**Tuapeka**	**1.92**	**152**	P	Pn	21 21 51.8	+0.4
TUZ				S	Sn	21 22 15.9	+1.5
RPZ	**Rata Peaks**	**2.04**	**75**	P	Pn	21 21 52.9	-0.1
WVZ	**Waitaha Valley**	**2.11**	**56**	P	Pn	21 21 53.0	-0.9
HHSZ	**Highcliff Hill**	**2.28**	**136**	P	Pn	21 21 57.2	+1.0
SYZ	**Scrubby Hill**	**2.34**	**166**	P	Pn	21 21 58.5	+1.4
APZ	**The Paps**	**2.58**	**185**	P	Pn	21 22 00.8	+0.4
INZ	**Inchbonnie**	**2.73**	**57**	P	Pn	21 22 01.2	-1.3
LTZ	**Lake Taylor**	**3.22**	**64**	P	Pn	21 22 09.0	-0.3
DSZ	**Denniston Nort**	**3.58**	**46**	P	Pn	21 22 13.7	-0.5
THZ	**Tophouse**	**4.18**	**55**	P	Pn	21 22 22.2	-0.3
QRZ	**Quartz Range**	**4.63**	**43**	P	Pn	21 22 28.3	-0.2
TUWZ	**Tuamarina**	**5.00**	**57**	P	Pn	21 22 35.1	+1.5
DUWZ	**D'Urville Isla**	**5.38**	**52**	P	Pn	21 22 40.0	+1.0
KRVZ	**Karewarewa**	**7.52**	**49**	P	Pn	21 23 11.8	+3.4
RIGZ	**Rimuhau**	**8.99**	**55**	P	Pn	21 23 29.9	+1.4

*ISCJB **28** 21:31:10.3±0.5, 43°67N±0°.04×105°.19W±0°.05, h0km, mb3.7/1, MS3.0/3, Error ellipse: s-maj=6.0km s-min=5.0km az=30.5*
*IDC **28** 21:31:10.8±1.6, 43°.58N×105°.37W, h0km, mb3.8/1, mb1 3.7/5, mb1mx3.4/46, mbtmp3.5/5, ML2.9/3, MS3.0/3, Ms1 3.0/3, ms1mx2.4/48, Error ellipse: s-maj=41.0km s-min=9.7km az=151.0*
*NEIC **28** 21:31:11.8±0.7, 43°.71N×105°.18W, h0km, MN2.8, Error ellipse: s-maj=12.8km s-min=8.7km az=173.0, Suspected Mining explosion.*
NEIC 70 km [43 miles] SSE of Gillette.
ISC 28 21:31:11.1±0.7, 43°.62N±0°.04×105°.24W±0°.03, h0km, n25, σ2§10/39, MS3.1/3, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.00**	**60**	*e*Pg	**Pg**	**21 31 29.8**	**-0.6**
LAO	**LASA Array**	**3.15**	**348**	*e*Pn	**Pn**	**21 32 01.5**	**-0.5**
LAO				*e*S	**Sn**	**21 32 41.0**	**+0.8**
RLMT	**Red Lodge**	**3.26**	**299**	*e*Pn	**Pn**	**21 32 03.2**	**-0.5**
RLMT				*e*Pg	**Pb**	**21 32 10.1**	**+0.2**
RLMT				*e*S	**Sn**	**21 32 44.7**	**+1.5**
BW06	**Boulder Array**	**3.27**	**256**	*e*Pn	**Pn**	**21 32 06.4**	**+2.5**
BW06				*e*S	**Sb**	**21 32 51.3**	**+0.6**
PDAR	**Pinedale Array**	**3.27**	**256**	Pn	**Pn**	**21 32 05.0**	**+1.1**
	4.5nm,0.3s,baz=82,slow=17,SNR=45						
PDAR				Lg	Lg	21 32 49.0	
	5.7nm,0.3s,baz=78,slow=34,SNR=4.4						
OGNE	**Ogallala**	**3.58**	**137**	*e*Pn	**Pn**	**21 32 08.6**	**+0.6**
ISCO	**Idaho Springs**	**3.83**	**184**	*e*Pn	**Pn**	**21 32 10.8**	**-0.8**
ISCO				*e*S	**Sg**	**21 33 14.2**	**+0.1**
LKWY	**Lake**	**3.84**	**286**	*e*Pn	**Pn**	**21 32 09.3**	**-2.4**
LKWY				*e*Pg	**Pb**	**21 32 22.1**	**+2.2**
LKWY				*e*S	**Sn**	**21 32 59.8**	**+2.2**
AHID	**Auburn Hatcher**	**4.37**	**261**	*e*Pn	**Pn**	**21 32 16.0**	**-3.0**
AHID				*e*Pg	**Pg**	**21 32 32.7**	**-2.2**
DGMT	**Dagmar**	**4.90**	**8**	*e*Pn	**Pn**	**21 32 27.1**	**+1.0**
DGMT				*e*S	**Sb**	**21 33 40.3**	**+2.9**
BOZ	**Bozeman (W)**	**4.97**	**296**	*e*Pn	**Pn**	**21 32 27.0**	**-0.2**
BOZ				*e*Pg	**Pb**	**21 32 39.9**	**+0.7**
BOZ				*e*S	**Sb**	**21 33 40.6**	**+1.1**
HWUT	**Hardware Ranch**	**5.08**	**249**	*e*Pn	**Pn**	**21 32 28.2**	**-0.5**
	5.4nm,0.5s						
HWUT				*e*Pg	**Pb**	**21 32 41.5**	**+0.4**
HWUT				*e*S	**Sg**	**21 33 49.8**	**-4.7**
EGMT	**Eagleton**	**5.42**	**326**	*e*Pn	**Pn**	**21 32 32.6**	**-0.7**
	9.4nm,0.3s						
EGMT				*e*S	**Sn**	**21 33 39.4**	**+3.1**
SDCO	**Great Sand Dun**	**5.87**	**182**	*e*Pn	**Pn**	**21 32 43.5**	**+3.8**
	1.6nm,0.5s						
SDCO				*e*S	**Sg**	**21 34 21.3**	**+1.5**
ECSD	**EROS Data Cent**	**6.25**	**86**	*e*Pn	**Pn**	**21 32 46.1**	**+1.4**
	6.3nm,0.4s						
ECSD				*e*S	**Sb**	**21 34 12.2**	**-4.1**
CBKS	**Cedar Bluff**	**6.34**	**137**	*e*Pn	**Pn**	**21 32 49.4**	**+3.5**
	17nm,0.5s						
CBKS				*e*S	**Sg**	**21 34 35.9**	**+1.0**
AGMN	**Agassiz Nation**	**8.03**	**51**	Pn	**Pn**	**21 33 09.3**	**+0.3**
	9.4nm,0.5s						
AGMN				*e*Pg	Pb	21 33 36.5	+5.4
AGMN				*e*S	**Sn**	**21 34 36.3**	**-4.3**
I10CA	**LAC DU BONNET**	**9.11**	**41**	*i*		22 26 10.0	
	baz=218,slow=322,SNR=2.0						
ULM	**Lac du Bonnet**	**9.21**	**41**	Pn	**Pn**	**21 33 23.7**	**-1.5**
	1.1nm,0.3s,baz=236,slow=13,SNR=8.5						
ULM				Pg		21 33 58.1	
	0.8nm,0.3s,baz=228,slow=16,SNR=4.7						
ULM				Lg	Lg	21 35 56.2	
	0.3nm,0.3s,baz=252,slow=19,SNR=1.7						
NVAR	**Mina Array Bea**	**11.14**	**247**	Pn	**Pn**	**21 33 53.8**	**+1.9**
	0.1nm,0.3s,baz=62,slow=14,SNR=4.2						
YKA	**Yellowknife Ar**	**19.69**	**347**	P	**P**	**21 35 41.2**	**-0.4**
	0.1nm,0.3s,baz=161,slow=13,SNR=3.1						
CMIG	**Matias Romero**	**27.87**	**158**	LR	LR	21 49 15.3	
	comp=Z,15nm,18.8s,baz=355,slow=39						
LVC	**Limon Verde**	**73.87**	**145**	LR	LR	22 16 53.7	
	comp=Z,10nm,19.6s,baz=278,slow=37						
MLR	**Muntele Rosu**	**81.24**	**32**	LR	LR	22 21 06.5	
	comp=Z,14nm,18.9s,baz=254,slow=37						
MKAR	**Makanchi Array**	**89.72**	**355**	P	**P**	**21 44 11.2**	**+0.1**
	0.3nm,0.6s,baz=2.4,slow=5.2,SNR=2.2						

IDC 28 21:33:20.9±4.6, 13°.63S×166°.18E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.7/34, mbtmp3.7/4, ML3.3/1, MS3.7/1, Ms1 3.7/1, ms1mx2.5/35, Error ellipse: s-maj=89.3km s-min=35.1km az=72.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.40**	**178**	Pn	Pn	21 35 23.5	-0.5
	0.4nm,0.3s,baz=4.0,slow=17,SNR=2.0						
DZM				Sn	Sn	21 37 02.7	+3.0
	0.3nm,0.3s,baz=332,slow=15,SNR=1.5						
WRA	**Warramunga Arr**	**31.09**	**254**	P	P	21 39 41.6	+0.4
	0.5nm,0.5s,baz=86,slow=9.5,SNR=6.9						
ASAR	**Alice Springs**	**32.10**	**247**	P	P	21 39 49.8	-0.3
	0.7nm,0.6s,baz=75,slow=9.3,SNR=14						
BATI	**Baumata**	**41.70**	**270**	LR	LR	21 57 48.1	
	comp=Z,93nm,18.5s,baz=256,slow=35						
CMAR	**Chiang Mai Arr**	**73.54**	**294**	P	P	21 44 56.2	0.0
	0.3nm,0.7s,baz=133,slow=5.2,SNR=3.2						

*ATH **28** 21:34:49.9, 36°.70N×28°.06E, h27km±1km, ML3.0/3, Error ellipse: s-maj=3.3km s-min=1.1km az=216.0*
*ISK **28** 21:34:50.3, 36°.60N×27°.97E, h7km, ML3.2/8*
*THE **28** 21:34:50.9, 36°.65N×27°.98E, h0km±1km, ML2.9/3, Error ellipse: s-maj=1.6km s-min=0.7km az=12.0*
*ISCJB **28** 21:34:51.3±0.4, 36°.64N±0°.03×27°.96E±0°.02, h8km±4km, Error ellipse: s-maj=5.1km s-min=3.2km az=176.8*
*DDA **28** 21:34:51.2, 36°.65N×27°.95E, h7km, Ml3.1*
ISC 28 21:34:50.6±0.9, 36°.69N±0°.03×28°.00E±0°.02, h13km±7km, n37, σ1§64/53, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSB	**Marmaris-Mugla**	**0.16**	**79**	PG	**Pg**	**21 34 55.1**	**+0.6**
MRSB				SG	**Sg**	**21 34 58.6**	**+1.4**
DATC	**Datca-Mugla**	**0.28**	**285**	PG	**Pg**	**21 34 56.7**	**+0.2**
DAT	**Datca**	**0.34**	**278**	PG	**Pg**	**21 34 57.7**	**+0.1**
DAT				SG	**Sg**	**21 35 02.9**	**+0.7**
DAT	**Datca**	**0.34**	**278**	*i* P	**Pg**	**21 34 57.5**	**-0.1**
DAT				*i* S	**Sb**	**21 35 03.8**	**-0.3**
ARG	**Arkhangelos**	**0.48**	**168**	PG	**Pg**	**21 34 58.4**	**-1.6**
ARG				SG	**Sg**	**21 35 04.9**	**-1.5**
ARG	**Arkhangelos**	**0.48**	**168**	P	**Pg**	**21 34 59.9**	**-0.2**
ARG				S	**Sb**	**21 35 07.9**	**0.0**
ARG				AML	AML	21 35 08.6	
	comp=N,4294μm,0.3s						
ARG				AML	AML	21 35 08.9	
	comp=E,3413μm,0.3s						
ARG	**Arkhangelos**	**0.48**	**168**	P	**Pg**	**21 35 00.0**	**0.0**
ARG				S	**Sb**	**21 35 08.1**	**+0.2**
TURN	**Turunc**	**0.52**	**69**	PG	**Pg**	**21 34 56.4**	**-4.5**
TURN	**Turunc**	**0.52**	**69**	*i* P	**Pg**	**21 34 56.3**	**-4.5**
TURN				*i* S	**Sg**	**21 35 00.7**	**-7.1**
DALY	**Dalyan (Mu¨la**	**0.54**	**76**	PG	**Pb**	**21 35 02.2**	**+0.2**
DALY	**Dalyan (Mu¨la**	**0.54**	**76**	*i* P	**Pb**	**21 35 02.4**	**+0.4**
DALY				*i* S	**Sb**	**21 35 11.5**	**+1.7**
MLSB	**Milas**	**0.64**	**344**	PG	**Pb**	**21 35 04.1**	**+0.5**
NIS1	**Nisyros Isl.**	**0.66**	**263**	PG	**Pg**	**21 35 02.9**	**-0.7**
NIS1	**Nisyros Isl.**	**0.66**	**263**	P	**Pb**	**21 35 03.9**	**-0.2**
NIS1				S	**Sn**	**21 35 14.7**	**-1.4**
NIS1				AML	AML	21 35 20.2	
	comp=N,3954μm,0.4s						
NIS1				AML	AML	21 35 20.6	
	comp=E,4515μm,0.5s						
NIS1	**Nisyros Isl.**	**0.66**	**263**	P	**Pb**	**21 35 03.9**	**-0.2**
NIS1				S	**Sn**	**21 35 15.1**	**-1.0**
BODT	**Bodrum**	**0.67**	**305**	PG	**Pg**	**21 35 03.9**	**+0.3**
NISR	**Nisiros**	**0.70**	**264**	P	**Pg**	**21 35 04.2**	**-0.1**
NISR				S	**Sb**	**21 35 15.5**	**+1.2**
NISR	**Nisiros**	**0.70**	**264**	P	**Pb**	**21 35 04.4**	**-0.3**
NISR				S	**Sn**	**21 35 15.7**	**-1.3**
FETY	**Fethiye**	**0.87**	**93**	PG	**Pb**	**21 35 07.9**	**+0.2**
FETY	**Fethiye**	**0.87**	**93**	P	**Pb**	**21 35 08.4**	**+0.7**
FETY				S	**Sn**	**21 35 22.9**	**+1.6**
AYDN	**Tasoluk**	**0.98**	**354**	*i* P	**Pn**	**21 35 10.5**	**+0.3**
TAVA	**DENIZLI_Tavas**	**1.07**	**43**	*i* P	**Pn**	**21 35 13.2**	**+1.7**
TAVA				*i* S	**Sn**	**21 35 28.2**	**+1.9**
AYDB	**Zeytinkoy-Aydi**	**1.26**	**356**	PN	**Pb**	**21 35 15.1**	**+0.7**
GOLH	**Golhisar**	**1.37**	**66**	*i* P	**Pg**	**21 35 18.6**	**+1.7**
AKAS	**Kas**	**1.37**	**109**	PN	**Pg**	**21 35 16.7**	**-0.3**
AKAS	**Kas**	**1.37**	**109**	*i* P	**Pg**	**21 35 17.9**	**+0.9**
SMG	**Samos**	**1.38**	**318**	P	**Pn**	**21 35 15.8**	**+0.1**
SMG				S	**Sb**	**21 35 34.6**	**+0.7**
SMG				AML	AML	21 35 41.1	
	comp=E,899μm,0.4s						
SMG				AML	AML	21 35 42.2	
	comp=N,444μm,0.3s						
SMG	**Samos**	**1.38**	**318**	P	**Pn**	**21 35 15.9**	**+0.3**
ELL	**Elmali**	**1.54**	**87**	PN	**Pb**	**21 35 19.6**	**+0.6**
KULA	**Kula-Manisa**	**1.90**	**16**	PN	**Pb**	**21 35 25.4**	**+0.2**
KORT	**Korkueli**	**1.91**	**80**	PN	**Pb**	**21 35 24.9**	**-0.6**
BRDR	**BURDUR-Merkez**	**1.93**	**58**	P	**Pg**	**21 35 27.4**	**-0.3**
URLA	**Izmir**	**2.01**	**327**	PN	**Pb**	**21 35 26.3**	**-0.8**
APE	**Apeiranthos**	**2.02**	**282**	PN	**Pb**	**21 35 23.9**	**-0.5**
ZKR	**Zakros**	**2.13**	**223**	P	**Pn**	**21 35 26.9**	**+1.0**
NPS	**Neapolis**	**2.40**	**234**	P	**Pn**	**21 35 29.9**	**+0.2**
NPS				S	**Sn**	**21 35 59.5**	**+0.6**
SUTC	**Sutluce-Ispart**	**2.53**	**71**	PN	**Pn**	**21 35 33.9**	**+2.4**

*IDC **28** 21:48:02.7±1.4, 0°.75N×122°.49E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/32, mbtmp3.7/4, ML3.7/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/37, Error ellipse: s-maj=128.4km s-min=21.8km az=64.0*
*ISCJB **28** 21:48:24.4±0.8, 0°.3N±0°.1×121°.8E±0°.1, h200km, mb3.6/3, Error ellipse: s-maj=17.3km s-min=12.5km az=145.2*
*DJA **28** 21:48:27.8±1.0, 0°N±5°×12°2E±°, h172km±10km, M3.0/6, MLv3.0/6*
ISC 28 21:48:25.0±1.1, 0°.3N±0°.1×121°.79E±0°.09, h200km, n10, σ1§16/11, mb3.6/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.27**	**34**	P	**Pn**	**21 48 51.1**	**-0.3**
APSI	**Ampana**	**1.17**	**187**	P	**Pn**	**21 49 57.3**	**+1.3**
APSI				S	**Sn**	**21 49 20.7**	**+0.6**
LUWI	**Luwuk**	**1.62**	**143**	P	**Pn**	**21 49 00.6**	**+0.8**
LUWI				S	**Sn**	**21 49 26.6**	**-0.2**
MPSI	**Mapaga**	**1.90**	**272**	P	**Pn**	**21 49 03.3**	**+0.9**
KMSI	**Cibinong**	**2.21**	**82**	P	**Pn**	**21 49 07.2**	**+1.5**
LEM	**Lembang**	**15.80**	**243**	LR	LR	21 59 56.9	
	comp=Z,44nm,18.9s,baz=304,slow=43						
FITZ	**Fitzroy Crossi**	**18.63**	**168**	P	**P**	**21 52 27.5**	**-0.2**
	0.2nm,0.3s,baz=1.8,slow=10,SNR=5.2						
WRA	**Warramunga Arr**	**23.54**	**149**	P	**P**	**21 53 15.8**	**-1.6**
	1.4nm,0.4s,baz=326,slow=11,SNR=21						
ASAR	**Alice Springs**	**26.53**	**154**	P	**P**	**21 53 42.9**	**-1.5**
	0.4nm,0.5s,baz=344,slow=15,SNR=12						
MKAR	**Makanchi Array**	**57.77**	**329**	P	**P**	**21 57 55.4**	**+0.2**
	0.4nm,0.3s,baz=127,slow=8.6,SNR=14						

*ATH **28** 21:55:21.7, 36°.69N×28°.07E, h28km±3km, ML2.7/3, Error ellipse: s-maj=5.3km s-min=1.1km az=213.0*
*ISK **28** 21:55:22.3, 36°.61N×27°.98E, h9km, ML3.0/6*
*THE **28** 21:55:22.4, 36°.65N×27°.99E, h0km±1km, ML2.6/3, Error ellipse: s-maj=1.7km s-min=0.6km az=48.0*
*ISCJB **28** 21:55:23.2±0.4, 36°.65N±0°.03×27°.97E±0°.02, h9km±4km, Error ellipse: s-maj=5.2km s-min=3.2km az=2.5*
*DDA **28** 21:55:23.6, 36°.70N×27°.96E, h7km, Ml3.0*
ISC 28 21:55:22.5±0.9, 36°.62N±0°.03×27°.99E±0°.02, h13km±7km, n36, σ1§49/48, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSB	**Marmaris-Mugla**	**0.19**	**60**	PG	**Pg**	**21 55 27.1**	**+0.3**
MRSB				SG	**Sg**	**21 55 30.2**	**+0.6**
DATC	**Datca-Mugla**	**0.30**	**297**	PG	**Pg**	**21 55 28.5**	**-0.1**
DATC				SG	**Sg**	**21 55 33.4**	**+0.6**
DAT	**Datca**	**0.35**	**288**	PG	**Pg**	**21 55 29.8**	**+0.2**
DAT	**Datca**	**0.35**	**288**	*i* P	**Pg**	**21 55 29.5**	**-0.1**
DAT				*i* S	**Sg**	**21 55 34.8**	**+0.4**
ARG	**Arkhangelos**	**0.42**	**165**	PG	**Pg**	**21 55 30.3**	**-0.5**
ARG	**Arkhangelos**	**0.42**	**165**	P	**Pb**	**21 55 31.8**	**0.0**
ARG				S	**Sb**	**21 55 39.5**	**+1.4**
ARG				AML	AML	21 55 40.9	
	comp=E,1962μm,0.3s						
ARG				AML	AML	21 55 41.4	
	comp=N,1593μm,0.3s						
ARG	**Arkhangelos**	**0.42**	**165**	P	**Pb**	**21 55 31.8**	**0.0**
ARG				S	**Sb**	**21 55 39.1**	**+1.0**
TURN	**Turunc**	**0.55**	**63**	PG	Pg	21 55 28.1	-5.2
TURN	**Turunc**	**0.55**	**63**	*i* P	Pg	21 55 28.2	-5.1
TURN				*i* S	**Sg**	**21 55 32.3**	**-8.3**
DALY	**Dalyan (Mu¨la**	**0.57**	**70**	PG	**Pb**	**21 55 34.3**	**0.0**
DALY	**Dalyan (Mu¨la**	**0.57**	**70**	*i* P	**Pb**	**21 55 34.7**	**+0.4**
DALY				*i* S	**Sb**	**21 55 43.6**	**+1.3**
NIS1	**Nisyros Isl.**	**0.66**	**268**	PG	**Pb**	**21 55 35.3**	**-0.5**
NIS1	**Nisyros Isl.**	**0.66**	**268**	P	**Pb**	**21 55 36.0**	**+0.1**
NIS1				S	**Sn**	**21 55 46.7**	**-1.0**
NIS1				AML	AML	21 55 48.1	
	comp=E,2206μm,0.3s						
NIS1				AML	AML	21 55 51.9	
	comp=N,3085μm,0.5s						
NIS1	**Nisyros Isl.**	**0.66**	**268**	P	**Pb**	**21 55 35.9**	**+0.1**
NIS1				S	**Sn**	**21 55 46.8**	**-1.0**
MLSB	**Milas**	**0.69**	**346**	PG	**Pg**	**21 55 36.2**	**+0.2**
NISR	**Nisiros**	**0.69**	**269**	P	**Pb**	**21 55 36.2**	**-0.2**
NISR				S	**Sn**	**21 55 48.0**	**-0.6**
NISR				AML	AML	21 55 49.0	
	comp=E,1152μm,0.2s						
NISR				AML	AML	21 55 49.7	
	comp=N,535μm,0.3s						
NISR	**Nisiros**	**0.69**	**269**	P	**Pb**	**21 55 36.1**	**-0.4**
NISR				S	**Sn**	**21 55 47.5**	**-1.2**
BODT	**Bodrum**	**0.70**	**309**	PG	**Pg**	**21 55 36.1**	**0.0**
BODT	**Bodrum**	**0.70**	**309**	P	**Pg**	**21 55 35.9**	**-0.2**
BODT				S	**Sb**	**21 55 47.0**	**+0.8**
FETY	**Fethiye**	**0.88**	**89**	PG	**Pb**	**21 55 39.8**	**+0.2**
FETY	**Fethiye**	**0.88**	**89**	P	**Pn**	**21 55 40.4**	**-0.2**
AYDN	**Tasoluk**	**1.04**	**355**	*i* P	**Pg**	**21 55 42.2**	**-0.3**
TAVA	**DENIZLI_Tavas**	**1.12**	**41**	*i* P	**Pn**	**21 55 45.2**	**+1.2**
TAVA				*i* S	**Sb**	**21 55 59.5**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**1.32**	**357**	PN	**Pb**	**21 55 47.4**	**+0.1**
AKAS	**Kas**	**1.36**	**106**	PN	**Pg**	**21 55 48.4**	**-0.2**
GOLH	**Golhisar**	**1.40**	**64**	*i* P	**Pg**	**21 55 51.6**	**+2.2**
SMG	**Samos**	**1.42**	**320**	P	**Pn**	**21 55 47.7**	**-0.3**
SMG				S	**Sn**	**21 56 05.9**	**-0.8**
SMG	**Samos**	**1.42**	**320**	P	**Pn**	**21 55 47.8**	**-0.3**
ELL	**Elmali**	**1.55**	**85**	PN	**Pb**	**21 55 51.2**	**+0.1**
KORT	**Korkueli**	**1.93**	**78**	PN	**Pn**	**21 55 56.5**	**+1.3**
KORT	**Korkueli**	**1.93**	**78**	*i* P	**Pg**	**21 55 60.0**	**+0.4**
KULA	**Kula-Manisa**	**1.96**	**16**	PN	**Pn**	**21 55 56.9**	**+1.3**
URLA	**Izmir**	**2.06**	**328**	PN	**Pn**	**21 55 57.7**	**+0.8**
CHOS	**Chios island**	**2.34**	**319**	P	**Pn**	**21 56 00.8**	**0.0**
NPS	**Neapolis**	**2.36**	**236**	P	**Pn**	**21 56 01.4**	**+0.5**
LAST	**Lasithi**	**2.51**	**235**	P	**Pn**	**21 56 04.7**	**+1.7**

*IDC **28** 22:20:41.8±1.6, 0°.58N×122°.49E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/29, mbtmp3.4/3, Error ellipse: s-maj=160.2km s-min=27.7km az=64.0*
*ISCJB **28** 22:20:52.5±0.8, 0°.62N±0°.08×122°.62E±0°.09, h114km, mb3.4/3, Error ellipse: s-maj=13.1km s-min=11.4km az=12.2*
*DJA **28** 22:20:53.1±0.6, 1°N±6°×12°3E±°, h72km±12km, M4.0/7, mb4.1/5, mB4.6/1, MLv4.0/7, Mw(mB)3.8/1*
ISC 28 22:20:54.2±1.1, 0°.61N±0°.09×122°.68E±0°.08, h114km, n12, σ1§08/11, mb3.4/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.75**	**260**	P	Pn	22 21 09.0	-4.3
KMSI	**Cibinong**	**1.30**	**92**	P	**Pn**	**22 21 17.4**	**-1.5**
LUWI	**Luwuk**	**1.64**	**177**	P	**Pn**	**22 21 22.2**	**-0.8**
APSI	**Ampana**	**1.83**	**214**	P	**Pn**	**22 21 23.7**	**-1.5**
MPSI	**Mapaga**	**2.80**	**264**	P	**Pn**	**22 21 36.3**	**-1.3**
TTSI	**Tana Toraja**	**4.62**	**218**	P	**Pn**	**22 22 01.3**	**-0.7**
BNSI	**Bone**	**5.60**	**207**	P	**Pn**	**22 22 14.7**	**-0.5**
BBSI	**Bau Bau**	**6.06**	**181**	P	**Pn**	**22 22 21.4**	**0.0**
BKSI	**Bulukumba**	**6.42**	**203**	P	**Pn**	**22 22 25.6**	**-0.7**
WRA	**Warramunga Arr**	**23.41**	**151**	P	**P**	**22 25 53.2**	**0.0**
	0.5nm,0.7s,baz=328,slow=11,SNR=5.0						
SONM	**Songino Array**	**49.12**	**346**	P	**P**	**22 29 31.1**	**+0.8**
	0.4nm,0.7s,baz=174,slow=6.3,SNR=3.2						
MKAR	**Makanchi Array**	**57.93**	**328**	P	**P**	**22 30 35.3**	**+0.8**
	0.3nm,0.4s,baz=124,slow=7.9,SNR=5.3						

*ISK **28** 22:27:25.1, 37°.82N×30°.57E, h5km, ML2.5/2*
*DDA **28** 22:27:26.1, 37°.83N×30°.62E, h7km, Ml2.2*
ISC 28 22:27:25.6±1.1, 37°.81N±0°.03×30°.61E±0°.02, h2km±10km, n14, σ0§92/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.07**	**279**	PG	**Pg**	**22 27 26.4**	**-0.6**
ISP				SG	**Sg**	**22 27 28.1**	**+0.1**
BAGO	**Egridir - ISPA**	**0.23**	**39**	*i* P	**Pg**	**22 27 30.4**	**+0.4**
BAGO				*i* S	**Sg**	**22 27 34.1**	**+1.0**
BRDR	**BURDUR-Merkez**	**0.45**	**255**	*i* P	**Pg**	**22 27 35.0**	**+0.8**
BRDR				*i* S	**Sb**	**22 27 42.8**	**-0.6**
SUTC	**Sutluce-Ispart**	**0.46**	**137**	PG	**Pg**	**22 27 34.4**	**0.0**
SUTC				SG	**Sb**	**22 27 42.4**	**-1.4**
KZIL	**AFYON_Kizioren**	**0.58**	**321**	*i* P	**Pg**	**22 27 37.1**	**+0.4**
KZIL				*i* S	**Sb**	**22 27 45.8**	**-1.4**
KORT	**Korkueli**	**0.83**	**194**	PG	**Pg**	**22 27 41.8**	**+0.2**
KORT	**Korkueli**	**0.83**	**194**	*i* P	**Pg**	**22 27 42.4**	**-0.5**
KORT				*i* S	**Sb**	**22 27 55.2**	**+0.5**
DOGA	**KONYA_Doganhis**	**0.89**	**70**	*i* P	**Pb**	**22 27 43.4**	**-0.4**
DOGA				*i* S	**Sg**	**22 27 55.0**	**+0.8**
BOLV	**Bolvadin**	**0.94**	**17**	*i* P	**Pn**	**22 27 45.4**	**-0.7**
BOLV				*i* S	**Sn**	**22 27 59.3**	**-0.8**
KHAL	**Karahalli**	**1.04**	**303**	*i* P	**Pb**	**22 27 46.2**	**-0.2**
KHAL				*i* S	**Sn**	**22 28 04.7**	**+2.2**
KDHN	**Kadinhani**	**1.39**	**59**	*i* P	**Pg**	**22 27 52.4**	**+0.2**
KDHN				*i* S	**Sn**	**22 28 12.6**	**+1.6**
KONT	**Konya--Tatoy**	**1.39**	**84**	PN	**Pg**	**22 27 52.4**	**+0.1**
LADK	**Ladik-KONYA**	**1.44**	**74**	PN	**Pg**	**22 27 53.4**	**+0.1**
KIZT	**Kizilcal**	**1.46**	**43**	PN	**Pn**	**22 27 52.8**	**-0.3**

*SOME **28** 22:29:11.2, 45°.38N×72°.30E, h5km*
*NNC **28** 22:29:13.8±5.3, 45°.

MEEK	**Meekatharra**	**6.75**	**278**	P		**Pn**	**22 36 56.8**	**-1.4**
	baz=6.5,SNR=14							
MEEK	**Meekatharra**	**6.75**	**278**	P		**Pn**	**22 36 56.8**	**-1.4**
	baz=6.6							
MEEK				S		Sn	22 38 05.1	-8.8
	baz=6.6,SNR=6.3							
AS11	**Alice Springs**	**8.14**	**62**	P		**Pn**	**22 37 19.3**	**+1.9**
	baz=8.2							
ASAR	**Alice Springs**	**8.15**	**62**	Pn		**Pn**	**22 37 19.6**	**+2.0**
	1.0nm,0.3s,baz=236,slow=11,SNR=36							
ASAR				Sn		Sn	22 38 46.5	-2.1
	5.7nm,0.3s,baz=239,slow=24,SNR=7.3							
ASAR				Lg		Lg	22 39 36.0	
	7.1nm,0.3s,baz=238,slow=24,SNR=5.7							
ASAR				LR		LR	22 40 07.1	
	comp=Z,132nm,20.7s,baz=190,slow=35							
AS31	**Alice Springs**	**8.16**	**62**	*e*Pn		**Pn**	**22 37 19.7**	**+2.1**
AS31				*e*Sn		**Sn**	**22 38 46.5**	**-2.1**
AS14	**Alice Springs**	**8.17**	**61**	P		**Pn**	**22 37 19.6**	**+1.8**
	baz=8.3							
AS15	**Alice Springs**	**8.18**	**61**	P		**Pn**	**22 37 20.3**	**+2.4**
	baz=8.3							
KLBR	**Kellerberrin**	**8.18**	**240**	P		**Pn**	**22 37 15.0**	**-2.8**
	baz=7.9,SNR=5.7							
KLBR	**Kellerberrin**	**8.18**	**240**	P		**Pn**	**22 37 14.9**	**-2.9**
	baz=8.1,SNR=5.7							
AS01	**Alice Springs**	**8.19**	**62**	P		**Pn**	**22 37 20.0**	**+2.0**
	baz=8.3							
AS01	**Alice Springs**	**8.19**	**62**	*e*Pn		**Pn**	**22 37 20.8**	**+2.7**
AS01				*e*Sn		**Sn**	**22 38 47.2**	**-2.3**
BLDU	**Ballidu**	**8.67**	**249**	P		**Pn**	**22 37 23.8**	**-0.7**
	baz=8.6							
MBWA	**Marble Bar**	**8.77**	**317**	*e*Pn		**Pn**	**22 37 24.0**	**-2.0**
MBWA				*e*Sn		Sn	22 38 55.1	-8.5
NWAO	**Narrogin (SRO)**	**9.20**	**234**	P		**Pn**	**22 37 28.6**	**-3.3**
	baz=8.9,SNR=5.2							
NWAO				P		**Pn**	**22 37 28.6**	**-3.3**
	baz=8.9,SNR=5.2							
NWAO	**Narrogin (SRO)**	**9.20**	**234**	P		**Pn**	**22 37 30.0**	**-1.9**
	baz=9.1							
NWAO	**Narrogin (SRO)**	**9.20**	**234**	*e*Pn		**Pn**	**22 37 28.8**	**-3.1**
NWAO				*e*Sn		Sn	22 39 03.1	-11
FITZ	**Fitzroy Crossi**	**9.65**	**357**	Pn		**Pn**	**22 37 38.1**	**+0.1**
	4.8nm,0.3s,baz=200,slow=11,SNR=128							
FITZ				Sn		**Sn**	**22 39 20.4**	**-4.8**
	2.6nm,0.3s,baz=54,slow=6.2,SNR=4.0							
FITZ				Lg		Lg	22 40 28.8	
	2.4nm,0.3s,baz=291,slow=23,SNR=3.9							
FITZ				LR		LR	22 41 56.3	
	comp=Z,93nm,19.5s,baz=187,slow=41							
FITZ	**Fitzroy Crossi**	**9.65**	**357**	P		**Pn**	**22 37 38.1**	**+0.1**
	baz=9.7,SNR=29							
FITZ	**Fitzroy Crossi**	**9.65**	**357**	P		**Pn**	**22 37 37.4**	**-0.7**
	baz=9.7							
BBOO	**Buckleboo**	**9.97**	**123**	P		**Pn**	**22 37 43.3**	**+1.0**
	baz=10							
BBOO	**Buckleboo**	**9.97**	**123**	*e*Pn		**Pn**	**22 37 43.6**	**+1.3**
BBOO				*e*Sn		**Sn**	**22 39 29.0**	**-4.0**
RKGY	**Rocky Gully**	**10.35**	**227**	P		**Pn**	**22 37 45.0**	**-2.5**
	baz=10,SNR=8.5							
RKGY	**Rocky Gully**	**10.35**	**227**	P		**Pn**	**22 37 46.8**	**-0.7**
	baz=10							
WRA	**Warramunga Arr**	**10.86**	**46**	Pn		**Pn**	**22 37 55.1**	**+0.5**
	2.2nm,0.3s,baz=230,slow=12,SNR=76							
WRA				Sn		**Sn**	**22 39 51.4**	**-3.5**
	3.3nm,0.3s,baz=226,slow=22,SNR=11							
WRA				Lg		Lg	22 41 03.0	
	2.1nm,0.3s,baz=220,slow=28,SNR=4.0							
WR1	**Warramunga Arr**	**10.86**	**46**	*e*Pn		**Pn**	**22 37 55.1**	**+0.5**
WR1				*e*Sn		**Sn**	**22 39 51.4**	**-3.5**
WB2	**Warramunga Arr**	**10.87**	**46**	*e*Pn		**Pn**	**22 37 55.6**	**+1.0**
WB2				*e*Sn		**Sn**	**22 39 50.4**	**-4.6**
WC3	**Warramunga Arr**	**10.87**	**46**	*e*Pn		**Pn**	**22 37 56.0**	**+1.3**
WC3				*e*Sn		**Sn**	**22 39 50.5**	**-4.7**
WRAB	**Tennant Creek**	**10.87**	**46**	*e*Pn		**Pn**	**22 37 55.8**	**+1.0**
WRAB				*e*Sn		**Sn**	**22 39 49.6**	**-5.6**
WB5	**Warramunga Arr**	**10.92**	**46**	P		**Pn**	**22 37 55.9**	**+0.5**
	baz=11							
WB0	**Warramunga Arr**	**11.02**	**45**	P		**Pn**	**22 37 57.2**	**+0.4**
	baz=11							
GIRL	**Giralia**	**11.88**	**293**	P		**Pn**	**22 38 06.6**	**-2.0**
	baz=12							
KNRA	**Kununurra**	**12.30**	**12**	P		**Pn**	**22 38 14.5**	**+0.2**
	baz=12							
HTT	**Hallett**	**12.40**	**120**	P		**Pn**	**22 38 17.0**	**+1.3**
	baz=12,SNR=5.0							
STKA	**Stephens Creek**	**14.06**	**111**	Pn		**Pn**	**22 38 37.2**	**-1.2**
	0.5nm,0.3s,baz=287,slow=11,SNR=5.4							
STKA				Sn		Sn	22 41 02.5	-11
	2.1nm,0.3s,baz=243,slow=22,SNR=5.8							
STKA				Lg		Lg	22 42 43.0	
	1.6nm,0.3s,baz=212,slow=18,SNR=1.6							
STKA				LR		LR	22 44 10.8	
	comp=Z,76nm,18.8s,baz=18,slow=38							
STKA	**Stephens Creek**	**14.06**	**111**	P		**Pn**	**22 38 37.9**	**-0.4**
	baz=14							
QIS	**Mount Isa**	**14.28**	**63**	P		**Pn**	**22 38 41.3**	**0.0**
	baz=14							
MTN	**Manton Dam**	**15.60**	**19**	P		**Pn**	**22 38 59.6**	**+0.7**
	baz=16							
ARPS	**Mount Arapiles**	**16.04**	**128**	P		**P**	**22 39 05.9**	**-1.7**
	baz=16							
KDU	**Kakadu**	**16.16**	**23**	P		**Pn**	**22 39 07.0**	**+0.8**
	baz=16							
CMSA	**Cobar Meteorol**	**17.44**	**107**	P		**P**	**22 39 25.2**	**+2.1**
	baz=18							
BATI	**Baumata**	**17.64**	**352**	P		**Pn**	**22 39 24.2**	**-0.4**
	1.3nm,0.3s,baz=194,slow=16,SNR=2.4							
COEN	**Coen**	**21.04**	**53**	*e*P		**P**	**22 40 03.6**	**+1.1**
	9.0nm,0.8s							
VNDA	**Vanda**	**52.48**	**171**	P		**P**	**22 44 32.0**	**+1.5**
	0.8nm,0.7s,baz=334,slow=7.9,SNR=4.8							
VNDA				pP		**pP**	**22 44 39.2**	**-1.8**
	1.2nm,0.7s,baz=336,slow=7.0,SNR=2.3							
CMAR	**Chiang Mai Arr**	**52.95**	**327**	P		**P**	**22 44 36.7**	**+2.0**
	0.5nm,0.7s,baz=159,slow=6.0,SNR=4.5							
JCJ	**Chichijima**	**56.72**	**17**	LR		LR	23 09 29.7	
	comp=Z,252nm,21.1s,baz=276,slow=36							
QSPA	**South Pole Qui**	**62.30**	**180**	P		**P**	**22 45 41.8**	**+1.7**
	1.0nm,0.6s,baz=310,slow=4.6,SNR=2.0							
QSPA				pP		**pP**	**22 45 48.7**	**-2.1**
	1.4nm,0.5s,baz=338,slow=2.7,SNR=3.2							
SNAA	**Sanae**	**74.71**	**195**	P		**P**	**22 46 58.8**	**+1.5**
	0.6nm,0.7s,baz=1.0,slow=19,SNR=1.1							
SNAA				pP		**pP**	**22 47 05.9**	**-2.3**
	0.6nm,0.4s,baz=110,slow=8.2,SNR=1.9							
SONM	**Songino Array**	**77.33**	**347**	P		**P**	**22 47 14.6**	**+2.1**
	0.7nm,0.7s,baz=165,slow=7.3,SNR=4.9							
SONM				pP		**PcP**	**22 47 22.1**	**-0.8**
	0.3nm,0.5s,baz=152,slow=5.4,SNR=2.2							
MKAR	**Makanchi Array**	**84.12**	**331**	P		**P**	**22 47 49.9**	**+1.2**
	0.5nm,0.5s,baz=132,slow=4.1,SNR=5.4							
MKAR				pP		**pP**	**22 47 57.5**	**-2.2**
	0.4nm,0.6s,baz=155,slow=5.0,SNR=2.3							
GEYT	**Alibeck**	**91.20**	**313**	P		**P**	**22 48 24.6**	**+1.5**
	0.6nm,0.7s,baz=115,slow=6.8,SNR=2.6							

*BJI **28** 22:56:41.3,20˙.87N×145˙.60E,h69km,mb4.7/38,mB4.9/23, Ms4.6/3,Ms7 4.2/4*

*NEIC **28** 22:56:47.9±1.1,21˙.10N×145˙.00E,h71km±9km,mb4.7/32, Error ellipse: s-maj=6.4km s-min=5.4km az=90.0*

*ISCJB **28** 22:56:48.1±0.3,21˙.12N±0˙.04×144˙.93E±0˙.05,h83km, mb4.5/66, Error ellipse: s-maj=7.1km s-min=5.9km az=144.4*

*IDC **28** 22:56:48.6±1.8,21˙.11N×145˙.06E,h80km±14km,mb4.1/26, mb1 4.2/30,mb1mx4.1/48,mbtmp4.4/30,MS3.2/9, Ms1 3.3/9,ms1mx3.0/37, Error ellipse: s-maj=16.4km s-min=11.2km az=79.0*

ISC 28 22:56:49.0±0.4,21˙.17N±0˙.06×145˙.11E±0˙.09,h83km,n120,
σ1s33/124,mb4.5/66,1D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**4.49**	**172**	*e*Pn	**Pn**	**22 57 50.1**	**-4.5**
CBIJ	**Chichi jima**	**6.48**	**336**	*e*Pn	**Pn**	**22 58 19.9**	**-1.8**
CBIJ				*e*Sn	**Sn**	**22 59 30.5**	**-3.7**
JCJ	**Chichijima**	**6.48**	**336**	P	**Pn**	**22 58 20.6**	**-1.1**
	13nm,0.3s,baz=124,slow=22,SNR=8.2						
JCJ				S	**Sn**	**22 59 30.2**	**-4.0**
GUMO	**Guam**	**7.54**	**182**	P	Pn	22 58 40.4	+4.1
	22nm,0.3s,baz=31,slow=4.8,SNR=4.4						
GUMO				S	Sn	23 00 08.1	+7.9
	8.9nm,0.3s,baz=197,slow=23,SNR=1.7						
GUMO				LR	LR	23 00 46.6	
	comp=Z,128nm,21.3s,baz=39,slow=32						
GUMO	**Guam**	**7.54**	**182**	*e*Pn	**Pn**	**22 58 38.6**	**+2.3**
GUMO				*e*Sn	Sn	23 00 07.8	+7.6
JOW	**Kunigami**	**16.38**	**293**	P	**Pn**	**23 00 33.8**	**-0.1**
	1.1nm,0.3s,baz=102,slow=20,SNR=2.8						
MJAR	**Matsushiro Arr**	**16.46**	**340**	P	**Pn**	**23 00 33.2**	**-1.6**
	0.7nm,0.3s,baz=163,slow=10.0,SNR=6.5						
MAJO	**Matsushiro**	**16.46**	**340**	*e*Pn	**Pn**	**23 00 35.2**	**+0.4**
MAT	**Matsushiro**	**16.46**	**340**	P	**Pn**	**23 00 33.6**	**-1.2**
JNU	**Nakatsue**	**17.36**	**316**	P	**P**	**23 00 46.8**	**+0.6**
	0.7nm,0.3s,baz=97,slow=9.6,SNR=11						
JNU	**Nakatsue**	**17.36**	**316**	*e*Pn	**Pn**	**23 00 45.5**	**-0.5**
	70nm,1.3s						
H11N1	**WAKE ISLAND Hy**	**20.46**	**90**	T	T	23 22 37.7	
	baz=276,slow=75,SNR=21						
H11N2	**WAKE ISLAND Hy**	**20.46**	**90**	T	T	23 22 56.0	
	baz=276,slow=75,SNR=20						
H11S3	**WAKE ISLAND Hy**	**20.47**	**94**	T	T	23 22 47.9	
	baz=280,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**20.48**	**90**	T	T	23 22 54.3	
	baz=276,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**20.48**	**94**	T	T	23 22 20.2	
	baz=280,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**20.48**	**94**	T	T	23 22 20.3	
	baz=280,slow=75,SNR=12						
KSRS	**Korea Array**	**22.03**	**321**	P	**P**	**23 01 37.1**	**+0.5**
	39nm,0.7s,baz=146,slow=8.6,SNR=94						
KSRS				LR	LR	23 09 59.6	
	comp=Z,68nm,19.9s,baz=133,slow=36						
KS15	**Wonju Array Si**	**22.05**	**321**	*e*P	**P**	**23 01 38.0**	**+1.1**
KSAR	**Wonju Array Be**	**22.05**	**321**	P	**P**	**23 01 37.1**	**+0.3**
KS01	**Wonju Array Si**	**22.07**	**321**	*e*P	**P**	**23 01 37.3**	**+0.3**
ASAJ	**Asahikawa**	**22.98**	**355**	P	**P**	**23 01 47.2**	**+0.7**
	21nm,1.0s,baz=162,slow=20,SNR=3.5						
USRK	**Ussuriysk Ar.**	**25.42**	**338**	P	**P**	**23 02 10.1**	**+1.3**
	4.2nm,0.5s,baz=135,slow=9.2,SNR=13						
USRK				LR	LR	23 11 22.4	
	comp=Z,87nm,21.1s,baz=164,slow=34						
NJ2	**Nanjing**	**25.79**	**300**	*e*P	**P**	**23 02 12.0**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KLR	**Kul'dur**	**29.96**	**342**	P	**P**	**23 02 50.3**	**+1.0**
	11nm,0.6s,baz=163,slow=6.8,SNR=34						
PMG	**Port Moresby**	**30.45**	**176**	LR	LR	23 14 01.7	
	comp=Z,63nm,19.5s,baz=327,slow=34						
PETK	**Petropavlovsk-**	**33.32**	**14**	LR	LR	23 14 59.8	
	comp=Z,39nm,20.5s,baz=210,slow=33						
HNR	**Honiara**	**33.72**	**153**	LR	LR	23 15 50.2	
	comp=Z,63nm,19.0s,baz=322,slow=34						
HHC	**Hu-ho-hao-te**	**34.52**	**312**	*e*P	**P**	**23 03 31.5**	**+2.1**
HHC				pmax	pmax		
	comp=Z,19nm,1.0s						
HHC				pmax	pmax		
	comp=Z,130nm,5.5s						
CD2	**Chengdu**	**38.22**	**293**	*e*P	**P**	**23 04 01.0**	**0.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
LZH	**Lanzhou**	**38.85**	**302**	*e*P	**P**	**23 04 05.3**	**-1.1**
LZH				pP	pP	23 04 25.3	-0.8
LZH				sP	sP	23 04 32.5	-3.1
LZH				*e*PP	**PnPn**	**23 05 41.0**	**+1.1**
LZH				pmax	pmax		
	comp=Z,26nm,1.0s						
LZH				pmax	pmax		
	comp=Z,130nm,6.0s						
KMI	**Kunming**	**39.05**	**284**	P	**P**	**23 04 09.3**	**+1.1**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ULN	**Ulaanbaatar**	**40.52**	**320**	*e*P	**P**	**23 04 20.2**	**+0.2**
	3.9nm,0.8s						
SONA1	**Songino Array**	**40.90**	**320**	*e*P	**P**	**23 04 23.3**	**+0.2**
SONM	**Songino Array**	**40.90**	**320**	P	**P**	**23 04 23.3**	**+0.2**
	3.9nm,0.6s,baz=132,slow=7.4,SNR=42						
SONM				PcP	**PcP**	**23 06 22.5**	**+0.2**
	0.4nm,0.5s,baz=78,slow=2.1,SNR=3.3						
SEY	**Seymchan**	**42.03**	**5**	P	**P**	**23 04 32.9**	**+0.9**
	1.1nm,0.3s,baz=207,slow=17,SNR=4.7						
WRAB	**Tennant Creek**	**42.18**	**195**	*e*P	**P**	**23 04 33.2**	**-0.5**
	3.1nm,0.4s						
WB2	**Warramunga Arr**	**42.19**	**195**	*e*P	**P**	**23 04 32.7**	**-1.1**
WRA	**Warramunga Arr**	**42.20**	**195**	P	**P**	**23 04 33.3**	**-0.5**
	3.3nm,0.6s,baz=12,slow=8.5,SNR=27						
WRA				ScP	**ScP**	**23 10 09.5**	**-0.4**
	0.5nm,0.8s,baz=13,slow=5.4,SNR=4.5						
WRA				LR	LR	23 22 47.8	
	comp=Z,34nm,19.1s,baz=225,slow=37						
GTA	**Gaotai**	**42.64**	**306**	||P	**P**	**23 04 37.8**	**+0.3**
GTA				pP	pP	23 04 53.5	-3.9
GTA				sP	sP	23 05 00.5	-6.4
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CHTO	**Chiang Mai**	**43.34**	**275**	*e*P	**P**	**23 04 43.1**	**0.0**
	0.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**43.41**	**275**	P	**P**	**23 04 43.9**	**+0.2**
	0.7nm,0.4s,baz=86,slow=6.7,SNR=5.5						
CMAR				LR	LR	23 23 34.8	
	comp=Z,18nm,19.3s,baz=125,slow=37						
FITZ	**Fitzroy Crossi**	**43.44**	**207**	*e*P	**P**	**23 04 44.0**	**+0.1**
	9.9nm,0.8s						
AS01	**Alice Springs**	**45.87**	**194**	*e*P	**P**	**23 05 02.3**	**-0.9**
ASAR	**Alice Springs**	**45.88**	**194**	P	**P**	**23 05 02.3**	**-1.0**
	1.2nm,0.8s,baz=15,slow=7.8,SNR=12						
DZM	**Mont Dzumac**	**47.75**	**153**	P	**P**	**23 05 17.2**	**-0.7**
	3.6nm,0.5s,baz=150,slow=23,SNR=7.2						
LSA	**Lhasa**	**49.10**	**291**	*e*P	**P**	**23 05 29.4**	**+0.5**
	3.9nm,0.6s						
TIXI	**Tiksi**	**51.37**	**353**	*e*P	**P**	**23 05 45.0**	**+0.3**
	2.0nm,0.6s						
WMQ	**Urumqi**	**52.30**	**310**	P	**P**	**23 05 53.3**	**+1.1**
WMQ				sP	sP	23 06 18.0	-4.1
WMQ				pmax	pmax		
	comp=Z,28nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,260nm,4.9s						
STKA	**Stephens Creek**	**52.85**	**184**	P	**P**	**23 05 55.6**	**-0.5**
	1.6nm,0.7s,baz=3.6,slow=16,SNR=2.6						
STKA				LR	LR	23 29 57.1	
	comp=Z,29nm,18.1s,baz=23,slow=38						
JIRN	**Jiri**	**53.62**	**289**	*e*P	**P**	**23 06 02.7**	**+0.2**
	16nm,0.5s						
GUN	**Gumba**	**53.87**	**290**	*e*P	**P**	**23 06 04.2**	**-0.1**
PKI	**Pulchoki**	**54.32**	**289**	*e*P	**P**	**23 06 07.0**	**-0.6**
	4.9nm,0.5s						
PKIN	**Phulchoki**	**54.33**	**289**	*e*P	**P**	**23 06 06.9**	**-0.7**
	5.8nm,0.5s						
DANN	**Dangsing**	**55.67**	**291**	*e*P	**P**	**23 06 17.5**	**+0.2**
	65nm,0.5s						
ZAA0	**Zalesovo Array**	**55.74**	**322**	*e*P	**P**	**23 06 16.4**	**-0.6**
	4.9nm,0.5s						
ZALV	**Zalesovo Beam**	**55.74**	**322**	P	**P**	**23 06 16.0**	**-1.0**
	4.7nm,0.5s,baz=110,slow=7.7,SNR=25						
ZALV				PcP	**PcP**	**23 07 14.6**	**-0.7**
	2.1nm,0.5s,baz=116,slow=4.0,SNR=3.9						
ZALV	**Zalesovo Beam**	**55.74**	**322**	*e*P	**P**	**23 06 16.4**	**-0.6**
ZALV				PcP	**PcP**	**23 07 14.6**	**-0.7**
KOLN	**Koldanda**	**55.89**	**290**	*e*P	**P**	**23 06 18.3**	**-0.4**
	14nm,0.8s						
MK01	**Makanchi Array**	**56.37**	**313**	*e*P	**P**	**23 06 21.9**	**+0.2**
PYUN	**Piuthan**	**56.38**	**290**	*e*P	**P**	**23 06 22.0**	**-0.2**
	18nm,0.9s						
MK31	**Makanchi Array**	**56.38**	**313**	*e*P	**P**	**23 06 21.2**	**-0.5**
MKAR	**Makanchi Array**	**56.38**	**313**	P	**P**	**23 06 21.8**	**+0.1**
	3.5nm,0.6s,baz=86,slow=7.9,SNR=31						
MKAR				PcP	**PcP**	**23 07 17.8**	**-0.1**
	1.5nm,0.4s,baz=78,slow=3.4,SNR=12						
MKAR				ScP	**ScP**	**23 11 09.6**	**-0.4**
	0.4nm,0.7s,baz=93,slow=5.2,SNR=3.0						
MKAR	**Makanchi Array**	**56.38**	**313**	*e*P	**P**	**23 06 21.2**	**-0.5**
	25nm,0.6s						
MKAR				PcP	**PcP**	**23 07 17.8**	**-0.1**
MKAR				ScP	**ScP**	**23 11 09.6**	**-0.4**
KURK	**Kurchatov**	**59.09**	**317**	*e*P	**P**	**23 06 40.6**	**+0.1**
	4.7nm,0.8s						
NRIK	**Noril'sk**	**59.12**	**340**	P	**P**	**23 06 40.8**	**+0.4**
	7.9nm,0.6s,baz=109,slow=8.7,SNR=30						
NRN	**Naryn**	**60.87**	**306**	*e*P	**P**	**23 06 54.5**	**+1.2**
	4.9nm,1.1s						
KSH	**Kashi**	**61.01**	**304**	P	**P**	**23 06 57.5**	**+3.4**
KSH				pP	pP	23 07 17.5	+2.3
KSH				PP	**PP**	**23 09 15.5**	**+6.3**
KSH				S	**S**	**23 15 08.0**	**+1.4**
KSH				sS	sS	23 15 42.0	-0.5
KSH				pmax	pmax		
	comp=Z,19nm,0.7s						
KSH				pmax	pmax		
	comp=Z,190nm,4.3s						
KSH				LR	LR		
	comp=Z,160nm,13.4s						
ILAR	**Eielson Array**	**61.69**	**27**	P	**P**	**23 06 57.6**	**-0.4**
	0.8nm,0.5s,baz=263,slow=5.5,SNR=12						
AAK	**Ala-Archa**	**61.91**	**308**	*e*P	**P**	**23 07 00.1**	**-0.1**
	2.6nm,0.6s						
NIL	**Nilore**	**63.87**	**298**	*e*P	**P**	**23 07 13.5**	**+0.3**
	8.4nm,0.6s						
BRVK	**Borovoye**	**64.30**	**320**	*e*P	**P**	**23 07 15.4**	**-0.1**
	4.6nm,0.8s						
KK31	**Karatay Array**	**64.79**	**309**	*e*P	**P**	**23 07 19.6**	**+0.6**
KKAR	**Karatay Array**	**64.79**	**309**	*e*P	**P**	**23 07 19.6**	**+0.6**
KBL	**Kabul**	**67.16**	**300**	*e*P	**P**	**23 07 34.7**	**+0.1**
	13nm,0.8s						
INK	**Inuvik**	**67.34**	**23**	P	**P**	**23 07 35.3**	**+0.6**
	2.0nm,0.8s,baz=221,slow=2.5,SNR=6.9						
INK	**Inuvik**	**67.34**	**23**	*e*P	**P**	**23 07 35.5**	**+0.8**
ABKAR	**Akbulak array**	**71.17**	**316**	*e*P	**P**	**23 07 58.6**	**-0.2**
YKA	**Yellowknife Ar**	**76.08**	**28**	P	**P**	**23 08 27.8**	**+0.5**
	1.4nm,0.5s,baz=292,slow=5.8,SNR=10						
RES	**Resolute Bay**	**77.17**	**14**	*e*P	**P**	**23 08 34.0**	**+0.8**
	1.5nm,0.8s						
ARCES	**ARCESS Array B**	**79.99**	**342**	P	**P**	**23 08 49.3**	**+0.5**
	4.6nm,0.6s,baz=70,slow=8.1,SNR=31						
BEKR	**Beckworth**	**80.07**	**51**	*e*P	**P**	**23 08 51.3**	**+1.3**
	9.8nm,0.8s						
BMO	**Blue Mountains**	**80.52**	**46**	*e*P	**P**	**23 08 53.2**	**+1.0**
	4.1nm,0.7s						
MFID	**Camas Ranch**	**82.02**	**47**	*e*P	**P**	**23 09 02.0**	**+1.7**
	11nm,1.3s						
NV01	**Mina Array Sit**	**82.06**	**52**	*e*P	**P**	**23 09 02.0**	**+1.2**
NVAR	**Mina Array Bea**	**82.06**	**52**	P	**P**	**23 09 02.1**	**+1.4**
	3.3nm,0.7s,baz=266,slow=6.4,SNR=12						
TBLG	**Delisi**	**83.56**	**312**	*e*P	**P**	**23 09 09.0**	**+0.8**
	6.0nm,0.8s						
KBZ	**Khabaz**	**84.02**	**315**	P	**P**	**23 09 11.2**	**+0.8**
	4.1nm,0.9s,baz=72,slow=7.4,SNR=8.5						
FINES	**FINESS Array B**	**84.42**	**335**	P	**P**	**23 09 11.3**	**-0.8**
	9.8nm,0.4s,baz=69,slow=4.7,SNR=111						
YMR	**Madison River**	**84.76**	**44**	*e*P	**P**	**23 09 16.9**	**+2.5**
	6.8nm,0.8s						
IMW	**Indian Meadow**	**85.10**	**45**	*e*P	**P**	**23 09 18.4**	**+2.1**
	3.2nm,0.6s						
SPUT	**South Promonto**	**85.15**	**48**	*e*P	**P**	**23 09 17.9**	**+1.5**
	7.3nm,1.3s						
PSUT	**Pine Spring**	**85.26**	**51**	*e*P	**P**	**23 09 18.6**	**+1.5**
	4.4nm,0.8s						
DUG	**Dugway, Tooele**	**85.34**	**49**	*e*P	**P**	**23 09 18.9**	**+1.5**
	4.9nm,1.0s						
PDAR	**Pinedale Array**	**86.49**	**45**	P	**P**	**23 09 23.9**	**+0.7**
	0.7nm,0.5s,baz=231,slow=2.9,SNR=5.6						
PDAR	**Pinedale Array**	**86.49**	**45**	*e*P	**P**	**23 09 22.4**	**-0.7**
KNB	**Kanab**	**86.61**	**52**	*e*P	**P**	**23 09 25.8**	**+2.0**
	7.4nm,0.9s						
SRU	**San Rafael Swe**	**87.40**	**49**	*e*P	**P**	**23 09 28.7**	**+1.2**
	5.0nm,0.6s						
PV21	**Cone Mtn., Par**	**88.73**	**49**	*e*P	**P**	**23 09 35.6**	**+1.7**
	24nm,1.7s						
PV10	**Paradox Valley**	**88.76**	**49**	*e*P	**P**	**23 09 35.9**	**+1.8**
PV19	**Morning Glory**	**88.83**	**49**	*e*P	**P**	**23 09 35.9**	**+1.6**
	9.8nm,1.0s						
PV17	**East Wray Mesa**	**88.86**	**49**	*e*P	**P**	**23 09 36.1**	**+1.6**
	7.7nm,0.8s						
PV16	**Nyswonger Mesa**	**88.88**	**49**	*e*P	**P**	**23 09 36.0**	**+1.4**
	5.5nm,0.8s						
PV11	**David Mesa, Pa**	**88.91**	**49**	*e*P	**P**	**23 09 36.0**	**+1.3**
	6.6nm,0.8s						
AKASG	**Malin Array Be**	**88.97**	**325**	P	**P**	**23 09 32.1**	**-2.4**
	0.6nm,0.4s,baz=55,slow=5.2,SNR=4.6						
PV13	**Radium Mtn., P**	**89.01**	**49**	*e*P	**P**	**23 09 36.4**	**+1.1**
	4.1nm,0.7s						
NOA	**NORSAR Array B**	**90.08**	**339**	P	**P**	**23 09 38.3**	**-1.2**
	0.7nm,0.8s,baz=54,slow=6.6,SNR=4.3						
BRTR	**Keskin Array B**	**92.01**	**314**	P	**P**	**23 09 48.1**	**-0.9**
	1.1nm,0

ATAF Djebel Tarf 1.22 221 P **Pb** **23 15 50.7 -1.0**
ATAF Djebel Tarf 1.22 221 P **Pb** **23 15 50.7 -1.0**
CKFL Kef-Lekhel 1.23 108 P **Pn** **23 15 51.3 -0.6**
CKFL Kef-Lekhel 1.23 108 P **Pn** **23 15 51.3 -0.6**
CAEH 'Ain El Ouahch 1.27 90 P **Pn** **23 15 51.6 -0.7**
CAEH 'Ain El Ouahch 1.27 90 P **Pn** **23 15 51.6 -0.7**
ADJB Djebel Djouab 1.61 247 P **Pn** **23 15 55.0 -2.0**
ADJB Djebel Djouab 1.61 247 P **Pn** **23 15 55.0 -2.0**
CMAH Djebel Manchou 1.74 95 P **Pn** **23 15 58.2 -0.6**
CMAH Djebel Manchou 1.74 95 P **Pn** **23 15 58.2 -0.6**
ABA Alger-Bouzarea 1.79 271 P **Pn** **23 15 55.5 -4.0**
ABA Alger-Bouzarea 1.79 271 P **Pn** **23 15 55.5 -4.0**
ABSA Djebel Ababsia 1.85 106 P **Pg** **23 16 04.6 +0.6**
CABS Djebel Ababsia 1.85 106 P **Pg** **23 16 04.6 +0.6**
EMHD Djebel Mahouad 1.96 253 P **Pn** **23 15 59.2 -2.7**
EMHD Djebel Mahouad 1.96 253 P **Pn** **23 15 59.2 -2.7**
EBNR Beni Rached 3.05 262 P **Pn** **23 16 14.6 -2.3**
MAHO Mahon 3.19 346 P **Pn** **23 16 16.0 -2.7**
MAHO S **Sn** **23 16 50.5 -6.2**
MAHO Mahon 3.19 346 *e*P **Pn** **23 16 16.0 -2.7**
MAHO *e*S **Sn** **23 16 50.5 -6.2**
ECHA Ech Chlef 3.21 260 P **Pn** **23 16 16.0 -3.0**
ECHF Ech Chlef 3.23 260 P **Pn** **23 16 16.0 -3.2**
I48TN KESRA INFRASON 3.42 106 *i* 23 36 10.0
baz=286,slow=326,SNR=0.3
KEST Kesra 3.46 107 Pn **Pn** **23 16 22.6 +0.1**
28nm,0.3s,baz=245,slow=3.6,SNR=268
KEST Sn **Sn** **23 17 07.2 +3.6**
37nm,0.3s,baz=323,slow=16,SNR=5.5
EANR 'Ain N'Sour 3.47 257 P **Pn** **23 16 19.8 -2.8**
EANR 'Ain N'Sour 3.47 257 P **Pn** **23 16 19.8 -2.8**
ETRT Tiaret 3.51 248 P **Pn** **23 16 21.6 -1.6**
ETRT Tiaret 3.51 248 P **Pn** **23 16 21.6 -1.6**
OKGL Djebel Kef Gue 3.81 260 P **Pn** **23 16 25.0 -2.2**
OKGL Djebel Kef Gue 3.81 260 P **Pn** **23 16 26.2 -1.0**
529nm,0.4s,SNR=7.9
OKGL S **Sn** **23 17 08.0 -4.0**
1µm,0.4s,SNR=7.9
EIBI Ibiza 3.82 307 P **Pn** **23 16 26.6 -0.8**
123nm,0.2s,SNR=8.7
EIBI S **Sn** **23 17 06.7 -5.6**
69nm,0.2s,SNR=7.9
OJGS Djebel Guires 3.88 252 P **Pn** **23 16 25.0 -3.2**
OJGS Djebel Guires 3.88 252 P **Pn** **23 16 25.0 -3.2**
ODJA Bouhanifia 4.63 253 P **Pn** **23 16 36.0 -2.5**
ODJA Bouhanifia 4.63 253 P **Pn** **23 16 36.0 -2.5**
EBEN2 Beniarda presa 4.72 295 P **Pn** **23 16 39.4 -0.3**
143nm,0.4s,SNR=7.9
EBEN2 S **Sn** **23 17 32.0 -2.4**
30nm,0.8s,SNR=7.9
USTO Oran 4.82 259 P Pb 23 16 47.0 -6.0
USTO Oran 4.82 259 P Pb 23 16 47.0 -6.0
CART Cartagena 5.07 281 *e*Pn **Pn** **23 16 43.6 -0.9**
CART Cartagena 5.07 281 P **Pn** **23 16 42.1 -2.4**
CART S **Sn** **23 17 38.0 -5.0**
CART Cartagena 5.07 281 *e*P **Pn** **23 16 42.1 -2.4**
CART *i*S **Sn** **23 17 38.0 -5.0**
EMUR La Murta 5.29 283 P **Pn** **23 16 46.9 -0.7**
82nm,0.4s,SNR=38
EMUR S **Sn** **23 17 47.9 -0.8**
130nm,0.7s,SNR=5.6
CFON Fontmartina 5.42 337 P **Pn** **23 16 47.6 -1.9**
95nm,0.4s,SNR=44
CFON S **Sn** **23 17 45.5 -6.5**
37nm,0.3s,SNR=5.7
EBR Ebro Roquetas 5.48 319 P **Pn** **23 16 49.5 -0.7**
223nm,0.2s,SNR=7.9
EBR S **Sn** **23 17 46.8 -6.4**
6.3nm,0.5s,SNR=7.9
EPOB Poblet 5.59 326 P **Pn** **23 16 49.9 -2.0**
60nm,0.3s,SNR=78
EPOB S **Sn** **23 17 48.5 -7.7**
56nm,0.6s,SNR=6.5
ECHE Chera 5.65 301 P **Pn** **23 16 51.3 -1.2**
170nm,0.5s,SNR=7.9
ERTA Horta de San J 5.66 319 P **Pn** **23 16 51.6 -1.0**
33nm,0.4s,SNR=9.4
ERTA S **Sn** **23 17 49.5 -8.3**
31nm,0.4s,SNR=7.5
ETOB Tobarra 5.71 291 P **Pn** **23 16 53.6 +0.2**
90nm,0.4s,SNR=40
ETOB S **Sn** **23 17 55.7 -3.3**
62nm,0.6s,SNR=5.2
EMOS Mosqueruela 5.74 310 P **Pn** **23 16 53.4 -0.4**
64nm,0.4s,SNR=16
EMOS S **Sn** **23 17 53.0 -6.8**
50nm,0.4s,SNR=11
EJON La Jonquera 5.93 343 P **Pn** **23 16 54.6 -1.9**
64nm,0.3s,SNR=53
EJON S **Sn** **23 17 58.5 -5.9**
70nm,0.6s,SNR=11
SJAF Saint Jean de 5.97 343 P **Pn** **23 16 55.1 -1.8**
30nm,0.3s,SNR=7.9
SJAF S **Sn** **23 17 58.7 -6.6**
26nm,0.5s,SNR=7.9
ENIJ Nijar 6.00 274 P **Pn** **23 16 55.0 -2.3**
92nm,0.6s,SNR=7.9
ENIJ S **Sn** **23 18 01.2 -4.8**
173nm,0.3s,SNR=7.9
CLLI Lívia 6.22 337 P **Pn** **23 17 00.0 -0.4**
162nm,0.7s,SNR=67
CLLI S **Sn** **23 18 05.5 -6.0**
161nm,1.0s,SNR=5.6
SESP Santiago Espad 6.36 284 P **Pn** **23 17 01.3 -1.1**
497nm,1.2s,SNR=7.9
SESP S **Sn** **23 18 11.9 -3.2**
49nm,0.4s,SNR=7.9
SESP Santiago Espad 6.36 284 Pn **Pn** **23 17 01.5 -0.8**
CLTB Caltabellotta 6.39 81 *e*Pn **Pn** **23 17 02.0 -0.8**
CSOR Sort 6.42 331 P **Pn** **23 17 02.8 -0.4**
96nm,0.5s,SNR=100
CSOR S **Sn** **23 18 11.5 -5.1**
57nm,0.4s
PGF Pioggiola 6.42 25 *e*Pn **Pn** **23 17 00.8 -2.4**
PGF Pioggiola 6.42 25 *e*P **Pn** **23 17 05.2 +2.0**
PGF *e*Sn **Sn** **23 18 08.3 -8.3**
95nm,0.2s
PGF Pioggiola 6.42 25 *e*Pn **Pn** **23 17 00.8 -2.4**
PGF *e*Sn **Sn** **23 18 08.3 -8.3**
PGF Pioggiola 6.42 25 *e*P **Pn** **23 17 00.8 -2.4**
PGF Pioggiola 6.42 25 P **Pn** **23 17 00.8 -2.4**
PGF S **Sn** **23 18 08.3 -8.3**
47nm,0.2s
EBER Berja 6.54 273 P **Pn** **23 17 02.5 -2.4**
57nm,0.4s,SNR=42
EBER S **Sn** **23 18 15.0 -4.7**
45nm,0.4s,SNR=90
LMR La Mourre 6.60 8 *e*Pn **Pn** **23 17 03.1 -2.4**
LMR La Mourre 6.60 8 *e*P **Pn** **23 17 05.5 0.0**
LMR *e*Sn **Sn** **23 18 12.4 -8.3**
36nm,0.2s
LMR La Mourre 6.60 8 *e*Pn **Pn** **23 17 03.1 -2.4**
LMR *e*Sn **Sn** **23 18 12.4 -8.3**
LMR La Mourre 6.60 8 *e*P **Pn** **23 17 03.1 -2.4**
LMR La Mourre 6.60 8 P **Pn** **23 17 03.1 -2.4**
LMR S **Sn** **23 18 12.4 -8.3**
18nm,0.2s
GORA Gorafe 6.67 278 P **Pn** **23 17 07.0 +0.3**
99nm,0.4s,SNR=7.9
GORA S **Sn** **23 18 20.5 -2.3**
71nm,0.5s,SNR=7.9
EQES Quesada 6.72 281 P **Pn** **23 17 06.9 -0.4**
323nm,1.0s,SNR=80
EQES S **Sn** **23 18 22.4 -1.6**
64nm,0.4s,SNR=8.2
FRF La Foret Royal 6.84 8 *e*Pn **Pn** **23 17 06.0 -2.8**
FRF La Foret Royal 6.84 8 *e*P **Pn** **23 17 08.8 0.0**
FRF *e*Sn Sn 23 18 17.6 -9.0
40nm,0.2s
FRF La Foret Royal 6.84 8 *e*Pn **Pn** **23 17 06.0 -2.8**
FRF *e*Sn Sn 23 18 17.6 -9.0
FRF La Foret Royal 6.84 8 *e*P **Pn** **23 17 06.0 -2.8**
FRF La Foret Royal 6.84 8 P **Pn** **23 17 06.0 -2.8**
FRF S Sn 23 18 17.6 -9.0
20nm,0.2s
MTLF Montolieu 6.94 341 *e*P **Pn** **23 17 08.9 -1.3**
MTLF *e*Sn Sn 23 18 18.5 -11
42nm,0.3s
MTLF Montolieu 6.94 341 *e*P **Pn** **23 17 08.9 -1.3**
MTLF *e*Sn Sn 23 18 18.5 -11
MTLF Montolieu 6.94 341 *e*P **Pn** **23 17 08.9 -1.3**
MTLF Montolieu 6.94 341 P **Pn** **23 17 08.9 -1.3**
MTLF S Sn 23 18 18.5 -11
21nm,0.3s
EQUE Quentar 6.98 276 P **Pn** **23 17 10.9 0.0**
60nm,0.6s,SNR=15
EQUE S **Sn** **23 18 25.1 -5.3**
36nm,0.5s,SNR=5.0
ECHI Chisagues Biel 7.04 328 P **Pn** **23 17 11.3 -0.4**
23nm,0.3s,SNR=7.9
ECHI S **Sn** **23 18 26.0 -5.9**
7.4nm,0.5s,SNR=7.9
ELGU Los Guajares, 7.13 273 P **Pn** **23 17 11.7 -1.2**
46nm,0.4s,SNR=7.9
ELGU S **Sn** **23 18 28.6 -5.5**
81nm,0.4s,SNR=7.9
SMRF Simiane la Rot 7.17 2 *e*P **Pn** **23 17 13.7 +0.3**
SMRF *e*Sn Sn 23 18 25.7 -9.3
20nm,0.3s
SMRF Simiane la Rot 7.17 2 *e*P **Pn** **23 17 13.7 +0.3**
SMRF *e*Sn Sn 23 18 25.7 -9.3
SMRF Simiane la Rot 7.17 2 P **Pn** **23 17 13.7 +0.3**
SMRF S Sn 23 18 25.7 -9.3
20nm,0.3s
SBF Sospel 7.25 13 *e*Pn **Pn** **23 17 11.8 -2.7**
SBF Sospel 7.25 13 *e*P **Pn** **23 17 15.1 +0.6**
SBF *e*Sn Sn 23 18 28.2 -8.7
62nm,0.2s
SBF Sospel 7.25 13 *e*Pn **Pn** **23 17 11.8 -2.7**
SBF *e*Sn Sn 23 18 28.2 -8.7
SBF Sospel 7.25 13 *e*P **Pn** **23 17 11.8 -2.7**
SBF Sospel 7.25 13 P **Pn** **23 17 11.8 -2.7**
SBF S Sn 23 18 28.2 -8.7
31nm,0.2s
EPF Esparros 7.29 330 *e*P **Pn** **23 17 15.2 +0.2**
EPF *e*Sn Sn 23 18 27.2 -11
165nm,0.5s
EPF Esparros 7.29 330 *e*P **Pn** **23 17 15.2 +0.2**
EPF *e*Sn Sn 23 18 27.2 -11
EPF Esparros 7.29 330 *e*P **Pn** **23 17 15.2 +0.2**
EPF Esparros 7.29 330 P **Pn** **23 17 15.2 +0.2**
EPF S Sn 23 18 27.2 -11
82nm,0.5s
VAE Valguarnera 7.33 82 Pn **Pn** **23 17 18.1 +2.4**
1.9nm,0.3s,baz=148,slow=13,SNR=6.0
VAE LR LR 23 20 53.8
comp=Z,7µm,18.2s,baz=266,slow=44
LASF Ste Croix 7.35 352 *e*Pn **Pn** **23 17 11.9 -3.9**
LASF Ste Croix 7.35 352 *e*P **Pn** **23 17 16.1 +0.3**
LASF *e*Sn Sn 23 18 29.3 -10
87nm,0.3s
LASF Ste Croix 7.35 352 *e*Pn **Pn** **23 17 11.9 -3.9**
LASF *e*Sn Sn 23 18 29.3 -10
LASF Ste Croix 7.35 352 P **Pn** **23 17 11.9 -3.9**
LASF S Sn 23 18 29.3 -10
44nm,0.3s
EGOR Sierra Gorda, 7.52 275 P **Pn** **23 17 18.6 +0.4**
34nm,0.5s,SNR=7.9
EGOR S **Sn** **23 18 42.9 -0.8**
63nm,0.6s,SNR=7.9
UCM Universidad Co 7.53 300 *e*P **Pn** **23 17 21.4 +3.0**
UCM *e*S **Sn** **23 18 50.5 +6.6**
ETSF Etsaut 7.56 325 *e*P **Pn** **23 17 17.9 -0.9**
ETSF *e*Sn Sn 23 18 33.2 -11
99nm,0.6s
ETSF Etsaut 7.56 325 *e*P **Pn** **23 17 17.9 -0.9**
ETSF *e*Sn Sn 23 18 33.2 -11
ETSF Etsaut 7.56 325 *e*P **Pn** **23 17 17.9 -0.9**
ETSF Etsaut 7.56 325 P **Pn** **23 17 17.9 -0.9**
ETSF S Sn 23 18 33.2 -11
50nm,0.6s
ATE Arette 7.77 326 P **Pn** **23 17 21.4 -0.3**
38nm,0.3s,SNR=7.9
ATE S **Sn** **23 18 43.3 -6.4**
1.4nm,0.6s,SNR=7.9
ES19 SONSECA Array 7.77 295 *e*Pn **Pn** **23 17 20.9 -0.9**
EMAL Malaga-Limoner 7.78 273 *e*P **Pn** **23 17 20.6 -1.2**
ESDC Sonseca Array 7.81 294 Pn **Pn** **23 17 20.1 -2.1**
5.3nm,0.3s,baz=109,slow=14,SNR=28
ESDC Sn **Sn** **23 18 50.4 -0.4**
3.0nm,0.3s,baz=111,slow=24,SNR=2.4
ESDC LR LR 23 20 14.2
comp=Z,2µm,20.4s,baz=115,slow=37
ESDC Sonseca Array 7.81 294 P **Pn** **23 17 20.4 -1.8**
3.8nm,0.3s,baz=104,slow=14,SNR=38
ESDC S **Sn** **23 18 44.7 -6.0**
8.7nm,0.5s,baz=118,slow=28,SNR=4.8
ESLA Sonseca Array 7.81 294 *e*Pn **Pn** **23 17 23.1 +0.8**
IELO Elcoad 7.84 322 P **Pn** **23 17 22.0 -0.6**
21nm,0.3s,SNR=7.9
IELO S **Sn** **23 18 44.9 -6.5**
14nm,0.3s,SNR=7.9
IPRE Itoiz 7.87 322 P **Pn** **23 17 22.3 -0.7**
24nm,0.4s,SNR=7.9
IPRE S **Sn** **23 18 45.7 -6.5**
47nm,0.7s,SNR=7.9
EORO Oroz-Betelu 7.91 322 P **Pn** **23 17 23.4 -0.3**
2.1nm,0.4s,SNR=7.9
EORO S **Sn** **23 18 46.9 -6.4**
44nm,0.5s,SNR=7.9
EADA Adamuz 7.95 283 P **Pn** **23 17 22.9 -1.2**
11nm,0.4s,SNR=16
EADA S **Sn** **23 18 48.1 -6.0**
15nm,0.4s,SNR=5.2
EARA Aranguren 7.96 321 P **Pn** **23 17 23.8 -0.4**
40nm,0.4s,SNR=10
EARA S **Sn** **23 18 48.1 -6.2**
21nm,0.4s,SNR=7.9
MBDF Montbardon 8.00 8 *e*P **Pn** **23 17 25.6 +0.7**
MBDF *e*Sn Sn 23 18 45.4 -10
70nm,0.6s
MBDF Montbardon 8.00 8 *e*P **Pn** **23 17 25.6 +0.7**
MBDF *e*Sn Sn 23 18 45.4 -10
MBDF Montbardon 8.00 8 *e*P **Pn** **23 17 25.5 +0.7**
MBDF Montbardon 8.00 8 P **Pn** **23 17 25.6 +0.7**
MBDF S Sn 23 18 45.4 -10
35nm,0.6s
SJPF Ste Jean 8.04 324 *e*P **Pn** **23 17 24.8 -0.5**
SJPF *e*Sn Sn 23 18 43.8 -12
41nm,0.5s
SJPF Ste Jean 8.04 324 *e*P **Pn** **23 17 24.8 -0.5**
SJPF *e*Sn Sn 23 18 43.8 -12
SJPF Ste Jean 8.04 324 *e*P **Pn** **23 17 24.8 -0.5**
SJPF Ste Jean 8.04 324 P **Pn** **23 17 24.8 -0.5**
SJPF S Sn 23 18 43.8 -12
20nm,0.5s
PAB San Pablo 8.06 293 *e*Pn **Pn** **23 17 25.5 -0.1**
PAB *e*S **Sn** **23 18 50.7 -6.1**
PAB San Pablo 8.06 293 *e*P **Pn** **23 17 25.5 -0.1**
PAB San Pablo 8.06 293 P **Pn** **23 17 25.0 -0.6**
74nm,0.9s,SNR=7.9
VIVF Saint-Julien-l 8.06 357 *e*P **Pn** **23 17 24.0 -1.6**
VIVF *e*Sn Sn 23 18 46.3 -11
59nm,0.3s
VIVF Saint-Julien-l 8.06 357 *e*P **Pn** **23 17 24.0 -1.6**
VIVF *e*Sn Sn 23 18 46.3 -11
VIVF Saint-Julien-l 8.06 357 *e*P **Pn** **23 17 24.0 -1.6**
VIVF Saint-Julien-l 8.06 357 P **Pn** **23 17 24.0 -1.6**
VIVF S Sn 23 18 46.3 -11
30nm,0.3s
ORIF Oris-en-Rattie 8.12 3 *e*P **Pn** **23 17 27.0 +0.5**
ORIF *e*Sn Sn 23 18 48.1 -10
14nm,0.4s
ORIF Oris-en-Rattie 8.12 3 *e*P **Pn** **23 17 27.0 +0.5**
ORIF *e*Sn Sn 23 18 48.1 -10
ORIF Oris-en-Rattie 8.12 3 *e*P **Pn** **23 17 26.0 -0.5**
ORIF Oris-en-Rattie 8.12 3 P **Pn** **23 17 27.0 +0.5**
ORIF S Sn 23 18 48.1 -10
7.1nm,0.4s
EALK Alkurruntz 8.25 323 P **Pn** **23 17 27.8 -0.5**
88nm,0.5s,SNR=43
EALK S **Sn** **23 18 53.7 -8.0**
56nm,0.5s,SNR=5.6
GUD Guadarrama 8.30 300 P **Pn** **23 17 30.3 +1.2**
17nm,0.5s,SNR=14
BNI Bardonecchia 8.31 7 *e*Pn **Pn** **23 17 29.0 -0.2**
BNI Bardonecchia 8.31 7 *e*P **Pn** **23 17 29.0 -0.2**
CAF Calviac 8.47 344 *e*P **Pn** **23 17 30.2 -1.1**
CAF *e*Sn Sn 23 18 55.4 -12
24nm,0.3s
CAF Calviac 8.47 344 *e*P **Pn** **23 17 30.2 -1.1**
CAF *e*Sn Sn 23 18 55.4 -12
CAF Calviac 8.47 344 *e*P **Pn** **23 17 30.2 -1.1**
CAF Calviac 8.47 344 P **Pn** **23 17 30.2 -1.1**
CAF S Sn 23 18 55.4 -12
12nm,0.3s
SSB Saint Sauveur 8.49 357 *e*Pn **Pn** **23 17 29.9 -1.6**
SSB Saint Sauveur 8.49 357 *e*P **Pn** **23 17 29.9 -1.6**
LIJA Lijar 8.56 274 P **Pn** **23 17 33.0 +0.5**
LIJA Lijar 8.56 274 *e*P **Pn** **23 17 33.0 +0.5**
ECAB El Cabril 8.60 282 P **Pn** **23 17 30.6 -2.4**
12nm,0.3s,SNR=26
CEU Ceuta 8.63 267 P **Pn** **23 17 31.1 -2.4**
CEU S Sn 23 18 58.5 -12
CEU Ceuta 8.63 267 *e*P **Pn** **23 17 31.1 -2.4**
CEU *e*S Sn 23 18 58.5 -12
EJIF Jimena Fronter 8.64 271 P **Pn** **23 17 34.5 +0.9**
24nm,0.4s,SNR=7.9
EJIF S **Sn** **23 19 04.5 -6.6**
18nm,0.6s,SNR=7.9
LPG La Plagne 8.76 7 *e*P **Pn** **23 17 36.1 +0.6**
LPG *e*Sn Sn 23 19 03.5 -11
46nm,0.6s
LPG La Plagne 8.76 7 *e*P **Pn** **23 17 36.1 +0.6**
LPG *e*Sn Sn 23 19 03.5 -11
LPG La Plagne 8.76 7 *e*P **Pn** **23 17 36.5 +1.0**
LPG La Plagne 8.76 7 P **Pn** **23 17 36.1 +0.6**
LPG S Sn 23 19 03.5 -11
23nm,0.6s
LPL La Plagne 8.78 7 *e*P **Pn** **23 17 36.3 +0.7**
LPL *e*Sn Sn 23 19 04.0 -11
82nm,0.7s
LPL La Plagne 8.78 7 *e*P **Pn** **23 17 36.3 +0.7**
LPL *e*Sn Sn 23 19 04.0 -11
LPL La Plagne 8.78 7 *e*P **Pn** **23 17 37.0 +1.4**
LPL La Plagne 8.78 7 P **Pn** **23 17 36.3 +0.7**
LPL S Sn 23 19 04.0 -11
41nm,0.7s
LFF La Frestale 8.82 339 *e*P **Pn** **23 17 36.0 0.0**
LFF *e*Sn Sn 23 19 03.5 -12
55nm,0.6s
LFF La Frestale 8.82 339 *e*P **Pn** **23 17 36.0 0.0**
LFF *e*Sn Sn 23 19 03.5 -12
LFF La Frestale 8.82 339 *e*P **Pn** **23 17 36.0 0.0**
LFF La Frestale 8.82 339 P **Pn** **23 17 36.0 0.0**
LFF S Sn 23 19 03.5 -12
28nm,0.6s
CUC Castrocucco 8.87 66 *e*Pn **Pn** **23 17 35.9 -0.9**
RJF Les Rejaudoux 8.96 343 *e*P **Pn** **23 17 36.4 -1.5**
RJF *e*Sn Sn 23 19 07.2 -12
20nm,0.3s
RJF Les Rejaudoux 8.96 343 *e*P **Pn** **23 17 36.4 -1.5**
RJF *e*Sn Sn 23 19 07.2 -12
RJF Les Rejaudoux 8.96 343 *e*P **Pn** **23 17 36.4 -1.5**
RJF Les Rejaudoux 8.96 343 P **Pn** **23 17 36.4 -1.5**
RJF S Sn 23 19 07.2 -12
10nm,0.3s
MDT Midelt 9.04 247 Pn **Pn** **23 17 36.8 -2.4**
0.6nm,0.3s,baz=87,slow=7.1,SNR=16
MDT LR LR 23 21 03.5
comp=Z,2µm,21.6s,baz=66,slow=38
MDT Midelt 9.04 247 Pn **Pn** **23 17 37.5 -1.8**
IFR Ifrane 9.12 252 *e*P **Pn** **23 17 40.5 +0.2**
ELAN Lanestosa 9.26 317 P **Pn** **23 17 41.7 -0.4**
62nm,1.0s,SNR=9.5
ELAN S **Sn** **23 19 17.9 -8.4**
11nm,0.3s,SNR=7.9
EMIN Mina Concepcio 9.57 279 P **Pn** **23 17 44.0 -2.2**
9.4nm,0.6s,SNR=77
EMIN S **Sn** **23 19 28.1 -5.7**
6.5nm,0.4s,SNR=11
SENIN Lac Senin/Sane 9.68 8 *e*Pn **Pn** **23 17 48.3 +0.4**
TCF Toulx Ste Croi 9.75 347 *e*P **Pn** **23 17 48.2 -0.6**
TCF *e*Sn Sn 23 19 27.1 -11
26nm,0.6s
TCF Toulx Ste Croi 9.75 347 *e*P **Pn** **23 17 48.2 -0.6**
TCF *e*Sn Sn 23 19 27.1 -11
TCF Toulx Ste Croi 9.75 347 *e*P **Pn** **23 17 48.2 -0.6**
TCF Toulx Ste Croi 9.75 347 P **Pn** **23 17 48.2 -0.6**
TCF S Sn 23 19 27.1 -11
13nm,0.6s
CABF La Chapelle 9.82 3 *e*P **Pn** **23 17 50.4 +0.6**
CABF *e*Sn Sn 23 19 29.2 -11
12nm,0.6s
CABF La Chapelle 9.82 3 *e*P **Pn** **23 17 50.4 +0.6**
CABF *e*Sn Sn 23 19 29.2 -11
CABF La Chapelle 9.82 3 P **Pn** **23 17 50.4 +0.6**
CABF S Sn 23 19 29.2 -11
5.8nm,0.6s
SMF Signal de Mont 9.90 354 *e*P **Pn** **23 17 50.0 -0.7**
SMF *e*Sn Sn 23 19 29.0 -13
13nm,0.4s
SMF Signal de Mont 9.90 354 *e*P **Pn** **23 17 50.0 -0.7**
SMF *e*Sn Sn 23 19 29.0 -13
SMF Signal de Mont 9.90 354 P **Pn** **23 17 50.0 -0.7**
SMF S Sn 23 19 29.0 -13
6.6nm,0.4s
BGF Bois d'Agland 9.92 350 *e*P **Pn** **23 17 49.9 -1.1**
BGF *e*Sn Sn 23 19 30.1 -12
20nm,0.3s
BGF Bois d'Agland 9.92 350 *e*P **Pn** **23 17 49.9 -1.1**
BGF *e*Sn Sn 23 19 30.1 -12
BGF Bois d'Agland 9.92 350 *e*P **Pn** **23 17 49.9 -1.1**
BGF Bois d'Agland 9.92 350 P **Pn** **23 17 49.9 -1.1**
BGF S Sn 23 19 30.1 -12
10.0nm,0.3s
EBAD Badajoz 9.92 285 P **Pn** **23 17 49.9 -1.2**
10nm,0.6s,SNR=7.9
EBAD S **Sn** **23 19 36.3 -6.2**
10.0nm,0.6s,SNR=5.2
AVF Avril sur Loir 10.09 352 *e*P **Pn** **23 17 51.9 -1.4**
AVF *e*Sn Sn 23 19 34.4 -12
6.6nm,0.4s
AVF Avril sur Loir 10.09 352 *e*P **Pn** **23 17 51.9 -1.4**
AVF *e*Sn Sn 23 19 34.4 -12
AVF Avril sur Loir 10.09 352 *e*P **Pn** **23 17 51.9 -1.4**
AVF Avril sur Loir 10.09 352 P **Pn** **23 17 51.9 -1.4**
AVF S Sn 23 19 34.4 -12
3.3nm,0.4s
TUE Stuetta 10.13 16 *e*Pn **Pn** **23 17 56.4 +2.3**
EGRO El Granado 10.21 278 P **Pn** **23 17 52.8 -2.2**
15nm,0.8s,SNR=7.9
EGRO S **Sn** **23 19 43.6 -5.9**
8.9nm,0.6s,SNR=7.9
PMRV Marv??o 10.32 289 *e*P **Pn** **23 17 58.3 +1.8**
52nm,1.9s
PMRV *e*LR LR 23 20 37.6
3µm,18.0s
EARI Arriondas 10.32 312 P **Pn** **23 17 56.6 0.0**
24nm,0.5s,SNR=7.9
SSF Saint Saulge 10.34 353 *e*P **Pn** **23 17 56.0 -0.8**
SSF *e*Sn Sn 23 19 39.5 -13
9.0nm,0.5s
SSF Saint Saulge 10.34 353 *e*P **Pn** **23 17 56.0 -0.8**
SSF *e*Sn Sn 23 19 39.5 -13
SSF Saint Saulge 10.34 353 *e*P **Pn** **23 17 56.0 -0.8**
SSF Saint Saulge 10.34 353 P **Pn** **23 17 56.0 -0.8**
SSF S Sn 23 19 39.5 -13
4.5nm,0.5s
PESTR Estremoz 10.38 285 *e*P **Pn** **23 17 57.5 +0.1**
72nm,1.6s
PESTR *e*LR LR 23 20 22.0
2µm,18.0s
PESTR Estremoz 10.38 285 *e*Pn **Pn** **23 17 57.7 +0.3**
PVAQ Vaqueiros 10.39 277 *e*P **Pn** **23 17 56.9 -0.6**
59nm,1.5s
PVAQ *e*S **Sn** **23 19 47.0 -7.1**
PVAQ *e*LR LR 23 20 26.2
2µm,18.0s
PVAQ Vaqueiros 10.39 277 P **Pn** **23 17 56.9 -0.6**
59nm,1.5s
PVAQ S **Sn** **23 19 47.0 -7.1**
PVAQ Vaqueiros 10.39 277 Pn **Pn** **23 17 57.0 -0.6**
PCBR Castelo Branco 10.47 291 *e*P **Pn** **23 17 58.6 +0.1**
76nm,1.3s
PCBR Castelo Branco 10.47 291 P **Pn** **23 17 58.6 +0.1**
38nm,1.3s
FUORN Ofenpass-Fuorn 10.50 19 *e*Pn **Pn** **23 18 01.9 +2.7**
LOR Lormes 10.52 355 *e*P **Pn** **23 17 58.6 -0.6**
baz=172
LOR *e*Sn Sn 23 19 45.1 -12
7.3nm,0.4s
LOR Lormes 10.52 355 *e*P **Pn** **23 17 58.6 -0.6**
LOR *e*Sn Sn 23 19 45.1 -12
LOR Lormes 10.52 355 *e*P **Pn** **23 17 58.6 -0.6**
LOR Lormes 10.52 355 P **Pn** **23 17 58.6 -0.6**
LOR S Sn 23 19 45.1 -12
3.7nm,0.4s
MVO Moncorvo 10.52 298 *e*P **Pn** **23 18 00.5 +1.2**
79nm,1.8s
MVO *e*LR LR 23 20 30.7
3µm,18.0s
MVO Moncorvo 10.52 298 P **Pn** **23 17 58.8 -0.6**
28nm,0.6s,SNR=6.9
PBEJ Beja 10.52 281 *e*P **Pn** **23 17 59.7 +0.4**

38nm,1.9s
PBEJ Beja 10.52 281 P Pn 23 17 59.7 +0.4
19nm,1.9s
DAVOX Davos/Dischmat 10.55 18 Pn Pn 23 18 00.8 +1.0
0.8nm,0.3s,baz=195,slow=14,SNR=8.5
DAVOX Sn **Sn 23 20 01.5 +3.4**
0.5nm,0.3s,baz=133,slow=14,SNR=2.2
DAVOX LR LR 23 21 55.3
comp=Z,4µm,18.6s,baz=204,slow=37
PBRG Braganca 10.56 302 eP Pn 23 18 01.2 +1.3
60nm,1.4s
PBRG eLR LR 23 21 30.5
4µm,16.0s
PBRG Braganca 10.56 302 P Pn 23 18 01.2 +1.3
30nm,1.4s
PBDV Barranco-do-Ve 10.57 276 eP Pn 23 17 59.6 -0.4
110nm,1.6s
PBDV eS **Sn 23 19 50.9 -7.5**
PBDV eLR LR 23 20 41.8
2µm,18.0s
PBDV Barranco-do-Ve 10.57 276 P Pn 23 17 59.6 -0.4
110nm,1.6s
PBDV S **Sn 23 19 50.9 -7.5**
MFF Saint Martin d 10.60 339 eP Pn 23 17 59.8 -0.5
MFF eSn Sn 23 19 46.0 -13
24nm,0.7s
MFF Saint Martin d 10.60 339 eP Pn 23 17 59.8 -0.5
MFF eSn Sn 23 19 46.0 -13
MFF Saint Martin d 10.60 339 eP Pn 23 17 59.8 -0.5
MFF Saint Martin d 10.60 339 P Pn 23 17 59.8 -0.5
MFF S Sn 23 19 46.0 -13
12nm,0.7s
ECAL Calabor 10.62 303 P Pn 23 17 59.9 -0.8
44nm,0.3s,SNR=7.9
HYF Humbligny 10.64 350 eSn Sn 23 19 46.2 -14
HYF Humbligny 10.64 350 S Sn 23 19 46.2 -14
MTE Manteigas 10.65 294 eP Pn 23 18 02.4 +1.2
52nm,1.8s
MTE eLR LR 23 20 38.6
2µm,18.0s
MTE Manteigas 10.65 294 P Pn 23 18 02.4 +1.2
26nm,1.8s
EVO Evora 10.67 283 eP Pn 23 18 02.8 +1.4
62nm,1.4s
EVO eS **Sn 23 19 58.4 -2.5**
EVO Evora 10.67 283 P Pn 23 18 02.8 +1.4
62nm,1.4s
EVO S **Sn 23 19 56.5 -4.4**
EVO Evora 10.67 283 eP Pn 23 18 08.5 +7.1
EVO eS **Sn 23 19 56.5 -4.4**
MESJ Messejana 10.79 280 eP Pn 23 18 01.9 -1.1
MESJ AMS AMS 23 22 18.9
comp=Z,2µm,17.9s
MESJ Messejana 10.79 280 eP Pn 23 18 02.1 -0.9
comp=Z,88nm,1.3s
MESJ Messejana 10.79 280 P Pn 23 18 01.9 -1.1
FETA Feichten 10.99 20 *i* Pn Pn 23 18 11.5 +5.6
comp=Z,13nm,0.9s
PVIS Viseu 11.00 295 eP Pn 23 18 06.3 +0.4
comp=Z,62nm,1.7s
PVIS Viseu 11.00 295 P Pn 23 18 06.3 +0.4
comp=Z,31nm,1.7s
DAVA Damuels 11.02 17 *i* Pn **Pn 23 18 09.6 +3.3**
comp=Z,7.5nm,0.6s
DAVA *i* Sn **Sn 23 20 08.9 -0.8**
comp=Z,8.4nm,0.6s
HINF Hinteralfeld 11.07 6 eP Pn 23 18 04.4 -2.5
HINF eSn Sn 23 19 59.4 -11
comp=Z,7.2nm,0.4s
HINF Hinteralfeld 11.07 6 eP Pn 23 18 04.4 -2.5
HINF eSn Sn 23 19 59.4 -11
HINF Hinteralfeld 11.07 6 eP Pn 23 18 04.4 -2.5
HINF Hinteralfeld 11.07 6 P Pn 23 18 04.4 -2.5
HINF S Sn 23 19 59.4 -11
comp=Z,3.6nm,0.4s
PTOM Tomar 11.13 289 eP Pn 23 18 08.9 +1.3
comp=Z,74nm,1.5s
PTOM Tomar 11.13 289 P Pn 23 18 08.9 +1.3
comp=Z,37nm,1.5s
POLO Lamas de Olo 11.13 298 eP Pn 23 18 08.9 +1.2
comp=Z,37nm,1.3s
POLO eLR LR 23 20 58.6
comp=Z,1µm,18.0s
MORF Marmelete 11.14 277 eP Pn 23 18 07.6 -0.2
MORF eS **Sn 23 20 07.6 -4.8**
MORF eLR LR 23 20 58.0
comp=Z,2µm,18.0s
MORF Marmelete 11.14 277 P Pn 23 18 07.6 -0.2
MORF S **Sn 23 20 07.6 -4.8**
PTEO Sao Teotonio 11.19 278 eP Pn 23 18 07.5 -1.0
comp=Z,98nm,1.8s
PTEO Sao Teotonio 11.19 278 P Pn 23 18 07.5 -1.0
comp=Z,49nm,1.8s
HAU Haudompre 11.23 4 eP Pn 23 18 06.8 -2.2
HAU eSn Sn 23 20 02.1 -12
comp=Z,24nm,0.5s
HAU Haudompre 11.23 4 eP Pn 23 18 06.8 -2.2
HAU eSn Sn 23 20 02.1 -12
HAU Haudompre 11.23 4 eP Pn 23 18 06.8 -2.2
HAU Haudompre 11.23 4 P Pn 23 18 06.8 -2.2
HAU S Sn 23 20 02.1 -12
comp=Z,12nm,0.5s
COI Coimbra 11.25 292 P Pn 23 18 12.3 +3.1
PCAS Casmilo, Conde 11.28 291 eP Pn 23 18 10.8 +1.1
comp=Z,66nm,1.6s
PCAS eLR LR 23 21 06.4
comp=Z,4µm,16.0s
PFVI Vila Bisbo 11.29 276 eLR LR 23 21 07.5
comp=Z,2µm,16.0s
PFVI Vila Bisbo 11.29 276 P Pn 23 18 09.4 -0.4
comp=Z,27nm,0.6s,SNR=5.7
ABTA Abfaltersbach 11.31 26 *i* Pn **Pn 23 18 12.9 +2.7**
comp=Z,6.5nm,0.5s
ABTA Sn **Sn 23 20 17.6 +1.0**
comp=Z,3.1nm,0.5s
MOTA Moosalm 11.39 20 *i* Pn **Pn 23 18 13.7 +2.4**
comp=Z,5.5nm,0.4s
SFTF Sexfontaines 11.40 359 ePn Pn 23 18 05.4 -5.9
SFTF Sexfontaines 11.40 359 eP Pn 23 18 12.4 +1.1
baz=176
SFTF eSn Sn 23 20 05.8 -13
comp=Z,13nm,0.5s
SFTF Sexfontaines 11.40 359 ePn Pn 23 18 05.4 -5.9
SFTF eSn Sn 23 20 05.8 -13
SFTF Sexfontaines 11.40 359 P Pn 23 18 05.4 -5.9
SFTF S Sn 23 20 05.8 -13
comp=Z,13nm,0.5s
PCAB Cabril 11.41 300 eP Pn 23 18 12.9 +1.4
PCAB Cabril 11.41 300 P Pn 23 18 12.9 +1.4
RETA Reutte 11.43 19 *i* Pn **Pn 23 18 13.5 +1.7**
comp=Z,8.6nm,0.7s
ELOB Lobios 11.49 300 P Pn 23 18 12.4 -0.3
comp=Z,20nm,0.7s,SNR=7.9
ECH Echery 11.49 6 ePn **Pn 23 18 10.7 -1.9**
ECH Echery 11.49 6 eP Pn 23 18 10.7 -1.9
EPON Pontenova 11.53 308 P Pn 23 18 11.8 -1.2
comp=Z,25nm,0.8s,SNR=5.8
PGAV Gavieira, Arco 11.68 300 eP Pn 23 18 16.7 +1.5
comp=Z,60nm,1.3s
PGAV eLR LR 23 21 39.3
comp=Z,3µm,16.0s
MEZF Maizieres J'vi 11.70 359 ePn Pn 23 18 09.6 -5.8
MEZF Maizieres J'vi 11.70 359 eP Pn 23 18 16.6 +1.2
baz=155
MEZF eSn Sn 23 20 13.1 -13
comp=Z,12nm,0.5s
MEZF Maizieres J'vi 11.70 359 ePn Pn 23 18 09.6 -5.8
MEZF eSn Sn 23 20 13.1 -13
MEZF Maizieres J'vi 11.70 359 P Pn 23 18 09.6 -5.8
MEZF S Sn 23 20 13.1 -13
comp=Z,12nm,0.5s
CDF Champ du Feu 11.70 7 eP Pn 23 18 13.3 -2.2
CDF eSn Sn 23 20 14.5 -12
comp=Z,3.1nm,0.4s
CDF Champ du Feu 11.70 7 eP Pn 23 18 13.3 -2.2
CDF eSn Sn 23 20 14.5 -12
CDF Champ du Feu 11.70 7 eP Pn 23 18 13.3 -2.2
CDF Champ du Feu 11.70 7 P Pn 23 18 13.3 -2.2
CDF S Sn 23 20 14.5 -12
comp=Z,1.6nm,0.4s
PMAFR Mafra 11.70 285 eLR LR 23 21 24.0
comp=Z,2µm,20.0s
BFO Black Forest 11.74 10 ePn Pn 23 18 14.2 -1.8
BFO eSn Sn 23 20 17.4 -10
BFO Black Forest 11.74 10 eP Pn 23 18 14.2 -1.8
PAGF Fort de Pagny 11.76 1 eP Pn 23 18 15.2 -0.9
PAGF Fort de Pagny 11.76 1 eP Pn 23 18 15.2 -0.9
EAGO Agolada(Pontev 11.89 304 P Pn 23 18 17.2 -0.8
comp=Z,13nm,0.6s,SNR=7.9
SOKA Soboth 12.26 33 *i* Pn **Pn 23 18 24.6 +1.5**
comp=Z,2.9nm,0.8s
GRR Gorron 12.43 341 eP Pn 23 18 24.4 -0.9
GRR Gorron 12.43 341 eP Pn 23 18 24.4 -0.9
GRR Gorron 12.43 341 P Pn 23 18 24.4 -0.9
LDF La Druitiere 12.43 343 eP Pn 23 18 23.5 -1.9
LDF La Druitiere 12.43 343 eP Pn 23 18 23.5 -1.9
LDF La Druitiere 12.43 343 eP Pn 23 18 23.5 -1.9
FLN La Foliniere 12.68 342 eP Pn 23 18 27.8 -0.9
baz=161
FLN La Foliniere 12.68 342 eP Pn 23 18 27.8 -0.9
FLN La Foliniere 12.68 342 eP Pn 23 18 27.8 -0.9
FLN La Foliniere 12.68 342 P Pn 23 18 27.8 -0.9
QUIF Quistinic 12.73 333 eP Pn 23 18 29.2 -0.3
QUIF Quistinic 12.73 333 eP Pn 23 18 29.2 -0.3
QUIF Quistinic 12.73 333 eP Pn 23 18 29.2 -0.3
QUIF Quistinic 12.73 333 P Pn 23 18 29.2 -0.3
SGMF Saint Gilles 12.81 336 eP Pn 23 18 30.7 +0.1
SGMF Saint Gilles 12.81 336 eP Pn 23 18 30.7 +0.1
SGMF Saint Gilles 12.81 336 eP Pn 23 18 30.7 +0.1
SGMF Saint Gilles 12.81 336 P Pn 23 18 30.7 +0.1
WLF Walferdange 12.88 3 ⇑P **Pn 23 18 31.2 -0.2**
MOA Molln 12.88 28 *i* Pn **Pn 23 18 34.3 +2.7**
comp=Z,3.8nm,0.5s
ARSA Arzberg 12.92 33 *i* Pn **Pn 23 18 33.0 +1.0**
comp=Z,3.2nm,0.6s
ROSF Rostrenen 13.13 334 eP Pn 23 18 33.9 -1.0
ROSF Rostrenen 13.13 334 eP Pn 23 18 33.9 -1.0
ROSF Rostrenen 13.13 334 eP Pn 23 18 33.9 -1.0
ROSF Rostrenen 13.13 334 P Pn 23 18 33.9 -1.0
BAIF Baives 13.28 357 eP Pn 23 18 35.9 -1.0
BAIF Baives 13.28 357 eP Pn 23 18 35.9 -1.0
BAIF Baives 13.28 357 P Pn 23 18 35.9 -1.0
DOU Dourbes 13.30 358 ⇓P **Pn 23 18 36.2 -1.0**
GIVF Givet 13.30 359 eP Pn 23 18 35.3 -2.0
GIVF Givet 13.30 359 eP Pn 23 18 35.3 -2.0
GIVF Givet 13.30 359 eP Pn 23 18 35.3 -2.0
GIVF Givet 13.30 359 P Pn 23 18 35.3 -2.0
GEA0 GERESS Array S 13.52 24 ePn **Pn 23 18 42.6 +2.4**
GEC2 GERESS Array S 13.53 24 ePn **Pn 23 18 43.4 +3.0**
GERES GERESS Array B 13.53 24 Pn **Pn 23 18 40.0 -0.4**
comp=Z,0.4nm,0.3s,baz=208,slow=11,SNR=10
GERES Sn **Sn 23 21 09.1 -1.6**
comp=Z,0.2nm,0.3s,baz=212,slow=17,SNR=3.4
GERES LR LR 23 23 46.7
comp=Z,2µm,21.6s,baz=234,slow=37
CONA Conrad Observa 13.59 32 *i* Pn **Pn 23 18 42.7 +1.4**
comp=Z,6.7nm,0.9s
BCLA Clavier 13.62 0 ⇑P **Pn 23 18 42.5 +1.0**
KHC Kasperske Hory 13.73 24 ePn **Pn 23 18 44.9 +1.7**
KHC Kasperske Hory 13.73 24 eP P 23 18 48.8 -3.1
KHC ex x 23 18 54.3
KHC AMS AMS 23 24 20.0
comp=Z,2µm,14.7s
KHC Kasperske Hory 13.73 24 eP P 23 18 48.8 -3.1
KHC MLR MLR
comp=Z,2µm,14.7s
MEM Membach 13.82 2 ⇑P **Pn 23 18 43.1 -1.1**
TAM Tamanrasset 13.96 179 ePn **Pn 23 18 42.4 -4.1**
TAM Tamanrasset 13.96 179 eP Pn 23 18 42.4 -4.1
BEBN Eben Emael 14.00 1 ⇑P **Pn 23 18 46.5 -0.2**
NKC Novy Kostel 14.39 19 AMS AMS 23 26 10.0
comp=Z,2µm,13.0s
TREC Trest 14.53 28 AMS AMS 23 25 40.0
comp=Z,2µm,13.4s
MODS Modra-Piesok 14.54 34 eP P 23 19 02.3 +1.5
MODS Modra-Piesok 14.54 34 ePN **P 23 19 02.3 +1.5**
SOH Sokhos 14.66 69 P **P 23 19 03.0 +0.8**
KRUC Moravsky 14.70 30 ePN **Pn 23 18 57.3 +1.0**
GOPC GO Pecny, Ondr 14.81 25 AMS AMS 23 25 00.0
comp=Z,2µm,14.8s
PRA Prague 14.82 24 AMS AMS 23 25 20.0
comp=Z,2µm,15.9s
VTS Vitosha 14.96 62 ePn **P 23 19 03.3 -2.4**
VTS Vitosha 14.96 62 ⇑*i*P **P 23 19 05.9 +0.2**
VTS Vitosha 14.96 62 eP P 23 19 03.3 -2.4
VRAC Vranov 14.97 30 Pn **Pn 23 19 01.4 +1.4**
comp=Z,0.8nm,0.3s,baz=195,slow=11,SNR=3.0
VRAC LR LR 23 25 11.9
comp=Z,2µm,19.2s,baz=216,slow=39
VRAC Vranov 14.97 30 ⇑*i*P **P 23 19 04.8 -0.8**
VRAC Vranov 14.97 30 ePN **Pn 23 19 00.2 +0.1**
JAVC Velka Javorina 15.08 33 ePN **Pn 23 19 01.8 +0.3**
BZS Buzias 15.11 49 ⇑P **P 23 19 07.9 +0.7**
PVCC Panska Ves 15.27 23 AMS AMS 23 26 00.0
comp=Z,2µm,12.5s
VYHS Vyhne 15.34 36 eP P 23 19 11.0 +1.3
VYHS Vyhne 15.34 36 eP P 23 19 11.0 +1.3
BRG Berggiesshubel 15.38 21 eP Pn 23 19 07.0 +1.6
comp=Z,13nm,1.6s
BRG *e* 23 19 14.1
comp=Z,39nm,1.8s
BRG S **S 23 22 18.0 +5.9**
comp=Z,3µm,15.6s
comp=N,940nm,14.8s
comp=E,3µm,14.8s
BRG Berggiesshubel 15.38 21 eP Pn 23 19 07.0 +1.6
BRG pmax pmax
comp=Z,13nm,1.6s
BRG MLR MLR
comp=Z,3µm,15.6s
BRG MLR MLR
comp=N,940nm,14.8s
BRG MLR MLR
comp=E,3µm,14.8s
PSZ Piszkesteto 15.47 40 ePn **P 23 19 13.8 +2.6**
comp=E,15nm,1.0s
PSZ Piszkesteto 15.47 40 ⇑*i*P **P 23 19 11.8 +0.5**
CLL Collm 15.52 18 ePn **Pn 23 19 08.6 +1.3**
comp=E,48nm,1.7s
CLL Collm 15.52 18 eP Pn 23 19 08.0 +0.7
CLL *es*P **P 23 19 12.0 +0.3**
comp=Z,20nm,1.7s
CLL *e*PP **sP 23 19 16.0 +0.2**
CLL *es*PP 23 19 20.0
CLL eSS S 23 22 30.0 +15
CLL LmH 23 24 00.0
comp=N,1µm,19.1s
CLL LmH 23 24 00.0
comp=E,2µm,18.1s
CLL Lmax 23 27 00.0
CLL Collm 15.52 18 eP Pn 23 19 08.6 +1.3
CLL pmax pmax
comp=Z,48nm,1.7s
DPC Dobruska-Polom 15.71 27 eP P 23 19 15.0 +1.1
DPC *ex* x 23 19 21.3
DPC AMS AMS 23 25 50.0
comp=Z,2µm,15.6s
DPC Dobruska-Polom 15.71 27 eP P 23 19 15.0 +1.1
DPC MLR MLR
comp=Z,2µm,15.6s
MORC Moravsky Berou 15.72 31 ePn **P 23 19 12.1 -1.9**
comp=Z,26nm,1.4s
MORC Moravsky Berou 15.72 31 ⇓*i*P **P 23 19 15.0 +1.0**
MORC Moravsky Berou 15.72 31 eP P 23 19 12.1 -1.9
MORC pmax pmax
comp=Z,26nm,1.4s
MORC Moravsky Berou 15.72 31 ePN **Pn 23 19 10.2 +0.2**
UPC Upice 15.73 26 eP P 23 19 17.9 +3.9
UPC AMS AMS 23 25 50.0
comp=Z,2µm,14.6s
UPC Upice 15.73 26 eP P 23 19 17.9 +3.9
UPC MLR MLR
comp=Z,2µm,14.6s
IDI Anoyia 15.95 90 Pn **P 23 19 15.3 -1.2**
comp=Z,0.2nm,0.3s,baz=342,slow=9.3,SNR=4.5
IDI LR LR 23 27 15.4
comp=Z,366nm,19.0s,baz=282,slow=44
IDI Anoyia 15.95 90 ePn **Pn 23 19 15.2 +2.3**
comp=Z,204nm,1.6s
IDI Anoyia 15.95 90 ⇑*i*P **Pn 23 19 15.1 +2.1**
OKC Ostrava-Krasne 16.02 32 AMS AMS 23 26 40.0
comp=Z,2µm,13.4s
LANS Liptovska Anna 16.10 36 eP P 23 19 21.3 +3.1
LANS Liptovska Anna 16.10 36 eP P 23 19 21.3 +3.1
KSP Ksiaz 16.11 26 eP P 23 19 22.3 +4.1
KSP LMZ LR 23 24 54.9
comp=Z,2µm,22.0s
KSP Ksiaz 16.11 26 eP P 23 19 22.3 +4.1
KSP MLR MLR
comp=Z,2µm,22.0s
KECS Kecovo 16.14 39 eP P 23 19 19.6 +1.0
KECS Kecovo 16.14 39 eP P 23 19 19.6 +1.0
APE Apeiranthos 16.21 83 ⇑*i*P **P 23 19 19.1 -0.3**
APE Apeiranthos 16.21 83 ⇓*i*eP **Pn 23 19 14.0 -2.3**
DRGR 16.36 47 ⇑*i*P **P 23 19 22.8 +1.6**
DRGR 16.36 47 P P 23 19 24.0 +2.8
DRGR pmax pmax
comp=Z,41nm,1.8s
LOT Lotru 16.37 52 ⇑*i*P **P 23 19 23.0 +1.7**
NIE Niedzica 16.68 36 eP P 23 19 28.7 +4.1
NIE *e*S **S 23 22 48.1 +9.4**
NIE LMZ LR 23 26 46.2
comp=Z,2µm,16.7s
NIE Niedzica 16.68 36 eP P 23 19 28.7 +4.1
NIE MLR MLR
comp=Z,2µm,16.7s
ARR Arges 16.89 54 ⇑*i*P **P 23 19 28.5 +1.5**
TRPA Tarpa 17.00 43 ⇑*i*P **P 23 19 30.3 +2.2**
OJC Ojcow 17.02 33 eP P 23 19 30.5 +2.2
OJC *e*S **S 23 22 49.8 +4.3**
OJC LMZ LR 23 26 51.7
comp=Z,3µm,16.4s
OJC Ojcow 17.02 33 ePn **P 23 19 29.9 +1.6**
comp=Z,18nm,1.1s
OJC Ojcow 17.02 33 eP P 23 19 29.9 +1.6
OJC pmax pmax
comp=Z,18nm,1.1s
UZH Uzhgorod 17.17 41 eP P 23 19 32.5 +2.6
UZH *e*S **Sn 23 22 43.2 +4.0**
UZH MLR MLR
comp=N,200nm,12.5s
UZH MLR MLR
comp=E,500nm,12.5s
UZH MLR MLR
comp=Z,210nm,12.5s
VOIR 17.19 54 ⇑*i*P **P 23 19 32.0 +1.7**
VOIR 17.19 54 P P 23 19 33.0 +2.7
VOIR pmax pmax
comp=Z,35nm,1.2s
DOPR Dopca 17.62 52 ⇑*i*P **P 23 19 37.7 +2.7**
MLR Muntele Rosu 17.79 54 P P 23 19 38.1 +1.1
comp=Z,0.5nm,0.3s,baz=207,slow=11,SNR=17
MLR LR LR 23 27 13.6
comp=Z,1µm,19.0s,baz=249,slow=39
MLR Muntele Rosu 17.79 54 ePn **P 23 19 38.3 +1.3**
comp=Z,92nm,1.4s
MLR Muntele Rosu 17.79 54 ⇑*i*P **P 23 19 39.2 +2.2**
KWP Kalwaria Pacla 18.00 39 eP P 23 19 43.2 +4.0
KWP LMZ LR 23 28 12.4
comp=Z,4µm,16.2s
KWP Kalwaria Pacla 18.00 39 eP P 23 19 43.2 +4.0
KWP MLR MLR
comp=Z,4µm,16.2s
BUR04 Bucovina Ar. S 18.25 47 ePn **P 23 19 43.7 +1.6**
BURAR Bucovina Array 18.25 47 ⇓*i*P **P 23 19 44.5 +2.4**
BUR08 Bucovina Ar. S 18.26 47 ePn **P 23 19 44.2 +2.1**
PLOR Plostina 18.39 54 ⇑*i*P **Pn 23 19 45.7 +2.2**
VRI Vrincioaia 18.44 54 ⇑*i*P **Pn 23 19 47.2 +3.1**
GKP Gorka Klasztor 18.47 23 eP Pn 23 19 47.7 +3.3
GKP LMZ LR 23 26 56.9
comp=Z,2µm,17.4s
GKP Gorka Klasztor 18.47 23 eP Pn 23 19 47.7 +3.3
GKP MLR MLR
comp=Z,2µm,17.4s
BIZ Bicaz 18.48 50 ⇑*i*P **Pn 23 19 46.6 +2.0**
MANT Manisa 18.51 78 ePn **Pn 23 19 47.1 +1.9**
comp=Z,199nm,1.2s
BEL Belsk 18.63 31 eP Pn 23 19 51.7 +5.4
BEL *e*S S 23 23 31.3 +13
BEL LMZ LR 23 28 05.4
comp=Z,2µm,15.3s
BEL Belsk 18.63 31 eP Pn 23 19 51.7 +5.4
BEL MLR MLR
comp=Z,2µm,15.3s
VAL Valentia 18.70 329 eP Pn 23 19 48.7 +1.5
VAL *i* SS **S 23 23 18.9 -0.8**
GIRR Girov 18.73 51 ⇑*i*P **Pn 23 19 50.2 +2.6**
LVV L'vov 18.79 40 eP P 23 19 46.7 -1.2
LVV *e*S **Sn 23 23 16.0 -2.5**
LVV MLR MLR
comp=N,1µm,14.0s
LVV MLR MLR
comp=E,1µm,14.0s
LVV MLR MLR
comp=Z,1µm,14.0s
TLB Topalu 18.90 59 ⇑*i*P **Pn 23 19 50.0 +0.4**
CFR Carcaliu 19.14 57 ⇑*i*P **P 23 19 52.2 +0.5**
ESK Eskdalemuir 19.41 345 P Pn 23 19 57.9 +2.2
ESK Eskdalemuir 19.41 345 P Pn 23 19 57.9 +2.2
EKA Eskdalemuir Ar 19.41 345 P P 23 19 54.5 -0.1
baz=54,slow=9.3,SNR=3.4
TLCR 19.60 57 ⇑*i*P **P 23 19 57.5 +0.8**
ISP Isparta 20.10 79 eP P 23 20 02.4 0.0
comp=Z,111nm,1.9s
ISP Isparta 20.10 79 eP P 23 20 02.4 0.0
ISP pmax pmax
comp=Z,111nm,1.9s
KIS Kishinev 20.20 52 ⇓*i*P **P 23 20 03.0 -0.3**
comp=Z,300nm,2.5s
KIS *e*S **S 23 23 51.0 +1.1**
KIS *e*SS **SnSn 23 24 18.0 +11**
KIS eLQ LQ 23 27 16.0
KIS LRM MLR 23 29 06.0
comp=Z,2µm,13.0s
KIS Kishinev 20.20 52κ *i*P **P 23 20 03.0 -0.3**
KIS *e* 23 20 34.0
KIS *e*S **S 23 23 51.0 +1.1**
KIS *e*SS **SnSn 23 24 18.0 +11**
KIS pmax pmax
comp=Z,300nm,2.5s
KIS pmax pmax
comp=Z,300nm,3.0s
KIS MLR MLR
comp=E,2µm,14.0s
KIS MLR MLR
comp=Z,2µm,14.0s
KIS MLR MLR
comp=N,2µm,13.0s
KIS MLR MLR
comp=Z,2µm,16.0s
KLNR Kaliningrad 20.56 25⇑*eP* **P 23 20 07.4 +0.3**
KLNR pmax pmax
comp=Z,31nm,0.5s
SUW Suwalki 21.21 30 eP P 23 20 13.6 -0.5
SUW LMZ LR 23 28 27.5
comp=Z,1µm,21.1s
SUW Suwalki 21.21 30 eP P 23 20 13.2 -0.9
comp=Z,138nm,1.4s
SUW Suwalki 21.21 30 eP P 23 20 13.6 -0.5
SUW MLR MLR
comp=Z,1µm,21.1s
ANTO Ankara 21.77 73 eP P 23 20 22.0 +1.6
comp=Z,36nm,1.4s
ANTO Ankara 21.77 73 ⇓*i*P **P 23 20 22.0 +1.6**
ANTO Ankara 21.77 73 eP P 23 20 22.0 +1.6
ANTO pmax pmax
comp=Z,36nm,1.4s
KIEV Kiev 22.05 43 eP P 23 20 22.1 -1.1
comp=Z,132nm,1.4s
KIEV Kiev 22.05 43 *i* P **P 23 20 22.5 -0.7**
SNR=24
KIEV Kiev 22.05 43*ceP* **P 23 20 21.8 -1.4**
KIEV pmax pmax
comp=Z,17nm,0.7s
AKASG Malin Array Be 22.07 43 P P 23 20 22.1 -1.3
comp=Z,14nm,0.6s,baz=240,slow=10,SNR=31
AKASG LR LR 23 29 07.3
comp=Z,1µm,21.3s,baz=240,slow=37
AKASG Malin Array Be 22.07 43*ceP* **P 23 20 20.5 -2.8**
AKASG pmax pmax
comp=Z,14nm,0.6s
AKBB Malin Array Si 22.07 43 eP P 23 20 22.1 -1.2
comp=Z,136nm,1.4s
AKBB Malin Array Si 22.07 43 eP P 23 20 22.1 -1.2
AKBB pmax pmax
comp=Z,136nm,1.4s
BR131 Keskin Array S 22.43 74 eP P 23 20 28.3 +0.8
BRTR Keskin Array B 22.43 74 P P 23 20 29.1 +1.5
comp=Z,5.8nm,0.6s,baz=264,slow=11,SNR=44
BRTR LR LR 23 29 49.6
comp=Z,118nm,18.1s,baz=266,slow=38
CSS Mathiatis 22.78 86 eP P 23 20 31.0 -0.1
comp=Z,64nm,1.5s
SIM Simferopol' 23.19 60 P P 23 20 30.9 -4.4
SIM *e*S **S 23 24 51.6 +4.6**

SIM pmax pmax
comp=Z,60nm,10.0s
SIM MLR MLR
comp=Z,660nm,12.5s
NACGM Naroch 23.34 32 *e*P **P 23 20 35.0 -1.7**
NACGM *e*S **S 23 24 44.0 -5.2**
NACGM *e*LQ LQ 23 28 16.0
NACGM *e*LR LR 23 30 51.0
NACGM LRM MLR 23 31 18.0
comp=Z,3.0nm,14.0s
IIGN Ignalina 23.41 31 *e*P **P 23 20 37.0 -0.3**
IIGN IAmb IAmb 23 20 42.6
comp=Z,33nm,1.3s
ISAL Salakas 23.52 30 *e*P **P 23 20 38.3 -0.2**
ISAL IAmb IAmb 23 20 43.6
comp=Z,24nm,1.1s
MICGM Minsk 23.56 34 *e*P **P 23 20 32.0 -6.9**
MICGM *e*P **P 23 20 32.0 -6.9**
MICGM *e*S S 23 24 40.0 -13
MICGM *e*LQ LQ 23 28 42.0
MICGM *e*LR LR 23 31 20.0
MNK Minsk 23.56 34 *e*P **P 23 20 32.0 -6.9**
MNK *e* 23 20 32.0
MNK *e*S S 23 24 40.0 -13
IDID Didziasalis 23.60 32 *e*P **P 23 20 38.7 -0.6**
IDID IAmb IAmb 23 20 43.1
comp=Z,8.0nm,0.9s
IZAR Zarasai 23.70 30 *e*P **P 23 20 39.7 -0.5**
IZAR IAmb IAmb 23 20 44.3
comp=Z,12nm,0.9s
TOA0 Torodi Ar. Sit 23.77 189 *e*P **P 23 20 39.0 -2.2**
TORD Torodi Ar. Bea 23.77 189 P **P 23 20 38.5 -2.6**
comp=Z,7.6nm,0.6s,baz=0.0,slow=12,SNR=41
TORD PcP **PcP 23 24 24.1 -0.8**
comp=Z,2.2nm,0.9s,baz=347,slow=2.5,SNR=4.5
TORD LR LR 23 30 45.4
comp=Z,2µm,20.6s,baz=345,slow=39
HFS Hagfors 23.97 10 P **P 23 20 42.0 -0.8**
comp=Z,4.6nm,0.8s,baz=215,slow=13,SNR=7.7
HFS LR LR 23 30 00.1
comp=Z,1µm,20.9s,baz=206,slow=36
HFS Hagfors 23.97 10 P **P 23 20 42.0 -0.8**
HFS pmax pmax
comp=Z,5.0nm,0.8s
HFS MLR MLR
comp=Z,1µm,20.9s
NC602 NORSAR Array S 24.29 7 *e*P **P 23 20 47.2 +1.5**
NB2 NORSAR Subarra 24.55 7 P **P 23 20 48.6 +0.4**
comp=Z,76nm,2.0s,baz=191,slow=9.3
NOA NORSAR Array B 24.55 7 P **P 23 20 49.0 +0.8**
comp=Z,14nm,1.2s,baz=190,slow=9.2,SNR=9.1
NOA LR LR 23 31 16.8
comp=Z,2µm,18.2s,baz=190,slow=39
NB201 NORSAR Array S 24.57 7 *e*P **P 23 20 49.9 +1.6**
NC405 NORSAR Array S 24.68 8 *e*P **P 23 20 50.2 +1.0**
NC303 NORSAR Array S 24.75 7 *e*P **P 23 20 50.2 +0.3**
MMAI Mount Meron Ar 24.95 90 P **P 23 20 54.1 +2.1**
comp=Z,8.7nm,0.6s,baz=291,slow=7.0,SNR=12
MMAI LR LR 23 32 55.0
comp=Z,206nm,21.2s,baz=310,slow=42
ANN Anapa 25.50 62 *e*P **P 23 20 53.3 -3.5**
ANN *e**PP **pP 23 20 56.8 -3.1**
ANN *e*S **S 23 25 19.2 -4.8**
ANN pmax pmax
comp=Z,59nm,1.0s
ANN MLR MLR
comp=Z,921nm,15.0s
EIL Elat 25.76 97 P **P 23 21 00.9 +1.6**
comp=Z,22nm,1.0s,baz=310,slow=8.4,SNR=10
EIL LR LR 23 33 54.5
comp=Z,385nm,19.7s,baz=276,slow=43
VSU Vasula 25.84 26↓ *e*P **P 23 20 59.8 0.0**
VSU pmax pmax
comp=Z,48nm,0.8s
ASF Jabal al Asfar 26.41 91 P **P 23 21 07.4 +2.0**
comp=Z,9.7nm,1.1s,baz=262,slow=2.6,SNR=12
FINES FINESS Array B 27.92 21 P **P 23 21 19.0 +0.5**
comp=Z,7.9nm,0.9s,baz=214,slow=6.5,SNR=8.3
FINES PcP **PcP 23 24 32.8 -0.9**
comp=Z,2.4nm,0.9s,baz=186,slow=1.9,SNR=5.0
FINES LR LR 23 32 08.9
comp=Z,402nm,20.9s,baz=207,slow=36
FIA1 FINESS Array S 27.92 21 *e*P **P 23 21 20.4 +1.9**
VSR Storozhevoye 28.03 48 *e*P **P 23 21 20.5 +0.9**
VSR pmax pmax
comp=Z,10.0nm,1.4s
VORD Divnogorie 28.03 49 *e*P **P 23 21 21.9 +2.3**
VORD pmax pmax
comp=Z,6.0nm,0.5s
OBN Obninsk 28.09 39 P **P 23 21 19.3 -0.7**
comp=Z,3.5nm,0.6s,baz=304,slow=22,SNR=8.2
OBN LR LR 23 33 43.9
comp=Z,323nm,19.2s,baz=234,slow=39
OBN Obninsk 28.09 39 *e*P **P 23 21 19.3 -0.7**
comp=Z,91nm,1.6s
OBN Obninsk 28.09 39 *d*/P **P 23 21 19.3 -0.7**
OBN *e*S **S 23 26 08.0 +3.3**
OBN pmax pmax
comp=Z,37nm,1.3s
OBN MLR MLR
comp=Z,1µm,17.0s
LPSR Galich'ya Gora 28.34 45 *e*P **P 23 21 20.8 -1.5**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
MOS Moscow 28.91 39 *e*P **P 23 21 28.1 +0.7**
MOS *e* 23 22 26.1
MOS pmax pmax
comp=Z,23nm,0.6s
MOS MLR MLR
comp=E,2µm,16.0s
MOS MLR MLR
comp=Z,2µm,16.0s
KIV Kislovodsk 29.20 64 *e*P **P 23 21 28.0 -2.2**
KIV *e*S **S 23 26 20.4 -2.2**
KIV pmax pmax
comp=Z,4.0nm,1.0s
NEY Neytrino 29.22 66↓ *e*P **P 23 21 28.9 -1.6**
NEY pmax pmax
comp=Z,1.0nm,1.0s
KBZ Khabaz 29.35 65 P **P 23 21 31.6 +0.2**
comp=Z,0.9nm,0.5s,baz=353,slow=8.3,SNR=5.3
KBZ LR LR 23 36 06.0
comp=Z,149nm,18.4s,baz=280,slow=42
VRH Novokhopyorsk 29.57 49 *e*P **P 23 21 32.6 -0.6**
VRH pmax pmax
comp=Z,20nm,1.3s
AKH Akhalkalaki 29.85 69 *e*P **P 23 21 36.9 +0.8**
comp=Z,3.6nm,0.8s
AKH Akhalkalaki 29.85 69 *e*P **P 23 21 36.9 +0.8**
AKH pmax pmax
comp=Z,4.0nm,0.8s
NCK Nalchik 29.85 65↑ *e*P **P 23 21 36.1 +0.2**
NCK pmax pmax
comp=Z,4.0nm,0.8s
GNI Garni 30.91 72↓ *e*P **P 23 21 46.7 +1.2**
GNI pmax pmax
comp=Z,21nm,1.4s
DBIC Dimbokro 31.38 200 P **P 23 21 48.0 -1.6**
comp=Z,3.3nm,0.7s,baz=359,slow=11,SNR=6.5
DBIC LR LR 23 35 39.4
comp=Z,1µm,19.0s,baz=348,slow=39
DBIC Dimbokro 31.38 200 P **P 23 21 48.0 -1.6**
DBIC pmax pmax
comp=Z,3.0nm,0.7s
DBIC MLR MLR
comp=Z,1µm,19.0s
TIC Toumodi 31.45 200 *e*PKP1 **P 23 21 52.5 +2.3**
KIC Kosan Boka 31.65 199 *e*PKP1 **P 23 21 51.6 -0.3**
comp=Z,27nm,1.0s
LIC Lamto 31.86 200 *e*PKP1 **P 23 21 52.4 -1.3**
comp=Z,69nm,1.4s
KLMR Klimovskoe 32.34 31 *e*P **P 23 21 56.3 -1.3**
KLMR pmax pmax
comp=Z,42nm,1.4s
KLMR Klimovskoe 32.34 31 *e*P **P 23 21 56.4 -1.2**
KLMR AMP 23 22 02.3
comp=Z,42nm,1.4s
MAK Makhachkala 32.73 66 *e*P **P 23 21 57.4 -3.8**
MAK *e*S **S 23 27 14.0 -3.6**
MAK pmax pmax
comp=Z,106nm,1.6s
ARCES ARCESS Array B 34.59 12 P **P 23 22 17.4 +0.3**
comp=Z,10nm,1.0s,baz=218,slow=7.7,SNR=11
ARCES PcP **PcP 23 24 50.0 -1.3**
comp=Z,1.2nm,0.6s,baz=211,slow=2.1,SNR=11
ARCES LR LR 23 36 38.6
comp=Z,46nm,19.7s,baz=192,slow=37
APA Apatity 34.67 19↑ *i*P **P 23 22 15.0 -2.8**
APA pmax pmax
comp=Z,6.0nm,1.0s
APA MLR MLR
comp=Z,900nm,11.0s
PRGR Permogore 35.30 32 *e*P **P 23 22 22.7 -0.6**
PRGR pmax pmax
comp=Z,11nm,0.8s
ARU Arti 40.32 43 *e*P **P 23 23 05.3 -0.4**
comp=Z,32nm,0.8s
ARU Arti 40.32 43*c i*P **P 23 23 05.4 -0.4**
ARU 23 24 39.3
ARU 23 25 08.8
ARU S **S 23 29 12.7 -0.5**
ARU SS **SS 23 32 05.9 -5.6**
ARU pmax pmax
comp=Z,71nm,1.7s
ARU MLR MLR
comp=Z,1µm,19.0s
ABKAR Akbulak array 41.00 55 *e*P **P 23 23 10.3 -1.2**
ABKAR *e*PcP **PcP 23 25 11.2 -0.2**
SVE Sverdlovsk 41.50 43↓ *e*P **P 23 23 15.2 -0.3**
SVE *e*S **S 23 29 33.6 +2.9**
SVE pmax pmax
comp=Z,52nm,1.0s
SVE MLR MLR
comp=Z,971nm,16.0s
GEYT Alibeck 41.55 72 P **P 23 23 15.7 -0.6**
comp=Z,1.0nm,0.6s,baz=126,slow=2.0,SNR=5.9
SUMG Summit 41.97 342 *i*P **P 23 23 21.9 +2.3**
SUMG Summit 41.97 342 *i*P **P 23 23 21.9 +2.3**
SFJD Kangerlussuaq 43.50 332 P **P 23 23 31.2 -0.4**
comp=Z,8.1nm,0.6s,baz=70,slow=10,SNR=4.3
MBAR Mbarara 44.08 142↓ *i*P **P 23 23 36.8 -0.2**
SHME Shamm 44.26 89 P **P 23 23 37.6 -0.7**
ASUD Al Ashush, Dub 44.26 91 P **P 23 23 38.8 +0.5**
NAZ Nazwa, Dubai 44.36 91 *i*P **P 23 23 39.1 0.0**
SNR=5.8
FAQ Al Faqa, Dubai 44.42 91 P **P 23 23 37.5 -2.1**
MDH Madha 44.73 90 P **P 23 23 41.2 -0.8**
HATD Hatta, Dubai 44.81 91 P **P 23 23 42.2 -0.5**
UOSS Minazif 44.82 90 *e*P **P 23 23 42.4 -0.3**
comp=Z,21nm,0.8s
UOSS Minazif 44.82 90 P **P 23 23 41.9 -0.9**
ASHO Ashiyiah 44.82 91 P **P 23 23 42.0 -0.8**
ALNE Al Ain 44.87 92 *i*P **P 23 23 42.9 -0.3**
SNR=6.8
BRVK Borovoye 47.14 48 *e*P **P 23 24 00.5 -0.2**
comp=Z,28nm,1.2s
BRVK Borovoye 47.14 48*c i*P **P 23 24 00.3 -0.4**
BRVK pmax pmax
comp=Z,28nm,1.7s
KMBO Kilima Mbogo 48.01 135 P **P 23 24 08.2 +0.1**
comp=Z,7.8nm,1.1s,baz=344,slow=7.4,SNR=11
KMBO LR LR 23 44 04.4
comp=Z,284nm,18.5s,baz=312,slow=36
KMBO Kilima Mbogo 48.01 135 *e*P **P 23 24 09.7 +1.5**
comp=Z,12nm,1.2s
KMBO Kilima Mbogo 48.01 135 *i*P **P 23 24 09.2 +1.0**
SNR=11
KMBO Kilima Mbogo 48.01 135*ce*P **P 23 24 09.6 +1.5**
KMBO pmax pmax
comp=Z,8.0nm,1.1s
KK31 Karatay Array 49.29 61 *e*P **P 23 24 16.7 -0.8**
KK31 Karatay Array 49.29 61 *e*P **P 23 24 16.7 -0.8**
KKAR Karatay Array 49.29 61 *e*P **P 23 24 16.7 -0.8**
KKAR Karatay Array 49.29 61 *e*P **P 23 24 16.7 -0.8**
KBL Kabul 50.99 72 *e*P **P 23 24 29.9 -0.8**
comp=Z,2.9nm,0.6s
KBL Kabul 50.99 72 *e*P **P 23 24 29.9 -0.8**
KBL pmax pmax
comp=Z,3.0nm,0.6s
SCHQ Schefferville 51.01 315 P **P 23 24 28.9 -1.5**
comp=Z,4.1nm,0.8s,baz=67,slow=4.8,SNR=5.8
SCHQ LR LR 23 42 38.7
comp=Z,275nm,20.7s,baz=302,slow=32
AAK Ala-Archa 52.22 61 *e*P **P 23 24 39.1 -0.7**
comp=Z,10nm,1.4s
AAK Ala-Archa 52.22 61 P **P 23 24 39.1 -0.7**
AAK Ala-Archa 52.22 61↑ *i*P **P 23 24 38.9 -0.9**
AAK pmax pmax
comp=Z,8.0nm,1.3s
KURK Kurchatov 52.66 50 *e*P **P 23 24 42.0 -0.7**
comp=Z,25nm,1.2s
KURK Kurchatov 52.66 50*ce*P **P 23 24 41.6 -1.0**
KURK pmax pmax
comp=Z,33nm,1.7s
NRIK Noril'sk 53.43 26 P **P 23 24 49.2 +1.2**
comp=Z,2.2nm,0.8s,baz=260,slow=5.1,SNR=4.6
NRIK LR LR 23 49 12.8
comp=Z,342nm,18.6s,baz=262,slow=38
NVS Novosibirsk 54.31 44↓ *i*P **P 23 24 55.2 +0.4**
NVS pmax pmax
comp=Z,21nm,1.0s
NVS pmax pmax
comp=E,3.0nm,0.4s
KSH Kashi 54.33 64 P **P 23 24 54.0 -1.3**
KSH sP sP 23 25 01.3 +1.6
KSH PP **PP 23 26 57.3 +0.3**
KSH S **S 23 32 26.0 -7.3**
KSH SS **SKiKP 23 36 06.0 -0.1**
KSH pmax pmax
comp=E,26nm,0.6s
KSH pmax pmax
comp=E,210nm,4.4s
KSH LR LR
comp=E,400nm,10.8s
KSH LR LR
comp=E,660nm,16.6s
NIL Nilore 54.55 72 *e*P **P 23 24 56.2 -0.7**
comp=E,18nm,0.6s
NIL Nilore 54.55 72 *e*P **P 23 24 56.2 -0.7**
NIL pmax pmax
comp=Z,18nm,0.6s
ZAA0 Zalesovo Array 55.45 45 *e*P **P 23 25 02.5 -0.4**
comp=Z,6.2nm,0.8s
ZALV Zalesovo Beam 55.45 45 P **P 23 25 02.4 -0.6**
comp=Z,6.9nm,0.6s,baz=284,slow=7.7,SNR=22
ZALV LR LR 23 51 18.3
comp=Z,625nm,18.3s,baz=253,slow=39
ZALV Zalesovo Beam 55.45 45 *e*P **P 23 25 02.1 -0.9**
LSZ Lusaka 56.13 153 P **P 23 25 07.9 -0.5**
comp=Z,3.8nm,0.8s,baz=341,slow=6.7,SNR=8.3
LSZ Lusaka 56.13 153 *e*P **P 23 25 09.0 +0.6**
comp=Z,4.5nm,0.9s
LSZ Lusaka 56.13 153 *e*P **P 23 25 09.0 +0.6**
LSZ pmax pmax
comp=Z,4.0nm,0.9s
MK31 Makanchi Array 56.14 54 *e*P **P 23 25 07.5 -0.6**
MK31 Makanchi Array 56.14 54 *e*P **P 23 25 07.5 -0.6**
MKAR Makanchi Array 56.14 54 P **P 23 25 07.2 -0.9**
comp=Z,5.0nm,0.6s,baz=286,slow=5.9,SNR=36
MKAR LR LR 23 51 02.5
comp=Z,249nm,18.2s,baz=294,slow=38
MKAR Makanchi Array 56.14 54 *e*P **P 23 25 07.5 -0.6**
comp=Z,39nm,0.8s
MKAR Makanchi Array 56.14 54 *e*P **P 23 25 07.5 -0.6**
MKAR pmax pmax
comp=Z,39nm,0.8s
MK01 Makanchi Array 56.15 54 *e*P **P 23 25 07.1 -1.1**
DGZ Jazzator, Alta 58.35 49*c i*P **P 23 25 23.4 -0.5**
DGZ pmax pmax
comp=Z,4.0nm,0.7s
WMQ Urumqi 60.78 55 P **P 23 25 40.8 +0.2**
WMQ pP sP 23 25 48.5 +3.4
WMQ pmax pmax
comp=Z,10.0nm,1.5s
WMQ pmax pmax
comp=Z,110nm,4.1s
WMQ LR LR
comp=Z,470nm,23.1s
SADO Sadowa 61.69 306 LR LR 23 50 54.5
comp=Z,343nm,18.4s,baz=78,slow=35
SSPA Standing Stone 62.63 302 *e*P **P 23 25 55.2 +2.2**
comp=Z,58nm,1.6s
LBTB Lobatse 64.40 160 *e*P **P 23 26 05.7 +0.9**
comp=Z,24nm,1.4s
LBTB Lobatse 64.40 160 *e*P **P 23 26 05.7 +0.9**
LBTB pmax pmax
comp=Z,24nm,1.4s
PYUN Piuthan 64.52 73 *e*P **P 23 26 04.8 -1.2**
comp=Z,47nm,0.6s
SJG San Juan 64.69 274 LR LR 23 48 27.7
comp=Z,139nm,21.6s,baz=77,slow=31
TIXI Tiksi 64.85 17 *e*P **P 23 26 08.6 +1.5**
comp=Z,34nm,1.7s
TIXI Tiksi 64.85 17↑ *e*P **P 23 26 08.6 +1.5**
TIXI pmax pmax
comp=Z,20nm,1.7s
DANN Dangsing 64.98 72 *e*P **P 23 26 07.9 -1.2**
comp=Z,34nm,1.0s
KOLN Koldanda 65.15 73 *e*P **P 23 26 08.6 -1.5**
comp=Z,16nm,0.7s
DMN Daman 66.38 72 *e*P **P 23 26 17.0 -1.1**
comp=Z,18nm,0.7s
KKN Kakani 66.42 72 *e*P **P 23 26 16.8 -1.5**
comp=Z,14nm,0.5s
HYB Hyderabad 66.56 85 *i*P **P 23 26 19.0 0.0**
PKIN Phulchoki 66.62 72 *e*P **P 23 26 18.0 -1.6**
comp=Z,8.2nm,0.7s
PKI Pulchoki 66.63 72 *e*P **P 23 26 18.2 -1.6**
comp=Z,19nm,1.1s
GUN Gumba 66.82 72 *e*P **P 23 26 20.3 -0.7**
comp=Z,20nm,0.9s
JIRN Jiri 67.18 72 *e*P **P 23 26 22.5 -0.9**
comp=Z,11nm,0.6s
BOSA Boshof 67.72 161 P **P 23 26 25.4 -0.7**
comp=Z,8.8nm,0.9s,baz=348,slow=9.6,SNR=7.0
BOSA LR LR 23 56 27.0
comp=Z,786nm,18.3s,baz=345,slow=36
BOSA Boshof 67.72 161 *e*P **P 23 26 25.9 -0.3**
comp=Z,12nm,0.9s
BOSA Boshof 67.72 161 *e*P **P 23 26 25.9 -0.3**
BOSA pmax pmax
comp=Z,12nm,0.9s
RAMN Ramite 67.86 72 *e*P **P 23 26 26.2 -1.3**
comp=Z,13nm,0.5s
SDDR Presa de Saban 68.32 278 *e*P **P 23 26 33.7 +3.4**
comp=Z,59nm,1.4s
ULM Lac du Bonnet 69.04 318 P **P 23 26 32.2 -1.9**
comp=Z,7.4nm,0.8s,baz=59,slow=5.9,SNR=10
ULM LR LR 23 52 51.5
comp=Z,162nm,21.2s,baz=66,slow=33
ULM Lac du Bonnet 69.04 318 *e*P **P 23 26 32.8 -1.4**
comp=Z,35nm,1.4s
ULM Lac du Bonnet 69.04 318 *e*P **P 23 26 32.8 -1.4**
ULM pmax pmax
comp=Z,35nm,1.4s
FFC Flin Flon 69.65 324 *i*P **P 23 26 39.5 +1.6**
LSA Lhasa 69.87 68 *e*P **P 23 26 39.8 -0.5**
comp=Z,6.3nm,0.7s
LSA Lhasa 69.87 68 P **P 23 26 39.8 -0.5**
YKW3 Yellowknife Ar 69.92 335 *e*P **P 23 26 38.8 -0.6**
YKA Yellowknife Ar 69.96 335 P **P 23 26 39.0 -0.6**
comp=Z,2.8nm,0.6s,baz=50,slow=6.0,SNR=26
YKA Yellowknife Ar 69.96 335 P **P 23 26 39.0 -0.6**
YKA Yellowknife Ar 69.96 335 P **P 23 26 39.0 -0.6**
YKA pmax pmax
comp=Z,3.0nm,0.6s
YKB5 Yellowknife Ar 69.96 335 *e*P **P 23 26 39.0 -0.7**
GOGA Godfrey 70.02 297 *e*P **P 23 26 43.8 +3.3**
comp=Z,28nm,1.4s
SONM Songino Array 70.34 45 P **P 23 26 41.6 -0.8**
comp=Z,1.2nm,1.0s,baz=312,slow=7.6,SNR=5.6
SONM LR LR 23 59 55.5
comp=Z,709nm,19.3s,baz=348,slow=38
T47A Sharon Grove 70.69 302 *e*P **P 23 26 45.7 +1.1**
comp=Z,34nm,1.5s
INK Inuvik 70.78 345 P **P 23 26 43.9 -0.6**
comp=Z,2.3nm,1.0s,baz=19,slow=11,SNR=8.6
GTA Gaotai 70.86 55 *e*P **P 23 26 46.0 +0.3**
GTA pP sP 23 26 51.0 +0.8
GTA sP pP 23 26 53.0 +4.0
GTA pmax pmax
comp=Z,4.0nm,1.4s
GTA pmax pmax
comp=Z,80nm,6.4s
GTA LR LR
comp=Z,270nm,19.4s
GTA LR LR
comp=Z,230nm,17.8s
V48A Smith Brothers 71.16 301 *e*P **P 23 26 49.5 +2.0**
comp=Z,29nm,1.5s
X48A Hartselle 72.00 300 *e*P **P 23 26 54.9 +2.4**
comp=Z,26nm,1.4s
PLAL Pickwick Lake 72.43 301 *e*P **P 23 26 54.8 -0.3**
comp=Z,24nm,1.3s
PBMO Poplar Bluff 73.05 303 *e*P **P 23 27 00.1 +1.4**
comp=Z,44nm,1.6s
ECSD EROS Data Cent 73.08 312 *e*P **P 23 26 58.5 -0.3**
comp=Z,38nm,1.9s
TOLK Toolik Lake Re 73.21 351 *e*P **P 23 27 01.1 +1.9**
comp=Z,45nm,1.8s
T42A Van Buren 73.35 304 *e*P **P 23 27 01.5 +1.0**
comp=Z,36nm,1.8s
SDV Santo Domingo 73.46 269 *e*P **P 23 27 01.1 -0.6**
comp=Z,20nm,1.3s
OXF Oxford 73.60 301 *e*P **P 23 27 01.4 -0.6**
comp=Z,53nm,1.4s
OXF Oxford 73.60 301 *e*P **P 23 27 01.4 -0.6**
OXF pmax pmax
comp=Z,53nm,1.4s
BILL Bilibino 74.50 7↓ *e*P **P 23 27 09.3 +2.6**
BILL pmax pmax
comp=Z,5.0nm,1.2s
BILL MLR MLR
comp=Z,234nm,20.0s
WHAR Wooly Hollow 75.13 303 *e*P **P 23 27 11.0 +0.1**
W41B Gary Mavity, V 75.17 303 *e*P **P 23 27 12.4 +1.3**
comp=Z,21nm,1.3s
LZH Lanzhou 75.36 56 *e*P **P 23 27 12.3 -0.1**
LZH pP sP 23 27 17.8 +0.9
LZH sP pP 23 27 19.0 +3.3
LZH e**PP **PP 23 30 03.0 +2.2**
LZH pmax pmax
comp=Z,27nm,1.2s
LZH pmax pmax
comp=Z,96nm,4.3s
LZH LR LR
comp=Z,250nm,16.6s
LZH LR LR
comp=Z,290nm,17.0s
LZH LR LR
comp=Z,390nm,19.3s
DAWY Dawson 75.66 345 *e*P **P 23 27 13.7 +0.2**
comp=Z,21nm,1.4s
HHAR Hobbs 75.67 305 *e*P **P 23 27 13.5 -0.5**
X40A Basin Creek Fa 75.95 303 *e*P **P 23 27 15.3 -0.3**
comp=Z,12nm,1.3s
W39A Magazine 76.19 304 *e*P **P 23 27 16.2 -0.8**
comp=Z,24nm,1.4s
MIAR Mount Ida 76.42 303 *e*P **P 23 27 18.0 -0.3**
comp=Z,16nm,1.3s
MIAR Mount Ida 76.42 303 *e*P **P 23 27 18.0 -0.3**
MIAR pmax pmax
comp=Z,17nm,1.3s
IL1 Eielson Array 76.43 348 *e*P **P 23 27 19.3 +1.5**
ILAR Eielson Array 76.43 348 P **P 23 27 17.8 0.0**
comp=Z,2.4nm,1.1s,baz=3.9,slow=4.5,SNR=13
ILAR LR LR 00 03 52.8
comp=Z,248nm,20.2s,baz=58,slow=38
MDM Murphy Dome 76.47 349 *e*P **P 23 27 22.1 +4.0**
comp=Z,28nm,1.8s
CCB Clear Creek Bu 76.69 348 *e*P **P 23 27 23.0 +3.7**
comp=Z,40nm,1.9s
LAO LASA Array 76.69 319 *e*P **P 23 27 20.9 +1.2**
comp=Z,41nm,1.5s
HDA Harding Lake 76.77 348 *e*P **P 23 27 20.5 +0.7**
comp=Z,53nm,1.9s
RSSD Black Hills 77.14 316 *e*P **P 23 27 22.2 -0.3**
comp=Z,10nm,1.2s
RSSD Black Hills 77.14 316 *e*P **P 23 27 22.2 -0.3**
RSSD pmax pmax
comp=Z,10.0nm,1.2s
SEY Seymchan 77.17 15↑ *e*P **P 23 27 25.0 +3.0**
HHC Hu-ho-hao-te 77.42 48 *e*P **P 23 27 23.8 -0.2**
HHC sP sP 23 27 30.0 +1.5
HHC S **S 23 37 11.8 -2.9**
HHC sS sS 23 37 20.8 +0.6
HHC pmax pmax
comp=Z,14nm,1.0s
HHC pmax pmax
comp=Z,220nm,5.2s
HHC LR LR
comp=Z,360nm,16.7s
HHC LR LR
comp=Z,320nm,15.9s
EGMT Eagleton 77.64 321 *e*P **P 23 27 25.6 +0.5**
comp=Z,10nm,1.0s
DHY Denali Highway 78.08 348 *e*P **P 23 27 27.9 +0.6**
comp=Z,20nm,1.1s
CD2 Chengdu 78.29 60 *e*P **P 23 27 28.0 -0.9**

ROSC	El Rosal	78.78	268	LR	LR	00 02 05.9	
	comp=Z,55nm,18.3s,baz=65,slow=36						
GCMT	Greycliff	79.09	320	*eP*	P	23 27 33.7	+0.6
K22A	Casper	79.47	316	*eP*	P	23 27 36.0	+0.7
	comp=Z,22nm,1.3s						
JTMT	Jette	80.04	323	*eP*	P	23 27 41.5	+3.2
	comp=Z,32nm,1.8s						
N23A	Red Feather La	80.28	314	*eP*	P	23 27 41.5	+1.6
	comp=Z,28nm,1.6s						
H17A	Grant Village	80.50	319	*eP*	P	23 27 44.0	+2.9
	comp=Z,6.9nm,1.0s						
YMR	Madison River	80.52	320	*eP*	P	23 27 43.4	+2.3
	comp=Z,21nm,1.6s						
YHB	Horse Butte	80.58	320	*eP*	P	23 27 44.1	+2.7
	comp=Z,15nm,1.4s						
ISCO	Idaho Springs	80.80	313	*eP*	P	23 27 44.0	+1.2
	comp=Z,18nm,1.5s						
ISCO	Idaho Springs	80.80	313	*eP*	P	23 27 44.0	+1.2
ISCO				pmax	pmax		
	comp=Z,18nm,1.5s						
DLMT	Dillon	80.88	321	*eP*	P	23 27 47.1	+4.2
	comp=Z,19nm,1.5s						
KMI	Kunming	80.95	66	P	P	23 27 44.3	+0.6
KMI				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MOOW	Moose Ponds	81.03	319	*eP*	P	23 27 45.0	+1.1
	comp=Z,13nm,1.5s						
IMW	Indian Meadow	81.03	319	*eP*	P	23 27 45.6	+1.6
	comp=Z,4.6nm,0.8s						
LOHW	Long Hollow	81.05	319	*eP*	P	23 27 45.5	+1.6
	comp=Z,9.7nm,1.4s						
PD31	Pinedale Array	81.06	317	*eP*	P	23 27 44.1	+0.1
PDAR	Pinedale Array	81.06	317	P	P	23 27 42.5	-1.5
	comp=Z,1.2nm,0.7s,baz=57,slow=5.5,SNR=8.4						
PDAR	Pinedale Array	81.06	317	*eP*	P	23 27 42.6	-1.4
BW06	Boulder Array	81.06	317	*eP*	P	23 27 44.1	0.0
	comp=Z,24nm,1.5s						
FXWY	Fox Creek	81.26	319	*eP*	P	23 27 46.6	+1.5
	comp=Z,6.5nm,1.1s						
TPAW	Teton Pass	81.32	319	*eP*	P	23 27 46.5	+1.0
	comp=Z,8.2nm,1.1s						
REDW	Red Top Meadow	81.36	319	*eP*	P	23 27 46.3	+0.7
	comp=Z,21nm,1.4s						
ABTX	Abilene, Hawle	81.62	304	*eP*	P	23 27 50.0	+3.1
	comp=Z,14nm,1.3s						
CHTO	Chiang Mai	81.81	73	P	P	23 27 52.1	+4.0
	comp=Z,18nm,1.9s						
CMMT	Chiang Mai	81.81	73	P	P	23 27 52.1	+4.0
B08A	Colville Reser	81.93	326	*eP*	P	23 27 49.4	+1.1
	comp=Z,4.8nm,0.9s						
CMAR	Chiang Mai Arr	82.02	73	P	P	23 27 49.7	+0.5
	comp=Z,1.8nm,0.9s,baz=305,slow=7.5,SNR=9.9						
CMAR				LR	LR	00 11 29.1	
	comp=Z,25nm,20.7s,baz=304,slow=41						
CM01	Chiang Mai Arr	82.05	73	*eP*	P	23 27 49.2	-0.1
SDCO	Great Sand Dun	82.07	312	*eP*	P	23 27 50.9	+1.4
	comp=Z,6.9nm,1.2s						
KLR	Kul'dur	82.09	32	LR	LR	00 07 27.6	
	comp=Z,342nm,19.1s,baz=316,slow=38						
F10A	Beach Ranch, E	82.72	324	*eP*	P	23 27 55.5	+3.0
	comp=Z,35nm,1.5s						
E09A	Wood Farm, Sta	82.76	324	*eP*	P	23 27 55.5	+2.9
	comp=Z,17nm,1.4s						
S22A	4UR Ranch, Cre	82.87	312	*eP*	P	23 27 56.1	+2.5
	comp=Z,16nm,1.6s						
HWUT	Hardware Ranch	82.94	318	*eP*	P	23 27 57.2	+3.3
	comp=Z,21nm,1.6s						
GYA	Guiyang	82.98	62	*eP*	P	23 27 55.0	+0.7
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HLID	Hailey	83.07	320	*eP*	P	23 27 56.4	+1.9
	comp=Z,21nm,1.7s						
TCUT	Toone Canyon	83.20	317	*eP*	P	23 27 54.7	-0.6
	comp=Z,34nm,0.4s						
HVU	Hansel Valley	83.47	318	*eP*	P	23 27 58.3	+1.7
	comp=Z,6.6nm,1.2s						
PV22	Blue Mesa, Par	83.49	314	*eP*	P	23 27 58.7	+1.9
	comp=Z,25nm,1.5s						
E07A	Sunnyside	83.51	325	*eP*	P	23 27 58.2	+1.7
	comp=Z,9.3nm,0.8s						
P18A	Preston Nutter	83.58	315	*eP*	P	23 27 58.9	+1.5
	comp=Z,8.0nm,0.7s						
PV21	Cone Mtn., Par	83.58	314	*eP*	P	23 28 00.4	+3.1
	comp=Z,40nm,1.9s						
BMO	Blue Mountains	83.58	323	*eP*	P	23 27 56.1	-0.9
	comp=Z,54nm,1.7s						
BMO	Blue Mountains	83.58	323	*eP*	P	23 27 56.1	-0.9
BMO				pmax	pmax		
	comp=Z,54nm,1.7s						
PV12	Saucer Basin,	83.64	314	*eP*	P	23 28 01.2	+3.6
	comp=Z,19nm,1.3s						
PV23	Carpenter Ridg	83.67	314	*eP*	P	23 28 02.3	+4.5
	comp=Z,31nm,1.6s						
PV11	David Mesa, Pa	83.70	314	*eP*	P	23 28 01.5	+3.6
	comp=Z,45nm,1.5s						
PV03	Paradox Valley	83.71	314	*eP*	P	23 28 00.2	+2.3
PV16	Nyswonger Mesa	83.71	314	*eP*	P	23 27 60.0	+2.0
	comp=Z,18nm,1.2s						
PV20	West Nyswonger	83.72	314	*eP*	P	23 28 01.9	+3.9
	comp=Z,35nm,1.8s						
PV14	Lion Creek, Pa	83.73	314	*eP*	P	23 28 01.9	+3.9
	comp=Z,40nm,1.8s						
PV10	Paradox Valley	83.74	314	*eP*	P	23 28 00.7	+2.6
PV18	Skein Mesa, Pa	83.75	314	*eP*	P	23 28 01.7	+3.6
	comp=Z,27nm,1.5s						
PV17	East Wray Mesa	83.76	314	*eP*	P	23 28 00.7	+2.5
	comp=Z,37nm,1.6s						
PV13	Radium Mtn., P	83.76	314	*eP*	P	23 28 00.1	+1.9
	comp=Z,13nm,1.3s						
MFID	Camas Ranch	83.89	321	*eP*	P	23 28 00.4	+1.7
	comp=Z,24nm,1.5s						
P17A	Butcher Ranch,	83.96	316	*eP*	P	23 28 02.4	+3.2
	comp=Z,13nm,1.3s						
SRU	San Rafael Swe	84.09	315	*eP*	P	23 28 00.4	+0.6
	comp=Z,23nm,1.4s						
BGU	Big Grassy Mou	84.21	318	*eP*	P	23 28 01.7	+1.3
	comp=Z,15nm,1.4s						
LON	Longmire	84.25	327	*eP*	P	23 28 00.4	+0.1
	comp=Z,17nm,1.1s						
LON	Longmire	84.25	327	*eP*	P	23 28 00.4	+0.1
LON				pmax	pmax		
	comp=Z,17nm,1.1s						
TMUT	Trail Mountain	84.35	316	*eP*	P	23 28 02.8	+1.5
	comp=Z,12nm,1.2s						
NLU	North Lily Min	84.37	317	*eP*	P	23 28 02.9	+1.7
	comp=Z,15nm,1.4s						
ANMO	Albuquerque	84.49	310	*eP*	P	23 28 06.0	+4.0
	comp=Z,5.0nm,1.1s						
ANMO	Albuquerque	84.49	310	*eP*	P	23 28 02.7	+0.8
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.2s						
DUG	Dugway, Tooele	84.61	317	*eP*	P	23 28 05.8	+3.4
	comp=Z,9.4nm,1.1s						
DUG	Dugway, Tooele	84.61	317	*eP*	P	23 28 05.8	+3.4
DUG				pmax	pmax		
	comp=Z,9.0nm,1.1s						
OTAV	Otavalo	84.82	266	*eP*	P	23 28 07.7	+3.5
	comp=Z,16nm,1.4s						
OTAV	Otavalo	84.82	266	*eP*	P	23 28 07.7	+3.5
OTAV				pmax	pmax		
	comp=Z,16nm,1.4s						
BNM	Barren Site	85.12	309	*eP*	P	23 28 05.6	+0.4
LAZ	Ladron	85.27	310	*eP*	P	23 28 09.5	+3.6
LENM	Lemitar	85.33	310	*eP*	P	23 28 09.6	+3.4
MTPU	Mount Pierson	85.77	315	*eP*	P	23 28 09.8	+1.3
	comp=Z,22nm,1.3s						
MNTX	Cornudas Mount	85.95	307	*eP*	P	23 28 12.2	+3.1
	comp=Z,12nm,1.5s						
USRK	Ussuriysk Ar.	86.03	35	LR	LR	00 10 02.3	
	comp=Z,311nm,18.7s,baz=311,slow=38						
CPUP	Villa Florida	86.08	233	P	P	23 28 09.7	+0.2
	comp=Z,3.7nm,1.0s,baz=20,slow=1.4,SNR=5.3						
CPUP				LR	LR	00 06 02.3	
	comp=Z,295nm,18.1s,baz=57,slow=35						
CPUP	Villa Florida	86.08	233	*eP*	P	23 28 10.5	+1.0
	comp=Z,7.1nm,1.2s						
CPUP	Villa Florida	86.08	233	*eP*	P	23 28 10.5	+1.0
CPUP				pmax	pmax		
	comp=Z,7.0nm,1.2s						
LNIG	Linares	86.31	298	*eP*	P	23 28 11.1	+0.1
	comp=Z,16nm,1.3s						
PSUT	Pine Spring	86.35	317	*eP*	P	23 28 14.8	+3.6
	comp=Z,8.8nm,1.2s						
TX31	Lajitas Ar. Si	86.37	304	*eP*	P	23 28 13.1	+1.7
TXAR	Lajitas Array	86.37	304	P	P	23 28 11.4	+0.1
	comp=Z,1.2nm,0.9s,baz=75,slow=5.3,SNR=10						
TXAR				LR	LR	00 04 12.5	
	comp=Z,158nm,21.0s,baz=0.0,slow=34						
LPAZ	La Paz	86.91	247	LR	LR	00 05 00.2	
	comp=Z,119nm,21.5s,baz=60,slow=34						
PETK	Petropavlovsk-	87.31	16	LR	LR	00 12 26.8	
	comp=Z,180nm,18.6s,baz=339,slow=39						
R11A	Troy Canyon, C	87.43	317	*eP*	P	23 28 18.8	+2.4
NJ2	Nanjing	87.58	51	*eP*	P	23 28 18.8	+1.8
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
NVAR	Mina Array Bea	88.82	319	LR	LR	00 06 50.4	
	comp=Z,156nm,18.1s,baz=86,slow=35						
KSRS	Korea Array	89.05	42	LR	LR	00 11 53.7	
	comp=Z,142nm,18.2s,baz=322,slow=38						
ASAJ	Asahikawa	90.65	29	LR	LR	00 12 00.8	
	comp=Z,235nm,21.5s,baz=166,slow=37						
MJAR	Matsushiro Arr	94.98	36	LR	LR	00 15 33.6	
	comp=Z,269nm,18.9s,baz=340,slow=38						
WRA	Warramunga Arr	132.70	84	PKP	PKPdf	23 34 43.4	-0.6
	comp=Z,1.2nm,0.8s,baz=322,slow=2.0,SNR=13						
ASAR	Alice Springs	134.23	88	PKP	PKPdf	23 34 46.7	-0.1
	comp=Z,0.8nm,0.7s,baz=339,slow=1.2,SNR=7.2						
STKA	Stephens Creek	143.84	95	PKP	PKPab	23 35 01.1	0.0
	comp=Z,1.4nm,0.5s,baz=250,slow=2.4,SNR=4.3						

DJA 28 23:20:45.4±2.3, 12°S±23°×111°8E±°, h10km, M3.6/4, MLv3.6/4, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	Waikabubak, Su	2.47	36	P	Pn	23 21 25.5	-0.3
PLAI	Plampang	2.82	357	P	Pn	23 21 30.5	0.0
TWSI	Taliwang, Sumb	3.08	341	P	Pn	23 21 33.9	-0.2
EDFI	Ende, Flores	4.71	52	P	Pn	23 21 56.5	-0.1
JAGI	Jajag, Banyuwa	4.88	310	P	Pn	23 21 58.4	-0.5

*THE **28** 23:31:22.7, 35°.08N×22°.87E, h7km±35km, ML3.2/2, Error ellipse: s-maj=35.8km s-min=2.2km az=265.0*
*ATH **28** 23:31:24.0, 34°.93N×23°.04E, h39km±2km, ML3.1/4, Error ellipse: s-maj=4.2km s-min=2.0km az=50.0*
*HLW **28** 23:31:25.1, 34°.88N×23°.70E, h11km±20km, Ml3.3*
ISC 28 23:31:20.7±2.5, 34°.95N±0°.05×22°.84E±0°.10, h3km±14km, n21, σ0°90/28, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KERA	Keramoti	0.72	54	P	Pb	23 31 36.4	+0.4
KERA				S	Sb	23 31 46.7	+0.4
ANKY	Antikythira Is	0.99	22	P	Pn	23 31 42.5	+0.9
ANKY				S	Sn	23 31 56.1	0.0
ANKY				AML	AML	23 31 59.3	
	comp=E,1246μm,0.9s						
ANKY				AML	AML	23 32 01.4	
	comp=N,1435μm,0.8s						
GVD	Gavdhos	1.03	96	P	Pg	23 31 41.4	+0.9
GVD				S	Sg	23 31 52.6	-1.3
GVD				AML	AML	23 32 00.2	
	comp=E,3236μm,0.4s						
GVD				AML	AML	23 32 01.0	
	comp=N,3021μm,0.4s						
GVD	Gavdhos	1.03	96	P	Pg	23 31 41.4	+0.9
GVD				S	Sb	23 31 57.3	+2.1
GVDS	Gavdos	1.03	95	P	Pg	23 31 41.2	+0.6
GVDS				S	Sb	23 31 56.6	+1.3
IMMV	Iera Moni Meta	1.07	61	P	Pg	23 31 41.9	+0.7
IMMV				S	Sb	23 31 55.5	-0.7
IMMV				AML	AML	23 31 59.3	
	comp=E,2718μm,0.5s						
IMMV				AML	AML	23 32 02.3	
	comp=N,2995μm,0.5s						
IMMV	Iera Moni Meta	1.07	61	P	Pg	23 31 41.9	+0.7
IMMV				S	Sb	23 31 55.5	-0.7
CHAN	Chania	1.14	60	P	Pg	23 31 42.8	+0.2
VAM	Vamos	1.21	67	P	Pg	23 31 43.8	0.0
VAM				S	Sg	23 31 58.5	-1.0
VAM				AML	AML	23 32 05.4	
	comp=N,2096μm,0.5s						
VAM				AML	AML	23 32 05.9	
	comp=E,1683μm,0.6s						
VAM	Vamos	1.21	67	P	Pg	23 31 43.9	0.0
VAM				S	Sb	23 32 00.0	-0.2
SIVA	Sivas	1.62	87	P	Pn	23 31 49.6	-0.6
MHLO	Agia Marina, M	2.15	36	P	Pn	23 31 57.2	-0.4
LAST	Lasithi	2.18	84	P	Pn	23 31 57.8	-0.2
MHLA	Plaka, Milos I	2.21	35	P	Pn	23 31 57.8	-0.4
NPS	Neapolis	2.30	81	P	Pn	23 31 59.5	0.0
ZKR	Zakros	2.78	86	P	Pn	23 32 06.1	-0.1
SLUM	Salum	3.98	149	P	Pn	23 32 20.9	-1.7
	baz=158						
SLUM				AMP		23 33 00.0	
	baz=158						
SLUM				S	Sn	23 33 02.2	-7.5
	baz=158						
SWA2		6.11	158	P	Pn	23 32 52.3	+0.5
	baz=164						
HFRF	Wahat Farafira	9.08	147	P	Pn	23 33 31.4	-1.3
	baz=151						
GLL	Jalalah	9.22	123	P	Pn	23 33 31.4	-3.3
	baz=125						
SUZ	Suez	9.86	118	P	Pn	23 33 39.3	-4.1
	baz=120						

*ISCJB **28** 23:38:16.0±0.5, 14°.04N±0°.06×91°.40W±0°.04, h75km±5km, mb4.0/11, Error ellipse: s-maj=11.0km s-min=3.6km az=27.9*
*MEX **28** 23:38:17.8±0.7, 14°.01N×91°.42W, h61km±23km, MD4.0*
*UCR **28** 23:38:17.6±1.4, 14°.04N×91°.23W, h18km±15km, ML3.6, mb4.1(NEIC)*
*NEIC **28** 23:38:18.6±0.7, 14°.21N×91°.34W, h63km±10km, mb4.1/13, Error ellipse: s-maj=15.6km s-min=6.8km az=203.0*
*IDC **28** 23:38:18.8±1.6, 14°.12N×91°.28W, h92km±11km, mb3.6/6, mb1 3.7/9, mb1mx3.4/49, mbtmp3.9/9, MS2.8/3, Ms1 2.8/3, ms1mx2.6/25, Error ellipse: s-maj=21.3km s-min=11.3km az=29.0*
ISC 28 23:38:16.7±1.0, 14°.02N±0°.07×91°.37W±0°.04, h70km±10km, n59, σ1°67/72, mb4.1/11, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		1.24	316	P	Pn	23 38 37.3	-1.1
THIG				S	Sn	23 38 52.9	-1.6
THIG		1.24	316	*eP*	Pn	23 38 37.3	-1.1
THIG				*eS*	Sn	23 38 52.9	-1.6
APG	El Apazote	1.31	42	P	Pn	23 38 39.0	-0.4
	74nm,0.3s,baz=215,slow=6.2,SNR=237						
APG				S	Sn	23 38 58.0	+1.5
	205nm,0.3s,baz=340,slow=20,SNR=21						
APG				LR	LR	23 39 17.4	
	comp=Z,703nm,18.7s,baz=124,slow=50						
RTR	El Retiro	1.68	94	*eP*	Pn	23 38 44.9	+0.7
CEVE	Cerro Verde	1.70	96	*eP*	Pn	23 38 45.1	+0.5
CEVE				*eS*	Sn	23 39 05.7	0.0
CEVE				IAML		23 39 11.8	
	comp=Z,3μm,0.2s						
SBLS	San Blas	1.70	96	*eP*	Pn	23 38 45.1	+0.5
SBLS				*eS*	Sn	23 39 05.4	-0.3
SNJE	San Jose	1.72	95	*eP*	Pn	23 38 45.6	+0.8
BOQS	Boqueron	2.05	98	*eP*	Pn	23 38 49.5	+0.3
SNET	Serv Nac Est T	2.10	99	*eS*	Sn	23 39 15.9	+0.9
LOMA	San Marcos	2.16	99	*eP*	Pn	23 38 51.7	+1.1
LOMA				*eS*	Sn	23 39 17.2	+0.8
LOMA				IAML		23 39 24.8	
	comp=Z,946nm,0.3s						
LFU	La Fuente	2.20	97	*eP*	Pn	23 38 51.2	0.0
LBRS	Las Brisas	2.27	97	*eP*	Pn	23 38 52.3	+0.1
PCIG		2.45	313	P	Pn	23 38 54.1	-0.4
PCIG				S	Sn	23 39 20.9	-2.6
PCIG		2.45	313	*eP*	Pn	23 38 54.1	-0.4
PCIG				*i* S	Sn	23 39 20.9	-2.6
VSM	San Miguel	3.06	101	*eP*	Pn	23 39 03.4	+0.4
TGIG		3.23	329	P	Pn	23 39 05.3	+0.2
TGIG				S	Sn	23 39 30.6	-12
TGIG		3.23	329	*eP*	Pn	23 39 05.3	+0.2
TGIG				*i* S	Sn	23 39 41.5	-0.9
LCND	La Ca˜–ada	3.45	101	*eP*	Pn	23 39 08.8	+0.7
LCND				IAML		23 40 05.9	
	comp=Z,255nm,0.4s						
CSGN	Cosiguina Volc	3.85	105	*ePn*	Pn	23 39 15.8	+2.2
CSGN	Cosiguina Volc	3.85	105	*eP*	Pn	23 39 13.8	+0.3
TGUH	Tegucigalpa,Un	3.97	89	*ePn*	Pn	23 39 17.9	+2.6
CRIN	San Cristobal	4.40	107	*eP*	Pn	23 39 22.3	+1.1
CRIN				*eS*	Sn	23 40 13.2	+2.0
CRIN				IAML		23 40 28.3	
	comp=N,218nm,0.6s						
CMIG	Matias Romero	4.56	312	P	Pn	23 39 23.7	+0.4
	comp=N,5.3nm,0.3s,baz=110,slow=9.3,SNR=32						
CMIG				S	Sn	23 40 18.4	+3.3
	comp=N,24nm,0.3s,baz=59,slow=23,SNR=7.2						
CMIG				LR	LR	23 40 59.3	
	comp=N,60nm,18.6s,baz=136,slow=35						
HUIG	Huatulco	4.90	291	P	Pn	23 39 28.6	+0.6
HUIG	Huatulco	4.90	291	*i* P	Pn	23 39 27.8	-0.2
HUIG				*i* S	Sn	23 40 21.4	-2.0
ESTN	Estel	4.94	100	*ePn*	Pn	23 39 29.7	+1.1
TEIG	Tepich	6.84	25	*ePn*	Pn	23 39 54.3	-0.2
JTS	JuntasAbangare	7.28	120	P	Pn	23 40 03.0	+2.4
	comp=N,0.6nm,0.3s,baz=169,slow=20,SNR=5.2						
JTS	JuntasAbangare	7.28	120	*ePn*	Pn	23 40 03.7	+3.2
JTS				*eSn*	Sn	23 41 16.1	-5.7
TLIG	Tlapa	7.78	298	*ePn*	Pn	23 40 10.1	+2.7
TLIG				*eSn*	Sn	23 41 38.9	+4.9
HKT	Hockley	16.38	346	*ePn*	Pn	23 42 01.4	-0.9
	comp=N,3.7nm,0.9s						
346A	Big Creek Wild	17.38	5	*ePn*	Pn	23 42 15.7	+1.2
	comp=N,58nm,0.8s						
TX31	Lajitas Ar. Si	19.03	325	*eP*	Pn	23 42 36.0	+1.4
TXAR	Lajitas Array	19.03	325	P	P	23 42 34.0	+0.8
	comp=N,0.2nm,0.3s,baz=147,slow=14,SNR=13						
LRAL	Lakeview Retre	19.34	11	*eP*	P	23 42 37.8	+1.3
	comp=N,2.8nm,0.7s						
Z50A	Ashland	19.78	14	*eP*	P	23 42 42.1	+0.8
	comp=N,12nm,1.0s						
ABTX	Abilene, Hawle	20.00	339	*eP*	P	23 42 44.9	+1.1
	comp=N,8.1nm,0.8s						
LPIG	La Paz	20.50	302	LR	LR	23 51 34.9	
	comp=N,33nm,19.1s,baz=216,slow=39						
GOGA	Godfrey	20.60	19	*eP*	P	23 42 51.1	+1.0
	comp=N,2.7nm,0.6s						
UALR	University of	20.69	358	*eP*	P	23 42 52.5	+1.4
	comp=N,13nm,0.6s						
SDV	Santo Domingo	20.94	102	P	P	23 42 52.4	-1.8
	comp=N,1.7nm,0.5s,baz=14,slow=11,SNR=3.0						
SWET	Sewanee	21.67	12	*eP*	P	23 43 02.4	+0.7
	comp=N,41nm,1.8s						
MNTX	Cornudas Mount	21.79	326	*eP*	P	23 43 03.4	+0.5
	comp=N,2.0nm,0.8s						
TKL	Tuckaleechee C	22.61	16	P	P	23 43 11.6	-0.1
	comp=N,3.3nm,0.5s,baz=187,slow=12,SNR=10.0						
TKL	Tuckaleechee C	22.61	16	*eP*	P	23 43 10.4	-1.2
	comp=N,34nm,1.5s						
T42A	Van Buren	22.92	1	*eP*	P	23 43 12.9	-1.9
	comp=N,27nm,1.9s						
CCM	Cathedral Cave	23.94	0	*eP*	P	23 43 23.0	-1.3
	comp=N,7.7nm,0.6s						
BNM	Barren Site	24.35	328	*eP*	P	23 43 29.3	+0.9
LENM	Lemitar	24.54	328	*eP*	P	23 43 30.9	+0.9
TUC	Tucson	25.42	319	*eP*	P	23 43 40.5	+2.5
	comp=N,6.9nm,1.5s						
NVAR	Mina Array Bea	34.05	321	P	P	23 44 56.5	+2.0
	comp=N,2.7nm,0.8s,baz=140,slow=8.7,SNR=4.1						
SIV	San Ignacio	42.26	134	P	P	23 46 03.8	+0.3
	comp=N,1.9nm,0.6s,baz=310,slow=9.3,SNR=11						
SCHQ	Schefferville	44.99	20	P	P	23 46 22.4	-2.6
	comp=N,2.6nm,0.8s,baz=231,slow=14,SNR=3.7						
YKA	Yellowknife Ar	51.15	346	P	P	23 47 11.0	-1.3
	comp=N,0.7nm,0.6s,baz=148,slow=7.8,SNR=9.6						
YKA				PcP	PcP	23 48 26.1	-0.8
	comp=N,0.2nm,0.6s,baz=146,slow=3.6,SNR=5.1						
ILAR	Eielson Array	63.07	337	P	P	23 48 35.2	-1.2
	comp=N,0.3nm,0.5s,baz=122,slow=5.6,SNR=9.8						
NOA	NORSAR Array B	83.84	29	LR	LR	00 28 24.5	
	comp=N,6.0nm,18.5s,baz=345,slow=36						
WRA	Warramunga Arr	136.00	256	PKP	PKPdf	23 57 31.1	+0.5
	comp=N,0.4nm,0.8s,baz=85,slow=1.6,SNR=3.7						
ASAR	Alice Springs	136.25	250	PKP	PKPdf	23 57 31.6	+0.5
	comp=N,0.2nm,0.4s,baz=77,slow=1.9,SNR=3.2						
CMAR	Chiang Mai Arr	146.17	342	PKPbc	PKPdf	23 57 49.2	+0.3
	comp=N,2.9nm,0.6s,baz=345,slow=2.5,SNR=18						

*ATH **28** 23:50:02.7, 35°.19N×27°.91E, h21km±4km, ML2.2/2, Error ellipse: s-maj=8.6km s-min=2.0km az=320.0*
*ISCJB **28** 23:50:03.9±1.2, 35°.34N±0°.06×27°.79E±0°.07, h8km±9km, Error ellipse: s-maj=12.5km s-min=6.1km az=41.6*
*ISK **28** 23:50:03.9, 35°.37N×27°.69E, h12km, ML2.6/6*
*DDA **28** 23:50:38.7, 35°.55N×27°.80E, h21km, Ml2.7*
ISC 28 23:50:06.5±1.7, 35°.39N±0°.07×27°.73E±0°.06, h23km±17km, n20, σ1°28/28, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	Arkhangelos	0.88	21	PG	Pb	23 50 21.6	-1.5
ARG				SG	Sn	23 50 35.4	-0.2
ARG	Arkhangelos	0.88	21	P	Pb	23 50 22.3	-0.8
ARG				S	Sn	23 50 37.0	+1.3
ARG				AML	AML	23 50 39.3	
	comp=E,334μm,0.3s						
ARG				AML	AML	23 50 43.9	
	comp=N,256μm,0.7s						
ZKR	Zakros	1.27	258	P	Pn	23 50 27.8	-1.0
ZKR				S	Sb	23 50 48.7	+3.1
ZKR				AML	AML	23 50 52.4	
	comp=N,98μm,0.6s						
ZKR				AML	AML	23 50 57.5	
	comp=E,228μm,0.8s						
NIS1	Nisyros Isl.	1.29	340	PN	Pn	23 50 28.8	-0.3
NIS1				SN	Sb	23 50 46.3	+0.2
DAT	Datca	1.34	355	PN	Pn	23 50 29.7	-0.1
DAT				SN	Sb	23 50 47.9	+0.2
DAT	Datca	1.34	355	*i* P	Pn	23 50 29.8	-0.1
DAT				*i* S	Sb	23 50 49.1	+1.4
DALY	Dalyan (Mu˘la	1.61	28	PN	Pn	23 50 33.6	+0.2
DALY	Dalyan (Mu˘la

AKET Djebel Ketaf 1.30 233 P **Pn** **23 51 11.4 -0.6**
CKFL Kef-Lekhel 1.33 109 P **Pn** **23 51 11.5 -0.9**
CKFL Kef-Lekhel 1.33 109 P **Pn** **23 51 11.5 -0.9**
CAEH 'Ain El Ouahch 1.36 92 P **Pn** **23 51 11.2 -1.4**
CAEH 'Ain El Ouahch 1.36 92 P **Pn** **23 51 11.2 -1.4**
ABA Alger-Bouzarea 1.71 269 P **Pn** **23 51 15.4 -2.0**
ABA Alger-Bouzarea 1.71 269 P **Pn** **23 51 15.4 -2.0**
CMAH Djebel Manchou 1.83 96 P **Pn** **23 51 18.0 -1.2**
CMAH Djebel Manchou 1.83 96 P **Pn** **23 51 18.0 -1.2**
EMHD Djebel Mahouad 1.89 251 P **Pn** **23 51 19.2 -0.9**
EMHD Djebel Mahouad 1.89 251 P **Pn** **23 51 19.2 -0.9**
EBNR Beni Rached 2.98 260 P **Pn** **23 51 36.0 +1.1**
MAHO Mahon 3.12 347 P **Pn** **23 51 36.1 -0.8**
MAHO S **Sn** **23 52 10.5 -3.7**
MAHO Mahon 3.12 347 *e*P **Pn** **23 51 36.1 -0.8**
MAHO *e*S **Sn** **23 52 10.5 -3.7**
ECHA Ech Chlef 3.13 258 P **Pn** **23 51 38.0 +1.0**
ECHF Ech Chlef 3.15 259 P **Pn** **23 51 38.0 +0.7**
EANR 'Ain N'Sour 3.40 256 P **Pn** **23 51 40.2 -0.5**
EANR 'Ain N'Sour 3.40 256 P **Pn** **23 51 40.2 -0.5**
ETRT Tiaret 3.45 246 P **Pn** **23 51 41.6 +0.1**
ETRT Tiaret 3.45 246 P **Pn** **23 51 41.6 +0.1**
KEST Kesra 3.56 107 Pn **Pn** **23 51 42.6 -0.3**
10nm,0.3s,baz=241,slow=3.6,SNR=109
KEST Sn **Sn** **23 52 27.3 +2.2**
14nm,0.3s,baz=274,slow=23,SNR=7.7
KEST Kesra 3.56 107 *e*Pn **Pn** **23 51 43.2 +0.2**
KEST Sn **Sn** **23 52 27.3 +2.2**
EIBI Ibiza 3.72 307 P **Pn** **23 51 47.7 +2.6**
48nm,0.3s,SNR=7.9
EIBI S **Sn** **23 52 27.8 -1.2**
28nm,0.2s,SNR=7.9
OKGL Djebel Kef Gue 3.73 259 P **Pg** **23 51 57.0 -2.1**
OKGL Djebel Kef Gue 3.73 259 P **Pn** **23 51 42.7 -2.6**
63nm,0.2s,SNR=7.9
OJGS Djebel Guires 3.81 251 P **Pn** **23 51 47.0 +0.6**
OJGS Djebel Guires 3.81 251 P **Pn** **23 51 47.0 +0.6**
ODJA Bouhanifia 4.56 252 P **Pn** **23 51 58.0 +1.3**
ODJA Bouhanifia 4.56 252 P **Pn** **23 51 58.0 +1.3**
CART Cartagena 4.97 280 *e*Pn **Pn** **23 52 02.5 +0.2**
CART Cartagena 4.97 280 *e*P **Pn** **23 52 02.5 +0.2**
CART *e*S **Sn** **23 52 55.6 -4.2**
EMUR La Murta 5.20 283 P **Pn** **23 52 06.2 +0.8**
12nm,0.3s,SNR=9.8
EMUR S **Sn** **23 53 05.7 +0.3**
14nm,0.4s,SNR=5.8
CFON Fontmartina 5.34 338 P **Pn** **23 52 07.9 +0.4**
15nm,0.2s,SNR=13
CFON S **Sn** **23 53 03.9 -5.3**
23nm,0.5s
EPOB Poblet 5.51 326 P **Pn** **23 52 09.8 0.0**
29nm,0.3s,SNR=31
EPOB S **Sn** **23 53 07.9 -5.3**
17nm,0.3s,SNR=12
ECHE Chera 5.55 301 P **Pn** **23 52 11.4 +1.1**
32nm,0.5s,SNR=7.9
OLHC Oulhaca 5.56 255 P Pn 23 52 02.0 -8.5
OLHC Oulhaca 5.56 255 P Pn 23 52 02.0 -8.5
ERTA Horta de San J 5.57 319 P **Pn** **23 52 11.9 +1.3**
18nm,0.5s,SNR=6.7
ERTA S **Sn** **23 53 10.6 -4.0**
19nm,0.7s,SNR=7.9
ETOB Tobarra 5.61 291 P **Pn** **23 52 12.7 +1.5**
96nm,0.7s,SNR=18
ETOB S **Sn** **23 53 15.9 +0.2**
22nm,0.6s,SNR=4.6
EMOS Mosqueruela 5.64 310 P **Pn** **23 52 13.6 +1.9**
13nm,0.3s,SNR=8.3
EMOS S **Sn** **23 53 12.8 -3.7**
1.6nm,0.2s,SNR=7.9
EJON La Jonquera 5.86 343 P **Pn** **23 52 14.5 -0.1**
20nm,0.3s,SNR=14
EJON S **Sn** **23 53 18.1 -3.8**
19nm,0.4s,SNR=12
SJAF Saint Jean de 5.90 343 P **Pn** **23 52 15.2 +0.1**
28nm,0.4s,SNR=7.9
SJAF S **Sn** **23 53 19.3 -3.4**
5.0nm,0.2s,SNR=7.9
ENIJ Nijar 5.91 273 P **Pn** **23 52 15.3 +0.1**
24nm,0.6s,SNR=7.9
ENIJ S **Sn** **23 53 21.1 -1.8**
3.2nm,0.3s,SNR=7.9
CLLI Llivia 6.14 337 P **Pn** **23 52 20.1 +1.7**
45nm,0.7s,SNR=26
CLLI S **Sn** **23 53 26.2 -2.6**
40nm,0.7s,SNR=8.2
SESP Santiago Espad 6.26 284 P **Pn** **23 52 22.7 +2.5**
31nm,0.4s,SNR=7.9
SESP S **Sn** **23 53 32.1 +0.3**
27nm,0.4s,SNR=7.9
CSOR Sort 6.34 332 P **Pn** **23 52 22.9 +1.7**
28nm,0.3s,SNR=33
CSOR S **Sn** **23 53 31.1 -2.6**
24nm,0.4s
PGF Pioggiola 6.42 26 *e*Pn **Pn** **23 52 20.8 -1.5**
PGF Pioggiola 6.42 26 *e*P **Pn** **23 52 24.3 +2.0**
PGF *e*Sn Sn 23 53 28.8 -6.8
198nm,0.6s
PGF Pioggiola 6.42 26 *e*Pn **Pn** **23 52 20.8 -1.5**
PGF *e*Sn Sn 23 53 28.8 -6.8
PGF Pioggiola 6.42 26 P **Pn** **23 52 20.8 -1.5**
PGF S Sn 23 53 28.8 -6.8
99nm,0.6s
EBER Berja 6.45 273 P **Pn** **23 52 23.7 +0.8**
12nm,0.4s,SNR=15
EBER S **Sn** **23 53 35.3 -1.4**
13nm,0.4s,SNR=11
CLTB Caltabellotta 6.47 81 *e*Pn **Pn** **23 52 22.8 -0.1**
LMR La Mourre 6.56 9 *e*Pn **Pn** **23 52 22.2 -1.9**
LMR *e*Sn Sn 23 53 32.0 -7.0
32nm,0.3s
LMR La Mourre 6.56 9 *e*Pn **Pn** **23 52 22.2 -1.9**
LMR *e*Sn Sn 23 53 32.0 -7.0
LMR La Mourre 6.56 9 P **Pn** **23 52 22.2 -1.9**
LMR S Sn 23 53 32.0 -7.0
16nm,0.3s
GORA Gorafe 6.58 278 P **Pn** **23 52 27.4 +2.9**
33nm,0.5s,SNR=7.9
GORA S **Sn** **23 53 40.4 +0.7**
83nm,0.8s,SNR=7.9
EQES Quesada 6.63 281 P **Pn** **23 52 27.4 +2.2**
115nm,0.9s,SNR=26
EQES S **Sn** **23 53 39.4 -1.4**
28nm,0.6s,SNR=4.5
FRF La Foret Royal 6.80 9 *e*Pn **Pn** **23 52 26.2 -1.2**
FRF La Foret Royal 6.80 9 *e*P **Pn** **23 52 29.2 +1.8**
FRF *e*Sn Sn 23 53 38.0 -6.9
40nm,0.3s
FRF La Foret Royal 6.80 9 *e*Pn **Pn** **23 52 26.2 -1.2**
FRF *e*Sn Sn 23 53 38.0 -6.9
FRF La Foret Royal 6.80 9 P **Pn** **23 52 26.2 -1.2**
FRF S Sn 23 53 38.0 -6.9
20nm,0.3s
MTLF Montolieu 6.87 342 *e*P **Pn** **23 52 28.6 +0.2**
MTLF *e*Sn Sn 23 53 38.9 -7.7
21nm,0.3s
MTLF Montolieu 6.87 342 *e*P **Pn** **23 52 28.6 +0.2**
MTLF *e*Sn Sn 23 53 38.9 -7.7
MTLF Montolieu 6.87 342 P **Pn** **23 52 28.6 +0.2**
MTLF S Sn 23 53 38.9 -7.7
11nm,0.3s
ECHI Chisagues Biel 6.96 328 P **Pn** **23 52 31.0 +1.3**
6.1nm,0.4s,SNR=7.9
ECHI S **Sn** **23 53 46.7 -2.2**
9.3nm,0.3s,SNR=7.9
ELGU Los Guajares, 7.05 273 P **Pn** **23 52 31.9 +1.0**
9.4nm,0.4s,SNR=7.9
ELGU S **Sn** **23 53 49.3 -1.7**
16nm,0.7s,SNR=7.9
SMRF Simiane la Rot 7.13 2 *e*P **Pn** **23 52 33.8 +1.8**
SMRF *e*Sn Sn 23 53 46.4 -6.6
26nm,0.4s
SMRF Simiane la Rot 7.13 2 *e*Pn **Pn** **23 52 33.8 +1.8**
SMRF *e*Sn Sn 23 53 46.4 -6.6
SMRF Simiane la Rot 7.13 2 P **Pn** **23 52 33.8 +1.8**
SMRF S Sn 23 53 46.4 -6.6
26nm,0.4s
EPF Esparros 7.20 331 *e*P **Pn** **23 52 35.0 +2.0**
EPF *e*Sn Sn 23 53 47.3 -7.5
56nm,0.5s
EPF Esparros 7.20 331 *e*P **Pn** **23 52 35.0 +2.0**
EPF *e*Sn Sn 23 53 47.3 -7.5
EPF Esparros 7.20 331 P **Pn** **23 52 35.0 +2.0**
EPF S Sn 23 53 47.3 -7.5
28nm,0.5s
SBF Sospel 7.22 13 *e*Pn **Pn** **23 52 30.1 -3.2**
SBF Sospel 7.22 13 *e*P **Pn** **23 52 34.5 +1.2**
SBF *e*Sn Sn 23 53 47.4 -7.9
84nm,0.5s
SBF Sospel 7.22 13 *e*Pn Pn 23 52 30.1 -3.2
SBF *e*Sn Sn 23 53 47.4 -7.9
SBF Sospel 7.22 13 P Pn 23 52 30.1 -3.2
SBF S Sn 23 53 47.4 -7.9
42nm,0.5s
LASF Ste Croix 7.29 353 *e*P **Pn** **23 52 34.7 +0.5**
LASF *e*Sn Sn 23 53 49.4 -7.6
55nm,0.3s
LASF Ste Croix 7.29 353 *e*P **Pn** **23 52 34.7 +0.5**
LASF *e*Sn Sn 23 53 49.4 -7.6
LASF Ste Croix 7.29 353 P **Pn** **23 52 34.7 +0.5**
LASF S Sn 23 53 49.4 -7.6
28nm,0.3s
VAE Valguarnera 7.41 82 Pn **Pn** **23 52 36.1 +0.2**
1.0nm,0.3s,baz=77,slow=19,SNR=3.0
EGOR Sierra Gorda, 7.42 275 P **Pn** **23 52 40.5 +4.4**
8.4nm,0.5s,SNR=7.9
EGOR S **Sn** **23 54 03.6 +3.1**
41nm,1.2s,SNR=7.9
ETSF Etsaut 7.47 326 *e*P **Pn** **23 52 38.2 +1.5**
ETSF *e*Sn Sn 23 53 53.7 -7.9
17nm,0.4s
ETSF Etsaut 7.47 326 *e*P **Pn** **23 52 38.2 +1.5**
ETSF *e*Sn Sn 23 53 53.7 -7.9
ETSF Etsaut 7.47 326 P **Pn** **23 52 38.2 +1.5**
ETSF S Sn 23 53 53.7 -7.9
8.6nm,0.4s
ES19 SONSECA Array 7.67 295 *e*Pn **Pn** **23 52 40.3 +0.9**
ATE Arette 7.69 326 P **Pn** **23 52 41.0 +1.4**
16nm,0.4s,SNR=7.9
ATE S **Sn** **23 54 03.8 -2.9**
6.1nm,0.4s,SNR=7.9
EMAL Malaga-Limoner 7.69 272 *e*P **Pn** **23 52 42.9 +3.2**
EMAL *e*S Sn 23 53 54.6 -12
ESDC Sonseca Array 7.71 294 Pn **Pn** **23 52 40.8 +0.7**
1.6nm,0.3s,baz=100,slow=14,SNR=17
ESDC Sonseca Array 7.71 294 P **Pn** **23 52 40.8 +0.7**
0.7nm,0.3s,baz=104,slow=14,SNR=17
ESLA Sonseca Array 7.71 294 *e*Pn **Pn** **23 52 41.3 +1.3**
IELO Elcoad 7.75 323 P **Pn** **23 52 41.6 +1.1**
7.8nm,0.3s,SNR=7.9
IPRE Itoiz 7.78 322 P **Pn** **23 52 42.2 +1.3**
8.6nm,0.3s,SNR=4.6
EADA Adamuz 7.85 283 P **Pn** **23 52 42.7 +0.8**
1.7nm,0.3s,SNR=7.9
SJPF Ste Jean 7.95 324 *e*P **Pn** **23 52 44.7 +1.5**
SJPF *e*Sn Sn 23 54 04.7 -8.5
14nm,0.5s
SJPF Ste Jean 7.95 324 *e*P **Pn** **23 52 44.7 +1.5**
SJPF *e*Sn Sn 23 54 04.7 -8.5
SJPF Ste Jean 7.95 324 P **Pn** **23 52 44.7 +1.5**
SJPF S Sn 23 54 04.7 -8.5
7.0nm,0.5s
PAB San Pablo 7.96 293 *e*Pn **Pn** **23 52 45.0 +1.6**
PAB San Pablo 7.96 293 P **Pn** **23 52 44.9 +1.5**
4.9nm,0.4s,SNR=7.9
MBDF Montbardon 7.97 8 *e*P **Pn** **23 52 44.9 +1.3**
MBDF *e*Sn Sn 23 54 06.2 -7.6
32nm,0.7s
MBDF Montbardon 7.97 8 *e*P **Pn** **23 52 44.9 +1.3**
MBDF *e*Sn Sn 23 54 06.2 -7.6
MBDF Montbardon 7.97 8 P **Pn** **23 52 44.9 +1.3**
MBDF S Sn 23 54 06.2 -7.6
16nm,0.7s
VIVF Saint-Julien-l 8.01 358 *e*P **Pn** **23 52 46.2 +2.1**
VIVF *e*Sn Sn 23 54 06.6 -8.1
44nm,0.3s
VIVF Saint-Julien-l 8.01 358 *e*P **Pn** **23 52 46.2 +2.1**
VIVF *e*Sn Sn 23 54 06.6 -8.1
VIVF Saint-Julien-l 8.01 358 P **Pn** **23 52 46.2 +2.1**
VIVF S Sn 23 54 06.6 -8.1
22nm,0.3s
ORIF Oris-en-Rattie 8.08 4 *e*P **Pn** **23 52 47.1 +2.0**
ORIF *e*Sn Sn 23 54 08.8 -7.8
12nm,0.5s
ORIF Oris-en-Rattie 8.08 4 *e*P **Pn** **23 52 47.1 +2.0**
ORIF *e*Sn Sn 23 54 08.8 -7.8
ORIF Oris-en-Rattie 8.08 4 P **Pn** **23 52 47.1 +2.0**
ORIF S Sn 23 54 08.8 -7.8
6.0nm,0.5s
EALK Alkurruntz 8.16 323 P **Pn** **23 52 48.2 +2.0**
29nm,0.5s,SNR=10
EALK S **Sn** **23 54 15.3 -3.3**
25nm,0.5s,SNR=10.0
GUD Guadarrama 8.21 300 P **Pn** **23 52 49.4 +2.5**
10.0nm,1.0s,SNR=6.5
BNI Bardonecchia 8.28 7 *e*Pn **Pn** **23 52 49.0 +1.2**
CAF Calviac 8.40 345 *e*P **Pn** **23 52 49.5 0.0**
CAF *e*Sn Sn 23 54 16.1 -8.3
17nm,0.4s
CAF Calviac 8.40 345 *e*P **Pn** **23 52 49.5 0.0**
CAF *e*Sn Sn 23 54 16.1 -8.3
CAF Calviac 8.40 345 P **Pn** **23 52 49.5 0.0**
CAF S Sn 23 54 16.1 -8.3
8.6nm,0.4s
SSB Saint Sauveur 8.44 357 *e*Pn **Pn** **23 52 49.4 -0.5**
SSB *e*Sn Sn 23 54 18.3 -6.9
ECAB El Cabril 8.50 281 P **Pn** **23 52 50.6 -0.2**
3.2nm,0.4s,SNR=9.9
LPG La Plagne 8.73 7 *e*P **Pn** **23 52 55.9 +1.8**
LPG *e*Sn Sn 23 54 24.8 -7.9
16nm,0.5s
LPG La Plagne 8.73 7 *e*P **Pn** **23 52 55.9 +1.8**
LPG *e*Sn Sn 23 54 24.8 -7.9
LPG La Plagne 8.73 7 P **Pn** **23 52 55.9 +1.8**
LPG S Sn 23 54 24.8 -7.9
7.9nm,0.5s
LPL La Plagne 8.74 7 *e*P **Pn** **23 52 56.0 +1.7**
LPL *e*Sn Sn 23 54 24.6 -8.4
32nm,0.7s
LPL La Plagne 8.74 7 *e*P **Pn** **23 52 56.0 +1.7**
LPL *e*Sn Sn 23 54 24.6 -8.4
LPL La Plagne 8.74 7 P **Pn** **23 52 56.0 +1.7**
LPL S Sn 23 54 24.6 -8.4
16nm,0.7s
LFF La Frestale 8.75 339 *e*P **Pn** **23 52 55.8 +1.7**
LFF *e*Sn Sn 23 54 24.3 -8.5
15nm,0.4s
LFF La Frestale 8.75 339 *e*P **Pn** **23 52 55.8 +1.7**
LFF *e*Sn Sn 23 54 24.3 -8.5
LFF La Frestale 8.75 339 P **Pn** **23 52 55.8 +1.7**
LFF S Sn 23 54 24.3 -8.5
7.6nm,0.4s
RJF Les Rejaudoux 8.89 343 *e*P **Pn** **23 52 57.3 +1.3**
RJF *e*Sn Sn 23 54 27.8 -8.4
8.7nm,0.3s
RJF Les Rejaudoux 8.89 343 *e*P **Pn** **23 52 57.3 +1.3**
RJF *e*Sn Sn 23 54 27.8 -8.4
RJF Les Rejaudoux 8.89 343 P **Pn** **23 52 57.3 +1.3**
RJF S Sn 23 54 27.8 -8.4
4.3nm,0.3s
MDT Midelt 8.98 246 Pn **Pn** **23 52 58.7 +1.2**
0.3nm,0.3s,baz=84,slow=18,SNR=12
IFR Ifrane 9.05 252 *e*P **Pn** **23 53 00.5 +2.0**
ELAN Lanestosa 9.17 317 P **Pn** **23 53 02.1 +2.2**
8.8nm,0.4s,SNR=7.9
ELAN S **Sn** **23 54 39.4 -3.8**
11nm,0.8s,SNR=7.9
EMIN Mina Concepcio 9.47 279 P **Pn** **23 53 05.5 +1.4**
2.9nm,0.6s,SNR=5.6
SENIN Lac Senin/Sane 9.64 9 *e*Pn **Pn** **23 53 07.4 +0.8**
TCF Toulx Ste Croi 9.69 348 *e*P **Pn** **23 53 08.8 +1.7**
TCF *e*Sn Sn 23 54 46.8 -9.1
11nm,0.6s
TCF Toulx Ste Croi 9.69 348 *e*P **Pn** **23 53 08.8 +1.7**
TCF *e*Sn Sn 23 54 46.8 -9.1
TCF Toulx Ste Croi 9.69 348 P **Pn** **23 53 08.8 +1.7**
TCF S Sn 23 54 46.8 -9.1
5.7nm,0.6s
CABF La Chapelle 9.78 4 *e*Pn Pn 23 53 05.0 -3.4
CABF La Chapelle 9.78 4 *e*P **Pn** **23 53 10.7 +2.3**
CABF La Chapelle 9.78 4 *e*Pn Pn 23 53 05.0 -3.4
CABF La Chapelle 9.78 4 P **Pn** **23 53 10.7 +2.3**
EBAD Badajoz 9.82 285 P **Pn** **23 53 09.4 +0.5**
2.6nm,0.4s,SNR=7.9
SMF Signal de Mont 9.84 355 *e*P **Pn** **23 53 11.3 +2.2**
SMF *e*Sn Sn 23 54 50.7 -8.9
6.5nm,0.3s
SMF Signal de Mont 9.84 355 P **Pn** **23 53 11.3 +2.2**
SMF S Sn 23 54 50.7 -8.9
3.2nm,0.3s
BGF Bois d'Agland 9.86 351 *e*P **Pn** **23 53 11.1 +1.8**
BGF *e*Sn Sn 23 54 50.6 -9.4
8.8nm,0.3s
BGF Bois d'Agland 9.86 351 *e*P **Pn** **23 53 11.1 +1.8**
BGF *e*Sn Sn 23 54 50.6 -9.4
BGF Bois d'Agland 9.86 351 P **Pn** **23 53 11.1 +1.8**
BGF S Sn 23 54 50.6 -9.4
4.4nm,0.3s
AVF Avril sur Loir 10.03 353 *e*P **Pn** **23 53 11.7 +0.1**
AVF *e*Sn Sn 23 54 54.6 -10
1.7nm,0.3s
AVF Avril sur Loir 10.03 353 *e*P **Pn** **23 53 11.7 +0.1**
AVF *e*Sn Sn 23 54 54.6 -10
AVF Avril sur Loir 10.03 353 P **Pn** **23 53 11.7 +0.1**
AVF S Sn 23 54 54.6 -10
0.9nm,0.3s
TUE Stuetta 10.11 17 *e*Pn **Pn** **23 53 11.8 -1.3**
EARI Arriondas 10.23 312 P **Pn** **23 53 16.9 +2.4**
18nm,0.5s,SNR=6.0
SSF Saint Saulge 10.28 354 *e*Pn Pn 23 53 12.1 -3.0
SSF *e*Sn Sn 23 55 00.7 -10
2.7nm,0.3s
SSF Saint Saulge 10.28 354 *e*Pn Pn 23 53 12.1 -3.0
SSF *e*Sn Sn 23 55 00.7 -10
SSF Saint Saulge 10.28 354 P Pn 23 53 12.1 -3.0
SSF S Sn 23 55 00.7 -10
1.4nm,0.3s
MVO Moncorvo 10.42 298 P **Pn** **23 53 19.5 +2.4**
13nm,0.9s,SNR=7.9
LOR Lormes 10.46 355 *e*Pn Pn 23 53 14.4 -3.2
LOR *e*Sn Sn 23 55 04.8 -10
3.3nm,0.3s
LOR Lormes 10.46 355 *e*Pn Pn 23 53 14.4 -3.2
LOR *e*Sn Sn 23 55 04.8 -10
LOR Lormes 10.46 355 P Pn 23 53 14.4 -3.2
LOR S Sn 23 55 04.8 -10
1.7nm,0.3s
ECAL Calabor 10.52 303 P **Pn** **23 53 20.1 +1.6**
9.2nm,0.3s,SNR=5.6
MFF Saint Martin d 10.52 340 *e*P **Pn** **23 53 20.2 +1.8**
MFF *e*Sn Sn 23 55 06.6 -10
7.1nm,0.6s
MFF Saint Martin d 10.52 340 *e*P **Pn** **23 53 20.2 +1.8**
MFF *e*Sn Sn 23 55 06.6 -10
MFF Saint Martin d 10.52 340 P **Pn** **23 53 20.2 +1.8**
MFF S Sn 23 55 06.6 -10
3.6nm,0.6s
DAVOX Davos/Dischmat 10.53 18 Pn **Pn** **23 53 22.4 +3.7**
0.5nm,0.3s,baz=203,slow=9.9,SNR=5.7
DAVOX LR LR 23 57 14.4
comp=Z,297nm,18.5s,baz=254,slow=36
HYF Humbligny 10.58 351 *e*Sn Sn 23 55 07.6 -10
HYF Humbligny 10.58 351 *e*Sn Sn 23 55 07.6 -10
HYF Humbligny 10.58 351 S Sn 23 55 07.6 -10
DAVA Damuels 11.00 17 *i* Pn **Pn** **23 53 26.8 +1.6**
1.4nm,0.5s
HINF Hinteralfeld 11.03 6 *e*Pn Pn 23 53 22.3 -3.2
HINF *e*Sn Sn 23 55 19.1 -10
5.1nm,0.4s
HINF Hinteralfeld 11.03 6 *e*Pn Pn 23 53 22.3 -3.2
HINF *e*Sn Sn 23 55 19.1 -10
HINF Hinteralfeld 11.03 6 P Pn 23 53 22.3 -3.2
HINF S Sn 23 55 19.1 -10
2.6nm,0.4s
HAU Haudompre 11.19 4 *e*Pn **Pn** **23 53 24.6 -2.9**
HAU *e*Sn Sn 23 55 22.5 -10
13nm,0.4s
HAU Haudompre 11.19 4 *e*Pn **Pn** **23 53 24.6 -2.9**
HAU *e*Sn Sn 23 55 22.5 -10
HAU Haudompre 11.19 4 P **Pn** **23 53 24.6 -2.9**
HAU S Sn 23 55 22.5 -10
6.3nm,0.4s
SQTA Sankt Quirin 11.29 22 Pn Pn 23 53 34.4 +5.3
4.7nm,0.9s
SQTA Sn **Sn** **23 55 33.9 -1.6**
2.5nm,0.5s
ABTA Abfaltersbach 11.31 27 *i* Pn **Pn** **23 53 32.7 +3.5**
4.4nm,0.8s
ABTA Sn **Sn** **23 55 37.2 +1.6**
4.6nm,0.8s
SFTF Sexfontaines 11.35 360 *e*P **Pn** **23 53 31.4 +1.6**
SFTF *e*Sn Sn 23 55 26.4 -10
8.1nm,0.5s
SFTF Sexfontaines 11.35 360 *e*P **Pn** **23 53 31.4 +1.6**
SFTF *e*Sn Sn 23 55 26.4 -10
SFTF Sexfontaines 11.35 360 P **Pn** **23 53 31.4 +1.6**
SFTF S Sn 23 55 26.4 -10
8.1nm,0.5s
MOTA Moosalm 11.38 21 *i* Pn Pn 23 53 36.4 +6.1
6.5nm,0.9s
ELOB Lobios 11.39 300 P **Pn** **23 53 33.3 +2.8**
8.0nm,0.8s,SNR=7.9
ECH Echery 11.46 7 *e*Pn **Pn** **23 53 31.4 +0.2**
WATA Walderalm 11.51 22 *i* Pn **Pn** **23 53 35.2 +3.1**
2.9nm,0.7s
MEZF Maizieres J'vi 11.65 360 *e*P **Pn** **23 53 36.0 +2.2**
MEZF *e*Sn Sn 23 55 33.7 -10
4.9nm,0.4s
MEZF Maizieres J'vi 11.65 360 *e*P **Pn** **23 53 36.0 +2.2**
MEZF *e*Sn Sn 23 55 33.7 -10
MEZF Maizieres J'vi 11.65 360 P **Pn** **23 53 36.0 +2.2**
MEZF S Sn 23 55 33.7 -10
4.9nm,0.4s
CDF Champ du Feu 11.66 7 *e*Pn Pn 23 53 30.9 -3.2
CDF *e*Sn Sn 23 55 33.8 -11
12nm,0.9s
CDF Champ du Feu 11.66 7 *e*Pn Pn 23 53 30.9 -3.2
CDF *e*Sn Sn 23 55 33.8 -11
CDF Champ du Feu 11.66 7 P Pn 23 53 30.9 -3.2
CDF S Sn 23 55 33.8 -11
6.1nm,0.9s
PAGF Fort de Pagny 11.71 2 *e*Pn Pn 23 53 31.0 -3.7
PAGF *e*Sn Sn 23 55 34.6 -11
5.7nm,0.4s
PAGF Fort de Pagny 11.71 2 *e*Pn Pn 23 53 31.0 -3.7
PAGF *e*Sn Sn 23 55 34.6 -11
BFO Black Forest 11.71 10 *e*Pn **Pn** **23 53 34.1 -0.6**
BFO *e*S Sn 23 55 35.5 -10
LDF La Druitiere 12.36 343 *e*Pn Pn 23 53 40.2 -3.4
LDF La Druitiere 12.36 343 *e*Pn Pn 23 53 40.2 -3.4
FLN La Foliniere 12.60 343 *e*Pn Pn 23 53 43.3 -3.6
FLN La Foliniere 12.60 343 *e*Pn Pn 23 53 43.3 -3.6
FLN La Foliniere 12.60 343 P Pn 23 53 43.3 -3.6
MOA Molln 12.88 29 *i* Pn **Pn** **23 53 51.3 +0.6**
2.5nm,0.7s
BAIF Baives 13.23 357 *e*Pn **Pn** **23 53 52.5 -2.9**
BAIF Baives 13.23 357 *e*Pn **Pn** **23 53 52.5 -2.9**
BAIF Baives 13.23 357 P **Pn** **23 53 52.5 -2.9**
GIVF Givet 13.25 359 *e*Pn Pn 23 53 52.7 -3.0
GIVF Givet 13.25 359 *e*Pn Pn 23 53 52.7 -3.0
GIVF Givet 13.25 359 P Pn 23 53 52.7 -3.0
GEA0 GERESS Array S 13.51 25 *e*Pn **Pn** **23 53 59.7 +0.3**
GERES GERESS Array B 13.52 25 Pn **Pn** **23 54 03.1 +3.6**
0.2nm,0.3s,baz=222,slow=13,SNR=4.0
GERES LR LR 23 59 05.3
comp=Z,146nm,22.0s,baz=225,slow=36
KHC Kasperske Hory 13.72 24 *e*Pn **Pn** **23 54 02.5 +0.3**
KHC Kasperske Hory 13.72 24 *e*P **P** **23 54 09.5 -1.5**
KHC *ex* x 23 54 14.3
MDVR Moldovita 14.81 53⇑ *i*P **P** **23 54 22.5 -0.6**
VRAC Vranov 14.97 30 Pn **Pn** **23 54 22.0 +2.8**
0.2nm,0.3s,baz=202,slow=19,SNR=2.0
VRAC Vranov 14.97 30⇑ *i*P **P** **23 54 28.3 +3.5**
CLL Collm 15.50 19 *e*PP **P** **23 54 36.0 +5.4**
IDI Anoyia 16.03 90 Pn **Pn** **23 54 34.8 +1.5**
0.2nm,0.3s,baz=318,slow=11,SNR=2.6
DRGR 16.39 47⇑ *i*P **P** **23 54 42.9 +2.3**
LOT Lotru 16.41 53⇑ *i*P **P** **23 54 43.0 +2.1**
TRPA Tarpa 17.03 43⇑ *i*P **P** **23 54 50.7 +3.2**
VOIR 17.23 54⇑ *i*P **P** **23 54 52.0 +2.1**
DOPR Dopca 17.66 53⇑ *i*P **P** **23 54 56.9 +2.3**
MLR Muntele Rosu 17.84 55 P **P** **23 54 58.1 +1.4**
0.2nm,0.3s,baz=250,slow=6.7,SNR=7.8
MLR LR LR 00 01 32.0
comp=Z,86nm,21.3s,baz=266,slow=36
MLR Muntele Rosu 17.84 55 *e*Pn **Pn** **23 54 56.2 +0.3**
13nm,1.1s
MLR Muntele Rosu 17.84 55⇑ *i*P **P** **23 54 58.3 +1.6**
BUR04 Bucovina Ar. S 18.29 48 *e*Pn **Pn** **23 55 01.4 0.0**

BURAR	Bucovina Array	18.29	48	⇑*iP*	P		23 55 04.4	+2.8
BUR08	Bucovina Ar. S	18.29	48	*e*Pn	P		23 55 04.2	+2.6
PLOR	Plostina	18.43	54	⇑*iP*	P		23 55 03.8	+0.7
VRI	Vrincioaia	18.48	54	⇑*iP*	Pn		23 55 05.2	+1.4
BIZ	Bicaz	18.52	50	⇑*iP*	Pn		23 55 06.8	+2.7
CFR	Carcaliu	19.19	57	⇑*iP*	P		23 55 12.5	+1.2
LEOM	Leova	19.69	54	⇑*iP*	P		23 55 18.2	+1.4
AK11	Malin Array Si	22.05	44	*e*P	P		23 55 41.0	-1.3
KIEV	Kiev	22.08	44	*e*P	P		23 55 42.0	-0.6
	18nm,1.0s							
AKASG	Malin Array Be	22.09	44	P	P		23 55 42.3	-0.4
	4.6nm,0.5s,baz=245,slow=9.9,SNR=14							
AKASG				LR	LR		00 04 57.1	
	comp=Z,73nm,18.2s,baz=240,slow=38							
AKBB	Malin Array Si	22.09	44	*e*P	P		23 55 42.2	-0.5
	17nm,0.9s							
BR131	Keskin Array S	22.50	74	*e*P	P		23 55 48.0	+0.6
BRTR	Keskin Array B	22.50	74	P	P		23 55 48.3	+0.9
	4.1nm,0.7s,baz=261,slow=9.8,SNR=26							
TOA0	Torodi Ar. Sit	23.80	188	*e*P	P		23 55 59.3	-1.4
TORD	Torodi Ar. Bea	23.80	188	P	P		23 55 58.2	-2.5
	3.0nm,0.7s,baz=7.5,slow=9.4,SNR=21							
TORD				PcP	PcP		23 59 42.2	-1.9
	0.6nm,0.8s,baz=352,slow=4.4,SNR=3.8							
TORD				LR	LR		00 06 05.7	
	comp=Z,128nm,18.6s,baz=325,slow=39							
HFS	Hagfors	23.94	11	P	P		23 56 02.2	+0.6
	2.6nm,0.9s,baz=196,slow=15,SNR=3.2							
HFS				LR	LR		00 05 19.6	
	comp=Z,136nm,20.5s,baz=169,slow=36							
NOA	NORSAR Array B	24.52	7	P	P		23 56 08.9	+1.9
	0.7nm,0.8s,baz=174,slow=8.0,SNR=3.6							
NOA				LR	LR		00 06 36.0	
	comp=Z,134nm,18.1s,baz=195,slow=38							
MMAI	Mount Meron Ar	25.04	90	P	P		23 56 14.3	+2.3
	4.9nm,0.7s,baz=289,slow=7.7,SNR=8.0							
EIL	Elat	25.85	97	P	P		23 56 20.2	+0.9
	7.8nm,0.9s,baz=284,slow=6.6,SNR=5.6							
ASF	Jabal al Asfar	26.50	91	P	P		23 56 25.1	-0.2
	3.7nm,1.0s,baz=245,slow=3.8,SNR=5.7							
FINES	FINESS Array B	27.31	21	P	P		23 56 38.1	+0.6
	4.2nm,1.1s,baz=223,slow=10,SNR=3.4							
FINES				LR	LR		00 07 25.7	
	comp=Z,41nm,20.1s,baz=204,slow=36							
OBN	Obninsk	28.11	39	LR	LR		00 09 03.4	
	comp=Z,27nm,19.8s,baz=184,slow=39							
DBIC	Dimbokro	31.40	199	LR	LR		00 10 49.8	
	comp=Z,149nm,18.1s,baz=28,slow=38							
ARCES	ARCESS Array B	34.57	12	P	P		23 57 37.8	+1.7
	3.3nm,1.0s,baz=224,slow=10,SNR=5.0							
ARCES				PcP	PcP		00 00 09.8	-0.6
	1.0nm,0.6s,baz=242,slow=2.6,SNR=7.4							
AKTO	Aktyubinsk	39.75	53	LR	LR		00 18 22.4	
	comp=Z,48nm,18.9s,baz=272,slow=41							
ARU	Arti	40.34	44	LR	LR		00 16 40.7	
	comp=Z,74nm,18.4s,baz=260,slow=38							
ARU	Arti	40.34	44	*e*P	P		23 58 25.1	0.0
	19nm,0.8s							
ABKAR	Akbulak array	41.05	55	*e*P	P		23 58 30.4	-0.6
GEYT	Alibeck	41.62	72	P	P		23 58 36.3	+0.4
	1.0nm,0.7s,baz=276,slow=14,SNR=3.3							
BRVK	Borovoye	47.18	48	*e*P	P		23 59 20.5	+0.3
	9.8nm,0.9s							
KMBO	Kilima Mbogo	48.10	134	P	P		23 59 28.4	+0.4
	0.5nm,0.3s,baz=347,slow=9.0,SNR=5.7							
KK31	Karatay Array	49.34	61	*e*P	P		23 59 36.7	-0.3
KKAR	Karatay Array	49.34	61	*e*P	P		23 59 36.7	-0.3
SCHQ	Schefferville	50.91	315	P	P		23 59 48.6	-0.2
	5.5nm,1.1s,baz=70,slow=12,SNR=3.6							
AAK	Ala-Archa	52.27	61	*e*P	P		23 59 59.4	+0.1
	2.5nm,0.8s							
KURK	Kurchatov	52.69	50	*e*P	P		00 00 01.2	-0.9
	8.9nm,0.8s							
KSH	Kashi	54.38	64	*e*P	P		00 00 14.3	-0.5
KSH				S	S		00 07 49.0	-4.2
KSH				pmax	pmax			
	comp=Z,19nm,0.8s							
KSH				pmax	pmax			
	comp=Z,250nm,4.6s							
ZAA0	Zalesovo Array	55.48	45	*e*P	P		00 00 22.5	+0.2
	comp=Z,4.4nm,0.8s							
ZALV	Zalesovo Beam	55.48	45	P	P		00 00 22.4	+0.1
	comp=Z,5.6nm,0.8s,baz=283,slow=8.2,SNR=19							
ZALV				LR	LR		00 26 11.4	
	comp=Z,69nm,19.4s,baz=240,slow=38							
ZALV	Zalesovo Beam	55.48	45	*e*P	P		00 00 22.1	-0.3
MK31	Makanchi Array	56.18	54	*e*P	P		00 00 27.5	0.0
MKAR	Makanchi Array	56.18	54	P	P		00 00 27.4	-0.1
	comp=Z,5.6nm,0.8s,baz=285,slow=5.9,SNR=26							
MK01	Makanchi Array	56.19	54	*e*P	P		00 00 27.1	-0.5
WMQ	Urumqi	60.83	55	*e*P	P		00 01 01.5	+1.4
TIXI	Tiksi	64.83	17	*e*P	P		00 01 27.1	+0.9
	comp=Z,2.6nm,0.8s							
BOSA	Boshof	67.80	161	P	P		00 01 44.9	-0.9
	comp=Z,4.4nm,0.8s,baz=16,slow=5.6,SNR=5.8							
ULM	Lac du Bonnet	68.95	318	P	P		00 01 51.5	-1.3
	comp=Z,4.8nm,0.7s,baz=62,slow=5.8,SNR=8.0							
YKA	Yellowknife Ar	69.88	335	P	P		00 01 58.8	+0.5
	comp=Z,2.0nm,0.7s,baz=51,slow=6.0,SNR=17							
SONM	Songino Array	70.37	45	P	P		00 02 02.3	+0.5
	comp=Z,0.4nm,0.3s,baz=306,slow=8.7,SNR=4.6							
GTA	Gaotai	70.91	55	*e*P	P		00 02 05.5	+0.4
GTA				pP	sP		00 02 10.8	+1.2
GTA				sP	pP		00 02 13.5	+5.1
GTA				pmax	pmax			
	comp=Z,3.0nm,1.3s							
LZH	Lanzhou	75.40	56	*e*P	P		00 02 29.3	-2.5
LZH				pP	pP		00 02 33.5	-1.6
LZH				sP	sP		00 02 36.5	+0.2
LZH				*e*PP	PP		00 05 12.3	-8.0
LZH				pmax	pmax			
	comp=Z,29nm,1.3s							
LZH				pmax	pmax			
	comp=Z,100nm,4.3s							
ILAR	Eielson Array	76.36	348	P	P		00 02 37.8	+1.2
	comp=Z,0.4nm,0.8s,baz=28,slow=4.1,SNR=4.0							
HHC	Hu-ho-hao-te	77.46	48	*e*P	P		00 02 42.3	-1.0
HHC				pmax	pmax			
	comp=Z,21nm,1.0s							
HHC				pmax	pmax			
	comp=Z,180nm,5.0s							
PD31	Pinedale Array	80.97	317	*e*P	P		00 03 02.8	+0.1
PDAR	Pinedale Array	80.97	317	P	P		00 03 02.8	+0.1
	comp=Z,1.0nm,0.7s,baz=53,slow=5.1,SNR=8.1							
PDAR	Pinedale Array	80.97	317	*e*P	P		00 03 02.0	-0.7
FXWY	Fox Creek	81.17	319	*e*P	P		00 03 05.6	+1.9
	comp=Z,5.2nm,1.5s							
CMAR	Chiang Mai Arr	82.09	73	P	P		00 03 09.1	+0.4
	comp=Z,0.5nm,0.3s,baz=272,slow=10,SNR=3.2							
CPUP	Villa Florida	86.04	233	P	P		00 03 28.4	-0.1
	comp=Z,1.5nm,0.9s,baz=40,slow=1.4,SNR=3.1							
TXAR	Lajitas Array	95.29	304	P	P		00 03 31.2	+1.3
	comp=Z,0.6nm,0.8s,baz=81,slow=7.7,SNR=5.1							
WRA	Warramunga Arr	132.78	84	PKP	PKPdf		00 10 02.6	-0.6
	comp=Z,1.0nm,0.8s,baz=307,slow=1.7,SNR=8.2							
ASAR	Alice Springs	134.32	88	PKP	PKPdf		00 10 05.9	-0.2
	comp=Z,0.7nm,0.7s,baz=343,slow=2.3,SNR=7.0							

MEX 28 23:56:27.3±0.5, 16°13N×98°31W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.31	34	*e*P	Pg	23 56 32.5	-0.9
PNIG				*i* S	Sg	23 56 37.6	+0.1
TLIG	Tlapa	1.44	350	*i* P	Pn	23 56 50.5	-3.7
TLIG				*e*S	Sb	23 57 09.2	-4.3

*ISCJB **29** 00:03:49.8±0.4, 42°.20N±0°.05×139°.46E±0°.08, h207km±3km, mb3.4/13, Error ellipse: s-maj=10.5km s-min=7.6km az=37.2*
*IDC **29** 00:03:50.5±1.0, 42°.18N×139°.47E, h200km±9km, mb3.3/13, mb1 3.5/16, mb1mx3.3/46, mbtmp3.8/16, Error ellipse: s-maj=12.8km s-min=10.3km az=125.0*
*JMA **29** 00:03:51.2±0.2, 42°.20N×139°.45E, h199km±2km, M3.7*
ISC 29 00:03:50.7±0.7, 42°.20N±0°.06×139°.44E±0°.08, h202km±6km, n32, σ0°50/41, mb3.5/13, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	Okushiri--Mats	0.12	168	P	Pn	00 04 17.3	+0.1
JOSM				*e*S	Sn	00 04 36.7	-0.9
JHST	Hiyamasetana	0.39	55	P	Pn	00 04 17.9	+0.3
JHST				*e*S	Sn	00 04 38.1	-0.5
JYM2	Yakumo 2	0.69	96	P	Pn	00 04 19.3	+0.4
JYM2				*e*S	Sn	00 04 41.1	+0.5
JSR	Shiriuchi	0.99	132	P	Pn	00 04 20.8	+0.2
JSR				*e*S	Sn	00 04 43.6	0.0
JNB	Noboribetsu	1.21	76	P	Pn	00 04 21.9	-0.3
JKB	Kayabe	1.22	104	P	Pn	00 04 22.3	0.0
JKB				*e*S	Sn	00 04 46.5	-0.1
JSK	Shakotan	1.38	33	P	Pn	00 04 23.8	+0.3
JEW	Eniwo	1.62	66	P	Pn	00 04 26.1	+0.5
JIW	Iwasaki	1.66	165	P	Pn	00 04 26.6	+0.5
JTM	Tenmabayashi	1.86	139	P	Pn	00 04 28.1	+0.1
JTM				*e*S	Sn	00 04 56.2	-0.7
JIAM	Iburiatsuma	1.88	76	P	Pn	00 04 28.7	+0.6
JIAM				*e*S	Sn	00 04 58.2	+1.0
JHR	Hokuryu	2.28	46	P	Pn	00 04 33.2	+0.9
JNBK	Urakawa-nobuka	2.46	87	P	Pn	00 04 34.0	-0.2
JFR	Furan	2.52	66	P	Pn	00 04 34.9	0.0
JFR				*e*S	Sn	00 05 08.5	-0.9
ASAJ	Asahikawa	3.00	49	P	Pn	00 04 40.6	+0.2
	13nm,0.3s,baz=238,slow=10.0,SNR=21						
ASAJ				S	Sn	00 05 18.9	-0.5
	2.9nm,0.3s,baz=250,slow=27,SNR=7.4						
MAT	Matsushiro	5.72	190	P	Pn	00 05 15.6	+1.1
MJAR	Matsushiro Arr	5.73	190	P	Pn	00 05 15.4	+0.8
	1.2nm,0.3s,baz=357,slow=13,SNR=8.5						
USRK	Usuriysk Ar.	5.80	293	P	Pn	00 05 15.8	+0.4
	0.2nm,0.3s,baz=92,slow=12,SNR=5.3						
ZALV	Zalesovo Beam	37.43	308	P	P	00 10 44.4	+0.2
	0.3nm,0.3s,baz=60,slow=6.8,SNR=2.7						
MKAR	Makanchi Array	40.26	297	P	P	00 11 07.8	0.0
	0.9nm,0.6s,baz=84,slow=11,SNR=13						
KURBB	Kurchatov Arra	41.76	303	P	P	00 11 19.9	0.0
	0.2nm,0.3s,baz=81,slow=9.1,SNR=3.1						
ILAR	Eielson Array	46.04	35	P	P	00 11 53.9	+0.1
	1.4nm,0.7s,baz=269,slow=4.7,SNR=18						
BVAR	Borovoye Array	46.07	308	P	P	00 11 54.3	+0.1
	0.2nm,0.3s,baz=62,slow=9.2,SNR=5.6						
INK	Inuvik	50.54	29	P	P	00 12 28.4	+0.4
	1.6nm,0.4s,baz=301,slow=7.1,SNR=14						
YKA	Yellowknife Ar	60.14	31	P	P	00 13 36.5	0.0
	0.3nm,0.5s,baz=303,slow=6.9,SNR=3.2						
WRA	Warramunga Arr	62.00	185	P	P	00 13 48.9	-0.6
	0.5nm,0.4s,baz=3.4,slow=7.1,SNR=18						
FINES	FINESS Array B	63.56	330	P	P	00 13 58.9	-0.4
	3.1nm,0.9s,baz=27,slow=9.5,SNR=5.1						
ASAR	Alice Springs	65.73	186	P	P	00 14 13.5	-0.3
	1.2nm,0.8s,baz=360,slow=4.9,SNR=11						
NOA	NORSAR Array B	68.85	336	P	P	00 14 33.0	0.0
	1.1nm,1.2s,baz=38,slow=6.7,SNR=2.8						
PDAR	Pinedale Array	75.13	45	P	P	00 15 10.9	+0.1
	0.5nm,0.5s,baz=321,slow=2.1,SNR=5.4						
ULM	Lac du Bonnet	76.02	33	P	P	00 15 15.2	-0.2
	1.4nm,0.7s,baz=304,slow=7.3,SNR=2.7						
SNAA	Sanae	145.16	200	PKPbc	PKPbc	00 23 03.5	+0.5
	0.5nm,0.4s,baz=252,slow=3.2,SNR=6.3						

*ISCJB **29** 00:04:55.9±0.4, 37°.46N±0°.02×27°.72E±0°.04, h0km, Error ellipse: s-maj=4.4km s-min=3.3km az=14.4*
*ISK **29** 00:04:55.9, 37°.45N×27°.67E, h7km, ML2.3/8*
*DDA **29** 00:04:56.4, 37°.44N×27°.76E, h7km, Ml2.7, Suspected Mining explosion.*
ISC 29 00:04:55.8±0.9, 37°.44N±0°.02×27°.72E±0°.03, h0km, n17, σ1s07/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	Milas	0.15	161	PG	Pg	00 05 00.2	+1.6
MLSB				SG	Sg	00 05 02.8	+2.3
AYDN	Tasoluk	0.26	30	*i* P	Pg	00 05 01.9	+1.1
AYDN				*i* S	Sg	00 05 05.4	+1.3
BODT	Bodrum	0.49	221	PG	Pg	00 05 05.8	+0.5
BODT				SG	Sg	00 05 12.9	+1.2
AYDB	Zeytinkoy-Aydi	0.53	15	PG	Pg	00 05 06.5	+0.6
DAT	Datca	0.71	189	PG	Pb	00 05 10.6	-0.6
DAT	Datca	0.71	189	*i* P	Pb	00 05 10.3	-0.8
DAT				*i* S	Sb	00 05 20.6	-1.0
TURN	Turunc	0.90	128	PG	Pg	00 05 12.1	-1.0
TURN	Turunc	0.90	128	*i* P	Pg	00 05 11.5	-1.6
TURN				*i* S	Sg	00 05 23.0	-1.8
DGB	¨zmir	0.90	313	*i* P	Pb	00 05 13.8	-0.6
DGB				*i* S	Sg	00 05 24.4	-0.5
NIS1	Nisyros Isl.	0.94	208	PG	Pg	00 05 13.6	-0.1
TAVA	DENIZLI_Tavas	0.95	88	*i* P	Pb	00 05 15.3	+0.1
TAVA				*i* S	Sg	00 05 27.0	+0.6
DALY	Dalyan (Mu¨la	0.97	129	PG	Pb	00 05 15.8	+0.3
MANT	Manisa	1.25	32	*i* P	Pn	00 05 21.0	+0.3
MANT				*i* S	Sg	00 05 34.5	-1.3
ARG	Arkhangelos	1.26	165	PN	Pn	00 05 20.9	+0.2
URLA	Izmir	1.28	316	PN	Pb	00 05 20.4	-0.4
KULA	Kula-Manisa	1.31	34	PN	Pn	00 05 21.4	0.0
FETY	Fethiye	1.35	126	PN	Pb	00 05 22.7	+0.7

*SJA **29** 00:09:38.8±1.2, 32°.91S×69°.11W, h8km±4km, ML4.3, MW4.6*
*IDC **29** 00:09:38.1±0.6, 32°.81S×68°.80W, h0km, mb4.4/11, mb1 4.5/15, mb1mx4.4/23, mbtmp4.4/15, ML4.3/4, MS3.5/4, Ms1 3.5/4, ms1mx3.1/35, Error ellipse: s-maj=23.3km s-min=13.0km az=87.0*
*NEIC **29** 00:09:39.0±0.0, 32°.91S×69°.11W, h8km, mb5.0/42, MD4.6(SJA), ML4.4(GUC), After SJA.*
NEIC Felt [IV] at Mendoza and in the epicentral area. Also felt at San Martin.
*ISCJB **29** 00:09:41.0±0.4, 32°.86S±0°.03×68°.97W±0°.04, h33km±3km, mb4.8/50, MS3.9/1, Error ellipse: s-maj=5.3km s-min=4.1km az=32.0*
*GUC **29** 00:09:40.8±0.8, 32°.88S×69°.12W, h15km±12km, ML4.4*
ISC 29 00:09:39.7±0.7, 32°.89S±0°.02×69°.08W±0°.02, h10km±4km, n281, σ1s19/292, mb5.0/50, 2C-5D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCO	CERRO ARCO	0.14	68	*e*P	Pg	00 09 43.0	+0.2
ARCO				*e*S	Sg	00 09 45.7	+0.6
ARCO				IAML		00 09 46.5	
	comp=Z,254µm,0.3s						
AAGR	Agrelo	0.29	132	*e*P	Pg	00 09 46.1	+0.6
ASAL	Salagasta	0.36	35	*e*P	Pg	00 09 46.9	0.0
AUSP	Uspallata	0.71	339	*e*P	Pg	00 09 53.4	-0.1
AVIZ	Vizcacheras	0.75	141	*e*P	Pg	00 09 54.3	+0.1
RTLS	Leoncito	1.10	350	*e*P	Pg	00 10 00.6	-0.3
RTLS				IAML		00 10 19.6	
	comp=Z,3µm,0.4s						
FCH	Farellones	1.10	246	⇓*iP*	Pg	00 10 00.4	-0.5
FCH				*e*S	Sb	00 10 15.3	-0.4
RTCV	Cerro Valdivia	1.12	24	*e*P	Pg	00 10 01.0	-0.3
CLCH	Cerro Calan	1.32	247	⇓*iP*	Pb	00 10 04.3	-0.3
CLCH				*e*S	Sn	00 10 22.4	+0.4
CLCH				IAML		00 10 26.1	
	comp=E,12µm,0.6s						
LMEL	Las Melosas	1.34	224	*i* P	Pb	00 10 04.8	-0.2
LMEL				*e*S	Sn	00 10 23.0	+0.4
PEL	Peldehue	1.37	259	*e*Pn	Pn	00 10 04.0	-1.0
PEL	Peldehue	1.37	259	*e*P	Pg	00 10 05.5	-0.5
PEL	Peldehue	1.37	259	⇓*iP*	Pn	00 10 04.8	-0.2
PEL				*e*S	Sn	00 10 23.0	-0.3
ZON	Zonda	1.38	14	*e*P	Pg	00 10 06.4	+0.1
ZON				IAML		00 10 29.8	
	comp=Z,2µm,0.5s						
SJA	San Juan	1.43	18	*e*P	Pn	00 09 53.5	-12
SJA				IAML		00 10 29.8	
	comp=Z,3µm,0.2s						
ROCH	El Roble	1.62	267	⇓*iP*	Pb	00 10 09.4	-0.5
ROCH				*e*S	Sg	00 10 31.2	-0.8
ROCH				IAML		00 10 40.3	
	comp=E,9µm,0.4s						
ROC1	El Roble	1.63	267	*e*Pn	Pb	00 10 09.5	-0.5
ROC1	El Roble	1.63	267	*e*P	Pb	00 10 09.7	-0.4
RTLL	Cerro Villicun	1.64	18	*e*P	Pg	00 10 10.7	-0.4
RTLL				IAML		00 10 35.5	
	comp=Z,5µm,0.4s						
RTLL	Cerro Villicun	1.64	18	*e*P	Pn	00 10 08.7	0.0
RTLL				*e*S	Sb	00 10 30.9	+0.1
ACAN	Cantantal	1.71	69	*e*P	Pb	00 10 11.2	-0.1
RFA	San Rafael	1.94	165	*e*P	Pn	00 10 13.4	+0.5
RFA				IAML		00 10 45.5	
	comp=Z,7µm,0.4s						
AMOG	MOGNA	2.01	15	*e*P	Pb	00 10 16.5	+0.1
ACCO	Cerro Coronel	2.30	0	*e*P	Pb	00 10 21.7	+0.3
CMCH	Combarbala	2.37	316	⇑*iP*	Pb	00 10 22.9	+0.4
ACDV	Cuesta del Vie	2.71	359	*e*P	Pb	00 10 28.0	-0.4
ACDV				IAML		00 10 33.9	
	comp=Z,2µm,0.5s						
AROD	Rodeo	2.74	353	*e*P	Pb	00 10 28.5	-0.4
MRA	San Martin	2.88	81	*e*P	Pb	00 10 31.6	+0.4
MRA				IAML		00 11 14.6	
	comp=Z,2µm,0.6s						
GO04	Tololo Observa	3.08	331	*e*Pn	Pb	00 10 31.9	-2.8
GO04	Tololo Observa	3.08	331	*e*P	Pb	00 10 33.1	-1.7
GO05	Hualaæø	3.17	227	*e*Pn	Pn	00 10 31.9	+2.2
GO05	Hualaæø	3.17	227	*e*P	Pn	00 10 31.3	+1.5
LCO	Las Campanas	4.11	340	*e*Pn	Pn	00 10 45.6	+2.8
LCO				*e*S	Sn	00 11 35.0	+3.9
CYA	Choya	5.26	33	*e*P	Pn	00 10 59.0	+0.6
GO03	Copiap	5.37	349	*e*Pn	Pn	00 11 01.8	+1.8
GO06	Curarrehue	6.95	195	*e*Pn	Pn	00 11 23.9	+2.2
TRQA	Tornquist	7.75	134	*e*Pn	Pn	00 11 31.9	-0.7
	comp=Z,67nm,0.3s						
TRQA				*e*S	Sn	00 12 56.6	-3.9
PLCA	Paso Flores	7.92	188	Pn	Pn	00 11 37.8	+2.9
	comp=Z,0.7nm,0.3s,baz=26,slow=9.3,SNR=17						
PLCA				Lg	Lg	00 13 50.2	
	comp=Z,3.5nm,0.3s,baz=290,slow=20,SNR=4.0						
PLCA	Paso Flores	7.92	188	*e*Pn	Pn	00 11 38.2	+3.3
PLCA				Lg	Lg	00 13 50.2	
PB10	IPOC Station P	9.43	352	*e*Pn	Pn	00 11 55.0	-0.7
LVC	Limon Verde	10.24	1	Pn	Pn	00 12 06.3	-0.8
	comp=Z,2.3nm,0.3s,baz=182,slow=7.5,SNR=18						
LVC				Lg	Lg	00 14 56.7	
	comp=Z,2.4nm,0.3s,baz=334,slow=15,SNR=3.2						
LVC				LR	LR	00 16 22.4	
	comp=Z,449nm,20.4s,baz=202,slow=40						
LVC	Limon Verde	10.24	1	*e*Pn	Pn	00 12 06.0	-1.1
LVC				*e*S	Sn	00 14 08.9	+6.5
LVC				Lg	Lg	00 14 56.8	
PB04	IPOC Station P	10.56	355	*e*Pn	Pn	00 12 10.4	-0.9
PB01	IPOC Station P	11.81	358	*e*Pn	Pn	00 12 25.7	-2.6
CPUP	Villa Florida	12.13	60	Pn	Pn	00 12 29.6	-3.0
	comp=Z,0.5nm,0.3s,baz=237,slow=12,SNR=17						
CPUP				Lg	Lg	00 16 01.9	
	comp=Z,0.7nm,0.3s,baz=157,slow=7.5,SNR=3.1						
CPUP				LR	LR	00 16 50.1	
	comp=Z,114nm,20.1s,baz=238,slow=36						
CPUP	Villa Florida	12.13	60	*e*Pn	Pn	00 12 32.7	0.0
CPUP				Lg	Lg	00 16 01.9	
PB11	IPOC Station P	13.09	358	*e*Pn	Pn	00 12 47.2	+1.3
GO01	Chusmiza	13.17	360	*e*Pn	Pn	00 12 48.4	+1.1
MNMC	Minye Minye	13.71	358	*e*Pn	Pn	00 12 56.9	+2.4
LPAZ	La Paz	16.55	3	Pn	P	00 13 34.0	-1.3
	comp=Z,1.2nm,0.3s,baz=178,slow=8.0,SNR=79						
LPAZ				LR	LR	00 20 34.5	
	comp=Z,99nm,21.5s,baz=132,slow=40						
LPAZ	La Paz	16.55	3	*e*Pn	Pn	00 13 33.6	+1.0
	comp=Z,54nm,1.0s						
AQDB	Aquidauana	17.18	47	*e*P	Pn	00 13 39.6	-0.3
AQDB				*e*		00 13 44.3	
AQDB				*i*		00 13 46.0	
AQDB				*i*		00 13 47.3	
AQDB				*i*		00 13 48.5	
AQDB				*i*		00 13 51.9	
AQDB				*i*		00 13 54.3	
AQDB				*i*		00 14 02.3	
SIV	San Ignacio	18.32	25	P	Pn	00 13 53.1	-1.0
	comp=Z,1.0nm,0.3s,baz=221,slow=12,SNR=19						
SPB	Sao Paulo	21.17	70	*e*P	P	00 14 26.7	+1.5
	comp=Z,34nm,1.1s						
BB19B	Bebedouro	21.73	62	*e*P	P	00 14 31.6	+0.2
BB19B				*i*		00 14 33.6	
BB19B				*i*		00 14 39.1	
BB19B				*i*		00 14 41.5	
BB19B				*i*		00 14 48.4	
BB19B				*i*		00 15 01.2	
BB19B				*i*		00 15 12.0	
VAO	Valinhos	21.84	69	*e*P	P	00 14 33.7	+1.2
VAO				*i*		00 14 34.3	
VAO				*i*		00 14 36.1	
VAO				*i*		00 14 41.2	
VAO				*i*		00 14 48.4	
VAO				*i*		00 14 53.7	
VAO				*i*		00 14 56.5	
USHA	Ushuaia	21.94	179	P	P	00 14 34.7	+1.5
	comp=Z,14nm,0.8s,baz=356,slow=11,SNR=3.8						
NNA	Nana	21.99	339	P	P	00 14 35.2	+1.0
	comp=Z,9.5nm,0.6s,baz=215,slow=13,SNR=5.6						
PCON	Cinco Dias	35.71	347	*e*P	P	00 16 41.4	+2.2
CHIC	Chingaza	37.58	352	*e*P	P	00 16 54.7	-0.2
CTAB	Cerro Tablazo,	38.01	352	*e*P	P	00 17 00.7	+2.0
RUSC	La Rusia	38.76	354	*e*P	P	00 17 05.3	+0.3
HELC	Santa Helena	39.35	350	*

143A	Socs Landing, comp=Z,32nm,0.8s	68.56	340	eP	P	00 20 42.3	-0.2
X52A	Dahlonega baz=167	68.57	347	P	P	00 20 42.0	-0.6
X51A	Calhoun comp=Z,20nm,0.8s	68.72	346	eP	P	00 20 43.6	+0.2
X51A	Calhoun baz=166,SNR=5.6	68.72	346	P	P	00 20 43.1	-0.3
Y47A	UCPARC, Winfie baz=163,SNR=8.6	68.75	343	P	P	00 20 43.0	-0.6
X50B	Fort Payne baz=165	68.78	345	P	P	00 20 43.1	-0.8
LPIG	La Paz comp=Z,63nm,19.7s,baz=196,slow=30	68.97	320	LR	LR	00 44 05.6	
Y46A	Houston baz=162	68.98	342	P	P	00 20 44.7	-0.4
X49A	Woodville baz=165	68.98	345	P	P	00 20 44.6	-0.5
W53A	Cullowhee baz=167	68.98	348	P	P	00 20 44.6	-0.7
W52A	Murphy baz=167	69.05	347	P	P	00 20 44.9	-0.7
X48A	Hartselle comp=Z,10nm,0.8s	69.08	344	eP	P	00 20 45.7	0.0
X48A	Hartselle baz=164	69.08	344	P	P	00 20 45.4	-0.4
Y45A	Yeager Farm, C baz=162	69.14	342	P	P	00 20 46.2	+0.1
W51A	Cleveland baz=166	69.28	346	P	P	00 20 46.4	-0.5
X47A	Russelville baz=163,SNR=6.0	69.34	343	P	P	00 20 46.6	-0.7
V53A	Saluda comp=Z,24nm,1.5s	69.41	348	eP	P	00 20 47.2	-0.6
V53A	Saluda baz=168	69.41	348	P	P	00 20 47.1	-0.7
JCT	Junction City comp=Z,6.5nm,0.6s	69.41	332	eP	P	00 20 48.4	+0.5
W50A	Signal Mountai comp=Z,12nm,0.6s	69.42	346	eP	P	00 20 47.8	-0.1
W50A	Signal Mountai baz=166,SNR=5.1	69.42	346	P	P	00 20 47.5	-0.4
W49A	Belvidere baz=165	69.55	345	P	P	00 20 48.2	-0.5
SWET	Sewanee	69.57	345	eP	P	00 20 48.6	-0.2
X45A	UM Field Stati baz=162	69.63	342	P	P	00 20 48.6	-0.5
V52A	Sevierville baz=167	69.71	347	P	P	00 20 48.7	-0.9
OXF	Oxford comp=Z,34nm,1.1s	69.72	342	eP	P	00 20 49.0	-0.7
OXF	Oxford baz=162	69.72	342	P	P	00 20 48.9	-0.7
W48A	Pulaski baz=164	69.72	344	P	P	00 20 49.4	-0.2
PLAL	Pickwick Lake comp=Z,8.0nm,0.9s	69.83	343	eP	P	00 20 49.9	-0.5
V50A	Pikevile baz=166,SNR=7.0	69.84	346	P	P	00 20 49.9	-0.5
X44A	Crenshaw baz=161	69.90	342	P	P	00 20 50.3	-0.4
W47A	Westpoint baz=164	69.97	344	P	P	00 20 50.7	-0.5
Y41A	Eaglette Beard baz=159	70.01	339	P	P	00 20 51.5	+0.1
TXAR	Lajitas Array comp=Z,1.0nm,0.6s,baz=153,slow=8.5,SNR=19	70.04	328	P	P	00 20 52.3	+0.4
TX31	Lajitas Ar. Si	70.04	328	eP	P	00 20 52.3	+0.4
V49A	McMinnville baz=165,SNR=6.3	70.09	346	P	P	00 20 51.0	-1.0
V48A	Smith Brothers comp=Z,15nm,0.6s	70.27	345	eP	P	00 20 52.8	-0.3
V48A	Smith Brothers baz=164,SNR=7.3	70.27	345	P	P	00 20 52.6	-0.5
W45A	Hickory Valley baz=162	70.27	343	P	P	00 20 52.6	-0.5
TZTN	Tazewell comp=Z,18nm,1.4s	70.39	348	eP	P	00 20 55.2	+1.5
V47A	Nunnelly baz=164,SNR=6.6	70.51	344	P	P	00 20 53.7	-0.8
V46A	Holladay baz=163,SNR=8.9	70.62	344	P	P	00 20 54.2	-1.0
V45A	Humboldt baz=162	70.77	343	P	P	00 20 55.5	-0.6
U49A	Red Boiling Sp baz=165	70.79	346	P	P	00 20 55.4	-0.8
T51A	Gray baz=167	70.87	347	P	P	00 20 56.0	-0.7
WVT	Waverly comp=Z,34nm,0.6s	70.87	344	eP	P	00 20 56.3	-0.4
WVT	Waverly baz=164	70.87	344	P	P	00 20 56.2	-0.4
U48A	Cassie Pea, Po baz=165	70.95	345	P	P	00 20 56.5	-0.6
R58B	Mineral baz=172	70.97	353	P	P	00 20 57.3	+0.1
U47A	Clarksville baz=164,SNR=5.9	71.05	345	P	P	00 20 57.0	-0.8
W41B	Gary Mavity, V baz=160	71.11	340	P	P	00 20 57.8	-0.4
U46A	Springville baz=163,SNR=6.3	71.17	344	P	P	00 20 58.1	-0.4
ABTX	Abilene, Hawle baz=153	71.25	333	P	P	00 20 59.2	0.0
U45A	Rockin P Farm, baz=163	71.30	343	P	P	00 20 59.2	-0.1
T49A	Edmonton comp=Z,7.3nm,0.6s	71.31	346	eP	P	00 20 58.9	-0.5
T49A	Edmonton baz=166	71.31	346	P	P	00 20 58.5	-0.9
S51A	Beattyville baz=167	71.46	348	P	P	00 20 59.6	-0.7
T48A	Bowling Green baz=165	71.49	345	P	P	00 20 59.6	-0.9
T47A	Sharon Grove comp=Z,8.1nm,0.7s	71.53	345	eP	P	00 21 00.2	-0.5
T47A	Sharon Grove baz=164	71.53	345	P	P	00 20 59.7	-1.0
W39A	Magazine comp=Z,11nm,0.8s	71.58	339	eP	P	00 21 01.9	+0.9
W39A	Magazine baz=158,SNR=5.2	71.58	339	P	P	00 21 01.5	+0.4
S50A	Richmond baz=166	71.65	347	P	P	00 21 00.8	-0.6
V41A	Mountainview baz=160	71.66	340	P	P	00 21 01.0	-0.5
T46A	Princeton baz=164	71.76	344	P	P	00 21 01.3	-0.7
U42A	Revenden baz=161	71.94	341	P	P	00 21 02.7	-0.4
S48A	Wiedeman Farm, baz=165	71.95	346	P	P	00 21 01.8	-1.4
S47A	Hartford baz=164	72.06	345	P	P	00 21 02.5	-1.3
R51A	Hillsboro baz=167	72.10	348	P	P	00 21 03.5	-0.6
U41A	Viola baz=160	72.11	341	P	P	00 21 03.6	-0.6
PBMO	Poplar Bluff comp=Z,10.0nm,0.6s	72.12	342	eP	P	00 21 04.2	0.0
R50A	Paris baz=167	72.22	347	P	P	00 21 03.9	-0.9
S46A	Don Dixon Farm baz=164	72.33	345	P	P	00 21 04.3	-1.2
T43A	Greenville baz=162,SNR=8.3	72.38	342	P	P	00 21 05.2	-0.5
R49A	Shelbyville baz=166	72.39	347	P	P	00 21 04.8	-1.0
U40A	Yellville baz=159,SNR=7.3	72.39	340	P	P	00 21 05.4	-0.5
DBIC	Dimbokro comp=Z,6.8nm,0.8s,baz=208,slow=8.1,SNR=7.2	72.48	70	P	P	00 21 05.4	-1.5
T42A	Van Buren baz=161	72.53	342	P	P	00 21 06.0	-0.7
WCI	Wyandotte Cave baz=165	72.55	346	P	P	00 21 05.5	-1.2
R48A	Northridge Ran baz=165	72.63	346	P	P	00 21 06.3	-0.9
HHAR	Hobbs comp=Z,8.1nm,1.2s	72.64	339	eP	P	00 21 07.4	0.0
S44A	Carbondale baz=162	72.70	343	P	P	00 21 06.9	-0.8
T41A	Mountain View baz=160,SNR=7.8	72.73	341	P	P	00 21 07.4	-0.4
Q51A	Peebles baz=168	72.77	348	P	P	00 21 07.4	-0.7
S43A	Fulton Ridge, baz=162	72.78	343	P	P	00 21 07.5	-0.7

MNTX	Cornudas Mount comp=Z,2.5nm,0.6s	72.82	328	eP	P	00 21 07.7	-0.9
MNTX	Cornudas Mount baz=149	72.82	328	P	P	00 21 07.8	-0.8
TUL1	Leonard baz=157	72.87	338	P	P	00 21 08.8	+0.1
P53A	Whipple baz=169	72.91	350	P	P	00 21 08.6	-0.3
Q49A	Aurora baz=166	73.03	347	P	P	00 21 08.7	-0.9
R45A	Skylar, Fairfi baz=163	73.04	344	P	P	00 21 08.5	-1.1
Q48A	North Vernon baz=166	73.11	346	P	P	00 21 09.1	-1.0
S42A	Caledonia baz=161	73.16	342	P	P	00 21 09.7	-0.6
P52A	Corning baz=169	73.17	350	P	P	00 21 09.6	-0.8
S41A	Jillco Farms, baz=160,SNR=6.4	73.23	341	P	P	00 21 10.6	-0.3
FVM	French Village comp=Z,12nm,0.9s	73.26	343	eP	P	00 21 11.0	0.0
O56A	Blue Knob Stat baz=172	73.32	352	P	P	00 21 11.3	-0.1
P50A	Jamestown baz=167	73.42	348	P	P	00 21 11.4	-0.5
CCM	Cathedral Cave comp=Z,11nm,1.1s	73.54	342	eP	P	00 21 12.2	-0.5
CCM	Cathedral Cave baz=161	73.54	342	P	P	00 21 12.3	-0.3
P48A	Milroy baz=166	73.57	347	P	P	00 21 11.4	-1.3
Q45A	Warren Harvey, baz=163	73.59	345	P	P	00 21 11.8	-1.1
MSTX	Muleshoe comp=Z,6.7nm,0.8s	73.67	331	eP	P	00 21 13.9	+0.3
MSTX	Muleshoe baz=151	73.67	331	P	P	00 21 13.3	-0.3
O51A	Pataskala baz=168	73.74	349	P	P	00 21 13.2	-0.6
R41A	Rosebud baz=161,SNR=5.0	73.80	342	P	P	00 21 13.7	-0.4
ACSO	Alum Creek Sta baz=168	73.89	349	P	P	00 21 13.9	-0.7
O50A	Cable baz=167	73.91	348	P	P	00 21 13.8	-1.0
P46A	Rosedale baz=164	74.08	346	P	P	00 21 15.4	-0.3
Q42A	Golden Eagle baz=161	74.17	343	P	P	00 21 15.2	-1.1
N54A	Moraine State baz=170	74.17	351	P	P	00 21 15.1	-1.2
O48A	Farmland baz=166	74.29	347	P	P	00 21 15.8	-1.1
Q41A	Truxton baz=161	74.38	342	P	P	00 21 17.1	-0.5
N50A	Nevada baz=168	74.44	349	P	P	00 21 17.0	-0.8
O47A	Sheridan baz=165	74.46	346	P	P	00 21 16.7	-1.2
P43A	Skaggs, Pawnee baz=162	74.61	344	P	P	00 21 18.0	-0.9
N49A	Columbus Grove baz=167	74.76	348	P	P	00 21 18.8	-0.8
O41A	Passleys Farm, baz=161	75.39	343	P	P	00 21 22.5	-0.9
N44A	Piper City baz=164	75.40	345	P	P	00 21 21.7	-1.7
L47A	Sherwood baz=166	75.96	348	P	P	00 21 25.3	-1.3
ANMO	Albuquerque comp=Z,7.7nm,1.4s	76.05	329	eP	P	00 21 28.8	+1.3
N39A	Derby Farms, D baz=160	76.52	342	P	P	00 21 28.9	-0.9
K47A	Vermontville baz=166	76.60	348	P	P	00 21 29.7	-0.4
T25A	Trinidad comp=Z,19nm,1.5s	77.08	332	eP	P	00 21 34.7	+1.4
L40A	Anamosa comp=Z,22nm,1.1s	77.32	343	eP	P	00 21 33.9	-0.3
L40A	Anamosa baz=164	77.32	343	P	P	00 21 33.5	-0.7
K41A	Shullsburg baz=162	77.61	344	P	P	00 21 35.3	-0.6
J43A	Natural Harves baz=164	77.94	346	P	P	00 21 37.0	-0.7
SDCO	Great Sand Dun comp=Z,13nm,1.9s	78.04	331	eP	P	00 21 39.8	+1.0
BOSA	Boshof comp=Z,7.6nm,0.8s,baz=249,slow=3.4,SNR=16	78.37	116	P	P	00 21 40.2	-0.7
BOSA	Boshof comp=Z,8.2nm,0.8s	78.37	116	eP	P	00 21 40.4	-0.5
J40A	Soldiers Grove baz=162	78.47	344	P	P	00 21 39.7	-0.9
J39A	Decorah baz=161	78.64	343	P	P	00 21 40.6	-1.0
BAR	Barrett comp=Z,5.9nm,1.0s	79.16	321	eP	P	00 21 46.9	+2.2
G42A	Mountain baz=164	79.73	346	P	P	00 21 46.9	-0.6
BELC	Belle Mtn. Jos baz=142	79.83	322	P	P	00 21 46.7	-1.8
D50A	G1974 Best Tow baz=171	80.28	353	P	P	00 21 50.1	-0.3
ECSD	EROS Data Cent comp=Z,11nm,1.2s	80.30	340	eP	P	00 21 49.9	-0.7
ECSD	EROS Data Cent baz=157	80.30	340	P	P	00 21 50.2	-0.4
LBTB	Lobatse comp=Z,12nm,0.7s	80.50	114	eP	P	00 21 52.0	-0.5
F38A	Pierce - Schro baz=161	81.15	344	P	P	00 21 55.2	0.0
TOA0	Torodi Ar. Sit	81.51	68	eP	P	00 21 57.4	-0.4
TORD	Torodi Ar. Bea comp=Z,6.6nm,0.8s,baz=294,slow=7.2,SNR=26	81.51	68	P	P	00 21 55.7	-2.0
MPMC	Manual Prospec baz=141	82.19	322	P	P	00 22 01.6	+0.5
K22A	Casper baz=149	82.65	333	P	P	00 22 04.0	+0.7
RSSD	Black Hills baz=151	83.01	335	P	P	00 22 05.1	-0.2
R11A	Troy Canyon, C comp=Z,12nm,1.6s	83.03	325	eP	P	00 22 06.8	+1.3
PDAR	Pinedale Array comp=Z,0.5nm,0.6s,baz=152,slow=6.7,SNR=4.3	83.94	331	P	P	00 22 10.0	0.0
NV01	Mina Array Sit	84.43	323	eP	P	00 22 17.1	+4.4
NVAR	Mina Array Bea comp=Z,2.1nm,0.8s,baz=145,slow=6.5,SNR=5.0	84.43	323	P	P	00 22 13.4	+0.8
HVU	Hansel Valley comp=Z,2.8nm,0.7s	84.48	329	eP	P	00 22 12.9	+0.2
IMW	Indian Meadow comp=Z,8.2nm,1.4s	85.44	331	eP	P	00 22 18.7	+1.1
RLMT	Red Lodge baz=147	85.79	333	P	P	00 22 18.9	-0.4
LAO	LASA Array baz=150	86.00	335	P	P	00 22 20.1	0.0
ULM	Lac du Bonnet comp=Z,2.1nm,0.8s,baz=172,slow=7.1,SNR=2.5	86.11	343	P	P	00 22 19.9	-0.5
HLID	Hailey baz=161	86.63	329	eP	P	00 22 24.4	+1.0
HLID	Hailey baz=143	86.63	329	P	P	00 22 23.8	+0.3
DGMT	Dagmar baz=151	86.87	337	P	P	00 22 24.6	+0.3
MCMT	McKenzie Canyo	86.98	330	eP	P	00 22 26.2	+1.0
J08A	Circle Bar Ran	88.30	326	eP	P	00 22 32.6	+1.2
M02C	Callahan baz=137	88.96	323	P	P	00 22 36.7	+2.2
J05D	Fort Rock, OR baz=138	89.56	325	P	P	00 22 38.6	+1.3
L02E	Cave Junction baz=137	89.90	323	P	P	00 22 40.1	+1.2
TOLK	Toolik Lake Re baz=112	116.87	336	P	PKPdf	00 28 23.8	+0.2
AKASG	Malin Array Be comp=Z,0.2nm,0.3s,baz=260,slow=2.3,SNR=4.3	119.63	46	PKP	PKPdf	00 28 27.9	-1.4
WRA	Warramunga Arr comp=Z,0.9nm,0.6s,baz=160,slow=1.6,SNR=9.5	122.89	206	PKP	PKPdf	00 28 35.5	-1.3
BRVK	Borovoye	144.72	43	ePKPdf	PKPbc	00 29 15.6	+0.4
HYB	Hyderabad	147.06	110	i PKP	PKPbc	00 29 23.0	-0.4
NIL	Nílore	148.61	78	ePKPbc	PKPbc	00 29 26.5	-0.7
NIL				ePKPab	pPKPbc	00 29 30.2	-0.3
AAK	Ala-Archa	149.81	61	ePKPdf	PKPdf	00 29 25.6	+0.3
AAK				ePKPbc	PKiKP	00 29 30.6	-0.4
AAK				ePKPab	sPKPbc	00 29 34.2	-0.3
KURK	Kurchatov	150.38	43	ePKPbc	PKPbc	00 29 30.6	-0.3
KSH	Kashi	151.16	67	PKPbc	PKPbc	00 29 33.0	-0.4
KSH				PKS	PKSdf	00 32 05.8	-56
KSH				PP	PP	00 33 18.8	+6.7

ZALV	Zalesovo Beam comp=Z,20nm,0.4s,baz=309,slow=3.2,SNR=99	151.95	34	PKPbc	PKPbc	00 29 34.3	-0.2
MKAR	Makanchi Array comp=Z,1.4nm,0.6s,baz=302,slow=1.9,SNR=9.1	154.17	49	PKPbc	PKPbc	00 29 39.1	-0.6
MKAR	comp=Z,1.6nm,0.6s,baz=289,slow=3.4,SNR=12			PKPab	PKPab	00 29 52.5	-0.9
SONM	Songino Array comp=Z,0.6nm,0.7s,baz=336,slow=3.2,SNR=3.0	164.69	12	PKPab	PKPab	00 30 38.6	-0.5

SJA ***29*** *00:15:27.5±0.7, 32°.95S×69°.10W, h8km±2km, ML3.0, MW3.6*

GUC ***29*** *00:15:30.2±0.3, 32°.95S×69°.19W, h11km±4km, ML3.1*

ISC 29 00:15:28.0±1.0,**32°.90S**±0°.03×**69°.10W**±0°.03,**h8**km±11km, **n18,σ0°.48/26,Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARCO	**CERRO ARCO**	**0.15**	**67**	*eP*		**Pg**		**00 15 31.3**	**-0.1**
ARCO				*eS*		**Sg**		**00 15 33.8**	**0.0**
ARCO				IAML				00 15 34.6	
	comp=Z,15µm,0.2s								
AAGR	**Agrelo**	**0.29**	**129**	*eP*		**Pg**		**00 15 34.5**	**+0.6**
ASAL	**Salagasta**	**0.38**	**36**	*eP*		**Pg**		**00 15 35.2**	**-0.4**
ASAL				*eS*		**Sg**		**00 15 40.9**	**+0.3**
AUSP	**Uspallata**	**0.72**	**340**	*eP*		**Pg**		**00 15 41.8**	**-0.1**
AVIZ	**Vizcacheras**	**0.75**	**139**	*eP*		**Pb**		**00 15 43.1**	**-0.3**
FCH	**Farellones**	**1.08**	**247**	*eP*		**Pg**		**00 15 48.8**	**-0.2**
FCH				*eS*		**Sb**		**00 16 03.7**	**0.0**
RTLS	**Leoncito**	**1.11**	**351**	*eP*		**Pg**		**00 15 49.0**	**-0.4**
RTLS				IAML				00 16 10.3	
	comp=Z,95nm,0.5s								
RTCV	**Cerro Valdivia**	**1.14**	**25**	*eP*		**Pg**		**00 15 49.0**	**-0.9**
CLCH	**Cerro Calan**	**1.30**	**247**	*eP*		**Pb**		**00 15 52.8**	**0.0**
CLCH				*eS*		**Sb**		**00 16 09.7**	**0.0**
CLCH				IAML				00 16 14.4	
	comp=E,455nm,0.3s								
LMEL	**Las Melosas**	**1.32**	**224**	*eP*		**Pb**		**00 15 53.2**	**+0.1**
LMEL				*eS*		**Sg**		**00 16 10.5**	**0.0**
PEL	**Peldehue**	**1.35**	**259**	*eP*		**Pn**		**00 15 53.0**	**-0.3**
PEL	**Peldehue**	**1.35**	**259**	*eP*		**Pn**		**00 15 53.3**	**+0.1**
PEL				*eS*		**Sb**		**00 16 11.2**	**0.0**
ROCH	**El Roble**	**1.61**	**267**	*eP*		**Pb**		**00 15 58.0**	**-0.1**
ROCH				*eS*		**Sg**		**00 16 19.4**	**-0.3**
ROCH				IAML				00 16 21.6	
	comp=E,601nm,0.9s								
ROC1	**El Roble**	**1.61**	**267**	*eP*		**Pb**		**00 15 58.0**	**-0.2**
RTLL	**Cerro Villicun**	**1.66**	**19**	*eP*		**Pb**		**00 15 58.7**	**-0.1**
RTLL				IAML				00 16 25.0	
	comp=Z,199nm,0.5s								
RTLL	**Cerro Villicun**	**1.66**	**19**	*eP*		**Pb**		**00 15 59.2**	**+0.4**
ACAN	**Cantantal**	**1.73**	**69**	*eP*		**Pb**		**00 15 59.9**	**-0.2**
CMCH	**Combarbala**	**2.36**	**316**	*eP*		**Pb**		**00 16 11.3**	**+0.4**
CMCH				*eS*		**Sb**		**00 16 41.8**	**+1.7**

MOS ***29*** *00:30:28.1±1.1, 20°.98S×178°.73W, h509km, mb5.0/22, Error ellipse: s-maj=9.1km s-min=8.3km az=87.6*

ISCJB ***29*** *00:30:29.9±0.5, 21°.08S±0°.02×178°.78W±0°.03, h531km±5km, mb5.0/181, Error ellipse: s-maj=4.3km s-min=3.0km az=138.7*

IDC ***29*** *00:30:30.9±0.6, 21°.12S×178°.74W, h536km±6km, mb4.4/32, mb1 4.5/36, mb1mx4.4/45, mbtmp5.3/36, Error ellipse: s-maj=7.9km s-min=6.6km az=160.0*

NEIC ***29*** *00:30:31.3±0.1, 21°.11S×178°.77W, mb5.1/139, Error ellipse: s-maj=4.7km s-min=3.1km az=134.0*

BJI ***29*** *00:30:32.5, 20°.80S×178°.49W, h563km, mb4.9/49, mB5.3/32*

GCMT ***29*** *00:30:33.3±0.2, 21°.03S±0°.02×178°.67W±0°.02, h544km±1km, MW5.5/115, Moment Tension Solution. s115,c188; Duration: 1ś5 Moment tensor: Scale 10^17 Nm; Mrr-2.27±.04; Mθθ 1.12±.07; Mφφ 1.15±.07; Mrθ-0.23±.07; Mrφ-0.97±.06; Mθφ-1.57±.07; Best double couple: M0 2.65200×10^17 NP1:φs340.00000°, δ61.00000°, λ-68.00000°. NP2:φs119.00000°, δ36.00000°, λ-125.00000°. Principal axes: T 2.3410, Plg14.0000°, Azm54.0000°; N 0.6230, Plg19.0000°, Azm149.0000°; P -2.9640, Plg66.0000°, Azm290.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

WEL ***29*** *00:30:36.6±1.1, 22°.5S×17°.8W×3°.5, h550km×10km*

ISC 29 00:30:31.8±0.3,**21°.21S**±0°.04×**178°.62W**±0°.04, **h551**km±3km,**h552**km;**pP-P,n813,**σ1ś**22**/947,**mb5.0**/181, **82C-63D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**8.03**	**176**	P		P		**00 32 28.9**	**-0.8**
RIZ				S		**S**		**00 34 04.4**	**-2.1**
RAO	**Raoul Island**	**8.03**	**176**	P		P		**00 32 29.1**	**-0.7**
	148nm,0.3s,baz=74,slow=18,SNR=8.7								
RAO				S		**S**		**00 34 06.3**	**-0.3**
	180nm,0.3s,baz=100,slow=23,SNR=6.5								
RAO	**Raoul Island**	**8.03**	**176**	*eP*		**P**		**00 32 28.4**	**-1.4**
RAO				*eS*		S		00 33 54.4	-12
RAO	**Raoul Island**	**8.03**	**176**	*eP*		**P**		**00 32 28.4**	**-1.4**
GLKZ	**Green Lake**	**8.04**	**176**	P		**P**		**00 32 28.7**	**-1.2**
GLKZ				S		**S**		**00 33 58.6**	**-8.2**
NIUE	**Niue**	**8.44**	**77**	P		**P**		**00 32 32.0**	**-2.0**
	baz=8.3,SNR=18								
AFI	**Afiamalu**	**9.76**	**43**	P		P		00 32 42.3	-5.3
	56nm,0.3s,baz=257,slow=7.7,SNR=30								
AFI				S		S		00 34 27.3	-12
	72nm,0.3s,baz=163,slow=22,SNR=16								
AFI	**Afiamalu**	**9.76**	**43**	*eP*		P		00 32 42.1	-5.5
AFI				*eS*		S		00 34 26.7	-12
AFI	**Afiamalu**	**9.76**	**43**	*eP*		P		00 32 42.1	-5.4
AFI				*eS*		S		00 34 26.7	-12
FUNA	**Funafuti**	**12.79**	**350**	*eP*		**P**		**00 33 15.2**	**-3.5**
	203nm,0.6s								
DZM	**Mont Dzumac**	**13.92**	**264**	P		**P**		**00 33 29.6**	**-0.8**
	8.2nm,0.3s,baz=82,slow=19,SNR=84								
DZM				S		**S**		**00 35 57.1**	**-0.1**
	0.3nm,0.3s,baz=66,slow=20,SNR=3.8								
DZM	**Mont Dzumac**	**13.92**	**264**	*eP*		**P**		**00 33 29.5**	**-0.8**
	829nm,0.8s								
NFK	**Norfolk Island**	**14.45**	**235**	P		**P**		**00 33 37.1**	**+1.5**
	baz=15								
OUZ	**Omahuta**	**15.54**	**204**	*eP*		**P**		**00 33 47.3**	**+0.6**
	195nm,0.6s								
OUZ	**Omahuta**	**15.54**	**204**	P		**P**		**00 33 48.0**	**+1.3**
GRZ	**Great Barrier**	**15.85**	**198**	P		**P**		**00 33 50.4**	**+0.6**
WCZ	**Waipu Caves**	**15.91**	**201**	P		**P**		**00 33 51.6**	**+1.3**
KUZ	**Kuaotunu**	**16.25**	**196**	P		**P**		**00 33 54.0**	**+0.5**
ABAZ	**Army Bay**	**16.36**	**199**	P		**P**		**00 33 57.1**	**+2.5**
WIAZ	**Waiheke Island**	**16.45**	**198**	P		**P**		**00 33 56.5**	**+1.1**
MBAZ	**Motutapu North**	**16.50**	**199**	P		**P**		**00 33 57.1**	**+1.3**
MXZ	**Matakaoa Point**	**16.51**	**189**	*eP*		**P**		**00 33 55.2**	**-0.8**
	232nm,1.7s								
MXZ	**Matakaoa Point**	**16.51**	**189**	P		**P**		**00 33 55.5**	**-0.5**
MXZ				S		**S**		**00 36 41.3**	**-1.1**
HAZ	**Te Kaha**	**16.78**	**190**	P		**P**		**00 33 58.1**	**-0.2**
HAZ				S		**S**		**00 36 43.7**	**-3.1**
RUGZ	**Raukumara Rang**	**17.00**	**190**	P		**P**		**00 34 00.3**	**-0.2**
RUGZ				S		**S**		**00 36 50.6**	**-0.1**
PUZ	**Puketiti**	**17.02**	**188**	P		**P**		**00 34 00.9**	**+0.4**
PUZ				S		**S**		**00 36 50.5**	**-0.3**
WHRZ	**Whale Island**	**17.02**	**192**	P		**P**		**00 34 03.0**	**+2.4**
TGRZ	**Tauranga**	**17.05**	**194**	P		**P**		**00 34 03.1**	**+2.3**
OPRZ	**Ohinepanea**	**17.10**	**193**	P		**P**		**00 34 02.9**	**+1.7**
TWGZ	**Tauwhareparae**	**17.16**	**189**	P		**P**		**00 34 03.5**	**+1.6**
TWGZ				S		**S**		**00 36 50.8**	**-2.3**
TOZ	**Tahuroa Road**	**17.23**	**196**	P		**P**		**00 34 04.5**	**+2.0**
EDRZ	**Edgecumbe**	**17.31**	**192**	P		**P**		**00 34 04.6**	**+1.4**
KARZ	**Kaharoa**	**17.33**	**194**	P		**P**		**00 34 05.1**	**+1.6**
OMRZ	**Omania**	**17.39**	**193**	P		**P**		**00 34 06.3**	**+2.4**
MWZ	**Matawai**	**17.39**	**190**	P		**P**		**00 34 03.4**	**-0.6**
MWZ				S		**S**		**00 36 54.6**	**-2.2**
URZ	**Urewera**	**17.39**	**191**	P		**P**		**00 34 03.3**	**-0.6**
	18nm,0.3s,baz=358,slow=6.0,SNR=40								
URZ				S		**S**		**00 36 52.4**	**-4.3**
	2.9nm,0.3s,baz=204,slow=21,SNR=5.6								
URZ	**Urewera**	**17.39**	**191**	*eP*		**P**		**00 34 02.4**	**-1.5**
	95nm,0.8s								
URZ				S		**S**		**00 36 52.4**	**-4.3**
URZ	**Urewera**	**17.39**	**191**	P		**P**		**00 34 02.5**	**-1.3**
URZ				S		**S**		**00 36 52.1**	**-4.6**
CNGZ	**Carnagh Statio**	**17.43**	**188**	P		**P**		**00 34 05.5**	**+1.2**
TKGZ	**Te Karaka**	**17.44**	**189**	P		**P**		**00 34 05.7**	**+1.3**
TARZ	**Mount Tarawera**	**17.48**	**193**	P		**P**		**00 34 06.4**	**+1.5**
HLRZ	**Highlands Stat**	**17.53**	**193**	P		**P**		**00 34 07.2**	**+1.9**

RAGZ **Rawiri** 17.56 190 P P 00 34 05.6 0.0
RAR **Rarotonga** 17.57 93 P P 00 34 05.9 0.0
1.9nm,0.3s,baz=227,slow=10.0,SNR=8.4
RAR **Rarotonga** 17.57 93 *eP* P 00 34 05.8 0.0
209nm,1.2s
RAR **Rarotonga** 17.57 93 *eP* P 00 34 05.8 0.0
RAR pmax pmax
comp=Z,209nm,1.2s
RRRZ **Republican Roa** 17.58 193 P P 00 34 07.4 +1.7
HSRZ **Hossack Road** 17.61 193 P P 00 34 06.7 +0.7
GRRZ **Galatos Road** 17.68 194 P P 00 34 08.5 +1.9
HRRZ **Handcock Road** 17.68 193 P P 00 34 08.1 +1.5
RIGZ **Rimuhau** 17.71 189 P P 00 34 06.9 -0.1
RIGZ S S 00 37 02.6 +0.5
RTZ **Ruatahuna** 17.76 191 P P 00 34 06.8 -0.6
PRRZ **Plateau Road** 17.76 193 P P 00 34 06.7 -0.7
TLZ **Tolley Road** 17.79 195 P P 00 34 09.9 +2.3
WPRZ **Whakapapatarin** 17.83 193 P P 00 34 09.5 +1.6
SNGZ **Shannon Statio** 17.86 190 P P 00 34 08.6 +0.3
PRGZ **Paritu Road** 17.91 189 P P 00 34 10.5 +1.8
MTHZ **Maungataniwha** 18.01 192 P P 00 34 09.3 -0.4
RAHZ **Arahi** 18.03 191 P P 00 34 08.9 -0.9
KNZ **Kokohu** 18.04 189 P P 00 34 10.4 +0.6
MRHZ **Matea Rd** 18.08 193 P P 00 34 09.8 -0.4
WATZ **Wairara** 18.11 194 P P 00 34 11.6 +1.1
MHGZ **Mahia Peninsul** 18.13 189 P P 00 34 11.8 +1.1
HIZ **Hauiti** 18.14 197 *eP* P 00 34 13.5 +2.8
comp=Z,108nm,0.8s
HIZ **Hauiti** 18.14 197 P P 00 34 13.3 +2.5
WHHZ **Waihua** 18.16 190 P P 00 34 12.0 +1.1
RATZ **Rangitukua** 18.25 194 P P 00 34 11.9 +0.1
KATZ **Kakaramea** 18.37 194 P P 00 34 13.5 +0.5
BKZ **Black Stump Fm** 18.38 192 *eP* P 00 34 12.0 -1.0
comp=Z,68nm,0.4s
BKZ **Black Stump Fm** 18.38 192 P P 00 34 12.1 -1.0
ARHZ **Aropaoanui** 18.38 191 P P 00 34 13.0 0.0
KRVZ **Karewarewa** 18.50 194 P P 00 34 13.8 -0.3
TWVZ **Taurewa** 18.52 195 P P 00 34 14.9 +0.5
WTVZ **West Tongariro** 18.53 194 P P 00 34 13.8 -0.6
NGZ **Ngauruhoe** 18.58 194 P P 00 34 14.9 -0.1
MCHZ **McNeill Hill** 18.61 191 P P 00 34 15.1 0.0
COVZ **Chateau Observ** 18.62 194 P P 00 34 15.1 -0.2
KWHZ **Kaweka Forest** 18.65 192 P P 00 34 15.2 -0.3
TUVZ **Tukino** 18.66 194 P P 00 34 16.3 +0.6
FWVZ **Far West T-bar** 18.67 194 P P 00 34 15.5 -0.4
WHVZ **Whangaehu Hut** 18.69 194 P P 00 34 14.3 -1.7
TRVZ **Turoa** 18.71 194 P P 00 34 17.1 +0.9
VRZ **Vera Road** 18.74 196 P P 00 34 18.9 +2.6
PKVZ **Pokaka** 18.75 195 P P 00 34 16.9 +0.5
CKHZ **Cape Kidnapper** 18.75 190 P P 00 34 16.9 +0.5
MOVZ **Moawhango** 18.77 194 P P 00 34 15.3 -1.3
BHHZ **Black Hill Sta** 18.78 193 P P 00 34 14.6 -2.1
KRHZ **Kereru** 18.87 192 P P 00 34 15.8 -1.7
KAHZ **Kahuranaki** 18.92 191 P P 00 34 18.1 +0.1
PKE **Pukeiti** 19.02 198 P P 00 34 22.7 +3.9
KHEZ **Kahui Hut** 19.10 198 P P 00 34 23.9 +4.2
NBEZ **Newall Road No** 19.12 198 P P 00 34 24.1 +4.4
LREZ **Lake Rotokare** 19.15 197 P P 00 34 22.8 +2.8
PXZ **Pawanui** 19.15 191 P P 00 34 20.4 +0.4
PNHZ **Pukenui** 19.16 192 P P 00 34 19.0 -1.2
NMEZ **Namu Road** 19.25 198 P P 00 34 24.1 +3.2
WPHZ **Waipukurau** 19.26 192 P P 00 34 22.1 +1.1
WAZ **Wanganui** 19.28 195 P P 00 34 23.1 +2.0
TSZ **Takapari Road** 19.35 193 P P 00 34 21.6 -0.3
PRHZ **Porangahau** 19.42 191 P P 00 34 23.3 +0.8
KNTN **Kanton** 19.52 21 *eP* P 00 34 21.3 -2.3
comp=Z,154nm,0.9s
DVHZ **Dannevirke** 19.54 192 P P 00 34 23.2 -0.3
POWZ **Post Office Ro** 19.71 193 P P 00 34 25.7 +0.6
PRWZ **Pori Road** 19.83 192 P P 00 34 26.7 +0.6
BFZ **Birch Farm** 19.90 192 *eP* P 00 34 26.9 +0.2
comp=Z,88nm,0.4s
BFZ *eS* S 00 37 39.5 +2.3
BFZ **Birch Farm** 19.90 192 P P 00 34 25.3 -1.5
MRZ **Mangatainoka R** 20.01 193 P P 00 34 26.1 -1.7
TIWZ **Tintock** 20.06 192 P P 00 34 29.0 +0.7
OGWZ **Otaki Gorge** 20.25 194 P P 00 34 29.1 -0.8
HOWZ **Holdsworth Sta** 20.25 193 P P 00 34 29.3 -0.7
SNZO **South Karori** 20.82 194 *eP* P 00 34 34.4 -0.7
comp=Z,78nm,0.8s
TCW **Tory Channel** 20.83 195 P P 00 34 35.2 0.0
BHW **Baring Head** 20.88 194 P P 00 34 36.5 +0.9
QRZ **Quartz Range** 20.95 199 P P 00 34 36.9 +0.6
NNZ **Nelson** 21.07 197 P P 00 34 37.3 0.0
TUWZ **Tuamarina** 21.12 196 P P 00 34 38.3 +0.6
BSWZ **Blackbirch Sta** 21.40 196 P P 00 34 40.5 +0.2
THZ **Tophouse** 21.70 197 *eP* P 00 34 43.3 +0.2
comp=Z,122nm,0.5s
THZ *eS* S 00 38 03.8 -2.1
THZ **Tophouse** 21.70 197 P P 00 34 42.8 -0.3
DSZ **Denniston Nort** 22.01 199 P P 00 34 46.5 +0.6
KHZ **Kahutara** 22.15 196 *eP* P 00 34 46.1 -0.9
comp=Z,86nm,0.4s
KHZ *eS* S 00 38 11.0 -1.8
KHZ **Kahutara** 22.15 196 P P 00 34 46.1 -0.9
LHI **Lord Howe Isla** 22.44 238 P P 00 34 51.6 +1.8
baz=23,SNR=3.8
LTZ **Lake Taylor** 22.83 197 P P 00 34 44.3 -8.8
INZ **Inchbonnie** 23.02 199 P P 00 34 53.6 -1.1
AMCZ **Amberley** 23.09 196 P P 00 34 54.6 -0.8
OXZ **Oxford** 23.39 197 *eP* P 00 34 56.9 -1.2
comp=Z,117nm,0.5s
HNR **Honiara** 23.72 296 P P 00 35 00.8 -0.6
comp=Z,61nm,0.4s,baz=349,slow=2.7,SNR=4.1
HNR S S 00 38 35.8 -2.5
comp=Z,58nm,0.3s,baz=300,slow=20,SNR=2.5
RPZ **Rata Peaks** 24.03 199 P P 00 35 03.2 -0.6
comp=Z,35nm,0.4s,baz=308,slow=1.5,SNR=19
RPZ **Rata Peaks** 24.03 199 *eP* P 00 35 05.2 +1.4
comp=Z,42nm,0.6s
FOZ **Fox Glacier** 24.26 201 *eP* P 00 35 06.5 +0.7
comp=Z,95nm,0.6s
LBZ **Lake Benmore** 24.91 199 *eP* P 00 35 11.8 +0.2
comp=Z,55nm,1.1s
WKZ **Wanaka** 25.67 201 *eP* P 00 35 19.0 +0.6
MLZ **Mavora Lakes** 26.45 201 *eP* P 00 35 25.9 +0.8
comp=Z,86nm,0.5s
DCZ **Deep Cove** 26.87 202 *eP* P 00 35 29.2 +0.4
comp=Z,59nm,0.7s
WHZ **Wether Hill Ro** 26.97 201 *eP* P 00 35 30.3 +0.7
comp=Z,366nm,0.5s
TBI **Tubuai** 27.05 100 *eP* P 00 35 31.4 +0.7
comp=Z,194nm,1.2s
PAE **Paea** 27.59 88 *eP* P 00 35 35.3 -0.2
comp=Z,24nm,1.3s
PPT2 **Papeete2** 27.61 88 *eP* P 00 35 36.0 +0.2
comp=Z,228nm,1.3s
PPT **Papeete** 27.62 88 P P 00 35 35.7 0.0
comp=Z,106nm,1.0s,baz=218,slow=2.6,SNR=13
PPT **Papeete** 27.62 88 *eP* P 00 35 36.2 +0.5
PPT **Papeete** 27.62 88 *eP* P 00 35 36.3 +0.5
PPTF **Pamatai, Papee** 27.62 88 *eP* P 00 35 35.3 -0.6
comp=Z,342nm,1.3s
TIAR **Tiarei** 27.83 88 *eP* P 00 35 37.7 +0.1
comp=Z,69nm,1.3s
TVO **Taravao** 27.87 88 *eP* P 00 35 38.3 +0.3
comp=Z,72nm,1.3s
EIDS **Eidsvold** 28.11 256 P P 00 35 39.8 -0.1
baz=28,SNR=9.3
EIDS **Eidsvold** 28.11 256 *eP* P 00 35 39.7 -0.1
comp=Z,81nm,1.4s
EIDS *eP*cP PcP 00 38 36.8 +0.5
ARMA **Armidale** 28.24 245 P P 00 35 42.2 +1.1
baz=28,SNR=16
ARMA **Armidale** 28.24 245 *eP* P 00 35 42.2 +1.1
comp=Z,35nm,1.1s
MGCD **Mangrove Creek** 29.35 240 P P 00 35 52.0 +1.4
baz=30,SNR=37
PMOR **Pomariorio Ree** 29.82 83 *eP* P 00 35 54.7 -0.1
comp=Z,433nm,1.3s
VAH **Vaihoa** 30.00 84 *eP* P 00 35 55.9 -0.5
comp=Z,228nm,1.2s
RMQ **Roma** 30.25 254 P P 00 35 59.4 +0.9
baz=30,SNR=19
XMAS **Kiritimati** 31.04 44 *eP* P 00 36 04.7 -0.7
comp=Z,179nm,1.0s
CNB **Canberra Magne** 31.35 236 P P 00 36 09.1 +1.2
baz=32,SNR=84
CAN **Canberra** 31.64 237 *eP* P 00 36 11.2 +0.9
comp=Z,50nm,0.8s
CAN **Canberra** 31.64 237 *eP* P 00 36 11.2 +0.9
CAN pmax pmax
comp=Z,51nm,0.8s
YNG **Young** 31.82 239 P P 00 36 12.8 +1.0
baz=32,SNR=7.7
CMSA **Cobar Meteorol** 33.46 245 P P 00 36 26.0 +0.3
baz=34,SNR=55
QLP **Quilpie** 34.30 254 P P 00 36 32.7 -0.2
baz=34,SNR=36
PMG **Port Moresby** 34.95 284 P P 00 36 37.5 -0.9
comp=Z,71nm,0.9s,baz=93,slow=6.5,SNR=16
PMG **Port Moresby** 34.95 284 *eP* P 00 36 37.3 -1.1
comp=Z,64nm,0.8s
PMG **Port Moresby** 34.95 284 *eP* P 00 36 37.3 -1.1
PMG pmax pmax
comp=Z,64nm,0.8s
MTSU **Mount Surprise** 34.98 268 P P 00 36 38.5 -0.2
baz=35,SNR=15
TOO **Toolangi** 35.01 234 P P 00 36 39.4 +0.6
baz=35,SNR=53
TOO **Toolangi** 35.01 234 P P 00 36 39.3 +0.6
TOO pmax pmax
comp=Z,73nm,0.7s
STKA **Stephens Creek** 36.96 245 P P 00 36 55.1 +0.2
comp=Z,28nm,0.5s,baz=93,slow=11,SNR=56
STKA S S 00 42 00.2 -1.0
comp=Z,10nm,0.9s,baz=287,slow=15,SNR=5.9
STKA **Stephens Creek** 36.96 245 P P 00 36 55.4 +0.5
baz=37,SNR=41
STKA **Stephens Creek** 36.96 245 *eP* P 00 36 55.4 +0.5
comp=Z,9.3nm,0.8s
STKA *eS* S 00 42 01.0 -0.2
STKA **Stephens Creek** 36.96 245 *eP* P 00 36 55.4 +0.5
STKA *eS* S 00 42 01.0 -0.2
STKA pmax pmax
comp=Z,9.0nm,0.8s
COEN **Coen** 37.06 275 P P 00 36 55.8 0.0
baz=37,SNR=28
COEN **Coen** 37.06 275 *eP* P 00 36 55.8 0.0
comp=Z,94nm,1.1s
MCQ **Macquarie Isla** 37.32 202 P P 00 36 58.9 +1.5
baz=38,SNR=4.3
ARPS **Mount Arapiles** 37.61 237 P P 00 37 00.6 +0.6
baz=38,SNR=17
MANU **Manus Island** 38.22 295 *eP* P 00 37 05.1 -0.2
comp=Z,51nm,0.6s
QIS **Mount Isa** 38.96 263 P P 00 37 10.2 -1.0
baz=39,SNR=10
TAOE **Nuku Hiva Isla** 39.02 78 *eP* P 00 37 11.3 -0.6
comp=Z,368nm,1.4s
HTT **Hallett** 39.39 243 P P 00 37 14.6 0.0
baz=40,SNR=43
BBOO **Buckleboo** 41.72 244 P P 00 37 32.9 -0.2
baz=42,SNR=326
BBOO **Buckleboo** 41.72 244 *eP* P 00 37 32.9 -0.2
comp=Z,74nm,0.7s
JAY **Jayapura** 43.73 290 P P 00 37 48.1 -1.0
comp=Z,63nm,0.5s,baz=111,slow=10,SNR=7.3
AS01 **Alice Springs** 43.75 258 *eP* P 00 37 47.5 -1.7
AS31 **Alice Springs** 43.80 258 *eP* P 00 37 49.1 -0.4
comp=Z,20nm,0.6s
AS31 *eS* S 00 43 40.2 -0.4
ASAR **Alice Springs** 43.80 258 P P 00 37 49.1 -0.4
comp=Z,63nm,0.6s,baz=88,slow=8.2,SNR=370
ASAR PcP PcP 00 39 24.2 +0.4
comp=Z,15nm,0.6s,baz=107,slow=4.0,SNR=13
ASAR ScP ScP 00 42 25.3 +1.9
comp=Z,6.9nm,0.8s,baz=102,slow=4.6,SNR=8.6
ASAR S S 00 43 38.7 -2.0
comp=Z,7.8nm,0.9s,baz=94,slow=16,SNR=11
ASAR PKiKP PKiKP 00 46 22.6 -0.9
comp=Z,0.6nm,0.5s,baz=86,slow=1.5,SNR=4.8
WB2 **Warramunga Arr** 43.92 263 *eP* P 00 37 49.5 -1.0
WB2 *eS* S 00 43 42.2 -0.3
WRAB **Tennant Creek** 43.92 263 *eP* P 00 37 49.1 -1.4
comp=Z,70nm,1.0s
WRAB *eS* S 00 43 40.4 -2.1
WRAB **Tennant Creek** 43.92 263 *dP* P 00 37 49.5 -1.0
WRAB pmax pmax
comp=Z,63nm,1.0s
WRA **Warramunga Arr** 43.93 263 P P 00 37 49.5 -1.1
comp=Z,14nm,0.3s,baz=92,slow=6.5,SNR=305
WRA PcP PcP 00 39 24.6 +0.2
comp=Z,5.9nm,0.8s,baz=95,slow=4.0,SNR=7.1
WRA ScP ScP 00 42 27.0 +3.1
comp=Z,2.8nm,0.8s,baz=98,slow=3.7,SNR=4.8
WRA S S 00 43 40.0 -2.6
comp=Z,3.9nm,0.8s,baz=100,slow=14,SNR=10
WRA PKiKP PKiKP 00 46 22.3 -1.4
comp=Z,1.3nm,0.7s,baz=92,slow=0.8,SNR=7.1
HMH **Humu'ula Sheep** 46.45 31 *eP* P 00 38 10.0 -0.1
comp=Z,83nm,0.7s
KIP **Kipapa** 46.91 27 *eP* P 00 38 14.4 +1.3
KIP pmax pmax
comp=Z,246nm,1.2s
KDU **Kakadu** 47.39 272 P P 00 38 16.0 -0.9
baz=47,SNR=66
FORT **Forrest** 48.48 247 P P 00 38 24.3 -0.6
baz=49,SNR=139
FORT **Forrest** 48.48 247 *eP* P 00 38 24.4 -0.5
comp=Z,166nm,0.5s
FORT *eS* S 00 44 44.6 -1.1
MTN **Manton Dam** 48.59 271 P P 00 38 24.6 -1.2
baz=49,SNR=20
MTN **Manton Dam** 48.59 271 *eP* P 00 38 24.7 -1.2
comp=Z,60nm,0.6s
MTN *eS* S 00 44 48.1 +0.5
WRKA **Warakurna** 48.72 255 P P 00 38 26.3 -0.5
baz=49,SNR=319
GUMO **Guam** 49.82 311 P P 00 38 34.0 -0.8
comp=Z,98nm,0.7s,baz=181,slow=11,SNR=5.7
KNRA **Kununurra** 50.04 267 P P 00 38 36.0 -0.5
baz=50,SNR=21
FAKI **Fak Fak** 51.10 284 *eP* P 00 38 42.7 -1.7
comp=Z,93nm,1.2s
FITZ **Fitzroy Crossi** 52.36 263 P P 00 38 53.1 -0.3
baz=52,SNR=26
FITZ **Fitzroy Crossi** 52.36 263 *eP* P 00 38 53.1 -0.3
comp=Z,223nm,1.8s
SOEI **Soe** 55.95 272 *eP* P 00 39 19.8 +1.0
comp=Z,207nm,0.6s
BATI **Baumata** 56.37 272 P P 00 39 22.1 +0.6
comp=Z,141nm,0.8s,baz=198,slow=1.8,SNR=24
TNTI **Ternate** 57.09 285 *eP* P 00 39 25.9 -0.6
comp=Z,126nm,0.9s
SBA **Scott Base** 57.13 184 *eP* P 00 39 28.4 +2.7
comp=Z,44nm,0.9s
SBA **Scott Base** 57.13 184 P P 00 39 30.2 +4.5
SBA pmax pmax
comp=Z,63nm,0.8s
MBWA **Marble Bar** 57.14 258 *eP* P 00 39 26.1 -0.6
comp=Z,94nm,0.6s
MEEK **Meekatharra** 57.14 251 P P 00 39 25.8 -0.9
baz=57,SNR=38
VNDA **Vanda** 57.16 185 P P 00 39 28.1 +2.3
comp=Z,17nm,0.6s,baz=354,slow=8.1,SNR=94
VNDA **Vanda** 57.16 185 *eP* P 00 39 27.5 +1.6
comp=Z,21nm,0.8s
VNDA **Vanda** 57.16 185 *eP* P 00 39 27.5 +1.6
VNDA pmax pmax
comp=Z,21nm,0.8s
KLBR **Kellerberrin** 57.23 245 P P 00 39 26.1 -1.1
baz=57,SNR=6.6
MMRI **Maumere** 58.21 273 *eP* P 00 39 32.9 -1.2
comp=Z,156nm,1.1s
BLDU **Ballidu** 58.24 246 P P 00 39 33.6 -0.4
baz=58,SNR=21
MUN **Mundaring** 58.50 245 P P 00 39 36.1 +0.3
baz=59,SNR=8.3
MORW **Morawa** 58.50 248 P P 00 39 39.0 -0.4
baz=59,SNR=19
LUWI **Luwuk** 60.50 281 *eP* P 00 39 49.4 0.0
comp=Z,150nm,1.0s
JCJ **Chichijima** 61.20 320 P P 00 39 53.0 -0.7
comp=Z,86nm,0.7s,baz=285,slow=15,SNR=4.2
CBIJ **Chichi jima** 61.20 320 P P 00 39 53.0 -0.7
GIRL **Giralia** 61.81 255 P P 00 39 57.4 -0.4
baz=62,SNR=30
CASY **Casey** 63.08 205 *eP* P 00 40 05.9 +0.7
comp=Z,61nm,0.9s
DNP **Denpasar** 64.75 270 P P 00 40 16.9 +0.1
JAGI **Jajag, Banyuwa** 65.80 270 *eP* P 00 40 21.0 -2.4
comp=Z,80nm,0.9s
QSPA **South Pole Qui** 68.86 180 P P 00 40 43.2 +1.8
comp=Z,67nm,0.7s,baz=40,slow=1.4,SNR=160
QSPA **South Pole Qui** 68.86 180 *eP* P 00 40 43.1 +1.7
comp=Z,154nm,0.7s
UGM **Wangaana** 69.37 269 *eP* P 00 40 44.4 -0.9
comp=Z,76nm,0.6s
KKM **Kota Kinabalu** 69.38 285 P P 00 40 44.0 -1.4
MJAR **Matsushiro Arr** 70.44 324 P P 00 40 50.2 -0.9
comp=Z,20nm,0.7s,baz=167,slow=6.0,SNR=37
MAJO **Matsushiro** 70.44 324 *eP* P 00 40 49.9 -1.2
comp=Z,24nm,0.8s
MAJO **Matsushiro** 70.44 324 ⇓*iP* P 00 40 50.0 -1.1
MAJO pmax pmax
comp=Z,22nm,0.8s
MAT **Matsushiro** 70.44 324 P P 00 40 50.2 -0.9
MJB9 **Matsu-Tunnel** 70.44 324 *eP* P 00 40 50.4 -0.7
comp=Z,24nm,0.8s
SBUM **Sibu** 71.56 280 P P 00 40 58.0 -0.1
ERM **Erimo** 72.16 331 ⇑*eP* P 00 41 00.7 -0.2
ERM pmax pmax
comp=Z,374nm,1.5s
JNU **Nakatsue** 72.40 317 *eP* P 00 41 01.4 -1.2
comp=Z,49nm,1.0s
LEM **Lembang** 72.45 269 P P 00 41 03.7 +0.2
LEM pmax pmax
comp=Z,88nm,1.1s
YOJ **Yonaguni jima** 72.67 306 *eP* P 00 41 04.1 -0.2
comp=Z,73nm,0.8s
ADK **Adak** 72.80 1 *eP* P 00 41 02.8 -1.6
comp=Z,46nm,0.6s
ADK **Adak** 72.80 1 *eP* P 00 41 02.8 -1.6
ADK pmax pmax
comp=Z,46nm,0.6s
KSM **Kuching** 72.94 278 P P 00 41 06.0 -0.1
XMIS **Christmas Isla** 73.07 265 *eP* P 00 41 06.9 0.0
comp=Z,60nm,1.0s
ATKA **Atka Island** 73.20 3 *eP* P 00 41 05.6 -1.0
comp=Z,46nm,0.8s
TWG **Pinlang** 73.28 303 *eP* P 00 41 05.9 -2.0
comp=Z,177nm,0.6s
YULB **Yu-li** 73.41 304 *eP* P 00 41 06.3 -2.3
comp=Z,26nm,0.6s
NACB **Ninganchiao** 73.60 305 *eP* P 00 41 08.7 -0.9
comp=Z,87nm,1.0s
TPUB **Ta-pu** 73.88 303 *eP* P 00 41 09.6 -1.7
comp=Z,165nm,0.8s
SSLB **Suanglung** 73.88 304 *eP* P 00 41 09.3 -2.0
comp=Z,55nm,0.8s
YHNB **Yeheng** 74.03 305 *eP* P 00 41 11.3 -0.9
comp=Z,53nm,0.9s
UNV **Unalaska Valle** 75.47 7 *eP* P 00 41 18.2 -1.2
comp=Z,49nm,0.8s
YSS **Yuzh-Sakhalins** 76.27 334 ⇓*eP* P 00 41 25.1 +1.1
YSS pmax pmax
comp=Z,143nm,1.8s
QZH **Quanzhou** 76.32 304 ⇓*iP* P 00 41 24.8 0.0
QZH S S 00 50 28.0 +2.6
QZH pmax pmax
comp=Z,290nm,7.3s
TJN **Taejon** 76.70 318 ⇓*eP* P 00 41 25.0 -1.6
PETK **Petropavlovsk-** 76.81 346 P P 00 41 26.3 -0.5
comp=Z,13nm,0.8s,baz=148,slow=8.9,SNR=13
PETK **Petropavlovsk-** 76.81 346 *eP* P 00 41 26.0 -0.8
PETK **Petropavlovsk-** 76.81 346 *eP* P 00 41 26.0 -0.8
KSRS **Korea Array** 77.04 319 P P 00 41 28.9 +0.4
comp=Z,8.3nm,0.3s,baz=139,slow=6.3,SNR=21
KSAR **Wonju Array Be** 77.05 319 P P 00 41 28.9 +0.4
KSAR **Wonju Array Be** 77.05 319 P P 00 41 28.9 +0.4
VLA **Vladivostok** 78.53 325 ⇑*eP* P 00 41 37.3 +0.9
VLA pmax pmax
comp=Z,20nm,0.7s
MSHR **Mys Shultsa** 78.55 325 ⇑*iP* P 00 41 37.3 +0.8
CIS **Catalina Islan** 79.00 48 P P 00 41 39.8 +0.6
baz=236
MYKOM **Kota Tinggi** 79.03 276 P P 00 41 40.0 +0.3
USA0B **Ussuriysk Arra** 79.23 326 *eP* P 00 41 41.0 +0.9
comp=Z,78nm,1.4s
USRK **Ussuriysk Ar.** 79.23 326 P P 00 41 40.2 +0.2
comp=Z,20nm,0.8s,baz=126,slow=2.9,SNR=26
KMRM **Mail Ridge** 79.67 40 *eP* P 00 41 44.9 +2.3
comp=Z,38nm,0.8s
BAR **Barrett** 79.82 49 *eP* P 00 41 45.3 +1.8
comp=Z,16nm,1.5s
NJ2 **Nanjing** 79.89 310 *eP* P 00 41 44.0 +0.2
NJ2 pmax pmax
comp=Z,46nm,1.0s
MURC **Murrieta** 79.96 48 P P 00 41 44.8 +0.6
baz=236
BFSC **Mount Baldy Ra** 79.99 47 P P 00 41 45.0 +0.5
baz=236
MONP2 **Monument Peak** 80.11 49 P P 00 41 46.3 +1.0
baz=237,SNR=15
EDW2 **Edwards Air Fo** 80.12 47 P P 00 41 45.7 +0.6
baz=236
O02D **Mt. Diablo Mer** 80.19 40 P P 00 41 46.8 +1.5
baz=232
IKP **In-Ko-Pah, Jac** 80.20 49 P P 00 41 46.7 +1.1
baz=237,SNR=7.4
ISA **Isabella, Lake** 80.24 46 *eP* P 00 41 47.3 +1.6
ISA *epP* pP 00 43 43.7 +0.5
ISA **Isabella, Lake** 80.24 46 *eP* P 00 41 47.3 +1.6
ISA **Isabella, Lake** 80.24 46 P P 00 41 46.5 +0.9
baz=235
FRD **Ford Ranch, An** 80.31 48 P P 00 41 46.9 +0.8
baz=237,SNR=8.4
PFO **Pinyon Flats O** 80.47 48 P P 00 41 48.0 +1.0
baz=237
AFDM **Forest Hills D** 80.55 42 *eP* P 00 41 48.5 +1.4
comp=Z,34nm,1.9s
SWSC **Sam W. Stewart** 80.58 49 P P 00 41 48.2 +0.8
baz=237
QIZ **Qiongzhong** 80.62 295 P P 00 41 47.3 -0.6
QIZ S S 00 51 14.8 +4.4
QIZ pmax pmax
comp=Z,290nm,6.9s
N02D **Trinity Center** 80.73 39 P P 00 41 49.6 +1.4
baz=232
MDJ **Mudanjiang** 80.77 325 P P 00 41 49.0 +0.9
MDJ pmax pmax
comp=Z,38nm,0.8s
MDJ pmax pmax
comp=Z,620nm,5.2s
MDJ **Mudanjiang** 80.77 325 *eP* P 00 41 48.0 -0.1
comp=Z,31nm,1.0s
O03E **Paynes Creek** 80.86 40 P P 00 41 50.2 +1.4
baz=232
PMSA **Palmer Station** 80.87 157 P P 00 41 49.9 +1.6
comp=Z,13nm,0.7s,baz=236,slow=4.0,SNR=6.4
PMSA **Palmer Station** 80.87 157 *eP* P 00 41 49.5 +1.2
comp=Z,38nm,0.7s
M02C **Callahan** 80.91 39 P P 00 41 50.1 +1.1
baz=231
CWC **Cottonwood Cre** 80.95 45 P P 00 41 50.7 +1.2
baz=235
BELC **Belle Mtn. Jos** 81.01 48 P P 00 41 51.1 +1.3
baz=237
MPMC **Manual Prospec** 81.12 46 P P 00 41 51.3 +0.9
baz=236
GSC **Goldstone, Bar** 81.17 47 *eP* P 00 41 51.7 +1.2
GSC *epP* pP 00 43 48.7 +0.4
GSC **Goldstone, Bar** 81.17 47 *eP* P 00 41 51.7 +1.2
TIN **Tinemaha, Big** 81.20 45 P P 00 41 51.7 +1.0
baz=235
BC3 **Big Chuckawall** 81.20 49 P P 00 41 51.9 +1.2
baz=238
YBH **Yreka Blue Hor** 81.20 39 P P 00 41 51.6 +1.0
comp=Z,12nm,0.7s,baz=204,slow=2.1,SNR=34
YBH **Yreka Blue Hor** 81.20 39 *eP* P 00 41 52.2 +1.7
comp=Z,13nm,0.6s
HEC **Hector,Ludlow** 81.23 47 P P 00 41 51.5 +0.7
baz=237,SNR=7.0
GLA **Glamis** 81.32 50 P P 00 41 52.7 +1.4
baz=238
J01E **Myrtle Point** 81.40 37 P P 00 41 52.4 +1.1
baz=230
PNTR **Pine Nut** 81.49 42 *eP* P 00 41 53.8 +1.5
comp=Z,18nm,0.6s
PNTR *epP* pP 00 43 53.3 +3.0
KDAK **Kodiak Island** 81.64 14 P P 00 41 52.2 0.0
comp=Z,12nm,0.6s,baz=228,slow=4.2,SNR=8.5
GMRC **Granite Mounta** 81.67 48 P P 00 41 53.9 +0.7
baz=237
IRM **Iron Mountain** 81.69 49 P P 00 41 54.2 +1.1
baz=238,SNR=6.3
GRAC **Grapevine Rang** 81.73 45 P P 00 41 54.3 +1.0
baz=236
L04D **Klamath Falls** 81.74 39 P P 00 41 53.9 +0.6
baz=232
M04C **Macdoel** 81.75 39 P P 00 41 54.3 +0.9
baz=232
FURC **Furnace Creek,** 81.77 46 P P 00 41 54.1 +0.7
baz=236
TUQ **Turquoise Moun** 81.84 47 P P 00 41 54.6 +0.6
baz=237,SNR=5.0
SHOC **Shoshone, Teco** 81.86 47 P P 00 41 54.6 +0.7

baz=237
Y12C Blythe 81.91 49 eP P 00 41 55.9 +1.7
comp=Z,9.5nm,0.6s
Y12C Blythe 81.91 49 P P 00 41 55.3 +1.1
baz=238
113A Mohawk Valley, 81.93 50 eP P 00 41 56.0 +1.7
comp=Z,10nm,0.9s
113A ePP pP 00 43 54.8 +2.3
NV01 Mina Array Sit 81.94 44 eP P 00 41 55.3 +0.7
NV01 ePP pP 00 43 51.9 -0.8
NVAR Mina Array Bea 81.94 44 P P 00 41 55.3 +0.7
comp=Z,8.1nm,0.6s,baz=223,slow=8.4,SNR=30
NVAR pP pP 00 43 49.7 -3.0
comp=Z,1.8nm,0.8s,baz=224,slow=7.6,SNR=3.2
NVAR PKKPbc PKKPbc 01 00 22.3 +0.9
comp=Z,2.8nm,0.8s,baz=98,slow=3.2,SNR=6.8
NV11 Mina Array Sit 82.03 44 eP P 00 41 56.1 +1.1
NV11 ePP pP 00 43 52.9 -0.2
I03D Drain, OR 82.07 37 P P 00 41 56.0 +1.2
baz=231
214A Organ Pipe Nat 82.21 52 P P 00 41 57.0 +1.2
baz=239
LDFC Landfair 82.21 48 eP P 00 41 57.3 +1.4
comp=Z,23nm,0.8s
LDFC ePP pP 00 43 54.2 +0.1
NEE2 Needles Airpor 82.38 48 P P 00 41 57.7 +1.1
baz=238
WHN Wuhan 82.40 307 ⇓P P 00 41 57.0 +0.3
KVN Kaiserville 82.42 43 eP P 00 41 57.9 +1.0
comp=Z,12nm,0.6s
KVN ePP pP 00 43 57.1 +1.9
KVN Kaiserville 82.42 43 eP P 00 41 57.9 +1.0
KVN pmax pmax
comp=Z,12nm,0.6s
TPNV Topopah Spring 82.45 46 eP P 00 41 58.3 +1.2
comp=Z,11nm,0.7s
TPNV ePP pP 00 43 58.8 +3.3
TPNV Topopah Spring 82.45 46 eP P 00 41 58.3 +1.2
TPNV pmax pmax
comp=Z,11nm,0.7s
TPNV Topopah Spring 82.45 46 P P 00 41 57.7 +0.6
baz=237,SNR=5.9
PDMCI Parker Dam,Lak 82.47 49 P P 00 41 58.2 +1.2
baz=238
J04D Umpqua Nationa 82.49 38 P P 00 41 58.1 +0.9
baz=232
CN2 Changchun 82.51 323 eP P 00 41 56.8 -0.2
CN2 pmax pmax
comp=Z,40nm,1.4s
I04A Tendick Farm, 82.66 37 P P 00 41 58.5 +0.7
baz=232
MOD Modoc Plateau 82.73 40 eP P 00 41 59.6 +1.2
comp=Z,11nm,0.6s
KLR Kul'dur 82.84 330⇑eP P 00 41 59.1 +0.6
H04D Lebanon 82.93 37 P P 00 42 00.0 +0.9
baz=231
SHPR Sheep Range 82.94 47 eP P 00 42 01.0 +1.4
SHPR ePP pP 00 43 58.0 -0.1
J05D Fort Rock, OR 83.02 38 P P 00 42 01.0 +1.3
baz=232
KULM Kulim 83.30 278 P P 00 42 01.0 -0.7
TIA Tai'an 83.33 313 P P 00 42 01.5 +0.2
TIA pmax pmax
comp=Z,29nm,1.6s
CNPM China Poot 83.52 14 eP P 00 42 01.7 -0.1
comp=Z,86nm,1.3s
I05D Terrebonne, OR 83.60 37 P P 00 42 03.4 +0.9
baz=232
R11A Troy Canyon, C 83.66 45 P P 00 42 04.1 +1.0
baz=237
BMN Battle Mountai 83.76 42 eP P 00 42 04.1 +0.5
comp=Z,6.7nm,0.8s
BRLK Bradley Lake 83.81 14 eP P 00 42 03.0 -0.2
comp=Z,34nm,0.8s
TUC Tucson 83.87 52 eP P 00 42 05.3 +1.1
comp=Z,7.2nm,0.8s
TUC Tucson 83.87 52 P P 00 42 06.9 +2.7
TUC pmax pmax
comp=Z,13nm,1.0s
TUC Tucson 83.87 52 P P 00 42 05.8 +1.6
baz=240
PSI Prapat 83.98 275 eP P 00 42 03.9 -1.3
comp=Z,46nm,1.0s
PSI Prapat 83.98 275 eP P 00 42 03.9 -1.3
PSI pmax pmax
comp=Z,46nm,1.0s
SKLT Songkhla 84.03 280 P P 00 42 07.3 +2.1
comp=Z,73nm,1.1s,comp=Z,1μm
WVOR Wild Horse Val 84.04 40 eP P 00 42 04.9 +0.1
WVOR ePP pP 00 44 08.2 +4.3
WVOR Wild Horse Val 84.04 40 eP P 00 42 04.9 +0.1
SVW2 Sparrevohn 84.10 11 eP P 00 42 03.6 -0.9
comp=Z,11nm,0.7s
E04D Cinebar 84.30 35 P P 00 42 06.9 +1.0
baz=231
LCMT Little Creek M 84.51 47 eP P 00 42 08.5 +1.2
LCMT ePP pP 00 44 09.8 +3.4
D03D Eldon 84.64 34 P P 00 42 08.7 +1.2
baz=231
J08A Circle Bar Ran 84.68 39 eP P 00 42 09.1 +1.1
J08A ePP pP 00 44 07.4 +0.3
GSI Gunungsitoli 84.69 273 eP P 00 42 08.6 +0.1
comp=Z,101nm,0.9s
CCUT Cedar City 84.71 46 eP P 00 42 10.0 +1.6
CCUT ePP pP 00 44 10.4 +2.8
KNB Kanab 84.80 47 eP P 00 42 10.2 +1.5
KNB ePP pP 00 44 11.9 +3.9
KNB Kanab 84.80 47 eP P 00 42 10.3 +1.5
PSUT Pine Spring 84.90 45 eP P 00 42 10.2 +0.9
comp=Z,13nm,1.4s
RC01 Rabbit Creek A 85.26 14 eP P 00 42 09.8 -0.4
comp=Z,167nm,1.8s
HPIG 85.29 59 eP P 00 42 12.8 +1.4
comp=Z,5.2nm,0.8s
SUA Susitna One 85.38 13 eP P 00 42 10.3 -0.6
comp=Z,39nm,0.7s
G08A Pilot Rock 85.53 38 eP P 00 42 13.2 +1.2
comp=Z,11nm,0.7s
G08A ePP pP 00 44 11.6 +0.1
A04D Lummi Island 85.59 33 P P 00 42 13.1 +1.1
baz=231
B05A Bryant 85.62 34 P P 00 42 12.9 +0.7
baz=231
GLI Glacier Island 85.68 15 eP P 00 42 11.8 -0.4
comp=Z,50nm,0.8s
LTY Liberty 85.76 35 eP P 00 42 13.7 +0.7
comp=Z,7.3nm,0.9s
MTPU Mount Pierson 85.77 47 eP P 00 42 15.8 +2.2
MTPU ePP pP 00 44 17.0 +3.8
E07A Sunnyside 85.78 36 eP P 00 42 14.3 +1.3
comp=Z,80nm,1.9s
PMR Palmer 85.84 14 eP P 00 42 12.2 -0.7
comp=Z,20nm,0.8s
PMR Palmer 85.84 14 eP P 00 42 12.2 -0.7
PMR pmax pmax
comp=Z,20nm,0.8s
HAWA Hanford 85.86 37 eP P 00 42 14.1 +0.7
comp=Z,13nm,0.9s
HAWA ePP pP 00 44 12.4 -0.6
SYO Syowa Base 85.91 193⇑iP P 00 42 12.8 -0.5
SYO Syowa Base 85.91 193⇓iPcP PcP 00 42 14.8 -0.3
ENH Enshi 85.96 304 eP P 00 42 14.2 -0.1
comp=Z,91nm,1.2s
BJI Beijing 85.99 316 P P 00 42 14.3 +0.2
BJI sP sP 00 45 12.5 +3.0
BJI S S 00 52 06.3 +4.0
BJI pmax pmax
comp=Z,22nm,2.2s
ZAIG Zacatecas 86.03 64 eP P 00 42 17.1 +1.9
comp=Z,8.9nm,1.0s
ANM Nome 86.11 6 eP P 00 42 14.1 -0.1
comp=Z,19nm,1.6s
ANM Nome 86.11 6 eP P 00 42 14.1 -0.1
ANM pmax pmax
comp=Z,19nm,1.6s
E08A Dider Farm, El 86.18 37 eP P 00 42 16.0 +1.1
E08A ePP pP 00 44 14.8 +0.1
121A Cookes Peak, D 86.20 53 P P 00 42 17.7 +2.1
baz=242
DIV Divide 86.22 15 eP P 00 42 14.7 -0.2
comp=Z,31nm,1.0s
BMO Blue Mountains 86.23 39 eP P 00 42 15.8 +0.4
BMO ePP pP 00 44 13.9 -1.2
BMRM Bremner River 86.37 16 eP P 00 42 15.5 0.0
comp=Z,18nm,0.7s
SCM Sheep Creek Mo 86.46 14 eP P 00 42 15.6 -0.4
comp=Z,63nm,0.7s
SCM Sheep Creek Mo 86.46 14 eP P 00 42 15.6 -0.4
SCM pmax pmax
comp=Z,63nm,0.7s
KLU Klutina 86.50 15 eP P 00 42 16.0 -0.2
comp=Z,17nm,1.0s
GYA Guiyang 86.50 300 eP P 00 42 17.3 +0.2
GYA pP pP 00 44 19.3 +2.4
GYA sP sP 00 45 14.0 +1.5
GYA PP PP 00 45 52.0 +2.8
GYA SKS SKSac 00 51 50.8 -0.8
GYA S S 00 52 06.5 -1.5
GYA pmax pmax
comp=Z,20nm,1.0s
D08A Wollman Farm, 86.59 36 eP P 00 42 17.8 +1.0
comp=Z,15nm,0.8s
D08A ePP pP 00 44 16.8 +0.1
E09A Wood Farm, Sta 86.71 37 eP P 00 42 18.3 +0.9
E09A ePP pP 00 44 17.1 -0.2
CAST Castle Rocks 86.89 12 eP P 00 42 15.9 -1.9
comp=Z,27nm,0.8s
F10A Beach Ranch, E 86.92 38 eP P 00 42 18.7 +0.2
comp=Z,24nm,0.8s
F10A ePP pP 00 44 18.0 -0.5
SEY Seymchan 86.93 347⇑iP P 00 42 17.9 -0.1
TMUT Trail Mountain 87.06 46 eP P 00 42 21.2 +1.5
TMUT ePP pP 00 44 20.4 +0.7
B08A Colville Reser 87.14 35 eP P 00 42 19.6 +0.2
comp=Z,16nm,0.7s
HLID Hailey 87.24 41 eP P 00 42 21.2 +0.9
HLID ePP pP 00 44 19.9 -0.4
HLID Hailey 87.24 41 P P 00 42 21.1 +0.9
baz=237
TRF Thorofare Moun 87.26 12 eP P 00 42 18.4 -1.4
comp=Z,67nm,0.7s
PBKT Sadao Pong 87.30 289 P P 00 42 22.3 +1.5
HVU Hansel Valley 87.31 43 eP P 00 42 21.2 +0.6
HVU ePP pP 00 44 20.7 0.0
SNAA Sanae 87.32 179 P P 00 42 20.2 +0.1
SNAA Sanae 87.32 179 P P 00 42 20.0 -0.1
comp=Z,7.8nm,0.8s,baz=201,slow=8.2,SNR=36
SNAA Sanae 87.32 179 eP P 00 42 20.2 +0.1
SNAA ePP pP 00 44 22.9 +2.8
SNAA Sanae 87.32 179⇑eP P 00 42 20.5 +0.5
C09A Chrisman Ranch 87.39 36 eP P 00 42 21.1 +0.6
comp=Z,12nm,0.6s
SRU San Rafael Swe 87.43 46 eP P 00 42 22.2 +1.0
SRU ePP pP 00 44 22.2 +0.8
HARP HAARP 87.47 15 eP P 00 42 20.8 +0.1
comp=Z,32nm,0.7s
VNA3 Neumayer Olymp 87.47 176 P P 00 42 20.9 +0.1
RND Reindeer 87.52 13 eP P 00 42 20.1 -0.8
comp=Z,71nm,0.7s
RND ePP pP 00 44 24.3 +3.1
RND Reindeer 87.52 13 eP P 00 42 20.1 -0.8
RND pmax pmax
comp=Z,71nm,0.7s
DHY Denali Highway 87.54 14 eP P 00 42 20.7 -0.4
comp=Z,13nm,0.8s
MNTX Cornudas Mount 87.63 55 eP P 00 42 23.0 +0.8
MNTX ePP pP 00 44 21.3 -1.1
MNTX Cornudas Mount 87.63 55 P P 00 42 23.2 +1.1
baz=244
P18A Preston Nutter 87.87 46 eP P 00 42 24.8 +1.3
comp=Z,23nm,1.6s
PAX Paxson 87.88 14 eP P 00 42 21.7 -0.9
comp=Z,10nm,0.9s
PAX Paxson 87.88 14 eP P 00 42 21.7 -0.9
PAX pmax pmax
comp=Z,10.0nm,0.9s
VNA2 Neumayer--Watz 87.91 177 P P 00 42 23.2 +0.5
baz=186,slow=3.7
TX31 Lajitas Ar. Si 87.92 58 eP P 00 42 23.9 +0.2
TX31 ePP pP 00 44 25.2 +1.2
TXAR Lajitas Array 87.92 58 P P 00 42 25.1 +1.5
comp=Z,7.0nm,0.9s,baz=217,slow=5.8,SNR=50
TXAR pP pP 00 44 21.6 -2.3
comp=Z,2.4nm,1.0s,baz=211,slow=4.9,SNR=2.4
TXAR PKKPbc PKKPbc 01 00 07.0 +0.3
comp=Z,2.5nm,0.6s,baz=143,slow=2.2,SNR=28
NVL N'lazarevskaya 87.98 183⇑iP P 00 42 24.0 +1.0
NVL pmax pmax
comp=Z,26nm,0.7s
PV10 Paradox Valley 88.08 47 eP P 00 42 25.1 +0.7
PV10 ePP pP 00 44 27.2 +2.4
XAN Xi'an 88.10 308 P P 00 42 24.8 +0.5
XAN pP pP 00 44 27.8 +3.1
XAN pmax pmax
comp=Z,36nm,1.4s
UTTA Uttaradit 88.12 290 P P 00 42 26.0 +1.4
VNA1 Neumayer--Stat 88.14 177 P P 00 42 24.3 +0.6
HYT Haines Junctio 88.23 19 eP P 00 42 24.9 +0.6
comp=Z,18nm,0.9s
NEW Newport 88.28 36 P P 00 42 25.0 +0.2
comp=Z,2.0nm,0.7s,baz=199,slow=3.9,SNR=8.2
NEW pP pP 00 44 23.6 -1.7
comp=Z,1.3nm,0.8s,baz=221,slow=7.6,SNR=1.5
NEW Newport 88.28 36 eP P 00 42 25.1 +0.2
comp=Z,4.0nm,0.8s
NEW pP pP 00 44 23.6 -1.7
NEW Newport 88.28 36 eP P 00 42 25.1 +0.3
NEW *PP pP 00 44 23.6 -1.7
NEW pmax pmax
comp=Z,4.0nm,0.8s
NEW Newport 88.28 36 P P 00 42 25.0 +0.3
baz=235
ANMO Albuquerque 88.30 51 P P 00 42 26.0 +0.6
comp=Z,3.1nm,0.9s,baz=196,slow=6.0,SNR=6.5
ANMO Albuquerque 88.30 51 eP P 00 42 26.0 +0.6
ANMO Albuquerque 88.30 51⇑iP P 00 42 26.2 +0.8
ANMO pmax pmax
comp=Z,4.0nm,1.0s
ANMO Albuquerque 88.30 51 P P 00 42 25.9 +0.5
baz=243
MLY Manley 88.60 11 eP P 00 42 24.4 -1.5
comp=Z,18nm,0.7s
WRH Wood River Hil 88.62 13 eP P 00 42 25.0 -0.9
comp=Z,46nm,0.7s
DOT Dot Lake 88.79 15 eP P 00 42 26.7 -0.1
comp=Z,18nm,0.7s
HDA Harding Lake 88.80 13 eP P 00 42 25.8 -1.0
comp=Z,43nm,0.7s
HDA Harding Lake 88.80 13 P P 00 42 25.7 -1.0
baz=210,SNR=38
CCB Clear Creek Bu 88.83 13 eP P 00 42 25.6 -1.3
comp=Z,42nm,0.7s
SUKH Sukhothai 88.83 289 P P 00 42 29.5 +1.5
MCMT McKenzie Canyo 88.87 40 eP P 00 42 28.7 +0.9
MCMT ePP pP 00 44 28.8 +0.3
WHY Whitehorse 88.91 20 eP P 00 42 27.8 +0.3
comp=Z,15nm,0.8s
DLBC Dease Lake 88.93 23 eP P 00 42 28.4 +0.8
comp=Z,12nm,0.9s
HIA Hailar 88.94 325⇑iP P 00 42 27.6 -0.2
HIA pmax pmax
comp=Z,31nm,2.3s
IM3 Indian Mountai 88.95 10 eP P 00 42 25.8 -1.6
IM3 ePP pP 00 44 32.5 +4.4
TCOL CIGO, UAF Yank 89.02 13 P P 00 42 26.5 -1.2
baz=209,SNR=9.4
MDM Murphy Dome 89.02 12 eP P 00 42 26.4 -1.4
comp=Z,36nm,0.8s
COLA College 89.02 13 eP P 00 42 26.2 -1.5
comp=Z,52nm,0.7s
COLA College 89.02 13 eP P 00 42 26.2 -1.5
COLA pmax pmax
comp=Z,52nm,0.7s
SCRK Sand Creek 89.09 15 eP P 00 42 28.2 -0.1
comp=Z,14nm,0.8s
IL1 Eielson Array 89.13 13 eP P 00 42 26.9 -1.4
ILAR Eielson Array 89.13 13 P P 00 42 27.2 -1.1
comp=Z,12nm,0.7s,baz=221,slow=5.6,SNR=176
ILAR pP pP 00 44 26.0 -3.0
comp=Z,6.2nm,1.2s,baz=224,slow=5.0,SNR=2.9
ILAR PKiKP PKiKP 00 47 22.1 -0.9
comp=Z,0.6nm,0.7s,baz=266,slow=2.7,SNR=5.2
ILAR PKKPbc PKKPdf 01 00 02.5 +2.1
comp=Z,0.4nm,0.4s,baz=346,slow=2.9,SNR=6.8
ILB Eielson Array 89.13 13 eP P 00 42 27.1 -1.2
KMI Kunming 89.16 297 P P 00 42 30.5 +0.9
KMI pmax pmax
comp=Z,24nm,1.1s
KMI pmax pmax
comp=Z,320nm,3.1s
PLCA Paso Flores 89.20 134 P P 00 42 30.9 +1.4
comp=Z,3.0nm,0.9s,baz=283,slow=6.3,SNR=5.5
PLCA PKKPbc PKKPbc 01 00 03.2 -0.5
comp=Z,1.5nm,0.8s,baz=108,slow=3.2,SNR=3.7
PLCA Paso Flores 89.20 134 P P 00 42 30.9 +1.4
PLCA ePP pP 00 44 31.5 +1.4
PLCA PKKPbc PKKPbc 01 00 03.2 -0.5
LAMP Lampang 89.23 290 P P 00 42 31.4 +1.6
S22A 4UR Ranch, Cre 89.32 49 P P 00 42 30.6 +0.4
baz=242
POKR Poker Plat Res 89.32 13 P P 00 42 27.8 -1.4
baz=209,SNR=12
PAYA Payao 89.34 291 P P 00 42 31.5 +1.1
REDW Red Top Meadow 89.35 42 eP P 00 42 30.7 +0.6
comp=Z,9.1nm,0.8s
REDW ePP pP 00 44 30.9 0.0
TPAW Teton Pass 89.35 42 eP P 00 42 30.9 +0.7
comp=Z,7.5nm,0.8s
TPAW ePP pP 00 44 31.9 +1.0
FXWY Fox Creek 89.38 42 eP P 00 42 31.3 +1.0
FXWY ePP pP 00 44 31.1 +0.1
HHC Hu-ho-hao-te 89.43 315 eP P 00 42 30.0 -0.4
HHC pmax pmax
comp=Z,19nm,0.8s
SNOW Snow King Moun 89.46 42 eP P 00 42 31.9 +1.2
comp=Z,13nm,0.6s
O20A White River Ci 89.47 46 eP P 00 42 31.9 +1.2
comp=Z,33nm,1.9s
O20A White River Ci 89.47 46 P P 00 42 30.9 +0.2
baz=242
LNIG Linares 89.49 63 eP P 00 42 31.3 +0.3
comp=Z,11nm,0.9s
LNIG ePP pP 00 44 33.4 +1.8
IMW Indian Meadow 89.56 42 eP P 00 42 32.4 +1.3
IMW ePP pP 00 44 32.3 +0.3
MOOW Moose Ponds 89.61 42 eP P 00 42 31.8 +0.5
MOOW ePP pP 00 44 32.2 +0.1
LOHW Long Hollow 89.63 42 eP P 00 42 32.4 +1.0
comp=Z,7.0nm,0.6s
LOHW ePP pP 00 44 31.4 -0.8
BILL Bilibino 89.68 354 eP P 00 42 30.4 -0.4
comp=Z,11nm,1.0s
BILL Bilibino 89.68 354⇑iP P 00 42 30.6 -0.2
BILL pmax pmax
comp=Z,40nm,2.4s
QLMT Earthquake Lak 89.73 41 eP P 00 42 33.5 +1.7
QLMT ePP pP 00 44 33.5 +0.8
RDOG Red Dog Mine 89.75 6 eP P 00 42 31.2 +0.1
comp=Z,12nm,0.9s
CM01 Chiang Mai Arr 89.78 290 eP P 00 42 32.4 0.0
FLWY Flagg Ranch 89.80 42 eP P 00 42 33.6 +1.4
FLWY ePP pP 00 44 33.6 +0.5
CM31 Chiang Mai Arr 89.81 290 PcP P 00 42 34.3 +1.8
SNR=10.0
CMAR Chiang Mai Arr 89.81 290 P P 00 42 33.7 +1.2
comp=Z,16nm,0.8s,baz=129,slow=3.0,SNR=76
BW06 Boulder Array 89.87 43 eP P 00 42 32.6 0.0
comp=Z,8.2nm,0.7s
BW06 Boulder Array 89.87 43 P P 00 42 32.5 0.0
baz=241,SNR=13
PD31 Pinedale Array 89.87 43 eP P 00 42 32.9 +0.3
PDAR Pinedale Array 89.87 43 P P 00 42 33.0 +0.4
comp=Z,7.5nm,0.6s,baz=212,slow=3.6,SNR=77
PDAR PKKPbc PKKPbc 01 00 01.5 -1.1
comp=Z,1.3nm,0.7s,baz=76,slow=3.6,SNR=13
PDAR Pinedale Array 89.87 43 eP P 00 42 32.4 -0.1
PDAR PKKPbc PKKPbc 01 00 01.5 -1.1
SMCO Snowmass 89.88 48 eP P 00 42 34.0 +1.0
comp=Z,23nm,1.8s
YMR Madison River 89.94 41 eP P 00 42 34.6 +1.8
YMR ePP pP 00 44 34.6 +1.0
CMMT Chiang Mai 89.94 290 P P 00 42 34.1 +1.0
CHTO Chiang Mai 89.94 290 eP P 00 42 33.7 +0.6
comp=Z,25nm,0.9s
CHTO Chiang Mai 89.94 290 PcP P 00 42 34.1 +1.0
SNR=19
CHTO Chiang Mai 89.94 290 eP P 00 42 33.7 +0.6
CHTO pmax pmax
comp=Z,25nm,0.9s
CHTO Chiang Mai 89.94 290 P P 00 42 34.2 +1.0
BOZ Bozeman (W) 90.00 40 P P 00 42 33.3 +0.3
baz=239,SNR=5.2
H17A Grant Village 90.04 42 eP P 00 42 35.5 +2.2
comp=Z,6.5nm,0.9s
H17A ePP pP 00 44 36.4 +2.2
H17A Grant Village 90.04 42 P P 00 42 34.0 +0.7
baz=240,SNR=5.5
SDCO Great Sand Dun 90.25 49 eP P 00 42 36.2 +1.7
SDCO Great Sand Dun 90.25 49 P P 00 42 35.6 +1.1
baz=243
DAWY Dawson 90.30 16 eP P 00 42 33.4 -0.4
comp=Z,19nm,0.8s
BTO Baotou 90.35 314 eP P 00 42 34.5 -0.2
EGAK Eagle 90.44 15 eP P 00 42 34.1 -0.3
comp=Z,21nm,0.7s
CMIG Matias Romero 90.44 72 P P 00 42 37.0 +1.5
comp=Z,3.2nm,0.7s,baz=256,slow=6.3,SNR=3.9
HRY Holter Researc 90.45 39 eP P 00 42 35.8 +0.8
HRY ePP pP 00 44 36.1 +0.2
MSTX Muleshoe 90.60 54 eP P 00 42 36.6 +0.6
MSTX ePP pP 00 44 37.0 0.0
MSTX Muleshoe 90.60 54 P P 00 42 36.3 +0.3
baz=245
COLD Coldfoot 90.68 11 eP P 00 42 40.3 +4.9
comp=Z,20nm,1.7s
CD2 Chengdu 90.69 303 eP P 00 42 36.0 -0.4
T25A Trinidad 90.76 50 eP P 00 42 37.6 +0.8
comp=Z,23nm,1.8s
T25A Trinidad 90.76 50 P P 00 42 36.9 +0.1
baz=244
Q24A Divide 91.05 48 P P 00 42 38.8 +0.6
baz=244
ISCO Idaho Springs 91.10 47 P P 00 42 38.8 +0.3
baz=243
RLMT Red Lodge 91.21 42 P P 00 42 39.2 +0.6
baz=241
N23A Red Feather La 91.37 46 P P 00 42 40.2 +0.6
baz=243
JCT Junction City 91.45 58 P P 00 42 39.8 -0.1
baz=246
K22A Casper 91.79 45 P P 00 42 41.6 +0.3
baz=243
TOLK Toolik Lake Re 92.05 10 eP P 00 42 41.6 -0.1
comp=Z,31nm,1.7s
TOLK Toolik Lake Re 92.05 10 P P 00 42 41.4 -0.4
baz=207
LZH Lanzhou 92.74 308 eP P 00 42 47.0 +1.1
LZH pP pP 00 44 46.8 -0.2
LZH pmax pmax
comp=Z,27nm,1.2s
LZH pmax pmax
comp=Z,86nm,4.8s
EPYK Eagle Plains 92.82 16 P P 00 42 44.8 -0.6
baz=219,SNR=9.2
KSCO Kaye Shedlock' 92.84 49 P P 00 42 46.2 0.0
baz=245
LAO LASA Array 93.82 41 P P 00 42 50.9 +0.5
baz=243
RSSD Black Hills 94.06 44 P P 00 42 51.6 -0.2
baz=244
INK Inuvik 95.11 15 eP P 00 42 54.9 -0.7
comp=Z,6.5nm,0.8s
INK ePP pP 00 44 58.0 +1.1
INK Inuvik 95.11 15 eP P 00 42 54.9 -0.7
INK pmax pmax
comp=Z,7.0nm,0.8s
ULN Ulaanbaatar 95.52 319⇓eP P 00 42 56.8 -1.4
ULN pmax pmax
comp=Z,10.0nm,1.4s
DGMT Dagmar 95.84 40 P P 00 43 00.0 +0.6
baz=245
SONM Songino Array 95.91 319 P P 00 43 00.2 +0.3
comp=Z,0.6nm,0.7s,baz=197,slow=4.6,SNR=4.6
SONM PKiKP PKiKP 00 47 35.3 +0.1
comp=Z,0.4nm,0.3s,baz=155,slow=1.8,SNR=4.4
GTA Gaotai 96.97 309 P P 00 43 04.5 -0.4
GTA pP pP 00 45 11.0 +4.6
GTA sP sP 00 46 07.5 +6.0
GTA pmax pmax
comp=Z,7.0nm,1.7s
GTA pmax pmax
comp=Z,180nm,5.7s
YKA Yellowknife Ar 97.40 25 P Pdif 00 43 05.7 -0.3
comp=Z,1.5nm,0.7s,baz=244,slow=4.5,SNR=14
YKA pP pP 00 45 04.1 -3.4
comp=Z,0.4nm,0.7s,baz=258,slow=7.4,SNR=3.0
YKA PKiKP PKiKP 00 47 37.5 +0.3

comp=Z,0.5nm,0.7s,baz=229,slow=1.3,SNR=5.8
YKA PKKPbc PKKPbc 00 59 33.8 -10
comp=Z,0.3nm,0.5s,baz=30,slow=2.6,SNR=3.7
YKB5 Yellowknife Ar 97.40 25 *e*P Pdif 00 43 05.4 -0.6
545A Edgard 98.79 61 P Pdif 00 43 12.9 -0.1
baz=251
ULM Lac du Bonnet 101.54 41 PKKPbc PKKPbc 00 59 30.4 -1.0
comp=Z,2.3nm,0.7s,baz=67,slow=4.1,SNR=4.2
KNGR Kungurtug, Tuv 102.34 320‖*e*P **Pdif 00 43 28.4 -0.1**
SIV San Ignacio 108.45 116 PKKPbc PKKPbc 00 59 08.2 -1.8
comp=Z,0.8nm,0.5s,baz=68,slow=6.0,SNR=3.8
RES Resolute Bay 108.64 16 *e*PKPdf **PKiKP 00 47 56.6 -0.8**
ZALV Zalesovo Beam 110.68 321 PKiKP **PKiKP 00 48 00.5 -1.4**
comp=Z,8.8nm,0.7s,baz=161,slow=0.9,SNR=46
NRIK Noril'sk 111.00 338 PKiKP **PKiKP 00 48 01.4 -0.6**
comp=Z,2.9nm,0.6s,baz=176,slow=2.7,SNR=11
BUKO Buck Lake 111.14 48 P **PKiKP 00 48 03.0 0.0**
baz=261
MKAR Makanchi Array 111.26 313 Pdiff **Pdif 00 44 10.6 +2.4**
comp=Z,0.5nm,0.7s,baz=105,slow=2.6,SNR=3.4
MKAR PKiKP **PKiKP 00 48 02.2 -1.1**
comp=Z,3.3nm,0.4s,baz=90,slow=2.4,SNR=54
MKAR PKKPbc **PKKPbc 00 59 00.7 -0.9**
comp=Z,0.7nm,0.6s,baz=300,slow=1.3,SNR=5.7
NVS Novosibirsk 111.71 322 *e*PKiKP **PKiKP 00 48 02.3 -1.5**
NVS pmax pmax
comp=Z,7.0nm,0.7s
NVS pmax pmax
comp=E,4.0nm,0.7s
BANO Bancroft 112.11 49 P **PKiKP 00 48 04.5 -0.4**
baz=262
PEMO Pembroke 112.67 48 P **PKiKP 00 48 05.4 -0.5**
baz=263
KURK Kurchatov 114.12 317 PKP **PKiKP 00 48 07.3 -1.2**
KURK PP PP 00 49 06.0 -8.1
KURK SKKPbc SKKPbc 01 01 44.5 -1.7
KURK Kurchatov 114.12 317*d* iPKIKP PKPdf 00 48 07.1 -1.5
KURK pmax pmax
comp=Z,7.0nm,0.6s
KURBB Kurchatov Arra 114.17 317 PKP PKPdf 00 48 07.3 -1.3
comp=Z,8.0nm,0.7s,baz=92,slow=1.9,SNR=53
KURBB PP PP 00 49 06.0 -8.4
comp=Z,1.1nm,0.8s,baz=98,slow=6.8,SNR=5.9
KURBB SKKPbc SKKPbc 01 01 44.5 -1.5
comp=Z,0.6nm,0.5s,baz=289,slow=4.0,SNR=5.3
ALFO Alfred 114.31 48 P PKPdf 00 48 08.3 -0.8
baz=264
KSH Kashi 114.82 305 PKP PKPdf 00 48 10.8 +0.3
KSH PP **PP 00 49 24.8 +5.3**
KSH SKS **SKSdf 00 54 31.8 +1.2**
KSH SS **SS 01 04 37.8 +4.5**
KSH AMB AMB
comp=Z,440nm,4.7s
AAK Ala-Archa 116.28 308 PKP **PKPdf 00 48 12.5 -0.7**
comp=Z,1.8nm,0.4s,baz=70,slow=4.7,SNR=7.7
AAK PKKPbc **PKKPbc 00 58 44.8 -0.1**
comp=Z,1.3nm,0.9s,baz=307,slow=6.0,SNR=4.1
AAK Ala-Archa 116.28 308*d* iPKIKP **PKPdf 00 48 12.1 -1.1**
PTGA Pitinga 116.28 102 PKP **PKPdf 00 48 13.3 -0.6**
comp=Z,1.3nm,0.5s,baz=199,slow=15,SNR=5.1
BVAR Borovoye Array 119.25 320 PKP **PKPdf 00 48 17.5 -0.9**
comp=Z,16nm,0.3s,baz=123,slow=2.4,SNR=203
BRVK Borovoye 119.31 320 *e*PKPdf **PKPdf 00 48 17.3 -1.2**
BRVK Borovoye 119.31 320 PKPdf **PKPdf 00 48 17.4 -1.2**
SNR=6.3
BRVK Borovoye 119.31 320*d* iPKIKP **PKPdf 00 48 17.4 -1.1**
BRVK pmax pmax
comp=Z,15nm,0.7s
SCHQ Schefferville 119.58 38 PKP **PKPdf 00 48 18.5 -0.5**
comp=Z,4.4nm,0.8s,baz=248,slow=5.4,SNR=3.3
SPA0 Spitsbergen Ar 122.53 356 *e*PKPdf **PKPdf 00 48 23.5 -0.6**
SPITS Spitsbergen Ar 122.53 356 PKKPbc PKKPbc 00 58 20.5 -2.4
comp=Z,5.7nm,0.8s,baz=134,slow=4.2,SNR=5.7
ILULI Ilulissat 122.60 20 *i* PKIKP **PKPdf 00 48 22.5 -1.8**
ILULI pmax pmax
comp=Z,30nm,0.8s
DAG Danmarks Havn 123.50 5 *i* PKIKP **PKPdf 00 48 24.2 -1.7**
DAG pmax pmax
comp=Z,8.0nm,0.8s
SUR Sutherland 123.56 200 *e*PKPdf **PKPdf 00 48 28.2 +0.5**
SFJD Kangerlussuaq 123.81 22 *i* PKIKP **PKPdf 00 48 26.3 -0.4**
SUMG Summit 123.97 13 *i* PKIKP **PKPdf 00 48 27.2 -0.2**
SUMG pmax pmax
comp=Z,33nm,0.8s
SVE Sverdlovsk 124.24 325 *e*PKiKP **PKPdf 00 48 27.0 -0.8**
SVE pmax pmax
comp=Z,26nm,0.6s
BOSA Boshof 125.37 206 PKP **PKPdf 00 48 32.0 +0.8**
comp=Z,7.1nm,0.7s,baz=164,slow=1.9,SNR=16
BOSA Boshof 125.37 206 PKiKP **PKPdf 00 48 32.0 +0.8**
ARU Arti 125.45 325 PKP **PKPdf 00 48 30.2 +0.1**
comp=Z,34nm,0.4s,baz=91,slow=2.1,SNR=78
ARU Arti 125.45 325 *e*PKPdf **PKPdf 00 48 30.2 +0.1**
ARU PKP **PKPdf 00 48 30.2 +0.1**
ARU Arti 125.45 325 *i* PKIKP **PKPdf 00 48 30.1 -0.1**
ARU 00 50 25.2
ARU 00 54 50.0
AKTO Aktyubinsk 127.21 318 PKP **PKPdf 00 48 34.0 +0.3**
comp=Z,14nm,0.7s,baz=82,slow=2.2,SNR=54
AKTO Aktyubinsk 127.21 318 PKiKP **PKPdf 00 48 34.0 +0.3**
WSAR Wadi Sarin 127.26 284 PKP **PKPdf 00 48 35.1 +0.5**
comp=Z,3.6nm,0.8s,baz=26,slow=0.2,SNR=7.3
GEYT Alibeck 128.67 302 PKP **PKPdf 00 48 37.5 +0.5**
comp=Z,9.5nm,0.7s,baz=268,slow=7.2,SNR=19
GEYT SKPbc SKPbc 00 51 07.7
comp=Z,4.4nm,1.0s,baz=289,slow=4.4,SNR=5.6
SCO Scoresbysund 128.81 10 *i* PKiKP **PKPdf 00 48 36.8 +0.6**
HAMF Hammerfest 128.82 351 *e*PKPdf **PKPdf 00 48 35.8 -0.4**
LVZ Lovozero 128.91 345 *e*PKPdf **PKPdf 00 48 35.4 -1.1**
LVZ Lovozero 128.91 345 *e*PKiKP **PKPdf 00 48 35.4 -1.1**
PRGR Permogore 129.44 334 *e*PKiKP **PKPdf 00 48 36.0 -1.6**
PRGR pmax pmax
comp=Z,22nm,0.8s
ARCES ARCESS Array B 129.51 349 PKP **PKPdf 00 48 37.2 -0.4**
comp=Z,18nm,0.7s,baz=20,slow=1.7,SNR=64
ARCES SKPbc SKPbc 00 51 09.6 +1.3
comp=Z,7.5nm,0.7s,baz=158,slow=1.3,SNR=9.5
ARE0 ARCESS Array S 129.51 349 *e*PKPdf **PKPdf 00 48 37.2 -0.3**
ASHO Ashiyiah 129.80 285 PKPdf **PKPdf 00 48 39.3 -0.2**
SNR=22
KTK1 Kautokeino 130.35 350 *e*PKPdf **PKPdf 00 48 38.2 -0.9**
TRO Tromso 130.42 352 *e*PKPdf **PKPdf 00 48 38.4 -0.8**
ASUD Al Ashush, Dub 130.45 285 PKiKP **PKPdf 00 48 41.1 +0.4**
SNR=12
KLMR Klimovskoe 132.29 336 *e*PKiKP **PKPdf 00 48 42.1 -0.9**
KLMR pmax pmax
comp=Z,21nm,0.9s
KLMR Klimovskoe 132.29 336 *e*PKPdf **PKPdf 00 48 42.1 -0.9**
KLMR AMP 00 48 44.0
comp=Z,21nm,0.8s
STEI Steigen 132.48 353 *e*PKPdf **PKPdf 00 48 42.9 -0.3**
NSS Namsos 136.13 353 *e*PKPdf **PKPdf 00 48 50.8 +0.7**
FINES FINESS Array B 136.28 343 PKhKP PKPpre 00 48 37.9
comp=Z,5.1nm,0.9s,baz=26,slow=3.9,SNR=14
FINES PKP **PKPdf 00 48 49.6 -0.9**
comp=Z,8.7nm,0.5s,baz=85,slow=2.9,SNR=15
FINES SKPbc **SKPbc 00 51 32.4 +1.2**
comp=Z,17nm,0.7s,baz=56,slow=3.4,SNR=19
VRH Novokhopyorsk 136.64 324 *e*PKiKP **PKPdf 00 48 50.9 -0.5**
VRH pmax pmax
comp=Z,20nm,0.6s
TSUM Tsumeb 136.82 203 *e*PKPdf **PKPdf 00 48 54.9 +1.9**
OBN Obninsk 137.10 331 PKP **PKPdf 00 48 50.6 -1.6**
comp=Z,5.7nm,0.6s,baz=124,slow=3.6,SNR=8.5
OBN SKPbc **SKPbc 00 51 35.0 +1.3**
comp=Z,2.1nm,0.5s,baz=185,slow=7.1,SNR=4.7
OBN Obninsk 137.10 331 PKP **PKPdf 00 48 50.6 -1.6**
OBN *e*PKPdf **PKiKP 00 48 51.6 -2.5**
OBN SKPbc **SKPbc 00 51 35.0 +1.3**
OBN Obninsk 137.10 331*de*PKiKP **PKPdf 00 48 51.0 -1.1**
OBN 00 51 42.0
OBN *e*PPS PPS 01 04 04.8
OBN *i* SS SS 01 09 04.7 -1.4
OBN pmax pmax
comp=Z,13nm,0.6s
LPSR Galich'ya Gora 137.41 327 *e*PKiKP **PKPdf 00 48 52.5 -0.3**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 138.02 325 *e*PKiKP **PKPdf 00 48 54.5 +0.5**
VSR pmax pmax
comp=Z,10.0nm,0.7s
VORD Divnogorie 138.09 324 *e*PKiKP **PKPdf 00 48 53.7 -0.4**
VORD pmax pmax
comp=Z,20nm,0.9s
TBLG Delisi 138.27 309 *e*PKiKP **PKPdf 00 48 50.4 -4.4**

KMBO Kilima Mbogo 138.50 242 PKhKP PKPpre 00 48 47.6
comp=Z,2.2nm,0.7s,baz=51,slow=3.8,SNR=9.5
KMBO SKPbc **SKPbc 00 51 40.9 +1.5**
comp=Z,2.3nm,0.8s,baz=329,slow=0.6,SNR=5.3
KMBO Kilima Mbogo 138.50 242 *e*PKPpre PKPpre 00 48 50.2
KMBO *e*PKPdf **PKPdf 00 48 56.8 +0.4**
KMBO SKPbc **SKPbc 00 51 40.9 +1.5**
NCK Nalchik 138.56 312‖*i* PKIKP **PKPdf 00 48 57.8 +2.5**
ZEI Tsey 138.56 311 *i* PKIKP **PKPdf 00 48 52.4 -3.1**
ZEI pmax pmax
comp=Z,5.0nm,0.7s
GNI Garni 138.68 307 PKP **PKPdf 00 48 55.3 -0.5**
comp=Z,10nm,1.0s,baz=283,slow=1.1,SNR=6.9
GNI Garni 138.68 307 *e*PKPdf **PKPdf 00 48 56.2 +0.4**
GNI Garni 138.68 307*ce*PKIKP **PKPdf 00 48 56.5 +0.7**
GNI pmax pmax
comp=Z,98nm,1.7s
DOMB Dombas 138.85 355 *e* PKPpre 00 48 47.5
KBZ Khabaz 138.96 313 PKhKP PKPpre 00 48 47.5
comp=Z,1.1nm,0.6s,baz=80,slow=7.1,SNR=4.9
KIV Kislovodsk 139.03 313 *i* PKIKP **PKPdf 00 48 58.2 +2.0**
KIV pmax pmax
comp=Z,8.0nm,1.0s
NEY Neytrino 139.24 312‖*i* PKIKP **PKPdf 00 48 58.3 +1.6**
NB2 NORSAR Subarra 139.61 353 PKP PKPpre 00 48 48.3
comp=Z,3.6nm,0.6s,baz=16,slow=3.2
NOA NORSAR Array B 139.61 353 PKhKP PKPpre 00 48 48.0
comp=Z,6.6nm,0.7s,baz=12,slow=2.3,SNR=36
NOA PKP **PKPdf 00 48 56.7 0.0**
comp=Z,4.2nm,0.7s,baz=16,slow=4.0,SNR=18
NOA SKPbc **SKiKP 00 51 42.0 -1.2**
comp=Z,5.1nm,0.7s,baz=15,slow=4.4,SNR=15
NAO01 NORSAR Array S 139.84 353 *e*PKPdf PKPpre 00 48 50.9
HFS Hagfors 140.14 350 PKhKP PKPpre 00 48 49.9
comp=Z,13nm,0.3s,baz=60,slow=4.7,SNR=107
HFS SKPbc **SKiKP 00 51 43.6 -0.7**
comp=Z,10nm,0.8s,baz=48,slow=2.2,SNR=9.3
KONO Kongsberg 141.15 353 *e*PKPdf PKPpre 00 48 53.5
SNART Snartemo 142.67 355 *e*PKPdf **PKPdf 00 48 58.8 -3.3**
SUW Suwalki 143.29 338 *e*PKPdf PKPab 00 49 00.8 -0.7
SUW Suwalki 143.29 338‖*e*PKHKP PKPpre 00 49 00.8
AKASG Malin Array Be 143.34 330 PKhKP PKPpre 00 49 00.6
comp=Z,67nm,0.5s,baz=44,slow=4.4,SNR=265
AKASG SKPbc **SKiKP 00 51 51.7 +0.5**
comp=Z,0.4nm,0.4s,baz=41,slow=3.0,SNR=4.4
KIEV Kiev 143.36 330*d* iPKHKP PKPpre 00 49 00.5
KLNR Kaliningrad 143.74 341*d* iPKIKP PKPbc 00 49 02.0 -1.1
MBAR Mbarara 144.04 237*d* iPKIKP **PKPdf 00 49 06.0 -0.1**
SIM Simferopol' 144.15 319*de*PKIKP PKPbc 00 49 04.8 0.0
SIM pmax pmax
comp=Z,141nm,0.7s
MUD Monsted U'grnd 144.33 353‖*i* PKIKP PKPbc 00 49 04.4 -0.5
MUD pmax pmax
comp=Z,99nm,0.9s
COP Copenhagen 144.59 349‖*i* PKIKP **PKPdf 00 49 05.0 -0.5**
BSD Bornholm Skovb 144.65 347‖*i* PKIKP **PKPdf 00 49 05.0 -0.6**
BSD pmax pmax
comp=Z,120nm,1.1s
EKA Eskdalemuir Ar 145.76 5 PKPbc **PKPbc 00 49 08.5 -0.7**
comp=Z,27nm,0.7s,baz=3.4,slow=2.9,SNR=56
GKP Gorka Klasztor 145.76 343 *e*PKPdf **PKPbc 00 49 08.9 -0.4**
GKP Gorka Klasztor 145.76 343‖*e*PKIKP **PKPbc 00 49 08.9 -0.4**
ESK Eskdalemuir 145.77 5 *e*PKPdf **PKPdf 00 49 08.2 +0.6**
ESK Eskdalemuir 145.77 5 *e*PKIKP **PKPdf 00 49 08.2 +0.6**
BEL Belsk 145.91 338 *e*PKP **PKPbc 00 49 09.7 0.0**
BEL Belsk 145.91 338 *e*PKP2 **PKPbc 00 49 09.7 0.0**
KIS Kishinev 146.00 326‖*i* PKP **PKPdf 00 49 08.0 -0.2**
KIS M M 00 49 08.5
comp=Z,800nm,1.8s
KIS Kishinev 146.00 326⇑*i* P **PKPbc 00 49 09.2 -1.0**
KIS Kishinev 146.00 326*x* iPKIKP **PKPdf 00 49 08.0 -0.2**
KIS pmax pmax
comp=Z,800nm,1.8s
KIS pmax pmax
comp=Z,600nm,3.0s
LVV L'vov 146.28 333 *e*PKHKP PKPpre 00 49 06.3
ASF Jabal al Asfar 146.58 297 PKPbc **PKPbc 00 49 12.0 -0.4**
comp=Z,26nm,0.8s,baz=30,slow=1.8,SNR=51
LEOM Leova 146.64 325⇑*i* P **PKPbc 00 49 12.1 +0.2**
LEOM Leova 146.64 325⇑*i* PKP2 **PKPbc 00 49 12.1 +0.2**
BRTR Keskin Array B 146.88 311 PKP **PKPdf 00 49 10.1 -0.1**
comp=Z,25nm,0.6s,baz=139,slow=2.9,SNR=76
BRTR PKPbc **PKPbc 00 49 12.6 -0.5**
comp=Z,25nm,0.6s,baz=141,slow=4.7,SNR=102
BRTR Keskin Array B 146.88 311*ce*PKIKP **PKPdf 00 49 10.3 +0.1**
BRTR pmax pmax
comp=Z,25nm,0.6s
KWP Kalwaria Pacla 146.97 334 *e*PKPdf **PKPbc 00 49 12.6 -0.2**
KWP Kalwaria Pacla 146.97 334‖*e*PKP2 **PKPbc 00 49 12.6 -0.2**
PRAR RASCA 147.08 328 P **PKPbc 00 49 13.0 -0.1**
BIR Birlad 147.10 326⇑*i* P **PKPbc 00 49 13.7 +0.5**
BIR Birlad 147.10 326⇑*i* PKP2 **PKPbc 00 49 13.7 +0.5**
TLCR 147.13 323⇑*i* P **PKPbc 00 49 13.4 +0.1**
TLCR 147.13 323⇑*i* PKP2 **PKPbc 00 49 13.4 +0.1**
GIUM Giurgiulesti 147.29 324‖*i* P **PKPbc 00 49 14.0 +0.3**
BURAR Bucovina Array 147.38 330⇑*i* P **PKPbc 00 49 15.4 +1.4**
BURAR Bucovina Array 147.38 330⇑*i* PKP2 **PKPbc 00 49 15.4 +1.4**
ANTO Ankara 147.41 312 *e*PKPdf **PKPbc 00 49 11.6 +0.7**
ANTO *e*PKPbc **PKPbc 00 49 14.3 0.0**
ANTO Ankara 147.41 312‖*i* P **PKPbc 00 49 14.0 -0.3**
ANTO Ankara 147.41 312 *e*PKIKP **PKPdf 00 49 11.6 +0.7**
BIZ Bicaz 147.43 328‖*i* P **PKPbc 00 49 14.3 +0.2**
CFR Carcaliu 147.52 324‖*i* P **PKPbc 00 49 13.9 -0.4**
CFR Carcaliu 147.52 324‖*i* PKP2 **PKPbc 00 49 13.9 -0.4**
OJC Ojcow 147.60 338 *e*PKP **PKPbc 00 49 14.1 -0.3**
OJC Ojcow 147.60 338 *e*PKP2 **PKPbc 00 49 14.1 -0.3**
MMAI Mount Meron Ar 147.65 299 PKPbc **PKPbc 00 49 15.4 +0.3**
comp=Z,44nm,0.5s,baz=75,slow=6.3,SNR=143
PETR Petresti 147.66 325⇑*i* P **PKPbc 00 49 15.2 +0.6**
ODBI Odobesti 147.73 325⇑*i* P **PKPbc 00 49 15.6 +0.8**
TIRR Tirgusor 147.81 322⇑*i* P **PKPbc 00 49 15.1 +0.1**
TIRR Tirgusor 147.81 322⇑*i* PKP2 **PKPbc 00 49 15.1 +0.1**
VRI Vrincioaia 147.84 326⇑*i* P **PKPbc 00 49 15.1 0.0**
VRI Vrincioaia 147.84 326⇑*i* PKP2 **PKPbc 00 49 15.1 0.0**
PLOR Plostina 147.89 326‖*i* P **PKPbc 00 49 14.8 -0.5**
PLOR Plostina 147.89 326‖*i* PKP **PKPbc 00 49 14.8 -0.5**
UZH Uzhgorod 147.93 334 *e*PKIKP **PKPdf 00 49 13.2 +1.8**
UZH *e* 00 49 19.5
HARR Harsova 147.94 323⇑*i* P **PKPbc 00 49 15.4 0.0**
HARR Harsova 147.94 323⇑*i* PKP2 **PKPbc 00 49 15.4 0.0**
TLB Topalu 147.94 323⇑*i* P **PKPbc 00 49 15.7 +0.3**
TLB Topalu 147.94 323⇑*i* PKP2 **PKPbc 00 49 15.7 +0.3**
MFTR Murfatlar 147.97 322⇑*i* P **PKPbc 00 49 15.9 +0.4**
NIE Niedzica 148.08 336 *e*PKPdf **PKPbc 00 49 16.0 +0.3**
NIE Niedzica 148.08 336‖*e*PKP2 **PKPbc 00 49 16.0 +0.3**
CVDA Cernavoda 148.09 322⇑*i* P **PKPbc 00 49 16.2 +0.4**
BMR Baia Mare 148.14 331⇑*i* P **PKPbc 00 49 15.6 -0.2**
BMR Baia Mare 148.14 331⇑*i* PKP2 **PKPbc 00 49 15.6 -0.2**
ARCR ARCALIA 148.17 330‖*i* P **PKPbc 00 49 16.3 +0.4**
KSP Ksiaz 148.19 342 *e*PKPdf **PKPbc 00 49 16.0 +0.2**
KSP Ksiaz 148.19 342‖*e*PKP2 **PKPbc 00 49 16.0 +0.2**
TRPA Tarpa 148.21 333⇑*i* P **PKPbc 00 49 15.6 -0.3**
TRPA Tarpa 148.21 333‖*ex* **PKPbc 00 49 16.1 +0.2**
AMRR Amara 148.32 323⇑*i* P **PKPbc 00 49 16.7 +0.4**
AMRR Amara 148.32 323⇑*i* PKP2 **PKPbc 00 49 16.7 +0.4**
PGOR Pogoanele 148.32 324‖*i* P **PKPbc 00 49 16.7 +0.4**
ISR Istrita 148.42 325‖*i* P **PKPbc 00 49 16.8 +0.1**
ISR Istrita 148.42 325‖*i* PKP2 **PKPbc 00 49 16.8 +0.1**
DOPR Dopca 148.46 327⇑*i* P **PKPbc 00 49 17.5 +0.8**
OKC Ostrava-Krasne 148.49 339‖*e*PKP **PKPbc 00 49 15.9 -0.7**
MLR Muntele Rosu 148.49 326 PKP **PKPdf 00 49 12.5 -0.1**
comp=Z,12nm,0.4s,baz=20,slow=1.0,SNR=9.3
MLR PKPbc **PKPbc 00 49 16.6 -0.3**
comp=Z,28nm,0.7s,baz=20,slow=0.8,SNR=24
MLR Muntele Rosu 148.49 326‖*i* P **PKPbc 00 49 16.7 -0.3**
UPIC Upice 148.57 342‖*e*PKP **PKPbc 00 49 16.5 -0.3**
LANS Liptovska Anna 148.61 337 *e*PKP2 **PKPbc 00 49 17.8 +0.8**
LANS Liptovska Anna 148.61 337 *e*PKP **PKPbc 00 49 17.8 +0.8**
CLL Collm 148.61 346 *e*PKPdf **PKPdf 00 49 13.0 +0.6**
CLL ‖*i* PKPbc **PKPbc 00 49 16.7 -0.2**
comp=Z,87nm,0.9s
CLL *i* PKPab **PKPab 00 49 22.0 -0.6**
CLL *e*PKPbc **pPKPdf 00 51 21.0 -0.7**
CLL (*e*PKPab) 00 51 26.0
DPC Dobruska-Polom 148.62 342 *e*PKPDF **PKPdf 00 49 13.9 +1.4**
DPC ⇑*e*PKP **PKPbc 00 49 17.2 +0.2**
EIL Elat 148.62 292 PKP **PKPdf 00 49 13.1 0.0**
comp=Z,16nm,0.8s,baz=68,slow=5.3,SNR=6.0
EIL PKPbc **PKPbc 00 49 17.6 0.0**
comp=Z,30nm,0.7s,baz=73,slow=1.4,SNR=35
RASA Rasa 148.67 323⇑*i* P **PKPbc 00 49 17.4 +0.2**
LEHL Lehliu 148.69 324⇑*i* P **PKPbc 00 49 17.8 +0.5**
SECR 148.73 325⇑*i* P **PKPbc 00 49 17.6 +0.2**

MORC Moravsky Berou 148.74 340⇑*i* PKP2 **PKPbc 00 49 17.9 +0.6**
MORC Moravsky Berou 148.74 340 *e*PKP **PKPbc 00 49 17.1 -0.2**
KECS Kecovo 148.77 335 *e*PKP **PKPbc 00 49 16.6 -0.8**
KECS *e* 00 49 22.4
KECS *e* 00 51 25.8
BRG Berggiesshubel 148.79 345 *i* PKP **PKPdf 00 49 12.4 -0.3**
comp=Z,44nm,1.8s
BRG *i* 00 49 17.4
comp=Z,55nm,1.0s
BRG pPKP **pPKPab 00 51 27.4 +0.6**
comp=Z,12nm,1.0s
BRG Berggiesshubel 148.79 345 *i* PKIKP **PKPdf 00 49 12.4 -0.3**
BRG pmax pmax
comp=Z,45nm,1.8s
CJR Cluj-Napoca 148.80 330⇑*i* P **PKPbc 00 49 17.7 +0.1**
MDB Medias 148.84 328‖*i* P **PKPbc 00 49 18.2 +0.6**
MDB Medias 148.84 328‖PKP2 **PKPbc 00 49 18.2 +0.6**
SULR 148.87 325⇑*i* P **PKPbc 00 49 17.5 -0.2**
PVCC Panska Ves 148.95 344⇑*e*PKP **PKPbc 00 49 17.7 0.0**
VOIR 148.99 327⇑*i* P **PKPbc 00 49 18.1 0.0**
WTSB Winterswijk 149.01 353 *e*PKPdf **PKPdf 00 49 13.0 0.0**
WTSB *e*PKPbc **PKPbc 00 49 17.6 -0.2**
LTVH L˜tav˜rtes, 149.06 332‖*ex* **PKPbc 00 49 18.7 +0.6**
DRGR 149.15 331⇑*i* P **PKPbc 00 49 18.2 -0.2**
ARR Arges 149.25 327⇑*i* P **PKPbc 00 49 19.9 +1.2**
SGRR Singureni 149.31 324‖*i* P **PKPbc 00 49 18.2 -0.6**
VYHS Vyhne 149.39 337 *e*PKP **PKPbc 00 49 18.8 -0.1**
VYHS *e* 00 49 25.2
VYHS *e* 00 51 25.0
PRA Prague 149.40 343⇑*e*PKP **PKPbc 00 49 18.4 -0.4**
RAZG Razgrad 149.44 323⇑*i* P **PKPbc 00 49 19.2 +0.1**
GOPC GO Pecny, Ondr 149.45 343⇑*e*PKP **PKPbc 00 49 18.9 -0.1**
VRAC Vranov 149.46 340 PKPbc **PKPbc 00 49 18.6 -0.4**
comp=Z,13nm,0.8s,baz=23,slow=1.6,SNR=26
VRAC PKPab **PKPab 00 49 25.9 -0.3**
comp=Z,13nm,0.8s,baz=241,slow=2.7,SNR=13
VRAC Vranov 149.46 340 *e*PKP **PKPbc 00 49 18.9 -0.1**
PSZ Piszkesteto 149.46 335⇑*i* P **PKPbc 00 49 18.6 -0.5**
PSZ Piszkesteto 149.46 335‖*ex* **PKPbc 00 49 19.0 -0.1**
KOLL Kolacno 149.48 337 *e*PKP **PKPbc 00 49 19.5 +0.5**
JAVC Velka Javorina 149.49 339 *e*PKP **PKPbc 00 49 20.1 +0.9**
MOX Moxa 149.54 347 PKHKP **PKPbc 00 49 19.4 +0.3**
LOT Lotru 149.63 328⇑*i* P **PKPbc 00 49 19.2 -0.5**
HUMR Humele 149.65 325⇑*i* P **PKPbc 00 49 19.1 -0.5**
KRUC Moravsky 149.74 340 *e*PKP **PKPbc 00 49 19.4 -0.2**
DEV Deva 149.74 329⇑*i* P **PKPbc 00 49 20.0 +0.3**
NKC Novy Kostel 149.74 346⇑*e*PKP **PKPbc 00 49 19.8 +0.1**
NKC *e*PKPab **PKPab 00 49 27.7 +0.3**
SMOL Smolenice 149.87 339 *e*PKP **PKPbc 00 49 21.3 +1.3**
ISP Isparta 149.88 310‖*i* P **PKPbc 00 49 19.3 -1.2**
ZIMR 150.02 324⇑*i* P **PKPbc 00 49 20.5 0.0**
SIRR Siria 150.02 331⇑*i* P **PKPbc 00 49 20.8 +0.4**
MODS Modra-Piesok 150.04 339 *e*PKP **PKPbc 00 49 19.6 -0.8**
MODS *e* 00 49 28.2
MODS *e* 00 51 28.5
JMB Yambol 150.07 321 *e*P **PKPbc 00 49 20.4 -0.2**
SRO Srobarova 150.15 337 *e*PKP **PKPbc 00 49 20.7 +0.1**
SRO *e* 00 49 29.4
BUD Budapest 150.16 336‖*ex* **PKPbc 00 49 20.8 +0.1**
BEBN Eben Emael 150.28 354 ‖PKPbc **PKPbc 00 49 20.6 -0.2**
BEBN ⇑PKPab **PKPab 00 49 28.7 -0.8**
HGN Heimansgroeve 150.29 354 *e*PKPdf **PKPdf 00 49 14.7 -0.4**
HGN *e*PKPbc **PKPbc 00 49 20.6 -0.2**
HGN *e*pPKPab **PKPab 00 49 28.3 -1.2**
VLAD Vladila 150.31 325⇑*i* P **PKPbc 00 49 21.6 +0.5**
UCC Uccle 150.38 356‖PKP **PKPbc 00 49 20.7 -0.4**
CRAR CRAIOVA 150.40 326⇑*i* P **PKPbc 00 49 22.1 +0.8**
CRAR CRAIOVA 150.40 326⇑PKIKP **PKPbc 00 49 22.1 +0.8**
MEM Membach 150.43 354‖PKPbc **PKPbc 00 49 20.9 -0.3**
SRE Strehaia 150.47 327‖*i* P **PKPbc 00 49 21.9 +0.4**
SRE Strehaia 150.47 327‖PKIKP **PKPbc 00 49 21.9 +0.4**
KHC Kasperske Hory 150.49 344 *e*PKPDF **PKPdf 00 49 15.4 -0.1**
KHC ⇑*e*PKP **PKPbc 00 49 21.3 -0.2**
KHC *e*PKPAB **PKPab 00 49 30.7 +0.2**
KHC *e*pPKP **pPKPbc 00 51 31.0 +1.5**
KHC Kasperske Hory 150.49 344 *e*PKIKP **PKPdf 00 49 15.4 -0.1**
KHC *e* 00 49 30.7
GRFO Grafenberg 150.52 347 *e*PKPbc **PKPbc 00 49 21.5 0.0**
BZS Buzias 150.54 330‖*i* P **PKPbc 00 49 21.4 -0.2**
BZS Buzias 150.54 330‖PKIKP **PKPbc 00 49 21.4 -0.2**
SNF Seneffe 150.67 356‖PKP **PKPbc 00 49 20.3 -1.4**
BCLA Clavier 150.69 355‖PKPbc **PKPbc 00 49 20.3 -1.5**
BCLA ⇑PKPab **PKPab 00 49 30.3 -0.9**
HERR Herculane 150.70 329⇑*i* P **PKPbc 00 49 22.0 0.0**
GERES GERESS Array B 150.72 343 PKP **PKPdf 00 49 15.6 -0.3**
comp=Z,1.9nm,0.7s,baz=86,slow=2.0,SNR=14
GERES PKPbc **PKPbc 00 49 22.0 0.0**
comp=Z,28nm,0.7s,baz=31,slow=2.3,SNR=97
PUNG Punghina 150.88 327⇑*i* P **PKPbc 00 49 22.2 -0.2**
CONA Conrad Observa 150.90 340 *i* PKiKP **PKPbc 00 49 22.6 +0.1**
comp=Z,51nm,0.8s,SNR=15
BANR Banloc 150.93 331⇑*i* P **PKPbc 00 49 23.3 +0.8**
DIM Dimitrovgrad 150.94 321 *e*P **PKPbc 00 49 22.4 -0.3**
DOU Dourbes 151.06 356‖PKP **PKPbc 00 49 22.6 -0.1**
TIH Tihany 151.07 336‖*ex* **PKPbc 00 49 22.7 -0.1**
MDVR Moldovita 151.12 329⇑*i* P **PKPbc 00 49 22.9 -0.2**
KDZ Kurdzhali 151.26 321 *e*P **PKPbc 00 49 26.7 +3.3**
MORH M˜¨r˜¡gy, Hung 151.35 335‖*ex* **PKPbc 00 49 23.3 -0.1**
MORH M˜¨r˜¡gy, Hung 151.35 335 *e*P **PKPbc 00 49 22.6 -0.8**
WLF Walferdange 151.35 354 ⇑PKPbc **PKPbc 00 49 23.7 +0.4**
WLF ⇑PKPab **PKPab 00 49 33.1 -0.9**
PLD Plovdiv 151.39 322 *e*P **PKPbc 00 49 22.8 -0.9**
MOA Molln 151.46 342 *i* PKPdf **PKPdf 00 49 17.2 +0.3**
comp=Z,8.1nm,1.3s
MOA *e*PKPbc **PKPbc 00 49 23.2 -0.4**
SNR=9.8
MOA *i* PKPbc **PKPbc 00 49 23.3 -0.4**
comp=Z,17nm,0.7s,SNR=6.8
ARSA Arzberg 151.60 340 *i* PKPdf **PKPdf 00 49 18.5 +1.3**
comp=Z,8.2nm,1.4s
ARSA *i* PKPbc **PKPbc 00 49 23.4 -0.6**
comp=Z,9.0nm,0.8s
FRGS Fruska Gora 151.70 332‖*i* P **PKPbc 00 49 23.8 -0.5**
BEHE Becsehely 151.85 337 *e*P **PKPbc 00 49 22.5 -2.1**
VTS Vitosha 151.91 324⇑*i* P **PKPbc 00 49 25.0 0.0**
VTS Vitosha 151.91 324 *e*P **PKPbc 00 49 24.5 -0.5**
VTS Vitosha 151.91 324 ⇑PKIKP **PKPbc 00 49 25.0 0.0**
SOKA Soboth 152.27 340 *i* PKPbc **PKPbc 00 49 25.0 -0.6**
comp=Z,24nm,0.9s
MMB Musomiste 152.28 322 *e*P **PKPbc 00 49 24.8 -0.9**
BFO Black Forest 152.37 350 *e*PKPdf **PKPdf 00 49 18.1 -0.2**
BFO *e*PKPbc **PKPbc 00 49 25.4 -0.3**
BFO *e*PKPab **PKPab 00 49 37.0 -1.4**
BFO Black Forest 152.37 350 *e*PKIKP **PKPdf 00 49 18.1 -0.2**
BFO *

LJU	**Ljubljana**	**152.99**	**340**	*i* PKPbc	**PKPbc**	**00 49 26.5**	**-0.6**
LJU	**Ljubljana**	**152.99**	**340**	*i* PKPbc	**PKPbc**	**00 49 26.5**	**-0.6**
DAVA	**Damuels**	**153.09**	**347**	*i* PKPdf	**PKPdf**	**00 49 19.4**	**-0.2**
	comp=Z,9.2nm,1.3s						
DAVA				*i* PKiKP	**PKiKP**	**00 49 28.7**	**+1.1**
	comp=Z,21nm,1.1s						
DAVA				*i* PKPab	**PKPab**	**00 49 42.8**	**+1.0**
	comp=Z,16nm,0.7s						
BLY	**Banja Luka**	**153.14**	**335**	ǁ *i*P	**PKPbc**	**00 49 27.7**	**+0.3**
BLY	**Banja Luka**	**153.14**	**335**	*e*P	**PKPbc**	**00 49 27.1**	**-0.3**
FETA	**Feichten**	**153.15**	**346**	*i* PKPdf	**PKPdf**	**00 49 19.4**	**-0.3**
	comp=Z,18nm,0.9s						
FETA				*i* PKiKP	**PKPbc**	**00 49 27.6**	**0.0**
	comp=Z,20nm,0.9s						
BOJS	**Bojanci**	**153.22**	**338**	*i* PKPbc	**PKPbc**	**00 49 27.4**	**-0.2**
BOJS	**Bojanci**	**153.22**	**338**	*i* PKPbc	**PKPbc**	**00 49 27.4**	**-0.2**
DAVOX	**Davos/Dischmat**	**153.57**	**347**	PKP	**PKPdf**	**00 49 20.2**	**-0.1**
	comp=Z,7.6nm,0.7s,baz=320,slow=3.8,SNR=8.9						
DAVOX				PKPbc	**PKPbc**	**00 49 28.5**	**0.0**
	comp=Z,28nm,0.7s,baz=217,slow=3.7,SNR=31						
IDI	**Anoyia**	**155.07**	**309**	PKPbc	PKPbc	00 49 32.7	
	comp=Z,9.5nm,0.7s,baz=307,slow=4.8,SNR=18						
ESDC	**Sonseca Array**	**161.03**	**13**	PKP	**PKPdf**	**00 49 29.6**	**0.0**
	comp=Z,0.2nm,0.4s,baz=360,slow=2.7,SNR=3.4						
ESDC				PKPab	**PKPab**	**00 50 15.7**	**-0.5**
	comp=Z,3.3nm,0.8s,baz=347,slow=4.4,SNR=12						
LIC	**Lamto**	**163.86**	**156**	*e*PKIKP	**PKPdf**	**00 49 32.3**	**-0.7**
	comp=Z,36nm,0.8s						
KEST	**Kesra**	**163.94**	**336**	PKPab	**PKPab**	**00 50 28.9**	**-0.3**
	comp=Z,9.9nm,1.2s,baz=343,slow=5.0,SNR=4.9						
KIC	**Kosan Boka**	**164.09**	**157**	*e*PKIKP	**PKPdf**	**00 49 32.3**	**-0.9**
	comp=Z,33nm,0.8s						
TIC	**Toumodi**	**164.25**	**156**	*e*PKIKP	**PKPdf**	**00 49 32.8**	**-0.6**
DBIC	**Dimbokro**	**164.34**	**156**	PKP	**PKPdf**	**00 49 32.4**	**-1.0**
	comp=Z,10.0nm,0.9s,baz=120,slow=2.5,SNR=14						
DBIC				PKPab	**PKPab**	**00 50 31.9**	**+0.7**
	comp=Z,5.3nm,0.8s,baz=222,slow=1.5,SNR=4.4						
MDT	**Midelt**	**167.27**	**24**	PKP	**PKPdf**	**00 49 35.2**	**-0.1**
	comp=Z,4.0nm,0.7s,baz=271,slow=0.8,SNR=4.8						
MDT				PKPab	**PKPab**	**00 50 43.5**	**-0.5**
	comp=Z,3.8nm,0.8s,baz=360,slow=5.6,SNR=5.4						
TORD	**Torodi Ar. Bea**	**171.98**	**182**	PKP	**PKPdf**	**00 49 36.2**	**-2.2**
	comp=Z,5.1nm,0.8s,baz=328,slow=5.3,SNR=32						
TORD				PKPab	**PKPab**	**00 51 04.5**	**-0.4**
	comp=Z,5.6nm,0.9s,baz=160,slow=4.7,SNR=15						
TORD				PP	**PP**	**00 54 54.2**	**-1.2**
	comp=Z,0.9nm,0.9s,baz=141,slow=9.8,SNR=3.6						

BJI 29 00:47:03.7,39.90N×113.22E,h5km,mb3.7/1,ML3.8/13, Ms3.4/1,Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIY	**Taiyuan**	**2.27**	**196**	Pn	Pb	00 47 45.3	+0.1
TIY				Sn	Sn	00 48 07.3	-3.0
TIY				Sg	Sb	00 48 15.0	+1.4
TIY				smax	smax		
	comp=N,210nm,0.5s						
TIY				smax	smax		
	comp=E,240nm,0.6s						
BJI	**Beijing**	**2.27**	**86**	Pn	Pb	00 47 44.0	-1.2
BJI				Pg	Pg	00 47 47.0	-0.3
BJI				Sn	Sn	00 48 11.5	+1.2
BJI				Sg	Sb	00 48 14.5	+0.8
BJI				smax	smax		
	comp=N,990nm,0.7s						
BJI				smax	smax		
	comp=E,620nm,0.7s						
BTO	**Baotou**	**2.55**	**287**	*e*Pg	Pg	00 47 52.0	-0.5
BTO				Sg	Sg	00 48 25.8	+0.3
XAN	**Xi'an**	**6.79**	**212**	Pn	Pn	00 48 43.0	-1.0
XAN				Sg	Sg	00 50 36.5	-5.1
XAN				smax	smax		
	comp=N,29nm,1.0s						
XAN				smax	smax		
	comp=E,32nm,1.2s						
LZH	**Lanzhou**	**8.32**	**246**	*e*Pg	Pg	00 49 36.8	-6.3
LZH				Sg	Sg	00 51 22.0	-8.8
LZH				smax	smax		
	comp=N,130nm,1.1s						
LZH				smax	smax		
	comp=E,110nm,0.9s						
LZH				LR	LR		
	comp=N,230nm,4.3s						
LZH				LR	LR		
	comp=E,240nm,4.9s						
LZH				LR	LR		
	comp=Z,250nm,6.5s						
GTA	**Gaotai**	**10.35**	**272**	*e*P	Pn	00 49 33.8	+0.9
GTA				pP		00 49 37.5	
GTA				sP		00 49 39.8	
KMI	**Kunming**	**17.16**	**214**	SS	SS	00 53 48.5	
KMI				LR	LR		
	comp=N,180nm,18.8s						
KMI				LR	LR		
	comp=E,210nm,13.2s						
KMI				LR	LR		
	comp=Z,250nm,23.7s						
WMQ	**Urumqi**	**19.38**	**290**	*e*P	Pn	00 51 32.5	+1.0

*IDC **29** 00:49:00.2±1.1,32.91S×69.07W,h0km,mb4.1/3, mb1 4.0/8,mb1mx3.9/35,mbtmp3.9/8,ML3.6/5,MS3.6/2, Ms1 3.6/2,ms1mx2.9/27,Error ellipse: s-maj=38.5km s-min=17.1km az=99.0*

*ISCJB **29** 00:49:01.9±0.4,32.93S±0.03×68.97W±0.04,h18km±4km, mb4.0/3,MS4.2/1,Error ellipse: s-maj=5.8km s-min=4.0km az=42.6*

*SJA **29** 00:49:01.2±0.6,32.87S×69.09W,h9km±2km,ML3.9, MW4.1*

*NEIC **29** 00:49:01.0±0.0,32.87S×69.09W,h9km,MD4.1(SJA), ML3.8(GUC),After SJA.*

NEIC Felt [III] at Mendoza and in the epicentral area.

*GUC **29** 00:49:03.0±0.7,32.90S×69.10W,h15km±9km,ML3.8*

ISC 29 00:49:01.8±0.9,32.91S±0.03×69.06W±0.03,h11km±6km, n35,σ1ᵒ9ᵒ5/46,mb3.9/3,4D,Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARCO	**CERRO ARCO**	**0.12**	**58**	*e*P	**Pg**	**00 49 05.1**	**+0.1**
ARCO				*e*S	**Sg**	**00 49 07.6**	**+0.3**
ARCO				IAML		00 49 08.5	
	comp=Z,73μm,0.3s						
AAGR	**Agrelo**	**0.26**	**133**	*e*P	**Pb**	**00 49 08.2**	**-0.4**
ASAL	**Salagasta**	**0.37**	**31**	*e*P	**Pg**	**00 49 09.0**	**-0.1**
ASAL				*e*S	**Sb**	**00 49 15.1**	**-1.1**
AVIZ	**Vizcacheras**	**0.72**	**141**	*e*P	**Pb**	**00 49 16.7**	**+0.2**
AUSP	**Uspallata**	**0.74**	**338**	*e*P	**Pg**	**00 49 15.7**	**-0.4**
FCH	**Farellones**	**1.12**	**248**	ǁ *i*P	**Pg**	**00 49 22.6**	**-0.8**
FCH				*e*S	**Sg**	**00 49 37.7**	**-0.2**
RTLS	**Leoncito**	**1.12**	**350**	*e*P	**Pb**	**00 49 23.0**	**-0.5**
RTLS				IAML		00 49 40.8	
	comp=Z,797nm,0.3s						
RTCV	**Cerro Valdivia**	**1.13**	**23**	*e*P	**Pb**	**00 49 22.7**	**-0.7**
CLCH	**Cerro Calan**	**1.33**	**248**	ǁ *i*P	**Pn**	**00 49 26.5**	**0.0**
CLCH				*e*S	**Sn**	**00 49 44.3**	**0.0**
CLCH				IAML		00 49 48.4	
	comp=E,3μm,0.8s						
LMEL	**Las Melosas**	**1.34**	**225**	*e*P	**Pb**	**00 49 27.0**	**0.0**
LMEL				*e*S	**Sg**	**00 49 44.9**	**-0.1**
PEL	**Peldehue**	**1.39**	**260**	*e*P	**Pn**	**00 49 27.1**	**-0.1**
PEL	**Peldehue**	**1.39**	**260**	ǁ *i*P	**Pn**	**00 49 26.9**	**-0.3**
PEL				*e*S	**Sn**	**00 49 45.5**	**0.0**
ZON	**Zonda**	**1.40**	**13**	*e*P	**Pb**	**00 49 27.6**	**-0.3**
ROCH	**El Roble**	**1.64**	**267**	ǁ *i*P	**Pb**	**00 49 31.6**	**-0.6**
ROCH				*e*S	**Sb**	**00 49 53.5**	**+0.4**
ROCH				IAML		00 49 55.5	
	comp=E,2μm,0.6s						
ROC1	**El Roble**	**1.65**	**267**	*e*P	**Pb**	**00 49 31.6**	**-0.7**
RTLL	**Cerro Villicun**	**1.65**	**18**	*e*P	**Pn**	**00 49 31.3**	**+0.5**
RTLL				IAML		00 49 58.3	
	comp=Z,2μm,0.3s						
RTLL	**Cerro Villicun**	**1.65**	**18**	*e*P	**Pn**	**00 49 31.0**	**+0.2**
CMCH	**Combarbala**	**2.39**	**316**	*e*P	**Pb**	**00 49 45.0**	**+0.1**
CMCH				*e*S	**Sg**	**00 50 16.1**	**-2.5**
LCO	**Las Campanas**	**4.13**	**340**	*e*P	**Pn**	**00 50 07.8**	**+2.6**
LCO				*e*S	**Sn**	**00 50 57.3**	**+3.7**
TRQA	**Tornquist**	**7.73**	**134**	*e*Pn	**Pn**	**00 50 54.6**	**+0.3**
	comp=Z,29nm,1.0s						
TRQA				*e*S	**Sn**	**00 52 18.8**	**-3.0**
PLCA	**Paso Flores**	**7.90**	**188**	Pn	**Pn**	**00 50 58.2**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=8.1,slow=14,SNR=2.2						
PLCA				Lg	Lg	00 53 10.2	
	comp=Z,0.4nm,0.3s,baz=132,slow=18,SNR=4.2						
LVC	**Limon Verde**	**10.26**	**1**	Pn	**Pn**	**00 51 29.2**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=163,slow=11,SNR=3.6						
LVC				Sn	**Sn**	**00 53 25.3**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=308,slow=19,SNR=4.5						
LVC				Lg	Lg	00 54 10.0	
	comp=Z,0.4nm,0.3s,baz=315,slow=3.2,SNR=3.2						
LVC				LR	LR	00 55 56.8	
	comp=Z,103nm,20.6s,baz=42,slow=41						
LVC	**Limon Verde**	**10.26**	**1**	*e*Pn	**Pn**	**00 51 29.8**	**+0.5**
LVC				Sn	**Sn**	**00 53 25.3**	**+0.7**
LVC				Lg	Lg	00 54 10.0	
CPUP	**Villa Florida**	**12.12**	**60**	Pn	**Pn**	**00 51 55.0**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=242,slow=14,SNR=4.6						
CPUP				Lg	Lg	00 55 25.6	
	comp=Z,0.2nm,0.3s,baz=171,slow=13,SNR=2.7						
LPAZ	**La Paz**	**16.57**	**3**	Pn	**P**	**00 52 56.0**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=182,slow=6.6,SNR=18						
SIV	**San Ignacio**	**18.33**	**25**	P	**P**	**00 53 16.4**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=229,slow=12,SNR=5.9						
SNAA	**Sanae**	**51.66**	**158**	P	**P**	**00 58 08.5**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=292,slow=12,SNR=9.1						
BOSA	**Boshof**	**78.35**	**116**	P	**P**	**01 01 03.0**	**+0.4**
	comp=Z,3.6nm,1.0s,baz=216,slow=8.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**81.49**	**68**	P	**P**	**01 01 19.7**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=252,slow=9.1,SNR=6.8						
URZ	**Urewera**	**86.22**	**226**	LR	LR	01 31 41.0	
	comp=Z,90nm,19.9s,baz=186,slow=30						
BVAR	**Borovoye Array**	**144.78**	**43**	PKP	**PKPdf**	**01 08 37.8**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=282,slow=2.1,SNR=5.1						
KURBB	**Kurchatov Arra**	**150.36**	**44**	PKPbc	**PKPbc**	**01 08 52.7**	**0.0**
	comp=Z,0.5nm,0.4s,baz=294,slow=2.9,SNR=4.4						
KURK	**Kurchatov**	**150.38**	**43**	PKPbc	**PKPbc**	**01 08 52.8**	**-0.1**
ZALV	**Zalesovo Beam**	**151.96**	**34**	PKPbc	**PKPbc**	**01 08 56.5**	**+0.1**
	comp=Z,2.7nm,0.4s,baz=312,slow=3.3,SNR=15						
MKAR	**Makanchi Array**	**154.17**	**49**	PKPbc	**PKPbc**	**01 09 01.0**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=302,slow=3.2,SNR=2.4						

*ISCJB **29** 00:49:29.9±0.4,39.60N±0.01×26.03E±0.02,h11km±3km, Error ellipse: s-maj=3.0km s-min=2.4km az=174.0*

*ATH **29** 00:49:29.6,39.60N×26.06E,h29km±1km,ML3.3/11,Error ellipse: s-maj=1.6km s-min=0.8km az=244.0*

*DDA **29** 00:49:29.5,39.59N×26.01E,h27km,Ml3.9*

*ISK **29** 00:49:29.2,39.60N×26.00E,h11km,ML3.8/39*

*THE **29** 00:49:30.5,39.62N×26.03E,h9km±1km,ML3.3/7,Error ellipse: s-maj=1.6km s-min=0.7km az=95.0*

ISC 29 00:49:30.4±0.9,39.60N±0.02×26.02E±0.02,h15km±7km, n103,σ0ᵒ80/129,6C-1D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EZN	**Ezine**	**0.33**	**47**	PG	**Pg**	**00 49 36.7**	**-0.4**
EZN				SG	**Sg**	**00 49 41.5**	**-0.2**
EZN	**Ezine**	**0.33**	**47**	P	**Pg**	**00 49 36.7**	**-0.4**
EZN				S	**Sg**	**00 49 41.3**	**-0.4**
PRK	**Paraskevi**	**0.41**	**151**	P	**Pg**	**00 49 38.6**	**-0.1**
PRK				S	**Sg**	**00 49 44.5**	**+0.3**
PRK				AML	AML	00 49 44.9	
	comp=N,33235μm,0.4s						
PRK				AML	AML	00 49 46.2	
	comp=E,36054μm,0.6s						
PRK	**Paraskevi**	**0.41**	**151**	P	**Pg**	**00 49 38.5**	**-0.1**
PRK				S	**Sg**	**00 49 44.5**	**+0.3**
SIGR	**SIGRI**	**0.41**	**198**	PG	**Pg**	**00 49 37.6**	**-1.0**
SIGR				SG	**Sg**	**00 49 44.0**	**-0.3**
SIGR	**SIGRI**	**0.41**	**198**	P	**Pg**	**00 49 38.7**	**+0.1**
SIGR				S	**Sg**	**00 49 44.9**	**+0.6**
SIGR				AML	AML	00 49 45.5	
	comp=E,17986μm,0.2s						
SIGR				AML	AML	00 49 45.5	
	comp=N,16603μm,0.2s						
SIGR	**SIGRI**	**0.41**	**198**	P	**Pg**	**00 49 38.7**	**+0.1**
SIGR				S	**Sg**	**00 49 44.8**	**+0.6**
GADA	**Gvkgeada**	**0.59**	**351**	PG	**Pg**	**00 49 41.7**	**-0.4**
GADA				SG	**Sg**	**00 49 50.1**	**+0.1**
GADA	**Gvkgeada**	**0.59**	**351**	P	**Pg**	**00 49 41.6**	**-0.5**
AYVA	**Ayvalik**	**0.60**	**119**	*i* P	**Pg**	**00 49 41.6**	**-0.6**
AYVA				*i* S	**Sn**	**00 49 53.6**	**-0.1**
LIA	**Limnos Island**	**0.71**	**295**	P	**Pb**	**00 49 44.5**	**+0.1**
LIA				S	**Sb**	**00 49 54.5**	**+0.6**
LIA				AML	AML	00 49 57.4	
	comp=E,3144μm,0.3s						
LIA				AML	AML	00 49 57.8	
	comp=N,3054μm,0.3s						
LIA	**Limnos Island**	**0.71**	**295**	P	**Pb**	**00 49 44.5**	**+0.1**
EFSA	**Agios Efstrati**	**0.80**	**266**	P	**Pn**	**00 49 46.9**	**-0.2**
EFSA				S	**Sn**	**00 49 58.3**	**-0.3**
EFSA				AML	AML	00 50 00.7	
	comp=E,5314μm,0.2s						
EFSA				AML	AML	00 50 01.0	
	comp=N,4962μm,0.2s						
GELI	**Tayfur-Gelibol**	**0.87**	**24**	PG	**Pb**	**00 49 46.7**	**-0.4**
DKL	**Dikili**	**0.87**	**127**	PG	**Pg**	**00 49 47.3**	**+0.1**
SMTH	**Samothraki Isl**	**0.94**	**337**	P	**Pb**	**00 49 48.4**	**-0.1**
SMTH				S	**Sg**	**00 50 01.2**	**+0.1**
SMTH				AML	AML	00 50 04.6	
	comp=N,1709μm,0.3s						
SMTH				AML	AML	00 50 06.4	
	comp=E,1536μm,0.3s						
SMTH	**Samothraki Isl**	**0.94**	**337**	P	**Pb**	**00 49 48.2**	**-0.3**
SMTH				S	**Sg**	**00 50 01.1**	**+0.1**
LPK	**Lapseki**	**0.96**	**36**	PG	**Pb**	**00 49 48.1**	**-0.6**
FOCM	**Fo¨ça**	**1.05**	**148**	PG	**Pb**	**00 49 49.7**	**-0.5**
KRBN	**Karaburun**	**1.09**	**157**	PN	**Pb**	**00 49 50.8**	**-0.1**
PSRA	**Psara**	**1.12**	**199**	P	**Pg**	**00 49 52.0**	**+0.1**
PSRA				S	**Sg**	**00 50 07.0**	**+0.5**
PSRA				AML	AML	00 50 11.0	
	comp=E,10440μm,0.3s						
PSRA				AML	AML	00 50 12.4	
	comp=N,8226μm,0.2s						
ERIK	**Erikli-Kesan**	**1.13**	**19**	PN	**Pb**	**00 49 51.0**	**-0.6**
ENEZ	**Enez**	**1.14**	**5**	PN	**Pb**	**00 49 51.4**	**-0.3**
CHOS	**Chios island**	**1.22**	**179**	PN	**Pn**	**00 49 52.3**	**-0.6**
CHOS	**Chios island**	**1.22**	**179**	P	**Pn**	**00 49 52.4**	**-0.5**
CHOS				S	**Sn**	**00 50 09.3**	**+0.2**
CHOS				AML	AML	00 50 13.7	
	comp=N,5157μm,0.5s						
CHOS				AML	AML	00 50 15.2	
	comp=E,8376μm,0.4s						
CHOS	**Chios island**	**1.22**	**179**	P	**Pn**	**00 49 52.4**	**-0.5**
CHOS				S	**Sg**	**00 50 10.6**	**+0.9**
KRBG	**Karabiga-Canak**	**1.26**	**51**	PN	**Pn**	**00 49 53.3**	**-0.1**
ALN	**Alexandroupoli**	**1.29**	**1**	PN	**Pn**	**00 49 53.7**	**-0.2**
ALN	**Alexandroupoli**	**1.29**	**1**	P	**Pn**	**00 49 54.0**	**0.0**
ALN				S	**Sn**	**00 50 11.2**	**+0.3**
ALN				AML	AML	00 50 12.8	
	comp=E,1675μm,0.8s						
ALN				AML	AML	00 50 12.9	
	comp=N,1587μm,0.5s						
ALN	**Alexandroupoli**	**1.29**	**1**	P	**Pn**	**00 49 53.9**	**0.0**
ALN				S	**Sn**	**00 50 11.2**	**+0.3**
URLA	**Izmir**	**1.32**	**160**	PN	**Pn**	**00 49 53.8**	**-0.5**
URLA	**Izmir**	**1.32**	**160**	P	**Pn**	**00 49 53.9**	**-0.4**
KESN	**Edirne-Kesan**	**1.32**	**22**	*i* P	**Pn**	**00 49 54.3**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.33**	**99**	*i* P	**Pn**	**00 49 54.7**	**+0.2**
KNL	**Bal¨–kesir**	**1.34**	**60**	*i* P	**Pn**	**00 49 54.7**	**+0.2**
KNL				*i* S	**Sg**	**00 50 13.3**	**-0.2**
GONE	**Gonen-Balikesi**	**1.36**	**70**	PN	**Pb**	**00 49 55.1**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.40**	**39**	PN	**Pn**	**00 49 55.8**	**+0.3**
SART	**Tekirdag**	**1.40**	**39**	*i* P	**Pn**	**00 49 55.7**	**+0.2**
THAS	**Thassos island**	**1.41**	**316**	P	**Pn**	**00 49 55.5**	**0.0**
THAS				S	**Sn**	**00 50 14.0**	**+0.1**
THAS				AML	AML	00 50 17.4	
	comp=N,1078μm,0.4s						
THAS				AML	AML	00 50 18.1	
	comp=E,1154μm,0.3s						
THAS	**Thassos island**	**1.41**	**316**	P	**Pn**	**00 49 55.5**	**0.0**
THAS				S	**Sn**	**00 50 13.1**	**-0.8**
BALB	**Balikesir**	**1.44**	**88**	PN	**Pn**	**00 49 55.9**	**0.0**
MRMT	**Marmara Adasi**	**1.57**	**50**	PN	**Pn**	**00 49 57.6**	**-0.2**
AKHS	**Akhisar**	**1.57**	**117**	*i* P	**Pn**	**00 49 57.8**	**+0.1**
RDO	**Rodhopi**	**1.58**	**347**	PN	**Pn**	**00 49 58.2**	**+0.3**
RDO	**Rodhopi**	**1.58**	**347**	P	**Pn**	**00 49 58.6**	**+0.8**
RDO				S	**Sn**	**00 50 18.3**	**+0.2**
RDO				AML	AML	00 50 22.4	
	comp=N,610μm,0.3s						
RDO				AML	AML	00 50 23.0	
	comp=E,450μm,0.5s						
RDO	**Rodhopi**	**1.58**	**347**	P	**Pn**	**00 49 58.7**	**+0.8**
RDO				S	**Sn**	**00 50 18.1**	**0.0**
EDC	**Edincik**	**1.60**	**62**	PN	**Pn**	**00 49 58.5**	**+0.4**
GMLD	**Gumuldur**	**1.68**	**155**	PN	**Pn**	**00 49 59.7**	**+0.5**
SBT4	**Kumbag-Tekirda**	**1.69**	**43**	PN	**Pn**	**00 49 59.7**	**+0.5**
AOS	**Alonnisos**	**1.71**	**256**	PN	**Pn**	**00 49 58.4**	**-1.3**
AOS	**Alonnisos**	**1.71**	**256**	P	**Pn**	**00 50 00.0**	**+0.4**
AOS	**Alonnisos**	**1.71**	**256**	P	**Pn**	**00 50 00.1**	**+0.4**
OUR	**Ouranopolis**	**1.73**	**296**	PN	**Pn**	**00 49 59.5**	**-0.3**
OUR	**Ouranopolis**	**1.73**	**296**	P	**Pn**	**00 50 00.4**	**+0.6**
OUR	**Ouranopolis**	**1.73**	**296**	P	**Pn**	**00 50 00.5**	**+0.6**
TKR	**Tekirdag**	**1.81**	**39**	PN	**Pn**	**00 50 01.3**	**+0.3**
KVLA	**Kavala**	**1.83**	**317**	P	**Pn**	**00 50 01.6**	**+0.3**
KVLA				S	**Sn**	**00 50 24.7**	**+0.7**
DURS	**Dursunbey**	**1.90**	**89**	*i* P	**Pn**	**00 50 02.6**	**+0.3**
KCTX	**Karacabey (Bur**	**1.92**	**69**	PN	**Pn**	**00 50 02.8**	**+0.3**
SMG	**Samos**	**2.00**	**161**	P	**Pn**	**00 50 03.1**	**-0.5**
SMG	**Samos**	**2.00**	**161**	P	**Pn**	**00 50 03.1**	**-0.5**
EREA	**Eretria**	**2.01**	**235**	P	**Pn**	**00 50 03.5**	**-0.3**
DST	**Dursunbey**	**2.01**	**89**	PN	**Pn**	**00 50 04.2**	**+0.4**
CRLT	**Corlu**	**2.01**	**40**	PN	**Pn**	**00 50 04.1**	**+0.3**
DEMI	**Demirci**	**2.17**	**104**	*i* P	**Pn**	**00 50 06.7**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**2.21**	**138**	PN	**Pn**	**00 50 06.8**	**+0.2**
DION	**Dionisos Attik**	**2.23**	**228**	P	**Pn**	**00 50 06.2**	**-0.6**
ORLT	**Orhaneli**	**2.26**	**78**	PN	**Pn**	**00 50 07.9**	**+0.7**
MANT	**Manisa**	**2.27**	**119**	*i* P	**Pn**	**00 50 08.0**	**+0.4**
PTL	**Penteli**	**2.29**	**228**	P	**Pn**	**00 50 07.1**	**-0.5**
EDRB	**Edirne**	**2.31**	**14**	PN	**Pn**	**00 50 07.8**	**-0.1**
KULA	**Kula-Manisa**	**2.33**	**117**	PN	**Pn**	**00 50 08.8**	**+0.6**
PHSR	**Pinarhisar**	**2.33**	**29**	PN	**Pn**	**00 50 08.8**	**+0.7**
MDNY	**Mudanya-Bursa**	**2.33**	**70**	PN	**Pn**	**00 50 08.9**	**+0.7**
SLVT	**Silivri**	**2.33**	**45**	PN	**Pn**	**00 50 08.7**	**+0.5**
SOH	**Sokhos**	**2.38**	**302**	P	**Pn**	**00 50 10.2**	**+1.3**
ARMT	**Armutlu**	**2.38**	**65**	PN	**Pn**	**00 50 09.8**	**+0.9**
SRS	**Serrai**	**2.39**	**310**	P	**Pn**	**00 50 09.4**	**+0.4**
SRS	**Serrai**	**2.39**	**310**	P	**Pn**	**00 50 09.4**	**+0.4**
NVR	**Nevrokopi**	**2.40**	**317**	P	**Pn**	**00 50 09.7**	**+0.6**
SBT5	**Esenkoy-Cinarc**	**2.42**	**64**	PN	**Pn**	**00 50 10.1**	**+0.7**
AYDN	**Tasoluk**	**2.43**	**142**	*i* P	**Pn**	**00 50 09.8**	**+0.2**
AYDN				*i* S	**Sg**	**00 50 46.6**	**-1.7**
HORT	**Hortiatis**	**2.45**	**295**	PN	**Pn**	**00 50 10.1**	**+0.2**
CTKS	**Kestanelik-??a**	**2.50**	**49**	PN	**Pn**	**00 50 10.9**	**+0.4**
CTYL	**Yalikoy Yolu**	**2.55**	**42**	PN	**Pn**	**00 50 11.9**	**+0.8**
APE	**Apeiranthos**	**2.56**	**189**	P	**Pn**	**00 50 10.8**	**-0.5**
APE				S	**Sn**	**00 50 41.4**	**-0.8**
APE				AML	AML	00 50 55.8	
	comp=E,252μm,0.6s						
APE				AML	AML	00 50 56.2	
	comp=N,220μm,0.5s						
GEMT	**Gemlik**	**2.57**	**70**	PN	**Pn**	**00 50 12.1**	**+0.6**
BGKT	**Bogazkoy**	**2.63**	**52**	PN	**Pn**	**00 50 12.3**	**0.0**
TVSB	**Tavsanli**	**2.67**	**92**	PN	**Pn**	**00 50 13.7**	**+0.8**
GEDZ	**Gediz**	**2.69**	**101**	PN	**Pn**	**00 50 13.9**	**+0.7**
PLD	**Plovdiv**	**2.69**	**339**	PN	**Pn**	**00 50 13.8**	**+0.7**
ISK	**Istanbul-Kandi**	**2.75**	**57**	PN	**Pn**	**00 50 14.4**	**+0.5**
KAVV	**Kandilli-Istan**	**2.75**	**57**	PN	**Pn**	**00 50 14.4**	**+0.5**
YLV	**Yalova**	**2.75**	**68**	PN	**Pn**	**00 50 14.1**	**+0.1**
KLYT	**Kilyos**	**2.84**	**54**	PN	**Pn**	**00 50 16.1**	**+1.0**
STIP	**Stip**	**3.59**	**307**	*i* Pn	**Pn**	**00 50 24.5**	**-0.9**
STIP				*e*Sn	**Sb**	**00 51 19.4**	**+2.6**
VTS	**Vitosha**	**3.66**	**325**	ǁ *i*P	**Sg**	**00 51 27.5**	**-0.5**
TLB	**Topalu**	**5.20**	**16**	ǁ *i*P	**Pg**	**00 51 07.8**	**-2.1**
MLR	**Muntele Rosu**	**5.88**	**360**	ǁ *i*P	**Pn**	**00 51 01.3**	**+4.2**
LOT	**Lotru**	**6.07**	**345**	ǁ *i*P	**Pn**	**00 51 01.6**	**+1.9**
MDVR	**Moldovita**	**6.08**	**330**	ǁ *i*P	**Pg**	**00 51 23.5**	**-3.3**
VRI	**Vrincioaia**	**6.28**	**5**	ǁ *i*P	**Pn**	**00 51 04.5**	**+2.0**
DRGR		**7.58**	**343**	ǁ *i*P	Pn	00 51 26.2	+5.9

IDC 29 00:59:34.8±7.3,19.02S×178.84W,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.6/45,mbtmp3.6/3,Error ellipse: s-maj=320.8km s-min=38.9km az=144.0,Fiji Islands region

| Code

6.6nm,0.3s
SFK ⇓S **Sn** **01 21 32.3 -0.3**
13nm,0.3s
MNAS Manas 6.10 11 ⇓P **Pn** **01 21 13.5 +3.5**
1.8nm,0.7s
MNAS ⇑S **Sn** **01 22 17.9 -2.0**
18nm,1.1s
KK31 Karatay Array 6.60 357 P **Pn** **01 21 18.2 +1.8**
0.3nm,0.2s,baz=181,slow=12,SNR=13
KK31 ⇓S **Sn** **01 22 28.0 -3.4**
1.2nm,0.3s,baz=182,slow=16,SNR=6.3
AAK Ala-Archa 6.72 23 P **Pn** **01 21 20.0 +1.8**
0.5nm,0.3s,baz=170,slow=6.1,SNR=8.2
AAK S **Sn** **01 22 32.8 -1.8**
0.6nm,0.3s,baz=225,slow=11,SNR=12
AAK Ala-Archa 6.72 23 ⇑P **Pn** **01 21 19.3 +1.2**
1.8nm,0.7s
AAK ⇓S **Sn** **01 22 34.6 +0.1**
3.7nm,0.8s
TKM2 Tokmak 2 7.36 28 ⇑P **Pn** **01 21 28.1 +1.6**
2.5nm,0.6s
GEYT Alibeck 10.30 282 P **Pn** **01 22 05.9 +1.1**
0.2nm,0.3s,baz=99,slow=19,SNR=4.2
MKAR Makanchi Array 13.33 36 P **Pn** **01 22 44.1 +0.6**
0.1nm,0.3s,baz=216,slow=12,SNR=3.1
AB31 Akbulak array 15.04 331 P **P** **01 23 08.3 +2.8**
0.3nm,0.6s,baz=151,slow=9.6,SNR=9.2
BVAR Borovoye Array 16.52 359 P **P** **01 23 20.3 -1.5**
0.1nm,0.3s,baz=180,slow=12,SNR=2.4
FINES FINESS Array B 37.44 326 P **P** **01 26 35.3 -1.0**
3.4nm,0.9s,baz=128,slow=18,SNR=2.6
ARCES ARCESS Array B 41.11 338 P **P** **01 27 07.2 +0.6**
2.5nm,0.9s,baz=116,slow=8.1,SNR=5.0
TORD Torodi Ar. Bea 65.64 269 P **P** **01 30 04.7 -1.2**
0.7nm,1.1s,baz=54,slow=5.7,SNR=4.6
YKA Yellowknife Ar 81.24 3 P **P** **01 31 35.0 -1.1**
0.2nm,0.4s,baz=353,slow=5.1,SNR=4.6
WRA Warramunga Arr 82.06 122 P **P** **01 31 40.7 -0.3**
0.2nm,0.8s,baz=324,slow=5.0,SNR=4.8
ASAR Alice Springs 84.32 125 P **P** **01 31 51.5 -1.1**
0.2nm,0.5s,baz=297,slow=16,SNR=3.1

NAO ***29*** *01:36:46.4±3.4, 70.78N×6.77W, ML3.0*
BER 29 01:36:48.2±1.1, 70.81N×6.81W, h2$^{km}_{\pm}$28^{km}, ML3.4, ML3.0(NAO)**, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JNE	**Jan Mayen East**	**0.52**	**292**	*e*P		Pg	01 36 57.7	-0.5
JNE				IAML			01 37 05.8	
	comp=Z,3μm,0.2s							
JNW	**Jan Mayen West**	**0.58**	**294**	*e*P		Pg	01 36 58.5	-0.8
JNW				IAML			01 37 06.4	
	comp=Z,3μm,0.2s							
JMIC	**Jan Mayen**	**0.59**	**289**	Pg		Pg	01 36 58.6	-0.8
JMIC				Lg		Lg	01 37 06.1	
JMIC	**Jan Mayen**	**0.59**	**289**	*e*P		Pg	01 36 58.6	-0.8
JMIC				*e*S		Sg	01 37 06.2	-0.9
JMIC				IAML			01 37 06.8	
	comp=Z,2μm,0.3s							
JMI	**Jan Mayen**	**0.65**	**282**	*e*P		Pg	01 37 00.1	-0.4
JMI				*e*S		Sg	01 37 08.5	-0.4
JMI				IAML			01 37 11.7	
	comp=Z,2μm,0.5s							
DAG	**Danmarks Havn**	**6.83**	**337**	*i* P		Pn	01 38 24.8	-4.4
DAG				*i* S		Sn	01 39 34.2	-13
HSPB	**Hornsund (broa**	**8.71**	**35**	*e*P		Pn	01 38 53.9	-1.0
KBS	**Kingsbay**	**9.44**	**22**	Pn		Pn	01 39 03.1	-1.8
KBS	**Kingsbay**	**9.44**	**22**	*e*P		Pn	01 39 03.2	-1.7
KBS	**Kingsbay**	**9.44**	**22**	Pn		Pn	01 39 03.1	-1.8
SPA0	**Spitsbergen Ar**	**9.55**	**29**	Pn		Pn	01 39 05.8	-0.7
	baz=226,slow=16							
SPA0	**Spitsbergen Ar**	**9.55**	**29**	*e*P		Pn	01 39 06.1	-0.4
SPA0	**Spitsbergen Ar**	**9.55**	**29**	Pn		Pn	01 39 05.8	-0.7
	baz=226,slow=16							
ARA0	**ARCESS Array S**	**10.97**	**81**	Pn		Pn	01 39 24.5	-1.4
	baz=290,slow=14							
ARA0	**ARCESS Array S**	**10.97**	**81**	Pn		Pn	01 39 24.5	-1.4
	baz=290,slow=14							

BJI ***29*** *02:23:56.9, 71.00N×6.50W, h10^{km}, mb4.3/14, mB5.0/11, Ms4.6/4, Ms7 4.5/2*
NAO ***29*** *02:23:56.2±4.4, 70.88N×6.80W, h4$^{km}_{\pm}$51^{km}, ML4.7*
IDC ***29*** *02:23:56.6±0.5, 70.92N×7.69W, h0^{km}, mb3.9/15, mb1 4.2/17, mb1mx4.0/33, mbtmp4.0/17, ML4.6/2, MS3.6/30, Ms1 3.6/30, ms1mx3.5/39, Error ellipse: s-maj=16.5km s-min=7.7km az=19.0*
ISCJB ***29*** *02:23:57.2±0.2, 70.76N±0.02×7.00W±0.05, h16^{km}, mb4.4/83, MS3.6/29, Error ellipse: s-maj=2.9km s-min=2.2km az=169.2*
NEIC ***29*** *02:23:58.7±0.2, 70.93N×6.65W, h10^{km}, mb4.6/41, Error ellipse: s-maj=6.3km s-min=3.9km az=214.0*
MOS ***29*** *02:23:58.7±2.5, 70.90N×6.60W, h10^{km}, mb4.6/43, Error ellipse: s-maj=14.8km s-min=4.5km az=98.6*
BER ***29*** *02:23:59.6±3.7, 70.97N×7.09W, h10^{km}, ML4.6, ML4.7(NAO)*
REY ***29*** *02:23:59.3, 70.56N×7.42W, h10^{km}*
ISC 29 02:23:58.9±0.3, 70.89N±0.04×6.89W±0.03, h16^{km}, n283, σ2s26/295, mb4.4/88, MS3.5/30, 16C-9D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JNE	**Jan Mayen East**	**0.47**	**283**	⇓*i*P		**Pg**	**02 24 06.5**	**-1.9**
JNW	**Jan Mayen West**	**0.52**	**286**	*e*P		**Pg**	**02 24 06.6**	**-2.7**
JMIC	**Jan Mayen**	**0.54**	**281**	Pn		**Pg**	**02 24 07.3**	**-2.3**
	4μm,0.3s,baz=124,slow=2.2,SNR=1978							
JMIC				Sn		**Sg**	**02 24 14.7**	**-2.1**
	19μm,0.3s,baz=132,slow=14,SNR=109							
JMIC	**Jan Mayen**	**0.54**	**281**	Pg		**Pg**	**02 24 07.4**	**-2.1**
JMIC				Lg		Lg	02 24 14.9	
JMIC	**Jan Mayen**	**0.54**	**281**	⇓*i*P		**Pg**	**02 24 07.3**	**-2.3**
JMIC				*e*S		**Sg**	**02 24 14.6**	**-2.2**
JMIC				IAML			02 24 15.7	
	comp=Z,44μm,0.4s							
JMI	**Jan Mayen**	**0.61**	**274**	⇑*i*P		**Pg**	**02 24 08.8**	**-2.0**
JMI				*e*S		**Sg**	**02 24 17.4**	**-1.5**
JMI				IAML			02 24 20.3	
	comp=Z,42μm,0.5s							
SCO	**Scoresbysund**	**5.01**	**272**	*e*Pn		**Pn**	**02 25 14.3**	**+1.0**
SCO	**Scoresbysund**	**5.01**	**272**	*i* P		**Pn**	**02 25 13.7**	**+0.4**
SCO				*i*			02 25 22.8	
SCO	**Scoresbysund**	**5.01**	**272**	*e*P		**Pn**	**02 25 14.3**	**+1.0**
ILEI	**Leirhofn**	**5.70**	**223**	P		**Pn**	**02 25 20.3**	**-2.5**
	baz=223							
ILEI				S		**Sn**	**02 26 24.9**	**-2.8**
	baz=223							
IGIL	**Gilhagi**	**5.95**	**220**	P		**Pn**	**02 25 23.6**	**-2.6**
	baz=220							
IGIL				S		**Sn**	**02 26 31.7**	**-2.2**
	baz=220							
IHED	**Heoinshofoi**	**6.16**	**223**	P		**Pn**	**02 25 26.7**	**-2.4**
	baz=224							
IHED				S		**Sn**	**02 26 35.8**	**-3.2**
	baz=224							
IDIM	**Dimmadals¯¡s**	**6.17**	**222**	P		**Pn**	**02 25 27.1**	**-2.2**
	baz=222							
IDIM				S		**Sn**	**02 26 36.6**	**-2.8**
	baz=222							
IBRE	**Brettingsstaoi**	**6.26**	**226**	S		**Sn**	**02 26 39.3**	**-2.3**
	baz=226							
ISKI	**Skildingah¯‡ls**	**6.27**	**221**	P		**Pn**	**02 25 29.3**	**-1.3**
	baz=222							
ISKI				S		**Sn**	**02 26 38.7**	**-3.1**
	baz=222							
IGRS	**Grimsstaoir**	**6.29**	**217**	P		**Pn**	**02 25 29.2**	**-1.6**
	baz=217							
IGRS				S		**Sn**	**02 26 40.2**	**-1.9**
	baz=217							
IGRA	**Granastaoir**	**6.36**	**223**	P		**Pn**	**02 25 30.3**	**-1.5**
	baz=224							
IGRA				S		**Sn**	**02 26 41.0**	**-2.9**
	baz=224							
IKVO	**Krokottuvotn**	**6.38**	**220**	P		**Pn**	**02 25 30.6**	**-1.5**
	baz=220							
IREN	**Reynihlio**	**6.44**	**220**	P		**Pn**	**02 25 30.0**	**-2.9**
	baz=220							
IREN				S		**Sn**	**02 26 44.1**	**-1.8**
	baz=220							
IMEL	**Melhnausar**	**6.45**	**219**	P		**Pn**	**02 25 30.4**	**-2.7**
	baz=219							
IMEL				S		**Sn**	**02 26 44.3**	**-2.0**
	baz=219							
IHLA	**Hella**	**6.52**	**226**	P		**Pn**	**02 25 32.2**	**-1.8**
	baz=226							
IHLA				S		**Sn**	**02 26 45.3**	**-2.6**
	baz=226							
IADA	**Aoalbol**	**6.74**	**213**	P		**Pn**	**02 25 35.1**	**-1.9**
	baz=213							
DAG	**Danmarks Havn**	**6.74**	**336**	⇑*i*P		**Pn**	**02 25 33.7**	**-3.3**
DAG				*i* S		Sn	02 26 42.7	-11
DAG	**Danmarks Havn**	**6.74**	**336**	⇑*i*P		**Pn**	**02 25 33.7**	**-3.3**
IMKO	**Mokollar**	**6.92**	**215**	P		**Pn**	**02 25 37.3**	**-2.1**
	baz=215							
IVSH	**V-Sauoahnukur**	**6.96**	**213**	P		**Pn**	**02 25 38.5**	**-1.6**
	baz=213							
IKRE	**Kreppuhraun**	**7.10**	**215**	P		**Pn**	**02 25 40.0**	**-2.0**
	baz=215							
LOF	**Lofoten**	**7.66**	**101**	*e*P		**Pn**	**02 25 47.0**	**-2.6**
BORG	**Borgarnes**	**8.21**	**228**	Pn		Pn	02 26 04.6	+7.4
	comp=Z,0.9nm,0.3s,baz=358,slow=7.0,SNR=5.6							
BORG				Sn		**Sn**	**02 27 32.2**	**+2.6**
	comp=Z,0.0nm,0.3s,baz=270,slow=4.0,SNR=2.2							
BORG				LR		LR	02 28 14.1	
	comp=Z,309nm,20.0s,baz=0.1,slow=32							
STEI	**Steigen**	**8.32**	**100**	*e*P		**Pn**	**02 25 56.5**	**-2.1**
BJO1	**Bjornoya**	**8.46**	**53**	Pn		**Pn**	**02 26 01.2**	**+0.6**
KONS	**Konsvik**	**8.48**	**112**	*e*P		**Pn**	**02 25 58.7**	**-2.1**
KONS				*e*S		**Sn**	**02 27 29.0**	**-7.0**
BJO	**Bjornoya**	**8.52**	**53**	*e*P		**Pn**	**02 26 01.6**	**+0.3**
HSPB	**Hornsund (broa**	**8.65**	**35**	*e*P		**Pn**	**02 26 02.4**	**-0.7**
HSPB	**Hornsund (broa**	**8.65**	**35**	*e*P		**Pn**	**02 26 02.5**	**-0.7**
HSP	**Hornsund**	**8.66**	**35**	Pn		**Pn**	**02 26 02.5**	**-0.7**
TRO	**Tromso**	**8.79**	**86**	*e*P		**Pn**	**02 26 01.7**	**-3.4**
SOFL	**Sornfelli, Far**	**8.86**	**180**	*e*P		**Pn**	**02 26 09.0**	**+2.8**
BRBA	**Barentsburg A**	**9.07**	**28**	Pn		**Pn**	**02 26 08.2**	**-0.6**
BRBA	**Barentsburg A**	**9.07**	**28**	Pn		**Pn**	**02 26 08.2**	**-0.6**
BRBB	**Barentsburg B**	**9.09**	**28**	Pn		**Pn**	**02 26 05.2**	**-4.0**
MOR8	**Moi Rana**	**9.10**	**111**	*e*P		**Pn**	**02 26 08.4**	**-1.0**
MOR8				*e*S		**Sn**	**02 27 46.1**	**-5.3**
KBS	**Kingsbay**	**9.37**	**23**	*e*Pn		**Pn**	**02 26 11.4**	**-1.6**
KBS	**Kingsbay**	**9.37**	**23**	Pn		**Pn**	**02 26 12.0**	**-0.9**
KBS	**Kingsbay**	**9.37**	**23**	*d* iP		**Pn**	**02 26 11.5**	**-1.5**
KBS				pmax		pmax		
	comp=Z,418nm,0.8s							
KBS	**Kingsbay**	**9.37**	**23**	*e*P		**Pn**	**02 26 12.2**	**-0.7**
KBS				*e*S		**Sn**	**02 27 51.0**	**-6.8**
SPA0	**Spitsbergen Ar**	**9.49**	**30**	*e*Pn		**Pn**	**02 26 15.1**	**+0.4**
SPA0				*e*Sn		**Sn**	**02 27 56.7**	**-4.1**
SPA0	**Spitsbergen Ar**	**9.49**	**30**	Pn		**Pn**	**02 26 14.5**	**-0.2**
	baz=214,slow=14							
SPA0	**Spitsbergen Ar**	**9.49**	**30**	Pn		**Pn**	**02 26 14.5**	**-0.2**
	baz=214,slow=14							
SPITS	**Spitsbergen Ar**	**9.49**	**30**	Pn		**Pn**	**02 26 14.8**	**+0.2**
	baz=218,slow=14,SNR=66							
SPITS				Sn		**Sn**	**02 27 59.0**	**-1.8**
	baz=227,slow=25,SNR=2.5							
SPITS				LR		LR	02 29 12.7	
	comp=Z,114nm,19.2s,baz=0.0,slow=33							
NSS	**Namsos**	**9.55**	**123**	*e*P		**Pn**	**02 26 14.5**	**-1.0**
NSS				*e*S		**Sn**	**02 27 54.2**	**-8.1**
KIF	**Kilpisjarvi**	**9.65**	**88**	*e*P		**Pn**	**02 26 14.4**	**-2.4**
SUMG	**Summit**	**9.97**	**294**	*e*Pn		**Pn**	**02 26 21.7**	**0.0**
SUMG	**Summit**	**9.97**	**294**	*i* P		**Pn**	**02 26 22.5**	**+0.8**
SUMG	**Summit**	**9.97**	**294**	*e*P		**Pn**	**02 26 22.5**	**+0.8**
HAMF	**Hammerfest**	**10.03**	**77**	*e*P		**Pn**	**02 26 18.5**	**-3.5**
TBLU	**Trondheim**	**10.13**	**131**	*e*P		**Pn**	**02 26 20.8**	**-2.6**
AKN	**Aaknes**	**10.31**	**141**	Pn		**Pn**	**02 26 23.3**	**-2.7**
AKN	**Aaknes**	**10.31**	**141**	*e*P		**Pn**	**02 26 24.4**	**-1.6**
AKN				*e*S		**Sn**	**02 28 14.8**	**-6.3**
KTK1	**Kautokeino**	**10.45**	**86**	*e*P		**Pn**	**02 26 25.6**	**-2.1**
FOO	**Floro**	**10.47**	**147**	*e*P		**Pn**	**02 26 24.8**	**-3.3**
HEF	**Hetta**	**10.85**	**88**	*e*P		**Pn**	**02 26 31.2**	**-2.1**
SUE	**Sulen**	**10.93**	**149**	*e*P		**Pn**	**02 26 31.8**	**-2.5**
ARA0	**ARCESS Array S**	**10.98**	**82**	*e*Pn		**Pn**	**02 26 33.0**	**-2.1**
ARA0				*e*Sn		**Sn**	**02 26 40.9**	**+3.6**
ARA0	**ARCESS Array S**	**10.98**	**82**	Pn		**Pn**	**02 26 32.9**	**-2.1**
	baz=290,slow=10							
ARA0	**ARCESS Array S**	**10.98**	**82**	Pn		**Pn**	**02 26 32.9**	**-2.1**
	baz=290,slow=10							
ARCES	**ARCESS Array B**	**10.98**	**82**	Pn		**Pn**	**02 26 33.0**	**-2.1**
	comp=Z,0.7nm,0.3s,baz=293,slow=12,SNR=27							
ARCES				Sn		**Sn**	**02 28 40.9**	**+3.6**
	comp=Z,0.3nm,0.3s,baz=289,slow=23,SNR=3.2							
ARCES				LR		LR	02 30 11.8	
	comp=Z,9.7nm,20.4s,baz=321,slow=33							
ARCES	**ARCESS Array B**	**10.98**	**82**	*e*Pn		**Pn**	**02 26 33.1**	**-1.9**
ARCES	**ARCESS Array B**	**10.98**	**82**	*e*P		**Pn**	**02 26 33.2**	**-1.9**
ARE0	**ARCESS Array S**	**10.98**	**82**	*e*Pn		**Pn**	**02 26 32.8**	**-2.3**
ARE0	**ARCESS Array S**	**10.98**	**82**	*e*P		**Pn**	**02 26 33.4**	**-1.6**
LRW	**Lerwick**	**11.05**	**165**	*e*P		**Pn**	**02 26 35.7**	**-0.3**
HYA	**Hoyanger**	**11.08**	**145**	*e*P		**Pn**	**02 26 32.9**	**-3.5**
KEV	**Kevo**	**11.39**	**80**	*e*Pn		**Pn**	**02 26 38.1**	**-2.4**
KEV	**Kevo**	**11.39**	**80**	*e*P		**Pn**	**02 26 38.2**	**-2.4**
ASK	**Askoy**	**11.54**	**149**	*e*P		**Pn**	**02 26 40.3**	**-2.4**
BER	**Bergen**	**11.66**	**149**	*e*P		**Pn**	**02 26 40.7**	**-3.6**
NC204	**NORSAR Array S**	**11.95**	**135**	*e*Pn		**Pn**	**02 26 45.0**	**-3.4**
NC303	**NORSAR Array S**	**12.14**	**134**	*e*Pn		**Pn**	**02 26 48.5**	**-2.3**
NBO00	**NORSAR Array S**	**12.17**	**135**	*e*Pn		**Pn**	**02 26 49.8**	**-1.6**
NB2	**NORSAR Subarra**	**12.26**	**135**	Pn		**Pn**	**02 26 52.6**	**-0.1**
	baz=319,slow=18							
NB2	**NORSAR Subarra**	**12.26**	**135**	Pn		**Pn**	**02 26 52.6**	**-0.1**
	baz=319,slow=18							
NB200	**NORSAR Array S**	**12.26**	**135**	*e*Pn		**Pn**	**02 26 50.2**	**-2.5**
NOA	**NORSAR Array B**	**12.26**	**135**	Pn		**Pn**	**02 26 50.2**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=323,slow=13,SNR=6.2							
NOA				LR		LR	02 31 18.0	
	comp=Z,273nm,21.8s,baz=330,slow=35							
NB201	**NORSAR Array S**	**12.27**	**134**	*e*Pn		**Pn**	**02 26 52.0**	**-0.8**
NC405	**NORSAR Array S**	**12.32**	**133**	*e*Pn		**Pn**	**02 26 53.0**	**-0.3**
ODD1	**Odda**	**12.33**	**147**	*e*P		**Pn**	**02 26 51.2**	**-2.4**
NAO01	**NORSAR Array S**	**12.36**	**136**	*e*Pn		**Pn**	**02 26 54.8**	**+0.9**
NC602	**NORSAR Array S**	**12.61**	**135**	*e*Pn		**Pn**	**02 26 55.2**	**-2.1**
NORES	**NORESS Array B**	**12.61**	**135**	P		**Pn**	**02 26 58.2**	**+0.9**
NORES				pmax		pmax		
	comp=Z,1.0nm,0.4s							
NRA0	**NORESS Array S**	**12.61**	**135**	Pn		**Pn**	**02 26 56.2**	**-1.0**
	baz=342,slow=12							
NRA0	**NORESS Array S**	**12.61**	**135**	Pn		**Pn**	**02 26 56.2**	**-1.0**
	baz=342,slow=12							
BLS5	**Blasjo**	**12.76**	**148**	*e*P		**Pn**	**02 26 57.7**	**-1.7**
KONO	**Kongsberg**	**13.15**	**141**	⇓*e*P		**Pn**	**02 27 05.2**	**+0.5**
KPL	**Plockton**	**13.62**	**177**	*e*P		**Pn**	**02 27 09.6**	**-1.4**
HFS	**Hagfors**	**13.65**	**132**	Pn		**Pn**	**02 27 09.7**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=331,slow=12,SNR=13							
HFS				Sn		**Sn**	**02 29 39.5**	**-3.2**
	comp=Z,0.6nm,0.3s,baz=4.2,slow=22,SNR=4.3							
HFS				LR		LR	02 32 01.1	
	comp=Z,447nm,21.4s,baz=320,slow=35							
HFS	**Hagfors**	**13.65**	**132**	Pn		**Pn**	**02 27 10.1**	**-1.5**
	baz=330,slow=16							
HFS	**Hagfors**	**13.65**	**132**	Pn		**Pn**	**02 27 10.1**	**-1.5**
	baz=330,slow=16							
EKA	**Eskdalemuir Ar**	**15.70**	**172**	Pn		**Pn**	**02 27 38.1**	**-1.0**
	baz=356,slow=12,SNR=9.0							
ESK	**Eskdalemuir**	**15.72**	**172**	*e*Pn		**Pn**	**02 27 40.4**	**+1.1**
	comp=Z,28nm,1.1s							
ESK	**Eskdalemuir**	**15.72**	**172**	*e*P		**Pn**	**02 27 40.4**	**+1.1**
ESK				pmax		pmax		
	comp=Z,28nm,1.1s							
FIA0	**FINESS Array S**	**16.09**	**109**	*e*Pn		**Pn**	**02 27 42.7**	**-1.3**
FIA0	**FINESS Array S**	**16.09**	**109**	P		**Pn**	**02 27 43.0**	**-1.0**
	baz=322,slow=14							
FIA0	**FINESS Array S**	**16.09**	**109**	*e*P		**Pn**	**02 27 42.7**	**-1.3**
FIA0	**FINESS Array S**	**16.09**	**109**	P		**Pn**	**02 27 43.0**	**-1.0**
	baz=322,slow=14							
FIA1	**FINESS Array S**	**16.09**	**109**	*e*Pn		**Pn**	**02 27 43.1**	**-0.9**
	comp=Z,18nm,1.0s							
FINES	**FINESS Array B**	**16.09**	**109**	Pn		**Pn**	**02 27 42.7**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=334,slow=13,SNR=12							
FINES				LR		LR	02 33 00.2	
	comp=Z,81nm,18.9s,baz=332,slow=33							
TULEG	**Thule**	**17.40**	**316**	*e*Pn		**Pn**	**02 27 54.7**	**-5.8**
	comp=Z,42nm,1.1s							
BSEG	**Bad Segeberg**	**18.65**	**147**	P		**Pn**	**02 28 19.3**	**+3.3**
BSEG				pmax		pmax		
	comp=Z,18nm,1.1s							
VSU	**Vasula**	**18.67**	**115**	⇓*e*P		**Pn**	**02 28 15.8**	**-0.3**
VSU				pmax		pmax		
	comp=Z,30nm,0.7s							
PUL	**Pulkovo**	**18.71**	**108**	⇑*e*P		**P**	**02 28 16.1**	**-0.2**
PUL				pmax		pmax		
	comp=Z,112nm,0.5s							
KLNR	**Kaliningrad**	**20.19**	**130**	⇑*e*P		**P**	**02 28 32.5**	**+0.1**
KLNR				pmax		pmax		
	comp=Z,25nm,0.6s							
KLMR	**Klimovskoe**	**20.85**	**95**	*e*P		**P**	**02 28 37.6**	**-2.0**
KLMR				pmax		pmax		
	comp=Z,18nm,1.0s							
KLMR	**Klimovskoe**	**20.85**	**95**	*e*P		**P**	**02 28 37.6**	**-2.0**
KLMR				AMP			02 28 47.2	
	comp=Z,18nm,1.1s							
MEM	**Membach**	**21.21**	**157**	⇑P		**P**	**02 28 43.9**	**+0.5**
BCLA	**Clavier**	**21.30**	**158**	⇑P		**P**	**02 28 45.6**	**+1.1**
BAIF	**Baives**	**21.53**	**160**	*e*P		**P**	**02 28 51.5**	**+4.6**
BAIF				pmax		pmax		
	comp=Z,65nm,1.9s							
DOU	**Dourbes**	**21.54**	**160**	⇓P		**P**	**02 28 50.2**	**+3.2**
CLL	**Collm**	**21.66**	**145**	*e*P		**P**	**02 28 50.0**	**+1.7**
CLL				*es*P		**P**	**02 28 53.0**	**+4.7**
	comp=Z,11nm,1.1s							
CLL				*e*PPP		PPP	02 29 14.0	
CLL				*e*S		**S**	**02 32 48.0**	**+0.8**
CLL	**Collm**	**21.66**	**145**	*e*P		**P**	**02 28 53.0**	**+4.7**
CLL				pmax		pmax		
	comp=Z,11nm,1.1s							
NACGM	**Naroch**	**21.70**	**120**	*e*		**P**	**02 28 50.0**	**+1.3**
BRG	**Berggiesshubel**	**22.25**	**143**	*e*P		P	02 29 05.8	+11
	comp=Z,4.7nm,1.2s							
BRG				*e*			02 29 16.4	
BRG	**Berggiesshubel**	**22.25**	**143**	*e*P		P	02 29 05.8	+11
BRG				*e*			02 29 16.4	
BRG				pmax		pmax		
	comp=Z,5.0nm,1.2s							
PRGR	**Permogore**	**22.29**	**88**	*e*P		**P**	**02 28 53.8**	**-1.1**
PRGR				pmax		pmax		
	comp=Z,14nm,0.9s							
FLN	**La Foliniere**	**22.41**	**169**	*e*P		**P**	**02 29 01.4**	**+5.1**
FLN				pmax		pmax		
	comp=Z,103nm,1.8s							
NKC	**Novy Kostel**	**22.58**	**146**	*e*P		**P**	**02 28 59.6**	**+1.4**
NKC	**Novy Kostel**	**22.58**	**146**	*e*P		**P**	**02 28 59.6**	**+1.4**
GRR	**Gorron**	**22.76**	**170**	*e*P		**P**	**02 29 00.3**	**+0.3**
GRR				pmax		pmax		
	comp=Z,44nm,1.4s							
DPC	**Dobruska-Polom**	**23.23**	**140**	*e*P		**P**	**02 29 06.9**	**+1.9**
DPC	**Dobruska-Polom**	**23.23**	**140**	*e*P		**P**	**02 29 06.9**	**+1.9**
ECH	**Echery**	**23.70**	**156**	*e*P		**P**	**02 29 12.0**	**+2.3**
	comp=Z,7.4nm,0.8s							
BFO	**Black Forest**	**23.75**	**154**	*e*P		**P**	**02 29 10.4**	**+0.3**
	comp=Z,5.0nm,0.8s							
BFO	**Black Forest**	**23.75**	**154**	*e*P		**P**	**02 29 10.4**	**+0.3**
BFO				pmax		pmax		
	comp=Z,5.0nm,0.8s							
FRB	**Frobisher Bay**	**23.76**	**284**	LR		LR	02 37 55.8	
	comp=Z,125nm,19.5s,baz=51,slow=36							
KHC	**Kasperske Hory**	**23.85**	**145**	*e*P		**P**	**02 29 13.2**	**+2.1**
	comp=Z,2.1nm,0.8s							
KHC	**Kasperske Hory**	**23.85**	**145**	*e*P		**P**	**02 29 12.4**	**+1.4**
KHC				*ep*P		**sP**	**02 29 17.6**	**-0.3**
KHC				*ex*		x	02 29 22.0	
KHC	**Kasperske Hory**	**23.85**	**145**	*e*P		**P**	**02 29 12.4**	**+1.4**
KHC				*e*			02 29 22.0	
RES	**Resolute Bay**	**24.03**	**319**	P		P	02 29 19.7	+7.2
	comp=Z,2.7nm,0.6s,baz=48,slow=11,SNR=11							
RES				LR		LR	02 38 11.0	
	comp=Z,289nm,19.5s,baz=84,slow=36							
RES	**Resolute Bay**	**24.03**	**319**	*e*P		**P**	**02 29 14.3**	**+1.8**
	comp=Z,3.3nm,0.6s							
RES	**Resolute Bay**	**24.03**	**319**	P		**P**	**02 29 14.3**	**+1.8**
RES				pmax		pmax		
	comp=Z,3.0nm,0.7s							
OJC	**Ojcow**	**24.13**	**135**	*e*P		**P**	**02 29 15.0**	**+1.4**
OJC	**Ojcow**	**24.13**	**135**	*e*P		**P**	**02 29 15.2**	**+1.6**
	comp=Z,7.1nm,0.9s							
OJC	**Ojcow**	**24.13**	**135**	*e*P		**P**	**02 29 15.0**	**+1.4**
GEC2	**GERESS Array S**	**24.14**	**145**	*e*P		**P**	**02 29 16.8**	**+2.9**
	comp=Z,14nm,1.4s							
GEC2				pmax		pmax		
	comp=Z,14nm,1.4s							
GERES	**GERESS Array B**	**24.14**	**145**	P		**P**	**02 29 14.3**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=348,slow=9.2,SNR=14							
GERES				LR		LR	02 38 54.4	
	comp=Z,93nm,18.2s,baz=347,slow=37							
GEA0	**GERESS Array S**	**24.15**	**145**	*e*P

MBDF					pmax	pmax			
	comp=Z,14nm,0.8s								
LPSR	**Galich'ya Gora**	**27.35**	**108**	*eP*		**P**	**02 29 42.5**	**-0.2**	
LPSR					pmax	pmax			
	comp=Z,20nm,1.1s								
BUR08	**Bucovina Ar. S**	**27.84**	**130**	*eP*		**P**	**02 29 49.1**	**+1.8**	
BUR04	**Bucovina Ar. S**	**27.86**	**130**	*eP*		**P**	**02 29 49.4**	**+1.9**	
VSR	**Storozhevoye**	**28.62**	**109**	*eP*		**P**	**02 29 53.3**	**-0.7**	
VSR					pmax	pmax			
	comp=Z,10.0nm,1.0s								
VORD	**Divnogorie**	**28.88**	**109**	*eP*		**P**	**02 29 55.9**	**-0.4**	
VORD					pmax	pmax			
	comp=Z,10.0nm,0.6s								
NRIK	**Noril'sk**	**29.11**	**47**	LR		LR	02 43 23.1		
	comp=Z,62nm,18.8s,baz=16,slow=40								
VRH	**Novokhopyorsk**	**29.43**	**106**	*eP*		**P**	**02 30 00.5**	**-0.7**	
VRH					pmax	pmax			
	comp=Z,4.0nm,0.6s								
VRH					MLR	MLR			
	comp=Z,210nm,16.0s								
MLR	**Muntele Rosu**	**30.03**	**130**	LR		LR	02 43 07.4		
	comp=Z,624nm,18.2s,baz=346,slow=38								
SCHQ	**Schefferville**	**30.05**	**269**	P		**P**	**02 30 06.1**	**-0.7**	
	comp=Z,4.4nm,1.0s,baz=52,slow=12,SNR=2.1								
SCHQ					LR	LR	02 40 53.7		
	comp=Z,138nm,19.9s,baz=321,slow=34								
SCHQ	**Schefferville**	**30.05**	**269**	*eP*		**P**	**02 30 07.8**	**+1.1**	
	comp=Z,8.8nm,1.0s								
ARU	**Arti**	**30.56**	**84**	*eP*		**P**	**02 30 12.3**	**+1.2**	
	comp=Z,9.8nm,1.0s								
ARU	**Arti**	**30.56**	**84***c*	*iP*		**P**	**02 30 12.3**	**+1.2**	
ARU							02 31 09.1		
ARU							02 33 10.7		
ARU					S	**S**	**02 35 15.5**	**+3.7**	
ARU					SS	**ScP**	**02 36 52.5**	**+1.9**	
ARU					pmax	pmax			
	comp=Z,21nm,2.5s								
ESDC	**Sonseca Array**	**31.32**	**176**	P		**P**	**02 30 18.9**	**+0.7**	
	comp=Z,0.5nm,0.6s,baz=357,slow=9.4,SNR=4.7								
ESDC					LR	LR	02 41 33.7		
	comp=Z,49nm,21.3s,baz=15,slow=34								
TIP	**Timpagrande**	**34.05**	**146**	*eP*		**P**	**02 30 43.0**	**+1.0**	
	comp=Z,75nm,1.5s								
TIXI	**Tiksi**	**34.83**	**23**	*eP*		**P**	**02 30 48.1**	**-0.2**	
	comp=Z,6.1nm,1.1s								
TIXI	**Tiksi**	**34.83**	**23**⇑	*eP*		**P**	**02 30 50.3**	**+2.0**	
TIXI					pmax	pmax			
	comp=Z,3.0nm,1.1s								
CLTB	**Caltabellotta**	**35.01**	**152**	*eP*		**P**	**02 30 52.3**	**+2.0**	
	comp=Z,109nm,1.3s								
GOF	**Gofitskoye**	**35.28**	**110**	*eP*		**P**	**02 30 53.9**	**+1.4**	
GOF					pmax	pmax			
	comp=Z,40nm,0.5s								
KIV	**Kislovodsk**	**36.16**	**111**	*eP*		**P**	**02 30 59.4**	**-0.8**	
KIV					pmax	pmax			
	comp=Z,9.0nm,1.1s								
KIV					MLR	MLR			
	comp=Z,48nm,16.0s								
KEST	**Kesra**	**36.27**	**157**	P		**P**	**02 31 04.2**	**+3.0**	
	comp=Z,7.7nm,0.9s,baz=331,slow=13,SNR=2.5								
KEST					LR	LR	02 45 23.6		
	comp=Z,112nm,21.5s,baz=289,slow=35								
KEST	**Kesra**	**36.27**	**157**	*eP*		**P**	**02 31 04.2**	**+3.0**	
	comp=Z,36nm,1.4s								
KBZ	**Khabaz**	**36.44**	**111**	P		**P**	**02 31 04.7**	**+2.3**	
	comp=Z,4.5nm,0.9s,baz=311,slow=8.2,SNR=5.9								
KBZ					LR	LR	02 46 46.1		
	comp=Z,69nm,18.1s,baz=326,slow=37								
NEY	**Neytrino**	**36.82**	**112**⇓	*eP*		**P**	**02 31 06.5**	**+0.6**	
NEY					pmax	pmax			
	comp=Z,1.0nm,0.9s								
ABKAR	**Akbulak array**	**37.04**	**89**	*eP*		**P**	**02 31 07.9**	**+0.4**	
BRVK	**Borovoye**	**37.16**	**77**⇑	*eP*		**P**	**02 31 09.6**	**+1.1**	
BRVK					pmax	pmax			
	comp=Z,6.0nm,1.7s								
BR101	**Keskin Array S**	**37.43**	**124**	*eP*		**P**	**02 31 12.6**	**+1.6**	
BR131	**Keskin Array S**	**37.43**	**124**	*eP*		**P**	**02 31 13.8**	**+2.7**	
BRTR	**Keskin Array B**	**37.43**	**124**	P		**P**	**02 31 12.6**	**+1.6**	
	comp=Z,1.1nm,0.7s,baz=337,slow=5.0,SNR=8.0								
BRTR					LR	LR	02 47 06.0		
	comp=Z,85nm,19.9s,baz=310,slow=37								
BRTR	**Keskin Array B**	**37.43**	**124**	*iP*		**P**	**02 31 13.8**	**+2.7**	
BRTR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
YKA	**Yellowknife Ar**	**37.84**	**314**	P		**P**	**02 31 13.7**	**-0.4**	
	comp=Z,0.6nm,0.6s,baz=29,slow=8.4,SNR=6.1								
YKA					LR	LR	02 46 10.9		
	comp=Z,26nm,20.0s,baz=8.0,slow=36								
YKB5	**Yellowknife Ar**	**37.84**	**314**	*eP*		**P**	**02 31 13.7**	**-0.4**	
NVS	**Novosibirsk**	**39.66**	**65**	*eP*		**P**	**02 31 33.8**	**+4.3**	
NVS				*e*			02 33 02.8		
GNI	**Garni**	**40.26**	**112**⇑	*eP*		**P**	**02 31 34.2**	**-0.6**	
GNI					pmax	pmax			
	comp=Z,11nm,1.1s								
ZAA1	**Zalesovo Array**	**40.90**	**64**	*eP*		**P**	**02 31 40.5**	**+0.8**	
ZALV	**Zalesovo Beam**	**40.91**	**64**	P		**P**	**02 31 40.5**	**+0.8**	
	comp=Z,1.3nm,0.7s,baz=342,slow=9.3,SNR=5.3								
ZALV					LR	LR	02 51 08.6		
	comp=Z,60nm,21.5s,baz=258,slow=40								
ZALV	**Zalesovo Beam**	**40.91**	**64**	*eP*		**P**	**02 31 40.3**	**+0.5**	
BILL	**Bilibino**	**41.25**	**4**⇑	*eP*		**P**	**02 31 42.8**	**+0.4**	
BILL					pmax	pmax			
	comp=Z,3.0nm,1.1s								
KURK	**Kurchatov**	**41.82**	**72**⇓	*eP*		**P**	**02 31 47.8**	**+0.5**	
KURK					pmax	pmax			
	comp=Z,3.0nm,0.7s								
IL1	**Eielson Array**	**41.84**	**336**	*eP*		**P**	**02 31 47.9**	**+0.6**	
ILAR	**Eielson Array**	**41.84**	**336**	P		**P**	**02 31 47.5**	**+0.2**	
	comp=Z,1.1nm,0.8s,baz=8.9,slow=6.7,SNR=14								
ILAR					LR	LR	02 50 21.0		
	comp=Z,96nm,20.5s,baz=346,slow=38								
ILAR	**Eielson Array**	**41.84**	**336**	P		**P**	**02 31 47.5**	**+0.2**	
ILAR					pmax	pmax			
	comp=Z,2.0nm,1.0s								
ILAR					MLR	MLR			
	comp=Z,96nm,20.5s								
ILB	**Eielson Array**	**41.84**	**336**	*eP*		**P**	**02 31 47.5**	**+0.2**	
ULM	**Lac du Bonnet**	**43.31**	**291**	P		**P**	**02 31 56.4**	**-3.0**	
	comp=Z,1.9nm,0.7s,baz=0.0,slow=8.1,SNR=2.5								
ULM					LR	LR	02 49 58.9		
	comp=Z,48nm,19.6s,baz=340,slow=36								
DGZ	**Jazzator, Alta**	**45.41**	**65**⇑	*eP*		**P**	**02 32 15.9**	**-0.5**	
DGZ					pmax	pmax			
	comp=Z,1.0nm,1.0s								
SEY	**Seymchan**	**45.67**	**13**⇑	*eP*		**P**	**02 32 19.4**	**+1.3**	
MK32	**Makanchi Array**	**46.42**	**71**	*eP*		**P**	**02 32 25.0**	**+0.7**	
MKAR	**Makanchi Array**	**46.42**	**71**	P		**P**	**02 32 25.0**	**+0.7**	
	comp=Z,1.1nm,1.0s,baz=339,slow=6.2,SNR=5.3								
MKAR					LR	LR	02 55 29.4		
	comp=Z,98nm,18.9s,baz=328,slow=41								
N49A	**Columbus Grove**	**47.85**	**274**	*eP*		**P**	**02 32 37.2**	**+1.7**	
	comp=Z,23nm,0.9s								
ACSO	**Alum Creek Sta**	**48.08**	**273**	*eP*		P	02 32 42.0	+4.8	
	comp=Z,16nm,0.9s								
TAM	**Tamanrasset**	**48.66**	**165**	*eP*		**P**	**02 32 44.4**	**+2.4**	
	comp=Z,3.0nm,0.9s								
TAM	**Tamanrasset**	**48.66**	**165**	*eP*		**P**	**02 32 44.4**	**+2.4**	
TAM					pmax	pmax			
	comp=Z,3.0nm,0.9s								
EGMT	**Eagleton**	**49.41**	**300**	*eP*		**P**	**02 32 48.7**	**+1.2**	
	comp=Z,23nm,1.4s								
WMQ	**Urumqi**	**50.77**	**69**	*eP*		**P**	**02 33 00.5**	**+2.7**	
WMQ					LR	LR			
	comp=Z,120nm,17.1s								
WCI	**Wyandotte Cave**	**50.98**	**275**	*eP*		P	02 33 05.6	+6.3	
	comp=Z,16nm,0.9s								
WCI	**Wyandotte Cave**	**50.98**	**275**	*eP*		P	02 33 05.6	+6.2	
WCI					pmax	pmax			
	comp=Z,16nm,0.9s								
MSO	**Missoula**	**51.67**	**303**	*eP*		**P**	**02 33 05.5**	**+0.9**	
	comp=Z,10nm,1.4s								
V53A	**Saluda**	**52.17**	**270**	*eP*		**P**	**02 33 10.9**	**+2.6**	
	comp=Z,8.3nm,0.8s								
SONA0	**Songino Array**	**52.41**	**51**	*eP*		**P**	**02 33 11.1**	**+1.0**	
SONM	**Songino Array**	**52.41**	**51**	P		**P**	**02 33 11.1**	**+1.0**	
	comp=Z,0.2nm,0.4s,baz=342,slow=9.1,SNR=2.4								
SONM					LR	LR	02 58 38.7		
	comp=Z,31nm,18.5s,baz=358,slow=40								
W50A	**Signal Mountai**	**53.42**	**272**	*eP*		**P**	**02 33 20.3**	**+2.8**	
	comp=Z,19nm,1.0s								
PD31	**Pinedale Array**	**54.15**	**298**	*eP*		**P**	**02 33 22.9**	**-0.1**	
PDAR	**Pinedale Array**	**54.15**	**298**	P		**P**	**02 33 22.9**	**-0.1**	
	comp=Z,0.6nm,0.6s,baz=22,slow=4.8,SNR=5.2								
N23A	**Red Feather La**	**54.80**	**294**	*eP*		**P**	**02 33 29.1**	**+1.2**	
	comp=Z,11nm,1.1s								
HLID	**Hailey**	**54.81**	**302**	*eP*		**P**	**02 33 32.1**	**+4.3**	
	comp=Z,6.5nm,1.5s								
OXF	**Oxford**	**55.39**	**276**	*eP*		**P**	**02 33 34.0**	**+2.2**	
	comp=Z,40nm,1.3s								
OXF	**Oxford**	**55.39**	**276**	*eP*		**P**	**02 33 34.0**	**+2.2**	
OXF					pmax	pmax			
	comp=Z,40nm,1.3s								
O20A	**White River Ci**	**56.18**	**295**	*eP*		**P**	**02 33 38.2**	**+0.5**	
	comp=Z,14nm,1.0s								
SMCO	**Snowmass**	**56.68**	**294**	*eP*		P	02 33 46.9	+5.3	
	comp=Z,4.9nm,1.1s								
P18A	**Preston Nutter**	**57.24**	**297**	*eP*		**P**	**02 33 46.1**	**+0.8**	
	comp=Z,4.6nm,1.1s								
DUG	**Dugway, Tooele**	**57.47**	**299**	*eP*		**P**	**02 33 48.5**	**+1.7**	
	comp=Z,14nm,1.5s								
DUG	**Dugway, Tooele**	**57.47**	**299**	*eP*		**P**	**02 33 48.5**	**+1.7**	
DUG					pmax	pmax			
	comp=Z,14nm,1.5s								
TOA1	**Torodi Ar. Sit**	**57.95**	**170**	*eP*		**P**	**02 33 50.6**	**+0.5**	
TOA0	**Torodi Ar. Sit**	**57.95**	**170**	*eP*		**P**	**02 33 50.9**	**+0.7**	
TORD	**Torodi Ar. Bea**	**57.95**	**170**	P		**P**	**02 33 50.6**	**+0.5**	
	comp=Z,2.2nm,0.6s,baz=350,slow=7.1,SNR=24								
TORD					LR	LR	02 59 44.2		
	comp=Z,98nm,18.4s,baz=335,slow=37								
S22A	**4UR Ranch, Cre**	**57.96**	**293**	*eP*		P	02 33 56.2	+5.8	
	comp=Z,8.9nm,1.4s								
PV01	**Paradox Valley**	**58.13**	**295**	*eP*		**P**	**02 33 52.3**	**+0.8**	
PV13	**Radium Mtn., P**	**58.18**	**295**	*eP*		**P**	**02 33 53.1**	**+1.3**	
	comp=Z,11nm,1.2s								
GTA	**Gaotai**	**58.42**	**61**	*eP*		**P**	**02 33 54.5**	**+1.1**	
GTA					pP	sP	02 34 03.3	+2.8	
GTA					sP	pP	02 34 07.8	+9.3	
GTA					pmax	pmax			
	comp=Z,5.0nm,1.5s								
MSU	**Marysvale**	**58.84**	**298**	*eP*		P	02 34 02.5	+6.0	
MSU	**Marysvale**	**58.84**	**298**	*eP*		P	02 34 02.5	+6.0	
MVCO	**Mesa Verde**	**58.96**	**294**	*eP*		**P**	**02 33 58.6**	**+1.3**	
	comp=Z,16nm,1.1s								
R11A	**Troy Canyon, C**	**59.97**	**301**	*eP*		**P**	**02 34 05.2**	**+0.9**	
	comp=Z,5.7nm,1.1s								
KVN	**Kaiserville**	**60.02**	**303**	*eP*		**P**	**02 34 06.0**	**+1.4**	
	comp=Z,11nm,1.4s								
KVN	**Kaiserville**	**60.02**	**303**	*eP*		**P**	**02 34 06.0**	**+1.4**	
KVN					pmax	pmax			
	comp=Z,11nm,1.4s								
HHC	**Hu-ho-hao-te**	**60.25**	**50**	*eP*		**P**	**02 34 06.3**	**+0.3**	
HHC					pP	pP	02 34 11.0	-0.2	
HHC					sP	sP	02 34 13.3	+0.2	
HHC					S	**S**	**02 42 15.3**	**-3.8**	
HHC					pmax	pmax			
	comp=Z,13nm,1.0s								
HHC					pmax	pmax			
	comp=Z,120nm,6.1s								
HHC					LR	LR			
	comp=Z,200nm,16.4s								
HHC					LR	LR			
	comp=Z,160nm,16.4s								
HHC					LR	LR			
	comp=Z,630nm,15.6s								
ANMO	**Albuquerque**	**60.43**	**291**⇑	*iP*		**P**	**02 34 08.6**	**+1.1**	
ANMO					pmax	pmax			
	comp=Z,1.0nm,0.9s								
LCMT	**Little Creek M**	**60.55**	**298**	*eP*		**P**	**02 34 09.8**	**+1.7**	
	comp=Z,7.7nm,1.3s								
NVAR	**Mina Array Bea**	**60.66**	**303**	LR		LR	03 00 41.7		
	comp=Z,64nm,18.6s,baz=327,slow=36								
MNTX	**Cornudas Mount**	**63.11**	**289**	*eP*		**P**	**02 34 28.9**	**+3.6**	
	comp=Z,2.9nm,0.9s								
DBIC	**Dimbokro**	**64.16**	**178**	LR		LR	03 04 20.1		
	comp=Z,57nm,18.0s,baz=346,slow=38								
LTX	**Lajitas**	**64.77**	**287**	*eP*		**P**	**02 34 36.5**	**+0.1**	
LTX	**Lajitas**	**64.77**	**287**	*eP*		**P**	**02 34 36.5**	**+0.1**	
TX31	**Lajitas Ar. Si**	**64.77**	**287**	*eP*		**P**	**02 34 37.4**	**+1.0**	
TXAR	**Lajitas Array**	**64.77**	**287**	P		**P**	**02 34 36.5**	**+0.1**	
	comp=Z,3.0nm,1.0s,baz=51,slow=4.8,SNR=11								
KSRS	**Korea Array**	**67.23**	**38**	LR		LR	03 07 04.2		
	comp=Z,20nm,18.5s,baz=150,slow=38								
NJ2	**Nanjing**	**70.41**	**47**	*eP*		**P**	**02 35 12.5**	**+0.7**	
NJ2					pmax	pmax			
	comp=Z,10.0nm,0.8s								
ROSC	**El Rosal**	**78.17**	**250**	LR		LR	03 08 13.0		
	comp=Z,22nm,18.9s,baz=127,slow=34								
LPAZ	**La Paz**	**96.37**	**238**	LR		LR	03 19 14.1		
	comp=Z,17nm,19.1s,baz=22,slow=34								
WR1	**Warramunga Arr**	**124.17**	**45**	*e*PKPdf		**PKPdf**	**02 42 58.6**	**+2.5**	
WRA	**Warramunga Arr**	**124.17**	**45**	PKP		**PKPdf**	**02 42 58.6**	**+2.5**	
	comp=Z,0.2nm,0.6s,baz=324,slow=2.5,SNR=2.7								
AS31	**Alice Springs**	**127.65**	**47**	*e*PKPdf		**PKPdf**	**02 43 02.2**	**-0.5**	
ASAR	**Alice Springs**	**127.65**	**47**	PKP		**PKPdf**	**02 43 02.2**	**-0.5**	
	comp=Z,0.4nm,0.7s,baz=323,slow=1.4,SNR=3.7								
ASAR	**Alice Springs**	**127.65**	**47**	PKIKP		**PKPdf**	**02 43 02.2**	**-0.5**	
ASAR					pmax	pmax			
	comp=Z,1.0nm,0.8s								

BER 29 02:24:45.3±0.4, 71°04N×6°95W, h10km, ML3.5, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNE	**Jan Mayen East**	**0.44**	**265**	*eP*	Pg	02 24 54.2	+0.2
JNE				IAML		02 25 02.1	
	comp=Z,3μm,0.2s						
JNW	**Jan Mayen West**	**0.48**	**270**	*eP*	Pg	02 24 54.8	+0.1
JNW				IAML		02 25 03.2	
	comp=Z,4μm,0.3s						
JMIC	**Jan Mayen**	**0.51**	**265**	*eP*	Pg	02 24 55.0	-0.2
JMIC				*eS*	Sg	02 25 02.4	+0.4
JMIC				IAML		02 25 03.5	
	comp=Z,3μm,0.4s						
JMI	**Jan Mayen**	**0.59**	**260**	*eP*	Pg	02 24 56.5	-0.3
JMI				*eS*	Sg	02 25 04.9	+0.3

MEX 29 02:30:53.0±0.5, 18°23N×100°55W, h53km±5km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.20**	**76**	*eP*	Pn	02 30 60.0	-1.8
ARIG				*eS*	Sn	02 31 06.4	-1.6
MEIG	**Mezcala**	**0.94**	**109**	*iP*	Pn	02 31 08.7	-1.3
MEIG				*eS*	Sn	02 31 20.7	-1.8
PLIG	**Platanillo**	**1.01**	**81**	*iP*	Pn	02 31 09.8	-1.2
PLIG				*eS*	Sn	02 31 22.7	-1.5
ZIIG	**Zihuatanejo**	**1.07**	**235**	*eP*	Pn	02 31 10.3	-1.5
ZIIG				*i* S	Sn	02 31 23.5	-2.1
MMIG	**Aquila**	**2.66**	**272**	*iP*	Pn	02 31 32.0	-1.3
MMIG				*eS*	Sn	02 32 02.8	-1.7

*BER **29** 02:39:48.4±0.4, 71°13N×7°01W, h10km, ML3.5*
*ISCJB **29** 02:39:49.6±0.9, 71°35N±0°05×7°7W±0°3, h16km, Error ellipse: s-maj=16.6km s-min=5.3km az=21.2*
ISC 29 02:39:51.2±1.4, 71°24N±0°08×7°8W±0°1, h16km, n7, σ0s96/10, 1C-1D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNW	**Jan Mayen West**	**0.31**	**226**	*eP*	**Pb**	**02 39 57.8**	**-0.5**
JNW				IAML		02 40 05.8	
	comp=Z,4μm,0.1s						
JNE	**Jan Mayen East**	**0.31**	**216**	*eP*	**Pg**	**02 39 57.2**	**-0.5**
JNE				IAML		02 40 05.8	
	comp=Z,3μm,0.2s						
JMIC	**Jan Mayen**	**0.36**	**224**⇓	*iP*	**Pg**	**02 39 58.0**	**-0.5**
JMIC				*eS*	**Sb**	**02 40 05.4**	**+0.9**
JMIC				IAML		02 40 06.3	
	comp=Z,2μm,0.3s						
JMI	**Jan Mayen**	**0.45**	**226**⇑	*iP*	**Pg**	**02 39 59.5**	**-0.7**
JMI				*eS*	**Sb**	**02 40 08.2**	**+1.0**
JMI				IAML		02 40 10.9	
	comp=Z,2μm,0.5s						
DAG	**Danmarks Havn**	**6.31**	**337**	*i* P	**Pn**	**02 41 24.5**	**+1.1**
DAG				*eS*	**Sn**	**02 42 33.7**	**-1.2**
KBS	**Kingsbay**	**9.16**	**24**	*eP*	**Pn**	**02 42 03.0**	**+0.6**
SPA0	**Spitsbergen Ar**	**9.33**	**31**	*eP*	**Pn**	**02 42 05.2**	**+0.5**

*ISCJB **29** 03:07:33.7±0.8, 38°67N±0°03×43°20E±0°05, h23km±10km, Error ellipse: s-maj=6.7km s-min=5.4km az=32.3*
*ISK **29** 03:07:33.3, 38°70N×43°16E, h5km, ML2.2/6*
*DDA **29** 03:07:34.1, 38°69N×43°19E, h7km, Ml2.5*
ISC 29 03:07:33.0±1.7, 38°66N±0°04×43°20E±0°04, h28km±13km, n13, σ0s61/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.16**	**115**	PG	**Pb**	**03 07 39.1**	**+0.3**
VANB				SG	**Sb**	**03 07 43.5**	**+0.8**
TVAN	**Van**	**0.21**	**130**	*i* P	**Pb**	**03 07 39.0**	**-0.4**
TVAN				*i* S	**Sb**	**03 07 43.6**	**-0.1**
GEVA	**Gevas**	**0.37**	**198**	*i* P	**Pb**	**03 07 41.4**	**0.0**
GEVA				*i* S	**Sb**	**03 07 45.7**	**-1.5**
ERCV	**ERCIS-VAN**	**0.37**	**17**	PG	**Pb**	**03 07 40.9**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.40**	**291**	*i* P	**Pb**	**03 07 42.3**	**+0.3**
ADCV				*i* S	**Sb**	**03 07 48.2**	**+0.2**
VMUR	**Van-Muradiye**	**0.43**	**41**	*i* P	**Pb**	**03 07 42.6**	**+0.1**
VMUR				*i* S	**Sb**	**03 07 49.4**	**+0.5**
MLAZ	**Malazgirt-MUS**	**0.70**	**313**	PG	**Pb**	**03 07 46.3**	**-0.5**
CLDR	**Caldiran**	**0.73**	**49**	PG	**Pb**	**03 07 47.8**	**+0.3**
CLDR	**Caldiran**	**0.73**	**49**	*i* P	**Pb**	**03 07 47.8**	**+0.3**
CLDR				*i* S	**Sb**	**03 07 56.4**	**-0.9**
TUTA	**Tutak**	**0.80**	**338**	*i* P	**Pb**	**03 07 48.1**	**-0.4**
TUTA				*i* S	**Sb**	**03 07 58.5**	**-0.5**
GURO	**Guroymak-BITLI**	**0.92**	**263**	PG	**Pb**	**03 07 50.9**	**+0.4**
AGRB	**Hanur-Agry**	**0.93**	**350**	PG	**Pb**	**03 07 50.7**	**+0.1**
AGRB				SG	**Sb**	**03 08 03.1**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.66**	**253**	PN	**Pb**	**03 08 03.5**	**+0.6**

*NIED **29** 03:12:00.22°60N×121°30E, h86km, Mw4.3 Best double couple: M03.26000×10^15 NP1:φs349.00000°, δ20.00000°, λ142.00000°. NP2:φs115.00000°, δ78.00000°, λ74.00000°.*
*BJI **29** 03:12:50.6, 22°73N×121°31E, h70km, mb4.4/26, mB4.5/13, Ms4.1/7, Ms7 3.9/7*
*JMA **29** 03:12:51.8±0.2, 22°64N×121°31E, h87km±3km, M4.4*
*ISCJB **29** 03:12:51.9±0.2, 22°68N±0°02×121°26E±0°02, h98km±1km, mb4.2/35, Error ellipse: s-maj=2.9km s-min=2.2km az=40.8*
*NEIC **29** 03:12:51.8±0.6, 22°57N×121°40E, h91km±4km, mb4.5/19, ML5.0(TAP), Error ellipse: s-maj=7.5km s-min=6.5km az=169.0*
NEIC Recorded [2 TAP] in Pingtung and Taitung; [1 TAP] in Changhua, Chiayi, Penghu and Yunlin.
*TAP **29** 03:12:52.8, 22°69N×121°29E, h88km, ML5.0, B*
*ASIES **29** 03:12:53.8, 22°68N×121°33E, h88km, MW4.0*
*IDC **29** 03:12:56.5±3.5, 22°63N×121°37E, h134km±32km, mb3.8/21, mb1 3.9/22, mb1mx3.9/34, mbtmp4.2/22, MS3.0/6, Ms1 3.1/6, ms1mx2.8/31, Error ellipse: s-maj=15.3km s-min=12.0km az=74.0*
ISC 29 03:12:52.7±0.5, 22°69N±0°03×121°27E±0°03, h95km±4km, n229, σ1s05/325, mb4.4/35, 43C-29D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TTN	**Taitung**	**0.13**	**301**	⇑P	**Pn**	**03 13 06.3**	**+0.3**
	baz=286						
TTN				S	**Sn**	**03 13 16.1**	**+0.2**
	baz=286						
TWGBT	**Beinan**	**0.22**	**307**	⇑P	**Pn**	**03 13 05.8**	**-0.5**
	baz=294						
TWGBT				S	**Sn**	**03 13 14.7**	**-1.7**
	baz=294						
TWG	**Pinlang**	**0.23**	**307**⇑	*iP*	**Pn**	**03 13 05.8**	**-0.5**
	baz=295						
TWG				*i* S	**Sn**	**03 13 15.1**	**-1.4**
	baz=295						
TWG	**Pinlang**	**0.23**	**307**	*e*Pn	**Pn**	**03 13 05.4**	**-0.9**
TWG				*e*Sn	**Sn**	**03 13 14.4**	**-2.1**
ECL	**Taimali**	**0.30**	**253**⇑	*iP*	**Pn**	**03 13 06.1**	**-0.6**
	baz=255						
ECL				*e*S	**Sn**	**03 13 15.5**	**-1.5**
	baz=255						
CHKT	**Chengkung**	**0.42**	**12**⇓	*iP*	**Pn**	**03 13 07.2**	**-0.1**
CHKT				S	**Sn**	**03 13 17.7**	**-0.5**
TAW	**Tawu**	**0.47**	**227**⇑	*iP*	**Pn**	**03 13 07.4**	**-0.2**
	baz=227						
TAW				*e*S	**Sn**	**03 13 18.3**	**-0.6**
	baz=227						
EAST	**Anshuo**	**0.49**	**232**⇑	*iP*	**Pn**	**03 13 07.9**	**0.0**
	baz=232						
EAST				*e*S	**Sn**	**03 13 19.3**	**+0.1**
	baz=232						
FULB	**Fuli**	**0.51**	**3**⇓	*iP*	**Pn**	**03 13 08.0**	**0.0**
	baz=351						
FULB				S	**Sn**	**03 13 19.2**	**-0.2**
	baz=351						
ELDTW	**Lidau**	**0.55**	**335**	P	**Pn**	**03 13 08.7**	**+0.2**
	baz=337						
ELDTW				S	**Sn**	**03 13 19.6**	**-0.7**
	baz=337						
SSD	**Sandimen**	**0.59**	**276**⇑	*iP*	**Pn**	**03 13 09.1**	**+0.5**
	baz=276						
SSD				S	**Sn**	**03 13 19.9**	**-0.6**
	baz=276						
MASBT	**Mashibuluo**	**0.59**	**263**	⇑P	**Pn**	**03 13 09.1**	**+0.5**
	baz=265						
MASBT				S	**Sn**	**03 13 19.7**

baz=260
KAU **Kaohsiung** 0.90 263⇑*e*P Pn 03 13 12.9 +1.4
baz=264
KAU *e*S Sn 03 13 27.6 +1.9
baz=264
TWP **Hsiaoliuchiu** 0.90 248 ⇑P Pn 03 13 13.3 +1.7
baz=260
TWP *e*S Sn 03 13 28.1 +2.3
baz=260
CHN4 **Tsaushan** 0.91 317⇑*i*P Pn 03 13 12.0 +0.2
baz=316
CHN4 *e*S Sn 03 13 25.5 -0.5
baz=316
TWK **Hsinying** 0.92 309⇑*i*P Pn 03 13 12.2 +0.3
baz=302
TWK S Sn 03 13 25.6 -0.8
baz=302
EGFH **Guangfu** 0.99 8 *e*P Pn 03 13 12.1 -0.5
baz=5.0
TAI1 **Yung-k'ang** 1.02 290 *e*P Pn 03 13 13.6 +0.7
baz=291
CHN5 **Tsauling** 1.06 329⇑*i*P Pn 03 13 13.6 +0.1
baz=320
CHN5 *e*S Sn 03 13 28.5 -0.6
baz=320
VWDT **VWDT** 1.07 354 ⇓P Pn 03 13 14.5 +1.0
baz=354
VWDT *e*S Sn 03 13 29.7 +0.6
baz=354
SCLT **Jiali** 1.10 296 ⇑P Pn 03 13 14.3 +0.5
baz=305
SCLT S Sn 03 13 30.2 +0.4
baz=305
CHN2 **Minshiung** 1.12 319 *e*P Pn 03 13 14.2 +0.2
baz=318
CHN2 *e*S Sn 03 13 29.8 -0.3
baz=318
CHY **Chiayi** 1.12 316 *e*P Pn 03 13 14.2 +0.1
baz=316
CHY *e*S Sn 03 13 30.1 -0.1
baz=316
ESL **Shilin** 1.13 8⇓*e*P Pn 03 13 13.6 -0.7
baz=6.0
ESL *e*S Sn 03 13 28.1 -2.3
baz=6.0
SSLB **Suanglung** 1.14 345 ⇓P Pn 03 13 14.4 +0.1
baz=334
SSLB *e*S Sn 03 13 29.9 -0.7
baz=334
SSLB **Suanglung** 1.14 345 *e*Pn Pn 03 13 14.3 0.0
SSLB *e*Sn Sn 03 13 31.3 +0.8
CHN8 **Yiju** 1.18 304 ⇑P Pn 03 13 15.0 +0.3
baz=305
CHN8 *e*S Sn 03 13 31.1 -0.2
baz=305
WGK **Gukeng** 1.19 327 ⇑P Pn 03 13 15.2 +0.3
baz=318
WGK S Sn 03 13 31.6 0.0
baz=318
WLGB **Puzi** 1.19 312 ⇑P Pn 03 13 15.2 +0.3
baz=317
WLGB S Sn 03 13 31.6 -0.1
baz=317
WDLH **Douliu** 1.21 326 *e*P Pn 03 13 15.1 0.0
baz=317
WDLH *e*S Sn 03 13 31.9 -0.1
baz=317
WJS **Zhushan** 1.24 336 *e*P Pn 03 13 16.0 +0.5
baz=334
WJS *e*S Sn 03 13 32.5 -0.1
baz=334
SMLT **Sun Moon Lake** 1.24 344⇓*e*P Pn 03 13 15.8 +0.2
baz=334
SMLT *e*S Sn 03 13 33.1 +0.3
baz=334
TYC **Yuchr** 1.27 343 ⇓P Pn 03 13 16.1 +0.2
baz=340
TYC *e*S Sn 03 13 32.9 -0.4
baz=340
WNT **Mingjian** 1.30 336 *e*P Pn 03 13 16.8 +0.6
baz=334
WNT *e*S Sn 03 13 34.4 +0.4
baz=334
HWA **Hwalien** 1.32 13 *e*P Pn 03 13 16.9 +0.4
baz=1.0
WSF **Szhu** 1.35 315 *e*P Pn 03 13 16.6 -0.2
baz=314
WSF S Sn 03 13 34.3 -0.8
baz=314
CHGB **Renai** 1.37 356 ⇓P Pn 03 13 18.1 +0.8
baz=345
CHGB S Sn 03 13 36.0 +0.1
baz=345
TWD **Chiawan** 1.42 12 ⇑P Pn 03 13 17.5 -0.2
TWD *e*S Sn 03 13 34.9 -1.7
WHF **Hehuan Shan** 1.45 360⇓*i*P Pn 03 13 19.0 +0.5
baz=356
WHF *e*S Sn 03 13 38.9 +0.9
baz=356
RLNB **Erlin** 1.46 325 ⇑P Pn 03 13 18.1 0.0
baz=318
RLNB S Sn 03 13 37.1 -0.3
baz=318
WMLT **Mailiao** 1.47 319 *e*P Pn 03 13 18.4 +0.1
baz=318
WTCT **Ta-ch'eng** 1.48 322 *e*P Pn 03 13 18.2 -0.2
baz=321
WTCT *e*S Sn 03 13 37.5 -0.4
baz=321
NACB **Ninganchiao** 1.51 11 ⇓P Pn 03 13 18.2 -0.6
baz=360
NACB *e*S Sn 03 13 37.8 -0.8
baz=360
NACB **Ninganchiao** 1.51 11 *e*Pn Pn 03 13 18.3 -0.6
NACB *e*Sn Sn 03 13 38.7 +0.1
WCHH **Zhanghua** 1.53 335 *e*P Pn 03 13 19.6 +0.5
baz=333
WCHH *e*S Sn 03 13 39.7 +0.7
baz=333
TCU **Taichung** 1.56 340 *e*P Pn 03 13 20.3 +1.0
baz=330
TDCB **Techi** 1.56 356 ⇓P Pn 03 13 20.3 +0.7
baz=343
TDCB *e*S Sn 03 13 40.9 +0.9
baz=343
TWT **Tachien** 1.56 357 *e*P Pn 03 13 20.6 +0.9
baz=344
TWT *e*S Sn 03 13 40.5 +0.5
baz=344
WDGT **Dungji** 1.59 291⇑*i*P Pn 03 13 19.5 -0.2
baz=293
WDGT S Sn 03 13 38.4 -2.0
baz=293
TWQ1 **Liyutan** 1.72 345 *e*P Pn 03 13 21.7 +0.2
baz=342
TWQ1 *e*S Sn 03 13 43.9 +0.7
baz=342
NNS **Nan Shan** 1.75 3⇓*e*P Pn 03 13 22.8 +0.8
baz=6.0
NNS *e*S Sn 03 13 44.6 +0.4
baz=6.0
PHUB **P'eng-hu** 1.77 298 ⇑P Pn 03 13 21.6 -0.4
baz=305
PHUB S Sn 03 13 42.1 -2.2
baz=305
VCHM **Qimei** 1.77 287 ⇑P Pn 03 13 21.9 -0.2
baz=289
VCHM *e*S Sn 03 13 42.7 -1.8
baz=289
NSY **Sanyi** 1.79 345 *e*P Pn 03 13 23.3 +1.0
baz=343
ENA **Nanau** 1.79 14 *e*P Pn 03 13 22.2 -0.1
baz=1.0
ENA *e*S Sn 03 13 43.5 -1.3
baz=1.0
NANB **Nanao** 1.79 14⇓*e*P Pn 03 13 22.3 -0.1
baz=360
NANB *e*S Sn 03 13 43.8 -1.1
baz=360
PNG **Penghu** 1.81 299⇑*i*P Pn 03 13 22.2 -0.3
baz=301
PNG *e*S Sn 03 13 43.2 -2.0
baz=301
NMLH **Miaoli** 1.90 347 *e*P Pn 03 13 24.2 +0.5
baz=344
NSTT **Nanjuang** 1.95 353 *e*P Pn 03 13 24.4 0.0
baz=350
ENTT **Nioudou** 1.96 8⇓*i*P Pn 03 13 25.2 +0.6
baz=3.0
ENTT S Sn 03 13 49.3 +0.4
baz=3.0
LIOB **Emei** 1.97 353⇓*e*P Pn 03 13 24.7 0.0
baz=351
YHNB **Yeheng** 1.98 3 ⇓P Pn 03 13 26.3 +1.5
baz=5.0
YHNB S Sn 03 13 49.5 +0.2
baz=5.0
YHNB **Yeheng** 1.98 3 *e*Pn Pn 03 13 26.0 +1.1
YHNB *e*Sn Sn 03 13 49.6 +0.3
NSK **Sanguang** 1.98 2 ⇓P Pn 03 13 26.3 +1.4
baz=5.0
NSK S Sn 03 13 49.8 +0.3
baz=5.0
TWC **Suao** 1.99 15 P Pn 03 13 25.6 +0.7
baz=1.0
TWC *e*S Sn 03 13 49.8 +0.3
baz=1.0
EOS1 **EOS1** 2.02 23 ⇓P Pn 03 13 26.2 +1.0
baz=25
EOS1 *e*S Sn 03 13 50.7 +0.7
baz=25
TWE **Neicheng** 2.06 10 *e*P Pn 03 13 26.4 +0.5
baz=5.0
TWE *e*S Sn 03 13 51.5 +0.4
baz=5.0
SLBB **Yuanshan** 2.09 9 *e*P Pn 03 13 27.1 +0.8
baz=11
ILA **Ilan** 2.12 12 *e*P Pn 03 13 27.9 +1.3
baz=2.0
NTC **Toucheng** 2.22 13 *e*P Pn 03 13 29.2 +1.3
baz=1.0
EGS 2.23 16⇓*e*P Pn 03 13 29.4 +1.3
baz=2.0
NCUH **Zhongli** 2.27 358 *e*P Pn 03 13 28.6 -0.1
baz=345
NCU **National Centr** 2.28 358 *e*P Pn 03 13 29.4 +0.8
baz=346
TATO **Taipei** 2.29 5 *e*P Pn 03 13 29.5 +0.7
baz=8.0
TATO *e*S Sn 03 13 58.1 +1.6
baz=8.0
TATO **Taipei** 2.29 5 *e*Pn Pn 03 13 29.7 +0.9
TATO *e*Sn Sn 03 13 57.9 +1.4
TWA **Mucha** 2.30 7 *e*P Pn 03 13 30.0 +0.9
baz=2.0
TWA *e*S Sn 03 13 58.0 +1.2
baz=2.0
TIPB **Shuangxi** 2.33 13⇓*e*P Pn 03 13 30.6 +1.1
JYNG **Yonagunijimaku** 2.34 41 P Pn 03 13 30.0 +0.6
JYNG *e*S Sn 03 13 58.2 +0.6
TAP1 **Taipei** 2.35 6 *e*P Pn 03 13 30.1 +0.4
baz=1.0
YOJ **Yonaguni jima** 2.38 42 ⇓P Pn 03 13 30.7 +0.6
baz=45
YOJ *e*S Sn 03 13 59.3 +0.6
baz=45
YOJ **Yonaguni jima** 2.38 42 *e*Pn Pn 03 13 29.9 -0.1
YOJ *e*Sn Sn 03 13 59.2 +0.5
YOJ **Yonaguni jima** 2.38 42 P Pn 03 13 30.6 +0.6
YOJ S Sn 03 13 58.8 +0.1
TWS1 **Kuangyinshan** 2.41 3 *e*P Pn 03 13 30.9 +0.4
baz=359
NWF **Wu-fen Shan** 2.42 11 *e*P Pn 03 13 31.7 +1.1
baz=5.0
NWF *e*S Sn 03 14 00.5 +0.7
baz=5.0
WFSB **Wu-fen Shan** 2.42 11⇓*e*P Pn 03 13 31.6 +1.0
baz=356
WFSB *e*S Sn 03 14 00.8 +1.2
baz=356
YM01 **YM01** 2.47 6 *e*P Pn 03 13 32.6 +1.4
baz=1.0
YM04 **YM04** 2.47 6 *e*P Pn 03 13 31.6 +0.3
baz=1.0
NTST **Danshui** 2.47 4 *e*P Pn 03 13 30.9 -0.4
baz=359
YM10 **YM10** 2.47 6 *e*P Pn 03 13 31.9 +0.6
baz=1.0
YM10 *e*S Sn 03 14 00.4 -0.6
baz=1.0
YM05 **YM05** 2.48 6 *e*P Pn 03 13 31.8 +0.3
baz=1.0
YM05 *e*S Sn 03 14 00.5 -0.7
baz=1.0
YM11 **YM11** 2.48 6 *e*P Pn 03 13 32.0 +0.4
baz=1.0
YM03 **YM03** 2.50 6 *e*P Pn 03 13 31.3 -0.3
baz=1.0
YM07 **YM07** 2.50 7 *e*P Pn 03 13 32.0 +0.3
baz=2.0
YM08 **YM08** 2.51 7 *e*P Pn 03 13 32.0 +0.2
baz=2.0
HATJ **Hateruma jima** 2.70 59 P Pn 03 13 34.2 -0.1
HATJ *e*S Sn 03 14 06.3 0.0
IRIF **Iriomote-Funau** 2.79 53 P Pn 03 13 35.6 +0.1
IRIF *e*S Sn 03 14 09.9 +1.4
VWUC **VWUC** 2.84 324⇑*e*P Pn 03 13 35.7 -0.4
baz=323
VWUC *e*S Sn 03 14 06.9 -2.6
baz=323
JKRS **Kuro-shima** 2.95 58 P Pn 03 13 37.8 +0.2
JKRS *e*S Sn 03 14 12.4 +0.1
PCYT **Pengchaiyu** 3.02 14 *e*P Pn 03 13 39.3 +0.7
baz=360
PTMZ **Houxiangcun** 3.06 320⇑*e*P Pn 03 13 38.9 -0.2
baz=319
PTMZ *e*S Sn 03 14 12.6 -2.3
baz=319
PTTC **Pingtan** 3.12 334 ⇓P Pn 03 13 39.5 -0.3
baz=332
PTTC *e*S Sn 03 14 13.8 -2.5
baz=332
KNM **Kinmen** 3.12 304⇑*e*P Pn 03 13 41.0 +1.0
baz=304
JIJ **Ishigaki jima** 3.12 57 P Pn 03 13 39.3 -0.6
JIJ *e*S Sn 03 14 15.2 -1.2
KNMB **Chin-men Tao** 3.18 304 *e*P Pn 03 13 40.4 -0.3
baz=306
QZH **Quanzhou** 3.33 313⇑*i*P Pn 03 13 42.3 -0.4
QZH smax smax
comp=N,500nm,0.3s
QZH smax smax
comp=E,320nm,0.6s
JISG **Ishigakijimahi** 3.37 55 P Pn 03 13 42.4 -0.9
ZPLA **Ao Xicun** 3.46 292 *e*P Pn 03 13 44.6 +0.1
baz=296
ZPLA *e*S Sn 03 14 22.7 -1.9
baz=296
MATB **Ma-tsu** 3.66 341⇓*e*P Pn 03 13 46.5 -0.6
baz=338
MATB *e*S Sn 03 14 25.9 -3.3
baz=338
JTJ **Tarama** 3.70 58 P Pn 03 13 47.2 -0.5
AXDP **Jialang** 3.74 307 *e*P Pn 03 13 48.1 -0.1
baz=308
AXDP *e*S Sn 03 14 29.2 -2.0
baz=308
ZZJH **Jiuhuzhen** 3.78 299 *e*P Pn 03 13 48.3 -0.5
baz=301
MHZQ **Yeshan** 3.97 329⇑*e*P Pn 03 13 51.0 -0.3
baz=329
MHZQ *e*S Sn 03 14 34.4 -2.3
baz=329
LYJJ **Jianjiangzhen** 4.09 341⇓*e*P Pn 03 13 52.3 -0.6
baz=338
LYJJ *e*S Sn 03 14 36.9 -2.8
baz=338
JIRB **Irabujima** 4.16 58 P Pn 03 13 53.3 -0.7
JMJ **Miyako jima 2** 4.25 59 P Pn 03 13 55.0 -0.2
JIKM **Ikemajima** 4.27 58 P Pn 03 13 54.1 -1.3
JOGS **Gusukube** 4.32 61 P Pn 03 13 54.4 -1.7
XPSS **Dashiqiu** 4.34 347⇓*e*P Pn 03 13 55.4 -1.0
baz=345
VDOS **Pratas Island** 4.66 246 *e*P Pn 03 14 01.4 +0.7
baz=247
MCO **Taipa Grande** 7.16 267 P Sn 03 15 50.0 -4.5
GZH **Guangzhou** 7.32 275 P Pn 03 14 34.0 -2.9
GZH smax smax
comp=N,280nm,1.0s
GZH smax smax
comp=E,210nm,0.8s
JOW **Kunigami** 7.59 56 P Pn 03 14 38.5 -2.0
1.5nm,0.3s,baz=168,slow=19,SNR=3.1
NJ2 **Nanjing** 9.57 348 *e*P Pn 03 15 09.5 +1.9
NJ2 pmax pmax
comp=Z,12nm,0.6s
GYA **Guiyang** 13.81 289 *e*P Pn 03 16 04.3 -0.2
GYA pP P 03 16 15.5 +5.8
GYA S Sn 03 18 37.0 +0.5
GYA sS S 03 18 56.5 +4.1
GYA pmax pmax
comp=Z,10.0nm,0.7s
GYA LR LR
comp=N,410nm,15.2s
GYA LR LR
comp=E,430nm,15.5s
GYA LR LR
comp=Z,400nm,15.4s
KS15 **Wonju Array Si** 15.78 20 *e*Pn P 03 16 30.9 -0.5
KSAR **Wonju Array Be** 15.78 20 P P 03 16 30.9 -0.5
KSRS **Korea Array** 15.80 20 P P 03 16 30.9 -0.7
0.2nm,0.3s,baz=203,slow=11,SNR=5.6
KSRS LR LR 03 22 07.9
comp=Z,28nm,20.8s,baz=215,slow=35
KMI **Kunming** 17.12 282 P Pn 03 16 46.3 0.0
KMI pmax pmax
comp=Z,17nm,0.5s
CD2 **Chengdu** 17.63 301 *e*P P 03 16 52.0 0.0
BJI **Beijing** 17.83 347 *e*P Pn 03 16 56.5 +1.9
BJI pmax pmax
comp=Z,8.0nm,0.7s
INU **Inuyama** 18.65 44 *e*P P 03 17 03.1 +0.1
44nm,0.6s
HHC **Hu-ho-hao-te** 19.88 338 *e*P Pn 03 17 19.3 +0.4
HHC pP pP 03 17 34.8 +0.2
HHC sP sP 03 17 44.8 -1.8
HHC S S 03 20 56.8 +1.7
HHC sS sS 03 21 20.0 -5.1
HHC pmax pmax
comp=Z,38nm,1.0s
HHC pmax pmax
comp=Z,110nm,5.4s
HHC LR LR
comp=N,100nm,10.1s
HHC LR LR
comp=E,180nm,9.4s
HHC LR LR
comp=Z,140nm,10.1s
MAJO **Matsushiro** 20.14 43 *e*P P 03 17 17.2 -2.1
17nm,0.8s
MAT **Matsushiro** 20.14 43 P Pn 03 17 21.9 -0.1
MJB9 **Matsu-Tunnel** 20.14 43 *e*P Pn 03 17 22.4 +0.4
17nm,0.8s
MJAR **Matsushiro Arr** 20.14 43 P Pn 03 17 21.1 -0.9
9.0nm,0.8s,baz=235,slow=9.7,SNR=20
MJAR LR LR 03 24 54.3
comp=Z,52nm,20.9s,baz=85,slow=36
LZH **Lanzhou** 20.18 315 *e*P Pn 03 17 24.8 +2.2
LZH pP pP 03 17 41.5 +3.4
LZH sP sP 03 17 49.5 -0.5
LZH pmax pmax
comp=Z,24nm,1.2s
LZH pmax pmax
comp=Z,120nm,4.4s
CMAR **Chiang Mai Arr** 21.32 263 P P 03 17 35.0 +3.0
2.2nm,0.4s,baz=72,slow=9.6,SNR=6.7
CMAR PcP PcP 03 21 33.6 +0.6
1.0nm,0.5s,baz=82,slow=0.2,SNR=4.9
CMAR LR LR 03 25 53.3
comp=Z,25nm,18.5s,baz=112,slow=36
USRK **Ussuriysk Ar.** 23.21 20 P P 03 17 52.8 +1.4
2.5nm,0.6s,baz=210,slow=8.1,SNR=6.0
GTA **Gaotai** 24.72 317 *e*P P 03 18 07.0 +1.8
ULN **Ulaanbaatar** 27.58 339 *e*P P 03 18 31.2 +0.2
8.8nm,0.7s
ASAJ **Asahikawa** 27.67 34 P P 03 18 32.6 +1.0
8.8nm,0.8s,baz=271,slow=12,SNR=4.7
ASAJ **Asahikawa** 27.67 34 *e*P P 03 18 32.6 +1.0
72nm,1.5s
KLR **Kul'dur** 27.76 15 P P 03 18 33.6 +1.3
1.6nm,0.6s,baz=193,slow=9.6,SNR=6.9
KLR PcP PcP 03 21 45.0 -1.6
1.0nm,0.5s,baz=188,slow=4.2,SNR=4.1
SONA0 **Songino Array** 27.78 338 *e*P P 03 18 33.2 +0.5
SONA0 *e*PcP PcP 03 21 46.1 -0.8
SONM **Songino Array** 27.78 338 P P 03 18 33.2 +0.5
8.7nm,0.8s,baz=154,slow=9.7,SNR=65
SONM PcP PcP 03 21 46.1 -0.8
0.3nm,0.3s,baz=172,slow=4.2,SNR=4.8
SONA1 **Songino Array** 27.79 338 *e*P P 03 18 32.8 0.0
WMQ **Urumqi** 34.76 315 *e*P P 03 19 36.5 +2.5
MK01 **Makanchi Array** 39.46 317 *e*P P 03 20 15.0 +1.3
MK31 **Makanchi Array** 39.48 317 *e*P P 03 20 15.6 +1.8
MK32 **Makanchi Array** 39.48 317 *e*P P 03 20 15.3 +1.5
MKAR **Makanchi Array** 39.48 317 P P 03 20 15.3 +1.5
5.3nm,0.7s,baz=113,slow=10,SNR=32
MKAR **Makanchi Array** 39.48 317 *e*P P 03 20 15.6 +1.8
37nm,0.7s
PETK **Petropavlovsk-** 41.07 33 P P 03 20 27.0 +0.2
5.3nm,1.0s,baz=232,slow=12,SNR=3.5
PETK LR LR 03 38 07.9
comp=Z,19nm,20.0s,baz=262,slow=37
PEA1 **Petropavlovsk-** 41.07 33 *e*P P 03 20 27.0 +0.2
ZAA0 **Zalesovo Array** 41.55 328 *e*P P 03 20 31.4 +0.7
6.3nm,0.8s
ZALV **Zalesovo Beam** 41.55 328 P P 03 20 31.1 +0.4
4.2nm,0.3s,baz=112,slow=7.6,SNR=31
ZALV **Zalesovo Beam** 41.55 328 *e*P P 03 20 30.9 +0.2
ZAA1 **Zalesovo Array** 41.55 328 *e*P P 03 20 31.1 +0.4
NRN **Naryn** 42.14 307 *e*P P 03 20 38.8 +2.6
5.8nm,0.8s
MA2 **Magadan** 42.34 22 LR LR 03 38 45.6
comp=Z,29nm,18.6s,baz=144,slow=37
H11N1 **WAKE ISLAND Hy** 42.51 85 T T 04 06 16.9
baz=283,slow=74,SNR=67
H11N2 **WAKE ISLAND Hy** 42.52 85 T T 04 06 19.6
baz=283,slow=74,SNR=113
H11N3 **WAKE ISLAND Hy** 42.53 85 T T 04 06 17.5
baz=283,slow=74,SNR=103
H11S3 **WAKE ISLAND Hy** 42.60 87 T T 04 06 29.1
baz=284,slow=75,SNR=152
H11S1 **WAKE ISLAND Hy** 42.61 87 T T 04 06 29.2
baz=284,slow=75,SNR=68
H11S2 **WAKE ISLAND Hy** 42.62 87 T T 04 06 13.8
baz=284,slow=75,SNR=53
KURK **Kurchatov** 43.29 321 *e*P P 03 20 46.3 +1.4
7.2nm,0.8s
WR1 **Warramunga Arr** 44.25 162 *e*P P 03 20 50.9 -2.0
8.6nm,1.4s
WR1 *e*PcP PcP 03 22 35.6 -0.3
WRA **Warramunga Arr** 44.25 162 P P 03 20 50.9 -2.0
1.1nm,0.5s,baz=345,slow=8.7,SNR=14
WRA PcP PcP 03 22 35.6 -0.3
0.4nm,0.5s,baz=342,slow=3.3,SNR=3.7
KK31 **Karatay Array** 46.45 308 *e*P P 03 21 12.1 +1.9
KKAR **Karatay Array** 46.45 308 *e*P P 03 21 12.1 +1.9
AS31 **Alice Springs** 47.68 164 *e*P P 03 21 18.8 -1.0
1.0nm,1.0s
AS31 *e*PcP PcP 03 22 46.7 -1.2
ASAR **Alice Springs** 47.68 164 P P 03 21 18.8 -1.0
0.6nm,0.5s,baz=355,slow=14,SNR=9.0
ASAR PcP PcP 03 22 46.7 -1.2
0.4nm,0.5s,baz=332,slow=3.2,SNR=2.8
BRVK **Borovoye** 48.95 322 *e*P P 03 21 30.9 +1.6
6.3nm,1.0s
TIXI **Tiksi** 49.18 3 *e*P P 03 21 29.6 -1.0
4.7nm,0.9s
NRIK **Noril'sk** 50.87 345 P P 03 21 41.7 -1.8
7.8nm,0.6s,baz=118,slow=8.1,SNR=11
ABKAR **Akbulak array** 54.55 315 *e*P P 03 22 12.1 +1.2
ARU **Arti** 56.35 324 *e*P P 03 22 24.6 +0.9
6.1nm,0.8s
KLMR **Klimovskoe** 66.47 328 *e*P P 03 23 30.6 -1.2
KLMR AMP 03 23 40.8
comp=Z,9.0nm,1.5s
KBZ **Khabaz** 66.48 309 P P 03 23 33.0 +0.8
comp=Z,1.3nm,0.8s,baz=104,slow=18,SNR=3.2
MDM **Murphy Dome** 69.91 27 *e*P P 03 23 53.9 +0.7
comp=Z,7.9nm,1.0s
RND **Reindeer** 69.92 29 *e*P P 03 23 52.9 -0.6
comp=Z,5.5nm,0.9s
ILAR **Eielson Array** 70.50 27 P P 03 23 55.2 -1.6
comp=Z,0.4nm,0.6s,baz=294,slow=5.9,SNR=7.7
ILB **Eielson Array** 70.50 27 *e*P P 03 23 55.2 -1.6
ARA0 **ARCESS Array S** 70.95 338 *e*P P 03 23 59.2 -0.4
ARCES **ARCESS Array B** 70.95 338 P P 03 23 59.2 -0.4
comp=Z,2.0nm,0.6s,baz=70,slow=10,SNR=13
FIA0 **FINESS Array S** 72.77 330 *e*P P 03 24 10.6 0.0
FINES **FINESS Array B** 72.77 330 P P 03 24 10.6 +0.1
comp=Z,3.8nm,0.5s,baz=50,slow=6.1,SNR=23
AKASG **Malin Array Be** 74.04 319 P P 03 24 17.0 -1.2

comp=Z,0.3nm,0.4s,baz=56,slow=6.0,SNR=2.3
AKBB Malin Array Si 74.04 319 *e*P **P 03 24 17.0 -1.2**
comp=Z,4.7nm,1.3s
BR101 Keskin Array S 74.12 307 *e*P **P 03 24 19.6 +0.5**
BRTR Keskin Array B 74.12 307 P **P 03 24 19.6 +0.5**
comp=Z,0.7nm,0.7s,baz=148,slow=3.8,SNR=5.4
INK Inuvik 74.58 22 *e*P **P 03 24 20.4 -0.5**
comp=Z,4.2nm,0.9s
DAG Danmarks Havn 77.85 351 *i* P **P 03 24 38.7 -0.7**
comp=Z,5.3nm,0.9s
NC405 NORSAR Array S 79.33 332 *e*P **P 03 24 47.9 +0.1**
NB2 NORSAR Subarra 79.58 332 P **P 03 24 48.3 -0.9**
comp=Z,0.8nm,0.5s,baz=61,slow=5.1
NB200 NORSAR Array S 79.58 332 *e*P **P 03 24 48.7 -0.5**
NOA NORSAR Array B 79.58 332 P **P 03 24 48.7 -0.5**
comp=Z,3.1nm,0.8s,baz=60,slow=5.3,SNR=8.8
NOA LR LR 04 02 12.9
comp=Z,14nm,19.0s,baz=270,slow=37
VYHS Vyhne 81.14 319 *e*P **P 03 24 58.5 +0.7**
SUMG Summit 83.99 354 *e*P **P 03 25 12.8 +0.2**
comp=Z,10nm,0.9s
SUMG Summit 83.99 354 *i* P **P 03 25 12.5 -0.1**
comp=Z,34nm,0.8s
GERES GERESS Array B 84.05 321 P **P 03 25 12.4 -0.6**
comp=Z,0.4nm,0.6s,baz=64,slow=4.8,SNR=3.7
YKA Yellowknife Ar 84.31 23 P **P 03 25 12.8 -1.1**
comp=Z,1.3nm,0.7s,baz=314,slow=4.7,SNR=12
YKB5 Yellowknife Ar 84.31 23 *e*P **P 03 25 13.0 -0.8**
SZCU Shurtz Canyon 101.22 41 *e*Sdif Sdif 03 38 07.2 +2.2
LTX Lajitas 112.58 42 *e*PKiKP **PKiKP 03 31 18.2 -0.5**
TXAR Lajitas Array 112.58 42 PKiKP **PKiKP 03 31 18.2 -0.5**
comp=Z,0.3nm,0.5s,baz=244,slow=0.4,SNR=9.5
SDV Santo Domingo 146.53 22 *e*PKPdf **PKPdf 03 32 22.8 +0.1**

IDC 29 03:50:27.2±747.0, 50°22.N×130°28.E, h0km, Error ellipse: s-maj=278.7km s-min=137.5km az=160.0, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**6.13**	**169**	*i*		04 27 53.7	
	baz=349,slow=285,SNR=1.5						
I30JP	**ISUMI INFRASON**	**16.60**	**150**	*i*		05 35 40.0	
	baz=339,slow=322,SNR=0.9						
I44RU	**PETROPAVLOVSK**	**17.22**	**70**	*i*		05 40 40.0	
	baz=272,slow=334,SNR=0.6						

*ISCJB **29** 03:57:09.7±0.6, 27°.84S±0°.05×140°.64E±0°.06, h10km, Error ellipse: s-maj=7.8km s-min=7.6km az=6.6*
*AUST **29** 03:57:10.4±0.0, 27°.83S×140°.61E, h0km, Error ellipse: s-maj=0.1km s-min=0.1km az=309.0*
*IDC **29** 03:57:14.2±4.5, 26°.99S×140°.98E, h0km, mb1 3.2/3, mb1mx3.1/21, mbtmp3.0/3, ML2.9/3, Error ellipse: s-maj=92.3km s-min=29.6km az=62.0*
ISC 29 03:57:10.8±0.9, 27°.79S±0°.05×140°.64E±0°.06, h10km, n10, σ2$25/16, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QLP	**Quilpie**	**3.42**	**70**	P	**Pn**	**03 58 05.8**	**+1.6**
	baz=3.5						
QLP				S	**Sn**	**03 58 44.6**	**-0.2**
	baz=3.5						
STKA	**Stephens Creek**	**4.15**	**169**	Pn	**Pg**	**03 58 28.9**	**-1.5**
	0.2nm,0.3s,baz=349,slow=18,SNR=2.9						
STKA				Sn	**Sg**	**03 59 23.5**	**-0.7**
	0.8nm,0.3s,baz=354,slow=10,SNR=4.6						
STKA	**Stephens Creek**	**4.15**	**169**	P	**Pn**	**03 58 17.1**	**+2.8**
	baz=4.1						
STKA				S	**Sn**	**03 59 02.4**	**-0.6**
	baz=4.1						
CMSA	**Cobar Meteorol**	**5.76**	**132**	P	**Pn**	**03 58 36.4**	**0.0**
	baz=5.8						
BBOO	**Buckleboo**	**6.38**	**217**	P	**Pn**	**03 58 46.2**	**+1.3**
	baz=6.3						
BBOO				S	**Sn**	**03 59 56.6**	**-1.2**
	baz=6.3						
QIS	**Mount Isa**	**7.26**	**352**	P	**Pn**	**03 59 00.0**	**+2.9**
	baz=7.3						
AS01	**Alice Springs**	**7.30**	**303**	P	**Pn**	**03 59 00.4**	**+2.8**
	baz=7.3						
ASAR	**Alice Springs**	**7.33**	**303**	Pn	**Pn**	**03 59 00.6**	**+2.6**
	0.2nm,0.3s,baz=117,slow=12,SNR=8.0						
ASAR				Sn	**Sn**	**04 00 19.5**	**-1.9**
	0.2nm,0.3s,baz=122,slow=23,SNR=3.9						
WB2	**Warramunga Arr**	**9.70**	**322**	P	**Pn**	**03 59 31.7**	**+1.2**
	baz=9.7						
WRA	**Warramunga Arr**	**9.71**	**322**	Pn	**Pn**	**03 59 30.1**	**-0.5**
	0.1nm,0.3s,baz=139,slow=13,SNR=12						
WRA				Sn	**Sn**	**04 01 15.2**	**-4.6**
	0.1nm,0.3s,baz=139,slow=23,SNR=3.1						

MEX 29 04:11:21.7±0.8, 14°.17N×92°.07W, h15km±38km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.76**	**346**	*e*P	Pg	04 11 34.6	-2.0
THIG				*e*S	Sg	04 11 44.2	-2.5
PCIG		**1.89**	**324**	*i* P	Pn	04 11 49.6	-3.9
PCIG				*e*S	Sn	04 12 11.8	-5.2
TGIG		**2.79**	**339**	*e*P	Pn	04 12 03.0	-2.8
TGIG				*i* S	Sn	04 12 35.7	-3.6
HUIG	**Huatulco**	**4.22**	**293**	*e*P	Pn	04 12 22.6	-2.9
HUIG				*i* S	Sn	04 13 11.7	-2.8

KRSC 29 04:19:10.2±1.5, 50°.44N×157°.91E, h41km±21km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.17**	**283**	*e*P	Pn	04 19 30.7	+0.7
SKR				*e*S	Sn	04 19 44.8	+0.1
PAU	**Pauzhetka**	**1.24**	**326**	*e*P	Pn	04 19 32.9	+1.9
PAU				*e*S	Sn	04 19 48.5	+2.0
KDTR	**Khodutka, Kamc**	**1.37**	**4**	*e*P	Pn	04 19 34.7	+1.9
KDTR				*e*S	Sn	04 19 51.0	+1.2
RUS	**Russkaya**	**2.03**	**11**	*e*P	Pn	04 19 44.2	+2.4
RUS				*e*S	Sn	04 20 07.9	+2.0
MTVR	**Mutnovka**	**2.05**	**5**	*e*P	Pn	04 19 44.9	+2.6
MTVR				*e*S	Sn	04 20 09.3	+2.6
APC	**Apacha**	**2.53**	**350**	*e*P	Pn	04 19 52.4	+3.7
PET	**Petropavlovsk**	**2.63**	**10**	*e*P	Pn	04 19 53.0	+3.0
PET				*e*S	Sn	04 20 23.6	+3.0
DALK	**Dalny**	**2.64**	**11**	*e*P	Pn	04 19 53.3	+3.0
DALK				*e*S	Sn	04 20 23.9	+2.8
UGLR	**Uglovaya**	**2.83**	**11**	*e*P	Pn	04 19 56.7	+3.8
AVH	**Avacha**	**2.87**	**10**	*e*P	Pn	04 19 58.1	+4.6
AVH				*e*S	Sn	04 20 32.3	+5.4
KOK	**Koryaka**	**2.89**	**9**	*e*P	Pn	04 19 57.7	+3.9
SDLR	**Sedlovina**	**2.90**	**12**	*e*P	Pn	04 19 57.0	+3.0
SPN	**Mys Shipunski**	**2.97**	**25**	*e*P	Pn	04 19 59.5	+4.8
SPN				*e*S	Sn	04 20 31.6	+2.6
GNL	**Ganaly**	**3.26**	**0**	*e*P	Pn	04 20 02.8	+4.0
GNL				*e*S	Sn	04 20 41.1	+4.7
MKZ	**Mys Kozlova**	**4.74**	**28**	*e*P	Pn	04 20 22.4	+3.4
KZV	**Kizimen**	**4.90**	**16**	P	Pn	04 20 27.0	+5.6
KBTR	**Krutoberegovo**	**6.48**	**25**	*e*P	Pn	04 20 46.5	+3.6

IDC 29 04:22:12.9±367.0, 50°.86N×116°.36E, h0km, Error ellipse: s-maj=149.0km s-min=137.2km az=109.0, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**7.18**	**249**	*i*		05 08 10.0	
	baz=62,slow=345,SNR=0.5						
I45RU	**USSURIYSK INFR**	**12.47**	**116**	*i*		05 38 20.0	
	baz=305,slow=338,SNR=2.4						
I30JP	**ISUMI INFRASON**	**23.25**	**123**	*i*		06 45 30.0	
	baz=321,slow=322,SNR=0.8						
I44RU	**PETROPAVLOVSK**	**25.32**	**69**	*i*		06 56 10.0	
	baz=287,slow=330,SNR=0.6						

ISC 29 04:26:45.4±1.4, 45°.22N±0°.04×14°.64E±0°.05, h11km±15km, n8, σ0$32/16, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDS	**Knezji Dol**	**0.36**	**330**	*i* Pg	**Pg**	**04 26 52.8**	**+0.2**
KNDS				*e*Sg	**Sb**	**04 26 59.0**	**-0.5**
KNDS	**Knezji Dol**	**0.36**	**330**	*i* Pg	**Pg**	**04 26 52.8**	**+0.2**
KNDS				*e*Sg	**Sb**	**04 26 59.0**	**-0.5**
CEY	**Cerknica**	**0.54**	**344**	*e*Pg	**Pg**	**04 26 56.2**	**+0.3**
CEY				*i* Sg	**Sb**	**04 27 04.8**	**+0.1**
CEY	**Cerknica**	**0.54**	**344**	*e*Pg	**Pg**	**04 26 56.2**	**+0.3**
CEY				*i* Sg	**Sb**	**04 27 04.8**	**+0.1**
SKDS	**Skadanscina**	**0.55**	**307**	*i* Pg	**Pg**	**04 26 56.0**	**-0.1**
SKDS				*i* Sg	**Sb**	**04 27 05.0**	**+0.2**
SKDS	**Skadanscina**	**0.55**	**307**	*i* Pg	**Pg**	**04 26 56.0**	**-0.1**
SKDS				*i* Sg	**Sb**	**04 27 05.0**	**+0.2**
NVLJ	**Novalja**	**0.68**	**166**	*e*Pg	**Pg**	**04 26 58.4**	**-0.1**
NVLJ				Sg	**Sb**	**04 27 09.0**	**+0.5**
OZLJ	**Ozalj**	**0.71**	**56**	*e*Pg	**Pg**	**04 26 59.1**	**0.0**
OZLJ				Sg	**Sg**	**04 27 08.1**	**-0.3**

*BER **29** 04:36:08.9±0.4, 71°.07N×7°.00W, h10km, ML3.3*
ISC 29 04:36:11.2±3.6, 71°.2N±0°.1×7°.7W±0°.3, h19km, n5, σ1$40/8, 1D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.32**	**221**	*e*P	**Pb**	**04 36 17.6**	**-0.8**
JNE				IAML		04 36 26.1	
	comp=Z,2μm,0.2s						
JNW	**Jan Mayen West**	**0.33**	**232**	*e*P	**Pb**	**04 36 18.2**	**-0.2**
JNW				IAML		04 36 26.1	
	comp=Z,3μm,0.2s						
JMIC	**Jan Mayen**	**0.37**	**229**	*i* P	**Pg**	**04 36 18.4**	**-0.6**
JMIC				*e*S	**Sb**	**04 36 25.6**	**+1.0**
JMIC				IAML		04 36 26.6	
	comp=Z,1μm,0.3s						
JMI	**Jan Mayen**	**0.47**	**230**	*e*P	**Pg**	**04 36 19.9**	**-0.7**
JMI				*e*S	**Sb**	**04 36 28.3**	**+1.1**
JMI				IAML		04 36 31.2	
	comp=Z,982nm,0.4s						
DAG	**Danmarks Havn**	**6.33**	**336**	*i* P	**Pn**	**04 37 44.8**	**+1.6**
DAG				*i* S	**Sn**	**04 38 52.9**	**-1.9**

RSNC 29 04:39:50.7±1.5, 2°.04N×75°.80W, h2km±5km, ML3.5, Mw3.6, 5C-4D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FLOC	**Florencia**	**0.48**	**162**	*i* P	Pg	04 39 59.2	-0.7
FLOC				*e*S	Sg	04 40 05.8	-0.4
FLOC				*i*		04 40 07.5	
	comp=Z,5μm,0.3s						
PCON	**Cinco Dias**	**0.66**	**295**	*i* P	Pg	04 40 03.4	-0.1
PCON				*e*S	Sg	04 40 12.8	+0.8
BETC	**Betania**	**0.73**	**29**	*i* P	Pg	04 40 04.5	-0.2
BETC				*i*		04 40 04.7	
	comp=Z,2μm,0.1s						
BETC				*e*S	Sg	04 40 14.5	+0.4
MARP	**Paez Belalcaza**	**0.81**	**349**	*i* P	Pg	04 40 04.7	-1.6
MARP				*e*S	Sg	04 40 16.0	-0.8
SOTA	**Rioblanco**	**0.81**	**276**	*i* P	Pg	04 40 06.0	-0.3
SOTA				*e*S	Sg	04 40 17.6	+0.6
POPC	**Popayan, Colom**	**1.01**	**299**	*i* P	Pg	04 40 09.0	-1.0
POPC				*e*S	Sg	04 40 22.5	-0.6
POPC				*i*		04 40 23.6	
	comp=N,780nm,0.4s						
CRUC	**La Cruz**	**1.24**	**248**	*i* P	Pg	04 40 13.1	-1.5
CRUC				*e*S	Sg	04 40 30.1	-0.7
CRUC				*i*		04 40 33.5	
	comp=Z,697nm,0.3s						
CPAS2	**Pasto**	**1.67**	**241**	*e*P	Pn	04 40 21.5	+0.2
CPAS2				*e*S	Sn	04 40 43.5	+0.1
CPAS2				*i*		04 40 53.1	
	comp=Z,578nm,0.3s						
GCUF	**Volcan Galeras**	**1.75**	**242**	*i* P	Pn	04 40 22.1	-0.4
GCUF				*e*S	Sn	04 40 45.7	+0.1
GCUF				*i*		04 40 48.6	
	comp=Z,402nm,0.3s						
PRAC	**Prado**	**1.89**	**29**	*e*P	Pn	04 40 21.5	-2.6
PRAC				*e*S	Sn	04 40 48.6	0.0
PRAC				*i*		04 40 49.2	
	comp=N,320nm,0.1s						
YOTC	**Yotoco, Valle**	**2.00**	**344**	*i* P	Pn	04 40 24.4	-1.4
YOTC				*e*S	Sn	04 40 50.9	-0.9
CMBC	**Cumbal**	**2.30**	**242**	*e*P	Pb	04 40 32.0	-1.3
ANIL	**Santa Ana**	**2.46**	**9**	*e*P	Pn	04 40 31.0	-1.2
TOLC	**Tolima**	**2.57**	**11**	*e*P	Pn	04 40 32.5	-1.2
RREF	**El Recreo**	**2.88**	**9**	*e*P	Pn	04 40 38.4	+0.2
VILC	**Villavicencio,**	**2.94**	**46**	*e*P	Pn	04 40 38.1	-0.5
CHIC	**Chingaza**	**3.29**	**39**	*e*P	Pn	04 40 42.9	-0.9
CHIC				*i*		04 41 42.2	
	comp=N,238nm,0.6s						
PTBC	**PUERTO BERRIO,**	**4.66**	**17**	*e*P	Pn	04 40 59.2	-3.1

*ISCJB **29** 05:08:08.1±0.6, 4°.61S±0°.05×35°.75E±0°.06, h10km, mb3.9/8, MS3.3/1, Error ellipse: s-maj=9.3km s-min=6.6km az=2.2*
*IDC **29** 05:08:08.3±0.9, 4°.83S×36°.21E, h0km, mb3.9/8, mb1 4.0/11, mb1mx3.7/45, mbtmp3.9/11, ML3.8/3, MS3.2/2, Ms1 3.2/2, ms1mx2.6/31, Error ellipse: s-maj=32.8km s-min=18.8km az=114.0*
ISC 29 05:08:09.6±0.7, 4°.69S±0°.06×35°.9E±0°.1, h10km, n13, σ1$44/15, mb3.9/8, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIBA	**Kibaya**	**0.88**	**134**	*i* P	Pn	05 08 29.2	+0.9
KIBA				*i* S	**Sn**	**05 08 42.5**	**+1.1**
KMBO	**Kilima Mbogo**	**3.77**	**20**	Pn	**Pn**	**05 09 07.4**	**-0.7**
	15nm,0.3s,baz=196,slow=16,SNR=98						
KMBO				Pg	**Pb**	**05 09 15.0**	**-1.6**
	23nm,0.3s,baz=197,slow=19,SNR=24						
KMBO				Sn	**Sn**	**05 09 51.4**	**-1.3**
	15nm,0.3s,baz=125,slow=15,SNR=3.4						
KMBO				Lg	Lg	05 10 00.4	
	65nm,0.3s,baz=79,slow=17,SNR=17						
LSZ	**Lusaka**	**12.99**	**215**	Pn	**Pn**	**05 11 14.0**	**-0.6**
	0.2nm,0.3s,baz=34,slow=9.6,SNR=2.1						
LSZ				Sn	**Sn**	**05 13 37.1**	**-2.3**
	0.5nm,0.3s,baz=68,slow=8.7,SNR=1.8						
LSZ				Lg	Lg	05 14 57.6	
	1.1nm,0.3s,baz=325,slow=16,SNR=8.8						
MATP	**Matopo**	**17.24**	**204**	P	**P**	**05 12 11.6**	**-0.8**
	0.1nm,0.3s,baz=25,slow=14,SNR=2.2						
MATP				Lg	Lg	05 17 06.1	
	0.2nm,0.3s,baz=221,slow=12,SNR=2.0						
MATP				LR	LR	05 18 59.3	
	comp=Z,52nm,18.2s,baz=79,slow=38						
BOSA	**Boshof**	**25.87**	**202**	P	**P**	**05 13 41.5**	**-0.3**
	2.2nm,0.9s,baz=22,slow=5.4,SNR=2.4						
TORD	**Torodi Ar. Bea**	**38.35**	**298**	LR	LR	05 31 22.5	
	comp=Z,44nm,19.3s,baz=260,slow=36						
AKASG	**Malin Array Be**	**55.47**	**355**	P	**P**	**05 17 45.9**	**+1.5**
	0.2nm,0.3s,baz=180,slow=6.8,SNR=6.0						
GERES	**GERESS Array B**	**56.73**	**343**	P	**P**	**05 17 54.9**	**+1.2**
	0.8nm,0.9s,baz=146,slow=9.0,SNR=5.0						
ESDC	**Sonseca Array**	**57.42**	**324**	P	**P**	**05 18 01.1**	**+2.4**
	1.2nm,0.9s,baz=118,slow=7.0,SNR=2.7						
MKAR	**Makanchi Array**	**65.56**	**33**	P	**P**	**05 18 53.2**	**-0.4**
	1.1nm,1.0s,baz=256,slow=5.8,SNR=3.2						
KURBB	**Kurchatov Arra**	**66.12**	**28**	P	**P**	**05 18 58.1**	**+1.1**
	1.8nm,0.3s,baz=230,slow=6.8,SNR=4.3						
CMAR	**Chiang Mai Arr**	**66.18**	**68**	P	**P**	**05 18 56.9**	**-1.3**
	0.8nm,0.4s,baz=263,slow=7.2,SNR=3.4						
SONM	**Songino Array**	**80.52**	**40**	P	**P**	**05 20 22.8**	**+0.5**
	0.4nm,0.4s,baz=239,slow=4.7,SNR=4.9						

MEX 29 05:09:18.5±0.6, 14°.26N×92°.51W, h33km±31km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.69**	**20**	*e*P	Pn	05 09 30.3	-1.7
THIG				*e*S	Sb	05 09 38.5	-3.0
PCIG		**1.59**	**335**	*i* P	Pn	05 09 42.5	-1.8
PCIG				*e*S	Sn	05 10 01.3	-2.5
TGIG		**2.57**	**347**	*e*P	Pn	05 09 55.8	-2.2
TGIG				*i* S	Sn	05 10 26.3	-1.8

IDC 29 05:15:01.8±3.0, 7°.13S×129°.40E, h103km±42km, mb3.2/1, mb1 3.3/5, mb1mx3.2/29, mbtmp3.5/5, Error ellipse:
s-maj=74.5km s-min=22.8km az=92.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.49**	**17**	P	Pn	05 16 35.0	+0.2
	0.5nm,0.3s,baz=195,slow=19,SNR=8.1						
SIJI				S	Sn	05 17 43.4	-4.1
	1.1nm,0.3s,baz=269,slow=24,SNR=1.1						
FITZ	**Fitzroy Crossi**	**11.51**	**198**	P	Pn	05 17 43.2	+0.3
	0.3nm,0.3s,baz=17,slow=14,SNR=18						
FITZ				S	Sn	05 19 44.0	-5.5
	0.1nm,0.3s,baz=43,slow=19,SNR=1.3						
WRA	**Warramunga Arr**	**13.61**	**160**	P	Pn	05 18 09.1	-1.7
	0.2nm,0.3s,baz=334,slow=13,SNR=7.4						
WRA				S	Sn	05 20 30.5	-10
	0.3nm,0.3s,baz=330,slow=23,SNR=5.4						
ASAR	**Alice Springs**	**17.01**	**166**	P	P	05 18 54.6	+0.9
	0.2nm,0.3s,baz=350,slow=9.9,SNR=2.3						
MKAR	**Makanchi Array**	**68.00**	**327**	P	P	05 25 50.1	0.0
	0.3nm,0.5s,baz=118,slow=7.2,SNR=4.2						

*ISCJB **29** 05:14:58.9±0.6, 30°.28S±0°.04×138°.34E±0°.07, h10km, Error ellipse: s-maj=9.3km s-min=5.5km az=156.0*
*AUST **29** 05:14:59.8±0.6, 30°.39S×138°.37E, h0km, Error ellipse: s-maj=6.3km s-min=5.1km az=171.0*
*IDC **29** 05:15:00.6±2.8, 30°.19S×138°.53E, h0km, mb1 3.2/3, mb1mx3.2/22, mbtmp3.0/3, ML2.9/3, Error ellipse: s-maj=66.2km s-min=13.6km az=45.0*
ISC 29 05:15:01.1±0.9, 30°.35S±0°.07×138°.34E±0°.06, h10km, n7, σ0$70/13, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTT	**Hallett**	**3.12**	**171**	P	**Pn**	**05 15 49.7**	**-0.6**
	baz=3.1						
BBOO	**Buckleboo**	**3.13**	**218**	P	**Pn**	**05 15 50.3**	**-0.3**
	baz=3.1						
BBOO				S	**Sn**	**05 16 28.3**	**+0.2**
	baz=3.1						
STKA	**Stephens Creek**	**3.18**	**120**	Pn	**Pn**	**05 15 51.6**	**+0.4**
	0.4nm,0.3s,baz=299,slow=14,SNR=4.6						
STKA				Pg	**Pb**	**05 15 58.4**	**+0.7**
	2.4nm,0.3s,baz=297,slow=13,SNR=21						
STKA				Sn	**Sn**	**05 16 28.4**	**-0.8**
	2.9nm,0.3s,baz=320,slow=8.2,SNR=5.6						
STKA				Lg	Lg	05 16 38.7	
	3.9nm,0.3s,baz=221,slow=6.2,SNR=8.7						
STKA	**Stephens Creek**	**3.18**	**120**	P	**Pn**	**05 15 50.5**	**-0.7**
	baz=3.1						
STKA				S	**Sn**	**05 16 29.2**	**0.0**
	baz=3.1						
ASAR	**Alice Springs**	**7.74**	**328**	Pn	**Pn**	**05 16 54.5**	**+0.5**
	0.2nm,0.3s,baz=150,slow=12,SNR=8.7						
ASAR				Sn	**Sn**	**05 18 21.9**	**+0.2**
	0.4nm,0.3s,baz=153,slow=22,SNR=6.3						
ASAR				Lg	Lg	05 19 04.6	
	0.1nm,0.3s,baz=144,slow=24,SNR=2.4						
WB2	**Warramunga Arr**	**10.97**	**340**	P	**Pn**	**05 17 39.0**	**+0.8**
	baz=11						
WB2				S		05 18 10.2	
	baz=11						
WRA	**Warramunga Arr**	**10.97**	**340**	Pn	**Pn**	**05 17 37.7**	**-0.6**
	0.2nm,0.3s,baz=154,slow=11,SNR=11						
WRA				Sn	**Sn**	**05 19 40.0**	**-1.1**
	0.1nm,0.3s,baz=162,slow=24,SNR=2.7						

*IDC **29** 05:15:44.8±1.3, 35°.76N×23°.06E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/30, mbtmp3.5/4, Error ellipse: s-maj=31.1km s-min=24.5km az=146.0*
*THE **29** 05:15:47.8, 34°.96N×23°.01E, h14km±5km, ML3.0/3, Error ellipse: s-maj=5.8km s-min=1.5km az=236.0*
*ATH **29** 05:15:49.1, 35°.00N×23°.19E, h39km±3km, ML2.8/4, Error ellipse: s-maj=5.8km s-min=1.8km az=48.0*
ISC 29 05:15:48.7±1.6, 35°.02N±0°.05×23°.13E±0°.05, h16km±9km, n23, σ1$31/31, mb3.6/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.81**	**103**	P	**Pb**	**05 16 04.6**	**+0.2**
GVD				S	**Sg**	**05 16 14.6**	**-0.6**
GVD				AML	AML	05 16 23.9	
	comp=E,1595μm,0.3s						
GVD				AML	AML	05 16 24.8	
	comp=N,2316μm,0.3s						
GVD	**Gavdhos**	**0.81**	**103**	P	**Pg**	**05 16 04.4**	**-0.1**
GVD				S	**Sn**	**05 16 18.0**	**+0.9**
IMMV	**Iera Moni Meta**	**0.82**	**58**	P	**Pb**	**05 16 05.1**	**+0.4**
IMMV				S	**Sb**	**05 16 16.8**	**+1.3**
IMMV				AML	AML	05 16 25.4	
	comp=N,1738μm,0.5s						
IMMV				AML	AML	05 16 26.3	
	comp=E,1698μm,0.5s						
IMMV	**Iera Moni Meta**	**0.82**	**58**	P	**Pb**	**05 16 05.0**	**+0.4**
IMMV				S	**Sn**	**05 16 19.1**	**+1.6**
ANKY	**Antikythira Is**	**0.85**	**9**	P	**Pn**	**05 16 05.6**	**-0.5**
ANKY				S	**Sn**	**05 16 19.3**	**+1.0**
ANKY				AML	AML	05 16 21.9	
	comp=E,875μm,1.1s						
ANKY				AML	AML	05 16 24.5	
	comp=N,722μm,0.6s						
ANKY	**Antikythira Is**	**0.85**	**9**	P	**Pb**	**05 16 05.3**	**+0.1**
ANKY				S	**Sn**	**05 16 18.2**	**-0.1**
CHAN	**Chania**	**0.90**	**56**	P	**Pg**	**05 16 06.3**	**+0.1**
CHAN				S	**Sn**	**05 16 21.5**	**+2.2**
VAM	**Vamos**	**0.96**	**66**	P	**Pb**	**05 16 06.8**	**-0.1**
VAM				S	**Sb**	**05 16 19.4**	**0.0**
VAM				AML	AML	05 16 28.5	
	comp=N,1119μm,0.6s						
VAM				AML	AML	05 16 29.0	
	comp=E,878μm,0.6s						
VAM	**Vamos**	**0.96**	**66**	P	**Pb**	**05 16 07.1**	**+0.2**
VAM				S	**Sn**	**05 16 22.4**	**+1.6**
PRNS	**Prines Rethymn**	**1.17**	**73**	P	**Pn**	**05 16 09.3**	**-1.2**
KYTH	**Kithira**	**1.24**	**357**	P	**Pg**	**05 16 12.5**	**-0.2**
KYTH	**Kithira**	**1.24**	**357**	P	**Pb**	**05 16 11.8**	**0.0**
SIVA	**Sivas**	**1.38**	**90**	P	**Pn**	**05 16 12.7**	**-0.6**
SIVA	**Sivas**	**1.38**	**90**	P	**Pn**	**05 16 12.6**	**-0.6**
IDI	**Anoyia**	**1.47**	**79**	Pn	**Pn**	**05 16 13.8**	**-0.7**
	comp=E,6.9nm,0.3s,baz=286,slow=18,SNR=26						
IDI				Sn	**Sg**	**05 16 37.3**	**+1.2**
	comp=E,8.2nm,0.3s,baz=288,slow=16,SNR=6.1						
VLI	**Veliai**	**1.70**	**355**	P	**Pn**	**05 16 18.2**	**+0.5**
LAST	**Lasithi**	**1.93**	**85**	P	**Pn**	**05 16 20.9**	**-0.1**
LAST	**Lasithi**	**1.93**	**85**	P	**Pn**	**05 16 20.9**	**-0.1**
ZKR	**Zakros**	**2.53**	**87**	P	**Pn**	**05 16 28.9**	**-0.3**
TORD	**Torodi Ar. Bea**	**29.15**	**227**	P	**P**	**05 21 51.9**	**+2.7**
	comp=E,0.1nm,0.5s,baz=35,slow=6.0,SNR=3.0						
ARCES	**ARCES

ISC 29 05:41:29.2±0.5, 21°07'S±0'06×170°00'E±0'06, h94km±3km, h94km:pP-P,n143,σ1°36/155, mb4.9/44, 2C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.46**	**253**	P	**Pn**	**05 42 21.4**	**+0.3**
	175nm,0.3s,baz=54,slow=4.6,SNR=1082						
DZM				S	**Sn**	**05 42 58.4**	**-2.7**
	1μm,0.3s,baz=174,slow=23,SNR=33						
DZM				LR	LR	05 43 15.4	
	comp=Z,218nm,21.6s,baz=85,slow=30						
DZM	**Mont Dzumac**	**3.46**	**253**	*e*Pn	**Pn**	**05 42 20.6**	**-0.5**
	629nm,0.7s						
DZM				*e*Sn	**Sn**	**05 42 57.4**	**-3.7**
	4μm,0.7s						
DZM				*e*LR	LR	05 43 02.2	
	687nm,27.6s						
DZM	**Mont Dzumac**	**3.46**	**253**	*e*Pn	**Pn**	**05 42 21.0**	**-0.1**
DZM				*e*Sn	**Sn**	**05 42 58.2**	**-2.9**
LHI	**Lord Howe Isla**	**14.29**	**221**	*e*Pn	**Pn**	**05 44 48.0**	**+0.9**
OUZ	**Omahuta**	**14.45**	**168**	*e*Pn	**P**	**05 44 51.3**	**-1.9**
OUZ	**Omahuta**	**14.45**	**168**	P	**P**	**05 44 52.8**	**-0.4**
HNR	**Honiara**	**15.09**	**319**	LR	LR	05 50 25.1	
	comp=Z,69nm,19.1s,baz=174,slow=35						
HNR	**Honiara**	**15.09**	**319**	*e*Pn	**Pn**	**05 44 56.7**	**-0.8**
	144nm,0.8s						
WCZ	**Waipu Caves**	**15.29**	**167**	P	**P**	**05 45 04.7**	**+2.1**
ABAZ	**Army Bay**	**16.04**	**166**	P	**P**	**05 45 13.0**	**+2.2**
WIAZ	**Waiheke Island**	**16.29**	**165**	P	**P**	**05 45 15.8**	**+2.2**
HIZ	**Hauiti**	**17.88**	**168**	*e*P	**Pn**	**05 45 34.4**	**+2.6**
	100nm,1.2s						
EIDS	**Eidsvold**	**17.90**	**253**	*e*P	**Pn**	**05 45 34.1**	**+1.9**
	10nm,0.9s						
HAZ	**Te Kaha**	**17.94**	**160**	P	**Pn**	**05 45 34.5**	**+2.0**
MXZ	**Matakaoa Point**	**17.94**	**158**	*e*P	**Pn**	**05 45 33.5**	**+1.0**
	140nm,1.2s						
MXZ	**Matakaoa Point**	**17.94**	**158**	P	**Pn**	**05 45 33.5**	**+1.0**
RUGZ	**Raukumara Rang**	**18.10**	**160**	P	**Pn**	**05 45 35.1**	**+0.5**
PKGZ	**Pakihiroa**	**18.16**	**159**	P	**Pn**	**05 45 36.7**	**+1.5**
URZ	**Urewera**	**18.20**	**162**	P	**Pn**	**05 45 35.3**	**-0.2**
	5.5nm,0.3s,baz=333,slow=3.4,SNR=23						
URZ				LR	LR	05 51 36.1	
	comp=Z,111nm,18.0s,baz=342,slow=34						
URZ	**Urewera**	**18.20**	**162**	*e*P	**Pn**	**05 45 35.9**	**+0.3**
	51nm,0.6s						
URZ	**Urewera**	**18.20**	**162**	P	**Pn**	**05 45 36.2**	**+0.6**
WMGZ	**Waiomatatini S**	**18.21**	**158**	P	**Pn**	**05 45 36.6**	**+0.8**
PUZ	**Puketiti**	**18.39**	**159**	P	**Pn**	**05 45 38.0**	**+0.1**
MWZ	**Matawai**	**18.39**	**161**	P	**P**	**05 45 36.1**	**-0.7**
RTZ	**Ruatahuna**	**18.49**	**163**	P	**Pn**	**05 45 40.2**	**+1.0**
SNGZ	**Shannon Statio**	**18.75**	**162**	P	**Pn**	**05 45 42.6**	**+0.4**
AFI	**Afiamalu**	**18.77**	**71**	P	**P**	**05 45 40.2**	**-1.0**
	2.8nm,0.3s,baz=217,slow=5.1,SNR=5.6						
AFI	**Afiamalu**	**18.77**	**71**	*e*P	**P**	**05 45 40.1**	**-1.2**
	94nm,1.0s						
RAHZ	**Arahi**	**18.80**	**163**	P	**Pn**	**05 45 43.3**	**+0.5**
BKZ	**Black Stump Fm**	**18.88**	**164**	*e*P	**Pn**	**05 45 43.0**	**-0.8**
	53nm,0.9s						
BKZ	**Black Stump Fm**	**18.88**	**164**	P	**Pn**	**05 45 43.7**	**-0.1**
ARMA	**Armidale**	**18.96**	**237**	*e*P	**Pn**	**05 45 44.3**	**-0.7**
	20nm,0.8s						
BHHZ	**Black Hill Sta**	**19.08**	**166**	P	**Pn**	**05 45 46.0**	**-0.1**
ARHZ	**Aropaoanui**	**19.10**	**163**	P	**Pn**	**05 45 46.2**	**-0.1**
MCHZ	**McNeill Hill**	**19.19**	**164**	P	**Pn**	**05 45 47.6**	**+0.1**
KRHZ	**Kereru**	**19.30**	**165**	P	**Pn**	**05 45 48.5**	**-0.2**
CKHZ	**Cape Kidnapper**	**19.49**	**163**	P	**P**	**05 45 49.6**	**+0.8**
PNHZ	**Pukenui**	**19.52**	**166**	P	**P**	**05 45 50.1**	**+1.0**
KAHZ	**Kahuranaki**	**19.57**	**164**	P	**P**	**05 45 50.5**	**+0.9**
TSZ	**Takapari Road**	**19.60**	**166**	P	**Pn**	**05 45 51.3**	**-0.9**
WPHZ	**Waipukurau**	**19.71**	**165**	P	**P**	**05 45 52.0**	**+0.8**
PXZ	**Pawanui**	**19.79**	**164**	P	**P**	**05 45 52.3**	**+0.3**
DVHZ	**Dannevirke**	**19.87**	**166**	P	**P**	**05 45 53.3**	**+0.3**
POWZ	**Post Office Ro**	**19.88**	**167**	P	**P**	**05 45 53.5**	**+0.5**
PRWZ	**Pori Road**	**20.08**	**167**	P	**P**	**05 45 55.5**	**+0.4**
BFZ	**Birch Farm**	**20.26**	**166**	*e*P	**P**	**05 45 56.8**	**-0.3**
	126nm,0.6s						
BFZ	**Birch Farm**	**20.26**	**166**	P	**P**	**05 45 56.7**	**-0.4**
THZ	**Tophouse**	**20.77**	**174**	*e*P	**P**	**05 46 03.7**	**+1.0**
	36nm,0.7s						
KHZ	**Kahutara**	**21.49**	**173**	*e*P	**P**	**05 46 11.2**	**+1.0**
	66nm,1.1s						
LTZ	**Lake Taylor**	**21.73**	**175**	*e*P	**P**	**05 46 14.0**	**+1.1**
	33nm,0.7s						
CTAO	**Charters Tower**	**22.25**	**268**	*e*P	**P**	**05 46 19.4**	**+0.8**
CTAO				*e*pP	**pP**	**05 46 37.0**	**-0.2**
OXZ	**Oxford**	**22.26**	**176**	*e*P	**P**	**05 46 18.6**	**+0.2**
	134nm,1.4s						
FOZ	**Fox Glacier**	**22.40**	**180**	*e*P	**P**	**05 46 20.6**	**+0.7**
	197nm,1.8s						
RPZ	**Rata Peaks**	**22.60**	**178**	P	**P**	**05 46 21.9**	**-0.1**
	27nm,0.8s,baz=270,slow=2.9,SNR=5.5						
RPZ				pP	**pP**	**05 46 46.0**	**+5.4**
	16nm,0.7s,baz=3.4,slow=5.1,SNR=2.3						
RPZ				LR	LR	05 53 36.7	
	comp=Z,178nm,21.0s,baz=346,slow=32						
RPZ	**Rata Peaks**	**22.60**	**178**	*e*P	**P**	**05 46 22.8**	**+0.8**
	82nm,1.3s						
RPZ				pP	**pP**	**05 46 46.0**	**+5.4**
MQZ	**McQueen's Vall**	**22.68**	**175**	*e*P	**P**	**05 46 22.8**	**0.0**
	60nm,1.1s						
LBZ	**Lake Benmore**	**23.25**	**180**	*e*P	**P**	**05 46 29.2**	**+0.8**
	74nm,1.4s						
CAN	**Canberra**	**23.26**	**228**	*e*P	**P**	**05 46 30.0**	**+1.4**
	23nm,0.7s						
WKZ	**Wanaka**	**23.70**	**182**	*e*P	**P**	**05 46 33.8**	**+1.3**
	58nm,1.0s						
ODZ	**Otahua Downs**	**23.91**	**179**	*e*P	**P**	**05 46 34.5**	**+0.1**
	107nm,1.8s						
MLZ	**Mavora Lakes**	**24.28**	**183**	*e*P	**P**	**05 46 38.6**	**+1.0**
	39nm,0.7s						
DCZ	**Deep Cove**	**24.44**	**185**	*e*P	**P**	**05 46 40.2**	**+1.2**
	63nm,0.8s						
WHZ	**Wether Hill Ro**	**24.81**	**183**	*e*P	**P**	**05 46 43.1**	**+0.6**
	43nm,0.9s						
PMG	**Port Moresby**	**24.86**	**294**	P	**P**	**05 46 43.7**	**+0.4**
	17nm,0.7s,baz=80,slow=8.1,SNR=6.8						
PMG				pP	**pP**	**05 47 06.0**	**+1.8**
	32nm,0.8s,baz=117,slow=6.8,SNR=6.1						
PMG				LR	LR	05 55 41.8	
	comp=Z,196nm,18.3s,baz=157,slow=34						
STKA	**Stephens Creek**	**27.53**	**241**	P	**P**	**05 47 07.5**	**+0.3**
	11nm,0.7s,baz=80,slow=11,SNR=22						
STKA				PcP	**PcP**	**05 50 22.6**	**-0.4**
	8.4nm,0.5s,baz=101,slow=4.8,SNR=14						
STKA				LR	LR	05 57 18.7	
	comp=Z,44nm,18.7s,baz=20,slow=34						
STKA	**Stephens Creek**	**27.53**	**241**	*e*P	**P**	**05 47 08.0**	**+0.8**
	3.2nm,0.8s						
STKA				PcP	**PcP**	**05 50 22.6**	**-0.4**
RAR	**Rarotonga**	**28.18**	**96**	LR	LR	05 57 31.0	
	comp=Z,24nm,18.3s,baz=281,slow=34						
TAU	**Tasmania Unive**	**28.88**	**216**	*e*P	**P**	**05 47 19.2**	**+0.1**
	90nm,1.4s						
BBOO	**Buckleboo**	**32.30**	**242**	*e*P	**P**	**05 47 49.6**	**+0.2**
	62nm,1.7s						
WB2	**Warramunga Arr**	**33.37**	**265**	*e*P	**P**	**05 47 58.4**	**-0.4**
WB2				*e*PcP	**PcP**	**05 50 38.2**	**-0.4**
WRAB	**Tennant Creek**	**33.37**	**265**	*e*P	**P**	**05 47 58.3**	**-0.5**
	14nm,1.3s						
WRA	**Warramunga Arr**	**33.38**	**265**	P	**P**	**05 47 58.0**	**-0.9**
	2.8nm,0.4s,baz=100,slow=8.0,SNR=78						
WRA				PcP	**PcP**	**05 50 37.5**	**-1.1**
	1.7nm,0.8s,baz=101,slow=2.4,SNR=4.9						
WRA				S	**S**	**05 53 16.5**	**+3.2**
	1.0nm,0.8s,baz=98,slow=15,SNR=6.6						
WRA				ScP	**ScP**	**05 54 14.9**	**+0.2**
	0.7nm,0.8s,baz=94,slow=3.1,SNR=5.5						
WRA				LR	LR	06 01 05.2	
	comp=Z,61nm,20.4s,baz=285,slow=35						
AS01	**Alice Springs**	**33.38**	**259**	*e*P	**P**	**05 47 58.9**	**0.0**
AS01				*e*PcP	**PcP**	**05 50 36.4**	**-2.2**
AS31	**Alice Springs**	**33.42**	**259**	*e*P	**P**	**05 47 59.1**	**-0.2**
	11nm,0.6s						
ASAR	**Alice Springs**	**33.42**	**259**	P	**P**	**05 47 58.9**	**-0.4**
	29nm,0.8s,baz=84,slow=9.1,SNR=224						
ASAR				pP	**pP**	**05 48 20.9**	**+0.1**
	17nm,0.7s,baz=89,slow=8.7,SNR=12						
ASAR				PcP	**PcP**	**05 50 37.0**	**-1.7**
	2.8nm,0.8s,baz=105,slow=3.5,SNR=8.0						
ASAR				ScP	**ScP**	**05 54 14.4**	**-0.4**
	0.5nm,0.6s,baz=104,slow=3.1,SNR=4.3						
JAY	**Jayapura**	**33.97**	**299**	P	**P**	**05 48 04.1**	**+0.1**
	23nm,0.8s,baz=121,slow=6.2,SNR=6.8						
JAY				LR	LR	06 00 19.6	
	comp=Z,66nm,20.6s,baz=323,slow=33						
TBI	**Tubuai**	**37.52**	**101**	*e*LR	LR	05 58 55.8	
	176nm,35.0s						
PPT2	**Papeete2**	**38.23**	**92**	*e*LR	LR	05 59 15.0	
	210nm,31.8s						
PPT	**Papeete**	**38.24**	**92**	LR	LR	06 00 00.9	
	comp=Z,97nm,20.4s,baz=22,slow=29						
FORT	**Forrest**	**38.75**	**247**	*e*P	**P**	**05 48 44.5**	**0.0**
	127nm,1.4s						
FITZ	**Fitzroy Crossi**	**41.80**	**266**	*e*P	**P**	**05 49 10.5**	**+0.6**
	8.9nm,0.8s						
FITZ				*e*pP	**pP**	**05 49 29.9**	**-2.1**
MBWA	**Marble Bar**	**46.73**	**260**	*e*P	**P**	**05 49 49.1**	**-0.1**
VNDA	**Vanda**	**56.63**	**182**	P	**P**	**05 51 01.6**	**-0.4**
	3.3nm,0.6s,baz=357,slow=8.3,SNR=31						
VNDA	**Vanda**	**56.63**	**182**	*e*P	**P**	**05 51 01.8**	**-0.3**
	5.1nm,0.8s						
SBA	**Scott Base**	**56.85**	**181**	*e*P	**P**	**05 51 04.3**	**+0.8**
	43nm,0.9s						
MJAR	**Matsushiro Arr**	**64.70**	**332**	P	**P**	**05 51 57.0**	**-0.3**
	1.8nm,0.5s,baz=171,slow=5.3,SNR=6.2						
MJAR				LR	LR	06 19 23.3	
	comp=Z,6.2nm,19.7s,baz=95,slow=35						
KSRS	**Korea Array**	**70.41**	**326**	LR	LR	06 22 29.5	
	comp=Z,11nm,18.7s,baz=75,slow=35						
NJ2	**Nanjing**	**72.02**	**316**	*e*P	**P**	**05 52 42.8**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
USRK	**Ussuriysk Ar.**	**73.69**	**333**	LR	LR	06 26 59.0	
	comp=Z,9.5nm,18.0s,baz=131,slow=37						
GYA	**Guiyang**	**77.45**	**305**	*e*P	**P**	**05 53 17.0**	**+2.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KLR	**Kul'dur**	**77.83**	**335**	P	**P**	**05 53 15.8**	**-0.3**
	1.2nm,0.4s,baz=167,slow=6.9,SNR=6.6						
KLR				LR	LR	06 25 45.9	
	comp=Z,16nm,19.3s,baz=88,slow=34						
LAMP	**Lampang**	**79.35**	**295**	P	pP	05 53 51.8	+2.1
	5.0nm,0.9s						
CM01	**Chiang Mai Arr**	**79.87**	**294**	*e*P	**P**	**05 53 29.6**	**+1.5**
CMAR	**Chiang Mai Arr**	**79.90**	**294**	P	**P**	**05 53 30.0**	**+1.7**
	1.1nm,0.4s,baz=133,slow=3.9,SNR=8.9						
CMAR				pP	**pP**	**05 53 51.9**	**-0.9**
	4.6nm,0.7s,baz=136,slow=4.6,SNR=4.7						
CMMT	**Chiang Mai**	**80.06**	**295**	P	pP	05 53 54.8	+1.2
CHTO	**Chiang Mai**	**80.06**	**295**	*e*P	**P**	**05 53 30.3**	**+1.3**
	6.4nm,0.8s						
CHTO	**Chiang Mai**	**80.06**	**295**	P	pP	05 53 54.9	+1.3
	5.0nm,0.9s						
MA2	**Magadan**	**81.89**	**350**	LR	LR	06 24 35.5	
	comp=Z,41nm,21.8s,baz=136,slow=32						
HHC	**Hu-ho-hao-te**	**82.07**	**319**	*e*P	**P**	**05 53 41.5**	**+2.1**
HHC				pP	pP	05 54 01.8	-2.2
HHC				sP	sP	05 54 10.3	-3.8
HHC				S	**S**	**06 03 49.0**	**+2.6**
HHC				sS	sS	06 04 24.0	-4.6
HHC				pmax	pmax		
	comp=Z,15nm,0.9s						
HHC				pmax	pmax		
	comp=Z,200nm,5.4s						
HHC				LR	LR		
	comp=N,140nm,16.4s						
HHC				LR	LR		
	comp=E,160nm,16.4s						
HHC				LR	LR		
	comp=Z,570nm,17.3s						
SYO	**Syowa Base**	**83.38**	**196↑**	*i*P	**P**	**05 53 44.0**	**-1.6**
SYO	**Syowa Base**	**83.38**	**196↑**	*e*PcP	**PcP**	**05 53 48.9**	**-0.9**
LZH	**Lanzhou**	**84.48**	**312**	*e*P	P	05 53 44.5	-7.4
LZH				pP	PcP	05 54 05.5	+10
LZH				sP	pP	05 54 13.8	-2.9
LZH				pmax	pmax		
	comp=Z,26nm,1.0s						
LZH				pmax	pmax		
	comp=Z,120nm,4.5s						
SNAA	**Sanae**	**87.37**	**182**	P	**P**	**05 54 04.0**	**-1.5**
SNAA	**Sanae**	**87.37**	**182**	*e*P	**P**	**05 54 04.3**	**-1.2**
	comp=Z,15nm,0.7s						
VNA3	**Neumayer Olymp**	**87.93**	**180**	P	**P**	**05 54 06.7**	**-1.5**
VNA2	**Neumayer--Watz**	**88.23**	**181**	P	**P**	**05 54 08.6**	**-1.0**
	baz=188,slow=4.0						
VNA1	**Neumayer--Stat**	**88.52**	**181**	P	**P**	**05 54 09.9**	**-1.0**
GTA	**Gaotai**	**88.90**	**313**	*e*P	**P**	**05 54 17.0**	**+3.7**
GTA				pP	pP	05 54 39.8	+1.5
GTA				sP	sP	05 54 49.0	+0.7
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
SONM	**Songino Array**	**89.11**	**323**	P	**P**	**05 54 14.5**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=143,slow=4.8,SNR=3.7						
SONM				pP	**pP**	**05 54 38.4**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=100,slow=0.6,SNR=4.0						
NV01	**Mina Array Sit**	**89.48**	**48**	*e*P	**P**	**05 54 16.7**	**+0.5**
NV01				*e*pP	**pP**	**05 54 42.1**	**+1.0**
NVAR	**Mina Array Bea**	**89.48**	**48**	P	**P**	**05 54 16.6**	**+0.4**
	comp=Z,3.3nm,0.8s,baz=224,slow=8.7,SNR=15						
NVAR				pP	**pP**	**05 54 40.2**	**-1.0**
	comp=Z,2.6nm,0.8s,baz=226,slow=4.9,SNR=6.5						
NV11	**Mina Array Sit**	**89.58**	**48**	*e*P	**P**	**05 54 16.9**	**+0.3**
	comp=Z,0.4nm,0.9s						
KVN	**Kaiserville**	**89.91**	**48**	*e*P	**P**	**05 54 17.6**	**-0.5**
	comp=Z,3.4nm,0.8s						
TPNV	**Topopah Spring**	**90.26**	**50**	*e*P	**P**	**05 54 19.9**	**+0.1**
COLA	**College**	**91.58**	**17**	*e*P	**P**	**05 54 29.1**	**+4.1**
	comp=Z,18nm,0.3s						
J08A	**Circle Bar Ran**	**91.64**	**44**	*e*P	**P**	**05 54 25.8**	**-0.2**
ILAR	**Eielson Array**	**91.76**	**17**	P	**P**	**05 54 24.5**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=233,slow=4.7,SNR=5.8						
PLCA	**Paso Flores**	**96.70**	**138**	P	**P**	**05 54 48.6**	**-0.7**
	comp=Z,1.8nm,1.0s,baz=199,slow=2.7,SNR=3.5						
TXAR	**Lajitas Array**	**97.01**	**61**	PKKPbc	PKKPbc	06 11 30.1	-1.5
	comp=Z,0.5nm,0.7s,baz=68,slow=0.8,SNR=7.1						
PDAR	**Pinedale Array**	**97.33**	**47**	PKKP	**PKKPbc**	**06 11 29.6**	**-2.0**
	comp=Z,0.7nm,0.9s,baz=72,slow=4.0,SNR=4.7						
WMQ	**Urumqi**	**98.98**	**313**	*e*P	Pdif	05 55 00.3	+0.9
YKA	**Yellowknife Ar**	**101.96**	**27**	pP	pP	05 55 36.3	-1.2
	comp=Z,0.3nm,0.8s,baz=251,slow=4.6,SNR=2.2						
MKAR	**Makanchi Array**	**103.54**	**315**	Pdiff	**Pdif**	**05 55 19.5**	**0.0**
	comp=Z,0.1nm,0.4s,baz=114,slow=3.4,SNR=3.7						
MKAR				pPdiff	**pPdif**	**05 55 44.5**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=107,slow=4.8,SNR=3.0						
PTGA	**Pitinga**	**126.60**	**108**	PKP	**PKPdf**	**06 00 20.7**	**-1.7**
	comp=Z,4.0nm,0.5s,baz=217,slow=0.8,SNR=12						
PTGA				pPKP	**pPKPdf**	**06 00 47.4**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=66,slow=7.6,SNR=1.6						
ARCES	**ARCESS Array B**	**127.01**	**345**	PKP	**PKPdf**	**06 00 20.2**	**-1.4**
	comp=Z,2.0nm,0.5s,baz=46,slow=1.4,SNR=25						
FINES	**FINESS Array B**	**132.54**	**337**	PKP	**PKPdf**	**06 00 31.8**	**-0.5**
	comp=Z,4.0nm,1.0s,baz=4.1,slow=2.7,SNR=7.1						
FINES				SKPbc	**SKPbc**	**06 03 49.9**	**-1.0**
	comp=Z,5.2nm,0.7s,baz=72,slow=6.0,SNR=8.8						
AKASG	**Malin Array Be**	**137.39**	**324**	PKP	**PKPdf**	**06 00 40.7**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=53,slow=2.3,SNR=4.0						
AKASG				SKPbc	**SKPbc**	**06 04 05.5**	**-1.2**
	comp=Z,2.2nm,0.6s,baz=49,slow=3.8,SNR=13						
NOA	**NORSAR Array B**	**137.39**	**345**	PKP	**PKPdf**	**06 00 40.3**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=38,slow=2.7,SNR=3.0						
OKC	**Ostrava-Krasne**	**143.67**	**329**	*e*PKP	PKPbc	06 00 51.0	+0.2
DPC	**Dobruska-Polom**	**144.17**	**331**	*e*PKP	**PKPdf**	**06 00 53.2**	**-0.8**
BRG	**Berggiesshubel**	**144.82**	**333**	*i* PKP	PKPdf	06 01 05.1	+10
	comp=Z,4.1nm,0.6s						
BRG				*e*		06 01 17.4	
	comp=Z,13nm,1.4s						
GOPC	**GO Pecny, Ondr**	**145.17**	**332**	*e*PKP	**PKPdf**	**06 00 55.6**	**-0.1**
CONA	**Conrad Observa**	**146.07**	**328**	*i* PKPab	**PKPab**	**06 00 58.9**	**-0.2**
	comp=Z,4.4nm,1.1s						
KHC	**Kasperske Hory**	**146.28**	**332**	*e*PKP	PKPpre	06 00 50.5	
KHC				*ex*	x	06 00 59.2	
KHC				*e*SKP		06 04 29.6	
GERES	**GERESS Array B**	**146.44**	**331**	PKPbc	**PKPbc**	**06 00 59.2**	**-0.3**
	comp=Z,2.4nm,0.5s,baz=31,slow=2.9,SNR=22						
GERES				pPKPbc	**pPKPdf**	**06 01 22.3**	**-1.8**
	comp=Z,1.4nm,0.6s,baz=45,slow=4.0,SNR=3.3						
GERES				SKPbc	**SKPbc**	**06 04 29.3**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=48,slow=1.5,SNR=8.8						
MOTA	**Moosalm**	**148.71**	**332**	*i* PKPbc	**PKPbc**	**06 01 05.2**	**-0.6**
	comp=Z,4.7nm,0.7s						
SQTA	**Sankt Quirin**	**148.76**	**332**	*i* PKPbc	**PKPbc**	**06 01 05.5**	**-0.3**
	comp=Z,8.0nm,0.8s						
FETA	**Feichten**	**149.13**	**332**	*i* PKiKP	**PKPbc**	**06 01 06.6**	**-0.3**
	comp=Z,5.0nm,0.8s						
LIC	**Lamto**	**164.47**	**199**	*e*PKP2	**PKPab**	**06 02 17.3**	**-0.4**
	comp=Z,62nm,1.0s						
KIC	**Kosan Boka**	**164.51**	**200**	*e*PKP2	**PKPab**	**06 02 17.7**	**-0.1**
	comp=Z,23nm,0.7s						
DBIC	**Dimbokro**	**164.84**	**200**	PKPab	**PKPab**	**06 02 18.4**	**-0.8**
	comp=Z,11nm,0.8s,baz=151,slow=4.4,SNR=16						
TIC	**Toumodi**	**164.87**	**199**	*e*PKP2	**PKPab**	**06 02 19.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**166.33**	**237**	PKP	**PKPdf**	**06 01 23.0**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=130,slow=1.6,SNR=4.2						
TORD				PKPab	**PKPab**	**06 02 24.3**	**-1.7**
	comp=Z,1.0nm,1.0s,baz=119,slow=3.6,SNR=4.2						

IDC 29 05:51:38.1±5.5, 6.78S×147.19E, h134km±58km, mb3.3/3, mb1 3.4/5, mb1mx3.2/35, mbtmp3.6/5, Error ellipse: s-maj=82.7km s-min=29.1km az=138.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.61**	**181**	P	Pn	05 52 20.6	+0.6
	11nm,0.3s,baz=0.0,slow=6.1,SNR=11						
PMG				S	Sn	05 52 52.7	+0.5
	12nm,0.3s,baz=184,slow=20,SNR=19						
WRA	**Warramunga Arr**	**18.08**	**222**	P	P	05 55 38.8	-0.7
	0.2nm,0.3s,baz=47,slow=12,SNR=8.3						
ASAR	**Alice Springs**	**21.09**	**216**	P	P	05 56 12.3	+0.3
	0.5nm,0.5s,baz=58,slow=7.7,SNR=7.6						
FITZ	**Fitzroy Crossi**	**23.82**	**240**	P	P	05 56 38.3	-0.7
	3.3nm,0.9s,baz=89,slow=6.8,SNR=5.2						
ILAR	**Eielson Array**	**86.12**	**23**	P	P	06 04 03.1	-0.5
	0.4nm,0.6s,baz=240,slow=5.0,SNR=5.7						
TORD	**Torodi Ar. Bea**	**145.45**	**283**	PKPbc	PKPbc	06 11 01.7	+0.2
	0.1nm,0.3s,baz=92,slow=3.8,SNR=2.3						

*ISCJB **29** 05:52:49.6±1.1, 43.57N±0.07×145.74E±0.08, h119km±7km, Error ellipse: s-maj=13.8km s-min=6.9km az=147.0*
*JMA **29** 05:52:49.9±0.1, 43.59N×145.75E, h119km±1km, M3.1*
*SKHL **29** 05:52:50.3±0.6, 43.01N×145.69E, h45km±5km, mb4.2/3*

ISC 29 05:52:49.1±2.6, 43.58N±0.08×145.77E±0.07, h125km±15km, n14, σ0.56/26, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.22**	**186**	P	**Pn**	**05 53 06.5**	**+0.2**
NEM2				*e*S	**Sn**	**05 53 18.8**	**-0.4**
GRPR	**Tuman**	**0.41**	**360**	*i* P	**Pn**	**05 53 07.0**	**-0.1**
GRPR				AMB	AMB	05 53 11.0	
	110nm,0.4s						
GRPR				AMB	AMB	05 53 11.0	
	120nm,0.4s						
GRPR				*i* S	**Sn**	**05 53 20.0**	**-0.7**
GRPR				A	A	05 53 22.0	
	750nm,0.3s						
GRPR				A	A	05 53 22.0	
	348nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.46**	**8**	*i* P	**Pn**	**05 53 08.1**	**+0.8**
YUK				AMB	AMB	05 53 10.0	
	120nm,0.4s						
YUK				AMB	AMB	05 53 10.0	
	80nm,0.4s						
YUK				AMB	AMB	05 53 10.0	
	210nm,0.4s						
YUK				*i* S	**Sn**	**05 53 21.0**	**-0.1**
YUK				A	A	05 53 24.0	
	370nm,0.3s						
YUK				A	A	05 53 24.0	
	680nm,0.3s						
LAGR	**Lagunnoye**	**0.47**	**1**	*e*P	**Pn**	**05 53 08.0**	**+0.6**
LAGR				*i* S	**Sn**	**05 53 21.0**	**-0.2**
LAGR				A	A	05 53 23.0	
	500nm,0.4s						
LAGR				A	A	05 53 23.0	
	588nm,0.4s						
JRA	**Rausu**	**0.59**	**307**	P	**Pn**	**05 53 08.3**	**+0.2**
JRA				*e*S	**Sn**	**05 53 22.2**	**-0.3**
JKHN	**Kushirohamanak**	**0.67**	**222**	P	**Pn**	**05 53 09.1**	**+0.4**
JKHN				*e*S	**Sn**	**05 53 23.5**	**+0.1**
JNK	**Nakash**	**0.77**	**271**	P	**Pn**	**05 53 09.6**	**+0.2**
JNK				*e*S

HATD	**Hatta, Dubai**	**2.38**	**154**	*e*Pn	**Pb**	**05 55 15.8**	**-1.7**
AJN	**Ajban**	**2.41**	**180**	*e*Pn	**Pb**	**05 55 19.1**	**+1.1**
ASHO	**Ashiyiah**	**2.48**	**157**	P	**Pn**	**05 55 15.9**	**+1.2**
	SNR=28						
ASHO	**Ashiyiah**	**2.48**	**157**	P	**Pn**	**05 55 16.2**	**+1.4**
ASHO	**Ashiyiah**	**2.48**	**157**	*e*Pn	**Pn**	**05 55 16.0**	**+1.2**
ISRV	**Sarvestan**	**2.91**	**326**	*e*Pn	**Pn**	**05 55 22.5**	**+1.5**
ISRV				IAMB	IAmb	05 56 36.3	
	comp=Z,7μm,1.5s						
ISRV				IAMB	IAmb	05 56 47.6	
	comp=N,8μm,1.0s						
ALNE	**Al Ain**	**2.99**	**167**	*e*Pn	**Pn**	**05 55 22.0**	**+0.2**
NGRK	**Negar Kerman**	**3.06**	**30**	*e*Pn	**Pn**	**05 55 23.5**	**+0.4**
NGRK				IAMB	IAmb	05 56 20.0	
	comp=N,0.0nm,0.4s						
NGRK				IAMB	IAmb	05 56 36.2	
	comp=E,0.0nm,0.6s						
NGRK				IAMB	IAmb	05 56 48.1	
	comp=Z,0.0nm,1.5s						
KRBR	**Kerman**	**3.37**	**27**	*e*Pn	**Pn**	**05 55 28.2**	**+1.0**
KRBR				*e*Sg	**Sb**	**05 56 17.6**	**+2.3**
KRBR	**Kerman**	**3.37**	**27**	*e*Pn	**Pn**	**05 55 28.2**	**+1.0**
TVBK	**TV Kerman**	**3.37**	**27**	*e*Pn	**Pn**	**05 55 29.3**	**+2.0**
TVBK				IAMB	IAmb	05 55 34.2	
	comp=Z,0.0nm,0.2s						
SHI	**Shiraz**	**3.44**	**321**	IAMB	IAmb	05 55 39.6	
	comp=Z,1μm,0.1s						
SHI				IAMB	IAmb	05 56 39.1	
	comp=N,1μm,0.3s						
KHGB	**Koh Gabri**	**3.62**	**21**	*e*Pn	**Pn**	**05 55 32.6**	**+1.9**
KHGB				IAMB	IAmb	05 55 35.0	
	comp=Z,0.0nm,0.2s						
KHGB				IAMB	IAmb	05 56 48.3	
	comp=N,0.0nm,1.6s						
KHGB				IAMB	IAmb	05 56 50.3	
	comp=E,0.0nm,1.1s						
CHMN	**Cheshme madani**	**3.64**	**37**	*e*Pn	**Pn**	**05 55 33.2**	**+2.2**
CHMN				IAMB	IAmb	05 55 34.4	
	comp=Z,0.0nm,0.3s						
CHMN				IAMB	IAmb	05 56 26.3	
	comp=E,0.0nm,0.4s						
CHMN				IAMB	IAmb	05 56 48.1	
	comp=N,0.0nm,1.0s						
IMEH	**Mehriz**	**4.41**	**356**	*e*Pn	**Pn**	**05 55 43.5**	**+2.0**
IMEH				IAMB	IAmb	05 55 46.1	
	comp=Z,415nm,0.4s						
IMEH				IAMB	IAmb	05 56 14.2	
	comp=N,461nm,0.9s						
SLWS		**4.49**	**242**	P	**Pn**	**05 55 43.9**	**+1.6**
SLWS		**4.49**	**242**	S	**Sn**	**05 56 37.2**	**+3.1**
BTHS		**4.76**	**233**	P	**Pn**	**05 55 47.1**	**+1.1**
BTHS		**4.76**	**233**	S	**Sn**	**05 56 42.7**	**+1.9**
ISAD	**Sadrabad**	**5.05**	**347**	IAMB	IAmb	05 55 55.8	
	comp=Z,744nm,0.4s						
ISAD				IAMB	IAmb	05 55 56.4	
	comp=N,529nm,0.2s						
ICHK	**Chekchek**	**5.27**	**355**	*e*Pn	**Pn**	**05 55 54.4**	**+1.1**
ICHK				IAMB	IAmb	05 56 01.8	
	comp=E,210nm,0.3s						
ICHK				IAMB	IAmb	05 56 15.5	
	comp=Z,373nm,0.8s						
ICHK				IAMB	IAmb	05 57 29.6	
	comp=N,271nm,0.8s						
IRAM	**Ramesheh**	**5.33**	**335**	*e*Pn	**Pn**	**05 55 54.6**	**+0.5**
IRAM				IAMB	IAmb	05 55 58.8	
	comp=Z,573nm,0.4s						
IRAM				IAMB	IAmb	05 56 01.1	
	comp=E,503nm,0.3s						
IRAM				IAMB	IAmb	05 56 03.8	
	comp=N,452nm,0.2s						
YZKH	**Yazd**	**5.40**	**356**	*e*Pn	**Pn**	**05 55 56.5**	**+1.5**
YZKH				*e*S	**Sn**	**05 56 57.1**	**+0.3**
YZKH	**Yazd**	**5.40**	**356**	*e*Pn	**Pn**	**05 55 56.5**	**+1.5**
IGAR	**Gharneh**	**5.99**	**335**	IAMB	IAmb	05 56 05.3	
	comp=Z,607nm,0.4s						
IGAR					**Pn**	**05 56 04.7**	**+1.6**
TPRV	**Parvadeh(Tabas**	**6.20**	**13**	*e*Pn	**Pn**	**05 56 07.0**	**+1.0**
TPRV				IAMB	IAmb	05 58 55.9	
	comp=Z,0.0nm,3.2s						
ANAR	**Anarak**	**6.29**	**350**	*e*Pn	**Pn**	**05 56 07.8**	**+0.6**
ANAR				IAMB	IAmb	05 58 20.9	
	comp=N,0.0nm,0.8s						
IZEF	**Zefreh**	**6.33**	**339**	IAMB	IAmb	05 56 08.8	
	comp=Z,236nm,0.4s						
IZEF					**Pn**	**05 56 08.1**	**+0.2**
IZEF				IAMB	IAmb	05 56 09.9	
	comp=N,219nm,0.4s						
IZEF				IAMB	IAmb	05 56 16.4	
	comp=E,178nm,0.3s						
IKOO	**Kooshah**	**6.45**	**32**	*e*Pn	**Pn**	**05 56 11.1**	**+1.6**
IKOO				IAMB	IAmb	05 58 29.8	
	comp=E,113nm,0.7s						
TKDS	**Koohdasht(Taba**	**6.86**	**15**	*e*Pn	**Pn**	**05 56 15.9**	**+0.8**
TKDS				IAMB	IAmb	05 58 47.4	
	comp=Z,0.0nm,3.2s						
TABS	**Tabas**	**6.89**	**15**	*e*Pn	**Pn**	**05 56 17.0**	**+1.5**
TABS				*e*Sg	Sb	05 58 05.7	+9.1
TABS	**Tabas**	**6.89**	**15**	*e*Pn	**Pn**	**05 56 17.0**	**+1.5**
IKLH	**Kolahrood**	**6.98**	**336**	IAMB	IAmb	05 56 21.2	
	comp=Z,151nm,0.4s						
IKLH				IAMB	IAmb	05 56 24.9	
	comp=N,194nm,0.3s						
IKLH				IAMB	IAmb	05 57 46.8	
	comp=E,148nm,0.5s						
TNSJ	**Nastanj**	**7.10**	**11**	*e*Pn	**Pn**	**05 56 18.9**	**+0.6**
TNSJ				IAMB	IAmb	05 59 17.2	
	comp=Z,0.0nm,2.8s						
KRSH	**Karshahi**	**7.39**	**341**	*e*Pn	**Pn**	**05 56 23.3**	**+0.9**
KRSH				IAMB	IAmb	05 56 27.1	
	comp=E,0.0nm,0.5s						
KRSH				IAMB	IAmb	05 56 29.5	
	comp=N,0.0nm,0.3s						
SHRT	**Shahrakht**	**8.06**	**33**	*e*Pn	**Pn**	**05 56 32.3**	**+0.8**
SHRT	**Shahrakht**	**8.06**	**33**	*e*Pn	**Pn**	**05 56 32.3**	**+0.8**
IKOM	**Komasi**	**9.64**	**320**	IAMB	IAmb	05 56 54.8	
	comp=Z,0.0nm,0.4s						
KBZ	**Khabaz**	**19.37**	**333**	P	**Pn**	**05 59 00.8**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=134,slow=6.2,SNR=2.2						
BRTR	**Keskin Array B**	**21.84**	**311**	P	**P**	**05 59 26.9**	**0.0**
	comp=Z,1.8nm,0.7s,baz=128,slow=12,SNR=8.2						
AAK	**Ala-Archa**	**22.28**	**40**	LR	LR	06 09 46.5	
	comp=Z,36nm,18.1s,baz=303,slow=41						
BVAR	**Borovoye Array**	**28.43**	**20**	LR	LR	06 12 38.0	
	comp=Z,21nm,20.4s,baz=218,slow=38						
MKAR	**Makanchi Array**	**29.22**	**40**	LR	LR	06 14 16.7	
	comp=Z,20nm,21.1s,baz=234,slow=40						
AKASG	**Malin Array Be**	**30.76**	**327**	P	**P**	**06 00 48.5**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=133,slow=8.5,SNR=6.1						
ZALV	**Zalesovo Beam**	**34.75**	**31**	P	**P**	**06 01 24.2**	**0.0**
	comp=Z,2.0nm,0.5s,baz=236,slow=7.6,SNR=9.4						
FINES	**FINESS Array B**	**39.55**	**339**	P	**P**	**06 02 04.1**	**-0.8**
	comp=Z,3.5nm,0.9s,baz=139,slow=8.7,SNR=4.2						
NB2	**NORSAR Subarra**	**44.95**	**332**	P	**P**	**06 02 49.6**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=115,slow=7.9						
NOA	**NORSAR Array B**	**44.95**	**332**	P	**P**	**06 02 46.8**	**-2.1**
	comp=Z,1.6nm,0.9s,baz=120,slow=7.4,SNR=4.4						
ESDC	**Sonseca Array**	**50.05**	**300**	P	**P**	**06 03 27.8**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=74,slow=8.0,SNR=3.1						
TORD	**Torodi Ar. Bea**	**51.58**	**266**	P	**P**	**06 03 40.0**	**-0.7**
	comp=Z,2.0nm,0.6s,baz=58,slow=6.8,SNR=12						
WRA	**Warramunga Arr**	**89.87**	**112**	P	**P**	**06 07 32.6**	**-0.9**
	comp=Z,0.2nm,0.8s,baz=312,slow=4.1,SNR=2.6						

MEX 29 06:13:27.1±0.5, 14°.47N×92°.07W, h87km±7km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.47**	**337**	*i* P	Pn	06 13 39.7	-1.6
THIG				*e*S	Sn	06 13 50.3	-1.5
PCIG		**1.65**	**318**	*e*P	Pn	06 13 53.6	-1.0
PCIG				*i* S	Sn	06 14 14.4	-1.1
TGIG		**2.50**	**336**	*i* P	Pn	06 14 04.5	-1.5
TGIG				*i* S	Sn	06 14 34.4	-1.4

IDC 29 06:19:07.8±633.0, 51°.47N×133°.57E, h0km, Error ellipse: s-maj=228.8km s-min=140.7km az=179.0, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I45RU	**USSURIYSK INFR**	**7.35**	**189**	*i*		07 02 30.0	
	baz=7.8,slow=334,SNR=5.5						
I44RU	**PETROPAVLOVSK**	**14.85**	**74**	*i*		07 54 10.0	
	baz=274,slow=331,SNR=0.7						
I30JP	**ISUMI INFRASON**	**16.87**	**161**	*i*		08 09 30.0	
	baz=348,slow=325,SNR=0.5						

IDC 29 06:20:00.8±1.2, 2°.55N×127°.77E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/41, mbtmp3.8/6, Error ellipse: s-maj=120.1km s-min=17.4km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.27**	**164**	P	P	06 25 10.8	+0.6
	0.8nm,0.3s,baz=344,slow=10,SNR=17						
ASAR	**Alice Springs**	**26.73**	**167**	P	P	06 25 42.4	+0.1
	1.1nm,0.5s,baz=354,slow=8.0,SNR=27						
STKA	**Stephens Creek**	**36.67**	**160**	P	P	06 27 08.2	-1.3
	1.2nm,0.5s,baz=323,slow=6.2,SNR=3.8						
SONM	**Songino Array**	**48.74**	**341**	P	P	06 28 48.0	+0.5
	0.2nm,0.3s,baz=153,slow=9.7,SNR=3.2						
MKAR	**Makanchi Array**	**59.11**	**325**	P	P	06 30 03.5	+0.3
	0.6nm,0.6s,baz=119,slow=8.1,SNR=4.9						
KURBB	**Kurchatov Arra**	**63.28**	**327**	P	P	06 30 30.8	-0.6
	0.8nm,0.5s,baz=128,slow=6.0,SNR=7.0						

NNC 29 06:24:33.7±3.1, 54°.44N×87°.25E, h0km, mb3.5, mpv3.3, 4C-4D, Error ellipse: s-maj=26.6km s-min=11.4km az=12.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**1.51**	**252**	↑P	Pn	06 25 00.5	-1.4
	3.8nm,0.7s						
ZAA0				↑S	Sg	06 25 21.9	-0.2
	14nm,0.7s						
KURK	**Kurchatov**	**6.44**	**238**	↑Pn	Pn	06 26 09.8	+0.1
	2.1nm,0.7s						
KURBB	**Kurchatov Arra**	**6.55**	**238**	↓Pn	Pn	06 26 10.3	-0.8
	5.4nm,0.8s						
KURBB				↓Sn	Sn	06 27 28.9	+2.4
	4.4nm,0.6s						
KURBB				↑Lg	Lg	06 28 02.8	
	6.1nm,0.8s						
MK31	**Makanchi Array**	**8.28**	**204**	Pn	Pn	06 26 35.9	+1.0
	1.5nm,0.8s,baz=29,slow=14,SNR=9.4						
MK31				↓Sn	Sn	06 28 09.4	+0.3
	0.5nm,0.6s,baz=264,slow=30,SNR=4.9						
MK31				↓Lg	Lg	06 28 55.4	
	0.6nm,0.7s,baz=358,slow=32,SNR=4.3						

*ISK **29** 06:26:23.8, 38°.68N×28°.07E, h6km±1km, ML2.0/5*
*ISCJB **29** 06:26:24.2±0.5, 38°.71N±0°.03×28°.07E±0°.03, h2km±7km, Error ellipse: s-maj=5.3km s-min=4.2km az=23.9*
*DDA **29** 06:26:24.5, 38°.69N×28°.11E, h7km, Ml2.5*

ISC 29 06:26:24.1±1.0, 38°.69N±0°.03×28°.07E±0°.03, h7km±9km, n14, σ0.37/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOMA	**Golmarmara-Man**	**0.12**	**280**	PG	**Pg**	**06 26 26.8**	**+0.1**
GOMA				SG	**Sg**	**06 26 28.5**	**0.0**
AKHS	**Akhisar**	**0.28**	**314**	*i* P	**Pg**	**06 26 29.4**	**-0.1**
MANT	**Manisa**	**0.43**	**117**	*i* P	**Pb**	**06 26 33.3**	**-0.8**
MANT				*i* S	**Sg**	**06 26 38.5**	**+0.4**
KULA	**Kula-Manisa**	**0.49**	**110**	PG	**Pb**	**06 26 34.4**	**-0.7**
KULA				SG	**Sg**	**06 26 40.3**	**+0.2**
DEMI	**Demirci**	**0.62**	**55**	*i* P	**Pg**	**06 26 36.2**	**+0.3**
DEMI				*i* S	**Sg**	**06 26 43.7**	**-0.4**
STEP	**BALIKESIR_Sava**	**0.74**	**338**	*i* P	**Pb**	**06 26 39.1**	**-0.2**
STEP				*i* S	**Sg**	**06 26 47.5**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**0.75**	**191**	PG	**Pb**	**06 26 39.5**	**0.0**
BALB	**Balikesir**	**0.96**	**351**	PG	**Pb**	**06 26 43.2**	**+0.2**
DURS	**Dursunbey**	**0.97**	**19**	*i* P	**Pb**	**06 26 43.0**	**-0.2**
AYDN	**Tasoluk**	**1.03**	**188**	*i* P	**Pn**	**06 26 45.1**	**+0.1**
AYDN				*i* S	**Sb**	**06 26 58.2**	**+0.1**
KHAL	**Karahalli**	**1.16**	**105**	*i* P	**Pn**	**06 26 47.2**	**+0.5**
KHAL				*i* S	**Sn**	**06 27 02.5**	**-0.3**
URLA	**Izmir**	**1.20**	**255**	PN	**Pg**	**06 26 47.2**	**+0.1**
TVSB	**Tavsanli**	**1.32**	**54**	PN	**Pg**	**06 26 49.8**	**+0.3**
KCTX	**Karacabey (Bur**	**1.59**	**8**	PN	**Pb**	**06 26 53.6**	**-0.2**

IDC 29 06:34:44.3±11.0, 8°.01S×130°.49E, h111km±123km, mb3.5/1, mb1 3.5/4, mb1mx3.2/34, mbtmp3.7/4, ML3.7/3, Error ellipse: s-maj=73.3km s-min=45.5km az=14.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.08**	**205**	P	Pn	06 37 20.2	+0.7
	0.3nm,0.3s,baz=20,slow=11,SNR=14						
FITZ				S	Sn	06 39 22.2	+0.7
	1.1nm,0.3s,baz=301,slow=23,SNR=8.1						
WRA	**Warramunga Arr**	**12.43**	**163**	P	Pn	06 37 35.9	-1.5
	0.5nm,0.3s,baz=344,slow=13,SNR=25						
WRA				S	Sn	06 39 54.0	-0.3
	0.7nm,0.3s,baz=339,slow=22,SNR=14						
ASAR	**Alice Springs**	**15.91**	**169**	P	P	06 38 23.8	+0.5
	0.3nm,0.3s,baz=345,slow=8.3,SNR=14						
ASAR				S	Sn	06 41 18.5	+0.2
	0.2nm,0.3s,baz=351,slow=28,SNR=5.6						
MKAR	**Makanchi Array**	**69.33**	**327**	P	P	06 45 39.8	-0.1
	0.7nm,0.6s,baz=117,slow=7.9,SNR=6.7						

IDC 29 07:08:46.1±1.4, 15°.63S×174°.57W, h276km±34km, mb3.6/4, mb1 3.8/5, mb1mx3.4/30, mbtmp4.2/5, Error ellipse: s-maj=118.7km s-min=19.3km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.19**	**58**	P	Pn	07 09 41.0	-1.4
	22nm,0.3s,baz=169,slow=1.8,SNR=5.9						
AFI				S	S	07 10 28.0	+0.8
	7.1nm,0.3s,baz=45,slow=17,SNR=3.2						
WRA	**Warramunga Arr**	**48.70**	**257**	P	P	07 17 02.9	-0.5
	0.8nm,0.6s,baz=95,slow=7.1,SNR=19						
ASAR	**Alice Springs**	**48.97**	**252**	P	P	07 17 05.9	+0.4
	9.9nm,0.5s,baz=86,slow=8.0,SNR=153						
PETK	**Petropavlovsk-**	**72.51**	**343**	P	P	07 19 42.7	-0.1
	2.3nm,0.8s,baz=161,slow=9.2,SNR=3.5						
ILAR	**Eielson Array**	**82.89**	**12**	P	P	07 20 39.7	+0.1
	0.3nm,0.4s,baz=217,slow=5.2,SNR=9.1						

*MOS **29** 07:09:09.9±1.0, 6°.59S×81°.15W, h25km, mb5.7/55, MS4.8/16, Error ellipse: s-maj=10.2km s-min=5.2km az=102.8*
*NEIC **29** 07:09:12.1±0.1, 6°.59S×81°.07W, h10km, mb5.5/300, MS4.9/207, MW5.5, Error ellipse: s-maj=5.1km s-min=2.8km az=65.0, Moment Tensor Solution. s67 Moment tensor: Scale 10¹⁷Nm; M_{rr}1.21; $M_{\theta\theta}$-0.19; $M_{\phi\phi}$-1.01; $M_{r\theta}$0.55; $M_{\theta\phi}$0.48; $M_{\phi r}$-2.11; Best double couple: M_o2.50000×10¹⁷ NP1:ϕ_s164.00000°, δ75.00000°, λ95.00000°. NP2:ϕ_s326.00000°, δ15.00000°, λ73.00000°. Principal axes: T 2.5000, Plg59.0000°, Azm80.0000°; N 0.0000, Plg4.0000°, Azm343.0000°; P -2.5000, Plg30.0000°, Azm250.0000°;*
*ISCJB **29** 07:09:13.6±1.0, 6°.54S±0°.02×81°.12W±0°.03, h32km±7km, mb5.4/334, MS4.9/234 Error ellipse: s-maj=5.3km s-min=3.3km az=154.0*
*GCMT **29** 07:09:13.1±0.2, 6°.85S±0°.01×81°.28W±0°.01, h13km, MW5.4/106, Moment Tensor Solution. s88, c138; s106, c187; Duration: 1s2 Moment tensor: Scale 10¹⁷ Nm; M_{rr}0.73±.02; $M_{\theta\theta}$-0.13±.01; $M_{\phi\phi}$-0.60±.02; $M_{r\theta}$0.30±.03; $M_{\theta\phi}$0.31±.01; $M_{\phi r}$-1.18±.07; Best double couple: M_o1.42900×10¹⁷ NP1:ϕ_s164.00000°, δ74.00000°, λ96.00000°. NP2:ϕ_s323.00000°, δ17.00000°, λ70.00000°. Principal axes: T 1.4290, Plg60.0000°, Azm82.0000°; N 0.0010, Plg5.0000°, Azm342.0000°; P -1.4300, Plg29.0000°, Azm249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **29** 07:09:15.1±0.4, 6°.56S×81°.06W, h25km±2km, mb4.6/20, mb1 4.8/26, mb1mx4.7/32, mbtmp4.8/26, ML3.8/5, MS4.8/24, Ms1 4.8/24, ms1mx4.7/27 Error ellipse: s-maj=13.6km s-min=9.3km az=61.0*
*IGQ **29** 07:09:15.3±2.3, 7°.5S±12°.8×8°.1W±1°.9, h67km±43km, mB6.0/7, mb6.1/7, MLv6.0/7, Mw(mB)5.7/7, MwMwp5.4/1, Mwp5.6/1*
*BJI **29** 07:09:15.0, 6°.60S×80°.90W, h12km, mB5.6/20, Ms5.5/13, Ms7 5.2/16*

ISC 29 07:09:14.3±0.3, 6°.67S±0°.04×81°.13W±0°.05, h24km±1km, h24km:pP-P, n1185, σ1.42/1125, mb5.5/334, MS4.9/234, 10C-3D, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCRA	**Macar¯i, Loja**	**2.57**	**27**	P	**Pn**	**07 09 52.8**	**-1.7**
ZUMB	**Zumba**	**2.67**	**48**	P	**Pn**	**07 09 56.5**	**+0.6**
ATAH	**Atahualpa**	**2.75**	**100**	Pn	**Pn**	**07 09 58.4**	**+1.1**
ATAH				Sn	**Sb**	**07 10 37.0**	**+0.4**
	155nm,0.3s,baz=95,slow=15,SNR=3.1						
ATAH				Lg	Lg	07 10 50.0	
	259nm,0.3s,baz=227,slow=20,SNR=8.2						
SALI	**Salinas**	**4.46**	**2**	P	**Pn**	**07 10 18.3**	**-2.1**
SALI				S	**Sn**	**07 11 08.9**	**-2.7**
COHC	**Cochancay**	**4.58**	**24**	P	**Pn**	**07 10 21.5**	**-0.6**
MILO	**Milagro-Astudi**	**4.64**	**20**	P	**Pn**	**07 10 23.2**	**+0.3**
BMAS	**Trigal station**	**5.77**	**27**	P	**Pn**	**07 10 40.3**	**+1.5**
ARRY	**Arrayan**	**5.78**	**28**	P	**Pn**	**07 10 38.4**	**-0.5**
PAT1	**Patacocha**	**5.79**	**28**	P	**Pn**	**07 10 40.0**	**+0.9**
BPAT	**Tungurahua Vol**	**5.79**	**28**	P	**Pn**	**07 10 38.9**	**-0.3**
BBIL	**Ulba Tungurahu**	**5.82**	**27**	P	**Pn**	**07 10 39.8**	**+0.3**
RETU	**Refugio**	**5.83**	**27**	P	**Pn**	**07 10 39.5**	**-0.4**
JUI6	**Juive**	**5.85**	**27**	P	**Pn**	**07 10 39.3**	**-0.5**
POND	**Pondoa**	**5.86**	**27**	P	**Pn**	**07 10 38.9**	**-1.1**
BULB	**Ulba Tungurahu**	**5.86**	**28**	P	**Pn**	**07 10 39.0**	**-1.1**
PUYO	**Puyo, Santa Ro**	**6.00**	**31**	P	**Pn**	**07 10 42.2**	**+0.4**
SAGO	**Sagoatoa**	**6.01**	**24**	P	**Pn**	**07 10 41.9**	**-0.3**
PIS1	**Pisayambo**	**6.21**	**26**	P	**Pn**	**07 10 44.6**	**-0.4**
PISA	**Pisayambo**	**6.21**	**26**	P	**Pn**	**07 10 45.5**	**+0.5**
BMOR	**Cotopaxi Volca**	**6.47**	**24**	P	**Pn**	**07 10 48.4**	**-0.2**
BNAS	**Cotopaxi Volca**	**6.52**	**24**	P	**Pn**	**07 10 48.9**	**-0.3**
ARDO	**Archidona, Ten**	**6.54**	**31**	P	**Pn**	**07 10 47.6**	**-1.5**
NAS2	**Nasa**	**6.55**	**24**	P	**Pn**	**07 10 49.4**	**-0.2**
BTAM	**Cotopaxi Volca**	**6.55**	**25**	P	**Pn**	**07 10 49.1**	**-0.6**
COV1	**Cotopaxi Volc**	**6.58**	**25**	P	**Pn**	**07 10 50.3**	**0.0**
PITA	**Cotopaxi Volc**	**6.64**	**24**	P	**Pn**	**07 10 51.6**	**+0.7**
ANTG	**Antisana-Guama**	**6.76**	**25**	P	**Pn**	**07 10 51.3**	**-1.4**
NNA	**Nana**	**6.77**	**142**	Pn	**Pn**	**07 10 52.0**	**-0.2**
	4.2nm,0.3s,baz=335,slow=11,SNR=11						
NNA				Sn	**Sn**	**07 12 02.4**	**-6.2**
	7.7nm,0.3s,baz=20,slow=19,SNR=3.1						
NNA				Lg	Lg	07 12 38.1	
	13nm,0.3s,baz=259,slow=19,SNR=3.5						
NNA				LR	LR	07 13 55.9	
	comp=Z,7μm,20.6s,baz=310,slow=41						
NNA	**Nana**	**6.77**	**142**	*e*Pn	**Pn**	**07 10 50.8**	**-1.4**
NNA				*e*Sn	**Sn**	**07 12 04.3**	**-4.2**
NNA	**Nana**	**6.77**	**142**	*e*P	**Pn**	**07 10 50.8**	**-1.4**
NNA				*e*		07 12 04.3	
YANA	**Yana**	**6.99**	**21**	P	**Pn**	**07 10 55.3**	**-0.4**
PULU	**Pululahua**	**7.15**	**22**	P	**Pn**	**07 10 56.5**	**-1.2**
PAC1	**Pacto, Para¯›s**	**7.28**	**19**	P	**Pn**	**07 10 56.7**	**-2.6**
OTAV	**Otavalo**	**7.37**	**21**	*e*Pn	**Pn**	**07 10 59.5**	**-1.3**
OTAV	**Otavalo**	**7.37**	**21**	*e*P	**Pn**	**07 11 02.5**	**+1.7**
OTAV	**Otavalo**	**7.37**	**21**	*e*P	**Pn**	**07 10 59.5**	**-1.3**
CUIC	**Cuicocha-Domo**	**7.46**	**22**	P	**Pn**	**07 11 00.3**	**-1.7**
IMBA	**Imbabura, San**	**7.50**	**23**	P	**Pn**	**07 11 01.7**	**-0.9**
URCU	**Urcuqui**	**7.62**	**22**	P	**Pn**	**07 11 03.2**	**-1.1**
YAHU	**Yahuarcocha**	**7.63**	**24**	P	**Pn**	**07 11 03.6**	**-0.8**
CMBC	**Cumbal**	**8.25**	**24**	*e*P	**Pn**	**07 11 13.3**	**+0.4**
GCUF	**Volcan Galeras**	**8.71**	**26**	*e*P	**Pn**	**07 11 19.1**	**-0.2**
CRUC	**La Cruz**	**9.19**	**27**	*e*P	**Pn**	**07 11 23.2**	**-2.5**
SOTA	**Rioblanco**	**9.84**	**27**	*e*P	**Pn**	**07 11 32.9**	**-2.0**
PCON	**Cinco Dias**	**10.11**	**28**	*e*P	**Pn**	**07 11 38.4**	**-0.1**
POPC	**Popayan, Colom**	**10.17**	**26**	*e*P	**Pn**	**07 11 42.6**	**+3.5**
PAYG	**Puerto Ayora**	**10.91**	**303**	*e*Pn	**Pn**	**07 11 48.6**	**+0.6**
PAYG	**Puerto Ayora**	**10.91**	**303**	*e*P	**Pn**	**07 11 48.1**	**-0.9**
YOTC	**Yotoco, Valle**	**11.61**	**24**	*e*P	**Pn**	**07 11 57.8**	**-0.9**
ROSC	**El Rosal**	**13.30**	**31**	Lg	Lg	07 16 12.2	
	1.8nm,0.3s,baz=34,slow=23,SNR=3.7						
ROSC				LR	LR	07 17 41.8	
	comp=Z,6μm,19.0s,baz=216,slow=38						
ROSC	**El Rosal**	**13.30**	**31**	*e*Pn	**Pn**	**07 12 19.0**	**-3.1**
PTBC	**PUERTO BERRIO,**	**14.71**	**27**	*e*P	**Pn**	**07 12 43.5**	**+2.4**
RUSC	**La Rusia**	**14.84**	**33**	*e*P	**Pn**	**07 12 40.7**	**-2.5**
UREC	**San Jos¯ de U**	**15.38**	**21**	*e*P	**Pn**	**07 12 46.2**	**-3.7**
BARC	**Barichara**	**15.38**	**31**	*e*P	**Pn**	**07 12 46.2**	**-3.9**
ZARC	**Zaragoza, Cauc**	**15.40**	**24**	*e*P	**Pn**	**07 12 49.0**	**-1.2**
UPD2	**Meteti**	**15.43**	**12**	*e*P	**Pn**	**07 12 47.6**	**-3.0**
UPA	**Univ. de Panam**	**15.63**	**6**	*e*P	**Pn**	**07 12 51.8**	**-1.4**
BCIP	**Isla Barro Col**	**15.79**	**5**	*e*Pn	**Pn**	**07 12 53.2**	**-2.0**
	190nm,1.4s

comp=Z,196nm,0.9s,baz=172,slow=6.1,SNR=44
PCRV LR LR 07 24 10.2

comp=Z,4µm,19.0s,baz=211,slow=38
LCO Las Campanas 24.30 157 *eP* **P 07 14 31.1 +0.8**
comp=Z,41nm,1.1s
LCO LR LR

comp=Z,2µm,20.0s
LCO Las Campanas 24.30 157 *eP* **P 07 14 31.2 +0.8**
LCO pmax pmax

comp=Z,41nm,1.1s
LCO MLR MLR

comp=Z,2µm,20.0s
PCJ Portland Cotta 24.57 9 ||| *iP* **P 07 14 34.8 +2.3**
MCJ Malvern 24.68 8 ||| *iP* **P 07 14 36.0 +2.4**
STH Stony Hill 24.96 10 ||| *iP* **P 07 14 38.0 +1.9**
MTDJ Mount Denham 24.99 8 *eP* **P 07 14 37.0 +0.5**
comp=Z,228nm,0.9s
BBJ Bamboo Saint A 25.18 9 ||| *iP* **P 07 14 41.5 +3.4**
GO04 Tololo Observa 25.32 159 *eP* **P 07 14 40.2 +0.7**
comp=Z,126nm,1.3s
GO04 LR LR

comp=Z,3µm,18.0s
TRN Trinidad (W) 26.11 49 *eP* **P 07 14 51.5 +4.9**
LGNH LØogne 26.40 18 *eP* **P 07 14 49.9 +0.8**
comp=Z,286nm,1.2s
GRGR Grenville 26.91 46 *eP* **P 07 14 53.5 -0.3**
comp=Z,253nm,0.9s
BOT Bacolet 26.95 49 *eP* **P 07 14 56.0 +1.8**
BANI BANI 27.08 23 *eP* **P 07 14 55.1 -0.2**
GTBY Guantanamo Bay 27.09 13 *eP* **P 07 14 56.0 +0.7**
comp=Z,212nm,1.5s
TOSP Speyside 27.18 49 *eP* **P 07 14 57.5 +1.3**
CMIG Matias Romero 27.25 330 P **P 07 14 56.6 -0.2**
comp=Z,4.5nm,0.9s,baz=64,slow=12,SNR=4.4
TEIG Tepich 27.64 345 PFAKE 07 15 10.0 +10
TEIG LR LR

comp=Z,2µm,18.0s
ROC1 El Roble 27.81 162 *eP* **P 07 15 03.5 +1.5**
comp=Z,72nm,1.3s
SVB Belmont 27.97 45 *eP* **P 07 15 03.9 +0.6**
PEL Peldehue 28.07 161 PFAKE 07 15 20.0 +16
PEL LR LR

comp=Z,4µm,18.0s
CRPR Cabo Rojo, PR 28.16 29 *eP* **P 07 15 09.3 +4.5**
comp=Z,84nm,0.8s
MPR Mayaguez 28.32 29 *eP* **P 07 15 06.5 +0.2**
comp=Z,81nm,1.0s
OBIP Obispado Ponce 28.43 30 *eP* **P 07 15 07.0 -0.4**
comp=Z,82nm,0.9s
AGP Aguadilla 28.48 29 *eP* **P 07 15 08.2 +0.4**
comp=Z,368nm,1.1s
MCLT Moule a Chique 28.49 45 *eP* **P 07 15 09.0 +1.0**
SJG San Juan 28.72 31 P **P 07 15 10.3 +0.4**
comp=Z,89nm,0.9s,baz=219,slow=4.3,SNR=25
SJG LR LR 07 27 34.3

comp=Z,2µm,19.6s,baz=198,slow=38
SJG San Juan 28.72 31 *eP* **P 07 15 10.5 +0.6**
SJG San Juan 28.72 31 *eP* **P 07 15 10.5 +0.6**
MYIG MØrida 28.73 343 *eP* **P 07 15 10.2 +0.2**
comp=Z,260nm,1.3s
MYIG LR LR

comp=Z,2µm,18.0s
HUMP Col San Antoni 28.90 31 *eP* **P 07 15 10.8 -0.7**
comp=Z,95nm,0.9s
MTP Monte Pirata 29.02 32 *eP* **P 07 15 11.7 -0.8**
comp=Z,55nm,1.0s
FDF Fort de France 29.06 43 *eP* **P 07 15 11.0 -2.1**
FDF Fort de France 29.06 43 P **P 07 15 12.6 -0.5**
BBGH Gun Hill 29.10 47 *eP* P 07 15 19.4 +6.0
BBSP Saint Philip 29.14 48 *eP* **P 07 15 16.9 +3.2**
BBL Barber's Block 29.42 41 *eP* **P 07 15 14.8 -1.4**
GO05 HualaæØ 29.45 165 PFAKE 07 15 30.0 +14
GO05 LR LR

comp=Z,3µm,20.0s
STVI Saint Thomas 29.55 32 *eP* **P 07 15 18.0 +0.8**
comp=Z,36nm,0.9s
TLIG Tlapa 29.61 325 PFAKE 07 15 30.0 +12
TLIG LR LR

comp=Z,2µm,20.0s
MLYT Lee's Yard 29.85 39 *eP* **P 07 15 22.9 +2.9**
SABA Saba 29.91 36 *eP* **P 07 15 18.9 -1.6**
CPUP Villa Florida 29.94 133 P **P 07 15 21.6 +0.8**
comp=Z,17nm,1.1s,baz=318,slow=9.8,SNR=17
CPUP pP **pP 07 15 29.3 +1.4**
comp=Z,21nm,1.1s,baz=340,slow=9.4,SNR=9.2
CPUP LR LR 07 29 53.5

comp=Z,3µm,18.0s,baz=324,slow=41
CPUP Villa Florida 29.94 133 *eP* **P 07 15 21.5 +0.8**
comp=Z,123nm,1.5s
CPUP Villa Florida 29.94 133 *eP* **P 07 15 21.5 +0.8**
CPUP pmax pmax

comp=Z,123nm,1.5s
SEUS St. Eustatius 29.96 37 *eP* **P 07 15 20.9 0.0**
SMRT St. Maarten 30.35 36 *eP* **P 07 15 22.9 -1.5**
ANWB Willy Bob 30.82 38 *eP* **P 07 15 27.3 -1.2**
comp=Z,397nm,1.4s
UNM Universidad Na 31.36 326 PFAKE 07 15 50.0 +16
UNM LR LR

comp=Z,1µm,19.0s
061Z Ochoppi 32.34 0 PFAKE 07 15 50.0 +8.2
061Z LR LR

comp=Z,1µm,19.0s
MOIG Morelia 32.80 323 PFAKE 07 16 00.0 +14
MOIG LR LR

comp=Z,1µm,18.0s
JRQG Juriquilla Cam 33.17 326 PFAKE 07 16 00.0 +11
JRQG LR LR

comp=Z,2µm,20.0s
059A Moore Haven 33.44 360 PFAKE 07 16 00.0 +8.6
059A LR LR

comp=Z,2µm,18.0s
060A Indiantown 33.52 1 PFAKE 07 16 00.0 +7.9
060A LR LR

comp=Z,1µm,19.0s
RPN Rapa Nui 33.64 229 PFAKE 07 16 10.0 +17
RPN LR LR

comp=Z,3µm,21.0s
GO06 Curarrehue 33.90 167 *eP* **P 07 15 56.5 +1.0**
comp=Z,69nm,1.3s
GO06 LR LR

comp=Z,2µm,19.0s
957A Wimauma 34.16 358 PFAKE 07 16 10.0 +12
957A LR LR

comp=Z,2µm,20.0s
DWPF Disney Wildern 34.58 360 PFAKE 07 16 10.0 +8.7
DWPF LR LR

comp=Z,2µm,18.0s
PLCA Paso Flores 35.21 166 P **P 07 16 08.3 +1.5**
comp=Z,6.7nm,0.8s,baz=353,slow=10,SNR=15
PLCA pP **pP 07 16 15.6 +1.5**
comp=Z,22nm,0.9s,baz=1.7,slow=10,SNR=20
PLCA PcP **PcP 07 18 37.4 -0.1**
comp=Z,1.7nm,0.8s,baz=310,slow=4.1,SNR=3.3
PLCA pPcP 07 18 47.2
comp=Z,7.0nm,1.1s,baz=349,slow=3.1,SNR=5.8
PLCA LR LR 07 28 18.6

comp=Z,1µm,19.5s,baz=28,slow=32
PLCA Paso Flores 35.21 166 *eP* **P 07 16 07.9 +1.1**
comp=Z,151nm,1.5s
PLCA pPcP 07 18 47.2
PLCA Paso Flores 35.21 166 *eP* **P 07 16 07.9 +1.1**
PLCA pmax pmax

comp=Z,151nm,1.5s
TRQA Tornquist 35.75 154 *eP* **P 07 16 10.6 -0.8**
comp=Z,46nm,1.0s
TRQA LR LR

comp=Z,3µm,18.0s
TRQA Tornquist 35.75 154 *eP* **P 07 16 10.6 -0.8**
TRQA pmax pmax

comp=Z,46nm,1.0s
TRQA MLR MLR

comp=Z,3µm,18.0s
656A Willston 35.86 358 PFAKE 07 16 20.0 +7.7
656A LR LR

comp=Z,2µm,19.0s
658A Bunnell 35.88 360 PFAKE 07 16 20.0 +7.5
658A LR LR

comp=Z,2µm,19.0s
658A Bunnell 35.88 360 P **P 07 16 11.8 -0.7**
baz=180
ZAIG Zacatecas 36.00 325 *eP* **P 07 16 14.9 +0.9**
comp=Z,13nm,1.0s
ZAIG LR LR

comp=Z,2µm,19.0s
655A Horseshoe Beac 36.03 357 P **P 07 16 13.3 -0.4**
baz=176

LNIG Linares 36.11 331 PFAKE 07 16 30.0 +15
LNIG LR LR

comp=Z,400nm,20.0s
SPB Sao Paulo 36.48 121 *eP* **P 07 16 17.0 -0.8**
comp=Z,138nm,1.3s
SPB LR LR

comp=Z,4µm,18.0s
557A Orange Park 36.48 359 P **P 07 16 17.3 -0.4**
baz=179
555A McAlpin 36.62 357 PFAKE 07 16 30.0 +11
555A LR LR

comp=Z,2µm,19.0s
555A McAlpin 36.62 357 P **P 07 16 18.4 -0.5**
baz=177
553A Crawfordville 36.79 355 P **P 07 16 20.1 -0.1**
baz=174
GO07 Milladeo Hill, 36.89 171 *eP* **P 07 16 22.1 +1.1**
comp=Z,143nm,1.3s
456A Hilliard 37.19 359 PFAKE 07 16 30.0 +6.3
456A LR LR

comp=Z,2µm,21.0s
455A Stateville 37.24 357 P **P 07 16 23.8 -0.3**
baz=177
453A Whigham 37.44 355 PFAKE 07 16 40.0 +14
453A LR LR

comp=Z,2µm,21.0s
452A Marianna 37.51 354 P **P 07 16 26.4 +0.1**
baz=173
545A Edgard 37.60 347 PFAKE 07 16 40.0 +13
545A LR LR

comp=Z,2µm,19.0s
TIGA Tifton 37.97 357 PFAKE 07 16 40.0 +10
TIGA LR LR

comp=Z,2µm,19.0s
TIGA Tifton 37.97 357 P **P 07 16 29.6 -0.6**
baz=176
543A St. Martinvill 37.97 345 PFAKE 07 16 40.0 +10
543A LR LR

comp=Z,2µm,19.0s
351A Pinckard 37.97 354 P **P 07 16 30.3 0.0**
baz=173
446A Poplarville 38.08 348 P **P 07 16 32.1 +1.0**
baz=167
352A Blakely 38.11 355 PFAKE 07 16 40.0 +8.6
352A LR LR

comp=Z,2µm,20.0s
350A Dozier 38.20 353 P **P 07 16 32.0 -0.2**
baz=172
349A Repton 38.25 352 P **P 07 16 32.5 -0.2**
baz=170
255A Hazlehurst 38.40 358 PFAKE 07 16 40.0 +6.1
255A LR LR

comp=Z,2µm,19.0s
348A Jackson 38.42 351 *eP* **P 07 16 32.6 -1.5**
comp=Z,218nm,1.6s
348A Jackson 38.42 351 P **P 07 16 34.6 +0.5**
baz=169
257A Skidaway Islan 38.43 0 PFAKE 07 16 50.0 +16
257A LR LR

comp=Z,1µm,19.0s
256A Glennville 38.44 359 P **P 07 16 33.7 -0.5**
baz=179
254A Abbeville 38.46 357 P **P 07 16 34.1 -0.3**
baz=176
347A Saraland 38.52 350 P **P 07 16 35.8 +0.9**
baz=168,SNR=5.0
252A Lumpkin 38.60 355 P **P 07 16 35.2 -0.4**
baz=174
253A Americus 38.62 356 *eP* **P 07 16 35.4 -0.3**
comp=Z,141nm,1.4s
253A LR LR

comp=Z,2µm,21.0s
253A Americus 38.62 356 P **P 07 16 34.8 -0.9**
baz=175
346A Big Creek Wild 38.67 349 *eP* **P 07 16 35.3 -0.9**
comp=Z,336nm,1.6s
346A Big Creek Wild 38.67 349 P **P 07 16 36.6 +0.4**
baz=167
345A Thompson Farm, 38.71 348 P **P 07 16 36.7 +0.2**
baz=166
250A Grady 38.74 353 *eP* **P 07 16 35.7 -1.1**
comp=Z,106nm,1.3s
250A Grady 38.74 353 P **P 07 16 36.7 -0.1**
baz=172
251A Midway 38.76 354 P **P 07 16 36.6 -0.3**
baz=181,SNR=8.0
249A Camden 38.85 352 P **P 07 16 37.9 +0.3**
baz=170
833A Chaparral WMA, 39.00 334 P **P 07 16 39.8 +0.8**
baz=150
344A Westbrook Farm 39.01 347 *eP* **P 07 16 37.8 -1.2**
comp=Z,108nm,1.1s
344A Westbrook Farm 39.01 347 P **P 07 16 40.1 +1.2**
baz=165,SNR=12
343A Vidalia 39.05 346 P **P 07 16 38.4 -0.9**
baz=3
HKT Hockley 39.05 340 *eP* **P 07 16 40.3 +1.0**
comp=Z,294nm,1.9s
HKT Hockley 39.05 340 *eP* **P 07 16 40.3 +1.0**
HKT pmax pmax

comp=Z,294nm,1.9s
248A Dixon Mills 39.06 351 P **P 07 16 39.6 +0.2**
baz=170
155A Kite 39.09 358 P **P 07 16 39.3 -0.4**
baz=178
156A Sylvania 39.11 360 P **P 07 16 39.5 -0.3**
baz=179
154A Montrose 39.11 357 *eP* **P 07 16 39.2 -0.5**
comp=Z,334nm,1.8s
154A LR LR

comp=Z,1µm,19.0s
154A Montrose 39.11 357 P **P 07 16 39.3 -0.5**
baz=177
247A Quitman 39.16 350 P **P 07 16 40.6 +0.3**
baz=168
151A Opelika 39.19 354 P **P 07 16 39.8 -0.6**
baz=173
152A Waverly Hall 39.27 355 *eP* **P 07 16 41.0 -0.2**
comp=Z,72nm,1.4s
152A LR LR

comp=Z,2µm,21.0s
152A Waverly Hall 39.27 355 P **P 07 16 40.6 -0.6**
baz=174,SNR=6.1
342A Flagon Creek P 39.32 345 P **P 07 16 42.4 +0.8**
baz=162
150A Eclectic 39.34 353 P **P 07 16 41.4 -0.3**
baz=172,SNR=6.2
RGRS Roger Stewart 39.37 1 *eP* **P 07 16 41.8 -0.2**
comp=Z,417nm,1.2s
245A Little AP, Sta 39.39 348 P **P 07 16 42.6 +0.5**
baz=166
149A Jones 39.42 352 P **P 07 16 41.8 -0.6**
baz=171
CSU Charleston Sou 39.45 1 *eP* **P 07 16 42.7 +0.1**
244A Avery, Jackson 39.56 347 P **P 07 16 44.1 +0.5**
baz=165
NHSC New Hope 39.57 1 *eP* **P 07 16 43.6 0.0**
comp=Z,196nm,1.4s
NHSC LR LR

comp=Z,2µm,21.0s
NHSC New Hope 39.57 1 P **P 07 16 43.4 -0.2**
baz=181
148A Greensboro 39.58 351 P **P 07 16 43.2 -0.5**
baz=170
243A Waterproof 39.59 346 P **P 07 16 44.4 +0.6**
baz=164
Z55A Blythe 39.68 359 P **P 07 16 44.0 -0.6**
baz=178
VBMS Vicksburg 39.70 347 *eP* **P 07 16 44.8 +0.1**
comp=Z,176nm,1.4s
VBMS Vicksburg 39.70 347 P **P 07 16 44.8 +0.1**
baz=165
147A Livingston 39.71 351 *eP* **P 07 16 44.0 -0.9**
comp=Z,71nm,1.3s
147A Livingston 39.71 351 P **P 07 16 44.5 -0.3**
baz=169
Z54A Sparta 39.72 358 P **P 07 16 43.8 -1.1**
baz=177,SNR=6.1
Z52A Williamson 39.76 356 P **P 07 16 44.8 -0.5**
baz=175,SNR=7.9
Z53A Monticello 39.80 357 P **P 07 16 44.7 -0.8**
baz=176,SNR=8.1
146A Union 39.81 350 *eP* **P 07 16 46.0 +0.3**
comp=Z,344nm,1.8s
146A Union 39.81 350 P **P 07 16 45.9 +0.2**
baz=168
LRAL Lakeview Retre 39.88 352 *eP* **P 07 16 46.0 -0.3**
comp=Z,44nm,1.1s

LRAL Lakeview Retre 39.88 352 P **P 07 16 46.0 -0.3**
baz=171
GOGA Godfrey 39.92 357 *eP* **P 07 16 46.2 -0.3**
comp=Z,128nm,1.6s
GOGA LR LR

comp=Z,2µm,19.0s
GOGA Godfrey 39.92 357 *eP* **P 07 16 46.3 -0.3**
GOGA pmax pmax

comp=Z,128nm,1.6s
GOGA MLR MLR

comp=Z,2µm,19.0s
GOGA Godfrey 39.92 357 P **P 07 16 46.0 -0.6**
baz=176,SNR=5.8
145A Houston Renfro 39.95 348 P **P 07 16 47.2 +0.5**
baz=166
Z51A Franklin 39.95 355 P **P 07 16 46.6 -0.3**
baz=174
Z50A Ashland 39.97 354 *eP* **P 07 16 46.7 -0.2**
comp=Z,105nm,1.5s
Z50A LR LR

comp=Z,1µm,20.0s
Z50A Ashland 39.97 354 P **P 07 16 46.5 -0.5**
baz=172
Z49A Columbiana 39.98 353 P **P 07 16 46.8 -0.3**
baz=172
241A Mo Tay, Goldon 40.09 344 P **P 07 16 48.6 +0.6**
baz=162
Z47A Carrollton 40.20 351 P **P 07 16 48.5 -0.3**
baz=169
Z48A Northport 40.29 352 P **P 07 16 49.0 -0.6**
baz=170,SNR=5.7
Z46A Louisville 40.33 350 P **P 07 16 50.1 +0.1**
baz=168
240A Hunter Patters 40.34 343 P **P 07 16 49.7 -0.4**
baz=160
Y54A Tignall 40.34 358 P **P 07 16 49.2 -0.8**
baz=178,SNR=8.0
NATX Nacogdoches 40.34 342 *eP* **P 07 16 50.3 +0.2**
comp=Z,154nm,1.2s
NATX Nacogdoches 40.34 342 P **P 07 16 50.4 +0.2**
baz=159
143A Socs Landing, 40.36 347 P **P 07 16 50.2 0.0**
baz=164
Y53A Monroe 40.37 357 P **P 07 16 49.6 -0.8**
baz=176,SNR=8.2
Y52A Lilburn 40.41 356 *eP* **P 07 16 48.9 -1.7**
comp=Z,67nm,1.4s
Y52A LR LR

comp=Z,2µm,20.0s
Y52A Lilburn 40.41 356 P **P 07 16 49.9 -0.7**
baz=175
435B Jarrell 40.44 338 P **P 07 16 51.9 +0.9**
baz=154
Y51A Rockmart 40.52 355 P **P 07 16 50.7 -0.9**
baz=174,SNR=13
Y50A Piedmont 40.58 354 P **P 07 16 51.4 -0.6**
baz=173
Y49A Blount Mountai 40.62 353 *eP* **P 07 16 51.8 -0.6**
comp=Z,38nm,1.4s
Y49A Blount Mountai 40.62 353 P **P 07 16 51.6 -0.7**
baz=172
Z45A Winona 40.64 349 P **P 07 16 53.0 +0.4**
baz=167
HODGE Hodges 40.69 359 *eP* **P 07 16 51.7 -1.2**
comp=Z,116nm,1.5s
HODGE LR LR

comp=Z,1µm,19.0s
Z44A Pea Ridge, Bel 40.70 348 P **P 07 16 53.0 0.0**
baz=166
JSC Jenkinsville 40.73 360 *eP* **P 07 16 52.3 -0.9**
comp=Z,232nm,1.9s
JSC LR LR

comp=Z,1µm,19.0s
JSC Jenkinsville 40.73 360 *eP* **P 07 16 52.3 -0.9**
JSC pmax pmax

comp=Z,232nm,1.9s
JSC MLR MLR

comp=Z,1µm,19.0s
Y48A Jasper 40.77 352 P **P 07 16 52.7 -0.9**
baz=171
Z43A Armstrong Fami 40.81 347 P **P 07 16 54.1 +0.2**
baz=164
Y47A UCPARC, Winfie 40.85 351 P **P 07 16 54.1 -0.1**
baz=170
Y46A Houston 40.99 350 P **P 07 16 55.5 0.0**
baz=168
HPIG 41.00 326 *eP* **P 07 16 56.1 +0.3**
comp=Z,76nm,2.0s
HPIG LR LR

comp=Z,1µm,20.0s
X53A Estanollee 41.00 357 P **P 07 16 54.9 -0.7**
baz=177,SNR=7.2
Z42A Norrel Spur, H 41.03 346 P **P 07 16 55.9 +0.2**
baz=164
JCT Junction City 41.05 335 *eP* **P 07 16 57.1 +1.1**
comp=Z,82nm,1.5s
JCT Junction City 41.05 335 *eP* **P 07 16 57.2 +1.1**
JCT pmax pmax

comp=Z,82nm,1.5s
JCT Junction City 41.05 335 P **P 07 16 56.8 +0.8**
baz=151
CHRN Cochrane 41.09 171 *eP* **P 07 16 57.5 +1.4**
comp=Z,19nm,1.1s
Y45A Yeager Farm, C 41.10 349 P **P 07 16 57.1 +0.8**
baz=167
X50B Fort Payne 41.13 354 P **P 07 16 55.7 -0.9**
baz=173,SNR=5.4
X52A Dahlonega 41.13 357 P **P 07 16 55.9 -0.8**
baz=176,SNR=13
X51A Calhoun 41.16 355 *eP* **P 07 16 56.5 -0.3**
comp=Z,143nm,1.5s
X51A LR LR

comp=Z,2µm,20.0s
X51A Calhoun 41.16 355 P **P 07 16 56.2 -0.7**
baz=174
Z41A Richland Creek 41.23 345 P **P 07 16 57.5 +0.1**
baz=162
X49A Woodville 41.25 353 P **P 07 16 56.9 -0.7**
baz=172
SLBS Sierra La Lagu 41.26 318 *eP* **P 07 16 58.6 +0.7**
comp=Z,37nm,0.9s
PAULI Pauline 41.27 359 *eP* **P 07 16 57.4 -0.3**
comp=Z,85nm,1.4s
PAULI LR LR

comp=Z,1µm,20.0s
X48A Hartselle 41.28 353 *eP* **P 07 16 57.0 -0.7**
comp=Z,61nm,1.4s
X48A LR LR

comp=Z,600nm,19.0s
X48A Hartselle 41.28 353 P **P 07 16 57.1 -0.7**
baz=171
Y44A Strider, Charl 41.32 349 P **P 07 16 58.3 +0.2**
baz=166
Y43A Makayla and Ka 41.42 348 P **P 07 16 58.8 -0.1**
baz=165
X47A Russelville 41.46 352 P **P 07 16 58.3 -1.0**
baz=170
BG3 Lake Jocassee 41.48 358 *eP* **P 07 16 59.2 -0.2**
comp=Z,145nm,1.5s
BG3 LR LR

comp=Z,2µm,18.0s
WHTX Lake Whitney, 41.48 339 *eP* **P 07 16 58.2 -1.3**
comp=Z,184nm,1.9s
WHTX Lake Whitney, 41.48 339 P **P 07 16 58.5 -1.0**
baz=155
Y42A Garnett, Star 41.53 347 P **P 07 17 00.2 +0.3**
baz=164,SNR=5.8
KMSC Kings Mountain 41.59 360 *eP* **P 07 16 59.8 -0.5**
comp=Z,236nm,1.7s
KMSC LR LR

comp=Z,2µm,19.0s
KMSC Kings Mountain 41.59 360 P **P 07 16 59.7 -0.6**
baz=180,SNR=8.6
X46A Booneville 41.61 351 P **P 07 16 59.8 -0.7**
baz=169
CCAR Cane Creek 41.61 347 *eP* **P 07 17 00.3 -0.2**
comp=Z,396nm,1.7s
X45A UM Field Stati 41.61 350 P **P 07 16 59.9 -0.7**
baz=168
W52A Murphy 41.62 357 *eP* **P 07 16 59.5 -1.2**
comp=Z,71nm,1.1s
W52A LR LR

comp=Z,2µm,20.0s
W52A Murphy 41.62 357 P **P 07 17 00.2 -0.4**
baz=176,SNR=5.4
W53A Cullowhee 41.66 357 P **P 07 17 00.7 -0.4**
baz=177,SNR=16
OXF Oxford 41.70 350 *eP* **P 07 17 01.1 -0.1**

comp=Z,52nm,1.1s
OXF LR LR
comp=Z,600nm,20.0s
OXF Oxford 41.70 350 *e*P **P 07 17 01.1 -0.1**
OXF pmax pmax
comp=Z,52nm,1.1s
OXF MLR MLR
comp=Z,600nm,20.0s
OXF Oxford 41.70 350 P **P 07 17 00.6 -0.6**
baz=168
WLAR White Oak Lake 41.72 345 *e*P **P 07 17 02.9 +1.5**
comp=Z,231nm,1.3s
W51A Cleveland 41.75 356 P **P 07 17 00.3 -1.3**
baz=174
Y41A Eaglette Beard 41.77 346 P **P 07 17 01.8 -0.1**
baz=163
CNNC Cliffs of the 41.80 4 *e*P **P 07 17 01.8 -0.2**
comp=Z,70nm,0.3s
CNNC Cliffs of the 41.80 4 P **P 07 17 00.5 -1.5**
baz=185
X44A Crenshaw 41.83 349 P **P 07 17 01.9 -0.4**
baz=166
W50A Signal Mountai 41.83 355 *e*P **P 07 17 01.5 -0.8**
comp=Z,122nm,1.6s
W50A LR LR
comp=Z,1μm,22.0s
W50A Signal Mountai 41.83 355 P **P 07 17 01.6 -0.8**
baz=174,SNR=5.9
W49A Belvidere 41.85 354 P **P 07 17 01.8 -0.6**
baz=172
TXAR Lajitas Array 41.85 330 P **P 07 17 03.8 +1.1**
comp=Z,1.7nm,0.9s,baz=154,slow=9.5,SNR=12
TXAR pP **pP 07 17 10.8 +0.7**
comp=Z,3.7nm,0.8s,baz=150,slow=6.0,SNR=17
TXAR PcP **PcP 07 18 59.6 +1.2**
comp=Z,1.8nm,1.1s,baz=158,slow=7.8,SNR=3.0
TXAR pPcP 07 19 08.5
comp=Z,2.5nm,0.8s,baz=156,slow=6.3,SNR=8.4
TXAR LR LR 07 32 11.9
comp=Z,513nm,19.3s,baz=0.0,slow=33
LTX Lajitas 41.85 330 *e*P **P 07 17 03.8 +1.1**
LTX *e*pP **pP 07 17 10.8 +0.7**
LTX *e*PcP **PcP 07 18 59.6 +1.2**
LTX Lajitas 41.85 330 *e*P **P 07 17 03.8 +1.1**
LTX *e**PP **pP 07 17 10.8 +0.7**
LTX *e* 07 18 59.6
TX31 Lajitas Ar. Si 41.85 330 *e*P **P 07 17 03.1 +0.4**
SWET Sewanee 41.91 354 *e*P **P 07 17 01.9 -1.1**
comp=Z,117nm,1.6s
SWET LR LR
comp=Z,1μm,22.0s
W48A Pulaski 41.94 353 P **P 07 17 02.4 -0.8**
baz=171
PLAL Pickwick Lake 41.95 351 *e*P **P 07 17 02.6 -0.6**
comp=Z,81nm,1.5s
X43A Marvell 41.99 348 *e*P **P 07 17 03.0 -0.7**
comp=Z,463nm,1.8s
X43A Marvell 41.99 348 P **P 07 17 03.1 -0.5**
baz=165
CPCT Cooper Cave 42.02 356 *e*P **P 07 17 03.3 -0.5**
comp=Z,61nm,1.2s
CPCT LR LR
comp=Z,2μm,19.0s
W46A Michie 42.14 351 P **P 07 17 03.9 -0.9**
baz=169
W47A Westpoint 42.14 352 P **P 07 17 04.1 -0.7**
baz=170,SNR=10
V53A Saluda 42.14 358 *e*P **P 07 17 04.1 -0.9**
comp=Z,61nm,1.4s
V53A LR LR
comp=Z,2μm,19.0s
V53A Saluda 42.14 358 P **P 07 17 03.9 -1.0**
baz=177
TKL Tuckaleechee C 42.18 357 *e*P **P 07 17 04.0 -1.1**
comp=Z,203nm,1.8s
TKL LR LR
comp=Z,2μm,20.0s
TKL Tuckaleechee C 42.18 357 *e*P **P 07 17 04.0 -1.1**
TKL pmax pmax
comp=Z,203nm,1.8s
TKL MLR MLR
comp=Z,2μm,20.0s
X42A Stuttgart 42.19 347 P **P 07 17 04.8 -0.4**
baz=164
V50A Pikevile 42.28 355 P **P 07 17 05.3 -0.6**
baz=174
W45A Hickory Valley 42.29 350 P **P 07 17 05.1 -0.9**
baz=168
X41A Kaden, Bauxite 42.34 346 P **P 07 17 06.6 +0.2**
baz=163
V52A Sevierville 42.35 357 *e*P **P 07 17 05.5 -1.0**
comp=Z,125nm,1.3s
V52A LR LR
comp=Z,2μm,20.0s
V52A Sevierville 42.35 357 P **P 07 17 05.8 -0.8**
baz=176,SNR=9.2
V51A Loudon 42.36 356 *e*P **P 07 17 05.5 -1.1**
comp=Z,64nm,1.3s
V51A LR LR
comp=Z,2μm,20.0s
V51A Loudon 42.36 356 P **P 07 17 05.9 -0.7**
baz=175,SNR=6.1
W44A Shelby Farms P 42.39 349 P **P 07 17 06.6 -0.2**
baz=167
X40A Basin Creek Fa 42.41 346 *e*P **P 07 17 08.1 +1.0**
comp=Z,86nm,1.6s
X40A Basin Creek Fa 42.41 346 P **P 07 17 07.2 +0.2**
baz=163
V49A McMinnville 42.45 354 P **P 07 17 06.4 -0.9**
baz=173,SNR=7.1
W43A Forest City 42.51 348 P **P 07 17 07.6 -0.2**
baz=166
V48A Smith Brothers 42.52 353 *e*P **P 07 17 07.5 -0.5**
comp=Z,166nm,1.6s
V48A LR LR
comp=Z,900nm,20.0s
V48A Smith Brothers 42.52 353 P **P 07 17 07.2 -0.8**
baz=172,SNR=6.9
UALR University of 42.56 346 *e*P **P 07 17 08.3 +0.1**
comp=Z,152nm,1.5s
MIAR Mount Ida 42.65 345 *e*P **P 07 17 09.5 +0.5**
comp=Z,106nm,1.4s
MIAR Mount Ida 42.65 345 *e*P **P 07 17 09.5 +0.5**
MIAR pmax pmax
comp=Z,106nm,1.4s
MIAR Mount Ida 42.65 345 P **P 07 17 09.5 +0.5**
baz=162,SNR=16
V47A Nunnelly 42.70 352 P **P 07 17 08.1 -1.3**
baz=171
V46A Holladay 42.76 352 P **P 07 17 08.5 -1.3**
baz=170
V45A Humboldt 42.82 351 P **P 07 17 09.1 -1.3**
baz=168
W42A Bald Knob 42.85 347 P **P 07 17 10.3 -0.3**
baz=165
ABTX Abilene, Hawle 42.87 337 *e*P **P 07 17 11.1 +0.3**
comp=Z,94nm,1.3s
ABTX Abilene, Hawle 42.87 337 P **P 07 17 11.0 +0.1**
baz=152
U52A Thorn Hill 42.89 357 P **P 07 17 09.8 -1.1**
baz=177,SNR=5.7
U51A La Follette 42.91 357 P **P 07 17 10.1 -1.0**
baz=176
W41B Gary Mavity, V 42.92 347 *e*P **P 07 17 11.9 +0.7**
comp=Z,156nm,1.6s
W41B Gary Mavity, V 42.92 347 P **P 07 17 10.9 -0.3**
baz=164,SNR=7.4
U50A Jamestown 43.00 356 P **P 07 17 10.5 -1.3**
baz=174,SNR=9.0
WVT Waverly 43.04 352 *e*P **P 07 17 10.7 -1.4**
comp=Z,89nm,1.5s
WVT Waverly 43.04 352 *e*P **P 07 17 10.7 -1.4**
WVT pmax pmax
comp=Z,89nm,1.5s
WVT Waverly 43.04 352 P **P 07 17 10.5 -1.6**
baz=170
WHAR Wooly Hollow 43.04 347 *e*P **P 07 17 11.2 -0.9**
comp=Z,178nm,1.6s
TZTN Tazewell 43.05 357 *e*P **P 07 17 12.1 -0.1**
comp=Z,36nm,1.3s
TZTN LR LR
comp=Z,1μm,19.0s
TZTN Tazewell 43.05 357 P **P 07 17 10.9 -1.3**
baz=176
V44A Blytheville 43.07 350 P **P 07 17 11.5 -0.8**
baz=167
V43A Jonesboro 43.15 349 P **P 07 17 12.7 -0.3**
baz=166
U49A Red Boiling Sp 43.18 355 P **P 07 17 12.2 -1.0**
baz=173,SNR=6.3
X37A Clayton 43.19 343 *e*P **P 07 17 13.4 0.0**
comp=Z,188nm,1.4s
GNAR Gosnell 43.23 349 *e*P **P 07 17 13.5 -0.1**
comp=Z,75nm,1.0s
U48A Cassie Pea, Po 43.25 354 P **P 07 17 12.7 -1.2**
baz=172
U47A Clarksville 43.27 353 P **P 07 17 12.5 -1.5**
baz=171
U46A Springville 43.31 352 P **P 07 17 12.8 -1.5**
baz=170
W39A Magazine 43.32 345 *e*P **P 07 17 14.2 -0.2**
comp=Z,362nm,1.8s
W39A Magazine 43.32 345 P **P 07 17 15.5 +1.1**
baz=162,SNR=22
V42A Cord 43.34 348 P **P 07 17 14.3 -0.2**
baz=165,SNR=6.8
U45A Rockin P Farm, 43.39 351 P **P 07 17 14.2 -0.7**
baz=169
U44B Burton Farm, H 43.47 350 P **P 07 17 15.0 -0.6**
baz=168
V41A Mountainview 43.49 347 P **P 07 17 16.0 +0.2**
baz=164,SNR=20
T51A Gray 43.49 357 P **P 07 17 14.9 -0.9**
baz=176,SNR=6.1
T52A Hallie 43.59 358 P **P 07 17 15.6 -0.9**
baz=177
T50A Nancy 43.60 356 P **P 07 17 15.5 -1.1**
baz=175
BLA Blacksburg 43.66 1 *e*P **P 07 17 16.5 -0.7**
comp=Z,159nm,1.8s
BLA LR LR
comp=Z,1μm,20.0s
BLA Blacksburg 43.66 1 *e*P **P 07 17 16.5 -0.7**
BLA pmax pmax
comp=Z,159nm,1.8s
BLA MLR MLR
comp=Z,1μm,20.0s
BLA Blacksburg 43.66 1 P **P 07 17 16.4 -0.8**
baz=181
U43A Rector 43.69 349 P **P 07 17 16.9 -0.5**
baz=167
U44A Portageville 43.69 350 P **P 07 17 16.9 -0.4**
baz=168
T49A Edmton 43.74 355 *e*P **P 07 17 16.8 -1.1**
comp=Z,72nm,1.3s
T49A LR LR
comp=Z,1μm,19.0s
T49A Edmonton 43.74 355 P **P 07 17 16.7 -1.1**
baz=174,SNR=8.7
T47A Sharon Grove 43.79 353 *e*P **P 07 17 16.9 -1.3**
comp=Z,66nm,1.3s
T47A LR LR
comp=Z,900nm,20.0s
T47A Sharon Grove 43.79 353 P **P 07 17 15.4 -2.7**
baz=171
T48A Bowling Green 43.83 354 P **P 07 17 17.5 -1.0**
baz=172,SNR=6.1
U42A Revenden 43.84 348 P **P 07 17 18.5 0.0**
baz=165,SNR=6.1
PARMO Parma 43.86 350 *e*P **P 07 17 18.7 0.0**
comp=Z,163nm,1.1s
T46A Princeton 43.94 352 P **P 07 17 18.4 -1.0**
baz=170,SNR=8.8
U41A Viola 43.97 347 P **P 07 17 19.3 -0.4**
baz=164,SNR=7.7
T45A Paducah 44.03 351 *e*P **P 07 17 19.5 -0.5**
comp=Z,106nm,1.1s
T45A Paducah 44.03 351 P **P 07 17 18.9 -1.1**
baz=169
PBMO Poplar Bluff 44.09 349 *e*P **P 07 17 20.3 -0.3**
comp=Z,116nm,1.4s
S51A Beattyville 44.14 357 *e*P **P 07 17 20.0 -1.0**
comp=Z,76nm,1.4s
S51A LR LR
comp=Z,2μm,19.0s
S51A Beattyville 44.14 357 P **P 07 17 20.0 -1.0**
baz=176
S52A Salyersville 44.16 358 P **P 07 17 20.0 -1.2**
baz=177
U40A Yellville 44.19 346 P **P 07 17 21.7 +0.3**
baz=163,SNR=16
S50A Richmond 44.23 356 P **P 07 17 20.7 -0.9**
baz=175,SNR=8.9
T44A Benton 44.24 350 P **P 07 17 21.1 -0.7**
baz=168
S48A Wiedeman Farm, 44.34 354 P **P 07 17 21.0 -1.6**
baz=173,SNR=5.4
S47A Hartford 44.36 353 P **P 07 17 21.3 -1.5**
baz=172,SNR=7.2
T43A Greenville 44.36 350 P **P 07 17 22.2 -0.6**
baz=167,SNR=9.5
HHAR Hobbs 44.39 345 *e*P **P 07 17 23.1 +0.1**
comp=Z,170nm,1.7s
S49A Springfield 44.40 355 P **P 07 17 21.7 -1.4**
baz=174,SNR=7.1
WMOK Wichita Mounta 44.43 339 P **P 07 17 23.3 -0.2**
baz=154,SNR=8.3
T42A Van Buren 44.46 349 *e*P **P 07 17 23.3 -0.2**
comp=Z,158nm,1.5s
T42A Van Buren 44.46 349 P **P 07 17 23.0 -0.5**
baz=166,SNR=6.6
R58B Mineral 44.51 4 P **P 07 17 23.7 -0.2**
baz=184,SNR=13
TUL1 Leonard 44.54 343 *e*P **P 07 17 23.5 -0.7**
comp=Z,203nm,1.8s
TUL1 Leonard 44.54 343 P **P 07 17 23.9 -0.3**
baz=159,SNR=13
GDL2 Guadalupe Moun 44.55 332 *e*P **P 07 17 25.1 +0.6**
S46A Don Dixon Farm 44.55 353 P **P 07 17 22.7 -1.6**
baz=171
T41A Mountain View 44.61 348 P **P 07 17 25.0 +0.2**
baz=165,SNR=5.1
MNTX Cornudas Mount 44.63 330 *e*P **P 07 17 25.8 +0.7**
comp=Z,18nm,1.0s
MNTX LR LR
comp=Z,500nm,22.0s
MNTX Cornudas Mount 44.63 330 P **P 07 17 25.5 +0.5**
baz=144,SNR=12
S45A Carrier Mills 44.66 352 P **P 07 17 24.1 -1.0**
baz=169
CBN Corbin Frederi 44.78 4 *e*P **P 07 17 24.7 -1.3**
comp=Z,261nm,1.8s
CBN Corbin Frederi 44.78 4 P **P 07 17 25.3 -0.7**
baz=185
S44A Carbondale 44.78 351 P **P 07 17 25.5 -0.6**
baz=168
SIUC Southern Illin 44.80 351 *e*P **P 07 17 25.5 -0.7**
comp=Z,102nm,1.1s
R51A Hillsboro 44.80 357 P **P 07 17 25.2 -1.0**
baz=176,SNR=8.9
R52A Catlettsburg 44.80 358 P **P 07 17 24.6 -1.6**
baz=178
S43A Fulton Ridge, 44.80 350 P **P 07 17 25.3 -1.0**
baz=167
R50A Paris 44.82 356 P **P 07 17 24.5 -1.9**
baz=175
USIN University of 44.82 353 *e*P **P 07 17 24.2 -2.2**
comp=Z,194nm,1.5s
R49A Shelbyville 44.89 355 P **P 07 17 25.6 -1.3**
baz=174,SNR=5.6
WCI Wyandotte Cave 44.93 354 *e*P **P 07 17 26.1 -1.2**
comp=Z,38nm,1.0s
WCI LR LR
comp=Z,1μm,22.0s
WCI Wyandotte Cave 44.93 354 P **P 07 17 25.6 -1.6**
baz=173
RCBR Riachuelo 44.95 92 *e*P **P 07 17 25.3 -2.7**
comp=Z,54nm,1.1s
RCBR LR LR
comp=Z,4μm,19.0s
RCBR Riachuelo 44.95 92 *e*P **P 07 17 25.3 -2.7**
RCBR pmax pmax
comp=Z,54nm,1.1s
RCBR MLR MLR
comp=Z,4μm,19.0s
CPRX Cap Rock 45.01 333 *e*P **P 07 17 28.6 +0.4**
R47A Wooly Knot Far 45.02 354 P **P 07 17 26.3 -1.7**
baz=172
R46A Gibon Southern 45.05 353 P **P 07 17 27.0 -1.2**
baz=171
GO09 Cerro Castillo 45.05 172 *e*P **P 07 17 29.5 +1.4**
comp=Z,95nm,1.3s
R48A Northridge Ran 45.06 355 P **P 07 17 26.9 -1.4**
baz=173
S42A Caledonia 45.12 349 P **P 07 17 28.1 -0.7**
baz=166,SNR=5.7
S41A Jillco Farms, 45.13 348 P **P 07 17 28.7 -0.3**
baz=165,SNR=10.0
R45A Skylar, Fairfi 45.23 352 P **P 07 17 28.7 -0.9**
baz=170
EPT El Paso 45.26 329 *e*P **P 07 17 30.4 +0.3**
comp=Z,9.9nm,0.8s
EPT LR LR
comp=Z,600nm,19.0s
FVM French Village 45.26 350 *e*P **P 07 17 30.3 +0.4**
comp=Z,303nm,2.0s
FVM French Village 45.26 350 *e*P **P 07 17 30.3 +0.4**
FVM pmax pmax
comp=Z,303nm,2.0s
R44A Waltonville 45.30 351 P **P 07 17 29.5 -0.7**
baz=169
MSTX Muleshoe 45.32 334 *e*P **P 07 17 30.9 +0.3**
comp=Z,71nm,1.2s
MSTX Muleshoe 45.32 334 P **P 07 17 30.6 -0.1**
baz=149,SNR=18
Q50A Georgetown 45.36 357 P **P 07 17 30.8 +0.2**
baz=176
Q52A Bidwell 45.41 359 P **P 07 17 30.2 -0.9**
baz=178
R43A Red Bud 45.46 350 P **P 07 17 31.2 -0.2**
baz=168,SNR=6.1
CCM Cathedral Cave 45.48 349 *e*P **P 07 17 31.6 -0.1**
comp=Z,140nm,1.3s
CCM Cathedral Cave 45.48 349 *e*P **P 07 17 31.6 -0.1**
CCM pmax pmax
comp=Z,139nm,1.3s
CCM Cathedral Cave 45.48 349 P **P 07 17 31.3 -0.4**
baz=166
Q51A Peebles 45.51 358 *e*P **P 07 17 30.8 -1.1**
comp=Z,118nm,1.5s
Q51A LR LR
comp=Z,2μm,19.0s
Q51A Peebles 45.51 358 P **P 07 17 30.9 -1.0**
baz=177,SNR=5.8
Q48A North Vernon 45.57 355 P **P 07 17 31.0 -1.3**
baz=174,SNR=5.8
Q49A Aurora 45.58 356 P **P 07 17 31.0 -1.4**
baz=175
R42A Luebbering 45.62 349 P **P 07 17 32.2 -0.6**
baz=166
OLIL Olney 45.64 352 *e*P **P 07 17 32.0 -0.9**
comp=Z,65nm,1.1s
OLIL LR LR
comp=Z,900nm,19.0s
Q47A Bedord North L 45.64 354 P **P 07 17 31.5 -1.4**
baz=173,SNR=8.4
HSIG 45.65 322 PFAKE 07 17 40.0 +6.9
HSIG LR LR
comp=Z,500nm,20.0s
AMTX Amarillo 45.66 336 *e*P **P 07 17 34.0 +0.8**
comp=Z,18nm,0.8s
AMTX Amarillo 45.66 336 P **P 07 17 33.7 +0.5**
baz=151
R41A Rosebud 45.74 349 P **P 07 17 33.4 -0.3**
baz=166,SNR=7.9
Q45A Warren Harvey, 45.80 352 P **P 07 17 33.2 -1.0**
baz=170
SLM Saint Louis 45.86 350 *e*P **P 07 17 34.0 -0.6**
comp=Z,146nm,1.5s
BLO Bloomington 45.88 354 *e*P **P 07 17 33.7 -1.1**
comp=Z,56nm,1.3s
BLO Bloomington 45.88 354 *e*P **P 07 17 33.7 -1.1**
BLO pmax pmax
comp=Z,56nm,1.3s
P53A Whipple 45.93 360 *e*P **P 07 17 34.1 -1.1**
comp=Z,234nm,1.8s
P53A LR LR
comp=Z,2μm,20.0s
P53A Whipple 45.93 360 P **P 07 17 34.1 -1.1**
baz=180
Q44A Meyer Farm, Va 45.93 351 *e*P **P 07 17 34.3 -0.8**
comp=Z,113nm,1.3s
Q44A Meyer Farm, Va 45.93 351 P **P 07 17 34.4 -0.8**
baz=169,SNR=8.4
P51A Williamsport 45.95 358 *e*P **P 07 17 34.2 -1.1**
comp=Z,163nm,1.8s
P51A LR LR
comp=Z,2μm,20.0s
P51A Williamsport 45.95 358 P **P 07 17 34.0 -1.4**
baz=177
U32A Winter Ranch, 45.99 340 *e*P **P 07 17 36.1 +0.3**
comp=Z,60nm,0.9s
SDMD Soldier's Deli 46.02 5 *e*P **P 07 17 35.7 -0.1**
comp=Z,66nm,1.6s
P48A Milroy 46.07 355 P **P 07 17 34.5 -1.8**
baz=174,SNR=5.2
Q43A New Douglas 46.07 351 P **P 07 17 35.1 -1.3**
baz=168
P52A Corning 46.08 359 P **P 07 17 35.1 -1.2**
baz=178,SNR=5.6
P49A Miami Univ. Ec 46.09 356 P **P 07 17 34.7 -1.8**
baz=175
P50A Jamestown 46.11 357 P **P 07 17 35.2 -1.4**
baz=176
P47A Martinsville 46.17 354 P **P 07 17 36.6 -0.5**
baz=173
Q42A Golden Eagle 46.18 350 P **P 07 17 36.8 -0.4**
baz=167
Q41A Truxton 46.35 349 P **P 07 17 38.1 -0.4**
baz=166
P45A Graceland, Par 46.37 353 *e*P **P 07 17 37.9 -0.8**
comp=Z,96nm,1.6s
P45A Graceland, Par 46.37 353 P **P 07 17 37.1 -1.6**
baz=171
P46A Rosedale 46.40 354 P **P 07 17 37.4 -1.5**
baz=172
319A Douglas 46.43 326 *e*P **P 07 17 40.8 +1.4**
comp=Z,27nm,0.8s
319A LR LR
comp=Z,1μm,19.0s
P44A Sand Creek, Wi 46.43 352 P **P 07 17 38.1 -1.0**
baz=170
121A Cookes Peak, D 46.52 329 P **P 07 17 38.4 -1.7**
baz=142
O52A Adamsville 46.56 359 *e*P **P 07 17 39.2 -0.9**
comp=Z,174nm,1.8s
O52A LR LR
comp=Z,2μm,21.0s
O52A Adamsville 46.56 359 P **P 07 17 38.7 -1.4**
baz=179,SNR=5.8
O51A Pataskala 46.60 358 P **P 07 17 39.2 -1.3**
baz=178,SNR=8.9
O50A Cable 46.64 357 P **P 07 17 39.5 -1.3**
baz=176
MVL Millersville 46.65 5 *e*P **P 07 17 39.9 -0.9**
comp=Z,82nm,1.3s
PSUB Penn St. - Bra 46.66 6 *e*P **P 07 17 39.3 -1.6**
comp=Z,123nm,1.5s
ACSO Alum Creek Sta 46.70 358 *e*P **P 07 17 39.7 -1.5**
comp=Z,181nm,1.6s
ACSO LR LR
comp=Z,2μm,20.0s
ACSO Alum Creek Sta 46.70 358 P **P 07 17 40.1 -1.1**
baz=177,SNR=8.5
O49A Covington 46.72 357 *e*P **P 07 17 41.0 -0.4**
comp=Z,77nm,1.4s
O49A LR LR
comp=Z,2μm,20.0s
O49A Covington 46.72 357 P **P 07 17 40.0 -1.4**
baz=176
P43A Skaggs, Pawnee 46.73 351 P **P 07 17 40.8 -0.7**
baz=168
O56A Blue Knob Stat 46.77 3 *e*P **P 07 17 41.0 -0.8**
comp=Z,77nm,1.3s
O56A LR LR
comp=Z,1μm,18.0s
O56A Blue Knob Stat 46.77 3 P **P 07 17 41.2 -0.6**
baz=183
P42A Winchester 46.81 350 *e*P **P 07 17 41.6 -0.5**
comp=Z,203nm,1.6s
P42A Winchester 46.81 350 P **P 07 17 41.4 -0.7**
baz=167,SNR=5.5
O48A Farmland 46.84 356 P **P 07 17 40.9 -1.4**
baz=174,SNR=6.2
O47A Sheridan 46.91 355 P **P 07 17 41.2 -1.7**
baz=173
P41A Barry, Barry 47.02 350 P **P 07 17 42.9 -0.9**
baz=166
GO10 Punta Arenas 47.07 172 *e*P **P 07 17 45.8 +1.7**
comp=Z,316nm,1.6s
O44A Mansfield 47.08 352 P **P 07 17 43.2 -1.0**
baz=170
O45A Potomac 47.08 353 P **P 07 17 42.8 -1.4**
baz=171

SFIN	**Lafayette**	**47.14**	**354**	*e*P		**P**		**07 17 43.7**	**-0.9**
	comp=Z,100nm,1.3s									
SFIN				LR		LR				
	comp=Z,800nm,21.0s									
SFIN	**Lafayette**	**47.14**	**354**	P		**P**		**07 17 42.9**	**-1.7**
	baz=172									
SSPA	**Standing Stone**	**47.17**	**3**	*e*P		**P**		**07 17 44.4**	**-0.5**
	comp=Z,202nm,1.8s									
SSPA	**Standing Stone**	**47.17**	**3**	P		**P**		**07 17 44.1**	**-0.8**
	baz=184									
BNM	**Barren Site**	**47.23**	**331**	*e*P		**P**		**07 17 46.3**	**+0.5**
N50A	**Nevada**	**47.24**	**358**	P		**P**		**07 17 44.1**	**-1.4**
	baz=177									
Y22D	**IRIS PASSCAL I**	**47.31**	**331**	*e*P		**P**		**07 17 45.1**	**-1.2**
	comp=Z,149nm,2.0s									
Y22D				LR		LR				
	comp=Z,500nm,22.0s									
Y22D	**IRIS PASSCAL I**	**47.31**	**331**	P		**P**		**07 17 44.0**	**-2.3**
	baz=144									
O43A	**Sugar Creek Fa**	**47.33**	**351**	P		**P**		**07 17 45.2**	**-1.0**
	baz=169									
O42A	**Bath**	**47.36**	**351**	P		**P**		**07 17 45.7**	**-0.7**
	baz=168									
N51A	**Ashland**	**47.37**	**359**	*e*P		**P**		**07 17 45.6**	**-0.8**
	comp=Z,239nm,1.7s									
N51A				LR		LR				
	comp=Z,2µm,21.0s									
N51A	**Ashland**	**47.37**	**359**	P		**P**		**07 17 45.2**	**-1.3**
	baz=178									
N54A	**Moraine State**	**47.41**	**1**	*e*P		**P**		**07 17 45.9**	**-1.0**
	comp=Z,144nm,1.5s									
N54A				LR		LR				
	comp=Z,1µm,20.0s									
N54A	**Moraine State**	**47.41**	**1**	P		**P**		**07 17 45.8**	**-1.0**
	baz=181,SNR=6.5									
O41A	**Passleys Farm,**	**47.42**	**350**	P		**P**		**07 17 46.1**	**-0.7**
	baz=167,SNR=5.4									
N48A	**Decatur**	**47.43**	**356**	P		**P**		**07 17 45.5**	**-1.4**
	baz=175									
N49A	**Columbus Grove**	**47.44**	**357**	*e*P		**P**		**07 17 45.0**	**-2.0**
	comp=Z,249nm,2.0s									
N49A				LR		LR				
	comp=Z,2µm,20.0s									
N49A	**Columbus Grove**	**47.44**	**357**	P		**P**		**07 17 45.6**	**-1.3**
	baz=176									
N47A	**Urbana**	**47.50**	**355**	P		**P**		**07 17 45.9**	**-1.6**
	baz=174									
HDIL	**Hopedale**	**47.59**	**352**	*e*P		**P**		**07 17 46.6**	**-1.6**
	comp=Z,113nm,1.3s									
HDIL	**Hopedale**	**47.59**	**352**	P		**P**		**07 17 47.3**	**-0.9**
	baz=169									
N59A	**State Game Lan**	**47.61**	**5**	*e*P		**P**		**07 17 47.8**	**-0.6**
	comp=Z,91nm,1.2s									
N59A	**State Game Lan**	**47.61**	**5**	P		**P**		**07 17 48.3**	**0.0**
	baz=187,SNR=11									
N46A	**Monticello**	**47.61**	**354**	P		**P**		**07 17 47.0**	**-1.3**
	baz=172									
N45A	**Kentland**	**47.65**	**353**	P		**P**		**07 17 46.6**	**-2.0**
	baz=171									
N44A	**Piper City**	**47.67**	**353**	P		**P**		**07 17 47.3**	**-1.5**
	baz=170,SNR=5.8									
CPNY	**Central Park**	**47.69**	**7**	PFAKE				07 18 00.0	+11
CPNY				LR		LR				
	comp=Z,1µm,20.0s									
KSU1	**Kansas State U**	**47.75**	**344**	*e*P		**P**		**07 17 49.1**	**-0.3**
	comp=Z,50nm,1.0s									
KSU1	**Kansas State U**	**47.75**	**344**	P		**P**		**07 17 49.0**	**-0.5**
	baz=159									
M51A	**Elyria**	**47.78**	**359**	P		**P**		**07 17 48.4**	**-1.3**
	baz=178									
ANMO	**Albuquerque**	**47.80**	**332**	*e*P		**P**		**07 17 50.0**	**-0.2**
	comp=Z,103nm,1.9s									
ANMO				LR		LR				
	comp=Z,500nm,20.0s									
ANMO	**Albuquerque**	**47.80**	**332**	*i* P		**P**		**07 17 49.0**	**-1.1**
ANMO				pmax		pmax				
	comp=Z,3.0nm,1.0s									
ANMO	**Albuquerque**	**47.80**	**332**	P		**P**		**07 17 50.9**	**+0.7**
	baz=145									
M50A	**Fremont**	**47.87**	**358**	*e*P		**P**		**07 17 49.8**	**-0.5**
	comp=Z,198nm,1.4s									
M50A				LR		LR				
	comp=Z,2µm,21.0s									
M50A	**Fremont**	**47.87**	**358**	P		**P**		**07 17 49.4**	**-1.0**
	baz=177,SNR=7.3									
ODNJ	**Ogdensburg**	**47.90**	**7**	*e*P		**P**		**07 17 49.1**	**-1.4**
	comp=Z,174nm,1.8s									
PAL	**Palisades**	**47.90**	**7**	*e*P		**P**		**07 17 48.7**	**-1.9**
	comp=Z,79nm,1.5s									
PAL	**Palisades**	**47.90**	**7**	*e*P		**P**		**07 17 48.7**	**-1.9**
PAL				pmax		pmax				
	comp=Z,79nm,1.5s									
PAL	**Palisades**	**47.90**	**7**	P		**P**		**07 17 50.9**	**+0.3**
	baz=190									
N43A	**Stutzman Famil**	**47.95**	**352**	P		**P**		**07 17 50.0**	**-0.9**
	baz=169,SNR=6.2									
M54A	**Oil Creek Stat**	**47.96**	**1**	*e*P		**P**		**07 17 49.9**	**-1.1**
	comp=Z,184nm,1.8s									
M54A	**Oil Creek Stat**	**47.96**	**1**	P		**P**		**07 17 49.9**	**-1.1**
	baz=182									
TUC	**Tucson**	**47.97**	**326**	*e*P		**P**		**07 17 51.9**	**+0.6**
	comp=Z,10nm,0.8s									
TUC				LR		LR				
	comp=Z,900nm,19.0s									
TUC	**Tucson**	**47.97**	**326**	*e*P		**P**		**07 17 51.9**	**+0.6**
TUC				pmax		pmax				
	comp=Z,10.0nm,0.8s									
TUC				MLR		MLR				
	comp=Z,900nm,19.0s									
TUC	**Tucson**	**47.97**	**326**	P		**P**		**07 17 50.3**	**-1.0**
	baz=139									
N42A	**Yates City**	**47.97**	**351**	P		**P**		**07 17 50.5**	**-0.6**
	baz=168,SNR=6.4									
M47A	**Cromwell**	**47.97**	**355**	P		**P**		**07 17 49.8**	**-1.3**
	baz=174									
M49A	**Liberty Center**	**47.98**	**357**	P		**P**		**07 17 50.3**	**-0.9**
	baz=176,SNR=9.1									
N41A	**Harden Midland**	**47.99**	**350**	*e*P		**P**		**07 17 50.5**	**-0.7**
	comp=Z,308nm,1.5s									
N41A	**Harden Midland**	**47.99**	**350**	P		**P**		**07 17 50.6**	**-0.7**
	baz=167,SNR=5.5									
M48A	**Edgerton**	**48.03**	**356**	*e*P		**P**		**07 17 50.6**	**-1.0**
	comp=Z,321nm,1.7s									
M48A				LR		LR				
	comp=Z,2µm,20.0s									
M48A	**Edgerton**	**48.03**	**356**	P		**P**		**07 17 50.1**	**-1.4**
	baz=175									
M46A	**Old House Fiel**	**48.08**	**355**	*e*P		**P**		**07 17 50.6**	**-1.4**
	comp=Z,196nm,1.6s									
M46A				LR		LR				
	comp=Z,1µm,20.0s									
M46A	**Old House Fiel**	**48.08**	**355**	P		**P**		**07 17 50.5**	**-1.4**
	baz=173									
M45A	**Boilermakers S**	**48.15**	**354**	P		**P**		**07 17 51.0**	**-1.5**
	baz=172									
KSPA	**Keystone Colle**	**48.24**	**5**	*e*P		**P**		**07 17 53.0**	**-0.3**
	comp=Z,156nm,1.5s									
M44A	**Midewin, Midew**	**48.24**	**353**	*e*P		**P**		**07 17 50.6**	**-2.6**
	comp=Z,233nm,1.8s									
M44A				LR		LR				
	comp=Z,800nm,21.0s									
M44A	**Midewin, Midew**	**48.24**	**353**	P		**P**		**07 17 51.5**	**-1.7**
	baz=171									
M43A	**Waltham Townsh**	**48.41**	**352**	P		**P**		**07 17 53.3**	**-1.2**
	baz=170,SNR=8.6									
CBKS	**Cedar Bluff**	**48.44**	**341**	*e*P		**P**		**07 17 53.8**	**-1.0**
	comp=Z,62nm,1.1s									
CBKS	**Cedar Bluff**	**48.44**	**341**	*e*P		**P**		**07 17 53.8**	**-1.0**
CBKS				pmax		pmax				
	comp=Z,62nm,1.1s									
CBKS	**Cedar Bluff**	**48.44**	**341**	P		**P**		**07 17 54.0**	**-0.8**
	baz=155									
N39A	**Derby Farms, D**	**48.46**	**348**	*e*P		**P**		**07 17 54.8**	**-0.1**
	comp=Z,268nm,1.5s									
N39A	**Derby Farms, D**	**48.46**	**348**	P		**P**		**07 17 54.5**	**-0.4**
	baz=165,SNR=6.1									
L48A	**N Adams**	**48.47**	**357**	P		**P**		**07 17 53.5**	**-1.5**
	baz=176,SNR=6.2									
M42A	**Sheffield**	**48.54**	**351**	P		**P**		**07 17 54.1**	**-1.4**
	baz=168									
L47A	**Sherwood**	**48.55**	**356**	P		**P**		**07 17 54.3**	**-1.3**
	baz=174,SNR=10.0									
ERPA	**Erie**	**48.56**	**1**	PFAKE				07 18 10.0	+14
ERPA				LR		LR				
	comp=Z,900nm,20.0s									
ERPA	**Erie**	**48.56**	**1**	P		**P**		**07 17 54.3**	**-1.4**
	baz=181									
M41A	**Milan**	**48.59**	**351**	P		**P**		**07 17 54.8**	**-1.0**
	baz=167,SNR=9.7									
L49A	**Milan**	**48.60**	**357**	P		**P**		**07 17 55.4**	**-0.6**
	baz=176,SNR=10									
L46A	**Eue Claire**	**48.68**	**355**	P		**P**		**07 17 54.7**	**-1.9**
	baz=173									
T25A	**Trinidad**	**48.72**	**335**	*e*P		**P**		**07 17 56.0**	**-1.3**
	comp=Z,113nm,1.9s									
T25A	**Trinidad**	**48.72**	**335**	P		**P**		**07 17 58.1**	**+0.8**
	baz=148,SNR=8.4									
EFI	**East Falkland**	**48.75**	**161**	PFAKE				07 18 10.0	+13
EFI				LR		LR				
	comp=Z,2µm,18.0s									
M40A	**Post Highland**	**48.78**	**350**	P		**P**		**07 17 56.6**	**-0.7**
	baz=166,SNR=5.9									
AAM	**Ann Arbor**	**48.79**	**358**	*e*P		**P**		**07 17 55.6**	**-1.8**
	comp=Z,81nm,1.1s									
AAM				LR		LR				
	comp=Z,2µm,20.0s									
AAM	**Ann Arbor**	**48.79**	**358**	*e*P		**P**		**07 17 55.6**	**-1.8**
AAM				pmax		pmax				
	comp=Z,81nm,1.1s									
AAM				MLR		MLR				
	comp=Z,2µm,20.0s									
AAM	**Ann Arbor**	**48.79**	**358**	P		**P**		**07 17 56.6**	**-0.8**
	baz=177									
BINY	**Binghamton**	**48.86**	**5**	*e*P		**P**		**07 17 57.0**	**-1.0**
	comp=Z,82nm,1.1s									
BINY	**Binghamton**	**48.86**	**5**	P		**P**		**07 17 57.6**	**-0.4**
	baz=187,SNR=8.4									
214A	**Organ Pipe Nat**	**48.87**	**324**	P		**P**		**07 17 57.8**	**-0.5**
	baz=136									
M65A	**Busby, Falmout**	**48.95**	**10**	P		**P**		**07 17 57.3**	**-1.3**
	baz=194									
M39A	**Webster**	**48.97**	**349**	P		**P**		**07 17 58.3**	**-0.6**
	baz=165,SNR=5.8									
L44A	**Lake County Fo**	**49.01**	**353**	P		**P**		**07 17 58.5**	**-0.6**
	baz=171									
L42A	**Oliver, Polo**	**49.06**	**352**	*e*P		**P**		**07 17 58.6**	**-0.9**
	comp=Z,210nm,1.2s									
L42A	**Oliver, Polo**	**49.06**	**352**	P		**P**		**07 17 58.6**	**-0.9**
	baz=169,SNR=11									
L43A	**Garden Prairie**	**49.11**	**353**	P		**P**		**07 17 58.7**	**-1.2**
	baz=170,SNR=10									
X18A	**Snowflake**	**49.20**	**328**	PFAKE				07 18 10.0	+9.0
X18A				LR		LR				
	comp=Z,1µm,19.0s									
K50A	**Casco**	**49.23**	**359**	P		**P**		**07 17 59.5**	**-1.3**
	baz=178,SNR=10									
K47A	**Vermontville**	**49.23**	**356**	P		**P**		**07 17 59.5**	**-1.3**
	baz=175,SNR=15									
MMNY	**Mt. Morris Dam**	**49.26**	**3**	*e*P		**P**		**07 17 59.9**	**-1.1**
	comp=Z,73nm,1.0s									
L41A	**Preston**	**49.26**	**351**	P		**P**		**07 18 00.0**	**-1.0**
	baz=168,SNR=7.7									
K49A	**Clarkson**	**49.27**	**358**	P		**P**		**07 17 59.9**	**-1.1**
	baz=177,SNR=11									
K46A	**Dorr**	**49.30**	**355**	P		**P**		**07 17 59.6**	**-1.7**
	baz=174,SNR=5.2									
K48A	**Perry**	**49.31**	**357**	P		**P**		**07 18 00.4**	**-1.0**
	baz=176,SNR=9.6									
L40A	**Anamosa**	**49.37**	**350**	*e*P		**P**		**07 18 01.2**	**-0.6**
	comp=Z,251nm,1.4s									
L40A	**Anamosa**	**49.37**	**350**	P		**P**		**07 18 01.2**	**-0.6**
	baz=167,SNR=11									
TYNO	**Tyneside**	**49.54**	**1**	P		**P**		**07 18 02.0**	**-1.1**
	baz=182									
W18A	**Petrified Fore**	**49.55**	**329**	PFAKE				07 18 20.0	+16
W18A				LR		LR				
	comp=Z,700nm,19.0s									
W18A	**Petrified Fore**	**49.55**	**329**	P		**P**		**07 18 02.5**	**-1.1**
	baz=141									
L39A	**Vinton**	**49.56**	**349**	P		**P**		**07 18 02.4**	**-0.9**
	baz=166									
K43A	**Burlington**	**49.58**	**353**	*e*P		**P**		**07 18 02.4**	**-1.0**
	comp=Z,197nm,1.2s									
K43A	**Burlington**	**49.58**	**353**	P		**P**		**07 18 02.2**	**-1.2**
	baz=170,SNR=5.2									
SCIA	**State Center**	**49.59**	**348**	*e*P		**P**		**07 18 01.0**	**-2.5**
	comp=Z,330nm,1.6s									
SCIA	**State Center**	**49.59**	**348**	P		**P**		**07 18 03.2**	**-0.4**
	baz=164									
ELFO	**Elginfield**	**49.63**	**360**	P		**P**		**07 18 02.5**	**-1.3**
	baz=180									
KSCO	**Kaye Shedlock'**	**49.63**	**338**	*e*P		**P**		**07 18 03.0**	**-1.1**
	comp=Z,107nm,1.6s									
KSCO	**Kaye Shedlock'**	**49.63**	**338**	P		**P**		**07 18 04.0**	**-0.1**
	baz=151									
TRY	**Troy**	**49.63**	**7**	*e*P		**P**		**07 18 04.0**	**+0.2**
	comp=Z,260nm,1.6s									
MEDO	**Medina**	**49.66**	**3**	P		**P**		**07 18 02.9**	**-1.1**
	baz=183									
STCO	**Saint Catharin**	**49.68**	**2**	P		**P**		**07 18 02.9**	**-1.3**
	baz=182									
SDCO	**Great Sand Dun**	**49.69**	**335**	*e*P		**P**		**07 18 05.8**	**+1.0**
	comp=Z,86nm,1.9s									
SDCO	**Great Sand Dun**	**49.69**	**335**	P		**P**		**07 18 05.2**	**+0.4**
	baz=148,SNR=17									
HRV	**Adam Dziewonsk**	**49.71**	**9**	P		**P**		**07 18 04.7**	**+0.3**
	baz=192									
K41A	**Shullsburg**	**49.75**	**351**	P		**P**		**07 18 03.7**	**-1.1**
	baz=168,SNR=6.7									
K42A	**Prairie Point,**	**49.78**	**352**	P		**P**		**07 18 04.1**	**-0.9**
	baz=169									
J47A	**Sunmer**	**49.79**	**356**	P		**P**		**07 18 03.7**	**-1.3**
	baz=175,SNR=11									
J48A	**Bridge Port**	**49.79**	**357**	P		**P**		**07 18 04.0**	**-1.1**
	baz=176,SNR=13									
J49A	**Marlette**	**49.83**	**358**	P		**P**		**07 18 03.9**	**-1.4**
	baz=177									
X16A	**Lo Mia Camp, P**	**49.91**	**327**	*e*P		**P**		**07 18 07.2**	**+0.8**
	comp=Z,14nm,0.8s									
X16A				LR		LR				
	comp=Z,700nm,20.0s									
J46A	**Howard City**	**49.95**	**356**	P		**P**		**07 18 05.0**	**-1.3**
	baz=174,SNR=11									
K40A	**Colesburg**	**49.98**	**350**	P		**P**		**07 18 05.4**	**-1.1**
	baz=167,SNR=12									
113A	**Mohawk Valley,**	**50.02**	**324**	*e*P		**P**		**07 18 05.6**	**-1.4**
	comp=Z,16nm,1.0s									
JFWS	**Jewell Farm**	**50.04**	**351**	*e*P		**P**		**07 18 06.3**	**-0.7**
	comp=Z,207nm,1.5s									
JFWS	**Jewell Farm**	**50.04**	**351**	*e*P		**P**		**07 18 06.3**	**-0.7**
JFWS				pmax		pmax				
	comp=Z,207nm,1.5s									
JFWS	**Jewell Farm**	**50.04**	**351**	P		**P**		**07 18 06.0**	**-1.0**
	baz=168									
ACTO	**Acton**	**50.05**	**1**	P		**P**		**07 18 05.7**	**-1.4**
	baz=181									
J45A	**Montague**	**50.10**	**355**	P		**P**		**07 18 05.7**	**-1.6**
	baz=173									
K39A	**Oelwein**	**50.11**	**350**	P		**P**		**07 18 06.1**	**-1.4**
	baz=166,SNR=7.7									
J43A	**Natural Harves**	**50.25**	**353**	P		**P**		**07 18 07.6**	**-1.0**
	baz=170									
S22A	**4UR Ranch, Cre**	**50.27**	**333**	PFAKE				07 18 20.0	+11
S22A				LR		LR				
	comp=Z,200nm,18.0s									
S22A	**4UR Ranch, Cre**	**50.27**	**333**	P		**P**		**07 18 09.2**	**0.0**
	baz=146									
ACCN	**Adirondack Com**	**50.28**	**7**	*e*P		**P**		**07 18 08.1**	**-0.6**
	comp=Z,108nm,1.4s									
J42A	**Columbus**	**50.28**	**352**	P		**P**		**07 18 07.9**	**-0.9**
	baz=170									
BGNE	**Belgrade**	**50.33**	**343**	*e*P		**P**		**07 18 09.0**	**-0.2**
	comp=Z,102nm,1.4s									
BGNE	**Belgrade**	**50.33**	**343**	P		**P**		**07 18 08.8**	**-0.4**
	baz=158									
I49A	**Point Hope**	**50.40**	**358**	P		**P**		**07 18 08.2**	**-1.5**
	baz=178									
WLVO	**Wesleyville**	**50.42**	**3**	P		**P**		**07 18 08.7**	**-1.0**
	baz=183									
Y14A	**Wickenburg**	**50.42**	**325**	*e*P		**P**		**07 18 10.3**	**+0.2**
	comp=Z,10nm,0.8s									
PKRO	**Pickering**	**50.43**	**2**	P		**P**		**07 18 08.9**	**-1.0**
	baz=183									
J41A	**Loganville**	**50.45**	**352**	P		**P**		**07 18 09.1**	**-0.9**
	baz=168,SNR=6.6									
I52A	**Shelburne**	**50.51**	**1**	P		**P**		**07 18 08.9**	**-1.6**
	baz=181									
I46A	**Reed City**	**50.53**	**356**	P		**P**		**07 18 09.0**	**-1.6**
	baz=174,SNR=6.6									
I47A	**Gladwin**	**50.55**	**357**	P		**P**		**07 18 09.3**	**-1.4**
	baz=176,SNR=7.0									
BWLO	**Walkerton**	**50.55**	**360**	P		**P**		**07 18 09.7**	**-1.1**
	baz=180									
Q24A	**Divide**	**50.58**	**336**	*e*P		**P**		**07 18 10.8**	**-0.7**
	comp=Z,60nm,1.6s									
Q24A	**Divide**	**50.58**	**336**	P		**P**		**07 18 11.5**	**0.0**
	baz=148									
J40A	**Soldiers Grove**	**50.59**	**351**	P		**P**		**07 18 10.0**	**-1.1**
	baz=168,SNR=8.7									
MVCO	**Mesa Verde**	**50.60**	**332**	PFAKE				07 18 20.0	+8.4
MVCO				LR		LR				
	comp=Z,500nm,18.0s									
MVCO	**Mesa Verde**	**50.60**	**332**	P		**P**		**07 18 12.1**	**+0.5**
	baz=144,SNR=7.7									
FFD	**Franklin Falls**	**50.64**	**9**	*e*P		**P**		**07 18 12.3**	**+0.9**
	comp=Z,56nm,0.9s									
I48A	**Sherman Twp**	**50.68**	**358**	P		**P**		**07 18 10.4**	**-1.3**
	baz=177,SNR=8.2									
J39A	**Decorah**	**50.69**	**350**	P		**P**		**07 18 10.6**	**-1.2**
	baz=166,SNR=8.1									
WUAZ	**Wupatki**	**50.71**	**328**	*e*P		**P**		**07 18 10.3**	**-2.0**
	comp=Z,29nm,0.9s									
WUAZ				LR		LR				
	comp=Z,1µm,18.0s									
WUAZ	**Wupatki**	**50.71**	**328**	P		**P**		**07 18 13.9**	**+1.5**
	baz=140,SNR=9.5									
I43A	**Langenfeld Bro**	**50.72**	**353**	P		**P**		**07 18 11.2**	**-0.9**
	baz=171									
HNH	**Hanover**	**50.78**	**8**	*e*P		**P**		**07 18 12.1**	**-0.3**
	comp=Z,70nm,1.1s									
I42A	**Draeger Farm,**	**50.82**	**353**	*e*P		**P**		**07 18 12.2**	**-0.6**
	comp=Z,161nm,1.5s									
I42A				LR		LR				
	comp=Z,700nm,19.0s									
I42A	**Draeger Farm,**	**50.82**	**353**	P		**P**		**07 18 12.2**	**-0.6**
	baz=170									
GLA	**Glamis**	**50.85**	**323**	*e*P		**P**		**07 18 14.8**	**+1.5**
	comp=Z,16nm,1.1s									
GLA	**Glamis**	**50.85**	**323**	*e*P		**P**		**07 18 14.8**	**+1.5**
GLA				pmax		pmax				
	comp=Z,16nm,1.1s									
GLA	**Glamis**	**50.85**	**323**	P		**P**		**07 18 12.5**	**-0.8**
	baz=135									
BMRO	**Meriville Lake**	**51.03**	**360**	P		**P**		**07 18 12.5**	**-1.9**
	baz=180									
DELO	**Deloro Mine**	**51.05**	**3**	P		**P**		**07 18 12.9**	**-1.7**
	baz=184									
I40A	**Norwalk**	**51.05**	**351**	P		**P**		**07 18 13.7**	**-0.9**
	baz=168,SNR=8.9									
H52A	**Wyevale**	**51.09**	**1**	P		**P**		**07 18 13.0**	**-1.8**
	baz=182,SNR=5.5									
H46A	**Fife Lake**	**51.11**	**356**	P		**P**		**07 18 13.3**	**-1.7**
	baz=175									
I41A	**Arkdale**	**51.11**	**352**	*e*P		**P**		**07 18 14.7**	**-0.3**
	comp=Z,121nm,1.4s									
I41A				LR		LR				
	comp=Z,800nm,19.0s									
I41A	**Arkdale**	**51.11**	**352**	P		**P**		**07 18 14.1**	**-0.9**
	baz=169									
H47A	**Mio**	**51.11**	**357**	P		**P**		**07 18 13.2**	**-1.8**
	baz=176									
OGNE	**Ogallala**	**51.13**	**340**	P		**P**		**07 18 15.5**	**+0.1**
	baz=153									
Y12C	**Blythe**	**51.16**	**324**	*e*P		**P**		**07 18 18.1**	**+2.5**
	comp=Z,16nm,0.9s									
Y12C	**Blythe**	**51.16**	**324**	P		**P**		**07 18 14.9**	**-0.6**
	baz=135									
I39A	**Houston**	**51.16**	**350**	*e*P		**P**		**07 18 14.3**	**-1.1**
	comp=Z,90nm,0.8s									
I39A	**Houston**	**51.16**	**350**	P		**P**		**07 18 14.5**	**-1.0**
	baz=167,SNR=13									
H48A	**Harrisville**	**51.17**	**358**	P		**P**		**07 18 14.1**	**-1.3**
	baz=177									
SADO	**Sadowa**	**51.23**	**2**	*e*P		**P**		**07 18 13.8**	**-2.1**
	comp=Z,211nm,1.8s									
H45A	**Beulah**	**51.25**	**355**	P		**P**		**07 18 14.9**	**-1.1**
	baz=174									
H43A	**Windswept, Lux**	**51.26**	**354**	*e*P		**P**		**07 18 15.3**	**-0.8**
	comp=Z,194nm,1.1s									
H43A	**Windswept, Lux**	**51.26**	**354**	P		**P**		**07 18 15.3**	**-0.8**
	baz=172									
VT1	**Waterbury**	**51.33**	**8**	*e*P		**P**		**07 18 16.8**	**+0.2**
	comp=Z,59nm,1.4s									
PDMCI	**Parker Dam,Lak**	**51.33**	**325**	P		**P**		**07 18 16.1**	**-0.7**
	baz=136									
IKP	**In-Ko-Pah, Jac**	**51.35**	**322**	P		**P**		**07 18 15.9**	**-1.2**
	baz=133									
LBNH	**Lisbon**	**51.35**	**8**	P		**P**		**07 18 16.8**	**0.0**
	baz=192									
GLMI	**Grayling**	**51.36**	**357**	*e*P		**P**		**07 18 15.8**	**-1.1**
	comp=Z,291nm,1.8s									
GLMI				LR		LR				
	comp=Z,2µm,20.0s									
GLMI	**Grayling**	**51.36**	**357**	P		**P**		**07 18 15.6**	**-1.2**
	baz=176									
PV01	**Paradox Valley**	**51.38**	**332**	*e*P		**P**		**07 18 17.2**	**-0.2**
H42A	**Shiocton**	**51.38**	**353**	*e*P		**P**		**07 18 16.3**	**-0.7**
	comp=Z,197nm,1.6s									
H42A				LR		LR				
	comp=Z,1µm,21.0s									
H42A	**Shiocton**	**51.38**	**353**	P		**P**		**07 18 16.1**	**-0.9**
	baz=170									
LONY	**Lake Ozonia**	**51.39**	**6**	*e*P		**P**		**07 18 16.1**	**-1.0**
	comp=Z,34nm,1.1s									
LONY	**Lake Ozonia**	**51.39**	**6**	P		**P**		**07 18 15.9**	**-1.2**
	baz=188,SNR=5.9									
ISCO	**Idaho Springs**	**51.48**	**336**	*e*P		**P**		**07 18 19.2**	**+1.0**
	comp=Z,30nm,1.3s									
ISCO	**Idaho

PV21 Cone Mtn., Par 51.91 332 *e*P P 07 18 19.4 -2.0
comp=Z,15nm,1.1s
PV21 LR LR
comp=Z,900nm,18.0s
H39A Augusta 51.93 351 P P 07 18 20.0 -1.1
baz=167,SNR=11
PV09 Paradox Valley 51.93 332 *e*P P 07 18 21.7 +0.1
G43A Wallace 52.03 354 *e*P P 07 18 20.9 -0.9
comp=Z,181nm,1.3s
G43A LR LR
comp=Z,1µm,21.0s
G43A Wallace 52.03 354 P P 07 18 20.8 -1.0
baz=172,SNR=6.1
H38A Maiden Rock 52.09 350 P P 07 18 21.3 -1.0
baz=166,SNR=5.4
G42A Mountain 52.09 353 *e*P P 07 18 21.8 -0.5
comp=Z,153nm,1.5s
G42A Mountain 52.09 353 P P 07 18 21.5 -0.8
baz=171,SNR=5.8
ECSD EROS Data Cent 52.09 346 *e*P P 07 18 21.7 -0.7
comp=Z,82nm,1.8s
ECSD EROS Data Cent 52.09 346 P P 07 18 21.3 -1.1
baz=160
CPE Camp Elliot 52.12 321 *e*P P 07 18 23.4 +0.6
comp=Z,22nm,1.2s
ORIO Orleans, Innes 52.13 5 P P 07 18 21.0 -1.6
baz=167
G41A Antigo 52.15 353 P P 07 18 21.3 -1.5
baz=170,SNR=5.5
F49A Sandfield 52.20 359 P P 07 18 21.0 -2.1
baz=179
XPFO Piæon Flat 52.21 322 *e*P P 07 18 27.4 +3.7
comp=Z,10nm,0.9s
PFO Pinyon Flats O 52.22 322 *e*P P 07 18 27.3 +3.7
comp=Z,10nm,0.9s
PFO Pinyon Flats O 52.22 322 P P 07 18 21.3 -2.4
baz=133
FRD Ford Ranch, An 52.22 322 P P 07 18 22.7 -0.9
baz=133
PEMO Pembroke 52.23 3 P P 07 18 21.6 -1.7
baz=185
F45A CMU Biological 52.27 356 P P 07 18 22.3 -1.2
baz=174
F48A Evansville 52.28 359 P P 07 18 21.6 -2.1
baz=178
F46A Macinaw City C 52.31 357 P P 07 18 22.5 -1.4
baz=175
G40A Rib Lake 52.34 352 PFAKE 07 18 40.0 +16
G40A LR LR
comp=Z,700nm,20.0s
G40A Rib Lake 52.34 352 P P 07 18 22.7 -1.5
baz=168
ALFO Alfred 52.36 6 P P 07 18 22.4 -1.9
baz=188
F51A Arnstein 52.37 1 P P 07 18 22.2 -2.2
baz=181
ALGO Algonquin Park 52.46 3 P P 07 18 22.8 -2.2
baz=184
G39A Holcombe 52.50 351 P P 07 18 24.5 -0.9
baz=167,SNR=11
N23A Red Feather La 52.54 336 P P 07 18 24.2 -1.9
baz=148
F43A Flat Rock, Esc 52.55 355 P P 07 18 24.6 -1.0
baz=172,SNR=5.7
F42A Maple Grove Fa 52.57 354 P P 07 18 25.2 -0.7
baz=171
KNB Kanab 52.61 328 *e*P P 07 18 26.6 +0.1
comp=Z,24nm,1.0s
KNB LR LR
comp=Z,900nm,18.0s
KNB Kanab 52.61 328 *e*P P 07 18 26.7 +0.1
KNB pmax pmax
comp=Z,24nm,1.0s
KNB MLR MLR
comp=Z,900nm,18.0s
F44A Big Bay de Noc 52.62 355 P P 07 18 25.1 -1.2
baz=173
MURC Murrieta 52.66 322 P P 07 18 25.0 -1.8
baz=133
F41A Three Lakes 52.66 353 *e*P P 07 18 26.1 -0.4
comp=Z,219nm,1.8s
F41A Three Lakes 52.66 353 P P 07 18 25.6 -1.0
baz=170,SNR=5.0
PKCU Pink Cliffs 52.66 329 *e*P P 07 18 25.7 -1.5
comp=Z,133nm,1.9s
PKCU LR LR
comp=Z,1µm,19.0s
PHWY Pilot Hill 52.70 337 *e*P P 07 18 25.2 -2.0
comp=Z,76nm,1.9s
SPMN Marine on St. 52.71 350 *e*P P 07 18 26.1 -0.8
comp=Z,82nm,1.3s
SPMN Marine on St. 52.71 350 P P 07 18 25.9 -1.1
baz=165,SNR=5.4
PKME Peaks-Kenny Pk 52.78 10 P P 07 18 25.6 -1.8
baz=195
LCMT Little Creek M 52.83 328 *e*P P 07 18 30.0 +1.8
comp=Z,8.9nm,1.1s
LCMT LR LR
comp=Z,700nm,20.0s
E50A Wahnapitae 52.86 0 P P 07 18 26.1 -1.9
baz=180
E46A Sault Ste Mari 52.88 357 P P 07 18 26.4 -1.7
baz=176
E53A Dumoine, Ponti 52.90 3 P P 07 18 26.5 -1.8
baz=184
E47A Iron Bridge 52.92 358 P P 07 18 26.9 -1.5
baz=177
E48A Lockeyer 52.92 359 P P 07 18 26.9 -1.6
baz=179,SNR=5.3
F40A Park Falls 52.97 352 P P 07 18 28.1 -0.7
baz=169,SNR=5.1
E54A Lac Daplat, Po 52.99 3 P P 07 18 27.3 -1.6
baz=185
E51A G1948 Merrick 52.99 1 P P 07 18 27.2 -1.8
baz=182,SNR=8.3
MTPU Mount Pierson 53.05 329 PFAKE 07 18 40.0 +10
MTPU LR LR
comp=Z,800nm,19.0s
E43A Lone Tree Farm 53.07 355 *e*P P 07 18 29.0 -0.5
comp=Z,63nm,0.9s
E43A LR LR
comp=Z,1µm,21.0s
E43A Lone Tree Farm 53.07 355 P P 07 18 28.5 -1.1
baz=173,SNR=5.2
SRU San Rafael Swe 53.07 331 *e*P P 07 18 35.0 +5.0
comp=Z,112nm,2.0s
SRU LR LR
comp=Z,800nm,19.0s
F39A Loretta 53.08 351 P P 07 18 28.6 -1.1
baz=168
F37A Hinrichs Farm, 53.17 350 P P 07 18 29.5 -0.8
baz=166
TUQ Turquoise Moun 53.17 324 P P 07 18 29.6 -1.1
baz=135
SZCU Shurtz Canyon 53.18 328 *e*P P 07 18 28.5 -2.3
comp=Z,17nm,1.2s
SZCU LR LR
comp=Z,700nm,22.0s
E42A Champion 53.21 354 P P 07 18 30.2 -0.4
baz=172,SNR=7.1
E44A Grand Marais A 53.23 356 PFAKE 07 18 40.0 +9.3
E44A LR LR
comp=Z,2µm,19.0s
Q16A Castle Valley 53.23 331 PFAKE 07 18 40.0 +8.8
Q16A LR LR
comp=Z,600nm,20.0s
F38A Pierce - Schro 53.27 351 P P 07 18 30.6 -0.5
baz=167,SNR=16
CIS Catalina Islan 53.28 321 P P 07 18 30.5 -0.9
baz=131
CCUT Cedar City 53.29 328 *e*P P 07 18 33.0 +1.4
comp=Z,23nm,1.2s
CCUT LR LR
comp=Z,900nm,18.0s
P18A Preston Nutter 53.35 332 *e*P P 07 18 31.1 -1.0
comp=Z,22nm,1.1s
E41A Kenton 53.36 353 P P 07 18 30.9 -0.7
baz=170
D46A Sault St. Mari 53.39 358 P P 07 18 30.0 -1.9
baz=176
MSU Marysvale 53.41 330 *e*P P 07 18 30.6 -1.9
MSU Marysvale 53.41 330 *e*P P 07 18 30.6 -1.9
E40A Wakefield 53.45 352 P P 07 18 31.9 -0.5
baz=169,SNR=6.8
P17A Butcher Ranch, 53.46 332 PFAKE 07 18 40.0 +7.2
P17A LR LR
comp=Z,700nm,20.0s
E39A Mellen 53.48 352 P P 07 18 32.0 -0.6
baz=168,SNR=9.2
D47A Chapleau 53.52 358 P P 07 18 30.9 -2.0
baz=178
TMUT Trail Mountain 53.55 331 PFAKE 07 18 50.0 +16
TMUT LR LR
comp=Z,500nm,20.0s
GSC Goldstone, Bar 53.59 324 *e*P P 07 18 31.6 -2.0
comp=Z,12nm,1.1s
GSC Goldstone, Bar 53.59 324 *e*P P 07 18 31.7 -2.0
GSC pmax pmax
comp=Z,12nm,1.1s
GSC Goldstone, Bar 53.59 324 P P 07 18 32.3 -1.4
baz=134
D53A Lac Vacive, Po 53.60 3 P P 07 18 31.8 -1.7
baz=184
TCRU Three Creeks R 53.62 330 PFAKE 07 18 50.0 +16
TCRU LR LR
comp=Z,1µm,20.0s
D49A Beulah Townshi 53.71 360 P P 07 18 32.1 -2.2
baz=180
RWWY Rawlins 53.72 336 *e*P P 07 18 33.7 -1.1
comp=Z,129nm,1.6s
D54A Lac Fusel, La 53.73 4 P P 07 18 32.7 -1.7
baz=185
E38A The Farm, Brul 53.85 351 *e*P P 07 18 34.8 -0.5
comp=Z,70nm,1.0s
E38A The Farm, Brul 53.85 351 P P 07 18 34.8 -0.5
baz=167,SNR=7.8
D41A Chassel 53.90 354 *e*P P 07 18 35.2 -0.4
comp=Z,577nm,1.7s
D41A LR LR
comp=Z,1µm,22.0s
D41A Chassel 53.90 354 P P 07 18 35.7 0.0
baz=171
RKT Rikitea 54.23 246 *e*LR LR 07 34 23.3
comp=Z,2µm,27.0s
RKT Rikitea 54.23 246 *e*T T 08 16 44.5
comp=Z,5.0nm,0.3s
K22A Casper 54.26 337 *e*P P 07 18 37.6 -1.0
comp=Z,74nm,1.5s
K22A Casper 54.26 337 P P 07 18 38.9 +0.3
baz=148
PSUT Pine Spring 54.28 329 *e*P P 07 18 38.7 -0.2
comp=Z,14nm,0.9s
PSUT LR LR
comp=Z,800nm,19.0s
LMN Caledonia Moun 54.29 14 *e*P P 07 18 36.8 -1.7
comp=Z,43nm,1.0s
MPU Maple Canyon 54.31 331 *e*P P 07 18 36.8 -2.2
comp=Z,13nm,1.1s
MPU LR LR
comp=Z,700nm,19.0s
LATQ La Tuque 54.33 7 P P 07 18 37.1 -1.6
baz=190
PQI Presque Isle 54.37 11 *e*P P 07 18 39.3 +0.2
comp=Z,76nm,1.3s
NLU North Lily Min 54.48 331 PFAKE 07 18 50.0 +10
NLU LR LR
comp=Z,900nm,18.0s
RSSD Black Hills 54.63 340 *e*P P 07 18 42.0 +0.7
comp=Z,57nm,1.5s
RSSD Black Hills 54.63 340 *e*P P 07 18 42.0 +0.7
RSSD pmax pmax
comp=Z,57nm,1.5s
VLDQ Val d'Or 54.64 3 *e*P P 07 18 39.6 -1.4
comp=Z,35nm,1.1s
JLU Jordanelle 54.69 332 *e*P P 07 18 40.2 -1.6
comp=Z,97nm,2.0s
DAC Darwin (Calif) 54.72 324 PFAKE 07 18 50.0 +7.9
DAC LR LR
comp=Z,500nm,18.0s
CTU Camp Tracy 54.90 332 *e*P P 07 18 41.2 -2.1
comp=Z,32nm,1.5s
CTU LR LR
comp=Z,800nm,18.0s
DUG Dugway, Tooele 55.02 331 *e*P P 07 18 44.2 +0.1
comp=Z,18nm,1.0s
DUG LR LR
comp=Z,700nm,18.0s
DUG Dugway, Tooele 55.02 331 *e*P P 07 18 44.2 +0.1
DUG pmax pmax
comp=Z,18nm,1.0s
DUG MLR MLR
comp=Z,700nm,18.0s
DUG Dugway, Tooele 55.02 331 P P 07 18 46.3 +2.2
baz=140,SNR=5.3
R11A Troy Canyon, C 55.06 327 *e*P P 07 18 44.5 0.0
comp=Z,42nm,1.9s
R11A LR LR
comp=Z,1µm,18.0s
EYMN Ely 55.15 352 *e*P P 07 18 44.1 -0.6
comp=Z,230nm,1.7s
EYMN Ely 55.15 352 P P 07 18 44.1 -0.6
baz=167,SNR=6.5
BATG Bathurst New B 55.35 12 *e*P P 07 18 45.4 -0.7
comp=Z,53nm,1.0s
HWUT Hardware Ranch 55.53 333 *e*P P 07 18 46.9 -1.0
comp=Z,123nm,2.0s
HWUT LR LR
comp=Z,700nm,19.0s
BW06 Boulder Array 55.59 335 *e*P P 07 18 45.6 -2.6
comp=Z,66nm,1.9s
BW06 LR LR
comp=Z,800nm,18.0s
BW06 Boulder Array 55.59 335 P P 07 18 48.2 0.0
baz=145
PD31 Pinedale Array 55.59 335 *e*P P 07 18 45.5 -2.7
PDAR Pinedale Array 55.59 335 P P 07 18 48.5 +0.2
comp=Z,2.6nm,0.9s,baz=134,slow=7.1,SNR=15
PDAR pP **pP** 07 18 56.4 +0.6
comp=Z,7.1nm,1.0s,baz=137,slow=6.2,SNR=13
PDAR PcP **PcP** 07 19 48.0 +0.1
comp=Z,3.5nm,1.0s,baz=140,slow=4.7,SNR=3.8
PDAR pPcP 07 19 57.7
comp=Z,5.4nm,1.0s,baz=131,slow=6.5,SNR=5.2
PDAR LR LR 07 42 20.5
comp=Z,474nm,18.9s,baz=140,slow=36
PDAR Pinedale Array 55.59 335 *e*P P 07 18 45.5 -2.7
LSQQ Lebel-sur-Quev 55.61 3 P P 07 18 45.8 -2.2
baz=185
BGU Big Grassy Mou 55.69 331 *e*P P 07 18 47.7 -1.2
comp=Z,66nm,1.9s
BGU LR LR
comp=Z,400nm,18.0s
SPUT South Promonto 55.71 332 *e*P P 07 18 48.1 -1.0
comp=Z,94nm,2.0s
SPUT LR LR
comp=Z,400nm,20.0s
HVU Hansel Valley 56.23 332 *e*P P 07 18 52.3 -0.5
comp=Z,20nm,1.2s
HVU LR LR
comp=Z,400nm,18.0s
HVU Hansel Valley 56.23 332 *e*P P 07 18 52.3 -0.5
HVU pmax pmax
comp=Z,20nm,1.2s
HVU MLR MLR
comp=Z,400nm,18.0s
AHID Auburn Hatcher 56.25 334 PFAKE 07 19 00.0 +7.0
AHID LR LR
comp=Z,700nm,22.0s
AGMN Agassiz Nation 56.25 348 *e*P P 07 18 50.8 -1.8
comp=Z,89nm,1.5s
AGMN Agassiz Nation 56.25 348 P P 07 18 52.5 -0.1
baz=162
MATQ Matagami 56.28 3 P P 07 18 50.8 -1.9
baz=184
NV01 Mina Array Sit 56.62 325 *e*P P 07 18 55.5 -0.2
NVAR Mina Array Bea 56.62 325 P P 07 18 57.2 +1.5
comp=Z,1.9nm,0.8s,baz=125,slow=7.4,SNR=3.9
NVAR pP **sP** 07 19 05.2 -1.0
comp=Z,6.7nm,0.8s,baz=141,slow=4.7,SNR=17
NVAR PcP **PcP** 07 19 52.6 +0.6
comp=Z,2.5nm,0.8s,baz=124,slow=4.5,SNR=2.5
NVAR pPcP 07 20 01.8
comp=Z,4.6nm,0.7s,baz=141,slow=4.6,SNR=7.1
REDW Red Top Meadow 56.62 334 *e*P P 07 18 56.6 +1.0
comp=Z,107nm,1.6s
REDW LR LR
comp=Z,400nm,18.0s
ELK Elko 56.65 329 PFAKE 07 19 10.0 +14
ELK LR LR
comp=Z,800nm,19.0s
CHGQ Chibougamau 56.65 5 P P 07 18 53.4 -2.0
baz=188
SNOW Snow King Moun 56.66 334 PFAKE 07 19 10.0 +14
SNOW LR LR
comp=Z,600nm,22.0s
LOHW Long Hollow 56.72 335 *e*P P 07 18 56.8 +0.5
comp=Z,24nm,1.3s
TPAW Teton Pass 56.77 334 *e*P P 07 18 56.1 -0.7
comp=Z,115nm,1.8s
TPAW LR LR
comp=Z,400nm,20.0s
MOOW Moose Ponds 56.89 335 *e*P P 07 18 56.9 -0.6
comp=Z,18nm,1.4s
FXWY Fox Creek 56.92 334 *e*P P 07 18 58.2 +0.4
comp=Z,26nm,1.6s
IMW Indian Meadow 57.09 335 *e*P P 07 18 57.2 -1.8
comp=Z,34nm,1.4s
FLWY Flagg Ranch 57.14 335 *e*P P 07 18 59.1 -0.2
comp=Z,140nm,1.8s
FLWY LR LR
comp=Z,700nm,18.0s
YPP Pitchstone Pla 57.34 335 PFAKE 07 19 10.0 +9.2
YPP LR LR
comp=Z,900nm,18.0s
H17A Grant Village 57.34 335 PFAKE 07 19 10.0 +9.2
H17A LR LR
comp=Z,1µm,18.0s
H17A Grant Village 57.34 335 P P 07 19 03.2 +2.4
baz=144,SNR=5.2
LKWY Lake 57.41 335 *e*P P 07 18 59.2 -2.0
comp=Z,23nm,1.1s
LKWY LR LR
comp=Z,800nm,22.0s
LKWY Lake 57.41 335 *e*P P 07 18 59.2 -2.0
LKWY pmax pmax
comp=Z,23nm,1.1s
LKWY MLR MLR
comp=Z,800nm,22.0s
RLMT Red Lodge 57.41 337 *e*P P 07 18 59.5 -1.7
comp=Z,33nm,1.4s
RLMT Red Lodge 57.41 337 P P 07 19 02.3 +1.1
baz=146
YFT Old Faithful 57.50 335 *e*P P 07 19 01.3 -0.6
comp=Z,78nm,1.7s
YFT LR LR
comp=Z,1µm,19.0s
LAO LASA Array 57.62 340 *e*P P 07 19 02.8 +0.4
comp=Z,92nm,1.8s
LAO LASA Array 57.62 340 P P 07 19 02.8 +0.4
baz=150
YNR Norris Junctio 57.65 335 PFAKE 07 19 10.0 +7.1
YNR LR LR
comp=Z,14µm,18.0s
YHH Holmes Hill 57.78 335 *e*P P 07 19 05.9 +2.0
comp=Z,58nm,1.8s
YHH LR LR
comp=Z,700nm,18.0s
YHB Horse Butte 57.89 335 *e*P P 07 19 02.4 -2.2
comp=Z,25nm,1.0s
QLMT Earthquake Lak 58.05 335 *e*P P 07 19 04.3 -1.4
RUBR Rubicon Trail 58.10 325 *e*P P 07 19 04.8 -1.4
comp=Z,99nm,0.9s
ULM Lac du Bonnet 58.12 349 P P 07 19 05.0 -0.8
comp=Z,9.4nm,0.7s,baz=178,slow=5.3,SNR=10
ULM Lac du Bonnet 58.12 349 *e*P P 07 19 04.8 -1.0
comp=Z,65nm,1.5s
ULM Lac du Bonnet 58.12 349 *e*P P 07 19 04.8 -1.0
ULM pmax pmax
comp=Z,65nm,1.5s
GCMT Greycliff 58.12 337 *e*P P 07 19 04.9 -1.2
HLID Hailey 58.38 332 *e*P P 07 19 07.8 -0.1
comp=Z,21nm,1.1s
HLID Hailey 58.38 332 P P 07 19 08.7 +0.8
baz=140,SNR=20
TAOE Nuku Hiva Isla 58.47 264 *e*S S 07 27 08.5 -3.1
comp=Z,403nm,27.5s
TAOE *e*LR LR 07 36 12.5
comp=Z,1µm,24.8s
MCMT McKenzie Canyo 58.66 334 *e*P P 07 19 11.0 +1.0
BOZ Bozeman (W) 58.75 335 *e*P P 07 19 09.8 -0.7
comp=Z,112nm,1.8s
BOZ Bozeman (W) 58.75 335 *e*P P 07 19 09.8 -0.7
BOZ pmax pmax
comp=Z,112nm,1.8s
BOZ Bozeman (W) 58.75 335 P P 07 19 11.1 +0.6
baz=144
DLMT Dillon 58.97 335 *e*P P 07 19 13.3 +1.3
comp=Z,30nm,1.1s
ORV Oroville 59.21 324 *e*P P 07 19 19.0 +5.4
comp=Z,34nm,1.4s
ORV Oroville 59.21 324 *e*P P 07 19 19.0 +5.4
ORV pmax pmax
comp=Z,34nm,1.4s
LRM Limekiln Ridge 59.28 335 *e*P P 07 19 14.9 +0.7
HOPE Hope Point 59.48 151 *e*P P 07 19 15.8 +0.7
comp=Z,608nm,2.0s
HOPE LR LR
comp=Z,2µm,18.0s
HRY Holter Researc 59.74 336 *e*P P 07 19 17.9 +0.7
O03E Paynes Creek 59.88 325 P P 07 19 18.6 +0.4
baz=132
EGMT Eagleton 60.02 338 *e*P P 07 19 19.0 0.0
comp=Z,123nm,1.9s
EGMT Eagleton 60.02 338 P P 07 19 18.9 -0.2
baz=147
J08A Circle Bar Ran 60.20 329 *e*pP pP 07 19 29.4 +1.4
MSO Missoula 60.70 335 *e*P P 07 19 24.8 +0.9
comp=Z,38nm,1.0s
MSO Missoula 60.70 335 P P 07 19 24.7 +0.9
baz=142,SNR=10
F10A Beach Ranch, E 61.51 332 *e*P P 07 19 28.6 -0.7
comp=Z,1nm,1.1s
G08A Pilot Rock 61.83 331 *e*P P 07 19 32.3 +0.7
comp=Z,25nm,1.0s
G08A LR LR
comp=Z,600nm,18.0s
E09A Wood Farm, Sta 62.34 332 *e*P P 07 19 34.8 0.0
comp=Z,25nm,1.1s
SCHQ Schefferville 62.43 9 P P 07 19 34.5 -0.8
comp=Z,11nm,0.9s,baz=172,slow=5.1,SNR=7.2
SCHQ pP **pP** 07 19 42.9 0.0
comp=Z,20nm,0.8s,baz=240,slow=4.6,SNR=9.6
SCHQ LR LR 07 47 22.3
comp=Z,486nm,19.9s,baz=188,slow=37
SCHQ Schefferville 62.43 9 *e*P P 07 19 34.4 -0.8
comp=Z,57nm,1.1s
SCHQ pP **pP** 07 19 42.9 0.0
F07A Phinny Hill Vi 62.74 331 *e*P P 07 19 36.5 -1.0
comp=Z,21nm,1.0s
E07A Sunnyside 63.18 331 *e*P P 07 19 41.8 +1.4
comp=Z,26nm,1.0s
NEW Newport 63.18 334 *e*P P 07 19 40.9 +0.5
comp=Z,20nm,1.3s
NEW Newport 63.18 334 *e*P P 07 19 40.9 +0.5
NEW pmax pmax
comp=Z,20nm,1.3s
COR Corvallis 63.56 328 *e*P P 07 19 41.7 -1.2
comp=Z,121nm,1.4s
COR Corvallis 63.56 328 *e*P P 07 19 41.7 -1.2
COR pmax pmax
comp=Z,121nm,1.4s
FFC Flin Flon 63.61 347 *e*pP pP 07 19 50.8 +0.1
B08A Colville Reser 64.24 333 PFAKE 07 20 00.0 +13
B08A LR LR
comp=Z,600nm,20.0s
VAH Vaihoa 65.64 256 *e*P P 07 19 57.5 +0.4
comp=Z,38nm,0.8s
PMOR Pomariorio Ree 65.90 257 *e*P P 07 19 59.2 +0.5
comp=Z,69nm,0.9s
FCC Fort Churchill 66.05 353 *e*P P 07 19 58.5 -0.3
comp=Z,142nm,1.5s
FCC Fort Churchill 66.05 353 *e*P P 07 19 58.5 -0.3
FCC pmax pmax
comp=Z,142nm,1.5s
ASCN Ascension 66.17 96 PFAKE 07 20 10.0 +9.4
ASCN LR LR
comp=Z,11µm,19.0s
ROSA Rosais 66.61 43 *e*P P 07 20 02.2 -0.6
comp=Z,288nm,1.8s
PPT Papeete 67.50 254 P P 07 20 10.1 +1.1
comp=Z,30nm,0.9s,baz=109,slow=4.6,SNR=3.3
PPT LR LR 07 42 08.2
comp=Z,871nm,18.6s,baz=117,slow=29
PPT2 Papeete2 67.50 254 *e*S S 07 29 00.8 -3.7
comp=Z,1µm,27.2s
PPT2 Papeete2 67.50 254 *e*LR LR 07 40 34.0
comp=Z,2µm,25.2s,baz=88
PAE Paea 67.50 254 *e*P P 07 20 09.5 +0.6
comp=Z,5.5nm,0.8s
TBI Tubuai 67.51 248 *e*S S 07 29 02.0 -2.3
comp=Z,841nm,29.8s
TBI Tubuai 67.51 248 *e*LR LR 07 40 23.4
comp=Z,847nm,27.8s,baz=82

TBI	**Tubuai**	**67.51**	**248**	*e*T		T		08 33 38.0	
	comp=Z,6.1nm,0.3s								
MACI	**Morro de la Ar**	**71.26**	**57**	*e*P		**P**		**07 20 29.1**	**-3.2**
	comp=Z,203nm,0.9s								
YKA	**Yellowknife Ar**	**73.59**	**345**	P		**P**		**07 20 44.1**	**-1.0**
	comp=Z,3.8nm,0.9s,baz=142,slow=5.9,SNR=20								
YKA				pP		**pP**		**07 20 52.5**	**-0.5**
	comp=Z,4.7nm,0.8s,baz=142,slow=5.4,SNR=9.2								
YKB5	**Yellowknife Ar**	**73.59**	**345**	*e*P		**P**		**07 20 44.1**	**-1.0**
YKW3	**Yellowknife Ar**	**73.65**	**345**	*e*P		**P**		**07 20 44.6**	**-0.9**
	comp=Z,71nm,1.9s								
DLBC	**Dease Lake**	**75.80**	**336**	*e*P		**P**		**07 20 57.2**	**-0.9**
	comp=Z,82nm,1.5s								
LIC	**Lamto**	**77.01**	**82**	*e*P		**P**		**07 21 05.5**	**-0.4**
	comp=Z,184nm,1.9s								
TIC	**Toumodi**	**77.08**	**82**	*e*P		**P**		**07 21 06.7**	**+0.4**
DBIC	**Dimbokro**	**77.24**	**82**	P		**P**		**07 21 07.7**	**+0.5**
	comp=Z,22nm,0.9s,baz=238,slow=5.0,SNR=24								
DBIC				pP		**pP**		**07 21 15.4**	**+0.5**
	comp=Z,22nm,0.9s,baz=252,slow=3.3,SNR=8.4								
DBIC				LR		LR		07 53 49.1	
	comp=Z,1μm,19.2s,baz=224,slow=35								
DBIC	**Dimbokro**	**77.24**	**82**	*e*P		**P**		**07 21 07.4**	**+0.2**
	comp=Z,203nm,1.9s								
DBIC	**Dimbokro**	**77.24**	**82**	*e*P		**P**		**07 21 07.4**	**+0.2**
DBIC				pmax		pmax			
	comp=Z,203nm,1.9s								
JCUZ	**Jacuzzi**	**77.24**	**292**	PFAKE				07 21 20.0	+13
JCUZ				LR		LR			
	comp=Z,2μm,20.0s								
KIC	**Kosan Boka**	**77.31**	**82**	*e*P		**P**		**07 21 07.4**	**-0.2**
	comp=Z,96nm,1.0s								
HATHI	**Halema'uma'u T**	**77.40**	**292**	PFAKE				07 21 20.0	+12
HATHI				LR		LR			
	comp=Z,3μm,19.0s								
NPH	**North Pit**	**77.42**	**292**	PFAKE				07 21 20.0	+12
NPH				LR		LR			
	comp=Z,3μm,21.0s								
UWB	**Uwekahuna B**	**77.42**	**292**	PFAKE				07 21 20.0	+12
UWB				LR		LR			
	comp=Z,3μm,19.0s								
OBL	**Observatory Le**	**77.42**	**292**	PFAKE				07 21 20.0	+12
OBL				LR		LR			
	comp=Z,3μm,21.0s								
WRMHI	**West Rim**	**77.43**	**292**	PFAKE				07 21 20.0	+12
WRMHI				LR		LR			
	comp=Z,3μm,20.0s								
VNA3	**Neumayer Olymp**	**77.80**	**162**	P		**P**		**07 21 09.8**	**+0.6**
VNA1	**Neumayer--Stat**	**78.09**	**161**	P		**P**		**07 21 10.7**	**-0.1**
VNA2	**Neumayer--Watz**	**78.44**	**161**	P		**P**		**07 21 12.9**	**+0.1**
	baz=291,slow=6.2								
KOWA	**Kowa**	**79.29**	**74**	PFAKE				07 21 30.0	+12
KOWA				LR		LR			
	comp=Z,2μm,18.0s								
SNAA	**Sanae**	**80.02**	**162**	P		**P**		**07 21 20.9**	**-0.6**
SNAA	**Sanae**	**80.02**	**162**	*e*P		**P**		**07 21 20.0**	**-1.5**
	comp=Z,171nm,1.5s								
SNAA	**Sanae**	**80.02**	**162**	*e*P		**P**		**07 21 20.0**	**-1.5**
SNAA				pmax		pmax			
	comp=Z,171nm,1.5s								
MORF	**Marmelete**	**80.28**	**50**	*e*P		**P**		**07 21 23.0**	**-0.6**
MORF				*e*S		**S**		**07 31 28.1**	**+0.2**
MORF				AMS		AMS		08 02 17.0	
	comp=Z,761nm,18.4s								
MORF	**Marmelete**	**80.28**	**50**	*e*P		**P**		**07 21 25.4**	**+1.9**
	comp=Z,117nm,1.8s								
MORF	**Marmelete**	**80.28**	**50**	*e*P		**P**		**07 21 22.9**	**-0.6**
MORF				*e*S		**S**		**07 31 28.0**	**+0.2**
PTEO	**Sao Teotonio**	**80.29**	**50**	*e*P		P		07 21 32.9	+9.4
LIS	**Lisbon**	**80.30**	**49**	*e*P		**P**		**07 21 23.1**	**-0.4**
LIS				AMS		AMS		08 03 36.6	
	comp=E,2μm,19.0s								
LIS	**Lisbon**	**80.30**	**49**	*e*P		**P**		**07 21 23.1**	**-0.4**
MESJ	**Messejana**	**80.76**	**50**	*e*P		**P**		**07 21 25.7**	**-0.3**
MESJ				AMS		AMS		07 59 57.8	
	comp=Z,614nm,19.2s								
MESJ	**Messejana**	**80.76**	**50**	*e*P		**P**		**07 21 25.7**	**-0.3**
RTC	**Rabat Centre**	**80.82**	**54**	PFAKE				07 21 40.0	+14
RTC				LR		LR			
	comp=Z,4μm,18.0s								
EVO	**Evora**	**81.10**	**49**	*e*P		**P**		**07 21 30.9**	**+3.1**
	comp=Z,42nm,1.9s								
EVO	**Evora**	**81.10**	**49**	*e*P		**P**		**07 21 29.4**	**+1.6**
PESTR	**Estremoz**	**81.51**	**49**	*e*P		**P**		**07 21 31.9**	**+1.9**
RES	**Resolute Bay**	**81.66**	**356**	PFAKE				07 21 40.0	+10
RES				LR		LR			
	comp=Z,1μm,19.0s								
PVIS	**Viseu**	**81.79**	**47**	*e*P		**P**		**07 21 32.6**	**+1.1**
	comp=Z,75nm,1.7s								
MTE	**Manteigas**	**81.96**	**48**	*e*P		**P**		**07 21 33.6**	**+1.2**
	comp=Z,54nm,1.8s								
POLO	**Lamas de Olo**	**82.04**	**47**	*e*P		**P**		**07 21 33.6**	**+0.7**
	comp=Z,30nm,1.5s								
IFR	**Ifrane**	**82.11**	**55**⇑	*i*P		**P**		**07 21 34.5**	**+1.1**
IFR				*i* S		S		07 31 59.7	+12
MVO	**Moncorvo**	**82.54**	**47**	*e*P		**P**		**07 21 35.2**	**-0.2**
	comp=Z,70nm,1.8s								
DAWY	**Dawson**	**82.76**	**338**	*e*P		**P**		**07 21 34.0**	**-2.0**
	comp=Z,40nm,1.5s								
PBRG	**Braganca**	**82.92**	**47**	*e*P		**P**		**07 21 38.3**	**+0.9**
	comp=Z,79nm,1.8s								
EPYK	**Eagle Plains**	**83.07**	**340**	P		**P**		**07 21 37.8**	**+0.2**
	baz=124								
INK	**Inuvik**	**83.21**	**343**	*e*P		**P**		**07 21 38.1**	**-0.1**
	comp=Z,85nm,1.6s								
INK	**Inuvik**	**83.21**	**343**	*e*P		**P**		**07 21 38.1**	**-0.1**
INK				pmax		pmax			
	comp=Z,85nm,1.6s								
EMAL	**Malaga-Limoner**	**83.41**	**52**	*e*P		P		07 21 29.6	-10
QSPA	**South Pole Qui**	**83.42**	**180**	*e*P		**P**		**07 21 40.6**	**+1.0**
	comp=Z,176nm,1.4s								
VAL	**Valentia**	**83.64**	**36**⇓	*i*P		**P**		**07 21 40.3**	**-0.4**
VAL	**Valentia**	**83.64**	**36**	*i* S		**S**		**07 32 03.6**	**+2.0**
SUMG	**Summit**	**83.69**	**12**	*e*P		**P**		**07 21 40.8**	**-0.3**
	comp=Z,94nm,1.7s								
SUMG	**Summit**	**83.69**	**12**	*i* P		**P**		**07 21 41.2**	**+0.1**
	comp=Z,58nm,1.1s								
SUMG	**Summit**	**83.69**	**12**	*e*P		**P**		**07 21 40.8**	**-0.3**
SUMG				pmax		pmax			
	comp=Z,95nm,1.7s								
PAB	**San Pablo**	**84.12**	**49**	*e*P		**P**		**07 21 44.2**	**+0.7**
	comp=Z,62nm,1.3s								
PAB	**San Pablo**	**84.12**	**49**	*e*P		**P**		**07 21 44.3**	**+0.7**
PAB				pmax		pmax			
	comp=Z,62nm,1.3s								
ESDC	**Sonseca Array**	**84.44**	**49**	P		**P**		**07 21 45.4**	**+0.2**
	comp=Z,27nm,0.9s,baz=270,slow=4.8,SNR=71								
ESDC				pP		**sP**		**07 21 54.7**	**-1.2**
	comp=Z,15nm,0.8s,baz=274,slow=4.8,SNR=10								
ESDC				LR		LR		07 59 02.7	
	comp=Z,414nm,18.2s,baz=250,slow=35								
ESLA	**Sonseca Array**	**84.44**	**49**	*e*P		**P**		**07 21 46.1**	**+0.9**
	comp=Z,195nm,1.7s								
SCRK	**Sand Creek**	**84.47**	**337**	*e*P		**P**		**07 21 46.8**	**+1.8**
	comp=Z,28nm,1.5s								
ES19	**SONSECA Array**	**84.49**	**49**	*e*P		**P**		**07 21 44.8**	**-0.7**
TOC5	**Torodi Ar. Sit**	**84.54**	**76**	PFAKE				07 22 00.0	+14
TOC5				LR		LR			
	comp=Z,2μm,21.0s								
TOB5	**Torodi Ar. Sit**	**84.55**	**76**	PFAKE				07 22 00.0	+14
TOB5				LR		LR			
	comp=Z,1μm,19.0s								
TOC7	**Torodi Ar. Sit**	**84.55**	**76**	PFAKE				07 22 00.0	+14
TOC7				LR		LR			
	comp=Z,1μm,21.0s								
TOB4	**Torodi Ar. Sit**	**84.55**	**76**	PFAKE				07 22 00.0	+14
TOB4				LR		LR			
	comp=Z,1μm,19.0s								
TOA1	**Torodi Ar. Sit**	**84.56**	**76**	*e*P		**P**		**07 21 46.3**	**+0.1**
TOA1				*ep*P		**pP**		**07 21 54.5**	**+0.4**
TOA1				LR		LR			
	comp=Z,1μm,20.0s								
TOA3	**Torodi Ar. Sit**	**84.56**	**76**	PFAKE				07 22 00.0	+14
TOA3				LR		LR			
	comp=Z,1μm,19.0s								
TOA0	**Torodi Ar. Sit**	**84.56**	**76**	*e*P		**P**		**07 21 46.1**	**-0.2**
TOA0				LR		LR			
	comp=Z,1μm,19.0s								
TORD	**Torodi Ar. Bea**	**84.56**	**76**	P		**P**		**07 21 46.3**	**+0.1**
	comp=Z,16nm,0.9s,baz=270,slow=4.3,SNR=53								
TORD				pP		**pP**		**07 21 54.5**	**+0.4**
	comp=Z,17nm,1.1s,baz=188,slow=4.2,SNR=10.0								
TORD				LR		LR		07 57 27.6	
	comp=Z,1μm,21.5s,baz=280,slow=34								
TOC4	**Torodi Ar. Sit**	**84.56**	**76**	PFAKE				07 22 00.0	+14
TOC4				LR		LR			
	comp=Z,1μm,19.0s								
TOA2	**Torodi Ar. Sit**	**84.56**	**76**	PFAKE				07 22 00.0	+14
TOA2				LR		LR			
	comp=Z,2μm,20.0s								
TOB3	**Torodi Ar. Sit**	**84.57**	**76**	PFAKE				07 22 00.0	+14
TOB3				LR		LR			
	comp=Z,1μm,19.0s								
TOC1	**Torodi Ar. Sit**	**84.57**	**76**	PFAKE				07 22 00.0	+14
TOC1				LR		LR			
	comp=Z,2μm,21.0s								
TOB2	**Torodi Ar. Sit**	**84.57**	**76**	PFAKE				07 22 00.0	+14
TOB2				LR		LR			
	comp=Z,1μm,21.0s								
TOC3	**Torodi Ar. Sit**	**84.58**	**76**	PFAKE				07 22 00.0	+14
TOC3				LR		LR			
	comp=Z,1μm,19.0s								
TOC2	**Torodi Ar. Sit**	**84.58**	**76**	PFAKE				07 22 00.0	+14
TOC2				LR		LR			
	comp=Z,1μm,19.0s								
PAX	**Paxson**	**84.61**	**336**	*e*P		**P**		**07 21 45.0**	**-0.5**
	comp=Z,70nm,1.6s								
PAX				LR		LR			
	comp=Z,500nm,19.0s								
PAX	**Paxson**	**84.61**	**336**	*e*P		**P**		**07 21 45.1**	**-0.5**
PAX				pmax		pmax			
	comp=Z,70nm,1.6s								
PAX				MLR		MLR			
	comp=Z,500nm,19.0s								
RIDG	**Independ'e Rid**	**84.70**	**336**	*e*P		**P**		**07 21 45.5**	**-0.5**
	comp=Z,54nm,1.3s								
NVL	**N'lazarevskaya**	**84.73**	**161**⇑	*i*P		P		07 21 56.1	+10
NVL				*e*S		**S**		**07 32 12.6**	**+0.6**
NVL				pmax		pmax			
	comp=Z,75nm,1.5s								
DHY	**Denali Highway**	**85.45**	**335**	*e*P		**P**		**07 21 50.3**	**+0.5**
	comp=Z,66nm,1.9s								
GHO	**Glory Hole Cre**	**85.59**	**334**	PFAKE				07 22 00.0	+10
GHO				LR		LR			
	comp=Z,600nm,19.0s								
HDA	**Harding Lake**	**85.83**	**337**	P		**P**		**07 21 51.0**	**-0.5**
	baz=115								
IL1	**Eielson Array**	**85.96**	**337**	*e*P		**P**		**07 21 50.1**	**-2.1**
ILAR	**Eielson Array**	**85.96**	**337**	P		**P**		**07 21 51.5**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=139,slow=3.7,SNR=8.6								
ILAR				pP		**pP**		**07 22 00.5**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=114,slow=2.6,SNR=7.9								
ILAR				LR		LR		08 02 00.5	
	comp=Z,435nm,18.4s,baz=122,slow=37								
ILB	**Eielson Array**	**85.96**	**337**	*e*P		**P**		**07 21 49.8**	**-2.3**
RND	**Reindeer**	**86.19**	**335**	*e*P		**P**		**07 21 51.2**	**-2.3**
	comp=Z,160nm,1.6s								
RND	**Reindeer**	**86.19**	**335**	*e*P		**P**		**07 21 51.2**	**-2.3**
RND				pmax		pmax			
	comp=Z,160nm,1.6s								
POKR	**Poker Plat Res**	**86.31**	**337**	P		**P**		**07 21 54.0**	**+0.1**
	baz=114								
TCOL	**CIGO, UAF Yank**	**86.38**	**337**	P		**P**		**07 21 54.4**	**+0.2**
	baz=114								
MDM	**Murphy Dome**	**86.56**	**337**	*e*P		**P**		**07 21 54.8**	**-0.3**
	comp=Z,133nm,1.8s								
BPAW	**Bear Paw Mtn.**	**87.33**	**336**	*e*P		**P**		**07 21 57.1**	**-1.8**
	comp=Z,42nm,1.1s								
PPLA	**Purkeypile**	**87.42**	**334**	*e*P		**P**		**07 21 57.6**	**-2.0**
	comp=Z,174nm,1.6s								
MLY	**Manley**	**87.57**	**337**	*e*P		**P**		**07 21 59.6**	**-0.5**
	comp=Z,66nm,1.5s								
COLD	**Coldfoot**	**88.18**	**339**	*e*P		**P**		**07 22 04.0**	**+1.1**
	comp=Z,56nm,1.5s								
SVW2	**Spruvohn**	**88.37**	**332**	*e*P		**P**		**07 22 06.0**	**+2.1**
	comp=Z,51nm,1.3s								
TOLK	**Toolik Lake Re**	**88.49**	**340**	*e*P		**P**		**07 22 04.5**	**+0.1**
	comp=Z,36nm,1.3s								
TOLK	**Toolik Lake Re**	**88.49**	**340**	P		**P**		**07 22 04.7**	**+0.2**
	baz=112								
GRR	**Gorron**	**88.52**	**41**	*e*P		**P**		**07 22 04.9**	**0.0**
GRR				pmax		pmax			
	comp=Z,79nm,1.7s								
MFF	**Saint Martin d**	**88.64**	**43**	*e*P		**P**		**07 22 05.7**	**+0.2**
MFF				pmax		pmax			
	comp=Z,33nm,1.2s								
FLN	**La Foliniere**	**88.84**	**41**	*e*P		**P**		**07 22 07.0**	**+0.6**
FLN				pmax		pmax			
	comp=Z,63nm,1.6s								
LFF	**La Frestale**	**88.94**	**45**	*e*P		**P**		**07 22 06.8**	**-0.2**
LFF				pmax		pmax			
	comp=Z,18nm,0.9s								
LDF	**La Druitiere**	**89.04**	**41**	*e*P		**P**		**07 22 07.5**	**+0.1**
LDF				pmax		pmax			
	comp=Z,139nm,2.0s								
AFI	**Afiamalu**	**89.05**	**256**	*e*P		**P**		**07 22 09.6**	**+1.4**
	comp=Z,57nm,1.1s								
IM3	**Indian Mountai**	**89.08**	**337**	*e*P		**P**		**07 22 06.3**	**-0.8**
VNDA	**Vanda**	**89.17**	**191**	P		**P**		**07 22 09.2**	**+1.8**
	comp=Z,3.8nm,0.8s,baz=92,slow=3.4,SNR=13								
VNDA				pP		**pP**		**07 22 17.0**	**+1.6**
	comp=Z,5.5nm,0.8s,baz=163,slow=3.3,SNR=7.6								
VNDA				LR		LR		07 53 28.3	
	comp=Z,247nm,21.7s,baz=116,slow=30								
VNDA	**Vanda**	**89.17**	**191**	*e*P		**P**		**07 22 08.8**	**+1.4**
VNDA	**Vanda**	**89.17**	**191**	*e*P		**P**		**07 22 08.9**	**+1.4**
TAM	**Tamanrasset**	**89.48**	**67**	*e*P		**P**		**07 22 10.8**	**+0.6**
	comp=Z,17nm,1.1s								
TAM				LR		LR			
	comp=Z,2μm,20.0s								
TAM	**Tamanrasset**	**89.48**	**67**	*e*P		**P**		**07 22 10.8**	**+0.6**
TAM				pmax		pmax			
	comp=Z,17nm,1.1s								
TAM				MLR		MLR			
	comp=Z,2μm,20.0s								
RJF	**Les Rejaudoux**	**89.54**	**44**	*e*P		**P**		**07 22 09.6**	**-0.2**
RJF				pmax		pmax			
	comp=Z,41nm,1.6s								
CAF	**Calviac**	**89.86**	**45**	*e*P		**P**		**07 22 11.2**	**-0.2**
CAF				pmax		pmax			
	comp=Z,22nm,1.2s								
TCF	**Toulx Ste Croi**	**90.19**	**44**	*e*P		**P**		**07 22 12.5**	**-0.3**
TCF				pmax		pmax			
	comp=Z,34nm,1.7s								
DAG	**Danmarks Havn**	**90.38**	**12**⇑	*i*P		**P**		**07 22 12.6**	**-0.4**
	comp=Z,15nm,0.9s								
DAG	**Danmarks Havn**	**90.38**	**12**⇑	*i*P		**P**		**07 22 12.6**	**-0.4**
DAG				pmax		pmax			
	comp=Z,12nm,0.9s								
SMF	**Signal de Mont**	**91.35**	**43**	*e*P		**P**		**07 22 18.1**	**-0.1**
SMF				pmax		pmax			
	comp=Z,27nm,1.2s								
DOU	**Dourbes**	**92.33**	**40**	⇑P		**P**		**07 22 22.7**	**+0.1**
	comp=Z,22nm,2.0s								
GIVF	**Givet**	**92.47**	**40**	*e*P		**P**		**07 22 23.9**	**+0.6**
GIVF				pmax		pmax			
	comp=Z,52nm,1.4s								
RAO	**Raoul Island**	**92.67**	**240**	PFAKE				07 22 40.0	+15
RAO				LR		LR			
	comp=Z,3μm,22.0s								
CABF	**La Chapelle**	**92.89**	**44**	*e*P		**P**		**07 22 25.5**	**+0.1**
CABF				pmax		pmax			
	comp=Z,46nm,1.5s								
WLF	**Walferdange**	**93.27**	**41**	⇑P		**P**		**07 22 28.4**	**+1.4**
ANM	**Nome**	**93.50**	**335**	*ep*P		pP		07 22 36.0	+0.4
ECH	**Echery**	**93.78**	**42**	*e*P		**P**		**07 22 29.0**	**-0.4**
	comp=Z,64nm,1.8s								
ECH	**Echery**	**93.78**	**42**	*e*P		**P**		**07 22 29.0**	**-0.4**
ECH				pmax		pmax			
	comp=Z,64nm,1.8s								
CDF	**Champ du Feu**	**93.88**	**42**	*e*P		**P**		**07 22 29.8**	**-0.2**
CDF				pmax		pmax			
	comp=Z,17nm,1.3s								
NIKH	**Nikolski High**	**93.90**	**323**	PFAKE				07 22 40.0	+10
NIKH				LR		LR			
	comp=Z,700nm,22.0s								
KEST	**Kesra**	**94.23**	**55**	LR		LR		08 07 05.2	
	comp=Z,320nm,18.0s,baz=190,slow=37								
SYO	**Syowa Base**	**94.31**	**162**⇓	*e*P		**P**		**07 22 31.4**	**0.0**
SYO	**Syowa Base**	**94.31**	**162**⇑	*es*P		**P**		**07 22 36.0**	**+4.6**
BFO	**Black Forest**	**94.57**	**42**	*i* P		**P**		**07 22 33.5**	**+0.4**
WIN	**Windhoek**	**95.01**	**113**	PFAKE				07 22 50.0	+14
WIN				LR		LR			
	comp=Z,1μm,18.0s								
TSUM	**Tsumeb**	**96.00**	**110**	*e*P		**P**		**07 22 40.7**	**+0.3**
	comp=Z,40nm,1.5s								
TSUM				LR		LR			
	comp=Z,2μm,18.0s								
NB200	**NORSAR Array S**	**96.92**	**29**	*e*P		**P**		**07 22 43.1**	**-0.4**
NB200				*ep*P		**pP**		**07 22 51.5**	**0.0**
NOA	**NORSAR Array B**	**96.92**	**29**	P		**P**		**07 22 43.1**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=295,slow=7.4,SNR=3.0								
NOA				pP		**pP**		**07 22 51.5**	**0.0**
	comp=Z,0.4nm,0.8s,baz=30,slow=16,SNR=3.2								
NOA				LR		LR		08 07 50.3	
	comp=Z,153nm,18.6s,baz=245,slow=36								
OXZ	**Oxford**	**97.53**	**225**	PFAKE				07 23 00.0	+13
OXZ				LR		LR			
	comp=Z,2μm,22.0s								
CLL	**Collm**	**97.74**	**39**	PFAKE				07 23 00.0	+13
CLL				LR		LR			
	comp=Z,400nm,19.0s								
CLL	**Collm**	**97.74**	**39**	*e*P		**P**		**07 22 47.0**	**-0.4**
CLL				*e*				07 22 56.0	
CLL				*e*PP		**PP**		**07 26 41.0**	**-4.5**
CLL				*e*SKSac		**SKSac**		**07 33 25.0**	**+1.6**
CLL				*e*S		**ScS**		**07 34 17.0**	**+5.2**
CLL				*e*PS		**PS**		**07 35 38.0**	**+0.3**
CLL				*e*SS		**SS**		**07 40 55.0**	**+2.6**
CLL				*e*SSS		SSS		07 44 36.0	
CLL	**Collm**	**97.74**	**39**	*e*P		**P**		**07 22 47.0**	**-0.4**
CLL				*e*				07 33 25.0	
CLL				*e*S		**ScS**		**07 34 17.0**	**+5.2**
GEA0	**GERESS Array S**	**98.16**	**42**	*e*P		Pdif		07 22 49.6	+0.2
GERES	**GERESS Array B**	**98.16**	**42**	P		**P**		**07 22 49.3**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=251,slow=4.1,SNR=6.0								
GERES				pP		**pP**		**07 22 58.2**	**+0.8**
	comp=Z,1.6nm,1.0s,baz=222,slow=1.8,SNR=2.9								
GERES				LR		LR		08 07 41.3	
	comp=Z,255nm,18.4s,baz=276,slow=36								
BRG	**Berggiesshubel**	**98.33**	**40**	*e*P		Pdif		07 22 54.1	+4.0
	comp=Z,6.2nm,1.2s								
BRG	**Berggiesshubel**	**98.33**	**40**	*e*P		Pdif		07 22 54.1	+4.1
BRG				pmax		pmax			
	comp=Z,6.0nm,1.2s								
KRUC	**Moravsky**	**99.93**	**41**	*e*P		**Pdif**		**07 23 06.2**	**+9.0**
VRAC	**Vranov**	**100.06**	**41**	*e*P		**Pdif**		**07 23 07.0**	**+9.2**
MORC	**Moravsky Berou**	**100.66**	**41**	*e*P		**Pdif**		**07 23 09.9**	**+9.4**
JAVC	**Velka Javorina**	**100.78**	**42**	*e*P		**Pdif**		**07 23 11.1**	**+10**
LSZ	**Lusaka**	**106.67**	**108**	PFAKE				07 27 50.0	
LSZ				LR		LR			
	comp=Z,1μm,19.0s								
MLR	**Muntele Rosu**	**106.69**	**45**	PFAKE				07 27 50.0	
MLR				LR		LR			
	comp=Z,400nm,19.0s								
DZM	**Mont Dzumac**	**107.96**	**244**	*e*PP		PP		07 27 53.7	-9.2
	comp=Z,69nm,25.4s								
DZM				*e*SP		SP		07 37 23.1	-0.4
	comp=Z,205nm,25.5s								
DZM	**Mont Dzumac**	**107.96**	**244**	*e*LR		LR		07 59 16.0	
	comp=Z,567nm,29.6s								
DZM	**Mont Dzumac**	**107.96**	**244**	PFAKE				07 27 50.0	
DZM				LR		LR			
	comp=Z,700nm,20.0s								
KIEV	**Kiev**	**107.97**	**39**	PFAKE				07 27 50.0	
KIEV				LR		LR			
	comp=Z,400nm,21.0s								
OBN	**Obninsk**	**111.08**	**33**	PFAKE				07 28 00.0	
OBN				LR		LR			
	comp=Z,400nm,20.0s								
MBAR	**Mbarara**	**111.64**	**93**	PFAKE				07 28 00.0	
MBAR				LR		LR			
	comp=Z,900nm,20.0s								
TIXI	**Tiksi**	**112.45**	**350**	*i* PKIKP		**PKiKP**		**07 27 47.2**	**-0.6**
H11N3	**WAKE ISLAND Hyl**	**112.87**	**289**	T		T		09 30 28.9	
	baz=90,slow=76,SNR=20								
H11N2	**WAKE ISLAND Hyl**	**112.89**	**289**	T		T		09 30 30.1	
	baz=90,slow=76,SNR=28								
H11N1	**WAKE ISLAND Hyl**	**112.89**	**289**	T		T		09 30 33.8	
	baz=90,slow=76,SNR=18								
H11S2	**WAKE ISLAND Hyl**	**113.08**	**287**	T		T		09 30 53.5	
	baz=82,slow=78,SNR=17								
H11S1	**WAKE ISLAND Hyl**	**113.09**	**287**	T		T		09 30 47.0	
	baz=82,slow=78,SNR=18								
H11S3	**WAKE ISLAND Hyl**	**113.10**	**287**	T		T		09 30 55.7	
	baz=82,slow=78,SNR=6.6								
CSS	**Mathiatis**	**113.80**	**55**	PFAKE				07 28 00.0	
CSS				LR		LR			
	comp=Z,300nm,19.0s								
KIBA	**Kibaya**	**116.69**	**99**	*i* P		**PKPdf**		**07 27 57.9**	**0.0**
KIBA				*i* S		pPKPdf		07 28 14.3	+8.3
KMBO	**Kilima Mbogo**	**118.02**	**95**	PFAKE				07 28 10.0	+9.5
KMBO				LR		LR			
	comp=Z,1μm,18.0s								
KIV	**Kislovodsk**	**118.62**	**43**	*i* PKIKP		**PKPdf**		**07 28 00.3**	**-0.3**
KIV				*ep*PS		**PS**		**07 39 02.8**	**-2.8**
KIV				*es*SS		SS		07 45 32.8	-1.9
KIV				pmax		pmax			
	comp=Z,8.0nm,1.1s	

AS01	**Alice Springs**	**134.37**	**227**	*e*PKPdf	**PKPdf**	**07 28 30.9**	**-0.4**
AS31	**Alice Springs**	**134.40**	**227**	*e*PKPdf	**PKPdf**	**07 28 31.7**	**+0.4**
ASAR	**Alice Springs**	**134.40**	**227**	PKP	**PKPdf**	**07 28 32.0**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=87,slow=2.3,SNR=5.6						
ASAR				pPKP	**pPKPdf**	**07 28 40.5**	**+1.1**
	comp=Z,3.1nm,0.7s,baz=121,slow=2.5,SNR=7.5						
UOSS	**Minazif**	**135.35**	**61**	PFAKE		07 28 40.0	+7.1
UOSS				LR	LR		
	comp=Z,400nm,21.0s						
DGZ	**Jazzator, Alta**	**136.05**	**11**	*i* PKIKP	**PKPdf**	**07 28 33.1**	**-0.6**
KNGR	**Kungurtug, Tuv**	**136.20**	**1**	*i* PKIKP	**PKPdf**	**07 28 32.8**	**-1.1**
WB2	**Warramunga Arr**	**136.21**	**232**	*e*PKPdf	**PKPdf**	**07 28 32.6**	**-2.1**
WB2				*e*PKPdf	**PKiKP**	**07 28 34.6**	**-1.7**
WRAB	**Tennant Creek**	**136.21**	**232**	*e*PKPdf	**PKPdf**	**07 28 34.1**	**-0.6**
WRAB	**Tennant Creek**	**136.21**	**232**	*i* PKIKP	**PKPdf**	**07 28 33.2**	**-1.5**
WR1	**Warramunga Arr**	**136.22**	**232**	*e*PKPdf	**PKPdf**	**07 28 35.1**	**+0.4**
WR1				*ep*PKPdf	**pPKPdf**	**07 28 43.6**	**+0.7**
WRA	**Warramunga Arr**	**136.22**	**232**	PKP	**PKPdf**	**07 28 35.1**	**+0.4**
	comp=Z,5.8nm,0.9s,baz=120,slow=1.7,SNR=18						
WRA				pPKP	**pPKPdf**	**07 28 43.6**	**+0.7**
	comp=Z,9.0nm,0.9s,baz=119,slow=1.6,SNR=12						
MK31	**Makanchi Array**	**137.56**	**17**	*e*PKPdf	**PKPdf**	**07 28 36.2**	**-0.2**
MK31	**Makanchi Array**	**137.56**	**17**	*e*PKIKP	**PKPdf**	**07 28 36.2**	**-0.2**
MK32	**Makanchi Array**	**137.56**	**17**	*e*PKPdf	**PKPdf**	**07 28 36.1**	**-0.3**
MK32				*ep*PKPdf	**pPKPdf**	**07 28 44.4**	**-0.2**
MKAR	**Makanchi Array**	**137.56**	**17**	PKP	**PKPdf**	**07 28 36.1**	**-0.3**
	comp=Z,3.7nm,0.9s,baz=335,slow=2.0,SNR=12						
MKAR				pPKP	**pPKPdf**	**07 28 44.4**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=9.7,slow=2.4,SNR=6.7						
MK01	**Makanchi Array**	**137.58**	**17**	*e*PKPdf	**PKPdf**	**07 28 35.7**	**-0.8**
FRU1	**Bishkek**	**138.13**	**27**	PFAKE		07 28 50.0	+12
FRU1				LR	LR		
	comp=Z,200nm,21.0s						
AAK	**Ala-Archa**	**138.20**	**27**	PKP	**PKPdf**	**07 28 39.7**	**+1.8**
	comp=Z,4.3nm,0.8s,baz=195,slow=5.1,SNR=8.4						
AAK	**Ala-Archa**	**138.20**	**27**	*i* PKIKP	**PKPdf**	**07 28 38.2**	**+0.3**
ULN	**Ulaanbaatar**	**138.36**	**352**	*i* PKIKP	**PKPdf**	**07 28 34.5**	**-3.6**
SONA0	**Songino Array**	**138.48**	**352**	*e*PKPpre	PKPpre	07 28 27.2	
SONM	**Songino Array**	**138.48**	**352**	PKhKP	PKPpre	07 28 27.2	
	comp=Z,0.4nm,0.8s,baz=167,slow=15,SNR=3.8						
KSRS	**Korea Array**	**139.55**	**323**	PKP	**PKPdf**	**07 28 40.1**	**-0.2**
	comp=Z,3.4nm,0.8s,baz=15,slow=1.9,SNR=6.3						
KSRS				pPKP	**pPKPdf**	**07 28 48.8**	**+0.4**
	comp=Z,5.6nm,0.9s,baz=17,slow=1.7,SNR=7.3						
KS01	**Wonju Array Si**	**139.55**	**323**	*e*PKPdf	**PKPdf**	**07 28 38.8**	**-1.5**
KBL	**Kabul**	**140.94**	**41**	PFAKE		07 28 50.0	+6.8
KBL				LR	LR		
	comp=Z,200nm,19.0s						
KSH	**Kashi**	**141.35**	**29**	PKP	**PKPdf**	**07 28 48.5**	**+4.8**
KSH				PP	PP	07 31 53.3	+7.9
KSH				SKS	**SKSdf**	**07 35 56.3**	**+3.7**
KSH				SS	**SS**	**07 50 20.3**	**+7.1**
KSH				AMB	AMB		
	comp=Z,310nm,5.8s						
WMQ	**Urumqi**	**141.72**	**13**	*e*PKP	**PKPdf**	**07 28 45.0**	**+0.8**
WMQ				PP	**PP**	**07 31 51.8**	**+4.7**
WMQ				SS	SS	07 50 20.0	+3.4
WMQ				AMB	AMB		
	comp=Z,380nm,7.7s						
WMQ				LR	LR		
	comp=Z,290nm,22.3s						
BJI	**Beijing**	**143.32**	**338**	*e*PKP	**PKPdf**	**07 28 45.5**	**-1.5**
BJI				LR	LR		
	comp=Z,260nm,20.1s						
BJI				LR	LR		
	comp=Z,230nm,20.6s						
BJI				LR	LR		
	comp=Z,180nm,20.1s						
FITZ	**Fitzroy Crossi**	**143.89**	**227**	PKP	**PKPdf**	**07 28 48.6**	**0.0**
	comp=Z,6.1nm,0.7s,baz=300,slow=1.9,SNR=2.4						
FITZ	**Fitzroy Crossi**	**143.89**	**227**	*e*PKPdf	PKPab	07 28 45.6	-0.1
HHC	**Hu-ho-hao-te**	**144.13**	**343**	*e*PKP	**PKPab**	**07 28 45.3**	**-0.8**
NIL	**Nilore**	**144.17**	**38**	*e*PKPdf	**PKPab**	**07 28 46.3**	**-0.1**
NIL	**Nilore**	**144.17**	**38**	*e*PKIKP	**PKPab**	**07 28 46.3**	**-0.1**
MBWA	**Marble Bar**	**145.59**	**216**	*e*PKPdf	**PKPdf**	**07 28 51.0**	**-0.5**
TIA	**Tai'an**	**146.18**	**333**	PKPbc	**PKPdf**	**07 28 52.0**	**-0.1**
TIY	**Taiyuan**	**146.73**	**340**	PKPbc	**PKPab**	**07 29 02.0**	**+6.1**
TIY				PKPab	sPKPab	07 29 08.0	+1.3
TIY				PP	PP	07 32 33.0	+16
SIJI	**Sorong**	**146.82**	**258**	PKPbc	**PKPbc**	**07 28 55.1**	**-0.5**
	comp=Z,4.4nm,0.5s,baz=53,slow=17,SNR=3.1						
GTA	**Gaotai**	**147.39**	**359**	*e*PKPbc	**PKPdf**	**07 28 53.3**	**-0.9**
GTA				PKPab	**PKPab**	**07 28 58.5**	**0.0**
GTA				pPKP	pPKPdf	07 29 03.5	+1.1
GTA				LR	LR		
	comp=Z,250nm,18.7s						
GTA				LR	LR		
	comp=Z,220nm,19.0s						
GTA				LR	LR		
	comp=Z,290nm,18.4s						
NJ2	**Nanjing**	**148.61**	**326**	*e*PKPbc	**PKPdf**	**07 28 56.5**	**+0.3**
NJ2				pPKP	**pPKPdf**	**07 29 04.8**	**+0.4**
NDI	**New Delhi**	**150.03**	**40**	*e*P	**PKPbc**	**07 29 02.0**	**-1.6**
LZH	**Lanzhou**	**150.37**	**352**	*e*PKPbc	**PKPbc**	**07 29 03.0**	**-1.4**
LZH				SKKS		07 39 33.8	
LZH				SS	**SS**	**07 51 59.3**	**+4.3**
LZH				AMB	AMB		
	comp=Z,260nm,6.5s						
LZH				LR	LR		
	comp=Z,410nm,15.2s						
LZH				LR	LR		
	comp=Z,430nm,14.1s						
LZH				LR	LR		
	comp=Z,490nm,17.9s						
XAN	**Xi'an**	**151.22**	**342**	PKPbc	**PKPdf**	**07 28 57.0**	**-3.4**
XAN				LR	LR		
	comp=Z,300nm,14.2s						
XAN				LR	LR		
	comp=Z,240nm,16.2s						
XAN				LR	LR		
	comp=Z,220nm,17.7s						
WHN	**Wuhan**	**152.16**	**330**	PKPbc	**PKPab**	**07 29 15.0**	**-3.0**
POO	**Poona**	**152.93**	**62**	*e*P	**PKPdf**	**07 29 04.0**	**+0.7**
CD2	**Chengdu**	**155.46**	**350**	PKP	**PKPdf**	**07 29 06.0**	**-0.6**
KAPI	**Kappang**	**156.14**	**241**	PFAKE		07 29 20.0	+12
KAPI				LR	LR		
	comp=Z,200nm,20.0s						
GYA	**Guiyang**	**158.97**	**340**	PKP	**PKPdf**	**07 29 10.5**	**-0.7**
GYA				PKPab	**PKPab**	**07 29 48.3**	**+1.0**
GYA				PKS	**PKSdf**	**07 32 42.0**	**-3.1**
GYA				PP	**PP**	**07 33 30.8**	**+4.1**
GYA				AMB	AMB		
	comp=Z,180nm,8.2s						
SHL	**Shillong**	**160.06**	**19**	PFAKE		07 29 20.0	+7.4
SHL				LR	LR		
	comp=Z,600nm,20.0s						
KMI	**Kunming**	**161.28**	**349**	PKP	**PKPdf**	**07 29 13.8**	**-0.2**
QIZ	**Qiongzhong**	**163.73**	**320**	PKP	**PKPdf**	**07 29 16.3**	**0.0**
QIZ				SS	SS	07 54 22.8	+3.1
QIZ				LR	LR		
	comp=Z,280nm,19.6s						
CMAR	**Chiang Mai Arr**	**168.28**	**360**	PKP	**PKPdf**	**07 29 19.9**	**0.0**
	comp=Z,0.7nm,0.4s,baz=332,slow=1.5,SNR=5.1						
CMAR				pPKP	**pPKPdf**	**07 29 27.7**	**-0.4**
	comp=Z,1.7nm,0.5s,baz=320,slow=1.7,SNR=3.5						
CMAR				PKPab	**PKPab**	**07 30 26.8**	**-1.4**
	comp=Z,1.2nm,0.4s,baz=346,slow=5.0,SNR=8.8						
CM01	**Chiang Mai Arr**	**168.32**	**360**	*e*PKPdf	**PKPdf**	**07 29 19.7**	**-0.2**
CM01				*e*PKPab	**PKPab**	**07 30 27.0**	**-1.2**
PSI	**Prapat**	**176.16**	**181**	PKP	**PKPdf**	**07 29 22.1**	**-1.7**
	comp=Z,1.8nm,0.3s,baz=359,slow=3.2,SNR=2.9						
PSI				pPKP	**pPKPdf**	**07 29 31.2**	**-0.7**
	comp=Z,2.5nm,0.4s,baz=180,slow=6.2,SNR=2.2						
PSI	**Prapat**	**176.16**	**181**	*e*PKPdf	**PKPdf**	**07 29 21.5**	**-2.3**
PSI	**Prapat**	**176.16**	**181**	*e*PKIKP	**PKPdf**	**07 29 21.5**	**-2.3**

DRS ***29*** *07:28:13.5±0.0, 43.5°53N×45.5°84E, h13km*
MOS ***29*** *07:28:14.4±0.0, 43.5°47N×45.5°98E, h10km, MPVA4.2*
NORS ***29*** *07:28:15.2±0.0, 43.5°46N×45.5°99E, h19km, MPVA4.2*

ISC 29 07:28:16.4±1.0, 43.5°45N±0.0°03×45.5°97E±0.0°02, h19km±2km, n55, σ1§40/110, 2C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GROC	**Groznyy**	**0.28**	**206**	*e*Pg	**Pg**	**07 28 22.2**	**-0.5**
GROC				*e*		07 28 27.3	
GROC				pmax	pmax		
	comp=Z,85nm,0.2s						
GROC				smax	smax		
	comp=E,3μm,0.4s						
GROC				smax	smax		
	comp=E,3μm,0.5s						
GROC				smax	smax		
	comp=N,900nm,0.8s						
GROC	**Groznyy**	**0.28**	**206**	*e*Pg	**Pb**	**07 28 22.3**	**-0.4**
GROC				*e*Sg	**Sb**	**07 28 28.3**	**+1.3**
DVE	**Vedeno**	**0.51**	**167**	⇑*i* pPG	**Pb**	**07 28 26.2**	**-0.6**
DVE				*e*S	**Sb**	**07 28 34.5**	**+0.6**
DVE	**Vedeno**	**0.51**	**167**	*i* Pg	**Pg**	**07 28 26.0**	**-0.8**
DVE				*e*Sg	**Sb**	**07 28 34.1**	**+0.2**
DLMR	**Dylym**	**0.62**	**128**	*e*PG	**Pn**	**07 28 28.5**	**-1.7**
DLMR				*e*S	**Sn**	**07 28 39.0**	**-0.6**
DLMR				pmax	pmax		
	comp=Z,107nm,0.2s						
DLMR	**Dylym**	**0.62**	**128**	*e*Pg	**Pn**	**07 28 28.5**	**-1.7**
DLMR				*e*Sg	**Sn**	**07 28 39.0**	**-0.6**
DBC	**Dubki**	**0.77**	**124**	⇓*i* pPG	**Pn**	**07 28 31.1**	**-1.2**
DBC				*i* S	**Sn**	**07 28 42.7**	**-0.7**
DBC				pmax	pmax		
	comp=Z,60nm,0.2s						
DBC	**Dubki**	**0.77**	**124**	*i* Pg	**Pn**	**07 28 31.1**	**-1.2**
DBC				*i* Sg	**Sn**	**07 28 42.7**	**-0.7**
BTLR	**Botlikh**	**0.81**	**167**	*e*PG	**Pb**	**07 28 31.2**	**-0.8**
BTLR				*e*S	**Sg**	**07 28 43.3**	**+0.2**
BTLR				pmax	pmax		
	comp=Z,118nm,0.4s						
BTLR	**Botlikh**	**0.81**	**167**	*i* Pg	**Pb**	**07 28 31.4**	**-0.6**
BTLR				*e*Sg	**Sn**	**07 28 43.4**	**-1.1**
KMGR	**Komgaron**	**0.90**	**244**	*e*PG	**Pn**	**07 28 34.4**	**+0.3**
KMGR				*e*S	**Sn**	**07 28 48.1**	**+1.5**
KMGR	**Komgaron**	**0.90**	**244**	*e*Pg	**Pn**	**07 28 34.1**	**+0.1**
KMGR				*e*Sg	**Sn**	**07 28 48.4**	**+1.8**
KRNR	**Karanay**	**0.93**	**132**	*e*PG	**Pn**	**07 28 34.0**	**-0.6**
KRNR				*e*S	**Sn**	**07 28 48.3**	**+0.8**
KRNR				pmax	pmax		
	comp=Z,49nm,0.3s						
KRNR	**Karanay**	**0.93**	**132**	*e*Pg	**Pn**	**07 28 34.0**	**-0.6**
KRNR				*e*Sg	**Sn**	**07 28 48.3**	**+0.8**
TRKR	**Terskaya**	**0.94**	**287**	*e*PG	**Pb**	**07 28 33.3**	**-0.7**
TRKR				*e*S	**Sn**	**07 28 48.1**	**+0.6**
TRKR	**Terskaya**	**0.94**	**287**	*e*Pg	**Pg**	**07 28 34.0**	**-0.6**
TRKR				*i* Sg	**Sn**	**07 28 48.1**	**+0.6**
UNCR	**Uncukul**	**0.96**	**140**	⇑*i* pPG	**Pg**	**07 28 34.0**	**-1.0**
UNCR				S	**Sn**	**07 28 51.0**	**+3.0**
UNCR				pmax	pmax		
	comp=Z,137nm,0.3s						
UNCR	**Uncukul**	**0.96**	**140**	*i* Pg	**Pg**	**07 28 34.0**	**-1.0**
UNCR				*e*Sg	**Sn**	**07 28 51.0**	**+3.0**
VLKR	**Vladikavkaz**	**1.03**	**247**	*e*PG	**Pg**	**07 28 36.3**	**0.0**
VLKR				*e*S	**Sg**	**07 28 52.5**	**+2.6**
VLKR	**Vladikavkaz**	**1.03**	**247**	*e*Pg	**Pg**	**07 28 36.0**	**-0.3**
VLKR				*i* Pg	**Pg**	**07 28 36.3**	**0.0**
VLKR				*e*Sg	**Sg**	**07 28 52.3**	**+2.5**
VLKR				*e*Sg	**Sg**	**07 28 52.3**	**+2.5**
BTKR	**Batakoyurt**	**1.04**	**266**	*i* Pg	**Pg**	**07 28 36.3**	**-0.3**
BTKR				*e*Sg	**Sg**	**07 28 52.3**	**+2.0**
XNZR	**Khunzakh**	**1.06**	**149**	*e*PG	**Pg**	**07 28 36.5**	**-0.5**
XNZR				*e*S	**Sg**	**07 28 52.2**	**+1.2**
ARKR	**Arakani**	**1.14**	**138**	*i* PG	**Pg**	**07 28 38.0**	**-0.4**
ARKR				*i* S	**Sg**	**07 28 58.5**	**+5.1**
ARKR	**Arakani**	**1.14**	**138**	*i* Pg	**Pg**	**07 28 38.0**	**-0.4**
ARKR				*i* Sg	**Sg**	**07 28 58.5**	**+5.1**
MAK	**Makhachkala**	**1.23**	**113**	*e*PG	**Pg**	**07 28 41.3**	**+1.1**
MAK				*e*		07 28 59.0	
MAK				pmax	pmax		
	comp=Z,150nm,0.2s						
MAK				smax	smax		
	comp=N,307nm,0.3s						
MAK				smax	smax		
	comp=N,374nm,0.3s						
ARNR	**Ardon**	**1.26**	**258**	*e*PG	**Pg**	**07 28 40.0**	**-0.7**
ARNR				*e*S	**Sg**	**07 28 59.4**	**+2.2**
ARNR	**Ardon**	**1.26**	**258**	*e*Pg	**Pg**	**07 28 40.0**	**-0.7**
ARNR				*e*Sg	**Sg**	**07 28 59.0**	**+1.8**
PRTR	**Priterechnaya**	**1.26**	**284**	*e*PG	**Pg**	**07 28 39.9**	**-0.8**
PRTR				*e*S	**Sg**	**07 28 58.2**	**+1.0**
PRTR	**Priterechnaya**	**1.26**	**284**	*e*Pg	**Pg**	**07 28 39.7**	**-1.1**
PRTR				*e*Sg	**Sg**	**07 28 58.1**	**+1.0**
GNBR	**Gunib**	**1.29**	**145**	*e*PG	**Pg**	**07 28 41.2**	**-0.2**
GNBR				*e*S	**Sg**	**07 29 00.6**	**+2.3**
GNBR				pmax	pmax		
	comp=Z,143nm,0.8s						
GNBR	**Gunib**	**1.29**	**145**	*e*Pg	**Pg**	**07 28 41.0**	**-0.4**
GNBR				*e*Sg	**Sg**	**07 28 58.6**	**+0.3**
LACR	**Lac**	**1.37**	**243**	*e*PG	**Pb**	**07 28 40.7**	**-0.9**
LACR				*e*S	**Sg**	**07 29 00.1**	**-0.8**
LACR	**Lac**	**1.37**	**243**	*e*Pg	**Pn**	**07 28 40.2**	**-0.8**
LACR				*e*Sg	**Sg**	**07 29 00.0**	**-0.8**
STDR	**Stavd-Durt**	**1.39**	**267**	*e*PG	**Pg**	**07 28 42.1**	**-1.2**
STDR				*e*S	**Sg**	**07 29 02.8**	**+1.4**
STDR	**Stavd-Durt**	**1.39**	**267**	*i* Pg	**Pg**	**07 28 42.0**	**-1.2**
STDR				*e*Sg	**Sg**	**07 29 02.6**	**+1.2**
KORR	**Kora**	**1.44**	**256**	*e*Pg	**Pg**	**07 28 42.9**	**-1.2**
KORR				*e*Sg	**Sg**	**07 29 04.1**	**+1.3**
GUDG	**Gudauri**	**1.47**	**228**	P	**Pb**	**07 28 43.0**	**-0.4**
GUDG				S	**Sn**	**07 29 00.6**	**-0.5**
KMKR	**Kumukh**	**1.56**	**147**	*e*PG	**Pg**	**07 28 46.0**	**-0.6**
KMKR				*e*S	**Sg**	**07 29 08.5**	**+1.6**
KMKR				pmax	pmax		
	comp=Z,55nm,0.4s						
KMKR	**Kumukh**	**1.56**	**147**	*e*Pg	**Pg**	**07 28 46.0**	**-0.6**
KMKR				*e*Sg	**Sg**	**07 29 08.5**	**+1.6**
LSNR	**Lesken**	**1.57**	**264**	*e*PG	**Pb**	**07 28 44.6**	**-0.3**
LSNR				*e*S	**Sg**	**07 29 08.4**	**+1.3**
LSNR	**Lesken**	**1.57**	**264**	*i* Pg	**Pb**	**07 28 44.7**	**-0.3**
LSNR				*e*Sg	**Sg**	**07 29 07.6**	**+0.4**
LGD	**Lagodekhi**	**1.63**	**173**	*e*PG	**Pb**	**07 28 46.0**	**+0.1**
LGD				*e*S	**Sg**	**07 29 08.2**	**-0.9**
DUS	**Dusheti**	**1.65**	**215**	P	**Pn**	**07 28 43.6**	**-0.9**
DUS				S	**Sg**	**07 29 09.2**	**-0.4**
DUS	**Dusheti**	**1.65**	**215**	*e*PG	**Pn**	**07 28 43.6**	**-0.9**
DUS				*e*S	**Sg**	**07 29 09.3**	**-0.4**
ZEI	**Tsey**	**1.65**	**247**	*e*PG	**Pb**	**07 28 45.0**	**-1.4**
ZEI				*e*S	**Sb**	**07 29 07.0**	**+0.1**
ZEI	**Tsey**	**1.65**	**247**	*e*Pg	**Pn**	**07 28 44.5**	**-0.1**
ZEI				*e*Sg	**Sb**	**07 29 07.9**	**+1.0**
DIGR	**Digorskoe uzhe**	**1.83**	**253**	*e*PN	**Pb**	**07 28 47.7**	**-1.7**
DIGR				*e*S	**Sb**	**07 29 12.4**	**+0.3**
DIGR	**Digorskoe uzhe**	**1.83**	**253**	*e*Pg	**Pn**	**07 28 47.1**	**0.0**
DIGR				*e*Sg	**Sb**	**07 29 12.9**	**+0.8**
DDFL	**Dedoflistskaro**	**2.01**	**177**	P	**Pg**	**07 28 54.4**	**-0.7**
DDFL				S	**Sg**	**07 29 23.6**	**+2.5**
TRLG	**Trialeti**	**2.36**	**216**	P	**Pb**	**07 28 57.9**	**-0.5**
TRLG				S	**Sb**	**07 29 25.2**	**-2.0**
AKT	**Akhty**	**2.37**	**146**	*e*PN	**Pg**	**07 28 59.3**	**-2.5**
AKT				*e*S	**Sg**	**07 29 31.9**	**-0.6**
KZRT	**Kazreti**	**2.37**	**210**	P	**Pn**	**07 28 55.5**	**+1.2**
KZRT				S	**Sb**	**07 29 25.9**	**-1.5**
NEY	**Neytrino**	**2.38**	**266**	*e*PN	**Pn**	**07 28 55.3**	**+0.8**
NEY				*e*S	**Sb**	**07 29 27.9**	**+0.2**
NEY	**Neytrino**	**2.38**	**266**	*e*Pn	**Pb**	**07 28 56.3**	**-2.4**
NEY				*e*Sn	**Sb**	**07 29 28.3**	**+0.6**
GOF	**Gofitskoye**	**2.64**	**308**	*e*Pn	**Pn**	**07 28 59.1**	**+1.1**
GOF				*e*Sn	**Sb**	**07 29 33.0**	**-2.2**

NIED ***29*** *07:54:00, 39.5°60N×143.5°60E, h17km, Mw3.8 Best double couple: M₀5.17000×10¹⁴ NP1:φs162.00000°, δ30.00000°, λ35.00000°. NP2:φs41.00000°, δ73.00000°, λ115.00000°.*
IDC ***29*** *07:54:24.8±2.2, 39.5°66N×143.5°69E, h0km, mb3.6/3, mb1 3.8/7, mb1mx3.5/41, mbtmp3.8/7, ML3.4/3, MS3.3/2, Ms1 3.3/2, ms1mx2.5/55, Error ellipse: s-maj=50.5km s-min=20.8km az=82.0*
JMA ***29*** *07:54:26.4±0.2, 39.5°64N×143.5°56E, h26km, M3.7*

ISC 29 07:54:25.1±2.6, 39.5°63N±0.0°05×143.5°53E±0.0°09, h2km±13km, n27, σ1§24/29, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.32**	**284**	P	**Pg**	**07 54 49.9**	**-0.5**
JTH				*e*S	**Sg**	**07 55 07.4**	**-0.1**
MIYJ	**Miyakonagasawa**	**1.32**	**268**	P	**Pg**	**07 54 50.0**	**-0.4**
JKEN	**Kujiedanarisaw**	**1.51**	**293**	P	**Pn**	**07 54 52.3**	**-0.9**
JANG	**Nango**	**1.71**	**296**	P	**Pn**	**07 54 55.1**	**-0.9**
JOM	**Ohasama**	**1.74**	**265**	P	**Pn**	**07 54 56.5**	**+0.2**
JOM				*e*S	**Sn**	**07 55 18.6**	**-0.5**
JMK	**Ichinoseki**	**1.92**	**250**	P	**Pn**	**07 54 59.0**	**+0.2**
JMK				*e*S	**Sn**	**07 55 22.9**	**-0.6**
JIO	**Ouri**	**2.07**	**236**	P	**Pn**	**07 55 00.4**	**-0.4**
JIO				*e*S	**Sn**	**07 55 24.7**	**-2.5**
JTM	**Tenmabayashi**	**2.21**	**302**	P	**Pn**	**07 55 03.1**	**+0.3**
JTM				*e*S	**Sn**	**07 55 31.1**	**+0.4**
JYK	**Kaneyama**	**2.56**	**255**	P	**Pn**	**07 55 08.5**	**+0.8**
JOT	**Ohata**	**2.57**	**314**	P	**Pn**	**07 55 09.5**	**+1.7**
JNBK	**Urakawa-nobuka**	**2.71**	**348**	P	**Pn**	**07 55 10.6**	**+0.9**
JNBK				*e*S	**Sn**	**07 55 42.5**	**-0.5**
JCH	**Churui**	**2.98**	**358**	P	**Pn**	**07 55 13.1**	**-0.3**
JCH				*e*S	**Sn**	**07 55 46.8**	**-3.0**
JFT	**Otama**	**3.27**	**231**	P	**Pn**	**07 55 17.7**	**+0.2**
JFT				*e*S	**Sn**	**07 55 56.4**	**-0.7**
ASAJ	**Asahikawa**	**4.53**	**351**	Pn	**Pn**	**07 55 36.0**	**+1.3**
	1.0nm,0.3s,baz=219,slow=21,SNR=5.2						
ASAJ				Sn	**Sn**	**07 56 26.8**	**-1.2**
	0.7nm,0.3s,baz=27,slow=26,SNR=2.9						
MJAR	**Matsushiro Arr**	**5.21**	**235**	Pn	**Pn**	**07 55 45.9**	**+1.8**
	0.9nm,0.3s,baz=38,slow=11,SNR=13						
JHJ	**Hachijo jima 2**	**7.17**	**206**	Pn	**Pn**	**07 56 10.8**	**-0.2**
	4.8nm,0.3s,baz=134,slow=21,SNR=3.2						
USRK	**Ussuriysk Ar.**	**9.73**	**302**	Pn	**Pn**	**07 56 49.1**	**+2.9**
	0.1nm,0.3s,baz=89,slow=12,SNR=5.0						
USRK				LR	LR	07 59 57.0	
	comp=Z,43nm,21.6s,baz=52,slow=34						
SONM	**Songino Array**	**27.84**	**299**	P	**P**	**08 00 16.3**	**+0.3**
	0.7nm,0.5s,baz=96,slow=10,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**28.24**	**128**	T	T	08 29 57.3	
	baz=318,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.25**	**128**	T	T	08 29 56.4	
	baz=318,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.25**	**128**	T	T	08 29 54.4	
	baz=318,slow=75						
H11S1	**WAKE ISLAND Hy**	**29.06**	**130**	T	T	08 31 01.5	
	baz=319						
H11S3	**WAKE ISLAND Hy**	**29.06**	**130**	T	T	08 31 05.5	
	baz=313						
H11S2	**WAKE ISLAND Hy**	**29.07**	**130**	T	T	08 30 58.2	
	baz=313						
ZALV	**Zalesovo Beam**	**41.45**	**310**	P	**P**	**08 02 13.1**	**0.0**
	0.7nm,0.7s,baz=64,slow=5.0,SNR=3.5						
WRA	**Warramunga Arr**	**59.88**	**190**	P	**P**	**08 04 32.9**	**+0.4**
	0.3nm,0.8s,baz=8.6,slow=6.8,SNR=2.8						
GNI	**Garni**	**71.48**	**307**	LR	LR	08 37 55.5	
	comp=Z,80nm,19.3s,baz=138,slow=36						

IDC 29 07:55:03.6±2.1, 4.8°88N×124.7°73E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/37, mbtmp3.4/3, MS3.3/1, Ms1 3.3/1, ms1mx2.6/29, Error ellipse: s-maj=207.3km s-min=25.3km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.41**	**159**	P	P	08 00 42.5	+0.3
	0.3nm,0.3s,baz=338,slow=9.4,SNR=9.4						
ASAR	**Alice Springs**	**29.75**	**163**	P	P	08 01 11.5	-0.4
	0.1nm,0.3s,baz=348,slow=7.3,SNR=3.7						
MJAR	**Matsushiro Arr**	**33.86**	**20**	LR	LR	08 17 37.3	
	comp=Z,51nm,18.8s,baz=70,slow=40						
MKAR	**Makanchi Array**	**55.48**	**326**	P	P	08 04 40.3	0.0
	0.2nm,0.4s,baz=146,slow=7.9,SNR=3.3						

MEX 29 07:56:46.3±0.7, 13.9°94N×92.6°66W, h16km±149km, MD4.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.04**	**22**	*i* P	Pb	07 57 02.7	-3.2
THIG				*i* S	Sb	07 57 14.2	-5.1
PCIG		**1.84**	**343**	*e*P	Pn	07 57 13.3	-4.0
PCIG				*i* S	Sn	07 57 35.7	-4.5
TGIG		**2.86**	**351**	*i* P	Pn	07 57 29.5	-1.9
TGIG				*i* S	Sn	07 58 01.9	-3.7

NNC ***29*** *08:10:39.6±1.7, 53.4°48N×90.6°68E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=13.9km s-min=12.5km az=93.0, Suspected Mining explosion.*

**ASRS 29 08:10:28.6, 53.7°4N×91.1°09E, M2.7,

HAZ Te Kaha 9.81 199 P Pn 08 13 23.9 -1.5
HAZ S S 08 15 16.0 +0.1
HAZ Te Kaha 9.81 199 P S 08 15 17.3 +1.5
PKGZ Pakihiroa 9.86 197 P Pn 08 13 22.9 -3.2
PKGZ S S 08 15 16.2 -0.8
PKGZ Pakihiroa 9.86 197 P S 08 15 16.4 -0.6
PUZ Puketiti 9.98 196 P Pn 08 13 24.6 -3.1
PUZ S S 08 15 16.9 -3.1
PUZ Puketiti 9.98 196 P S 08 15 18.2 -1.7
RUGZ Raukumara Rang 10.04 199 P Pn 08 13 26.5 -1.9
RUGZ S S 08 15 19.6 -1.7
WHRZ Whale Island 10.15 202 P S 08 15 23.3 -0.4
TWGZ Tauwhareparae 10.15 197 P Pn 08 13 28.2 -1.6
TWGZ S S 08 15 22.6 -1.3
TWGZ Tauwhareparae 10.15 197 P S 08 15 22.4 -1.5
OPRZ Ohinepanea 10.28 204 P Pn 08 13 30.5 -0.9
TGRZ Tauranga 10.29 205 P P 08 13 36.2 -0.4
MARZ Manawahe 10.37 203 P Pn 08 13 33.8 +1.3
CNGZ Carnagh Statio 10.39 195 P Pn 08 13 30.4 -2.3
CNGZ Carnagh Statio 10.39 195 P S 08 15 20.3 -9.0
MWZ Matawai 10.42 199 P Pn 08 13 30.4 -2.8
MWZ S S 08 15 25.9 -4.2
MWZ Matawai 10.42 199 P S 08 15 26.9 -3.2
TKGZ Te Karaka 10.44 197 P Pn 08 13 29.9 -3.4
TKGZ S S 08 15 27.0 -3.3
TKGZ Te Karaka 10.44 197 P S 08 15 25.0 -5.3
URZ Urewera 10.48 200 P Pn 08 13 31.1 -2.7
5.1nm,0.3s,baz=248,slow=3.3,SNR=28
URZ S S 08 15 27.9 -3.4
60nm,0.3s,baz=199,slow=5.5,SNR=14
URZ Urewera 10.48 200 eP Pn 08 13 32.9 -0.9
URZ eS S 08 15 31.8 +0.5
URZ Urewera 10.48 200 P Pn 08 13 32.3 -1.5
URZ S S 08 15 27.5 -3.7
URZ Urewera 10.48 200 P S 08 15 28.8 -2.4
KMRZ Kaimai 10.51 206 P P 08 13 39.2 -0.1
KARZ Kaharoa 10.55 204 P P 08 13 38.7 -0.9
OMRZ Omania 10.58 204 P P 08 13 39.2 -0.9
TOZ Tahuroa Road 10.59 208 P P 08 13 38.2 -1.8
RAGZ Rawiri 10.61 199 P Pn 08 13 34.3 -1.2
RAGZ S S 08 15 31.7 -2.7
TARZ Mount Tarawera 10.65 203 P P 08 13 38.8 -2.1
UTU Utuhina 10.71 204 P P 08 13 41.6 +0.2
RIGZ Rimuhau 10.71 197 P Pn 08 13 34.1 -2.7
RIGZ S S 08 15 33.1 -3.7
RIGZ Rimuhau 10.71 197 P S 08 15 30.0 -6.7
HSRZ Hossack Road 10.81 204 P P 08 13 41.3 -1.2
RTZ Ruatahuna 10.84 200 P Pn 08 13 39.6 +1.1
HRRZ Handcock Road 10.87 203 P P 08 13 42.6 -0.6
PRGZ Paritu Road 10.88 196 P Pn 08 13 37.0 -2.0
GRRZ Galatos Road 10.89 204 P P 08 13 41.8 -1.7
SNGZ Shannon Statio 10.89 198 P Pn 08 13 36.5 -2.6
ALRZ Allen Road 11.00 203 P Pn 08 13 40.6 +0.2
WPRZ Whakapapatarin 11.02 203 P P 08 13 45.0 +0.1
KNZ Kokohu 11.03 197 P Pn 08 13 37.2 -3.5
TLZ Tolley Road 11.09 206 P P 08 13 45.1 -0.6
RAHZ Arahi 11.09 199 P Pn 08 13 38.7 -2.8
MHGZ Mahia Peninsul 11.10 196 P Pn 08 13 37.3 -4.3
MTHZ Maungataniwha 11.10 200 P Pn 08 13 41.5 -0.2
KUTZ Kaahu Road 11.12 205 P P 08 13 45.3 -0.6
WHHZ Waihua 11.20 198 P Pn 08 13 41.4 -1.4
NMHZ Naumai 11.34 200 P Pn 08 13 41.8 -2.9
WATZ Wairara 11.34 205 P P 08 13 47.3 -1.2
HATZ Hinemaiaia 11.38 203 P P 08 13 47.4 -1.5
ARHZ Aropaoanui 11.44 199 P Pn 08 13 44.5 -1.3
RATZ Rangitukua 11.47 204 P P 08 13 49.0 -0.9
BKZ Black Stump Fm 11.50 201 ePn Pn 08 13 43.7 -3.0
BKZ eS S 08 15 53.5 -1.5
BKZ Black Stump Fm 11.50 201 P Pn 08 13 43.8 -2.8
HIZ Hauiti 11.52 208 ePn P 08 13 49.1 -1.2
RITZ Rihia Road 11.54 203 P P 08 13 49.6 -1.0
KATZ Kakaramea 11.59 204 P P 08 13 50.2 -1.2
MCHZ McNeill Hill 11.69 200 P Pn 08 13 45.6 -3.4
KRVZ Karewarewa 11.72 204 P Pn 08 13 50.7 +1.2
KWHZ Kaweka Forest 11.76 201 P Pn 08 13 46.6 -3.2
WTVZ West Tongariro 11.76 204 P Pn 08 13 50.8 +0.9
TWVZ Taurewa 11.77 205 P P 08 13 51.5 -1.9
CKHZ Cape Kidnapper 11.78 198 P Pn 08 13 48.7 -1.4
NGZ Ngauruhoe 11.81 204 P P 08 13 52.3 -1.5
COVZ Chateau Observ 11.85 204 P Pn 08 13 51.8 +0.7
TUVZ Tukino 11.87 204 P P 08 13 52.2 -1.5
FWVZ Far West T-bar 11.89 204 P Pn 08 13 52.2 +0.5
WHVZ Whangaehu Hut 11.90 204 P Pn 08 13 52.3 +0.4
BHHZ Black Hill Sta 11.93 202 P Pn 08 13 49.2 -2.9
TRVZ Turoa 11.93 204 P Pn 08 13 53.5 +1.2
MOVZ Moawhango 11.96 203 P Pn 08 13 51.3 -1.1
KAHZ Kahuranaki 11.97 198 P Pn 08 13 48.8 -3.6
KRHZ Kereru 11.97 200 P Pn 08 13 48.6 -3.9
KRHZ Kereru 11.97 200 P Pn 08 13 48.6 -3.9
PKVZ Pokaka 12.00 204 P P 08 13 54.2 -1.5
VRZ Vera Road 12.08 207 P P 08 13 56.7 +0.1
NIUE Niue 12.09 41 P Pn 08 13 48.5 -5.6
baz=12,SNR=44
PXZ Pawanui 12.19 198 P Pn 08 13 51.9 -3.2
PNHZ Pukenui 12.27 200 P Pn 08 13 51.8 -4.4
PNHZ Pukenui 12.27 200 P Pn 08 13 51.8 -4.4
WPHZ Waipukurau 12.34 205 P Pn 08 13 56.3 -1.1
PKE Pukeiti 12.46 209 P P 08 14 04.1 +3.2
PRHZ Porangahau 12.47 198 P Pn 08 13 59.0 +0.3
TSZ Takapari Road 12.48 201 P Pn 08 13 55.8 -3.0
LREZ Lake Rotokare 12.51 207 P P 08 14 02.0 +0.7
KHEZ Kahui Hut 12.53 209 P P 08 14 04.5 +2.8
WAZ Wanganui 12.54 205 P Pn 08 13 59.1 -0.4
NBEZ Newall Road No 12.57 209 P P 08 14 04.7 +2.7
DVHZ Dannevirke 12.64 200 P Pn 08 13 59.3 -1.4
POWZ Post Office Ro 12.84 201 P Pn 08 14 02.1 -1.1
PRWZ Pori Road 12.93 200 P Pn 08 14 02.9 -1.4
BFZ Birch Farm 12.97 199 ePn Pn 08 14 01.2 -3.6
BFZ eS S 08 16 24.3 -4.4
BFZ Birch Farm 12.97 199 P Pn 08 14 00.8 -4.0
MRZ Mangatainoka R 13.15 201 P Pn 08 14 01.6 -5.4
TIWZ Tintock 13.16 200 P Pn 08 14 05.9 -1.2
CPWZ Castlepoint 13.19 199 P P 08 14 08.0 -1.0
HOWZ Holdsworth Sta 13.38 201 P Pn 08 14 05.7 -4.1
OGWZ Otaki Gorge 13.42 202 P Pn 08 14 05.5 -4.8
TMWZ Te Maipa 13.46 199 P Pn 08 14 08.0 -2.8
KIW Kapiti Island 13.55 203 P Pn 08 14 07.9 -3.9
MTW Mount Morrison 13.62 200 P Pn 08 14 09.7 -3.1
CAW Cannon Point 13.72 202 P Pn 08 14 08.9 -5.0
TRWZ Traveller 13.79 199 P Pn 08 14 13.8 -1.0
DUWZ D'Urville Isla 13.85 205 P Pn 08 14 12.7 -2.8
PAWZ Paruwai Farm 13.85 200 P Pn 08 14 14.1 -1.5
MSWZ Moikau Station 13.94 201 P Pn 08 14 13.8 -2.8
SNZO South Karori 14.02 202 ePn Pn 08 14 14.5 -3.1
SNZO eS S 08 16 46.8 -5.8
BHW Baring Head 14.05 202 P Pn 08 14 15.2 -2.7
PLWZ Palliser 14.08 200 P Pn 08 14 16.0 -2.3
TCW Tory Channel 14.08 204 P Pn 08 14 14.8 -3.5
TUWZ Tuamarina 14.39 204 P Pn 08 14 17.4 -4.6
NNZ Nelson 14.41 206 P Pn 08 14 19.5 -2.8
CMWZ Cape Campbell 14.58 203 P Pn 08 14 25.0 +0.8
BSWZ Blackbirch Sta 14.66 204 P P 08 14 23.1 -2.2
THZ Tophouse 15.07 206 eP P 08 14 28.3 -1.4
93nm,0.5s
THZ eS S 08 17 10.5 -5.7
DZM Mont Dzumac 15.22 291 P Pn 08 14 33.9 +1.6
4.0nm,0.3s,baz=112,slow=15,SNR=30
DZM Mont Dzumac 15.22 291 eP Pn 08 14 33.0 +0.7
237nm,1.0s
DZM Mont Dzumac 15.22 291 eP Pn 08 14 33.7 +1.4
92nm,0.7s
KHZ Kahutara 15.40 203 eP P 08 14 30.4 -2.9
226nm,0.4s
KHZ eS S 08 17 18.0 -4.9
AFI Afiamalu 15.72 24 P P 08 14 28.1 -9.1
66nm,0.3s,baz=208,slow=5.6,SNR=104
AFI S S 08 17 09.3 -21
71nm,0.3s,baz=172,slow=23,SNR=8.7
LTZ Lake Taylor 16.18 206 eP P 08 14 40.7 -1.2
38nm,0.5s
LTZ eS S 08 17 33.2 -5.4
AMCZ Amberley 16.38 204 P S 08 17 37.7 -4.7
OKCZ Okains Bay 16.72 202 P S 08 17 47.5 -1.8
OXZ Oxford 16.73 205 eP P 08 14 46.3 -1.7
155nm,0.5s
OXZ eS S 08 17 45.1 -4.5
OXZ Oxford 16.73 205 P S 08 17 46.4 -3.2
CRLZ Canterbury Las 16.74 204 eP P 08 14 47.5 -0.5
36nm,0.5s
CRLZ eS S 08 17 45.4 -4.2
CRLZ Canterbury Las 16.74 204 P S 08 17 44.9 -4.7

MQZ McQueen's Vall 16.84 203 eP P 08 14 48.3 -0.8
41nm,0.7s
MQZ eS S 08 17 47.7 -3.9
MQZ McQueen's Vall 16.84 203 P S 08 17 47.8 -3.9
AKCZ Akaroa Harbour 16.90 202 P S 08 17 49.0 -3.9
RPZ Rata Peaks 17.44 207 P P 08 14 56.4 +0.7
10nm,0.3s,baz=304,slow=1.0,SNR=24
RPZ S S 08 18 00.7 -3.0
24nm,0.3s,baz=335,slow=20,SNR=16
RPZ Rata Peaks 17.44 207 P S 08 18 01.0 -2.8
FOZ Fox Glacier 17.80 209 eP P 08 15 00.4 +0.8
70nm,0.5s
FOZ eS S 08 18 07.3 -3.6
FOZ Fox Glacier 17.80 209 P S 08 18 09.7 -1.1
RAR Rarotonga 18.28 71 P P 08 15 03.4 -1.6
11nm,0.3s,baz=229,slow=7.5,SNR=24
RAR Rarotonga 18.28 71 eP P 08 15 02.9 -2.0
234nm,0.8s
LBZ Lake Benmore 18.35 207 eP P 08 15 05.7 +0.2
19nm,0.9s
LBZ eS S 08 18 21.4 -0.2
ODZ Otahua Downs 18.72 205 eP P 08 15 09.4 -0.1
23nm,0.9s
ODZ eS S 08 18 28.2 -0.7
WKZ Wanaka 19.19 208 eP P 08 15 13.5 -1.0
38nm,0.6s
WKZ eS S 08 18 35.0 -3.1
LHI Lord Howe Isla 19.85 256 eP P 08 15 19.0 -2.6
121nm,0.8s
MLZ Mavora Lakes 20.00 209 eP P 08 15 23.4 +0.2
31nm,0.5s
WHZ Wether Hill Ro 20.49 208 eP Pn 08 15 31.1 -2.9
31nm,0.7s
DCZ Deep Cove 20.50 210 eP P 08 15 28.0 -0.4
26nm,1.1s
ARMA Armidale 26.24 258 P P 08 16 24.8 +3.2
baz=26,SNR=31
ARMA Armidale 26.24 258 eP P 08 16 25.1 +3.4
26nm,0.7s
KNTN Kanton 26.33 15 eP P 08 16 18.6 -3.8
50nm,0.9s
TBI Tubuai 26.39 85 eS S 08 20 35.3 -2.0
327nm,25.6s
TBI Tubuai 26.39 85 eT T 08 43 49.0
27nm,0.3s
MGCD Mangrove Creek 26.65 252 P P 08 16 28.9 +3.8
baz=27,SNR=45
EIDS Eidsvold 27.46 269 P P 08 16 33.6 +1.2
baz=28,SNR=18
EIDS Eidsvold 27.46 269 eP P 08 16 33.3 +0.9
37nm,0.8s
CNB Canberra Magne 28.21 248 P P 08 16 42.4 +3.3
baz=28,SNR=16
PAE Paea 28.45 74 eT T 08 46 31.5
11nm,0.3s
PPT2 Papeete2 28.48 74 eP P 08 16 40.0 -1.7
51nm,1.3s
PPT2 Papeete2 28.48 74 eT T 08 46 35.6
6.7nm,0.3s
PPT Papeete 28.49 74 P P 08 16 40.5 -1.1
20nm,0.6s,baz=252,slow=21,SNR=4.3
CAN Canberra 28.51 248 eP P 08 16 44.5 +2.8
21nm,0.8s
TVO Taravao 28.67 75 eP P 08 16 41.7 -1.6
9.3nm,0.6s
TVO Taravao 28.67 75 eT T 08 46 48.9
2.0nm,0.3s
TIAR Tiare 28.69 74 eP P 08 16 42.0 -1.5
16nm,0.8s
YNG Young 28.95 250 P P 08 16 48.7 +3.1
baz=29,SNR=4.8
RMQ Roma 29.26 266 P P 08 16 50.7 +2.3
baz=29,SNR=36
PMOR Pomariorio Ree 31.15 71 eP P 08 17 03.9 -1.1
114nm,1.3s
PMOR Pomariorio Ree 31.15 71 eT T 08 49 55.8
4.7nm,0.3s
MOO Moorlands 31.15 234 P P 08 17 08.9 +4.1
baz=32,SNR=3.6
TAU Tasmania Unive 31.18 233 eP P 08 17 07.3 +2.3
46nm,0.8s
TAU Tasmania Unive 31.18 233 eP P 08 17 07.4 +2.3
TAU pmax pmax
comp=Z,46nm,0.8s
VAH Vaihoa 31.25 72 eP P 08 17 04.2 -1.7
comp=Z,56nm,0.8s
VAH Vaihoa 31.25 72 eT T 08 50 04.3
comp=Z,36nm,0.2s
CMSA Cobar Meteorol 31.26 255 P P 08 17 07.8 +1.9
baz=32,SNR=49
TOO Toolangi 31.54 244 P P 08 17 10.9 +2.6
baz=32,SNR=32
TOO Toolangi 31.54 244 P P 08 17 11.2 +2.9
TOO pmax pmax
comp=Z,47nm,1.2s
QLP Quilpie 33.21 264 P P 08 17 23.7 +0.9
baz=33,SNR=38
CTA Charters Tower 33.30 277 P P 08 17 24.8 +1.1
CTA pmax pmax
comp=Z,84nm,0.7s
CTAO Charters Tower 33.30 277 eP P 08 17 24.2 +0.6
comp=Z,55nm,0.8s
CTAO Charters Tower 33.30 277 eP P 08 17 24.3 +0.6
CTAO pmax pmax
comp=Z,55nm,0.8s
ARPS Mount Arapiles 34.39 246 P P 08 17 35.5 +2.6
baz=35,SNR=26
STKA Stephens Creek 34.71 254 P P 08 17 37.1 +1.4
comp=Z,8.7nm,0.5s,baz=95,slow=11,SNR=28
STKA PcP PcP 08 20 05.2 +1.8
comp=Z,5.0nm,0.6s,baz=12,slow=4.8,SNR=2.7
STKA ScP ScP 08 23 26.2 +1.7
comp=Z,4.8nm,0.7s,baz=41,slow=2.6,SNR=4.7
STKA Stephens Creek 34.71 254 P P 08 17 37.2 +1.4
baz=35,SNR=20
STKA Stephens Creek 34.71 254 eP P 08 17 37.1 +1.4
comp=Z,5.5nm,1.1s
MTSU Mount Surprise 35.73 278 P P 08 17 45.6 +1.0
baz=36,SNR=44
HTT Hallett 36.84 251 P P 08 17 55.3 +1.5
baz=37,SNR=65
PMG Port Moresby 37.60 293 PcP PcP 08 20 13.1 +0.8
comp=Z,17nm,0.7s,baz=94,slow=4.0,SNR=4.3
COEN Coen 38.55 284 P P 08 18 08.2 0.0
baz=38,SNR=4.2
COEN Coen 38.55 284 eP P 08 18 08.6 +0.4
comp=Z,17nm,0.7s
QIS Mount Isa 38.96 272 P P 08 18 11.6 0.0
baz=39,SNR=17
BBOO Buckleboo 39.29 252 P P 08 18 14.7 +0.5
baz=40,SNR=7.9
BBOO Buckleboo 39.29 252 eP P 08 18 09.4 -4.7
KWAJ Kwajalein Atol 39.50 338 eP P 08 18 15.2 -0.7
comp=Z,105nm,0.9s
KWAJ Kwajalein Atol 39.50 338 eP P 08 18 15.2 -0.7
KWAJ pmax pmax
comp=Z,105nm,0.9s
AS01 Alice Springs 42.96 265 eP P 08 18 43.3 -0.7
AS31 Alice Springs 43.00 265 eP P 08 18 44.4 0.0
comp=Z,15nm,0.8s
ASAR Alice Springs 43.00 265 P P 08 18 44.4 0.0
comp=Z,41nm,0.7s,baz=94,slow=7.5,SNR=456
ASAR pP pP 08 19 42.0 +5.0
comp=Z,8.9nm,0.7s,baz=99,slow=8.3,SNR=2.0
ASAR PcP PcP 08 20 30.5 +0.7
comp=Z,6.5nm,0.7s,baz=106,slow=5.3,SNR=3.8
ASAR ScP ScP 08 23 57.9 +1.3
comp=Z,6.9nm,0.8s,baz=113,slow=4.2,SNR=8.9
ASAR S S 08 24 49.8 -0.8
comp=Z,2.4nm,0.8s,baz=100,slow=16,SNR=5.4
ASAR ScS ScS 08 28 20.1 +2.8
comp=Z,1.5nm,0.8s,baz=115,slow=6.0,SNR=5.8
WC3 Warramunga Arr 43.78 270 eP P 08 18 50.3 -0.3
comp=Z,102nm,0.5s
WB2 Warramunga Arr 43.80 270 eP P 08 18 49.8 -1.0
WRAB Tennant Creek 43.81 270 eP P 08 18 50.3 -0.5
comp=Z,84nm,0.8s
WRAB Tennant Creek 43.81 270 iP P 08 18 50.5 -0.3
WRAB pmax pmax
comp=Z,41nm,0.7s
WR1 Warramunga Arr 43.81 270 eP P 08 18 50.0 -0.9
comp=Z,122nm,0.8s
WRA Warramunga Arr 43.81 270 P P 08 18 50.0 -0.9
comp=Z,59nm,0.4s,baz=109,slow=6.2,SNR=746
WRA pP pP 08 19 46.7 +3.0
comp=Z,7.8nm,0.6s,baz=111,slow=6.8,SNR=2.0
WRA PcP PcP 08 20 32.9 +0.2
comp=Z,12nm,0.8s,baz=110,slow=3.4,SNR=7.3
WRA ScP ScP 08 24 00.5 +0.6
comp=Z,8.4nm,0.7s,baz=107,slow=4.1,SNR=13
WRA S S 08 24 58.8 -3.6
comp=Z,4.6nm,0.9s,baz=108,slow=14,SNR=6.0
WRA ScS ScS 08 28 21.9 -0.6
comp=Z,1.0nm,0.8s,baz=112,slow=4.9,SNR=4.3
FORT Forrest 46.33 253 P P 08 19 10.3 -0.1
baz=46,SNR=135
FORT Forrest 46.33 253 eP P 08 19 09.9 -0.5
comp=Z,238nm,0.6s
WRKA Warakurna 47.51 261 P P 08 19 19.4 -0.3
baz=48,SNR=140
KDU Kakadu 48.37 278 P P 08 19 25.0 -1.2
baz=48,SNR=32
MTN Manton Dam 49.47 278 P P 08 19 33.6 -1.0
baz=50,SNR=11
MTN Manton Dam 49.47 278 eP P 08 19 33.0 -1.7
comp=Z,30nm,1.0s
SBA Scott Base 49.92 184 eP P 08 19 43.0 +5.9
comp=Z,154nm,0.7s
SBA Scott Base 49.92 184 P P 08 19 43.2 +6.1
SBA pmax pmax
comp=Z,154nm,0.7s
VNDA Vanda 49.97 186 P P 08 19 42.4 +5.0
comp=Z,30nm,0.6s,baz=3.5,slow=7.7,SNR=237
VNDA Vanda 49.97 186 eP P 08 19 42.5 +5.0
comp=Z,57nm,0.9s
VNDA Vanda 49.97 186 eP P 08 19 42.5 +5.0
VNDA pmax pmax
comp=Z,57nm,0.9s
KNRA Kununurra 50.34 273 P P 08 19 41.0 -0.1
baz=50,SNR=31
FITZ Fitzroy Crossi 52.14 269 P P 08 19 54.4 -0.1
baz=52,SNR=109
FITZ Fitzroy Crossi 52.14 269 eP P 08 19 54.3 -0.1
comp=Z,43nm,0.6s
HMH Humu'ula Sheep 52.64 27 eP P 08 19 56.7 -1.6
comp=Z,100nm,0.7s
POHA Pohakuloa 52.76 27 eP P 08 19 57.6 -1.6
comp=Z,44nm,0.8s
HPAH Hawaii Prepara 52.94 27 eP P 08 19 58.8 -1.5
comp=Z,106nm,0.7s
KIP Kipapa 53.34 24 iP P 08 20 00.3 -2.7
FAKI Fak Fak 53.47 289 eP P 08 20 02.9 -1.2
comp=Z,23nm,0.8s
KLBR Kellerberrin 54.76 250 P P 08 20 13.0 -0.3
baz=55,SNR=14
MEEK Meekatharra 55.39 256 P P 08 20 17.3 -0.6
baz=56,SNR=19
BLDU Ballidu 55.87 251 P P 08 20 20.8 -0.5
baz=56,SNR=6.1
MUN Mundaring 55.93 249 P P 08 20 21.5 -0.1
baz=56,SNR=4.4
MBWA Marble Bar 56.21 263 eP P 08 20 23.2 -0.6
comp=Z,57nm,0.7s
CASY Casey 56.71 207 eP P 08 20 28.2 +1.7
comp=Z,118nm,0.6s
MORW Morawa 56.86 252 P P 08 20 27.8 -0.4
baz=57,SNR=7.6
SOEI Soe 56.86 277 eP P 08 20 28.8 +0.3
comp=Z,44nm,0.7s
GIRL Giralia 60.46 259 P P 08 20 54.1 +1.1
baz=61,SNR=16
QSPA South Pole Qui 61.61 180 eP P 08 21 04.0 +3.8
comp=Z,84nm,0.7s
JAGI Jajag, Banyuwa 66.31 273 eP P 08 21 30.1 -1.3
comp=Z,57nm,0.8s
KDM Kudat 71.69 289 P P 08 22 01.0 -3.3
XMIS Christmas Isla 72.89 267 eP P 08 22 12.3 +0.8
comp=Z,35nm,0.8s
JHJ2 Mitsune 73.03 324 eP P 08 22 11.0 -0.8
comp=Z,114nm,0.8s
SBUM Sibu 73.27 282 eP P 08 22 13.8 +0.1
comp=Z,14nm,0.9s
SBUM Sibu 73.27 282 P P 08 22 14.0 +0.3
MAW Mawson 74.01 200 P P 08 22 20.0 +3.0
baz=74,SNR=14
PMSA Palmer Station 74.10 156 P P 08 22 20.4 +2.8
comp=Z,26nm,0.6s,baz=220,slow=2.8,SNR=12
INU Inuyama 76.22 324 eP P 08 22 29.1 -0.9
comp=Z,10nm,0.8s
MJAR Matsushiro Arr 76.54 325 P P 08 22 30.0 -1.8
comp=Z,4.4nm,0.7s,baz=168,slow=5.8,SNR=21
MAJO Matsushiro 76.54 325 eP P 08 22 30.4 -1.4
comp=Z,16nm,0.9s
MAJO Matsushiro 76.54 325 iP P 08 22 29.7 -2.1
MAJO pmax pmax
comp=Z,12nm,0.9s
MAT Matsushiro 76.54 325 P P 08 22 30.0 -1.8
MJB9 Matsu-Tunnel 76.54 325 eP P 08 22 30.4 -1.4
comp=Z,15nm,0.9s
GO09 Cerro Castillo 77.45 142 eP P 08 22 39.4 +2.6
comp=Z,20nm,0.8s
YULB Yu-li 77.77 305 eP P 08 22 36.6 -2.3
comp=Z,9.8nm,1.1s
JNU Nakatsue 77.97 318 P P 08 22 38.2 -1.6
comp=Z,13nm,0.6s,baz=221,slow=1.9,SNR=14
JNU Nakatsue 77.97 318 eP P 08 22 38.2 -1.6
comp=Z,19nm,0.8s
MNAI Manna 78.06 272 eP P 08 22 38.9 -1.9
comp=Z,104nm,0.7s
SSLB Suanglung 78.26 305 eP P 08 22 39.5 -2.2
comp=Z,28nm,1.1s
SYO Syowa Base 78.92 193 ||iP P 08 22 46.2 +1.8
SYO Syowa Base 78.92 193 ||iPcP PcP 08 22 54.2 +2.1
CHRN Cochrane 79.33 138 eP P 08 22 48.6 +1.5
comp=Z,7.1nm,0.7s
ADK Adak 80.04 1 eP P 08 22 48.9 -1.6
comp=Z,25nm,0.6s
ADK Adak 80.04 1 eP P 08 22 48.9 -1.6
ADK pmax pmax
comp=Z,25nm,0.6s
SNAA Sanae 80.06 179 P P 08 22 52.9 +2.1
SNAA Sanae 80.06 179 P P 08 22 52.8 +2.1
comp=Z,28nm,0.9s,baz=206,slow=7.3,SNR=73
SNAA Sanae 80.06 179 eP P 08 22 53.1 +2.4
comp=Z,36nm,0.9s
SNAA Sanae 80.06 179 iP P 08 22 52.3 +1.6
MYKOM Kota Tinggi 80.20 277 eP P 08 22 51.3 -1.1
comp=Z,101nm,0.8s
H06S1 SOCORRO T 80.20 63 T T 09 50 43.6
SNR=6.5
VNA3 Neumayer Olymp 80.22 176 P P 08 22 53.5 +2.0
ASAJ Asahikawa 80.64 333 eP P 08 22 52.9 -1.0
comp=Z,24nm,1.0s
VNA2 Neumayer--Watz 80.65 177 P P 08 22 56.2 +2.5
baz=183,slow=4.6
NVL N'lazarevskaya 80.76 183 ||iP P 08 22 57.6 +3.3
NVL eS S 08 32 45.0 +4.8
NVL pmax pmax
comp=Z,24nm,1.0s
VNA1 Neumayer--Stat 80.89 177 P P 08 22 57.4 +2.4
BKNI Bangkinang 81.96 275 eP P 08 23 00.8 -0.8
comp=Z,137nm,0.7s
UNV Unalaska Valle 82.63 7 eP P 08 23 02.5 -1.5
KSRS Korea Array 82.74 320 P P 08 23 04.5 -0.4
comp=Z,3.2nm,0.7s,baz=136,slow=5.3,SNR=13
KSRS pP pP 08 24 08.3 +3.1
comp=Z,3.0nm,0.7s,baz=134,slow=5.7,SNR=4.4
KS15 Wonju Array Si 82.75 320 eP P 08 23 04.5 -0.6
KS01 Wonju Array Si 82.77 320 eP P 08 23 04.2 -1.0
YSS Yuzh-Sakhalins 82.93 334 iP P 08 23 03.9 -1.8
YSS pmax pmax
comp=Z,35nm,1.0s
SLBS Sierra La Lagu 83.78 59 eP P 08 23 10.3 -0.5
comp=Z,8.2nm,1.0s
PEA0B Petropavlovsk- 83.91 346 eP P 08 23 09.2 -1.4
comp=Z,29nm,1.1s
PETK Petropavlovsk- 83.91 346 P P 08 23 09.2 -1.4
comp=Z,6.7nm,0.6s,baz=121,slow=8.3,SNR=16
PETK pP pP 08 24 12.7 +1.7
comp=Z,12nm,0.8s,baz=130,slow=6.5,SNR=5.7
PETK Petropavlovsk- 83.91 346 eP P 08 23 09.5 -1.1
PETK Petropavlovsk- 83.91 346 eP P 08 23 09.5 -1.1
PEA1 Petropavlovsk- 83.91 346 eP P 08 23 09.2 -1.4
SMMC Simmler 83.95 44 P P 08 23 11.2 -0.1
baz=229
IPM Ipoh 83.97 278 eP P 08 23 09.1 -2.8
comp=Z,72nm,0.9s
PLCA Paso Flores 83.99 133 P P 08 23 14.1 +2.4
comp=Z,16nm,1.0s,baz=259,slow=5.5,SNR=32
PLCA pP pP 08 24 15.5 +3.5
comp=Z,4.7nm,0.9s,baz=247,slow=8.1,SNR=2.9
PLCA Paso Flores 83.99 133 eP P 08 23 13.9 +2.2
comp=Z,28nm,1.1s
PLCA Paso Flores 83.99 133 eP P 08 23 13.9 +2.2

PLCA pmax pmax
comp=Z,28nm,1.1s
GO06 Curarrehue 84.00 132 *e*P **P 08 23 14.1 +2.3**
comp=Z,16nm,0.9s
PAGB Antelope Grade 84.07 44 *e*P **P 08 23 08.7 -3.2**
comp=Z,3.3nm,0.7s
SRIG Santa Rosalia 84.18 55 *e*P **P 08 23 12.3 -0.2**
comp=Z,13nm,1.0s
109C Camp Elliot, M 84.22 48 P **P 08 23 12.3 -0.4**
baz=231
CPE Camp Elliot 84.22 48 *e*P **P 08 23 13.0 +0.4**
comp=Z,8.5nm,1.0s
OSI Osito Audit: C 84.29 46 P **P 08 23 12.8 -0.3**
baz=230
DECC Green Verdugo 84.30 46 P **P 08 23 12.1 -1.0**
baz=230
PASC Pasadena Art C 84.34 46 *e*P **P 08 23 12.1 -1.2**
comp=Z,13nm,0.7s
BAR Barrett 84.38 48 *e*P **P 08 23 13.9 +0.4**
comp=Z,3.7nm,0.9s
ARVC Arvin 84.55 45 P **P 08 23 13.6 -0.6**
baz=230
MURC Murrieta 84.61 47 P **P 08 23 14.2 -0.5**
baz=231,SNR=7.5
MSHR Mys Shultsa 84.66 325 *i* P **P 08 23 12.8 -1.8**
MONP2 Monument Peak 84.67 48 P **P 08 23 14.9 -0.3**
baz=231,SNR=22
KULM Kulim 84.69 279 *e*P **P 08 23 15.4 -0.1**
comp=Z,69nm,1.1s
BFSC Mount Baldy Ra 84.72 46 P **P 08 23 15.1 -0.2**
baz=230,SNR=6.9
IKP In-Ko-Pah, Jac 84.73 49 P **P 08 23 15.2 -0.1**
baz=231,SNR=12
NJ2 Nanjing 84.82 311 *e*P **P 08 23 16.5 +0.9**
NJ2 pmax pmax
comp=Z,21nm,0.8s
VES Vestal, Richgr 84.86 44 P **P 08 23 15.5 -0.2**
baz=229
EDW2 Edwards Air Fo 84.92 46 P **P 08 23 16.1 -0.1**
baz=230,SNR=7.9
FRD Ford Ranch, An 84.93 48 P **P 08 23 16.1 -0.2**
baz=231,SNR=17
PSI Prapat 85.00 276 *e*P **P 08 23 14.8 -2.4**
comp=Z,84nm,1.0s
PSI Prapat 85.00 276 *e*P **P 08 23 14.8 -2.4**
PSI pmax pmax
comp=Z,84nm,1.0s
PFO Pinyon Flats O 85.10 48 *e*P **P 08 23 17.2 +0.1**
comp=Z,6.7nm,0.8s
PFO Pinyon Flats O 85.10 48 P **P 08 23 16.8 -0.3**
baz=231,SNR=6.3
XPFO Piæon Flat 85.10 48 *e*P **P 08 23 17.2 0.0**
comp=Z,6.7nm,0.8s
SWSC Sam W. Stewart 85.11 48 P **P 08 23 16.7 -0.4**
baz=232,SNR=7.3
ISA Isabella, Lake 85.12 45 *e*P **P 08 23 17.1 -0.1**
comp=Z,9.2nm,0.8s
ISA Isabella, Lake 85.12 45 *e*P **P 08 23 17.1 -0.1**
ISA pmax pmax
comp=Z,9.0nm,0.8s
ISA Isabella, Lake 85.12 45 P **P 08 23 16.8 -0.4**
baz=230,SNR=9.4
BBRC Big Bear Solar 85.21 47 P **P 08 23 17.8 0.0**
baz=231
USA0B Uesuriysk Arra 85.44 327 *e*P **P 08 23 18.1 -0.3**
comp=Z,17nm,0.9s
USRK Uesuriysk Ar. 85.44 327 P **P 08 23 17.8 -0.6**
comp=Z,15nm,1.0s,baz=133,slow=3.8,SNR=15
GSI Gunungsitoli 85.47 274 *e*P **P 08 23 20.0 +0.7**
comp=Z,190nm,0.7s
LRMC Laurel Mtn Rad 85.50 45 P **P 08 23 18.8 -0.4**
baz=230
CMB Columbia Colle 85.51 42 *e*P **P 08 23 19.1 +0.1**
comp=Z,19nm,1.1s
CMB Columbia Colle 85.51 42 *e*P **P 08 23 19.1 +0.1**
CMB pmax pmax
comp=Z,19nm,1.1s
RRX Edison Barstow 85.55 46 P **P 08 23 19.0 -0.2**
baz=231
O02D Mt. Diablo Mer 85.58 39 P **P 08 23 19.6 +0.3**
baz=227,SNR=6.4
BELC Belle Mtn. Jos 85.64 48 P **P 08 23 19.9 +0.1**
baz=231,SNR=16
AFDM Forest Hills D 85.78 41 *e*P **P 08 23 20.6 +0.3**
comp=Z,3.8nm,0.9s
BC3 Big Chuckawall 85.78 48 P **P 08 23 20.6 0.0**
baz=232,SNR=12
GLA Glamis 85.82 49 *e*P **P 08 23 21.3 +0.7**
comp=Z,35nm,1.1s
GLA Glamis 85.82 49 P **P 08 23 21.1 +0.4**
baz=232,SNR=5.3
CWC Cottonwood Cre 85.86 45 P **P 08 23 20.4 -0.5**
baz=230
ORV Oroville 85.88 40 *e*P **P 08 23 21.0 +0.3**
comp=Z,2.0nm,0.9s
ORV Oroville 85.88 40 *e*P **P 08 23 21.0 +0.3**
ORV pmax pmax
comp=Z,2.0nm,0.9s
GSC Goldstone, Bar 85.94 46 *e*P **P 08 23 21.8 +0.6**
comp=Z,5.8nm,0.8s
GSC *e*pP **pP 08 24 21.4 -0.5**
GSC Goldstone, Bar 85.94 46 P **P 08 23 21.3 0.0**
baz=231,SNR=8.9
HEC Hector,Ludlow 85.94 47 P **P 08 23 21.0 -0.3**
baz=231,SNR=9.6
MPMC Manual Prospec 85.99 45 P **P 08 23 21.6 0.0**
baz=230,SNR=9.1
WDC Whiskeytown Da 85.99 39 *e*P **P 08 23 21.6 +0.4**
comp=Z,9.4nm,1.1s
WDC Whiskeytown Da 85.99 39 *e*P **P 08 23 21.6 +0.4**
WDC pmax pmax
comp=Z,9.0nm,1.1s
DAC Darwin (Calif) 86.06 45 *e*P **P 08 23 22.1 +0.1**
comp=Z,2.3nm,0.8s
DAC *e*pP **pP 08 24 24.5 +1.9**
DAC Darwin (Calif) 86.06 45 *e*P **P 08 23 22.1 +0.1**
DAC *e**PP **pP 08 24 24.5 +1.9**
DAC pmax pmax
comp=Z,2.0nm,0.8s
HSIG 86.09 54 *e*P **P 08 23 21.9 -0.1**
comp=Z,13nm,0.9s
GO05 HualaaeØ 86.12 128 *e*P **P 08 23 23.9 +1.6**
comp=Z,30nm,1.0s
CHGN Chignik 86.13 11 *e*P **P 08 23 21.9 +0.5**
comp=Z,64nm,1.2s
TIN Tinemaha, Big 86.17 44 P **P 08 23 22.2 -0.1**
baz=230
N02D Trinity Center 86.17 39 P **P 08 23 22.1 -0.1**
baz=227
MLAC Mammoth, Mammo 86.17 43 P **P 08 23 22.0 -0.5**
baz=229
O03E Paynes Creek 86.21 40 P **P 08 23 21.8 -0.6**
baz=227
IRM Iron Mountain 86.29 48 P **P 08 23 22.8 -0.2**
baz=232,SNR=24
GMRC Granite Mounta 86.35 47 P **P 08 23 23.3 0.0**
baz=232,SNR=8.8
113A Mohawk Valley, 86.36 50 *e*P **P 08 23 24.1 +0.9**
comp=Z,3.8nm,0.8s
M02C Callahan 86.37 38 P **P 08 23 23.1 -0.1**
baz=227
WAKR Walker 86.38 42 *e*P **P 08 23 23.8 +0.3**
comp=Z,15nm,1.1s
Y12C Blythe 86.45 48 *e*P **P 08 23 24.5 +0.9**
comp=Z,18nm,1.0s
Y12C Blythe 86.45 48 P **P 08 23 24.0 +0.4**
baz=232,SNR=6.7
L02E Cave Junction 86.50 37 P **P 08 23 23.5 -0.1**
baz=226
214A Organ Pipe Nat 86.52 51 P **P 08 23 24.3 +0.2**
baz=233
TUQ Turquoise Moun 86.58 46 P **P 08 23 24.1 -0.3**
baz=231,SNR=5.2
FURC Furnace Creek, 86.64 45 P **P 08 23 24.5 0.0**
baz=231
SHOC Shoshone, Teco 86.65 46 P **P 08 23 24.6 0.0**
baz=231
GRAC Grapevine Rang 86.66 44 P **P 08 23 24.7 +0.1**
baz=230,SNR=7.4
PNTR Pine Nut 86.67 42 *e*P **P 08 23 24.2 -0.6**
comp=Z,12nm,0.8s
BEKR Beckworth 86.74 41 *e*P **P 08 23 25.0 -0.1**
comp=Z,3.7nm,0.8s
TRTT Trang 86.75 281 P **P 08 23 26.3 +0.8**
YERR Yerington 86.81 42 *e*P **P 08 23 25.4 -0.2**
comp=Z,6.0nm,0.7s
LDFC Landfair 86.88 47 *e*P **P 08 23 26.4 +0.5**
comp=Z,44nm,0.9s
LDFC *e*pP **pP 08 24 27.1 +0.5**
MDJ Mudanjiang 86.92 326 *e*P **P 08 23 25.5 -0.1**
comp=Z,14nm,1.0s
WHN Wuhan 87.00 307 ⇓P **P 08 23 26.5 +0.2**
RYN Ryan 87.00 43 *e*P **P 08 23 26.3 -0.1**
comp=Z,5.8nm,0.8s
NV01 Mina Array Sit 87.01 43 *e*P **P 08 23 25.1 -1.4**
NVAR Mina Array Bea 87.01 43 P **P 08 23 25.8 -0.7**
comp=Z,8.1nm,0.7s,baz=221,slow=8.4,SNR=46
NVAR pP **pP 08 24 25.5 -1.8**
comp=Z,5.9nm,0.8s,baz=215,slow=7.3,SNR=8.5
NVAR PKKPbc **PKKPbc 08 41 20.4 +1.4**
comp=Z,1.3nm,0.8s,baz=142,slow=2.8,SNR=5.9
NVAR PKPPKP **P'P'df 08 49 26.1 +2.4**
comp=Z,1.8nm,1.0s,baz=66,slow=2.0,SNR=4.0
NEE2 Needles Airpor 87.01 48 P **P 08 23 26.4 +0.1**
baz=232
J01E Myrtle Point 87.02 37 P **P 08 23 26.4 +0.3**
baz=226
PDMCI Parker Dam,Lak 87.04 48 P **P 08 23 26.3 -0.1**
baz=232,SNR=7.1
NV11 Mina Array Sit 87.10 43 *e*P **P 08 23 26.7 -0.1**
comp=Z,0.6nm,0.8s
HUMO Hull Mountain 87.15 37 *e*P **P 08 23 28.1 +1.3**
comp=Z,5.8nm,1.1s
L04D Klamath Falls 87.24 38 P **P 08 23 27.0 -0.4**
baz=227
TPNV Topopah Spring 87.32 45 *e*P **P 08 23 27.7 -0.3**
comp=Z,6.3nm,0.8s
TPNV *e*pP **pP 08 24 28.6 -0.2**
TPNV Topopah Spring 87.32 45 *e*P **P 08 23 27.7 -0.3**
TPNV *e**PP **pP 08 24 28.6 -0.2**
TPNV pmax pmax
comp=Z,6.0nm,0.8s
TPNV Topopah Spring 87.32 45 P **P 08 23 27.4 -0.6**
baz=231,SNR=6.3
KRAB Krabi 87.37 281 P **P 08 23 29.4 +0.9**
KVN Kaiserville 87.53 43 *e*P **P 08 23 28.6 -0.3**
comp=Z,0.0nm,0.7s
KVN Kaiserville 87.53 43 *e*P **P 08 23 28.6 -0.3**
KVN pmax pmax
comp=Z,8.0nm,0.7s
Y14A Wickenburg 87.57 49 *e*P **P 08 23 29.1 +0.1**
comp=Z,18nm,0.8s
SKNT Sakolnakorn 87.64 291 P **P 08 23 30.5 +0.8**
W13A Hualapai Mount 87.69 48 *e*P **P 08 23 29.8 0.0**
comp=Z,12nm,1.1s
SHPR Sheep Range 87.73 46 *e*P **P 08 23 30.7 +0.8**
comp=Z,3.7nm,1.1s
SHPR *e*pP **pP 08 24 30.4 -0.5**
SRAK Srakaew 87.77 287 P **P 08 23 29.4 -0.9**
PEL Peldehue 88.00 127 *e*P **P 08 23 33.4 +2.0**
comp=Z,39nm,0.9s
PEL Peldehue 88.00 127 P **P 08 23 33.3 +2.0**
PEL pmax pmax
comp=Z,390nm,0.9s
TUC Tucson 88.11 52 *e*P **P 08 23 32.6 +0.9**
comp=Z,22nm,1.0s
TUC Tucson 88.11 52 *e*P **P 08 23 32.6 +0.9**
TUC pmax pmax
comp=Z,22nm,1.0s
TUC Tucson 88.11 52 P **P 08 23 31.3 -0.4**
baz=234
PATY Pattaya 88.23 286 P **P 08 23 34.7 +2.2**
CN2 Changchun 88.48 323 *e*P **P 08 23 32.3 -0.7**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
TIA Tai'an 88.49 313 P **P 08 23 33.3 0.0**
TIA pmax pmax
comp=Z,25nm,0.9s
J05D Fort Rock, OR 88.54 38 P **P 08 23 33.6 +0.1**
baz=228
H04D Lebanon 88.59 36 P **P 08 23 33.4 -0.1**
baz=227
R11A Troy Canyon, C 88.61 44 *e*P **P 08 23 34.0 0.0**
comp=Z,0.4nm,0.7s
R11A Troy Canyon, C 88.61 44 P **P 08 23 33.8 -0.2**
baz=232
319A Douglas 88.63 53 *e*P **P 08 23 32.5 -1.7**
comp=Z,26nm,1.0s
CHAI Chaiyaphum 88.75 289 P **P 08 23 35.7 +0.8**
G03D McMinnville, O 88.79 35 P **P 08 23 33.8 -0.7**
baz=226
HPIG 88.80 58 *e*P **P 08 23 34.4 -0.8**
comp=Z,9.0nm,0.8s
NONG Nongkai 88.88 291 P **P 08 23 36.4 +0.9**
X16A Lo Mia Camp, P 88.90 49 *e*P **P 08 23 35.8 +0.3**
comp=Z,21nm,0.9s
BMN Battle Mountai 88.93 42 *e*P **P 08 23 35.4 -0.1**
comp=Z,4.0nm,0.9s
BMN Battle Mountai 88.93 42 *e*P **P 08 23 35.4 -0.1**
BMN pmax pmax
comp=Z,4.0nm,0.9s
ZAIG Zacatecas 88.97 63 *e*P **P 08 23 36.2 0.0**
comp=Z,11nm,1.1s
I05D Terrebonne, OR 89.19 37 P **P 08 23 36.0 -0.4**
baz=228
LCMT Little Creek M 89.26 47 *e*P **P 08 23 37.2 +0.2**
comp=Z,5.2nm,1.1s
KLR Kul'dur 89.27 330 P **P 08 23 36.2 -0.3**
comp=Z,5.7nm,0.8s,baz=120,slow=1.0,SNR=10
KLR Kul'dur 89.27 330 *i* P **P 08 23 36.1 -0.5**
PHET Kaeng Krachan 89.27 285 P **P 08 23 39.6 +2.2**
WVOR Wild Horse Val 89.41 40 *e*P **P 08 23 37.5 0.0**
comp=Z,5.5nm,0.9s
WVOR Wild Horse Val 89.41 40 *e*P **P 08 23 37.5 0.0**
WVOR pmax pmax
comp=Z,6.0nm,0.9s
CCUT Cedar City 89.51 46 *e*P **P 08 23 39.2 +0.9**
comp=Z,5.5nm,0.9s
CCUT *e*pP **pP 08 24 39.2 -0.2**
F04D Rainier, OR 89.52 35 P **P 08 23 37.5 -0.3**
baz=226
GO04 Tololo Observa 89.52 124 *e*P **P 08 23 39.8 +1.0**
comp=Z,16nm,0.9s
U15A North Rim 89.52 47 *e*P **P 08 23 38.7 +0.2**
comp=Z,18nm,0.7s
KNB Kanab 89.53 47 *e*P **P 08 23 38.9 +0.5**
comp=Z,7.7nm,0.7s
KNB Kanab 89.53 47 P **P 08 23 38.7 +0.3**
KNB pmax pmax
comp=Z,8.0nm,0.7s
TLIG Tlapa 89.56 70 *e*P **P 08 23 40.2 +1.3**
comp=Z,3.2nm,0.8s
WUAZ Wupatki 89.59 49 *e*P **P 08 23 39.2 +0.6**
comp=Z,15nm,1.0s
WUAZ Wupatki 89.59 49 P **P 08 23 38.4 -0.3**
baz=234
SZCU Shurtz Canyon 89.71 46 *e*P **P 08 23 40.2 +1.0**
comp=Z,6.3nm,1.2s
SZCU *e*pP **pP 08 24 41.6 +1.2**
PSUT Pine Spring 89.79 45 *e*P **P 08 23 39.7 +0.1**
comp=Z,4.7nm,0.7s
G05D Wamic, OR 89.82 36 P **P 08 23 39.0 -0.3**
baz=228
PBKT Sadao Pong 89.93 289 *e*P **P 08 23 42.1 +1.7**
comp=Z,5.3nm,0.7s
PBKT Sadao Pong 89.93 289 P **P 08 23 42.2 +1.8**
X18A Snowflake 89.97 50 *e*P **P 08 23 40.9 +0.4**
comp=Z,16nm,1.0s
I07A Izee 90.01 38 *e*P **P 08 23 40.5 +0.2**
comp=Z,6.0nm,1.1s
E04D Cinebar 90.07 35 P **P 08 23 40.4 +0.1**
baz=227
J08A Circle Bar Ran 90.10 39 *e*P **P 08 23 41.5 +0.7**
comp=Z,1.4nm,0.6s
PKCU Pink Cliffs 90.11 47 *e*P **P 08 23 42.9 +1.7**
comp=Z,22nm,1.0s
PKCU *e*pP **pP 08 24 42.7 +0.3**
ENH Enshi 90.32 305 *e*P **P 08 23 42.5 +0.5**
comp=Z,36nm,1.1s
121A Cookes Peak, D 90.33 53 P **P 08 23 41.4 -0.7**
baz=236
D04E Lakebay 90.40 34 P **P 08 23 41.6 -0.2**
baz=226
SRDT SRDT 90.40 286 P **P 08 23 45.2 +2.6**
W18A Petrified Fore 90.45 50 P **P 08 23 42.6 -0.1**
baz=235
D03D Eldon 90.49 34 P **P 08 23 42.3 +0.1**
baz=226
MTPU Mount Pierson 90.55 46 *e*P **P 08 23 43.8 +0.5**
comp=Z,14nm,0.9s
MTPU *e*pP **pP 08 24 45.0 +0.6**
UTHA Uthaitani 90.71 287 P **P 08 23 46.3 +2.2**
D05A Enumclaw 90.79 35 *e*P **P 08 23 44.0 +0.3**
comp=Z,14nm,1.0s
D05A *e*pP **pP 08 24 44.4 -0.4**
MSU Marysvale 90.83 46 *e*P **P 08 23 44.9 +0.5**
MSU Marysvale 90.83 46 *e*P **P 08 23 44.9 +0.5**
G08A Pilot Rock 91.09 37 *e*P **P 08 23 45.3 0.0**
comp=Z,23nm,1.1s
G08A *e*pP **pP 08 24 44.9 -1.6**
NANT Nan 91.25 291 P **P 08 23 48.9 +2.4**
BJI Beijing 91.39 316 *e*P **P 08 23 46.5 -0.1**
BJI S **S 08 34 24.5 +1.0**
BJI pmax pmax
comp=Z,12nm,0.9s
E07A Sunnyside 91.45 36 *e*P **P 08 23 47.2 +0.4**
comp=Z,13nm,1.1s
E07A *e*pP **pP 08 24 46.8 -1.3**
B05A Bryant 91.47 34 P **P 08 23 46.4 -0.4**
baz=227
SUKH Sukhothai 91.49 289 P **P 08 23 50.3 +2.7**
HAWA Hanford 91.51 36 *e*P **P 08 23 47.5 +0.4**
comp=Z,5.0nm,0.8s
HAWA *e*pP **pP 08 24 48.0 -0.3**
TX31 Lajitas Ar. Si 91.57 57 *e*P **P 08 23 47.9 0.0**
LTX Lajitas 91.57 57 *e*P **P 08 23 47.9 +0.1**
TXAR Lajitas Array 91.57 57 P **P 08 23 47.9 +0.1**
comp=Z,2.7nm,0.8s,baz=205,slow=6.9,SNR=29
TXAR pP **pP 08 24 48.0 -1.0**
comp=Z,4.1nm,0.8s,baz=214,slow=6.8,SNR=8.2
TXAR PKKPbc **PKKPbc 08 41 08.2 +1.3**
comp=Z,0.7nm,0.6s,baz=105,slow=3.9,SNR=8.8
MNTX Cornudas Mount 91.57 55 *e*P **P 08 23 47.7 0.0**
comp=Z,8.9nm,0.8s
MNTX Cornudas Mount 91.57 55 P **P 08 23 47.4 -0.3**
baz=237
BMO Blue Mountains 91.70 38 *e*P **P 08 23 47.6 -0.5**
comp=Z,4.1nm,0.8s
BMO *e*pP **pP 08 24 48.5 -0.8**
BMO Blue Mountains 91.70 38 *e*P **P 08 23 47.6 -0.5**
BMO *e**PP **pP 08 24 48.5 -0.8**
BMO pmax pmax
comp=Z,4.0nm,0.8s
Q16A Castle Valley 91.71 46 *e*P **P 08 23 49.0 +0.6**
comp=Z,5.5nm,0.8s
NLU North Lily Min 91.75 45 *e*P **P 08 23 49.0 +0.4**
comp=Z,6.8nm,1.1s
NLU *e*pP **pP 08 24 52.3 +2.5**
Y22D IRIS PASSCAL I 91.78 52 P **P 08 23 48.8 0.0**
baz=236
LENM Lemitar 91.80 52 *e*P **P 08 23 49.5 +0.5**
LAZ Ladron 91.81 52 *e*P **P 08 23 49.9 +0.9**
E08A Dider Farm, El 91.83 36 *e*P **P 08 23 48.9 +0.4**
comp=Z,1.9nm,0.7s
E08A *e*pP **pP 08 24 49.8 +0.1**
TMUT Trail Mountain 91.90 46 *e*P **P 08 23 49.7 +0.2**
comp=Z,17nm,0.7s
TMUT *e*pP **pP 08 24 50.7 0.0**
LAMP Lampang 92.00 290 P **P 08 23 52.5 +2.5**
BNM Barren Site 92.03 52 *e*P **P 08 23 50.7 +0.6**
MPU Maple Canyon 92.06 45 *e*P **P 08 23 50.2 +0.2**
comp=Z,7.1nm,0.9s
SRU San Rafael Swe 92.23 46 *e*P **P 08 23 50.5 -0.3**
comp=Z,10nm,0.9s
SRU San Rafael Swe 92.23 46 *e*P **P 08 23 50.5 -0.3**
SRU pmax pmax
comp=Z,11nm,0.9s
D08A Wollman Farm, 92.27 36 *e*P **P 08 23 50.7 +0.2**
comp=Z,7.3nm,0.8s
D08A *e*pP **pP 08 24 50.6 -1.1**
E09A Wood Farm, Sta 92.32 37 *e*P **P 08 23 50.6 -0.2**
comp=Z,5.2nm,0.8s
E09A *e*pP **pP 08 24 50.0 -2.0**
SPUT South Promonto 92.32 43 *e*P **P 08 23 51.3 +0.1**
comp=Z,15nm,1.0s
CTU Camp Tracy 92.39 44 *e*P **P 08 23 51.6 +0.1**
comp=Z,9.3nm,1.1s
HVU Hansel Valley 92.41 43 *e*P **P 08 23 51.2 -0.3**
comp=Z,12nm,0.7s
HVU Hansel Valley 92.41 43 *e*P **P 08 23 51.2 -0.3**
HVU pmax pmax
comp=Z,12nm,0.7s
MVCO Mesa Verde 92.46 49 P **P 08 23 51.4 -0.6**
baz=236
F10A Beach Ranch, E 92.46 38 *e*P **P 08 23 50.7 -0.9**
comp=Z,8.3nm,1.0s
F10A *e*pP **pP 08 24 50.4 -2.5**
LNIG Linares 92.50 63 *e*P **P 08 23 51.8 -0.3**
comp=Z,4.6nm,0.9s
CM01 Chiang Mai Arr 92.51 289 *e*P **P 08 23 51.0 -1.3**
JLU Jordanelle 92.52 44 *e*P **P 08 23 52.2 0.0**
comp=Z,4.9nm,0.9s
JLU *e*pP **pP 08 24 56.5 +3.1**
HLID Hailey 92.52 41 *e*P **P 08 23 51.5 -0.5**
comp=Z,6.5nm,1.0s
HLID Hailey 92.52 41 P **P 08 23 51.5 -0.5**
baz=232
CMAR Chiang Mai Arr 92.54 290 P **P 08 23 53.1 +0.6**
comp=Z,3.7nm,0.6s,baz=138,slow=3.5,SNR=16
CMAR PKKPbc **PKKPbc 08 41 05.3 +1.6**
comp=Z,0.5nm,0.4s,baz=297,slow=5.7,SNR=4.1
ANMO Albuquerque 92.58 51 *e*P **P 08 23 52.8 +0.2**
comp=Z,2.6nm,0.9s
ANMO Albuquerque 92.58 51 *e*P **P 08 23 52.8 +0.2**
ANMO pmax pmax
comp=Z,3.0nm,0.9s
ANMO Albuquerque 92.58 51 P **P 08 23 52.3 -0.3**
baz=237
CMMT Chiang Mai 92.70 290 P **P 08 23 55.3 +2.0**
CHTO Chiang Mai 92.71 290 *e*P **P 08 23 54.5 +1.2**
comp=Z,6.1nm,0.6s
CHTO Chiang Mai 92.71 290 P **P 08 23 55.5 +2.2**
comp=Z,42nm,1.0s
PV17 East Wray Mesa 92.76 47 *e*P **P 08 23 53.6 +0.3**
comp=Z,3.1nm,0.9s
PV17 *e*pP **pP 08 24 56.7 +2.2**
XAN Xi'an 92.76 307 P **P 08 23 53.5 +0.3**
XAN pP pP 08 24 43.8 -11
XAN pmax pmax
comp=Z,8.0nm,1.0s
PV14 Lion Creek, Pa 92.77 47 *e*P **P 08 23 53.1 -0.3**
comp=Z,7.9nm,1.1s
PV13 Radium Mtn., P 92.78 48 *e*P **P 08 23 53.2 -0.2**
comp=Z,3.7nm,1.0s
PV13 *e*pP **pP 08 24 56.4 +1.7**
PV03 Paradox Valley 92.81 48 *e*P **P 08 23 53.0 -0.6**
PV03 *e*pP **pP 08 24 56.4 +1.6**
PV11 David Mesa, Pa 92.82 48 *e*pP pP 08 24 57.1 +2.3
PV02 Paradox Valley 92.86 48 *e*P **P 08 23 53.6 -0.2**
comp=Z,5.8nm,1.0s
PV02 *e*pP **pP 08 24 57.1 +2.0**
PV12 Saucer Basin, 92.88 48 *e*P **P 08 23 53.7 -0.2**
comp=Z,12nm,1.2s
PV12 *e*pP **pP 08 24 56.5 +1.4**
PV01 Paradox Valley 92.93 48 *e*P **P 08 23 53.6 -0.5**
PV01 *e*pP **pP 08 24 54.5 -0.8**
HWUT Hardware Ranch 93.03 44 *e*P **P 08 23 53.9 -0.6**
comp=Z,3.0nm,0.7s
C09A Chrisman Ranch 93.08 36 *e*pP pP 08 24 57.6 +2.0
S22A 4UR Ranch, Cre 93.86 49 *e*P **P 08 23 59.0 +0.5**
comp=Z,3.6nm,1.0s
S22A *e*pP **pP 08 24 59.0 -0.7**
S22A 4UR Ranch, Cre 93.86 49 P **P 08 23 58.1 -0.4**
baz=237
NEW Newport 93.97 36 P **P 08 23 58.0 -0.4**
baz=231
AHID Auburn Hatcher 93.99 43 *e*P **P 08 23 58.3 -0.5**
comp=Z,10nm,0.8s
SEY Seymchan 94.07 347 *i* P **P 08 23 55.9 -2.5**
MCMT McKenzie Canyo 94.18 40 *e*P **P 08 23 59.5 -0.3**
MCMT *e*pP **pP 08 25 00.2 -0.8**
O20A White River Ci 94.26 46 P **P 08 23 59.5 -0.6**
baz=236
833A Chaparral WMA, 94.27 60 P **P 08 23 59.5 -0.7**
baz=240
TRF Thorofare Moun 94.28 12 *e*P **P 08 23 58.0 -1.6**
comp=Z,8.8nm,0.7s
REDW Red Top Meadow 94.49 42 *e*P **P 08 24 01.0 -0.2**
comp=Z,6.6nm,0.9s
REDW *e*pP **pP 08 25 01.8 -0.7**
TPAW Teton Pass 94.50 42 *e*P **P 08 24 01.4 +0.2**
comp=Z,3.7nm,0.8s
FXWY Fox Creek 94.54 42 *e*P **P 08 24 02.2 +0.8**
comp=Z,4.3nm,0.8s
FXWY *e*pP **pP 08 25 02.8 +0.1**
SMCO Snowmass 94.55 48 *e*P **P 08 24 02.2 +0.5**
comp=Z,2.1nm,0.9s
SMCO *e*pP **pP 08 25 02.3 -0.7**
SNOW Snow King Moun 94.60 42 *e*P **P 08 24 01.9 +0.2**

comp=Z,9.3nm,0.8s
SNOW ePP pP 08 25 02.5 -0.5
MSTX Muleshoe 94.64 54 eP P 08 24 02.0 0.0
comp=Z,8.1nm,0.8s
MSTX Muleshoe 94.64 54 P P 08 24 00.7 -1.2
baz=239
DLMT Dillon 94.65 40 epP pP 08 25 02.6 -0.4
HHC Hu-ho-hao-te 94.73 314 eP P 08 24 03.8 +1.6
HHC pmax pmax
comp=Z,13nm,1.0s
HHC pmax pmax
comp=Z,210nm,5.4s
SDCO Great Sand Dun 94.74 49 P P 08 24 02.2 -0.3
baz=238
IMW Indian Meadow 94.75 42 eP P 08 24 02.8 +0.4
comp=Z,5.6nm,0.9s
MOOW Moose Ponds 94.77 42 eP P 08 24 02.3 -0.1
comp=Z,2.3nm,1.1s
MOOW epP pP 08 25 05.3 +1.6
MSO Missoula 94.78 38 P P 08 24 01.4 -0.9
baz=233
LOHW Long Hollow 94.78 42 eP P 08 24 02.3 -0.1
comp=Z,1.6nm,0.8s
LOHW epP pP 08 25 03.0 -0.7
CD2 Chengdu 94.86 302 eP P 08 24 04.0 +1.1
BW06 Boulder Array 94.92 44 P P 08 24 01.7 -1.4
baz=235
PD31 Pinedale Array 94.92 44 eP P 08 24 02.2 -0.9
PD31 epP pP 08 25 03.0 -1.4
PDAR Pinedale Array 94.92 44 P P 08 24 01.9 -1.2
comp=Z,2.8nm,0.9s,baz=217,slow=3.9,SNR=17
PDAR pP pP 08 25 02.0 -2.4
comp=Z,1.7nm,0.8s,baz=216,slow=3.3,SNR=6.4
PDAR PKKPbc **PKKPdf** 08 40 58.9 -0.1
comp=Z,1.4nm,0.6s,baz=78,slow=3.4,SNR=11
PDAR Pinedale Array 94.92 44 eP P 08 24 02.4 -0.8
PDAR epP pP 08 25 01.4 -3.0
FLWY Flagg Ranch 94.99 42 eP P 08 24 02.7 -0.7
comp=Z,7.8nm,0.9s
FLWY epP pP 08 25 04.4 -0.3
HIA Hailar 95.03 325 i P P 08 24 01.6 -1.6
HIA pmax pmax
comp=Z,3.0nm,0.8s
T25A Trinidad 95.15 50 P P 08 24 02.7 -1.6
baz=238
YHH Holmes Hill 95.31 41 epP pP 08 25 08.5 +2.2
BOZ Bozeman (W) 95.33 40 eP P 08 24 04.9 0.0
comp=Z,3.3nm,1.0s
BOZ epP pP 08 25 05.6 -0.6
BOZ Bozeman (W) 95.33 40 eP P 08 24 04.9 0.0
BOZ e*PP pP 08 25 05.6 -0.6
BOZ pmax pmax
comp=Z,3.0nm,1.0s
BOZ Bozeman (W) 95.33 40 P P 08 24 03.7 -1.1
baz=234
WRH Wood River Hil 95.62 13 eP P 08 24 04.1 -1.4
comp=Z,5.6nm,1.0s
HDA Harding Lake 95.79 13 eP P 08 24 04.9 -1.3
comp=Z,5.2nm,0.8s
HDA Harding Lake 95.79 13 P P 08 24 04.9 -1.3
baz=208
CCB Clear Creek Bu 95.83 13 eP P 08 24 04.9 -1.5
comp=Z,4.6nm,0.7s
TCOL CIGO, UAF Yank 96.03 13 P P 08 24 05.8 -1.4
baz=207
COLA College 96.03 13 eP P 08 24 07.1 -0.2
comp=Z,6.4nm,0.7s
COLA College 96.03 13 P P 08 24 07.1 -0.2
COLA pmax pmax
comp=Z,6.0nm,0.7s
SCRK Sand Creek 96.03 14 eP P 08 24 06.8 -0.8
comp=Z,2.9nm,0.9s
MDM Murphy Dome 96.03 12 eP P 08 24 06.5 -0.9
comp=Z,7.7nm,1.0s
IM3 Indian Mountai 96.04 10 eP P 08 24 06.4 -0.9
ILAR Eielson Array 96.12 13 P P 08 24 06.1 -1.7
comp=Z,1.4nm,0.7s,baz=225,slow=5.8,SNR=16
ILAR pP pP 08 25 07.3 -1.8
comp=Z,1.8nm,0.9s,baz=219,slow=5.8,SNR=5.0
ILAR PKKP **PKiKP** 08 28 44.3 -0.3
comp=Z,0.8nm,0.9s,baz=259,slow=3.4,SNR=4.0
ILB Eielson Array 96.12 13 eP P 08 24 05.9 -1.8
IL1 Eielson Array 96.13 13 eP P 08 24 06.1 -1.7
N23A Red Feather La 96.14 47 P P 08 24 07.2 -1.6
baz=238
POKR Poker Plat Res 96.33 13 P P 08 24 07.9 -0.8
baz=207
RLMT Red Lodge 96.43 42 eP P 08 24 06.0 -3.9
comp=Z,31nm,0.7s
RLMT epP pP 08 25 01.9 -9.3
BILL Bilibino 96.92 354↓↓ eP P 08 24 10.0 -1.3
BILL S **SKSac** 08 34 28.0 +5.1
BILL pmax pmax
comp=Z,3.0nm,1.0s
LZH Lanzhou 97.38 307 eP Pdif 08 24 16.0 +1.6
LZH pP pP 08 25 05.3 -10
LZH sP sP 08 25 28.0 -14
LZH pmax pmax
comp=Z,18nm,1.0s
HKT Hockley 97.78 60 i P P 08 24 14.2 -1.8
HKT pmax pmax
comp=Z,12nm,1.1s
RSSD Black Hills 99.04 45 ePdif **Pdif** 08 24 21.4 -0.2
comp=Z,7.2nm,1.1s
RSSD Black Hills 99.04 45 eP **Pdif** 08 24 21.4 -0.2
RSSD pmax pmax
comp=Z,7.0nm,1.1s
RSSD Black Hills 99.04 45 P **Pdif** 08 24 20.3 -1.3
baz=239
LPAZ La Paz 99.14 114 P **Pdif** 08 24 25.3 +2.0
comp=Z,1.4nm,0.8s,baz=259,slow=3.1,SNR=7.0
LPAZ PKKPbc **PKKPbc** 08 40 45.9 -0.6
comp=Z,1.2nm,1.0s,baz=329,slow=2.6,SNR=3.6
LPAZ La Paz 99.14 114 ePdif **Pdif** 08 24 25.6 +2.3
comp=Z,1.9nm,0.9s
ULN Ulaanbaatar 101.19 319 i P **Pdif** 08 24 29.3 -1.7
SONA0 Songino Array 101.56 318 ePdif **Pdif** 08 24 32.2 -0.4
SONA0 ePKKPbc **PKKPbc** 08 40 41.1 +0.6
SONM Songino Array 101.56 318 P **Pdif** 08 24 32.2 -0.4
comp=Z,0.3nm,0.3s,baz=131,slow=4.0,SNR=3.1
SONM PKKPbc **PKKPbc** 08 40 41.1 +0.6
comp=Z,1.3nm,0.7s,baz=265,slow=3.4,SNR=9.2
GTA Gaotai 101.77 308 eP Pdif 08 24 56.8 +23
GTA pP pP 08 25 39.5 +4.1
GTA sP sPdif 08 26 05.8 +4.3
GTA pmax pmax
comp=Z,4.0nm,0.9s
INK Inuvik 102.01 16 PKKPab 08 41 00.8
comp=Z,1.6nm,0.9s,baz=29,slow=7.8,SNR=4.3
YKA Yellowknife Ar 103.83 25 PKKPbc PKKPbc 08 40 32.7 -1.4
comp=Z,3.0nm,0.7s,baz=42,slow=2.6,SNR=19
YKA PKKPab PKKPdf 08 40 52.9 +10
comp=Z,2.1nm,0.7s,baz=50,slow=4.7,SNR=11
ULM Lac du Bonnet 106.81 42 PKKPbc PKKPbc 08 40 24.6 -0.1
comp=Z,1.4nm,0.5s,baz=329,slow=7.7,SNR=4.1
ULM PKKPab **PKKPab** 08 40 38.8 +1.4
comp=Z,2.5nm,0.7s,baz=93,slow=5.6,SNR=4.9
WMQ Urumqi 111.85 309 ePKP 08 29 14.5
MK01 Makanchi Array 116.34 311 ePKPdf **PKPdf** 08 29 21.2 -1.4
MK31 Makanchi Array 116.35 311 ePKPdf **PKPdf** 08 29 21.3 -1.4
MK31 Makanchi Array 116.35 311 ePKIKP **PKPdf** 08 29 21.3 -1.4
MK32 Makanchi Array 116.35 311 ePKPdf **PKPdf** 08 29 21.3 -1.4
MK32 ePKKPbc **PKKPbc** 08 39 53.6 +0.6
MK32 ePKKPab **PKKPab** 08 39 58.9 +3.4
MKAR Makanchi Array 116.35 311 PKP **PKPdf** 08 29 21.3 -1.4
comp=Z,3.2nm,0.7s,baz=114,slow=0.7,SNR=21
MKAR pPKP pPKPdf 08 30 28.1 +1.1
comp=Z,2.0nm,0.7s,baz=174,slow=1.2,SNR=4.5
MKAR PKKPbc **PKKPbc** 08 39 53.6 +0.6
comp=Z,1.3nm,0.7s,baz=284,slow=3.7,SNR=11
MKAR PKKPab **PKKPab** 08 39 58.9 +3.4
comp=Z,1.4nm,0.8s,baz=324,slow=3.5,SNR=6.7
ZALV Zalesovo Beam 116.44 319 PKP **PKPdf** 08 29 20.9 -1.6
comp=Z,0.8nm,0.3s,baz=93,slow=3.2,SNR=3.0
ZAA1 Zalesovo Array 116.44 319 ePKPdf **PKPdf** 08 29 20.9 -1.7
SUR Sutherland 116.80 198 PKP **PKPdf** 08 29 25.2 +0.8
comp=Z,6.6nm,0.8s,baz=117,slow=1.4,SNR=6.6
SUR Sutherland 116.80 198 ePKPdf **PKPdf** 08 29 24.0 -0.4
NVS Novosibirsk 117.53 320 eP **Pdif** 08 25 39.0 -4.3
NRIK Noril'sk 117.80 336 PKP **PKPdf** 08 29 23.5 -1.2
comp=Z,2.0nm,0.4s,baz=100,slow=4.6,SNR=6.2
BOSA Boshof 118.91 204 PKP **PKPdf** 08 29 29.7 +1.3
comp=Z,4.5nm,0.7s,baz=148,slow=2.7,SNR=8.8
NRN Naryn 119.48 304 ePKPdf **PKPdf** 08 29 28.9 -0.4
KURK Kurchatov 119.55 315 ePKPdf **PKPdf** 08 29 27.1 -1.5
KURK Kurchatov 119.55 315 ePKIKP **PKPdf** 08 29 27.2 -1.5
KURBB Kurchatov Arra 119.59 315 PKP **PKPdf** 08 29 27.1 -1.6
comp=Z,6.9nm,0.8s,baz=103,slow=2.1,SNR=40
KURBB pPKP **pPKPdf** 08 30 33.4 +0.4
comp=Z,3.6nm,0.8s,baz=92,slow=1.7,SNR=4.8
AAK Ala-Archa 120.84 305 PKP **PKPdf** 08 29 30.7 -0.9
comp=Z,2.9nm,0.7s,baz=144,slow=5.5,SNR=8.1
AAK PKKPbc **PKKPbc** 08 39 38.4 +1.6
comp=Z,1.2nm,0.7s,baz=305,slow=22,SNR=4.0
AAK Ala-Archa 120.84 305 ePKPdf **PKPdf** 08 29 30.7 -0.9
AAK ePKPdf **PKPdf** 08 29 30.9 -0.7
AAK ePKKPbc **PKKPbc** 08 39 38.4 +1.6
AAK Ala-Archa 120.84 305 i PKIKP **PKPdf** 08 29 30.9 -0.7
LBTB Lobatse 122.06 206 PKP **PKPdf** 08 29 35.4 +0.9
LBTB Lobatse 122.06 206 ePKPdf **PKPdf** 08 29 35.1 +0.5
LBTB Lobatse 122.06 206 ePKIKP **PKPdf** 08 29 35.1 +0.5
KBL Kabul 123.23 294 ePKPdf **PKPdf** 08 29 36.5 0.0
KK31 Karatay Array 123.80 305 ePKPdf **PKPdf** 08 29 36.1 -0.9
KK31 Karatay Array 123.80 305 ePKIKP **PKPdf** 08 29 36.2 -0.9
KKAR Karatay Array 123.80 305 ePKPdf **PKPdf** 08 29 36.1 -0.9
KKAR Karatay Array 123.80 305 ePKIKP **PKPdf** 08 29 36.2 -0.9
BVAR Borovoye Array 124.86 317 PKP **PKPdf** 08 29 38.1 -0.7
comp=Z,4.8nm,0.5s,baz=96,slow=3.0,SNR=31
BVAR pPKP **pPKPdf** 08 30 43.7 +0.6
comp=Z,4.5nm,0.8s,baz=129,slow=4.0,SNR=5.0
BRVK Borovoye 124.93 317 i PKIKP **PKPdf** 08 29 38.5 -0.4
SCHQ Schefferville 124.98 41 PKP **PKPdf** 08 29 37.7 -1.2
comp=Z,5.8nm,0.8s,baz=256,slow=8.4,SNR=5.0
SCHQ Schefferville 124.98 41 ePKPdf **PKPdf** 08 29 37.4 -1.6
LSZ Lusaka 129.51 214 SKPbc SKPbc 08 32 48.7 +2.0
comp=Z,4.3nm,0.7s,baz=98,slow=6.7,SNR=5.0
TSUM Tsumeb 130.17 200 SKPbc **SKPab** 08 32 53.5 +4.3
comp=Z,4.6nm,0.8s,baz=250,slow=2.3,SNR=4.2
TSUM Tsumeb 130.17 200 ePKPdf **PKPdf** 08 29 51.6 +1.4
ARU Arti 131.46 322 PKP **PKPdf** 08 29 51.0 -0.2
comp=Z,4.3nm,0.4s,baz=72,slow=3.4,SNR=8.6
ARU pPKP **pPKPdf** 08 30 57.6 +2.1
comp=Z,2.8nm,0.3s,baz=218,slow=5.5,SNR=2.1
ARU Arti 131.46 322 ePKPdf **PKPdf** 08 29 51.3 +0.1
ARU Arti 131.46 322 i PKIKP **PKPdf** 08 29 50.4 -0.8
ABKAR Akbulak array 131.47 312 ePKPdf **PKPdf** 08 29 51.5 +0.1
AKTO Aktyubinsk 132.62 314 PKP **PKPdf** 08 29 53.2 -0.5
comp=Z,6.5nm,0.8s,baz=81,slow=4.1,SNR=19
AKTO pPKP **pPKPdf** 08 30 59.8 +1.8
comp=Z,3.1nm,0.9s,baz=103,slow=7.2,SNR=3.4
AKTO SKPbc **SKPab** 08 32 57.8 -0.7
comp=Z,2.4nm,0.8s,baz=126,slow=3.6,SNR=4.9
KMBO Kilima Mbogo 134.99 235 PKP **PKPdf** 08 30 01.0 +1.4
comp=Z,5.9nm,0.8s,baz=56,slow=1.0,SNR=10.0
KMBO SKPab **SKPab** 08 33 10.4 +0.2
comp=Z,0.9nm,0.3s,baz=154,slow=3.7,SNR=4.0
KMBO Kilima Mbogo 134.99 235 ePKPdf **PKPdf** 08 29 59.4 -0.2
KMBO Kilima Mbogo 134.99 235 ePKIKP **PKPdf** 08 29 59.4 -0.2
ARA0 ARCESS Array S 136.68 348 ePKPpre PKPpre 08 29 49.8
ARA0 ePKPdf **PKPdf** 08 30 01.4 +0.7
ARCES ARCESS Array B 136.68 348 PKHKP PKPpre 08 29 49.8
comp=Z,5.9nm,1.0s,baz=5.7,slow=2.4,SNR=9.8
ARCES PKP **PKPdf** 08 30 01.4 +0.7
comp=Z,5.5nm,0.5s,baz=22,slow=1.0,SNR=26
ARCES SKPbc **SKPbc** 08 33 07.8 -1.3
comp=Z,3.2nm,0.7s,baz=36,slow=4.5,SNR=4.6
KTK1 Kautokeino 137.53 349 ePKPdf **PKPdf** 08 30 02.1 -0.1
KLMR Klimovskoe 138.96 333 ePKIKP **PKPdf** 08 30 02.8 -2.3
KLMR pmax pmax
comp=Z,22nm,1.2s
KLMR Klimovskoe 138.96 333 ePKPdf **PKPdf** 08 30 02.8 -2.3
KLMR AMP 08 30 06.8
comp=Z,22nm,1.2s
H10S2 ASCENSION HYDR 139.55 155 T T 11 06 42.0
baz=204,slow=75,SNR=12
H10S3 ASCENSION HYDR 139.55 155 T T 11 06 37.0
baz=204,slow=75,SNR=15
H10S1 ASCENSION HYDR 139.57 155 T T 11 06 42.6
baz=204,slow=75,SNR=15
RAYN Ar Rayn 140.50 273 ePKPdf **PKPdf** 08 30 06.0 -3.1
RAYN Ar Rayn 140.50 273 ePKIKP **PKPdf** 08 30 06.0 -3.1
H10N3 ASCENSION HYDR 140.63 154 T T 11 07 37.7
baz=203,slow=75,SNR=16
H10N1 ASCENSION HYDR 140.64 154 T T 11 07 26.9
baz=203,slow=75,SNR=14
H10N2 ASCENSION HYDR 140.65 154 T T 11 07 31.2
baz=203,slow=75,SNR=22
VRH Novokhopyorsk 142.47 318 ePKIKP **PKPdf** 08 30 10.0 -1.7
VRH pmax pmax
comp=Z,20nm,1.4s
GNI Garni 142.94 300 i PKIKP **PKPdf** 08 30 12.6 -0.5
ZEI Tsey 143.26 304 i PKIKP PKPab 08 30 10.0 -0.2
ZEI pmax pmax
comp=Z,10.0nm,0.9s
FIA0 FINESS Array S 143.27 341 ePKPpre PKPpre 08 30 07.8
FIA0 FINESS Array S 143.27 341 ePKHKP PKPpre 08 30 07.8
FINES FINESS Array B 143.27 341 PKHKP PKPpre 08 30 07.8
comp=Z,5.0nm,0.6s,baz=56,slow=2.2,SNR=15
NCK Nalchik 143.36 306 i PKIKP **PKPdf** 08 30 16.2 +2.6
GOF Gofitskoye 143.44 308 ePKIKP PKPab 08 30 10.0 -0.6
GOF pmax pmax
comp=Z,30nm,0.6s
OBN Obninsk 143.46 327 PKHKP PKPpre 08 30 09.9
comp=Z,4.9nm,0.3s,baz=137,slow=19,SNR=4.2
OBN Obninsk 143.46 327↓↓ ePKIKP PKPab 08 30 09.7 -0.5
OBN eSS SS 08 51 51.1 +3.4
OBN pmax pmax
comp=Z,38nm,1.5s
LPSR Galich'ya Gora 143.48 322 ePKIKP **PKPdf** 08 30 13.4 0.0
LPSR pmax pmax
comp=Z,20nm,1.2s
AKH Akhalkalaki 143.75 302 ePKPdf PKPbc 08 30 13.0 +0.1
AKH Akhalkalaki 143.75 302↓↓ iP PKPbc 08 30 13.2 +0.3
KBZ Khabaz 143.82 306 PKP PKPbc 08 30 12.2 -0.5
comp=Z,8.6nm,0.9s,baz=136,slow=1.6,SNR=11
KIV Kislovodsk 143.93 306 ePKIKP PKPab 08 30 12.1 -0.5
KIV pmax pmax
comp=Z,16nm,1.1s
VSR Storozhevoye 143.94 319 ePKIKP PKPab 08 30 10.8 -1.5
VSR pmax pmax
comp=Z,10.0nm,0.9s
NEY Neytrino 144.03 305 i PKIKP PKPbc 08 30 13.7 0.0
VSU Vasula 145.38 337 eP **PKPdf** 08 30 15.5 -1.0
VSU lAmb lAmb 08 30 16.2
comp=Z,177nm,0.8s
VSU Vasula 145.38 337 i PKIKP **PKPdf** 08 30 15.7 -0.8
DOMB Dombas 146.09 354 e **PKPdf** 08 30 17.5 -0.2
AKN Aaknes 146.13 356 eP **PKPbc** 08 30 19.2 0.0
NC303 NORSAR Array S 146.63 352 ePKPdf **PKPdf** 08 30 19.2 +0.6
NC204 NORSAR Array S 146.66 352 ePKPdf **PKPdf** 08 30 19.4 +0.7
NC405 NORSAR Array S 146.69 351 ePKPdf **PKPdf** 08 30 19.4 +0.7
NB201 NORSAR Array S 146.81 351 ePKPdf **PKPdf** 08 30 19.3 +0.3
NB2 NORSAR Subarra1 146.83 352 PKP **PKPdf** 08 30 19.4 +0.4
comp=Z,58nm,1.2s,baz=13,slow=2.9
NB2 NORSAR Subarra1 146.83 352 PKP **PKPdf** 08 30 19.4 +0.4
baz=13,slow=2.9
NB200 NORSAR Array S 146.83 352 ePKPdf **PKPdf** 08 30 19.3 +0.3
NB200 epPKPdf **pPKPdf** 08 31 23.7 +0.2
NOA NORSAR Array B 146.83 352 PKPbc **PKPdf** 08 30 19.3 +0.3
comp=Z,11nm,0.5s,baz=15,slow=4.5,SNR=43
NOA pPKPbc **pPKPdf** 08 31 23.7 +0.2
comp=Z,10nm,0.9s,baz=13,slow=2.4,SNR=6.1
NBO00 NORSAR Array S 146.90 352 ePKPdf **PKPbc** 08 30 20.3 -1.1
NAO01 NORSAR Array S 147.06 352 ePKPbc **PKPbc** 08 30 21.1 -0.7
NC602 NORSAR Array S 147.08 351 ePKPdf **PKPdf** 08 30 20.1 +0.7
NC602 NORSAR Array S 147.08 351 eP **PKPdf** 08 30 20.2 +0.9
ANN Anapa 147.36 310 i PKP2 **PKPbc** 08 30 24.0 +0.9
ANN pmax pmax
comp=Z,95nm,0.9s
SUE Sulen 147.37 357 eP **PKPbc** 08 30 21.6 -1.0
IZAR Zarasai 147.58 334 eP **PKPbc** 08 30 22.8 -0.6
IZAR lAmb lAmb 08 30 24.1
comp=Z,42nm,1.2s
IDID Didziasalis 147.71 333 eP **PKPbc** 08 30 23.4 -0.3
IDID lAmb lAmb 08 30 24.3
comp=Z,15nm,1.0s
ISAL Salakas 147.76 334 eP **PKPbc** 08 30 23.5 -0.3
ISAL lAmb lAmb 08 30 24.5
comp=Z,20nm,1.1s
IIGN Ignalina 147.88 334 eP **PKPbc** 08 30 24.3 +0.1
IIGN lAmb lAmb 08 30 24.9
comp=Z,3.9nm,0.8s
KONO Kongsberg 148.38 352 ePKPbc **PKPbc** 08 30 24.4 -0.9
KONO Kongsberg 148.38 352 ePKP2 **PKPbc** 08 30 24.4 -0.9
KONO Kongsberg 148.38 352 ePKPbc **PKPbc** 08 30 24.4 -0.9
ODD1 Odda 148.41 355 eP **PKPbc** 08 30 24.7 -0.7
BLS5 Blasjo 148.90 355 ePKPbc **PKPbc** 08 30 25.9 -0.8
SIM Simferopol' 149.53 311 cePKP2 **PKPbc** 08 30 28.7 0.0
SIM pmax pmax
comp=Z,27nm,0.8s
AKASG Malin Array Be 149.62 324 PKP **PKPdf** 08 30 23.1 -0.6
comp=Z,14nm,0.5s,baz=44,slow=3.5,SNR=11
AKASG PKPbc **PKPbc** 08 30 27.5 -1.2
comp=Z,16nm,0.5s,baz=44,slow=2.9,SNR=19
AKASG pPKPbc **pPKPbc** 08 31 32.5 -0.1
comp=Z,5.8nm,0.6s,baz=45,slow=3.3,SNR=2.4
AKBB Malin Array Si 149.62 324 ePKPbc **PKPbc** 08 30 27.8 -0.9
KIEV Kiev 149.63 324 ePKPbc **PKPbc** 08 30 27.7 -1.0
KIEV Kiev 149.63 324e i PKIKP **PKPdf** 08 30 22.3 -1.5
AK11 Malin Array Si 149.66 325 ePKPbc **PKPbc** 08 30 27.5 -1.3
SNART Snartemo 149.92 354 ePKPbc **PKPbc** 08 30 28.2 -0.9
SUW Suwalki 150.06 334 eP **PKPbc** 08 30 28.7 -0.9
SUW Suwalki 150.06 334 ePKPbc **PKPbc** 08 30 28.8 -0.9
ILGA Ilgaz 151.05 304 ePKPbc **PKPbc** 08 30 33.0 +0.3
BR101 Keskin Array S 151.44 301 ePKPdf **PKPdf** 08 30 28.0 +0.8
BR101 ePKPbc **PKPbc** 08 30 32.8 -0.7
BR131 Keskin Array S 151.44 301 ePKPbc **PKPbc** 08 30 32.9 -0.7
BRTR Keskin Array B 151.44 301 PKP **PKPdf** 08 30 28.0 +0.8
comp=Z,6.8nm,0.6s,baz=163,slow=8.9,SNR=3.7
BRTR PKPbc **PKPbc** 08 30 32.8 -0.7
comp=Z,7.7nm,0.6s,baz=127,slow=3.3,SNR=30
BRTR pPKPbc **pPKPbc** 08 31 39.8 +2.2
comp=Z,4.9nm,0.9s,baz=102,slow=5.2,SNR=3.1
ANTO Ankara 152.03 302 ePKPbc **PKPbc** 08 30 34.8 0.0
ANTO Ankara 152.03 302↑↑ iP **PKPbc** 08 30 35.0 +0.2
ANTO Ankara 152.03 302↑↑ iPKIKP **PKPbc** 08 30 35.0 +0.2
CSS Mathiatis 152.42 292 ePKPbc **PKPbc** 08 30 35.6 -0.1
CSS ePKPab **PKPab** 08 30 46.5 -0.6
TLCR 152.83 315↑↑ iP **PKPbc** 08 30 36.2 0.0
TLCR 152.83 315↑↑ iPKIKP **PKPbc** 08 30 36.2 0.0
CFR Carcaliu 153.26 316↑↑ iP **PKPbc** 08 30 36.5 -0.7
CFR Carcaliu 153.26 316↑↑ iPKIKP **PKPbc** 08 30 36.6 -0.6
BIZ Bicaz 153.50 321↓↓ iP **PKPbc** 08 30 38.0 +0.3
BUR08 Bucovina Ar. S 153.58 323 ePKPdf **PKPdf** 08 30 29.7 -0.3
BUR08 ePKPbc **PKiKP** 08 30 38.6 +0.6
BUR08 ePKPab **PKPab** 08 30 51.1 -0.5
BUR04 Bucovina Ar. S 153.59 323 ePKPdf **PKPdf** 08 30 30.0 -0.1
BUR04 ePKPbc **PKPbc** 08 30 37.4 -0.6
BUR04 ePKPab **PKPab** 08 30 50.3 -1.3
BURAR Bucovina Array 153.59 323↓↓ iP **PKPbc** 08 30 38.9 +0.9
BURAR Bucovina Array 153.59 323↓↓ iPKIKP **PKPbc** 08 30 38.9 +0.9
TLB Topalu 153.60 315↑↑ iP **PKPbc** 08 30 38.2 +0.3
TLB Topalu 153.60 315↑↑ iPKIKP **PKPbc** 08 30 38.2 +0.3
VRI Vrincioaia 153.75 318↑↑ iP **PKPbc** 08 30 38.1 -0.2
VRI Vrincioaia 153.75 318↑↑ iPKIKP **PKPbc** 08 30 38.1 -0.2
OJC Ojcow 154.32 333 ePKP **PKPdf** 08 30 30.3 -0.5
OJC Ojcow 154.32 333 ePKIKP **PKPdf** 08 30 30.3 -0.5
MLR Muntele Rosu 154.41 318↑↑ iP **PKPbc** 08 30 39.7 -0.1
MLR Muntele Rosu 154.41 318↑↑ iPKIKP **PKPbc** 08 30 39.7 -0.1
DOPR Dopca 154.47 319↑↑ iP **PKPab** 08 30 55.0 -0.3
NIE Niedzica 154.72 331 ePKP **PKPdf** 08 30 31.6 +0.1
NIE Niedzica 154.72 331 ePKIKP **PKPdf** 08 30 31.6 +0.1
VOIR 154.97 319↓↓ iP **PKPbc** 08 30 41.3 +0.4
VOIR 154.97 319↓↓ iPKIKP **PKPbc** 08 30 41.3 +0.4
KSP Ksiaz 155.10 338 ePKP PKPdf 08 30 41.0 +9.1
KSP Ksiaz 155.10 338 ePKIKP PKPdf 08 30 41.0 +9.1
ARR Arges 155.25 319↓↓ iP **PKPab** 08 30 59.0 +0.3
DPC Dobruska-Polom 155.51 337 ePKPAB **PKPab** 08 30 58.6 -1.0
DPC Dobruska-Polom 155.51 337 ePKP2 **PKPab** 08 30 58.6 -1.0
MORC Moravsky Berou 155.55 335 ePKP **PKPab** 08 30 58.7 -1.1
CLL Collm 155.68 343 ePKPdf **PKPdf** 08 30 29.6 -3.0
CLL ePKPab **PKPab** 08 30 59.3 -0.9
CLL Collm 155.68 343 ePKPdf **PKPdf** 08 30 32.0 -0.6
CLL i PKPdiff PKPdf 08 30 41.2 +8.6
comp=Z,10.0nm,0.8s
CLL ePKPab **PKPab** 08 30 59.0 -1.2
CLL Collm 155.68 343 ePKIKP **PKPdf** 08 30 32.0 -0.6
CLL i 08 30 41.2
CLL e 08 30 59.0
BRG Berggiesshubel 155.81 341 i PKP **PKPdf** 08 30 32.3 -0.5
comp=Z,8.0nm,1.0s
BRG e 08 30 42.0
comp=Z,10.0nm,1.3s
BRG e 08 31 00.0
comp=Z,8.9nm,1.1s
BRG e 08 32 05.3
comp=Z,43nm,2.0s
BRG Berggiesshubel 155.81 341 i PKIKP **PKPdf** 08 30 32.3 -0.5
BRG e 08 31 00.0
BRG e 08 32 05.3
BRG pmax pmax
comp=Z,8.0nm,1.0s
DEV Deva 155.91 322↑↑ iP **PKPdf** 08 30 29.6 -3.5
DEV Deva 155.91 322↑↑ iPKIKP **PKPdf** 08 30 29.7 -3.4
VYHS Vyhne 156.05 331 ePKP2 **PKPab** 08 31 01.3 -0.7
VYHS Vyhne 156.05 331 ePKP **PKPab** 08 31 01.3 -0.7
JAVC Velka Javorina 156.24 333 ePKP **PKPab** 08 31 02.7 -0.2
VRAC Vranov 156.29 335 ePKP **PKPab** 08 31 02.2 -0.8
KRUC Moravsky 156.57 335 ePKP **PKPab** 08 31 03.1 -1.1
LIC Lamto 156.95 163 ePKP2 **PKPab** 08 31 08.6 +2.0
comp=Z,72nm,0.8s
LIC Lamto 156.95 163 eP **PKPdf** 08 30 35.7 +0.3
comp=Z,64nm,1.4s
KIC Kosan Boka 157.16 163 ePKP2 **PKPab** 08 31 09.5 +2.0
comp=Z,50nm,0.8s
KIC Kosan Boka 157.16 163 eP **PKPdf** 08 30 35.7 0.0
comp=Z,41nm,1.2s
TIC Toumodi 157.36 162 ePKP2 **PKPab** 08 31 10.3 +1.9
TIC Toumodi 157.36 162 eP **PKPdf** 08 30 37.7 +1.7
DBIC Dimbokro 157.42 163 PKP **PKPdf** 08 30 36.9 +0.9
comp=Z,7.7nm,1.0s,baz=201,slow=2.0,SNR=4.9
DBIC PKPab **PKPab** 08 31 10.2 +1.6
comp=Z,9.5nm,0.7s,baz=177,slow=3.8,SNR=8.9
DBIC Dimbokro 157.42 163 ePKPdf **PKPdf** 08 30 36.3 +0.3
DBIC ePKPab **PKPab** 08 31 10.4 +1.7
DBIC Dimbokro 157.42 163 ePKIKP **PKPdf** 08 30 36.3 +0.3
DBIC e 08 31 10.4
KHC Kasperske Hory 157.47 339 ePKPdf **PKPdf** 08 30 34.4 -0.7
KHC ePKPab **PKPab** 08 31 07.2 -0.9
KHC Kasperske Hory 157.47 339 ePKPAB **PKPab** 08 31 08.0 -0.1
KHC epPKP **pPKPab** 08 32 11.5 +1.7
KHC Kasperske Hory 157.47 339 ePKIKP **PKPdf** 08 30 34.4 -0.7
VTS Vitosha 157.64 315 ePKPab **PKPab** 08 31 09.1 -0.2
VTS Vitosha 157.64 315 ePKP2 **PKPab** 08 31 09.1 -0.2
GERES GERESS Array B 157.68 339 PKP **PKPdf** 08 30 34.5 -0.9
comp=Z,0.8nm,0.8s,baz=119,slow=4.7,SNR=3.6
GERES PKPab **PKPab** 08 31 08.2 -0.9
comp=Z,1.0nm,0.6s,baz=352,slow=5.4,SNR=5.9
GERES pPKPab **pPKPab** 08 32 11.0 +0.2
comp=Z,1.3nm,0.7s,baz=3.8,slow=4.0,SNR=2.9
TOA0 Torodi Ar. Sit 164.74 180 ePKPdf **PKPdf** 08 30 42.0 -1.7
TOA0 ePKPdf **PKPdf** 08 30 43.9 +0.2
TOA0 ePKPab **PKPab** 08 31 41.8 +1.3
TORD Torodi Ar. Bea 164.74 180 PKP **PKPdf** 08 30 42.5 -1.2
comp=Z,6.1nm,1.0s,baz=135,slow=0.2,SNR=25
TORD PKPab **PKPab** 08 31 41.0 +0.5
comp=Z,14nm,0.7s,baz=189,slow=2.3,SNR=30
TORD pPKPab **pPKPab** 08 32 43.8 +1.8
comp=Z,2.0nm,1.0s,baz=160,slow=4.6,SNR=1.1
TOA1 Torodi Ar. Sit 164.74 180 ePKPdf **PKPdf** 08 30 42.5 -1.2
TOA1 ePKPab **PKPab** 08 31 41.0 +0.5
TOA1 epPKPab **pPKPab** 08 32 43.8 +1.7
ES19 SONSECA Array 167.89 21 ePKPdf **PKPdf** 08 30 45.8 +0.3
ES19 ePKPab **pPKPdf** 08 31 49.6 -0.7
ESDC Sonseca Array 167.89 21 PKP **PKPdf** 08 30 46.0 +0.5
comp=Z,0.6nm,0.6s,baz=351,slow=2.0,SNR=6.1
ESDC PKPab **PKPab** 08 31 53.4 -0.7
comp=Z,2.2nm,0.9s,baz=328,slow=5.3,SNR=4.6
TAM Tamanrasset 173.37 212 ePKPab **PKPab** 08 32 21.9 +3.0
TAM Tamanrasset 173.37 212 ePKP2 **PKPab** 08 32 21.9 +3.0

NNC 29 08:26:57.3±2.4,54°.45N×86°.20E,h0km,mb3.7,mpv3.1, 5C-3D,Error ellipse: s-maj=29.5km s-min=15.8km az=157.0,Suspected Mining explosion.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**0.95**	**239**	↑↑P		Pg	08 27 15.2	-0.4
	1.6nm,0.4s							
ZAA0				↓↓S		Sb	08 27 29.3	-0.6
	5.3nm,0.2s							
KURK	**Kurchatov**	**5.94**	**234**	↑↑Pn		Pn	08 28 28.7	+2.2
	0.9nm,0.3s							
KURK				↑↑Lg		Lg	08 30 05.8	
	3.9nm,0.7s							
KURBB	**Kurchatov Arra**	**6.05**	**234**	↓↓Pn		Pn	08 28 29.5	+1.5
	1.9nm,0.3s							
KURBB				↓↓Lg		Lg	08 30 09.3	
	5.5nm,0.7s							
MK31	**Makanchi Array**	**8.06**	**200**	↑↑Pn		Pn	08 28 56.2

MK31				Sn	Sn	08 30 28.0	+0.7
	0.8nm,0.4s,baz=83,slow=4.9,SNR=6.6						
MK31				⇑Lg	Lg	08 31 11.5	
	3.8nm,1.0s						

ISCJB ***29*** *08:29:40.0±0.6,52.6°S±0.1°×26.3°E±0.3,h10km,mb4.1/11, MS3.2/3,Error ellipse: s-maj=26.2km s-min=12.5km az=157.2*

IDC ***29*** *08:29:40.4±0.9,52.51°S×26.81°E,h0km,mb4.0/7, mb1 4.1/7,mb1mx3.9/32,mbtmp4.0/7,MS3.3/3,Ms1 3.3/3, ms1mx3.1/25,Error ellipse: s-maj=38.7km s-min=20.1km az=74.0*

NEIC ***29*** *08:29:41.7±0.4,52.58°S×26.50°E,h10km,mb4.2/7,Error ellipse: s-maj=17.3km s-min=10.3km az=75.0*

ISC 29 08:29:41.8±0.8,52.6°S±0.1°×26.5°E±0.2,h10km,n25, σ1§11/23,mb4.3/11,MS3.1/3,South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**20.58**	**346**	P	**P**	**08 34 21.7**	**+0.8**
	5.3nm,0.6s,baz=140,slow=10,SNR=7.7						
SUR				LR	LR	08 39 49.2	
	comp=Z,92nm,20.4s,baz=162,slow=30						
SUR	**Sutherland**	**20.58**	**346**	*eP*	**P**	**08 34 21.8**	**+0.9**
	6.6nm,0.8s						
SNAA	**Sanae**	**23.10**	**203**	P	**P**	**08 34 50.1**	**+2.8**
	1.9nm,0.8s,baz=22,slow=11,SNR=4.9						
SNAA	**Sanae**	**23.10**	**203**	*eP*	**P**	**08 34 49.4**	**+2.0**
	3.6nm,1.0s						
BOSA	**Boshof**	**23.94**	**357**	P	**P**	**08 34 55.6**	**-0.5**
	2.6nm,0.7s,baz=165,slow=8.0,SNR=5.2						
BOSA				LR	LR	08 42 50.8	
	comp=Z,95nm,19.8s,baz=211,slow=33						
BOSA	**Boshof**	**23.94**	**357**	*eP*	**P**	**08 34 56.2**	**+0.1**
LBTB	**Lobatse**	**27.52**	**358**	LR	LR	08 45 26.3	
	comp=Z,52nm,18.8s,baz=26,slow=34						
TSUM	**Tsumeb**	**34.01**	**345**	P	**P**	**08 36 26.7**	**+0.9**
	4.5nm,0.7s,baz=168,slow=8.6,SNR=9.4						
QSPA	**South Pole Qui**	**37.66**	**180**	*eP*	**P**	**08 36 56.8**	**+0.1**
	5.8nm,0.8s						
H10S2	**ASCENSION HYDR**	**54.76**	**307**	T	T	09 38 34.7	
	baz=150,slow=75,SNR=4.0						
H10S3	**ASCENSION HYDR**	**54.77**	**307**	T	T	09 38 29.5	
	baz=150,slow=75,SNR=4.6						
H10S1	**ASCENSION HYDR**	**54.77**	**307**	T	T	09 38 30.4	
	baz=150,slow=75,SNR=3.2						
TORD	**Torodi Ar. Bea**	**68.84**	**334**	P	**P**	**08 40 46.5**	**+0.2**
	0.7nm,1.0s,baz=159,slow=9.1,SNR=2.6						
TOA1	**Torodi Ar. Sit**	**68.85**	**334**	*eP*	**P**	**08 40 46.5**	**+0.2**
GO04	**Tololo Observa**	**70.77**	**245**	*eP*	**P**	**08 40 56.1**	**-2.4**
	4.3nm,0.7s						
ASAR	**Alice Springs**	**81.47**	**118**	P	**P**	**08 41 58.9**	**-0.3**
	1.5nm,0.6s,baz=216,slow=4.9,SNR=43						
AS31	**Alice Springs**	**81.47**	**118**	*eP*	**P**	**08 41 59.2**	**-0.1**
	0.9nm,0.6s						
AS01	**Alice Springs**	**81.50**	**118**	*eP*	**P**	**08 41 59.4**	**0.0**
WR1	**Warramunga Arr**	**84.71**	**116**	*eP*	**P**	**08 42 15.2**	**-0.7**
	1.9nm,0.9s						
WRA	**Warramunga Arr**	**84.71**	**116**	P	**P**	**08 42 15.2**	**-0.8**
	1.0nm,0.9s,baz=213,slow=3.7,SNR=5.2						
WB2	**Warramunga Arr**	**84.72**	**116**	*eP*	**P**	**08 42 15.7**	**-0.4**
	2.7nm,1.0s						
PD31	**Pinedale Array**	**149.24**	**269**	*e*PKPbc	**PKPbc**	**08 49 29.6**	**-0.5**
PDAR	**Pinedale Array**	**149.24**	**269**	PKPbc	**PKPbc**	**08 49 29.1**	**-1.0**
	0.3nm,0.6s,baz=108,slow=4.8,SNR=3.7						
NV01	**Mina Array Sit**	**151.86**	**254**	*e*PKPdf	**PKPdf**	**08 49 30.5**	**+0.5**
NV01				*e*PKPbc	**PKiKP**	**08 49 36.9**	**+0.1**
NV01				*e*PKPab	**PKPab**	**08 49 44.2**	**-1.4**
NVAR	**Mina Array Bea**	**151.86**	**254**	PKPbc	**PKPbc**	**08 49 36.6**	**+0.1**
	0.6nm,0.6s,baz=127,slow=2.4,SNR=4.0						

JMA 29 08:37:20.2±0.2,30.57N×141.18E,h73km,M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**2.24**	**328**	P	Pn	08 37 56.2	+1.0
JHCJ	**Hachijojimakas**	**2.76**	**335**	P	Pn	08 38 02.9	+0.7
JHJ2	**Mitsune**	**2.79**	**336**	P	Pn	08 38 03.2	+0.7
JHJ2				S	Sn	08 38 34.7	-0.4
CBIJ	**Chichi jima**	**3.57**	**165**	P	Pn	08 38 13.7	+0.4
CBIJ				S	Sn	08 38 54.6	+0.3
BSO1	**Boso 1**	**4.08**	**358**	P	Pn	08 38 21.6	+2.0
BSO3	**Boso 3**	**4.26**	**353**	P	Pn	08 38 23.1	+0.8
BSO3				*e*S	Sn	08 39 10.4	-0.2
BSO4	**Boso 4**	**4.46**	**351**	*e*S	Sn	08 39 16.3	+0.4
JAG	**Ashikaga**	**6.01**	**347**	P	Pn	08 38 48.5	+1.9
JAG				*e*S	Sn	08 39 51.0	-3.0

ISCJB ***29*** *08:55:34.5±0.6,27.84°S±0.05°×140.61°E±0.08,h10km, Error ellipse: s-maj=11.1km s-min=5.9km az=152.0*

IDC ***29*** *08:55:34.3±5.5,27.66°S×141.04E,h0km,mb1 2.9/3, mb1mx2.9/24,mbtmp2.7/3,ML2.7/3,Error ellipse: s-maj=120.6km s-min=21.4km az=69.0*

AUST ***29*** *08:55:37.3±0.0,27.88°S×140.74E,h10km,Error ellipse: s-maj=1.5km s-min=1.0km az=282.0*

ISC 29 08:55:36.3±1.1,27.81°S±0.07°×140.71E±0.08,h10km,n11, σ1§48/14,South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QLP	**Quilpie**	**3.37**	**70**	P	**Pn**	**08 56 30.2**	**+1.3**
	baz=3.4						
STKA	**Stephens Creek**	**4.13**	**170**	Pn	**Pn**	**08 56 40.3**	**+0.9**
	0.3nm,0.3s,baz=353,slow=10,SNR=4.5						
STKA				Sn	**Sn**	**08 57 26.4**	**-1.4**
	0.9nm,0.3s,baz=19,slow=14,SNR=5.0						
STKA				Lg	Lg	08 57 48.5	
	2.3nm,0.3s,baz=278,slow=10,SNR=4.5						
STKA	**Stephens Creek**	**4.13**	**170**	P	**Pn**	**08 56 39.8**	**+0.4**
	baz=4.1						
CMSA	**Cobar Meteorol**	**5.71**	**132**	P	**Pn**	**08 57 00.9**	**-0.3**
	baz=5.6						
HTT	**Hallett**	**5.81**	**195**	P	**Pn**	**08 57 04.0**	**+1.4**
	baz=5.8						
BBOO	**Buckleboo**	**6.41**	**218**	P	**Pn**	**08 57 11.1**	**+0.3**
	baz=6.4						
QIS	**Mount Isa**	**7.29**	**352**	P	**Pn**	**08 57 25.2**	**+2.3**
	baz=7.4						
ASAR	**Alice Springs**	**7.39**	**302**	Pn	**Pn**	**08 57 25.8**	**+1.4**
	0.1nm,0.3s,baz=128,slow=13,SNR=3.7						
ASAR				Sn	**Sn**	**08 58 47.6**	**-0.8**
	0.4nm,0.3s,baz=121,slow=23,SNR=7.8						
ARPS	**Mount Arapiles**	**8.99**	**174**	P	**Pn**	**08 57 45.7**	**-0.4**
	baz=8.9						
WR0	**Warramunga Arr**	**9.64**	**323**	P	**Pn**	**08 57 54.7**	**-0.4**
	baz=9.7						
WRA	**Warramunga Arr**	**9.76**	**322**	Pn	**Pn**	**08 57 57.0**	**+0.2**
	0.1nm,0.3s,baz=139,slow=13,SNR=6.6						
WRA				Sn	**Sn**	**08 59 43.5**	**-3.0**
	0.2nm,0.3s,baz=139,slow=24,SNR=3.1						

ISC 29 09:01:36.5±1.6,48.97N±0.06×18.31E±0.04,h0km±24km, n5,σ0§39/10,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOLL	**Kolacno**	**0.40**	**171**	*e*PG	**Pg**	**09 01 43.9**	**-0.2**
KOLL				*e*SG	**Sg**	**09 01 49.8**	**+0.6**
JAVC	**Velka Javorina**	**0.43**	**255**	*e*PG	**Pg**	**09 01 44.7**	**-0.1**
JAVC				*e*SG	**Sb**	**09 01 54.0**	**-0.1**
VYHS	**Vyhne**	**0.59**	**143**	*e*PG	**Pg**	**09 01 47.3**	**-0.5**
VYHS				*e*SG	**Sg**	**09 01 55.8**	**+0.3**
VYHS				eLG	Lg	09 01 56.2	
LANS	**Liptovska Anna**	**0.79**	**76**	*e*PG	**Pg**	**09 01 51.5**	**0.0**
LANS				*e*SG	**Sg**	**09 02 01.8**	**+0.1**
MODS	**Modra-Piesok**	**0.91**	**229**	*e*PG	**Pg**	**09 01 53.5**	**-0.3**
MODS				*e*SG	**Sb**	**09 02 07.8**	**+0.1**

ISK ***29*** *09:15:35.6,37.25N×37.03E,h5km,ML2.8/10*

ISCJB ***29*** *09:15:36.3±0.5,37.23N±0.02×37.05E±0.02,h8km±3km, Error ellipse: s-maj=4.1km s-min=3.3km az=10.6*

DDA ***29*** *09:15:37.2,37.27N×37.20E,h27km,MI3.4*

ISC 29 09:15:36.2±0.9,37.26N±0.02×37.10E±0.02,h13km±6km, n26,σ1§22/45,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.12**	**136**	PG	**Pg**	**09 15 39.5**	**-0.1**
GAZ				SG	**Sg**	**09 15 42.2**	**+0.2**
KMRS	**Kahramanmaras**	**0.29**	**326**	PG	**Pg**	**09 15 41.7**	**-0.6**
KMRS				SG	**Sg**	**09 15 45.7**	**-0.7**
KUZU	**Kuzuini**	**0.49**	**183**	*i* P	**Pn**	**09 15 48.2**	**-0.7**
KUZU				*i* S	**Sn**	**09 15 55.7**	**-1.6**
ANDN	**Andirin**	**0.68**	**298**	*i* P	**Pg**	**09 15 49.4**	**-0.1**
ANDN				*i* S	**Sg**	**09 15 56.5**	**-2.0**
ATAB	**Bozova**	**0.97**	**77**	*i* P	**Pg**	**09 15 55.1**	**+0.1**
ATAB				*i* S	**Sn**	**09 16 09.0**	**-0.2**
KOZT	**Kozan**	**1.04**	**282**	PG	**Pb**	**09 15 55.2**	**-0.8**
KOZT				SG	**Sb**	**09 16 09.4**	**-0.2**
ELBS	**KAHRAMANMARAS**	**1.06**	**1**	*i* P	**Pg**	**09 15 57.5**	**+0.8**
ELBS				*i* S	**Sb**	**09 16 10.0**	**-0.3**
SAIM	**ADANA**	**1.08**	**312**	*i* P	**Pg**	**09 15 57.6**	**+0.6**
SAIM				*i* S	**Sn**	**09 16 12.5**	**+0.5**
TAHT	**Tahtakopru-Hat**	**1.15**	**220**	PN	**Pn**	**09 15 57.0**	**-1.0**
TAHT				SN	**Sb**	**09 16 12.6**	**-0.2**
AKCD	**Akcadag**	**1.22**	**32**	*i* P	**Pg**	**09 15 59.7**	**+0.1**
AKCD				*i* S	**Sg**	**09 16 16.2**	**+0.6**
YURE	**YUREGIR**	**1.25**	**250**	PN	**Pn**	**09 15 58.9**	**-0.5**
YURE	**YUREGIR**	**1.25**	**250**	*i* P	**Pg**	**09 16 01.0**	**+0.7**
YURE				*i* S	**Sg**	**09 16 21.6**	**+4.9**
SURC	**SANLIURFA_SURC**	**1.27**	**107**	*i* P	**Pb**	**09 16 00.1**	**+0.2**
SURC				*i* S	**Sn**	**09 16 16.1**	**-0.4**
DARE	**Darende-Malaty**	**1.34**	**13**	PN	**Pg**	**09 16 01.9**	**-0.1**
CUGUR	**Gurin_S˙VAS**	**1.47**	**5**	*i* P	**Pn**	**09 16 02.4**	**0.0**
CUGUR				*i* S	**Sg**	**09 16 24.7**	**+1.3**
SANL	**SANLIURFA_Merk**	**1.51**	**93**	*i* P	**Pb**	**09 16 04.5**	**+0.5**
SANL				*i* S	**Sb**	**09 16 22.9**	**-0.2**
HEKM	**Malatya_Hekimh**	**1.75**	**22**	*i* P	**Pg**	**09 16 09.6**	**-0.2**
HEKM				*i* S	**Sg**	**09 16 32.0**	**-0.5**
GULE	**Gulek**	**1.86**	**271**	*i* P	**Pb**	**09 16 10.6**	**+0.5**
GULE				*i* S	**Sn**	**09 16 27.5**	**-3.7**
BNN	**Bunyan**	**1.87**	**328**	PN	**Pb**	**09 16 09.3**	**-1.0**
BNN				SN	**Sb**	**09 16 33.4**	**-0.2**
CUALT	**Altinyayla-SIV**	**2.03**	**352**	*i* P	**Pn**	**09 16 11.3**	**+1.1**
CUKAN	**kangal_SIVAS**	**2.07**	**8**	*i* P	**Pb**	**09 16 14.1**	**+0.4**
CUKAN				*i* S	**Sb**	**09 16 38.2**	**-1.1**
MERS	**Mersin**	**2.10**	**260**	PN	**Pn**	**09 16 11.7**	**+0.6**
KERG	**Konya-Eregli**	**2.38**	**275**	*i* P	**Pn**	**09 16 16.0**	**+1.0**
KERG				*i* S	**Sn**	**09 16 44.0**	**-0.1**
YOZ	**Yozgat**	**2.76**	**330**	PN	**Pn**	**09 16 21.6**	**+1.4**
KEBE	**Keben-Mersin**	**2.84**	**254**	PN	**Pn**	**09 16 22.1**	**+0.9**
IKL	**Isikli**	**2.93**	**251**	PN	**Pn**	**09 16 22.9**	**+0.5**

ISCJB ***29*** *09:43:34.1±0.6,30.19S±0.05°×179.5W±0.1,h350km, mb3.6/4,Error ellipse: s-maj=17.7km s-min=5.0km az=17.5*

WEL ***29*** *09:43:39.0±1.2,30°S±24°×18°0W±6°7,h271km±38km*

IDC ***29*** *09:43:43.2±15.0,30.05S×179.74W,h428km±151km, mb3.4/4,mb1 3.5/4,mb1mx3.1/22,mbtmp4.2/4,Error ellipse: s-maj=81.6km s-min=23.3km az=60.0*

ISC 29 09:43:34.0±0.8,30.25S±0.08×179.4W±0.2,h350km,n29, σ1§87/44,mb3.6/4,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.58**	**52**	P	**Pn**	**09 44 23.0**	**+0.3**
GLKZ				S	**S**	**09 45 00.7**	**-1.0**
RIZ	**Raoul Island**	**1.59**	**51**	P	**Pn**	**09 44 22.9**	**+0.2**
RIZ				S	**S**	**09 44 56.7**	**-5.0**
MXZ	**Matakaoa Point**	**7.55**	**194**	P	**Pn**	**09 45 25.4**	**+2.7**
MXZ				S	**S**	**09 46 49.8**	**-1.5**
WMGZ	**Waiomatatini S**	**7.78**	**193**	P	**Pn**	**09 45 28.1**	**+2.7**
WMGZ				S	**S**	**09 46 55.3**	**-0.8**
HAZ	**Te Kaha**	**7.86**	**197**	P	**Pn**	**09 45 28.2**	**+1.9**
HAZ				S	**S**	**09 46 57.6**	**-0.3**
PUZ	**Puketiti**	**8.05**	**194**	P	**P**	**09 45 30.3**	**-1.4**
PUZ				S	**S**	**09 47 00.1**	**-2.1**
RUZZ	**Raukumara Rang**	**8.08**	**197**	P	**P**	**09 45 31.2**	**-1.0**
RUGZ				S	**S**	**09 47 00.3**	**-2.7**
TWGZ	**Tauwhareparae**	**8.21**	**195**	P	**P**	**09 45 35.1**	**+1.5**
TWGZ				S	**S**	**09 47 05.0**	**-0.7**
CNGZ	**Carnagh Statio**	**8.46**	**193**	P	**P**	**09 45 37.0**	**+0.8**
MWZ	**Matawai**	**8.47**	**197**	P	**Pn**	**09 45 33.5**	**-0.2**
MWZ				S	**S**	**09 47 08.7**	**-2.7**
TKGZ	**Te Karaka**	**8.49**	**195**	P	**Pn**	**09 45 33.0**	**-0.9**
TKGZ				S	**S**	**09 47 09.4**	**-2.4**
URZ	**Urewera**	**8.51**	**199**	P	**Pn**	**09 45 34.1**	**0.0**
URZ				S	**S**	**09 47 11.7**	**-0.5**
RAGZ	**Rawiri**	**8.65**	**197**	P	**P**	**09 45 38.9**	**+0.4**
RAGZ				S	**S**	**09 47 14.4**	**-1.0**
RIGZ	**Rimuhau**	**8.77**	**195**	P	**P**	**09 45 39.3**	**-0.4**
RIGZ				S	**S**	**09 47 15.2**	**-2.7**
MUGZ	**Murupara**	**8.81**	**200**	P	**Pn**	**09 45 38.9**	**+1.2**
MUGZ				S	**S**	**09 47 14.9**	**-3.9**
KNZ	**Kokohu**	**9.09**	**195**	P	**P**	**09 45 42.7**	**-0.4**
KNZ				S	**S**	**09 47 20.2**	**-4.6**
RAHZ	**Arahi**	**9.13**	**198**	P	**P**	**09 45 43.9**	**+0.2**
RAHZ				S	**S**	**09 47 24.6**	**-1.2**
NMHZ	**Naumai**	**9.38**	**199**	P	**P**	**09 45 46.3**	**-0.2**
NMHZ				S	**S**	**09 47 30.1**	**-1.2**
BKZ	**Black Stump Fm**	**9.53**	**200**	P	**P**	**09 45 48.1**	**-0.1**
ASAR	**Alice Springs**	**41.95**	**267**	P	**P**	**09 50 52.1**	**+0.1**
	0.7nm,0.5s,baz=104,slow=7.5,SNR=12						
WRA	**Warramunga Arr**	**42.92**	**273**	P	**P**	**09 50 59.6**	**-0.2**
	2.2nm,0.6s,baz=111,slow=7.7,SNR=40						
QSPA	**South Pole Qui**	**59.86**	**180**	P	**P**	**09 53 07.2**	**+3.6**
	1.7nm,0.6s,baz=326,slow=1.3,SNR=9.2						
PETK	**Petropavlovsk-**	**85.38**	**346**	P	**P**	**09 55 31.7**	**-0.5**
	2.6nm,0.8s,baz=126,slow=11,SNR=1.6						
ARCES	**ARCESS Array B**	**138.19**	**347**	PKhKP	PKPpre	10 02 09.1	
	3.1nm,0.9s,baz=59,slow=3.7,SNR=3.5						
FINES	**FINESS Array B**	**144.59**	**339**	PKP	PKPbc	10 02 27.5	-0.7
	5.4nm,0.4s,baz=52,slow=4.2,SNR=41						
NB2	**NORSAR Subarra**	**148.41**	**350**	PKP	**PKPbc**	**10 02 38.4**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=16,slow=2.5						
NOA	**NORSAR Array B**	**148.41**	**350**	PKPbc	**PKPbc**	**10 02 38.7**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=16,slow=4.2,SNR=5.6						
BRTR	**Keskin Array B**	**151.50**	**298**	PKPbc	**PKPbc**	**10 02 47.3**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=133,slow=5.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**162.96**	**183**	PKPab	**PKPab**	**10 03 47.4**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=180,slow=4.6,SNR=4.2						

NNC 29 09:45:43.7±3.2,53.46N×87.74E,h2km±23km,mb3.9, mpv3.6,3C-7D,Error ellipse: s-maj=27.1km s-min=14.4km az=81.0,Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**1.80**	**287**	⇑Pn	Pn	09 46 14.9	-0.8
	18nm,0.6s						
ZAA0				⇑Sn	Sg	09 46 41.6	+0.1
	120nm,0.9s						
KURK	**Kurchatov**	**6.25**	**248**	⇓Pn	Pn	09 47 18.4	+1.6
	3.7nm,0.6s						
KURK				⇓Sn	Sn	09 48 28.2	-0.5
	4.5nm,0.6s						
KURK				⇓Lg	Lg	09 49 04.3	
	24nm,0.9s						
KURBB	**Kurchatov Arra**	**6.35**	**247**	⇓Pn	Pn	09 47 19.5	+1.4
	6.8nm,0.5s						
KURBB				⇑Sn	Sn	09 48 31.1	-0.1
	15nm,0.6s						
KURBB				⇓Lg	Lg	09 49 04.7	
	23nm,0.7s						
MK31	**Makanchi Array**	**7.53**	**210**	Pn	Pn	09 47 35.2	+0.8
	1.0nm,0.6s,baz=22,slow=9.8,SNR=17						
MK31				⇓Sn	Sn	09 49 02.0	+1.7
	2.3nm,0.8s,baz=29,slow=14,SNR=3.1						
MK31				⇓Lg	Lg	09 49 43.9	
	3.7nm,0.7s,baz=33,slow=30,SNR=5.7						

ISCJB ***29*** *10:03:05.7±0.3,24.20N±0.02×122.27E±0.02, h38km±13km,Error ellipse: s-maj=3.2km s-min=2.4km az=147.3*

JMA ***29*** *10:03:05.1±0.1,24.15N×122.22E,h53km±3km,M2.4*

TAP ***29*** *10:03:05.8,24.21N×122.24E,h45km,ML3.0,C*

ISC 29 10:03:03.8±1.2,24.17N±0.02×122.26E±0.02,h19km±3km, n64,σ0§60/118,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.40**	**343**	*e*P	**Pn**	**10 03 15.6**	**+1.1**
	baz=336						
EOS1				*e*S	**Sn**	**10 03 22.9**	**+1.4**
	baz=336						
NANB	**Nanao**	**0.53**	**299**	*e*P	**Pn**	**10 03 16.9**	**+0.6**
	baz=304						
NANB				*e*S	**Sn**	**10 03 24.9**	**+0.1**
	baz=304						
ENA	**Nanau**	**0.54**	**299**	P	**Pn**	**10 03 16.9**	**+0.4**
	baz=303						
ENA				S	**Sn**	**10 03 25.0**	**0.0**
	baz=303						
TWC	**Suao**	**0.58**	**320**	P	**Pn**	**10 03 17.1**	**+0.1**
	baz=324						
TWC				S	**Sn**	**10 03 25.1**	**-0.8**
	baz=324						
NACB	**Ninganchiao**	**0.61**	**271**	*e*P	**Pn**	**10 03 17.7**	**+0.3**
	baz=266						
NACB				*e*S	**Sn**	**10 03 26.5**	**-0.1**
	baz=266						
TWD	**Chiawan**	**0.61**	**262**	P	**Pn**	**10 03 18.0**	**+0.5**
	baz=249						
TWD				S	**Sn**	**10 03 26.8**	**+0.1**
	baz=249						
HWA	**Hwalien**	**0.63**	**253**	*e*S	**Sn**	**10 03 28.4**	**+1.3**
	baz=247						
JYNG	**Yonagunjimaku**	**0.69**	**66**	P	**Pn**	**10 03 19.4**	**+0.9**
YOJ	**Yonaguni jima**	**0.75**	**67**	P	**Pn**	**10 03 20.3**	**+1.0**
TWE	**Neicheng**	**0.77**	**316**	P	**Pn**	**10 03 20.3**	**+0.6**
	baz=315						
TWE				S	**Sn**	**10 03 30.7**	**0.0**
	baz=315						
ENTT	**Nioudou**	**0.79**	**307**	*e*P	**Pn**	**10 03 20.5**	**+0.6**
	baz=305						
ENTT				*e*S	**Sn**	**10 03 31.0**	**-0.2**
	baz=305						
NTC	**Toucheng**	**0.79**	**330**	*e*S	**Sn**	**10 03 30.6**	**-0.6**
	baz=337						
ESL	**Shilin**	**0.83**	**245**	*e*P	**Pn**	**10 03 21.1**	**+0.6**
	baz=241						
ESL				S	**Sn**	**10 03 32.0**	**-0.2**
	baz=241						
NNSB	**Datong**	**0.84**	**288**	P	**Pn**	**10 03 21.1**	**+0.4**
	baz=285						
NNSB				*e*S	**Sn**	**10 03 32.5**	**-0.1**
	baz=285						
NNS	**Nan Shan**	**0.85**	**289**	P	**Pn**	**10 03 21.5**	**+0.6**
	baz=286						
NNS				S	**Sn**	**10 03 32.8**	**-0.1**
	baz=286						
TWB1	**Santiao Chiao**	**0.87**	**344**	*e*P	**Pg**	**10 03 20.8**	**-0.1**
	baz=344						
TWB1				*e*S	**Sb**	**10 03 31.2**	**-0.5**
	baz=344						
EGFH	**Guangfu**	**0.91**	**237**	*e*P	**Pn**	**10 03 21.9**	**+0.4**
	baz=226						
EGFH				*e*S	**Sn**	**10 03 34.1**	**0.0**
	baz=226						
WHF	**Hehuan Shan**	**0.91**	**269**	P	**Pn**	**10 03 22.2**	**+0.3**
	baz=255						
WHF				S	**Sn**	**10 03 34.9**	**+0.2**
	baz=255						
NWLT	**Wulai**	**0.92**	**312**	*e*P	**Pg**	**10 03 22.6**	**+0.9**
	baz=310						
NWLT				*e*S	**Sn**	**10 03 34.2**	**-0.2**
	baz=310						
YHNB	**Yeheng**	**0.95**	**302**	P	**Pg**	**10 03 22.6**	**+0.3**
	baz=300						
YHNB				*e*S	**Sg**	**10 03 34.8**	**-0.1**
	baz=300						
NSK	**Sanguang**	**0.96**	**302**	P	**Pg**	**10 03 22.8**	**+0.2**
	baz=300						
NSK				*e*S	**Sn**	**10 03 35.5**	**-0.1**
	baz=300						
TWT	**Tachien**	**0.99**	**275**	P	**Pg**	**10 03 24.2**	**+1.0**
	baz=272						
TWT				*e*S	**Sn**	**10 03 36.8**	**+0.3**
	baz=272						
CHGB	**Renai**	**1.00**	**264**	P	**Pg**	**10 03 23.6**	**+0.3**
	baz=252						
CHGB				S	**Sg**	**10 03 36.4**	**0.0**
	baz=252						
TDCB	**Techi**	**1.01**	**275**	P	**Pg**	**10 03 23.9**	**+0.4**
	baz=272						
TDCB				*e*S	**Sg**	**10 03 36.3**	**-0.4**
	baz=272						
HGSD	**Ruisui**	**1.02**	**229**	*e*P	**Pg**	**10 03 23.6**	**0.0**
	baz=221						
HGSD				*e*S	**Sn**	**10 03 36.9**	**+0.1**
	baz=221						
EHY	**Hungye**	**1.08**	**233**	P	**Pg**	**10 03 24.6**	**-0.2**
	baz=230						
EHY				S	**Sn**	**10 03 38.3**	**-0.1**
	baz=230						
VWDT	**VWDT**	**1.10**	**248**	P	**Pg**	**10 03 25.1**	**0.0**
	baz=237						
VWDT				*e*S	**Sn**	**10 03 38.7**	**-0.1**
	baz=237						
YM01	**YM01**	**1.16**	**327**	*e*P	**Pb**	**10 03 25.7**	**+0.4**
	baz=339						
YM01				S	**Sb**	**10 03 39.8**	**-0.1**
	baz=339						
YM07	**YM07**	**1.16**	**330**	P	**Pg**	**10 03 26.0**	**-0.3**
	baz=341						
YM07				*e*S	**Sb**	**10 03 39.1**	**-0.8**
	baz=341						
YULB	**Yu-li**	**1.17**	**229**	*e*P	**Pb**	**10 03 25.6**	**+0.1**
	baz=239						
YULB				*e*S	**Sn**	**10 03 40.5**	**-0.1**
	baz=239						
YM10	**YM10**	**1.17**	**327**	*e*P	**Pb**	**10 03 25.4**	**-0.1**
	baz=339						
YM10				*e*S	**Sb**	**10 03 39.3**	**-1.0**
	baz=339						
YM11	**YM11**	**1.17**	**328**	*e*P	**Pn**	**10 03 24.7**	**-0.6**
	baz=338						
YM11				*e*S	**Sb**	**10 03 39.5**	**-0.8**
	baz=338						
YM05	**YM05**	**1.18**	**328**	*e*P	**Pb**	**10 03 25.7**	**+0.1**
	baz=338						
YM05				*e*S	**Sb**	**10 03 39.1**	**-1.3**
	baz=338		

	baz=237								
CHN5					S		**Sb**	**10 03 52.3**	**+0.9**
	baz=237								
JKRS	**Kuro-shima**	**1.60**	**87**		P		**Pb**	**10 03 32.7**	**0.0**
JKRS					S		**Sb**	**10 03 52.5**	**-0.1**
STYT	**Tauyuan**	**1.70**	**234**	*eP*			**Pb**	**10 03 34.4**	**-0.1**
	baz=226								
STYT					S		**Sb**	**10 03 54.9**	**-0.6**
	baz=226								
TPUB	**Ta-pu**	**1.72**	**240**	*eP*			**Pb**	**10 03 34.6**	**-0.2**
	baz=239								
TPUB					*eS*		**Sb**	**10 03 56.2**	**0.0**
	baz=239								
TWGBT	**Beinan**	**1.72**	**219**	*eP*			**Pn**	**10 03 32.6**	**-0.2**
	baz=218								
TWGBT					*eS*		**Sn**	**10 03 53.9**	**-0.3**
	baz=218								
TWG	**Pinlang**	**1.73**	**219**	*eP*			**Pn**	**10 03 33.7**	**+0.9**
	baz=218								
TWG					*eS*		**Sn**	**10 03 53.1**	**-1.2**
	baz=218								
CHN4	**Tsaushan**	**1.73**	**242**	*eP*			**Pb**	**10 03 35.9**	**+1.0**
	baz=241								
CHN4					*eS*		**Sb**	**10 03 57.6**	**+1.3**
	baz=241								
JIJ	**Ishigaki jima**	**1.73**	**83**		P		**Pn**	**10 03 33.5**	**+0.6**
JIJ					S		**Sn**	**10 03 53.9**	**-0.5**
RLNB	**Erlin**	**1.76**	**261**	*eS*			**Sb**	**10 03 57.0**	**-0.1**
	baz=260								
WTP	**Ta-pu**	**1.76**	**239**	*eP*			**Pb**	**10 03 35.1**	**-0.5**
	baz=237								
WTP					*eS*		**Sb**	**10 03 57.6**	**+0.2**
	baz=237								
TWK	**Hsinying**	**1.85**	**241**	*eP*			**Pb**	**10 03 36.2**	**-0.9**
	baz=240								
TWK					*eS*		**Sb**	**10 03 59.5**	**-0.4**
	baz=240								
CHN1	**Nanshi**	**1.86**	**239**	*eP*			**Pb**	**10 03 37.2**	**-0.1**
	baz=237								
CHN1					*eS*		**Sb**	**10 04 00.2**	**+0.1**
	baz=237								
SLGT	**Liugui**	**1.88**	**232**	*eP*			**Pb**	**10 03 37.5**	**-0.1**
	baz=231								
SLGT					*eS*		**Sb**	**10 04 01.2**	**+0.5**
	baz=231								
JISG	**Ishigakijimahi**	**1.92**	**77**		P		**Pn**	**10 03 35.9**	**+0.5**
JISG					S		**Sn**	**10 03 58.1**	**-0.9**
MASBT	**Mashibuluo**	**2.15**	**224**	*eS*			**Sb**	**10 04 07.4**	**-1.1**
	baz=224								
JTJ	**Tarama**	**2.28**	**78**		P		**Pn**	**10 03 41.5**	**+1.1**
JTJ					*eS*		**Sn**	**10 04 08.3**	**+0.4**

SJA 29 10:11:07.3±0.5, 31°30S×68°68W, h111km±2km, ML3.1, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RTLL	**Cerro Villicun**	**0.17**	**99**	*i* P		Pn	10 11 23.0	+0.3
RTLL				*i* S		Sn	10 11 35.5	+1.1
RTLL				IAML			10 11 35.9	
	comp=Z,629nm,0.2s							
ZON	**Zonda**	**0.24**	**181**	IAML			10 11 24.0	
	comp=Z,321nm,0.2s							
SJA	**San Juan**	**0.24**	**156**	*i* P		Pn	10 11 23.7	+0.7
SJA				*i* S		Sn	10 11 35.5	+0.7
SJA				IAML			10 11 36.1	
	comp=Z,434nm,0.2s							
AMOG	**MOGNA**	**0.40**	**23**	*i* P		Pn	10 11 24.3	+0.5
AMOG				*i* S		Sn	10 11 36.8	+0.8
RTCV	**Cerro Valdivia**	**0.57**	**168**	*i* P		Pn	10 11 25.4	+0.6
RTCV				*i* S		Sn	10 11 38.7	+0.8
AUSP	**Uspallata**	**1.10**	**213**	*i* P		Pn	10 11 31.3	+1.3
ACAN	**Cantantal**	**1.59**	**128**	*i* P		Pn	10 11 36.4	+1.0
AGUA	**GUANDACOL**	**1.82**	**5**	*i* P		Pn	10 11 39.2	+1.0

MOS ***29*** *10:37:35.6±0.9, 20°.62S×177°.12W, h236km, mb5.3/61, Error ellipse: s-maj=7.9km s-min=6.3km az=61.4*

ISCJB ***29*** *10:37:36.9±0.6, 20°.69S±0°.02×177°.12W±0°.02, h246km±6km, mb5.2/334, Error ellipse: s-maj=4.3km s-min=2.9km az=137.7*

BJI ***29*** *10:37:37.0, 20°.60S×177°.00W, h248km, mb5.2/50, mB5.2/29*

NEIC ***29*** *10:37:41.9±0.7, 20°.72S×177°.16W, h286km±6km, mb5.3/282, Error ellipse: s-maj=3.6km s-min=2.5km az=141.0*

IDC ***29*** *10:37:42.1±0.6, 20°.69S×177°.07W, h286km±5km, mb4.9/39, mb1 5.0/40, mb1mx4.9/46, mbtmp5.5/40, Error ellipse: s-maj=8.4km s-min=7.9km az=176.0*

GCMT ***29*** *10:37:44.8±0.2, 20°.74S±0°.03×177°.07W±0°.02, h296km±1km, MW5.3/84, Moment Tensor Solution. s84,c125; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.06±.02; $M_{\theta\theta}$-0.69±.03; $M_{\phi\phi}$0.63±.03; $M_{r\theta}$-1.00±.03; $M_{\theta\phi}$-0.10±.03; $M_{\phi r}$-0.29±.03; Best double couple: $M_0$1.15100×10^{17} NP1:ϕ_s239.00000°, δ85.00000°, λ63.00000°. NP2:ϕ_s140.00000°, δ27.00000°, λ170.00000°. Principal axes: T 0.8900, Plg43.0000°, Azm123.0000°; N 0.5230, Plg27.0000°, Azm241.0000°; P -1.4130, Plg35.0000°, Azm352.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 29 10:37:41.3±0.4, 20°.80S±0°.04×177°.04W±0°.04, h282km±3km, h282km:pP-P, n1041, σ1s55/1192, mb5.2/333, 55C-37D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIUE	**Niue**	**6.91**	**77**	P		**Pn**	**10 39 17.0**	**-4.2**
	baz=6.7,SNR=96							
NIUE				S		S	10 40 31.1	-11
	baz=6.7							
RIZ	**Raoul Island**	**8.45**	**185**	P		**Pn**	**10 39 39.3**	**-0.8**
RIZ				S		**S**	**10 41 11.8**	**-4.8**
RAO	**Raoul Island**	**8.45**	**185**	P		**Pn**	**10 39 37.9**	**-2.3**
	46nm,0.3s,baz=54,slow=19,SNR=4.4							
RAO				S		**S**	**10 41 12.3**	**-4.4**
	236nm,0.3s,baz=90,slow=20,SNR=7.0							
RAO	**Raoul Island**	**8.45**	**185**	*e*P		**Pn**	**10 39 37.9**	**-2.3**
RAO				*e*P		**Pn**	**10 39 42.8**	**+2.6**
RAO				*e*S		**S**	**10 41 12.3**	**-4.4**
GLKZ	**Green Lake**	**8.46**	**185**	P		**Pn**	**10 39 38.6**	**-1.7**
GLKZ				S		**S**	**10 41 11.7**	**-5.2**
AFI	**Afiamalu**	**8.50**	**37**	P		Pn	10 39 33.7	-7.3
	24nm,0.3s,baz=186,slow=2.6,SNR=39							
AFI				S		S	10 41 00.7	-17
	45nm,0.3s,baz=256,slow=23,SNR=7.7							
AFI	**Afiamalu**	**8.50**	**37**	*e*P		Pn	10 39 33.7	-7.3
AFI				*e*			10 39 34.0	
AFI				*e*			10 41 00.7	
FUNA	**Funafuti**	**12.73**	**343**	*e*Pn		**Pn**	**10 40 31.9**	**-1.3**
DZM	**Mont Dzumac**	**15.43**	**262**	P		**Pn**	**10 41 08.1**	**+2.5**
	23nm,0.3s,baz=107,slow=7.3,SNR=148							
DZM				S		**S**	**10 43 56.5**	**+3.8**
	baz=330,slow=18,SNR=4.1							
DZM				ScP		**ScP**	**10 48 55.8**	**-0.4**
	0.2nm,0.3s,baz=90,slow=2.0,SNR=3.8							
DZM	**Mont Dzumac**	**15.43**	**262**	*e*P		**Pn**	**10 41 08.0**	**+2.5**
	1μm,0.9s							
DZM	**Mont Dzumac**	**15.43**	**262**	*e*P		**Pn**	**10 41 07.4**	**+1.9**
	454nm,0.8s							
DZM				*e*S		**S**	**10 43 59.6**	**+6.8**
DZM				ScP		**ScP**	**10 48 55.8**	**-0.4**
NFK	**Norfolk Island**	**15.89**	**236**	P		**Pn**	**10 41 16.4**	**+5.6**
	baz=16,SNR=3.6							
RAR	**Rarotonga**	**16.13**	**95**	P		**P**	**10 41 12.0**	**+0.3**
	6.7nm,0.3s,baz=246,slow=7.0,SNR=39							
RAR				S		**S**	**10 44 14.7**	**+8.2**
	1.4nm,0.3s,baz=139,slow=19,SNR=2.7							
RAR	**Rarotonga**	**16.13**	**95**	*e*P		**P**	**10 41 12.0**	**+0.3**
	407nm,1.0s							
RAR				*e*S		**S**	**10 44 14.7**	**+8.2**
OUZ	**Omahuta**	**16.56**	**208**	*e*P		**Pn**	**10 41 18.4**	**0.0**
	98nm,1.3s							
OUZ	**Omahuta**	**16.56**	**208**	P		**Pn**	**10 41 18.4**	**0.0**
GRZ	**Great Barrier**	**16.73**	**202**	P		**Pn**	**10 41 19.8**	**-0.7**
WCZ	**Waipu Caves**	**16.86**	**205**	P		**Pn**	**10 41 21.9**	**-0.2**
KUZ	**Kuaotunu**	**17.09**	**200**	P		**Pn**	**10 41 24.0**	**-0.7**
MXZ	**Matakaoa Point**	**17.18**	**193**	*e*P		**P**	**10 41 24.1**	**+1.1**
	107nm,1.1s							
MXZ	**Matakaoa Point**	**17.18**	**193**	P		**P**	**10 41 24.4**	**+1.4**
MXZ				S		**S**	**10 44 21.1**	**-6.1**
WMGZ	**Waiomatatini S**	**17.41**	**192**	P		**P**	**10 41 25.4**	**0.0**
WMGZ				S		**S**	**10 44 26.7**	**-4.9**
HAZ	**Te Kaha**	**17.48**	**194**	P		**P**	**10 41 25.7**	**-0.5**
HAZ				S		**S**	**10 44 28.8**	**-4.3**
PKGZ	**Pakihiroa**	**17.55**	**193**	P		**Pn**	**10 41 29.5**	**-0.6**
PKGZ				S		**S**	**10 44 29.5**	**-5.0**
PUZ	**Puketiti**	**17.68**	**192**	P		**P**	**10 41 27.6**	**-0.9**
PUZ				S		**S**	**10 44 30.9**	**-6.3**
PUZ	**Puketiti**	**17.68**	**192**	P		**S**	**10 44 31.2**	**-6.0**
RUGZ	**Raukumara Rang**	**17.70**	**194**	P		**P**	**10 41 28.0**	**-0.8**
RUGZ				S		**S**	**10 44 31.3**	**-6.4**
TGRZ	**Tauranga**	**17.84**	**198**	P		**Pn**	**10 41 33.5**	**0.0**
TWGZ	**Tauwhareparae**	**17.84**	**193**	P		**P**	**10 41 30.8**	**+0.6**
TWGZ				S		**S**	**10 44 35.3**	**-5.0**
TWGZ	**Tauwhareparae**	**17.84**	**193**	P		**S**	**10 44 38.6**	**-1.8**
OPRZ	**Ohinepanea**	**17.87**	**197**	P		**P**	**10 41 31.8**	**+1.4**
OPRZ				S		**S**	**10 44 42.8**	**+2.1**
KMRZ	**Kaimai**	**18.04**	**198**	P		**Pn**	**10 41 34.3**	**-1.4**
MWZ	**Matawai**	**18.09**	**194**	P		**P**	**10 41 31.9**	**-0.9**
MWZ				S		**S**	**10 44 40.1**	**-5.1**
MWZ	**Matawai**	**18.09**	**194**	P		**S**	**10 44 42.1**	**-3.1**
CNGZ	**Carnagh Statio**	**18.09**	**192**	P		**P**	**10 41 32.9**	**+0.1**
CNGZ	**Carnagh Statio**	**18.09**	**192**	P		**S**	**10 44 41.9**	**-3.2**
KARZ	**Kaharoa**	**18.12**	**197**	P		**Pn**	**10 41 35.0**	**-1.5**
URZ	**Urewera**	**18.12**	**195**	P		**P**	**10 41 32.0**	**-1.0**
	15nm,0.3s,baz=255,slow=2.9,SNR=87							
URZ				S			**10 44 41.7**	**-3.9**
	10.0nm,0.3s,baz=223,slow=22,SNR=8.2							
URZ	**Urewera**	**18.12**	**195**	*e*P		**P**	**10 41 32.0**	**-1.0**
URZ				*e*P		**Pn**	**10 41 32.5**	**-4.0**
URZ				*e*S		**S**	**10 44 41.7**	**-3.9**
URZ	**Urewera**	**18.12**	**195**	P		**S**	**10 41 30.7**	**-2.4**
URZ				S		**S**	**10 44 41.4**	**-4.2**
URZ	**Urewera**	**18.12**	**195**	P		**S**	**10 44 45.6**	**0.0**
TKGZ	**Te Karaka**	**18.12**	**193**	P		**P**	**10 41 33.6**	**+0.4**
TKGZ				S		**S**	**10 44 40.1**	**-5.6**
TKGZ	**Te Karaka**	**18.12**	**193**	P		**S**	**10 44 38.2**	**-7.5**
OMRZ	**Omania**	**18.16**	**197**	P		**Pn**	**10 41 37.5**	**+0.3**
NGRZ	**Ngongotaha**	**18.21**	**197**	P		**Pn**	**10 41 37.4**	**-0.3**
TARZ	**Mount Tarawera**	**18.25**	**196**	P		**Pn**	**10 41 37.6**	**-0.6**
RAGZ	**Rawiri**	**18.27**	**194**	P		**P**	**10 41 33.9**	**-1.0**
RAGZ				S		**S**	**10 44 45.9**	**-2.9**
RAGZ	**Rawiri**	**18.27**	**194**	P		**S**	**10 44 50.3**	**+1.5**
HLRZ	**Highlands Stat**	**18.30**	**197**	P		**Pn**	**10 41 37.1**	**-1.7**
RRRZ	**Republican Roa**	**18.34**	**196**	P		**Pn**	**10 41 38.2**	**-1.0**
HSRZ	**Hossack Road**	**18.39**	**197**	P		**Pn**	**10 41 39.6**	**-0.1**
RIGZ	**Rimuhau**	**18.40**	**193**	P		**P**	**10 41 35.3**	**-0.8**
RIGZ				S		**S**	**10 44 45.9**	**-5.3**
RIGZ	**Rimuhau**	**18.40**	**193**	P		**S**	**10 44 45.6**	**-5.6**
MUGZ	**Murupara**	**18.41**	**196**	P		**P**	**10 41 35.0**	**-1.2**
MUGZ	**Murupara**	**18.41**	**196**	P		**S**	**10 44 49.1**	**-2.3**
HRRZ	**Handcock Road**	**18.45**	**197**	P		**Pn**	**10 41 39.3**	**-1.3**
GRRZ	**Galatos Road**	**18.46**	**197**	P		**Pn**	**10 41 39.8**	**-0.8**
RTZ	**Ruatahuna**	**18.49**	**195**	P		**P**	**10 41 37.3**	**+0.2**
RTZ	**Ruatahuna**	**18.49**	**195**	P		**S**	**10 44 51.1**	**-1.9**
PRRZ	**Plateau Road**	**18.53**	**196**	P		**P**	**10 41 38.2**	**+0.7**
SNGZ	**Shannon Statio**	**18.56**	**194**	P		**P**	**10 41 37.1**	**-0.8**
SNGZ	**Shannon Statio**	**18.56**	**194**	P		**S**	**10 44 50.9**	**-3.4**
PRGZ	**Paritu Road**	**18.58**	**193**	P		**P**	**10 41 39.4**	**+1.3**
PRGZ	**Paritu Road**	**18.58**	**193**	P		**S**	**10 44 48.1**	**-6.7**
ALRZ	**Allen Road**	**18.60**	**196**	P		**P**	**10 41 38.5**	**+0.3**
ALRZ	**Allen Road**	**18.60**	**196**	P		**S**	**10 44 55.4**	**+0.3**
WPRZ	**Whakapapatarin**	**18.61**	**197**	P		**Pn**	**10 41 40.5**	**-1.9**
TLZ	**Tolley Road**	**18.61**	**199**	P		**Pn**	**10 41 40.7**	**-1.7**
KNTN	**Kanton**	**18.65**	**17**	*e*P		**P**	**10 41 36.8**	**-2.3**
	67nm,0.8s							
KNZ	**Kokohu**	**18.72**	**193**	P		**P**	**10 41 39.7**	**+0.1**
KNZ	**Kokohu**	**18.72**	**193**	P		**S**	**10 44 52.7**	**-4.6**
MTHZ	**Maungataniwha**	**18.75**	**195**	P		**P**	**10 41 39.6**	**-0.3**
MTHZ				P		**P**	**10 41 39.6**	**-0.3**
MTHZ	**Maungataniwha**	**18.75**	**195**	P		**S**	**10 44 54.5**	**-3.5**
MTHZ				P		**S**	**10 44 54.4**	**-3.5**
RAHZ	**Arahi**	**18.75**	**194**	P		**P**	**10 41 39.9**	**0.0**
RAHZ	**Arahi**	**18.75**	**194**	P		**S**	**10 44 55.9**	**-2.1**
RAHZ				P		**S**	**10 44 55.5**	**-2.5**
MHGZ	**Mahia Peninsul**	**18.80**	**192**	P		**P**	**10 41 41.2**	**+0.8**
MHGZ	**Mahia Peninsul**	**18.80**	**192**	P		**S**	**10 44 54.1**	**-4.8**
MRHZ	**Matea Rd**	**18.84**	**196**	P		**P**	**10 41 41.3**	**+0.5**
WHHZ	**Waihua**	**18.87**	**194**	P		**P**	**10 41 41.4**	**+0.3**
WATZ	**Wairara**	**18.90**	**198**	P		**Pn**	**10 41 44.5**	**-1.4**
HIZ	**Haiti**	**18.99**	**200**	*e*P		**P**	**10 41 44.3**	**+1.9**
	146nm,0.9s							
NMHZ	**Naumai**	**18.99**	**195**	P		**P**	**10 41 42.8**	**+0.4**
NMHZ	**Naumai**	**18.99**	**195**	P		**S**	**10 45 03.1**	**+0.4**
RATZ	**Rangitukua**	**19.04**	**197**	P		**P**	**10 41 44.8**	**+1.8**
ARHZ	**Aropaoanui**	**19.10**	**194**	P		**P**	**10 41 42.8**	**-0.8**
BKZ	**Black Stump Fm**	**19.13**	**195**	*e*P		**P**	**10 41 43.6**	**-0.4**
	106nm,1.3s							
BKZ	**Black Stump Fm**	**19.13**	**195**	P		**P**	**10 41 41.6**	**-2.4**
KRVZ	**Karewarewa**	**19.29**	**197**	P		**P**	**10 41 47.4**	**+1.6**
WTVZ	**West Tongariro**	**19.32**	**198**	P		**P**	**10 41 47.5**	**+1.4**
TWVZ	**Taurewa**	**19.32**	**198**	P		**P**	**10 41 48.0**	**+1.9**
MCHZ	**McNeill Hill**	**19.34**	**195**	P		**P**	**10 41 44.5**	**-1.7**
NGZ	**Ngauruhoe**	**19.38**	**197**	P		**P**	**10 41 47.6**	**+0.9**
KWHZ	**Kaweka Forest**	**19.39**	**195**	P		**P**	**10 41 48.0**	**+1.2**
COVZ	**Chateau Observ**	**19.41**	**198**	P		**P**	**10 41 48.1**	**+1.0**
TUVZ	**Tukino**	**19.45**	**197**	P		**P**	**10 41 46.2**	**-1.3**
CKHZ	**Cape Kidnapper**	**19.46**	**194**	P		**P**	**10 41 48.2**	**+0.8**
FWVZ	**Far West T-bar**	**19.46**	**197**	P		**P**	**10 41 48.9**	**+1.2**
WHVZ	**Whangaehu Hut**	**19.48**	**197**	P		**P**	**10 41 49.1**	**+1.2**
TRVZ	**Turoa**	**19.50**	**197**	P		**P**	**10 41 49.6**	**+1.4**
BHHZ	**Black Hill Sta**	**19.54**	**196**	P		**P**	**10 41 46.2**	**-2.2**
MOVZ	**Moawhango**	**19.55**	**197**	P		**P**	**10 41 48.3**	**-0.2**
PKVZ	**Pokaka**	**19.55**	**198**	P		**P**	**10 41 48.5**	**0.0**
VRZ	**Vera Road**	**19.58**	**199**	P		**P**	**10 41 49.9**	**+1.3**
KRHZ	**Kereru**	**19.61**	**195**	P		**P**	**10 41 47.9**	**-1.2**
KAHZ	**Kahuranaki**	**19.63**	**194**	P		**P**	**10 41 48.2**	**-1.1**
PXZ	**Pawanui**	**19.86**	**194**	P		**P**	**10 41 49.6**	**-2.1**
PNHZ	**Pukenui**	**19.91**	**195**	P		**P**	**10 41 50.9**	**-1.4**
TSZ	**Takapari Road**	**20.11**	**196**	P		**P**	**10 41 52.9**	**-1.3**
DVHZ	**Dannevirke**	**20.28**	**195**	P		**S**	**10 45 27.6**	**+0.9**
ANWZ	**Angora Road**	**20.36**	**194**	P		**S**	**10 45 32.5**	**+4.6**
POWZ	**Post Office Ro**	**20.47**	**196**	P		**S**	**10 45 28.8**	**-0.9**
PRWZ	**Pori Road**	**20.57**	**195**	P		**S**	**10 45 31.6**	**+0.2**
BFZ	**Birch Farm**	**20.62**	**195**	*e*P		**P**	**10 41 59.5**	**-0.1**
	73nm,0.8s							
BFZ	**Birch Farm**	**20.62**	**195**	P		**S**	**10 45 34.9**	**+2.6**
MRZ	**Mangatainoka R**	**20.77**	**196**	P		**S**	**10 45 32.5**	**-2.1**
TIWZ	**Tintock**	**20.80**	**195**	P		**S**	**10 45 39.4**	**+4.2**
CPWZ	**Castlepoint**	**20.85**	**195**	P		**S**	**10 45 40.9**	**+5.1**
HOWZ	**Holdsworth Sta**	**21.01**	**196**	P		**S**	**10 45 38.8**	**+0.3**
OGWZ	**Otaki Gorge**	**21.02**	**197**	P		**S**	**10 45 39.8**	**+1.1**
TMWZ	**Te Maipa**	**21.11**	**195**	P		**S**	**10 45 44.5**	**+4.3**
KIW	**Kapiti Island**	**21.14**	**197**	P		**S**	**10 45 44.0**	**+3.5**
MTW	**Mount Morrison**	**21.26**	**196**	P		**S**	**10 45 43.6**	**+1.2**
CAW	**Cannon Point**	**21.32**	**197**	P		**S**	**10 45 43.1**	**-0.4**
TRWZ	**Traveller**	**21.44**	**195**	P		**S**	**10 45 53.9**	**+8.5**
PAWZ	**Paruwai Farm**	**21.49**	**196**	P		**S**	**10 45 49.2**	**+3.0**
MSWZ	**Moikau Station**	**21.57**	**196**	P		**S**	**10 45 48.7**	**+1.2**
SNZO	**South Karori**	**21.61**	**197**	*e*P		**P**	**10 42 09.5**	**+0.5**
	161nm,0.8s							
SNZO				*e*S		**S**	**10 45 50.2**	**+2.1**
TCW	**Tory Channel**	**21.64**	**198**	P		**S**	**10 45 50.9**	**+2.2**
PLWZ	**Palliser**	**21.71**	**196**	P		**S**	**10 45 55.5**	**+5.6**
TUWZ	**Tuamarina**	**21.94**	**198**	P		**S**	**10 45 57.5**	**+4.0**
BSWZ	**Blackbirch Sta**	**22.22**	**198**	P		**S**	**10 46 06.0**	**+8.0**
THZ	**Tophouse**	**22.56**	**200**	*e*P		**P**	**10 42 17.9**	**+0.2**
	58nm,0.6s							
THZ	**Tophouse**	**22.56**	**200**	P		**S**	**10 46 06.9**	**+3.3**
KHZ	**Kahutara**	**22.96**	**198**	*e*P		**P**	**10 42 21.1**	**-0.2**
	80nm,0.7s							
LTZ	**Lake Taylor**	**23.68**	**200**	*e*P		**P**	**10 42 26.7**	**-1.2**
	139nm,1.0s							
LTZ				*e*S		**S**	**10 46 28.3**	**+6.8**
TARA	**Tarawa**	**24.11**	**335**	*e*P		**P**	**10 42 30.7**	**-1.3**
	2μm,1.0s							
OXZ	**Oxford**	**24.25**	**200**	*e*P		**P**	**10 42 32.1**	**-0.8**
	137nm,0.8s							
CRLZ	**Canterbury Las**	**24.29**	**198**	*e*P		**P**	**10 42 34.5**	**+1.2**
	92nm,1.0s							
MQZ	**McQueen's Vall**	**24.40**	**198**	*e*P		**P**	**10 42 34.9**	**+0.6**
	46nm,0.8s							
HNR	**Honiara**	**24.89**	**294**	P		**P**	**10 42 39.3**	**+0.3**
	311nm,0.8s,baz=278,slow=0.5,SNR=9.4							
HNR	**Honiara**	**24.89**	**294**	*e*P		**P**	**10 42 40.0**	**+1.0**
HNR	**Honiara**	**24.89**	**294**	*e*P		**P**	**10 42 38.3**	**-0.7**
	280nm,0.8s							
HNR				*e*P		**P**	**10 42 39.4**	**+0.3**
RPZ	**Rata Peaks**	**24.91**	**201**	P		**P**	**10 42 39.3**	**+0.3**
	64nm,0.6s,baz=2.0,slow=2.9,SNR=30							
RPZ				S		**S**	**10 46 48.3**	**+7.5**
	13nm,0.9s,baz=96,slow=13,SNR=2.6							
RPZ	**Rata Peaks**	**24.91**	**201**	*e*P		**P**	**10 42 39.3**	**+0.3**
RPZ				*e*P		**P**	**10 42 39.5**	**+0.5**
RPZ				*e*S		**S**	**10 46 48.3**	**+7.5**
FOZ	**Fox Glacier**	**25.18**	**203**	*e*P		**P**	**10 42 41.1**	**-0.2**
	154nm,1.3s							
TBI	**Tubuai**	**25.67**	**101**	*e*P		**P**	**10 42 46.2**	**+0.3**
	321nm,1.4s							
LBZ	**Lake Benmore**	**25.80**	**201**	*e*P		**P**	**10 42 46.2**	**-0.7**
	119nm,1.8s							
PAE	**Paea**	**26.10**	**88**	*e*P		**P**	**10 42 49.4**	**-0.5**
	24nm,1.0s							
PPT2	**Papeete2**	**26.12**	**88**	*e*P		**P**	**10 42 50.0**	**-0.1**
	206nm,1.2s							
PPT	**Papeete**	**26.12**	**88**	P		**P**	**10 42 50.1**	**0.0**
	146nm,0.8s,baz=72,slow=0.9,SNR=21							
PPT	**Papeete**	**26.12**	**88**	*e*P		**P**	**10 42 50.1**	**0.0**
PPT				*e*P		**P**	**10 42 50.5**	**+0.4**
PPTF	**Pamatai, Papee**	**26.13**	**88**	*e*P		**P**	**10 42 50.2**	**0.0**
	469nm,1.4s							
TIAR	**Tiarei**	**26.34**	**88**	*e*P		**P**	**10 42 51.8**	**-0.2**
	45nm,0.9s							
TVO	**Taravao**	**26.39**	**88**	*e*P		**P**	**10 42 52.2**	**-0.3**
	30nm,1.1s							
MLZ	**Mavora Lakes**	**27.38**	**203**	*e*P		**P**	**10 43 01.6**	**+0.6**
	54nm,1.0s							
DCZ	**Deep Cove**	**27.83**	**204**	*e*P		**P**	**10 43 06.0**	**+1.2**
	53nm,1.1s							
WHZ	**Wether Hill Ro**	**27.89**	**203**	*e*P		**P**	**10 43 06.8**	**+1.3**
	123nm,1.1s							
PMOR	**Pomariorio Ree**	**28.30**	**83**	*e*P		**P**	**10 43 08.8**	**-0.6**
	136nm,1.2s							
VAH	**Vaihoa**	**28.49**	**84**	*e*P		**P**	**10 43 10.5**	**-0.5**
	106nm,1.1s							
EIDS	**Eidsvold**	**29.64**	**255**	P		**P**	**10 43 21.9**	**+0.8**
	baz=30,SNR=9.0							
EIDS	**Eidsvold**	**29.64**	**255**	*e*P		**P**	**10 43 21.9**	**+0.8**
	18nm,1.1s							
XMAS	**Kiritimati**	**29.73**	**43**	*e*P		**P**	**10 43 21.8**	**-0.2**
	268nm,0.8s							
ARMA	**Armidale**	**29.75**	**245**	P		**P**	**10 43 23.6**	**+1.5**
	baz=30,SNR=26							
ARMA	**Armidale**	**29.75**	**245**	*e*P		**P**	**10 43 23.5**	**+1.3**
	48nm,1.4s							
MGCD	**Mangrove Creek**	**30.83**	**240**	P		**P**	**10 43 33.7**	**+2.2**
	baz=31,SNR=9.2							
RMQ	**Roma**	**31.77**	**253**	P		**P**	**10 43 41.6**	**+1.7**
	baz=32,SNR=15							
CNB	**Canberra Magne**	**32.80**	**237**	P		**P**	**10 43 50.1**	**+1.3**
	baz=33,SNR=32							
KWAJ	**Kwajalein Atol**	**33.06**	**331**	*e*P		**P**	**10 43 50.3**	**-0.7**
	859nm,0.7s							
KWAJ	**Kwajalein Atol**	**33.06**	**331**	*e*P		**P**	**10 43 50.3**	**-0.7**
CAN	**Canberra**	**33.09**	**237**	*e*P		**P**	**10 43 51.4**	**+0.2**
	72nm,1.2s							
CAN	**Canberra**	**33.09**	**237**	*e*P		**P**	**10 43 51.4**	**+0.2**
CAN					pmax	pmax		
	comp=Z,72nm,1.2s							
YNG	**Young**	**33.29**	**239**	P		**P**	**10 43 54.4**	**+1.5**
	baz=34,SNR=7.5							
CTA	**Charters Tower**	**34.35**	**265**	P		**P**	**10 44 02.4**	**+0.2**
	comp=Z,49nm,0.4s,baz=91,slow=10,SNR=96							
CTA					ScP	**ScP**	**10 49 50.4**	**+1.3**
	comp=Z,13nm,1.1s,baz=135,slow=1.4

	comp=N,314nm,0.8s										
HON	**Honolulu**	45.82	25	*e*P		P		10 45 35.8	+0.2		
	comp=N,385nm,0.9s										
HON	**Honolulu**	45.82	25	*e*P		P		10 45 35.8	+0.2		
HON				pmax		pmax					
	comp=E,385nm,0.9s										
KIP	**Kipapa**	45.90	25	*e*P		P		10 45 36.3	0.0		
	comp=Z,274nm,1.0s										
KIP	**Kipapa**	45.90	25	*ce*P		P		10 45 36.4	+0.1		
KIP				pmax		pmax					
	comp=Z,3µm,1.7s										
KHLH	**Kahului Airpor**	46.09	27	*e*P		P		10 45 37.6	-0.1		
	comp=Z,315nm,1.2s										
KDU	**Kakadu**	48.85	271	P		P		10 45 58.9	-0.2		
	baz=49,SNR=51										
FORT	**Forrest**	50.00	247	P		P		10 46 07.1	-0.4		
	baz=50,SNR=36										
FORT	**Forrest**	50.00	247	*e*P		P		10 46 07.4	-0.2		
	comp=Z,112nm,1.3s										
MTN	**Manton Dam**	50.06	270	P		P		10 46 07.6	-0.6		
	baz=50,SNR=46										
WRKA	**Warakurna**	50.25	254	P		P		10 46 09.2	-0.3		
	baz=50,SNR=158										
GUMO	**Guam**	50.69	309	P		P		10 46 12.8	0.0		
	comp=Z,437nm,0.8s,baz=152,slow=8.5,SNR=15										
GUMO	**Guam**	50.69	309	*e*P		P		10 46 12.7	-0.1		
	comp=Z,505nm,0.9s										
GUMO				*e*P		P		10 46 12.8	0.0		
KNRA	**Kununurra**	51.53	266	P		P		10 46 19.1	0.0		
	baz=52,SNR=86										
FAKI	**Fak Fak**	52.44	283	*e*P		P		10 46 25.7	-0.1		
	comp=Z,130nm,1.3s										
FITZ	**Fitzroy Crossi**	53.88	262	P		P		10 46 36.6	+0.5		
	baz=54,SNR=51										
FITZ	**Fitzroy Crossi**	53.88	262	*e*P		P		10 46 36.7	+0.5		
	comp=Z,19nm,1.2s										
PALU	**Palau**	55.23	295	P		P		10 46 46.9	+1.0		
	baz=55,SNR=17										
SOEI	**Soe**	57.41	272	*e*P		P		10 47 03.0	+1.6		
	comp=Z,175nm,0.6s										
SBA	**Scott Base**	57.63	184	P		P		10 47 05.6	+3.9		
SBA				pmax		pmax					
	comp=Z,81nm,1.1s										
VNDA	**Vanda**	57.69	185	P		P		10 47 04.1	+1.9		
	comp=Z,18nm,1.0s,baz=360,slow=7.6,SNR=29										
VNDA				ScP		ScP		10 51 24.7	+0.5		
	comp=Z,12nm,0.9s,baz=350,slow=3.7,SNR=15										
VNDA	**Vanda**	57.69	185	*e*P		P		10 47 04.4	+2.2		
	comp=Z,30nm,1.1s										
VNDA				ScP		ScP		10 51 24.7	+0.5		
VNDA	**Vanda**	57.69	185	*e*P		P		10 47 04.4	+2.2		
VNDA				pmax		pmax					
	comp=Z,30nm,1.1s										
BATI	**Baumata**	57.83	271	P		P		10 47 06.1	+1.9		
	comp=Z,95nm,0.6s,baz=221,slow=1.9,SNR=17										
TNTI	**Ternate**	58.41	284	*e*P		P		10 47 07.9	-0.3		
	comp=Z,152nm,0.9s										
MBWA	**Marble Bar**	58.66	257	*e*P		P		10 47 09.5	-0.3		
	comp=Z,50nm,1.4s										
MEEK	**Meekatharra**	58.67	251	P		P		10 47 09.0	-0.8		
	baz=59,SNR=11										
KLBR	**Kellerberrin**	58.74	245	P		P		10 47 10.0	-0.2		
	baz=59,SNR=10										
MMRI	**Maumere**	59.66	272	*e*P		P		10 47 15.9	-0.8		
	comp=Z,66nm,0.5s										
BLDU	**Ballidu**	59.75	246	P		P		10 47 16.6	-0.5		
	baz=60,SNR=15										
MUN	**Mundaring**	60.01	244	P		P		10 47 19.0	+0.2		
	baz=60,SNR=5.7										
MORW	**Morawa**	60.55	248	P		P		10 47 22.3	-0.2		
	baz=61,SNR=8.4										
CBIJ	**Chichi jima**	61.86	319	P		P		10 47 30.9	-0.2		
JCJ	**Chichijima**	61.86	319	P		P		10 47 30.9	-0.2		
	comp=Z,92nm,0.5s,baz=278,slow=11,SNR=12										
LUWI	**Luwuk**	61.87	280	*e*P		P		10 47 30.9	-0.6		
	comp=Z,302nm,1.4s										
GIRL	**Giralia**	63.34	254	P		P		10 47 42.3	+1.2		
	baz=64,SNR=3.6										
CTBH	**Cotabato--PC H**	64.03	289	‖ *e*P		P		10 47 46.1	+0.5		
CASY	**Casey**	64.08	205	*e*P		P		10 47 46.2	+1.1		
	comp=Z,96nm,0.9s										
JHJ2	**Mitsune**	67.61	322	*e*P		P		10 48 07.9	0.0		
	comp=Z,512nm,0.9s										
JHJ	**Hachijo jima 2**	67.63	322	P		P		10 48 07.6	-0.5		
	comp=Z,317nm,0.5s,baz=68,slow=20,SNR=18										
QSPA	**South Pole Qui**	69.27	180	P		P		10 48 19.6	+1.6		
	comp=Z,77nm,0.9s,baz=34,slow=1.6,SNR=168										
QSPA				pP		pP		10 49 24.9	+2.8		
	comp=Z,20nm,0.9s,baz=341,slow=5.1,SNR=2.8										
QSPA	**South Pole Qui**	69.27	180	*e*P		P		10 48 19.6	+1.6		
QSPA				*e*P		P		10 48 19.8	+1.8		
QSPA				*ep*P		pP		10 49 24.9	+2.8		
KKM	**Kota Kinabalu**	70.70	285	*e*P		P		10 48 27.4	-0.1		
	comp=Z,62nm,0.6s										
KKM	**Kota Kinabalu**	70.70	285	P		P		10 48 28.0	+0.5		
INU	**Inuyama**	70.82	322	*e*P		P		10 48 26.0	-1.6		
	comp=Z,40nm,1.0s										
MJAR	**Matsushiro Arr**	70.99	323	P		P		10 48 27.8	-0.8		
	comp=Z,50nm,0.7s,baz=165,slow=6.0,SNR=145										
MJAR				pP		pP		10 49 34.1	+1.1		
	comp=Z,7.3nm,1.0s,baz=123,slow=5.3,SNR=2.2										
MJAR	**Matsushiro Arr**	70.99	323	P		P		10 48 27.8	-0.8		
MJAR				pmax		pmax					
	comp=Z,58nm,0.7s										
MAJO	**Matsushiro**	70.99	323	*e*P		P		10 48 27.5	-1.1		
	comp=Z,74nm,0.8s										
MAJO				*ep*P		pP		10 49 34.1	+1.1		
MAJO	**Matsushiro**	70.99	323	*d i*P		P		10 48 27.9	-0.7		
MAJO				pmax		pmax					
	comp=Z,65nm,0.9s										
MAT	**Matsushiro**	70.99	323	P		P		10 48 28.0	-0.6		
MJB9	**Matsu-Tunnel**	70.99	323	*e*P		P		10 48 28.1	-0.5		
	comp=Z,75nm,0.7s										
JOW	**Kunigami**	71.05	310	P		P		10 48 29.2	+0.1		
	comp=Z,52nm,0.9s,baz=116,slow=1.0,SNR=4.4										
ADK	**Adak**	72.37	0	*e*P		P		10 48 35.2	-1.2		
	comp=Z,80nm,0.6s										
ADK	**Adak**	72.37	0	*e*P		P		10 48 35.2	-1.2		
ADK				pmax		pmax					
	comp=Z,80nm,0.6s										
SBUM	**Sibu**	72.94	279	*e*P		P		10 48 40.6	0.0		
	comp=Z,19nm,1.1s										
SBUM	**Sibu**	72.94	279	P		P		10 48 41.0	+0.4		
JNU	**Nakatsue**	73.11	316	P		P		10 48 40.8	-0.5		
	comp=Z,41nm,1.1s,baz=235,slow=1.4,SNR=15										
JNU	**Nakatsue**	73.11	316	*e*P		P		10 48 41.0	-0.2		
	comp=Z,37nm,0.9s										
NIKH	**Nikolski High**	73.81	5	*e*P		P		10 48 43.7	-1.0		
	comp=Z,240nm,1.0s										
ASAJ	**Asahikawa**	74.42	331	P		P		10 48 49.8	+1.3		
	comp=Z,159nm,0.9s,baz=222,slow=6.5,SNR=51										
ASAJ	**Asahikawa**	74.42	331	*e*P		P		10 48 48.9	+0.4		
	comp=Z,161nm,0.8s										
NACB	**Ninganchiao**	74.59	304	*e*P		P		10 48 48.9	-1.0		
	comp=Z,47nm,0.7s										
SSLB	**Suanglung**	74.89	303	*e*P		P		10 48 50.3	-1.4		
	comp=Z,22nm,0.6s										
UNV	**Unalaska Valle**	74.89	6	*e*P		P		10 48 49.7	-1.2		
	comp=Z,361nm,1.6s										
TPUB	**Ta-pu**	74.89	302	*e*P		P		10 48 50.2	-1.5		
	comp=Z,42nm,0.6s										
PET	**Petropavlovsk**	76.48	345	*e*P		P		10 48 58.6	-1.3		
PET				pmax		pmax					
	comp=Z,62nm,0.6s										
YSS	**Yuzh-Sakhalins**	76.57	333	*e*P		P		10 49 00.9	+0.4		
	comp=Z,230nm,1.0s										
YSS	**Yuzh-Sakhalins**	76.57	333	⇑ *i*P		P		10 49 01.1	+0.6		
YSS				pmax		pmax					
	comp=Z,190nm,0.9s										
PEA0B	**Petropavlovsk-**	76.80	345	*e*P		P		10 49 00.8	-0.9		
	comp=Z,314nm,1.5s										
PETK	**Petropavlovsk-**	76.80	345	P		P		10 49 00.7	-1.0		
	comp=Z,70nm,0.7s,baz=140,slow=8.1,SNR=68										
PETK	**Petropavlovsk-**	76.80	345	*e*P		P		10 49 00.6	-1.1		
PEA1	**Petropavlovsk-**	76.80	345	*e*P		P		10 49 00.7	-1.0		
SDPT	**Sand Point**	77.15	10	*e*P		P		10 49 02.7	-0.9		
	comp=Z,288nm,1.0s										
SCZ2	**Santa Cruz Isl**	77.16	46	P		P		10 49 05.2	+1.0		
	baz=234										
SCI2	**San Clemente I**	77.31	47	P		P		10 49 05.8	+0.8		
	baz=235										
QZH	**Quanzhou**	77.33	303	⇑ *i*P		P		10 49 07.0	+1.7		
QZH				pmax		pmax					
	comp=Z,50nm,0.8s										
SBC	**Santa Barbara**	77.37	45	P		P		10 49 06.5	+1.2		
	baz=234										
TJN	**Taejon**	77.40	317	*ce*P		P		10 49 04.7	-0.7		
PKM	**Mcpherson Peak**	77.57	45	P		P		10 49 07.9	+1.2		
	baz=234										
BLG	**Laguna Peak, P**	77.61	46	P		P		10 49 07.6	+0.9		
	baz=234										
SAO	**San Andreas Ge**	77.64	43	*e*P		P		10 49 07.4	+0.7		
	comp=Z,36nm,0.8s										
SAO	**San Andreas Ge**	77.64	43	*e*P		P		10 49 07.4	+0.7		
SAO				pmax		pmax					
	comp=Z,36nm,0.8s										
CIS	**Catalina Islan**	77.64	47	P		P		10 49 07.6	+0.7		
	baz=235										
SMMC	**Simmler**	77.70	45	P		P		10 49 07.9	+0.7		
	baz=234,SNR=6.9										
KSRS	**Korea Array**	77.71	318	P		P		10 49 07.5	+0.5		
	comp=Z,9.7nm,1.0s,baz=138,slow=6.6,SNR=24										
PMPB	**Monarch Peak**	77.72	43	*e*P		P		10 49 08.6	+1.3		
	comp=Z,209nm,1.6s										
KS15	**Wonju Array Si**	77.73	318	*e*P		P		10 49 06.9	-0.2		
KSAR	**Wonju Array Be**	77.73	318	P		P		10 49 07.5	+0.4		
KS01	**Wonju Array Si**	77.74	318	*e*P		P		10 49 07.4	+0.2		
PAGB	**Antelope Grade**	77.78	44	*e*P		P		10 49 08.5	+0.9		
	comp=Z,182nm,1.9s										
FMP	**Fort Macarthur**	77.90	47	P		P		10 49 09.2	+1.0		
	baz=235										
TEY	**Ternei**	77.94	328	⇑ *e*P		P		10 49 08.7	+0.5		
TEY				pmax		pmax					
	comp=Z,30nm,1.4s										
OSI	**Osito Audit: C**	78.13	46	*e*P		P		10 49 10.1	+0.5		
	comp=Z,53nm,1.3s										
OSI	**Osito Audit: C**	78.13	46	P		P		10 49 10.4	+0.8		
	baz=234										
DECC	**Green Verdugo**	78.19	46	P		P		10 49 10.6	+0.7		
	baz=235										
PAS	**Pasadena**	78.24	46	P		P		10 49 11.2	+1.1		
PASC	**Pasadena Art C**	78.24	46	*e*P		P		10 49 11.2	+1.1		
	comp=Z,23nm,0.8s										
109C	**Camp Elliot, M**	78.25	48	P		P		10 49 11.0	+0.8		
	baz=236										
CPE	**Camp Elliot**	78.25	48	*e*P		P		10 49 10.7	+0.5		
	comp=Z,13nm,0.8s										
MWC	**Mount Wilson**	78.36	46	*e*P		P		10 49 11.5	+0.5		
	comp=Z,35nm,0.8s										
MWC	**Mount Wilson**	78.36	46	*e*P		P		10 49 11.5	+0.5		
MWC				pmax		pmax					
	comp=Z,35nm,0.8s										
ARVC	**Arvin**	78.36	45	P		P		10 49 11.2	+0.5		
	baz=234,SNR=9.0										
CHGN	**Chignik**	78.40	10	*e*P		P		10 49 09.5	-0.9		
	comp=Z,149nm,0.8s										
KMRM	**Mail Ridge**	78.42	39	*e*P		P		10 49 12.0	+0.9		
	comp=Z,133nm,0.8s										
BAR	**Barrett**	78.44	48	*e*P		P		10 49 12.0	+0.8		
	comp=Z,90nm,2.0s										
MURC	**Murrieta**	78.59	47	P		P		10 49 13.0	+0.9		
	baz=236,SNR=11										
VES	**Vestal, Richgr**	78.61	45	P		P		10 49 12.7	+0.7		
	baz=234,SNR=18										
BFSC	**Mount Baldy Ra**	78.64	47	P		P		10 49 13.1	+0.7		
	baz=235,SNR=9.3										
MONP2	**Monument Peak**	78.73	48	P		P		10 49 14.2	+1.1		
	baz=236,SNR=29										
EDW2	**Edwards Air Fo**	78.78	46	P		P		10 49 14.2	+1.1		
	baz=235,SNR=28										
IKP	**In-Ko-Pah, Jac**	78.82	49	P		P		10 49 14.5	+1.1		
	baz=236,SNR=13										
ISA	**Isabella, Lake**	78.91	45	*e*P		P		10 49 14.5	+0.7		
	comp=Z,47nm,0.9s										
ISA	**Isabella, Lake**	78.91	45	*e*P		P		10 49 14.5	+0.7		
ISA				pmax		pmax					
	comp=Z,47nm,0.9s										
ISA	**Isabella, Lake**	78.91	45	P		P		10 49 15.0	+1.2		
	baz=234,SNR=34										
O02D	**Mt. Diablo Mer**	78.94	39	P		P		10 49 15.5	+1.6		
	baz=231,SNR=14										
VLA	**Vladivostok**	79.05	325	*d i*P		P		10 49 14.2	0.0		
VLA				pmax		pmax					
	comp=Z,51nm,0.9s										
CMB	**Columbia Colle**	79.08	42	*e*P		P		10 49 15.2	+0.6		
	comp=Z,34nm,0.8s										
CMB	**Columbia Colle**	79.08	42	*e*P		P		10 49 15.2	+0.6		
CMB				pmax		pmax					
	comp=Z,34nm,0.8s										
MSHR	**Mys Shultsa**	79.09	324	*ce*P		P		10 49 15.1	+0.6		
PFO	**Pinyon Flats O**	79.11	48	*e*P		P		10 49 15.9	+0.9		
	comp=Z,30nm,1.0s										
PFO	**Pinyon Flats O**	79.11	48	*e*P		P		10 49 15.9	+0.9		
PFO				pmax		pmax					
	comp=Z,30nm,1.0s										
PFO	**Pinyon Flats O**	79.11	48	P		P		10 49 15.9	+0.9		
	baz=236,SNR=15										
BBRC	**Big Bear Solar**	79.15	47	P		P		10 49 16.1	+0.8		
	baz=236										
SWSC	**Sam W. Stewart**	79.20	49	P		P		10 49 16.2	+0.9		
	baz=237,SNR=13										
AFDM	**Forest Hills D**	79.27	41	*e*P		P		10 49 16.4	+0.7		
	comp=Z,34nm,1.0s										
ORV	**Oroville**	79.32	40	*e*P		P		10 49 16.5	+0.7		
	comp=Z,24nm,0.8s										
ORV	**Oroville**	79.32	40	*e*P		P		10 49 16.5	+0.7		
ORV				pmax		pmax					
	comp=Z,24nm,0.8s										
LRMC	**Laurel Mtn Rad**	79.33	46	P		P		10 49 17.0	+0.9		
	baz=235										
WDC	**Whiskeytown Da**	79.34	39	*e*P		P		10 49 16.9	+1.0		
	comp=Z,68nm,1.3s										
WDC	**Whiskeytown Da**	79.34	39	*e*P		P		10 49 16.9	+1.0		
WDC				pmax		pmax					
	comp=Z,68nm,1.3s										
SII	**Sitkinak Islan**	79.44	13	*e*P		P		10 49 16.3	+0.2		
	comp=Z,404nm,0.8s										
RRX	**Edison Barstow**	79.45	46	P		P		10 49 17.6	+0.9		
	baz=236										
N02D	**Trinity Center**	79.49	39	P		P		10 49 18.2	+1.3		
	baz=231,SNR=11										
O03E	**Paynes Creek**	79.60	40	P		P		10 49 17.9	+0.5		
	baz=231,SNR=8.7										
CWC	**Cottonwood Cre**	79.62	45	P		P		10 49 18.6	+0.9		
	baz=235										
BELC	**Belle Mtn. Jos**	79.64	48	P		P		10 49 18.7	+0.8		
	baz=236,SNR=10										
M02C	**Callahan**	79.67	38	P		P		10 49 19.4	+1.6		
	baz=230,SNR=11										
USA0B	**Ussuriysk Arra**	79.72	325	*e*P		P		10 49 17.4	-0.5		
	comp=Z,82nm,0.9s										
USRK	**Usuysk Ar,**	79.72	325	P		P		10 49 18.8	+1.0		
	comp=Z,59nm,0.9s,baz=138,slow=3.5,SNR=77										
MPMC	**Manual Prospec**	79.79	45	P		P		10 49 19.7	+1.0		
	baz=235,SNR=22										
GSC	**Goldstone, Bar**	79.82	46	*e*P		P		10 49 19.6	+0.9		
	comp=Z,36nm,1.1s										
GSC	**Goldstone, Bar**	79.82	46	*e*P		P		10 49 19.6	+0.9		
GSC				pmax		pmax					
	comp=Z,36nm,1.1s										
GSC	**Goldstone, Bar**	79.82	46	P		P		10 49 19.5	+0.7		
	baz=236,SNR=17										
MLAC	**Mammoth, Mammo**	79.82	43	P		P		10 49 19.8	+1.0		
	baz=234										
BC3	**Big Chuckawall**	79.83	48	P		P		10 49 19.9	+1.1		
	baz=237,SNR=12										
DAC	**Darwin (Calif)**	79.84	45	*e*P		P		10 49 19.7	+0.7		
	comp=Z,20nm,1.3s										
DAC	**Darwin (Calif)**	79.84	45	*e*P		P		10 49 19.7	+0.7		
DAC				pmax		pmax					
	comp=Z,20nm,1.3s										
HEC	**Hector,Ludlow**	79.87	47	P		P		10 49 19.8	+0.7		
	baz=236,SNR=17										
TIN	**Tinemaha, Big**	79.88	44	P		P		10 49 20.0	+1.0		
	baz=234										
GLA	**Glamis**	79.94	49	*e*P		P		10 49 21.3	+1.9		
	comp=Z,51nm,1.0s										
GLA	**Glamis**	79.94	49	*e*P		P		10 49 21.3	+1.9		
GLA				pmax		pmax					
	comp=Z,51nm,1.0s										
GLA	**Glamis**	79.94	49	P		P		10 49 20.8	+1.5		
	baz=237,SNR=11										
WAKR	**Walker**	79.96	42	*e*P		P		10 49 20.8	+1.2		
	comp=Z,52nm,0.9s										
YBH	**Yreka Blue Hor**	79.97	38	P		P		10 49 21.0	+1.6		
	comp=Z,36nm,0.6s,baz=192,slow=2.3,SNR=71										
YBH	**Yreka Blue Hor**	79.97	38	*e*P		P		10 49 20.1	+0.8		
	comp=Z,39nm,0.7s										
K02D	**Willamette Mer**	80.04	37	P		P		10 49 20.8	+1.1		
	baz=230										
BEKR	**Beckworth**	80.20	41	*e*P		P		10 49 21.6	+0.8		
	comp=Z,101nm,1.5s										
OHAK	**Old Harbor**	80.24	13	*e*P		P		10 49 20.2	-0.1		
	comp=Z,186nm,0.7s										
GMRC	**Granite Mounta**	80.31	47	P		P		10 49 22.4	+0.9		
	baz=236,SNR=15										
IRM	**Iron Mountain**	80.32	48	P		P		10 49 22.8	+1.4		
	baz=237,SNR=30										
YERR	**Yerington**	80.37	42	*e*P		P		10 49 22.6	+0.9		
	comp=Z,38nm,0.7s										
HUMO	**Hull Mountain**	80.38	37	*e*P		P		10 49 22.5	+1.0		
	comp=Z,22nm,0.8s										
GRAC	**Grapevine Rang**	80.41	44	P		P		10 49 23.0	+1.2		
	baz=235,SNR=21										
FURC	**Furnace Creek,**	80.44	45	P		P		10 49 22.6	+0.8		
	baz=235,SNR=7.7										
MYKOM	**Kota Tinggi**	80.46	276	*e*P		P		10 49 22.6	+0.1		
	comp=Z,24nm,0.9s										
TUQ	**Turquoise Moun**	80.49	46	P		P		10 49 23.2	+0.8		
	baz=236,SNR=26										
M04C	**Macdoel**	80.50	39	P		P		10 49 23.2	+0.9		
	baz=231,SNR=5.4										
L04D	**Klamath Falls**	80.51	38	P		P		10 49 23.3	+1.0		
	baz=231,SNR=8.0										
SHOC	**Shoshone, Teco**	80.51	46	P		P		10 49 23.2	+0.9		
	baz=236										
Y12C	**Blythe**	80.53	49	*e*P		P		10 49 23.7	+1.2		
	comp=Z,39nm,0.8s										
Y12C	**Blythe**	80.53	49	P		P		10 49 23.8	+1.4		
	baz=237,SNR=32										
113A	**Mohawk Valley,**	80.54	50	*e*P		P		10 49 23.8	+1.3		
	comp=Z,24nm,0.9s										
NV01	**Mina Array Sit**	80.63	43	*e*P		P		10 49 23.5	+0.4		
NVAR	**Mina Array Bea**	80.63	43	P		P		10 49 24.4	+1.2		
	comp=Z,18nm,0.7s,baz=224,slow=8.6,SNR=73										
NV11	**Mina Array Sit**	80.73	43	*e*P		P		10 49 24.3	+0.8		
	comp=Z,4.9nm,1.4s										
NJ2	**Nanjing**	80.76	309	*e*P		P		10 49 24.3	+0.6		
NJ2				pmax		pmax					
	comp=Z,36nm,0.7s										
214A	**Organ Pipe Nat**	80.80	51	P		P		10 49 25.3	+1.3		
	baz=239,SNR=14										
LDFC	**Landfair**	80.85	47	*e*P		P		10 49 24.8	+0.5		
	comp=Z,86nm,0.9s										
I02D	**Swisshome**	80.86	36	P		P		10 49 25.3	+1.5		
	baz=229										
I03D	**Drain, OR**	80.86	36	P		P		10 49 26.0	+2.0		
	baz=230										
KDAK	**Kodiak Island**	80.90	13	P		P		10 49 23.7	-0.1		
	comp=Z,70nm,0.7s,baz=202,slow=2.9,SNR=30										
NEE2	**Needles Airpor**	81.02	48	P		P		10 49 26.1	+1.2		
	baz=237,SNR=5.5										
K04D	**Chiloquin, OR**	81.08	38	P		P		10 49 25.9	+0.6		
	baz=231										
PDMCI	**Parker Dam,Lak**	81.10	48	P		P		10 49 26.8	+1.4		
	baz=238,SNR=13										
TPNV	**Topopah Spring**	81.11	45	*e*P		P		10 49 26.4	+0.7		
	comp=Z,22nm,1.0s										
TPNV	**Topopah Spring**	81.11	45	*e*P		P		10 49 26.4	+0.7		
TPNV				pmax		pmax					
	comp=Z,22nm,1.0s										
TPNV	**Topopah Spring**	81.11	45	P		P		10 49 26.6	+1.0		
	baz=236,SNR=13										
KVN	**Kaiserville**	81.12	42	*e*P		P		10 49 26.5	+0.8		
	comp=Z,60nm,1.4s										
KVN	**Kaiserville**	81.12	42	*e*P		P		10 49 26.5	+0.8		
KVN				pmax		pmax					
	comp=Z,60nm,1.4s										
J04D	**Umpqua Nationa**	81.27	37	P		P		10 49 27.3	+1.0		
	baz=231										
MDJ	**Mudanjiang**	81.28	325	P		P		10 49 26.5	+0.4		
MDJ				pmax		pmax					
	comp=Z,120nm,0.9s										
MDJ				pmax		pmax					
	comp=Z,750nm,5.0s										
MDJ

comp=Z,36nm,1.0s
LON Longmire 83.65 35 *e*P **P 10 49 38.8 +0.4**
comp=Z,16nm,0.8s
LON Longmire 83.65 35 *e*P **P 10 49 38.8 +0.4**
LON pmax pmax
comp=Z,16nm,0.8s
WUAZ Wupatki 83.67 48 *e*P **P 10 49 39.9 +1.1**
comp=Z,45nm,1.1s
WUAZ Wupatki 83.67 48 P **P 10 49 40.0 +1.1**
baz=239
HPIG 83.82 58 *e*P **P 10 49 40.2 +0.4**
comp=Z,9.8nm,0.9s
D05A Enumclaw 83.84 34 *e*P **P 10 49 40.8 +1.6**
comp=Z,145nm,1.3s
PKCU Pink Cliffs 84.02 46 *e*P **P 10 49 42.2 +1.4**
comp=Z,101nm,1.1s
PGC Sidney 84.03 32 *e*P **P 10 49 40.6 +0.6**
comp=Z,63nm,0.8s
IPM Ipoh 84.06 277 *e*P **P 10 49 41.8 +0.6**
comp=Z,45nm,1.2s
F07A Phinny Hill Vi 84.14 36 *e*P **P 10 49 41.5 +0.8**
comp=Z,39nm,0.9s
TIA Tai'an 84.14 312 P **P 10 49 41.0 0.0**
TIA pmax pmax
comp=Z,18nm,1.3s
BBB Bella Bella 84.25 28 P **P 10 49 41.0 0.0**
comp=Z,41nm,0.9s,baz=232,slow=4.3,SNR=8.8
BBB Bella Bella 84.25 28 *e*P **P 10 49 41.0 0.0**
comp=Z,271nm,1.5s
G08A Pilot Rock 84.31 37 *e*P **P 10 49 42.6 +0.8**
comp=Z,96nm,1.1s
MA2 Magadan 84.32 344 P **P 10 49 40.1 -1.2**
comp=Z,23nm,0.7s,baz=131,slow=8.2,SNR=7.7
MTPU Mount Pierson 84.42 46 *e*P **P 10 49 44.6 +1.8**
comp=Z,50nm,1.0s
A04D Lummi Island 84.45 33 P **P 10 49 43.4 +1.2**
baz=230
B05A Bryant 84.47 33 P **P 10 49 43.1 +0.8**
baz=230,SNR=9.0
RC01 Rabbit Creek A 84.53 13 *e*P **P 10 49 41.8 -0.5**
comp=Z,175nm,1.0s
ZAIG Zacatecas 84.53 63 *e*P **P 10 49 45.2 +1.6**
comp=Z,11nm,1.0s
LTY Liberty 84.58 35 *e*P **P 10 49 43.0 0.0**
comp=Z,36nm,1.1s
E07A Sunnyside 84.59 36 *e*P **P 10 49 43.7 +0.7**
comp=Z,57nm,0.8s
W18A Petrified Fore 84.62 49 *e*P **P 10 49 44.6 +1.0**
comp=Z,35nm,1.3s
W18A Petrified Fore 84.62 49 P **P 10 49 44.9 +1.2**
baz=240
SUA Susitna One 84.66 12 *e*P **P 10 49 42.3 -0.8**
comp=Z,225nm,0.7s
HAWA Hanford 84.66 36 *e*P **P 10 49 44.3 +1.0**
comp=Z,80nm,1.1s
MSU Marysvale 84.67 46 *e*P **P 10 49 45.3 +1.4**
MSU Marysvale 84.67 46 P **P 10 49 45.3 +1.4**
KULM Kulim 84.70 278 *e*P **P 10 49 44.0 -0.3**
comp=Z,16nm,0.9s
121A Cookes Peak, D 84.78 52 P **P 10 49 45.8 +1.3**
baz=242,SNR=15
C06D Leavenworth 84.88 34 P **P 10 49 44.6 +0.2**
baz=231
GLI Glacier Island 84.92 14 *e*P **P 10 49 43.8 -0.5**
comp=Z,323nm,0.7s
EYAK Cordova Ski Ar 84.94 15 *e*P **P 10 49 44.4 0.0**
comp=Z,112nm,0.7s
B06A Marblemount 84.94 33 *e*P **P 10 49 44.6 -0.1**
comp=Z,21nm,0.8s
E08A Dider Farm, El 84.98 36 *e*P **P 10 49 45.3 +0.4**
comp=Z,40nm,0.8s
BMO Blue Mountains 85.00 38 *e*P **P 10 49 45.0 -0.1**
comp=Z,16nm,0.9s
KNK Knik Glacier 85.09 13 *e*P **P 10 49 44.5 -0.6**
comp=Z,154nm,0.8s
PMR Palmer 85.11 13 *e*P **P 10 49 44.2 -0.9**
comp=Z,316nm,1.4s
PMR Palmer 85.11 13 *e*P **P 10 49 44.2 -0.9**
PMR pmax pmax
comp=Z,316nm,1.4s
HMT Hamilton 85.12 16 *e*P **P 10 49 45.4 0.0**
comp=Z,132nm,0.8s
DUG Dugway, Tooele 85.14 44 *e*P **P 10 49 46.5 +0.4**
comp=Z,5.6nm,0.8s
DUG Dugway, Tooele 85.14 44 *e*P **P 10 49 46.5 +0.4**
DUG pmax pmax
comp=Z,6.0nm,0.8s
DUG Dugway, Tooele 85.14 44 P **P 10 49 46.5 +0.4**
baz=238
EPT El Paso 85.38 54 *e*P **P 10 49 47.2 -0.2**
comp=Z,34nm,1.0s
D08A Wollman Farm, 85.40 36 *e*P **P 10 49 47.7 +0.8**
comp=Z,50nm,0.9s
PSI Prapat 85.41 275 *e*P **P 10 49 46.5 -1.5**
comp=Z,14nm,0.9s
PSI Prapat 85.41 275 *e*P **P 10 49 46.5 -1.5**
PSI pmax pmax
comp=Z,14nm,0.9s
DIV Divide 85.44 15 *e*P **P 10 49 46.5 -0.5**
comp=Z,221nm,0.8s
SML Sawmill 85.47 13 *e*P **P 10 49 46.8 -0.2**
comp=Z,267nm,1.7s
SML Sawmill 85.47 13 *e*P **P 10 49 46.8 -0.2**
SML pmax pmax
comp=Z,267nm,1.7s
NLU North Lily Min 85.50 44 *e*P **P 10 49 48.5 +0.5**
comp=Z,6.8nm,1.0s
E09A Wood Farm, Sta 85.50 36 *e*P **P 10 49 47.9 +0.4**
comp=Z,45nm,1.1s
Q16A Castle Valley 85.56 46 *e*P **P 10 49 48.8 +0.5**
comp=Z,85nm,1.7s
ANM Nome 85.57 5 *e*P **P 10 49 47.2 -0.2**
comp=Z,31nm,1.4s
ANM Nome 85.57 5 *e*P **P 10 49 47.2 -0.2**
ANM pmax pmax
comp=Z,31nm,1.4s
BMRM Bremner River 85.59 15 *e*P **P 10 49 47.4 -0.2**
comp=Z,197nm,0.8s
WRAK Wrangell Islan 85.64 23 *e*P **P 10 49 48.3 +0.4**
comp=Z,94nm,1.2s
F10A Beach Ranch, E 85.70 37 *e*P **P 10 49 48.7 +0.1**
comp=Z,81nm,0.9s
SCM Sheep Creek Mo 85.71 14 *e*P **P 10 49 47.7 -0.5**
comp=Z,292nm,0.7s
SCM Sheep Creek Mo 85.71 14 *e*P **P 10 49 47.7 -0.5**
SCM pmax pmax
comp=Z,292nm,0.7s
TMUT Trail Mountain 85.73 45 *e*P **P 10 49 50.5 +1.3**
comp=Z,39nm,0.9s
KLU Klutina 85.73 14 *e*P **P 10 49 47.8 -0.6**
comp=Z,115nm,1.2s
DHAK Deception Hill 85.76 19 *e*P **P 10 49 48.9 +0.4**
comp=Z,184nm,0.7s
MPU Maple Canyon 85.82 44 *e*P **P 10 49 49.8 +0.3**
comp=Z,11nm,0.9s
TLIG Tlapa 85.84 70 *e*P **P 10 49 50.1 +0.2**
comp=Z,13nm,1.2s
TGL Tana Glacier 85.85 16 *e*P **P 10 49 49.0 0.0**
comp=Z,185nm,1.1s
B08A Colville Reser 85.97 34 *e*P **P 10 49 49.7 -0.1**
comp=Z,39nm,0.9s
HLID Hailey 85.97 40 *e*P **P 10 49 50.6 +0.5**
comp=Z,10nm,0.8s
HLID Hailey 85.97 40 P **P 10 49 51.0 +0.9**
baz=236
SPUT South Promonto 85.97 43 *e*P **P 10 49 51.1 +1.0**
comp=Z,11nm,0.9s
PCA Pinnacle 85.99 18 *e*P **P 10 49 49.6 0.0**
comp=Z,106nm,1.0s
HVU Hansel Valley 86.02 42 *e*P **P 10 49 50.6 +0.3**
comp=Z,11nm,0.7s
HVU Hansel Valley 86.02 42 *e*P **P 10 49 50.6 +0.3**
HVU pmax pmax
comp=Z,11nm,0.7s
SKNT Sakolnakorn 86.06 290 P **P 10 49 51.5 +0.6**
SRU San Rafael Swe 86.09 46 *e*P **P 10 49 51.6 +0.8**
comp=Z,37nm,0.7s
SRU San Rafael Swe 86.09 46 *e*P **P 10 49 51.6 +0.8**
SRU pmax pmax
comp=Z,37nm,0.7s
CTU Camp Tracy 86.10 44 *e*P **P 10 49 51.0 +0.2**
comp=Z,12nm,0.9s
P17A Butcher Ranch, 86.13 45 *e*P **P 10 49 51.5 +0.6**
comp=Z,20nm,1.0s
LAZ Ladron 86.14 51 *e*P **P 10 49 52.1 +0.9**
Y22D IRIS PASSCAL I 86.15 51 P **P 10 49 52.1 +1.0**
baz=242
MNTX Cornudas Mount 86.20 54 *e*P **P 10 49 52.3 +1.0**
comp=Z,29nm,0.9s
MNTX Cornudas Mount 86.20 54 P **P 10 49 52.5 +1.2**
baz=243,SNR=41
C09A Chrisman Ranch 86.20 35 *e*P **P 10 49 51.1 +0.2**
comp=Z,29nm,0.8s
CAST Castle Rocks 86.20 11 *e*P **P 10 49 48.3 -2.3**
comp=Z,141nm,0.9s
JLU Jordanelle 86.24 44 *e*P **P 10 49 51.6 0.0**
comp=Z,6.9nm,0.8s
BNM Barren Site 86.40 52 *e*P **P 10 49 52.4 0.0**
BESE Bessie Mountai 86.42 21 *e*P **P 10 49 52.3 +0.6**
comp=Z,89nm,1.0s
LTX Lajitas 86.46 57 *e*P **P 10 49 53.9 +1.2**
TX31 Lajitas Ar. Si 86.46 57 *e*P **P 10 49 53.7 +1.0**
TX31 *e*P **P 10 49 54.0 +1.2**
TXAR Lajitas Array 86.46 57 P **P 10 49 53.9 +1.2**
comp=Z,18nm,0.8s,baz=218,slow=7.0,SNR=175
TXAR PKKPbc **PKKPbc 11 07 48.0 -0.5**
comp=Z,0.3nm,0.6s,baz=108,slow=2.9,SNR=5.6
LPM Los Pinos Moun 86.47 51 *e*P **P 10 49 53.4 +0.7**
TRTT Trang 86.51 280 P **P 10 49 55.3 +2.1**
MVCO Mesa Verde 86.52 48 *e*P **P 10 49 53.4 +0.4**
comp=Z,10nm,1.3s
MVCO Mesa Verde 86.52 48 P **P 10 49 53.4 +0.4**
baz=241
PV05 Paradox Valley 86.53 47 *e*P **P 10 49 54.1 +1.1**
P18A Preston Nutter 86.54 45 *e*P **P 10 49 53.6 +0.5**
comp=Z,14nm,0.8s
TCUT Toone Canyon 86.54 44 *e*P **P 10 49 53.5 +0.5**
comp=Z,31nm,0.8s
TRF Thorofare Moun 86.56 12 *e*P **P 10 49 51.2 -1.2**
comp=Z,199nm,0.8s
SYO Syowa Base 86.63 192⇑*e*P **P 10 49 50.0 -2.7**
SYO Syowa Base 86.63 192⇑*e*P **P 10 49 56.4 +3.7**
SRAK Srakaew 86.65 286 P **P 10 49 53.0 -0.8**
HARP HAARP 86.71 14 *e*P **P 10 49 53.2 +0.3**
comp=Z,144nm,0.9s
PV09 Paradox Valley 86.72 47 *e*P **P 10 49 54.4 +0.4**
PV10 Paradox Valley 86.72 47 *e*P **P 10 49 54.2 +0.2**
PV19 Morning Glory 86.73 47 *e*P **P 10 49 54.9 +1.0**
comp=Z,18nm,0.9s
PV17 East Wray Mesa 86.73 47 *e*P **P 10 49 54.2 +0.3**
comp=Z,26nm,1.2s
BJT Baijiatuau 86.73 315 *e*P **P 10 49 53.8 +0.2**
comp=Z,26nm,0.7s
PV14 Lion Creek, Pa 86.73 47 *e*P **P 10 49 54.4 +0.4**
comp=Z,27nm,0.9s
BJI Beijing 86.74 315⇓*i*P **P 10 49 53.8 +0.2**
BJI pmax pmax
comp=Z,26nm,0.7s
PV20 West Nyswonger 86.75 47 *e*P **P 10 49 54.2 +0.2**
comp=Z,18nm,1.0s
PV13 Radium Mtn., P 86.77 47 *e*P **P 10 49 54.5 +0.3**
comp=Z,21nm,1.2s
PV16 Nyswonger Mesa 86.78 47 *e*P **P 10 49 54.5 +0.4**
comp=Z,11nm,0.9s
PV23 Carpenter Ridg 86.78 47 *e*P **P 10 49 54.8 +0.5**
comp=Z,31nm,0.9s
PV03 Paradox Valley 86.79 47 *e*P **P 10 49 54.9 +0.7**
PV11 David Mesa, Pa 86.80 47 *e*P **P 10 49 54.7 +0.4**
comp=Z,27nm,1.2s
RND Reindeer 86.80 12 *e*P **P 10 49 52.7 -0.8**
comp=Z,298nm,0.9s
RND Reindeer 86.80 12 *e*P **P 10 49 52.7 -0.8**
RND pmax pmax
comp=Z,298nm,0.9s
DHY Denali Highway 86.81 13 *e*P **P 10 49 53.0 -0.6**
comp=Z,61nm,1.0s
PV02 Paradox Valley 86.85 47 *e*P **P 10 49 54.8 +0.2**
comp=Z,18nm,1.1s
PV12 Saucer Basin, 86.86 47 *e*P **P 10 49 55.5 +1.0**
comp=Z,24nm,0.9s
PV21 Cone Mtn., Par 86.86 47 *e*P **P 10 49 54.9 +0.3**
comp=Z,27nm,1.0s
SEY Seymchan 86.87 347 P **P 10 49 52.9 -0.8**
comp=Z,47nm,0.9s,baz=147,slow=5.4,SNR=59
SEY Seymchan 86.87 347 *ce*P **P 10 49 53.0 -0.8**
ANMO Albuquerque 86.89 51 *e*P **P 10 49 55.5 +0.8**
comp=Z,11nm,0.8s
ANMO Albuquerque 86.89 51 *ce*P **P 10 49 55.6 +0.8**
ANMO pmax pmax
comp=Z,12nm,1.0s
ANMO Albuquerque 86.89 51 P **P 10 49 55.6 +0.8**
baz=242
PV01 Paradox Valley 86.92 47 *e*P **P 10 49 55.3 +0.4**
ENH Enshi 86.95 304 *e*P **P 10 49 55.6 +0.7**
comp=Z,64nm,0.8s
SKAG Skagway 86.95 20 *e*P **P 10 49 55.0 +0.8**
comp=Z,167nm,1.4s
BPAW Bear Paw Mtn. 87.02 11 *e*P **P 10 49 53.1 -1.3**
comp=Z,42nm,1.1s
NEW Newport 87.09 35 P **P 10 49 55.3 +0.1**
comp=Z,12nm,0.8s,baz=241,slow=6.2,SNR=28
NEW Newport 87.09 35 *e*P **P 10 49 55.3 +0.1**
comp=Z,15nm,0.9s
NEW Newport 87.09 35 P **P 10 49 55.5 +0.2**
baz=234,SNR=12
KRAB Krabi 87.11 280 P **P 10 49 58.3 +2.3**
PAX Paxson 87.13 14 *e*P **P 10 49 54.3 -0.8**
comp=Z,52nm,1.0s
PAX Paxson 87.13 14 *e*P **P 10 49 54.3 -0.8**
PAX pmax pmax
comp=Z,52nm,1.0s
GDL2 Guadalupe Moun 87.19 54 *e*P **P 10 49 57.5 +1.3**
PATY Pattaya 87.31 285 P **P 10 49 59.3 +2.4**
HYT Haines Junctio 87.38 18 *e*P **P 10 49 56.8 +0.4**
comp=Z,67nm,1.0s
CHAI Chaiyaphum 87.41 288 P **P 10 49 58.1 +0.7**
GYA Guiyang 87.58 299 P **P 10 50 00.3 +2.2**
GYA pP pP 10 51 00.8 -4.7
GYA sP sP 10 51 26.3 -8.7
GYA PP **PP 10 53 31.0 +3.1**
GYA SKS **SKSac 11 00 01.5 +2.5**
GYA S **ScS 11 00 19.0 -2.2**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,140nm,6.4s
AHID Auburn Hatcher 87.59 42 *e*P **P 10 49 58.8 +0.8**
comp=Z,9.9nm,0.8s
MCMT McKenzie Canyo 87.61 40 *e*P **P 10 49 58.5 +0.5**
SNAA Sanae 87.68 178 P **P 10 49 57.9 0.0**
SNAA Sanae 87.68 178 *e*P **P 10 49 57.8 0.0**
comp=Z,14nm,1.0s
SNAA *ep*P **pP 10 51 08.0 +2.9**
SNAA Sanae 87.68 178 *e*P **P 10 49 57.8 0.0**
SNAA pmax pmax
comp=Z,14nm,1.0s
VNA3 Neumayer Olymp 87.78 176 P **P 10 49 58.8 +0.6**
WRH Wood River Hil 87.91 12 *e*P **P 10 49 57.7 -0.9**
comp=Z,150nm,0.9s
MLY Manley 87.92 11 *e*P **P 10 49 57.3 -1.4**
comp=Z,35nm,0.8s
RIDG Independ'e Rid 87.94 14 *e*P **P 10 49 58.5 -0.3**
comp=Z,99nm,1.1s
S22A 4UR Ranch, Cre 87.94 48 *e*P **P 10 50 00.7 +0.8**
comp=Z,26nm,1.2s
S22A 4UR Ranch, Cre 87.94 48 P **P 10 50 00.6 +0.7**
baz=242,SNR=22
DLBC Dease Lake 87.98 23 P **P 10 49 59.9 +0.7**
comp=Z,19nm,0.7s,baz=230,slow=5.3,SNR=31
DLBC Dease Lake 87.98 23 *e*P **P 10 49 59.9 +0.7**
comp=Z,50nm,1.1s
LNIG Linares 88.00 63 *e*P **P 10 49 59.8 -0.1**
comp=Z,27nm,1.0s
DOT Dot Lake 88.03 14 *e*P **P 10 49 58.1 -1.2**
comp=Z,69nm,0.8s
WHY Whitehorse 88.03 19 *e*P **P 10 49 60.0 +0.5**
comp=Z,79nm,1.1s
DLMT Dillon 88.04 40 *e*P **P 10 50 00.9 +1.0**
comp=Z,34nm,1.0s
MSO Missoula 88.05 38 *e*P **P 10 49 59.2 -0.6**
comp=Z,13nm,0.9s
MSO Missoula 88.05 38 P **P 10 49 59.8 -0.1**
baz=237,SNR=12
REDW Red Top Meadow 88.06 42 *e*P **P 10 50 00.8 +0.6**
comp=Z,26nm,1.1s
TPAW Teton Pass 88.06 42 *e*P **P 10 50 01.3 +1.1**
comp=Z,14nm,0.9s
HDA Harding Lake 88.08 13 *e*P **P 10 49 58.7 -0.7**
comp=Z,80nm,0.6s
HDA Harding Lake 88.08 13 P **P 10 49 58.5 -0.9**
baz=206
FXWY Fox Creek 88.09 42 *e*P **P 10 50 01.0 +0.7**
comp=Z,17nm,1.3s
O20A White River Ci 88.12 46 *e*P **P 10 50 01.0 +0.5**
comp=Z,14nm,0.8s
O20A White River Ci 88.12 46 P **P 10 50 01.0 +0.5**
baz=241,SNR=10.0
SNOW Snow King Moun 88.17 42 *e*P **P 10 50 01.2 +0.5**
comp=Z,20nm,0.9s
VNA2 Neumayer--Watz 88.23 177 P **P 10 50 01.0 +0.8**
baz=195,slow=3.9
IMW Indian Meadow 88.28 41 *e*P **P 10 50 02.5 +1.2**
comp=Z,24nm,1.0s
GO06 Curarrehue 88.28 132 *e*P **P 10 50 02.9 +1.5**
comp=Z,32nm,1.1s
GO06 *ep*P **pP 10 51 11.7 +3.0**
IM3 Indian Mountai 88.31 9 *e*P **P 10 49 59.6 -0.8**
TCOL CIGO, UAF Yank 88.31 12 P **P 10 49 59.3 -1.1**
baz=207
COLA College 88.31 12 *e*P **P 10 49 59.5 -1.0**
comp=Z,145nm,0.7s
COLA College 88.31 12 *e*P **P 10 49 59.5 -1.0**
COLA pmax pmax
comp=Z,145nm,0.7s
MDM Murphy Dome 88.31 12 *e*P **P 10 49 59.4 -1.2**
comp=Z,114nm,1.0s
MOOW Moose Ponds 88.32 42 *e*P **P 10 50 01.4 +0.1**
comp=Z,10nm,1.2s
ZEA Zeya 88.33 331 *e*P **P 10 50 00.5 -0.3**
ZEA pmax pmax
comp=Z,43nm,1.2s
SCRK Sand Creek 88.33 14 *e*P **P 10 50 00.5 -0.3**
comp=Z,45nm,0.8s
LOHW Long Hollow 88.34 42 *e*P **P 10 50 02.1 +0.6**
comp=Z,13nm,1.1s
JTMT Jette 88.37 37 *e*P **P 10 50 01.4 +0.1**
comp=Z,13nm,0.7s
LRM Limekiln Ridge 88.38 39 *e*P **P 10 50 02.5 +0.9**
ILAR Eielson Array 88.41 12 P **P 10 49 59.9 -1.1**
comp=Z,26nm,0.7s,baz=218,slow=6.0,SNR=327
ILAR PKiKP **PKiKP 10 54 59.0 -1.0**
comp=Z,0.9nm,0.5s,baz=256,slow=3.0,SNR=9.9
ILAR Eielson Array 88.41 12 P **P 10 49 59.9 -1.1**
ILAR pmax pmax
comp=Z,25nm,0.7s
ILB Eielson Array 88.41 12 *e*P **P 10 49 59.9 -1.1**
ILB *e*PKiKP **PKiKP 10 54 59.0 -1.0**
IL1 Eielson Array 88.41 12 *e*P **P 10 49 59.4 -1.6**
PLCA Paso Flores 88.41 133 P **P 10 50 02.7 +0.9**
comp=Z,6.1nm,0.9s,baz=262,slow=5.5,SNR=13
PLCA pP **pP 10 51 10.7 +1.4**
comp=Z,7.0nm,1.0s,baz=261,slow=5.6,SNR=6.7
PLCA PKKPbc **PKKPbc 11 07 43.5 +0.1**
comp=Z,1.5nm,1.0s,baz=54,slow=11,SNR=3.2
PLCA Paso Flores 88.41 133 *e*P **P 10 50 02.8 +0.9**
comp=Z,35nm,1.4s
PLCA *ep*P **pP 10 51 12.4 +3.1**
PLCA PKKPbc **PKKPbc 11 07 43.5 +0.1**
PLCA Paso Flores 88.41 133 *e*P **P 10 50 02.8 +0.9**
PLCA pmax pmax
comp=Z,35nm,1.4s
VNA1 Neumayer--Stat 88.45 176 P **P 10 50 02.2 +1.0**
QLMT Earthquake Lak 88.46 40 *e*P **P 10 50 03.4 +1.4**
NVL N'lazarevskaya 88.47 183⇓*i*P **P 10 50 02.5 +1.2**
NVL pmax pmax
comp=Z,21nm,0.9s
FLWY Flagg Ranch 88.52 41 *e*P **P 10 50 02.7 +0.4**
comp=Z,42nm,1.0s
SMCO Snowmass 88.52 47 *e*P **P 10 50 02.8 +0.2**
comp=Z,16nm,1.0s
YHB Horse Butte 88.56 41 *e*P **P 10 50 04.0 +1.5**
comp=Z,37nm,1.0s
BW06 Boulder Array 88.57 43 *e*P **P 10 50 02.6 0.0**
comp=Z,18nm,1.1s
BW06 Boulder Array 88.57 43 P **P 10 50 02.5 0.0**
baz=240,SNR=14
PD31 Pinedale Array 88.57 43 *e*P **P 10 50 02.9 +0.3**
PDAR Pinedale Array 88.57 43 P **P 10 50 02.9 +0.3**
comp=Z,7.2nm,0.9s,baz=215,slow=3.9,SNR=42
PDAR Pinedale Array 88.57 43 *e*P **P 10 50 02.2 -0.4**
PBKT Sadao Pong 88.57 288 *e*P **P 10 50 04.1 +1.3**
PBKT Sadao Pong 88.57 288 P **P 10 50 04.2 +1.4**
POKR Poker Flat Res 88.61 12 P **P 10 50 00.8 -1.1**
baz=208
YFT Old Faithful 88.63 41 *e*P **P 10 50 03.3 +0.5**
comp=Z,27nm,1.1s
YMR Bozeman (W) 88.66 41 *e*P **P 10 50 04.4 +1.4**
comp=Z,26nm,0.8s
BOZ Bozeman (W) 88.74 40 *e*P **P 10 50 04.0 +0.8**
comp=Z,36nm,0.9s
BOZ Bozeman (W) 88.74 40 *e*P **P 10 50 04.0 +0.8**
BOZ pmax pmax
comp=Z,36nm,0.9s
BOZ Bozeman (W) 88.74 40 P **P 10 50 04.0 +0.8**
baz=238,SNR=23
H17A Grant Village 88.76 41 *e*P **P 10 50 04.3 +0.9**
comp=Z,19nm,0.9s
H17A Grant Village 88.76 41 P **P 10 50 05.0 +1.6**
baz=239,SNR=12
YHH Holmes Hill 88.79 41 *e*P **P 10 50 03.9 +0.3**
comp=Z,42nm,1.4s
YNR Norris Junctio 88.86 41 *e*P **P 10 50 05.1 +1.2**
comp=Z,788nm,1.3s
SDCO Great Sand Dun 88.88 49 *e*P **P 10 50 04.2 0.0**
comp=Z,6.3nm,0.8s
SDCO Great Sand Dun 88.88 49 P **P 10 50 04.6 +0.4**
baz=243,SNR=9.1
XAN Xi'an 89.03 307 P **P 10 50 05.0 +0.3**
XAN S **S 11 00 30.8 +2.1**
XAN pmax pmax
comp=Z,84nm,1.0s
MSTX Muleshoe 89.17 53 *e*P **P 10 50 06.0 +0.6**
comp=Z,31nm,1.0s
MSTX Muleshoe 89.17 53 P **P 10 50 05.7 +0.3**
baz=244
RDOG Red Dog Mine 89.21 5 *e*P **P 10 50 04.6 0.0**
comp=Z,15nm,1.0s
HRY Holter Researc 89.21 39 *e*P **P 10 50 05.2 -0.1**
T25A Trinidad 89.37 50 *e*P **P 10 50 06.5 +0.1**
comp=Z,6.7nm,0.9s
T25A Trinidad 89.37 50 P **P 10 50 06.5 +0.1**
baz=243
UTTA Uttaradit 89.38 289 P **P 10 50 08.0 +1.5**
SRDT SRDT 89.41 285 P **P 10 50 08.9 +2.2**
BILL Bilibino 89.43 354 *e*P **P 10 50 04.5 -1.1**
comp=Z,30nm,1.2s
BILL Bilibino 89.43 354 *de*P **P 10 50 04.5 -1.1**
BILL *e* 10 53 46.1
BILL S **S 11 00 33.4 +2.6**
BILL *e* 11 02 06.7
BILL *e*SS **SS 11 06 41.3 +7.3**
BILL pmax pmax
comp=Z,13nm,0.9s
833A Chaparral WMA, 89.44 59 P **P 10 50 07.1 +0.5**
baz=246
DAWY Dawson 89.50 16 *e*P **P 10 50 06.3 +0.1**
comp=Z,133nm,0.9s
UTHA Uthaitani 89.56 287 P **P 10 50 09.1 +1.7**
RWWY Rawlins 89.56 45 *e*P **P 10 50 06.6 -0.6**
comp=Z,46nm,1.3s
NANT Nan 89.64 290 P **P 10 50 08.8 +1.0**
Q24A Divide 89.68 48 *e*P **P 10 50 08.2 +0.2**
comp=Z,9.8nm,0.8s
Q24A Divide 89.68 48 P **P 10 50 08.1 +0.2**
baz=243,SNR=6.9
ISCO Idaho Springs 89.74 47 P **P 10 50 08.3 +0.1**
baz=242
RLMT Red Lodge 89.93 41 *e*P **P 10 50 09.8 +0.9**
comp=Z,38nm,1.0s
RLMT Red Lodge 89.93 41 P **P 10 50 09.7 +0.9**
baz=240,SNR=19
JCT Junction City 89.99 57 *e*P **P 10 50 09.8 +0.6**
comp=Z,10nm,0.7s
JCT Junction City 89.99 57 *e*P **P 10 50 09.8 +0.6**
JCT pmax pmax
comp=Z,10.0nm,0.7s
JCT Junction City 89.99 57 P **P 10 50 09.1 -0.1**
baz=246
COLD Coldfoot 90.01 10 *e*P **P 10 50 08.6 +0.2**
comp=Z,37nm,1.2s
GCMT Greycliff 90.02 40 *e*P **P 10 50 10.0 +0.9**
N23A Red Feather La 90.03 46 *e*P **P 10 50 09.9 +0.4**
comp=Z,22nm,1.3s
N23A Red Feather La 90.03 46 P **P 10 50 09.9 +0.4**
baz=242
HHC Hu-ho-hao-te 90.21 314 *e*P **P 10 50 10.5 +0.4**
HHC pmax pmax
comp=Z,43nm,0.9s
KMI Kunming 90.29 297 P **P 10 50 12.3 +1.3**
KMI pmax pmax
comp=Z,52nm,0.9s

KMI pmax pmax
comp=Z,110nm,3.2s
UMPA Umpang Tak 90.32 287 P **P** **10 50 12.7 +1.7**
FYU Fort Yukon 90.32 12 *e*P **P** **10 50 09.2 -0.6**
comp=Z,34nm,0.8s
EFI East Falkland 90.34 147 *i* P **P** **10 50 11.0 +0.5**
EFI pmax pmax
comp=Z,60nm,1.1s
AMTX Amarillo 90.38 53 *e*P **P** **10 50 11.1 +0.2**
comp=Z,20nm,0.8s
AMTX Amarillo 90.38 53 P **P** **10 50 11.2 +0.2**
baz=245
K22A Casper 90.47 44 *e*P **P** **10 50 12.0 +0.7**
comp=Z,29nm,1.0s
K22A Casper 90.47 44 P **P** **10 50 11.7 +0.4**
baz=242,SNR=8.7
LAMP Lampang 90.48 290 P **P** **10 50 13.3 +1.6**
PHWY Pilot Hill 90.54 46 *e*pP pP 10 51 26.4 +6.9
PAYA Payao 90.58 290 P **P** **10 50 13.3 +1.1**
ABTX Abilene, Hawle 90.98 55 *e*P **P** **10 50 14.2 +0.4**
comp=Z,31nm,0.9s
ABTX Abilene, Hawle 90.98 55 P **P** **10 50 14.2 +0.4**
baz=246
CM01 Chiang Mai Arr 91.03 289 *e*P **P** **10 50 15.5 +1.2**
CM31 Chiang Mai Arr 91.06 289 *e*P **P** **10 50 14.5 +0.1**
CMAR Chiang Mai Arr 91.06 289 P **P** **10 50 15.8 +1.4**
comp=Z,29nm,1.0s,baz=118,slow=2.9,SNR=106
EGMT Eagleton 91.10 38 *e*P **P** **10 50 14.2 +0.2**
comp=Z,22nm,1.1s
EGMT Eagleton 91.10 38 P **P** **10 50 14.5 +0.5**
baz=240
CMMT Chiang Mai 91.19 290 P **P** **10 50 15.9 +0.9**
CHTO Chiang Mai 91.19 290 *e*P **P** **10 50 16.1 +1.1**
comp=Z,35nm,0.7s
CHTO Chiang Mai 91.19 290 *e*P **P** **10 50 16.1 +1.1**
CHTO pmax pmax
comp=Z,35nm,0.7s
CHTO Chiang Mai 91.19 290 P **P** **10 50 16.0 +1.1**
comp=Z,211nm,0.8s,comp=Z,2µm
TOLK Toolik Lake Re 91.40 10 P **P** **10 50 14.5 -0.4**
baz=206
KSCO Kaye Shedlock' 91.46 49 *e*P **P** **10 50 16.6 +0.7**
comp=Z,50nm,1.3s
KSCO Kaye Shedlock' 91.46 49 P **P** **10 50 16.4 +0.5**
baz=244
CD2 Chengdu 91.71 302 *e*P **P** **10 50 18.0 +0.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.0s
435B Jarrell 91.86 58 *e*P **P** **10 50 18.3 +0.4**
comp=Z,28nm,0.8s
435B Jarrell 91.86 58 P **P** **10 50 18.5 +0.7**
baz=247
EPYK Eagle Plains 92.04 15 P **P** **10 50 17.7 -0.2**
baz=217
WHTX Lake Whitney, 92.43 57 *e*P **P** **10 50 20.6 +0.2**
comp=Z,14nm,0.8s
WHTX Lake Whitney, 92.43 57 P **P** **10 50 20.6 +0.2**
baz=247
WMOK Wichita Mounta 92.49 54 P **P** **10 50 20.2 -0.5**
baz=246
LAO LASA Array 92.55 41 *e*P **P** **10 50 21.5 +0.8**
LAO LASA Array 92.55 41 P **P** **10 50 21.9 +1.2**
baz=242
OGNE Ogallala 92.70 47 P **P** **10 50 21.9 +0.3**
baz=245
RSSD Black Hills 92.75 44 *e*P **P** **10 50 22.1 +0.2**
comp=Z,65nm,1.0s
RSSD Black Hills 92.75 44 *e*P **P** **10 50 22.1 +0.2**
RSSD pmax pmax
comp=Z,65nm,1.0s
RSSD Black Hills 92.75 44 P **P** **10 50 22.1 +0.2**
baz=244
GO04 Tololo Observa 92.87 124 *e*P **P** **10 50 23.5 +0.5**
comp=Z,28nm,1.1s
GO04 *e*pP **pP** **10 51 34.2 +3.5**
HKT Hockley 92.94 59 *e*P **P** **10 50 23.9 +1.2**
comp=Z,12nm,1.2s
HKT Hockley 92.94 59 *e*P **P** **10 50 23.9 +1.2**
HKT pmax pmax
comp=Z,12nm,1.2s
U32A Winter Ranch, 92.98 52 *e*P **P** **10 50 23.0 +0.1**
comp=Z,24nm,0.9s
CBKS Cedar Bluff 93.42 50 P **P** **10 50 25.2 +0.3**
baz=246
LZH Lanzhou 93.67 307 *e*P **P** **10 50 27.3 +1.1**
LZH PP **PP** **10 54 18.5 +2.7**
LZH SKS **SKSac** **11 00 37.5 +4.0**
LZH S **ScS** **11 01 14.3 +2.8**
LZH sS sS 11 03 02.0 -8.8
LZH pmax pmax
comp=Z,58nm,1.1s
LZH pmax pmax
comp=Z,140nm,4.3s
INK Inuvik 94.33 15 P **P** **10 50 27.6 -0.6**
comp=Z,43nm,0.9s,baz=218,slow=3.9,SNR=113
INK Inuvik 94.33 15 *e*P **P** **10 50 27.3 -1.0**
comp=Z,67nm,1.0s
DGMT Dagmar 94.58 40 *e*P **P** **10 50 30.1 +0.2**
comp=Z,55nm,1.0s
DGMT Dagmar 94.58 40 P **P** **10 50 30.9 +0.9**
baz=244
JTS JuntasAbangare 95.52 81 *i* P **P** **10 50 34.1 -0.9**
BGNE Belgrade 95.57 48 *e*P **P** **10 50 35.4 +0.8**
comp=Z,61nm,0.8s
BGNE Belgrade 95.57 48 P **P** **10 50 35.5 +0.8**
baz=247
ULN Ulaanbaatar 96.18 319 *ce*P **P** **10 50 36.0 -1.4**
ULN pmax pmax
comp=Z,5.0nm,1.0s
YKA Yellowknife Ar 96.41 24 P **P** **10 50 37.4 -0.5**
comp=Z,4.8nm,0.6s,baz=243,slow=4.4,SNR=40
YKA PKKP **PKKPbc** **11 07 21.4 -3.2**
comp=Z,0.3nm,0.5s,baz=41,slow=2.5,SNR=6.2
YKB5 Yellowknife Ar 96.41 24 *e*P **P** **10 50 37.2 -0.7**
YKW3 Yellowknife Ar 96.45 24 *e*P **P** **10 50 36.7 -1.3**
comp=Z,6.9nm,0.8s
SONA0 Songino Array 96.57 319 *e*P **P** **10 50 38.1 -1.0**
SONA0 *e*PP **PP** **10 54 34.0 -3.8**
SONA1 Songino Array 96.57 319 *e*P **P** **10 50 37.9 -1.3**
SONM Songino Array 96.57 319 P **P** **10 50 38.1 -1.0**
comp=Z,2.2nm,1.0s,baz=123,slow=5.5,SNR=5.7
SONM PP **PP** **10 54 34.0 -3.8**
comp=Z,1.9nm,1.0s,baz=132,slow=7.3,SNR=4.7
SONM PKKP **PKKPbc** **11 07 21.4 -2.3**
comp=Z,0.7nm,1.0s,baz=235,slow=5.2,SNR=3.9
MDND Maddock 97.12 41 *e*P **P** **10 50 41.3 -0.1**
comp=Z,21nm,0.9s
ECSD EROS Data Cent 97.49 46 *e*P Pdif 10 50 43.4 +0.2
comp=Z,41nm,1.9s
ECSD EROS Data Cent 97.49 46 P **P** **10 50 43.0 -0.2**
baz=249
GTA Gaotai 97.86 309 ⇑P Pdif 10 50 45.3 +0.2
GTA PP **PP** **10 54 47.5 -0.4**
GTA pmax pmax
comp=Z,5.0nm,1.3s
GTA pmax pmax
comp=Z,35nm,5.6s
S41A Jilco Farms, 98.83 53 P Pdif 10 50 48.3 -1.1
baz=251
TIXI Tiksi 99.27 345 P **Pdif** **10 50 48.1 -2.3**
comp=Z,1.2nm,0.3s,baz=90,slow=6.1,SNR=2.9
TIXI Tiksi 99.27 345 *ce*P **Pdif** **10 50 49.0 -1.4**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
LPAZ La Paz 101.11 112 P **Pdif** **10 51 02.4 +1.6**
comp=Z,1.5nm,0.7s,baz=209,slow=4.8,SNR=6.7
LPAZ PP **PP** **10 55 15.1 +2.0**
comp=Z,1.9nm,1.0s,baz=229,slow=8.8,SNR=3.8
E38A The Farm, Brul 101.83 45 P **Pdif** **10 51 03.3 +0.8**
baz=252
J41A Loganville 101.90 48 P **Pdif** **10 51 03.6 +0.7**
baz=253
ZAA1 Zalesovo Array 111.29 321 *e*PKiKP **PKiKP** **10 55 39.8 -1.5**
ZAA1 *e*PP **PP** **10 56 23.6 -2.7**
ZALV Zalesovo Beam 111.29 321 PKiKP **PKiKP** **10 55 39.8 -1.5**
comp=Z,3.9nm,0.5s,baz=136,slow=1.1,SNR=20
ZALV PP **PP** **10 56 23.6 -2.7**
comp=Z,1.4nm,0.7s,baz=90,slow=4.6,SNR=3.7
MK32 Makanchi Array 112.06 313 *e*Pdif **Pdif** **10 51 49.1 +1.2**
MK32 *e*PKiKP **PKiKP** **10 55 41.5 -1.5**
MKAR Makanchi Array 112.06 313 Pdiff **Pdif** **10 51 49.2 +1.2**
comp=Z,0.7nm,0.7s,baz=89,slow=5.2,SNR=5.2
MKAR PKiKP **PKiKP** **10 55 41.5 -1.5**
comp=Z,3.5nm,0.6s,baz=208,slow=0.6,SNR=40
MKAR PKKPab **PKKPab** **11 06 44.6 +0.8**

comp=Z,0.5nm,0.7s,baz=268,slow=4.7,SNR=3.9
KURK Kurchatov 114.82 317 *e*PKiKP PKPdf 10 55 46.9 -1.3
KURK PKKPbc **PKKPbc** **11 06 27.1 -0.5**
KURK Kurchatov 114.82 317 PKiKP PKPdf 10 55 46.9 -1.2
KURK 11 06 27.1
KURK pmax pmax
comp=Z,5.0nm,0.6s
KURBB Kurchatov Arra 114.88 317 PKP PKPdf 10 55 46.9 -1.4
comp=Z,4.9nm,0.6s,baz=101,slow=1.7,SNR=36
KURBB PKKPbc **PKKPbc** **11 06 27.1 -0.3**
comp=Z,0.4nm,0.5s,baz=272,slow=5.1,SNR=3.3
KSH Kashi 115.80 305 *e*PKP **PKPdf** **10 55 55.5 +4.9**
AAK Ala-Archa 117.19 308 PKP **PKPdf** **10 55 52.2 -1.0**
comp=Z,2.2nm,0.6s,baz=166,slow=6.3,SNR=6.4
AAK PKKPbc **PKKPbc** **11 06 19.2 0.0**
comp=Z,2.2nm,0.9s,baz=162,slow=18,SNR=4.0
SFK Sufi-Kurgan 117.74 305 *e*PKPdf **PKPdf** **10 55 53.2 -1.3**
SFK Sufi-Kurgan 117.74 305 *e*PKiKP **PKPdf** **10 55 53.2 -1.3**
BVAR Borovoye Array 119.89 320 PKP **PKPdf** **10 55 56.7 -1.1**
comp=Z,13nm,0.5s,baz=125,slow=1.2,SNR=52
BVAR PP **PP** **10 57 23.4 -2.8**
comp=Z,2.5nm,0.9s,baz=100,slow=6.2,SNR=4.2
BVAR PKKPbc **PKKPab** **11 06 08.6 -0.5**
comp=Z,0.7nm,0.7s,baz=251,slow=4.5,SNR=4.0
BRVK Borovoye 119.95 320 *e*PKPdf **PKPdf** **10 55 56.8 -1.1**
BRVK Borovoye 119.95 320 *c i*PKiKP **PKPdf** **10 55 56.9 -1.1**
BRVK pmax pmax
comp=Z,8.0nm,0.7s
KK31 Karatay Array 120.14 308 *e*PKPdf **PKPdf** **10 55 57.3 -1.4**
KK31 Karatay Array 120.14 308 *e*PKiKP **PKPdf** **10 55 57.3 -1.4**
KKAR Karatay Array 120.14 308 *e*PKPdf **PKPdf** **10 55 57.2 -1.4**
KKAR Karatay Array 120.14 308 *e*PKiKP **PKPdf** **10 55 57.3 -1.4**
ILULI Ilulissat 121.72 20 *i* P **PKPdf** **10 55 59.6 -1.3**
ILULI Ilulissat 121.72 20 *i* PKiKP **PKPdf** **10 55 59.6 -1.3**
SFJD Kangerlussuaq 122.89 22 *i* P **PKPdf** **10 56 02.0 -1.2**
SFJD Kangerlussuaq 122.89 22 *i* PKiKP **PKPdf** **10 56 02.0 -1.2**
DAG Danmarks Havn 122.95 6 *i* P **PKPdf** **10 56 01.4 -1.7**
comp=Z,8.3nm,0.6s
DAG Danmarks Havn 122.95 6 *i* PKiKP **PKPdf** **10 56 01.4 -1.7**
DAG pmax pmax
comp=Z,6.0nm,0.6s
SUMG Summit 123.23 14 *e*PKPdf **PKPdf** **10 56 03.8 -0.5**
SUMG Summit 123.23 14 *i* P **PKPdf** **10 56 03.8 -0.5**
SUMG Summit 123.23 14 *i* PKiKP **PKPdf** **10 56 03.8 -0.5**
ARU Arti 125.96 326 PKP **PKPdf** **10 56 09.3 -0.1**
comp=Z,9.7nm,0.4s,baz=106,slow=1.9,SNR=17
ARU PP **PP** **10 58 02.2 -4.5**
comp=Z,5.6nm,0.6s,baz=77,slow=2.4,SNR=9.3
ARU Arti 125.96 326 *e*PKPdf **PKPdf** **10 56 08.6 -0.7**
ARU *e*PP **PP** **10 58 02.3 -4.5**
ARU Arti 125.96 326 *i* PKiKP **PKPdf** **10 56 08.7 -0.7**
ARU 11 02 55.6
BOSA Boshof 126.36 204 PKP **PKPdf** **10 56 11.7 +0.4**
comp=Z,1.9nm,0.6s,baz=158,slow=2.3,SNR=7.8
ABKAR Akbulak array 126.92 317 *e*PKPdf **PKPdf** **10 56 10.0 -1.5**
AKTO Aktyubinsk 127.89 318 PKP **PKPdf** **10 56 12.7 -0.6**
comp=Z,4.9nm,0.7s,baz=60,slow=4.4,SNR=15
SCO Scoresbysund 128.15 10 *i* P **PKPdf** **10 56 13.2 0.0**
SCO Scoresbysund 128.15 10 *i* PKiKP **PKPdf** **10 56 13.2 0.0**
ARA0 ARCESS Array S 129.38 350 *e*PKPdf **PKPdf** **10 56 15.1 -0.5**
ARCES ARCESS Array B 129.38 350 PKhKP PKPpre 10 56 03.3
comp=Z,5.7nm,1.0s,baz=20,slow=2.9,SNR=4.7
ARCES PKP **PKPdf** **10 56 15.1 -0.5**
comp=Z,4.7nm,0.4s,baz=22,slow=0.6,SNR=44
KLMR Klimovskoe 132.51 337 *e*PKiKP **PKPdf** **10 56 18.4 -3.2**
KLMR pmax pmax
comp=Z,6.0nm,0.8s
KLMR Klimovskoe 132.51 337 *e*PKPdf **PKPdf** **10 56 18.5 -3.2**
KLMR AMP 10 56 21.9
comp=Z,6.0nm,0.8s
FIA0 FINESS Array S 136.31 344 *e*PKPdf **PKPdf** **10 56 26.6 -2.1**
FIA0 FINESS Array S 136.31 344 *e*PKiKP **PKPdf** **10 56 26.7 -2.1**
FINES FINESS Array B 136.31 344 PKhKP PKPpre 10 56 15.3
comp=Z,3.1nm,0.8s,baz=85,slow=3.1,SNR=6.1
FINES PKP **PKPdf** **10 56 26.6 -2.1**
comp=Z,4.9nm,0.5s,baz=67,slow=1.8,SNR=13
FINES SKPbc **SKPbc** **10 59 34.6 +0.6**
comp=Z,3.3nm,0.8s,baz=10,slow=1.6,SNR=7.5
VRH Novokhopyorsk 137.17 325 *e*PKiKP **PKPdf** **10 56 30.7 0.0**
VRH pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 137.45 332 ⇓*e*PKiKP **PKPdf** **10 56 30.8 -0.2**
OBN 10 57 32.2
OBN SS SS 11 17 08.0 +4.2
OBN pmax pmax
comp=Z,8.0nm,0.6s
LPSR Galich'ya Gora 137.87 328 *e*PKiKP **PKPdf** **10 56 31.2 -0.7**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 138.53 326 *e*PKiKP **PKPdf** **10 56 33.8 +0.6**
VSR pmax pmax
comp=Z,9.0nm,0.5s
VSU Vasula 138.62 341 *i* PKiKP **PKPdf** **10 56 32.0 -1.1**
NCK Nalchik 139.36 313 *i* PKiKP **PKPdf** **10 56 33.9 -1.1**
NB2 NORSAR Subarra 139.38 354 PKP PKPpre 10 56 24.3
comp=Z,3.0nm,0.6s,baz=16,slow=4.3
NOA NORSAR Array B 139.38 354 PKhKP PKPpre 10 56 24.9
comp=Z,1.9nm,0.7s,baz=16,slow=5.0,SNR=7.9
NOA SKPbc **SKPbc** **10 59 42.8 0.0**
comp=Z,5.9nm,1.0s,baz=14,slow=4.5,SNR=6.1
KBZ Khabaz 139.75 314 PKP **PKPdf** **10 56 33.4 -2.2**
comp=Z,2.3nm,0.9s,baz=323,slow=5.1,SNR=2.3
KIV Kislovodsk 139.81 314 *i* PKiKP **PKPdf** **10 56 36.4 +0.5**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KMBO Kilima Mbogo 139.99 241 PKP **PKPdf** **10 56 37.6 +0.3**
comp=Z,2.5nm,0.6s,baz=63,slow=6.4,SNR=6.2
KMBO SKPbc **SKPbc** **10 59 46.4 +0.1**
comp=Z,6.5nm,0.9s,baz=7.1,slow=1.1,SNR=10
NEY Neytrino 140.04 313 *i* PKiKP **PKPdf** **10 56 35.4 -1.1**
ANN Anapa 142.85 318 *i* PKiKP **PKPdf** **10 56 39.2 -1.9**
ANN pmax pmax
comp=Z,147nm,1.3s
SUW Suwalki 143.43 340 *e*PKP PKPab 10 56 38.3 -0.6
KELT Kelkit 143.59 310 *i* P PKPbc 10 56 40.8 -0.3
AKASG Malin Array Be 143.71 332 PKhKP PKPpre 10 56 39.0
comp=Z,30nm,0.6s,baz=43,slow=4.5,SNR=16
AKASG SKPbc **SKPbc** **10 59 53.1 -0.9**
comp=Z,1.2nm,0.5s,baz=41,slow=3.4,SNR=4.5
AKBB Malin Array Si 143.71 332 *e*PKPpre PKPpre 10 56 38.9
KIEV Kiev 143.72 332 *e*PKPpre PKPpre 10 56 38.7
KIEV Kiev 143.72 332 *i* PKHKP PKPpre 10 56 38.9
AK11 Malin Array Si 143.75 332 *e*PKPpre PKPpre 10 56 39.0
EDU Dundee 144.03 6 *e*P **PKPab** **10 56 40.5 -0.6**
INVG Invergeldie, C 144.04 7 *e*P **PKPab** **10 56 40.6 -0.6**
MUD Monsted U'grnd 144.10 354 *i* P **PKPab** **10 56 40.9 -0.4**
comp=Z,64nm,0.9s
comp=Z,6µm,19.0s
MUD Monsted U'grnd 144.10 354 *i* PKiKP **PKPab** **10 56 40.9 -0.4**
MUD pmax pmax
comp=Z,64nm,0.9s
MUD MLR MLR
comp=Z,6µm,19.0s
EAB Aberfoyle 144.25 7 *e*P **PKPab** **10 56 41.2 -0.7**
ELZG Elazig 144.35 308 *i* P **PKPdf** **10 56 44.0 -0.3**
KEMA Kemaliye 144.45 309 *i* P PKPbc 10 56 43.8 +0.2
COP Copenhagen 144.45 351 *i* P **PKPab** **10 56 40.1 -2.6**
comp=Z,2µm,20.0s
BSD Bornholm Skovb 144.57 348 *i* P **PKPab** **10 56 41.6 -1.6**
comp=Z,93nm,0.8s
comp=Z,6µm,19.0s
BSD Bornholm Skovb 144.57 348 *i* PKiKP **PKPab** **10 56 41.6 -1.6**
BSD pmax pmax
comp=Z,93nm,0.8s
BSD MLR MLR
comp=Z,6µm,19.0s
PGBU Glenifferbraes 144.60 7 *e*P **PKPab** **10 56 42.2 -1.1**
ESY Stoneypath 144.69 5 *e*P PKPbc 10 56 42.3 -1.3
CUZAR Zara_SIVAS 144.74 310 *i* P **PKPdf** **10 56 45.0 +0.1**
SIM Simferopol' 144.80 320 *de*PKiKP PKPbc 10 56 44.1 -0.2
SIM pmax pmax
comp=Z,70nm,0.8s
CLGH Cloghs, Cushen 145.09 9 *e*P **PKPdf** **10 56 44.3 -0.5**
CUKAN kangal_SIVAS 145.17 310 *i* P **PKPab** **10 56 46.2 -0.1**
ESK Eskdalemuir 145.23 6 *e*PKPdf **PKPdf** **10 56 43.8 -1.2**
ESK Eskdalemuir 145.23 6 *e*P **PKPab** **10 56 43.6 -1.4**
ESK Eskdalemuir 145.23 6 *e*PKiKP **PKPdf** **10 56 43.8 -1.2**
BHH Howats Hill 145.45 6 *e*P **PKPdf** **10 56 45.0 -0.3**
MBAR Mbarara 145.49 235 *e*PKPdf **PKPdf** **10 56 46.2 -0.7**
MBAR Mbarara 145.49 235 *e*PKiKP **PKPdf** **10 56 46.3 -0.7**
GKP Gorka Klasztor 145.78 345 *e*PKP **PKPbc** **10 56 46.5 -0.5**
GKP Gorka Klasztor 145.78 345 *e*PKP2 **PKPbc** **10 56 46.5 -0.5**
BBO1 Bothel 145.79 6 *e*P **PKPdf** **10 56 46.2 +0.3**
EDMD Edmundbyers 145.82 5 *e*P **PKPdf** **10 56 46.3 +0.3**

KESW Keswick, Cumbr 145.96 6 *e*P **PKPbc** **10 56 47.1 -0.4**
BEL Belsk 146.05 340 *e*PKP **PKPbc** **10 56 47.7 -0.2**
BEL Belsk 146.05 340 *e*PKP2 **PKPbc** **10 56 47.7 -0.2**
IOMK Kirk Michael 146.11 8 *e*P **PKPdf** **10 56 47.1 +0.6**
WIM Isle of Man 146.21 8 *e*P **PKPdf** **10 56 47.4 +0.7**
LVV L'vov 146.56 335 *e*PKiKP **PKPdf** **10 56 48.4 +1.0**
DSB Dublin 146.83 10 *e*PKPdf **PKPbc** **10 56 49.6 -0.4**
WPS Cemaes, Angles 146.96 8 *e*P **PKPbc** **10 56 49.5 -0.9**
ILGA Ilgaz 147.04 315 *e*PKPdf **PKPdf** **10 56 49.5 +0.6**
WLF1 Llynfaes 147.08 8 *e*P **PKPbc** **10 56 50.1 -0.6**
YRC Rhoscolyn 147.09 8 *e*P **PKPbc** **10 56 49.6 -1.1**
LEOM Leova 147.12 327 ⇑*i*P **PKPbc** **10 56 50.8 -0.2**
LEOM Leova 147.12 327 ⇑PKP2 **PKPbc** **10 56 50.8 -0.2**
WPM1 Penmaenmawr 147.17 8 *e*P **PKPbc** **10 56 51.3 +0.3**
KWP Kalwaria Pacla 147.23 336 *e*PKP **PKPbc** **10 56 50.9 -0.4**
KWP Kalwaria Pacla 147.23 336 *e*PKP2 **PKPbc** **10 56 50.9 -0.4**
FOEL Foel Wylfa 147.62 7 *e*P **PKPbc** **10 56 51.7 -0.5**
TLCR 147.68 325 ⇑*i*P **PKPbc** **10 56 52.4 -0.2**
TLCR 147.68 325 ⇑PKP2 **PKPbc** **10 56 52.4 -0.2**
BR101 Keskin Array S 147.71 313 *e*PKPdf **PKPdf** **10 56 48.8 -1.1**
BR101 *e*PKPbc **PKPbc** **10 56 52.5 -0.6**
BR131 Keskin Array S 147.71 313 *e*PKPdf **PKPdf** **10 56 50.3 +0.4**
BRTR Keskin Array B 147.71 313 PKP **PKPdf** **10 56 48.8 -1.1**
comp=Z,8.3nm,0.6s,baz=140,slow=4.8,SNR=36
BRTR PKPbc **PKPbc** **10 56 52.5 -0.6**
comp=Z,8.9nm,0.6s,baz=130,slow=3.8,SNR=37
BUR08 Bucovina Ar. S 147.75 331 *e*PKPbc **PKPbc** **10 56 53.1 +0.2**
BUR04 Bucovina Ar. S 147.76 331 *e*PKPdf **PKPdf** **10 56 50.7 +1.1**
OJC Ojcow 147.76 340 *e*PKPdf **PKPbc** **10 56 52.2 -0.5**
OJC Ojcow 147.76 340 *e*PKPbc **PKPbc** **10 56 52.3 -0.4**
OJC Ojcow 147.76 340 ⇓*e*PKP2 **PKPbc** **10 56 52.2 -0.5**
ROSA Rosais 147.78 49 *e*PKPbc **PKPbc** **10 56 53.9 +0.8**
BIZ Bicaz 147.85 330 ⇓*i*P **PKPbc** **10 56 53.0 0.0**
CWF Charnwood Fore 147.95 5 *e*P **PKPbc** **10 56 52.4 -0.7**
CFR Carcaliu 148.04 325 ⇑*i*P **PKPbc** **10 56 53.1 -0.4**
CFR Carcaliu 148.04 325 ⇑PKP2 **PKPbc** **10 56 53.1 -0.4**
UZH Uzhgorod 148.20 335 *e*PKiKP **PKPdf** **10 56 50.1 -0.1**
UZH *e* 10 56 58.2
ANTO Ankara 148.22 313 *e*PKPbc **PKPbc** **10 56 54.0 -0.3**
KSP Ksiaz 148.24 344 *e*PKPdf **PKPbc** **10 56 53.9 0.0**
KSP Ksiaz 148.24 344 ⇓*e*PKP2 **PKPbc** **10 56 53.9 0.0**
NIE Niedzica 148.28 338 *e*PKPdf **PKPbc** **10 56 54.2 +0.2**
NIE Niedzica 148.28 338 ⇓*e*PKP2 **PKPbc** **10 56 54.3 +0.2**
VRI Vrincioaia 148.31 328 ⇓*i*P **PKPbc** **10 56 54.2 0.0**
VRI Vrincioaia 148.31 328 ⇓PKP2 **PKPbc** **10 56 54.2 0.0**
PLOR Plostina 148.35 328 ⇑*i*P **PKPbc** **10 56 54.1 -0.3**
PLOR Plostina 148.35 328 ⇑PKP2 **PKPbc** **10 56 54.1 -0.3**
TIRR Tirgusor 148.36 324 ⇑*i*P **PKPbc** **10 56 54.2 -0.2**
TIRR Tirgusor 148.36 324 ⇑PKP2 **PKPbc** **10 56 54.2 -0.2**
TLB Topalu 148.48 325 ⇑*i*P **PKPbc** **10 56 54.6 -0.1**
TLB Topalu 148.48 325 ⇑PKP2 **PKPbc** **10 56 54.6 -0.1**
TRPA Tarpa 148.50 335 ⇑*i*P **PKPbc** **10 56 54.5 -0.1**
TRPA Tarpa 148.50 335 ⇓*e*PKPdf **PKPbc** **10 56 54.0 -0.6**
MCH1 Michaelchurch 148.52 7 *e*P **PKPbc** **10 56 53.7 -0.8**
CLL Collm 148.55 348 *e*PKPdf **PKPdf** **10 56 50.2 -0.5**
CLL *e*PKPbc **PKPbc** **10 56 54.4 -0.3**
CLL *e*PKPab **PKPab** **10 56 58.1 -0.8**
CLL Collm 148.55 348 *e*PKPdf **PKPdf** **10 56 50.0 -0.7**
CLL ⇓*i*PKPbc **PKPbc** **10 56 54.6 0.0**
comp=Z,99nm,0.6s
CLL ⇑*i*PKPab **PKPab** **10 56 58.2 -0.8**
comp=Z,50nm,0.9s
CLL Collm 148.55 348 *e*PKiKP **PKPdf** **10 56 50.2 -0.5**
CLL *e* 10 56 58.2
OKC Ostrava-Krasne 148.62 341 ⇑*e*PKP **PKPbc** **10 56 54.7 -0.2**
OKC Ostrava-Krasne 148.62 341 *e*PKP2 **PKPbc** **10 56 54.7 -0.2**
OKC MLR MLR
comp=Z,2µm,18.0s
UPC Upice 148.62 344 ⇑*e*PKP **PKPbc** **10 56 55.1 +0.2**
UPC *e*PKPAB **PKPab** **10 56 59.4 +0.1**
UPC Upice 148.62 344 *e*PKP2 **PKPbc** **10 56 55.1 +0.2**
UPC MLR MLR
comp=Z,4µm,21.0s
DPC Dobruska-Polom 148.68 343 ⇑*e*PKP **PKPbc** **10 56 55.5 +0.4**
DPC *e*PKPAB **PKPab** **10 56 59.8 +0.2**
DPC Dobruska-Polom 148.68 343 *e*PKP2 **PKPbc** **10 56 55.5 +0.4**
DPC MLR MLR
comp=Z,3µm,20.1s
MONM Monmouth 148.70 7 *e*P **PKPbc** **10 56 54.1 -0.9**
WTSB Winterswijk 148.75 355 *e*PKPbc **PKPbc** **10 56 54.7 -0.4**
WTSB *e*PKPab **PKPab** **10 56 58.9 -0.9**
BRG Berggiesshubel 148.77 347 *i* PKP **PKPdf** **10 56 50.8 -0.3**
comp=Z,12nm,1.1s
BRG Berggiesshubel 148.77 347 *i* PKP **PKPbc** **10 56 55.2 0.0**
comp=Z,53nm,0.6s
BRG *i* 10 56 59.0
comp=Z,40nm,0.8s
BRG Berggiesshubel 148.77 347 *i* PKP2 **PKPbc** **10 56 55.2 0.0**
BRG pmax pmax
comp=Z,53nm,0.6s
LANS Liptovska Anna 148.79 339 *e*PKP2 **PKPbc** **10 56 55.9 +0.5**
LANS Liptovska Anna 148.79 339 *e*PKP **PKPbc** **10 56 55.9 +0.5**
LANS *e* 10 57 00.8
MORC Moravsky Berou 148.85 342 *e*PKPdf **PKPdf** **10 56 51.0 -0.3**
MORC *e*PKPbc **PKPbc** **10 56 55.1 -0.4**
MORC *e*PKPab **PKPab** **10 56 59.4 -1.0**
MORC Moravsky Berou 148.85 342 ⇑*i*P **PKPbc** **10 56 55.8 +0.3**
MORC Moravsky Berou 148.85 342 ⇑PKP2 **PKPbc** **10 56 55.8 +0.3**
MORC Moravsky Berou 148.85 342 *e*PKP **PKPbc** **10 56 55.4 -0.1**
MORC *e* 10 56 59.2
DOPR Dopca 148.89 329 ⇑*i*P **PKPbc** **10 56 56.3 +0.6**
ISR Istrita 148.92 327 ⇑*i*P **PKPbc** **10 56 55.9 0.0**
ISR Istrita 148.92 327 ⇑PKP2 **PKPbc** **10 56 55.9 0.0**
PVCC Panska Ves 148.95 346 ⇑*e*PKP **PKPbc** **10 56 56.1 +0.4**
PVCC Panska Ves 148.95 346 *e*PKP2 **PKPbc** **10 56 56.1 +0.4**
MLR Muntele Rosu 148.96 328 *e*PKPbc **PKPbc** **10 56 54.8 -1.2**
MLR Muntele Rosu 148.96 328 ⇓*i*P **PKPbc** **10 56 55.2 -0.9**
MLR Muntele Rosu 148.96 328 ⇓PKP2 **PKPbc** **10 56 55.2 -0.9**
CJR Cluj-Napoca 149.16 332 ⇑*i*P **PKPbc** **10 56 56.6 +0.2**
CJR Cluj-Napoca 149.16 332 ⇑PKP2 **PKPbc** **10 56 56.6 +0.2**
SECR 149.22 327 ⇓*i*P **PKPbc** **10 56 56.7 +0.2**
LTVH L"tav"rtes, 149.36 334 ⇓*e*PKPdf **PKPbc** **10 56 57.1 +0.3**
PRA Prague 149.41 345 *e*PKP **PKPbc** **10 56 56.8 0.0**
PRA Prague 149.41 345 *e*PKP2 **PKPbc** **10 56 56.8 0.0**
VOIR 149.44 329 ⇓*i*P **PKPbc** **10 56 57.1 -0.1**
VOIR 149.44 329 ⇓PKP2 **PKPbc** **10 56 57.1 -0.1**
GOPC GO Pecny, Ondr 149.47 345 *e*PKP **PKPbc** **10 56 56.9 -0.1**
GOPC GO Pecny, Ondr 149.47 345 *e*PKP2 **PKPbc** **10 56 56.9 -0.1**
GOPC MLR MLR
comp=Z,4µm,19.5s
DRGR 149.49 333 ⇑*i*P **PKPbc** **10 56 55.2 -2.0**
VRAC Vranov 149.55 342 *e*PKP **PKPbc** **10 56 57.1 -0.1**
VRAC *e* 10 57 03.2
VYHS Vyhne 149.57 339 *e*PKP2 **PKPbc** **10 56 57.2 -0.1**
VYHS Vyhne 149.57 339 *e*PKP **PKPbc** **10 56 57.2 -0.1**
VYHS *e* 10 57 03.4
JAVC Velka Javorina 149.63 341 *e*PKP **PKPbc** **10 56 58.4 +0.9**
JAVC *e* 10 57 04.5
KOLL Kolacno 149.64 340 *e*PKP2 **PKPbc** **10 56 57.7 +0.3**
KOLL Kolacno 149.64 340 *e*PKP **PKPbc** **10 56 57.7 +0.3**
NKC Novy Kostel 149.68 348 ⇑*e*PKP **PKPbc** **10 56 57.5 0.0**
NKC *e*PKPAB **PKPab** **10 57 03.1 -0.6**
NKC Novy Kostel 149.68 348 *e*PKP2 **PKPbc** **10 56 57.5 0.0**
PSZ Piszkesteto 149.69 337 *e*PKPdf **PKPdf** **10 56 51.8 -0.9**
PSZ *e*PKPbc **PKPbc** **10 56 57.5 -0.2**
PSZ Piszkesteto 149.69 337 ⇓*i*P **PKPbc** **10 56 57.9 +0.2**
PSZ Piszkesteto 149.69 337 ⇓*e*PKPdf **PKPbc** **10 56 57.1 -0.6**
PSZ Piszkesteto 149.69 337 ⇓PKP2 **PKPbc** **10 56 57.9 +0.2**
ARR Arges 149.69 329 ⇓*i*P **PKPbc** **10 56 58.0 +0.2**
CSS Mathiatis 149.81 304 *e*PKPdf **PKPdf** **10 56 52.5 -0.8**
CSS *e*PKPbc **PKPbc** **10 56 57.0 -1.3**
KRUC Moravsky 149.82 342 *e*PKP **PKPbc** **10 56 57.6 -0.3**
KRUC *e* 10 57 04.2
TREC Trest 149.86 344 ⇑*e*PKP **PKPbc** **10 56 57.9 -0.1**
HGN Heimansgroeve 150.01 356 *e*PKPbc **PKPbc** **10 56 58.0 -0.2**
HGN *

GRFO	**Grafenberg**	**150.43**	**349**	*e*PKPdf	**PKPdf**	**10 56 53.9**	**+0.2**
GRFO				*e*PKPbc	**PKPbc**	**10 56 59.6**	**+0.3**
GRFO				*e*PKPab	**PKPab**	**10 57 05.7**	**-1.1**
GRFO	**Grafenberg**	**150.43**	**349**	*e*PKIKP	**PKPdf**	**10 56 53.9**	**+0.2**
GRFO				*e*		10 57 05.7	
KHC	**Kasperske Hory**	**150.49**	**346**	*e*PKPDF	**PKPdf**	**10 56 55.7**	**+1.8**
KHC				⇑*e*PKP	**PKPbc**	**10 56 59.5**	**0.0**
KHC	**Kasperske Hory**	**150.49**	**346**	*e*PKIKP	**PKPdf**	**10 56 55.7**	**+1.8**
GEC2	**GERESS Array S**	**150.72**	**345**	*e*PKPbc	**PKPbc**	**10 56 59.8**	**-0.3**
GERES	**GERESS Array B**	**150.72**	**345**	PKPbc	**PKPbc**	**10 56 59.8**	**-0.3**
	comp=Z,20nm,0.7s,baz=29,slow=3.0,SNR=53						
DOU	**Dourbes**	**150.74**	**358**	⇓PKPbc	**PKPbc**	**10 56 59.8**	**-0.1**
DOU				⇑PKPab	**PKPab**	**10 57 07.1**	**-0.9**
BZS	**Buzias**	**150.88**	**333**	⇑*i*P	**PKPbc**	**10 57 00.2**	**-0.3**
BZS	**Buzias**	**150.88**	**333**	⇑PKIKP	**PKPbc**	**10 57 00.2**	**-0.3**
SRE	**Strehaia**	**150.90**	**329**	⇑*i*P	**PKPbc**	**10 57 00.5**	**0.0**
SRE	**Strehaia**	**150.90**	**329**	⇑PKIKP	**PKPbc**	**10 57 00.5**	**0.0**
CONA	**Conrad Observa**	**151.00**	**342**	*i* PKPdf	**PKPdf**	**10 56 54.6**	**-0.2**
	comp=Z,4.0nm,0.8s						
CONA				*i* PKiKP	**PKPbc**	**10 57 00.7**	**-0.1**
	comp=Z,24nm,0.7s,SNR=12						
CONA				*i* PKPab	**PKPab**	**10 57 08.8**	**-0.6**
	comp=Z,30nm,0.8s						
SOP	**Sopron**	**151.01**	**341**	⇓*e*PKPdf	**PKPbc**	**10 57 00.5**	**-0.2**
WLF	**Walferdange**	**151.09**	**356**	*e*PKPbc	**PKPbc**	**10 57 00.9**	**+0.1**
WLF				*e*PKPab	**PKPab**	**10 57 08.4**	**-1.1**
WLF	**Walferdange**	**151.09**	**356**	⇑PKPbc	**PKPbc**	**10 57 01.1**	**+0.3**
WLF				⇓PKPab	**PKPab**	**10 57 09.0**	**-0.5**
HERR	**Herculane**	**151.10**	**331**	⇑*i*P	**PKPbc**	**10 57 00.0**	**-1.0**
MOA	**Molln**	**151.51**	**344**	*i* PKPbc	**PKPbc**	**10 56 59.5**	**-2.4**
	comp=Z,7.7nm,0.6s,SNR=4.9						
MOA				*i* PKPab	**PKPab**	**10 57 11.3**	**-0.1**
	comp=Z,17nm,0.8s						
MORH	**M¨ɜr¨ıgy, Hung**	**151.59**	**337**	⇓*e*PKPdf	**PKPbc**	**10 57 01.2**	**-0.8**
ARSA	**Arzberg**	**151.71**	**342**	*i* PKPdf	**PKPdf**	**10 56 56.1**	**+0.4**
	comp=Z,1.8nm,0.6s						
ARSA				*i* PKPab	**PKPab**	**10 57 11.0**	**-1.3**
	comp=Z,15nm,0.8s						
BFO	**Black Forest**	**152.20**	**352**	*e*PKPdf	**PKPdf**	**10 56 56.1**	**-0.4**
BFO				*e*PKPbc	**PKPbc**	**10 57 03.1**	**-0.3**
BFO				*e*PKPab	**PKPab**	**10 57 13.4**	**-0.9**
BFO	**Black Forest**	**152.20**	**352**	*e*PKIKP	**PKPdf**	**10 56 56.1**	**-0.4**
BFO				*e*		10 57 13.4	
SOKA	**Soboth**	**152.37**	**342**	*i* PKPbc	**PKPbc**	**10 57 02.9**	**-1.1**
	comp=Z,21nm,1.3s						
SOKA				*i* PKPab	**PKPab**	**10 57 14.5**	**-0.7**
	comp=Z,22nm,0.8s						
PERS	**Pernice**	**152.39**	**342**	*i* PKPbc	**PKPbc**	**10 57 02.9**	**-1.1**
PERS				*i* pPKPbc	**PKPab**	**10 57 14.5**	**-0.7**
PERS	**Pernice**	**152.39**	**342**	*i* PKPbc	**PKPbc**	**10 57 02.9**	**-1.1**
PERS				*i* pPKPbc	**PKPab**	**10 57 14.5**	**-0.7**
VTS	**Vitosha**	**152.41**	**327**	*e*PKPbc	**PKPbc**	**10 57 03.6**	**-0.7**
VTS	**Vitosha**	**152.41**	**327**	⇓*i*P	**PKPbc**	**10 57 03.9**	**-0.3**
VTS	**Vitosha**	**152.41**	**327**	*e*PKIKP	**PKPbc**	**10 57 03.6**	**-0.7**
KBA	**Koelnbreinsper**	**152.46**	**345**	*i* PKPbc	**PKPbc**	**10 57 03.5**	**-0.7**
	comp=Z,7.6nm,0.5s						
KBA				*i* PKPab	**PKPab**	**10 57 15.0**	**-0.6**
	comp=Z,30nm,0.8s						
WATA	**Walderalm**	**152.62**	**347**	*i* PKPdf	**PKPdf**	**10 56 57.5**	**+0.3**
	comp=Z,4.3nm,0.5s						
WATA				*i* PKPbc	**PKPbc**	**10 57 04.1**	**-0.5**
	comp=Z,12nm,0.5s						
WATA				*i* PKPab	**PKPab**	**10 57 16.0**	**-0.3**
	comp=Z,8.3nm,0.5s						
RETA	**Reutte**	**152.64**	**348**	*i* PKPbc	**PKPbc**	**10 57 04.1**	**-0.4**
	comp=Z,5.3nm,0.6s						
RETA				*i* PKPab	**PKPab**	**10 57 15.3**	**-0.9**
	comp=Z,12nm,0.6s						
OBKA	**Obir**	**152.66**	**342**	*i* PKiKP	**PKPbc**	**10 57 04.6**	**0.0**
	comp=Z,4.2nm,0.5s						
OBKA				*i* PKPab	**PKPab**	**10 57 16.0**	**-0.4**
	comp=Z,23nm,0.7s						
WTTA	**Wattenberg**	**152.68**	**347**	*i* PKPdf	**PKPdf**	**10 56 57.3**	**-0.1**
	comp=Z,6.9nm,0.8s						
WTTA				*i* PKPbc	**PKPbc**	**10 57 04.1**	**-0.6**
	comp=Z,15nm,0.7s,SNR=5.7						
WTTA				*i* PKPab	**PKPab**	**10 57 16.5**	**0.0**
	comp=Z,18nm,0.6s						
MOTA	**Moosalm**	**152.71**	**348**	*i* PKPdf	**PKPdf**	**10 56 56.8**	**-0.6**
	comp=Z,1.7nm,0.4s						
MOTA				*i* PKPbc	**PKPbc**	**10 57 04.2**	**-0.5**
	comp=Z,15nm,0.9s						
MOTA				*i* PKPab	**PKPab**	**10 57 15.9**	**-0.7**
	comp=Z,11nm,0.6s						
DIVS	**Divibare**	**152.79**	**333**	*e*PKPbc	**PKPbc**	**10 57 04.6**	**-0.3**
MYKA	**Terra Mystica**	**152.80**	**344**	*i* PKPdf	**PKPdf**	**10 56 55.1**	**-2.4**
	comp=Z,2.3nm,0.5s						
MYKA				*i* PKPbc	**PKPbc**	**10 57 03.6**	**-1.3**
	comp=Z,3.7nm,0.6s,SNR=4.1						
MYKA				*i* PKPab	**PKPab**	**10 57 15.9**	**-1.0**
	comp=Z,20nm,0.8s						
SQTA	**Sankt Quirin**	**152.81**	**348**	*i* PKPdf	**PKPdf**	**10 56 57.2**	**-0.3**
	comp=Z,16nm,1.5s						
SQTA				*i* PKPbc	**PKPbc**	**10 57 04.5**	**-0.4**
	comp=Z,17nm,0.6s						
SQTA				*i* PKPab	**PKPab**	**10 57 15.1**	**-1.9**
	comp=Z,22nm,1.4s						
CLF	**Chambon-Foret**	**152.84**	**1**	*e*PKPdf	**PKPdf**	**10 56 57.9**	**+0.5**
CLF				*e*PKPbc	**PKPbc**	**10 57 04.2**	**-0.5**
CLF				*e*PKPab	**PKPab**	**10 57 15.7**	**-1.1**
ABTA	**Abfaltersbach**	**152.97**	**345**	*i* PKPdf	**PKPdf**	**10 56 56.8**	**-0.9**
	comp=Z,18nm,1.1s						
ABTA				*i* PKPbc	**PKPbc**	**10 57 04.1**	**-1.2**
	comp=Z,25nm,0.6s,SNR=6.7						
ABTA				*i* PKPab	**PKPab**	**10 57 16.5**	**-1.1**
	comp=Z,22nm,0.7s						
DAVA	**Damuels**	**152.99**	**350**	*i* PKPdf	**PKPdf**	**10 56 57.5**	**-0.3**
	comp=Z,11nm,1.2s						
DAVA				*i* PKPbc	**PKPbc**	**10 57 04.9**	**-0.5**
	comp=Z,27nm,1.2s						
DAVA				*i* PKPab	**PKPab**	**10 57 16.8**	**-0.9**
	comp=Z,11nm,0.6s						
FETA	**Feichten**	**153.09**	**348**	*i* PKPdf	**PKPdf**	**10 56 57.9**	**-0.1**
	comp=Z,6.4nm,0.8s						
FETA				*i* PKPbc	**PKPbc**	**10 57 05.2**	**-0.4**
	comp=Z,8.9nm,0.6s						
FETA				*i* PKPab	**PKPab**	**10 57 17.6**	**-0.7**
	comp=Z,25nm,1.0s						
LJU	**Ljubljana**	**153.10**	**342**	*i* PKPbc	**PKPbc**	**10 57 04.8**	**-0.7**
LJU				*i* pPKPbc	**PKPab**	**10 57 17.2**	**-0.9**
LJU	**Ljubljana**	**153.10**	**342**	*i* PKPbc	**PKPbc**	**10 57 04.8**	**-0.7**
LJU				*i* pPKPbc	**PKPab**	**10 57 17.2**	**-0.9**
CRNS	**Crni Vrh**	**153.14**	**342**	*i* PKPbc	**PKPbc**	**10 57 04.5**	**-1.1**
CRNS				*i* pPKPbc	**PKPab**	**10 57 17.1**	**-1.3**
CRNS	**Crni Vrh**	**153.14**	**342**	*i* PKPbc	**PKPbc**	**10 57 04.5**	**-1.1**
CRNS				*i* pPKPbc	**PKPab**	**10 57 17.1**	**-1.3**
BLY	**Banja Luka**	**153.37**	**337**	⇑*i*P	**PKPbc**	**10 57 06.4**	**+0.3**
FUORN	**Ofenpass-Fuorn**	**153.56**	**349**	*e*PKPbc	**PKPbc**	**10 57 06.9**	**+0.2**
FUORN				*e*PKPab	**PKPab**	**10 57 18.7**	**-1.7**
TUE	**Stuetta**	**153.87**	**350**	*e*PKPdf	**PKPdf**	**10 56 59.0**	**-0.2**
TUE				*e*PKPbc	**PKiKP**	**10 57 07.4**	**0.0**
SENIN	**Lac Senin/Sane**	**154.26**	**353**	*e*PKPbc	**PKPbc**	**10 57 08.0**	**-0.2**
SENIN				*e*PKPab	**PKPab**	**10 57 22.9**	**-0.4**
FNA	**Florina**	**154.66**	**326**	*e*PKPbc	**PKPbc**	**10 57 08.1**	**-0.9**
FNA	**Florina**	**154.66**	**326**	*e*PKIKP	**PKPbc**	**10 57 08.1**	**-0.9**
PBRG	**Braganca**	**157.51**	**19**	*e*PKPab	**PKPab**	**10 57 37.4**	**+0.2**
POLO	**Lamas de Olo**	**157.56**	**22**	*e*PKPab	**PKPab**	**10 57 37.4**	**-0.1**
MVO	**Moncorvo**	**158.00**	**20**	*e*PKPab	**PKPab**	**10 57 40.0**	**+0.6**
PVIS	**Viseu**	**158.10**	**23**	*e*PKPab	**PKPab**	**10 57 39.3**	**-0.5**
PCAS	**Casmilo, Conde**	**158.46**	**25**	*e*PKPab	**PKPab**	**10 57 40.9**	**-0.4**
MTE	**Manteigas**	**158.51**	**22**	*e*PKPab	**PKPab**	**10 57 41.3**	**-0.3**
PTOM	**Tomar**	**158.86**	**25**	*e*PKPab	**PKPab**	**10 57 43.0**	**-0.1**
PCBR	**Castelo Branco**	**159.03**	**23**	*e*PKPab	**PKPab**	**10 57 43.4**	**-0.4**
PMAFR	**Mafra**	**159.06**	**28**	*e*PKPab	**PKPab**	**10 57 44.5**	**+0.5**
PMRV	**Marv??o**	**159.42**	**23**	*e*PKPab	**PKPab**	**10 57 45.7**	**+0.2**
PESTR	**Estremoz**	**159.83**	**24**	*e*PKPab	**PKPab**	**10 57 46.6**	**-0.7**
ES19	**SONSECA Array**	**160.27**	**16**	*e*PKPdf	**PKPdf**	**10 57 06.5**	**-0.7**
ESDC	**Sonseca Array**	**160.28**	**16**	PKP	**PKPdf**	**10 57 07.3**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=328,slow=2.0,SNR=6.6						
ESDC				PKPab	**PKPab**	**10 57 49.1**	**-0.2**
	comp=Z,5.0nm,0.6s,baz=338,slow=3.6,SNR=18						
ESDC				PP	**PP**	**11 01 29.6**	**-1.9**
	comp=Z,3.4nm,0.9s,baz=334,slow=4.7,SNR=7.6						
MESJ	**Messejana**	**160.45**	**27**	*e*PKPab	**PKPab**	**10 57 50.0**	**0.0**
PVAQ	**Vaqueiros**	**161.03**	**27**	*e*PKPab	PKPab	10 57 42.4	-10
PBDV	**Barranco-do-Ve**	**161.08**	**28**	*e*PKPab	**PKPab**	**10 57 46.6**	**-6.2**
LIC	**Lamto**	**163.57**	**151**	*e*PKIKP	**PKPdf**	**10 57 10.8**	**-0.5**
	comp=Z,41nm,1.3s						
LIC	**Lamto**	**163.57**	**151**	*e*P	**PKPab**	**10 58 04.8**	**+0.5**
	comp=Z,37nm,1.0s						
KIC	**Kosan Boka**	**163.82**	**151**	*e*PKIKP	**PKPdf**	**10 57 10.7**	**-0.8**
	comp=Z,24nm,1.2s						
KIC	**Kosan Boka**	**163.82**	**151**	*e*P	**PKPab**	**10 58 05.9**	**+0.5**
	comp=Z,58nm,1.1s						
TIC	**Toumodi**	**163.94**	**150**	*e*PKIKP	**PKPdf**	**10 57 10.5**	**-1.1**
TIC	**Toumodi**	**163.94**	**150**	*e*P	**PKPab**	**10 58 07.3**	**+1.4**
DBIC	**Dimbokro**	**164.04**	**151**	PKP	**PKPdf**	**10 57 11.4**	**-0.3**
	comp=Z,2.6nm,0.6s,baz=207,slow=4.8,SNR=4.2						
DBIC				PKPab	**PKPab**	**10 58 07.5**	**+1.1**
	comp=Z,12nm,1.0s,baz=187,slow=5.3,SNR=7.8						
KEST	**Kesra**	**164.10**	**341**	PKPab	**PKPab**	**10 58 04.6**	**-1.6**
	comp=Z,11nm,0.7s,baz=151,slow=2.0,SNR=6.3						
TOA0	**Torodi Ar. Sit**	**172.29**	**171**	*e*PKPdf	**PKPdf**	**10 57 16.6**	**-0.6**
TORD	**Torodi Ar. Bea**	**172.29**	**171**	PKP	**PKPdf**	**10 57 16.1**	**-1.1**
	comp=Z,5.1nm,0.9s,baz=345,slow=2.3,SNR=24						
TORD				PKPab	**PKPab**	**10 58 43.0**	**+0.3**
	comp=Z,11nm,1.0s,baz=212,slow=2.4,SNR=21						
TORD				pPKPab	**pPKPab**	**10 59 52.1**	**+1.4**
	comp=Z,4.2nm,0.9s,baz=196,slow=1.6,SNR=6.4						
TORD				PP	**PP**	**11 02 31.2**	**-1.6**
	comp=Z,2.4nm,1.0s,baz=150,slow=6.2,SNR=6.0						
TOA1	**Torodi Ar. Sit**	**172.30**	**171**	*e*PKPdf	**PKPdf**	**10 57 16.1**	**-1.1**
TOA1				*e*PKPab	**PKPab**	**10 58 43.0**	**+0.3**
TOA1				*e*PP	**PP**	**11 02 31.2**	**-1.7**
TAM	**Tamanrasset**	**176.90**	**310**	*e*PKPdf	**PKPdf**	**10 57 19.6**	**+1.0**
TAM	**Tamanrasset**	**176.90**	**310**	*e*PKIKP	**PKPdf**	**10 57 19.6**	**+1.0**

ISC 29 10:54:48.1±1.1, **49.49N**±0.04×**17.57E**±0.05, **h0**km, **n6**, σ**0.86**/9, **Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MORC	**Moravsky Berou**	**0.29**	**356**	*e*PG	**Pg**	**10 54 53.6**	**-0.1**
MORC				*e*SG	**Sg**	**10 54 57.8**	**+0.3**
JAVC	**Velka Javorina**	**0.63**	**174**	*e*PG	**Pb**	**10 55 02.3**	**+0.3**
VRAC	**Vranov**	**0.67**	**255**	*e*PG	**Pb**	**10 55 01.5**	**-1.1**
KRUC	**Moravsky**	**0.88**	**242**	*e*PG	**Pg**	**10 55 05.4**	**+0.4**
LANS	**Liptovska Anna**	**1.28**	**104**	*e*PG	**Pg**	**10 55 12.2**	**-0.5**
LANS				*e*SG	**Sn**	**10 55 32.6**	**+1.3**
VYHS	**Vyhne**	**1.30**	**140**	*e*PN	**Pg**	**10 55 12.0**	**-0.9**
VYHS				*e*SN	**Sg**	**10 55 30.0**	**+0.3**

KRSC 29 11:00:39.5±1.1, **61.50N**×**164.23E**, **h6**km±11km, **ML4.3, Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSK	**Kamenskaya**	**1.34**	**43**	*e*P	Pn	11 01 04.6	-0.1
KMSK				*e*S	Sb	11 01 22.5	+0.1
TILK	**Tilichiki**	**1.41**	**138**	*e*P	Pn	11 01 05.6	-0.1
TILK				*e*S	Sn	11 01 24.5	0.0
OSSR	**Ossora**	**2.33**	**195**	*e*P	Pn	11 01 19.5	+1.2
PALN	**Palana**	**3.22**	**223**	*e*P	Pb	11 01 33.9	-3.1

MEX 29 11:01:21.1±0.8, **17.21N**×**99.99W**, **h34**km±11km, **MD3.8, Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.31**	**238**	*e*P	Pb	11 01 26.8	-2.2
CAIG				*e*S	Sn	11 01 33.4	-0.4
ACP2	**Acapulco**	**0.35**	**163**	*e*P	Pb	11 01 27.5	-2.2
ACP2				*e*S	Sn	11 01 33.5	-1.7
ACX	**Acapulco**	**0.36**	**159**	*e*P	Pb	11 01 27.8	-2.1
ACX				*e*S	Sn	11 01 34.0	-1.7
MEIG	**Mezcala**	**0.80**	**27**	*e*P	Pn	11 01 33.7	-2.3
MEIG				*e*S	Sn	11 01 45.0	-1.8
ARIG	**Puente Sto Nin**	**1.12**	**343**	*e*P	Pn	11 01 38.6	-1.8
ARIG				*e*S	Sn	11 01 51.4	-3.2
PLIG	**Platanillo**	**1.27**	**22**	*e*P	Pn	11 01 41.1	-1.4
PLIG				*i* S	Sn	11 01 55.6	-2.7
ZIIG	**Zihuatanejo**	**1.46**	**286**	*i* P	Pn	11 01 43.4	-1.6
ZIIG				*e*S	Sn	11 02 01.2	-1.8

*IDC **29** 11:10:20.0±0.4, 3.38S×145.58E, h0km, mb4.6/27, mb1 4.7/33, mb1mx4.7/43, mbtmp4.6/33, ML4.7/4, MS5.6/25, Ms1 5.6/25, ms1mx5.6/28, Error ellipse: s-maj=12.7km s-min=8.1km az=97.0*

*NEIC **29** 11:10:21.7±0.1, 3.42S×145.56E, h10km, mb5.7/107, MS5.9/296, MW5.9, MW5.9, Error ellipse: s-maj=3.1km s-min=2.7km az=99.0, Moment Tensor Solution. s41 Moment tensor: Scale 10^17Nm; Mrr0.36; Mθθ -0.50; Mϕϕ0.13; Mrθ0.88; Mrϕ9.00; Mθϕ-1.04; Best double couple: Mw9.10000×10^17 NP1:ϕs269.00000°, δ84.00000°, λ-5.00000°. NP2:ϕs359.00000°, δ85.00000°, λ-174.00000°. Principal axes: T 8.8300, Plg1.0000°, Azm134.0000°; N 0.5500, Plg82.0000°, Azm37.0000°; P -9.3800, Plg8.0000°, Azm224.0000°;*

*MOS **29** 11:10:21.9±1.2, 3.45S×145.52E, h23km, mb5.7/35, MS5.8/19 Error ellipse: s-maj=9.0km s-min=6.4km az=103.2*

*ISCJB **29** 11:10:22.6±0.1, 3.46S±0.02×145.57E±0.03, h25km, mb5.4/174, MS6.0/721, Error ellipse: s-maj=3.7km s-min=3.1km az=177.5*

*BJI **29** 11:10:23.1, 3.61S×145.60E, h10km, mb5.2/60, mB5.8/72, Ms5.9/85, Ms7 5.8/79*

*NEIC **29** 11:10:27.0±0.0, 3.51S×145.54E, h11km, Moment Tensor Solution. s36 Moment tensor: Scale 10^17Nm; Mrr-2.58; Mθθ0.42; Mϕϕ2.15; Mrθ0.78; Mθϕ8.95; Mrr-3.06; Best double couple: Mw9.80000×10^17 NP1:ϕs360.00000°, δ79.00000°, λ-157.00000°. NP2:ϕs265.00000°, δ68.00000°, λ-11.00000°. Principal axes: T 10.5000, Plg7.0000°, Azm131.0000°; N -1.7000, Plg65.0000°, Azm23.0000°; P -8.8000, Plg23.0000°, Azm224.0000°;*

*GCMT **29** 11:10:29.7±0.1, 3.38S×145.71E, h12km, MW6.0/151, Moment Tensor Solution. s134,c279; s151,c526; Duration: 2s5 Moment tensor: Scale 10^18Nm; Mrr0.01±.01; Mθθ-0.08±.01; Mϕϕ0.07±.01; Mrθ0.25±.02; Mθϕ1.36±.01; Mrϕ-0.05±.02; Best double couple: Mo1.38600×10^18 NP1:ϕs268.00000°, δ88.00000°, λ-10.00000°. NP2:ϕs359.00000°, δ80.00000°, λ-178.00000°. Principal axes: T 1.3690, Plg6.0000°, Azm314.0000°; N 0.0340, Plg79.0000°, Azm77.0000°; P -1.4030, Plg9.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 29 11:10:25.7±0.2, **3.59S**±0.03×**145.74E**±0.04, **h25**km, **n1022**, σ**2.88**/480, **mb5.5**/183, **MS6.0**/723, **23C-6D, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**2.24**	**47**	*e*Pn	Pn	11 10 54.4	-6.8
MANU				*e*Sn	**Sn**	**11 11 29.5**	**+1.4**
JAY	**Jayapura**	**5.14**	**282**	Pn	Pn	11 11 35.0	-6.2
	1.8nm,0.3s,baz=6.1,slow=22,SNR=17						
JAY				LR	LR	11 13 36.5	
	comp=Z,76μm,20.6s,baz=76,slow=40						
PMG	**Port Moresby**	**5.95**	**166**	Pn	**Pn**	**11 11 53.3**	**+1.1**
	7.9nm,0.3s,baz=338,slow=7.7,SNR=17						
PMG	**Port Moresby**	**5.95**	**166**	*e*Pn	**Pn**	**11 11 52.5**	**+0.2**
PMG				*e*Sn	**Sn**	**11 13 02.1**	**+2.5**
PMG	**Port Moresby**	**5.95**	**166**	*e*P	**Pn**	**11 11 54.8**	**+2.6**
RABL	**Rabaul**	**6.44**	**96**	*e*Pn	**Pn**	**11 11 60.0**	**+0.9**
COEN	**Coen**	**10.61**	**194**	P	**Pn**	**11 12 58.0**	**+1.8**
	baz=10,SNR=20						
COEN	**Coen**	**10.61**	**194**	*e*Pn	**Pn**	**11 12 57.0**	**+0.8**
COEN				*e*Sn	**Sn**	**11 15 01.7**	**+7.4**
FAKI	**Fak Fak**	**13.49**	**272**	*e*Pn	Pn	11 13 29.3	-6.3
MTSU	**Mount Surprise**	**14.52**	**185**	P	**Pn**	**11 13 52.4**	**+2.6**
	baz=14,SNR=12						
SIJI	**Sorong**	**14.71**	**280**	Pn	Pn	11 13 46.1	-6.3
	0.8nm,0.3s,baz=200,slow=17,SNR=4.3						
SAUI	**Saumlaki**	**15.01**	**252**	*e*Pn	**Pn**	**11 13 54.4**	**-2.0**
HNR	**Honiara**	**15.26**	**113**	Pn	**Pn**	**11 14 01.6**	**+2.0**
	7.8nm,0.3s,baz=182,slow=6.1,SNR=3.8						
HNR	**Honiara**	**15.26**	**113**	*e*P	**P**	**11 14 07.0**	**+2.7**
HNR	**Honiara**	**15.26**	**113**	*e*Pn	**Pn**	**11 13 59.3**	**-0.4**
	1μm,1.0s						
HNR	**Honiara**	**15.26**	**113**	*e*P	**Pn**	**11 13 59.3**	**-0.4**
HNR				pmax	pmax		
	comp=Z,1μm,1.0s						
KDU	**Kakadu**	**15.93**	**235**	P	**Pn**	**11 14 04.7**	**-3.7**
	baz=16,SNR=28						
PATS	**Pohnpei**	**16.27**	**50**	*e*Pn	**Pn**	**11 14 10.2**	**-2.6**
	comp=Z,5μm,1.6s						
CTA	**Charters Tower**	**16.40**	**178**	Pn	**P**	**11 14 18.5**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=354,slow=15,SNR=19						
CTAO	**Charters Tower**	**16.40**	**178**	*e*Pn	**Pn**	**11 14 15.1**	**+0.7**
	comp=Z,568nm,1.7s						
CTAO	**Charters Tower**	**16.40**	**178**	*e*P	**Pn**	**11 14 15.1**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,570nm,1.7s						
GUMO	**Guam**	**17.09**	**357**	Pn	**Pn**	**11 14 17.1**	**-6.0**
	comp=Z,3.4nm,0.3s,baz=181,slow=14,SNR=1.9						
GUMO				LR	LR	11 19 15.4	
	comp=Z,11μm,21.5s,baz=178,slow=32						
MTN	**Manton Dam**	**17.12**	**237**	P	**Pn**	**11 14 21.6**	**-1.9**
	baz=17,SNR=28						
MTN	**Manton Dam**	**17.12**	**237**	*e*Pn	**Pn**	**11 14 21.0**	**-2.4**
	comp=Z,787nm,1.0s						
QIS	**Mount Isa**	**17.89**	**199**	P	**Pn**	**11 14 33.2**	**+0.2**
	baz=18,SNR=4.3						
TNTI	**Ternate**	**18.87**	**283**	*e*P	**P**	**11 14 42.2**	**-2.1**
	comp=Z,205nm,1.2s						
WRAB	**Tennant Creek**	**19.68**	**213**	*e*P	**P**	**11 14 50.7**	**-2.5**
	comp=Z,905nm,1.1s						
WRAB	**Tennant Creek**	**19.68**	**213**	*e*P	**P**	**11 14 51.6**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,96nm,0.8s						
WB2	**Warramunga Arr**	**19.69**	**213**	*e*P	**P**	**11 14 50.7**	**-2.6**
WR1	**Warramunga Arr**	**19.69**	**213**	*e*P	**P**	**11 14 51.7**	**-1.6**
	comp=Z,1μm,1.2s						
WR1				*e*S	**Sn**	**11 18 37.2**	**+1.7**
WRA	**Warramunga Arr**	**19.69**	**213**	P	**P**	**11 14 51.7**	**-1.6**
	comp=Z,2.4nm,0.3s,baz=32,slow=11,SNR=124						
WRA				S	**Sn**	**11 18 37.2**	**+1.7**
	baz=32,slow=20,SNR=5.5						
WRA				LR	LR	11 23 12.9	
	comp=Z,29μm,19.9s,baz=35,slow=39						
WRA	**Warramunga Arr**	**19.69**	**213**	*i* P	**P**	**11 14 51.7**	**-1.6**
WRA				pmax	pmax		
	comp=Z,63nm,0.9s						
SARN	**Sarigan**	**20.16**	**0**	*e*P	**P**	**11 14 54.5**	**-4.0**
	comp=Z,210nm,1.2s						
KNRA	**Kununurra**	**20.57**	**233**	P	**P**	**11 14 59.4**	**-3.5**
	baz=20,SNR=44						
MATI	**Mati**	**22.09**	**298**	*e*P	**P**	**11 15 12.0**	**-7.2**
SOEI	**Soe**	**22.18**	**253**	*e*P	**P**	**11 15 18.3**	**-2.1**
	comp=Z,2μm,1.3s						
SOEI				LR	LR		
	comp=Z,8μm,18.0s						
EIDS	**Eidsvold**	**22.25**	**167**	P	**P**	**11 15 21.4**	**+0.5**
	baz=22,SNR=12						
EIDS	**Eidsvold**	**22.25**	**167**	*e*P	**P**	**11 15 20.7**	**-0.2**
	comp=Z,245nm,1.2s						
EIDS				LR	LR		
	comp=Z,21μm,19.0s						
DAV	**Davao City (W)**	**22.74**	**298**	P	**P**	**11 15 21.7**	**-4.5**
	comp=Z,105nm,0.3s,baz=75,slow=19,SNR=1.8						
DAV	**Davao City (W)**	**22.74**	**298**	⇑*e*P	**P**	**11 15 27.6**	**+1.4**
DAV	**Davao City (W)**	**22.74**	**298**	*e*P	**P**	**11 15 21.9**	**-4.3**
	comp=Z,490nm,1.2s						
DAV				LR	LR		
	comp=Z,9μm,20.0s						
BATI	**Baumata**	**22.87**	**252**	P	**P**	**11 15 23.5**	**-4.1**
	comp=Z,34nm,0.6s,baz=307,slow=1.4,SNR=11						
QLP	**Quilpie**	**22.91**	**183**	P	**P**	**11 15 27.7**	**-0.1**
	baz=23,SNR=16						
RMQ	**Roma**	**22.95**	**173**	P	**P**	**11 15 29.6**	**+1.3**
	baz=23,SNR=37						
AS01	**Alice Springs**	**22.98**	**209**	*e*P	**P**	**11 15 26.6**	**-2.1**
AS31	**Alice Springs**	**23.00**	**209**	*e*P	**P**	**11 15 27.3**	**-1.6**
	comp=Z,44nm,0.6s	

comp=Z,76nm,1.1s
MBWA LR LR
comp=Z,15µm,21.0s
KKM Kota Kinabalu 31.00 288 eP P 11 16 39.3 -2.3
comp=Z,227nm,1.7s
KKM LR LR
comp=Z,7µm,22.0s
CAUP Cauayan 31.21 312 eP P 11 16 48.8 +5.5
CAN Canberra 31.72 175 eP P 11 16 46.3 -1.4
comp=Z,39nm,1.0s
CAN LR LR
comp=Z,21µm,18.0s
CAN Canberra 31.72 175 eP P 11 16 46.3 -1.4
CAN pmax pmax
comp=Z,39nm,1.0s
JAGI Jajag, Banyuwa 31.77 260 PFAKE 11 17 00.0 +12
JAGI LR LR
comp=Z,5µm,22.0s
FORT Forrest 31.78 210 P **P 11 16 47.3 -0.9**
baz=32,SNR=16
FORT Forrest 31.78 210 eP P 11 16 47.0 -1.2
comp=Z,99nm,0.8s
FORT LR LR
comp=Z,23µm,18.0s
APYP Conner 32.22 312 eP P 11 16 52.8 +0.6
ARPS Mount Arapiles 33.21 186 P **P 11 17 04.5 +3.9**
baz=33,SNR=7.3
FUNA Funafuti 33.62 100 eP P 11 17 05.3 +0.8
FUNA LR LR
comp=Z,16µm,18.0s
TOO Toolangi 33.82 180 P **P 11 17 07.3 +1.3**
baz=34,SNR=9.8
SBUM Sibu 34.04 280 eP P 11 17 05.9 -2.3
comp=Z,183nm,1.6s
SBUM LR LR
comp=Z,3µm,20.0s
MEEK Meekatharra 34.63 226 P **P 11 17 13.3 0.0**
baz=34,SNR=17
JOW Kunigami 34.64 332 LR LR 11 30 00.7
comp=Z,8µm,20.8s,baz=146,slow=34
JOW Kunigami 34.64 332 eP P 11 17 09.4 -3.8
comp=Z,343nm,1.8s
UGM Wanagama 35.29 261 eP P 11 17 14.8 -4.3
comp=Z,688nm,1.8s
UGM LR LR
comp=Z,2µm,19.0s
SMRI Semarang 35.31 263 eP P 11 17 15.6 -3.6
comp=Z,157nm,1.1s
YOJ Yonaguni jima 35.58 323 PFAKE 11 17 30.0 +8.6
YOJ LR LR
comp=Z,24µm,22.0s
TWG Pinlang 35.63 319 PFAKE 11 17 30.0 +8.2
TWG LR LR
comp=Z,43µm,20.0s
YULB Yu-li 35.88 320 eP P 11 17 21.4 -2.6
comp=Z,79nm,1.3s
YULB LR LR
comp=Z,17µm,22.0s
NACB Ninganchiao 36.25 321 eP P 11 17 23.0 -4.1
comp=Z,186nm,1.5s
NACB LR LR
comp=Z,19µm,22.0s
TPUB Ta-pu 36.25 319 eP P 11 17 22.0 -5.1
comp=Z,79nm,1.3s
TPUB LR LR
comp=Z,14µm,19.0s
SSLB Suanglung 36.38 320 PFAKE 11 17 40.0 +12
SSLB LR LR
comp=Z,20µm,20.0s
YHNB Yeheng 36.74 321 eP P 11 17 27.6 -3.8
comp=Z,127nm,1.1s
YHNB LR LR
comp=Z,20µm,22.0s
TATO Taipei 36.90 322 PFAKE 11 17 40.0 +7.4
TATO LR LR
comp=Z,22µm,21.0s
JHJ2 Mitsune 36.93 352 PFAKE 11 17 40.0 +7.2
JHJ2 LR LR
comp=Z,8µm,18.0s
MORW Morawa 37.91 225 P **P 11 17 42.9 +1.7**
baz=38,SNR=6.4
CISI Cisompet, Garu 37.94 262 eP P 11 17 38.6 -3.1
comp=Z,212nm,1.2s
CISI LR LR
comp=Z,2µm,19.0s
LEM Lembang 38.09 264 LR LR 11 36 13.3
comp=Z,3µm,18.1s,baz=85,slow=41
KLBR Kellerberrin 38.32 220 P **P 11 17 45.9 +1.3**
baz=38,SNR=7.7
QZH Quanzhou 38.73 319⇑ *iP* **P 11 17 51.5 +3.4**
QZH S S 11 23 53.0 +9.1
QZH pmax pmax
comp=Z,41nm,1.1s
QZH pmax pmax
comp=Z,1µm,9.0s
QZH LR LR
comp=Z,4µm,18.0s
QZH LR LR
comp=Z,9µm,18.5s
QZH LR LR
comp=Z,17µm,30.8s
JNU Nakatsue 39.13 340 P **P 11 17 48.2 -3.2**
comp=Z,12nm,1.0s,baz=188,slow=7.1,SNR=3.0
JNU LR LR 11 31 21.7
comp=Z,7µm,21.4s,baz=160,slow=32
JNU Nakatsue 39.13 340 eP P 11 17 47.8 -3.6
comp=Z,207nm,1.6s
TAU Tasmania Unive 39.17 178 PFAKE 11 18 00.0 +8.4
TAU LR LR
comp=Z,15µm,19.0s
NWAO Narrogin (SRO) 39.53 219 eP P 11 17 53.3 -1.4
comp=Z,90nm,1.0s
NWAO LR LR
comp=Z,30µm,21.0s
NWAO Narrogin (SRO) 39.53 219 eP P 11 17 53.3 -1.4
NWAO pmax pmax
comp=Z,90nm,1.0s
NWAO MLR MLR
comp=Z,30µm,21.0s
INU Inuyama 39.59 349 eP P 11 17 51.6 -3.6
comp=Z,61nm,1.2s
INU LR LR
comp=Z,6µm,18.0s
XMIS Christmas Isla 40.34 258 eP P 11 17 59.9 -1.8
comp=Z,312nm,1.3s
XMIS LR LR
comp=Z,2µm,21.0s
MJAR Matsushiro Arr 40.54 351 P **P 11 17 59.5 -3.5**
comp=Z,3.1nm,1.0s,baz=174,slow=9.7,SNR=4.1
MJAR LR LR 11 33 11.5
comp=Z,4µm,21.1s,baz=160,slow=34
MAJO Matsushiro 40.54 351 eP P 11 17 59.6 -3.5
comp=Z,281nm,1.9s
MAJO Matsushiro 40.54 351 eP P 11 17 59.6 -3.5
MAJO pmax pmax
comp=Z,280nm,1.9s
MJB9 Matsu-Tunnel 40.55 351 eP P 11 18 00.3 -2.7
comp=Z,287nm,1.9s
MJB9 LR LR
comp=Z,5µm,18.0s
OUZ Omahuta 40.69 144 eP P 11 18 04.8 +0.5
comp=Z,146nm,1.4s
OUZ LR LR
comp=Z,16µm,20.0s
GZH Guangzhou 41.26 312 P **P 11 18 10.3 +1.2**
GZH PcP **PcP 11 20 11.0 +3.2**
GZH S **S 11 24 22.0 +0.2**
GZH ScS **ScS 11 28 16.0 +3.7**
GZH LR LR
comp=Z,4µm,19.7s
GZH LR LR
comp=Z,5µm,16.9s
SSE Sheshan 41.69 328 P **P 11 18 16.3 +3.8**
SSE S **S 11 24 34.0 +6.0**
SSE pmax pmax
comp=Z,34nm,0.7s
SSE pmax pmax
comp=Z,540nm,4.8s
SSE LR LR
comp=Z,5µm,20.1s
SSE LR LR
comp=Z,4µm,20.9s
QIZ Qiongzhong 41.87 304 P **P 11 18 18.5 +4.3**
QIZ S **S 11 24 36.5 +5.5**
QIZ pmax pmax
comp=Z,37nm,1.4s
QIZ LR LR
comp=Z,4µm,25.5s
QIZ LR LR
comp=Z,5µm,25.5s
QIZ LR LR
comp=Z,11µm,29.9s
QIZ Qiongzhong 41.87 304 eP P 11 18 10.8 -3.4
comp=Z,160nm,1.4s
QIZ LR LR
comp=Z,8µm,22.0s
MYKOM Kota Tinggi 42.21 277 PFAKE 11 18 30.0 +13
MYKOM LR LR
comp=Z,2µm,19.0s
KNTN Kanton 42.48 90 eP P 11 18 19.0 -0.3
comp=Z,347nm,1.5s
KNTN LR LR
comp=Z,10µm,19.0s
RAO Raoul Island 42.88 130 PFAKE 11 18 30.0 +7.7
RAO LR LR
comp=Z,8µm,18.0s
AFI Afiamalu 43.15 106 P **P 11 18 23.6 -1.2**
comp=Z,16nm,0.9s,baz=227,slow=19,SNR=1.9
AFI Afiamalu 43.15 106 eP P 11 18 23.1 -1.7
comp=Z,143nm,1.4s
AFI LR LR
comp=Z,7µm,18.0s
AFI Afiamalu 43.15 106 eP P 11 18 23.1 -1.7
AFI pmax pmax
comp=Z,140nm,1.3s
TJN Taejon 43.31 338 *cP* **P 11 18 28.0 +2.4**
NJ2 Nanjing 43.69 326 eP P 11 18 31.0 +2.2
NJ2 sP **pP 11 18 37.5 +1.1**
NJ2 S S 11 25 08.0 +10
NJ2 pmax pmax
comp=Z,23nm,0.8s
NJ2 pmax pmax
comp=Z,2µm,6.5s
NJ2 LR LR
comp=Z,10µm,20.6s
NJ2 LR LR
comp=Z,5µm,20.6s
NJ2 LR LR
comp=Z,14µm,20.3s
HIZ Hauiti 43.73 146 PFAKE 11 18 40.0 +11
HIZ LR LR
comp=Z,10µm,18.0s
KSRS Korea Array 44.07 340 P **P 11 18 27.5 -4.2**
comp=Z,2.8nm,0.8s,baz=156,slow=8.2,SNR=11
KSRS LR LR 11 34 23.2
comp=Z,10µm,21.0s,baz=160,slow=33
KSRS Korea Array 44.07 340 P **P 11 18 27.5 -4.2**
KSRS pmax pmax
comp=Z,22nm,1.1s
KS15 Wonju Array Si 44.07 339 eP P 11 18 28.3 -3.4
KSAR Wonju Array Be 44.07 339 P **P 11 18 27.5 -4.3**
KSAR Wonju Array Be 44.07 339 P **P 11 18 27.5 -4.3**
URZ Urewera 44.83 144 P **P 11 18 38.4 +0.5**
comp=Z,12nm,0.8s,baz=153,slow=9.0,SNR=4.3
URZ Urewera 44.83 144 eP P 11 18 38.4 +0.5
URZ LR LR
comp=Z,15µm,21.0s
BKNI Bangkinang 44.84 274 PFAKE 11 18 50.0 +12
BKNI LR LR
comp=Z,2µm,19.0s
MXZ Matakaoa Point 45.07 143 PFAKE 11 18 50.0 +10
MXZ LR LR
comp=Z,17µm,22.0s
BKZ Black Stump Fm 45.09 146 eP P 11 18 41.2 +1.1
comp=Z,158nm,1.7s
BKZ LR LR
comp=Z,8µm,20.0s
FOZ Fox Glacier 45.13 155 PFAKE 11 18 50.0 +10
FOZ LR LR
comp=Z,12µm,22.0s
WHN Wuhan 45.29 321⇓ *iP* P 11 18 46.3 +4.7
WHN LR LR
comp=Z,19µm,19.5s
WHN LR LR
comp=Z,3µm,14.8s
WHN LR LR
comp=Z,15µm,18.1s
IPM Ipoh 45.39 280 eP P 11 18 39.3 -3.4
comp=Z,52nm,1.4s
IPM LR LR
comp=Z,3µm,18.0s
SNZO South Karori 45.67 149 PFAKE 11 19 00.0 +16
SNZO LR LR
comp=Z,14µm,19.0s
DCZ Deep Cove 45.73 159 eP P 11 18 45.3 +0.5
comp=Z,110nm,1.1s
DCZ LR LR
comp=Z,7µm,22.0s
RPZ Rata Peaks 45.81 154 P **P 11 18 44.7 -0.8**
comp=Z,11nm,0.9s,baz=346,slow=12,SNR=2.2
RPZ Rata Peaks 45.81 154 eP P 11 18 44.7 -0.8
RPZ LR LR
comp=Z,25µm,22.0s
WKZ Wanaka 45.88 157 PFAKE 11 19 00.0 +14
WKZ LR LR
comp=Z,11µm,20.0s
KULM Kulim 45.90 281 PFAKE 11 18 50.0 +3.3
KULM LR LR
comp=Z,4µm,22.0s
KHZ Kahutara 45.92 151 eP P 11 18 46.7 +0.3
comp=Z,74nm,1.3s
KHZ LR LR
comp=Z,12µm,22.0s
OXZ Oxford 45.93 153 PFAKE 11 19 00.0 +13
OXZ LR LR
comp=Z,13µm,22.0s
LBZ Lake Benmore 45.99 156 eP P 11 18 47.6 +0.7
comp=Z,89nm,1.1s
LBZ LR LR
comp=Z,11µm,20.0s
MLZ Mavora Lakes 45.99 158 eP P 11 18 47.9 +0.9
comp=Z,144nm,1.3s
MLZ LR LR
comp=Z,9µm,21.0s
SKNT Sakolnakorn 46.02 298 P **P 11 18 48.0 +0.4**
comp=Z,45nm,1.7s,comp=Z,1µm
BFZ Birch Farm 46.02 148 PFAKE 11 19 00.0 +13
BFZ LR LR
comp=Z,13µm,18.0s
PYZ Puysegur Point 46.17 160 PFAKE 11 19 00.0 +12
PYZ LR LR
comp=Z,8µm,22.0s
SKLT Songkhla 46.28 283 P P 11 19 02.0 +12
WHZ Wether Hill Ro 46.38 159 eP P 11 18 50.6 +0.6
comp=Z,80nm,1.1s
CRLZ Canterbury Las 46.39 153 PFAKE 11 19 00.0 +10
CRLZ LR LR
comp=Z,12µm,22.0s
MQZ McQueen's Vall 46.51 153 PFAKE 11 19 00.0 +9.0
MQZ LR LR
comp=Z,11µm,22.0s
ODZ Otahua Downs 46.71 156 PFAKE 11 19 00.0 +7.4
ODZ LR LR
comp=Z,8µm,19.0s
SRAK Srakaew 46.73 293 P **P 11 18 52.3 -0.9**
comp=Z,60nm,1.4s,comp=Z,836nm
PSI Prapat 47.22 277 eP P 11 18 53.7 -3.5
comp=Z,373nm,2.0s
PSI LR LR
comp=Z,3µm,20.0s
PSI Prapat 47.22 277 eP P 11 18 53.7 -3.5
PSI pmax pmax
comp=Z,373nm,2.0s
PSI MLR MLR
comp=Z,3µm,20.0s
TRTT Trang 47.32 284 P **P 11 19 01.9 +4.0**
comp=Z,24nm,1.4s,comp=Z,846nm
CHAI Chaiyaphum 47.41 295 P **P 11 18 59.9 +1.4**
comp=Z,18nm,1.4s,comp=Z,147nm
YUK Yuzh-Kuril'sk 47.41 0 eP P 11 18 58.6 +0.6
YUK *e* 11 20 48.4
YUK *eS* **S 11 25 52.7 +2.0**
PATY Pattaya 47.49 291 P P 11 19 06.0 +6.9
MIDW Midway 47.53 46 PFAKE 11 19 10.0 +11
MIDW LR LR
comp=Z,6µm,19.0s
ASAJ Asahikawa 47.58 357 eP P 11 18 55.9 -3.4
comp=Z,330nm,1.3s
TIA Tai'an 47.78 328 P **P 11 19 02.5 +1.4**
TIA pP **sP 11 19 13.0 +1.2**
TIA PP **PP 11 20 55.0 +1.9**
TIA S S 11 26 06.0 +10
TIA pmax pmax
comp=Z,24nm,1.5s
TIA pmax pmax
comp=Z,360nm,3.6s
TIA LR LR
comp=Z,8µm,21.0s
TIA LR LR
comp=Z,7µm,18.2s
TIA LR LR
comp=Z,15µm,21.9s
DL2 Dalian 47.79 335 P **P 11 19 02.8 +1.7**
DL2 PP **PP 11 20 54.5 +1.4**
DL2 S **S 11 25 57.8 +1.5**
DL2 pmax pmax
comp=Z,32nm,1.2s
DL2 pmax pmax
comp=Z,1µm,5.7s
DL2 LR LR
comp=Z,7µm,21.6s
DL2 LR LR
comp=Z,6µm,18.6s
DL2 LR LR
comp=Z,12µm,20.6s
MSHR Mys Shultsa 47.82 345 *i* P **P 11 19 03.3 +2.1**
KRAB Krabi 47.88 284 P P 11 19 07.6 +5.4
comp=Z,31nm,1.0s
VLA Vladivostok 48.15 346⇑ *iP* **P 11 19 06.7 +2.9**
VLA pmax pmax
comp=Z,21nm,0.9s
GYA Guiyang 48.16 311⇑ *iP* **P 11 19 07.8 +3.4**
GYA PP **PP 11 20 56.5 -0.4**
GYA ScP **ScP 11 24 25.8 +1.0**
GYA S **S 11 26 01.5 -0.8**
GYA SS **SS 11 29 25.5 -6.4**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,150nm,5.8s
GYA LR LR
comp=Z,3µm,19.2s
GYA LR LR
comp=Z,3µm,20.5s
GYA LR LR
comp=Z,3µm,20.4s
ENH Enshi 48.31 317 eP P 11 19 02.4 -2.9
comp=Z,81nm,1.3s
ENH LR LR
comp=Z,14µm,22.0s
GSI Gunungsitoli 48.38 275 eP P 11 19 02.9 -3.3
comp=Z,134nm,1.2s
PBKT Sadao Pong 48.56 296 P P 11 19 12.2 +4.8
comp=Z,41nm,1.6s,comp=Z,2µm
JOHN Johnston Islan 48.58 64 PFAKE 11 19 20.0 +12
JOHN LR LR
comp=Z,13µm,20.0s
PHET Kaeng Krachan 48.63 291 P **P 11 19 08.8 +0.8**
comp=Z,25nm,1.0s,comp=Z,298nm
KUR Kuril'sk 48.65 2 eP P 11 19 12.2 +4.7
KUR *e* 11 21 02.9
KUR *eS* **S 11 26 13.4 +5.2**
KUR *e* 11 28 58.1
KUR pmax pmax
comp=Z,774nm,1.5s
KUR MLR MLR
comp=Z,2µm,15.0s
PKDT Phuket 48.65 284 P **P 11 19 11.4 +3.3**
comp=Z,34nm,1.2s
USA0B Ussuriysk Arra 49.15 347 eP P 11 19 09.6 -1.8
comp=Z,191nm,1.6s
USA0B LR LR
comp=Z,5µm,20.0s
USRK Ussuriysk Ar. 49.15 347 P **P 11 19 08.0 -3.4**
comp=Z,8.6nm,0.8s,baz=170,slow=9.0,SNR=4.1
USRK LR LR 11 38 30.4
comp=Z,4µm,18.5s,baz=150,slow=35
UTTA Uttaradit 49.34 297 P **P 11 19 14.2 +0.8**
comp=Z,18nm,1.3s,comp=Z,142nm
SNY Shenyang 49.50 338⇑ P **P 11 19 16.5 +2.3**
SNY S **S 11 26 25.8 +5.5**
SNY pmax pmax
comp=Z,58nm,2.2s
SNY pmax pmax
comp=Z,2µm,7.4s
SNY LR LR
comp=Z,4µm,16.8s
SNY LR LR
comp=Z,8µm,19.1s
SNY LR LR
comp=Z,15µm,25.5s
SRDT SRDT 49.53 292 P P 11 19 19.6 +4.8
comp=Z,129nm,1.6s,comp=Z,4µm
NANT Nan 49.60 298 P **P 11 19 15.7 +0.3**
comp=Z,21nm,1.2s,comp=Z,219nm
UTHA Uthaitani 49.60 294 P **P 11 19 17.6 +2.2**
comp=Z,13nm,1.4s,comp=Z,202nm
SUKH Sukhothai 50.07 296 P P 11 19 23.8 +4.8
comp=Z,9.2nm,1.6s
MDJ Mudanjiang 50.12 345 P P 11 19 23.8 +4.9
MDJ pP pP 11 19 26.8 +0.2
MDJ sP sP 11 19 28.8 -0.8
MDJ S S 11 26 39.8 +11
MDJ sS sS 11 26 46.5 +4.8
MDJ pmax pmax
comp=Z,29nm,1.4s
MDJ pmax pmax
comp=Z,2µm,8.4s
MDJ LR LR
comp=Z,4µm,17.7s
MDJ LR LR
comp=Z,2µm,18.8s
MDJ LR LR
comp=Z,4µm,21.2s
MDJ Mudanjiang 50.12 345 eP P 11 19 15.6 -3.3
comp=Z,138nm,1.8s
MDJ LR LR
comp=Z,4µm,20.0s
UMPA Umpang Tak 50.34 294 P **P 11 19 25.7 +4.6**
comp=Z,16nm,1.2s
YSS Yuzh-Sakhalins 50.40 357 eP P 11 19 23.5 +2.6
YSS *eS* **S 11 26 34.0 +1.3**
LAMP Lampang 50.44 298 P **P 11 19 24.3 +2.6**
comp=Z,17nm,1.4s,comp=Z,158nm
PAYA Payao 50.53 299 P **P 11 19 23.1 +0.6**
comp=Z,41nm,1.1s,comp=Z,432nm
KMI Kunming 50.55 307 P **P 11 19 25.5 +2.7**
KMI sP sP 11 19 34.3 +0.8
KMI PP **PP 11 21 23.3 +4.5**
KMI S **S 11 26 40.0 +4.0**
KMI sS sS 11 26 50.8 +2.1
KMI pmax pmax
comp=Z,60nm,1.4s
KMI pmax pmax
comp=Z,690nm,3.5s
KMI LR LR
comp=Z,4µm,23.2s
KMI LR LR
comp=Z,4µm,23.2s
KMI LR LR
comp=Z,7µm,26.5s
CN2 Changchun 50.59 341 eP P 11 19 24.5 +2.1
CN2 PcP **PcP 11 20 41.0 +1.1**
CN2 PP **PP 11 21 21.0 +2.5**
CN2 *eS* **S 11 26 38.3 +2.8**
CN2 SS **SS 11 30 10.0 -0.1**
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 pmax pmax
comp=Z,1µm,6.0s
CN2 LR LR
comp=Z,5µm,18.0s
CN2 LR LR
comp=Z,4µm,18.0s
CN2 LR LR
comp=Z,7µm,19.0s
CM01 Chiang Mai Arr 51.00 297 eP P 11 19 23.1 -2.9
CM31 Chiang Mai Arr 51.03 297 eP P 11 19 23.9 -2.3
CM31 Chiang Mai Arr 51.03 297 P P **11 19 28.9 +2.7**
SNR=29
CMAR Chiang Mai Arr 51.03 297 P **P 11 19 22.7 -3.5**
comp=Z,7.0nm,0.9s,baz=117,slow=5.9,SNR=17
CMAR LR LR 11 39 59.7
comp=Z,2µm,21.2s,baz=112,slow=35
CMAR Chiang Mai Arr 51.03 297 *i* P **P 11 19 23.7 -2.5**
CMAR pmax pmax
comp=Z,7.0nm,0.9s
XAN Xi'an 51.04 320 P **P 11 19 29.5 +3.4**
XAN PP **PP 11 21 26.8 +3.9**

XAN pmax pmax
comp=Z,42nm,1.7s
XAN pmax pmax
comp=Z,890nm,5.3s
XAN LR LR
comp=Z,4μm,24.0s
XAN LR LR
comp=Z,4μm,27.0s
XAN LR LR
comp=Z,9μm,40.2s
CMMT Chiang Mai 51.15 298 P **P** **11 19 27.3 +0.2**
comp=Z,45nm,1.6s,comp=Z,2μm
CHTO Chiang Mai 51.15 298 *e*P **P** **11 19 23.6 -3.5**
comp=Z,115nm,1.5s
CHTO LR LR
comp=Z,2μm,20.0s
CHTO Chiang Mai 51.15 298 P **P** **11 19 30.2 +3.1**
SNR=24
CHTO Chiang Mai 51.15 298 *e*P **P** **11 19 23.6 -3.5**
CHTO pmax pmax
comp=Z,115nm,1.5s
CHTO MLR MLR
comp=Z,2μm,20.0s
CHTO Chiang Mai 51.15 298 P **P** **11 19 27.4 +0.3**
comp=Z,210nm,2.0s,comp=Z,7μm
BJT Baijiatuau 51.19 331 PFAKE 11 19 40.0 +13
BJT LR LR
comp=Z,15μm,22.0s
BJI Beijing 51.20 331 ⇑*i*P **P** **11 19 28.8 +1.7**
BJI PP **PP** **11 21 25.0 +0.8**
BJI S **S** **11 26 52.5 +8.4**
BJI LR LR
comp=Z,7μm,21.6s
BJI LR LR
comp=Z,8μm,20.0s
TIY Taiyuan 51.42 326 *e*P **P** **11 19 31.8 +2.9**
TIY pP sP 11 19 48.0 +8.4
TIY sP pP 11 19 54.8 +18
TIY PP **PP** **11 21 30.0 +3.7**
TIY S **S** **11 26 52.0 +4.6**
TIY sS sS 11 27 12.0 +12
TIY Taiyuan 51.42 326 SS **SS** **11 30 23.5 -0.1**
TIY pmax pmax
comp=Z,22nm,0.5s
TIY pmax pmax
comp=Z,860nm,7.5s
TIY LR LR
comp=N,4μm,15.3s
TIY LR LR
comp=E,5μm,18.3s
TIY LR LR
comp=Z,5μm,18.0s
TIY Taiyuan 51.42 326 *e*P **P** **11 19 29.8 +0.9**
TIY PP **PP** **11 21 29.5 +3.2**
TIY S **S** **11 26 52.5 +5.1**
TIY ScS **ScS** **11 29 15.5 -2.5**
TIY SS **SS** **11 30 25.5 +1.9**
TIY pmax pmax
comp=Z,22nm,0.5s
TIY pmax pmax
comp=Z,860nm,7.5s
TIY LR LR
comp=Z,2μm,13.5s
TIY LR LR
comp=Z,5μm,16.3s
TIY LR LR
comp=Z,9μm,21.8s
MCQ Macquarie Isla 51.88 170 PFAKE 11 19 40.0 +8.1
MCQ LR LR
comp=Z,7μm,19.0s
CD2 Chengdu 52.71 314 P **P** **11 19 38.3 -0.3**
CD2 pP pP 11 19 41.5 -4.9
CD2 PP **PP** **11 21 38.0 -0.1**
CD2 S **S** **11 27 05.5 +0.2**
CD2 sS pS 11 27 14.5 0.0
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 pmax pmax
comp=Z,2μm,6.4s
CD2 LR LR
comp=Z,6μm,18.4s
CD2 LR LR
comp=Z,8μm,30.3s
CD2 LR LR
comp=Z,7μm,27.8s
KLR Kul'dur 53.99 349 P **P** **11 19 46.0 -1.6**
comp=Z,20nm,1.1s,baz=306,slow=2.4,SNR=6.8
KLR Kul'dur 53.99 349 ⇑*i*P **P** **11 19 51.7 +4.1**
HHC Hu-ho-hao-te 54.14 328 *e*P **P** **11 19 50.5 +1.5**
HHC pP pP 11 19 55.3 -1.5
HHC sP sP 11 19 57.5 -2.3
HHC S **S** **11 27 25.8 +1.3**
HHC sS pS 11 27 33.3 -0.5
HHC pmax pmax
comp=Z,30nm,0.9s
HHC pmax pmax
comp=Z,640nm,5.5s
HHC LR LR
comp=Z,8μm,21.1s
HHC LR LR
comp=Z,7μm,19.8s
HHC LR LR
comp=Z,11μm,20.7s
BTO Baotou 54.79 327 *e*P **P** **11 19 57.5 +3.8**
LZH Lanzhou 55.58 319 *e*P **P** **11 20 00.3 +0.7**
LZH pP pP 11 20 04.5 -2.9
LZH sP sP 11 20 08.3 -2.1
LZH PP **PP** **11 22 05.5 +1.5**
LZH S **S** **11 27 51.0 +6.9**
LZH SS **SS** **11 31 31.0 +1.4**
LZH pmax pmax
comp=Z,80nm,1.0s
LZH pmax pmax
comp=Z,1μm,4.3s
LZH LR LR
comp=Z,6μm,18.4s
LZH LR LR
comp=Z,10μm,16.8s
LZH LR LR
comp=Z,12μm,19.5s
NKL Nikolayevsk 56.69 356 *e*P **P** **11 20 10.0 +3.0**
NKL *e* 11 28 08.0
XMAS Kiritimati 57.06 85 PFAKE 11 20 20.0 +10
XMAS LR LR
comp=Z,8μm,21.0s
LKP Lekhapani 57.07 306 *e*P **P** **11 20 07.4 -2.8**
HIA Hailar 57.27 340 *e*P **P** **11 20 08.3 -3.0**
comp=Z,177nm,1.7s
HIA LR LR
comp=Z,6μm,19.0s
HIA Hailar 57.27 340 *e*P **P** **11 20 08.4 -2.8**
HIA pmax pmax
comp=Z,180nm,1.7s
PETK Petropavlovsk- 57.38 9 P **P** **11 20 09.9 -2.0**
comp=Z,6.7nm,1.0s,baz=182,slow=7.3,SNR=15
PETK LR LR 11 40 26.1
comp=Z,4μm,21.7s,baz=186,slow=32
PETK Petropavlovsk- 57.38 9 *e*P **P** **11 20 09.1 -2.8**
PETK Petropavlovsk- 57.38 9 *e*P **P** **11 20 09.1 -2.8**
PEA1 Petropavlovsk- 57.39 9 *e*P **P** **11 20 09.9 -2.0**
PET Petropavlovsk 57.45 9 *e*P **P** **11 20 15.1 +2.8**
PET *e*S **S** **11 28 06.7 -1.2**
PET *e*SS **SS** **11 31 57.2 -0.8**
PET pmax pmax
comp=Z,30nm,1.6s
PET pmax pmax
comp=Z,700nm,5.1s
SAIH SAIHA 57.65 299 *e*P **P** **11 20 11.5 -3.0**
IMP Imphal 57.66 302 *e*P **P** **11 20 11.9 -2.6**
IMP IAmb IAmb 11 20 24.3
comp=Z,129nm,1.8s
MOKO MOKOCHONG 57.75 304 *e*P **P** **11 20 11.8 -3.4**
KOHI KOHIMA 57.86 303 *e*P P 11 20 10.8 -5.2
JORH JORHAT 58.14 305 *e*P **P** **11 20 14.1 -3.6**
SILR SILCHAR 58.61 302 *e*P **P** **11 20 18.3 -2.7**
ZIRO ZIRO 58.77 305 *e*P **P** **11 20 20.4 -2.0**
ZIRO IAmb IAmb 11 20 32.9
comp=Z,99nm,1.4s
ZEA Zeya 59.19 347 *e*P **P** **11 20 27.8 +3.3**
ZEA *e*S **S** **11 28 36.0 +5.4**
ZEA pmax pmax
comp=N,150nm,1.6s
ZEA pmax pmax
comp=Z,290nm,1.8s
ZEA pmax pmax
comp=Z,1μm,9.0s
ZEA smax smax
comp=E,1μm,10.0s
BELO BELONIA 59.25 300 *e*P **P** **11 20 23.1 -2.4**
TEZP TEZPUR 59.29 304 *e*P **P** **11 20 22.7 -3.0**
AGT Agartala 59.63 300 *ex* P 11 20 21.4 -6.7
SHL Shillong 59.67 302 *e*P **P** **11 20 25.3 -3.3**
comp=E,80nm,1.0s
SHL LR LR
comp=Z,4μm,22.0s
SHL Shillong 59.67 302 *e*P **P** **11 20 25.3 -3.3**
SHL pmax pmax
comp=Z,80nm,1.0s
SHL MLR MLR
comp=Z,4μm,22.0s
SHL Shillong 59.67 302 *e*P **P** **11 20 24.3 -4.3**
SHL IAmb IAmb 11 20 40.0
comp=Z,30nm,0.5s
SHL *ex* x 11 28 52.0
GUWA GUWAHATI 60.06 303 *e*P P 11 20 25.8 -5.2
GTA Gaotai 60.10 320 ⇓*i*P **P** **11 20 33.0 +1.7**
GTA pP pP 11 20 37.5 -1.6
GTA sP sP 11 20 40.0 -2.1
GTA S **S** **11 28 47.5 +4.3**
GTA sS sS 11 28 54.3 -1.8
GTA pmax pmax
comp=Z,540nm,5.4s
GTA LR LR
comp=Z,3μm,20.0s
GTA LR LR
comp=Z,3μm,21.9s
GTA LR LR
comp=Z,6μm,23.5s
HON Honolulu 60.37 63 PFAKE 11 20 40.0 +6.8
HON LR LR
comp=Z,8μm,19.0s
KIP Kipapa 60.39 63 *e*Pn **P** **11 20 34.5 +1.2**
comp=Z,383nm,1.8s
KIP Kipapa 60.39 63 *e*P **P** **11 20 34.6 +1.2**
KIP pmax pmax
comp=Z,383nm,1.8s
TAWA Tawang 60.42 304 *e*P **P** **11 20 29.7 -4.3**
TURI Tura 60.98 302 *e*P **P** **11 20 35.6 -1.8**
SMY Shemya 61.01 19 PFAKE 11 20 50.0 +13
SMY LR LR
comp=Z,6μm,20.0s
ULN Ulaanbaatar 61.41 331 *e*P **P** **11 20 37.1 -2.8**
comp=Z,69nm,1.3s
ULN LR LR
comp=Z,8μm,20.0s
ULN Ulaanbaatar 61.41 331 P **P** **11 20 42.0 +2.0**
SNR=22
ULN Ulaanbaatar 61.41 331 *e*P **P** **11 20 37.2 -2.8**
ULN pmax pmax
comp=Z,69nm,1.3s
ULN MLR MLR
comp=Z,8μm,20.0s
SONA0 Songino Array 61.70 331 *e*P **P** **11 20 39.2 -2.8**
SONM Songino Array 61.70 331 P **P** **11 20 39.2 -2.8**
comp=Z,2.0nm,0.8s,baz=137,slow=4.5,SNR=7.4
SONM LR LR 11 47 02.8
comp=Z,9μm,19.4s,baz=146,slow=36
SONM Songino Array 61.70 331 P **P** **11 20 39.2 -2.8**
SONM pmax pmax
comp=Z,3.0nm,1.0s
SONM MLR MLR
comp=Z,9μm,19.4s
SONA1 Songino Array 61.71 331 *e*P **P** **11 20 38.2 -3.8**
CIT Chita 61.77 338 *e*P **P** **11 20 45.3 +3.1**
CIT *e* 11 20 57.1
CIT pmax pmax
comp=Z,201nm,3.6s
HLK Haleakala 61.78 64 PFAKE 11 20 50.0 +6.9
HLK LR LR
comp=Z,10μm,20.0s
LSA Lhasa 61.80 306 P **P** **11 20 46.5 +3.1**
LSA Lhasa 61.80 306 *e*P **P** **11 20 41.4 -2.0**
comp=Z,37nm,1.1s
LSA LR LR
comp=Z,3μm,20.0s
LSA Lhasa 61.80 306 *e*P **P** **11 20 41.4 -2.0**
LSA pmax pmax
comp=Z,37nm,1.1s
LSA MLR MLR
comp=Z,3μm,20.0s
HUH Hualalai 61.86 66 PFAKE 11 20 50.0 +6.3
HUH LR LR
comp=Z,14μm,19.0s
MWH Moku'aweowe 62.03 66 PFAKE 11 21 00.0 +15
MWH LR LR
comp=Z,12μm,21.0s
MLOA Mauna Loa Obse 62.06 66 PFAKE 11 21 00.0 +15
MLOA LR LR
comp=Z,12μm,20.0s
HPAH Hawaii Prepara 62.08 65 PFAKE 11 21 00.0 +15
HPAH LR LR
comp=Z,13μm,21.0s
AIN Ainahou 62.12 66 PFAKE 11 21 00.0 +15
AIN LR LR
comp=Z,14μm,21.0s
POHA Pohakuloa 62.16 66 PFAKE 11 21 00.0 +14
POHA LR LR
comp=Z,14μm,21.0s
MLH Mauna Loa 62.22 66 PFAKE 11 21 00.0 +14
MLH LR LR
comp=Z,14μm,20.0s
HLP Hilina Pali 62.24 66 PFAKE 11 21 00.0 +14
HLP LR LR
comp=Z,13μm,20.0s
WRMHI West Rim 62.28 66 PFAKE 11 21 00.0 +14
WRMHI LR LR
comp=Z,12μm,20.0s
SDHHI Sand Hill 62.28 66 PFAKE 11 21 00.0 +14
SDHHI LR LR
comp=Z,12μm,20.0s
UWE Uwekahuna 62.29 66 PFAKE 11 21 00.0 +14
UWE LR LR
comp=Z,13μm,20.0s
OBL Observatory Le 62.30 66 PFAKE 11 21 00.0 +14
OBL LR LR
comp=Z,13μm,20.0s
NPH North Pit 62.30 66 PFAKE 11 21 00.0 +14
NPH LR LR
comp=Z,14μm,21.0s
RIM Rim 62.30 66 PFAKE 11 21 00.0 +14
RIM LR LR
comp=Z,12μm,20.0s
KKO Keanakako'i 62.31 66 PFAKE 11 21 00.0 +13
KKO LR LR
comp=Z,12μm,20.0s
SBLHI Steaming Bluff 62.31 66 PFAKE 11 21 00.0 +13
SBLHI LR LR
comp=Z,12μm,21.0s
BYL Byron's Ledge 62.31 66 PFAKE 11 21 00.0 +13
BYL LR LR
comp=Z,13μm,21.0s
HATHI Halema'uma'u T 62.32 66 PFAKE 11 21 00.0 +13
HATHI LR LR
comp=Z,14μm,22.0s
PUH Pauahi 62.34 66 PFAKE 11 21 00.0 +13
PUH LR LR
comp=Z,12μm,20.0s
STCH Steam Cracks 62.43 66 PFAKE 11 21 00.0 +13
STCH LR LR
comp=Z,14μm,21.0s
NPOC North of Pu'u 62.45 66 PFAKE 11 21 00.0 +13
NPOC LR LR
comp=Z,14μm,22.0s
JCUZ Jacuzzi 62.45 66 PFAKE 11 21 00.0 +13
JCUZ LR LR
comp=Z,14μm,21.0s
GTK Tadong 63.04 303 *e*P **P** **11 20 49.0 -2.3**
GTK IAmb IAmb 11 21 01.0
comp=Z,31nm,0.7s
MA2 Magadan 63.10 3 PFAKE 11 21 00.0 +9.1
MA2 LR LR
comp=Z,3μm,19.0s
BWNR Bhubaneshwar 63.39 295 *e*P P 11 20 48.5 -5.0
ADK Adak 63.80 25 *e*P **P** **11 20 55.0 -0.6**
comp=Z,165nm,1.3s
ADK LR LR
comp=Z,11μm,22.0s
ADK Adak 63.80 25 *e*P **P** **11 20 55.1 -0.6**
ADK pmax pmax
comp=Z,165nm,1.3s
ADK MLR MLR
comp=Z,11μm,22.0s
BOK Bokaro 64.27 298 *e*P **P** **11 20 56.4 -3.0**
RAMN Ramite 64.60 302 *e*P **P** **11 21 01.9 +0.1**
comp=Z,521nm,1.8s
PPT Papeete 64.80 108 LR LR 11 46 52.2
comp=Z,2μm,19.0s,baz=275,slow=34
PPT2 Papeete2 64.80 108 *e*P **P** **11 21 06.2 +3.2**
comp=Z,73nm,1.4s
PPT2 *e*S **S** **11 29 44.0 +1.1**
comp=Z,9μm,29.0s
PPT2 *e*LQ LQ 11 37 53.2
comp=Z,6μm,29.2s
PPT2 *e*LR LR 11 40 35.0
comp=Z,7μm,31.0s
ZAK Zakamensk 64.94 332 *e*P **P** **11 20 59.9 -3.4**
ZAK pmax pmax
comp=Z,50nm,1.3s
TIAR Tiarei 65.02 108 *e*P **P** **11 21 07.3 +2.9**
comp=Z,26nm,1.2s
JIRN Jiri 65.17 303 *e*P **P** **11 21 04.4 -1.2**
comp=Z,534nm,1.4s
TBI Tubuai 65.47 114 *e*S **S** **11 29 53.5 +2.6**
comp=Z,8μm,31.5s
TBI *e*SS **SS** **11 34 09.2 +4.4**
comp=Z,3μm,29.0s
TBI *e*LQ LQ 11 38 09.1
comp=Z,14μm,34.0s
TBI *e*LR LR 11 40 54.9
comp=Z,15μm,39.8s,baz=289
GUN Gumba 65.51 303 *e*P **P** **11 21 06.6 -1.2**
IRK Irkutsk 65.75 333 *e*P **P** **11 21 12.2 +3.8**
IRK pmax pmax
comp=Z,149nm,4.4s
PALK Pallekele 65.79 280 PFAKE 11 21 20.0 +11
PALK LR LR
comp=Z,2μm,21.0s
PALK Pallekele 65.79 280 *i* P **P** **11 21 06.5 -3.0**
PKI Pulchoki 65.80 302 *e*P **P** **11 21 07.8 -1.9**
PKIN Phulchoki 65.81 302 *e*P **P** **11 21 08.0 -1.7**
KKN Kakani 65.98 302 *e*P **P** **11 21 07.6 -3.1**
DMN Daman 66.07 302 *e*P **P** **11 21 08.3 -3.0**
BOD Bodaibo 66.32 342 *e*P **P** **11 21 12.9 +1.0**
BOD pmax pmax
comp=Z,70nm,1.6s
SEY Seymchan 66.54 3 *ce*P **P** **11 21 16.7 +3.5**
YAK Yakutsk 66.59 352 *e*P P 11 21 18.7 +5.1
YAK *e* 11 21 39.2
YAK *e* 11 23 45.9
YAK *e*S **S** **11 29 55.7 -7.3**
YAK *e* 11 30 23.2
YAK pmax pmax
comp=Z,58nm,1.7s
YAK pmax pmax
comp=N,35nm,1.7s
YAK pmax pmax
comp=E,12nm,1.4s
YAK pmax pmax
comp=Z,311nm,3.9s
YAK pmax pmax
comp=E,648nm,5.7s
YAK pmax pmax
comp=N,333nm,4.7s
YAK smax smax
comp=N,802nm,5.5s
YAK smax smax
comp=E,2μm,6.5s
MOY Mondy 66.87 332 *e*P **P** **11 21 12.4 -3.4**
MOY pmax pmax
comp=Z,152nm,1.5s
CASY Casey 67.24 195 PFAKE 11 21 30.0 +12
CASY LR LR
comp=Z,5μm,18.0s
KOLN Koldanda 67.39 302 *e*P **P** **11 21 16.4 -3.3**
DANN Dangsing 67.43 303 *e*P **P** **11 21 16.5 -3.5**
PYUN Piuthan 68.00 302 *e*P **P** **11 21 20.1 -3.4**
HYB Hyderabad 69.45 290 *i* P **P** **11 21 35.0 +2.5**
HYB *e*S **S** **11 30 40.0 +1.0**
HYB Hyderabad 69.45 290 *e*P **P** **11 21 29.5 -3.1**
HYB IAmb IAmb 11 21 41.0
comp=Z,193nm,1.8s
UNV Unalaska Valle 69.67 28 PFAKE 11 21 40.0 +6.9
UNV LR LR
comp=Z,8μm,21.0s
NGP Nagpur 69.74 294 *e*P P 11 21 27.6 -6.6
NGP IAmb IAmb 11 21 46.4
comp=Z,144nm,1.8s
WMQ Urumqi 70.16 319 P **P** **11 21 39.5 +3.1**
WMQ pP pP 11 21 44.5 +0.1
WMQ sP sP 11 21 50.8 +3.4
WMQ PcP **PcP** **11 22 04.0 +5.7**
WMQ S **S** **11 30 54.0 +7.6**
WMQ SS **SS** **11 35 21.5 +4.7**
WMQ pmax pmax
comp=Z,96nm,1.3s
WMQ pmax pmax
comp=Z,3μm,7.1s
WMQ LR LR
comp=Z,8μm,25.7s
WMQ LR LR
comp=Z,4μm,21.9s
WMQ LR LR
comp=Z,5μm,28.3s
AKUT Akutan 70.19 28 PFAKE 11 21 50.0 +14
AKUT LR LR
comp=Z,7μm,19.0s
BHPL Bhopal 71.65 296 *e*P P 11 21 39.8 -6.1
BHPL IAmb IAmb 11 21 54.9
comp=Z,28nm,0.7s
FALS False Pass 71.72 28 PFAKE 11 22 00.0 +14
FALS LR LR
comp=Z,7μm,21.0s
BILL Bilibino 72.91 8 ⇓*i*P P 11 21 57.0 +4.6
BILL *i* *PP sP 11 22 04.7 +1.3
BILL *e* 11 22 08.7
BILL *e*SS SS 11 35 53.6 -4.2
BILL pmax pmax
comp=Z,56nm,1.8s
BILL MLR MLR
comp=Z,2μm,18.0s
DGZ Jazzator, Alta 72.95 325 *i* P **P** **11 21 52.5 -0.8**
DGZ pmax pmax
comp=Z,11nm,1.3s
NDI New Delhi 73.06 301 *e*P **P** **11 21 51.0 -3.1**
ZSN Zaisan 73.50 322 ⇑*i*P **P** **11 22 00.1 +3.7**
comp=Z,59nm,3.7s
ZSN *e*S **SKiKP** **11 31 31.8 +6.1**
ZSN LR LR 11 52 46.7
comp=Z,341nm,18.0s
SMLA Simla 73.70 304 *e*P **P** **11 21 53.5 -4.3**
SMLA IAmb IAmb 11 22 07.8
comp=Z,96nm,1.3s
TAOE Nuku Hiva Isla 73.77 98 *e*S **S** **11 31 30.6 +1.6**
comp=Z,1μm,28.0s
TAOE *e*SS **SS** **11 36 12.0 -1.2**
comp=Z,1μm,31.4s
TAOE *e*LQ LQ 11 41 31.7
comp=Z,12μm,28.5s
TAOE *e*LR LR 11 44 49.7
comp=Z,9μm,25.6s,baz=273
TAOE Nuku Hiva Isla 73.77 98 PFAKE 11 22 10.0 +11
TAOE LR LR
comp=Z,6μm,19.0s
POO Poona 74.06 290 *e*P **P** **11 21 57.9 -2.3**
VNDA Vanda 74.38 176 P **P** **11 21 59.9 -1.0**
comp=Z,3.5nm,0.8s,baz=334,slow=6.0,SNR=8.8
VNDA LR LR 11 54 02.3
comp=Z,7μm,18.1s,baz=348,slow=35
VNDA Vanda 74.38 176 *e*P **P** **11 22 00.6 -0.4**
comp=Z,78nm,1.8s
DHRM DHARAMSHALA 74.69 305 *e*P **P** **11 22 01.9 -2.0**
DHRM IAmb IAmb 11 22 09.9
comp=Z,88nm,1.2s
MK01 Makanchi Array 74.84 320 *e*P **P** **11 22 01.2 -2.9**
MK32 Makanchi Array 74.85 320 *e*P **P** **11 22 00.4 -3.9**
MKAR Makanchi Array 74.85 320 P **P** **11 22 00.4 -3.9**
comp=Z,1.3nm,0.7s,baz=142,slow=6.1,SNR=6.2
MKAR LR LR 11 53 11.8
comp=Z,2μm,21.1s,baz=91,slow=34
CHGN Chignik 74.89 29 PFAKE 11 22 10.0 +5.8
CHGN LR LR
comp=Z,6μm,21.0s
SBA Scott Base 75.04 175 PFAKE 11 22 20.0 +15
SBA LR LR
comp=Z,4μm,18.0s

BOM	**Bombay**	**75.08**	**291**	*e*P		**P**	**11 22 03.0**	**-3.1**
BOM				*ex*		x	11 31 38.0		
SHLS	**Shalkode**	**75.44**	**316**	*e*P		**P**	**11 22 09.5**	**+1.6**
	comp=Z,161nm,4.3s								
SHLS					LR	LR	11 54 31.8		
	comp=Z,492nm,18.4s								
UZB	**Uzynbulak**	**75.74**	**316**	⇑*i*P		**P**	**11 22 12.9**	**+3.2**
	comp=Z,124nm,4.1s								
UZB				*e*S		**S**	**11 31 56.2**	**+6.1**
TIXI	**Tiksi**	**75.91**	**355**	P		**P**	**11 22 06.3**	**-3.5**
	comp=Z,1.6nm,0.2s,baz=243,slow=6.8,SNR=2.6								
TIXI	**Tiksi**	**75.91**	**355**	*e*P		**P**	**11 22 06.3**	**-3.5**
TIXI					LR	LR			
	comp=Z,3µm,18.0s								
TIXI	**Tiksi**	**75.91**	**355**	*i* P		**P**	**11 22 13.1**	**+3.4**
TIXI					pmax	pmax			
	comp=Z,26nm,1.4s								
PRZ	**Przheval'sk**	**75.96**	**315**		PFAKE		11 22 20.0	+9.0	
PRZ					LR	LR			
	comp=Z,4µm,20.0s								
KPKS	**Kokpek**	**76.08**	**316**	⇑*i*P		**P**	**11 22 14.7**	**+3.2**
	comp=Z,231nm,4.3s								
KPKS					LR	LR	11 56 18.3		
	comp=Z,1µm,18.9s								
ZAA0	**Zalesovo Array**	**76.32**	**328**	*e*P		**P**	**11 22 07.9**	**-4.5**
	comp=Z,32nm,1.3s								
ZAA0					LR	LR			
	comp=Z,10µm,21.0s								
ZALV	**Zalesovo Beam**	**76.32**	**328**	P		**P**	**11 22 08.0**	**-4.5**
	comp=Z,8.6nm,0.9s,baz=96,slow=4.5,SNR=7.8								
ZALV					LR	LR	11 54 37.4		
	comp=Z,9µm,20.9s,baz=112,slow=35								
ZALV	**Zalesovo Beam**	**76.32**	**328**	*e*P		**P**	**11 22 08.1**	**-4.4**
ZALV	**Zalesovo Beam**	**76.32**	**328**	*e*P		**P**	**11 22 08.1**	**-4.4**
ZAA1	**Zalesovo Array**	**76.32**	**328**	*e*P		**P**	**11 22 08.0**	**-4.5**
KDJ	**Kajisay**	**76.72**	**315**		PFAKE		11 22 20.0	+4.8	
KDJ					LR	LR			
	comp=Z,2µm,20.0s								
TDK	**Taldyqorghan**	**76.76**	**318**	*i* P		**P**	**11 22 19.0**	**+3.8**
	comp=Z,355nm,4.3s								
TDK				*e*S		**S**	**11 32 06.7**	**+5.7**
TDK					LR	LR	11 56 23.7		
	comp=Z,2µm,18.8s								
KSH	**Kashi**	**76.85**	**312**	P		P	11 22 22.0	+6.0	
KSH				sP		PcP	11 22 27.0	-0.1	
KSH				PP		**PP**	**11 25 14.8**	**+5.7**	
KSH				S		**S**	**11 32 07.8**	**+5.4**	
KSH				sS		sS	11 32 14.5	-1.2	
KSH				SS		**SS**	**11 37 06.8**	**+7.6**	
KSH				pmax		pmax			
	comp=Z,61nm,1.0s								
KSH				pmax		pmax			
	comp=Z,1µm,10.8s								
KSH				LR		LR			
	comp=Z,4µm,18.3s								
KSH				LR		LR			
	comp=Z,6µm,17.9s								
KSH				LR		LR			
	comp=Z,10µm,23.6s								
ANM	**Nome**	**76.86**	**20**	*e*P		**P**	**11 22 13.0**	**-2.3**
	comp=Z,76nm,1.5s								
ANM					LR	LR			
	comp=Z,10µm,21.0s								
ANM	**Nome**	**76.86**	**20**	*e*P		**P**	**11 22 13.0**	**-2.3**
ANM					pmax	pmax			
	comp=Z,77nm,1.4s								
SII	**Sitkinak Islan**	**77.07**	**29**		PFAKE		11 22 30.0	+13	
SII					LR	LR			
	comp=Z,8µm,20.0s								
MDOK	**Medeo**	**77.12**	**316**	⇑*i*P		**P**	**11 22 20.1**	**+2.6**
	comp=Z,558nm,3.6s								
MDOK				*e*S		**S**	**11 32 12.6**	**+7.3**	
MDOK					LR	LR	11 53 03.4		
	comp=Z,1µm,20.0s								
AAA	**Alma-Ata**	**77.22**	**316**	*e*P		P	11 22 31.2	+13	
AAA				*e*S		S	11 32 18.7	+12	
AAA				pmax		pmax			
	comp=Z,600nm,6.9s								
AAA				smax		smax			
	comp=N,2µm,11.3s								
AAA				MLR		MLR			
	comp=Z,1µm,16.0s								
NRN	**Naryn**	**77.36**	**314**	*e*P		**P**	**11 22 15.5**	**-3.5**
	comp=Z,20nm,1.1s								
NRN	**Naryn**	**77.36**	**314**	*e*P		**P**	**11 22 15.5**	**-3.5**
NRN					pmax	pmax			
	comp=Z,20nm,1.1s								
NIL	**Nilore**	**77.52**	**305**	*e*P		**P**	**11 22 16.3**	**-3.4**
	comp=Z,88nm,0.9s								
NIL					LR	LR			
	comp=Z,3µm,21.0s								
NIL	**Nilore**	**77.52**	**305**	*e*P		**P**	**11 22 16.3**	**-3.4**
NIL					pmax	pmax			
	comp=Z,88nm,0.9s								
NVS	**Novosibirsk**	**77.54**	**328**	*e*P		**P**	**11 22 17.0**	**-2.3**
NVS					pmax	pmax			
	comp=Z,121nm,1.6s								
NVS					pmax	pmax			
	comp=N,49nm,1.5s								
NVS					pmax	pmax			
	comp=E,70nm,1.5s								
OHAK	**Old Harbor**	**77.81**	**29**		PFAKE		11 22 30.0	+9.3	
OHAK					LR	LR			
	comp=Z,4µm,20.0s								
KUU	**Kurty**	**77.83**	**316**	⇑*i*P		**P**	**11 22 24.6**	**+3.3**
	comp=Z,260nm,2.7s								
KUU				*e*S		**S**	**11 32 18.0**	**+5.4**	
KDAK	**Kodiak Island**	**78.40**	**29**		PFAKE		11 22 30.0	+6.0	
KDAK					LR	LR			
	comp=Z,6µm,20.0s								
KURK	**Kurchatov**	**78.54**	**323**	*e*P		**P**	**11 22 22.4**	**-2.5**
	comp=Z,164nm,1.3s								
KURK					LR	LR			
	comp=Z,4µm,20.0s								
KURK	**Kurchatov**	**78.54**	**323**	P		**P**	**11 22 26.5**	**+1.6**
	SNR=40								
KURK	**Kurchatov**	**78.54**	**323**	*ce*P		**P**	**11 22 26.4**	**+1.4**
KURK					pmax	pmax			
	comp=Z,163nm,1.3s								
BHJ	**Bhuj**	**78.68**	**294**	*e*P		**P**	**11 22 23.1**	**-3.2**
BHJ					IAmb	IAmb	11 22 30.9		
	comp=Z,190nm,1.8s								
FRU1	**Bishkek**	**78.72**	**315**		PFAKE		11 22 30.0	+3.7	
FRU1					LR	LR			
	comp=Z,4µm,20.0s								
FRU	**Bishkek**	**78.73**	**315**	*e*P		P	11 22 16.0	-10	
FRU				*e*S		S	11 32 32.0	+10	
FRU				pmax		pmax			
	comp=Z,200nm,2.5s								
FRU				pmax		pmax			
	comp=E,800nm,7.0s								
RKT	**Rikitea**	**78.75**	**113**	*e*S		**S**	**11 32 24.5**	**+1.2**
	comp=E,4µm,29.2s								
RKT	**Rikitea**	**78.75**	**113**	*e*LQ		LQ	11 43 44.4		
	comp=E,6µm,37.8s								
RKT				*e*LR		LR	11 47 01.2		
	comp=E,9µm,31.5s,baz=277								
AAK	**Ala-Archa**	**78.77**	**315**	*e*P		**P**	**11 22 22.5**	**-4.1**
	comp=E,34nm,1.3s								
AAK					LR	LR			
	comp=Z,5µm,22.0s								
AAK	**Ala-Archa**	**78.77**	**315**	*i* P		**P**	**11 22 26.0**	**-0.6**
AAK					pmax	pmax			
	comp=Z,35nm,1.4s								
SGDS	**Sogindy**	**78.89**	**315**	⇑*i*P		**P**	**11 22 30.2**	**+3.0**
	comp=Z,77nm,3.0s								
SGDS				*e*S		**S**	**11 32 29.6**	**+5.3**	
SGDS					LR	LR	11 55 03.0		
	comp=Z,758nm,16.3s								
HOM	**Homer**	**79.66**	**27**		PFAKE		11 22 40.0	+9.1	
HOM					LR	LR			
	comp=Z,5µm,21.0s								
BTLS	**Baital**	**79.72**	**317**	⇑*i*P		**P**	**11 22 34.5**	**+2.8**
	comp=Z,53nm,2.5s								
BTLS				*e*S		**S**	**11 32 36.8**	**+4.0**	
BTLS					LR	LR	11 57 14.7		
	comp=Z,666nm,20.4s								
CNPM	**China Poot**	**79.79**	**27**	*e*P		**P**	**11 22 30.6**	**-1.1**
	comp=Z,188nm,1.5s								
CNPM					LR	LR			
	comp=Z,6µm,20.0s								
RDOG	**Red Dog Mine**	**79.83**	**17**	*e*P		**P**	**11 22 29.7**	**-2.0**
	comp=Z,184nm,1.7s								
RDOG					LR	LR			
	comp=Z,7µm,20.0s								
BRLK	**Bradley Lake**	**80.06**	**27**		PFAKE		11 22 40.0	+6.9	
BRLK					LR	LR			
	comp=Z,5µm,20.0s								
SKT	**Skwentna**	**80.73**	**25**		PFAKE		11 22 50.0	+13	
SKT					LR	LR			
	comp=Z,7µm,21.0s								
SUA	**Susitna One**	**80.84**	**26**		PFAKE		11 22 50.0	+13	
SUA					LR	LR			
	comp=Z,8µm,22.0s								
SEW	**Seward**	**80.86**	**27**		PFAKE		11 22 50.0	+13	
SEW					LR	LR			
	comp=Z,8µm,21.0s								
PPLA	**Purkeypile**	**80.86**	**24**	*e*P		**P**	**11 22 35.4**	**-2.2**
	comp=Z,140nm,1.7s								
PPLA					LR	LR			
	comp=Z,6µm,22.0s								
KBL	**Kabul**	**81.11**	**306**		PFAKE		11 22 50.0	+10	
KBL					LR	LR			
	comp=Z,1µm,22.0s								
RC01	**Rabbit Creek A**	**81.13**	**26**	*e*P		**P**	**11 22 36.3**	**-2.5**
	comp=Z,112nm,1.4s								
RC01					LR	LR			
	comp=Z,4µm,22.0s								
CAST	**Castle Rocks**	**81.14**	**24**	*e*P		**P**	**11 22 36.9**	**-2.0**
	comp=Z,66nm,1.4s								
CAST					LR	LR			
	comp=Z,5µm,22.0s								
PMR	**Palmer**	**81.60**	**26**	*e*P		**P**	**11 22 38.9**	**-2.4**
	comp=Z,80nm,1.4s								
PMR					LR	LR			
	comp=Z,6µm,22.0s								
PMR	**Palmer**	**81.60**	**26**	*e*P		**P**	**11 22 38.9**	**-2.4**
PMR					pmax	pmax			
	comp=Z,80nm,1.4s								
PMR					MLR	MLR			
	comp=Z,6µm,22.0s								
IM3	**Indian Mountai**	**81.70**	**21**	*e*P		**P**	**11 22 39.8**	**-1.9**	
KK31	**Karatay Array**	**81.72**	**314**	*e*P		**P**	**11 22 39.3**	**-3.0**	
KK31	**Karatay Array**	**81.72**	**314**	*e*P		**P**	**11 22 41.1**	**-1.3**	
GHO	**Glory Hole Cre**	**81.76**	**26**		PFAKE		11 22 50.0	+7.8	
GHO					LR	LR			
	comp=Z,7µm,22.0s								
BPAW	**Bear Paw Mtn.**	**81.88**	**23**	*e*P		**P**	**11 22 39.9**	**-2.9**
	comp=Z,132nm,1.9s								
BPAW					LR	LR			
	comp=Z,5µm,21.0s								
BRZS	**Berezniki**	**81.94**	**321**	⇑*i*P		**P**	**11 22 46.8**	**+3.4**
	comp=Z,246nm,4.0s								
BRZS				*e*S		**S**	**11 33 00.4**	**+4.6**	
BRZS					LR	LR	11 58 52.1		
	comp=Z,643nm,16.1s								
SML	**Sawmill**	**82.03**	**26**	*e*P		**P**	**11 22 42.0**	**-1.7**
	comp=Z,156nm,1.4s								
SML					LR	LR			
	comp=Z,5µm,22.0s								
SML	**Sawmill**	**82.03**	**26**	*e*P		**P**	**11 22 42.0**	**-1.7**
SML					pmax	pmax			
	comp=Z,156nm,1.4s								
SML					MLR	MLR			
	comp=Z,5µm,22.0s								
BRLS	**Borolday**	**82.19**	**314**	*e*S		**S**	**11 33 04.1**	**+5.4**	
GLI	**Glacier Island**	**82.23**	**27**		PFAKE		11 22 50.0	+5.4	
GLI					LR	LR			
	comp=Z,6µm,22.0s								
MLY	**Manley**	**82.38**	**23**	*e*P		**P**	**11 22 43.0**	**-2.4**
	comp=Z,242nm,1.8s								
MLY					LR	LR			
	comp=Z,9µm,21.0s								
RND	**Reindeer**	**82.45**	**24**	*e*P		**P**	**11 22 44.0**	**-1.7**
	comp=Z,235nm,1.9s								
RND					LR	LR			
	comp=Z,8µm,21.0s								
RND	**Reindeer**	**82.45**	**24**	*e*P		**P**	**11 22 44.1**	**-1.7**
RND					pmax	pmax			
	comp=Z,235nm,1.9s								
RND					MLR	MLR			
	comp=Z,8µm,21.0s								
FID	**Port Fidalgo**	**82.46**	**27**		PFAKE		11 23 00.0	+14	
FID					LR	LR			
	comp=Z,4µm,19.0s								
BWN	**Browne**	**82.52**	**24**		PFAKE		11 23 00.0	+14	
BWN					LR	LR			
	comp=Z,5µm,21.0s								
MCK	**McKinley**	**82.55**	**24**		PFAKE		11 23 00.0	+14	
MCK					LR	LR			
	comp=Z,7µm,21.0s								
NRIK	**Noril'sk**	**82.61**	**342**		P	**P**	**11 22 42.6**	**-3.8**	
	comp=Z,4.9nm,0.3s,baz=121,slow=3.8,SNR=9.5								
NRIK					LR	LR	11 57 59.2		
	comp=Z,3µm,21.8s,baz=120,slow=35								
EYAK	**Cordova Ski Ar**	**82.73**	**28**		PFAKE		11 23 00.0	+13	
EYAK					LR	LR			
	comp=Z,7µm,20.0s								
DIV	**Divide**	**82.92**	**27**	*e*P		**P**	**11 22 46.5**	**-1.8**
	comp=Z,175nm,1.7s								
DIV					LR	LR			
	comp=Z,4µm,20.0s								
DHY	**Denali Highway**	**82.94**	**25**	*e*P		**P**	**11 22 46.3**	**-2.2**
	comp=Z,133nm,1.6s								
DHY					LR	LR			
	comp=Z,8µm,22.0s								
KLU	**Klutina**	**82.98**	**27**	*e*P		**P**	**11 22 46.8**	**-1.9**
	comp=Z,137nm,1.7s								
KLU					LR	LR			
	comp=Z,6µm,22.0s								
RAGM	**Ragged Mountai**	**83.17**	**28**		PFAKE		11 23 00.0	+10	
RAGM					LR	LR			
	comp=Z,7µm,20.0s								
WRH	**Wood River Hil**	**83.19**	**24**	*e*P		**P**	**11 22 47.7**	**-1.8**
	comp=Z,161nm,1.6s								
WRH					LR	LR			
	comp=Z,4µm,21.0s								
MDM	**Murphy Dome**	**83.32**	**23**	*e*P		**P**	**11 22 48.5**	**-1.8**
	comp=Z,94nm,1.7s								
MDM					LR	LR			
	comp=Z,6µm,22.0s								
CCB	**Clear Creek Bu**	**83.37**	**23**	*e*P		**P**	**11 22 48.7**	**-1.7**
	comp=Z,124nm,1.4s								
CCB					LR	LR			
	comp=Z,4µm,22.0s								
BMRM	**Bremner River**	**83.40**	**27**	*e*P		**P**	**11 22 49.6**	**-1.1**
	comp=Z,89nm,1.4s								
BMRM					LR	LR			
	comp=Z,7µm,20.0s								
TCOL	**CIGO, UAF Yank**	**83.44**	**23**	P		**P**	**11 22 49.1**	**-1.6**
	baz=247								
COLA	**College**	**83.44**	**23**	*e*P		**P**	**11 22 49.2**	**-1.5**
	comp=Z,111nm,1.5s								
COLA					LR	LR			
	comp=Z,5µm,21.0s								
COLA	**College**	**83.44**	**23**	*e*P		**P**	**11 22 49.8**	**-1.0**
COLA					pmax	pmax			
	comp=Z,110nm,1.5s								
COLD	**Coldfoot**	**83.53**	**21**	*e*P		**P**	**11 22 49.4**	**-1.8**
	comp=Z,47nm,1.6s								
COLD					LR	LR			
	comp=Z,8µm,21.0s								
HDA	**Harding Lake**	**83.62**	**24**	P		**P**	**11 22 50.2**	**-1.6**
	baz=248								
HARP	**HAARP**	**83.65**	**26**		PFAKE		11 23 00.0	+8.0	
HARP					LR	LR			
	comp=Z,10µm,22.0s								
POKR	**Poker Plat Res**	**83.70**	**23**	P		**P**	**11 22 50.7**	**-1.4**
	baz=248								
PAX	**Paxson**	**83.71**	**25**	*e*P		**P**	**11 22 50.0**	**-2.4**
	comp=Z,144nm,2.0s								
PAX					LR	LR			
	comp=Z,4µm,21.0s								
PAX	**Paxson**	**83.71**	**25**	*e*P		**P**	**11 22 50.0**	**-2.4**
PAX					pmax	pmax			
	comp=Z,140nm,2.0s								
IL1	**Eielson Array**	**83.78**	**23**	*e*P		**P**	**11 22 49.5**	**-3.1**	
ILAR	**Eielson Array**	**83.78**	**23**	P		**P**	**11 22 48.7**	**-3.8**	
	comp=Z,3.3nm,0.9s,baz=260,slow=4.5,SNR=9.6								
ILAR					LR	LR	11 54 50.0		
	comp=Z,3µm,21.9s,baz=266,slow=32								
ILAR	**Eielson Array**	**83.78**	**23**	P		**P**	**11 22 48.7**	**-3.8**	
ILAR					pmax	pmax			
	comp=Z,2,0nm,0.7s								
ILB	**Eielson Array**	**83.78**	**23**	*e*P		**P**	**11 22 49.8**	**-2.8**	
TGL	**Tana Glacier**	**84.15**	**28**		PFAKE		11 23 00.0	+5.3	
TGL					LR	LR			
	comp=Z,4µm,20.0s								
BRVK	**Borovoye**	**84.17**	**324**	*e*P		**P**	**11 22 51.8**	**-3.0**	
	comp=Z,129nm,1.4s								
BRVK					LR	LR			
	comp=Z,2µm,22.0s								
BRVK	**Borovoye**	**84.17**	**324**	P		**P**	**11 22 56.1**	**+1.3**	
	SNR=40								
BRVK	**Borovoye**	**84.17**	**324**	*e*P		**P**	**11 22 51.8**	**-3.0**	
BRVK					pmax	pmax			
	comp=Z,130nm,1.3s								
TOLK	**Toolik Lake Re**	**84.35**	**19**	*e*P		**P**	**11 22 56.5**	**+1.0**	
	comp=Z,98nm,1.4s								
TOLK					LR	LR			
	comp=Z,8µm,22.0s								
TOLK	**Toolik Lake Re**	**84.35**	**19**	P		**P**	**11 22 54.2**	**-1.3**	
	baz=245								
DOT	**Dot Lake**	**84.54**	**25**	*e*P		**P**	**11 22 54.2**	**-2.3**	
	comp=Z,68nm,1.3s								
DOT					LR	LR			
	comp=Z,6µm,22.0s								
PCA	**Pinnacle**	**85.18**	**29**		PFAKE		11 23 10.0	+10	
PCA					LR	LR			
	comp=Z,4µm,20.0s								
DHAK	**Deception Hill**	**85.93**	**30**		PFAKE		11 23 10.0	+6.4	
DHAK					LR	LR			
	comp=Z,4µm,20.0s								
EGAK	**Eagle**	**86.10**	**24**	*e*P		**P**	**11 23 02.2**	**-2.0**	
	comp=Z,68nm,1.3s								
EGAK					LR	LR			
	comp=Z,8µm,20.0s								
QSPA	**South Pole Qui**	**86.36**	**180**	P		**P**	**11 23 03.7**	**-2.0**	
	comp=Z,5.6nm,0.8s,baz=315,slow=2.2,SNR=8.7								
QSPA	**South Pole Qui**	**86.36**	**180**	*e*P		**P**	**11 23 03.7**	**-2.0**	
QSPA					LR	LR			
	comp=Z,5µm,22.0s								
DAWY	**Dawson**	**86.64**	**25**	*e*P		**P**	**11 23 04.3**	**-2.6**	
	comp=Z,114nm,1.5s								
DAWY					LR	LR			
	comp=Z,10µm,22.0s								
HYT	**Haines Junctio**	**86.69**	**29**	*e*P		**P**	**11 23 05.0**	**-2.4**	
	comp=Z,57nm,1.3s								
HYT					LR	LR			
	comp=Z,4µm,22.0s								
SKAG	**Skagway**	**87.46**	**30**	*e*P		**P**	**11 23 09.5**	**-1.5**	
	comp=Z,66nm,1.1s								
SKAG					LR	LR			
	comp=Z,3µm,22.0s								
BESE	**Bessie Mountai**	**87.53**	**31**		PFAKE		11 23 20.0	+8.6	
BESE					LR	LR			
	comp=Z,4µm,20.0s								
JIS	**Juneau Island**	**87.72**	**31**		PFAKE		11 23 20.0	+7.8	
JIS					LR	LR			
	comp=Z,4µm,18.0s								
WHY	**Whitehorse**	**87.91**	**29**	*e*P		**P**	**11 23 12.1**	**-1.1**	
	comp=Z,115nm,1.7s								
WHY					LR	LR			
	comp=Z,3µm,19.0s								
CRAG	**Craig**	**87.91**	**34**		PFAKE		11 23 20.0	+6.8	
CRAG					LR	LR			
	comp=Z,12µm,21.0s								
DIB	**Dawson Inlet,**	**87.93**	**37**		PFAKE		11 23 20.0	+6.7	
DIB					LR	LR			
	comp=Z,6µm,20.0s								
EPYK	**Eagle Plains**	**88.29**	**23**	P		**P**	**11 23 13.6**	**-1.3**	
	baz=257								
WRAK	**Wrangell Islan**	**88.49**	**33**		PFAKE		11 23 30.0	+14	
WRAK					LR	LR			
	comp=Z,10µm,21.0s								
INK	**Inuvik**	**89.89**	**22**	*e*P		**P**	**11 23 20.4**	**-1.8**	
	comp=Z,66nm,1.4s								
INK					LR	LR			
	comp=Z,9µm,21.0s								
INK	**Inuvik**	**89.89**	**22**	*e*P		**P**	**11 23 20.4**	**-1.8**	
INK					pmax	pmax			
	comp=Z,66nm,1.4s								
INK					MLR	MLR			
	comp=Z,9µm,21.0s								
ABKAR	**Akbulak array**	**89.95**	**319**	*e*P		**P**	**11 23 20.1**	**-2.8**	
DLBC	**Dease Lake**	**90.01**	**32**	LR		LR	11 57 56.7		
	comp=Z,4µm,19.8s,baz=272,slow=32								
DLBC	**Dease Lake**	**90.01**	**32**	*e*P		**P**	**11 23 21.8**	**-1.3**	
	comp=Z,53nm,1.5s								
SVE	**Sverdlovsk**	**90.30**	**327**	*e*P		P	11 23 31.1	+6.7	
SVE				*e*PPP		PPP	11 28 57.4		
SVE				*e*SS		SS	11 40 08.0	-9.0	
SVE				*e*SSS		SSS	11 43 54.7		
SVE				pmax		pmax			
	comp=Z,36nm,1.6s								
SVE				MLR		MLR			
	comp=E,5µm,22.0s								
SVE				MLR		MLR			
	comp=Z,6µm,21.0s								
BBB	**Bella Bella**	**90.44**	**38**	LR		LR	11 55 22.6		
	comp=Z,8µm,21.6s,baz=244,slow=30								
UOSS	**Minazif**	**91.08**	**295**		PFAKE		11 23 40.0	+11	
UOSS					LR	LR			
	comp=Z,900nm,21.0s								
ARU	**Arti**	**91.40**	**326**	*e*P		**P**	**11 23 27.5**	**-2.0**	
	comp=Z,33nm,1.5s								
ARU					LR	LR			
	comp=Z,5µm,21.0s								
ARU	**Arti**	**91.40**	**326**	*d i*P		**P**	**11 23 29.9**	**+0.4**	
ARU							11 27 06.6		
ARU					PPP	PPP	11 29 07.8		
ARU					S	**SKSac**	**11 33 58.8**	**-1.5**	
ARU					SP	**SP**	**11 35 33.1**	**-2.3**	
ARU					SS	**SS**	**11 40 36.8**	**+3.8**	
ARU					SSS	SSS	11 44 08.6		
ARU					pmax	pmax			
	comp=Z,13nm,2.5s								
ARU					MLR	MLR			
	comp=Z,5µm,22.0s								
KEBM	**Edson Butte**	**92.36**	**47**		PFAKE		11 23 40.0	+5.6	
KEBM					LR	LR			
	comp=Z,7µm,20.0s								
SYO	**Syowa Base**	**92.41**	**200**	⇑*e*P		**P**	**11 23 34.5**	**+0.6**	
JCC	**Jacoby Creek,**	**92.50**	**49**		PFAKE		11 23 40.0	+5.1	
JCC					LR	LR			
	comp=Z,8µm,21.0s								
KHMM	**Horse Mountain**	**92.73**	**49**		PFAKE		11 23 50.0	+14	
KHMM					LR	LR			
	comp=Z,9µm,19.0s								
KCPM	**Cahto Peak**	**92.79**	**51**		PFAKE		11 23 50.0	+13	
KCPM					LR	LR			
	comp=Z,8µm,21.0s								
E03A	**Lebam**	**93.06**	**44**		PFAKE		11 23 50.0	+13	
E03A					LR	LR			
	comp=Z,7µm,19.0s								
HOPS	**Hopland Field**	**93.16**	**51**		PFAKE		11 23 50.0	+12	
HOPS					LR	LR			
	comp=Z,8µm,20.0s								
COR	**Corvallis**	**93.18**	**46**		PFAKE		11 23 50.0	+12	
COR					LR	LR			
	comp=Z,9µm,20.0s								
MCCM	**Marconi Confer**	**93.28**	**52**		PFAKE		11 23 50.0	+11	
MCCM					LR	LR			
	comp=Z,10µm,21.0s								
HUMO	**Hull Mountain**	**93.37**	**48**		PFAKE		11 23 50.0	+11	
HUMO					LR	LR			
	comp=Z,8µm,22.0s								
GDXM	**Geysers**	**93.37**	**51**		PFAKE		11 23 50.0	+11	
GDXM					LR	LR			
	comp=Z,10µm,21.0s								
YBH	**Yreka Blue Hor**	**93.53**	**49**		PFAKE		11 23 50.0	+10	
YBH					LR	LR			
	comp=Z,12µm,20.0s								
WDC	**Whiskeytown Da**	**93.62**	**50**		PFAKE		11 23 50.0	+10	
WDC					LR	LR			
	comp=Z,6µm,21.0s								
H04A	**Detroit Lake**	**93.98**	**46**		PFAKE		11 23 50.0	+8.2	
H04A					LR	LR			
	comp=Z,8µm,22.0s								
LON	**Longmire**	**94.27**	**44**		PFAKE		11 23 50.0	+

CMB pmax pmax
comp=Z,27nm,1.6s
CMB MLR MLR
comp=Z,9µm,20.0s
BEKR **Beckworth** **95.28** **50** PFAKE 11 24 00.0 +12
BEKR LR LR
comp=Z,6µm,22.0s
MOD **Modoc Plateau** **95.33** **48** PFAKE 11 24 00.0 +12
MOD LR LR
comp=Z,9µm,20.0s
PAGB **Antelope Grade** **95.33** **55** PFAKE 11 24 00.0 +12
PAGB LR LR
comp=Z,4µm,22.0s
RUBR **Rubicon Trail** **95.43** **51** PFAKE 11 24 00.0 +11
RUBR LR LR
comp=Z,8µm,20.0s
F07A **Phinny Hill Vi** **95.58** **44** PFAKE 11 24 00.0 +11
F07A LR LR
comp=Z,6µm,19.0s
VCNR **Virginia City** **95.83** **51** PFAKE 11 24 00.0 +9.4
VCNR LR LR
comp=Z,8µm,21.0s
PNTR **Pine Nut** **95.87** **51** PFAKE 11 24 00.0 +9.2
PNTR LR LR
comp=Z,9µm,21.0s
I07A **Izee** **95.90** **46** PFAKE 11 24 00.0 +9.3
I07A LR LR
comp=Z,3µm,20.0s
SNCC **San Nicolas Is** **95.91** **57** PFAKE 11 24 00.0 +9.1
SNCC LR LR
comp=Z,8µm,20.0s
WAKR **Walker** **95.99** **52** PFAKE 11 24 00.0 +8.6
WAKR LR LR
comp=Z,11µm,22.0s
YERR **Yerington** **96.15** **51** PFAKE 11 24 00.0 +8.0
YERR LR LR
comp=Z,8µm,21.0s
E08A **Dider Farm, El** **96.17** **44** PFAKE 11 24 00.0 +8.3
E08A LR LR
comp=Z,6µm,20.0s
G08A **Pilot Rock** **96.27** **45** *e*P **P** **11 23 50.6 -1.7**
comp=Z,24nm,1.4s
G08A LR LR
comp=Z,8µm,21.0s
MDPB **Devils Postpil** **96.28** **53** PFAKE 11 24 00.0 +7.2
MDPB LR LR
comp=Z,12µm,20.0s
WVOR **Wild Horse Val** **96.56** **48** PFAKE 11 24 00.0 +6.2
WVOR LR LR
comp=Z,7µm,21.0s
OSI **Osito Audit: C** **96.58** **56** PFAKE 11 24 00.0 +6.1
OSI LR LR
comp=Z,3µm,19.0s
RYN **Ryan** **96.71** **52** PFAKE 11 24 00.0 +5.4
RYN LR LR
comp=Z,9µm,21.0s
ISA **Isabella, Lake** **96.78** **55** PFAKE 11 24 00.0 +5.2
ISA LR LR
comp=Z,4µm,21.0s
E09A **Wood Farm, Sta** **96.80** **44** *e*P **P** **11 23 53.3 -1.2**
comp=Z,44nm,1.4s
E09A LR LR
comp=Z,5µm,22.0s
ABPO **Ambohimpanom** **96.87** **250** PFAKE 11 24 00.0 +4.3
ABPO LR LR
comp=Z,2µm,20.0s
NV01 **Mina Array Sit** **96.89** **52** *e*P **P** **11 23 53.5 -1.9**
NVAR **Mina Array Bea** **96.89** **52** P **P** **11 23 53.7 -1.7**
comp=Z,0.1nm,0.3s,baz=258,slow=7.1,SNR=2.1
NVAR LR LR 11 59 40.4
comp=Z,10µm,21.1s,baz=266,slow=30
OPO **Ambohidratompo** **96.95** **251** P **P** **11 23 53.5 -2.6**
comp=Z,2.9nm,0.7s,baz=90,slow=9.1,SNR=2.0
NV11 **Mina Array Sit** **97.00** **52** PFAKE 11 24 10.0 +14
NV11 LR LR
comp=Z,900nm,22.0s
PASC **Pasadena Art C** **97.03** **56** PFAKE 11 24 10.0 +14
PASC LR LR
comp=Z,3µm,20.0s
KVN **Kaiserville** **97.03** **51** PFAKE 11 24 10.0 +14
KVN LR LR
comp=Z,8µm,22.0s
MWC **Mount Wilson** **97.13** **56** PFAKE 11 24 10.0 +13
MWC LR LR
comp=Z,4µm,21.0s
NEW **Newport** **97.42** **42** LR LR 12 02 40.8
comp=Z,3µm,18.9s,baz=283,slow=32
F10A **Beach Ranch, E** **97.46** **44** *e*P **P** **11 23 56.2 -1.5**
comp=Z,21nm,1.3s
F10A LR LR
comp=Z,6µm,21.0s
YKW3 **Yellowknife Ar** **97.62** **27** *e*P **P** **11 23 55.8 -2.1**
comp=Z,48nm,1.9s
YKW3 LR LR
comp=Z,6µm,20.0s
YKA **Yellowknife Ar** **97.63** **28** P **P** **11 23 54.8 -3.1**
comp=Z,3.4nm,1.0s,baz=297,slow=4.1,SNR=4.1
YKA LR LR 12 07 05.9
comp=Z,379nm,19.4s,baz=293,slow=35
YKB5 **Yellowknife Ar** **97.63** **28** *e*P **P** **11 23 56.3 -1.7**
BMN **Battle Mountai** **97.67** **50** PFAKE 11 24 10.0 +11
BMN LR LR
comp=Z,4µm,18.0s
CPE **Camp Elliot** **97.95** **57** PFAKE 11 24 10.0 +10
CPE LR LR
comp=Z,6µm,20.0s
PRGR **Permogore** **97.95** **332** *e*P Pdif 11 24 00.7 +1.3
PRGR pmax pmax
comp=Z,31nm,1.3s
GSC **Goldstone, Bar** **98.15** **55** PFAKE 11 24 10.0 +8.9
GSC LR LR
comp=Z,3µm,19.0s
BAR **Barrett** **98.31** **58** PFAKE 11 24 10.0 +8.2
BAR LR LR
comp=Z,6µm,20.0s
PFO **Pinyon Flats O** **98.47** **57** PFAKE 11 24 10.0 +7.4
PFO LR LR
comp=Z,7µm,20.0s
XPFO **Piæon Flat** **98.48** **57** PFAKE 11 24 10.0 +7.4
XPFO LR LR
comp=Z,6µm,20.0s
TPNV **Topopah Spring** **98.55** **53** PFAKE 11 24 10.0 +7.1
TPNV LR LR
comp=Z,8µm,21.0s
R11A **Troy Canyon, C** **99.02** **52** PFAKE 11 24 10.0 +5.0
R11A LR LR
comp=Z,11µm,22.0s
ELK **Elko** **99.17** **49** PFAKE 11 24 20.0 +14
ELK LR LR
comp=Z,4µm,20.0s
JTMT **Jette** **99.36** **42** PFAKE 11 24 20.0 +14
JTMT LR LR
comp=Z,4µm,20.0s
SHPR **Sheep Range** **99.44** **54** PFAKE 11 24 20.0 +13
SHPR LR LR
comp=Z,7µm,21.0s
LDFC **Landfair** **99.54** **55** PFAKE 11 24 20.0 +13
LDFC LR LR
comp=Z,4µm,21.0s
HLID **Hailey** **99.60** **47** PFAKE 11 24 20.0 +13
HLID LR LR
comp=Z,7µm,20.0s
MSO **Missoula** **99.67** **43** PFAKE 11 24 20.0 +12
MSO LR LR
comp=Z,5µm,22.0s
NVL **N'lazarevskaya** **99.83** **194** *e*P **Pdif** **11 24 16.3 +8.7**
NVL pmax pmax
comp=Z,5.0nm,0.8s
NVL MLR MLR
comp=Z,4µm,17.0s
GLA **Glamis** **99.86** **57** PFAKE 11 24 20.0 +11
GLA LR LR
comp=Z,6µm,20.0s
Y12C **Blythe** **100.08** **57** PFAKE 11 24 20.0 +10
Y12C LR LR
comp=Z,5µm,20.0s
PSUT **Pine Spring** **100.37** **52** PFAKE 11 24 20.0 +9.0
PSUT LR LR
comp=Z,9µm,20.0s
W13A **Hualapai Mount** **100.55** **55** PFAKE 11 24 20.0 +8.1
W13A LR LR
comp=Z,3µm,21.0s
GNI **Garni** **100.72** **310** PFAKE 11 24 20.0 +7.5
GNI LR LR
comp=Z,1µm,21.0s
DLMT **Dillon** **100.74** **45** PFAKE 11 24 20.0 +7.5
DLMT LR LR
comp=Z,6µm,21.0s
113A **Mohawk Valley,** **100.76** **57** PFAKE 11 24 20.0 +7.4
113A LR LR
comp=Z,5µm,19.0s
RAYN **Ar Rayn** **100.81** **293** PFAKE 11 24 20.0 +6.9
RAYN LR LR
comp=Z,1µm,20.0s
CCUT **Cedar City** **100.82** **53** PFAKE 11 24 20.0 +6.9
CCUT LR LR
comp=Z,9µm,21.0s
BGU **Big Grassy Mou** **100.83** **49** PFAKE 11 24 20.0 +7.0
BGU LR LR
comp=Z,5µm,19.0s
HVU **Hansel Valley** **100.95** **48** PFAKE 11 24 20.0 +6.5
HVU LR LR
comp=Z,8µm,20.0s
LCMT **Little Creek M** **100.95** **53** PFAKE 11 24 20.0 +6.4
LCMT LR LR
comp=Z,6µm,21.0s
KLMR **Klimovskoe** **101.00** **331** *e*P **Pdif** **11 24 14.1 +1.1**
KLMR pmax pmax
comp=Z,20nm,1.2s
KLMR **Klimovskoe** **101.00** **331** *e*P **Pdif** **11 24 14.2 +1.2**
KLMR AMP 11 24 20.8
comp=Z,20nm,1.2s
SZCU **Shurtz Canyon** **101.04** **53** PFAKE 11 24 20.0 +6.0
SZCU LR LR
comp=Z,8µm,20.0s
DUG **Dugway, Tooele** **101.05** **50** PFAKE 11 24 20.0 +6.0
DUG LR LR
comp=Z,3µm,21.0s
LVZ **Lovozero** **101.16** **339** PFAKE 11 24 20.0 +6.4
LVZ LR LR
comp=Z,3µm,22.0s
KBS **Kingsbay** **101.22** **352** PFAKE 11 24 20.0 +6.3
KBS LR LR
comp=Z,2µm,20.0s
SPUT **South Promonto** **101.23** **49** PFAKE 11 24 20.0 +5.2
SPUT LR LR
comp=Z,6µm,21.0s
KNB **Kanab** **101.29** **53** PFAKE 11 24 30.0 +15
KNB LR LR
comp=Z,6µm,20.0s
Y14A **Wickenburg** **101.33** **56** PFAKE 11 24 30.0 +15
Y14A LR LR
comp=Z,6µm,20.0s
BOZ **Bozeman (W)** **101.39** **44** PFAKE 11 24 30.0 +15
BOZ LR LR
comp=Z,5µm,20.0s
TCRU **Three Creeks R** **101.46** **51** PFAKE 11 24 30.0 +14
TCRU LR LR
comp=Z,10µm,21.0s
AKH **Akhalkalaki** **101.55** **311** PFAKE 11 24 20.0 +3.8
AKH LR LR
comp=Z,2µm,22.0s
NLU **North Lily Min** **101.64** **50** PFAKE 11 24 30.0 +13
NLU LR LR
comp=Z,3µm,19.0s
PKCU **Pink Cliffs** **101.66** **53** PFAKE 11 24 30.0 +13
PKCU LR LR
comp=Z,10µm,22.0s
APA **Apatity** **101.71** **339** *i*P **Pdif** **11 24 16.7 +0.7**
APA pmax pmax
comp=Z,8.0nm,0.9s
APA MLR MLR
comp=Z,3µm,16.0s
MTPU **Mount Pierson** **101.72** **52** PFAKE 11 24 30.0 +13
MTPU LR LR
comp=Z,9µm,21.0s
KBZ **Khabaz** **101.75** **314** P **Pdif** **11 24 14.4 -2.3**
comp=Z,3.2nm,0.9s,baz=84,slow=1.9,SNR=5.9
U15A **North Rim** **101.75** **54** PFAKE 11 24 30.0 +13
U15A LR LR
comp=Z,7µm,21.0s
YHB **Horse Butte** **101.80** **45** PFAKE 11 24 30.0 +13
YHB LR LR
comp=Z,7µm,19.0s
CTU **Camp Tracy** **101.82** **49** PFAKE 11 24 30.0 +13
CTU LR LR
comp=Z,4µm,19.0s
HWUT **Hardware Ranch** **101.87** **48** PFAKE 11 24 30.0 +12
HWUT LR LR
comp=Z,6µm,20.0s
DAMY **Dhamar** **101.87** **284** PFAKE 11 24 30.0 +12
DAMY LR LR
comp=Z,900nm,22.0s
KIV **Kislovodsk** **101.88** **314** PFAKE 11 24 30.0 +13
KIV LR LR
comp=Z,2µm,22.0s
YMR **Madison River** **101.97** **45** PFAKE 11 24 30.0 +12
YMR LR LR
comp=Z,5µm,19.0s
MPU **Maple Canyon** **101.97** **50** PFAKE 11 24 30.0 +12
MPU LR LR
comp=Z,3µm,19.0s
TCUT **Toone Canyon** **102.03** **49** PFAKE 11 24 30.0 +12
TCUT LR LR
comp=Z,8µm,22.0s
YHH **Holmes Hill** **102.03** **45** PFAKE 11 24 30.0 +12
YHH LR LR
comp=Z,7µm,19.0s
JLU **Jordanelle** **102.05** **49** PFAKE 11 24 30.0 +11
JLU LR LR
comp=Z,4µm,20.0s
IMW **Indian Meadow** **102.08** **46** PFAKE 11 24 30.0 +11
IMW LR LR
comp=Z,6µm,20.0s
YFT **Old Faithful** **102.09** **45** PFAKE 11 24 30.0 +11
YFT LR LR
comp=Z,11µm,18.0s
AHID **Auburn Hatcher** **102.09** **47** PFAKE 11 24 30.0 +11
AHID LR LR
comp=Z,4µm,20.0s
TPAW **Teton Pass** **102.12** **46** PFAKE 11 24 30.0 +11
TPAW LR LR
comp=Z,7µm,21.0s
YPP **Pitchstone Pla** **102.13** **46** PFAKE 11 24 30.0 +11
YPP LR LR
comp=Z,6µm,20.0s
SNAA **Sanae** **102.15** **190** PFAKE 11 24 30.0 +12
SNAA LR LR
comp=Z,4µm,21.0s
YNR **Norris Junctio** **102.17** **45** PFAKE 11 24 30.0 +11
YNR LR LR
comp=Z,192µm,19.0s
REDW **Red Top Meadow** **102.20** **47** PFAKE 11 24 30.0 +11
REDW LR LR
comp=Z,7µm,21.0s
FLWY **Flagg Ranch** **102.23** **46** PFAKE 11 24 30.0 +11
FLWY LR LR
comp=Z,5µm,20.0s
MOOW **Moose Ponds** **102.23** **46** PFAKE 11 24 30.0 +11
MOOW LR LR
comp=Z,7µm,21.0s
SNOW **Snow King Moun** **102.26** **46** PFAKE 11 24 30.0 +11
SNOW LR LR
comp=Z,8µm,21.0s
H17A **Grant Village** **102.28** **45** PFAKE 11 24 30.0 +11
H17A LR LR
comp=Z,9µm,19.0s
SRIG **Santa Rosalia** **102.32** **63** PFAKE 11 24 30.0 +10
SRIG LR LR
comp=Z,4µm,18.0s
LOHW **Long Hollow** **102.35** **46** PFAKE 11 24 30.0 +10
LOHW LR LR
comp=Z,8µm,21.0s
EGMT **Eagleton** **102.35** **42** PFAKE 11 24 30.0 +11
EGMT LR LR
comp=Z,3µm,21.0s
TMUT **Trail Mountain** **102.37** **51** PFAKE 11 24 30.0 +10
TMUT LR LR
comp=Z,5µm,21.0s
LKWY **Lake** **102.38** **45** PFAKE 11 24 30.0 +10
LKWY LR LR
comp=Z,9µm,19.0s
Q16A **Castle Valley** **102.43** **51** PFAKE 11 24 30.0 +10
Q16A LR LR
comp=Z,8µm,22.0s
WUAZ **Wupatki** **102.57** **55** PFAKE 11 24 30.0 +9.2
WUAZ LR LR
comp=Z,4µm,21.0s
X16A **Lo Mia Camp, P** **102.60** **56** PFAKE 11 24 30.0 +9.0
X16A LR LR
comp=Z,3µm,20.0s
P17A **Butcher Ranch,** **102.71** **50** PFAKE 11 24 30.0 +8.6
P17A LR LR
comp=Z,4µm,21.0s
SRU **San Rafael Swe** **102.91** **51** PFAKE 11 24 30.0 +7.7
SRU LR LR
comp=Z,6µm,22.0s
KEV **Kevo** **103.02** **342** PFAKE 11 24 30.0 +8.2
KEV LR LR
comp=Z,3µm,20.0s
P18A **Preston Nutter** **103.07** **50** PFAKE 11 24 30.0 +6.8
P18A LR LR
comp=Z,4µm,21.0s
RLMT **Red Lodge** **103.11** **45** PFAKE 11 24 30.0 +6.9
RLMT LR LR
comp=Z,4µm,20.0s
BW06 **Boulder Array** **103.22** **47** PFAKE 11 24 30.0 +6.4
BW06 LR LR
comp=Z,5µm,20.0s
PD31 **Pinedale Array** **103.22** **47** *e*Pdif **Pdif** **11 24 21.6 -2.0**
PDAR **Pinedale Array** **103.22** **47** Pdiff **Pdif** **11 24 21.4 -2.3**
comp=Z,0.2nm,0.5s,baz=273,slow=3.3,SNR=2.3
TUC **Tucson** **103.30** **58** PFAKE 11 24 30.0 +6.0
TUC LR LR
comp=Z,6µm,21.0s
ATD **Arta Tunnel** **103.33** **281** PFAKE 11 24 30.0 +5.5
ATD LR LR
comp=Z,900nm,21.0s
HSIG **103.37** **61** PFAKE 11 24 30.0 +5.7
HSIG LR LR
comp=Z,6µm,20.0s
ARE0 **ARCESS Array S** **103.59** **342** PFAKE 11 24 30.0 +5.6
ARE0 LR LR
comp=Z,200nm,20.0s
X18A **Snowflake** **103.81** **55** PFAKE 11 24 40.0 +14
X18A LR LR
comp=Z,4µm,20.0s
OBN **Obninsk** **103.84** **326** PFAKE 11 24 30.0 +4.3
OBN LR LR
comp=Z,3µm,20.0s
W18A **Petrified Fore** **103.94** **55** PFAKE 11 24 40.0 +13
W18A LR LR
comp=Z,4µm,21.0s
PV14 **Lion Creek, Pa** **104.16** **51** PFAKE 11 24 40.0 +12
PV14 LR LR
comp=Z,13µm,20.0s
PV23 **Carpenter Ridg** **104.16** **51** PFAKE 11 24 40.0 +12
PV23 LR LR
comp=Z,13µm,21.0s
PV21 **Cone Mtn., Par** **104.18** **51** PFAKE 11 24 40.0 +12
PV21 LR LR
comp=Z,10µm,20.0s
PV20 **West Nyswonger** **104.21** **51** PFAKE 11 24 40.0 +12
PV20 LR LR
comp=Z,10µm,20.0s
PV17 **East Wray Mesa** **104.22** **52** PFAKE 11 24 40.0 +12
PV17 LR LR
comp=Z,13µm,20.0s
PV16 **Nyswonger Mesa** **104.25** **52** PFAKE 11 24 40.0 +12
PV16 LR LR
comp=Z,11µm,20.0s
PV18 **Skein Mesa, Pa** **104.27** **52** PFAKE 11 24 40.0 +12
PV18 LR LR
comp=Z,11µm,20.0s
PV11 **David Mesa, Pa** **104.29** **52** PFAKE 11 24 40.0 +12
PV11 LR LR
comp=Z,13µm,20.0s
PV22 **Blue Mesa, Par** **104.33** **51** PFAKE 11 24 40.0 +11
PV22 LR LR
comp=Z,9µm,20.0s
PV12 **Saucer Basin,** **104.34** **51** PFAKE 11 24 40.0 +11
PV12 LR LR
comp=Z,13µm,20.0s
O20A **White River Ci** **104.54** **50** PFAKE 11 24 40.0 +10
O20A LR LR
comp=Z,4µm,22.0s
SLBS **Sierra La Lagu** **104.54** **67** PFAKE 11 24 40.0 +10
SLBS LR LR
comp=Z,7µm,19.0s
319A **Douglas** **104.65** **59** PFAKE 11 24 40.0 +10
319A LR LR
comp=Z,6µm,22.0s
TULEG **Thule** **104.66** **8** PFAKE 11 24 40.0 +11
TULEG LR LR
comp=Z,2µm,20.0s
MVCO **Mesa Verde** **104.71** **53** PFAKE 11 24 40.0 +10
MVCO LR LR
comp=Z,6µm,21.0s
LAO **LASA Array** **104.94** **43** PFAKE 11 24 40.0 +9.0
LAO LR LR
comp=Z,3µm,21.0s
RWWY **Rawlins** **105.09** **48** PFAKE 11 29 00.0
RWWY LR LR
comp=Z,7µm,21.0s
K22A **Casper** **105.45** **47** PFAKE 11 29 00.0
K22A LR LR
comp=Z,3µm,20.0s
SMCO **Snowmass** **105.64** **50** PFAKE 11 29 00.0
SMCO LR LR
comp=Z,5µm,22.0s
FFC **Flin Flon** **105.68** **34** PFAKE 11 29 00.0
FFC LR LR
comp=Z,6µm,22.0s
DGMT **Dagmar** **105.92** **41** PFAKE 11 29 00.0
DGMT LR LR
comp=Z,4µm,21.0s
S22A **4UR Ranch, Cre** **105.96** **52** PFAKE 11 29 00.0
S22A LR LR
comp=Z,12µm,21.0s
N23A **Red Feather La** **106.16** **49** PFAKE 11 29 00.0
N23A LR LR
comp=Z,6µm,22.0s
Y22D **IRIS PASSCAL I** **106.36** **56** PFAKE 11 29 00.0
Y22D LR LR
comp=Z,5µm,20.0s
PHWY **Pilot Hill** **106.46** **48** PFAKE 11 29 00.0
PHWY LR LR
comp=Z,5µm,20.0s
ISCO **Idaho Springs** **106.59** **50** PFAKE 11 29 00.0
ISCO LR LR
comp=Z,3µm,19.0s
ANMO **Albuquerque** **106.63** **55** PFAKE 11 29 00.0
ANMO LR LR
comp=Z,4µm,21.0s
RSSD **Black Hills** **106.96** **45** PFAKE 11 29 00.0
RSSD LR LR
comp=Z,4µm,20.0s
EPT **El Paso** **106.97** **58** PFAKE 11 29 00.0
EPT LR LR
comp=Z,5µm,21.0s
SDCO **Great Sand Dun** **107.00** **52** PFAKE 11 29 00.0
SDCO LR LR
comp=Z,11µm,20.0s
Q24A **Divide** **107.08** **50** PFAKE 11 29 00.0
Q24A LR LR
comp=Z,6µm,21.0s
FURI **Furi** **107.39** **278** PFAKE 11 29 00.0
FURI LR LR
comp=Z,1µm,20.0s
VSU **Vasula** **107.90** **331** *e*P PP 11 29 22.0 +10
MNTX **Cornudas Mount** **107.93** **58** PFAKE 11 29 00.0
MNTX LR LR
comp=Z,4µm,20.0s
T25A **Trinidad** **107.95** **52** PFAKE 11 29 00.0
T25A LR LR
comp=Z,7µm,21.0s
HPIG **108.19** **63** PFAKE 11 29 00.0
HPIG LR LR
comp=Z,6µm,20.0s
FCC **Fort Churchill** **108.33** **28** PFAKE 11 29 00.0
FCC LR LR
comp=Z,7µm,21.0s
PMSA **Palmer Station** **108.36** **167** PFAKE 11 29 00.0
PMSA LR LR
comp=Z,3µm,21.0s
KMBO **Kilima Mbogo** **108.37** **268** PFAKE 11 29 00.0
KMBO LR LR
comp=Z,1µm,20.0s
NAI **Nairobi** **108.81** **267** PFAKE 11 29 00.0
NAI LR LR
comp=Z,1µm,20.0s
ILGA **Ilgaz** **108.89** **312** PFAKE 11 29 00.0
ILGA LR LR
comp=Z,1µm,21.0s
KSCO **Kaye Shedlock*** **109.01** **50** PFAKE 11 29 00.0
KSCO LR LR

comp=Z,4µm,22.0s
MDND Maddock 109.05 40 PFAKE 11 29 00.0
MDND LR LR
comp=Z,3µm,20.0s
OGNE Ogallala 109.06 48 PFAKE 11 29 00.0
OGNE LR LR
comp=Z,5µm,21.0s
AKBB Malin Array Si 109.35 323 PFAKE 11 29 00.0
AKBB LR LR
comp=Z,4µm,22.0s
KIEV Kiev 109.36 323 PFAKE 11 29 00.0
KIEV LR LR
comp=Z,4µm,21.0s
MSTX Muleshoe 109.78 55 PFAKE 11 29 10.0
MSTX LR LR
comp=Z,4µm,20.0s
ANTO Ankara 109.83 311 PFAKE 11 29 00.0
ANTO LR LR
comp=Z,1µm,22.0s
CSS Mathiatis 110.36 306 PFAKE 11 29 10.0
CSS LR LR
comp=Z,2µm,21.0s
SLIT Slitere, Latvi 110.39 331 *e*P PP 11 29 41.0 +10
AMTX Amarillo 110.52 54 PFAKE 11 29 10.0
AMTX LR LR
comp=Z,5µm,21.0s
ULM Lac du Bonnet 110.63 37 PFAKE 11 29 10.0
ULM LR LR
comp=Z,9µm,21.0s
KIS Kishinev 110.77 319 *e*PKP PKiKP 11 28 42.0 -15
KIS *e*SKS SKSdf 11 35 10.0 -57
KIS *e*SKKS SKKSac 11 36 08.0 -27
KIS Kishinev 110.77 319 *i* PS PS 11 39 05.0 +0.1
KIS LRM MLR 12 13 00.0
comp=Z,4µm,25.0s
KIS Kishinev 110.77 319 *e*PKIKP PKiKP 11 28 42.0 -15
KIS *e* 11 36 08.0
KIS *i* PS **PS 11 39 05.0 +0.1**
KIS MLR MLR
comp=Z,4µm,25.0s
CBKS Cedar Bluff 111.25 50 PFAKE 11 29 10.0
CBKS LR LR
comp=Z,6µm,20.0s
AGMN Agassiz Nation 111.30 39 PFAKE 11 29 10.0
AGMN LR LR
comp=Z,6µm,21.0s
ZAIG Zacatecas 111.38 67 PFAKE 11 29 10.0
ZAIG LR LR
comp=Z,5µm,21.0s
SUW Suwalki 111.55 328 PFAKE 11 29 10.0
SUW LR LR
comp=Z,4µm,20.0s
BGNE Belgrade 111.80 47 PFAKE 11 29 10.0
BGNE LR LR
comp=Z,4µm,21.0s
TIRR Tirgusor 111.81 317 PFAKE 11 29 10.0
TIRR LR LR
comp=Z,2µm,20.0s
ISP Isparta 112.01 309 PFAKE 11 29 10.0
ISP LR LR
comp=Z,1µm,21.0s
ECSD EROS Data Cent 112.25 44 PFAKE 11 29 10.0
ECSD LR LR
comp=Z,6µm,20.0s
U32A Winter Ranch, 112.36 52 PFAKE 11 29 10.0
U32A LR LR
comp=Z,4µm,21.0s
ABTX Abilene, Hawle 112.60 56 PFAKE 11 29 10.0
ABTX LR LR
comp=Z,3µm,19.0s
JCT Junction City 112.84 59 PFAKE 11 29 10.0
JCT LR LR
comp=Z,5µm,21.0s
WMOK Wichita Mounta 112.89 54 PFAKE 11 29 10.0
WMOK LR LR
comp=Z,4µm,20.0s
MOIG Morelia 112.92 70 PFAKE 11 29 10.0
MOIG LR LR
comp=Z,8µm,19.0s
MLR Muntele Rosu 113.15 318 PFAKE 11 29 10.0
MLR LR LR
comp=Z,4µm,22.0s
JRQG Juriquilla Cam 113.53 69 PFAKE 11 29 10.0
JRQG LR LR
comp=Z,7µm,21.0s
833A Chaparral WMA, 113.54 61 PFAKE 11 29 10.0
833A LR LR
comp=Z,4µm,20.0s
KSU1 Kansas State U 113.55 49 PFAKE 11 29 10.0
KSU1 LR LR
comp=Z,6µm,20.0s
KWP Kalwaria Pacla 113.64 323 PFAKE 11 29 10.0
KWP LR LR
comp=Z,24µm,20.0s
LNIG Linares 113.96 64 PFAKE 11 29 10.0
LNIG LR LR
comp=Z,4µm,20.0s
EYMN Ely 114.16 38 PFAKE 11 29 10.0 +6.9
EYMN LR LR
comp=Z,7µm,21.0s
SPMN Marine on St. 114.34 41 PFAKE 11 29 10.0 +6.5
SPMN LR LR
comp=Z,4µm,22.0s
WHTX Lake Whitney, 114.53 56 PFAKE 11 29 10.0 +5.7
WHTX LR LR
comp=Z,3µm,21.0s
ALN Alexandroupoli 114.54 314 PFAKE 11 29 10.0 +6.0
ALN LR LR
comp=Z,600nm,20.0s
E38A The Farm, Brul 114.64 40 PFAKE 11 29 10.0 +5.9
E38A LR LR
comp=Z,5µm,22.0s
435B Jarrell 114.67 58 PFAKE 11 29 10.0 +5.4
435B LR LR
comp=Z,4µm,20.0s
KONO Kongsberg 114.78 337 PFAKE 11 29 10.0 +6.1
KONO LR LR
comp=Z,4µm,19.0s
UNM Universidad Na 114.84 70 PFAKE 11 29 20.0 +14
UNM LR LR
comp=Z,4µm,20.0s
KVTX Kingsville 114.97 61 PFAKE 11 29 20.0 +15
KVTX LR LR
comp=Z,2µm,20.0s
TUL1 Leonard 115.00 52 PFAKE 11 29 20.0 +15
TUL1 LR LR
comp=Z,7µm,22.0s
SCIA State Center 115.19 45 PFAKE 11 29 20.0 +15
SCIA LR LR
comp=Z,4µm,21.0s
PGB Panagyurishte 115.35 316 *e*P **PKPdf 11 29 05.9 +0.2**
LSZ Lusaka 115.42 251 PFAKE 11 29 20.0 +13
LSZ LR LR
comp=Z,2µm,22.0s
TLIG Tlapa 115.56 72 PFAKE 11 29 20.0 +13
TLIG LR LR
comp=Z,4µm,20.0s
X37A Clayton 115.66 53 PFAKE 11 29 20.0 +14
X37A LR LR
comp=Z,4µm,20.0s
I39A Houston 115.69 42 PFAKE 11 29 20.0 +14
I39A LR LR
comp=Z,5µm,21.0s
VTS Vitosha 116.00 316 PFAKE 11 29 20.0 +13
VTS LR LR
comp=Z,1µm,20.0s
VTS Vitosha 116.00 316 *e*P **PKPdf 11 29 12.0 +5.0**
G40A Rib Lake 116.03 41 PFAKE 11 29 20.0 +13
G40A LR LR
comp=Z,3µm,20.0s
N39A Derby Farms, D 116.03 46 PFAKE 11 29 20.0 +13
N39A LR LR
comp=Z,7µm,20.0s
PSZ Piszkesteto 116.05 323 PFAKE 11 29 20.0 +13
PSZ LR LR
comp=Z,3µm,20.0s
OKC Ostrava-Krasne 116.21 325 *e*PP PP 11 30 21.1 +9.0
OKC *e*PS **PS 11 39 56.0 +1.4**
OKC AMS AMS 12 21 30.0
comp=Z,2µm,18.0s
RGN Rugen 116.28 331 PFAKE 11 29 20.0 +13
RGN LR LR
comp=Z,7µm,20.0s
SANT Santorini 116.29 309 ⇑ *i*P **PKPdf 11 29 05.8 -1.8**
HKT Hockley 116.31 58 PFAKE 11 29 20.0 +12
HKT LR LR
comp=Z,6µm,20.0s
D41A Chassel 116.33 38 PFAKE 11 29 20.0 +13
D41A LR LR
comp=Z,8µm,22.0s
KKB Krupnik 116.34 315 *e*P **PKPdf 11 29 03.4 -4.1**
HHAR Hobbs 116.35 51 PFAKE 11 29 20.0 +12
HHAR LR LR
comp=Z,5µm,22.0s
COWI Conover 116.38 39 PFAKE 11 29 20.0 +13
COWI LR LR
comp=Z,5µm,20.0s
L40A Anamosa 116.53 44 PFAKE 11 29 20.0 +12
L40A LR LR
comp=Z,7µm,20.0s
F41A Three Lakes 116.55 40 PFAKE 11 29 20.0 +12
F41A LR LR
comp=Z,4µm,20.0s
MORC Moravsky Berou 116.58 325 PFAKE 11 29 20.0 +12
MORC LR LR
comp=Z,3µm,21.0s
H41A Junction City 116.64 41 PFAKE 11 29 20.0 +12
H41A LR LR
comp=Z,4µm,20.0s
I41A Arkdale 116.72 42 PFAKE 11 29 20.0 +12
I41A LR LR
comp=Z,5µm,22.0s
W39A Magazine 116.76 52 PFAKE 11 29 20.0 +11
W39A LR LR
comp=Z,6µm,20.0s
SUR Sutherland 116.77 231 PFAKE 11 29 20.0 +11
SUR LR LR
comp=Z,3µm,19.0s
JFWS Jewell Farm 116.90 43 PFAKE 11 29 20.0 +11
JFWS LR LR
comp=Z,5µm,20.0s
NATX Nacogdoches 116.91 56 PFAKE 11 29 20.0 +11
NATX LR LR
comp=Z,3µm,21.0s
DPC Dobruska-Polom 116.99 326 *e*PP PP 11 30 26.4 +8.8
DPC AMS AMS 12 22 00.0
comp=Z,3µm,20.1s
IDI Anoyia 117.03 308 PFAKE 11 29 20.0 +11
IDI LR LR
comp=Z,1µm,21.0s
UPC Upice 117.08 327 *e*PP PP 11 30 25.4 +7.2
UPC *e*PS **PS 11 40 04.2 +1.8**
UPC AMS AMS 12 21 20.0
comp=Z,4µm,21.0s
MIAR Mount Ida 117.10 53 PFAKE 11 29 20.0 +11
MIAR LR LR
comp=Z,7µm,22.0s
G42A Mountain 117.18 40 PFAKE 11 29 20.0 +11
G42A LR LR
comp=Z,5µm,22.0s
N41A Harden Midland 117.27 46 PFAKE 11 29 20.0 +11
N41A LR LR
comp=Z,6µm,20.0s
LIT Litokhoron 117.37 314 PFAKE 11 29 20.0 +10
LIT LR LR
comp=Z,1µm,22.0s
LVIG Laguna Verde 117.39 70 PFAKE 11 29 20.0 +10
LVIG LR LR
comp=Z,7µm,20.0s
I42A Draeger Farm, 117.42 42 PFAKE 11 29 20.0 +10
I42A LR LR
comp=Z,4µm,21.0s
H42A Shiocton 117.42 41 PFAKE 11 29 20.0 +11
H42A LR LR
comp=Z,4µm,20.0s
240A Hunter Patters 117.58 56 PFAKE 11 29 20.0 +10
240A LR LR
comp=Z,4µm,20.0s
DIVS Divibare 117.60 319 PFAKE 11 29 20.0 +10
DIVS LR LR
comp=Z,2µm,20.0s
E43A Lone Tree Farm 117.60 38 PFAKE 11 29 20.0 +10
E43A LR LR
comp=Z,6µm,21.0s
L42A Oliver, Polo 117.64 44 PFAKE 11 29 20.0 +10
L42A LR LR
comp=Z,6µm,21.0s
G43A Wallace 117.65 40 PFAKE 11 29 20.0 +10
G43A LR LR
comp=Z,4µm,21.0s
WLAR White Oak Lake 117.70 54 PFAKE 11 29 20.0 +10
WLAR LR LR
comp=Z,4µm,21.0s
X40A Basin Creek Fa 117.71 53 PFAKE 11 29 20.0 +10
X40A LR LR
comp=Z,7µm,22.0s
PVCC Panska Ves 117.86 327 AMS AMS 12 24 50.0
comp=Z,3µm,18.1s
CCM Cathedral Cave 117.87 48 PFAKE 11 29 20.0 +9.4
CCM LR LR
comp=Z,7µm,20.0s
WHAR Wooly Hollow 117.91 52 PFAKE 11 29 20.0 +9.3
WHAR LR LR
comp=Z,4µm,20.0s
H43A Windswept, Lux 117.93 41 PFAKE 11 29 20.0 +10
H43A LR LR
comp=Z,3µm,22.0s
W41B Gary Mavity, V 117.98 52 PFAKE 11 29 20.0 +9.2
W41B LR LR
comp=Z,4µm,20.0s
TREC Trest 117.99 326 AMS AMS 12 21 20.0
comp=Z,5µm,22.2s
BRG Berggiesshubel 118.01 328 *e*(P) **PKPdf 11 29 15.9 +5.5**
comp=Z,5.1nm,1.3s
comp=Z,6µm,23.0s
comp=N,3µm,24.0s
comp=E,5µm,24.0s
BRG Berggiesshubel 118.01 328 *e*PKIKP **PKPdf 11 29 15.9 +5.5**
BRG pmax pmax
comp=Z,5.0nm,1.3s
BRG MLR MLR
comp=N,3µm,24.0s
BRG MLR MLR
comp=E,5µm,24.0s
UALR University of 118.02 52 PFAKE 11 29 20.0 +9.1
UALR LR LR
comp=Z,8µm,21.0s
P42A Winchester 118.03 47 PFAKE 11 29 20.0 +9.2
P42A LR LR
comp=Z,6µm,20.0s
GOPC GO Pecny, Ondr 118.06 326 *e*PP PP 11 30 31.8 +6.8
GOPC *ex* x 11 40 12.5
GOPC AMS AMS 12 22 00.0
comp=Z,4µm,19.5s
Z41A Richland Creek 118.06 54 PFAKE 11 29 20.0 +9.0
Z41A LR LR
comp=Z,5µm,21.0s
E44A Grand Marais A 118.15 38 PFAKE 11 29 20.0 +9.2
E44A LR LR
comp=Z,9µm,22.0s
PRA Prague 118.17 327 AMS AMS 12 21 20.0
comp=Z,4µm,20.5s
CLL Collm 118.27 328 PFAKE 11 29 20.0 +9.1
CLL LR LR
comp=Z,6µm,20.0s
CLL Collm 118.27 328 *e*PP PP 11 30 30.0 +3.7
CLL *e*PPP PPP 11 32 54.0
CLL *e*PPPP 11 34 48.0
CLL *e*PS **PS 11 40 12.0 -1.1**
CLL *e*PPS PPS 11 41 24.0
CLL *e* 11 42 05.0
CLL *e*SS SS 11 46 48.0 +7.7
CLL *e*SSS SSS 11 51 06.0
CLL *e*SSSS 11 54 30.0
CLL LmV 12 22 00.0
comp=N,2µm,20.3s
CLL LmV 12 22 00.0
comp=E,4µm,20.3s
CLL LmV 12 22 00.0
comp=Z,6µm,20.2s
K43A Burlington 118.28 43 PFAKE 11 29 20.0 +8.8
K43A LR LR
comp=Z,4µm,20.0s
241A Mo Tay, Goldon 118.28 55 PFAKE 11 29 20.0 +8.5
241A LR LR
comp=Z,4µm,19.0s
T42A Van Buren 118.31 50 PFAKE 11 29 20.0 +8.6
T42A LR LR
comp=Z,8µm,20.0s
SLM Saint Louis 118.43 48 PFAKE 11 29 20.0 +8.4
SLM LR LR
comp=Z,4µm,22.0s
HDIL Hopedale 118.43 45 PFAKE 11 29 20.0 +8.4
HDIL LR LR
comp=Z,5µm,21.0s
FVM French Village 118.51 48 PFAKE 11 29 20.0 +8.2
FVM LR LR
comp=Z,6µm,21.0s
541A Lake Charles 118.53 58 PFAKE 11 29 20.0 +8.0
541A LR LR
comp=Z,4µm,19.0s
CCAR Cane Creek 118.71 53 PFAKE 11 29 20.0 +7.7
CCAR LR LR
comp=Z,4µm,22.0s
TTG Podgorica 118.76 317 PFAKE 11 29 20.0 +7.9
TTG LR LR
comp=Z,3µm,22.0s
TIR Tirane 118.77 316 PFAKE 11 29 20.0 +7.8
TIR LR LR
comp=Z,3µm,19.0s
PBMO Poplar Bluff 118.90 50 PFAKE 11 29 20.0 +7.4
PBMO LR LR
comp=Z,8µm,21.0s
342A Flagon Creek P 118.93 56 PFAKE 11 29 20.0 +7.2
342A LR LR
comp=Z,5µm,21.0s
M44A Midewin, Midew 118.99 44 PFAKE 11 29 20.0 +7.4
M44A LR LR
comp=Z,5µm,20.0s
HBAR Harrisburg 119.11 51 PFAKE 11 29 20.0 +7.0
HBAR LR LR
comp=Z,4µm,20.0s
BLY Banja Luka 119.14 320 PFAKE 11 29 20.0 +7.2
BLY LR LR
comp=Z,3µm,21.0s
KHC Kasperske Hory 119.14 326 PFAKE 11 29 20.0 +7.3
KHC LR LR
comp=Z,2µm,20.0s
NKC Novy Kostel 119.16 328 AMS AMS 12 22 20.0
comp=Z,5µm,19.2s
GEC2 GERESS Array S 119.22 326 PFAKE 11 29 20.0 +7.0
GEC2 LR LR
comp=Z,4µm,20.0s
GERES GERESS Array B 119.22 326 PKP **PKPdf 11 29 10.6 -2.4**
comp=Z,0.5nm,0.5s,baz=35,slow=2.4,SNR=1.8
X43A Marvell 119.24 52 PFAKE 11 29 20.0 +6.7
X43A LR LR
comp=Z,6µm,21.0s
143A Socs Landing, 119.34 54 PFAKE 11 29 20.0 +6.5
143A LR LR
comp=Z,5µm,21.0s
PARMO Parma 119.45 50 PFAKE 11 29 20.0 +6.4
PARMO LR LR
comp=Z,8µm,22.0s
GNAR Gosnell 119.47 50 PFAKE 11 29 20.0 +6.3
GNAR LR LR
comp=Z,5µm,21.0s
SIUC Southern Illin 119.50 48 PFAKE 11 29 20.0 +6.3
SIUC LR LR
comp=Z,7µm,21.0s
PVMO Portageville 119.57 50 PFAKE 11 29 20.0 +6.1
PVMO LR LR
comp=Z,7µm,22.0s
543A St. Martinvill 119.64 57 PFAKE 11 29 20.0 +5.8
543A LR LR
comp=Z,5µm,20.0s
GLMI Grayling 119.79 39 PFAKE 11 29 20.0 +5.9
GLMI LR LR
comp=Z,4µm,21.0s
MET Memphis--Engin 119.80 51 PFAKE 11 29 20.0 +5.7
MET LR LR
comp=Z,2µm,20.0s
P45A Graceland, Par 119.92 46 PFAKE 11 29 20.0 +5.5
P45A LR LR
comp=Z,7µm,21.0s
GLAT Glass 119.93 50 PFAKE 11 29 20.0 +5.4
GLAT LR LR
comp=Z,7µm,22.0s
OLIL Olney 119.96 47 PFAKE 11 29 20.0 +5.5
OLIL LR LR
comp=Z,5µm,21.0s
HALT Halls 120.01 50 PFAKE 11 29 20.0 +5.3
HALT LR LR
comp=Z,5µm,22.0s
SFIN Lafayette 120.05 45 PFAKE 11 29 20.0 +5.3
SFIN LR LR
comp=Z,5µm,20.0s
GRFO Grafenberg 120.12 328 PFAKE 11 29 20.0 +5.5
GRFO LR LR
comp=Z,4µm,20.0s
M46A Old House Fiel 120.15 43 PFAKE 11 29 20.0 +5.2
M46A LR LR
comp=Z,5µm,21.0s
T45A Paducah 120.17 49 PFAKE 11 29 20.0 +5.0
T45A LR LR
comp=Z,11µm,21.0s
VBMS Vicksburg 120.19 55 PFAKE 11 29 30.0 +15
VBMS LR LR
comp=Z,3µm,19.0s
344A Westbrook Farm 120.23 56 PFAKE 11 29 30.0 +15
344A LR LR
comp=Z,4µm,20.0s
OXF Oxford 120.40 52 PFAKE 11 29 30.0 +14
OXF LR LR
comp=Z,5µm,20.0s
Z45A Winona 120.53 53 PFAKE 11 29 30.0 +14
Z45A LR LR
comp=Z,4µm,21.0s
USIN University of 120.56 47 PFAKE 11 29 30.0 +14
USIN LR LR
comp=Z,6µm,20.0s
545A Edgard 120.80 57 PFAKE 11 29 30.0 +14
545A LR LR
comp=Z,5µm,18.0s
TRI Trieste 120.81 323 PFAKE 11 29 30.0 +14
TRI LR LR
comp=Z,3µm,19.0s
BLO Bloomington 120.93 46 PFAKE 11 29 30.0 +14
BLO LR LR
comp=Z,6µm,21.0s
WVT Waverly 121.09 50 PFAKE 11 29 30.0 +13
WVT LR LR
comp=Z,10µm,21.0s
M48A Edgerton 121.23 43 PFAKE 11 29 30.0 +13
M48A LR LR
comp=Z,5µm,20.0s
146A Union 121.26 54 PFAKE 11 29 30.0 +13
146A LR LR
comp=Z,4µm,20.0s
346A Big Creek Wild 121.29 55 PFAKE 11 29 30.0 +13
346A LR LR
comp=Z,3µm,20.0s
PLAL Pickwick Lake 121.29 51 PFAKE 11 29 30.0 +13
PLAL LR LR
comp=Z,3µm,20.0s
EFI East Falkland 121.33 163 PFAKE 11 29 30.0 +13
EFI LR LR
comp=Z,2µm,21.0s
T47A Sharon Grove 121.33 48 PFAKE 11 29 30.0 +13
T47A LR LR
comp=Z,8µm,21.0s
WCI Wyandotte Cave 121.46 47 PFAKE 11 29 30.0 +13
WCI LR LR
comp=Z,5µm,20.0s
AAM Ann Arbor 121.58 41 PFAKE 11 29 30.0 +12
AAM LR LR
comp=Z,4µm,21.0s
STU Stuttgart 121.73 328 PFAKE 11 29 30.0 +12
STU LR LR
comp=Z,3µm,19.0s
TIP Timpagrande 121.81 315 PFAKE 11 29 30.0 +12
TIP LR LR
comp=Z,2µm,22.0s
N49A Columbus Grove 121.84 43 PFAKE 11 29 30.0 +12
N49A LR LR
comp=Z,6µm,20.0s
147A Livingston 121.88 53 PFAKE 11 29 30.0 +12
147A LR LR
comp=Z,4µm,21.0s
V48A Smith Brothers 121.99 50 PFAKE 11 29 30.0 +11
V48A LR LR
comp=Z,9µm,22.0s
O49A Covington 122.05 44 PFAKE 11 29 30.0 +11
O49A LR LR
comp=Z,5µm,18.0s

447A Lucedale 122.12 56 PFAKE 11 29 30.0 +11
447A LR LR
comp=Z,4µm,21.0s
VLDQ Val d'Or 122.26 33 PFAKE 11 29 30.0 +11
VLDQ LR LR
comp=Z,7µm,22.0s
X48A Hartselle 122.27 51 PFAKE 11 29 30.0 +11
X48A LR LR
comp=Z,2µm,20.0s
HOPE Hope Point 122.30 178 PFAKE 11 29 30.0 +11
HOPE LR LR
comp=Z,4µm,21.0s
FUORN Ofenpass-Fuorn 122.38 325 PFAKE 11 29 30.0 +11
FUORN LR LR
comp=Z,5µm,20.0s
M50A Fremont 122.39 42 PFAKE 11 29 30.0 +11
M50A LR LR
comp=Z,4µm,21.0s
T49A Edmonton 122.45 48 PFAKE 11 29 30.0 +11
T49A LR LR
comp=Z,5µm,21.0s
BFO Black Forest 122.46 328 PFAKE 11 29 30.0 +11
BFO LR LR
comp=Z,3µm,20.0s
DAVOX Davos/Dischmat 122.51 325 PKP **PKPdf** **11 29 16.6 -2.8**
comp=Z,2.8nm,0.9s,baz=225,slow=1.4,SNR=2.6
348A Jackson 122.56 55 PFAKE 11 29 30.0 +10
348A LR LR
comp=Z,3µm,20.0s
ESK Eskdalemuir 122.67 339 PFAKE 11 29 30.0 +11
ESK LR LR
comp=Z,4µm,21.0s
AQU L'Aquila 122.69 319 PFAKE 11 29 30.0 +10
AQU LR LR
comp=Z,4µm,21.0s
WLF Walferdange 122.76 330 PFAKE 11 29 30.0 +10
WLF LR LR
comp=Z,10µm,20.0s
LRAL Lakeview Retre 122.78 53 PFAKE 11 29 30.0 +10
LRAL LR LR
comp=Z,7µm,22.0s
SWET Sewanee 122.86 50 PFAKE 11 29 30.0 +10
SWET LR LR
comp=Z,4µm,19.0s
UCC Uccle 122.89 332 PFAKE 11 29 30.0 +10
UCC LR LR
comp=Z,6µm,19.0s
Y49A Blount Mountai 122.96 52 PFAKE 11 29 30.0 +9.5
Y49A LR LR
comp=Z,3µm,20.0s
ACSO Alum Creek Sta 122.97 43 PFAKE 11 29 30.0 +10
ACSO LR LR
comp=Z,5µm,20.0s
TUE Stuetta 122.99 325 PFAKE 11 29 30.0 +10
TUE LR LR
comp=Z,4µm,20.0s
N51A Ashland 123.06 42 PFAKE 11 29 30.0 +10
N51A LR LR
comp=Z,5µm,22.0s
ECH Echery 123.15 328 PFAKE 11 29 30.0 +10
ECH LR LR
comp=Z,5µm,20.0s
P51A Williamsport 123.24 44 PFAKE 11 29 30.0 +9.2
P51A LR LR
comp=Z,4µm,20.0s
Q51A Peebles 123.24 45 PFAKE 11 29 30.0 +9.1
Q51A LR LR
comp=Z,5µm,22.0s
BRAL Brewton 123.33 55 PFAKE 11 29 30.0 +8.8
BRAL LR LR
comp=Z,4µm,20.0s
W50A Signal Mountai 123.33 50 PFAKE 11 29 30.0 +8.8
W50A LR LR
comp=Z,6µm,22.0s
MYIG MOrida 123.42 67 PFAKE 11 29 30.0 +8.3
MYIG LR LR
comp=Z,2µm,20.0s
Z50A Ashland 123.55 52 PFAKE 11 29 30.0 +8.3
Z50A LR LR
comp=Z,4µm,20.0s
S51A Beattyville 123.65 46 PFAKE 11 29 30.0 +8.3
S51A LR LR
comp=Z,6µm,19.0s
VLC Villacollemand 123.66 323 PFAKE 11 29 30.0 +8.4
VLC LR LR
comp=Z,4µm,19.0s
250A Grady 123.70 54 PFAKE 11 29 30.0 +8.0
250A LR LR
comp=Z,3µm,21.0s
O52A Adamsville 123.80 43 PFAKE 11 29 30.0 +8.1
O52A LR LR
comp=Z,6µm,20.0s
V51A Loudon 123.83 49 PFAKE 11 29 30.0 +7.9
V51A LR LR
comp=Z,12µm,22.0s
CPCT Cooper Cave 123.84 49 PFAKE 11 29 30.0 +7.9
CPCT LR LR
comp=Z,10µm,22.0s
PAYG Puerto Ayora 123.85 93 PFAKE 11 29 30.0 +7.2
PAYG LR LR
comp=Z,2µm,20.0s
X51A Calhoun 123.92 50 PFAKE 11 29 30.0 +7.7
X51A LR LR
comp=Z,4µm,22.0s
ERPA Erie 124.05 40 PFAKE 11 29 30.0 +7.7
ERPA LR LR
comp=Z,4µm,20.0s
TZTN Tazewell 124.14 48 PFAKE 11 29 30.0 +7.3
TZTN LR LR
comp=Z,3µm,20.0s
ALLY Alegheny Colle 124.19 41 PFAKE 11 29 30.0 +7.4
ALLY LR LR
comp=Z,10µm,20.0s
SENIN Lac Senin/Sane 124.20 326 PFAKE 11 29 30.0 +7.2
SENIN LR LR
comp=Z,4µm,22.0s
TSUM Tsumeb 124.22 244 PKP **PKPdf** **11 29 21.5 -1.9**
comp=Z,1.9nm,0.8s,baz=145,slow=4.3,SNR=2.7
TSUM Tsumeb 124.22 244 *e*PKPdf **PKPdf** **11 29 21.6 -1.9**
TSUM LR LR
comp=Z,2µm,19.0s
TKL Tuckaleechee C 124.32 49 PFAKE 11 29 30.0 +6.9
TKL LR LR
comp=Z,11µm,21.0s
V52A Sevierville 124.38 48 PFAKE 11 29 30.0 +6.8
V52A LR LR
comp=Z,9µm,21.0s
P53A Whipple 124.39 43 PFAKE 11 29 30.0 +6.9
P53A LR LR
comp=Z,6µm,20.0s
W52A Murphy 124.42 49 PFAKE 11 29 30.0 +6.7
W52A LR LR
comp=Z,7µm,22.0s
451A Vernon 124.56 55 PFAKE 11 29 30.0 +6.4
451A LR LR
comp=Z,4µm,20.0s
M54A Oil Creek Stat 124.57 41 PFAKE 11 29 30.0 +6.6
M54A LR LR
comp=Z,4µm,20.0s
N54A Moraine State 124.63 41 PFAKE 11 29 30.0 +6.5
N54A LR LR
comp=Z,4µm,21.0s
152A Waverly Hall 124.71 52 PFAKE 11 29 30.0 +6.1
152A LR LR
comp=Z,5µm,21.0s
Y52A Lilburn 124.79 51 PFAKE 11 29 30.0 +6.0
Y52A LR LR
comp=Z,3µm,19.0s
PLCA Paso Flores 124.81 147 PKP **PKPdf** **11 29 22.7 -1.3**
comp=Z,2.5nm,0.9s,baz=266,slow=3.2,SNR=7.6
TEIG Tepich 124.90 68 PFAKE 11 29 30.0 +5.5
TEIG LR LR
comp=Z,2µm,20.0s
352A Blakely 124.95 54 PFAKE 11 29 30.0 +5.7
352A LR LR
comp=Z,3µm,21.0s
V53A Saluda 125.03 48 PFAKE 11 29 30.0 +5.5
V53A LR LR
comp=Z,9µm,21.0s
MMNY Mt. Morris Dam 125.04 38 PFAKE 11 29 30.0 +5.8
MMNY LR LR
comp=Z,9µm,22.0s
GO06 Curarrehue 125.08 145 PFAKE 11 29 30.0 +5.4
GO06 LR LR
comp=Z,2µm,20.0s
BG3 Lake Jocassee 125.22 49 PFAKE 11 29 30.0 +5.2
BG3 LR LR
comp=Z,8µm,21.0s
BNI Bardonecchia 125.33 325 PFAKE 11 29 30.0 +5.1
BNI LR LR
comp=Z,5µm,20.0s
MCWV Mont Chateau 125.36 43 PFAKE 11 29 30.0 +5.1
MCWV LR LR
comp=Z,3µm,20.0s
253A Americus 125.39 53 PFAKE 11 29 40.0 +15
253A LR LR
comp=Z,4µm,21.0s
GOGA Godfrey 125.42 51 PFAKE 11 29 40.0 +15
GOGA LR LR
comp=Z,3µm,19.0s
DSB Dublin 125.44 340 PFAKE 11 29 30.0 +5.4
DSB LR LR
comp=Z,2µm,20.0s
453A Whigham 125.65 54 PFAKE 11 29 40.0 +14
453A LR LR
comp=Z,3µm,20.0s
O56A Blue Knob Stat 125.91 41 PFAKE 11 29 40.0 +14
O56A LR LR
comp=Z,5µm,21.0s
LONY Lake Ozonia 125.94 35 PFAKE 11 29 40.0 +14
LONY LR LR
comp=Z,3µm,22.0s
154A Montrose 125.99 52 PFAKE 11 29 40.0 +14
154A LR LR
comp=Z,6µm,21.0s
HODGE Hodges 126.03 50 PFAKE 11 29 40.0 +14
HODGE LR LR
comp=Z,6µm,21.0s
TIGA Tifton 126.03 53 PFAKE 11 29 40.0 +14
TIGA LR LR
comp=Z,3µm,22.0s
BLA Blacksburg 126.11 45 PFAKE 11 29 40.0 +14
BLA LR LR
comp=Z,3µm,20.0s
PAULI Pauline 126.13 49 PFAKE 11 29 40.0 +13
PAULI LR LR
comp=Z,8µm,21.0s
SSPA Standing Stone 126.17 41 PFAKE 11 29 40.0 +14
SSPA LR LR
comp=Z,4µm,21.0s
KMSC Kings Mountain 126.35 48 PFAKE 11 29 40.0 +13
KMSC LR LR
comp=Z,8µm,21.0s
FRNY Flat Rock 126.37 34 PFAKE 11 29 40.0 +13
FRNY LR LR
comp=Z,6µm,22.0s
SSB Saint Sauveur 126.39 327 PFAKE 11 29 40.0 +13
SSB LR LR
comp=Z,3µm,20.0s
BINY Binghamton 126.52 38 PFAKE 11 29 40.0 +13
BINY LR LR
comp=Z,8µm,21.0s
CSGN Cosiguina Volc 126.54 77 PFAKE 11 29 40.0 +12
CSGN LR LR
comp=Z,2µm,20.0s
NCB Newcomb 126.54 35 PFAKE 11 29 40.0 +13
NCB LR LR
comp=Z,3µm,22.0s
TGUH Tegucigalpa,Un 126.71 75 PFAKE 11 29 40.0 +12
TGUH LR LR
comp=Z,2µm,19.0s
255A Hazlehurst 126.74 52 PFAKE 11 29 40.0 +12
255A LR LR
comp=Z,6µm,21.0s
JSC Jenkinsville 126.76 49 PFAKE 11 29 40.0 +12
JSC LR LR
comp=Z,6µm,20.0s
555A McAlpin 126.99 55 PFAKE 11 29 40.0 +12
555A LR LR
comp=Z,4µm,21.0s
KSPA Keystone Colle 127.02 39 PFAKE 11 29 40.0 +12
KSPA LR LR
comp=Z,8µm,20.0s
PAGS Pennsylvania G 127.14 40 PFAKE 11 29 40.0 +12
PAGS LR LR
comp=Z,4µm,22.0s
ACCN Adirondack Com 127.22 36 PFAKE 11 29 40.0 +12
ACCN LR LR
comp=Z,4µm,20.0s
N59A State Game Lan 127.37 39 PFAKE 11 29 40.0 +11
N59A LR LR
comp=Z,8µm,22.0s
SDMD Soldier's Deli 127.50 41 PFAKE 11 29 40.0 +11
SDMD LR LR
comp=Z,3µm,21.0s
MVL Millersville 127.50 40 PFAKE 11 29 40.0 +11
MVL LR LR
comp=Z,4µm,20.0s
456A Hilliard 127.55 54 PFAKE 11 29 40.0 +11
456A LR LR
comp=Z,4µm,21.0s
656A Willston 127.60 55 PFAKE 11 29 40.0 +11
656A LR LR
comp=Z,4µm,22.0s
LBNH Lisbon 127.67 34 PFAKE 11 29 40.0 +11
LBNH LR LR
comp=Z,6µm,22.0s
ESTN Estel 127.68 76 PFAKE 11 29 40.0 +10
ESTN LR LR
comp=Z,3µm,19.0s
CBN Corbin Frederi 127.76 43 PFAKE 11 29 40.0 +10
CBN LR LR
comp=Z,8µm,20.0s
GO05 HualaæØ 127.80 141 PFAKE 11 29 40.0 +10
GO05 LR LR
comp=Z,2µm,20.0s
VAL Valentia 127.83 341 *e*PP PP 11 31 40.6 +10
VAL *e*PPS PPS 11 43 05.0
VAL *i* PS SS 11 49 10.4 +30
257A Skidaway Islan 127.87 52 PFAKE 11 29 40.0 +10
257A LR LR
comp=Z,4µm,20.0s
ODNJ Ogdensburg 128.01 38 PFAKE 11 29 40.0 +10
ODNJ LR LR
comp=Z,8µm,21.0s
NHSC New Hope 128.07 50 PFAKE 11 29 40.0 +10
NHSC LR LR
comp=Z,5µm,20.0s
PSUB Penn St. - Bra 128.12 40 PFAKE 11 29 40.0 +10
PSUB LR LR
comp=Z,6µm,22.0s
BRNJ Basking Ridge 128.26 39 PFAKE 11 29 40.0 +10
BRNJ LR LR
comp=Z,8µm,22.0s
PKME Peaks-Kenny Pk 128.41 31 PFAKE 11 29 40.0 +9.5
PKME LR LR
comp=Z,5µm,20.0s
957A Wimauma 128.41 57 PFAKE 11 29 40.0 +8.9
957A LR LR
comp=Z,4µm,20.0s
BOAB BOACO BROADBA 128.42 77 PFAKE 11 29 40.0 +8.6
BOAB LR LR
comp=Z,4µm,18.0s
PAL Palisades 128.48 38 PFAKE 11 29 40.0 +9.2
PAL LR LR
comp=Z,8µm,21.0s
CPNY Central Park 128.58 38 PFAKE 11 29 40.0 +9.0
CPNY LR LR
comp=Z,9µm,22.0s
658A Bunnell 128.63 55 PFAKE 11 29 40.0 +8.6
658A LR LR
comp=Z,4µm,20.0s
CNNC Cliffs of the 128.84 46 PFAKE 11 29 40.0 +8.4
CNNC LR LR
comp=Z,9µm,21.0s
YLE Yale 128.89 37 PFAKE 11 29 40.0 +8.4
YLE LR LR
comp=Z,10µm,22.0s
DWPF Disney Wildern 128.94 56 PFAKE 11 29 40.0 +8.0
DWPF LR LR
comp=Z,3µm,19.0s
HRV Adam Dziewonsk 128.98 35 PFAKE 11 29 40.0 +8.3
HRV LR LR
comp=Z,5µm,20.0s
JTS JuntasAbangare 129.29 80 PFAKE 11 29 40.0 +6.9
JTS LR LR
comp=Z,4µm,21.0s
059A Moore Haven 129.56 58 PFAKE 11 29 40.0 +6.7
059A LR LR
comp=Z,3µm,20.0s
ESPN Las Esperanzas 129.78 77 PFAKE 11 29 40.0 +6.0
ESPN LR LR
comp=Z,3µm,20.0s
PEL Peldehue 129.78 140 PFAKE 11 29 40.0 +6.3
PEL LR LR
comp=Z,2µm,22.0s
MAHO Mahon 129.82 321 *i* PP PP 11 31 56.3 +12
MAHO *i* SS SS 11 49 30.9 +24
061Z Ochoppi 130.11 59 PFAKE 11 29 40.0 +5.7
061Z LR LR
comp=Z,3µm,20.0s
HDC Heredia 130.13 80 PFAKE 11 29 50.0 +15
HDC LR LR
comp=Z,3µm,20.0s
LMN Caledonia Moun 130.19 28 PFAKE 11 29 40.0 +6.1
LMN LR LR
comp=Z,8µm,22.0s
060A Indiantown 130.20 57 PFAKE 11 29 40.0 +5.5
060A LR LR
comp=Z,6µm,22.0s
TRQA Tornquist 131.24 151 PFAKE 11 29 50.0 +14
TRQA LR LR
comp=Z,2µm,22.0s
GO04 Tololo Observa 131.55 136 PFAKE 11 29 50.0 +13
GO04 LR LR
comp=Z,2µm,20.0s
HAL Halifax 131.66 28 PFAKE 11 29 50.0 +13
HAL LR LR
comp=Z,7µm,20.0s
LCO Las Campanas 132.32 135 PFAKE 11 29 50.0 +11
LCO LR LR
comp=Z,2µm,18.0s
GO03 Copiap 133.49 134 PFAKE 11 29 50.0 +9.2
GO03 LR LR
comp=Z,2µm,18.0s
BCIP Isla Barro Col 134.40 81 PFAKE 11 29 50.0 +7.3
BCIP LR LR
comp=Z,3µm,22.0s
CART Cartagena 134.49 322 *e*PP PP 11 32 23.9 +10
ESLA Sonseca Array 134.80 327 PFAKE 11 29 50.0 +7.1
ESLA LR LR
comp=Z,3µm,21.0s
NNA Nana 134.93 111 PFAKE 11 29 50.0 +6.2
NNA LR LR
comp=Z,2µm,20.0s
PAB San Pablo 135.10 327 PFAKE 11 29 50.0 +6.5
PAB LR LR
comp=Z,3µm,20.0s
MTDJ Mount Denham 135.24 68 PFAKE 11 29 50.0 +5.7
MTDJ LR LR
comp=Z,2µm,21.0s
PB10 IPOC Station P 135.54 129 PFAKE 11 30 00.0 +15
PB10 LR LR
comp=Z,2µm,22.0s
OTAV Otavalo 135.72 93 PFAKE 11 30 00.0 +14
OTAV LR LR
comp=Z,2µm,18.0s
MTE Manteigas 136.14 330 PFAKE 11 30 00.0 +15
MTE LR LR
comp=Z,6µm,20.0s
PB04 IPOC Station P 136.48 128 PFAKE 11 30 00.0 +13
PB04 LR LR
comp=Z,2µm,22.0s
GTBY Guantanamo Bay 137.00 64 PFAKE 11 30 00.0 +13
GTBY LR LR
comp=Z,3µm,19.0s
LVC Limon Verde 137.30 129 PFAKE 11 30 00.0 +12
LVC LR LR
comp=Z,3µm,22.0s
PESTR Estremoz 137.32 329 PFAKE 11 30 00.0 +12
PESTR LR LR
comp=Z,2µm,21.0s
PB01 IPOC Station P 137.68 127 *e*PKPdf **PKPdf** **11 29 47.8 -1.0**
PB01 LR LR
comp=Z,2µm,20.0s
EVO Evora 137.79 329 *i* PP PP 11 32 45.2 +11
PB11 IPOC Station P 138.19 125 PFAKE 11 30 00.0 +10
PB11 LR LR
comp=Z,1µm,20.0s
LIS Lisbon 138.22 330 *e*PP PP 11 32 42.0 +4.7
LIS AMS AMS 12 33 41.5
comp=E,5µm,21.4s
SFS San Fernando 138.32 325 PFAKE 11 30 00.0 +11
SFS LR LR
comp=Z,3µm,21.0s
MESJ Messejana 138.42 328 *e*PP PP 11 32 43.2 +4.6
MESJ AMS AMS 12 34 47.5
comp=Z,3µm,19.5s
MNMC Minye Minye 138.55 124 PFAKE 11 30 00.0 +9.3
MNMC LR LR
comp=Z,1µm,21.0s
GO01 Chusmiza 138.61 125 *e*PKPdf **PKPdf** **11 29 49.5 -1.5**
GO01 LR LR
comp=Z,1µm,20.0s
MORF Marmelete 139.04 328 *e*PP PP 11 32 47.1 +4.5
MORF AMS AMS 12 35 39.9
comp=Z,3µm,22.2s
PFVI Vila Bisbo 139.26 328 PFAKE 11 30 00.0 +8.8
PFVI LR LR
comp=Z,4µm,21.0s
GRTK Grand Turk 140.01 60 PFAKE 11 30 00.0 +7.1
GRTK LR LR
comp=Z,3µm,20.0s
ROSC El Rosal 140.03 87 PFAKE 11 30 00.0 +6.3
ROSC LR LR
comp=Z,1µm,20.0s
RTC Rabat Centre 140.43 323 PFAKE 11 30 00.0 +6.7
RTC LR LR
comp=Z,5µm,21.0s
SDDR Presa de Saban 140.73 64 PFAKE 11 30 00.0 +5.6
SDDR LR LR
comp=Z,3µm,22.0s
LPAZ La Paz 141.12 121 PKP **PKPdf** **11 29 54.8 -1.1**
comp=Z,2.0nm,0.9s,baz=140,slow=5.5,SNR=5.4
LPAZ La Paz 141.12 121 *e*PKPdf **PKPdf** **11 29 53.6 -2.3**
LPAZ La Paz 141.12 121 *e*PKIKP **PKPdf** **11 29 53.6 -2.3**
SDD Santo Domingo 142.13 64 PFAKE 11 30 10.0 +13
SDD LR LR
comp=Z,2µm,19.0s
CPUP Villa Florida 142.81 144 PKP **PKPdf** **11 29 57.2 -0.6**
comp=Z,6.4nm,0.9s,baz=232,slow=1.0,SNR=6.0
CPUP Villa Florida 142.81 144 *e*PKPdf **PKPdf** **11 29 56.4 -1.4**
CPUP Villa Florida 142.81 144 *e*PKIKP **PKPdf** **11 29 56.4 -1.4**
TOC2 Torodi Ar. Sit 143.21 287 PFAKE 11 30 10.0 +11
TOC2 LR LR
comp=Z,1µm,21.0s
TOC3 Torodi Ar. Sit 143.21 287 PFAKE 11 30 10.0 +11
TOC3 LR LR
comp=Z,1µm,21.0s
TOB2 Torodi Ar. Sit 143.22 287 PFAKE 11 30 10.0 +11
TOB2 LR LR
comp=Z,1µm,21.0s
TOC1 Torodi Ar. Sit 143.22 287 PFAKE 11 30 10.0 +11
TOC1 LR LR
comp=Z,2µm,21.0s
TOB3 Torodi Ar. Sit 143.22 287 PFAKE 11 30 10.0 +11
TOB3 LR LR
comp=Z,1µm,21.0s
TOA0 Torodi Ar. Sit 143.23 287 *e*PKPdf PKPbc 11 29 56.0 +0.2
TOA0 LR LR
comp=Z,1µm,22.0s
TOA0 Torodi Ar. Sit 143.23 287 PKPdf **PKPdf** **11 30 01.2 +2.3**
TORD Torodi Ar. Bea 143.23 287 PKP PKPbc 11 29 56.5 +0.6
comp=Z,7.1nm,1.1s,baz=97,slow=4.7,SNR=9.5
TOC4 Torodi Ar. Sit 143.23 287 PFAKE 11 30 10.0 +11
TOC4 LR LR
comp=Z,1µm,20.0s
TOA1 Torodi Ar. Sit 143.23 287 *e*PKPdf PKPbc 11 29 56.5 +0.6
TOA1 LR LR
comp=Z,1µm,22.0s
TOB4 Torodi Ar. Sit 143.24 287 PFAKE 11 30 10.0 +11
TOB4 LR LR
comp=Z,1µm,22.0s
TOB5 Torodi Ar. Sit 143.24 287 PFAKE 11 30 10.0 +11
TOB5 LR LR
comp=Z,1µm,22.0s
TOC7 Torodi Ar. Sit 143.24 287 PFAKE 11 30 10.0 +11
TOC7 LR LR
comp=Z,1µm,22.0s
SDV Santo Domingo 143.48 80 *e*PKPdf PKPbc 11 29 57.3 +0.5
SDV LR LR
comp=Z,4µm,22.0s
MPR Mayaguez 144.69 63 PFAKE 11 30 10.0 +8.7
MPR LR LR
comp=Z,2µm,19.0s

CRPR	**Cabo Rojo, PR**	**144.79**	**64**	*e*PKPdf	**PKPab**	**11 29 59.2**	**-1.1**
CRPR				LR	LR		
	comp=Z,2μm,19.0s						
OBIP	**Obispado Ponce**	**145.23**	**63**	*e*PKPbc	**PKPdf**	**11 30 04.0**	**+1.8**
ICMP	**Isla Caja de M**	**145.35**	**63**	PFAKE		11 30 10.0	+7.6
ICMP				LR	LR		
	comp=Z,2μm,20.0s						
SJG	**San Juan**	**145.61**	**63**	PFAKE		11 30 10.0	+6.6
SJG				LR	LR		
	comp=Z,2μm,21.0s						
SHEL	**Horse Pasture**	**145.75**	**235**	PFAKE		11 30 10.0	+6.0
SHEL				LR	LR		
	comp=Z,3μm,20.0s						
CBYP	**Canovanas**	**145.81**	**62**	PFAKE		11 30 10.0	+5.8
CBYP				LR	LR		
	comp=Z,2μm,21.0s						
HUMP	**Col San Antoni**	**145.86**	**63**	*e*PKPdf	**PKPdf**	**11 30 02.0**	**-1.3**
HUMP				LR	LR		
	comp=Z,2μm,20.0s						
STVI	**Saint Thomas**	**146.57**	**62**	PFAKE		11 30 10.0	+2.9
STVI				LR	LR		
	comp=Z,2μm,21.0s						
ABVI	**Anegada Island**	**146.97**	**61**	PFAKE		11 30 20.0	+11
ABVI				LR	LR		
	comp=Z,2μm,21.0s						
KOWA	**Kowa**	**148.28**	**292**	PFAKE		11 30 20.0	+6.1
KOWA				LR	LR		
	comp=Z,2μm,21.0s						
SMRT	**St. Maarten**	**148.34**	**61**	*e*PKPdf	**PKPdf**	**11 30 08.4**	**+0.9**
SMRT				LR	LR		
	comp=Z,2μm,22.0s						
SABA	**Saba**	**148.36**	**62**	PFAKE		11 30 20.0	+5.8
SABA				LR	LR		
	comp=Z,3μm,19.0s						
SEUS	**St. Eustatius**	**148.64**	**62**	PFAKE		11 30 20.0	+4.8
SEUS				LR	LR		
	comp=Z,2μm,21.0s						
ANWB	**Willy Bob**	**149.61**	**61**	PFAKE		11 30 20.0	+0.8
ANWB				LR	LR		
	comp=Z,3μm,20.0s						
KIC	**Kosan Boka**	**150.47**	**277**	*e*PKP1	**PKPbc**	**11 30 16.6**	**+0.2**
	comp=Z,298nm,1.3s						
DBIC	**Dimbokro**	**150.56**	**277**	PKPbc	**PKPbc**	**11 30 15.1**	**-1.5**
	comp=Z,13nm,0.8s,baz=67,slow=3.2,SNR=4.9						
DBIC	**Dimbokro**	**150.56**	**277**	*e*PKPdf	**PKPdf**	**11 30 09.4**	**-1.7**
DBIC				*ep*PKPdf	**PKPbc**	**11 30 12.9**	**-3.7**
DBIC				PKPbc	**PKPbc**	**11 30 15.1**	**-1.5**
DBIC	**Dimbokro**	**150.56**	**277**	*e*PKIKP	**PKPdf**	**11 30 09.4**	**-1.7**
DBIC				*e*		11 30 12.9	
DBIC						11 30 15.1	
TIC	**Toumodi**	**150.72**	**277**	*e*PKP1	**PKPbc**	**11 30 15.7**	**-1.3**
LIC	**Lamto**	**150.76**	**276**	*e*PKP1	**PKPbc**	**11 30 17.1**	**0.0**
	comp=Z,224nm,1.0s						
FDF	**Fort de France**	**151.28**	**66**	PFAKE		11 30 20.0	+1.8
FDF				LR	LR		
	comp=Z,2μm,22.0s						
GRGR	**Grenville**	**151.59**	**71**	PFAKE		11 30 20.0	+1.0
GRGR				LR	LR		
	comp=Z,2μm,20.0s						
SVB	**Belmont**	**151.65**	**69**	PFAKE		11 30 20.0	+0.9
SVB				LR	LR		
	comp=Z,2μm,21.0s						
PTGA	**Pitinga**	**153.95**	**99**	*e*PKPdf	**PKPdf**	**11 30 14.2**	**-2.0**
PTGA				LR	LR		
	comp=Z,2μm,20.0s						
ASCN	**Ascension**	**157.08**	**240**	PFAKE		11 30 30.0	+10
ASCN				LR	LR		
	comp=Z,18μm,20.0s						

NIED ***29*** *11:12:00.37˚.70N×143˚.90E,h5km,Mw4.2 Best double couple: M₀2.17000×10¹⁵ NP1:φ₁49.00000°,δ44.00000°, λ-30.00000°. NP2:φ₂161.00000°,δ70.00000°, λ-130.00000°.*

IDC ***29*** *11:12:46.9±0.8,37˚.53N×144˚.16E,h0km,mb4.2/10, mb1 4.3/17,mb1mx4.1/45,mbtmp4.2/17,ML3.4/6,MS5.1/1, Ms1 5.1/1,ms1mx3.2/48,Error ellipse: s-maj=21.3km s-min=16.2km az=99.0*

NEIC ***29*** *11:12:49.3±0.3,37˚.61N×144˚.05E,h10km,mb4.6/21,Error ellipse: s-maj=8.7km s-min=3.8km az=148.0*

MOS ***29*** *11:12:50.7±1.1,37˚.94N×143˚.97E,h25km,mb4.6/23,Error ellipse: s-maj=8.7km s-min=5.7km az=104.7*

JMA ***29*** *11:12:51.5±0.2,37˚.72N×143˚.87E,h55km,M4.5*

ISCJB ***29*** *11:12:51.0±0.3,37˚.73N±0˚.03×143˚.91E±0˚.03,h33km, mb4.3/44,Error ellipse: s-maj=4.2km s-min=2.9km az=159.4*

BJI ***29*** *11:12:52.3,37˚.80N×143˚.90E,h26km,mb4.5/24,mB5.0/10, Ms4.7/3,Ms7 4.5/3*

ISC 29 11:12:52.1±0.6,37˚.69N±0˚.05×144˚.07E±0˚.06,h35km,n131, σ2s12/154,mb4.5/44,5C-2D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**2.15**	**287**	P	**Pn**	**11 13 23.8**	**-1.6**
JIKH				S	**Sn**	**11 13 47.4**	**-3.4**
JIO	**Ouri**	**2.28**	**290**	P	**Pn**	**11 13 25.6**	**-1.6**
JIO				*e*S	**Sn**	**11 13 50.9**	**-3.1**
JKMT	**Kesennumamotoy**	**2.33**	**299**	P	**Pn**	**11 13 26.3**	**-1.6**
JKMT				*e*S	**Sn**	**11 13 52.0**	**-3.3**
OFUJ	**Ofunato**	**2.34**	**307**	P	**Pn**	**11 13 26.6**	**-1.5**
OFUJ				*e*S	**Sn**	**11 13 52.2**	**-3.4**
JMK	**Ichinoseki**	**2.57**	**300**	P	**Pn**	**11 13 30.0**	**-1.2**
JMK				*e*S	**Sn**	**11 13 58.6**	**-2.6**
JOM	**Ohasama**	**2.81**	**310**	P	**Pn**	**11 13 33.7**	**-0.8**
JOM				*e*S	**Sn**	**11 14 04.8**	**-2.4**
JFT	**Otama**	**2.97**	**268**	P	**Pn**	**11 13 35.8**	**-0.9**
JFT				*e*S	**Sn**	**11 14 09.1**	**-2.1**
JYK	**Kaneyama**	**3.17**	**294**	P	**Pn**	**11 13 38.9**	**-0.5**
JYK				S	**Sn**	**11 14 14.0**	**-1.9**
JANG	**Nango**	**3.33**	**324**	P	**Pn**	**11 13 40.3**	**-1.4**
JANG				*e*S	**Sn**	**11 14 16.3**	**-3.8**
BSO1	**Boso 1**	**3.93**	**220**	P	**Pn**	**11 13 47.6**	**-1.9**
BSO1				*e*S	**Sn**	**11 14 31.3**	**-2.8**
JOT	**Ohata**	**4.36**	**329**	*e*S	**Sn**	**11 14 41.1**	**-4.3**
ERM	**Erimo**	**4.37**	**351**	*e*Pn	**Pn**	**11 13 55.1**	**-0.9**
ERM				*e*Sn	**Sn**	**11 14 41.9**	**-3.8**
ERM	**Erimo**	**4.37**	**351**	*c i*P	**Pn**	**11 13 55.2**	**-0.8**
JRY	**Ryogami san**	**4.47**	**250**	P	**Pn**	**11 13 55.7**	**-1.7**
JRY				*e*S	**Sn**	**11 14 42.7**	**-5.5**
JOD2	**Odawara 2**	**4.69**	**240**	P	**Pn**	**11 13 58.4**	**-2.0**
JOD2				*e*S	**Sn**	**11 14 47.5**	**-6.1**
JKB	**Kayabe**	**4.80**	**332**	S	**Sn**	**11 14 52.0**	**-4.1**
MJAR	**Matsushiro Arr**	**4.82**	**258**	Pn	**Pn**	**11 14 02.0**	**-0.2**
	7.8nm,0.3s,baz=91,slow=15,SNR=76						
MJAR				Sn	**Sn**	**11 14 55.5**	**-1.4**
	1.7nm,0.3s,baz=87,slow=26,SNR=3.1						
MJAR				LR	LR	11 16 01.6	
	comp=Z,335nm,21.2s,baz=85,slow=40						
MAJO	**Matsushiro**	**4.83**	**258**	*e*Pn	**Pn**	**11 14 02.3**	**+0.1**
MAJO				*e*Sn	**Sn**	**11 14 55.5**	**-1.5**
MAJO				*e*		11 14 57.0	
MAJO	**Matsushiro**	**4.83**	**258**	*c i*P	**Pn**	**11 14 01.9**	**-0.3**
MAT	**Matsushiro**	**4.83**	**258**	P	**Pn**	**11 14 02.6**	**+0.4**
MAT				S	**Sn**	**11 14 55.3**	**-1.6**
MJB9	**Matsu-Tunnel**	**4.83**	**258**	*e*Pn	**Pn**	**11 14 02.5**	**+0.2**
MJB9				*e*Sn	**Sn**	**11 14 55.3**	**-1.7**
JCH	**Churui**	**4.95**	**354**	P	**Pn**	**11 14 02.5**	**-1.3**
JHJ2	**Mitsune**	**5.74**	**218**	*e*Pn	**Pn**	**11 14 11.6**	**-3.2**
JHJ2	**Mitsune**	**5.74**	**218**	P	**Pn**	**11 14 12.1**	**-2.7**
JHJ	**Hachijo jima 2**	**5.75**	**219**	Pn	**Pn**	**11 14 11.5**	**-3.4**
	20nm,0.3s,baz=250,slow=23,SNR=12						
JHJ				Sn	**Sn**	**11 15 12.2**	**-7.5**
	49nm,0.3s,baz=61,slow=23,SNR=9.5						
NEM2	**Nemuro 2**	**5.81**	**12**	P	**Pn**	**11 14 13.0**	**-2.7**
INU	**Inuyama**	**6.14**	**250**	*e*Pn	**Pn**	**11 14 20.7**	**+0.4**
INU				*e*Sn	**Sn**	**11 15 27.5**	**-1.9**
JTKR	**Abashiri--Toko**	**6.27**	**359**	P	**Pn**	**11 14 20.6**	**-1.5**
JHR	**Hokuryu**	**6.30**	**344**	P	**Pn**	**11 14 22.7**	**+0.2**
JHR				S	**Sn**	**11 15 32.8**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**6.48**	**12**	*d i*P	**Pn**	**11 14 22.4**	**-2.5**
YUK				*i* S	**Sn**	**11 15 31.9**	**-5.6**
YUK				pmax	pmax		
	comp=Z,232nm,0.2s						
YUK				pmax	pmax		
	comp=N,41nm,0.1s						
YUK				pmax	pmax		
	comp=E,19nm,0.1s						
YUK				smax	smax		
	comp=N,191nm,0.3s						
YUK				smax	smax		
	comp=E,313nm,0.6s						
ASAJ	**Asahikawa**	**6.51**	**351**	*e*Pn	**Pn**	**11 14 24.7**	**-0.7**
ASAJ				*e*Sn	**Sn**	**11 15 36.3**	**-2.1**
SHO	**Shikotan**	**6.52**	**18**	*c i*P	**Pn**	**11 14 23.2**	**-2.2**
SHO				*i* S	**Sn**	**11 15 32.3**	**-6.1**
SHO				pmax	pmax		
	comp=Z,90nm,0.5s						
SHO				pmax	pmax		
	comp=N,48nm,0.6s						
SHO				pmax	pmax		
	comp=E,66nm,0.6s						
SHO				smax	smax		
	comp=N,103nm,0.5s						
SHO				smax	smax		
	comp=E,165nm,0.6s						
KUR	**Kuril'sk**	**8.05**	**20**	P	**Pn**	**11 14 43.4**	**-3.1**
KUR				S	**Sn**	**11 16 10.3**	**-5.9**
KUR				smax	smax		
	comp=N,87nm,0.4s						
KUR				smax	smax		
	comp=E,64nm,0.4s						
TEY	**Ternei**	**9.23**	**325**	*e*P	**Pn**	**11 15 03.4**	**+0.7**
TEY				pmax	pmax		
	comp=N,40nm,0.6s						
TEY				pmax	pmax		
	comp=Z,50nm,0.6s						
YSS	**Yuzh-Sakhalins**	**9.31**	**354**	*e*P	**Pn**	**11 15 02.6**	**-1.1**
YSS				*e*S	**Sn**	**11 16 44.8**	**-2.2**
YSS				pmax	pmax		
	comp=Z,60nm,1.3s						
CBIJ	**Chichi jima**	**10.69**	**189**	*e*Pn	Pn	11 15 17.4	-5.3
CBIJ				*e*Sn	Sn	11 17 08.2	-13
JCJ	**Chichijima**	**10.69**	**189**	Pn	Pn	11 15 17.2	-5.5
	comp=Z,4.1nm,0.3s,baz=293,slow=23,SNR=9.7						
JCJ				Sn	Sn	11 17 07.0	-14
	comp=Z,3.9nm,0.3s,baz=191,slow=19,SNR=3.7						
VLA	**Vladivostok**	**10.75**	**304**	*i* P	**Pn**	**11 15 23.6**	**+0.1**
USRK	**Ussuriysk Ar.**	**11.21**	**309**	Pn	**Pn**	**11 15 30.3**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=103,slow=15,SNR=9.2						
JNU	**Nakatsue**	**11.69**	**251**	Pn	**Pn**	**11 15 36.8**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=49,slow=11,SNR=2.8						
KSRS	**Korea Array**	**12.82**	**274**	Pn	**Pn**	**11 15 52.2**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=83,slow=14,SNR=7.8						
KSAR	**Wonju Array Be**	**12.85**	**274**	Pn	**Pn**	**11 15 52.2**	**0.0**
KSAR	**Wonju Array Be**	**12.85**	**274**	P	**Pn**	**11 15 52.2**	**0.0**
KLR	**Kul'dur**	**14.57**	**326**	Pn	**Pn**	**11 16 14.7**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=128,slow=12,SNR=5.5						
CN2	**Changchun**	**15.36**	**299**	*e*P	**Pn**	**11 16 23.0**	**-3.2**
PET	**Petropavlovsk**	**18.38**	**29**	*i* P	**P**	**11 17 03.0**	**-0.7**
PET				pmax	pmax		
	comp=Z,23nm,1.4s						
ZEA	**Zeya**	**19.80**	**330**	*e*P	**P**	**11 17 19.2**	**-0.1**
ZEA				pmax	pmax		
	comp=Z,35nm,1.0s						
HIA	**Hailar**	**21.01**	**311**	*i* P	**P**	**11 17 31.7**	**-0.8**
HIA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
NJ2	**Nanjing**	**21.41**	**262**	*e*P	**P**	**11 17 37.8**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,18nm,0.6s						
HHC	**Hu-ho-hao-te**	**25.28**	**287**	*e*P	**P**	**11 18 14.3**	**-0.9**
HHC				pP	pP	11 18 21.3	-3.9
HHC				sP	sP	11 18 24.5	-5.0
HHC				S	**S**	**11 22 35.5**	**-3.3**
HHC				sS	sS	11 22 46.5	-8.8
HHC				pmax	pmax		
	comp=Z,18nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,5.7s						
HHC				LR	LR		
	comp=Z,2μm,17.3s						
HHC				LR	LR		
	comp=Z,2μm,14.7s						
SEY	**Seymchan**	**25.78**	**9**	*i* P	**P**	**11 18 18.6**	**-0.7**
YAK	**Yakutsk**	**25.95**	**344**	*e*P	**P**	**11 18 18.2**	**-2.6**
YAK				pmax	pmax		
	comp=Z,13nm,0.9s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.3s						
BOD	**Bodaibo**	**28.15**	**325**	*e*P	**P**	**11 18 40.7**	**0.0**
BOD				pmax	pmax		
	comp=Z,11nm,1.8s						
XAN	**Xi'an**	**28.61**	**273**	P	P	11 18 50.3	+5.1
XAN				pP	sP	11 19 00.5	+1.0
XAN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ULN	**Ulaanbaatar**	**28.76**	**303**	*i* P	**P**	**11 18 45.6**	**-0.9**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONA1	**Songino Array**	**29.19**	**302**	*e*P	**P**	**11 18 51.2**	**+0.9**
SONA0	**Songino Array**	**29.20**	**302**	*e*P	**P**	**11 18 51.3**	**+1.0**
SONM	**Songino Array**	**29.20**	**302**	P	**P**	**11 18 51.3**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=98,slow=6.0,SNR=6.5						
ZAK	**Zakamensk**	**31.54**	**307**	*e*P	**P**	**11 19 12.2**	**+1.2**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BILL	**Bilibino**	**32.82**	**15**	*e*P	**P**	**11 19 21.8**	**0.0**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA	**Gaotai**	**34.40**	**287**	*e*P	P	11 19 41.0	+4.9
GTA				pP	sP	11 19 50.5	+0.1
GTA				sP	pP	11 19 54.8	+8.6
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,79nm,4.9s						
GTA				LR	LR		
	comp=Z,760nm,19.0s						
GTA				LR	LR		
	comp=Z,880nm,20.3s						
KNGR	**Kungurtug, Tuv**	**35.23**	**307**	*i* P	**P**	**11 19 43.0**	**-0.1**
DGZ	**Jazzator, Alta**	**41.73**	**305**	*i* P	**P**	**11 20 37.2**	**-0.5**
DGZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WMQ	**Urumqi**	**42.43**	**297**	*e*P	**P**	**11 20 46.0**	**+2.6**
ZAA0	**Zalesovo Array**	**43.04**	**312**	*e*P	**P**	**11 20 49.3**	**+1.1**
	comp=Z,3.4nm,0.8s						
ZAA1	**Zalesovo Array**	**43.04**	**312**	*e*P	**P**	**11 20 49.2**	**+1.1**
ZALV	**Zalesovo Beam**	**43.04**	**312**	P	**P**	**11 20 49.2**	**+1.1**
	comp=Z,1.5nm,0.6s,baz=87,slow=7.6,SNR=8.8						
ZALV	**Zalesovo Beam**	**43.04**	**312**	*e*P	**P**	**11 20 49.0**	**+0.9**
SVW2	**Sparrevohn**	**43.71**	**38**	*e*P	**P**	**11 20 56.5**	**+3.1**
IM3	**Indian Mountai**	**45.00**	**31**	*e*P	**P**	**11 21 05.7**	**+2.0**
PPLA	**Purkeypile**	**45.41**	**35**	*e*P	**P**	**11 21 09.1**	**+1.9**
	comp=Z,4.8nm,1.0s						
CAST	**Castle Rocks**	**45.49**	**34**	*e*P	**P**	**11 21 09.7**	**+2.1**
	comp=Z,4.4nm,0.8s						
MK01	**Makanchi Array**	**45.56**	**302**	*e*P	**P**	**11 21 09.6**	**+1.1**
MK31	**Makanchi Array**	**45.56**	**302**	*e*P	**P**	**11 21 09.4**	**+0.9**
MK31	**Makanchi Array**	**45.56**	**302**	*e*P	**P**	**11 21 09.4**	**+0.9**
MK32	**Makanchi Array**	**45.56**	**302**	*e*P	**P**	**11 21 09.8**	**+1.3**
MKAR	**Makanchi Array**	**45.56**	**302**	P	**P**	**11 21 09.8**	**+1.3**
	comp=Z,3.4nm,0.7s,baz=85,slow=9.8,SNR=34						
MKAR	**Makanchi Array**	**45.56**	**302**	*e*P	**P**	**11 21 09.5**	**+1.0**
	comp=Z,28nm,0.8s						
MKAR	**Makanchi Array**	**45.56**	**302**	*i* P	**P**	**11 21 09.8**	**+1.3**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MLY	**Manley**	**46.16**	**32**	*e*P	**P**	**11 21 15.3**	**+2.4**
	comp=Z,8.8nm,1.1s						
RC01	**Rabbit Creek A**	**46.55**	**38**	*e*P	**P**	**11 21 18.1**	**+2.1**
	comp=Z,4.5nm,1.0s						
PMR	**Palmer**	**46.83**	**37**	*e*P	**P**	**11 21 20.4**	**+2.3**
	comp=Z,10nm,1.0s						
PMR	**Palmer**	**46.83**	**37**	*ep*P	**P**	**11 21 20.4**	**+2.3**
PMR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TOLK	**Toolik Lake Re**	**46.91**	**27**	*e*P	**P**	**11 21 20.7**	**+1.9**
	comp=Z,7.1nm,1.1s						
RND	**Reindeer**	**46.94**	**35**	*e*P	**P**	**11 21 20.9**	**+1.8**
	comp=Z,5.9nm,0.9s						
RND	**Reindeer**	**46.94**	**35**	*e*P	**P**	**11 21 20.9**	**+1.8**
RND				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KURK	**Kurchatov**	**47.19**	**308**	*e*P	**P**	**11 21 21.6**	**+0.4**
	comp=Z,8.7nm,0.9s						
KURK	**Kurchatov**	**47.19**	**308**	*i* P	**P**	**11 21 21.3**	**+0.2**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SML	**Sawmill**	**47.20**	**37**	*e*P	**P**	**11 21 22.8**	**+1.7**
	comp=Z,8.4nm,0.8s						
SML	**Sawmill**	**47.20**	**37**	*e*P	**P**	**11 21 22.8**	**+1.7**
SML				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MDM	**Murphy Dome**	**47.23**	**32**	*e*P	**P**	**11 21 22.7**	**+1.5**
	comp=Z,13nm,1.0s						
WRH	**Wood River Hil**	**47.28**	**33**	*e*P	**P**	**11 21 22.9**	**+1.2**
	comp=Z,6.6nm,1.0s						
CCB	**Clear Creek Bu**	**47.41**	**33**	*e*P	**P**	**11 21 24.6**	**+2.0**
	comp=Z,0.5nm,0.8s						
SCM	**Sheep Creek Mo**	**47.68**	**37**	*e*P	**P**	**11 21 25.4**	**+0.5**
	comp=Z,8.3nm,0.9s						
SCM	**Sheep Creek Mo**	**47.68**	**37**	*e*P	**P**	**11 21 25.4**	**+0.5**
SCM				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HDA	**Harding Lake**	**47.78**	**33**	*e*P	**P**	**11 21 27.1**	**+1.6**
	comp=Z,6.2nm,0.8s						
IL1	**Eielson Array**	**47.80**	**33**	*e*P	**P**	**11 21 27.0**	**+1.3**
ILAR	**Eielson Array**	**47.80**	**33**	P	**P**	**11 21 26.4**	**+0.7**
	comp=Z,4.1nm,0.8s,baz=266,slow=6.4,SNR=39						
ILB	**Eielson Array**	**47.80**	**33**	*e*P	**P**	**11 21 27.0**	**+1.3**
SCRK	**Sand Creek**	**49.09**	**34**	*e*P	**P**	**11 21 37.5**	**+1.7**
	comp=Z,5.7nm,1.0s						
BRVK	**Borovoye**	**51.75**	**312**	*e*P	**P**	**11 21 56.9**	**+1.1**
	comp=Z,4.1nm,0.9s						
BRVK	**Borovoye**	**51.75**	**312**	*e*P	**P**	**11 21 56.5**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AAK	**Ala-Archa**	**52.03**	**299**	*i* P	**P**	**11 21 57.0**	**-1.4**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
INK	**Inuvik**	**52.83**	**28**	*e*P	**P**	**11 22 05.2**	**+1.6**
	comp=Z,2.0nm,0.8s						
INK	**Inuvik**	**52.83**	**28**	*e*P	**P**	**11 22 05.2**	**+1.6**
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MNAS	**Manas**	**53.47**	**299**	P	**P**	**11 22 11.0**	**+2.1**
MNAS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PSI	**Prapat**	**53.96**	**241**	LR	LR	11 46 39.9	
	comp=Z,2μm,18.1s,baz=90,slow=38						
KKAR	**Karatay Array**	**54.62**	**301**	*e*P	**P**	**11 22 18.0**	**+0.8**
KKAR	**Karatay Array**	**54.62**	**301**	*e*P	**P**	**11 22 18.0**	**+0.8**
SVE	**Sverdlovsk**	**56.05**	**319**	*e*P	**P**	**11 22 29.2**	**+2.0**
SVE				pmax	pmax		
	comp=Z,13nm,1.0s						
ARU	**Arti**	**57.26**	**319**	*e*P	**P**	**11 22 36.7**	**+0.9**
	comp=Z,6.9nm,0.8s						
ARU	**Arti**	**57.26**	**319**	*d i*P	**P**	**11 22 35.6**	**-0.2**
ARU						11 24 43.2	
ARU				S	**S**	**11 30 31.0**	**+1.8**
ARU				SS	**SS**	**11 34 16.6**	**-1.4**
ARU				pmax	pmax		
	comp=Z,24nm,2.5s						
WR1	**Warramunga Arr**	**58.05**	**191**	*e*P	**P**	**11 22 40.6**	**-1.1**
WRA	**Warramunga Arr**	**58.05**	**191**	P	**P**	**11 22 40.6**	**-1.1**
	comp=Z,3.2nm,0.8s,baz=8.0,slow=6.9,SNR=16						
ABKAR	**Akbulak array**	**59.13**	**311**	*e*P	**P**	**11 22 50.1**	**+1.2**
AS31	**Alice Springs**	**61.78**	**191**	*e*P	**P**	**11 23 07.9**	**+0.7**
	comp=Z,0.7nm,0.8s						
ASAR	**Alice Springs**	**61.78**	**191**	P	**P**	**11 23 07.1**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=2.4,slow=6.9,SNR=5.2						
YKA	**Yellowknife Ar**	**62.16**	**31**	P	**P**	**11 23 10.6**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=303,slow=6.6,SNR=4.6						
YKB5	**Yellowknife Ar**	**62.16**	**31**	*e*P	**P**	**11 23 10.8**	**+1.4**
ARCES	**ARCESS Array B**	**64.12**	**340**	*e*P	**P**	**11 23 24.8**	**+2.5**
ARCES	**ARCESS Array B**	**64.12**	**340**	*e*P	**P**	**11 23 24.8**	**+2.5**
FIA0	**FINESS Array S**	**69.20**	**333**	*e*P	**P**	**11 23 56.0**	**+1.3**
FIA0	**FINESS Array S**	**69.20**	**333**	*e*P	**P**	**11 23 56.1**	**+1.3**
FINES	**FINESS Array B**	**69.20**	**333**	P	**P**	**11 23 56.0**	**+1.3**
	comp=Z,4.5nm,0.8s,baz=22,slow=11,SNR=5.4						
NB2	**NORSAR Subarra**	**74.38**	**338**	P	**P**	**11 24 26.9**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=39,slow=6.2						
NB200	**NORSAR Array S**	**74.38**	**338**	*e*P	**P**	**11 24 27.4**	**+1.4**
NOA	**NORSAR Array B**	**74.38**	**338**	P	**P**	**11 24 27.4**	**+1.4**
	comp=Z,1.6nm,0.7s,baz=38,slow=5.9,SNR=6.4						
AKASG	**Malin Array Be**	**75.05**	**323**	P	**P**	**11 24 30.8**	**+0.8**
	comp=Z,1.9nm,0.6s,baz=44,slow=5.9,SNR=9.2						
DUG	**Dugway, Tooele**	**75.31**	**50**	P	**P**	**11 24 30.6**	**-1.3**
TIRR	**Tirgusor**	**79.69**	**319**	P	**P**	**11 24 57.6**	**+1.6**
TIRR				pmax	pmax		
	comp=Z,12nm,1.9s						
VRAC	**Vranov**	**81.70**	**328**	P	**P**	**11 25 08.8**	**+2.1**
VRAC				pmax	pmax		
	comp=Z,6.0nm,2.9s						

ISCJB ***29*** *11:28:39.9±0.4,37˚.18N±0˚.01×26˚.78E±0˚.02,h5km±2km, mb4.0/17,Error ellipse: s-maj=2.3km s-min=2.1km az=29.4*

IDC ***29*** *11:28:39.9±0.7,37˚.21N×26˚.83E,h0km,mb4.1/10, mb1 4.1/16,mb1mx3.9/50,mbtmp4.0/16,ML3.9/6,MS3.3/1, Ms1 3.3/1,ms1mx2.7/39,Error ellipse: s-maj=17.3km s-min=11.5km az=143.0*

ISK ***29*** *11:28:39.1,37˚.15N×26˚.76E,h8km,ML4.3/17*

ATH ***29*** *11:28:40.1,37˚.20N×26˚.86E,h30km±1km,ML4.4/6,Error ellipse: s-maj=1.6km s-min=1.1km az=84.0,ML Amplitudes are expressed in micrometres All distances are expressed in km*

THE ***29*** *11:28:40.4,37˚.19N×26˚.83E,h0km±1km,ML4.1/13,Error ellipse: s-maj=1.1km s-min=0.6km az=49.0*

DDA ***29*** *11:28:41.0,37˚.21N×26˚.84E,h17km,Ml3.9*

NEIC ***29*** *11:28:40.4±0.0,37˚.19N×26˚.83E,h0km,mb4.1/4, ML4.1(THE),ML4.3(ISK),ML4.4(ATH),After THE.*

MOS ***29*** *11:28:41.1±1.2,37˚.19N×26˚.79E,h16km,mb4.3/10,Error ellipse: s-

AYDN	Tasoluk	1.03	57	*i* P		Pg	11 28 58.3	-1.5
AYDN				*i* S		Sb	11 29 13.9	-0.8
ANAF	Anafi Island	1.10	228	P		Pn	11 29 02.9	+0.4
ANAF				S		Sn	11 29 19.7	+1.5
ANAF				AML	AML		11 29 21.9	
	comp=E,91328µm,0.4s							
ANAF				AML	AML		11 29 23.1	
	comp=N,81616µm,0.5s							
MRSB	Marmaris-Mugla	1.20	108	PN		Pg	11 29 03.6	+0.7
URLA	Izmir	1.26	353	PN		Pn	11 29 02.6	-2.1
URLA				SN		Sb	11 29 20.0	-1.3
URLA	Izmir	1.26	353	*i* S		Sn	11 29 21.1	-1.2
THR2	Thira island,	1.27	239	*e*Pg		Pg	11 29 04.7	+0.5
THR2	Thira island,	1.27	239	P		Pg	11 29 04.7	+0.5
CMBO	Columbo, Santo	1.27	241	P		Pg	11 29 05.1	+0.6
CMBO				S		Sn	11 29 24.2	+1.7
CMBO				AML	AML		11 29 28.2	
	comp=N,41220µm,0.5s							
CMBO				AML	AML		11 29 33.1	
	comp=E,43913µm,0.6s							
CMBO	Columbo, Santo	1.27	241	P		Pg	11 29 05.0	+0.6
CMBO				S		Sn	11 29 25.5	+3.0
SANT	Santorini	1.29	236	PN		Pg	11 29 04.4	-0.3
SANT	Santorini	1.29	236	*e*Pg		Pg	11 29 04.9	+0.2
SANT				*e*Sn		Sg	11 29 26.1	+4.7
THT1	Athinios (Pele	1.30	237	P		Pg	11 29 05.1	+0.1
THT1				S		Sg	11 29 26.3	+4.5
THR3	Thira Island,	1.31	238	*e*Pg		Pg	11 29 05.4	+0.3
THR3	Thira Island,	1.31	238	P		Pg	11 29 05.4	+0.3
TNSA	Tinos	1.36	289	P		Pg	11 29 06.3	+0.2
ARG	Arkhangelos	1.40	129	PN		Pb	11 29 05.9	-0.8
ARG	Arkhangelos	1.40	129	*e*Pn		Pb	11 29 05.6	-1.1
ARG				*e*Sn		Sg	11 29 26.9	+2.1
ARG	Arkhangelos	1.40	129	P		Pb	11 29 05.7	-1.0
ARG				S		Sg	11 29 24.6	-0.2
ARG				AML	AML		11 29 32.6	
	comp=N,6566µm,1.1s							
ARG				AML	AML		11 29 32.8	
	comp=E,5263µm,0.6s							
ARG	Arkhangelos	1.40	129	P		Pb	11 29 05.6	-1.1
ARG				S		Sg	11 29 26.9	+2.1
ARG	Arkhangelos	1.40	129	*e*P		Pb	11 29 05.6	-1.1
ARG				*e*			11 29 26.9	
CHOS	Chios island	1.41	336	PN		Pn	11 29 04.6	-2.1
CHOS	Chios island	1.41	336	P		Pn	11 29 04.7	-2.0
CHOS				S		Sg	11 29 25.5	+0.3
CHOS	Chios island	1.41	336	P		Pn	11 29 04.6	-2.0
CHOS				S		Sn	11 29 22.8	-3.0
CHOS				AML	AML		11 29 30.5	
	comp=N,13498µm,0.6s							
CHOS				AML	AML		11 29 31.5	
	comp=E,21430µm,0.6s							
CHOS	Chios island	1.41	336	P		Pn	11 29 04.7	-2.0
CHOS				S		Sg	11 29 25.5	+0.3
TURN	Turunc	1.47	98	PN		Pn	11 29 02.6	-4.9
TURN	Turunc	1.47	98	*i* P		Pn	11 29 03.0	-4.5
TURN				*i* S		Sn	11 29 21.5	-5.8
KRBN	Karaburun	1.50	353	PN		Pn	11 29 06.1	-1.8
DALY	Dalyan (Mu¨la	1.52	100	PN		Pb	11 29 07.9	-1.0
DALY	Dalyan (Mu¨la	1.52	100	*i* P		Pg	11 29 09.8	+0.6
DALY				*i* S		Sg	11 29 32.8	+3.9
FOCM	Fo¸Şa	1.61	358	PN		Pn	11 29 07.3	-2.1
TAVA	DENIZLI_Tavas	1.73	77	*i* P		Pb	11 29 12.0	-0.6
GOMA	Golmarmara-Man	1.83	29	PN		Pn	11 29 11.5	-1.0
SERI	Serifos	1.84	272	P		Pn	11 29 11.9	-0.7
DNZL	Cakiroluk	1.89	71	*i* P		Pg	11 29 15.9	-0.3
DNZL				*i* S		Sg	11 29 44.4	+3.6
FETY	Fethiye	1.90	104	PN		Pn	11 29 13.1	-0.3
DENT	Denizli	1.90	69	PN		Pn	11 29 13.1	-0.4
DKL	Dikili	1.97	3	PN		Pn	11 29 12.7	-1.6
MANT	Manisa	1.97	45	*e*Pn		Pn	11 29 14.1	-0.5
MANT				*e*Sn		Sb	11 29 41.1	-0.7
STIA	Sitia Lasithi	1.98	197	P		Pb	11 29 15.5	-1.2
STIA				S		Sg	11 29 43.3	-0.2
ZKR	Zakros	2.04	193	*e*Pn		Pb	11 29 16.0	-1.7
ZKR				*e*Sn		Sg	11 29 43.4	-2.0
ZKR	Zakros	2.04	193	P		Pb	11 29 16.3	-1.4
ZKR	Zakros	2.04	193	P		Pb	11 29 16.0	-1.7
ZKR				S		Sg	11 29 43.4	-2.0
KULA	Kula-Manisa	2.05	46	PN		Pn	11 29 14.9	-0.6
NPS	Neapolis	2.07	208	P		Pb	11 29 16.1	-2.1
NPS				S		Sg	11 29 44.5	-1.9
NPS	Neapolis	2.07	208	P		Pb	11 29 16.0	-2.2
NPS	Neapolis	2.07	208	P		Pb	11 29 16.1	-2.1
NPS				S		Sg	11 29 44.5	-1.9
NPS	Neapolis	2.07	208	P		Pb	11 29 16.1	-2.1
NPS				S		Sg	11 29 44.5	-1.9
PRK	Paraskevi	2.18	349	P		Pn	11 29 15.2	-2.0
PRK				S		Sn	11 29 43.8	-0.9
PRK	Paraskevi	2.18	349	P		Pn	11 29 15.2	-2.0
PRK	Paraskevi	2.18	349	P		Pn	11 29 15.2	-2.0
PRK				S		Sn	11 29 43.8	-0.9
PRK	Paraskevi	2.18	349	P		Pn	11 29 15.2	-2.0
PRK				S		Sn	11 29 43.8	-0.9
LAST	Lasithi	2.21	209	P		Pb	11 29 18.7	-2.0
GOLH	Golhisar	2.22	86	*i* P		Pb	11 29 21.1	+0.2
SIGR	SIGRI	2.23	341	PN		Pn	11 29 14.7	-3.2
SIGR	SIGRI	2.23	341	*e*Pn		Pn	11 29 16.3	-1.6
SIGR	SIGRI	2.23	341	P		Pn	11 29 16.3	-1.6
SIGR	SIGRI	2.23	341	P		Pn	11 29 16.3	-1.6
IDI	Anoyia	2.37	221	PN		Pn	11 29 18.8	-1.2
IDI	Anoyia	2.37	221	Pn		Pb	11 29 21.3	-2.2
	comp=E,7.4nm,0.3s,baz=67,slow=11,SNR=18							
IDI				Sn		Sn	11 29 49.3	-0.4
	comp=E,81nm,0.3s,baz=257,slow=22,SNR=9.5							
IDI				Lg	Lg		11 30 00.1	
	comp=E,92nm,0.3s,baz=356,slow=18,SNR=8.9							
IDI	Anoyia	2.37	221	‖ *i* P		Pb	11 29 21.5	-2.0
AKAS	Kas	2.43	110	PN		Pn	11 29 20.8	0.0
AKAS	Kas	2.43	110	*i* P		Pb	11 29 22.4	-2.0
DION	Dionisos Attik	2.47	294	P		Pn	11 29 21.0	-0.2
PTL	Penteli	2.50	293	*e*Pn		Pn	11 29 21.7	-0.1
PTL	Penteli	2.50	293	P		Pn	11 29 21.7	-0.1
ELL	Elmali	2.53	97	PN		Pn	11 29 21.9	-0.2
ELL	Elmali	2.53	97	P		Pn	11 29 21.9	-0.2
ATH	Athens Observa	2.59	290	P		Pn	11 29 23.3	+0.4
SIMA	Simav-Kutahya	2.63	41	PN		Pn	11 29 22.8	-0.7
VAM	Vamos	2.69	232	P		Pb	11 29 25.5	-3.3
VAM				S		Sb	11 29 59.1	-3.2
VAM	Vamos	2.69	232	P		Pb	11 29 25.5	-3.3
VAM				S		Sb	11 29 59.1	-3.2
VAM	Vamos	2.69	232	P		Pb	11 29 25.5	-3.3
VAM				S		Sb	11 29 59.1	-3.2
EZN	Ezine	2.74	353	*e*Pn		Pn	11 29 23.1	-1.9
EZN	Ezine	2.74	353	P		Pn	11 29 23.1	-1.9
EZN	Ezine	2.74	353	*e*P		Pn	11 29 23.1	-1.9
GEDZ	Gediz	2.84	46	PN		Pn	11 29 25.9	-0.4
KORT	Korkueli	2.85	91	PN		Pn	11 29 26.7	+0.1
DST	Dursunbey	2.88	29	PN		Pn	11 29 25.9	-1.1
DST	Dursunbey	2.88	29	P		Pn	11 29 25.9	-1.1
AOS	Alonnisos	3.08	313	PN		Pn	11 29 28.8	-0.9
GADA	Gvkgeada	3.16	348	*e*Pn		Pn	11 29 29.1	-1.6
GADA	Gvkgeada	3.16	348	P		Pn	11 29 29.1	-1.6
ALN	Alexandroupoli	3.83	352	*e*Pn		Pn	11 29 38.4	-1.5
ALN	Alexandroupoli	3.83	352	P		Pn	11 29 38.4	-1.5
ALN	Alexandroupoli	3.83	352	*e*P		Pn	11 29 38.4	-1.5
ITM	Ithomi	3.88	273	*e*Pn		Pn	11 29 41.9	+1.2
AGG	Agios Georgios	4.00	300	*e*Pn		Pn	11 29 42.5	+0.1
AGG	Agios Georgios	4.00	300	*e*P		Pn	11 29 42.5	+0.1
LIT	Litokhoron	4.50	313	*e*Pn		Pn	11 29 49.6	+0.4
LIT	Litokhoron	4.50	313	*e*P		Pn	11 29 49.6	+0.4
KDZ	Kurdzhali	4.66	347	*e*P		Pn	11 29 53.7	+2.3
SRS	Serrai	4.71	329	P		Pn	11 29 51.7	-0.4
RZN	Rozhen	4.85	341	*e*P		Pn	11 29 53.1	-1.0
PLD	Plovdiv	5.25	343	*e*P		Pn	11 29 58.4	-1.0
BR231	Keskin MP Arra	5.44	58	*e*Pn		Pn	11 30 03.6	+1.5
ANTO	Ankara	5.46	58	*e*Pn		Pn	11 30 03.7	+1.3
ANTO	Ankara	5.46	58	‖ *i* P		Pn	11 30 06.7	+4.3
ANTO	Ankara	5.46	58	*e*P		Pn	11 30 03.7	+1.3
FNA	Florina	5.59	313	*e*Pn		Pn	11 30 05.5	+1.3
FNA	Florina	5.59	313	*e*P		Pn	11 30 05.5	+1.3
CSS	Mathiatis	5.72	110	*e*Pn		Pn	11 30 06.9	+1.0
BR101	Keskin Array S	5.98	62	*e*Pn		Pn	11 30 09.0	-0.7
BR131	Keskin Array S	5.98	62	*e*Pn		Pn	11 30 10.1	+0.4
BRTR	Keskin Array B	5.98	62	Pn		Pn	11 30 09.0	-0.7
	comp=E,1.9nm,0.3s,baz=238,slow=15,SNR=21							
BRTR	Keskin Array B	5.98	62	*i* P		Pn	11 30 09.8	+0.1
BRTR				pmax	pmax			
	comp=Z,6.0nm,0.4s							
VTS	Vitosha	6.13	334	*e*Pn		Pn	11 30 11.8	+0.1
VTS	Vitosha	6.13	334	‖ *i* P		Pn	11 30 12.5	+0.8
VTS	Vitosha	6.13	334	*e*P		Pn	11 30 11.8	+0.1
RAZG	Razgrad	6.46	358	‖ *i* P		Pn	11 30 17.5	+1.4
TIRR	Tirgusor	7.45	9	*e*Pn		Pn	11 30 31.8	+2.2
TIRR	Tirgusor	7.45	9	‖ *i* P		Pn	11 30 32.3	+2.7
TIRR	Tirgusor	7.45	9	*e*P		Pn	11 30 31.8	+2.2
TLB	Topalu	7.54	7	‖ *i* P		Pn	11 30 32.0	+1.2
TLB	Topalu	7.54	7	P		Pn	11 30 31.9	+1.2
CFR	Carcaliu	8.13	7	‖ *i* P		Pn	11 30 39.8	+0.8
CFR	Carcaliu	8.13	7	P		Pn	11 30 39.8	+0.8
MMAI	Mount Meron Ar	8.16	117	Pn		Pn	11 30 38.0	-1.5
	comp=Z,3.7nm,0.3s,baz=300,slow=12,SNR=8.7							
MMAI				Sn		Sn	11 32 06.8	-5.4
	comp=Z,5.1nm,0.3s,baz=307,slow=27,SNR=5.0							
TIP	Timpagrande	8.17	288	*e*Pn		Pn	11 30 39.6	0.0
MLR	Muntele Rosu	8.40	356	Pn		Pn	11 30 41.1	-1.8
	comp=Z,0.6nm,0.3s,baz=178,slow=6.0,SNR=6.0							
MLR				LR	LR		11 34 09.9	
	comp=Z,190nm,20.2s,baz=184,slow=40							
MLR	Muntele Rosu	8.40	356	*e*Pn		Pn	11 30 42.7	-0.2
MLR	Muntele Rosu	8.40	356	‖ *i* P		Pn	11 30 44.1	+1.3
ARR	Arges	8.41	350	‖ *i* P		Pn	11 30 43.9	+1.0
VOIR		8.43	352	‖ *i* P		Pn	11 30 44.3	+1.2
VOIR		8.43	352	P		Pn	11 30 44.3	+1.2
HERR	Herculane	8.44	338	‖ *i* P		Pn	11 30 44.8	+1.6
MDVR	Moldovita	8.57	335	‖ *i* P		Pn	11 30 45.6	+0.5
DIVS	Divibare	8.69	326	*e*Pn		Pn	11 30 46.7	+0.8
CEL	Celeste	8.71	281	*e*Pn		Pn	11 30 48.5	+1.4
VRI	Vrincioaia	8.76	360	‖ *i* P		Pn	11 30 49.5	+1.9
VRI	Vrincioaia	8.76	360	P		Pn	11 30 49.4	+1.9
CUC	Castrocucco	9.07	292	*e*Pn		Pn	11 30 54.2	+2.4
BZS	Buzias	9.35	337	‖ *i* P		Pn	11 30 56.0	+0.3
BZS	Buzias	9.35	337	P		Pn	11 30 56.0	+0.3
BIZ	Bicaz	9.84	357	‖ *i* P		Pn	11 31 04.3	+1.9
EIL	Elat	10.07	135	Pn		Pn	11 31 04.5	-1.1
	comp=Z,0.4nm,0.3s,baz=337,slow=9.6,SNR=5.1							
EIL				Sn		Sn	11 32 55.4	-3.8
	comp=Z,0.5nm,0.3s,baz=311,slow=20,SNR=3.0							
BURAR	Bucovina Array	10.57	354	‖ *i* P		Pn	11 31 14.0	+1.5
BURAR	Bucovina Array	10.57	354	P		Pn	11 31 14.0	+1.5
BUR04	Bucovina Ar. S	10.57	354	*e*Pn		Pn	11 31 14.0	+1.5
BUR08	Bucovina Ar. S	10.60	354	*e*Pn		Pn	11 31 14.6	+1.7
NEY	Neytrino	13.63	58	*i* P		Pn	11 31 56.0	+1.5
KIEV	Kiev	13.70	7	*i* P		Pn	11 31 56.4	+1.3
KIV	Kislovodsk	13.88	56	*e*P		Pn	11 31 56.6	-1.2
KIV				pmax	pmax			
	comp=Z,7.0nm,1.1s							
KIV				MLR	MLR			
	comp=Z,148nm,10.0s							
NCK	Nalchik	14.32	58	*i* P		Pn	11 32 05.7	+2.0
GERES	GERESS Array B	15.12	325	Pn		Pn	11 32 14.0	-0.6
	comp=Z,0.4nm,0.3s,baz=137,slow=12,SNR=2.2							
KLNR	Kaliningrad	18.08	348	*e*P		P	11 32 54.4	+1.9
KLNR				pmax	pmax			
	comp=Z,53nm,0.9s							
OBN	Obninsk	19.21	17	‖ *e*P		Pn	11 33 07.1	+1.2
OBN				pmax	pmax			
	comp=Z,6.0nm,0.8s							
ES19	SONSECA Array	24.13	286	*e*P		P	11 33 58.1	+0.8
ESDC	Sonseca Array	24.18	286	P		P	11 33 56.5	-1.3
	comp=Z,1.1nm,0.6s,baz=80,slow=9.3,SNR=5.8							
PAB	San Pablo	24.49	285	*e*P		P	11 34 01.3	+0.7
	comp=Z,3.2nm,0.8s							
PAB	San Pablo	24.49	285	*e*P		P	11 34 01.3	+0.7
PAB				pmax	pmax			
	comp=Z,3.0nm,0.8s							
HFS	Hagfors	24.53	344	P		P	11 34 00.3	-0.3
	comp=Z,3.3nm,0.9s,baz=150,slow=12,SNR=4.1							
KLMR	Klimovskoe	25.10	15	*e*P		P	11 34 07.9	+2.1
KLMR				pmax	pmax			
	comp=Z,12nm,1.2s							
KLMR	Klimovskoe	25.10	15	*e*P		P	11 34 07.9	+2.1
KLMR				AMP			11 34 11.7	
	comp=Z,12nm,1.2s							
AKTO	Aktyubinsk	25.98	49	P		P	11 34 14.4	+0.6
	comp=Z,9.2nm,0.8s,baz=245,slow=9.4,SNR=17							
MDT	Midelt	26.02	270	P		P	11 34 16.3	+1.7
	comp=Z,4.4nm,0.7s,baz=277,slow=4.2,SNR=5.4							
TOA1	Torodi Ar. Sit	32.74	230	*e*P		P	11 35 15.1	+0.8
TOA0	Torodi Ar. Sit	32.75	230	*e*P		P	11 35 15.3	+1.0
	comp=Z,3.4nm,1.1s							
TORD	Torodi Ar. Bea	32.75	230	P		P	11 35 15.1	+0.8
	comp=Z,1.0nm,0.5s,baz=30,slow=8.9,SNR=11							
BRVK	Borovoye	34.01	48	*i* P		P	11 35 26.3	+1.3
BRVK				pmax	pmax			
	comp=Z,3.0nm,1.2s							
AAK	Ala-Archa	36.64	66	*i* P		P	11 35 49.4	+1.4
AAK				pmax	pmax			
	comp=Z,4.0nm,1.0s							
KURK	Kurchatov	38.95	53	*e*P		P	11 36 09.0	+1.9
	comp=Z,3.3nm,0.8s							
KURK	Kurchatov	38.95	53	*i* P		P	11 36 08.7	+1.6
KURK				pmax	pmax			
	comp=Z,3.0nm,0.9s							
MK31	Makanchi Array	41.62	58	*e*P		P	11 36 31.4	+1.9
MK31	Makanchi Array	41.62	58	*e*P		P	11 36 31.4	+1.9
MK32	Makanchi Array	41.62	58	*e*P		P	11 36 29.0	-0.4
MKAR	Makanchi Array	41.62	58	P		P	11 36 29.0	-0.4
	comp=Z,4.3nm,0.8s,baz=280,slow=6.9,SNR=16							
MKAR	Makanchi Array	41.62	58	*e*P		P	11 36 31.3	+1.8
	comp=Z,18nm,0.6s							
MK01	Makanchi Array	41.63	59	*e*P		P	11 36 31.2	+1.6
ZAA1	Zalesovo Array	42.72	48	*e*P		P	11 36 38.7	+0.5
ZALV	Zalesovo Beam	42.72	48	P		P	11 36 38.7	+0.5
	comp=Z,1.5nm,0.6s,baz=264,slow=10.0,SNR=7.3							
ZALV	Zalesovo Beam	42.72	48	*e*P		P	11 36 39.9	+1.6
DGZ	Jazzator, Alta	44.66	54	*i* P		P	11 36 53.8	-0.3
DGZ				pmax	pmax			
	comp=Z,1.0nm,1.0s							
SONA0	Songino Array	57.25	52	*e*P		P	11 38 30.2	+1.3
SONM	Songino Array	57.25	52	P		P	11 38 30.2	+1.3
	comp=Z,0.4nm,0.5s,baz=267,slow=5.8,SNR=4.2							
CMAR	Chiang Mai Arr	65.07	85	P		P	11 39 20.6	-1.5
	comp=Z,0.7nm,0.3s,baz=296,slow=6.9,SNR=4.9							
KSAR	Wonju Array Be	76.05	54	P		P	11 40 29.2	+0.3
KSAR	Wonju Array Be	76.05	54	P		P	11 40 29.2	+0.3
KSRS	Korea Array	76.06	54	P		P	11 40 29.2	+0.2
	comp=Z,0.8nm,0.5s,baz=300,slow=4.1,SNR=3.1							

IDC 29 11:51:27.9±3.0, 8°33S×123°87E, h184km±29km, mb3.1/1, mb1 3.6/4, mb1mx3.2/29, mbtmp4.0/4, Error ellipse: s-maj=86.3km s-min=15.2km az=60.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BATI	Baumata	1.88	186	P		Pn	11 52 04.3	+0.3
	46nm,0.3s,baz=339,slow=3.0,SNR=26							
BATI				S		Sn	11 52 32.3	+0.1
	76nm,0.3s,baz=265,slow=24,SNR=13							
FITZ	Fitzroy Crossi	9.86	170	P		Pn	11 53 44.7	-0.9
	0.5nm,0.3s,baz=336,slow=11,SNR=21							
FITZ				S		Sn	11 55 30.2	-5.4
	2.6nm,0.3s,baz=216,slow=9.2,SNR=11							
WRA	Warramunga Arr	15.34	140	P		Pn	11 54 55.4	0.0
	1.2nm,0.3s,baz=318,slow=12,SNR=65							
WRA				S		S	11 57 39.0	-8.2
	0.5nm,0.3s,baz=319,slow=26,SNR=6.4							
ASAR	Alice Springs	18.03	149	P		Pn	11 55 27.2	-0.1
	0.7nm,0.3s,baz=330,slow=12,SNR=44							
ASAR				S		S	11 58 42.8	+0.2
	0.2nm,0.3s,baz=322,slow=19,SNR=6.3							
MKAR	Makanchi Array	66.17	330	P		P	12 01 55.5	-0.2
	0.4nm,0.5s,baz=126,slow=8.3,SNR=5.3							

MEX 29 12:00:39.9±0.5, 16°28N×97°88W, h10km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PNIG	Pinotepa	0.26	296	*i* P		Pg	12 00 44.7	-0.6
PNIG				*i* S		Sg	12 00 48.8	-0.1
VHO	Vista Hermosa	1.35	54	*e*P		Pn	12 01 02.3	-2.8
VHO				*i* S		Sb	12 01 18.2	-4.8
TLIG	Tlapa	1.44	333	*e*P		Pn	12 01 03.1	-3.1
TLIG				*i* S		Sn	12 01 20.2	-5.0
CAIG	El Cayaco	2.41	289	*i* P		Pn	12 01 16.8	-2.6
CAIG				*i* S		Sn	12 01 45.2	-3.9

*ISK **29** 12:00:46.5, 37°21N×26°80E, h7km, ML3.9/13*
*IDC **29** 12:00:47.0±2.1, 36°90N×27°10E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/29, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=253.6km s-min=26.1km az=145.0*
*DDA **29** 12:00:46.8, 37°16N×26°80E, h16km, Ml3.7*

*ISCJB **29** 12:00:47.0±0.4, 37°19N±0°02×26°78E±0°02, h3km±3km, mb3.4/2, Error ellipse: s-maj=2.9km s-min=2.4km az=163.3*
*ATH **29** 12:00:47.2, 37°19N×26°85E, h31km±1km, ML3.5/5, Error ellipse: s-maj=2.6km s-min=1.2km az=84.0*
*THE **29** 12:00:47.7, 37°19N×26°83E, h4km±3km, ML3.4/6, Error ellipse: s-maj=3.7km s-min=0.7km az=117.0*

ISC 29 12:00:47.7±1.0, 37°19N±0°02×26°83E±0°02, h12km±8km, n74, σ1°20/106, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BODT	Bodrum	0.40	108	PG		Pg	12 00 55.5	-0.2
BODT				S		Sg	12 01 01.9	-1.0
BODT	Bodrum	0.40	108	P		Pg	12 00 55.8	+0.1
BODT				S		Sg	12 01 01.2	+0.1
SMG	Samos	0.52	0	P		Pg	12 00 58.0	+0.1
SMG				S		Sb	12 01 05.8	-0.5
SMG				AML	AML		12 01 06.3	
	comp=N,30511µm,0.3s							
SMG				AML	AML		12 01 06.5	
	comp=E,28288µm,0.3s							
NISR	Nisiros	0.62	157	P		Pb	12 01 00.1	-0.4
NISR				S		Sb	12 01 09.5	+0.3
NISR				AML	AML		12 01 12.7	
	comp=N,4703µm,0.2s							
NISR				AML	AML		12 01 13.0	
	comp=E,8239µm,0.2s							
NIS1	Nisyros Isl.	0.65	154	PG		Pg	12 01 00.1	-0.2
NIS1	Nisyros Isl.	0.65	154	P		Pg	12 01 00.3	0.0
NIS1	Nisyros Isl.	0.65	154	P		Pg	12 01 00.3	0.0
NIS1				S		Sb	12 01 10.8	+0.9
DAT	Datca	0.75	127	PG		Pg	12 01 01.8	-0.5
DAT				SG		Sb	12 01 13.5	+0.4
DAT	Datca	0.75	127	‖ *i* P		Pg	12 01 02.1	-0.2
DAT				*i* S		Sb	12 01 13.4	+0.4
MLSB	Milas	0.76	82	PG		Pg	12 01 02.1	-0.4
MLSB				SG		Sb	12 01 13.3	0.0
DATC	Datca-Mugla	0.79	123	PG		Pg	12 01 02.9	-0.1
AMGA	Amorgos Island	0.83	245	P		Pb	12 01 03.9	-0.2
AMGA				S		Sb	12 01 16.3	+1.0
AMGA				AML	AML		12 01 18.2	
	comp=N,7401µm,0.3s							
AMGA				AML	AML		12 01 18.4	
	comp=E,11893µm,0.6s							
DGB	¨zmir	0.86	3	*i* P		Pg	12 01 04.4	-0.1
DGB				*i* S		Sb	12 01 15.9	-0.3
AYDN	Tasoluk	0.96	60	*i* P		Pg	12 01 05.1	-1.1
AYDN				*i* S		Sb	12 01 19.4	+0.5
APE	Apeiranthos	1.05	264	PG		Pg	12 01 06.6	-1.3
APE				SG		Sg	12 01 21.2	-0.3
APE	Apeiranthos	1.05	264	P		Pb	12 01 07.9	+0.1
APE				S		Sb	12 01 22.1	+0.6
APE				AML	AML		12 01 25.8	
	comp=N,4006µm,0.3s							
APE				AML	AML		12 01 26.8	
	comp=E,3995µm,0.4s							
URLA	Izmir	1.19	351	PN		Pb	12 01 09.3	-0.9
URLA	Izmir	1.19	351	*i* P		Pb	12 01 09.8	-0.4
URLA				*i* S		Sn	12 01 27.8	+1.5
ANAF	Anafi Island	1.19	226	P		Pb	12 01 09.6	-0.6
ANAF				S		Sb	12 01 25.4	-0.1
MRSB	Marmaris-Mugla	1.19	113	PN		Pn	12 01 10.2	0.0
THR8	Santorini-Mono	1.34	235	P		Pn	12 01 11.4	-0.8
THR2	Thira island,	1.34	237	P		Pn	12 01 11.6	-0.6
THR2	Thira island,	1.34	237	P		Pn	12 01 11.7	-0.6
CHOS	Chios island	1.35	333	PN		Pn	12 01 11.0	-1.4
CHOS	Chios island	1.35	333	P		Pn	12 01 11.9	-0.5
CHOS				S		Sb	12 01 30.1

baz=83,slow=4.3

SRIG				*e*S	Sg	12 13 14.4	-3.5

TIR ***29*** *12:18:11.1, 42.°53N×20.°18E, h3km, Md1.9/3*
SAR ***29*** *12:18:12.8±0.8, 42.°37N×20.°17E, h6km±4km, ML2.4/7*
PDG ***29*** *12:18:13.9±0.1, 42.°47N×20.°04E, h11km, MD2.5/2, ML2.4/13, Error ellipse: s-maj=0.2km s-min=0.4km az=0.0*
BEO ***29*** *12:18:16.4±0.2, 42.°53N×20.°04E, h1km±2km, ML2.0/13*

ISC 29 12:18:13.8±1.0, **42.°48N**±0.°02×**20.°10E**±0.°02, **h4**km±9km, **n43**, σ1§**08**/81, **6C-7D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCI	**Bajram Curri**	**0.12**	**190**	*i* PG	**Pg**	**12 18 15.6**	**-0.6**
BCI				*i* SG	**Sg**	**12 18 17.9**	**+0.1**
PVY	**Plav**	**0.15**	**318**	⇓*i* PG	**Pg**	**12 18 17.0**	**+0.2**
PVY				*e*Sg	**Sg**	**12 18 19.7**	**+0.8**
IVA	**Berane**	**0.42**	**339**	⇑*i* PG	**Pg**	**12 18 21.6**	**-0.2**
IVA				*e*Sg	**Sb**	**12 18 28.5**	**-2.0**
PUK	**Puka**	**0.46**	**199**	*i* PG	**Pg**	**12 18 22.3**	**-0.4**
PUK				*i* SG	**Sg**	**12 18 30.7**	**+2.0**
KOME	**Kolasin**	**0.56**	**311**	⇑*i* PG	**Pg**	**12 18 24.5**	**-0.1**
KOME				*e*Sg	**Sg**	**12 18 32.9**	**+0.9**
PDG	**Podgorica**	**0.62**	**265**	*e*Pg	**Pg**	**12 18 26.1**	**+0.4**
PDG				*e*Sg	**Sg**	**12 18 35.8**	**+2.0**
PDG	**Podgorica**	**0.62**	**265**	*e*Pg	**Pg**	**12 18 24.5**	**-1.2**
PDG				*e*Sg	**Sg**	**12 18 34.6**	**+0.7**
TTG	**Podgorica**	**0.62**	**265**	⇓*i* PG	**Pg**	**12 18 24.8**	**-0.9**
TTG				*e*Sg	**Sg**	**12 18 34.5**	**+0.7**
DRME	**Dracevica, Mon**	**0.74**	**247**	⇓*i* PG	**Pg**	**12 18 26.8**	**-1.1**
DRME				*e*Sg	**Sg**	**12 18 37.9**	**+0.4**
DRME	**Dracevica, Mon**	**0.74**	**247**	*e*Pg	**Pg**	**12 18 26.1**	**-1.8**
DRME				*e*Sg	**Sg**	**12 18 37.2**	**-0.3**
SJES	**Sjenica**	**0.78**	**353**	*e*Pg	**Pb**	**12 18 28.8**	**-1.2**
SJES				*e*Sg	**Sb**	**12 18 40.3**	**-0.8**
ULC	**Ulcinj**	**0.82**	**231**	⇓*i* PG	**Pg**	**12 18 28.4**	**-1.0**
ULC				*e*Sg	**Sg**	**12 18 40.9**	**+0.9**
PHP	**Peshkopia**	**0.84**	**162**	*i* PG	**Pg**	**12 18 28.3**	**-1.5**
PHP				*i* SG	**Sg**	**12 18 41.3**	**+0.6**
CEME	**Cevo**	**0.87**	**275**	⇑*i* PG	**Pg**	**12 18 29.1**	**-1.4**
CEME				*e*Sg	**Sg**	**12 18 42.6**	**+0.8**
NKME	**Niksic**	**0.89**	**289**	⇑*i* PG	**Pg**	**12 18 29.9**	**-0.9**
NKME				*e*Sg	**Sg**	**12 18 43.6**	**+1.2**
BUM	**Brajici-Budva**	**0.91**	**259**	⇑*i* PG	**Pg**	**12 18 30.1**	**-1.1**
BUM				*e*Sg	**Sg**	**12 18 43.7**	**+0.7**
PLE	**Pljevlja**	**0.99**	**329**	⇑*i* PG	**Pg**	**12 18 32.3**	**-0.5**
PLE				*e*Sg	**Sn**	**12 18 47.8**	**-1.4**
SELS	**Selova**	**1.05**	**45**	*e*Pg	**Pn**	**12 18 34.5**	**-0.9**
SELS				*e*Sg	**Sn**	**12 18 50.5**	**0.0**
IVAS	**Ivanjica**	**1.09**	**2**	*e*Pg	**Pg**	**12 18 34.2**	**-0.6**
IVAS				*e*Sg	**Sn**	**12 18 49.8**	**-1.8**
SKO	**Skopje**	**1.12**	**117**	*e*Sg	**Sn**	**12 18 53.3**	**+1.2**
UPM	**Unac-Piva**	**1.13**	**310**	⇓*i* PG	**Pg**	**12 18 34.8**	**-0.7**
UPM				*e*Sg	**Sn**	**12 18 52.2**	**-0.5**
UPM	**Unac-Piva**	**1.13**	**310**	*e*Pg	**Pg**	**12 18 35.5**	**0.0**
UPM				*e*Sg	**Sn**	**12 18 52.4**	**-0.3**
TIR	**Tirane**	**1.15**	**189**	*e*Sg	**Sn**	**12 18 54.9**	**+2.2**
HCY	**Herceg Novi**	**1.19**	**269**	⇓*i* PG	**Pg**	**12 18 35.2**	**-1.2**
HCY				*e*Sg	**Sg**	**12 18 53.3**	**+1.4**
HCY	**Herceg Novi**	**1.19**	**269**	*e*Pg	**Pg**	**12 18 35.3**	**-1.2**
HCY				*e*Sg	**Sg**	**12 18 52.4**	**+0.5**
BRY	**Bratogost**	**1.22**	**291**	⇓*i* PG	**Pg**	**12 18 36.1**	**-1.1**
BRY				*e*Sg	**Sg**	**12 18 54.3**	**+1.3**
BRY	**Bratogost**	**1.22**	**291**	*e*Pg	**Pg**	**12 18 36.2**	**-1.0**
BRY				*e*Sg	**Sb**	**12 18 54.7**	**+1.0**
TREB	**Trebinje**	**1.31**	**281**	*e*Pg	**Pn**	**12 18 38.4**	**-0.4**
TREB				*e*Sg	**Sb**	**12 18 56.9**	**+0.8**
TREB	**Trebinje**	**1.31**	**281**	*e*Pg	**Pn**	**12 18 38.1**	**-0.7**
TREB				*e*Sg	**Sb**	**12 18 57.1**	**+1.0**
BARS	**Barje**	**1.31**	**75**	*e*Pg	**Pn**	**12 18 40.6**	**+1.7**
BARS				*e*Sg	**Sn**	**12 18 59.3**	**+2.5**
BBLS	**Lazići**	**1.47**	**340**	*e*Pn	**Pg**	**12 18 42.8**	**+0.8**
BBLS				*e*Sn	**Sg**	**12 19 02.6**	**+1.5**
BBLS	**Lazići**	**1.47**	**340**	*e*Pn	**Pn**	**12 18 40.8**	**-0.4**
BBLS				*e*Sn	**Sg**	**12 19 02.1**	**+1.0**
GRUS	**Gruza**	**1.48**	**18**	*e*Pg	**Pg**	**12 18 42.7**	**+0.6**
DIVS	**Divibare**	**1.62**	**357**	*e*Pn	**Pb**	**12 18 43.7**	**-0.5**
DIVS	**Divibare**	**1.62**	**357**	*e*Pn	**Pb**	**12 18 43.6**	**-0.6**
DIVS				*e*Sn	**Sg**	**12 19 06.3**	**+0.6**
BOVS	**Bovan**	**1.65**	**45**	*e*Pg	**Pg**	**12 18 45.5**	**+0.1**
BOVS				*e*Sg	**Sg**	**12 19 08.1**	**+1.3**
TRUS	**Trudelj**	**1.75**	**7**	*e*Pn	**Pg**	**12 18 47.5**	**+0.1**
HAPS	**Han Pijesak,BI**	**1.81**	**333**	*e*Pn	**Pn**	**12 18 46.2**	**-1.4**
HAPS				*e*Sn	**Sb**	**12 19 10.7**	**+0.2**
STON	**Ston**	**1.81**	**283**	*e*Pg	**Pn**	**12 18 46.9**	**+1.2**
STON				*e*Sg	**Sg**	**12 19 12.6**	**+0.7**
STON	**Ston**	**1.81**	**283**	*i* Pn	**Pn**	**12 18 46.4**	**+0.7**
STON				Sn	**Sg**	**12 19 14.2**	**+2.3**
STON	**Ston**	**1.81**	**283**	*e*Pn	**Pn**	**12 18 45.6**	**-0.1**
STON				*e*Sn	**Sn**	**12 19 09.8**	**+0.8**
ZAPS	**Zavoj**	**2.03**	**66**	*e*Pn	**Pg**	**12 18 51.9**	**-0.7**
ZAPS				*e*Sn	**Sg**	**12 19 18.2**	**-0.7**
ZAGS	**Zajecar**	**2.05**	**49**	*e*Pn	**Pg**	**12 18 52.6**	**-0.5**
ZAGS				*e*Sn	**Sg**	**12 19 18.4**	**-1.3**

ISCJB ***29*** *12:22:10.9±0.4, 14.°46N×0.°05×94.°01E±0.°03, h41km, mb4.2/25, Error ellipse: s-maj=6.6km s-min=4.1km az=10.7*
IDC ***29*** *12:22:13.2±0.8, 14.°35N×94.°07E, h59km±7km, mb3.8/15, mb1 3.9/16, mb1mx3.7/62, mbtmp4.1/16, Error ellipse: s-maj=21.5km s-min=12.8km az=54.0*
NEIC ***29*** *12:22:15.3±0.6, 14.°47N×94.°17E, h75km±6km, mb4.7/11, Error ellipse: s-maj=6.6km s-min=5.6km az=224.0*

ISC 29 12:22:11.9±0.6, **14.°50N**±0.°06×**93.°96E**±0.°05, **h41**km, **n88**, σ1§**96**/97, **mb4.3**/25, **Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**3.06**	**203**	*e*Pn	Pn	12 23 03.1	+5.3
PBA				*e*Sn	Sn	12 23 36.7	+3.4
SRDT	**SRDT**	**5.00**	**91**	P	**Pn**	**12 23 25.8**	**+1.3**
UMPA	**Umpang Tak**	**5.02**	**70**	P	**Pn**	**12 23 25.5**	**+0.7**
	123nm,0.7s,2µm0.6nm						
UTHA	**Uthaitani**	**5.40**	**78**	P	**Pn**	**12 23 31.3**	**+1.3**
	49nm,0.8s,622nm0.2nm						
PHET	**Kaeng Krachan**	**5.73**	**105**	P	**Pn**	**12 23 37.1**	**+2.6**
	22nm,0.7s,377nm0.4nm						
CM01	**Chiang Mai Arr**	**6.18**	**50**	*e*Pn	**Pn**	**12 23 41.9**	**+1.2**
CM01				*e*Sn	**Sn**	**12 24 48.5**	**-1.7**
CM31	**Chiang Mai Arr**	**6.19**	**50**	*e*Pn	**Pn**	**12 23 42.7**	**+1.8**
CM31				*e*Sn	**Sn**	**12 24 48.7**	**-1.7**
CMAR	**Chiang Mai Arr**	**6.19**	**50**	P	**Pn**	**12 23 42.5**	**+1.6**
	4.8nm,0.3s,baz=238,slow=15,SNR=55						
CMAR				S	**Sn**	**12 24 47.6**	**-2.9**
	4.4nm,0.3s,baz=238,slow=29,SNR=7.1						
SUKH	**Sukhothai**	**6.21**	**61**	P	**Pn**	**12 23 42.6**	**+1.5**
	51nm,0.6s,624nm0.2nm						
CHTO	**Chiang Mai**	**6.42**	**47**	*e*Pn	**Pn**	**12 23 45.5**	**+1.5**
CHTO				*e*Sn	**Sn**	**12 24 53.0**	**-3.1**
CHTO	**Chiang Mai**	**6.42**	**47**	P	**Pn**	**12 23 45.6**	**+1.6**
	198nm,0.8s,0.7nm						
CMMT	**Chiang Mai**	**6.42**	**47**	P	**Pn**	**12 23 45.5**	**+1.5**
	48nm,0.8s,0.2nm						
LAMP	**Lampang**	**6.75**	**53**	P	**Pn**	**12 23 50.3**	**+1.7**
	16nm,0.5s,274nm0.1nm						
PATY	**Pattaya**	**6.89**	**102**	P	**Pn**	**12 23 52.8**	**+2.4**
	10.0nm,0.7s,0.2nm						
PBKT	**Sadao Pong**	**7.06**	**72**	*e*Pn	**Pn**	**12 23 54.4**	**+1.6**
PBKT	**Sadao Pong**	**7.06**	**72**	P	**Pn**	**12 23 54.4**	**+1.6**
	90nm,0.7s,1µm0.3nm						
UTTA	**Uttaradit**	**7.11**	**62**	P	**Pn**	**12 23 54.8**	**+1.3**
	12nm,0.5s,168nm0.1nm						
PAYA	**Payao**	**7.44**	**49**	P	**Pn**	**12 24 00.3**	**+2.3**
	26nm,0.5s,376nm0.1nm						
CHAI	**Chaiyaphum**	**7.87**	**79**	P	**Pn**	**12 24 07.4**	**+3.5**
	5.9nm,0.5s,86nm0.0nm						
BRDH	**Bariadhala**	**8.43**	**345**	P	**Pn**	**12 24 14.9**	**+3.4**
	56nm,0.3s,baz=250,slow=21,SNR=7.5						
BRDH				S	**Sn**	**12 25 43.0**	**-2.3**
	68nm,0.3s,baz=260,slow=17,SNR=3.6						
NONG	**Nongkai**	**9.51**	**67**	P	**Pn**	**12 24 29.0**	**+2.7**
	0.3nm,0.5s						
SKNT	**Sakolnakorn**	**9.96**	**74**	P	**Pn**	**12 24 35.5**	**+3.0**
	8.4nm,1.1s						
VIS	**Vishakhapatnam**	**10.71**	**289**	*i* P	**Pn**	**12 24 46.8**	**+4.1**
VIS				*i* S	**Sn**	**12 26 36.5**	**-4.9**
VIS				*i* S		12 26 36.5	
SHL	**Shillong**	**11.18**	**350**	*e*Pn	**Pn**	**12 24 48.9**	**-0.5**
SHL	**Shillong**	**11.18**	**350**	*e*P	**Pn**	**12 24 51.0**	**+1.6**
SHL				*e*S	**Sn**	**12 26 48.0**	**-5.3**
ODAN	**Odare**	**13.74**	**335**	*e*P	**Pn**	**12 25 25.9**	**+1.4**
	228nm,0.4s						
TAPN	**Taplejung**	**14.05**	**336**	*e*P	**Pn**	**12 25 29.5**	**+0.8**
	85nm,0.3s						
RAMN	**Ramite**	**14.17**	**332**	*e*P	**Pn**	**12 25 32.5**	**+2.3**
	244nm,0.5s						
PALK	**Pallekele**	**14.86**	**243**	S	**Sn**	**12 28 15.5**	**-7.5**
	1.3nm,0.3s,baz=117,slow=1.9,SNR=3.0						
JIRN	**Jiri**	**14.96**	**332**	*e*P	**Pn**	**12 25 42.9**	**+1.9**
	202nm,0.3s						
PKI	**Pulchoki**	**15.25**	**330**	*e*P	**Pn**	**12 25 47.1**	**+2.3**
	194nm,0.3s						
PKIN	**Phulchoki**	**15.26**	**330**	*e*P	**Pn**	**12 25 47.0**	**+2.1**
	148nm,0.2s						
GUN	**Gumba**	**15.32**	**332**	*e*P	**Pn**	**12 25 48.0**	**+2.4**
	54nm,0.2s						
LSA	**Lhasa**	**15.35**	**351**	*e*Pn	**Pn**	**12 25 46.0**	**-0.2**
DMN	**Daman**	**15.43**	**329**	*e*P	**Pn**	**12 25 49.0**	**+1.9**
	178nm,0.3s						
KKN	**Kakani**	**15.50**	**330**	*e*P	**Pn**	**12 25 49.8**	**+1.9**
GKN	**Gorkha**	**15.99**	**329**	*e*P	**P**	**12 25 57.4**	**+0.3**
	3.7nm,0.2s						
KOLN	**Koldanda**	**16.35**	**326**	*e*P	**Pn**	**12 26 01.0**	**+2.2**
	50nm,0.2s						
DANN	**Dangsing**	**16.72**	**327**	*e*P	**P**	**12 26 06.6**	**+1.2**
	100nm,0.4s						
PYUN	**Puthan**	**16.94**	**325**	*e*P	**P**	**12 26 08.6**	**+0.8**
	64nm,0.3s						
ENH	**Enshi**	**21.23**	**40**	*e*P	**P**	**12 26 54.0**	**-0.5**
	13nm,0.6s						
TPUB	**Ta-pu**	**26.67**	**67**	*e*P	**P**	**12 27 44.4**	**-2.8**
	63nm,1.5s						
NIL	**Nilore**	**26.75**	**319**	*e*P	**P**	**12 27 50.0**	**+2.1**
	12nm,0.6s						
AAK	**Ala-Archa**	**32.67**	**333**	*e*P	**P**	**12 28 41.7**	**+1.3**
	6.1nm,1.5s						
MK01	**Makanchi Array**	**33.62**	**345**	*e*P	**P**	**12 28 49.5**	**+1.1**
MK31	**Makanchi Array**	**33.65**	**345**	*e*P	**P**	**12 28 49.8**	**+1.1**
MK32	**Makanchi Array**	**33.65**	**345**	*e*P	**P**	**12 28 50.4**	**+1.7**
MKAR	**Makanchi Array**	**33.65**	**345**	P	**P**	**12 28 50.4**	**+1.7**
	3.4nm,0.5s,baz=165,slow=9.6,SNR=42						
MKAR	**Makanchi Array**	**33.65**	**345**	*e*P	**P**	**12 28 49.7**	**+1.0**
	29nm,0.6s						
SONA0	**Songino Array**	**34.81**	**15**	*e*P	**P**	**12 28 58.1**	**-0.7**
SONM	**Songino Array**	**34.81**	**15**	P	**P**	**12 28 58.2**	**-0.7**
	0.4nm,0.8s,baz=200,slow=12,SNR=2.7						
KSAR	**Wonju Array Be**	**37.79**	**46**	P	**P**	**12 29 23.1**	**-1.1**
KSRS	**Korea Array**	**37.82**	**46**	P	**P**	**12 29 23.1**	**-1.4**
	0.6nm,0.6s,baz=241,slow=9.4,SNR=6.7						
KURK	**Kurchatov**	**38.20**	**344**	*e*P	**P**	**12 29 28.9**	**+1.3**
	14nm,1.3s						
JNU	**Nakatsue**	**38.27**	**54**	P	**P**	**12 29 28.1**	**-0.4**
	6.5nm,1.0s,baz=36,slow=17,SNR=4.6						
JNU	**Nakatsue**	**38.27**	**54**	*e*P	**P**	**12 29 27.2**	**-1.3**
	25nm,1.4s						
ZAA0	**Zalesovo Array**	**40.01**	**352**	*e*P	**P**	**12 29 43.3**	**+0.7**
	3.6nm,0.6s						
ZALV	**Zalesovo Beam**	**40.01**	**352**	P	**P**	**12 29 43.7**	**+1.0**
	4.4nm,0.5s,baz=181,slow=8.5,SNR=18						
ZALV				pP	**sP**	**12 29 58.8**	**-0.2**
	1.6nm,0.6s,baz=159,slow=9.5,SNR=2.9						
ZALV	**Zalesovo Beam**	**40.01**	**352**	*e*P	**P**	**12 29 43.5**	**+0.8**
ZAA1	**Zalesovo Array**	**40.02**	**352**	*e*P	**P**	**12 29 43.7**	**+1.0**
ABKAR	**Akbulak array**	**44.44**	**328**	*e*P	**P**	**12 30 20.3**	**+1.5**
MAJO	**Matsushiro**	**45.07**	**53**	*e*P	**P**	**12 30 24.1**	**+0.1**
MJAR	**Matsushiro Arr**	**45.07**	**53**	P	**P**	**12 30 24.1**	**+0.1**
	2.1nm,0.8s,baz=263,slow=12,SNR=5.7						
WR1	**Warrunga Arr**	**52.43**	**130**	*e*P	**P**	**12 31 18.4**	**-2.3**
	9.2nm,1.4s						
WRA	**Warramunga Arr**	**52.43**	**130**	P	**P**	**12 31 18.4**	**-2.3**
	0.3nm,0.5s,baz=314,slow=8.1,SNR=17						
WRA				pP	**pP**	**12 31 34.5**	**+2.1**
	2.9nm,0.9s,baz=313,slow=7.9,SNR=15						
WRA				PcP	**PcP**	**12 32 29.8**	**-1.4**
	0.8nm,0.4s,baz=324,slow=3.2,SNR=15						
WB2	**Warramunga Arr**	**52.44**	**130**	*e*P	**P**	**12 31 18.2**	**-2.6**
	13nm,1.2s						
ASAR	**Alice Springs**	**54.44**	**134**	P	**P**	**12 31 33.7**	**-1.8**
	0.5nm,0.5s,baz=312,slow=7.0,SNR=13						
ASAR				pP	**pP**	**12 31 48.8**	**+1.4**
	1.4nm,0.7s,baz=309,slow=7.0,SNR=7.5						
AS31	**Alice Springs**	**54.44**	**134**	*e*P	**P**	**12 31 34.0**	**-1.5**
	1.6nm,1.3s						
BR101	**Keskin Array S**	**58.12**	**308**	*e*P	**P**	**12 32 01.4**	**-0.3**
BRTR	**Keskin Array B**	**58.12**	**308**	P	**P**	**12 32 01.4**	**-0.3**
	1.3nm,0.7s,baz=125,slow=9.1,SNR=6.6						
IDI	**Anqa**	**64.78**	**302**	*e*P	**P**	**12 32 48.0**	**+1.4**
	30nm,1.2s						
BUR04	**Bucovina Ar. S**	**65.12**	**316**	*e*P	**P**	**12 32 49.4**	**+0.7**
BUR08	**Bucovina Ar. S**	**65.13**	**316**	*e*P	**P**	**12 32 49.0**	**+0.2**
FIA1	**FINESS Array S**	**66.83**	**331**	*e*P	**P**	**12 32 59.9**	**+0.6**
FIA0	**FINESS Array S**	**66.83**	**331**	*e*P	**P**	**12 33 00.0**	**+0.7**
FINES	**FINESS Array B**	**66.83**	**331**	P	**P**	**12 33 00.0**	**+0.7**
	2.7nm,0.8s,baz=123,slow=5.1,SNR=3.4						
ARA0	**ARCESS Array S**	**69.02**	**339**	*e*P	**P**	**12 33 13.8**	**+0.9**
ARCES	**ARCESS Array B**	**69.02**	**339**	P	**P**	**12 33 13.8**	**+0.9**
	0.9nm,0.4s,baz=110,slow=7.4,SNR=13						
HFS	**Hagfors**	**72.70**	**329**	P	**P**	**12 33 36.1**	**+0.7**
	3.2nm,0.7s,baz=72,slow=9.5,SNR=4.7						
GEA0	**GERESS Array S**	**72.84**	**317**	*e*P	**P**	**12 33 37.1**	**+0.5**
GERES	**GERESS Array B**	**72.84**	**317**	P	**P**	**12 33 37.1**	**+0.5**
	0.8nm,0.5s,baz=100,slow=7.2,SNR=5.2						
NC405	**NORSAR Array S**	**73.68**	**330**	*e*P	**P**	**12 33 42.1**	**+0.8**
NB2	**NORSAR Subarra**	**73.93**	**330**	P	**P**	**12 33 42.7**	**0.0**
	comp=Z,0.7nm,0.6s,baz=88,slow=5.9						
NB200	**NORSAR Array S**	**73.93**	**330**	*e*P	**P**	**12 33 42.7**	**0.0**
NOA	**NORSAR Array B**	**73.93**	**330**	P	**P**	**12 33 42.7**	**0.0**
	comp=Z,1.0nm,0.6s,baz=89,slow=5.8,SNR=5.3						
TORD	**Torodi Ar. Bea**	**88.92**	**283**	P	**P**	**12 35 02.4**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=42,slow=4.5,SNR=2.7						
TXAR	**Lajitas Array**	**133.22**	**21**	PKP	**PKPdf**	**12 41 24.5**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=4.8,slow=1.1,SNR=2.6						
PLCA	**Paso Flores**	**150.58**	**204**	pPKPbc	pPKPbc	12 42 16.9	+4.2
	comp=Z,1.7nm,0.9s,baz=225,slow=2.9,SNR=2.8						

IDC ***29*** *12:35:52.9±2.3, 39.°02N×142.°32E, h0km, mb3.4/1, mb1 3.8/3, mb1mx3.3/37, mbtmp3.7/3, ML2.5/2, Error ellipse: s-maj=82.4km s-min=30.8km az=133.0*
ISCJB ***29*** *12:36:08.6±0.9, 38.°38N±0.°03×141.°31E±0.°06, h71km±6km, mb3.5/1, Error ellipse: s-maj=8.5km s-min=5.4km az=14.0*
JMA ***29*** *12:36:08.9, 38.°39N×141.°27E, h70km±1km, M3.2*
JMA Felt I J1.

ISC 29 12:36:08.3±1.2, **38.°38N**±0.°04×**141.°33E**±0.°06, **h72**km±8km, **n23**, σ0§**59**/30, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.08**	**8**	P	**Pn**	**12 36 19.2**	**+0.4**
JIO				S	**Sn**	**12 36 26.4**	**-0.1**
JIKH	**Ishinomakikobu**	**0.12**	**123**	P	**Pn**	**12 36 19.5**	**+0.6**
JIKH				*e*S	**Sn**	**12 36 29.6**	**+0.3**
JOFO	**Osakifurukawao**	**0.40**	**304**	P	**Pn**	**12 36 20.4**	**-0.1**
JOFO				S	**Sn**	**12 36 29.6**	**+0.2**
JKMT	**Kesennumamotoy**	**0.45**	**14**	P	**Pn**	**12 36 21.3**	**+0.4**
JKMT				*e*S	**Sn**	**12 36 30.4**	**+0.3**
JOU	**Okura**	**0.53**	**269**	P	**Pn**	**12 36 21.7**	**+0.1**
JOU				S	**Sn**	**12 36 31.4**	**0.0**
JMK	**Ichinoseki**	**0.58**	**351**	P	**Pn**	**12 36 22.4**	**+0.3**
JMK				S	**Sn**	**12 36 32.2**	**-0.1**
JMM	**Marumori**	**0.67**	**220**	P	**Pn**	**12 36 22.9**	**-0.1**
JMM				S	**Sn**	**12 36 33.3**	**-0.5**
JYK	**Kaneyama**	**0.94**	**306**	P	**Pn**	**12 36 26.2**	**+0.1**
JYK				S	**Sn**	**12 36 39.1**	**-0.3**
JYS	**Shirataka**	**1.01**	**262**	P	**Pn**	**12 36 27.1**	**0.0**
JYS				S	**Sn**	**12 36 41.0**	**0.0**
JFK	**Kawauchi**	**1.07**	**200**	P	**Pn**	**12 36 28.3**	**+0.4**
JFK				*e*S	**Sn**	**12 36 42.3**	**-0.1**
JOM	**Ohasama**	**1.09**	**358**	P	**Pn**	**12 36 28.6**	**+0.5**
JOM				*e*S	**Sn**	**12 36 43.0**	**+0.1**
JRG	**Rokugo**	**1.16**	**332**	P	**Pn**	**12 36 29.4**	**+0.5**
JRG				*e*S	**Sn**	**12 36 45.2**	**+0.9**
JFT	**Otama**	**1.17**	**223**	P	**Pn**	**12 36 29.6**	**+0.6**
JFT				*e*S	**Sn**	**12 36 45.2**	**+0.7**
JYA	**Atsumi**	**1.29**	**280**	P	**Pn**	**12 36 30.8**	**+0.2**
JYA				S	**Sn**	**12 36 47.4**	**+0.1**
MJAR	**Matsushiro Arr**	**3.09**	**235**	Pn	**Pn**	**12 36 56.8**	**+2.0**
	0.7nm,0.3s,baz=39,slow=11,SNR=7.9						
MJAR				Sn	Sn	12 37 45.8	+15
	1.0nm,0.3s,baz=290,slow=4.5,SNR=6.0						
PETK	**Petropavlovsk-**	**18.57**	**32**	P	P	12 39 59.8	-20
	0.0nm,0.3s,baz=185,slow=9.8,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	13 12 20.9	
	baz=316,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy**	**28.92**	**123**	T	T	13 12 23.1	
	baz=316,slow=76,SNR=20						
H11N3	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	13 12 25.0	
	baz=316,slow=76,SNR=23						
H11S1	**WAKE ISLAND Hy**	**29.66**	**125**	T	T	13 13 18.3	
	baz=317,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**29.66**	**125**	T	T	13 13 19.2	
	baz=317,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**29.68**	**125**	T	T	13 13 19.6	
	baz=317,slow=76,SNR=13						
WRA	**Warramunga Arr**	**58.38**	**188**	P	**P**	**12 45 55.1**	**-1.1**
	0.3nm,0.6s,baz=3.8,slow=6.9,SNR=4.8						

NIED ***29*** *12:41:00, 26.°20N×125.°20E, h185km, Mw4.6 Best double couple: M0 9.76000×10^15 NP1:φ=331.00000°, δ7.00000°, λ-14.00000°. NP2:φ=75.00000°, δ88.00000°, λ-97.00000°.*
BJI ***29*** *12:41:29.8, 25.°76N×125.°55E, h139km, mb4.7/57, mB4.9/30*
ISCJB ***29*** *12:41:33.8±0.2, 26.°08N±0.°02×125.°28E±0.°02, h150km±1km, mb4.8/152, Error ellipse: s-maj=3.7km s-min=2.3km az=144.8*
MOS ***29*** *12:41:34.4±0.8, 26.°15N×125.°24E, h154km, mb4.7/57, Error ellipse: s-maj=7.6km s-min=4.9km az=107.0*
JMA ***29*** *12:41:35.1±0.2, 26.°16N×125.°20E, h137km, M4.6*
NEIC ***29*** *12:41:35.8±0.3, 26.°11N×125.°19E, h154km±2km, mb5.0/112, Error ellipse: s-maj=2.9km s-min=2.1km az=115.0*
IDC ***29*** *12:41:35.4±0.5, 26.°20N×125.°37E, h150km±4km, mb4.3/24, mb1 4.5/26, mb1mx4.4/32, mbtmp4.7/26, MS2.9/1, Ms1 2.9/1, ms1mx2.7/42, Error ellipse: s-maj=8.6km s-min=8.3km az=69.0*

ISC 29 12:41:35.4±0.4, **26.°13N**±0.°03×**125.°23E**±0.°03, **h150**km±3km, **h150**km:**pP-P**, **n400**, σ1§**20**/472, **mb4.9**/152, **27C-4D, Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKM	**Ikemajima**	**1.21**	**179**	P	**Pn**	**12 42 01.4**	**-0.7**
JIKM				S	**Sn**	**12 42 20.6**	**-1.8**
JIRB	**Irabujima**	**1.30**	**182**	P	**Pn**	**12 42 02.0**	**-1.0**
JIRB				S	**Sn**	**12 42 21.5**	**-2.5**
JMJ	**Miyako jima 2**	**1.31**	**178**	P	**Pn**	**12 42 02.5**	**-0.6**
JMJ				S	**Sn**	**12 42 22.4**	**-1.9**
JOGS	**Gusukube**	**1.38**	**173**	P	**Pn**	**12 42 03.3**	**-0.4**
JOGS				S	**Sn**	**12 42 23.8**	**-1.6**
JKE	**Kume jima 2**	**1.41**	**82**	P	**Pn**	**12 42 03.5**	**-0.5**
JKE				S	**Sn**	**12 42 24.3**	**-1.6**
JTJ	**Tarama**	**1.56**	**198**	P	**Pn**	**12 42 04.7**	**-1.0**
JTJ				S	**Sn**	**12 42 25.9**	**-2.9**
JISG	**Ishigakijimahi**	**1.75**	**209**	P	**Pn**	**12 42 06.9**	**-0.8**
JISG				S	**Sn**	**12 42 29.7**	**-2.8**
JAGN	**Aguni-jima**	**1.86**	**75**	P

GYA PP **pP** **12 45 39.0 -6.8**
GYA S **S** **12 48 19.0 -6.5**
GYA pmax pmax
comp=Z,20nm,0.8s
MSHR Mys Shultsa 17.11 15 *i* P **P** **12 45 24.5 -0.3**
CN2 Changchun 17.63 1 *e*P **Pn** **12 45 32.5 +0.9**
CN2 *es*P sP 12 46 11.3 -4.1
CN2 pmax pmax
comp=Z,50nm,0.9s
HHC Hu-ho-hao-te 18.55 326 *e*P **Pn** **12 45 42.3 -0.4**
HHC sP sP 12 46 23.3 -2.4
HHC S **S** **12 49 00.5 -3.8**
HHC pmax pmax
comp=Z,27nm,1.1s
HHC pmax pmax
comp=Z,270nm,5.6s
HHC LR LR
comp=Z,140nm,7.3s
HHC LR LR
comp=Z,220nm,7.8s
HHC LR LR
comp=Z,470nm,10.4s
MDJ Mudanjiang 18.78 10 *e*P **P** **12 45 41.8 -1.2**
comp=Z,18nm,1.1s
CTBH Cotabato--PC H 18.83 183 ⇓*i*P **Pn** **12 45 45.9 -0.2**
USA0B Ussuriysk Arra 18.84 15 *e*P **P** **12 45 44.0 +0.4**
comp=Z,15nm,0.6s
USRK Ussuriysk Ar. 18.84 15 P **P** **12 45 43.8 +0.1**
comp=Z,2.8nm,0.3s,baz=193,slow=9.6,SNR=38
BTO Baotou 19.18 323 *e*P **Pn** **12 45 50.8 +0.7**
CD2 Chengdu 19.45 289 P **P** **12 45 51.8 +1.3**
CD2 pmax pmax
comp=Z,160nm,0.8s
CD2 pmax pmax
comp=Z,140nm,4.8s
KMI Kunming 20.30 272 P Pn 12 46 02.0 -1.6
KMI pmax pmax
comp=Z,21nm,0.8s
KDM Kudat 20.72 204 P **P** **12 46 05.0 +0.9**
LZH Lanzhou 20.79 304 *e*P **P** **12 46 06.3 +1.4**
LZH sP sP 12 46 49.8 -0.6
LZH pmax pmax
comp=Z,46nm,1.1s
LZH pmax pmax
comp=Z,180nm,4.8s
ERM Erimo 21.64 38 *e*P **P** **12 46 13.4 -0.4**
comp=Z,79nm,1.1s
ERM Erimo 21.64 38 *i* P **P** **12 46 13.1 -0.7**
ERM pmax pmax
comp=Z,28nm,0.9s
KKM Kota Kinabalu 21.75 205 *e*P **P** **12 46 15.6 +0.2**
comp=Z,46nm,0.9s
KKM Kota Kinabalu 21.75 205 P **P** **12 46 16.0 +0.7**
ASAJ Asahikawa 22.80 34 P **P** **12 46 23.3 -1.8**
comp=Z,5.9nm,0.4s,baz=234,slow=8.8,SNR=16
ASAJ Asahikawa 22.80 34 *e*P **P** **12 46 24.5 -0.7**
comp=Z,49nm,1.4s
HIA Hailar 23.49 351 *e*P **P** **12 46 31.2 -0.2**
comp=Z,62nm,1.0s
HIA Hailar 23.49 351 *e*P **P** **12 46 31.2 -0.2**
HIA pmax pmax
comp=Z,62nm,1.0s
KLR Kul'dur 23.61 11 P **P** **12 46 31.4 -1.1**
comp=Z,3.9nm,0.7s,baz=222,slow=6.7,SNR=9.6
KLR Kul'dur 23.61 11 *i* P **P** **12 46 31.6 -0.9**
GTA Gaotai 25.04 308 ⇓P **P** **12 46 45.8 0.0**
GTA pP pP 12 47 19.5 +2.5
GTA sP sP 12 47 36.5 +2.0
GTA PcP **PcP** **12 50 18.3 +1.8**
GTA ScP **ScP** **12 53 42.3 +0.7**
GTA PcS **PcS** **12 53 57.3 +0.3**
GTA ScS **ScS** **12 57 29.5 -0.8**
GTA pmax pmax
comp=Z,13nm,1.0s
GTA pmax pmax
comp=Z,91nm,6.5s
TNTI Ternate 25.30 175 *e*P **P** **12 46 48.4 +0.2**
CHTO Chiang Mai 25.33 259 *e*P **P** **12 46 48.3 -0.1**
comp=Z,3.0nm,0.8s
CHTO Chiang Mai 25.33 259 *e*P **P** **12 46 48.3 -0.1**
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CM01 Chiang Mai Arr 25.46 258 *e*P **P** **12 46 49.5 -0.1**
CM31 Chiang Mai Arr 25.46 258 *e*P **P** **12 46 49.2 -0.4**
CMAR Chiang Mai Arr 25.46 258 P **P** **12 46 49.9 +0.3**
comp=Z,0.7nm,0.6s,baz=50,slow=7.4,SNR=5.5
ULN Ulaanbaatar 25.98 331 *e*P **P** **12 46 54.3 +0.2**
comp=Z,36nm,1.1s
ULN Ulaanbaatar 25.98 331 *i* P **P** **12 46 56.0 +1.8**
SONA0 Songino Array 26.24 331 *e*P **P** **12 46 56.6 +0.1**
SONM Songino Array 26.24 331 P **P** **12 46 56.6 +0.1**
comp=Z,14nm,0.7s,baz=150,slow=8.7,SNR=30
SONM pP **pP** **12 47 28.6 +0.7**
comp=Z,13nm,1.0s,baz=148,slow=10,SNR=6.6
SONM PcP **PcP** **12 50 20.5 +1.4**
comp=Z,0.6nm,0.4s,baz=168,slow=4.1,SNR=5.0
SONM ScP **ScP** **12 53 44.5 -0.4**
comp=Z,2.6nm,1.0s,baz=130,slow=3.1,SNR=8.1
SONA1 Songino Array 26.25 331 *e*P **P** **12 46 56.8 +0.2**
SBUM Sibu 26.66 210 P **P** **12 47 00.4 0.0**
comp=Z,40nm,0.7s
SBUM Sibu 26.66 210 P **P** **12 47 02.0 +1.6**
LUWI Luwuk 27.12 185 *e*P **P** **12 47 05.0 +0.5**
comp=Z,26nm,0.6s
SIJI Sorong 27.47 167 P **P** **12 47 06.4 -1.2**
comp=Z,6.6nm,0.6s,baz=7.3,slow=8.0,SNR=7.2
ZEA Zeya 27.61 3 *e*P **P** **12 47 09.8 +1.3**
FAKI Fak Fak 29.67 166 *e*P **P** **12 47 27.5 +0.3**
comp=Z,23nm,0.7s
SHL Shillong 29.97 276 *e*P **P** **12 47 30.0 0.0**
comp=Z,11nm,1.0s
SHL Shillong 29.97 276 *e*P **P** **12 47 30.0 0.0**
SHL pmax pmax
comp=Z,11nm,1.0s
KULM Kulim 31.33 233 *e*P **P** **12 47 42.0 +0.2**
comp=Z,12nm,1.1s
KULM Kulim 31.33 233 P **P** **12 47 42.0 +0.2**
MOY Mondy 31.43 331 *e*P **P** **12 47 42.6 +0.2**
MOY pmax pmax
comp=Z,32nm,1.8s
IPM Ipoh 31.63 231 *e*P **P** **12 47 44.6 +0.1**
comp=Z,28nm,1.4s
MYKOM Kota Tinggi 31.76 224 P **P** **12 47 46.0 +0.5**
TAPN Taplejung 33.45 281 *e*P **P** **12 48 01.5 +0.9**
ODAN Odare 33.79 280 *e*P **P** **12 48 04.3 +0.8**
comp=Z,89nm,0.9s
PSI Prapat 34.30 232 *e*P **P** **12 48 08.6 +0.9**
comp=Z,8.6nm,0.8s
PSI Prapat 34.30 232 *e*P **P** **12 48 08.6 +0.9**
PSI pmax pmax
comp=Z,9.0nm,0.8s
RAMN Ramite 34.48 280 *e*P **P** **12 48 10.2 +0.8**
comp=Z,20nm,0.8s
MMRI Maumere 34.68 185 *e*P **P** **12 48 10.6 -0.2**
comp=Z,31nm,0.7s
JIRN Jiri 34.76 281 *e*P **P** **12 48 12.5 +0.6**
comp=Z,44nm,0.8s
GUN Gumba 35.00 282 *e*P **P** **12 48 14.8 +0.8**
comp=Z,16nm,0.4s
WMQ Urumqi 35.09 310 P **P** **12 48 15.8 +1.6**
WMQ pP pP 12 48 48.8 +2.3
WMQ pmax pmax
comp=Z,39nm,1.3s
WMQ pmax pmax
comp=Z,600nm,4.5s
PKI Pulchoki 35.45 281 *e*P **P** **12 48 18.2 +0.4**
comp=Z,44nm,0.8s
PKIN Phulchoki 35.46 281 *e*P **P** **12 48 18.2 +0.3**
comp=Z,31nm,0.7s
KKN Kakani 35.54 282 *e*P **P** **12 48 19.2 +0.8**
comp=Z,43nm,0.8s
DMN Daman 35.72 282 *e*P **P** **12 48 20.5 +0.5**
comp=Z,52nm,1.0s
JAGI Jajag, Banyuwa 36.04 199 *e*P **P** **12 48 22.4 -0.1**
comp=Z,32nm,0.9s
PETK Petropavlovsk- 36.22 33 P **P** **12 48 22.4 -1.2**
comp=Z,3.9nm,0.4s,baz=192,slow=4.7,SNR=16
PETK Petropavlovsk- 36.22 33 *e*P **P** **12 48 23.0 -0.6**
PETK Petropavlovsk- 36.22 33 *e*P **P** **12 48 23.0 -0.6**
PEA1 Petropavlovsk- 36.22 33 *e*P **P** **12 48 22.4 -1.2**
UGM Wanagama 36.74 205 *e*P **P** **12 48 28.5 +0.1**
comp=Z,151nm,1.4s
DANN Dangsing 36.81 283 *e*P **P** **12 48 30.1 +0.8**
comp=Z,64nm,0.8s
KOLN Koldanda 37.02 282 *e*P **P** **12 48 31.8 +0.8**
comp=Z,54nm,1.0s

DGZ Jazzator, Alta 37.40 319 *ci*P **P** **12 48 33.5 -0.4**
DGZ pmax pmax
comp=Z,3.0nm,0.6s
PYUN Piuthan 37.52 283 *e*P **P** **12 48 36.3 +1.1**
comp=Z,115nm,1.0s
CISI Cisompet, Garu 37.52 209 *e*P **P** **12 48 34.9 -0.2**
comp=Z,46nm,1.2s
MTN Manton Dam 39.17 171 *e*P **P** **12 48 47.8 -0.9**
comp=Z,69nm,1.1s
MK01 Makanchi Array 39.59 313 *e*P **P** **12 48 51.4 -0.7**
MK01 *e*PcP **PcP** **12 50 56.8 +0.6**
MK31 Makanchi Array 39.61 313 *e*P **P** **12 48 51.8 -0.4**
MK31 *e*PcP **PcP** **12 50 56.0 -0.2**
MK31 Makanchi Array 39.61 313 *e*P **P** **12 48 51.8 -0.4**
MK31 *e* 12 50 56.0
MK32 Makanchi Array 39.61 313 *e*P **P** **12 48 52.1 0.0**
MK32 *e*PcP **PcP** **12 50 55.5 -0.7**
MKAR Makanchi Array 39.61 313 P **P** **12 48 52.1 0.0**
comp=Z,5.2nm,0.6s,baz=98,slow=10,SNR=50
MKAR pP **pP** **12 49 26.6 +1.6**
comp=Z,2.9nm,0.7s,baz=102,slow=10,SNR=2.5
MKAR PP **PP** **12 50 26.1 0.0**
comp=Z,2.2nm,0.8s,baz=108,slow=12,SNR=4.3
MKAR PcP **PcP** **12 50 55.6 -0.7**
comp=Z,2.2nm,0.6s,baz=84,slow=3.8,SNR=5.8
MKAR ScP **ScP** **12 54 31.1 +0.1**
comp=Z,1.6nm,0.7s,baz=103,slow=5.4,SNR=8.3
MKAR Makanchi Array 39.61 313 *e*P **P** **12 48 51.6 -0.5**
comp=Z,61nm,1.0s
MKAR *e*PcP **PcP** **12 50 56.4 +0.1**
ZAA0 Zalesovo Array 40.72 324 *e*P **P** **12 49 00.5 -0.6**
comp=Z,21nm,0.8s
ZAA0 *e*PcP **PcP** **12 50 59.3 -0.4**
ZALV Zalesovo Beam 40.72 324 P **P** **12 49 00.5 -0.6**
comp=Z,25nm,0.8s,baz=110,slow=7.9,SNR=77
ZALV pP **pP** **12 49 35.3 +1.2**
comp=Z,2.8nm,0.4s,baz=106,slow=8.7,SNR=2.3
ZALV PcP **PcP** **12 50 59.0 -0.6**
comp=Z,1.5nm,0.5s,baz=118,slow=5.5,SNR=4.2
ZALV ScP **ScP** **12 54 34.2 -0.9**
comp=Z,2.2nm,0.6s,baz=118,slow=3.0,SNR=9.8
ZALV Zalesovo Beam 40.72 324 *e*P **P** **12 49 00.5 -0.6**
ZALV *e*PcP **PcP** **12 50 59.7 +0.1**
ZALV Zalesovo Beam 40.72 324 P **P** **12 49 00.5 -0.6**
ZALV *PP **pP** **12 49 35.3 +1.2**
ZALV 12 50 59.0
ZALV pmax pmax
comp=Z,24nm,0.7s
ZAA1 Zalesovo Array 40.72 324 *e*P **P** **12 49 00.5 -0.7**
ZAA1 *e*PcP **PcP** **12 50 59.0 -0.6**
SEY Seymchan 40.93 19 PcP **PcP** **12 51 00.9 +0.8**
comp=Z,4.3nm,0.9s,baz=193,slow=6.1,SNR=3.9
SEY ScP **ScP** **12 54 34.8 -1.0**
comp=Z,3.4nm,0.3s,baz=238,slow=3.5,SNR=18
NVS Novosibirsk 41.94 325 *e*P **P** **12 49 10.5 -0.6**
NVS *e* 12 49 45.6
NVS *e* 12 50 54.7
NVS pmax pmax
comp=Z,23nm,2.0s
KSH Kashi 42.99 301 *e*P P 12 49 24.8 +4.8
KURK Kurchatov 43.05 317 *e*P **P** **12 49 19.1 -1.0**
comp=Z,14nm,0.7s
KURK Kurchatov 43.05 317 *di*P **P** **12 49 19.9 -0.2**
KURK pmax pmax
comp=Z,43nm,1.7s
NRN Naryn 43.10 304 *e*P **P** **12 49 21.2 +0.1**
comp=Z,6.9nm,0.8s
NRN Naryn 43.10 304 *e*P **P** **12 49 21.2 +0.1**
NRN pmax pmax
comp=Z,7.0nm,0.8s
COEN Coen 43.51 154 *e*P **P** **12 49 24.5 +0.4**
comp=Z,27nm,1.0s
FITZ Fitzroy Crossi 43.97 179 *e*P **P** **12 49 27.7 -0.1**
comp=Z,25nm,0.8s
AAK Ala-Archa 44.32 305 *e*P **P** **12 49 31.2 +0.6**
comp=Z,3.6nm,0.8s
AAK Ala-Archa 44.32 305 *e*P **P** **12 49 31.2 +0.6**
AAK pmax pmax
comp=Z,4.0nm,0.8s
NIL Nilore 45.29 292 *e*P **P** **12 49 38.5 +0.2**
comp=Z,28nm,1.1s
NIL Nilore 45.29 292 *e*P **P** **12 49 38.5 +0.2**
NIL pmax pmax
comp=Z,28nm,1.1s
TIXI Tiksi 45.60 2 *e*P **P** **12 49 39.6 -0.4**
comp=Z,5.4nm,0.7s
TIXI *e*PcP **PcP** **12 51 16.5 +0.8**
TIXI Tiksi 45.60 2 *ce*P **P** **12 49 39.6 -0.4**
TIXI pmax pmax
comp=Z,6.0nm,0.7s
PALK Pallekele 46.30 254 *i* P **P** **12 49 46.2 -0.2**
WRAB Tennant Creek 46.64 168 *e*P **P** **12 49 48.4 -0.4**
comp=Z,15nm,0.9s
WRAB Tennant Creek 46.64 168 *ce*P **P** **12 49 48.6 -0.2**
WRAB pmax pmax
comp=Z,25nm,2.5s
WR1 Warramunga Arr 46.65 168 *e*P **P** **12 49 49.0 +0.1**
comp=Z,19nm,0.9s
WRA Warramunga Arr 46.65 168 P **P** **12 49 49.0 +0.1**
comp=Z,12nm,0.7s,baz=349,slow=8.7,SNR=127
WRA pP **pP** **12 50 23.9 +1.2**
comp=Z,9.4nm,1.0s,baz=351,slow=8.6,SNR=7.5
WB2 Warramunga Arr 46.65 168 *e*P **P** **12 49 48.5 -0.3**
WC3 Warramunga Arr 46.67 168 *e*P **P** **12 49 48.5 -0.6**
comp=Z,16nm,0.8s
KK31 Karatay Array 47.27 306 *e*P **P** **12 49 54.0 +0.5**
KK31 *e*PcP **PcP** **12 51 22.8 +0.5**
KK31 Karatay Array 47.27 306 *e*P **P** **12 49 54.0 +0.5**
KK31 *e* 12 51 22.8
KKAR Karatay Array 47.27 306 *e*P **P** **12 49 53.8 +0.2**
KKAR *e*PcP **PcP** **12 51 22.8 +0.5**
KKAR Karatay Array 47.27 306 *e*P **P** **12 49 53.8 +0.2**
KKAR *e* 12 51 22.8
MBWA Marble Bar 47.31 187 *e*P **P** **12 49 53.3 -0.7**
comp=Z,56nm,1.5s
NRIK Noril'sk 48.54 343 P **P** **12 50 02.5 -0.4**
comp=Z,25nm,0.9s,baz=126,slow=8.0,SNR=26
NRIK PcP **PcP** **12 51 26.9 +0.6**
comp=Z,12nm,0.7s,baz=128,slow=3.4,SNR=5.4
NRIK ScP **ScP** **12 55 05.5 -1.5**
comp=Z,3.7nm,0.5s,baz=130,slow=4.2,SNR=3.6
BILL Bilibino 48.63 19 ⇑*e*P **P** **12 50 02.9 -0.7**
BILL *i* 12 51 28.2
BILL pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 48.63 319 *e*P **P** **12 50 04.2 +0.4**
comp=Z,12nm,0.9s
BRVK Borovoye 48.63 319 *ce*P **P** **12 50 03.4 -0.4**
BRVK pmax pmax
comp=Z,19nm,1.3s
KBL Kabul 48.69 294 *e*P **P** **12 50 05.0 +0.2**
comp=Z,26nm,0.8s
KBL Kabul 48.69 294 *e*P **P** **12 50 05.0 +0.2**
KBL pmax pmax
comp=Z,26nm,0.8s
AS31 Alice Springs 50.21 170 *e*P **P** **12 50 16.3 +0.2**
comp=Z,6.9nm,0.5s
ASAR Alice Springs 50.21 170 P **P** **12 50 16.6 +0.5**
comp=Z,13nm,0.7s,baz=356,slow=14,SNR=280
ASAR pP **pP** **12 50 51.0 +0.6**
comp=Z,1.1nm,0.5s,baz=354,slow=8.9,SNR=1.3
ASAR ScP **ScP** **12 55 14.8 -0.1**
comp=Z,0.6nm,0.8s,baz=349,slow=4.1,SNR=4.2
AS01 Alice Springs 50.22 170 *e*P **P** **12 50 16.3 +0.1**
ADK Adak 50.33 43 *e*P **P** **12 50 17.0 +0.3**
comp=Z,32nm,0.9s
ADK Adak 50.33 43 *e*P **P** **12 50 17.0 +0.3**
ADK pmax pmax
comp=Z,32nm,0.9s
SVE Sverdlovsk 54.69 323 *e*P **P** **12 50 49.1 +0.4**
SVE pmax pmax
comp=Z,54nm,1.4s
ABKAR Akbulak array 54.75 313 *e*P **P** **12 50 49.0 -0.2**
ABKAR *e*PcP **PcP** **12 51 50.0 +0.1**
ARU Arti 55.80 322 *e*P **P** **12 50 56.4 -0.2**
comp=Z,27nm,0.9s
ARU Arti 55.80 322 *ci*P **P** **12 50 56.2 -0.5**
ARU *PP **pP** **12 51 34.4 +2.8**
ARU 12 51 52.5
ARU 12 52 58.4
ARU S **S** **12 58 31.0 -0.8**
ARU SS **SS** **13 02 17.0 -2.2**
ARU pmax pmax
comp=Z,35nm,1.0s
FORT Forrest 56.66 177 *e*P **P** **12 51 03.2 +0.3**

comp=Z,26nm,0.8s
ANM Nome 57.88 29 *e*P **P** **12 51 12.1 +0.9**
comp=Z,28nm,0.7s
ANM Nome 57.88 29 *e*P **P** **12 51 12.1 +0.9**
ANM pmax pmax
comp=Z,28nm,0.7s
NWAO Narrogin (SRO) 59.23 188 *e*P **P** **12 51 21.4 +0.6**
comp=Z,58nm,1.3s
NWAO Narrogin (SRO) 59.23 188 *e*P **P** **12 51 21.4 +0.6**
NWAO pmax pmax
comp=Z,58nm,1.3s
BBOO Buckleboo 59.52 169 *e*P **P** **12 51 22.7 -0.1**
comp=Z,13nm,0.7s
STKA Stephens Creek 59.76 164 P **P** **12 51 24.5 0.0**
comp=Z,5.3nm,0.7s,baz=350,slow=6.6,SNR=9.4
STKA pP **pP** **12 52 00.0 +0.1**
comp=Z,2.2nm,0.6s,baz=302,slow=12,SNR=2.6
STKA Stephens Creek 59.76 164 *e*P **P** **12 51 24.3 -0.3**
comp=Z,3.2nm,1.4s
CHGN Chignik 61.19 38 *e*P **P** **12 51 33.5 -0.5**
comp=Z,56nm,1.0s
ARMA Armidale 61.65 154 *e*P **P** **12 51 37.6 +0.2**
comp=Z,16nm,1.0s
DZM Mont Dzumac 62.38 136 *e*P **P** **12 51 42.4 -0.1**
comp=Z,16nm,1.1s
PRGR Permogore 62.46 328 *e*P **P** **12 51 41.4 -0.9**
PRGR pmax pmax
comp=Z,34nm,0.6s
IM3 Indian Mountai 62.80 27 *e*P **P** **12 51 44.8 +0.2**
CAST Castle Rocks 63.72 30 *e*P **P** **12 51 51.3 +0.6**
comp=Z,40nm,1.0s
PPLA Purkeypile 63.73 30 *e*P **P** **12 51 51.3 +0.4**
comp=Z,24nm,0.8s
OHAK Old Harbor 63.89 37 *e*P **P** **12 51 51.7 -0.2**
comp=Z,31nm,0.8s
MLY Manley 64.13 28 *e*P **P** **12 51 54.0 +0.7**
comp=Z,43nm,0.7s
BPAW Bear Paw Mtn. 64.13 29 *e*P **P** **12 51 53.4 0.0**
comp=Z,32nm,0.6s
TOLK Toolik Lake Re 64.20 24 *e*P **P** **12 51 54.1 +0.3**
comp=Z,17nm,1.1s
TOLK Toolik Lake Re 64.20 24 P **P** **12 51 54.5 +0.7**
baz=276
TRF Thorofare Moun 64.52 30 *e*P **P** **12 51 56.5 +0.4**
comp=Z,29nm,1.4s
CNPM China Poot 64.63 34 *e*P **P** **12 51 56.3 -0.4**
comp=Z,25nm,0.8s
BRLK Bradley Lake 64.77 34 *e*P **P** **12 51 57.3 -0.3**
comp=Z,22nm,0.9s
BWN Browne 64.78 29 *e*P **P** **12 51 59.2 +1.6**
comp=Z,96nm,1.2s
MCK McKinley 65.08 29 *e*P **P** **12 51 59.6 +0.1**
comp=Z,35nm,0.7s
MCK McKinley 65.08 29 *e*P **P** **12 51 59.6 +0.1**
MCK pmax pmax
comp=Z,35nm,0.7s
RC01 Rabbit Creek A 65.12 32 *e*P **P** **12 52 00.2 +0.5**
comp=Z,16nm,1.4s
CAN Canberra 65.13 159 *e*P **P** **12 51 59.9 -0.3**
comp=Z,9.4nm,0.7s
CAN Canberra 65.13 159 *e*P **P** **12 51 59.9 -0.3**
CAN pmax pmax
comp=Z,9.0nm,0.7s
MDM Murphy Dome 65.19 28 *e*P **P** **12 52 01.1 +0.9**
comp=Z,82nm,0.8s
PMR Palmer 65.33 32 *e*P **P** **12 52 01.3 +0.2**
comp=Z,30nm,1.2s
PMR Palmer 65.33 32 *e*P **P** **12 52 01.3 +0.2**
PMR pmax pmax
comp=Z,30nm,1.2s
WRH Wood River Hil 65.33 28 *e*P **P** **12 52 01.5 +0.4**
comp=Z,19nm,0.8s
TCOL CIGO, UAF Yank 65.36 28 P **P** **12 52 01.7 +0.4**
baz=279
COLA College 65.37 28 *e*P **P** **12 52 01.8 +0.5**
comp=Z,25nm,0.6s
COLA College 65.37 28 *e*P **P** **12 52 01.8 +0.5**
COLA pmax pmax
comp=Z,25nm,0.6s
CCB Clear Creek Bu 65.42 28 *e*P **P** **12 52 02.2 +0.5**
comp=Z,12nm,0.6s
SEW Seward 65.42 33 *e*P **P** **12 52 02.1 +0.4**
comp=Z,28nm,0.9s
KLMR Klimovskoe 65.49 328 *e*P **P** **12 52 00.9 -1.2**
KLMR *e*PP **pP** **12 52 39.0 +0.9**
KLMR pmax pmax
comp=Z,17nm,1.1s
KLMR Klimovskoe 65.49 328 *e*P **P** **12 51 01.0 -1.2**
KLMR AMP 12 52 03.7
comp=Z,17nm,1.1s
KLMR *ep*P **pP** **12 52 39.0 +0.9**
POKR Poker Plat Res 65.50 28 P **P** **12 52 03.6 +1.4**
baz=279
SML Sawmill 65.67 31 *e*P **P** **12 52 03.8 +0.4**
comp=Z,33nm,1.0s
SML Sawmill 65.67 31 *e*P **P** **12 52 03.8 +0.4**
SML pmax pmax
comp=Z,33nm,1.0s
IL1 Eielson Array 65.79 28 *e*P **P** **12 52 03.9 -0.1**
ILAR Eielson Array 65.79 28 P **P** **12 52 03.8 -0.3**
comp=Z,5.8nm,0.5s,baz=254,slow=4.6,SNR=117
ILB Eielson Array 65.79 28 *e*P **P** **12 52 03.8 -0.3**
LHI Lord Howe Isla 65.81 149 *e*P **P** **12 52 04.0 -0.5**
comp=Z,151nm,1.4s
HDA Harding Lake 65.83 28 *e*P **P** **12 52 04.1 -0.2**
comp=Z,40nm,0.9s
HDA Harding Lake 65.83 28 P **P** **12 52 04.5 +0.2**
baz=280
DHY Denali Highway 65.88 30 *e*P **P** **12 52 05.0 +0.2**
comp=Z,12nm,0.7s
SCM Sheep Creek Mo 66.13 31 *e*P **P** **12 52 06.7 +0.3**
comp=Z,50nm,0.9s
SCM Sheep Creek Mo 66.13 31 *e*P **P** **12 52 06.7 +0.3**
SCM pmax pmax
comp=Z,50nm,0.9s
FYU Fort Yukon 66.14 26 *e*P **P** **12 52 06.9 +0.6**
comp=Z,80nm,1.5s
GLI Glacier Island 66.43 32 *e*P **P** **12 52 08.9 +0.7**
comp=Z,42nm,1.0s
ZEI Tsey 66.66 308 *e*P **P** **12 52 09.5 -0.7**
ZEI pmax pmax
comp=Z,19nm,0.7s
GNI Garni 66.72 305 *ce*P **P** **12 52 12.0 +1.4**
GNI pmax pmax
comp=Z,76nm,1.3s
FID Port Fidalgo 66.75 32 *e*P **P** **12 52 10.6 +0.4**
comp=Z,52nm,1.4s
PAX Paxson 66.75 30 *e*P **P** **12 52 11.0 +0.7**
comp=Z,20nm,0.8s
PAX Paxson 66.75 30 *e*P **P** **12 52 11.0 +0.7**
PAX pmax pmax
comp=Z,21nm,0.8s
KLU Klutina 66.86 31 *e*P **P** **12 52 11.5 +0.5**
comp=Z,30nm,1.1s
RIDG Independ'e Rid 66.87 29 *e*P **P** **12 52 11.5 +0.5**
comp=Z,80nm,1.3s
DIV Divide 67.00 32 *e*P **P** **12 52 12.2 +0.3**
comp=Z,27nm,0.8s
HARP HAARP 67.01 30 *e*P **P** **12 52 12.5 +0.6**
comp=Z,41nm,0.8s
KBZ Khabaz 67.13 309 P **P** **12 52 13.5 +0.6**
comp=Z,21nm,0.8s,baz=108,slow=3.1,SNR=39
EYAK Cordova Ski Ar 67.14 32 *e*P **P** **12 52 13.2 +0.5**
comp=Z,12nm,0.8s
SCRK Sand Creek 67.19 29 *e*P **P** **12 52 13.3 +0.2**
comp=Z,20nm,0.8s
KIV Kislovodsk 67.22 309 *e*P **P** **12 52 13.5 -0.1**
comp=Z,40nm,0.8s
KIV Kislovodsk 67.22 309 *e*P **P** **12 52 14.3 +0.7**
KIV pmax pmax
comp=Z,49nm,1.0s
DOT Dot Lake 67.23 29 *e*P **P** **12 52 12.9 -0.3**
comp=Z,30nm,0.8s
AKH Akhalkalaki 67.31 306 *e*P **P** **12 52 14.7 +0.4**
comp=Z,23nm,0.9s
AKH Akhalkalaki 67.31 306 ⇑*i*P **P** **12 52 16.1 +1.8**
AKH Akhalkalaki 67.31 306 *e*P **P** **12 52 14.7 +0.4**
AKH pmax pmax
comp=Z,23nm,0.9s
NEY Neytrino 67.37 308 ⇑*i*P **P** **12 52 15.7 +1.0**
NEY pmax pmax
comp=Z,4.0nm,0.7s
BMRM Bremner River 67.59 32 *e*P **P** **12 52 16.3 +0.7**
comp=Z,22nm,0.9s
RAGM Ragged Mountai 67.70 32 *e*P **P** **12 52 16.5 +0.2**
comp=Z,36nm,1.2s
EGAK Eagle 68.19 27 *e*P **P** **12 52 19.1 0.0**

comp=Z,30nm,0.7s
OBN Obninsk 68.25 322⇑ *e*P P 12 52 19.5 -0.2
OBN 12 52 38.0
OBN PPP PPP 12 56 33.0
OBN *e* 13 01 48.0
OBN pmax pmax
comp=Z,35nm,1.7s
TGL Tana Glacier 68.49 32 *e*P P 12 52 22.0 +0.7
comp=Z,24nm,1.0s
KEV Kevo 68.53 338 *e*P P 12 52 21.1 -0.1
comp=Z,10nm,0.7s
KEV Kevo 68.53 338 *e*P P 12 52 21.1 -0.1
KEV pmax pmax
comp=Z,10.0nm,0.7s
ARA0 ARCESS Array S 69.10 338 *e*P P 12 52 24.4 -0.3
ARCES ARCESS Array B 69.10 338 P P 12 52 24.4 -0.3
comp=Z,6.7nm,0.8s,baz=71,slow=7.0,SNR=17
ARCES ARCESS Array B 69.10 338 *e*P P 12 52 24.7 -0.1
ARCES ARCESS Array B 69.10 338 *e*P P 12 52 24.7 -0.1
DAWY Dawson 69.12 28 *e*P P 12 52 25.5 +0.4
comp=Z,26nm,0.8s
SGF Sodankyl 69.41 336 P P 12 52 28.1 +1.4
SGF pmax pmax
comp=Z,73nm,0.9s
EPYK Eagle Plains 69.50 25 P P 12 52 27.8 +0.5
baz=288
INK Inuvik 70.03 23 *e*P P 12 52 30.6 +0.2
comp=Z,37nm,1.4s
INK Inuvik 70.03 23 *e*P P 12 52 30.6 +0.2
INK pmax pmax
comp=Z,37nm,1.4s
OUL Oulu 70.42 334 P P 12 52 34.9 +2.0
OUL pmax pmax
comp=Z,29nm,2.0s
RAYN Ar Rayn 71.28 288 *e*P P 12 52 39.0 +0.1
comp=Z,4.4nm,0.9s
RAYN Ar Rayn 71.28 288 *e*P P 12 52 39.0 +0.1
RAYN pmax pmax
comp=Z,4.0nm,0.9s
FIA1 FINESS Array S 71.61 330 *e*P P 12 52 39.8 -0.3
FIA0 FINESS Array S 71.61 330 *e*P P 12 52 40.0 0.0
FIA0 FINESS Array S 71.61 330 *e*P P 12 52 40.1 0.0
FINES FINESS Array B 71.61 330 P P 12 52 40.0 0.0
comp=Z,7.8nm,0.5s,baz=59,slow=6.0,SNR=41
WHY Whitehorse 72.23 31 *e*P P 12 52 44.5 +0.6
comp=Z,22nm,0.8s
SKAG Skagway 72.46 32 *e*P P 12 52 45.4 +0.2
comp=Z,30nm,1.0s
AKASG Malin Array Be 73.84 319 P P 12 52 53.0 -0.5
comp=Z,14nm,0.7s,baz=57,slow=6.0,SNR=21
AKASG Malin Array Be 73.84 319 *i* P P 12 52 53.0 -0.5
AKASG pmax pmax
comp=Z,14nm,0.7s
AKBB Malin Array Si 73.84 319 *e*P P 12 52 53.0 -0.5
comp=Z,12nm,0.6s
KIEV Kiev 73.86 319 *e*P P 12 52 52.8 -0.8
comp=Z,12nm,0.7s
KIEV Kiev 73.86 319 *e*P P 12 52 52.8 -0.8
KIEV pmax pmax
comp=Z,12nm,0.7s
AK11 Malin Array Si 73.89 319 *e*P P 12 52 53.0 -0.7
BR101 Keskin Array S 74.95 307 *e*P P 12 52 59.9 -0.5
BR131 Keskin Array S 74.95 307 *e*P P 12 53 00.3 0.0
BRTR Keskin Array B 74.95 307 P P 12 52 59.9 -0.5
comp=Z,6.8nm,0.8s,baz=94,slow=5.5,SNR=29
BRTR Keskin Array B 74.95 307 *i* P P 12 53 00.7 +0.4
BRTR pmax pmax
comp=Z,7.0nm,0.7s
DAG Danmarks Havn 74.98 352 *i* P P 12 52 58.5 -1.1
comp=Z,6.2nm,0.9s
DAG Danmarks Havn 74.98 352 *i* P P 12 52 58.5 -1.1
DAG pmax pmax
comp=Z,5.0nm,0.9s
DLBC Dease Lake 75.39 32 *e*P P 12 53 03.8 +1.4
comp=Z,24nm,1.1s
ANTO Ankara 75.50 307⇑ *i*P P 12 53 03.9 +0.5
ANTO Ankara 75.50 307 P P 12 53 03.9 +0.5
SUW Suwalki 75.94 323 *e*P P 12 53 05.7 +0.2
SUW Suwalki 75.94 323 *e*P P 12 53 05.1 -0.4
comp=Z,57nm,1.0s
SUW Suwalki 75.94 323 *e*P P 12 53 05.7 +0.2
RES Resolute Bay 76.13 10 *e*P P 12 53 05.7 -0.5
comp=Z,16nm,1.1s
RES Resolute Bay 76.13 10 *e*P P 12 53 05.7 -0.5
RES pmax pmax
comp=Z,16nm,1.1s
TLCR 76.19 314⇑ *i*P P 12 53 07.2 +0.2
TLCR 76.19 314 P P 12 53 07.2 +0.2
CFR Carcaliu 76.63 314⇑ *i*P P 12 53 09.5 0.0
CFR Carcaliu 76.63 314 P P 12 53 09.5 0.0
TLB Topalu 76.93 313 *ij*P P 12 53 11.5 +0.3
TLB Topalu 76.93 313 P P 12 53 11.5 +0.3
GIRR Girov 76.96 316⇑ *i*P P 12 53 11.5 +0.1
PRAR RASCA 76.96 316⇑ *i*P P 12 53 11.7 +0.3
HARR Harsova 76.96 313⇑ *i*P P 12 53 12.0 +0.5
HARR Harsova 76.96 313 P P 12 53 11.9 +0.5
BIZ Bicaz 77.21 316⇑ *i*P P 12 53 13.6 +0.8
VRI Vrincioaia 77.26 315⇑ *i*P P 12 53 13.6 +0.5
VRI Vrincioaia 77.26 315 P P 12 53 11.6 -1.5
BUR08 Bucovina Ar. S 77.47 317 *e*P P 12 53 14.4 0.0
BURAR Bucovina Array 77.48 317⇑ *i*P P 12 53 14.9 +0.5
BURAR Bucovina Array 77.48 317 P P 12 53 14.9 +0.5
BUR04 Bucovina Ar. S 77.48 317 *e*P P 12 53 14.6 +0.2
MLR Muntele Rosu 77.92 315 *e*P P 12 53 17.0 +0.1
comp=Z,6.5nm,0.7s
MLR Muntele Rosu 77.92 315⇑ *i*P P 12 53 17.3 +0.4
MLR Muntele Rosu 77.92 315 *e*P P 12 53 17.0 +0.1
MLR pmax pmax
comp=Z,7.0nm,0.7s
NC405 NORSAR Array S 77.95 333 *e*P P 12 53 16.2 -0.4
DOPR Dopca 78.07 315⇑ *i*P P 12 53 18.7 +1.1
KWP Kalwaria Pacla 78.11 320 *e*P P 12 53 18.2 +0.5
KWP Kalwaria Pacla 78.11 320 *e*P P 12 53 18.2 +0.5
NB201 NORSAR Array S 78.15 333 *e*P P 12 53 17.1 -0.6
NB2 NORSAR Subarra 78.19 333 P P 12 53 17.2 -0.8
comp=Z,8.0nm,0.6s,baz=54,slow=5.9
NB200 NORSAR Array S 78.19 333 *e*P P 12 53 17.4 -0.6
NOA NORSAR Array B 78.19 333 P P 12 53 17.4 -0.6
comp=Z,7.5nm,0.6s,baz=53,slow=5.7,SNR=33
NC602 NORSAR Array S 78.22 333 *e*P P 12 53 17.4 -0.7
NC204 NORSAR Array S 78.25 333 *e*P P 12 53 17.8 -0.5
LOT Lotru 79.31 315⇑ *i*P P 12 53 25.3 +0.8
DRGR 79.37 317⇑ *i*P P 12 53 24.9 +0.1
DRGR 79.37 317 P P 12 53 24.9 +0.1
OJC Ojcow 79.51 321 *e*P P 12 53 25.7 +0.4
OJC Ojcow 79.51 321 *e*P P 12 53 25.3 -0.1
comp=Z,23nm,1.1s
OJC Ojcow 79.51 321 *e*P P 12 53 25.7 +0.4
NIE Niedzica 79.60 320 *e*P P 12 53 26.8 +0.9
NIE Niedzica 79.60 320 *e*P P 12 53 26.8 +0.9
YKW3 Yellowknife Ar 79.69 24 *e*P P 12 53 26.7 +0.7
comp=Z,23nm,0.8s
YKA Yellowknife Ar 79.73 24 P P 12 53 26.9 +0.6
comp=Z,14nm,0.7s,baz=304,slow=5.3,SNR=90
YKB5 Yellowknife Ar 79.73 24 *e*P P 12 53 26.1 -0.2
KECS Kecovo 79.93 319 *e*P P 12 53 27.3 -0.3
KECS pmax pmax
comp=Z,6.0nm,0.7s
KECS Kecovo 79.93 319 *e*P P 12 53 27.3 -0.3
HERR Herculane 80.43 315⇑ *i*P P 12 53 30.9 +0.5
SCO Scoresbysund 80.87 349 *i* P P 12 53 30.7 -1.5
comp=Z,10nm,0.9s
SCO Scoresbysund 80.87 349 *i* P P 12 53 30.7 -1.5
SCO pmax pmax
comp=Z,10.0nm,0.9s
VYHS Vyhne 80.89 320 *e*P P 12 53 33.5 +0.7
VYHS pmax pmax
comp=Z,7.0nm,1.0s
VYHS Vyhne 80.89 320 *e*P P 12 53 33.5 +0.7
SUMG Summit 80.92 355 *e*P P 12 53 32.7 -0.3
comp=Z,20nm,1.0s
SUMG Summit 80.92 355 *i* P P 12 53 32.7 -0.3
comp=Z,30nm,0.6s
SUMG Summit 80.92 355 *i* P P 12 53 32.7 -0.3
SUMG pmax pmax
comp=Z,30nm,0.6s
VTS Vitosha 80.96 313 *e*P P 12 53 33.0 -0.4
comp=Z,13nm,0.9s
VTS Vitosha 80.96 313⇑ *i*P P 12 53 33.8 +0.4
VTS Vitosha 80.96 313 *e*P P 12 53 33.0 -0.4
VTS pmax pmax
comp=Z,13nm,0.9s
MORC Moravsky Berou 81.00 321 *e*P P 12 53 33.2 -0.2
comp=Z,9.3nm,1.1s
MORC Moravsky Berou 81.00 321⇑ *i*P P 12 53 33.2 -0.2
MORC Moravsky Berou 81.00 321 *e*P P 12 53 33.2 -0.2
MORC pmax pmax
comp=Z,9.0nm,1.1s
MORC Moravsky Berou 81.00 321 *e*P P 12 53 33.9 +0.5
RPZ Rata Peaks 81.22 148 *e*P P 12 53 34.9 +0.6
comp=Z,32nm,1.0s
JAVC Velka Javorina 81.38 320 *e*P P 12 53 37.3 +1.9
DPC Dobruska-Polom 81.39 322 *e*P P 12 53 36.0 +0.6
DPC Dobruska-Polom 81.39 322 *e*P P 12 53 36.0 +0.6
VRAC Vranov 81.77 321⇑ *i*P P 12 53 38.3 +0.9
VRAC Vranov 81.77 321 *i* P P 12 53 38.3 +0.9
VRAC Vranov 81.77 321 *e*P P 12 53 38.3 +0.9
KRUC Moravsky 82.00 321 *e*P P 12 53 39.4 +0.8
DIVS Divibare 82.33 315 *e*P P 12 53 40.2 -0.3
comp=Z,5.2nm,0.9s
BRG Berggiesshubel 82.41 323 *e*P P 12 53 41.0 +0.4
comp=Z,5.6nm,0.9s
BRG Berggiesshubel 82.41 323 *e*P P 12 53 41.0 +0.4
BRG pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 82.67 324 *e*P P 12 53 41.8 -0.2
comp=Z,10.0nm,0.8s
CLL Collm 82.67 324 *i* P P 12 53 42.1 +0.1
comp=Z,12nm,0.9s
CLL *e*pP pP 12 54 18.0 -1.5
CLL Collm 82.67 324 *i* P P 12 53 42.1 +0.1
CLL *e**PP pP 12 54 18.0 -1.5
CLL pmax pmax
comp=Z,12nm,0.9s
GERES GERESS Array B 83.63 322 P P 12 53 47.5 +0.4
comp=Z,2.2nm,0.8s,baz=57,slow=4.9,SNR=8.8
GEA0 GERESS Array S 83.63 322 *e*P P 12 53 47.3 +0.2
FUORN Ofenpass-Fuorn 86.80 321 *e*P P 12 54 02.8 -0.4
comp=Z,13nm,0.7s
KMBO Kilima Mbogo 88.67 268 P P 12 54 12.6 0.0
comp=Z,1.2nm,0.4s,baz=39,slow=8.6,SNR=6.7
KMBO Kilima Mbogo 88.67 268 *i* P P 12 54 14.1 +1.5
KMBO pmax pmax
comp=Z,1.0nm,0.4s
FFC Flin Flon 89.85 25 *e*P P 12 54 17.5 +0.4
comp=Z,30nm,0.8s
FFC Flin Flon 89.85 25 *i* P P 12 54 18.1 +1.1
MSO Missula 89.87 36 *e*P P 12 54 17.9 +0.4
comp=Z,8.8nm,1.2s
HRY Holter Researc 91.06 35 *e*P P 12 54 23.1 +0.1
DLMT Dillon 91.53 37 *e*P P 12 54 25.0 -0.3
comp=Z,7.4nm,0.9s
HLID Hailey 91.68 39 *e*P P 12 54 25.7 -0.3
comp=Z,4.7nm,0.9s
NV01 Mina Array Sit 92.49 45 *e*P P 12 54 29.7 -0.2
NVAR Mina Array Bea 92.49 45 P P 12 54 31.1 +1.1
comp=Z,1.9nm,0.8s,baz=309,slow=5.7,SNR=4.3
DGMT Dagmar 93.56 30 *e*P P 12 54 34.6 +0.3
comp=Z,14nm,0.8s
PDAR Pinedale Array 94.89 37 P P 12 54 41.6 +0.8
comp=Z,0.2nm,0.4s,baz=284,slow=7.3,SNR=3.2
ULM Lac du Bonnet 95.68 25 P P 12 54 44.1 +0.1
comp=Z,4.5nm,0.8s,baz=319,slow=4.0,SNR=6.9
ULM Lac du Bonnet 95.68 25 P P 12 54 44.1 +0.1
ULM pmax pmax
comp=Z,3.0nm,0.8s
TXAR Lajitas Array 107.61 44 PKiKP **PKiKP** 12 59 44.9 -0.3
comp=Z,0.1nm,0.5s,baz=270,slow=0.5,SNR=2.6
TXAR PP PP 13 00 07.0 +0.2
comp=Z,0.6nm,1.0s,baz=295,slow=6.9,SNR=2.4
TORD Torodi Ar. Bea 112.63 298 PKiKP **PKiKP** 12 59 54.7 -0.1
comp=Z,0.4nm,0.6s,baz=90,slow=1.4,SNR=3.4
DBIC Dimbokro 121.63 297 PKP **PKPdf** 13 00 12.7 +0.5
comp=Z,3.1nm,0.7s,baz=72,slow=2.6,SNR=4.3
ROSC El Rosal 143.84 34 PKPdf **PKPdf** 13 00 54.2 +0.1
OTAV Otavalo 145.23 45 *e*PKPbc **PKPbc** 13 00 56.5 0.0
OTAV Otavalo 145.23 45 *e*PKP2 **PKPbc** 13 00 56.5 0.0
PLCA Paso Flores 160.41 142 PKPab **PKPab** 13 02 00.5 +1.5
comp=Z,1.1nm,0.9s,baz=218,slow=9.2,SNR=3.0
LPAZ La Paz 164.16 54 PKPab **PKPab** 13 02 16.5 -0.2
comp=Z,1.3nm,0.6s,baz=261,slow=1.3,SNR=4.3

*NIED **29** 12:53:00,41.70N×142.80E,h26km,Mw4.0 Best double couple: M0 1.17000×10^15 NP1:φ=77.00000°,δ=39.00000°, λ=-93.00000°. NP2:φ=260.00000°,δ=52.00000°, λ=-88.00000°.*
*JMA **29** 12:53:08.2±0.1,41.72N×142.80E,h35km±2km,M3.9*
JMA Felt I J1.
*NEIC **29** 12:53:09.5±0.4,41.75N×142.74E,h35km,mb4.4/1,Error ellipse: s-maj=10.2km s-min=6.2km az=121.0*
*IDC **29** 12:53:11.9±2.2,41.72N×142.69E,h55km±20km,mb3.4/13, mb1 3.7/15,mb1mx3.6/37,mbtmp3.7/15,ML4.1/2,MS3.3/1, Ms1 3.3/1,ms1mx2.7/35,Error ellipse: s-maj=20.0km s-min=12.4km az=115.0*

ISC 29 12:53:06.4±1.3,41.77N±0.04×142.71E±0.04,h13km±8km, n53,σ=1.9 s13/55,mb3.7/13,8C,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
ERM	**Erimo**	**0.41**	**53**	*e*Pn	**Pn**	12 53 17.6	-0.6
JEM	**Erimo**	**0.42**	**53**	P	**Pn**	12 53 17.3	-0.8
JEM				*e*S	**Sb**	12 53 23.5	+1.6
JNBK	**Urakawa-nobuka**	**0.52**	**3**	⇑P	**Pn**	12 53 19.4	-0.1
JNBK				*e*S	**Sn**	12 53 27.9	-0.3
JSHD	**Hidakashinhida**	**0.67**	**344**	⇑P	**Pn**	12 53 22.5	+0.9
JTHR	**Tokachihiroo**	**0.68**	**40**	⇑P	**Pb**	12 53 21.4	+1.2
JTHR				*e*S	**Sb**	12 53 30.9	+1.3
JCH	**Churui**	**0.98**	**29**	⇑P	**Pn**	12 53 26.3	+0.4
JCH				*e*S	**Sb**	12 53 39.4	+1.4
JIAM	**Iburiatsuma**	**1.04**	**326**	P	**Pn**	12 53 29.2	+2.5
JBT2	**Biratori 2**	**1.04**	**346**	⇑P	**Pn**	12 53 27.9	+1.1
JKB	**Kayabe**	**1.26**	**276**	⇑P	**Pg**	12 53 30.6	-0.1
JKB				*e*S	**Sg**	12 53 46.7	-0.4
JARK	**Aomorirokkasho**	**1.27**	**234**	P	**Sg**	12 53 30.2	-0.5
JARK				*e*S	**Sn**	12 53 45.8	-0.9
JOT	**Ohata**	**1.31**	**254**	P	**Pg**	12 53 31.5	0.0
JOT				*e*S	**Sg**	12 53 47.9	-0.6
JFR	**Furan**	**1.40**	**356**	P	**Pb**	12 53 32.7	+0.2
JOB	**Onbets**	**1.41**	**36**	⇑P	**Pg**	12 53 33.7	+0.2
JEW	**Eniwo**	**1.43**	**319**	P	**Pb**	12 53 33.6	+0.7
JNB	**Noboribetsu**	**1.43**	**300**	⇑P	**Pb**	12 53 33.0	0.0
JNB				*e*S	**Sb**	12 53 51.4	+0.3
ASAJ	**Asahikawa**	**2.35**	**358**	P	**Pb**	12 53 48.2	-0.5
ASAJ	47nm,0.3s,baz=201,slow=12,SNR=95			S	**Sb**	12 54 18.1	+0.5
	20nm,0.3s,baz=354,slow=25,SNR=4.2						
ASAJ	**Asahikawa**	**2.35**	**358**	*e*Pn	**Pn**	12 53 44.4	-0.4
ASAJ				*e*Sn	**Sb**	12 54 17.4	-0.2
YSS	**Yuzh-Sakhalins**	**5.19**	**0**	*e*Pn	**Pn**	12 54 20.4	-3.3
MJB9	**Matsu-Tunnel**	**6.28**	**215**	*e*Pn	**Pn**	12 54 38.6	-0.2
MAJO	**Matsushiro**	**6.28**	**215**	*e*Pn	**Pn**	12 54 38.2	-0.6
MAT	**Matsushiro**	**6.28**	**215**	P	Pn	12 54 42.4	+3.6
MJAR	**Matsushiro Arr**	**6.28**	**215**	P	**Pn**	12 54 41.7	+2.9
	1.6nm,0.3s,baz=13,slow=19,SNR=14						
INU	**Inuyama**	**7.80**	**217**	*e*Pn	**Pn**	12 54 59.9	+0.2
SEY	**Seymchan**	**21.96**	**12**	P	**P**	12 57 59.4	-0.2
	1.0nm,0.5s,baz=191,slow=16,SNR=5.0						
SONA1	**Songino Array**	**26.29**	**296**	*e*P	**P**	12 58 43.0	+1.2
SONA0	**Songino Array**	**26.30**	**296**	*e*P	**P**	12 58 41.6	-0.2
SONM	**Songino Array**	**26.30**	**296**	P	**P**	12 58 41.6	-0.2
	0.4nm,0.6s,baz=96,slow=10,SNR=3.4						
GUMO	**Guam**	**28.14**	**176**	LR	LR	13 08 38.9	
	comp=Z,64nm,21.2s,baz=112,slow=33						
H11N2	**WAKE ISLAND Hy** baz=324	**30.05**	**130**	T	T	13 30 36.2	
H11N1	**WAKE ISLAND Hy** baz=324	**30.06**	**130**	T	T	13 30 39.8	
H11N3	**WAKE ISLAND Hy** baz=324	**30.07**	**130**	T	T	13 30 42.1	
H11S1	**WAKE ISLAND Hy** baz=324,slow=76,SNR=28	**30.91**	**131**	T	T	13 31 44.3	
H11S3	**WAKE ISLAND Hy** baz=324,slow=76,SNR=22	**30.92**	**131**	T	T	13 31 37.4	
H11S2	**WAKE ISLAND Hy** baz=324,slow=76,SNR=22	**30.93**	**131**	T	T	13 31 41.2	
ZAA1	**Zalesovo Array**	**39.62**	**308**	*e*P	**P**	13 00 38.6	+1.1
ZALV	**Zalesovo Beam**	**39.62**	**308**	P	**P**	13 00 38.6	+1.1
	0.6nm,0.3s,baz=40,slow=7.5,SNR=3.1						
MK01	**Makanchi Array**	**42.62**	**298**	*e*P	**P**	13 01 02.1	-0.2
MK31	**Makanchi Array**	**42.62**	**298**	*e*P	**P**	13 01 02.6	+0.3
MK32	**Makanchi Array**	**42.62**	**298**	*e*P	**P**	13 01 02.2	-0.1
MKAR	**Makanchi Array**	**42.62**	**298**	P	**P**	13 01 02.2	-0.1
	0.3nm,0.5s,baz=78,slow=11,SNR=5.9						
MKAR	**Makanchi Array**	**42.62**	**298**	*e*P	**P**	13 01 02.6	+0.3
	4.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**43.81**	**252**	P	**P**	13 01 12.8	+0.5
	0.4nm,0.3s,baz=27,slow=6.1,SNR=2.9						
ILAR	**Eielson Array**	**45.00**	**35**	P	**P**	13 01 20.8	-0.4
	0.2nm,0.4s,baz=262,slow=5.8,SNR=4.7						
ABKAR	**Akbulak array**	**55.74**	**308**	*e*P	**P**	13 02 41.7	-0.9
LVZ	**Lovozero**	**58.23**	**335**	*e*P	**P**	13 02 56.0	-4.1
YKA	**Yellowknife Ar**	**59.24**	**32**	P	**P**	13 03 07.5	+0.5
	0.2nm,0.7s,baz=312,slow=6.7,SNR=4.3						
WRA	**Warramunga AR**	**61.88**	**189**	P	**P**	13 03 24.4	-1.1
	0.8nm,0.6s,baz=7.8,slow=7.7,SNR=16						
FIA0	**FINESS Array S**	**65.11**	**332**	*e*P	**P**	13 03 46.4	0.0
FINES	**FINESS Array B**	**65.11**	**332**	P	**P**	13 03 46.4	0.0
	2.6nm,0.8s,baz=50,slow=3.0,SNR=5.2						
ASAR	**Alice Springs**	**65.61**	**189**	P	**P**	13 03 49.9	-0.2
	0.2nm,0.4s,baz=3.4,slow=7.8,SNR=8.4						
NVAR	**Mina Array Bea**	**71.40**	**55**	P	**P**	13 04 27.6	+1.1
	0.9nm,0.7s,baz=284,slow=5.8,SNR=5.7						
PDAR	**Pinedale Array**	**73.67**	**47**	P	**P**	13 04 40.3	+0.3
	0.4nm,0.5s,baz=272,slow=2.0,SNR=5.9						
TXAR	**Lajitas Array**	**86.46**	**53**	P	**P**	13 05 49.8	+0.7
	0.4nm,0.7s,baz=304,slow=3.2,SNR=5.2						

*ISK **29** 12:54:05.5,36.61N×27.94E,h3km,ML3.0/16*
*ISCJB **29** 12:54:06.9±0.5,36.60N±0.03×27.91E±0.02,h8km±4km, Error ellipse: s-maj=4.5km s-min=3.1km az=5.6*
*THE **29** 12:54:06.3,36.65N×27.98E,h2km±1km,ML3.0/4,Error ellipse: s-maj=1.4km s-min=0.5km az=153.0*
*ATH **29** 12:54:06.4,36.66N×27.92E,h30km±1km,ML3.0/5,Error ellipse: s-maj=3.2km s-min=1.4km az=208.0*
*DDA **29** 12:54:06.5,36.62N×27.91E,h17km,Ml2.9*

ISC 29 12:54:06.9±0.9,36.64N±0.02×27.90E±0.02,h14km±8km, n44,σ=0.92/65,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
DATC	**Datca-Mugla**	**0.22**	**301**		**Pg**	12 54 11.8	0.0
DATC				SG	**Sb**	12 54 16.5	-0.2
MRSB	**Marmaris-Mugla**	**0.25**	**73**	PG	**Pg**	12 54 10.8	-1.5
DAT	**Datca**	**0.27**	**288**	PG	**Pg**	12 54 12.6	-0.1
DAT	**Datca**	**0.27**	**288**	*i* P	**Pg**	12 54 12.5	-0.3
DAT				*i* S	**Sb**	12 54 19.1	+0.8
ARG	**Arkhangelos**	**0.47**	**157**	PG	**Pg**	12 54 14.3	-1.8
ARG	**Arkhangelos**	**0.47**	**157**	P	**Pg**	12 54 15.6	-0.5
ARG				S	**Sb**	12 54 24.1	+0.4
ARG				AML	AML	12 54 24.7	
	comp=N,4382μm,0.3s						
ARG				AML	AML	12 54 26.7	
	comp=E,4541μm,0.3s						
ARG	**Arkhangelos**	**0.47**	**157**	P	**Pg**	12 54 15.2	-0.9
ARG				S	**Sg**	12 54 23.0	+0.7
NIS1	**Nisyros Isl.**	**0.58**	**266**	PG	**Pg**	12 54 17.4	-0.9
NIS1	**Nisyros Isl.**	**0.58**	**266**	P	**Pb**	12 54 19.3	+0.4
NIS1				S	**Sb**	12 54 28.2	+1.2
NIS1				AML	AML	12 54 33.1	
	comp=E,8858μm,0.3s						
NIS1				AML	AML	12 54 34.2	
	comp=N,7019μm,0.4s						
NIS1	**Nisyros Isl.**	**0.58**	**266**	P	**Pb**	12 54 19.2	+0.3
NIS1				S	**Sn**	12 54 29.1	-1.1
TURN	**Turunc**	**0.61**	**68**	PG	Pg	12 54 12.2	-6.6
TURN				SG	**Sg**	12 54 16.8	-10
NISR	**Nisiros**	**0.62**	**267**	P	**Pb**	12 54 19.7	+0.2
NISR				AML	AML	12 54 33.3	
	comp=E,2633μm,0.4s						
NISR				AML	AML	12 54 36.2	
	comp=N,2506μm,0.9s						
NISR	**Nisiros**	**0.62**	**267**	P	**Pb**	12 54 19.9	+0.3
NISR				S	**Sn**	12 54 30.4	-0.7
DALY	**Dalyan (Mu¨la**	**0.63**	**74**	PG	**Pg**	12 54 18.4	-0.8
DALY	**Dalyan (Mu¨la**	**0.63**	**74**	*i* P	**Pg**	12 54 18.0	-1.2
DALY				*i* S	**Sg**	12 54 27.8	+0.2
BODT	**Bodrum**	**0.63**	**312**	PG	**Pb**	12 54 19.5	-0.3
BODT	**Bodrum**	**0.63**	**312**	P	**Pb**	12 54 19.4	-0.3
BODT				S	**Sn**	12 54 29.7	-1.7
MLSB	**Milas**	**0.66**	**351**	PG	**Pb**	12 54 20.0	-0.2
FETY	**Fethiye**	**0.95**	**90**	PG	**Pb**	12 54 24.2	-1.0
FETY	**Fethiye**	**0.95**	**90**	P	**Pb**	12 54 24.2	-1.0
FETY				S	**Sb**	12 54 36.8	-0.9
AYDN	**Tasoluk**	**1.01**	**359**	*i* P	**Pb**	12 54 25.9	-0.4
AYDN				*i* S	**Sn**	12 54 40.8	-0.1
TAVA	**DENIZLI_Tavas**	**1.15**	**44**	*i* P	**Pb**	12 54 27.7	-1.0
TAVA				*i* S	**Sn**	12 54 46.0	+1.6
SMG	**Samos**	**1.36**	**322**	P	**Pn**	12 54 31.2	-0.4
SMG				S	**Sb**	12 54 48.7	-0.8
SMG				AML	AML	12 54 58.6	
	comp=E,758μm,0.5s						
SMG				AML	AML	12 55 00.5	
	comp=N,830μm,0.4s						
SMG	**Samos**	**1.36**	**322**	P	**Pn**	12 54 31.3	-0.2
SMG				S	**Sg**	12 54 51.0	+0.2
DNZL	**Cakiroluk**	**1.39**	**41**	*i* P	**Pg**	12 54 33.4	-0.2
DNZL				*i* S	**Sg**	12 54 53.8	+2.0
DENT	**Denizli**	**1.43**	**39**	PN	**Pb**	12 54 33.5	+0.1
AKAS	**Kas**	**1.44**	**106**	PN	**Pn**	12 54 32.9	+0.2
AKAS	**Kas**	**1.44**	**106**	*i* P	**Pn**	12 54 33.2	+0.5
AKAS				*i* S	**Sg**	12 54 54.5	+1.4
KSL	**Kastellorizon**	**1.44**	**109**	P	**Pn**	12 54 33.0	+0.4
KSL				S	**Sn**	12 54 51.9	+0.5
KSL				AML	AML	12 55 01.9	
	comp=E,202μm,0.4s						
KSL				AML	AML	12 55 03.3	
	comp=N,187μm,0.5s						
GOLH	**Golhisar**	**1.46**	**66**	*i* P	**Pb**	12 54 34.2	+0.3
GOLH				*i* S	**Sg**	12 54 55.7	+1.8
ELL	**Elmali**	**1.62**	**86**	PN	**Pn**	12 54 35.7	+0.5
ANAF	**Anafi Island**	**1.74**	**261**	P	**Pn**	12 54 36.7	-0.1
APE	**Apeiranthos**	**1.95**	**283**	PN	**Pn**	12 54 40.8	+1.2
KULA	**Kula-Manisa**	**1.96**	**18**	PN	**Pb**	12 54 41.6	-0.9
KORT	**Korkueli**	**2.00**	**79**	PN	**Pn**	12 54 41.3	+0.9
KORT	**Korkueli**	**2.00**	**79**	*i* P	**Pb**	12 54 42.4	-0.8
KORT				*i* S	**Sg**	12 55 12.9	+1.8
URLA	**Izmir**	**2.00**	**329**	PN	**Pb**	12 54 42.1	-1.1
BRDR	**BURDUR-Merkez**	**2.02**	**58**	*i* P	**Pb**	12 54 42.8	-0.7
BRDR				*i* S	**Sg**	12 55 12.0	+0.1
ZKR	**Zakros**	**2.05**	**222**	P	**Pn**	12 54 41.8	+0.8
KHAL	**Karahalli**	**2.14**	**36**	*i* P	**Pn**	12 54 43.6	+1.3
KHAL				*i* S	**Sb**	12 55 11.8	-0.1
CHOS	**Chios island**	**2.28**	**320**	PN	**Pb**	12 54 46.0	-1.8
CHOS	**Chios island**	**2.28**	**320**	P	**Pn**	12 54 44.5	+0.3
NPS	**Neapolis**	**2.31**	**234**	P	**Pn**	12 54 44.5	-0.1
NPS				S	**Sn**	12 55 13.1	+0.2
SUTC	**Sutluce-Ispart**	**2.61**	**71**	PN	**Pn**	12 54 50.3	+1.4

*ISCJB **29** 13:16:46.5±0.5,38.67N±0.07×12.4E±0.1,h12km,Error ellipse: s-maj=15.4km s-min=3.7km az=137.5*
*ROM **29** 13:16:47.6±0.7,38.65N±0.05×12.45E±0.05,h31km, ML3.1/1*
*LDG **29** 13:16:54.5±1.0,38.66N×11.80E,h2km,Ml3.2/3,Error ellipse: s-maj=29.1km s-min=17.9km az=80.0*

ISC 29 13:16:45.5±0.9,38.64N±0.07×12.41E±0.08,h12km,n17, σ=2.28/22,Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
MPG	**Monte Pellegri**	**0.89**	**122**	P	**Pb**	13 17 03.8	-0.1
MPG				S	**Sb**	13 17 15.4	-0.3
MFNL	**Monte Finestre**	**0.94**	**154**	P	**Pg**	13 17 05.0	+0.3
CRJA	**Cost

SBF				*e*Sn	**Sn**	**13 19 29.0**	**-5.2**
	comp=E,1.9nm,0.3s							
LMR	**La Mourre**	**6.47**	**318**	*e*Pn	**Pn**	**13 18 23.3**	**+1.8**
FRF	**La Foret Royal**	**6.56**	**320**	*e*Pn	**Pn**	**13 18 24.7**	**+1.9**
FRF				*e*Sn	**Sn**	**13 19 33.3**	**-4.3**
	comp=E,3.4nm,0.3s							
MBDF	**Montbardon**	**7.40**	**327**	*e*Pn	Pn	13 18 39.7	+5.3
SMRF	**Simiane la Rot**	**7.41**	**318**	*e*Pn	**Pn**	**13 18 36.7**	**+2.3**
ORIF	**Oris-en-Rattie**	**7.94**	**324**	*e*Pn	**Pn**	**13 18 45.2**	**+3.4**
MTLF	**Montolieu**	**9.02**	**305**	*e*Pn	**Pn**	**13 18 58.3**	**+1.8**

MEX 29 13:26:59.9±0.3, 18°06'N×100°01'W, h58km±3km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEIG	**Mezcala**	**0.39**	**109**	*i* P	Pn	13 27 09.3	-1.4
MEIG				*e*S	Sn	13 27 16.9	-1.7
ARIG	**Puente Sto Nin**	**0.39**	**305**	*i* P	Pn	13 27 09.2	-1.5
ARIG				*e*S	Sn	13 27 16.6	-1.9
PLIG	**Platanillo**	**0.58**	**55**	*i* P	Pn	13 27 11.5	-1.3
PLIG				*e*S	Sn	13 27 20.5	-1.7
ZIIG	**Zihuatanejo**	**1.46**	**252**	*e*P	Pn	13 27 23.0	-1.0
ZIIG				*e*S	Sn	13 27 40.7	-1.4
MMIG	**Aquila**	**3.18**	**275**	*i* P	Pn	13 27 46.2	-1.3
MMIG				*i* S	Sn	13 28 22.3	-2.0

*ISK **29** 13:34:08.9, 40°.61N×39°.87E, h18km, ML2.4/6*
*ISCJB **29** 13:34:09.9±0.5, 40°.64N±0°.03×39°.87E±0°.04, h0km, Error ellipse: s-maj=4.8km s-min=3.8km az=146.2*
*DDA **29** 13:34:10.3, 40°.64N×39°.86E, h7km, Ml2.6, Suspected Mining explosion.*
ISC 29 13:34:07.6±0.9, 40°.65N±0°.03×39°.95E±0°.04, h0km, n10, σ0°57/16, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYT	**Ayd¯–ntepe-Bay**	**0.29**	**151**	PG	**Pb**	**13 34 16.3**	**+0.4**
BAYT				SG	**Sb**	**13 34 20.8**	**-0.5**
MACK	**Trabzon**	**0.33**	**334**	*i* P	**Pb**	**13 34 16.6**	**+0.3**
MACK				*i* S	**Sb**	**13 34 21.8**	**-0.4**
KTUT	**Trabzon**	**0.37**	**337**	PG	**Pb**	**13 34 17.8**	**+0.8**
GUMT	**Gumushane**	**0.41**	**242**	PG	**Pg**	**13 34 15.9**	**+0.5**
GUMT				SG	**Sg**	**13 34 21.2**	**+0.5**
BAYB	**BAYBURT**	**0.45**	**149**	*i* P	**Pb**	**13 34 19.3**	**+0.7**
BAYB				*i* S	**Sb**	**13 34 26.2**	**+0.2**
KELT	**Kelkit**	**0.73**	**227**	*i* P	**Pb**	**13 34 23.5**	**+0.2**
KELT				*i* S	**Sb**	**13 34 33.2**	**-0.8**
KOPT	**Kop Dagi**	**0.76**	**146**	*i* P	**Pn**	**13 34 25.5**	**-0.3**
KOPT				*i* S	**Sn**	**13 34 37.3**	**-0.8**
CHOM	**Cayeli-Rize**	**0.76**	**54**	PG	**Pn**	**13 34 25.1**	**-0.5**
ESPY	**Espiye-Giresun**	**0.97**	**286**	PG	**Pb**	**13 34 27.5**	**+0.2**
BCA	**Borcka**	**1.49**	**57**	PN	**Pb**	**13 34 36.6**	**+0.4**

*IDC **29** 14:06:59.5±1.0, 12°.54N×143°.70E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.6/42, mbtmp3.7/5, ML3.9/1, MS3.6/2, Ms1 3.6/2, ms1mx3.0/39, Error ellipse: s-maj=37.8km s-min=16.2km az=127.0*
*NEIC **29** 14:07:00.7, 12°.50N×143°.73E, h10km, mb4.1/1, Error ellipse: s-maj=26.3km s-min=11.9km az=122.0*
*ISCJB **29** 14:07:01.7±0.7, 12°.5N±0°.1×143°.7E±0°.2, h27km, mb3.7/5, MS3.6/2, Error ellipse: s-maj=28.7km s-min=8.1km az=41.0*
ISC 29 14:07:03.0±0.9, 12°.5N±0°.2×143°.8E±0°.2, h27km, n13, σ0°63/10, mb3.8/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.50**	**44**	Pn	**Pb**	**14 07 29.2**	**-1.0**
	35nm,0.3s,baz=313,slow=12,SNR=23						
GUMO				Sn	**Sb**	**14 07 49.2**	**+0.3**
	97nm,0.3s,baz=54,slow=21,SNR=24						
GUMO				LR	LR	14 08 00.3	
	comp=Z,299nm,18.1s,baz=150,slow=39						
GUMO	**Guam**	**1.50**	**44**	*e*Pn	**Pn**	**14 07 28.5**	**+0.4**
GUMO				Sn	**Sb**	**14 07 49.2**	**+0.3**
SIJI	**Sorong**	**18.20**	**224**	P	**Pn**	**14 11 13.7**	**-0.1**
	0.4nm,0.3s,baz=23,slow=13,SNR=4.8						
H11N1	**WAKE ISLAND Hy**	**23.31**	**69**	T	T	14 37 22.8	
	baz=248,slow=75,SNR=30						
H11N2	**WAKE ISLAND Hy**	**23.32**	**69**	T	T	14 37 23.7	
	baz=248,slow=75,SNR=31						
H11N3	**WAKE ISLAND Hy**	**23.32**	**69**	T	T	14 37 23.7	
	baz=248,slow=75,SNR=27						
WRAB	**Tennant Creek**	**33.55**	**196**	*e*P	**P**	**14 13 39.9**	**-0.9**
	1.4nm,0.6s						
WRA	**Warramunga Arr**	**33.56**	**196**	P	**P**	**14 13 41.1**	**+0.3**
	1.2nm,0.5s,baz=19,slow=9.7,SNR=22						
ASAR	**Alice Springs**	**37.23**	**195**	P	**P**	**14 14 13.1**	**+0.6**
	0.4nm,0.5s,baz=21,slow=12,SNR=15						
PETK	**Petropavlovsk-**	**41.99**	**13**	LR	LR	14 32 35.1	
	comp=Z,57nm,18.7s,baz=194,slow=37						
CMAR	**Chiang Mai Arr**	**43.53**	**284**	P	**P**	**14 15 04.7**	**-0.1**
	0.6nm,0.4s,baz=86,slow=5.8,SNR=4.7						
AFI	**Afiamalu**	**51.27**	**119**	LR	LR	14 33 00.4	
	comp=Z,79nm,21.7s,baz=256,slow=30						
ILAR	**Eielson Array**	**69.99**	**25**	P	**P**	**14 18 12.3**	**+0.5**
	0.2nm,0.5s,baz=272,slow=5.1,SNR=2.5						

*NEIC **29** 14:08:53.8±2.3, 5°.05S×154°.07E, h10km, mb4.0/1, Error ellipse: s-maj=118.0km s-min=33.0km az=136.0*
IDC 29 14:08:57.7±3.4, 4°.20S×152°.51E, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/34, mbtmp4.2/3, Error ellipse: s-maj=121.1km s-min=47.0km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.41**	**225**	Pn	Pn	14 10 52.3	+5.1
	0.5nm,0.3s,baz=53,slow=10,SNR=2.7						
PMG				Sn	Sn	14 12 17.0	+4.8
	2.1nm,0.3s,baz=343,slow=22,SNR=5.5						
WRAB	**Tennant Creek**	**23.62**	**227**	*e*P	P	14 14 09.3	-1.3
	2.9nm,0.7s						
WRA	**Warramunga Arr**	**23.63**	**227**	P	P	14 14 10.9	+0.2
	2.7nm,0.4s,baz=52,slow=10.0,SNR=18						
ASAR	**Alice Springs**	**26.40**	**221**	P	P	14 14 36.1	-0.1
	1.4nm,0.6s,baz=52,slow=9.3,SNR=15						
FITZ	**Fitzroy Crossi**	**29.70**	**240**	P	P	14 15 06.2	+0.6
	4.3nm,0.8s,baz=63,slow=7.7,SNR=10						
MBWA	**Marble Bar**	**36.02**	**239**	P	P	14 16 03.2	+2.3
TORD	**Torodi Ar. Bea**	**149.84**	**289**	PKPbc	PKPbc	14 28 49.9	-1.1
	0.8nm,0.8s,baz=50,slow=2.5,SNR=5.2						

*ISCJB **29** 14:22:29.5±0.9, 31°.25S±0°.03×68°.66W±0°.06, h108km±7km, Error ellipse: s-maj=8.8km s-min=5.4km az=12.5*
*GUC **29** 14:22:29.7±0.3, 31°.25S×68°.93W, h147km±19km, ML3.1*
*SJA **29** 14:22:29.3±0.6, 31°.29S×68°.70W, h104km±3km, ML2.8, MW3.1*
ISC 29 14:22:30.5±1.6, 31°.26S±0°.04×68°.68W±0°.07, h101km±10km, n15, σ0°63/25, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLL	**Cerro Villicun**	**0.19**	**113**	*e*P	**Pn**	**14 22 44.7**	**-0.2**
RTLL				AMPG		14 22 45.3	
	comp=Z,25μm,0.1s						
RTLL				*e*S	**Sn**	**14 22 56.2**	**+0.5**
SJA	**San Juan**	**0.29**	**160**	AMPG		14 22 45.6	
	comp=Z,19μm,0.1s						
ZON	**Zonda**	**0.29**	**180**	*e*P	**Pn**	**14 22 45.0**	**-0.4**
ZON				IAML		14 22 45.3	
	comp=Z,282nm,0.3s						
ZON				*e*S	**Sn**	**14 22 56.4**	**-0.1**
AMOG	**MOGNA**	**0.35**	**26**	*e*P	**Pn**	**14 22 45.9**	**+0.2**
AMOG				*e*S	**Sn**	**14 22 57.3**	**+0.3**
RTCV	**Cerro Valdivia**	**0.61**	**169**	*e*P	**Pn**	**14 22 47.0**	**-0.5**
RTCV				*e*S	**Sn**	**14 22 59.8**	**-0.3**
AUSP	**Uspallata**	**1.14**	**212**	*e*P	**Pn**	**14 22 52.8**	**-0.2**
AUSP				*e*S	**Sn**	**14 23 10.0**	**+0.2**
ACAN	**Cantantal**	**1.62**	**129**	*e*P	**Pn**	**14 22 58.1**	**-0.3**
AGUA	**GUANDACOL**	**1.77**	**5**	*e*P	**Pn**	**14 23 01.1**	**+0.7**
AGUA				*e*S	**Sn**	**14 23 23.6**	**+0.5**
CMCH	**Combarbala**	**1.99**	**272**	*e*S	**Sn**	**14 23 28.4**	**+0.3**
GO04	**Tololo Observa**	**2.12**	**300**	*e*P	**Pn**	**14 23 04.9**	**-0.1**
GO04				*i* S	**Sn**	**14 23 31.9**	**+0.6**
GO04				IAML		14 23 35.8	
	comp=E,294nm,0.4s						
FCH	**Farellones**	**2.48**	**213**	*e*P	**Pn**	**14 23 10.5**	**+0.8**
FCH				*i* S	**Sn**	**14 23 41.3**	**+1.7**
FCH				IAML		14 23 48.7	
	comp=E,49nm,0.2s						
PEL	**Peldehue**	**2.54**	**222**	*e*P	**Pn**	**14 23 10.1**	**-0.1**
PEL				*i* S	**Sn**	**14 23 40.6**	**-0.1**
ROCH	**El Roble**	**2.62**	**229**	*e*P	**Pn**	**14 23 10.7**	**-0.7**
ROCH				*e*S	**Sn**	**14 23 42.3**	**-0.6**
ROCH				IAML		14 23 47.6	
	comp=N,59nm,0.4s						
LMEL	**Las Melosas**	**2.89**	**206**	*e*P	**Pn**	**14 23 15.0**	**0.0**
LMEL				IAML		14 23 58.1	
	comp=N,37nm,0.4s						
GO03	**Copiap**	**3.90**	**339**	*e*P	**Pn**	**14 23 27.9**	**-0.5**
GO03				*i* S	**Sn**	**14 24 12.0**	**-1.3**

GUC 29 14:35:10.6±0.8, 20°.88S×69°.14W, h103km±4km, ML3.5, 5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.36**	**243**	↓*i* P	Pn	14 35 26.5	+0.5
PB01				*i* S	Sn	14 35 38.4	+0.8
PB01				IAML		14 35 40.3	
	comp=E,4μm,0.2s						
PB08	**IPOC Station P**	**0.73**	**359**	*e*P	Pn	14 35 29.5	+0.4
PB08				*i* S	Sn	14 35 43.7	+0.8
PB08				IAML		14 35 44.7	
	comp=E,2μm,0.2s						
PB02	**IPOC Station P**	**0.83**	**238**	*e*P	Pn	14 35 30.8	+1.1
PB02				*i* S	Sn	14 35 45.3	+1.3
PB02				IAML		14 35 47.2	
	comp=E,3μm,0.2s						
PB09	**IPOC Station P**	**0.92**	**186**	↓*i* P	Pn	14 35 31.4	+0.8
PB09				*e*S	Sn	14 35 46.5	+0.8
PB09				IAML		14 35 48.8	
	comp=E,787nm,0.3s						
PB07	**IPOC Station P**	**1.09**	**219**	*i* S	Sn	14 35 50.1	+1.1
PB07				IAML		14 35 51.8	
	comp=N,1μm,0.3s						
GO01	**Chusmiza**	**1.20**	**358**	↓*i* P	Pn	14 35 34.6	+0.5
GO01				IAML		14 35 55.4	
	comp=E,2μm,0.2s						
PB11	**IPOC Station P**	**1.21**	**336**	↓*i* P	Pn	14 35 34.2	+0.4
PB11				*e*S	Sn	14 35 52.7	+1.4
PB11				IAML		14 35 53.7	
	comp=N,1μm,0.2s						
PB03	**IPOC Station P**	**1.30**	**206**	*e*P	Pn	14 35 35.2	+0.4
PB03				*i* S	Sn	14 35 54.0	+0.9
PB03				IAML		14 35 57.7	
	comp=E,585nm,0.2s						
PSGC	**Pisagua**	**1.57**	**324**	↓*i* P	Pn	14 35 38.2	+0.2
PSGC				*e*S	Sn	14 35 58.9	+0.1
PSGC				IAML		14 36 01.9	
	comp=N,317nm,0.2s						
MNMC	**Minye Minye**	**1.79**	**346**	*e*P	Pn	14 35 41.8	+0.8
MNMC				*e*S	Sn	14 36 05.4	+1.5
MNMC				IAML		14 36 08.4	
	comp=N,1μm,0.1s						

*NEIC **29** 14:48:07.4±0.0, 15°.04N×94°.97W, h16km, MD4.0(MEX), After MEX.*
MEX 29 14:48:07.4±0.5, 15°.05N×94°.97W, h16km±11km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.31**	**303**	*e*P	Pn	14 48 27.6	-3.4
HUIG				*i* S	Sn	14 48 42.6	-5.7
HUIG	**Huatulco**	**1.31**	**303**	*e*P	Pn	14 48 27.6	-3.4
HUIG				*i* S	Sn	14 48 42.6	-5.7
PCIG		**1.81**	**69**	*e*P	Pn	14 48 34.6	-3.2
PCIG				*i* S	Sn	14 48 55.0	-5.5
PCIG		**1.81**	**69**	*e*P	Pn	14 48 34.6	-3.2
PCIG				*i* S	Sn	14 48 55.0	-5.5
PNIG	**Pinotepa**	**3.32**	**294**	*e*P	Pn	14 48 56.7	-2.1
PNIG				*i* S	Sn	14 49 33.7	-4.3
PNIG	**Pinotepa**	**3.32**	**294**	*e*P	Pn	14 48 56.7	-2.1
PNIG				*i* S	Sn	14 49 33.7	-4.3
TLIG	**Tlapa**	**4.26**	**306**	*e*P	Pn	14 49 03.0	-8.8
TLIG	**Tlapa**	**4.26**	**306**	*i* P	Pn	14 49 09.2	-2.6
TLIG				*i* S	Sn	14 49 57.6	-3.7

*ISCJB **29** 14:53:37.9±0.6, 27°.81S±0°.05×140°.76E±0°.07, h10km, mb3.7/1, Error ellipse: s-maj=9.6km s-min=6.5km az=168.3*
*IDC **29** 14:53:37.5±2.4, 27°.57S×141°.18E, h0km, mb3.6/1, mb1 4.1/5, mb1mx3.8/27, mbtmp3.9/5, ML3.8/4, Error ellipse: s-maj=47.0km s-min=17.4km az=65.0*
*AUST **29** 14:53:41.0±40.0, 27°.83S×140°.76E, h14km±99km, Error ellipse: s-maj=1.5km s-min=0.9km az=295.0*
ISC 29 14:53:38.8±0.8, 27°.70S±0°.06×140°.85E±0°.06, h10km, n14, σ2°40/18, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QLP	**Quilpie**	**3.22**	**70**	P	**Pb**	**14 54 33.4**	**-2.7**
	baz=3.3,SNR=14						
STKA	**Stephens Creek**	**4.21**	**171**	Pn	**Pn**	**14 54 43.9**	**+0.8**
	0.7nm,0.3s,baz=339,slow=13,SNR=6.2						
STKA				Sn	**Sn**	**14 55 29.8**	**-2.5**
	6.5nm,0.3s,baz=281,slow=10,SNR=6.6						
STKA				Lg	Lg	14 55 52.7	
	7.5nm,0.3s,baz=77,slow=24,SNR=7.9						
STKA	**Stephens Creek**	**4.21**	**171**	P	**Pn**	**14 54 43.9**	**+0.8**
	baz=4.1,SNR=5.2						
CMSA	**Cobar Meteorol**	**5.69**	**133**	P	**Pn**	**14 55 04.0**	**+0.6**
	baz=5.7,SNR=22						
HTT	**Hallett**	**5.95**	**196**	P	**Pn**	**14 55 07.5**	**+0.5**
	baz=5.8,SNR=4.9						
BBOO	**Buckleboo**	**6.56**	**218**	P	**Pn**	**14 55 14.8**	**-0.5**
	baz=6.4,SNR=21						
RMQ	**Roma**	**7.16**	**82**	P	**Pn**	**14 55 25.7**	**+2.2**
	baz=7.2,SNR=9.7						
QIS	**Mount Isa**	**7.20**	**351**	P	**Pn**	**14 55 27.7**	**+3.5**
	baz=7.3,SNR=31						
ASAR	**Alice Springs**	**7.44**	**301**	Pn	**Pn**	**14 55 28.6**	**+1.0**
	2.0nm,0.3s,baz=125,slow=13,SNR=62						
ASAR				Sn	**Sn**	**14 56 48.6**	**-3.4**
	2.3nm,0.3s,baz=120,slow=23,SNR=7.8						
ASAR				Lg	Lg	14 57 37.3	
	baz=117,slow=28,SNR=2.9						
CTA	**Charters Tower**	**9.05**	**34**	Pn	**Pn**	**14 55 52.2**	**+2.6**
	0.4nm,0.3s,baz=201,slow=16,SNR=3.1						
CTA				Sn	**Sn**	**14 57 29.6**	**-2.0**
	0.6nm,0.3s,baz=184,slow=14,SNR=2.9						
ARPS	**Mount Arapiles**	**9.08**	**175**	P	**Pn**	**14 55 49.4**	**-0.5**
	baz=9.0,SNR=9.6						
WRA	**Warramunga Arr**	**9.75**	**321**	Pn	**Pn**	**14 55 59.5**	**+0.3**
	1.5nm,0.3s,baz=138,slow=13,SNR=75						
WRA				Sn	**Sn**	**14 57 44.4**	**-4.5**
	1.1nm,0.3s,baz=138,slow=22,SNR=8.4						
WRA				Lg	Lg	14 58 50.9	
	0.4nm,0.3s,baz=137,slow=30,SNR=2.2						
FITZ	**Fitzroy Crossi**	**16.95**	**301**	P	**Pn**	**14 57 38.4**	**+2.3**
	0.8nm,0.3s,baz=124,slow=12,SNR=14						
MKAR	**Makanchi Array**	**91.04**	**324**	P	**P**	**15 06 45.4**	**+2.2**
	0.2nm,0.5s,baz=113,slow=3.3,SNR=1.5						

IDC 29 15:07:50.8±4.5, 27°.60S×141°.10E, h0km, mb1 3.0/3, mb1mx3.0/22, mbtmp2.8/3, ML2.6/3, Error ellipse: s-maj=76.7km s-min=19.5km az=63.0, Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**4.28**	**174**	Pn	Pn	15 08 57.7	+0.4
	0.1nm,0.3s,baz=333,slow=11,SNR=1.2						
STKA				Sn	Sn	15 09 42.8	-5.2
	0.6nm,0.3s,baz=267,slow=15,SNR=5.9						
STKA				Lg	Lg	15 10 06.3	
	0.8nm,0.3s,baz=295,slow=19,SNR=4.2						
ASAR	**Alice Springs**	**7.58**	**300**	Pn	Pn	15 09 42.6	0.0
	0.2nm,0.3s,baz=122,slow=13,SNR=16						
ASAR				Sn	Sn	15 11 02.9	-6.5
	0.2nm,0.3s,baz=123,slow=23,SNR=7.9						
ASAR				Lg	Lg	15 11 51.8	
	0.1nm,0.3s,baz=102,slow=31,SNR=4.1						
WRA	**Warramunga Arr**	**9.82**	**320**	Pn	Pn	15 10 13.1	-0.2
	0.1nm,0.3s,baz=142,slow=13,SNR=2.6						
WRA				Sn	Sn	15 11 58.3	-6.0
	0.1nm,0.3s,baz=142,slow=25,SNR=1.5						

IDC 29 15:16:13.9±5.8, 27°.59S×141°.13E, h0km, mb1 2.9/3, mb1mx2.9/28, mbtmp2.7/3, ML2.5/3, Error ellipse: s-maj=123.8km s-min=21.7km az=69.0, Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**4.29**	**175**	Pn	Pn	15 17 21.4	+0.9
	0.1nm,0.3s,baz=356,slow=16,SNR=1.4						
STKA				Sn	Sn	15 18 06.1	-5.2
	0.3nm,0.3s,baz=304,slow=14,SNR=4.7						
STKA				Lg	Lg	15 18 29.1	
	0.3nm,0.3s,baz=259,slow=22,SNR=2.9						
ASAR	**Alice Springs**	**7.60**	**299**	Pn	Pn	15 18 06.1	+0.1
	0.1nm,0.3s,baz=121,slow=13,SNR=11						
ASAR				Sn	Sn	15 19 25.8	-7.1
	0.1nm,0.3s,baz=120,slow=23,SNR=6.1						
WRA	**Warramunga Arr**	**9.82**	**319**	Pn	Pn	15 18 36.0	-0.5
	0.1nm,0.3s,baz=141,slow=13,SNR=6.9						
WRA				Sn	Sn	15 20 18.6	-9.0
	0.0nm,0.3s,baz=138,slow=22,SNR=2.2						

*ISCJB **29** 15:21:04.7±0.5, 27°.77S±0°.04×140°.68E±0°.06, h10km, Error ellipse: s-maj=8.8km s-min=5.5km az=150.8*
*IDC **29** 15:21:06.4±2.1, 27°.73S×140°.70E, h0km, mb1 3.6/5, mb1mx3.5/30, mbtmp3.5/5, ML3.1/5, Error ellipse: s-maj=40.9km s-min=19.5km az=71.0*
*AUST **29** 15:21:07.8±0.0, 27°.80S×140°.79E, h10km, Error ellipse: s-maj=1.2km s-min=0.9km az=279.0*
ISC 29 15:21:06.5±0.9, 27°.73S±0°.06×140°.76E±0°.07, h10km, n15, σ1°72/19, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QLP	**Quilpie**	**3.30**	**71**	P	**Pn**	**15 22 01.1**	**+2.8**
	baz=3.3						
STKA	**Stephens Creek**	**4.20**	**170**	Pn	**Pn**	**15 22 11.3**	**+0.8**
	0.1nm,0.3s,baz=359,slow=12,SNR=1.9						
STKA				Sn	**Sn**	**15 22 57.7**	**-2.0**
	2.6nm,0.3s,baz=325,slow=7.0,SNR=10						
STKA				Lg	Lg	15 23 20.1	
	3.6nm,0.3s,baz=81,slow=23,SNR=7.2						
STKA	**Stephens Creek**	**4.20**	**170**	P	**Pn**	**15 22 11.4**	**+0.8**
	baz=4.1						
CMSA	**Cobar Meteorol**	**5.73**	**133**	P	**Pn**	**15 22 31.4**	**-0.3**
	baz=5.7						
HTT	**Hallett**	**5.90**	**195**	P	**Pn**	**15 22 35.6**	**+1.6**
	baz=5.9						
BBOO	**Buckleboo**	**6.49**	**218**	P	**Pn**	**15 22 42.3**	**+0.2**
	baz=6.5						
QIS	**Mount Isa**	**7.22**	**351**	P	**Pn**	**15 22 55.2**	**+3.0**
	baz=7.3						
RMQ	**Roma**	**7.24**	**82**	P	**Pn**	**15 22 53.0**	**+0.6**
	baz=7.2						
ASAR	**Alice Springs**	**7.39**	**302**	Pn	**Pn**	**15 22 55.8**	**+1.2**
	0.5nm,0.3s,baz=121,slow=13,SNR=20						
ASAR				Sn	**Sn**	**15 24 17.9**	**-0.5**
	0.7nm,0.3s,baz=122,slow=23,SNR=10						
ASAR				Lg	Lg	15 25 08.5	
	0.2nm,0.3s,baz=111,slow=28,SNR=4.8						
ARPS	**Mount Arapiles**	**9.06**	**174**	P	**Pn**	**15 23 17.1**	**-0.2**
	baz=9.0						
CTA	**Charters Tower**	**9.12**	**35**	Pn	**Pn**	**15 23 20.3**	**+2.1**
	0.1nm,0.3s,baz=240,slow=16,SNR=2.6						
CTA				Sn	**Sn**	**15 24 59.0**	**-2.0**
	0.2nm,0.3s,baz=183,slow=3.0,SNR=2.7						
WR9	**Warramunga Arr**	**9.62**	**322**	P	**Pn**	**15 23 25.8**	**+0.7**
	baz=9.7						
WR8	**Warramunga Arr**	**9.63**	**322**	P	**Pn**	**15 23 25.5**	**+0.3**
	baz=9.7						
WRA	**Warramunga Arr**	**9.72**	**321**	Pn	**Pn**	**15 23 26.8**	**+0.2**
	0.4nm,0.3s,baz=141,slow=13,SNR=36						
WRA				Sn	**Sn**	**15 25 12.6**	**-3.3**
	0.3nm,0.3s,baz=149,slow=22,SNR=8.0						
WRA				Lg	Lg	15 26 18.7	
	0.0nm,0.3s,baz=152,slow=29,SNR=2.9						
FITZ	**Fitzroy Crossi**	**16.89**	**301**	Pn	**Pn**	**15 25 02.8**	**-0.4**
	0.1nm,0.3s,baz=130,slow=11,SNR=6.5						

*IDC **29** 15:24:11.2±16.0, 6°.55N×75°.60W, h0km, mb1 3.2/1, mb1mx3.0/25, mbtmp3.5/1, ML2.2/1, Error ellipse: s-maj=891.8km s-min=39.3km az=42.0*
*ISCJB **29** 15:24:25.0±0.9, 5°.75N±0°.03×73°.93W±0°.04, h117km±9km, Error ellipse: s-maj=6.6km s-min=4.6km az=21.5*
*RSNC **29** 15:24:26.4±1.2, 5°.73N×73°.91W, h104km±7km, ML3.1*
ISC 29 15:24:24.6±1.1, 5°.75N±0°.04×73°.92W±0°.04, h120km±9km, n21, σ0°90/35, 4C-2D, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUSC	**La Rusia**	**0.84**	**80**	↑*i* P	**Pn**	**15 24 45.9**	**+0.2**
RUSC				*e*S	**Sn**	**15 25 00.7**	**-0.9**
RUSC				*i*		15 25 09.3	
	comp=Z,84nm,0.4s						
PTBC	**PUERTO BERRIO,**	**0.95**	**326**	↑*i* P	**Pn**	**15 24 45.7**	**-0.5**
PTBC				*e*S	**Sn**	**15 25 01.2**	**-1.4**
PTBC				*i*		15 25 05.3	
	comp=Z,267nm,0.2s						
NORC	**Norcasia**	**0.97**	**259**	↑*e*P	**Pn**	**15 24 46.4**	**+0.1**
NORC				*e*S	**Sn**	**15 25 02.1**	**-0.7**
NORC				*i*		15 25 04.0	
	comp=Z,456nm,0.2s						
ROSC	**El Rosal**	**0.99**	**204**	Pn	**Pn**	**15 24 48.2**	**+1.2**
	comp=Z,15nm,0.3s,baz=26,slow=4.0,SNR=30						
ROSC				Sn	**Sn**	**15 25 04.3**	**+0.4**
	comp=Z,69nm,0.3s,baz=145,slow=23,SNR=25						
ROSC	**El Rosal**	**0.99**	**204**	*e*P	**Pn**	**15 24 48.1**	**+1.1**
ROSC				*e*S	**Sn**	**15 25 03.6**	**-0.3**
ROSC				*i*		15 25 09.5	
	comp=Z,252nm,0.5s						
BARC	**Barichara**	**1.11**	**41**	*i* P	**Pn**	**15 24 48.7**	**+0.7**
BARC				*e*S	**Sn**	**15 25 05.8**	**0.0**
BARC				*i*		15 25 08.2	
	comp=Z,637nm,0.2s						
CHIC	**Chingaza**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.14**	**20**	*eP*	Pb	15 31 56.5	-3.3
THIG				*eS*	Sb	15 32 10.4	-4.2
PCIG		**1.94**	**344**	*eP*	Pn	15 32 07.4	-3.6
PCIG				*i* S	Sn	15 32 30.1	-5.2
TGIG		**2.96**	**351**	*eP*	Pn	15 32 22.9	-2.3
TGIG				*i* S	Sn	15 32 57.4	-3.4

*ISCJB **29** 15:31:41.8±0.6, 39.°43N±0.°04×72.°02E±0.°04, h10km, mb3.7/8, MS3.0/4, Error ellipse: s-maj=6.5km s-min=3.6km az=163.4*
*KRNET **29** 15:31:41.7±0.1, 39.°54N×72.°02E, h16km, mb4.0*
*IDC **29** 15:31:41.5±0.9, 39.°39N×72.°14E, h0km, mb3.8/8, mb1 3.9/14, mb1mx3.6/43, mbtmp3.8/14, ML3.1/6, MS3.0/7, Ms1 3.0/7, ms1mx2.7/50, Error ellipse: s-maj=18.5km s-min=15.1km az=94.0*
*NNC **29** 15:31:43.8±1.2, 39.°50N×72.°18E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=10.7km s-min=3.9km az=2.0*

ISC 29 15:31:42.8±0.7, 39.°53N±0.°05×72.°03E±0.°03, h10km, n59, σ2s46/74, mb3.8/8, MS3.1/4, 32C-27D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk** baz=52	**0.19**	**253**	⇑*i*P	**Pg**	**15 31 45.4**	**-1.5**
DRK				⇑*i*S	**Sg**	15 31 47.9	-1.9
BTK	**Batken** baz=0.0	**1.07**	**300**	⇓*i*P	**Pg**	**15 32 01.6**	**-1.8**
BTK				⇓*i*S	**Sg**	**15 32 16.6**	**-0.7**
SFK	**Sufi-Kurgan** 35nm,0.3s	**1.23**	**67**	⇓P	**Pg**	**15 32 05.5**	**-0.9**
SFK				⇓S	**Sb**	**15 32 21.6**	**-0.7**
SFK	**Sufi-Kurgan** baz=67	**1.23**	**67**	⇑*i*P	**Pb**	**15 32 05.4**	**-0.9**
SFK				⇑*i*S	**Sg**	**15 32 21.9**	**-0.6**
ARSB	**Arslanbob** baz=22	**1.93**	**22**	⇑*i*P	**Pb**	**15 32 17.1**	**-1.0**
ARSB				⇑*i*S	**Sb**	**15 32 43.5**	**+1.1**
AML	**Almayashu** SNR=47	**2.89**	**25**	P	**Pb**	**15 32 35.1**	**+0.6**
AML	**Almayashu** baz=26	**2.89**	**25**	⇑*i*P	**Pn**	**15 32 31.1**	**+1.9**
AML				⇑*i*S	**Sb**	**15 33 07.0**	**-3.1**
ARLS	**Aral** baz=36	**2.91**	**36**	⇑*e*P	**Pn**	**15 32 31.2**	**+2.0**
ARLS				⇑*i*S	**Sb**	**15 33 07.2**	**-3.2**
MNAS	**Manas** 17nm,0.5s	**2.97**	**7**	⇑Pn	**Pb**	**15 32 33.8**	**-2.1**
MNAS	55nm,0.9s			⇑Pg	**Pg**	**15 32 39.1**	**-0.6**
MNAS	57nm,0.4s			⇓Lg	Lg	15 33 18.4	
MNAS	**Manas** baz=7.0	**2.97**	**7**	⇓*e*P	**Pn**	**15 32 32.1**	**+2.0**
MNAS				⇓*i*S	**Sn**	**15 33 08.8**	**+2.9**
UCH	**Uchtor** SNR=32	**3.28**	**34**	P	**Pb**	**15 32 39.7**	**-1.7**
UCH	**Uchtor** baz=34	**3.28**	**34**	⇓*i*P	**Pn**	**15 32 36.3**	**+1.6**
UCH				⇓*i*S	**Sn**	**15 33 16.1**	**+2.1**
EKS2	**Erkin-Say** SNR=18	**3.39**	**22**	P	**Pb**	**15 32 41.2**	**-1.9**
EKS2	**Erkin-Say** baz=22	**3.39**	**22**	⇑*i*P	**Pn**	**15 32 37.5**	**+1.6**
EKS2				⇑*i*S	**Sn**	**15 33 18.7**	**+2.5**
KZA	**Kyzart** SNR=7.6	**3.52**	**43**	P	**Pb**	**15 32 43.8**	**-1.7**
KZA	**Kyzart** baz=43	**3.52**	**43**	⇓*i*P	**Pn**	**15 32 39.7**	**+1.7**
KZA				⇓*i*S	**Sn**	**15 33 21.6**	**+1.7**
NRN	**Naryn** baz=57	**3.57**	**57**	⇑*i*P	**Pn**	**15 32 39.7**	**+1.2**
NRN				⇑*i*S	**Sn**	**15 33 22.0**	**+1.0**
AAK	**Ala-Archa** 6.1nm,0.3s,baz=200,slow=5.1,SNR=59	**3.62**	**30**	Pn	**Pb**	**15 32 43.4**	**-3.5**
AAK	8.0nm,0.3s,baz=194,slow=23,SNR=9.0			Sn	**Sb**	**15 33 31.6**	**+0.8**
AAK	**Ala-Archa** 37nm,0.6s	**3.62**	**30**	⇑Pn	**Pn**	**15 32 41.2**	**+2.2**
AAK	129nm,0.9s			⇓Lg	Lg	15 33 37.5	
AAK	**Ala-Archa** SNR=26	**3.62**	**30**	P	**Pb**	**15 32 43.5**	**-3.4**
AAK	**Ala-Archa** baz=30	**3.62**	**30**	⇑*i*P	**Pn**	**15 32 40.7**	**+1.7**
AAK				⇑*i*S	**Sn**	**15 33 24.1**	**+2.3**
KK31	**Karatay Array** 5.3nm,0.5s,baz=155,slow=13,SNR=347	**3.75**	**343**	⇑Pn	**Pn**	**15 32 43.8**	**+3.2**
KK31	39nm,0.6s,baz=168,slow=16,SNR=35			⇑Pg	**Pg**	**15 32 54.1**	**-0.5**
KK31	37nm,0.5s,baz=153,slow=26,SNR=8.5			⇓Lg	Lg	15 33 44.1	
KBK	**Karagaybulak** SNR=32	**3.82**	**34**	P	**Pb**	**15 32 46.8**	**-3.5**
KBK	**Karagaybulak** baz=34	**3.82**	**34**	⇓*i*P	**Pn**	**15 32 43.2**	**+1.4**
KBK				⇓*i*S	**Sn**	**15 33 28.5**	**+1.6**
CHMS	**Chumysh** SNR=15	**4.02**	**30**	P	**Pb**	**15 32 49.4**	**-4.4**
CHMS	**Chumysh** baz=30	**4.02**	**30**	⇑*i*P	**Pn**	**15 32 46.2**	**+1.7**
CHMS				⇑*i*S	**Sn**	**15 33 33.4**	**+1.7**
USP	**Ospenovka** SNR=15	**4.17**	**26**	P	**Pb**	**15 32 51.5**	**-4.7**
ULHL	**Ulahol** SNR=7.5	**4.19**	**48**	P	**Pb**	**15 32 52.0**	**-4.6**
ULHL	**Ulahol** baz=48	**4.19**	**48**	⇓*i*P	**Pn**	**15 32 48.4**	**+1.5**
ULHL				⇓*i*S	**Sn**	**15 33 37.6**	**+1.6**
TKM2	**Tokmak 2** 11nm,0.6s	**4.32**	**37**	⇑Pn	**Pn**	**15 32 51.8**	**+3.0**
TKM2	37nm,1.1s			⇑Pg	**Pg**	**15 33 02.0**	**-3.5**
TKM2	34nm,0.7s			⇓Lg	Lg	15 34 00.1	
TKM2	**Tokmak 2** SNR=9.0	**4.32**	**37**	P	**Pb**	**15 32 54.3**	**-4.7**
TKM2	**Tokmak 2** baz=37	**4.32**	**37**	⇑*e*P	**Pn**	**15 32 50.6**	**+1.9**
TKM2				⇑*i*S	**Sn**	**15 33 41.0**	**+1.7**
KNDC	**Almaty** 110nm,0.8s	**5.23**	**44**	⇑Lg	Lg	15 34 27.7	
MDOK	**Medeo** 36nm,0.7s	**5.24**	**45**	Lg	Lg	15 34 27.9	
PDGK	**Podgornoye** 31nm,2.2s	**6.77**	**54**	⇓Pn	**Pn**	**15 33 24.4**	**+2.2**
PDGK	45nm,1.2s			⇓Lg	Lg	15 35 16.4	
OTUK	**Ortayu** 4.4nm,1.0s	**8.71**	**1**	⇓Pn	**Pn**	**15 33 51.8**	**+3.0**
OTUK	4.2nm,0.9s			⇓Pg	Pg	15 34 24.1	-5.4
OTUK	37nm,1.0s			⇓Lg	Lg	15 36 21.1	
MKAR	**Makanchi Array** 0.0nm,0.3s,baz=221,slow=14,SNR=5.5	**10.43**	**43**	Pn	Pn	15 34 17.5	+5.2
MKAR	0.1nm,0.3s,baz=244,slow=30,SNR=3.2			Lg	Lg	15 37 11.3	
KURBB	**Kurchatov Arra** 0.0nm,0.3s,baz=214,slow=12,SNR=7.3	**12.00**	**20**	Pn	**Pn**	**15 34 33.5**	**-0.2**
KURBB	0.1nm,0.3s,baz=152,slow=36,SNR=6.8			Lg	Lg	15 38 02.8	
KURBB	**Kurchatov Arra** 17nm,0.7s	**12.00**	**20**	⇑Lg	Lg	15 38 06.3	
KURK	**Kurchatov** 12nm,0.9s	**12.10**	**20**	⇓Lg	Lg	15 38 06.7	
AB31	**Akbulak array** 1.8nm,0.5s,baz=129,slow=14,SNR=71	**12.99**	**322**	⇑Pn	**Pn**	**15 34 45.8**	**-1.5**
AB31	2.1nm,0.6s,baz=126,slow=24,SNR=9.5			⇓Sn	**Sn**	**15 37 08.8**	**-3.0**
BVA0	**Borovoye Array** 1.5nm,0.6s,baz=174,slow=13,SNR=9.1	**13.54**	**356**	Pn	**Pn**	**15 34 54.1**	**-0.7**
BVA0	12nm,1.2s			⇓Lg	Lg	15 38 55.3	
BVAR	**Borovoye Array** 0.3nm,0.3s,baz=163,slow=12,SNR=9.5	**13.54**	**356**	Pn	**Pn**	**15 34 54.2**	**-0.7**
BVAR	0.2nm,0.3s,baz=158,slow=23,SNR=2.6			Lg	Lg	15 38 57.1	
BVAR	comp=Z,78nm,19.0s,baz=170,slow=38			LR	LR	15 40 27.6	
BRVK	**Borovoye** 12nm,1.3s	**13.58**	**356**	⇑Lg	Lg	15 38 57.6	
AKTO	**Aktyubinsk** 0.3nm,0.3s,baz=130,slow=12,SNR=4.1	**14.71**	**322**	Pn	**Pn**	**15 35 09.6**	**-1.2**
AKTO	0.1nm,0.3s,baz=126,slow=14,SNR=2.6			Sn	**Sn**	**15 37 44.8**	**-8.9**
AKTO	**Aktyubinsk** 3.5nm,0.7s	**14.71**	**322**	⇓Pn	**Pn**	**15 35 09.9**	**-0.9**
AKTO	6.2nm,1.1s			⇑Sn	**Sn**	**15 37 58.2**	**+4.5**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=234,slow=16,SNR=8.3	**16.83**	**27**	Pn	**P**	**15 35 41.4**	**+0.9**
ZALV	0.2nm,0.3s,baz=190,slow=22,SNR=2.7			Lg	Lg	15 40 38.2	
ZALV	comp=Z,14nm,20.1s,baz=250,slow=37			LR	LR	15 42 02.3	
ARU	**Arti** 0.0nm,0.3s,baz=288,slow=20,SNR=2.7	**19.10**	**337**	P	**Pn**	**15 36 09.2**	**+3.0**
ARU	comp=Z,65nm,21.2s,baz=72,slow=38			LR	LR	15 44 01.7	
SONM	**Songino Array** 0.5nm,0.6s,baz=261,slow=12,SNR=2.9	**26.03**	**60**	P	**P**	**15 37 15.6**	**-0.5**
CMAR	**Chiang Mai Arr** comp=Z,14nm,19.5s,baz=195,slow=42	**31.34**	**124**	LR	LR	15 53 16.6	
FINES	**FINESS Array B** 5.5nm,0.9s,baz=91,slow=12,SNR=3.7	**35.48**	**323**	P	**P**	**15 38 40.1**	**+1.0**
FINES	comp=Z,48nm,18.6s,baz=194,slow=37			LR	LR	15 53 55.3	
ARCES	**ARCESS Array B** 2.1nm,0.7s,baz=105,slow=8.4,SNR=11	**38.68**	**336**	P	**P**	**15 39 08.3**	**+2.0**
NOA	**NORSAR Array B** comp=Z,17nm,19.6s,baz=285,slow=38	**42.49**	**321**	LR	LR	15 58 33.9	
JHJ	**Hachijo jima 2** comp=Z,28nm,21.3s,baz=108,slow=36	**53.81**	**74**	LR	LR	16 03 48.2	
TORD	**Torodi Ar. Bea** 0.5nm,0.8s,baz=59,slow=5.6,SNR=2.9	**66.62**	**268**	P	**P**	**15 42 33.6**	**-0.1**
INK	**Inuvik** 0.4nm,0.4s,baz=342,slow=9.6,SNR=3.5	**70.78**	**10**	P	**P**	**15 43 01.1**	**+2.3**
YKA	**Yellowknife Ar** 0.3nm,0.6s,baz=350,slow=6.2,SNR=3.7	**78.18**	**3**	P	**P**	**15 43 43.6**	**+1.7**
WRA	**Warramunga Arr** 0.8nm,0.9s,baz=325,slow=4.9,SNR=12	**82.93**	**123**	P	**P**	**15 44 07.9**	**-0.1**
ASAR	**Alice Springs** 0.4nm,0.8s,baz=314,slow=5.0,SNR=9.4	**85.34**	**126**	P	**P**	**15 44 19.9**	**-0.4**

*ISK **29** 15:42:50.8, 37.°17N×26.°79E, h5km, ML3.0/8*
*ATH **29** 15:42:51.7, 37.°25N×26.°85E, h36km±1km, ML2.7/4, Error ellipse: s-maj=1.9km s-min=0.5km az=21.0*

ISC 29 15:42:52.0±1.0, 37.°19N±0.°03×26.°88E±0.°03, h25km±11km, n17, σ1s02/27, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.37**	**111**	PG	**Pb**	**15 42 59.9**	**-0.2**
BODT				SG	**Sb**	**15 43 05.7**	**+0.1**
SMG	**Samos**	**0.52**	**356**	P	**Pb**	**15 43 02.2**	**-0.3**
SMG				S	**Sb**	**15 43 09.5**	**-0.2**
SMG				AML	AML	15 43 11.2	
SMG	comp=N,2155μm,0.2s			AML	AML	15 43 15.2	
NISR	**Nisiros**	**0.61**	**161**	P	**Pn**	**15 43 05.5**	**+0.4**
MLSB	**Milas**	**0.72**	**82**	PG	**Pn**	**15 43 06.5**	**-0.2**
MLSB				SG	**Sn**	**15 43 17.7**	**+0.7**
DAT	**Datca**	**0.73**	**129**	PG	**Pb**	**15 43 06.3**	**+0.2**
DAT				SG	**Sn**	**15 43 17.5**	**+0.3**
DATC	**Datca-Mugla**	**0.76**	**124**	PG	**Pn**	**15 43 06.9**	**-0.2**
DATC				SG	**Sn**	**15 43 18.3**	**+0.5**
AMGA	**Amorgos Island**	**0.87**	**246**	P	**Pb**	**15 43 08.1**	**-0.3**
AMGA				S	**Sn**	**15 43 21.3**	**+0.9**
AMGA				AML	AML	15 43 21.5	
AMGA	comp=E,960μm,0.6s			AML	AML	15 43 23.8	
APE	**Apeiranthos**	**1.08**	**264**	PG	**Pn**	**15 43 10.4**	**-1.2**
APE				SG	**Sb**	**15 43 24.9**	**-0.9**
APE	**Apeiranthos**	**1.08**	**264**	P	**Pb**	**15 43 12.9**	**-0.1**
APE				AML	AML	15 43 28.5	
APE	comp=N,373μm,0.3s			AML	AML	15 43 29.4	
URLA	**Izmir**	**1.19**	**349**	PN	**Pb**	**15 43 13.9**	**+0.1**
URLA				SN	**Sb**	**15 43 31.3**	**+2.5**
ANAF	**Anafi Island**	**1.22**	**227**	P	**Pb**	**15 43 14.2**	**-0.2**
ANAF				S	**Sb**	**15 43 31.4**	**+1.7**
ANAF				AML	AML	15 43 36.3	
ANAF	comp=E,1357μm,0.4s			AML	AML	15 43 37.8	
ANAF	comp=N,1518μm,0.3s						
CHOS	**Chios island**	**1.36**	**332**	PN	**Pb**	**15 43 17.1**	**+0.3**
ARG	**Arkhangelos**	**1.40**	**134**	PN	**Pb**	**15 43 18.1**	**+0.7**
TURN	**Turunc**	**1.42**	**103**	PN	**Pn**	**15 43 15.2**	**-0.9**
TURN				SN	**Sn**	**15 43 32.2**	**-1.8**
DALY	**Dalyan (Mu˘la**	**1.47**	**104**	PN	**Pb**	**15 43 20.0**	**+1.4**
FETY	**Fethiye**	**1.85**	**107**	PN	**Pb**	**15 43 24.7**	**-0.5**
AKAS	**Kas**	**2.39**	**113**	PN	**Pb**	**15 43 32.6**	**-1.8**

*IDC **29** 16:02:12.6±2.3, 33.°78N×141.°68E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/45, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=39.6km s-min=26.1km az=41.0*
*ISCJB **29** 16:02:13.7±1.2, 33.°85N±0.°05×141.°8E±0.°1, h24km, mb3.3/2, Error ellipse: s-maj=13.1km s-min=7.7km az=170.7*
*JMA **29** 16:02:17.6±0.5, 33.°93N×141.°46E, h37km±4km, M3.0*

ISC 29 16:02:15.6±1.6, 33.°81N±0.°07×141.°6E±0.°1, h24km, n16, σ0s77/19, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.00**	**328**	P	**Pn**	**16 02 32.9**	**-0.7**
BSO3	**Boso 3**	**1.35**	**318**	P	**Pn**	**16 02 38.4**	**-0.3**
BSO4	**Boso 4**	**1.58**	**318**	P	**Pn**	**16 02 42.5**	**+0.4**
JHJ2	**Mitsune**	**1.66**	**246**	P	**Pb**	**16 02 44.3**	**-1.2**
JHJ	**Hachijo jima 2** 16nm,0.3s,baz=160,slow=16,SNR=13	**1.68**	**246**	Pn	**Pn**	**16 02 44.3**	**+0.8**
JHJ	24nm,0.3s,baz=75,slow=20,SNR=5.1			Sn	**Sb**	**16 03 06.2**	**-0.4**
JMKN	**Mikurajimanish**	**1.69**	**273**	P	**Pn**	**16 02 43.8**	**+0.2**
KTR	**Katsuura**	**1.72**	**321**	P	**Pn**	**16 02 43.9**	**-0.1**
JKUC	**kamogawauchiur**	**1.79**	**319**	P	**Pn**	**16 02 44.7**	**-0.3**
JIM2	**Oshima 3**	**2.03**	**297**	P	**Pn**	**16 02 47.9**	**-0.4**
JKO	**Kozu shima**	**2.10**	**281**	P	**Pn**	**16 02 49.4**	**+0.2**
JIZS	**Izushimoda**	**2.44**	**293**	P	**Pn**	**16 02 54.6**	**+0.6**
JOD2	**Odawara 2**	**2.54**	**305**	P	**Pn**	**16 02 54.6**	**-0.8**
MJAR	**Matsushiro Arr** 1.8nm,0.3s,baz=141,slow=13,SNR=22	**3.90**	**315**	Pn	**Pn**	**16 03 14.6**	**+0.5**
MJAR	1.4nm,0.3s,baz=199,slow=19,SNR=5.1			Sn	**Sn**	**16 04 00.4**	**+1.2**
MAT	**Matsushiro**	**3.91**	**315**	P	**Pn**	**16 03 15.9**	**+1.8**
MAT				S	**Sn**	**16 03 59.9**	**+0.7**
WRA	**Warramunga Arr** 0.6nm,1.0s,baz=2.3,slow=7.7,SNR=7.4	**53.90**	**188**	P	**P**	**16 11 37.1**	**0.0**
ASAR	**Alice Springs** 0.1nm,0.4s,baz=4.6,slow=6.9,SNR=5.9	**57.63**	**189**	P	**P**	**16 12 04.2**	**+0.4**

*NIED **29** 16:02:00, 39.°80N×144.°30E, h5km, Mw3.6 Best double couple: M03.34000×10^14 NP1:φs223.00000°, δ37.00000°, λ-38.00000°. NP2:φs345.00000°, δ68.00000°, λ-121.00000°.*
*IDC **29** 16:02:50.1±1.3, 39.°59N×144.°60E, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.4/46, mbtmp3.4/5, ML3.2/2, MS2.6/4, Ms1 2.6/4, ms1mx2.2/34, Error ellipse: s-maj=48.4km s-min=23.7km az=110.0*
*ISCJB **29** 16:02:52.0±0.8, 39.°74N±0.°05×144.°39E±0.°07, h23km, mb3.5/3, MS2.9/1, Error ellipse: s-maj=8.1km s-min=5.6km az=34.4*
*JMA **29** 16:02:54.0±0.2, 39.°77N×144.°33E, h44km, M3.6*

ISC 29 16:02:53.4±1.2, 39.°74N±0.°06×144.°37E±0.°08, h23km, n22, σ0s80/24, mb3.8/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.94**	**277**	P	**Pn**	**16 03 24.7**	**-0.3**
JTH				*eS*	**Sn**	**16 03 47.8**	**-0.8**
MIYJ	**Miyakonagasawa**	**1.98**	**266**	P	**Pn**	**16 03 25.6**	**+0.2**
MIYJ				*eS*	**Sn**	**16 03 48.4**	**-1.1**
JKEN	**Kujiedanarisaw**	**2.10**	**284**	P	**Pn**	**16 03 26.9**	**-0.2**
JANG	**Nango**	**2.28**	**287**	P	**Pn**	**16 03 29.6**	**-0.1**
JOM	**Ohasama**	**2.39**	**265**	P	**Pn**	**16 03 31.8**	**+0.6**
JOM				S	**Sn**	**16 03 59.4**	**-0.4**
JMK	**Ichinoseki**	**2.56**	**253**	P	**Pn**	**16 03 33.7**	**+0.2**
JNBK	**Urakawa-nobuka**	**2.82**	**335**	P	**Pn**	**16 03 37.9**	**+0.8**
JCH	**Churui**	**2.98**	**346**	P	**Pn**	**16 03 39.5**	**+0.3**
JCH				*eS*	**Sn**	**16 04 13.5**	**-0.6**
JOT	**Ohata**	**3.02**	**304**	P	**Pn**	**16 03 40.9**	**+1.1**
JOT				*eS*	**Sn**	**16 04 15.0**	**-0.2**
JAK	**Akkeshi**	**3.27**	**4**	P	**Pn**	**16 03 42.9**	**-0.3**
JKB	**Kayabe**	**3.32**	**311**	P	**Pn**	**16 03 45.2**	**+1.3**
JAR	**Ashorobuto**	**3.59**	**353**	P	**Pn**	**16 03 47.2**	**-0.4**
ASAJ	**Asahikawa** 0.5nm,0.3s,baz=202,slow=16,SNR=7.2	**4.57**	**344**	Pn	**Pn**	**16 04 02.6**	**+1.5**
ASAJ	1.0nm,0.3s,baz=333,slow=16,SNR=4.9			Sn	**Sn**	**16 04 52.8**	**-0.7**
MJAR	**Matsushiro Arr** 2.1nm,0.3s,baz=56,slow=11,SNR=9.9	**5.81**	**239**	Pn	**Pn**	**16 04 19.0**	**+0.9**
MAT	**Matsushiro**	**5.81**	**239**	P	**Pn**	**16 04 19.5**	**+1.3**
KSRS	**Korea Array** comp=Z,24nm,19.4s,baz=62,slow=34	**13.07**	**265**	LR	LR	16 10 19.7	
KLR	**Kul'dur** comp=Z,25nm,18.3s,baz=119,slow=37	**13.07**	**321**	LR	LR	16 11 05.8	
PETK	**Petropavlovsk-** comp=Z,8.9nm,18.3s,baz=145,slow=40	**16.19**	**30**	LR	LR	16 13 38.7	
SONM	**Songino Array** comp=Z,28nm,18.4s,baz=131,slow=38	**28.35**	**299**	LR	LR	16 21 03.3	
ILAR	**Eielson Array** 0.2nm,0.7s,baz=262,slow=6.3,SNR=2.8	**45.97**	**34**	P	**P**	**16 11 14.8**	**+0.5**
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=8.2,slow=7.0,SNR=4.7	**60.10**	**191**	P	**P**	**16 12 57.9**	**-1.0**
ASAR	**Alice Springs** 1.0nm,1.2s,baz=19,slow=8.8,SNR=4.7	**63.83**	**191**	P	**P**	**16 13 23.8**	**-0.1**

IDC 29 16:02:55.5±4.4, 27.°57S×140.°98E, h0km, mb1 2.9/3, mb1mx2.9/31, mbtmp2.7/3, ML2.4/3, Error ellipse: s-maj=83.3km s-min=19.9km az=66.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 0.1nm,0.3s,baz=348,slow=19,SNR=2.8	**4.33**	**173**	Pn	Pn	16 04 03.6	+1.0
STKA	0.5nm,0.3s,baz=27,slow=11,SNR=6.2			Sn	Sn	16 04 48.8	-5.0
STKA	0.3nm,0.3s,baz=74,slow=20,SNR=3.9			Lg	Lg	16 05 11.2	
ASAR	**Alice Springs** 0.1nm,0.3s,baz=120,slow=13,SNR=9.3	**7.47**	**300**	Pn	Pn	16 04 46.4	+0.5
ASAR	0.1nm,0.3s,baz=120,slow=22,SNR=6.1			Sn	Sn	16 06 10.1	-1.4
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=140,slow=14,SNR=3.6	**9.72**	**320**	Pn	Pn	16 05 16.8	+0.1

IDC 29 16:10:30.9±28.0, 17.°46S×174.°56W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/32, mbtmp3.8/4, Error ellipse: s-maj=558.4km s-min=155.4km az=86.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 1.4nm,0.9s,baz=90,slow=11,SNR=3.8	**42.06**	**242**	P	P	16 18 25.5	+0.8
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=98,slow=7.4,SNR=30	**48.31**	**259**	P	P	16 19 14.2	-0.3
ASAR	**Alice Springs** 1.2nm,0.7s,baz=90,slow=7.8,SNR=37	**48.44**	**254**	P	P	16 19 15.1	-0.4
FITZ	**Fitzroy Crossi** 1.0nm,0.9s,baz=101,slow=5.2,SNR=3.3	**56.72**	**260**	P	P	16 20 16.7	-0.2

*ISCJB **29** 16:11:01.7±0.3, 23.°78N×122.°11E, h24km±3km, M2.5*
*TAP **29** 16:11:01.8, 23.°78N×122.°09E, h28km±1km, ML3.1, D*

ISC 29 16:11:01.6±1.0, 23.°77N±0.°02×122.°11E±0.°02, h29km±11km, n87, σ0s55/141, 5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien** baz=294	**0.51**	**295**	P	**Pn**	**16 11 12.6**	**-0.3**
HWA				*eS*	**Sn**	**16 11 20.6**	**-0.1**
TWD	**Chiawan** baz=304	**0.56**	**304**	⇓*i*P	**Pb**	**16 11 13.0**	**-0.1**
TWD				S	**Sb**	**16 11 21.0**	**+0.2**
ESL	**Shilin** baz=273	**0.62**	**275**	⇓*i*P	**Pb**	**16 11 13.8**	**-0.1**
ESL				*eS*	**Sb**	**16 11 22.2**	**-0.2**
NACB	**Ninganchiao** baz=311	**0.62**	**311**	⇓*e*P	**Pb**	**16 11 13.7**	**-0.3**
NACB				*eS*	**Sb**	**16 11 22.0**	**-0.4**
EGFH	**Guangfu** baz=259	**0.63**	**261**	P	**Pb**	**16 11 14.4**	**+0.2**
EGFH				*eS*	**Sn**	**16 11 23.9**	**+0.2**
HGSD	**Ruisui** baz=244	**0.69**	**247**	P	**Pb**	**16 11 15.1**	**+0.1**
HGSD				S	**Sn**	**16 11 24.7**	**-0.4**
NANB	**Nanao** baz=334	**0.74**	**334**	*eP*	**Pb**	**16 11 15.8**	**-0.1**
NANB				*eS*	**Sb**	**16 11 25.7**	**0.0**
ENA	**Nanau** baz=334	**0.74**	**333**	P	**Pb**	**16 11 15.9**	**-0.1**
ENA				*eS*	**Sb**	**16 11 25.7**	**-0.1**
EHY	**Hungye** baz=248	**0.77**	**250**	P	**Pn**	**16 11 16.5**	**0.0**
EHY				*eS*	**Sn**	**16 11 27.1**	**0.0**
EOS1	**EOS1** baz=2.0	**0.78**	**1**	*eP*	**Pn**	**16 11 16.8**	**+0.1**
EOS1				S	**Sn**	**16 11 27.3**	**0.0**
YULB	**Yu-li** baz=242	**0.83**	**244**	P	**Pb**	**16 11 17.5**	**0.0**
YULB				*eS*	**Sn**	**16 11 29.1**	**+0.4**
TWF1	**Yuli** baz=239	**0.85**	**241**	*i* P	**Pn**	**16 11 18.0**	**+0.2**
TWF1				*eS*	**Sn**	**16 11 29.8**	**+0.6**
WHF	**Hehuan Shan** baz=295	**0.86**	**296**	*i* P	**Pn**	**16 11 17.7**	**-0.5**
WHF				*eS*	**Sb**	**16 11 29.4**	**-0.2**
TWC	**Suao** baz=345	**0.87**	**344**	P	**Pn**	**16 11 18.0**	**+0.1**
TWC				*eS*	**Sb**	**16 11 29.6**	**0.0**
VWDT	**VWDT** baz=268	**0.89**	**269**	⇓P	**Pb**	**16 11 18.5**	**+0.1**
VWDT				S	**Sn**	**16 11 30.2**	**+0.2**
CHGB	**Renai** baz=288	**0.90**	**289**	*eP*	**Pn**	**16 11 18.5**	**-0.1**
CHGB				*eS*	**Sb**	**16 11 30.4**	**-0.3**
NNSB	**Datong** baz=315	**0.94**	**315**	*eP*	**Pn**	**16 11 19.1**	**+0.2**
NNSB				*eS*	**Sb**	**16 11 30.7**	**-0.8**
NNS	**Nan Shan** baz=315	**0.95**	**315**	P	**Pn**	**16 11 19.3**	**+0.1**
NNS				*eS*	**Sb**	**16 11 31.5**	**-0.4**
CHKT	**Chengkung** baz=224	**0.95**	**226**	*eP*	**Pn**	**16 11 18.8**	**-0.2**
CHKT				*eS*	**Sn**	**16 11 30.3**	**-1.3**

TWT	**Tachien**	**0.98**	**300**	P	**Pb**	**16 11 20.1 0.0**
	baz=298					
TWT				S	**Sb**	**16 11 33.1 +0.3**
	baz=298					
TDCB	**Techi**	**0.99**	**299**	P	**Pb**	**16 11 20.1 -0.2**
	baz=299					
TDCB				*e*S	**Sn**	**16 11 32.7 -0.3**
	baz=299					
ENTT	**Nioudou**	**1.00**	**330**	P	**Pn**	**16 11 20.0 +0.2**
	baz=331					
ENTT				*e*S	**Sn**	**16 11 32.6 -0.3**
	baz=331					
JYNG	**Yonagunijimaku**	**1.02**	**48**	*e*S	**Sb**	**16 11 33.8 0.0**
TWE	**Neicheng**	**1.03**	**337**	P	**Pn**	**16 11 20.5 +0.3**
	baz=338					
TWE				S	**Sb**	**16 11 33.9 -0.2**
	baz=338					
SSLB	**Suanglung**	**1.06**	**271**	P	**Pb**	**16 11 21.0 -0.4**
	baz=270					
SSLB				*e*S	**Sn**	**16 11 34.5 +0.2**
	baz=270					
SLBB	**Yuanshan**	**1.07**	**336**	*e*P	**Pb**	**16 11 21.3 -0.3**
	baz=336					
SLBB				*e*S	**Sb**	**16 11 35.6 +0.2**
	baz=336					
YOJ	**Yonaguni jima**	**1.08**	**50**	*e*P	**Pn**	**16 11 20.4 -0.3**
	baz=50					
YOJ				S	**Sb**	**16 11 35.2 -0.1**
	baz=50					
YOJ	**Yonaguni jima**	**1.08**	**50**	P	**Pb**	**16 11 21.4 -0.2**
YOJ				*e*S	**Sn**	**16 11 34.8 +0.1**
YUS	**Yu-Shan**	**1.10**	**256**	*e*P	**Pb**	**16 11 22.0 -0.3**
	baz=254					
YUS				S	**Sn**	**16 11 35.8 -0.1**
	baz=254					
NTC	**Toucheng**	**1.11**	**347**	*e*P	**Pb**	**16 11 22.0 -0.3**
	baz=347					
NTC				*e*S	**Sb**	**16 11 36.6 +0.2**
	baz=347					
SMLT	**Sun Moon Lake**	**1.11**	**276**	P	**Pb**	**16 11 22.0 -0.3**
	baz=275					
SMLT				*e*S	**Sb**	**16 11 36.5 0.0**
	baz=275					
YHNB	**Yeheng**	**1.12**	**323**	*e*P	**Pb**	**16 11 22.0 -0.4**
	baz=323					
YHNB				*e*S	**Sn**	**16 11 35.9 0.0**
	baz=323					
NSK	**Sanguang**	**1.14**	**323**	P	**Pb**	**16 11 22.3 -0.4**
	baz=323					
NSK				*e*S	**Sn**	**16 11 36.0 -0.4**
	baz=323					
NWLT	**Wulai**	**1.15**	**331**	*e*P	**Pb**	**16 11 22.4 -0.5**
	baz=331					
NWLT				*e*S	**Sn**	**16 11 36.7 +0.1**
	baz=331					
TYC	**Yuchr**	**1.15**	**277**	*e*P	**Pn**	**16 11 22.4 +0.6**
	baz=276					
TYC				S	**Sn**	**16 11 36.9 +0.3**
	baz=276					
ELDTW	**Lidau**	**1.16**	**240**	⇓P	**Pn**	**16 11 21.9 0.0**
	baz=238					
ELDTW				*e*S	**Sn**	**16 11 35.6 -1.3**
	baz=238					
TIPB	**Shuangxi**	**1.23**	**348**	P	**Pb**	**16 11 23.7 -0.5**
	baz=348					
TIPB				S	**Sn**	**16 11 38.9 +0.4**
	baz=348					
TWB1	**Santiao Chiao**	**1.24**	**355**	*e*P	**Pn**	**16 11 23.4 +0.4**
	baz=356					
WJS	**Zhushan**	**1.27**	**273**	*e*P	**Pb**	**16 11 25.2 +0.4**
	baz=271					
TWA	**Mucha**	**1.30**	**338**	*e*P	**Pb**	**16 11 25.2 -0.3**
	baz=339					
WNT	**Mingjian**	**1.31**	**275**	*e*P	**Pb**	**16 11 26.0 +0.4**
	baz=274					
CHN5	**Tsauling**	**1.32**	**263**	*e*P	**Pb**	**16 11 26.0 +0.1**
	baz=262					
LIOB	**Emei**	**1.33**	**311**	*e*P	**Pb**	**16 11 26.0 +0.1**
	baz=311					
LIOB				*e*S	**Sb**	**16 11 42.5 -0.1**
	baz=311					
NSTT	**Nanjuang**	**1.33**	**311**	*e*P	**Pb**	**16 11 26.4 +0.5**
	baz=310					
NSTT				*e*S	**Sn**	**16 11 41.7 +0.8**
	baz=310					
TATO	**Taipei**	**1.33**	**335**	*e*P	**Pb**	**16 11 25.3 -0.7**
	baz=335					
TATO				*e*S	**Sn**	**16 11 41.0 0.0**
	baz=335					
NWF	**Wu-fen Shan**	**1.33**	**347**	*e*P	**Pn**	**16 11 24.3 -0.1**
	baz=347					
NWF				*e*S	**Sb**	**16 11 42.5 -0.3**
	baz=347					
WFSB	**Wu-fen Shan**	**1.33**	**347**	*e*P	**Pn**	**16 11 24.3 0.0**
	baz=347					
WFSB				*e*S	**Sb**	**16 11 42.4 -0.2**
	baz=347					
TWGBT	**Beinan**	**1.34**	**225**	*e*P	**Pn**	**16 11 24.7 +0.4**
	baz=224					
TWG	**Pinlang**	**1.34**	**226**	*e*P	**Pn**	**16 11 24.5 +0.2**
	baz=224					
TWG				*e*S	**Sn**	**16 11 40.2 -1.0**
	baz=224					
TWQ1	**Liyutan**	**1.35**	**296**	*e*P	**Pb**	**16 11 26.4 +0.1**
	baz=295					
TCU	**Taichung**	**1.36**	**286**	*e*P	**Pn**	**16 11 26.6 +0.1**
	baz=285					
STYT	**Tauyuan**	**1.38**	**244**	*e*P	**Pb**	**16 11 26.2 -0.6**
	baz=243					
WGK	**Gukeng**	**1.42**	**267**	*e*P	**Pb**	**16 11 27.3 -0.1**
	baz=266					
TPUB	**Ta-pu**	**1.43**	**251**	*e*P	**Pb**	**16 11 27.7 0.0**
	baz=250					
WDLH	**Douliu**	**1.44**	**267**	*e*P	**Pb**	**16 11 28.0 +0.2**
	baz=266					
WCHH	**Zhanghua**	**1.45**	**283**	*e*P	**Pb**	**16 11 28.1 +0.2**
	baz=282					
YM01	**YM01**	**1.46**	**340**	*e*P	**Pn**	**16 11 26.1 +0.1**
	baz=340					
YM01				*e*S	**Sb**	**16 11 45.4 -0.9**
	baz=340					
WTP	**Ta-pu**	**1.47**	**250**	*e*P	**Pb**	**16 11 28.0 -0.3**
	baz=248					
TWS1	**Kuangyinshan**	**1.47**	**335**	*e*P	**Pb**	**16 11 27.4 -0.9**
	baz=335					
TWS1				*e*S	**Sb**	**16 11 45.6 -1.0**
	baz=335					
YM10	**YM10**	**1.47**	**340**	P	**Pn**	**16 11 26.9 +0.6**
	baz=340					
YM10				*e*S	**Sn**	**16 11 44.6 +0.1**
	baz=340					
YM07	**YM07**	**1.47**	**343**	*e*P	**Pn**	**16 11 27.1 +0.9**
	baz=342					
YM07				*e*S	**Sn**	**16 11 45.2 +0.6**
	baz=342					
YM11	**YM11**	**1.48**	**341**	P	**Pn**	**16 11 27.0 +0.7**
	baz=341					
YM04	**YM04**	**1.48**	**339**	*e*P	**Pn**	**16 11 26.9 +0.6**
	baz=339					
YM05	**YM05**	**1.48**	**341**	*e*P	**Pn**	**16 11 27.1 +0.7**
	baz=340					
YM05				*e*S	**Sn**	**16 11 45.4 +0.7**
	baz=340					
YM03	**YM03**	**1.50**	**340**	*e*P	**Pn**	**16 11 26.9 +0.2**
	baz=340					
SLGT	**Liugui**	**1.55**	**241**	*e*P	**Pb**	**16 11 28.9 -0.7**
	baz=239					
CHN1	**Nanshi**	**1.56**	**249**	*e*P	**Pb**	**16 11 29.9 0.0**
	baz=247					
TWK	**Hsinying**	**1.57**	**252**	*e*P	**Pb**	**16 11 29.8 -0.2**
	baz=250					
ECL	**Taimali**	**1.58**	**223**	*e*P	**Pn**	**16 11 27.6 0.0**
	baz=221					
HATJ	**Hateruma jima**	**1.58**	**79**	P	**Pn**	**16 11 28.3 +0.7**
HATJ				*e*S	**Sn**	**16 11 47.3 +0.2**
IRIF	**Iriomote-Funau**	**1.59**	**69**	P	**Pn**	**16 11 28.8 +1.0**
IRIF				*e*S	**Sn**	**16 11 48.2 +0.9**
RLNB	**Erlin**	**1.61**	**275**	*e*P	**Pb**	**16 11 30.2 -0.4**
	baz=274					
WTCT	**Ta-ch'eng**	**1.68**	**274**	*e*P	**Pb**	**16 11 31.4 -0.5**
	baz=272					
SSD	**Sandimen**	**1.70**	**234**	*e*P	**Pb**	**16 11 31.1 -1.0**
	baz=232					
WSF	**Szhu**	**1.73**	**266**	*e*P	**Pb**	**16 11 32.1 -0.7**
	baz=265					
MASBT	**Mashibuluo**	**1.78**	**230**	*e*P	**Pn**	**16 11 31.8 +1.4**
	baz=229					
CHN8	**Yiju**	**1.79**	**257**	*e*P	**Pb**	**16 11 32.4 -1.4**
	baz=255					
LAY	**Lan-yu**	**1.79**	**197**	*e*P	**Pn**	**16 11 31.7 +1.1**
	baz=195					
JKRS	**Kuro-shima**	**1.80**	**75**	P	**Pn**	**16 11 31.7 +1.0**
JKRS				*e*S	**Sn**	**16 11 53.7 +1.1**
JIJ	**Ishigaki jima**	**1.95**	**72**	P	**Pn**	**16 11 33.2 +0.4**
JIJ				S	**Sn**	**16 11 55.7 -0.6**
JISG	**Ishigakijimahi**	**2.17**	**67**	P	**Pn**	**16 11 36.1 +0.3**
JISG				*e*S	**Sn**	**16 12 00.5 -1.2**
WDGT	**Dungji**	**2.30**	**258**	*e*P	**Pn**	**16 11 38.9 +1.3**
	baz=256					
PHUB	**P'eng-hu**	**2.34**	**264**	*e*P	**Pn**	**16 11 39.2 +1.1**
	baz=263					
PHUB				*e*S	**Sn**	**16 12 06.7 +0.8**
	baz=263					
PNG	**Penghu**	**2.35**	**266**	*e*P	**Pn**	**16 11 39.6 +1.3**
	baz=264					
JTJ	**Tarama**	**2.52**	**69**	P	**Pn**	**16 11 41.3 +0.7**
JTJ				*e*S	**Sn**	**16 12 10.5 +0.1**
VWUC	**VWUC**	**2.71**	**297**	*e*P	**Pn**	**16 11 43.6 +0.3**
	baz=296					
JIRB	**Irabujima**	**2.99**	**69**	*e*S	**Sn**	**16 12 20.2 -1.7**

IDC 29 16:18:37.5±5.6, 27.63S×140.98E, h0km, mb1 3.2/3, mb1mx3.1/27, mbtmp2.9/3, ML2.9/3, Error ellipse: s-maj=123.3km s-min=21.5km az=68.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**4.27**	**173**	Pn	Pn	16 19 44.8	+1.1
	0.4nm,0.3s,baz=356,slow=16,SNR=3.3						
STKA				Sn	Sn	16 20 28.1	-6.2
	0.9nm,0.3s,baz=265,slow=12,SNR=4.9						
STKA				Lg	Lg	16 20 51.7	
	1.1nm,0.3s,baz=90,slow=24,SNR=3.1						
ASAR	**Alice Springs**	**7.50**	**300**	Pn	Pn	16 20 28.2	-0.1
	0.2nm,0.3s,baz=120,slow=13,SNR=11						
ASAR				Sn	Sn	16 21 48.7	-5.5
	0.3nm,0.3s,baz=122,slow=23,SNR=7.3						
WRA	**Warramunga Arr**	**9.77**	**320**	Pn	Pn	16 20 59.1	-0.3
	0.1nm,0.3s,baz=142,slow=13,SNR=8.3						
WRA				Sn	Sn	16 22 44.5	-5.4
	0.1nm,0.3s,baz=138,slow=22,SNR=4.7						
WRA				Lg	Lg	16 23 53.5	
	0.0nm,0.3s,baz=144,slow=30,SNR=2.8						

*ISCJB **29** 16:49:27.7±0.6, 4.76S±0.06×142.31E±0.08, h100km, mb3.7/6, Error ellipse: s-maj=11.0km s-min=8.3km az=168.1*
*IDC **29** 16:49:29.5±1.9, 4.71S×142.39E, h105km±18km, mb3.3/6, mb1 3.7/12, mb1mx3.5/36, mbtmp4.1/12, MS2.9/1, Ms1 2.9/1, ms1mx2.4/22, Error ellipse: s-maj=20.4km s-min=16.9km az=71.0*
ISC 29 16:49:28.6±0.7, 4.83S±0.08×142.28E±0.09, h100km, n16, σ2.906/17, mb3.8/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**2.79**	**326**	P	**Pn**	**16 50 12.0**	**+0.4**
	3.6nm,0.3s,baz=155,slow=8.7,SNR=32						
JAY				S	**Sn**	**16 50 40.5**	**-4.1**
	12nm,0.3s,baz=179,slow=14,SNR=6.3						
PMG	**Port Moresby**	**6.64**	**133**	P	**Pn**	**16 51 05.2**	**+1.5**
	17nm,0.3s,baz=355,slow=5.7,SNR=97						
PMG				S	**Sn**	**16 52 14.6**	**-3.4**
	baz=270,slow=20,SNR=2.6						
PMG				LR	LR	16 53 33.8	
	comp=Z,106nm,21.1s,baz=302,slow=37						
SIJI	**Sorong**	**11.68**	**289**	P	**Pn**	**16 52 12.7**	**+0.6**
	1.7nm,0.3s,baz=80,slow=9.4,SNR=12						
WRA	**Warramunga Arr**	**16.89**	**207**	P	**P**	**16 53 19.8**	**+0.4**
	0.4nm,0.3s,baz=27,slow=12,SNR=30						
WRA				S	**Sn**	**16 56 22.8**	**-3.9**
	0.1nm,0.3s,baz=27,slow=24,SNR=5.1						
HNR	**Honiara**	**18.11**	**106**	P	**Pn**	**16 53 34.6**	**+0.7**
	2.2nm,0.3s,baz=305,slow=2.7,SNR=7.8						
BATI	**Baumata**	**19.20**	**253**	P	**Pn**	**16 53 48.5**	**+1.6**
	1.9nm,0.3s,baz=176,slow=1.3,SNR=6.3						
ASAR	**Alice Springs**	**20.39**	**203**	P	**P**	**16 53 59.1**	**+1.4**
	0.9nm,0.6s,baz=32,slow=10,SNR=13						
FITZ	**Fitzroy Crossi**	**20.94**	**230**	P	Pn	16 54 06.3	-0.7
	1.5nm,0.8s,baz=61,slow=14,SNR=4.6						
SONM	**Songino Array**	**61.17**	**333**	P	**P**	**16 59 33.8**	**+0.9**
	0.3nm,0.7s,baz=152,slow=6.1,SNR=4.4						
MKAR	**Makanchi Array**	**73.64**	**322**	P	**P**	**17 00 52.3**	**+0.9**
	1.1nm,0.6s,baz=102,slow=7.6,SNR=7.2						
ZALV	**Zalesovo Beam**	**75.56**	**329**	P	**P**	**17 01 02.0**	**-0.2**
	0.6nm,0.4s,baz=148,slow=6.6,SNR=4.0						
KURBB	**Kurchatov Arra**	**77.51**	**324**	P	**P**	**17 01 13.5**	**+0.2**
	0.3nm,0.4s,baz=107,slow=5.1,SNR=3.5						
ILAR	**Eielson Array**	**86.30**	**24**	P	**P**	**17 01 57.3**	**-1.7**
	4.2nm,0.6s,baz=259,slow=4.8,SNR=67						
TORD	**Torodi Ar. Bea**	**140.25**	**285**	PKP	**PKPdf**	**17 08 48.4**	**+1.6**
	0.5nm,0.6s,baz=118,slow=1.4,SNR=3.1						
LPAZ	**La Paz**	**143.32**	**126**	PKP	PKPbc	17 08 51.4	+1.0
	0.5nm,0.4s,baz=180,slow=1.0,SNR=3.9						
DBIC	**Dimbokro**	**147.25**	**275**	PKPbc	**PKPbc**	**17 09 01.4**	**-0.1**
	2.7nm,0.6s,baz=135,slow=4.5,SNR=3.9						

*IDC **29** 16:49:55.6±4.1, 13.21N×87.94W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/29, mbtmp3.4/3, ML2.9/1, MS3.4/1, Ms1 3.3/1, ms1mx2.3/20, Error ellipse: s-maj=133.1km s-min=39.7km az=28.0*
*ISCJB **29** 16:49:56.6±2.3, 12.31N±0.08×89.14W±0.06, h27km±28km, mb3.5/2, MS3.4/1, Error ellipse: s-maj=15.2km s-min=8.2km az=25.6*
*UCR **29** 16:49:56.7±1.4, 12.40N×89.18W, h13km±8km, ML3.3*
ISC 29 16:49:57.0±2.3, 12.34N±0.09×89.12W±0.07, h24km±16km, n27, σ0.992/32, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**1.28**	**3**	*e*P	**Pn**	**16 50 18.5**	**-1.0**
LFRS				*e*S	**Sn**	**16 50 35.9**	**-0.1**
TECA	**Tecapa**	**1.30**	**28**	*e*P	**Pn**	**16 50 19.3**	**-0.6**
LCY	**Lacayo**	**1.35**	**37**	*e*P	**Pn**	**16 50 19.5**	**-1.0**
VSM	**San Miguel**	**1.36**	**37**	*e*P	**Pn**	**16 50 21.1**	**+0.3**
PACA	**Pacayal**	**1.37**	**35**	*e*P	**Pn**	**16 50 21.2**	**+0.4**
PAVA	**Las Pavas**	**1.38**	**7**	*e*P	**Pn**	**16 50 20.2**	**-0.7**
PAVA				*e*S	**Sn**	**16 50 38.1**	**-0.3**
PAVA				IAML		16 50 48.3	
	comp=Z,664nm,0.4s						
LBRS	**Las Brisas**	**1.39**	**3**	*e*P	**Pn**	**16 50 20.5**	**-0.6**
BOQS	**Boqueron**	**1.40**	**354**	*e*P	**Pn**	**16 50 20.4**	**-0.8**
BOQS				IAML		16 50 45.4	
	comp=Z,454nm,0.3s						
LFU	**La Fuente**	**1.40**	**0**	*e*P	**Pn**	**16 50 20.8**	**-0.4**
LFU				*e*S	**Sn**	**16 50 39.1**	**+0.1**
LCND	**La Ca˜–ada**	**1.54**	**51**	*e*P	**Pn**	**16 50 23.5**	**+0.5**
CEVE	**Cerro Verde**	**1.56**	**342**	*e*P	**Pn**	**16 50 23.2**	**-0.3**
CEVE				*e*S	**Sn**	**16 50 43.6**	**+0.5**
CEVE				IAML		16 50 53.1	
	comp=Z,1μm,0.3s						
CNCH	**Conchagua**	**1.56**	**53**	*e*P	**Pb**	**16 50 25.1**	**-0.3**
SBLS	**San Blas**	**1.57**	**342**	*e*P	**Pn**	**16 50 23.7**	**0.0**
SNJE	**San Jose**	**1.59**	**343**	*e*P	**Pn**	**16 50 23.4**	**-0.5**
RTR	**El Retiro**	**1.63**	**342**	*e*P	**Pn**	**16 50 24.4**	**-0.1**
CSGN	**Cosiguina Volc**	**1.65**	**67**	*e*P	**Pn**	**16 50 25.6**	**+1.0**
CAHU	**Cacacuatique**	**1.68**	**32**	*e*P	**Pn**	**16 50 26.0**	**+0.9**
CRIN	**San Cristobal**	**2.06**	**80**	*e*P	**Pn**	**16 50 31.6**	**+1.4**
CRIN				IAML		16 51 16.1	
	comp=Z,148nm,0.5s						
IXG	**Ixpaco**	**2.24**	**325**	*e*P	**Pn**	**16 50 32.4**	**-0.4**
IXG				*e*S	**Sn**	**16 51 00.5**	**+0.7**
COPN	**Copaltepe**	**2.48**	**93**	*e*P	**Pn**	**16 50 34.6**	**-1.3**
TGUH	**Tegucigalpa,Un**	**2.48**	**46**	*e*P	**Pn**	**16 50 37.0**	**+1.1**
MOMN	**Momotombo**	**2.52**	**88**	*e*P	**Pn**	**16 50 36.1**	**-0.5**
APG	**El Apazote**	**2.95**	**334**	Pn	**Pn**	**16 50 44.6**	**+1.9**
	comp=Z,1.4nm,0.3s,baz=135,slow=17,SNR=4.8						
APG				Sn	**Sb**	**16 51 24.9**	**+0.1**
	comp=Z,2.3nm,0.3s,baz=346,slow=16,SNR=6.3						
TXAR	**Lajitas Array**	**21.66**	**324**	P	**P**	**16 54 47.8**	**+1.8**
	comp=Z,1.4nm,0.6s,baz=146,slow=11,SNR=13						
SCHQ	**Schefferville**	**45.87**	**18**	LR	LR	17 17 06.3	
	comp=Z,40nm,19.2s,baz=328,slow=36						
YKA	**Yellowknife Ar**	**53.30**	**346**	P	**P**	**16 59 11.9**	**-1.9**
	comp=Z,0.4nm,0.7s,baz=142,slow=7.0,SNR=4.0						
CMAR	**Chiang Mai Arr**	**148.38**	**345**	PKPbc	**PKPbc**	**17 09 43.0**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=345,slow=3.7,SNR=5.2						

IDC 29 16:58:46.5±1.5, 3.22N×127.44E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/43, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=91.9km s-min=20.9km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.58**	**137**	Pn	Pn	17 00 11.1	+0.2
	0.8nm,0.3s,baz=311,slow=19,SNR=4.6						
SIJI				Sn	Sn	17 01 06.8	-8.9
	0.3nm,0.3s,baz=197,slow=19,SNR=2.7						
WRA	**Warramunga Arr**	**24.00**	**164**	P	P	17 04 01.9	-1.1
	0.4nm,0.4s,baz=343,slow=10.0,SNR=14						
ASAR	**Alice Springs**	**27.46**	**167**	P	P	17 04 35.1	+0.6
	0.2nm,0.7s,baz=348,slow=7.2,SNR=3.4						
MKAR	**Makanchi Array**	**58.38**	**325**	P	P	17 08 44.0	+0.2
	0.4nm,0.4s,baz=117,slow=7.8,SNR=9.2						

GUC 29 17:01:18.2±0.5, 20.75S×69.00W, h100km±2km, ML3.7, 7C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.54**	**238**	⇑*i*P	Pn	17 01 34.6	+0.2
PB01				*i* S	Sn	17 01 46.9	+0.4
PB01				IAML		17 01 48.7	
	comp=E,3μm,0.3s						
PB08	**IPOC Station P**	**0.62**	**346**	⇑*i*P	Pn	17 01 36.1	+0.7
PB08				*i* S	Sn	17 01 49.1	+0.9
PB08				IAML		17 01 50.1	
	comp=E,2μm,0.7s						
PB02	**IPOC Station P**	**1.01**	**236**	⇑*i*P	Pn	17 01 39.4	+0.5
PB02				*i* S	Sn	17 01 55.3	+0.9
PB02				IAML		17 01 56.6	
	comp=E,3μm,0.3s						
PB09	**IPOC Station P**	**1.06**	**192**	⇑*i*P	Pn	17 01 40.2	+0.6
PB09				*i* S	Sn	17 01 56.7	+1.1
PB09				IAML		17 02 00.4	
	comp=N,1μm,0.6s						
PB11	**IPOC Station P**	**1.16**	**328**	⇑*i*P	Pn	17 01 41.2	+0.6
PB11				*e*S	Sn	17 01 58.5	+1.0
PB11				IAML		17 02 01.9	
	comp=E,2μm,0.2s						
PB07	**IPOC Station P**	**1.28**	**220**	⇑*i*P	Pn	17 01 42.5	+0.6
PB07				*i* S	Sn	17 02 00.8	+0.9
PB07				IAML		17 02 02.5	
	comp=E,2μm,0.3s						
PB03	**IPOC Station P**	**1.47**	**208**	⇑*i*P	Pn	17 01 44.9	+0.7
PB03				*i* S	Sn	17 02 05.0	+1.0
PB03				IAML		17 02 06.7	
	comp=E,1μm,0.7s						
PSGC	**Pisagua**	**1.56**	**317**	*e*P	Pn	17 01 46.0	+0.6
PSGC				*e*S	Sn	17 02 07.0	+1.2
PSGC				IAML		17 02 08.9	
	comp=N,622nm,0.2s						
MNMC	**Minye Minye**	**1.71**	**341**	*e*P	Pn	17 01 48.9	+1.6
MNMC				*e*S	Sn	17 02 11.7	+2.3
PB04	**IPOC Station P**	**1.91**	**214**	*e*P	Pn	17 01 50.6	+0.8
PB04				*e*S	Sn	17 02 15.1	+1.3
PB04				IAML		17 02 21.9	
	comp=E,734nm,0.6s						
PB06	**IPOC Station P**	**2.02**	**195**	*e*P	Pn	17 01 52.0	+0.8
PB06				*e*S	Sn	17 02 17.6	+1.3
PB06				IAML		17 02 23.7	
	comp=E,734nm,0.3s						
PB05	**IPOC Station P**	**2.37**	**208**	*e*P	Pn	17 01 56.6	+0.9
PB05				*e*S	Sn	17 02 26.2	+1.7
PB05				IAML		17 02 32.0	
	comp=E,400nm,0.3s						
PB12	**IPOC Station P**	**2.47**	**329**	*e*P	Pn	17 01 57.2	+0.2
PB12				*e*S	Sn	17 02 28.0	+1.2
PB12				IAML		17 02 39.1	
	comp=E,726nm,0.3s						

*IDC **29** 17:02:56.5±6.1, 27.51S×141.39E, h0km, mb1 3.3/4, mb1mx3.2/23, mbtmp3.1/4, ML2.8/4, Error ellipse: s-maj=118.2km s-min=20.7km az=70.0*
*ISCJB **29** 17:02:58.7±0.7, 27.80S±0.04×140.64E±0.05, h10km, Error ellipse: s-maj=7.1km s-min=6.2km az=20.3*
*AUST **29** 17:03:01.1±0.0, 27.87S×140.74E, h10km, Error ellipse: s-maj=0.3km s-min=0.1km az=319.0*
ISC 29 17:03:00.3±0.9, 27.77S±0.06×140.72E±0.06, h10km, n9, σ1.988/17, South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QLP	**Quilpie**	**3.35**	**70**	P	**Pn**	**17 03 54.7**	**+2.1**
	baz=3.4						
QLP				S	**Sn**	**17 04 32.9**	**+0.4**
	baz=3.4						
STKA	**Stephens Creek**	**4.16**	**170**	Pn	**Pn**	**17 04 04.8**	**+0.9**
	0.1nm,0.3s,baz=0.0,slow=16,SNR=3.2						
STKA				Sn	**Sn**	**17 04 51.1**	**-1.5**
	0.7nm,0.3s,baz=308,slow=7.4,SNR=6.4						
STKA				Lg	Lg	17 05 13.7	
	1.0nm,0.3s,baz=291,slow=18,SNR=4.6						
STKA	**Stephens Creek**	**4.16**	**170**	P	**Pn**	**17 04 04.6**	**+0.7**
	baz=4.1						
STKA				S	**Sn**	**17 04 51.7**	**-1.0**
	baz=4.1						
CMSA	**Cobar Meteorol**	**5.73**	**132**	P	**Pn**	**17 04 25.7**	**+0.3**
	baz=5.7						
CMSA				S	**Sn**	**17 05 28.2**	**-3.0**
	baz=5.7						
HTT	**Hallett**	**5.85**	**195**	P	**Pn**	**17 04 29.1**	**+1.9**
	baz=5.8						
HTT				S	**Sn**	**17 05 33.6**	**-0.7**
	baz=5.8						
BBOO	**Buckleboo**	**6.44**	**218**	P	**Pn**	**17 04 36.3**	**+1.1**
	baz=6.4						
BBOO				S	**Sn**	**17 05 47.4**	**-1.4**
	baz=6.4						
ASAR	**Alice Springs**	**7.38**	**302**	Pn	**Pn**	**17 04 50.4**	**+2.2**
	0.2nm,0.3s,baz=120,slow=13,SNR=14						
ASAR				Sn	**Sn**	**17 06 09.9**	**-2.1**
	0.3nm,0.3s,baz=122,slow=23,SNR=9.3						
WRA	**Warramunga Arr**	**9.73**	**322**	Pn	**Pn**	**17 05 20.4**	**0.0**
	0.1nm,0.3s,baz=136,slow=13,SNR=9.8						
WRA				Sn	**Sn**	**17 07 06.1**	**-3.8**
	0.1nm,0.3s,baz=142,slow=25,SNR=6.2						
FITZ	**Fitzroy Crossi**	**16.88**	**302**	Pn	**P**	**17 06 59.5**	**+0.7**
	0.1nm,0.3s,baz=95,slow=12,SNR=3.6						

*ISCJB **29** 17:06:04.8±1.0, 36.54N±0.06×27.95E±0.05, h10km±7km, Error ellipse: s-maj=11.1km s-min=5.2km az=21.1*
*ISK **29** 17:06:04.5, 36.55N×27.95E, h5km, ML2.5/6*
*DDA **29** 17:06:06.0, 36.64N×27.95E, h7km, Ml2.5*
**ISC 29 17:06:04.2±1.2, 36.58N±0.05×28.03E±0.03, h9km±9km, n12, σ2.962/18, Dod

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.22**	**283**	P	Pg	17 10 44.2	-0.2
JHO				S	Sg	17 10 47.6	-0.1
JHYU	**Hitachinakayam**	**0.30**	**223**	P	Pg	17 10 45.6	-0.1
JHYU				S	Sg	17 10 50.2	+0.4
ONAJ	**Iwakimizuishiy**	**0.54**	**356**	P	Pg	17 10 49.8	-0.4
ONAJ				S	Sg	17 10 57.7	+0.3
JYT	**Yasato**	**0.62**	**238**	P	Pg	17 10 51.2	-0.4
JYT				*e*S	Sg	17 11 00.1	+0.4
JFK	**Kawauchi**	**0.81**	**2**	P	Pg	17 10 54.1	-1.0
JFK				S	Sg	17 11 04.9	-0.8
JSB	**Shiboa**	**0.84**	**299**	P	Pb	17 10 56.0	0.0
JSB				S	Sb	17 11 07.5	+0.2
MAT	**Matsushiro**	**2.12**	**270**	P	Pn	17 11 15.4	+0.7
MAT				S	Sn	17 11 42.3	+1.4

*SOME **29** 17:17:07.2,41.38N×77.45E,h0km*
*KRNET **29** 17:17:09.6±0.1,41.38N×77.17E,h18km,mb2.8*
ISC 29 17:17:04.3±2.3,41.20N±0.08×77.32E±0.06,h6km±12km, n14,σ0.982/28,4C-6D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay** baz=1.0	**0.94**	**353**	⇓*i*P	**Pn**	**17 17 24.0**	**-0.2**
KDJ				⇓*i*S	**Sg**	**17 17 33.8**	**-0.8**
NRN	**Naryn** baz=73	**1.02**	**284**	⇑*i*P	**Pn**	**17 17 26.4**	**+0.9**
NRN				⇑*i*S	**Sn**	**17 17 38.9**	**-1.5**
ULHL	**Ulahol** baz=22	**1.32**	**323**	⇓*i*P	**Pg**	**17 17 30.7**	**+1.0**
ULHL				⇓*i*S	**Sb**	**17 17 45.7**	**-1.3**
BOOM	**Boomskoye usch** baz=21	**1.66**	**322**	⇑*i*P	**Pg**	**17 17 35.9**	**-0.1**
BOOM				⇑*e*S	**Sn**	**17 17 55.1**	**-0.6**
TNSS	**Tian-Shan** 4.7nm,0.2s	**1.86**	**351**	*e*P	**Pg**	**17 17 39.7**	**-0.3**
TNSS				*e*S	**Sb**	**17 18 03.1**	**+0.4**
IZV	**Izvestkoviy** 2.4nm,0.2s	**1.91**	**344**	*e*P	**Pb**	**17 17 40.3**	**+0.6**
IZV				*e*S	**Sb**	**17 18 04.0**	**+0.1**
MDOK	**Medeo** 12nm,1.5s	**1.98**	**354**	*e*P	**Pg**	**17 17 41.7**	**-0.5**
MDOK				*e*S	**Sb**	**17 18 06.6**	**+0.8**
KOTS	**Kotyrbulak** 4.9nm,0.2s	**2.04**	**356**	*e*P	**Pg**	**17 17 42.9**	**-0.6**
KOTS				*e*S	**Sb**	**17 18 08.6**	**+0.9**
KST	**Kastek** 22nm,2.3s	**2.10**	**332**	*e*P	**Pg**	**17 17 44.5**	**-0.2**
KST				*e*S	**Sg**	**17 18 11.0**	**-0.9**
UZB	**Uzynbulak** 6.2nm,1.6s	**2.32**	**32**	*e*P	**Pb**	**17 17 46.8**	**+0.2**
UZB				*e*S	**Sb**	**17 18 15.3**	**-0.4**
DGS	**Degeres** 1.2nm,0.4s	**2.35**	**331**	*e*P	**Pg**	**17 17 49.2**	**0.0**
DGS				*e*S	**Sg**	**17 18 19.4**	**-0.3**
ARLS	**Aral** baz=84	**2.35**	**287**	⇓*i*P	**Pb**	**17 17 47.6**	**+0.5**
ARLS				⇓*i*S	**Sb**	**17 18 15.8**	**-0.6**
KTBS	**Karatobe** 1.2nm,0.5s	**2.56**	**350**	*e*P	**Pb**	**17 17 51.8**	**+1.2**
KTBS				*e*S	**Sb**	**17 18 23.9**	**+1.6**
CHKK	**Chushkaly** 1.3nm,0.2s	**2.67**	**355**	*e*P	**Pb**	**17 17 53.2**	**+0.8**
CHKK				*e*S	**Sb**	**17 18 26.2**	**+0.7**
	7.5nm,0.3s						

*ISN **29** 17:24:51.8±1.0,36.86N×44.14E,h0km±5km,ML3.0*
TEH 29 17:24:59.7,36.79N×44.14E,h9km,ML3.0,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHB	**Shabestar**	**1.90**	**38**	*e*Pn	Pn	17 25 33.0	+0.5
ISHB	comp=N,2μm,0.8s			IAMB	IAmb	17 26 02.8	
ISHB	comp=Z,624nm,0.7s			IAMB	IAmb	17 26 07.6	
ISHB	comp=E,2μm,0.8s			IAMB	IAmb	17 26 07.7	
ITBZ	**Tabriz** comp=Z,514nm,0.0s	**2.15**	**47**	IAMB	IAmb	17 26 06.7	
ITBZ	comp=N,819nm,0.1s			IAMB	IAmb	17 26 09.2	
ITBZ	comp=E,524nm,0.5s			IAMB	IAmb	17 26 12.6	
IMRD	**Marand** comp=Z,354nm,0.6s	**2.28**	**32**	*e*Pn	Pn	17 25 38.8	+1.1
IMRD				IAMB	IAmb	17 26 26.4	
IHRS	**Heris** comp=Z,466nm,0.8s	**2.77**	**56**	*e*Pn	Pn	17 25 46.0	+1.6
IHRS				IAMB	IAmb	17 26 32.0	
IHRS	comp=E,576nm,1.1s			IAMB	IAmb	17 26 35.9	
ISRB	**Sarab** comp=N,408nm,0.6s	**3.00**	**69**	*e*Pn	Pn	17 25 48.2	+0.6
ISRB				IAMB	IAmb	17 26 43.0	
ISRB	comp=Z,348nm,0.8s			IAMB	IAmb	17 26 45.1	
ISRB	comp=E,601nm,0.9s			IAMB	IAmb	17 26 50.2	
IGHG	**Ghaleghazi** comp=N,796nm,0.3s	**3.16**	**140**	*e*Pn	Pn	17 25 50.4	+0.6
IGHG				IAMB	IAmb	17 26 32.6	
IGHG	comp=Z,528nm,0.5s			IAMB	IAmb	17 26 40.8	
IGHG	comp=E,1μm,0.7s			IAMB	IAmb	17 26 55.9	
IVIS	**Veis** comp=N,0.0nm,0.0s	**3.16**	**135**	IAMB	IAmb	00 00 00.0	
IVIS				IAMB	IAmb	17 26 28.8	
IVIS	comp=E,378nm,0.4s			IAMB	IAmb	17 26 29.1	
IKOM	**Komasi** comp=N,0.0nm,0.7s	**3.79**	**133**	*e*Pn	Pn	17 26 00.4	+1.9
IKOM				IAMB	IAmb	17 27 12.5	

*IDC **29** 17:29:13.1±3.3,26.91N×55.21E,h0km,mb3.4/3, mb1 3.5/3,mb1mx3.2/41,mbtmp3.5/3,Error ellipse: s-maj=78.6km s-min=34.3km az=154.0*
*TEH **29** 17:29:15.4,27.04N×55.01E,h10km,ML3.1*
*OMAN **29** 17:29:15.9±3.6,27.21N×55.16E,h20km±150km,Error ellipse: s-maj=278.9km s-min=15.2km az=338.0*
*ISCJB **29** 17:29:16.3±0.5,27.07N±0.04×54.94E±0.08,h17km,Error ellipse: s-maj=10.0km s-min=5.3km az=164.5*
ISC 29 17:29:17.3±0.8,27.01N±0.04×55.08E±0.07,h17km,n27, σ1.331/27,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENO	**Geno**	**1.05**	**68**	*e*Pg	**Pb**	**17 29 36.5**	**-0.6**
GENO	comp=Z,0.0nm,0.4s			IAMB	IAmb	17 29 40.4	
GENO	comp=E,0.0nm,0.3s			IAMB	IAmb	17 29 55.8	
GENO	comp=N,0.0nm,0.2s			IAMB	IAmb	17 29 57.1	
SHME	**Shamm**	**1.35**	**135**	*e*Pn	**Pn**	**17 29 40.0**	**-1.4**
BANOM	**Banah** SNR=26	**1.54**	**134**	P	**Pn**	**17 29 43.7**	**-0.3**
NIAN	**Nian**	**1.65**	**70**	*e*Pn	**Pb**	**17 29 47.3**	**0.0**
NIAN	comp=N,0.0nm,0.3s			IAMB	IAmb	17 30 14.5	
NIAN	comp=Z,0.0nm,0.3s			IAMB	IAmb	17 30 17.0	
NIAN	comp=E,0.0nm,0.3s			IAMB	IAmb	17 30 21.3	
MSFE	**Esma-Masafi**	**1.91**	**149**	*e*Pn	**Pb**	**17 29 50.5**	**-1.2**
MDH	**Madha**	**2.02**	**147**	*e*Pn	**Pb**	**17 29 53.2**	**-0.4**
UOSS	**Minazif**	**2.29**	**154**	P	**Pn**	**17 29 54.9**	**+0.6**
UOSS	**Minazif**	**2.29**	**154**	*e*Pn	**Pn**	**17 29 55.8**	**+1.5**
FAQ	**Al Faqa, Dubai**	**2.30**	**168**	P	**Pb**	**17 29 57.4**	**-1.0**
FAQ	**Al Faqa, Dubai**	**2.30**	**168**	*e*Pn	**Pb**	**17 29 58.6**	**+0.2**
HATD	**Hatta, Dubai**	**2.37**	**156**	P	**Pb**	**17 29 57.8**	**-1.8**
HATD	**Hatta, Dubai**	**2.37**	**156**	*e*Pn	**Pb**	**17 29 57.8**	**-1.8**
ASUD	**Al Ashush, Dub**	**2.38**	**175**	P	**Pn**	**17 29 56.5**	**+0.9**
ASUD	**Al Ashush, Dub**	**2.38**	**175**	*e*Pn	**Pb**	**17 29 58.2**	**-1.6**
ASHO	**Ashiyiah** SNR=18	**2.48**	**159**	P	**Pn**	**17 29 56.6**	**-0.3**
ASHO	**Ashiyiah**	**2.48**	**159**	*e*Pn	**Pn**	**17 29 56.7**	**-0.3**
ALNE	**Al Ain**	**3.00**	**168**	*e*Pn	**Pn**	**17 30 05.1**	**+1.0**
KHGB	**Koh Gabri**	**3.57**	**20**	*e*Pn	**Pn**	**17 30 13.1**	**+1.0**
KHGB	comp=N,0.0nm,0.2s			IAMB	IAmb	17 30 14.8	
KHGB	comp=Z,0.0nm,0.3s			IAMB	IAmb	17 30 16.0	
CHMN	**Cheshme madani**	**3.57**	**37**	*e*Pn	**Pn**	**17 30 14.3**	**+2.1**
CHMN	comp=Z,0.0nm,0.3s			IAMB	IAmb	17 30 14.7	
MZR	**Muzera**	**4.25**	**200**	*e*Pn	**Pg**	**17 30 42.0**	**+3.3**
ISAD	**Sadrabad**	**5.04**	**346**	*e*Pn	**Pn**	**17 30 32.7**	**+0.4**
ISAD	comp=Z,144nm,0.4s			IAMB	IAmb	17 30 33.6	
ISAD	comp=N,104nm,0.3s			IAMB	IAmb	17 30 35.2	
ISAD	comp=E,84nm,0.4s			IAMB	IAmb	17 30 36.2	
IRAM	**Rameshe**h	**5.33**	**334**	*e*Pn	**Pn**	**17 30 36.0**	**-0.3**
IRAM	comp=Z,92nm,0.4s			IAMB	IAmb	17 30 38.7	
IRAM	comp=E,78nm,0.3s			IAMB	IAmb	17 30 38.8	
IRAM	comp=N,81nm,0.2s			IAMB	IAmb	17 30 41.6	
TPRV	**Parvadeh(Tabas**	**6.16**	**13**	*e*Pn	**Pn**	**17 30 47.6**	**+0.1**
IZEF	**Zefreh**	**6.33**	**339**	*e*Pn	**Pn**	**17 30 48.3**	**-1.8**
IZEF	comp=Z,52nm,0.5s			IAMB	IAmb	17 30 51.5	
IZEF	comp=N,37nm,0.3s			IAMB	IAmb	17 30 51.8	
BRTR	**Keskin Array B** comp=N,0.2nm,0.6s,baz=134,slow=15,SNR=2.5	**21.88**	**311**	P	**P**	**17 34 09.3**	**-0.2**
ZALV	**Zalesovo Beam** comp=N,1.2nm,0.5s,baz=229,slow=8.8,SNR=6.6	**34.69**	**31**	P	**P**	**17 36 04.5**	**-1.5**
TORD	**Torodi Ar. Bea** comp=N,0.3nm,0.4s,baz=64,slow=6.5,SNR=4.6	**51.65**	**266**	P	**P**	**17 38 22.8**	**-0.7**

*DDA **29** 17:31:49.3,40.68N×44.13E,h7km,Ml2.6*
ISC 29 17:31:48.1±1.1,40.77N±0.05×44.12E±0.06,h31km±13km, n6,σ0.979/12,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAK	**Akyaka**	**0.40**	**258**	*e*P	**Pb**	**17 31 57.3**	**+0.2**
EAK				*e*S	**Sb**	**17 32 03.8**	**+0.4**
KZRT	**Kazreti**	**0.65**	**19**	P	**Pb**	**17 32 00.4**	**-0.6**
KZRT				S	**Sb**	**17 32 09.1**	**-0.8**
DIGO	**Kars**	**0.67**	**238**	*i* P	**Pb**	**17 32 01.6**	**0.0**
DIGO				*i* S	**Sb**	**17 32 10.9**	**+0.2**
TRLG	**Trialeti**	**0.77**	**359**	P	**Pn**	**17 32 02.8**	**-0.1**
TRLG				S	**Sn**	**17 32 13.6**	**+0.1**
IGDI	**IGDIR**	**0.90**	**182**	*e*P	**Pb**	**17 32 04.9**	**-0.4**
IGDI				*e*S	**Sb**	**17 32 16.6**	**-0.4**
LGD	**Lagodekhi**	**1.92**	**56**	P	**Pb**	**17 32 22.4**	**0.0**
LGD				S	**Sb**	**17 32 47.8**	**+1.8**

*ISCJB **29** 17:33:24.4±0.8,7.06S±0.06×129.60E±0.08,h139km, mb3.5/3,Error ellipse: s-maj=11.0km s-min=8.8km az=175.0*
*IDC **29** 17:33:25.3±2.2,7.07S×129.57E,h127km±23km,mb3.4/3, mb1 3.4/8,mb1mx3.2/27,mbtmp3.8/8,Error ellipse: s-maj=29.4km s-min=17.3km az=78.0*
ISC 29 17:33:24.7±0.8,7.07S±0.07×129.7E±0.1,h139km,n8, σ2.986/11,mb3.7/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong** 1.4nm,0.3s,baz=205,slow=22,SNR=15	**6.34**	**14**	P	**Pn**	**17 34 56.4**	**+0.5**
SIJI	2.1nm,0.3s,baz=273,slow=23,SNR=8.9			S	**Sn**	**17 36 03.0**	**-4.3**
BATI	**Baumata** 9.2nm,0.3s,baz=102,slow=3.0,SNR=38	**6.76**	**242**	P	**Pn**	**17 35 02.0**	**+0.5**
BATI	4.4nm,0.3s,baz=282,slow=18,SNR=5.1			S	**Sn**	**17 36 15.1**	**-2.3**
FITZ	**Fitzroy Crossi** 0.4nm,0.3s,baz=8.1,slow=9.7,SNR=27	**11.67**	**200**	P	**Pn**	**17 36 05.9**	**-1.1**
FITZ	1.1nm,0.3s,baz=181,slow=21,SNR=7.7			S	Sn	17 38 07.0	-8.8
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=336,slow=13,SNR=41	**13.56**	**161**	P	**Pn**	**17 36 32.1**	**+0.6**
WRA	0.9nm,0.3s,baz=332,slow=22,SNR=12			S	Sn	17 38 53.0	-8.5
ASAR	**Alice Springs** 0.2nm,0.3s,baz=348,slow=14,SNR=14	**16.99**	**167**	P	**Pn**	**17 37 17.0**	**+2.9**
ASAR	0.3nm,0.3s,baz=51,slow=32,SNR=5.5			S	**S**	**17 40 18.8**	**-5.0**
STKA	**Stephens Creek** 2.2nm,1.0s,baz=346,slow=12,SNR=3.1	**27.06**	**157**	P	**P**	**17 38 56.0**	**+1.8**
CMAR	**Chiang Mai Arr** 0.4nm,0.6s,baz=133,slow=6.4,SNR=6.5	**39.57**	**310**	P	**P**	**17 40 42.9**	**+0.3**
MKAR	**Makanchi Array** 0.5nm,0.4s,baz=114,slow=8.8,SNR=16	**68.13**	**327**	P	**P**	**17 44 11.5**	**+1.8**

*KRNET **29** 17:36:24.2±0.1,40.15N×70.37E,mb2.5*
*NNC **29** 17:36:25.8±3.1,39.99N×70.22E,h0km,mb2.8,mpv2.4, Error ellipse: s-maj=26.1km s-min=11.9km az=45.0*
ISC 29 17:36:25.7±2.2,40.14N±0.06×70.46E±0.09,h5km±12km, n11,σ1.978/22,9C-11D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken** baz=5.0	**0.29**	**106**	*i* P	**Pg**	**17 36 31.1**	**-0.2**
BTK	baz=5.0			*i* S	**Sg**	**17 36 36.5**	**+1.4**
DRK	**Karamyk** baz=21	**1.22**	**122**	⇓*i*P	**Pb**	**17 36 48.7**	**-0.9**
DRK	baz=21			⇓*i*S	**Sn**	**17 37 06.1**	**-0.8**
ARK	**Arkit** baz=36	**2.01**	**34**	⇑*i*P	**Pn**	**17 37 00.8**	**+0.3**
ARK	baz=36			⇑*i*S	**Sb**	**17 37 28.2**	**-0.2**
ARSB	**Arslanbob** baz=59	**2.25**	**57**	⇑*i*P	**Pn**	**17 37 05.1**	**+1.2**
ARSB	baz=59			⇑*i*S	**Sb**	**17 37 34.2**	**-1.1**
SFK	**Sufi-Kurgan** 0.6nm,0.4s	**2.34**	**92**	⇓P	**Pb**	**17 37 07.3**	**-1.2**
SFK	3.5nm,0.4s			⇓S	**Sg**	**17 37 41.5**	**+0.7**
SFK	**Sufi-Kurgan** baz=92	**2.34**	**92**	⇑*i*P	**Pn**	**17 37 06.6**	**+1.5**
SFK	baz=92			⇑*i*S	**Sb**	**17 37 36.2**	**-1.6**
MNAS	**Manas** 2.2nm,0.6s	**2.81**	**33**	⇓P	**Pb**	**17 37 15.4**	**-1.1**
MNAS	1.7nm,0.3s			⇓S	**Sb**	**17 37 52.5**	**+1.2**
MNAS	**Manas** baz=34	**2.81**	**33**	⇓*i*P	**Pn**	**17 37 12.7**	**+1.2**
MNAS	baz=34			⇓*i*S	**Sn**	**17 37 47.7**	**+1.9**
KK31	**Karatay Array** 0.3nm,0.3s	**2.96**	**1**	⇑P	**Pb**	**17 37 16.9**	**-2.2**
KK31	1.4nm,0.2s,baz=185,slow=32			⇓S	**Sb**	**17 37 55.4**	**-0.2**
AML	**Almayashu** baz=51	**3.15**	**50**	⇑*i*P	**Pn**	**17 37 19.1**	**+2.7**
AML	baz=51			⇑*i*S	**Sb**	**17 37 59.4**	**-2.0**
EKS2	**Erkin-Say** baz=45	**3.55**	**44**	⇓*i*P	**Pn**	**17 37 24.2**	**+2.6**
EKS2	baz=45			⇓*i*S	**Sb**	**17 38 08.8**	**-3.7**

*ISCJB **29** 17:48:43.8±0.5,27.82S±0.04×140.65E±0.05,h10km, Error ellipse: s-maj=6.1km s-min=5.4km az=179.9*

*IDC **29** 17:48:44.7±4.1,27.67S×140.79E,h0km,mb1 3.5/4, mb1mx3.4/29,mbtmp3.3/4,ML3.0/4,Error ellipse: s-maj=82.9km s-min=19.0km az=65.0*
*AUST **29** 17:48:45.6±0.0,27.84S×140.76E,h10km,Error ellipse: s-maj=0.1km s-min=0.1km az=284.0*
ISC 29 17:48:45.5±0.9,27.81S±0.05×140.73E±0.06,h10km,n12, σ1.999/21,South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QLP	**Quilpie** baz=3.3	**3.36**	**69**	P	**Pn**	**17 49 39.9**	**+1.8**
QLP	baz=3.3			S	**Sn**	**17 50 18.5**	**+0.5**
STKA	**Stephens Creek** 0.1nm,0.3s,baz=345,slow=14,SNR=3.2	**4.12**	**170**	Pn	**Pn**	**17 49 50.8**	**+2.3**
STKA	1.2nm,0.3s,baz=312,slow=13,SNR=4.2			Sn	**Sn**	**17 50 36.2**	**-0.6**
STKA	1.6nm,0.3s,baz=78,slow=24,SNR=5.1			Lg	Lg	17 50 59.2	
STKA	**Stephens Creek** baz=4.1	**4.12**	**170**	P	**Pn**	**17 49 49.3**	**+0.7**
STKA	baz=4.1			S	**Sn**	**17 50 36.9**	**+0.1**
CMSA	**Cobar Meteorol** baz=5.7	**5.70**	**132**	P	**Pn**	**17 50 11.0**	**+0.8**
CMSA	baz=5.7			S	**Sn**	**17 51 13.2**	**-2.4**
HTT	**Hallett** baz=5.8	**5.81**	**195**	P	**Pn**	**17 50 14.4**	**+2.6**
HTT	baz=5.8			S	**Sn**	**17 51 18.9**	**+0.4**
BBOO	**Buckleboo** baz=6.4	**6.41**	**218**	P	**Pn**	**17 50 21.3**	**+1.3**
BBOO	baz=6.4			S	**Sn**	**17 51 32.1**	**-1.1**
QIS	**Mount Isa** baz=7.4	**7.30**	**352**	P	**Pn**	**17 50 34.5**	**+2.3**
ASAR	**Alice Springs** 0.4nm,0.3s,baz=124,slow=13,SNR=18	**7.41**	**302**	Pn	**Pn**	**17 50 35.0**	**+1.2**
ASAR	0.5nm,0.3s,baz=124,slow=23,SNR=9.6			Sn	**Sn**	**17 51 56.8**	**-1.2**
ARPS	**Mount Arapiles** baz=9.0	**8.98**	**174**	P	**Pn**	**17 50 55.8**	**+0.6**
ARPS	baz=9.0			S	**Sn**	**17 52 32.0**	**-4.5**
EIDS	**Eidsvold** baz=9.5	**9.58**	**78**	P	**Pn**	**17 51 04.5**	**+0.9**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=140,slow=13,SNR=34	**9.77**	**322**	Pn	**Pn**	**17 51 05.7**	**-0.5**
WRA	0.2nm,0.3s,baz=139,slow=22,SNR=6.9			Sn	**Sn**	**17 52 52.2**	**-3.9**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=120,slow=7.7,SNR=6.3	**16.91**	**302**	Pn	**Pn**	**17 52 41.8**	**-0.6**

IDC 29 18:02:17.0±1.1,26.00N×141.58E,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.4/30,mbtmp3.8/3,Error ellipse: s-maj=67.7km s-min=17.0km az=108.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima** 24nm,0.3s,baz=173,slow=23,SNR=109	**1.22**	**26**	Pn	Pb	18 02 41.0	+0.1
JCJ	46nm,0.3s,baz=112,slow=23,SNR=19			Sn	Sn	18 03 00.2	+1.7
WRA	**Warramunga Arr** 0.6nm,0.4s,baz=10.0,slow=8.6,SNR=18	**46.21**	**189**	P	P	18 10 44.4	+0.5
ASAR	**Alice Springs** 0.2nm,0.9s,baz=21,slow=7.6,SNR=3.4	**49.93**	**189**	P	P	18 11 11.9	-0.8
FINES	**FINESS Array B** 3.6nm,0.9s,baz=63,slow=5.7,SNR=4.7	**78.69**	**334**	P	P	18 14 20.9	+0.1

*ISCJB **29** 18:09:04.0±0.5,20.11S±0.03×69.13W±0.07,h112km±4km, mb3.6/3,Error ellipse: s-maj=11.5km s-min=5.5km az=0.7*
*GUC **29** 18:09:05.6±0.6,20.14S×69.23W,h100km±3km,ML3.9*
*IDC **29** 18:09:06.0±1.5,20.21S×69.07W,h115km±15km,mb3.3/4, mb1 3.6/8,mb1mx3.4/31,mbtmp3.8/8,Error ellipse: s-maj=27.2km s-min=14.1km az=99.0*
ISC 29 18:09:04.7±0.7,20.13S±0.04×69.16W±0.08,h102km±6km, n28,σ1.918/30,mb3.5/3,2C-6D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.01**	**151**	⇓*i*P	**Pn**	**18 09 19.8**	**+0.5**
PB08				*i* S	**Sn**	**18 09 30.7**	**+0.6**
PB08	comp=N,5μm,0.1s			IAML		18 09 32.0	
GO01	**Chusmiza**	**0.46**	**356**	⇓*i*P	**Pn**	**18 09 21.4**	**+0.4**
GO01				*i* S	**Sn**	**18 09 33.6**	**+0.5**
GO01	comp=E,14μm,0.2s			IAML		18 09 34.4	
PB11	**IPOC Station P**	**0.59**	**308**	⇓*i*P	**Pn**	**18 09 21.8**	**+0.3**
PB11				*i* S	**Sn**	**18 09 34.7**	**+0.5**
PB11	comp=E,10μm,0.2s			IAML		18 09 36.6	
PB01	**IPOC Station P**	**0.96**	**199**	⇓*i*P	**Pn**	**18 09 25.6**	**+0.7**
PB01				*i* S	**Sn**	**18 09 41.1**	**+1.0**
PB01	comp=E,4μm,0.6s			IAML		18 09 42.8	
PSGC	**Pisagua**	**1.05**	**300**	⇑*i*P	**Pn**	**18 09 26.1**	**+0.2**
PSGC				*i* S	**Sn**	**18 09 42.4**	**+0.5**
PSGC	comp=E,3μm,0.4s			IAML		18 09 45.9	
MNMC	**Minye Minye**	**1.07**	**337**	⇓*i*P	**Pn**	**18 09 27.4**	**+1.1**
MNMC				*e*S	**Sn**	**18 09 44.0**	**+1.3**
MNMC	comp=N,8μm,0.2s			IAML		18 09 46.2	
PB02	**IPOC Station P**	**1.37**	**210**	⇑*i*P	**Pn**	**18 09 30.3**	**+0.7**
PB02				*e*S	**Sn**	**18 09 49.4**	**+0.9**
PB02	comp=E,3μm,0.5s			IAML		18 09 56.3	
PB09	**IPOC Station P**	**1.66**	**183**	⇓*i*P	**Pn**	**18 09 34.8**	**+1.6**
PB09	comp=E,640nm,0.6s			IAML		18 10 04.0	
PB07	**IPOC Station P**	**1.73**	**203**	*e*P	**Pn**	**18 09 35.0**	**+0.9**
PB07	comp=E,1μm,0.4s			IAML		18 10 03.0	
PB12	**IPOC Station P** comp=E,2μm,0.3s	**1.87**	**324**	IAML		18 10 03.8	
PB03	**IPOC Station P**	**1.99**	**196**	*e*P	**Pn**	**18 09 37.9**	**+0.6**
LVC	**Limon Verde** comp=E,11nm,0.3s,baz=36,slow=8.7,SNR=118	**2.48**	**175**	P	**Pn**	**18 09 45.8**	**+1.9**
LVC	comp=E,14nm,0.3s,baz=340,slow=13,SNR=11			S	**Sn**	**18 10 14.6**	**+0.6**
LPAZ	**La Paz** comp=E,3.9nm,0.3s,baz=201,slow=6.4,SNR=67	**3.94**	**15**	P	**Pn**	**18 10 07.1**	**+3.4**
LPAZ	comp=E,0.9nm,0.3s,baz=190,slow=7.1,SNR=6.8			S	**Sn**	**18 10 48.8**	**-0.6**
SIV	**San Ignacio** comp=E,2.4nm,0.3s,baz=264,slow=10.0,SNR=35	**8.72**	**63**	P	**Pn**	**18 11 06.9**	**-1.2**
CPUP	**Villa Florida** comp=E,0.2nm,0.3s,baz=302,slow=12,SNR=7.6	**12.50**	**122**	P	**Pn**	**18 11 57.6**	**-1.4**
PLCA	**Paso Flores** comp=E,1.4nm,0.9s,baz=342,slow=20,SNR=2.4	**20.57**	**183**	P	**P**	**18 13 33.8**	**-1.6**
TXAR	**Lajitas Array** comp=E,0.1nm,0.5s,baz=143,slow=9.1,SNR=3.1	**59.38**	**325**	P	**P**	**18 18 55.9**	**-0.7**
TORD	**Torodi Ar. Bea** comp=E,0.4nm,0.5s,baz=254,slow=5.5,SNR=8.6	**77.12**	**71**	P	**P**	**18 20 47.4**	**-0.1**
YKA	**Yellowknife Ar** comp=E,1.5nm,0.7s,baz=132,slow=4.7,SNR=12	**89.82**	**341**	P	**P**	**18 21 52.6**	**+1.2**
H11S2	**WAKE ISLAND Hyf** baz=102,slow=74,SNR=64	**27.46**	**278**	T	T	20 47 49.2	
H11S1	**WAKE ISLAND Hyf** baz=102,slow=74,SNR=60	**27.47**	**278**	T	T	20 47 47.5	
H11S3	**WAKE ISLAND Hyf** baz=102,slow=74,SNR=47	**27.48**	**278**	T	T	20 47 50.5	
H11N3	**WAKE ISLAND Hyf** baz=101,slow=74,SNR=13	**27.51**	**280**	T	T	20 47 55.7	
H11N2	**WAKE ISLAND Hyf** baz=101,slow=74,SNR=15	**27.52**	**280**	T	T	20 47 53.7	
H11N1	**WAKE ISLAND Hyf** baz=101,slow=74,SNR=10	**27.52**	**280**	T	T	20 47 53.8	
WRA	**Warramunga Arr** comp=E,0.3nm,0.7s,baz=175,slow=2.1,SNR=3.1	**134.00**	**211**	PKP	**PKPdf**	**18 28 09.8**	**-1.2**
MKAR	**Makanchi Array** comp=E,0.4nm,0.6s,baz=64,slow=3.4,SNR=3.8	**144.65**	**35**	PKP	**PKPdf**	**18 28 29.3**	**-0.1**
SONM	**Songino Array** comp=E,0.2nm,0.5s,baz=355,slow=1.3,SNR=4.6	**152.13**	**6**	PKPbc	**PKPbc**	**18 28 48.8**	**+0.4**

*IDC **29** 18:18:44.7±0.9,40.80N×74.65E,h0km,mb3.6/11, mb1 3.7/17,mb1mx3.6/67,mbtmp3.5/17,ML2.7/6,MS2.9/6,*

Ms1 2.9/6,ms1mx2.6/52,Error ellipse: s-maj=15.3km s-min=11.4km az=115.0
SOME ***29*** *18:18:45.3,40.92N×74.92E,h0km,MS3.2*
KRNET ***29*** *18:18:45.7±0.1,40.90N×74.85E,h16km,mb4.1*
NNC ***29*** *18:18:46.3±0.4,40.84N×74.90E,h0km,mb4.2,mpv4.1, Error ellipse: s-maj=5.8km s-min=1.8km az=126.0*
BJI ***29*** *18:18:47.8,40.99N×74.77E,h8km,mb3.8/2,mB4.2/1, ML3.9/8*
KNET ***29*** *18:18:47.5±0.3,41.02N×74.83E,h0km,ml3.9,Error ellipse: s-maj=2.3km s-min=1.9km az=138.0*
MOS ***29*** *18:18:48.0±1.7,40.86N×74.68E,h29km,mb4.3/4,Error ellipse: s-maj=11.3km s-min=5.9km az=93.5*

ISC 29 18:18:47.4±1.1,40.96N±0.02×74.79E±0.02,h8km±7km, n115,σ1§68/166,mb3.6/11,MS3.1/5,39C-52D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**0.97**	**339**	⇓	*eP*		**Pg**	**18 19 05.6**	**-0.5**
	baz=38								
ARLS				⇓	*iS*		**Sg**	**18 19 20.0**	**+1.2**
	baz=38								
NRN	**Naryn**	**1.03**	**62**	⇓	*iP*		**Pg**	**18 19 05.0**	**-2.2**
	baz=58								
NRN				⇓	*iS*		**Sg**	**18 19 19.0**	**-1.6**
	baz=58								
KZA	**Kyzart**	**1.17**	**17**	⇓	P		**Pg**	**18 19 08.8**	**-1.2**
	142nm,0.2s,SNR=58								
KZA				⇓	S		**Sg**	**18 19 25.8**	**+0.5**
	257nm,0.1s								
KZA	**Kyzart**	**1.17**	**17**	⇓	*iP*		**Pg**	**18 19 09.2**	**-0.8**
	baz=14								
KZA				⇓	*iS*		**Sb**	**18 19 26.5**	**+0.8**
	baz=14								
UCH	**Uchtor**	**1.29**	**351**	⇓	P		**Pg**	**18 19 11.5**	**-0.6**
	165nm,0.2s,SNR=568								
UCH	**Uchtor**	**1.29**	**351**	⇓	*iP*		**Pg**	**18 19 11.6**	**-0.6**
	baz=49								
UCH				⇓	*iS*		**Sn**	**18 19 31.4**	**+1.6**
	baz=49								
SFK	**Sufi-Kurgan**	**1.36**	**227**	⇑	P		**Pg**	**18 19 11.3**	**-2.2**
	170nm,0.6s								
SFK				⇑	S		**Sb**	**18 19 30.0**	**-0.8**
	1μm,0.7s								
SFK	**Sufi-Kurgan**	**1.36**	**227**	⇓	*iP*		**Pg**	**18 19 11.1**	**-2.4**
	baz=30								
SFK				⇓	*iS*		**Sb**	**18 19 30.5**	**-0.4**
	baz=30								
SFK	**Sufi-Kurgan**	**1.36**	**227**		PG		**Pg**	**18 19 11.3**	**-2.2**
SFK					S		**Sb**	**18 19 30.2**	**-0.7**
SFK					pmax		pmax		
	comp=Z,170nm,0.6s								
SFK					smax		smax		
	comp=N,1μm,0.7s								
ARSB	**Arslanbob**	**1.42**	**286**	⇓	*iP*		**Pn**	**18 19 14.1**	**+0.5**
	baz=87								
ARSB				⇓	*iS*		**Sn**	**18 19 34.1**	**+1.6**
	baz=87								
AML	**Almayashu**	**1.44**	**325**	⇓	P		**Pn**	**18 19 14.4**	**+0.3**
	comp=N,102nm,0.2s,SNR=54								
AML				⇓	S		**Sb**	**18 19 34.7**	**+1.6**
	comp=N,2μm,0.6s								
AML	**Almayashu**	**1.44**	**325**	⇓	*iP*		**Pn**	**18 19 14.4**	**+0.3**
	baz=25								
AML				⇓	*iS*		**Sb**	**18 19 34.8**	**+1.6**
	baz=25								
ULHL	**Ulahol**	**1.69**	**40**	⇓	P		**Pn**	**18 19 18.2**	**+0.8**
	comp=N,106nm,0.2s,SNR=384								
ULHL	**Ulahol**	**1.69**	**40**	⇑	*iP*		**Pn**	**18 19 17.4**	**0.0**
	baz=37								
ULHL				⇑	*iS*		**Sn**	**18 19 40.1**	**+0.8**
	baz=37								
AAK	**Ala-Archa**	**1.70**	**353**		Pn		**Pn**	**18 19 18.8**	**+1.3**
	comp=N,90nm,0.3s,baz=153,slow=10.0,SNR=468								
AAK					Lg		Lg	18 19 43.4	
	comp=N,61nm,0.3s,baz=127,slow=6.1,SNR=12								
AAK					LR		LR	18 19 44.6	
	comp=N,39nm,21.9s,baz=166,slow=32								
AAK	**Ala-Archa**	**1.70**	**353**	⇓	Pn		**Pn**	**18 19 18.7**	**+1.3**
	comp=N,135nm,0.5s								
AAK					Lg		Lg	18 19 45.4	
	comp=N,856nm,0.9s								
AAK	**Ala-Archa**	**1.70**	**353**	⇓	P		**Pn**	**18 19 18.8**	**+1.3**
	comp=N,148nm,0.2s,SNR=301								
AAK	**Ala-Archa**	**1.70**	**353**	⇓	*iP*		**Pn**	**18 19 18.8**	**+1.3**
	baz=51								
AAK				⇓	*iS*		**Sg**	**18 19 43.4**	**+1.4**
	baz=51								
KSH	**Kashi**	**1.70**	**147**		Pg		**Pg**	**18 19 20.8**	**+0.8**
KSH					Sg		**Sg**	**18 19 46.0**	**+4.0**
KSH					smax		smax		
	comp=N,3μm,0.5s								
KSH					smax		smax		
	comp=N,3μm,0.6s								
KBK	**Karagaybulak**	**1.70**	**4**	⇑	P		**Pb**	**18 19 18.9**	**-0.1**
	comp=N,247nm,0.1s,SNR=278								
KBK	**Karagaybulak**	**1.70**	**4**	⇓	*iP*		**Pb**	**18 19 19.0**	**-0.1**
	baz=2.0								
KBK				⇓	*iS*		**Sg**	**18 19 43.3**	**+1.1**
	baz=2.0								
BOOM	**Boomskoye usch**	**1.76**	**29**	⇑	*iP*		**Pn**	**18 19 18.7**	**+0.4**
	baz=27								
BOOM				⇑	*iS*		**Sb**	**18 19 43.2**	**+0.9**
	baz=27								
FRU1	**Bishkek**	**1.86**	**356**	⇑	*iP*		**Pb**	**18 19 22.0**	**+0.4**
	baz=55								
FRU1				⇑	*iS*		**Sb**	**18 19 46.6**	**+1.6**
	baz=55								
EKS2	**Erkin-Say**	**1.87**	**336**	⇓	P		**Pb**	**18 19 22.2**	**+0.4**
	comp=N,32nm,0.3s,SNR=121								
EKS2	**Erkin-Say**	**1.87**	**336**	⇓	*iP*		**Pb**	**18 19 22.2**	**+0.4**
	baz=36								
EKS2				⇓	*iS*		**Sg**	**18 19 48.5**	**+1.1**
	baz=36								
CHMS	**Chumysh**	**2.04**	**359**	⇓	P		**Pb**	**18 19 25.0**	**+0.2**
	comp=N,86nm,0.1s,SNR=164								
CHMS	**Chumysh**	**2.04**	**359**	⇑	*iP*		**Pb**	**18 19 24.7**	**-0.1**
	baz=58								
CHMS				⇑	*iS*		**Sb**	**18 19 52.7**	**+2.4**
	baz=58								
TKM2	**Tokmak 2**	**2.05**	**17**	⇓	Pg		**Pb**	**18 19 24.6**	**-0.5**
	comp=N,173nm,0.6s								
TKM2				⇑	Lg		Lg	18 19 54.6	
	comp=N,935nm,0.7s								
TKM2	**Tokmak 2**	**2.05**	**17**	⇑	P		**Pb**	**18 19 25.0**	**-0.1**
	comp=N,116nm,0.1s,SNR=134								
TKM2	**Tokmak 2**	**2.05**	**17**	⇓	*iP*		**Pb**	**18 19 24.6**	**-0.5**
	baz=15								
TKM2				⇓	*iS*		**Sb**	**18 19 52.5**	**+1.7**
	baz=15								
TKM2	**Tokmak 2**	**2.05**	**17**		PN		**Pb**	**18 19 24.6**	**-0.5**
TKM2					pmax		pmax		
	comp=Z,173nm,0.6s								
MRKS	**Merke**	**2.14**	**327**	⇑	*iP*		**Pb**	**18 19 27.0**	**+0.6**
	comp=Z,358nm,0.6s								
MRKS				⇑	*iS*		**Sg**	**18 19 56.6**	**+0.5**
	comp=Z,645nm,0.5s								
KDJ	**Kajisay**	**2.14**	**56**	⇓	*iP*		**Pn**	**18 19 25.0**	**+1.4**
	baz=54								
KDJ				⇓	*iS*		**Sb**	**18 19 53.4**	**0.0**
	baz=54								
KST	**Kastek**	**2.26**	**22**	⇓	*iP*		**Pb**	**18 19 28.2**	**-0.4**
	comp=Z,183nm,0.2s								
KST				⇓	*iS*		**Sb**	**18 19 59.0**	**+2.2**
	comp=Z,1μm,0.5s								
ARK	**Arkit**	**2.29**	**293**	⇓	*iP*		**Pn**	**18 19 27.7**	**+2.1**
	baz=93								
ARK				⇓	*iS*		**Sb**	**18 19 57.6**	**+0.1**
	baz=93								
MNAS	**Manas**	**2.30**	**313**	⇑	Pn		**Pb**	**18 19 29.3**	**+0.1**
	comp=Z,81nm,0.5s								
MNAS				⇓	Lg		Lg	18 20 03.4	
	comp=Z,529nm,0.6s								
MNAS	**Manas**	**2.30**	**313**	⇑	*iP*		**Pb**	**18 19 28.1**	**-1.1**
	baz=13								
MNAS				⇑	*iS*		**Sb**	**18 19 58.4**	**+0.7**
	baz=13								
MNAS	**Manas**	**2.30**	**313**		PN		**Pb**	**18 19 29.3**	**+0.1**
MNAS					pmax		pmax		
	comp=Z,81nm,0.5s								
USP	**Ospenovka**	**2.32**	**355**	⇓	P		**Pb**	**18 19 29.2**	**-0.3**
	comp=Z,321nm,0.2s,SNR=550								
USP	**Ospenovka**	**2.32**	**355**	⇑	*iP*		**Pb**	**18 19 28.7**	**-0.8**
	baz=54								
USP				⇑	*iS*		**Sb**	**18 20 00.0**	**+1.7**
	baz=54								
DGS	**Degeres**	**2.40**	**17**		*eP*		**Pb**	**18 19 31.6**	**+0.7**
	comp=Z,542nm,0.3s								
DGS					*eS*		**Sg**	**18 20 04.6**	**+0.1**
	comp=Z,1μm,0.5s								
IZV	**Izvestkoviy**	**2.48**	**33**		*eP*		**Pb**	**18 19 31.4**	**-1.0**
	comp=Z,247nm,0.6s								
IZV					*eS*		**Sb**	**18 20 04.9**	**+1.7**
	comp=Z,1μm,0.6s								
MTBS	**Maitube**	**2.49**	**29**		*eP*		**Pb**	**18 19 32.8**	**+0.3**
	comp=Z,102nm,0.3s								
MTBS				⇑	*iS*		**Sg**	**18 20 06.9**	**-0.6**
	comp=Z,1μm,0.7s								
TNSS	**Tian-Shan**	**2.63**	**37**		*eP*		**Pb**	**18 19 35.1**	**+0.1**
	comp=Z,148nm,0.3s								
TNSS					*eS*		**Sg**	**18 20 10.2**	**-1.7**
	comp=Z,801nm,0.7s								
AAA	**Alma-Ata**	**2.75**	**34**		*ePN*		**Pb**	**18 19 37.4**	**+0.5**
AAA					*eS*		**Sg**	**18 20 14.4**	**-1.4**
AAA					pmax		pmax		
	comp=Z,146nm,0.6s								
AAA					smax		smax		
	comp=E,2μm,0.8s								
AAA	**Alma-Ata**	**2.75**	**34**		*eP*		**Pb**	**18 19 37.4**	**+0.5**
	comp=E,141nm,0.3s								
AAA					*eS*		**Sg**	**18 20 14.4**	**-1.4**
	comp=E,2μm,0.5s								
MDOK	**Medeo**	**2.77**	**37**		*eP*		**Pb**	**18 19 37.4**	**+0.1**
	comp=E,152nm,0.6s								
MDOK					*eS*		**Sg**	**18 20 14.6**	**-1.9**
	comp=E,944nm,1.1s								
KNDC	**Almaty**	**2.78**	**35**	⇓	Pg		**Pb**	**18 19 37.8**	**+0.4**
	comp=E,153nm,0.5s								
KNDC				⇓	Lg		Lg	18 20 15.7	
	comp=E,4μm,0.9s								
KOTS	**Kotyrbulak**	**2.86**	**36**		*eP*		**Pb**	**18 19 39.1**	**+0.4**
	comp=E,150nm,0.4s								
KOTS					*eS*		**Sg**	**18 20 17.8**	**-1.4**
	comp=E,4μm,0.6s								
KTBS	**Karatobe**	**3.09**	**26**		*eP*		**Pb**	**18 19 43.3**	**+0.7**
	comp=E,106nm,0.3s								
KTBS					*eS*		**Sg**	**18 20 24.9**	**-1.9**
	comp=E,772nm,0.4s								
PRZ	**Przheval'sk**	**3.10**	**59**	⇓	*iP*		**Pn**	**18 19 37.2**	**+0.4**
	baz=58								
PRZ				⇓	*iS*		**Sn**	**18 20 14.6**	**+0.5**
	baz=58								
KUU	**Kurty**	**3.15**	**21**	⇑	*iP*		**Pb**	**18 19 44.1**	**+0.5**
	comp=E,122nm,0.4s								
KUU				⇑	*iS*		**Sb**	**18 20 26.2**	**+3.9**
	comp=E,910nm,0.7s								
BTK	**Batken**	**3.16**	**255**	⇑	*eP*		**Pn**	**18 19 38.3**	**+0.8**
	baz=56								
BTK				⇑	*iS*		**Sn**	**18 20 18.0**	**+2.6**
	baz=56								
DZA	**Taraz**	**3.23**	**308**		*eP*		**Pb**	**18 19 46.3**	**+1.4**
	comp=E,34nm,0.1s								
DZA					*eS*		**Sg**	**18 20 30.7**	**-0.4**
	comp=E,465nm,0.4s								
CHKK	**Chushkaly**	**3.32**	**29**		*eP*		**Pb**	**18 19 46.3**	**-0.3**
	comp=E,77nm,0.4s								
CHKK					*eS*		**Sb**	**18 20 30.5**	**+3.4**
	comp=E,829nm,0.4s								
SATY	**Saty**	**3.42**	**51**		*eP*		**Pb**	**18 19 48.5**	**+0.3**
	comp=E,218nm,0.6s								
SATY					*eS*		**Sg**	**18 20 33.7**	**-3.4**
	comp=E,464nm,0.7s								
ZHN	**Zhinishke**	**3.50**	**50**		*eP*		**Pb**	**18 19 49.6**	**-0.1**
	comp=E,47nm,0.4s								
ZHN					*eS*		**Sg**	**18 20 36.2**	**-3.6**
	comp=E,366nm,0.2s								
KURS	**Kuram**	**3.56**	**44**		*eP*		**Pb**	**18 19 50.2**	**-0.5**
	comp=E,67nm,0.6s								
KURS					*eS*		**Sb**	**18 20 37.2**	**+3.1**
	comp=E,185nm,0.8s								
IUG	**Iuzhnay**	**3.77**	**290**		*eP*		**Pb**	**18 19 56.8**	**+2.6**
	comp=E,114nm,0.6s								
IUG					*eS*		**Sg**	**18 20 48.5**	**+0.2**
	comp=E,494nm,0.9s								
KPKS	**Kokpek**	**3.83**	**48**		*eP*		**Pb**	**18 19 55.3**	**+0.1**
	comp=E,106nm,0.3s								
KPKS					*eS*		**Sb**	**18 20 45.7**	**+3.9**
	comp=E,650nm,0.6s								
UZB	**Uzynbulak**	**3.84**	**54**		*eP*		**Pb**	**18 19 54.9**	**-0.5**
	comp=E,82nm,0.8s								
UZB					*eS*		**Sb**	**18 20 44.8**	**+2.8**
	comp=E,336nm,0.5s								
KK31	**Karatay Array**	**3.84**	**305**	⇑	Pg		**Pb**	**18 19 57.9**	**+2.4**
	comp=E,7.0nm,0.3s,baz=133,slow=13,SNR=66								
KK31				⇑	Lg		Lg	18 20 49.1	
	comp=E,110nm,0.6s,baz=127,slow=29,SNR=13								
KK31	**Karatay Array**	**3.84**	**305**		PN		**Pb**	**18 19 57.9**	**+2.4**
KK31					pmax		pmax		
	comp=Z,7.0nm,0.4s								
ARXS	**Arharly**	**3.95**	**34**		*eP*		**Pb**	**18 19 57.3**	**-0.1**
	comp=Z,65nm,0.6s								
ARXS					*eS*		**Sb**	**18 20 49.5**	**+4.2**
	comp=Z,372nm,0.6s								
SHLS	**Shalkode**	**4.12**	**56**		*eP*		**Pg**	**18 20 05.7**	**-0.5**
	comp=Z,46nm,0.3s								
SHLS					*eS*		**Sg**	**18 21 03.8**	**+4.2**
	comp=Z,590nm,0.7s								
BTLS	**Baital**	**4.12**	**353**		*eP*		**Pb**	**18 20 02.1**	**+1.9**
	comp=Z,40nm,0.5s								
BTLS					*eS*		**Sg**	**18 20 56.8**	**-2.9**
	comp=Z,88nm,0.9s								
PDGK	**Podgornoye**	**4.22**	**54**	⇑	Pn		**Pn**	**18 19 53.2**	**+1.0**
	comp=Z,14nm,0.9s								
PDGK				⇓	Pg		**Pb**	**18 20 03.5**	**+1.6**
	comp=Z,90nm,0.8s								
PDGK				⇓	Lg		Lg	18 21 00.0	
	comp=Z,335nm,0.8s								
PDGK	**Podgornoye**	**4.22**	**54**		PN		**Pn**	**18 19 53.1**	**+1.0**
PDGK					pmax		pmax		
	comp=Z,14nm,0.9s								
BRLS	**Boroldav**	**4.24**	**301**		*eP*		**Pb**	**18 20 04.5**	**+2.4**
	comp=Z,2.7nm,0.4s								
BRLS					*eS*		**Sg**	**18 21 01.0**	**-2.4**
	comp=Z,130nm,0.7s								
KTMS	**Ketmen**	**4.82**	**57**		*eP*		**Pb**	**18 20 12.5**	**+0.3**
	comp=Z,2.3nm,0.1s								
KTMS					*eS*		**Sb**	**18 21 14.7**	**+4.4**
	comp=Z,159nm,0.3s								
DJR	**Jarkent**	**5.00**	**46**		*eP*		**Pb**	**18 20 18.3**	**+3.1**
	comp=Z,20nm,0.4s								
DJR					*eS*		**Sg**	**18 21 25.0**	**-2.9**
	comp=Z,72nm,0.8s								
KAPS	**Kapalarasan**	**5.47**	**36**		*eP*		**Pg**	**18 20 27.7**	**-4.4**
	comp=Z,21nm,0.4s								
KAPS					*eS*		**Sg**	**18 21 41.4**	**-1.5**
	comp=Z,162nm,1.0s								
CHCP	**Chirah Chowk**	**7.38**	**190**		P		**Pn**	**18 20 37.8**	**+2.3**
CEP	**Cherat**	**7.48**	**199**		P		**Pn**	**18 20 39.3**	**+2.4**
CEP					S		**Sn**	**18 22 01.0**	**-0.9**
OTUK	**Ortayu**	**7.50**	**347**	⇑	Pn		**Pn**	**18 20 38.7**	**+1.8**
	comp=Z,5.0nm,0.9s								
OTUK				⇑	Lg		Lg	18 22 49.1	
	comp=Z,122nm,0.9s								
OTUK	**Ortayu**	**7.50**	**347**		P		**Pn**	**18 20 38.7**	**+1.8**
OTUK					pmax		pmax		
	comp=Z,5.0nm,0.9s								
MK31	**Makanchi Array**	**7.96**	**40**	⇑	Pn		**Pn**	**18 20 44.7**	**+1.4**
	comp=Z,2.5nm,0.5s,baz=222,slow=15,SNR=32								
MK31				⇑	Pg		Pg	18 21 12.9	-6.9
	comp=Z,6.5nm,0.7s,baz=226,slow=13,SNR=6.5								
MK31				⇓	Lg		Lg	18 23 01.2	
	comp=Z,23nm,0.8s,baz=221,slow=27,SNR=3.1								
MK31	**Makanchi Array**	**7.96**	**40**		P		**Pn**	**18 20 44.7**	**+1.4**
MK31					pmax		pmax		
	comp=Z,2.0nm,0.5s								
MKAR	**Makanchi Array**	**7.96**	**40**		Pn		**Pn**	**18 20 44.9**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=224,slow=13,SNR=3.8								
MKAR					Lg		Lg	18 22 56.1	
	comp=Z,1.8nm,0.3s,baz=224,slow=27,SNR=6.1								
THW	**Thamme Wali**	**8.50**	**198**		P		**Pn**	**18 20 51.9**	**+1.1**
WMQ	**Urumqi**	**9.97**	**69**		*eP*		**Pn**	**18 21 10.8**	**-0.1**
KURBB	**Kurchatov Arra**	**10.01**	**14**		Pn		**Pn**	**18 21 11.4**	**0.0**
KURBB					Sn		**Sn**	**18 23 03.6**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=203,slow=12,SNR=8.5								
KURBB					Lg		Lg	18 24 00.3	
	comp=Z,0.1nm,0.3s,baz=197,slow=25,SNR=3.6								
KURBB	**Kurchatov Arra**	**10.01**	**14**	⇓	Pn		**Pn**	**18 21 11.4**	**0.0**
	comp=Z,0.4nm,0.3s,baz=196,slow=28,SNR=5.7								
KURBB				⇑	Pg			18 21 49.3	
	comp=Z,2.6nm,0.7s								
KURBB				⇑	Lg		Lg	18 24 06.9	
	comp=Z,4.4nm,0.8s								
KURBB				⇑	Lg		Lg	18 24 11.9	
	comp=Z,129nm,0.9s								
KURK	**Kurchatov**	**10.12**	**14**	⇑	Lg		Lg	18 24 11.9	
	comp=Z,58nm,0.9s								
KURK	**Kurchatov**	**10.12**	**14**		P		**Pn**	**18 21 11.4**	**-1.5**
KURK								18 23 03.6	
BVA0	**Borovoye Array**	**12.44**	**348**		Pn		**Pn**	**18 21 46.4**	**+1.8**
	comp=Z,0.1nm,0.6s,baz=158,slow=12,SNR=5.4								
BVA0				⇓	Lg		Lg	18 25 25.3	
	comp=Z,35nm,1.4s								
BVA0	**Borovoye Array**	**12.44**	**348**		P		**Pn**	**18 21 46.4**	**+1.8**
BVAR	**Borovoye Array**	**12.44**	**348**		Pn		**Pn**	**18 21 43.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=169,slow=11,SNR=5.6								
BVAR					Lg		Lg	18 25 18.1	
	comp=Z,0.3nm,0.3s,baz=156,slow=27,SNR=5.1								
BVAR					LR		LR	18 26 38.4	
	comp=Z,42nm,19.9s,baz=141,slow=38								
BRVK	**Borovoye**	**12.49**	**347**	⇑	Pn		**Pn**	**18 21 46.0**	**+0.7**
	comp=Z,3.6nm,0.9s								
BRVK				⇓	Lg		Lg	18 25 27.1	
	comp=Z,36nm,1.0s								
BRVK	**Borovoye**	**12.49**	**347**		P		**Pn**	**18 21 45.9**	**+0.7**
BRVK					pmax		pmax		
	comp=Z,4.0nm,0.9s								
AB31	**Akbulak array**	**13.36**	**313**	⇓	Pn		**Pn**	**18 22 00.5**	**+3.4**
	comp=Z,1.1nm,0.5s								
AB31				⇑	Lg		Lg	18 25 53.3	
	comp=Z,2.9nm,0.8s								
AB31	**Akbulak array**	**13.36**	**313**		P		**Pn**	**18 22 00.5**	**+3.4**
AB31					pmax		pmax		
	comp=Z,1.0nm,0.5s								
ZAA0	**Zalesovo Array**	**14.64**	**24**	⇑	Lg		Lg	18 26 33.2	
	comp=Z,6.7nm,0.8s								
ZALV	**Zalesovo Beam**	**14.64**	**24**		Pn		**Pn**	**18 22 15.4**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=220,slow=14,SNR=4.3								
ZALV					LR		LR	18 27 58.9	
	comp=Z,30nm,19.1s,baz=250,slow=37								
NVS	**Novosibirsk**	**14.99**	**19**		*eP*		**P**	**18 22 25.6**	**+0.8**
AKTO	**Aktyubinsk**	**15.04**	**315**		Pn		**Pn**	**18 22 17.4**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=118,slow=16,SNR=2.0								
AKTO	**Aktyubinsk**	**15.04**	**315**	⇑	Pn		**Pn**	**18 22 21.8**	**+1.7**
	comp=Z,3.6nm,0.8s								
AKTO	**Aktyubinsk**	**15.04**	**315**		P		**Pn**	**18 22 21.8**	**+1.7**
AKTO					pmax		pmax		
	comp=Z,4.0nm,0.8s								
ARU	**Arti**	**18.75**	**331**		P		**P**	**18 23 06.1**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=104,slow=19,SNR=2.1								
GTA	**Gaotai**	**19.17**	**86**		*eP*		**Pn**	**18 23 12.0**	**-0.2**
GTA					pP		P	18 23 19.3	+7.9
GTA					sP		sP	18 23 23.5	+8.6
SONM	**Songino Array**	**23.49**	**62**		P		**P**	**18 23 57.3**	**-0.3**
	comp=Z,0.8nm,0.9s,baz=245,slow=9.6,SNR=4.9								
SONM					LR		LR	18 33 42.8	
	comp=Z,31nm,21.9s,baz=167,slow=38								
NRIK	**Noril'sk**	**29.24**	**9**		LR		LR	18 37 38.6	
	comp=Z,22nm,18.4s,baz=9.0,slow=39								
BRTR	**Keskin Array B**	**31.19**	**281**		P		**P**	**18 25 05.1**	**-1.9**
	comp=Z,0.2nm,0.5s,baz=84,slow=7.4,SNR=2.4								
AKASG	**Malin Array Be**	**32.74**	**303**		P		**P**	**18 25 19.0**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=88,slow=6.6,SNR=2.5								
FINES	**FINESS Array B**	**35.63**	**322**		P		**P**	**18 25 43.3**	**-2.0**
	comp=Z,8.5nm,0.9s,baz=107,slow=8.7,SNR=2.4								
ARCES	**ARCESS Array B**	**38.28**	**335**		P		**P**	**18 26 06.3**	**-1.4**
	comp=Z,1.5nm,0.8s,baz=109,slow=10,SNR=2.5								
HFS	**Hagfors**	**41.54**	**319**		P		**P**	**18 26 33.6**	**-1.3**
	comp=Z,2.0nm,0.7s,baz=83,slow=8.4,SNR=1.9								
CLL	**Collm**	**42.86**	**306**		*eP*		**P**	**18 26 47.0**	**+1.2**
GERES	**GERESS Array B**	**42.94**	**302**		P		**P**	**18 26 44.4**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=67,slow=7.6,SNR=2.5								
GERES					LR		LR	18 46 28.4	
	comp=Z,23nm,19.7s,baz=240,slow=39								
RES	**Resolute Bay**	**64.44**	**357**		LR		LR	19 00 00.3	
	comp=Z,18nm,18.7s,baz=62,slow=38								
TORD	**Torodi Ar. Bea**	**68.77**	**269**		P		**P**	**18 29 50.8**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=39,slow=5.7,SNR=3.8								
INK	**Inuvik**	**69.01**	**11**		P		**P**	**18 29 53.2**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=4.8,slow=9.1,SNR=4.2								
YKA	**Yellowknife Ar**	**76.62**	**4**		P		**P**	**18 30 37.8**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=349,slow=5.7,SNR=7.2								
WRA	**Warramunga Arr**	**81.97**	**125**		P		**P**	**18 31 06.4**	**-1.4**
	comp=Z,0.4nm,1.1s,baz=308,slow=5.8,SNR=3.3								
HNR	**Honiara**	**92.47**	**100**		LR		LR	19 14 11.0	
	comp=Z,159nm,21.2s,baz=214,slow=36								

ISCJB ***29*** *18:19:22.0±0.5,27.80

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLLN	**Pollina**	**0.94**	**197**	P	**Pn**	**18 27 48.3**	**+1.1**
MSRU	**Castanea**	**1.02**	**128**	P	**Pn**	**18 27 47.6**	**+0.3**
MSRU				S	**S**	**18 28 21.8**	**-1.0**
JOPP	**Joppolo**	**1.13**	**104**	P	**Pn**	**18 27 48.3**	**+0.5**
JOPP				S	**S**	**18 28 21.5**	**-2.2**
MSCL	**Scilla**	**1.22**	**123**	P	**Pn**	**18 27 49.0**	**+0.7**
MTTG	**Motta San Giov**	**1.30**	**133**	P	**Pn**	**18 27 49.5**	**+0.9**
SOI	**Samo**	**1.48**	**123**	P	**Pn**	**18 27 50.1**	**+0.6**
SOI				S	**S**	**18 28 24.4**	**-2.5**
MPAZ	**Palizzi**	**1.52**	**128**	P	**Pn**	**18 27 50.4**	**+0.6**
MPAZ				AML	AML		
	comp=E,187μm,0.9s						
MPAZ				AML	AML		
	comp=N,279μm,1.0s						
MPAZ				AML	AML		
	comp=E,187μm,0.9s						
MPAZ				AML	AML		
	comp=N,279μm,1.0s						
PLAC	**Placanica**	**1.59**	**106**	P	**Pn**	**18 27 50.8**	**+0.5**
TIP	**Timpagrande**	**1.79**	**80**	P	**Pn**	**18 27 52.4**	**+0.9**
OBKA	**Obir**	**7.61**	**0**	*i* Pn	**Pn**	**18 28 54.2**	**+2.1**
	comp=N,6.8nm,0.7s						
MYKA	**Terra Mystica**	**7.76**	**356**	*i* Pn	**Pn**	**18 28 56.2**	**+2.4**
	comp=N,2.7nm,0.4s						
SOKA	**Soboth**	**7.79**	**3**	*i* Pn	**Pn**	**18 28 55.8**	**+1.5**
	comp=N,2.8nm,0.5s						
ABTA	**Abfaltersbach**	**7.98**	**350**	*i* Pn	**Pn**	**18 28 57.8**	**+1.3**
	comp=N,13nm,0.5s						
ARSA	**Arzberg**	**8.39**	**5**	*i* Pn	**Pn**	**18 29 01.0**	**-0.3**
	comp=N,3.9nm,0.4s						
DAVOX	**Davos/Dischmat**	**8.58**	**338**	P	**Pn**	**18 29 04.9**	**+1.1**
	comp=N,1.0nm,0.3s,baz=328,slow=21,SNR=6.8						
FETA	**Feichten**	**8.58**	**342**	*i* Pn	**Pn**	**18 29 05.5**	**+1.8**
	comp=N,6.5nm,0.7s						
SQTA	**Sankt Quirin**	**8.66**	**345**	*i* Pn	**Pn**	**18 29 06.6**	**+1.9**
	comp=N,5.9nm,0.6s						
MOTA	**Moosalm**	**8.80**	**345**	*i* Pn	**Pn**	**18 29 06.2**	**-0.2**
	comp=N,1.9nm,0.5s						
DAVA	**Damuels**	**9.04**	**340**	Pn	**Pn**	**18 29 10.2**	**+0.9**
	comp=N,3.9nm,0.4s						
IDI	**Anoyia**	**9.05**	**110**	P	**P**	**18 29 13.3**	**+0.9**
	comp=N,0.7nm,0.3s,baz=275,slow=12,SNR=6.4						
GERES	**GERESS Array B**	**9.96**	**357**	P	**Pn**	**18 29 19.8**	**-0.5**
	comp=N,0.2nm,0.3s,baz=170,slow=12,SNR=9.2						
ESDC	**Sonseca Array**	**14.32**	**279**	P	P	18 30 05.9	-4.7
	comp=N,0.2nm,0.3s,baz=143,slow=39,SNR=3.4						
BRTR	**Keskin Array B**	**14.85**	**81**	P	**Pn**	**18 30 21.3**	**+2.8**
	comp=N,0.1nm,0.3s,baz=264,slow=9.9,SNR=8.6						
AKASG	**Malin Array Be**	**15.73**	**37**	P	**Pn**	**18 30 26.8**	**-1.6**
	comp=N,1.1nm,0.3s,baz=226,slow=8.8,SNR=5.6						
MMAI	**Mount Meron Ar**	**17.90**	**103**	P	**Pn**	**18 30 51.8**	**-2.0**
	comp=N,0.5nm,0.3s,baz=301,slow=9.9,SNR=3.9						
EKA	**Eskdalemuir Ar**	**20.27**	**330**	P	**P**	**18 31 12.2**	**-1.7**
	comp=N,0.1nm,0.3s,baz=129,slow=10,SNR=2.3						
HFS	**Hagfors**	**21.27**	**359**	P	**P**	**18 31 22.8**	**-0.3**
	comp=N,1.4nm,0.3s,baz=177,slow=12,SNR=21						
NB2	**NORSAR Subarra**	**22.26**	**356**	P	**P**	**18 31 32.2**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=172,slow=12						
NOA	**NORSAR Array B**	**22.26**	**356**	P	**P**	**18 31 32.4**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=100,slow=14,SNR=4.1						
FINES	**FINESS Array B**	**23.69**	**14**	P	**P**	**18 31 45.0**	**0.0**
	comp=Z,1.3nm,0.3s,baz=188,slow=9.5,SNR=11						
ARCES	**ARCESS Array B**	**31.26**	**7**	P	**P**	**18 32 50.2**	**-1.7**
	comp=Z,1.8nm,0.8s,baz=192,slow=11,SNR=6.6						
MKAR	**Makanchi Array**	**48.93**	**58**	P	**P**	**18 35 16.8**	**+1.0**
	comp=Z,0.3nm,0.9s,baz=276,slow=7.0,SNR=4.4						

IDC ***29*** *18:29:16.0±3.9, 23.°85S×179.°95W, h490km±35km, mb3.5/5, mb1 3.6/6, mb1mx3.2/34, mbtmp4.4/6, Error ellipse: s-maj=40.0km s-min=25.2km az=56.0*

ISC 29 18:29:17.7±1.7, 24.°0S±0.°1×179.°9W±0.°3, h518km, n9, σ1§11/11, mb4.0/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.48**	**190**	P	**P**	**18 32 21.6**	**-0.4**
	1.9nm,0.3s,baz=273,slow=3.4,SNR=8.9						
URZ				S	**S**	**18 34 53.9**	**-0.2**
	0.5nm,0.3s,baz=319,slow=19,SNR=4.3						
RPZ	**Rata Peaks**	**21.07**	**199**	P	**P**	**18 33 25.6**	**+0.7**
	16nm,0.9s,baz=25,slow=6.3,SNR=3.6						
STKA	**Stephens Creek**	**34.81**	**248**	P	**P**	**18 35 25.1**	**+0.2**
	0.8nm,0.4s,baz=92,slow=8.2,SNR=3.7						
ASAR	**Alice Springs**	**42.14**	**261**	P	**P**	**18 36 24.5**	**-0.1**
	1.2nm,0.3s,baz=98,slow=7.3,SNR=63						
ASAR				ScP	**ScP**	**18 41 11.1**	**+2.7**
	1.1nm,1.1s,baz=114,slow=5.0,SNR=4.6						
WRA	**Warramunga Arr**	**42.52**	**266**	P	**P**	**18 36 26.7**	**-0.9**
	2.9nm,0.3s,baz=96,slow=8.4,SNR=141						
SIJI	**Sorong**	**52.56**	**288**	P	**P**	**18 37 42.8**	**-0.3**
	7.1nm,0.9s,baz=90,slow=11,SNR=6.3						
ARCES	**ARCESS Array B**	**131.97**	**348**	PKP	**PKPdf**	**18 47 30.6**	**-0.7**
	1.3nm,0.7s,baz=35,slow=2.2,SNR=2.5						
AKASG	**Malin Array Be**	**145.09**	**327**	PKP	**PKPbc**	**18 47 56.1**	**-0.3**
	0.9nm,0.5s,baz=40,slow=2.9,SNR=3.0						
BRTR	**Keskin Array B**	**147.71**	**307**	PKPbc	**PKPbc**	**18 48 04.6**	**+0.4**
	0.4nm,0.5s,baz=184,slow=2.9,SNR=3.5						

NIED ***29*** *18:29:00, 22.°50N×120.°90E, h5km, Mw3.8 Best double couple: M0 5.99000×10^14 NP1:φ=151.00000°, δ=22.00000°, λ=-56.00000°. NP2:φ=295.00000°, δ=72.00000°, λ=-103.00000°.*

IDC ***29*** *18:29:37.7±1.6, 22.°69N×121.°75E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.3/49, mbtmp3.4/5, MS2.9/6, Ms1 2.9/6, ms1mx2.6/30, Error ellipse: s-maj=149.0km s-min=20.1km az=66.0*

JMA ***29*** *18:29:38.1, 22.°55N×120.°92E, h20km±1km, M3.7*

ISCJB ***29*** *18:29:40.3±0.3, 22.°56N±0.°02×121.°12E±0.°02, h7km±2km, mb3.3/5, MS2.8/5, Error ellipse: s-maj=3.1km s-min=2.7km az=139.5*

TAP ***29*** *18:29:41.0, 22.°61N×121.°01E, h8km, ML4.0, B*

ASIES ***29*** *18:29:40.8, 22.°61N×120.°99E, h20km, MW3.6*

ISC 29 18:29:40.9±0.8, 22.°60N±0.°02×121.°06E±0.°02, h12km±5km, n131, σ1§01/155, mb3.4/5, MS2.8/5, 11C-26D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECL	**Taimali**	**0.10**	**267**	⇑*i*P	**Pg**	**18 29 42.9**	**-0.8**
	baz=256						
ECL				*i* S	**Sg**	**18 29 43.9**	**-1.8**
	baz=256						
TTN	**Taitung**	**0.17**	**28**	⇑*e*P	**Pb**	**18 29 46.4**	**+0.4**
	baz=32						
TTN				*e*S	**Sg**	**18 29 50.6**	**+3.2**
	baz=32						
TWGBT	**Beinan**	**0.21**	**5**	⇓P	**Pg**	**18 29 45.9**	**+0.3**
	baz=7.0						
TWGBT				S	**Sg**	**18 29 49.8**	**+1.0**
	baz=7.0						
TWG	**Pinlang**	**0.22**	**3**	⇓*i*P	**Pg**	**18 29 45.8**	**+0.3**
	baz=7.0						
TWG				*i* S	**Sg**	**18 29 49.6**	**+0.9**
	baz=7.0						
TAW	**Tawu**	**0.29**	**212**	⇑*i*P	**Pg**	**18 29 47.0**	**+0.2**
	baz=214						
TAW				S	**Sg**	**18 29 50.8**	**0.0**
	baz=214						
EAST	**Anshuo**	**0.29**	**222**	⇑*i*P	**Pg**	**18 29 47.0**	**+0.1**
	baz=224						
EAST				S	**Sg**	**18 29 51.3**	**+0.3**
	baz=224						
MASBT	**Mashibuluo**	**0.40**	**271**	⇑P	**Pg**	**18 29 48.4**	**-0.4**
	baz=272						
MASBT				S	**Sg**	**18 29 52.6**	**-1.5**
	baz=272						
SSD	**Sandimen**	**0.42**	**290**	⇓*i*P	**Pg**	**18 29 48.7**	**-0.6**
	baz=300						
SSD				*i* S	**Sg**	**18 29 53.1**	**-1.7**
	baz=300						
SCZT	**Fangliau**	**0.47**	**241**	⇑*i*P	**Pg**	**18 29 50.0**	**-0.1**
	baz=239						
SCZT				S	**Sg**	**18 29 55.7**	**-0.6**
	baz=239						
SGLT	**Jiouru**	**0.54**	**283**	⇓P	**Pb**	**18 29 52.1**	**-0.2**
	baz=285						
SGLT				S	**Sb**	**18 29 59.4**	**-0.7**
	baz=285						
SLGT	**Liugui**	**0.55**	**316**	⇓*e*P	**Pg**	**18 29 51.2**	**-0.4**
	baz=321						
CHKT	**Chengkung**	**0.57**	**30**	⇑*i*P	**Pb**	**18 29 52.8**	**-0.1**
	baz=14						
ELDTW	**Lidau**	**0.58**	**356**	⇓*i*P	**Pg**	**18 29 52.3**	**-0.1**
	baz=359						
ELDTW				*e*S	**Sg**	**18 29 59.6**	**-0.6**
	baz=359						
STYT	**Tauyuan**	**0.62**	**333**	⇓*i*P	**Pb**	**18 29 53.1**	**-0.7**
	baz=337						
STYT				S	**Sg**	**18 30 00.4**	**-1.0**
	baz=337						
TWM1	**Shoushan**	**0.63**	**291**	⇓*i*P	**Pb**	**18 29 54.2**	**+0.3**
	baz=292						
TWM1				*e*S	**Sb**	**18 30 03.3**	**+0.6**
	baz=292						
SGST	**Jiashian**	**0.65**	**317**	⇓*i*P	**Pb**	**18 29 53.8**	**-0.4**
	baz=329						
WLCH	**Liuqiu**	**0.68**	**248**	⇑*e*P	**Pn**	**18 29 57.0**	**+0.7**
	baz=239						
TWP	**Hsiaoliuchiu**	**0.69**	**249**	*e*P	**Pn**	**18 29 57.1**	**+0.6**
	baz=239						
KAU	**Kaohsiung**	**0.70**	**267**	*e*P	**Pn**	**18 29 57.2**	**+0.7**
	baz=269						
TWK1	**Hengchun**	**0.70**	**200**	*e*P	**Pg**	**18 29 55.0**	**+0.5**
	baz=208						
TWKBT	**Hengchun**	**0.70**	**199**	⇓P	**Pg**	**18 29 55.0**	**+0.6**
	baz=183						
TWKBT				*e*S	**Sg**	**18 30 05.2**	**+1.5**
	baz=183						
TSEB	**Hengchuen, Pin**	**0.71**	**192**	*e*P	**Pg**	**18 29 55.8**	**+1.0**
	baz=177						
LAY	**Lan-yu**	**0.72**	**141**	*e*P	**Pg**	**18 29 55.0**	**+0.1**
	baz=139						
CHN1	**Nanshi**	**0.76**	**320**	⇓P	**Pb**	**18 29 56.4**	**+0.2**
	baz=330						
WTP	**Ta-pu**	**0.76**	**327**	⇓*i*P	**Pb**	**18 29 56.2**	**+0.1**
	baz=325						
TWF1	**Yuli**	**0.78**	**16**	⇑*e*P	**Pg**	**18 29 54.8**	**-1.2**
	baz=8.0						
TWF1				*e*S	**Sb**	**18 30 07.4**	**+0.4**
	baz=8.0						
TPUB	**Ta-pu**	**0.80**	**330**	⇓P	**Pb**	**18 29 57.2**	**+0.4**
	baz=333						
TPUB				*e*S	**Sn**	**18 30 08.9**	**-1.0**
	baz=333						
YULB	**Yu-li**	**0.82**	**15**	⇑P	**Pg**	**18 29 55.2**	**-1.5**
	baz=5.0						
YULB				S	**Sb**	**18 30 07.8**	**-0.2**
	baz=5.0						
TWK	**Hsinying**	**0.85**	**321**	⇓*e*P	**Pg**	**18 29 58.1**	**-0.6**
	baz=342						
CHN4	**Tsaushan**	**0.86**	**330**	⇓*e*P	**Pn**	**18 29 58.4**	**-0.4**
	baz=334						
TAI1	**Yung-k'ang**	**0.88**	**300**	*e*P	**Pn**	**18 29 59.3**	**+0.2**
	baz=304						
YUS	**Yu-Shan**	**0.89**	**354**	⇓*i*P	**Pg**	**18 29 58.0**	**-0.2**
	baz=356						
EHY	**Hungye**	**0.93**	**15**	*e*P	**Pg**	**18 29 57.5**	**-1.4**
	baz=25						
ALS	**Alishan**	**0.93**	**345**	⇓*e*P	**Pb**	**18 29 59.1**	**-0.2**
	baz=357						
HGSD	**Ruisui**	**0.95**	**21**	*e*P	**Pg**	**18 29 58.3**	**-0.9**
	baz=6.0						
HGSD				*e*S	**Sn**	**18 30 14.5**	**+1.0**
	baz=6.0						
SCLT	**Jiali**	**0.98**	**306**	*e*P	**Pn**	**18 30 01.4**	**+0.9**
	baz=308						
SCLT				*e*S	**Sn**	**18 30 16.0**	**+1.7**
	baz=308						
CHN5	**Tsauling**	**1.05**	**340**	⇓*i*P	**Pn**	**18 30 01.5**	**0.0**
	baz=344						
CHY	**Chiayi**	**1.07**	**327**	*e*P	**Pn**	**18 30 02.7**	**+1.0**
	baz=341						
CHN2	**Minshiung**	**1.07**	**330**	⇓P	**Pn**	**18 30 02.6**	**+0.9**
	baz=342						
CHN2				*e*S	**Sn**	**18 30 18.5**	**+1.9**
	baz=342						
CHN8	**Yiju**	**1.08**	**314**	⇓*i*P	**Pn**	**18 30 02.5**	**+0.7**
	baz=331						
CHN8				*e*S	**Sn**	**18 30 17.9**	**+1.2**
	baz=331						
EGFH	**Guangfu**	**1.11**	**18**	*e*P	**Pg**	**18 30 02.3**	**-0.1**
	baz=14						
WLGB	**Puzi**	**1.12**	**321**	⇓*i*P	**Pn**	**18 30 03.4**	**+1.0**
	baz=323						
WLGB				*e*S	**Sn**	**18 30 19.9**	**+2.2**
	baz=323						
VWDT	**VWDT**	**1.15**	**4**	⇑P	**Pb**	**18 30 01.9**	**-0.8**
	baz=8.0						
WGK	**Gukeng**	**1.17**	**337**	⇓*i*P	**Pn**	**18 30 04.5**	**+1.4**
	baz=341						
SSLB	**Suanglung**	**1.18**	**355**	⇓P	**Pb**	**18 30 03.0**	**-0.3**
	baz=358						
SSLB				*e*S	**Sn**	**18 30 21.0**	**+1.6**
	baz=358						
WDLH	**Douliu**	**1.18**	**336**	⇓P	**Pn**	**18 30 04.7**	**+1.4**
	baz=354						
WJS	**Zhushan**	**1.25**	**346**	*e*P	**Pg**	**18 30 05.7**	**+0.7**
	baz=349						
ESL	**Shilin**	**1.25**	**16**	*e*P	**Pn**	**18 30 03.8**	**-0.5**
	baz=25						
SMLT	**Sun Moon Lake**	**1.28**	**353**	*e*P	**Pg**	**18 30 05.3**	**-0.3**
	baz=354						
SMLT				*e*S	**Sn**	**18 30 24.3**	**+2.3**
	baz=354						
WSF	**Szhu**	**1.29**	**323**	⇓*i*P	**Pg**	**18 30 05.5**	**-0.2**
	baz=326						
WSF				*e*S	**Sn**	**18 30 23.8**	**+1.9**
	baz=326						
TYC	**Yuchr**	**1.31**	**352**	*e*P	**Pg**	**18 30 05.9**	**-0.2**
	baz=352						
TYC				*e*S	**Sg**	**18 30 25.1**	**+2.0**
	baz=352						
WNT	**Mingjian**	**1.32**	**345**	*e*P	**Pg**	**18 30 06.7**	**+0.5**
	baz=333						
WNT				*e*S	**Sg**	**18 30 25.5**	**+2.2**
	baz=333						
RLNB	**Erlin**	**1.44**	**333**	*e*P	**Pg**	**18 30 08.2**	**-0.3**
	baz=338						
WTCT	**Ta-ch'eng**	**1.45**	**330**	*e*P	**Pg**	**18 30 08.3**	**-0.4**
	baz=336						
WDGT	**Dungji**	**1.45**	**297**	*e*P	**Pn**	**18 30 06.8**	**-0.1**
	baz=298						
WDGT				*e*S	**Sn**	**18 30 25.1**	**-0.8**
	baz=298						
CHGB	**Renai**	**1.46**	**4**	*e*P	**Pn**	**18 30 07.1**	**-0.1**
	baz=9.0						
WCHH	**Zhanghua**	**1.54**	**343**	*e*P	**Pg**	**18 30 09.7**	**-0.8**
	baz=345						
WHF	**Hehuan Shan**	**1.55**	**7**	*e*P	**Pn**	**18 30 09.1**	**+0.4**
	baz=11						
TWD	**Chiawan**	**1.55**	**18**	*e*P	**Pn**	**18 30 08.2**	**-0.2**
	baz=28						
TCU	**Taichung**	**1.58**	**347**	*e*P	**Pg**	**18 30 10.6**	**-0.7**
	baz=351						
VCHM	**Qimei**	**1.62**	**292**	*e*P	**Pn**	**18 30 09.0**	**-0.3**
	baz=293						
VCHM				*e*S	**Sb**	**18 30 30.8**	**-0.4**
	baz=293						
NACB	**Ninganchiao**	**1.64**	**17**	*e*P	**Pn**	**18 30 08.5**	**-1.1**
	baz=23						
PHUB	**P'eng-hu**	**1.64**	**304**	⇓*e*P	**Pn**	**18 30 09.5**	**-0.2**
	baz=309						
TDCB	**Techi**	**1.65**	**3**	*e*P	**Pb**	**18 30 11.6**	**+0.3**
	baz=8.0						
TWT	**Tachien**	**1.65**	**4**	*e*P	**Pb**	**18 30 11.6**	**+0.3**
	baz=8.0						
PNG	**Penghu**	**1.69**	**305**	*e*P	**Pn**	**18 30 10.0**	**-0.2**
	baz=310						
TWQ1	**Liyutan**	**1.76**	**351**	*e*P	**Pb**	**18 30 13.5**	**+0.4**
	baz=351						
TWQ1				*e*S	**Sg**	**18 30 37.1**	**-0.3**
	baz=351						
NNSB	**Datong**	**1.84**	**9**	*e*P	**Pb**	**18 30 14.9**	**+0.3**
	baz=8.0						
NNS	**Nan Shan**	**1.85**	**9**	*e*P	**Pb**	**18 30 15.0**	**+0.2**
	baz=8.0						
ENA	**Nanau**	**1.92**	**19**	*e*P	**Pn**	**18 30 12.8**	**-0.7**
	baz=26						
NANB	**Nanao**	**1.92**	**19**	*e*P	**Pn**	**18 30 13.2**	**-0.3**
	baz=26						
NSTT	**Nanjuang**	**2.02**	**358**	*e*P	**Pb**	**18 30 18.2**	**+0.6**
	baz=1.0						
LIOB	**Emei**	**2.03**	**359**	*e*P	**Pg**	**18 30 18.6**	**-1.3**
	baz=1.0						
YHNB	**Yeheng**	**2.08**	**8**	*e*P	**Pb**	**18 30 19.1**	**+0.5**
	baz=6.0						
ENTT	**Nioudou**	**2.08**	**13**	*e*P	**Pn**	**18 30 15.7**	**+0.1**
	baz=18						
NSK	**Sanguang**	**2.08**	**7**	*e*P	**Pb**	**18 30 19.3**	**+0.6**
	baz=5.0						
TWC	**Suao**	**2.12**	**20**	*e*P	**Pn**	**18 30 17.0**	**+0.7**
	baz=25						
EOS1	**EOS1**	**2.17**	**27**	*e*P	**Pn**	**18 30 17.8**	**+0.9**
	baz=34						
SBCB	**Hsinchu**	**2.18**	**358**	*e*P	**Pb**	**18 30 19.9**	**-0.5**
	baz=1.0						
TWE	**Neicheng**	**2.18**	**15**	*e*P	**Pn**	**18 30 18.0**	**+0.9**
	baz=19						
TATO	**Taipei**	**2.39**	**9**	*e*P	**Pn**	**18 30 21.0**	**+1.1**
	baz=20						
TWA	**Mucha**	**2.42**	**11**	*e*P	**Pn**	**18 30 22.3**	**+2.0**
	baz=22						
TIPB	**Shuangxi**	**2.46**	**16**	*e*P	**Pn**	**18 30 21.5**	**+0.6**
	baz=18						
TAP1	**Taipei**	**2.46**	**10**	*e*P	**Pb**	**18 30 25.5**	**+0.4**
	baz=1.0						
TWS1	**Kuangyinshan**	**2.51**	**7**	*e*P	**Pb**	**18 30 24.4**	**-1.5**
	baz=359						
JYNG	**Yonagunijimaku**	**2.52**	**43**	P	**Pn**	**18 30 22.1**	**+0.4**
JYNG				*e*S	**Sn**	**18 30 53.5**	**+1.0**
NWF	**Wu-fen Shan**	**2.54**	**15**	*e*P	**Pn**	**18 30 23.8**	**+1.7**
	baz=17						
WFSB	**Wu-fen Shan**	**2.54**	**15**	*e*P	**Pn**	**18 30 23.4**	**+1.4**
	baz=17						
YOJ	**Yonaguni jima**	**2.57**	**44**	*e*P	**Pn**	**18 30 21.9**	**-0.6**
	baz=36						
YOJ	**Yonaguni jima**	**2.57**	**44**	P	**Pn**	**18 30 24.0**	**+1.6**
YM01	**YM01**	**2.58**	**10**	*e*P	**Pn**	**18 30 24.4**	**+1.9**
	baz=2.0						
YM04	**YM04**	**2.58**	**10**	*e*P	**Pn**	**18 30 23.6**	**+1.1**
	baz=1.0						
YM10	**YM10**	**2.58**	**10**	*e*P	**Pb**	**18 30 25.2**	**-2.0**
	baz=2.0						
YM05	**YM05**	**2.59**	**10**	*e*P	**Pn**	**18 30 24.2**	**+1.5**
	baz=2.0						
YM11	**YM11**	**2.59**	**10**	*e*P	**Pn**	**18 30 23.9**	**+1.1**
	baz=2.0						
YM03	**YM03**	**2.60**	**10**	*e*P	**Pn**	**18 30 24.3**	**+1.4**
	baz=2.0						
YM07	**YM07**	**2.61**	**11**	*e*P	**Pn**	**18 30 24.4**	**+1.4**
	baz=3.0						
VWUC	**VWUC**	**2.80**	**328**	*e*P	**Pn**	**18 30 25.3**	**-0.2**
	baz=335						
HATJ	**Hateruma jima**	**2.91**	**60**	P	**Pn**	**18 30 26.7**	**-0.3**
HATJ				*e*S	**Sn**	**18 31 00.7**	**-1.2**
IRIF	**Iriomote-Funau**	**3.00**	**54**	P	**Pn**	**18 30 28.4**	**+0.2**
IRIF				*e*S	**Sn**	**18 31 03.2**	**-0.9**
PTMZ	**Houxiangcun**	**3.01**	**324**	*e*P	**Pn**	**18 30 28.0**	**-0.4**
	baz=331						
KNM	**Kinmen**	**3.01**	**307**	*e*P	**Pn**	**18 30 31.0**	**+2.5**
	baz=310						
PTTC	**Pingtan**	**3.12**	**338**	*e*P	**Pn**	**18 30 30.3**	**+0.4**
	baz=345						
JKRS	**Kuro-shima**	**3.16**	**58**	P	**Pn**	**18 30 30.5**	**0.0**
ZPLA	**Ao Xicun**	**3.32**	**294**	*e*P	**Pn**	**18 30 32.2**	**-0.4**
	baz=296						
JIJ	**Ishigaki jima**	**3.33**	**58**	P	**Pn**	**18 30 32.6**	**-0.2**
JIJ				*e*S	**Sn**	**18 31 11.4**	**-0.9**
JISG	**Ishigakijimahi**	**3.58**	**56**	P	**Pn**	**18 30 35.5**	**-0.7**
JISG				S	**Sn**	**18 31 19.4**	**+1.0**
AXDP	**Jialang**	**3.64**	**310**	*e*P	**Pn**	**18 30 37.6**	**+0.5**
	baz=313						
ZZJH	**Jiuhuzhen**	**3.66**	**301**	*e*P	**Pn**	**18 30 37.7**	**+0.4**
	baz=303						
MATB	**Ma-tsu**	**3.68**	**344**	*e*P	**Pn**	**18 30 38.1**	**+0.5**
	baz=354						
JTJ	**Tarama**	**3.91**	**58**	P	**Pn**	**18 30 40.9**	**+0.1**
MHZQ	**Yeshan**	**3.94**	**332**	*e*P	**Pn**	**18 30 42.1**	**+0.9**
	baz=341						
LYJJ	**Jianjiangzhen**	**4.11**	**343**	*e*P	**Pn**	**18 30 44.1**	**+0.6**
	baz=354						
XPSS	**Dashiqiu**	**4.38**	**350**	*e*P	**Pn**	**18 30 48.3**	**+1.0**
	baz=2.0						
VDOS	**Pratas Island**	**4.45**	**246**	*e*P	**Pn**	**18 30 49.2**	**+1.0**
	baz=245						
JNU	**Nakatsue**	**13.60**	**37**	LR	LR	18 38 06.2	
	comp=Z,30nm,19.6s,baz=296,slow=39						
MJAR	**Matsushiro Arr**	**20.34**	**43**	LR	LR	18 42 25.6	
	comp=Z,38nm,20.0s,baz=65,slow=39						
CMAR	**Chiang Mai Arr**	**21.11**	**263**	LR	LR	18 42 53.6	
	comp=Z,16nm,19.6s,baz=80,slow=37						
SONM	**Songino Array**	**27.78**	**339**	P	**P**	**18 35 29.5**	**-0.3**
	0.2nm,0.5s,baz=153,slow=7.1,SNR=2.6						
SONM				LR	LR	18 47 09.7	
	comp=Z,37nm,21.5s,baz=154,slow=38						
KLR	**Kul'dur**	**27.89**	**15**	LR	LR	18 45 29.9	
	comp=Z,19nm,21.5s,baz=302,slow=34						
MKAR	**Makanchi Array**	**39.41**	**317**	P	**P**	**18 37 12.4**	**+1.8**
	0.4nm,0.5s,baz=121,slow=9.9,SNR=7.2						
ZALV	**Zalesovo Beam**	**41.51**	**328**	P	**P**	**18 37 28.6**	**+0.7**
	0.9nm,0.6s,baz=115,slow=10,SNR=4.8						
H11N1	**WAKE ISLAND Hy 42.71**	**85**		T	T	19 23 17.8	
	baz=282,slow=75,SNR=37						
H11N2	**WAKE ISLAND Hy 42.71**	**85**		T	T	19 23 10.0	
	baz=282,slow=75,SNR=64						
H11N3	**WAKE ISLAND Hy 42.73**	**85**		T	T	19 23 19.7	
	baz=282,slow=75,SNR=72						
H11S3	**WAKE ISLAND Hy 42.80**	**87**		T	T	19 23 24.2	
	baz=284,slow=74,SNR=151						
H11S1	**WAKE ISLAND Hy 42.80**	**87**		T	T	19 23 26.2	
	baz=284,slow=74,SNR=59						
H11S2	**WAKE ISLAND Hy 42.81**	**87**		T	T	19 23 25.6	
	baz=284,slow=74,SNR=62						
WRA	**Warramunga Arr**	**44.23**	**162**	P	**P**	**18 37 48.3**	**-2.0**
	0.2nm,0.5s,baz=345,slow=8.9,SNR=3.4						
ASAR	**Alice Springs**	**47.66**	**164**	P	**P**	**18 38 14.7**	**-2.6**
	0.2nm,0.5s,baz=341,slow=6.8,SNR=4.2						
AKTO	**Aktyubinsk**	**55.83**	**316**	LR

KMER	**Konya-Meram**	**2.82**	**21**	*i* P	**Pn**	**18 32 29.6**	**+2.7**
KONT	**Konya--Tatoy**	**2.98**	**19**	PN	**Pn**	**18 32 30.9**	**+1.9**
DOGA	**KONYA_Doganhis**	**3.00**	**8**	*e*P	**Pb**	**18 32 33.3**	**-3.4**
DOGA				*e*S	**Sn**	**18 33 05.7**	**+1.3**
KZIL	**AFYON_Kizioren**	**3.21**	**346**	*i* P	**Pn**	**18 32 32.0**	**-0.3**
LADK	**Ladik-KONYA**	**3.22**	**18**	PN	**Pn**	**18 32 33.8**	**+1.4**
MERS	**Mersin**	**3.26**	**57**	PN	**Pn**	**18 32 33.9**	**+1.0**
KERG	**Konya-Eregli**	**3.33**	**46**	*e*P	**Pn**	**18 32 35.3**	**+1.3**
KERG				*e*S	**Sn**	**18 33 10.6**	**-2.0**
MLSB	**Milas**	**3.45**	**310**	PN	**Pn**	**18 32 34.5**	**-1.0**
KHAL	**Karahalli**	**3.48**	**339**	*i* P	**Pn**	**18 32 34.5**	**-1.5**
BODT	**Bodrum**	**3.63**	**303**	PN	**Pn**	**18 32 36.3**	**-1.6**
AYDB	**Zeytinkoy-Aydi**	**3.82**	**318**	PN	**Pn**	**18 32 38.9**	**-1.7**
MMAI	**Mount Meron Ar**	**4.14**	**119**	Pn	**Pn**	**18 32 45.5**	**+0.5**
	1.6nm,0.3s,baz=308,slow=12,SNR=8.7						
MMAI				Sn	**Sn**	**18 33 32.4**	**0.0**
	6.2nm,0.3s,baz=309,slow=23,SNR=11						
TAHT	**Tahtakopru-Hat**	**4.31**	**72**	PN	**Pn**	**18 32 46.9**	**-0.4**
KOZT	**Kozan**	**4.47**	**57**	PN	**Pn**	**18 32 50.2**	**+0.7**
SAIM	**ADANA**	**4.91**	**53**	*i* P	**Pn**	**18 32 53.2**	**-2.4**
BRTR	**Keskin Array B**	**5.01**	**23**	Pn	**Pn**	**18 32 58.3**	**+1.4**
	0.1nm,0.3s,baz=201,slow=13,SNR=3.6						
BRTR				Sn	**Sn**	**18 33 58.1**	**+4.3**
	0.2nm,0.3s,baz=199,slow=25,SNR=6.6						
IDI	**Anoyia**	**5.09**	**274**	PN	**Pn**	**18 32 55.3**	**-2.8**
IDI	**Anoyia**	**5.09**	**274**	Pn	**Pn**	**18 32 57.9**	**-0.2**
	4.4nm,0.3s,baz=87,slow=12,SNR=21						
IDI				Sn	**Sn**	**18 33 53.3**	**-2.6**
	5.0nm,0.3s,baz=10.0,slow=5.8,SNR=9.1						
ASF	**Jabal al Asfar**	**5.66**	**120**	Pn	**Pn**	**18 33 06.5**	**+0.6**
	0.1nm,0.3s,baz=315,slow=2.9,SNR=2.1						
ASF				Sn	**Sn**	**18 34 10.0**	**+0.2**
	0.1nm,0.3s,baz=90,slow=20,SNR=2.3						
EIL	**Elat**	**6.34**	**148**	Pn	**Pn**	**18 33 14.8**	**-0.3**
	0.4nm,0.3s,baz=326,slow=3.6,SNR=4.6						
EIL				Sn	**Sn**	**18 34 26.6**	**0.0**
	0.8nm,0.3s,baz=352,slow=12,SNR=4.7						
GERES	**GERESS Array B**	**18.78**	**322**	P	**P**	**18 36 00.5**	**0.0**
	0.1nm,0.3s,baz=131,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**39.71**	**57**	P	**P**	**18 39 14.9**	**+1.7**
	0.5nm,0.9s,baz=270,slow=9.5,SNR=3.1						

MAN 29 18:40:29.0, 11°.18N×125°.29E, h9km, mb4.0, ML2.8, MS2.4, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.31**	**267**	*i* P	Pg	18 40 35.4	+0.3
PLP				*e*S	Sg	18 40 39.9	+0.7
BESP	**Borongan**	**0.44**	**19**	*e*P	Pg	18 40 38.2	+0.6
BESP				*e*S	Sb	18 40 50.1	+4.3
OCLP	**Ormoc**	**0.68**	**259**	*e*P	Pb	18 40 42.9	-0.2
OCLP				*e*S	Sn	18 40 55.8	+0.2
MSLP	**Maasin**	**1.12**	**202**	*e*P	Pg	18 40 50.5	-0.1
MSLP				*e*S	Sn	18 41 07.2	+0.7
CNP	**Catarman**	**1.46**	**335**	*e*P	Pn	18 40 54.0	-1.5
CNP				*e*S	Sg	18 41 15.7	-0.2

*ISCJB **29** 18:40:39.1±1.4, 18°.03N±0°.08×147°.0E±0°.3, h50km, mb3.8/9, MS2.5/2, Error ellipse: s-maj=45.7km s-min=8.3km az=9.3*
*IDC **29** 18:40:44.9±5.3, 17°.96N×146°.79E, h84km±38km, mb3.5/9, mb1 3.6/11, mb1mx3.4/52, mbtmp3.8/11, MS2.7/3, Ms1 2.7/3, ms1mx2.3/31, Error ellipse: s-maj=82.9km s-min=16.0km az=90.0*
ISC 29 18:40:40.5±1.9, 18°.05N±0°.10×147°.1E±0°.4, h50km, n17, σ1^{0}6/12, mb3.9/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.94**	**207**	P	**Pn**	**18 41 53.5**	**+1.3**
	12nm,0.3s,baz=131,slow=13,SNR=6.3						
GUMO				S	**Sn**	**18 42 47.7**	**-0.4**
	7.8nm,0.3s,baz=216,slow=19,SNR=2.4						
JHJ	**Hachijo jima 2**	**16.40**	**338**	LR	LR	18 50 11.1	
	comp=Z,27nm,21.3s,baz=244,slow=35						
H11N1	**WAKE ISLAND Hy**	**18.77**	**82**	T	T	19 04 46.2	
	baz=277,slow=75						
H11N2	**WAKE ISLAND Hy**	**18.78**	**82**	T	T	19 04 47.1	
	baz=277						
H11N3	**WAKE ISLAND Hy**	**18.79**	**82**	T	T	19 04 41.7	
	baz=277,slow=75						
MJAR	**Matsushiro Arr**	**20.04**	**339**	P	**Pn**	**18 45 11.4**	**0.0**
	0.2nm,0.3s,baz=165,slow=10,SNR=3.2						
KSRS	**Korea Array**	**25.65**	**323**	LR	LR	18 56 22.0	
	comp=Z,16nm,18.4s,baz=130,slow=37						
ASAJ	**Asahikawa**	**26.27**	**353**	LR	LR	18 54 56.5	
	comp=Z,16nm,21.5s,baz=336,slow=32						
KLR	**Kul'dur**	**33.50**	**342**	P	**P**	**18 47 16.9**	**+1.9**
	1.0nm,0.3s,baz=174,slow=8.3,SNR=4.3						
WRA	**Warramunga Arr**	**39.79**	**199**	P	**P**	**18 48 08.7**	**-0.2**
	0.5nm,1.0s,baz=23,slow=9.1,SNR=6.4						
FITZ	**Fitzroy Crossi**	**41.68**	**212**	P	**P**	**18 48 24.4**	**0.0**
	3.2nm,1.2s,baz=36,slow=8.7,SNR=2.9						
ASAR	**Alice Springs**	**43.43**	**198**	P	**P**	**18 48 37.0**	**-1.6**
	0.2nm,0.6s,baz=25,slow=9.3,SNR=3.1						
SONM	**Songino Array**	**44.50**	**321**	P	**P**	**18 48 46.0**	**-1.2**
	0.5nm,0.7s,baz=130,slow=6.3,SNR=3.1						
ZALV	**Zalesovo Beam**	**59.36**	**323**	P	**P**	**18 50 36.8**	**-0.6**
	0.6nm,0.5s,baz=116,slow=8.0,SNR=3.9						
MKAR	**Makanchi Array**	**59.89**	**314**	P	**P**	**18 50 41.0**	**-0.4**
	0.2nm,0.5s,baz=91,slow=7.8,SNR=4.3						
ARCES	**ARCESS Array B**	**83.52**	**342**	P	**P**	**18 53 02.9**	**+0.2**
	2.5nm,0.8s,baz=82,slow=8.3,SNR=4.0						
FINES	**FINESS Array B**	**88.04**	**336**	P	**P**	**18 53 24.7**	**-0.5**
	6.2nm,1.0s,baz=108,slow=6.2,SNR=4.6						

IDC 29 18:49:44.4±2.0, 8°.25S×119°.79E, h202km±16km, mb2.6/2, mb1 2.9/5, mb1mx2.8/47, mbtmp3.4/5, Error ellipse: s-maj=47.9km s-min=11.6km az=49.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.29**	**117**	P	Pn	18 50 50.7	+0.7
	4.2nm,0.3s,baz=292,slow=5.4,SNR=13						
BATI				S	S	18 51 41.5	+0.4
	5.5nm,0.3s,baz=62,slow=2.4,SNR=7.6						
FITZ	**Fitzroy Crossi**	**11.32**	**150**	P	Pn	18 52 20.8	0.0
	0.2nm,0.3s,baz=336,slow=13,SNR=15						
FITZ				S	S	18 54 22.8	-4.1
	0.2nm,0.3s,baz=191,slow=17,SNR=7.0						
WRA	**Warramunga Arr**	**18.27**	**131**	P	P	18 53 43.5	+0.4
	0.1nm,0.3s,baz=303,slow=12,SNR=10						
WRA				S	S	18 57 02.5	+0.9
	0.1nm,0.3s,baz=308,slow=24,SNR=4.9						
ASAR	**Alice Springs**	**20.45**	**140**	P	P	18 54 07.3	+0.7
	0.5nm,0.8s,baz=313,slow=8.9,SNR=10						
ASAR				S	S	18 57 44.7	+0.4
	0.3nm,0.7s,baz=324,slow=22,SNR=3.2						
MKAR	**Makanchi Array**	**64.15**	**332**	P	P	18 59 57.0	-0.4
	0.2nm,0.6s,baz=136,slow=6.7,SNR=3.2						

*ISCJB **29** 18:52:56.5±0.5, 22°.84S±0°.06×177°.18W±0°.09, h167km, mb4.2/17, Error ellipse: s-maj=13.4km s-min=6.7km az=28.4*
*NEIC **29** 18:52:57.4±1.3, 22°.87S×177°.12W, h164km±13km, mb4.7/12, Error ellipse: s-maj=12.5km s-min=7.3km az=120.0*
*IDC **29** 18:53:00.3±2.9, 22°.89S×177°.10W, h190km±26km, mb3.8/10, mb1 4.0/13, mb1mx3.8/31, mbtmp4.4/13, Error ellipse: s-maj=25.1km s-min=16.4km az=133.0*
ISC 29 18:52:58.0±0.6, 22°.81S±0°.08×177°.0W±0°.1, h167km, n36, σ1^{3}9/42, mb4.3/17, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.46**	**187**	S	**Sn**	**18 55 45.8**	**+1.8**
	61nm,0.3s,baz=73,slow=19,SNR=4.1						
AFI	**Afiamalu**	**10.16**	**30**	P	**Pn**	**18 55 22.7**	**+2.6**
	10nm,0.3s,baz=165,slow=3.9,SNR=6.8						
AFI				S	**Sn**	**18 57 11.8**	**-1.1**
	6.7nm,0.3s,baz=28,slow=22,SNR=3.6						
AFI	**Afiamalu**	**10.16**	**30**	*e*Pn	**Pn**	**18 55 20.4**	**+0.4**
AFI				S	**Sn**	**18 57 11.8**	**-1.1**
DZM	**Mont Dzumac**	**15.29**	**270**	P	**P**	**18 56 27.4**	**+1.1**
	0.5nm,0.3s,baz=85,slow=17,SNR=9.8						
DZM	**Mont Dzumac**	**15.29**	**270**	*e*Pn	**P**	**18 56 30.7**	**+4.4**
	15nm,0.8s						
URZ	**Urewera**	**16.20**	**197**	P	**Pn**	**18 56 36.3**	**+0.2**
	5.2nm,0.3s,baz=289,slow=3.7,SNR=22						
URZ				S	S	18 59 23.5	-12
	1.7nm,0.3s,baz=84,slow=22,SNR=6.9						
URZ	**Urewera**	**16.20**	**197**	*e*Pn	**P**	**18 56 35.8**	**-0.3**
	19nm,0.9s						
URZ				S	S	18 59 23.5	-12
BKZ	**Black Stump Fm**	**17.21**	**197**	*e*P	**P**	**18 56 45.9**	**-1.4**
	117nm,2.0s						
BFZ	**Birch Farm**	**18.70**	**196**	*e*P	**P**	**18 57 02.4**	**-1.1**
	205nm,1.9s						
THZ	**Tophouse**	**20.69**	**202**	*e*P	**P**	**18 57 23.2**	**-1.8**
	131nm,1.5s						
KHZ	**Kahutara**	**21.07**	**200**	*e*P	**P**	**18 57 27.5**	**-1.5**
	98nm,1.6s						
RPZ	**Rata Peaks**	**23.05**	**202**	P	**P**	**18 57 48.0**	**-0.5**
	8.7nm,0.6s,baz=298,slow=4.1,SNR=3.6						
CTA	**Charters Tower**	**34.21**	**267**	P	**P**	**18 59 28.5**	**+0.6**
	14nm,0.5s,baz=94,slow=11,SNR=31						
PMG	**Port Moresby**	**36.77**	**285**	P	**P**	**18 59 49.5**	**-0.2**
	22nm,0.7s,baz=71,slow=6.0,SNR=11						
PMG	**Port Moresby**	**36.77**	**285**	*e*P	**P**	**18 59 49.8**	**+0.1**
	26nm,0.8s						
STKA	**Stephens Creek**	**37.65**	**247**	P	**P**	**18 59 56.8**	**-0.2**
	1.1nm,0.5s,baz=102,slow=7.7,SNR=4.7						
AS31	**Alice Springs**	**44.90**	**259**	*e*P	**P**	**19 00 55.6**	**-0.7**
	1.3nm,0.8s						
ASAR	**Alice Springs**	**44.90**	**259**	P	**P**	**19 00 54.9**	**-1.4**
	1.8nm,0.4s,baz=97,slow=7.4,SNR=96						
ASAR				PcP	**PcP**	**19 02 34.4**	**-0.5**
	0.6nm,0.6s,baz=112,slow=3.8,SNR=5.5						
WB2	**Warramunga Arr**	**45.20**	**264**	*e*P	**P**	**19 00 56.8**	**-1.8**
WRAB	**Tennant Creek**	**45.20**	**264**	*e*P	**P**	**19 00 56.8**	**-1.8**
	14nm,1.4s						
WR1	**Warramunga Arr**	**45.21**	**264**	*e*P	**P**	**19 00 57.2**	**-1.5**
	4.8nm,0.6s						
WR1				*e*PcP	**PcP**	**19 02 34.0**	**-2.0**
WRA	**Warramunga Arr**	**45.21**	**264**	P	**P**	**19 00 57.2**	**-1.5**
	2.5nm,0.5s,baz=96,slow=8.4,SNR=222						
WRA				PcP	**PcP**	**19 02 34.0**	**-2.0**
	0.5nm,0.7s,baz=105,slow=3.4,SNR=3.1						
SIJI	**Sorong**	**54.71**	**286**	P	**P**	**19 02 09.9**	**-0.4**
	4.1nm,0.8s,baz=63,slow=7.1,SNR=4.6						
MJAR	**Matsushiro Arr**	**72.59**	**324**	P	**P**	**19 04 06.6**	**-0.4**
	0.6nm,0.5s,baz=169,slow=5.4,SNR=4.3						
MAJO	**Matsushiro**	**72.59**	**324**	*e*P	**P**	**19 04 06.6**	**-0.4**
SRU	**San Rafael Swe**	**87.49**	**46**	*e*P	**P**	**19 05 28.9**	**+1.9**
	4.6nm,0.7s						
P17A	**Butcher Ranch,**	**87.54**	**45**	*e*P	**P**	**19 05 25.9**	**-1.3**
	3.8nm,0.5s						
JLU	**Jordanelle**	**87.68**	**44**	*e*P	**P**	**19 05 29.1**	**+1.1**
	7.7nm,0.6s						
ILAR	**Eielson Array**	**90.36**	**12**	P	**P**	**19 05 40.1**	**+0.5**
	0.3nm,0.5s,baz=215,slow=5.1,SNR=6.5						
CMAR	**Chiang Mai Arr**	**91.72**	**289**	P	**P**	**19 05 47.9**	**+0.9**
	0.4nm,0.7s,baz=134,slow=5.2,SNR=3.9						
AKASG	**Malin Array Be**	**145.45**	**330**	PKPbc	**PKPdf**	**19 12 15.4**	**-0.4**
	2.7nm,0.4s,baz=44,slow=4.2,SNR=20						
AKBB	**Malin Array Si**	**145.45**	**330**	*e*PKPdf	**PKPdf**	**19 12 15.4**	**-0.4**
BR101	**Keskin Array S**	**149.02**	**310**	*e*PKPbc	**PKPbc**	**19 12 26.1**	**-0.5**
BRTR	**Keskin Array B**	**149.02**	**310**	PKPbc	**PKPbc**	**19 12 26.1**	**-0.5**
	1.9nm,0.5s,baz=143,slow=5.1,SNR=12						
CLL	**Collm**	**150.50**	**347**	*i* PKPbc	**PKPbc**	**19 12 30.2**	**+0.6**
	comp=Z,8.0nm,1.0s						
CLL				*i* PKPab	**PKPab**	**19 12 37.1**	**+0.4**
GERES	**GERESS Array B**	**152.65**	**344**	PKPbc	**PKPbc**	**19 12 33.5**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=311,slow=3.0,SNR=3.8						

*IDC **29** 18:57:12.1±0.9, 35°.10N×22°.99E, h0km, mb3.9/11, mb1 3.9/15, mb1mx3.7/41, mbtmp3.8/15, ML3.6/4, MS3.1/7, Ms1 3.1/7, ms1mx2.8/42, Error ellipse: s-maj=20.5km s-min=15.1km az=19.0*
*ISCJB **29** 18:57:17.8±0.5, 34°.95N±0°.03×23°.04E±0°.05, h70km±4km, mb3.7/11, Error ellipse: s-maj=7.9km s-min=3.7km az=143.3*
*ATH **29** 18:57:18.1, 35°.00N×23°.11E, h72km±4km, ML3.5/10, Error ellipse: s-maj=4.7km s-min=1.2km az=59.0*
*THE **29** 18:57:18.3, 34°.90N×23°.02E, h15km±4km, ML3.6/5, Error ellipse: s-maj=4.9km s-min=1.3km az=221.0*
*HLW **29** 18:57:27.6, 34°.44N×23°.85E, h10km±27km, Md3.8, Ml3.6*
ISC 29 18:57:17.8±1.1, 34°.91N±0°.05×23°.01E±0°.05, h53km±10km, n110, σ1^{5}0/121, mb3.9/11, MS3.2/6, 1C, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.89**	**94**	P	**Pn**	**18 57 34.8**	**+0.7**
GVD				AML	AML	18 57 53.5	
	comp=E,9722μm,0.5s						
GVD				AML	AML	18 57 54.6	
	comp=N,11675μm,0.4s						
GVD	**Gavdhos**	**0.89**	**94**	P	**Pn**	**18 57 35.0**	**+0.9**
GVD				S	**Sn**	**18 57 48.0**	**+1.9**
GVDS	**Gavdos**	**0.89**	**94**	P	**Pn**	**18 57 34.9**	**+0.8**
IMMV	**Iera Moni Meta**	**0.96**	**55**	P	**Pn**	**18 57 35.6**	**+0.4**
IMMV				AML	AML	18 57 53.4	
	comp=N,13247μm,0.9s						
IMMV				AML	AML	18 57 57.0	
	comp=E,7011μm,0.5s						
IMMV	**Iera Moni Meta**	**0.96**	**55**	P	**Pn**	**18 57 35.6**	**+0.4**
IMMV				S	**Sn**	**18 57 50.5**	**+2.5**
ANKY	**Antikythira Is**	**0.98**	**14**	P	**Pn**	**18 57 36.1**	**+0.7**
ANKY				S	**Sn**	**18 57 47.9**	**-0.5**
ANKY				AML	AML	18 57 55.6	
	comp=N,3241μm,0.5s						
ANKY				AML	AML	18 57 58.1	
	comp=E,4848μm,0.9s						
ANKY	**Antikythira Is**	**0.98**	**14**	P	**Pn**	**18 57 36.2**	**+0.7**
ANKY				S	**Sn**	**18 57 50.2**	**+1.8**
CHAN	**Chania**	**1.04**	**54**	P	**Pn**	**18 57 36.8**	**+0.7**
CHAN				S	**Sn**	**18 57 52.5**	**+2.8**
VAM	**Vamos**	**1.09**	**63**	P	**Pn**	**18 57 37.5**	**+0.7**
VAM				S	**Sn**	**18 57 51.7**	**+0.8**
VAM				AML	AML	18 57 56.9	
	comp=N,7439μm,1.0s						
VAM				AML	AML	18 58 03.3	
	comp=E,5231μm,1.0s						
VAM	**Vamos**	**1.09**	**63**	P	**Pn**	**18 57 37.7**	**+0.8**
VAM				S	**Sn**	**18 57 52.4**	**+1.4**
KYTH	**Kithira**	**1.35**	**1**	P	**Pn**	**18 57 41.8**	**+1.4**
KYTH				AML	AML	18 58 09.7	
	comp=N,1570μm,0.4s						
KYTH				AML	AML	18 58 29.7	
	comp=E,1803μm,1.1s						
KYTH	**Kithira**	**1.35**	**1**	P	**Pn**	**18 57 42.1**	**+1.7**
SIVA	**Sivas**	**1.48**	**85**	P	**Pn**	**18 57 43.1**	**+1.0**
SIVA				AML	AML	18 58 20.7	
	comp=N,3854μm,1.0s						
SIVA				AML	AML	18 58 32.5	
	comp=E,4711μm,0.9s						
SIVA	**Sivas**	**1.48**	**85**	P	**Pn**	**18 57 43.3**	**+1.2**
IDI	**Anoyia**	**1.58**	**76**	Pn	**Pn**	**18 57 43.1**	**-0.5**
	comp=E,31nm,0.3s,baz=253,slow=8.9,SNR=122						
IDI				Sn	**Sn**	**18 58 05.1**	**+2.1**
	comp=E,25nm,0.3s,baz=317,slow=19,SNR=9.7						
IDI				LR	LR	18 58 36.7	
	comp=E,445nm,21.0s,baz=242,slow=54						
IDI	**Anoyia**	**1.58**	**76**	P	**Pn**	**18 57 44.0**	**+0.4**
IDI				AML	AML	18 58 23.1	
	comp=E,888μm,0.5s						
IDI				AML	AML	18 58 23.4	
	comp=N,1193μm,0.5s						
IDI	**Anoyia**	**1.58**	**76**	P	**Pn**	**18 57 44.1**	**+0.5**
IACM	**Heraklion**	**1.73**	**76**	P	**Pn**	**18 57 45.4**	**-0.1**
VLI	**Veliai**	**1.81**	**358**	P	**Pn**	**18 57 47.3**	**+0.8**
VLI				AML	AML	18 58 27.5	
	comp=N,1150μm,1.1s						
VLI				AML	AML	18 58 30.4	
	comp=E,1396μm,0.8s						
VLI	**Veliai**	**1.81**	**358**	P	**Pn**	**18 57 49.0**	**+2.4**
VLI				S	**Sn**	**18 58 12.6**	**+4.2**
LAST	**Lasithi**	**2.04**	**82**	P	**Pn**	**18 57 51.4**	**+1.7**
LAST				AML	AML	18 58 48.0	
	comp=N,1009μm,1.2s						
LAST				AML	AML	18 58 52.8	
	comp=E,670μm,1.2s						
LAST	**Lasithi**	**2.04**	**82**	P	**Pn**	**18 57 51.5**	**+1.7**
MHLO	**Agia Marina, M**	**2.10**	**32**	P	**Pn**	**18 57 50.6**	**0.0**
MHLA	**Plaka, Milos I**	**2.16**	**32**	P	**Pn**	**18 57 51.3**	**-0.1**
NPS	**Neapolis**	**2.16**	**80**	P	**Pn**	**18 57 52.5**	**+1.1**
NPS				AML	AML	18 58 41.1	
	comp=N,1004μm,1.0s						
NPS				AML	AML	18 58 49.4	
	comp=E,978μm,1.0s						
PYL	**PYLOS**	**2.24**	**333**	P	**Pn**	**18 57 53.4**	**+1.0**
ITM	**Ithomi**	**2.43**	**339**	*e*PG	Pn	18 58 01.9	+6.8
ITM				*e*SG	**Sn**	**18 58 25.4**	**+1.7**
THR3	**Thira Island,**	**2.45**	**52**	P	**Pn**	**18 57 55.4**	**0.0**
SANT	**Santorini**	**2.47**	**53**	P	**Pn**	**18 57 55.3**	**-0.3**
THR7	**Fira-Santorini**	**2.48**	**52**	P	**Pn**	**18 57 57.9**	**+2.1**
THT2	**Imerovigli**	**2.48**	**51**	P	**Pn**	**18 57 56.9**	**+1.1**
THR2	**Thira island,**	**2.50**	**51**	P	**Pn**	**18 57 56.2**	**+0.2**
THR8	**Santorini-Mono**	**2.50**	**53**	P	**Pn**	**18 57 55.9**	**-0.1**
STIA	**Sitia Lasithi**	**2.54**	**83**	P	**Pn**	**18 57 58.9**	**+2.3**
SERI	**Serifos**	**2.54**	**28**	P	**Pn**	**18 57 56.3**	**-0.4**
DID	**Didima**	**2.60**	**4**	P	**Pn**	**18 57 57.9**	**+0.5**
DID				S	**Sn**	**18 58 28.0**	**+0.1**
ZKR	**Zakros**	**2.64**	**85**	P	**Pn**	**18 57 59.0**	**+1.0**
ANAF	**Anafi Island**	**2.67**	**56**	P	**Pn**	**18 57 58.2**	**-0.2**
APE	**Apeiranthos**	**2.97**	**43**	P	**Pn**	**18 58 02.3**	**-0.2**
VLY	**Voula,Athens**	**3.00**	**12**	P	**Pn**	**18 58 04.0**	**+1.0**
VLY	**Voula,Athens**	**3.00**	**12**	P	**Pn**	**18 58 03.9**	**+1.0**
AMGA	**Amorgos Island**	**3.02**	**50**	P	**Pn**	**18 58 02.7**	**-0.5**
LOUT	**Loutraki**	**3.07**	**359**	P	**Pn**	**18 58 05.3**	**+1.4**
ATH	**Athens Observa**	**3.11**	**10**	P	**Pn**	**18 58 05.3**	**+1.0**
ATHU	**Athens Univers**	**3.12**	**11**	P	**Pn**	**18 58 05.2**	**+0.7**
PTL	**Penteli**	**3.21**	**12**	P	**Pn**	**18 58 06.5**	**+0.7**
PTL				S	**Sn**	**18 58 42.0**	**-0.8**
DION	**Dionisos Attik**	**3.25**	**13**	P	**Pn**	**18 58 07.0**	**+0.7**
VILL	**Villia**	**3.26**	**4**	P	**Pn**	**18 58 07.0**	**+0.5**
VIL2	**Platees**	**3.30**	**3**	P	**Pn**	**18 58 06.9**	**-0.1**
VIL2				S	**Sn**	**18 58 43.8**	**-1.3**
PROD	**Prodromos**	**3.34**	**358**	P	**Pn**	**18 58 08.1**	**+0.5**
LAKA	**Lakka**	**3.43**	**346**	P	**Pn**	**18 58 10.3**	**+1.6**
TRIZ	**Trizonia**	**3.53**	**348**	P	**Pn**	**18 58 11.3**	**+1.1**
EREA	**Eretria**	**3.58**	**12**	P	**Pn**	**18 58 11.7**	**+0.8**
EREA				S	**Sn**	**18 58 50.6**	**-1.3**
EFP	**Efpalio**	**3.62**	**346**	P	**Pn**	**18 58 13.1**	**+1.7**
LKR	**Lokris**	**3.73**	**360**	P	**Pn**	**18 58 13.4**	**+0.4**
LKR	**Lokris**	**3.73**	**360**	P	**Pn**	**18 58 13.5**	**+0.6**
SLUM	**Salum**	**3.87**	**151**	P	**Pn**	**18 58 15.1**	**+0.2**
	baz=158						
SLUM				S	Sn	18 58 49.6	-10
	baz=158						
PVO	**Paravola**	**3.89**	**343**	P	**Pn**	**18 58 17.2**	**+2.1**
SMIA	**Simia**	**3.97**	**2**	P	**Pn**	**18 58 17.9**	**+1.7**
AGG	**Agios Georgios**	**4.14**	**353**	P	**Pn**	**18 58 19.8**	**+1.2**
AGG				S	**Sn**	**18 59 04.9**	**-0.8**
MAKR	**Makrakomi, Fth**	**4.16**	**350**	P	**Pn**	**18 58 20.9**	**+2.1**
MAKR				S	**Sn**	**18 59 05.3**	**-0.8**
CHOS	**Chios island**	**4.25**	**34**	*e*PG	**Pn**	**18 58 17.3**	**-2.7**
CHIOS	**Chios Island**	**4.25**	**34**	P	**Pn**	**18 58 20.1**	**+0.1**
SKIA	**Skiathos**	**4.27**	**5**	P	**Pn**	**18 58 21.1**	**+0.8**
ARG	**Arkhangelos**	**4.37**	**71**	*e*PG	**Pn**	**18 58 22.3**	**+0.7**
ARG	**Arkhangelos**	**4.37**	**71**	P	**Pn**	**18 58 22.2**	**+0.7**
NEO	**Neokhori**	**4.39**	**2**	P	**Pn**	**18 58 23.0**	**+1.0**
NEO	**Neokhori**	**4.39**	**2**	P	**Pn**	**18 58 23.0**	**+1.0**
DALY	**Dalyan (Mu˘la**	**4.96**	**66**	*e*PG	**Pn**	**18 58 29.8**	**+0.1**
FETY	**Fethiye**	**5.23**	**69**	*e*PG	**Pn**	**18 58 34.1**	**+0.7**
AKAS	**Kas**	**5.53**	**74**	*e*PG	**Pn**	**18 58 38.2**	**+0.5**
ELL	**Elmali**	**5.89**	**70**	*e*PG	**Pn**	**18 58 43.3**	**+0.6**
SWA2		**6.02**	**159**	P	**Pn**	**18 58 45.9**	**+1.7**
	baz=164						
KORT	**Korkueli**	**6.30**	**69**	*e*PG	**Pn**	**18 58 48.8**	**+0.5**
VAE	**Valguarnera**	**7.41**	**293**	Sn	**Sn**	**19 00 22.2**	**-3.9**
	comp=E,1.5nm,0.3s,baz=45,slow=11,SNR=2.6						
HNAT	**Natroun**	**8.31**	**127**	P	**Pn**	**18 59 15.7**	**0.0**
	baz=128						
KOT	**Kottamia**	**8.95**	**121**	P	**Pn**	**18 59 24.7**	**+0.2**
	baz=121						
HFRF	**Wahat Farafira**	**8.97**	**148**	P	**Pn**	**18 59 24.9**	**+0.1**
	baz=151						
GLL	**Jalalah**	**9.08**	**123**	P	**Pn**	**18 59 25.4**	**-0.8**
	baz=123						
BRTR	**Keskin Array B**	**9.73**	**57**	Pn	**Pn**	**18 59 34.9**	**-0.4**
	comp=E,0.2nm,0.3s,baz=238,slow=12,SNR=12						
MMAI	**Mount Meron Ar**	**10.46**	**97**	Pn	**Pn**	**18 59 43.0**	**-2.2**
	comp=E,1.8nm,0.3s,baz=305,slow=12,SNR=12						
MMAI				Sn	Sn

LSNR	**Lesken**	**0.68**	**320**	*e*Pg	**Pb**	**19 02 05.6 +0.3**
LSNR				*e*Sg	**Sn**	**19 02 17.4 -0.7**
DUS	**Dusheti**	**0.70**	**163**	P	**Pg**	**19 02 03.9 -0.5**
TRLG	**Trialeti**	**1.24**	**191**	P	**Pn**	**19 02 13.8 -1.1**
TRLG				S	**Sn**	**19 02 34.0 +2.0**
NEY	**Neytrino**	**1.34**	**292**	*e*Pg	**Pn**	**19 02 15.7 -0.6**
NEY				*e*Sg	**Sn**	**19 02 34.9 +0.3**
SHA1	**Shidzhatmaz**	**1.62**	**308**	*e*Pg	**Pb**	**19 02 21.0 -0.4**
SHA1				*e*Sg	**Sg**	**19 02 43.5 +0.4**
LGD	**Lagodekhi**	**1.63**	**124**	*e*Pg	**Pn**	**19 02 20.0 -0.2**
LGD				*e*Sg	**Sg**	**19 02 45.5 +2.1**
DDFL	**Dedoflistskaro**	**1.82**	**135**	P	**Pb**	**19 02 24.0 -0.6**
DDFL				S	**Sg**	**19 02 54.6 +5.3**

WEL 29 19:08:17.6,37°S±8°×17°9E±1°↑,h12km,ML3.5/8,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.94**	**208**	P	Pg	19 08 34.2	-1.6
MXZ				S	Sg	19 08 43.8	-4.2
WMGZ	**Waiomatatini S**	**1.14**	**198**	P	Pb	19 08 39.0	-0.3
WMGZ				S	Sg	19 08 54.7	+0.2
PKGZ	**Pakihiroa**	**1.31**	**208**	P	Pn	19 08 40.4	-1.4
PKGZ				S	Sn	19 08 59.6	+0.3
HAZ	**Te Kaha**	**1.33**	**220**	P	Pn	19 08 40.5	-1.6
HAZ				S	Sg	19 09 02.5	+1.9
PUZ	**Puketiti**	**1.42**	**199**	P	Pb	19 08 44.0	-0.1
PUZ				S	Sn	19 09 01.6	-0.3
RUGZ	**Raukumara Rang**	**1.55**	**217**	P	Pn	19 08 45.0	-0.1
RUGZ				S	Sb	19 09 06.3	+0.3
TWGZ	**Tauwhareparae**	**1.60**	**205**	P	Pb	19 08 47.2	0.0
TWGZ				S	Sb	19 09 08.0	+0.6
CNGZ	**Carnagh Statio**	**1.83**	**196**	P	Pb	19 08 50.1	-0.8
MWZ	**Matawai**	**1.92**	**213**	P	Pb	19 08 51.7	-0.8
MWZ				S	Sb	19 09 16.0	-0.5
URZ	**Urewera**	**2.06**	**222**	P	Pn	19 08 52.0	-0.1
URZ				S	Sn	19 09 18.4	+0.7
RAGZ	**Rawiri**	**2.10**	**213**	P	Pb	19 08 54.5	-1.2
RIGZ	**Rimuhau**	**2.15**	**203**	P	Pn	19 08 53.9	+0.5
RIGZ				S	Sn	19 09 20.0	-0.1
RTZ	**Ruatahuna**	**2.40**	**218**	P	Pn	19 08 57.2	+0.4
KNZ	**Kokohu**	**2.47**	**202**	P	Pn	19 08 57.8	+0.1
KUZ	**Kuaotunu**	**2.52**	**269**	P	Pn	19 08 58.5	+0.2
MTHZ	**Maungataniwha**	**2.65**	**216**	P	Pn	19 09 01.9	+1.7
MTHZ				S	Sn	19 09 33.6	+1.3
BKZ	**Black Stump Fm**	**3.07**	**217**	P	Pn	19 09 07.1	+1.2
BKZ				S	Sn	19 09 42.6	0.0
MCHZ	**McNeill Hill**	**3.20**	**211**	P	Pn	19 09 08.8	+1.1
KWHZ	**Kaweka Forest**	**3.31**	**215**	P	Pn	19 09 09.7	+0.5

*ATH **29** 19:08:34.3,37°.20N×26°.89E,h25km±1km,ML2.6/2,Error ellipse: s-maj=2.5km s-min=1.3km az=303.0*
*THE **29** 19:08:34.9,37°.19N×26°.83E,h1km±1km,ML2.6/4,Error ellipse: s-maj=2.2km s-min=0.6km az=126.0*
*ISK **29** 19:08:34.6,37°.18N×26°.83E,h5km,ML3.0/12*
*DDA **29** 19:08:35.5,37°.19N×26°.91E,h13km,Ml2.8*

ISC 29 19:08:34.5±1.0,**37°.15N**±0°.02×**26°.87E**±0°.02,**h14**km±9km, **n36**,σ1**s20**/60,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.37**	**104**	PG	**Pb**	**19 08 43.8**	**+1.0**
BODT				SG	**Sb**	**19 08 48.6**	**+0.2**
BODT	**Bodrum**	**0.37**	**104**	P	**Pb**	**19 08 43.0**	**+0.2**
SMG	**Samos**	**0.56**	**358**	P	**Pg**	**19 08 45.2**	**-0.3**
SMG				S	**Sg**	**19 08 52.3**	**-0.6**
SMG				AML	AML	19 08 57.6	
	comp=N,3117μm,0.3s						
SMG				AML	AML	19 08 58.3	
	comp=E,2965μm,0.3s						
SMG	**Samos**	**0.56**	**358**	P	**Pg**	**19 08 45.2**	**-0.3**
SMG				S	**Sg**	**19 08 52.8**	**-0.1**
DAT	**Datca**	**0.71**	**126**	PG	**Pn**	**19 08 49.8**	**-0.4**
DAT	**Datca**	**0.71**	**126**	*i* P	**Pb**	**19 08 49.5**	**+0.7**
DAT				*i* S	**Sb**	**19 08 59.6**	**+1.2**
MLSB	**Milas**	**0.74**	**79**	PG	**Pb**	**19 08 49.8**	**+0.6**
DATC	**Datca-Mugla**	**0.75**	**121**	PG	**Pb**	**19 08 49.8**	**+0.5**
DATC				SG	**Sn**	**19 09 01.2**	**-0.6**
AMGA	**Amorgos Island**	**0.84**	**248**	P	**Pb**	**19 08 51.1**	**+0.1**
AMGA				S	**Sn**	**19 09 03.7**	**-0.5**
AMGA	**Amorgos Island**	**0.84**	**248**	P	**Pb**	**19 08 51.0**	**+0.1**
AMGA				S	**Sb**	**19 09 03.3**	**+1.2**
DGB	**¯zmir**	**0.90**	**1**	*i* P	**Pb**	**19 08 52.3**	**+0.4**
DGB				*i* S	**Sg**	**19 09 03.4**	**-0.3**
AYDN	**Tasoluk**	**0.95**	**57**	*i* P	**Pg**	**19 08 52.5**	**-0.5**
AYDN				*i* S	**Sb**	**19 09 06.5**	**+1.1**
APE	**Apeiranthos**	**1.07**	**266**	PG	**Pb**	**19 08 54.9**	**0.0**
APE	**Apeiranthos**	**1.07**	**266**	P	**Pg**	**19 08 54.8**	**-0.4**
APE				AML	AML	19 09 11.8	
	comp=E,236μm,0.2s						
APE				AML	AML	19 09 13.1	
	comp=N,313μm,0.2s						
APE	**Apeiranthos**	**1.07**	**266**	P	**Pg**	**19 08 54.8**	**-0.4**
APE				S	**Sn**	**19 09 09.8**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.14**	**45**	PN	**Pn**	**19 08 57.1**	**+0.9**
AYDB				SN	**Sn**	**19 09 13.2**	**+1.6**
ANAF	**Anafi Island**	**1.18**	**228**	P	**Pg**	**19 08 57.7**	**+0.3**
ANAF				S	**Sn**	**19 09 14.5**	**+1.9**
URLA	**Izmir**	**1.23**	**350**	PN	**Pg**	**19 08 57.9**	**-0.3**
URLA				SN	**Sn**	**19 09 14.8**	**+1.1**
URLA	**Izmir**	**1.23**	**350**	*i* P	**Pg**	**19 08 57.7**	**-0.5**
URLA				*i* S	**Sn**	**19 09 14.3**	**+0.6**
SANT	**Santorini**	**1.37**	**236**	P	**Pg**	**19 09 00.8**	**-0.2**
SANT				S	**Sg**	**19 09 20.0**	**+1.2**
ARG	**Arkhangelos**	**1.38**	**132**	P	**Pn**	**19 08 59.9**	**+0.6**
CHOS	**Chios island**	**1.39**	**333**	PN	**Pb**	**19 09 00.1**	**-0.3**
CHOS				SN	**Sg**	**19 09 19.1**	**-0.3**
CHOS	**Chios island**	**1.39**	**333**	P	**Pn**	**19 08 59.6**	**0.0**
CHOS				S	**Sb**	**19 09 17.7**	**-0.3**
CHOS	**Chios island**	**1.39**	**333**	P	**Pn**	**19 08 59.9**	**+0.3**
CHOS				S	**Sg**	**19 09 18.6**	**-0.8**
TURN	**Turunc**	**1.42**	**101**	PN	**Pn**	**19 08 57.9**	**-2.0**
TURN				SN	**Sn**	**19 09 14.8**	**-3.5**
TURN	**Turunc**	**1.42**	**101**	*i* P	**Pn**	**19 08 57.0**	**-2.9**
TURN				*i* S	**Sn**	**19 09 13.9**	**-4.4**
DALY	**Dalyan (Mu¯la**	**1.47**	**103**	PN	**Pg**	**19 09 02.8**	**0.0**
DALY				SN	**Sg**	**19 09 23.9**	**+2.0**
DALY	**Dalyan (Mu¯la**	**1.47**	**103**	*e*P	**Pg**	**19 09 03.3**	**+0.5**
DALY				*e*S	**Sg**	**19 09 23.4**	**+1.6**
TAVA	**DENIZLI_Tavas**	**1.66**	**78**	*e*P	**Pg**	**19 09 05.7**	**-0.7**
DNZL	**Cakiroluk**	**1.82**	**72**	*e*P	**Pg**	**19 09 10.4**	**+1.0**
DNZL				*e*S	**Sg**	**19 09 33.9**	**+0.8**
FETY	**Fethiye**	**1.85**	**105**	PN	**Pb**	**19 09 08.3**	**+0.1**
FETY				SN	**Sg**	**19 09 33.1**	**-1.0**
DKL	**Dikili**	**1.92**	**1**	PN	**Pb**	**19 09 08.7**	**-0.6**
AKAS	**Kas**	**2.38**	**112**	PN	**Pb**	**19 09 16.2**	**-1.1**
DEMI	**Demirci**	**2.39**	**37**	*i* P	**Pb**	**19 09 17.5**	**+0.2**
KHAL	**Karahalli**	**2.41**	**59**	*i* P	**Pn**	**19 09 15.1**	**+1.5**
IDI	**Anoyia**	**2.45**	**221**	PN	**Pb**	**19 09 16.8**	**-1.6**

*ISCJB **29** 19:21:17.1±0.3,27°.81S±0°.03×140°.66E±0°.04,h10km, mb4.0/5,MS3.9/2,Error ellipse: s-maj=4.8km s-min=4.2km az=175.3*
*AUST **29** 19:21:17.9±0.0,27°.76S×140°.66E,h5km,Error ellipse: s-maj=0.2km s-min=0.1km az=230.0*
*IDC **29** 19:21:19.3±1.1,27°.74S×140°.73E,h0km,mb4.0/5, mb1 4.3/10,mb1mx4.0/41,mbtmp4.1/10,ML4.1/5,MS3.4/5, Ms1 3.3/5,ms1mx3.0/28,Error ellipse: s-maj=32.2km s-min=21.3km az=73.0*

ISC 29 19:21:19.6±0.6,**27.75S**±0°.05×**140.65E**±0°.05,**h10**km,**n44,** σ2**s28**/53,**mb3.9**/5,**South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QLP	**Quilpie**	**3.40**	**71**	P	**Pn**	**19 22 13.6**	**+1.0**
	baz=3.4,SNR=31						
QLP				S	**Sn**	**19 22 52.7**	**-0.3**
	baz=3.4						
QLP	**Quilpie**	**3.40**	**71**	P	**Pn**	**19 22 13.9**	**+1.3**
	baz=3.4,SNR=31						
STKA	**Stephens Creek**	**4.20**	**169**	Pn	**Pn**	**19 22 24.2**	**+0.6**
	1.4nm,0.3s,baz=336,slow=12,SNR=21						
STKA				Sn	**Sn**	**19 23 09.7**	**-3.1**
	17nm,0.3s,baz=294,slow=12,SNR=8.1						
STKA				Lg	Lg	19 23 32.0	
	22nm,0.3s,baz=258,slow=24,SNR=9.5						
STKA				LR	LR	19 24 27.7	
	comp=Z,74nm,21.6s,baz=20,slow=45						
STKA	**Stephens Creek**	**4.20**	**169**	P	**Pn**	**19 22 23.5**	**-0.1**
	baz=4.2,SNR=24						
STKA				S	**Sn**	**19 23 10.8**	**-2.0**
	baz=4.2						
STKA	**Stephens Creek**	**4.20**	**169**	P	**Pn**	**19 22 23.9**	**+0.3**
CMSA	**Cobar Meteorol**	**5.79**	**132**	P	**Pn**	**19 22 44.2**	**-1.3**
	baz=5.8						
CMSA				S	**Sn**	**19 23 48.4**	**-3.6**
	baz=5.8						
HTT	**Hallett**	**5.86**	**194**	P	**Pn**	**19 22 47.5**	**+1.0**
	baz=5.9,SNR=14						
HTT				S	**Sn**	**19 23 53.1**	**-0.7**
	baz=5.9						
HTT	**Hallett**	**5.86**	**194**	P	**Pn**	**19 22 47.8**	**+1.2**
	baz=5.8,SNR=14						
BBOO	**Buckleboo**	**6.42**	**217**	P	**Pn**	**19 22 53.5**	**-0.7**
	baz=6.4,SNR=28						
BBOO				S	**Sn**	**19 24 06.1**	**-1.5**
	baz=6.4						
BBOO	**Buckleboo**	**6.42**	**217**	P	**Pn**	**19 22 53.5**	**-0.7**
	baz=6.4,SNR=28						
QIS	**Mount Isa**	**7.22**	**352**	P	**Pn**	**19 23 07.5**	**+2.2**
	baz=7.3,SNR=60						
QIS	**Mount Isa**	**7.22**	**352**	P	**Pn**	**19 23 07.7**	**+2.4**
	baz=7.3,SNR=60						
ASAR	**Alice Springs**	**7.32**	**302**	Pn	**Pn**	**19 23 08.4**	**+1.8**
	3.5nm,0.3s,baz=129,slow=14,SNR=56						
ASAR				Sn	**Sn**	**19 24 28.3**	**-1.5**
	4.5nm,0.3s,baz=124,slow=23,SNR=6.9						
ASAR				LR	LR	19 26 22.7	
	comp=Z,176nm,21.1s,baz=134,slow=41						
RMQ	**Roma**	**7.33**	**82**	P	**Pn**	**19 23 06.7**	**-0.1**
	baz=7.3,SNR=24						
RMQ				S	**Sn**	**19 24 27.0**	**-3.1**
	baz=7.3						
RMQ	**Roma**	**7.33**	**82**	P	**Pn**	**19 23 06.2**	**-0.6**
	baz=7.4,SNR=24						
ARPS	**Mount Arapiles**	**9.05**	**174**	P	**Pn**	**19 23 29.7**	**-0.6**
	baz=9.1,SNR=31						
ARPS				S	**Sn**	**19 25 09.6**	**-2.7**
	baz=9.1						
CTA	**Charters Tower**	**9.19**	**35**	Pn	**Pn**	**19 23 31.8**	**-0.4**
	1.8nm,0.3s,baz=209,slow=14,SNR=15						
CTA				Sn	**Sn**	**19 25 10.0**	**-5.7**
	2.1nm,0.3s,baz=311,slow=20,SNR=3.9						
CTA	**Charters Tower**	**9.19**	**35**	P	**Pn**	**19 23 32.7**	**+0.5**
	baz=9.2						
YNG	**Young**	**9.31**	**136**	P	**Pn**	**19 23 34.0**	**0.0**
	baz=9.3						
EIDS	**Eidsvold**	**9.63**	**78**	P	**Pn**	**19 23 38.5**	**+0.2**
	baz=9.6,SNR=3.3						
EIDS	**Eidsvold**	**9.63**	**78**	P	**Pn**	**19 23 37.9**	**-0.4**
	baz=9.7,SNR=3.3						
WB1	**Warramunga Ar.**	**9.66**	**322**	P	**Pn**	**19 23 39.4**	**+0.6**
	baz=9.7						
WB2	**Warramunga Arr**	**9.67**	**322**	P	**Pn**	**19 23 39.3**	**+0.4**
	baz=9.7						
WRA	**Warramunga Arr**	**9.68**	**322**	Pn	**Pn**	**19 23 38.7**	**-0.3**
	3.2nm,0.3s,baz=141,slow=13,SNR=103						
WRA				Sn	**Sn**	**19 25 24.2**	**-3.6**
	2.9nm,0.3s,baz=142,slow=25,SNR=9.6						
WRA				Lg	Lg	19 26 27.7	
	1.4nm,0.3s,baz=146,slow=28,SNR=4.7						
ARMA	**Armidale**	**9.96**	**108**	P	**Pn**	**19 23 42.9**	**-0.1**
	baz=9.9,SNR=11						
MTSU	**Mount Surprise**	**10.15**	**20**	P	**Pn**	**19 23 46.6**	**+1.2**
	baz=10,SNR=5.9						
TOO	**Toolangi**	**10.61**	**159**	P	**Pn**	**19 23 50.5**	**-1.2**
	baz=11,SNR=4.7						
WRKA	**Warakunna**	**11.40**	**281**	P	**Pn**	**19 24 02.2**	**-0.4**
	baz=11,SNR=3.8						
WRKA	**Warakunna**	**11.40**	**281**	P	**Pn**	**19 24 02.4**	**-0.2**
	baz=11,SNR=3.8						
FORT	**Forrest**	**11.40**	**252**	P	**Pn**	**19 24 03.1**	**+0.5**
	baz=11,SNR=7.5						
FORT	**Forrest**	**11.40**	**252**	P	**Pn**	**19 24 01.7**	**-0.9**
	baz=11,SNR=7.5						
COEN	**Coen**	**13.92**	**10**	P	**Pn**	**19 24 37.6**	**+0.6**
	baz=14,SNR=4.9						
FITZ	**Fitzroy Crossi**	**16.82**	**302**	Pn	**Pn**	**19 25 14.8**	**-0.5**
	0.8nm,0.3s,baz=123,slow=6.6,SNR=30						
FITZ				Sn	**Sn**	**19 28 12.2**	**-10**
	0.2nm,0.3s,baz=314,slow=16,SNR=2.5						
FITZ				LR	LR	19 32 05.9	
	comp=Z,85nm,18.8s,baz=122,slow=38						
FITZ	**Fitzroy Crossi**	**16.82**	**302**	P	**Pn**	**19 25 13.8**	**-1.5**
	baz=17,SNR=17						
NWAO	**Narrogin (SRO)**	**20.84**	**250**	P	Pn	19 26 03.9	-0.2
	12nm,0.8s,baz=49,slow=17,SNR=3.7						
BATI	**Baumata**	**23.66**	**314**	LR	LR	19 37 15.7	
	comp=Z,138nm,18.2s,baz=248,slow=40						
CMAR	**Chiang Mai Arr**	**61.17**	**314**	P	**P**	**19 31 36.5**	**+1.9**
	0.5nm,0.5s,baz=157,slow=6.5,SNR=5.9						
QSPA	**South Pole Qui**	**62.34**	**180**	P	**P**	**19 31 43.0**	**+1.0**
	2.0nm,0.8s,baz=14,slow=5.8,SNR=4.4						
GTA	**Gaotai**	**76.90**	**329**	*e*P	**P**	**19 33 16.0**	**+3.9**
GTA				pP	PcP	19 33 20.5	-2.7
GTA				sP	sP	19 33 23.3	+6.7
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**81.30**	**337**	P	**P**	**19 33 38.2**	**+2.2**
	comp=Z,1.2nm,1.1s,baz=151,slow=6.7,SNR=5.0						
MA2	**Magadan**	**87.40**	**5**	LR	LR	20 11 04.4	
	comp=Z,156nm,22.0s,baz=325,slow=34						
MKAR	**Makanchi Array**	**90.98**	**324**	P	**P**	**19 34 25.6**	**+1.9**
	comp=Z,0.6nm,0.9s,baz=142,slow=6.0,SNR=3.3						
TORD	**Toyodi Ar. Bea**	**139.10**	**258**	PKP	**PKPdf**	**19 40 48.8**	**+1.5**
	comp=Z,0.5nm,0.9s,baz=116,slow=3.4,SNR=2.7						
ESDC	**Sonseca Array**	**148.45**	**301**	PKPbc	**PKPbc**	**19 41 07.1**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=35,slow=3.9,SNR=4.4						

KRSC 29 19:24:17.9±0.8,**61°.51N**×**168°.04E,h2**km±9km,**ML3.9, Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSK	**Kamenskaya**	**1.29**	**319**	*e*P	Pg	19 24 42.7	+0.1
KMSK				*e*S	Sn	19 25 01.0	+0.3
TILK	**Tilichiki**	**1.41**	**222**	*e*P	Pn	19 24 44.3	-0.2
TILK				*e*S	Sn	19 25 04.0	+0.4
OSSR	**Ossora**	**3.35**	**230**	*e*P	Pb	19 25 15.3	-2.7

*NORS **29** 19:26:43.7±0.0,41°.57N×48°.56E,h18km,MPVA3.5*
*DRS **29** 19:26:43.3±0.0,41°.51N×48°.88E,h19km*

MOS 29 19:26:43.3±0.0,**41°.60N**×**48°.62E,h21**km,**MPVA3.6, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSMR	**Kasumkent**	**0.37**	**270**	*e*Pg	Pn	19 26 53.0	-0.5
KSMR				*e*Sg	Sn	19 27 00.0	-0.1
DRN	**Derbent**	**0.48**	**333**	*i* Pg	Pn	19 26 54.5	-0.4
DRN				*e*Sg	Sn	19 27 02.6	-0.1
AKT	**Akhty**	**0.68**	**260**	*i* Pg	Pn	19 26 57.8	0.0
AKT				*e*Sg	Sn	19 27 07.8	-0.1
URKR	**Urkarakh**	**0.93**	**308**	*e*Pg	Pn	19 27 01.7	+0.5
URKR				*e*Sg	Sn	19 27 14.8	+0.8
KMKR	**Kumukh**	**1.25**	**295**	*e*Pg	Pb	19 27 07.0	+0.6
KMKR				*e*Sg	Sb	19 27 23.6	+1.4
GNBR	**Gunib**	**1.47**	**303**	*e*Pg	Pb	19 27 11.6	+1.7
GNBR				*e*Sg	Sb	19 27 32.4	+4.3
XNZR	**Khunzakh**	**1.71**	**304**	*e*Pg	Pb	19 27 15.5	+1.4
XNZR				*e*Sg	Sb	19 27 39.5	+4.3
DBC	**Dubki**	**1.94**	**317**	*i* Pg	Pb	19 27 18.6	+0.6
DBC				*i* Sg	Sb	19 27 43.5	+1.6
BTLR	**Botlikh**	**2.08**	**302**	*e*Pg	Pb	19 27 20.6	+0.3
BTLR				*e*Sg	Sb	19 27 48.9	+3.2
DVE	**Vedeno**	**2.29**	**307**	*e*Pn	Pb	19 27 23.4	-0.6
DVE				*e*Sn	Sb	19 27 54.0	+2.1

*ISCJB **29** 19:29:23.6±0.5,27°.80S±0°.04×140°.59E±0°.05,h10km, Error ellipse: s-maj=5.9km s-min=5.7km az=30.3*
*AUST **29** 19:29:25.1±0.0,27°.74S×140°.65E,h10km,Error ellipse: s-maj=0.1km s-min=0.1km az=234.0*
*IDC **29** 19:29:26.5±2.1,27°.75S×140°.53E,h0km,mb1 3.9/4, mb1mx3.6/35,mbtmp3.7/4,ML3.3/5,Error ellipse: s-maj=42.5km s-min=19.5km az=69.0*

ISC 29 19:29:24.0±0.8,**27°.76S**±0°.05×**140°.63E**±0°.06,**h10**km,**n16,** σ2**s97**/23,**South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QLP	**Quilpie**	**3.42**	**71**	P	**Pn**	**19 30 20.1**	**+2.8**
	baz=3.4						
QLP				S	**Sn**	**19 30 59.0**	**+1.0**
	baz=3.4						
STKA	**Stephens Creek**	**4.19**	**169**	Pn	**Pb**	**19 30 33.8**	**-4.0**
	0.2nm,0.3s,baz=342,slow=16,SNR=2.2						
STKA				Sn	**Sn**	**19 31 16.1**	**-0.9**
	baz=326,slow=15,SNR=3.2						
STKA				Lg	Lg	19 31 38.4	
	1.7nm,0.3s,baz=257,slow=24,SNR=7.4						
STKA	**Stephens Creek**	**4.19**	**169**	P	**Pn**	**19 30 31.1**	**+3.2**
	baz=4.2						
STKA				S	**Sn**	**19 31 16.6**	**-0.3**
	baz=4.2						
CMSA	**Cobar Meteorol**	**5.79**	**132**	P	**Pn**	**19 30 51.1**	**+1.1**
	baz=5.8						
HTT	**Hallett**	**5.84**	**194**	P	**Pn**	**19 30 52.9**	**+2.2**
	baz=5.9						
BBOO	**Buckleboo**	**6.40**	**217**	P	**Pn**	**19 31 01.9**	**+3.6**
	baz=6.4						
BBOO				S	**Sn**	**19 32 10.9**	**-0.6**
	baz=6.4						
QIS	**Mount Isa**	**7.23**	**352**	P	**Pn**	**19 31 11.9**	**+2.1**
	baz=7.2						
ASAR	**Alice Springs**	**7.31**	**302**	Pn	**Pn**	**19 31 14.7**	**+3.8**
	0.7nm,0.3s,baz=121,slow=13,SNR=13						
ASAR				Sn	**Sn**	**19 32 33.9**	**-0.1**
	0.9nm,0.3s,baz=119,slow=23,SNR=6.2						
ASAR				Lg	Lg	19 33 29.9	
	0.3nm,0.3s,baz=109,slow=27,SNR=5.1						
RMQ	**Roma**	**7.35**	**82**	P	**Pn**	**19 31 13.2**	**+1.7**
	baz=7.3						
CTA	**Charters Tower**	**9.21**	**35**	Pn	Pn	19 31 41.6	+4.6
	0.2nm,0.3s,baz=214,slow=15,SNR=2.7						
CTA				Sn	**Sn**	**19 33 17.0**	**-3.7**
	0.2nm,0.3s,baz=203,slow=10,SNR=3.2						
WB1	**Warramunga Ar.**	**9.66**	**322**	P	**Pn**	**19 31 46.5**	**+3.3**
	baz=9.7						
WB2	**Warramunga Arr**	**9.67**	**322**	P	**Pn**	**19 31 45.6**	**+2.2**
	baz=9.7						
WRA	**Warramunga Arr**	**9.68**	**322**	Pn	**Pn**	**19 31 45.5**	**+2.1**
	0.5nm,0.3s,baz=139,slow=13,SNR=14						
WRA				Sn	**Sn**	**19 33 30.5**	**-1.8**
	0.5nm,0.3s,baz=140,slow=22,SNR=6.9						
FORT	**Forrest**	**11.38**	**252**	P	**Pn**	**19 32 08.5**	**+1.8**
	baz=11						
WRKA	**Warakurna**	**11.39**	**281**	P	**Pn**	**19 32 09.5**	**+2.7**
	baz=11						
FITZ	**Fitzroy Crossi**	**16.81**	**302**	Pn	**P**	**19 33 20.6**	**-1.2**
	0.2nm,0.3s,baz=132,slow=7.5,SNR=8.1						
FITZ				Sn	**Sn**	**19 36 19.4**	**-7.2**
	0.1nm,0.3s,baz=290,slow=15,SNR=2.1						

*MEX **29** 19:32:29.6±0.6,13°.35N×92°.42W,h14km±35km,MD5.0*
*NEIC **29** 19:32:31.8±0.2,13°.76N×92°.11W,h10km,mb5.2/197, MS4.8/67,MW5.5,MD5.0(MEX),Error ellipse: s-maj=4.2km s-min=2.9km az=216.0,Moment Tensor Solution. s58 Moment tensor: Scale 10^17^Nm; Mrr1.69; Mθθ-0.62; Mφφ-1.07; Mrθ1.33; Mrφ0.75; Mθφ-0.80; Best double couple: Mo2.30000×10^17^ NP1:φs129.00000°,δ67.00000°, λ79.00000°. NP2:φs335.00000°,δ26.00000°,λ114.00000°. Principal axes: T 2.3500, Plg67.0000°, Azm19.0000°; N -0.1600, Plg10.0000°, Azm133.0000°; P -2.1900, Plg21.0000°, Azm227.0000°;*
*GCMT **29** 19:32:31.8±0.2, 13°.55N±0°.01×92°.66W±0°.01,h12km, MW5.2/110,Moment Tensor Solution. s74,c107; s110,c163; Duration: 1s0 Moment tensor: Scale 10^16^ Nm; Mrr5.84±.10; Mθθ-4.22±.09; Mφφ-1.62±.11; Mrθ3.18±.27; Mrφ1.91±.09; Mθr-4.12±.32; Best double couple: Mo7.56700×10^16^ NP1:φs133.00000°,δ67.00000°, λ101.00000°. NP2:φs288.00000°,δ25.00000°,λ66.00000°. Principal axes: T 8.0640, Plg67.0000°, Azm63.0000°; N -0.9920, Plg10.0000°, Azm309.0000°; P -7.0710, Plg21.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **29** 19:32:32.7±0.9,13°.82N×92°.07W,h29km,mb5.3/35, MS4.6/11 Error ellipse: s-maj=12.5km s-min=5.0km az=110.7*
*IDC **29** 19:32:34.7±3.5,13°.82N×91°.91W,h33km±25km,mb4.2/20, mb1 4.4/21,mb1mx4.3/37,mbtmp4.4/21,ML3.7/1,MS4.5/26, Ms1 4.5/26,ms1mx4.4/34,Error ellipse: s-maj=25.2km s-min=10.4km az=57.0*
*UCR **29** 19:32:34.8±1.6,13°.70N×92°.15W,h35km±999km,ML4.1, mb5.2(NEIC)*
*ISCJB **29** 19:32:35.6±0.4,13°.87N±0°.02×92°.01W±0°.02,h58km±3km, mb5.1/177,MS4.8/104,Error ellipse: s-maj=4.3km s-min=2.5km az=135.1*

ISC 29 19:32:34.4±1.2,**13°.71N**±0°.04×**92°.22W**±0°.04,**h34**km±4km, **n852,**σ1**s49**/810,**mb5.2**/179,**MS4.7**/103,**2C,Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.20**	**358**	*e*Pn	**Pn**	**19 32 53.9**	**-0.8**
THIG		**1.20**	**358**	*e*P	**Pn**	**19 32 53.9**	**-0.8**
THIG				*e*S	**Sb**	**19 33 11.9**	**+0.2**
IXG	**Ixpaco**	**1.78**	**75**	*e*P	**Pn**	**19 33 01.8**	**-1.0**
APG	**El Apazote**	**2.14**	**53**	Pg	**Pn**	**19 33 08.8**	**+1.0**
	34nm,0.3s,baz=230,slow=11,SNR=191						
APG				LR	LR	19 33 32.0	
	comp=Z,5μm,20.3s,baz=156,slow=31						

BOAB BOACO BROADBAN 6.51 100 eP Pn 19 34 06.7 -1.1
LVIG Laguna Verde 7.21 327 ePn Pn 19 34 17.6 +0.3
TLIG Tlapa 7.21 303 ePn Pn 19 34 16.6 -0.9
TEIG Tepich 7.50 30 ePn Pn 19 34 21.3 -0.1
MYIG MÖrida 7.59 18 ePn Pn 19 34 22.4 -0.2
ESPN Las Esperanzas 7.87 100 ePn Pn 19 34 25.6 -0.8
JTS JuntasAbangare 7.88 115 Pn Pn 19 34 28.0 +1.4
comp=Z,3.1nm,0.3s,baz=21,slow=8.5,SNR=13
JTS Sn Sn 19 35 52.8 -1.8
comp=Z,1.0nm,0.3s,baz=342,slow=20,SNR=1.7
JTS Lg Lg 19 36 41.8
comp=Z,1.2nm,0.3s,baz=130,slow=20,SNR=6.8
JTS JuntasAbangare 7.88 115 ePn Pn 19 34 28.0 +1.4
JTS e 19 34 28.2
JTS Sn Sn 19 35 52.8 -1.8
JTS Lg Lg 19 36 41.8
UNM Universidad Na 8.70 311 ePn Pn 19 34 39.9 +1.8
UNM Universidad Na 8.70 311 eP Pn 19 34 39.9 +1.8
HDC Heredia 8.75 114 ePn Pn 19 34 40.1 +1.4
MOIG Morelia 10.44 306 ePn Pn 19 35 01.5 -0.4
JRQG Juriquilla Cam 10.49 313 ePn Pn 19 35 04.0 +1.3
BCIP Isla Barro Col 12.95 109 ePn Pn 19 35 36.8 +0.7
LNIG Linares 13.06 330 ePn Pn 19 35 36.9 -0.7
ZAIG Zacatecas 13.33 314 ePn Pn 19 35 41.8 +0.3
PAYG Puerto Ayora 14.42 172 ePn Pn 19 35 56.4 +0.4
KVTX Kingsville 14.75 340 ePn Pn 19 36 01.8 +1.3
MTDJ Mount Denham 14.82 70 ePn Pn 19 36 03.2 +1.6
645A Chauvin 15.75 5 P Pn 19 36 12.3 -1.3
baz=185
833A Chaparral WMA, 16.00 336 ePn Pn 19 36 16.4 -0.5
comp=Z,88nm,1.1s
833A Chaparral WMA, 16.00 336 P Pn 19 36 15.6 -1.3
baz=154,SNR=6.9
061Z Ochoppi 16.10 40 P Pn 19 36 15.4 -2.7
baz=223
059Z Ave Maria 16.12 37 P Pn 19 36 16.5 -2.0
baz=220
541A Lake Charles 16.30 357 P Pn 19 36 19.1 -1.6
baz=176
543A St. Martinvill 16.30 1 P Pn 19 36 20.3 -0.4
baz=181
545A Edgard 16.34 5 P Pn 19 36 20.8 -0.3
baz=186
542A Morse 16.34 359 P Pn 19 36 20.9 -0.3
baz=178
544A White Castle 16.36 3 P Pn 19 36 21.0 -0.4
baz=183
058A Arcadia 16.47 35 P Pn 19 36 22.0 -0.9
baz=218
HKT Hockley 16.51 349 ePn Pn 19 36 22.9 -0.3
comp=Z,134nm,1.4s
HKT Hockley 16.51 349 eP Pn 19 36 22.9 -0.3
HKT pmax pmax
comp=Z,133nm,1.4s
546A Slidell 16.61 8 P Pn 19 36 23.9 -0.7
baz=188
060Z West Palm Beac 16.71 39 P Pn 19 36 24.9 -1.0
baz=223
957A Wimauma 16.73 32 ePn Pn 19 36 25.1 -1.0
comp=Z,678nm,1.9s
957A Wimauma 16.73 32 P Pn 19 36 24.3 -1.8
baz=216
059A Moore Haven 16.78 36 ePn Pn 19 36 25.8 -0.9
comp=Z,157nm,1.0s
059A Moore Haven 16.78 36 P Pn 19 36 25.4 -1.3
baz=220
958A Wauchula 16.91 34 P Pn 19 36 27.1 -1.3
baz=217
MOTC Monteria, Cord 16.96 105 eP Pn 19 36 22.4 -6.7
444A Pine Grove 16.98 4 P Pn 19 36 29.0 -0.3
baz=184
441A DeRidder 16.99 357 P Pn 19 36 29.0 -0.3
baz=176
445A Amite 17.03 6 P Pn 19 36 28.9 -1.0
baz=186
DBBC Dabeiba 17.09 111 eP Pn 19 36 31.0 +0.2
446A Poplarville 17.21 8 P Pn 19 36 32.3 +0.2
baz=189
857A Zephyrhills 17.22 31 P Pn 19 36 31.1 -1.1
baz=214
060A Indiantown 17.29 38 P Pn 19 36 32.3 -0.8
baz=222
447A Lucedale 17.32 10 ePn Pn 19 36 33.4 -0.1
comp=Z,389nm,1.6s
447A Lucedale 17.32 10 P Pn 19 36 33.1 -0.4
baz=191
959A Okeechobee 17.35 36 P Pn 19 36 33.0 -0.9
baz=220
UREC San Jos^ de U 17.43 108 eP Pn 19 36 32.1 -2.9
DWPF Disney Wildern 17.50 33 ePn Pn 19 36 34.8 -0.9
comp=Z,292nm,1.4s
DWPF Disney Wildern 17.50 33 P Pn 19 36 35.1 -0.7
baz=217
343A Vidalia 17.50 2 P Pn 19 36 35.1 -0.7
baz=182
552A Lynn Haven 17.56 20 P Pn 19 36 35.7 -0.7
baz=202
342A Flagon Creek P 17.59 360 ePn Pn 19 36 36.2 -0.5
comp=Z,330nm,1.7s
342A Flagon Creek P 17.59 360 P Pn 19 36 36.6 -0.2
baz=179
342A S S 19 39 55.6 -2.9
baz=179
449A Pace 17.59 14 P P 19 36 37.3 -0.3
baz=196
448A Bay Minette 17.61 12 P Pn 19 36 37.4 +0.3
baz=194
858A St. Cloud 17.62 33 P Pn 19 36 36.3 -0.9
baz=217
345A Thompson Farm, 17.64 6 P Pn 19 36 36.6 -0.8
baz=187
435B Jarrell 17.70 345 ePn Pn 19 36 36.7 -1.5
comp=Z,190nm,1.8s
435B Jarrell 17.70 345 P Pn 19 36 36.7 -1.5
baz=162
344A Westbrook Farm 17.72 4 ePn Pn 19 36 37.6 -0.8
comp=Z,420nm,1.8s
344A Westbrook Farm 17.72 4 P Pn 19 36 38.0 -0.4
baz=184
859A Kempfer Cattle 17.75 35 P Pn 19 36 37.0 -1.9
baz=218
346A Big Creek Wild 17.78 8 ePn Pn 19 36 39.0 -0.2
comp=Z,141nm,1.0s
346A Big Creek Wild 17.78 8 P Pn 19 36 37.4 -1.8
baz=188
655A Horseshoe Beac 17.79 26 P Pn 19 36 38.2 -1.0
baz=209
450A Crestview 17.79 16 P Pn 19 36 38.7 -0.6
baz=198
757A Oxford 17.85 30 P Pn 19 36 39.3 -0.8
baz=214
451A Vernon 17.86 18 P Pn 19 36 38.7 -1.4
baz=201
553A Crawfordville 17.91 22 P Pn 19 36 40.1 -0.7
baz=205
347A Saraland 17.93 10 P P 19 36 41.8 +0.4
baz=191
PLMC San Jos^ del 17.98 118 eP P 19 36 50.0 +7.9
656A Willston 17.99 28 ePn Pn 19 36 40.7 -1.1
comp=Z,321nm,1.4s
656A Willston 17.99 28 P Pn 19 36 40.6 -1.1
baz=212
BRAL Brewton 18.02 14 ePn P 19 36 42.5 +0.1
comp=Z,597nm,1.6s
BRAL Brewton 18.02 14 P P 19 36 42.7 +0.4
baz=196
HELC Santa Helena 18.05 113 eP P 19 36 43.5 +0.4
348A Jackson 18.07 12 eP P 19 36 43.2 +0.3
comp=Z,330nm,1.3s
348A Jackson 18.07 12 P P 19 36 43.4 +0.6
baz=193
JCT Junction City 18.10 338 eP P 19 36 43.5 +0.2
JCT Junction City 18.10 338 eP P 19 36 43.5 +0.2
JCT Junction City 18.10 338 P Pn 19 36 42.2 -1.0
baz=155
243A Waterproof 18.10 2 P Pn 19 36 42.9 -0.2
baz=182
554A Perry 18.11 24 P P 19 36 43.7 +0.4
baz=207
NATX Nacogdoches 18.11 353 eP Pn 19 36 42.1 -1.1
comp=Z,341nm,1.6s
NATX Nacogdoches 18.11 353 P Pn 19 36 42.6 -0.6
baz=172
ZARC Zaragoza, Cauc 18.14 108 eP Pn 19 36 39.8 -4.0
349A Repton 18.16 14 P Pn 19 36 43.7 -0.1
baz=196
HPIG 18.20 318 eP P 19 36 45.3 +0.6
comp=Z,83nm,1.2s
241A Mo Tay, Goldon 18.24 358 eP P 19 36 44.1 -0.6
comp=Z,296nm,1.5s
241A Mo Tay, Goldon 18.24 358 P P 19 36 44.6 -0.2
baz=178
452A Marianna 18.25 20 P P 19 36 44.0 -0.9
baz=202
240A Hunter Patters 18.30 356 eP P 19 36 45.3 -0.1
comp=Z,331nm,1.6s
240A Hunter Patters 18.30 356 P P 19 36 45.0 -0.4
baz=175
244A Avery, Jackson 18.31 4 P P 19 36 45.3 -0.2
baz=184
758A Lake Helen 18.31 32 P P 19 36 45.0 -0.5
baz=216
245A Little AP, Sta 18.37 6 P Pn 19 36 46.4 +0.1
baz=187
YOTC Yotoco, Valle 18.41 120 eP Pn 19 36 48.0 +0.9
555A McAlpin 18.44 26 eP P 19 36 47.1 +0.1
comp=Z,451nm,1.4s
555A McAlpin 18.44 26 P Pn 19 36 47.4 +0.2
baz=209
350A Dozier 18.44 16 P Pn 19 36 47.2 -0.1
baz=198
246A Jackson Lee, B 18.44 8 P P 19 36 47.1 +0.1
baz=189
SMLC San Mart`n de 18.45 103 eP P 19 36 45.1 -2.2
657A Interlachen 18.48 30 P P 19 36 47.2 -0.2
baz=213
VBMS Vicksburg 18.49 5 eP P 19 36 46.8 -0.7
comp=Z,192nm,1.2s
VBMS Vicksburg 18.49 5 P P 19 36 47.5 0.0
baz=185
351A Pinckard 18.52 18 P P 19 36 47.9 +0.1
baz=200
453A Whigham 18.55 22 eP P 19 36 48.1 -0.1
comp=Z,347nm,1.4s
453A Whigham 18.55 22 P P 19 36 48.4 +0.2
baz=204
247A Quitman 18.56 10 P P 19 36 48.4 +0.1
baz=191
556A Lake Butler 18.58 28 P P 19 36 48.7 +0.2
baz=211
658A Bunnell 18.65 31 P P 19 36 48.6 -0.7
baz=215
454A Quitman 18.69 24 P Pn 19 36 50.6 +0.3
baz=207
CODC Agust`n Codaz 18.76 99 eP P 19 36 47.7 -2.9
248A Dixon Mills 18.76 12 P Pn 19 36 50.9 -0.2
baz=193
249A Camden 18.78 14 P P 19 36 50.9 +0.3
baz=195
RREF El Recreo 18.80 116 eP Pn 19 36 54.1 +1.8
WHTX Lake Whitney, 18.82 346 eP Pn 19 36 52.1 +0.2
comp=Z,187nm,1.5s
WHTX Lake Witney, 18.82 346 P P 19 36 50.7 -0.5
baz=164
LTX Lajitas 18.82 328 eP Pn 19 36 53.4 +1.4
LTX Lajitas 18.82 328 eP Pn 19 36 53.4 +1.4
TXAR Lajitas Array 18.82 328 P Pn 19 36 53.4 +1.4
comp=Z,0.1nm,0.3s,baz=153,slow=11,SNR=44
TXAR LR LR 19 44 01.1
comp=Z,853nm,18.9s,baz=0.0,slow=36
TX31 Lajitas Ar. Si 18.82 328 eP Pn 19 36 52.6 +0.6
TX31 eP P 19 36 52.8 +1.5
PTBC PUERTO BERRIO, 18.87 110 eP P 19 36 51.4 -0.5
557A Orange Park 18.91 29 P P 19 36 52.3 +0.2
baz=213
144A Alexander Plac 18.91 5 P P 19 36 52.2 +0.1
baz=185
NORC Norcasia 18.91 114 eP Pn 19 36 53.7 +0.6
352A Blakely 18.92 20 eP Pn 19 36 52.9 -0.1
comp=Z,239nm,1.3s
352A Blakely 18.92 20 P Pn 19 36 53.0 -0.1
baz=202
143A Socs Landing, 18.93 2 eP P 19 36 51.5 -0.7
comp=Z,195nm,1.4s
143A Socs Landing, 18.93 2 P P 19 36 51.7 -0.5
baz=182
145A Houston Renfro 18.93 6 P P 19 36 52.4 +0.1
baz=187
POPC Popayan, Colom 18.95 124 eP P 19 36 46.0 -7.0
455A Stateville 18.95 25 P P 19 36 52.3 -0.3
baz=208
250A Grady 18.99 16 eP P 19 36 53.4 +0.4
comp=Z,94nm,1.2s
250A Grdy 18.99 16 P P 19 36 52.3 -0.7
baz=198
353A Camilla 19.04 21 P P 19 36 53.6 +0.1
baz=204
146A Union 19.07 8 eP P 19 36 53.6 -0.2
comp=Z,785nm,1.9s
146A Union 19.07 8 P P 19 36 53.6 -0.2
baz=189
OTAV Otavalo 19.11 133 eP Pn 19 36 55.6 -0.3
comp=Z,51nm,1.6s
OTAV Otavalo 19.11 133 eP Pn 19 36 55.6 -0.3
OTAV pmax pmax
comp=Z,51nm,1.6s
147A Livingston 19.22 10 eP P 19 36 55.6 +0.1
comp=Z,1µm,1.9s
147A Livingston 19.22 10 P P 19 36 55.6 +0.1
baz=191
GCUF Volcan Galeras 19.25 129 eP Pn 19 36 58.7 +1.0
SOTA Rioblanco 19.25 125 eP P 19 36 56.0 -0.5
PCON Cinco Dias 19.30 124 eP P 19 36 53.4 -3.8
148A Greensboro 19.33 12 P P 19 36 56.8 +0.2
baz=193
251A Midway 19.34 18 P P 19 36 56.6 -0.2
baz=200
TIGA Tifton 19.35 23 eP P 19 36 56.5 -0.4
comp=Z,346nm,1.4s
TIGA Tifton 19.35 23 P P 19 36 57.2 +0.2
baz=206
MARP Paez Belalcaza 19.36 122 eP P 19 36 58.0 +0.5
456A Hilliard 19.37 27 P P 19 36 56.9 -0.3
baz=211
Z43A Armstrong Fami 19.44 2 P P 19 36 57.7 -0.2
baz=182
149A Jones 19.45 14 P P 19 36 57.7 -0.3
baz=196,SNR=9.9
252A Lumpkin 19.45 19 P P 19 36 58.1 0.0
baz=202
Z41A Richland Creek 19.47 359 P P 19 36 57.6 -0.6
baz=178
Z42A Nuvel Spur, H 19.48 1 P P 19 36 58.3 0.0
baz=180
SLBS Sierra La Lagu 19.48 303 eP Pn 19 37 00.6 +0.6
comp=Z,188nm,1.9s
457A Yulee 19.49 29 P P 19 36 58.1 -0.4
baz=212
Z44A Pea Ridge, Bel 19.55 4 P P 19 36 59.0 -0.2
baz=185
355A Pearson 19.55 25 P P 19 36 58.5 -0.6
baz=208
Z46A Louisville 19.63 8 P P 19 37 00.2 +0.2
baz=189
150A Eclectic 19.65 16 P P 19 36 59.6 -0.6
baz=198,SNR=13
Z45A Winona 19.71 6 eP P 19 37 00.6 -0.3
comp=Z,138nm,1.2s
Z45A Winona 19.71 6 P P 19 37 00.5 -0.3
baz=187
253A Americus 19.72 21 eP P 19 37 01.0 0.0
comp=Z,461nm,1.6s
253A Americus 19.72 21 P P 19 37 00.6 -0.4
baz=204
ROSC El Rosal 19.73 115 P Pn 19 37 05.7 +2.4
comp=Z,1.5nm,0.3s,baz=346,slow=7.0,SNR=20
CTAB Cerro Tablazo, 19.75 114 eP Pn 19 37 05.4 +1.8
151A Opelika 19.77 17 P P 19 37 01.5 0.0
baz=200
Z47A Carrollton 19.77 10 P P 19 37 01.6 +0.1
baz=192
PRAC Prado 19.79 119 eP P 19 37 00.7 -1.3
LRAL Lakeview Retre 19.82 13 eP P 19 37 02.2 +0.2
comp=Z,92nm,1.2s
LRAL Lakeview Retre 19.82 13 P P 19 37 01.9 -0.2
baz=195,SNR=5.8
URIC Uribia, Colomb 19.84 93 eP P 19 37 01.3 -1.1
356A Blackshear 19.84 26 P P 19 37 02.1 -0.1
baz=210
WLAR White Oak Lake 19.91 358 eP P 19 37 03.1 +0.1
comp=Z,220nm,1.3s
254A Abbeville 19.91 23 P P 19 37 02.9 -0.2
baz=206
LPIG La Paz 19.97 304 P Pn 19 37 07.5 +1.8
comp=Z,25nm,0.3s,baz=135,slow=4.3,SNR=2.5
LPIG LR LR 19 44 01.9
comp=Z,857nm,18.6s,baz=110,slow=34
ABTX Abilene, Hawle 20.02 341 eP P 19 37 05.0 +0.7
comp=Z,155nm,1.4s
ABTX Abilene, Hawle 20.02 341 P P 19 37 04.5 +0.2
baz=158,SNR=11
BARC Barichara 20.02 109 eP P 19 37 05.6 +1.0
Z48A Northport 20.04 11 P P 19 37 04.3 -0.1
baz=193,SNR=6.1
Y42A Garnett, Star 20.05 1 P P 19 37 03.0 -1.5
baz=181
Z49A Columbiana 20.08 14 P P 19 37 05.1 +0.2
baz=196,SNR=12
152A Waverly Hall 20.08 19 eP P 19 37 05.2 +0.2
comp=Z,86nm,1.1s
152A Waverly Hall 20.08 19 P P 19 37 04.9 0.0
baz=201,SNR=7.2
Y41A Eaglette Beard 20.09 359 P P 19 37 04.0 -1.0
baz=179
CCAR Cane Creek 20.12 1 eP P 19 37 05.4 0.0
comp=Z,464nm,1.9s
Y43A Makayla and Ka 20.15 3 P P 19 37 05.4 -0.2
baz=183
357A Townsend 20.20 27 P P 19 37 05.6 -0.7
baz=211
255A Hazlehurst 20.22 25 P P 19 37 05.8 -0.5
baz=208
Y45A Yeager Farm, C 20.22 6 P P 19 37 06.2 -0.2
baz=187
Y44A Strider, Charl 20.25 5 P P 19 37 05.7 -1.0
baz=185
Z50A Ashland 20.29 15 eP P 19 37 07.6 +0.4
comp=Z,95nm,1.3s
Z50A Ashland 20.29 15 P P 19 37 07.3 +0.1
baz=198,SNR=10
Y46A Houston 20.32 8 P P 19 37 06.9 -0.5
baz=189,SNR=7.7
FLOC Florencia 20.34 125 eP P 19 37 06.6 -1.3
CHIC Chingaza 20.34 115 eP P 19 37 07.2 -1.1
153A Fort Valley 20.36 21 P P 19 37 07.8 -0.1
baz=204
RUSC La Rusia 20.38 111 eP P 19 37 09.2 +0.3
Y47A UCPARC, Winfie 20.50 10 P P 19 37 09.1 -0.3
baz=192,SNR=8.7
256A Glennville 20.51 26 P P 19 37 09.4 -0.2
baz=210
Z51A Franklin 20.55 17 P P 19 37 09.9 -0.1
baz=200
154A Montrose 20.58 22 P P 19 37 09.8 -0.5
baz=206
Y48A Jasper 20.63 12 P P 19 37 10.0 -0.9
baz=194,SNR=6.3
Z52A Williamson 20.66 19 P P 19 37 11.1 -0.1
baz=202
X40A Basin Creek Fa 20.70 359 eP P 19 37 11.4 -0.2
comp=Z,52nm,1.3s
X40A Basin Creek Fa 20.70 359 P P 19 37 10.2 -1.4
baz=178
X41A Kaden, Bauxite 20.70 359 P P 19 37 10.2 -1.4
baz=179
Y49A Blount Mountai 20.75 14 eP P 19 37 12.9 +0.8
comp=Z,244nm,1.9s
Y49A Blount Mountai 20.75 14 P P 19 37 12.2 +0.1
baz=196,SNR=8.2
X43A Marvell 20.76 3 P P 19 37 10.9 -1.3
baz=183
X42A Stuttgart 20.76 1 P P 19 37 11.6 -0.7
baz=181
MIAR Mount Ida 20.78 357 eP P 19 37 12.2 -0.3
comp=Z,73nm,1.0s
MIAR Mount Ida 20.78 357 eP P 19 37 12.2 -0.3
MIAR pmax pmax
comp=Z,73nm,1.0s
MIAR Mount Ida 20.78 357 P P 19 37 11.4 -1.1
baz=176
X45A UM Field Stati 20.79 7 P P 19 37 11.2 -1.4
baz=187
X44A Crenshaw 20.79 5 P P 19 37 10.9 -1.6
baz=185
155A Kite 20.83 24 P P 19 37 12.8 -0.2
baz=207,SNR=7.5
OXF Oxford 20.87 7 eP P 19 37 12.6 -0.9
comp=Z,80nm,1.0s
OXF Oxford 20.87 7 eP P 19 37 12.6 -0.9
OXF pmax pmax
comp=Z,80nm,1.0s
OXF Oxford 20.87 7 P P 19 37 11.6 -1.8
baz=187
257A Skidaway Islan 20.88 28 P P 19 37 13.7 +0.1
baz=212
Y50A Piedmont 20.94 15 P P 19 37 14.0 -0.2
baz=198,SNR=6.3
UALR University of 20.98 360 eP P 19 37 13.8 -0.9
comp=Z,132nm,1.4s
X37A Clayton 20.99 353 eP P 19 37 14.3 -0.4
comp=Z,119nm,1.0s
X46A Booneville 21.02 8 P P 19 37 13.3 -1.8
baz=190
Z53A Monticello 21.02 21 P P 19 37 14.6 -0.5
baz=204
X47A Russellville 21.09 10 P P 19 37 14.7 -1.1
baz=192
Y51A Rockmart 21.13 17 P P 19 37 16.1 -0.2
baz=199,SNR=16
GOGA Godfrey 21.17 21 eP P 19 37 16.3 -0.4
comp=Z,91nm,1.2s
GOGA LR LR
comp=Z,5µm,20.0s
GOGA Godfrey 21.17 21 eP P 19 37 16.3 -0.4
GOGA pmax pmax
comp=Z,91nm,1.2s
GOGA MLR MLR
comp=Z,5µm,20.0s
GOGA Godfrey 21.17 21 P P 19 37 16.0 -0.7
baz=204
X48A Hartselle 21.18 12 eP P 19 37 16.5 -0.3
comp=Z,48nm,1.0s
X48A Hartselle 21.18 12 P P 19 37 15.8 -1.0
baz=194,SNR=11
Z54A Sparta 21.24 22 P P 19 37 16.9 -0.5
baz=206,SNR=6.8
156A Sylvania 21.25 26 P P 19 37 16.7 -0.9
baz=210
TAMC Tame, Arauca 21.36 108 eP P 19 37 13.9 -5.0
W41B Gary Mavity, V 21.38 360 eP P 19 37 12.1 -6.8
W41B Gary Mavity, V 21.38 360 P P 19 37 17.2 -1.6
baz=180,SNR=5.9
X49A Woodville 21.39 13 P P 19 37 18.3 -0.7
baz=196,SNR=13
Y52A Lilburn 21.39 19 eP P 19 37 19.5 +0.4
comp=Z,96nm,1.3s
Y52A Lilburn 21.39 19 P P 19 37 18.7 -0.4
baz=202
W39A Magazine 21.44 356 eP P 19 37 21.2 +1.6
comp=Z,272nm,1.8s
W39A Magazine 21.44 356 P P 19 37 18.0 -1.6
baz=176
W44A Shelby Farms P 21.45 5 P P 19 37 18.0 -1.7
baz=186
W42A Bald Knob 21.48 2 P P 19 37 18.6 -1.4
baz=182
WHAR Wooly Hollow 21.49 360 eP P 19 37 20.6 +0.4
comp=Z,124nm,1.5s
Z55A Blythe 21.49 24 P P 19 37 19.4 -0.7
baz=207
GDL2 Guadalupe Moun 21.50 331 eP P 19 37 21.7 +1.3
X50B Fort Payne 21.50 15 P P 19 37 19.7 -0.6
baz=197,SNR=22
GRTK Grand Turk 21.53 66 PFAKE 19 37 30.0 +9.3
GRTK LR LR
comp=Z,1µm,19.0s
W45A Hickory Valley 21.53 7 P P 19 37 18.5 -2.0
baz=188
Y53A Monroe 21.54 20 P P 19 37 20.1 -0.6
baz=203,SNR=8.9
MNTX Cornudas Mount 21.60 328 eP P 19 37 21.7 +0.3
comp=Z,82nm,1.3s
MNTX LR LR
comp=Z,1µm,19.0s
MNTX Cornudas Mount 21.60 328 P P 19 37 21.9 +0.5
baz=143,SNR=30
W46A Michie 21.61 9 P P 19 37 19.8 -1.7
baz=190
SDV Santo Domingo 21.70 100 P P 19 37 22.3 -0.5
comp=Z,12nm,0.9s,baz=305,slow=5.7,SNR=11
SDV LR LR 19 47 09.3
comp=Z,1µm,18.2s,baz=356,slow=41

SDV	Santo Domingo	21.70	100	eP		P		19 37 23.3	+0.5
	comp=Z,130nm,1.6s								
WMOK	Wichita Mounta	21.76	345	eP		P		19 37 22.4	-0.7
	comp=Z,109nm,1.5s								
WMOK				LR		LR			
	comp=Z,1µm,19.0s								
WMOK	Wichita Mounta	21.76	345	eP		P		19 37 22.4	-0.7
WMOK				pmax		pmax			
	comp=Z,109nm,1.5s								
WMOK				MLR		MLR			
	comp=Z,1µm,19.0s								
WMOK	Wichita Mounta	21.76	345	P		P		19 37 21.8	-1.3
	baz=162,SNR=20								
X51A	Calhoun	21.81	17	eP		P		19 37 22.7	-0.8
	comp=Z,360nm,1.8s								
X51A	Calhoun	21.81	17	P		P		19 37 22.7	-0.8
	baz=199								
W47A	Westpoint	21.86	10	P		P		19 37 22.4	-1.6
	baz=192,SNR=7.0								
Y54A	Tignall	21.86	22	P		P		19 37 23.1	-0.9
	baz=205,SNR=7.5								
W48A	Pulaski	21.87	12	P		P		19 37 22.9	-1.3
	baz=194,SNR=13								
V41A	Mountainview	21.98	0	P		P		19 37 23.2	-2.3
	baz=180,SNR=6.4								
W49A	Belvidere	21.99	13	P		P		19 37 24.3	-1.1
	baz=195,SNR=24								
V42A	Cord	22.02	2	P		P		19 37 24.0	-1.8
	baz=182								
V43A	Jonesboro	22.04	4	P		P		19 37 24.4	-1.5
	baz=184								
V44A	Blytheville	22.13	5	P		P		19 37 24.8	-2.1
	baz=186								
X52A	Dahlonega	22.13	18	P		P		19 37 26.1	-0.9
	baz=202								
V45A	Humboldt	22.14	7	P		P		19 37 25.0	-2.1
	baz=188								
SWET	Sewanee	22.16	14	eP		P		19 37 26.9	-0.4
	comp=Z,51nm,0.9s								
NHSC	New Hope	22.21	28	PFAKE				19 37 40.0	+12
NHSC				LR		LR			
	comp=Z,5µm,20.0s								
NHSC	New Hope	22.21	28	P		P		19 37 27.4	-0.5
	baz=212								
X53A	Estanollee	22.23	20	P		P		19 37 27.4	-0.6
	baz=203								
W50A	Signal Mountai	22.29	15	P		P		19 37 27.7	-1.1
	baz=198								
V46A	Holladay	22.31	9	P		P		19 37 26.3	-2.6
	baz=190,SNR=5.2								
MSTX	Muleshoe	22.33	336	eP		P		19 37 28.7	-0.6
	comp=Z,165nm,1.3s								
MSTX	Muleshoe	22.33	336	P		P		19 37 28.8	-0.5
	baz=152,SNR=22								
TUL1	Leonard	22.34	352	eP		P		19 37 29.2	-0.1
	comp=Z,61nm,1.0s								
TUL1	Leonard	22.34	352	P		P		19 37 26.9	-2.4
	baz=171								
HODGE	Hodges	22.34	22	eP		P		19 37 28.8	-0.5
	comp=Z,205nm,2.0s								
W51A	Cleveland	22.40	16	P		P		19 37 29.3	-0.6
	baz=199								
V47A	Nunnelly	22.43	10	P		P		19 37 28.0	-2.2
	baz=192,SNR=8.4								
V48A	Smith Brothers	22.47	12	eP		P		19 37 29.6	-1.1
	comp=Z,55nm,0.9s								
V48A	Smith Brothers	22.47	12	P		P		19 37 29.1	-1.6
	baz=194,SNR=20								
HHAR	Hobbs	22.53	356	eP		P		19 37 30.2	-1.1
	comp=Z,71nm,1.5s								
U41A	Viola	22.54	1	P		P		19 37 29.8	-1.7
	baz=180								
U40A	Yellville	22.56	359	P		P		19 37 29.7	-1.9
	baz=178								
U42A	Revenden	22.57	2	P		P		19 37 29.3	-2.4
	baz=182								
W52A	Murphy	22.57	18	eP		P		19 37 31.6	-0.2
	comp=Z,49nm,1.0s								
W52A	Murphy	22.57	18	P		P		19 37 31.2	-0.6
	baz=201								
U43A	Rector	22.63	4	P		P		19 37 29.6	-2.7
	baz=184								
WVT	Waverly	22.67	9	P		P		19 37 30.6	-2.2
	baz=191								
U44B	Burton Farm, H	22.68	6	P		P		19 37 30.5	-2.4
	baz=187								
V49A	McMinnville	22.69	13	P		P		19 37 31.4	-1.6
	baz=196,SNR=12								
AMTX	Amarillo	22.75	340	eP		P		19 37 33.5	-0.3
	comp=Z,272nm,1.4s								
AMTX	Amarillo	22.75	340	P		P		19 37 33.0	-0.7
	baz=155								
U45A	Rockin P Farm,	22.76	7	P		P		19 37 30.8	-2.9
	baz=188								
JSC	Jenkinsville	22.77	24	eP		P		19 37 33.5	-0.3
	comp=Z,96nm,1.4s								
JSC	Jenkinsville	22.77	24	eP		P		19 37 33.5	-0.3
JSC				pmax		pmax			
	comp=Z,96nm,1.4s								
V50A	Pikevile	22.79	15	P		P		19 37 32.7	-1.4
	baz=198,SNR=7.8								
BG3	Lake Jocassee	22.80	20	eP		P		19 37 33.8	-0.3
	comp=Z,141nm,1.4s								
U44A	Portageville	22.82	5	P		P		19 37 31.9	-2.4
	baz=186								
U46A	Springville	22.85	8	P		P		19 37 32.0	-2.6
	baz=190								
W53A	Cullowhee	22.88	19	P		P		19 37 34.5	-0.7
	baz=203								
PBMO	Poplar Bluff	23.03	4	eP		P		19 37 35.7	-0.8
	comp=Z,141nm,1.8s								
PAULI	Pauline	23.03	22	eP		P		19 37 36.9	+0.4
	comp=Z,141nm,1.5s								
U47A	Clarksville	23.07	10	P		P		19 37 34.8	-2.0
	baz=192								
HSIG		23.11	314	eP		P		19 37 38.2	+0.8
HSIG				e				19 37 47.3	
V51A	Loudon	23.11	16	eP		P		19 37 37.0	-0.4
	comp=Z,92nm,1.1s								
V51A	Loudon	23.11	16	P		P		19 37 36.2	-1.2
	baz=200								
TKL	Tuckaleechee C	23.14	18	P		P		19 37 37.3	-0.3
	comp=Z,47nm,1.1s,baz=204,slow=8.7,SNR=19								
TKL				LR		LR		19 48 17.0	
	comp=Z,3µm,18.0s,baz=216,slow=41								
TKL	Tuckaleechee C	23.14	18	eP		P		19 37 37.7	0.0
	comp=Z,134nm,1.3s								
TKL	Tuckaleechee C	23.14	18	eP		P		19 37 37.7	0.0
TKL				pmax		pmax			
	comp=Z,134nm,1.3s								
T41A	Mountain View	23.24	1	P		P		19 37 36.7	-1.9
	baz=181								
T42A	Van Buren	23.25	2	P		P		19 37 36.0	-2.7
	baz=182								
U48A	Cassie Pea, Po	23.27	12	P		P		19 37 37.2	-1.8
	baz=194								
T43A	Greenville	23.34	4	P		P		19 37 37.4	-2.2
	baz=184								
V52A	Sevierville	23.37	18	eP		P		19 37 39.1	-0.8
	comp=Z,106nm,1.2s								
V52A	Sevierville	23.37	18	P		P		19 37 38.9	-1.0
	baz=201,SNR=5.5								
T44A	Benton	23.40	5	P		P		19 37 38.0	-2.2
	baz=186								
U49A	Red Boiling Sp	23.43	13	P		P		19 37 38.8	-1.7
	baz=196,SNR=11								
T45A	Paducah	23.44	7	P		P		19 37 38.2	-2.3
	baz=188								
V53A	Saluda	23.45	20	eP		P		19 37 40.3	-0.5
	comp=Z,224nm,1.8s								
V53A	Saluda	23.45	20	P		P		19 37 40.2	-0.6
	baz=203								
KMSC	Kings Mountain	23.50	23	eP		P		19 37 40.1	-1.0
	comp=Z,86nm,1.3s								
KMSC	Kings Mountain	23.50	23	P		P		19 37 40.4	-0.7
	baz=207,SNR=9.6								
121A	Cookes Peak, D	23.52	325	P		P		19 37 43.4	+1.7
	baz=139,SNR=22								
319A	Douglas	23.55	321	eP		P		19 37 43.3	+1.4
	comp=Z,221nm,1.6s								
T46A	Princeton	23.56	9	P		P		19 37 39.4	-2.3
	baz=190,SNR=11								
U50A	Jamestown	23.56	15	P		P		19 37 40.4	-1.3
	baz=198,SNR=11								
T47A	Sharon Grove	23.63	10	P		P		19 37 40.6	-1.9
	baz=192,SNR=11								
U51A	La Follette	23.75	17	P		P		19 37 42.6	-1.0
	baz=200,SNR=18								
S41A	Jillco Farms,	23.79	1	P		P		19 37 41.5	-2.4
	baz=181								
S43A	Fulton Ridge,	23.84	4	P		P		19 37 41.6	-2.9
	baz=185								
T48A	Bowling Green	23.88	12	P		P		19 37 42.8	-1.9
	baz=194								
U52A	Thorn Hill	23.95	18	P		P		19 37 44.2	-1.3
	baz=201								
S42A	Caledonia	24.00	3	P		P		19 37 43.5	-2.4
	baz=183								
TZTN	Tazewell	24.03	17	eP		P		19 37 46.2	0.0
	comp=Z,57nm,1.2s								
TZTN	Tazewell	24.03	17	P		P		19 37 44.8	-1.5
	baz=201								
S44A	Carbondale	24.04	6	P		P		19 37 44.5	-1.7
	baz=187,SNR=8.9								
T49A	Edmonton	24.06	13	eP		P		19 37 45.0	-1.5
	comp=Z,112nm,1.3s								
T49A	Edmonton	24.06	13	P		P		19 37 44.8	-1.6
	baz=196,SNR=6.5								
SIUC	Southern Illin	24.06	6	eP		P		19 37 45.5	-0.9
	comp=Z,105nm,1.1s								
S45A	Carrier Mills	24.09	7	P		P		19 37 44.8	-2.0
	baz=188								
T50A	Nancy	24.14	15	P		P		19 37 45.3	-1.9
	baz=198,SNR=8.8								
U53A	Fall Branch	24.16	19	P		P		19 37 46.6	-0.9
	baz=203								
BNM	Barren Site	24.19	330	eP		P		19 37 49.5	+1.6
S46A	Don Dixon Farm	24.22	9	P		P		19 37 46.1	-1.7
	baz=190								
S47A	Hartford	24.26	10	P		P		19 37 46.2	-2.1
	baz=192								
CCM	Cathedral Cave	24.27	2	eP		P		19 37 48.1	-0.2
	comp=Z,145nm,1.9s								
CCM	Cathedral Cave	24.27	2	eP		P		19 37 48.1	-0.2
CCM				pmax		pmax			
	comp=Z,145nm,1.9s								
CCM	Cathedral Cave	24.27	2	P		P		19 37 46.0	-2.3
	baz=182								
T51A	Gray	24.32	16	P		P		19 37 47.6	-1.2
	baz=200,SNR=7.0								
LPM	Los Pinos Moun	24.32	330	eP		P		19 37 50.5	+1.4
LENM	Lemitar	24.37	329	eP		P		19 37 51.1	+1.6
S48A	Wiedeman Farm,	24.48	12	P		P		19 37 48.3	-2.0
	baz=194								
R41A	Rosebud	24.50	2	P		P		19 37 48.0	-2.5
	baz=182								
R42A	Luebbering	24.51	3	P		P		19 37 48.1	-2.4
	baz=183								
R43A	Red Bud	24.55	4	P		P		19 37 49.2	-1.8
	baz=185								
R44A	Waltonville	24.60	6	P		P		19 37 49.7	-1.6
	baz=187								
LAZ	Ladron	24.64	329	eP		P		19 37 48.7	-3.3
T52A	Hallie	24.72	18	P		P		19 37 51.4	-1.2
	baz=202								
R45A	Skylar, Fairfi	24.74	7	P		P		19 37 50.7	-1.8
	baz=189								
ANMO	Albuquerque	24.75	331	P		P		19 37 54.2	+1.2
	comp=Z,4.7nm,1.0s,baz=143,slow=12,SNR=17								
ANMO				LR		LR		19 49 20.9	
	comp=Z,663nm,19.1s,baz=152,slow=41								
ANMO	Albuquerque	24.75	331	eP		P		19 37 54.2	+1.2
	comp=Z,34nm,1.2s								
ANMO	Albuquerque	24.75	331	c iP		P		19 37 51.8	-1.2
ANMO				pmax		pmax			
	comp=Z,6.0nm,1.1s								
ANMO	Albuquerque	24.75	331	P		P		19 37 54.0	+1.0
	baz=145								
S49A	Springfield	24.76	13	P		P		19 37 51.0	-1.8
	baz=196,SNR=6.4								
R46A	Gibon Southern	24.76	9	P		P		19 37 50.9	-1.9
	baz=191								
ATAH	Atahualpa	24.84	146	P		P		19 37 55.3	+1.1
	comp=Z,9.0nm,0.9s,baz=338,slow=11,SNR=9.9								
ATAH				LR		LR		19 45 28.1	
	comp=Z,2µm,18.0s,baz=332,slow=31								
S50A	Richmond	24.87	15	P		P		19 37 52.4	-1.4
	baz=198,SNR=10								
WCI	Wyandotte Cave	24.98	11	eP		P		19 37 53.8	-1.0
	comp=Z,90nm,0.9s								
WCI	Wyandotte Cave	24.98	11	eP		P		19 37 53.8	-1.0
WCI				pmax		pmax			
	comp=Z,90nm,0.9s								
WCI	Wyandotte Cave	24.98	11	P		P		19 37 52.7	-2.1
	baz=194								
R47A	Wooly Knot Far	25.01	11	P		P		19 37 53.2	-1.9
	baz=193								
CNNC	Cliffs of the	25.04	29	PFAKE				19 38 10.0	+15
CNNC				LR		LR			
	comp=Z,4µm,20.0s								
CNNC	Cliffs of the	25.04	29	P		P		19 37 53.8	-1.6
	baz=214								
S51A	Beattyville	25.05	16	eP		P		19 37 54.0	-1.4
	comp=Z,36nm,0.8s								
S51A	Beattyville	25.05	16	P		P		19 37 53.6	-1.8
	baz=200								
TUC	Tucson	25.12	321	eP		P		19 37 57.1	+0.9
	comp=Z,59nm,1.4s								
TUC	Tucson	25.12	321	eP		P		19 37 57.2	+0.9
TUC				pmax		pmax			
	comp=Z,59nm,1.4s								
TUC	Tucson	25.12	321	P		P		19 37 57.2	+0.9
	baz=133								
Q42A	Golden Eagle	25.15	3	P		P		19 37 54.5	-1.8
	baz=184								
Q41A	Truxton	25.16	2	P		P		19 37 53.5	-3.0
	baz=182								
OLIL	Olney	25.19	8	eP		P		19 37 55.9	-0.8
	comp=Z,48nm,0.8s								
S52A	Salyersville	25.23	17	P		P		19 37 54.7	-2.3
	baz=201								
R48A	Northridge Ran	25.23	12	P		P		19 37 55.4	-1.7
	baz=194								
Q43A	New Douglas	25.23	5	P		P		19 37 54.8	-2.3
	baz=186								
Q44A	Meyer Farm, Va	25.26	6	eP		P		19 37 56.5	-0.7
	comp=Z,36nm,1.0s								
Q44A	Meyer Farm, Va	25.26	6	P		P		19 37 55.1	-2.1
	baz=187								
R49A	Shelbyville	25.27	13	P		P		19 37 55.3	-2.2
	baz=196,SNR=5.9								
Q45A	Warren Harvey,	25.35	7	P		P		19 37 56.1	-2.0
	baz=189								
SJG	San Juan	25.44	77	LR		LR		19 48 58.6	
	comp=Z,3µm,19.4s,baz=259,slow=39								
R50A	Paris	25.46	15	P		P		19 37 57.4	-1.8
	baz=198								
Q46A	CEJHS Indians,	25.58	9	P		P		19 37 58.3	-1.9
	baz=191								
KSU1	Kansas State U	25.59	352	eP		P		19 37 59.3	-1.0
	comp=Z,34nm,1.0s								
KSU1				LR		LR			
	comp=Z,1µm,21.0s								
KSU1	Kansas State U	25.59	352	P		P		19 37 58.8	-1.5
	baz=170								
Q47A	Bedord North L	25.65	10	P		P		19 37 59.1	-1.8
	baz=193								
R51A	Hillsboro	25.67	16	P		P		19 37 59.4	-1.6
	baz=199								
BLA	Blacksburg	25.67	22	eP		P		19 37 60.0	-1.1
	comp=Z,39nm,1.0s								
BLA				LR		LR			
	comp=Z,4µm,19.0s								
BLA	Blacksburg	25.67	22	eP		P		19 38 00.0	-1.1
BLA				pmax		pmax			
	comp=Z,39nm,1.0s								
BLA				MLR		MLR			
	comp=Z,4µm,19.0s								
BLA	Blacksburg	25.67	22	P		P		19 38 00.0	-1.1
	baz=207								
T25A	Trinidad	25.75	337	eP		P		19 38 03.6	+1.5
	comp=Z,72nm,1.1s								
T25A	Trinidad	25.75	337	P		P		19 38 03.9	+1.8
	baz=152								
Q48A	North Vernon	25.77	12	P		P		19 37 59.6	-2.4
	baz=194								
P42A	Winchester	25.83	3	P		P		19 38 00.5	-2.0
	baz=184								
CBKS	Cedar Bluff	25.88	346	eP		P		19 38 03.3	+0.3
	comp=Z,74nm,1.0s								
CBKS				LR		LR			
	comp=Z,1µm,20.0s								
CBKS	Cedar Bluff	25.88	346	eP		P		19 38 03.3	+0.3
CBKS				pmax		pmax			
	comp=Z,74nm,1.0s								
CBKS				MLR		MLR			
	comp=Z,1µm,20.0s								
CBKS	Cedar Bluff	25.88	346	P		P		19 38 01.6	-1.4
	baz=163								
P41A	Barry, Barry	25.89	2	P		P		19 38 01.0	-2.0
	baz=182								
P43A	Skaggs, Pawnee	25.94	5	P		P		19 38 01.1	-2.4
	baz=186								
R52A	Catlettsburg	25.96	17	P		P		19 38 02.1	-1.6
	baz=201								
Q49A	Aurora	26.02	13	P		P		19 38 02.4	-1.8
	baz=196								
P45A	Graceland, Par	26.02	8	eP		P		19 38 03.4	-0.8
	comp=Z,20nm,0.9s								
P45A	Graceland, Par	26.02	8	P		P		19 38 01.8	-2.4
	baz=190								
Q50A	Georgetown	26.08	15	P		P		19 38 03.0	-1.8
	baz=198								
214A	Organ Pipe Nat	26.18	317	P		P		19 38 03.7	-2.1
	baz=129								
P46A	Rosedale	26.19	9	P		P		19 38 04.0	-1.7
	baz=191								
P47A	Martinsville	26.21	10	P		P		19 38 03.8	-2.2
	baz=193								
P48A	Milroy	26.34	12	P		P		19 38 05.0	-2.2
	baz=195,SNR=5.7								
Q51A	Peebles	26.41	16	eP		P		19 38 06.3	-1.5
	comp=Z,96nm,1.4s								
Q51A	Peebles	26.41	16	P		P		19 38 06.3	-1.5
	baz=199,SNR=5.5								
W18A	Petrified Fore	26.54	326	P		P		19 38 10.2	+1.0
	baz=139								
P49A	Miami Univ. Ec	26.57	13	P		P		19 38 06.5	-2.6
	baz=196								
Q52A	Bidwell	26.65	17	P		P		19 38 08.6	-1.3
	baz=202								
SDCO	Great Sand Dun	26.70	336	eP		P		19 38 12.2	+1.5
	comp=Z,115nm,1.6s								
SDCO				LR		LR			
	comp=Z,524nm,22.0s								
SDCO	Great Sand Dun	26.70	336	P		P		19 38 12.3	+1.5
	baz=150								
O45A	Potomac	26.73	8	P		P		19 38 08.9	-1.7
	baz=190								
KSCO	Kaye Shedlock'	26.83	342	eP		P		19 38 11.8	+0.1
	comp=Z,89nm,1.4s								
KSCO	Kaye Shedlock'	26.83	342	P		P		19 38 11.3	-0.5
	baz=157								
P50A	Jamestown	26.85	15	P		P		19 38 09.8	-1.9
	baz=198								
HDIL	Hopedale	26.87	5	PFAKE				19 38 20.0	+8.1
HDIL				LR		LR			
	comp=Z,2µm,19.0s								
HDIL	Hopedale	26.87	5	P		P		19 38 09.5	-2.4
	baz=186								
P51A	Williamsport	26.92	16	eP		P		19 38 10.9	-1.4
	comp=Z,32nm,0.8s								
P51A	Williamsport	26.92	16	P		P		19 38 10.6	-1.7
	baz=200								
SFIN	Lafayette	26.95	9	eP		P		19 38 11.2	-1.4
	comp=Z,69nm,1.5s								
SFIN	Lafayette	26.95	9	P		P		19 38 10.0	-2.6
	baz=191								
O47A	Sheridan	26.96	10	P		P		19 38 09.7	-3.0
	baz=193								
X16A	Lo Mia Camp, P	26.98	323	eP		P		19 38 13.6	+0.4
	comp=Z,29nm,1.3s								
N39A	Derby Farms, D	27.07	360	P		P		19 38 10.8	-2.8
	baz=179								
N40A	Mertquake, Sal	27.08	1	P		P		19 38 11.1	-2.6
	baz=181								
N42A	Yates City	27.09	4	P		P		19 38 11.7	-2.1
	baz=184								
O48A	Farmland	27.17	12	P		P		19 38 12.3	-2.3
	baz=195								
PCRV	Puerto La Cruz	27.21	94	LR		LR		19 51 01.5	
	comp=Z,1µm,19.1s,baz=284,slow=41								
S22A	4UR Ranch, Cre	27.25	334	eP		P		19 38 16.8	+1.1
	comp=Z,132nm,1.5s								
S22A	4UR Ranch, Cre	27.25	334	P		P		19 38 17.0	+1.4
	baz=148								
N43A	Stutzman Famil	27.26	5	P		P		19 38 13.3	-2.0
	baz=186								
O49A	Covington	27.27	13	P		P		19 38 13.5	-2.1
	baz=197								
P52A	Corning	27.31	17	P		P		19 38 13.7	-2.2
	baz=202								
R58B	Mineral	27.32	25	P		P		19 38 15.0	-1.0
	baz=211								
113A	Mohawk Valley,	27.32	318	eP		P		19 38 17.1	+1.0
	comp=Z,69nm,1.8s								
N45A	Kentland	27.35	8	P		P		19 38 14.5	-1.7
	baz=190								
P53A	Whipple	27.40	18	eP		P		19 38 15.5	-1.1
	comp=Z,60nm,1.4s								
P53A	Whipple	27.40	18	P		P		19 38 15.6	-1.1
	baz=203								
O50A	Cable	27.40	14	P		P		19 38 14.5	-2.2
	baz=198								
N46A	Monticello	27.51	9	P		P		19 38 15.6	-2.0
	baz=191								
MVCO	Mesa Verde	27.55	331	eP		P		19 38 20.3	+2.0
	comp=Z,162nm,1.4s								
MVCO	Mesa Verde	27.55	331	P		P		19 38 19.6	+1.3
	baz=144								
M40A	Post Highland	27.60	1	P		P		19 38 17.9	-0.5
	baz=181								
M41A	Milan	27.61	3	P		P		19 38 16.6	-1.9
	baz=183								
Q24A	Divide	27.63	338	P		P		19 38 20.1	+0.9
	baz=152								
ACSO	Alum Creek Sta	27.64	15	PFAKE				19 38 30.0	+11
ACSO				LR		LR			
	comp=Z,3µm,20.0s								
ACSO	Alum Creek Sta	27.64	15	P		P		19 38 17.0	-1.8
	baz=199								
O51A	Pataskala	27.66	16	P		P		19 38 16.9	-2.2
	baz=200								
N47A	Urbana	27.67	11	P		P		19 38 15.9	-3.2
	baz=194								
M39A	Webster	27.67	0	P		P		19 38 16.6	-2.4
	baz=180								
WUAZ	Wupatki	27.73	325	eP		P		19 38 21.9	+2.0
	comp=Z,20nm,1.1s								
WUAZ	Wupatki	27.73	325	P		P		19 38 18.7	-1.2
	baz=137								
CBN	Corbin Frederi	27.73	26	PFAKE				19 38 30.0	+10
CBN				LR		LR			
	comp=Z,4µm,19.0s								
CBN	Corbin Frederi	27.73	26	P		P		19 38 18.3	-1.3
	baz=212								
N48A	Decatur	27.77	12	P		P		19 38 17.6	-2.4
	baz=195								
M44A	Midewin, Midew	27.82	7	P		P		19 38 18.2	-2.1
	baz=188								
O52A	Adamsville	27.84	17	eP		P		19 38 19.1	-1.6
	comp=Z,36nm,1.0s								
O52A	Adamsville	27.84	17	P		P		19 38 19.0	-1.6
	baz=202								
N49A	Columbus Grove	28.01	13	P		P		19 38 19.8	-2.3
	baz=197								
MCWV	Mont Chateau	28.05	21	P		P		19 38 21.0	-1.6
	baz=206								
BGNE	Belgrade	28.08	350	P		P		19 38 21.7	-1.1
	baz=168								
GLA	Glamis	28.20	317	eP		P		19 38 25.6	+1.7
	comp=Z,97nm,1.9s								
GLA	Glamis	28.20	317	eP		P		19 38 25.6	+1.7
GLA				pmax		pmax			
	comp=Z,97nm,1.9s								
GLA	Glamis	28.20	317	P		P		19 38 21.7	-2.2
	baz=128

SMCO **Snowmass** 28.52 336 eP P 19 38 29.0 +1.9
comp=Z,53nm,1.4s
PV05 **Paradox Valley** 28.53 331 eP P 19 38 29.1 +2.0
L43A **Garden Prairie** 28.53 5 P P 19 38 26.5 -0.3
baz=187
ISCO **Idaho Springs** 28.54 338 eP P 19 38 27.6 +0.4
comp=Z,63nm,1.9s
ISCO LR LR
comp=Z,590nm,21.0s
ISCO **Idaho Springs** 28.54 338 eP P 19 38 27.6 +0.4
ISCO pmax pmax
comp=Z,63nm,1.9s
ISCO MLR MLR
comp=Z,590nm,21.0s
ISCO **Idaho Springs** 28.54 338 P P 19 38 27.7 +0.4
baz=152
PDMCI **Parker Dam,Lak** 28.54 320 P P 19 38 27.2 +0.2
baz=130
PV03 **Paradox Valley** 28.56 332 eP P 19 38 29.2 +1.9
PV12 **Saucer Basin,** 28.59 332 eP P 19 38 30.0 +2.4
comp=Z,153nm,1.3s
PV11 **David Mesa, Pa** 28.61 332 eP P 19 38 30.0 +2.3
comp=Z,203nm,1.5s
PV17 **East Wray Mesa** 28.63 332 eP P 19 38 30.1 +2.2
comp=Z,210nm,1.8s
PV16 **Nyswonger Mesa** 28.64 332 eP P 19 38 30.1 +2.1
comp=Z,195nm,1.6s
PV19 **Morning Glory** 28.66 332 eP P 19 38 30.6 +2.4
comp=Z,120nm,1.5s
PV20 **West Nyswonger** 28.68 332 eP P 19 38 30.6 +2.2
comp=Z,128nm,1.5s
PV14 **Lion Creek, Pa** 28.73 332 eP P 19 38 30.3 +1.4
comp=Z,157nm,1.6s
PV10 **Paradox Valley** 28.74 332 eP P 19 38 30.3 +1.3
SWSC **Sam W. Stewart** 28.79 316 P P 19 38 28.3 -0.9
baz=126
PV23 **Carpenter Ridg** 28.79 332 eP P 19 38 31.5 +2.1
comp=Z,81nm,1.3s
L47A **Sherwood** 28.82 11 P P 19 38 26.5 -2.8
baz=194
IKP **In-Ko-Pah, Jac** 28.82 315 P P 19 38 28.8 -0.8
baz=125
PV21 **Cone Mtn., Par** 28.86 332 eP P 19 38 32.0 +2.0
comp=Z,105nm,1.7s
M51A **Elyria** 28.88 16 P P 19 38 27.8 -2.0
baz=200
PV09 **Paradox Valley** 28.89 332 eP P 19 38 32.4 +2.1
K39A **Oelwein** 28.90 1 P P 19 38 28.1 -1.8
baz=180
U15A **North Rim** 28.90 325 eP P 19 38 32.7 +2.2
comp=Z,63nm,1.8s
W13A **Hualapai Mount** 28.91 321 eP P 19 38 32.7 +2.2
comp=Z,78nm,2.0s
L48A **N Adams** 28.94 12 P P 19 38 28.0 -2.4
baz=196
SDMD **Soldier's Deli** 28.97 25 eP P 19 38 29.9 -0.8
comp=Z,7.6nm,0.8s
BC3 **Big Chuckawall** 28.98 317 P P 19 38 31.8 +0.8
baz=128
O56A **Blue Knob Stat** 29.05 22 eP P 19 38 30.4 -1.0
comp=Z,54nm,1.4s
O56A **Blue Knob Stat** 29.05 22 P P 19 38 29.8 -1.6
baz=208
IRM **Iron Mountain** 29.09 318 P P 19 38 32.8 +1.0
baz=129
K43A **Burlington** 29.09 6 P P 19 38 29.7 -2.0
baz=188
JFWS **Jewell Farm** 29.15 3 PFAKE 19 38 40.0 +7.7
JFWS LR LR
comp=Z,2μm,22.0s
N54A **Moraine State** 29.18 19 eP P 19 38 31.2 -1.3
comp=Z,51nm,1.2s
N54A **Moraine State** 29.18 19 P P 19 38 30.6 -1.9
baz=205
L49A **Milan** 29.23 13 P P 19 38 31.0 -1.9
baz=197
AAM **Ann Arbor** 29.44 13 PFAKE 19 38 50.0 +15
AAM LR LR
comp=Z,2μm,19.0s
ANWB **Willy Bob** 29.55 78 PFAKE 19 38 50.0 +14
ANWB LR LR
comp=Z,2μm,20.0s
SSPA **Standing Stone** 29.62 22 eP P 19 38 35.7 -0.7
comp=Z,22nm,1.0s
SSPA **Standing Stone** 29.62 22 P P 19 38 35.0 -1.4
baz=209
KNB **Kanab** 29.62 325 eP P 19 38 38.6 +1.9
comp=Z,112nm,1.7s
KNB **Kanab** 29.62 325 eP P 19 38 38.6 +1.9
KNB pmax pmax
comp=Z,112nm,1.7s
PFO **Pinyon Flats O** 29.62 316 PFAKE 19 38 50.0 +13
PFO LR LR
comp=Z,2μm,22.0s
PFO **Pinyon Flats O** 29.62 316 P P 19 38 36.3 -0.4
baz=126
PKCU **Pink Cliffs** 29.66 326 eP P 19 38 32.1 +1.0
comp=Z,133nm,1.9s
NNA **Nana** 29.73 148 LR LR 19 48 47.7
comp=Z,499nm,19.1s,baz=324,slow=33
J43A **Natural Harves** 29.75 6 P P 19 38 34.9 -2.7
baz=187
M54A **Oil Creek Stat** 29.78 19 P P 19 38 35.5 -2.3
baz=205
GRGR **Grenville** 29.83 89 PFAKE 19 38 50.0 +11
GRGR LR LR
comp=Z,1μm,19.0s
O20A **White River Ci** 29.85 335 eP P 19 38 40.2 +1.5
comp=Z,90nm,1.5s
O20A **White River Ci** 29.85 335 P P 19 38 39.5 +0.8
baz=147
LCMT **Little Creek M** 29.85 325 eP P 19 38 40.0 +1.3
comp=Z,28nm,1.5s
MTPU **Mount Pierson** 30.03 327 eP P 19 38 40.0 -0.5
comp=Z,67nm,1.7s
ECSD **EROS Data Cent** 30.16 354 eP P 19 38 41.0 -0.2
comp=Z,28nm,1.5s
ECSD LR LR
comp=Z,723nm,20.0s
ECSD **EROS Data Cent** 30.16 354 P P 19 38 39.6 -1.5
baz=171
SZCU **Shurtz Canyon** 30.19 326 eP P 19 38 43.6 +1.9
comp=Z,63nm,1.4s
HEC **Hector Ludlow** 30.27 318 P P 19 38 41.6 -0.8
baz=126
CCUT **Cedar City** 30.31 325 eP P 19 38 44.5 +1.7
comp=Z,37nm,1.4s
TUQ **Turquoise Moun** 30.39 320 P P 19 38 43.6 +0.2
baz=129
SHPR **Sheep Range** 30.62 322 eP P 19 38 46.8 +1.3
comp=Z,40nm,1.6s
N59A **State Game Lan** 30.68 25 P P 19 38 44.5 -1.4
baz=212
RWWY **Rawlins** 30.78 338 eP P 19 38 47.4 +0.5
comp=Z,69nm,1.4s
I49A **Point Hope** 31.19 13 P P 19 38 50.0 -0.2
baz=198
K22A **Casper** 31.38 340 eP P 19 38 52.5 +0.4
comp=Z,32nm,1.2s
TPNV **Topopah Spring** 31.57 321 eP P 19 38 55.2 +1.3
comp=Z,114nm,1.9s
TPNV **Topopah Spring** 31.57 321 eP P 19 38 55.2 +1.3
TPNV pmax pmax
comp=Z,114nm,1.9s
G43A **Wallace** 31.68 6 P P 19 38 53.2 -1.4
baz=188
GLMI **Grayling** 31.68 10 PFAKE 19 39 10.0 +15
GLMI LR LR
comp=Z,2μm,19.0s
BINY **Binghamton** 31.69 23 eP P 19 38 54.4 -0.3
comp=Z,43nm,1.1s
BINY LR LR
comp=Z,3μm,19.0s
BINY **Binghamton** 31.69 23 P P 19 38 52.8 -1.9
baz=211
RSSD **Black Hills** 31.95 344 eP P 19 38 57.9 +0.7
comp=Z,9.1nm,0.9s
RSSD **Black Hills** 31.95 344 eP P 19 38 57.9 +0.7
RSSD pmax pmax
comp=Z,9.0nm,0.9s
RSSD **Black Hills** 31.95 344 P P 19 38 57.1 -0.1
baz=158
DUG **Dugway, Tooele** 31.98 329 PFAKE 19 39 10.0 +13
DUG LR LR
comp=Z,319nm,20.0s
DUG **Dugway, Tooele** 31.98 329 P P 19 38 58.4 +1.0
baz=140
ARVC **Arvin** 32.10 316 P P 19 38 59.8 +1.5
baz=125
R11A **Troy Canyon, C** 32.12 324 eP P 19 39 00.7 +2.0
comp=Z,57nm,2.0s
R11A **Troy Canyon, C** 32.12 324 P P 19 39 00.3 +1.6
baz=133
ISA **Isabella, Lake** 32.17 317 eP P 19 39 01.1 +2.0
comp=Z,12nm,0.4s
ISA **Isabella, Lake** 32.17 317 eP P 19 39 01.1 +2.0
ISA pmax pmax
comp=Z,12nm,0.4s
COWI **Conover** 32.40 4 PFAKE 19 39 10.0 +9.2
COWI LR LR
comp=Z,2μm,20.0s
HWUT **Hardware Ranch** 32.49 332 PFAKE 19 39 10.0 +8.0
HWUT LR LR
comp=Z,1μm,19.0s
BW06 **Boulder Array** 32.60 336 PFAKE 19 39 20.0 +17
BW06 LR LR
comp=Z,751nm,19.0s
PD31 **Pinedale Array** 32.60 336 eP P 19 39 03.4 +0.5
PDAR **Pinedale Array** 32.60 336 P P 19 39 04.0 +1.0
comp=Z,3.9nm,1.0s,baz=136,slow=9.3,SNR=11
AHID **Auburn Hatcher** 33.23 334 eP P 19 39 10.1 +1.7
comp=Z,68nm,1.2s
AHID LR LR
comp=Z,797nm,22.0s
D41A **Chassel** 33.39 5 P P 19 39 07.5 -2.0
baz=186
E47A **Iron Bridge** 33.50 11 P P 19 39 09.5 -1.0
baz=196
M65A **Busby, Falmout** 33.50 30 P P 19 39 08.1 -2.4
baz=220
REDW **Red Top Meadow** 33.62 335 eP P 19 39 13.2 +1.3
comp=Z,172nm,1.4s
SNOW **Snow King Moun** 33.66 335 eP P 19 39 13.7 +1.5
comp=Z,302nm,1.8s
NV11 **Mina Array Sit** 33.68 322 eP P 19 39 13.8 +1.5
comp=Z,8.0nm,1.8s
LOHW **Long Hollow** 33.72 336 eP P 19 39 14.0 +1.3
comp=Z,114nm,1.6s
F51A **Arnstein** 33.76 16 P P 19 39 12.2 -0.5
baz=202
NV01 **Mina Array Sit** 33.77 322 eP P 19 39 15.2 +2.0
NV01 ePcP PcP 19 41 53.1 +1.0
NVAR **Mina Array Bea** 33.77 322 P P 19 39 14.7 +1.6
comp=Z,9.7nm,0.9s,baz=144,slow=6.9,SNR=15
NVAR PcP PcP 19 41 53.1 +1.0
comp=Z,0.3nm,0.3s,baz=165,slow=3.7,SNR=1.8
PLVO **Plevna** 33.78 19 P P 19 39 12.1 -0.8
baz=207
F52A **Sundridge** 33.80 16 P P 19 39 10.9 -2.2
baz=203
HRV **Adam Dziewonsk** 33.80 28 P P 19 39 11.5 -1.6
baz=218
MOOW **Moose Ponds** 33.89 336 eP P 19 39 15.2 +1.0
comp=Z,46nm,1.4s
FXWY **Fox Creek** 33.92 335 eP P 19 39 15.6 +1.2
comp=Z,90nm,1.8s
KVN **Kaiserville** 34.04 323 eP P 19 39 16.7 +1.2
comp=Z,48nm,1.6s
KVN **Kaiserville** 34.04 323 eP P 19 39 16.7 +1.2
KVN pmax pmax
comp=Z,48nm,1.6s
IMW **Indian Meadow** 34.09 336 eP P 19 39 17.1 +1.1
comp=Z,96nm,1.8s
D47A **Chapleau** 34.11 11 P P 19 39 14.5 -1.3
baz=196
EYMN **Ely** 34.14 1 PFAKE 19 39 30.0 +14
EYMN LR LR
comp=Z,1μm,19.0s
FLWY **Flagg Ranch** 34.15 336 eP P 19 39 17.9 +1.4
comp=Z,79nm,1.4s
LONY **Lake Ozonia** 34.28 23 PFAKE 19 39 30.0 +13
LONY LR LR
comp=Z,4μm,20.0s
LONY **Lake Ozonia** 34.28 23 P P 19 39 15.7 -1.6
baz211
PEMO **Pembroke** 34.30 19 P P 19 39 15.9 -1.5
baz=206
ALGO **Algonquin Park** 34.30 18 P P 19 39 15.4 -2.0
baz=205
YPP **Pitchstone Pla** 34.35 336 eP P 19 39 20.2 +1.9
comp=Z,34nm,1.4s
H17A **Grant Village** 34.37 336 eP P 19 39 20.6 +2.2
comp=Z,80nm,1.6s
E51A **G1948 Merrick** 34.43 16 P P 19 39 16.1 -2.4
baz=202
LKWY **Lake** 34.44 337 PFAKE 19 39 30.0 +11
LKWY LR LR
comp=Z,2μm,19.0s
BMN **Battle Mountai** 34.47 325 eP P 19 39 20.8 +1.6
BMN **Battle Mountai** 34.47 325 eP P 19 39 20.8 +1.6
RLMT **Red Lodge** 34.50 339 PFAKE 19 39 30.0 +11
RLMT LR LR
comp=Z,601nm,20.0s
RLMT **Red Lodge** 34.50 339 P P 19 39 16.8 -2.6
baz=150
YFT **Old Faithful** 34.52 336 eP P 19 39 22.2 +2.5
comp=Z,64nm,1.3s
MDND **Maddock** 34.59 351 eP P 19 39 19.5 -0.4
comp=Z,110nm,1.2s
MDND **Maddock** 34.59 351 P P 19 39 19.0 -0.9
baz=167
AGMN **Agassiz Nation** 34.62 356 PFAKE 19 39 30.0 +10
AGMN LR LR
comp=Z,865nm,19.0s
D49A **Beulah Townshi** 34.68 13 P P 19 39 17.6 -3.1
baz=199
YNR **Norris Junctio** 34.68 337 eP P 19 39 23.0 +2.0
comp=Z,1μm,1.4s
YERR **Yerington** 34.68 322 eP P 19 39 22.5 +1.4
comp=Z,52nm,1.6s
YMR **Madison River** 34.75 336 eP P 19 39 23.4 +1.8
comp=Z,83nm,1.4s
E53A **Dumoine, Ponti** 34.80 18 P P 19 39 18.7 -3.1
baz=205
YHB **Horse Butte** 34.91 336 eP P 19 39 24.8 +1.8
comp=Z,46nm,1.6s
LAO **LASA Array** 34.92 343 eP P 19 39 22.8 -0.1
comp=Z,18nm,1.1s
LAO LR LR
comp=Z,690nm,19.0s
LAO **LASA Array** 34.92 343 P P 19 39 21.7 -1.2
baz=156
D50A **G1974 Best Tow** 34.93 15 P P 19 39 19.8 -3.1
baz=201
D51A **Lot 18 Range I** 34.98 15 P P 19 39 21.0 -2.3
baz=202
E54A **Lac Daplat, Po** 34.99 18 P P 19 39 22.4 -1.0
baz=206
LBNH **Lisbon** 35.03 26 P P 19 39 22.2 -1.5
baz=216
PTGA **Pitinga** 35.03 112 eP P 19 39 26.4 +2.3
comp=Z,104nm,1.7s
PTGA LR LR
comp=Z,10μm,20.0s
ALFO **Alfred** 35.04 21 P P 19 39 23.2 -0.6
baz=210
QLMT **Earthquake Lak** 35.07 336 eP P 19 39 26.1 +1.8
MNHB **New Hogan Dam** 35.15 319 ePcP PcP 19 41 55.6 -0.2
PAHR **Pah Rah Range** 35.23 322 eP P 19 39 27.2 +1.5
comp=Z,77nm,1.8s
HLID **Hailey** 35.33 332 eP P 19 39 27.9 +1.3
comp=Z,109nm,1.8s
HLID **Hailey** 35.33 332 P P 19 39 27.1 +0.5
baz=140
D53A **Lac Vacive, Po** 35.42 17 P P 19 39 25.1 -2.0
baz=205
MCMT **McKenzie Canyo** 35.64 335 eP P 19 39 31.5 +2.2
BOZ **Bozeman (W)** 35.78 336 eS S 19 45 04.3 -1.2
BOZ LR LR
comp=Z,1μm,19.0s
BOZ **Bozeman (W)** 35.78 336 P P 19 39 31.4 +0.9
baz=146
D54A **Lac Fusel, La** 35.80 18 P P 19 39 28.5 -1.8
baz=206
DLMT **Dillon** 35.97 335 eP P 19 39 34.2 +2.2
comp=Z,63nm,1.2s
DGMT **Dagmar** 36.05 346 P P 19 39 32.0 -0.5
baz=160
ORV **Oroville** 36.42 320 eP P 19 39 37.7 +2.0
comp=Z,41nm,1.6s
ULM **Lac du Bonnet** 36.56 356 P P 19 39 35.2 -1.6
comp=Z,3.5nm,0.7s,baz=186,slow=8.5,SNR=4.1
WVOR **Wild Horse Val** 36.62 326 eP P 19 39 39.2 +1.7
comp=Z,31nm,1.1s
WVOR **Wild Horse Val** 36.62 326 eP P 19 39 39.2 +1.7
WVOR pmax pmax
comp=Z,31nm,1.1s
HRY **Holter Researc** 36.79 337 eP P 19 39 40.1 +1.2
J08A **Circle Bar Ran** 37.17 328 eP P 19 39 44.0 +1.8
comp=Z,52nm,1.0s
EGMT **Eagleton** 37.19 340 eP P 19 39 43.0 +0.7
comp=Z,52nm,1.4s
EGMT LR LR
comp=Z,483nm,21.0s
EGMT **Eagleton** 37.19 340 P P 19 39 41.7 -0.6
baz=151
LATQ **La Tuque** 37.30 22 P P 19 39 42.1 -0.9
baz=212
LSQQ **Lebel-sur-Quev** 37.42 17 P P 19 39 42.3 -1.8
baz=205
BMO **Blue Mountains** 37.67 330 eP P 19 39 46.8 +0.4
comp=Z,46nm,1.5s
BMO LR LR
comp=Z,1μm,20.0s
BMO **Blue Mountains** 37.67 330 eP P 19 39 46.8 +0.4
BMO pmax pmax
comp=Z,46nm,1.5s
BMO MLR MLR
comp=Z,1μm,20.0s
MSO **Missoula** 37.71 335 eP P 19 39 48.1 +1.3
comp=Z,147nm,1.8s
MSO **Missoula** 37.71 335 P P 19 39 47.2 +0.5
baz=144
MATQ **Matagami** 37.89 15 P P 19 39 45.9 -2.2
baz=203
LPAZ **La Paz** 38.15 141 P P 19 39 50.1 -1.1
comp=Z,1.5nm,0.7s,baz=337,slow=10,SNR=6.5
LPAZ LR LR 19 54 57.6
comp=Z,598nm,18.9s,baz=327,slow=35
F10A **Beach Ranch, E** 38.46 332 eP P 19 39 54.0 +1.0
comp=Z,48nm,1.1s
JTMT **Jette** 38.59 336 eP P 19 39 55.0 +0.9
comp=Z,42nm,1.3s
E09A **Wood Farm, Sta** 39.29 332 eP P 19 40 01.0 +1.1
comp=Z,28nm,1.4s
MNMC **Minye Minye** 39.52 145 eP P 19 40 02.5 +0.2
comp=Z,53nm,1.3s
LMN **Caledonia Moun** 39.52 30 eP P 19 40 01.2 -0.6
comp=Z,94nm,1.3s
I04A **Tendick Farm,** 39.58 325 P P 19 40 02.7 +0.3
baz=130
K02D **Willamette Mer** 39.61 323 P P 19 40 03.7 +0.9
baz=127
G05D **Wamic, OR** 39.95 328 P P 19 40 06.3 +0.9
baz=132
H04A **Detroit Lake** 40.04 326 eP P 19 40 05.5 -0.7
comp=Z,84nm,1.4s
D08A **Wollman Farm,** 40.05 331 eP P 19 40 06.8 +0.6
comp=Z,95nm,2.0s
NEW **Newport** 40.16 334 eP P 19 40 08.0 +0.8
comp=Z,55nm,1.8s
NEW **Newport** 40.16 334 eP P 19 40 08.0 +0.8
NEW pmax pmax
comp=Z,55nm,1.8s
NEW **Newport** 40.16 334 P P 19 40 07.6 +0.4
baz=140
GO01 **Chusmiza** 40.17 145 eP P 19 40 08.5 +0.4
comp=Z,29nm,1.2s
C09A **Chrisman Ranch** 40.31 333 eP P 19 40 09.1 +0.7
comp=Z,84nm,1.5s
LTY **Liberty** 41.02 330 eP P 19 40 13.7 -0.6
comp=Z,167nm,2.0s
B08A **Colville Reser** 41.20 333 eP P 19 40 15.7 0.0
comp=Z,62nm,2.0s
LON **Longmire** 41.23 329 eP P 19 40 17.9 +1.9
comp=Z,23nm,1.1s
LON **Longmire** 41.23 329 eP P 19 40 17.9 +1.9
LON pmax pmax
comp=Z,23nm,1.1s
C06D **Leavenworth** 41.60 331 P P 19 40 19.6 +0.6
baz=135
FFC **Flin Flon** 41.63 351 eP P 19 40 18.2 -0.9
comp=Z,52nm,1.8s
FFC LR LR
comp=Z,685nm,19.0s
FFC **Flin Flon** 41.63 351 eP P 19 40 18.3 -0.9
FFC pmax pmax
comp=Z,52nm,1.8s
FFC MLR MLR
comp=Z,685nm,19.0s
SIV **San Ignacio** 42.65 133 P P 19 40 27.2 -0.8
comp=Z,11nm,1.1s,baz=323,slow=7.7,SNR=21
LVC **Limon Verde** 42.71 147 P P 19 40 28.7 0.0
comp=Z,2.4nm,0.7s,baz=289,slow=4.3,SNR=3.0
SCHQ **Schefferville** 45.57 20 P P 19 40 48.8 -2.0
comp=Z,4.8nm,0.7s,baz=237,slow=7.9,SNR=5.8
SCHQ LR LR 20 00 46.2
comp=Z,4μm,20.1s,baz=230,slow=37
YKA **Yellowknife Ar** 51.26 347 P P 19 41 34.4 -0.1
comp=Z,5.7nm,0.6s,baz=147,slow=7.7,SNR=44
YKA PcP PcP 19 42 48.9 -0.4
comp=Z,1.1nm,0.7s,baz=150,slow=3.6,SNR=3.5
YKA LR LR 20 08 17.5
comp=Z,70nm,18.1s,baz=181,slow=42
YKB5 **Yellowknife Ar** 51.26 347 eP P 19 41 33.5 -1.0
YKW3 **Yellowknife Ar** 51.32 347 eP P 19 41 34.4 -0.6
comp=Z,95nm,1.4s
CPUP **Villa Florida** 52.30 140 P P 19 41 41.1 -1.7
comp=Z,2.9nm,0.9s,baz=309,slow=7.4,SNR=6.0
CPUP LR LR 20 05 04.7
comp=Z,379nm,18.3s,baz=334,slow=37
CPUP **Villa Florida** 52.30 140 eP P 19 41 40.8 -2.0
comp=Z,43nm,1.9s
CPUP **Villa Florida** 52.30 140 eP P 19 41 40.8 -2.0
CPUP pmax pmax
comp=Z,43nm,1.9s
DLBC **Dease Lake** 52.83 336 eP P 19 41 48.1 +1.7
comp=Z,83nm,1.3s
RKT **Rikitea** 55.59 229 eLR LR 19 58 17.5
comp=Z,633nm,27.8s
PLCA **Paso Flores** 57.77 161 P P 19 42 23.6 +1.4
comp=Z,2.2nm,1.1s,baz=139,slow=20,SNR=2.3
PLCA LR LR 20 02 06.1
comp=Z,513nm,18.8s,baz=22,slow=31
PLCA **Paso Flores** 57.77 161 P P 19 42 24.6 +2.4
PLCA pmax pmax
comp=Z,9.0nm,1.4s
SFJD **Kangerlussuaq** 59.86 18 PFAKE 19 42 50.0 +14
SFJD LR LR
comp=Z,2μm,20.0s
DAWY **Dawson** 59.87 338 eP P 19 42 37.1 +0.7
comp=Z,46nm,1.8s
EPYK **Eagle Plains** 60.34 341 P P 19 42 39.1 -0.5
baz=128
INK **Inuvik** 60.66 344 P P 19 42 42.0 +0.3
comp=Z,22nm,1.1s,baz=125,slow=7.7,SNR=28
INK **Inuvik** 60.66 344 eP P 19 42 42.2 +0.5
comp=Z,63nm,1.1s
INK **Inuvik** 60.66 344 eP P 19 42 42.2 +0.5
INK pmax pmax
comp=Z,63nm,1.1s
EGAK **Eagle** 60.90 338 eP P 19 42 44.1 +0.7
comp=Z,50nm,1.4s
RES **Resolute Bay** 60.99 359 eP P 19 42 45.0 +1.2
RES **Resolute Bay** 60.99 359 eP P 19 42 45.0 +1.2
KLU **Klutina** 61.14 334 eP P 19 42 46.0 +0.8
comp=Z,46nm,1.3s
DOT **Dot Lake** 61.40 336 eP P 19 42 48.4 +1.6
comp=Z,70nm,1.4s
SCRK **Sand Creek** 61.53 337 eP P 19 42 48.4 +0.5
comp=Z,84nm,1.7s
PAX **Paxson** 61.63 335 eP P 19 42 49.1 +0.6
comp=Z,71nm,1.6s
PAX **Paxson** 61.63 335 eP P 19 42 49.1 +0.6
PAX pmax pmax
comp=Z,71nm,1.6s
RIDG **Independ'e Rid** 61.75 336 eP P 19 42 50.6 +1.4
comp=Z,84nm,1.5s
SML **Sawmill** 62.32 334 eP P 19 42 54.6 +1.5
comp=Z,91nm,1.7s
SML **Sawmill** 62.32 334 eP P 19 42 54.6 +1.5
SML pmax pmax
comp=Z,91nm,1.7s
HDA **Harding Lake** 62.88 337 eP P 19 42 57.1 +0.4
comp=Z,116nm,1.6s
HDA **Harding Lake** 62.88 337 P P 19 42 56.9 +0.1
baz=117
IL1 **Eielson Array** 63.02 337 eP P 19 42 57.3 -0.4
ILAR **Eielson Array** 63.02 337 P P 19 42 58.3 +0.6
comp=Z,7.5nm,1.1s,baz=130,slow=4.0,SNR=27
ILAR LR LR 20 14 47.9
comp=Z,425nm,18.2s,baz=132,slow=40
ILB **Eielson Array** 63.02 337 eP P 19 42 58.2 +0.6

RND	**Reindeer**	**63.20**	**335**	*e*P		**P**		**19 43 00.0**	**+1.0**
	comp=Z,111nm,1.3s									
RND	**Reindeer**	**63.20**	**335**	*e*P		**P**		**19 43 00.0**	**+1.0**
RND				pmax		pmax				
	comp=Z,111nm,1.3s									
POKR	**Poker Plat Res**	**63.39**	**337**	P		**P**		**19 43 00.3**	**+0.2**
	baz=117									
COLA	**College**	**63.44**	**337**	PFAKE				19 43 10.0	+10	
COLA				LR		LR				
	comp=Z,505nm,21.0s									
COLA	**College**	**63.44**	**337**	P		**P**		**19 43 00.4**	**0.0**	
COLA				pmax		pmax				
	comp=Z,28nm,2.4s									
MDM	**Murphy Dome**	**63.62**	**337**	*e*P		**P**		**19 43 02.8**	**+1.1**	
	comp=Z,33nm,1.4s									
TRF	**Thorofare Moun**	**63.81**	**335**	*e*P		**P**		**19 43 03.1**	**0.0**	
	comp=Z,146nm,1.8s									
BPAW	**Bear Paw Mtn.**	**64.35**	**335**	*e*P		**P**		**19 43 06.6**	**+0.1**	
	comp=Z,38nm,1.3s									
CAST	**Castle Rocks**	**64.55**	**334**	*e*P		**P**		**19 43 07.2**	**-0.6**	
	comp=Z,26nm,1.1s									
PPT	**Papeete**	**64.56**	**243**	LR		LR		20 02 42.1		
	comp=Z,345nm,20.5s,baz=24,slow=28									
MLY	**Manley**	**64.62**	**336**	*e*P		**P**		**19 43 09.1**	**+0.8**	
	comp=Z,48nm,1.2s									
SVW2	**Sparrevohn**	**65.32**	**331**	*e*P		**P**		**19 43 13.5**	**+0.7**	
	comp=Z,59nm,0.6s									
COLD	**Coldfoot**	**65.32**	**339**	*e*P		**P**		**19 43 14.1**	**+1.4**	
	comp=Z,50nm,1.4s									
TOLK	**Toolik Lake Re**	**65.72**	**340**	P		**P**		**19 43 16.0**	**+0.7**	
	baz=116									
IM3	**Indian Mountai**	**66.14**	**337**	*e*P		**P**		**19 43 19.1**	**+1.1**	
TBI	**Tubuai**	**67.01**	**237**	*e*S		**S**		**19 52 11.5**	**-4.2**	
	comp=Z,367nm,39.2s									
TBI	**Tubuai**	**67.01**	**237**	*e*LR		LR		20 03 21.2		
	comp=Z,689nm,28.5s,baz=62									
EFI	**East Falkland**	**71.55**	**158**	PFAKE				19 44 00.0	+8.3	
EFI				LR		LR				
	comp=Z,521nm,19.0s									
EFI	**East Falkland**	**71.55**	**158**	*i* P		**P**		**19 43 52.8**	**+1.1**	
EFI				pmax		pmax				
	comp=Z,30nm,1.0s									
DAG	**Danmarks Havn**	**73.00**	**13**	P		**P**		**19 43 58.7**	**-1.4**	
DAG				pmax		pmax				
	comp=Z,21nm,1.6s									
ESK	**Eskdalemuir**	**78.30**	**36**	PFAKE				19 44 40.0	+9.1	
ESK				LR		LR				
	comp=Z,820nm,21.0s									
KBS	**Kingsbay**	**79.34**	**11**	PFAKE				19 44 50.0	+14	
KBS				LR		LR				
	comp=Z,1μm,19.0s									
PAB	**San Pablo**	**79.79**	**52**	PFAKE				19 44 50.0	+11	
PAB				LR		LR				
	comp=Z,886nm,19.0s									
ESDC	**Sonseca Array**	**80.07**	**52**	P		**P**		**19 44 38.9**	**-2.0**	
	comp=Z,0.8nm,0.7s,baz=289,slow=4.5,SNR=4.2									
ESDC				LR		LR		20 18 54.9		
	comp=Z,250nm,18.1s,baz=260,slow=35									
ES19	**SONSECA Array**	**80.11**	**52**	*e*P		**P**		**19 44 39.4**	**-1.7**	
ASCN	**Ascension**	**80.20**	**101**	PFAKE				19 44 50.0	+8.0	
ASCN				LR		LR				
	comp=Z,9μm,19.0s									
BILL	**Bilibino**	**81.65**	**338**	*e*P		**P**		**19 44 49.5**	**+0.8**	
	comp=Z,221nm,2.0s									
BILL				LR		LR				
	comp=Z,517nm,20.0s									
BILL	**Bilibino**	**81.65**	**338**	*c i* P		**P**		**19 44 49.2**	**+0.5**	
BILL				*e**SP		**PcP**		**19 44 56.7**	**+2.2**	
BILL								19 47 55.0		
BILL				*e*S		**S**		**19 55 00.8**	**+2.3**	
BILL				*e*				19 55 53.9		
BILL				pmax		pmax				
	comp=Z,12nm,1.1s									
BILL				MLR		MLR				
	comp=Z,338nm,21.0s									
NB200	**NORSAR Array S**	**84.50**	**28**	*e*P		**P**		**19 45 03.5**	**-0.1**	
NOA	**NORSAR Array B**	**84.50**	**28**	P		**P**		**19 45 03.5**	**-0.1**	
	comp=Z,2.0nm,1.0s,baz=290,slow=5.0,SNR=2.9									
NOA				LR		LR		20 21 04.5		
	comp=Z,352nm,22.0s,baz=290,slow=34									
TIC	**Toumodi**	**85.75**	**84**	*e*P		**P**		**19 45 10.9**	**+0.1**	
LIC	**Lamto**	**85.83**	**85**	*e*P		**P**		**19 45 11.0**	**-0.2**	
	comp=Z,124nm,2.0s									
DBIC	**Dimbokro**	**85.90**	**84**	LR		LR		20 20 36.1		
	comp=Z,253nm,20.5s,baz=263,slow=34									
KIC	**Kosan Boka**	**86.08**	**84**	*e*P		**P**		**19 45 12.3**	**-0.1**	
	comp=Z,36nm,1.4s									
ARCES	**ARCESS Array B**	**86.48**	**18**	LR		LR		20 23 06.5		
	comp=Z,31nm,21.8s,baz=321,slow=35									
KEV	**Kevo**	**86.82**	**18**	PFAKE				19 45 30.0	+15	
KEV				LR		LR				
	comp=Z,2μm,21.0s									
CLL	**Collm**	**88.68**	**37**	*e*P		**P**		**19 45 24.0**	**-0.2**	
CLL				*e*PP		**PP**		**19 48 54.0**	**+1.3**	
CLL				*e*S		**S**		**19 56 06.0**	**-2.5**	
CLL				*e*PS		**PS**		**19 57 20.0**	**+3.7**	
CLL				*e*				19 58 05.0		
CLL				Lm		MLR		20 31 00.0		
	comp=Z,300nm,19.6s									
CLL	**Collm**	**88.68**	**37**	*e*P		**P**		**19 45 24.0**	**-0.2**	
CLL				MLR		MLR				
	comp=Z,300nm,19.6s									
NKC	**Novy Kostel**	**88.72**	**38**	P		**P**		**19 45 24.6**	**+0.2**	
NKC				pmax		pmax				
	comp=Z,5.0nm,2.1s									
WET	**Wettzell**	**89.35**	**39**	P		**P**		**19 45 26.8**	**-0.7**	
WET				pmax		pmax				
	comp=Z,10.0nm,2.1s									
KHC	**Kasperske Hory**	**89.79**	**39**	*e*SKS		**SKSac**		**19 56 03.8**	**+6.1**	
KHC				AMS		AMS		20 26 00.0		
	comp=Z,600nm,16.8s									
PVCC	**Panska Ves**	**89.88**	**38**	AMS		AMS		20 27 00.0		
	comp=Z,600nm,21.2s									
GERES	**GERESS Array B**	**89.97**	**39**	LR		LR		20 26 23.9		
	comp=Z,328nm,18.9s,baz=292,slow=36									
LVZ	**Lovozero**	**90.16**	**18**	PFAKE				19 45 40.0	+9.2	
LVZ				LR		LR				
	comp=Z,483nm,20.0s									
GOPC	**GO Pecny, Ondr**	**90.24**	**38**	*e*SKS		SKSac		19 56 13.2	+13	
GOPC				AMS		AMS		20 31 40.0		
	comp=Z,500nm,16.3s									
TIXI	**Tiksi**	**90.50**	**348**	*i* P		**P**		**19 45 30.5**	**-1.8**	
TIXI				pmax		pmax				
	comp=Z,4.0nm,1.0s									
FUNA	**Funafuti**	**90.62**	**261**	PFAKE				19 45 50.0	+16	
FUNA				LR		LR				
	comp=Z,4μm,19.0s									
TOA1	**Torodi Ar. Sit**	**90.65**	**76**	*e*P		**P**		**19 45 33.1**	**-1.0**	
TORD	**Torodi Ar. Bea**	**90.66**	**76**	P		**P**		**19 45 33.1**	**-1.1**	
	comp=Z,0.3nm,0.8s,baz=308,slow=7.1,SNR=2.7									
TORD				LR		LR		20 21 50.5		
	comp=Z,139nm,21.6s,baz=295,slow=33									
UPC	**Upice**	**90.74**	**37**	AMS		AMS		20 32 00.0		
	comp=Z,700nm,17.9s									
FINES	**FINESS Array B**	**90.85**	**25**	LR		LR		20 26 56.6		
	comp=Z,239nm,19.1s,baz=296,slow=36									
DPC	**Dobruska-Polom**	**90.99**	**37**	*e*SKS		**SKSac**		**19 56 09.5**	**+4.9**	
DPC				AMS		AMS		20 32 10.0		
	comp=Z,600nm,18.4s									
OKC	**Ostrava-Krasne**	**92.27**	**37**	AMS		AMS		20 27 00.0		
	comp=Z,600nm,25.0s									
RAO	**Raoul Island**	**92.91**	**241**	PFAKE				19 46 00.0	+16	
RAO				LR		LR				
	comp=Z,686nm,19.0s									
WAKE	**Wake Island**	**95.73**	**291**	PFAKE				19 46 10.0	+13	
WAKE				LR		LR				
	comp=Z,2μm,19.0s									
NRIK	**Noril'sk**	**97.17**	**0**	LR		LR		20 34 22.9		
	comp=Z,1μm,18.9s,baz=18,slow=38									
OHR	**Ohrid**	**97.64**	**45**	P		Pdif		19 46 07.8	+1.9	
OHR				pmax		pmax				
	comp=Z,45nm,1.4s									
KIEV	**Kiev**	**98.08**	**33**	PFAKE				19 46 20.0	+13	
KIEV				LR		LR				
	comp=Z,399nm,19.0s									
KIEV	**Kiev**	**98.08**	**33**	*i* P		Pdif		19 46 09.1	+1.6	
KIEV				pmax		pmax				
	comp=Z,3.0nm,1.1s									
AKASG	**Malin Array Be**	**98.09**	**33**	LR		LR		20 33 30.5		
	comp=Z,346nm,18.0s,baz=290,slow=37									
OBN	**Obninsk**	**99.04**	**27**	PFAKE				19 46 20.0	+8.4	
OBN				LR		LR				
	comp=Z,228nm,20.0s									
ANTO	**Ankara**	**106.19**	**41**	PFAKE				19 51 10.0		
ANTO				LR		LR				
	comp=Z,234nm,20.0s									
HNR	**Honiara**	**109.39**	**265**	PFAKE				19 51 20.0		
HNR				LR		LR				
	comp=Z,234nm,19.0s									
KIV	**Kislovodsk**	**109.43**	**33**	PFAKE				19 51 10.0		
KIV				LR		LR				
	comp=Z,218nm,20.0s									
BRVK	**Borovoye**	**111.82**	**11**	PFAKE				19 51 20.0		
BRVK				LR		LR				
	comp=Z,166nm,19.0s									
GNI	**Garni**	**113.16**	**35**	PFAKE				19 51 20.0		
GNI				LR		LR				
	comp=Z,351nm,22.0s									
KURK	**Kurchatov**	**115.36**	**6**	PFAKE				19 51 30.0	+18	
KURK				LR		LR				
	comp=Z,989nm,19.0s									
MK32	**Makanchi Array**	**119.58**	**4**	*e*PKPdf		**PKPdf**		**19 51 18.8**	**-2.0**	
MKAR	**Makanchi Array**	**119.58**	**4**	PKP		**PKPdf**		**19 51 18.8**	**-2.0**	
	comp=Z,0.3nm,0.8s,baz=19,slow=6.2,SNR=2.2									
BJT	**Baijiatuau**	**120.39**	**335**	PFAKE				19 51 40.0	+18	
BJT				LR		LR				
	comp=Z,626nm,19.0s									
HHC	**Hu-ho-hao-te**	**121.42**	**339**	*e*PKP		**PKPdf**		**19 51 23.3**	**-1.3**	
MBAR	**Mbarara**	**122.09**	**82**	PFAKE				19 51 40.0	+13	
MBAR				LR		LR				
	comp=Z,1μm,22.0s									
AAK	**Ala-Archa**	**122.62**	**12**	PFAKE				19 51 40.0	+13	
AAK				LR		LR				
	comp=Z,341nm,22.0s									
WMQ	**Urumqi**	**122.75**	**0**	*e*PKP		**PKPdf**		**19 51 27.8**	**+0.8**	
WMQ				LR		LR				
	comp=Z,380nm,19.5s									
WMQ				LR		LR				
	comp=Z,600nm,22.3s									
RAYN	**Ar Rayn**	**124.52**	**49**	PFAKE				19 51 40.0	+9.1	
RAYN				LR		LR				
	comp=Z,192nm,22.0s									
CASY	**Casey**	**125.30**	**191**	PFAKE				19 51 40.0	+9.0	
CASY				LR		LR				
	comp=Z,47nm,19.0s									
NJ2	**Nanjing**	**125.63**	**327**	*e*PKP		**PKPdf**		**19 51 32.5**	**-0.3**	
GTA	**Gaotai**	**125.98**	**348**	*e*PKP		**PKPdf**		**19 51 33.5**	**+0.1**	
GTA				sPKP				19 51 48.3		
GTA				PP		**PP**		**19 53 31.0**	**+5.5**	
GTA				SS		SS		20 10 27.5	+3.5	
GTA				AMB		AMB				
	comp=Z,160nm,9.2s									
GTA				LR		LR				
	comp=Z,580nm,17.8s									
GTA				LR		LR				
	comp=Z,500nm,19.7s									
GTA				LR		LR				
	comp=Z,390nm,20.6s									
LZH	**Lanzhou**	**128.20**	**343**	*e*PKP		**PKPdf**		**19 51 38.5**	**+0.7**	
LZH				sPKP				19 51 52.8		
KMBO	**Kilima Mbogo**	**128.49**	**80**	PFAKE				19 51 50.0	+11	
KMBO				LR		LR				
	comp=Z,217nm,20.0s									
NIL	**Nilore**	**130.91**	**16**	PFAKE				19 52 00.0	+17	
NIL				LR		LR				
	comp=Z,243nm,20.0s									
ENH	**Enshi**	**131.53**	**335**	PFAKE				19 52 00.0	+16	
ENH				LR		LR				
	comp=Z,227nm,22.0s									
CD2	**Chengdu**	**133.06**	**341**	PKP		**PKPdf**		**19 51 46.0**	**-1.0**	
CD2				SS		SS		20 11 52.0	+0.7	
CD2				AMB		AMB				
	comp=Z,120nm,5.0s									
CD2				LR		LR				
	comp=Z,520nm,17.4s									
CD2				LR		LR				
	comp=Z,560nm,16.9s									
WR1	**Warramunga Arr**	**135.11**	**255**	*e*PKPdf		**PKPdf**		**19 51 51.5**	**+0.4**	
WRA	**Warramunga Arr**	**135.11**	**255**	PKP		**PKPdf**		**19 51 51.4**	**+0.4**	
	comp=Z,0.4nm,1.0s,baz=89,slow=2.3,SNR=3.5									
ASAR	**Alice Springs**	**135.36**	**250**	PKP		**PKPdf**		**19 51 51.4**	**-0.1**	
	comp=Z,0.1nm,0.4s,baz=173,slow=1.6,SNR=3.0									
GYA	**Guiyang**	**136.06**	**335**	*e*Pdif		**Pdif**		**19 48 56.5**	**-0.6**	
GYA				PKP		**PKPdf**		**19 51 52.0**	**-0.8**	
GYA				PP		**PP**		**19 54 35.3**	**+4.4**	
GYA				AMB		AMB				
	comp=Z,130nm,7.8s									
KMI	**Kunming**	**138.74**	**339**	PKP		**PKPdf**		**19 51 57.8**	**-0.2**	
KMI				PP		**PP**		**19 54 50.0**	**+2.3**	
KMI				LR		LR				
	comp=Z,310nm,19.2s									
KMI				LR		LR				
	comp=Z,240nm,21.6s									
KMI				LR		LR				
	comp=Z,240nm,26.5s									
BATI	**Baumata**	**144.74**	**272**	PKPbc		**PKPdf**		**19 52 09.7**	**+1.1**	
	comp=Z,3.0nm,0.5s,baz=45,slow=5.7,SNR=2.7									
CHTO	**Chiang Mai**	**145.86**	**341**	*e*PKPdf		**PKPdf**		**19 52 10.6**	**+0.1**	
CHTO				LR		LR				
	comp=Z,206nm,22.0s									
CHTO	**Chiang Mai**	**145.86**	**341**	*e*PKP2		**PKPdf**		**19 52 10.6**	**+0.1**	
CHTO				MLR		MLR				
	comp=Z,206nm,22.0s									
CM31	**Chiang Mai Arr**	**146.20**	**341**	*e*PKPdf		**PKPdf**		**19 52 11.3**	**+0.2**	
CMAR	**Chiang Mai Arr**	**146.20**	**341**	PKPbc		**PKPbc**		**19 52 12.1**	**+0.1**	
	comp=Z,5.9nm,0.8s,baz=351,slow=3.5,SNR=31									
CM01	**Chiang Mai Arr**	**146.23**	**341**	*e*PKPdf		**PKPbc**		**19 52 12.0**	**-0.1**	
PBKT	**Sadao Pong**	**147.22**	**336**	*e*PKPbc		**PKPbc**		**19 52 15.8**	**+0.8**	
KAPI	**Kappang**	**147.33**	**282**	PFAKE				19 52 30.0	+13	
KAPI				LR		LR				
	comp=Z,110nm,19.0s									
HYB	**Hyderabad**	**147.76**	**17**	*i* PKP		**PKPbc**		**19 52 17.0**	**+0.5**	
HYB				*e*				19 52 26.0		

IDC 29 19:40:10.8±4.3, 27.58S×141.12E, h0km, mb1 3.4/4, mb1mx3.3/24, mbtmp3.2/4, ML2.8/4, Error ellipse: s-maj=74.9km s-min=19.0km az=63.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**4.30**	**175**	Pn	Pn	19 41 18.6	+1.2
	0.1nm,0.3s,baz=335,slow=18,SNR=2.4						
STKA				Sn	Sn	19 42 05.5	-2.9
	0.6nm,0.3s,baz=266,slow=9.0,SNR=6.3						
STKA				Lg	Lg	19 42 26.1	
	0.5nm,0.3s,baz=260,slow=23,SNR=3.4						
ASAR	**Alice Springs**	**7.59**	**299**	Pn	Pn	19 42 03.1	+0.3
	0.2nm,0.3s,baz=121,slow=13,SNR=12						
ASAR				Sn	Sn	19 43 25.2	-4.4
	0.2nm,0.3s,baz=123,slow=23,SNR=5.2						
ASAR				Lg	Lg	19 44 12.4	
	0.1nm,0.3s,baz=136,slow=24,SNR=3.2						
WRA	**Warramunga Arr**	**9.81**	**319**	Pn	Pn	19 42 33.5	+0.2
	0.1nm,0.3s,baz=139,slow=13,SNR=13						
WRA				Sn	Sn	19 44 20.1	-4.1
	0.1nm,0.3s,baz=144,slow=25,SNR=5.2						
FITZ	**Fitzroy Crossi**	**17.09**	**300**	P	Pn	19 44 09.7	-1.6
	0.1nm,0.3s,baz=104,slow=4.1,SNR=4.8						
POO	**Poona**	**79.64**	**297**	*e*P	P	19 52 04.0	-16

IDC ***29*** *19:45:32.1±4.4, 27.56S×141.33E, h0km, mb1 3.2/4, mb1mx3.2/35, mbtmp3.0/4, ML2.7/4, Error ellipse: s-maj=73.1km s-min=19.1km az=64.0*
ISCJB ***29*** *19:45:33.6±0.6, 27.77S±0.05×140.62E±0.05, h10km, Error ellipse: s-maj=7.5km s-min=6.1km az=35.6*
AUST ***29*** *19:45:35.0±0.0, 27.76S×140.69E, h10km, Error ellipse: s-maj=0.1km s-min=0.1km az=42.0*

ISC 29 19:45:35.5±0.9, 27.78S±0.06×140.65E±0.06, h10km, n12, σ1§61/18, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QLP	**Quilpie**	**3.41**	**70**	P	**Pn**	**19 46 28.7**	**0.0**
	baz=3.4						
QLP				S	**Sn**	**19 47 09.1**	**-0.2**
	baz=3.4						
STKA	**Stephens Creek**	**4.16**	**169**	Pn	**Pn**	**19 46 40.2**	**+1.2**
	0.1nm,0.3s,baz=343,slow=11,SNR=1.7						
STKA				Sn	**Sn**	**19 47 26.5**	**-1.3**
	0.9nm,0.3s,baz=284,slow=16,SNR=6.7						
STKA				Lg	Lg	19 47 47.6	
	1.0nm,0.3s,baz=258,slow=23,SNR=3.8						
STKA	**Stephens Creek**	**4.16**	**169**	P	**Pn**	**19 46 39.0**	**0.0**
	baz=4.2						
STKA				S	**Sn**	**19 47 26.2**	**-1.6**
	baz=4.2						
CMSA	**Cobar Meteorol**	**5.77**	**132**	P	**Pn**	**19 47 01.5**	**+0.4**
	baz=5.8						
HTT	**Hallett**	**5.82**	**194**	P	**Pn**	**19 47 03.3**	**+1.4**
	baz=5.9						
BBOO	**Buckleboo**	**6.39**	**217**	P	**Pn**	**19 47 11.2**	**+1.5**
	baz=6.4						
BBOO				S	**Sn**	**19 48 19.5**	**-3.2**
	baz=6.4						
ASAR	**Alice Springs**	**7.33**	**302**	Pn	**Pn**	**19 47 24.7**	**+2.0**
	0.2nm,0.3s,baz=121,slow=13,SNR=11						
ASAR				Sn	**Sn**	**19 48 44.4**	**-1.7**
	0.3nm,0.3s,baz=125,slow=22,SNR=8.2						
ASAR				Lg	Lg	19 49 39.4	
	0.1nm,0.3s,baz=106,slow=29,SNR=3.7						
WB2	**Warramunga Arr**	**9.70**	**322**	P	**Pn**	**19 47 56.4**	**+1.3**
	baz=9.7						
WRA	**Warramunga Arr**	**9.71**	**322**	Pn	**Pn**	**19 47 55.8**	**+0.6**
	0.1nm,0.3s,baz=140,slow=13,SNR=10						
WRA				Sn	**Sn**	**19 49 41.9**	**-2.5**
	0.1nm,0.3s,baz=142,slow=25,SNR=7.5						
FORT	**Forrest**	**11.39**	**252**	P	**Pn**	**19 48 18.4**	**+0.2**
	baz=11						
WRKA	**Warakurna**	**11.40**	**281**	P	**Pn**	**19 48 19.6**	**+1.1**
	baz=11						
FITZ	**Fitzroy Crossi**	**16.84**	**302**	P	**P**	**19 49 35.0**	**+1.5**
	0.0nm,0.3s,baz=129,slow=17,SNR=1.9						

SOME ***29*** *20:02:44.0, 40.85N×74.88E, h5km*
KRNET ***29*** *20:02:44.4±0.1, 40.90N×74.89E, h16km, mb3.2*
KNET ***29*** *20:02:45.8±0.5, 41.00N×74.85E, h0km, ml2.8, Error ellipse: s-maj=3.4km s-min=2.4km az=146.0*
NNC ***29*** *20:02:45.7±0.8, 40.86N×74.82E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=10.0km s-min=3.9km az=121.0*
ISCJB ***29*** *20:02:49.4±0.5, 40.93N±0.03×74.61E±0.04, h10km, Error ellipse: s-maj=4.9km s-min=3.2km az=144.9*

ISC 29 20:02:44.7±0.8, 40.92N±0.03×74.87E±0.02, h10km, n62, σ1§45/106, 55C-18D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.00**	**59**	⇑*i*P	**Pg**	**20 03 02.6**	**-1.3**
	baz=57						
NRN				⇑*i*S	**Sg**	**20 03 16.3**	**-0.7**
	baz=57						
ARLS	**Aral**	**1.03**	**337**	⇑*e*P	**Pg**	**20 03 03.9**	**-0.6**
	baz=37						
ARLS				⇑*i*S	**Sb**	**20 03 18.1**	**-0.2**
	baz=37						
KZA	**Kyzart**	**1.20**	**14**	⇓P	**Pg**	**20 03 07.4**	**-0.3**
	19nm,0.2s,SNR=14						
KZA				⇑S	**Sn**	**20 03 24.2**	**-0.1**
	16nm,0.1s						
KZA	**Kyzart**	**1.20**	**14**	⇑*i*P	**Pb**	**20 03 06.9**	**-0.8**
	baz=13						
KZA				⇑*i*S	**Sn**	**20 03 23.8**	**-0.5**
	baz=13						
UCH	**Uchtor**	**1.34**	**349**	⇑P	**Pg**	**20 03 10.0**	**-0.3**
	13nm,0.2s,SNR=19						
UCH				⇑S	**Sn**	**20 03 29.6**	**+1.8**
	23nm,0.2s						
UCH	**Uchtor**	**1.34**	**349**	⇑*i*P	**Pb**	**20 03 09.8**	**-0.3**
	baz=48						
UCH				⇑*i*S	**Sn**	**20 03 28.6**	**+0.7**
	baz=48						
SFK	**Sufi-Kurgan**	**1.38**	**229**	⇑P	**Pb**	**20 03 10.0**	**-0.7**
	4.3nm,0.2s						
SFK				⇑S	**Sg**	**20 03 28.9**	**-0.1**
	44nm,0.4s						
SFK	**Sufi-Kurgan**	**1.38**	**229**	⇑*i*P	**Pb**	**20 03 10.0**	**-0.7**
	baz=31						
SFK				⇑*i*S	**Sg**	**20 03 29.0**	**0.0**
	baz=31						
ARSB	**Arslanbob**	**1.48**	**287**	⇓*e*P	**Pb**	**20 03 12.2**	**-0.2**
	baz=87						
ARSB				⇓*i*S	**Sg**	**20 03 32.8**	**+0.5**
	baz=87						
AML	**Almayashu**	**1.50**	**324**	⇑P	**Pg**	**20 03 13.1**	**-0.4**
	11nm,0.2s,SNR=23						
AML				⇓S	**Sg**	**20 03 33.3**	**+0.3**
	166nm,0.4s						
AML	**Almayashu**	**1.50**	**324**	⇑*i*P	**Pb**	**20 03 12.5**	**-0.3**
	baz=24						
AML				⇑*i*S	**Sg**	**20 03 33.2**	**+0.3**
	baz=24						
ULHL	**Ulahol**	**1.68**	**37**	⇓P	**Pb**	**20 03 15.9**	**+0.1**
	13nm,0.2s,SNR=29						
ULHL	**Ulahol**	**1.68**	**37**	⇑*i*P	**Pb**	**20 03 15.7**	**-0.1**
	baz=37						
ULHL				⇑*i*S	**Sg**	**20 03 38.3**	**-0.5**
	baz=37						
KBK	**Karagaybulak**	**1.74**	**2**	⇑P	**Pg**	**20 03 17.8**	**-0.2**
	18nm,0.1s						
KBK	**Karagaybulak**	**1.74**	**2**	⇑*i*P	**Pb**	**20 03 16.7**	**-0.1**
	baz=1.0						
KBK				⇑*i*S	**Sg**	**20 03 40.4**	**-0.2**
	baz=1.0						
AAK	**Ala-Archa**	**1.74**	**351**	⇓Pn	**Pg**	**20 03 17.4**	**-0.7**
	7.5nm,0.3s						
AAK				⇓Sn	**Sg**	**20 03 43.4**	**+2.7**
	61nm,0.5s						
AAK	**Ala-Archa**	**1.74**	**351**	⇑P	**Pg**	**20 03 17.5**	**-0.6**
	4.0nm,0.2s,SNR=23						
AAK	**Ala-Archa**	**1.74**	**351**	⇑*i*P	**Pb**	**20 03 16.8**	**0.0**
	baz=51						
AAK				⇑*i*S	**Sg**	**20 03 40.5**	**-0.2**
	baz=51						
BOOM	**Boomskoye usch**	**1.77**	**27**	⇑*e*P	**Pb**	**20 03 17.2**	**0.0**
	baz=26						
BOOM				⇑*e*S	**Sg**	**20 03 41.1**	**-0.3**
	baz=26						
FRU1	**Bishkek**	**1.90**	**355**	⇓*i*P	**Pb**	**20 03 19.8**	**+0.3**
	baz=54						
FRU1				⇓*i*S	**Sg**	**20 03 44.9**	**-0.8**
	baz=54	

	89nm,0.5s								
IZV	**Izvestkoviy**	**2.49**	**31**	*e*P		**Pb**	**20 03 30.0**	**+0.5**
IZV	18nm,0.3s			*e*S		**Sg**	**20 04 03.1**	**-1.5**
	55nm,0.7s							
MTBS	**Maitube**	**2.50**	**27**	⇑*i*P		**Pg**	**20 03 31.1**	**-1.5**
MTBS	6.8nm,0.3s			*e*S		**Sg**	**20 04 05.2**	**+0.2**
	54nm,0.4s							
TNSS	**Tian-Shan**	**2.63**	**36**	*e*P		**Pg**	**20 03 33.5**	**-1.5**
TNSS	11nm,0.6s			*e*S		**Sg**	**20 04 09.1**	**+0.1**
	43nm,0.3s							
AAA	**Alma-Ata**	**2.75**	**33**	*e*P		**Pg**	**20 03 36.4**	**-0.9**
AAA	16nm,0.2s			*e*S		**Sg**	**20 04 13.8**	**+0.8**
	98nm,0.7s							
MDOK	**Medeo**	**2.77**	**35**	*e*P		**Pg**	**20 03 36.0**	**-1.8**
MDOK	9.5nm,0.4s			*e*S		**Sg**	**20 04 13.3**	**-0.3**
	55nm,1.0s							
KNDC	**Almaty**	**2.78**	**34**	Pg		**Pg**	**20 03 37.6**	**-0.4**
KNDC	8.6nm,0.3s			⇑Lg		Lg	20 04 16.1	
	218nm,1.0s							
KOTS	**Kotyrbulak**	**2.86**	**35**	*e*P		**Pg**	**20 03 37.6**	**-1.8**
KOTS	11nm,0.4s			*e*S		**Sg**	**20 04 16.1**	**-0.3**
	216nm,0.5s							
KTBS	**Karatobe**	**3.10**	**25**	*e*P		**Pg**	**20 03 41.7**	**-2.4**
KTBS	11nm,0.3s			*e*S		**Sg**	**20 04 23.3**	**-1.0**
	51nm,0.4s							
KUU	**Kurty**	**3.17**	**20**	*e*P		**Pb**	**20 03 42.5**	**+1.5**
KUU	9.3nm,0.4s			*e*S		**Sg**	**20 04 24.3**	**-2.1**
	65nm,0.7s							
BTK	**Batken**	**3.21**	**256**	⇑*i*P		**Pn**	**20 03 36.8**	**+1.6**
BTK	baz=56			⇑*i*S		**Sn**	**20 04 16.4**	**+3.0**
	baz=56							
DZA	**Taraz**	**3.29**	**308**	*e*P		**Pg**	**20 03 45.6**	**-2.2**
DZA	14nm,0.2s			*e*S		**Sg**	**20 04 29.8**	**-0.7**
	45nm,0.4s							
CHKK	**Chushkaly**	**3.33**	**27**	*e*P		**Pb**	**20 03 45.5**	**+1.7**
CHKK	8.4nm,0.3s			*e*S		**Sg**	**20 04 29.8**	**-1.8**
	87nm,0.3s							
SATY	**Saty**	**3.40**	**50**	⇑*i*P		**Pb**	**20 03 46.4**	**+1.3**
SATY	27nm,1.6s			*e*S		**Sg**	**20 04 31.5**	**-2.3**
	28nm,0.7s							
ZHN	**Zhinishke**	**3.48**	**49**	*e*P		**Pb**	**20 03 47.2**	**+0.8**
ZHN	5.0nm,0.2s			*e*S		**Sg**	**20 04 32.7**	**-3.7**
	19nm,0.2s							
KPKS	**Kokpek**	**3.81**	**47**	*e*P		**Pg**	**20 03 54.7**	**-3.0**
KPKS	5.6nm,0.5s			*e*S		**Sg**	**20 04 45.1**	**-1.9**
	41nm,0.5s							
UZB	**Uzynbulak**	**3.81**	**53**	*e*P		**Pb**	**20 03 53.5**	**+1.3**
UZB	2.0nm,0.4s			*e*S		**Sg**	**20 04 43.6**	**-3.5**
	21nm,0.8s							
IUG	**Iuzhnay**	**3.83**	**290**	*e*P		**Pg**	**20 03 55.4**	**-2.6**
IUG	20nm,0.5s			*e*S		**Sg**	**20 04 46.5**	**-1.2**
	24nm,0.4s							
KK31	**Karatay Array**	**3.91**	**305**	⇓Pg		**Pb**	**20 03 55.7**	**+2.0**
KK31	1.4nm,0.4s			⇑Lg		Lg	20 04 47.2	
	5.3nm,0.3s							
ARXS	**Arharly**	**3.95**	**33**	*e*P		**Pb**	**20 03 55.8**	**+1.3**
ARXS	2.8nm,0.5s			*e*S		**Sg**	**20 04 47.8**	**-3.8**
	20nm,0.4s							
SHLS	**Shalkode**	**4.09**	**55**	*e*P		**Pg**	**20 04 03.5**	**+0.6**
SHLS	3.7nm,0.2s			*e*S		**Sg**	**20 05 00.3**	**+4.3**
	28nm,0.7s							
BTLS	**Baital**	**4.17**	**352**	*e*P		**Pg**	**20 04 01.7**	**-2.8**
BTLS	1.7nm,0.2s			*e*S		**Sg**	**20 04 57.7**	**-0.7**
	9.6nm,0.5s							
PDGK	**Podgornoye**	**4.20**	**53**	⇑Pg		**Pg**	**20 04 04.2**	**-0.9**
PDGK	6.8nm,0.8s			⇓Lg		Lg	20 04 58.2	
	30nm,1.2s							
BRLS	**Borolday**	**4.30**	**301**	*e*P		**Pb**	**20 04 02.9**	**+2.5**
BRLS	0.4nm,0.1s			*e*S		**Sg**	**20 04 59.2**	**-3.6**
	11nm,0.3s							
MK31	**Makanchi Array**	**7.95**	**40**	⇓Lg		Lg	20 07 01.7	
	1.1nm,0.8s,baz=188,slow=34,SNR=3.5							
KURBB	**Kurchatov Arra**	**10.04**	**14**	⇑Lg		Lg	20 08 09.2	
	9.8nm,1.0s							
KURK	**Kurchatov**	**10.14**	**14**	⇑Lg		Lg	20 08 10.7	
	4.7nm,0.9s							

*ISCJB **29** 20:05:06.4±0.7,27.67S±0.07×140.64E±0.06,h10km, Error ellipse: s-maj=10.5km s-min=6.5km az=23.5*
*AUST **29** 20:05:07.7±0.0,27.73S×140.67E,h10km, Error ellipse: s-maj=0.1km s-min=0.1km az=225.0*
*IDC **29** 20:05:14.6±3.6,27.29S×140.47E,h0km,mb1 2.9/3, mb1mx2.9/38,mbtmp2.7/3,ML2.6/3, Error ellipse: s-maj=72.6km s-min=23.0km az=61.0*

ISC 29 20:05:07.9±0.9,27.79S±0.06×140.67E±0.07,h10km,n9, σ1°68/14,South Australia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
QLP	**Quilpie**	**3.39**	**70**	P		**Pn**	**20 06 01.3**	**+0.4**
QLP	baz=3.4			S		**Sn**	**20 06 40.3**	**-1.0**
	baz=3.4							
STKA	**Stephens Creek**	**4.16**	**169**	Pn		**Pg**	**20 06 27.1**	**-0.5**
STKA	0.1nm,0.3s,baz=350,slow=15,SNR=2.3			Sn		**Sg**	**20 07 20.4**	**-1.0**
	0.4nm,0.3s,baz=291,slow=18,SNR=3.6							
STKA	**Stephens Creek**	**4.16**	**169**	P		**Pn**	**20 06 12.2**	**+0.8**
	baz=4.2							
CMSA	**Cobar Meteorol**	**5.75**	**132**	P		**Pn**	**20 06 35.0**	**+1.7**
	baz=5.8							
BBOO	**Buckleboo**	**6.40**	**217**	P		**Pn**	**20 06 43.9**	**+1.6**
BBOO	baz=6.5			S		**Sn**	**20 07 53.6**	**-1.8**
	baz=6.5							
ASAR	**Alice Springs**	**7.35**	**302**	Pn		**Pn**	**20 06 58.3**	**+2.9**
ASAR	0.1nm,0.3s,baz=121,slow=13,SNR=8.0			Sn		**Sn**	**20 08 17.5**	**-1.5**
	0.1nm,0.3s,baz=122,slow=23,SNR=5.6							
WB1	**Warramunga Ar.**	**9.70**	**322**	P		**Pn**	**20 07 28.6**	**+1.0**
	baz=9.7							
WB2	**Warramunga Arr**	**9.71**	**322**	P		**Pn**	**20 07 28.3**	**+0.5**
	baz=9.7							
WRA	**Warramunga Arr**	**9.72**	**322**	Pn		**Pn**	**20 07 28.7**	**+0.8**
	0.1nm,0.3s,baz=141,slow=13,SNR=11							
WRA				Sn		**Sn**	**20 09 14.5**	**-2.7**
	0.1nm,0.3s,baz=145,slow=23,SNR=4.1							

*IDC **29** 20:11:14.1±0.9,26.66N×143.87E,h0km,mb3.8/8, mb1 3.9/11,mb1mx3.7/45,mbtmp3.8/11,ML3.7/3,MS4.0/1, Ms1 4.0/1,ms1mx2.6/37, Error ellipse: s-maj=25.0km s-min=16.2km az=79.0*
*ISCJB **29** 20:11:17.1±0.8,26.67N±0.09×143.83E±0.09,h33km, mb3.7/8,MS4.0/1,Error ellipse: s-maj=13.7km s-min=10.4km az=43.3*

ISC 29 20:11:19.8±0.9,26.81N±0.09×143.8E±0.1,h35km,n21, σ1°70/17,mb3.7/8,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**1.44**	**282**	Pn		**Pn**	**20 11 42.9**	**-0.4**
JCJ	baz=90,slow=20			Sn		**Sn**	**20 12 01.0**	**0.0**
	65nm,0.3s,baz=281,slow=23,SNR=6.1							
JHJ	**Hachijo jima 2**	**7.17**	**332**	Pn		**Pn**	**20 13 01.5**	**-0.7**
JHJ	10nm,0.3s,baz=72,slow=19,SNR=4.6			Sn		**Sn**	**20 14 18.4**	**-4.1**
	8.9nm,0.3s,baz=264,slow=21,SNR=2.2							
MJAR	**Matsushiro Arr**	**10.79**	**335**	Pn		**Pn**	**20 13 51.1**	**-0.7**
	1.0nm,0.3s,baz=155,slow=9.7,SNR=12							
KSRS	**Korea Array**	**17.08**	**312**	P		**P**	**20 15 16.7**	**-0.6**
	0.1nm,0.3s,baz=119,slow=12,SNR=2.5							
USRK	**Ussuriysk Ar.**	**19.79**	**334**	P		**Pn**	**20 15 50.9**	**+2.3**
	0.1nm,0.3s,baz=163,slow=10,SNR=2.8							
H11N2	**WAKE ISLAND Hy**	**22.37**	**103**	T		T	20 38 59.6	
	baz=291,slow=75,SNR=3.0							
H11N1	**WAKE ISLAND Hy**	**22.37**	**104**	T		T	20 38 59.6	
	baz=291,slow=75,SNR=3.4							
H11N3	**WAKE ISLAND Hy**	**22.39**	**103**	T		T	20 39 00.5	
	baz=291,slow=75,SNR=3.6							
H11S3	**WAKE ISLAND Hy**	**22.69**	**107**	T		T	20 39 24.1	
	baz=294,slow=75,SNR=9.6							
H11S1	**WAKE ISLAND Hy**	**22.70**	**107**	T		T	20 39 24.1	
	baz=294,slow=75,SNR=7.3							
H11S2	**WAKE ISLAND Hy**	**22.71**	**107**	T		T	20 39 25.7	
	baz=294,slow=75,SNR=7.6							
KLR	**Kul'dur**	**24.24**	**341**	P		**P**	**20 16 35.1**	**+1.8**
	2.0nm,0.7s,baz=207,slow=17,SNR=3.6							
SONM	**Songino Array**	**35.90**	**316**	P		**P**	**20 18 18.6**	**+1.9**
	0.5nm,0.7s,baz=121,slow=8.7,SNR=4.8							
CMAR	**Chiang Mai Arr**	**42.02**	**268**	P		**P**	**20 19 08.7**	**+0.7**
	0.2nm,0.2s,baz=80,slow=5.0,SNR=3.2							
WRA	**Warramunga Arr**	**47.36**	**192**	P		**P**	**20 19 49.0**	**-1.6**
	0.8nm,0.7s,baz=14,slow=8.5,SNR=9.6							
FITZ	**Fitzroy Crossi**	**47.98**	**203**	P		**P**	**20 19 54.1**	**-1.1**
	baz=22,slow=11							
ASAR	**Alice Springs**	**51.08**	**192**	P		**P**	**20 20 16.6**	**-2.2**
	0.1nm,0.3s,baz=20,slow=8.4,SNR=3.4							
ASAR				LR		LR	20 41 50.8	
	comp=Z,144nm,20.7s,baz=82,slow=36							
MKAR	**Makanchi Array**	**51.74**	**310**	P		**P**	**20 20 24.7**	**+1.0**
	0.8nm,0.4s,baz=89,slow=10,SNR=19							
ILAR	**Eielson Array**	**57.29**	**28**	P		**P**	**20 21 03.7**	**0.0**
	0.4nm,0.9s,baz=283,slow=4.5,SNR=3.8							
FINES	**FINESS Array B**	**78.82**	**334**	P		**P**	**20 23 18.4**	**-0.4**
	7.7nm,1.1s,baz=74,slow=10,SNR=2.8							
LPAZ	**La Paz**	**148.62**	**77**	PKPbc		**PKPbc**	**20 31 05.2**	**+0.6**
	0.8nm,0.4s,baz=273,slow=2.6,SNR=4.9							

*ISCJB **29** 20:31:28.8±0.4,27.82S±0.03×140.57E±0.05,h10km, mb3.7/2,MS3.4/1,Error ellipse: s-maj=5.8km s-min=4.8km az=170.0*
*AUST **29** 20:31:30.1±0.1,27.81S×140.59E,h8km, Error ellipse: s-maj=0.4km s-min=0.1km az=24.0*
*IDC **29** 20:31:32.0±1.5,27.85S×140.54E,h0km,mb3.6/2, mb1 4.0/7,mb1mx3.8/36,mbtmp3.8/7,ML3.8/5,MS3.6/1, Ms1 3.6/1,ms1mx2.8/23,Error ellipse: s-maj=40.1km s-min=17.4km az=67.0*

ISC 29 20:31:31.1±0.7,27.78S±0.05×140.65E±0.06,h10km,n21, σ2°31/30,South Australia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
QLP	**Quilpie**	**3.41**	**70**	P		**Pn**	**20 32 25.8**	**+1.4**
QLP	baz=3.5,SNR=5.0			S		**Sn**	**20 33 03.5**	**-1.3**
	baz=3.5							
STKA	**Stephens Creek**	**4.17**	**169**	Pn		**Pn**	**20 32 35.7**	**+0.9**
STKA	1.0nm,0.3s,baz=345,slow=12,SNR=12			Sn		**Sn**	**20 33 21.5**	**-2.1**
	11nm,0.3s,baz=326,slow=11,SNR=6.5							
STKA				Lg		Lg	20 33 42.9	
	13nm,0.3s,baz=263,slow=23,SNR=7.7							
STKA	**Stephens Creek**	**4.17**	**169**	P		**Pn**	**20 32 35.8**	**+1.0**
	baz=4.2,SNR=8.7							
STKA				S		**Sn**	**20 33 22.7**	**-0.9**
	baz=4.2							
CMSA	**Cobar Meteorol**	**5.77**	**132**	P		**Pn**	**20 32 55.9**	**-0.9**
	baz=5.8							
CMSA				S		**Sn**	**20 33 59.7**	**-3.4**
	baz=5.8							
HTT	**Hallett**	**5.83**	**194**	P		**Pn**	**20 32 56.7**	**-1.0**
	baz=5.8,SNR=9.4							
BBOO	**Buckleboo**	**6.40**	**217**	P		**Pn**	**20 33 05.7**	**+0.2**
	baz=6.3,SNR=53							
BBOO				S		**Sn**	**20 34 15.7**	**-2.9**
	baz=6.3							
QIS	**Mount Isa**	**7.25**	**352**	P		**Pn**	**20 33 18.6**	**+1.4**
	baz=7.3,SNR=34							
QIS				S		**Sn**	**20 34 38.6**	**-1.0**
	baz=7.3							
ASAR	**Alice Springs**	**7.33**	**302**	Pn		**Pn**	**20 33 20.4**	**+2.0**
ASAR	1.2nm,0.3s,baz=130,slow=14,SNR=39			Sn		**Sn**	**20 34 39.3**	**-2.4**
	3.7nm,0.3s,baz=127,slow=22,SNR=8.3							
RMQ	**Roma**	**7.34**	**82**	P		**Pn**	**20 33 19.4**	**+1.0**
	baz=7.4							
ARPS	**Mount Arapiles**	**9.02**	**174**	P		**Pn**	**20 33 41.3**	**-0.2**
	baz=9.0,SNR=12							
CTA	**Charters Tower**	**9.21**	**35**	Pn		**Pn**	**20 33 47.3**	**+3.3**
	0.6nm,0.3s,baz=213,slow=14,SNR=4.5							
CTA				Sn		**Sn**	**20 35 22.5**	**-5.3**
	0.7nm,0.3s,baz=287,slow=12,SNR=3.1							
WB1	**Warramunga Ar.**	**9.69**	**322**	P		**Pn**	**20 33 51.3**	**+0.6**
	baz=9.7							
WB2	**Warramunga Arr**	**9.70**	**322**	P		**Pn**	**20 33 51.3**	**+0.5**
	baz=9.7							
WB2				S		**Sn**	**20 35 34.9**	**-4.9**
	baz=9.7							
WRA	**Warramunga Arr**	**9.70**	**322**	Pn		**Pn**	**20 33 51.1**	**+0.3**
	2.0nm,0.3s,baz=137,slow=13,SNR=78							
WRA				Sn		**Sn**	**20 35 36.0**	**-4.0**
	1.7nm,0.3s,baz=143,slow=25,SNR=6.9							
WRA				Lg		Lg	20 36 41.0	
	baz=136,slow=28,SNR=3.3							
FORT	**Forrest**	**11.39**	**252**	P		**Pn**	**20 34 13.6**	**-0.4**
	baz=11,SNR=15							
WRKA	**Warakurna**	**11.41**	**281**	P		**Pn**	**20 34 13.8**	**-0.4**
	baz=11,SNR=3.7							
COEN	**Coen**	**13.95**	**10**	P		**Pn**	**20 34 50.1**	**+1.1**
	baz=14,SNR=5.7							
FITZ	**Fitzroy Crossi**	**16.84**	**302**	Pn		**Pn**	**20 35 27.0**	**-0.1**
	0.6nm,0.3s,baz=116,slow=8.4,SNR=16							
FITZ				Sn		Sn	20 38 23.0	-11
	0.2nm,0.3s,baz=224,slow=14,SNR=1.4							
NWAO	**Narrogin (SRO)**	**20.84**	**250**	LR		LR	20 44 54.3	
	comp=Z,174nm,19.7s,baz=290,slow=39							
CMAR	**Chiang Mai Arr**	**61.19**	**314**	P		**P**	**20 41 49.7**	**+3.4**
	0.4nm,0.5s,baz=152,slow=5.6,SNR=5.0							
MKAR	**Makanchi Array**	**91.00**	**324**	P		**P**	**20 44 37.7**	**+2.3**
	0.2nm,0.6s,baz=115,slow=5.6,SNR=2.7							

IDC 29 20:38:56.1±1.3,11.94N×143.32E,h0km,mb3.5/4, mb1 3.8/5,mb1mx3.6/38,mbtmp3.5/5,ML3.7/1,MS3.2/1, Ms1 3.2/1,ms1mx2.6/25,Error ellipse: s-maj=97.5km s-min=18.7km az=117.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**2.23**	**43**	Pn		Pb	20 39 36.0	-1.3
GUMO	20nm,0.3s,baz=177,slow=18,SNR=6.5			Sn		Sn	20 40 01.8	-0.8
	47nm,0.3s,baz=167,slow=21,SNR=5.8							
JCJ	**Chichijima**	**15.12**	**356**	LR		LR	20 46 30.2	
	comp=Z,74nm,18.2s,baz=36,slow=30							
H11S3	**WAKE ISLAND Hy**	**23.46**	**71**	T		T	21 08 24.9	
	baz=259,slow=72,SNR=7.8							
H11S1	**WAKE ISLAND Hy**	**23.48**	**71**	T		T	21 08 24.9	
	baz=259,slow=72,SNR=4.0							
H11S2	**WAKE ISLAND Hy**	**23.48**	**71**	T		T	21 08 24.1	
	baz=259,slow=72,SNR=6.2							
H11N1	**WAKE ISLAND Hy**	**23.94**	**68**	T		T	21 08 58.8	
	baz=254,slow=75,SNR=5.6							
H11N2	**WAKE ISLAND Hy**	**23.95**	**68**	T		T	21 08 57.9	
	baz=254,slow=75,SNR=5.2							
H11N3	**WAKE ISLAND Hy**	**23.96**	**68**	T		T	21 08 59.4	
	baz=254,slow=75,SNR=6.1							
WRA	**Warramunga Arr**	**32.89**	**196**	P		P	20 45 31.9	-0.3
	0.5nm,0.6s,baz=20,slow=9.8,SNR=9.4							
ASAR	**Alice Springs**	**36.56**	**195**	P		P	20 46 04.0	+0.1
	0.2nm,0.6s,baz=18,slow=9.7,SNR=6.2							
ILAR	**Eielson Array**	**70.70**	**25**	P		P	20 50 12.3	-1.3
	0.3nm,0.5s,baz=255,slow=6.0,SNR=6.2							
YKA	**Yellowknife Ar**	**85.01**	**27**	P		P	20 51 34.3	+1.0
	0.3nm,0.6s,baz=287,slow=6.2,SNR=3.5							

*IDC **29** 20:40:58.0±1.0,36.51S×71.32W,h0km,mb3.8/7, mb1 3.9/10,mb1mx3.8/24,mbtmp3.8/10,ML3.8/3,MS3.4/9, Ms1 3.4/9,ms1mx3.2/27,Error ellipse: s-maj=40.6km s-min=18.4km az=94.0*
*GUC **29** 20:40:59.3±0.4,36.42S×71.09W,h3km±3km,ML4.1*
*NEIC **29** 20:40:59.0±0.0,36.43S×71.08W,h3km,mb4.2/1, ML4.1(GUC),After GUC.*

ISC 29 20:40:59.6±1.7,36.46S±0.04×71.21W±0.05,h11km±11km, n42,σ1°96/45,mb4.0/7,MS3.5/5,1C,Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CCHI	**Chillan**	**0.71**	**258**	*e*P		**Pg**	**20 41 13.8**	**+0.5**
CCHI				*i* S		**Sb**	**20 41 25.4**	**+1.5**
CCHI				IAML			20 41 27.4	
	comp=N,10μm,0.8s							
GO05	**HualaæØ**	**1.56**	**338**	*e*P		**Pn**	**20 41 26.0**	**-1.3**
GO05				*e*S		**Sn**	**20 41 47.6**	**0.0**
GO05	**HualaæØ**	**1.56**	**338**	⇑*i*P		**Pn**	**20 41 25.5**	**-1.9**
GO05				*i* S		**Sn**	**20 41 46.7**	**-0.9**
GO05				IAML			20 41 51.5	
	comp=E,3μm,0.3s							
CCSP	**San Pedro de C**	**1.57**	**255**	*e*P		**Pn**	**20 41 28.1**	**+0.6**
CCSP				*i* S		**Sb**	**20 41 49.8**	**+1.1**
CCSP				IAML			20 41 53.5	
	comp=N,4μm,0.3s							
TMU	**Temuco**	**2.52**	**205**	*e*P		**Pn**	**20 41 41.7**	**+1.2**
TMU				*i* S		**Sb**	**20 42 15.4**	**-0.6**
TMU				IAML			20 42 25.0	
	comp=N,298nm,0.6s							
LMEL	**Las Melosas**	**2.73**	**18**	*e*P		**Pn**	**20 41 45.0**	**+1.4**
LMEL				*e*S		**Sn**	**20 42 18.9**	**+2.1**
LMEL				IAML			20 42 25.4	
	comp=N,1μm,0.6s							
RFA	**San Rafael**	**2.80**	**54**	*e*P		**Pn**	**20 41 43.3**	**-1.2**
RFA				*e*S		**Sn**	**20 42 17.8**	**-0.5**
RFA				IAML			20 42 24.9	
	comp=Z,382nm,0.3s							
CLCH	**Cerro Calan**	**3.11**	**10**	*e*P		**Pn**	**20 41 48.9**	**+0.2**
CLCH				*e*S		**Sn**	**20 42 26.2**	**+0.3**
CLCH				IAML			20 42 40.9	
	comp=N,3μm,0.9s							
PEL	**Peldehue**	**3.34**	**8**	*e*P		**Pn**	**20 41 52.4**	**+0.5**
PEL				*e*S		**Sb**	**20 42 38.0**	**-1.5**
PEL	**Peldehue**	**3.34**	**8**	*e*P		**Pn**	**20 41 52.0**	**+0.1**
PEL				*e*S		**Sn**	**20 42 32.2**	**+0.7**
ROC1	**El Roble**	**3.48**	**3**	*e*P		**Pn**	**20 41 56.6**	**+2.6**
AVIZ	**Vizcacheras**	**3.71**	**37**	*e*P		**Pb**	**20 42 03.0**	**-2.3**
AAGR	**Agrelo**	**3.90**	**31**	*e*P		**Pn**	**20 42 04.4**	**+4.8**
ARCO	**CERRO ARCO**	**4.07**	**28**	*e*P		**Pb**	**20 42 11.0**	**-0.4**
ARCO				IAML			20 42 19.1	
	comp=Z,108nm,0.6s							
PLCA	**Paso Flores**	**4.30**	**173**	Pn		**Pn**	**20 42 06.1**	**+1.0**
	comp=Z,1.3nm,0.3s,baz=4.2,slow=15,SNR=7.7							
PLCA				Lg		Lg	20 43 08.5	
	comp=Z,9.6nm,0.3s,baz=301,slow=20,SNR=15							
PLCA				LR		LR	20 43 37.9	
	comp=Z,224nm,19.1s,baz=23,slow=38							
ASAL	**Salagasta**	**4.33**	**28**	*e*P		Pn	20 42 11.0	+5.5
AUSP	**Uspallata**	**4.49**	**20**	*e*P		**Pn**	**20 42 11.9**	**+4.0**
RTLS	**Leoncito**	**4.91**	**19**	*e*P		**Pn**	**20 42 18.3**	**+4.5**
RTCV	**Cerro Valdivia**	**5.09**	**27**	*e*P		**Pn**	**20 42 19.4**	**+3.4**
ZON	**Zonda**	**5.33**	**24**	*e*P		**Pn**	**20 42 23.0**	**+3.7**
ACAN	**Cantantal**	**5.34**	**40**	*e*P		Pn	20 42 25.5	+6.1
RTLL	**Cerro Villicun**	**5.60**	**25**	*e*P		**Pn**	**20 42 26.2**	**+3.3**
AMOG	**MOGNA**	**5.96**	**23**	*e*P		**Pn**	**20 42 30.7**	**+2.8**
ACCO	**Cerro Coronel**	**6.13**	**18**	*e*P		**Pn**	**20 42 32.8**	**+2.4**
TRQA	**Tornquist**	**7.53**	**105**	*e*Pn		**Pn**	**20 42 48.9**	**-0.6**
	comp=Z,9.0nm,0.6s							
LVC	**Limon Verde**	**13.95**	**9**	Pn		**Pn**	**20 44 18.5**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=191,slow=5.2,SNR=2.8							
LVC				Lg		Lg	20 48 08.0	
	baz=93,slow=22,SNR=4.6							
LVC				LR		LR	20 49 59.4	
	comp=Z,189nm,20.8s,baz=74,slow=39							
LVC	**Limon Verde**	**13.95**	**9**	*e*Pn		**Pn**	**20 44 16.4**	**-1.2**
	comp=Z,2.9nm,0.6s							
LVC				Lg		Lg	20 48 08.0	
CPUP	**Villa Florida**	**15.56**	**53**	Pn		**P**	**20 44 42.0**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=222,slow=15,SNR=2.2							
CPUP				LR		LR	20 50 57.5	
	comp=Z,103nm,20.9s,baz=222,slow=38							
USHA	**Ushuaia**	**18.47**	**175**	LR		LR	20 52 17.7	
	comp=Z,108nm,21.7s,baz=8.0,slow=37							
LPAZ	**La Paz**	**20.28**	**9**	P		Pn	20 45 38.1	+0.2
	comp=Z,3.6nm,0.7s,baz=186,slow=9.4,SNR=16							
SIV	**San Ignacio**	**22.29**	**27**	P		**P**	**20 45 56.5**	**-0.6**
	comp=Z,2.7nm,1.0s,baz=233,slow=8.2,SNR=4.1							
SIV				LR		LR	20 54 58.6	
	comp=Z,167nm,18.1s,baz=240,slow=38							
NNA	**Nana**	**24.89**	**347**	LR		LR	20 54 12.3	
	comp=Z,79nm,18.4s,baz=200,slow=32							
ATAH	**Atahualpa**	**29.92**	**346**	P		P	20 47 00.0	-8.2
	comp=Z,4.6nm,0.6s,baz=83,slow=8.1,SNR=3.2							
ATAH				LR		LR	20 57 44.2	
	comp=Z,51nm,19.6s,baz=194,slow=34							
JTS	**JuntasAbangare**	**48.27**	**342**	LR		LR	21 06 23.7	
	comp=Z,52nm,18.0s,baz=176,slow=32							
SNAA	**Sanae**	**49.06**	**157**	P		**P**	**20 49 45.5**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=308,slow=11,SNR=6.0							
QSPA	**South Pole Qui**	**53.78**	**180**	P		**P**	**20 50 22.1**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=195,slow=5.6,SNR=5.1							
QSPA	**South Pole Qui**	**53.78**	**180**	*e*P		**P**	**20 50 21.7**	**-0.2**
	comp=Z,1.5nm,0.6s							
TXAR	**Lajitas Array**	**72.21**	**331**	P		**P**	**20 52 24.9**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=148,slow=7.6,SNR=4.6							
TXAR				LR		LR	21 18 20.1	
	comp=Z,34nm,19.9s,baz=0.0,slow=31							
DBIC	**Dimbokro**	**75.35**	**70**	P		**P**	**20 52 45.5**	**+2.1**
	comp=Z,1.8nm,0.7s,baz=234,slow=8.7,SNR=3.2							
TORD	**Torodi Ar. Bea**	**84.43**	**69**	P		**P**	**20 53 31.6**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=238,slow=2.7,SNR=3.3							
**WR

PUZ	**Puketiti**	**2.14**	**189**	P	Pn	21 18 03.0	-0.4
PUZ				S	Sn	21 18 28.7	-0.2
RUGZ	**Raukumara Rang**	**2.16**	**201**	P	Pn	21 18 04.0	+0.2
TWGZ	**Tauwhareparae**	**2.29**	**194**	P	Pn	21 18 05.6	+0.1
TWGZ				S	Sn	21 18 34.4	+1.8
OPRZ	**Ohinepanea**	**2.54**	**221**	P	Pn	21 18 09.4	+0.5
MWZ	**Matawai**	**2.55**	**201**	P	Pn	21 18 08.8	-0.2
MWZ				S	Sn	21 18 38.4	-0.5
CNGZ	**Carnagh Statio**	**2.56**	**188**	P	Pn	21 18 08.9	-0.2
TKGZ	**Te Karaka**	**2.57**	**195**	P	Pn	21 18 08.7	-0.6
TKGZ				S	Sn	21 18 39.4	0.0
MARZ	**Manawahe**	**2.58**	**218**	P	Pn	21 18 10.7	+1.2
URZ	**Urewera**	**2.62**	**208**	P	Pn	21 18 09.3	-0.7
URZ				S	Sn	21 18 40.3	-0.3
RAGZ	**Rawiri**	**2.73**	**201**	P	Pn	21 18 11.4	-0.1
RIGZ	**Rimuhau**	**2.84**	**194**	P	Pn	21 18 12.0	-1.1
RIGZ				S	Sn	21 18 45.2	-1.0
MUGZ	**Murupara**	**2.94**	**210**	P	Pn	21 18 15.3	+0.9
RTZ	**Ruatahuna**	**2.98**	**206**	P	Pn	21 18 14.2	-0.8
SNGZ	**Shannon Statio**	**3.02**	**200**	P	Pn	21 18 14.6	-0.8
SNGZ				S	Sn	21 18 49.6	-0.9
PRGZ	**Paritu Road**	**3.03**	**192**	P	Pn	21 18 14.7	-0.9
RAHZ	**Arahi**	**3.22**	**203**	P	Pn	21 18 17.2	-1.0
MTHZ	**Maungataniwha**	**3.24**	**206**	P	Pn	21 18 18.1	-0.4
MHGZ	**Mahia Peninsul**	**3.25**	**190**	P	Pn	21 18 16.9	-1.8
ARHZ	**Aropaoanui**	**3.56**	**201**	P	Pn	21 18 21.5	-1.4
MCHZ	**McNeill Hill**	**3.82**	**204**	P	Pn	21 18 24.2	-2.3
KWHZ	**Kaweka Forest**	**3.90**	**207**	P	Pn	21 18 26.3	-1.3
KAHZ	**Kahuranaki**	**4.09**	**200**	P	Pn	21 18 28.0	-2.3
BHHZ	**Black Hill Sta**	**4.09**	**210**	P	Pn	21 18 27.9	-2.3

IDC 29 21:26:07.8±3.9, 12°47'N×143°66'E, h68km±36km, mb3.5/5, mb1 3.8/5, mb1mx3.3/31, mbtmp3.8/5, Error ellipse: s-maj=77.3km s-min=16.6km az=113.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.62**	**46**	P	Pn	21 26 33.8	-0.4
	58nm,0.3s,baz=336,slow=13,SNR=20						
GUMO				S	Sn	21 26 54.4	+0.1
	80nm,0.3s,baz=337,slow=21,SNR=11						
H11S3	**WAKE ISLAND Hy**	**22.97**	**72**	T	T	21 55 06.3	
	baz=238						
H11S1	**WAKE ISLAND Hy**	**22.99**	**72**	T	T	21 55 34.7	
	baz=238						
H11S2	**WAKE ISLAND Hy**	**22.99**	**72**	T	T	21 54 58.4	
	baz=238						
H11N1	**WAKE ISLAND Hy**	**23.43**	**69**	T	T	21 55 02.2	
	baz=257,slow=75						
H11N2	**WAKE ISLAND Hy**	**23.44**	**69**	T	T	21 55 29.3	
	baz=257						
H11N3	**WAKE ISLAND Hy**	**23.45**	**69**	T	T	21 55 17.5	
	baz=257,slow=75						
WRA	**Warramunga Arr**	**33.49**	**196**	P	P	21 32 40.2	-0.7
	0.5nm,0.5s,baz=21,slow=9.8,SNR=18						
ASAR	**Alice Springs**	**37.16**	**195**	P	P	21 33 13.2	+0.9
	0.1nm,0.4s,baz=20,slow=13,SNR=4.8						
ILAR	**Eielson Array**	**70.08**	**25**	P	P	21 37 12.2	-0.2
	0.5nm,0.4s,baz=248,slow=5.6,SNR=20						
YKA	**Yellowknife Ar**	**84.39**	**27**	P	P	21 38 33.3	+0.8
	0.4nm,0.4s,baz=286,slow=5.0,SNR=7.6						
FINES	**FINESS Array B**	**91.67**	**335**	P	P	21 39 06.6	-0.8
	2.0nm,0.8s,baz=57,slow=5.1,SNR=2.7						

IDC 29 21:49:18.6±1.3, 3°65'N×125°27'E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/34, mbtmp3.6/5, Error ellipse: s-maj=105.8km s-min=18.7km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.61**	**179**	P	P	21 54 12.4	+2.0
	0.8nm,0.3s,baz=12,slow=11,SNR=9.0						
WRA	**Warramunga Arr**	**25.08**	**160**	P	P	21 54 44.5	-0.6
	0.6nm,0.6s,baz=338,slow=9.9,SNR=10						
ASAR	**Alice Springs**	**28.43**	**163**	P	P	21 55 14.5	-0.8
	0.2nm,0.3s,baz=341,slow=7.4,SNR=6.0						
SONM	**Songino Array**	**46.92**	**343**	P	P	21 57 52.6	+1.4
	0.2nm,0.5s,baz=147,slow=6.5,SNR=3.0						
MKAR	**Makanchi Array**	**56.80**	**326**	P	P	21 59 03.6	-1.2
	0.8nm,0.4s,baz=121,slow=7.9,SNR=32						

IDC 29 21:49:35.3±4.8, 26°81S×141°37E, h0km, mb1 2.9/3, mb1mx2.8/27, mbtmp2.7/3, ML2.4/3, Error ellipse: s-maj=90.4km s-min=22.5km az=65.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**5.06**	**178**	Pn	Pn	21 50 53.0	+0.6
	0.1nm,0.3s,baz=350,slow=18,SNR=2.1						
STKA				Pg	Pb	21 51 06.6	+1.8
	0.2nm,0.3s,baz=2.1,slow=19,SNR=2.8						
STKA				Sn	Sn	21 51 53.2	+1.6
	0.5nm,0.3s,baz=273,slow=22,SNR=3.0						
ASAR	**Alice Springs**	**7.45**	**293**	Pn	Pn	21 51 24.6	-0.7
	0.1nm,0.3s,baz=122,slow=13,SNR=4.2						
ASAR				Sn	Sn	21 52 41.1	-10
	0.1nm,0.3s,baz=127,slow=23,SNR=3.2						
WRA	**Warramunga Arr**	**9.40**	**315**	Pn	Pn	21 51 52.8	+0.7
	0.0nm,0.3s,baz=140,slow=13,SNR=5.6						
WRA				Sn	Sn	21 53 39.4	+0.8
	0.1nm,0.3s,baz=136,slow=24,SNR=4.6						

*ISCJB **29** 22:05:08.8±0.7, 10°21S±0°08×161°47E±0°09, h85km, mb4.0/10, Error ellipse: s-maj=13.5km s-min=10.6km az=136.9*
*IDC **29** 22:05:09.9±2.7, 10°23S×161°44E, h78km±20km, mb3.8/9, mb1 4.0/11, mb1mx3.8/40, mbtmp4.1/11, MS3.3/3, Ms1 3.2/3, ms1mx2.7/25, Error ellipse: s-maj=24.1km s-min=17.7km az=92.0*
*NEIC **29** 22:05:09.9±1.3, 10°19S×161°47E, h79km±11km, mb4.2/1, Error ellipse: s-maj=14.6km s-min=11.3km az=81.0*
ISC 29 22:05:10.5±0.8, 10°2S±0°1×161°4E±0°1, h85km, n23, σ0°81/17, mb4.2/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.65**	**298**	P	**Pn**	**22 05 37.3**	**-0.7**
	199nm,0.3s,baz=205,slow=11,SNR=32						
HNR				S	**Sn**	**22 05 58.4**	**-0.5**
	337nm,0.3s,baz=18,slow=19,SNR=21						
HNR				LR	LR	22 06 26.4	
	comp=Z,151nm,19.1s,baz=118,slow=46						
HNR	**Honiara**	**1.65**	**298**	eP	**Pn**	**22 05 37.0**	**-1.0**
HNR				eS	**Sn**	**22 05 59.0**	**+0.1**
DZM	**Mont Dzumac**	**12.74**	**158**	P	**Pn**	**22 08 08.2**	**-0.4**
	1.1nm,0.3s,baz=329,slow=14,SNR=9.3						
PMG	**Port Moresby**	**14.09**	**272**	LR	LR	22 13 11.3	
	comp=Z,102nm,18.9s,baz=18,slow=34						
CTA	**Charters Tower**	**17.63**	**234**	P	**Pn**	**22 09 12.2**	**+1.4**
	0.4nm,0.3s,baz=65,slow=12,SNR=8.2						
WRA	**Warramunga Arr**	**27.86**	**246**	P	**P**	**22 10 52.4**	**0.0**
	4.4nm,0.7s,baz=74,slow=9.3,SNR=39						
STKA	**Stephens Creek**	**28.32**	**217**	LR	LR	22 21 10.3	
	comp=Z,55nm,19.4s,baz=25,slow=34						
H11S2	**WAKE ISLAND Hy**	**28.98**	**10**	T	T	22 40 01.9	
	baz=194,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**28.98**	**10**	T	T	22 39 58.8	
	baz=194,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy**	**29.00**	**10**	T	T	22 39 59.8	
	baz=194,slow=76,SNR=10.0						
ASAR	**Alice Springs**	**29.47**	**239**	P	**P**	**22 11 06.2**	**-0.6**
	0.4nm,0.4s,baz=64,slow=10,SNR=4.9						
ASAR				LR	LR	22 22 01.4	
	comp=Z,52nm,18.8s,baz=87,slow=34						
H11N1	**WAKE ISLAND Hy**	**30.21**	**10**	T	T	22 41 53.4	
	baz=193,slow=76,SNR=26						
H11N3	**WAKE ISLAND Hy**	**30.22**	**10**	T	T	22 42 02.9	
	baz=193,slow=76,SNR=24						
H11N2	**WAKE ISLAND Hy**	**30.23**	**10**	T	T	22 42 03.3	
	baz=193,slow=76,SNR=35						
FITZ	**Fitzroy Crossi**	**35.53**	**253**	P	**P**	**22 11 59.3**	**-0.3**
	3.2nm,0.5s,baz=72,slow=8.8,SNR=16						
MJAR	**Matsushiro Arr**	**51.38**	**336**	P	**P**	**22 14 06.1**	**-0.6**
	1.8nm,0.6s,baz=173,slow=8.6,SNR=5.8						
MAJO	**Matsushiro**	**51.38**	**336**	P	**P**	**22 14 06.5**	**-0.2**
	1.5nm,0.6s						
USRK	**Ussuriysk Ar.**	**60.38**	**336**	P	**P**	**22 15 12.2**	**+1.4**
	2.5nm,0.8s,baz=156,slow=3.9,SNR=4.0						
COCO	**West Island**	**63.27**	**261**	P	**P**	**22 15 31.1**	**+0.3**
SONM	**Songino Array**	**75.52**	**325**	P	**P**	**22 16 46.9**	**+1.0**
	2.3nm,0.6s,baz=143,slow=5.9,SNR=16						
ILAR	**Eielson Array**	**84.11**	**20**	P	**P**	**22 17 32.1**	**+0.3**
	0.8nm,0.6s,baz=230,slow=5.3,SNR=11						
MKAR	**Makanchi Array**	**90.03**	**318**	P	**P**	**22 18 00.7**	**-0.1**
	0.2nm,0.4s,baz=95,slow=6.9,SNR=7.4						
YKA	**Yellowknife Ar**	**96.19**	**28**	P	**P**	**22 18 27.7**	**-1.1**
	0.4nm,0.6s,baz=260,slow=4.5,SNR=4.2						

IDC 29 22:06:12.9±6.3, 27°52S×141°53E, h0km, mb1 3.1/3, mb1mx3.0/29, mbtmp2.9/3, ML2.6/3, Error ellipse: s-maj=122.1km s-min=22.0km az=71.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**4.34**	**179**	Pn	Pn	22 07 20.3	0.0
	0.1nm,0.3s,baz=354,slow=10,SNR=1.5						
STKA				Sn	Sn	22 08 08.9	-2.7
	0.7nm,0.3s,baz=242,slow=6.7,SNR=5.8						
STKA				Lg	Lg	22 08 30.8	
	0.8nm,0.3s,baz=45,slow=18,SNR=4.0						
ASAR	**Alice Springs**	**7.88**	**297**	Pn	Pn	22 08 09.0	+0.2
	0.2nm,0.3s,baz=122,slow=13,SNR=7.4						
ASAR				Sn	Sn	22 09 28.6	-10
	0.2nm,0.3s,baz=120,slow=23,SNR=4.4						
WRA	**Warramunga Arr**	**10.01**	**317**	Pn	Pn	22 08 37.8	-0.2
	0.1nm,0.3s,baz=140,slow=13,SNR=8.6						
WRA				Sn	Sn	22 10 22.6	-8.5
	0.1nm,0.3s,baz=140,slow=25,SNR=4.5						

*IDC **29** 22:06:15.9±1.1, 13°68N×92°29W, h0km, mb3.9/5, mb1 4.1/8, mb1mx3.8/38, mbtmp3.8/8, ML3.5/3, MS3.4/13, Ms1 3.4/13, ms1mx3.2/33, Error ellipse: s-maj=22.5km s-min=17.8km az=175.0*
*MEX **29** 22:06:18.5±0.7, 13°82N×92°14W, h105km±28km, MD3.9*
*UCR **29** 22:06:19.1±0.7, 13°68N×92°36W, h35km, ML3.5, mb4.5(NEIC)*
*NEIC **29** 22:06:22.7±0.6, 13°99N×92°10W, h35km, mb4.5/34, Error ellipse: s-maj=14.0km s-min=6.6km az=33.0*
ISC 29 22:06:18.7±2.9, 13°90N±0°08×92°21W±0°07, h11km±17km, n80, σ1°36/76, mb4.5/36, MS3.4/11, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.01**	**357**	*i* P	**Pn**	**22 06 39.1**	**+0.3**
THIG				eS	**Sn**	**22 06 53.4**	**+0.5**
THIG		**1.01**	**357**	*i* P	**Pb**	**22 06 38.4**	**+0.3**
THIG				eS	**Sn**	**22 06 55.5**	**+2.6**
IXG	**Ixpaco**	**1.73**	**81**	eP	**Pn**	**22 06 49.4**	**+0.6**
IXG				eS	**Sg**	**22 07 13.7**	**-0.7**
APG	**El Apazote**	**2.02**	**57**	Pn	**Pb**	**22 06 55.8**	**+0.2**
	11nm,0.3s,baz=255,slow=8.8,SNR=79						
APG				Lg	Lg	22 07 25.5	
	23nm,0.3s,baz=340,slow=22,SNR=5.5						
PCIG		**2.04**	**332**	eP	**Pn**	**22 06 49.9**	**-3.1**
PCIG				*i* S	**Sn**	**22 07 16.4**	**-2.2**
PCIG		**2.04**	**332**	eP	**Pn**	**22 06 51.9**	**-1.1**
PCIG				*i* S	**Sn**	**22 07 18.3**	**-0.2**
CEVE	**Cerro Verde**	**2.51**	**91**	eP	**Pn**	**22 07 00.0**	**+1.3**
CEVE				eS	**Sb**	**22 07 32.5**	**-2.6**
SBLS	**San Blas**	**2.51**	**91**	eP	**Pn**	**22 06 60.0**	**+0.2**
CMIG	**Matias Romero**	**4.09**	**321**	Pn	**Pn**	**22 07 20.5**	**-0.7**
	0.8nm,0.3s,baz=138,slow=9.9,SNR=14						
CMIG				Sn	**Sn**	**22 08 09.4**	**+0.3**
	5.9nm,0.3s,baz=88,slow=13,SNR=5.7						
CMIG				Lg	Lg	22 08 26.0	
	6.9nm,0.3s,baz=170,slow=14,SNR=4.5						
LCND	**La Ca˜–ada**	**4.24**	**97**	eP	**Pn**	**22 07 23.7**	**+0.4**
LCND				IAML		22 07 33.4	
	comp=Z,116nm,0.3s						
CSGN	**Cosiguina Volc**	**4.62**	**101**	ePn	**Pn**	**22 07 28.5**	**0.0**
TGUH	**Tegucigalpa,Un**	**4.80**	**87**	ePn	**Pn**	**22 07 31.3**	**+0.4**
TEIG	**Tepich**	**7.33**	**30**	ePn	**Pn**	**22 08 06.1**	**+0.3**
JTS	**JuntasAbangare**	**7.95**	**116**	Pn	**Pn**	**22 08 17.4**	**+3.1**
	comp=Z,0.9nm,0.3s,baz=3.5,slow=19,SNR=2.4						
JTS				Lg	Lg	22 10 26.5	
	comp=Z,0.5nm,0.3s,baz=41,slow=19,SNR=4.4						
LNIG	**Linares**	**12.90**	**329**	ePn	**Pn**	**22 09 23.6**	**+1.5**
833A	**Chaparral WMA,**	**15.84**	**336**	ePn	**Pn**	**22 10 02.2**	**+0.6**
	comp=Z,6.5nm,0.8s						
TXAR	**Lajitas Array**	**18.67**	**327**	P	**Pn**	**22 10 38.6**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=151,slow=11,SNR=7.8						
TXAR				LR	LR	22 18 55.7	
	comp=Z,45nm,18.6s,baz=0.0,slow=40						
TX31	**Lajitas Ar. Si**	**18.67**	**327**	eP	**Pn**	**22 10 38.5**	**+1.3**
456A	**Hilliard**	**19.20**	**28**	eP	**P**	**22 10 41.2**	**-1.4**
	comp=Z,384nm,1.8s						
LPIG	**La Paz**	**19.87**	**303**	LR	LR	22 18 33.3	
	comp=Z,104nm,18.4s,baz=274,slow=37						
CCAR	**Cane Creek**	**19.94**	**1**	eP	**P**	**22 10 49.3**	**-1.3**
	comp=Z,50nm,0.5s						
MNTX	**Cornudas Mount**	**21.44**	**328**	eP	**P**	**22 11 07.8**	**+0.7**
	comp=Z,12nm,1.5s						
WMOK	**Wichita Mounta**	**21.59**	**345**	eP	**P**	**22 11 09.5**	**+1.0**
	comp=Z,11nm,1.6s						
SDV	**Santo Domingo**	**21.72**	**101**	LR	LR	22 21 42.9	
	comp=Z,31nm,18.2s,baz=318,slow=43						
SDD	**Santo Domingo**	**21.88**	**75**	eP	**P**	**22 11 10.4**	**-1.4**
	comp=Z,578nm,1.5s						
AMTX	**Amarillo**	**22.58**	**339**	eP	**P**	**22 11 19.2**	**0.0**
	comp=Z,25nm,1.1s						
TKL	**Tuckaleechee C**	**22.96**	**18**	LR	LR	22 22 01.7	
	comp=Z,227nm,18.7s,baz=201,slow=41						
319A	**Douglas**	**23.41**	**321**	eP	**P**	**22 11 29.7**	**+1.8**
	comp=Z,6.8nm,0.9s						
T47A	**Sharon Grove**	**23.45**	**10**	eP	**P**	**22 11 26.5**	**-1.5**
	comp=Z,14nm,1.3s						
BNM	**Barren Site**	**24.03**	**330**	eP	**P**	**22 11 35.2**	**+1.2**
CCM	**Cathedral Cave**	**24.08**	**2**	eP	**P**	**22 11 33.7**	**-0.4**
	comp=Z,15nm,1.8s						
LPM	**Los Pinos Moun**	**24.16**	**330**	eP	**P**	**22 11 36.9**	**+1.7**
LENM	**Lemitar**	**24.21**	**329**	eP	**P**	**22 11 37.4**	**+1.7**
CRPR	**Cabo Rojo, PR**	**24.47**	**77**	eP	**P**	**22 11 39.5**	**+1.6**
ANMO	**Albuquerque**	**24.59**	**331**	P	**P**	**22 11 40.8**	**+1.6**
	comp=Z,1.3nm,0.6s,baz=168,slow=13,SNR=3.6						
ANMO	**Albuquerque**	**24.59**	**331**	eP	**P**	**22 11 40.2**	**+1.1**
	comp=Z,5.5nm,1.3s						
WCI	**Wyandotte Cave**	**24.80**	**11**	eP	**P**	**22 11 39.4**	**-1.3**
	comp=Z,10.0nm,0.9s						
S51A	**Beattyville**	**24.86**	**16**	eP	**P**	**22 11 37.6**	**-3.7**
	comp=Z,21nm,1.0s						
SJG	**San Juan**	**25.39**	**77**	LR	LR	22 22 45.5	
	comp=Z,148nm,19.1s,baz=262,slow=39						
T25A	**Trinidad**	**25.58**	**337**	eP	**P**	**22 11 50.2**	**+2.1**
	comp=Z,7.7nm,1.1s						
CBKS	**Cedar Bluff**	**25.70**	**346**	eP	**P**	**22 11 49.7**	**+0.8**
	comp=Z,8.2nm,0.7s						
S22A	**4UR Ranch, Cre**	**27.08**	**334**	eP	**P**	**22 12 02.7**	**+1.0**
	comp=Z,5.5nm,1.1s						
ABVI	**Anegada Island**	**27.17**	**76**	eP	**P**	**22 12 00.1**	**-2.3**
	comp=Z,108nm,0.8s						
MVCO	**Mesa Verde**	**27.39**	**331**	eP	**P**	**22 12 05.3**	**+0.8**
	comp=Z,6.1nm,0.9s						
NNA	**Nana**	**29.89**	**149**	LR	LR	22 22 24.8	
	comp=Z,34nm,18.7s,baz=306,slow=33						
H43A	**Windswept, Lux**	**30.71**	**6**	eP	**P**	**22 12 33.4**	**-0.1**
	comp=Z,60nm,1.4s						
BW06	**Boulder Array**	**32.43**	**336**	eP	**P**	**22 12 50.5**	**+1.5**
	comp=Z,6.8nm,0.9s						
PDAR	**Pinedale Array**	**32.43**	**336**	LR	LR	22 29 44.5	
	comp=Z,35nm,18.8s,baz=204,slow=43						
PDAR	**Pinedale Array**	**32.43**	**336**	eP	**P**	**22 12 49.6**	**+0.5**
REDW	**Red Top Meadow**	**33.45**	**335**	eP	**P**	**22 12 59.2**	**+1.2**
	comp=Z,5.5nm,0.8s						
SNOW	**Snow King Moun**	**33.49**	**335**	eP	**P**	**22 12 59.8**	**+1.4**
	comp=Z,8.8nm,0.7s						
LOHW	**Long Hollow**	**33.56**	**336**	eP	**P**	**22 12 59.9**	**+1.1**
	comp=Z,25nm,1.9s						
TPAW	**Teton Pass**	**33.60**	**335**	eP	**P**	**22 13 01.0**	**+1.7**
	comp=Z,5.8nm,1.1s						
MDPB	**Devils Postpil**	**33.61**	**320**	eP	**P**	**22 13 00.6**	**+1.2**
	comp=Z,28nm,0.7s						
NV01	**Mina Array Sit**	**33.62**	**321**	eP	**P**	**22 13 00.8**	**+1.3**
NVAR	**Mina Array Bea**	**33.62**	**321**	P	**P**	**22 12 59.2**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=130,slow=8.5,SNR=3.9						
NVAR				LR	LR	22 28 36.7	
	comp=Z,115nm,20.0s,baz=96,slow=40						
MOOW	**Moose Ponds**	**33.73**	**335**	eP	**P**	**22 13 00.6**	**+0.2**
	comp=Z,5.4nm,1.4s						
FXWY	**Fox Creek**	**33.75**	**335**	eP	**P**	**22 13 01.5**	**+0.9**
	comp=Z,18nm,2.0s						
EYMN	**Ely**	**33.95**	**1**	eP	**P**	**22 13 01.9**	**-0.1**
	comp=Z,25nm,1.4s						
GCMT	**Greycliff**	**35.05**	**339**	eP	**P**	**22 13 12.4**	**+0.7**
HLID	**Hailey**	**35.17**	**332**	eP	**P**	**22 13 13.5**	**+0.7**
	comp=Z,11nm,1.6s						
MCMT	**McKenzie Canyo**	**35.48**	**334**	eP	**P**	**22 13 17.2**	**+1.7**
J08A	**Circle Bar Ran**	**37.02**	**328**	eP	**P**	**22 13 30.5**	**+1.9**
	comp=Z,4.7nm,0.7s						
LPAZ	**La Paz**	**38.28**	**141**	LR	LR	22 29 42.2	
	comp=Z,26nm,18.9s,baz=327,slow=37						
PB11	**IPOC Station P**	**40.14**	**146**	eP	**P**	**22 13 55.7**	**+0.7**
	comp=Z,13nm,1.2s						
SIV	**San Ignacio**	**42.77**	**133**	P	**P**	**22 14 14.4**	**-2.2**
	comp=Z,0.5nm,0.4s,baz=180,slow=20,SNR=3.3						
SCHQ	**Schefferville**	**45.39**	**20**	LR	LR	22 34 39.9	
	comp=Z,186nm,20.0s,baz=213,slow=37						
YKA	**Yellowknife Ar**	**51.08**	**347**	P	**P**	**22 15 20.0**	**-0.8**
	comp=Z,3.3nm,0.7s,baz=150,slow=7.5,SNR=24						
YKB5	**Yellowknife Ar**	**51.08**	**347**	eP	**P**	**22 15 20.5**	**-0.4**
YKW3	**Yellowknife Ar**	**51.14**	**347**	eP	**P**	**22 15 20.5**	**-0.8**
	comp=Z,30nm,2.0s						
CPUP	**Villa Florida**	**52.44**	**140**	LR	LR	22 39 57.1	
	comp=Z,37nm,18.5s,baz=32,slow=39						
INK	**Inuvik**	**60.48**	**344**	eP	**P**	**22 16 28.3**	**+0.1**
	comp=Z,6.1nm,1.0s						
IL1	**Eielson Array**	**62.85**	**337**	eP	**P**	**22 16 43.4**	**-0.9**
ILAR	**Eielson Array**	**62.85**	**337**	P	**P**	**22 16 44.0**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=138,slow=5.1,SNR=12						
RND	**Reindeer**	**63.04**	**335**	eP	**P**	**22 16 46.5**	**+0.8**
	comp=Z,35nm,2.0s						
MLY	**Manley**	**64.45**	**336**	eP	**P**	**22 16 54.9**	**-0.1**
	comp=Z,27nm,2.0s						
NOA	**NORSAR Array B**	**84.33**	**28**	LR	LR	22 54 59.4	
	comp=Z,18nm,21.6s,baz=260,slow=35						
FINES	**FINESS Array B**	**90.68**	**25**	LR	LR	23 01 27.9	
	comp=Z,15nm,19.2s,baz=218,slow=36						
WRA	**Warramunga Arr**	**135.17**	**256**	PKP	**PKPdf**	**22 25 37.9**	**-1.3**
	comp=Z,0.3nm,0.8s,baz=72,slow=2.9,SNR=3.8						
CMAR	**Chiang Mai Arr**	**146.02**	**341**	PKPbc	**PKPdf**	**22 25 58.9**	**+0.1**
	comp=Z,4.0nm,0.8s,baz=337,slow=3.3,SNR=24						

*IDC **29** 22:08:16.5±5.6, 27°58S×141°10E, h0km, mb1 3.7/4, mb1mx3.5/26, mbtmp3.5/4, ML3.6/3, Error ellipse: s-maj=116.6km s-min=20.2km az=68.0*
*ISCJB **29** 22:08:17.0±0.5, 27°83S±0°04×140°58E±0°05, h10km, Error ellipse: s-maj=6.4km s-min=5.8km az=152.1*
*AUST **29** 22:08:18.5±0.1, 27°78S×140°63E, h12km, Error ellipse: s-maj=0.1km s-min=0.1km az=232.0*
ISC 29 22:08:18.7±0.9, 27°79S±0°06×140°62E±0°06, h10km, n15, σ1°76/21, South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QLP	**Quilpie**	**3.44**	**70**	P	**Pn**	**22 09 12.9**	**+0.6**
	baz=3.4						
QLP				S	**Sn**	**22 09 53.1**	**0.0**
	baz=3.4						
STKA	**Stephens Creek**	**4.16**	**169**	Pn	**Pn**	**22 09 24.6**	**+2.3**
	baz=355,slow=12,SNR=1.9						
STKA				Sn	**Sn**	**22 10 09.1**	**-1.8**
	5.0nm,0.3s,baz=28,slow=9.0,SNR=8.0						
STKA				Lg	Lg	22 10 31.8	
	3.7nm,0.3s,baz=73,slow=22,SNR=7.0						
STKA	**Stephens Creek**	**4.16**	**169**	P	**Pn**	**22 09 21.6**	**-0.6**
	baz=4.2						
STKA				S	**Sn**	**22 10 08.9**	**-2.0**
	baz=4.2						
CMSA	**Cobar Meteorol**	**5.78**	**131**	P	**Pn**	**22 09 44.7**	**+0.2**
	baz=5.8						
HTT	**Hallett**	**5.81**	**194**	P	**Pn**	**22 09 47.3**	**+2.4**
	baz=5.8						
BBOO	**Buckleboo**	**6.37**	**217**	P	**Pn**	**22 09 54.4**	**+1.8**
	baz=6.4						
BBOO				S	**Sn**	**22 11 03.7**	**-1.8**
	baz=6.4						
QIS	**Mount Isa**	**7.26**	**352**	P	**Pn**	**22 10 07.1**	**+2.2**
	baz=7.3						
ASAR	**Alice Springs**	**7.32**	**303**	Pn	**Pn**	**22 10 08.2**	**+2.5**
	0.7nm,0.3s,baz=120,slow=13,SNR=21						
ASAR				Sn	**Sn**	**22 11 27.4**	**-1.5**
	0.6nm,0.3s,baz=120,slow=23,SNR=6.2						
ASAR				Lg	Lg	22 12 23.6	
	0.1nm,0.3s,baz=129,slow=26,SNR=4.2						
WB1	**Warramunga Ar.**	**9.68**	**322**	P	**Pn**	**22 10 39.8**	**+1.7**
	baz=9.7						
WB2	**Warramunga Arr**	**9.69**	**322**	P	**Pn**	**22 10 38.9**	**+0.6**
	baz=9.7						
WRA	**Warramunga Arr**	**9.70**	**322**	Pn	**Pn**	**22 10 38.6**	**+0.2**

CAIG	**El Cayaco**	**0.61**	**298**	*e*P	Pg	22 27 26.2	-1.9
CAIG				*e*S	Sg	22 27 34.7	-1.6
MEIG	**Mezcala**	**1.16**	**4**	*e*P	Pb	22 27 34.3	-3.8
MEIG				*e*S	Sb	22 27 48.3	-4.9
PLIG	**Platanillo**	**1.64**	**7**	*e*P	Pn	22 27 41.7	-3.0
PLIG				*e*S	Sn	22 28 00.9	-4.7

IDC ***29*** *22:43:25.6±1.1,8.°07N×126.°69E, h0km, mb3.6/5, mb1 3.9/7, mb1mx3.7/36, mbtmp3.8/7, ML4.0/2, Error ellipse: s-maj=22.8km s-min=14.8km az=122.0*

MAN ***29*** *22:43:27.4, 7.°86N×126.°57E, h20km, mb4.8, ML3.7, MS3.6*

ISCJB ***29*** *22:43:28.1±0.9, 7.°91N±0.°03×126.°58E±0.°06, h24km±6km, mb3.4/5, Error ellipse: s-maj=10.0km s-min=5.3km az=162.9*

ISC 29 22:43:27.9±1.6, 7.°89N±0.°04×126.°51E±0.°08, h10km±11km, n24, σ1§41/25, mb3.5/5, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.33**	**333**	*i* P		**Pn**	**22 43 37.0**	**-1.7**
BIPH				*i* S		**Sb**	**22 43 41.2**	**-0.1**
MATI	**Mati**	**0.97**	**195**	*e*P		**Pg**	**22 43 45.5**	**-1.1**
MATI				*e*S		**Sg**	**22 43 58.7**	**-0.5**
DAV	**Davao City (W)**	**1.23**	**229**	Pg		**Pb**	**22 43 52.0**	**+0.7**
	176nm,0.3s,baz=252,slow=8.8,SNR=14							
DAV				Lg	Lg		22 44 12.9	
	340nm,0.3s,baz=285,slow=20,SNR=14							
DAV				LR	LR		22 44 24.5	
	comp=Z,329nm,19.1s,baz=16,slow=40							
BUTP	**Butuan**	**1.39**	**321**	*e*P		**Pn**	**22 43 52.4**	**-1.0**
BUTP				*e*S		**Sg**	**22 44 14.6**	**+2.0**
BUKP	**Musuan**	**1.44**	**270**	*e*P		**Pn**	**22 43 53.3**	**-0.8**
BUKP				*e*S		**Sn**	**22 44 13.0**	**-0.1**
CGP	**Cagayan de Oro**	**1.89**	**287**	*e*P		**Pn**	**22 43 59.4**	**-0.8**
CGP				*e*S		**Sn**	**22 44 22.7**	**-1.4**
DDMP	**Don Marcelino,**	**1.94**	**204**	*e*P		**Pn**	**22 44 02.3**	**+1.3**
DDMP				*e*S		**Sn**	**22 44 27.6**	**+2.1**
CTBH	**Cotabato--PC H**	**2.34**	**254**	*i* P		**Pn**	**22 44 05.8**	**-0.8**
MSLP	**Maasin**	**2.76**	**324**	*e*P		**Pn**	**22 44 12.2**	**-0.2**
MSLP				*e*S		**Sn**	**22 44 45.5**	**-0.3**
OCLP	**Ormoc**	**3.66**	**329**	*e*P		**Pn**	**22 44 26.9**	**+2.2**
RCP	**Roxas**	**5.21**	**315**	*e*P		**Pn**	**22 44 47.1**	**+1.2**
SIJI	**Sorong**	**9.91**	**151**	Pn		**Pn**	**22 45 49.9**	**-0.7**
	0.3nm,0.3s,baz=252,slow=20,SNR=2.2							
BATI	**Baumata**	**18.20**	**189**	P		**P**	**22 47 42.8**	**+1.7**
	2.2nm,0.3s,baz=198,slow=3.2,SNR=2.7							
FITZ	**Fitzroy Crossi**	**25.84**	**182**	P		**P**	**22 49 01.3**	**+1.6**
	0.7nm,0.4s,baz=9.5,slow=6.1,SNR=4.0							
WRA	**Warramunga Arr**	**28.71**	**165**	P		**P**	**22 49 24.2**	**-1.3**
	0.5nm,0.9s,baz=349,slow=9.4,SNR=3.4							
ASAR	**Alice Springs**	**32.18**	**167**	P		**P**	**22 49 58.1**	**+1.8**
	0.2nm,0.3s,baz=347,slow=7.0,SNR=5.8							
H11S3	**WAKE ISLAND Hy**	**40.42**	**71**	T		T	23 34 12.1	
	baz=271							
H11S1	**WAKE ISLAND Hy**	**40.43**	**71**	T		T	23 34 11.9	
	baz=271							
H11S2	**WAKE ISLAND Hy**	**40.43**	**71**	T		T	23 34 13.9	
	baz=271							
H11N1	**WAKE ISLAND Hy**	**40.83**	**69**	T		T	23 34 34.7	
	baz=259,slow=75,SNR=33							
H11N2	**WAKE ISLAND Hy**	**40.83**	**69**	T		T	23 34 38.8	
	baz=259,slow=75,SNR=19							
H11N3	**WAKE ISLAND Hy**	**40.84**	**69**	T		T	23 34 39.1	
	baz=259,slow=75,SNR=33							
MKAR	**Makanchi Array**	**54.07**	**324**	P		**P**	**22 52 51.5**	**-1.3**
	0.7nm,0.7s,baz=114,slow=7.4,SNR=11							
ILAR	**Eielson Array**	**81.47**	**26**	P		**P**	**22 55 43.5**	**-1.7**
	0.3nm,0.8s,baz=274,slow=4.2,SNR=3.6							

ISCJB ***29*** *22:48:30.8±1.4, 45.°2N±0.°1×106.°4W±0.°1, h0km, Error ellipse: s-maj=23.3km s-min=9.8km az=154.0*

NEIC ***29*** *22:48:32.3±1.6, 45.°09N×106.°37W, h0km, ML2.7, Error ellipse: s-maj=29.4km s-min=12.6km az=135.0, Suspected Mining explosion.*

NEIC 56 km [35 miles] NE of Sheridan.

IDC ***29*** *22:48:36.0±1.3, 45.°10N×106.°00W, h0km, mb1 3.3/2, mb1mx3.1/54, mbtmp3.2/2, ML2.9/2, Error ellipse: s-maj=173.2km s-min=9.6km az=139.0*

ISC 29 22:48:31.9±1.4, 45.°1N±0.°1×106.°42W±0.°10, h0km, n7, σ1§31/7, Montana

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLMT	**Red Lodge**	**2.02**	**271**	*e*Pn		**Pn**	**22 49 07.8**	**+0.4**
RLMT				Sn		**Sn**	**22 49 31.8**	**-1.7**
BW06	**Boulder Array**	**3.28**	**225**	*e*Pn		**Pn**	**22 49 25.0**	**+0.1**
PDAR	**Pinedale Array**	**3.28**	**225**	Pn		**Pg**	**22 49 36.0**	**+1.2**
	0.7nm,0.3s,baz=45,slow=12,SNR=5.0							
PDAR				Lg	Lg		22 50 21.1	
	0.9nm,0.3s,baz=46,slow=33,SNR=4.9							
DGMT	**Dagmar**	**3.67**	**24**	*e*Pn		**Pn**	**22 49 30.6**	**+0.7**
BOZ	**Bozeman (W)**	**3.70**	**279**	*e*Pn		**Pn**	**22 49 31.6**	**+1.1**
I10CA	**LAC DU BONNET**	**8.65**	**50**	*i*			23 37 00.0	
	baz=237,slow=319,SNR=2.2							
ULM	**Lac du Bonnet**	**8.76**	**50**	Pn		**Pn**	**22 50 38.9**	**-0.8**
	0.6nm,0.3s,baz=240,slow=15,SNR=5.5							
ULM				Lg	Lg		22 52 56.3	
	0.2nm,0.3s,baz=227,slow=15,SNR=2.0							

IDC ***29*** *22:52:23.9±1.5, 9.°83N×125.°98E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/54, mbtmp3.8/6, MS3.6/1, Ms1 3.6/1, ms1mx2.5/48, Error ellipse: s-maj=156.5km s-min=22.0km az=69.0*

MAN ***29*** *22:52:26.5, 10.°03N×126.°51E, h6km, mb4.6, ML3.5, MS3.4*

ISC 29 22:52:23.4±2.2, 10.°00N±0.°04×126.°64E±0.°09, h1km±13km, n22, σ1§32/19, mb3.6/6, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.44**	**225**	*e*P		**Pg**	**22 52 50.6**	**-0.3**
BUTP				*e*S		**Sg**	**22 53 11.1**	**+1.6**
MSLP	**Maasin**	**1.76**	**275**	*e*P		**Pb**	**22 52 55.3**	**-1.2**
MSLP				*e*S		**Sn**	**22 53 17.4**	**-0.7**
BESP	**Borongan**	**1.98**	**324**	*e*P		**Pb**	**22 52 59.6**	**-0.7**
PLP	**Palo**	**2.00**	**306**	*e*P		**Pb**	**22 52 59.2**	**-1.5**
PLP				*i* S		**Sg**	**22 53 28.1**	**+0.2**
CGP	**Cagayan de Oro**	**2.46**	**232**	*e*P		**Pb**	**22 53 06.2**	**-2.2**
CGP				*e*S		**Sn**	**22 53 35.8**	**+0.4**
BUKP	**Musuan**	**2.62**	**217**	*e*P		**Pb**	**22 53 09.9**	**-1.3**
BUKP				*e*S		**Sb**	**22 53 44.0**	**+0.1**
CNP	**Catarman**	**3.16**	**322**	*e*P		**Pn**	**22 53 15.6**	**+1.3**
RCP	**Roxas**	**4.13**	**292**	*e*P		**Pn**	**22 53 30.1**	**+2.4**
JOW	**Kunigami**	**16.82**	**5**	LR		LR	23 02 03.9	
	comp=Z,19nm,18.9s,baz=231,slow=34							
WRA	**Warramunga Arr**	**30.70**	**166**	P		**P**	**22 58 40.4**	**+0.4**
	0.2nm,0.6s,baz=345,slow=9.1,SNR=2.8							
ASAR	**Alice Springs**	**34.20**	**168**	P		**P**	**22 59 11.5**	**+0.8**
	0.2nm,0.5s,baz=350,slow=7.1,SNR=3.1							
H11S3	**WAKE ISLAND Hy**	**39.65**	**73**	T		T	23 42 55.2	
	baz=240							
H11S1	**WAKE ISLAND Hy**	**39.66**	**73**	T		T	23 42 55.3	
	baz=240							
H11S2	**WAKE ISLAND Hy**	**39.66**	**73**	T		T	23 42 54.4	
	baz=240							
H11N1	**WAKE ISLAND Hy**	**39.99**	**71**	T		T	23 43 32.4	
	baz=265,slow=74,SNR=11							
H11N2	**WAKE ISLAND Hy**	**40.00**	**71**	T		T	23 43 25.8	
	baz=265,slow=74,SNR=9.7							
H11N3	**WAKE ISLAND Hy**	**40.01**	**71**	T		T	23 43 33.4	
	baz=265,slow=74,SNR=18							
SONM	**Songino Array**	**41.40**	**339**	P		**P**	**23 00 12.0**	**+0.6**
	0.6nm,0.6s,baz=158,slow=9.6,SNR=5.2							
MKAR	**Makanchi Array**	**52.46**	**323**	P		**P**	**23 01 36.8**	**-1.1**
	0.7nm,0.7s,baz=117,slow=7.1,SNR=6.0							
KURBB	**Kurchatov Arra**	**56.50**	**325**	P		**P**	**23 02 05.6**	**-1.5**
	1.6nm,0.2s,baz=125,slow=6.9,SNR=3.1							
ARCES	**ARCESS Array B**	**84.58**	**340**	P		**P**	**23 04 57.8**	**-0.3**
	1.5nm,0.6s,baz=80,slow=6.7,SNR=6.4							
YKA	**Yellowknife Ar**	**93.86**	**24**	LR		LR	23 51 23.5	
	comp=Z,29nm,19.0s,baz=275,slow=38							

IDC 29 22:53:25.8±1.7, 7.°08S×128.°78E, h0km, mb4.0/3, mb1 3.9/6, mb1mx3.6/47, mbtmp3.8/6, ML3.3/3, Error ellipse: s-maj=96.6km s-min=24.7km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.37**	**195**	Pn		Pn	22 56 09.1	-0.5
	0.2nm,0.3s,baz=14,slow=11,SNR=6.5							
FITZ				Sn		Sn	22 58 11.9	-5.7
	0.1nm,0.3s,baz=110,slow=15,SNR=3.3							
WRA	**Warramunga Arr**	**13.88**	**158**	Pn		Pn	22 56 42.5	-1.4
	0.1nm,0.3s,baz=337,slow=9.5,SNR=12							
WRA				Sn		Sn	22 59 13.0	-5.9
	0.2nm,0.3s,baz=330,slow=22,SNR=7.1							
ASAR	**Alice Springs**	**17.21**	**164**	P		P	22 57 29.5	0.0
	0.2nm,0.3s,baz=334,slow=8.9,SNR=3.8							
MKAR	**Makanchi Array**	**67.63**	**327**	P		P	23 04 25.6	+0.9
	0.4nm,0.6s,baz=126,slow=6.5,SNR=5.1							
ZALV	**Zalesovo Beam**	**71.12**	**334**	P		P	23 04 44.9	-1.1
	0.6nm,0.6s,baz=124,slow=7.7,SNR=2.5							
KURBB	**Kurchatov Arra**	**71.95**	**329**	P		P	23 04 51.5	+0.4
	0.4nm,0.4s,baz=136,slow=5.4,SNR=3.3							

ISCJB ***29*** *22:58:41.0±1.8, 18.°7S±0.°2×169.°0E±0.°3, h147km, mb4.0/6, Error ellipse: s-maj=44.1km s-min=13.4km az=25.7*

IDC ***29*** *22:58:44.6±3.8, 19.°15S×169.°22E, h180km±39km, mb3.6/5, mb1 3.7/6, mb1mx3.4/38, mbtmp4.0/6, MS3.2/1, Ms1 3.2/1, ms1mx2.5/30, Error ellipse: s-maj=69.5km s-min=27.1km az=158.0*

ISC 29 22:58:41.5±1.5, 18.°8S±0.°2×169.°2E±0.°3, h147km, n10, σ1§03/10, mb4.0/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.14**	**217**	P		**Pn**	**22 59 44.8**	**+1.2**
	2.9nm,0.3s,baz=56,slow=19,SNR=25							
DZM				S		**Sn**	**23 00 31.5**	**-0.5**
	2.6nm,0.3s,baz=27,slow=8.8,SNR=9.1							
HNR	**Honiara**	**12.89**	**315**	LR		LR	23 06 11.9	
	comp=Z,97nm,19.7s,baz=180,slow=34							
CTA	**Charters Tower**	**21.64**	**263**	P		**P**	**23 03 22.0**	**+1.6**
	3.7nm,0.5s,baz=93,slow=12,SNR=8.3							
STKA	**Stephens Creek**	**28.02**	**237**	P		**P**	**23 04 17.7**	**-1.2**
	1.8nm,0.7s,baz=49,slow=8.4,SNR=4.4							
WRA	**Warramunga Arr**	**32.83**	**262**	P		**P**	**23 05 00.4**	**-1.0**
	0.8nm,0.5s,baz=90,slow=8.5,SNR=41							
ASAR	**Alice Springs**	**33.16**	**255**	P		**P**	**23 05 03.9**	**-0.4**
	16nm,0.4s,baz=83,slow=8.8,SNR=272							
FITZ	**Fitzroy Crossi**	**41.21**	**264**	P		**P**	**23 06 12.5**	**+0.4**
	3.3nm,0.6s,baz=107,slow=7.1,SNR=11							
ILAR	**Eielson Array**	**89.82**	**17**	P		**P**	**23 11 23.4**	**+0.4**
	0.3nm,0.6s,baz=252,slow=4.4,SNR=3.6							
ARCES	**ARCESS Array B**	**124.61**	**345**	PKP		**PKPdf**	**23 17 22.8**	**-0.1**
	3.7nm,0.9s,baz=57,slow=3.3,SNR=3.7							
GERES	**GERESS Array B**	**144.06**	**332**	PKP		**PKPdf**	**23 17 59.3**	**-0.5**
	1.1nm,0.8s,baz=31,slow=3.6,SNR=5.3							

ISCJB ***29*** *22:58:45.8±0.7, 51.°42N±0.°03×16.°16E±0.°04, h0km, Error ellipse: s-maj=4.8km s-min=3.3km az=27.0*

VIE ***29*** *22:58:48.3±3.5, 51.°29N×16.°26E, h0km, mb2.2/2, ml2.6/5, Error ellipse: s-maj=17.1km s-min=8.3km az=162.0 57 km WNW of Wroclaw Suspected Mining induced.*

PRU ***29*** *22:58:48.4±0.0, 51.°43N×16.°13E, h0km*

ISC 29 22:58:46.3±1.0, 51.°49N±0.°04×16.°18E±0.°03, h0km, n18, σ1§38/38, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.65**	**174**	*i* Pg		**Pg**	**22 58 59.3**	**+0.6**
KSP				*e*Sg		**Sg**	**22 59 07.3**	**+0.2**
UPC	**Upice**	**0.99**	**186**	*e*PG		**Pg**	**22 59 05.4**	**+0.2**
UPC				*e*SG		**Sg**	**22 59 18.1**	**+0.2**
	comp=Z,76nm,0.3s							
DPC	**Dobruska-Polom**	**1.14**	**176**	*e*PG		**Pg**	**22 59 08.2**	**0.0**
DPC				*e*SG		**Sg**	**22 59 22.6**	**-0.3**
	comp=Z,21nm,0.4s							
PVCC	**Panska Ves**	**1.40**	**227**	*e*PG		**Pb**	**22 59 14.2**	**+0.9**
PVCC				*e*SG		**Sb**	**22 59 32.2**	**+0.5**
	comp=Z,86nm,0.2s							
BRG	**Berggiesshubel**	**1.54**	**247**	PG		**Pg**	**22 59 16.7**	**+0.9**
BRG				SG		**Sg**	**22 59 37.1**	**+1.4**
	24nm,0.6s							
GOPC	**GO Pecny, Ondr**	**1.81**	**210**	*e*PG		**Pb**	**22 59 20.7**	**+0.4**
GOPC				*e*SG		**Sb**	**22 59 43.4**	**-0.1**
MORC	**Moravsky Berou**	**1.92**	**153**	*e*PN		**Pn**	**22 59 20.1**	**-0.2**
MORC				*e*SG		**Sb**	**22 59 46.2**	**-0.5**
CLL	**Collm**	**2.00**	**266**	*e*Pg		**Pb**	**22 59 24.0**	**+0.4**
CLL				*e*Sg		**Sg**	**22 59 52.0**	**+1.4**
	comp=Z,9.0nm,0.4s							
VRAC	**Vranov**	**2.20**	**173**	*e*PN		**Pn**	**22 59 24.4**	**+0.3**
VRAC				*e*SG		**Sb**	**22 59 55.3**	**+0.7**
KRUC	**Moravsky**	**2.43**	**177**	*e*PN		**Pn**	**22 59 28.3**	**+1.0**
KRUC				*e*SG		**Sg**	**23 00 04.3**	**-0.1**
OJC	**Ojcow**	**2.62**	**118**	*e*Pg		**Pg**	**22 59 37.8**	**+1.3**
OJC				*e*Sg		**Sg**	**23 00 11.6**	**+1.2**
NKC	**Novy Kostel**	**2.68**	**244**	*e*PN		**Pn**	**22 59 31.7**	**+1.0**
NKC				*e*PG		**Pg**	**22 59 37.3**	**-0.3**
NKC				*e*SG		**Sg**	**23 00 11.5**	**-0.8**
	comp=Z,13nm,0.3s							
KHC	**Kasperske Hory**	**2.89**	**216**	*e*PN		**Pn**	**22 59 34.0**	**+0.4**
KHC				*e*PG		**Pb**	**22 59 40.3**	**+1.6**
KHC				*e*SN		**Sn**	**23 00 06.5**	**-2.6**
KHC				*e*SG		**Sb**	**23 00 16.8**	**+2.2**
MODS	**Modra-Piesok**	**3.19**	**167**	*e*PG		**Pg**	**22 59 46.8**	**-0.7**
MODS				*e*SG		**Sg**	**23 00 31.2**	**+2.3**
CONA	**Conrad Observa**	**3.57**	**183**	Pg		**Pg**	**22 59 52.9**	**-1.8**
	comp=Z,1.3nm,0.4s							
CONA				*i* Sg		**Sg**	**23 00 40.1**	**-0.7**
	comp=Z,4.2nm,0.3s							
BSD	**Bornholm Skovb**	**3.71**	**349**	*i* P		**Pn**	**22 59 45.0**	**+0.1**
BSD				*i* S		**Sn**	**23 00 25.1**	**-4.2**
MOA	**Molln**	**3.85**	**200**	Pn		**Pn**	**22 59 47.5**	**+0.7**
	comp=Z,0.3nm,0.1s							
MOA				Sg		**Sg**	**23 00 49.0**	**-0.9**
ARSA	**Arzberg**	**4.26**	**186**	Sg		**Sg**	**23 00 59.9**	**-3.3**
	comp=Z,2.5nm,0.5s							

IDC ***29*** *23:22:30.8±0.5, 52.°65N×172.°52E, h0km, mb4.8/36, mb1 4.9/38, mb1mx4.9/44, mbtmp4.8/38, ML4.8/2, MS4.2/43, Ms1 4.2/43, ms1mx4.2/61, Error ellipse: s-maj=13.6km s-min=9.5km az=158.0*

ISCJB ***29*** *23:22:33.6±0.6, 52.°60N±0.°03×172.°44E±0.°02, h32km±4km, mb5.0/367, MS4.4/58, Error ellipse: s-maj=4.4km s-min=1.7km az=3.3*

BJI ***29*** *23:22:33.3, 53.°06N×172.°45E, h31km, mb5.2/68, mB5.3/42, Ms4.9/42, Ms7 4.6/43*

KRSC ***29*** *23:22:33.6±2.7, 52.°45N×172.°25E, h81km±36km, ML5.6*

MOS ***29*** *23:22:34.1±0.9, 52.°58N×172.°37E, h34km, mb5.2/128, MS4.5/16, Error ellipse: s-maj=5.1km s-min=3.2km az=118.9*

AEIC ***29*** *23:22:35.2±0.0, 53.°18N×172.°76E, h10km*

NEIC ***29*** *23:22:36.5±0.3, 52.°64N×172.°42E, h37km±2km, mb5.0/238, ML4.5(AEIC), Error ellipse: s-maj=3.4km s-min=1.8km az=177.0*

NEIC Felt on Shemya.

GCMT ***29*** *23:22:37.5±0.2, 52.°68N±0.°02×172.°50E±0.°02, h36km±1km, MW5.1/101, Moment Tensor Solution. s57,c80; s101,c157; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.17±.15; Mθθ-3.77±.12; Mϕϕ1.60±.11; Mrθ3.76±.22; Mθϕ-0.46±.08; Mϕr3.45±.20; Best double couple: Mo6.08100×10^16 NP1:ϕ53.00000°, δ78.00000°, λ66.00000°. NP2:ϕ299.00000°, δ27.00000°, λ153.00000°. Principal axes: T 6.0390, Plg51.0000°, Azm295.0000°; N 0.0840, Plg24.0000°, Azm58.0000°; P -6.1240, Plg29.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 23:22:35.4±0.5, 52.°57N±0.°05×172.°37E±0.°03, h31km±2km, h31km:pP-P, n1051, σ1§26/1083, mb5.0/376, MS4.5/60, 50C-7D, Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMY	**Shemya**	**1.07**	**81**	*e*Pn		**Pn**	**23 22 52.8**	**-1.4**
SMY				*e*Sn		**Sn**	**23 23 06.9**	**-1.0**
SMY	**Shemya**	**1.07**	**81**	*e*P		**Pn**	**23 22 52.8**	**-1.4**
SMY				*e*			23 23 06.9	
LSNW	**Little Sitkin**	**3.83**	**97**	P		**Pn**	**23 23 32.8**	**+0.7**
LSSA	**Little Sitkin**	**3.83**	**97**	P		**Pn**	**23 23 33.5**	**+1.4**
LSPA	**Little Sitkin**	**3.86**	**97**	P		**Pn**	**23 23 33.5**	**+0.9**
LSPA				S		**Sn**	**23 24 18.8**	**+1.9**
AMKA	**Amchitka**	**4.45**	**103**	P		**Pn**	**23 23 42.6**	**+1.9**
AMKA				S		**Sn**	**23 24 35.9**	**+4.6**

CEAP	**Semis' Anvil P**	**4.46**	**94**	P		**Pn**	**23 23 41.8**	**+1.0**
CESW	**Semis' Southwe**	**4.48**	**96**	P		**Pn**	**23 23 41.6**	**+0.7**
BKI	**Bering**	**4.61**	**307**	*e*P		Pn	23 23 34.9	-7.9
BKI				*e*S		**Sn**	**23 24 27.5**	**-7.7**
BKI	**Bering**	**4.61**	**307**	P		Pn	23 23 34.9	-7.9
BKI				S		**Sn**	**23 24 27.5**	**-7.7**
GAEA	**Gareloi East**	**5.53**	**95**	P		**Pn**	**23 23 55.8**	**+0.4**
TAFP	**Tanaga Falls P**	**5.97**	**93**	P		**Pn**	**23 24 01.6**	**+0.1**
TAPA	**Tanaga Point A**	**6.09**	**93**	P		**Pn**	**23 24 03.8**	**+0.6**
KIMD	**Kanaga Island**	**6.45**	**93**	P		**Pn**	**23 24 08.2**	**+0.1**
KIKV	**Kanaga Island**	**6.47**	**92**	P		**Pn**	**23 24 08.3**	**-0.1**
MKZ	**Mys Kozlova**	**6.64**	**292**	*e*P		**Pn**	**23 24 11.9**	**+1.2**
MKZ				*e*S		**Sn**	**23 25 23.9**	**-1.3**
MKZ	**Mys Kozlova**	**6.64**	**292**	P		**Pn**	**23 24 11.9**	**+1.2**
MKZ				S		**Sn**	**23 25 23.9**	**-1.3**
KBTR	**Krutoberegovo**	**6.66**	**307**	*e*P		**Pn**	**23 24 11.8**	**+0.9**
KBTR				*e*S		**Sn**	**23 25 26.6**	**+1.0**
KBTR	**Krutoberegovo**	**6.66**	**307**	P		**Pn**	**23 24 11.8**	**+0.9**
KBTR				S		**Sn**	**23 25 26.6**	**+1.0**
KBG	**Krutoberegovo**	**6.74**	**307**	*e*P		**Pn**	**23 24 13.7**	**+1.7**
KBG				*e*S		**Sn**	**23 25 28.7**	**+1.2**
KBG	**Krutoberegovo**	**6.74**	**307**	P		**Pn**	**23 24 13.7**	**+1.7**
KBG				S		**Sn**	**23 25 28.7**	**+1.2**
ADK	**Adak**	**6.76**	**92**	*e*Pn		**Pn**	**23 24 10.8**	**-1.6**
ADK	**Adak**	**6.76**	**92**	*e*P		**Pn**	**23 24 10.8**	**-1.6**
ADAG	**Mount Adagdak**	**6.80**	**91**	P		**Pn**	**23 24 12.5**	**-0.4**
GSSP	**Great Sitkin S**	**7.04**	**89**	P		**Pn**	**23 24 15.7**	**-0.5**
GSTD	**Great Sitkin T**	**7.07**	**90**	P		**Pn**	**23 24 16.2**	**-0.4**
GSTD				S		**Sn**	**23 25 35.7**	**-0.1**
GSMY	**Great Sitkin M**	**7.12**	**90**	P		**Pn**	**23 24 16.1**	**-1.2**
SMKR	**Semkarok**	**7.50**	**307**	*e*P		**Pn**	**23 24 24.2**	**+1.7**
SMKR	**Semkarok**	**7.50**	**307**	P		**Pn**	**23 24 24.2**	**+1.7**
SPN	**Mys Shipunski**	**7.50**	**279**	*e*P		**Pn**	**23 24 22.1**	**-0.3**
SPN				*e*S		**Sn**	**23 25 43.7**	**-2.6**
SPN	**Mys Shipunski**	**7.50**	**279**	P		**Pn**	**23 24 22.1**	**-0.3**
SPN				S		**Sn**	**23 25 43.7**	**-2.6**
TUMD	**Tumrok D**	**7.55**	**295**	*e*P		**Pn**	**23 24 24.7**	**+1.6**
KZV	**Kizimen**	**7.58**	**294**	*e*P		**Pn**	**23 24 25.4**	**+1.7**
KZV				*e*S		**Sn**	**23 25 46.6**	**-2.0**
KZV	**Kizimen**	**7.58**	**294**	P		**Pn**	**23 24 25.4**	**+1.7**
KZV				S		**Sn**	**23 25 46.6**	**-2.0**
ZLN	**Zelenaya**	**7.59**	**302**	*e*P		**Pn**	**23 24 26.3**	**+2.4**
ZLN	**Zelenaya**	**7.59**	**302**	P		**Pn**	**23 24 26.3**	**+2.4**
BDR	**Baidarnaya**	**7.62**	**306**	*e*P		**Pn**	**23 24 25.9**	**+1.7**
BDR	**Baidarnaya**	**7.62**	**306**	P		**Pn**	**23 24 25.9**	**+1.7**
BZGR	**Bezymyannyi-Gr**	**7.62**	**301**	*e*P		**Pn**	**23 24 27.1**	**+2.9**
BZGR	**Bezymyannyi-Gr**	**7.62**	**301**	P		**Pn**	**23 24 27.1**	**+2.9**
CIRR	**Tsirk**	**7.66**	**302**	*e*P		**Pn**	**23 24 26.7**	**+1.9**
CIRR	**Tsirk**	**7.66**	**302**	P		**Pn**	**23 24 26.7**	**+1.9**
LGNR	**Loginova**	**7.68**	**302**	*e*P		**Pn**	**23 24 27.9**	**+2.7**
LGNR	**Loginova**	**7.68**	**302**	P		**Pn**	**23 24 27.9**	**+2.7**
SRKR	**Sorokina**	**7.68**	**307**	*e*P		**Pn**	**23 24 26.6**	**+1.6**
SRKR	**Sorokina**	**7.68**	**307**	P		**Pn**	**23 24 26.6**	**+1.6**
TUMR	**Tumrok**	**7.71**	**295**	*e*P		**Pn**	**23 24 28.2**	**+2.8**
TUMR	**Tumrok**	**7.71**	**295**	P		**Pn**	**23 24 24.7**	**-0.7**
BZWR	**Bezymyannyi-We**	**7.73**	**301**	*e*P		**Pn**	**23 24 28.4**	**+2.5**
BZWR	**Bezymyannyi-We**	**7.73**	**301**	P		**Pn**	**23 24 28.4**	**+2.5**
KLY	**Klyuchi**	**7.79**	**303**	*e*P		**Pn**	**23 24 26.7**	**+0.3**
KLY	**Klyuchi**	**7.79**	**303**	P		**Pn**	**23 24 26.7**	**+0.3**
KRSR	**Krestovskiy**	**7.79**	**303**	*e*P		**Pn**	**23 24 28.6**	**+2.0**
KRSR	**Krestovskiy**	**7.79**	**303**	P		**Pn**	**23 24 28.6**	**+2.0**
KIRR	**Kirishev**	**7.81**	**300**	*e*P		**Pn**	**23 24 28.6**	**+1.7**
KIRR	**Kirishev**	**7.81**	**300**	P		**Pn**	**23 24 28.6**	**+1.7**
KII	**Karymskiy**	**7.88**	**286**	*e*S		**Sn**	**23 25 52.7**	**-3.1**
KPT	**Kopyto**	**7.88**	**300**	*e*P		**Pn**	**23 24 29.6**	**+1.8**
**K

ANM	**Nome**	16.59	35	*e*P		**Pn**		23 26 24.9	-0.4
ANM					pmax	pmax			
	comp=Z,237nm,2.0s								
SVW2	**Sparrevohn**	19.32	51	*e*P		**Pn**		23 26 58.4	-0.5
	comp=Z,34nm,0.9s								
SVW2				*e*Sn		**Sn**		23 30 30.2	-4.1
YUK	**Yuzh-Kuril'sk**	19.50	255	*e*P		**Pn**		23 27 04.9	+3.8
YUK					pmax	pmax			
	comp=Z,399nm,1.1s								
YUK					pmax	pmax			
	comp=N,352nm,0.7s								
YUK					pmax	pmax			
	comp=E,143nm,1.1s								
YUK					pmax	pmax			
	comp=Z,524nm,1.6s								
YUK					MLR	MLR			
	comp=Z,913nm,19.0s								
RDOG	**Red Dog Mine**	19.54	28	*e*P		**Pn**		23 27 03.6	+2.2
	comp=Z,139nm,1.6s								
YSS	**Yuzh-Sakhalins**	19.85	265	*e*P		**Pn**		23 27 04.5	-0.8
	comp=Z,78nm,0.9s								
YSS	**Yuzh-Sakhalins**	19.85	265	*e*P		**P**		23 27 03.0	-0.5
YSS				*e*S		**S**		23 30 38.0	-7.2
YSS					MLR	MLR			
	comp=Z,700nm,16.0s								
OHAK	**Old Harbor**	20.15	63	*e*P		**P**		23 27 05.5	-1.2
	comp=Z,55nm,0.7s								
KDAK	**Kodiak Island**	20.52	61	P		**P**		23 27 08.7	-2.0
	comp=Z,18nm,0.5s,baz=179,slow=4.4,SNR=15								
CNPM	**China Poot**	21.27	57	*e*P		**P**		23 27 20.8	+2.1
	comp=Z,321nm,1.7s								
PPLA	**Purkeypile**	21.27	47	*e*P		**P**		23 27 21.0	+2.1
	comp=Z,149nm,1.6s								
SKT	**Skwentna**	21.39	50	*e*P		**P**		23 27 22.1	+2.0
	comp=Z,54nm,1.0s								
ASAJ	**Asahikawa**	21.39	259	P		**P**		23 27 21.6	+1.4
	comp=Z,48nm,1.0s,baz=97,slow=12,SNR=11								
ASAJ				LR		LR		23 34 34.8	
	comp=Z,531nm,19.9s,baz=12,slow=34								
CAST	**Castle Rocks**	21.43	46	*e*P		**P**		23 27 22.5	+2.0
	comp=Z,24nm,1.0s								
IM3	**Indian Mountai**	21.55	38	*e*P		**P**		23 27 20.3	-1.4
BPAW	**Bear Paw Mtn.**	22.07	44	*e*P		**P**		23 27 27.7	+0.3
	comp=Z,61nm,1.3s								
RC01	**Rabbit Creek A**	22.13	52	*e*P		**P**		23 27 28.6	+0.7
	comp=Z,38nm,1.2s								
SEW	**Seward**	22.20	55	*e*P		**P**		23 27 28.9	+0.2
	comp=Z,113nm,1.5s								
GRNR	**Gornyy**	22.22	280	*e*P		**P**		23 27 31.1	+2.0
GRNR					pmax	pmax			
	comp=Z,63nm,1.2s								
TRF	**Thorofare Moun**	22.23	46	*e*P		**P**		23 27 29.7	+0.4
	comp=Z,54nm,0.9s								
ERM	**Erimo**	22.30	253	*e*P		**P**		23 27 30.9	+1.0
	comp=Z,95nm,1.1s								
ERM	**Erimo**	22.30	253	*i* P		**P**		23 27 32.7	+2.8
ERM					pmax	pmax			
	comp=Z,56nm,0.9s								
MLY	**Manley**	22.42	42	*e*P		**P**		23 27 31.0	-0.1
	comp=Z,65nm,1.3s								
RND	**Reindeer**	22.85	47	*e*P		**P**		23 27 36.0	+0.3
	comp=Z,26nm,1.0s								
SML	**Sawmill**	22.87	51	*e*P		**P**		23 27 36.3	+0.4
	comp=Z,78nm,0.9s								
MCK	**McKinley**	22.88	46	*e*P		**P**		23 27 35.7	-0.2
	comp=Z,42nm,1.0s								
MCK	**McKinley**	22.88	46	*e*P		**P**		23 27 35.7	-0.2
MCK					pmax	pmax			
	comp=Z,42nm,1.0s								
COLD	**Coldfoot**	23.32	37	*e*P		**P**		23 27 42.4	+2.1
	comp=Z,18nm,1.2s								
SCM	**Sheep Creek Mo**	23.34	51	*e*P		**P**		23 27 40.6	-0.1
	comp=Z,45nm,0.8s								
SCM	**Sheep Creek Mo**	23.34	51	*e*P		**P**		23 27 40.6	-0.1
SCM					pmax	pmax			
	comp=Z,45nm,0.8s								
WRH	**Wood River Hil**	23.39	44	*e*P		**P**		23 27 41.0	0.0
	comp=Z,39nm,1.0s								
GLI	**Glacier Island**	23.40	53	*e*P		**P**		23 27 41.3	+0.1
	comp=Z,42nm,0.8s								
MDM	**Murphy Dome**	23.43	43	*e*P		**P**		23 27 41.3	-0.2
	comp=Z,35nm,0.8s								
DHY	**Denali Highway**	23.46	48	*e*P		**P**		23 27 41.8	-0.2
	comp=Z,18nm,0.8s								
CCB	**Clear Creek Bu**	23.54	44	*e*P		**P**		23 27 41.9	-0.6
	comp=Z,20nm,0.8s								
COLA	**College**	23.57	43	*e*P		**P**		23 27 42.1	-0.7
	comp=Z,57nm,0.9s								
COLA	**College**	23.57	43	*e*P		**P**		23 27 42.1	-0.7
COLA					pmax	pmax			
	comp=Z,57nm,0.9s								
FID	**Port Fidalgo**	23.69	54	*e*P		**P**		23 27 43.4	-0.7
	comp=Z,62nm,1.2s								
POKR	**Poker Plat Res**	23.80	43	P		**P**		23 27 44.2	-0.8
	baz=258								
HDA	**Harding Lake**	23.86	44	*e*P		**P**		23 27 45.6	0.0
	comp=Z,18nm,0.9s								
HDA	**Harding Lake**	23.86	44	P		**P**		23 27 45.5	-0.1
	baz=260								
IL1	**Eielson Array**	23.95	44	*e*P		**P**		23 27 45.2	-1.2
ILAR	**Eielson Array**	23.95	44	P		**P**		23 27 45.0	-1.4
	comp=Z,6.6nm,0.8s,baz=259,slow=8.7,SNR=57								
ILAR					LR	LR		23 38 21.0	
	comp=Z,645nm,18.9s,baz=260,slow=40								
ILB	**Eielson Array**	23.95	44	*e*P		**P**		23 27 45.3	-1.2
KLU	**Klutina**	23.99	52	*e*P		**P**		23 27 47.2	+0.3
	comp=Z,38nm,0.8s								
DIV	**Divide**	24.05	53	*e*P		**P**		23 27 48.0	+0.5
	comp=Z,22nm,1.0s								
TOLK	**Toolik Lake Re**	24.06	34	*e*P		**P**		23 27 46.8	-0.7
	comp=Z,75nm,1.5s								
TOLK	**Toolik Lake Re**	24.06	34	P		**P**		23 27 46.6	-0.8
	baz=247								
PAX	**Paxson**	24.31	48	*e*P		**P**		23 27 50.9	+1.0
	comp=Z,31nm,0.9s								
PAX	**Paxson**	24.31	48	*e*P		**P**		23 27 50.9	+1.0
PAX					pmax	pmax			
	comp=Z,31nm,0.9s								
HARP	**HAARP**	24.41	50	*e*P		**P**		23 27 51.7	+1.1
	comp=Z,166nm,1.8s								
YAK	**Yakutsk**	24.48	310	*d i*P		**P**		23 27 51.3	0.0
YAK				*e**PP		**sP**		23 28 02.8	-1.2
YAK				*e*				23 28 21.9	
YAK				*e*S		**S**		23 32 08.8	-0.4
YAK					pmax	pmax			
	comp=Z,325nm,0.9s								
YAK					pmax	pmax			
	comp=N,27nm,0.9s								
YAK					pmax	pmax			
	comp=E,111nm,0.9s								
YAK					smax	smax			
	comp=E,2µm,3.7s								
YAK					smax	smax			
	comp=N,1µm,3.5s								
RAGM	**Ragged Mountai**	24.58	54	*e*P		**P**		23 27 52.0	-0.3
	comp=N,52nm,0.8s								
BMRM	**Bremner River**	24.61	53	*e*P		**P**		23 27 53.4	+0.8
	comp=N,42nm,1.0s								
RIDG	**Independ'e Rid**	24.68	46	*e*P		**P**		23 27 54.3	+1.1
	comp=N,29nm,0.8s								
FYU	**Fort Yukon**	25.00	40	*e*P		**P**		23 27 54.5	-1.4
	comp=N,70nm,1.0s								
DOT	**Dot Lake**	25.01	47	*e*P		**P**		23 27 56.3	+0.1
	comp=N,27nm,1.0s								
SCRK	**Sand Creek**	25.08	46	*e*P		**P**		23 27 56.3	-0.6
	comp=N,37nm,0.8s								
KLR	**Kul'dur**	25.59	279	P		**P**		23 28 02.5	+1.1
	comp=N,30nm,0.6s,baz=69,slow=8.5,SNR=116								
KLR					LR	LR		23 39 45.6	
	comp=N,499nm,18.0s,baz=66,slow=40								
KLR	**Kul'dur**	25.59	279	*i* P		**P**		23 28 01.9	+0.5
EGAK	**Eagle**	26.39	44	*e*P		**P**		23 28 07.3	-1.2
	comp=N,36nm,1.0s								
ZEA	**Zeya**	26.74	291	*e*P		**P**		23 28 10.8	-1.0
ZEA					pmax	pmax			
	comp=Z,150nm,1.8s								
ZEA					MLR	MLR			
	comp=Z,2µm,15.0s								
TIXI	**Tiksi**	26.93	331	P		**P**		23 28 12.8	-0.5
	comp=Z,27nm,0.8s,baz=113,slow=11,SNR=50								
TIXI					LR	LR		23 38 52.8	
	comp=Z,846nm,20.7s,baz=77,slow=36								
TIXI	**Tiksi**	26.93	331	*e*P		**P**		23 28 12.8	-0.5
	comp=Z,36nm,0.9s								
TIXI	**Tiksi**	26.93	331	*ce*P		**P**		23 28 12.3	-1.0
TIXI					pmax	pmax			
	comp=Z,31nm,0.8s								
DAWY	**Dawson**	27.11	46	*e*P		**P**		23 28 16.8	+1.8
	comp=Z,22nm,0.9s								
USA0B	**Ussuriysk Arra**	27.78	269	*e*P		**P**		23 28 21.1	-0.1
	comp=Z,59nm,1.8s								
USRK	**Ussuriysk Ar.**	27.78	269	P		**P**		23 28 21.1	-0.1
	comp=Z,3.2nm,0.6s,baz=66,slow=11,SNR=8.2								
USRK					LR	LR		23 38 57.2	
	comp=Z,477nm,21.7s,baz=55,slow=35								
DHAK	**Deception Hill**	27.95	57	*e*P		**P**		23 28 26.6	+3.9
	comp=Z,654nm,1.0s								
HYT	**Haines Junctio**	28.09	53	*e*P		**P**		23 28 25.0	+1.0
	comp=Z,16nm,0.8s								
EPYK	**Eagle Plains**	28.35	41	P		**P**		23 28 25.7	-0.5
	baz=266								
MJAR	**Matsushiro Arr**	28.80	250	P		**P**		23 28 31.6	+1.3
	comp=Z,3.7nm,0.7s,baz=52,slow=6.1,SNR=12								
MJAR					LR	LR		23 39 53.4	
	comp=Z,76nm,21.5s,baz=30,slow=36								
MJB9	**Matsu-Tunnel**	28.80	250	*e*P		**P**		23 28 32.6	+2.3
	comp=Z,15nm,0.8s								
MAJO	**Matsushiro**	28.80	250	*e*P		**P**		23 28 32.5	+2.2
	comp=Z,15nm,0.8s								
MAJO	**Matsushiro**	28.80	250	*i* P		**P**		23 28 31.6	+1.2
MAJO					pmax	pmax			
	comp=Z,12nm,0.8s								
MAT	**Matsushiro**	28.80	250	P		**P**		23 28 32.4	+2.0
MAT				S		**S**		23 33 18.6	+0.7
INK	**Inuvik**	29.73	37	P		**P**		23 28 37.6	-0.6
	comp=Z,3.1nm,0.6s,baz=267,slow=6.5,SNR=3.1								
INK					LR	LR		23 42 29.4	
	comp=Z,411nm,18.9s,baz=243,slow=40								
INK	**Inuvik**	29.73	37	*e*P		**P**		23 28 37.9	-0.4
CN2	**Changchun**	31.98	273	*e*P		**P**		23 28 58.5	+0.1
CN2					pmax	pmax			
	comp=Z,10.0nm,0.7s								
CN2					pmax	pmax			
	comp=Z,200nm,3.0s								
CN2					LR	LR			
	comp=Z,1µm,17.0s								
CN2					LR	LR			
	comp=Z,500nm,17.0s								
CN2					LR	LR			
	comp=Z,1µm,19.0s								
DLBC	**Dease Lake**	32.26	56	*e*P		**P**		23 29 00.8	+0.1
	comp=Z,15nm,1.1s								
HIA	**Hailar**	32.73	286	*e*P		**P**		23 29 04.7	-0.3
	comp=Z,19nm,0.8s								
HIA	**Hailar**	32.73	286	*e*P		**P**		23 29 04.7	-0.3
HIA					pmax	pmax			
	comp=Z,19nm,0.8s								
BOD	**Bodaibo**	32.81	303	⇓ *i*P		**P**		23 29 04.0	-1.5
BOD					pmax	pmax			
	comp=Z,60nm,1.6s								
H11N2	**WAKE ISLAND Hy**	33.05	189	T		T		00 04 28.1	
	baz=6.4,slow=76,SNR=194								
H11N3	**WAKE ISLAND Hy**	33.06	189	T		T		00 04 29.7	
	baz=6.4,slow=76,SNR=562								
H11N1	**WAKE ISLAND Hy**	33.07	189	T		T		00 04 29.0	
	baz=6.4,slow=76,SNR=351								
KSRS	**Korea Array**	34.26	262	P		**P**		23 29 20.6	+2.3
	comp=Z,9.0nm,0.9s,baz=56,slow=8.0,SNR=18								
KSRS					LR	LR		23 43 40.0	
	comp=Z,106nm,19.4s,baz=56,slow=37								
KS01	**Wonju Array Si**	34.27	262	*e*P		**P**		23 29 18.9	+0.6
H11S1	**WAKE ISLAND Hy**	34.28	190	T		T		00 06 04.1	
	baz=6.2,slow=76,SNR=961								
KSAR	**Wonju Array Be**	34.29	262	P		**P**		23 29 20.6	+2.0
KSAR	**Wonju Array Be**	34.29	262	P		**P**		23 29 20.6	+2.0
H11S3	**WAKE ISLAND Hy**	34.30	190	T		T		00 06 05.2	
	baz=6.2,slow=76,SNR=1031								
H11S2	**WAKE ISLAND Hy**	34.30	190	T		T		00 06 05.3	
	baz=6.2,slow=76,SNR=1199								
TJN	**Taejon**	35.31	261	*ce*P		**P**		23 29 28.7	+1.3
YKW3	**Yellowknife Ar**	38.32	46	*e*P		**P**		23 29 52.4	-0.3
	comp=Z,8.3nm,0.8s								
OPA	**Opana**	38.33	132	*e*P		**P**		23 29 53.7	+0.5
	comp=Z,156nm,1.2s								
OPA	**Opana**	38.33	132	*e*P		**P**		23 29 53.7	+0.5
OPA					pmax	pmax			
	comp=Z,156nm,1.2s								
YKA	**Yellowknife Ar**	38.34	46	P		**P**		23 29 52.7	-0.2
	comp=Z,6.0nm,0.7s,baz=291,slow=8.0,SNR=29								
YKB5	**Yellowknife Ar**	38.34	46	*e*P		**P**		23 29 51.8	-1.1
KIP	**Kipapa**	38.55	132	*e*P		**P**		23 29 56.5	+1.4
	comp=Z,56nm,0.8s								
KIP	**Kipapa**	38.55	132	*e*P		**P**		23 29 56.5	+1.4
KIP					pmax	pmax			
	comp=Z,56nm,0.8s								
BJI	**Beijing**	39.80	275	*e*P		**P**		23 30 06.0	+0.7
BJI					pmax	pmax			
	comp=Z,6.0nm,0.6s								
BJI					LR	LR			
	comp=Z,560nm,7.4s								
BJI					LR	LR			
	comp=Z,530nm,11.2s								
BJI					LR	LR			
	comp=Z,240nm,17.2s								
D03D	**Eldon**	40.51	70	P		**P**		23 30 11.5	+0.3
	baz=302								
NRIK	**Noril'sk**	40.52	327	P		**P**		23 30 10.6	-0.4
	comp=Z,7.6nm,0.6s,baz=86,slow=9.2,SNR=18								
NRIK					LR	LR		23 47 33.2	
	comp=Z,614nm,19.0s,baz=64,slow=37								
B05A	**Bryant**	40.69	69	P		**P**		23 30 13.1	+0.5
	baz=302								
ULN	**Ulaanbaatar**	40.77	290	*e*P		**P**		23 30 13.5	0.0
	comp=Z,26nm,1.1s								
ULN	**Ulaanbaatar**	40.77	290	*ce*P		**P**		23 30 14.3	+0.8
ULN					pmax	pmax			
	comp=Z,24nm,1.0s								
RES	**Resolute Bay**	40.90	24	*e*P		**P**		23 30 13.4	-0.5
	comp=Z,7.7nm,0.8s								
RES	**Resolute Bay**	40.90	24	*e*P		**P**		23 30 13.4	-0.5
RES					pmax	pmax			
	comp=Z,8.0nm,0.8s								
SONA1	**Songino Array**	41.15	291	*e*P		**P**		23 30 16.8	+0.2
SONM	**Songino Array**	41.16	291	P		**P**		23 30 17.5	+0.7
	comp=Z,16nm,0.6s,baz=61,slow=8.2,SNR=110								
SONM					PcP	**PcP**		23 32 15.9	+0.4
	comp=Z,1.4nm,0.6s,baz=47,slow=3.6,SNR=3.0								
SONM					LR	LR		23 49 08.1	
	comp=Z,485nm,18.2s,baz=42,slow=39								
D05A	**Enumclaw**	41.33	70	*e*P		**P**		23 30 17.7	-0.2
	comp=Z,78nm,1.5s								
E04D	**Cinebar**	41.34	71	P		**P**		23 30 18.2	+0.3
	baz=303								
F04D	**Rainier, OR**	41.34	72	P		**P**		23 30 17.7	-0.3
	baz=304								
KHU	**Kahuku**	41.54	131	*e*P		**P**		23 30 19.9	-0.3
	comp=Z,125nm,1.1s								
KHU	**Kahuku**	41.54	131	*e*P		**P**		23 30 19.9	-0.3
KHU					pmax	pmax			
	comp=Z,125nm,1.1s								
C06D	**Leavenworth**	41.56	69	P		**P**		23 30 20.0	+0.2
	baz=302								
ZAK	**Zakamensk**	41.58	296	*e*P		**P**		23 30 20.3	+0.2
ZAK					pmax	pmax			
	comp=Z,11nm,1.7s								
TIA	**Tai'an**	41.64	269	P		**P**		23 30 22.0	+1.4
TIA					pmax	pmax			
	comp=Z,70nm,1.0s								
LON	**Longmire**	41.67	71	*e*P		**P**		23 30 21.6	+0.8
	comp=Z,44nm,1.8s								
LON	**Longmire**	41.67	71	*e*P		**P**		23 30 21.6	+0.8
LON					pmax	pmax			
	comp=Z,45nm,1.8s								
HHC	**Hu-ho-hao-te**	42.10	279	*e*P		**P**		23 30 26.0	+1.6
HHC				pP		sP		23 30 35.8	-1.6
HHC				sP		pP		23 30 39.8	+6.2
HHC				S		**S**		23 36 42.5	+0.7
HHC				sS		sS		23 36 58.8	+1.8
HHC					pmax	pmax			
	comp=Z,20nm,1.2s								
HHC					pmax	pmax			
	comp=Z,140nm,5.4s								
HHC					LR	LR			
	comp=Z,730nm,19.0s								
HHC					LR	LR			
	comp=Z,430nm,18.1s								
HHC					LR	LR			
	comp=Z,440nm,15.6s								
B08A	**Colville Reser**	42.21	67	*e*P		**P**		23 30 25.0	-0.1
	comp=Z,15nm,1.0s								
G05D	**Wamic, OR**	42.79	72	P		**P**		23 30 29.8	-0.1
	baz=305								
E07A	**Sunnyside**	42.90	70	*e*P		**P**		23 30 30.7	0.0
	comp=Z,39nm,1.5s								
I04A	**Tendick Farm,**	42.99	75	P		**P**		23 30 31.2	-0.3
	baz=306								
D08A	**Wollman Farm,**	43.15	69	*e*P		**P**		23 30 32.3	-0.5
	comp=Z,24nm,1.5s								
HAWA	**Hanford**	43.17	70	*e*P		**P**		23 30 33.0	0.0
	comp=Z,22nm,1.0s								
F07A	**Phinny Hill Vi**	43.23	71	*e*P		**P**		23 30 33.5	+0.2
	comp=Z,84nm,1.8s								
I05D	**Terrebonne, OR**	43.30	73	P		**P**		23 30 33.5	-0.5
	baz=306								
HUMO	**Hull Mountain**	43.36	76	*e*P		**P**		23 30 34.4	-0.2
	comp=Z,60nm,1.9s								
E08A	**Dider Farm, El**	43.39	69	*e*P		**P**		23 30 34.4	-0.2
	comp=Z,23nm,1.4s								
NJ2	**Nanjing**	43.40	264	*e*P		**P**		23 30 35.8	+0.9
NJ2					pmax	pmax			
	comp=Z,15nm,0.8s								
J04D	**Umpqua Nationa**	43.49	75	P		**P**		23 30 35.9	+0.2
	baz=306								
NEW	**Newport**	43.50	66	*e*P		**P**		23 30 35.2	-0.4
	comp=Z,14nm,0.9s								
NEW	**Newport**	43.50	66	*e*P		**P**		23 30 35.2	-0.4
NEW					pmax	pmax			
	comp=Z,14nm,0.9s								
NEW	**Newport**	43.50	66	P		**P**		23 30 34.8	-0.8
	baz=303								
E09A	**Wood Farm, Sta**	43.90	69	*e*P		**P**		23 30 37.9	-0.8
	comp=Z,17nm,1.1s								
J05D	**Fort Rock, OR**	43.98	75	P		**P**		23 30 39.8	+0.2
	baz=306								
L04D	**Klamath Falls**	43.98	76	P		**P**		23 30 39.5	-0.1
	baz=307								
YBH	**Yreka Blue Hor**	44.03	77	*e*P		**P**		23 30 40.7	+0.7
	comp=Z,11nm,0.9s								
YBH	**Yreka Blue Hor**	44.03	77	*e*P		**P**		23 30 40.7	+0.7
YBH					pmax	pmax			
	comp=Z,11nm,0.9s								
M04C	**Macdoel**	44.52	77	P		**P**		23 30 44.1	+0.1
	baz=308								
KNGR	**Kungurtug, Tuv**	44.59	299	*i* P		**P**		23 30 44.3	-0.1
F10A	**Beach Ranch, E**	44.73	69	*e*P		**P**		23 30 44.9	-0.6
	comp=Z,16nm,1.1s								
WDC	**Whiskeytown Da**	44.84	78	*e*P		**P**		23 30 45.7	-0.7
	comp=Z,39nm,1.6s								
WDC	**Whiskeytown Da**	44.84	78	*e*P		**P**		23 30 45.7	-0.7
WDC					pmax	pmax			
	comp=Z,39nm,1.6s								
BMO	**Blue Mountains**	45.34	70	*e*P		**P**		23 30 50.1	-0.3
	comp=Z,18nm,1.4s								
BMO	**Blue Mountains**	45.34	70	*e*P		**P**		23 30 50.1	-0.3
BMO					pmax	pmax			
	comp=Z,18nm,1.4s								
MOD	**Modoc Plateau**	45.36	75	*e*P		**P**		23 30 50.8	+0.2
	comp=Z,20nm,1.1s								
JTMT	**Jette**	45.37	65	*e*P		**P**		23 30 50.4	-0.2
	comp=Z,32nm,1.6s								
O03E	**Paynes Creek**	45.46	78	P		**P**		23 30 49.8	-1.6
	baz=309								
WVOR	**Wild Horse Val**	46.02	74	*e*P		**P**		23 30 55.6	-0.2
	comp=Z,45nm,2.0s								
WVOR	**Wild Horse Val**	46.02	74	*e*P		**P**		23 30 55.6	-0.2
WVOR					pmax	pmax			
	comp=Z,45nm,2.0s								
MSO	**Missoula**	46.09	66	*e*P		**P**		23 30 55.7	-0.6
	comp=Z,34nm,1.4s								
MSO	**Missoula**	46.09	66	P		**P**		23 30 55.2	-1.1
	baz=306								
HVS	**Khovu-Aksy**	46.31	301	*i* P		**P**		23 30 56.7	-1.3
HVS					pmax	pmax			
	comp=Z,11nm,0.9s								
AFDM	**Forest Hills D**	46.81	79	*e*P		**P**		23 31 00.4	-1.5
	comp=Z,10nm,1.2s								
WHN	**Wuhan**	47.20	266	⇑ *i*P		**P**		23 31 06.0	+1.0
WHN					S	**S**		23 37 58.5	+2.9
WHN					pmax	pmax			
	comp=Z,58nm,0.9s								
WHN					LR	LR			
	comp=Z,760nm,20.3s								
RUBR	**Rubicon Trail**	47.23	78	*e*P		**P**		23 31 04.0	-1.5
	comp=Z,176nm,0.9s								
PAHR	**Pah Rah Range**	47.27	77	*e*P		**P**		23 31 05.6	-0.1
	comp=Z,22nm,1.4s								
HRY	**Holter Researc**	47.33	65	*e*P		**P**		23 31 05.6	-0.4
LRM	**Limekiln Ridge**	47.52	66	*e*P		**P**		23 31 04.9	-2.7
PNTR	**Pine Nut**	47.54	78	*e*P		**P**		23 31 07.5	-0.4
	comp=Z,23nm,0.9s								
EGMT	**Eagleton**	47.69	63	*e*P		**P**		23 31 08.1	-0.7
	comp=Z,13nm,0.8s								
EGMT	**Eagleton**	47.69	63	P		**P**		23 31 07.9	-0.9
	baz=306								
FFC	**Flin Flon**	47.77	51	*e*P		**P**		23 31 09.1	-0.1
	comp=Z,1.9nm,0.8s								
FFC	**Flin Flon**	47.77	51	*e*P		**P**		23 31 09.1	-0.1
FFC					pmax	pmax			
	comp=Z,2.0nm,0.8s								
HLID	**Hailey**	47.77	70	*e*

NVS	**Novosibirsk**	49.34	310	⇓	*i*	P		P	23 31 20.9	-0.3
NVS					*e*				23 31 32.4	
NVS					*e*				23 33 16.1	
NVS					*e*	S		S	23 38 34.6	+9.2
NVS						pmax		pmax		
	comp=N,34nm,1.7s									
NVS						pmax		pmax		
	comp=Z,80nm,1.7s									
NVS						pmax		pmax		
	comp=E,25nm,1.5s									
NVS						pmax		pmax		
	comp=Z,24nm,1.5s									
NVS						pmax		pmax		
	comp=N,20nm,1.7s									
NVS						pmax		pmax		
	comp=E,21nm,1.5s									
NVS						smax		smax		
	comp=N,25nm,2.4s									
YPP	**Pitchstone Pla**	49.39	67		*e*	P		P	23 31 22.6	+0.5
	comp=N,20nm,1.5s									
H17A	**Grant Village**	49.44	67		*e*	P		P	23 31 22.2	-0.3
	comp=N,20nm,1.1s									
H17A	**Grant Village**	49.44	67		P	P		P	23 31 23.1	+0.6
	baz=309									
IMW	**Indian Meadow**	49.55	68		*e*	P		P	23 31 22.3	-1.0
	comp=N,8.3nm,0.6s									
FLWY	**Flagg Ranch**	49.56	67		*e*	P		P	23 31 23.7	+0.3
	comp=N,19nm,1.0s									
FXWY	**Fox Creek**	49.66	68		*e*	P		P	23 31 23.9	-0.2
	comp=N,13nm,1.6s									
TIN	**Tinemaha, Big**	49.68	79		P	P		P	23 31 24.2	0.0
	baz=312									
RLMT	**Red Lodge**	49.72	65		*e*	P		P	23 31 24.7	+0.2
	comp=N,17nm,0.9s									
RLMT	**Red Lodge**	49.72	65		P	P		P	23 31 24.2	-0.3
	baz=309									
MOOW	**Moose Ponds**	49.75	68		*e*	P		P	23 31 24.6	-0.2
	comp=N,6.0nm,1.2s									
LZH	**Lanzhou**	49.79	279		*e*	P		P	23 31 26.5	+1.3
LZH						pP		sP	23 31 37.0	-1.2
LZH						sP		pP	23 31 41.0	+6.5
LZH						S		**S**	**23 38 31.3**	**-1.2**
LZH						sS		sS	23 38 49.5	+1.5
LZH						SS		**SS**	**23 42 01.8**	**-3.0**
LZH						pmax		pmax		
	comp=N,75nm,1.2s									
LZH						pmax		pmax		
	comp=N,360nm,4.3s									
LZH						LR		LR		
	comp=N,1µm,11.9s									
LZH						LR		LR		
	comp=N,1µm,10.8s									
LZH						LR		LR		
	comp=N,2µm,12.5s									
TPAW	**Teton Pass**	49.79	68		*e*	P		P	23 31 25.7	+0.5
	comp=N,11nm,1.3s									
HVU	**Hansel Valley**	49.83	71		*e*	P		P	23 31 25.3	-0.1
	comp=N,8.2nm,0.8s									
HVU	**Hansel Valley**	49.83	71		*e*	P		P	23 31 25.3	-0.1
HVU						pmax		pmax		
	comp=Z,8.0nm,0.8s									
LOHW	**Long Hollow**	49.91	68		*e*	P		P	23 31 25.9	-0.2
	comp=Z,24nm,1.8s									
VES	**Vestal, Richgr**	49.98	81		P	P		P	23 31 25.7	-0.6
	baz=312									
GTA	**Gaotai**	50.01	285		⇑	P		P	23 31 27.5	+0.8
GTA						pP		sP	23 31 38.0	-1.8
GTA						sP		pP	23 31 41.5	+5.4
GTA						pmax		pmax		
	comp=Z,32nm,1.1s									
GTA						pmax		pmax		
	comp=Z,150nm,5.4s									
GTA						LR		LR		
	comp=Z,560nm,18.1s									
GTA						LR		LR		
	comp=Z,650nm,18.7s									
GTA						LR		LR		
	comp=Z,910nm,17.1s									
AHID	**Auburn Hatcher**	50.17	69		*e*	P		P	23 31 28.2	+0.2
	comp=Z,12nm,1.0s									
PKM	**Mcpherson Peak**	50.17	82		P	P		P	23 31 27.6	-0.5
	baz=313									
CWC	**Cottonwood Cre**	50.18	80		P	P		P	23 31 27.4	-0.7
	baz=312									
BGU	**Big Grassy Mou**	50.23	72		*e*	P		P	23 31 28.3	-0.1
	comp=Z,4.5nm,0.9s									
GRAC	**Grapevine Rang**	50.24	79		P	P		P	23 31 28.2	-0.2
	baz=312									
SPUT	**South Promonto**	50.32	71		*e*	P		P	23 31 29.1	0.0
	comp=Z,8.7nm,1.2s									
ENH	**Enshi**	50.35	270		*e*	P		P	23 31 30.0	+0.7
	comp=Z,53nm,1.4s									
DGMT	**Dagmar**	50.38	59		P	P		P	23 31 27.7	-1.6
	baz=308									
DGZ	**Jazzator, Alta**	50.40	303	*c*	*i*	P		P	23 31 29.3	-0.3
DGZ						pmax		pmax		
	comp=Z,7.0nm,1.0s									
R11A	**Troy Canyon, C**	50.41	76		*e*	P		P	23 31 29.1	-0.7
	comp=Z,12nm,1.1s									
R11A	**Troy Canyon, C**	50.41	76		P	P		P	23 31 29.1	-0.7
	baz=311									
LAO	**LASA Array**	50.41	62		*e*	P		P	23 31 29.9	+0.3
	comp=Z,29nm,1.0s									
LAO	**LASA Array**	50.41	62		P	P		P	23 31 29.1	-0.5
	baz=309									
ISA	**Isabella, Lake**	50.46	81		P	P		P	23 31 29.1	-1.1
	baz=312									
DAC	**Darwin (Calif)**	50.58	79		*e*	P		P	23 31 30.5	-0.7
	comp=Z,5.1nm,0.9s									
DAC	**Darwin (Calif)**	50.58	79		*e*	P		P	23 31 30.5	-0.7
DAC						pmax		pmax		
	comp=Z,5.0nm,0.9s									
DAG	**Danmarks Havn**	50.74	3	⇑	*i*	P		P	23 31 30.2	-1.3
	comp=Z,12nm,0.8s									
DAG	**Danmarks Havn**	50.74	3	⇑	*i*	P		P	23 31 30.2	-1.3
DAG						pmax		pmax		
	comp=Z,9.0nm,0.8s									
MPMC	**Manual Prospec**	50.79	80		P	P		P	23 31 32.1	-0.7
	baz=312									
DUG	**Dugway, Tooele**	50.83	72		*e*	P		P	23 31 33.0	+0.1
	comp=Z,15nm,1.0s									
DUG	**Dugway, Tooele**	50.83	72		*e*	P		P	23 31 33.0	+0.1
DUG						pmax		pmax		
	comp=Z,15nm,1.0s									
DUG	**Dugway, Tooele**	50.83	72		P	P		P	23 31 32.8	-0.2
	baz=311									
FURC	**Furnace Creek,**	50.89	79		P	P		P	23 31 32.9	-0.3
	baz=312									
TPNV	**Topopah Spring**	50.94	78		*e*	P		P	23 31 33.8	0.0
	comp=Z,15nm,0.8s									
TPNV	**Topopah Spring**	50.94	78		*e*	P		P	23 31 33.8	0.0
TPNV						pmax		pmax		
	comp=Z,15nm,0.8s									
TPNV	**Topopah Spring**	50.94	78		P	P		P	23 31 33.2	-0.6
	baz=312									
BW06	**Boulder Array**	51.04	68		*e*	P		P	23 31 33.9	-0.7
	comp=Z,14nm,0.9s									
BW06	**Boulder Array**	51.04	68		P	P		P	23 31 34.0	-0.7
	baz=310									
PD31	**Pinedale Array**	51.04	68		*e*	P		P	23 31 34.2	-0.4
PDAR	**Pinedale Array**	51.04	68		P	P		P	23 31 34.2	-0.4
	comp=Z,10.0nm,0.8s,baz=296,slow=4.4,SNR=65									
PDAR						LR		LR	23 52 43.8	
	comp=Z,167nm,20.9s,baz=324,slow=36									
TCUT	**Toone Canyon**	51.05	71		*e*	P		P	23 31 34.8	+0.1
	comp=Z,37nm,1.6s									
PSUT	**Pine Spring**	51.31	75		*e*	P		P	23 31 36.5	-0.1
	comp=Z,9.3nm,0.8s									
JLU	**Jordanelle**	51.35	71		*e*	P		P	23 31 37.1	+0.1
	comp=Z,15nm,1.2s									
NLU	**North Lily Min**	51.41	72		*e*	P		P	23 31 37.5	0.0
	comp=Z,6.0nm,0.8s									
MPU	**Maple Canyon**	51.63	72		*e*	P		P	23 31 39.1	+0.1
	comp=Z,8.5nm,1.0s									
GSC	**Goldstone, Bar**	51.71	80		P	P		P	23 31 38.8	-0.7
	baz=313									
SHPR	**Sheep Range**	51.88	78		*e*	P		P	23 31 39.2	-1.7
	comp=Z,4.6nm,1.0s									
BFSC	**Mount Baldy Ra**	51.92	81		P	P		P	23 31 40.1	-1.1
	baz=313									
CIS	**Catalina Islan**	52.03	83		P	P		P	23 31 40.8	-1.1
	baz=314									
TUQ	**Turquoise Moun**	52.15	79		P	P		P	23 31 41.8	-1.1
	baz=313									
CCUT	**Cedar City**	52.25	75		*e*	P		P	23 31 43.8	+0.1
	comp=Z,8.0nm,1.1s									
MSU	**Marysvale**	52.31	74		*e*	P		P	23 31 44.7	+0.6
MSU	**Marysvale**	52.31	74		*e*	P		P	23 31 44.7	+0.6
HEC	**Hector,Ludlow**	52.31	80		P	P		P	23 31 43.2	-0.8
	baz=313									
TMUT	**Trail Mountain**	52.35	72		*e*	P		P	23 31 44.8	+0.3
	comp=Z,20nm,0.8s									
P17A	**Butcher Ranch,**	52.51	72		*e*	P		P	23 31 45.8	+0.3
	comp=Z,46nm,1.8s									
MTPU	**Mount Pierson**	52.62	74		*e*	P		P	23 31 47.1	+0.6
	comp=Z,27nm,1.7s									
LCMT	**Little Creek M**	52.68	76		*e*	P		P	23 31 46.9	+0.1
	comp=Z,10nm,1.0s									
P18A	**Preston Nutter**	52.69	71		*e*	P		P	23 31 47.2	+0.1
	comp=Z,9.5nm,0.9s									
GMRC	**Granite Mounta**	52.75	80		P	P		P	23 31 46.8	-0.5
	baz=313									
K22A	**Casper**	52.82	66		*e*	P		P	23 31 47.4	-0.3
	comp=Z,12nm,0.9s									
K22A	**Casper**	52.82	66		P	P		P	23 31 46.7	-1.1
	baz=311									
SRU	**San Rafael Swe**	52.87	72		*e*	P		P	23 31 48.4	+0.2
	comp=Z,20nm,0.9s									
SRU	**San Rafael Swe**	52.87	72		*e*	P		P	23 31 48.4	+0.2
SRU						pmax		pmax		
	comp=Z,20nm,0.9s									
KNB	**Kanab**	52.93	75		*e*	P		P	23 31 49.1	+0.5
	comp=Z,12nm,1.0s									
KNB	**Kanab**	52.93	75		*e*	P		P	23 31 49.1	+0.5
KNB						pmax		pmax		
	comp=Z,13nm,1.0s									
RWWY	**Rawlins**	53.07	68		*e*	P		P	23 31 48.2	-1.5
	comp=Z,13nm,0.9s									
FRD	**Ford Ranch, An**	53.07	81		P	P		P	23 31 48.9	-0.7
	baz=314									
PFO	**Pinyon Flats O**	53.07	81		*e*	P		P	23 31 49.2	-0.5
	comp=Z,24nm,1.8s									
PFO	**Pinyon Flats O**	53.07	81		*e*	P		P	23 31 49.2	-0.5
PFO						pmax		pmax		
	comp=Z,24nm,1.8s									
XPFO	**Piæon Flat**	53.08	81		*e*	P		P	23 31 50.3	+0.5
	comp=Z,26nm,1.8s									
MDND	**Maddock**	53.16	57		*e*	P		P	23 31 50.2	+0.2
	comp=Z,38nm,0.8s									
MDND	**Maddock**	53.16	57		P	P		P	23 31 49.6	-0.4
	baz=310									
RSSD	**Black Hills**	53.23	63		*e*	P		P	23 31 50.5	-0.4
	comp=Z,11nm,0.8s									
RSSD	**Black Hills**	53.23	63		*e*	P		P	23 31 50.5	-0.4
RSSD						pmax		pmax		
	comp=Z,11nm,0.8s									
RSSD	**Black Hills**	53.23	63		P	P		P	23 31 50.0	-0.8
	baz=311									
SUMG	**Summit**	53.31	11		*e*	P		P	23 31 50.7	-0.5
	comp=Z,36nm,1.0s									
SUMG	**Summit**	53.31	11		*i*	P		P	23 31 50.7	-0.5
	comp=Z,49nm,0.7s									
SUMG	**Summit**	53.31	11		*e*	P		P	23 31 50.7	-0.5
SUMG						pmax		pmax		
	comp=Z,36nm,1.0s									
CD2	**Chengdu**	53.40	275		*e*	P		P	23 31 52.0	0.0
CD2						pmax		pmax		
	comp=Z,10.0nm,0.5s									
ULM	**Lac du Bonnet**	53.47	53		P	P		P	23 31 51.7	-0.4
	comp=Z,7.8nm,0.8s,baz=304,slow=9.3,SNR=10									
ULM						LR		LR	23 56 29.4	
	comp=Z,286nm,18.3s,baz=314,slow=38									
ULM	**Lac du Bonnet**	53.47	53		*e*	P		P	23 31 51.8	-0.4
	comp=Z,10.0nm,0.8s									
ULM	**Lac du Bonnet**	53.47	53		*e*	P		P	23 31 51.8	-0.4
ULM						pmax		pmax		
	comp=Z,10.0nm,0.8s									
IRM	**Iron Mountain**	53.49	80		P	P		P	23 31 51.9	-0.7
	baz=314									
O20A	**White River Ci**	53.51	70		*e*	P		P	23 31 52.7	-0.2
	comp=Z,46nm,1.4s									
O20A	**White River Ci**	53.51	70		P	P		P	23 31 52.1	-0.8
	baz=312									
MONP2	**Monument Peak**	53.59	82		P	P		P	23 31 53.2	-0.4
	baz=314									
W13A	**Hualapai Mount**	53.60	78		*e*	P		P	23 31 53.4	-0.2
	comp=Z,6.6nm,0.8s									
U15A	**North Rim**	53.64	76		*e*	P		P	23 31 54.0	0.0
	comp=Z,12nm,0.9s									
BC3	**Big Chuckawall**	53.65	80		P	P		P	23 31 53.2	-0.7
	baz=314									
PDMCI	**Parker Dam,Lak**	53.99	79		P	P		P	23 31 55.7	-0.5
	baz=314									
WMQ	**Urumqi**	54.01	297			P		P	23 31 57.0	+0.6
WMQ						pP		pP	23 32 05.3	-0.5
WMQ						sP		sP	23 32 11.0	+1.5
WMQ						PP		**PP**	**23 33 57.0**	**-0.6**
WMQ						pmax		pmax		
	comp=Z,150nm,0.9s									
WMQ						pmax		pmax		
	comp=Z,620nm,4.9s									
WMQ						LR		LR		
	comp=Z,2µm,26.5s									
WMQ						LR		LR		
	comp=Z,1µm,25.1s									
WMQ						LR		LR		
	comp=Z,2µm,23.5s									
KURK	**Kurchatov**	54.12	308		*e*	P		P	23 31 56.4	-0.5
	comp=Z,84nm,0.8s									
KURK	**Kurchatov**	54.12	308		*e*	P		P	23 31 56.4	-0.5
KURK						pmax		pmax		
	comp=Z,84nm,0.8s									
Y12C	**Blythe**	54.14	80		*e*	P		P	23 31 57.0	-0.4
	comp=Z,24nm,1.6s									
Y12C	**Blythe**	54.14	80		P	P		P	23 31 56.8	-0.5
	baz=314									
N23A	**Red Feather La**	54.31	67		*e*	P		P	23 31 59.1	+0.3
	comp=Z,23nm,1.4s									
N23A	**Red Feather La**	54.31	67		P	P		P	23 31 57.8	-1.0
	baz=312									
GLA	**Glamis**	54.44	80		*e*	P		P	23 31 59.2	-0.4
	comp=Z,10nm,0.8s									
GLA	**Glamis**	54.44	80		*e*	P		P	23 31 59.2	-0.4
GLA						pmax		pmax		
	comp=Z,11nm,0.8s									
GLA	**Glamis**	54.44	80		P	P		P	23 31 59.1	-0.4
	baz=314									
AGMN	**Agassiz Nation**	54.76	55		*e*	P		P	23 32 01.2	-0.4
	comp=Z,13nm,0.7s									
AGMN	**Agassiz Nation**	54.76	55		P	P		P	23 32 00.9	-0.8
	baz=312									
WUAZ	**Wupatki**	54.80	76		*e*	P		P	23 32 02.8	+0.5
	comp=Z,14nm,1.1s									
WUAZ	**Wupatki**	54.80	76		P	P		P	23 32 02.6	+0.2
	baz=314									
GYA	**Guiyang**	54.82	268			P		P	23 32 04.3	+1.8
GYA						pmax		pmax		
	comp=Z,10.0nm,1.0s									
SMCO	**Snowmass**	54.87	70		*e*	P		P	23 32 03.0	-0.1
	comp=Z,6.6nm,0.9s									
MK31	**Makanchi Array**	54.90	303		*e*	P		P	23 32 01.7	-1.0
MK31	**Makanchi Array**	54.90	303		*e*	P		P	23 32 01.7	-1.0
MKAR	**Makanchi Array**	54.90	303		P	P		P	23 32 02.1	-0.6
	comp=Z,15nm,0.6s,baz=49,slow=6.7,SNR=189									
MKAR						LR		LR	23 56 28.6	
	comp=Z,1µm,21.7s,baz=36,slow=37									
MKAR	**Makanchi Array**	54.90	303		P	P		P	23 32 02.1	-0.6
	comp=Z,112nm,0.8s									
MKAR	**Makanchi Array**	54.90	303		*i*	P		P	23 32 01.7	-1.0
MKAR						pmax		pmax		
	comp=Z,15nm,0.6s									
MK01	**Makanchi Array**	54.91	303		*e*	P		P	23 32 01.2	-1.6
ISCO	**Idaho Springs**	55.23	68		*e*	P		P	23 32 06.3	+0.7
	comp=Z,11nm,0.9s									
ISCO	**Idaho Springs**	55.23	68		*e*	P		P	23 32 06.3	+0.7
ISCO						pmax		pmax		
	comp=Z,11nm,0.9s									
ISCO	**Idaho Springs**	55.23	68		P	P		P	23 32 05.6	0.0
	baz=313									
MVCO	**Mesa Verde**	55.33	72		*e*	P		P	23 32 06.2	0.0
	comp=Z,19nm,1.2s									
MVCO	**Mesa Verde**	55.33	72		P	P		P	23 32 05.9	-0.3
	baz=313									
X16A	**Lo Mia Camp, P**	55.52	77		*e*	P		P	23 32 07.9	+0.3
	comp=Z,10nm,1.1s									
LVZ	**Lovozero**	55.78	342	*c*	*e*	P		P	23 32 06.8	-2.0
LVZ						pmax		pmax		
	comp=Z,60nm,0.9s									
ARCES	**ARCESS Array B**	55.82	347			P		P	23 32 07.8	-1.2
	comp=Z,6.4nm,0.7s,baz=24,slow=7.7,SNR=33									
ARCES						LR		LR	23 58 27.7	
	comp=Z,31nm,18.7s,baz=7.0,slow=39									
S22A	**4UR Ranch, Cre**	55.93	71		*e*	P		P	23 32 11.3	+0.7
	comp=Z,24nm,1.1s									
S22A	**4UR Ranch, Cre**	55.93	71		P	P		P	23 32 11.4	+0.7
	baz=314									
Q24A	**Divide**	56.06	69		*e*	P		P	23 32 12.1	+0.6
	comp=Z,15nm,1.3s									
Q24A	**Divide**	56.06	69		P	P		P	23 32 11.9	+0.3
	baz=313									
BRVK	**Borovoye**	56.33	315		*e*	P		P	23 32 12.5	-0.3
	comp=Z,36nm,0.6s									
BRVK	**Borovoye**	56.33	315	*c*	*e*	P		P	23 32 11.7	-1.1
BRVK						pmax		pmax		
	comp=Z,106nm,1.7s									
X18A	**Snowflake**	56.33	76		*e*	P		P	23 32 14.0	+0.7
	comp=Z,7.5nm,0.9s									
SFJD	**Kangerlussuaq**	56.43	19		*i*	P		P	23 32 11.9	-1.4
SFJD	**Kangerlussuaq**	56.43	19		*i*	P		P	23 32 11.9	-1.4
OGNE	**Ogallala**	56.46	65		P	P		P	23 32 14.1	+0.1
	baz=313									
TRO	**Tromso**	56.57	349		*e*	P		P	23 32 13.1	-1.2
KTK1	**Kautokeino**	56.62	347		*e*	P		P	23 32 13.6	-1.1
SDCO	**Great Sand Dun**	56.70	70		*e*	P		P	23 32 16.7	+0.7
	comp=Z,21nm,1.0s									
SDCO	**Great Sand Dun**	56.70	70		P	P		P	23 32 16.2	+0.2
	baz=314									
SCO	**Scoresbysund**	56.82	6		*e*	P		P	23 32 15.8	-0.2
	comp=Z,76nm,1.9s									
SCO	**Scoresbysund**	56.82	6		*e*	P		P	23 32 15.8	-0.2
SCO						pmax		pmax		
	comp=Z,76nm,1.9s									
EYMN	**Ely**	57.15	53		*e*	P		P	23 32 18.6	-0.1
	comp=Z,17nm,0.8s									
EYMN	**Ely**	57.15	53		P	P		P	23 32 18.2	-0.6
	baz=314									
TUC	**Tucson**	57.39	78		*e*	P		P	23 32 21.2	+0.4
	comp=Z,6.6nm,1.0s									
TUC	**Tucson**	57.39	78		*e*	P		P	23 32 21.2	+0.4
TUC						pmax		pmax		
	comp=Z,7.0nm,1.0s									
TUC	**Tucson**	57.39	78		P	P		P	23 32 20.9	+0.2
	baz=315									
ECSD	**EROS Data Cent**	57.47	59		*e*	P		P	23 32 20.2	-0.9
	comp=Z,9.1nm,0.8s									
ECSD	**EROS Data Cent**	57.47	59		P	P		P	23 32 20.1	-0.9
	baz=314									
SVE	**Sverdlovsk**	57.49	323	⇓	*e*	P		P	23 32 20.8	-0.2
SVE						pmax		pmax		
	comp=Z,34nm,1.5s									
SVE						MLR		MLR		
	comp=Z,783nm,21.0s									
T25A	**Trinidad**	57.74	70		*e*	P		P	23 32 23.7	+0.4
	comp=Z,25nm,1.0s									
T25A	**Trinidad**	57.74	70		P	P		P	23 32 23.8	+0.4
	baz=314									
E38A	**The Farm, Brul**	58.05	54		P	P		P	23 32 24.2	-0.9
	baz=314									
LAZ	**Ladron**	58.07	74		*e*	P		P	23 32 26.2	+0.6
ANMO	**Albuquerque**	58.09	73		*e*	P		P	23 32 26.0	+0.2
	comp=Z,8.7nm,1.0s									
ANMO	**Albuquerque**	58.09	73	*c*	*e*	P		P	23 32 25.3	-0.5
ANMO						pmax		pmax		
	comp=Z,6.0nm,1.3s									
ANMO	**Albuquerque**	58.09	73		P	P		P	23 32 25.8	0.0
	baz=315									
F37A	**Hinrichs Farm,**	58.13	55		P	P		P	23 32 25.4	-0.3
	baz=314									
KMI	**Kunming**	58.19	271		P	P		P	23 32 27.8	+1.2
KMI						pmax		pmax		
	comp=Z,9.0nm,0.9s									
KMI						pmax		pmax		
	comp=Z,160nm,3.9s									
BGNE	**Belgrade**	58.26	62		*e*	P		P	23 32 26.7	0.0
BGNE					*e*	pP		**pP**	**23 32 35.8**	**-0.4**
BGNE	**Belgrade**	58.26	62		P	P		P	23 32 26.5	-0.2
	baz=314									
LENM	**Lemitar**	58.34	74		*e*	P		P	23 32 28.1	+0.6
F38A	**Pierce - Schro**	58.34	55		P	P		P	23 32 27.5	+0.3
	baz=315									
SPMN	**Marine on St.**	58.39	56		*e*	P		P	23 32 27.5	0.0
	comp=Z,15nm,0.7s									
SPMN	**Marine on St.**	58.39	56		P	P		P	23 32 27.0	-0.5
	baz=315									
ARU	**Arti**	58.55	323		*e*	P		P	23 32 27.4	-1.0
	comp=Z,23nm,0.8s									
ARU	**Arti**	58.55	323	*c*	*i*	P		P	23 32 28.1	-0.3
ARU									23 33 18.4	
ARU									23 34 34.8	
ARU						S		**S**	**23 40 30.1**	**+0.4**
ARU						SS		**SS**	**23 44 21.7**	**+0.1**
ARU						pmax		pmax		
	comp=Z,57nm,1.7s									
ARU						MLR		MLR		
	comp=Z,598nm,21.0s									
BNM	**Barren Site**	58.55	74		*e*	P		P	23 32 29.9	+0.8
PRGR	**Permogore**	58.56	333	⇑	*i*	P		P	23 32 28.8	+0.4
PRGR						pmax		pmax		
	comp=Z,45nm,0.8s									
LOF	**Lofoten**	58.59	351		*e*	P		P	23 32 27.3	-1.2
E39A	**Mellen**	58.70	54		P	P		P	23 32 29.5	-0.1
	baz=315									
PDGK	**Podgornoye**	58.72	301		P	P		P	23 32 29.9	-0.1
PDGK						pmax		pmax		
	comp=Z,33nm,1.3s								

JOF pmax pmax
comp=Z,82nm,0.8s
AMTX Amarillo 60.90 70 *eP* **P 23 32 45.3 +0.3**
comp=Z,14nm,0.8s
AMTX Amarillo 60.90 70 P **P 23 32 45.0 0.0**
baz=316
MSTX Muleshoe 60.92 71 P **P 23 32 44.8 -0.5**
baz=316
L39A Vinton 61.00 58 P **P 23 32 44.9 -0.6**
baz=316
TKM2 Tokmak 2 61.01 303 P **P 23 32 45.9 +0.1**
SNR=16
JAY Jayapura 61.02 217 LR LR 23 54 25.2
comp=Z,148nm,19.8s,baz=350,slow=31
K40A Colesburg 61.03 57 P **P 23 32 45.3 -0.5**
baz=316
MNTX Cornudas Mount 61.03 75 *eP* **P 23 32 46.1 +0.2**
comp=Z,23nm,1.1s
MNTX Cornudas Mount 61.03 75 P **P 23 32 46.1 +0.2**
baz=316
J41A Loganville 61.12 56 P **P 23 32 44.9 -1.4**
baz=316
E45A Wooded Hills, 61.30 50 P **P 23 32 46.2 -1.2**
baz=317
USP Ospenovka 61.32 304 P **P 23 32 48.0 +0.3**
SNR=22
JFWS Jewell Farm 61.33 56 *eP* **P 23 32 47.0 -0.8**
comp=Z,15nm,0.8s
JFWS Jewell Farm 61.33 56 *eP* **P 23 32 47.0 -0.8**
JFWS pmax pmax
comp=Z,15nm,0.8s
JFWS Jewell Farm 61.33 56 P **P 23 32 46.8 -0.9**
baz=316
M39A Webster 61.38 58 P **P 23 32 47.0 -1.1**
baz=316
CHMS Chumysh 61.38 304 P **P 23 32 48.3 +0.1**
SNR=8.0
D46A Sault St. Mari 61.44 49 P **P 23 32 46.8 -1.6**
baz=318
L40A Anamosa 61.45 57 *eP* **P 23 32 48.8 +0.2**
comp=Z,17nm,0.8s
L40A Anamosa 61.45 57 P **P 23 32 46.3 -2.2**
baz=316
K41A Shullsburg 61.52 56 P **P 23 32 48.1 -0.9**
baz=317
KBK Karagaybulak 61.53 304 P **P 23 32 49.4 +0.1**
SNR=25
FRU1 Bishkek 61.58 304 *eP* **P 23 32 50.0 +0.6**
comp=Z,41nm,0.8s
FRU1 Bishkek 61.58 304 *eP* **P 23 32 50.1 +0.6**
FRU1 pmax pmax
comp=Z,41nm,0.8s
J42A Columbus 61.60 55 P **P 23 32 49.2 -0.3**
baz=317
N39A Derby Farms, D 61.64 59 *eP* **P 23 32 48.9 -0.9**
comp=Z,47nm,1.5s
I43A Langenfeld Bro 61.68 54 P **P 23 32 46.9 -3.2**
baz=317
E46A Sault Ste Mari 61.70 50 P **P 23 32 49.6 -0.6**
baz=318
AAK Ala-Archa 61.77 304 P **P 23 32 51.0 +0.1**
SNR=13
AAK Ala-Archa 61.77 304 *eP* **P 23 32 50.9 +0.1**
comp=Z,22nm,0.8s
AAK Ala-Archa 61.77 304 *i* P **P 23 32 51.2 +0.3**
SNR=15
AAK Ala-Archa 61.77 304 *c i* P **P 23 32 51.1 +0.1**
AAK pmax pmax
comp=Z,18nm,0.8s
L41A Preston 61.81 57 P **P 23 32 49.8 -1.2**
baz=317
LSA Lhasa 61.86 283 P **P 23 32 53.0 +0.9**
LSA pmax pmax
comp=Z,28nm,0.8s
LSA Lhasa 61.86 283 *eP* **P 23 32 52.9 +0.8**
comp=Z,9.8nm,0.6s
LSA Lhasa 61.86 283 *i* P **P 23 32 53.5 +1.4**
SNR=7.7
LSA Lhasa 61.86 283 *eP* **P 23 32 52.9 +0.8**
LSA pmax pmax
comp=Z,10.0nm,0.6s
NRN Naryn 61.88 302 *eP* **P 23 32 52.1 +0.3**
comp=Z,8.8nm,0.8s
NRN Naryn 61.88 302 *eP* **P 23 32 52.2 +0.3**
NRN pmax pmax
comp=Z,9.0nm,0.8s
K42A Prairie Point, 61.88 56 P **P 23 32 50.4 -1.1**
baz=317
F46A Macinaw City C 61.93 51 P **P 23 32 50.3 -1.3**
baz=318
SUF Sumiainen 62.01 343 P **P 23 32 51.9 -0.1**
SUF pmax pmax
comp=Z,59nm,0.9s
UCH Uchtor 62.06 304 P **P 23 32 53.8 +0.6**
SNR=6.3
E47A Iron Bridge 62.12 49 P **P 23 32 51.9 -1.0**
baz=318
EKS2 Erkin-Say 62.12 304 P **P 23 32 53.5 +0.2**
SNR=20
MATQ Matagami 62.12 44 P **P 23 32 51.0 -1.9**
baz=320
G46A Petoskey 62.22 51 P **P 23 32 53.0 -0.7**
baz=318
NSS Namsos 62.25 351 *eP* **P 23 32 53.0 -0.5**
SCHQ Schefferville 62.27 34 P **P 23 32 53.3 -0.6**
comp=Z,23nm,0.7s,baz=337,slow=7.4,SNR=30
SCHQ LR LR 00 01 56.8
comp=Z,400nm,20.1s,baz=329,slow=38
SCHQ Schefferville 62.27 34 *eP* **P 23 32 53.3 -0.6**
comp=Z,24nm,0.7s
D49A Beulah Townshi 62.38 48 P **P 23 32 53.5 -1.3**
baz=319
AML Almayashu 62.55 304 P **P 23 32 56.9 +0.5**
SNR=16
E48A Lockeyer 62.61 49 P **P 23 32 54.5 -1.7**
baz=319
N41A Harden Midland 62.62 58 *eP* **P 23 32 56.4 0.0**
comp=Z,33nm,1.0s
N41A Harden Midland 62.62 58 P **P 23 32 54.7 -1.7**
baz=317
WMOK Wichita Mounta 62.65 68 *eP* **P 23 32 56.7 -0.1**
comp=Z,15nm,1.1s
WMOK Wichita Mounta 62.65 68 *eP* **P 23 32 56.7 -0.1**
WMOK pmax pmax
comp=Z,15nm,1.1s
WMOK Wichita Mounta 62.65 68 P **P 23 32 56.7 -0.1**
baz=317
HNR Honiara 62.67 194 LR LR 23 57 32.2
comp=Z,103nm,19.6s,baz=346,slow=34
G47A Hillman 62.80 51 P **P 23 32 55.8 -1.8**
baz=318
MNAS Manas 62.89 305 P **P 23 32 58.4 0.0**
MNAS pmax pmax
comp=Z,23nm,0.7s
F48A Evansville 62.89 49 P **P 23 32 56.2 -1.9**
baz=319
LSQQ Lebel-sur-Quev 62.94 44 P **P 23 32 56.3 -2.0**
baz=320
O41A Passleys Farm, 63.04 59 P **P 23 32 58.8 -0.4**
baz=317
L44A Lake County Fo 63.05 55 P **P 23 32 58.5 -0.7**
baz=318
M43A Waltham Townsh 63.06 56 P **P 23 32 59.1 -0.2**
baz=318
D50A G1974 Best Tow 63.14 47 P **P 23 32 58.8 -1.0**
baz=320
F49A Sandfield 63.20 49 P **P 23 32 59.3 -0.9**
baz=319
FIA1 FINESS Array S 63.21 343 *eP* **P 23 32 59.7 -0.3**
FINES FINESS Array B 63.21 343 P **P 23 32 59.5 -0.5**
comp=Z,22nm,0.7s,baz=29,slow=8.7,SNR=30
FINES LR LR 00 04 56.3
comp=Z,411nm,18.4s,baz=30,slow=40
NONG Nongkai 63.25 265 P **P 23 33 02.2 +1.4**
comp=Z,0.5nm,1.3s
KSH Kashi 63.29 301 P **P 23 33 04.3 +3.2**
KSH pP sP 23 33 14.3 0.0
KSH PP **PP 23 35 24.5 +4.5**
KSH S **S 23 41 31.5 +0.6**
KSH sS sS 23 41 49.0 +2.3
KSH SS **SS 23 45 40.5 +3.6**
KSH pmax pmax
comp=Z,86nm,0.9s
KSH LR LR
comp=Z,350nm,6.9s
KSH LR LR
comp=Z,380nm,7.7s
KSH LR LR
comp=Z,2μm,22.6s
CHGQ Chibougamau 63.35 42 P **P 23 32 59.5 -1.7**
baz=321
SIJI Sorong 63.39 227 P **P 23 33 03.4 +1.6**
comp=Z,14nm,0.7s,baz=351,slow=5.0,SNR=8.5
D51A Lot 18 Range I 63.41 47 P **P 23 33 00.5 -1.0**
baz=320
KK31 Karatay Array 63.41 307 *eP* **P 23 33 01.4 -0.2**
KK31 Karatay Array 63.41 307 *eP* **P 23 33 01.5 -0.2**
KKAR Karatay Array 63.41 307 *eP* **P 23 33 01.4 -0.2**
KKAR Karatay Array 63.41 307 *eP* **P 23 33 01.5 -0.2**
VLDQ Val d'Or 63.46 45 *eP* **P 23 33 00.3 -1.5**
comp=Z,13nm,0.9s
TUL1 Leonard 63.47 65 *eP* **P 23 33 00.9 -1.2**
comp=Z,12nm,0.9s
ABKAR Akbulak array 63.52 317 *eP* **P 23 33 02.1 -0.2**
M44A Midewin, Midew 63.56 56 P **P 23 33 02.3 -0.4**
baz=318
SKNT Sakolnakorn 63.58 263 P **P 23 33 04.8 +1.8**
comp=Z,8.2nm,2.9s,comp=Z,921nm
I48A Sherman Twp 63.61 51 P **P 23 33 02.7 -0.2**
baz=319
TBLU Trondheim 63.67 351 *eP* **P 23 33 00.9 -2.1**
ABTX Abilene, Hawle 63.70 70 *eP* **P 23 33 04.0 +0.2**
comp=Z,17nm,0.9s
ABTX Abilene, Hawle 63.70 70 P **P 23 33 03.6 -0.1**
baz=317
Q41A Truxton 63.71 60 P **P 23 33 03.4 -0.3**
baz=318
P42A Winchester 63.71 59 *eP* **P 23 33 03.8 +0.2**
comp=Z,40nm,1.8s
TX31 Lajitas Ar. Si 63.76 75 *eP* **P 23 33 04.0 -0.2**
TXAR Lajitas Array 63.76 75 P **P 23 33 04.0 -0.2**
comp=Z,3.3nm,0.4s,baz=306,slow=5.4,SNR=76
TXAR LR LR 00 00 08.6
comp=Z,106nm,18.4s,baz=0.0,slow=36
E51A G1948 Merrick 63.78 47 P **P 23 33 03.2 -0.8**
baz=320
Q42A Golden Eagle 64.11 59 P **P 23 33 05.3 -1.0**
baz=318
R41A Rosebud 64.11 60 P **P 23 33 05.2 -1.2**
baz=318
D53A Lac Vacive, Po 64.15 46 P **P 23 33 04.3 -2.1**
baz=320
SFK Sufi-Kurgan 64.21 303 P **P 23 33 06.9 -0.3**
SFK pmax pmax
comp=Z,10.0nm,0.9s
HHAR Hobbs 64.22 64 *eP* **P 23 33 08.0 +0.9**
comp=Z,11nm,1.1s
PAYA Payao 64.25 268 P **P 23 33 09.2 +1.7**
comp=Z,5.8nm,0.9s,comp=Z,787nm
HPIG 64.34 79 *eP* **P 23 33 07.8 -0.4**
comp=Z,6.6nm,0.6s
CCM Cathedral Cave 64.36 60 P **P 23 33 06.6 -1.4**
baz=318
M46A Old House Fiel 64.40 55 *eP* **P 23 33 07.2 -0.9**
comp=Z,24nm,1.1s
M46A Old House Fiel 64.40 55 P **P 23 33 07.9 -0.3**
baz=319
F52A Sundridge 64.42 47 P **P 23 33 07.1 -1.1**
baz=320
R42A Luebbering 64.44 60 P **P 23 33 07.8 -0.7**
baz=318
S41A Jillco Farms, 64.44 61 P **P 23 33 07.0 -1.5**
baz=318
SHL Shillong 64.46 279 *eP* **P 23 33 08.9 -0.1**
comp=Z,26nm,0.7s
SHL Shillong 64.46 279 *eP* **P 23 33 08.9 -0.1**
SHL pmax pmax
comp=Z,26nm,0.7s
SHL Shillong 64.46 279 *eP* **P 23 33 12.0 +3.0**
D54A Lac Fusel, La 64.54 45 P **P 23 33 06.9 -2.1**
baz=321
MOL Molde 64.58 352 *eP* **P 23 33 08.5 -0.4**
E53A Dumoine, Ponti 64.70 46 P **P 23 33 08.8 -1.3**
baz=321
U40A Yellville 64.76 63 P **P 23 33 09.4 -1.2**
baz=318
FAKI Fak Fak 64.78 225 *eP* **P 23 33 11.8 +0.9**
comp=Z,16nm,1.0s
K49A Clarkson 64.78 52 P **P 23 33 09.8 -0.8**
baz=319
S42A Caledonia 64.82 60 P **P 23 33 09.6 -1.3**
baz=318
T41A Mountain View 64.84 62 P **P 23 33 09.5 -1.6**
baz=318
E54A Lac Daplat, Po 64.87 46 P **P 23 33 08.6 -2.6**
baz=321
R43A Red Bud 64.90 59 P **P 23 33 10.0 -1.5**
baz=318
L48A N Adams 64.94 53 P **P 23 33 09.8 -2.0**
baz=319
DOMB Dombas 64.97 351 *eP* **P 23 33 11.0 -0.6**
AKN Aaknes 65.01 352 *eP* **P 23 33 12.7 +0.9**
UTTA Uttaradit 65.07 267 P **P 23 33 13.8 +1.0**
comp=Z,4.5nm,0.8s,comp=Z,46nm
P45A Graceland, Par 65.10 57 P **P 23 33 10.8 -2.0**
baz=319
W39A Magazine 65.11 64 *eP* **P 23 33 15.7 +2.9**
comp=Z,45nm,1.5s
JCT Junction City 65.18 72 *eP* **P 23 33 13.3 -0.2**
comp=Z,30nm,1.3s
JCT Junction City 65.18 72 *eP* **P 23 33 13.3 -0.2**
JCT pmax pmax
comp=Z,30nm,1.3s
JCT Junction City 65.18 72 P **P 23 33 13.3 -0.2**
baz=318
T42A Van Buren 65.21 61 P **P 23 33 11.4 -2.0**
baz=318
CMMT Chiang Mai 65.23 269 P **P 23 33 14.7 +0.8**
comp=Z,19nm,1.1s
CHTO Chiang Mai 65.23 269 *eP* **P 23 33 14.5 +0.6**
comp=Z,11nm,0.8s
CHTO Chiang Mai 65.23 269 *eP* **P 23 33 14.5 +0.6**
CHTO pmax pmax
comp=Z,11nm,0.8s
CHTO Chiang Mai 65.23 269 P **P 23 33 14.7 +0.8**
comp=Z,83nm,1.2s
U41A Viola 65.27 62 P **P 23 33 12.6 -1.3**
baz=318
P46A Rosedale 65.31 57 P **P 23 33 12.2 -1.9**
baz=319
S43A Fulton Ridge, 65.34 60 P **P 23 33 13.6 -0.8**
baz=318
Q45A Warren Harvey, 65.36 58 P **P 23 33 13.6 -0.9**
baz=319
R44A Waltonville 65.36 59 P **P 23 33 13.9 -0.6**
baz=319
PMG Port Moresby 65.40 208 LR LR 23 58 02.2
comp=Z,96nm,19.6s,baz=345,slow=32
N48A Decatur 65.47 54 P **P 23 33 14.2 -0.9**
baz=319
CM31 Chiang Mai Arr 65.51 269 *eP* **P 23 33 17.0 +1.3**
CMAR Chiang Mai Arr 65.51 269 P **P 23 33 16.7 +1.0**
comp=Z,7.4nm,0.6s,baz=28,slow=7.0,SNR=50
CMAR LR LR 00 05 24.9
comp=Z,123nm,18.1s,baz=38,slow=39
M49A Liberty Center 65.52 53 P **P 23 33 14.3 -1.1**
baz=320
CM01 Chiang Mai Arr 65.53 269 *eP* **P 23 33 16.4 +0.7**
BTK Batken 65.54 304 P **P 23 33 15.7 0.0**
BTK pmax pmax
comp=Z,33nm,0.8s
NC303 NORSAR Array S 65.54 350 *eP* **P 23 33 15.0 -0.3**
NC204 NORSAR Array S 65.56 350 *eP* **P 23 33 14.8 -0.7**
V41A Mountainview 65.56 63 P **P 23 33 13.8 -2.0**
baz=318
T43A Greenville 65.60 61 P **P 23 33 15.3 -0.7**
baz=318
NC405 NORSAR Array S 65.62 350 *eP* **P 23 33 15.1 -0.7**
U42A Revenden 65.63 62 P **P 23 33 15.1 -1.2**
baz=318
S44A Carbondale 65.69 59 P **P 23 33 15.4 -1.2**
baz=319
MIAR Mount Ida 65.70 65 *eP* **P 23 33 16.8 +0.1**
comp=Z,9.1nm,0.9s
MIAR Mount Ida 65.70 65 P **P 23 33 16.8 +0.1**
MIAR pmax pmax
comp=Z,9.0nm,0.9s
MIAR Mount Ida 65.70 65 P **P 23 33 16.2 -0.5**
baz=318
PBKT Sadao Pong 65.72 266 *eP* **P 23 33 18.0 +1.0**
comp=Z,5.5nm,0.7s
PBKT Sadao Pong 65.72 266 P **P 23 33 18.4 +1.4**
comp=Z,8.5nm,1.6s,comp=Z,962nm
NB201 NORSAR Array S 65.72 350 *eP* **P 23 33 15.8 -0.7**
NB2 NORSAR Subarra 65.74 350 P **P 23 33 15.7 -0.9**
comp=Z,21nm,0.7s,baz=12,slow=6.5
NB2 NORSAR Subarra 65.74 350 P **P 23 33 15.7 -0.9**
baz=12,slow=6.5
NOA NORSAR Array B 65.74 350 P **P 23 33 16.2 -0.4**
comp=Z,16nm,0.6s,baz=14,slow=6.5,SNR=88
NOA LR LR 00 03 26.2
comp=Z,158nm,19.2s,baz=20,slow=37
PBMO Poplar Bluff 65.75 61 *eP* **P 23 33 16.3 -0.7**
comp=Z,30nm,0.9s
MOS Moscow 65.78 334 *eP* **P 23 33 15.8 -1.0**
MOS *e* 23 33 27.4
MOS pmax pmax
comp=Z,37nm,1.0s
MOS MLR MLR
comp=Z,500nm,20.0s
N49A Columbus Grove 65.84 54 P **P 23 33 16.4 -1.1**
baz=320
P47A Martinsville 65.88 56 P **P 23 33 16.8 -1.0**
baz=319
W41B Gary Mavity, V 65.96 63 P **P 23 33 17.4 -0.9**
baz=318
NAO01 NORSAR Array S 65.97 350 *eP* **P 23 33 17.4 -0.6**
LATQ La Tuque 66.00 42 P **P 23 33 17.2 -1.2**
baz=323
NC602 NORSAR Array S 66.00 350 *eP* **P 23 33 17.6 -0.7**
NC602 NORSAR Array S 66.00 350 *eP* **P 23 33 17.3 -1.0**
NORES NORESS Array B 66.00 350 P **P 23 33 17.3 -0.9**
NORES pmax pmax
comp=Z,2.0nm,0.3s
S45A Carrier Mills 66.05 59 P **P 23 33 18.0 -0.9**
baz=319
X40A Basin Creek Fa 66.15 64 P **P 23 33 19.2 -0.4**
baz=318
GUN Gumba 66.30 285 *eP* **P 23 33 21.3 +0.2**
comp=Z,137nm,0.9s
JIRN Jiri 66.30 285 *eP* **P 23 33 21.6 +0.5**
comp=Z,166nm,0.7s
O49A Covington 66.32 54 P **P 23 33 19.4 -1.2**
baz=320
P48A Milroy 66.33 56 P **P 23 33 19.7 -1.0**
baz=320
ALFO Alfred 66.50 45 P **P 23 33 19.8 -1.9**
baz=322
Q48A North Vernon 66.58 56 P **P 23 33 20.8 -1.5**
baz=320
RAMN Ramite 66.59 284 *eP* **P 23 33 23.1 +0.3**
comp=Z,201nm,0.6s
OBN Obninsk 66.61 334 LR LR 00 04 49.4
comp=Z,162nm,20.6s,baz=6.0,slow=38
OBN Obninsk 66.61 334 *i* P **P 23 33 21.9 -0.3**
OBN *PP **pP 23 33 29.0 -2.8**
OBN *e*SP **sP 23 33 34.3 -1.2**
OBN *e* 23 33 53.6
OBN *e* 23 35 56.8
OBN PPP PPP 23 37 28.0
OBN *i* S **S 23 42 17.8 +6.9**
OBN pmax pmax
comp=Z,14nm,1.0s
OBN MLR MLR
comp=Z,626nm,20.0s
P49A Miami Univ. Ec 66.63 55 P **P 23 33 20.6 -2.0**
baz=320
KKN Kakani 66.74 286 *eP* **P 23 33 24.1 +0.3**
comp=Z,64nm,0.7s
WCI Wyandotte Cave 66.82 57 P **P 23 33 23.2 -0.6**
baz=320
PKI Pulchoki 66.83 285 *eP* **P 23 33 24.6 +0.2**
comp=Z,128nm,0.7s
PKIN Phulchoki 66.83 285 *eP* **P 23 33 24.6 +0.2**
comp=Z,77nm,0.6s
OSL Oslo 66.87 350 *eP* **P 23 33 23.8 +0.1**
T46A Princeton 66.89 59 P **P 23 33 23.4 -0.9**
baz=319
DMN Daman 66.98 286 *eP* **P 23 33 25.8 +0.5**
comp=Z,64nm,0.7s
S47A Hartford 67.00 58 P **P 23 33 23.7 -1.2**
baz=320
P50A Jamestown 67.03 55 P **P 23 33 23.7 -1.4**
baz=320
SRAK Srakaew 67.04 263 P P 23 33 38.7 +13
O51A Pataskala 67.21 53 P **P 23 33 22.9 -3.3**
baz=320
DANN Dangsing 67.21 287 *eP* **P 23 33 27.0 +0.2**
comp=Z,93nm,0.7s
KONO Kongsberg 67.27 351 *eP* **P 23 33 26.0 -0.4**
comp=Z,18nm,0.7s
KONO Kongsberg 67.27 351 *i* P **P 23 33 24.9 -1.4**
KONO pmax pmax
comp=Z,8.0nm,0.7s
KONO Kongsberg 67.27 351 *eP* **P 23 33 26.2 -0.1**
UMPA Umpang Tak 67.28 267 P **P 23 33 29.4 +2.4**
comp=Z,9.7nm,0.7s,comp=Z,146nm
ODD1 Odda 67.28 352 *eP* **P 23 33 26.5 +0.1**
S48A Wiedeman Farm, 67.38 57 P **P 23 33 27.3 -0.1**
baz=320
UTHA Uthaitani 67.42 266 P **P 23 33 29.4 +1.5**
comp=Z,4.3nm,0.7s,comp=Z,96nm
LONY Lake Ozonia 67.43 45 P **P 23 33 23.5 -4.1**
baz=323
M54A Oil Creek Stat 67.57 51 P **P 23 33 27.8 -0.7**
baz=321
O52A Adamsville 67.61 53 *eP* **P 23 33 28.2 -0.6**
comp=Z,28nm,1.0s
O52A Adamsville 67.61 53 P **P 23 33 27.8 -1.0**
baz=321
WVT Waverly 67.61 60 *eP* **P 23 33 28.3 -0.6**
comp=Z,12nm,1.0s
WVT Waverly 67.61 60 *eP* **P 23 33 28.3 -0.6**
WVT pmax pmax
comp=Z,12nm,1.0s
WVT Waverly 67.61 60 P **P 23 33 28.3 -0.6**
baz=320
T48A Bowling Green 67.62 58 P **P 23 33 27.9 -1.0**
baz=320
W45A Hickory Valley 67.63 61 P **P 23 33 28.9 -0.1**
baz=319
U47A Clarksville 67.66 59 P **P 23 33 28.4 -0.8**
baz=320
S49A Springfield 67.67 57 P **P 23 33 28.9 -0.4**
baz=320
Q51A Peebles 67.70 55 P **P 23 33 27.7 -1.7**
baz=320
V46A Holladay 67.71 60 P **P 23 33 28.7 -0.8**
baz=320
KOLN Koldanda 67.74 287 *eP* **P 23 33 30.0 -0.1**
comp=Z,42nm,0.7s
BLS5 Blasjo 67.78 352 *eP* **P 23 33 28.9 -0.7**
R50A Paris 67.78 56 P **P 23 33 29.6 -0.3**
baz=320
N54A Moraine State 67.84 51 *eP* **P 23 33 30.4 +0.1**
comp=Z,22nm,0.8s
N54A Moraine State 67.84 51 P **P 23 33 29.6 -0.7**
baz=321
PYUN Piuthan 67.85 287 *eP* **P 23 33 30.7 -0.1**
comp=Z,101nm,0.9s
HKT Hockley 67.86 69 P **P 23 33 30.7 +0.2**
comp=Z,4.6nm,0.6s
HKT Hockley 67.86 69 P **P 23 33 30.7 +0.2**
HKT pmax pmax
comp=Z,5.0nm,0.6s
OXF Oxford 68.00 62 *eP* **P 23 33 31.1 -0.2**
comp=Z,65nm,1.0s
OXF Oxford 68.00 62 *eP* **P 23 33 31.1 -0.2**
OXF pmax pmax
comp=Z,65nm,1.0s
OXF Oxford 68.00 62 P **P 23 33 30.3 -1.0**
baz=320
U48A Cassie Pea, Po 68.00 59 P **P 23 33 30.3 -1.1**
baz=320
V47A Nunnelly 68.00 60 P **P 23 33 30.4 -1.0**
baz=320
T49A Edmonton 68.07 57 *eP* **P 23 33 32.1 +0.4**
comp=Z,32nm,1.5s
R51A Hillsboro 68.14 55 P **P 23 33 31.6 -0.6**
baz=320
LPSR Galich'ya Gora 68.17 332 *eP* **P 23 33 31.9 -0.2**
LPSR pmax pmax
comp=Z,20nm,0.7s
S50A Richmond 68.21 56 P **P 23 33 31.1 -1.5**
baz=320
PLAL Pickwick Lake 68.35 61 *eP* **P 23 33 33.4 -0.2**
comp=Z,19nm,1.1s
U49A Red Boiling Sp 68.39 58 P **P 23 33 30.1 -3.7**
baz=320
W47A Westpoint 68.41 60 P **P 23 33 33.0 -0.8**
baz=320

V48A **Smith Brothers** 68.44 59 P **P** 23 33 31.6 -2.5
baz=320
T50A **Nancy** 68.49 57 P **P** 23 33 32.1 -2.3
baz=320
VRH **Novokhopyorsk** 68.55 329 *e*P **P** 23 33 33.8 -0.7
VRH pmax pmax
comp=Z,60nm,0.8s
ISAL **Salakas** 68.67 340 *e*P **P** 23 33 35.3 +0.1
ISAL IAmb IAmb 23 33 36.6
comp=Z,8.4nm,1.0s
Z45A **Winona** 68.71 63 P **P** 23 33 34.8 -1.0
baz=320
IDID **Didziasalis** 68.78 340 *e*P **P** 23 33 35.9 +0.1
IDID IAmb IAmb 23 33 37.4
comp=Z,10nm,0.9s
SNART **Snartemo** 68.79 352 *e*P **P** 23 33 35.5 -0.4
X47A **Russelville** 68.82 61 P **P** 23 33 34.9 -1.6
baz=320
W48A **Pulaski** 68.84 60 P **P** 23 33 35.2 -1.4
baz=320
IIGN **Ignalina** 68.85 340 *e*P **P** 23 33 36.4 +0.1
IIGN IAmb IAmb 23 33 37.0
comp=Z,10nm,0.7s
T51A **Gray** 68.99 56 P **P** 23 33 36.9 -0.6
baz=321
O56A **Blue Knob Stat** 69.06 51 P **P** 23 33 37.1 -0.9
baz=322
SSPA **Standing Stone** 69.09 50 *e*P **P** 23 33 37.7 -0.3
comp=Z,16nm,0.9s
SSPA **Standing Stone** 69.09 50 P **P** 23 33 37.2 -0.8
baz=322
NIL **Nilore** 69.13 298 *e*P **P** 23 33 38.7 +0.3
NIL **Nilore** 69.13 298 *e*P **P** 23 33 38.7 +0.3
PKME **Peaks-Kenny Pk** 69.13 42 P **P** 23 33 37.3 -0.9
baz=325
W49A **Belvidere** 69.21 59 P **P** 23 33 38.0 -0.9
baz=320
Y47A **UCPARC, Winfie** 69.30 61 P **P** 23 33 38.8 -0.6
baz=320
ZAIG **Zacatecas** 69.31 79 *e*P **P** 23 33 40.5 +0.4
comp=Z,13nm,1.2s
VSR **Storozhevoye** 69.32 331 *e*P **P** 23 33 38.6 -0.7
VSR pmax pmax
comp=Z,30nm,1.2s
T52A **Hallie** 69.36 56 P **P** 23 33 39.4 -0.4
baz=321
V50A **Pikevile** 69.39 58 P **P** 23 33 38.9 -1.1
baz=321
U51A **La Follette** 69.40 57 P **P** 23 33 39.2 -0.9
baz=321
VORD **Divnogorie** 69.51 330 *e*P **P** 23 33 39.9 -0.5
VORD pmax pmax
comp=Z,20nm,1.0s
X49A **Woodville** 69.64 60 P **P** 23 33 40.2 -1.3
baz=320
V51A **Loudon** 69.67 58 P **P** 23 33 41.2 -0.5
baz=321
Z47A **Carrollton** 69.72 62 P **P** 23 33 40.7 -1.3
baz=320
Z48A **Northport** 69.86 61 P **P** 23 33 41.3 -1.6
baz=320
W51A **Cleveland** 69.96 58 P **P** 23 33 42.2 -1.3
baz=321
147A **Livingston** 70.01 62 P **P** 23 33 42.4 -1.4
baz=320
X50B **Fort Payne** 70.03 59 P **P** 23 33 42.4 -1.7
baz=321
MCD **Coleburn Disti** 70.15 357 *e*P **P** 23 33 44.1 -0.2
MVL **Millersville** 70.31 49 *e*P **P** 23 33 45.7 +0.2
comp=Z,79nm,2.0s
MDO **Dochfour** 70.31 358 *e*P **P** 23 33 45.0 -0.3
Z49A **Columbiana** 70.55 61 P **P** 23 33 45.5 -1.6
baz=321
SDMD **Soldier's Deli** 70.55 50 *e*P **P** 23 33 47.9 +0.9
comp=Z,22nm,1.4s
PAL **Palisades** 70.62 47 P **P** 23 33 46.7 -0.7
baz=324
KBL **Kabul** 70.67 302 *e*P **P** 23 33 46.9 -1.3
comp=Z,32nm,0.8s
KBL **Kabul** 70.67 302 *e*P **P** 23 33 46.9 -1.3
KBL pmax pmax
comp=Z,32nm,0.8s
KLNR **Kaliningrad** 70.71 343 *i* P **P** 23 33 48.6 +0.9
KLNR pmax pmax
comp=Z,80nm,0.9s
SUW **Suwalki** 70.72 341 *e*P **P** 23 33 46.7 -1.1
SUW **Suwalki** 70.72 341 *e*P **P** 23 33 47.5 -0.4
comp=Z,28nm,0.9s
SUW **Suwalki** 70.72 341 *e*P **P** 23 33 46.7 -1.1
248A **Dixon Mills** 70.74 62 P **P** 23 33 47.4 -0.9
baz=321
W53A **Cullowhee** 70.78 57 P **P** 23 33 47.3 -1.3
baz=321
Z50A **Ashland** 70.82 60 P **P** 23 33 47.1 -1.7
baz=321
X52A **Dahlonega** 70.84 58 P **P** 23 33 48.0 -0.9
baz=321
X53A **Estanollee** 71.22 58 P **P** 23 33 49.8 -1.4
baz=322
150A **Eclectic** 71.27 61 P **P** 23 33 51.3 -0.2
baz=321
INVG **Invergeldie, C** 71.32 358 *e*P **P** 23 33 50.6 -0.9
Y52A **Lilburn** 71.33 59 P **P** 23 33 51.9 +0.1
baz=321
GOGA **Godfrey** 71.99 59 P **P** 23 33 54.4 -1.4
baz=322
Z53A **Monticello** 72.04 59 P **P** 23 33 55.9 -0.3
baz=322
Y54A **Tignall** 72.04 58 P **P** 23 33 55.4 -0.7
baz=322
ESK **Eskdalemuir** 72.42 357 *e*P **P** 23 33 58.0 0.0
comp=Z,20nm,0.6s
ESK **Eskdalemuir** 72.42 357 *e*P **P** 23 33 57.5 -0.5
ESK IAmb IAmb 23 33 58.4
comp=Z,20nm,0.7s
ESK **Eskdalemuir** 72.42 357 *e*P **P** 23 33 58.0 0.0
ESK pmax pmax
comp=Z,20nm,0.6s
AKASG **Malin Array Be** 72.49 336 P **P** 23 33 58.3 -0.2
comp=Z,7.2nm,0.6s,baz=25,slow=6.1,SNR=17
AKASG LR LR 00 09 31.4
comp=Z,295nm,18.8s,baz=25,slow=39
AKASG **Malin Array Be** 72.49 336 *ce*P **P** 23 33 58.0 -0.6
AKASG pmax pmax
comp=Z,7.0nm,0.6s
AKBB **Malin Array Si** 72.49 336 *e*P **P** 23 33 58.4 -0.2
comp=Z,9.5nm,0.8s
AKBB **Malin Array Si** 72.49 336 *e*P **P** 23 33 58.4 -0.2
AKBB pmax pmax
comp=Z,10.0nm,0.8s
KIEV **Kiev** 72.50 336 *e*P **P** 23 33 58.5 -0.1
comp=Z,9.6nm,0.9s
KIEV **Kiev** 72.50 336 P **P** 23 33 58.5 -0.1
KIEV **Kiev** 72.50 336 *i* P **P** 23 33 57.7 -0.9
KIEV pmax pmax
comp=Z,8.0nm,0.9s
CLGH **Cloghs, Cushen** 72.70 359 *e*P **P** 23 33 59.5 -0.3
CLGH IAmb IAmb 23 34 00.2
comp=Z,32nm,0.9s
EDMD **Edmundbyers** 72.86 357 *e*P **P** 23 34 00.3 -0.3
EDMD IAmb IAmb 23 34 01.7
comp=Z,125nm,1.8s
KESW **Keswick, Cumbr** 73.14 357 *e*P **P** 23 34 01.6 -0.8
KESW IAmb IAmb 23 34 02.9
comp=Z,21nm,0.9s
BEL **Belsk** 73.25 342 *e*P **P** 23 34 04.0 +1.0
BEL **Belsk** 73.25 342 *e*P **P** 23 34 04.0 +1.0
TAOE **Nuku Hiva Isla** 73.35 131 *e*LR LR 23 56 34.0
comp=Z,992nm,27.6s
GOF **Gofitskoye** 73.46 325⇑ *i*P **P** 23 34 05.2 +0.8
GOF pmax pmax
comp=Z,110nm,0.8s
IOMK **Kirk Michael** 73.51 358 *e*P **P** 23 34 03.5 -1.0
WIM **Isle of Man** 73.62 358 *e*P **P** 23 34 04.3 -0.8
GROC **Groznyy** 74.07 322 *e*P **P** 23 34 07.0 -1.0
GROC *e* 23 36 49.8
GROC pmax pmax
comp=Z,24nm,0.8s
MTN **Manton Dam** 74.17 222 *e*P **P** 23 34 09.7 +0.9
comp=Z,15nm,1.0s
DZM **Mont Dzumac** 74.50 186 *e*LR LR 23 57 10.5
comp=Z,790nm,24.3s
LVV **L'vov** 74.51 339 *e*P **P** 23 34 10.0 -0.5
KVAR **Kislovodsk Arr** 74.54 325 LR LR 00 12 00.3
comp=Z,196nm,18.2s,baz=254,slow=40
KIV **Kislovodsk** 74.55 325 *e*P **P** 23 34 11.0 +0.1
comp=Z,20nm,0.9s

KIV **Kislovodsk** 74.55 325 *i* P **P** 23 34 11.7 +0.8
SNR=8.9
KIV **Kislovodsk** 74.55 325 *e*P **P** 23 34 10.5 -0.4
KIV *e*S **S** 23 43 43.4 -0.5
KIV pmax pmax
comp=Z,25nm,1.1s
KIV MLR MLR
comp=Z,178nm,18.0s
DSB **Dublin** 74.55 359 *e*P **P** 23 34 10.7 +0.1
comp=Z,24nm,0.7s
NCK **Nalchik** 74.62 324 *c* P **P** 23 34 11.8 +0.6
NCK pmax pmax
comp=Z,24nm,0.8s
KBZ **Khabaz** 74.67 325 P **P** 23 34 12.2 +0.7
comp=Z,25nm,0.8s,baz=61,slow=2.6,SNR=64
KBZ LR LR 00 12 18.9
comp=Z,388nm,19.2s,baz=18,slow=40
FOEL **Foel Wylfa** 74.84 357 *e*P **P** 23 34 11.9 -0.4
FOEL IAmb IAmb 23 34 12.8
comp=Z,21nm,0.8s
KWP **Kalwaria Pacla** 74.97 340 *e*P **P** 23 34 13.9 +0.8
KWP **Kalwaria Pacla** 74.97 340 *e*P **P** 23 34 13.9 +0.8
OJC **Ojcow** 74.98 342 *e*P **P** 23 34 13.6 +0.4
OJC **Ojcow** 74.98 342 *e*P **P** 23 34 13.4 +0.2
comp=Z,20nm,0.9s
OJC **Ojcow** 74.98 342 *e*P **P** 23 34 13.6 +0.4
KSP **Ksiaz** 75.00 345 *e*P **P** 23 34 13.3 +0.1
KSP **Ksiaz** 75.00 345 *e*P **P** 23 34 13.3 +0.1
CLL **Collm** 75.04 347 *e*P **P** 23 34 12.8 -0.8
comp=Z,51nm,2.0s
CLL **Collm** 75.04 347 *i* P **P** 23 34 12.7 -0.8
comp=Z,14nm,1.2s
CLL *i* 23 34 55.7
CLL *e*PP **PP** 23 37 00.0 -0.8
CLL *e*SS SS 23 48 36.0 -0.6
CLL *e* 23 52 30.0
CLL Lm MLR 00 07 00.0
comp=Z,300nm,21.7s
CLL **Collm** 75.04 347 *i* P **P** 23 34 12.7 -0.8
CLL pmax pmax
comp=Z,14nm,1.2s
ZEI **Tsey** 75.13 323 *e*P **P** 23 34 12.3 -2.1
ZEI pmax pmax
comp=Z,32nm,0.8s
NEY **Neytrino** 75.15 324 *i* P **P** 23 34 14.1 -0.4
NEY pmax pmax
comp=Z,1.0nm,0.8s
UPC **Upice** 75.37 345 *e*P **P** 23 34 15.7 +0.3
UPC AMS AMS 00 07 00.0
comp=Z,600nm,22.8s
UPC **Upice** 75.37 345 *e*P **P** 23 34 15.7 +0.3
UPC MLR MLR
comp=Z,600nm,22.8s
DPC **Dobruska-Polom** 75.47 344 *e*P **P** 23 34 15.8 -0.2
DPC *e*pP **pP** 23 34 26.7 +0.9
DPC AMS AMS 00 07 00.0
comp=Z,400nm,17.9s
DPC **Dobruska-Polom** 75.47 344 *e*P **P** 23 34 15.8 -0.2
DPC *e* 23 34 26.7
DPC MLR MLR
comp=Z,400nm,17.9s
PMOR **Pomariorio Ree** 75.54 140 *e*T T 00 56 44.1
comp=Z,8.5nm,0.2s
PVCC **Panska Ves** 75.57 346 *e*P **P** 23 34 16.1 -0.5
PVCC **Panska Ves** 75.57 346 *e*P **P** 23 34 16.1 -0.5
OKC **Ostrava-Krasne** 75.65 343 *e*P **P** 23 34 17.6 +0.6
OKC *e*pP **PcP** 23 34 29.7 0.0
OKC AMS AMS 00 11 20.0
comp=Z,400nm,17.3s
OKC **Ostrava-Krasne** 75.65 343 *e*P **P** 23 34 17.6 +0.6
OKC *e* 23 34 29.7
OKC MLR MLR
comp=Z,400nm,17.3s
TBLG **Delisi** 75.74 322 *e*P **P** 23 34 18.8 +1.1
comp=Z,64nm,0.7s
MORC **Moravsky Berou** 75.82 343 *e*P **P** 23 34 18.3 +0.2
comp=Z,13nm,1.0s
MORC **Moravsky Berou** 75.82 343⇑ *i*P **P** 23 34 18.3 +0.2
MORC **Moravsky Berou** 75.82 343 *e*P **P** 23 34 18.3 +0.2
MORC pmax pmax
comp=Z,13nm,1.0s
MORC **Moravsky Berou** 75.82 343 *e*P **P** 23 34 18.2 +0.2
CTA **Charters Tower** 75.84 205 P **P** 23 34 19.2 +0.9
comp=Z,5.1nm,0.6s,baz=26,slow=7.8,SNR=6.5
MONM **Monmouth** 75.88 357 *e*P **P** 23 34 17.9 -0.3
MONM IAmb IAmb 23 34 18.3
comp=Z,22nm,0.8s
STRD **Stroud** 75.92 356 *e*P **P** 23 34 18.0 -0.5
STRD IAmb IAmb 23 34 19.4
comp=Z,29nm,0.7s
UZH **Uzhgorod** 76.01 340 *e*P **P** 23 34 18.5 -0.5
UZH *e* 23 34 28.5
UZH *e* 23 34 33.7
LANS **Liptovska Anna** 76.07 342 *e*P **P** 23 34 20.8 +1.3
LANS *e* 23 34 34.5
LANS **Liptovska Anna** 76.07 342 *e*P **P** 23 34 20.8 +1.3
LANS *es*P **sP** 23 34 34.5 +1.6
GOPC **GO Pecny, Ondr** 76.14 345 *e*P **P** 23 34 20.2 +0.4
GOPC AMS AMS 00 11 40.0
comp=Z,400nm,17.5s
GOPC **GO Pecny, Ondr** 76.14 345 *e*P **P** 23 34 20.2 +0.4
GOPC MLR MLR
comp=Z,400nm,17.5s
NKC **Novy Kostel** 76.17 347 *e*P **P** 23 34 20.3 +0.3
NKC **Novy Kostel** 76.17 347 *e*P **P** 23 34 20.3 +0.3
BUR08 **Bucovina Ar. S** 76.30 338 *e*P **P** 23 34 21.5 +0.6
BUR04 **Bucovina Ar. S** 76.32 338 *e*P **P** 23 34 21.1 0.0
BURAR **Bucovina Array** 76.33 338⇑ *i*P **P** 23 34 21.3 +0.2
BURAR **Bucovina Array** 76.33 338 P **P** 23 34 21.2 +0.2
TRPA **Tarpa** 76.43 340⇑ *i*P **P** 23 34 22.6 +1.1
TRPA **Tarpa** 76.43 340⇑ *e*P **P** 23 34 22.3 +0.8
VRAC **Vranov** 76.43 344 P **P** 23 34 21.5 0.0
comp=Z,13nm,0.7s,baz=16,slow=7.4
VRAC LR LR 00 11 16.2
comp=Z,264nm,19.9s,baz=19,slow=38
VRAC **Vranov** 76.43 344⇑ *i*P **P** 23 34 22.2 +0.7
VRAC **Vranov** 76.43 344 *e*P **P** 23 34 21.9 +0.4
AKH **Akhalkalaki** 76.48 323 *e*P **P** 23 34 23.5 +1.4
comp=Z,17nm,0.9s
AKH **Akhalkalaki** 76.48 323⇑ *i*P **P** 23 34 23.6 +1.5
AKH **Akhalkalaki** 76.48 323 *e*P **P** 23 34 23.5 +1.4
AKH pmax pmax
comp=Z,17nm,0.9s
KECS **Kecovo** 76.51 341 *e*P **P** 23 34 21.5 -0.5
KECS *e* 23 34 37.8
KECS pmax pmax
comp=Z,18nm,0.9s
KECS **Kecovo** 76.51 341 *e*P **P** 23 34 21.5 -0.5
KECS *es*P **sP** 23 34 37.8 +2.4
MEM **Membach** 76.55 351 ⇓P **P** 23 34 22.2 +0.1
LEOM **Leova** 76.66 335⇑ *i*P **P** 23 34 22.9 +0.1
LEOM **Leova** 76.66 335 P **P** 23 34 22.9 +0.1
JAVC **Velka Javorina** 76.68 343 *e*P **P** 23 34 24.4 +1.4
KRUC **Moravsky** 76.70 344 *e*P **P** 23 34 23.3 +0.3
BIZ **Bicaz** 76.75 337⇑ *i*P **P** 23 34 23.9 +0.6
BCLA **Clavier** 76.80 352 ⇑P **P** 23 34 22.5 -1.0
VYHS **Vyhne** 76.82 342 *e*P **P** 23 34 24.3 +0.6
VYHS pmax pmax
comp=Z,7.0nm,1.1s
VYHS **Vyhne** 76.82 342 *e*P **P** 23 34 24.3 +0.6
GRF **Grafenberg Arr** 76.86 348 P **P** 23 34 23.8 -0.1
GRF pmax pmax
comp=Z,76nm,1.8s
GRFO **Grafenberg** 76.86 348 *e*P **P** 23 34 23.9 0.0
comp=Z,67nm,1.8s
GRFO **Grafenberg** 76.86 348 *e*P **P** 23 34 23.9 0.0
GRFO pmax pmax
comp=Z,67nm,1.8s
ARCR **ARCALIA** 77.02 338⇑ *i*P **P** 23 34 25.9 +1.0
KHC **Kasperske Hory** 77.08 346 *e*P **P** 23 34 24.9 -0.3
comp=Z,9.9nm,1.3s
KHC **Kasperske Hory** 77.08 346 *e*P **P** 23 34 25.8 +0.6
KHC *es*P **sP** 23 34 42.0 +3.4
KHC AMS AMS 00 10 30.0
comp=Z,400nm,22.6s
KHC **Kasperske Hory** 77.08 346 *e*P **P** 23 34 24.9 -0.3
KHC pmax pmax
comp=Z,10.0nm,1.3s
GNI **Garni** 77.11 321 LR LR 00 12 43.2
comp=Z,584nm,20.7s,baz=40,slow=39
GNI **Garni** 77.11 321 *e*P **P** 23 34 27.1 +1.5
comp=Z,190nm,2.0s
GNI **Garni** 77.11 321 *i* P **P** 23 34 27.0 +1.3
SNR=9.5

GNI **Garni** 77.11 321 *ce*P **P** 23 34 27.0 +1.3
GNI pmax pmax
comp=Z,57nm,0.9s
PSZ **Piszkesteto** 77.17 341 *e*P **P** 23 34 27.1 +1.3
comp=Z,60nm,1.7s
PSZ **Piszkesteto** 77.17 341⇑ *i*P **P** 23 34 26.5 +0.7
PSZ **Piszkesteto** 77.17 341⇑ *e*P **P** 23 34 26.3 +0.5
PSZ **Piszkesteto** 77.17 341 P **P** 23 34 27.1 +1.3
PSZ pmax pmax
comp=Z,60nm,1.7s
WET **Wettzell** 77.17 346 P **P** 23 34 26.1 +0.4
DOU **Dourbes** 77.18 352 ⇑P **P** 23 34 25.1 -0.6
MODS **Modra-Piesok** 77.22 343 *e*P **P** 23 34 26.0 +0.1
MODS pmax pmax
comp=Z,25nm,1.1s
MODS **Modra-Piesok** 77.22 343 *e*P **P** 23 34 26.0 +0.1
PPT **Papeete** 77.25 143 LR LR 00 00 45.6
comp=Z,504nm,20.5s,baz=342,slow=30
BAIF **Baives** 77.25 352 *e*P **P** 23 34 25.4 -0.7
BAIF pmax pmax
comp=Z,48nm,1.7s
PPT2 **Papeete2** 77.26 143 *e*S **S** 23 44 12.6 -1.5
comp=Z,422nm,27.8s
PPT2 **Papeete2** 77.26 143 *e*LR LR 23 58 15.9
comp=Z,970nm,23.0s,baz=341
KARS **Kars** 77.31 323 P **P** 23 34 28.6 +1.8
GEC2 **GERESS Array S** 77.34 346 *e*P **P** 23 34 26.7 -0.1
comp=Z,8.6nm,0.8s
GEC2 **GERESS Array S** 77.34 346 *e*P **P** 23 34 26.7 -0.1
GEC2 pmax pmax
comp=Z,9.0nm,0.8s
GERES **GERESS Array B** 77.34 346 P **P** 23 34 26.6 -0.1
comp=Z,7.2nm,0.6s,baz=31,slow=5.2,SNR=57
GERES LR LR 00 11 23.3
comp=Z,284nm,20.6s,baz=19,slow=38
GEA0 **GERESS Array S** 77.35 346 *e*P **P** 23 34 25.8 -1.0
WLF **Walferdange** 77.47 351 ⇓P **P** 23 34 26.9 -0.4
CJR **Cluj-Napoca** 77.54 339⇑ *i*P **P** 23 34 28.6 +0.7
CJR **Cluj-Napoca** 77.54 339 P **P** 23 34 28.5 +0.7
VRI **Vrincioaia** 77.61 336⇑ *i*P **P** 23 34 28.2 0.0
VRI **Vrincioaia** 77.61 336 P **P** 23 34 28.1 -0.1
ODBI **Odobesti** 77.62 336⇑ *i*P **P** 23 34 29.7 +1.5
DRGR 77.66 339 P **P** 23 34 29.0 +0.5
TLCR 77.71 335⇑ *i*P **P** 23 34 29.2 +0.5
TLCR 77.71 335 P **P** 23 34 29.1 +0.4
PSI **Prapat** 77.75 258 *e*P **P** 23 34 30.5 +1.0
comp=Z,10nm,0.8s
PSI **Prapat** 77.75 258 *e*P **P** 23 34 30.5 +1.0
PSI pmax pmax
comp=Z,10.0nm,0.8s
BUD **Budapest** 77.75 342⇑ *e*P **P** 23 34 30.0 +1.1
BUD **Budapest** 77.75 342 P **P** 23 34 30.4 +1.5
CONA **Conrad Observa** 77.89 344 *i* P **P** 23 34 30.8 +1.0
comp=Z,17nm,0.8s,SNR=5.6
CFR **Carcaliu** 77.89 335⇑ *i*P **P** 23 34 29.8 +0.1
CFR **Carcaliu** 77.89 335 P **P** 23 34 29.8 +0.1
SOP **Sopron** 78.01 344⇑ *e*P **P** 23 34 31.3 +1.0
MLR **Muntele Rosu** 78.15 337 *e*P **P** 23 34 32.9 +1.6
comp=Z,11nm,1.1s
MLR **Muntele Rosu** 78.15 337⇑ *i*P **P** 23 34 32.5 +1.2
MLR **Muntele Rosu** 78.15 337 *e*P **P** 23 34 32.9 +1.6
MLR pmax pmax
comp=Z,11nm,1.1s
MOA **Molln** 78.22 345 *i* P **P** 23 34 31.5 0.0
comp=Z,5.4nm,0.9s
VOIR 78.42 337⇑ *i*P **P** 23 34 33.6 +0.8
VOIR 78.42 337 P **P** 23 34 33.5 +0.8
BFO **Black Forest** 78.56 349 *e*P **P** 23 34 33.0 -0.4
comp=Z,34nm,2.0s
BFO **Black Forest** 78.56 349 *e*P **P** 23 34 33.0 -0.4
BFO pmax pmax
comp=Z,34nm,2.0s
CDF **Champ du Feu** 78.59 350 *e*P **P** 23 34 32.8 -0.9
CDF pmax pmax
comp=Z,6.0nm,0.8s
ARSA **Arzberg** 78.60 344 *i* P **P** 23 34 34.9 +1.2
comp=Z,13nm,0.9s
HYB **Hyderabad** 78.64 284 *i* P **P** 23 34 34.0 -0.3
HYB *e* 23 34 48.0
FLN **La Foliniere** 78.86 355 *e*P **P** 23 34 33.9 -1.1
FLN pmax pmax
comp=Z,14nm,1.0s
LDF **La Druitiere** 79.01 355 *e*P **P** 23 34 34.7 -1.1
LDF pmax pmax
comp=Z,14nm,1.0s
BZS **Buzias** 79.02 340⇑ *i*P **P** 23 34 36.0 0.0
BZS **Buzias** 79.02 340 P **P** 23 34 35.9 0.0
RETA **Reutte** 79.09 347 *i* P **P** 23 34 37.3 +0.9
comp=Z,7.7nm,1.3s
HAU **Haudompre** 79.09 350 *e*P **P** 23 34 35.5 -0.9
HAU pmax pmax
comp=Z,29nm,1.4s
KBA **Koelnbreinsper** 79.12 346 *i* P **P** 23 34 37.8 +1.1
comp=Z,36nm,0.8s,SNR=5.8
KBA **Koelnbreinsper** 79.12 346 P **P** 23 34 37.7 +1.0
WATA **Walderalm** 79.12 347 *i* P **P** 23 34 36.9 +0.2
comp=Z,8.8nm,0.6s,SNR=6.2
MOTA **Moosalm** 79.18 347 *i* P **P** 23 34 37.3 +0.3
comp=Z,4.2nm,0.7s
WTTA **Wattenberg** 79.19 347 *i* P **P** 23 34 37.6 +0.5
comp=Z,17nm,0.7s
HINF **Hinteralfeld** 79.23 350 *e*P **P** 23 34 36.0 -1.1
HINF pmax pmax
comp=Z,5.0nm,0.8s
SOKA **Soboth** 79.24 344 *i* P **P** 23 34 38.0 +0.7
comp=Z,35nm,1.7s,SNR=6.2
GRR **Gorron** 79.25 355 *e*P **P** 23 34 36.3 -0.9
GRR pmax pmax
comp=Z,11nm,0.6s
SQTA **Sankt Quirin** 79.29 347 *i* P **P** 23 34 37.6 0.0
comp=Z,16nm,0.8s
ROSF **Rostrenen** 79.40 357 *e*P **P** 23 34 37.5 -0.5
ROSF pmax pmax
comp=Z,102nm,1.8s
WRAB **Tennant Creek** 79.40 216 *e*P **P** 23 34 38.8 +0.6
comp=Z,10nm,1.0s
WRAB **Tennant Creek** 79.40 216 *ce*P **P** 23 34 38.4 +0.2
WRAB pmax pmax
comp=Z,5.0nm,0.8s
WB2 **Warramunga Arr** 79.41 216 *e*P **P** 23 34 39.0 +0.7
WRA **Warramunga Arr** 79.41 216 P **P** 23 34 38.4 +0.2
comp=Z,4.6nm,0.8s,baz=29,slow=6.3,SNR=35
WRA LR LR 00 06 03.3
comp=Z,142nm,21.9s,baz=70,slow=33
WRA **Warramunga Arr** 79.41 216 *i* P **P** 23 34 39.2 +0.9
WRA pmax pmax
comp=Z,5.0nm,0.8s
SGMF **Saint Gilles** 79.46 357 *e*P **P** 23 34 37.5 -0.8
SGMF pmax pmax
comp=Z,25nm,1.2s
OBKA **Obir** 79.48 345 *i* P **P** 23 34 39.2 +0.6
comp=Z,30nm,0.8s
MYKA **Terra Mystica** 79.51 345 P **P** 23 34 39.5 +0.8
comp=Z,5.0nm,0.7s
HERR **Herculane** 79.54 339⇑ *i*P **P** 23 34 39.5 +0.7
FETA **Feichten** 79.55 347 *i* P **P** 23 34 39.4 +0.4
comp=Z,6.5nm,0.7s
ABTA **Abfaltersbach** 79.57 346 *i* P **P** 23 34 39.4 +0.3
comp=Z,14nm,0.7s
MDVR **Moldovita** 79.79 339⇑ *i*P **P** 23 34 40.0 -0.2
QUIF **Quistinic** 79.82 357 *e*P **P** 23 34 39.3 -0.9
QUIF pmax pmax
comp=Z,113nm,2.2s
DAVOX **Davos/Dischmat** 79.90 348 P **P** 23 34 41.1 +0.2
comp=Z,8.2nm,0.7s,baz=360,slow=5.4,SNR=17
PUNG **Punghina** 80.00 338⇑ *i*P **P** 23 34 41.2 -0.1
FUORN **Ofenpass-Fuorn** 80.00 348 *e*P **P** 23 34 42.5 +0.9
comp=Z,11nm,0.7s
LOR **Lormes** 80.05 352 *e*P **P** 23 34 40.7 -0.9
LOR pmax pmax
comp=Z,18nm,1.3s
ILGA **Ilgaz** 80.11 330 *e*P **P** 23 34 43.9 +1.6
comp=Z,106nm,2.0s
TUE **Stuetta** 80.27 348 *e*P **P** 23 34 43.3 +0.3
comp=Z,67nm,1.9s
SSF **Saint Saulge** 80.29 352 *e*P **P** 23 34 42.8 0.0
SSF pmax pmax
comp=Z,6.0nm,0.8s
CABF **La Chapelle** 80.50 350 *e*P **P** 23 34 43.6 -0.5
CABF pmax pmax
comp=Z,40nm,1.7s
AVF **Avril sur Loir** 80.57 352 *e*P **P** 23 34 43.7 -0.6
AVF pmax pmax
comp=Z,48nm,1.9s
SMF **Signal de Mont** 80.67 352 *e*P **P** 23 34 44.1 -0.8

SMF				pmax	pmax			
	comp=Z,8.0nm,0.7s							
BGF	**Bois d'Agland**	**80.84**	**353**	*eP*	**P**	**23**	**34**	**48.3** **+2.5**
BGF				pmax	pmax			
	comp=Z,29nm,1.4s							
MFF	**Saint Martin d**	**81.00**	**355**	*eP*	**P**	**23**	**34**	**46.0** **-0.6**
MFF				pmax	pmax			
	comp=Z,45nm,1.8s							
TCF	**Toulx Ste Croi**	**81.16**	**353**	*eP*	**P**	**23**	**34**	**47.0** **-0.5**
TCF				pmax	pmax			
	comp=Z,19nm,1.3s							
FITZ	**Fitzroy Crossi**	**81.18**	**224**	*eP*	**P**	**23**	**34**	**51.5** **+3.7**
	comp=Z,45nm,1.6s							
BR131	**Keskin Array S**	**81.34**	**329**	*eP*	**P**	**23**	**34**	**49.1** **+0.4**
BRTR	**Keskin Array B**	**81.35**	**329**	P	**P**	**23**	**34**	**49.0** **+0.3**
	comp=Z,7.8nm,0.6s,baz=59,slow=2.8,SNR=61							
BRTR				LR	LR	00	15	03.2
	comp=Z,112nm,21.3s,baz=14,slow=39							
ANTO	**Ankara**	**81.48**	**330**	*i*P	**P**	**23**	**34**	**50.3** **+0.9**
ANTO	**Ankara**	**81.48**	**330**	P	**P**	**23**	**34**	**50.2** **+0.9**
LPL	**La Plagne**	**81.51**	**350**	*eP*	**P**	**23**	**34**	**49.9** **+0.2**
LPL				pmax	pmax			
	comp=Z,10.0nm,0.8s							
LPG	**La Plagne**	**81.53**	**350**	*eP*	**P**	**23**	**34**	**50.3** **+0.5**
LPG				pmax	pmax			
	comp=Z,8.0nm,0.8s							
VTS	**Vitosha**	**81.54**	**337**	*eP*	**P**	**23**	**34**	**49.8** **0.0**
	comp=Z,22nm,1.5s							
VTS	**Vitosha**	**81.54**	**337**	*i*P	**P**	**23**	**34**	**49.5** **-0.3**
VTS	**Vitosha**	**81.54**	**337**	*eP*	**P**	**23**	**34**	**49.8** **0.0**
VTS				pmax	pmax			
	comp=Z,22nm,1.5s							
PLE	**Pljevlja**	**81.67**	**340**	P	**P**	**23**	**34**	**52.2** **+1.8**
ORIF	**Oris-en-Rattie**	**82.19**	**350**	*eP*	**P**	**23**	**34**	**54.1** **+1.0**
MBDF	**Montbardon**	**82.29**	**350**	*eP*	**P**	**23**	**34**	**54.4** **+0.7**
MBDF				pmax	pmax			
	comp=Z,17nm,0.8s							
VIVF	**Saint-Julien-l**	**82.37**	**351**	*eP*	**P**	**23**	**34**	**55.4** **+1.4**
VIVF				pmax	pmax			
	comp=Z,23nm,1.5s							
CAF	**Calviac**	**82.52**	**353**	*eP*	**P**	**23**	**34**	**54.6** **-0.1**
CAF				pmax	pmax			
	comp=Z,13nm,1.0s							
TBI	**Tubuai**	**82.60**	**145**	*e*LR	LR	00	00	46.8
	comp=Z,735nm,26.5s,baz=338							
LFF	**La Frestale**	**82.60**	**354**	*eP*	**P**	**23**	**34**	**54.5** **-0.6**
LFF				pmax	pmax			
	comp=Z,60nm,1.9s							
AS01	**Alice Springs**	**82.97**	**215**	*eP*	**P**	**23**	**34**	**57.8** **+0.6**
AS31	**Alice Springs**	**82.99**	**215**	*eP*	**P**	**23**	**34**	**58.7** **+1.5**
	comp=Z,1.6nm,0.9s							
ASAR	**Alice Springs**	**82.99**	**215**	P	**P**	**23**	**34**	**58.5** **+1.2**
	comp=Z,2.6nm,0.8s,baz=31,slow=4.5,SNR=16							
FRF	**La Foret Royal**	**83.46**	**350**	*eP*	**P**	**23**	**34**	**59.9** **+0.4**
FRF				pmax	pmax			
	comp=Z,37nm,1.4s							
SHME	**Shamm**	**84.07**	**306**	P	**P**	**23**	**35**	**02.3** **-0.7**
MTLF	**Montolieu**	**84.09**	**353**	*eP*	**P**	**23**	**35**	**03.5** **+0.7**
MTLF				pmax	pmax			
	comp=Z,7.0nm,0.8s							
PGF	**Pioggiola**	**84.17**	**348**	*eP*	**P**	**23**	**35**	**03.0** **-0.4**
PGF				pmax	pmax			
	comp=Z,384nm,2.1s							
SJPF	**Ste Jean**	**84.53**	**355**	*eP*	**P**	**23**	**35**	**05.9** **+0.8**
SJPF				pmax	pmax			
	comp=Z,63nm,1.7s							
ETSF	**Etsaut**	**84.71**	**355**	*eP*	**P**	**23**	**35**	**06.7** **+0.7**
ETSF				pmax	pmax			
	comp=Z,10.0nm,0.7s							
UOSS	**Minazif**	**84.95**	**305**	P	**P**	**23**	**35**	**06.2** **-1.3**
HATD	**Hatta, Dubai**	**85.09**	**305**	P	**P**	**23**	**35**	**07.6** **-0.6**
NAZ	**Nazwa, Dubai**	**85.19**	**306**	P	**P**	**23**	**35**	**07.9** **-0.7**
FAQ	**Al Faqa, Dubai**	**85.42**	**305**	P	**P**	**23**	**35**	**09.0** **-0.8**
ASUD	**Al Ashush, Dub**	**85.66**	**306**	P	**P**	**23**	**35**	**10.7** **-0.2**
CSS	**Mathiatis**	**85.79**	**327**	*eP*	**P**	**23**	**35**	**11.6** **+0.1**
	comp=Z,103nm,1.9s							
AJN	**Ajban**	**85.88**	**306**	P	**P**	**23**	**35**	**11.2** **-0.8**
ALNE	**Al Ain**	**85.92**	**305**	*i* P	**P**	**23**	**35**	**11.7** **-0.6**
	SNR=5.6							
IDI	**Anoyia**	**88.02**	**334**	LR	LR	00	16	24.5
	comp=Z,219nm,21.8s,baz=250,slow=37							
ES19	**SONSECA Array**	**88.05**	**357**	*eP*	**P**	**23**	**35**	**22.0** **-0.4**
ESDC	**Sonseca Array**	**88.07**	**357**	P	**P**	**23**	**35**	**21.7** **-0.9**
	comp=Z,0.7nm,0.6s,baz=355,slow=4.4,SNR=7.1							
ESDC				LR	LR	00	12	17.3
	comp=Z,85nm,21.9s,baz=350,slow=34							
STKA	**Stephens Creek**	**88.29**	**206**	P	**P**	**23**	**35**	**24.0** **+0.7**
	comp=Z,3.0nm,0.7s,baz=20,slow=4.9,SNR=6.3							
STKA				LR	LR	00	11	33.3
	comp=Z,78nm,19.4s,baz=23,slow=33							
STKA	**Stephens Creek**	**88.29**	**206**	P	**P**	**23**	**35**	**24.0** **+0.7**
EIL	**Elat**	**90.06**	**324**	LR	LR	00	20	16.3
	comp=Z,98nm,21.3s,baz=60,slow=38							
KEST	**Kesra**	**90.82**	**346**	P	**P**	**23**	**35**	**35.1** **-0.4**
	comp=Z,8.5nm,1.0s,baz=7.0,slow=5.6,SNR=4.5							
KEST				LR	LR	00	15	33.6
	comp=Z,168nm,21.8s,baz=327,slow=35							
RAYN	**Ar Rayn**	**91.24**	**313**	*eP*	**P**	**23**	**35**	**37.2** **-0.5**
	comp=Z,9.8nm,1.0s							
RAYN	**Ar Rayn**	**91.24**	**313**	*i* P	**P**	**23**	**35**	**37.0** **-0.6**
	SNR=11							
RAYN	**Ar Rayn**	**91.24**	**313**	*eP*	**P**	**23**	**35**	**37.2** **-0.5**
RAYN				pmax	pmax			
	comp=Z,10.0nm,1.0s							
ROSC	**El Rosal**	**100.04**	**68**	LR	LR	00	25	15.4
	comp=Z,40nm,18.2s,baz=58,slow=38							
TORD	**Torodi Ar. Bea**	**114.06**	**350**	PKP	PKPdf	23	41	10.6 **-0.8**
	comp=Z,0.2nm,0.6s,baz=340,slow=4.0,SNR=3.1							
TORD				PP	**PP**	**23**	**42**	**01.5** **-3.4**
	comp=Z,0.4nm,0.7s,baz=8.0,slow=8.3,SNR=2.4							
TORD				PKKPbc	**PKKPab**	**23**	**51**	**57.4** **-4.4**
	comp=Z,1.4nm,0.8s,baz=206,slow=2.9,SNR=8.6							
CPUP	**Villa Florida**	**134.73**	**74**	PKP	**PKPdf**	**23**	**41**	**50.4** **-0.1**
	comp=Z,1.1nm,0.7s,baz=37,slow=19,SNR=3.2							
PLCA	**Paso Flores**	**136.56**	**100**	PKP	**PKPdf**	**23**	**41**	**54.9** **+1.3**
	comp=Z,1.8nm,0.9s,baz=252,slow=7.3,SNR=4.8							
BOSA	**Boshof**	**145.89**	**302**	PKPbc	**PKPbc**	**23**	**42**	**11.1** **-0.4**
	comp=Z,6.1nm,0.6s,baz=3.1,slow=1.3,SNR=16							
SYO	**Syowa Base**	**152.66**	**215**	*e*PKPdf	pPKPdf	23	42	32.0 **+1.6**
SYO	**Syowa Base**	**152.66**	**215**	*e*PKiKP	**PKPab**	**23**	**42**	**42.2** **+4.1**
SNAA	**Sanae**	**160.71**	**185**	PKP	**PKPab**	**23**	**43**	**10.6** **-2.2**
VNA3	**Neumayer Olymp**	**161.24**	**178**	PKP	**PKPab**	**23**	**43**	**13.7** **-1.3**
VNA2	**Neumayer--Watz**	**161.58**	**180**	PKP	**PKPab**	**23**	**43**	**15.6** **-0.9**

*ISCJB **29** 23:27:13.6±0.5, 56°29'S±0'07", 26°9'W±0'.2, h101km, mb4.1/14, Error ellipse: s-maj=14.9km s-min=8.7km az=157.5*

*IDC **29** 23:27:16.4±0.8, 56°25'S×27°06'W, h111km±6km, mb3.8/5, mb1 3.9/6, mb1mx3.7/21, mbtmp4.2/6, Error ellipse: s-maj=26.3km s-min=18.6km az=73.0*

*NEIC **29** 23:27:17.4±2.5, 56°28'S×26°99'W, h122km±23km, mb4.2/9, Error ellipse: s-maj=9.2km s-min=8.0km az=57.0*

ISC 29 23:27:14.9±0.6, 56°38S±0'10"×27°0W±0'.1, h101km, n20, σ1§42/25, mb4.2/14, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.40**	**156**	P	**P**	**23** **31** **23.4**	**+1.7**
	0.4nm,0.3s,baz=323,slow=11,SNR=17						
SNAA				S	**S**	**23** **34** **42.4**	**-4.0**
	0.0nm,0.3s,baz=45,slow=18,SNR=1.9						
CPUP	**Villa Florida**	**37.10**	**311**	P	**P**	**23** **34** **14.6**	**-0.8**
	1.4nm,0.8s,baz=118,slow=2.4,SNR=3.5						
SUR	**Sutherland**	**40.63**	**74**	P	**P**	**23** **34** **44.7**	**-0.3**
	5.3nm,0.9s						
SHEL	**Horse Pasture**	**43.47**	**30**	P	**P**	**23** **35** **07.8**	**-0.2**
	22nm,1.0s						
LVC	**Limon Verde**	**45.55**	**300**	*eP*	**P**	**23** **35** **24.6**	**-0.3**
	0.4nm,0.4s						
SBA	**Scott Base**	**45.76**	**184**	P	**P**	**23** **35** **26.0**	**+0.6**
	6.9nm,1.1s						
VNDA	**Vanda**	**46.25**	**183**	P	**P**	**23** **35** **31.1**	**+1.8**
	1.5nm,0.6s,baz=189,slow=6.5,SNR=12						
TSUM	**Tsumeb**	**49.75**	**60**	P	**P**	**23** **35** **57.1**	**0.0**
	3.0nm,1.2s						
LPAZ	**La Paz**	**50.65**	**305**	P	**P**	**23** **36** **04.7**	**+0.3**
	3.1nm,0.5s,baz=155,slow=5.5,SNR=16						
CASY	**Casey**	**53.57**	**160**	P	**P**	**23** **36** **25.8**	**+1.0**
	2.1nm,0.7s						
LSZ	**Lusaka**	**58.40**	**69**	P	**P**	**23** **36** **59.9**	**-0.1**
	4.1nm,1.3s						
DBIC	**Dimbokro**	**65.42**	**24**	P	**P**	**23** **37** **46.8**	**+0.1**
	2.9nm,0.9s,baz=154,slow=15,SNR=2.5						
OTAV	**Otavalo**	**69.92**	**304**	P	**P**	**23** **38** **16.3**	**+0.7**
	1.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**73.29**	**29**	P	**P**	**23** **38** **34.9**	**-0.3**
	1.4nm,0.4s,baz=200,slow=6.3,SNR=23						
TORD				pP	**pP**	**23** **39** **04.1**	**+3.3**
	1.0nm,0.6s,baz=199,slow=6.2,SNR=3.7						
SDV	**Santo Domingo**	**74.31**	**315**	P	**P**	**23** **38** **41.0**	**-0.5**
	1.1nm,0.5s						
FINES	**FINESS Array B**	**124.62**	**28**	PKP	**PKPdf**	**23** **46** **00.3**	**-0.6**
	4.9nm,1.0s,baz=180,slow=1.7,SNR=12						
ARCES	**ARCESS Array B**	**131.21**	**22**	PKP	**PKPdf**	**23** **46** **12.8**	**-0.5**
	1.5nm,0.6s,baz=212,slow=3.2,SNR=8.1						
YKA	**Yellowknife Ar**	**136.48**	**318**	PKP	**PKPdf**	**23** **46** **22.8**	**-0.5**
	0.4nm,0.5s,baz=124,slow=2.3,SNR=3.8						
YKA				SKPbc	**SKPbc**	**23** **49** **44.2**	**-2.0**
	0.3nm,0.6s,baz=116,slow=3.2,SNR=4.5						
ILAR	**Eielson Array**	**150.41**	**311**	PKPbc	**PKPbc**	**23** **46** **52.5**	**-0.4**
	1.9nm,0.8s,baz=126,slow=1.7,SNR=17						
ILAR				pPKPbc	**pPKPbc**	**23** **47** **20.6**	**+0.1**
	0.6nm,0.8s,baz=123,slow=0.9,SNR=3.0						
SONM	**Songino Array**	**150.65**	**87**	PKPbc	**PKPbc**	**23** **46** **53.9**	**-0.3**
	1.5nm,0.5s,baz=222,slow=3.5,SNR=12						
SONM				pPKPbc	**sPKPdf**	**23** **47** **25.0**	**-1.9**
	0.3nm,0.6s,baz=250,slow=2.4,SNR=1.9						

IDC 29 23:40:17.0±8.6, 1°81N×99°16W, h0km, mb3.5/3, mb1 4.0/3, mb1mx3.7/23, mbtmp3.5/3, MS3.4/1, Ms1 3.4/1, ms1mx2.9/19, Error ellipse: s-maj=657.5km s-min=45.3km az=92.0, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**24.98**	**82**	LR	LR	23 52 31.9	
	comp=Z,73nm,18.3s,baz=235,slow=29						
TXAR	**Lajitas Array**	**27.71**	**352**	P	P	23 46 06.2	-1.0
	0.4nm,0.9s,baz=168,slow=8.9,SNR=3.0						
PDAR	**Pinedale Array**	**41.83**	**349**	P	P	23 48 10.7	+1.7
	0.4nm,0.5s,baz=156,slow=8.9,SNR=3.2						
ILAR	**Eielson Array**	**71.55**	**340**	P	P	23 51 38.6	-1.1
	0.9nm,1.1s,baz=148,slow=4.3,SNR=4.8						
H11S2	**WAKE ISLAND Hy**	**93.36**	**289**	T	T	01 38 29.6	
	baz=86						
H11S1	**WAKE ISLAND Hy**	**93.36**	**289**	T	T	01 38 34.0	
	baz=86						
H11S3	**WAKE ISLAND Hy**	**93.38**	**289**	T	T	01 38 29.7	
	baz=86						
WRA	**Warramunga Arr**	**124.75**	**247**	PKP	PKPdf	23 59 19.8	0.0
	0.5nm,1.0s,baz=117,slow=2.0,SNR=2.9						

*BEO **29** 23:44:30.8±1.3, 37°.15N×22°.20E, h5km, ML3.2/2*

*IDC **29** 23:44:32.3±1.1, 37°.53N×20°.95E, h0km, mb3.7/7, mb1 3.7/11, mb1mx3.5/40, mbtmp3.6/11, ML2.8/4, Error ellipse: s-maj=22.8km s-min=17.8km az=57.0*

*ISCJB **29** 23:44:33.7±1.2, 37°.34N×0°.02×20°.76E±0°.03, h13km±9km, mb3.6/7, Error ellipse: s-maj=4.5km s-min=3.0km az=39.3*

*THE **29** 23:44:33.8, 37°.35N×20°.80E, h4km±1km, ML3.2/10, Error ellipse: s-maj=2.5km s-min=1.1km az=50.0*

*ATH **29** 23:44:34.1, 37°.40N×20°.85E, h16km±1km, ML3.2/12, Error ellipse: s-maj=1.8km s-min=0.8km az=56.0*

ISC 29 23:44:34.8±1.1, 37°.40N±0°.03×20°.88E±0°.03, h14km±8km, n112, σ1§40/141, mb3.7/7, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTN	**Vitineika**	**0.57**	**25**	P	**Pg**	**23** **44** **45.8**	**-0.2**
VTN				S	**Sg**	**23** **44** **54.1**	**+0.4**
VTN	**Vitineika**	**0.57**	**25**	P	**Pg**	**23** **44** **46.1**	**0.0**
VTN				S	**Sb**	**23** **44** **55.8**	**+1.2**
MES3	**Kyparissia**	**0.65**	**103**	P	**Pg**	**23** **44** **47.4**	**0.0**
MES3				S	**Sb**	**23** **44** **57.2**	**+0.5**
AMT	**Artemida-Makis**	**0.67**	**78**	P	**Pg**	**23** **44** **47.5**	**-0.4**
AMT				S	**Sb**	**23** **44** **58.3**	**+0.9**
AMT				AML	AML	23 45 03.5	
	comp=E,7042μm,0.3s						
AMT				AML	AML	23 45 09.6	
	comp=N,7489μm,0.5s						
AMT	**Artemida-Makis**	**0.67**	**78**	P	**Pg**	**23** **44** **47.3**	**-0.6**
AMT				S	**Sn**	**23** **45** **00.9**	**+0.7**
RLS	**Riolos of Patr**	**0.81**	**35**	P	**Pg**	**23** **44** **49.6**	**-0.9**
RLS				S	**Sg**	**23** **45** **01.7**	**+0.6**
RLS				AML	AML	23 45 05.2	
	comp=N,2027μm,0.3s						
RLS				AML	AML	23 45 05.6	
	comp=E,1918μm,0.5s						
RLS	**Riolos of Patr**	**0.81**	**35**	P	**Pg**	**23** **44** **49.6**	**-0.9**
RLS				S	**Sg**	**23** **45** **01.5**	**+0.4**
VLS	**Valsamata**	**0.81**	**343**	P	**Pg**	**23** **44** **49.6**	**-1.1**
VLS				S	**Sg**	**23** **45** **01.3**	**-0.1**
VLS				AML	AML	23 45 09.2	
	comp=E,2148μm,0.3s						
VLS				AML	AML	23 45 09.4	
	comp=N,2768μm,0.3s						
VLS	**Valsamata**	**0.81**	**343**	P	**Pg**	**23** **44** **49.5**	**-1.1**
VLS				S	**Sb**	**23** **45** **02.4**	**+0.8**
PYL	**PYLOS**	**0.85**	**126**	P	**Pg**	**23** **44** **50.5**	**-0.7**
PYL				S	**Sb**	**23** **45** **03.1**	**+0.7**
PYL				AML	AML	23 45 07.3	
	comp=N,3580μm,0.7s						
PYL				AML	AML	23 45 07.5	
	comp=E,6355μm,0.5s						
PYL	**PYLOS**	**0.85**	**126**	P	**Pg**	**23** **44** **50.5**	**-0.7**
PYL				S	**Sb**	**23** **45** **02.7**	**+0.2**
ITM	**Ithomi**	**0.86**	**104**	P	**Pg**	**23** **44** **50.9**	**-0.6**
ITM				S	**Sb**	**23** **45** **03.6**	**+0.7**
ITM				AML	AML	23 45 09.9	
	comp=E,1820μm,0.4s						
ITM				AML	AML	23 45 11.8	
	comp=N,2554μm,0.4s						
ITM	**Ithomi**	**0.86**	**104**	P	**Pg**	**23** **44** **51.2**	**-0.3**
ITM				S	**Sn**	**23** **45** **05.5**	**+0.7**
DRO	**Drossia**	**0.86**	**49**	P	**Pg**	**23** **44** **50.8**	**-0.7**
DRO				S	**Sg**	**23** **45** **02.9**	**+0.1**
DRO				AML	AML	23 45 07.6	
	comp=N,8690μm,0.5s						
DRO				AML	AML	23 45 08.5	
	comp=E,9111μm,0.5s						
DRO	**Drossia**	**0.86**	**49**	P	**Pg**	**23** **44** **50.6**	**-0.9**
DRO				S	**Sb**	**23** **45** **04.0**	**+1.1**
MES2	**Methoni**	**0.87**	**131**	P	**Pg**	**23** **44** **50.9**	**-0.7**
MES2				S	**Sb**	**23** **45** **03.4**	**+0.3**
FSK	**Fiskardo**	**1.09**	**347**	P	**Pg**	**23** **44** **54.9**	**-1.0**
FSK	**Fiskardo**	**1.09**	**347**	P	**Pg**	**23** **44** **54.4**	**-1.5**
FSK				S	**Sn**	**23** **45** **12.7**	**+2.2**
TRIP	**Tripoli**	**1.11**	**83**	P	**Pb**	**23** **44** **56.4**	**+0.6**
TRIP				S	**Sb**	**23** **45** **10.9**	**+0.8**
TRIP				AML	AML	23 45 17.4	
	comp=N,1202μm,0.6s						
TRIP				AML	AML	23 45 19.7	
	comp=E,1437μm,0.4s						
UPR	**University Cam**	**1.14**	**39**	P	**Pn**	**23** **44** **57.1**	**+0.8**
VLX	**Vlachokerasia**	**1.19**	**91**	P	**Pn**	**23** **44** **58.3**	**+1.2**
VLX				S	**Sn**	**23** **45** **15.3**	**+2.1**
VLX				AML	AML	23 45 22.7	
	comp=E,2032μm,0.6s						
VLX				AML	AML	23 45 24.6	
	comp=N,2580μm,0.6s						
VLX	**Vlachokerasia**	**1.19**	**91**	P	**Pn**	**23** **44** **57.9**	**+0.8**
VLX				S	**Sn**	**23** **45** **15.6**	**+2.5**
LAKA	**Lakka**	**1.21**	**45**	P	**Pb**	**23** **44** **56.7**	**-0.7**
LAKA				S	**Sn**	**23** **45** **15.1**	**+1.6**
LAKA	**Lakka**	**1.21**	**45**	P	**Pb**	**23** **44** **56.8**	**-0.7**
EVGI	**Lefkada island**	**1.24**	**352**	P	**Pn**	**23** **44** **57.3**	**-0.4**
EVGI	**Lefkada island**	**1.24**	**352**	P	**Pn**	**23** **44** **57.1**	**-0.5**
MGNA	**Meganis„**	**1.26**	**357**	P	**Pn**	**23** **44** **58.2**	**+0.3**
GUR	**Goura**	**1.28**	**65**	P	**Pn**	**23** **44** **58.1**	**-0.2**
GUR	**Goura**	**1.28**	**65**	P	**Pn**	**23** **44** **57.9**	**-0.4**
GUR				S	**Sn**	**23** **45** **18.6**	**+3.4**
ALIK	**Aliki, Aigiali**	**1.30**	**48**	P	**Pn**	**23** **44** **59.1**	**+0.6**
EFP	**Efpalio**	**1.31**	**38**	P	**Pn**	**23** **44** **58.8**	**+0.1**
EFP	**Efpalio**	**1.31**	**38**	P	**Pn**	**23** **44** **58.7**	**+0.1**
DYR	**Agios Nikonas**	**1.32**	**118**	P	**Pn**	**23** **44** **59.2**	**+0.4**
DYR				S	**Sn**	**23** **45** **18.2**	**+2.0**
DYR				AML	AML	23 45 25.4	
	comp=E,718μm,0.3s						
DYR				AML	AML	23 45 28.6	
	comp=N,1193μm,0.6s						
PVO	**Paravola**	**1.32**	**22**	P	**Pn**	**23** **44** **58.7**	**-0.1**
PVO				S	**Sg**	**23** **45** **17.7**	**+0.3**
PVO				AML	AML	23 45 26.9	
	comp=N,1600μm,0.4s						
PVO				AML	AML	23 45 26.9	
	comp=E,2212μm,0.5s						
PVO	**Paravola**	**1.32**	**22**	P	**Pn**	**23** **44** **58.6**	**-0.1**
TRIZ	**Trizonia**	**1.35**	**44**	P	**Pn**	**23** **44** **59.3**	**+0.1**
TRIZ	**Trizonia**	**1.35**	**44**	P	**Pn**	**23** **44** **58.9**	**-0.3**
SERG	**Sergoula**	**1.38**	**42**	P	**Pn**	**23** **44** **59.4**	**-0.2**
LKD2	**Lefkada island**	**1.40**	**353**	P	**Pn**	**23** **45** **00.1**	**+0.1**
LKD2				S	**Sg**	**23** **45** **20.5**	**+0.4**
LKD2				AML	AML	23 45 29.9	
	comp=N,1312μm,0.5s						
LKD2				AML	AML	23 45 39.0	
	comp=E,1752μm,0.5s						
LKD2	**Lefkada island**	**1.40**	**353**	P	**Pn**	**23** **45** **00.8**	**+0.9**
LKD2				S	**Sg**	**23** **45** **20.9**	**+0.8**
KALE	**Kalithea**	**1.41**	**45**	P	**Pn**	**23** **45** **00.7**	**+0.7**
KALE				S	**Sg**	**23** **45** **20.1**	**-0.1**
KALE				AML	AML	23 45 25.2	
	comp=E,1278μm,0.6s						
KALE				AML	AML	23 45 26.0	
	comp=N,1906μm,0.7s						
KALE	**Kalithea**	**1.41**	**45**	P	**Pn**	**23** **45** **00.1**	**+0.1**
ANX	**Ano Chora**	**1.45**	**34**	P	**Pn**	**23** **45** **01.4**	**+0.7**
ANX	**Ano Chora**	**1.45**	**34**	P	**Pn**	**23** **45** **01.2**	**+0.6**
DLFA	**Delphi**	**1.67**	**49**	P	**Pn**	**23** **45** **05.1**	**+1.5**
EVR	**Evrytania**	**1.69**	**25**	P	**Pb**	**23** **45** **06.4**	**+0.8**
EVR	**Evrytania**	**1.69**	**25**	P	**Pn**	**23** **45** **04.7**	**+0.8**
LOUT	**Loutraki**	**1.76**	**70**	P	**Pb**	**23** **45** **06.7**	**-0.1**
VLI	**Veliai**	**1.78**	**112**	P	**Pb**	**23** **45** **07.6**	**+0.5**
PROD	**Prodromos**	**1.81**	**61**	P	**Pn**	**23** **45** **07.3**	**+1.7**
DID	**Didima**	**1.88**	**86**	P	**Pn**	**23** **45** **07.3**	**+0.9**
MAKR	**Makrakomi, Fth**	**1.89**	**31**	P	**Pb**	**23** **45** **09.3**	**+0.3**
AGG	**Agios Georgios**	**1.98**	**35**	P	**Pb**	**23** **45** **10.5**	**-0.2**
VIL2	**Platees**	**2.06**	**66**	P	**Pn**	**23** **45** **10.1**	**+1.2**
LKR	**Lokris**	**2.09**	**52**	P	**Pn**	**23** **45** **10.4**	**+1.1**
LKR	**Lokris**	**2.09**	**52**	P	**Pn**	**23** **45** **10.4**	**+1.1**
IGT	**Igoumenitsa**	**2.18**	**349**	*e*Pn	**Pg**	**23** **45** **16.3**	**-0.3**
IGT				*e*Sn	**Sg**	**23** **45** **50.5**	**+5.7**
IGT	**Igoumenitsa**	**2.18**	**349**	P	**Pn**	**23** **45** **11.7**	**+1.1**
JAN	**Janina**	**2.26**	**359**	P	**Pn**	**23** **45** **14.1**	**+2.3**
SGD	**Sagiada**	**2.27**	**347**	P	**Pn**	**23** **45** **14.2**	**+2.4**
THL	**Klokotos Trika**	**2.34**	**22**	P	**Pn**	**23** **45** **15.0**	**+2.2**
THL	**Klokotos Trika**	**2.34**	**22**	P	**Pn**	**23** **45** **14.8**	**+2.0**
VLY	**Voula,Athens**	**2.35**	**78**	P	**Pn**	**23** **45** **15.5**	**+2.5**
SMIA	**Simia**	**2.36**	**50**	P	**Pn**	**23** **45** **14.8**	**+1.8**
ATHU	**Athens Univers**	**2.37**	**75**	P	**Pn**	**23** **45** **14.5**	**+1.3**
MEV	**Metsovon**	**2.40**	**6**	P	**Pn**	**23** **45** **16.4**	**+2.6**
PTL	**Penteli**	**2.45**	**74**	P	**Pn**	**23** **45** **15.9**	**+1.6**
KEK	**Kerkira**	**2.47**	**340**	P	**Pn**	**23** **45** **16.6**	**+2.0**
DION	**Dionisos Attik**	**2.51**	**73**	P	**Pn**	**23** **45** **16.5**	**+1.3**
FYTO	**Fytoko, Volos**	**2.58**	**38**	P	**Pn**	**23** **45** **17.5**	**+1.4**
EREA	**Eretria**	**2.62**	**66**	P	**Pn**	**23** **45** **17.2**	**+0.6**
NEO	**Neokhori**	**2.65**	**43**	P	**Pn**	**23** **45** **18.5**	**+1.4**
XOR	**Xorichti**	**2.68**	**42**	P	**Pn**	**23** **45** **18.6**	**+1.1**
SKIA	**Skiathos**	**2.69**	**48**	P	**Pn**	**23** **45** **19.1**	**+1.4**
PENT	**Pentalofos**	**2.80**	**4**	P	**Pn**	**23** **45** **22.1**	**+2.9**
SERI	**Serifos**	**2.88**	**94**	P	**Pn**	**23** **45** **20.8**	**+0.6**
AOS	**Alonnisos**	**2.95**	**52**	P	**Pn**	**23** **45** **22.4**	**+1.2**
KZN	**Kozani**	**2.99**	**13**	P	**Pn**	**23** **45** **23.9**	**+2.1**
NEST	**Nestorio**	**3.02**	**2**	P	**Pn**	**23** **45** **25.2**	**+3.0**
FNA	**Florina**	**3.41**	**6**	*e*Pn	**Pn**	**23** **45** **28.8**	**+1.3**
FNA	**Florina**	**3.41**	**6**	P	**Pn**	**23** **45** **28.9**	**+1.4**
PLG	**Polygyros**	**3.58**	**33**	P	**Pn**	**23** **45** **30.6**	**+0.7**
THE	**Thessaloniki**	**3.62**	**26**	P	**Pn**	**23** **45** **31.7**	**+1.4**
TIP	**Timpagrande**	**3.70**	**300**	P	**Pn**	**23** **45** **32.2**	**+0.6**
GRG	**Griva**	**3.75**	**18**	P	**Pn**	**23** **45** **33.1**	**+0.9**
IDI	**Anoyia**	**3.86**	**122**	Pn	**Pn**	**23** **45** **34.1**

ASQU AML AML
comp=E,13650µm,0.5s
ASQU AML AML
comp=N,14600µm,0.3s
ASQU AML AML
comp=E,13650µm,0.5s
ASQU AML AML
comp=N,14600µm,0.3s
ASQU AML AML
comp=N,14600µm,0.3s
ASQU AML AML
comp=E,13650µm,0.5s
FAEN Faenza 0.31 23 P Pg 00 02 45.7 -0.2
FAEN S Sb 00 02 51.7 -0.3
IMOL Imola, Italy 0.36 4 P Pg 00 02 46.3 -0.4
IMOL S Sb 00 02 53.5 +0.2
IMOL AML AML
comp=E,13800µm,1.0s
IMOL AML AML
comp=N,13650µm,0.6s
IMOL AML AML
comp=E,1875µm,0.7s
IMOL AML AML
comp=N,1870µm,0.6s
IMOL AML AML
comp=E,13850µm,1.0s
IMOL AML AML
comp=N,13650µm,0.6s
IMOL AML AML
comp=E,1875µm,0.7s
IMOL AML AML
comp=N,1870µm,0.6s
IMOL AML AML
comp=E,13800µm,1.0s
IMOL AML AML
comp=N,13650µm,0.6s
IMOL AML AML
comp=E,1875µm,0.7s
IMOL AML AML
comp=N,1870µm,0.6s
IMOL AML AML
comp=N,13650µm,0.6s
IMOL AML AML
comp=E,1875µm,0.7s
IMOL AML AML
comp=E,13800µm,1.0s
IMOL AML AML
comp=N,1870µm,0.6s
FIR Firenze 0.40 235 P Pg 00 02 47.8 +0.3
FIR S Sb 00 02 55.0 +0.5
MTRZ Monterenzio 0.41 335 P Pg 00 02 46.7 -1.0
MTRZ S Sg 00 02 52.9 -0.4
MTRZ AML AML
comp=E,9800µm,0.4s
MTRZ AML AML
comp=N,8490µm,0.5s
MTRZ AML AML
comp=E,9875µm,0.4s
MTRZ AML AML
comp=N,8720µm,0.5s
MTRZ AML AML
comp=E,9790µm,0.4s
MTRZ AML AML
comp=N,8485µm,0.5s
MTRZ AML AML
comp=E,9875µm,0.4s
MTRZ AML AML
comp=N,8720µm,0.5s
MTRZ AML AML
comp=E,9835µm,0.4s
MTRZ AML AML
comp=N,8485µm,0.5s
MTRZ AML AML
comp=E,9875µm,0.4s
MTRZ AML AML
comp=N,8720µm,0.5s
MTRZ AML AML
comp=E,9875µm,0.4s
MTRZ AML AML
comp=N,8485µm,0.5s
MTRZ AML AML
comp=E,9835µm,0.4s
MTRZ AML AML
comp=N,8720µm,0.5s
FNVD Fontana Vidola 0.45 292 P Pg 00 02 47.9 -0.6
FNVD S Sg 00 02 55.4 +0.8
PTF Prato 0.46 265 P Pg 00 02 48.5 -0.2
CPGN Carpegna, Ital 0.49 114 P Pg 00 02 49.0 -0.1
CPGN AML AML
comp=E,2720µm,1.5s
CPGN AML AML
comp=N,3935µm,0.8s
CPGN AML AML
comp=E,2720µm,1.5s
CPGN AML AML
comp=N,3975µm,0.8s
CPGN AML AML
comp=E,2720µm,1.5s
CPGN AML AML
comp=N,3935µm,0.8s
CPGN AML AML
comp=E,2745µm,1.5s
CPGN AML AML
comp=N,3970µm,0.8s
CPGN AML AML
comp=E,2720µm,1.5s
CPGN AML AML
comp=N,3935µm,0.8s
CPGN AML AML
comp=E,2750µm,1.5s
CPGN AML AML
comp=N,3970µm,0.8s
CPGN AML AML
comp=E,2720µm,1.5s
CPGN AML AML
comp=E,2750µm,1.5s
CPGN AML AML
comp=N,3970µm,0.8s
CPGN AML AML
comp=N,3935µm,0.8s
PARC Parchiule 0.52 132 *e*P **Pg 00 02 49.0 -0.8**
PARC S Sb 00 02 57.8 -0.3
PARC AML AML
comp=E,1460µm,1.0s
PARC AML AML
comp=N,2030µm,0.8s
PARC AML AML
comp=E,1460µm,1.0s
PARC AML AML
comp=N,2030µm,0.8s
PARC AML AML
comp=E,1460µm,1.0s
PARC AML AML
comp=N,2030µm,0.8s
PARC AML AML
comp=E,1460µm,1.0s
PARC AML AML
comp=N,2030µm,0.8s
SSP9 Sansepolcro 0.53 144 P Pg 00 02 49.4 -0.4
SSP9 S Sb 00 02 58.1 -0.1
SSP9 AML AML
comp=E,2250µm,1.1s
SSP9 AML AML
comp=N,2435µm,1.5s
RSM Repubblica di 0.54 97 P Pb 00 02 51.4 +0.4
BLLA Bellaria 0.57 75 P Pg 00 02 50.3 -0.3
BLLA S Sb 00 03 00.2 +0.9
ATCA Cantone 0.59 137 P Pg 00 02 50.4 -0.8
ATCA S Sb 00 03 00.0 -0.2
ATCA AML AML
comp=E,1245µm,0.4s
ATCA AML AML
comp=N,1100µm,0.6s
ATCA AML AML
comp=E,1250µm,0.4s
ATCA AML AML
comp=N,1100µm,0.6s
ATCA AML AML
comp=E,1250µm,0.4s
ATCA AML AML
comp=N,1100µm,0.6s
CSNT Castellina Chi 0.61 210 P Pg 00 02 51.5 0.0
CSNT AML AML
comp=E,2365µm,0.5s
CSNT AML AML
comp=N,3595µm,0.6s
CSNT AML AML
comp=E,2365µm,0.5s
CSNT AML AML
comp=N,3595µm,0.6s
BADI Badiali 0.63 142 P Pg 00 02 51.1 -0.7
BADI AML AML
comp=E,1580µm,1.0s
BADI AML AML
comp=N,1585µm,0.3s
BADI AML AML
comp=E,1580µm,1.0s
BADI AML AML
comp=N,1590µm,0.3s
BADI AML AML
comp=E,1580µm,1.0s
BADI AML AML
comp=N,1585µm,0.3s
BADI AML AML
comp=E,1580µm,1.0s
BADI AML AML
comp=N,1585µm,0.3s
PE3 Peglio 0.65 118 P Pg 00 02 51.5 -0.6
PE3 AML AML
comp=E,3200µm,0.5s
PE3 AML AML
comp=N,3165µm,0.5s
PE3 AML AML
comp=E,3200µm,0.5s
PE3 AML AML
comp=N,3165µm,0.5s
PE3 AML AML
comp=E,3200µm,0.5s
PE3 AML AML
comp=N,3165µm,0.5s
FIU Minerbio Fiu 0.66 346 P Pb 00 02 53.7 +0.8
FIU AML AML
comp=E,3565µm,0.7s
FIU AML AML
comp=N,4015µm,1.3s
FIU AML AML
comp=E,3565µm,0.7s
FIU AML AML
comp=N,4015µm,1.3s
ATMC Monte Cedrone 0.66 147 P Pg 00 02 51.8 -0.5
ATMC AML AML
comp=E,2530µm,0.6s
ATMC AML AML
comp=N,1915µm,0.4s
ATMC AML AML
comp=E,2535µm,0.6s
ATMC AML AML
comp=N,1910µm,0.4s
ATMC AML AML
comp=N,1910µm,0.4s
ATMC AML AML
comp=E,2535µm,0.6s
CDCA Citt' di Caste 0.67 145 P Pg 00 02 52.4 0.0
CDCA AML AML
comp=E,2830µm,1.1s
CDCA AML AML
comp=N,5685µm,0.6s
CDCA AML AML
comp=E,1759µm,0.8s
CDCA AML AML
comp=N,1730µm,1.6s
CDCA AML AML
comp=E,2830µm,1.1s
CDCA AML AML
comp=N,5690µm,0.6s
CDCA AML AML
comp=E,1750µm,0.8s
CDCA AML AML
comp=N,1708µm,1.6s
CDCA AML AML
comp=E,2830µm,1.1s
CDCA AML AML
comp=N,5690µm,0.6s
CDCA AML AML
comp=E,1750µm,0.8s
CDCA AML AML
comp=N,1708µm,1.6s
POPM Popiglio 0.69 274 P Pg 00 02 52.9 +0.1
POPM S Sb 00 03 03.1 +0.2
POPM Popiglio 0.69 274 P Pg 00 02 52.6 -0.3
POPM S Sb 00 03 03.9 +1.1
POPM AML AML
comp=E,1195µm,0.7s
POPM AML AML
comp=N,1415µm,0.2s
POPM AML AML
comp=E,1195µm,0.7s
POPM AML AML
comp=N,1415µm,0.2s
POPM AML AML
comp=N,1415µm,0.2s
POPM AML AML
comp=E,1195µm,0.7s
CAFI Castiglion Fio 0.70 164 P Pg 00 02 53.1 0.0
CAFI S Sb 00 03 03.7 +0.5
NARO Abbazia di Nar 0.74 121 P Pg 00 02 52.8 -1.1
NARO AML AML
comp=E,528µm,0.7s
NARO AML AML
comp=N,515µm,0.4s
NARO AML AML
comp=E,528µm,0.7s
NARO AML AML
comp=N,515µm,0.4s
NARO AML AML
comp=N,515µm,0.4s
NARO AML AML
comp=E,528µm,0.7s
ATPI Pietralunga - 0.75 137 P Pg 00 02 53.3 -0.7
ATPI AML AML
comp=E,878µm,0.5s
ATPI AML AML
comp=N,905µm,0.5s
ATPI AML AML
comp=E,877µm,0.5s
ATPI AML AML
comp=N,904µm,0.5s
ATPI AML AML
comp=E,877µm,0.5s
ATPI AML AML
comp=N,904µm,0.5s
ATPC Poggio Castell 0.75 134 P Pg 00 02 53.2 -0.9
ATPC AML AML
comp=E,613µm,1.0s
ATPC AML AML
comp=N,1315µm,0.5s
ATPC AML AML
comp=E,1690µm,0.6s
ATPC AML AML
comp=N,1335µm,0.5s
ATPC AML AML
comp=E,613µm,1.0s
ATPC AML AML
comp=N,1315µm,0.5s
ATPC AML AML
comp=E,1690µm,0.6s
ATPC AML AML
comp=N,1335µm,0.5s
ATPC AML AML
comp=E,613µm,1.0s
ATPC AML AML
comp=N,1335µm,0.5s
ATPC AML AML
comp=N,1315µm,0.5s
ATPC AML AML
comp=E,1690µm,0.6s
BDI Bagni Di Lucca 0.80 275 P Pg 00 02 54.6 -0.5
BDI AML AML
comp=E,1028µm,0.6s
BDI AML AML
comp=N,948µm,0.5s
BDI AML AML
comp=E,894µm,0.3s
BDI AML AML
comp=N,913µm,1.4s
BDI AML AML
comp=N,913µm,1.4s
BDI AML AML
comp=N,948µm,0.5s
BDI AML AML
comp=E,894µm,0.3s
BDI AML AML
comp=E,1028µm,0.6s
ATBU Serra di Buran 0.81 131 P Pg 00 02 54.4 -0.7
ATBU AML AML
comp=E,1925µm,1.0s
ATBU AML AML
comp=N,2140µm,0.6s
ATBU AML AML
comp=E,1925µm,1.0s
ATBU AML AML
comp=N,2145µm,0.6s
ATBU AML AML
comp=N,2145µm,0.6s
ATBU AML AML
comp=E,1925µm,1.0s
PESA Pesaro 0.82 94 P Pb 00 02 55.3 -0.4
PESA AML AML
comp=E,1655µm,0.4s
PESA AML AML
comp=N,1615µm,0.4s
PESA AML AML
comp=N,1615µm,0.4s
PESA AML AML
comp=E,1655µm,0.4s
ATVA AVT- Monte Val 0.84 150 P Pb 00 02 54.9 -1.0
ATVA AML AML
comp=E,650µm,0.6s
ATVA AML AML
comp=N,605µm,0.5s
ATVA AML AML
comp=E,650µm,0.6s
ATVA AML AML
comp=N,605µm,0.5s
ATVA AML AML
comp=N,605µm,0.5s
ATVA AML AML
comp=E,650µm,0.6s
MPAG Monte Paganucc 0.85 116 P Pb 00 02 54.8 -1.4
MPAG AML AML
comp=E,794µm,0.7s
MPAG AML AML
comp=N,636µm,0.8s
MPAG AML AML
comp=E,794µm,0.7s
MPAG AML AML
comp=N,636µm,0.8s
MPAG AML AML
comp=N,636µm,0.8s
MPAG AML AML
comp=E,794µm,0.7s
RAVA Ravarino 0.86 331 P Pn 00 02 57.3 -0.1
RAVA AML AML
comp=E,3180µm,0.7s
RAVA AML AML
comp=N,2215µm,0.8s
RAVA AML AML
comp=N,2215µm,0.8s
RAVA AML AML
comp=E,3180µm,0.7s
MAIM Mastiano 0.88 265 P Pb 00 02 56.5 -0.2
MAIM S Sg 00 03 08.4 +0.3
MAIM Mastiano 0.88 265 P Pb 00 02 56.5 -0.2
MAIM AML AML
comp=E,594µm,0.7s
MAIM AML AML
comp=N,596µm,0.7s
MAIM AML AML
comp=N,596µm,0.7s
MAIM AML AML
comp=E,594µm,0.7s
FROS Frosini 0.89 207 P Pg 00 02 56.8 +0.1
FROS AML AML
comp=E,1362µm,1.1s
FROS AML AML
comp=N,1260µm,1.1s
FROS AML AML
comp=E,1362µm,1.1s
FROS AML AML
comp=N,1260µm,1.1s
FROS AML AML
comp=E,1362µm,1.1s
FROS AML AML
comp=N,1260µm,1.1s
T0821 Loc. Casaglia 0.91 353 AML AML
comp=E,2000µm,0.4s
T0821 AML AML
comp=E,1900µm,0.4s
T0821 AML AML
comp=N,1515µm,0.6s
T0821 AML AML
comp=N,1525µm,0.6s
T0821 AML AML
comp=E,1900µm,0.4s
T0821 AML AML
comp=E,2000µm,0.4s
T0821 AML AML
comp=N,1525µm,0.6s
T0821 AML AML
comp=N,1515µm,0.6s
ATTE AVT- Monte Tez 0.93 150 P Pb 00 02 56.8 -0.8
ATTE AML AML
comp=E,852µm,0.6s
ATTE AML AML
comp=N,1030µm,0.4s
ATTE AML AML
comp=E,852µm,0.6s
ATTE AML AML
comp=N,1030µm,0.4s
ATTE AML AML
comp=N,1030µm,0.4s
ATTE AML AML
comp=E,852µm,0.6s
T0813 Massa Finalese 0.95 338 P Pn 00 02 58.6 0.0
T0813 AML AML
comp=E,210µm,0.6s
T0813 AML AML
comp=N,195µm,0.6s
T0813 AML AML
comp=E,1476µm,1.0s
T0813 AML AML
comp=N,1440µm,0.6s
T0813 AML AML
comp=E,1476µm,1.0s
T0813 AML AML
comp=N,1440µm,0.6s
T0813 AML AML
comp=N,195µm,0.6s
T0813 AML AML
comp=E,210µm,0.6s
SARO Sassorosso 0.96 281 P Pb 00 02 58.1 0.0
SARO S Sg 00 03 10.9 +0.3
ERBM Eremo 1.02 295 AML AML
comp=E,498µm,1.0s
ERBM AML AML
comp=N,710µm,1.4s
ERBM AML AML
comp=E,499µm,1.0s
ERBM AML AML
comp=N,710µm,1.4s
ERBM AML AML
comp=E,499µm,1.0s
ERBM AML AML
comp=N,710µm,1.4s
ARVD Arcevia 1.03 119 AML AML
comp=E,486µm,0.9s
ARVD AML AML
comp=E,486µm,0.9s
ARVD AML AML
comp=N,468µm,0.8s
ARVD AML AML
comp=E,486µm,0.9s
ARVD AML AML
comp=N,468µm,0.8s
ARVD AML AML
comp=N,468µm,0.8s
SERM Sermide 1.05 344 P Pg 00 03 00.2 +0.5
SERM AML AML
comp=E,726µm,0.5s
SERM AML AML
comp=N,731µm,0.9s
SERM AML AML
comp=N,731µm,0.9s
SERM AML AML
comp=E,726µm,0.5s
ADRI Adria, Italy 1.06 12‖ *e*Pg **Pb 00 02 59.9 +0.2**
ADRI *e*Sg **Sn 00 03 17.7 +3.0**
NOVE Novellara 1.07 319 AML AML
comp=E,1314µm,1.0s
BDI AML AML
comp=E,1028µm,0.6s
ATBU Serra di Buran 0.81 131 P Pg 00 02 54.4 -0.7
ATBU AML AML
comp=E,1925µm,1.0s
ATBU AML AML
comp=N,2140µm,0.6s
ATBU AML AML
comp=E,1925µm,1.0s
ATBU AML AML
comp=N,2145µm,0.6s
ATBU AML AML
comp=N,2145µm,0.6s
ATBU AML AML
comp=E,1925µm,1.0s
PESA Pesaro 0.82 94 P Pb 00 02 55.3 -0.4
PESA AML AML
comp=E,1655µm,0.4s
PESA AML AML
comp=N,1615µm,0.4s
PESA AML AML
comp=N,1615µm,0.4s
PESA AML AML
comp=E,1655µm,0.4s
ATVA AVT- Monte Val 0.84 150 P Pb 00 02 54.9 -1.0
ATVA AML AML
comp=E,650µm,0.6s
ATVA AML AML
comp=N,605µm,0.5s
ATVA AML AML
comp=E,650µm,0.6s
ATVA AML AML
comp=N,605µm,0.5s
ATVA AML AML
comp=N,605µm,0.5s
ATVA AML AML
comp=E,650µm,0.6s
MPAG Monte Paganucc 0.85 116 P Pb 00 02 54.8 -1.4
MPAG AML AML
comp=E,794µm,0.7s
MPAG AML AML
comp=N,636µm,0.8s
MPAG AML AML
comp=E,794µm,0.7s
MPAG AML AML
comp=N,636µm,0.8s
MPAG AML AML
comp=N,636µm,0.8s
MPAG AML AML
comp=E,794µm,0.7s
RAVA Ravarino 0.86 331 P Pn 00 02 57.3 -0.1
RAVA AML AML
comp=E,3180µm,0.7s
RAVA AML AML
comp=N,2215µm,0.8s
RAVA AML AML
comp=N,2215µm,0.8s
RAVA AML AML
comp=E,3180µm,0.7s
MAIM Mastiano 0.88 265 P Pb 00 02 56.5 -0.2
MAIM S Sg 00 03 08.4 +0.3
MAIM Mastiano 0.88 265 P Pb 00 02 56.5 -0.2
MAIM AML AML
comp=E,594µm,0.7s
MAIM AML AML
comp=N,596µm,0.7s
MAIM AML AML
comp=N,596µm,0.7s
MAIM AML AML
comp=E,594µm,0.7s
FROS Frosini 0.89 207 P Pg 00 02 56.8 +0.1
FROS AML AML
comp=E,1362µm,1.1s
FROS AML AML
comp=N,1260µm,1.1s
FROS AML AML
comp=E,1362µm,1.1s
FROS AML AML
comp=N,1260µm,1.1s
FROS AML AML
comp=E,1362µm,1.1s
FROS AML AML
comp=N,1260µm,1.1s
T0821 Loc. Casaglia 0.91 353 AML AML
comp=E,2000µm,0.4s
T0821 AML AML
comp=E,1900µm,0.4s
T0821 AML AML
comp=N,1515µm,0.6s
T0821 AML AML
comp=N,1525µm,0.6s
T0821 AML AML
comp=E,1900µm,0.4s
T0821 AML AML
comp=E,2000µm,0.4s
T0821 AML AML
comp=N,1525µm,0.6s
T0821 AML AML
comp=N,1515µm,0.6s
ATTE AVT- Monte Tez 0.93 150 P Pb 00 02 56.8 -0.8
ATTE AML AML
comp=E,852µm,0.6s
ATTE AML AML
comp=N,1030µm,0.4s
ATTE AML AML
comp=E,852µm,0.6s
ATTE AML AML
comp=N,1030µm,0.4s
ATTE AML AML
comp=N,1030µm,0.4s
ATTE AML AML
comp=E,852µm,0.6s
T0813 Massa Finalese 0.95 338 P Pn 00 02 58.6 0.0
T0813 AML AML
comp=E,210µm,0.6s
T0813 AML AML
comp=N,195µm,0.6s
T0813 AML AML
comp=E,1476µm,1.0s
T0813 AML AML
comp=N,1440µm,0.6s
T0813 AML AML
comp=E,1476µm,1.0s
T0813 AML AML
comp=N,1440µm,0.6s
T0813 AML AML
comp=N,195µm,0.6s
T0813 AML AML
comp=E,210µm,0.6s
SARO Sassorosso 0.96 281 P Pb 00 02 58.1 0.0
SARO S Sg 00 03 10.9 +0.3
ERBM Eremo 1.02 295 AML AML
comp=E,498µm,1.0s
ERBM AML AML
comp=N,710µm,1.4s
ERBM AML AML
comp=E,499µm,1.0s
ERBM AML AML
comp=N,710µm,1.4s
ERBM AML AML
comp=E,499µm,1.0s
ERBM AML AML
comp=N,710µm,1.4s
ARVD Arcevia 1.03 119 AML AML
comp=E,486µm,0.9s
ARVD AML AML
comp=E,486µm,0.9s
ARVD AML AML
comp=N,468µm,0.8s
ARVD AML AML
comp=E,486µm,0.9s
ARVD AML AML
comp=N,468µm,0.8s
ARVD AML AML
comp=N,468µm,0.8s
SERM Sermide 1.05 344 P Pg 00 03 00.2 +0.5
SERM AML AML
comp=E,726µm,0.5s
SERM AML AML
comp=N,731µm,0.9s
SERM AML AML
comp=N,731µm,0.9s
SERM AML AML
comp=E,726µm,0.5s
ADRI Adria, Italy 1.06 12‖ *e*Pg **Pb 00 02 59.9 +0.2**
ADRI *e*Sg **Sn 00 03 17.7 +3.0**
NOVE Novellara 1.07 319 AML AML
comp=E,1314µm,1.0s

NOVE AML AML
comp=E,1314µm,1.0s
NOVE AML AML
comp=N,2125µm,1.0s
NOVE AML AML
comp=N,2125µm,1.0s
MGAB Montegabbione 1.13 165 P **Pb 00 03 00.7 -0.2**
MGAB AML AML
comp=E,1240µm,0.4s
MGAB AML AML
comp=N,1350µm,0.5s
MGAB AML AML
comp=E,1265µm,0.4s
MGAB AML AML
comp=N,1380µm,0.5s
MGAB AML AML
comp=E,1240µm,0.4s
MGAB AML AML
comp=E,1265µm,0.4s
MGAB AML AML
comp=N,1380µm,0.5s
MGAB AML AML
comp=N,1350µm,0.5s
EQUI Equi 1.13 279 P **Pb 00 03 01.0 0.0**
EQUI S **Sg 00 03 20.8 +4.8**
SACS San Casciano d 1.16 173 P **Pn 00 03 01.2 -0.4**
SACS AML AML
comp=E,754µm,1.2s
SACS AML AML
comp=N,596µm,0.6s
SACS AML AML
comp=E,729µm,1.2s
SACS AML AML
comp=N,616µm,0.6s
SACS AML AML
comp=E,754µm,1.2s
SACS AML AML
comp=E,729µm,1.2s
SACS AML AML
comp=N,596µm,0.6s
SACS AML AML
comp=N,616µm,0.6s
TEOL Teolo 1.36 359ñ *e*Pg **Pn 00 03 03.4 -0.8**
TEOL *e*Sg **Sg 00 03 23.9 +0.6**
TEOL Teolo 1.36 359 P **Pn 00 03 03.2 -1.0**
TEOL AML AML
comp=E,1515µm,1.6s
TEOL AML AML
comp=N,879µm,0.5s
TEOL AML AML
comp=N,879µm,0.5s
TEOL AML AML
comp=E,1515µm,1.6s
FDMO Fiordimonte 1.39 133 AML AML
comp=E,548µm,0.6s
FDMO AML AML
comp=E,548µm,0.6s
FDMO AML AML
comp=N,426µm,1.2s
FDMO AML AML
comp=N,426µm,1.2s
MARN Marana (Italy) 1.67 348ñ *e*Pn **Pn 00 03 08.0 -0.6**
CGRP Cima Grappa 1.88 2‖ *e*Pn **Pn 00 03 10.6 -0.9**
CGRP Cima Grappa 1.88 2 AML AML
comp=N,650µm,0.6s
CGRP AML AML
comp=E,360µm,0.5s
CGRP AML AML
comp=E,360µm,0.5s
CGRP AML AML
comp=N,650µm,0.6s
DOSS Dosso del Somm 1.91 349 *e*Pn **Pn 00 03 11.1 -0.9**
MAGA Magasa 1.93 337 AML AML
comp=N,728µm,0.5s
MAGA AML AML
comp=E,1325µm,0.5s
MAGA AML AML
comp=N,728µm,0.5s
MAGA AML AML
comp=E,1325µm,0.5s
VARN Col Varnada, M 2.01 8ñ *e*Pn **Pn 00 03 12.3 -1.0**
PANI Panarotta 2.06 353 *e*Pn **Pn 00 03 13.5 -0.6**
RNI Roncone 2.12 339 *e*Pn **Pn 00 03 14.0 -0.9**
MABI Malga Bissina 2.22 338 AML AML
comp=E,82µm,1.6s
MABI AML AML
comp=E,82µm,1.6s
MABI AML AML
comp=N,108µm,0.6s
MABI AML AML
comp=N,108µm,0.6s
NVLJ Novalja 2.34 75 *e*Pn **Pn 00 03 17.6 -0.1**
NVLJ Sn **Sn 00 03 46.6 +0.3**
PGF Pioggiola 2.45 235 *e*Pn **Pn 00 03 19.7 +0.3**
KOSI Kohlern 2.47 355 AML AML
comp=E,214µm,0.7s
KOSI AML AML
comp=N,186µm,0.5s
KOSI AML AML
comp=N,186µm,0.5s
KOSI AML AML
comp=E,214µm,0.7s
GEPF Gemona 2.49 24 AML AML
comp=N,160µm,0.7s
GEPF AML AML
comp=E,146µm,0.6s
GEPF AML AML
comp=N,160µm,0.7s
GEPF AML AML
comp=E,146µm,0.6s
ABSI Aberstueckl 2.74 354 AML AML
comp=E,346µm,0.5s
ABSI AML AML
comp=E,346µm,0.5s
ABSI AML AML
comp=N,325µm,0.6s
ABSI AML AML
comp=N,325µm,0.6s
ABTA Abfaltersbach 2.80 11 Pn **Pn 00 03 24.0 -0.2**
ABTA Sn **Sn 00 03 59.2 +1.3**
comp=N,6.6nm,0.4s
comp=N,30nm,0.6s
ACOM Acomizza, Ital 2.85 26 AML AML
comp=N,234µm,1.6s
ACOM AML AML
comp=E,204µm,0.6s
ACOM AML AML
comp=N,234µm,1.6s
ACOM AML AML
comp=E,204µm,0.6s
LJU Ljubljana 2.86 43 AML AML
comp=N,606µm,0.4s
LJU AML AML
comp=E,310µm,0.5s
LJU AML AML
comp=N,606µm,0.4s
LJU AML AML
comp=E,310µm,0.5s
RISI Rein 2.96 5 AML AML
comp=N,278µm,0.4s
RISI AML AML
comp=E,282µm,0.6s
RISI AML AML
comp=N,278µm,0.4s
RISI AML AML
comp=E,282µm,0.6s
MYKA Terra Mystica 2.96 27 *i* Pn **Pn 00 03 26.0 -0.3**
MYKA Sn **Sn 00 04 02.5 +0.7**
comp=E,1.9nm,0.2s
comp=E,7.9nm,0.3s
DAVOX Davos/Dischmat 3.06 336 Pn **Pn 00 03 29.6 +1.8**
comp=E,4.0nm,0.3s,baz=155,slow=13,SNR=51
DAVOX Lg Lg 00 04 11.9
comp=E,1.7nm,0.3s,baz=340,slow=9.7,SNR=5.0
SBF Sospel 3.09 269 *e*Pn **Pn 00 03 28.3 +0.2**
SBF Sospel 3.09 269 *e*P **Pb 00 03 31.4 -3.0**
SBF *e*Sn **Sn 00 04 03.8 -1.1**
comp=E,35nm,0.5s
FETA Feichten 3.10 348 *e*Pn **Pn 00 03 29.8 +1.5**
comp=E,22nm,0.7s,SNR=10
FETA *i* Sn **Sb 00 04 09.8 -2.6**
comp=E,11nm,0.5s
OBKA Obir 3.21 38 Pn **Pn 00 03 30.8 +1.0**
comp=E,9.2nm,0.4s
SQTA Sankt Quirin 3.24 354 *e*Pn **Pn 00 03 31.2 +1.0**
comp=E,4.2nm,0.1s,SNR=9.0
SQTA *i* Sn **Sn 00 04 12.0 +3.3**
comp=E,18nm,0.4s
WTTA Wattenberg 3.26 359 *e*Pn **Pn 00 03 32.3 +1.7**
comp=E,5.4nm,0.4s
WTTA Sn **Sn 00 04 12.5 +3.1**
comp=E,18nm,0.5s
WTTA Wattenberg 3.26 359 *e*Pn **Pn 00 03 32.2 +1.7**
WTTA *e*Sn **Sn 00 04 12.6 +3.2**
KBA Koelnbreinsper 3.28 20 *e*Pn **Pn 00 03 31.1 +0.3**
comp=E,12nm,0.5s
WATA Walderalm 3.33 358 *i* Pn **Pn 00 03 33.2 +1.6**
comp=E,19nm,0.5s,SNR=22
WATA *i* Sn **Sn 00 04 14.4 +3.3**
comp=E,17nm,0.6s
MOTA Moosalm 3.37 353 *i* Pn **Pn 00 03 33.2 +1.2**
comp=E,9.3nm,0.3s,SNR=14
DAVA Damuels 3.52 339 *e*Pn **Pn 00 03 36.0 +1.8**
comp=E,9.7nm,0.4s
DAVA Sn **Sn 00 04 20.0 +4.2**
comp=E,19nm,0.5s
DAVA Damuels 3.52 339 *e*Pn **Pn 00 03 36.0 +1.8**
RETA Reutte 3.55 350 *e*Pn **Pn 00 03 35.8 +1.4**
comp=E,7.7nm,0.4s
RETA *i* Sn **Sn 00 04 20.6 +4.3**
comp=E,17nm,0.6s
SOKA Soboth 3.56 40 *e*Pn **Pn 00 03 36.7 +2.1**
comp=E,1.8nm,0.3s
SOKA *i* Sn **Sn 00 04 15.6 -0.9**
comp=E,7.2nm,0.6s
SOKA *i* Sg **Sg 00 04 34.5 +0.8**
comp=E,16nm,0.6s
MBDF Montbardon 3.61 283 *e*Pn **Pn 00 03 37.5 +2.1**
MBDF *e*Sg **Sg 00 04 35.0 -0.5**
comp=E,30nm,0.8s
FRF La Foret Royal 3.69 265 *e*Pn **Pn 00 03 36.4 +0.1**
FRF La Foret Royal 3.69 265 *e*P **Pn 00 03 39.8 +3.5**
FRF *e*Sn **Sn 00 04 17.9 -1.8**
comp=E,22nm,0.6s
RJOB Jochberg 3.81 11 *e*Pn **Pn 00 03 38.7 +0.7**
LPG La Plagne 3.83 295 *e*Pn **Pn 00 03 38.9 +0.4**
LPG La Plagne 3.83 295 *e*P **Pn 00 03 42.3 +3.8**
UBR Ueberruh 3.84 344 *e*Pn **Pn 00 03 39.3 +0.8**
LPL La Plagne 3.85 295 *e*Pn **Pn 00 03 39.4 +0.7**
LPL La Plagne 3.85 295 *e*P **Pn 00 03 42.5 +3.8**
LPL *e*Sn **Sn 00 04 21.7 -2.3**
comp=E,14nm,0.5s
ARSA Arzberg 4.21 38 *e*Pn **Pn 00 03 43.3 -0.2**
comp=E,3.9nm,0.5s
ARSA *i* Sg **Sg 00 04 58.1 +3.5**
comp=E,5.5nm,0.6s
MOA Molln 4.24 24 *e*Pn **Pn 00 03 43.7 -0.2**
comp=E,5.9nm,0.4s
MOA *i* Sn **Sn 00 04 32.6 -0.7**
comp=E,13nm,0.5s
MOA Molln 4.24 24 *e*Pn **Pn 00 03 43.7 -0.2**
MOA *e*Sn **Sn 00 04 32.5 -0.8**
ORIF Oris-en-Rattie 4.27 284 *e*Pn **Pn 00 03 48.0 +3.6**
CABF La Chapelle 4.75 305 *e*Pn **Pn 00 03 52.0 +1.1**
CONA Conrad Observa 4.88 35 *i* Pn **Pn 00 03 53.8 +1.1**
comp=E,2.4nm,0.5s
CONA *i* Sn **Sn 00 04 52.7 +3.7**
comp=E,8.2nm,0.4s
GEC2 GERESS Array S 5.04 15 *e*Pn **Pn 00 03 53.5 -1.4**
GERES GERESS Array B 5.04 15 Pn **Pn 00 03 53.5 -1.4**
comp=E,0.7nm,0.3s,baz=192,slow=14,SNR=14
GERES Sn **Sn 00 04 51.0 -2.0**
comp=E,1.8nm,0.3s,baz=201,slow=26,SNR=11
HINF Hinteralfeld 5.10 320 *e*Pn **Pn 00 03 55.8 +0.1**
HINF *e*Sn **Sn 00 04 51.3 -3.2**
comp=E,17nm,0.5s
WET Wettzell 5.21 9 *e*Pn **Pn 00 03 56.2 -0.9**
WET *e*Sn **Sn 00 04 53.7 -3.4**
KHC Kasperske Hory 5.29 13 *e*PN **Pn 00 03 56.6 -1.7**
KHC ex x 00 04 13.0
KHC *e*SN **Sn 00 04 56.7 -2.4**
CDF Champ du Feu 5.38 327 *e*Pn **Pn 00 03 59.1 -0.4**
CDF *e*Sn **Sn 00 04 57.8 -3.5**
comp=E,17nm,0.7s
HAU Haudompre 5.47 319 *e*Pn **Pn 00 04 00.4 -0.4**
HAU *e*Sn **Sn 00 05 00.1 -3.5**
comp=E,22nm,0.5s
ROTZ Rotzenmuhle 5.78 3 *e*Pn **Pn 00 04 03.1 -1.9**
ROTZ *e*Sn **Sn 00 05 05.7 -5.4**
MANZ Manzenberg 5.99 2 *e*Pn **Pn 00 04 06.2 -1.7**
SMF Signal de Mont 6.14 298 *e*Pn **Pn 00 04 10.7 +0.7**
SMF *e*Sn **Sn 00 05 16.1 -4.0**
comp=E,7.9nm,0.6s
SFTF Sexfontaines 6.26 315 *e*Pn **Pn 00 04 11.4 -0.1**
GOPC GO Pecny, Ondr 6.28 19 *e*PN **Pn 00 04 10.8 -1.0**
GOPC *e*SN **Sn 00 05 19.2 -4.2**
LOR Lormes 6.40 303 *e*Pn **Pn 00 04 13.8 +0.3**
LOR *e*Sn **Sn 00 05 22.3 -4.1**
comp=E,14nm,0.5s
AVF Avril sur Loir 6.51 298 *e*Pn **Pn 00 04 15.2 +0.2**
SSF Saint Saulge 6.52 301 *e*Pn **Pn 00 04 15.4 +0.2**
SSF *e*Sn **Sn 00 05 25.5 -3.9**
MOX Moxa 6.65 359 *e*Pn **Pn 00 04 16.7 -0.2**
BGF Bois d'Agland 6.75 295 *e*Pn **Pn 00 04 19.0 +0.6**
BRG Berggiesshubel 7.04 12 *e*(P) **Sn 00 05 39.2 -2.9**
comp=E,2.1nm,0.5s
CLL Collm 7.36 6 *e*Sg **Sg 00 06 37.0 +1.4**
KEST Kesra 8.46 193 Pn **Pn 00 04 44.6 +2.7**
comp=E,0.1nm,0.3s,baz=347,slow=14,SNR=2.2
EKA Eskdalemuir Ar 14.84 325 Pn **Pn 00 06 09.1 +0.2**
baz=138,slow=14,SNR=3.8
NOA NORSAR Array B 17.07 359 Pn **Pn 00 06 37.0 -0.7**
comp=E,0.0nm,0.3s,baz=180,slow=10,SNR=3.8
TORD Torodi Ar. Bea 31.93 199 P **P 00 09 06.3 +1.4**
comp=E,0.6nm,0.7s,baz=16,slow=9.1,SNR=4.7
MKAR Makanchi Array 48.10 61 P **P 00 11 18.8 -0.1**
comp=E,0.4nm,0.8s,baz=287,slow=7.5,SNR=2.7

*ISCJB **30** 00:03:52.2±0.8, 12°.3N±0°.1×144°.1E±0°.2, h30km, mb3.9/9, MS2.8/1, Error ellipse: s-maj=24.8km s-min=9.3km az=31.8*
*IDC **30** 00:03:56.9±1.8, 12°.36N×144°.32E, h60km±17km, mb3.5/8, mb1 3.7/8, mb1mx3.5/42, mbtmp3.7/8, MS2.9/1, Ms1 2.9/1, ms1mx2.4/36, Error ellipse: s-maj=28.7km s-min=15.2km az=108.0*
ISC 30 00:03:53.4±1.0, 12°.4N±0°.1×144°.3E±0°.2, h30km, n18, σ1§01/12, mb3.8/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.35**	**25**	P		**Pb**		**00 04 17.5**	**-0.5**
	120nm,0.3s,baz=163,slow=2.2,SNR=24								
GUMO				S		**Sb**		**00 04 36.3**	**+1.4**
	190nm,0.3s,baz=27,slow=21,SNR=20								
H11S3	**WAKE ISLAND Hy**	**22.43**	**71**	T		T		00 32 27.1	
	baz=258,SNR=4.8								
H11S1	**WAKE ISLAND Hy**	**22.45**	**71**	T		T		00 32 27.1	
	baz=258								
H11S2	**WAKE ISLAND Hy**	**22.45**	**71**	T		T		00 32 27.0	
	baz=258								
H11N1	**WAKE ISLAND Hy**	**22.91**	**68**	T		T		00 33 05.4	
	baz=255,slow=75,SNR=10								
H11N2	**WAKE ISLAND Hy**	**22.92**	**68**	T		T		00 32 56.9	
	baz=255,slow=75,SNR=9.0								
H11N3	**WAKE ISLAND Hy**	**22.93**	**69**	T		T		00 33 02.3	
	baz=255,slow=75,SNR=9.2								
MJAR	**Matsushiro Arr**	**24.69**	**348**	LR		LR		00 17 48.8	
	comp=Z,27nm,19.3s,baz=185,slow=34								
WRA	**Warramunga Arr**	**33.56**	**197**	P		**P**		**00 10 31.2**	**+0.3**
	0.9nm,0.8s,baz=19,slow=9.6,SNR=12								
ASAR	**Alice Springs**	**37.22**	**196**	P		**P**		**00 11 03.4**	**+1.0**
	0.4nm,0.6s,baz=18,slow=9.6,SNR=3.9								
CMAR	**Chiang Mai Arr**	**44.04**	**284**	P		**P**		**00 11 59.4**	**+0.5**
	0.7nm,0.3s,baz=98,slow=5.6,SNR=3.5								
SONM	**Songino Array**	**47.41**	**326**	P		**P**		**00 12 25.1**	**-0.1**
	0.3nm,0.5s,baz=151,slow=6.2,SNR=2.8								
MKAR	**Makanchi Array**	**61.98**	**317**	P		**P**		**00 14 11.4**	**+0.6**
	0.9nm,0.5s,baz=91,slow=8.7,SNR=16								
ILAR	**Eielson Array**	**69.92**	**25**	P		**P**		**00 15 00.3**	**-1.2**
	0.8nm,0.8s,baz=251,slow=5.5,SNR=4.1								
INK	**Inuvik**	**75.71**	**22**	P		**P**		**00 15 36.0**	**+0.3**
	0.5nm,0.4s,baz=240,slow=6.5,SNR=5.6								
YKA	**Yellowknife Ar**	**84.21**	**27**	P		**P**		**00 16 22.4**	**+0.6**
	0.2nm,0.3s,baz=288,slow=5.1,SNR=3.5								
FINES	**FINESS Array B**	**92.03**	**335**	P		**P**		**00 16 57.9**	**-1.4**
	10nm,1.1s,baz=54,slow=9.7,SNR=5.8								
TORD	**Torodi Ar. Bea**	**135.07**	**303**	PKP		**PKPdf**		**00 23 09.6**	**-1.2**
	0.3nm,0.9s,baz=71,slow=3.9,SNR=3.4								

*ISCJB **30** 00:24:48.0±1.0, 20°.0S±0°.1×175°.5W±0°.2, h204km, mb3.9/8, Error ellipse: s-maj=26.1km s-min=13.3km az=42.2*
*NEIC **30** 00:24:48.6±1.5, 19°.94S×175°.48W, h193km±15km, mb4.4/3, Error ellipse: s-maj=22.3km s-min=12.2km az=135.0*
*IDC **30** 00:24:48.1±2.6, 19°.96S×175°.51W, h183km±24km, mb3.8/6, mb1 4.0/8, mb1mx3.6/35, mbtmp4.4/8, Error ellipse: s-maj=31.4km s-min=16.6km az=135.0*
ISC 30 00:24:49.6±1.0, 19°.9S±0°.2×175°.4W±0°.2, h204km, n17, σ1§00/19, mb3.9/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.93**	**31**	P		**P**		**00 26 28.3**	**-0.8**
	9.3nm,0.3s,baz=194,slow=2.5,SNR=9.6								
AFI				S		S		00 27 39.6	-8.3
	17nm,0.3s,baz=92,slow=22,SNR=8.9								
DZM	**Mont Dzumac**	**17.07**	**260**	P		**Pn**		**00 28 38.5**	**+1.9**
	0.8nm,0.3s,baz=82,slow=19,SNR=8.3								
URZ	**Urewera**	**19.38**	**198**	P		**P**		**00 29 00.3**	**+0.3**
	3.8nm,0.3s,baz=260,slow=3.9,SNR=16								
HNR	**Honiara**	**25.98**	**290**	P		**P**		**00 30 03.0**	**-0.7**
CTA	**Charters Tower**	**35.96**	**263**	P		**P**		**00 31 31.0**	**0.0**
	5.1nm,0.4s,baz=95,slow=10,SNR=9.4								
CTAO	**Charters Tower**	**35.96**	**263**	*e*P		**P**		**00 31 30.8**	**-0.3**
	12nm,0.5s								
STKA	**Stephens Creek**	**40.21**	**244**	P		**P**		**00 32 04.5**	**-1.9**
	0.8nm,0.3s,baz=85,slow=12,SNR=3.9								
JAY	**Jayapura**	**46.18**	**286**	P		**P**		**00 32 55.4**	**+1.0**
	10nm,0.5s,baz=116,slow=4.8,SNR=9.3								
ASAR	**Alice Springs**	**47.01**	**256**	P		**P**		**00 33 00.6**	**-0.2**
	4.4nm,0.6s,baz=90,slow=8.2,SNR=47								
ASAR				PcP		**PcP**		**00 34 30.4**	**+0.7**
	1.3nm,0.4s,baz=103,slow=3.9,SNR=12								
WRAB	**Tennant Creek**	**47.07**	**261**	P		**P**		**00 33 00.6**	**-0.7**
	1.4nm,0.4s								
WRA	**Warramunga Arr**	**47.08**	**261**	P		**P**		**00 33 00.2**	**-1.1**
	1.1nm,0.3s,baz=97,slow=7.8,SNR=76								
WRA				PcP		**PcP**		**00 34 30.6**	**+0.6**
	0.8nm,0.6s,baz=96,slow=3.7,SNR=7.1								
MBWA	**Marble Bar**	**60.34**	**256**	*e*P		**P**		**00 34 36.7**	**-0.8**
	4.5nm,0.5s								
ILAR	**Eielson Array**	**87.24**	**12**	P		**P**		**00 37 12.8**	**+0.3**
	0.2nm,0.6s,baz=214,slow=5.0,SNR=3.6								
EKA	**Eskdalemuir Ar**	**144.17**	**8**	PKP		**PKPab**		**00 43 59.2**	**+0.3**
	3.9nm,1.1s,baz=331,slow=2.8,SNR=4.4								
BRTR	**Keskin Array B**	**148.21**	**315**	PKPbc		**PKPbc**		**00 44 12.2**	**+0.4**
	0.4nm,0.4s,baz=125,slow=2.7,SNR=3.2								
MMAI	**Mount Meron Ar**	**149.61**	**302**	PKPbc		**PKPbc**		**00 44 16.6**	**+1.1**
	1.6nm,0.7s,baz=79,slow=7.5,SNR=4.9								
GERES	**GERESS Array B**	**150.23**	**348**	PKPbc		**PKPbc**		**00 44 17.8**	**+1.3**
	0.4nm,0.5s,baz=41,slow=2.6,SNR=4.1								

*IDC **30** 00:34:52.3±0.7, 18°.76N×63°.28W, h0km, mb3.8/11, mb1 4.1/13, mb1mx3.9/46, mbtmp3.8/13, ML3.8/2, MS3.0/5, Ms1 3.0/5, ms1mx2.6/46, Error ellipse: s-maj=17.9km s-min=15.9km az=60.0*
*NEIC **30** 00:34:57.9±1.1, 18°.64N×63°.24W, h44km±11km, mb4.1/2, Error ellipse: s-maj=11.5km s-min=9.0km az=208.0*
*TRN **30** 00:34:57.6, 18°.51N×63°.26W, h25km, MD4.3*
ISC 30 00:34:56.6±1.4, 18°.68N±0°.06×63°.26W±0°.04, h31km±10km, n67, σ1§33/89, mb3.9/13, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SMRT	**St. Maarten**	**0.65**	**165**	*e*P		**Pb**		**00 35 09.5**	**-0.1**
SMRT				*e*S		**Sb**		**00 35 18.4**	**0.0**
SMRT	**St. Maarten**	**0.65**	**165**	*e*P		**Pb**		**00 35 09.5**	**-0.1**
SMRT				*e*S		**Sb**		**00 35 18.4**	**0.0**
SABA	**Saba**	**1.06**	**179**	*e*P		**Pn**		**00 35 15.3**	**0.0**
SABA				*e*S		**Sn**		**00 35 28.5**	**-0.5**
SABA	**Saba**	**1.06**	**179**	*e*P		**Pn**		**00 35 15.3**	**0.0**
SABA				*e*S		**Sn**		**00 35 28.5**	**-0.5**
SEUS	**St. Eustatius**	**1.21**	**168**	*e*P		**Pn**		**00 35 17.8**	**+0.4**
SEUS				*e*S		**Sn**		**00 35 32.5**	**-0.2**
SEUS	**St. Eustatius**	**1.21**	**168**	*e*P		**Pn**		**00 35 17.8**	**+0.4**
SEUS				*e*S		**Sn**		**00 35 32.5**	**-0.2**
NEV	**Hard Times**	**1.67**	**157**	*e*P		**Pb**		**00 35 25.6**	**-1.2**
ANWB	**Willy Bob**	**1.72**	**126**	*e*Pn		**Pn**		**00 35 25.2**	**+0.7**
ANWB				*e*P		**Pn**		**00 35 25.3**	**+0.8**
ANWB				*e*S		**Sn**		**00 35 46.6**	**+1.2**
ANWB	**Willy Bob**	**1.72**	**126**	*e*P		**Pn**		**00 35 25.3**	**+0.8**
ANWB				*e*S		**Sn**		**00 35 46.6**	**+1.2**
BPA	**Boggy Peak**	**2.10**	**140**	*e*P		**Pb**		**00 35 32.5**	**-1.6**
BPA				*e*S		**Sn**		**00 35 56.8**	**+1.9**
MLYT	**Lee's Yard**	**2.20**	**152**	*e*P		**Pn**		**00 35 32.5**	**+1.4**
MLYT				*e*S		**Sn**		**00 35 56.7**	**-0.5**
ABD	**La Joyeuse, An**	**2.77**	**142**	*e*P		**Pn**		**00 35 40.2**	**+1.6**
ABD				*e*S		**Sn**		**00 36 12.2**	**+0.9**
SJG	**San Juan**	**2.81**	**259**	Pn		**Pn**		**00 35 40.1**	**+0.7**
	23nm,0.3s,baz=111,slow=12,SNR=38								
SJG				Sn		**Sn**		**00 36 12.5**	**+0.4**
	19nm,0.3s,baz=32,slow=18,SNR=4.0								
SJG				LR		LR		00 36 51.3	
	comp=Z,114nm,20.1s,baz=86,slow=43								
SJG	**San Juan**	**2.81**	**259**	*e*Pn		**Pn**		**00 35 40.5**	**+1.1**
SJG				*e*Sn		**Sn**		**00 36 12.6**	**+0.4**
LZG	**Guadaloupe-1**	**2.90**	**151**	*e*P		**Pn**		**00 35 41.6**	**+1.0**
CBE	**F"F", Capest**	**3.04**	**149**	*e*P		**Pn**		**00 35 44.5**	**+1.9**
CBE				*e*S		**Sn**		**00 36 19.7**	**+1.7**
DEG	**La Desirade**	**3.15**	**138**	*e*P		**Pn**		**00 35 45.1**	**+0.9**
DEG	**La Desirade**	**3.15**	**138**	*e*P		**Pn**		**00 35 45.1**	**+0.9**
H05N1	**Guadeloupe/Mar**	**3.15**	**138**	Pn		**Pn**		**00 35 44.8**	**+0.6**
H05N1				Sn		**Sn**		**00 36 20.2**	**-0.6**
TBG	**Guadaloupe-3**	**3.21**	**151**	*e*P		**Pn**		**00 35 45.7**	**+0.8**
TDBA	**Terre de Bas,**	**3.21**	**151**	*e*P		**Pn**		**00 35 46.6**	**+1.6**
TDBA				*e*S		**Sn**		**00 36 23.7**	**+1.4**
MAGL	**Barre de l'ile**	**3.31**	**145**	*e*P		**Pn**		**00 35 48.3**	**+2.0**
MAGL				*e*S		**Sn**		**00 36 25.2**	**+0.6**
MGG	**Marie-Galante**	**3.31**	**146**	*e*P		**Pn**		**00 35 48.0**	**+1.6**
MGG	**Marie-Galante**	**3.31**	**146**	*e*P		**Pn**		**00 35 48.0**	**+1.6**
MDPV	**Dominica, Penn**	**3.51**	**150**	*e*P		**Pn**		**00 35 51.0**	**+2.0**
MDPV				*e*S		**Sn**		**00 36 29.1**	**-0.4**
MDVC	**Dominica, Viel**	**3.53**	**150**	*e*P		**Pn**		**00 35 51.5**	**+2.2**
MDVC				*e*S		**Sn**		**00 36 29.4**	**-0.6**
MDPO	**Dominica; Chan**	**3.54**	**151**	*e*P		**Pn**		**00 35 51.3**	**+1.8**
MDPO				*e*S		**Sn**		**00 36 29.9**	**-0.4**
BBL	**Barber's Block**	**3.57**	**151**	*e*P		**Pn**		**00 35 51.9**	**+2.0**
BBL				*e*S		**Sn**		**00 36 30.4**	**-0.8**
BBL	**Barber's Block**	**3.57**	**151**	*e*P		**Pn**		**00 35 51.9**	**+2.0**
BBL				*e*S		**Sn**		**00 36 30.4**	**-0.8**
MDN	**Morne-Daniel**	**3.79**	**152**	*e*P		**Pn**		**00 35 54.4**	**+1.4**
MDN	**Morne-Daniel**	**3.79**	**152**	*e*P		**Pn**		**00 35 54.4**	**+1.4**
PCM	**Pelee Case Pet**	**4.32**	**153**	*e*P		**Pn**		**00 36 02.5**	**+2.3**
BAMF	**Morne Balai**	**4.34**	**152**	*e*P		**Pn**		**00 36 02.7**	**+2.1**
GBMF	**Grand Be**	**4.35**	**152**	*e*P		**Pn**		**00 36 02.6**	**+1.9**
FDF	**Fort de France**	**4.42**	**153**	*e*P		**Pn**		**00 36 03.4**	**+1.8**
FDF	**Fort de France**	**4.42**	**153**	*e*P		**Pn**		**00 36 03.4**	**+1.8**
FDF	**Fort de France**	**4.42**	**153**	*e*S		**Sn**		**00 36 52.6**	**+0.6**
ZAM	**Aeronautique**	**4.61**	**152**	*e*P		**Pn**		**00 36 06.2**	**+2.0**
TRMF	**Trois Ilets**	**4.63**	**153**	*e*P		**Pn**		**00 36 07.1**	**+2.6**
LPMF	**Morne Lapointe**	**4.64**	**151**	*e*P		**Pn**		**00 36 06.6**	**+2.0**
H05S1	**Guadeloupe/Mar**	**4.83**	**151**	Pn		**Pn**		**00 36 09.3**	**+2.2**
H05S1				Sn		**Sn**		**00 37 01.7**	**-0.3**
GRGR	**Grenville**	**6.69**	**166**	*e*P		**Pn**		**00 36 35.2**	**+2.4**
GRGR	**Grenville**	**6.69**	**166**	*e*P		**Pn**		**00 36 35.2**	**+2.4**
SDDR	**Presa de Saban**	**7.61**	**274**	*e*Pn		**Pn**		**00 36 46.2**	**+0.7**
SDDR				*e*Sn		**Sn**		**00 38 08.9**	**-1.9**
PCRV	**Puerto La Cruz**	**8.56**	**189**	Pn		**Pn**		**00 36 58.7**	**+0.1**
	0.8nm,0.3s,baz=120,slow=8.1,SNR=4.9								
SDV	**Santo Domingo**	**12.09**	**217**	*e*Pn		**Pn**		**00 37 48.0**	**+1.0**
MDP	**Montagnes des**	**17.02**	**141**	LR		LR		00 46 17.8	
	comp=Z,70nm,18.3s,baz=338,slow=40								
ROSC	**El Rosal**	**17.49**	**220**	LR		LR		00 45 57.3	
	comp=Z,54nm,20.7s,baz=106,slow=38								
PTGA	**Pitinga**	**19.56**	**170**	LR		LR		00 46 55.3	
	comp=Z,71nm,18.4s,baz=19,slow=37								
OTAV	**Otavalo**	**23.64**	**221**	P		**P**		**00 40 05.4**	**-0.4**
	1.8nm,0.8s								
APG	**El Apazote**	**26.29**	**266**	LR		LR		00 50 31.1	
	comp=Z,28nm,19.1s,baz=48,slow=36								
NNA	**Nana**	**33.29**	**205**	P		**P**		**00 41 32.0**	**+0.3**
	2.5nm,0.3s								
LPAZ	**La Paz**	**35.08**	**188**	P		**P**		**00 41 48.8**	**+1.0**
	0.4nm,0.4s,baz=17,slow=11,SNR=3.0								
RCBR	**Riachuelo**	**36.34**	**130**	P		**P**		**00 41 55.2**	**-2.8**
TXAR	**Lajitas Array**	**38.24**	**294**	P		**P**		**00 42 14.4**	**+0.3**
	0.1nm,0.3s,baz=92,slow=10,SNR=7.3								
ULM	**Lac du Bonnet**	**40.83**	**328**	P		**P**		**00 42 34.6**	**-0.7**
	1.4nm,0.6s,baz=120,slow=8.2,SNR=4.5								
PDAR	**Pinedale Array**	**45.76**	**312**	P		**P**		**00 43 16.1**	**+0.6**
	1.1nm,0.7s,baz=101,slow=7.7,SNR=7.3								
PDAR				PcP		**PcP**		**00 44 51.5**	**-1.5**
	0.2nm,0.4s,baz=123,slow=3.3,SNR=2.8								

YKA	**Yellowknife Ar**	**56.16**	**334**	P	**P**	**00 44 33.0**	**-0.1**
	1.4nm,0.6s,baz=106,slow=7.5,SNR=15						
YKA	**Yellowknife Ar**	**56.16**	**334**	P	**P**	**00 44 33.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**62.42**	**85**	P	**P**	**00 45 16.2**	**-1.0**
	0.3nm,0.6s,baz=290,slow=7.4,SNR=4.7						
INK	**Inuvik**	**65.51**	**337**	P	**P**	**00 45 36.8**	**+0.3**
	1.3nm,0.7s,baz=113,slow=4.0,SNR=5.2						
NOA	**NORSAR Array B**	**66.32**	**31**	P	**P**	**00 45 42.5**	**+0.6**
	1.2nm,0.8s,baz=267,slow=6.4,SNR=4.5						
GERES	**GERESS Array B**	**67.64**	**44**	P	**P**	**00 45 51.9**	**+1.2**
	0.6nm,0.6s,baz=286,slow=5.0,SNR=4.5						
ILAR	**Eielson Array**	**70.56**	**333**	P	**P**	**00 46 07.3**	**-1.1**
	0.4nm,0.6s,baz=110,slow=3.6,SNR=6.6						
ARCES	**ARCESS Array B**	**72.23**	**22**	P	**P**	**00 46 19.9**	**+1.5**
	2.2nm,0.8s,baz=338,slow=2.6,SNR=6.6						
ASAR	**Alice Springs**	**163.25**	**250**	PKPab	**PKPab**	**00 55 45.8**	**-1.6**
	0.2nm,0.3s,baz=109,slow=5.0,SNR=4.2						
WRA	**Warramunga Arr**	**163.34**	**263**	PKPab	**PKPab**	**00 55 48.5**	**+0.6**
	0.1nm,0.6s,baz=92,slow=4.4,SNR=3.0						

IDC ***30*** *00:35:05.0±1.4,43.98N×12.15E,h0km,mb3.5/2, mb1 3.6/5,mb1mx3.3/46,mbtmp3.4/5,ML2.9/3,Error ellipse: s-maj=49.3km s-min=14.1km az=104.0*
ROM ***30*** *00:35:06.8±0.1,44.014N±0.005×11.729E±0.009, h8km,ML3.1/36*
ISCJB ***30*** *00:35:07.3±0.2,44.00N±0.02×11.72E±0.02,h21km±2km, mb3.5/2,Error ellipse: s-maj=2.7km s-min=2.4km az=17.1*
PRU ***30*** *00:35:07.2±0.0,44.03N×12.10E,h0km*
LDG ***30*** *00:35:09.1±0.2,43.94N×11.73E,h7km,Ml3.0/12,Error ellipse: s-maj=6.9km s-min=3.8km az=43.0*

ISC 30 00:35:07.1±0.8,44.02N±0.02×11.70E±0.02,h12km±6km, n93,σ1s53/126,2C-1D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFI	**Santa Sofia**	**0.15**	**138**	P	**Pg**	**00 35 10.3**	**-0.4**
SFI				S	**Sg**	**00 35 13.3**	**+0.1**
SFI				AML	AML		
	comp=E,21450μm,0.6s						
SFI				AML	AML		
	comp=N,16950μm,0.9s						
SFI				AML	AML		
	comp=E,22300μm,0.7s						
SFI				AML	AML		
	comp=N,16650μm,0.5s						
SFI				AML	AML		
	comp=E,21450μm,0.6s						
SFI				AML	AML		
	comp=N,16950μm,0.9s						
SFI				AML	AML		
	comp=E,22350μm,0.7s						
SFI				AML	AML		
	comp=N,16650μm,0.5s						
SFI				AML	AML		
	comp=E,21400μm,0.6s						
SFI				AML	AML		
	comp=N,16900μm,0.9s						
SFI				AML	AML		
	comp=E,22350μm,0.7s						
SFI				AML	AML		
	comp=N,16600μm,0.5s						
SFI				AML	AML		
	comp=E,22350μm,0.7s						
SFI				AML	AML		
	comp=E,21400μm,0.6s						
SFI				AML	AML		
	comp=N,16600μm,0.5s						
SFI				AML	AML		
	comp=N,16900μm,0.9s						
ASQU	**Asqua**	**0.23**	**165**	*i* P	**Pg**	**00 35 11.9**	**0.0**
ASQU				S	**Sg**	**00 35 16.2**	**+0.9**
ASQU				AML	AML		
	comp=E,13450μm,0.5s						
ASQU				AML	AML		
	comp=N,14600μm,0.2s						
ASQU				AML	AML		
	comp=E,13500μm,0.5s						
ASQU				AML	AML		
	comp=N,14600μm,0.2s						
ASQU				AML	AML		
	comp=E,13500μm,0.5s						
ASQU				AML	AML		
	comp=N,14600μm,0.2s						
ASQU				AML	AML		
	comp=E,13500μm,0.5s						
ASQU				AML	AML		
	comp=N,14600μm,0.2s						
FAEN	**Faenza**	**0.30**	**25**	P	**Pg**	**00 35 13.4**	**+0.3**
FAEN				S	**Sb**	**00 35 19.5**	**+0.3**
IMOL	**Imola, Italy**	**0.34**	**5**	P	**Pg**	**00 35 14.1**	**+0.1**
IMOL				S	**Sb**	**00 35 20.2**	**-0.3**
IMOL				AML	AML		
	comp=E,12470μm,0.9s						
IMOL				AML	AML		
	comp=N,9055μm,1.1s						
IMOL				AML	AML		
	comp=E,1520μm,0.7s						
IMOL				AML	AML		
	comp=N,1055μm,0.8s						
IMOL				AML	AML		
	comp=E,12495μm,0.9s						
IMOL				AML	AML		
	comp=N,9055μm,1.1s						
IMOL				AML	AML		
	comp=E,1525μm,0.7s						
IMOL				AML	AML		
	comp=N,1053μm,0.8s						
IMOL				AML	AML		
	comp=E,12520μm,0.9s						
IMOL				AML	AML		
	comp=N,9055μm,1.1s						
IMOL				AML	AML		
	comp=E,1525μm,0.7s						
IMOL				AML	AML		
	comp=N,1050μm,0.8s						
IMOL				AML	AML		
	comp=E,1525μm,0.7s						
IMOL				AML	AML		
	comp=N,9055μm,1.1s						
IMOL				AML	AML		
	comp=E,12520μm,0.9s						
IMOL				AML	AML		
	comp=N,1050μm,0.8s						
MTRZ	**Monterenzio**	**0.40**	**334**	P	**Pg**	**00 35 14.6**	**-0.3**
MTRZ				S	**Sb**	**00 35 21.9**	**-0.3**
MTRZ				AML	AML		
	comp=E,7065μm,0.6s						
MTRZ				AML	AML		
	comp=N,5975μm,0.5s						
MTRZ				AML	AML		
	comp=E,7255μm,0.5s						
MTRZ				AML	AML		
	comp=N,6160μm,0.5s						
MTRZ				AML	AML		
	comp=E,7065μm,0.6s						
MTRZ				AML	AML		
	comp=N,5975μm,0.5s						
MTRZ				AML	AML		
	comp=E,7255μm,0.5s						
MTRZ				AML	AML		
	comp=N,6160μm,0.5s						
MTRZ				AML	AML		
	comp=E,7065μm,0.6s						
MTRZ				AML	AML		
	comp=N,5980μm,0.5s						
MTRZ				AML	AML		
	comp=E,7255μm,0.5s						
MTRZ				AML	AML		
	comp=N,6160μm,0.5s						
MTRZ				AML	AML		
	comp=E,7255μm,0.5s						
MTRZ				AML	AML		
	comp=E,7065μm,0.6s						
MTRZ				AML	AML		
	comp=N,5980μm,0.5s						
MTRZ				AML	AML		
	comp=N,6160μm,0.5s						
FIR	**Firenze**	**0.41**	**233**	P	**Pb**	**00 35 15.7**	**-0.5**
PTF	**Prato**	**0.46**	**263**	P	**Pg**	**00 35 16.4**	**+0.3**
CPGN	**Carpegna, Ital**	**0.50**	**116**	P	**Pg**	**00 35 16.8**	**0.0**
CPGN				AML	AML		
	comp=E,2130μm,0.6s						
CPGN				AML	AML		
	comp=N,3595μm,0.8s						
CPGN				AML	AML		
	comp=E,2150μm,0.7s						
CPGN				AML	AML		
	comp=N,3580μm,0.8s						
CPGN				AML	AML		
	comp=E,2130μm,0.6s						
CPGN				AML	AML		
	comp=N,3595μm,0.8s						
CPGN				AML	AML		
	comp=E,2145μm,0.7s						
CPGN				AML	AML		
	comp=N,3570μm,0.8s						
CPGN				AML	AML		
	comp=E,2125μm,0.6s						
CPGN				AML	AML		
	comp=N,3595μm,0.8s						
CPGN				AML	AML		
	comp=E,2145μm,0.7s						
CPGN				AML	AML		
	comp=N,3565μm,0.8s						
CPGN				AML	AML		
	comp=E,2145μm,0.7s						
CPGN				AML	AML		
	comp=N,3595μm,0.8s						
CPGN				AML	AML		
	comp=E,2125μm,0.6s						
CPGN				AML	AML		
	comp=N,3565μm,0.8s						
PARC	**Parchiule**	**0.54**	**134**	P	**Pg**	**00 35 16.9**	**-0.6**
PARC				S	**Sb**	**00 35 25.5**	**-0.6**
PARC				AML	AML		
	comp=E,1260μm,0.3s						
PARC				AML	AML		
	comp=N,2140μm,1.2s						
PARC				AML	AML		
	comp=E,1260μm,0.3s						
PARC				AML	AML		
	comp=N,2140μm,1.2s						
PARC				AML	AML		
	comp=E,1260μm,0.3s						
PARC				AML	AML		
	comp=N,2140μm,1.2s						
PARC				AML	AML		
	comp=N,2140μm,1.2s						
PARC				AML	AML		
	comp=E,1260μm,0.3s						
SSP9	**Sansepolcro**	**0.54**	**145**	P	**Pg**	**00 35 17.2**	**-0.4**
SSP9				S	**Sb**	**00 35 25.9**	**-0.3**
SSP9				AML	AML		
	comp=E,1490μm,1.1s						
SSP9				AML	AML		
	comp=N,1985μm,0.6s						
SSP9				AML	AML		
	comp=E,1505μm,1.1s						
SSP9				AML	AML		
	comp=N,1980μm,0.6s						
SSP9				AML	AML		
	comp=E,1514μm,1.1s						
SSP9				AML	AML		
	comp=N,1980μm,0.6s						
SSP9				AML	AML		
	comp=N,1980μm,0.6s						
SSP9				AML	AML		
	comp=E,1514μm,1.1s						
RSM	**Repubblica di**	**0.55**	**99**	P	**Pb**	**00 35 18.3**	**-0.3**
BLLA	**Bellaria**	**0.57**	**77**	P	**Pb**	**00 35 18.3**	**-0.6**
ATCA	**Cantone**	**0.61**	**138**	P	**Pg**	**00 35 18.2**	**-0.7**
ATCA				AML	AML		
	comp=E,1000μm,0.4s						
ATCA				AML	AML		
	comp=N,980μm,0.4s						
ATCA				AML	AML		
	comp=E,1000μm,0.4s						
ATCA				AML	AML		
	comp=N,980μm,0.4s						
ATCA				AML	AML		
	comp=N,980μm,0.4s						
ATCA				AML	AML		
	comp=E,1000μm,0.4s						
CSNT	**Castellina Chi**	**0.62**	**209**	P	**Pg**	**00 35 19.3**	**+0.1**
CSNT				AML	AML		
	comp=E,2310μm,0.6s						
CSNT				AML	AML		
	comp=N,2830μm,0.6s						
CSNT				AML	AML		
	comp=E,2310μm,0.6s						
CSNT				AML	AML		
	comp=N,2830μm,0.6s						
CSNT				AML	AML		
	comp=N,2830μm,0.6s						
CSNT				AML	AML		
	comp=E,2310μm,0.6s						
BADI	**Badiali**	**0.64**	**142**	P	**Pg**	**00 35 18.9**	**-0.6**
BADI				S	**Sb**	**00 35 29.1**	**0.0**
BADI				AML	AML		
	comp=E,1550μm,0.7s						
BADI				AML	AML		
	comp=N,1835μm,0.3s						
BADI				AML	AML		
	comp=E,1550μm,0.7s						
BADI				AML	AML		
	comp=N,1835μm,0.3s						
BADI				AML	AML		
	comp=E,1545μm,0.7s						
BADI				AML	AML		
	comp=N,1840μm,0.3s						
BADI				AML	AML		
	comp=E,1545μm,0.7s						
BADI				AML	AML		
	comp=N,1840μm,0.3s						
PE3	**Peglio**	**0.66**	**119**	P	**Pg**	**00 35 19.4**	**-0.5**
PE3				AML	AML		
	comp=E,2595μm,0.5s						
PE3				AML	AML		
	comp=N,3035μm,0.5s						
PE3				AML	AML		
	comp=E,2590μm,0.5s						
PE3				AML	AML		
	comp=N,3035μm,0.5s						
PE3				AML	AML		
	comp=N,3035μm,0.5s						
PE3				AML	AML		
	comp=E,2590μm,0.5s						
ATMC	**Monte Cedrone**	**0.67**	**148**	P	**Pg**	**00 35 19.7**	**-0.4**
ATMC				AML	AML		
	comp=E,1860μm,0.3s						
ATMC				AML	AML		
	comp=N,1745μm,0.9s						
ATMC				AML	AML		
	comp=E,1860μm,0.3s						
ATMC				AML	AML		
	comp=N,1750μm,0.9s						
ATMC				AML	AML		
	comp=N,1750μm,0.9s						
ATMC				AML	AML		
	comp=E,1860μm,0.3s						
CDCA	**Citt' di Caste**	**0.68**	**145**	P	**Pb**	**00 35 20.2**	**-0.6**
CDCA				AML	AML		
	comp=E,2375μm,0.5s						
CDCA				AML	AML		
	comp=N,4520μm,0.5s						
CDCA				AML	AML		
	comp=E,1690μm,0.8s						
CDCA				AML	AML		
	comp=N,1555μm,1.6s						
CDCA				AML	AML		
	comp=E,2375μm,0.5s						
CDCA				AML	AML		
	comp=N,4520μm,0.5s						
CDCA				AML	AML		
	comp=E,1685μm,0.8s						
CDCA				AML	AML		
	comp=N,1640μm,1.6s						
CDCA				AML	AML		
	comp=E,2375μm,0.5s						
CDCA				AML	AML		
	comp=N,1640μm,1.6s						
CDCA				AML	AML		
	comp=E,1685μm,0.8s						
CDCA				AML	AML		
	comp=N,4520μm,0.5s						
POPM	**Popiglio**	**0.68**	**273**	P	**Pg**	**00 35 20.4**	**+0.1**
POPM				S	**Sb**	**00 35 31.6**	**+1.2**
POPM	**Popiglio**	**0.68**	**273**	P	**Pg**	**00 35 20.5**	**+0.1**
POPM				AML	AML		
	comp=E,864μm,0.8s						
POPM				AML	AML		
	comp=N,838μm,0.7s						
POPM				AML	AML		
	comp=E,864μm,0.8s						
POPM				AML	AML		
	comp=N,838μm,0.7s						
POPM				AML	AML		
	comp=E,864μm,0.8s						
CAFI	**Castiglion Fio**	**0.71**	**164**	P	**Pb**	**00 35 20.9**	**-0.6**
CAFI				AML	AML		
	comp=E,1870μm,0.6s						
CAFI				AML	AML		
	comp=N,1355μm,0.3s						
CAFI				AML	AML		
	comp=E,1870μm,0.6s						
CAFI				AML	AML		
	comp=N,1355μm,0.3s						
CAFI				AML	AML		
	comp=E,1870μm,0.6s						
CAFI				AML	AML		
	comp=N,1355μm,0.3s						
NARO	**Abbazia di Nar**	**0.75**	**122**	P	**Pg**	**00 35 20.6**	**-1.0**
NARO				AML	AML		
	comp=E,406μm,0.7s						
NARO				AML	AML		
	comp=N,465μm,1.3s						
NARO				AML	AML		
	comp=E,406μm,0.7s						
NARO				AML	AML		
	comp=N,465μm,1.3s						
NARO				AML	AML		
	comp=E,406μm,0.7s						
NARO				AML	AML		
	comp=N,465μm,1.3s						
ATPI	**Pietralunga -**	**0.76**	**138**	P	**Pg**	**00 35 20.8**	**-1.0**
ATPC	**Poggio Castell**	**0.77**	**134**	P	**Pg**	**00 35 21.0**	**-0.9**
ATPC				AML	AML		
	comp=E,504μm,1.1s						
ATPC				AML	AML		
	comp=N,1190μm,0.6s						
ATPC				AML	AML		
	comp=E,1420μm,1.3s						
ATPC				AML	AML		
	comp=N,1200μm,0.5s						
ATPC				AML	AML		
	comp=E,504μm,1.0s						
ATPC				AML	AML		
	comp=N,1190μm,0.6s						
ATPC				AML	AML		
	comp=E,1425μm,1.3s						
ATPC				AML	AML		
	comp=N,1200μm,0.5s						
ATPC				AML	AML		
	comp=E,1425μm,1.3s						
ATPC				AML	AML		
	comp=E,504μm,1.0s						
ATPC				AML	AML		
	comp=N,1200μm,0.5s						
ATPC				AML	AML		
	comp=N,1190μm,0.6s						
ATBU	**Serra di Buran**	**0.82**	**131**	P	**Pg**	**00 35 22.2**	**-0.7**
ATBU				AML	AML		
	comp=E,1860μm,1.4s						
ATBU				AML	AML		
	comp=N,1880μm,0.7s						
ATBU				AML	AML		
	comp=E,1860μm,1.4s						
ATBU				AML	AML		
	comp=N,1880μm,0.7s						
ATBU				AML	AML		
	comp=N,1880μm,0.7s						
ATBU				AML	AML		
	comp=E,1860μm,1.4s						
PESA	**Pesaro**	**0.82**	**95**	P	**Pb**	**00 35 22.9**	**-0.4**
PESA				AML	AML		
	comp=E,1605μm,1.4s						
PESA				AML	AML		
	comp=N,1485μm,1.4s						
PESA				AML	AML		
	comp=E,1605μm,1.4s						
PESA				AML	AML		
	comp=N,1485μm,1.4s						
PESA				AML	AML		
	comp=E,1605μm,1.4s						
PESA				AML	AML		
	comp=N,1485μm,1.4s						
FSSB	**Fossombrone**	**0.84**	**112**	P	**Pg**	**00 35 22.3**	**-1.1**
FSSB				AML	AML		
	comp=E,1525μm,0.3s						
FSSB				AML	AML		
	comp=N,1810μm,0.5s						
FSSB				AML	AML		
	comp=E,1525μm,0.3s						
FSSB				AML	AML		
	comp=N,1810μm,0.5s						
FSSB				AML	AML		
	comp=E,1525μm,0.3s						
FSSB				AML	AML		
	comp=N,1810μm,0.5s						
ATVA	**AVT- Monte Val**	**0.85**	**150**	P	**Pg**	**00 35 22.8**	**-0.8**
ATVA				AML	AML		
	comp=E,520μm,1.2s						
ATVA				AML	AML		
	comp=N,472μm,0.4s						
ATVA				AML	AML		
	comp=E,520μm,1.2s						
ATVA				AML	AML		
	comp=N,472μm,0.4s						
ATVA				AML	AML		
	comp=E,520μm,1.2s						
ATVA				AML	AML		
	comp=N,472μm,0.4s						
MPAG	**Monte Paganucc**	**0.86**	**117**	P	**Pg**	**00 35 22.7**	**-0.9**
MPAG				AML	AML		
	comp=E,714μm,0.5s						
MPAG				AML	AML		
	comp=N,534μm,0.5s						
MPAG				AML	AML		
	comp=E,714μm,0.5s						
MPAG				AML	AML		
	comp=N,534μm,0.5s						
MPAG				AML	AML		
	comp=N,534μm,0.5s						
MPAG				AML	AML		
	comp=E,714μm,0.5s						
MAIM	**Mastiano**	**0.88**	**264**	P	**Pg**	**00 35 24.2**	**+0.2**
MAIM				S	**Sg**	**00 35 36.2**	**+0.6**
MAIM	**Mastiano**	**0.88**	**264**	P	**Pg**	**00 35 24.3**	**+0.2**
MAIM				AML	AML		
	comp=E,489μm,0.5s						
MAIM				AML	AML		
	comp=N,548μm,0.6s						
MAIM				AML	AML		
	comp=E,489μm,0.5s						
MAIM				AML	AML		
	comp=N,548μm,0.6s						
MAIM				AML	AML		
	comp=E,489μm,0.5s						
MAIM				AML	AML		
	comp=N,548μm,0.6s						
ATTE	**AVT- Monte Tez**	**0.95**	**150**	P	**Pg**	**00 35 24.6**	**-0.7**
ATTE				AML	AML		
	comp=E,859μm,0.6s						
ATTE				AML	AML		
	comp=N,903μm,1.1s						
ATTE				AML	AML		
	comp=E,859μm,0.6s						
ATTE				AML	AML		
	comp=N,904μm,1.1s						
ATTE				AML	AML		
	comp=N,904μm,1.1s						
ATTE				AML	AML		
	comp=E,859μm,0.6s						
SARO	**Sassorosso**	**0.95**	**280**	P	**Pb**	**00 35 26.3**	**+0.7**
SARO				S	**Sg**	**00 35 38.0**	**+0.1**
MURB	**Monte Urbino**	**0.96**	**141**	AML	AML		
MURB	comp=E,1785μm,0.3s			AML	AML		
	comp=E,1595μm,0.8s						
MURB				AML	AML		
	comp=N,1965μm,0.4s						
MURB				AML	AML		
	comp=N,2125μm,0.4s						
MURB				AML	AML		
	comp=N,2125μm,0.4s						
MURB				AML	AML		
	comp=E,1595μm,0.8s						
MURB				AML	AML		
	comp=E,1785μm,0.3s						

MURB AML AML
comp=N,1965µm,0.4s
ARVD Arcevia 1.04 120 AML AML
comp=E,386µm,0.8s
ARVD AML AML
comp=E,386µm,0.8s
ARVD AML AML
comp=N,352µm,0.7s
ARVD AML AML
comp=E,386µm,0.8s
ARVD AML AML
comp=N,352µm,0.7s
ARVD AML AML
comp=N,352µm,0.7s
ADRI Adria, Italy 1.04 12⇓ *e*Pg **Pb 00 35 27.2 +0.1**
ATCC AVT- Casa Cast 1.07 140 P **Pg 00 35 26.8 -1.0**
ATCC AML AML
comp=E,1280µm,0.8s
ATCC AML AML
comp=N,844µm,1.1s
ATCC AML AML
comp=E,1280µm,0.8s
ATCC AML AML
comp=N,844µm,1.1s
ATCC AML AML
comp=E,1280µm,0.8s
ATCC AML AML
comp=N,844µm,1.1s
TRIF Trifonti 1.07 213 P **Pg 00 35 27.5 -0.2**
TRIF AML AML
comp=E,283µm,0.7s
TRIF AML AML
comp=N,358µm,0.8s
TRIF AML AML
comp=N,358µm,0.8s
TRIF AML AML
comp=E,283µm,0.7s
EQUI Equi 1.13 278 P **Pn 00 35 29.3 +0.6**
EQUI S **Sg 00 35 43.4 0.0**
MGAB Montegabbione 1.15 165 P **Pg 00 35 28.4 -0.7**
MGAB AML AML
comp=E,1105µm,0.4s
MGAB AML AML
comp=N,1330µm,0.5s
MGAB AML AML
comp=E,1066µm,0.4s
MGAB AML AML
comp=N,1355µm,0.5s
MGAB AML AML
comp=E,1066µm,0.4s
MGAB AML AML
comp=E,1105µm,0.4s
MGAB AML AML
comp=N,1355µm,0.5s
MGAB AML AML
comp=N,1330µm,0.5s
TEOL Teolo 1.34 359⇑ *e*Pg **Pn 00 35 31.4 -0.2**
TEOL *e*Sg **Sg 00 35 50.1 -0.2**
FDMO Fiordimonte 1.41 134 AML AML
comp=N,342µm,1.1s
FDMO AML AML
comp=E,386µm,0.7s
FDMO AML AML
comp=N,342µm,1.1s
FDMO AML AML
comp=E,386µm,0.7s
MARN Marana (Italy) 1.66 348 *e*Pg **Pn 00 35 35.7 -0.3**
MARN *e*Sg **Sn 00 35 57.4 +0.2**
CGRP Cima Grappa 1.86 2⇓ *e*Pn **Pn 00 35 38.5 -0.5**
CGRP *e*Sn **Sn 00 36 02.5 0.0**
CGRP Cima Grappa 1.86 2 AML AML
comp=N,391µm,0.6s
CGRP AML AML
comp=E,314µm,0.7s
CGRP AML AML
comp=N,391µm,0.6s
CGRP AML AML
comp=E,314µm,0.7s
VARN Col Varnada, M 2.00 8 *e*Pn **Pn 00 35 39.8 -0.9**
VARN *e*Sn **Sn 00 36 05.5 -0.1**
PANI Panarotta 2.05 353 *e*Pn **Pn 00 35 41.2 -0.3**
RNI Roncone 2.11 339 *e*Pn **Pn 00 35 42.2 -0.1**
MABI Malga Bissina 2.20 338 AML AML
comp=E,66µm,0.7s
MABI AML AML
comp=N,67µm,0.8s
MABI AML AML
comp=N,67µm,0.8s
MABI AML AML
comp=E,66µm,0.7s
NVLJ Novalja 2.34 75 *e*Pn **Pn 00 35 45.4 +0.1**
NVLJ Sn **Sn 00 36 14.1 +0.1**
STAL STALIGIAL 2.35 17 AML AML
comp=N,204µm,0.9s
STAL AML AML
comp=E,303µm,0.4s
STAL AML AML
comp=N,204µm,0.9s
STAL AML AML
comp=E,303µm,0.4s
PGF Pioggiola 2.46 234 *e*Pn **Pb 00 35 49.7 -1.6**
PGF *e*Sn **Sn 00 36 17.4 +0.2**
comp=E,7.1nm,0.3s
GEPF Gemona 2.47 24 AML AML
comp=N,115µm,0.6s
GEPF AML AML
comp=E,129µm,0.6s
GEPF AML AML
comp=N,115µm,0.6s
GEPF AML AML
comp=E,129µm,0.6s
ABSI Aberstueckl 2.72 354 AML AML
comp=E,303µm,0.6s
ABSI AML AML
comp=E,303µm,0.6s
ABSI AML AML
comp=N,266µm,0.7s
ABSI AML AML
comp=N,266µm,0.7s
ABTA Abfaltersbach 2.79 12 Pn **Pn 00 35 52.0 +0.4**
comp=N,4.6nm,0.4s
ABTA *i* Sn **Sn 00 36 26.5 +1.3**
comp=N,24nm,0.6s
MYKA Terra Mystica 2.95 27 Pn **Pn 00 35 53.9 +0.1**
comp=N,2.2nm,0.4s
MYKA Sn **Sn 00 36 30.3 +1.2**
comp=N,7.2nm,0.3s
UDBI Udbina 2.96 79 *e*Pn **Pn 00 35 56.1 +2.1**
UDBI Sn **Sn 00 36 30.5 +1.0**
DAVOX Davos/Dischmat 3.05 336 Pn **Pn 00 35 57.6 +2.3**
comp=N,2.3nm,0.3s,baz=155,slow=15,SNR=33
DAVOX Lg Lg 00 36 38.9
comp=N,1.1nm,0.3s,baz=171,slow=17,SNR=4.0
FETA Feichten 3.08 347 *e*Pn **Pn 00 35 57.7 +2.0**
comp=N,18nm,0.9s,SNR=22
SBF Sospel 3.09 269 *e*Pn **Pn 00 35 57.8 +2.1**
SBF *e*Sn **Sn 00 36 32.3 -0.3**
comp=N,20nm,0.4s
OBKA Obir 3.20 38 Pn **Pb 00 36 00.6 -3.3**
comp=N,3.0nm,0.3s
OBKA *i* Sn **Sn 00 36 38.9 +3.5**
comp=N,13nm,0.4s
SQTA Sankt Quirin 3.22 354 *e*Pn **Pn 00 35 59.6 +2.0**
comp=N,1.7nm,0.1s,SNR=12
SQTA *e*Sn **Sb 00 36 41.4 -2.1**
comp=N,24nm,0.6s
WTTA Wattenberg 3.25 359 *e*Pn **Pn 00 36 01.0 +3.0**
comp=N,3.6nm,0.3s
WTTA *e*Sn **Sn 00 36 40.4 +3.8**
comp=N,16nm,0.5s
WATA Walderalm 3.32 358 *i* Pn **Pn 00 36 01.2 +2.3**
comp=N,19nm,0.5s,SNR=20
MOTA Moosalm 3.35 353 *i* Pn **Pn 00 36 02.0 +2.6**
comp=N,5.4nm,0.4s,SNR=12
DAVA Damuels 3.51 339 *e*Pn **Pn 00 36 04.0 +2.5**
comp=N,9.8nm,0.6s,SNR=11
DAVA *e*Sn **Sb 00 36 48.2 -3.6**
comp=N,17nm,0.6s
RETA Reutte 3.53 350 *e*Pn **Pn 00 36 03.7 +1.9**
comp=N,4.2nm,0.4s,SNR=7.3
RETA *e*Sn **Sn 00 36 47.9 +4.3**
comp=N,5.3nm,0.3s
SOKA Soboth 3.55 40 *e*Pn **Pn 00 36 05.0 +2.9**
comp=N,2.5nm,0.4s
SOKA *i* Sn **Sn 00 36 43.4 -0.5**
comp=N,4.6nm,0.5s
MBDF Montbardon 3.61 283 *e*Pn **Pb 00 36 08.1 -2.8**
MBDF *e*Sn **Sn 00 36 45.0 -0.5**
comp=N,1.1nm,0.2s
FRF La Foret Royal 3.69 265 *e*Pn **Pn 00 36 06.9 +3.0**
LPG La Plagne 3.83 294 *e*Pn **Pn 00 36 08.2 +2.2**
LPG *e*Sn **Sn 00 36 50.2 -0.9**
comp=N,1.4nm,0.2s
LPL La Plagne 3.84 295 *e*Pn **Pn 00 36 09.5 +3.3**
LPL *e*Sn **Sn 00 36 50.6 -0.9**
comp=N,10nm,0.4s
ARSA Arzberg 4.20 38 *e*Pn **Pn 00 36 11.0 +0.1**
comp=N,2.5nm,0.5s
ARSA *e*Sn **Sn 00 36 59.2 -0.6**
comp=N,2.1nm,0.3s
MOA Molln 4.23 24 *i* Pn **Pn 00 36 11.6 +0.3**
comp=N,1.9nm,0.2s
MOA *e*Sn **Sn 00 37 00.5 -0.1**
comp=N,9.5nm,0.4s,SNR=6.6
ORIF Oris-en-Rattie 4.26 284 *e*P Pn 00 36 16.9 +5.0
ORIF *e*Sn **Sn 00 37 00.6 -1.0**
comp=N,2.7nm,0.4s
CABF La Chapelle 4.73 305 *e*Pn **Pn 00 36 19.4 +1.1**
CONA Conrad Observa 4.87 35 *e*Pn **Pn 00 36 21.7 +1.5**
comp=N,1.6nm,0.5s
CONA *i* Sn **Sn 00 37 17.2 +0.8**
comp=N,6.8nm,0.6s
GERES GERESS Array B 5.02 15 Pn **Pn 00 36 21.3 -1.0**
comp=N,0.4nm,0.3s,baz=193,slow=14,SNR=10
GERES Sn **Sn 00 37 19.1 -1.2**
comp=N,1.7nm,0.3s,baz=194,slow=28,SNR=4.9
HINF Hinteralfeld 5.09 320 *e*Pn **Pn 00 36 22.6 -0.5**
HINF *e*Sn **Sn 00 37 19.7 -2.1**
comp=N,4.3nm,0.3s
VIVF Saint-Julien-l 5.11 282 *e*Sn **Sn 00 37 20.5 -1.8**
comp=N,0.9nm,0.2s
KHC Kasperske Hory 5.27 14 *e*PN **Pn 00 36 24.8 -0.9**
KHC *ex* x 00 36 41.0
KHC *e*SN **Sn 00 37 24.8 -1.6**
CDF Champ du Feu 5.36 327 *e*Pn **Pn 00 36 27.3 +0.3**
CDF *e*Sn **Sn 00 37 26.1 -2.5**
comp=N,12nm,0.6s
HAU Haudompre 5.46 319 *e*Pn **Pn 00 36 28.7 +0.5**
HAU *e*Sn **Sn 00 37 28.6 -2.4**
comp=N,15nm,0.4s
SMF Signal de Mont 6.13 298 *e*Pn **Pn 00 36 38.3 +0.8**
GOPC GÖ Pecny, Ondr 6.26 19 *e*PN **Pn 00 36 38.4 -0.9**
GOPC *e*SN **Sn 00 37 47.1 -3.6**
LOR Lormes 6.39 303 *e*Pn **Pn 00 36 42.0 +1.0**
LOR *e*Sn **Sn 00 37 51.0 -2.8**
comp=N,12nm,0.6s
SSF Saint Saulge 6.51 301 *e*Sn **Sn 00 37 54.1 -2.7**
comp=N,6.2nm,0.5s
BGF Bois d'Agland 6.74 295 *e*Pn **Pn 00 36 46.2 +0.3**
BRG Berggiesshubel 7.02 12 PN **Pn 00 36 53.3 +3.7**
comp=N,2.5nm,0.7s
BRG *e* 00 38 05.3
BRG *e* 00 38 56.9
comp=N,4.9nm,1.1s
CLL Collm 7.35 6 *e*Sg **Sg 00 39 06.0 +3.4**
KEST Kesra 8.47 193 Pn **Pn 00 37 10.2 +0.5**
comp=N,0.1nm,0.3s,baz=17,slow=14,SNR=1.7
TORD Torodi Ar. Bea 31.94 199 P **P 00 41 32.7 0.0**
comp=N,0.4nm,0.7s,baz=9.3,slow=9.7,SNR=2.9
YKA Yellowknife Ar 65.48 336 P **P 00 45 50.7 +1.1**
comp=N,0.5nm,0.8s,baz=55,slow=6.3,SNR=5.2

*GUC **30** 00:56:11.0±0.5, 30.04S×71.47W, h41km±2km, ML2.6*
*SJA **30** 00:56:11.8±1.2, 29.95S×71.50W, h11km±12km, ML2.8, MW3.2*
*ISCJB **30** 00:56:12.9±2.9, 30.00S±0.05×71.6W±0.1, h15km±13km, Error ellipse: s-maj=20.6km s-min=7.0km az=9.9*
ISC 30 00:56:10.7±2.0, 30.04S±0.05×71.6W±0.1, h31km±12km, n15, σ1§19/21, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res ISC
LSCH	**La Serena**	**0.32**	**66**	*e*P		**Pn**		**00 56 19.1**	**-0.1**
LSCH				*e*S		**Sb**		**00 56 24.9**	**+1.3**
LSCH				IAML				00 56 25.2	
comp=E,650nm,0.2s									
GO04	**Tololo Observa**	**0.69**	**101**	*e*P		**Pn**		**00 56 24.8**	**+0.3**
GO04				*e*S		**Sn**		**00 56 34.6**	**+0.3**
GO04	**Tololo Observa**	**0.69**	**101⇓**	*i*P		**Pn**		**00 56 24.5**	**0.0**
GO04				*e*S		**Sn**		**00 56 34.5**	**+0.3**
CMCH	**Combarbala**	**1.23**	**156**	*e*P		**Pn**		**00 56 33.2**	**+1.3**
CMCH				*e*S		**Sn**		**00 56 49.4**	**+1.8**
LCO	**Las Campanas**	**1.28**	**37**	*e*P		**Pb**		**00 56 34.6**	**+0.2**
LCO				*e*S		**Sb**		**00 56 50.2**	**-0.3**
LCO	**Las Campanas**	**1.28**	**37**	*e*P		**Pb**		**00 56 33.7**	**-0.6**
LCO				*e*S		**Sb**		**00 56 50.7**	**+0.2**
LCO				IAML				00 56 52.7	
comp=N,269nm,0.6s									
VACH	**Vallenar**	**1.62**	**26**	*e*S		**Sb**		**00 56 59.7**	**-0.5**
AROD	**Rodeo**	**1.83**	**95**	*e*P		**Pb**		**00 56 43.4**	**-0.2**
ACCO	**Cerro Coronel**	**2.24**	**105**	*e*P		**Pb**		**00 56 51.0**	**+0.3**
RTLS	**Leoncito**	**2.63**	**132**	*e*P		**Pb**		**00 56 56.3**	**-1.0**
RTLS				IAML				00 57 33.9	
comp=Z,19nm,0.6s									
AGUA	**GUANDACOL**	**2.74**	**79**	*e*P		**Pb**		**00 56 57.9**	**-1.1**
AMOG	**MOGNA**	**2.81**	**109**	*e*P		**Pb**		**00 57 00.5**	**+0.3**
AUSP	**Uspallata**	**2.88**	**140**	*e*P		**Pb**		**00 56 59.6**	**-1.9**
VCA	**Vinchina**	**3.21**	**67**	*e*P		**Pb**		**00 57 05.6**	**-1.6**
VCA				IAML				00 57 10.0	
comp=Z,63nm,0.3s									
ASAL	**Salagasta**	**3.46**	**138**	*e*P		**Pb**		**00 57 08.5**	**-2.8**

IDC 30 01:02:16.0±5.7, 17.78S×177.54W, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/26, mbtmp3.5/4, Error ellipse: s-maj=222.2km s-min=35.0km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res ISC
WRA	**Warramunga Arr**	**45.47**	**259**	P		P		01 10 37.6	+0.3
0.2nm,0.4s,baz=96,slow=7.7,SNR=16									
ASAR	**Alice Springs**	**45.62**	**254**	P		P		01 10 38.0	-0.5
0.2nm,0.5s,baz=92,slow=8.1,SNR=4.9									
ILAR	**Eielson Array**	**85.58**	**13**	P		P		01 14 56.0	+0.3
0.5nm,1.0s,baz=222,slow=6.6,SNR=3.5									
SONM	**Songino Array**	**93.99**	**319**	P		P		01 15 35.3	-0.8
0.2nm,0.5s,baz=52,slow=7.5,SNR=3.1									

*IDC **30** 01:10:05.7±1.5, 44.04N×12.30E, h0km, mb3.4/1, mb1 3.4/4, mb1mx3.2/36, mbtmp3.3/4, ML2.7/3, MS2.6/1, Ms1 2.6/1, ms1mx2.0/30, Error ellipse: s-maj=44.5km s-min=14.0km az=102.0*
*ISCJB **30** 01:10:07.2±0.3, 44.03N±0.01×11.75E±0.02, h12km±2km, mb3.3/1, MS2.5/1, Error ellipse: s-maj=2.5km s-min=2.3km az=170.3*
*ROM **30** 01:10:07.1±0.1, 44.011N±0.006×11.73E±0.01, h8km±1km, ML3.0/46*
*PRU **30** 01:10:09.0±0.0, 44.14N×12.04E, h0km*
*LDG **30** 01:10:09.0±0.2, 43.92N×11.85E, h7km, Ml3.2/5, Error ellipse: s-maj=7.6km s-min=4.3km az=61.0*
ISC 30 01:10:07.0±0.9, 44.05N±0.02×11.78E±0.02, h12km±6km, n102, σ1§63/119, 2C-1D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res ISC
SFI	**Santa Sofia**	**0.15**	**161**	P		**Pg**		**01 10 10.5**	**-0.1**
SFI				S		**Sg**		**01 10 13.5**	**+0.3**
SFI				AML		AML			
comp=E,17900µm,0.8s									
SFI				AML		AML			
comp=N,14650µm,0.7s									
SFI				AML		AML			
comp=E,19000µm,0.8s									
SFI				AML		AML			
comp=N,14400µm,0.7s									
SFI				AML		AML			
comp=E,17900µm,0.8s									
SFI				AML		AML			
comp=N,14700µm,0.7s									
SFI				AML		AML			
comp=E,19000µm,0.8s									
SFI				AML		AML			
comp=N,14400µm,0.7s									
SFI				AML		AML			
comp=E,17900µm,0.8s									
SFI				AML		AML			
comp=N,14650µm,0.7s									
SFI				AML		AML			
comp=E,19000µm,0.8s									
SFI				AML		AML			
comp=N,14350µm,0.7s									
SFI				AML		AML			
comp=E,17900µm,0.8s									
SFI				AML		AML			
comp=E,19000µm,0.8s									
SFI				AML		AML			
comp=N,14650µm,0.7s									
SFI				AML		AML			
comp=N,14350µm,0.7s									
FAEN	**Faenza**	**0.25**	**16**	P		**Pg**		**01 10 13.6**	**+1.4**
ASQU	**Asqua**	**0.25**	**178**	P		**Pg**		**01 10 12.1**	**-0.2**
ASQU				S		**Sb**		**01 10 16.6**	**-1.3**
ASQU				AML		AML			
comp=E,9565µm,0.6s									
ASQU				AML		AML			
comp=N,9480µm,0.6s									
ASQU				AML		AML			
comp=E,9565µm,0.6s									
ASQU				AML		AML			
comp=N,9480µm,0.6s									
ASQU				AML		AML			
comp=E,9565µm,0.6s									
ASQU				AML		AML			
comp=N,9480µm,0.6s									
IMOL	**Imola, Italy**	**0.31**	**355**	P		**Pb**		**01 10 14.5**	**+0.1**
IMOL				S		**Sb**		**01 10 21.7**	**+2.2**
IMOL				AML		AML			
comp=E,8645µm,1.2s									
IMOL				AML		AML			
comp=N,8825µm,0.6s									
IMOL				AML		AML			
comp=E,1218µm,1.0s									
IMOL				AML		AML			
comp=N,1145µm,0.6s									
IMOL				AML		AML			
comp=E,8650µm,1.2s									
IMOL				AML		AML			
comp=N,8825µm,0.6s									
IMOL				AML		AML			
comp=E,1212µm,1.0s									
IMOL				AML		AML			
comp=N,1140µm,0.6s									
IMOL				AML		AML			
comp=E,8650µm,1.2s									
IMOL				AML		AML			
comp=N,8825µm,0.6s									
IMOL				AML		AML			
comp=E,1212µm,1.0s									
IMOL				AML		AML			
comp=N,1141µm,0.6s									
IMOL				AML		AML			
comp=E,8650µm,1.2s									
IMOL				AML		AML			
comp=N,1141µm,0.6s									
IMOL				AML		AML			
comp=N,8825µm,0.6s									
IMOL				AML		AML			
comp=E,1212µm,1.0s									
MTRZ	**Monterenzio**	**0.40**	**326**	P		**Pg**		**01 10 14.8**	**-0.1**
MTRZ				S		**Sg**		**01 10 21.8**	**+1.6**
MTRZ				AML		AML			
comp=E,5100µm,0.5s									
MTRZ				AML		AML			
comp=N,5395µm,0.6s									
MTRZ				AML		AML			
comp=E,5145µm,0.5s									
MTRZ				AML		AML			
comp=N,5545µm,0.6s									
MTRZ				AML		AML			
comp=E,5100µm,0.5s									
MTRZ				AML		AML			
comp=N,5395µm,0.6s									
MTRZ				AML		AML			
comp=E,5145µm,0.5s									
MTRZ				AML		AML			
comp=N,5545µm,0.6s									
MTRZ				AML		AML			
comp=E,5100µm,0.5s									
MTRZ				AML		AML			
comp=N,5390µm,0.6s									
MTRZ				AML		AML			
comp=E,5145µm,0.5s									
MTRZ				AML		AML			
comp=N,5545µm,0.6s									
MTRZ				AML		AML			
comp=N,5390µm,0.6s									
CPGN	**Carpegna, Ital**	**0.46**	**122**	P		**Pn**		**01 10 17.0**	**-2.6**
CPGN				AML		AML			
comp=E,1650µm,1.5s									
CPGN				AML		AML			
comp=N,2890µm,0.9s									
CPGN				AML		AML			
comp=E,1659µm,1.5s									
CPGN				AML		AML			
comp=N,3015µm,0.9s									
CPGN				AML		AML			
comp=E,1650µm,1.5s									
CPGN				AML		AML			
comp=N,2890µm,0.9s									
CPGN				AML		AML			
comp=E,1642µm,1.5s									
CPGN				AML		AML			
comp=N,3000µm,0.9s									
CPGN				AML		AML			
comp=E,1655µm,1.5s									
CPGN				AML		AML			
comp=N,2895µm,0.9s									
CPGN				AML		AML			
comp=N,2895µm,0.9s									
CPGN				AML		AML			
comp=E,1655µm,1.5s									
FIR	**Firenze**	**0.47**	**234**	P		**Pg**		**01 10 15.8**	**-0.4**
FNVD	**Fontana Vidola**	**0.49**	**284**	P		**Pg**		**01 10 16.0**	**-0.5**
FNVD				S		**Sg**		**01 10 23.5**	**+0.5**
PTF	**Prato**	**0.52**	**260**	P		**Pg**		**01 10 16.7**	**-0.4**
PARC	**Parchiule**	**0.52**	**140**	P		**Pb**		**01 10 17.2**	**-0.8**
PARC				S		**Sb**		**01 10 25.9**	**+0.3**
PARC				AML		AML			
comp=E,1164µm,0.8s									
PARC				AML		AML			
comp=N,1560µm,0.7s									
PARC				AML		AML			
comp=E,1164µm,0.8s									
PARC				AML		AML			
comp=N,1560µm,0.7s									
PARC				AML		AML			
comp=E,1164µm,0.8s									
PARC				AML		AML			
comp=N,1560µm,0.7s									
PARC				AML		AML			
comp=N,1560µm,0.7s									
PARC				AML		AML			
comp=E,1164µm,0.8s									
SSP9	**Sansepolcro**	**0.54**	**152**	P		**Pb**		**01 10 17.5**	**-0.8**
SSP9				S		**Sb**		**01 10 26.1**	**0.0**
SSP9				AML		AML			
comp=E,1540µm,1.1s									
SSP9				AML		AML			
comp=N,1725µm,1.5s									
SSP9				AML		AML			
comp=E,1551µm,1.1s									
SSP9				AML		AML			
comp=N,1726µm,1.5s									
SSP9				AML		AML			
comp=E,1560µm,1.1s									
SSP9				AML		AML			
comp=N,1730µm,1.5s									
SSP9				AML		AML			
comp=E,1560µm,1.1s									
SSP9				AML		AML			
comp=N,1730µm,1.5s									
FIU	**Minerbio Fiu**	**0.62**	**341**	P		**Pn**		**01 10 21.5**	**-0.1**
FIU				AML		AML			
comp=E,2035µm,0.7s									

FIU AML AML
comp=N,2105µm,1.3s
FIU AML AML
comp=N,2105µm,1.3s
FIU AML AML
comp=E,2035µm,0.7s
PE3 Peglio 0.63 124 AML AML
comp=N,1920µm,1.4s
PE3 AML AML
comp=E,2325µm,0.5s
PE3 AML AML
comp=E,2320µm,0.5s
PE3 AML AML
comp=N,1920µm,1.4s
PE3 AML AML
comp=N,1920µm,1.4s
PE3 AML AML
comp=E,2320µm,0.5s
BADI Badiali 0.64 148 P **Pb 01 10 19.1 -0.9**
BADI S **Sb 01 10 29.0 +0.1**
BADI AML AML
comp=E,1150µm,0.9s
BADI AML AML
comp=N,1165µm,0.2s
BADI AML AML
comp=E,1150µm,0.9s
BADI AML AML
comp=N,1165µm,0.2s
BADI AML AML
comp=N,1165µm,0.2s
BADI AML AML
comp=E,1150µm,0.9s
ATMC Monte Cedrone 0.67 153 P **Pb 01 10 19.8 -0.9**
ATMC AML AML
comp=E,1700µm,0.6s
ATMC AML AML
comp=N,1230µm,1.3s
ATMC AML AML
comp=E,1695µm,0.6s
ATMC AML AML
comp=N,1235µm,1.3s
ATMC AML AML
comp=N,1235µm,1.3s
ATMC AML AML
comp=E,1695µm,0.6s
CSNT Castellina Chi 0.68 212 P **Pg 01 10 19.8 -0.4**
CSNT S **Sg 01 10 29.8 +0.8**
CSNT AML AML
comp=E,1315µm,0.7s
CSNT AML AML
comp=N,1885µm,0.6s
CSNT AML AML
comp=E,1315µm,0.7s
CSNT AML AML
comp=N,1885µm,0.6s
CSNT AML AML
comp=E,1315µm,0.7s
CSNT AML AML
comp=N,1885µm,0.6s
NARO Abbazia di Nar 0.73 127 AML AML
comp=N,354µm,0.4s
NARO AML AML
comp=E,346µm,0.7s
NARO AML AML
comp=E,346µm,0.7s
NARO AML AML
comp=N,354µm,0.4s
NARO AML AML
comp=E,346µm,0.7s
NARO AML AML
comp=N,354µm,0.4s
CAFI Castiglion Fio 0.73 169 P **Pb 01 10 21.0 -0.7**
CAFI AML AML
comp=E,1088µm,0.7s
CAFI AML AML
comp=N,686µm,0.7s
CAFI AML AML
comp=E,1088µm,0.7s
CAFI AML AML
comp=N,686µm,0.7s
CAFI AML AML
comp=E,1088µm,0.7s
CAFI AML AML
comp=N,686µm,0.7s
CAFI AML AML
comp=E,1088µm,0.7s
CAFI AML AML
comp=N,686µm,0.7s
POPM Popiglio 0.74 270 P **Pg 01 10 20.4 -0.8**
POPM S **Sg 01 10 31.6 +0.7**
POPM Popiglio 0.74 270 P **Pg 01 10 21.4 +0.1**
POPM AML AML
comp=E,798µm,0.9s
POPM AML AML
comp=N,850µm,1.1s
POPM AML AML
comp=E,798µm,0.9s
POPM AML AML
comp=N,850µm,1.1s
POPM AML AML
comp=N,850µm,1.1s
POPM AML AML
comp=E,798µm,0.9s
ATPI Pietralunga - 0.75 143 P **Pb 01 10 21.3 -0.7**
ATPI AML AML
comp=E,686µm,0.5s
ATPI AML AML
comp=N,740µm,0.9s
ATPI AML AML
comp=E,686µm,0.5s
ATPI AML AML
comp=N,740µm,0.9s
ATPI AML AML
comp=E,686µm,0.5s
ATPI AML AML
comp=N,740µm,0.9s
ATPC Poggio Castell 0.75 139 P **Pb 01 10 21.3 -0.7**
ATPC AML AML
comp=E,402µm,1.6s
ATPC AML AML
comp=N,947µm,0.6s
ATPC AML AML
comp=E,1345µm,0.8s
ATPC AML AML
comp=N,862µm,0.6s
ATPC AML AML
comp=E,402µm,1.6s
ATPC AML AML
comp=N,947µm,0.6s
ATPC AML AML
comp=E,1345µm,0.8s
ATPC AML AML
comp=N,862µm,0.6s
ATPC AML AML
comp=N,862µm,0.6s
ATPC AML AML
comp=N,947µm,0.6s
ATPC AML AML
comp=E,1345µm,0.8s
ATPC AML AML
comp=E,402µm,1.6s
PESA Pesaro 0.77 98 P **Pn 01 10 23.1 -0.6**
PESA AML AML
comp=E,1028µm,1.3s
PESA AML AML
comp=N,1224µm,0.4s
PESA AML AML
comp=E,1028µm,1.3s
PESA AML AML
comp=N,1224µm,0.4s
PESA AML AML
comp=E,1028µm,1.3s
PESA AML AML
comp=N,1224µm,0.4s
ATBU Serra di Buran 0.80 136 AML AML
comp=N,1390µm,1.0s
ATBU AML AML
comp=E,1210µm,1.0s
ATBU AML AML
comp=N,1390µm,1.0s
ATBU AML AML
comp=E,1208µm,1.0s
ATBU AML AML
comp=N,1390µm,1.0s
ATBU AML AML
comp=E,1208µm,1.0s
FSSB Fossombrone 0.81 116 AML AML
comp=N,1665µm,1.4s
FSSB AML AML
comp=E,1425µm,0.4s
FSSB AML AML
comp=N,1670µm,1.4s
FSSB AML AML
comp=E,1425µm,0.4s
FSSB AML AML
comp=N,1665µm,1.4s
FSSB AML AML
comp=E,1425µm,0.4s
MPAG Monte Paganucc 0.82 120 AML AML
comp=E,498µm,1.3s
MPAG AML AML
comp=E,498µm,1.3s
MPAG AML AML
comp=N,424µm,0.8s
MPAG AML AML
comp=N,424µm,0.8s
MPAG AML AML
comp=E,498µm,1.3s
MPAG AML AML
comp=N,424µm,0.8s
BDI Bagni Di Lucca 0.85 271 P **Pg 01 10 22.7 -0.8**
BDI AML AML
comp=E,672µm,0.6s
BDI AML AML
comp=N,728µm,0.6s
BDI AML AML
comp=E,606µm,1.1s
BDI AML AML
comp=N,762µm,0.6s
BDI AML AML
comp=E,606µm,1.1s
BDI AML AML
comp=N,762µm,0.6s
BDI AML AML
comp=E,672µm,0.6s
BDI AML AML
comp=N,728µm,0.6s
FRON Frontone 0.87 127 AML AML
comp=E,617µm,0.6s
FRON AML AML
comp=N,642µm,0.9s
FRON AML AML
comp=E,617µm,0.6s
FRON AML AML
comp=N,643µm,0.9s
FRON AML AML
comp=N,643µm,0.9s
FRON AML AML
comp=E,617µm,0.6s
T0821 Loc. Casaglia 0.87 349 P **Pn 01 10 25.4 +0.4**
T0821 AML AML
comp=E,964µm,0.5s
T0821 AML AML
comp=N,864µm,0.9s
T0821 AML AML
comp=E,982µm,0.5s
T0821 AML AML
comp=N,861µm,0.4s
T0821 AML AML
comp=N,861µm,0.4s
T0821 AML AML
comp=E,964µm,0.5s
T0821 AML AML
comp=E,982µm,0.5s
T0821 AML AML
comp=N,864µm,0.9s
T0813 Massa Finalese 0.93 334 P **Pn 01 10 26.8 +1.0**
T0813 AML AML
comp=E,164µm,0.6s
T0813 AML AML
comp=N,127µm,0.8s
T0813 AML AML
comp=N,127µm,0.8s
T0813 AML AML
comp=E,164µm,0.6s
MAIM Mastiano 0.94 262 P **Pg 01 10 24.5 -0.5**
MAIM S **Sg 01 10 37.0 -0.3**
MAIM Mastiano 0.94 262 P **Pg 01 10 24.8 -0.3**
MAIM AML AML
comp=E,348µm,1.0s
MAIM AML AML
comp=N,432µm,0.9s
MAIM AML AML
comp=E,348µm,1.0s
MAIM AML AML
comp=N,432µm,0.9s
MAIM AML AML
comp=E,348µm,1.0s
MAIM AML AML
comp=N,432µm,0.9s
ATTE AVT- Monte Tez 0.95 154 P **Pn 01 10 24.8 -1.3**
ATTE AML AML
comp=E,600µm,1.1s
ATTE AML AML
comp=N,616µm,0.7s
ATTE AML AML
comp=E,600µm,1.1s
ATTE AML AML
comp=N,616µm,0.7s
ATTE AML AML
comp=E,600µm,1.1s
ATTE AML AML
comp=N,616µm,0.7s
FROS Frosini 0.95 208 P **Pg 01 10 24.8 -0.5**
FROS AML AML
comp=E,798µm,0.8s
FROS AML AML
comp=N,789µm,1.0s
FROS AML AML
comp=E,798µm,0.8s
FROS AML AML
comp=N,789µm,1.0s
FROS AML AML
comp=E,798µm,0.8s
FROS AML AML
comp=N,789µm,1.0s
MURB Monte Urbino 0.95 145 AML AML
comp=N,1355µm,1.0s
MURB AML AML
comp=E,1345µm,0.5s
MURB AML AML
comp=N,1360µm,1.0s
MURB AML AML
comp=E,1445µm,0.5s
MURB AML AML
comp=N,1315µm,1.0s
MURB AML AML
comp=E,1345µm,0.5s
MURB AML AML
comp=E,1445µm,0.5s
MURB AML AML
comp=N,1315µm,1.0s
MURB AML AML
comp=E,1345µm,0.5s
MURB AML AML
comp=N,1315µm,1.0s
MURB AML AML
comp=N,1355µm,1.0s
MURB AML AML
comp=E,1445µm,0.5s
SARO Sassorosso 1.00 278 P **Pg 01 10 26.3 +0.1**
SARO S **Sg 01 10 40.1 +0.7**
ADRI Adria, Italy 1.00 10⇑*e*Pg **Pn 01 10 27.8 +0.9**
ARVD Arcevia 1.01 123 AML AML
comp=E,381µm,0.7s
ARVD AML AML
comp=E,381µm,0.7s
ARVD AML AML
comp=N,324µm,0.7s
ARVD AML AML
comp=E,381µm,0.7s
ARVD AML AML
comp=N,324µm,0.7s
ARVD AML AML
comp=N,324µm,0.7s
SERM Sermide 1.02 340 P **Pn 01 10 28.2 +1.2**
NOVE Novellara 1.07 315 AML AML
comp=E,959µm,0.6s
NOVE AML AML
comp=E,959µm,0.6s
NOVE AML AML
comp=N,1650µm,0.7s
NOVE AML AML
comp=N,1650µm,0.7s
MGAB Montegabbione 1.16 168 P **Pn 01 10 28.9 -0.2**
MGAB AML AML
comp=E,730µm,0.7s
MGAB AML AML
comp=N,778µm,0.4s
MGAB AML AML
comp=E,768µm,0.6s
MGAB AML AML
comp=N,822µm,0.4s
MGAB AML AML
comp=N,778µm,0.4s
MGAB AML AML
comp=E,768µm,0.6s
MGAB AML AML
comp=E,730µm,0.7s
MGAB AML AML
comp=N,822µm,0.4s
EQUI Equi 1.18 276 P **Pn 01 10 29.2 0.0**
EQUI S **Sb 01 10 45.5 +1.1**
SACS San Casciano d 1.20 175 P **Pn 01 10 29.5 -0.2**
SACS AML AML
comp=E,515µm,1.2s
SACS AML AML
comp=N,422µm,0.8s
SACS AML AML
comp=E,485µm,1.2s
SACS AML AML
comp=N,416µm,0.7s
SACS AML AML
comp=N,416µm,0.7s
SACS AML AML
comp=N,422µm,0.8s
SACS AML AML
comp=E,485µm,1.2s
SACS AML AML
comp=E,515µm,1.2s
TEOL Teolo 1.31 357⇑*e*Pg **Pg 01 10 31.5 -0.7**
TEOL *e*Sg **Sn 01 10 51.0 +2.4**
FDMO Fiordimonte 1.39 136 AML AML
comp=N,312µm,0.8s
FDMO AML AML
comp=E,363µm,0.6s
FDMO AML AML
comp=N,312µm,0.8s
FDMO AML AML
comp=E,363µm,0.6s
ARRO Arrone 1.64 154 AML AML
comp=N,232µm,0.7s
ARRO AML AML
comp=E,330µm,1.1s
ARRO AML AML
comp=E,330µm,1.1s
ARRO AML AML
comp=N,232µm,0.7s
MARN Marana (Italy) 1.64 346 *e*Pn **Pn 01 10 36.1 +0.4**
CGRP Cima Grappa 1.83 0‖*e*Pn **Pn 01 10 38.7 +0.3**
CGRP Cima Grappa 1.83 0 AML AML
comp=E,228µm,1.1s
CGRP AML AML
comp=E,228µm,1.1s
CGRP AML AML
comp=N,368µm,0.7s
CGRP AML AML
comp=N,368µm,0.7s
DOSS Dosso del Somm 1.88 347 *e*Pn **Pn 01 10 39.3 +0.3**
MAGA Magasa 1.91 335 AML AML
comp=E,882µm,0.6s
MAGA AML AML
comp=N,399µm,1.2s
MAGA AML AML
comp=E,882µm,0.6s
MAGA AML AML
comp=N,399µm,1.2s
VARN Col Varnada, M 1.96 7 *e*Pn **Pn 01 10 40.0 0.0**
PANI Panarotta 2.02 351 *e*Pn **Pn 01 10 41.9 +0.8**
MABI Malga Bissina 2.20 336 AML AML
comp=E,49µm,1.4s
MABI AML AML
comp=N,53µm,0.7s
MABI AML AML
comp=N,53µm,0.7s
MABI AML AML
comp=E,49µm,1.4s
NVLJ Novalja 2.28 76 *e*Pn **Pb 01 10 44.8 -3.1**
NVLJ Sn **Sb 01 11 14.7 -1.3**
STAL STALIGIAL 2.31 16 AML AML
comp=N,150µm,1.6s
STAL AML AML
comp=E,254µm,0.8s
STAL AML AML
comp=N,150µm,1.6s
STAL AML AML
comp=E,254µm,0.8s
GEPF Gemona 2.42 23 AML AML
comp=N,116µm,0.7s
GEPF AML AML
comp=E,94µm,0.8s
GEPF AML AML
comp=N,116µm,0.7s
GEPF AML AML
comp=E,94µm,0.8s
KOSI Kohlern 2.43 353 AML AML
comp=E,137µm,1.4s
KOSI AML AML
comp=N,120µm,0.8s
KOSI AML AML
comp=E,137µm,1.4s
KOSI AML AML
comp=N,120µm,0.8s
PGF Pioggiola 2.52 234 *e*Pn **Pn 01 10 47.7 -0.1**
PGF *e*Sn **Sn 01 11 17.2 -1.4**
ABSI Aberstueckl 2.70 353 AML AML
comp=N,151µm,0.5s
ABSI AML AML
comp=E,161µm,0.6s
ABSI AML AML
comp=N,151µm,0.5s
ABSI AML AML
comp=E,161µm,0.6s
MOSI Grossmontoni 2.71 342 AML AML
comp=N,174µm,1.6s
MOSI AML AML
comp=E,128µm,1.0s
MOSI AML AML
comp=N,174µm,1.6s
MOSI AML AML
comp=E,128µm,1.0s
ABTA Abfaltersbach 2.75 11 *i* Pn **Pn 01 10 52.3 +1.4**
comp=E,2.8nm,0.4s
ABTA *i* Sn **Sb 01 11 27.3 -2.4**
comp=E,14nm,0.5s
ACOM Acomizza, Ital 2.78 25 AML AML
comp=N,131µm,0.8s
ACOM AML AML
comp=E,125µm,0.6s
ACOM AML AML
comp=N,131µm,0.8s
ACOM AML AML
comp=E,125µm,0.6s
MYKA Terra Mystica 2.90 26 *e*Pn **Pn 01 10 54.3 +1.4**
comp=E,1.9nm,0.2s
MYKA *i* Sn **Sb 01 11 31.1 -2.9**
comp=E,5.2nm,0.4s
RISI Rein 2.91 4 AML AML
comp=N,143µm,0.6s
RISI AML AML
comp=E,154µm,1.5s
RISI AML AML
comp=E,154µm,1.5s
RISI AML AML
comp=N,143µm,0.6s
DAVOX Davos/Dischmat 3.04 335 Pn **Pn 01 10 57.4 +2.4**
comp=N,1.4nm,0.3s,baz=144,slow=17,SNR=17
DAVOX Sn **Sb 01 11 40.0 +1.8**
comp=N,1.3nm,0.3s,baz=120,slow=20,SNR=2.7
FETA Feichten 3.06 346 *i* Pn **Pn 01 10 57.9 +2.6**
comp=N,13nm,0.7s,SNR=12
FETA Sg **Sg 01 11 45.4 +0.1**
OBKA Obir 3.14 38 *i* Pg **Pg 01 11 07.3 +0.1**
comp=N,4.3nm,0.3s
OBKA *i* Sg **Sg 01 11 51.1 +3.3**
comp=N,19nm,0.7s
SBF Sospel 3.14 268 *e*Pn **Pn 01 10 57.8 +1.5**
SBF *e*Sn **Sn 01 11 34.3 +0.5**
SQTA Sankt Quirin 3.20 353 *e*Pn **Pn 01 10 59.3 +2.2**
comp=N,12nm,0.2s,SNR=34
SQTA Sn **Sb 01 11 41.7 -0.9**
comp=N,34nm,0.8s
WTTA Wattenberg 3.22 358 *e*Pn **Pb 01 11 01.0 -3.1**
comp=N,1.6nm,0.2s

WTTA				Sn		**Sb**	**01 11 41.9**	**-1.4**
	comp=N,19nm,0.7s								
WATA	**Walderalm**	**3.29**	**358**	*i* Pn		**Pb**	**01 11 01.6**	**-3.7**
	comp=N,6.2nm,0.2s,SNR=9.7								
MOTA	**Moosalm**	**3.33**	**352**	*i* Pn		**Pn**	**01 11 01.7**	**+2.7**
	comp=N,2.0nm,0.2s,SNR=16								
MOTA				*i* Sn		**Sn**	**01 11 42.3**	**+3.8**
	comp=N,7.1nm,0.5s								
SOKA	**Soboth**	**3.49**	**40**	*i* Pn		**Pb**	**01 11 05.0**	**-3.7**
	comp=N,0.8nm,0.2s								
SOKA				*i* Sn		**Sn**	**01 11 43.8**	**+1.5**
	comp=N,2.9nm,0.6s								
DAVA	**Damuels**	**3.50**	**338**	*i* Pn		**Pn**	**01 11 04.3**	**+3.0**
	comp=N,3.1nm,0.2s,SNR=9.0								
DAVA				*i* Sn		**Sb**	**01 11 48.2**	**-3.2**
	comp=N,4.7nm,0.3s								
RETA	**Reutte**	**3.51**	**349**	*i* Pn		**Pb**	**01 11 05.3**	**-3.8**
	comp=N,2.4nm,0.2s								
RETA				*e*Sn		**Sb**	**01 11 47.6**	**-4.0**
	comp=N,6.9nm,0.4s								
MBDF	**Montbardon**	**3.65**	**282**	*e*Pn		**Pn**	**01 11 05.4**	**+2.0**
FRF	**La Foret Royal**	**3.75**	**264**	*e*Pn		**Pn**	**01 11 05.4**	**+0.8**
FRF				*e*Sn		**Sn**	**01 11 47.4**	**-1.2**
LPG	**La Plagne**	**3.86**	**294**	*e*Pn		**Pn**	**01 11 07.2**	**+0.8**
LPL	**La Plagne**	**3.88**	**294**	*e*Pn		**Pn**	**01 11 08.9**	**+2.3**
LPL				*e*Sn		**Sn**	**01 11 54.2**	**+2.0**
	comp=N,8.1nm,0.5s								
LMR	**La Mourre**	**3.89**	**261**	*e*Pn		**Pn**	**01 11 07.8**	**+1.3**
ARSA	**Arzberg**	**4.14**	**38**	*e*Pn		**Pn**	**01 11 11.5**	**+1.5**
	comp=N,1.4nm,0.2s								
ARSA				*e*Sn		**Sn**	**01 11 59.8**	**+1.5**
	comp=N,2.0nm,0.5s								
MOA	**Molln**	**4.18**	**24**	*i* Pn		**Pn**	**01 11 12.0**	**+1.5**
	comp=N,3.4nm,0.2s								
MOA				*e*Sn		**Sn**	**01 12 00.7**	**+1.5**
	comp=N,7.9nm,0.6s,SNR=5.0								
ORIF	**Oris-en-Rattie**	**4.31**	**284**	*e*Pn		**Pn**	**01 11 15.7**	**+3.3**
SMRF	**Simiane la Rot**	**4.48**	**271**	*e*Pn		**Pn**	**01 11 17.2**	**+2.6**
CABF	**La Chapelle**	**4.76**	**305**	*e*Pn		**Pn**	**01 11 20.3**	**+1.7**
CONA	**Conrad Observa**	**4.81**	**35**	*i* Pn		**Pn**	**01 11 21.3**	**+2.0**
	comp=N,0.4nm,0.2s								
CONA				*i* Sn		**Sn**	**01 12 18.2**	**+3.3**
	comp=N,4.4nm,0.5s								
GERES	**GERESS Array B**	**4.98**	**15**	Pn		**Pn**	**01 11 21.1**	**-0.4**
	comp=N,0.3nm,0.3s,baz=195,slow=13,SNR=12								
GERES				Sn		**Sn**	**01 12 17.8**	**-1.3**
	comp=N,0.7nm,0.3s,baz=192,slow=24,SNR=7.5								
HINF	**Hinteralfeld**	**5.10**	**319**	*e*Pn		**Pn**	**01 11 23.3**	**+0.1**
HINF				*e*Sn		**Sn**	**01 12 21.6**	**-0.3**
	comp=N,7.2nm,0.4s								
KHC	**Kasperske Hory**	**5.23**	**13**	*e*PN		**Pn**	**01 11 24.8**	**-0.2**
KHC				*ex*		x	01 11 50.5		
KHC				*e*SN		**Sn**	**01 12 25.1**	**-0.1**
CDF	**Champ du Feu**	**5.37**	**326**	*e*Pn		**Pn**	**01 11 27.4**	**+0.5**
HAU	**Haudompre**	**5.47**	**318**	*e*Pn		**Pn**	**01 11 28.6**	**+0.3**
HAU				*e*Sn		**Sn**	**01 12 31.1**	**0.0**
	comp=N,9.8nm,0.4s								
SMF	**Signal de Mont**	**6.17**	**298**	*e*Pn		**Pn**	**01 11 38.3**	**+0.5**
SFTF	**Sexfontaines**	**6.26**	**314**	*e*Pn		**Pn**	**01 11 41.3**	**+2.2**
LOR	**Lormes**	**6.42**	**303**	*e*Pn		**Pn**	**01 11 41.1**	**-0.1**
LOR				*e*Sn		**Sn**	**01 12 53.5**	**-0.8**
	comp=N,9.5nm,0.5s								
MEZF	**Maizieres J'vi**	**6.45**	**316**	*e*Pn		**Pn**	**01 11 43.6**	**+2.0**
AVF	**Avril sur Loir**	**6.53**	**298**	*e*Pn		**Pn**	**01 11 44.3**	**+1.5**
SSF	**Saint Saulge**	**6.54**	**300**	*e*Pn		**Pn**	**01 11 43.6**	**+0.7**
SSF				*e*Sn		**Sn**	**01 12 56.5**	**-0.9**
	comp=N,1.9nm,0.3s								
MTLF	**Montolieu**	**6.97**	**267**	*e*Pn		**Pn**	**01 11 49.5**	**+0.7**
KEST	**Kesra**	**8.52**	**193**	Pn		**Pn**	**01 12 12.8**	**+2.7**
	comp=N,0.0nm,0.3s,baz=346,slow=8.3,SNR=2.1								
GNI	**Garni**	**24.67**	**88**	LR		LR	01 26 23.5		
	comp=N,13nm,18.1s,baz=268,slow=40								
TORD	**Torodi Ar. Bea**	**31.99**	**199**	P		**P**	**01 16 34.1**	**+1.1**
	comp=N,0.3nm,0.6s,baz=7.6,slow=8.3,SNR=3.5								

*IDC **30** 01:10:15.9±4.6,5°33S×103°05E,**h0**km,**mb3.5**/4,*
mb1 3.6/4,*mb1mx3.4*/31,*mbtmp3.5*/4,*Error ellipse:*
s-maj=186.6km s-min=28.0km az=51.0,Southern
Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**33.72**	**118**	P	P	01 16 59.9	+0.6
	0.1nm,0.5s,baz=310,slow=8.9,SNR=4.0						
SONM	**Songino Array**	**53.02**	**3**	P	P	01 19 35.1	+0.4
	0.1nm,0.3s,baz=184,slow=7.6,SNR=2.5						
MKAR	**Makanchi Array**	**55.07**	**343**	P	P	01 19 50.0	+0.5
	0.6nm,0.5s,baz=143,slow=6.8,SNR=8.1						
ZALV	**Zalesovo Beam**	**61.02**	**348**	P	P	01 20 30.8	-0.3
	0.6nm,0.4s,baz=175,slow=5.5,SNR=4.3						
TXAR	**Lajitas Array**	**145.25**	**44**	PKPbc	PKPbc	01 29 53.0	-3.1
	0.3nm,0.7s,baz=270,slow=3.6,SNR=3.9						

*MEX **30** 01:50:23.8±0.6, 14°.10N×-91°.96W,h16km±196km,MD4.1*
*IDC **30** 01:50:24.7±4.7, 14°.21N×-92°.01W,h57km±29km,mb3.4/6,*
mb1 3.8/8,mb1mx3.5/34,mbtmp3.7/8,ML3.7/2,MS2.9/4,
Ms1 2.9/4,ms1mx2.6/22,Error ellipse: s-maj=50.3km
s-min=9.7km az=10.0
ISC 30 01:50:22.2±1.3, 14°.1N±0°.1×92°.04W±0°.07,h35km,n18,
σ1$19/19,mb3.8/6,MS2.8/3,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.85**	**345**	*i* P	**Pn**	**01 50 37.6**	**-0.1**
THIG				*e*S	**Sn**	**01 50 47.4**	**-1.7**
APG	**El Apazote**	**1.78**	**59**	P	**Pn**	**01 50 51.1**	**+0.5**
	16nm,0.3s,baz=207,slow=14,SNR=134						
APG				S	**Sn**	**01 51 13.1**	**+0.9**
	77nm,0.3s,baz=308,slow=19,SNR=50						
PCIG		**1.98**	**325**	*e*P	**Pn**	**01 50 53.4**	**+0.2**
PCIG				*i* S	**Sn**	**01 51 17.0**	**+0.2**
TGIG		**2.88**	**339**	*e*P	**Pn**	**01 51 07.4**	**+1.7**
TGIG				*e*S	**Sn**	**01 51 39.6**	**+0.4**
CMIG	**Matias Romero**	**4.06**	**318**	P	**Pn**	**01 51 22.6**	**+0.7**
	3.7nm,0.3s,baz=125,slow=11,SNR=30						
CMIG				S	**Sn**	**01 52 09.4**	**+1.2**
	16nm,0.3s,baz=186,slow=9.2,SNR=5.9						
JTS	**JuntasAbangare**	**7.88**	**118**	P	Pn	01 52 22.6	+8.2
	0.4nm,0.3s,baz=342,slow=20,SNR=2.7						
JTS				S	Sn	01 54 02.5	+20
	0.3nm,0.3s,baz=294,slow=20,SNR=2.8						
TXAR	**Lajitas Array**	**18.61**	**327**	P	**Pn**	**01 54 38.2**	**+1.0**
	0.1nm,0.3s,baz=152,slow=11,SNR=16						
LPIG	**La Paz**	**19.92**	**303**	LR	LR	02 02 01.2	
	comp=Z,16nm,19.7s,baz=180,slow=35						
SDV	**Santo Domingo**	**21.59**	**102**	LR	LR	02 03 19.9	
	comp=Z,34nm,19.2s,baz=181,slow=36						
TKL	**Tuckaleechee C**	**22.74**	**18**	LR	LR	02 04 53.2	
	comp=Z,46nm,18.7s,baz=196,slow=38						
ANMO	**Albuquerque**	**24.52**	**330**	P	**P**	**01 55 39.1**	**+0.4**
	1.8nm,0.6s,baz=148,slow=11,SNR=8.6						
SJG	**San Juan**	**25.18**	**77**	LR	LR	02 04 58.0	
	comp=Z,22nm,18.9s,baz=252,slow=35						
PDAR	**Pinedale Array**	**32.34**	**336**	P	**P**	**01 56 49.1**	**+0.7**
	0.1nm,0.4s,baz=121,slow=11,SNR=2.9						
NVAR	**Mina Array Bea**	**33.59**	**321**	P	**P**	**01 56 60.0**	**+0.6**
	2.7nm,0.7s,baz=122,slow=8.2,SNR=8.5						
NVAR				pP	**sP**	**01 57 15.2**	**+1.4**
	3.2nm,0.8s,baz=131,slow=9.0,SNR=6.1						
YKA	**Yellowknife Ar**	**50.94**	**347**	P	**P**	**01 59 17.6**	**-2.3**
	0.6nm,0.6s,baz=147,slow=7.4,SNR=8.7						
ILAR	**Eielson Array**	**62.76**	**337**	P	**P**	**02 00 41.7**	**-1.9**
	1.0nm,0.8s,baz=132,slow=5.5,SNR=11						
TORD	**Torodi Ar. Bea**	**90.39**	**76**	P	**P**	**02 03 21.4**	**+0.7**
	0.5nm,1.2s,baz=329,slow=5.4,SNR=3.1						
CMAR	**Chiang Mai Arr**	**145.91**	**341**	PKPbc	**PKPdf**	**02 09 57.8**	**-0.5**
	1.2nm,0.3s,baz=345,slow=3.8,SNR=9.7						

*IDC **30** 01:50:23.1±1.0,2°.80S×-140°.57E,**h0**km,**mb3.6**/4,*
mb1 4.0/5,*mb1mx3.7*/32,*mbtmp3.8*/5,*ML4.1*/1,*MS3.1*/1,*
Ms1 3.1/1,*ms1mx2.4*/23,*Error ellipse: s-maj=14.5km*
s-min=7.3km az=116.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**0.32**	**25**	Pg	Pg	01 50 29.4	+0.2
	974nm,0.3s,baz=206,slow=13,SNR=3047						
JAY				Lg	Lg	01 50 33.1	
	2µm,0.3s,baz=143,slow=20,SNR=85						
WRA	**Warramunga Arr**	**18.09**	**199**	P	Pn	01 54 35.5	-0.5
	0.7nm,0.3s,baz=20,slow=12,SNR=31						
WRA				S	Sn	01 57 52.0	-6.6
	0.1nm,0.3s,baz=13,slow=22,SNR=3.5						
WRA				LR	LR	02 01 37.4	
	comp=Z,58nm,21.3s,baz=235,slow=37						
FITZ	**Fitzroy Crossi**	**21.10**	**223**	P	P	01 55 08.4	-1.0
	2.7nm,0.7s,baz=42,slow=14,SNR=4.4						
ASAR	**Alice Springs**	**21.72**	**197**	P	P	01 55 15.0	-1.1
	1.2nm,0.5s,baz=32,slow=9.6,SNR=17						
H11S3	**WAKE ISLAND Hy**	**33.30**	**50**	T	T	02 31 51.4	
	baz=232,slow=75,SNR=42						
H11S2	**WAKE ISLAND Hy**	**33.31**	**50**	T	T	02 31 52.1	
	baz=232,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**33.32**	**50**	T	T	02 31 52.6	
	baz=232,slow=75,SNR=20						
MKAR	**Makanchi Array**	**71.00**	**322**	P	P	02 01 43.7	+0.8
	0.6nm,0.8s,baz=126,slow=7.3,SNR=3.8						
ILAR	**Eielson Array**	**85.15**	**24**	P	P	02 03 00.6	-0.3
	0.3nm,0.8s,baz=238,slow=5.2,SNR=2.2						
LPAZ	**La Paz**	**145.88**	**125**	PKPbc	PKPab	02 10 06.6	-0.1
	0.8nm,0.7s,baz=206,slow=3.2,SNR=4.5						

*ISK **30** 01:53:03.9,36°.56N×27°.91E,h5km,ML3.1/15*
*ISCJB **30** 01:53:05.7±0.4,36°.60N±0°.03×27°.93E±0°.03,h9km±4km,*
Error ellipse: s-maj=5.6km s-min=3.3km az=14.5
*THE **30** 01:53:05.7,36°.64N×27°.97E,h4km±5km,ML3.0/2,Error*
ellipse: s-maj=5.5km s-min=0.8km az=218.0
*ATH **30** 01:53:05.8,36°.58N×27°.91E,h28km±1km,ML2.7/4,Error*
ellipse: s-maj=3.3km s-min=1.4km az=201.0
ISC 30 01:53:05.8±1.1,36°.59N±0°.03×27°.91E±0°.02,h8km±10km,
n31,σ0$57/41,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSB	**Marmaris-Mugla**	**0.26**	**60**	PG	**Pg**	**01 53 10.7**	**-0.3**
DATC	**Datca-Mugla**	**0.27**	**311**	PG	**Pg**	**01 53 10.4**	**-0.7**
DATC				SG	**Sg**	**01 53 15.6**	**+0.9**
DAT	**Datca**	**0.31**	**298**	PG	**Pg**	**01 53 11.4**	**-0.5**
DAT				SG	**Sg**	**01 53 18.8**	**+0.8**
ARG	**Arkhangelos**	**0.41**	**155**	PG	**Pg**	**01 53 12.6**	**-1.1**
ARG	**Arkhangelos**	**0.41**	**155**	P	**Pg**	**01 53 14.2**	**+0.5**
ARG				S	**Sb**	**01 53 21.9**	**+0.2**
ARG				AML	AML	01 53 22.9	
	comp=E,4276µm,0.4s						
ARG				AML	AML	01 53 23.5	
	comp=N,3292µm,0.3s						
ARG	**Arkhangelos**	**0.41**	**155**	P	**Pg**	**01 53 14.0**	**+0.3**
ARG				S	**Sb**	**01 53 21.4**	**-0.2**
NIS1	**Nisyros Isl.**	**0.59**	**272**	PG	**Pg**	**01 53 16.6**	**-0.6**
NIS1	**Nisyros Isl.**	**0.59**	**272**	P	**Pb**	**01 53 18.0**	**-0.5**
NIS1				S	**Sb**	**01 53 28.6**	**+1.6**
TURN	**Turunc**	**0.62**	**62**	PG	Pg	01 53 11.5	-6.3
NISR	**Nisiros**	**0.63**	**273**	P	**Pb**	**01 53 18.9**	**-0.2**
NISR				S	**Sb**	**01 53 28.1**	**-0.1**
NISR				AML	AML	01 53 35.7	
	comp=E,2206µm,0.5s						
NISR				AML	AML	01 53 38.0	
	comp=N,1352µm,0.6s						
NISR	**Nisiros**	**0.63**	**273**	P	**Pb**	**01 53 19.7**	**+0.6**
NISR				S	**Sb**	**01 53 28.8**	**+0.6**
DALY	**Dalyan (Mu¨la**	**0.64**	**68**	PG	**Pg**	**01 53 17.8**	**-0.3**
BODT	**Bodrum**	**0.68**	**315**	PG	**Pg**	**01 53 18.4**	**-0.5**
BODT	**Bodrum**	**0.68**	**315**	P	**Pg**	**01 53 18.6**	**-0.3**
BODT				S	**Sb**	**01 53 29.4**	**-0.2**
MLSB	**Milas**	**0.72**	**351**	PG	**Pg**	**01 53 19.5**	**-0.1**
FETY	**Fethiye**	**0.94**	**87**	PG	**Pg**	**01 53 23.3**	**-0.6**
FETY	**Fethiye**	**0.94**	**87**	P	**Pg**	**01 53 23.7**	**-0.2**
FETY				S	**Sg**	**01 53 35.9**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.36**	**359**	PN	**Pn**	**01 53 30.4**	**-0.9**
AKAS	**Kas**	**1.41**	**104**	PN	**Pn**	**01 53 31.7**	**-0.2**
SMG	**Samos**	**1.41**	**323**	P	**Pn**	**01 53 32.0**	**0.0**
KSL	**Kastellorizon**	**1.42**	**107**	P	**Pn**	**01 53 31.9**	**0.0**
KSL				S	**Sn**	**01 53 51.2**	**+0.4**
KSL				AML	AML	01 53 54.7	
	comp=E,288µm,0.5s						
KSL				AML	AML	01 53 57.5	
	comp=N,135µm,0.7s						
ELL	**Elmali**	**1.61**	**84**	PN	**Pn**	**01 53 34.7**	**0.0**
APE	**Apeiranthos**	**1.97**	**285**	PN	**Pn**	**01 53 39.9**	**+0.3**
APE	**Apeiranthos**	**1.97**	**285**	P	**Pn**	**01 53 39.8**	**-0.7**
APE	**Apeiranthos**	**1.97**	**285**	P	**Pn**	**01 53 39.1**	**-0.5**
KORT	**Korkueli**	**2.00**	**77**	PN	**Pn**	**01 53 40.5**	**+0.4**
ZKR	**Zakros**	**2.01**	**224**	P	**Pn**	**01 53 39.7**	**-0.5**
KULA	**Kula-Manisa**	**2.02**	**17**	PN	**Pn**	**01 53 40.6**	**+0.3**
URLA	**Izmir**	**2.06**	**330**	PN	**Pn**	**01 53 41.3**	**+0.5**
NPS	**Neapolis**	**2.29**	**235**	P	**Pn**	**01 53 43.8**	**-0.1**
NPS				S	**Sn**	**01 54 11.6**	**-0.7**
NPS				AML	AML	01 54 15.7	
	comp=E,194µm,0.4s						
NPS				AML	AML	01 54 17.0	
	comp=N,147µm,0.5s						
LAST	**Lasithi**	**2.44**	**235**	P	**Pn**	**01 53 46.5**	**+0.5**

*IDC **30** 01:55:54.0±8.6, 38°.11N×74°.88E,h118km±59km,mb3.8/1,*
mb1 3.2/5,mb1mx2.9/45,mbtmp3.5/5,Error ellipse:
s-maj=81.2km s-min=53.8km az=41.0
*NNC **30** 01:55:57.7±8.7, 38°.39N×72°.82E,h0km,mb3.5,mpv3.1,*
Error ellipse: s-maj=69.1km s-min=48.7km az=144.0
ISC 30 01:55:54.3±2.8, 38°.2N±0°.2×74°.2E±0°.1,h100km,n14,
σ1$77/17,2C-4D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.94**	**344**	⇓P	**Pn**	**01 56 28.0**	**+1.7**
	3.1nm,0.2s						
SFK				⇑S	**Sn**	**01 56 52.0**	**+1.2**
	21nm,0.2s						
AML	**Almayashu**	**4.00**	**354**	P	**Pn**	**01 56 54.3**	**+0.5**
	SNR=34						
KZA	**Kyzart**	**4.00**	**11**	P	**Pn**	**01 56 53.8**	**-0.1**
	SNR=11						
UCH	**Uchtor**	**4.08**	**3**	P	**Pn**	**01 56 55.4**	**+0.4**
	SNR=13						
AAK	**Ala-Archa**	**4.49**	**3**	P	**Pn**	**01 57 00.8**	**+0.6**
	0.5nm,0.3s,baz=148,slow=9.5,SNR=7.1						
AAK				S	**Sn**	**01 57 53.0**	**+1.6**
	0.4nm,0.3s,baz=162,slow=9.6,SNR=3.8						
EKS2	**Erkin-Say**	**4.52**	**356**	P	**Pn**	**01 57 02.5**	**+1.9**
	SNR=6.5						
MNAS	**Manas**	**4.53**	**344**	⇓Pn	**Pn**	**01 57 01.7**	**+1.0**
	5.8nm,0.4s						
MNAS				⇑Sn	**Sn**	**01 57 49.9**	**-2.3**
	4.9nm,0.5s						
CHMS	**Chumysh**	**4.86**	**5**	P	**Pn**	**01 57 05.7**	**+0.6**
	SNR=6.0						
TKM2	**Tokmak 2**	**4.88**	**12**	P	**Pn**	**01 57 06.2**	**+0.6**
	SNR=5.1						
KK31	**Karatay Array**	**5.70**	**332**	⇓Pn	**Pn**	**01 57 17.0**	**+0.6**
	0.2nm,0.2s,baz=159,slow=13						
KK31				⇓Sn	**Sn**	**01 58 16.6**	**-3.8**
	1.0nm,0.3s,baz=165,slow=27						
MKAR	**Makanchi Array**	**10.49**	**32**	P	Pn	01 58 17.3	-4.3
	0.0nm,0.3s,baz=218,slow=16,SNR=1.2						
BVAR	**Borovoye Array**	**15.11**	**351**	P	**Pn**	**01 59 24.0**	**+1.7**
	0.3nm,0.3s,baz=157,slow=11,SNR=5.8						
ZALV	**Zalesovo Beam**	**17.40**	**21**	P	**Pn**	**01 59 47.8**	**-2.7**
	0.1nm,0.3s,baz=210,slow=11,SNR=2.7						
ARCES	**ARCESS Array B**	**40.64**	**336**	P	**P**	**02 03 23.5**	**-0.6**
	3.5nm,1.0s,baz=107,slow=8.7,SNR=1.7						

*IDC **30** 01:57:13.8±1.5, 34°.59N×73°.12E,h0km,mb3.7/4,*
mb1 3.8/6,mb1mx3.4/38,mbtmp3.6/6,ML3.5/2,MS2.8/1,
Ms1 2.8/1,ms1mx2.3/29,Error ellipse: s-maj=38.7km
s-min=31.3km az=76.0
*ISCJB **30** 01:57:14.6±0.9, 34°.6N±0°.1×73°.2E±0°.2,h21km,mb3.7/3,*
Error ellipse: s-maj=26.3km s-min=8.2km az=138.0
ISC 30 01:57:17.0±1.1, 34°.6N±0°.2×73°.2E±0°.2,h21km,n14,
σ0$94/13,mb3.6/3,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYUN	**Piuthan**	**10.59**	**125**	*e*P	**Pn**	**01 59 48.4**	**+0.7**
	9.7nm,0.3s						
DANN	**Dangsing**	**10.96**	**122**	*e*P	**Pn**	**01 59 53.7**	**+0.8**
	8.7nm,0.3s						
KOLN	**Koldanda**	**11.21**	**125**	*e*P	**Pn**	**01 59 56.7**	**+0.4**
DMN	**Daman**	**12.36**	**121**	*e*P	**Pn**	**02 00 11.2**	**-0.8**
	5.3nm,0.2s						
PKIN	**Phulchoki**	**12.58**	**121**	*e*P	**Pn**	**02 00 14.8**	**-0.2**
PKI	**Pulchoki**	**12.59**	**121**	*e*P	**Pn**	**02 00 14.7**	**-0.6**
	5.9nm,0.3s						
RAMN	**Ramite**	**13.81**	**120**	*e*P	**Pn**	**02 00 30.0**	**-1.8**
MKAR	**Makanchi Array**	**13.95**	**27**	LR	LR	02 06 58.0	
	comp=Z,35nm,19.7s,baz=234,slow=42						
BVAR	**Borovoye Array**	**18.50**	**355**	P	**Pn**	**02 01 32.6**	**+0.7**
	0.1nm,0.3s,baz=150,slow=12,SNR=2.7						
AKTO	**Aktyubinsk**	**19.30**	**330**	P	**P**	**02 01 39.2**	**-1.2**
	0.2nm,0.3s,baz=134,slow=13,SNR=2.3						
ZALV	**Zalesovo Beam**	**20.97**	**19**	P	**P**	**02 01 58.3**	**-0.3**
	0.8nm,0.3s,baz=218,slow=11,SNR=4.2						
ARCES	**ARCESS Array B**	**43.55**	**338**	P	**P**	**02 05 19.7**	**+0.8**
	4.5nm,0.9s,baz=109,slow=7.7,SNR=2.9						
TORD	**Torodi Ar. Bea**	**67.51**	**271**	P	**P**	**02 08 11.5**	**-0.4**
	0.2nm,0.4s,baz=40,slow=5.9,SNR=5.9						
WRA	**Warramunga Arr**	**79.47**	**123**	P	**P**	**02 09 22.7**	**+0.6**
	0.4nm,0.9s,baz=326,slow=4.8,SNR=2.2						

*IDC **30** 02:22:44.7±1.6, 36°.70N×29°.08E,h0km,mb3.6/2,*
mb1 3.5/3,mb1mx3.3/31,mbtmp3.5/3,ML3.2/1,Error
ellipse: s-maj=115.5km s-min=20.7km az=142.0
*ATH **30** 02:22:46.6, 36°.99N×28°.92E,h13km±2km,ML2.9/4,Error*
ellipse: s-maj=2.7km s-min=0.9km az=137.0
*DDA **30** 02:22:46.6, 36°.95N×28°.98E,h7km,Ml3.5*
*ISK **30** 02:22:46.1, 36°.96N×28°.97E,h5km,ML3.3/26*
*ISCJB **30** 02:22:46.5±0.4, 36°.96N±0°.02×28°.97E±0°.02,h2km±4km,*
mb3.6/2,Error ellipse: s-maj=3.3km s-min=2.7km
az=148.9
*THE **30** 02:22:47.6, 36°.87N×28°.97E,h0km±1km,ML2.9/2,Error*
ellipse: s-maj=1.4km s-min=1.0km az=35.0
ISC 30 02:22:47.1±1.0, 36°.96N±0°.02×28°.98E±0°.02,h5km±8km,
n61,σ1$13/82,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DALY	**Dalyan (Mu¨la**	**0.30**	**241**	PG	**Pg**	**02 22 52.4**	**-0.5**
DALY				SG	**Sg**	**02 22 56.9**	**0.0**
DALY	**Dalyan (Mu¨la**	**0.30**	**241**	*i* P	**Pg**	**02 22 52.5**	**-0.4**
DALY				*i* S	**Sg**	**02 22 57.0**	**+0.1**
TURN	**Turunc**	**0.32**	**254**	PG	**Pn**	**02 22 58.4**	**+0.2**
TURN	**Turunc**	**0.32**	**254**	*i* P	**Pn**	**02 22 58.5**	**+0.2**
TURN				*i* S	**Sb**	**02 23 07.2**	**+6.6**
FETY	**Fethiye**	**0.34**	**166**	PG	**Pg**	**02 22 53.1**	**-0.5**
FETY				SG	**Sg**	**02 22 58.2**	**+0.2**
FETY	**Fethiye**	**0.34**	**166**	P	**Pg**	**02 22 52.8**	**-0.8**
FETY				S	**Sg**	**02 22 58.0**	**0.0**
TAVA	**DENIZLI_Tavas**	**0.51**	**354**	*i* P	**Pg**	**02 22 56.5**	**-0.3**
TAVA				*i* S	**Sg**	**02 23 04.2**	**+0.8**
GOLH	**Golhisar**	**0.54**	**59**	*i* P	**Pg**	**02 22 56.9**	**-0.5**
GOLH				*i* S	**Sb**	**02 23 05.8**	**-1.2**
MRSB	**Marmaris-Mugla**	**0.68**	**249**	PG	**Pg**	**02 22 59.4**	**-0.7**
DNZL	**Cakiroluk**	**0.73**	**4**	*i* P	**Pg**	**02 23 01.3**	**+0.2**
DNZL				*i* S	**Sb**	**02 23 12.5**	**-0.1**
ELL	**Elmali**	**0.77**	**106**	PG	**Pg**	**02 23 01.5**	**-0.4**
DENT	**Denizli**	**0.79**	**3**	PG	**Pg**	**02 23 01.5**	**-0.8**
AKAS	**Kas**	**0.88**	**145**	PG	**Pg**	**02 23 03.5**	**-0.5**
AKAS	**Kas**	**0.88**	**145**	*i* P	**Pg**	**02 23 03.9**	**-0.1**
AKAS				*i* S	**Sb**	**02 23 18.0**	**+0.9**
KSL	**Kastellorizon**	**0.94**	**149**	P	**Pg**	**02 23 05.3**	**+0.1**
KSL				S	**Sb**	**02 23 19.4**	**+0.8**
KSL				AML	AML	02 23 26.8	
	comp=E,1636µm,0.5s						
KSL				AML	AML	02 23 28.5	
	comp=N,1268µm,0.6s						
KSL	**Kastellorizon**	**0.94**	**149**	P	**Pg**	**02 23 05.2**	**0.0**
KSL				S	**Sb**	**02 23 18.8**	**+0.1**
ARG	**Arkhangelos**	**1.02**	**223**	PG	**Pg**	**02 23 04.9**	**-1.6**
ARG	**Arkhangelos**	**1.02**	**223**	P	**Pg**	**02 23 05.3**	**-1.2**
ARG				S	**Sg**	**02 23 19.9**	**+0.1**
ARG				AML	AML	02 23 26.9	
	comp=E,1893µm,0.8s						
ARG				AML	AML	02 23 29.1	
	comp=N,1521µm,0.8s						
ARG	**Arkhangelos**	**1.02**	**223**	P	**Pg**	**02 23 05.4**	**-1.2**
ARG				S	**Sb**	**02 23 21.0**	**+0.3**
MLSB	**Milas**	**1.02

TAVA i S Sg 02 32 48.1 -1.2
TURN Turunc 0.34 186 PG Pn 02 32 47.2 -1.0
TURN SG Sn 02 32 56.4 +1.6
TURN Turunc 0.34 186 ⇑ *i* P Pn 02 32 47.3 -0.8
TURN i S Sn 02 32 55.3 +0.5
DALY Dalyan (Mu¨la 0.39 180 PG Pg 02 32 44.7 -1.0
DALY SG Sb 02 32 51.7 -0.6
DALY Dalyan (Mu¨la 0.39 180 ⇑ *i* P Pg 02 32 44.9 -0.8
DALY i S Sg 02 32 51.1 +0.1
DNZL Cakiroluk 0.57 33 ⇑ *i* P Pg 02 32 48.7 -0.4
DNZL i S Sb 02 32 58.4 +0.7
MRSB Marmaris-Mugla 0.61 216 PG Pg 02 32 48.9 -0.9
MRSB SG Sb 02 32 58.7 0.0
DENT Denizli 0.62 29 PG Pg 02 32 48.9 -1.1
DENT Denizli 0.62 29 Pg Pg 02 32 48.9 -1.1
FETY Fethiye 0.67 149 PG Pg 02 32 48.9 -2.0
FETY Fethiye 0.67 149 Pg Pg 02 32 50.6 -0.3
FETY Sg Sb 02 33 01.2 +0.9
FETY Fethiye 0.67 149 P Pg 02 32 50.0 -0.9
FETY S Sb 02 33 00.6 +0.2
MLSB Milas 0.70 277 PG Pg 02 32 50.8 -0.6
MLSB Milas 0.70 277 Pg Pg 02 32 50.9 -0.6
MLSB Sg Sg 02 33 00.8 +0.1
GOLH Golhisar 0.73 88 ⇑ *i* P Pg 02 32 50.5 -1.5
GOLH i S Sn 02 33 04.3 -0.3
AYDN Tasoluk 0.76 306 ⇑ *i* P Pg 02 32 52.1 -0.4
AYDN i S Sg 02 33 01.8 -0.8
DATC Datca-Mugla 0.91 241 PG Pb 02 32 54.5 -0.8
AYDB Zeytinkoy-Aydi 0.95 321 PG Pb 02 32 55.5 -0.5
AYDB SG Sg 02 33 09.2 +0.6
DAT Datca 0.98 241 PG Pb 02 32 56.3 -0.3
DAT SG Sn 02 32 56.8 -0.3
DAT Datca 0.98 241 *i* P Pb 02 32 55.6 -0.9
DAT i S Sn 02 33 11.3 +0.4
ARG Arkhangelos 1.08 203 Pg Pg 02 32 58.4 -0.1
ARG S Sn 02 33 13.3 +0.2
ARG Arkhangelos 1.08 203 P Pb 02 32 57.5 -0.6
ARG S Sn 02 33 13.5 +0.4
ARG AML AML 02 33 19.4
comp=E,16376µm,0.3s
ARG AML AML 02 33 20.0
comp=N,14471µm,0.5s
ARG Arkhangelos 1.08 203 P Pb 02 32 57.6 -0.6
ARG S Sn 02 33 13.3 +0.2
BODT Bodrum 1.08 262 PG Pb 02 32 57.9 -0.3
BODT Bodrum 1.08 262 Pg Pb 02 32 58.2 0.0
BODT S Sn 02 33 14.6 +1.5
BODT Bodrum 1.08 262 P Pb 02 32 58.1 0.0
BODT S Sn 02 33 14.6 +1.5
ELL Elmali 1.11 114 PN Pg 02 32 59.3 +0.1
ELL Elmali 1.11 114 Pn Pg 02 32 59.6 +0.4
BRDR BURDUR-Merkez 1.22 66 ⇑ *i* P Pn 02 32 59.7 -0.7
BRDR i S Sg 02 33 18.9 +1.6
AKAS Kas 1.24 142 PN Pg 02 33 01.7 0.0
AKAS Kas 1.24 142 ⇓ *i* P Pn 02 32 58.9 -1.9
AKAS i S Sg 02 33 22.3 +4.3
AKAS Kas 1.24 142 Pn Pg 02 33 02.0 +0.3
MANT Manisa 1.28 357 ⇑ *i* P Pn 02 33 00.9 -0.5
MANT i S Sb 02 33 16.8 -1.3
MANT Manisa 1.28 357 *e*Pn Pb 02 33 01.6 -0.1
KSL Kastellorizon 1.30 144 P Pb 02 33 01.9 0.0
KSL S Sg 02 33 19.4 -0.2
KSL Kastellorizon 1.30 144 P Pg 02 33 02.4 -0.4
KSL S Sg 02 33 21.3 +1.7
KSL AML AML 02 33 24.8
comp=E,10157µm,0.8s
KSL AML AML 02 33 25.0
comp=N,11672µm,0.9s
KSL Kastellorizon 1.30 144 P Pb 02 33 01.9 0.0
KSL S Sg 02 33 19.4 -0.2
KULA Kula-Manisa 1.30 0 PN Pn 02 33 01.5 0.0
KULA Kula-Manisa 1.30 0 Pn Pb 02 33 02.1 +0.2
KHL Karahalli 1.31 32 PN Pn 02 33 01.8 +0.2
KHL Karahalli 1.31 32 Pn Pn 02 33 01.8 +0.2
NIS1 Nisyros Isl. 1.33 243 P Pb 02 33 02.2 -0.2
NIS1 S Sg 02 33 21.5 +0.9
NIS1 Nisyros Isl. 1.33 243 P Pb 02 33 02.4 0.0
NIS1 Nisyros Isl. 1.33 243 P Pb 02 33 02.2 -0.2
NIS1 S Sg 02 33 21.5 +0.9
KHAL Karahalli 1.34 30 ⇑ *i* P Pn 02 33 01.3 -0.7
KHAL i S Sg 02 33 20.8 -0.1
NISR Nisiros 1.36 244 P Pb 02 33 02.7 -0.2
NISR Nisiros 1.36 244 P Pb 02 33 02.8 0.0
NISR S Sg 02 33 21.4 -0.2
NISR AML AML 02 33 28.1
comp=N,11273µm,1.0s
NISR AML AML 02 33 30.1
comp=E,14117µm,0.9s
NISR Nisiros 1.36 244 P Pb 02 33 02.7 -0.2
KORT Korkueli 1.38 98 PN Pg 02 33 03.9 -0.3
KORT Korkueli 1.38 98 ⇓ *i* P Pb 02 33 03.0 0.0
KORT i S Sg 02 33 24.6 +2.5
KORT Korkueli 1.38 98 Pn Pg 02 33 04.2 -0.1
SMG Samos 1.52 290 P Pn 02 33 04.4 -0.1
SMG Samos 1.52 290 P Pn 02 33 04.6 +0.1
SMG S Sn 02 33 23.9 -0.2
SMG AML AML 02 33 33.6
comp=E,5115µm,0.4s
SMG AML AML 02 33 34.0
comp=N,7566µm,0.4s
SMG Samos 1.52 290 P Pn 02 33 04.4 -0.1
KZIL AFYON_Kizioren 1.58 48 ⇑ *i* P Pn 02 33 05.5 +0.1
KZIL i S Sg 02 33 29.0 +0.4
GOMA Golmarmara-Man 1.60 339 PN Pb 02 33 06.9 -0.2
ISP Isparta 1.61 67 PN Pb 02 33 05.9 +0.2
ISP Isparta 1.61 67 Pn Pb 02 33 06.0 +0.2
ISP S Sb 02 33 27.8 +0.4
ISP Isparta 1.61 67 ⇑ *i* P Pb 02 33 06.6 -0.7
ISP Isparta 1.61 67 P Pb 02 33 06.6 -0.7
ISP S Sg 02 33 29.2 -0.4
ISP AML AML 02 33 38.6
comp=N,2518µm,0.8s
ISP AML AML 02 33 42.7
comp=E,2842µm,0.9s
ISP Isparta 1.61 67 P Pn 02 33 06.3 +0.5
ISP S Sb 02 33 27.8 +0.4
ANTB Antalya 1.63 100 PN Pb 02 33 07.6 0.0
DGB ¨zmir 1.64 301 *i* P Pn 02 33 05.9 -0.1
DGB i S Sn 02 33 25.3 -1.4
KEMT Kemer-ANTALYA 1.64 111 PN Pb 02 33 07.8 0.0
AKHS Akhisar 1.79 339 *i* P Pn 02 33 08.0 -0.2
AKHS i S Sg 02 33 34.1 -1.2
DEMI Demirci 1.83 2 ⇑ *i* P Pn 02 33 08.2 -0.5
DEMI i S Sn 02 33 31.1 -0.6
BAGO Egridir - ISPA 1.87 65 *i* P Pn 02 33 10.1 +0.8
BAGO i S Sb 02 33 36.0 +1.1
SIMA Simav-Kutahya 1.89 8 PN Pb 02 33 10.9 -1.1
SUTC Sutluce-Ispart 1.89 81 PN Pb 02 33 11.3 -0.8
SUTC Sutluce-Ispart 1.89 81 Pn Pb 02 33 11.6 -0.5
GEDZ Gediz 1.93 18 PN Pb 02 33 11.5 -1.1
GDZ Gediz 1.99 19 *i* P Pb 02 33 13.9 +0.3
GDZ i S Sg 02 33 43.7 +2.1
URLA Izmir 1.99 306 PN Pn 02 33 11.1 +0.2
FOCM Fo¨ça 2.13 315 PN Pn 02 33 14.2 +1.4
AMGA Amorgos Island 2.24 261 P Pn 02 33 14.9 +0.6
AMGA Amorgos Island 2.24 261 P Pn 02 33 14.4 +0.1
DKL Dikili 2.31 324 PN Pn 02 33 15.3 0.0
TVSB Tavsanli 2.32 16 PN Pn 02 33 15.4 -0.2
TVSB Tavsanli 2.32 16 Pn Pn 02 33 17.2 +1.6
CHOS Chios island 2.37 301 PN Pn 02 33 15.6 -0.5
CHOS Chios island 2.37 301 P Pn 02 33 16.6 +0.5
CHOS Chios island 2.37 301 P Pn 02 33 16.4 +0.3
CHOS Chios island 2.37 301 P Pn 02 33 16.6 +0.5
ANAF Anafi Island 2.46 251 P Pb 02 33 19.7 -2.0
APE Apeiranthos 2.50 268 PN Pn 02 33 16.4 -1.5
APE Apeiranthos 2.50 268 P Pn 02 33 18.1 +0.2
APE Apeiranthos 2.50 268 ⇑ *i* P Pn 02 33 18.1 +0.2
APE Apeiranthos 2.50 268 S Sn 02 33 50.6 +2.5
APE Apeiranthos 2.50 268 P Pn 02 33 18.1 +0.2
APE Apeiranthos 2.50 268 P Pn 02 33 18.1 +0.2
SANT Santorini 2.69 253 PN Pn 02 33 22.3 +1.7
SANT Santorini 2.69 253 *e*Pn Pb 02 33 24.4 -1.3
SANT Santorini 2.69 253 ⇑ *i* P Pn 02 33 21.3 +0.7
SANT Santorini 2.69 253 S Sn 02 33 53.6 +0.6
PRK Paraskevi 2.76 318 P Pn 02 33 22.2 +0.7
PRK Paraskevi 2.76 318 P Pn 02 33 22.2 +0.7
PRK Paraskevi 2.76 318 P Pn 02 33 22.2 +0.7
ZKR Zakros 2.87 224 P Pb 02 33 26.1 -2.6
ZKR Zakros 2.87 224 P Pn 02 33 25.6 +2.6
ZKR Zakros 2.87 224 P Pb 02 33 26.1 -2.6

STIA Sitia Lasithi 2.88 227 P Pn 02 33 25.4 +2.3
SIGR SIGRI 2.97 313 P Pn 02 33 24.9 +0.5
KONT Konya--Tatoy 3.04 75 PN Pn 02 33 27.8 +2.4
KONT Konya--Tatoy 3.04 75 Pn Pn 02 33 27.8 +2.4
KIZT Kizilcal 3.05 56 PN Pn 02 33 26.4 +0.9
KIZT Kizilcal 3.05 56 Pn Pn 02 33 28.2 +2.7
GAZI Gazipasa 3.10 107 PN Pn 02 33 28.6 +2.4
GAZI Gazipasa 3.10 107 Pn Pn 02 33 28.8 +2.6
LADK Ladik-KONYA 3.11 70 PN Pn 02 33 28.3 +1.9
LADK Ladik-KONYA 3.11 70 Pn Pn 02 33 28.3 +1.9
NPS Neapolis 3.13 233 P Pn 02 33 27.9 +1.3
NPS Neapolis 3.13 233 P Pn 02 33 29.2 +2.6
NPS Neapolis 3.13 233 P Pn 02 33 27.9 +1.3
NPS S Sn 02 34 05.5 +1.7
SVRH Sivrihisar-ESK 3.18 44 PN Pn 02 33 29.5 +2.2
SVRH Sivrihisar-ESK 3.18 44 Pn Pn 02 33 29.8 +2.5
LAST Lasithi 3.28 232 P Pn 02 33 31.3 +2.5
SERI Serifos 3.33 270 P Pn 02 33 29.7 +0.4
IDI Anoyia 3.59 239 P Pn 02 33 35.3 +2.3
comp=E,12nm,0.3s,baz=14,slow=5.8,SNR=86
IDI S Sn 02 34 18.2 +3.0
comp=E,6.5nm,0.3s,baz=100,slow=2.6,SNR=3.8
IDI Anoyia 3.59 239 *e*Pn Pn 02 33 35.5 +2.5
IDI Anoyia 3.59 239 ⇓ *i* P Pn 02 33 34.6 +1.6
CHBY Cihanbeyli 3.62 67 PN Pn 02 33 35.9 +2.5
TEKE Tekeli-Mersin 3.74 105 PN Pn 02 33 37.8 +2.8
BERE Bereket-Mersin 3.77 102 PN Pn 02 33 38.1 +2.6
PPCY Paphos 3.79 127 P Pn 02 33 36.3 +0.7
baz=308
ALFC Alefka 3.80 122 P Pn 02 33 36.1 +0.3
baz=302
ALFC S Sn 02 34 14.6 -5.6
DION Dionisos Attik 3.84 284 P Pn 02 33 37.6 +1.2
PTL Penteli 3.89 284 P Pn 02 33 38.0 +1.0
TEVE Tevekalti-Mers 3.92 100 PN Pn 02 33 40.5 +3.0
EREA Eretria 3.93 289 P Pn 02 33 38.9 +1.4
ATHU Athens Univers 3.94 283 P Pn 02 33 38.7 +1.1
LEF Lefka 4.02 120 PN Pn 02 33 36.9 -1.8
SMTH Samothraki Isl 4.07 324 P Pn 02 33 40.2 +0.8
BR231 Keskin MP Arra 4.17 50 *e*Pn Pn 02 33 42.8 +1.8
ANTO Ankara 4.20 49 *e*Pn Pn 02 33 42.2 +1.0
ANTO Ankara 4.20 49 ⇑ *i* P Pn 02 33 43.3 +2.0
ALN Alexandroupoli 4.20 332 *e*Pn Pn 02 33 44.5 +3.2
ALN Alexandroupoli 4.20 332 P Pn 02 33 42.0 +0.8
SZAC Souni 4.22 124 P Pn 02 33 42.2 +0.6
baz=306
MAMC Mammari 4.22 117 P Pn 02 33 42.5 +1.0
baz=298
DID Didima 4.32 276 P Pn 02 33 44.2 +1.2
VIL2 Platees 4.38 285 P Pn 02 33 44.4 +0.6
CSS Mathiatis 4.41 119 *e*Pn Pn 02 33 44.3 +0.2
CSS Mathiatis 4.41 119 P Pn 02 33 43.4 -0.7
SKIA Skiathos 4.53 297 P Pn 02 33 46.7 +0.9
VLI Veliai 4.60 266 P Pn 02 33 48.2 +1.4
RDO Rodhopi 4.61 329 P Pn 02 33 47.7 +0.8
BR131 Keskin Array S 4.65 56 *e*Pn Pn 02 33 49.1 +1.4
BRTR Keskin Array B 4.65 56 P Pn 02 33 48.7 +1.1
comp=E,5.9nm,0.3s,baz=243,slow=17,SNR=200
BRTR S Sn 02 34 43.0 +1.6
comp=E,2.7nm,0.3s,baz=208,slow=24,SNR=12
PROD Prodromos 4.67 285 P Pn 02 33 49.5 +1.7
XOR Xorichti 4.80 298 P Pn 02 33 50.6 +1.0
FYTO Fytoko, Volos 5.00 298 P Pn 02 33 53.5 +1.2
GUR Goura 5.06 280 P Pn 02 33 54.9 +1.6
TRIP Tripoli 5.09 275 P Pn 02 33 55.9 +2.3
PLG Polygyros 5.15 309 P Pn 02 33 55.1 +0.8
AGG Agios Georgios 5.30 292 *e*Pn Pn 02 33 59.6 +3.2
AGG Agios Georgios 5.30 292 P Pn 02 33 58.8 +2.4
EFP Efpalio 5.47 285 P Pn 02 34 01.2 +2.4
SOH Sokhos 5.48 313 P Pn 02 34 00.8 +1.9
HORT Hortiatis 5.49 310 P Pn 02 34 00.9 +1.8
SRS Serrai 5.54 316 P Pn 02 34 01.3 +1.7
NVR Nevrokopi 5.56 320 P Pn 02 34 00.6 +0.7
LIT Litokhoron 5.62 303 *e*Pn Pn 02 34 02.7 +1.9
THL Klokotos Trika 5.72 296 P Pn 02 34 04.0 +1.9
KNT Kendrikon 5.96 313 P Pn 02 34 07.7 +2.3
SLUM Salum 6.37 207 P Pn 02 34 11.2 +0.1
baz=211
FNA Florina 6.69 304 *e*Pn Pn 02 34 18.4 +2.8
VTS Vitosha 6.81 324 *e*Pn Pn 02 34 20.7 +3.4
VTS *e*Lg Lg 02 36 22.7
VTS Vitosha 6.81 324 ⇑ *i* P Pn 02 34 20.1 +2.9
MMAI Mount Meron Ar 6.94 125 P Pn 02 34 18.2 -0.8
comp=E,8.0nm,0.3s,baz=308,slow=12,SNR=47
MMAI S Sn 02 35 33.0 -4.7
baz=307,slow=27,SNR=2.2
TIRR Tirgusor 7.24 359 *e*Pn Pn 02 34 25.1 +2.1
TIRR Tirgusor 7.24 359 ⇑ *i* P Pn 02 34 24.2 +1.2
TLB Topalu 7.38 357 ⇑ *i* P Pn 02 34 26.6 +1.7
KOT Kottamia 7.73 159 P Pn 02 34 28.7 -1.1
baz=157
HNAT Natroun 7.74 167 P Pn 02 34 28.6 -1.3
baz=166
HHAG Hagoal 7.79 157 P Pn 02 34 29.6 -1.0
baz=155
HSAF As Saff 7.95 161 P Pn 02 34 31.7 -1.2
baz=160
TLCR 7.97 1 ⇓ *i* P Pn 02 34 34.8 +1.8
GLL Jalalah 8.03 161 P Pn 02 34 33.5 -0.5
baz=159
SUZ Suez 8.14 153 P Pn 02 34 34.6 -0.8
baz=151
SWA2 8.38 200 P Pn 02 34 37.8 -0.9
baz=202
SWA2 S Sn 02 36 00.1 -13
baz=202
ASF Jabal al Asfar 8.45 124 P Pn 02 34 38.6 -1.1
comp=E,0.3nm,0.3s,baz=278,slow=7.1,SNR=4.6
ASF S Sn 02 36 12.7 -2.2
comp=E,0.2nm,0.3s,baz=65,slow=22,SNR=1.2
MLR Muntele Rosu 8.52 347 P Pn 02 34 43.7 +3.1
comp=E,0.2nm,0.3s,baz=240,slow=12,SNR=5.2
MLR S Sn 02 36 19.0 +2.5
comp=E,0.2nm,0.3s,baz=209,slow=16,SNR=1.8
MLR Muntele Rosu 8.52 347 *e*Pn Pn 02 34 43.3 +2.6
MLR Muntele Rosu 8.52 347 ⇑ *i* P Pn 02 34 43.4 +2.7
ZAF Zafarana 8.55 156 P Pn 02 34 39.3 -1.8
baz=155
VOIR 8.65 343 ⇓ *i* P Pn 02 34 44.8 +2.3
PLOR Plostina 8.76 351 ⇑ *i* P Pn 02 34 46.7 +2.8
VRI Vrincioaia 8.77 351 ⇑ *i* P Pn 02 34 45.8 +1.8
EIL Elat 9.18 143 P Pn 02 34 47.5 -2.1
comp=E,2.1nm,0.3s,baz=341,slow=6.0,SNR=15
EIL S Sn 02 36 29.6 -3.2
comp=E,0.6nm,0.3s,baz=28,slow=19,SNR=1.9
TAMRE El Minia 9.69 168 P Pn 02 34 55.4 -1.3
baz=167
BIZ Bicaz 9.90 350 ⇑ *i* P Pn 02 35 02.4 +2.9
HFRF Wahat Farafira 10.04 182 P Pn 02 34 59.9 -1.6
baz=183
BURAR Bucovina Array 10.70 347 ⇑ *i* P Pn 02 35 13.5 +3.0
BUR04 Bucovina Ar. S 10.70 347 *e*Pn Pn 02 35 12.0 +1.4
BUR08 Bucovina Ar. S 10.73 347 *e*Pn Pn 02 35 12.1 +1.1
KVAR Kislovodsk Arr 12.62 53 P Pn 02 35 36.4 -0.3
baz=252,slow=6.4,SNR=2.3
GNI Garni 12.91 72 LR LR 02 41 42.7
comp=E,144nm,18.3s,baz=274,slow=42
AKASG Malin Array Be 13.49 2 P Pn 02 35 52.0 +3.4
comp=E,0.6nm,0.3s,baz=192,slow=13,SNR=4.0
VRAC Vranov 14.92 328 LR LR 02 43 30.6
comp=E,99nm,18.2s,baz=124,slow=43
GEA0 GERESS Array S 15.92 322 *e*Pn Pn 02 36 21.8 +0.5
GEC2 GERESS Array S 15.92 322 *e*Pn Pn 02 36 22.8 +1.5
comp=E,22nm,1.7s
GERES GERESS Array B 15.92 322 P P 02 36 27.3 +2.4
comp=E,0.1nm,0.3s,baz=135,slow=9.8,SNR=10
RAYN Ar Rayn 19.90 129 *e*P Pn 02 37 09.8 -0.7
comp=E,6.0nm,1.0s
FINES FINESS Array B 24.31 357 P Pn 02 37 54.8 +0.4
comp=E,8.1nm,0.9s,baz=187,slow=14,SNR=6.1
FINES LR LR 02 47 42.8
comp=E,62nm,18.4s,baz=267,slow=37
AKTO Aktyubinsk 24.78 48 P P 02 37 58.2 -0.7
comp=E,2.1nm,0.7s,baz=257,slow=11,SNR=5.5
HFS Hagfors 24.86 342 P P 02 38 00.0 +0.6
comp=E,3.9nm,0.8s,baz=144,slow=18,SNR=2.2
ES19 SONSECA Array 25.54 286 *e*P P 02 38 07.7 +1.8
ESDC Sonseca Array 25.59 286 P P 02 38 06.3 0.0
comp=E,0.5nm,0.4s,baz=86,slow=10,SNR=8.1
ARU Arti 27.73 37 *e*P P 02 38 26.8 +1.4
comp=E,2.5nm,0.5s
EKA Eskdalemuir Ar 28.13 320 P P 02 38 29.1 +0.1
comp=E,0.5nm,0.6s,baz=107,slow=9.7,SNR=2.9
EKA PcP PcP 02 41 40.8 -2.0
comp=E,0.8nm,0.8s,baz=117,slow=18,SNR=3.1
ARCES ARCESS Array B 32.43 358 P P 02 39 07.6 +0.8
comp=E,3.5nm,1.1s,baz=168,slow=9.2,SNR=2.8
TOA0 Torodi Ar. Sit 33.97 232 *e*P P 02 39 20.1 -0.7
TORD Torodi Ar. Bea 33.97 232 P P 02 39 18.1 -2.7
comp=E,1.2nm,0.5s,baz=33,slow=9.0,SNR=18
AAK Ala-Archa 35.23 67 *e*P P 02 39 32.3 +0.6
comp=E,1.1nm,0.7s
KURBB Kurchatov Arra 37.64 53 P P 02 39 51.6 -0.3
comp=E,0.9nm,0.6s,baz=276,slow=8.8,SNR=6.7
KURK Kurchatov 37.70 53 *e*P P 02 39 53.0 +0.5
MKAR Makanchi Array 40.29 59 P P 02 40 13.7 -0.6
comp=E,0.5nm,0.7s,baz=277,slow=8.5,SNR=4.1
MKAR PcP PcP 02 42 15.3 -2.4
comp=E,0.9nm,0.8s,baz=286,slow=5.4,SNR=3.6
ZALV Zalesovo Beam 41.54 48 P P 02 40 23.6 -0.9
comp=E,0.4nm,0.3s,baz=278,slow=10.0,SNR=2.3
DBIC Dimbokro 43.05 233 P P 02 40 35.5 -1.7
comp=E,0.8nm,0.5s,baz=37,slow=10,SNR=2.8
WMQ Urumqi 44.54 62 *e*P P 02 40 51.3 +2.3
NRIK Noril'sk 44.82 26 LR LR 03 04 01.5
comp=E,9.7nm,18.4s,baz=158,slow=42
CMAR Chiang Mai Arr 63.58 86 P P 02 43 06.1 -2.0
comp=E,0.9nm,0.4s,baz=295,slow=6.9,SNR=3.2
ILAR Eielson Array 78.29 358 P P 02 44 35.4 -1.3
comp=E,0.4nm,1.0s,baz=350,slow=4.8,SNR=3.1

IDC ***30*** *02:36:05.4±0.7, 37.°41S×176.°89E, h154km±4km, mb4.1/10, mb1 4.1/10, mb1mx4.0/22, mbtmp4.5/10, Error ellipse: s-maj=20.5km s-min=12.4km az=53.0*

NEIC ***30*** *02:36:06.0±0.0, 37.°89S×176.°71E, h190km, mb4.4/7, ML4.6(WEL), After WEL.*

ISCJB ***30*** *02:36:07.4±0.2, 37.°96S±0.°02×176.°63E±0.°04, h174km±1km, mb4.4/22, Error ellipse: s-maj=4.9km s-min=3.7km az=178.3*

WEL ***30*** *02:36:08.6, 38.°S±3.°×17.°7E±.°, h161km±3km*

ISC 30 02:36:08.0±0.5, 38.00S±0.04×176.63E±0.04, h176km±4km, n247, σ1°82/271, mb4.4/22, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.04**	**74**	P	**Pn**	**Pn**	**02 36 30.3**	**-1.0**
EDRZ	**Edgecumbe**	**0.14**	**141**	P	**Pn**	**Pn**	**02 36 30.5**	**-0.9**
OPRZ	**Ohinepanea**	**0.16**	**340**	P	**Pn**	**Pn**	**02 36 30.0**	**-1.4**
OPRZ				S	Sn	Sn	02 36 45.8	-3.5
MKRZ	**Makatiti**	**0.19**	**221**	P	**Pn**	**Pn**	**02 36 31.6**	**+0.1**
LIRZ	**Lichensteins R**	**0.19**	**268**	P	**Pn**	**Pn**	**02 36 30.7**	**-0.7**
OMRZ	**Omania**	**0.23**	**241**	P	**Pn**	**Pn**	**02 36 30.9**	**-0.6**
TARZ	**Mount Tarawera**	**0.26**	**202**	P	**Pn**	**Pn**	**02 36 31.3**	**-0.3**
KARZ	**Kaharoa**	**0.30**	**265**	P	**Pn**	**Pn**	**02 36 31.0**	**-0.7**
WHRZ	**Whale Island**	**0.31**	**63**	P	**Pn**	**Pn**	**02 36 30.4**	**-1.3**
HLRZ	**Highlands Stat**	**0.33**	**220**	P	**Pn**	**Pn**	**02 36 31.6**	**-0.2**
RRRZ	**Republican Roa**	**0.35**	**194**	P	**Pn**	**Pn**	**02 36 31.4**	**-0.4**
NGRZ	**Ngongotaha**	**0.36**	**253**	P	**Pn**	**Pn**	**02 36 31.7**	**-0.2**
UTU	**Utuhina**	**0.39**	**242**	P	**Pn**	**Pn**	**02 36 31.9**	**0.0**
TGRZ	**Tauranga**	**0.39**	**313**	P	**Pn**	**Pn**	**02 36 30.7**	**-1.2**
TGRZ				S	Sn	Sn	02 36 48.0	-2.3
HSRZ	**Hossack Road**	**0.43**	**224**	P	**Pn**	**Pn**	**02 36 32.1**	**0.0**
URZ	**Urewera**	**0.46**	**125**	P	**Pn**	**Pn**	**02 36 30.9**	**-1.3**
	1µm,0.3s,baz=269,slow=3.1,SNR=8575							
URZ				LR	LR		02 36 46.9	
	comp=Z,655nm,18.1s,baz=65,slow=48							
URZ				S	Sn	Sn	02 36 47.7	-3.0
	194nm,0.3s,baz=276,slow=5.2,SNR=7.3							
URZ	**Urewera**	**0.46**	**125**	P	**Pn**	**Pn**	**02 36 31.0**	**-1.1**
URZ				S	Sn	Sn	02 36 47.8	-2.9
HRRZ	**Handcock Road**	**0.48**	**214**	P	**Pn**	**Pn**	**02 36 32.2**	**-0.1**
MUGZ	**Murupara**	**0.49**	**167**	P	**Pn**	**Pn**	**02 36 31.8**	**-0.5**
MUGZ				S	Sn	Sn	02 36 49.0	-2.1
PRRZ	**Plateau Road**	**0.53**	**200**	P	**Pn**	**Pn**	**02 36 32.5**	**0.0**
GRRZ	**Galatos Road**	**0.54**	**229**	P	**Pn**	**Pn**	**02 36 32.7**	**+0.2**
KMRZ	**Kaimai**	**0.56**	**285**	P	**Pn**	**Pn**	**02 36 32.1**	**-0.6**
KMRZ				S	Sn	Sn	02 36 49.8	-1.7
ALRZ	**Allen Road**	**0.61**	**201**	P	**Pn**	**Pn**	**02 36 32.8**	**0.0**
WPRZ	**Whakapapatarin**	**0.64**	**215**	P	**Pn**	**Pn**	**02 36 33.3**	**+0.3**
WIZ	**White Island**	**0.65**	**44**	P	**Pn**	**Pn**	**02 36 31.2**	**-1.9**
RTZ	**Ruatahuna**	**0.68**	**156**	P	**Pn**	**Pn**	**02 36 33.1**	**-0.2**
RTZ				S	Sn	Sn	02 36 51.7	-1.2
MYRZ	**Mayor Island**	**0.78**	**337**	P	**Pn**	**Pn**	**02 36 32.6**	**-1.2**
MWZ	**Matawai**	**0.79**	**116**	P	**Pn**	**Pn**	**02 36 32.9**	**-1.0**
MWZ				S	Sn	Sn	02 36 51.2	-2.6
RAWZ	**Rawiri**	**0.80**	**129**	P	**Pn**	**Pn**	**02 36 33.7**	**-0.3**
RAGZ				S	Sn	Sn	02 36 52.4	-1.6
KUTZ	**Kaahu Road**	**0.80**	**232**	P	**Pn**	**Pn**	**02 36 34.5**	**+0.5**
RUGZ	**Raukumara Rang**	**0.83**	**88**	P	**Pn**	**Pn**	**02 36 32.0**	**-2.3**
RUGZ				S	Sn	Sn	02 36 49.6	-4.8
WHTZ	**Whakaora**	**0.85**	**218**	P	**Pn**	**Pn**	**02 36 35.3**	**+1.0**
MRHZ	**Matea Rd**	**0.85**	**191**	P	**Pn**	**Pn**	**02 36 34.6**	**+0.3**
MTHZ	**Maungataniwha**	**0.87**	**169**	P	**Pn**	**Pn**	**02 36 34.7**	**+0.3**
TLZ	**Tolley Road**	**0.92**	**248**	P	**Pn**	**Pn**	**02 36 35.3**	**+0.5**
TOZ	**Tahuroa Road**	**0.93**	**286**	P	**Pn**	**Pn**	**02 36 34.4**	**-0.3**
HAZ	**Te Kaha**	**0.95**	**76**	P	**Pn**	**Pn**	**02 36 32.8**	**-2.1**
HAZ				S	Sn	Sn	02 36 51.2	-4.3
SNGZ	**Shannon Statio**	**0.96**	**145**	P	**Pn**	**Pn**	**02 36 35.5**	**+0.4**
HATZ	**Hinemaiaia**	**0.99**	**205**	P	**Pn**	**Pn**	**02 36 35.8**	**+0.6**
RAHZ	**Arahi**	**0.99**	**159**	P	**Pn**	**Pn**	**02 36 36.0**	**+0.7**
WATZ	**Wairara**	**1.00**	**224**	P	**Pn**	**Pn**	**02 36 36.1**	**+0.7**
TKGZ	**Te Karaka**	**1.06**	**115**	P	**Pn**	**Pn**	**02 36 35.5**	**-0.3**
TWKZ	**Tauwhareparae**	**1.08**	**100**	P	**Pn**	**Pn**	**02 36 35.4**	**-0.6**
RATZ	**Rangitukua**	**1.10**	**217**	P	**Pn**	**Pn**	**02 36 36.9**	**+0.8**
NMHZ	**Naumai**	**1.11**	**173**	P	**Pn**	**Pn**	**02 36 37.3**	**+1.1**
RIGZ	**Rimuhau**	**1.14**	**129**	P	**Pn**	**Pn**	**02 36 36.8**	**+0.4**
RIGZ	**Rimuhau**	**1.14**	**129**	P	**Sn**	**Pn**	**02 36 58.5**	**+0.1**
RITZ	**Rihia Road**	**1.15**	**211**	P	**Pn**	**Pn**	**02 36 37.8**	**+1.3**
PKGZ	**Pakihiroa**	**1.15**	**85**	P	**Pn**	**Pn**	**02 36 35.2**	**-1.3**
BKZ	**Black Stump Fm**	**1.17**	**185**	*e*Pn	**Pn**	**Pn**	**02 36 36.8**	**0.0**
BKZ				*e*S	Sn	Sn	02 36 56.2	-2.9
BKZ	**Black Stump Fm**	**1.17**	**185**	P	**Pn**	**Pn**	**02 36 37.2**	**+0.5**
WHHZ	**Waihua**	**1.18**	**156**	P	**Pn**	**Pn**	**02 36 37.6**	**+0.9**
WHHZ	**Waihua**	**1.18**	**156**	P	**Sn**	**Sn**	**02 37 00.6**	**+1.6**
KATZ	**Kakaramea**	**1.22**	**216**	P	**Pn**	**Pn**	**02 36 38.1**	**+0.9**
PUZ	**Puketiti**	**1.29**	**94**	P	**Pn**	**Pn**	**02 36 36.4**	**-1.3**
ARHZ	**Aropaoanui**	**1.30**	**167**	P	**Pn**	**Pn**	**02 36 38.9**	**+1.2**
ARHZ	**Aropaoanui**	**1.30**	**167**	P	**Sn**	**Sn**	**02 36 56.9**	**-3.9**
KNZ	**Kokohu**	**1.31**	**142**	P	**Pn**	**Pn**	**02 36 38.4**	**+0.6**
KNZ	**Kokohu**	**1.31**	**142**	P	**Sn**	**Sn**	**02 36 58.3**	**-2.7**
CNGZ	**Carnagh Statio**	**1.34**	**112**	P	**Pn**	**Pn**	**02 36 38.3**	**+0.3**
KRVZ	**Karewarewa**	**1.34**	**215**	P	**Pn**	**Pn**	**02 36 39.1**	**+0.9**
PRGZ	**Paritu Road**	**1.35**	**134**	P	**Pn**	**Pn**	**02 36 38.6**	**+0.3**
PRGZ	**Paritu Road**	**1.35**	**134**	P	**Sn**	**Sn

PNHZ **Pukenui** 1.94 190 P **Pn** 02 36 44.9 +0.7
PNHZ **Pukenui** 1.94 190 P **Sn** 02 37 11.6 -0.8
WTAZ **Waiatarua** 1.95 302 P **Pn** 02 36 43.7 -0.5
GRZ **Great Barrier** 1.98 331 P **Pn** 02 36 42.9 -1.6
ABAZ **Army Bay** 2.00 314 P **Pn** 02 36 44.2 -0.6
RVAZ **Riverhead Bore** 2.04 306 P **Pn** 02 36 44.4 -0.8
PXZ **Pawanui** 2.04 175 P **Pn** 02 36 46.2 +1.0
PXZ **Pawanui** 2.04 175 P **Sn** 02 37 10.1 -4.0
WPHZ **Waipukurau** 2.07 184 P **Pn** 02 36 46.3 +0.8
WPHZ **Waipukurau** 2.07 184 P **Sn** 02 37 11.4 -3.4
TSZ **Takapari Road** 2.12 194 P **Pn** 02 36 46.7 +0.6
WAZ **Wanganui** 2.17 216 P **Pn** 02 36 47.9 +1.2
WAZ **Wanganui** 2.17 216 P **Sn** 02 37 18.1 +1.3
DREZ **Durham Road** 2.24 237 P **Pn** 02 36 49.8 +2.3
PRHZ **Porangahau** 2.27 180 P **Pn** 02 36 48.6 +0.8
PRHZ **Porangahau** 2.27 180 P **Sn** 02 37 13.4 -5.3
LREZ **Lake Rotokare** 2.27 229 P **Pn** 02 36 49.5 +1.7
DVHZ **Dannevirke** 2.33 189 P **Pn** 02 36 48.8 +0.4
DVHZ **Dannevirke** 2.33 189 P **Sn** 02 37 18.1 -1.9
PREZ **Palmer Road** 2.35 234 P **Pn** 02 36 51.2 +2.5
PKE **Pukeiti** 2.39 239 P **Pn** 02 36 51.3 +2.1
KHEZ **Kahui Hut** 2.42 237 P **Pn** 02 36 51.6 +2.0
OHWZ **Ohakea** 2.43 204 P **Pn** 02 36 50.8 +1.2
ANWZ **Angora Road** 2.46 183 P **Pn** 02 36 51.0 +1.0
ANWZ **Angora Road** 2.46 183 P **Sn** 02 37 18.6 -4.1
POWZ **Post Office Ro** 2.48 195 P **Pn** 02 36 50.9 +0.6
NBEZ **Newall Road No** 2.51 239 P **Pn** 02 36 52.7 +2.2
NMEZ **Namu Road** 2.57 236 P **Pn** 02 36 53.6 +2.3
PRWZ **Pori Road** 2.60 191 P **Pn** 02 36 52.4 +0.7
BFZ **Birch Farm** 2.70 186 *e*Pn **Pn** 02 36 52.7 -0.1
BFZ *e*Sn **Sn** 02 37 21.0 -6.8
BFZ **Birch Farm** 2.70 186 P **Pn** 02 36 53.1 +0.3
BFZ **Birch Farm** 2.70 186 P **Sn** 02 37 23.0 -4.7
WCZ **Waipu Caves** 2.75 318 P **Pn** 02 36 52.6 -0.8
MRZ **Mangatainoka R** 2.78 197 P **Pn** 02 36 53.9 +0.2
TIWZ **Tintock** 2.83 191 P **Pn** 02 36 54.9 +0.5
CPWZ **Castlepoint** 2.93 186 P **Pn** 02 36 56.6 +1.0
HOWZ **Holdsworth Sta** 3.02 196 P **Pn** 02 36 56.6 -0.1
OGWZ **Otaki Gorge** 3.03 201 P **Pn** 02 36 57.0 +0.2
KIW **Kapiti Island** 3.15 204 P **Pn** 02 36 58.1 -0.2
TMWZ **Te Maipa** 3.16 190 P **Pn** 02 36 58.7 +0.3
MTW **Mount Morrison** 3.27 195 P **Pn** 02 36 59.4 -0.5
CAW **Cannon Point** 3.33 201 P **Pn** 02 37 00.2 -0.3
TRWZ **Traveller** 3.47 192 P **Pn** 02 37 02.0 -0.3
DUWZ **D'Urville Isla** 3.50 216 P **Pn** 02 37 02.1 -0.5
PAWZ **Paruwai Farm** 3.50 195 P **Pn** 02 37 02.1 -0.6
MSWZ **Moikau Station** 3.58 197 P **Pn** 02 37 03.0 -0.5
SNZO **South Karori** 3.63 204 *e*Pn **Pn** 02 37 03.8 -0.4
SNZO *e*Sn **Sn** 02 37 45.7 -2.4
BHW **Baring Head** 3.67 201 P **Pn** 02 37 04.1 -0.6
TCW **Tory Channel** 3.69 209 P **Pn** 02 37 04.2 -0.7
OUZ **Omahuta** 3.69 318 *e*Pn **Pn** 02 37 04.5 -0.6
OUZ **Omahuta** 3.69 318 P **Pn** 02 37 04.4 -0.6
PLWZ **Palliser** 3.72 196 P **Pn** 02 37 04.6 -0.8
TUWZ **Tuamarina** 4.00 210 P **Pn** 02 37 08.1 -0.9
NNZ **Nelson** 4.08 217 P **Pn** 02 37 09.2 -0.7
QRZ **Quartz Range** 4.25 227 P **Pn** 02 37 10.7 -1.4
BSWZ **Blackbirch Sta** 4.28 209 P **Pn** 02 37 11.6 -0.8
THZ **Tophouse** 4.73 216 *e*Pn **Pn** 02 37 18.9 +0.6
THZ *e*Sn **Sn** 02 38 11.2 -2.3
THZ **Tophouse** 4.73 216 P **Pn** 02 37 17.2 -1.1
KHZ **Kahutara** 5.01 207 *e*Pn **Pn** 02 37 21.2 -0.7
KHZ *e*Sn Sn 02 38 10.5 -9.4
KHZ **Kahutara** 5.01 207 P **Pn** 02 37 20.8 -1.1
DSZ **Denniston Nort** 5.27 223 P **Pn** 02 37 23.3 -2.1
LTZ **Lake Taylor** 5.82 213 *e*Pn **Pn** 02 37 31.4 -1.3
LTZ *e*Sn Sn 02 38 21.4 -16
LTZ **Lake Taylor** 5.82 213 P **Pn** 02 37 30.7 -1.9
AMCZ **Amberley** 5.99 209 P **Pn** 02 37 33.2 -1.6
CRLZ **Canterbury Las** 6.35 207 *e*Pn **Pn** 02 37 37.2 -2.2
CRLZ *e*Sn Sn 02 38 40.6 -11
OXZ **Oxford** 6.36 212 *e*Pn **Pn** 02 37 38.0 -1.7
OXZ *e*Sn **Sn** 02 38 45.6 -6.3
MQZ **McQueen's Vall** 6.45 207 *e*Pn Pn 02 37 35.8 -4.9
MQZ *e*Sn **Sn** 02 38 46.6 -7.2
RPZ **Rata Peaks** 7.10 215 P **Pn** 02 37 47.9 -1.5
9.1nm,0.3s,baz=150,slow=0.6,SNR=18
RPZ S **Sn** 02 39 04.0 -5.5
13nm,0.3s,baz=36,slow=1.9,SNR=3.6
RPZ **Rata Peaks** 7.10 215 *e*Pn **Pn** 02 37 48.2 -1.2
RPZ *e*Sn Sn 02 38 58.5 -11
RPZ S **Sn** 02 39 04.0 -5.5
FOZ **Fox Glacier** 7.57 221 *e*Pn **Pn** 02 37 53.4 -2.1
FOZ *e*Sn Sn 02 39 11.7 -8.8
LBZ **Lake Benmore** 8.02 215 *e*Pn **Pn** 02 38 00.4 -1.1
LBZ *e*Sn Sn 02 39 17.7 -14
ODZ **Otahua Downs** 8.35 211 *e*Pn **Pn** 02 38 04.1 -1.7
ODZ *e*Sn Sn 02 39 26.8 -12
WKZ **Wanaka** 8.90 218 *e*Pn **Pn** 02 38 12.1 -1.0
WKZ *e*Sn **Sn** 02 39 45.4 -7.0
MLZ **Mavora Lakes** 9.73 218 *e*Pn **Pn** 02 38 23.1 -0.8
WHZ **Wether Hill Ro** 10.19 217 *e*Pn **Pn** 02 38 28.7 -1.3
DCZ **Deep Cove** 10.28 220 *e*Pn **Pn** 02 38 29.3 -1.8
DZM **Mont Dzumac** 18.13 328 P **Pn** 02 40 08.0 -1.0
0.8nm,0.3s,baz=148,slow=15,SNR=7.0
ARMA **Armidale** 21.97 283 *e*P **P** 02 40 49.2 +1.2
15nm,1.0s
EIDS **Eidsvold** 25.03 293 *e*P **P** 02 41 18.0 +2.1
53nm,1.9s
RAR **Rarotonga** 26.36 57 *e*P **P** 02 41 26.4 -1.5
STKA **Stephens Creek** 29.24 271 P **P** 02 41 55.4 +1.9
2.3nm,0.7s,baz=94,slow=8.3,SNR=5.5
STKA PcP **PcP** 02 44 55.8 -0.2
0.7nm,0.3s,baz=105,slow=19,SNR=2.1
CTAO **Charters Tower** 31.79 296 *e*P **P** 02 42 17.5 +1.5
HNR **Honiara** 32.16 328 PcP **PcP** 02 45 01.8 -2.1
48nm,0.5s,baz=197,slow=17,SNR=2.8
COEN **Coen** 38.10 300 *e*P **P** 02 43 10.2 +0.1
17nm,1.0s
PMG **Port Moresby** 38.90 309 P **P** 02 43 14.8 -1.8
14nm,0.7s,baz=135,slow=4.3,SNR=4.2
PMG **Port Moresby** 38.90 309 *e*P **P** 02 43 18.1 +1.5
15nm,0.9s
AS01 **Alice Springs** 38.99 279 *e*P **P** 02 43 18.0 +0.6
AS31 **Alice Springs** 39.02 279 *e*P **P** 02 43 17.4 -0.3
2.1nm,0.4s
ASAR **Alice Springs** 39.02 279 P **P** 02 43 18.4 +0.6
3.3nm,0.5s,baz=124,slow=8.4,SNR=37
ASAR PcP **PcP** 02 45 23.0 -1.2
0.6nm,0.4s,baz=125,slow=4.1,SNR=4.2
ASAR ScP **ScP** 02 48 55.1 -0.8
0.5nm,1.0s,baz=124,slow=3.6,SNR=4.0
VNDA **Vanda** 40.13 185 P P 02 43 31.6 +5.4
1.2nm,0.7s,baz=358,slow=7.0,SNR=8.3
VNDA PcP **PcP** 02 45 28.4 +1.6
3.3nm,0.7s,baz=331,slow=4.2,SNR=10
VNDA ScP **ScP** 02 49 00.3 +1.1
1.6nm,0.9s,baz=343,slow=2.1,SNR=5.3
FORT **Forrest** 40.35 265 *e*P **P** 02 43 28.8 +0.3
51nm,1.1s
WC3 **Warramunga Arr** 40.70 284 *e*P **P** 02 43 31.4 -0.1
10nm,1.1s
WB2 **Warramunga Arr** 40.73 284 *e*P **P** 02 43 32.3 +0.5
13nm,1.2s
WRAB **Tennant Creek** 40.73 284 *e*P **P** 02 43 31.8 0.0
2.5nm,0.4s
WRA **Warramunga Arr** 40.74 284 P **P** 02 43 32.0 +0.2
5.8nm,0.9s,baz=123,slow=7.0,SNR=54
WRA PcP **PcP** 02 45 27.9 -1.9
0.5nm,0.6s,baz=127,slow=3.0,SNR=3.0
WRA ScP **ScP** 02 48 59.4 -3.2
0.6nm,0.9s,baz=121,slow=3.5,SNR=3.4
NWAO **Narrogin (SRO)** 47.94 257 P **P** 02 44 29.0 +0.2
8.8nm,0.8s,baz=75,slow=4.8,SNR=3.8
QSPA **South Pole Qui** 52.13 180 P P 02 45 05.2 +5.2
11nm,0.6s,baz=16,slow=1.8,SNR=30
QSPA PcP **PcP** 02 46 11.8 +2.5
8.9nm,0.9s,baz=355,slow=1.1,SNR=6.0
QSPA ScP **ScP** 02 49 53.6 +4.2
baz=247,slow=3.9
MAW **Mawson** 63.62 203 P **P** 02 46 22.4 +2.7
5.6nm,0.8s,baz=132,slow=3.1,SNR=9.9
SNAA **Sanae** 70.63 180 P **P** 02 47 07.0 +3.1
VNA3 **Neumayer Olymp** 70.97 178 P **P** 02 47 09.0 +3.1
VNA2 **Neumayer--Watz** 71.35 179 P **P** 02 47 11.4 +3.3
baz=177,slow=5.1
VNA1 **Neumayer--Stat** 71.60 178 P **P** 02 47 13.1 +3.5
PLCA **Paso Flores** 80.47 135 P **P** 02 48 02.5 +2.1
1.2nm,0.8s,baz=229,slow=5.5,SNR=3.6
KSRS **Korea Array** 87.50 323 P **P** 02 48 36.5 +1.1
2.8nm,0.8s,baz=138,slow=5.4,SNR=6.3
KSAR **Wonju Array Be** 87.50 323 P **P** 02 48 36.5 +1.0
KS01 **Wonju Array Si** 87.53 323 *e*P **P** 02 48 36.2 +0.6

NJ2 **Nanjing** 88.05 314 *e*P **P** 02 48 39.3 +1.0
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
WHN **Wuhan** 89.59 310 P P 02 48 50.0 +4.4
CM01 **Chiang Mai Arr** 91.85 292 *e*P **P** 02 48 56.3 -0.1
CMAR **Chiang Mai Arr** 91.89 292 P **P** 02 48 57.2 +0.7
comp=Z,2.8nm,0.6s,baz=145,slow=3.0,SNR=12
LVC **Limon Verde** 93.90 123 *e*P **P** 02 49 03.4 -2.9
comp=Z,6.8nm,0.9s
HHC **Hu-ho-hao-te** 98.44 316 *e*P Pdif 02 49 28.5 +2.5
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,150nm,5.2s
YKA **Yellowknife Ar** 114.21 28 PKiKP PKPdf 02 54 23.7 -1.7
comp=Z,0.2nm,0.6s,baz=229,slow=1.8,SNR=5.2
MKAR **Makanchi Array** 119.11 308 PKP **PKPdf** 02 54 34.4 -1.1
comp=Z,2.7nm,0.9s,baz=197,slow=1.3,SNR=9.9
ZALV **Zalesovo Beam** 120.61 317 PKP **PKPdf** 02 54 35.9 -2.1
comp=Z,1.9nm,0.8s,baz=145,slow=2.0,SNR=7.3
KURK **Kurchatov** 122.90 311 *e*PKPdf **PKPdf** 02 54 41.1 -1.5
NRIK **Noril'sk** 124.65 334 PKP **PKPdf** 02 54 44.0 -1.3
comp=Z,4.8nm,0.7s,baz=105,slow=3.7,SNR=4.0
BRVK **Borovoye** 128.53 312 *e*PKPdf **PKPdf** 02 54 52.0 -1.3
AKTO **Aktyubinsk** 135.50 307 PKP **PKPdf** 02 55 06.6 +0.1
comp=Z,1.2nm,0.7s,baz=103,slow=0.7,SNR=7.1
ARU **Arti** 135.74 315 PKP **PKPdf** 02 55 06.0 -0.8
comp=Z,1.3nm,0.3s,baz=6.6,slow=1.7,SNR=6.8
ARU **Arti** 135.74 315 *e*PKPdf **PKPdf** 02 55 06.3 -0.5
ARCES **ARCESS Array B** 144.80 343 PKP PKPbc 02 55 21.5 -0.8
comp=Z,12nm,0.6s,baz=54,slow=3.6,SNR=48
ARE0 **ARCESS Array S** 144.80 343 *e*PKPdf PKPbc 02 55 21.6 -0.7
KBZ **Khabaz** 144.90 294 PKP PKPbc 02 55 22.6 -0.7
comp=Z,3.8nm,0.9s,baz=99,slow=1.9,SNR=8.5
TRO **Tromso** 146.11 346 *e*PKPab **PKPdf** 02 55 24.9 0.0
ASF **Jabal al Asfar** 146.73 272 PKPbc **PKPab** 02 55 29.9 -1.1
comp=Z,2.0nm,0.8s,baz=19,slow=7.8,SNR=3.3
EIL **Elat** 147.28 267 PKPbc **PKPbc** 02 55 31.0 +0.2
comp=Z,2.3nm,0.7s,baz=349,slow=5.0,SNR=3.4
MMAI **Mount Meron Ar** 149.20 273 PKPbc **PKPbc** 02 55 33.7 +0.4
comp=Z,2.9nm,0.5s,baz=89,slow=6.8,SNR=14
STEI **Steigen** 148.27 347 *e*PKPab **PKPbc** 02 55 30.6 -1.5
LIC **Lamto** 148.34 177 *e*PKP1 **PKPbc** 02 55 34.7 +0.7
comp=Z,85nm,0.7s
KIC **Kosan Boka** 148.48 177 *e*PKP1 **PKPbc** 02 55 35.3 +0.9
comp=Z,64nm,0.7s
TIC **Toumodi** 148.75 177 *e*PKP1 **PKPbc** 02 55 35.6 +0.5
DBIC **Dimbokro** 148.79 177 PKP **PKPdf** 02 55 31.9 +0.8
comp=Z,11nm,0.6s,baz=105,slow=4.0,SNR=3.5
DBIC PKPbc **PKiKP** 02 55 36.2 -0.2
comp=Z,11nm,0.6s,baz=152,slow=3.5,SNR=25
DBIC PKPab **PKPab** 02 55 41.5 +2.1
comp=Z,21nm,0.6s,baz=157,slow=4.3,SNR=24
MOR8 **Moi Rana** 149.97 346 *e*PKPbc **PKPbc** 02 55 34.5 -2.0
FINES **FINESS Array B** 150.25 332 PKPbc **PKPbc** 02 55 36.4 -0.9
comp=Z,15nm,0.6s,baz=34,slow=4.1,SNR=42
BRTR **Keskin Array B** 151.25 285 PKPbc **PKPbc** 02 55 39.9 -0.7
comp=Z,2.3nm,0.7s,baz=146,slow=4.1,SNR=14
BRTR PKPab **PKPab** 02 55 49.0 -0.3
comp=Z,1.8nm,0.7s,baz=100,slow=2.9,SNR=8.2
NSS **Namsos** 151.91 346 *e*PKPbc **PKPbc** 02 55 39.3 -1.7
AKASG **Malin Array Be** 153.69 309 PKPbc **PKPbc** 02 55 44.5 -0.8
comp=Z,4.8nm,0.7s,baz=58,slow=2.6,SNR=14
AKASG PKPab **PKPab** 02 55 58.2 -0.7
comp=Z,2.1nm,0.6s,baz=59,slow=4.0,SNR=7.0
TORD **Torodi Ar. Bea** 154.84 192 PKP **PKPdf** 02 55 40.1 -0.1
comp=Z,2.3nm,0.9s,baz=343,slow=1.6,SNR=13
TORD PKPbc **PKPbc** 02 55 50.2 +1.3
comp=Z,1.0nm,0.4s,baz=155,slow=2.0,SNR=20
TORD PKPab **PKPab** 02 56 05.8 +1.1
comp=Z,5.7nm,0.8s,baz=161,slow=4.0,SNR=13
NB2 **NORSAR Subarra155.18 343** PKPdf PKPdf 02 55 47.2 +7.9
comp=Z,1.1nm,0.7s,baz=31,slow=1.9
NB2 **NORSAR Subarra155.18 343** PKPdf PKPdf 02 55 47.2 +7.9
comp=Z,1.1nm,0.7s,baz=31,slow=1.9
NOA **NORSAR Array B 155.18 343** PKPbc PKPbc 02 55 45.3
comp=Z,1.9nm,0.7s,baz=32,slow=2.1,SNR=8.7
NOA PKPab **PKPab** 02 56 02.6 -2.5
comp=Z,1.2nm,0.7s,baz=28,slow=3.3,SNR=5.5
HFS **Hagfors** 155.33 339 PKPbc PKPbc 02 55 47.4
comp=Z,1.5nm,0.6s,baz=85,slow=3.3,SNR=7.8
MLR **Muntele Rosu** 156.97 298 PKPab **PKPab** 02 56 13.4 0.0
comp=Z,1.9nm,0.7s,baz=72,slow=6.4,SNR=3.0
CLL **Collm** 162.37 324 *e*PKPab **PKPab** 02 56 36.0 -0.5
comp=Z,4.0nm,1.0s
GERES **GERESS Array B** 163.56 317 PKPab **PKPab** 02 56 40.3 -1.6
comp=Z,0.2nm,0.3s,baz=46,slow=5.6,SNR=3.1

*ISCJB **30** 02:46:55.7±0.3, 44°.01N±0°.02×11°.73E±0°.05, h12km±3km, Error ellipse: s-maj=6.3km s-min=3.1km az=160.6*
*ROM **30** 02:46:55.4±0.1, 44°.012N±0°.007×11°.72E±0°.01, h8km±1km, Md2.1/3*

ISC 30 02:46:55.8±0.9, **44°.01N**±0°.02×**11°.74E**±0°.03, **h13**km±7km, **n47, σ0°81/46, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.13**	**141**	P	**Pg**	**Pg**	**02 46 58.8**	**-0.3**
SFI				S	**Sg**	**Sg**	**02 47 01.7**	**+0.2**
SFI				AML	AML	AML		
	comp=E,9855µm,0.8s							
SFI				AML	AML	AML		
	comp=N,14150µm,0.5s							
SFI				AML	AML	AML		
	comp=E,10190µm,0.8s							
SFI				AML	AML	AML		
	comp=N,14400µm,0.5s							
SFI				AML	AML	AML		
	comp=E,23000µm,0.6s							
SFI				AML	AML	AML		
	comp=N,17750µm,0.6s							
SFI				AML	AML	AML		
	comp=E,23650µm,0.6s							
SFI				AML	AML	AML		
	comp=N,17650µm,0.6s							
SFI				AML	AML	AML		
	comp=E,23000µm,0.6s							
SFI				AML	AML	AML		
	comp=N,17750µm,0.6s							
SFI				AML	AML	AML		
	comp=E,23650µm,0.6s							
SFI				AML	AML	AML		
	comp=N,17650µm,0.6s							
SFI				AML	AML	AML		
	comp=N,17750µm,0.6s							
SFI				AML	AML	AML		
	comp=N,17650µm,0.6s							
SFI				AML	AML	AML		
	comp=E,23000µm,0.6s							
SFI				AML	AML	AML		
	comp=E,23650µm,0.6s							
SFI				END				
SFI				END				
ASQU	**Asqua**	**0.21**	**169**	P	**Pg**	**Pg**	**02 47 00.6**	**+0.1**
ASQU				S	**Sb**	**Sb**	**02 47 05.0**	**-0.5**
ASQU				AML	AML	AML		
	comp=E,11160µm,0.3s							
ASQU				AML	AML	AML		
	comp=N,8785µm,1.3s							
ASQU				AML	AML	AML		
	comp=E,14800µm,0.4s							
ASQU				AML	AML	AML		
	comp=N,13700µm,0.3s							
ASQU				AML	AML	AML		
	comp=E,14800µm,0.4s							
ASQU				AML	AML	AML		
	comp=N,13700µm,0.3s							
ASQU				END				
ASQU				END				
FAEN	**Faenza**	**0.30**	**20**	P	**Pg**	**Pg**	**02 47 02.2**	**+0.2**
FAEN				S	**Sb**	**Sb**	**02 47 08.1**	**+0.1**
IMOL	**Imola, Italy**	**0.35**	**1**	P	**Pg**	**Pg**	**02 47 02.9**	**0.0**
IMOL				S	**Sb**	**Sb**	**02 47 09.7**	**+0.2**
IMOL				AML	AML	AML		
	comp=E,10100µm,0.9s							
IMOL				AML	AML	AML		
	comp=N,5820µm,1.1s							
IMOL				AML	AML	AML		
	comp=E,1068µm,0.4s							
IMOL				AML	AML	AML		
	comp=N,952µm,0.3s							

IMOL AML AML
comp=E,16750µm,0.9s
IMOL AML AML
comp=N,10195µm,1.3s
IMOL AML AML
comp=E,1850µm,0.9s
IMOL AML AML
comp=N,1485µm,1.0s
IMOL AML AML
comp=E,16700µm,0.9s
IMOL AML AML
comp=N,10200µm,1.3s
IMOL AML AML
comp=E,1860µm,0.9s
IMOL AML AML
comp=N,1485µm,1.0s
IMOL AML AML
comp=N,1485µm,1.0s
IMOL AML AML
comp=E,1860µm,0.9s
IMOL AML AML
comp=E,16700µm,0.9s
IMOL AML AML
comp=N,10200µm,1.3s
IMOL END
IMOL END
FIR **Firenze** 0.42 236 P **Pg** 02 47 04.2 +0.2
MTRZ **Monterenzio** 0.42 333 P **Pg** 02 47 03.2 -0.9
MTRZ AML AML
comp=E,4770µm,0.6s
MTRZ AML AML
comp=N,3570µm,0.6s
MTRZ AML AML
comp=E,4905µm,0.6s
MTRZ AML AML
comp=N,3600µm,0.6s
MTRZ AML AML
comp=E,6480µm,0.6s
MTRZ AML AML
comp=N,5950µm,1.6s
MTRZ AML AML
comp=E,6710µm,0.6s
MTRZ AML AML
comp=N,5965µm,0.6s
MTRZ AML AML
comp=E,6480µm,0.6s
MTRZ AML AML
comp=N,5950µm,1.6s
MTRZ AML AML
comp=E,6710µm,0.6s
MTRZ AML AML
comp=N,5965µm,0.6s
MTRZ AML AML
comp=N,5965µm,0.6s
MTRZ AML AML
comp=N,5950µm,1.6s
MTRZ AML AML
comp=E,6710µm,0.6s
MTRZ AML AML
comp=E,6480µm,0.6s
CPGN **Carpegna, Ital** 0.47 116 P **Pg** 02 47 05.5 +0.4
CPGN AML AML
comp=E,1045µm,1.6s
CPGN AML AML
comp=N,1230µm,1.0s
CPGN AML AML
comp=E,1980µm,1.6s
CPGN AML AML
comp=N,2385µm,0.8s
CPGN AML AML
comp=E,1941µm,0.7s
CPGN AML AML
comp=N,2444µm,0.8s
CPGN AML AML
comp=E,1980µm,1.6s
CPGN AML AML
comp=N,2385µm,0.8s
CPGN AML AML
comp=E,1952µm,0.7s
CPGN AML AML
comp=N,2462µm,0.8s
CPGN AML AML
comp=E,1980µm,1.6s
CPGN AML AML
comp=N,2385µm,0.8s
CPGN AML AML
comp=N,2462µm,0.8s
CPGN AML AML
comp=E,1952µm,0.7s
FNVD **Fontana Vidola** 0.47 290 P **Pg** 02 47 04.3 -0.8
PTF **Prato** 0.48 265 P **Pg** 02 47 05.1 -0.2
PARC **Parchiule** 0.51 134 P **Pg** 02 47 05.5 -0.3
PARC S **Sb** 02 47 14.1 +0.1
PARC AML AML
comp=E,789µm,0.6s
PARC AML AML
comp=N,1865µm,0.5s
PARC AML AML
comp=E,1365µm,1.1s
PARC AML AML
comp=N,2035µm,1.2s
PARC AML AML
comp=E,1365µm,1.1s
PARC AML AML
comp=N,2035µm,1.2s
PARC AML AML
comp=N,2035µm,1.2s
PARC AML AML
comp=E,1365µm,1.1s
SSP9 **Sansepolcro** 0.52 146 P **Pg** 02 47 05.8 -0.1
SSP9 AML AML
comp=E,1530µm,1.5s
SSP9 AML AML
comp=N,1286µm,0.3s
SSP9 AML AML
comp=E,1768µm,1.1s
SSP9 AML AML
comp=N,1986µm,0.6s
SSP9 AML AML
comp=E,1768µm,1.1s
SSP9 AML AML
comp=N,1990µm,0.6s
SSP9 AML AML
comp=E,1768µm,1.1s
SSP9 AML AML
comp=N,1990µm,0.6s
ATCA **Cantone** 0.58 139 P **Pg** 02 47 06.9 -0.3
ATCA AML AML
comp=E,1052µm,0.7s
ATCA AML AML
comp=N,1127µm,0.6s
ATCA AML AML
comp=E,1052µm,0.7s
ATCA AML AML
comp=N,1126µm,0.6s
ATCA AML AML
comp=E,1052µm,0.7s
BADI **Badiali** 0.62 143 P **Pg** 02 47 07.5 -0.3
BADI AML AML
comp=E,1915µm,1.6s
BADI AML AML
comp=N,1880µm,0.3s
BADI AML AML
comp=E,1915µm,1.6s
BADI AML AML
comp=N,1880µm,0.3s
BADI AML AML
comp=N,1880µm,0.3s
BADI AML AML
comp=E,1915µm,1.6s
CSNT **Castellina Chi** 0.62 211 P **Pb** 02 47 08.3 -0.2
CSNT AML AML
comp=E,3050µm,0.5s
CSNT AML AML
comp=N,3200µm,0.6s
CSNT AML AML
comp=E,3050µm,0.5s
CSNT AML AML
comp=N,3200µm,0.6s
CSNT AML AML
comp=N,3200µm,0.6s
CSNT AML AML
comp=E,3050µm,0.5s
PE3 **Peglio** 0.63 119 P **Pg** 02 47 07.7 -0.4
PE3 AML AML
comp=E,1445µm,0.5s

PE3				AML	AML		
	comp=N,1955µm,0.6s						
PE3				AML	AML		
	comp=E,2640µm,0.5s						
PE3				AML	AML		
	comp=N,3990µm,0.5s						
PE3				AML	AML		
	comp=E,2640µm,0.5s						
PE3				AML	AML		
	comp=N,3995µm,0.5s						
PE3				AML	AML		
	comp=E,2640µm,0.5s						
PE3				AML	AML		
	comp=N,3995µm,0.5s						
ZCCA	**Zocca**	**0.65**	**303**	P	**Pb**	**02 47 08.8**	**-0.2**
ATMC	**Monte Cedrone**	**0.65**	**149**	P	**Pg**	**02 47 08.3**	**-0.2**
ATMC				AML	AML		
	comp=E,2280µm,0.6s						
ATMC				AML	AML		
	comp=N,1890µm,0.4s						
ATMC				AML	AML		
	comp=E,2280µm,0.6s						
ATMC				AML	AML		
	comp=N,1890µm,0.4s						
ATMC				AML	AML		
	comp=N,1890µm,0.4s						
ATMC				AML	AML		
	comp=E,2280µm,0.6s						
CAFI	**Castiglion Fio**	**0.70**	**166**	P	**Pg**	**02 47 09.4**	**+0.1**
CAFI				AML	AML		
	comp=E,1770µm,0.4s						
CAFI				AML	AML		
	comp=N,1385µm,0.4s						
CAFI				AML	AML		
	comp=E,1770µm,0.4s						
CAFI				AML	AML		
	comp=N,1385µm,0.4s						
CAFI				AML	AML		
	comp=N,1385µm,0.4s						
CAFI				AML	AML		
	comp=E,1770µm,0.4s						
ATPI	**Pietralunga -**	**0.74**	**139**	P	**Pg**	**02 47 09.6**	**-0.4**
ATPI				AML	AML		
	comp=E,1028µm,0.7s						
ATPI				AML	AML		
	comp=N,939µm,1.6s						
ATPI				AML	AML		
	comp=E,1027µm,0.7s						
ATPI				AML	AML		
	comp=N,942µm,1.6s						
ATPI				AML	AML		
	comp=N,942µm,1.6s						
ATPI				AML	AML		
	comp=E,1027µm,0.7s						
ATPC	**Poggio Castell**	**0.74**	**135**	P	**Pg**	**02 47 09.7**	**-0.5**
ATPC				AML	AML		
	comp=E,547µm,1.1s						
ATPC				AML	AML		
	comp=N,1355µm,1.6s						
ATPC				AML	AML		
	comp=E,1455µm,0.4s						
ATPC				AML	AML		
	comp=N,1320µm,0.4s						
ATPC				AML	AML		
	comp=E,548µm,1.1s						
ATPC				AML	AML		
	comp=N,1355µm,1.6s						
ATPC				AML	AML		
	comp=E,1455µm,0.4s						
ATPC				AML	AML		
	comp=N,1315µm,0.4s						
ATPC				AML	AML		
	comp=E,1455µm,0.4s						
ATPC				AML	AML		
	comp=E,548µm,1.1s						
ATPC				AML	AML		
	comp=N,1315µm,0.4s						
ATPC				AML	AML		
	comp=N,1355µm,1.6s						
ATBU	**Serra di Buran**	**0.79**	**132**	P	**Pg**	**02 47 11.0**	**-0.1**
ATBU				AML	AML		
	comp=E,1955µm,0.4s						
ATBU				AML	AML		
	comp=N,1560µm,0.4s						
ATBU				AML	AML		
	comp=E,1960µm,0.4s						
ATBU				AML	AML		
	comp=N,1565µm,0.4s						
ATBU				AML	AML		
	comp=N,1565µm,0.4s						
ATBU				AML	AML		
	comp=E,1960µm,0.4s						
ATVA	**AVT- Monte Val**	**0.83**	**151**	P	**Pg**	**02 47 11.5**	**-0.3**
ATVA				AML	AML		
	comp=E,513µm,1.0s						
ATVA				AML	AML		
	comp=N,493µm,1.1s						
ATVA				AML	AML		
	comp=E,514µm,1.0s						
ATVA				AML	AML		
	comp=N,493µm,1.1s						
ATVA				AML	AML		
	comp=N,493µm,1.1s						
ATVA				AML	AML		
	comp=E,514µm,1.0s						
RAVA	**Ravarino**	**0.87**	**330**	AML	AML		
	comp=N,1880µm,0.7s						
RAVA				AML	AML		
	comp=E,1955µm,1.1s						
RAVA				AML	AML		
	comp=E,1955µm,1.1s						
RAVA				AML	AML		
	comp=N,1880µm,0.7s						
ATTE	**AVT- Monte Tez**	**0.92**	**151**	P	**Pb**	**02 47 13.1**	**-0.6**
ATTE				AML	AML		
	comp=E,934µm,0.7s						
ATTE				AML	AML		
	comp=N,886µm,0.4s						
ATTE				AML	AML		
	comp=E,934µm,0.7s						
ATTE				AML	AML		
	comp=N,886µm,0.4s						
ATTE				AML	AML		
	comp=N,886µm,0.4s						
ATTE				AML	AML		
	comp=E,934µm,0.7s						
T0813	**Massa Finalese**	**0.95**	**336**	AML	AML		
	comp=N,202µm,0.4s						
T0813				AML	AML		
	comp=E,236µm,0.8s						
T0813				AML	AML		
	comp=N,201µm,0.4s						
T0813				AML	AML		
	comp=E,1800µm,0.5s						
T0813				AML	AML		
	comp=N,1620µm,0.5s						
T0813				AML	AML		
	comp=E,236µm,0.8s						
T0813				AML	AML		
	comp=E,1785µm,0.5s						
T0813				AML	AML		
	comp=N,1615µm,0.5s						
T0813				AML	AML		
	comp=E,1785µm,0.5s						
T0813				AML	AML		
	comp=E,236µm,0.8s						
T0813				AML	AML		
	comp=N,1615µm,0.5s						
T0813				AML	AML		
	comp=N,202µm,0.4s						
ARVD	**Arcevia**	**1.01**	**120**	AML	AML		
	comp=N,346µm,0.9s						
ARVD				AML	AML		
	comp=E,325µm,0.5s						
ARVD				AML	AML		
	comp=E,325µm,0.5s						
ARVD				AML	AML		
	comp=N,346µm,0.9s						
ARVD				AML	AML		
	comp=E,325µm,0.5s						
ARVD				AML	AML		
	comp=N,346µm,0.9s						
SERM	**Sermide**	**1.05**	**343**	AML	AML		
	comp=N,684µm,0.6s						
SERM				AML	AML		
	comp=E,733µm,0.8s						
SERM				AML	AML		
	comp=E,734µm,0.8s						
SERM				AML	AML		
	comp=N,684µm,0.6s						
MGAB	**Montegabbione**	**1.13**	**166**	P	**Pn**	**02 47 17.3**	**-0.1**
MGAB				AML	AML		
	comp=E,1190µm,0.5s						
MGAB				AML	AML		
	comp=N,1300µm,0.5s						
MGAB				AML	AML		
	comp=E,1116µm,0.6s						
MGAB				AML	AML		
	comp=N,1275µm,0.5s						
MGAB				AML	AML		
	comp=E,1195µm,0.5s						
MGAB				AML	AML		
	comp=N,1300µm,0.5s						
MGAB				AML	AML		
	comp=E,1116µm,0.6s						
MGAB				AML	AML		
	comp=N,1275µm,0.5s						
MGAB				AML	AML		
	comp=E,1195µm,0.5s						
MGAB				AML	AML		
	comp=E,1116µm,0.6s						
MGAB				AML	AML		
	comp=N,1275µm,0.5s						
MGAB				AML	AML		
	comp=N,1300µm,0.5s						
SACS	**San Casciano d**	**1.16**	**174**	P	**Pb**	**02 47 18.0**	**+0.2**
SACS				AML	AML		
	comp=E,578µm,0.9s						
SACS				AML	AML		
	comp=N,645µm,0.6s						
SACS				AML	AML		
	comp=E,553µm,0.9s						
SACS				AML	AML		
	comp=N,652µm,0.5s						
SACS				AML	AML		
	comp=E,578µm,0.9s						
SACS				AML	AML		
	comp=N,645µm,0.6s						
SACS				AML	AML		
	comp=E,552µm,0.9s						
SACS				AML	AML		
	comp=N,652µm,0.5s						
SACS				AML	AML		
	comp=E,578µm,0.9s						
SACS				AML	AML		
	comp=E,552µm,0.9s						
SACS				AML	AML		
	comp=N,652µm,0.5s						
SACS				AML	AML		
	comp=N,645µm,0.6s						
TEOL	**Teolo**	**1.35**	**358**	*e*Pg	**Pn**	**02 47 20.4**	**-0.1**
TEOL				*e*Sg	**Sb**	**02 47 37.0**	**-1.3**
MARN	**Marana (Italy)**	**1.67**	**347**	*e*Pg	**Pn**	**02 47 24.3**	**-0.6**
BALD	**Monte Baldo**	**1.80**	**339**	*e*Pg	**Pn**	**02 47 26.6**	**-0.1**
CGRP	**Cima Grappa**	**1.88**	**1**	*e*Pg	**Pn**	**02 47 26.8**	**-1.0**
VARN	**Col Varnada, M**	**2.00**	**7**	*e*Pg	**Pn**	**02 47 29.1**	**-0.4**
PANI	**Panarotta**	**2.06**	**352**	*e*Pg	**Pn**	**02 47 30.2**	**-0.2**
OZOL	**Ozolo**	**2.45**	**349**	*e*Pg	**Pn**	**02 47 35.7**	**+0.2**
GEPF	**Gemona**	**2.48**	**23**	AML	AML		
	comp=E,118µm,0.6s						
GEPF				AML	AML		
	comp=N,160µm,0.6s						
GEPF				AML	AML		
	comp=E,118µm,0.6s						
GEPF				AML	AML		
	comp=N,160µm,0.6s						
ABSI	**Aberstueckl**	**2.74**	**354**	AML	AML		
	comp=E,334µm,0.6s						
ABSI				AML	AML		
	comp=N,264µm,1.0s						
ABSI				AML	AML		
	comp=E,334µm,0.6s						
ABSI				AML	AML		
	comp=N,264µm,1.0s						
ABTA	**Abfaltersbach**	**2.80**	**11**	*i* Pn	**Pn**	**02 47 40.5**	**+0.2**
	comp=N,5.3nm,0.5s						
RISI	**Rein**	**2.95**	**5**	AML	AML		
	comp=E,282µm,0.5s						
RISI				AML	AML		
	comp=E,282µm,0.5s						
RISI				AML	AML		
	comp=N,264µm,0.5s						
RISI				AML	AML		
	comp=N,264µm,0.5s						
FETA	**Feichten**	**3.10**	**347**	*i* Pn	**Pn**	**02 47 46.1**	**+1.5**
	comp=N,3.1nm,0.4s						
SQTA	**Sankt Quirin**	**3.24**	**354**	*e*Pn	**Pn**	**02 47 48.8**	**+2.4**
	comp=N,4.2nm,0.2s						
WATA	**Walderalm**	**3.33**	**358**	*e*Pn	**Pn**	**02 47 49.6**	**+1.8**
	comp=N,2.9nm,0.2s						
MOTA	**Moosalm**	**3.37**	**353**	*i* Pn	**Pn**	**02 47 49.7**	**+1.4**
	comp=N,2.1nm,0.4s						
DAVA	**Damuels**	**3.53**	**339**	*i* Pn	**Pn**	**02 47 52.7**	**+2.2**
	comp=N,6.2nm,0.5s						
RETA	**Reutte**	**3.55**	**349**	*i* Pn	**Pn**	**02 47 52.3**	**+1.6**
	comp=N,1.7nm,0.3s						
MOA	**Molln**	**4.23**	**24**	*i* Pn	**Pn**	**02 48 00.4**	**+0.4**
	comp=N,1.5nm,0.2s						

*IDC **30** 02:47:16.7±1.6, 43˚.94N×12˚.34E, h0km, mb3.4/2, mb1 3.3/5, mb1mx3.2/47, mbtmp3.2/5, ML3.1/3, Error ellipse: s-maj=36.1km s-min=15.5km az=106.0*

*ISCJB **30** 02:47:19.3±0.3, 44˚.00N±0˚.02×11˚.70E±0˚.03, h25km±3km, mb3.3/2, Error ellipse: s-maj=4.1km s-min=3.3km az=164.0*

*ROM **30** 02:47:19.0±0.1, 44˚.008N±0˚.007×11˚.72E±0˚.01, h7km±1km, ML3.1/29*

*VIE **30** 02:47:20.5±0.9, 44˚.02N×11˚.99E, h8km, mb2.8/7, ml3.1/9, Error ellipse: s-maj=7.8km s-min=5.8km az=150.0 40 km WNW of San Marino*

*LDG **30** 02:47:20.2±0.1, 43˚.99N×11˚.64E, h7km, Ml3.2/9, Error ellipse: s-maj=4.5km s-min=1.8km az=42.0*

ISC 30 02:47:18.6±0.9, 44˚.00N±0˚.02×11˚.68E±0˚.03, h17km±6km, n56, σ1=98/66, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFI	**Santa Sofia**	**0.15**	**127**	*i* P	**Pg**	**02 47 22.3**	**-0.5**
SFI				S	**Sg**	**02 47 25.2**	**-0.4**
SFI				AML	AML		
	comp=E,9855µm,0.8s						
SFI				AML	AML		
	comp=N,14150µm,0.5s						
SFI				AML	AML		
	comp=E,10190µm,0.8s						
SFI				AML	AML		
	comp=N,14400µm,0.5s						
SFI				AML	AML		
	comp=E,23000µm,0.6s						
SFI				AML	AML		
	comp=N,17750µm,0.6s						
SFI				AML	AML		
	comp=E,23650µm,0.6s						
SFI				AML	AML		
	comp=N,17650µm,0.6s						
SFI				AML	AML		
	comp=E,23000µm,0.6s						
SFI				AML	AML		
	comp=N,17750µm,0.6s						
SFI				AML	AML		
	comp=E,23650µm,0.6s						
SFI				AML	AML		
	comp=N,17650µm,0.6s						
SFI				AML	AML		
	comp=N,17750µm,0.6s						
SFI				AML	AML		
	comp=N,17650µm,0.6s						
SFI				AML	AML		
	comp=E,23000µm,0.6s						
SFI				AML	AML		
	comp=E,23650µm,0.6s						
ASQU	**Asqua**	**0.21**	**159**	*i* P	**Pg**	**02 47 24.1**	**+0.4**
ASQU				S	**Sb**	**02 47 28.4**	**+0.7**
ASQU				AML	AML		
	comp=E,11160µm,0.3s						
ASQU				AML	AML		
	comp=N,8785µm,1.3s						
ASQU				AML	AML		
	comp=E,14800µm,0.4s						
ASQU				AML	AML		
	comp=N,13700µm,0.3s						
ASQU				AML	AML		
	comp=E,14800µm,0.4s						
ASQU				AML	AML		
	comp=N,13700µm,0.3s						
ASQU				AML	AML		
	comp=E,14800µm,0.4s						
ASQU				AML	AML		
	comp=N,13700µm,0.3s						
FAEN	**Faenza**	**0.33**	**25**	P	**Pg**	**02 47 25.5**	**0.0**
FAEN				S	**Sb**	**02 47 31.6**	**+0.7**
IMOL	**Imola, Italy**	**0.37**	**7**	P	**Pg**	**02 47 26.6**	**+0.3**
IMOL				S	**Sb**	**02 47 33.7**	**+1.6**
IMOL				AML	AML		
	comp=E,10100µm,0.9s						
IMOL				AML	AML		
	comp=N,5820µm,1.1s						
IMOL				AML	AML		
	comp=E,1068µm,0.4s						
IMOL				AML	AML		
	comp=N,952µm,0.3s						
IMOL				AML	AML		
	comp=E,16750µm,0.9s						
IMOL				AML	AML		
	comp=N,10195µm,1.3s						
IMOL				AML	AML		
	comp=E,1850µm,0.9s						
IMOL				AML	AML		
	comp=N,1485µm,1.0s						
IMOL				AML	AML		
	comp=E,16700µm,0.9s						
IMOL				AML	AML		
	comp=N,10200µm,1.3s						
IMOL				AML	AML		
	comp=E,1860µm,0.9s						
IMOL				AML	AML		
	comp=N,1485µm,1.0s						
IMOL				AML	AML		
	comp=N,1485µm,1.0s						
IMOL				AML	AML		
	comp=E,1860µm,0.9s						
IMOL				AML	AML		
	comp=E,16700µm,0.9s						
IMOL				AML	AML		
	comp=N,10200µm,1.3s						
FIR	**Firenze**	**0.38**	**235**	P	**Pb**	**02 47 27.7**	**+0.8**
FIR				S	**Sn**	**02 47 35.3**	**-0.9**
MTRZ	**Monterenzio**	**0.41**	**338**	P	**Pg**	**02 47 27.1**	**0.0**
MTRZ				S	**Sb**	**02 47 34.4**	**+0.9**
MTRZ				AML	AML		
	comp=E,4770µm,0.6s						
MTRZ				AML	AML		
	comp=N,3570µm,0.6s						
MTRZ				AML	AML		
	comp=E,4905µm,0.6s						
MTRZ				AML	AML		
	comp=N,3600µm,0.6s						
MTRZ				AML	AML		
	comp=E,6480µm,0.6s						
MTRZ				AML	AML		
	comp=N,5950µm,1.6s						
MTRZ				AML	AML		
	comp=E,6710µm,0.6s						
MTRZ				AML	AML		
	comp=N,5965µm,0.6s						
MTRZ				AML	AML		
	comp=E,6480µm,0.6s						
MTRZ				AML	AML		
	comp=N,5950µm,1.6s						
MTRZ				AML	AML		
	comp=E,6710µm,0.6s						
MTRZ				AML	AML		
	comp=N,5965µm,0.6s						
MTRZ				AML	AML		
	comp=N,5965µm,0.6s						
MTRZ				AML	AML		
	comp=N,5950µm,1.6s						
MTRZ				AML	AML		
	comp=E,6710µm,0.6s						
MTRZ				AML	AML		
	comp=E,6480µm,0.6s						
FNVD	**Fontana Vidola**	**0.44**	**293**	P	**Pg**	**02 47 28.0**	**+0.4**
FNVD				S	**Sb**	**02 47 35.3**	**+1.0**
PTF	**Prato**	**0.45**	**266**	P	**Pb**	**02 47 28.8**	**+0.8**
CPGN	**Carpegna, Ital**	**0.50**	**113**	P	**Pg**	**02 47 29.2**	**+0.5**
CPGN				AML	AML		
	comp=E,1045µm,1.6s						
CPGN				AML	AML		
	comp=N,1230µm,1.0s						
CPGN				AML	AML		
	comp=E,1980µm,1.6s						
CPGN				AML	AML		
	comp=N,2385µm,0.8s						
CPGN				AML	AML		
	comp=E,1941µm,0.7s						
CPGN				AML	AML		
	comp=N,2444µm,0.8s						
CPGN				AML	AML		
	comp=E,1980µm,1.6s						
CPGN				AML	AML		
	comp=N,2385µm,0.8s						
CPGN				AML	AML		
	comp=E,1952µm,0.7s						
CPGN				AML	AML		
	comp=N,2462µm,0.8s						
CPGN				AML	AML		
	comp=E,1980µm,1.6s						
CPGN				AML	AML		
	comp=N,2385µm,0.8s						
CPGN				AML	AML		
	comp=N,2462µm,0.8s						
CPGN				AML	AML		
	comp=E,1952µm,0.7s						
PARC	**Parchiule**	**0.53**	**131**	P	**Pg**	**02 47 29.5**	**+0.3**
PARC				S	**Sb**	**02 47 37.8**	**+1.0**
PARC				AML	AML		
	comp=E,789µm,0.6s						
PARC				AML	AML		
	comp=N,1865µm,0.5s						
PARC				AML	AML		
	comp=E,1365µm,1.1s						
PARC				AML	AML		
	comp=N,2035µm,1.2s						
PARC				AML	AML		
	comp=E,1365µm,1.1s						
PARC				AML	AML		
	comp=N,2035µm,1.2s						
PARC				AML	AML		
	comp=N,2035µm,1.2s						
PARC				AML	AML		
	comp=E,1365µm,1.1s						
SSP9	**Sansepolcro**	**0.53**	**142**	P	**Pb**	**02 47 29.8**	**+0.3**
SSP9				S	**Sb**	**02 47 38.3**	**+1.5**
SSP9				AML	AML		
	comp=E,1530µm,1.5s						
SSP9				AML	AML		
	comp=N,1286µm,0.3s						
SSP9				AML	AML		
	comp=E,1768µm,1.1s						
SSP9				AML	AML		
	comp=N,1986µm,0.6s						
SSP9				AML	AML		
	comp=E,1768µm,1.1s						
SSP9				AML	AML		
	comp=N,1990µm,0.6s						
SSP9				AML	AML		
	comp=E,1768µm,1.1s						
SSP9				AML	AML		
	comp=N,1990µm,0.6s						
CSNT	**Castellina Chi**	**0.59**	**209**	P	**Pn**	**02 47 32.6**	**+0.3**
CSNT				AML	AML		
	comp=E,3050µm,0.5s						
CSNT				AML	AML		
	comp=N,3200µm,0.6s						
CSNT				AML	AML		
	comp=E,3050µm,0.5s						
CSNT				AML	AML		
	comp=N,3200µm,0.6s						
CSNT				AML	AML		
	comp=N,3200µm,0.6s						
CSNT				AML	AML		
	comp=E,3050µm,0.5s						
ATCA	**Cantone**	**0.60**	**135**	P	**Pg**	**02 47 30.3**	**-0.3**
ATCA				AML	AML		
	comp=E,1052µm,0.7s						
ATCA				AML	AML		

comp=N,1127µm,0.6s
ATCA AML AML
comp=E,1052µm,0.7s
ATCA AML AML
comp=N,1126µm,0.6s
ATCA AML AML
comp=N,1126µm,0.6s
ATCA AML AML
comp=E,1052µm,0.7s
BADI Badiali 0.63 140 P **Pg 02 47 31.2 +0.1**
BADI AML AML
comp=E,1915µm,1.6s
BADI AML AML
comp=N,1880µm,0.3s
BADI AML AML
comp=E,1915µm,1.6s
BADI AML AML
comp=N,1880µm,0.3s
BADI AML AML
comp=N,1880µm,0.3s
BADI AML AML
comp=E,1915µm,1.6s
PE3 Peglio 0.66 117 AML AML
comp=N,1955µm,0.6s
PE3 AML AML
comp=E,1445µm,0.5s
PE3 AML AML
comp=E,2640µm,0.5s
PE3 AML AML
comp=N,3990µm,0.5s
PE3 AML AML
comp=E,2640µm,0.5s
PE3 AML AML
comp=N,3995µm,0.5s
PE3 AML AML
comp=E,2640µm,0.5s
PE3 AML AML
comp=N,3995µm,0.5s
ATMC Monte Cedrone 0.66 146 P **Pg 02 47 31.9 +0.3**
ATMC AML AML
comp=E,2280µm,0.6s
ATMC AML AML
comp=N,1890µm,0.4s
ATMC AML AML
comp=E,2280µm,0.6s
ATMC AML AML
comp=N,1890µm,0.4s
ATMC AML AML
comp=N,1890µm,0.4s
ATMC AML AML
comp=E,2280µm,0.6s
POPM Popiglio 0.67 275 P **Pb 02 47 32.5 +0.6**
CAFI Castiglion Fio 0.70 163 P **Pb 02 47 33.2 +0.9**
CAFI AML AML
comp=E,1770µm,0.4s
CAFI AML AML
comp=N,1385µm,0.4s
CAFI AML AML
comp=E,1770µm,0.4s
CAFI AML AML
comp=N,1385µm,0.4s
CAFI AML AML
comp=N,1385µm,0.4s
CAFI AML AML
comp=E,1770µm,0.4s
ATPI Pietralunga - 0.75 136 AML AML
comp=E,1027µm,0.7s
ATPI AML AML
comp=E,1028µm,0.7s
ATPI AML AML
comp=N,939µm,1.6s
ATPI AML AML
comp=E,1027µm,0.7s
ATPI AML AML
comp=N,942µm,1.6s
ATPI AML AML
comp=N,942µm,1.6s
ATPC Poggio Castell 0.76 132 AML AML
comp=E,1455µm,0.4s
ATPC AML AML
comp=E,547µm,1.1s
ATPC AML AML
comp=N,1355µm,1.6s
ATPC AML AML
comp=E,1455µm,0.4s
ATPC AML AML
comp=N,1320µm,0.4s
ATPC AML AML
comp=E,548µm,1.1s
ATPC AML AML
comp=N,1355µm,1.6s
ATPC AML AML
comp=N,1315µm,0.4s
ATPC AML AML
comp=E,1455µm,0.4s
ATPC AML AML
comp=E,548µm,1.1s
ATPC AML AML
comp=N,1315µm,0.4s
ATPC AML AML
comp=N,1355µm,1.6s
ATBU Serra di Buran 0.81 129 AML AML
comp=N,1565µm,0.4s
ATBU AML AML
comp=E,1955µm,0.4s
ATBU AML AML
comp=N,1560µm,0.4s
ATBU AML AML
comp=E,1960µm,0.4s
ATBU AML AML
comp=N,1565µm,0.4s
ATBU AML AML
comp=E,1960µm,0.4s
ATVA AVT- Monte Val 0.84 148 P **Pn 02 47 36.0 +0.4**
ATVA AML AML
comp=E,513µm,1.0s
ATVA AML AML
comp=N,493µm,1.1s
ATVA AML AML
comp=E,514µm,1.0s
ATVA AML AML
comp=N,493µm,1.1s
ATVA AML AML
comp=N,493µm,1.1s
ATVA AML AML
comp=E,514µm,1.0s
RAVA Ravarino 0.86 332 AML AML
comp=N,1880µm,0.7s
RAVA AML AML
comp=E,1955µm,1.1s
RAVA AML AML
comp=N,1880µm,0.7s
RAVA AML AML
comp=E,1955µm,1.1s
ATTE AVT- Monte Tez 0.93 148 AML AML
comp=N,886µm,0.4s
ATTE AML AML
comp=E,934µm,0.7s
ATTE AML AML
comp=N,886µm,0.4s
ATTE AML AML
comp=E,934µm,0.7s
ATTE AML AML
comp=N,886µm,0.4s
ATTE AML AML
comp=E,934µm,0.7s
T0813 Massa Finalese 0.95 339 P **Pn 02 47 38.6 +1.5**
T0813 AML AML
comp=E,236µm,0.8s
T0813 AML AML
comp=N,201µm,0.4s
T0813 AML AML
comp=E,1800µm,0.5s
T0813 AML AML
comp=N,1620µm,0.5s
T0813 AML AML
comp=E,236µm,0.8s
T0813 AML AML
comp=N,202µm,0.4s
T0813 AML AML
comp=E,1785µm,0.5s
T0813 AML AML
comp=N,1615µm,0.5s
T0813 AML AML
comp=E,1785µm,0.5s
T0813 AML AML
comp=E,236µm,0.8s
T0813 AML AML
comp=N,1615µm,0.5s
T0813 AML AML
comp=N,202µm,0.4s
ARVD Arcevia 1.04 118 AML AML
comp=E,325µm,0.5s
ARVD AML AML
comp=N,346µm,0.9s
ARVD AML AML
comp=E,325µm,0.5s
ARVD AML AML
comp=N,346µm,0.9s
ARVD AML AML
comp=E,325µm,0.5s
ARVD AML AML
comp=N,346µm,0.9s
SERM Sermide 1.05 345 AML AML
comp=E,734µm,0.8s
SERM AML AML
comp=E,733µm,0.8s
SERM AML AML
comp=N,684µm,0.6s
SERM AML AML
comp=E,734µm,0.8s
SERM AML AML
comp=N,684µm,0.6s
SERM AML AML
comp=N,684µm,0.6s
MGAB Montegabbione 1.13 164 P **Pb 02 47 39.5 -0.1**
MGAB AML AML
comp=E,1190µm,0.5s
MGAB AML AML
comp=N,1300µm,0.5s
MGAB AML AML
comp=E,1116µm,0.6s
MGAB AML AML
comp=N,1275µm,0.5s
MGAB AML AML
comp=E,1195µm,0.5s
MGAB AML AML
comp=N,1300µm,0.5s
MGAB AML AML
comp=E,1116µm,0.6s
MGAB AML AML
comp=N,1275µm,0.5s
MGAB AML AML
comp=E,1195µm,0.5s
MGAB AML AML
comp=E,1116µm,0.6s
MGAB AML AML
comp=N,1275µm,0.5s
MGAB AML AML
comp=N,1300µm,0.5s
SACS San Casciano d 1.16 172 AML AML
comp=N,652µm,0.5s
SACS AML AML
comp=E,578µm,0.9s
SACS AML AML
comp=N,645µm,0.6s
SACS AML AML
comp=E,553µm,0.9s
SACS AML AML
comp=E,578µm,0.9s
SACS AML AML
comp=N,645µm,0.6s
SACS AML AML
comp=E,552µm,0.9s
SACS AML AML
comp=N,652µm,0.5s
SACS AML AML
comp=E,552µm,0.9s
SACS AML AML
comp=E,578µm,0.9s
SACS AML AML
comp=N,652µm,0.5s
SACS AML AML
comp=N,645µm,0.6s
PGF Pioggiola 2.44 235 *e*P **Pb 02 48 00.8 -1.2**
PGF *e*Sn **Sn 02 48 26.9 -0.2**
comp=N,12nm,0.4s
GEPF Gemona 2.50 24 AML AML
comp=E,118µm,0.6s
GEPF AML AML
comp=E,118µm,0.6s
GEPF AML AML
comp=N,160µm,0.6s
GEPF AML AML
comp=N,160µm,0.6s
ABSI Aberstueckl 2.75 355 AML AML
comp=N,264µm,1.0s
ABSI AML AML
comp=E,334µm,0.6s
ABSI AML AML
comp=N,264µm,1.0s
ABSI AML AML
comp=E,334µm,0.6s
ABTA Abfaltersbach 2.81 12 *e*Pn **Pn 02 48 03.5 +0.6**
comp=E,3.3nm,0.4s
ABTA *i* Sn **Sn 02 48 39.8 +3.4**
comp=E,27nm,0.6s
RISI Rein 2.97 5 AML AML
comp=E,282µm,0.5s
RISI AML AML
comp=E,282µm,0.5s
RISI AML AML
comp=N,264µm,0.5s
RISI AML AML
comp=N,264µm,0.5s
DAVOX Davos/Dischmat 3.06 336 Pn **Pn 02 48 09.7 +3.3**
comp=N,2.9nm,0.3s,baz=164,slow=17,SNR=6.0
SBF Sospel 3.07 269 *e*Sn **Sn 02 48 41.8 -1.0**
comp=N,38nm,0.6s
FETA Feichten 3.10 348 *i* Pn **Pn 02 48 09.6 +2.7**
comp=N,5.3nm,0.3s
SQTA Sankt Quirin 3.24 354 *i* Pn **Pn 02 48 12.7 +3.9**
comp=N,12nm,0.3s
WATA Walderalm 3.34 359 *i* Pn **Pn 02 48 13.4 +3.2**
comp=N,5.1nm,0.3s
MOTA Moosalm 3.38 353 *i* Pn **Pn 02 48 14.1 +3.5**
comp=N,1.3nm,0.2s
DAVA Damuels 3.53 340 *i* Pn **Pn 02 48 16.2 +3.5**
comp=N,9.1nm,0.4s
DAVA *i* Sn **Sb 02 49 00.0 -3.2**
comp=N,12nm,0.4s
MBDF Montbardon 3.60 283 *e*P **Pn 02 48 16.9 +3.2**
MBDF *e*Sn **Sn 02 48 54.0 -1.9**
comp=N,29nm,0.8s
FRF La Foret Royal 3.67 265 *e*P **Pn 02 48 17.7 +3.1**
FRF *e*Sn **Sn 02 48 56.0 -1.5**
comp=N,6.0nm,0.4s
LPL La Plagne 3.84 295 *e*P **Pn 02 48 20.7 +3.6**
LPL *e*Sn **Sn 02 49 00.0 -2.0**
comp=N,14nm,0.7s
MOA Molln 4.25 24 *i* Pn **Pn 02 48 24.2 +1.6**
comp=N,1.5nm,0.2s
MOA *i* Sn **Sn 02 49 13.6 +1.7**
comp=N,9.1nm,0.4s
CABF La Chapelle 4.74 305 *e*P **Pn 02 48 32.5 +3.2**
GERES GERESS Array B 5.05 15 Pn **Pn 02 48 33.6 0.0**
comp=N,0.4nm,0.3s,baz=188,slow=14,SNR=5.5
GERES Sn **Sn 02 49 31.5 0.0**
comp=N,2.1nm,0.3s,baz=198,slow=24,SNR=10
HINF Hinteralfeld 5.10 320 *e*Pn **Pn 02 48 34.4 +0.2**
HINF *e*Sn **Sn 02 49 30.1 -2.5**
comp=N,11nm,0.5s
CDF Champ du Feu 5.37 327 *e*Pn **Pn 02 48 39.2 +1.2**
CDF *e*Sn **Sn 02 49 36.6 -2.9**
comp=N,16nm,0.6s
HAU Haudompre 5.47 319 *e*Pn **Pn 02 48 40.5 +1.2**
HAU *e*Sn **Sn 02 49 38.4 -3.4**
comp=N,20nm,0.4s
VRAC Vranov 6.30 31 Pn **Pn 02 48 49.6 -1.0**
comp=N,0.2nm,0.3s,baz=216,slow=8.7,SNR=1.4
VRAC Sn **Sn 02 49 59.3 -2.8**
comp=N,0.4nm,0.3s,baz=2.0,slow=14,SNR=2.1
LOR Lormes 6.39 304 *e*Pn **Pn 02 48 53.2 +1.3**
LOR *e*Sn **Sn 02 50 00.5 -3.9**
comp=N,14nm,0.6s
SSF Saint Saulge 6.51 301 *e*Pn **Pn 02 48 55.0 +1.4**
BRG Berggiesshubel 7.05 12 *e*(P) **Sn 02 50 19.7 -0.9**
comp=N,3.7nm,0.7s
TORD Torodi Ar. Bea 31.91 199 P **P 02 53 45.7 +2.4**
comp=N,0.3nm,0.6s,baz=23,slow=7.8,SNR=2.3
MKAR Makanchi Array 48.12 61 P **P 02 55 53.7 -3.7**
comp=N,0.3nm,0.8s,baz=274,slow=8.2,SNR=1.8

*ISCJB **30** 02:51:58.1±0.4, 18°.88N±0°.05×145°.7E±0°.1, h214km, mb3.7/23, Error ellipse: s-maj=16.4km s-min=7.6km az=179.2*
*IDC **30** 02:51:58.4±1.8, 18°.91N×145°.75E, h201km±18km, mb3.6/23, mb1 3.7/25, mb1mx3.6/74, mbtmp4.1/25, Error ellipse: s-maj=15.2km s-min=9.5km az=78.0*
ISC 30 02:51:59.7±0.6, 18.85N±0°.07×145.7E±0.1, h214km, n32, σ1§06/28, mb3.7/23, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.28**	**189**	P	**Pn**	**02 53 18.4**	**+0.3**
	9.7nm,0.3s,baz=0.0,slow=20,SNR=5.5						
GUMO				S	**S**	**02 54 17.2**	**-2.8**
	22nm,0.3s,baz=350,slow=23,SNR=6.7						
MJAR	**Matsushiro Arr**	**18.82**	**341**	P	**P**	**02 56 03.0**	**-0.3**
	0.9nm,0.3s,baz=169,slow=9.7,SNR=21						
H11S3	**WAKE ISLAND Hy**	**19.90**	**88**	T	T	03 17 17.8	
	baz=274,slow=74,SNR=5.6						
H11S1	**WAKE ISLAND Hy**	**19.91**	**88**	T	T	03 17 18.4	
	baz=274,slow=74,SNR=5.0						
H11S2	**WAKE ISLAND Hy**	**19.92**	**88**	T	T	03 17 19.2	
	baz=274,slow=74,SNR=6.3						
H11N1	**WAKE ISLAND Hy**	**20.04**	**84**	T	T	03 17 47.3	
	baz=266						
H11N2	**WAKE ISLAND Hy**	**20.04**	**84**	T	T	03 18 16.1	
	baz=266						
H11N3	**WAKE ISLAND Hy**	**20.05**	**84**	T	T	03 18 01.0	
	baz=266						
KSRS	**Korea Array**	**24.19**	**324**	P	**P**	**02 56 56.3**	**-0.3**
	2.2nm,0.9s,baz=151,slow=8.6,SNR=7.3						
USRK	**Ussuriysk Ar.**	**27.77**	**339**	P	**P**	**02 57 28.1**	**-0.4**
	2.8nm,0.7s,baz=139,slow=9.0,SNR=5.1						
PETK	**Petropavlovsk-**	**35.45**	**12**	P	**P**	**02 58 35.5**	**+0.1**
	5.8nm,0.9s,baz=194,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**40.12**	**197**	P	**P**	**02 59 16.1**	**+1.3**
	0.9nm,0.3s,baz=22,slow=8.5,SNR=41						
WRA				PcP	**PcP**	**03 01 14.4**	**-0.6**
	0.4nm,1.0s,baz=17,slow=3.5,SNR=2.5						
SONM	**Songino Array**	**43.02**	**321**	P	**P**	**02 59 38.1**	**-0.1**
	1.1nm,0.7s,baz=134,slow=9.7,SNR=5.9						
ASAR	**Alice Springs**	**43.79**	**196**	P	**P**	**02 59 45.2**	**+0.7**
	0.2nm,0.3s,baz=9.2,slow=7.5,SNR=3.9						
CMAR	**Chiang Mai Arr**	**44.19**	**277**	P	**P**	**02 59 49.6**	**+1.8**
	0.9nm,0.4s,baz=94,slow=7.3,SNR=4.1						
DZM	**Mont Dzumac**	**45.45**	**153**	P	**P**	**02 59 58.4**	**+0.7**
	4.6nm,0.9s,baz=299,slow=13,SNR=3.5						
ZALV	**Zalesovo Beam**	**57.89**	**322**	P	**P**	**03 01 28.9**	**-0.3**
	0.6nm,0.4s,baz=98,slow=7.4,SNR=2.5						
MKAR	**Makanchi Array**	**58.35**	**314**	P	**P**	**03 01 32.9**	**+0.4**
	1.4nm,0.7s,baz=103,slow=7.6,SNR=9.2						
KURBB	**Kurchatov Arra**	**61.20**	**318**	P	**P**	**03 01 51.3**	**-0.4**
	1.7nm,0.6s,baz=91,slow=7.5,SNR=11						
NRIK	**Noril'sk**	**61.47**	**340**	P	**P**	**03 01 53.0**	**-0.2**
	5.4nm,0.5s,baz=109,slow=9.3,SNR=4.8						
ILAR	**Eielson Array**	**63.52**	**26**	P	**P**	**03 02 06.3**	**-0.6**
	0.7nm,0.6s,baz=252,slow=5.9,SNR=12						
BVAR	**Borovoye Array**	**66.36**	**320**	P	**P**	**03 02 25.1**	**-0.3**
	3.1nm,0.5s,baz=94,slow=8.4,SNR=14						
INK	**Inuvik**	**69.25**	**23**	P	**P**	**03 02 42.8**	**-0.3**
	0.7nm,0.6s,baz=229,slow=5.6,SNR=5.5						
AKTO	**Aktyubinsk**	**74.25**	**318**	P	**P**	**03 03 12.5**	**-0.7**
	0.9nm,0.6s,baz=96,slow=6.9,SNR=4.8						
YKA	**Yellowknife Ar**	**77.87**	**28**	P	**P**	**03 03 34.1**	**+0.8**
	0.6nm,0.6s,baz=289,slow=5.2,SNR=7.7						
RES	**Resolute Bay**	**79.29**	**14**	P	**P**	**03 03 41.6**	**+0.8**
	0.8nm,0.5s,baz=218,slow=23,SNR=1.6						
ARCES	**ARCESS Array B**	**82.35**	**342**	P	**P**	**03 03 56.6**	**-0.6**
	1.7nm,0.7s,baz=60,slow=5.3,SNR=9.7						
NVAR	**Mina Array Bea**	**83.06**	**52**	P	**P**	**03 04 00.9**	**-0.9**
	0.6nm,0.5s,baz=274,slow=5.0,SNR=2.6						
FINES	**FINESS Array B**	**86.75**	**335**	P	**P**	**03 04 17.8**	**-1.5**
	2.0nm,0.4s,baz=66,slow=3.8,SNR=21						
PDAR	**Pinedale Array**	**87.73**	**45**	P	**P**	**03 04 24.6**	**-0.2**
	0.1nm,0.4s,baz=298,slow=3.9,SNR=2.3						
HFS	**Hagfors**	**92.24**	**338**	P	**P**	**03 04 43.2**	**-1.8**
	1.9nm,0.8s,baz=64,slow=3.4,SNR=5.1						
LPAZ	**La Paz**	**147.69**	**91**	PKPbc	**PKPdf**	**03 11 19.5**	**+2.0**
	0.9nm,0.7s,baz=288,slow=6.3,SNR=2.9						

*IDC **30** 02:58:16.5±8.1, 32°.46S×179°.62E, h334km±93km, mb2.9/2, mb1 3.2/3, mb1mx3.0/39, mbtmp3.7/3, Error ellipse: s-maj=105.7km s-min=49.1km az=1.0*
*WEL **30** 02:58:24.8±1.1, 33°.5×23°.17°.9E±4°.3, h320km±41km*
ISC 30 02:58:16.3±1.0, 32°.43S±0°.09×179°.5E±0°.2, h350km, n26, σ2§72/47, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.86**	**36**	P	**Pn**	**02 59 22.6**	**-1.4**
GLKZ				S	**S**	**03 00 15.3**	**-3.2**
MXZ	**Matakaoa Point**	**5.21**	**190**	P	**Pn**	**02 59 40.1**	**+1.9**
MXZ				S	**S**	**03 00 43.4**	**-1.1**
HAZ	**Te Kaha**	**5.50**	**194**	P	**Pn**	**02 59 45.4**	**+4.1**
HAZ				S	**S**	**03 00 50.0**	**-0.2**
PKGZ	**Pakihiroa**	**5.57**	**192**	P	**Pn**	**02 59 45.8**	**+3.6**
PKGZ				S	**S**	**03 00 50.8**	**-1.0**
PUZ	**Puketiti**	**5.72**	**190**	P	**Pn**	**02 59 48.3**	**+4.4**
PUZ				S	**S**	**03 00 53.5**	**-1.4**
RUGZ	**Raukumara Rang**	**5.72**	**195**	P	**Pn**	**02 59 47.5**	**+3.6**
RUGZ				S	**S**	**03 00 53.1**	**-1.9**
TWGZ	**Tauwhareparae**	**5.87**	**192**	P	**Pn**	**02 59 50.1**	**+4.5**
TWGZ				S	**S**	**03 00 58.8**	**+0.8**
MWZ	**Matawai**	**6.11**	**195**	P	**Pn**	**02 59 51.9**	**+3.6**
MWZ				S	**S**	**03 01 01.7**	**-1.2**
URZ	**Urewera**	**6.13**	**198**	P	**Pn**	**02 59 49.9**	**+1.3**
	1.6nm,0.3s,baz=54,slow=19,SNR=94						
URZ				S	**S**	**03 01 01.3**	**-2.1**
	2.1nm,0.3s,baz=77,slow=21,SNR=14						
URZ	**Urewera**	**6.13**	**198**	P	**Pn**	**02 59 50.2**	**+1.7**
URZ				S	**S**	**03 01 00.6**	**-2.7**
MUGZ	**Murupara**	**6.43**	**199**	P	**Pn**	**02 59 55.2**	**+3.2**
RTZ	**Ruatahuna**	**6.50**	**198**	P	**Pn**	**02 59 55.3**	**+2.4**
RTZ				S	**S**	**03 01 09.0**	**-2.3**
KNZ	**Kokohu**	**6.74**	**192**	P	**Pn**	**02 59 58.3**	**+2.7**
RAHZ	**Arahi**	**6.76**	**196**	P	**Pn**	**02 59 58.5**	**+2.7**
RAHZ				S	**S**	**03 01 14.2**	**-2.6**
ARHZ	**Aropaoanui**	**7.11**	**196**	P	**Pn**	**03 00 02.6**	**+2.6**
ARHZ				S	**S**	**03 01 22.6**	**-1.6**
BKZ	**Black Stump Fm**	**7.15**	**199**	P	**Pn**	**03 00 02.8**	**+2.4**
BKZ				S	**S**	**03 01 22.7**	**-2.3**
KWHZ	**Kaweka Forest**	**7.41**	**199**	P	**Pn**	**03 00 05.8**	**+2.4**
KWHZ				S	**S**	**03 01 29.7**	**-1.0**
BHHZ	**Black Hill Sta**	**7.57**	**201**	P	**Pn**	**03 00 07.2**	**+1.8**
BHHZ				S	**S**	**03 01 31.8**	**-2.4**
KAHZ	**Kahuranaki**	**7.65**	**195**	P	**Pn**	**03 00 09.0**	**+2.7**
KAHZ				S	**S**	**03 01 35.4**	**-0.4**
TSZ	**Takapari Road**	**8.13**	**200**	P	**Pn**	**03 00 12.7**	**+0.8**
TSZ				S	**S**	**03 01 42.2**	**-4.0**
BFZ	**Birch Farm**	**8.64**	**197**	P	**Pn**	**03 00 18.9**	**+1.0**
BFZ				S	**S**	**03 01 52.6**	**-4.6**
MRZ	**Mangatainoka R**	**8.80**	**200**	P	**Pn**	**03 00 19.2**	**-0.6**
MRZ				S	**S**	**03 01 55.0**	**-5.8**
KIW	**Kapiti Island**	**9.18**	**202**	P	**Pn**	**03 00 24.4**	**0.0**
KIW				S	**S**	**03 02 05.1**	**-4.2**
ASAR	**Alice Springs**	**40.92**	**270**	P	**P**	**03 05 28.5**	**+2.4**
	0.2nm,0.3s,baz=110,slow=7.6,SNR=5.0						
WRA	**Warramunga Arr**	**42.10**	**276**	P	**P**	**03 05 37.6**	**+2.1**
	0.5nm,0.3s,baz=113,slow=8.0,SNR=20						
FINES	**FINESS Array B**	**146.25**	**337**	PKPbc	**PKPab**	**03 17 16.2**	**-0.8**
	11nm,1.2s,baz=50,slow=9.2,SNR=2.1						

*IDC **30** 03:03:12.1±1.3, 52°.81N×132°.50W, h0km, mb3.9/5, mb1 3.8/11, mb1mx3.7/59, mbtmp3.7/11, ML3.2/6, MS3.2/6, Ms1 3.2/6, ms1mx2.8/44, Error ellipse: s-maj=20.7km s-min=10.1km az=51.0*
*ISCJB **30** 03:03:13.9±0.5, 53°.03N±0°.03×132°.40W±0°.07, h24km±2km, mb3.9/6, MS3.3/3, Error ellipse: s-maj=9.0km s-min=2.7km az=142.6*
*PGC **30** 03:03:13.8±0.0, 53°.01N×132°.52W, h22km, ML4.1/16, Mw4.5, 53km Wsw of Sandspit, Bc Haida Gwaii Region*
*NEIC **30** 03:03:13.8±0.0, 53°.01N×132°.52W, h18km, mb4.1/6, MW4.5(OTT), After OTT.*
ISC 30 03:03:14.2±0.9, 53°.02N±0°.03×132°.45W±0°.04, h14km±6km, n79, σ1§87/113, mb4.1/6, MS3.2/3, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DIB	**Dawson Inlet,**	**0.19**	**354**	*e*Pg	**Pb**	**03 03 18.3**	**-1.2**
DIB				*e*Sg	**Sg**	**03 03 21.9**	**+0.4**
DIB	**Dawson Inlet,**	**0.19**	**354**	P	**Pb**	**03 03 18.9**	**-0.6**

DIB S **Sg** **03 03 21.9 +0.4**
H02S1 DAWSON INLET T 0.19 354 Pg **Pb** **03 03 18.9 -0.6**
H02S1 Lg Lg 03 03 22.3
HG1B Mitchell Dam 0.21 113 P **Pb** **03 03 19.7 -0.1**
HG1B S **Sb** **03 03 23.8 +0.3**
H02N1 VAN INLET T-PH 0.24 346 Pg **Pb** **03 03 19.6 -0.9**
H02N1 Lg Lg 03 03 23.2
VIB Van Inlet 0.24 347 P **Pb** **03 03 19.5 -0.9**
VIB S **Sg** **03 03 23.0 -0.1**
VIB Van Inlet 0.24 347 P **Pb** **03 03 19.5 -0.9**
VIB S **Sg** **03 03 23.0 -0.1**
MOBC Moresby Island 0.32 66 P **Pb** **03 03 21.6 -0.1**
MOBC S **Sb** **03 03 26.7 0.0**
MOBC Moresby Island 0.32 66 P **Pb** **03 03 21.6 -0.1**
MOBC S **Sb** **03 03 26.7 0.0**
BNB Barry Inlet 0.61 136 P **Pb** **03 03 26.1 -0.6**
BNB S **Sb** **03 03 34.9 -0.3**
BNB Barry Inlet 0.61 136 P **Pb** **03 03 26.1 -0.6**
BNB S **Sb** **03 03 34.9 -0.3**
HG3B Hotspring 0.75 125 P **Pg** **03 03 28.3 -0.5**
HG3B S **Sg** **03 03 39.0 +0.3**
NDB Naden 0.99 343 P **Pg** **03 03 31.3 -1.9**
NDB S **Sg** **03 03 43.9 -2.2**
NDB Naden 0.99 343 P **Pg** **03 03 31.3 -1.9**
NDB S **Sg** **03 03 43.9 -2.2**
MASB Masset 1.03 14 P **Pg** **03 03 33.4 -0.7**
MASB Masset 1.03 14 P **Pg** **03 03 33.4 -0.7**
HG4B Hotspring 1.05 133 P **Pb** **03 03 32.8 -1.4**
HG4B S **Sb** **03 03 47.1 -0.7**
RUBB Prince Rupert 1.85 44 Pn **Pn** **03 03 44.7 -0.8**
RUBB Pg **Pb** **03 03 48.1 +0.3**
RUBB Sg **Sb** **03 04 12.4 +1.6**
RUBB Prince Rupert 1.85 44 Pn **Pn** **03 03 44.7 -0.8**
RUBB Pg **Pb** **03 03 48.1 +0.3**
RUBB Sg **Sb** **03 04 12.4 +1.6**
CRAG Craig 2.49 351 *e*Pn **Pn** **03 03 54.5 +0.3**
CRAG *e*Sn **Sb** **03 04 30.5 +1.3**
BBB Bella Bella 2.77 106 Pn **Pn** **03 03 56.9 -1.2**
5.2nm,0.3s,baz=280,slow=9.0,SNR=50
BBB Sn **Sn** **03 04 29.3 -2.0**
56nm,0.3s,baz=175,slow=22,SNR=18
BBB Bella Bella 2.77 106 *e*Pn **Pn** **03 03 56.9 -1.2**
BBB *e*Sn **Sn** **03 04 29.3 -2.0**
BBB Sg **Sb** **03 04 38.5 +1.3**
BBB Bella Bella 2.77 106 Pn **Pn** **03 03 56.7 -1.5**
BBB Sn **Sn** **03 04 29.1 -2.2**
BBB Sg **Sb** **03 04 38.5 +1.3**
WRAK Wrangell Islan 3.41 1 *e*Pn **Pn** **03 04 07.2 +0.3**
WRAK *e*Sn **Sn** **03 04 47.1 0.0**
WRAK *e*Sg **Sg** **03 05 02.7 -0.9**
BCBC Bella Coola 3.52 98 Sn **Sn** **03 04 50.3 +0.4**
PHC Port Hardy 3.87 125 Pn **Pn** **03 04 11.4 -1.9**
PHC Sn **Sn** **03 04 55.4 -3.2**
PHC Port Hardy 3.87 125 Pn **Pn** **03 04 11.4 -1.9**
PHC Sn **Sn** **03 04 55.4 -3.2**
PACB Port Alice, BC 4.02 128 Pn **Pn** **03 04 13.7 -1.6**
PACB Sn **Sn** **03 04 58.8 -3.4**
TLCB Telegraph Cove 4.27 123 Pn **Pn** **03 04 17.6 -1.1**
TLCB Sn **Sn** **03 05 05.9 -2.4**
SIT Sitka 4.38 339 *e*Pn **Pn** **03 04 19.4 -0.7**
SIT *e*Sn **Sn** **03 05 11.9 +1.0**
WOSB Woss 4.65 126 Pn **Pn** **03 04 23.5 -0.5**
WOSB Woss 4.65 126 Pn **Pn** **03 04 23.5 -0.5**
NCRB Newcastle Ridg 4.76 121 Pn **Pn** **03 04 25.7 +0.1**
NCRB Sn **Sn** **03 05 19.1 -1.5**
NCRB Newcastle Ridg 4.76 121 Pn **Pn** **03 04 25.7 +0.1**
NCRB Sn **Sn** **03 05 19.1 -1.5**
FSB Fort Saint Jam 5.04 70 Pn **Pn** **03 04 31.5 +2.2**
FSB Pg **Pb** **03 04 44.9 +2.8**
FSB Sg **Sg** **03 05 50.8 -5.0**
SPLB Strathcona Par 5.28 124 Pn **Pn** **03 04 31.9 -0.7**
SPLB Sn **Sn** **03 05 33.2 +0.1**
CBB Campbell River 5.33 121 Pn **Pn** **03 04 32.5 -0.9**
CBB Sn **Sn** **03 05 33.3 -1.3**
MWAB Mount Washingt 5.55 123 Sn **Sn** **03 05 40.5 +0.6**
DLBC Dease Lake 5.60 13 Pn **Pn** **03 04 39.6 +2.5**
0.6nm,0.3s,baz=183,slow=11,SNR=7.7
DLBC Sn **Sn** **03 05 46.6 +5.4**
1.1nm,0.3s,baz=195,slow=14,SNR=4.1
DLBC LR LR 03 06 22.5
comp=Z,95nm,18.3s,baz=60,slow=33
DLBC Dease Lake 5.60 13 *e*Pn **Pn** **03 04 39.1 +2.0**
DLBC *e*Sn **Sn** **03 05 40.5 -0.8**
DLBC *e*Sg **Sg** **03 06 07.1 -6.8**
DLBC Dease Lake 5.60 13 Pn **Pn** **03 04 39.3 +2.2**
DLBC Pg **Pg** **03 04 58.4 -3.0**
DLBC Sg **Sg** **03 06 07.9 -6.0**
BTB Buttle Lake 5.62 126 Pn **Pn** **03 04 39.0 +1.7**
BTB Sn **Sn** **03 05 42.5 +0.8**
BESE Bessie Mountai 5.74 347 *e*Pn **Pn** **03 04 38.4 -0.6**
BESE *e*Sg **Sg** **03 06 14.6 -3.6**
TXB Texada 6.02 120 Pn **Pn** **03 04 43.0 +0.2**
WHY Whitehorse 7.78 351 *e*Pn **Pn** **03 05 07.5 +0.5**
WHY Whitehorse 7.78 351 Pg **Pn** **03 05 07.3 +0.2**
WHY Sg Sg 03 07 17.4 -6.1
FNBB Fort Nelson 7.91 38 Pn **Pn** **03 05 08.5 -0.3**
NEW Newport 10.83 110 Pn **Pn** **03 05 48.5 -0.2**
0.1nm,0.3s,baz=276,slow=18,SNR=2.1
NEW Lg Lg 03 08 57.3
0.2nm,0.3s,baz=245,slow=19,SNR=4.6
YBH Yreka Blue Hor 13.06 146 LR LR 03 10 42.1
comp=Z,94nm,19.6s,baz=338,slow=35
YKA Yellowknife Ar 13.40 38 Pn **Pn** **03 06 23.6 -0.1**
0.1nm,0.3s,baz=225,slow=12,SNR=5.1
YKA Lg Lg 03 10 18.7
0.1nm,0.3s,baz=224,slow=28,SNR=4.0
YKB5 Yellowknife Ar 13.40 38 *e*Pn **Pn** **03 06 23.6 -0.1**
ILAR Eielson Array 13.90 334 Pn **Pn** **03 06 33.3 +2.8**
0.0nm,0.3s,baz=190,slow=5.8,SNR=3.0
ILAR LR LR 03 11 49.4
comp=Z,121nm,21.2s,baz=168,slow=37
ILB Eielson Array 13.90 334 *e*Pn **Pn** **03 06 33.3 +2.8**
MLY Manley 15.20 329 *e*Pn **Pn** **03 06 49.6 +1.3**
15nm,1.5s
INK Inuvik 15.35 358 Pn **P** **03 06 52.3 -2.5**
0.0nm,0.3s,baz=174,slow=7.8,SNR=3.3
INK Lg Lg 03 11 27.9
0.0nm,0.3s,baz=75,slow=33,SNR=4.7
GCMT Greycliff 16.45 107 *e*Pn **P** **03 07 05.9 -1.4**
IM3 Indian Mountai 16.78 329 *e*Pn **P** **03 07 09.6 -1.0**
PD31 Pinedale Array 18.38 115 *e*P **Pn** **03 07 30.5 +1.8**
PDAR Pinedale Array 18.38 115 P **Pn** **03 07 34.0 +5.3**
0.0nm,0.3s,baz=305,slow=8.8,SNR=5.5
ANM Nome 20.33 317 *e*P Pn 03 07 51.9 +0.2
4.9nm,0.9s
RSSD Black Hills 20.68 104 *e*P Pn 03 07 56.0 -0.2
4.3nm,0.9s
O20A White River Ci 20.92 118 *e*P Pn 03 07 58.5 -0.4
11nm,0.9s
ULM Lac du Bonnet 22.71 82 P **P** **03 08 15.8 +0.4**
4.8nm,1.1s,baz=82,slow=3.0,SNR=3.2
ECSD EROS Data Cent 25.31 97 *e*P **P** **03 08 42.0 +1.7**
8.1nm,1.1s
RES Resolute Bay 26.43 21 P **P** **03 08 53.2 +3.2**
1.6nm,0.9s,baz=228,slow=14,SNR=2.2
RES Resolute Bay 26.43 21 *e*P **P** **03 08 51.4 +1.4**
33nm,1.9s
WMOK Wichita Mounta 29.99 114 *e*P **P** **03 09 23.2 +1.0**
LTX Lajitas 31.70 127 *e*P **P** **03 09 37.6 +0.2**
TXAR Lajitas Array 31.70 127 P **P** **03 09 37.6 +0.2**
0.6nm,0.9s,baz=320,slow=6.8,SNR=5.8
SCHQ Schefferville 37.41 60 LR LR 03 26 28.2
comp=Z,92nm,19.0s,baz=53,slow=37
H11N2 WAKE ISLAND Hy 56.88 259 T T 04 14 41.2
baz=39,slow=76,SNR=989
H11N3 WAKE ISLAND Hy 56.89 259 T T 04 14 38.3
baz=39,slow=76,SNR=736
H11N1 WAKE ISLAND Hy 56.90 259 T T 04 14 39.4
baz=39,slow=76,SNR=852
NB200 NORSAR Array S 62.66 19 *e*P **P** **03 13 38.5 +0.7**
NOA NORSAR Array B 62.66 19 P **P** **03 13 38.5 +0.7**
1.0nm,0.8s,baz=339,slow=6.7,SNR=3.1
NOA LR LR 03 42 24.3
comp=Z,15nm,18.3s,baz=135,slow=37
FINES FINESS Array B 64.61 11 LR LR 03 42 38.8
comp=Z,15nm,20.1s,baz=206,slow=36
CLL Collm 72.06 22 *e*P **P** **03 14 36.0 -1.4**
MK32 Makanchi Array 76.24 336 *e*P **P** **03 15 02.1 +0.2**
MKAR Makanchi Array 76.24 336 P **P** **03 15 02.1 +0.2**
2.1nm,0.8s,baz=18,slow=4.3,SNR=11

*ROM **30** 03:03:44.4±0.1,39°.922N±0°.006×16°.013E±0°.008, h8km,ML3.2/23*
*ISCJB **30** 03:03:45.1±0.3,39°.91N±0°.02×15°.99E±0°.03,h12km±2km, mb3.8/5,Error ellipse: s-maj=3.8km s-min=3.0km az=6.1*
*BEO **30** 03:03:45.4±0.7,40°.08N×15°.64E,h5km,ML3.5/12*
*PDG **30** 03:03:46.4±0.5,39°.97N×15°.98E,h12km±1km,ML3.2/4, Error ellipse: s-maj=0.9km s-min=1.5km az=0.0*
*IDC **30** 03:03:46.7±1.3,40°.08N×16°.01E,h0km,mb3.6/6, mb1 3.7/11,mb1mx3.5/56,mbtmp3.6/11,ML2.9/5,MS2.6/1, Ms1 2.6/1,ms1mx2.0/53,Error ellipse: s-maj=22.1km s-min=14.6km az=65.0*

ISC 30 03:03:45.8±1.1,39°.93N±0°.02×16°.00E±0°.02,h2km±8km, n73,σ1s48/96,mb4.0/5,8C-8D,Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUC	**Castrocucco**	**0.16**	**295**	P	**Pg**	**03 03 48.5**	**-0.3**
CUC				S	**Sg**	**03 03 51.7**	**+0.8**
CUC				AML	AML		
	comp=E,25200µm,0.6s						
CUC				AML	AML		
	comp=N,19850µm,0.5s						
CUC				AML	AML		
	comp=E,25200µm,0.6s						
CUC				AML	AML		
	comp=N,19850µm,0.5s						
CUC				AML	AML		
	comp=N,19850µm,0.5s						
CUC				AML	AML		
	comp=E,25200µm,0.6s						
T0702	**Acquaformosa (**	**0.21**	**163**	P	**Pg**	**03 03 49.5**	**-0.4**
T0702				S	**Sg**	**03 03 52.8**	**+0.1**
T0702				AML	AML		
	comp=E,13850µm,0.5s						
T0702				AML	AML		
	comp=N,11750µm,0.2s						
SALB	**San Lorenzo Be**	**0.27**	**100**	P	**Pg**	**03 03 50.0**	**-0.9**
SALB				S	**Sg**	**03 03 54.6**	**+0.1**
SALB				AML	AML		
	comp=E,12700µm,1.6s						
SALB				AML	AML		
	comp=N,8715µm,0.4s						
SALB				AML	AML		
	comp=E,13300µm,1.6s						
SALB				AML	AML		
	comp=N,8715µm,0.6s						
SALB				AML	AML		
	comp=E,12700µm,1.6s						
SALB				AML	AML		
	comp=N,8695µm,0.4s						
SALB				AML	AML		
	comp=E,13300µm,1.6s						
SALB				AML	AML		
	comp=N,8715µm,0.6s						
SALB				AML	AML		
	comp=N,8695µm,0.4s						
SALB				AML	AML		
	comp=E,12700µm,1.6s						
SALB				AML	AML		
	comp=E,13300µm,1.6s						
SALB				AML	AML		
	comp=N,8715µm,0.6s						
ORI	**Oriolo Calabro**	**0.37**	**68**	P	**Pg**	**03 03 52.3**	**-0.6**
ORI				AML	AML		
	comp=E,11950µm,0.3s						
ORI				AML	AML		
	comp=N,10800µm,0.5s						
ORI				AML	AML		
	comp=N,10800µm,0.5s						
ORI				AML	AML		
	comp=E,11950µm,0.3s						
MGR	**Morigerati**	**0.40**	**302**	P	**Pg**	**03 03 52.8**	**-0.7**
MGR				S	**Sg**	**03 03 59.8**	**+1.0**
MGR				AML	AML		
	comp=E,5610µm,0.4s						
MGR				AML	AML		
	comp=N,6085µm,0.5s						
MGR				AML	AML		
	comp=E,6240µm,0.4s						
MGR				AML	AML		
	comp=N,5410µm,0.5s						
MGR				AML	AML		
	comp=E,5610µm,0.4s						
MGR				AML	AML		
	comp=N,6085µm,0.5s						
MGR				AML	AML		
	comp=E,6240µm,0.4s						
MGR				AML	AML		
	comp=N,5410µm,0.5s						
MGR				AML	AML		
	comp=N,5410µm,0.5s						
MGR				AML	AML		
	comp=E,5610µm,0.4s						
MGR				AML	AML		
	comp=E,6240µm,0.4s						
MGR				AML	AML		
	comp=N,6085µm,0.5s						
MCEL	**Monticello**	**0.43**	**339**	P	**Pg**	**03 03 53.4**	**-0.6**
MCEL				S	**Sb**	**03 04 01.1**	**-1.9**
MCEL				AML	AML		
	comp=E,3505µm,1.0s						
MCEL				AML	AML		
	comp=N,3540µm,1.1s						
MCEL				AML	AML		
	comp=E,3535µm,1.0s						
MCEL				AML	AML		
	comp=N,3615µm,1.1s						
MCEL				AML	AML		
	comp=E,3510µm,1.0s						
MCEL				AML	AML		
	comp=N,3540µm,1.1s						
MCEL				AML	AML		
	comp=E,3535µm,1.0s						
MCEL				AML	AML		
	comp=N,3615µm,1.1s						
MCEL				AML	AML		
	comp=E,3510µm,1.0s						
MCEL				AML	AML		
	comp=N,3615µm,1.1s						
MCEL				AML	AML		
	comp=N,3540µm,1.1s						
MCEL				AML	AML		
	comp=E,3535µm,1.0s						
BULG	**Bulgheria - Ca**	**0.50**	**288**	P	**Pg**	**03 03 54.8**	**-0.6**
BULG				AML	AML		
	comp=E,2915µm,0.5s						
BULG				AML	AML		
	comp=N,5565µm,0.4s						
BULG				AML	AML		
	comp=E,2995µm,1.1s						
BULG				AML	AML		
	comp=N,5730µm,0.4s						
BULG				AML	AML		
	comp=E,2915µm,0.5s						
BULG				AML	AML		
	comp=N,5570µm,0.4s						
BULG				AML	AML		
	comp=E,2995µm,1.1s						
BULG				AML	AML		
	comp=N,5730µm,0.4s						
BULG				AML	AML		
	comp=N,5570µm,0.4s						
BULG				AML	AML		
	comp=E,2995µm,1.1s						
BULG				AML	AML		
	comp=E,2915µm,0.5s						
BULG				AML	AML		
	comp=N,5730µm,0.4s						
SLCN	**Sala Consilina**	**0.54**	**329**	P	**Pg**	**03 03 55.9**	**-0.3**
SLCN				AML	AML		
	comp=E,5925µm,0.5s						
SLCN				AML	AML		
	comp=N,6360µm,0.5s						
SLCN				AML	AML		
	comp=E,6135µm,0.5s						
SLCN				AML	AML		
	comp=N,6350µm,0.5s						
SLCN				AML	AML		
	comp=E,5930µm,0.5s						
SLCN				AML	AML		
	comp=N,6360µm,0.4s						
SLCN				AML	AML		
	comp=E,6135µm,0.5s						
SLCN				AML	AML		
	comp=N,6350µm,0.5s						
SLCN				AML	AML		
	comp=E,5930µm,0.5s						
SLCN				AML	AML		
	comp=N,6360µm,0.4s						
SLCN				AML	AML		
	comp=E,6135µm,0.5s						
SLCN				AML	AML		
	comp=N,6350µm,0.5s						
SLCN				AML	AML		
	comp=E,5930µm,0.5s						
SLCN				AML	AML		
	comp=N,6360µm,0.4s						
SLCN				AML	AML		
	comp=E,6135µm,0.5s						
SLCN				AML	AML		
	comp=N,6350µm,0.5s						
SLCN				AML	AML		
	comp=E,5930µm,0.5s						
SLCN				AML	AML		
	comp=N,6360µm,0.4s						
SLCN				AML	AML		
	comp=E,6135µm,0.5s						
SLCN				AML	AML		
	comp=N,6350µm,0.5s						
SLCN				AML	AML		
	comp=E,5930µm,0.5s						
SLCN				AML	AML		
	comp=N,6360µm,0.4s						
SLCN				AML	AML		
	comp=E,6135µm,0.5s						
SLCN				AML	AML		
	comp=N,6350µm,0.5s						
SLCN				AML	AML		
	comp=E,5930µm,0.5s						
SLCN				AML	AML		
	comp=N,6360µm,0.4s						
SLCN				AML	AML		
	comp=E,6135µm,0.5s						
SLCN				AML	AML		
	comp=N,6350µm,0.5s						
SLCN				AML	AML		
	comp=E,5930µm,0.5s						
SLCN				AML	AML		
	comp=N,6360µm,0.4s						
SLCN				AML	AML		
	comp=E,6135µm,0.5s						
SLCN				AML	AML		
	comp=N,6350µm,0.5s						
SLCN				AML	AML		
	comp=E,5930µm,0.5s						
SLCN				AML	AML		
	comp=N,6360µm,0.4s						
SLCN				AML	AML		
	comp=E,6135µm,0.5s						
SLCN				AML	AML		
	comp=N,6350µm,0.5s						
SLCN				AML	AML		
	comp=E,5930µm,0.5s						
SLCN				AML	AML		
	comp=N,6360µm,0.4s						
SLCN				AML	AML		
	comp=E,6135µm,0.5s						
SLCN				AML	AML		
	comp=N,6350µm,0.5s						
SLCN				AML	AML		
	comp=E,5930µm,0.5s						
CELI	**Celico**	**0.65**	**143**	P	**Pg**	**03 03 57.5**	**-0.8**
CELI				AML	AML		
	comp=E,1815µm,0.5s						
CELI				AML	AML		
	comp=N,2800µm,0.4s						
CELI				AML	AML		
	comp=E,4440µm,0.4s						
CELI				AML	AML		
	comp=N,6995µm,0.4s						
CELI				AML	AML		
	comp=N,6995µm,0.4s						
CELI				AML	AML		
	comp=E,4440µm,0.4s						
CELI				AML	AML		
	comp=E,1815µm,0.5s						
CELI				AML	AML		
	comp=N,2800µm,0.4s						
CAR1	**CAROLEI**	**0.69**	**166**	P	**Pg**	**03 03 58.0**	**-1.0**
CAR1				AML	AML		
	comp=E,5665µm,0.7s						
CAR1				AML	AML		
	comp=N,4430µm,0.4s						
CAR1				AML	AML		
	comp=E,6405µm,0.7s						
CAR1				AML	AML		
	comp=N,3660µm,0.8s						
CAR1				AML	AML		
	comp=N,4430µm,0.4s						
CAR1				AML	AML		
	comp=N,3660µm,0.8s						
CAR1				AML	AML		
	comp=E,6405µm,0.7s						
CAR1				AML	AML		
	comp=E,5665µm,0.7s						
MIGL	**Miglionico**	**0.76**	**26**	P	**Pg**	**03 03 59.6**	**-0.7**
MIGL				AML	AML		
	comp=E,4230µm,0.5s						
MIGL				AML	AML		
	comp=N,3505µm,0.6s						
MIGL				AML	AML		
	comp=E,4230µm,0.5s						
MIGL				AML	AML		
	comp=N,3505µm,0.6s						
CDRU	**Civita di Ruta**	**0.78**	**317**	P	**Pg**	**03 03 59.8**	**-0.8**
CDRU				AML	AML		
	comp=E,1570µm,0.7s						
CDRU				AML	AML		
	comp=N,992µm,0.5s						
CDRU				AML	AML		
	comp=E,1570µm,0.7s						
CDRU				AML	AML		
	comp=N,992µm,0.5s						
CDRU				AML	AML		
	comp=E,1570µm,0.7s						
CDRU				AML	AML		
	comp=N,992µm,0.5s						
MATE	**Matera**	**0.90**	**36**	⇑*i*P	**Pg**	**03 04 01.7**	**-1.3**
MATE	**Matera**	**0.90**	**36**	S	**Sn**	**03 04 15.9**	**-3.1**
MATE	**Matera**	**0.90**	**36**	P	**Pg**	**03 04 01.8**	**-1.2**
MATE				AML	AML		
	comp=E,2295µm,0.7s						
MATE				AML	AML		
	comp=N,1665µm,0.5s						
MATE				AML	AML		
	comp=N,1665µm,0.5s						
MATE				AML	AML		
	comp=E,2295µm,0.7s						
LTRZ	**Laterza**	**0.92**	**43**	P	**Pg**	**03 04 02.0**	**-1.4**
LTRZ				AML	AML		
	comp=E,1400µm,0.5s						
LTRZ				AML	AML		
	comp=N,1635µm,0.4s						
LTRZ				AML	AML		
	comp=E,1400µm,0.5s						
LTRZ				AML	AML		
	comp=N,1635µm,0.4s						
TIP	**Timpagrande**	**0.95**	**142**	⇑*i*P	**Pg**	**03 04 03.9**	**0.0**
TIP	**Timpagrande**	**0.95**	**142**	AML	AML		
	comp=N,453µm,1.2s						
TIP				AML	AML		
	comp=E,483µm,0.6s						
TIP				AML	AML		
	comp=N,357µm,1.2s						
TIP				AML	AML		
	comp=E,582µm,0.6s						
TIP				AML	AML		
	comp=N,453µm,1.2s						
TIP				AML	AML		
	comp=N,357µm,1.2s						
TIP				AML	AML		
	comp=E,582µm,0.6s						
TIP				AML	AML		
	comp=E,483µm,0.6s						
SERS	**Sersale**	**1.04**	**149**	P	**Pg**	**03 04 04.8**	**-0.8**
SERS				AML	AML		
	comp=E,672µm,0.7s						
SERS				AML	AML		
	comp=N,728µm,1.3s						
SERS				AML	AML		
	comp=E,808µm,1.3s						
SERS				AML	AML		
	comp=N,718µm,0.5s						
SERS				AML	AML		
	comp=E,672µm,0.7s						
SERS				AML	AML		
	comp=N,728µm,1.3s						
SERS				AML	AML		
	comp=E,808µm,1.3s						
SERS				AML	AML		
	comp=N,718µm,0.5s						
SG1	**Sgolgore (BA)**	**1.05**	**29**	*e*Pg	**Pn**	**03 04 06.5**	**-1.0**
SG1				Sg	**Sn**	**03 04 24.9**	**+2.1**
AMUR	**Altamura**	**1.08**	**25**	AML	AML		
	comp=N,992µm,0.9s						
AMUR				AML	AML		
	comp=E,801µm,1.6s						
AMUR				AML	AML		
	comp=N,992µm,0.9s						
AMUR				AML	AML		
	comp=E,801µm,1.6s						
MASS	**Massafra**	**1.12**	**51**	*e*Pg	**Pn**	**03 04 07.5**	**-1.0**
GRI	**Girifalco**	**1.15**	**163**	P	**Pb**	**03 04 06.7**	**-1.7**
GRI				AML	AML		
	comp=E,724µm,1.0s						
GRI				AML	AML		
	comp=N,560µm,0.9s						
GRI				AML	AML		
	comp=E,724µm,1.0s						
GRI				AML	AML		
	comp=N,560µm,0.9s						
TAR1	**Taranto**	**1.15**	**58**	*e*Pg	**Pg**	**03 04 06.9**	**-0.9**
NOCI	**Noci**	**1.18**	**43**	P	**Pb**	**03 04 07.2**	**-1.8**
NOCI				AML	AML		
	comp=E,803µm,1.6s						
NOCI				AML	AML		
	comp=N,875µm,0.6s						
NOCI				AML	AML		
	comp=N,875µm,0.6s						
NOCI				AML	AML		
	comp=E,803µm,1.6s						
JOPP	**Joppolo**	**1.32**	**184**	P	**Pn**	**03 04 09.0**	**-2.3**
JOPP				AML	AML		
	comp=E,432µm,0.9s						
JOPP				AML	AML		
	comp=N,584µm,0.7s						
JOPP				AML	AML		
	comp=N,584µm,0.7s						
JOPP				AML	AML		
	comp=E,432µm,0.9s						
BAI	**Bari**	**1.36**	**29**	*e*Pg	**Pg**	**03 04 11.9**	**+0.1**
BAI				Sg	**Sg**	**03 04 33.4**	**+4.1**
FASA	**Fasano**	**1.36**	**49**	*e*Pg	**Pg**	**03 04 11.2**	**-0.7**
FASA				Sg	**Sg**	**03 04 33.2**	**+3.6**
PLAC	**Placanica**	**1.51**	**167**	P	**Pn**	**03 04 12.0**	**-1.9**
PLAC				AML	AML		
	comp=E,372µm,0.5s						
PLAC				AML	AML		
	comp=N,518µm,1.0s						
PLAC				AML	AML		
	comp=E,372µm,0.5s						

PLAC AML AML
comp=N,518μm,1.0s
MSRU Castanea 1.71 193 P **Pn 03 04 13.6 -2.9**
MSRU AML AML
comp=E,748μm,1.2s
MSRU AML AML
comp=N,502μm,0.8s
MSRU AML AML
comp=E,748μm,1.2s
MSRU AML AML
comp=N,502μm,0.8s
SOI Samo 1.85 179 P **Pn 03 04 16.2 -2.3**
SOI AML AML
comp=E,270μm,0.7s
SOI AML AML
comp=N,236μm,0.6s
SOI AML AML
comp=N,236μm,0.6s
SOI AML AML
comp=E,270μm,0.7s
MPAZ Palizzi 1.97 180 P **Pn 03 04 18.0 -2.2**
MPAZ AML AML
comp=E,256μm,1.6s
MPAZ AML AML
comp=N,279μm,1.6s
MPAZ AML AML
comp=N,279μm,1.6s
MPAZ AML AML
comp=E,256μm,1.6s
VAE Valguarnera 2.74 207 Pn **Pb 03 04 35.1 -0.4**
comp=E,1.0nm,0.3s,baz=39,slow=16,SNR=3.0
STON Ston 3.21 23 *e*Pn **Pn 03 04 35.5 -1.6**
STON *e*Sn **Sn 03 05 14.9 -1.0**
TIR Tirane 3.27 63 *e*Pn **Pb 03 04 40.3 -4.1**
DRME Dracevica, Mon 3.30 46 ⇓*i*Pn **Pn 03 04 38.9 +0.5**
DRME *e*Sn **Sn 03 05 19.1 +0.8**
TREB Trebinje 3.30 32 *e*Pn **Pn 03 04 37.4 -1.1**
TREB *e*Sn **Sn 03 05 17.4 -0.9**
CEME Cevo 3.42 39 ⇑*i*Pn **Pn 03 04 40.2 +0.1**
CEME *e*Sn **Sn 03 05 22.2 +0.9**
PDG Podgorica 3.50 43 *e*Pn **Pn 03 04 41.1 -0.1**
PDG *e*Sn **Sn 03 05 24.3 +1.0**
PDG Podgorica 3.50 43 ⇑*i*P **Pn 03 04 40.8 -0.4**
PDG Podgorica 3.50 43 S **Sn 03 05 21.6 -1.7**
TTG Podgorica 3.50 43 ⇓*i*Pn **Pn 03 04 41.2 0.0**
TTG *e*Sn **Sn 03 05 23.4 +0.1**
NKME Niksic 3.60 37 ⇓*i*Pn **Pn 03 04 43.0 +0.3**
NKME *e*Sn **Sn 03 05 26.2 +0.4**
KOME Kolasin 3.94 41 ⇓*i*Pn **Pn 03 04 47.7 +0.4**
KOME *e*Sn **Sn 03 05 35.2 +1.0**
IVA Berane 4.15 44 ⇑*i*Pn **Pn 03 04 50.3 +0.1**
IVA *e*Sn **Sn 03 05 39.4 +0.1**
PLE Pljevlja 4.24 36 ⇓*i*Pn **Pn 03 04 51.6 +0.1**
PLE *e*Sn **Sn 03 05 41.9 +0.2**
SJES Sjenica 4.47 40 *e*Pn **Pn 03 04 54.6 0.0**
SJES *e*Sn **Sn 03 05 46.7 -0.5**
BBLS Lazići 4.69 32 *e*Pn **Pn 03 04 56.8 -0.7**
BBLS *e*Sn **Sn 03 05 51.2 -1.3**
NVLJ Novalja 4.71 350 Sg Sn 03 05 41.0 -12
IVAS Ivanjica 4.79 39 *e*Pn **Pn 03 04 58.7 -0.3**
IVAS *e*Sn **Sn 03 05 52.9 -2.2**
SELS Selova 5.05 48 *e*Pn **Pn 03 05 02.9 +0.3**
SELS *e*Sn **Sn 03 06 01.1 -0.5**
DIVS Divibare 5.12 34 *e*Pn **Pn 03 05 03.1 -0.4**
DIVS *e*Sn **Sn 03 06 00.6 -2.6**
GRUS Gruza 5.29 40 *e*Pn **Pn 03 05 05.6 -0.2**
GRUS *e*Sn **Sn 03 06 05.2 -2.2**
TRUS Trudelj 5.40 36 *e*Pn **Pn 03 05 06.8 -0.5**
TRUS *e*Sn **Sn 03 06 08.1 -2.0**
BOVS Bovan 5.65 47 *e*Pn **Pn 03 05 10.7 0.0**
BOVS *e*Sn **Sn 03 06 15.6 -0.5**
ZAPS Zavoj 5.99 54 *e*Pn **Pn 03 05 16.4 +0.9**
ZAPS *e*Sn **Sn 03 06 23.5 -1.1**
VTS Vitosha 6.05 62 ⇑*i*P **Pn 03 05 17.6 +1.3**
KEST Kesra 6.73 234 Pn **Pn 03 05 27.4 +1.8**
comp=E,0.1nm,0.3s,baz=84,slow=23,SNR=2.0
HERR Herculane 6.86 42 ⇓*i*P **Pn 03 05 28.6 +1.3**
BZS Buzias 7.03 34 ⇓*i*P **Pn 03 05 32.6 +3.0**
ARR Arges 8.37 47 ⇓*i*P **Pn 03 05 49.5 +1.4**
IDI Anoyia 8.44 120 Pn **Pn 03 05 51.9 +2.8**
comp=E,0.3nm,0.3s,baz=299,slow=18,SNR=6.1
VOIR 8.64 47 ⇑*i*P **Pn 03 05 53.8 +1.9**
GERES GERESS Array B 9.07 350 Pn **Pn 03 05 57.3 -0.4**
comp=E,0.2nm,0.3s,baz=165,slow=12,SNR=5.3
GERES Sn **Sn 03 07 37.8 -2.6**
comp=E,0.2nm,0.3s,baz=166,slow=25,SNR=4.5
BURAR Bucovina Array 10.17 38 ⇑*i*P **Pn 03 06 14.7 +1.9**
BRTR Keskin Array B 13.56 85 Pn **Pn 03 07 01.1 +1.9**
comp=E,0.0nm,0.3s,baz=269,slow=11,SNR=3.4
MMAI Mount Meron Ar 17.05 108 LR LR 03 16 12.3
comp=E,17nm,19.0s,baz=220,slow=44
KBZ Khabaz 20.36 70 P Pn 03 08 23.5 -2.0
comp=E,1.4nm,0.8s,baz=294,slow=9.7,SNR=4.5
NOA NORSAR Array B 21.35 354 P **P 03 08 33.3 -0.7**
comp=E,1.7nm,0.9s,baz=167,slow=10,SNR=3.0
FINES FINESS Array B 22.42 13 P **P 03 08 46.3 +0.9**
comp=E,6.5nm,0.9s,baz=167,slow=12,SNR=3.5
ZALV Zalesovo Beam 47.17 49 P **P 03 12 19.5 +0.1**
comp=E,0.5nm,0.4s,baz=245,slow=5.9,SNR=3.5
MKAR Makanchi Array 47.40 59 P **P 03 12 22.7 +1.4**
comp=E,0.8nm,0.7s,baz=278,slow=8.5,SNR=5.8
SONM Songino Array 62.04 50 P **P 03 14 08.1 +0.4**
comp=E,0.5nm,0.8s,baz=273,slow=7.0,SNR=3.8

IDC 30 03:23:29.8±53.0, 17°39S×179°95W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/33, mbtmp4.0/3, MS3.5/3, Ms1 3.5/3, ms1mx2.8/43, Error ellipse: s-maj=960.7km s-min=155.1km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.60**	**67**	LR	LR	03 28 02.7	
	comp=Z,101nm,21.9s,baz=45,slow=32						
PMG	**Port Moresby**	**32.92**	**280**	LR	LR	03 42 06.1	
	comp=Z,130nm,19.0s,baz=119,slow=34						
STKA	**Stephens Creek**	**37.60**	**240**	P		03 30 46.9	+0.6
	0.7nm,0.3s,baz=84,slow=7.9,SNR=3.1						
WRA	**Warramunga Arr**	**43.28**	**259**	P	P	03 31 33.3	-0.3
	0.4nm,0.4s,baz=95,slow=7.5,SNR=24						
ASAR	**Alice Springs**	**43.52**	**254**	P	P	03 31 35.1	-0.4
	2.6nm,0.6s,baz=88,slow=8.7,SNR=27						
TLY	**Talaya**	**95.32**	**323**	LR	LR	04 16 20.3	
	comp=Z,40nm,20.9s,baz=114,slow=33						

BJI ***30*** *03:31:02.8, 36°31N×71°12E, h123km, mb4.3/10, mB4.9/4*
ISCJB ***30*** *03:31:03.5±0.5, 36°34N±0°02×71°31E±0°04, h125km±5km, mb4.0/38, Error ellipse: s-maj=5.8km s-min=3.8km az=164.9*
MOS ***30*** *03:31:04.5±1.5, 36°40N×71°29E, h128km, mb4.2/29, Error ellipse: s-maj=7.6km s-min=4.4km az=89.6*
NEIC ***30*** *03:31:04.8±0.5, 36°43N×71°08E, h123km±7km, mb4.2/9, Error ellipse: s-maj=7.8km s-min=5.7km az=123.0*
IDC ***30*** *03:31:05.2±0.6, 36°35N×71°24E, h127km±4km, mb3.7/20, mb1 3.8/26, mb1mx3.7/62, mbtmp4.2/26, Error ellipse: s-maj=11.7km s-min=9.5km az=44.0*
NNC ***30*** *03:31:07.6±4.3, 36°74N×70°67E, h116km±78km, mb4.0, mpv4.7, Error ellipse: s-maj=37.4km s-min=32.4km az=53.0*

ISC 30 03:31:05.0±0.5, 36°35N±0°04×71°30E±0°05, h124km±4km, h124km:pP-P, n133, σ1s99/162, mb4.1/38, 15C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.58**	**226**	*e*Pn	**Pn**	**03 31 45.3**	**-1.0**
KBL	**Kabul**	**2.58**	**226**	*e*PN	**Pn**	**03 31 45.3**	**-1.0**
NIL	**Nilore**	**3.14**	**149**	*e*Pn	**Pn**	**03 31 54.9**	**+1.6**
NIL				*e*Sn	**Sn**	**03 32 30.5**	**0.0**
NIL	**Nilore**	**3.14**	**149**	*e*PN	**Pn**	**03 31 54.9**	**+1.6**
SFK	**Sufi-Kurgan**	**4.04**	**25**	⇑P	**Pn**	**03 32 06.9**	**+1.5**
	124nm,0.5s						
SFK				⇑S	**Sn**	**03 32 52.8**	**+0.6**
	177nm,0.4s						
SFK	**Sufi-Kurgan**	**4.04**	**25**	PN	**Pn**	**03 32 06.9**	**+1.5**
SFK				S	**Sn**	**03 32 52.8**	**+0.6**
SFK				pmax	pmax		
	comp=Z,124nm,0.5s						
SFK				smax	smax		
	comp=N,177nm,0.4s						
KSH	**Kashi**	**4.86**	**48**	P	**Pn**	**03 32 13.5**	**-2.7**
KSH				S	**Sn**	**03 33 02.8**	**-8.8**
KSH				smax	smax		
	comp=N,2μm,0.7s						
KSH				smax	smax		
	comp=N,2μm,0.8s						
AML	**Almayashu**	**6.06**	**17**	P	**Pn**	**03 32 32.1**	**-0.5**
	SNR=61						
MNAS	**Manas**	**6.20**	**8**	⇓P	**Pn**	**03 32 33.5**	**-0.7**
	comp=N,34nm,0.6s						
MNAS				⇓S	**Sn**	**03 33 40.1**	**-3.7**
	comp=N,271nm,0.5s						
MNAS	**Manas**	**6.20**	**8**	PN	**Pn**	**03 32 33.5**	**-0.7**
MNAS				pmax	pmax		
	comp=Z,33nm,0.6s						
NRN	**Naryn**	**6.26**	**34**	*e*Pn	**Pn**	**03 32 34.9**	**-0.3**
NRN	**Naryn**	**6.26**	**34**	*e*PN	**Pn**	**03 32 34.9**	**-0.3**
UCH	**Uchtor**	**6.37**	**22**	P	**Pn**	**03 32 36.0**	**-0.8**
	SNR=41						
KZA	**Kyzart**	**6.49**	**27**	P	**Pn**	**03 32 38.8**	**+0.5**
	SNR=6.2						
EKS2	**Erkin-Say**	**6.58**	**16**	P	**Pn**	**03 32 39.0**	**-0.4**
	SNR=19						
AAK	**Ala-Archa**	**6.74**	**20**	P	**Pn**	**03 32 41.6**	**0.0**
	comp=Z,9.3nm,0.3s,baz=190,slow=8.6,SNR=82						
AAK				S	**Sn**	**03 33 55.2**	**-1.9**
	comp=Z,10nm,0.3s,baz=4.7,slow=22,SNR=10						
AAK	**Ala-Archa**	**6.74**	**20**	⇑P	**Pn**	**03 32 41.8**	**+0.2**
	comp=Z,19nm,0.7s						
AAK				⇓S	**Sn**	**03 33 54.5**	**-2.6**
	comp=Z,210nm,0.8s						
AAK	**Ala-Archa**	**6.74**	**20**	P	**Pn**	**03 32 41.7**	**+0.2**
	SNR=22						
AAK	**Ala-Archa**	**6.74**	**20**	*e*Pn	**Pn**	**03 32 41.7**	**0.0**
AAK				*e*Sn	**Sn**	**03 33 56.8**	**-0.3**
KK31	**Karatay Array**	**6.77**	**355**	⇑P	**Pn**	**03 32 40.2**	**-1.6**
	comp=Z,33nm,0.3s,baz=184,slow=13,SNR=835						
KK31				⇑S	**Sn**	**03 33 51.9**	**-5.5**
	comp=Z,52nm,0.3s,baz=185,slow=23,SNR=18						
KK31	**Karatay Array**	**6.77**	**355**	*e*Pn	**Pn**	**03 32 40.2**	**-1.6**
KK31	**Karatay Array**	**6.77**	**355**	*e*PN	**Pn**	**03 32 40.2**	**-1.6**
KKAR	**Karatay Array**	**6.77**	**355**	*e*Pn	**Pn**	**03 32 40.2**	**-1.6**
KKAR	**Karatay Array**	**6.77**	**355**	*e*PN	**Pn**	**03 32 40.2**	**-1.6**
KBK	**Karagaybulak**	**6.90**	**23**	P	**Pn**	**03 32 44.2**	**+0.5**
	SNR=21						
FRU1	**Bishkek**	**6.94**	**21**	*e*Pn	**Pn**	**03 32 45.2**	**+1.0**
FRU1				*e*Sn	**Sn**	**03 34 02.5**	**+0.8**
FRU1	**Bishkek**	**6.94**	**21**	*e*PN	**Pn**	**03 32 45.2**	**+1.0**
FRU1				*e*		03 34 02.5	
FRU	**Bishkek**	**6.96**	**21**	*e*PN	**Pn**	**03 32 46.0**	**+1.6**
FRU				pmax	pmax		
	comp=Z,40nm,1.0s						
ULHL	**Ulahol**	**7.02**	**32**	P	**Pn**	**03 32 46.2**	**+0.8**
	SNR=9.8						
CHMS	**Chumysh**	**7.15**	**21**	P	**Pn**	**03 32 47.7**	**+0.8**
	SNR=20						
USP	**Ospenovka**	**7.33**	**19**	P	**Pn**	**03 32 48.7**	**-0.7**
	SNR=13						
TKM2	**Tokmak 2**	**7.35**	**25**	⇑P	**Pn**	**03 32 52.8**	**+3.0**
	comp=Z,28nm,0.5s						
TKM2				⇑S	**Sn**	**03 34 12.5**	**+0.8**
	comp=Z,73nm,1.0s						
TKM2	**Tokmak 2**	**7.35**	**25**	P	**Pn**	**03 32 49.7**	**-0.1**
	SNR=53						
TKM2	**Tokmak 2**	**7.35**	**25**	PN	**Pn**	**03 32 52.8**	**+3.0**
TKM2				S	**Sn**	**03 34 12.5**	**+0.8**
TKM2				pmax	pmax		
	comp=Z,28nm,0.5s						
TKM2				smax	smax		
	comp=N,73nm,1.0s						
KDJ	**Kajisay**	**7.35**	**37**	*e*Pn	**Pn**	**03 32 51.6**	**+1.7**
KDJ	**Kajisay**	**7.35**	**37**	*e*PN	**Pn**	**03 32 51.6**	**+1.7**
PDGK	**Podgornoye**	**9.39**	**40**	⇓P	**Pn**	**03 33 14.6**	**-2.6**
	comp=N,2.4nm,0.5s						
PDGK	**Podgornoye**	**9.39**	**40**	P	**Pn**	**03 33 14.6**	**-2.6**
PDGK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
OTUK	**Ortayu**	**11.91**	**3**	⇑P	**Pn**	**03 33 47.6**	**-3.1**
	comp=Z,3.5nm,0.5s						
OTUK	**Ortayu**	**11.91**	**3**	P	**Pn**	**03 33 47.6**	**-3.1**
OTUK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
PYUN	**Piuthan**	**12.86**	**126**	*e*P	**Pn**	**03 34 00.9**	**-2.6**
	comp=Z,52nm,0.4s						
DANN	**Dangsing**	**13.21**	**124**	*e*P	**Pn**	**03 34 05.7**	**-2.4**
	comp=Z,44nm,0.4s						
MK01	**Makanchi Array**	**13.26**	**35**	*e*Pn	**Pn**	**03 34 08.7**	**+0.3**
MK31	**Makanchi Array**	**13.27**	**35**	*e*Pn	**Pn**	**03 34 08.6**	**+0.1**
MK31	**Makanchi Array**	**13.27**	**35**	*e*P	**Pn**	**03 34 08.6**	**+0.1**
MKAR	**Makanchi Array**	**13.27**	**35**	P	**Pn**	**03 34 08.6**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=218,slow=15,SNR=12						
KOLN	**Koldanda**	**13.48**	**126**	*e*P	**Pn**	**03 34 09.3**	**-2.2**
	comp=Z,21nm,0.3s						
GKN	**Gorkha**	**14.02**	**123**	*e*P	**Pn**	**03 34 16.4**	**-2.0**
	comp=Z,0.6nm,0.2s						
DMN	**Daman**	**14.59**	**123**	*e*P	**Pn**	**03 34 24.1**	**-1.7**
	comp=Z,47nm,0.6s						
KKN	**Kakani**	**14.59**	**122**	*e*P	**Pn**	**03 34 23.7**	**-2.1**
	comp=Z,53nm,0.6s						
PKIN	**Phulchoki**	**14.81**	**122**	*e*P	**Pn**	**03 34 27.0**	**-1.5**
	comp=Z,34nm,0.4s						
PKI	**Pulchoki**	**14.82**	**122**	*e*P	**Pn**	**03 34 27.2**	**-1.5**
	comp=Z,45nm,0.4s						
GUN	**Gumba**	**14.93**	**120**	*e*P	**Pn**	**03 34 28.1**	**-2.1**
	comp=Z,47nm,0.4s						
KURBB	**Kurchatov Arra**	**15.19**	**18**	P	**Pn**	**03 34 29.4**	**-3.4**
	comp=Z,0.3nm,0.3s,baz=208,slow=11,SNR=14						
KURK	**Kurchatov**	**15.29**	**18**	*e*Pn	**Pn**	**03 34 33.1**	**-1.0**
	comp=Z,6.8nm,0.8s						
KURK				*e*Sn	**Sn**	**03 37 22.2**	**-1.2**
KURK	**Kurchatov**	**15.29**	**18**	*ce*P	**P**	**03 34 35.3**	**-0.8**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
JIRN	**Jiri**	**15.30**	**120**	*e*P	**Pn**	**03 34 33.2**	**-1.6**
	comp=Z,136nm,0.3s						
AB31	**Akbulak array**	**15.33**	**331**	⇓P	**Pn**	**03 34 31.9**	**-2.6**
	comp=Z,9.9nm,0.4s,baz=149,slow=12,SNR=176						
AB31				S	Sn	03 37 09.7	-15
	comp=Z,19nm,0.6s,baz=152,slow=22,SNR=23						
AB31	**Akbulak array**	**15.33**	**331**	P	**Pn**	**03 34 31.9**	**-2.6**
AB31				pmax	pmax		
	comp=Z,10.0nm,0.4s						
ABKAR	**Akbulak array**	**15.33**	**331**	*e*Pn	**Pn**	**03 34 31.5**	**-3.1**
RAMN	**Ramite**	**16.03**	**121**	*e*P	**Pn**	**03 34 42.2**	**-1.5**
	comp=Z,47nm,0.4s						
ODAN	**Odare**	**16.64**	**120**	*e*P	**Pn**	**03 34 50.8**	**-0.3**
	comp=Z,42nm,0.6s						
BVA0	**Borovoye Array**	**16.68**	**358**	⇓P	**Pn**	**03 34 50.0**	**-1.2**
	comp=Z,11nm,0.8s,baz=0.0,slow=0.1,SNR=58						
BVA0	**Borovoye Array**	**16.68**	**358**	P	**Pn**	**03 34 50.0**	**-1.2**
BVA0				pmax	pmax		
	comp=Z,11nm,0.8s						
BVAR	**Borovoye Array**	**16.68**	**358**	P	**Pn**	**03 34 49.8**	**-1.5**
	comp=Z,2.2nm,0.3s,baz=179,slow=12,SNR=33						
BVAR				S	**Sn**	**03 37 50.0**	**-6.7**
	comp=Z,0.9nm,0.3s,baz=164,slow=24,SNR=5.7						
BRVK	**Borovoye**	**16.72**	**358**	*e*Pn	**Pn**	**03 34 50.2**	**-1.4**
	comp=Z,16nm,1.2s						
BRVK	**Borovoye**	**16.72**	**358**	*ce*P	**Pn**	**03 34 50.6**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,11nm,1.0s						
AKTO	**Aktyubinsk**	**17.03**	**330**	P	**P**	**03 34 54.0**	**-1.2**
	comp=Z,3.4nm,0.3s,baz=135,slow=12,SNR=97						
AKTO	**Aktyubinsk**	**17.03**	**330**	⇑P	**P**	**03 34 53.9**	**-1.4**
	comp=Z,37nm,0.8s						
AKTO				⇑S	Sn	03 37 51.9	-13
	comp=Z,21nm,0.8s						
WSAR	**Wadi Sarin**	**17.06**	**223**	P	**Pn**	**03 34 56.1**	**0.0**
	comp=Z,0.2nm,0.3s,baz=54,slow=8.7,SNR=3.2						
DGZ	**Jazzator, Alta**	**17.75**	**36**	*i* P	**P**	**03 35 03.4**	**0.0**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						
LSA	**Lhasa**	**17.90**	**106**	*e*P	**Pn**	**03 35 07.7**	**+1.1**
	comp=Z,10.0nm,0.6s						
LSA	**Lhasa**	**17.90**	**106**	*e*P	**Pn**	**03 35 07.7**	**+1.1**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HYB	**Hyderabad**	**19.93**	**159**	*i* P	**Pn**	**03 35 31.0**	**+1.0**
ZAA0	**Zalesovo Array**	**19.95**	**24**	*e*P	**P**	**03 35 27.0**	**-0.1**
	comp=Z,15nm,1.0s						
ZALV	**Zalesovo Beam**	**19.95**	**24**	P	**P**	**03 35 27.1**	**0.0**
	comp=Z,3.3nm,0.3s,baz=216,slow=10,SNR=36						
ZALV	**Zalesovo Beam**	**19.95**	**24**	*e*P	**P**	**03 35 26.9**	**-0.2**
NVS	**Novosibirsk**	**20.23**	**20**	*e*P	**P**	**03 35 29.8**	**-0.3**
NVS				pmax	pmax		
	comp=N,12nm,1.3s						
NVS				pmax	pmax		
	comp=Z,14nm,1.3s						
GROC	**Groznyy**	**20.71**	**297**	*e*P	**P**	**03 35 36.9**	**+1.5**
GROC				*e*S	**S**	**03 39 23.7**	**+3.9**
GROC				pmax	pmax		
	comp=Z,15nm,0.6s						
GNI	**Garni**	**21.17**	**288**	P	**P**	**03 35 42.8**	**+2.3**
	comp=Z,17nm,0.9s,baz=55,slow=5.9,SNR=12						
GNI	**Garni**	**21.17**	**288**	*e*P	**P**	**03 35 37.8**	**-2.7**
	comp=Z,18nm,0.9s						
GNI	**Garni**	**21.17**	**288**	*ce*P	**P**	**03 35 43.2**	**+2.7**
GNI				pmax	pmax		
	comp=Z,59nm,0.9s						
SVE	**Sverdlovsk**	**21.70**	**344**	*e*P	**P**	**03 35 45.6**	**-0.2**
SVE				*e*S	**S**	**03 39 39.8**	**+1.7**
SVE				pmax	pmax		
	comp=Z,23nm,1.2s						
HVS	**Khovu-Aksy**	**21.79**	**40**	*i* P	**P**	**03 35 50.3**	**+3.3**
HVS				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ARU	**Arti**	**21.85**	**341**	P	**P**	**03 35 47.6**	**+0.2**
	comp=Z,7.1nm,0.5s,baz=136,slow=3.6,SNR=12						
ARU	**Arti**	**21.85**	**341**	*e*P	**P**	**03 35 47.2**	**-0.1**
	comp=Z,40nm,1.5s						
ARU	**Arti**	**21.85**	**341**	*d* iP	**P**	**03 35 47.1**	**-0.3**
ARU						03 36 15.9	
ARU				S	**S**	**03 39 39.6**	**-1.2**
ARU				SS	**SnSn**	**03 40 25.1**	**+6.2**
ARU				pmax	pmax		
	comp=Z,32nm,1.7s						
ZEI	**Tsey**	**22.02**	**295**	*e*P	**P**	**03 35 51.2**	**+1.6**
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKH	**Akhalkalaki**	**22.18**	**292**	*e*P	**P**	**03 35 50.4**	**-0.8**
	comp=Z,8.5nm,0.9s						
AKH	**Akhalkalaki**	**22.18**	**292**	*e*P	**P**	**03 35 50.4**	**-0.8**
AKH				pmax	pmax		
	comp=Z,9.0nm,0.9s						
NCK	**Nalchik**	**22.35**	**297**	*i* P	**P**	**03 35 53.2**	**+0.5**
NCK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GTA	**Gaotai**	**22.67**	**74**	*e*P	**P**	**03 35 58.0**	**+1.9**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KBZ	**Khabaz**	**22.88**	**298**	P	**P**	**03 35 58.7**	**+0.8**
	comp=Z,3.2nm,0.8s,baz=132,slow=6.4,SNR=7.3						
KIV	**Kislovodsk**	**23.07**	**298**	*e*P	**P**	**03 36 01.9**	**+2.1**
KIV				*e**PP	**pP**	**03 36 27.0**	**+3.2**
KIV				*e*S	**S**	**03 40 03.3**	**+2.1**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KNGR	**Kungurtug, Tuv**	**23.60**	**45**	*i* P	**P**	**03 36 06.8**	**+2.2**
RAYN	**Ar Rayn**	**25.66**	**247**	*e*P	**P**	**03 36 21.6**	**-1.8**
	comp=Z,8.4nm,1.5s						
RAYN	**Ar Rayn**	**25.66**	**247**	*e*P	**P**	**03 36 21.6**	**-1.8**
RAYN				pmax	pmax		
	comp=Z,8.0nm,1.5s						
VRH	**Novokhopyorsk**	**25.79**	**314**	*e*P	**P**	**03 36 26.7**	**+2.5**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VORD	**Divnogorie**	**27.12**	**313**	*e*P	**P**	**03 36 38.9**	**+2.8**
VORD				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VSR	**Storozhevoye**	**27.28**	**313**	*e*P	**P**	**03 36 42.4**	**+4.8**
VSR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
LPSR	**Galich'ya Gora**	**27.93**	**316**	*e*P	**P**	**03 36 44.7**	**+1.4**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SONM	**Songino Array**	**28.22**	**55**	P	**P**	**03 36 47.8**	**+1.7**
	comp=Z,0.6nm,0.8s,baz=270,slow=8.4,SNR=3.3						
BRTR	**Keskin Array B**	**29.71**	**288**	P	**P**	**03 36 59.7**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=109,slow=7.9,SNR=3.7						
BRTR	**Keskin Array B**	**29.71**	**288**	*ce*P	**P**	**03 37 03.5**	**+4.0**
CMAR	**Chiang Mai Arr**	**30.17**	**119**	P	**P**	**03 37 05.6**	**+2.0**
	comp=Z,1.1nm,0.4s,baz=300,slow=9.3,SNR=6.3						
CMAR	**Chiang Mai Arr**	**30.17**	**119**	*ce*P	**P**	**03 37 06.1**	**+2.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
OBN	**Obninsk**	**30.21**	**319**	⇓*i*P	**P**	**03 37 04.2**	**+0.8**
OBN				*e**PP	**pP**	**03 37 34.0**	**+3.7**
OBN				*e*		03 38 09.2	
OBN				*e*S	**S**	**03 41 56.8**	**+3.3**
OBN				pmax	pmax		
	comp=Z,37nm,1.7s						
HHC	**Hu-ho-hao-te**	**31.59**	**69**	*e*P	**P**	**03 37 17.0**	**+1.1**
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,5.2s						
AKASG	**Malin Array Be**	**33.23**	**309**	P	**P**	**03 37 29.6**	**-0.3**
	comp=Z,2.8nm,0.6s,baz=81,slow=7.2,SNR=7.5						
AKASG				pP	**pP**	**03 37 56.8**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=79,slow=7.4,SNR=1.9						
KIEV	**Kiev**	**33.23**	**309**	*e*P	**P**	**03 37 28.6**	**-1.5**
	comp=Z,3.1nm,0.7s						
KIEV	**Kiev**	**33.23**	**309**	*e*P	**P**	**03 37 28.6**	**-1.5**
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NRIK	**Noril'sk**	**34.23**	**10**	P	**P**	**03 37 38.7**	**+0.3**
	comp=Z,2.7nm,0.4s,baz=217,slow=5.7,SNR=3.8						
MLR	**Muntele Rosu**	**35.06**	**299**	P	**P**	**03 37 47.9**	**+1.8**
	comp=Z,2.7nm,0.8s,baz=90,slow=13,SNR=4.2						
BJI	**Beijing**	**35.18**	**70**	*e*P	**P**	**03 37 47.5**	**+0.6**
BJI				pmax	pmax		
	comp=Z,5.0nm,2.0s						
FINES	**FINESS Array B**	**37.74**	**326**	P	**P**	**03 38 08.4**	**0.0**
	comp=Z,2.3nm,0.6s,baz=111,slow=8.9,SNR=10						
FINES	**FINESS Array B**	**37.74**	**326**	*i* P	**P**	**03 38 08.8**	**+0.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	**ARCESS Array B**	**41.37**	**338**	P	**P**	**03 38 39.0**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=112,slow=8.7,SNR=12						
ARCES	**ARCESS Array B**	**41.37**	**338**	P	**P**	**03 38 39.0**	**+0.6**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
PSI	**Prapat**	**42.01**	**136**	P	**P**	**03 38 44.5**	**+0.2**
	comp=Z,4.1nm,0.5s,baz=0.1,slow=11,SNR=3.3						
HFS	**Hagfors**	**43.33**	**322**	P	**P**	**03 38 54.0**	**-0.4**
	comp=Z,3.0nm,0.5s,baz=95,slow=11,SNR=12						

comp=Z,138nm,18.7s,baz=314,slow=41
JAY Jayapura 11.67 277 LR LR 03 43 26.5
comp=Z,134nm,19.4s,baz=226,slow=32
GUMO Guam 18.92 337 LR LR 03 48 04.7
comp=Z,53nm,21.8s,baz=118,slow=35
WRA Warramunga Arr 23.65 226 P P 03 42 21.6 -2.0
4.7nm,1.1s,baz=50,slow=9.5,SNR=4.7
ASAR Alice Springs 26.46 221 P P 03 42 50.6 +1.4
1.6nm,0.7s,baz=51,slow=8.9,SNR=4.9
STKA Stephens Creek 29.55 199 LR LR 03 53 40.8
comp=Z,26nm,20.3s,baz=29,slow=34
JOW Kunigami 38.42 324 LR LR 03 59 34.9
comp=Z,13nm,19.7s,baz=144,slow=35
MJAR Matsushiro Arr 42.38 343 LR LR 04 00 30.6
comp=Z,18nm,21.6s,baz=175,slow=33
ZALV Zalesovo Beam 80.18 326 P P 03 49 23.3 +0.8
0.5nm,0.5s,baz=112,slow=6.9,SNR=2.6
ILAR Eielson Array 81.56 22 P P 03 49 28.9 -0.7
0.5nm,0.6s,baz=246,slow=5.6,SNR=10

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*MEX **30** 03:45:21.3±0.4, 13˚.40N×91˚.48W, h74km±47km, MD4.0*
*IDC **30** 03:45:22.5±4.7, 13˚.50N×91˚.20W, h33km±32km, mb3.5/4, mb1 3.8/7, mb1mx3.5/32, mbtmp3.6/7, ML3.4/3, MS3.2/1, Ms1 3.2/1, ms1mx2.3/30, Error ellipse: s-maj=35.7km s-min=28.5km az=50.0*
ISC 30 03:45:22.2±1.5, 13°.6N±0˚.1×91°.4W±0˚.1, h28km, n11, σ1ˢ34/14, mb3.7/4, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.59**	**326**	*i* P	**Pn**	**03 45 48.1**	**-0.5**
THIG				*i* S	**Sn**	**03 46 07.5**	**-0.7**
APG	**El Apazote**	**1.65**	**31**	Pg	**Pb**	**03 45 52.7**	**+0.5**
	22nm,0.3s,baz=197,slow=7.6,SNR=67						
APG				Lg	Lg	03 46 16.9	
	13nm,0.3s,baz=274,slow=9.0,SNR=5.5						
PCIG		**2.78**	**320**	*e*P	**Pn**	**03 46 02.6**	**-2.4**
PCIG				*i* S	**Sn**	**03 46 36.5**	**-1.2**
TGIG		**3.61**	**332**	*i* P	**Pn**	**03 46 15.8**	**-0.6**
TGIG				*e*S	**Sn**	**03 46 57.8**	**-0.4**
CMIG	**Matias Romero**	**4.88**	**316**	Pn	**Pn**	**03 46 34.2**	**+0.4**
	0.8nm,0.3s,baz=136,slow=8.4,SNR=12						
JTS	**JuntasAbangare**	**7.06**	**117**	Pn	**Pn**	**03 47 02.0**	**-1.8**
	1.1nm,0.3s,baz=357,slow=22,SNR=6.5						
TXAR	**Lajitas Array**	**19.40**	**326**	P	**Pn**	**03 49 48.5**	**+1.0**
	0.0nm,0.3s,baz=151,slow=12,SNR=12						
TKL	**Tuckaleechee C**	**23.02**	**16**	P	**P**	**03 50 25.3**	**+0.2**
	1.9nm,0.7s,baz=179,slow=16,SNR=3.2						
TKL				LR	LR	04 00 15.2	
	comp=Z,62nm,20.5s,baz=276,slow=39						
NVAR	**Mina Array Bea**	**34.40**	**321**	P	**P**	**03 52 09.7**	**+2.3**
	0.7nm,0.6s,baz=135,slow=9.0,SNR=2.7						
YKA	**Yellowknife Ar**	**51.58**	**346**	P	**P**	**03 54 24.5**	**-1.1**
	0.6nm,0.7s,baz=149,slow=7.8,SNR=6.0						
ILAR	**Eielson Array**	**63.47**	**337**	P	**P**	**03 55 49.6**	**+0.2**
	0.5nm,0.8s,baz=132,slow=4.4,SNR=5.2						

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*ATH **30** 03:46:34.3, 36˚.71N×28˚.10E, h30km±6km, ML2.6/2, Error ellipse: s-maj=10.2km s-min=1.3km az=214.0*
*ISCJB **30** 03:46:36.8±0.5, 36˚.62N±0˚.03×27˚.91E±0˚.03, h3km±5km, Error ellipse: s-maj=5.6km s-min=3.6km az=14.7*
*DDA **30** 03:46:36.8, 36˚.67N×27˚.92E, h7km, Ml2.1*
*ISK **30** 03:46:36.4, 36˚.62N×27˚.95E, h5km, ML2.5/11*
ISC 30 03:46:36.2±0.9, 36°.66N±0˚.03×27°.98E±0˚.02, h13km±7km, n27, σ2ˢ22/39, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSB	**Marmaris-Mugla**	**0.19**	**71**	PG	**Pg**	**03 46 41.5**	**+1.0**
MRSB				SG	**Sg**	**03 46 44.9**	**+1.5**
DATC	**Datca-Mugla**	**0.27**	**292**	PG	**Pg**	**03 46 41.7**	**-0.2**
DAT	**Datca**	**0.33**	**283**	PG	**Pg**	**03 46 43.1**	**+0.1**
DAT				SG	**Sg**	**03 46 47.7**	**+0.2**
DAT	**Datca**	**0.33**	**283**	*i* P	**Pg**	**03 46 42.4**	**-0.6**
DAT				*i* S	**Sg**	**03 46 47.1**	**-0.4**
ARG	**Arkhangelos**	**0.46**	**165**	PG	**Pg**	**03 46 44.8**	**-0.4**
ARG				SG	**Sg**	**03 46 51.7**	**+0.4**
ARG	**Arkhangelos**	**0.46**	**165**	P	**Pg**	**03 46 44.7**	**-0.4**
ARG				S	**Sb**	**03 46 52.9**	**+0.1**
ARG				AML	AML	03 46 53.7	
	comp=N,789µm,0.4s						
ARG				AML	AML	03 46 53.8	
	comp=E,972µm,0.4s						
TURN	**Turunc**	**0.55**	**66**	PG	Pg	03 46 41.9	-5.1
TURN				SG	**Sg**	**03 46 46.7**	**-7.5**
TURN	**Turunc**	**0.55**	**66**	*i* P	Pg	03 46 42.1	-4.8
TURN				*i* S	**Sg**	**03 46 46.7**	**-7.5**
DALY	**Dalyan (Mu¨la**	**0.57**	**73**	PG	**Pb**	**03 46 48.6**	**+0.5**
DALY				SG	**Sb**	**03 46 57.3**	**+1.3**
DALY	**Dalyan (Mu¨la**	**0.57**	**73**	*i* P	**Pb**	**03 46 48.5**	**+0.5**
DALY				*i* S	**Sb**	**03 46 56.4**	**+0.3**
NIS1	**Nisyros Isl.**	**0.64**	**266**	PG	**Pb**	**03 46 49.2**	**-0.2**
NIS1	**Nisyros Isl.**	**0.64**	**266**	P	**Pg**	**03 46 48.9**	**+0.1**
NIS1				S	**Sb**	**03 46 59.9**	**+1.6**
NIS1				AML	AML	03 47 02.5	
	comp=E,1868µm,0.3s						
NIS1				AML	AML	03 47 04.0	
	comp=N,1551µm,0.4s						
MLSB	**Milas**	**0.66**	**346**	PG	**Pb**	**03 46 50.6**	**+1.0**
BODT	**Bodrum**	**0.67**	**307**	PG	**Pb**	**03 46 50.2**	**+0.4**
BODT				SG	**Sb**	**03 46 59.6**	**+0.5**
NISR	**Nisiros**	**0.68**	**267**	P	**Pg**	**03 46 49.6**	**+0.1**
FETY	**Fethiye**	**0.89**	**91**	PG	**Pb**	**03 46 54.4**	**+0.8**
AYDN	**Tasoluk**	**1.01**	**356**	*i* P	**Pb**	**03 46 55.9**	**+0.4**
AYDN				*i* S	**Sn**	**03 47 10.8**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.29**	**357**	PN	**Pg**	**03 47 01.7**	**+0.6**
AKAS	**Kas**	**1.38**	**107**	PN	**Pg**	**03 47 03.5**	**+0.7**
AKAS	**Kas**	**1.38**	**107**	*i* P	**Pg**	**03 47 04.5**	**+1.8**
AKAS				*i* S	**Sg**	**03 47 23.9**	**+3.2**
KSL	**Kastellorizon**	**1.39**	**111**	P	**Pn**	**03 46 57.7**	**-3.7**
SMG	**Samos**	**1.39**	**319**	P	**Pn**	**03 47 00.7**	**-0.7**
GOLH	**Golhisar**	**1.40**	**65**	*i* P	**Pg**	**03 47 04.8**	**+1.7**
GOLH				*i* S	**Sg**	**03 47 25.1**	**+3.8**
ELL	**Elmali**	**1.56**	**86**	PN	**Pb**	**03 47 05.8**	**+0.8**
BRDR	**BURDUR-Merkez**	**1.96**	**57**	*i* P	**Pg**	**03 47 14.2**	**+0.3**
APE	**Apeiranthos**	**2.00**	**283**	P	**Pn**	**03 47 09.3**	**-0.6**
NPS	**Neapolis**	**2.37**	**235**	P	**Pn**	**03 47 14.6**	**-0.2**

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*NEIC **30** 03:52:20.7±1.4, 25˚.68N×96˚.00E, h97km±15km, mb4.4/8, Error ellipse: s-maj=17.7km s-min=8.0km az=67.0*
*ISCJB **30** 03:52:21.9±0.4, 25˚.75N±0˚.03×95˚.74E±0˚.04, h120km±4km, mb4.1/27, Error ellipse: s-maj=6.4km s-min=4.5km az=21.1*
*BJI **30** 03:52:21.6, 25˚.90N×95˚.68E, h100km, mb4.6/19, mB4.7/11*
*NDI **30** 03:52:23.7±2.7, 25˚.75N×95˚.67E, h20km, ML4.4, mb4.4(NEIC)*
*IDC **30** 03:52:23.9±0.7, 25˚.67N×95˚.75E, h126km±6km, mb3.7/20, mb1 3.9/22, mb1mx3.7/55, mbtmp4.1/22, Error ellipse: s-maj=12.8km s-min=9.4km az=75.0*
ISC 30 03:52:23.3±0.6, 25°.76N±0˚.04×95°.73E±0˚.05, h121km±5km, n72, σ1ˢ46/94, mb4.1/28, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOKO	**MOKOCHONG**	**1.23**	**297**	*e*P	**Pn**	**03 52 48.7**	**+0.8**
MOKO				*e*S	**Sn**	**03 53 06.3**	**-0.2**
MOKO				IAML		03 53 09.0	
	comp=N,9µm,0.2s						
MOKO				IAML		03 53 09.2	
	comp=E,10µm,0.2s						
KOHI	**KOHIMA**	**1.46**	**269**	*e*P	**Pn**	**03 52 51.2**	**+0.6**
KOHI				*e*S	**Sn**	**03 53 09.4**	**-1.8**
KOHI				IAML		03 53 14.9	
	comp=E,5µm,0.3s						
KOHI				IAML		03 53 15.3	
	comp=N,6µm,0.3s						
LKP	**Lekhapani**	**1.57**	**4**	*e*P	**Pn**	**03 52 51.2**	**-0.3**
LKP				*e*S	**Sn**	**03 53 11.6**	**-1.5**
LKP				IAML		03 53 15.2	
	comp=E,10µm,0.0s						
LKP				IAML		03 53 15.3	
	comp=N,10µm,0.1s						
JORH	**JORHAT**	**1.65**	**307**	*e*P	**Pn**	**03 52 52.3**	**-0.2**
JORH				*e*S	**Sn**	**03 53 13.0**	**-1.8**
JORH				IAML		03 53 16.7	
	comp=N,4µm,0.1s						
JORH				IAML		03 53 16.7	
	comp=E,9µm,0.1s						
DIBR	**DIBRUGARH**	**1.85**	**337**	*e*P	**Pn**	**03 52 54.7**	**-0.3**
DIBR				*e*S	**Sn**	**03 53 17.9**	**-1.2**
ZIRO	**ZIRO**	**2.43**	**317**	*e*P	**Pn**	**03 53 02.3**	**-0.1**
ZIRO				*e*S	**Sn**	**03 53 30.4**	**-2.1**
ZIRO				IAML		03 53 41.4	
	comp=E,4µm,0.1s						
ZIRO				IAML		03 53 41.4	
	comp=N,10µm,0.2s						
TEZP	**TEZPUR**	**2.77**	**289**	*e*P	**Pn**	**03 53 06.3**	**-0.3**
TEZP				*e*S	**Sn**	**03 53 36.6**	**-3.3**
SILR	**SILCHAR**	**2.83**	**250**	*e*P	**Pn**	**03 53 08.6**	**+1.2**
SILR				*e*S	**Sn**	**03 53 42.8**	**+1.5**
SILR				IAML		03 53 50.9	
	comp=E,5µm,0.3s						
SILR				IAML		03 53 51.0	
	comp=N,4µm,0.2s						
SHL	**Shillong**	**3.48**	**268**	*e*Pn	**Pn**	**03 53 15.6**	**-0.5**
SHL	**Shillong**	**3.48**	**268**	*e*P	**Pn**	**03 53 15.6**	**-0.5**
SHL				*e*S	**Sn**	**03 53 53.7**	**-3.2**
SHL				IAML		03 53 55.8	
	comp=E,3µm,0.1s						
SHL				IAML		03 53 55.9	
	comp=N,3µm,0.1s						
GUWA	**GUWAHATI**	**3.66**	**278**	*e*P	**Pn**	**03 53 17.8**	**-0.5**
GUWA				*e*P	**Pn**	**03 53 17.8**	**-0.5**
GUWA				*e*S	**Sn**	**03 53 57.7**	**-3.2**
GUWA				IAML		03 53 58.8	
	comp=N,4µm,0.1s						
GUWA				IAML		03 53 58.9	
	comp=E,3µm,0.1s						
TAWA	**Tawang**	**3.91**	**299**	*e*P	**Pn**	**03 53 22.2**	**+0.2**
TAWA				*e*S	**Sn**	**03 54 05.0**	**-2.4**
SAIH	**SAIHA**	**4.11**	**218**	*e*P	**Pn**	**03 53 25.4**	**+0.8**
SAIH				*e*S	**Sn**	**03 54 11.1**	**-0.9**
SAIH				IAML		03 54 16.1	
	comp=N,505nm,0.3s						
SAIH				IAML		03 54 16.5	
	comp=E,691nm,0.2s						
BELO	**BELONIA**	**4.63**	**238**	*e*P	**Pn**	**03 53 32.1**	**+0.7**
BELO				*e*S	**Sn**	**03 54 23.1**	**-1.2**
BRDH	**Bariadhala**	**4.83**	**231**	P	**Pn**	**03 53 33.2**	**-0.8**
	comp=E,36nm,0.3s,baz=65,slow=12,SNR=9.1						
BRDH				S	**Sn**	**03 54 27.4**	**-1.7**
	comp=E,129nm,0.3s,baz=223,slow=22,SNR=14						
TURI	**Tura**	**4.88**	**269**	*e*P	**Pn**	**03 53 35.5**	**+0.9**
TURI				*e*S	**Sn**	**03 54 28.6**	**-1.4**
LSA	**Lhasa**	**5.64**	**315**	P	**Pn**	**03 53 47.0**	**+1.6**
LSA				pmax	pmax		
	comp=E,20nm,0.4s						
LSA	**Lhasa**	**5.64**	**315**	*e*Pn	**Pn**	**03 53 46.1**	**+0.7**
	comp=E,148nm,0.6s						
GTK	**Tadong**	**6.57**	**285**	*e*P	**Pn**	**03 53 57.0**	**-0.6**
GTK				*e*S	**Sn**	**03 55 07.1**	**-4.1**
GTK				IAML		03 55 10.9	
	comp=N,233nm,0.2s						
GTK				IAML		03 55 11.1	
	comp=E,391nm,0.3s						
CHTO	**Chiang Mai**	**7.53**	**156**	*e*Pn	**Pn**	**03 54 10.8**	**+0.3**
	comp=E,3.1nm,0.4s						
CMAR	**Chiang Mai Arr**	**7.86**	**157**	P	**Pn**	**03 54 16.2**	**+1.2**
	comp=E,0.8nm,0.3s,baz=321,slow=11,SNR=5.1						
BWNR	**Bhubaneshwar**	**10.63**	**241**	*ex*	**Pn**	**03 54 48.8**	**-3.5**
LZH	**Lanzhou**	**12.42**	**32**	*e*P	**Pn**	**03 55 14.5**	**-1.6**
LZH				pP	P	03 55 24.0	+1.0
LZH				pmax	pmax		
	comp=E,30nm,1.1s						
VIS	**Vishakhapatnam**	**14.02**	**238**	*i* P	**P**	**03 55 39.3**	**-1.4**
VIS				*i* x	Sn	03 58 02.0	-10
XAN	**Xi'an**	**14.09**	**51**	P	**Pn**	**03 55 34.5**	**-3.1**
XAN				pmax	pmax		
	comp=E,9.0nm,0.8s						
NGP	**Nagpur**	**15.98**	**257**	*ex*	**Pn**	**03 56 01.5**	**+0.1**
HYB	**Hyderabad**	**17.99**	**246**	*i* P	**Pn**	**03 56 26.5**	**+0.7**
HYB				*e*S	S	03 59 33.0	-12
WMQ	**Urumqi**	**19.17**	**342**	*e*P	**Pn**	**03 56 39.5**	**0.0**
WMQ				LR	LR		
	comp=E,110nm,38.9s						
WMQ				LR	LR		
	comp=E,32nm,16.1s						
LATR	**Latur**	**19.20**	**251**	*ex*	x	03 56 23.4	
HHC	**Hu-ho-hao-te**	**19.99**	**37**	*e*P	**P**	**03 56 46.0**	**-0.3**
HHC				pmax	pmax		
	comp=E,13nm,0.8s						
HHC				pmax	pmax		
	comp=E,260nm,5.2s						
NIL	**Nilore**	**21.02**	**297**	*e*P	**P**	**03 56 59.3**	**+1.9**
	comp=E,15nm,0.5s						
KSH	**Kashi**	**21.50**	**314**	*e*P	**P**	**03 57 04.0**	**+1.4**
PSI	**Prapat**	**23.04**	**172**	*e*P	**P**	**03 57 17.5**	**-0.8**
	comp=E,8.9nm,1.2s						
PALK	**Pallekele**	**23.31**	**221**	P	**P**	**03 57 22.1**	**+1.3**
	comp=E,5.2nm,0.7s,baz=306,slow=1.4,SNR=2.8						
MK01	**Makanchi Array**	**23.53**	**336**	*e*P	**P**	**03 57 24.0**	**+1.5**
MK31	**Makanchi Array**	**23.55**	**336**	*e*P	**P**	**03 57 24.3**	**+1.6**
MKAR	**Makanchi Array**	**23.55**	**336**	P	**P**	**03 57 24.1**	**+1.5**
	comp=E,2.0nm,0.3s,baz=150,slow=8.7,SNR=62						
MKAR	**Makanchi Array**	**23.55**	**336**	*e*P	**P**	**03 57 24.3**	**+1.6**
	comp=E,30nm,0.6s						
SONM	**Songino Array**	**23.58**	**18**	P	**P**	**03 57 23.5**	**+0.5**
	comp=E,1.3nm,0.5s,baz=195,slow=9.5,SNR=8.7						
SONA1	**Songino Array**	**23.59**	**18**	*e*P	**P**	**03 57 22.5**	**-0.7**
AAK	**Ala-Archa**	**24.22**	**319**	P	**P**	**03 57 31.5**	**+2.6**
	comp=E,3.8nm,0.9s,baz=143,slow=6.1,SNR=8.7						
AAK	**Ala-Archa**	**24.22**	**319**	*e*P	**P**	**03 57 31.1**	**+2.2**
	comp=E,4.1nm,0.9s						
KURBB	**Kurchatov Arra**	**28.12**	**336**	P	**P**	**03 58 05.1**	**+1.4**
	comp=E,1.9nm,0.6s,baz=144,slow=9.5,SNR=16						
KURBB				pP	**pP**	**03 58 33.4**	**+3.4**
	comp=E,2.1nm,0.7s,baz=147,slow=10,SNR=7.5						
KURBB				PcP	**PcP**	**04 01 14.8**	**-0.1**
	comp=E,0.9nm,0.7s,baz=163,slow=2.2,SNR=6.2						
KURK	**Kurchatov**	**28.17**	**337**	*e*P	**P**	**03 58 05.0**	**+0.9**
ZALV	**Zalesovo Beam**	**29.30**	**347**	P	**P**	**03 58 15.4**	**+1.3**
	comp=E,1.5nm,0.4s,baz=165,slow=7.2,SNR=8.9						
ZALV	**Zalesovo Beam**	**29.30**	**347**	*e*P	**P**	**03 58 15.2**	**+1.1**
ABKAR	**Akbulak array**	**36.31**	**320**	*e*P	**P**	**03 59 16.9**	**+1.7**
ARU	**Arti**	**40.66**	**329**	*e*P	**P**	**03 59 51.8**	**+0.4**
	comp=E,6.6nm,0.5s						
SOEI	**Soe**	**44.92**	**138**	*e*P	**P**	**04 00 24.8**	**-1.6**
	comp=E,23nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.41**	**143**	P	**P**	**04 01 22.5**	**-0.9**
	comp=E,1.0nm,0.7s,baz=336,slow=12,SNR=3.0						
BRTR	**Keskin Array B**	**53.08**	**302**	P	**P**	**04 01 28.8**	**+0.3**
	comp=E,0.4nm,0.5s,baz=114,slow=5.3,SNR=4.9						
BRTR				pP	**pP**	**04 01 55.5**	**-1.4**
	comp=E,0.5nm,0.6s,baz=107,slow=7.9,SNR=3.1						
AKASG	**Malin Array Be**	**55.79**	**315**	P	**P**	**04 01 47.2**	**-0.5**
	comp=E,0.5nm,0.4s,baz=80,slow=6.7,SNR=3.6						
AKASG				pP	**pP**	**04 02 16.5**	**+0.1**
	comp=E,1.4nm,0.6s,baz=79,slow=6.5,SNR=1.4						
FINES	**FINESS Array B**	**58.01**	**328**	P	**P**	**04 02 03.8**	**+0.6**
	comp=E,11nm,1.1s,baz=93,slow=7.6,SNR=5.9						
WRAB	**Tennant Creek**	**58.91**	**137**	*e*P	**P**	**04 02 09.2**	**-0.8**
	comp=E,1.8nm,0.4s						
WRA	**Warramunga Arr**	**58.91**	**137**	P	**P**	**04 02 09.2**	**-0.7**
	comp=E,2.3nm,0.6s,baz=323,slow=7.4,SNR=52						
ARCES	**ARCESS Array B**	**59.20**	**337**	P	**P**	**04 02 12.0**	**+0.7**
	comp=E,2.4nm,0.6s,baz=72,slow=8.0,SNR=9.1						
ASAR	**Alice Springs**	**61.48**	**140**	P	**P**	**04 02 27.1**	**-0.3**
	comp=E,1.2nm,0.6s,baz=322,slow=6.8,SNR=14						
ASAR				pP	**pP**	**04 02 58.3**	**+1.6**
	comp=E,0.8nm,0.8s,baz=323,slow=6.9,SNR=3.1						
NB2	**NORSAR Subarra**	**65.19**	**328**	P	**P**	**04 02 51.1**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=82,slow=6.2						
NOA	**NORSAR Array B**	**65.19**	**328**	P	**P**	**04 02 51.4**	**0.0**
	comp=Z,0.7nm,0.6s,baz=83,slow=6.3,SNR=3.8						
NOA				pP	**PcP**	**04 03 22.0**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=179,slow=12,SNR=2.7						
GERES	**GERESS Array B**	**65.97**	**314**	P	**P**	**04 02 57.2**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=77,slow=5.9,SNR=7.1						
GERES				pP	**PcP**	**04 03 28.5**	**+2.0**
	comp=Z,0.7nm,0.6s,baz=72,slow=8.6,SNR=3.6						
TOLK	**Toolik Lake Re**	**74.68**	**20**	*e*P	**P**	**04 03 49.4**	**+0.1**
	comp=Z,4.2nm,0.9s						
MLY	**Manley**	**76.20**	**24**	*e*P	**P**	**04 03 56.6**	**-1.4**
	comp=Z,13nm,1.4s						
ILAR	**Eielson Array**	**77.71**	**23**	P	**P**	**04 04 05.0**	**-1.5**
	comp=Z,1.3nm,0.9s,baz=295,slow=4.8,SNR=13						
INK	**Inuvik**	**79.49**	**17**	P	**P**	**04 04 15.8**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=331,slow=4.0,SNR=15						
INK	**Inuvik**	**79.49**	**17**	*e*P	**P**	**04 04 15.6**	**-0.5**
	comp=Z,1.7nm,0.5s						
BOSA	**Boshof**	**86.61**	**236**	P	**P**	**04 04 53.6**	**0.0**
	comp=Z,1.1nm,0.5s,baz=34,slow=3.8,SNR=3.7						
DLBC	**Dease Lake**	**87.89**	**22**	P	**P**	**04 05 00.3**	**+1.1**
	comp=Z,1.8nm,0.6s,baz=293,slow=25,SNR=7.3						
TORD	**Torodi Ar. Bea**	**87.94**	**284**	pP	pP	04 05 32.4	+1.1
	comp=Z,0.7nm,0.9s,baz=12,slow=7.6,SNR=3.7						
YKA	**Yellowknife Ar**	**88.77**	**14**	P	**P**	**04 05 02.3**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=331,slow=5.2,SNR=3.9						
TXAR	**Lajitas Array**	**122.14**	**20**	PKP	**PKPdf**	**04 11 03.5**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=351,slow=2.0,SNR=4.1						
PTGA	**Pitinga**	**145.82**	**313**	PKPbc	**PKPbc**	**04 11 49.4**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=298,slow=22,SNR=8.0						
ROSC	**El Rosal**	**148.08**	**341**	PKPbc	**PKPbc**	**04 11 56.9**	**+0.7**
	comp=Z,5.5nm,0.5s,baz=62,slow=15,SNR=5.8						

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*IDC **30** 04:02:05.0±3.5, 2˚.85N×128˚.16E, h42km±36km, mb3.7/12, mb1 3.8/12, mb1mx3.7/40, mbtmp3.9/12, ML4.8/1, MS2.9/3, Ms1 2.9/3, ms1mx2.5/33, Error ellipse: s-maj=32.9km s-min=13.9km az=74.0*
*NEIC **30** 04:02:06.7±1.0, 2˚.76N×128˚.21E, h65km±10km, mb4.3/7, Error ellipse: s-maj=10.3km s-min=5.9km az=56.0*
*ISCJB **30** 04:02:08.4±0.4, 2˚.71N±0˚.04×128˚.11E±0˚.06, h100km, mb4.0/17, Error ellipse: s-maj=8.8km s-min=6.3km az=169.7*
ISC 30 04:02:08.9±0.7, 2°.68N±0˚.07×128°.15E±0˚.08, h100km, n42, σ1ˢ56/22, mb4.0/17, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.05**	**203**	*e*Pn	**Pn**	**04 02 39.1**	**-3.0**
SIJI	**Sorong**	**4.70**	**138**	P	**Pn**	**04 03 16.5**	**-1.1**
	37nm,0.3s,baz=332,slow=14,SNR=41						
SIJI				S	**Sn**	**04 04 09.9**	**-1.1**
	5.5nm,0.3s,baz=145,slow=21,SNR=3.3						
CTBH	**Cotabato--PC H**	**5.96**	**319**	*i*P	**Pn**	**04 03 31.0**	**-3.7**
LUWI	**Luwuk**	**6.53**	**236**	*e*Pn	**Pn**	**04 03 41.8**	**-0.6**
LUWI				*e*Sn	**Sn**	**04 04 55.8**	**+0.4**
FAKI	**Fak Fak**	**6.90**	**144**	*e*Pn	**Pn**	**04 03 46.1**	**-1.5**
SBUM	**Sibu**	**15.92**	**270**	*e*Pn	**P**	**04 05 48.4**	**-0.5**
	17nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.79**	**187**	P	Pn	04 06 45.0	-0.6
	1.0nm,0.5s,baz=22,slow=4.6,SNR=6.0						
FITZ				LR	LR	04 15 30.0	
	comp=Z,31nm,19.6s,baz=27,slow=38						
WRAB	**Tennant Creek**	**23.28**	**165**	*e*P	**P**	**04 07 09.5**	**+1.5**
	4.4nm,0.6s						
WR1	**Warramunga Arr**	**23.28**	**165**	*e*P	**P**	**04 07 09.8**	**+1.8**
	14nm,0.9s						
WRA	**Warramunga Arr**	**23.28**	**165**	P	**P**	**04 07 09.8**	**+1.8**
	5.5nm,0.7s,baz=342,slow=10,SNR=48						
WB2	**Warramunga Arr**	**23.29**	**165**	*e*P	**P**	**04 07 08.9**	**+0.9**
ASAR	**Alice Springs**	**26.77**	**168**	P	**P**	**04 07 41.8**	**+2.2**
	0.3nm,0.4s,baz=352,slow=7.7,SNR=5.8						
CMAR	**Chiang Mai Arr**	**32.63**	**301**	P	P	04 08 32.8	+1.4
	1.0nm,0.3s,baz=112,slow=7.9,SNR=4.3						
CHTO	**Chiang Mai**	**32.78**	**301**	*e*P	**P**	**04 08 33.5**	**+0.7**
	2.8nm,0.4s						
KS15	**Wonju Array Si**	**34.60**	**360**	*e*P	P	04 08 49.0	+0.7
KSAR	**Wonju Array Be**	**34.60**	**360**	P	P	04 08 49.0	+0.7
KSRS	**Korea Array**	**34.61**	**360**	P	**P**	**04 08 49.0**	**+0.6**
	1.3nm,0.5s,baz=178,slow=8.7,SNR=5.5						
KSRS				LR	LR	04 22 20.0	
	comp=Z,13nm,21.5s,baz=205,slow=35						
MJAR	**Matsushiro Arr**	**34.96**	**14**	LR	LR	04 20 55.5	
	comp=Z,28nm,21.8s,baz=200,slow=32						
STKA	**Stephens Creek**	**36.66**	**161**	P	P	04 09 09.2	+3.3
	0.8nm,0.3s,baz=345,slow=9.6,SNR=4.9						
H11S3	**WAKE ISLAND Hy**	**40.87**	**65**	T	T	04 53 06.3	
	baz=252,slow=75,SNR=28						
H11S2	**WAKE ISLAND Hy**	**40.89**	**65**	T	T	04 53 08.9	
	baz=252,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy**	**40.89**	**65**	T	T	04 53 31.0	
	baz=252,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**41.44**	**63**	T	T	04 53 42.4	
	baz=250,slow=75,SNR=15						
H11N2	**WAKE ISLAND Hy**	**41.45**	**63**	T	T	04 53 44.6	
	baz=250,slow=75,SNR=6.6						
H11N3	**WAKE ISLAND Hy**	**41.46**	**63**	T	T	04 53 45.2	
	baz=250,slow=75,SNR=16						
USRK	**Ussuriysk Ar.**	**41.49**	**4**	P	P	04 09 47.2	+1.2
	1.6nm,0.4s,baz=174,slow=6.3,SNR=6.9						
SONA0	**Songino Array**	**48.75**	**341**	*e*P	**P**	**04 10 44.4**	**+0.8**
SONM	**Songino Array**	**48.75**	**341**	P	**P**	**04 10 44.4**	**+0.8**
	0.5nm,0.5s,baz=142,slow=7.3,SNR=2.9	

MOS 30 04:33:06.1±0.0, 42°63N×48°28E, h23km, MPVA3.4, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRN	**Derbent**	**0.60**	**177**	*e*Pg	Pn	04 33 19.7	+0.5
DRN				*i* Sg	Sn	04 33 28.8	+0.6
GNBR	**Gunib**	**1.00**	**257**	*e*Pg	Pn	04 33 26.3	+1.4
GNBR				*e*Sg	Sn	04 33 40.4	+2.1
KMKR	**Kumukh**	**1.01**	**241**	*e*Pg	Pn	04 33 27.0	+1.9
KMKR				*e*Sg	Sn	04 33 41.0	+2.4
KRNR	**Karanay**	**1.03**	**282**	*e*Pg	Pb	04 33 26.5	+1.1
KRNR				*e*Sg	Sn	04 33 41.5	+2.4
DBC	**Dubki**	**1.14**	**291**	*i* Pg	Pb	04 33 28.2	+1.1
DBC				*i* Sg	Sn	04 33 44.6	+2.9
XNZR	**Khunzakh**	**1.17**	**266**	*e*Pg	Pb	04 33 29.3	+1.6
XNZR				*e*Sg	Sn	04 33 46.1	+3.6
AKT	**Akhty**	**1.22**	**200**	*e*Pg	Pb	04 33 29.7	+1.1
AKT				*e*Sg	Sb	04 33 45.1	+1.2
BTLR	**Botlikh**	**1.52**	**272**	*e*Pg	Pb	04 33 34.9	+1.3
BTLR				*e*Sg	Sb	04 33 55.7	+3.2
DVE	**Vedeno**	**1.62**	**282**	*e*Pg	Pb	04 33 37.4	+2.1
DVE				*e*Sg	Sb	04 33 57.8	+2.5

*ISCJB **30** 04:40:10.5±0.3, 36°.01N±0°.03×53°.19E±0°.03, h10km, Error ellipse: s-maj=4.9km s-min=3.0km az=41.2*
*TEH **30** 04:40:10.3, 35°.95N×53°.22E, h8km, ML3.3*
*AZER **30** 04:40:14.8±1.8, 36°.12N×53°.13E, h15km, ml3.5/3, Error ellipse: s-maj=21.5km s-min=12.3km az=33.0*

ISC 30 04:40:11.1±0.8, 35°.96N±0°.04×53°.22E±0°.03, h10km, n43, σ1$47/44, 6C-6D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISHM	**Shahmirzad**	**0.17**	**159**	*e*Pg	**Pg**	**04 40 14.8**	**-0.1**
ISHM					IAMB	IAmb	04 40 17.7
	comp=Z,5μm,0.4s						
ISHM					IAMB	IAmb	04 40 18.1
	comp=N,4μm,0.1s						
ISHM					IAMB	IAmb	04 40 18.6
	comp=E,75μm,0.1s						
IKIA	**Kiasar**	**0.45**	**57**	*e*Pg	**Pg**	**04 40 17.9**	**-2.1**
IKIA					IAMB	IAmb	04 40 27.1
	comp=N,21μm,0.2s						
IKIA					IAMB	IAmb	04 40 27.3
	comp=Z,22μm,0.4s						
IKIA					IAMB	IAmb	04 40 28.6
	comp=E,28μm,0.2s						
IFIR	**Firoozkooh**	**0.49**	**230**	*e*Pg	**Pg**	**04 40 20.4**	**-0.4**
IFIR					IAMB	IAmb	04 40 29.4
	comp=N,37μm,0.3s						
IFIR					IAMB	IAmb	04 40 30.1
	comp=E,44μm,0.2s						
IFIR					IAMB	IAmb	04 40 32.5
	comp=Z,44μm,0.1s						
ILAS	**Lasjerd**	**0.62**	**200**	*e*Pg	**Pb**	**04 40 23.3**	**-0.8**
ILAS					IAMB	IAmb	04 40 32.4
	comp=Z,19μm,0.2s						
ILAS					IAMB	IAmb	04 40 32.6
	comp=N,57μm,0.2s						
ILAS					IAMB	IAmb	04 40 32.6
	comp=E,60μm,0.2s						
IANJ	**Anjilo**	**0.75**	**131**	*e*Pg	**Pg**	**04 40 24.8**	**-0.9**
IANJ					IAMB	IAmb	04 40 35.2
	comp=Z,34μm,0.2s						
IANJ					IAMB	IAmb	04 40 36.2
	comp=E,60nm,0.1s						
IPRN	**Peran**	**0.76**	**292**	*e*Pg	**Pg**	**04 40 25.1**	**-0.7**
IPRN					IAMB	IAmb	04 40 37.8
	comp=Z,14μm,0.1s						
IPRN					IAMB	IAmb	04 40 39.0
	comp=E,65μm,0.2s						
IPRN					IAMB	IAmb	04 40 39.5
	comp=N,53μm,0.2s						
IDMV	**Damavand**	**1.04**	**248**	*e*Pg	**Pb**	**04 40 30.5**	**-0.8**
IDMV					IAMB	IAmb	04 40 31.7
	comp=Z,11μm,0.2s						
IDMV					IAMB	IAmb	04 40 48.5
	comp=E,19μm,0.3s						
IDMV					IAMB	IAmb	04 40 49.8
	comp=N,23μm,0.2s						
DAMV	**Damavand**	**1.07**	**252**	*e*Pg	**Pg**	**04 40 30.8**	**-0.8**
IAFJ	**Afjeh**	**1.23**	**265**	*e*Pg	**Pg**	**04 40 34.0**	**-0.7**
IAFJ					IAMB	IAmb	04 40 37.6
	comp=Z,9μm,0.2s						
IAFJ					IAMB	IAmb	04 40 39.3
	comp=E,90nm,0.1s						
IAFJ					IAMB	IAmb	04 41 01.8
	comp=N,18μm,0.2s						
TEH	**Tehran**	**1.51**	**262**		IAMB	IAmb	04 41 03.8
	comp=Z,0.0nm,0.7s						
TEH					IAMB	IAmb	04 41 05.4
	comp=E,0.0nm,0.5s						
TEH					IAMB	IAmb	04 41 06.6
	comp=N,0.0nm,0.5s						
CHTH	**Charan**	**1.70**	**269**	*e*Pg	**Pg**	**04 40 42.5**	**-1.2**
THKV	**Tehran--Karaj**	**1.90**	**269**	*e*Pn	**Pb**	**04 40 45.7**	**-0.2**
IMHD	**Mahdasht**	**2.09**	**263**		IAMB	IAmb	04 40 51.0
	comp=Z,3μm,0.2s						
IMHD					IAMB	IAmb	04 40 53.2
	comp=N,5μm,0.2s						
IMHD					IAMB	IAmb	04 41 26.5
	comp=E,6μm,0.2s						
GHVR	**GHOM**	**2.16**	**227**	*e*Pn	**Pn**	**04 40 47.4**	**+0.2**
KRSH	**Karshahi**	**2.18**	**204**	*e*Pn	**Pb**	**04 40 48.6**	**-2.1**
KRSH					IAMB	IAmb	04 41 20.8
	comp=Z,0.0nm,0.2s						
KRSH					IAMB	IAmb	04 41 21.5
	comp=N,0.0nm,0.2s						
KRSH					IAMB	IAmb	04 41 27.1
	comp=E,0.0nm,0.2s						
SHRO	**Shahrood**	**2.27**	**89**	*e*Pn	**Pb**	**04 40 50.5**	**-1.7**
IGZV	**Ghazvin**	**2.46**	**281**		IAMB	IAmb	04 41 32.9
	comp=E,6μm,0.4s						
IGZV					IAMB	IAmb	04 41 33.9
	comp=N,4μm,0.2s						
IGZV					IAMB	IAmb	04 41 35.9
	comp=Z,2μm,0.3s						
IRAZ	**Razeghan**	**2.73**	**259**	*e*Pn	**Pb**	**04 40 58.0**	**-2.2**
IRAZ					IAMB	IAmb	04 41 46.0
	comp=E,2μm,0.4s						
IRAZ					IAMB	IAmb	04 41 46.2
	comp=N,986nm,0.3s						
IRAZ					IAMB	IAmb	04 41 47.4
	comp=Z,2μm,0.4s						
ANAR	**Anarak**	**2.80**	**171**	*e*Pn	**Pn**	**04 40 56.9**	**+0.8**
ANAR					IAMB	IAmb	04 41 50.7
	comp=N,0.0nm,0.4s						
ANAR					IAMB	IAmb	04 41 55.7
	comp=E,0.0nm,0.4s						
IKLH	**Kolahrood**	**2.96**	**208**	*e*Pn	**Pn**	**04 40 58.8**	**+0.4**
IKLH					IAMB	IAmb	04 41 47.9
	comp=N,1μm,0.3s						
IKLH					IAMB	IAmb	04 41 48.7
	comp=E,2μm,0.3s						
IKLH					IAMB	IAmb	04 41 58.0
	comp=Z,1μm,0.3s						
IZEF	**Zefreh**	**3.15**	**194**	*e*Pn	**Pn**	**04 41 03.1**	**+2.1**
IZEF					IAMB	IAmb	04 41 49.2
	comp=Z,715nm,0.2s						
IZEF					IAMB	IAmb	04 41 51.3
	comp=N,1μm,0.2s						
IZEF					IAMB	IAmb	04 42 00.5
	comp=E,677nm,0.4s						
TNSJ	**Nastanj**	**3.43**	**125**	*e*Pn	**Pn**	**04 41 05.7**	**+1.0**
TNSJ					IAMB	IAmb	04 42 08.3
	comp=Z,0.0nm,0.4s						
ZNJK	**Zanjan**	**3.73**	**282**	*e*Pn	**Pn**	**04 41 11.7**	**+2.8**
YZKH	**Yazd**	**3.74**	**162**	*e*Pn	**Pn**	**04 41 08.6**	**-0.4**
ICHK	**Chekchek**	**3.84**	**165**		IAMB	IAmb	04 42 22.7
	comp=N,389nm,0.3s						
ICHK					IAMB	IAmb	04 42 29.2
	comp=Z,461nm,0.4s						
TKDS	**Koohdasht(Taba**	**3.98**	**125**	*e*Pn	**Pn**	**04 41 13.3**	**+1.0**
TKDS					IAMB	IAmb	04 42 36.6
	comp=Z,0.0nm,1.1s						
ISFR	**Sfrayin**	**4.00**	**73**	*e*Pn	**Pn**	**04 41 15.5**	**+2.8**
ISFR					IAMB	IAmb	04 42 36.6
	comp=E,721nm,0.6s						
ISFR					IAMB	IAmb	04 42 37.9
	comp=Z,366nm,0.6s						
ISFR					IAMB	IAmb	04 42 41.2
	comp=N,457nm,0.6s						
ISAD	**Sadrabad**	**4.06**	**174**	*e*Pn	**Pn**	**04 41 14.9**	**+1.4**
ISAD					IAMB	IAmb	04 42 28.4
	comp=E,590nm,0.6s						
ISAD					IAMB	IAmb	04 42 32.2
	comp=Z,357nm,0.4s						
ISAD					IAMB	IAmb	04 42 34.9
	comp=N,584nm,0.8s						
TPRV	**Parvadeh(Tabas**	**4.10**	**135**	*e*Pn	**Pn**	**04 41 15.2**	**+1.3**
TPRV					IAMB	IAmb	04 42 31.8
	comp=Z,0.0nm,0.7s						
ASTR	**Astara**	**4.38**	**308**	↑P	**Pn**	**04 41 18.1**	**+0.5**
ASTR				↓S	**Sn**	**04 42 08.8**	**+0.1**
IAKL	**Akhelmad**	**4.52**	**80**	*e*Pn	**Pn**	**04 41 21.6**	**+1.7**
IAKL					IAMB	IAmb	04 41 46.5
	comp=Z,98nm,0.4s						
IAKL					IAMB	IAmb	04 41 50.5
	comp=N,144nm,0.4s						
IAKL					IAMB	IAmb	04 41 54.2
	comp=E,111nm,0.3s						
IEMG	**Emamgholi**	**4.60**	**70**		IAMB	IAmb	04 41 39.4
	comp=N,241nm,0.2s						
IEMG					IAMB	IAmb	04 41 44.9
	comp=Z,101nm,0.2s						
IEMG					IAMB	IAmb	04 41 48.7
	comp=E,328nm,0.3s						
IMEH	**Mehriz**	**4.71**	**165**	*e*Pn	**Pn**	**04 41 23.6**	**+1.2**
IMEH					IAMB	IAmb	04 42 53.1
	comp=Z,122nm,0.4s						
IMEH					IAMB	IAmb	04 42 59.0
	comp=N,190nm,0.7s						
LRK	**Lerik**	**4.72**	**306**	↑P	**Pn**	**04 41 23.3**	**+0.8**
LRK				↓S	**Sn**	**04 42 18.3**	**+1.0**
ISRB	**Sarab**	**4.82**	**294**	*e*Pn	**Pn**	**04 41 27.0**	**+3.1**
ISRB					IAMB	IAmb	04 41 29.5
	comp=Z,223nm,0.2s						
GLBA	**Clilabad**	**5.04**	**312**	↓P	**Pn**	**04 41 27.7**	**+1.0**
GLBA				↓S	**Sn**	**04 42 24.8**	**-0.1**
ITEG	**Tejag**	**5.50**	**122**	*e*Pn	**Pn**	**04 41 35.1**	**+1.9**
IKOO	**Kooshah**	**5.96**	**125**	*e*Pn	**Pn**	**04 41 40.9**	**+1.4**
IKOO					IAMB	IAmb	04 41 46.9
	comp=E,140nm,0.3s						
IMON	**Monand**	**6.00**	**116**	*e*Pn	**Pn**	**04 41 42.0**	**+1.9**
IMON					IAMB	IAmb	04 41 47.4
	comp=Z,172nm,0.2s						
IMON					IAMB	IAmb	04 41 49.8
	comp=E,188nm,0.4s						
PQL	**Pirkuli**	**6.03**	**324**	↓P	**Pn**	**04 41 42.5**	**+2.0**
PQL				↑S	**Sn**	**04 42 50.7**	**+1.1**
IDAH	**Dahanechah**	**6.37**	**118**	*e*Pn	**Pn**	**04 41 47.2**	**+1.9**
XNQ	**Khinaliq**	**6.54**	**324**	↓P	**Pn**	**04 41 48.2**	**+0.6**
XNQ				↑S	**Sn**	**04 43 01.1**	**-1.3**
QSAR	**Qusar**	**6.76**	**327**	↑P	**Pn**	**04 41 52.1**	**+1.7**
QSAR				↑S	**Sn**	**04 43 07.3**	**-0.1**

JMA 30 04:54:39.6±0.3, 26°.26N×123°.41E, h273km, M3.7, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**1.83**	**191**	P	Pn	04 55 23.0	+0.4
JISG	**Ishigakijimahi**	**1.85**	**154**	P	Pn	04 55 23.6	+0.7
JISG				S	S	04 55 56.1	-1.0
IRIF	**Iriomote-Funau**	**1.94**	**171**	P	Pn	04 55 23.4	-0.2
IRIF				S	S	04 55 58.6	+0.2
JTJ	**Tarama**	**1.99**	**144**	P	Pn	04 55 24.8	+0.8
JTJ				*e*S	S	04 55 58.4	-0.8
JIJ	**Ishigaki jima**	**2.00**	**160**	P	Pn	04 55 24.1	0.0
JIJ				S	S	04 55 57.2	-2.2
JKRS	**Kuro-shima**	**2.09**	**165**	P	Pn	04 55 25.0	+0.2
JKRS				S	S	04 55 59.2	-1.5
JIKM	**Ikemajima**	**2.13**	**128**	S	S	04 56 01.2	0.0
JIRB	**Irabujima**	**2.14**	**131**	*e*S	S	04 56 00.5	-0.9
JOGS	**Gusukube**	**2.34**	**129**	S	S	04 56 04.8	0.0
JOW	**Kunigami**	**4.39**	**81**	P	Pn	04 55 48.3	-0.7
JOW				S	S	04 56 39.7	-4.7
JYRO	**Yoronjima**	**4.58**	**79**	P	Pn	04 55 50.0	-1.1

*NDI **30** 04:59:18.8±3.3, 24°.49N×94°.69E, h18km±20km, ML3.5*
*IDC **30** 04:59:18.1±3.8, 23°.99N×95°.06E, h128km±59km, mb3.5/3, mb1 3.5/5, mb1mx3.1/53, mbtmp3.8/5, MS4.4/1, Ms1 4.4/1, ms1mx2.5/36, Error ellipse: s-maj=65.1km s-min=22.4km az=15.0*
*ISCJB **30** 04:59:19.3±0.8, 24°.56N±0°.04×94°.61E±0°.06, h119km±6km, mb3.8/3, Error ellipse: s-maj=9.8km s-min=5.2km az=27.2*

ISC 30 04:59:20.3±1.2, 24°.54N±0°.05×94°.66E±0°.08, h110km±9km, n21, σ1$27/28, mb3.6/3, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**0.71**	**294**	*e*P	**Pn**	**04 59 38.7**	**-0.1**
IMP				*e*S	**Sn**	**04 59 52.7**	**-0.1**
KOHI	**KOHIMA**	**1.28**	**337**	*e*P	**Pn**	**04 59 44.9**	**+0.2**
KOHI				*e*S	**Sn**	**05 00 04.0**	**+0.8**
KOHI					IAML	05 00 10.1	
	comp=E,1μm,0.2s						
KOHI					IAML	05 00 10.7	
	comp=N,1μm,0.4s						
SILR	**SILCHAR**	**1.71**	**279**	*e*S	**Sn**	**05 00 12.9**	**+1.0**
MOKO	**MOKOCHONG**	**1.78**	**356**	*e*P	**Pn**	**04 59 50.7**	**0.0**
MOKO				*e*S	**Sn**	**05 00 13.5**	**-0.3**
MOKO					IAML	05 00 15.2	
	comp=E,464nm,0.3s						
MOKO					IAML	05 00 16.5	
	comp=N,297nm,0.3s						
SAIH	**SAIHA**	**2.55**	**217**	*e*P	**Pn**	**04 59 59.7**	**-0.9**
SAIH				*e*S	**Sn**	**05 00 29.9**	**-1.6**
SAIH					IAML	05 00 34.0	
	comp=E,318nm,0.3s						
SAIH					IAML	05 00 34.2	
	comp=N,332nm,0.2s						
TEZP	**TEZPUR**	**2.67**	**321**	*e*P	**Pn**	**05 00 02.0**	**+0.1**
TEZP				*e*S	**Sn**	**05 00 33.4**	**-0.5**
TEZP					IAML	05 00 34.7	
	comp=N,643nm,0.1s						
SHL	**Shillong**	**2.72**	**293**	*e*P	**Pn**	**05 00 02.8**	**0.0**
SHL				*e*S	**Sn**	**05 00 33.1**	**-2.3**
DIBR	**DIBRUGARH**	**2.93**	**4**	*e*S	**Sn**	**05 00 37.6**	**-2.4**
DIBR					IAML	05 00 45.7	
	comp=N,283nm,0.3s						
DIBR					IAML	05 00 46.8	
	comp=E,392nm,0.4s						
LKP	**Lekhapani**	**2.98**	**21**	*e*S	**Sn**	**05 00 41.5**	**+0.2**
LKP					IAML	05 00 45.4	
	comp=E,178nm,0.2s						
LKP					IAML	05 00 45.4	
	comp=N,220nm,0.1s						
ZIRO	**ZIRO**	**3.07**	**346**	*e*P	**Pn**	**05 00 07.1**	**-0.3**
ZIRO				*e*S	**Sn**	**05 00 42.2**	**-1.4**
GUWA	**GUWAHATI**	**3.15**	**302**	*e*P	**Pn**	**05 00 08.1**	**-0.2**
GUWA				*e*S	**Sn**	**05 00 44.2**	**-1.1**
GUWA					IAML	05 00 47.8	
	comp=N,147nm,0.1s						
GUWA					IAML	05 00 47.9	
	comp=E,112nm,0.0s						
AGT	**Agartala**	**3.18**	**259**	*ex*	**Sn**	**05 00 48.0**	**+1.9**
AGT					IAML	05 00 50.2	
	comp=E,371nm,0.2s						
AGT					IAML	05 00 50.2	
	comp=N,197nm,0.4s						
BELO	**BELONIA**	**3.21**	**247**	*e*S	**Sn**	**05 00 45.2**	**-1.6**
BRDH	**Bariadhala**	**3.33**	**237**	P	**Pn**	**05 00 10.1**	**-0.6**
BRDH				S	**Sn**	**05 00 50.4**	**+0.7**
	comp=N,15nm,0.3s,baz=255,slow=19,SNR=1.4						
	comp=N,132nm,0.3s,baz=256,slow=20,SNR=34						
TAWA	**Tawang**	**3.95**	**321**	*e*S	**Sn**	**05 01 02.3**	**-2.7**
TURI	**Tura**	**4.05**	**285**	*e*S	**Sn**	**05 01 07.0**	**+0.1**
TURI					IAML	05 01 11.7	
TURI					IAML	05 01 12.1	
	comp=E,255nm,0.2s						
CMAR	**Chiang Mai Arr**	**7.24**	**146**	P	Pn	05 00 52.6	-11
	comp=E,0.2nm,0.3s,baz=327,slow=20,SNR=3.1						
MKAR	**Makanchi Array**	**24.32**	**339**	P	**P**	**05 04 29.7**	**+2.1**
	comp=E,1.1nm,0.4s,baz=151,slow=9.5,SNR=20						
TLY	**Talaya**	**27.96**	**12**	LR	LR	05 17 33.7	
	comp=E,710nm,19.7s,baz=282,slow=38						
ARCES	**ARCESS Array B**	**59.96**	**338**	P	**P**	**05 09 15.1**	**+0.4**
	comp=E,4.4nm,1.0s,baz=96,slow=7.1,SNR=6.3						
NOA	**NORSAR Array B**	**65.71**	**328**	P	**P**	**05 09 52.5**	**-0.4**
	comp=E,0.6nm,0.9s,baz=116,slow=6.0,SNR=1.3						

*ISCJB **30** 05:02:36.9±0.6, 7°.77S±0°.04×129°.77E±0°.07, h33km, mb3.6/5, Error ellipse: s-maj=10.6km s-min=6.4km az=177.8*
*IDC **30** 05:02:43.4±2.3, 7°.81S×129°.75E, h77km±24km, mb3.5/5, mb1 3.7/10, mb1mx3.5/41, mbtmp3.9/10, MS2.7/1, Ms1 2.7/1, ms1mx2.1/29, Error ellipse: s-maj=34.5km s-min=16.0km az=74.0*

ISC 30 05:02:40.5±0.8, 7°.84S±0°.06×129°.80E±0°.09, h35km, n10, σ2$43/15, mb3.8/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.50**	**248**	P	**Pn**	**05 04 17.4**	**+3.7**
	5.0nm,0.3s,baz=176,slow=1.9,SNR=3.4						
BATI				S	**Sn**	**05 05 26.6**	**-0.1**
	6.4nm,0.3s,baz=4.1,slow=21,SNR=2.9						
SIJI	**Sorong**	**7.08**	**12**	P	**Pn**	**05 04 24.8**	**+3.1**
	3.1nm,0.3s,baz=28,slow=14,SNR=16						
SIJI				S	**Sn**	**05 05 39.5**	**-1.5**
	1.0nm,0.3s,baz=256,slow=23,SNR=3.6						
FITZ	**Fitzroy Crossi**	**10.97**	**201**	P	**Pn**	**05 05 16.1**	**+1.1**
	0.7nm,0.3s,baz=23,slow=8.7,SNR=32						
FITZ				S	**Sn**	**05 07 12.3**	**-4.3**
	3.2nm,0.3s,baz=357,slow=12,SNR=13						
FITZ				LR	LR	05 09 10.8	
	comp=Z,38nm,21.1s,baz=46,slow=35						
WRA	**Warramunga Arr**	**12.81**	**160**	P	**Pn**	**05 05 41.9**	**+1.7**
	0.5nm,0.3s,baz=335,slow=13,SNR=24						
WRA				S	**Sn**	**05 08 01.6**	**-0.1**
	2.6nm,0.3s,baz=332,slow=22,SNR=13						
ASAR	**Alice Springs**	**16.22**	**166**	P	**P**	**05 06 28.8**	**+0.1**
	0.9nm,0.3s,baz=353,slow=8.8,SNR=12						
ASAR				S	**Sn**	**05 09 24.1**	**-0.8**
	0.9nm,0.3s,baz=316,slow=17,SNR=5.6						
STKA	**Stephens Creek**	**26.32**	**157**	P	**P**	**05 08 13.9**	**+0.8**
	0.7nm,0.4s,baz=330,slow=16,SNR=2.5						
SONM	**Songino Array**	**59.17**	**342**	P	**P**	**05 12 35.2**	**-2.8**
	0.2nm,0.6s,baz=126,slow=44,SNR=2.6						
MKAR	**Makanchi Array**	**68.82**	**327**	P	**P**	**05 13 39.1**	**-2.3**
	0.4nm,0.4s,baz=112,slow=8.1,SNR=12						
ZALV	**Zalesovo Beam**	**72.25**	**334**	P	**P**	**05 13 59.9**	**-2.2**
	0.4nm,0.3s,baz=348,slow=28,SNR=2.3						
KURBB	**Kurchatov Arra**	**73.12**	**329**	P	**P**	**05 14 05.3**	**-2.0**
	0.4nm,0.4s,baz=132,slow=5.3,SNR=5.7						

*IDC **30** 05:24:32.9±4.2, 34°.02S×73°.53W, h0km, mb3.7/2, mb1 3.7/6, mb1mx3.6/27, mbtmp3.6/6, ML3.3/4, MS2.9/2, Ms1 3.0/2, ms1mx2.6/23, Error ellipse: s-maj=108.2km s-min=28.4km az=94.0*
*GUC **30** 05:24:40.0±0.6, 34°.27S×72°.46W, h15km±127km, ML3.7*

ISC 30 05:24:40.3±1.3, 34°.27S±0°.06×72°.2W±0°.1, h16km, n12, σ1$09/15, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO05	**HualaæØ**	**0.78**	**161**	↓*i*P	**Pb**	**05 24 55.2**	**-0.3**
GO05				*e*S	**Sn**	**05 25 06.0**	**-2.0**
GO05					IAML	05 25 07.9	
	comp=E,6μm,0.4s						
ROCH	**El Roble**	**1.65**	**39**	*e*P	**Pn**	**05 25 10.0**	**+1.1**
CLCH	**Cerro Calan**	**1.66**	**59**	↑*i*P	**Pb**	**05 25 10.3**	**-0.3**
CLCH				*e*S	**Sg**	**05 25 33.2**	**-0.7**
CLCH					IAML	05 25 41.3	
	comp=N,2μm,0.8s						
PEL	**Peldehue**	**1.71**	**49**	↑*i*P	**Pn**	**05 25 10.6**	**+1.0**
PEL				*e*S	**Sb**	**05 25 34.0**	**+1.2**
PEL					IAML	05 25 44.1	
	comp=N,652nm,0.6s						
LMEL	**Las Melosas**	**1.74**	**76**	*e*P	**Pb**	**05 25 11.8**	**-0.2**
LMEL				*e*S	**Sg**	**05 25 36.7**	**+0.3**
FCH	**Farellones**	**1.88**	**60**	*e*P	**Pn**	**05 25 13.2**	**+1.2**
FCH					IAML	05 25 47.6	
	comp=E,565nm,0.2s						
PLCA	**Paso Flores**	**6.58**	**169**	Pn	**Pn**	**05 26 18.3**	**+1.8**
	comp=E,0.1nm,0.3s,baz=207,slow=12,SNR=2.2						
LVC	**Limon Verde**	**11.98**	**15**	Pn	Pn	05 27 26.9	-3.9
	comp=E,0.2nm,0.3s,baz=64,slow=18,SNR=1.6						
LVC					Sn	**05 29 43.4**	**-1.0**
	comp=E,0.1nm,0.3s,baz=326,slow=5.1,SNR=4.7						
CPUP	**Villa Florida**	**15.10**	**62**	Pn	**P**	**05 28 17.6**	**-0.6**
	comp=E,0.1nm,0.3s,baz=258,slow=19,SNR=2.2						
CPUP					LR	LR	05 35 33.3
	comp=E,79nm,18.6s,baz=232,slow=41						
LPAZ	**La Paz**	**18.29**	**13**	P	Pn	05 28 47.6	-6.4
	comp=E,0.0nm,0.3s,baz=103,slow=5.0,SNR=2.3						
SIV	**San Ignacio**	**20.79**	**32**	P	**P**	**05 29 20.7**	**-0.2**
	comp=E,2.5nm,0.8s,baz=229,slow=13,SNR=11						
SIV					LR	LR	05 38 06.2
	comp=E,21nm,20.0s,baz=258,slow=38						
TORD	**Torodi Ar. Bea**	**84.46**	**70**	P	**P**	**05 37 12.5**	**-0.1**
	comp=E,0.7nm,1.0s,baz=253,slow=4.4,SNR=3.0						

GUC 30 05:25:21.3±0.4, 34°.32S×72°.47W, h15km±999km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO05	**HualaæØ**	**0.82**	**147**	*e*P	Pg	05 25 35.8	-1.5
GO05				*e*S	Sg	05 25 46.3	-1.8
ROCH	**El Roble**	**1.82**	**43**	*e*S	Sg	05 26 18.8	-1.1
CLCH	**Cerro Calan**	**1.86**	**61**	*e*P	Pn	05 25 52.1	-0.6
CLCH				*e*S	Sn	05 26 15.5	-0.4
PEL	**Peldehue**	**1.90**	**52**	*i* Pg	Pn	05 25 52.7	-0.5
PEL				*e*P	Pn	05 25 52.7	-0.5
PEL					IAML	05 26 24.8	
	comp=N,946nm,0.5s						
LMEL	**Las Melosas**	**1.94**	**77**	*e*P	Pn	05 25 53.9	0.0
LMEL				*e*S	Sn	05 26 18.4	+0.2
LMEL					IAML	05 26 21.2	
	comp=E,1μm,0.8s						
FCH	**Farellones**	**2.07**	**62**	IAML		05 26 28.0	
	comp=N,763nm,0.4s						
CCHI	**Chillan**	**2.30**	**172**	*e*S	Sb	05 26 31.8	+1.1

IDC 30 05:36:26.1±8.6, 20°.86S×177°.87W, h341km±82km, mb3.2/4, mb1 3.4/5, mb1mx3.1/29, mbtmp4.0/5, Error ellipse: s-maj=52.5km s-min=34.4km az=4.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**17.88**	**193**	P	P	05 40 11.6	-0.5
	1.1nm,0.3s,baz=252,slow=3.0,SNR=6.4						
STKA	**Stephens Creek**	**37.74**

σ1§19/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVA	**DENIZLI_Tavas**	**0.36**	**52**	*i* P	**Pg**	**06 08 04.9**	**-0.7**
TAVA				*i* S	**Sg**	**06 08 09.3**	**-0.9**
TURN	**Turunc**	**0.38**	**175**	PG	**Pb**	**06 08 09.2**	**+0.9**
TURN				SG	**Sb**	**06 08 17.6**	**+2.9**
TURN	**Turunc**	**0.38**	**175**	*i* P	**Pb**	**06 08 08.8**	**+0.4**
TURN				*i* S	**Sb**	**06 08 17.5**	**+2.9**
DALY	**Dalyan (Mu˘la**	**0.44**	**170**	PG	**Pg**	**06 08 06.2**	**-0.9**
DALY	**Dalyan (Mu˘la**	**0.44**	**170**	*i* P	**Pg**	**06 08 06.4**	**-0.7**
DALY				*i* S	**Sg**	**06 08 12.7**	**-0.1**
DNZL	**Cakiroluk**	**0.59**	**41**	*i* P	**Pg**	**06 08 10.3**	**+0.2**
DNZL				*i* S	**Sg**	**06 08 19.4**	**+1.7**
MLSB	**Milas**	**0.63**	**275**	PG	**Pb**	**06 08 13.4**	**+0.8**
MLSB				SG	**Sb**	**06 08 22.4**	**+0.4**
AYDN	**Tasoluk**	**0.68**	**307**	*i* P	**Pb**	**06 08 13.4**	**-0.2**
AYDN				*i* S	**Sb**	**06 08 22.9**	**-0.7**
FETY	**Fethiye**	**0.74**	**145**	PG	**Pg**	**06 08 11.4**	**-1.6**
GOLH	**Golhisar**	**0.80**	**90**	*i* P	**Pg**	**06 08 13.2**	**-0.9**
GOLH				*i* S	**Sg**	**06 08 24.7**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**0.88**	**323**	PG	**Pb**	**06 08 17.4**	**+0.4**
AYDB				SG	**Sn**	**06 08 32.6**	**+0.5**
DAT	**Datca**	**0.94**	**237**	PG	**Pb**	**06 08 18.1**	**0.0**
ARG	**Arkhangelos**	**1.09**	**199**	PG	**Pg**	**06 08 18.7**	**-0.9**
KULA	**Kula-Manisa**	**1.27**	**4**	PN	**Pg**	**06 08 22.9**	**-0.2**
AKAS	**Kas**	**1.32**	**140**	PN	**Pg**	**06 08 22.4**	**-1.6**
AKAS	**Kas**	**1.32**	**140**	*i* P	**Pb**	**06 08 24.4**	**-0.1**
AKAS				*i* S	**Sn**	**06 08 42.7**	**-0.1**
AKHS	**Akhisar**	**1.73**	**340**	*i* P	**Pn**	**06 08 29.8**	**-0.4**
KEPZ	**Antalya-Kepez**	**2.46**	**97**	*i* P	**Pb**	**06 08 44.6**	**+0.7**
DOGA	**KONYA_Doganhis**	**2.61**	**70**	*i* P	**Sn**	**06 09 12.7**	**-2.1**

MEX 30 06:12:18.9±0.3, 13°65N×92°04W, h10km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.27**	**350**	*i* P	Pn	06 12 39.6	-3.1
THIG				*i* S	Sb	06 12 55.2	-4.2
PCIG		**2.34**	**331**	*eP*	Pn	06 12 54.4	-3.0
PCIG				*eS*	Sn	06 13 21.9	-4.4
TGIG		**3.28**	**342**	*i* P	Pn	06 13 08.5	-2.0
TGIG				*i* S	Sn	06 13 46.4	-3.3

MEX 30 06:18:50.7±0.5, 15°45N×96°00W, h4km±4km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.34**	**342**	*i* P	Pg	06 18 56.9	-0.4
HUIG				*i* S	Sg	06 19 02.1	+0.4
VHO	**Vista Hermosa**	**1.76**	**337**	*i* P	Pn	06 19 18.5	-3.8
VHO				*i* S	Sn	06 19 40.8	-4.5
CMIG	**Matias Romero**	**1.96**	**33**	*eP*	Pn	06 19 21.6	-3.1
CMIG				*eS*	Sn	06 19 45.1	-4.6

*DRS **30** 06:28:05.7±0.0, 42°95N×46°06E, h13km*
*MOS **30** 06:28:06.7±0.0, 42°87N×46°28E, h12km, MPVA4.2*
*NORS **30** 06:28:08.8±0.0, 42°79N×46°20E, h1km, MPVA4.2*

ISC 30 06:28:08.8±0.9, 42°92N±0°02×46°31E±0°01, h7km±7km, n77, σ1§51/136, 8C-13D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVE	**Vedeno**	**0.14**	**284**	⇑*i*PG	**Pg**	**06 28 11.3**	**-0.4**
DVE	**Vedeno**	**0.14**	**284**	*i* Pg	**Pg**	**06 28 11.3**	**-0.4**
DVE				*eSg*	**Sg**	**06 28 13.9**	**+0.2**
BTLR	**Botlikh**	**0.27**	**194**	*ePG*	**Pg**	**06 28 12.7**	**-1.4**
BTLR				pmax	pmax		
	comp=Z,675nm,0.3s						
BTLR	**Botlikh**	**0.27**	**194**	*i* Pg	**Pg**	**06 28 12.7**	**-1.4**
BTLR				*eSg*	**Sg**	**06 28 16.4**	**-1.3**
DLMR	**Dylym**	**0.28**	**58**	⇓*i*PG	**Pg**	**06 28 14.5**	**+0.2**
DLMR				*i* S	**Sb**	**06 28 21.5**	**+0.4**
DLMR				pmax	pmax		
	comp=Z,535nm,0.2s						
DLMR	**Dylym**	**0.28**	**58**	*i* Pg	**Pg**	**06 28 14.5**	**+0.2**
DLMR				*i* Sg	**Sb**	**06 28 21.5**	**+0.4**
DBC	**Dubki**	**0.39**	**76**	⇓*i*PG	**Pb**	**06 28 16.8**	**-1.4**
DBC				*i* S	**Sb**	**06 28 24.2**	**-0.3**
DBC				pmax	pmax		
	comp=Z,180nm,0.3s						
DBC	**Dubki**	**0.39**	**76**	*i* Pg	**Pb**	**06 28 16.8**	**-1.4**
DBC				*i* Sg	**Sb**	**06 28 24.2**	**-0.3**
UNCR	**Uncukul**	**0.41**	**120**	⇓*i*PG	**Pg**	**06 28 16.5**	**-0.3**
UNCR				*eS*	**Sb**	**06 28 23.5**	**-1.5**
UNCR				pmax	pmax		
	comp=Z,1μm,0.6s						
UNCR	**Uncukul**	**0.41**	**120**	*i* Pg	**Pg**	**06 28 16.5**	**-0.3**
UNCR				*eSg*	**Sb**	**06 28 23.5**	**-1.5**
KRNR	**Karanay**	**0.45**	**102**	⇓*i*PG	**Pg**	**06 28 17.5**	**0.0**
KRNR				*eS*	**Sb**	**06 28 25.0**	**-1.1**
KRNR				pmax	pmax		
	comp=Z,73nm,0.3s						
KRNR	**Karanay**	**0.45**	**102**	*i* Pg	**Pg**	**06 28 17.5**	**0.0**
KRNR				*eSg*	**Sb**	**06 28 25.0**	**-1.1**
GROC	**Groznyy**	**0.47**	**307**	*ePG*	**Pb**	**06 28 19.0**	**-0.4**
GROC				*e*		06 28 27.1	
GROC				pmax	pmax		
	comp=Z,467nm,0.5s						
GROC				smax	smax		
	comp=N,2μm,0.6s						
GROC				smax	smax		
	comp=N,1μm,0.6s						
GROC	**Groznyy**	**0.47**	**307**	*i* Pg	**Pb**	**06 28 19.2**	**-0.2**
GROC				*eSg*	**Sb**	**06 28 26.1**	**-0.5**
XNZR	**Khunzakh**	**0.48**	**142**	*ePG*	**Pg**	**06 28 17.6**	**-0.5**
XNZR				*eS*	**Sb**	**06 28 25.6**	**-1.4**
XNZR	**Khunzakh**	**0.48**	**142**	*i* Pg	**Pg**	**06 28 18.6**	**+0.5**
XNZR				*eSg*	**Sg**	**06 28 25.3**	**+0.9**
BUJR	**Buynaksk**	**0.59**	**99**	*i* PG	**Pn**	**06 28 21.6**	**-2.2**
BUJR				*eS*	**Sn**	**06 28 32.4**	**-1.3**
BUJR				pmax	pmax		
	comp=Z,141nm,0.4s						
BUJR	**Buynaksk**	**0.59**	**99**	*i* Pg	**Pn**	**06 28 21.6**	**-2.2**
BUJR				*eSg*	**Sn**	**06 28 32.4**	**-1.3**
ARKR	**Arakani**	**0.60**	**122**	⇓*i*PG	**Pg**	**06 28 20.2**	**-0.1**
ARKR				*i* S	**Sb**	**06 28 29.7**	**-0.6**
ARKR				pmax	pmax		
	comp=Z,349nm,0.1s						
ARKR	**Arakani**	**0.60**	**122**	*i* Pg	**Pg**	**06 28 20.2**	**-0.1**
ARKR				*i* Sg	**Sb**	**06 28 29.7**	**-0.6**
GNBR	**Gunib**	**0.72**	**138**	*ePG*	**Pg**	**06 28 22.8**	**+0.2**
GNBR				*eS*	**Sb**	**06 28 33.8**	**0.0**
GNBR				pmax	pmax		
	comp=Z,292nm,0.8s						
GNBR	**Gunib**	**0.72**	**138**	*i* Pg	**Pg**	**06 28 22.5**	**-0.1**
GNBR				*eSg*	**Sg**	**06 28 32.3**	**+0.3**
MAK	**Makhachkala**	**0.88**	**87**	*ePG*	**Pn**	**06 28 27.2**	**-0.4**
MAK				*e*		06 28 41.0	
MAK				pmax	pmax		
	comp=Z,217nm,0.3s						
MAK				smax	smax		
	comp=E,1μm,0.6s						
MAK				smax	smax		
	comp=E,2μm,0.4s						
KMKR	**Kumukh**	**0.98**	**143**	*ePG*	**Pb**	**06 28 27.0**	**-1.3**
KMKR				*eS*	**Sg**	**06 28 41.0**	**+0.6**
KMKR				pmax	pmax		
	comp=Z,110nm,0.3s						
KMKR	**Kumukh**	**0.98**	**143**	*ePg*	**Pb**	**06 28 27.0**	**-1.3**
KMKR				*eSg*	**Sg**	**06 28 41.0**	**+0.6**
KMGR	**Komgaron**	**1.07**	**278**	*ePG*	**Pg**	**06 28 29.8**	**+0.5**
KMGR				*eS*	**Sn**	**06 28 49.2**	**+3.8**
KMGR	**Komgaron**	**1.07**	**278**	*ePg*	**Pb**	**06 28 29.1**	**-0.6**
KMGR				*eSg*	**Sg**	**06 28 43.6**	**+0.5**
LGD	**Lagodekhi**	**1.09**	**183**	*ePG*	**Pb**	**06 28 28.4**	**-1.6**
LGD				*eS*	**Sb**	**06 28 42.6**	**-1.8**
SGKR	**Sergokala**	**1.10**	**115**	PG	**Pg**	**06 28 30.0**	**+0.2**
SGKR				*eS*	**Sn**	**06 28 48.5**	**+2.4**
SGKR	**Sergokala**	**1.10**	**115**	*ePg*	**Pg**	**06 28 30.0**	**+0.2**
SGKR				*eSg*	**Sn**	**06 28 48.5**	**+2.4**
VLKR	**Vladikavkaz**	**1.20**	**276**	⇑*ePG*	**Pb**	**06 28 31.3**	**-0.7**
VLKR				pmax	pmax		
	comp=Z,73nm,0.2s						
VLKR	**Vladikavkaz**	**1.20**	**276**	*ePg*	**Pb**	**06 28 31.6**	**-0.4**
VLKR				*eSg*	**Sg**	**06 28 47.9**	**+0.3**
URKR	**Urkarakh**	**1.24**	**127**	*ePG*	**Pg**	**06 28 32.9**	**+0.4**
URKR				*eS*	**Sg**	**06 28 51.6**	**+3.0**
URKR	**Urkarakh**	**1.24**	**127**	*ePg*	**Pg**	**06 28 33.0**	**+0.4**
URKR				*eSg*	**Sg**	**06 28 51.6**	**+3.0**
BTKR	**Batakoyurt**	**1.37**	**290**	*ePg*	**Pb**	**06 28 34.2**	**-0.6**
BTKR				*eSg*	**Sg**	**06 28 53.3**	**+0.5**
TRKR	**Terskaya**	**1.40**	**305**	⇓*ePG*	**Pg**	**06 28 36.9**	**+1.2**
TRKR	**Terskaya**	**1.40**	**305**	*ePg*	**Pg**	**06 28 35.1**	**-0.6**
TRKR				*eSg*	**Sg**	**06 28 54.5**	**+0.7**
GUDG	**Gudauri**	**1.43**	**252**	P	**Pb**	**06 28 34.9**	**-1.0**
GUDG				S	**Sb**	**06 28 54.2**	**-0.1**
DUS	**Dusheti**	**1.45**	**236**	P	**Pb**	**06 28 35.6**	**-0.6**
DUS				S	**Sg**	**06 28 56.0**	**+0.6**
DUS	**Dusheti**	**1.45**	**236**	*ePG*	**Pb**	**06 28 35.6**	**-0.6**
DUS				*eS*	**Sg**	**06 28 56.0**	**+0.6**
DDFL	**Dedoflistskaro**	**1.48**	**186**	P	**Pg**	**06 28 38.3**	**+1.0**
DDFL				S	**Sg**	**06 29 03.1**	**+6.6**
LACR	**Lac**	**1.48**	**267**	*d*⇓PG	**Pn**	**06 28 35.6**	**-0.5**
LACR				pmax	pmax		
	comp=Z,158nm,0.2s						
LACR	**Lac**	**1.48**	**267**	*ePg*	**Pb**	**06 28 35.9**	**-0.9**
LACR				*eSg*	**Sg**	**06 28 55.9**	**-0.6**
ARNR	**Ardon**	**1.51**	**281**	⇓*ePG*	**Pg**	**06 28 37.4**	**-0.3**
ARNR				pmax	pmax		
	comp=Z,41nm,0.2s						
ARNR	**Ardon**	**1.51**	**281**	*ePg*	**Pb**	**06 28 36.5**	**-0.6**
ARNR				*eSg*	**Sg**	**06 28 57.0**	**-0.2**
KORR	**Kora**	**1.65**	**276**	*d*⇓PN	**Pg**	**06 28 40.6**	**+0.1**
KORR				pmax	pmax		
	comp=Z,97nm,0.3s						
KORR	**Kora**	**1.65**	**276**	*ePg*	**Pb**	**06 28 38.6**	**-1.0**
KORR				*eSg*	**Sb**	**06 29 00.8**	**+0.1**
TBLG	**Delisi**	**1.67**	**225**	P	**Pb**	**06 28 38.9**	**-1.0**
TBLG				S	**Sg**	**06 29 03.4**	**+1.0**
TBLG	**Delisi**	**1.67**	**225**	*ePN*	**Pb**	**06 28 38.9**	**-1.0**
TBLG				*eS*	**Sg**	**06 29 03.4**	**+1.0**
PRTR	**Priterechnaya**	**1.69**	**300**	*cePN*	**Pg**	**06 28 41.1**	**-0.2**
PRTR	**Priterechnaya**	**1.69**	**300**	*ePg*	**Pb**	**06 28 39.6**	**-0.7**
PRTR				*eSg*	**Sg**	**06 29 02.8**	**-0.5**
STDR	**Stavd-Durt**	**1.70**	**286**	*ePN*	**Pg**	**06 28 41.3**	**-0.2**
STDR				*eS*	**Sg**	**06 29 05.5**	**+2.0**
STDR	**Stavd-Durt**	**1.70**	**286**	*ePg*	**Pg**	**06 28 41.3**	**-0.2**
STDR				*eSg*	**Sg**	**06 29 04.2**	**+0.6**
DRN	**Derbent**	**1.74**	**120**	*ePN*	**Pg**	**06 28 42.6**	**+0.4**
DRN				*eS*	**Sg**	**06 29 08.0**	**+3.3**
DRN				pmax	pmax		
	comp=Z,93nm,1.0s						
DRN	**Derbent**	**1.74**	**120**	*ePg*	**Pg**	**06 28 42.3**	**+0.1**
DRN				*eSg*	**Sg**	**06 29 07.3**	**+2.6**
ZEI	**Tsey**	**1.78**	**266**	*ePN*	**Pb**	**06 28 40.2**	**-1.6**
ZEI				*eS*	**Sb**	**06 29 04.5**	**+0.1**
ZEI	**Tsey**	**1.78**	**266**	*ePg*	**Pb**	**06 28 40.4**	**-1.5**
ZEI				*eSg*	**Sb**	**06 29 04.2**	**-0.2**
AKT	**Akhty**	**1.79**	**143**	⇓*i*PN	**Pb**	**06 28 42.1**	**+0.1**
AKT				*eS*	**Sg**	**06 29 05.6**	**-0.6**
AKT				pmax	pmax		
	comp=Z,85nm,0.4s						
AKT	**Akhty**	**1.79**	**143**	*i* Pg	**Pb**	**06 28 41.2**	**-0.8**
AKT				*eSg*	**Sg**	**06 29 05.7**	**-0.5**
LSNR	**Lesken**	**1.85**	**282**	*cePN*	**Pb**	**06 28 42.9**	**-0.2**
LSNR				pmax	pmax		
	comp=Z,31nm,0.2s						
LSNR	**Lesken**	**1.85**	**282**	*ePg*	**Pb**	**06 28 41.7**	**-1.3**
LSNR				*eSg*	**Sb**	**06 29 06.5**	**0.0**
KSMR	**Kasumkent**	**1.89**	**134**	*ePN*	**Pg**	**06 28 45.5**	**+0.5**
KSMR				*eS*	**Sg**	**06 29 12.5**	**+3.1**
KSMR				pmax	pmax		
	comp=Z,121nm,0.2s						
KSMR	**Kasumkent**	**1.89**	**134**	*ePg*	**Pg**	**06 28 45.5**	**+0.5**
KSMR				*eSg*	**Sg**	**06 29 12.5**	**+3.1**
DIGR	**Digorskoe uzhe**	**2.00**	**270**	*c i*PN	**Pb**	**06 28 45.3**	**-0.4**
DIGR				pmax	pmax		
	comp=Z,2.0nm,0.2s						
DIGR	**Digorskoe uzhe**	**2.00**	**270**	*ePg*	**Pb**	**06 28 43.9**	**-1.8**
DIGR				*eSg*	**Sb**	**06 29 10.4**	**-0.6**
TRLG	**Trialeti**	**2.15**	**231**	P	**Pb**	**06 28 46.9**	**-1.2**
TRLG				S	**Sb**	**06 29 14.9**	**-0.1**
AKH	**Akhalkalaki**	**2.58**	**235**	P	**Pb**	**06 28 54.0**	**-1.6**
AKH				S	**Sb**	**06 29 28.1**	**+0.5**
AKH	**Akhalkalaki**	**2.58**	**235**	*ePN*	**Pb**	**06 28 54.0**	**-1.6**
AKH				*eS*	**Sb**	**06 29 28.1**	**+0.5**
BGD	**Bogdanovka**	**2.61**	**232**	P	**Pb**	**06 28 54.2**	**-1.8**
BGD				S	**Sb**	**06 29 28.4**	**0.0**
NEY	**Neytrino**	**2.65**	**278**	⇓*ePN*	**Pn**	**06 28 53.4**	**+1.3**
NEY	**Neytrino**	**2.65**	**278**	*ePn*	**Pb**	**06 28 54.0**	**-2.7**
NEY				*eSn*	**Sb**	**06 29 27.8**	**-1.7**
KIV	**Kislovodsk**	**2.83**	**293**	⇓*ePN*	**Pn**	**06 28 55.3**	**+0.7**
GOF	**Gofitskoye**	**3.18**	**313**	*ePN*	**Pb**	**06 29 04.7**	**-0.9**
GOF				*eS*	**Sn**	**06 29 39.0**	**+1.5**
GOF				pmax	pmax		
	comp=Z,10.0nm,0.3s						
GOF				smax	smax		
	comp=N,50nm,0.5s						
ARU	**Arti**	**15.64**	**26**	*d i*P	**P**	**06 31 53.3**	**-0.4**
ARU				S	**S**	**06 34 50.4**	**-7.9**
ARU				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BRVK	**Borovoye**	**18.89**	**49**	⇑*eP*	**Pn**	**06 32 31.5**	**+1.2**
BRVK				pmax	pmax		
	comp=Z,6.0nm,2.9s						
AAK	**Ala-Archa**	**20.66**	**81**	⇑*eP*	Pn	06 32 52.7	+1.2
AAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KURK	**Kurchatov**	**23.30**	**59**	⇑*eP*	**P**	**06 33 20.2**	**+3.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.0s						

*NIED **30** 06:41:00, 38°00N×142°80E, h17km, Mw4.0 Best double couple: M0 9.45000×10^14 NP1:φs=258.00000°, δ15.00000°, λ-174.00000°. NP2:φs=162.00000°, δ89.00000°, λ-76.00000°.*

*IDC **30** 06:41:30.7±0.7, 37°94N×142°80E, h0km, mb4.0/18, mb1 4.2/25, mb1mx4.0/61, mbtmp4.1/25, ML3.4/6, MS3.4/6, Ms1 3.4/6, ms1mx3.0/33, Error ellipse: s-maj=16.7km s-min=12.9km az=139.0*

*ISCJB **30** 06:41:32.7±1.0, 38°03N±0°03×142°68E±0°04, h22km±7km, mb4.1/31, MS3.9/1, Error ellipse: s-maj=5.4km s-min=4.2km az=42.2*

*JMA **30** 06:41:32.4±0.1, 38°04N×142°70E, h30km±2km, M4.3*
JMA Felt I J1.

*NEIC **30** 06:41:36.6±0.6, 37°97N×142°69E, h39km±5km, mb4.3/14, Error ellipse: s-maj=6.5km s-min=4.3km az=134.0*

NEIC Recorded [1 JMA] in Miyagi.

ISC 30 06:41:32.7±2.1, 38°02N±0°04×142°61E±0°05, h9km±12km, n91, σ1§29/100, mb4.2/31, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.94**	**288**	P	**Pg**	**06 41 50.6**	**-0.2**
JIO	**Ouri**	**1.08**	**294**	P	**Pb**	**06 41 52.6**	**-0.9**
JIO				*eS*	**Sb**	**06 42 07.6**	**-0.1**
JKMT	**Kesennumamotoy**	**1.19**	**312**	P	**Pn**	**06 41 54.1**	**-1.3**
JKMT				S	**Sb**	**06 42 09.5**	**-1.3**
OFUJ	**Ofunato**	**1.29**	**326**	P	**Pn**	**06 41 55.2**	**-1.6**
OFUJ				*eS*	**Sb**	**06 42 11.7**	**-2.0**
JMK	**Ichinoseki**	**1.43**	**311**	P	**Pn**	**06 41 58.0**	**-0.7**
JMK				S	**Sn**	**06 42 17.0**	**-0.6**
JMM	**Marumori**	**1.44**	**264**	P	**Pn**	**06 41 58.0**	**-0.9**
JMM				S	**Sn**	**06 42 16.9**	**-1.0**
JFK	**Kawauchi**	**1.52**	**245**	P	**Pn**	**06 41 58.7**	**-1.3**
JFK				*eS*	**Sn**	**06 42 18.2**	**-1.7**
JOU	**Okura**	**1.57**	**283**	P	**Pn**	**06 42 00.3**	**-0.4**
JOU				*eS*	**Sn**	**06 42 20.6**	**-0.5**
JOM	**Ohasama**	**1.78**	**325**	P	**Pn**	**06 42 02.9**	**-0.6**
JOM				*eS*	**Sn**	**06 42 25.2**	**-1.0**
JFT	**Otama**	**1.87**	**255**	P	**Pn**	**06 42 04.9**	**+0.1**
JFT				*eS*	**Sn**	**06 42 29.1**	**+0.7**
JYK	**Kaneyama**	**1.98**	**298**	P	**Pn**	**06 42 06.9**	**+0.6**
JYK				*eS*	**Sn**	**06 42 31.7**	**+0.5**
JYS	**Shirataka**	**2.01**	**276**	P	**Pn**	**06 42 06.9**	**+0.1**
JRG	**Rokugo**	**2.07**	**312**	P	**Pn**	**06 42 08.0**	**+0.5**
JANG	**Nango**	**2.50**	**341**	P	**Pn**	**06 42 14.0**	**+0.6**
JNS	**Sasagawa**	**2.61**	**267**	P	**Pn**	**06 42 16.6**	**+1.7**
JAW	**Awa shima**	**2.68**	**280**	P	**Pn**	**06 42 17.6**	**+1.7**
MJAR	**Matsushiro Arr**	**3.80**	**249**	Pn	**Pn**	**06 42 33.5**	**+2.0**
	6.4nm,0.3s,baz=61,slow=6.7,SNR=35						
MJAR				LR	LR	06 44 15.5	
	comp=Z,485nm,19.4s,baz=70,slow=42						
MAJO	**Matsushiro**	**3.81**	**249**	*ePn*	**Pn**	**06 42 33.7**	**+2.3**
MAT	**Matsushiro**	**3.81**	**249**	P	**Pn**	**06 42 34.0**	**+2.6**
MAT				*eS*	**Sn**	**06 43 19.9**	**+3.6**
MJB9	**Matsu-Tunnel**	**3.81**	**249**	*ePn*	**Pn**	**06 42 33.6**	**+2.1**
ERM	**Erimo**	**4.01**	**6**	*ePn*	**Pn**	**06 42 35.8**	**+1.6**
ERM				*eSn*	**Sn**	**06 43 19.1**	**-2.2**
INU	**Inuyama**	**5.22**	**241**	*ePn*	**Pn**	**06 42 53.0**	**+2.1**
JHJ2	**Mitsune**	**5.40**	**206**	*ePn*	**Pn**	**06 42 54.1**	**+0.8**
JHJ	**Hachijo jima 2**	**5.40**	**206**	Pn	**Pn**	**06 42 52.6**	**-0.8**
	49nm,0.3s,baz=297,slow=20,SNR=11						
JHJ					Sn	**Sn**	**06 43 52.0**	**-3.6**
	13nm,0.3s,baz=238,slow=23,SNR=3.6						
ASAJ	**Asahikawa**	**6.09**	**360**	Pn	**Pn**	**06 43 04.0**	**+1.2**
	1.4nm,0.3s,baz=123,slow=7.4,SNR=3.4						
ASAJ					Sn	**Sn**	**06 44 12.8**	**+0.2**
	1.1nm,0.3s,baz=258,slow=31,SNR=3.4						
USRK	**Ussuriysk Ar.**	**10.11**	**311**	Pn	**Pn**	**06 44 00.8**	**+2.9**
	0.3nm,0.3s,baz=128,slow=14,SNR=6.8						
USRK					LR	LR	06 47 42.1	
	comp=Z,148nm,20.4s,baz=103,slow=36						
JNU	**Nakatsue**	**10.73**	**246**	Pn	**Pn**	**06 44 09.1**	**+2.6**
	0.3nm,0.3s,baz=133,slow=7.0,SNR=5.1						
JNU					LR	LR	06 48 36.7	
	comp=Z,214nm,19.0s,baz=120,slow=39						
JNU	**Nakatsue**	**10.73**	**246**	*ePn*	**Pn**	**06 44 09.2**	**+2.8**
KSRS	**Korea Array**	**11.64**	**272**	Pn	**Pn**	**06 44 21.6**	**+2.7**
	0.3nm,0.3s,baz=87,slow=13,SNR=11						
KSRS					LR	LR	06 48 38.0	
	comp=Z,128nm,18.9s,baz=75,slow=36						
KSAR	**Wonju Array Be**	**11.67**	**272**	Pn	**Pn**	**06 44 21.6**	**+2.3**
JOW	**Kunigami**	**16.43**	**231**	LR	LR	06 51 52.1	
	comp=Z,59nm,18.0s,baz=82,slow=38						
PETK	**Petropavlovsk-**	**18.36**	**30**	P	**Pn**	**06 45 46.9**	**-0.4**
	0.1nm,0.3s,baz=189,slow=8.3,SNR=4.1						
PETK	**Petropavlovsk-**	**18.36**	**30**	*eP*	**P**	**06 45 47.6**	**+0.3**
PEA1	**Petropavlovsk-**	**18.36**	**30**	*eP*	**Pn**	**06 45 46.9**	**-0.5**
SEY	**Seymchan**	**25.65**	**10**	P	**P**	**06 47 03.1**	**+0.9**
	7.7nm,0.8s,baz=180,slow=6.4,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**27.88**	**124**	T	T	07 16 37.0	
	baz=316,slow=75,SNR=256						
H11N1	**WAKE ISLAND Hy**	**27.88**	**124**	T	T	07 16 50.7	
	baz=316,slow=75,SNR=179						
H11N3	**WAKE ISLAND Hy**	**27.89**	**124**	T	T	07 16 38.9	
	baz=316,slow=75,SNR=204						
SONA1	**Songino Array**	**28.04**	**302**	*eP*	**P**	**06 47 24.5**	**+0.4**
SONA0	**Songino Array**	**28.04**	**302**	*eP*	**P**	**06 47 24.4**	**+0.2**
SONA0				*ePcP*	**PcP**	**06 50 37.6**	**-1.1**
SONM	**Songino Array**	**28.04**	**302**	P	**P**	**06 47 24.4**	**+0.2**
	2.0nm,0.6s,baz=117,slow=8.2,SNR=17						
SONM				PcP	**PcP**	**06 50 37.6**	**-1.1**
	0.4nm,0.5s,baz=94,slow=3.0,SNR=4.0						
ENH	**Enshi**	**28.37**	**264**	*eP*	**P**	**06 47 26.8**	**-0.4**
	19nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**28.64**	**126**	T	T	07 17 29.7	
	baz=318,slow=76,SNR=70						
H11S3	**WAKE ISLAND Hy**	**28.64**	**126**	T	T	07 17 31.5	
	baz=318,slow=76,SNR=82						
H11S2	**WAKE ISLAND Hy**	**28.65**	**126**	T	T	07 17 31.2	
	baz=318,slow=76,SNR=50						
ANM	**Nome**	**40.26**	**32**	*eP*	**P**	**06 49 10.2**	**+0.8**
	2.6nm,0.9s						
ZAA0	**Zalesovo Array**	**41.96**	**312**	*eP*	**P**	**06 49 23.7**	**+0.1**
	4.8nm,0.8s						
ZAA1	**Zalesovo Array**	**41.96**	**312**	*eP*	**P**	**06 49 23.5**	**-0.1**
ZALV	**Zalesovo Beam**	**41.96**	**312**	P	**P**	**06 49 23.5**	**-0.1**
	1.7nm,0.4s,baz=82,slow=7.5,SNR=3.1						
ZALV	**Zalesovo Beam**	**41.96**	**312**	*eP*	**P**	**06 49 23.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**42.66**	**255**	P	**P**	**06 49 29.7**	**0.0**
	0.9nm,0.4s,baz=52,slow=5.8,SNR=3.2						
MK01	**Makanchi Array**	**44.40**	**301**	*eP*	**P**	**06 49 44.3**	**+0.8**
MK31	**Makanchi Array**	**44.41**	**301**	*eP*	**P**	**06 49 43.5**	**0.0**
MK32	**Makanchi Array**	**44.41**	**301**	*eP*	**P**	**06 49 44.1**	**+0.6**
MKAR	**Makanchi Array**	**44.41**	**301**	P	**P**	**06 49 44.1**	**+0.6**
	2.6nm,0.7s,baz=88,slow=9.6,SNR=17						
MKAR	**Makanchi Array**	**44.41**	**301**	*eP*	**P**	**06 49 43.5**	**0.0**
	22nm,0.6s						
KDAK	**Kodiak Island**	**45.73**	**43**	P	**P**	**06 49 53.2**	**-0.6**
	20nm,1.0s,baz=245,slow=4.7,SNR=7.0						
KURK	**Kurchatov**	**46.08**	**308**	*eP*	**P**	**06 49 56.4**	**-0.2**
	7.8nm

BJI ***30*** *06:48:15.7, 48˚.32N×155˚.44E, h42km, mb4.8/45, mB5.2/31, Ms4.8/27, Ms7 4.5/25*
ISCJB ***30*** *06:48:15.8±0.9, 48˚.14N±0˚.03×155˚.05E±0˚.04, h22km±6km, mb4.7/143, MS4.2/26, Error ellipse: s-maj=5.6km s-min=2.9km az=143.0*
KRSC ***30*** *06:48:16.4±2.1, 48˚.06N×155˚.61E, h79km±27km, ML4.7*
MOS ***30*** *06:48:18.6±1.1, 48˚.25N×155˚.01E, h40km, mb5.0/54, Error ellipse: s-maj=6.6km s-min=3.7km az=83.4*
SKHL ***30*** *06:48:18.2±0.4, 48˚.01N×155˚.24E, h50km±1km, mb5.8/1, Ms4.5/6, msh5.6/1*
NEIC ***30*** *06:48:19.6±0.6, 48˚.13N×155˚.01E, h37km±5km, mb4.8/71, Error ellipse: s-maj=5.2km s-min=3.0km az=148.0*
ISC 30 06:48:19.1±0.7, 48˚.11N±0˚.05×155˚.11E±0˚.05, h34km±2km, n451, σ1§31/466, mb4.8/144, MS4.3/26, 22C-25D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.66**	**14**	*e*P	**Pn**	**06 48 59.3**	**-0.1**
SKR					AMB	AMB	06 49 04.1
	320nm,0.9s						
SKR					AMB	AMB	06 49 04.1
	4μm,0.9s						
SKR				*e*S	**Sn**	**06 49 30.4**	**0.0**
SKR					A	A	06 49 54.0
	3μm,0.9s						
SKR					A	A	06 49 54.0
	2μm,0.9s						
SKR					AMS	AMS	06 50 21.7
	8μm,13.0s						
SKR					AMS	AMS	06 50 21.7
	4μm,13.0s						
SKR					AMS	AMS	06 50 21.7
	5μm,13.0s						
SKR	**Severo-Kuril's**	**2.66**	**14**	*e*P	**Pn**	**06 48 58.4**	**-1.0**
SKR				*e*S	**Sn**	**06 49 30.1**	**-0.3**
SKR	**Severo-Kuril's**	**2.66**	**14**	*e*PN	**Pn**	**06 48 58.0**	**-1.4**
SKR				pmax	pmax		
	comp=Z,158nm,1.3s						
SKR				MLR	MLR		
	comp=Z,3μm,13.0s						
SKR				MLR	MLR		
	comp=Z,5μm,12.0s						
PAU	**Pauzhetka**	**3.53**	**18**	*e*P	**Pn**	**06 49 12.7**	**+1.2**
PAU					AMB	AMB	06 49 13.3
	comp=Z,200nm,0.8s						
PAU					AMB	AMB	06 49 13.3
	comp=Z,240nm,0.8s						
PAU				*e*S	**Sn**	**06 49 53.3**	**+1.3**
PAU					A	A	06 50 07.5
	comp=Z,1μm,0.7s						
PAU					A	A	06 50 07.5
	comp=Z,200nm,0.7s						
PAU					AMS	AMS	06 54 02.8
	comp=Z,5μm,15.0s						
PAU					AMS	AMS	06 54 02.8
	comp=Z,12μm,15.0s						
PAU					AMS	AMS	06 54 02.8
	comp=Z,20μm,15.0s						
PAU	**Pauzhetka**	**3.53**	**18**	*e*P	**Pn**	**06 49 10.9**	**-0.6**
PAU	**Pauzhetka**	**3.53**	**18**	PN	**Pn**	**06 49 10.9**	**-0.6**
KDTR	**Khodutka, Kamc**	**4.17**	**26**	*e*P	**Pn**	**06 49 20.0**	**-0.2**
KDTR				*e*S	**Sn**	**06 50 04.6**	**-3.0**
KDTR	**Khodutka, Kamc**	**4.17**	**26**	PN	**Pn**	**06 49 20.0**	**-0.2**
MTVR	**Mutnovka**	**4.80**	**23**	*e*P	**Pn**	**06 49 27.7**	**-1.3**
MTVR				*e*S	**Sn**	**06 50 21.4**	**-2.0**
MTVR	**Mutnovka**	**4.80**	**23**	PN	**Pn**	**06 49 27.7**	**-1.3**
RUS	**Russkaya**	**4.84**	**25**	*e*P	**Pn**	**06 49 27.4**	**-2.1**
RUS				*e*S	**Sn**	**06 50 20.8**	**-3.5**
RUS	**Russkaya**	**4.84**	**25**	PN	**Pn**	**06 49 27.4**	**-2.1**
APC	**Apacha**	**4.99**	**14**	*e*P	**Pn**	**06 49 32.6**	**+1.1**
APC	**Apacha**	**4.99**	**14**	PN	**Pn**	**06 49 32.6**	**+1.1**
KRMR	**Karymshinskiy**	**5.10**	**21**	*e*P	**Pn**	**06 49 32.9**	**-0.1**
KRMR	**Karymshinskiy**	**5.10**	**21**	PN	**Pn**	**06 49 32.9**	**-0.1**
PEA0B	**Petropavlovsk-**	**5.26**	**17**	*e*Pn	**Pn**	**06 49 35.7**	**+0.4**
PETK	**Petropavlovsk-**	**5.26**	**17**	Pn	**Pn**	**06 49 35.6**	**+0.3**
	comp=Z,3.2nm,0.3s,baz=272,slow=13,SNR=37						
PEA1	**Petropavlovsk-**	**5.27**	**17**	*e*Pn	**Pn**	**06 49 35.6**	**+0.3**
PET	**Petropavlovsk**	**5.41**	**23**	*e*P	**Pn**	**06 49 37.6**	**+0.4**
PET					AMB	AMB	06 49 39.9
	comp=Z,40nm,0.7s						
PET					AMB	AMB	06 49 39.9
	comp=Z,30nm,0.7s						
PET					AMB	AMB	06 49 39.9
	comp=Z,50nm,0.7s						
PET				*e*S	**Sn**	**06 50 37.7**	**-0.5**
PET					A	A	06 50 46.4
	comp=Z,280nm,0.7s						
PET					A	A	06 50 46.4
	comp=Z,230nm,0.7s						
PET					AMS	AMS	06 52 13.6
	comp=Z,2μm,15.0s						
PET					AMS	AMS	06 52 13.6
	comp=Z,1μm,15.0s						
PET	**Petropavlovsk**	**5.41**	**23**	*e*P	**Pn**	**06 49 36.0**	**-1.2**
PET	**Petropavlovsk**	**5.41**	**23**	*e*PN	**Pn**	**06 49 37.2**	**0.0**
PET				pmax	pmax		
	comp=Z,93nm,0.6s						
PET				MLR	MLR		
	comp=Z,2μm,13.0s						
PET				MLR	MLR		
	comp=Z,1μm,13.0s						
DALK	**Dalny**	**5.44**	**24**	*e*P	**Pn**	**06 49 36.9**	**-0.8**
DALK	**Dalny**	**5.44**	**24**	PN	**Pn**	**06 49 36.9**	**-0.8**
UGLR	**Uglovaya**	**5.62**	**23**	*e*P	**Pn**	**06 49 41.2**	**+0.9**
UGLR	**Uglovaya**	**5.62**	**23**	PN	**Pn**	**06 49 41.2**	**+0.9**
KOK	**Koryaka**	**5.65**	**22**	*e*P	**Pn**	**06 49 40.9**	**+0.3**
KOK	**Koryaka**	**5.65**	**22**	*e*P	**Pn**	**06 49 40.9**	**+0.3**
KOK	**Koryaka**	**5.65**	**22**	PN	**Pn**	**06 49 40.9**	**+0.3**
AVH	**Avacha**	**5.65**	**23**	*e*P	**Pn**	**06 49 40.8**	**+0.2**
AVH	**Avacha**	**5.65**	**23**	PN	**Pn**	**06 49 40.8**	**+0.2**
SMAR	**Somma**	**5.66**	**23**	*e*P	**Pn**	**06 49 41.0**	**0.0**
SMAR	**Somma**	**5.66**	**23**	PN	**Pn**	**06 49 41.0**	**0.0**
SDLR	**Sedlovina**	**5.70**	**23**	*e*P	**Pn**	**06 49 41.0**	**-0.4**
SDLR	**Sedlovina**	**5.70**	**23**	PN	**Pn**	**06 49 41.0**	**-0.4**
KRX	**Arik**	**5.71**	**22**	*e*P	**Pn**	**06 49 41.1**	**-0.4**
KRX	**Arik**	**5.71**	**22**	PN	**Pn**	**06 49 41.1**	**-0.4**
KUR	**Kuril'sk**	**5.76**	**243**	*i* P	**Pn**	**06 49 42.9**	**+0.8**
KUR					AMB	AMB	06 49 44.0
	comp=Z,30nm,0.6s						
KUR					AMB	AMB	06 49 44.0
	comp=Z,50nm,0.6s						
KUR				*i* S	**Sn**	**06 50 46.1**	**-0.8**
KUR					A	A	06 51 19.2
	comp=Z,160nm,0.8s						
KUR					A	A	06 51 19.2
	comp=Z,340nm,0.8s						
KUR					AMS	AMS	06 52 01.0
	comp=Z,3μm,13.0s						
KUR					AMS	AMS	06 52 01.0
	comp=Z,400nm,13.0s						
KUR					AMS	AMS	06 52 01.0
	comp=Z,2μm,13.0s						
KUR	**Kuril'sk**	**5.76**	**243**	ǁ*i*PN	**Pn**	**06 49 43.5**	**+1.4**
KUR				*i* S	**Sn**	**06 50 51.1**	**+4.2**
KUR				pmax	pmax		
	comp=E,453nm,0.5s						
KUR				pmax	pmax		
	comp=Z,50nm,0.5s						
KUR				pmax	pmax		
	comp=N,80nm,0.4s						
KUR				smax	smax		
	comp=E,153nm,0.6s						
KUR				smax	smax		
	comp=N,241nm,0.7s						
KUR				MLR	MLR		
	comp=N,3μm,13.0s						
KUR				MLR	MLR		
	comp=Z,2μm,13.0s						
KUR				MLR	MLR		
	comp=E,363nm,6.0s						
GNL	**Ganaly**	**5.87**	**17**	*e*P	**Pn**	**06 49 45.1**	**+1.4**
GNL	**Ganaly**	**5.87**	**17**	PN	**Pn**	**06 49 45.1**	**+1.4**
SPN	**Mys Shipunski**	**5.89**	**30**	*e*P	**Pn**	**06 49 43.4**	**-0.4**
SPN	**Mys Shipunski**	**5.89**	**30**	PN	**Pn**	**06 49 43.4**	**-0.4**
SHO	**Shikotan**	**7.16**	**237**	AMB	AMB	06 49 59.0	
	comp=E,30nm,0.6s						
SHO				AMB	AMB	06 49 59.0	
	comp=E,40nm,0.6s						
SHO				AMB	AMB	06 49 59.0	
	comp=E,70nm,0.6s						
SHO				*i* P	**Pn**	**06 49 59.4**	**-1.9**
SHO				*e*S	**Sn**	**06 51 19.5**	**-1.9**
SHO				AMS	AMS	06 53 12.0	
	comp=E,1μm,15.0s						
SHO				AMS	AMS	06 53 12.0	
	comp=E,2μm,15.0s						
SHO				AMS	AMS	06 53 12.0	
	comp=E,1μm,15.0s						
SHO	**Shikotan**	**7.16**	**237**	ǁ*i*PN	**Pn**	**06 49 59.0**	**-2.3**
SHO				pmax	pmax		
	comp=N,32nm,0.4s						
SHO				pmax	pmax		
	comp=E,35nm,0.4s						
SHO				pmax	pmax		
	comp=Z,74nm,0.4s						
SHO				MLR	MLR		
	comp=Z,974nm,16.0s						
SHO				MLR	MLR		
	comp=N,1μm,14.0s						
SHO				MLR	MLR		
	comp=E,2μm,15.0s						
YUK	**Yuzh-Kuril'sk**	**7.62**	**241**	*e*P	**Pn**	**06 50 07.4**	**-0.1**
YUK					AMB	AMB	06 50 11.0
	comp=E,90nm,0.7s						
YUK					AMB	AMB	06 50 11.0
	comp=E,200nm,0.7s						
YUK					AMB	AMB	06 50 11.0
	comp=E,30nm,0.7s						
YUK				*i* S	**Sn**	**06 51 31.5**	**-1.1**
YUK					AMS	AMS	06 53 21.0
	comp=E,4μm,15.0s						
YUK					AMS	AMS	06 53 21.0
	comp=E,4μm,15.0s						
YUK					AMS	AMS	06 53 21.0
	comp=E,2μm,15.0s						
YUK	**Yuzh-Kuril'sk**	**7.62**	**241**	*e*PN	**Pn**	**06 50 06.8**	**-0.7**
YUK				pmax	pmax		
	comp=E,195nm,0.5s						
YUK				pmax	pmax		
	comp=Z,298nm,0.5s						
YUK				pmax	pmax		
	comp=N,91nm,0.3s						
YUK				MLR	MLR		
	comp=Z,1μm,14.0s						
YUK				MLR	MLR		
	comp=N,644nm,10.0s						
YUK				MLR	MLR		
	comp=E,257nm,12.0s						
MKZ	**Mys Kozlova**	**7.67**	**30**	*e*P	**Pn**	**06 50 05.1**	**-3.1**
MKZ	**Mys Kozlova**	**7.67**	**30**	PN	**Pn**	**06 50 05.1**	**-3.1**
YSS	**Yuzh-Sakhalins**	**8.44**	**267**	*e*Pn	**Pn**	**06 50 22.3**	**+3.4**
YSS	**Yuzh-Sakhalins**	**8.44**	**267**	*e*P	**Pn**	**06 50 21.0**	**+2.1**
YSS				AMB	AMB	06 50 23.0	
	comp=E,130nm,0.8s						
YSS				AMB	AMB	06 50 23.0	
	comp=E,110nm,0.8s						
YSS				*e*S	**Sn**	**06 51 52.0**	**-0.9**
YSS				A	A	06 51 55.0	
	comp=E,50nm,0.7s						
YSS				AMS	AMS	06 55 14.0	
	comp=E,700nm,16.0s						
YSS	**Yuzh-Sakhalins**	**8.44**	**267**	ǁ*e*PN	**Pn**	**06 50 21.9**	**+3.0**
YSS				pmax	pmax		
	comp=Z,110nm,0.6s						
YSS				pmax	pmax		
	comp=N,130nm,0.8s						
YSS				MLR	MLR		
	comp=Z,700nm,16.0s						
TYV	**Tymovskoe**	**8.56**	**293**	*e*P	**Pn**	**06 50 22.7**	**+2.2**
TYV				AMB	AMB	06 50 25.0	
	comp=Z,40nm,0.9s						
TYV				AMB	AMB	06 50 25.0	
	comp=Z,4μm,0.9s						
TYV				AMB	AMB	06 50 25.8	
	comp=Z,2μm,6.0s						
TYV				AMB	AMB	06 50 25.8	
	comp=Z,5μm,6.0s						
TYV				*e*S	**Sn**	**06 51 55.6**	**-0.3**
TYV				A	A	06 51 58.6	
	comp=Z,30nm,1.0s						
TYV				A	A	06 51 58.7	
	comp=Z,3μm,5.0s						
TYV	**Tymovskoe**	**8.56**	**293**	*e*PN	**Pn**	**06 50 22.7**	**+2.2**
TYV				pmax	pmax		
	comp=Z,42nm,0.9s						
TYV				pmax	pmax		
	comp=Z,2μm,4.2s						
UGL	**Uglegorsk**	**8.70**	**281**	*e*P	**Pn**	**06 50 25.0**	**+2.6**
UGL				AMB	AMB	06 50 27.0	
	comp=Z,150nm,0.7s						
UGL				AMB	AMB	06 50 27.0	
	comp=Z,5μm,0.7s						
UGL				*e*S	**Sn**	**06 51 58.7**	**-0.6**
UGL				A	A	06 51 59.0	
	comp=Z,170nm,1.0s						
UGL				AMS	AMS	06 54 10.0	
	comp=Z,4μm,14.0s						
UGL	**Uglegorsk**	**8.70**	**281**	*e*PN	**Pn**	**06 50 25.7**	**+3.3**
UGL				pmax	pmax		
	comp=Z,146nm,0.7s						
UGL				MLR	MLR		
	comp=Z,4μm,14.0s						
KBTR	**Krutoberegovo**	**9.38**	**27**	*e*P	**Pn**	**06 50 30.5**	**-1.2**
KBTR	**Krutoberegovo**	**9.38**	**27**	PN	**Pn**	**06 50 30.5**	**-1.2**
OKH	**Okha**	**9.43**	**310**	*e*P	**Pn**	**06 50 36.0**	**+3.6**
OKH				*e*S	**Sn**	**06 52 18.3**	**+1.3**
OKH				AMS	AMS	06 54 59.0	
	comp=Z,1μm,15.0s						
OKH	**Okha**	**9.43**	**310**	*e*PN	Pn	06 50 42.5	+10
OKH				MLR	MLR		
	comp=Z,1μm,15.0s						
JKA	**Kamikawa-asahi**	**9.56**	**250**	*e*P	**Pn**	**06 50 35.9**	**+1.6**
ASAJ	**Asahikawa**	**9.56**	**250**	Pn	**Pn**	**06 50 35.9**	**+1.6**
	comp=Z,4.7nm,0.3s,baz=83,slow=13,SNR=42						
ASAJ				LR	LR	06 54 04.1	
	comp=Z,944nm,19.2s,baz=117,slow=37						
ASAJ	**Asahikawa**	**9.56**	**250**	*e*Pn	**Pn**	**06 50 36.6**	**+2.4**
ERM	**Erimo**	**10.42**	**239**	*e*Pn	**Pn**	**06 50 45.0**	**-0.9**
ERM	**Erimo**	**10.42**	**239**	*ce*PN	**Pn**	**06 50 44.8**	**-1.2**
EKMR	**Ekimchan**	**14.90**	**298**	*e*P	**Pn**	**06 51 47.0**	**-0.1**
EKMR				AMB	AMB	06 52 01.8	
	comp=Z,20nm,1.0s						
EKMR				AMB	AMB	06 52 01.8	
	comp=Z,4μm,1.0s						
SEY	**Seymchan**	**14.93**	**355**	Pn	**Pn**	**06 51 46.9**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=149,slow=8.8,SNR=4.5						
SEY	**Seymchan**	**14.93**	**355**	*e*P	**Pn**	**06 51 46.0**	**-1.4**
SEY	**Seymchan**	**14.93**	**355**	ǁ*i*P	**Pn**	**06 51 46.0**	**-1.4**
KLR	**Kul'dur**	**15.46**	**283**	Pn	**P**	**06 51 57.6**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=78,slow=10.0,SNR=14						
KLR				LR	LR	06 58 10.2	
	comp=Z,707nm,18.7s,baz=92,slow=39						
KLR	**Kul'dur**	**15.46**	**283**	ǁ*e*P	**Pn**	**06 51 56.5**	**+2.0**
USA0B	**Ussuriysk Arra**	**16.48**	**265**	*e*Pn	**Pn**	**06 52 06.9**	**-0.6**
	comp=Z,14nm,0.8s						
USRK	**Ussuriysk Ar.**	**16.48**	**265**	Pn	**Pn**	**06 52 07.1**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=67,slow=12,SNR=16						
USRK				LR	LR	06 58 21.5	
	comp=Z,295nm,18.3s,baz=65,slow=37						
VLA	**Vladivostok**	**16.98**	**262**	*e*P	**Pn**	**06 52 14.0**	**+0.3**
VLA	**Vladivostok**	**16.98**	**262**	ǁ*e*P	**Pn**	**06 52 14.0**	**+0.3**
VLA				pmax	pmax		
	comp=Z,73nm,1.7s						
MJAR	**Matsushiro Arr**	**16.98**	**233**	Pn	**Pn**	**06 52 10.1**	**-3.9**
	comp=Z,0.7nm,0.3s,baz=28,slow=12,SNR=15						
MJB9	**Matsu-Tunnel**	**16.98**	**233**	*e*Pn	**Pn**	**06 52 10.2**	**-3.8**
	comp=Z,29nm,0.8s						
MAJO	**Matsushiro**	**16.98**	**233**	*e*Pn	**Pn**	**06 52 10.2**	**-3.8**
	comp=Z,29nm,0.8s						
MAJO	**Matsushiro**	**16.98**	**233**	*e*P	**Pn**	**06 52 10.4**	**-3.5**
MAJO	**Matsushiro**	**16.98**	**233**	*de*P	**Pn**	**06 52 14.4**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,30nm,0.8s						
MAT	**Matsushiro**	**16.98**	**233**	P	**Pn**	**06 52 09.3**	**-4.6**
BMKR	**Bomnak**	**17.60**	**302**	*e*P	**P**	**06 52 22.2**	**0.0**
BMKR				AMB	AMB	06 52 25.2	
	comp=Z,30nm,0.8s						
MDJ	**Mudanjiang**	**17.93**	**268**	P	**Pn**	**06 52 25.0**	**-0.5**
MDJ				pP	pP	06 52 33.5	-1.3
MDJ				S	**Sn**	**06 55 45.3**	**+1.0**
MDJ				sS	sS	06 55 58.5	-5.4
MDJ				ScP	**ScP**	**07 00 29.3**	**-3.1**
MDJ				PcS	**PcS**	**07 00 35.8**	**-0.5**
MDJ				ScS	**ScS**	**07 04 09.0**	**-3.7**
MDJ				pmax	pmax		
	comp=Z,14nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,590nm,4.9s						
MDJ				LR	LR		
	comp=Z,1μm,5.1s						
MDJ				LR	LR		
	comp=Z,930nm,5.2s						
MDJ				LR	LR		
	comp=Z,850nm,7.2s						
ZEA	**Zeya**	**18.37**	**298**	*e*P	**Pn**	**06 52 32.7**	**+1.8**
ZEA				AMB	AMB	06 52 41.0	
	comp=Z,100nm,2.0s						
INU	**Inuyama**	**18.52**	**233**	*e*P	**P**	**06 52 32.4**	**0.0**
	comp=Z,28nm,0.8s						
JHJ	**Hachijo jima 2**	**18.91**	**223**	LR	LR	06 59 24.9	
	comp=Z,74nm,20.4s,baz=68,slow=36						
BILL	**Bilibino**	**20.77**	**12**	ǁ*e*P	**P**	**06 52 54.5**	**-2.2**
BILL				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2	**Changchun**	**21.00**	**269**	*e*P	**P**	**06 52 56.0**	**-3.4**
CN2				pmax	pmax		
	comp=Z,30nm,0.9s						
KSRS	**Korea Array**	**22.51**	**252**	P	**P**	**06 53 15.6**	**0.0**
	comp=Z,24nm,0.8s,baz=52,slow=10,SNR=46						
KSRS				LR	LR	07 01 18.3	
	comp=Z,267nm,18.1s,baz=56,slow=35						
KS01	**Wonju Array Si**	**22.51**	**252**	*e*P	**P**	**06 53 14.8**	**-0.9**
KS15	**Wonju Array Si**	**22.54**	**252**	*e*P	**P**	**06 53 15.2**	**-0.7**
KSAR	**Wonju Array Be**	**22.54**	**252**	P	**P**	**06 53 15.6**	**-0.4**
KSAR	**Wonju Array Be**	**22.54**	**252**	P	**P**	**06 53 15.6**	**-0.4**
HIA	**Hailar**	**23.25**	**286**	*e*P	**P**	**06 53 22.9**	**-0.4**
	comp=Z,14nm,1.1s						
HIA	**Hailar**	**23.25**	**286**	*e*P	**P**	**06 53 22.9**	**-0.4**
HIA				pmax	pmax		
	comp=Z,14nm,1.1s						
TJN	**Taejon**	**23.52**	**250**	ǁ*e*P	**P**	**06 53 26.0**	**+0.1**
JNU	**Nakatsue**	**23.58**	**239**	P	**P**	**06 53 26.7**	**+0.1**
	comp=Z,3.8nm,0.6s,baz=31,slow=5.9,SNR=2.4						
JNU				LR	LR	07 03 26.2	
	comp=Z,183nm,18.3s,baz=77,slow=39						
TIXI	**Tiksi**	**26.57**	**342**	P	**P**	**06 53 51.4**	**-2.0**
	comp=Z,8.4nm,0.8s,baz=136,slow=7.2,SNR=7.4						
TIXI	**Tiksi**	**26.57**	**342**	*e*P	**P**	**06 53 52.1**	**-1.3**
	comp=Z,6.8nm,0.7s						
TIXI	**Tiksi**	**26.57**	**342**	*e*P	**P**	**06 53 52.0**	**-1.4**
TIXI	**Tiksi**	**26.57**	**342**	⇑*e*P	**P**	**06 53 52.0**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,14nm,1.3s						
ANM	**Nome**	**26.78**	**38**	*e*P	**P**	**06 53 57.7**	**+2.2**
	comp=Z,20nm,1.0s						
ANM	**Nome**	**26.78**	**38**	*e*P	**P**	**06 53 57.7**	**+2.2**
ANM				pmax	pmax		
	comp=Z,20nm,1.0s						
RDOG	**Red Dog Mine**	**28.95**	**31**	*e*P	**P**	**06 54 15.8**	**+1.0**
	comp=Z,8.8nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**29.88**	**157**	T	T	07 26 10.2	
	baz=344,slow=76,SNR=31						
H11N1	**WAKE ISLAND Hy**	**29.90**	**157**	T	T	07 26 06.2	
	baz=344,slow=76,SNR=53						
H11N3	**WAKE ISLAND Hy**	**29.90**	**157**	T	T	07 26 11.4	
	baz=344,slow=76,SNR=26						
H11S1	**WAKE ISLAND Hy**	**31.00**	**158**	T	T	07 27 27.9	
	baz=344,slow=76,SNR=143						
H11S3	**WAKE ISLAND Hy**	**31.01**	**158**	T	T	07 27 28.5	
	baz=344,slow=76,SNR=218						
H11S2	**WAKE ISLAND Hy**	**31.02**	**158**	T	T	07 27 33.2	
	baz=344,slow=76,SNR=145						
HHC	**Hu-ho-hao-te**	**31.56**	**273**	*e*P	**P**	**06 54 38.0**	**-0.3**
HHC				PP	**PP**	**06 55 47.0**	**-2.7**
HHC				S	**S**	**06 59 41.3**	**-3.3**
HHC				pmax	pmax		
	comp=Z,24nm,0.6s						
HHC				pmax	pmax		
	comp=Z,460nm,5.5s						
HHC				LR	LR		
	comp=Z,600nm,13.0s						
HHC				LR	LR		
	comp=Z,680nm,12.3s						
HHC				LR	LR		
	comp=Z,1μm,14.7s						
NJ2	**Nanjing**	**31.70**	**253**	*e*P	**P**	**06 54 39.5**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
NJ2				LR	LR		
	comp=Z,550nm,10.2s						
NJ2				LR	LR		
	comp=Z,450nm,10.8s						
NJ2				LR	LR		
	comp=Z,560nm,11.9s						
ULN	**Ulaanbaatar**	**31.75**	**288**	*e*P	**P**	**06 54 38.1**	**-1.8**
	comp=Z,3.9nm,0.8s						
ULN	**Ulaanbaatar**	**31.75**	**288**	*e*P	**P**	**06 54 38.1**	**-1.8**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
IM3	**Indian Mountai**	**31.86**	**37**	*e*P	**P**	**06 54 40.5**	**0.0**
IM3				*e*PcP	**PcP**	**06 57 30.8**	**+0.4**
SONA0	**Songino Array**	**32.18**	**288**	*e*P	**P**	**06 54 41.8**	**-1.9**
SONA0				*e*PcP	**PcP**	**06 57 30.7**	**-1.0**
SONM	**Songino Array**	**32.18**	**288**	P	**P**	**06 54 41.8**	**-1.9**
	comp=Z,3.4nm,0.9s,baz=68,slow=8.8,SNR=20						
SONM				PcP	**PcP**	**06 57 30.7**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=103,slow=4.2,SNR=4.7						
SONM				LR	LR	07 08 53.6	
	comp=Z,571nm,18.5s,baz=42,slow=39						
KDAK	**Kodiak Island**	**32.19**	**53**	P	**P**	**06 54 43.7**	**+0.3**
	comp=Z,13nm,0.9s,baz=14,slow=4.8,SNR=2.8						
TLY	**Talaya**	**32.78**	**296**	P	**P**	**06 54 47.4**	**-1.3**
	comp=Z,11nm,0.8s,baz=323,slow=1.8,SNR=7.6						
TLY	**Talaya**	**32.78**	**296**	*e*P	**P**	**06 54 47.2**	**-1.5**
	comp=Z,16nm,0.9s						
TLY	**Talaya**	**32.78**	**296**	*e*P	**P**	**06 54 48.4**	**-0.3**
TLY	**Talaya**	**32.78**	**296**	ǁ*e*P	**P**	**06 54 48.4**	**-0.3**
TLY				pmax	pmax		
	comp=Z,24nm,2.5s						
TRF	**Thorofare Moun**	**33.12**	**42**	*e*P	**P**	**06 54 48.9**	**-2.9**
	comp=Z,6.5nm,0.8s						
TOLK	**Toolik Lake Re**	**33.87**	**33**	*e*P	**P**	**06 54 58.1**	**0.0**
	comp=Z,12nm,0.8s						
WRH	**Wood River Hil**	**34.11**	**40**	*e*P	**P**	**06 55 01.2**	**+1.1**
	comp=Z,7.2nm,1.0s						
CCB	**Clear Creek Bu**	**34.24**	**40**	*e*P	**P**	**06 55 02.4**	**+1.2**
	comp=Z,6.3nm,1.0s						
IL1	**Eielson Array**	**34.63**	**40**	*e*P	**P**	**06 55 05.8**	**+1.1**
ILAR	**Eielson Array**	**34.63**	**40**	P	**P**	**06 55 05.2**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=268,slow=7.1,SNR=12						
ILB	**Eielson Array**	**34.63**	**40**	*e*P	**P**	**06 55 06.1**	**+1.5**
DOT	**Dot Lake**	**35.90**	**42**	*e*P	**P**	**06 55 15.0**	**-0.6**
	comp=Z,4.6nm,0.9s						
BMRM	**Bremner River**	**35.91**	**46**	*e*P	**P**	**06 55 11.4**	**-4.3**
	comp=Z,10nm,1.0s						
KNGR	**Kungurtug, Tuv**	**36.79**	**296**	⇑*i*P	**P**	**06 55 23.2**	**-0.2**
TPUB	**Ta-pu**	**36.89**	**240**	*e*P	**P**	**06 55 24.9**	**+0.5**
	comp=Z,21nm,0.9s						
XAN	**Xi'an**	**36.99**	**265**	P	**P**	**06 55 24.3**	**-0.9**
XAN				pP	pP	06 55 36.3	+1.2

comp=Z,4.0nm,0.9s
INK Inuvik 39.77 33 *e*P **P** **06 55 48.8 +0.7**
INK Inuvik 39.77 33 *e*P **P** **06 55 48.8 +0.7**
INK pmax pmax
comp=Z,4.0nm,0.9s
GTA Gaotai 40.10 279 ⇓P **P** **06 55 50.8 -0.6**
GTA pP pP 06 55 59.0 -2.4
GTA sP sP 06 56 01.8 -3.7
GTA PcP **PcP** **06 57 56.5 +1.0**
GTA pmax pmax
comp=Z,8.0nm,1.1s
GTA pmax pmax
comp=Z,140nm,6.0s
GTA LR LR
comp=Z,250nm,18.7s
GTA LR LR
comp=Z,580nm,18.1s
GTA LR LR
comp=Z,630nm,18.7s
CD2 Chengdu 42.35 265 *e*P **P** **06 56 09.0 -0.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
ZAA1 Zalesovo Array 42.92 305 *e*P **P** **06 56 12.5 -1.7**
ZAA1 *e*PcP **PcP** **06 58 04.0 -0.3**
ZALV Zalesovo Beam 42.92 305 P **P** **06 56 12.5 -1.7**
comp=Z,2.5nm,0.5s,baz=79,slow=5.9,SNR=6.1
ZALV PcP **PcP** **06 58 04.0 -0.3**
comp=Z,3.9nm,0.8s,baz=93,slow=3.0,SNR=7.0
ZALV LR LR 07 15 00.6
comp=Z,175nm,19.2s,baz=82,slow=38
DGZ Jazzator, Alta 43.14 299*d i*P **P** **06 56 15.7 -0.5**
DGZ pmax pmax
comp=Z,49nm,0.9s
WMQ Urumqi 45.70 291 *e*P **P** **06 56 38.5 +1.9**
WMQ LR LR
comp=Z,310nm,21.9s
WMQ LR LR
comp=Z,500nm,17.1s
KMI Kunming 46.82 260 P **P** **06 56 47.0 +1.2**
KMI pmax pmax
comp=Z,24nm,0.5s
KMI pmax pmax
comp=Z,160nm,4.5s
MK31 Makanchi Array 47.52 297 *e*P **P** **06 56 49.5 -1.3**
MK31 Makanchi Array 47.52 297 *e*P **P** **06 56 49.5 -1.3**
MK32 Makanchi Array 47.52 297 *e*P **P** **06 56 49.4 -1.4**
MKAR Makanchi Array 47.52 297 P **P** **06 56 49.4 -1.3**
comp=Z,12nm,0.7s,baz=64,slow=7.8,SNR=66
MKAR LR LR 07 18 27.2
comp=Z,278nm,18.2s,baz=48,slow=38
MKAR Makanchi Array 47.52 297 *e*P **P** **06 56 49.5 -1.3**
comp=Z,94nm,0.7s
MKAR Makanchi Array 47.52 297 *e*P **P** **06 56 49.5 -1.3**
MKAR pmax pmax
comp=Z,95nm,0.7s
MK01 Makanchi Array 47.53 297 *e*P **P** **06 56 49.2 -1.7**
KURK Kurchatov 47.74 303 *e*P **P** **06 56 51.0 -1.4**
comp=Z,34nm,0.8s
KURK Kurchatov 47.74 303 P **P** **06 56 51.9 -0.5**
KURK pmax pmax
comp=Z,28nm,0.7s
KURBB Kurchatov Arra 47.84 303 P **P** **06 56 51.9 -1.2**
comp=Z,29nm,0.7s,baz=66,slow=8.4,SNR=90
YKW3 Yellowknife Ar 48.98 38 *e*P **P** **06 57 02.7 +0.9**
comp=Z,4.1nm,0.9s
YKA Yellowknife Ar 49.02 38 P **P** **06 57 01.9 -0.1**
comp=Z,4.4nm,1.0s,baz=297,slow=7.3,SNR=14
RES Resolute Bay 49.11 19 *e*P **P** **06 57 03.4 +0.9**
comp=Z,2.7nm,0.8s
RES Resolute Bay 49.11 19 *e*P **P** **06 57 03.4 +0.9**
RES Resolute Bay 49.11 19 *e*P **P** **06 57 03.4 +0.9**
RES pmax pmax
comp=Z,3.0nm,0.8s
PDGK Podgornoye 51.03 295 P **P** **06 57 15.9 -1.8**
PDGK pmax pmax
comp=Z,5.0nm,0.9s
BVAR Borovoye Array 51.04 309 P **P** **06 57 16.0 -1.6**
comp=Z,4.5nm,0.5s,baz=57,slow=8.0,SNR=34
BVAR PcP **PcP** **06 58 33.0 -0.1**
comp=Z,1.8nm,0.8s,baz=64,slow=6.8,SNR=3.6
BRVK Borovoye 51.08 309 *e*P **P** **06 57 16.9 -0.9**
comp=Z,7.7nm,0.7s
BRVK Borovoye 51.08 309⇑*i*P **P** **06 57 16.2 -1.6**
BRVK pmax pmax
comp=Z,8.0nm,0.7s
SKNT Sakolnakorn 51.84 251 P **P** **06 57 24.9 +1.0**
comp=Z,4.1nm,1.0s
OTUK Ortayu 52.53 303 P **P** **06 57 27.8 -0.9**
OTUK pmax pmax
comp=Z,11nm,1.0s
PAYA Payao 52.75 257 P **P** **06 57 32.9 +2.2**
comp=Z,3.8nm,0.9s,comp=Z,320nm
LAMP Lampang 53.51 257 P **P** **06 57 39.2 +2.9**
comp=Z,4.6nm,0.9s
CMMT Chiang Mai 53.75 257 P **P** **06 57 38.6 +0.6**
comp=Z,17nm,1.0s
CHTO Chiang Mai 53.75 257 *e*P **P** **06 57 38.4 +0.3**
comp=Z,14nm,0.9s
CHTO Chiang Mai 53.75 257 P **P** **06 57 38.6 +0.6**
CHTO pmax pmax
comp=Z,19nm,1.0s
CHTO Chiang Mai 53.75 257 P **P** **06 57 38.6 +0.6**
comp=Z,77nm,1.0s
SHL Shillong 53.76 269 *e*P **P** **06 57 37.6 -0.6**
comp=Z,44nm,0.8s
SHL Shillong 53.76 269 *e*P **P** **06 57 37.6 -0.6**
SHL pmax pmax
comp=Z,44nm,0.8s
CHAI Chaiyaphum 53.91 252 P **P** **06 57 40.2 +1.0**
comp=Z,4.9nm,0.9s,comp=Z,243nm
CM31 Chiang Mai Arr 54.01 257 *e*P **P** **06 57 40.9 +1.0**
CMAR Chiang Mai Arr 54.01 257 P **P** **06 57 40.4 +0.5**
comp=Z,5.3nm,0.8s,baz=34,slow=7.3,SNR=26
CMAR LR LR 07 21 45.2
comp=Z,139nm,19.6s,baz=54,slow=37
CM01 Chiang Mai Arr 54.02 257 *e*P **P** **06 57 40.4 +0.4**
PBKT Sadao Pong 54.07 254 *e*P **P** **06 57 40.8 +0.5**
comp=Z,4.1nm,0.6s
PBKT Sadao Pong 54.07 254 P **P** **06 57 42.0 +1.7**
comp=Z,5.7nm,0.9s,comp=Z,986nm
FRU Bishkek 54.25 297 *e*P P 06 57 36.0 -5.5
FRU *e* 06 57 53.0
AAK Ala-Archa 54.44 296 P **P** **06 57 41.9 -1.1**
comp=Z,8.6nm,0.8s,baz=116,slow=5.3,SNR=6.2
AAK Ala-Archa 54.44 296 *e*P **P** **06 57 42.6 -0.5**
comp=Z,9.0nm,0.8s
AAK Ala-Archa 54.44 296 *e*P **P** **06 57 42.3 -0.7**
AAK Ala-Archa 54.44 296 P **P** **06 57 42.5 -0.5**
AAK Ala-Archa 54.44 296*d i*P **P** **06 57 42.3 -0.7**
AAK pmax pmax
comp=Z,10.0nm,0.8s
ARU Arti 54.92 318 P **P** **06 57 44.4 -1.6**
comp=Z,6.0nm,0.7s,baz=24,slow=2.6,SNR=11
ARU Arti 54.92 318 *e*P **P** **06 57 45.0 -1.1**
comp=Z,6.6nm,0.7s
ARU Arti 54.92 318*d i*P **P** **06 57 44.3 -1.8**
ARU pmax pmax
comp=Z,6.0nm,0.8s
KSH Kashi 55.38 293 *e*P **P** **06 57 52.5 +2.7**
KSH S **S** **07 05 30.8 -1.1**
KSH LR LR
comp=Z,330nm,8.2s
KSH LR LR
comp=Z,460nm,8.1s
KSH LR LR
comp=Z,940nm,20.9s
RAMN Ramite 56.38 274 *e*P **P** **06 57 56.9 -0.3**
ARA0 ARCESS Array S 57.01 341 *e*P **P** **06 58 00.4 -0.4**
ARCES ARCESS Array B 57.01 341 P **P** **06 58 00.4 -0.4**
comp=Z,2.6nm,0.7s,baz=29,slow=8.3,SNR=4.5
ARCES LR LR 07 27 48.6
comp=Z,13nm,18.6s,baz=11,slow=42
ABKAR Akbulak array 58.59 310 *e*P **P** **06 58 11.6 -0.6**
FFC Flin Flon 58.82 41 *e*P **P** **06 58 14.4 +0.8**
comp=Z,4.4nm,0.8s
FFC Flin Flon 58.82 41*ce*P **P** **06 58 14.5 +0.8**
AKTO Aktyubinsk 58.82 312 P **P** **06 58 15.2 +1.4**
comp=Z,1.2nm,0.4s,baz=68,slow=11,SNR=4.7
SUMG Summit 59.24 5 *e*P **P** **06 58 17.9 +1.1**
comp=Z,41nm,0.9s
SUMG Summit 59.24 5 *i* P **P** **06 58 17.3 +0.5**
comp=Z,111nm,0.9s
SUMG Summit 59.24 5 *i* P **P** **06 58 17.3 +0.5**
SUMG pmax pmax
comp=Z,110nm,0.9s
FCC Fort Churchill 59.37 34 *e*P **P** **06 58 17.4 0.0**
comp=Z,8.8nm,0.9s
FCC Fort Churchill 59.37 34 *e*P **P** **06 58 17.4 0.0**
FCC Fort Churchill 59.37 34 *e*P **P** **06 58 17.4 0.0**
FCC pmax pmax
comp=Z,9.0nm,0.9s
KLMR Klimovskoe 59.64 329 *e*P **P** **06 58 17.4 -1.8**
KLMR pmax pmax
comp=Z,19nm,1.5s
KLMR Klimovskoe 59.64 329 *e*P **P** **06 58 17.4 -1.8**
KLMR AMP 06 58 19.5
comp=Z,19nm,1.5s
BOZ Bozeman (W) 59.88 54 *e*P **P** **06 58 22.0 +0.6**
comp=Z,4.9nm,0.8s
BOZ Bozeman (W) 59.88 54 *e*P **P** **06 58 22.0 +0.6**
BOZ Bozeman (W) 59.88 54 *e*P **P** **06 58 22.0 +0.6**
BOZ pmax pmax
comp=Z,5.0nm,0.8s
QLMT Earthquake Lak 60.48 55 *e*P **P** **06 58 26.2 +0.7**
NV01 Mina Array Sit 60.61 64 *e*P **P** **06 58 26.2 -0.3**
NVAR Mina Array Bea 60.61 64 P **P** **06 58 26.2 -0.3**
comp=Z,0.9nm,0.7s,baz=302,slow=5.8,SNR=2.6
NIL Nilore 60.76 289 *e*P **P** **06 58 27.5 +0.1**
comp=Z,17nm,0.8s
NIL Nilore 60.76 289 *e*P **P** **06 58 27.5 +0.1**
NIL pmax pmax
comp=Z,17nm,0.8s
SCO Scoresbysund 61.70 359 *e*P **P** **06 58 33.6 +0.5**
comp=Z,3.7nm,0.9s
SCO Scoresbysund 61.70 359 *i* P **P** **06 58 33.4 +0.3**
comp=Z,25nm,1.3s
SCO Scoresbysund 61.70 359 *i* P **P** **06 58 33.4 +0.3**
SCO pmax pmax
comp=Z,23nm,1.3s
KBL Kabul 62.82 292 *e*P **P** **06 58 39.9 -1.5**
comp=Z,11nm,0.8s
KBL Kabul 62.82 292 *e*P **P** **06 58 39.9 -1.5**
KBL pmax pmax
comp=Z,11nm,0.8s
BW06 Boulder Array 62.85 55 *e*P **P** **06 58 42.0 +0.4**
comp=Z,4.3nm,1.1s
PD31 Pinedale Array 62.85 55 *e*P **P** **06 58 41.8 +0.2**
PDAR Pinedale Array 62.85 55 P **P** **06 58 41.8 +0.2**
comp=Z,1.8nm,0.9s,baz=304,slow=2.7,SNR=10
FIA1 FINESS Array S 63.38 335 *e*P **P** **06 58 43.8 -0.6**
FIA0 FINESS Array S 63.38 335 *e*P **P** **06 58 43.7 -0.7**
FIA0 FINESS Array S 63.38 335 *e*P **P** **06 58 43.7 -0.7**
FINES FINESS Array B 63.38 335 P **P** **06 58 43.7 -0.7**
comp=Z,4.6nm,0.9s,baz=54,slow=9.7,SNR=7.5
FINES LR LR 07 28 57.5
comp=Z,241nm,19.4s,baz=304,slow=39
FINES FINESS Array B 63.38 335 *e*P **P** **06 58 44.0 -0.4**
FINES FINESS Array B 63.38 335 *i* P **P** **06 58 44.0 -0.4**
FINES pmax pmax
comp=Z,5.0nm,0.9s
LCMT Little Creek M 64.56 62 *e*P **P** **06 58 53.9 +1.1**
comp=Z,3.0nm,0.9s
ULM Lac du Bonnet 64.60 42 P **P** **06 58 52.5 -0.1**
comp=Z,1.7nm,0.8s,baz=299,slow=13,SNR=2.2
RSSD Black Hills 64.91 51 *e*P **P** **06 58 55.1 0.0**
comp=Z,8.4nm,0.8s
RSSD Black Hills 64.91 51 *e*P **P** **06 58 55.1 0.0**
RSSD pmax pmax
comp=Z,8.0nm,0.8s
VRH Novokhopyorsk 65.82 321 *e*P **P** **06 58 59.2 -1.4**
VRH pmax pmax
comp=Z,10.0nm,0.7s
PSI Prapat 65.89 245 P **P** **06 59 02.0 +0.4**
comp=Z,3.5nm,0.4s,baz=2.9,slow=2.1,SNR=3.7
PSI Prapat 65.89 245 *e*P **P** **06 59 01.6 0.0**
comp=Z,6.0nm,0.8s
LPSR Galich'ya Gora 65.93 323 *e*P **P** **06 58 59.8 -1.5**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
PV10 Paradox Valley 66.09 59 *e*P **P** **06 59 03.5 +0.6**
PV17 East Wray Mesa 66.21 59 *e*P **P** **06 59 03.3 -0.3**
comp=Z,12nm,1.0s
VSR Storozhevoye 66.88 322 *e*P **P** **06 59 05.1 -2.3**
VSR pmax pmax
comp=Z,4.0nm,0.7s
VORD Divnogorie 67.02 322 *e*P **P** **06 59 08.0 -0.2**
VORD pmax pmax
comp=Z,10.0nm,0.4s
ISCO Idaho Springs 67.04 56 *e*P **P** **06 59 09.8 +0.8**
comp=Z,3.4nm,1.0s
ISCO Idaho Springs 67.04 56 *e*P **P** **06 59 09.8 +0.8**
ISCO pmax pmax
comp=Z,3.0nm,1.0s
NC303 NORSAR Array S 67.16 342 *e*P **P** **06 59 09.4 +0.4**
NC405 NORSAR Array S 67.19 342 *e*P **P** **06 59 09.5 +0.3**
NC204 NORSAR Array S 67.24 342 *e*P **P** **06 59 09.9 +0.4**
NB201 NORSAR Array S 67.34 342 *e*P **P** **06 59 10.0 -0.2**
NB2 NORSAR Subarra 67.36 342 P **P** **06 59 09.5 -0.8**
comp=Z,3.7nm,0.7s,baz=26,slow=6.5
NB2 NORSAR Subarra 67.36 342 P **P** **06 59 06.8 -3.5**
NB2 pmax pmax
comp=Z,3.0nm,0.7s
NB200 NORSAR Array S 67.36 342 *e*P **P** **06 59 09.9 -0.4**
NOA NORSAR Array B 67.36 342 P **P** **06 59 09.9 -0.4**
comp=Z,9.1nm,0.9s,baz=26,slow=6.5,SNR=18
HYB Hyderabad 68.31 272 *i* P **P** **06 59 16.0 -0.9**
ECSD EROS Data Cent 68.96 48 *e*P **P** **06 59 20.1 -0.5**
comp=Z,7.8nm,0.9s
KONO Kongsberg 68.97 342 *e*P **P** **06 59 21.1 +0.8**
comp=Z,22nm,1.0s
KONO Kongsberg 68.97 342*ce*P **P** **06 59 20.1 -0.2**
KONO pmax pmax
comp=Z,72nm,2.5s
ANMO Albuquerque 69.97 60⇓*i*P **P** **06 59 27.5 +0.3**
ANMO pmax pmax
comp=Z,7.0nm,2.5s
WRAB Tennant Creek 70.25 201⇓*i*P **P** **06 59 29.9 +1.3**
WRAB pmax pmax
comp=Z,33nm,3.5s
WB2 Warramunga Arr 70.25 201 *e*P **P** **06 59 29.5 +0.8**
comp=Z,7.0nm,0.9s
WR1 Warramunga Arr 70.26 201 *e*P **P** **06 59 27.3 -1.4**
comp=Z,7.3nm,0.9s
WRA Warramunga Arr 70.26 201 P **P** **06 59 27.3 -1.4**
comp=Z,1.2nm,0.7s,baz=16,slow=6.7,SNR=9.1
SUW Suwalki 70.44 332 *e*P **P** **06 59 28.5 -0.9**
SUW Suwalki 70.44 332 *e*P **P** **06 59 28.5 -0.9**
DZM Mont Dzumac 70.60 169 P **P** **06 59 30.7 -0.1**
comp=Z,9.9nm,1.1s,baz=355,slow=8.7,SNR=3.1
DZM Mont Dzumac 70.60 169 *e*LR LR 07 21 01.9
comp=Z,109nm,25.6s
DZM Mont Dzumac 70.60 169 *e*P **P** **06 59 30.1 -0.7**
comp=Z,11nm,1.0s
POO Poona 70.67 276 *ex* x 06 59 30.0
KIV Kislovodsk 70.81 315 *e*P **P** **06 59 30.2 -1.8**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KLNR Kaliningrad 70.83 334⇑*e*P **P** **06 59 31.0 -0.8**
KLNR pmax pmax
comp=Z,94nm,0.6s
KBZ Khabaz 70.88 315 P **P** **06 59 32.5 +0.2**
comp=Z,2.2nm,0.7s,baz=177,slow=5.0,SNR=4.5
KBZ LR LR 07 34 14.5
comp=Z,136nm,19.2s,baz=35,slow=39
FITZ Fitzroy Crossi 70.99 210 P **P** **06 59 33.3 +0.2**
comp=Z,7.7nm,0.9s,baz=23,slow=4.3,SNR=11
FITZ Fitzroy Crossi 70.99 210 *e*P **P** **06 59 33.4 +0.2**
comp=Z,13nm,1.0s
ZEI Tsey 71.10 314 *e*P **P** **06 59 31.8 -2.2**
ZEI pmax pmax
comp=Z,4.0nm,0.9s
AKASG Malin Array Be 71.16 327 P **P** **06 59 33.0 -0.9**
comp=Z,7.3nm,0.8s,baz=32,slow=6.5,SNR=15
AKASG LR LR 07 33 24.3
comp=Z,107nm,19.0s,baz=25,slow=38
AKASG Malin Array Be 71.16 327 *i* P **P** **06 59 33.0 -0.9**
AKASG pmax pmax
comp=Z,8.0nm,0.8s
AKBB Malin Array Si 71.16 327 *e*P **P** **06 59 32.8 -1.1**
comp=Z,9.3nm,0.8s
AKBB Malin Array Si 71.16 327 *e*P **P** **06 59 32.8 -1.1**
AKBB pmax pmax
comp=Z,9.0nm,0.8s
KIEV Kiev 71.17 327 *e*P **P** **06 59 32.8 -1.1**
comp=Z,9.4nm,0.8s
KIEV Kiev 71.17 327 *e*P **P** **06 59 33.1 -0.8**
KIEV Kiev 71.17 327 *i* P **P** **06 59 32.8 -1.1**
SNR=6.8
KIEV Kiev 71.17 327*d i*P **P** **06 59 33.1 -0.8**
KIEV pmax pmax
comp=Z,11nm,0.8s
AK11 Malin Array Si 71.19 327 *e*P **P** **06 59 33.2 -0.9**
NEY Neytrino 71.32 315⇓*e*P **P** **06 59 34.4 -0.9**
NEY pmax pmax
comp=Z,1.0nm,1.2s
SCHQ Schefferville 71.52 24 P **P** **06 59 36.7 +0.6**
comp=Z,4.9nm,0.9s,baz=357,slow=9.4,SNR=4.8
SCHQ Schefferville 71.52 24 *e*P **P** **06 59 37.2 +1.1**
comp=Z,13nm,1.1s
GNI Garni 72.67 311⇓*e*P **P** **06 59 45.0 +1.6**
GNI pmax pmax
comp=Z,30nm,0.7s
BEL Belsk 73.05 332 *e*P **P** **06 59 45.6 +0.4**
BEL Belsk 73.05 332 *e*P **P** **06 59 45.6 +0.4**
LVV L'vov 73.73 329 *e*P **P** **06 59 48.7 -0.5**
AS01 Alice Springs 73.93 200 *e*P **P** **06 59 51.0 +0.4**
ASAR Alice Springs 73.94 200 P **P** **06 59 50.5 -0.2**
comp=Z,1.9nm,1.0s,baz=16,slow=6.6,SNR=9.3
PALK Pallekele 74.22 263 P **P** **06 59 52.5 -0.1**
comp=Z,8.6nm,0.9s,baz=116,slow=12,SNR=3.0
PALK Pallekele 74.22 263 *e*P **P** **06 59 53.0 +0.3**
KWP Kalwaria Pacla 74.33 330 *e*P **P** **06 59 53.5 +0.7**
comp=Z,48nm,0.9s
KWP Kalwaria Pacla 74.33 330 *e*P **P** **06 59 53.5 +0.7**
KWP pmax pmax
comp=Z,48nm,0.9s
BUR08 Bucovina Ar. S 75.16 328 *e*P **P** **06 59 57.8 0.0**
BUR04 Bucovina Ar. S 75.18 328 *e*P **P** **06 59 57.7 -0.2**
BURAR Bucovina Array 75.18 328⇓*i*P **P** **06 59 57.7 -0.2**
BURAR Bucovina Array 75.18 328 P **P** **06 59 57.6 -0.3**
KSP Ksiaz 75.27 334 *e*P **P** **06 59 58.0 -0.2**
KSP Ksiaz 75.27 334 *e*P **P** **06 59 58.0 -0.2**
NIE Niedzica 75.31 331 *e*P **P** **06 59 58.6 +0.1**
NIE Niedzica 75.31 331 *e*P **P** **06 59 58.6 +0.1**
UZH Uzhgorod 75.33 330 *e*P P 06 59 50.4 -8.2
UZH *i* 07 00 07.0
ESK Eskdalemuir 75.34 347 *e*P **P** **06 59 59.1 +0.6**
comp=Z,11nm,1.1s
ESK Eskdalemuir 75.34 347 *e*P **P** **06 59 59.1 +0.6**
ESK pmax pmax
comp=Z,11nm,1.1s
OKC Ostrava-Krasne 75.61 333 AMS AMS 07 38 10.0
comp=Z,300nm,19.5s
TX31 Lajitas Ar. Si 75.65 62 *e*P **P** **07 00 00.8 -0.1**
LTX Lajitas 75.65 62 *e*P **P** **07 00 00.8 0.0**
LTX Lajitas 75.65 62 *e*P **P** **07 00 00.8 0.0**
TXAR Lajitas Array 75.65 62 P **P** **07 00 00.8 0.0**
comp=Z,2.5nm,0.7s,baz=302,slow=4.3,SNR=40
UPC Upice 75.65 334 *e*P **P** **07 00 01.2 +0.8**
UPC AMS AMS 07 38 40.0
comp=Z,200nm,16.9s
UPC Upice 75.65 334 *e*P **P** **07 00 01.2 +0.8**
UPC MLR MLR
comp=Z,200nm,16.9s
TRPA Tarpa 75.68 329⇓*i*P **P** **07 00 01.0 +0.4**
DPC Dobruska-Polom 75.70 334 *e*P **P** **07 00 01.3 +0.6**
DPC Dobruska-Polom 75.70 334 *e*P **P** **07 00 01.3 +0.6**
CLL Collm 75.77 337 *e*P **P** **07 00 00.9 -0.1**
comp=Z,33nm,1.0s
CLL Collm 75.77 337 *e*P **P** **07 00 00.9 -0.1**
CLL Collm 75.77 337⇓*i*P **P** **07 00 01.1 +0.1**
comp=Z,32nm,0.9s
CLL *e*(PcP) **pP** **07 00 11.0 -0.7**
CLL *es*P **sP** **07 00 15.0 -0.6**
CLL Collm 75.77 337 *e*P **P** **07 00 00.9 -0.1**
CLL pmax pmax
comp=Z,33nm,1.0s
LANS Liptovska Anna 75.81 332 *e*P **P** **07 00 02.0 +0.7**
LANS Liptovska Anna 75.81 332 *e*P **P** **07 00 02.0 +0.7**
MORC Moravsky Berou 75.85 333 *e*P **P** **07 00 01.7 +0.1**
comp=Z,24nm,0.9s
MORC Moravsky Berou 75.85 333⇑*i*P **P** **07 00 01.9 +0.3**
MORC Moravsky Berou 75.85 333 *e*P **P** **07 00 01.7 +0.1**
MORC pmax pmax
comp=Z,24nm,0.9s
MORC Moravsky Berou 75.85 333 *e*P **P** **07 00 01.6 0.0**
HHAR Hobbs 75.89 51 *e*P **P** **07 00 01.8 -0.3**
comp=Z,7.2nm,1.2s
BRG Berggiesshubel 75.91 336 *i* P **P** **07 00 01.9 +0.1**
comp=Z,16nm,1.1s
BRG Berggiesshubel 75.91 336 *i* P **P** **07 00 01.9 +0.1**
BRG pmax pmax
comp=Z,17nm,1.1s
PVCC Panska Ves 76.05 335 *e*P **P** **07 00 03.6 +1.0**
PVCC Panska Ves 76.05 335 *e*P **P** **07 00 03.6 +1.0**
KECS Kecovo 76.06 331 *e*P **P** **07 00 01.9 -0.9**
KECS pmax pmax
comp=Z,21nm,1.0s
KECS Kecovo 76.06 331 *e*P **P** **07 00 01.9 -0.9**
VRI Vrincioaia 76.10 326⇓*i*P **P** **07 00 02.7 -0.4**
VRI Vrincioaia 76.10 326 P **P** **07 00 02.6 -0.5**
CFR Carcaliu 76.14 324⇑*i*P **P** **07 00 02.8 -0.4**
CFR Carcaliu 76.14 324 P **P** **07 00 04.4 +1.2**
CFR pmax pmax
comp=Z,19nm,1.5s
DOPR Dopca 76.52 327⇑*i*P **P** **07 00 05.5 +0.1**
VRAC Vranov 76.55 334⇓*i*P **P** **07 00 06.4 +0.9**
VRAC Vranov 76.55 334 P **P** **07 00 06.4 +0.9**
VRAC Vranov 76.55 334 *e*P **P** **07 00 05.9 +0.4**
VYHS Vyhne 76.58 332 *e*P **P** **07 00 06.5 +0.8**
VYHS pmax pmax
comp=Z,8.0nm,1.0s
VYHS Vyhne 76.58 332 *e*P **P** **07 00 06.5 +0.8**
JAVC Velka Javorina 76.62 333 *e*P **P** **07 00 07.0 +1.0**
TIRR Tirgusor 76.63 324⇑*i*P **P** **07 00 05.8 -0.2**
TIRR Tirgusor 76.63 324 P **P** **07 00 05.8 -0.2**
TLB Topalu 76.67 324⇑*i*P **P** **07 00 05.8 -0.5**
TLB Topalu 76.67 324 P **P** **07 00 05.7 -0.5**
BANOM Banah 76.69 294 *i* P **P** **07 00 06.9 +0.2**
SNR=8.5
SHME Shamm 76.69 294 P **P** **07 00 06.4 -0.3**
MLR Muntele Rosu 76.71 326 *e*P **P** **07 00 07.4 +0.8**
comp=Z,19nm,0.8s
MLR Muntele Rosu 76.71 326⇑*i*P **P** **07 00 07.1 +0.4**
PSZ Piszkesteto 76.75 331 *e*P **P** **07 00 07.2 +0.4**
comp=Z,8.6nm,0.9s
PSZ Piszkesteto 76.75 331 *e*P **P** **07 00 07.2 +0.4**
PSZ pmax pmax
comp=Z,9.0nm,0.9s
DRGR 76.77 329⇓*i*P **P** **07 00 06.8 -0.1**
DRGR 76.77 329 P **P** **07 00 06.8 -0.1**
DRGR pmax pmax
comp=Z,24nm,1.0s
ISR Istrita 76.80 325⇑*i*P **P** **07 00 07.8 +0.7**
ISR Istrita 76.80 325 P **P** **07 00 07.8 +0.7**
W39A Magazine 76.81 52 *e*P **P** **07 00 07.3 +0.1**
comp=Z,2.8nm,1.0s
KRUC Moravsky 76.83 334 *e*P **P** **07 00 07.4 +0.3**
VOIR 77.09 326⇑*i*P **P** **07 00 09.0 +0.3**
VOIR 77.09 326 P **P** **07 00 09.0 +0.3**
MDH Madha 77.14 293 P **P** **07 00 09.0 -0.2**
MODS Modra-Piesok 77.17 333 *e*P **P** **07 00 08.5 -0.6**
MODS pmax pmax
comp=Z,17nm,1.0s
MODS Modra-Piesok 77.17 333 *e*P **P** **07 00 08.5 -0.6**
MSFE Esma-Masafi 77.19 294 P **P** **07 00 09.6 0.0**
WSAR Wadi Sarin 77.20 290 P **P** **07 00 10.1 +0.5**
comp=Z,9.7nm,1.0s,baz=52,slow=9.6,SNR=3.2
ILGA Ilgaz 77.20 319 *e*P **P** **07 00 11.1 +1.5**
comp=Z,39nm,1.0s
ARR Arges 77.31 327⇑*i*P **P** **07 00 11.3 +1.4**
UMQ Umm Al-Quwin 77.37 294 P **P** **07 00 11.8 +1.3**
MIAR Mount Ida 77.41 52 *e*P **P** **07 00 10.3 -0.3**
comp=Z,10nm,1.0s
MIAR Mount Ida 77.41 52 *e*P **P** **07 00 10.3 -0.3**
MIAR pmax pmax
comp=Z,10.0nm,1.0s
UOSS Minazif 77.46 293 *e*P **P** **07 00 10.8 -0.2**
comp=Z,27nm,0.9s
UOSS Minazif 77.46 293 *i* P **P** **07 00 10.6 -0.4**
SNR=8.7
KHC Kasperske Hory 77.58 335 *e*P **P** **07 00 12.0 +0.6**
comp=Z,9.2nm,0.9s
KHC Kasperske Hory 77.58 335 *e*P **P** **07 00 11.5 +0.1**
KHC *ep*P **pP** **07 00 24.0 +1.9**
KHC AMS AMS 07 37 20.0
comp=Z,300nm,17.8s
KHC Kasperske Hory 77.58 335 *e*P **P** **07 00 12.0 +0.6**
KHC Kasperske Hory 77.58 335 *e*P **P** **07 00 11.5 +0.1**
KHC *e* 07 00 24.0
KHC MLR MLR
comp=Z,300nm,17.8s
HATD Hatta, Dubai 77.59 293 *i* P **P** **07 00 11.6 -0.2**
SNR=9.8
SIRR Siria 77.59 329⇑*i*P **P** **07 00 11.9 +0.4**
W41B Gary Mavity, V 77.62 51 *e*P **P** **07 00 12.0 +0.2**

	comp=Z,14nm,0.9s								
GRFO	**Grafenberg**	**77.71**	**337**	*e*P		**P**	**07 00 13.7**	**+1.7**
	comp=Z,32nm,1.1s								
ASHO	**Ashiyiah**	**77.74**	**293**	*i* P		**P**	**07 00 12.6**	**-0.1**
	SNR=6.4								
NAZ	**Nazwa, Dubai**	**77.76**	**294**	P		**P**	**07 00 12.8**	**+0.1**
GEC2	**GERESS Array S**	**77.81**	**335**	*e*P		**P**	**07 00 13.0**	**+0.3**
	comp=Z,8.4nm,0.8s								
GEC2	**GERESS Array S**	**77.81**	**335**	*e*P		**P**	**07 00 13.0**	**+0.3**
GEC2				pmax		pmax			
	comp=Z,8.0nm,0.8s								
GERES	**GERESS Array B**	**77.81**	**335**	P		**P**	**07 00 12.9**	**+0.2**
	comp=Z,5.8nm,0.8s,baz=35,slow=4.9,SNR=32								
GERES				LR		LR	07 38 16.9		
	comp=Z,186nm,19.1s,baz=32,slow=39								
GEA0	**GERESS Array S**	**77.81**	**335**	*e*P		**P**	**07 00 13.0**	**+0.2**
FAQ	**Al Faqa, Dubai**	**77.98**	**294**	P		**P**	**07 00 13.6**	**-0.3**
CONA	**Conrad Observa**	**78.00**	**333**	*i* P		**P**	**07 00 15.3**	**+1.5**
	comp=Z,18nm,1.0s								
SOP	**Sopron**	**78.01**	**333**	P		**P**	**07 00 15.8**	**+2.1**
MEM	**Membach**	**78.13**	**340**	P		**P**	**07 00 15.7**	**+1.4**
MEM				pmax		pmax			
	comp=Z,30nm,1.2s								
MEM	**Membach**	**78.13**	**340**	⇑P		**P**	**07 00 15.3**	**+1.0**
	comp=Z,18nm,0.9s								
ASUD	**Al Ashush, Dub**	**78.23**	**294**	P		**P**	**07 00 15.2**	**-0.1**
BR101	**Keskin Array S**	**78.31**	**318**	*e*P		**P**	**07 00 15.9**	**+0.2**
BR131	**Keskin Array S**	**78.31**	**318**	*e*P		**P**	**07 00 16.2**	**+0.5**
BRTR	**Keskin Array B**	**78.31**	**318**	P		**P**	**07 00 15.9**	**+0.2**
	comp=Z,10nm,0.9s,baz=60,slow=3.4,SNR=31								
BRTR				LR		LR	07 40 24.6		
	comp=Z,48nm,18.2s,baz=34,slow=40								
BRTR	**Keskin Array B**	**78.31**	**318**	*i* P		**P**	**07 00 15.8**	**+0.1**
BRTR				pmax		pmax			
	comp=Z,10.0nm,0.9s								
ALNE	**Al Ain**	**78.39**	**293**	P		**P**	**07 00 16.2**	**-0.1**
HERR	**Herculane**	**78.53**	**328**	⇑*i* P		**P**	**07 00 16.5**	**-0.1**
MOA	**Molln**	**78.55**	**334**	*i* P		**P**	**07 00 17.6**	**+0.9**
	comp=Z,13nm,1.0s								
ANTO	**Ankara**	**78.57**	**318**	*e*P		**P**	**07 00 17.9**	**+0.8**
	comp=Z,26nm,1.1s								
ANTO	**Ankara**	**78.57**	**318**	*e*P		**P**	**07 00 17.9**	**+0.8**
ANTO				pmax		pmax			
	comp=Z,26nm,1.1s								
BR231	**Keskin MP Arra**	**78.60**	**318**	*e*P		**P**	**07 00 18.3**	**+1.0**
ARSA	**Arzberg**	**78.71**	**333**	*i* P		**P**	**07 00 18.8**	**+1.1**
	comp=Z,13nm,1.2s								
SOKA	**Soboth**	**79.37**	**333**	*i* P		**P**	**07 00 22.3**	**+1.0**
	comp=Z,15nm,1.0s								
KBA	**Koelnbreinsper**	**79.51**	**335**	*i* P		**P**	**07 00 23.6**	**+1.4**
	comp=Z,25nm,0.8s								
OBKA	**Obir**	**79.67**	**334**	*i* P		**P**	**07 00 22.1**	**-0.9**
	comp=Z,26nm,1.4s								
BFO	**Black Forest**	**79.71**	**338**	*ce*P		**P**	**07 00 24.4**	**+1.3**
WATA	**Walderalm**	**79.77**	**336**	*i* P		**P**	**07 00 24.7**	**+1.1**
	comp=Z,34nm,1.3s								
WTTA	**Wattenberg**	**79.82**	**336**	*i* P		**P**	**07 00 24.6**	**+0.7**
	comp=Z,25nm,1.0s								
RETA	**Reutte**	**79.86**	**336**	*i* P		**P**	**07 00 25.0**	**+1.0**
	comp=Z,15nm,1.0s								
MOTA	**Moosalm**	**79.89**	**336**	*i* P		**P**	**07 00 25.5**	**+1.2**
	comp=Z,27nm,1.0s,SNR=6.7								
SQTA	**Sankt Quirin**	**79.98**	**336**	*i* P		**P**	**07 00 26.3**	**+1.6**
	comp=Z,25nm,0.9s,SNR=6.0								
ECH	**Echery**	**80.10**	**339**	*e*P		**P**	**07 00 25.6**	**+0.4**
	comp=Z,3.4nm,0.8s								
ECH	**Echery**	**80.10**	**339**	*e*P		**P**	**07 00 25.6**	**+0.4**
ECH				pmax		pmax			
	comp=Z,3.0nm,0.8s								
VTS	**Vitosha**	**80.21**	**326**	*e*P		**P**	**07 00 26.3**	**+0.3**
	comp=Z,19nm,0.9s								
VTS	**Vitosha**	**80.21**	**326**	⇓*i*P		**P**	**07 00 25.9**	**-0.2**
VTS	**Vitosha**	**80.21**	**326**	*e*P		**P**	**07 00 26.3**	**+0.3**
VTS				pmax		pmax			
	comp=Z,19nm,0.9s								
DAVA	**Damuels**	**80.28**	**337**	*i* P		**P**	**07 00 27.5**	**+1.1**
	comp=Z,17nm,1.1s								
FETA	**Feichten**	**80.29**	**336**	*i* P		**P**	**07 00 28.0**	**+1.5**
	comp=Z,9.4nm,0.9s								
STKA	**Stephens Creek**	**80.55**	**192**	P		**P**	**07 00 28.9**	**+1.5**
	comp=Z,1.0nm,0.7s,baz=330,slow=8.9,SNR=2.7								
STKA				LR		LR	07 38 30.0		
	comp=Z,32nm,18.5s,baz=17,slow=37								
STKA	**Stephens Creek**	**80.55**	**192**	P		**P**	**07 00 29.0**	**+1.5**
FUORN	**Ofenpass-Fuorn**	**80.79**	**336**	*e*P		**P**	**07 00 29.8**	**+0.6**
	comp=Z,20nm,1.1s								
TUE	**Stuetta**	**81.17**	**337**	*e*P		**P**	**07 00 32.6**	**+1.5**
	comp=Z,15nm,0.9s								
PPT	**Papeete**	**81.89**	**128**	LR		LR	07 28 55.7		
	comp=Z,55nm,21.6s,baz=342,slow=30								
Z50A	**Ashland**	**82.35**	**48**	*e*P		**P**	**07 00 37.4**	**+0.1**
	comp=Z,14nm,0.8s								
ASF	**Jabal al Asfar**	**82.84**	**311**	P		**P**	**07 00 40.7**	**+0.6**
	comp=Z,2.4nm,0.8s,baz=140,slow=1.0,SNR=3.9								
MMAI	**Mount Meron Ar**	**82.91**	**313**	P		**P**	**07 00 40.6**	**+0.3**
	comp=Z,2.8nm,0.5s,baz=27,slow=7.7,SNR=5.9								
RAYN	**Ar Rayn**	**84.94**	**300**	*e*P		**P**	**07 00 50.6**	**-0.3**
	comp=Z,7.0nm,0.8s								
RAYN	**Ar Rayn**	**84.94**	**300**	*i* P		**P**	**07 00 50.7**	**-0.2**
	SNR=8.0								
RAYN	**Ar Rayn**	**84.94**	**300**	*e*P		**P**	**07 00 50.6**	**-0.3**
RAYN				pmax		pmax			
	comp=Z,7.0nm,0.8s								
EIL	**Elat**	**85.84**	**311**	P		**P**	**07 00 56.2**	**+1.0**
	comp=Z,7.0nm,0.9s,baz=28,slow=6.1,SNR=4.6								
TBI	**Tubuai**	**86.73**	**131**	*e*LR		LR	07 28 29.2		
	comp=Z,151nm,30.8s								
ESDC	**Sonseca Array**	**90.64**	**344**	P		**P**	**07 01 18.6**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=13,slow=3.9,SNR=3.2								
KEST	**Kesra**	**91.10**	**333**	LR		LR	07 47 05.3		
	comp=Z,121nm,18.5s,baz=296,slow=39								
TOA1	**Torodi Ar. Sit**	**114.58**	**331**	*e*PKiKP		PKPdf	07 06 55.2	-0.6	
TORD	**Torodi Ar. Bea**	**114.58**	**331**	PKP		PKPdf	07 06 55.2	-0.7	
	comp=Z,0.6nm,1.0s,baz=328,slow=5.2,SNR=2.4								
CPUP	**Villa Florida**	**146.62**	**61**	PKPbc		**PKPbc**	**07 07 56.5**	**-0.4**	
	comp=Z,4.7nm,0.9s,baz=345,slow=2.6,SNR=8.2								
CPUP	**Villa Florida**	**146.62**	**61**	*e*PKPdf		**PKPbc**	**07 07 56.4**	**-0.5**	
CPUP	**Villa Florida**	**146.62**	**61**	*e*PKP2		**PKPbc**	**07 07 56.4**	**-0.5**	
PLCA	**Paso Flores**	**146.97**	**94**	PKPbc		**PKPbc**	**07 07 57.1**	**-0.5**	
	comp=Z,5.0nm,1.1s,baz=248,slow=8.7,SNR=4.2								
PLCA	**Paso Flores**	**146.97**	**94**	*e*PKPbc		**PKPbc**	**07 07 57.5**	**-0.2**	
TRQA	**Tornquist**	**151.36**	**83**	*e*PKPbc		**PKPbc**	**07 08 08.5**	**-0.2**	
TRQA	**Tornquist**	**151.36**	**83**	*e*PKIKP		**PKPbc**	**07 08 08.5**	**-0.2**	
SNAA	**Sanae**	**154.24**	**196**	PKP		**PKPbc**	**07 08 20.7**	**+6.6**	
SNAA	**Sanae**	**154.24**	**196**	*e*PKPbc		**PKPbc**	**07 08 12.8**	**-1.3**	
SNAA	**Sanae**	**154.24**	**196**	*e*PKIKP		**PKPbc**	**07 08 12.8**	**-1.3**	
VNA2	**Neumayer--Watz**	**155.66**	**194**	PKP		**PKPdf**	**07 08 14.4**	**+6.7**	
	baz=133,slow=2.6								
VNA3	**Neumayer Olymp**	**155.72**	**192**	PKP		**PKPdf**	**07 08 06.3**	**-1.5**	

*ISCJB **30** 06:54:21.2±0.6,36.67N±0.04×70.71E±0.08,h200km, mb3.3/5, Error ellipse: s-maj=9.6km s-min=5.7km az=4.1*
*IDC **30** 06:54:21.5±3.0,36.55N×70.88E,h195km±28km, mb3.2/5, mb1 3.3/9,mb1mx3.0/49,mbtmp3.8/9, Error ellipse: s-maj=22.5km s-min=20.0km az=44.0*
*NNC **30** 06:54:23.4±4.1,36.79N×70.56E,h151km±73km, mb2.9, mpv3.6, Error ellipse: s-maj=41.5km s-min=36.6km az=113.0*

ISC 30 06:54:22.6±0.8,36.66N±0.07×70.84E±0.09,h200km,n21, σ1°36/28,mb3.4/5,5C-6D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.94**	**31**	⇑P		**Pn**	**06 55 23.2**	**-0.6**
	3.0nm,0.2s							
SFK				⇓S		**Sn**	**06 56 11.4**	**-0.6**
	14nm,0.2s							
MNAS	**Manas**	**5.96**	**12**	⇓P		**Pn**	**06 55 49.1**	**-0.2**
	1.8nm,0.3s							
MNAS				⇓S		**Sn**	**06 56 55.6**	**-2.4**
	16nm,0.5s							
KK31	**Karatay Array**	**6.44**	**358**	P		**Pn**	**06 55 54.8**	**-0.6**
	2.4nm,0.3s,baz=173,slow=12,SNR=141							
KK31				⇑S		**Sn**	**06 57 05.4**	**-3.7**
	8.0nm,0.3s,baz=184,slow=21,SNR=3.6							
AAK	**Ala-Archa**	**6.60**	**24**	P		**Pn**	**06 55 58.1**	**+0.5**
	1.3nm,0.3s,baz=162,slow=4.3,SNR=15							
AAK				S		**Sn**	**06 57 12.4**	**-0.6**
	0.9nm,0.3s,baz=334,slow=21,SNR=12							
AAK	**Ala-Archa**	**6.60**	**24**	⇓P		**Pn**	**06 55 57.7**	**+0.1**
	1.4nm,0.5s							
AAK				⇑S		**Sn**	**06 57 11.7**	**-1.3**
	10.0nm,0.7s							
TKM2	**Tokmak 2**	**7.24**	**29**	⇑P		**Pn**	**06 56 04.8**	**-1.3**
	3.2nm,0.8s							
TKM2				⇑S		**Sn**	**06 57 28.5**	**+0.3**
	3.0nm,0.7s							
AB31	**Akbulak array**	**14.88**	**331**	⇓P		**P**	**06 57 45.4**	**+1.5**
	0.6nm,0.3s							
DMN	**Daman**	**15.07**	**123**	*e*P		**P**	**06 57 48.0**	**+1.5**
	16nm,0.6s							
PKIN	**Phulchoki**	**15.29**	**122**	*e*P		**P**	**06 57 50.2**	**+1.3**
	23nm,0.4s							
PKI	**Pulchoki**	**15.30**	**122**	*e*P		**P**	**06 57 50.4**	**+1.3**
	43nm,0.5s							
JIRN	**Jiri**	**15.78**	**120**	*e*P		**P**	**06 57 53.4**	**-1.1**
	34nm,0.4s							
AKTO	**Aktyubinsk**	**16.57**	**330**	P		**Pn**	**06 58 04.8**	**+1.2**
	0.6nm,0.3s,baz=145,slow=11,SNR=11							
AKTO				S		**S**	**07 01 06.7**	**+1.1**
	0.1nm,0.3s,baz=76,slow=14,SNR=2.2							
AKTO	**Aktyubinsk**	**16.57**	**330**	⇓P		**Pn**	**06 58 04.6**	**+1.1**
	3.4nm,0.7s							
WSAR	**Wadi Sarin**	**17.04**	**222**	P		**P**	**06 58 06.8**	**-1.1**
	0.1nm,0.3s,baz=195,slow=4.4,SNR=2.5							
ZALV	**Zalesovo Beam**	**19.82**	**25**	P		**P**	**06 58 39.0**	**+1.3**
	0.3nm,0.3s,baz=216,slow=12,SNR=2.9							
NB2	**NORSAR Subarra**	**44.17**	**323**	P		**P**	**07 02 12.5**	**+1.3**
	comp=Z,0.7nm,0.4s,baz=98,slow=7.9							
NOA	**NORSAR Array B**	**44.17**	**323**	P		**P**	**07 02 12.1**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=98,slow=7.7,SNR=4.2							
TORD	**Torodi Ar. Bea**	**65.59**	**268**	P		**P**	**07 04 44.0**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=50,slow=5.6,SNR=4.1							
YKA	**Yellowknife Ar**	**81.09**	**3**	P		**P**	**07 06 14.6**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=283,slow=31,SNR=3.9							
WRA	**Warramunga Arr**	**82.19**	**122**	P		**P**	**07 06 20.3**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=326,slow=5.0,SNR=11							
ASAR	**Alice Springs**	**84.45**	**125**	P		**P**	**07 06 32.0**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=315,slow=4.8,SNR=6.5							

IDC 30 07:35:46.4±5.6,1.96S×138.86E,h0km,mb3.7/3, mb1 4.0/4,mb1mx3.6/34,mbtmp3.8/4,ML4.2/1,Error ellipse: s-maj=90.5km s-min=25.3km az=165.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAY	**Jayapura**	**1.92**	**107**	Pn		Pn	07 36 20.4	0.0
	26nm,0.3s,baz=254,slow=7.4,SNR=67							
JAY				Sn		Sn	07 36 45.8	+0.5
	15nm,0.3s,baz=144,slow=19,SNR=4.6							
WRA	**Warramunga Arr**	**18.41**	**194**	P		Pn	07 40 02.7	-0.6
	0.8nm,0.3s,baz=16,slow=12,SNR=36							
WRA				S		Sn	07 43 14.6	-15
	0.0nm,0.3s,baz=32,slow=24,SNR=3.4							
FITZ	**Fitzroy Crossi**	**20.63**	**218**	P		P	07 40 27.0	-0.6
	2.6nm,1.0s,baz=27,slow=11,SNR=3.1							
ASAR	**Alice Springs**	**22.11**	**192**	P		P	07 40 43.7	+0.2
	2.2nm,0.6s,baz=21,slow=10,SNR=40							
ASAR				S		S	07 44 36.0	-12
	0.2nm,0.7s,baz=19,slow=23,SNR=2.8							
STKA	**Stephens Creek**	**29.87**	**175**	P		P	07 41 56.1	+0.4
	0.6nm,0.6s,baz=351,slow=14,SNR=2.0							
H11S3	**WAKE ISLAND Hy**	**34.10**	**52**	T		T	08 18 21.4	
	baz=236,slow=75,SNR=23							
H11S2	**WAKE ISLAND Hy**	**34.11**	**52**	T		T	08 18 22.9	
	baz=236,slow=75,SNR=18							
H11S1	**WAKE ISLAND Hy**	**34.12**	**52**	T		T	08 18 20.4	
	baz=236,slow=75,SNR=19							

*IDC **30** 07:49:20.6±1.0,11.12S×118.34E,h0km,mb4.2/6, mb1 4.3/10,mb1mx4.0/46,mbtmp4.2/10,ML3.9/4,MS3.1/2, Ms1 3.1/2,ms1mx2.5/39,Error ellipse: s-maj=36.2km s-min=17.9km az=58.0*

ISC 30 07:49:25.1±0.9,11.18S±0.09×118.78E±0.09,h27km,n11, σ2°91/14,mb4.3/6,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BATI	**Baumata**	**4.90**	**79**	Pn		**Pn**	**07 50 39.6**	**+2.5**
	3.7nm,0.3s,baz=256,slow=18,SNR=2.3							
BATI				Sn		**Sb**	**07 51 48.0**	**-0.9**
	20nm,0.3s,baz=222,slow=23,SNR=7.4							
FITZ	**Fitzroy Crossi**	**9.56**	**137**	Pn		**Pn**	**07 51 43.4**	**+2.3**
	2.2nm,0.3s,baz=329,slow=9.5,SNR=54							
FITZ				Sn		**Sn**	**07 53 26.5**	**-1.1**
	3.9nm,0.3s,baz=149,slow=17,SNR=12							
FITZ				LR		LR	07 55 23.2	
	comp=Z,56nm,18.8s,baz=294,slow=37							
WRA	**Warramunga Arr**	**17.33**	**122**	P		**P**	**07 53 28.0**	**+1.6**
	0.5nm,0.3s,baz=287,slow=14,SNR=27							
WRA				S		**Sn**	**07 56 33.0**	**-4.4**
	0.4nm,0.3s,baz=293,slow=24,SNR=6.4							
ASAR	**Alice Springs**	**19.01**	**133**	P		**Pn**	**07 53 49.1**	**+3.2**
	0.1nm,0.3s,baz=310,slow=12,SNR=4.1							
ASAR				S		**Sn**	**07 57 13.0**	**-5.3**
	0.4nm,0.3s,baz=300,slow=21,SNR=6.1							
NWAO	**Narrogin (SRO)**	**21.69**	**184**	P		**P**	**07 54 14.0**	**0.0**
	10nm,0.5s,baz=333,slow=19,SNR=12							
NWAO				S		S	07 57 50.5	-22
	16nm,0.9s,baz=302,slow=9.5,SNR=4.3							
RPZ	**Rata Peaks**	**55.39**	**136**	LR		LR	08 22 31.7	
	comp=Z,34nm,18.2s,baz=318,slow=36							
SONM	**Songino Array**	**59.78**	**350**	P		**P**	**07 59 27.1**	**-0.8**
	0.5nm,0.6s,baz=166,slow=8.7,SNR=2.9							
MKAR	**Makanchi Array**	**66.30**	**334**	P		**P**	**08 00 08.9**	**-2.2**
	1.5nm,0.3s,baz=144,slow=7.1,SNR=35							
KURBB	**Kurchatov Arra**	**70.82**	**334**	P		**P**	**08 00 37.1**	**-2.1**
	0.6nm,0.6s,baz=149,slow=5.5,SNR=6.9							
ZALV	**Zalesovo Beam**	**70.99**	**340**	P		**P**	**08 00 37.6**	**-2.6**
	1.1nm,0.5s,baz=134,slow=4.9,SNR=2.5							
SEY	**Seymchan**	**78.32**	**15**	P		**P**	**08 01 24.2**	**+1.7**
	3.4nm,0.8s,baz=236,slow=15,SNR=5.3							

*MOS **30** 08:08:08.8±1.3,24.95N×60.87E,h10km,mb4.5/26,Error ellipse: s-maj=9.7km s-min=5.6km az=88.5*
*IDC **30** 08:08:08.5±0.7,24.94N×60.81E,h0km,mb4.1/22, mb1 4.1/23,mb1mx4.0/48,mbtmp4.1/23,ML4.1/1,MS3.4/9, Ms1 3.4/9,ms1mx3.0/39,Error ellipse: s-maj=16.9km s-min=14.4km az=163.0*
*NEIC **30** 08:08:10.1±0.3,24.91N×60.80E,h10km,mb4.4/16,Error ellipse: s-maj=6.8km s-min=5.1km az=163.0*
*OMAN **30** 08:08:11.1±0.6,24.96N×60.94E,h35km±66km,Error ellipse: s-maj=15.4km s-min=5.5km az=244.0*
*THR **30** 08:08:14.2±0.3,25.78N×59.87E,h14km±3km, ML4.3*
*DSN **30** 08:08:21.1±1.4,24.86N×60.18E,h30km,ML3.9/13,Error ellipse: s-maj=24.4km s-min=10.7km az=20.0*

ISC 30 08:08:13.9±0.5,25.70N±0.04×59.93E±0.03,h10km,n156, σ3°11/105,mb4.3/54,MS3.4/10,7C-7D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHBR	**Chabahar**	**0.51**	**102**	*e*Pg		**Pg**	**08 08 25.5**	**+1.6**
CHBR				IAML			08 08 50.1	
	comp=N,9μm,0.4s							
BIDO	**Bidbid**	**2.72**	**217**	P		**Pn**	**08 08 55.0**	**-2.8**
	SNR=61							
WSAR	**Wadi Sarin**	**2.72**	**206**	Pn		Pn	08 08 51.9	-5.9
	comp=N,38nm,0.3s,baz=94,slow=5.8,SNR=1074							
WSAR				Sn		Sn	08 09 20.2	-11
	comp=N,87nm,0.3s,baz=283,slow=14,SNR=15							
WSAR	**Wadi Sarin**	**2.72**	**206**	P		**Pg**	**08 08 52.0**	**-5.8**
	SNR=38							
SMDO	**Samad**	**3.14**	**213**	P		Pn	08 08 59.5	-4.1
	SNR=28							
HOQ	**Hoqain**	**3.18**	**229**	P		**Pn**	**08 09 03.5**	**-0.6**
HOQ				S		**Sn**	**08 09 44.4**	**+2.3**
WBK	**Wadi Bani Khal**	**3.20**	**196**	P		Pn	08 08 55.5	-8.8
	SNR=81							
BANOM	**Banah**	**3.28**	**275**	P		**Pg**	**08 09 13.9**	**-2.8**
	SNR=151							
BANOM	**Banah**	**3.28**	**275**	*i* P		**Pg**	**08 09 15.7**	**-1.1**
	SNR=9.8							
MDH	**Madha**	**3.31**	**264**	*i* P		**Pb**	**08 09 12.9**	**+0.2**
	SNR=16							
MDH				S		**Sb**	**08 09 54.8**	**+1.9**
MSFE	**Esma-Masafi**	**3.42**	**265**	*i* P		**Pb**	**08 09 14.6**	**-0.1**
	SNR=27							
MSFE				S		**Sg**	**08 09 59.5**	**-4.3**
SHME	**Shamm**	**3.43**	**277**	*i* P		**Pg**	**08 09 17.4**	**-2.3**
	SNR=183							
UOSS	**Minazif**	**3.45**	**258**	*e*Pn		**Pb**	**08 09 12.7**	**-2.5**
UOSS				*e*Sn		**Sb**	**08 09 59.7**	**+2.4**
UOSS	**Minazif**	**3.45**	**258**	P		**Pb**	**08 09 12.7**	**-2.5**
UOSS	**Minazif**	**3.45**	**258**	*i* P		**Pb**	**08 09 13.8**	**-1.5**
	SNR=10.0							
HATD	**Hatta, Dubai**	**3.55**	**257**	P		**Pb**	**08 09 15.2**	**-1.6**
	SNR=16							
HATD	**Hatta, Dubai**	**3.55**	**257**	*i* P		**Pb**	**08 09 15.1**	**-1.7**
	SNR=16							
ASHO	**Ashiyiah**	**3.65**	**255**	P		**Pb**	**08 09 16.2**	**-2.4**
	SNR=47							
ASHO				S		**Sg**	**08 10 07.5**	**-3.7**
ASHO	**Ashiyiah**	**3.65**	**255**	*i* P		**Pb**	**08 09 16.2**	**-2.4**
	SNR=47							
JMDO	**Jabal Madar**	**3.71**	**207**	P		Pn	08 09 06.1	-5.3
	SNR=69							
JMDO				S		**Sn**	**08 09 47.9**	**-7.3**
UMQ	**Umm Al-Quwin**	**3.85**	**268**	P		**Pb**	**08 09 23.3**	**+1.2**
BSY	**Bisya**	**3.86**	**221**	P		**Pn**	**08 09 12.4**	**-1.0**
	SNR=26							
ARQ	**Araqi**	**3.90**	**233**	P		**Pn**	**08 09 17.4**	**+3.5**
NAZ	**Nazwa, Dubai**	**3.92**	**260**	*i* P		**Pb**	**08 09 22.5**	**-0.8**
	SNR=6.0							
ZHSF	**Zahedan**	**3.96**	**11**	*e*Pn		**Pn**	**08 09 16.0**	**+1.0**
ZHSF				*e*Sg		**Sg**	**08 10 15.5**	**-5.8**
FAQ	**Al Faqa, Dubai**	**4.04**	**257**	P		**Pb**	**08 09 24.0**	**-1.2**
	SNR=49							
FAQ	**Al Faqa, Dubai**	**4.04**	**257**	*i* P		**Pb**	**08 09 23.6**	**-1.6**
	SNR=5.6							
ALNE	**Al Ain**	**4.13**	**248**	*i* P		**Pb**	**08 09 22.4**	**-4.4**
	SNR=22							
ASUD	**Al Ashush, Dub**	**4.30**	**257**	P		**Pb**	**08 09 27.7**	**-2.0**
	SNR=30							
ASUD	**Al Ashush, Dub**	**4.30**	**257**	*i* P		**Pb**	**08 09 27.1**	**-2.6**
	SNR=30							
AJN	**Ajban**	**4.62**	**257**	P		**Pb**	**08 09 30.9**	**-4.2**
KRBR	**Kerman**	**5.10**	**327**	*e*Pn		**Pn**	**08 09 31.4**	**+0.7**
KRBR				*e*Sg		**Sg**	**08 10 49.5**	**-8.3**
MZR	**Muzera**	**6.47**	**247**	P		**Pn**	**08 09 52.4**	**+3.2**
RBK	**Rabkut**	**9.74**	**214**	P		Pn	08 10 29.0	-5.2
	SNR=5.8							
RAYN	**Ar Rayn**	**13.30**	**264**	*e*Pn		**Pn**	**08 11 25.4**	**+2.5**
RAYN				*e*Sn		**Sn**	**08 13 53.4**	**+2.4**
RAYN	**Ar Rayn**	**13.30**	**264**	*e*P		**Pn**	**08 11 25.4**	**+2.5**
BTK	**Batken**	**16.96**	**30**	P		P	**08 12 12.4**	**-1.0**
BTK				pmax		pmax		
	comp=Z,8.0nm,0.7s							
SFK	**Sufi-Kurgan**	**18.23**	**35**	P		**Pn**	**08 12 24.1**	**-3.3**
SFK				pmax		pmax		
	comp=Z,6.0nm,0.5s							
GNI	**Garni**	**19.20**	**322**	LR		LR	08 22 02.2	
	comp=Z,77nm,18.1s,baz=141,slow=41							
GNI	**Garni**	**19.20**	**322**	⇓*e*P		Pn	08 12 48.8	+10
GNI				pmax		pmax		
	comp=Z,54nm,0.9s							
KSH	**Kashi**	**19.26**	**40**	P		P	08 12 30.0	-8.7
KSH				pP		Pn	08 12 34.0	-5.7
KSH				PP		sP	08 12 46.0	+3.2
KSH				S		Sn	08 15 54.5	-21
KSH				SS		**S**	**08 16 18.5**	**+1.6**
KSH				pmax		pmax		
	comp=Z,24nm,0.9s							
KSH				pmax		pmax		
	comp=Z,360nm,5.0s							
KSH				LR		LR		
	comp=N,410nm,6.7s							
KSH				LR		LR		
	comp=E,400nm,9.7s							
KK31	**Karatay Array**	**19.40**	**24**	*e*P		**P**	**08 12 40.0**	**-0.1**
KK31	**Karatay Array**	**19.40**	**24**	*e*P		**P**	**08 12 40.0**	**-0.1**
KKAR	**Karatay Array**	**19.40**	**24**	*e*P		**P**	**08 12 40.2**	**+0.1**
KKAR	**Karatay Array**	**19.40**	**24**	*e*P		**P**	**08 12 40.2**	**+0.1**
MNAS	**Manas**	**19.68**	**29**	P		**P**	**08 12 42.5**	**-0.8**
MNAS				pmax		pmax		
	comp=Z,11nm,0.9s							
NRN	**Naryn**	**20.57**	**36**	*e*P		**P**	**08 12 50.6**	**-2.7**
	comp=Z,3.7nm,0.9s							
NRN	**

	comp=Z,8.0nm,0.7s								
DGZ	**Jazzator, Alta**	**32.04**	**34**	⇓	*e*P		**P**	**08 14 39.9**	**-1.0**
DGZ					pmax		pmax		
	comp=Z,1.0nm,0.7s								
H08N2	**Diego Garcia H**	**33.61**	**160**		T		T	08 48 45.7	
	baz=343,slow=76,SNR=52								
H08N3	**Diego Garcia H**	**33.62**	**160**		T		T	08 48 46.5	
	baz=343,slow=76,SNR=52								
H08N1	**Diego Garcia H**	**33.63**	**160**		T		T	08 48 50.6	
	baz=343,slow=76,SNR=70								
NVS	**Novosibirsk**	**33.78**	**24**		*e*P		**P**	**08 14 53.6**	**-2.2**
OBN	**Obninsk**	**34.01**	**336**	⇓	*e*P		P	08 15 04.4	+6.6
OBN					*e*			08 16 21.0	
OBN					pmax		pmax		
	comp=Z,5.0nm,0.5s								
OBN					MLR		MLR		
	comp=Z,34nm,15.0s								
AKASG	**Malin Array Be**	**34.29**	**325**		P		P	08 15 04.8	+4.5
	comp=Z,0.7nm,0.4s,baz=130,slow=7.3,SNR=9.6								
AKBB	**Malin Array Si**	**34.29**	**325**		*e*P		P	08 15 05.1	+4.8
	comp=Z,5.4nm,0.8s								
AKBB	**Malin Array Si**	**34.29**	**325**		*e*P		P	08 15 05.1	+4.9
AKBB					pmax		pmax		
	comp=Z,5.0nm,0.8s								
KIEV	**Kiev**	**34.30**	**325**		*e*P		P	08 15 05.7	+5.4
	comp=Z,5.2nm,0.8s								
KIEV	**Kiev**	**34.30**	**325**		*de*P		P	08 15 05.1	+4.8
KIEV					pmax		pmax		
	comp=Z,8.0nm,1.0s								
AK11	**Malin Array Si**	**34.31**	**325**		*e*P		P	08 15 05.5	+5.1
BUR04	**Bucovina Ar. S**	**34.98**	**318**		*e*P		P	08 15 11.9	+5.5
BUR08	**Bucovina Ar. S**	**35.00**	**318**		*e*P		P	08 15 12.2	+5.7
DGAR	**Diego Garcia**	**35.10**	**158**	⇑	*e*P		P	08 14 56.0	-12
FNA	**Florina**	**35.27**	**305**		*e*P		P	08 15 15.5	+6.6
	comp=Z,7.1nm,0.8s								
FNA	**Florina**	**35.27**	**305**		*e*P		P	08 15 15.5	+6.5
FNA					pmax		pmax		
	comp=Z,7.0nm,0.8s								
HVS	**Khovu-Aksy**	**36.15**	**36**	⇓	*e*P		**P**	**08 15 14.0**	**-2.4**
HVS					pmax		pmax		
	comp=Z,5.0nm,0.8s								
KNGR	**Kungurtug, Tuv**	**38.00**	**39**	⇓	*e*P		**P**	**08 15 31.0**	**-1.2**
VYHS	**Vyhne**	**39.25**	**316**		*e*P		P	08 15 48.3	+5.7
VYHS					pmax		pmax		
	comp=Z,27nm,2.7s								
VYHS	**Vyhne**	**39.25**	**316**		*e*P		P	08 15 48.3	+5.7
TLY	**Talaya**	**41.97**	**40**		*e*P		P	08 15 50.4	-15
TLY					pmax		pmax		
	comp=Z,22nm,1.8s								
FIA0	**FINESS Array S**	**42.41**	**337**		*e*P		**P**	**08 16 12.7**	**+4.3**
FIA0	**FINESS Array S**	**42.41**	**337**		*e*P		**P**	**08 16 12.7**	**+4.3**
FIA1	**FINESS Array S**	**42.41**	**337**		*e*P		**P**	**08 16 12.7**	**+4.3**
FINES	**FINESS Array B**	**42.41**	**337**		P		**P**	**08 16 12.7**	**+4.3**
	comp=Z,2.6nm,0.7s,baz=138,slow=9.8,SNR=12								
SONA0	**Songino Array**	**42.49**	**46**		*e*P		**P**	**08 16 06.5**	**-3.0**
SONM	**Songino Array**	**42.49**	**46**		P		**P**	**08 16 06.5**	**-3.0**
	comp=Z,1.4nm,0.8s,baz=248,slow=8.3,SNR=12								
SONM					LR		LR	08 36 40.4	
	comp=Z,46nm,19.1s,baz=176,slow=40								
SONA1	**Songino Array**	**42.50**	**46**		*e*P		**P**	**08 16 06.6**	**-2.9**
GEA0	**GERESS Array S**	**42.59**	**315**		*e*P		P	08 16 15.6	+5.3
GERES	**GERESS Array B**	**42.60**	**315**		P		P	08 16 15.1	+4.9
	comp=Z,1.3nm,0.7s,baz=107,slow=9.1,SNR=9.4								
KHC	**Kasperske Hory**	**42.75**	**316**		*e*P		P	08 16 17.8	+6.3
	comp=Z,1.7nm,0.9s								
KHC	**Kasperske Hory**	**42.75**	**316**		*e*P		P	08 16 17.8	+6.3
KHC					pmax		pmax		
	comp=Z,2.0nm,0.9s								
ULN	**Ulaanbaatar**	**42.92**	**46**	⇑	*e*P		**P**	**08 16 09.3**	**-3.7**
ULN					pmax		pmax		
	comp=Z,3.0nm,0.8s								
WTTA	**Wattenberg**	**43.56**	**312**		*i* pP		P	08 16 23.4	+5.3
	comp=Z,3.4nm,0.5s								
CLL	**Collm**	**43.73**	**318**		*i* P		P	08 16 24.7	+5.4
	comp=Z,6.0nm,1.0s								
CLL					*e*			08 16 33.0	
CLL	**Collm**	**43.73**	**318**		*i* P		P	08 16 24.7	+5.4
CLL					*e*			08 16 33.0	
CLL					pmax		pmax		
	comp=Z,6.0nm,1.0s								
FETA	**Feichten**	**44.12**	**312**		*i* pP		pP	08 16 27.6	+1.8
	comp=Z,5.6nm,0.7s								
FUORN	**Ofenpass-Fuorn**	**44.35**	**311**		*e*P		P	08 16 31.3	+6.6
	comp=Z,7.2nm,1.1s								
DAVA	**Damuels**	**44.73**	**312**		*i* pP		P	08 16 32.4	+4.8
	comp=Z,9.1nm,0.6s								
HHC	**Hu-ho-hao-te**	**45.10**	**57**		*e*P		P	08 16 25.0	-5.6
HHC					pmax		pmax		
	comp=Z,13nm,0.8s								
HHC					pmax		pmax		
	comp=Z,490nm,5.7s								
OPO	**Ambohidratompo**	**45.72**	**197**		P		P	08 16 28.1	-7.5
	comp=Z,1.9nm,0.6s,baz=58,slow=9.0,SNR=3.7								
NRIK	**Noril'sk**	**46.61**	**13**		P		**P**	**08 16 42.2**	**+0.3**
	comp=Z,3.6nm,0.8s,baz=219,slow=4.7,SNR=5.1								
NB2	**NORSAR Subarra**	**48.20**	**331**		P		**P**	**08 16 57.7**	**+3.3**
	comp=Z,0.7nm,0.6s,baz=112,slow=7.9								
NB200	**NORSAR Array S**	**48.20**	**331**		*e*P		**P**	**08 16 57.8**	**+3.3**
NOA	**NORSAR Array B**	**48.20**	**331**		P		**P**	**08 16 57.8**	**+3.3**
	comp=Z,1.2nm,0.8s,baz=114,slow=7.6,SNR=4.4								
ARA0	**ARCESS Array S**	**48.28**	**345**		*e*P		**P**	**08 16 57.6**	**+2.8**
ARCES	**ARCESS Array B**	**48.28**	**345**		P		**P**	**08 16 57.6**	**+2.8**
	comp=Z,3.4nm,0.9s,baz=128,slow=9.3,SNR=6.8								
TOA0	**Torodi Ar. Sit**	**55.93**	**269**		*e*P		**P**	**08 17 54.8**	**+2.2**
	comp=Z,3.2nm,1.0s								
TORD	**Torodi Ar. Bea**	**55.93**	**269**		P		**P**	**08 17 54.1**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=54,slow=7.2,SNR=7.3								
TOA1	**Torodi Ar. Sit**	**55.93**	**269**		*e*P		**P**	**08 17 54.1**	**+1.4**
KS15	**Wonju Array Si**	**57.95**	**61**		*e*P		P	08 18 00.3	-6.3
KSAR	**Wonju Array Be**	**57.95**	**61**		P		P	08 18 00.3	-6.3
KSAR	**Wonju Array Be**	**57.95**	**61**		P		P	08 18 00.3	-6.3
KSRS	**Korea Array**	**57.98**	**60**		P		P	08 18 00.3	-6.5
	comp=Z,2.1nm,0.6s,baz=273,slow=7.1,SNR=9.2								
TIXI	**Tiksi**	**59.21**	**20**		P		**P**	**08 18 13.9**	**-1.0**
	comp=Z,2.1nm,0.5s,baz=280,slow=3.6,SNR=5.5								
TIXI	**Tiksi**	**59.21**	**20**		*e*P		**P**	**08 18 14.6**	**-0.3**
	comp=Z,1.9nm,0.5s								
TIXI	**Tiksi**	**59.21**	**20**		*e*P		**P**	**08 18 14.6**	**-0.3**
TIXI					pmax		pmax		
	comp=Z,2.0nm,0.5s								
KLR	**Kul'dur**	**59.32**	**46**		P		**P**	**08 18 12.0**	**-4.0**
	comp=Z,1.3nm,0.6s,baz=270,slow=7.1,SNR=3.1								
BOSA	**Boshof**	**63.46**	**214**		LR		LR	08 48 20.7	
	comp=Z,24nm,18.1s,baz=24,slow=38								
MJAR	**Matsushiro Arr**	**66.22**	**60**		LR		LR	08 51 46.3	
	comp=Z,31nm,19.5s,baz=115,slow=40								
TOLK	**Toolik Lake Re**	**83.47**	**10**		*e*P		**P**	**08 20 41.6**	**+0.1**
	comp=Z,4.4nm,1.0s								
IM3	**Indian Mountai**	**85.05**	**13**		*e*P		**P**	**08 20 48.4**	**-1.1**
WRA	**Warramunga Arr**	**85.31**	**115**		P		P	08 20 42.4	-9.1
	comp=Z,0.7nm,0.8s,baz=312,slow=4.7,SNR=8.1								
WR1	**Warramunga Arr**	**85.31**	**115**		*e*P		P	08 20 42.4	-9.1
	comp=Z,3.7nm,1.1s								
INK	**Inuvik**	**85.74**	**5**		*e*P		**P**	**08 20 52.9**	**0.0**
	comp=Z,0.9nm,1.0s								
INK	**Inuvik**	**85.74**	**5**		*e*P		**P**	**08 20 52.9**	**0.0**
INK					pmax		pmax		
	comp=Z,1.0nm,1.0s								
AS31	**Alice Springs**	**86.78**	**118**		*e*P		P	08 20 49.5	-9.3
	comp=Z,0.4nm,0.6s								
ASAR	**Alice Springs**	**86.78**	**118**		P		P	08 20 49.7	-9.1
	comp=Z,0.4nm,0.7s,baz=304,slow=5.5,SNR=3.9								
ILAR	**Eielson Array**	**87.44**	**11**		P		**P**	**08 20 59.5**	**-1.8**
	comp=Z,0.3nm,0.8s,baz=335,slow=6.2,SNR=3.6								
ILB	**Eielson Array**	**87.44**	**11**		*e*P		**P**	**08 20 59.8**	**-1.6**
BANI	**BANI**	**114.75**	**307**		*e*PKPdf		PKPdf	08 26 53.8	-1.8

*NNC **30** 08:14:05.0±3.5, 53°.35N×87°.66E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=32.2km s-min=23.5km az=167.0, Suspected Mining explosion.*

KRAR 30 08:13:59.4±0.1, 53°.47N×87°.78E, M2.7, 3C-5D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**6.28**	**248**	⇓	Pn	Pn	08 15 37.3	+4.1
	6.8nm,0.9s							
KURK				⇓	Sn	Sn	08 16 50.9	+5.3
	4.3nm,0.7s							
KURK				⇓	Lg	Lg	08 17 22.4	
	8.4nm,0.6s							
KURBB	**Kurchatov Arra**	**6.38**	**247**	⇓	Pn	Pn	08 15 39.0	+4.5
	5.4nm,0.5s							
KURBB				⇓	Sn	Sn	08 16 50.0	+2.1
	13nm,0.7s							
KURBB				⇑	Lg	Lg	08 17 24.3	
	21nm,0.7s							
MK31	**Makanchi Array**	**7.55**	**210**	⇑	Pn	Pn	08 15 53.0	+2.2
	0.5nm,0.5s,baz=29,slow=13,SNR=4.2							
MK31					Sn	Sn	08 17 21.8	+4.7
	2.3nm,0.7s,baz=28,slow=26,SNR=2.8							
MK31				⇑	Lg	Lg	08 17 59.7	
	5.2nm,0.7s,baz=46,slow=34,SNR=6.5							

*IDC **30** 08:26:07.1±0.6, 8°.38S×127°.75E, h0km, mb4.2/10, mb1 4.2/13, mb1mx4.1/34, mbtmp4.2/13, ML3.3/3, MS3.4/11, Ms1 3.5/11, ms1mx3.1/35, Error ellipse: s-maj=24.9km s-min=15.5km az=69.0*

*ISCJB **30** 08:26:09.1±0.3, 8°.65S±0°.03×127°.87E±0°.04, h33km, mb4.3/18, MS3.4/7, Error ellipse: s-maj=6.4km s-min=4.7km az=156.2*

*NEIC **30** 08:26:12.6±0.4, 8°.69S×127°.85E, h35km, mb4.4/12, Error ellipse: s-maj=10.0km s-min=7.5km az=63.0*

ISC 30 08:26:12.3±0.4, 8°.64S±0°.05×127°.86E±0°.05, h35km, n62, σ2°.57/67, mb4.4/18, MS3.4/7, Timor region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.72**	**252**		*e*Pn	**Pn**	**08 27 07.8**	**+0.5**
BATI	**Baumata**	**4.43**	**249**		Pn	**Pn**	**08 27 16.6**	**-0.4**
	2.4nm,0.3s,baz=60,slow=20,SNR=1.9							
BATI					Sn	**Sn**	**08 28 12.6**	**+5.2**
	15nm,0.3s,baz=102,slow=17,SNR=2.7							
MTN	**Manton Dam**	**5.27**	**143**		*e*Pn	**Pn**	**08 27 32.5**	**+3.8**
MTN					*e*Sn	**Sn**	**08 28 32.9**	**+4.7**
FAKI	**Fak Fak**	**7.16**	**38**		*e*Pn	**Pn**	**08 27 56.1**	**+1.4**
SIJI	**Sorong**	**8.43**	**24**		Pn	Pn	08 28 17.2	+5.1
	3.4nm,0.3s,baz=149,slow=1.3,SNR=7.1							
SIJI					Sn	**Sn**	**08 29 49.4**	**+3.3**
	1.2nm,0.3s,baz=270,slow=20,SNR=2.5							
SIJI					LR	LR	08 31 50.7	
	comp=Z,287nm,20.6s,baz=186,slow=42							
FITZ	**Fitzroy Crossi**	**9.65**	**193**		Pn	**Pn**	**08 28 29.1**	**+0.4**
	1.6nm,0.3s,baz=5.7,slow=10,SNR=38							
FITZ					Sn	**Sn**	**08 30 13.1**	**-2.8**
	4.2nm,0.3s,baz=292,slow=8.1,SNR=6.4							
FITZ					LR	LR	08 32 59.2	
	comp=Z,284nm,19.0s,baz=2.0,slow=42							
FITZ	**Fitzroy Crossi**	**9.65**	**193**		*e*Pn	**Pn**	**08 28 29.2**	**+0.5**
FITZ					*e*Sn	**Sn**	**08 30 15.2**	**-0.7**
WRAB	**Tennant Creek**	**12.86**	**151**		*e*Pn	**Pn**	**08 29 10.6**	**-2.1**
WRA	**Warramunga Arr**	**12.87**	**152**		Pn	**Pn**	**08 29 11.7**	**-1.1**
	3.8nm,0.3s,baz=324,slow=14,SNR=220							
WRA					Sn	**Sn**	**08 31 30.1**	**-4.8**
	6.0nm,0.3s,baz=333,slow=24,SNR=10							
WRA					LR	LR	08 35 09.0	
	comp=Z,195nm,18.6s,baz=325,slow=41							
WR1	**Warramunga Arr**	**12.87**	**152**		*e*Pn	**Pn**	**08 29 11.7**	**-1.1**
WR1					*e*Sn	**Sn**	**08 31 30.1**	**-4.8**
WB2	**Warramunga Arr**	**12.87**	**151**		*e*Pn	**Pn**	**08 29 11.3**	**-1.6**
MBWA	**Marble Bar**	**14.71**	**211**		*e*Pn	**Pn**	**08 29 36.6**	**-1.4**
COEN	**Coen**	**15.91**	**111**		*e*Pn	**Pn**	**08 29 53.5**	**-0.3**
	9.5nm,0.8s							
AS31	**Alice Springs**	**16.02**	**160**		*e*Pn	**Pn**	**08 29 55.5**	**+0.3**
	9.4nm,0.5s							
AS31					*e*Sn	**Sn**	**08 32 48.9**	**-2.9**
ASAR	**Alice Springs**	**16.02**	**160**		Pn	**Pn**	**08 29 53.6**	**-1.5**
	1.0nm,0.3s,baz=336,slow=10,SNR=71							
ASAR					Sn	**Sn**	**08 32 46.1**	**-5.7**
	1.2nm,0.3s,baz=325,slow=18,SNR=4.7							
ASAR					LR	LR	08 36 49.8	
	comp=Z,192nm,19.6s,baz=341,slow=39							
AS01	**Alice Springs**	**16.04**	**159**		*e*Pn	**Pn**	**08 29 53.9**	**-1.4**
PMG	**Port Moresby**	**19.07**	**94**		P	**Pn**	**08 30 33.0**	**0.0**
	0.3nm,0.3s,baz=283,slow=18,SNR=1.6							
PMG					S	**Sn**	**08 33 58.8**	**-7.0**
	0.9nm,0.3s,baz=183,slow=18,SNR=2.0							
SBUM	**Sibu**	**19.09**	**305**		*e*P	**Pn**	**08 30 33.3**	**+0.1**
	12nm,0.9s							
KSM	**Kuching**	**20.18**	**299**		*e*P	Pn	08 30 44.1	-1.9
	21nm,0.9s							
CTA	**Charters Tower**	**21.11**	**125**		P	**P**	**08 30 54.8**	**+0.7**
	3.9nm,0.8s,baz=287,slow=10,SNR=2.2							
CTA					S	Sn	08 35 04.6	+10
	3.9nm,0.8s,baz=119,slow=13,SNR=3.0							
CTAO	**Charters Tower**	**21.11**	**125**		*e*P	**P**	**08 30 58.8**	**+4.6**
	19nm,1.1s							
FORT	**Forrest**	**22.03**	**180**		*e*P	**P**	**08 31 07.7**	**+3.9**
	25nm,0.8s							
MORW	**Morawa**	**23.16**	**207**		*e*P	**P**	**08 31 17.9**	**+2.0**
	9.4nm,0.8s							
BBOO	**Buckleboo**	**25.22**	**164**		*e*P	**P**	**08 31 39.4**	**+4.5**
	7.7nm,0.6s							
NWAO	**Narrogin (SRO)**	**26.09**	**201**		P	**P**	**08 31 44.7**	**+1.8**
	9.7nm,0.9s,baz=14,slow=17,SNR=3.5							
STKA	**Stephens Creek**	**26.41**	**153**		P	**P**	**08 31 48.4**	**+2.7**
	3.7nm,0.6s,baz=322,slow=11,SNR=15							
STKA					LR	LR	08 43 09.3	
	comp=Z,133nm,21.7s,baz=231,slow=38							
STKA	**Stephens Creek**	**26.41**	**153**		*e*P	**P**	**08 31 49.2**	**+3.5**
	2.5nm,0.8s							
TOO	**Toolangi**	**32.92**	**154**		*e*P	**P**	**08 32 41.6**	**-1.9**
	35nm,0.9s							
UTHA	**Uthaitani**	**37.02**	**310**		P	**P**	**08 33 17.9**	**-1.1**
	3.1nm,0.8s							
CM01	**Chiang Mai Arr**	**39.20**	**313**		*e*P	**P**	**08 33 36.2**	**-1.2**
CMAR	**Chiang Mai Arr**	**39.23**	**313**		P	**P**	**08 33 36.4**	**-1.2**
	2.2nm,0.7s,baz=142,slow=7.0,SNR=11							
CMAR					LR	LR	08 52 55.9	
	comp=Z,46nm,18.0s,baz=160,slow=41							
DZM	**Mont Dzumac**	**39.40**	**114**		LR	LR	08 51 14.1	
	comp=Z,126nm,18.6s,baz=273,slow=38							
KSRS	**Korea Array**	**45.85**	**0**		LR	LR	08 52 02.1	
	comp=Z,19nm,21.4s,baz=213,slow=34							
GTA	**Gaotai**	**54.43**	**333**		*e*P	**P**	**08 35 34.5**	**-1.8**
GTA					pP	pP	08 35 39.0	-7.9
GTA					sP	sP	08 35 41.5	-9.5
GTA					pmax	pmax		
	comp=Z,4.0nm,1.1s							
KLR	**Kul'dur**	**57.72**	**3**		LR	LR	08 58 59.2	
	comp=Z,29nm,19.6s,baz=276,slow=34							
SONA0	**Songino Array**	**59.35**	**343**		*e*P	**P**	**08 36 09.7**	**-1.4**
SONA0					*e*PcP	**PcP**	**08 36 58.3**	**-0.5**
SONM	**Songino Array**	**59.35**	**343**		P	**P**	**08 36 09.7**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=178,slow=4.3,SNR=4.2							
SONM					PcP	**PcP**	**08 36 58.3**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=150,slow=5.0,SNR=3.8							
PETK	**Petropavlovsk-**	**66.54**	**19**		P	**P**	**08 36 57.8**	**-0.8**
	comp=Z,4.7nm,0.8s,baz=210,slow=8.3,SNR=5.1							
PEA1	**Petropavlovsk-**	**66.55**	**19**		*e*P	**P**	**08 36 57.8**	**-0.8**
MK01	**Makanchi Array**	**68.44**	**328**		*e*P	**P**	**08 37 08.5**	**-2.3**
MK32	**Makanchi Array**	**68.46**	**328**		*e*P	**P**	**08 37 08.5**	**-2.4**
MKAR	**Makanchi Array**	**68.46**	**328**		P	**P**	**08 37 08.5**	**-2.3**
	comp=Z,1.0nm,0.7s,baz=120,slow=7.5,SNR=9.9							
VNDA	**Vanda**	**71.09**	**173**		P	**P**	**08 37 28.2**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=319,slow=8.0,SNR=1.8							
ZALV	**Zalesovo Beam**	**72.13**	**335**		P	**P**	**08 37 30.3**	**-2.8**
	comp=Z,4.7nm,0.7s,baz=124,slow=4.9,SNR=16							
ZAA1	**Zalesovo Array**	**72.14**	**335**		*e*P	**P**	**08 37 30.3**	**-2.9**
KURK	**Kurchatov**	**72.83**	**330**		*e*P	**P**	**08 37 35.4**	**-2.0**
	comp=Z,4.7nm,1.0s							
NRIK	**Noril'sk**	**82.64**	**347**		P	**P**	**08 38 30.4**	**-1.2**
	comp=Z,7.2nm,1.0s,baz=126,slow=6.5,SNR=9.4							
RAYN	**Ar Rayn**	**86.48**	**294**		*e*P	**P**	**08 38 50.7**	**-1.4**
	comp=Z,4.9nm,1.1s							
ILAR	**Eielson Array**	**95.72**	**25**		LR	LR	09 21 07.3	
	comp=Z,22nm,20.6s,baz=236,slow=34							
BRTR	**Keskin Array B**	**98.69**	**309**		LR	LR	09 33 32.4	
	comp=Z,9.6nm,18.6s,baz=252,slow=41							
FXWY	**Fox Creek**	**118.27**	**45**		*e*PKPdf	**PKPdf**	**08 44 58.8**	**+2.3**
TPAW	**Teton Pass**	**118.36**	**45**		*e*PKPdf	**PKPdf**	**08 44 58.9**	**+2.2**
REDW	**Red Top Meadow**	**118.46**	**45**		*e*PKPdf	**PKPdf**	**08 44 58.7**	**+1.8**
SNOW	**Snow King Moun**	**118.50**	**45**		*e*PKPdf	**PKPdf**	**08 44 59.3**	**+2.4**
PDAR	**Pinedale Array**	**119.54**	**45**		PKP	**PKPdf**	**08 44 60.0**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=299,slow=1.5,SNR=4.2							
PV11	**David Mesa, Pa**	**121.25**	**50**		*e*PKPdf	**PKPdf**	**08 45 04.6**	**+2.3**
PV01	**Paradox Valley**	**121.53**	**50**		*e*PKPdf	**PKPdf**	**08 45 05.4**	**+2.5**
TORD	**Torodi Ar. Bea**	**127.03**	**280**		PKP	**PKPdf**	**08 45 13.8**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=101,slow=1.5,SNR=5.4							
TOA1	**Torodi Ar. Sit**	**127.03**	**280**		*e*PKPdf	**PKPdf**	**08 45 13.8**	**+0.1**
LTX	**Lajitas**	**127.58**	**60**		*e*PKPdf	**PKPdf**	**08 45 16.7**	**+2.1**
TXAR	**Lajitas Array**	**127.58**	**60**		PKP	**PKPdf**	**08 45 16.7**	**+2.1**
	comp=Z,0.1nm,0.5s,baz=194,slow=2.6,SNR=3.1							
NNA	**Nana**	**148.01**	**129**		*e*PKPdf	**PKPbc**	**08 45 53.5**	**-1.7**

*ISCJB **30** 08:26:18.0±0.2, 19°.28S±0°.04×177°.58W±0°.04, h570km, mb4.3/133, Error ellipse: s-maj=6.3km s-min=3.6km az=139.8*

*NEIC **30** 08:26:18.7±0.5, 19°.21S×177°.56W, h564km, 6km, mb4.4/114, Error ellipse: s-maj=6.2km s-min=3.6km az=139.0*

*IDC **30** 08:26:22.6±1.9, 19°.16S×177°.64W, h610km, 23km, mb3.9/19, mb1 4.1/20, mb1mx3.8/37, mbtmp4.9/20, Error ellipse: s-maj=16.5km s-min=10.1km az=158.0*

ISC 30 08:26:18.6±0.3, 19°.22S±0°.07×177°.48W±0°.06, h570km, n180, σ1°33/184, mb4.4/133, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.59**	**47**		P	**P**	**08 28 12.1**	**-1.2**
	74nm,0.3s,baz=110,slow=0.7,SNR=110							
AFI					S	**S**	**08 29 42.1**	**-4.9**
	4.9nm,0.3s,baz=59,slow=19,SNR=5.0							
AFI	**Afiamalu**	**7.59**	**47**		*e*P	**P**	**08 28 12.1**	**-1.2**
AFI					*e*S	**S**	**08 29 44.0**	**-3.0**
FUNA	**Funafuti**	**11.11**	**343**		*e*P	**P**	**08 28 50.1**	**+1.9**
DZM	**Mont Dzumac**	**15.32**	**257**		P	**P**	**08 29 32.3**	**+1.4**
	1.0nm,0.3s,baz=70,slow=17,SNR=8.7							
DZM	**Mont Dzumac**	**15.32**	**257**		*e*P	**P**	**08 29 30.0**	**-1.0**
	86nm,1.4s							
DZM	**Mont Dzumac**	**15.32**	**257**		*e*P	**P**	**08 29 33.3**	**+2.3**
	22nm,0.8s							
RAR	**Rarotonga**	**16.73**	**100**		P	**P**	**08 29 44.3**	**+0.2**
	0.8nm,0.3s,baz=224,slow=12,SNR=4.3							
RAR	**Rarotonga**	**16.73**	**100**		*e*P	**P**	**08 29 44.7**	**+0.6**
	30nm,0.9s							
KNTN	**Kanton**	**17.28**	**20**		*e*P	**P**	**08 29 48.0**	**-1.1**
	48nm,0.8s							
OUZ	**Omahuta**	**17.79**	**205**		*e*P	**P**	**08 29 56.4**	**+2.9**
	32nm,1.2s							
URZ	**Urewera**	**19.55**	**193**		P	**P**	**08 30 07.5**	**-2.0**
	4.1nm,0.3s,baz=317,slow=0.8,SNR=32							
URZ					S	**S**	**08 33 09.2**	**-7.4**
	0.4nm,0.3s,baz=41,slow=19,SNR=6.1							
BKZ	**Black Stump Fm**	**20.55**	**193**		*e*P	**P**	**08 30 18.8**	**+0.1**
	21nm,1.2s							
SNZO	**South Karori**	**23.01**	**195**		*e*P	**P**	**08 30 40.3**	**-0.2**
	95nm,1.1s							
THZ	**Tophouse**	**23.92**	**198**		*e*P	**P**	**08 30 48.7**	**0.0**
	28nm,0.9s							
KHZ	**Kahutara**	**24.35**	**196**		*e*P	**P**	**08 30 51.8**	**-0.5**
	31nm,1.1s							
LHI	**Lord Howe Isla**	**24.43**	**235**		*e*P	**P**	**08 30 54.0**	**+0.8**
	82nm,1.1s							
LTZ	**Lake Taylor**	**25.04**	**198**		*e*P	**P**	**08 30 57.3**	**-1.2**
	16nm,1.0s							
OXZ	**Oxford**	**25.61**	**198**		*e*P	**P**	**08 31 03.0**	**-0.5**
	21nm,0.9s							
FOZ	**Fox Glacier**	**26.50**	**201**		*e*P	**P**	**08 31 11.6**	**+0.4**
	56nm,1.2s							
PAE	**Paea**	**26.50**	**91**		*e*P	**P**	**08 31 12.1**	**+0.4**
	2.6nm,0.6s							
PPT2	**Papeete2**	**26.51**	**91**		*e*P	**P**	**08 31 12.4**	**+0.5**
	17nm,0.8s							
PPT	**Papeete**	**26.52**	**91**		P	**P**	**08 31 11.3**	**-0.6**
	17nm,0.5s,baz=40,

MWC	Mount Wilson 11nm,0.9s	77.57	47	eP	P	P	08 37 17.9	+1.0
BAR	Barrett 1.8nm,0.8s	77.70	49	eP	P	P	08 37 18.5	+1.1
ISA	Isabella, Lake 5.8nm,0.8s	78.09	46	eP	P	P	08 37 20.6	+1.2
CMB	Columbia Colle 4.1nm,0.7s	78.19	43	eP	P	P	08 37 20.8	+0.9
SLBS	Sierra La Lagu 9.9nm,1.1s	78.44	60	eP	P	P	08 37 22.8	+1.2
OHAK	Old Harbor	78.79	13	eP	P	P	08 37 22.4	-0.1
MDPB	Devils Postpil 7.2nm,0.8s	78.80	44	eP	P	P	08 37 24.5	+1.1
YBH	Yreka Blue Hor 8.9nm,0.9s	78.98	39	eP	P	P	08 37 25.6	+1.5
HUMO	Hull Mountain 3.9nm,1.1s	79.38	38	eP	P	P	08 37 27.8	+1.7
YERR	Yerington 9.9nm,0.6s	79.47	42	eP	P	P	08 37 28.1	+1.3
NV01	Mina Array Sit	79.76	43	eP	P	P	08 37 29.3	+0.9
NVAR	Mina Array Bea 4.8nm,0.8s,baz=224,slow=8.3,SNR=16	79.76	43	P	P	P	08 37 29.3	+0.9
Y12C	Blythe 6.9nm,0.8s	79.80	49	eP	P	P	08 37 30.2	+1.7
113A	Mohawk Valley, 7.4nm,1.1s	79.84	50	eP	P	P	08 37 30.9	+2.2
LDFC	Landfair 19nm,1.0s	80.08	48	eP	P	P	08 37 32.1	+2.0
KVN	Kaiserville 5.5nm,1.0s	80.24	43	eP	P	P	08 37 31.9	+1.0
Y14A	Wickenburg 3.1nm,0.8s	80.98	49	eP	P	P	08 37 36.5	+1.8
H04A	Detroit Lake 8.4nm,0.7s	81.11	36	eP	P	P	08 37 35.7	+0.6
R11A	Troy Canyon, C 3.0nm,1.0s	81.49	45	eP	P	P	08 37 38.4	+1.0
TUC	Tucson 9.3nm,0.9s	81.80	52	eP	P	P	08 37 41.0	+2.1
WVOR	Wild Horse Val 7.3nm,0.8s	81.83	40	eP	P	P	08 37 39.4	+0.5
WHN	Wuhan	82.09	306	P	P	P	08 37 47.8	+7.5
X16A	Lo Mia Camp, P 5.7nm,0.8s	82.34	50	eP	P	P	08 37 43.5	+1.7
LCMT	Little Creek M 6.6nm,0.9s	82.37	47	eP	P	P	08 37 43.3	+1.5
J08A	Circle Bar Ran 1.2nm,0.6s	82.46	39	eP	P	P	08 37 43.2	+1.1
319A	Douglas 20nm,0.9s	82.49	53	eP	P	P	08 37 44.6	+2.2
CCUT	Cedar City 6.5nm,0.9s	82.57	46	eP	P	P	08 37 44.4	+1.5
LON	Longmire 8.2nm,1.1s	82.59	35	eP	P	P	08 37 43.0	+0.4
KNB	Kanab 4.9nm,0.8s	82.67	47	eP	P	P	08 37 44.8	+1.5
U15A	North Rim 10.0nm,0.7s	82.74	48	eP	P	P	08 37 45.5	+1.6
PSUT	Pine Spring 4.6nm,0.9s	82.74	45	eP	P	P	08 37 44.5	+0.8
PGC	Sidney 33nm,1.1s	82.92	33	eP	P	P	08 37 45.5	+1.5
MAW	Mawson 3.8nm,0.9s,baz=136,slow=7.1,SNR=3.7	82.93	200	P	P	P	08 37 44.3	+0.4
G08A	Pilot Rock 6.8nm,0.8s	83.30	37	eP	P	P	08 37 47.3	+1.1
HPIG	 4.1nm,0.7s	83.34	59	eP	P	P	08 37 48.1	+1.1
IPM	Ipoh 18nm,0.6s	83.46	277	eP	P	P	08 37 48.8	+1.2
X18A	Snowflake 3.7nm,0.8s	83.47	50	eP	P	P	08 37 48.7	+1.3
E07A	Sunnyside 5.8nm,0.8s	83.55	36	eP	P	P	08 37 48.5	+1.2
MTPU	Mount Pierson 2.1nm,0.8s	83.62	46	eP	P	P	08 37 50.4	+2.1
HAWA	Hanford 2.1nm,0.8s	83.63	36	eP	P	P	08 37 48.4	+0.8
PMR	Palmer 3.4nm,0.5s	83.66	13	eP	P	P	08 37 47.1	-0.3
KULM	Kulim 9.9nm,0.8s	84.09	278	eP	P	P	08 37 51.8	+1.1
BMRM	Bremner River 5.2nm,0.7s	84.17	15	eP	P	P	08 37 49.9	-0.1
SCM	Sheep Creek Mo 17nm,1.0s	84.27	14	eP	P	P	08 37 50.7	+0.1
D08A	Wollman Farm, 4.9nm,1.1s	84.36	36	eP	P	P	08 37 51.8	+0.6
F10A	Beach Ranch, E 7.6nm,0.8s	84.69	37	eP	P	P	08 37 53.5	+0.5
B08A	Colville Reser 3.8nm,0.8s	84.90	35	eP	P	P	08 37 54.1	+0.2
TMUT	Trail Mountain 4.6nm,0.7s	84.91	45	eP	P	P	08 37 55.9	+1.3
HLID	Hailey 2.6nm,0.8s	85.03	41	eP	P	P	08 37 56.3	+1.5
C09A	Chrisman Ranch 1.9nm,0.7s	85.15	36	eP	P	P	08 37 56.1	+1.1
RND	Reindeer 11nm,1.0s	85.34	12	eP	P	P	08 37 56.0	+0.3
DHY	Denali Highway 2.3nm,1.1s	85.36	13	eP	P	P	08 37 55.4	-0.6
LAZ	Ladron	85.47	51	eP	P	P	08 37 58.2	+1.0
LENM	Lemitar	85.49	52	eP	P	P	08 37 58.7	+1.4
MNTX	Cornudas Mount 6.8nm,0.8s	85.61	54	eP	P	P	08 37 58.9	+1.2
TLIG	Tlapa 3.3nm,0.7s	85.68	70	eP	P	P	08 38 00.4	+1.9
BNM	Barren Site	85.74	52	eP	P	P	08 37 59.9	+1.4
LTX	Lajitas	85.95	57	eP	P	P	08 38 00.9	+1.5
TXAR	Lajitas Array 4.9nm,0.8s,baz=218,slow=6.5,SNR=61	85.95	57	P	P	P	08 38 00.9	+1.5
NEW	Newport	86.05	36	eP	P	P	08 37 59.7	+0.3
PV01	Paradox Valley	86.16	48	eP	P	P	08 38 01.4	+1.0
ANMO	Albuquerque 3.4nm,0.8s,baz=218,slow=6.1,SNR=17	86.22	51	P	P	P	08 38 01.6	+0.9
ANMO	Albuquerque 3.7nm,0.8s	86.22	51	eP	P	P	08 38 01.8	+1.0
WRH	Wood River Hil 3.7nm,0.8s	86.45	12	eP	P	P	08 38 00.3	-0.6
MCMT	McKenzie Canyo	86.66	40	eP	P	P	08 38 04.0	+1.4
CCB	Clear Creek Bu 4.4nm,0.6s	86.66	12	eP	P	P	08 38 01.0	-0.8
MDM	Murphy Dome 4.4nm,0.9s	86.85	12	eP	P	P	08 38 01.9	-0.9
ILAR	Eielson Array 1.2nm,0.7s,baz=230,slow=5.0,SNR=22	86.96	13	P	P	P	08 38 02.6	-0.6
MSO	Missoula 0.2nm,0.4s	87.06	38	eP	P	P	08 38 05.5	+1.2
DLMT	Dillon 4.1nm,0.7s	87.09	40	eP	P	P	08 38 05.6	+1.1
TPAW	Teton Pass 0.6nm,0.7s	87.16	42	eP	P	P	08 38 06.7	+1.6
S22A	4UR Ranch, Cre 5.8nm,1.0s	87.20	48	eP	P	P	08 38 06.2	+0.8
SNOW	Snow King Moun 5.0nm,0.8s	87.27	42	eP	P	P	08 38 06.8	+1.3
O20A	White River Ci 2.4nm,0.9s	87.32	46	eP	P	P	08 38 07.1	+1.3
MOOW	Moose Ponds 2.7nm,1.0s	87.41	42	eP	P	P	08 38 07.2	+1.0
LOHW	Long Hollow 0.3nm,0.6s	87.44	42	eP	P	P	08 38 07.1	+0.8
QLMT	Earthquake Lak	87.53	41	eP	P	P	08 38 08.7	+2.1
LNIG	Linares 10nm,0.9s	87.63	63	eP	P	P	08 38 07.8	+0.5
BW06	Boulder Array	87.69	43	eP	P	P	08 38 08.3	+0.7
PD31	Pinedale Array	87.69	43	eP	P	P	08 38 07.8	+0.3
PDAR	Pinedale Array 1.8nm,0.7s,baz=203,slow=3.2,SNR=17	87.69	43	P	P	P	08 38 07.8	+0.3
XAN	Xi'an	87.75	307	P	P	P	08 38 09.0	+1.2
XAN	 comp=Z,9.0nm,1.0s			pP pmax	PcP pmax		08 38 15.3	+6.3
H17A	Grant Village comp=Z,8.9nm,1.1s	87.84	41	eP	P	P	08 38 10.9	+2.7
YHH	Holmes Hill comp=Z,0.6nm,0.9s	87.86	41	eP	P	P	08 38 11.0	+2.6
DAWY	Dawson comp=Z,2.3nm,0.7s	88.10	16	eP	P	P	08 38 09.2	+0.5
MSTX	Muleshoe comp=Z,9.1nm,0.8s	88.55	53	eP	P	P	08 38 12.1	+0.5
HHC	Hu-ho-hao-te	88.81	314	eP	P	P	08 38 12.3	-0.3
HHC	 comp=Z,13nm,0.8s			pmax	pmax			
HHC	 comp=Z,340nm,6.1s			pmax	pmax			
SNAA	Sanae	89.27	178	P	P	P	08 38 13.3	-0.9
SNAA	Sanae comp=Z,1.4nm,0.7s	89.27	178	eP	P	P	08 38 13.8	-0.4
VNA3	Neumayer Olymp	89.38	176	P	P	P	08 38 14.4	-0.3
VNA2	Neumayer--Watz baz=194,slow=3.5	89.83	177	P	P	P	08 38 16.5	-0.2
VNA1	Neumayer--Stat	90.06	176	P	P	P	08 38 18.0	+0.3
CMAR	Chiang Mai Arr comp=Z,4.3nm,0.9s,baz=128,slow=3.1,SNR=16	90.15	289	P	P	P	08 38 20.2	+1.0
INK	Inuvik comp=Z,1.0nm,0.8s	92.91	15	eP	P	P	08 38 30.3	-0.4
YKA	Yellowknife Ar comp=Z,0.4nm,0.6s,baz=231,slow=5.0,SNR=4.5	95.14	25	P	P	P	08 38 40.5	-0.5
MK32	Makanchi Array	110.67	314	ePKiKP	PKiKP	PKiKP	08 43 45.5	-1.6
MKAR	Makanchi Array comp=Z,0.4nm,0.6s,baz=178,slow=1.2,SNR=4.8	110.67	314	PKiKP	PKiKP	PKiKP	08 43 45.5	-1.6
KSH	Kashi	114.56	305	ePKP	PKPdf		08 43 50.3	-4.6
ARA0	ARCESS Array S	127.75	350	ePKPdf	PKPdf	PKPdf	08 44 18.5	-0.7
ARCES	ARCESS Array B comp=Z,3.3nm,0.8s,baz=38,slow=2.2,SNR=7.1	127.75	350	PKP	PKPdf	PKPdf	08 44 18.5	-0.7
ARCES	ARCESS Array B	127.75	350	ePKPdf	PKPdf	PKPdf	08 44 19.0	-0.1
BUR04	Bucovina Ar. S	146.18	332	ePKPbc	PKPab	PKPab	08 44 57.5	-0.5
BR101	Keskin Array S	146.32	314	ePKPdf	PKPbc	PKPbc	08 44 55.9	-0.6
BRTR	Keskin Array B comp=Z,1.5nm,0.6s,baz=140,slow=4.8,SNR=6.8	146.32	314	PKPbc	PKPbc	PKPbc	08 44 55.9	-0.6
GERES	GERESS Array B	149.09	346	PKPbc	PKPbc	PKPbc	08 45 03.0	-0.2
GEA0	comp=Z,0.7nm,0.6s,baz=60,slow=3.2,SNR=5.0 GERESS Array S	149.10	346	ePKPbc	PKPbc	PKPbc	08 45 03.3	+0.1

*IDC **30** 08:26:20.8±1.1, 12°.89N×88°.21W, h0km, mb3.7/6, mb1 3.9/9, mb1mx3.7/38, mbtmp3.6/9, ML2.8/3, MS2.8/5, Ms1 2.8/5, ms1mx2.5/31, Error ellipse: s-maj=77.9km s-min=16.1km az=50.0*

*ISCJB **30** 08:26:21.7±1.1, 12°.39N±0°.04×88°.82W±0°.04, h15km±7km, mb3.8/9, Error ellipse: s-maj=8.8km s-min=4.0km az=35.7*

*UCR **30** 08:26:23.7±1.7, 12°.50N×88°.79W, h19km±5km, ML3.9, mb4.2(NEIC)*

*NEIC **30** 08:26:24.0±0.0, 12°.55N×88°.80W, h19km, mb4.2/3, MD4.0(SNET), After SNET.*

NEIC Felt [I] at San Salvador.

ISC 30 08:26:23.1±1.9, 12°.49N±0°.06×88°.77W±0°.05, h16km±11km, n54, σ1°.42/59, mb3.9/9, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
UESV	Ojushtada	0.89	359	eP	P	Pn	08 26 44.2	+3.2
UESV	 comp=Z,2μm,0.4s			IAML			08 27 05.5	
VSM	San Miguel	1.05	28	eP	P	Pn	08 26 43.5	0.0
PACA	Pacayal	1.07	24	eP	P	Pg	08 26 43.9	+0.1
PACA				eS	S	Sg	08 26 57.3	-0.5
SNVI	San Vicente	1.12	357	eP	P	Pb	08 26 43.9	-0.2
LFRS	El Faro	1.16	346	eP	P	Pb	08 26 43.8	-1.1
LCND	La Ca˜ada	1.19	47	eP	P	Pn	08 26 44.6	-0.4
LCND	 comp=Z,4μm,0.3s			IAML			08 27 08.6	
CNCH	Conchagua	1.20	49	eP	P	Pb	08 26 45.5	-0.1
LOMA	San Marcos comp=Z,7μm,0.3s	1.22	341	IAML			08 27 03.5	
PAVA	Las Pavas	1.23	353	eP	P	Pn	08 26 45.5	-0.2
PAVA	 comp=Z,3μm,0.5s			IAML			08 27 03.9	
SNET	Serv Nac Est T	1.27	339	eP	P	Pn	08 26 45.8	-0.5
SNET				eP	P	Pb	08 26 45.9	-0.8
SNET				eS	S	Sn	08 27 02.8	-0.3
SNET	 comp=Z,2μm,0.3s			IAML			08 27 04.8	
UESS	San Salvador comp=Z,2μm,0.3s	1.28	341	IAML			08 27 05.0	
CSGN	Cosiguina Volc	1.28	68	ePn	P	Pn	08 26 45.7	-0.7
CSGN				eSn	S	Sg	08 27 05.4	+0.9
UDBS	Soyapango	1.28	343	eS	S	Sb	08 27 02.8	-0.5
OPAM	San Salvador	1.29	341	eP	P	Pn	08 26 46.2	-0.3
OPAM	 comp=Z,3μm,0.2s			IAML			08 27 04.0	
LFU	La Fuente	1.29	345	eP	P	Pn	08 26 46.3	-0.3
BOQS	Boqueron	1.33	338	eP	P	Pn	08 26 47.2	-0.1
CAHU	Cacacuatique	1.39	23	eP	P	Pg	08 26 49.1	-0.7
CAHU				eS	S	Sg	08 27 07.2	-0.7
CEVE	Cerro Verde	1.57	328	eP	P	Pn	08 26 50.8	+0.3
CEVE				eS	S	Sb	08 27 11.6	+0.1
CEVE	 comp=Z,5μm,0.3s			IAML			08 27 15.4	
RTR	El Retiro	1.64	329	eP	P	Pb	08 26 51.9	-1.1
UNIC	Santa Ana	1.68	333	eS	S	Sn	08 27 12.7	-0.4
UNIC	 comp=Z,1μm,0.2s			IAML			08 27 16.6	
LLGN	La Laguna	1.68	354	eP	P	Pn	08 26 52.5	+0.6
LLGN				eS	S	Sb	08 27 13.9	-0.8
LLGN	 comp=Z,2μm,0.5s			IAML			08 27 17.6	
CRIN	San Cristobal	1.69	83	eP	P	Pb	08 26 53.2	-0.7
CRIN	 comp=N,2μm,0.3s			eS	S	Sb	08 27 16.3	+1.2
CNGN	Cerro Negro	2.03	90	eP	P	Pn	08 26 55.3	-1.3
CNGN	 comp=N,156nm,0.3s			IAML			08 27 20.6	
COPN	Copaltepe	2.15	98	eP	P	Pn	08 26 58.5	+0.2
MOMN	Momotombo	2.18	92	eP	P	Pn	08 26 58.5	-0.3
ESTN	Estel	2.42	75	ePn	P	Pn	08 27 02.0	-0.2
ESTN	Estel	2.42	75	eP	P	Pn	08 27 02.5	+0.3
MGAN	Managua	2.49	98	eP	P	Pn	08 27 03.0	-0.1
MATN	Matagalpa	2.81	81	eP	P	Pn	08 27 07.5	0.0
APG	El Apazote comp=N,1.8nm,0.3s,baz=167,slow=13,SNR=3.8	2.99	327	Pn	P	Pn	08 27 09.4	-0.7
APG	 comp=N,107nm,21.6s,baz=107,slow=44			LR	LR		08 28 32.5	
BOAB	BOACO BROADBAN	3.04	90	ePn	P	Pn	08 27 10.3	-0.2
BOAB	BOACO BROADBAN	3.04	90	eP	P	Pn	08 27 10.2	-0.2
ACON	Acoyapa	3.56	98	eP	P	Pn	08 27 16.7	-1.0
JTS	JuntasAbangare comp=N,0.3nm,0.3s,baz=248,slow=15,SNR=2.3	4.34	120	Pn	P	Pn	08 27 25.0	-3.4
JTS	 comp=N,2.0nm,0.3s,baz=322,slow=19,SNR=2.7			Sn	S	Sn	08 28 18.9	+0.2
JTS	 comp=N,5.2nm,0.3s,baz=231,slow=15,SNR=6.7			Lg	Lg		08 28 40.7	
JTS	JuntasAbangare	4.34	120	ePn	P	Pn	08 27 30.5	+2.0
ESPN	Las Esperanzas	4.38	93	ePn	P	Pn	08 27 31.9	+2.9
CMIG	Matias Romero comp=N,0.2nm,0.3s,baz=119,slow=12,SNR=6.0	7.47	308	Pn	P	Pn	08 28 14.2	+2.7
CMIG	 comp=N,0.3nm,0.3s,baz=85,slow=11,SNR=2.4			Sn	S	Sn	08 29 34.0	-2.0
CMIG	 comp=N,38nm,18.4s,baz=84,slow=36			LR	LR		08 30 55.3	
TEIG	Tepich	7.71	3	ePn	P	Pn	08 28 18.1	+3.3
TLIG	Tlapa	10.72	299	ePn	P	Pn	08 29 00.5	+4.4
TX31	Lajitas Ar. Si	21.74	323	eP	P	P	08 31 15.2	+1.2
TXAR	Lajitas Array comp=N,1.1nm,0.6s,baz=142,slow=10,SNR=23	21.74	323	P	P	P	08 31 15.3	+1.2
ABTX	Abilene, Hawle comp=N,5.5nm,0.8s	22.38	335	eP	P	P	08 31 21.6	+0.8
SJG	San Juan comp=N,48nm,18.4s,baz=272,slow=37	22.52	73	LR	LR		08 39 40.8	
TKL	Tuckaleechee C comp=N,39nm,20.4s,baz=274,slow=36	23.50	10	LR	LR		08 40 19.5	
STVI	Saint Thomas comp=N,15nm,1.0s	23.68	73	eP	P	P	08 31 32.5	-1.6
NNA	Nana comp=N,19nm,20.6s,baz=35,slow=32	27.05	154	LR	LR		08 40 56.5	
PV12	Saucer Basin, comp=N,2.8nm,0.9s	31.30	329	eP	P	P	08 32 45.0	+2.1
PDAR	Pinedale Array comp=N,0.5nm,0.8s,baz=125,slow=9.3,SNR=3.7	35.14	333	P	P	P	08 33 17.3	+1.0
SIV	San Ignacio comp=N,2.0nm,0.9s,baz=326,slow=9.4,SNR=7.9	39.39	135	P	P	P	08 33 52.5	+0.1
CPUP	Villa Florida comp=N,0.9nm,0.8s,baz=342,slow=3.2,SNR=3.3	49.24	142	P	P	P	08 35 10.5	-0.6
YKA	Yellowknife Ar comp=N,0.8nm,0.6s,baz=156,slow=6.5,SNR=10	53.24	345	P	P	P	08 35 38.7	-1.9
ILAR	Eielson Array comp=N,0.4nm,0.8s,baz=174,slow=4.8,SNR=5.5	65.46	336	P	P	P	08 37 03.4	-1.7
WRA	Warramunga Arr comp=N,0.5nm,0.9s,baz=88,slow=2.4,SNR=3.4	138.04	254	PKP	PKPdf	PKPdf	08 45 48.2	0.0
CMAR	Chiang Mai Arr comp=N,0.7nm,0.3s,baz=342,slow=5.7,SNR=3.1	148.32	346	PKPbc	PKPdf	PKPdf	08 46 07.9	+1.6

IDC 30 08:34:45.9±2.0, 16°.69S×172°.89W, h0km, mb4.2/4, mb1 4.3/5, mb1mx3.9/28, mbtmp4.2/5, ML3.4/1, MS3.4/6, Ms1 3.4/6, ms1mx3.1/31, Error ellipse: s-maj=60.8km s-min=26.6km az=118.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu 5.6nm,0.3s,baz=189,slow=3.0,SNR=7.0	2.96	21	Pn	Pn		08 35 32.4	-1.9
AFI	 32nm,0.3s,baz=185,slow=23,SNR=12			Sn	Sn		08 36 07.5	-3.1
RAO	Raoul Island comp=Z,1μm,19.6s,baz=320,slow=34	13.33	199	LR	LR		08 42 12.1	
PPT	Papeete comp=Z,55nm,18.1s,baz=307,slow=32	22.29	96	LR	LR		08 46 46.3	
PPT2	Papeete2 63nm,26.5s	22.29	96	eLR	LR		08 44 29.9	
TBI	Tubuai 116nm,34.0s	22.97	111	eLR	LR		08 44 53.4	
URZ	Urewera 15nm,0.8s,baz=10,slow=2.8,SNR=11	23.22	200	P	P		08 39 54.0	-0.6
HNR	Honiara comp=Z,112nm,21.6s,baz=124,slow=33	27.41	282	LR	LR		08 49 40.6	
STKA	Stephens Creek 0.7nm,0.5s,baz=65,slow=10,SNR=3.0	43.84	241	P	P		08 42 54.3	+0.3
WRA	Warramunga Arr 1.2nm,0.6s,baz=95,slow=7.1,SNR=20	50.04	258	P	P		08 43 42.1	-0.7
ASAR	Alice Springs 3.7nm,0.7s,baz=89,slow=8.7,SNR=38	50.19	253	P	P		08 43 43.7	-0.2
MJAR	Matsushiro Arr comp=Z,7.9nm,20.9s,baz=120,slow=33	70.23	320	LR	LR		09 12 51.5	
JNU	Nakatsue comp=Z,15nm,18.4s,baz=66,slow=32	73.03	313	LR	LR		09 13 41.2	
PLCA	Paso Flores comp=Z,21nm,19.5s,baz=1.0,slow=30	88.29	132	LR	LR		09 19 40.6	
BRTR	Keskin Array B 1.6nm,0.8s,baz=132,slow=1.8,SNR=5.1	147.46	320	PKPbc	PKPab		08 54 33.5	-0.8

*IDC **30** 08:46:51.5±2.2, 4°.59S×36°.36E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.5/36, mbtmp3.9/4, ML3.9/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/28, Error ellipse: s-maj=106.0km s-min=17.6km az=107.0*

ISC 30 08:46:53.1±1.1, 4°.58S±0°.05×36°.3E±0°.2, h10km, n7, σ1°11/8, mb4.0/3, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KIBA	Kibaya	0.77	159	iP	P	Pn	08 47 10.1	-0.1
KIBA				iS	S	Sn	08 47 23.0	+1.0
KMBO	Kilima Mbogo 10nm,0.3s,baz=193,slow=16,SNR=31	3.56	16	Pn	P	Pn	08 47 49.3	+0.6
KMBO	 22nm,0.3s,baz=197,slow=18,SNR=41			Pg	Pb		08 47 54.6	-1.7
KMBO	 29nm,0.3s,baz=294,slow=22,SNR=10.0			Sn	Sn		08 48 32.1	+1.2
KMBO	 79nm,0.3s,baz=107,slow=19,SNR=19			Lg	Lg		08 48 44.6	
BOSA	Boshof 2.0nm,0.6s,baz=16,slow=10.0,SNR=4.3	26.10	202	P	P		08 52 27.2	-0.1
TORD	Torodi Ar. Bea comp=Z,40nm,20.6s,baz=275,slow=35	38.61	298	LR	LR		09 09 19.8	
DBIC	Dimbokro comp=Z,16nm,18.5s,baz=118,slow=34	42.57	285	LR	LR		09 11 13.5	
AKASG	Malin Array Be 2.2nm,0.8s,baz=176,slow=6.4,SNR=7.9	55.40	355	P	P		08 56 28.1	+0.8
GERES	GERESS Array B 0.6nm,0.8s,baz=172,slow=7.9,SNR=3.8	56.74	342	P	P		08 56 37.0	-0.2

*HLW **30** 08:49:30.2, 33°.66N×28°.24E, h19km±11km, Md3.9, Ml3.9*

*ISCJB **30** 08:49:31.7±1.2, 33°.32N±0°.10×28°.36E±0°.05, h33km, Error ellipse: s-maj=14.3km s-min=5.3km az=165.2*

*GII **30** 08:49:35.3±0.0, 33°.36N×28°.42E, h32km, MD3.2/4*

ISC 30 08:49:31.5±2.3, 33°.5N±0°.1×28°.23E±0°.07, h35km, n27, σ1°12/33, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SLUM	Salum baz=231	3.23	233	P	P	Pn	08 50 19.6	-0.1
SWA2	 baz=210	4.85	210	P	P	Pn	08 50 42.2	+0.2
SWA2	 baz=210			S	S	Sn	08 51 35.4	-1.4
GLL	Jalalah baz=143	4.90	142	P	P	Pn	08 50 43.6	+0.9
RSH	 baz=118	5.29	117	P	P	Pn	08 50 47.8	-0.3
SUZ	Suez baz=133	5.35	132	P	P	Pn	08 50 49.5	+0.6
OFRI	'Ofer	5.74	97	Sn	S	Sn	08 51 57.3	-1.6
KZIT	Kziot	5.83	115	Pn	P	Pn	08 50 56.2	+0.8
HNKL	Nakhl baz=125	6.05	124	P	P	Pn	08 50 58.4	-0.2
MMLI	Mount Malkishu	6.14	98	Sn	S	Sn	08 52 08.6	-0.1
YTIR	Yattir	6.20	108	Pn	P	Pn	08 51 01.8	+1.2
HMDT	Nahal Hemdat	6.26	99	Pn	P	Pn	08 51 02.1	+0.7
NATI	Neve Ativ	6.29	90	Pn	P	Pn	08 51 02.2	+0.5
HFRF	Wahat Farafira baz=179	6.32	179	P	P	Pn	08 51 03.6	+1.5
HFRF	 baz=179			AMP			08 52 00.0	
DSI	Dead Sea	6.34	106	Pn	P	Pn	08 51 03.5	+1.1
DSI				Sn	S	Sn	08 52 13.4	-0.2
MZDA	Masada	6.41	108	Pn	P	Pn	08 51 04.3	+0.9
MZDA				Sn	S	Sn	08 52 14.7	-0.7
KRMI	Paran Flat	6.47	120	Pn	P	Pn	08 51 05.3	+1.0
KRMI				Sn	S	Sn	08 52 14.9	-2.0
GRB	Gharib baz=142	6.51	142	P	P	Pn	08 51 04.8	-0.1
PRNI	Paran	6.55	117	Pn	P	Pn	08 51 06.5	+1.1
PRNI				Sn	S	Sn	08 52 17.9	-1.1
ZFRI	Zfri	6.59	114	Pn	P	Pn	08 51 06.9	+1.1
HRFI	Mount Harif	6.74	119	Pn	P	Pn	08 51 09.1	+1.1
MBRI	Mt Berech	6.79	121	Pn	P	Pn	08 51 09.3	+0.6
MBRI				Sn	S	Sn	08 52 23.3	-1.5
EIL	Elat	6.88	122	Pn	P	Pn	08 51 11.0	+1.1
HKAT	Jabal Katrina baz=134	7.00	133	P	P	Pn	08 51 11.8	+0.1
HBST	Basata baz=126	7.00	126	P	P	Pn	08 51 12.4	+0.8
SH2	Sharm el Sheik baz=137	7.52	136	P	P	Pn	08 51 18.7	0.0
HHRG	Al Ghardaqah baz=143	7.76	142	P	P	Pn	08 51 24.8	+2.7
HDK1	Dakhla baz=172	7.98	172	P	P	Pn	08 51 26.6	+1.6

MEX 30 08:58:47.9±0.6, 15°.53N×95°.42W, h16km±18km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.71	290	eP	Pg		08 58 59.3	-2.4
HUIG				eS	Sg		08 59 08.2	-2.9
CMIG	Matias Romero	1.63	18	eP	Pn		08 59 12.1	-4.0
CMIG				eS	Sn		08 59 31.7	-5.0
VHO	Vista Hermosa	1.99	321	iP	Pn		08 59 17.6	-3.5
VHO				eS	Sn		08 59 40.4	-5.3

*ISCJB **30**

PB04 eSn Sn 09 05 52.5 -4.4
LVC Limon Verde 8.14 153 P Pn 09 04 44.9 +0.5
22nm,0.3s,baz=11,slow=8.3,SNR=179
LVC S Sn 09 06 12.1 -2.9
9.1nm,0.3s,baz=272,slow=23,SNR=9.9
LVC Limon Verde 8.14 153 *e*Pn Pn 09 04 44.6 +0.2
LVC eSn Sn 09 06 07.9 -7.1
PB10 IPOC Station P 8.41 165 *e*Pn Pn 09 04 46.1 -1.6
PB10 eSn Sn 09 06 14.3 -6.6
ATAH Atahualpa 9.78 326 P Pn 09 05 04.6 -2.1
1.4nm,0.3s,baz=129,slow=1.9,SNR=8.1
ATAH S Sn 09 06 53.5 -1.5
3.1nm,0.3s,baz=131,slow=20,SNR=3.6
SIV San Ignacio 11.43 95 P Pn 09 05 27.4 -1.4
7.9nm,0.3s,baz=287,slow=9.7,SNR=198
GO03 Copiap 12.42 169 *e*Pn Pn 09 05 42.9 +1.0
GO03 eSn Sn 09 07 52.5 -6.1
LCO Las Campanas 13.74 172 *e*Pn P 09 06 03.3 -1.2
GO04 Tololo Observa 14.87 173 *e*Pn Pn 09 06 14.9 +1.1
GO04 eSn Sn 09 08 57.2 -0.8
OTAV Otavalo 16.44 340 *e*Pn Pn 09 06 31.9 -1.9
8.6nm,1.1s
CPUP Villa Florida 18.18 129 P P 09 06 53.5 +0.1
1.4nm,0.3s,baz=312,slow=11,SNR=22
CPUP Villa Florida 18.18 129 *e*P P 09 06 53.2 -0.2
12nm,0.9s
PTGA Pitinga 19.37 43 P P 09 07 05.4 -1.0
1.1nm,0.3s,baz=212,slow=12,SNR=19
PTGA Pitinga 19.37 43 *e*P P 09 07 06.8 +0.3
20nm,0.7s
GO05 Hualaae@ 19.58 178 *e*P Pn 09 07 10.8 -0.1
9.3nm,0.8s
GO06 Curarrehue 24.16 177 *e*P P 09 07 57.5 +2.0
41nm,0.8s
SDV Santo Domingo 24.20 6 P P 09 07 55.7 -0.4
1.5nm,0.5s,baz=14,slow=18,SNR=2.5
SPB Sao Paulo 25.36 113 *e*P P 09 08 07.2 +0.9
33nm,0.8s
PLCA Paso Flores 25.36 176 P P 09 08 08.6 +2.3
9.6nm,0.9s,baz=14,slow=10,SNR=21
PLCA Paso Flores 25.36 176 *e*P P 09 08 08.7 +2.5
7.8nm,1.0s
GO07 Milladeo Hill, 27.66 181 *e*P P 09 08 28.5 +1.7
18nm,0.6s
GRGR Grenville 29.51 23 *e*P P 09 08 42.7 -0.8
114nm,0.9s
ESPN Las Esperanzas 29.61 337 *e*P P 09 08 46.5 +2.1
14nm,1.0s
CSGN Cosiguina Volc 31.66 332 *e*P P 09 09 00.9 -1.6
46nm,1.1s
CHRN Cochrane 31.79 180 *e*P P 09 09 05.0 +1.7
5.2nm,0.8s
545A Edgard 48.22 339 *e*P P 09 11 16.6 -2.5
262nm,0.8s
BRAL Brewton 48.22 344 *e*P P 09 11 18.6 -0.4
43nm,1.0s
147A Livingston 49.97 343 *e*P P 09 11 30.7 -1.7
9.2nm,0.9s
JSC Jenkinsville 50.00 351 *e*P P 09 11 32.0 -0.6
5.7nm,1.2s
W52A Murphy 51.26 348 *e*P P 09 11 41.0 -1.0
5.5nm,1.1s
X48A Hartselle 51.33 345 *e*P P 09 11 42.3 -0.2
4.6nm,1.1s
WLAR White Oak Lake 52.44 339 *e*P P 09 11 51.6 +0.8
14nm,0.7s
MIAR Mount Ida 53.38 339 *e*P P 09 11 57.7 0.0
7.8nm,0.9s
LTX Lajitas 53.44 326 *e*P P 09 11 58.6 +0.2
TX31 Lajitas Ar. Si 53.44 326 *e*P P 09 11 58.8 +0.4
TXAR Lajitas Array 53.44 326 P P 09 11 58.6 +0.2
0.5nm,0.4s,baz=152,slow=9.1,SNR=19
ABTX Abilene, Hawle 54.13 332 *e*P P 09 12 03.8 +0.5
11nm,1.1s
LAZ Ladron 59.23 327 *e*P P 09 12 40.4 +0.8
CBKS Cedar Bluff 59.45 336 *e*P P 09 12 41.0 +0.2
12nm,1.0s
T25A Trinidad 60.06 331 *e*P P 09 12 46.1 +0.8
6.5nm,0.9s
SDCO Great Sand Dun 61.06 331 *e*P P 09 12 52.7 +0.6
10nm,1.0s
BGNE Belgrade 61.12 339 *e*P P 09 12 52.2 +0.1
24nm,0.8s
W18A Petrified Fore 61.16 326 *e*P P 09 12 54.1 +1.3
7.3nm,1.0s
X16A Lo Mia Camp, P 61.59 324 *e*P P 09 12 57.0 +1.5
4.3nm,0.9s
S22A 4UR Ranch, Cre 61.69 330 *e*P P 09 12 57.2 +0.9
3.0nm,1.0s
MVCO Mesa Verde 62.10 328 *e*P P 09 12 59.7 +0.6
6.0nm,1.1s
Y14A Wickenburg 62.14 323 *e*P P 09 13 00.5 +1.3
4.2nm,0.8s
WUAZ Wupatki 62.35 325 *e*P P 09 13 02.4 +1.7
8.9nm,0.9s
PV01 Paradox Valley 62.85 329 *e*P P 09 13 05.2 +1.2
SMCO Snowmass 62.90 331 *e*P P 09 13 05.7 +1.2
4.7nm,0.8s
PV02 Paradox Valley 62.99 329 *e*P P 09 13 05.9 +0.9
3.9nm,0.9s
PV13 Radium Mtn., P 63.00 329 *e*P P 09 13 06.0 +1.0
4.4nm,0.8s
PV12 Saucer Basin, 63.11 329 *e*P P 09 13 06.7 +1.0
2.3nm,0.7s
W13A Hualapai Mount 63.47 323 *e*P P 09 13 09.7 +1.5
3.3nm,1.0s
U15A North Rim 63.52 325 *e*P P 09 13 10.3 +1.7
4.8nm,0.9s
LDFC Landfair 64.17 322 *e*P P 09 13 14.3 +1.6
7.0nm,1.1s
O20A White River Ci 64.25 331 *e*P P 09 13 14.0 +0.8
5.7nm,0.8s
SHPR Sheep Range 65.20 323 *e*P P 09 13 20.9 +1.5
4.4nm,0.8s
K22A Casper 65.48 333 *e*P P 09 13 21.8 +0.7
6.3nm,0.8s
RSSD Black Hills 65.66 336 *e*P P 09 13 22.6 +0.4
4.3nm,0.6s
SNCC San Nicolas Is 65.69 318 *e*P P 09 13 23.8 +1.4
83nm,1.1s
DUG Dugway, Tooele 66.56 328 *e*P P 09 13 29.6 +1.5
9.9nm,0.9s
R11A Troy Canyon, C 66.73 325 *e*P P 09 13 30.5 +1.4
4.4nm,0.8s
BW06 Boulder Array 66.93 331 *e*P P 09 13 31.1 +0.7
1.9nm,1.0s
PD31 Pinedale Array 66.93 331 *e*P P 09 13 30.5 +0.1
PDAR Pinedale Array 66.93 331 P P 09 13 30.2 -0.2
0.6nm,0.6s,baz=120,slow=7.5,SNR=7.3
PDAR PcP PcP 09 13 57.6 -0.5
0.5nm,0.7s,baz=117,slow=5.8,SNR=3.7
PDAR Pinedale Array 66.93 331 *e*P P 09 13 30.1 -0.3
VNA3 Neumayer Olymp 67.07 162 P P 09 13 32.4 +1.8
MDND Maddock 67.29 341 *e*P P 09 13 32.9 +0.6
20nm,0.6s
VNA1 Neumayer--Stat 67.30 161 P P 09 13 34.5 +2.4
VNA2 Neumayer--Watz 67.66 161 P P 09 13 36.2 +1.9
baz=286,slow=7.1
SNOW Snow King Moun 68.02 331 *e*P P 09 13 38.1 +0.8
1.3nm,0.5s
FXWY Fox Creek 68.28 331 *e*P P 09 13 39.6 +0.7
4.0nm,1.1s
NV01 Mina Array Sit 68.33 323 *e*P P 09 13 40.8 +1.5
NVAR Mina Array Bea 68.33 323 P P 09 13 40.8 +1.5
1.7nm,0.8s,baz=175,slow=8.9,SNR=6.4
ULM Lac du Bonnet 68.38 344 P P 09 13 38.5 -0.5
6.9nm,0.6s,baz=160,slow=6.4,SNR=14
ULM Lac du Bonnet 68.38 344 *e*P P 09 13 38.5 -0.5
6.3nm,0.6s
IMW Indian Meadow 68.44 331 *e*P P 09 13 40.7 +0.8
1.4nm,0.5s
FLWY Flagg Ranch 68.47 332 *e*P P 09 13 40.9 +0.8
11nm,1.0s
RLMT Red Lodge 68.64 333 *e*P P 09 13 41.8 +0.7
3.7nm,0.6s
YERR Yerington 69.25 323 *e*P P 09 13 45.3 +0.3
15nm,0.8s
SNAA Sanae 69.28 161 P P 09 13 46.3 +1.7
SNAA Sanae 69.28 161 *e*P P 09 13 45.9 +1.3
9.6nm,0.8s
CMB Columbia Colle 69.30 322 *e*P P 09 13 46.8 +1.7
1.9nm,0.9s
GCMT Greyclift 69.34 333 *e*P P 09 13 46.0 +0.7
DGMT Dagmar 69.38 338 *e*P P 09 13 46.6 +1.3
7.8nm,0.8s
PNTR Pine Nut 69.53 323 *e*P P 09 13 50.3 +3.6
16nm,0.8s

DBIC Dimbokro 70.88 77 P P 09 13 54.2 -1.0
3.0nm,0.6s,baz=251,slow=5.7,SNR=4.3
ORV Oroville 70.95 322 *e*P P 09 13 56.9 +1.9
7.7nm,0.9s
QSPA South Pole Qui 74.79 180 *e*P P 09 14 19.8 +2.3
7.8nm,0.9s
TOA1 Torodi Ar. Sit 79.06 73 *e*P P 09 14 41.0 -1.2
TOA0 Torodi Ar. Sit 79.06 73 *e*P P 09 14 41.8 -0.4
TORD Torodi Ar. Bea 79.06 73 P P 09 14 41.0 -1.2
5.4nm,0.8s,baz=253,slow=4.9,SNR=23
VNDA Vanda 82.19 190 P P 09 15 00.2 +2.4
2.8nm,0.9s,baz=108,slow=3.1,SNR=11
VNDA Vanda 82.19 190 *e*P P 09 15 00.4 +2.6
3.5nm,0.9s
YKA Yellowknife Ar 84.19 342 P P 09 15 08.0 -0.1
4.4nm,0.8s,baz=135,slow=5.0,SNR=35
YKB5 Yellowknife Ar 84.19 342 *e*P P 09 15 07.7 -0.4
YKW3 Yellowknife Ar 84.24 342 *e*P P 09 15 08.2 -0.2
8.0nm,0.9s
MDM Murphy Dome 97.71 335 *e*P P 09 16 11.4 -0.2
10nm,1.2s
MORC Moravsky Berou 101.86 41 *e*Pdif Pdif 09 16 31.3 +0.7
ASAR Alice Springs 133.18 215 PKP PKPdf 09 21 53.9 +0.6
0.9nm,0.6s,baz=123,slow=1.8,SNR=15
WR1 Warramunga Arr 135.85 218 *e*PKPdf PKPdf 09 21 59.1 +0.8
WRA Warramunga Arr 135.85 218 PKP PKPdf 09 21 59.1 +0.8
2.7nm,0.5s,baz=139,slow=1.9,SNR=28
ZAA1 Zalesovo Array 137.74 19 *e*PKPdf PKPdf 09 22 01.9 +1.1
ZALV Zalesovo Beam 137.74 19 PKP PKPdf 09 22 01.9 +1.1
0.8nm,0.4s,baz=316,slow=6.2,SNR=7.5
MK32 Makanchi Array 142.47 28 *e*PKPpre PKPpre 09 22 06.1
MKAR Makanchi Array 142.47 28 PKhKP PKPpre 09 22 06.1
0.4nm,0.7s,baz=344,slow=3.6,SNR=3.3
USRK Ussuriysk Ar. 144.32 329 PKP PKPbc 09 22 12.0 +0.6
4.9nm,0.9s,baz=70,slow=3.0,SNR=7.0
MJAR Matsushiro Arr 145.20 313 PKPbc **PKPbc 09 22 14.4 0.0**
7.0nm,0.9s,baz=151,slow=0.2,SNR=13
MAJO Matsushiro 145.20 313 *e*PKPbc **PKPbc 09 22 14.6 +0.1**
MAT Matsushiro 145.20 313 PKP **PKPbc 09 22 14.0 -0.5**
SONA0 Songino Array 147.62 1 PKPdf **PKPdf 09 22 19.9 +1.4**
SONA0 *e*PKPbc **PKPbc 09 22 22.3 +1.0**
SONM Songino Array 147.62 1 PKP **PKPdf 09 22 19.9 +1.4**
3.1nm,0.8s,baz=215,slow=2.5,SNR=18
SONM PKPbc **PKPbc 09 22 22.3 +1.0**
0.6nm,0.6s,baz=19,slow=1.7,SNR=3.7
KSRS Korea Array 151.27 324 PKP **PKPdf 09 22 25.8 +1.3**
0.8nm,0.5s,baz=343,slow=1.3,SNR=4.3
KSRS PKPbc **PKiKP 09 22 31.8 +0.8**
7.1nm,0.8s,baz=5.4,slow=1.2,SNR=19
KS15 Wonju Array Si 151.30 324 *e*PKPdf **PKPdf 09 22 21.8 -2.8**
KS15 *e*PKPbc **PKiKP 09 22 31.7 +0.6**

IDC 30 09:12:35.9±2.3, 18°13S×179°80E, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.9/30, mbtmp4.0/4, Error ellipse: s-maj=130.4km s-min=27.7km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.91**	**260**	P	P	09 20 38.0	+1.3
	1.2nm,0.3s,baz=95,slow=8.3,SNR=125						
ASAR	**Alice Springs**	**43.09**	**255**	P	P	09 20 36.7	-1.4
	4.0nm,0.7s,baz=97,slow=7.6,SNR=43						
ILAR	**Eielson Array**	**86.49**	**14**	P	P	09 25 19.2	-0.9
	0.4nm,0.8s,baz=201,slow=4.8,SNR=2.6						
TXAR	**Lajitas Array**	**87.56**	**58**	P	P	09 25 27.2	+0.9
	0.4nm,0.8s,baz=205,slow=5.5,SNR=4.5						

*ISCJB **30** 09:28:41.2±0.7, 20°.3S±0°.1×177°.7W±0°.1, h550km, mb4.1/9, Error ellipse: s-maj=20.2km s-min=9.5km az=136.5*
*IDC **30** 09:28:41.9±1.9, 20°.23S×177°.79W, h538km±24km, mb3.6/9, mb1 3.7/12, mb1mx3.4/35, mbtmp4.5/12, Error ellipse: s-maj=22.4km s-min=16.4km az=122.0*

ISC 30 09:28:42.2±0.9, 20°.2S±0°.2×177°.6W±0°.1, h550km, n15, σ1°37/16, mb4.1/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.40**	**43**	P	**P**	**09 30 44.2**	**+0.2**
	4.8nm,0.3s,baz=133,slow=12,SNR=7.9						
AFI				S	**S**	**09 32 21.6**	**-2.4**
	4.4nm,0.3s,baz=67,slow=20,SNR=9.5						
DZM	**Mont Dzumac**	**14.98**	**260**	P	**P**	**09 31 51.6**	**0.0**
	0.7nm,0.3s,baz=110,slow=21,SNR=7.1						
URZ	**Urewera**	**18.55**	**193**	P	**P**	**09 32 23.5**	**-1.3**
	3.9nm,0.3s,baz=302,slow=3.1,SNR=11						
RPZ	**Rata Peaks**	**25.27**	**199**	P	**P**	**09 33 26.2**	**+1.1**
	7.8nm,0.7s,baz=139,slow=19,SNR=3.7						
CTA	**Charters Tower**	**33.88**	**264**	P	**P**	**09 34 38.8**	**-0.9**
	5.7nm,0.6s,baz=98,slow=10,SNR=11						
JAY	**Jayapura**	**44.30**	**288**	P	**P**	**09 36 03.4**	**-0.5**
	15nm,0.5s,baz=230,slow=6.1,SNR=11						
ASAR	**Alice Springs**	**44.93**	**256**	P	**P**	**09 36 07.4**	**-1.2**
	4.8nm,0.7s,baz=97,slow=7.6,SNR=78						
ASAR				PcP	**PcP**	**09 37 38.5**	**+0.2**
	0.7nm,0.7s,baz=101,slow=3.6,SNR=5.6						
WRA	**Warramunga Arr**	**44.99**	**262**	P	**P**	**09 36 07.2**	**-1.9**
	2.7nm,0.3s,baz=96,slow=7.6,SNR=216						
MJAR	**Matsushiro Arr**	**70.20**	**323**	P	**P**	**09 38 59.8**	**-0.2**
	1.5nm,0.5s,baz=168,slow=6.3,SNR=6.8						
USRK	**Ussuriysk Ar.**	**78.94**	**326**	P	**P**	**09 39 50.5**	**+1.6**
	2.2nm,0.7s,baz=158,slow=3.2,SNR=5.5						
ILAR	**Eielson Array**	**87.97**	**13**	P	**P**	**09 40 33.8**	**+0.5**
	0.7nm,1.0s,baz=213,slow=6.2,SNR=4.4						
CMAR	**Chiang Mai Arr**	**90.36**	**289**	P	**P**	**09 40 47.0**	**+1.5**
	1.6nm,0.8s,baz=100,slow=2.2,SNR=7.4						
AKASG	**Malin Array Be**	**142.94**	**332**	PKhKP	PKPpre	09 47 09.3	
	1.2nm,0.6s,baz=44,slow=4.7,SNR=6.5						
BRTR	**Keskin Array B**	**146.92**	**313**	PKPbc	**PKPdf**	**09 47 22.8**	**+2.1**
	0.7nm,0.6s,baz=145,slow=5.3,SNR=4.0						
GERES	**GERESS Array B**	**150.03**	**345**	PKPbc	**PKPbc**	**09 47 30.9**	**-0.1**
	0.3nm,0.5s,baz=43,slow=4.4,SNR=3.8						

*ISCJB **30** 09:37:56.5±0.7, 13°.90N±0°.05×92°.51W±0°.05, h10km, MS3.2/1, Error ellipse: s-maj=9.3km s-min=4.0km az=35.9*
*UCR **30** 09:37:56.8±1.3, 14°.65N×92°.51W, h20km, ML3.4, mb4.0(NEIC)*
*IDC **30** 09:37:57.3±3.1, 14°.01N×92°.43W, h0km, mb3.9/1, mb1 3.8/4, mb1mx3.5/32, mbtmp3.5/4, ML3.1/3, MS3.0/2, Ms1 3.0/2, ms1mx2.4/44, Error ellipse: s-maj=57.0km s-min=18.2km az=171.0*
*NEIC **30** 09:37:59.7±0.0, 13°.89N×92°.48W, h7km, mb4.0/2, MD4.0(MEX), After MEX.*
*MEX **30** 09:37:59.6±0.5, 13°.86N×92°.47W, h11km±150km, MD4.0*

ISC 30 09:37:59.1±1.0, 13°98N±0°.07×92°49W±0°.06, h10km, n34, σ1°42/38, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.95**	**13**	*e*Pg	**Pg**	**09 38 17.0**	**-0.5**
THIG				*e*Sg	**Sg**	**09 38 29.9**	**0.0**
THIG		**0.95**	**13**	*i* P	**Pg**	**09 38 17.0**	**-0.5**
THIG				*e*S	**Sg**	**09 38 29.9**	**0.0**
PCIG		**1.86**	**338**	*e*Pn	**Pn**	**09 38 29.7**	**-1.3**
PCIG				*e*Sn	**Sn**	**09 38 52.8**	**-1.8**
PCIG		**1.86**	**338**	*e*P	**Pn**	**09 38 29.7**	**-1.3**
PCIG				*e*S	**Sn**	**09 38 52.8**	**-1.8**
IXG	**Ixpaco**	**1.98**	**84**	*e*P	**Pn**	**09 38 30.6**	**-2.4**
APG	**El Apazote**	**2.21**	**62**	Pn	**Pn**	**09 38 36.0**	**-0.2**
	20nm,0.3s,baz=243,slow=9.9,SNR=215						
APG				Lg	Lg	09 39 05.3	
	37nm,0.3s,baz=106,slow=21,SNR=7.7						
APG				LR	LR	09 39 42.5	
	comp=Z,212nm,19.0s,baz=125,slow=49						
CEVE	**Cerro Verde**	**2.79**	**93**	*e*S	**Sn**	**09 39 18.1**	**+0.1**
CEVE				IAML		09 39 25.3	
	comp=Z,565nm,0.3s						
SBLS	**San Blas**	**2.79**	**92**	*e*P	**Pn**	**09 38 42.3**	**-1.8**
TGIG		**2.85**	**348**	*e*Pn	**Pn**	**09 38 44.4**	**-0.4**
TGIG				*e*Sn	**Sn**	**09 39 19.2**	**0.0**
TGIG		**2.85**	**348**	*e*P	**Pn**	**09 38 44.4**	**-0.4**
TGIG				*i* S	**Sn**	**09 39 19.2**	**0.0**
UESS	**San Salvador**	**3.21**	**94**	*e*S	**Sn**	**09 39 27.9**	**-0.1**
PAVA	**Las Pavas**	**3.46**	**94**	*e*P	**Pn**	**09 38 51.8**	**-1.4**
PAVA				IAML		09 39 54.3	
	comp=Z,79nm,0.3s						
CMIG	**Matias Romero**	**3.86**	**324**	Pn	**Pn**	**09 38 58.9**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=131,slow=11,SNR=15						
CMIG				Sn	**Sn**	**09 39 41.5**	**-2.6**
	comp=Z,4.0nm,0.3s,baz=91,slow=19,SNR=5.4						
TECA	**Tecapa**	**3.90**	**97**	*e*P	**Pn**	**09 38 59.2**	**-0.1**
LCND	**La Ca˜–ada**	**4.52**	**98**	IAML		09 40 19.9	
	comp=Z,73nm,0.6s						
CSGN	**Cosiguina Volc**	**4.90**	**101**	*e*Pn	**Pn**	**09 39 11.7**	**-1.3**
TGUH	**Tegucigalpa,Un**	**5.06**	**88**	*e*Pn	**Pn**	**09 39 13.4**	**-1.8**
ESTN	**Estel**	**6.02**	**98**	*e*Pn	**Pn**	**09 39 27.0**	**-1.4**
BOAB	**BOACO BROADBAN**	**6.82**	**102**	*e*Pn	**Pn**	**09 39 36.5**	**-2.8**
LVIG	**Laguna Verde**	**6.84**	**327**	*e*Pn	**Pn**	**09 39 40.6**	**+1.1**
TLIG	**Tlapa**	**6.85**	**302**	*e*Pn	**Pn**	**09 39 39.9**	**+0.1**
TEIG	**Tepich**	**7.41**	**32**	*e*Pn	**Pn**	**09 39 47.3**	**0.0**
JTS	**JuntasAbangare**	**8.23**	**116**	Lg	Lg	09 42 04.7	
	comp=Z,0.2nm,0.3s,baz=12,slow=20,SNR=3.9						
JTS	**JuntasAbangare**	**8.23**	**116**	*e*Pn	**Pn**	**09 39 58.2**	**-0.5**
JTS				Lg	Lg	09 42 04.7	
LTX	**Lajitas**	**18.46**	**328**	*e*P	**Pn**	**09 42 15.9**	**+0.7**
TXAR	**Lajitas Array**	**18.46**	**328**	P	**Pn**	**09 42 15.9**	**+0.7**
	comp=Z,0.0nm,0.3s,baz=144,slow=16,SNR=3.4						
TX31	**Lajitas Ar. Si**	**18.46**	**328**	*e*P	**Pn**	**09 42 17.4**	**+2.1**
MNTX	**Cornudas Mount**	**21.23**	**328**	*e*P	**P**	**09 42 46.7**	**+1.4**
	comp=Z,0.7nm,0.8s						
YKA	**Yellowknife Ar**	**50.94**	**347**	P	**P**	**09 46 58.9**	**-1.5**
	comp=Z,1.2nm,0.7s,baz=152,slow=7.4,SNR=8.4						
YKB5	**Yellowknife Ar**	**50.94**	**347**	*e*P	**P**	**09 46 58.9**	**-1.5**
RC01	**Rabbit Creek A**	**62.29**	**333**	*e*P	**P**	**09 48 25.0**	**+3.7**
	comp=Z,6.9nm,0.6s						
MDT	**Midelt**	**80.81**	**58**	LR	LR	10 24 08.7	
	comp=Z,11nm,18.6s,baz=351,slow=34						
CM31	**Chiang Mai Arr**	**145.86**	**340**	*e*PKPdf	**PKPdf**	**09 57 38.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**145.86**	**340**	PKPbc	**PKPdf**	**09 57 38.6**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=329,slow=3.2,SNR=4.7						

*BEO **30** 09:39:55.3±0.8, 40°.70N×19°.44E, h0km, ML3.0/5*
*ATH **30** 09:39:56.7, 40°.76N×19°.69E, h17km±1km, ML2.8/5, Error ellipse: s-maj=1.9km s-min=1.0km az=168.0*
*THE **30** 09:39:56.7, 40°.81N×19°.62E, h6km±1km, ML3.0/7, Error ellipse: s-maj=2.6km s-min=1.0km az=288.0*
*TIR **30** 09:39:56.0, 40°.71N×19°.63E, h2km, Md3.4/7*
*PDG **30** 09:39:56.7±0.6, 40°.79N×19°.43E, h4km±1km, ML3.2/12, Error ellipse: s-maj=1.7km s-min=1.9km az=0.0*

ISC 30 09:39:56.2±1.1, 40°75N±0°.01×19°61E±0°.02, h0km±10km, n91, σ1°28/130, 14C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLO	**Vlora**	**0.30**	**197**	P	**Pg**	**09 40 02.5**	**+0.6**
VLO				S	**Sb**	**09 40 09.4**	**-0.4**
VLO	**Vlora**	**0.30**	**197**	*i* PG	**Pg**	**09 40 02.4**	**+0.6**
VLO				*i* SG	**Sg**	**09 40 06.4**	**+0.7**
TPE	**Tepelena**	**0.55**	**146**	*i* PG	**Pg**	**09 40 05.6**	**-1.1**
TPE				*i* SG	**Sb**	**09 40 16.3**	**-0.8**
TIR	**Tirane**	**0.62**	**18**	*e*Pn	**Pb**	**09 40 09.4**	**-0.6**
TIR	**Tirane**	**0.62**	**18**	↑*i*P	**Pg**	**09 40 06.5**	**-1.7**
TIR	**Tirane**	**0.62**	**18**	P	**Pg**	**09 40 08.8**	**+0.6**
TIR	**Tirane**	**0.62**	**18**	P	**Pg**	**09 40 08.7**	**+0.6**
TIR	**Tirane**	**0.62**	**18**	*i* PG	**Pb**	**09 40 09.2**	**-0.7**
TIR				*i* SG	**Sn**	**09 40 21.1**	**-2.0**
KBN	**Korca**	**0.90**	**98**	P	**Pg**	**09 40 12.7**	**-0.8**
KBN				S	**Sb**	**09 40 27.8**	**+0.4**
KBN	**Korca**	**0.90**	**98**	*i* PG	**Pg**	**09 40 13.4**	**-0.1**
KBN				*i* SG	**Sb**	**09 40 27.1**	**-0.3**
SRN	**Sarande**	**0.92**	**161**	P	**Pb**	**09 40 14.8**	**-0.2**
SRN				S	**Sn**	**09 40 29.6**	**-0.6**
SRN	**Sarande**	**0.92**	**161**	*i* PG	**Pb**	**09 40 15.0**	**0.0**
SRN				*i* SG	**Sg**	**09 40 26.7**	**+0.9**
OHR	**Ohrid**	**0.97**	**68**	*i* Pn	**Pg**	**09 40 14.6**	**-0.2**
OHR				*e*Sn	**Sn**	**09 40 34.2**	**+2.6**
KASA	**Kassiopi**	**1.03**	**166**	P	**Pb**	**09 40 16.7**	**-0.3**
KASA				S	**Sb**	**09 40 30.8**	**-0.3**
KASA				AML	AML	09 40 35.2	
	comp=N,1200μm,0.3s						
KASA				AML	AML	09 40 37.4	
	comp=E,1472μm,0.5s						
KEK	**Kerkira**	**1.05**	**172**	P	**Pb**	**09 40 17.2**	**+0.1**
KEK				S	**Sb**	**09 40 31.6**	**+0.2**
KEK				AML	AML	09 40 37.4	
	comp=E,2164μm,0.7s						
KEK				AML	AML	09 40 38.5	
	comp=N,869μm,0.8s						
KEK	**Kerkira**	**1.05**	**172**	P	**Pb**	**09 40 17.3**	**+0.1**
KEK				S	**Sn**	**09 40 33.3**	**-0.1**
SCTE	**Santa Cesarea**	**1.11**	**233**	P	**Pb**	**09 40 18.4**	**+0.2**
SCTE				S	**Sn**	**09 40 34.2**	**-0.6**
SCTE				AML	AML	09 40 39.8	
	comp=E,440μm,0.2s						
SCTE				AML	AML	09 40 41.6	
	comp=N,478μm,0.7s						
PHP	**Peshkopia**	**1.12**	**34**	P	**Pg**	**09 40 17.0**	**-0.7**
PHP				S	**Sg**	**09 40 31.9**	**-0.4**
PHP	**Peshkopia**	**1.12**	**34**	*i* PN	**Pb**	**09 40 18.5**	**0.0**
PHP				*i* SN	**Sn**	**09 40 37.3**	**+2.0**
NEST	**Nestorio**	**1.15**	**107**	P	**Pg**	**09 40 17.4**	**-0.8**
NEST				S	**Sg**	**09 40 32.2**	**-0.8**
NEST				AML	AML	09 40 45.4	
	comp=E,783μm,0.7s						
NEST				AML	AML	09 40 46.2	
	comp=N,746μm,0.4s						
SGD	**Sagiada**	**1.23**	**157**	P	**Pg**	**09 40 19.2**	**-0.6**
ULC	**Ulcinj**	**1.24**	**347**	↓*i* Pg	**Pg**	**09 40 19.1**	**-0.9**
ULC				*e*Sg	**Sn**	**09 40 37.6**	**-0.7**
PENT	**Pentalofos**	**1.29**	**115**	P	**Pg**	**09 40 19.7**	**-1.3**
PENT				S	**Sg**	**09 40 37.3**	**-0.4**
PUK	**Puka**	**1.31**	**9**	*i* PN	**Pn**	**09 40 22.7**	**+0.9**
PUK				*i* SN	**Sn**	**09 40 43.3**	**+3.3**
BIA	**Bitola**	**1.32**	**78**	*e*Pn	**Pg**	**09 40 21.4**	**-0.2**
BIA				*e*Sn	**Sn**	**09 40 43.9**	**+3.5**
IGT	**Igoumenitsa**	**1.34**	**155**	P	**Pn**	**09 40 22.0**	**-0.1**
IGT				S	**Sg**	**09 40 39.6**	**+0.4**
IGT				AML	AML	09 40 45.1	
	comp=N,972μm,0.7s						
IGT				AML	AML	09 40 47.7	
	comp=E,729μm,0.8s						
IGT	**Igoumenitsa**	**1.34**	**155**	P	**Pb**	**09 40 22.3**	**+0.2**
IGT				S	**Sn**	**09 40 41.1**	**+0.5**
FNA	**Florina**	**1.34**	**88**	P	**Pg**	**09 40 20.6**	**-1.3**
FNA	**Florina**	**1.34**	**88**	P	**Pg**	**09 40 20.1**	**-1.8**
FNA				S	**Sn**	**09 40 40.3**	**-0.4**
JAN	**Janina**	**1.45**	**139**	P	**Pn**	**09 40 23.7**	**+0.1**
JAN	**Janina**	**1.45**	**139**	P	**Pn**	**09 40 23.7**	**+0.1**
JAN				S	**Sn**	**09 40 43.9**	**+0.5**
DRME	**Dracevica, Mon**	**1.47**	**348**	↓*i* Pg	**Pn**	**09 40 23.3**	**-0.6**
DRME				*e*Sg	**Sn**	**09 40 44.9**	**+1.1**
BUM	**Brajici-Budva**	**1.64**	**341**	↓*i* Pg	**Pn**	**09 40 25.9**	**-0.4**
BUM				*e*Sg	**Sg**	**09 40 50.1**	**+1.3**
PDG	**Podgorica**	**1.70**	**351**	*e*Pg	**Pn**	**09 40 26.9**	**-0.1**
PDG				*e*Sn	**Sn**	**09 40 49.2**	**-0.3**
PDG	**Podgorica**	**1.70**	**351**	↑*i* P	**Pn**	**09 40 25.2**	**-1.8**
PDG	**Podgorica**	**1.70**	**351**	S	**Sg**	**09 40 53.2**	**+2.5**
TTG	**Podgorica**	**1.70**	**351**	↓*i* Pn	**Pn**	**09 40 27.0**	**-0.5**
TTG				*e*Sn	**Sg**	**09 40 52.4**	**+1.7**
FASA	**Fasano**	**1.71**	**273**	*e*Pn	**Pg**	**09 40 29.6**	**+0.5**
SKO	**Skopje**	**1.84**	**48**	*e*Pn	**Pb**	**09 40 30.3**	**

KNT	Kendrikon	2.52	80	P	Pn	09 40 38.6	+0.2
STON	Ston	2.56	327	*e*Pn	Pn	09 40 37.9	-0.9
PLE	Pljevlja	2.58	356	*i*Pn	Pn	09 40 39.3	0.0
PLE				*e*Sn	Sb	09 41 13.8	-1.9
PVO	Paravola	2.59	145	P	Pn	09 40 39.6	+0.2
MAKR	Makrakomi, Fth	2.60	131	P	Pn	09 40 40.7	+1.2
BARS	Barje	2.64	38	*e*Pn	Pn	09 40 40.8	+0.8
VLS	Valsamata	2.68	163	P	Pn	09 40 38.7	-1.8
TIP	Timpagrande	2.70	235	*i*P	Pn	09 40 36.9	-4.0
TIP	Timpagrande	2.70	235	P	Pn	09 40 40.2	-0.7
SELS	Selova	2.71	24	*e*Pn	Pn	09 40 41.7	+0.7
AGG	Agios Georgios	2.71	129	P	Pn	09 40 42.0	+0.9
ANX	Ano Chora	2.80	140	P	Pn	09 40 43.0	+0.7
IVAS	Ivanjica	2.85	8	*e*Pn	Pn	09 40 42.6	-0.4
EFP	Efpalio	2.92	142	P	Pn	09 40 44.8	+0.9
XOR	Xorichti	3.08	116	P	Pn	09 40 46.1	+0.1
LAKA	Lakka	3.11	143	P	Pn	09 40 46.8	+0.3
BBLS	Lazići	3.12	357	*e*Pn	Pn	09 40 46.8	+0.2
GRUS	Gruza	3.24	14	*e*Pn	Pn	09 40 47.5	-0.7
VTS	Vitosha	3.26	55	*e*Pn	Pn	09 40 49.8	+1.1
VTS				*e*Sn	Sn	09 41 29.0	+0.7
VTS	Vitosha	3.26	55	*i*P	Pn	09 40 40.0	-8.7
VTS	Vitosha	3.26	55	S	Sn	09 41 15.7	-13
BOVS	Bovan	3.27	28	*e*Pn	Pn	09 40 49.0	+0.3
KLV	Kalavryta, Ach	3.34	143	P	Pn	09 40 50.2	+0.5
DIVS	Divibare	3.36	5	*e*Pn	Pn	09 40 49.8	-0.1
HAPS	Han Pijesak,BI	3.37	352	*e*Pn	Pn	09 40 49.5	-0.6
ZAPS	Zavoj	3.38	41	*e*Pn	Pn	09 40 51.4	+1.2
ZAPS				*e*Sn	Sn	09 41 33.5	+2.5
TRUS	Trudelj	3.52	9	*e*Pn	Pn	09 40 51.8	-0.3
ZAGS	Zajecar	3.62	32	*e*Pn	Pn	09 40 53.9	+0.4
HERR	Herculane	4.61	26	*i*P	Pn	09 41 01.6	-5.5
NVLJ	Novalja	5.17	319	*e*Pn	Pn	09 41 13.3	-1.4
NVLJ				Sn	Sn	09 42 13.5	-1.6
VOIR		6.14	39	*i*P	Pn	09 41 19.5	-8.7
MLR	Muntele Rosu	6.62	42	*i*P	Pn	09 41 26.1	-8.8
TRPA	Tarpa	7.67	15	*i*P	Pn	09 41 44.3	-4.7

*ISCJB **30** 10:02:23.5±1.0, 67.°51N±0.°03×33.°7E±0.°1, h0km, Error ellipse: s-maj=8.3km s-min=4.1km az=171.5*
*HEL **30** 10:02:24.4±0.3, 67.°56N×34.°08E, h0km, ML2.4, Explosion*
*KOLA **30** 10:02:25.7, 67.°64N×33.°91E, M1.9, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*IDC **30** 10:02:27.5±2.9, 67.°71N×33.°58E, h0km, mb1 3.5/4, mb1mx3.2/46, mbtmp3.5/4, ML2.8/4, Error ellipse: s-maj=32.8km s-min=10.1km az=72.0*
*NAO **30** 10:02:29.8±2.2, 67.°52N×32.°86E, ML2.9*

ISC 30 10:02:27.4±1.0, **67.°49N**±0.°03×**33.°32E**±0.°05, **h0km, n34,** σ1§**49**/53, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.08**	**25**	P	**Pg**	**10 02 29.4**	**+0.5**
APA				S	**Sg**	**10 02 32.1**	**+2.1**
APA0	**Apatity Array**	**0.17**	**312**	P	**Pg**	**10 02 32.0**	**+1.4**
APA0				S	**Sg**	**10 02 36.6**	**+3.9**
VRF	**Varrio**	**1.44**	**282**	PG	**Pg**	**10 02 54.9**	**-0.1**
VRF				MSG		10 03 15.7	
	comp=Z,39nm,0.2s						
VRF				SG	**Sn**	**10 03 16.2**	**+1.9**
KU6	**Riekki**	**2.01**	**224**	PG	**Pb**	**10 03 04.6**	**-0.1**
	baz=50						
KU6				MSG		10 03 31.5	
	comp=Z,19nm,0.2s						
KU6				SG	**Sg**	**10 03 34.5**	**+2.8**
MSF	**Maaselka**	**2.33**	**229**	PG	**Pb**	**10 03 10.3**	**+0.2**
	baz=50						
MSF				SG	**Sg**	**10 03 44.6**	**+2.6**
SGF	**Sodankyl**	**2.62**	**272**	PN	**Pn**	**10 03 11.5**	**+0.7**
SGF				SB	**Sg**	**10 03 51.1**	**-0.2**
RNF	**Rovaniemi**	**3.00**	**256**	PN	**Pn**	**10 03 17.3**	**+1.3**
KEV	**Kevo**	**3.24**	**317**	Pn	**Pn**	**10 03 18.9**	**-0.5**
KEV				Sn	**Sn**	**10 03 56.6**	**-1.9**
KEV				Lg	Lg	10 04 06.2	
KEV	**Kevo**	**3.24**	**317**	PN	**Pn**	**10 03 18.6**	**-0.8**
KEV				SN	**Sn**	**10 03 58.2**	**-0.3**
KEV	**Kevo**	**3.24**	**317**	Pn	**Pn**	**10 03 18.9**	**-0.5**
KEV				Sn	**Sn**	**10 03 56.6**	**-1.9**
KEV				Lg	Lg	10 04 06.2	
ARA0	**ARCESS Array S**	**3.53**	**309**	Pn	**Pn**	**10 03 22.6**	**-0.8**
	baz=122,slow=16						
ARA0				Pg	**Pb**	**10 03 31.1**	**+0.5**
	baz=118,slow=16						
ARA0				Sn	**Sn**	**10 04 04.5**	**-1.3**
	baz=122,slow=28						
ARA0				Lg	Lg	10 04 15.0	
	baz=117,slow=37						
ARA0	**ARCESS Array S**	**3.53**	**309**	Pn	**Pn**	**10 03 22.6**	**-0.8**
	baz=122,slow=16						
ARA0				Pg	**Pb**	**10 03 31.1**	**+0.5**
	baz=118,slow=16						
ARA0				Sn	**Sn**	**10 04 04.5**	**-1.3**
	baz=122,slow=28						
ARA0				Lg	Lg	10 04 15.0	
	baz=117,slow=37						
ARCES	**ARCESS Array B**	**3.53**	**309**	Pn	**Pn**	**10 03 22.5**	**-0.9**
	comp=Z,7.3nm,0.3s,baz=122,slow=15,SNR=139						
ARCES				Sn	**Sn**	**10 04 05.3**	**-0.4**
	comp=Z,5.0nm,0.3s,baz=119,slow=25,SNR=13						
ARCES				Lg	Lg	10 04 14.9	
	comp=Z,11nm,0.3s,baz=133,slow=21,SNR=16						
ARE0	**ARCESS Array S**	**3.53**	**309**	PN	**Pn**	**10 03 22.3**	**-1.1**
	baz=122						
ARE0				SN	**Sn**	**10 04 05.0**	**-0.7**
ARE0	**ARCESS Array S**	**3.53**	**309**	*e*P	**Pn**	**10 03 22.7**	**-0.6**
ARE0				*e*S	**Sn**	**10 04 04.9**	**-0.9**
HEF	**Hetta**	**3.75**	**289**	PN	**Pn**	**10 03 26.7**	**+0.2**
HEF				SN	**Sn**	**10 04 12.9**	**+1.6**
HEF	**Hetta**	**3.75**	**289**	*e*P	**Pn**	**10 03 26.7**	**+0.2**
TOF	**Tornio**	**3.83**	**252**	PG	**Pg**	**10 03 39.0**	**-1.7**
OUL	**Oulu**	**3.85**	**235**	PB	**Pb**	**10 03 34.8**	**-1.3**
	baz=51						
KTK1	**Kautokeino**	**4.05**	**297**	*e*P	**Pn**	**10 03 30.5**	**+0.1**
KTK1				IAML		10 04 34.8	
	comp=Z,19nm,0.4s						
JOF	**Joensuu**	**4.67**	**191**	PN	**Pn**	**10 03 37.9**	**-1.1**
JOF				SN	**Sn**	**10 04 33.2**	**-0.7**
KIF	**Kilpisjarvi**	**4.89**	**294**	Sn	**Sn**	**10 04 37.9**	**-1.4**
KIF				Lg	Lg	10 04 59.7	
KIF	**Kilpisjarvi**	**4.89**	**294**	Sn	**Sn**	**10 04 37.9**	**-1.4**
KIF				Lg	Lg	10 04 59.7	
FIA0	**FINESS Array S**	**6.83**	**211**	Pn	**Pn**	**10 04 09.1**	**+0.5**
	baz=39,slow=18						
FIA0				Lg	Lg	10 05 57.0	
	baz=20,slow=22						
FIA0	**FINESS Array S**	**6.83**	**211**	Pn	**Pn**	**10 04 09.1**	**+0.5**
	baz=39,slow=18						
FIA0				Lg	Lg	10 05 57.0	
	baz=20,slow=22						
FINES	**FINESS Array B**	**6.83**	**211**	Pn	**Pn**	**10 04 09.2**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=44,slow=16,SNR=3.8						
FINES				Sn	**Sn**	**10 05 29.8**	**+2.9**
	comp=Z,0.3nm,0.3s,baz=47,slow=21,SNR=2.9						
FINES				Lg	Lg	10 05 59.5	
	comp=Z,0.8nm,0.3s,baz=32,slow=21,SNR=5.1						
HFS	**Hagfors**		**11.33**	**239**	Pn	**Pn**	**10 05 08.2**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=37,slow=15,SNR=3.2						
HFS	**Hagfors**		**11.33**	**239**	Pn	**Pn**	**10 05 08.0**	**-2.3**
	baz=51,slow=11						
HFS	**Hagfors**		**11.33**	**239**	Pn	**Pn**	**10 05 08.0**	**-2.3**
	baz=51,slow=11						
NB2	**NORSAR Subarra**	**11.52**	**246**	Pn	**Pn**	**10 05 11.3**	**-1.7**
NB2	**NORSAR Subarra**	**11.52**	**246**	Pn	**Pn**	**10 05 11.3**	**-1.7**
NOA	**NORSAR Array B**	**11.52**	**246**	Pn	**Pn**	**10 05 11.7**	**-1.3**
	comp=Z,0.0nm,0.3s,baz=42,slow=11,SNR=4.2						
NRA0	**NORESS Array S**	**11.62**	**245**	Pn	**Pn**	**10 05 12.3**	**-2.0**
	baz=53,slow=10						
NRA0	**NORESS Array S**	**11.62**	**245**	Pn	**Pn**	**10 05 12.3**	**-2.0**
	baz=53,slow=10						

*DDA **30** 10:10:28.9, 37.°27N×31.°94E, h7km, Ml2.5*
*ISK **30** 10:10:28.9, 37.°31N×31.°94E, h6km, ML2.1/11*
*ISCJB **30** 10:10:29.8±0.4, 37.°30N±0.°03×31.°90E±0.°05, h15km, Error ellipse: s-maj=5.7km s-min=3.9km az=4.1*

ISC 30 10:10:29.3±0.9, **37.°29N**±0.°03×**31.°94E**±0.°04, **h15km, n19,** σ0§**67**/23, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEPZ	**Antalya-Kepez**	**0.47**	**215**	*i*P	**Pg**	**10 10 37.7**	**-1.0**
KEPZ				*i*S	**Sg**	**10 10 45.1**	**+0.1**
KMER	**Konya-Meram**	**0.59**	**35**	*i*P	**Pg**	**10 10 40.7**	**-0.2**
KONT	**Konya--Tatoy**	**0.74**	**27**	PG	**Pg**	**10 10 43.3**	**-0.4**
KONT				SG	**Sb**	**10 10 54.1**	**+0.3**
KONT	**Konya--Tatoy**	**0.74**	**27**	*i*P	**Pg**	**10 10 43.0**	**-0.6**
SUTC	**Sutluce-Ispart**	**0.77**	**284**	PG	**Pg**	**10 10 43.7**	**-0.6**
DOGA	**KONYA_Doganhis**	**0.84**	**345**	*i*P	**Pg**	**10 10 43.6**	**-2.1**
DOGA				*i*S	**Sb**	**10 10 58.0**	**+1.1**
LADK	**Ladik-KONYA**	**0.97**	**20**	PG	**Pb**	**10 10 48.2**	**+0.3**
ERMK	**Ermenek**	**1.01**	**129**	*i*P	**Pb**	**10 10 48.1**	**-0.5**
BAGO	**Egridir - ISPA**	**1.15**	**308**	*i*P	**Pn**	**10 10 51.1**	**+0.2**
KDHN	**Kadinhani**	**1.24**	**7**	*i*P	**Pb**	**10 10 53.0**	**+0.6**
KDHN				*i*S	**Sb**	**10 11 08.6**	**+0.3**
KORT	**Korkueli**	**1.30**	**258**	PN	**Pg**	**10 10 54.7**	**+0.4**
BERE	**Bereket-Mersin**	**1.40**	**132**	PN	**Pb**	**10 10 55.2**	**+0.1**
TEVE	**Tevekalti-Mers**	**1.48**	**125**	PN	**Pb**	**10 10 56.9**	**+0.4**
TEKE	**Tekeli-Mersin**	**1.48**	**140**	PN	**Pb**	**10 10 57.1**	**+0.5**
KIZT	**Kizilcal**	**1.59**	**358**	PN	**Pb**	**10 10 58.3**	**-0.1**
KEBE	**Keben-Mersin**	**1.65**	**120**	PN	**Pb**	**10 10 59.4**	**-0.1**
AKKU	**Akkuyu-Mersin**	**1.72**	**131**	PN	**Pb**	**10 11 00.4**	**-0.1**
KERG	**Konya-Eregli**	**1.75**	**85**	*i*P	**Pg**	**10 11 02.6**	**-0.3**
IKL	**Isikli**	**1.75**	**126**	PN	**Pb**	**10 11 00.9**	**-0.2**

*IDC **30** 10:20:54.4±1.2, 52.°29N×175.°69E, h0km, mb3.5/6, mb1 3.8/7, mb1mx3.5/56, mbtmp3.6/7, ML2.8/1, MS2.8/1, Ms1 2.8/1, ms1mx2.2/38, Error ellipse: s-maj=35.8km s-min=25.0km az=173.0*
*ISCJB **30** 10:20:57.8±1.1, 52.°4N±0.°2×175.°4E±0.°1, h33km, mb3.6/6, MS2.7/1, Error ellipse: s-maj=31.6km s-min=11.2km az=0.1*

ISC 30 10:20:59.8±1.2, **52.°4N**±0.°2×**175.°54E**±0.°10, **h35km, n14,** σ1§**44**/8, **mb3.6**/6, **Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**10.84**	**281**	Pn	**Pn**	**10 23 33.1**	**+0.7**
	0.3nm,0.3s,baz=99,slow=18,SNR=6.5						
PETK				Sn	**Sn**	**10 25 30.5**	**-1.9**
	0.1nm,0.3s,baz=63,slow=33,SNR=3.7						
ILAR	**Eielson Array**	**22.78**	**42**	P	**P**	**10 25 58.3**	**-0.6**
	0.3nm,0.6s,baz=249,slow=8.0,SNR=5.4						
USRK	**Ussuriysk Ar.**	**29.72**	**272**	LR	LR	10 40 18.2	
	comp=Z,18nm,18.3s,baz=227,slow=39						
H11N2	**WAKE ISLAND Hy**	**33.26**	**195**	T	T	11 02 48.8	
	baz=10,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**33.27**	**195**	T	T	11 02 49.7	
	baz=10,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**33.28**	**195**	T	T	11 02 50.3	
	baz=10,slow=76,SNR=9.2						
H11S1	**WAKE ISLAND Hy**	**34.49**	**195**	T	T	11 04 16.3	
	baz=10,SNR=7.1						
H11S3	**WAKE ISLAND Hy**	**34.51**	**195**	T	T	11 04 21.5	
	baz=10,slow=5.8						
H11S2	**WAKE ISLAND Hy**	**34.51**	**195**	T	T	11 04 19.2	
	baz=10,slow=74,SNR=4.1						
KURBB	**Kurchatov Arra**	**55.85**	**310**	P	**P**	**10 30 35.2**	**+1.8**
	0.3nm,0.3s,baz=44,slow=7.0,SNR=3.0						
MKAR	**Makanchi Array**	**56.63**	**305**	P	**P**	**10 30 37.9**	**-1.1**
	0.2nm,0.3s,baz=45,slow=6.9,SNR=5.2						
TXAR	**Lajitas Array**	**61.92**	**78**	P	**P**	**10 31 15.1**	**-0.8**
	0.5nm,1.0s,baz=338,slow=7.1,SNR=3.4						
AKTO	**Aktyubinsk**	**64.78**	**321**	P	**P**	**10 31 35.3**	**+0.9**
	0.4nm,0.3s,baz=24,slow=12,SNR=3.2						
WRA	**Warramunga Arr**	**80.43**	**219**	P	**P**	**10 33 07.8**	**+0.2**
	0.5nm,0.9s,baz=31,slow=6.4,SNR=3.4						

*ANF **30** 10:40:02.6±0.1, 36.°09N×117.°85W, h6km±1km, ML3.8/40, Error ellipse: s-maj=0.9km s-min=0.8km az=114.0*
*PAS **30** 10:40:03.3, 36.°09N×117.°85W, h3km, ML3.7*
*SCEDC **30** 10:40:03.3, 36.°09N×117.°85W, h3km*
*ISCJB **30** 10:40:03.3±0.2, 36.°07N±0.°01×117.°78W±0.°01, h10km, mb3.6/1, Error ellipse: s-maj=1.8km s-min=1.6km az=37.0*
*NEIC **30** 10:40:03.3±0.0, 36.°09N×117.°85W, h3km, ML3.7(PAS), After PAS.*
*IDC **30** 10:40:05.5±2.0, 36.°15N×117.°63W, h0km, mb3.4/1, mb1 3.6/4, mb1mx3.4/37, mbtmp3.1/4, ML3.5/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/21, Error ellipse: s-maj=30.7km s-min=11.6km az=57.0*

ISC 30 10:40:03.8±0.6, **36.°08N**±0.°01×**117.°83W**±0.°01, **h10km, n122,** σ1§**62**/189, **California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAC	**Darwin (Calif)**	**0.27**	**43**	*e*Pg	**Pg**	**10 40 08.6**	**-0.8**
DAC				*e*Sg	**Sg**	**10 40 12.6**	**-0.6**
MPMC	**Manual Prospec**	**0.27**	**94**	P	**Pg**	**10 40 08.8**	**-0.6**
MPMC	baz=277,SNR=1000			S	**Sg**	**10 40 12.8**	**-0.3**
	baz=277						
CWC	**Cottonwood Cre**	**0.41**	**330**	P	**Pg**	**10 40 10.6**	**-1.5**
	baz=152						
CWC				S	**Sg**	**10 40 16.2**	**-1.4**
	baz=152						
LRMC	**Laurel Mtn Rad**	**0.61**	**169**	P	**Pg**	**10 40 15.0**	**-0.7**
	baz=348,SNR=150						
LRMC				S	**Sg**	**10 40 23.7**	**+0.1**
	baz=348						
ISA	**Isabella, Lake**	**0.67**	**232**	*e*Pg	**Pg**	**10 40 15.8**	**-1.0**
ISA				*e*Sg	**Sg**	**10 40 25.3**	**-0.3**
ISA	**Isabella, Lake**	**0.67**	**232**	P	**Pg**	**10 40 15.8**	**-1.0**
	baz=50,SNR=543						
ISA				S	**Sg**	**10 40 24.8**	**-0.8**
	baz=50						
FURC	**Furnace Creek,**	**0.87**	**63**	P	**Pg**	**10 40 20.0**	**-0.5**
	baz=245,SNR=450						
FURC				S	**Sb**	**10 40 31.8**	**-0.8**
	baz=245						
CCAC	**Calif City Air**	**0.94**	**190**	*e*Pg	**Pg**	**10 40 20.9**	**-0.9**
GRAC	**Grapevine Rang**	**0.99**	**22**	P	**Pg**	**10 40 21.5**	**-1.3**
	baz=203,SNR=278						
GRAC				S	**Sb**	**10 40 35.5**	**-0.6**
	baz=203						
TIN	**Tinemaha, Big**	**1.03**	**342**	P	**Pg**	**10 40 22.2**	**-1.4**
	baz=162,SNR=62						
TIN				S	**Sg**	**10 40 36.2**	**-0.8**
	baz=162						
VES	**Vestal, Richgr**	**1.05**	**257**	P	**Pg**	**10 40 22.7**	**-1.3**
	baz=76,SNR=336						
VES				S	**Sg**	**10 40 36.9**	**-0.7**
	baz=76						
GSC	**Goldstone, Bar**	**1.14**	**133**	*e*Pg	**Pb**	**10 40 24.6**	**-1.0**
GSC				*e*Sg	**Sg**	**10 40 39.2**	**-1.2**
GSC	**Goldstone, Bar**	**1.14**	**133**	P	**Pb**	**10 40 24.6**	**-1.0**
	baz=313,SNR=662						
GSC				S	**Sn**	**10 40 40.4**	**-1.1**
	baz=313						
EDW2	**Edwards Air Fo**	**1.20**	**187**	P	**Pb**	**10 40 25.4**	**-1.3**
	baz=5.6,SNR=771						
EDW2				S	**Sg**	**10 40 41.8**	**-0.7**
	baz=5.6						
ARVC	**Arvin**	**1.25**	**221**	*e*Pg	**Pb**	**10 40 26.9**	**-0.6**
ARVC	**Arvin**	**1.25**	**221**	P	**Pn**	**10 40 26.6**	**-0.8**
	baz=39,SNR=562						
ARVC				S	**Sb**	**10 40 42.9**	**-0.8**
	baz=39						
SHOC	**Shoshone, Teco**	**1.27**	**98**	P	**Pn**	**10 40 26.6**	**-1.0**
	baz=279,SNR=411						
SHOC				S	**Sn**	**10 40 45.1**	**+0.4**
	baz=279						
RRX	**Edison Barstow**	**1.38**	**150**	P	**Pb**	**10 40 28.9**	**-0.8**
	baz=331,SNR=43						
RRX				S	**Sg**	**10 40 47.6**	**-0.5**
	baz=331						
LEOC	**Leona Valley**	**1.50**	**195**	*e*Pn	**Pg**	**10 40 32.5**	**0.0**
TPNV	**Topopah Spring**	**1.54**	**55**	*e*Pn	**Pn**	**10 40 31.2**	**-0.2**
TPNV				*e*Sn	**Sn**	**10 40 50.6**	**-1.0**
TPNV	**Topopah Spring**	**1.54**	**55**	P	**Pn**	**10 40 31.1**	**-0.4**
	baz=237,SNR=232						
TPNV				S	**Sb**	**10 40 51.9**	**-0.2**
	baz=237						
OSI	**Osito Audit: C**	**1.64**	**207**	*e*Pn	**Pn**	**10 40 32.7**	**0.0**
OSI				*e*Sn	**Sn**	**10 40 50.2**	**-3.7**
OSI	**Osito Audit: C**	**1.64**	**207**	P	**Pn**	**10 40 32.5**	**-0.2**
	baz=26,SNR=90						
OSI				Sg	**Sg**	**10 40 57.3**	**+1.0**
	baz=26						
TUQ	**Turquoise Moun**	**1.67**	**112**	P	**Pn**	**10 40 32.5**	**-0.8**
	baz=293,SNR=378						
TUQ				Sb	**Sg**	**10 40 57.6**	**-0.1**
	baz=293						
BCW	**Bitter Crk WRg**	**1.72**	**229**	*e*Sn	**Sg**	**10 40 57.6**	**-1.6**
HEC	**Hector,Ludlow**	**1.74**	**135**	P	**Pn**	**10 40 33.5**	**-0.7**
	baz=316,SNR=290						
HEC				Sb	**Sg**	**10 40 59.8**	**0.0**
	baz=316						
MLAC	**Mammoth, Mammo**	**1.75**	**333**	*e*Sn	**Sg**	**10 40 59.1**	**-1.0**
MLAC	**Mammoth, Mammo**	**1.75**	**333**	Pb	**Pb**	**10 40 35.2**	**-1.0**
	baz=152,SNR=25						
MLAC				Sb	**Sg**	**10 40 58.7**	**-1.3**
	baz=152						
MRDM	**Red Cones**	**1.81**	**327**	*e*Pn	**Pb**	**10 40 36.1**	**-1.1**
CARC	**Carrizo Plain**	**1.82**	**246**	*e*Pn	**Pb**	**10 40 36.8**	**-0.3**
BFSC	**Mount Baldy Ra**	**1.84**	**176**	P	**Pn**	**10 40 35.3**	**-0.3**
	baz=355,SNR=75						
BFSC				Sb	**Sg**	**10 41 02.2**	**-0.8**
	baz=355						
MDPB	**Devils Postpil**	**1.85**	**327**	*e*Pn	**Pb**	**10 40 36.7**	**-1.2**
MDPB				*e*Sn	**Sb**	**10 41 00.5**	**-0.6**
MWC	**Mount Wilson**	**1.86**	**186**	*e*Pn	**Pn**	**10 40 36.1**	**+0.2**
MWC				*e*Sn	**Sg**	**10 41 03.8**	**+0.2**
DECC	**Green Verdugo**	**1.87**	**193**	P	**Pn**	**10 40 35.8**	**0.0**
	baz=12,SNR=38						
DECC				Sb	**Sg**	**10 41 03.1**	**-0.8**
	baz=12						
SMMC	**Simmler**	**1.93**	**247**	P	**Pn**	**10 40 36.3**	**-0.4**
	baz=65,SNR=32						
SMMC				Sb	**Sb**	**10 41 03.1**	**0.0**
	baz=65						
PASC	**Pasadena Art C**	**1.93**	**189**	*e*Pn	**Pn**	**10 40 36.7**	**+0.1**
PASC				*e*Sn	**Sn**	**10 41 00.7**	**-0.3**
BBRC	**Big Bear Solar**	**1.96**	**158**	Pg	**Pg**	**10 40 40.7**	**-0.7**
	baz=338						
BBRC				Sb	**Sg**	**10 41 06.2**	**-0.5**
	baz=338						
PMRM	**Maxey Ranch**	**1.98**	**262**	*e*Pn	**Pb**	**10 40 38.5**	**-1.5**
PAGB	**Antelope Grade**	**2.00**	**261**	*e*Pn	**Pb**	**10 40 38.4**	**-1.9**
PAGB				*e*Sn	**Sg**	**10 41 06.2**	**-1.8**
PSRM	**Scobie Ranch**	**2.00**	**264**	*e*Pn	**Pb**	**10 40 38.9**	**-1.5**
PKM	**Mcpherson Peak**	**2.01**	**234**	Pg	**Pg**	**10 40 41.2**	**-1.1**
	baz=52						
PKM				Sb	**Sb**	**10 41 05.7**	**0.0**
	baz=52						
CTM	**Castle Mountai**	**2.04**	**267**	*e*Pn	**Pb**	**10 40 40.0**	**-1.0**
GMRC	**Granite Mounta**	**2.19**	**126**	P	**Pn**	**10 40 39.1**	**-1.3**
	baz=307,SNR=134						
GMRC				Sb	**Sg**	**10 41 12.2**	**-1.9**
	baz=307						
SHPR	**Sheep Range**	**2.19**	**78**	*e*Pn	**Pn**	**10 40 40.7**	**+0.2**
SHPR				*e*Sn	**Sg**	**10 41 13.8**	**-0.6**
BLG	**Laguna Peak, P**	**2.21**	**208**	P	**Pn**	**10 40 40.3**	**-0.3**
	baz=26,SNR=10						
BLG				Sb	**Sg**	**10 41 12.9**	**-2.0**
	baz=26						
PJUM	**Juniper Ridge**	**2.25**	**275**	*e*Pn	**Pb**	**10 40 42.3**	**-2.2**
SBC	**Santa Barbara**	**2.25**	**224**	Pb	**Pb**	**10 40 44.0**	**-0.5**
	baz=42						
SBC				Sb	**Sb**	**10 41 13.5**	**+1.1**
	baz=42						
PPO	**Portuguese Can**	**2.27**	**265**	*e*Pn	**Pb**	**10 40 42.8**	**-2.2**
NV11	**Mina Array Sit**	**2.36**	**354**	*e*Pn	**Pb**	**10 40 44.5**	**-2.1**
NV01	**Mina Array Sit**	**2.38**	**351**	*e*Pn	**Pn**	**10 40 44.0**	**+0.9**
NV01				*e*Sn	**Sg**	**10 41 19.2**	**-1.0**
NVAR	**Mina Array Bea**	**2.38**	**351**	Pn	**Pb**	**10 40 45.6**	**-1.3**
	23nm,0.3s,baz=166,slow=15,SNR=60						
NVAR				Lg	Lg	10 41 18.2	
	15nm,0.3s,baz=171,slow=34,SNR=5.1						
FMP	**Fort Macarthur**	**2.39**	**189**	Pg	**Pg**	**10 40 48.5**	**-1.1**
	baz=8.6						
PMPB	**Monarch Peak**	**2.41**	**274**	*e*Pn	**Pb**	**10 40 44.7**	**-2.7**
LDFC	**Landfair**	**2.43**	**113**	*e*Pn	**Pn**	**10 40 42.2**	**-1.5**
LDFC				*e*Sn	**Sb**	**10 41 17.5**	**-0.2**
MYLM	**Yosemite Lake**	**2.46**	**303**	*e*Pn	**Pb**	**10 40 46.5**	**-1.6**
MURC	**Murrieta**	**2.53**	**168**	P	**Pn**	**10 40 45.0**	**+0.1**
	baz=348,SNR=26						
MURC				Sb	**Sg**	**10 41 23.2**	**-1.7**
	baz=348						
BRMM	**Rolling Bench**	**2.53**	**288**	*e*Pn	**Pb**	**10 40 47.2**	**-2.1**
BELC	**Belle Mtn. Jos**	**2.56**	**144**	P	**Pn**	**10 40 44.9**	**-0.6**
	baz=325,SNR=29						
BELC				Sb	**Sg**	**10 41 24.4**	**-1.7**
	baz=325						
RYN	**Ryan**	**2.60**	**348**	*e*Pn	**Pn**	**10 40 46.6**	**+0.4**
PFO	**Pinyon Flats O**	**2.71**	**155**	*e*Pn	**Pn**	**10 40 47.6**	**+0.1**
PFO	**Pinyon Flats O**	**2.71**	**155**	P	**Pn**	**10 40 47.0**	**-0.5**
	baz=336						
CIS	**Catalina Islan**	**2.71**	**190**	P	**Pn**	**10 40 47.1**	**-0.4**
	baz=9.7						
CIS				Sb	**Sg**	**10 41 29.0**	**-2.0**
	baz=9.7						
WAKR	**Walker**	**2.74**	**333**	*e*Pn	**Pn**	**10 40 47.6**	**-0.4**
FRD	**Ford

ELK				*e*Sg	**Sg**	**10 42 43.8**	**-3.2**
X16A	**Lo Mia Camp, P**	**5.48**	**106**	*e*Pn	**Pn**	**10 41 26.5**	**+0.8**
X16A				*e*Sg	**Sg**	**10 42 57.0**	**-2.7**
TUC	**Tucson**	**6.94**	**121**	*e*Pn	**Pn**	**10 41 46.0**	**+0.4**
TUC				*e*Sg	**Sg**	**10 43 42.2**	**-4.4**
PV05	**Paradox Valley**	**7.25**	**71**	*e*Pg	**Pg**	**10 42 21.9**	**-0.8**
PV09	**Paradox Valley**	**7.34**	**68**	*e*Pg	**Pg**	**10 42 23.3**	**-1.0**
PV23	**Carpenter Ridg**	**7.42**	**69**	*e*Pn	**Pn**	**10 41 52.3**	**-0.1**
PV18	**Skein Mesa, Pa**	**7.44**	**70**	*e*Pn	**Pn**	**10 41 52.5**	**-0.1**
PV16	**Nyswonger Mesa**	**7.45**	**70**	*e*Pn	**Pn**	**10 41 52.9**	**+0.1**
PV21	**Cone Mtn., Par**	**7.47**	**68**	*e*Pn	**Pn**	**10 41 53.5**	**+0.4**
PV11	**David Mesa, Pa**	**7.48**	**70**	*e*Pn	**Pn**	**10 41 54.2**	**+1.1**
PV13	**Radium Mtn., P**	**7.49**	**71**	*e*Pn	**Pn**	**10 41 53.6**	**+0.3**
PV03	**Paradox Valley**	**7.49**	**70**	*e*Pn	**Pn**	**10 41 53.5**	**+0.2**
PV12	**Saucer Basin,**	**7.54**	**70**	*e*Pn	**Pn**	**10 41 53.3**	**-0.7**
PV02	**Paradox Valley**	**7.56**	**71**	*e*Pn	**Pn**	**10 41 52.5**	**-1.8**
PV01	**Paradox Valley**	**7.67**	**72**	*e*Pn	**Pn**	**10 41 56.0**	**+0.1**
HLID	**Hailey**	**7.92**	**18**	*e*Pn	**Pn**	**10 41 59.0**	**-0.2**
PD31	**Pinedale Array**	**9.24**	**41**	*e*Pn	**Pn**	**10 42 21.3**	**+3.9**
PDAR	**Pinedale Array**	**9.24**	**41**	Pn	**Pn**	**10 42 21.3**	**+3.9**
	0.1nm,0.3s,baz=214,slow=13,SNR=2.7						
ANMO	**Albuquerque**	**9.34**	**94**	LR	LR	10 46 17.9	
	comp=Z,88nm,18.9s,baz=316,slow=41						
LTX	**Lajitas**	**13.68**	**115**	*e*Pn	**Pn**	**10 43 20.7**	**+2.7**
TXAR	**Lajitas Array**	**13.68**	**115**	Pn	**Pn**	**10 43 20.7**	**+2.7**
	0.0nm,0.3s,baz=300,slow=10.0,SNR=5.0						
ILAR	**Eielson Array**	**33.57**	**338**	P	**P**	**10 46 47.6**	**+3.9**
	0.8nm,1.1s,baz=156,slow=6.7,SNR=3.8						
ILB	**Eielson Array**	**33.57**	**338**	*e*P	**P**	**10 46 47.6**	**+3.9**

ISCJB ***30*** *10:42:58.8±0.8,50˚.30N±0˚.05×18˚.74E±0˚.04, h0km, Error ellipse: s-maj=7.4km s-min=3.4km az=12.7*
PRU ***30*** *10:43:00.2±0.0,50˚.35N×18˚.77E, h0km*
WAR ***30*** *10:43:01.8,50˚.34N×18˚.70E, h1km, Mw2.6*

ISC 30 10:42:59.8±1.0, 50˚.30N±0˚.05×18˚.75E±0˚.03, h0km, n14, σ0§43/25, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.16**	**91**	*e*Pg	**Pg**	**10 43 02.7**	**-0.1**
CHZP				*e*Sg	**Sg**	**10 43 05.0**	**+0.3**
CHZP	**Chorzow**	**0.16**	**91**	*e*Pg	**Pg**	**10 43 02.7**	**-0.1**
CHZP				*e*Sg	**Sg**	**10 43 05.0**	**+0.3**
OKC	**Ostrava-Krasne**	**0.60**	**220**	*e*PG	**Pb**	**10 43 12.3**	**-0.8**
OKC				*e*SG	**Sb**	**10 43 22.9**	**+0.7**
	comp=Z,18nm,0.4s						
MORC	**Moravsky Berou**	**0.94**	**237**	*e*PG	**Pb**	**10 43 18.7**	**-0.2**
MORC				*e*SG	**Sb**	**10 43 32.6**	**+0.7**
NIE	**Niedzica**	**1.33**	**131**	*e*Pg	**Pg**	**10 43 25.1**	**-0.3**
NIE				*e*Sg	**Sb**	**10 43 43.7**	**+0.4**
NIE	**Niedzica**	**1.33**	**131**	*e*Pg	**Pg**	**10 43 25.1**	**-0.3**
NIE				*e*Sg	**Sb**	**10 43 43.7**	**+0.4**
DPC	**Dobruska-Polom**	**1.56**	**273**	*e*PG	**Pb**	**10 43 29.0**	**-0.5**
DPC				*e*SG	**Sb**	**10 43 50.1**	**+0.3**
	comp=Z,21nm,0.7s						
JAVC	**Velka Javorina**	**1.60**	**206**	*e*PN	**Pb**	**10 43 30.0**	**-0.2**
KSP	**Ksiaz**	**1.66**	**290**	*e*Pg	**Pg**	**10 43 31.3**	**-0.3**
KSP				*e*Sg	**Sg**	**10 43 53.5**	**+0.4**
KSP	**Ksiaz**	**1.66**	**290**	*e*Pg	**Pg**	**10 43 31.3**	**-0.3**
KSP				*e*Sg	**Sg**	**10 43 53.5**	**+0.4**
VRAC	**Vranov**	**1.71**	**236**	*e*PN	**Pb**	**10 43 31.8**	**-0.3**
VRAC				*e*SG	**Sg**	**10 43 55.1**	**+0.4**
UPC	**Upice**	**1.76**	**278**	*e*SG	**Sg**	**10 43 56.8**	**+0.4**
	comp=Z,8.7nm,0.5s						
KRUC	**Moravsky**	**1.96**	**232**	*e*PN	**Pb**	**10 43 36.0**	**-0.4**
KRUC				*e*SG	**Sg**	**10 44 02.6**	**-0.3**
KHC	**Kasperske Hory**	**3.55**	**253**	*e*SG	**Sg**	**10 44 54.2**	**+0.4**

IDC ***30*** *10:58:27.8±2.5,51˚.37N×175˚.74E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.3/49, mbtmp3.3/4, MS4.0/4, Ms1 4.1/4, ms1mx3.4/26, Error ellipse: s-maj=85.1km s-min=25.5km az=180.0*
NEIC ***30*** *10:58:36.2±0.0,52˚.14N×175˚.13E, h25km, ML3.5(AEIC), After AEIC.*

ISC 30 10:58:38.4±1.2, 52˚.4N±0˚.3×175˚.2E±0˚.1, h35km, n21, σ0§85/12, mb3.3/4, MS4.0/5, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**0.78**	**297**	P	**Pn**	**10 58 52.0**	**-0.8**
SMY				S	**Sn**	**10 59 03.8**	**+0.6**
LSNW	**Little Sitkin**	**2.06**	**100**	P	**Pn**	**10 59 09.5**	**-1.0**
LSSA	**Little Sitkin**	**2.06**	**101**	P	**Pn**	**10 59 10.1**	**-0.5**
LSPA	**Little Sitkin**	**2.10**	**101**	P	**Pn**	**10 59 10.5**	**-0.5**
LSPA				S	**Sn**	**10 59 37.6**	**+1.7**
LSSE	**Little Sitkin**	**2.10**	**101**	P	**Pn**	**10 59 10.5**	**-0.6**
AMKA	**Amchitka**	**2.71**	**110**	P	**Pn**	**10 59 19.0**	**-0.5**
AMKA				S	**Sn**	**10 59 50.7**	**-0.3**
ILAR	**Eielson Array**	**22.89**	**43**	P	**P**	**11 03 38.1**	**-0.5**
	0.2nm,0.5s,baz=255,slow=7.9,SNR=4.3						
ASAJ	**Asahikawa**	**23.09**	**262**	LR	LR	11 10 45.2	
	comp=Z,536nm,22.0s,baz=29,slow=32						
H11N2	**WAKE ISLAND Hy**	**33.24**	**194**	T	T	11 40 25.4	
	baz=9.6,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**33.25**	**194**	T	T	11 40 17.1	
	baz=9.6,slow=76,SNR=20						
H11N1	**WAKE ISLAND Hy**	**33.25**	**194**	T	T	11 40 20.5	
	baz=9.6,slow=76,SNR=17						
H11S1	**WAKE ISLAND Hy**	**34.47**	**194**	T	T	11 41 44.5	
	baz=7.9,SNR=17						
H11S3	**WAKE ISLAND Hy**	**34.48**	**194**	T	T	11 41 47.6	
	baz=7.9						
H11S2	**WAKE ISLAND Hy**	**34.48**	**194**	T	T	11 41 44.2	
	baz=7.9						
SONM	**Songino Array**	**42.87**	**293**	P	**P**	**11 06 33.4**	**+0.3**
	0.3nm,0.7s,baz=71,slow=9.3,SNR=2.3						
NVAR	**Mina Array Bea**	**47.05**	**80**	P	P	11 07 00.0	-6.5
	0.5nm,0.5s,baz=316,slow=7.5,SNR=2.6						
ARCES	**ARCESS Array B**	**56.39**	**348**	LR	LR	11 35 17.5	
	comp=Z,6.7nm,18.5s,baz=333,slow=38						
MKAR	**Makanchi Array**	**56.46**	**305**	P	**P**	**11 08 16.9**	**+0.4**
	0.2nm,0.5s,baz=56,slow=6.8,SNR=6.1						
NOA	**NORSAR Array B**	**66.20**	**352**	LR	LR	11 41 46.2	
	comp=Z,59nm,18.6s,baz=35,slow=39						
CMAR	**Chiang Mai Arr**	**67.26**	**271**	LR	LR	11 41 03.4	
	comp=Z,127nm,19.5s,baz=95,slow=38						
AKASG	**Malin Array Be**	**73.34**	**338**	LR	LR	11 43 26.8	
	comp=Z,99nm,21.9s,baz=20,slow=36						

MOS ***30*** *11:00:30.9±1.0,55˚.69N×160˚.40E, h8km, mb4.8/54, MS4.1/12, Error ellipse: s-maj=7.4km s-min=3.5km az=82.5*
ISCJB ***30*** *11:00:31.4±0.1,55˚.67N±0˚.02×160˚.31E±0˚.03, h10km, mb4.5/216, MS4.4/33, Error ellipse: s-maj=3.4km s-min=2.2km az=154.1*
BJI ***30*** *11:00:34.5,55˚.79N×160˚.70E, h46km, mb4.8/47, mB5.1/35, Ms5.0/38, Ms7 4.7/31*
IDC ***30*** *11:00:36.6±1.9,55˚.58N×160˚.38E, h40km±16km, mb4.1/29, mb1 4.3/32, mb1mx4.2/50, mbtmp4.3/32, ML4.0/3, MS4.2/21, Ms1 4.2/21, ms1mx3.9/45, Error ellipse: s-maj=13.1km s-min=9.7km az=135.0*
NEIC ***30*** *11:00:37.7±0.7,55˚.59N×160˚.27E, h47km±7km, mb4.6/169, Error ellipse: s-maj=5.7km s-min=3.2km az=157.0*

ISC 30 11:00:32.5±0.3, 55˚.68N±0˚.03×160˚.40E±0˚.03, h10km, n385, σ1§62/361, mb4.6/217, MS4.5/33, 7C-12D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMNR	**Kamenistaya**	**0.12**	**309**	PN	**Pg**	**11 00 34.9**	**-0.5**
BZMR	**Bezymyannaya**	**0.26**	**12**	PN	**Pb**	**11 00 37.0**	**-2.4**
KIRR	**Kirishev**	**0.27**	**354**	PN	**Pb**	**11 00 37.9**	**-1.7**
KIRR				S	**Sb**	**11 00 43.3**	**-1.1**
BZWR	**Bezymyannyi-We**	**0.29**	**11**	PN	**Pb**	**11 00 37.6**	**-2.3**
KPT	**Kopyto**	**0.30**	**341**	PN	**Pb**	**11 00 38.5**	**-1.6**
BZGR	**Bezymyannyi-Gr**	**0.31**	**33**	PN	**Pg**	**11 00 37.6**	**-1.1**
ZLN	**Zelenaya**	**0.41**	**34**	PN	**Pb**	**11 00 40.0**	**-1.9**
TUMR	**Tumrok**	**0.43**	**200**	PN	**Pb**	**11 00 40.9**	**-1.3**
TUMR				S	**Sb**	**11 00 48.0**	**-0.7**
LGNR	**Loginova**	**0.43**	**22**	PN	**Pb**	**11 00 41.8**	**-0.6**
CIRR	**Tsirk**	**0.48**	**24**	PN	**Pb**	**11 00 41.4**	**-1.7**
KOZ	**Kozyrevsk**	**0.48**	**322**	PN	**Pb**	**11 00 42.3**	**-0.7**
KRSR	**Krestovskiy**	**0.54**	**10**	PN	**Pb**	**11 00 42.2**	**-2.0**
KZV	**Kizimen**	**0.57**	**186**	PN	**Pg**	**11 00 42.6**	**-1.1**
KLY	**Klyuchi**	**0.65**	**13**	PN	**Pb**	**11 00 44.6**	**-1.3**
KLY				S	**Sn**	**11 00 55.5**	**-2.5**
ESO	**Esso**	**0.99**	**285**	PN	**Pb**	**11 00 50.0**	**-1.7**
ESO				S	**Sb**	**11 01 03.0**	**-1.8**
BDR	**Baidarnaya**	**1.00**	**27**	PN	**Pb**	**11 00 50.4**	**-1.5**
SRKR	**Sorokina**	**1.06**	**24**	PN	**Pg**	**11 00 51.2**	**-1.8**
SMKR	**Semkarok**	**1.08**	**33**	PN	**Pn**	**11 00 52.2**	**-1.6**
MKZ	**Mys Kozlova**	**1.36**	**145**	PN	**Pn**	**11 00 56.1**	**-1.5**
KBG	**Krutoberegovo**	**1.42**	**65**	PN	**Pb**	**11 00 57.3**	**-1.7**
KBG				S	**Sg**	**11 01 17.8**	**-0.3**
KBTR	**Krutoberegovo**	**1.46**	**68**	PN	**Pn**	**11 00 56.8**	**-2.1**
PET	**Petropavlovsk**	**2.85**	**202**	*e*PN	**Pn**	**11 01 18.8**	**+0.8**
PET				pmax	pmax		
	comp=Z,700nm,12.0s						
PET				pmax	pmax		
	comp=Z,963nm,1.3s						
PET				MLR	MLR		
	comp=Z,5μm,8.0s						
PET				MLR	MLR		
	comp=Z,9μm,8.0s						
PEA1	**Petropavlovsk-**	**3.02**	**213**	*e*Pn	**Pn**	**11 01 21.0**	**+0.6**
PEA1				*e*Sn	**Sg**	**11 02 13.4**	**+3.9**
PEA0B	**Petropavlovsk-**	**3.02**	**213**	*e*Pn	**Pn**	**11 01 21.3**	**+0.9**
PETK	**Petropavlovsk-**	**3.02**	**213**	Pn	**Pn**	**11 01 21.0**	**+0.6**
	comp=Z,15nm,0.3s,baz=55,slow=14,SNR=127						
PETK				LR	LR	11 02 13.4	
	comp=Z,353nm,19.5s,baz=37,slow=33						
PETK	**Petropavlovsk-**	**3.02**	**213**	*e*Pn	**Pn**	**11 01 21.0**	**+0.6**
SKR	**Severo-Kuril's**	**5.63**	**209**	*de*PN	Pn	11 01 59.9	+3.7
MA2	**Magadan**	**6.47**	**311**	Pn	Pn	11 02 13.1	+5.3
	comp=Z,1.2nm,0.3s,baz=110,slow=17,SNR=3.2						
MA2				LR	LR	11 05 06.6	
	comp=Z,2μm,18.9s,baz=122,slow=41						
MA2	**Magadan**	**6.47**	**311**	*e*Pn	Pn	11 02 13.1	+5.3
SEY	**Seymchan**	**8.34**	**334**	Pn	**Pn**	**11 02 34.4**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=152,slow=15,SNR=5.2						
BILL	**Bilibino**	**12.70**	**10**	*e*PN	Pn	11 03 38.0	+5.1
BILL				pmax	pmax		
	comp=Z,31nm,4.4s						
BILL				MLR	MLR		
	comp=Z,1μm,20.0s						
KUR	**Kuril'sk**	**13.13**	**222**	*e*PN	Pn	11 03 42.4	+3.5
KUR				pmax	pmax		
	comp=Z,14nm,0.5s						
KUR				pmax	pmax		
	comp=E,50nm,0.9s						
KUR				pmax	pmax		
	comp=N,20nm,0.4s						
KUR				MLR	MLR		
	comp=Z,1μm,15.0s						
KUR				MLR	MLR		
	comp=N,4μm,17.0s						
YSS	**Yuzh-Sakhalins**	**14.04**	**239**	*e*Pn	**Pn**	**11 03 51.7**	**+0.5**
YSS	**Yuzh-Sakhalins**	**14.04**	**239**	*e*P	**P**	**11 03 58.8**	**-0.4**
YSS				*e*S	Sn	11 06 35.7	+8.7
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				MLR	MLR		
	comp=Z,1μm,16.0s						
SHO	**Shikotan**	**14.68**	**222**	*e*P	**Pn**	**11 03 57.7**	**-2.4**
SHO				pmax	pmax		
	comp=N,11nm,0.7s						
SHO				pmax	pmax		
	comp=Z,28nm,0.7s						
SHO				pmax	pmax		
	comp=E,13nm,0.5s						
SHO				MLR	MLR		
	comp=Z,799nm,13.0s						
SHO				MLR	MLR		
	comp=E,752nm,12.0s						
SHO				MLR	MLR		
	comp=N,1μm,19.0s						
YUK	**Yuzh-Kuril'sk**	**14.92**	**225**	*e*P	**Pn**	**11 04 02.8**	**-0.5**
YUK				*e*S	**Sn**	**11 06 44.8**	**-3.7**
YUK				pmax	pmax		
	comp=Z,181nm,0.7s						
YUK				pmax	pmax		
	comp=N,133nm,0.1s						
YUK				pmax	pmax		
	comp=E,108nm,0.5s						
YUK				MLR	MLR		
	comp=Z,2μm,14.0s						
YUK				MLR	MLR		
	comp=N,780nm,12.0s						
GRNR	**Gornyy**	**15.14**	**261**	*e*P	**P**	**11 04 14.7**	**+3.2**
GRNR				pmax	pmax		
	comp=Z,38nm,1.0s						
ASAJ	**Asahikawa**	**16.24**	**232**	Pn	**P**	**11 04 23.6**	**0.0**
	comp=Z,2.2nm,0.3s,baz=60,slow=7.9,SNR=18						
ASAJ	**Asahikawa**	**16.24**	**232**	*e*Pn	**P**	**11 04 21.8**	**-1.8**
	comp=Z,135nm,1.0s						
YAK	**Yakutsk**	**16.99**	**304**	*e*P	**P**	**11 04 32.6**	**+0.8**
YAK				*e*S	**Sn**	**11 07 39.6**	**+1.2**
YAK				pmax	pmax		
	comp=Z,22nm,0.9s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,15nm,1.0s						
YAK				pmax	pmax		
	comp=Z,994nm,3.5s						
YAK				pmax	pmax		
	comp=E,2μm,3.5s						
YAK				smax	smax		
	comp=N,815nm,3.6s						
YAK				MLR	MLR		
	comp=Z,693nm,13.0s						
YAK				MLR	MLR		
	comp=E,508nm,12.0s						
ERM	**Erimo**	**17.70**	**227**	*e*Pn	**P**	**11 04 39.7**	**0.0**
	comp=E,82nm,1.1s						
ERM	**Erimo**	**17.70**	**227**	*e*P	**P**	**11 04 39.2**	**-0.6**
NIKH	**Nikolski High**	**18.06**	**86**	*e*P	**P**	**11 04 46.0**	**+2.2**
	comp=E,86nm,1.1s						
KLR	**Kul'dur**	**18.52**	**262**	P	**Pn**	**11 04 52.1**	**+3.2**
	comp=E,0.2nm,0.3s,baz=32,slow=12,SNR=7.4						
KLR				LR	LR	11 12 19.0	
	comp=E,907nm,19.7s,baz=64,slow=38						
KLR	**Kul'dur**	**18.52**	**262**	*e*P	**Pn**	**11 04 49.2**	**+0.2**
ANM	**Nome**	**18.99**	**48**	*e*P	**Pn**	**11 04 56.9**	**+2.3**
	comp=E,7.7nm,1.0s						
ANM	**Nome**	**18.99**	**48**	*e*P	**Pn**	**11 04 56.9**	**+2.3**
ANM				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ZEA	**Zeya**	**19.15**	**278**	*e*P	Pn	11 05 02.6	+6.1
ZEA				pmax	pmax		
	comp=E,130nm,2.0s						
ZEA				pmax	pmax		
	comp=Z,140nm,2.0s						
ZEA				MLR	MLR		
	comp=Z,1μm,14.0s						
AKUT	**Akutan**	**19.40**	**80**	*e*P	**Pn**	**11 05 01.6**	**+2.1**
	comp=Z,85nm,1.1s						
FALS	**False Pass**	**20.49**	**77**	*e*P	Pn	11 05 12.1	-0.4
	comp=Z,174nm,0.8s						
TIXI	**Tiksi**	**20.83**	**332**	P	Pn	11 05 15.7	-0.6
	comp=Z,11nm,0.6s,baz=120,slow=10,SNR=20						
TIXI				LR	LR	11 13 43.8	
	comp=Z,508nm,21.3s,baz=134,slow=38						
TIXI	**Tiksi**	**20.83**	**332**	*e*P	Pn	11 05 14.7	-1.6
TIXI				pmax	pmax		
	comp=Z,21nm,1.0s						
RDOG	**Red Dog Mine**	**20.87**	**39**	*e*P	Pn	11 05 17.0	+0.3
	comp=Z,27nm,1.1s						
USA0B	**Ussuriysk Arra**	**21.43**	**250**	*e*P	**P**	**11 05 22.8**	**+2.4**
	comp=Z,9.5nm,0.8s						
USRK	**Ussuriysk Ar.**	**21.43**	**250**	P	**P**	**11 05 20.6**	**+0.1**
	comp=Z,14nm,0.9s,baz=57,slow=11,SNR=15						
USRK				LR	LR	11 14 12.2	
	comp=Z,624nm,18.3s,baz=54,slow=38						
MDJ	**Mudanjiang**	**22.44**	**253**	P	P	11 05 37.5	+6.2
MDJ				pP	sP	11 05 49.3	+14
MDJ				S	**S**	**11 09 33.0**	**-4.4**
MDJ				sS	Sn	11 09 52.5	+2.5
MDJ				pmax	pmax		
	comp=Z,23nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,940nm,4.5s						
MDJ				LR	LR		
	comp=Z,2μm,15.1s						
MDJ				LR	LR		
	comp=Z,2μm,15.9s						
MDJ				LR	LR		
	comp=Z,1μm,15.4s						
SVW2	**Sparrevohn**	**23.33**	**58**	*e*P	**P**	**11 05 41.6**	**+1.1**
	comp=Z,2.0nm,0.9s						
IM3	**Indian Mountai**	**24.02**	**46**	*e*P	**P**	**11 05 47.3**	**+0.2**
MJB9	**Matsu-Tunnel**	**24.37**	**227**	*e*P	**P**	**11 05 49.5**	**-1.1**
	comp=Z,13nm,0.8s						
MAJO	**Matsushiro**	**24.37**	**227**	*e*P	**P**	**11 05 49.3**	**-1.3**
	comp=Z,12nm,0.8s						
MAJO	**Matsushiro**	**24.37**	**227**	*de*P	**P**	**11 05 50.5**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,18nm,1.1s						
MAT	**Matsushiro**	**24.37**	**227**	P	**P**	**11 05 49.7**	**-0.9**
MAT				S	**S**	**11 10 18.0**	**+8.2**
MJAR	**Matsushiro Arr**	**24.37**	**227**	P	**P**	**11 05 49.7**	**-0.9**
	comp=Z,10nm,1.1s,baz=22,slow=7.8,SNR=14						
MJAR				LR	LR	11 16 08.9	
	comp=Z,363nm,18.1s,baz=45,slow=38						
PPLA	**Purkeypile**	**24.75**	**54**	*e*P	**P**	**11 05 55.0**	**+1.1**
	comp=Z,19nm,1.1s						
CAST	**Castle Rocks**	**24.75**	**52**	*e*P	**P**	**11 05 55.8**	**+1.9**
	comp=Z,12nm,0.9s						
BOD	**Bodaibo**	**25.14**	**294**	*e*P	**P**	**11 05 58.3**	**+0.9**
BOD				pmax	pmax		
	comp=Z,39nm,1.5s						
BPAW	**Bear Paw Mtn.**	**25.20**	**51**	*e*P	**P**	**11 05 59.9**	**+2.0**
	comp=Z,12nm,1.0s						
MLY	**Manley**	**25.26**	**49**	*e*P	**P**	**11 05 59.4**	**+0.9**
	comp=Z,15nm,1.0s						
OHAK	**Old Harbor**	**25.27**	**67**	*e*P	**P**	**11 05 57.8**	**-0.7**
	comp=Z,28nm,1.1s						
KDAK	**Kodiak Island**	**25.48**	**66**	P	**P**	**11 06 00.6**	**+0.2**
	comp=Z,12nm,0.9s,baz=308,slow=16,SNR=5.1						
COLD	**Coldfoot**	**25.50**	**43**	*e*P	**P**	**11 06 03.5**	**+3.0**
	comp=Z,2.9nm,1.1s						
TRF	**Thorofare Moun**	**25.55**	**52**	*e*P	**P**	**11 06 01.8**	**+0.5**
	comp=Z,26nm,1.2s						
CNPM	**China Poot**	**25.73**	**61**	*e*P	**P**	**11 06 03.2**	**+0.5**
	comp=Z,4.6nm,0.5s						
TOLK	**Toolik Lake Re**	**25.82**	**40**	*e*P	**P**	**11 06 04.4**	**+0.9**
	comp=Z,28nm,0.9s						
RC01	**Rabbit Creek A**	**26.14**	**57**	*e*P	**P**	**11 06 09.4**	**+3.0**
	comp=Z,5.4nm,1.1s						
MDM	**Murphy Dome**	**26.33**	**49**	*e*P	**P**	**11 06 09.6**	**+1.5**
	comp=Z,7.2nm,1.1s						
PMR	**Palmer**	**26.34**	**56**	*e*P	**P**	**11 06 06.9**	**-1.3**
	comp=Z,3.3nm,0.6s						
PMR	**Palmer**	**26.34**	**56**	*e*P	**P**	**11 06 06.9**	**-1.3**
PMR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WRH	**Wood River Hil**	**26.43**	**50**	*e*P	**P**	**11 06 09.4**	**+0.5**
	comp=Z,16nm,1.0s						
COLA	**College**	**26.50**	**49**	*e*P	**P**	**11 06 13.0**	**+3.4**
	comp=Z,6.7nm,0.8s						
CCB	**Clear Creek Bu**	**26.54**	**49**	*e*P	**P**	**11 06 10.4**	**+0.5**
	comp=Z,6.8nm,0.8s						
SML	**Sawmill**	**26.67**	**56**	*e*P	**P**	**11 06 12.3**	**+1.0**
	comp=Z,20nm,1.0s						
SML	**Sawmill**	**26.67**	**56**	*e*P	**P**	**11 06 12.3**	**+1.0**
SML				pmax	pmax		
	comp=Z,20nm,1.0s						
DHY	**Denali Highway**	**26.91**	**53**	*e*P	**P**	**11 06 14.6**	**+1.0**
	comp=Z,9.3nm,1.2s						
IL1	**Eielson Array**	**26.92**	**49**	*e*P	**P**	**11 06 13.3**	**-0.1**
ILAR	**Eielson Array**	**26.92**	**49**	P	**P**	**11 06 12.7**	**-0.7**
	comp=Z,2.3nm,0.6s,baz=260,slow=7.0,SNR=26						
ILAR				LR	LR	11 18 22.2	
	comp=Z,371nm,18.2s,baz=286,slow=40						
ILB	**Eielson Array**	**26.92**	**49**	*e*P	**P**	**11 06 13.6**	**+0.2**
HDA	**Harding Lake**	**26.93**	**50**	*e*P	**P**	**11 06 15.4**	**+1.9**
	comp=Z,2.9nm,0.7s						
SCM	**Sheep Creek Mo**	**27.14**	**55**	*e*P	**P**	**11 06 18.9**	**+3.4**
	comp=Z,14nm,0.8s						
SCM	**Sheep Creek Mo**	**27.14**	**55**	*e*P	**P**	**11 06 18.9**	**+3.4**
SCM				pmax	pmax		
	comp=Z,14nm,0.8s						
FYU	**Fort Yukon**	**27.46**	**45**	*e*P	**P**	**11 06 21.9**	**+3.7**
	comp=Z,13nm,1.1s						
FYU				*e*S	**S**	**11 10 58.7**	**+0.3**
SCRK	**Sand Creek**	**28.27**	**50**	*e*P	**P**	**11 06 25.5**	**-0.1**
	comp=Z,4.1nm,0.6s						
DOT	**Dot Lake**	**28.29**	**51**	*e*P	**P**	**11 06 26.8**	**+1.0**
	comp=Z,3.3nm,0.9s						
KS01	**Wonju Array Si**	**28.44**	**244**	*e*P	**P**	**11 06 26.3**	**-0.9**
KSRS	**Korea Array**	**28.44**	**244**	P	**P**	**11 06 26.4**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=42,slow=8.3,SNR=6.4						
KSRS				LR	LR	11 18 42.7	
	comp=Z,374nm,18.6s,baz=50,slow=38						
KS15	**Wonju Array Si**	**28.47**	**244**	*e*P	**P**	**11 06 25.3**	**-2.2**
KSAR	**Wonju Array Be**	**28.47**	**244**	P	**P**	**11 06 26.4**	**-1.1**
KSAR	**Wonju Array Be**	**28.47**	**244**	P	**P**	**11 06 26.4**	**-1.1**
DAWY	**Dawson**	**30.24**	**49**	*e*P	**P**	**11 06 44.0**	**+1.0**
	comp=Z,1.9nm,1.0s						
JNU	**Nakatsue**	**30.48**	**235**	LR	LR	11 19 44.4	
	comp=Z,394nm,18.9s,baz=35,slow=38						
PCA	**Pinnacle**	**30.92**	**57**	*e*P	**P**	**11 06 51.3**	**+2.2**
	comp=Z,16nm,0.8s						
INK	**Inuvik**	**31.74**	**40**	*e*P	**P**	**11 06 56.1**	**0.0**
	comp=Z,4.6nm,1.1s						
INK	**Inuvik**	**31.74**	**40**	*e*P	**P**	**11 06 56.1**	**0.0**
INK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
HYT	**Haines Junctio**	**31.97**	**55**	*e*P	**P**	**11 07 00.6**	**+2.1**
	comp=Z,6.5nm,1.0s						
BJI	**Beijing**	**32.89**	**260**

ZALV PcP **PcP** **11 10 15.9 -0.9**
comp=E,1.3nm,0.7s,baz=75,slow=1.6,SNR=3.8
ZALV LR LR 11 26 40.3
comp=E,624nm,19.0s,baz=69,slow=38
ZALV Zalesovo Beam 41.57 300 *eP* **P** **11 08 19.9 0.0**
ZALV PP **PnPn** **11 09 59.4 -1.0**
ZALV PcP **PcP** **11 10 15.9 -0.9**
ZALV Zalesovo Beam 41.57 300 *i* P **P** **11 08 22.6 +2.7**
ZALV pmax pmax
comp=E,1.0nm,0.4s
NVS Novosibirsk 41.83 302⇑ *iP* **P** **11 08 24.3 +2.2**
NVS *e* 11 09 55.5
NVS pmax pmax
comp=E,19nm,1.2s
NVS pmax pmax
comp=E,16nm,1.1s
GTA Gaotai 42.55 274 *eP* **P** **11 08 28.8 +0.5**
GTA pP sP 11 08 40.5 +7.8
GTA sP pP 11 08 45.3 +14
GTA PcP **PcP** **11 10 20.3 -0.3**
GTA S **S** **11 14 54.8 +4.1**
GTA pmax pmax
comp=E,7.0nm,1.5s
GTA pmax pmax
comp=E,70nm,6.4s
GTA LR LR
comp=E,800nm,15.9s
GTA LR LR
comp=E,650nm,14.3s
GTA LR LR
comp=E,1μm,14.3s
LZH Lanzhou 42.59 267 *eP* **P** **11 08 30.5 +1.8**
LZH pP sP 11 08 43.8 +11
LZH sP pP 11 08 52.0 +20
LZH pmax pmax
comp=E,33nm,1.0s
LZH pmax pmax
comp=E,110nm,4.3s
LZH LR LR
comp=E,920nm,11.2s
LZH LR LR
comp=E,870nm,11.4s
LZH LR LR
comp=E,1μm,12.5s
SPA0 Spitsbergen Ar 44.61 350 *eP* **P** **11 08 44.4 +0.1**
WMQ Urumqi 46.33 287 P **P** **11 09 00.8 +2.5**
WMQ pP sP 11 09 11.5 +8.8
WMQ sP pP 11 09 17.0 +16
WMQ S **S** **11 15 42.0 -3.3**
WMQ pmax pmax
comp=E,21nm,0.9s
WMQ pmax pmax
comp=E,430nm,4.7s
WMQ LR LR
comp=E,2μm,19.5s
WMQ LR LR
comp=E,940nm,20.5s
WMQ LR LR
comp=E,870nm,23.5s
CD2 Chengdu 46.45 262 *eP* **P** **11 08 59.0 -0.5**
CD2 S **S** **11 15 42.5 -4.8**
CD2 pmax pmax
comp=E,10.0nm,0.5s
CD2 pmax pmax
comp=E,140nm,4.8s
CD2 LR LR
comp=E,1μm,16.9s
CD2 LR LR
comp=E,1μm,17.9s
CD2 LR LR
comp=E,740nm,11.7s
KURK Kurchatov 46.55 300 *eP* **P** **11 09 00.0 +0.1**
comp=E,8.4nm,1.0s
KURK Kurchatov 46.55 300⇓ *eP* **P** **11 08 59.3 -0.6**
KURK pmax pmax
comp=E,10.0nm,1.1s
LON Longmire 47.10 67 *eP* **P** **11 09 05.8 +1.4**
comp=E,5.2nm,1.0s
LON Longmire 47.10 67 *eP* **P** **11 09 05.8 +1.4**
LON pmax pmax
comp=E,5.0nm,1.0s
MK31 Makanchi Array 47.23 294 *eP* **P** **11 09 05.9 +0.5**
MK31 Makanchi Array 47.23 294 *eP* **P** **11 09 05.9 +0.5**
MK32 Makanchi Array 47.23 294 *eP* **P** **11 09 05.3 0.0**
MKAR Makanchi Array 47.23 294 P **P** **11 09 05.3 0.0**
comp=Z,1.9nm,0.7s,baz=58,slow=6.4,SNR=9.4
MKAR LR LR 11 30 17.4
comp=Z,475nm,18.7s,baz=37,slow=38
MKAR Makanchi Array 47.23 294 *eP* **P** **11 09 05.9 +0.5**
comp=E,16nm,0.6s
MKAR Makanchi Array 47.23 294 *eP* **P** **11 09 05.9 +0.5**
MKAR pmax pmax
comp=E,16nm,0.6s
MK01 Makanchi Array 47.24 294 *eP* **P** **11 09 05.3 -0.2**
B08A Colville Reser 47.32 63 *eP* **P** **11 09 07.3 +1.3**
comp=Z,4.1nm,0.9s
LTY Liberty 47.35 65 *eP* **P** **11 09 07.1 +0.7**
E07A Sunnyside 48.24 66 *eP* **P** **11 09 14.8 +1.6**
comp=Z,3.8nm,0.9s
H04A Detroit Lake 48.27 69 *eP* **P** **11 09 14.1 +0.6**
comp=Z,14nm,1.1s
D08A Wollman Farm, 48.38 64 *eP* P 11 09 17.9 +3.6
comp=Z,3.4nm,1.0s
HAWA Hanford 48.51 66 *eP* P 11 09 18.6 +3.3
comp=Z,7.7nm,1.1s
F07A Phinny Hill Vi 48.64 66 *eP* **P** **11 09 17.2 +1.0**
comp=Z,9.6nm,0.8s
BRVK Borovoye 48.97 307 *eP* **P** **11 09 19.8 +1.1**
comp=Z,10nm,0.8s
BRVK Borovoye 48.97 307⇓ *eP* **P** **11 09 19.5 +0.8**
BRVK pmax pmax
comp=Z,9.0nm,0.7s
MLH Mauna Loa 48.98 119 *eP* **P** **11 09 16.3 -3.1**
comp=Z,42nm,0.8s
MLH Mauna Loa 48.98 119 *eP* **P** **11 09 16.3 -3.1**
MLH pmax pmax
comp=Z,43nm,0.8s
AIN Ainahou 49.05 119 *eP* **P** **11 09 16.2 -3.6**
comp=Z,48nm,1.0s
E09A Wood Farm, Sta 49.14 65 *eP* **P** **11 09 21.5 +1.4**
comp=Z,12nm,1.1s
HUMO Hull Mountain 49.27 71 *eP* **P** **11 09 22.5 +1.3**
comp=Z,4.0nm,0.8s
G08A Pilot Rock 49.55 66 *eP* **P** **11 09 24.5 +1.2**
comp=Z,0.8nm,0.6s
F10A Beach Ranch, E 49.98 65 *eP* **P** **11 09 28.1 +1.5**
comp=Z,7.4nm,1.0s
YBH Yreka Blue Hor 50.01 72 *eP* **P** **11 09 28.5 +1.7**
comp=Z,3.6nm,0.8s
YBH Yreka Blue Hor 50.01 72 *eP* **P** **11 09 28.5 +1.7**
YBH pmax pmax
comp=Z,4.0nm,0.8s
KHMM Horse Mountain 50.05 74 *eP* **P** **11 09 30.1 +2.9**
comp=Z,15nm,1.1s
JTMT Jette 50.26 61 *eP* **P** **11 09 30.4 +1.7**
comp=Z,3.1nm,0.7s
BMO Blue Mountains 50.71 66 *eP* **P** **11 09 33.1 +1.0**
comp=Z,5.6nm,1.0s
BMO Blue Mountains 50.71 66 *eP* **P** **11 09 33.1 +1.0**
BMO pmax pmax
comp=Z,6.0nm,1.0s
ARA0 ARCESS Array S 50.88 341 *eP* **P** **11 09 34.5 +1.5**
ARCES ARCESS Array B 50.88 341 P **P** **11 09 34.5 +1.5**
comp=Z,3.7nm,0.9s,baz=35,slow=11,SNR=3.6
PDGK Podgornoye 51.03 292 P P 11 09 38.0 +3.4
PDGK pmax pmax
comp=Z,8.0nm,0.9s
MSO Missoula 51.05 62 *eP* **P** **11 09 34.8 +0.1**
MOD Modoc Plateau 51.18 70 *eP* **P** **11 09 37.8 +2.0**
comp=Z,9.0nm,0.9s
OTUK Ortayu 51.26 301 P **P** **11 09 38.3 +2.2**
OTUK pmax pmax
comp=Z,7.0nm,0.9s
FCC Fort Churchill 51.36 40 *eP* **P** **11 09 37.0 +0.4**
comp=Z,9.3nm,0.9s
FCC Fort Churchill 51.36 40 *eP* **P** **11 09 37.0 +0.4**
FCC pmax pmax
comp=Z,9.0nm,0.9s
ARU Arti 51.63 316*c i*P **P** **11 09 39.2 +0.5**
ARU 11 10 54.1
ARU 11 11 38.0
ARU S **S** **11 16 57.3 -2.0**
ARU SS **SS** **11 20 34.7 -0.1**
ARU pmax pmax
comp=Z,17nm,2.5s
ARU MLR MLR

comp=Z,716nm,18.0s
WVOR Wild Horse Val 51.69 69 *eP* **P** **11 09 39.6 0.0**
comp=Z,6.4nm,0.7s
WVOR Wild Horse Val 51.69 69 *eP* **P** **11 09 39.6 0.0**
WVOR pmax pmax
comp=Z,6.0nm,0.7s
PRGR Permogore 52.35 327 *eP* **P** **11 09 45.6 +1.6**
PRGR pmax pmax
comp=Z,8.0nm,0.6s
BEKR Beckworth 52.59 72 *eP* **P** **11 09 47.3 +1.0**
comp=Z,45nm,1.1s
DLMT Dillon 52.75 62 *eP* **P** **11 09 47.8 +0.4**
comp=Z,2.7nm,1.0s
MCMT McKenzie Canyo 53.00 63 *eP* **P** **11 09 48.2 -1.1**
ILULI Ilulissat 53.31 13 *eP* **P** **11 09 51.5 +0.5**
comp=Z,26nm,1.1s
ILULI Ilulissat 53.31 13 *eP* **P**
ILULI pmax pmax **11 09 51.5 +0.5**
comp=Z,26nm,1.1s
BMN Battle Mountai 53.86 70 *eP* **P** **11 09 57.7 +2.0**
YHB Horse Butte 53.88 62 *eP* **P** **11 09 54.4 -1.4**
comp=Z,4.4nm,0.9s
CMB Columbia Colle 53.89 74 *eP* **P** **11 09 56.9 +1.2**
comp=Z,7.7nm,1.1s
CMB Columbia Colle 53.89 74 P P 11 10 00.1 +4.3
CMB pmax pmax
comp=Z,8.0nm,1.1s
GCMT Greycliff 53.90 60 *eP* **P** **11 09 53.1 -2.8**
YHH Holmes Hill 54.03 62 *eP* **P** **11 09 56.4 -0.6**
comp=Z,4.6nm,0.9s
YMR Madison River 54.05 62 *eP* **P** **11 09 56.4 -0.7**
comp=Z,3.3nm,0.8s
WAKR Walker 54.06 73 *eP* **P** **11 09 54.3 -2.9**
comp=Z,11nm,0.7s
AAK Ala-Archa 54.12 295 *eP* **P** **11 09 55.0 -2.5**
comp=Z,3.7nm,0.8s
AAK Ala-Archa 54.12 295⇓ *eP* **P** **11 09 57.5 0.0**
AAK pmax pmax
comp=Z,5.0nm,1.0s
YNR Norris Junctio 54.16 62 *eP* P 11 10 03.9 +6.0
comp=Z,291nm,1.1s
YFT Old Faithful 54.27 62 *eP* **P** **11 10 01.9 +3.2**
comp=Z,7.9nm,0.9s
KVN Kaiserville 54.39 71 *eP* **P** **11 09 58.5 -1.1**
comp=Z,6.9nm,0.9s
KVN Kaiserville 54.39 71 *eP* **P** **11 09 58.5 -1.1**
KVN pmax pmax
comp=Z,7.0nm,0.9s
YPP Pitchstone Pla 54.42 62 *eP* P 11 10 05.6 +5.7
comp=Z,4.1nm,1.2s
H17A Grant Village 54.44 62 *eP* P 11 10 05.0 +5.0
comp=Z,8.1nm,1.0s
RYN Ryan 54.47 72 *eP* **P** **11 10 00.5 +0.4**
comp=Z,8.8nm,0.8s
RLMT Red Lodge 54.57 60 *eP* **P** **11 10 02.1 +1.2**
comp=Z,8.9nm,1.0s
FLWY Flagg Ranch 54.61 62 *eP* P
comp=Z,13nm,1.1s 11 10 06.0 +4.8
IMW Indian Meadow 54.62 62 *eP* P 11 10 05.9 +4.6
comp=Z,6.0nm,0.9s
ELK Elko 54.68 68 *eP* **P** **11 10 03.2 +1.5**
comp=Z,2.7nm,0.8s
ELK Elko 54.68 68 *eP* **P**
ELK pmax pmax **11 10 03.2 +1.5**
comp=Z,3.0nm,0.8s
NV01 Mina Array Sit 54.73 72 *eP* **P** **11 10 02.5 +0.4**
NVAR Mina Array Bea 54.73 72 P **P** **11 10 03.1 +1.0**
comp=Z,5.6nm,0.6s,baz=300,slow=7.5,SNR=20
NVAR LR LR 11 32 16.1
comp=Z,100nm,18.5s,baz=286,slow=35
FXWY Fox Creek 54.76 63 *eP* **P** **11 10 03.2 +1.0**
comp=Z,5.0nm,0.9s
KLMR Klimovskoe 54.80 329 *eP* **P** **11 10 03.4 +1.5**
KLMR pmax pmax
comp=Z,12nm,1.2s
KLMR Klimovskoe 54.80 329 *eP* **P** **11 10 03.5 +1.5**
KLMR AMP 11 10 11.3
comp=Z,12nm,1.2s
NV11 Mina Array Sit 54.81 72 *eP* **P** **11 10 03.7 +1.2**
comp=Z,0.5nm,0.9s
MOOW Moose Ponds 54.83 62 *eP* **P** **11 10 04.5 +1.8**
comp=Z,0.7nm,0.8s
MDPB Devils Postpil 54.89 73 *eP* P 11 10 08.7 +5.3
comp=Z,8.1nm,0.9s
TPAW Teton Pass 54.91 63 *eP* **P** **11 10 03.8 +0.5**
comp=Z,8.8nm,1.1s
LOHW Long Hollow 54.99 62 *eP* **P** **11 10 05.7 +1.8**
comp=Z,6.2nm,1.1s
REDW Red Top Meadow 55.05 63 *eP* **P** **11 10 04.1 -0.3**
comp=Z,6.3nm,1.1s
HVU Hansel Valley 55.22 65 *eP* **P** **11 10 06.4 +0.9**
comp=Z,8.3nm,1.1s
HVU Hansel Valley 55.22 65 *eP* **P**
HVU pmax pmax **11 10 06.4 +0.9**
comp=Z,8.0nm,1.1s
MNAS Manas 55.25 296 P **P** **11 10 08.1 +2.4**
MNAS pmax pmax
comp=Z,5.0nm,1.5s
KSH Kashi 55.60 291 P P 11 10 12.5 +4.2
KSH pP sP 11 10 25.5 +13
KSH PP PP 11 12 18.8 +6.7
KSH S **S** **11 17 52.5 -1.4**
KSH SS **SS** **11 21 38.5 +0.1**
KSH pmax pmax
comp=Z,32nm,1.2s
KSH pmax pmax
comp=Z,200nm,4.8s
KSH LR LR
comp=Z,680nm,13.0s
KSH LR LR
comp=Z,2μm,13.9s
KSH LR LR
comp=Z,1μm,20.9s
BGU Big Grassy Mou 55.70 66 *eP* **P** **11 10 09.0 0.0**
comp=Z,6.0nm,1.1s
KK31 Karatay Array 55.81 298 *eP* **P** **11 10 10.6 +1.1**
KK31 Karatay Array 55.81 298 *eP* **P** **11 10 10.6 +1.1**
KKAR Karatay Array 55.81 298 *eP* **P** **11 10 10.6 +1.1**
KKAR Karatay Array 55.81 298 *eP* **P** **11 10 10.6 +1.1**
HWUT Hardware Ranch 55.96 65 *eP* P 11 10 15.4 +4.5
comp=Z,8.3nm,1.0s
BW06 Boulder Array 56.13 62 *eP* **P** **11 10 12.5 +0.3**
comp=Z,1.6nm,0.7s
PD31 Pinedale Array 56.13 62 *eP* **P** **11 10 12.9 +0.7**
PDAR Pinedale Array 56.13 62 P **P** **11 10 12.4 +0.3**
comp=Z,1.3nm,0.6s,baz=301,slow=3.1,SNR=15
PDAR Pinedale Array 56.13 62 *eP* **P** **11 10 11.8 -0.4**
R11A Troy Canyon, C 56.24 70 *eP* **P** **11 10 13.2 +0.3**
comp=Z,3.8nm,1.1s
ABKAR Akbulak array 56.27 309 *eP* **P** **11 10 13.4 +0.7**
DUG Dugway, Tooele 56.35 67 *eP* **P** **11 10 15.2 +1.6**
comp=Z,7.7nm,0.9s
DUG Dugway, Tooele 56.35 67 *eP* **P**
DUG pmax pmax **11 10 15.3 +1.6**
comp=Z,8.0nm,0.9s
TCUT Toone Canyon 56.40 65 *eP* P 11 10 19.5 +5.4
comp=Z,12nm,1.0s
CTU Camp Tracy 56.54 66 *eP* P 11 10 19.2 +4.2
comp=Z,8.6nm,1.1s
ISA Isabella, Lake 56.67 74 *eP* P 11 10 19.3 +3.4
comp=Z,14.7nm,1.1s
ISA Isabella, Lake 56.67 74 *eP* P
ISA pmax pmax 11 10 19.3 +3.4
comp=Z,7.0nm,1.1s
JLU Jordanelle 56.76 65 *eP* **P** **11 10 18.5 +1.9**
comp=Z,4.4nm,1.0s
NLU North Lily Min 56.91 66 *eP* **P** **11 10 19.4 +1.7**
comp=Z,11nm,1.1s
TPNV Topopah Spring 56.92 72 *eP* P 11 10 22.2 +4.4
comp=Z,7.7nm,1.0s
ULM Lac du Bonnet 56.93 48 P **P** **11 10 19.4 +2.0**
comp=Z,4.7nm,0.9s,baz=301,slow=6.3,SNR=5.8
ULM LR LR 11 34 56.8
comp=Z,175nm,19.3s,baz=348,slow=36
ULM Lac du Bonnet 56.93 48 *eP* **P** **11 10 20.1 +2.6**
comp=Z,6.3nm,1.0s
PSUT Pine Spring 57.03 69 *eP* **P** **11 10 17.3 -1.3**
comp=Z,1.8nm,1.0s
MPU Maple Canyon 57.09 66 *eP* **P** **11 10 17.8 -1.2**
comp=Z,4.0nm,0.8s
FIA1 FINESS Array S 57.81 336 *eP* **P** **11 10 24.8 +1.4**
FIA0 FINESS Array S 57.81 336 *eP* **P** **11 10 23.8 +0.4**
FIA0 FINESS Array S 57.81 336 *eP* **P** **11 10 23.8 +0.4**
FINES FINESS Array B 57.81 336 P **P** **11 10 23.8 +0.4**
comp=Z,3.3nm,0.8s,baz=14,slow=8.5,SNR=4.7
FINES LR LR 11 38 51.2
comp=Z,94nm,18.2s,baz=26,slow=40

FINES FINESS Array B 57.81 336 *i* P **P** **11 10 23.7 +0.3**
FINES pmax pmax
comp=Z,3.0nm,0.9s
SHPR Sheep Range 57.84 71 *eP* P 11 10 29.3 +5.1
comp=Z,2.4nm,1.0s
GSC Goldstone, Bar 57.84 73 *eP* **P** **11 10 24.8 +0.6**
comp=Z,8.6nm,1.1s
GSC Goldstone, Bar 57.84 73 *eP* **P**
GSC pmax pmax **11 10 24.8 +0.6**
comp=Z,9.0nm,1.1s
RSSD Black Hills 57.85 58 *eP* **P** **11 10 24.9 +0.6**
comp=Z,7.1nm,0.8s
RSSD Black Hills 57.85 58 *eP* **P**
RSSD pmax pmax **11 10 24.9 +0.6**
comp=Z,7.0nm,0.8s
TMUT Trail Mountain 57.85 66 *eP* **P** **11 10 24.4 -0.1**
comp=Z,12nm,1.2s
SNCC San Nicolas Is 57.89 77 *eP* **P** **11 10 23.9 -0.5**
comp=Z,59nm,1.1s
MSU Marysvale 57.92 68 *eP* P 11 10 29.5 +4.6
P17A Butcher Ranch, 57.96 66 *eP* P 11 10 29.5 +4.5
comp=Z,5.2nm,1.0s
MWC Mount Wilson 57.97 75 *eP* P 11 10 29.6 +4.4
CCUT Cedar City 58.02 69 *eP* **P** **11 10 27.4 +1.9**
comp=Z,3.3nm,0.9s
P18A Preston Nutter 58.10 65 *eP* P 11 10 30.5 +4.3
comp=Z,8.8nm,1.1s
MTPU Mount Pierson 58.27 68 *eP* **P** **11 10 28.0 +0.5**
comp=Z,2.3nm,0.8s
LCMT Little Creek M 58.48 70 *eP* **P** **11 10 30.1 +1.4**
comp=Z,2.6nm,1.0s
KNB Kanab 58.70 69 *eP* **P** **11 10 28.3 -2.0**
comp=Z,4.9nm,1.1s
KNB Kanab 58.70 69 *eP* **P**
KNB pmax pmax **11 10 28.3 -2.0**
comp=Z,5.0nm,1.1s
O20A White River Ci 58.75 64 *eP* **P** **11 10 29.5 -1.1**
comp=Z,6.8nm,0.8s
CM31 Chiang Mai Arr 58.92 257 *eP* **P** **11 10 30.8 -1.0**
CMAR Chiang Mai Arr 58.92 257 P **P** **11 10 30.8 -1.0**
comp=Z,0.8nm,0.3s,baz=20,slow=8.6,SNR=6.4
CMAR PcP **PcP** **11 11 20.8 -0.1**
comp=Z,3.1nm,0.7s,baz=14,slow=4.2,SNR=11
CMAR Chiang Mai Arr 58.92 257 *i* P **P** **11 10 32.2 +0.4**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
LDFC Landfair 58.93 72 *eP* P 11 10 36.0 +4.2
comp=Z,20nm,1.1s
PFO Pinyon Flats O 59.30 74 *eP* P 11 10 37.9 +3.5
comp=Z,1.4nm,0.7s
PFO Pinyon Flats O 59.30 74 *eP* P
PFO pmax pmax 11 10 37.9 +3.5
comp=Z,1.0nm,0.7s
U15A North Rim 59.42 69 *eP* P 11 10 39.9 +4.5
comp=Z,4.1nm,1.1s
W13A Hualapai Mount 59.57 71 *eP* **P** **11 10 33.4 -3.0**
comp=Z,3.6nm,1.0s
PV23 Carpenter Ridg 59.62 66 *eP* P 11 10 30.3 -6.4
comp=Z,7.1nm,1.2s
PV22 Blue Mesa, Par 59.67 65 *eP* P 11 10 40.9 +3.9
comp=Z,13nm,1.2s
PV14 Lion Creek, Pa 59.67 66 *eP* **P** **11 10 38.6 +1.6**
comp=Z,6.7nm,1.1s
PV20 West Nyswonger 59.72 66 *eP* **P** **11 10 38.7 +1.4**
comp=Z,18nm,1.2s
PV19 Morning Glory 59.74 66 *eP* **P** **11 10 38.7 +1.2**
comp=Z,5.7nm,0.9s
PV16 Nyswonger Mesa 59.77 66 *eP* **P** **11 10 39.2 +1.5**
PV17 East Wray Mesa 59.77 66 *eP* **P** **11 10 39.3 +1.6**
comp=Z,14nm,1.2s
PV11 David Mesa, Pa 59.80 66 *eP* **P** **11 10 39.2 +1.3**
comp=Z,14nm,1.1s
PV18 Skein Mesa, Pa 59.82 66 *eP* P 11 10 41.4 +3.4
comp=Z,14nm,1.2s
PV12 Saucer Basin, 59.82 65 *eP* P 11 10 42.4 +4.3
comp=Z,4.9nm,1.0s
PV03 Paradox Valley 59.85 66 *eP* **P** **11 10 39.7 +1.5**
PV05 Paradox Valley 59.85 66 *eP* **P** **11 10 39.0 +0.8**
PV13 Radium Mtn., P 59.94 66 *eP* **P** **11 10 40.6 +1.7**
comp=Z,13nm,1.1s
PV02 Paradox Valley 59.94 66 *eP* **P** **11 10 40.6 +1.7**
PV01 Paradox Valley 60.08 65 *eP* **P** **11 10 41.9 +2.1**
SMCO Snowmass 60.11 64 *eP* **P** **11 10 41.6 +1.4**
comp=Z,4.9nm,1.0s
Y12C Blythe 60.25 73 *eP* **P** **11 10 42.4 +1.6**
comp=Z,6.1nm,1.1s
ISCO Idaho Springs 60.32 62 *eP* **P** **11 10 44.0 +2.4**
comp=Z,3.4nm,0.9s
ISCO Idaho Springs 60.32 62 *eP* **P**
ISCO pmax pmax **11 10 44.0 +2.4**
comp=Z,3.0nm,0.9s
OBN Obninsk 60.43 327⇑ *eP* **P** **11 10 41.9 +0.2**
OBN *e* 11 11 23.8
OBN *e* 11 12 59.1
OBN pmax pmax
comp=Z,13nm,0.9s
OBN MLR MLR
comp=Z,220nm,15.0s
WUAZ Wupatki 60.60 69 *eP* P 11 10 46.7 +3.4
comp=Z,6.9nm,1.0s
GLA Glamis 60.62 74 *eP* P 11 10 47.5 +4.1
comp=Z,15nm,1.1s
GLA Glamis 60.62 74 P P 11 10 47.5 +4.2
GLA pmax pmax
comp=Z,14nm,1.2s
NB200 NORSAR Array S 61.10 343 *eP* **P** **11 10 46.1 -0.2**
NOA NORSAR Array B 61.10 343 P **P** **11 10 46.1 -0.2**
comp=Z,1.9nm,0.8s,baz=20,slow=6.8,SNR=6.0
SIJI Sorong 61.17 214 P **P** **11 10 46.2 -1.0**
comp=Z,4.4nm,0.7s,baz=24,slow=10.0,SNR=6.0
S22A 4UR Ranch, Cre 61.27 65 *eP* P 11 10 52.5 +4.4
comp=Z,3.9nm,0.9s
X16A Lo Mia Camp, P 61.40 70 *eP* **P** **11 10 51.0 +2.2**
comp=Z,4.1nm,1.0s
113A Mohawk Valley, 61.41 73 *eP* **P** **11 10 47.6 -1.0**
comp=Z,3.5nm,0.9s
NIL Nilore 61.44 288 *eP* **P** **11 10 49.2 +0.3**
comp=Z,12nm,0.8s
NIL Nilore 61.44 288 *eP* **P**
NIL pmax pmax **11 10 49.2 +0.3**
comp=Z,12nm,0.8s
ECSD EROS Data Cent 61.61 53 *eP* **P** **11 10 49.5 -0.4**
comp=Z,3.4nm,1.0s
LPSR Galich'ya Gora 61.78 324 *eP* **P** **11 10 51.7 +0.8**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
SDCO Great Sand Dun 61.95 64 *eP* **P** **11 10 54.2 +1.6**
comp=Z,2.2nm,1.1s
VRH Novokhopyorsk 61.99 321 *eP* **P** **11 10 52.5 +0.2**
VRH pmax pmax
comp=Z,10.0nm,0.5s
X18A Snowflake 62.10 69 *eP* **P** **11 10 52.5 -1.1**
comp=Z,8.4nm,0.9s
VSR Storozhevoye 62.87 323 *eP* **P** **11 10 58.4 +0.3**
VSR pmax pmax
comp=Z,8.0nm,1.1s
T25A Trinidad 62.97 63 *eP* **P** **11 11 02.4 +3.1**
comp=Z,5.0nm,1.0s
KBL Kabul 62.99 292 *eP* **P** **11 10 58.2 -1.3**
comp=Z,13nm,0.9s
KBL Kabul 62.99 292 *eP* **P**
KBL pmax pmax **11 10 58.2 -1.3**
comp=Z,13nm,0.9s
SCHQ Schefferville 63.27 28 LR LR 11 41 31.0
comp=Z,87nm,19.8s,baz=308,slow=39
TUC Tucson 63.37 71 *eP* **P** **11 11 02.5 +0.6**
comp=Z,1.3nm,0.8s
TUC Tucson 63.37 71 *eP* **P**
TUC pmax pmax **11 11 02.5 +0.6**
comp=Z,1.0nm,0.8s
ANMO Albuquerque 63.61 66 *eP* **P** **11 11 05.0 +1.4**
comp=Z,3.8nm,1.1s
ANMO Albuquerque 63.61 66 *eP* **P**
ANMO pmax pmax **11 11 05.0 +1.4**
comp=Z,4.0nm,1.1s
LAZ Ladron 63.68 67 *eP* **P** **11 11 05.1 +1.0**
LENM Lemitar 63.95 67 *eP* **P** **11 11 03.1 -2.7**
CBKS Cedar Bluff 63.98 59 *eP* **P** **11 11 06.3 +0.5**
comp=Z,6.3nm,0.6s
CBKS *e*PcP **PcP** **11 11 47.1 +5.9**
CBKS Cedar Bluff 63.98 59 *eP* **P** **11 11 06.3 +0.5**
CBKS *e* 11 11 47.1
CBKS pmax pmax
comp=Z,6.0nm,0.6s
BNM Barren Site 64.14 67 *eP* **P** **11 11 08.9 +1.7**
HNR Honiara 64.88 180 LR LR 11 33 39.5
comp=Z,411nm,20.2s,baz=136,slow=31

319A	**Douglas**	**64.89**	**71**	*eP*	P	**P**	11 11 16.9	+4.9
	comp=Z,7.1nm,0.9s							
SBUM	**Sibu**	**65.65**	**235**	*eP*	**P**	**P**	**11 11 17.2**	**+0.4**
	comp=Z,10.0nm,0.9s							
PMG	**Port Moresby**	**65.78**	**194**	P	**P**	**P**	**11 11 15.6**	**-2.0**
	comp=Z,11nm,0.8s,baz=308,slow=15,SNR=4.0							
AKASG	**Malin Array Be**	**66.49**	**329**	P	**P**	**P**	**11 11 21.9**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=28,slow=6.8,SNR=4.2							
AKBB	**Malin Array Si**	**66.49**	**329**	*eP*	**P**	**P**	**11 11 21.9**	**+0.1**
AKBB	**Malin Array Si**	**66.49**	**329**	*eP*	**P**	**P**	**11 11 21.9**	**+0.1**
KIEV	**Kiev**	**66.50**	**329**	⇓*eP*	**P**	**P**	**11 11 23.1**	**+1.3**
KIEV				pmax	pmax			
	comp=Z,12nm,3.0s							
MNTX	**Cornudas Mount**	**66.71**	**68**	*eP*	**P**	**P**	**11 11 24.8**	**+1.2**
	comp=Z,5.9nm,0.9s							
WMOK	**Wichita Mounta**	**67.67**	**61**	*eP*	**P**	**P**	**11 11 30.3**	**+0.6**
	comp=Z,9.7nm,1.1s							
KIV	**Kislovodsk**	**67.67**	**316**	*eP*	**P**	**P**	**11 11 31.0**	**+1.4**
KIV				pmax	pmax			
	comp=Z,13nm,1.1s							
KIV				MLR	MLR			
	comp=Z,312nm,17.0s							
KBZ	**Khabaz**	**67.78**	**316**	P	**P**	**P**	**11 11 30.2**	**+0.1**
	comp=Z,11nm,0.9s,baz=20,slow=5.2,SNR=12							
KBZ				LR	LR		11 44 50.7	
	comp=Z,338nm,19.8s,baz=16,slow=39							
ZEI	**Tsey**	**68.17**	**315**	*eP*	**P**	**P**	**11 11 31.4**	**-1.5**
ZEI				pmax	pmax			
	comp=Z,6.0nm,0.6s							
NEY	**Neytrino**	**68.25**	**316**	⇑*eP*	**P**	**P**	**11 11 33.8**	**+0.4**
NEY				pmax	pmax			
	comp=Z,2.0nm,1.1s							
HHAR	**Hobbs**	**68.78**	**57**	*eP*	**P**	**P**	**11 11 36.3**	**-0.2**
	comp=Z,8.4nm,0.8s							
FVM	**French Village**	**69.02**	**53**	*eP*	**P**	**P**	**11 11 41.0**	**+3.0**
	comp=Z,11nm,1.0s							
TX31	**Lajitas Ar. Si**	**69.48**	**68**	*eP*	**P**	**P**	**11 11 40.1**	**-0.9**
LTX	**Lajitas**	**69.48**	**68**	*eP*	**P**	**P**	**11 11 40.9**	**-0.2**
LTX	**Lajitas**	**69.48**	**68**	*eP*	**P**	**P**	**11 11 40.9**	**-0.2**
TXAR	**Lajitas Array**	**69.48**	**68**	*eP*	**P**	**P**	**11 11 40.9**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=299,slow=4.1,SNR=34							
T42A	**Van Buren**	**69.49**	**54**	*eP*	**P**	**P**	**11 11 43.1**	**+2.2**
	comp=Z,4.9nm,1.1s							
PBMO	**Poplar Bluff**	**70.00**	**54**	*eP*	**P**	**P**	**11 11 46.7**	**+2.6**
	comp=Z,8.1nm,0.9s							
HPIG		**70.33**	**71**	*eP*	**P**	**P**	**11 11 46.2**	**-0.3**
	comp=Z,3.0nm,1.0s							
MIAR	**Mount Ida**	**70.36**	**57**	*eP*	**P**	**P**	**11 11 49.0**	**+2.8**
	comp=Z,12nm,1.1s							
WHAR	**Wooly Hollow**	**70.36**	**56**	*eP*	**P**	**P**	**11 11 48.8**	**+2.5**
	comp=Z,7.7nm,1.0s							
ACSO	**Alum Creek Sta**	**70.37**	**47**	*eP*	**P**	**P**	**11 11 48.3**	**+2.0**
	comp=Z,17nm,1.1s							
BUR04	**Bucovina Ar. S**	**70.42**	**330**	*eP*	**P**	**P**	**11 11 46.4**	**-0.2**
W41B	**Gary Mavity, V**	**70.47**	**56**	*eP*	**P**	**P**	**11 11 47.5**	**+0.5**
	comp=Z,12nm,1.0s							
JCT	**Junction City**	**70.57**	**64**	*eP*	**P**	**P**	**11 11 48.2**	**+0.6**
	comp=Z,6.6nm,0.9s							
JCT	**Junction City**	**70.57**	**64**	*eP*	**P**	**P**	**11 11 48.3**	**+0.6**
JCT				pmax	pmax			
	comp=Z,7.0nm,0.9s							
X40A	**Basin Creek Fa**	**70.76**	**57**	*eP*	**P**	**P**	**11 11 49.5**	**+0.8**
	comp=Z,4.9nm,1.0s							
COEN	**Coen**	**70.87**	**198**	*eP*	**P**	**P**	**11 11 49.2**	**-0.2**
	comp=Z,12nm,0.9s							
MEM	**Membach**	**71.95**	**343**	⇑P	**P**	**P**	**11 11 56.9**	**+1.2**
GERES	**GERESS Array B**	**72.18**	**338**	P	**P**	**P**	**11 11 56.3**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=49,slow=4.1,SNR=5.8							
GEA0	**GERESS Array S**	**72.19**	**338**	*eP*	**P**	**P**	**11 11 58.3**	**+1.1**
MTN	**Manton Dam**	**72.55**	**210**	*eP*	**P**	**P**	**11 11 58.9**	**-0.6**
	comp=Z,12nm,0.8s							
PLAL	**Pickwick Lake**	**72.56**	**53**	*eP*	**P**	**P**	**11 11 59.6**	**0.0**
	comp=Z,7.1nm,1.1s							
HKT	**Hockley**	**73.00**	**62**	⇑*eP*	**P**	**P**	**11 12 04.8**	**+2.7**
HKT				pmax	pmax			
	comp=Z,48nm,1.6s							
BR101	**Keskin Array S**	**74.74**	**320**	*eP*	**P**	**P**	**11 12 11.7**	**-0.8**
BRTR	**Keskin Array B**	**74.74**	**320**	P	**P**	**P**	**11 12 11.7**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=48,slow=2.1,SNR=3.5							
DAVOX	**Davos/Dischmat**	**74.94**	**339**	LR	LR		11 50 04.0	
	comp=Z,94nm,18.3s,baz=80,slow=40							
Z50A	**Ashland**	**74.98**	**53**	*eP*	**P**	**P**	**11 12 16.2**	**+2.4**
	comp=Z,8.3nm,0.9s							
CTA	**Charters Tower**	**76.42**	**194**	P	**P**	**P**	**11 12 21.5**	**-0.5**
	comp=Z,9.2nm,0.9s,baz=15,slow=5.5,SNR=5.5							
CTAO	**Charters Tower**	**76.42**	**194**	*eP*	**P**	**P**	**11 12 22.3**	**+0.3**
CTAO				pmax	pmax			
	comp=Z,12nm,0.9s							
WRAB	**Tennant Creek**	**78.50**	**205**	*eP*	**P**	**P**	**11 12 33.1**	**-0.5**
	comp=Z,14nm,1.1s							
WRAB	**Tennant Creek**	**78.50**	**205**	⇑*iP*	**P**	**P**	**11 12 33.1**	**-0.5**
WRAB				pmax	pmax			
	comp=Z,15nm,1.1s							
WB2	**Warramunga Arr**	**78.51**	**205**	*eP*	**P**	**P**	**11 12 33.0**	**-0.7**
WR1	**Warramunga Arr**	**78.51**	**205**	*eP*	**P**	**P**	**11 12 32.7**	**-1.0**
	comp=Z,14nm,1.0s							
WRA	**Warramunga Arr**	**78.51**	**205**	P	**P**	**P**	**11 12 32.7**	**-1.0**
	comp=Z,1.1nm,1.0s,baz=20,slow=5.8,SNR=34							
WRA	**Warramunga Arr**	**78.51**	**205**	*i* P	**P**	**P**	**11 12 33.0**	**-0.7**
WRA				pmax	pmax			
	comp=Z,8.0nm,1.0s							
WC3	**Warramunga Arr**	**78.52**	**205**	*eP*	**P**	**P**	**11 12 30.6**	**-3.1**
	comp=Z,4.4nm,0.9s							
FITZ	**Fitzroy Crossi**	**79.16**	**214**	P	**P**	**P**	**11 12 36.3**	**-0.9**
	comp=Z,5.0nm,1.1s,baz=358,slow=6.0,SNR=4.8							
FITZ	**Fitzroy Crossi**	**79.16**	**214**	*eP*	**P**	**P**	**11 12 36.6**	**-0.6**
	comp=Z,6.5nm,1.1s							
AS01	**Alice Springs**	**82.18**	**204**	*eP*	**P**	**P**	**11 12 52.9**	**-0.5**
AS31	**Alice Springs**	**82.19**	**204**	*eP*	**P**	**P**	**11 12 54.0**	**+0.6**
	comp=Z,2.6nm,0.9s							
ASAR	**Alice Springs**	**82.20**	**204**	P	**P**	**P**	**11 12 52.9**	**-0.6**
	comp=Z,7.9nm,0.9s,baz=13,slow=5.2,SNR=42							
ASAR				LR	LR		11 50 05.4	
	comp=Z,304nm,19.9s,baz=102,slow=36							
RAYN	**Ar Rayn**	**83.78**	**303**	*eP*	**P**	**P**	**11 13 01.5**	**-0.5**
	comp=Z,4.7nm,0.9s							
RAYN	**Ar Rayn**	**83.78**	**303**	*eP*	**P**	**P**	**11 13 01.5**	**-0.5**
RAYN				pmax	pmax			
	comp=Z,5.0nm,0.9s							
ES19	**SONSECA Array**	**84.05**	**348**	*eP*	**P**	**P**	**11 13 04.2**	**+1.1**
ESDC	**Sonseca Array**	**84.08**	**348**	P	**P**	**P**	**11 13 04.6**	**+1.3**
	comp=Z,2.9nm,0.9s,baz=355,slow=4.7,SNR=8.2							
PLCA	**Paso Flores**	**143.79**	**87**	PKP		**PKPdf**	**11 20 05.2**	**-2.0**
	comp=Z,2.9nm,0.8s,baz=58,slow=4.9,SNR=6.3							
QSPA	**South Pole Qui**	**145.43**	**180**	PKPbc		**PKPab**	**11 20 07.8**	**-1.7**
	comp=Z,29nm,1.1s,baz=3.5,slow=1.4,SNR=29							

MEX 30 11:10:52.8±1.2, 14°52N×93°23W, h69km±108km, MD3.9,
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
THIG		**1.01**	**67**	*i* P		Pn	11 11 09.7	-1.6
THIG				*i* S		Sn	11 11 23.3	-1.8
PCIG		**1.18**	**0**	*i* P		Pn	11 11 12.5	-1.0
PCIG				*i* S		Sn	11 11 26.6	-2.3
TGIG		**2.25**	**3**	*i* P		Pn	11 11 26.7	-1.2
TGIG				*i* S		Sn	11 11 53.4	-1.2

*MOS **30** 11:20:35.9±1.0, 18°.73S×175°.59W, h184km, mb5.2/40, Error ellipse: s-maj=7.9km s-min=6.0km az=55.2*
*ISCJB **30** 11:20:36.5±0.6, 18°.81S±0°.02×175°.60W±0°.02, h192km±5km, mb5.1/335, Error ellipse: s-maj=3.9km s-min=2.3km az=39.0*
*BJI **30** 11:20:36.9, 18°.31S×175°.56W, h182km, mb5.4/60, mB5.5/42*
*NEIC **30** 11:20:38.4±0.5, 18°.82S×175°.60W, h200km±5km, mb5.1/282, MW5.7, Error ellipse: s-maj=3.8km s-min=2.4km az=141.0, Moment Tensor Solution. s38 Moment tensor: Scale 10^17 Nm; Mrr=2.82; Mθθ=1.11; Mφφ=1.71; Mrθ=1.60; Mrφ=1.29; Mθφ=-1.98; Best double couple: M☐3.80000×10^17 NP1:☐φ=39.00000°, ☐δ=66.00000°, ☐λ=-90.00000°. NP2:☐φ=218.00000°, ☐δ=24.00000°, ☐λ=-91.00000°. Principal axes: T 3.7300, Plg21.0000°, Azm129.0000°; N 0.0800, Plg0.0000°, Azm219.0000°; P -3.8100, Plg69.0000°, Azm309.0000°;*
NEIC Felt at Neiafu.
*IDC **30** 11:20:40.8±0.5, 18°.93S×175°.54W, h225km±4km, mb5.1/39, mb1 5.1/41, mb1mx5.1/42, mbtmp5.6/41 Error ellipse: s-maj=8.1km s-min=6.7km az=143.0*
*GCMT **30** 11:20:44.4±0.1, 18°.87S±0°.01×175°.15W±0°.01, h233km, MW5.6/132, Moment Tensor Solution. s122,c217; s132,c317; Duration: 1☒6 Moment tensor: Scale 10^17 Nm; Mrr=1.32±.03; Mθθ 1.14±.04; Mφφ 0.17±.04; Mrθ=1.44±.03; Mrφ 1.18±.04; Mθr=2.74±.03; Best double couple: M☐3.53400×10^17 NP1:☐φ=30.00000°, ☐δ=78.00000°, ☐λ=-106.00000°. NP2:☐φ=265.00000°, ☐δ=20.00000°, ☐λ=-37.00000°. Principal axes: T 3.6120, Plg31.0000°, Azm134.0000°; N -0.1560, Plg16.0000°, Azm34.0000°; P -3.4570, Plg54.0000°, Azm280.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*WEL **30** 11:20:46.7±1.3, 20°S±14°×17°5W±5°2, h232km±9km*
ISC 30 11:20:38.4±0.4, 18°.96S±0°.04×175°.51W±0°.04, h203km±3km, h203km: pP-P, n1064, σ1☒39/1141, mb5.1/334, 70C-41D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NIUE	**Niue**	**5.28**	**92**	*e*Pn		**Pn**	**11 21 55.7**	**-0.9**
NIUE				*e*S		**S**	**11 22 54.8**	**-3.0**
AFI	**Afiamalu**	**6.17**	**36**	P		Pn	11 22 03.5	-4.6
	75nm,0.3s,baz=210,slow=3.7,SNR=117							
AFI				S		S	11 23 06.7	-12
	501nm,0.3s,baz=53,slow=22,SNR=19							
AFI	**Afiamalu**	**6.17**	**36**	*e*P		**Pn**	**11 22 03.7**	**-4.4**
AFI				*e*			11 23 06.8	
RIZ	**Raoul Island**	**10.47**	**192**	P		**Pn**	**11 23 04.1**	**+0.4**
RIZ				S		**S**	**11 24 58.3**	**-2.6**
RAO	**Raoul Island**	**10.48**	**192**	P		**Pn**	**11 23 06.8**	**+3.1**
	baz=90,slow=20							
RAO				S		**S**	**11 24 57.1**	**-4.0**
	baz=75,slow=20							
RAO	**Raoul Island**	**10.48**	**192**	*e*Pn		**Pn**	**11 23 06.0**	**+2.2**
RAO				*e*S		S	11 24 50.9	-10
RAO				*e*Sn		**S**	**11 25 02.7**	**+1.6**
GLKZ	**Green Lake**	**10.49**	**192**	P		**Pn**	**11 23 06.1**	**+2.2**
GLKZ				S		**S**	**11 24 58.3**	**-3.0**
FUNA	**Funafuti**	**11.58**	**333**	*e*Pn		**Pn**	**11 23 17.9**	**0.0**
RAR	**Rarotonga**	**14.95**	**101**	P		**Pn**	**11 23 59.9**	**-0.2**
	2.7nm,0.3s,baz=258,slow=6.9,SNR=20							
RAR				S		**S**	**11 26 45.1**	**-0.9**
	0.6nm,0.3s,baz=99,slow=19,SNR=2.9							
RAR	**Rarotonga**	**14.95**	**101**	*e*Pn		**Pn**	**11 23 59.6**	**-0.5**
	458nm,1.3s							
RAR				*e*S		**S**	**11 26 44.6**	**-1.4**
KNTN	**Kanton**	**16.51**	**13**	*e*P		**P**	**11 24 17.6**	**-0.3**
	103nm,1.0s							
DZM	**Mont Dzumac**	**17.18**	**257**	P		**Pn**	**11 24 28.7**	**+1.7**
	5.2nm,0.3s,baz=82,slow=16,SNR=82							
DZM	**Mont Dzumac**	**17.18**	**257**	*e*P		**Pn**	**11 24 28.6**	**+1.7**
	955nm,1.1s							
DZM	**Mont Dzumac**	**17.18**	**257**	*e*P		**Pn**	**11 24 27.6**	**+0.6**
	355nm,0.9s							
NFK	**Norfolk Island**	**18.13**	**233**	P		**Pn**	**11 24 40.2**	**+2.4**
	baz=18,SNR=4.6							
OUZ	**Omahuta**	**18.85**	**209**	*e*P		**Pn**	**11 24 46.2**	**-0.1**
	139nm,1.3s							
OUZ	**Omahuta**	**18.85**	**209**	P		**Pn**	**11 24 46.2**	**-0.1**
GRZ	**Great Barrier**	**18.97**	**203**	P		**Pn**	**11 24 49.1**	**+1.4**
WCZ	**Waipu Caves**	**19.14**	**206**	P		**Pn**	**11 24 49.4**	**-0.2**
MXZ	**Matakaoa Point**	**19.30**	**195**	*e*P		**Pn**	**11 24 50.0**	**-1.6**
	130nm,0.4s							
MXZ	**Matakaoa Point**	**19.30**	**195**	P		**Pn**	**11 24 50.3**	**-1.3**
MXZ				S		**S**	**11 28 10.9**	**-4.7**
KUZ	**Kuaotunu**	**19.32**	**202**	P		**Pn**	**11 24 51.7**	**-0.1**
WMGZ	**Waiomatatini S**	**19.52**	**195**	P		**Pn**	**11 24 52.7**	**-1.5**
WMGZ				S		**S**	**11 28 17.2**	**-2.6**
HAZ	**Te Kaha**	**19.62**	**196**	P		**P**	**11 24 52.6**	**+1.1**
HAZ				S		**S**	**11 28 20.4**	**-1.4**
PKGZ	**Pakihiroa**	**19.67**	**195**	P		**P**	**11 24 53.7**	**+1.6**
PKGZ				S		**S**	**11 28 18.4**	**-4.5**
PUZ	**Puketiti**	**19.80**	**195**	P		**P**	**11 24 55.4**	**+1.9**
PUZ				S		**S**	**11 28 21.3**	**-4.1**
MWZ	**Matawai**	**20.23**	**196**	P		**P**	**11 24 58.5**	**+0.4**
MWZ				S		**S**	**11 28 31.6**	**-2.2**
URZ	**Urewera**	**20.27**	**197**	P		**P**	**11 24 59.1**	**+0.6**
	284nm,0.5s,baz=17,slow=3.3,SNR=148							
URZ				S		**S**	**11 28 30.3**	**-4.2**
	20nm,0.5s,baz=53,slow=20,SNR=4.6							
URZ	**Urewera**	**20.27**	**197**	*e*P		**P**	**11 24 59.4**	**+0.9**
URZ				*e*S		**S**	**11 28 35.0**	**+0.5**
UTU	**Utuhina**	**20.46**	**199**	P		Pn	11 25 05.2	-0.6
TOZ	**Tahuroa Road**	**20.28**	**201**	P		Pn	11 25 02.0	-1.5
RTZ	**Ruatahuna**	**20.64**	**197**	P		**P**	**11 25 02.7**	**+0.2**
WPRZ	**Whakapapatarin**	**20.79**	**199**	P		**P**	**11 25 06.6**	**+2.6**
TLZ	**Tolley Road**	**20.81**	**200**	P		Pn	11 25 07.1	-3.1
KNZ	**Kokohu**	**20.84**	**195**	P		**P**	**11 25 07.0**	**+2.5**
WATZ	**Wairara**	**21.09**	**199**	P		**P**	**11 25 09.2**	**+2.0**
HIZ	**Hauiti**	**21.21**	**201**	*e*P		**P**	**11 25 10.1**	**+1.8**
	175nm,1.0s							
HIZ	**Hauiti**	**21.21**	**201**	P		**P**	**11 25 11.4**	**+3.1**
RATZ	**Rangitukua**	**21.23**	**199**	P		**P**	**11 25 10.2**	**+1.6**
BKZ	**Black Stump Fm**	**21.29**	**197**	*e*P		**P**	**11 25 05.7**	**-3.6**
	69nm,0.7s							
BKZ	**Black Stump Fm**	**21.29**	**197**	P		**P**	**11 25 08.2**	**-1.1**
KATZ	**Kakaramea**	**21.35**	**199**	P		**P**	**11 25 12.3**	**+2.3**
KRVZ	**Karewarewa**	**21.48**	**199**	P		**P**	**11 25 12.6**	**+1.3**
WTVZ	**West Tongariro**	**21.51**	**199**	P		**P**	**11 25 13.9**	**+2.2**
TWVZ	**Taurewa**	**21.52**	**200**	P		**P**	**11 25 12.7**	**+1.0**
NGZ	**Ngauruhoe**	**21.57**	**199**	P		**P**	**11 25 13.2**	**+1.0**
COVZ	**Chateau Observ**	**21.61**	**199**	P		**P**	**11 25 14.3**	**+1.8**
TUVZ	**Tukino**	**21.63**	**199**	P		**P**	**11 25 15.0**	**+2.1**
FWVZ	**Far West T-bar**	**21.65**	**199**	P		**P**	**11 25 14.2**	**+1.0**
WHVZ	**Whangaehu Hut**	**21.67**	**199**	P		**P**	**11 25 12.4**	**-1.0**
BHHZ	**Black Hill Sta**	**21.71**	**198**	P		**P**	**11 25 12.9**	**-0.7**
BHHZ				S		**S**	**11 28 57.1**	**-2.7**
MOVZ	**Moawhango**	**21.73**	**199**	P		**P**	**11 25 14.1**	**+0.3**
MOVZ				S		**S**	**11 29 01.1**	**+0.9**
PKVZ	**Pokaka**	**21.75**	**199**	P		**P**	**11 25 15.1**	**+1.1**
KRHZ	**Kereru**	**21.77**	**197**	P		**P**	**11 25 14.5**	**+0.3**
VRZ	**Vera Road**	**21.79**	**201**	P		**P**	**11 25 16.1**	**+1.8**
PXZ	**Pawanui**	**22.00**	**196**	P		**P**	**11 25 16.4**	**+0.1**
PXZ				S		**S**	**11 29 03.5**	**-0.8**
PNHZ	**Pukenui**	**22.07**	**197**	P		**P**	**11 25 16.1**	**-0.9**
PNHZ				S		**S**	**11 29 05.4**	**0.0**
PKE	**Pukeiti**	**22.12**	**202**	P		**P**	**11 25 22.3**	**+4.8**
WPHZ	**Waipukurau**	**22.14**	**197**	P		**P**	**11 25 20.5**	**+2.8**
PREZ	**Palmer Road**	**22.19**	**202**	P		**P**	**11 25 23.6**	**+5.4**
KHEZ	**Kahui Hut**	**22.20**	**202**	P		**P**	**11 25 21.7**	**+3.4**
LREZ	**Lake Rotokare**	**22.21**	**201**	P		**P**	**11 25 21.1**	**+2.8**
NBEZ	**Newall Road No**	**22.23**	**202**	P		**P**	**11 25 21.9**	**+3.4**
PRHZ	**Porangahau**	**22.28**	**196**	P		**P**	**11 25 21.9**	**+3.0**
WAZ	**Wanganui**	**22.29**	**200**	P		**P**	**11 25 20.3**	**+1.3**
NMEZ	**Namu Road**	**22.35**	**202**	P		**P**	**11 25 24.5**	**+4.9**
DVHZ	**Dannevirke**	**22.44**	**197**	P		**P**	**11 25 21.5**	**+1.1**
POWZ	**Post Office Ro**	**22.64**	**198**	P		**P**	**11 25 22.8**	**+0.6**
PRWZ	**Pori Road**	**22.73**	**197**	P		**P**	**11 25 25.2**	**+2.1**
BFZ	**Birch Farm**	**22.77**	**196**	*e*P		**P**	**11 25 25.5**	**+2.1**
	195nm,0.6s							
BFZ				*e*S		**S**	**11 29 16.8**	**+0.1**
BFZ	**Birch Farm**	**22.77**	**196**	P		**P**	**11 25 24.7**	**+1.3**
MRZ	**Mangatainoka R**	**22.94**	**198**	P		**P**	**11 25 24.8**	**-0.1**
TIWZ	**Tintock**	**22.96**	**197**	P		**P**	**11 25 27.7**	**+2.5**
CPWZ	**Castlepoint**	**23.00**	**196**	P		**P**	**11 25 29.3**	**+3.9**
TARA	**Tarawa**	**23.17**	**329**	*e*P		**P**	**11 25 26.3**	**-0.9**
	246nm,1.0s							
HOWZ	**Holdsworth Sta**	**23.18**	**197**	P		**P**	**11 25 28.3**	**+1.2**
OGWZ	**Otaki Gorge**	**23.20**	**198**	P		**P**	**11 25 27.6**	**+0.4**
TMWZ	**Te Maipa**	**23.27**	**197**	P		**P**	**11 25 30.0**	**+2.2**
KIW	**Kapiti Island**	**23.32**	**199**	P		**P**	**11 25 29.4**	**+1.1**
MTW	**Mount Morrison**	**23.42**	**197**	P		**P**	**11 25 30.5**	**+1.2**
CAW	**Cannon Point**	**23.50**	**198**	P		**P**	**11 25 30.5**	**+0.5**
DUWZ	**D'Urville Isla**	**23.58**	**200**	P		**P**	**11 25 31.0**	**+0.3**
TRWZ	**Traveller**	**23.59**	**197**	P		**P**	**11 25 33.5**	**+2.6**
PAWZ	**Paruwai Farm**	**23.65**	**197**	P		**P**	**11 25 32.9**	**+1.5**
MSWZ	**Moikau Station**	**23.73**	**197**	P		**P**	**11 25 33.6**	**+1.5**
SNZO	**South Karori**	**23.79**	**199**	*e*P		**P**	**11 25 33.2**	**+0.6**
	117nm,0.7s							
TCW	**Tory Channel**	**23.83**	**199**	P		**P**	**11 25 34.0**	**+1.0**
TUWZ	**Tuamarina**	**24.14**	**200**	P		**P**	**11 25 36.7**	**+0.9**
PAE	**Paea**	**24.65**	**91**	*e*P		**P**	**11 25 40.6**	**0.0**
	12nm,0.7s							
PAE	**Paea**	**24.65**	**91**	*e*T		T	11 50 05.3	
	9.2nm,0.3s							
PPT2	**Papeete2**	**24.66**	**91**	*e*P		**P**	**11 25 41.2**	**+0.3**
	64nm,0.8s							
PPT2	**Papeete2**	**24.66**	**91**	*e*T		T	11 50 06.1	
	6.5nm,0.3s							
PPT	**Papeete**	**24.66**	**91**	P		**P**	**11 25 40.6**	**-0.2**
	80nm,0.7s,baz=80,slow=3.4,SNR=12							
PPT	**Papeete**	**24.66**	**91**	*e*P		**P**	**11 25 40.9**	**+0.1**
PPT	**Papeete**	**24.66**	**91**	*e*P		**P**	**11 25 40.9**	**+0.1**
TBI	**Tubuai**	**24.67**	**105**	*e*P		**P**	**11 25 41.4**	**+0.6**
	187nm,1.0s							
TBI	**Tubuai**	**24.67**	**105**	*e*T		T	11 50 17.4	
	18nm,0.2s							
PPTF	**Pamatai, Papee**	**24.67**	**91**	*e*P		**P**	**11 25 40.4**	**-0.5**
	92nm,0.8s							
THZ	**Tophouse**	**24.78**	**201**	*e*P		**P**	**11 25 43.3**	**+1.6**
	74nm,0.7s							
THZ				*e*S		**S**	**11 29 48.5**	**-0.4**
TIAR	**Tiarei**	**24.88**	**91**	*e*P		**P**	**11 25 43.0**	**+0.2**
	30nm,0.9s							
TIAR	**Tiarei**	**24.88**	**91**	*e*T		T	11 50 00.7	
	2.0nm,0.3s							
TVO	**Taravao**	**24.94**	**92**	*e*P		**P**	**11 25 43.9**	**+0.5**
	16nm,0.8s							
KHZ	**Kahutara**	**25.16**	**199**	*e*P		**P**	**11 25 46.4**	**+1.4**
	75nm,0.7s							
KHZ				*e*S		**S**	**11 29 54.6**	**0.0**
HNR	**Honiara**	**25.58**	**288**	P		**P**	**11 25 48.8**	**-0.3**
	181nm,0.7s,baz=208,slow=3.2,SNR=16							
HNR	**Honiara**	**25.58**	**288**	*e*P		**P**	**11 25 50.0**	**+0.8**
HNR	**Honiara**	**25.58**	**288**	*e*P		**P**	**11 25 48.5**	**-0.6**
	310nm,0.9s							
HNR	**Honiara**	**25.58**	**288**	*e*P		**P**	**11 25 49.9**	**+0.8**
LTZ	**Lake Taylor**	**25.90**	**201**	*e*P		**P**	**11 25 52.1**	**+0.4**
	154nm,0.4s							
LHI	**Lord Howe Isla**	**26.11**	**236**	*e*P		**P**	**11 25 54.3**	**+0.6**
	156nm,1.3s							
OXZ	**Oxford**	**26.46**	**201**	*e*P		**P**	**11 25 57.2**	**+0.4**
	131nm,0.7s							
OXZ				*e*S		**S**	**11 30 14.4**	**-0.9**
CRLZ	**Canterbury Las**	**26.49**	**200**	*e*P		**P**	**11 25 58.8**	**+1.9**
	53nm,0.8s							
MQZ	**McQueen's Vall**	**26.60**	**199**	*e*P		**P**	**11 25 59.7**	**+1.8**
	42nm,0.8s							
PMOR	**Pomariorio Ree**	**26.69**	**86**	*e*T		T	11 52 26.7	
	3.4nm,0.3s							
VAH	**Vaihoa**	**26.89**	**86**	*e*P		**P**	**11 26 01.7**	**+0.8**
	53nm,1.0s							
RPZ	**Rata Peaks**	**27.14**	**202**	P		**P**	**11 26 03.6**	**+0.8**
	34nm,0.6s,baz=238,slow=2.5,SNR=15							
RPZ				S		**S**	**11 30 24.5**	**-1.5**
	13nm,0.8s,baz=342,slow=20,SNR=3.1							
XMAS	**Kiritimati**	**27.41**	**42**	*e*P		**P**	**11 26 04.7**	**-0.8**
	109nm,0.9s							
FOZ	**Fox Glacier**	**27.43**	**204**	*e*P		**P**	**11 26 05.4**	**+0.1**
	62nm,0.8s							
LBZ	**Lake Benmore**	**28.03**	**202**	*e*P		**P**	**11 26 11.2**	**+0.5**
	41nm,1.1s							
ODZ	**Otahua Downs**	**28.45**	**201**	*e*P		**P**	**11 26 16.1**	**+1.8**
	21nm,0.8s							
WKZ	**Wanaka**	**28.84**	**203**	*e*P		**P**	**11 26 18.0**	**+0.2**
	37nm,0.6s							
MLZ	**Mavora Lakes**	**29.63**	**204**	*e*P		**P**	**11 26 26.6**	**+1.7**
	68nm,0.8s							
DCZ	**Deep Cove**	**30.09**	**205**	*e*P		**P**	**11 26 30.8**	**+2.0**
	55nm,1.1s							
WHZ	**Wether Hill Ro**	**30.14**	**203**	*e*P		**P**	**11 26 30.7**	**+1.4**
	79nm,0.8s							

comp=Z,200nm,0.5s
WRAB Tennant Creek 47.15 260*d iP* **P 11 28 49.7 -1.1**
WRAB pmax pmax
comp=Z,116nm,0.5s
WR1 Warramunga Arr 47.15 260 *eP* **P 11 28 50.3 -0.6**
comp=Z,302nm,0.5s
WR1 *e*PcP **PcP 11 30 19.5 +0.3**
WR1 *e*S **S 11 35 22.0 -6.0**
WRA Warramunga Arr 47.16 260 P **P 11 28 50.3 -0.6**
comp=Z,109nm,0.4s,baz=97,slow=8.4,SNR=311
WRA PcP **PcP 11 30 19.5 +0.3**
comp=Z,8.5nm,0.5s,baz=87,slow=4.4,SNR=4.7
WRA S **S 11 35 22.0 -6.1**
comp=Z,9.6nm,1.0s,baz=94,slow=12,SNR=9.5
WRA Warramunga Arr 47.16 260 P **P 11 28 50.3 -0.6**
WRA 11 30 19.5
WRA S **S 11 35 22.0 -6.1**
WRA pmax pmax
comp=Z,145nm,0.5s
WRA smax smax
comp=N,10.0nm,1.0s
AS31 Alice Springs 47.16 255 *eP* **P 11 28 50.5 -0.5**
comp=N,88nm,0.6s
ASAR Alice Springs 47.17 255 P **P 11 28 50.0 -0.9**
comp=N,258nm,0.6s,baz=88,slow=8.5,SNR=532
ASAR PcP **PcP 11 30 18.9 -0.3**
comp=N,20nm,0.7s,baz=109,slow=4.9,SNR=5.0
ASAR S **S 11 35 24.4 -3.8**
comp=N,13nm,1.0s,baz=92,slow=15,SNR=13
ASAR Alice Springs 47.17 255 P **P 11 28 50.1 -0.9**
ASAR 11 30 18.9
ASAR S **S 11 35 24.4 -3.8**
ASAR pmax pmax
comp=Z,247nm,0.6s
ASAR smax smax
comp=N,13nm,1.0s
KDU Kakadu 50.29 269 P **P 11 29 13.7 -1.1**
baz=50,SNR=81
GUMO Guam 50.70 307 P **P 11 29 17.2 -0.5**
comp=N,112nm,0.6s,baz=195,slow=11,SNR=8.3
GUMO Guam 50.70 307 *eP* **P 11 29 17.8 +0.1**
MTN Manton Dam 51.52 268 P **P 11 29 22.8 -1.1**
baz=52,SNR=77
MTN Manton Dam 51.52 268 *eP* **P 11 29 22.6 -1.4**
comp=N,232nm,0.8s
FORT Forrest 52.06 245 P **P 11 29 27.3 -0.4**
baz=52,SNR=15
FORT Forrest 52.06 245 *eP* **P 11 29 26.9 -0.8**
comp=N,231nm,1.0s
WRKA Warakurna 52.15 253 P **P 11 29 27.8 -0.7**
baz=52,SNR=124
SAUI Saumlaki 52.69 274 *eP* **P 11 29 33.7 +1.2**
comp=N,873nm,1.6s
KNRA Kununurra 53.12 264 P **P 11 29 35.1 -0.6**
baz=53,SNR=122
FAKI Fak Fak 53.48 281 *eP* **P 11 29 37.0 -1.4**
comp=N,75nm,1.1s
SIJI Sorong 55.15 283 P **P 11 29 50.4 0.0**
comp=N,396nm,1.0s,baz=76,slow=6.3,SNR=105
FITZ Fitzroy Crossi 55.57 261 P **P 11 29 53.2 -0.1**
comp=N,50nm,0.7s,baz=84,slow=4.3,SNR=129
FITZ S **S 11 37 21.4 -1.8**
comp=N,6.3nm,1.1s,baz=90,slow=20,SNR=3.1
FITZ Fitzroy Crossi 55.57 261 P **P 11 29 52.9 -0.4**
baz=56,SNR=62
FITZ Fitzroy Crossi 55.57 261 *eP* **P 11 29 52.5 -0.8**
comp=N,95nm,1.1s
PALU Palau 55.79 293 P **P 11 29 54.9 0.0**
baz=56,SNR=6.2
SOEI Soe 58.82 270 *eP* **P 11 30 16.1 -0.2**
comp=N,409nm,0.8s
BATI Baumata 59.27 269 P **P 11 30 20.2 +0.9**
comp=N,120nm,0.6s,baz=200,slow=1.2,SNR=31
TNTI Ternate 59.38 283 *eP* **P 11 30 20.0 0.0**
comp=N,253nm,1.1s
SBA Scott Base 59.56 184 *eP* **P 11 30 23.6 +3.4**
comp=N,48nm,0.8s
SBA Scott Base 59.56 184 *eP* **P 11 30 23.6 +3.4**
VNDA Vanda 59.65 186 P **P 11 30 22.4 +1.6**
comp=N,31nm,0.9s,baz=1.0,slow=7.3,SNR=91
VNDA Vanda 59.65 186 *eP* **P 11 30 23.4 +2.6**
comp=N,34nm,0.9s
VNDA Vanda 59.65 186 *eP* **P 11 30 23.4 +2.6**
VNDA pmax pmax
comp=Z,34nm,0.9s
MBWA Marble Bar 60.49 256 *eP* **P 11 30 26.6 -0.8**
comp=Z,109nm,1.1s
MBWA Marble Bar 60.49 256 P **P 11 30 27.1 -0.4**
SNR=6.0
MEEK Meekatharra 60.64 250 P **P 11 30 27.3 -1.1**
baz=61,SNR=12
KLBR Kellerberrin 60.83 244 P **P 11 30 29.4 -0.2**
baz=61,SNR=11
MMRI Maumere 61.06 270 *eP* **P 11 30 30.3 -1.1**
comp=Z,166nm,0.7s
NWAO Narrogin (SRO) 61.15 242 P **P 11 30 31.9 +0.2**
baz=61,SNR=7.4
NWAO Narrogin (SRO) 61.15 242 *eP* **P 11 30 31.9 +0.2**
CBIJ Chichi jima 61.47 317 *eP* **P 11 30 33.9 +0.1**
comp=Z,117nm,1.0s
BLDU Ballidu 61.82 245 P **P 11 30 35.2 -1.0**
baz=62,SNR=27
MUN Mundaring 62.10 243 P **P 11 30 37.8 -0.3**
baz=62,SNR=12
MORW Morawa 62.58 247 P **P 11 30 41.3 -0.1**
baz=63,SNR=8.0
MORW Morawa 62.58 247 *eP* **P 11 30 41.1 -0.2**
comp=Z,77nm,1.1s
LUWI Luwuk 62.99 279 *eP* **P 11 30 44.7 +0.5**
comp=Z,280nm,1.1s
DAV Davao City (W) 63.54 288 P **P 11 30 47.1 -0.7**
comp=Z,85nm,0.3s,baz=29,slow=4.0,SNR=5.9
GIRL Giralia 65.23 253 P **P 11 30 59.9 +1.3**
baz=65,SNR=12
CASY Casey 66.34 205 *eP* **P 11 31 06.0 +1.0**
comp=Z,27nm,0.9s
JHJ Hachijo jima 2 67.12 320 P **P 11 31 10.2 -0.2**
comp=Z,127nm,0.4s,baz=238,slow=19,SNR=4.3
JAGI Jajag, Banyuwa 68.76 268 *eP* **P 11 31 19.8 -1.2**
comp=Z,276nm,1.2s
INU Inuyama 70.31 320 *eP* **P 11 31 29.8 -0.3**
comp=Z,26nm,1.0s
MJAR Matsushiro Arr 70.41 322 P **P 11 31 29.6 -1.1**
comp=Z,34nm,0.8s,baz=164,slow=6.1,SNR=59
MJAR Matsushiro Arr 70.41 322 P **P 11 31 29.6 -1.1**
MJAR pmax pmax
comp=Z,40nm,0.9s
MAJO Matsushiro 70.41 322 *eP* **P 11 31 29.9 -0.8**
comp=Z,55nm,0.8s
MAJO Matsushiro 70.41 322*d iP* **P 11 31 29.5 -1.2**
MAJO pmax pmax
comp=Z,63nm,0.9s
MAT Matsushiro 70.41 322 P **P 11 31 29.7 -1.0**
MAT S **S 11 40 34.4 +7.6**
MJB9 Matsu-Tunnel 70.42 322 *eP* **P 11 31 29.8 -0.9**
comp=Z,57nm,0.9s
ADK Adak 70.55 359 *eP* **P 11 31 30.1 -1.0**
comp=Z,72nm,0.6s
ADK Adak 70.55 359 *eP* **P 11 31 30.1 -1.0**
ADK pmax pmax
comp=Z,72nm,0.6s
JOW Kunigami 71.02 308 P **P 11 31 34.8 +0.3**
comp=Z,97nm,1.0s,baz=119,slow=9.5,SNR=8.4
JOW Kunigami 71.02 308 *eP* **P 11 31 34.5 0.0**
comp=Z,140nm,1.1s
QSPA South Pole Qui 71.10 180 *eP* **P 11 31 36.0 +1.4**
comp=Z,152nm,1.0s
KDM Kudat 71.42 284 P **P 11 31 37.0 -0.2**
KKM Kota Kinabalu 71.66 283 *eP* **P 11 31 38.8 0.0**
comp=Z,54nm,0.8s
KKM Kota Kinabalu 71.66 283 P **P 11 31 38.0 -0.8**
NIKH Nikolski High 71.86 4 *eP* **P 11 31 37.9 -1.1**
comp=Z,77nm,0.6s
UGM Wanagama 72.36 268 *eP* **P 11 31 42.9 +0.1**
comp=Z,120nm,0.7s
JNU Nakatsue 72.81 315 P **P 11 31 44.8 -0.3**
comp=Z,94nm,0.9s,baz=96,slow=4.4,SNR=44
JNU Nakatsue 72.81 315 *eP* **P 11 31 44.5 -0.5**
comp=Z,144nm,1.0s
UNV Unalaska Valle 72.92 6 *eP* **P 11 31 44.2 -1.0**
comp=Z,54nm,0.8s
AKUT Akutan 73.28 6 *eP* **P 11 31 47.4 +0.2**
comp=Z,382nm,1.4s
ASAJ Asahikawa 73.54 330 P **P 11 31 49.8 +0.8**
comp=Z,28nm,0.8s,baz=188,slow=5.2,SNR=14
ASAJ Asahikawa 73.54 330 *eP* **P 11 31 50.7 +1.7**
comp=Z,45nm,1.0s

SBUM Sibu 74.08 278 *eP* **P 11 31 52.9 0.0**
comp=Z,52nm,1.1s
SBUM Sibu 74.08 278 P **P 11 31 52.0 -0.9**
TWG Pinlang 74.56 301 *eP* **P 11 31 53.8 -1.6**
comp=Z,129nm,0.6s
YULB Yu-li 74.65 302 *eP* **P 11 31 55.4 -0.6**
comp=Z,16nm,0.7s
NACB Ninganchiao 74.79 303 *eP* **P 11 31 56.0 -0.7**
comp=Z,73nm,1.0s
CISI Cisompet, Garu 75.02 267 *eP* **P 11 31 56.4 -2.0**
comp=Z,162nm,1.4s
SBC Santa Barbara 75.06 45 P **P 11 31 58.6 +0.6**
baz=234
PET Petropavlovsk 75.10 344 *eP* **P 11 31 57.3 -0.5**
PET *e*S **S 11 41 17.7 -1.3**
PET pmax pmax
comp=Z,50nm,1.1s
SSLB Suanglung 75.12 302 *eP* **P 11 31 57.5 -1.2**
comp=Z,30nm,0.7s
TPUB Ta-pu 75.15 301 *eP* **P 11 31 57.4 -1.4**
comp=Z,114nm,0.9s
YHNB Yeheng 75.21 303 *eP* **P 11 31 58.6 -0.6**
comp=Z,252nm,1.8s
PKM Mcpherson Peak 75.25 45 P **P 11 31 59.9 +0.5**
baz=234
BLG Laguna Peak, P 75.30 46 P **P 11 31 59.7 +0.2**
baz=235
CIS Catalina Islan 75.34 47 P **P 11 32 00.4 +0.8**
baz=235
SMMC Simmler 75.38 44 P **P 11 32 00.6 +0.6**
baz=234
PETK Petropavlovsk- 75.43 344 P **P 11 31 58.8 -0.9**
comp=Z,42nm,0.9s,baz=140,slow=5.5,SNR=26
PETK Petropavlovsk- 75.43 344 *eP* **P 11 31 59.2 -0.5**
PETK Petropavlovsk- 75.43 344 *eP* **P 11 31 59.2 -0.5**
PEA1 Petropavlovsk- 75.43 344 *eP* **P 11 31 58.8 -0.9**
KSM Kuching 75.54 277 *eP* **P 11 32 01.2 0.0**
comp=Z,142nm,1.1s
KSM Kuching 75.54 277 P **P 11 32 01.0 -0.3**
YSS Yuzh-Sakhalins 75.61 332 *eP* **P 11 32 01.4 +0.6**
comp=Z,76nm,0.9s
YSS Yuzh-Sakhalins 75.61 332‖ *eP* **P 11 32 00.9 +0.1**
YSS *e* 11 34 49.0
YSS *e*S **S 11 41 25.7 +0.8**
YSS *e*SS **SS 11 46 24.6 +3.4**
YSS pmax pmax
comp=Z,70nm,0.8s
YSS pmax pmax
comp=Z,800nm,4.5s
YSS MLR MLR
comp=Z,600nm,16.0s
DECC Green Verdugo 75.88 46 P **P 11 32 03.4 +0.7**
baz=235
PASC Pasadena Art C 75.93 46 *eP* **P 11 32 03.6 +0.6**
comp=Z,16nm,0.8s
ARVC Arvin 76.05 45 P **P 11 32 03.9 +0.3**
baz=235
MWC Mount Wilson 76.05 46 *eP* **P 11 32 04.4 +0.5**
comp=Z,20nm,0.8s
MWC Mount Wilson 76.05 46 *eP* **P 11 32 04.4 +0.5**
MWC pmax pmax
comp=Z,20nm,0.8s
KMRM Mail Ridge 76.09 38 *eP* **P 11 32 04.7 +0.8**
MURC Murrieta 76.29 47 P **P 11 32 05.0 -0.1**
baz=236,SNR=7.8
VES Vestal, Richgr 76.29 44 P **P 11 32 04.7 -0.2**
baz=234,SNR=11
BFSC Mount Baldy Ra 76.33 46 P **P 11 32 05.1 -0.4**
baz=236,SNR=7.2
MONP2 Monument Peak 76.44 48 P **P 11 32 06.2 0.0**
baz=237,SNR=9.2
EDW2 Edwards Air Fo 76.47 46 P **P 11 32 06.0 0.0**
baz=235,SNR=24
IKP In-Ko-Pah, Jac 76.53 48 P **P 11 32 06.7 +0.2**
baz=237,SNR=5.8
ISA Isabella, Lake 76.59 45 *eP* **P 11 32 07.6 +0.8**
comp=Z,19nm,0.9s
ISA Isabella, Lake 76.59 45 *eP* **P 11 32 07.6 +0.8**
ISA pmax pmax
comp=Z,19nm,0.9s
ISA Isabella, Lake 76.59 45 P **P 11 32 06.9 +0.1**
baz=235,SNR=14
O02D Mt. Diablo Mer 76.61 39 P **P 11 32 07.2 +0.4**
baz=231
FRD Ford Ranch, An 76.64 47 P **P 11 32 07.2 0.0**
baz=236,SNR=15
CMB Columbia Colle 76.75 42 *eP* **P 11 32 08.0 +0.4**
comp=Z,12nm,0.8s
CMB Columbia Colle 76.75 42 *eP* **P 11 32 08.0 +0.4**
CMB pmax pmax
comp=Z,12nm,0.8s
PFO Pinyon Flats O 76.81 47 *eP* **P 11 32 08.1 0.0**
comp=Z,10nm,0.9s
PFO Pinyon Flats O 76.81 47 *eP* **P 11 32 08.1 0.0**
PFO pmax pmax
comp=Z,10.0nm,0.9s
PFO Pinyon Flats O 76.81 47 P **P 11 32 08.3 +0.2**
baz=236
XPFO Pion Flat 76.81 47 *eP* **P 11 32 08.0 -0.1**
comp=Z,10nm,0.9s
SWSC Sam W. Stewart 76.91 48 P **P 11 32 08.8 +0.3**
baz=237
AFDM Forest Hills D 76.94 41 *eP* **P 11 32 08.4 -0.2**
comp=Z,12nm,0.9s
ORV Oroville 76.99 40 *eP* **P 11 32 09.2 +0.4**
comp=Z,9.7nm,0.8s
ORV Oroville 76.99 40 *eP* **P 11 32 09.2 +0.4**
ORV pmax pmax
comp=Z,10.0nm,0.8s
WDC Whiskeytown Da 77.01 39 *eP* **P 11 32 09.3 +0.4**
comp=Z,33nm,1.4s
WDC Whiskeytown Da 77.01 39 *eP* **P 11 32 09.3 +0.4**
WDC pmax pmax
comp=Z,33nm,1.4s
LRMC Laurel Mtn Rad 77.02 45 P **P 11 32 09.3 +0.1**
baz=235
N02D Trinity Center 77.16 38 P **P 11 32 10.2 +0.3**
baz=231
O03E Paynes Creek 77.27 39 P **P 11 32 10.8 +0.3**
baz=232
CWC Cottonwood Cre 77.30 44 P **P 11 32 10.8 -0.1**
baz=235
KSRS Korea Array 77.33 317 P **P 11 32 11.4 +0.8**
comp=Z,60nm,1.0s,baz=135,slow=5.9,SNR=80
M02C Callahan 77.34 38 P **P 11 32 11.3 +0.5**
baz=230
BELC Belle Mtn. Jos 77.34 47 P **P 11 32 11.0 -0.1**
baz=237,SNR=15
KS15 Wonju Array Si 77.35 317 *eP* **P 11 32 11.9 +1.1**
MDPB Devils Postpil 77.35 43 *eP* **P 11 32 11.8 +0.6**
comp=Z,18nm,0.8s
KS01 Wonju Array Si 77.36 317 *eP* **P 11 32 11.5 +0.6**
MPMC Manual Prospec 77.48 45 P **P 11 32 11.9 +0.1**
baz=235,SNR=19
MLAC Mammoth, Mammo 77.50 43 P **P 11 32 12.0 0.0**
baz=234
GSC Goldstone, Bar 77.51 46 *eP* **P 11 32 12.5 +0.6**
comp=Z,15nm,0.9s
GSC Goldstone, Bar 77.51 46 *eP* **P 11 32 12.2 +0.3**
GSC Goldstone, Bar 77.51 46 P **P 11 32 12.0 0.0**
baz=236,SNR=11
DAC Darwin (Calif) 77.53 45 *eP* **P 11 32 12.3 +0.1**
comp=Z,6.8nm,0.8s
DAC Darwin (Calif) 77.53 45 *eP* **P 11 32 12.3 +0.1**
DAC pmax pmax
comp=Z,7.0nm,0.8s
BC3 Big Chuckawall 77.53 48 P **P 11 32 12.5 +0.4**
baz=237,SNR=9.2
TIN Tinemaha, Big 77.56 44 P **P 11 32 12.5 +0.3**
baz=235
QZH Quanzhou 77.56 302‖ *iP* **P 11 32 12.3 0.0**
QZH *e*S **S 11 41 47.0 +0.1**
QZH pmax pmax
comp=Z,680nm,3.7s
HEC Hector,Ludlow 77.57 46 P **P 11 32 12.2 0.0**
baz=236,SNR=25
WAKR Walker 77.63 42 *eP* **P 11 32 13.5 +0.9**
comp=Z,18nm,0.7s
YBH Yreka Blue Hor 77.64 38 *eP* **P 11 32 13.4 +0.9**
comp=Z,17nm,0.8s
YBH Yreka Blue Hor 77.64 38 *eP* **P 11 32 13.4 +0.9**
YBH pmax pmax
comp=Z,17nm,0.8s
GLA Glamis 77.65 49 *eP* **P 11 32 13.7 +1.0**
comp=Z,14nm,0.8s
GLA Glamis 77.65 49 *eP* **P 11 32 13.7 +1.0**
GLA pmax pmax
comp=Z,14nm,0.8s
GLA Glamis 77.65 49 P **P 11 32 13.2 +0.5**
baz=238
GMRC Granite Mounta 78.01 47 P **P 11 32 14.7 -0.1**
baz=237,SNR=10
IRM Iron Mountain 78.02 47 P **P 11 32 14.9 +0.2**
baz=237,SNR=16
GRAC Grapevine Rang 78.09 44 P **P 11 32 15.4 +0.3**
baz=235,SNR=9.4
FURC Furnace Creek, 78.12 45 P **P 11 32 15.6 +0.5**
baz=236
OHAK Old Harbor 78.14 12 *eP* **P 11 32 14.9 +0.2**
comp=Z,47nm,0.9s
M04C Macdoel 78.18 38 P **P 11 32 15.5 0.0**
baz=231
L04D Klamath Falls 78.18 37 P **P 11 32 15.7 +0.2**
baz=231
TUQ Turquoise Moun 78.18 46 P **P 11 32 15.9 +0.2**
baz=236,SNR=8.2
SHOC Shoshone, Teco 78.20 45 P **P 11 32 15.7 +0.1**
baz=236
Y12C Blythe 78.24 48 *eP* **P 11 32 16.2 +0.4**
comp=Z,16nm,0.8s
Y12C Blythe 78.24 48 P **P 11 32 16.2 +0.4**
baz=238,SNR=12
113A Mohawk Valley, 78.26 49 *eP* **P 11 32 16.5 +0.5**
comp=Z,14nm,0.8s
RYN Ryan 78.28 42 *eP* **P 11 32 15.7 -0.5**
comp=Z,19nm,0.8s
NV01 Mina Array Sit 78.31 42 *eP* **P 11 32 16.2 -0.2**
NVAR Mina Array Bea 78.31 42 P **P 11 32 16.6 +0.2**
comp=Z,20nm,0.7s,baz=224,slow=9.0,SNR=72
NVAR pP **pP 11 33 10.1 +4.8**
comp=Z,5.6nm,0.8s,baz=228,slow=9.7,SNR=2.1
NV11 Mina Array Sit 78.40 42 *eP* **P 11 32 16.8 -0.1**
comp=Z,16nm,0.8s
VLA Vladivostok 78.41 324*c iP* **P 11 32 17.9 +1.4**
VLA pmax pmax
comp=Z,14nm,0.3s
214A Organ Pipe Nat 78.53 50 P **P 11 32 17.9 +0.3**
baz=239
LDFC Landfair 78.55 47 *eP* **P 11 32 18.0 +0.4**
comp=Z,44nm,0.8s
KVN Kaiserville 78.80 42 *eP* **P 11 32 18.9 -0.2**
comp=Z,19nm,0.7s
KVN Kaiserville 78.80 42 *eP* **P 11 32 18.9 -0.2**
KVN pmax pmax
comp=Z,19nm,0.7s
PDMCI Parker Dam,Lak 78.80 48 P **P 11 32 18.9 0.0**
baz=238,SNR=8.0
TPNV Topopah Spring 78.80 45 *eP* **P 11 32 19.5 +0.4**
comp=Z,22nm,0.7s
TPNV Topopah Spring 78.80 45 *eP* **P 11 32 19.5 +0.4**
TPNV pmax pmax
comp=Z,22nm,0.7s
TPNV Topopah Spring 78.80 45 P **P 11 32 19.1 0.0**
baz=236,SNR=13
KDAK Kodiak Island 78.80 12 P **P 11 32 17.9 -0.4**
comp=Z,35nm,0.6s,baz=243,slow=3.2,SNR=20
J04D Umpqua Nationa 78.94 37 P **P 11 32 20.5 +0.7**
baz=231
USA0B Ussuriysk Arra 79.05 324 *eP* **P 11 32 20.8 +0.8**
comp=Z,17nm,1.1s
USRK Ussuriysk Ar. 79.05 324 P **P 11 32 20.8 +0.8**
comp=Z,15nm,1.0s,baz=123,slow=4.8,SNR=14
I04A Tendick Farm, 79.12 36 P **P 11 32 20.9 +0.4**
baz=230
COR Corvallis 79.14 35 P **P 11 32 20.2 -0.3**
COR pmax pmax
comp=Z,520nm,1.9s
MOD Modoc Plateau 79.15 39 *eP* **P 11 32 20.3 -0.5**
comp=Z,18nm,0.8s
SHPR Sheep Range 79.29 45 *eP* **P 11 32 21.9 +0.2**
comp=Z,20nm,1.0s
W13A Hualapai Mount 79.40 47 *eP* **P 11 32 22.7 +0.2**
comp=Z,14nm,1.0s
H04D Lebanon 79.41 35 P **P 11 32 22.4 +0.5**
baz=230
Y14A Wickenburg 79.41 49 *eP* **P 11 32 22.8 +0.4**
comp=Z,15nm,0.9s
J05D Fort Rock, OR 79.46 37 P **P 11 32 23.1 +0.6**
baz=231
G03D McMinnville, O 79.56 35 P **P 11 32 23.7 +0.9**
baz=230
R11A Troy Canyon, C 80.02 44 *eP* **P 11 32 26.1 +0.4**
comp=Z,4.8nm,0.8s
R11A Troy Canyon, C 80.02 44 P **P 11 32 25.4 -0.2**
baz=236,SNR=7.6
I05D Terrebonne, OR 80.06 36 P **P 11 32 25.8 +0.2**
baz=231
BMN Battle Mountai 80.15 41 *eP* **P 11 32 25.5 -0.8**
BMN Battle Mountai 80.15 41 *eP* **P 11 32 25.5 -0.8**
TUC Tucson 80.19 51 *eP* **P 11 32 27.3 +0.8**
comp=Z,18nm,0.9s
TUC Tucson 80.19 51 *eP* **P 11 32 27.4 +0.8**
TUC Tucson 80.19 51 P **P 11 32 27.2 +0.6**
baz=240
WVOR Wild Horse Val 80.46 39 *eP* **P 11 32 28.6 +0.8**
comp=Z,15nm,0.7s
WVOR Wild Horse Val 80.46 39 *eP* **P 11 32 28.6 +0.8**
WVOR pmax pmax
comp=Z,15nm,0.7s
MDJ Mudanjiang 80.64 324 P **P 11 32 29.0 +0.4**
MDJ pP pP 11 33 11.8 -5.8
MDJ sP sP 11 33 30.0 -9.1
MDJ S **S 11 42 21.3 +2.6**
MDJ ScS **ScS 11 42 37.0 +0.6**
MDJ sS sS 11 43 37.3 -7.0
MDJ pmax pmax
comp=Z,71nm,1.0s
MDJ pmax pmax
comp=Z,1μm,5.6s
MDJ Mudanjiang 80.64 324 *eP* **P 11 32 29.5 +0.9**
comp=Z,56nm,0.9s
CNPM China Poot 80.69 12 *eP* **P 11 32 28.7 +0.3**
comp=Z,64nm,0.8s
NJ2 Nanjing 80.74 308 *eP* **P 11 32 30.0 +0.7**
NJ2 pmax pmax
comp=Z,72nm,1.0s
X16A Lo Mia Camp, P 80.77 49 *eP* **P 11 32 30.6 +0.8**
comp=Z,21nm,0.8s
E04D Cinebar 80.81 34 P **P 11 32 29.9 +0.5**
baz=230
319A Douglas 80.86 52 *eP* **P 11 32 31.3 +1.1**
comp=Z,22nm,1.0s
LCMT Little Creek M 80.86 46 *eP* **P 11 32 30.8 +0.7**
comp=Z,12nm,0.9s
F05D White Salmon 80.97 35 P **P 11 32 30.3 0.0**
baz=231
BRLK Bradley Lake 80.98 12 *eP* **P 11 32 29.5 -0.5**
comp=Z,50nm,0.7s
CCUT Cedar City 81.06 45 *eP* **P 11 32 32.2 +0.9**
comp=Z,13nm,0.9s
D04E Lakebay 81.10 33 P **P 11 32 31.4 +0.5**
baz=230
J08A Circle Bar Ran 81.11 38 *eP* **P 11 32 31.9 +0.7**
comp=Z,22nm,1.1s
KNB Kanab 81.14 46 *eP* **P 11 32 32.6 +0.9**
comp=Z,16nm,0.8s
KNB Kanab 81.14 46 *eP* **P 11 32 32.6 +0.9**
D03D Eldon 81.17 33 P **P 11 32 31.5 +0.2**
baz=229
U15A North Rim 81.20 47 *eP* **P 11 32 32.8 +0.7**
comp=Z,25nm,0.9s
GRNR Gornyy 81.25 331 *eP* **P 11 32 32.3 +0.6**
GRNR pmax pmax
comp=Z,42nm,1.0s
PSUT Pine Spring 81.26 44 *eP* **P 11 32 32.9 +0.7**
comp=Z,7.1nm,0.8s
SZCU Shurtz Canyon 81.27 45 *eP* **P 11 32 33.3 +1.0**
comp=Z,16nm,1.0s
LON Longmire 81.33 34 *eP* **P 11 32 32.4 +0.2**
comp=Z,7.9nm,0.8s
LON Longmire 81.33 34 *eP* **P 11 32 32.4 +0.2**
LON pmax pmax
comp=Z,8.0nm,0.8s
WUAZ Wupatki 81.37 48 *eP* **P 11 32 33.5 +0.6**
comp=Z,21nm,1.1s
WUAZ Wupatki 81.37 48 P **P 11 32 33.5 +0.6**
baz=240
SVW2 Sparrevohn 81.38 10 *eP* **P 11 32 31.8 -0.3**
comp=Z,17nm,0.9s
ELK Elko 81.57 42 *eP* **P 11 32 33.5 -0.4**
comp=Z,9.5nm,0.9s
ELK Elko 81.57 42 *eP* **P 11 32 33.5 -0.4**
ELK pmax pmax
comp=Z,10.0nm,0.9s

HPIG			81.63	58	eP		P	11 32 34.6	+0.1	BNM	Barren Site	84.13	51	eP	P	11 32 48.0	+0.8
	comp=Z,12nm,0.9s									LPM	Los Pinos Moun	84.20	51	eP	P	11 32 48.5	+1.0
PKCU	Pink Cliffs		81.72	46	eP		P	11 32 36.6	+1.8	TCUT	Toone Canyon	84.22	43	eP	P	11 32 47.5	0.0
	comp=Z,48nm,1.1s										comp=Z,77nm,0.8s						
MYKOM	Kota Tinggi		81.73	275	eP		P	11 32 34.8	-0.2	P18A	Preston Nutter	84.22	45	eP	P	11 32 48.1	+0.5
	comp=Z,52nm,1.0s										comp=Z,18nm,0.9s						
MYKOM	Kota Tinggi		81.73	275	P		P	11 32 34.0	-1.0	MVCO	Mesa Verde	84.23	48	eP	P	11 32 48.3	+0.7
F07A	Phinny Hill Vi		81.81	36	eP		P	11 32 35.3	+0.6		comp=Z,7.8nm,1.0s						
	comp=Z,82nm,1.8s									MVCO	Mesa Verde	84.23	48	P	P	11 32 47.8	+0.2
X18A	Snowflake		81.89	49	eP		P	11 32 36.2	+0.6		baz=241						
	comp=Z,16nm,0.8s									PV05	Paradox Valley	84.23	47	eP	P	11 32 48.0	+0.4
G08A	Pilot Rock		81.98	36	eP		P	11 32 35.6	-0.2	LTX	Lajitas	84.26	56	eP	P	11 32 48.5	+0.8
	comp=Z,24nm,0.8s									TX31	Lajitas Ar. Si	84.26	56	eP	P	11 32 48.5	+0.7
MTPU	Mount Pierson		82.11	45	eP		P	11 32 37.6	+0.7	TXAR	Lajitas Array	84.26	56	P	P	11 32 48.5	+0.8
	comp=Z,35nm,1.3s										comp=Z,15nm,0.9s,baz=218,slow=7.0,SNR=107						
B05A	Bryant		82.15	33	P		P	11 32 36.4	0.0	TXAR				pP	pP	11 33 42.9	+5.6
	baz=230										comp=Z,3.0nm,0.9s,baz=250,slow=2.7,SNR=2.1						
TCRU	Three Creeks R		82.23	45	eP		P	11 32 38.3	+0.9	HWUT	Hardware Ranch	84.37	43	eP	P	11 32 48.5	+0.4
	comp=Z,12nm,0.9s										comp=Z,7.5nm,0.8s						
DL2	Dalian		82.25	316	P		P	11 32 39.5	+2.4	PV09	Paradox Valley	84.42	46	eP	P	11 32 48.8	+0.2
DL2					sP		sP	11 33 44.0	-3.8	PV10	Paradox Valley	84.42	46	eP	P	11 32 48.5	0.0
DL2					eS		S	11 42 38.3	+2.9	PV19	Morning Glory	84.42	46	eP	P	11 32 48.7	+0.2
DL2					pmax		pmax				comp=Z,32nm,1.0s						
	comp=Z,73nm,1.0s									PV17	East Wray Mesa	84.43	47	eP	P	11 32 48.7	+0.2
DL2					pmax		pmax				comp=Z,21nm,0.8s						
	comp=Z,110nm,11.7s									PV14	Lion Creek, Pa	84.43	46	eP	P	11 32 48.9	+0.3
LTY	Liberty		82.26	34	eP		P	11 32 34.4	-2.7		comp=Z,30nm,1.0s						
	comp=Z,29nm,1.4s									PV18	Skein Mesa, Pa	84.44	47	eP	P	11 32 49.2	+0.6
E07A	Sunnyside		82.26	35	eP		P	11 32 37.6	+0.5		comp=Z,18nm,0.9s						
	comp=Z,48nm,1.2s									PV20	West Nyswonger	84.45	46	eP	P	11 32 48.6	0.0
HAWA	Hanford		82.33	35	eP		P	11 32 37.1	-0.3		comp=Z,23nm,0.8s						
	comp=Z,46nm,1.3s									PV13	Radium Mtn., P	84.46	47	eP	P	11 32 49.0	+0.2
W18A	Petrified Fore		82.34	49	eP		P	11 32 39.2	+1.2	PV16	Nyswonger Mesa	84.47	46	eP	P	11 32 49.2	+0.5
	comp=Z,12nm,0.8s										comp=Z,20nm,1.0s						
W18A	Petrified Fore		82.34	49	P		P	11 32 38.5	+0.6	PV23	Carpenter Ridg	84.47	46	eP	P	11 32 49.2	+0.3
	baz=241										comp=Z,32nm,0.9s						
MSU	Marysvale		82.36	45	eP		P	11 32 39.1	+1.1	TRF	Thorofare Moun	84.48	11	eP	P	11 32 46.7	-1.5
MSU	Marysvale		82.36	45	eP		P	11 32 39.2	+1.1		comp=Z,124nm,0.8s						
QIZ	Qiongzhong		82.39	293	P		P	11 32 39.0	+0.7	PV03	Paradox Valley	84.49	47	eP	P	11 32 49.0	+0.2
QIZ					S		S	11 42 39.0	+1.3	PV11	David Mesa, Pa	84.50	47	eP	P	11 32 49.6	+0.7
ZAIG	Zacatecas		82.42	63	eP		P	11 32 40.1	+1.4	PV11				ePcP	PcP	11 32 49.7	-2.4
	comp=Z,8.5nm,1.1s									PV02	Paradox Valley	84.54	47	eP	P	11 32 49.4	+0.2
RC01	Rabbit Creek A		82.42	12	eP		P	11 32 36.7	-0.8		comp=Z,28nm,1.2s						
	comp=Z,76nm,1.2s									PV12	Saucer Basin,	84.55	47	eP	P	11 32 49.0	-0.2
KLR	Kul'dur		82.43	328	P		P	11 32 38.6	+0.8		comp=Z,29nm,0.7s						
	comp=Z,5.8nm,0.8s,baz=90,slow=5.2,SNR=11									PV21	Cone Mtn., Par	84.55	46	eP	P	11 32 49.5	+0.3
KLR	Kul'dur		82.43	328⇑	eP		P	11 32 38.3	+0.5		comp=Z,26nm,0.7s						
121A	Cookes Peak, D		82.52	52	P		P	11 32 39.1	+0.2	HARP	HAARP	84.58	14	eP	P	11 32 48.6	+0.1
	baz=242										comp=Z,51nm,0.8s						
CN2	Changchun		82.55	321	eP		P	11 32 38.5	0.0	ANMO	Albuquerque	84.62	50	eP	P	11 32 49.9	+0.3
CN2					eS		S	11 42 38.0	-0.2		comp=Z,22nm,0.9s						
CN2					pmax		pmax			ANMO	Albuquerque	84.62	50	eP	P	11 32 50.0	+0.4
	comp=Z,40nm,1.1s									ANMO	Albuquerque	84.62	50	P	P	11 32 50.4	+0.9
CN2					LR		LR				baz=243						
	comp=Z,1μm,12.0s									PV01	Paradox Valley	84.62	47	eP	P	11 32 49.7	+0.2
CN2					LR		LR			PV22	Blue Mesa, Par	84.67	46	eP	P	11 32 50.1	+0.3
	comp=Z,1μm,12.0s									DHY	Denali Highway	84.70	12	eP	P	11 32 48.3	-1.0
CN2					LR		LR				comp=Z,95nm,1.6s						
	comp=Z,2μm,14.0s									RND	Reindeer	84.71	12	eP	P	11 32 48.5	-0.7
E08A	Dider Farm, El		82.66	35	eP		P	11 32 39.1	+0.1		comp=Z,98nm,0.8s						
	comp=Z,62nm,1.5s									RND	Reindeer	84.71	12	eP	P	11 32 48.5	-0.7
BMO	Blue Mountains		82.67	38	eP		P	11 32 38.8	-0.5	RND				pmax	pmax		
	comp=Z,44nm,1.7s										comp=Z,98nm,0.8s						
BMO	Blue Mountains		82.67	38	eP		P	11 32 38.8	-0.5	SKAG	Skagway	84.75	19	eP	P	11 32 50.5	+1.1
BMO					pmax		pmax				comp=Z,36nm,1.0s						
	comp=Z,44nm,1.7s									NEW	Newport	84.77	35	eP	P	11 32 49.7	-0.1
GLI	Glacier Island		82.80	14	eP		P	11 32 38.9	-0.5		comp=Z,9.3nm,0.8s						
	comp=Z,94nm,0.8s									NEW	Newport	84.77	35	eP	P	11 32 49.4	-0.4
EYAK	Cordova Ski Ar		82.81	14	eP		P	11 32 39.2	-0.2	NEW	Newport	84.77	35	P	P	11 32 49.3	-0.4
	comp=Z,36nm,0.9s										baz=234						
DUG	Dugway, Tooele		82.83	43	eP		P	11 32 40.4	+0.1	GDL2	Guadalupe Moun	84.95	54	eP	P	11 32 52.3	+1.1
	comp=Z,10nm,0.8s									BPAW	Bear Paw Mtn.	84.95	11	eP	P	11 32 48.5	-1.8
DUG	Dugway, Tooele		82.83	43	eP		P	11 32 40.4	+0.1		comp=Z,21nm,0.8s						
DUG	Dugway, Tooele		82.83	43	P		P	11 32 40.4	+0.1	MCK	McKinley	84.99	12	eP	P	11 32 49.4	-1.1
	baz=238										comp=Z,126nm,0.8s						
MA2	Magadan		82.96	343	P		P	11 32 38.9	-1.4	MCK	McKinley	84.99	12	eP	P	11 32 49.4	-1.1
	comp=Z,16nm,0.7s,baz=115,slow=5.0,SNR=5.2									MCK				pmax	pmax		
KNK	Knik Glacier		82.98	13	eP		P	11 32 39.4	-1.0		comp=Z,126nm,0.8s						
	comp=Z,48nm,0.8s									PAX	Paxson	85.01	13	eP	P	11 32 49.5	-1.2
PMR	Palmer		83.00	12	eP		P	11 32 39.5	-0.9		comp=Z,24nm,0.9s						
	comp=Z,29nm,0.9s									PAX	Paxson	85.01	13	eP	P	11 32 49.5	-1.2
PMR	Palmer		83.00	12	eP		P	11 32 39.6	-0.9	PAX				pmax	pmax		
PMR					pmax		pmax				comp=Z,24nm,0.9s						
	comp=Z,29nm,0.9s									HYT	Haines Junctio	85.19	18	eP	P	11 32 51.7	0.0
D08A	Wollman Farm,		83.07	35	eP		P	11 32 41.4	+0.1		comp=Z,34nm,1.1s						
	comp=Z,31nm,1.0s									AHID	Auburn Hatcher	85.27	42	eP	P	11 32 52.7	+0.1
BGU	Big Grassy Mou		83.08	43	eP		P	11 32 41.9	+0.3		comp=Z,26nm,1.3s						
	comp=Z,35nm,2.0s									IPM	Ipoh	85.28	276	eP	P	11 32 53.1	0.0
E09A	Wood Farm, Sta		83.17	36	eP		P	11 32 42.0	+0.2		comp=Z,136nm,1.1s						
	comp=Z,20nm,1.0s									MCMT	McKenzie Canyo	85.28	39	eP	P	11 32 52.5	-0.2
NLU	North Lily Min		83.18	44	eP		P	11 32 43.0	+0.8	BWN	Browne	85.29	11	eP	P	11 32 51.4	-0.6
	comp=Z,6.6nm,0.9s										comp=Z,37nm,0.8s						
DIV	Divide		83.31	14	eP		P	11 32 41.3	-0.9	SEY	Seymchan	85.44	346	P	P	11 32 51.9	-0.8
	comp=Z,74nm,0.7s										comp=Z,51nm,0.8s,baz=148,slow=6.0,SNR=52						
SML	Sawmill		83.36	13	eP		P	11 32 41.9	-0.5	S22A	4UR Ranch, Cre	85.65	48	eP	P	11 32 55.0	+0.2
	comp=Z,107nm,1.8s										comp=Z,12nm,0.8s						
SML	Sawmill		83.36	13	eP		P	11 32 41.9	-0.5	S22A	4UR Ranch, Cre	85.65	48	P	P	11 32 54.4	-0.3
SML					pmax		pmax				baz=242						
	comp=Z,107nm,1.8s									CPRX	Cap Rock	85.69	53	eP	P	11 32 55.5	+0.7
F10A	Beach Ranch, E		83.37	37	eP		P	11 32 42.2	-0.6	DLMT	Dillon	85.71	39	eP	P	11 32 55.3	+0.6
	comp=Z,31nm,0.9s										comp=Z,12nm,0.9s						
TMUT	Trail Mountain		83.41	45	eP		P	11 32 44.3	+0.7	MSO	Missoula	85.72	37	eP	P	11 32 54.3	-0.4
	comp=Z,42nm,0.7s										comp=Z,51nm,1.8s						
BMRM	Bremner River		83.45	15	eP		P	11 32 42.0	-0.8	MSO	Missoula	85.72	37	P	P	11 32 53.9	-0.8
	comp=Z,52nm,0.8s										baz=237						
WHN	Wuhan		83.45	305	P		P	11 32 44.5	+1.0	REDW	Red Top Meadow	85.73	41	eP	P	11 32 55.0	0.0
WHN					pmax		pmax				comp=Z,20nm,1.1s						
	comp=Z,170nm,1.2s									TPAW	Teton Pass	85.73	41	eP	P	11 32 55.2	+0.2
MPU	Maple Canyon		83.50	44	eP		P	11 32 43.9	+0.1		comp=Z,31nm,1.5s						
	comp=Z,14nm,0.8s									DLBC	Dease Lake	85.74	22	P	P	11 32 53.7	-0.7
SCM	Sheep Creek Mo		83.60	13	eP		P	11 32 42.9	-0.7		comp=Z,16nm,0.8s,baz=232,slow=6.3,SNR=21						
	comp=Z,91nm,0.7s									DLBC	Dease Lake	85.74	22	eP	P	11 32 54.9	+0.5
SCM	Sheep Creek Mo		83.60	13	eP		P	11 32 42.9	-0.7		comp=Z,24nm,0.9s						
SCM					pmax		pmax			FXWY	Fox Creek	85.76	41	eP	P	11 32 55.4	+0.3
	comp=Z,91nm,0.7s										comp=Z,20nm,1.4s						
KLU	Klutina		83.60	14	eP		P	11 32 42.9	-0.7	O20A	White River Ci	85.81	45	eP	P	11 32 55.9	+0.5
	comp=Z,24nm,1.1s										comp=Z,13nm,0.8s						
ANM	Nome		83.63	4	eP		P	11 32 43.2	-0.4	O20A	White River Ci	85.81	45	P	P	11 32 55.2	-0.2
	comp=Z,15nm,0.7s										baz=241						
ANM	Nome		83.63	4	eP		P	11 32 43.2	-0.4	WRH	Wood River Hil	85.82	12	eP	P	11 32 53.5	-1.1
ANM					pmax		pmax				comp=Z,100nm,0.8s						
	comp=Z,15nm,0.7s									RIDG	Independ'e Rid	85.82	13	eP	P	11 32 53.7	-1.0
PPLA	Purkeypile		83.63	11	eP		P	11 32 43.3	-0.6		comp=Z,48nm,0.9s						
	comp=Z,14nm,0.7s									WHY	Whitehorse	85.83	19	eP	P	11 32 54.9	+0.1
HLID	Hailey		83.64	40	eP		P	11 32 44.6	+0.2		comp=Z,86nm,1.6s						
	comp=Z,20nm,0.8s									SNOW	Snow King Moun	85.84	41	eP	P	11 32 55.8	+0.3
HLID	Hailey		83.64	40	P		P	11 32 44.5	0.0		comp=Z,14nm,0.9s						
	baz=236									MLY	Manley	85.85	10	eP	P	11 32 53.2	-1.6
B08A	Colville Reser		83.64	34	eP		P	11 32 43.3	-0.8		comp=Z,33nm,0.8s						
	comp=Z,19nm,0.9s									LNIG	Linares	85.87	62	eP	P	11 32 55.0	-0.7
SPUT	South Promonto		83.65	43	eP		P	11 32 45.1	+0.6	KULM	Kulim	85.90	277	eP	P	11 32 56.1	-0.1
	comp=Z,17nm,0.9s										comp=Z,42nm,1.0s						
HVU	Hansel Valley		83.69	42	eP		P	11 32 44.5	-0.2	KULM	Kulim	85.90	277	P	P	11 32 55.0	-1.1
	comp=Z,26nm,0.8s									DOT	Dot Lake	85.91	13	eP	P	11 32 54.3	-0.8
HVU	Hansel Valley		83.69	42	eP		P	11 32 44.6	-0.1		comp=Z,67nm,0.7s						
TGL	Tana Glacier		83.70	15	eP		P	11 32 43.6	-0.6	IMW	Indian Meadow	85.95	41	eP	P	11 32 56.0	0.0
	comp=Z,60nm,1.1s										comp=Z,16nm,1.0s						
CTU	Camp Tracy		83.78	43	eP		P	11 32 45.0	-0.2	HDA	Harding Lake	85.98	12	eP	P	11 32 54.1	-1.2
	comp=Z,17nm,0.9s										comp=Z,101nm,0.9s						
MAW	Mawson		83.79	199	P		P	11 32 45.6	+1.0	HDA	Harding Lake	85.98	12	P	P	11 32 54.2	-1.2
	baz=84,SNR=26										baz=207						
P17A	Butcher Ranch,		83.82	45	eP		P	11 32 45.9	+0.5	MOOW	Moose Ponds	86.00	41	eP	P	11 32 56.3	+0.1
	comp=Z,21nm,0.8s										comp=Z,14nm,1.4s						
LAZ	Ladron		83.87	51	eP		P	11 32 46.7	+0.8	LOHW	Long Hollow	86.01	41	eP	P	11 32 56.3	0.0
C09A	Chrisman Ranch		83.87	35	eP		P	11 32 45.2	0.0		comp=Z,23nm,1.6s						
	comp=Z,20nm,0.9s									CCB	Clear Creek Bu	86.03	12	eP	P	11 32 54.4	-1.2
Y22D	IRIS PASSCAL I		83.88	51	eP		P	11 32 47.5	+1.7		comp=Z,85nm,0.8s						
	comp=Z,42nm,0.8s									JTMT	Jette	86.04	36	eP	P	11 32 56.0	-0.3
Y22D	IRIS PASSCAL I		83.88	51	P		P	11 32 46.7	+0.9		comp=Z,5.0nm,0.8s						
	baz=242									QLMT	Earthquake Lak	86.14	40	eP	P	11 32 57.3	+0.4
LENM	Lemitar		83.88	51	eP		P	11 32 46.6	+0.8	FLWY	Flagg Ranch	86.20	41	eP	P	11 32 57.0	-0.2
JLU	Jordanelle		83.93	44	eP		P	11 32 46.2	+0.2		comp=Z,35nm,1.4s						
	comp=Z,17nm,0.9s									SCRK	Sand Creek	86.22	13	eP	P	11 32 55.9	-0.8
MNTX	Cornudas Mount		83.95	54	eP		P	11 32 46.8	+0.7		comp=Z,33nm,0.9s						
	comp=Z,34nm,0.8s									SMCO	Snowmass	86.22	46	eP	P	11 32 57.4	-0.2
MNTX	Cornudas Mount		83.95	54	P		P	11 32 46.9	+0.9		comp=Z,12nm,0.7s						
	baz=244									TCOL	CIGO, UAF Yank	86.22	11	P	P	11 32 55.2	-1.3
TIA	Tai'an		84.00	311	P		P	11 32 46.3	+0.1		baz=206						
TIA					S		S	11 42 49.8	-3.4	COLA	College	86.23	11	eP	P	11 32 55.3	-1.2
TIA					pmax		pmax				comp=Z,147nm,0.7s						
	comp=Z,24nm,0.9s									COLA	College	86.23	11	eP	P	11 32 55.3	-1.2
TIA					LR		LR			COLA				pmax	pmax		
	comp=Z,340nm,14.2s										comp=Z,147nm,0.7s						
TIA					LR		LR			MDM	Murphy Dome	86.23	11	eP	P	11 32 55.2	-1.5
	comp=Z,750nm,12.8s										comp=Z,52nm,0.8s						
TIA					LR		LR			YHB	Horse Butte	86.24	40	eP	P	11 32 58.3	+1.0
	comp=Z,580nm,12.1s										comp=Z,15nm,0.9s						

BW06	Boulder Array		86.25	42	eP		P	11 32 57.0	-0.5								
	comp=Z,10nm,1.1s																
BW06	Boulder Array		86.25	42	P		P	11 32 56.8	-0.7								
	baz=240																
PD31	Pinedale Array		86.25	42	eP		P	11 32 57.2	-0.3								
PDAR	Pinedale Array		86.25	42	P		P	11 32 56.9	-0.6								
	comp=Z,2.4nm,0.6s,baz=212,slow=3.6,SNR=26																
PDAR					pP		pP	11 33 51.7	+4.5								
	comp=Z,5.2nm,0.9s,baz=220,slow=3.5,SNR=6.5																
PDAR	Pinedale Array		86.25	42	eP		P	11 32 56.4	-1.1								
IM3	Indian Mountai		86.27	9	eP		P	11 32 56.0	-0.7								
IL1	Eielson Array		86.32	12	eP		P	11 32 55.3	-1.7								
ILAR	Eielson Array		86.32	12	P		P	11 32 55.5	-1.5								
	comp=Z,25nm,0.9s,baz=226,slow=6.2,SNR=117																
ILAR					PKKPbc		PKKPbc	11 50 54.2	-2.8								
	comp=Z,0.2nm,0.7s,baz=5.5,slow=2.8,SNR=4.2																
ILB	Eielson Array		86.32	12	eP		P	11 32 55.5	-1.5								
YMR	Madison River		86.33	40	eP		P	11 32 58.5	+0.6								
	comp=Z,25nm,1.2s																
BOZ	Bozeman (W)		86.42	39	eP		P	11 32 58.0	-0.1								
	comp=Z,11nm,0.9s																
BOZ	Bozeman (W)		86.42	39	eP		P	11 32 58.1	-0.1								
BOZ					pmax		pmax										
	comp=Z,11nm,0.9s																
BOZ	Bozeman (W)		86.42	39	P		P	11 32 58.1	-0.1								
	baz=238																
GLM	Gilmore Dome		86.42	12	eP		P	11 32 56.5	-1.0								
	comp=Z,83nm,1.2s																
H17A	Grant Village		86.43	41	eP		P	11 33 00.1	+1.8								
	comp=Z,17nm,1.3s																
H17A	Grant Village		86.43	41	P		P	11 32 59.8	+1.5								
	baz=239																
YHH	Holmes Hill		86.47	40	eP		P	11 32 59.5	+0.9								
	comp=Z,36nm,1.7s																
BJT	Baijiatuau		86.47	314	eP		P	11 32 58.5	+0.2								
BJT					ePcP		PcP	11 32 58.8	-1.7								
BJI	Beijing		86.47	314	∥iP		P	11 32 58.5	+0.2								
BJI					sP		sP	11 34 03.5	-5.8								
BJI					S		S	11 43 23.5	+6.3								
BJI					sS		pS	11 44 30.0	+10								
BJI					pmax		pmax										
	comp=Z,51nm,2.1s																
POKR	Poker Plat Res		86.52	12	P		P	11 32 56.5	-1.5								
	baz=207																
SKLT	Songkhla		86.55	279	P		P	11 33 02.1	+2.8								
SDCO	Great Sand Dun		86.58	48	eP		P	11 32 59.3	-0.1								
	comp=Z,5.4nm,0.7s																
SDCO	Great Sand Dun		86.58	48	P		P	11 32 59.2	-0.1								
	baz=243																
PSI	Prapat		86.71	274	eP		P	11 32 59.0	-1.2								
	comp=Z,57nm,1.1s																
PSI	Prapat		86.71	274	eP		P	11 32 59.5	-0.8								
SKNT	Sakolnakorn		86.81	289	P		P	11 33 01.0	+0.5								
MSTX	Muleshoe		86.92	53	eP		P	11 33 01.1	+0.3								
	comp=Z,130nm,1.9s																
MSTX	Muleshoe		86.92	53	P		P	11 33 00.8	0.0								
	baz=245																
T25A	Trinidad		87.09	49	P		P	11 33 01.4	-0.3								
	baz=244																
ENH	Enshi		87.14	303	eP		P	11 33 02.6	+0.7								
	comp=Z,208nm,1.1s																
PRP	Porcupine Dome		87.25	12	eP		P	11 33 01.3	-0.4								
RDOG	Red Dog Mine		87.26	5	eP		P	11 33 02.2	+0.7								
	comp=Z,12nm,0.7s																
833A	Chaparral WMA,		87.26	59	eP		P	11 33 03.6	+1.2								
	comp=Z,10nm,0.8s																
833A	Chaparral WMA,		87.26	59	P		P	11 33 02.8	+0.4								
	baz=247																
DAWY	Dawson		87.36	15	eP		P	11 33 01.7	-0.4								
	comp=Z,36nm,0.8s																
Q24A	Divide		87.38	47	eP		P	11 33 03.3	+0.2								
	comp=Z,9.1nm,0.9s																
Q24A	Divide		87.38	47	P		P	11 33 03.2	+0.1								
	baz=243																
ISCO	Idaho Springs		87.44	46	eP		P	11 33 03.4	0.0								
	comp=Z,3.2nm,0.8s																
ISCO	Idaho Springs		87.44	46	eP		P	11 33 03.4	0.0								
ISCO	Idaho Springs		87.44	46	P		P	11 33 03.3	0.0								
	baz=243																
ZEA	Zeya		87.45	330	eP		P	11 33 02.7	0.0								
ZEA					pmax		pmax										
	comp=E,30nm,1.0s																
ZEA					pmax		pmax										
	comp=N,65nm,0.9s																
ZEA					pmax		pmax										
	comp=Z,87nm,0.8s																
GSI	Gunungsitoli		87.50	272	eP		P	11 33 04.6	+0.7								
	comp=Z,136nm,1.3s																
SRAK	Srakaew		87.53	286	P		P	11 33 03.0	-0.9								
EGAK	Eagle		87.54	14	eP		P	11 33 02.5	-0.3								
	comp=Z,41nm,1.0s																
RLMT	Red Lodge		87.60	40	eP		P	11 33 04.2	+0.3								
	comp=Z,11nm,1.2s																
RLMT	Red Lodge		87.60	40	P		P	11 33 04.2	+0.3								
	baz=240																
TRTT	Trang		87.64	279	P		P	11 33 06.0	+1.5								
N23A	Red Feather La		87.72	45	eP		P	11 33 05.4	+0.8								
	comp=Z,10nm,1.0s																
N23A	Red Feather La		87.72	45	P		P	11 33 04.5	-0.1								
	baz=243																
BILL	Bilibino		87.77	353	eP		P	11 33 03.0	-0.9								
	comp=Z,

XAN pmax pmax
comp=Z,94nm,1.3s
XAN pmax pmax
comp=Z,600nm,2.9s
KSCO Kaye Shedlock' 89.17 48 *e*P **P 11 33 12.0 +0.7**
comp=Z,34nm,1.2s
KSCO Kaye Shedlock' 89.17 48 P **P 11 33 11.5 +0.1**
baz=245
TOLK Toolik Lake Re 89.36 9 *e*P **P 11 33 10.8 -0.6**
comp=Z,12nm,0.8s
TOLK Toolik Lake Re 89.36 9 P **P 11 33 10.7 -0.6**
baz=204
PHET Kaeng Krachan 89.37 284 P **P 11 33 14.8 +2.2**
PBKT Sadao Pong 89.38 288 *e*P **P 11 33 13.5 +0.9**
comp=Z,69nm,1.5s
PBKT Sadao Pong 89.38 288 P **P 11 33 14.0 +1.4**
SNAA Sanae 89.46 178 P **P 11 33 12.4 +0.2**
SNAA Sanae 89.46 178 P **P 11 33 12.3 +0.2**
comp=Z,25nm,0.8s,baz=203,slow=6.4,SNR=68
SNAA Sanae 89.46 178 *e*P **P 11 33 12.2 +0.1**
comp=Z,24nm,0.7s
VNA3 Neumayer Olymp 89.50 175 P **P 11 33 12.5 +0.3**
EPYK Eagle Plains 89.90 15 P **P 11 33 13.4 -0.5**
baz=216
VNA2 Neumayer--Watz 89.97 176 P **P 11 33 15.2 +0.8**
baz=191,slow=3.3
HHC Hu-ho-hao-te 89.98 314 *e*P **P 11 33 16.3 +1.3**
HHC S **S 11 43 53.5 +3.0**
HHC pmax pmax
comp=Z,63nm,0.9s
HHC pmax pmax
comp=Z,300nm,6.1s
UTTA Uttaradit 90.15 289 P **P 11 33 17.7 +1.6**
VNA1 Neumayer--Stat 90.18 176 P **P 11 33 16.2 +0.8**
WHTX Lake Whitney, 90.22 56 P **P 11 33 16.0 -0.2**
baz=248
LAO LASA Array 90.22 40 *e*P **P 11 33 16.5 +0.5**
comp=Z,31nm,0.8s
LAO LASA Array 90.22 40 P **P 11 33 16.4 +0.4**
baz=242
WMOK Wichita Mounta 90.25 53 *e*P **P 11 33 16.6 +0.3**
comp=Z,19nm,1.6s
WMOK Wichita Mounta 90.25 53 *e*P **P 11 33 16.7 +0.3**
WMOK Wichita Mounta 90.25 53 P **P 11 33 16.5 +0.1**
baz=247
SRDT SRDT 90.31 285 P **P 11 33 19.8 +2.8**
NVL N'lazarevskaya 90.36 182⇑ *i*P **P 11 33 17.7 +1.5**
NVL *e*S **SKSac 11 43 37.0 +9.3**
NVL pmax pmax
comp=Z,33nm,1.0s
NANT Nan 90.37 290 P **P 11 33 18.5 +1.3**
UTHA Uthaitani 90.42 286 P **P 11 33 19.2 +1.8**
RSSD Black Hills 90.43 43 *e*P **P 11 33 16.9 -0.3**
comp=Z,19nm,1.1s
RSSD Black Hills 90.43 43 *e*P **P 11 33 16.9 -0.3**
RSSD pmax pmax
comp=Z,19nm,1.1s
RSSD Black Hills 90.43 43 P **P 11 33 16.5 -0.7**
baz=244
U32A Winter Ranch, 90.72 52 *e*P **P 11 33 19.6 +1.1**
comp=Z,29nm,0.9s
KMI Kunming 90.76 296 P **P 11 33 20.0 +0.8**
KMI pP pP 11 34 04.3 -4.9
KMI sP sP 11 34 23.0 -7.4
KMI S **S 11 43 59.5 +1.0**
KMI sS sS 11 45 16.5 -10
KMI SS **SS 11 50 02.5 -3.7**
KMI pmax pmax
comp=Z,45nm,1.1s
KMI pmax pmax
comp=Z,210nm,4.7s
KMI LR LR
comp=Z,740nm,14.4s
KMI LR LR
comp=Z,750nm,15.5s
KMI LR LR
comp=Z,740nm,15.1s
SUKH Sukhothai 90.89 288 P **P 11 33 21.2 +1.6**
BTO Baotou 90.94 313 *e*P **P 11 33 20.5 +1.0**
CBKS Cedar Bluff 91.14 49 P **P 11 33 20.2 -0.2**
baz=247
UMPA Umpang Tak 91.16 287 P **P 11 33 23.1 +2.2**
LAMP Lampang 91.23 289 P **P 11 33 22.6 +1.4**
PAYA Payao 91.30 290 P **P 11 33 22.7 +1.2**
ROC1 El Roble 91.38 126 *e*P **P 11 33 23.6 +1.6**
comp=Z,17nm,0.8s
PEL Peldehue 91.57 126 *e*P **P 11 33 23.9 +1.2**
comp=Z,44nm,0.9s
PEL Peldehue 91.57 126 *e*P **P 11 33 23.9 +1.2**
CM01 Chiang Mai Arr 91.80 289 *e*P **P 11 33 24.6 +0.8**
CM31 Chiang Mai Arr 91.83 289 *e*P **P 11 33 25.6 +1.7**
CM31 Chiang Mai Arr 91.83 289 P **P 11 33 25.5 +1.5**
SNR=17
CMAR Chiang Mai Arr 91.83 289 P **P 11 33 24.4 +0.4**
comp=Z,36nm,1.0s,baz=113,slow=2.8,SNR=77
CMAR PP **PP 11 37 08.0 +1.8**
comp=Z,1.2nm,0.5s,baz=130,slow=6.4,SNR=4.0
CMAR Chiang Mai Arr 91.83 289 *i* P **P 11 33 24.7 +0.7**
CMAR pmax pmax
comp=Z,36nm,1.0s
CMMT Chiang Mai 91.94 289 P **P 11 33 25.3 +0.8**
CHTO Chiang Mai 91.94 289 *e*P **P 11 33 24.4 -0.1**
comp=Z,57nm,1.2s
CHTO Chiang Mai 91.94 289 P **P 11 33 24.9 +0.4**
SNR=12
CHTO Chiang Mai 91.94 289 *e*P **P 11 33 24.8 +0.3**
CHTO Chiang Mai 91.94 289 P **P 11 33 25.4 +0.9**
comp=Z,184nm,1.0s,comp=Z,2µm
CD2 Chengdu 91.95 302 P **P 11 33 24.0 -0.3**
CD2 S **S 11 44 09.5 +0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.0s
CD2 LR LR
comp=Z,1µm,16.9s
CD2 LR LR
comp=Z,830nm,15.1s
CD2 LR LR
comp=Z,1µm,13.5s
INK Inuvik 92.20 14 P **P 11 33 23.5 -1.0**
comp=Z,26nm,0.7s,baz=248,slow=3.3,SNR=105
INK Inuvik 92.20 14 *e*P **P 11 33 23.4 -1.0**
comp=Z,28nm,0.8s
DGMT Dagmar 92.25 39 *e*P **P 11 33 25.3 +0.1**
comp=Z,60nm,0.9s
DGMT Dagmar 92.25 39 P **P 11 33 25.9 +0.7**
baz=244
GO04 Tololo Observa 92.67 123 *e*P **P 11 33 28.7 +0.7**
comp=Z,35nm,0.9s
X37A Clayton 92.80 54 *e*P **P 11 33 28.5 +0.4**
comp=Z,20nm,1.0s
TUL1 Leonard 92.95 53 *e*P **P 11 33 29.4 +0.7**
comp=Z,12nm,0.8s
TUL1 Leonard 92.95 53 P **P 11 33 28.5 -0.3**
baz=249
LCO Las Campanas 93.21 122 *e*P **P 11 33 32.1 +1.5**
comp=Z,21nm,0.8s
LCO Las Campanas 93.21 122 *e*P **P 11 33 32.1 +1.5**
LCO pmax pmax
comp=Z,21nm,0.8s
BGNE Belgrade 93.27 47 *e*P **P 11 33 31.1 +0.9**
comp=Z,48nm,0.8s
BGNE Belgrade 93.27 47 P **P 11 33 30.2 +0.1**
baz=248
KSU1 Kansas State U 93.50 50 P **P 11 33 31.5 +0.3**
baz=249
LZH Lanzhou 93.72 307 *e*P **P 11 33 33.5 +1.0**
LZH pP pP 11 34 19.0 -3.6
LZH sP sP 11 34 34.3 -9.5
LZH SKS **SKSac 11 43 46.0 -1.9**
LZH S **ScS 11 44 28.8 +3.4**
LZH pmax pmax
comp=Z,29nm,1.0s
LZH pmax pmax
comp=Z,360nm,4.3s
LZH LR LR
comp=Z,530nm,11.4s
LZH LR LR
comp=Z,650nm,15.2s
LZH LR LR
comp=Z,810nm,15.6s
YKA Yellowknife Ar 94.15 24 P **P 11 33 32.7 -0.9**
comp=Z,8.0nm,0.8s,baz=241,slow=4.5,SNR=58
YKA PKKP **PKKPdf 11 50 33.3 -2.7**
comp=Z,0.6nm,0.5s,baz=42,slow=2.3,SNR=9.6
YKB5 Yellowknife Ar 94.15 24 *e*P **P 11 33 31.9 -1.7**
MIAR Mount Ida 94.17 55 *e*P **P 11 33 35.7 +1.3**
comp=Z,24nm,1.6s
MIAR Mount Ida 94.17 55 *e*P **P 11 33 35.7 +1.3**
MIAR pmax pmax
comp=Z,24nm,1.6s
MIAR Mount Ida 94.17 55 P **P 11 33 34.9 +0.5**
baz=250
YKW3 Yellowknife Ar 94.19 24 *e*P **P 11 33 33.8 0.0**
comp=Z,6.6nm,0.8s
W39A Magazine 94.23 54 *e*P **P 11 33 35.5 +0.9**
comp=Z,64nm,1.7s
W39A Magazine 94.23 54 P **P 11 33 35.4 +0.7**
baz=250
ECSD EROS Data Cent 95.19 46 *e*P **P 11 33 38.8 0.0**
comp=Z,42nm,1.4s
ECSD EROS Data Cent 95.19 46 P **P 11 33 38.9 0.0**
baz=249
U40A Yellville 95.34 54 P **P 11 33 40.0 +0.3**
baz=251
V41A Mountainview 95.68 54 P **P 11 33 41.8 +0.5**
baz=251
ULAN Ulaanbaatar 95.75 319 *e*P **P 11 33 42.7 +1.2**
comp=Z,10nm,1.1s
ULN Ulaanbaatar 95.75 319 *e*P **P 11 33 43.3 +1.8**
U41A Viola 96.04 54 P **P 11 33 43.3 +0.3**
baz=251
SONA1 Songino Array 96.15 318 *e*P **P 11 33 41.9 -1.4**
SONA0 Songino Array 96.15 318 *e*P **P 11 33 44.1 +0.8**
SONA0 *e*PP **PP 11 37 37.9 -1.4**
SONM Songino Array 96.15 318 P **P 11 33 44.1 +0.8**
comp=Z,3.1nm,0.9s,baz=133,slow=2.6,SNR=7.8
SONM PP **PP 11 37 37.9 -1.4**
comp=Z,1.3nm,0.9s,baz=90,slow=5.8,SNR=2.6
T41A Mountain View 96.39 53 P **P 11 33 44.9 +0.4**
baz=251
S41A Jillco Farms, 96.58 53 P **P 11 33 45.6 +0.3**
baz=251
T42A Van Buren 96.89 53 P **P 11 33 47.1 +0.4**
baz=252
SCIA State Center 96.91 48 P **P 11 33 46.8 +0.1**
baz=251
R41A Rosebud 97.08 52 P **P 11 33 47.3 -0.3**
baz=252
N39A Derby Farms, D 97.08 49 P Pdif 11 33 47.7 +0.2
baz=251
CCM Cathedral Cave 97.10 52 P **P 11 33 47.5 -0.1**
baz=252
LVC Limon Verde 97.26 117 *e*P Pdif 11 33 53.2 +3.9
AGMN Agassiz Nation 97.29 41 P **P 11 33 48.0 -0.2**
baz=250
S42A Caledonia 97.35 53 P Pdif 11 33 49.4 +0.6
baz=252
M39A Webster 97.51 49 P Pdif 11 33 49.8 +0.4
baz=252
T43A Greenville 97.52 53 P Pdif 11 33 50.0 +0.4
baz=252
P41A Barry, Barry 97.74 51 P Pdif 11 33 50.7 +0.2
baz=252
GTA Gaotai 97.83 309 *e*P Pdif 11 33 52.5 +1.4
GTA S **S 11 45 04.8 +5.4**
GTA pmax pmax
comp=Z,5.0nm,1.3s
GTA pmax pmax
comp=Z,260nm,7.3s
GTA LR LR
comp=Z,260nm,17.8s
GTA LR LR
comp=Z,220nm,17.8s
GTA LR LR
comp=Z,440nm,17.1s
S43A Fulton Ridge, 97.83 53 P **P 11 33 50.9 0.0**
baz=252
TIXI Tiksi 97.88 345 P **P 11 33 48.8 -1.5**
comp=Z,8.1nm,0.9s,baz=121,slow=3.2,SNR=19
TIXI Tiksi 97.88 345⇑ *e*P **P 11 33 48.2 -2.1**
TIXI pmax pmax
comp=Z,10.0nm,0.9s
M40A Post Highland 97.95 49 P **P 11 33 51.2 -0.2**
baz=252
O41A Passleys Farm, 98.01 50 P Pdif 11 33 52.1 +0.4
baz=252
K39A Oelwein 98.09 48 P Pdif 11 33 52.1 +0.1
baz=252
R43A Red Bud 98.16 52 P Pdif 11 33 52.5 +0.1
baz=252
P42A Winchester 98.24 51 P **P 11 33 52.7 -0.1**
baz=252
SPMN Marine on St. 98.26 45 P Pdif 11 33 53.0 +0.3
baz=252
148A Greensboro 98.32 58 P **P 11 33 53.0 -0.2**
baz=253
L40A Anamosa 98.36 48 *e*P Pdif 11 33 54.1 +0.9
comp=Z,22nm,0.9s
L40A Anamosa 98.36 48 P **P 11 33 53.2 0.0**
baz=252
J39A Decorah 98.42 47 P **P 11 33 53.3 -0.1**
baz=252
F37A Hinrichs Farm, 98.53 45 P Pdif 11 33 54.1 +0.3
baz=252
K40A Colesburg 98.62 48 P **P 11 33 54.2 -0.1**
baz=252
I39A Houston 98.70 47 P **P 11 33 54.5 -0.2**
baz=252
J40A Soldiers Grove 99.11 47 P **Pdif 11 33 56.3 -0.2**
baz=253
H39A Augusta 99.12 46 P **Pdif 11 33 56.7 +0.2**
baz=253
WVT Waverly 99.13 55 P **Pdif 11 33 56.6 -0.2**
baz=253
K41A Shullsburg 99.18 48 P **Pdif 11 33 56.8 0.0**
baz=253
JFWS Jewell Farm 99.31 48 P **Pdif 11 33 56.8 -0.6**
baz=253
I40A Norwalk 99.34 47 P **Pdif 11 33 57.0 -0.5**
baz=253
J41A Loganville 99.60 48 P **Pdif 11 33 58.3 -0.4**
baz=253
H40A Chili 99.71 46 P **Pdif 11 33 58.7 -0.4**
baz=253
I41A Arkdale 99.90 47 P **Pdif 11 34 00.2 +0.2**
baz=253
K42A Prairie Point, 99.90 48 P **Pdif 11 34 00.8 +0.7**
baz=254
LPAZ La Paz 100.45 111 P **Pdif 11 34 04.9 +1.0**
comp=Z,1.6nm,0.8s,baz=204,slow=7.8,SNR=3.1
SIV San Ignacio 106.75 114 PKKPbc PKKPbc 11 49 57.9 -1.2
comp=Z,1.6nm,0.7s,baz=117,slow=6.0,SNR=7.5
ZAA1 Zalesovo Array 110.76 321 *e*PKiKP **PKiKP 11 38 45.5 -1.4**
ZAA1 *e*PP PP 11 39 18.4 -9.1
ZALV Zalesovo Beam 110.76 321 PKiKP **PKiKP 11 38 45.5 -1.4**
comp=Z,7.5nm,0.7s,baz=161,slow=1.9,SNR=26
ZALV PP PP 11 39 18.4 -9.1
comp=Z,0.7nm,0.5s,baz=106,slow=11,SNR=2.9
NVS Novosibirsk 111.74 322 *e*PKiKP **PKiKP 11 38 45.2 -3.5**
MK32 Makanchi Array 111.84 314 *e*Pdif **Pdif 11 34 55.1 +2.0**
MK32 *e*PKiKP **PKiKP 11 38 47.7 -1.5**
MK32 *e*PP PP 11 39 26.8 -8.7
MK32 *e*PKKPbc **PKKPbc 11 49 41.1 -2.6**
MKAR Makanchi Array 111.84 314 Pdiff **Pdif 11 34 55.1 +2.0**
comp=Z,0.4nm,0.6s,baz=86,slow=7.5,SNR=3.0
MKAR PKiKP **PKiKP 11 38 47.7 -1.5**
comp=Z,2.6nm,0.5s,baz=176,slow=0.8,SNR=23
MKAR PP PP 11 39 26.8 -8.7
comp=Z,3.5nm,1.1s,baz=97,slow=9.9,SNR=4.5
MKAR PKKPbc **PKKPbc 11 49 41.1 -2.6**
comp=Z,1.1nm,0.7s,baz=262,slow=2.5,SNR=6.6
MKAR Makanchi Array 111.84 314*c* *i*PKiKP **PKiKP 11 38 47.0 -2.2**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
KURK Kurchatov 114.45 318⇓ *i*PKiKP PKPdf 11 38 52.3 -1.7
KURK pmax pmax
comp=Z,9.0nm,1.0s
KSH Kashi 115.92 305 *e*PKP **PKPdf 11 39 01.5 +4.1**
NRN Naryn 116.02 307 *e*PKPdf **PKPdf 11 38 57.2 -0.6**
NRN Naryn 116.02 307 *e*PKiKP **PKPdf 11 38 57.2 -0.6**
AAK Ala-Archa 117.18 309 *e*PKPdf **PKPdf 11 38 59.2 -0.6**
AAK Ala-Archa 117.18 309 *e*PKiKP **PKPdf 11 38 59.2 -0.6**
SFK Sufi-Kurgan 117.85 306 *e*PKPdf **PKPdf 11 39 00.5 -0.7**
SFK Sufi-Kurgan 117.85 306 *e*PKiKP **PKPdf 11 39 00.5 -0.7**
BRVK Borovoye 119.46 321 *e*PKPdf **PKPdf 11 39 01.8 -1.8**
BRVK Borovoye 119.46 321*c* *i*PKiKP **PKPdf 11 39 02.7 -0.9**
BRVK pmax pmax
comp=Z,13nm,0.7s
KK31 Karatay Array 120.11 309 *e*PKPdf **PKPdf 11 39 03.8 -1.4**
KK31 Karatay Array 120.11 309 *e*PKiKP **PKPdf 11 39 03.8 -1.4**
KKAR Karatay Array 120.11 309 *e*PKPdf **PKPdf 11 39 03.8 -1.4**
KKAR Karatay Array 120.11 309 *e*PKIKP **PKPdf 11 39 03.8 -1.4**
KBL Kabul 121.20 299 *e*PKPdf **PKPdf 11 39 05.1 -2.7**
KBL Kabul 121.20 299 *e*PKiKP **PKPdf 11 39 05.1 -2.7**
SVE Sverdlovsk 124.03 327 *e*PKiKP **PKPdf 11 39 11.5 -0.7**
SVE pmax pmax
comp=Z,24nm,0.8s
ARU Arti 125.25 327 *e*PKPdf **PKPdf 11 39 13.6 -1.0**
ARU Arti 125.25 327 *i* PKiKP **PKPdf 11 39 13.8 -0.8**
ARU 11 41 05.2
ARU 11 46 07.7
ABKAR Akbulak array 126.56 318 *e*PKPdf **PKPdf 11 39 16.6 -0.7**
LVZ Lovozero 127.49 346⇑ *e*PKiKP **PKPdf 11 39 19.8 +1.2**
ARA0 ARCESS Array S 127.81 351 *e*PKPdf **PKPdf 11 39 17.9 -1.2**
ARCES ARCESS Array B 127.81 351 PKP **PKPdf 11 39 17.9 -1.2**
comp=Z,12nm,0.7s,baz=7.4,slow=1.5,SNR=42
ARCES ARCESS Array B 127.81 351 *e*PKPdf **PKPdf 11 39 18.0 -1.2**
ARCES ARCESS Array B 127.81 351 *e*PKiKP **PKPdf 11 39 18.0 -1.2**
APA Apatity 128.04 346⇑ *i*PKiKP **PKPdf 11 39 19.8 +0.2**
APA pmax pmax
comp=Z,11nm,0.7s
BOSA Boshof 128.62 204 PKP **PKPdf 11 39 22.1 -0.1**
comp=Z,3.2nm,0.6s,baz=160,slow=2.4,SNR=6.7
PRGR Permogore 128.62 336 *e*PKiKP **PKPdf 11 39 21.3 +0.5**
PRGR pmax pmax
comp=Z,20nm,0.9s
KLMR Klimovskoe 131.38 338 *e*PKiKP **PKPdf 11 39 24.9 -1.2**
KLMR pmax pmax
comp=Z,17nm,1.0s
KLMR Klimovskoe 131.38 338 *e*PKPdf **PKPdf 11 39 24.9 -1.2**
KLMR AMP 11 39 27.6
comp=Z,17nm,1.1s
FIA0 FINESS Array S 134.92 346 *e*PKPpre PKPpre 11 39 19.6
FIA0 *e*PKPdf **PKPdf 11 39 32.9 +0.1**
FIA0 FINESS Array S 134.92 346 *e*PKHKP PKPpre 11 39 19.6
FIA0 *e* 11 39 32.9
FINES FINESS Array B 134.92 346 PKhKP PKPpre 11 39 19.6
comp=Z,6.7nm,1.1s,baz=172,slow=3.9,SNR=4.1
FINES PKP **PKPdf 11 39 32.9 +0.1**
comp=Z,12nm,0.7s,baz=40,slow=3.2,SNR=14
FINES FINESS Array B 134.92 346*c* *i*PKiKP **PKPdf 11 39 34.0 +1.2**
FINES pmax pmax
comp=Z,12nm,0.7s
OBN Obninsk 136.48 334⇓ *i*PKiKP **PKPdf 11 39 37.6 +1.8**
OBN *e* 11 40 24.6
OBN *e* 11 42 16.8
OBN *e*PPP PPP 11 45 23.7
OBN *e* 11 46 29.9
OBN pmax pmax
comp=Z,15nm,0.6s
VRH Novokhopyorsk 136.48 326 *e*PKiKP **PKPdf 11 39 34.7 -1.3**
VRH pmax pmax
comp=Z,10.0nm,0.7s
LPSR Galich'ya Gora 137.06 330 *e*PKiKP PKPpre 11 39 31.6
LPSR pmax pmax
comp=Z,10.0nm,0.6s
NC303 NORSAR Array S 137.50 355 *e*PKPdf **PKPdf 11 39 35.2 -2.4**
NB2 NORSAR Subarra137.70 355 PKP PKPpre 11 39 27.9
comp=Z,2.6nm,0.8s,baz=17,slow=2.6
NB200 NORSAR Array S 137.70 355 *e*PKPpre PKPpre 11 39 27.6
NB200 *e*PKPdf **PKPdf 11 39 35.8 -2.2**
NOA NORSAR Array B 137.70 355 PKhKP PKPpre 11 39 27.6
comp=Z,0.7nm,0.6s,baz=41,slow=4.2,SNR=4.7
NOA PKP **PKPdf 11 39 35.8 -2.2**
comp=Z,2.2nm,0.8s,baz=18,slow=2.5,SNR=6.3
VSR Storozhevoye 137.78 328 *e*PKiKP **PKPdf 11 39 39.6 +1.2**
VSR pmax pmax
comp=Z,20nm,1.3s
VORD Divnogorie 137.87 327 *e*PKiKP **PKPdf 11 39 38.3 -0.2**
VORD pmax pmax
comp=Z,10.0nm,0.7s
HFS Hagfors 138.35 353 PKhKP PKPpre 11 39 29.5
comp=Z,4.6nm,0.7s,baz=83,slow=4.5,SNR=8.7
ZEI Tsey 139.19 314 *i* PKHKP PKPpre 11 39 33.3
ZEI pmax pmax
comp=Z,6.0nm,0.9s
KBZ Khabaz 139.47 316 PKhKP PKPpre 11 39 34.0
comp=Z,2.3nm,0.8s,baz=188,slow=7.1,SNR=4.5
KBZ PP **PP 11 42 33.5 -4.9**
comp=Z,3.1nm,0.9s,baz=53,slow=2.8,SNR=5.2
KIV Kislovodsk 139.51 317 *e*PKiKP **PKPdf 11 39 42.1 +0.2**
KIV pmax pmax
comp=Z,7.0nm,0.9s
GNI Garni 139.56 310⇑ *i*PKiKP **PKPdf 11 39 44.5 +2.3**
NEY Neytrino 139.79 316⇓ *e*PKiKP **PKPdf 11 39 43.1 +0.5**
RAYN Ar Rayn 141.60 284 *e*PKPpre PKPpre 11 39 41.1
RAYN Ar Rayn 141.60 284 *e*PKHKP PKPpre 11 39 41.1
KMBO Kilima Mbogo 142.13 242 PKhKP PKPpre 11 39 43.1
comp=Z,4.2nm,0.8s,baz=130,slow=2.4,SNR=8.1
KMBO Kilima Mbogo 142.13 242 *e*PKPdf **PKPdf 11 39 45.9 -1.9**
KMBO Kilima Mbogo 142.13 242 P PKPpre 11 39 44.4
SNR=5.6
KMBO Kilima Mbogo 142.13 242*c* *i*PKiKP **PKPdf 11 39 50.7 +2.9**
KMBO pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 142.74 334 PKhKP PKPpre 11 39 42.2
comp=Z,3.9nm,0.4s,baz=41,slow=3.9,SNR=16
AKBB Malin Array Si 142.74 334 *e*PKPdf **PKPdf 11 39 46.3 -1.1**
AKBB Malin Array Si 142.74 334 *e*PKiKP **PKPdf 11 39 46.3 -1.1**
KIEV Kiev 142.75 334 *e*PKPdf **PKPdf 11 39 46.3 -1.1**
KIEV Kiev 142.75 334 *e*PKiKP **PKPdf 11 39 46.3 -1.1**
AK11 Malin Array Si 142.78 334 *e*PKPdf **PKPdf 11 39 46.1 -1.4**
SHEL Horse Pasture 143.87 163 *i* PKiKP **PKPdf 11 39 50.7 +0.2**
SIM Simferopol' 144.25 323*ce* PKiKP **PKPdf 11 39 49.9 -0.3**
SIM pmax pmax
comp=Z,160nm,0.8s
SIM pmax pmax
comp=Z,190nm,10.9s
GKP Gorka Klasztor 144.36 347 *e*PKP **PKPdf 11 39 50.4 +0.3**
GKP Gorka Klasztor 144.36 347 *e*PKiKP **PKPdf 11 39 50.4 +0.3**
DSB Dublin 144.76 11 *e*PKPbc PKPbc 11 39 49.9 -0.3
BEL Belsk 144.78 342 *e*PKP PKPbc 11 39 50.3 0.0
BEL Belsk 144.78 342 *e*PKiKP PKPbc 11 39 50.3 -0.1
LVV L'vov 145.47 338 *e*PKiKP **PKPdf 11 39 51.6 -0.6**
KIS Kishinev 145.66 330 *e*PKP **PKPdf 11 39 46.0 -6.6**
KIS XM 11 39 53.0
comp=Z,400nm,1.6s
KIS Kishinev 145.66 330 *e*PKHKP PKPpre 11 39 46.0
KIS *i* 11 39 50.5
KIS pmax pmax
comp=Z,400nm,1.6s
KIS pmax pmax
comp=Z,900nm,6.0s
KIS pmax pmax
comp=Z,700nm,12.0s
KWP Kalwaria Pacla 146.09 339 *e*PKP **PKPbc 11 39 54.2 -0.3**
KWP Kalwaria Pacla 146.09 339 *e*PKP2 **PKPbc 11 39 54.2 -0.3**
IAS Iasi 146.10 331⇑ *i*P **PKPdf 11 39 52.9 -0.4**
IAS Iasi 146.10 331⇑ PKiKP **PKPdf 11 39 52.9 -0.4**
LEOM Leova 146.31 330⇓ *i*P **PKPbc 11 39 55.1 -0.1**
LEOM Leova 146.31 330⇓ PKP2 **PKPbc 11 39 55.1 -0.1**
PRAR RASCA 146.56 333⇑ *i*P **PKPab 11 39 57.8 +0.4**
ILGA Ilgaz 146.72 318 *e*PKPdf **PKPbc 11 39 57.3 +0.4**
BUR08 Bucovina Ar. S 146.78 334 *e*PKPbc **PKPbc 11 39 56.9 +0.2**
BUR04 Bucovina Ar. S 146.79 334 *e*PKPbc **PKPbc 11 39 56.3 -0.4**
BURAR Bucovina Array 146.79 334⇑ *i*P **PKPab 11 39 57.8 -0.6**
BURAR Bucovina Array 146.79 334⇑ PKP2 **PKPab 11 39 57.8 -0.6**
KSP Ksiaz 146.84 346 *e*PKP **PKPbc 11 39 56.6 0.0**
KSP Ksiaz 146.84 346 *e*PKP2 **PKPbc 11 39 56.6 0.0**
BIZ Bicaz 146.94 332⇑ *i*P **PKPbc 11 39 57.7 +0.7**
TLCR 146.95 328⇓ *i*P **PKPbc 11 39 57.2 +0.1**
TLCR 146.95 328⇓ PKP2 **PKPbc 11 39 57.2 +0.1**
WTSB Winterswijk 147.01 357 *e*PKPbc **PKPbc 11 39 56.1 -0.9**
WTSB *ep*PKPbc **pPKPab 11 40 54.8 +4.9**
CLL Collm 147.03 350 *e*PKPbc **PKPbc 11 39 56.4 -0.7**
CLL Collm 147.03 350⇓ *i*PKPdf **PKPbc 11 39 56.6 -0.5**
comp=Z,51nm,1.0s
CLL *i* PKPbc **PKPab 11 39 57.8 -1.2**
comp=Z,96nm,0.8s
CLL *ep*PKPbc **pPKPab 11 40 55.0 +5.0**
CLL *i* pPKPab **pPKPbc 11 40 57.7 +8.7**
comp=Z,66nm,1.0s
CLL *i* 11 41 00.9
CLL *e*SKPbc **SKiKP 11 43 18.0 +1.7**
CLL *e*PSKS 11 53 38.0
CLL *e*SS **SS 12 02 05.0 -0.8**
CLL *e*PSS PSS 12 03 12.0
CLL *e*PSPS 12 03 48.0
CLL Collm 147.03 350⇓ *i*PKP2 **PKPbc 11 39 56.6 -0.5**
CLL pmax pmax
comp=Z,51nm,1.0s
CLL MLR MLR
comp=Z,300nm,19.0s
NIE Niedzica 147.06 341 *e*PKP **PKPbc 11 39 57.4 +0.1**

NIE	**Niedzica**	**147.06 341**	*e*PKP2	**PKPbc**	**11 39 57.4**	**+0.1**
UZH	**Uzhgorod**	**147.08 338**	⇓*i*PKP2	**PKPbc**	**11 39 56.8**	**-0.5**
UPC	**Upice**	**147.21 346**	*e*PKP	**PKPbc**	**11 39 57.7**	**0.0**
UPC			*ex*	x	11 40 01.8	
UPC	**Upice**	**147.21 346**	*e*PKP2	**PKPbc**	**11 39 57.7**	**0.0**
BRG	**Berggiesshubel**	**147.29 349**	*e*PKP	**PKPdf**	**11 39 54.9**	**-0.3**
	comp=Z,34nm,1.9s					
BRG			*i*		11 39 57.5	
	comp=Z,48nm,0.8s					
BRG			*e*		11 40 12.1	
	comp=Z,20nm,1.0s					
BRG			pPKP	**pPKPab**	**11 40 56.2**	**+5.2**
	comp=Z,37nm,1.2s					
BRG	**Berggiesshubel**	**147.29 349**	*e*PKIKP	**PKPdf**	**11 39 54.9**	**-0.3**
BRG			*i*		11 39 57.5	
BRG			SS	SS	12 02 06.0	-2.8
BRG			pmax	pmax		
	comp=Z,34nm,1.9s					
DPC	**Dobruska-Polom**	**147.29 346**	*e*PKP	**PKPbc**	**11 39 58.2**	**+0.3**
DPC	**Dobruska-Polom**	**147.29 346**	*e*PKP2	**PKPbc**	**11 39 58.2**	**+0.3**
CFR	**Carcaliu**	**147.30 328**	⇑*i*P	**PKPbc**	**11 39 57.7**	**-0.3**
CFR	**Carcaliu**	**147.30 328**	⇑PKP2	**PKPbc**	**11 39 57.7**	**-0.3**
OKC	**Ostrava-Krasne**	**147.31 344**	*e*PKP	**PKPbc**	**11 39 57.5**	**-0.4**
OKC	**Ostrava-Krasne**	**147.31 344**	*e*PKP2	**PKPbc**	**11 39 57.5**	**-0.4**
TRPA	**Tarpa**	**147.42 337**	⇑*i*P	**PKPbc**	**11 39 58.2**	**0.0**
TRPA	**Tarpa**	**147.42 337**	⇓*e*P	**PKPbc**	**11 39 58.1**	**-0.1**
BMR	**Baia Mare**	**147.44 336**	⇑*i*P	**PKPbc**	**11 39 57.9**	**-0.4**
BMR	**Baia Mare**	**147.44 336**	⇑PKP2	**PKPbc**	**11 39 57.9**	**-0.4**
BR101	**Keskin Array S**	**147.46 316**	*e*PKPdf	**PKPdf**	**11 39 55.0**	**-1.1**
BR101			*e*PKPbc	**PKPbc**	**11 39 57.6**	**-1.2**
BR101			*ep*PKPdf	**pPKPab**	**11 40 54.8**	**+2.5**
BR101			*e*PP	**PP**	**11 43 25.4**	**-1.1**
BR131	**Keskin Array S**	**147.46 316**	*e*PKPbc	**PKPbc**	**11 39 57.6**	**-1.3**
BR131	**Keskin Array S**	**147.46 316**	P	**PKPbc**	**11 39 58.1**	**-0.7**
	SNR=44					
BRTR	**Keskin Array B**	**147.46 316**	PKP	**PKPdf**	**11 39 55.0**	**-1.1**
	comp=Z,41nm,0.8s,baz=143,slow=4.5,SNR=83					
BRTR			PKPbc	**PKPbc**	**11 39 57.6**	**-1.3**
	comp=Z,42nm,0.8s,baz=144,slow=4.9,SNR=83					
BRTR			pPKPbc	**pPKPab**	**11 40 54.8**	**+2.5**
	comp=Z,5.5nm,0.9s,baz=99,slow=1.9,SNR=0.9					
BRTR			PP	**PP**	**11 43 25.4**	**-1.1**
	comp=Z,6.6nm,1.2s,baz=95,slow=4.3,SNR=3.9					
VRI	**Vrincioaia**	**147.48 331**	⇑*i*P	**PKPbc**	**11 39 58.4**	**-0.1**
VRI	**Vrincioaia**	**147.48 331**	⇑PKP2	**PKPbc**	**11 39 58.4**	**-0.1**
PLOR	**Panska Ves**	**147.50 348**	*e*PKP	**PKPbc**	**11 39 58.3**	**-0.1**
PVCC	**Panska Ves**	**147.50 348**	*e*PKP2	**PKPbc**	**11 39 58.3**	**-0.1**
PLOR	**Plostina**	**147.52 331**	⇑*i*P	**PKPbc**	**11 39 58.3**	**-0.4**
PLOR	**Plostina**	**147.52 331**	⇑PKP2	**PKPbc**	**11 39 58.3**	**-0.4**
MORC	**Moravsky Berou**	**147.52 344**	*e*PKPbc	**PKPbc**	**11 39 57.8**	**-0.8**
MORC	**Moravsky Berou**	**147.52 344**	⇑*i*P	**PKPdf**	**11 39 57.0**	**+1.3**
MORC	**Moravsky Berou**	**147.52 344**	⇑PKIKP	**PKPdf**	**11 39 57.0**	**+1.3**
MORC	**Moravsky Berou**	**147.52 344**	*e*PKP	**PKPbc**	**11 39 57.9**	**-0.7**
LANS	**Liptovska Anna**	**147.56 342**	*e*PKP2	**PKPbc**	**11 39 59.5**	**+0.8**
LANS	**Liptovska Anna**	**147.56 342**	*e*PKP	**PKPbc**	**11 39 59.5**	**+0.8**
ARCR	**ARCALIA**	**147.57 334**	⇑*i*P	**PKPbc**	**11 39 59.2**	**+0.5**
TIRR	**Tirgusor**	**147.67 327**	*e*PKPbc	**PKPbc**	**11 39 59.8**	**+0.8**
TIRR	**Tirgusor**	**147.67 327**	⇑*i*P	**PKPbc**	**11 40 00.3**	**+1.3**
TIRR	**Tirgusor**	**147.67 327**	⇑PKP2	**PKPbc**	**11 40 00.3**	**+1.3**
MBAR	**Mbarara**	**147.71 236**	*e*PKPbc	**PKPbc**	**11 40 00.2**	**-0.1**
MBAR	**Mbarara**	**147.71 236**	⇓*i*PKIKP	**PKPbc**	**11 39 59.4**	**-0.9**
HARR	**Harsova**	**147.75 328**	⇑*i*P	**PKPbc**	**11 39 59.3**	**+0.1**
HARR	**Harsova**	**147.75 328**	⇑PKP2	**PKPbc**	**11 39 59.4**	**+0.2**
TLB	**Topalu**	**147.77 328**	⇑*i*P	**PKPbc**	**11 39 59.5**	**+0.2**
TLB	**Topalu**	**147.77 328**	⇑PKP2	**PKPbc**	**11 39 59.5**	**+0.2**
KECS	**Kecovo**	**147.82 340**	*e*PKIKP	**PKPbc**	**11 39 57.8**	**-1.6**
KECS			*e*		11 39 59.0	
KECS	**Kecovo**	**147.82 340**	*e*PKP	**PKPbc**	**11 39 57.8**	**-1.6**
KECS			*e*		11 39 59.0	
MOX	**Moxa**	**147.88 351**	PKP2	**PKPbc**	**11 39 59.4**	**-0.1**
ANTO	**Ankara**	**147.94 317**	*e*PKPbc	**PKPbc**	**11 39 59.9**	**-0.2**
ANTO	**Ankara**	**147.94 317**	⇑*i*P	**PKPbc**	**11 40 00.3**	**+0.2**
ANTO	**Ankara**	**147.94 317**	P	**PKPbc**	**11 39 59.6**	**-0.5**
	SNR=10					
ANTO	**Ankara**	**147.94 317**	⇑PKP2	**PKPbc**	**11 40 00.3**	**+0.2**
PRA	**Prague**	**147.96 348**	*e*PKP	**PKPbc**	**11 39 59.5**	**-0.1**
PRA	**Prague**	**147.96 348**	*e*PKP2	**PKPbc**	**11 39 59.5**	**-0.1**
DOPR	**Dopca**	**148.01 332**	⇑*i*P	**PKPdf**	**11 39 57.7**	**+1.1**
GOPC	**GO Pecny, Ondr**	**148.04 347**	*e*PKP	**PKPbc**	**11 39 59.7**	**-0.2**
GOPC	**GO Pecny, Ondr**	**148.04 347**	*e*PKP2	**PKPbc**	**11 39 59.7**	**-0.2**
AMRR	**Amara**	**148.10 328**	⇑*i*P	**PKPbc**	**11 40 01.5**	**+1.4**
AMRR	**Amara**	**148.10 328**	⇑PKP2	**PKPbc**	**11 40 01.5**	**+1.4**
ISR	**Istrita**	**148.12 330**	⇑*i*P	**PKPbc**	**11 40 00.5**	**+0.2**
ISR	**Istrita**	**148.12 330**	⇑PKP2	**PKPbc**	**11 40 00.5**	**+0.2**
MLR	**Muntele Rosu**	**148.12 331**	*e*PKPbc	**PKPbc**	**11 40 00.0**	**-0.4**
MLR	**Muntele Rosu**	**148.12 331**	⇑*i*P	**PKPbc**	**11 40 00.3**	**-0.1**
MLR	**Muntele Rosu**	**148.12 331**	⇑PKP2	**PKPbc**	**11 40 00.3**	**-0.1**
NKC	**Novy Kostel**	**148.16 350**	*e*PKP	**PKPbc**	**11 40 00.8**	**+0.6**
NKC	**Novy Kostel**	**148.16 350**	*e*PKP2	**PKPbc**	**11 40 00.8**	**+0.6**
CJR	**Cluj-Napoca**	**148.18 335**	⇑*i*P	**PKPbc**	**11 40 00.1**	**-0.3**
CJR	**Cluj-Napoca**	**148.18 335**	⇑PKP2	**PKPbc**	**11 40 00.1**	**-0.3**
VRAC	**Vranov**	**148.20 345**	PKPbc	**PKPbc**	**11 40 00.4**	**+0.1**
	baz=34,slow=7.3					
VRAC	**Vranov**	**148.20 345**	⇑*i*P	**PKPbc**	**11 40 00.4**	**+0.1**
VRAC	**Vranov**	**148.20 345**	*e*PKP	**PKPbc**	**11 39 59.8**	**-0.5**
BEBN	**Eben Emael**	**148.22 359**	⇑PKP	**PKPbc**	**11 40 00.4**	**+0.1**
UCC	**Uccle**	**148.24 0**	⇑PKP	**PKPbc**	**11 40 00.5**	**+0.2**
HGN	**Heimansgroeve**	**148.25 358**	*e*PKPbc	**PKPbc**	**11 39 59.8**	**-0.5**
HGN			*ep*PKPbc	**pPKPab**	**11 40 58.5**	**+3.7**
LTVH	**L"tav"rtes,**	**148.28 337**	⇓*e*P	**PKPbc**	**11 40 00.8**	**+0.3**
VYHS	**Vyhne**	**148.33 342**	*e*PKP2	**PKPbc**	**11 40 00.8**	**+0.1**
VYHS	**Vyhne**	**148.33 342**	*e*PKP	**PKPbc**	**11 40 00.8**	**+0.1**
JAVC	**Velka Javorina**	**148.33 343**	*e*PKP	**PKPbc**	**11 40 01.4**	**+0.7**
KOLL	**Kolacno**	**148.38 342**	*e*PKP2	**PKPbc**	**11 40 01.0**	**+0.2**
KOLL	**Kolacno**	**148.38 342**	*e*PKP	**PKPbc**	**11 40 01.0**	**+0.2**
MEM	**Membach**	**148.40 358**	⇓PKP	**PKPbc**	**11 40 00.0**	**-0.7**
SECR		**148.41 330**	⇓*i*P	**PKPbc**	**11 40 01.3**	**+0.3**
LEHL	**Lehliu**	**148.46 329**	⇑*i*P	**PKPbc**	**11 40 02.5**	**+1.4**
DRGR		**148.47 336**	⇑*i*P	**PKPbc**	**11 40 01.2**	**0.0**
DRGR		**148.47 336**	⇑PKP2	**PKPbc**	**11 40 01.2**	**0.0**
TREC	**Trest**	**148.47 346**	*e*PKP	**PKPbc**	**11 40 00.9**	**-0.1**
TREC	**Trest**	**148.47 346**	*e*PKP2	**PKPbc**	**11 40 00.9**	**-0.1**
KRUC	**Moravsky**	**148.47 345**	PKP2	**PKPbc**	**11 40 00.7**	**-0.3**
KRUC	**Moravsky**	**148.47 345**	*e*PKP	**PKPbc**	**11 40 00.5**	**-0.5**
PSZ	**Piszkesteto**	**148.51 340**	*e*PKPbc	**PKPbc**	**11 40 00.7**	**-0.6**
PSZ	**Piszkesteto**	**148.51 340**	⇓*i*P	**PKPbc**	**11 40 01.8**	**+0.5**
PSZ	**Piszkesteto**	**148.51 340**	⇓*e*PKPKPdf	**PKPbc**	**11 40 01.0**	**+0.3**
PSZ	**Piszkesteto**	**148.51 340**	⇓PKP2	**PKPbc**	**11 40 01.8**	**+0.5**
SNF	**Seneffe**	**148.52 0**	⇓PKP	**PKPbc**	**11 40 00.5**	**-0.6**
VOIR		**148.57 332**	⇑*i*P	**PKPbc**	**11 40 01.7**	**+0.2**
VOIR		**148.57 332**	⇑PKP2	**PKPbc**	**11 40 01.7**	**+0.2**
BCLA	**Clavier**	**148.61 359**	⇓PKIKP	**PKPbc**	**11 40 01.9**	**+0.6**
MTUR	**Matau**	**148.72 331**	⇑*i*P	**PKPab**	**11 40 04.9**	**-1.3**
MTUR	**Matau**	**148.72 331**	⇑PKP2	**PKPab**	**11 40 04.9**	**-1.3**
ARR	**Arges**	**148.81 332**	⇑*i*P	**PKPbc**	**11 40 02.9**	**+0.8**
GRA1	**Grafenberg Arr**	**148.87 352**	*e*PKPbc	**PKPbc**	**11 40 01.6**	**-0.4**
GRF	**Grafenberg Arr**	**148.87 352**	*e*PKP2	**PKPbc**	**11 40 01.6**	**-0.4**
GRFO	**Grafenberg**	**148.87 352**	*e*PKPbc	**PKPbc**	**11 40 00.9**	**-1.1**
GRFO	**Grafenberg**	**148.87 352**	*e*PKIKP	**PKPbc**	**11 40 00.9**	**-1.1**
MODS	**Modra-Piesok**	**148.88 343**	*e*PKP2	**PKPbc**	**11 40 01.6**	**-0.5**
MODS	**Modra-Piesok**	**148.88 343**	*e*PKP	**PKPbc**	**11 40 01.6**	**-0.5**
DOU	**Dourbes**	**148.94 360**	⇓PKP	**PKPbc**	**11 40 01.1**	**-1.1**
KHC	**Kasperske Hory**	**149.02 348**	*e*PKPbc	**PKPbc**	**11 40 02.0**	**-0.4**
KHC	**Kasperske Hory**	**149.02 348**	*e*PKP	**PKPdf**	**11 39 58.7**	**+0.5**
KHC			*ex*	x	11 40 02.5	
KHC	**Kasperske Hory**	**149.02 348**	*e*PKIKP	**PKPdf**	**11 39 58.7**	**+0.5**
SGRR	**Singureni**	**149.05 329**	⇑*i*P	**PKPbc**	**11 40 02.7**	**+0.1**
LOT	**Lotru**	**149.12 333**	⇓*i*P	**PKPbc**	**11 40 02.5**	**-0.4**
BUD	**Budapest**	**149.17 341**	⇓*e*P	**PKPbc**	**11 40 03.0**	**+0.2**
GEC2	**GERESS Array S**	**149.27 348**	*e*PKPbc	**PKPbc**	**11 40 02.6**	**-0.5**
GEC2	**GERESS Array S**	**149.27 348**	*e*PKP2	**PKPbc**	**11 40 02.7**	**-0.5**
GERES	**GERESS Array B**	**149.27 348**	PKP	**PKPdf**	**11 39 58.7**	**+0.1**
	comp=Z,9.0nm,0.7s,baz=22,slow=1.4,SNR=15					
GERES			PKPbc	**PKPbc**	**11 40 03.0**	**-0.2**
	comp=Z,21nm,0.7s,baz=25,slow=2.6,SNR=75					
GERES			pPKPbc	**pPKPab**	**11 41 00.4**	**+1.3**
	comp=Z,3.8nm,1.0s,baz=102,slow=4.5,SNR=1.5					
GEA0	**GERESS Array S**	**149.28 348**	*e*PKPbc	**PKPbc**	**11 40 02.5**	**-0.6**
SIRR	**Siria**	**149.31 336**	⇑*i*P	**PKPbc**	**11 40 03.3**	**+0.1**
WLF	**Walferdange**	**149.34 358**	*e*PKPbc	**PKPbc**	**11 40 03.2**	**0.0**
WLF	**Walferdange**	**149.34 358**	*e*PKP2	**PKPbc**	**11 40 03.2**	**0.0**
WLF	**Walferdange**	**149.34 358**	⇑PKP	**PKPbc**	**11 40 03.3**	**+0.2**
CONA	**Conrad Observa**	**149.66 345**	*i* PKiKP	**PKPbc**	**11 40 04.4**	**+0.3**
	comp=Z,46nm,0.8s,SNR=18					
SOP	**Sopron**	**149.71 344**	⇓*e*P	**PKPbc**	**11 40 04.1**	**0.0**
BZS	**Buzias**	**149.87 336**	⇑*i*P	**PKPdf**	**11 40 00.3**	**+0.8**
CSS	**Mathiatis**	**149.90 308**	*e*PKPbc	**PKPbc**	**11 40 04.1**	**-0.9**
VLAD	**Vladila**	**149.97 331**	⇑*i*P	**PKPbc**	**11 40 06.4**	**+1.6**
SRE	**Strehaia**	**149.99 333**	⇑*i*P	**PKPbc**	**11 40 05.1**	**+0.2**
SRE	**Strehaia**	**149.99 333**	⇑PKP2	**PKPbc**	**11 40 05.1**	**+0.2**
STU	**Stuttgart**	**150.02 354**	*e*PKPbc	**PKPbc**	**11 40 05.6**	**+0.8**
TIH	**Tihany**	**150.04 341**	⇓*e*P	**PKPbc**	**11 40 04.4**	**-0.5**
MOA	**Molln**	**150.10 347**	*i* PKPdf	**PKPdf**	**11 39 59.0**	**-0.9**
	comp=Z,10nm,1.3s					
MOA			*i* PKiKP	**PKPbc**	**11 40 05.0**	**-0.1**
	comp=Z,20nm,0.8s					
HERR	**Herculane**	**150.15 334**	⇑*i*P	**PKPbc**	**11 40 04.9**	**-0.4**
ARSA	**Arzberg**	**150.37 345**	*i* PKiKP	**PKPbc**	**11 40 05.7**	**-0.1**
	comp=Z,14nm,1.0s					
MORH	**M"tr"igy, Hung**	**150.42 340**	⇓*e*P	**PKPbc**	**11 40 05.6**	**-0.2**
MORH	**M"tr"igy, Hung**	**150.42 340**	*e*P	**PKPbc**	**11 40 05.0**	**-0.8**
MDVR	**Moldovita**	**150.52 335**	⇑*i*P	**PKPdf**	**11 40 01.2**	**+0.5**
ISP	**Isparta**	**150.53 315**	*e*PKPbc	**PKPbc**	**11 40 05.9**	**-0.6**
ISP	**Isparta**	**150.53 315**	⇓*i*P	**PKPbc**	**11 40 08.6**	**+2.0**
ISP	**Isparta**	**150.53 315**	⇓PKIKP	**PKPbc**	**11 40 08.6**	**+2.0**
BFO	**Black Forest**	**150.54 355**	*e*PKPbc	**PKPbc**	**11 40 05.2**	**-1.0**
BFO	**Black Forest**	**150.54 355**	*e*PKIKP	**PKPbc**	**11 40 05.2**	**-1.0**
ECH	**Echery**	**150.74 356**	*e*PKPbc	**PKPbc**	**11 40 07.1**	**+0.5**
BEHE	**Becsehely**	**150.76 342**	⇓*e*P	**PKPdf**	**11 39 56.0**	**-4.9**
FRGS	**Fruska Gora**	**150.94 337**	⇓*i*P	**PKPbc**	**11 40 06.5**	**-0.7**
SOKA	**Soboth**	**151.03 345**	*i* PKPbc	**PKPbc**	**11 40 06.5**	**-0.9**
	comp=Z,26nm,0.8s,SNR=6.6					
KBA	**Koelnbreinsper**	**151.03 347**	*i* PKPbc	**PKPbc**	**11 40 06.9**	**-0.6**
	comp=Z,47nm,0.8s,SNR=5.9					
PERS	**Pernice**	**151.05 345**	*i* PKPdf	**PKPbc**	**11 40 06.3**	**-1.1**
PERS	**Pernice**	**151.05 345**	*i* PKPdf	**PKPbc**	**11 40 06.3**	**-1.1**
RETA	**Reutte**	**151.09 351**	*i* PKPbc	**PKPbc**	**11 40 06.8**	**-0.7**
	comp=Z,23nm,0.8s					
WATA	**Walderalm**	**151.11 350**	*i* PKPdf	**PKPdf**	**11 40 02.2**	**+0.6**
	comp=Z,4.3nm,0.5s					
WATA			*i* PKPbc	**PKPbc**	**11 40 07.0**	**-0.6**
	comp=Z,25nm,0.5s,SNR=14					
WTTA	**Wattenberg**	**151.17 350**	*i* PKPbc	**PKPbc**	**11 40 07.4**	**-0.5**
	comp=Z,80nm,0.8s,SNR=20					
MOTA	**Moosalm**	**151.18 351**	*i* PKPdf	**PKPdf**	**11 40 02.8**	**+1.1**
	comp=Z,6.2nm,1.0s					
MOTA			*i* PKPbc	**PKPbc**	**11 40 07.3**	**-0.5**
	comp=Z,30nm,0.8s,SNR=12					
SQTA	**Sankt Quirin**	**151.28 350**	*i* PKPdf	**PKPdf**	**11 40 02.1**	**+0.3**
	comp=Z,6.0nm,0.7s					
SQTA			*i* PKiKP	**PKPbc**	**11 40 07.8**	**-0.3**
	comp=Z,46nm,0.7s,SNR=12					
OBKA	**Obir**	**151.30 345**	*i* PKiKP	**PKPbc**	**11 40 07.8**	**-0.2**
	comp=Z,17nm,0.8s					
MYKA	**Terra Mystica**	**151.40 347**	*i* PKPdf	**PKPdf**	**11 40 02.7**	**+0.8**
	comp=Z,9.5nm,1.0s					
MYKA			*i* PKPbc	**PKPbc**	**11 40 07.0**	**-1.2**
	comp=Z,38nm,0.6s,SNR=9.7					
DAVA	**Damuels**	**151.41 352**	*i* PKiKP	**PKPbc**	**11 40 08.4**	**0.0**
	comp=Z,36nm,0.7s,SNR=13					
MANT	**Manisa**	**151.44 318**	*e*PKPbc	**PKPbc**	**11 40 08.7**	**-0.1**
ABTA	**Abfaltersbach**	**151.51 348**	*i* PKPdf	**PKPdf**	**11 40 02.2**	**0.0**
	comp=Z,11nm,0.8s					
ABTA			*i* PKPbc	**PKPbc**	**11 40 07.4**	**-1.1**
	comp=Z,59nm,0.6s,SNR=13					
FETA	**Feichten**	**151.55 351**	*i* PKPdf	**PKPdf**	**11 40 02.3**	**-0.1**
	comp=Z,5.2nm,0.7s					
FETA			*i* PKiKP	**PKPbc**	**11 40 08.6**	**-0.1**
	comp=Z,42nm,0.8s,SNR=7.8					
VTS	**Vitosha**	**151.61 330**	*e*PKPbc	**PKPbc**	**11 40 08.4**	**-0.6**
VTS	**Vitosha**	**151.61 330**	⇓*i*P	**PKPbc**	**11 40 08.7**	**-0.3**
VTS	**Vitosha**	**151.61 330**	⇓PKIKP	**PKPbc**	**11 40 08.7**	**-0.3**
CRES	**Cresnjev**	**151.71 344**	*e*P	**PKPbc**	**11 40 07.9**	**-1.0**
LJU	**Ljubljana**	**151.75 345**	⇓*i*P	**PKPbc**	**11 40 08.0**	**-1.0**
DIVS	**Divibare**	**151.77 336**	*e*PKPbc	**PKPbc**	**11 40 08.7**	**-0.5**
DIVS	**Divibare**	**151.77 336**	⇓*i*P	**PKPbc**	**11 40 08.3**	**-0.9**
VISS	**Visnje**	**151.89 345**	*i* PKPdf	**PKPbc**	**11 40 09.5**	**+0.2**
VISS	**Visnje**	**151.89 345**	*i* PKPdf	**PKPbc**	**11 40 09.5**	**+0.2**
JAVS	**Javornik**	**152.00 346**	*i* PKPdf	**PKPbc**	**11 40 09.0**	**-0.6**
JAVS			*i* pPKPdf	**pPKPab**	**11 41 11.5**	**+1.2**
JAVS	**Javornik**	**152.00 346**	*i* PKPdf	**PKPbc**	**11 40 09.0**	**-0.6**
JAVS			*i* pPKPdf	**pPKPab**	**11 41 11.5**	**+1.2**
FUORN	**Ofenpass-Fuorn**	**152.01 352**	*e*PKPbc	**PKPbc**	**11 40 09.1**	**-0.8**
CEY	**Cerknica**	**152.06 345**	*e*P	**PKPbc**	**11 40 08.9**	**-0.8**
HAPS	**Han Pijesak,BI**	**152.17 337**	*e*P	**PKPbc**	**11 40 09.7**	**-0.4**
BBLS	**Lazići**	**152.19 336**	*e*P	**PKPbc**	**11 40 09.7**	**-0.4**
BLY	**Banja Luka**	**152.19 340**	*e*PKPbc	**PKPbc**	**11 40 09.8**	**-0.1**
BLY	**Banja Luka**	**152.19 340**	⇑*i*P	**PKPbc**	**11 40 09.7**	**-0.3**
BLY	**Banja Luka**	**152.19 340**	*e*P	**PKPbc**	**11 40 09.5**	**-0.5**
TUE	**Stuetta**	**152.27 353**	*e*PKPbc	**PKPbc**	**11 40 10.2**	**-0.2**
SENIN	**Lac Senin/Sane**	**152.57 356**	*e*PKPdf	**PKPdf**	**11 40 04.7**	**+0.8**
SENIN			*e*PKPbc	**PKPbc**	**11 40 11.0**	**-0.1**
SENIN			*e*PKPab	**PKPab**	**11 40 21.6**	**-0.7**
PDG	**Podgorica**	**153.46 335**	⇑*i*P	**PKPbc**	**11 40 12.8**	**0.0**
SSB	**Saint Sauveur**	**153.76 360**	*e*PKPdf	**PKPdf**	**11 40 06.2**	**+0.7**
SSB			*e*PKPbc	**PKiKP**	**11 40 14.2**	**+0.7**
SSB			*e*PKPab	**PKPab**	**11 40 27.6**	**+0.5**
SSB	**Saint Sauveur**	**153.76 360**	*e*PKIKP	**PKPdf**	**11 40 06.2**	**+0.7**
FNA	**Florina**	**153.87 330**	*e*PKPbc	**PKPbc**	**11 40 12.6**	**-1.3**
FNA			*e*PKPab	**PKPab**	**11 40 25.8**	**-2.0**
FNA	**Florina**	**153.87 330**	*e*PKIKP	**PKPbc**	**11 40 12.6**	**-1.3**
FNA			*e*		11 40 25.8	
PBRG	**Braganca**	**155.30 20**	*e*PKPab	**PKPab**	**11 40 36.4**	**+2.6**
POLO	**Lamas de Olo**	**155.32 23**	*e*PKPab	**PKPab**	**11 40 34.6**	**+0.6**
PVIS	**Viseu**	**155.85 23**	*e*PKPab	**PKPab**	**11 40 34.3**	**-1.9**
PCAS	**Casmilo, Conde**	**156.19 25**	*e*PKPab	**PKPab**	**11 40 37.7**	**+0.1**
PTOM	**Tomar**	**156.59 26**	*e*PKPab	**PKPab**	**11 40 38.8**	**-0.5**
PMRV	**Marv??o**	**157.16 24**	*e*PKPab	**PKPab**	**11 40 42.2**	**+0.4**
PESTR	**Estremoz**	**157.56 25**	*e*PKPab	**PKPab**	**11 40 43.7**	**+0.1**
ES19	**SONSECA Array**	**158.10 18**	*e*PKPdf	**PKPdf**	**11 40 10.1**	**-1.3**
ES19			*e*PKPab	**PKPab**	**11 40 45.4**	**-0.5**
ESDC	**Sonseca Array**	**158.11 18**	PKP	**PKPdf**	**11 40 09.4**	**-1.9**
	comp=Z,0.7nm,0.6s,baz=338,slow=2.6,SNR=4.2					
ESDC			PKPab	**PKPab**	**11 40 45.5**	**-0.4**
	comp=Z,6.6nm,0.7s,baz=327,slow=3.6,SNR=22					
PVAQ	**Vaqueiros**	**158.75 28**	*e*PKPab	**PKPab**	**11 40 50.0**	**+1.3**
KEST	**Kesra**	**162.75 347**	PKPab	**PKPab**	**11 41 04.7**	**-1.6**
	comp=Z,8.3nm,0.7s,baz=206,slow=2.2,SNR=4.9					
LIC	**Lamto**	**164.31 143**	*e*P	**PKPdf**	**11 40 16.9**	**-1.7**
	comp=Z,28nm,0.8s					
LIC	**Lamto**	**164.31 143**	*e*P	**PKPab**	**11 41 12.9**	**-0.8**
	comp=Z,48nm,1.0s					
KIC	**Kosan Boka**	**164.58 143**	*e*P	**PKPdf**	**11 40 18.3**	**-0.5**
	comp=Z,23nm,1.0s					
KIC	**Kosan Boka**	**164.58 143**	*e*P	**PKPab**	**11 41 14.9**	**0.0**
	comp=Z,32nm,1.1s					
TIC	**Toumodi**	**164.65 142**	*e*P	**PKPdf**	**11 40 15.4**	**-3.5**
TIC	**Toumodi**	**164.65 142**	*e*P	**PKPab**	**11 41 15.4**	**+0.2**
DBIC	**Dimbokro**	**164.77 142**	PKP	**PKPdf**	**11 40 16.6**	**-2.4**
	comp=Z,3.8nm,0.8s,baz=221,slow=4.6,SNR=4.4					
DBIC			PKPab	**PKPab**	**11 41 15.7**	**0.0**
	comp=Z,12nm,0.9s,baz=195,slow=6.5,SNR=9.6					
DBIC	**Dimbokro**	**164.77 142**	*e*PKPab	**PKPab**	**11 41 15.4**	**-0.3**
TOA0	**Torodi Ar. Sit**	**173.62 155**	*e*PKPdf	**PKPdf**	**11 40 22.9**	**-1.5**
TOA0			*e*PKPdf	**PKPdf**	**11 40 23.6**	**-0.7**
TOA0			*e*PKPab	**PKPab**	**11 41 54.7**	**0.0**
TOA0			*e*PKPab	**PKPab**	**11 41 54.7**	**0.0**
TORD	**Torodi Ar. Bea**	**173.62 155**	PKP	**PKPdf**	**11 40 21.9**	**-2.5**
	comp=Z,3.0nm,0.9s,baz=340,slow=2.7,SNR=16					
TORD			PKPab	**PKPab**	**11 41 53.5**	**-1.2**
	comp=Z,2.1nm,0.7s,baz=222,slow=2.0,SNR=11					
TORD			PP	**PP**	**11 45 46.5**	**+0.8**
	comp=Z,1.1nm,0.9s,baz=208,slow=4.8,SNR=3.3					
TOA1	**Torodi Ar. Sit**	**173.63 155**	*e*PKPdf	**PKPdf**	**11 40 21.9**	**-2.5**
TOA1			*e*PKPab	**PKPab**	**11 41 53.5**	**-1.2**
TOA1			*e*PP	**PP**	**11 45 46.5**	**+0.8**

IDC 30 11:21:11.6±3.7, 5°50S×147°75E, h182km±34km, mb3.6/4, mb1 3.8/7, mb1mx3.4/33, mbtmp4.2/7, MS3.6/1, Ms1 3.6/1, ms1mx2.8/29, Error ellipse: s-maj=51.8km s-min=31.2km az=97.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.93**	**188**	P	Pn	11 22 11.9	+0.1
	34nm,0.3s,baz=334,slow=5.8,SNR=103						
PMG				S	Sn	11 22 55.9	-3.2
	17nm,0.3s,baz=260,slow=23,SNR=9.4						
CTA	**Charters Tower**	**14.58**	**186**	P	P	11 24 31.0	-0.1
	0.2nm,0.3s,baz=350,slow=14,SNR=4.9						
GUMO	**Guam**	**19.18**	**351**	LR	LR	11 31 37.8	
	comp=Z,180nm,18.0s,baz=305,slow=33						
WRA	**Warramunga Arr**	**19.40**	**221**	P	P	11 25 23.6	-0.4
	2.2nm,0.3s,baz=48,slow=12,SNR=235						
ASAR	**Alice Springs**	**22.45**	**215**	P	P	11 25 56.0	+0.3
	4.5nm,0.5s,baz=48,slow=9.0,SNR=50						
FITZ	**Fitzroy Crossi**	**24.96**	**238**	P	P	11 26 18.5	0.0
	3.9nm,0.4s,baz=59,slow=4.4,SNR=35						
STKA	**Stephens Creek**	**26.87**	**192**	P	P	11 26 35.2	-0.3
	1.5nm,0.7s,baz=32,slow=12,SNR=3.7						
MKAR	**Makanchi Array**	**77.58**	**

comp=N,0.1nm,0.3s,baz=138,slow=10,SNR=8.2
KLR Kul'dur 13.16 323⇑ eP Pn 11 46 01.9 -0.1
CN2 Changchun 14.45 294 eP Pn 11 46 20.0 +0.4
SNY Shenyang 15.56 286 ⇓P P 11 46 37.0 -1.9
SNY S Sn 11 49 33.5 +6.2
SNY pmax pmax
comp=N,380nm,6.3s
SNY LR LR
comp=N,1μm,12.4s
SNY LR LR
comp=N,1μm,14.9s
SNY LR LR
comp=N,1μm,13.9s
DL2 Dalian 17.20 276 P P 11 47 02.0 +5.0
DL2 eS S 11 50 19.3 +2.9
DL2 pmax pmax
comp=Z,52nm,1.3s
DL2 pmax pmax
comp=Z,450nm,8.6s
DL2 LR LR
comp=N,1μm,14.1s
DL2 LR LR
comp=E,790nm,13.5s
DL2 LR LR
comp=Z,1μm,13.3s
ZEA Zeya 18.35 328 eP Pn 11 47 05.3 -4.3
ZEA pmax pmax
comp=N,58nm,1.2s
ZEA pmax pmax
comp=Z,69nm,1.4s
HIA Hailar 19.83 308 eP P 11 47 23.8 -2.2
comp=Z,16nm,0.8s
HIA Hailar 19.83 308 eP P 11 47 23.8 -2.2
HIA pmax pmax
comp=Z,16nm,0.8s
MA2 Magadan 20.82 10 P Pn 11 47 37.8 -1.2
comp=Z,17nm,0.8s,baz=200,slow=11,SNR=5.1
BJI Beijing 21.24 281⇑ iP P 11 47 38.3 -3.0
BJI pmax pmax
comp=Z,24nm,1.1s
BJI LR LR
comp=Z,630nm,11.5s
BJI LR LR
comp=Z,830nm,14.6s
BJT Baijiatuau 21.24 281 eP P 11 47 38.8 -2.5
comp=Z,28nm,0.9s
BJT Baijiatuau 21.24 281 eP P 11 47 38.8 -2.5
BJT pmax pmax
comp=Z,28nm,0.9s
TIA Tai'an 21.27 270 P P 11 47 39.3 -2.3
TIA pmax pmax
comp=Z,11nm,0.8s
TIA pmax pmax
comp=Z,81nm,2.4s
TIA LR LR
comp=Z,560nm,13.5s
TIA LR LR
comp=Z,1μm,13.5s
TIA LR LR
comp=Z,2μm,12.8s
NJ2 Nanjing 21.44 258 eP P 11 47 42.0 -1.6
NJ2 S S 11 51 42.8 +0.9
NJ2 pmax pmax
comp=Z,27nm,0.7s
NJ2 pmax pmax
comp=Z,310nm,3.6s
NJ2 LR LR
comp=Z,980nm,17.1s
NJ2 LR LR
comp=Z,1μm,15.4s
NJ2 LR LR
comp=Z,1μm,12.9s
SEY Seymchan 24.27 10 P P 11 48 13.9 +1.6
comp=Z,6.7nm,0.8s,baz=230,slow=6.0,SNR=5.5
SEY LR LR 11 59 20.8
comp=Z,686nm,19.2s,baz=154,slow=40
YAK Yakutsk 24.38 344 eP P 11 48 11.9 -1.4
YAK pmax pmax
comp=Z,30nm,0.8s
YAK pmax pmax
comp=N,11nm,0.9s
HHC Hu-ho-hao-te 24.63 284 eP P 11 48 16.5 +0.5
HHC S S 11 52 39.5 +1.7
HHC pmax pmax
comp=N,26nm,1.0s
HHC pmax pmax
comp=N,300nm,6.0s
HHC LR LR
comp=N,350nm,10.4s
HHC LR LR
comp=N,1μm,12.0s
HHC LR LR
comp=N,1μm,14.7s
TWG Pinlang 25.32 236 eP P 11 48 22.0 -0.2
comp=N,83nm,1.0s
QZH Quanzhou 25.55 244 eP P 11 48 25.0 +0.7
QZH S S 11 52 55.8 +3.3
QZH LR LR
comp=N,1μm,19.9s
QZH LR LR
comp=N,920nm,19.4s
QZH LR LR
comp=N,1μm,14.7s
WHN Wuhan 25.56 259 P P 11 48 24.0 -0.3
WHN S S 11 52 39.8 -13
WHN pmax pmax
comp=N,180nm,0.9s
WHN LR LR
comp=N,4μm,17.7s
WHN LR LR
comp=N,1μm,10.7s
WHN LR LR
comp=N,3μm,12.6s
BOD Bodaibo 26.74 324 eP P 11 48 34.0 -0.7
BOD pmax pmax
comp=Z,35nm,1.4s
ULN Ulaanbaatar 27.75 300 eP P 11 48 43.9 -0.2
comp=Z,15nm,1.1s
ULN Ulaanbaatar 27.75 300 eP P 11 48 43.9 -0.2
ULN pmax pmax
comp=Z,15nm,1.1s
SONA1 Songino Array 28.18 300 eP P 11 48 47.5 -0.5
SONA0 Songino Array 28.19 300 eP P 11 48 48.1 +0.1
SONM Songino Array 28.19 300 P P 11 48 48.1 +0.1
comp=Z,3.3nm,0.7s,baz=95,slow=9.3,SNR=18
XAN Xi'an 28.33 270 P P 11 48 48.3 -1.0
XAN pP sP 11 48 57.0 +5.7
XAN S S 11 53 40.8 +4.5
XAN pmax pmax
comp=Z,13nm,1.5s
XAN pmax pmax
comp=Z,170nm,6.7s
XAN LR LR
comp=Z,830nm,15.7s
XAN LR LR
comp=Z,1μm,14.7s
XAN LR LR
comp=Z,1μm,12.6s
ENH Enshi 29.41 263 eP P 11 48 58.9 -0.1
comp=Z,40nm,1.0s
TLY Talaya 30.37 307 eP P 11 49 08.1 +0.9
TLY eS S 11 53 59.0 -9.0
TLY pmax pmax
comp=Z,11nm,1.3s
TLY MLR MLR
comp=Z,613nm,12.0s
ZAK Zakamensk 30.44 305 eP P 11 49 06.9 -1.0
ZAK pmax pmax
comp=Z,12nm,1.2s
BILL Bilibino 31.38 16⇑ eP P 11 49 16.4 +0.5
BILL e 11 50 17.2
BILL eSS SS 11 56 33.1 -4.1
BILL pmax pmax
comp=Z,5.0nm,1.2s
BILL MLR MLR
comp=Z,526nm,15.0s
LZH Lanzhou 31.59 277 eP P 11 49 18.3 +0.1
LZH pP sP 11 49 25.5 +5.2
LZH sP pP 11 49 30.0 +10
LZH PP **PnPn 11 50 21.5 +0.1**
LZH S S 11 54 17.8 -10
LZH SS **SnSn 11 56 16.3 +3.8**
LZH pmax pmax
comp=Z,21nm,1.1s
LZH pmax pmax
comp=Z,97nm,4.8s
LZH LR LR
comp=Z,2μm,11.9s
LZH LR LR
comp=Z,2μm,10.7s
LZH LR LR
comp=Z,2μm,12.3s
TIXI Tiksi 33.34 351 P P 11 49 31.8 -1.2
comp=Z,1.1nm,0.3s,baz=154,slow=3.5,SNR=3.9
TIXI Tiksi 33.34 351⇓ eP P 11 49 32.3 -0.7
TIXI pmax pmax
comp=Z,9.0nm,2.5s
GYA Guiyang 33.45 259 eP P 11 49 35.5 +0.9
GYA pmax pmax
comp=Z,10.0nm,0.8s
CD2 Chengdu 33.57 268 eP P 11 49 35.0 -0.5
CD2 S S 11 54 55.5 -2.8
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.0s
CD2 LR LR
comp=Z,1μm,15.5s
CD2 LR LR
comp=Z,830nm,15.1s
CD2 LR LR
comp=Z,1μm,13.5s
GTA Gaotai 33.75 285 ⇑P P 11 49 37.3 +0.2
GTA pP sP 11 49 43.0 +3.8
GTA sP pP 11 49 46.5 +7.9
GTA S S **11 55 00.0 -1.1**
GTA sS sS 11 55 08.5 +4.9
GTA pmax pmax
comp=Z,40nm,1.2s
GTA pmax pmax
comp=Z,260nm,5.9s
GTA LR LR
comp=Z,410nm,16.5s
GTA LR LR
comp=Z,750nm,15.6s
GTA LR LR
comp=Z,1μm,15.9s
QIZ Qiongzhong 35.54 245 P P 11 49 55.0 +2.4
QIZ S S **11 55 29.8 +1.0**
QIZ LR LR
comp=Z,510nm,13.7s
QIZ LR LR
comp=Z,350nm,13.2s
QIZ LR LR
comp=Z,740nm,14.2s
HVS Khovu-Aksy 36.54 306⇑ eP P 11 50 01.1 +0.1
HVS pmax pmax
comp=Z,9.0nm,1.1s
KMI Kunming 37.15 260 P P 11 50 04.8 -1.8
KMI pmax pmax
comp=Z,21nm,0.9s
KMI pmax pmax
comp=Z,190nm,5.4s
RDOG Red Dog Mine 40.68 28 eP P 11 50 37.7 +2.2
comp=Z,10nm,1.2s
SKNT Sakolnakorn 41.08 249 P P 11 50 39.8 +0.5
comp=Z,8.9nm,1.3s
WMQ Urumqi 41.54 295 eP P 11 50 43.5 +0.6
WMQ pP sP 11 50 46.8 +1.8
WMQ sP pP 11 50 53.8 +9.4
WMQ pmax pmax
comp=Z,41nm,1.1s
WMQ pmax pmax
comp=Z,640nm,4.9s
WMQ LR LR
comp=Z,2μm,12.5s
WMQ LR LR
comp=Z,880nm,6.7s
WMQ LR LR
comp=Z,600nm,28.1s
ZAA0 Zalesovo Array 41.84 311 eP P 11 50 45.4 +0.3
comp=Z,12nm,0.9s
ZAA1 Zalesovo Array 41.84 311 eP P 11 50 45.0 -0.1
ZAA1 ePcP **PcP 11 52 40.1 -0.8**
ZALV Zalesovo Beam 41.84 311 P P 11 50 45.0 -0.1
comp=Z,8.2nm,0.8s,baz=86,slow=7.7,SNR=32
ZALV PcP **PcP 11 52 40.1 -0.8**
comp=Z,2.1nm,0.7s,baz=90,slow=2.9,SNR=2.1
ZALV Zalesovo Beam 41.84 311 eP P 11 50 44.6 -0.5
NRIK Noril'sk 42.06 334 P P 11 50 46.4 -0.4
comp=Z,3.6nm,0.7s,baz=292,slow=1.6,SNR=3.8
NVS Novosibirsk 42.69 312 eP P 11 50 52.0 0.0
UTTA Uttaradit 43.10 253 P P 11 50 56.3 +0.5
comp=Z,4.2nm,1.0s
CHAI Chaiyaphum 43.23 249 P P 11 50 57.1 +0.3
comp=Z,6.9nm,1.1s,comp=Z,61nm
FAKI Fak Fak 43.29 197 eP P 11 50 56.6 -0.7
comp=Z,4.7nm,0.8s
LAMP Lampang 43.31 254 P P 11 50 58.3 +0.8
comp=Z,5.8nm,1.0s
LAMP Lampang 43.31 254 P P 11 50 58.3 +0.8
PBKT Sadao Pong 43.54 251 eP P 11 50 59.6 +0.4
comp=Z,11nm,1.1s
PBKT Sadao Pong 43.54 251 P P 11 50 59.7 +0.4
comp=Z,4.9nm,1.0s,comp=Z,733nm
CMMT Chiang Mai 43.64 255 P P 11 51 00.4 +0.2
comp=Z,13nm,1.0s
CMMT Chiang Mai 43.64 255 P P 11 51 00.4 +0.2
comp=Z,13nm,1.0s
CHTO Chiang Mai 43.65 255 eP P 11 50 59.7 -0.5
comp=Z,10nm,0.9s
CHTO Chiang Mai 43.65 255 eP P 11 50 59.7 -0.5
CHTO pmax pmax
comp=Z,10.0nm,0.9s
CHTO Chiang Mai 43.65 255 P P 11 51 00.4 +0.2
comp=Z,59nm,0.8s
CHTO Chiang Mai 43.65 255 P P 11 51 00.4 +0.2
comp=Z,59nm,0.8s
IM3 Indian Mountai 43.79 32 eP P 11 51 04.0 +3.2
CM31 Chiang Mai Arr 43.86 255 eP P 11 51 01.0 -1.0
CMAR Chiang Mai Arr 43.86 255 P P 11 51 01.5 -0.4
comp=Z,2.3nm,0.4s,baz=45,slow=7.0,SNR=22
CM01 Chiang Mai Arr 43.87 255 eP P 11 50 59.4 -2.6
KDAK Kodiak Island 44.21 44 P P 11 51 06.2 +2.0
comp=Z,28nm,1.2s,baz=230,slow=7.0,SNR=4.3
PPLA Purkeypile 44.28 36 eP P 11 51 08.0 +3.0
comp=Z,13nm,1.2s
CAST Castle Rocks 44.34 35 eP P 11 51 06.7 +1.4
comp=Z,6.0nm,1.0s
SRAK Srakaew 44.43 247 P P 11 51 04.5 -2.0
comp=Z,38nm,1.4s,comp=Z,479nm
MK01 Makanchi Array 44.55 301 eP P 11 51 06.1 -1.1
MK31 Makanchi Array 44.55 301 eP P 11 51 06.8 -0.4
MK31 Makanchi Array 44.55 301 eP P 11 51 06.8 -0.4
MK32 Makanchi Array 44.55 301 eP P 11 51 06.5 -0.7
MKAR Makanchi Array 44.55 301 P P 11 51 06.5 -0.7
comp=Z,9.4nm,0.9s,baz=83,slow=9.4,SNR=43
MKAR Makanchi Array 44.55 301 eP P 11 51 06.8 -0.4
comp=Z,61nm,0.8s
MKAR Makanchi Array 44.55 301 ceP P 11 51 07.1 -0.1
MKAR pmax pmax
comp=Z,9.0nm,0.9s
SKT Skwentna 44.58 37 eP P 11 51 08.7 +1.4
comp=Z,8.6nm,0.5s
MLY Manley 44.98 33 eP P 11 51 13.7 +3.3
comp=Z,4.1nm,1.1s
RC01 Rabbit Creek A 45.47 39 eP P 11 51 15.6 +1.3
comp=Z,6.3nm,0.8s
TOLK Toolik Lake Re 45.64 28 eP P 11 51 17.3 +1.7
comp=Z,6.3nm,1.1s
MDM Murphy Dome 46.05 33 eP P 11 51 20.2 +1.4
comp=Z,6.8nm,1.1s
KURK Kurchatov 46.06 307 eP P 11 51 19.6 +0.5
comp=Z,29nm,1.0s
KURK Kurchatov 46.06 307 c iP P 11 51 18.1 -0.9
KURK pmax pmax
comp=Z,33nm,1.0s
SML Sawmill 46.10 38 eP P 11 51 19.7 +0.4
comp=Z,11nm,1.0s
SML Sawmill 46.10 38 eP P 11 51 19.7 +0.4
SML pmax pmax
comp=Z,11nm,1.0s
WRH Wood River Hil 46.11 34 eP P 11 51 21.3 +2.0
comp=Z,3.4nm,1.0s
DHY Denali Highway 46.48 36 eP P 11 51 25.0 +2.6
comp=Z,6.2nm,1.1s
ILAR Eielson Array 46.62 33 P P 11 51 23.9 +0.6
comp=Z,2.6nm,0.7s,baz=260,slow=6.7,SNR=28
ILB Eielson Array 46.62 33 eP P 11 51 24.9 +1.6
IL1 Eielson Array 46.62 33 eP P 11 51 24.5 +1.2
PDGK Podgornoye 47.41 297 P P 11 51 29.8 -0.1
PDGK pmax pmax
comp=Z,9.0nm,1.1s
DOT Dot Lake 47.92 35 eP P 11 51 35.6 +2.1
comp=Z,4.6nm,1.1s
SCRK Sand Creek 47.93 34 eP P 11 51 32.5 -1.1
comp=Z,2.6nm,0.9s
ODAN Odare 48.15 273 eP P 11 51 36.1 +0.2
JIRN Jiri 48.68 274 eP P 11 51 40.2 0.0
comp=Z,110nm,1.4s
RAMN Ramite 48.71 273 eP P 11 51 40.1 -0.2
comp=Z,76nm,0.9s
GUN Gumba 48.80 275 eP P 11 51 40.9 -0.2
comp=Z,83nm,0.9s
KKN Kakani 49.32 275 eP P 11 51 44.8 -0.2
comp=Z,66nm,0.9s
PKI Pulchoki 49.33 275 eP P 11 51 44.7 -0.5
comp=Z,48nm,1.2s
DMN Daman 49.55 275 eP P 11 51 46.5 -0.2
comp=Z,36nm,1.0s
BOOM Boomskoye usch 50.15 297 P P 11 51 51.7 +0.7
BOOM pmax pmax
comp=Z,13nm,0.9s
DANN Dangsing 50.23 277 eP P 11 51 52.0 +0.1
comp=Z,127nm,0.8s
BVAR Borovoye Array 50.48 311 P P 11 51 52.8 -0.3
comp=Z,4.9nm,0.7s,baz=90,slow=7.7,SNR=24
BRVK Borovoye 50.53 311 eP P 11 51 53.9 +0.3
comp=Z,9.9nm,1.0s
BRVK Borovoye 50.53 311 c iP P 11 51 52.9 -0.6
BRVK pmax pmax
comp=Z,26nm,2.5s
KOLN Koldanda 50.63 276 eP P 11 51 54.7 -0.2
comp=Z,76nm,1.2s
FRU Bishkek 50.94 298 eP P 11 51 58.0 +1.2
FRU e 11 52 06.0
PYUN Piuthan 50.94 277 eP P 11 51 57.0 -0.2
comp=Z,136nm,1.2s
AAK Ala-Archa 51.09 298 eP P 11 51 57.1 -1.0
comp=Z,7.4nm,1.0s
AAK Ala-Archa 51.09 298⇑ iP P 11 51 57.7 -0.4
AAK pmax pmax
comp=Z,5.0nm,1.0s
KSH Kashi 51.22 293 P P 11 52 02.8 +3.7
KSH pP sP 11 52 10.0 +8.8
KSH PP **PP 11 54 00.8 +5.1**
KSH S S **11 59 19.0 +0.9**
KSH SS **SS 12 02 52.0 -1.2**
KSH pmax pmax
comp=Z,32nm,1.1s
KSH pmax pmax
comp=Z,580nm,5.1s
KSH LR LR
comp=Z,600nm,7.6s
KSH LR LR
comp=Z,810nm,9.9s
KSH LR LR
comp=Z,1μm,14.1s
DHAK Deception Hill 51.47 40 eP P 11 52 00.4 -0.1
comp=Z,694nm,1.0s
KULM Kulim 51.53 240 eP P 11 52 02.2 +0.6
comp=Z,12nm,1.0s
INK Inuvik 51.56 28 P P 11 52 02.1 +1.1
comp=Z,4.4nm,0.6s,baz=279,slow=6.9,SNR=35
INK Inuvik 51.56 28 eP P 11 52 02.1 +1.1
comp=Z,4.9nm,0.6s
INK Inuvik 51.56 28 eP P 11 52 02.1 +1.1
INK pmax pmax
comp=Z,5.0nm,0.6s
KIP Kipapa 52.42 92⇓ eP P 11 52 09.9 +1.8
MNAS Manas 52.52 298 P P 11 52 08.9 +0.2
MNAS pmax pmax
comp=Z,12nm,1.1s
SFK Sufi-Kurgan 52.77 295 P P 11 52 11.0 +0.2
SFK pmax pmax
comp=Z,14nm,1.1s
KK31 Karatay Array 53.64 299 eP P 11 52 15.9 -1.0
KK31 Karatay Array 53.64 299 eP P 11 52 15.9 -1.0
KKAR Karatay Array 53.64 299 eP P 11 52 15.9 -0.9
KKAR Karatay Array 53.64 299 eP P 11 52 16.0 -0.9
SVE Sverdlovsk 54.73 318 eP P 11 52 25.1 +0.6
SVE pmax pmax
comp=Z,36nm,1.3s
SVE MLR MLR
comp=Z,988nm,14.0s
NIL Nilore 55.70 288 eP P 11 52 32.5 +0.5
comp=Z,44nm,0.9s
NIL Nilore 55.70 288 eP P 11 52 32.5 +0.5
NIL pmax pmax
comp=Z,44nm,0.9s
ARU Arti 55.94 318 P P 11 52 32.9 -0.3
comp=Z,8.2nm,0.7s,baz=74,slow=4.4,SNR=19
ARU Arti 55.94 318 eP P 11 52 33.1 -0.2
comp=Z,25nm,1.0s
ARU Arti 55.94 318 c iP P 11 52 32.8 -0.5
ARU pmax pmax
comp=Z,46nm,1.7s
ABKAR Akbulak array 57.94 310 eP P 11 52 47.4 -0.2
KBL Kabul 58.36 291 eP P 11 52 50.6 -0.4
comp=Z,14nm,0.9s
KBL Kabul 58.36 291 eP P 11 52 50.6 -0.4
KBL pmax pmax
comp=Z,14nm,0.9s
AKTO Aktyubinsk 58.58 312 P P 11 52 52.0 -0.1
comp=Z,4.2nm,0.8s,baz=119,slow=4.6,SNR=10.0
AKTO Aktyubinsk 58.58 312 P P 11 52 52.0 -0.1
FITZ Fitzroy Crossi 59.52 200 eP P 11 52 59.0 +0.2
comp=Z,5.4nm,1.1s
WRAB Tennant Creek 59.53 190 eP P 11 52 57.7 -1.2
comp=Z,7.8nm,1.1s
WRAB Tennant Creek 59.53 190⇑ eP P 11 52 59.5 +0.6
WRAB pmax pmax
comp=Z,14nm,2.5s
WB2 Warramunga Arr 59.54 190 eP P 11 52 58.0 -1.0
comp=Z,6.6nm,1.0s
WR1 Warramunga Arr 59.55 190 eP P 11 52 57.6 -1.3
comp=Z,5.2nm,0.9s
WRA Warramunga Arr 59.55 190 P P 11 52 57.6 -1.3
comp=Z,4.2nm,1.0s,baz=8.5,slow=7.0,SNR=25
WC3 Warramunga Arr 59.56 190 eP P 11 52 58.0 -1.0
comp=Z,8.5nm,1.1s
PRGR Permogore 59.92 327 eP P 11 53 00.6 -0.5
PRGR pmax pmax
comp=Z,10.0nm,1.1s
RES Resolute Bay 59.98 15 P P 11 53 02.0 +0.6
comp=Z,2.6nm,0.6s,baz=288,slow=9.0,SNR=7.7
RES Resolute Bay 59.98 15 eP P 11 53 01.7 +0.3
comp=Z,4.9nm,0.9s
RES Resolute Bay 59.98 15 P P 11 53 02.0 +0.6
RES pmax pmax
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 60.95 31 P P 11 53 09.2 +1.1
comp=Z,1.2nm,0.6s,baz=302,slow=6.4,SNR=14
YKB5 Yellowknife Ar 60.95 31 eP P 11 53 10.4 +2.3
KLMR Klimovskoe 62.87 328 eP P 11 53 19.5 -1.5
KLMR pmax pmax
comp=Z,12nm,1.4s
KLMR Klimovskoe 62.87 328 eP P 11 53 19.6 -1.5
KLMR AMP 11 53 22.4
comp=Z,12nm,1.4s
AS01 Alice Springs 63.26 190 eP P 11 53 24.5 +0.4
ASAR Alice Springs 63.27 190 P P 11 53 23.6 -0.5
comp=Z,1.8nm,0.9s,baz=6.6,slow=5.6,SNR=12
DAG Danmarks Havn 63.72 356 P P 11 53 27.6 +1.1
DAG pmax pmax
comp=Z,9.0nm,2.8s
DZM Mont Dzumac 64.59 157 eLR LR 12 12 28.6
comp=Z,211nm,26.1s
AFI Afiamalu 67.19 132 eP P 11 53 52.5 +2.7
comp=Z,20nm,0.8s
AFI Afiamalu 67.19 132 eP P 11 53 52.5 +2.7
AFI pmax pmax
comp=Z,20nm,0.8s
OBN Obninsk 67.42 324⇓ iP P 11 53 50.7 0.0
OBN e 11 54 19.3
OBN e 11 56 19.8
OBN pmax pmax
comp=Z,8.0nm,0.5s
OBN MLR MLR
comp=Z,477nm,15.0s
FIA1 FINESS Array S 67.71 333 eP P 11 53 51.1 -1.3
FIA0 FINESS Array S 67.71 333 eP P 11 53 52.8 +0.4
FIA0 FINESS Array S 67.71 333 eP P 11 53 52.8 +0.4
FINES FINESS Array B 67.71 333 P P 11 53 52.8 +0.4
comp=Z,7.6nm,0.8s,baz=29,slow=9.1,SNR=5.7
FINES FINESS Array B 67.71 333 iP P 11 53 52.7 +0.3
FINES pmax pmax
comp=Z,8.0nm,0.8s

SUMG	**Summit**	**68.46**	**1**	*e*P		**P**		**11 54 00.3**	**+2.8**
	comp=Z,2.0nm,0.8s								
SUMG	**Summit**	**68.46**	**1**	*e*P		**P**		**11 54 00.3**	**+2.8**
SUMG				pmax		pmax			
	comp=Z,2.0nm,0.8s								
GOF	**Gofitskoye**	**69.99**	**312**	*e*P		**P**		**11 54 07.6**	**+0.6**
GOF				pmax		pmax			
	comp=Z,40nm,0.9s								
BEKR	**Beckworth**	**70.05**	**55**	*e*P		P		11 54 11.4	+3.7
	comp=Z,35nm,0.6s								
NCK	**Nalchik**	**70.58**	**311**	ǁ*e*P		**P**		**11 54 12.3**	**+1.6**
NCK				pmax		pmax			
	comp=Z,12nm,0.3s								
ZEI	**Tsey**	**70.82**	**310**	*e*P		**P**		**11 54 11.2**	**-1.1**
ZEI				pmax		pmax			
	comp=Z,8.0nm,0.9s								
KVAR	**Kislovodsk Arr**	**70.84**	**311**	P		**P**		**11 54 14.1**	**+1.8**
	comp=Z,10nm,0.8s,baz=258,slow=18,SNR=7.5								
KIV	**Kislovodsk**	**70.85**	**311**	*e*P		**P**		**11 54 12.9**	**+0.6**
	comp=Z,40nm,1.0s								
KIV	**Kislovodsk**	**70.85**	**311**	*e*P		**P**		**11 54 13.1**	**+0.8**
KIV				pmax		pmax			
	comp=Z,45nm,1.1s								
KBZ	**Khabaz**	**70.86**	**311**	P		**P**		**11 54 12.8**	**+0.6**
	comp=Z,12nm,0.8s,baz=50,slow=2.8,SNR=27								
FCC	**Fort Churchill**	**71.18**	**28**	*e*P		**P**		**11 54 15.3**	**+1.4**
NEY	**Neytrino**	**71.24**	**311**	ǁ*e*P		**P**		**11 54 15.3**	**+0.4**
NEY				pmax		pmax			
	comp=Z,2.0nm,0.7s								
ILULI	**Ilulissat**	**71.29**	**6**	*e*P		**P**		**11 54 13.7**	**-0.7**
	comp=Z,16nm,0.9s								
ILULI	**Ilulissat**	**71.29**	**6**	*e*P		**P**		**11 54 13.7**	**-0.7**
ILULI				pmax		pmax			
	comp=Z,16nm,0.9s								
NB2	**NORSAR Subarra**	**72.84**	**338**	P		**P**		**11 54 23.7**	**-0.3**
	comp=Z,7.0nm,1.0s,baz=37,slow=6.2								
NB200	**NORSAR Array S**	**72.84**	**338**	*e*P		**P**		**11 54 23.6**	**-0.3**
NOA	**NORSAR Array B**	**72.84**	**338**	P		**P**		**11 54 23.6**	**-0.3**
	comp=Z,3.7nm,0.8s,baz=38,slow=6.0,SNR=10.0								
HVU	**Hansel Valley**	**73.55**	**49**	*e*P		**P**		**11 54 29.4**	**+0.8**
	comp=Z,1.2nm,1.1s								
HVU	**Hansel Valley**	**73.55**	**49**	*e*P		**P**		**11 54 29.4**	**+0.8**
HVU				pmax		pmax			
	comp=Z,1.0nm,1.1s								
AKASG	**Malin Array Be**	**73.66**	**323**	P		**P**		**11 54 28.0**	**-0.9**
	comp=Z,4.9nm,0.7s,baz=44,slow=6.0,SNR=16								
AKASG	**Malin Array Be**	**73.66**	**323**	P		**P**		**11 54 28.0**	**-0.9**
AKASG				pmax		pmax			
	comp=Z,5.0nm,0.7s								
AKBB	**Malin Array Si**	**73.66**	**323**	*e*P		**P**		**11 54 27.3**	**-1.6**
	comp=Z,14nm,1.1s								
KIEV	**Kiev**	**73.67**	**323**	*e*P		**P**		**11 54 27.2**	**-1.8**
	comp=Z,13nm,1.1s								
KIEV	**Kiev**	**73.67**	**323**	ǁ*i*P		**P**		**11 54 28.8**	**-0.2**
KIEV				pmax		pmax			
	comp=Z,11nm,1.0s								
KLNR	**Kaliningrad**	**74.76**	**330**	⇑*e*P		**P**		**11 54 36.0**	**+0.8**
KLNR				pmax		pmax			
	comp=Z,483nm,1.6s								
PDAR	**Pinedale Array**	**74.79**	**47**	P		**P**		**11 54 36.4**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=246,slow=1.8,SNR=5.2								
PDAR				LR		LR		12 29 14.8	
	comp=Z,40nm,18.4s,baz=348,slow=37								
PDAR	**Pinedale Array**	**74.79**	**47**	*e*P		**P**		**11 54 36.7**	**+0.7**
P18A	**Preston Nutter**	**76.39**	**50**	*e*P		**P**		**11 54 44.5**	**-0.8**
	comp=Z,1.9nm,0.7s								
MDND	**Maddock**	**76.62**	**38**	*e*P		**P**		**11 54 47.2**	**+1.1**
	comp=Z,18nm,0.9s								
KWP	**Kalwaria Pacla**	**77.39**	**325**	*e*P		**P**		**11 54 50.1**	**-0.2**
	comp=Z,161nm,0.6s								
KWP	**Kalwaria Pacla**	**77.39**	**325**	*e*P		**P**		**11 54 50.1**	**-0.2**
KWP				pmax		pmax			
	comp=Z,161nm,0.6s								
BUR08	**Bucovina Ar. S**	**77.69**	**323**	*e*P		**P**		**11 54 50.1**	**-2.1**
BUR04	**Bucovina Ar. S**	**77.70**	**323**	*e*P		**P**		**11 54 50.5**	**-1.8**
BURAR	**Bucovina Array**	**77.70**	**323**	⇑*i*P		**P**		**11 54 51.7**	**-0.6**
BURAR	**Bucovina Array**	**77.70**	**323**	⇑P		**P**		**11 54 51.7**	**-0.6**
PV21	**Cone Mtn., Par**	**77.84**	**50**	*e*P		**P**		**11 54 52.8**	**-0.6**
	comp=Z,6.4nm,0.9s								
VRI	**Vrincioaia**	**78.22**	**321**	⇑*i*P		**P**		**11 54 55.1**	**+0.1**
VRI	**Vrincioaia**	**78.22**	**321**	⇑P		**P**		**11 54 55.1**	**+0.1**
TIRR	**Tirgusor**	**78.36**	**319**	ǁ*i*P		**P**		**11 54 56.5**	**+0.7**
TIRR	**Tirgusor**	**78.36**	**319**	ǁP		**P**		**11 54 56.5**	**+0.7**
TRPA	**Tarpa**	**78.57**	**324**	⇑*i*P		**P**		**11 54 56.0**	**-0.9**
BR101	**Keskin Array S**	**78.75**	**312**	*e*P		**P**		**11 54 58.2**	**0.0**
BRTR	**Keskin Array B**	**78.75**	**312**	P		**P**		**11 54 58.2**	**0.0**
	comp=Z,1.0nm,0.7s,baz=116,slow=2.9,SNR=5.1								
BRTR	**Keskin Array B**	**78.75**	**312**	*i* P		**P**		**11 54 58.7**	**+0.4**
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
MLR	**Muntele Rosu**	**78.87**	**321**	P		**P**		**11 54 58.7**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=120,slow=17,SNR=3.2								
MLR	**Muntele Rosu**	**78.87**	**321**	⇑*i*P		**P**		**11 54 58.6**	**-0.2**
OKC	**Ostrava-Krasne**	**79.19**	**328**	AMS		AMS		12 34 40.0	
	comp=Z,400nm,15.0s								
DRGR		**79.47**	**323**	ǁ*i*P		**P**		**11 55 01.8**	**-0.2**
DRGR		**79.47**	**323**	ǁP		**P**		**11 55 01.8**	**-0.2**
MORC	**Moravsky Berou**	**79.49**	**328**	*e*P		**P**		**11 55 02.7**	**+0.7**
	comp=Z,7.4nm,0.9s								
MORC	**Moravsky Berou**	**79.49**	**328**	⇑*i*P		**P**		**11 55 01.3**	**-0.7**
MORC	**Moravsky Berou**	**79.49**	**328**	*e*P		**P**		**11 55 02.7**	**+0.7**
MORC				pmax		pmax			
	comp=Z,7.0nm,0.9s								
MORC	**Moravsky Berou**	**79.49**	**328**	*e*P		**P**		**11 55 02.2**	**+0.2**
DPC	**Dobruska-Polom**	**79.54**	**329**	*e*P		**P**		**11 55 03.9**	**+1.6**
DPC	**Dobruska-Polom**	**79.54**	**329**	*e*P		**P**		**11 55 03.9**	**+1.6**
UPC	**Upice**	**79.55**	**329**	AMS		AMS		12 33 20.0	
	comp=Z,400nm,17.7s								
ARR	**Arges**	**79.60**	**321**	ǁ*i*P		**P**		**11 55 02.7**	**0.0**
PSZ	**Piszkesteto**	**79.91**	**325**	⇑*i*P		**P**		**11 55 03.5**	**-0.8**
PSZ	**Piszkesteto**	**79.91**	**325**	⇑P		**P**		**11 55 03.6**	**-0.8**
VYHS	**Vyhne**	**79.93**	**326**	*e*P		**P**		**11 55 05.3**	**+0.9**
VYHS	**Vyhne**	**79.93**	**326**	*e*P		**P**		**11 55 05.3**	**+0.9**
BRG	**Berggiesshubel**	**80.06**	**330**	*e*P		**P**		**11 55 07.3**	**+2.3**
	comp=Z,3.3nm,0.7s								
BRG				*e*				11 55 14.7	
	comp=Z,9.7nm,1.2s								
BRG	**Berggiesshubel**	**80.06**	**330**	*e*P		**P**		**11 55 07.3**	**+2.3**
BRG				*e*				11 55 14.7	
BRG				pmax		pmax			
	comp=Z,3.0nm,0.7s								
CLL	**Collm**	**80.07**	**331**	*i* P		**P**		**11 55 04.8**	**-0.3**
	comp=Z,7.0nm,0.8s								
CLL				*i* pP		**PcP**		**11 55 14.5**	**+2.0**
CLL				LmH				12 29 00.0	
	comp=N,300nm,19.9s								
CLL				LmH				12 29 00.0	
	comp=E,500nm,21.0s								
CLL				LmV				12 35 00.0	
	comp=Z,300nm,19.0s								
CLL	**Collm**	**80.07**	**331**	*i* P		**P**		**11 55 04.8**	**-0.3**
CLL				*i* *SP		**PcP**		**11 55 14.5**	**+2.0**
CLL				pmax		pmax			
	comp=Z,7.0nm,0.8s								
JAVC	**Velka Javorina**	**80.15**	**327**	*e*P		**P**		**11 55 06.8**	**+1.2**
VRAC	**Vranov**	**80.25**	**328**	P		**P**		**11 55 06.4**	**+0.4**
	comp=Z,6.4nm,0.8s,baz=33,slow=4.4,SNR=5.0								
VRAC	**Vranov**	**80.25**	**328**	⇑*i*P		**P**		**11 55 05.7**	**-0.4**
VRAC	**Vranov**	**80.25**	**328**	*e*P		**P**		**11 55 06.9**	**+0.8**
GOPC	**GO Pecny, Ondr**	**80.50**	**329**	*e*P		**P**		**11 55 08.3**	**+0.9**
GOPC				*e*pP		**PcP**		**11 55 18.3**	**+3.9**
GOPC				AMS		AMS		12 34 00.0	
	comp=Z,400nm,16.5s								
GOPC	**GO Pecny, Ondr**	**80.50**	**329**	*e*P		**P**		**11 55 08.3**	**+0.9**
GOPC				*e*				11 55 18.3	
GOPC				MLR		MLR			
	comp=Z,400nm,16.5s								
KRUC	**Moravsky**	**80.52**	**328**	*e*P		**P**		**11 55 07.8**	**+0.3**
TREC	**Trest**	**80.71**	**329**	AMS		AMS		12 35 00.0	
	comp=Z,400nm,14.4s								
BZS	**Buzias**	**80.86**	**323**	ǁ*i*P		**P**		**11 55 09.5**	**+0.1**
BZS	**Buzias**	**80.86**	**323**	ǁP		**P**		**11 55 09.5**	**+0.1**
MDVR	**Moldovita**	**81.43**	**322**	⇑*i*P		**P**		**11 55 12.9**	**+0.4**
RAYN	**Ar Rayn**	**81.51**	**293**	*e*P		**P**		**11 55 13.4**	**+0.1**
	comp=Z,6.5nm,0.9s								
RAYN	**Ar Rayn**	**81.51**	**293**	*e*P		**P**		**11 55 13.4**	**+0.1**
RAYN				pmax		pmax			
	comp=Z,6.0nm,0.9s								
KHC	**Kasperske Hory**	**81.60**	**330**	*e*P		**P**		**11 55 14.5**	**+1.2**
KHC				AMS		AMS		12 34 30.0	
	comp=Z,400nm,15.6s								
KHC	**Kasperske Hory**	**81.60**	**330**	*e*P		**P**		**11 55 14.5**	**+1.2**
KHC				MLR		MLR			
	comp=Z,400nm,15.6s								
CONA	**Conrad Observa**	**81.63**	**328**	*i* PcP		**P**		**11 55 15.3**	**+1.7**
	comp=Z,5.4nm,1.1s								
EKA	**Eskdalemuir Ar**	**81.64**	**342**	P		**P**		**11 55 14.1**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=15,slow=3.0,SNR=3.5								
GERES	**GERESS Array B**	**81.78**	**329**	P		**P**		**11 55 14.7**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=34,slow=5.5,SNR=8.9								
GEA0	**GERESS Array S**	**81.79**	**329**	*e*P		**P**		**11 55 14.8**	**+0.5**
MMAI	**Mount Meron Ar**	**82.17**	**306**	P		**P**		**11 55 17.4**	**+0.7**
	comp=Z,4.3nm,0.8s,baz=20,slow=9.8,SNR=5.0								
VTS	**Vitosha**	**82.33**	**320**	*e*P		**P**		**11 55 18.3**	**+0.8**
	comp=Z,5.8nm,0.7s								
VTS	**Vitosha**	**82.33**	**320**	ǁ*i*P		**P**		**11 55 17.9**	**+0.5**
VTS	**Vitosha**	**82.33**	**320**	*e*P		**P**		**11 55 18.3**	**+0.8**
VTS				pmax		pmax			
	comp=Z,6.0nm,0.7s								
DIVS	**Divibare**	**82.76**	**323**	*e*P		**P**		**11 55 20.6**	**+1.1**
	comp=Z,6.5nm,1.0s								
SOKA	**Soboth**	**82.96**	**327**	*i* PcP		**P**		**11 55 21.4**	**+0.8**
	comp=Z,13nm,0.9s								
MOTA	**Moosalm**	**84.02**	**330**	*i* PcP		**P**		**11 55 26.8**	**+0.7**
	comp=Z,13nm,1.1s								
PPT2	**Papeete2**	**84.02**	**118**	*e*LR		LR		12 21 33.8	
	comp=Z,252nm,23.0s,baz=314								
RETA	**Reutte**	**84.03**	**330**	*i* PcP		**P**		**11 55 26.7**	**+0.7**
	comp=Z,10nm,1.1s								
BFO	**Black Forest**	**84.25**	**332**	*i* P		**P**		**11 55 28.6**	**+1.5**
FETA	**Feichten**	**84.43**	**330**	*i* PcP		**P**		**11 55 28.9**	**+0.7**
	comp=Z,13nm,1.3s								
DAVA	**Damuels**	**84.54**	**330**	*i* PcP		**P**		**11 55 29.4**	**+0.7**
	comp=Z,16nm,1.0s								
FUORN	**Ofenpass-Fuorn**	**84.94**	**330**	*e*P		**P**		**11 55 31.4**	**+0.5**
	comp=Z,12nm,0.9s								
TAOE	**Nuku Hiva Isla**	**84.94**	**106**	*e*LR		LR		12 22 01.0	
	comp=Z,197nm,22.3s								
DAVOX	**Davos/Dischmat**	**84.96**	**330**	P		**P**		**11 55 30.4**	**-0.5**
	comp=Z,4.9nm,0.8s,baz=110,slow=3.9,SNR=5.3								
LTX	**Lajitas**	**87.30**	**54**	*e*P		**P**		**11 55 42.6**	**-0.1**
LTX	**Lajitas**	**87.30**	**54**	*e*P		**P**		**11 55 42.6**	**-0.1**
TXAR	**Lajitas Array**	**87.30**	**54**	P		**P**		**11 55 42.6**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=258,slow=1.8,SNR=3.9								
TORD	**Torodi Ar. Bea**	**117.01**	**318**	PP		PP		12 02 46.5	-2.9
	comp=Z,1.5nm,1.1s,baz=14,slow=6.3,SNR=4.8								
SNAA	**Sanae**	**143.41**	**197**	PKP		PKPbc		12 02 25.9	-0.3
VNA2	**Neumayer--Watz**	**144.97**	**196**	PKP		**PKPdf**		**12 02 30.6**	**-1.0**
	baz=128,slow=1.6								
VNA3	**Neumayer Olymp**	**145.19**	**195**	PKP		**PKPdf**		**12 02 30.9**	**-1.1**
VNA1	**Neumayer--Stat**	**145.36**	**196**	PKP		**PKPab**		**12 02 31.8**	**-0.5**

*IDC **30** 11:43:35.0±0.9, 39.˚16N×143.˚82E, h0km, mb4.3/16, mb1 4.5/19, mb1mx4.3/49, mbtmp4.4/19, ML4.0/3, MS3.9/2, Ms1 4.0/2, ms1mx3.2/30, Error ellipse: s-maj=22.8km s-min=17.3km az=152.0*

*ISCJB **30** 11:43:37.0±0.4, 39.˚19N±0.˚05×143.˚76E±0.˚06, h23km, mb4.5/27, MS4.0/2, Error ellipse: s-maj=8.2km s-min=6.8km az=149.0*

*NEIC **30** 11:43:40.3±0.4, 39.˚15N×143.˚79E, h35km, mb4.6/13, Error ellipse: s-maj=8.3km s-min=6.0km az=141.0*

ISC 30 11:43:38.4±0.6, 39.˚10N±0.˚07×143.˚80E±0.˚08, h23km, n70, σ1§10/70, mb4.5/27, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res ISC
					Op		h m s	
ERM	**Erimo**	**2.95**	**351**	*e*Pn		**Pn**	**11 44 23.0**	**-0.9**
ASAJ	**Asahikawa**	**5.09**	**350**	Pn		**Pn**	**11 44 52.4**	**-0.8**
	11nm,0.3s,baz=210,slow=9.0,SNR=7.8							
ASAJ	**Asahikawa**	**5.09**	**350**	*e*Pn		**Pn**	**11 44 52.4**	**-0.8**
MJAR	**Matsushiro Arr**	**5.11**	**242**	Pn		**Pn**	**11 44 54.7**	**+1.1**
	11nm,0.3s,baz=314,slow=31,SNR=6.7							
MJAR	**Matsushiro Arr**	**5.11**	**242**	Pn		**Pn**	**11 44 54.7**	**+1.1**
MAJO	**Matsushiro**	**5.11**	**242**	*e*Pn		**Pn**	**11 44 54.7**	**+1.1**
MJB9	**Matsu-Tunnel**	**5.11**	**242**	*e*Pn		**Pn**	**11 44 55.2**	**+1.6**
JHJ	**Hachijima 2**	**6.80**	**210**	Sn		**Sn**	**11 46 29.5**	**-3.9**
	15nm,0.3s,baz=255,slow=19,SNR=2.3							
USA0B	**Ussuriysk Arra**	**10.20**	**304**	*e*Pn		**Pn**	**11 46 05.5**	**+2.2**
USA0B				*e*Sn		**Sn**	**11 47 56.2**	**-0.7**
USRK	**Ussuriysk Ar.**	**10.20**	**304**	Pn		**Pn**	**11 46 04.1**	**+0.8**
	1.4nm,0.3s,baz=96,slow=13,SNR=7.3							
USRK	**Ussuriysk Ar.**	**10.20**	**304**	Pn		**Pn**	**11 46 04.1**	**+0.8**
MDJ	**Mudanjiang**	**11.94**	**302**	*e*Pn		**Pn**	**11 46 28.2**	**+1.1**
TWG	**Pinlang**	**25.26**	**237**	*e*P		**P**	**11 49 00.0**	**-2.8**
	66nm,1.1s							
ULN	**Ulaanbaatar**	**27.85**	**300**	*e*P		**P**	**11 49 27.2**	**+1.0**
	8.5nm,0.9s							
SONA0	**Songino Array**	**28.29**	**300**	*e*P		**P**	**11 49 29.9**	**-0.2**
SONM	**Songino Array**	**28.29**	**300**	P		**P**	**11 49 29.9**	**-0.2**
	2.7nm,0.8s,baz=102,slow=8.0,SNR=2.5							
SONM	**Songino Array**	**28.29**	**300**	P		**P**	**11 49 29.9**	**-0.2**
TIXI	**Tiksi**	**33.50**	**351**	P		**P**	**11 50 13.6**	**-2.0**
	2.0nm,0.3s,baz=53,slow=1.9,SNR=5.5							
TIXI	**Tiksi**	**33.50**	**351**	*e*P		**P**	**11 50 13.6**	**-2.0**
FALS	**False Pass**	**38.31**	**48**	*e*P		**P**	**11 50 59.1**	**+2.1**
	413nm,1.1s							
TNTI	**Ternate**	**41.01**	**206**	*e*P		**P**	**11 51 21.3**	**+1.6**
	12nm,1.0s							
ZAA1	**Zalesovo Array**	**41.96**	**311**	*e*P		**P**	**11 51 26.9**	**-0.3**
ZAA0	**Zalesovo Array**	**41.96**	**311**	*e*P		**P**	**11 51 26.9**	**-0.2**
	8.9nm,0.8s							
ZALV	**Zalesovo Beam**	**41.96**	**311**	P		**P**	**11 51 26.9**	**-0.3**
	3.0nm,0.5s,baz=93,slow=7.4,SNR=4.0							
ZALV	**Zalesovo Beam**	**41.96**	**311**	P		**P**	**11 51 26.9**	**-0.3**
SVW2	**Sparrevohn**	**42.73**	**39**	*e*P		**P**	**11 51 32.1**	**-1.4**
	3.7nm,0.7s							
PBKT	**Sadao Pong**	**43.51**	**251**	*e*P		**P**	**11 51 41.0**	**+0.8**
	7.8nm,1.0s							
CM31	**Chiang Mai Arr**	**43.85**	**255**	*e*P		**P**	**11 51 44.3**	**+1.3**
CMAR	**Chiang Mai Arr**	**43.85**	**255**	P		**P**	**11 51 44.3**	**+1.3**
	1.6nm,0.3s,baz=48,slow=6.9,SNR=5.1							
CMAR	**Chiang Mai Arr**	**43.85**	**255**	P		**P**	**11 51 44.3**	**+1.3**
MK01	**Makanchi Array**	**44.65**	**301**	*e*P		**P**	**11 51 48.8**	**-0.3**
MK31	**Makanchi Array**	**44.65**	**301**	*e*P		**P**	**11 51 48.9**	**-0.2**
MK32	**Makanchi Array**	**44.65**	**301**	*e*P		**P**	**11 51 48.7**	**-0.4**
MKAR	**Makanchi Array**	**44.65**	**301**	P		**P**	**11 51 48.7**	**-0.4**
	6.2nm,0.8s,baz=80,slow=9.0,SNR=5.0							
MKAR	**Makanchi Array**	**44.65**	**301**	*e*P		**P**	**11 51 48.9**	**-0.2**
	40nm,0.8s							
KURK	**Kurchatov**	**46.17**	**307**	*e*P		**P**	**11 52 00.7**	**-0.4**
	15nm,0.9s							
ILAR	**Eielson Array**	**46.74**	**33**	P		**P**	**11 52 05.7**	**+0.4**
	2.7nm,0.7s,baz=259,slow=6.3,SNR=9.7							
ILAR				LR		LR	12 10 38.7	
	comp=Z,83nm,21.9s,baz=274,slow=35							
ILAR	**Eielson Array**	**46.74**	**33**	P		**P**	**11 52 05.7**	**+0.4**
ILB	**Eielson Array**	**46.74**	**33**	*e*P		**P**	**11 52 06.5**	**+1.2**
DOT	**Dot Lake**	**48.04**	**35**	*e*P		**P**	**11 52 16.2**	**+0.8**
	4.3nm,0.8s							
INK	**Inuvik**	**51.69**	**28**	P		**P**	**11 52 43.8**	**+0.7**
	4.9nm,0.6s,baz=290,slow=7.7,SNR=7.5							
INK	**Inuvik**	**51.69**	**28**	*e*P		**P**	**11 52 43.6**	**+0.6**
	4.9nm,0.7s							
ARU	**Arti**	**56.07**	**318**	P		**P**	**11 53 14.6**	**-0.7**
	6.6nm,0.8s,baz=125,slow=1.4,SNR=4.0							
ARU	**Arti**	**56.07**	**318**	*e*P		**P**	**11 53 14.4**	**-0.8**
	11nm,1.0s							
WR1	**Warramunga Arr**	**59.40**	**190**	*e*P		**P**	**11 53 39.0**	**+0.1**
	8.5nm,1.1s							
WRA	**Warramunga Arr**	**59.40**	**190**	P		**P**	**11 53 39.0**	**+0.1**
	3.3nm,0.8s,baz=7.7,slow=7.4,SNR=5.1							
WRA	**Warramunga Arr**	**59.40**	**190**	P		**P**	**11 53 39.0**	**+0.1**
YKA	**Yellowknife Ar**	**61.07**	**31**	P		**P**	**11 53 50.6**	**+0.7**
	1.4nm,0.7s,baz=302,slow=6.6,SNR=7.2							
YKA	**Yellowknife Ar**	**61.07**	**31**	P		**P**	**11 53 50.6**	**+0.7**
YKB5	**Yellowknife Ar**	**61.07**	**31**	*e*P		**P**	**11 53 51.0**	**+1.0**
FIA0	**FINESS Array S**	**67.86**	**333**	*e*P		**P**	**11 54 34.3**	**-0.1**
FINES	**FINESS Array B**	**67.86**	**333**	P		**P**	**11 54 34.3**	**-0.1**
	6.2nm,0.9s,baz=74,slow=5.9,SNR=3.0							
FINES	**FINESS Array B**	**67.86**	**333**	P		**P**	**11 54 34.3**	**-0.1**
MEF	**Metsahovi**	**69.30**	**332**	*e*S		**SKiKP**	**12 04 31.3**	**0.0**
KBZ	**Khabaz**	**70.98**	**311**	P		**P**	**11 54 54.4**	**+0.4**
	7.7nm,0.8s,baz=58,slow=3.5,SNR=4.9							
KBZ	**Khabaz**	**70.98**	**311**	*e*P		**P**	**11 54 54.4**	**+0.4**
NB2	**NORSAR Subarra**	**73.00**	**338**	P		**P**	**11 55 05.6**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=63,slow=4.6							
NB200	**NORSAR Array S**	**73.00**	**338**	*e*P		**P**	**11 55 05.2**	**-0.7**
NOA	**NORSAR Array B**	**73.00**	**338**	P		**P**	**11 55 05.2**	**-0.7**
	comp=Z,2.2nm,0.9s,baz=38,slow=6.0,SNR=2.7							
NOA	**NORSAR Array B**	**73.00**	**338**	P		**P**	**11 55 05.2**	**-0.7**
AKASG	**Malin Array Be**	**73.80**	**323**	P		**P**	**11 55 10.3**	**-0.3**
	comp=Z,3.2nm,0.6s,baz=45,slow=6.3,SNR=5.7							
AKASG	**Malin Array Be**	**73.80**	**323**	P		**P**	**11 55 10.3**	**-0.3**
AKBB	**Malin Array Si**	**73.80**	**323**	*e*P		**P**	**11 55 10.3**	**-0.3**
	comp=Z,4.3nm,0.8s							
PD31	**Pinedale Array**	**74.88**	**47**	*e*P		**P**	**11 55 18.2**	**+0.8**
PDAR	**Pinedale Array**	**74.88**	**47**	P		**P**	**11 55 18.2**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=271,slow=1.0,SNR=3.8							
PDAR	**Pinedale Array**	**74.88**	**47**	P		**P**	**11 55 18.2**	**+0.8**
BRTR	**Keskin Array B**	**78.87**	**312**	LR		LR	12 37 41.7	
	comp=Z,124nm,18.5s,baz=354,slow=41							
LTX	**Lajitas**	**87.37**	**54**	*e*P		**P**	**11 56 22.4**	**-1.5**
TXAR	**Lajitas Array**	**87.37**	**54**	P		**P**	**11 56 22.4**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=336,slow=4.2,SNR=2.7							
TXAR	**Lajitas Array**	**87.37**	**54**	P		**P**	**11 56 22.4**	**-1.5**

*MOS **30** 11:43:50.4±1.1, 55.˚66N×160.˚40E, h4km, mb3.9/4, Error ellipse: s-maj=13.3km s-min=4.2km az=82.9*

*IDC **30** 11:43:51.2±1.0, 54.˚79N×161.˚77E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.7/52, mbtmp3.7/8, ML2.1/1, Error ellipse: s-maj=36.3km s-min=19.9km az=144.0*

ISC 30 11:43:50.7±1.1, 55.˚66N±0.˚02×160.˚41E±0.˚04, h6km±9km, n32, σ1§11/37, mb3.6/7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res ISC
					Op		h m s	
KMNR	**Kamenistaya**	**0.14**	**316**	PN		**Pg**	**11 43 54.1**	**+0.5**
BZMR	**Bezymyannaya**	**0.28**	**9**	PN		**Pg**	**11 43 56.1**	**-0.2**
KIRR	**Kirishev**	**0.30**	**353**	PN		**Pg**	**11 43 56.9**	**+0.3**
KIRR				S		**Sb**	**11 44 02.1**	**-1.7**
BZWR	**Bezymyannyi-We**	**0.31**	**9**	PN		**Pg**	**11 43 57.0**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**0.33**	**29**	PN		**Pg**	**11 43 56.8**	**-0.3**
KPT	**Kopyto**	**0.33**	**341**	PN		**Pg**	**11 43 57.4**	**+0.3**
TUMR	**Tumrok**	**0.40**	**202**	PN		**Pb**	**11 43 59.8**	**-0.4**
TUMR				S		**Sb**	**11 44 06.7**	**+0.1**
ZLN	**Zelenaya**	**0.43**	**31**	PN		**Pg**	**11 43 59.1**	**+0.2**
LGNR	**Loginova**	**0.46**	**20**	PN		**Pb**	**11 44 00.4**	**-0.9**
CIRR	**Tsirk**	**0.50**	**22**	PN		**Pb**	**11 44 01.0**	**-0.9**
CIRR				S		**Sb**	**11 44 09.6**	**+0.1**
KOZ	**Kozyrevsk**	**0.50**	**323**	PN		**Pb**	**11 44 01.3**	**-0.6**
KZV	**Kizimen**	**0.55**	**187**	PN		**Pg**	**11 44 01.5**	**+0.3**
KRSR	**Krestovskiy**	**0.57**	**9**	PN		**Pg**	**11 44 01.2**	**-0.5**
KRSR			

*GUC **30** 12:45:28.4±0.7, 31°33'S×68°67'W, h61km±5km, ML3.2*
ISC 30 12:45:29.3±1.4, **31°36'S**±0'03×**68°68'W**±0'04, **h104**km±7km, **n28**, σ0°**69/48**, **5C-10D**, **San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RTLL	**Cerro Villicun**	**0.17**	**82**	⇓*eP*		**Pn**	**12 45 43.5**	**-0.5**
RTLL				IAML			12 45 43.7	
	comp=Z,1μm,0.3s							
RTLL				⇓*eS*		**Sn**	**12 45 54.9**	**-0.1**
RTLL	**Cerro Villicun**	**0.17**	**82**	⇑*iP*		**Pn**	**12 45 43.6**	**-0.4**
RTLL				*i* S		**Sn**	**12 45 54.9**	**-0.1**
RTLL				IAML			12 45 55.8	
	comp=N,3μm,0.3s							
ZON	**Zonda**	**0.19**	**181**	*eP*		**Pn**	**12 45 42.9**	**-1.2**
ZON				IAML			12 45 43.9	
	comp=Z,529nm,0.2s							
SJA	**San Juan**	**0.20**	**150**	⇓*eP*		**Pn**	**12 45 43.9**	**-0.2**
SJA				IAML			12 45 44.1	
	comp=Z,463nm,0.2s							
AMOG	**MOGNA**	**0.44**	**21**	*eP*		**Pn**	**12 45 45.3**	**0.0**
AMOG				*eS*		**Sn**	**12 45 57.2**	**-0.1**
RTCV	**Cerro Valdivia**	**0.52**	**167**	*eP*		**Pn**	**12 45 45.3**	**-0.5**
RTCV				⇓*eS*		**Sn**	**12 45 58.2**	**+0.1**
RTLS	**Leoncito**	**0.69**	**230**	⇓*eP*		**Pn**	**12 45 47.4**	**-0.1**
RTLS				IAML			12 45 47.6	
	comp=Z,473nm,0.3s							
RTLS				⇓*eS*		**Sn**	**12 46 01.9**	**+0.9**
ACCO	**Cerro Coronel**	**0.83**	**336**	*eP*		**Pn**	**12 45 48.7**	**-0.1**
ACCO				*eS*		**Sn**	**12 46 04.8**	**+1.5**
AUSP	**Uspallata**	**1.06**	**215**	⇓*eP*		**Pn**	**12 45 51.0**	**0.0**
AUSP				*eS*		**Sn**	**12 46 07.9**	**+0.5**
ACDV	**Cuesta del Vie**	**1.24**	**342**	*eP*		**Pn**	**12 45 52.8**	**-0.2**
ACDV				IAML			12 45 53.1	
	comp=Z,223nm,0.4s							
ACDV				*eS*		**Sn**	**12 46 11.4**	**+0.6**
ASAL	**Salagasta**	**1.24**	**186**	*eP*		**Pn**	**12 45 53.2**	**+0.3**
ASAL				*eS*		**Sn**	**12 46 11.7**	**+1.1**
AROD	**Rodeo**	**1.37**	**330**	*eP*		**Pn**	**12 45 54.6**	**0.0**
AROD				⇓*eS*		**Sn**	**12 46 14.1**	**+0.5**
ARCO	**CERRO ARCO**	**1.50**	**188**	*eP*		**Pn**	**12 45 55.9**	**-0.1**
ARCO				*eS*		**Sn**	**12 46 17.1**	**+0.9**
ARCO				IAML			12 46 18.3	
	comp=Z,276nm,0.3s							
ACAN	**Cantantal**	**1.56**	**126**	*eP*		**Pn**	**12 45 56.6**	**-0.1**
ACAN				⇓*eS*		**Sn**	**12 46 16.9**	**-0.5**
AAGR	**Agrelo**	**1.73**	**184**	*eP*		**Pn**	**12 45 58.9**	**+0.1**
AAGR				*eS*		**Sn**	**12 46 20.9**	**-0.3**
AGUA	**GUANDACOL**	**1.87**	**5**	*eP*		**Pn**	**12 46 00.7**	**+0.2**
CMCH	**Combarbala**	**2.00**	**275**	*eP*		**Pn**	**12 46 01.3**	**-0.9**
CMCH				*eS*		**Sn**	**12 46 27.3**	**+0.1**
GO04	**Tololo Observa**	**2.17**	**302**	*eP*		**Pn**	**12 46 04.0**	**-0.6**
GO04	**Tololo Observa**	**2.17**	**302**	⇑*iP*		**Pn**	**12 46 03.9**	**-0.6**
GO04				*i* S		**Sn**	**12 46 31.3**	**-0.2**
GO04				IAML			12 46 34.3	
	comp=N,490nm,0.4s							
FCH	**Farellones**	**2.40**	**214**	⇑*iP*		**Pn**	**12 46 08.0**	**+0.4**
FCH				*i* S		**Sn**	**12 46 38.3**	**+1.6**
FCH				IAML			12 46 42.3	
	comp=E,49nm,0.2s							
PEL	**Peldehue**	**2.47**	**223**	⇑*iP*		**Pn**	**12 46 08.1**	**-0.1**
PEL				*eS*		**Sn**	**12 46 38.3**	**+0.3**
ROCH	**El Roble**	**2.55**	**230**	*eP*		**Pn**	**12 46 08.4**	**-1.1**
ROCH				*eS*		**Sn**	**12 46 39.6**	**-0.7**
ROCH				IAML			12 46 43.8	
	comp=N,76nm,0.3s							
ROC1	**El Roble**	**2.56**	**230**	*eP*		**Pn**	**12 46 08.7**	**-0.9**
VCA	**Vinchina**	**2.64**	**9**	⇓*eP*		**Pn**	**12 46 10.4**	**-0.2**
VCA				*eS*		**Sn**	**12 46 44.3**	**+2.0**
VCA				IAML			12 46 45.6	
	comp=Z,128nm,0.2s							
VCA	**Vinchina**	**2.64**	**9**	⇑*iP*		**Pn**	**12 46 10.4**	**-0.2**
VCA				*i* S		**Sn**	**12 46 42.0**	**-0.3**
VCA				IAML			12 46 46.1	
	comp=N,148nm,0.2s							
MRA	**San Martin**	**2.73**	**114**	*eP*		**Pn**	**12 46 10.9**	**-0.8**
MRA				IAML			12 46 43.0	
	comp=Z,104nm,0.2s							
LMEL	**Las Melosas**	**2.80**	**207**	*eP*		**Pn**	**12 46 12.8**	**+0.1**
LCO	**Las Campanas**	**2.92**	**323**	*eP*		**Pn**	**12 46 13.5**	**-0.9**

*IDC **30** 12:49:31.4±0.7, 55°90N×160°10E, h0km, mb3.8/13, mb1 4.1/14, mb1mx3.9/38, mbtmp3.8/14, ML2.6/1, MS3.5/8, Ms1 3.5/8, ms1mx3.1/36, Error ellipse: s-maj=24.3km s-min=13.8km az=139.0*
*MOS **30** 12:49:32.8±1.1, 55°65N×160°41E, h6km, mb4.2/6, Error ellipse: s-maj=11.4km s-min=4.0km az=83.2*
*ISCJB **30** 12:49:33.8±0.6, 55°71N±0°03×160°39E±0°07, h23km±5km, mb4.0/20, MS3.5/6, Error ellipse: s-maj=6.8km s-min=4.2km az=20.4*
*NEIC **30** 12:49:36.8±0.4, 55°87N×160°04E, h35km, mb4.4/2, Error ellipse: s-maj=15.6km s-min=7.7km az=132.0*
ISC 30 12:49:33.5±1.1, **55°67N**±0°03×**160°41E**±0°04, **h10**km±7km, **n67**, σ1°**64**/66, **mb4.1**/20, **MS3.4**/6, **4C**, **Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KMNR	**Kamenistaya**	**0.13**	**314**	PN		**Pg**	**12 49 36.8**	**+0.2**
BZMR	**Bezymyannaya**	**0.28**	**10**	PN		**Pg**	**12 49 39.2**	**+0.1**
KIRR	**Kirishev**	**0.29**	**353**	PN		**Pg**	**12 49 39.8**	**+0.4**
KIRR				S		**Sb**	**12 49 45.2**	**-0.7**
BZWR	**Bezymyannyi-We**	**0.30**	**10**	PN		**Pg**	**12 49 39.9**	**+0.3**
KPT	**Kopyto**	**0.32**	**341**	PN		**Pg**	**12 49 40.3**	**+0.4**
BZGR	**Bezymyannyi-Gr**	**0.32**	**31**	PN		**Pg**	**12 49 39.9**	**0.0**
TUMR	**Tumrok**	**0.41**	**201**	PN		**Pg**	**12 49 42.4**	**+0.9**
TUMR				S		**Sb**	**12 49 49.1**	**-0.1**
ZLN	**Zelenaya**	**0.42**	**32**	PN		**Pg**	**12 49 42.0**	**+0.3**
LGNR	**Loginova**	**0.45**	**21**	PN		**Pg**	**12 49 43.3**	**+1.0**
CIRR	**Tsirk**	**0.49**	**23**	PN		**Pg**	**12 49 43.9**	**+0.8**
KOZ	**Kozyrevsk**	**0.50**	**323**	PN		**Pg**	**12 49 44.1**	**+1.0**
KZV	**Kizimen**	**0.56**	**187**	PN		**Pg**	**12 49 44.1**	**-0.2**
KRSR	**Krestovskiy**	**0.56**	**9**	PN		**Pg**	**12 49 44.3**	**-0.1**
KLY	**Klyuchi**	**0.66**	**12**	PN		**Pg**	**12 49 46.7**	**+0.4**
KLY				S		**Sb**	**12 49 56.6**	**+0.2**
ESO	**Esso**	**1.00**	**286**	PN		**Pb**	**12 49 51.6**	**-1.2**
BDR	**Baidarnaya**	**1.01**	**26**	PN		**Pg**	**12 49 53.1**	**+0.2**
BDR				S		**Sn**	**12 50 07.9**	**-0.2**
SRKR	**Sorokina**	**1.08**	**23**	PN		**Pb**	**12 49 53.4**	**-0.9**
SMKR	**Semkarok**	**1.09**	**32**	PN		**Pb**	**12 49 54.6**	**+0.1**
MKZ	**Mys Kozlova**	**1.35**	**145**	PN		**Pn**	**12 49 57.8**	**-0.5**
MKZ				S		**Sn**	**12 50 16.7**	**+0.5**
KBG	**Krutoberegovo**	**1.42**	**64**	PN		**Pn**	**12 49 59.0**	**-0.3**
KBTR	**Krutoberegovo**	**1.46**	**67**	PN		**Pn**	**12 49 58.8**	**-1.1**
PET	**Petropavlovsk**	**2.84**	**202**	*ePn*		**Pn**	**12 50 20.9**	**+2.1**
PET				*eS*		**Sg**	**12 51 03.8**	**-0.7**
PET				pmax		pmax		
	comp=Z,176nm,1.1s							
PET				smax		smax		
	comp=N,255nm,0.8s							
PET				smax		smax		
	comp=E,190nm,0.8s							
PET				MLR		MLR		
	comp=Z,900nm,11.0s							
PET				MLR		MLR		
	comp=Z,1μm,7.0s							
PEA1	**Petropavlovsk-**	**3.01**	**213**	*ePn*		**Pn**	**12 50 22.8**	**+1.7**
PEA0B	**Petropavlovsk-**	**3.01**	**213**	*ePn*		**Pn**	**12 50 21.6**	**+0.5**
PEA0B				*eSn*		**Sn**	**12 50 51.7**	**-5.6**
PETK	**Petropavlovsk-**	**3.01**	**213**	Pn		**Pn**	**12 50 22.8**	**+1.6**
	comp=Z,3.8nm,0.3s,baz=47,slow=17,SNR=60							
PETK	**Petropavlovsk-**	**3.01**	**213**	*ePn*		**Pn**	**12 50 21.1**	**-0.1**
MA2	**Magadan**	**6.49**	**311**	LR		LR	12 54 16.1	
	comp=Z,366nm,18.1s,baz=116,slow=46							
ASAJ	**Asahikawa**	**16.23**	**232**	Pn		**P**	**12 53 25.1**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=41,slow=7.6,SNR=5.8							
KLR	**Kul'dur**	**18.53**	**262**	LR		LR	13 01 19.7	
	comp=Z,149nm,18.4s,baz=70,slow=38							
TIXI	**Tiksi**	**20.85**	**332**	P		**P**	**12 54 11.9**	**-3.0**
	comp=Z,1.3nm,0.3s,baz=338,slow=5.4,SNR=3.9							
TIXI	**Tiksi**	**20.85**	**332**	⇑*iP*		Pn	12 54 17.3	-0.1
TIXI				pmax		pmax		
	comp=Z,14nm,2.5s							
USRK	**Ussuriysk Ar.**	**21.43**	**250**	P		**P**	**12 54 21.8**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=60,slow=8.5,SNR=3.8							
IM3	**Indian Mountai**	**24.03**	**46**	*eP*		**P**	**12 54 48.8**	**+0.7**
MAJO	**Matsushiro**	**24.36**	**228**	*eP*		**P**	**12 54 50.9**	**-0.6**
MAJO	**Matsushiro**	**24.36**	**228**	*eP*		**P**	**12 54 50.9**	**-0.6**
MJAR	**Matsushiro Arr**	**24.36**	**228**	P		**P**	**12 54 50.9**	**-0.6**
	comp=Z,2.2nm,1.0s,baz=17,slow=7.8,SNR=3.6							
BOD	**Bodaibo**	**25.16**	**294**	*eP*		**P**	**12 55 00.3**	**+1.9**
BOD				pmax		pmax		
	comp=Z,15nm,2.5s							
MLY	**Manley**	**25.27**	**48**	*eP*		**P**	**12 55 01.7**	**+2.3**
	comp=Z,3.7nm,0.8s							
ILAR	**Eielson Array**	**26.92**	**49**	P		**P**	**12 55 13.8**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=270,slow=5.0,SNR=5.2							
ILAR	**Eielson Array**	**26.92**	**49**	*eP*		**P**	**12 55 18.5**	**+4.1**
ILAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
KSRS	**Korea Array**	**28.44**	**244**	LR		LR	13 07 23.5	
	comp=Z,56nm,18.3s,baz=28,slow=38							
INK	**Inuvik**	**31.75**	**40**	P		**P**	**12 55 56.4**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=253,slow=7.1,SNR=2.6							
SONM	**Songino Array**	**33.57**	**280**	LR		LR	13 11 13.7	
	comp=Z,67nm,21.6s,baz=332,slow=39							
NRIK	**Noril'sk**	**33.94**	**323**	LR		LR	13 10 28.9	
	comp=Z,70nm,20.9s,baz=34,slow=37							
YKA	**Yellowknife Ar**	**41.17**	**45**	P		**P**	**12 57 17.3**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=303,slow=8.7,SNR=4.6							
NVS	**Novosibirsk**	**41.85**	**302**	*eP*		**P**	**12 57 25.5**	**+2.4**
GTA	**Gaotai**	**42.56**	**274**	*eP*		**P**	**12 57 31.5**	**+2.2**
GTA				pP		sP	12 57 35.0	+1.4
GTA				sP		pP	12 57 37.5	+5.1
GTA				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KURK	**Kurchatov**	**46.57**	**300**	⇑*eP*		**P**	**12 58 03.4**	**+2.4**
KURK				pmax		pmax		
	comp=Z,5.0nm,1.3s							
MK32	**Makanchi Array**	**47.24**	**294**	*eP*		**P**	**12 58 03.8**	**-2.6**
MKAR	**Makanchi Array**	**47.24**	**294**	P		**P**	**12 58 03.8**	**-2.6**
	comp=Z,0.5nm,0.7s,baz=54,slow=7.3,SNR=2.7							
MKAR				LR		LR	13 18 49.6	
	comp=Z,69nm,19.0s,baz=2.0,slow=37							
MKAR	**Makanchi Array**	**47.24**	**294**	*eP*		P	12 58 11.2	+4.8
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
BRVK	**Borovoye**	**48.99**	**307**	⇑*eP*		**P**	**12 58 21.7**	**+2.0**
BRVK				pmax		pmax		
	comp=Z,4.0nm,0.8s							
AAK	**Ala-Archa**	**54.13**	**295**	⇑*eP*		**P**	**12 58 59.8**	**+1.2**
AAK				pmax		pmax		
	comp=Z,2.0nm,1.0s							
NV01	**Mina Array Sit**	**54.73**	**72**	*eP*		**P**	**12 59 04.7**	**+1.7**
NVAR	**Mina Array Bea**	**54.73**	**72**	P		**P**	**12 59 01.3**	**-1.7**
	comp=Z,2.7nm,0.8s,baz=300,slow=7.1,SNR=6.9							
PDAR	**Pinedale Array**	**56.14**	**62**	P		**P**	**12 59 14.2**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=325,slow=1.8,SNR=4.9							
NB200	**NORSAR Array S**	**61.12**	**343**	*eP*		**P**	**12 59 43.3**	**-4.0**
NOA	**NORSAR Array B**	**61.12**	**343**	P		**P**	**12 59 43.3**	**-4.0**
	comp=Z,1.1nm,0.8s,baz=20,slow=6.9,SNR=2.7							
KBZ	**Khabaz**	**67.80**	**316**	P		**P**	**13 00 32.8**	**+1.6**
	comp=Z,5.1nm,1.0s,baz=162,slow=5.7,SNR=5.3							
KBZ				LR		LR	13 33 42.9	
	comp=Z,54nm,19.1s,baz=350,slow=39							
TX31	**Lajitas Ar. Si**	**69.48**	**68**	*eP*		**P**	**13 00 42.6**	**+0.6**
LTX	**Lajitas**	**69.48**	**68**	*eP*		**P**	**13 00 42.6**	**+0.6**
LTX	**Lajitas**	**69.48**	**68**	*eP*		**P**	**13 00 42.6**	**+0.6**
TXAR	**Lajitas Array**	**69.48**	**68**	P		**P**	**13 00 42.6**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=299,slow=4.3,SNR=12							
GERES	**GERESS Array B**	**72.20**	**338**	LR		LR	13 41 31.1	
	comp=Z,25nm,18.3s,baz=206,slow=43							
WR1	**Warramunga Arr**	**78.50**	**205**	*eP*		**P**	**13 01 34.1**	**-0.4**
	comp=Z,19nm,1.7s							
WRA	**Warramunga Arr**	**78.50**	**205**	P		**P**	**13 01 34.1**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=20,slow=5.8,SNR=12							
ASAR	**Alice Springs**	**82.18**	**204**	P		**P**	**13 01 54.6**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=12,slow=4.6,SNR=18							

MAN 30 12:51:43.4, 6°71N×124°32E, h2km, mb4.6, ML3.4, MS3.3, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CTBH	**Cotabato--PC H**	**0.51**	**352**	⇓*iP*		Pg	12 51 53.7	+0.5
CTBH				*i* S		Sb	12 52 01.5	-1.6
BUKP	**Musuan**	**1.37**	**32**	*eP*		Pn	12 52 09.0	-0.6
BUKP				*eS*		Sn	12 52 28.6	+0.1
DDMP	**Don Marcelino,**	**1.51**	**113**	*eP*		Pg	12 52 13.0	+0.7
DDMP				*eS*		Sg	12 52 34.1	+2.3
CGP	**Cagayan de Oro**	**1.77**	**12**	⇓*eP*		Pn	12 52 14.8	-0.3
CGP				*eS*		Sg	12 52 41.3	+0.9

*NORS **30** 12:57:33.3±0.0, 42°35N×42°99E, h7km, MPVA3.0*
*MOS **30** 12:57:33.1±0.0, 42°32N×42°95E, h13km±1km, MPVA3.0*
ISC 30 12:57:33.6±1.5, **42°29N**±0°05×**42°96E**±0°05, **h14**km±10km, **n9**, σ1°**42**/18, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DIGR	**Digorskoe uzhe**	**0.76**	**37**	*ePg*		**Pg**	**12 57 47.2**	**-1.2**
DIGR				*eSg*		**Sb**	**12 57 57.7**	**-1.4**
ZEI	**Tsey**	**0.85**	**54**	*ePg*		**Pg**	**12 57 48.9**	**-1.4**
ZEI				*eSg*		**Sg**	**12 58 00.1**	**-1.3**
NEY	**Neytrino**	**0.97**	**350**	*ePg*		**Pb**	**12 57 51.5**	**-0.9**
NEY				*eSg*		**Sb**	**12 58 04.4**	**-0.8**
LACR	**Lac**	**1.12**	**61**	*ePg*		**Pn**	**12 57 55.8**	**+0.7**
LACR				*eSg*		**Sn**	**12 58 10.6**	**+0.1**
TRLG	**Trialeti**	**1.14**	**131**	P		**Pg**	**12 57 55.5**	**-0.1**
TRLG				S		**Sn**	**12 58 12.0**	**+1.2**
KORR	**Kora**	**1.14**	**46**	*ePg*		**Pn**	**12 57 55.2**	**0.0**
KORR				*eSg*		**Sn**	**12 58 11.0**	**+0.3**
STDR	**Stavd-Durt**	**1.35**	**37**	*ePg*		**Pg**	**12 58 02.0**	**+2.5**
STDR				*i* Sg		**Sg**	**12 58 19.9**	**+2.8**
DOMR	**Dombai**	**1.40**	**316**	*ePg*		**Pb**	**12 57 59.0**	**-0.7**
DOMR				*i* Sg		**Sb**	**12 58 16.9**	**-0.6**
SHA1	**Shidzhatmaz**	**1.46**	**351**	*ePg*		**Pg**	**12 58 01.5**	**-0.2**
SHA1				*eSg*		**Sg**	**12 58 22.4**	**+1.6**

*IDC **30** 12:58:07.1±1.0, 22°88N×95°88E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.7/54, mbtmp3.9/7, ML4.5/1, MS2.9/3, Ms1 3.0/3, ms1mx2.7/30, Error ellipse: s-maj=35.7km s-min=14.8km az=60.0*
*NDI **30** 12:58:08.9±2.4, 22°78N×95°95E, h10km, ML3.4*
*NEIC **30** 12:58:08.2±0.5, 22°83N×95°94E, h10km, mb4.2/3, Error ellipse: s-maj=36.1km s-min=6.5km az=56.0*
ISC 30 12:58:07.9±0.6, **22°77N**±0°06×**95°83E**±0°06, **h10**km, **n55**, σ1°**94**/73, **mb4.1**/7, **Myanmar**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SAIH	**SAIHA**	**2.64**	**264**	*eP*		**Pn**	**12 58 53.9**	**+3.1**
SAIH				*eS*		**Sn**	**12 59 27.1**	**+4.1**
SAIH				IAML			12 59 34.5	
	comp=N,194nm,0.2s							
SAIH				IAML			12 59 38.0	
	comp=E,376nm,0.4s							
IMP	**Imphal**	**2.68**	**320**	*eP*		**Pn**	**12 58 53.6**	**+2.4**
IMP				*eS*		**Sn**	**12 59 27.0**	**+3.2**
IMP				IAML			12 59 31.6	
	comp=N,168nm,0.3s							
IMP				IAML			12 59 37.0	
	comp=E,163nm,0.5s							
KOHI	**KOHIMA**	**3.33**	**332**	*eP*		**Pn**	**12 59 01.0**	**+0.8**
KOHI				*ex*		**Sn**	**12 59 42.8**	**+2.8**
KOHI				IAML			12 59 48.8	
	comp=N,134nm,0.4s							
KOHI				IAML			12 59 53.0	
	comp=E,147nm,0.6s							
MOKO	**MOKOCHONG**	**3.73**	**342**	*eP*		**Pn**	**12 59 08.1**	**+2.3**
MOKO				*eS*		**Sn**	**12 59 51.1**	**+1.2**
MOKO				IAML			12 59 59.2	
	comp=E,175nm,0.7s							
MOKO				IAML			13 00 01.5	
	comp=N,175nm,0.4s							
BRDH	**Bariadhala**	**3.87**	**269**	LR		LR	13 01 09.6	
	comp=N,88nm,18.7s,baz=153,slow=47							
AGT	**Agartala**	**4.36**	**286**	*eS*		**Sn**	**13 00 06.8**	**+1.8**
LKP	**Lekhapani**	**4.54**	**0**	*eP*		**Pn**	**12 59 17.1**	**+0.3**
SHL	**Shillong**	**4.55**	**308**	*ePn*		**Pn**	**12 59 18.4**	**+1.3**
SHL				*eSn*		**Sn**	**13 00 10.0**	**-0.2**
SHL	**Shillong**	**4.55**	**308**	*eP*		**Pn**	**12 59 18.6**	**+1.4**
SHL				*eS*		**Sn**	**13 00 09.3**	**-0.9**
SHL				IAML			13 00 13.0	
	comp=N,89nm,0.1s							
SHL				IAML			13 00 13.1	
	comp=E,99nm,0.5s							
CHTO	**Chiang Mai**	**4.90**	**143**	*ePn*		**Pn**	**12 59 20.9**	**-0.7**
CHTO				*eSg*		**Sg**	**13 00 42.5**	**-2.8**
CHTO	**Chiang Mai**	**4.90**	**143**	P		**Pn**	**12 59 20.5**	**-1.2**
CMMT	**Chiang Mai**	**4.90**	**143**	P		**Pn**	**12 59 20.5**	**-1.2**
ZIRO	**ZIRO**	**5.06**	**340**	*eP*		**Pn**	**12 59 24.5**	**+0.4**
PAYA	**Payao**	**5.07**	**131**	P		**Sg**	**13 00 48.1**	**-2.8**
PAYA	**Payao**	**5.07**	**131**	P		**Pn**	**12 59 22.7**	**-1.4**
CM31	**Chiang Mai Arr**	**5.19**	**145**	*ePn*		**Pn**	**12 59 25.2**	**-0.5**
CM31				*eSn*		**Sn**	**13 00 25.6**	**0.0**
CMAR	**Chiang Mai Arr**	**5.19**	**145**	Pn		**Pn**	**12 59 25.1**	**-0.6**
	comp=E,4.4nm,0.3s,baz=323,slow=13,SNR=87							
CMAR				Pg		**Pb**	**12 59 42.8**	**+4.0**
	comp=E,11nm,0.3s,baz=323,slow=18,SNR=48							
CMAR				Lg		Lg	13 00 49.6	
	comp=E,12nm,0.3s,baz=319,slow=30,SNR=8.3							
CMAR				LR		LR	13 01 48.3	
	comp=E,129nm,22.0s,baz=28,slow=42							
CMAR	**Chiang Mai Arr**	**5.19**	**145**	P		**Pn**	**12 59 25.1**	**-0.6**
CMAR				pmax		pmax		
	comp=Z,4.0nm,0.3s							
CM01	**Chiang Mai Arr**	**5.23**	**145**	*ePn*		**Pn**	**12 59 24.9**	**-1.3**
CM01				*eSg*		**Sg**	**13 00 52.8**	**-3.1**
LAMP	**Lampang**	**5.53**	**139**	P		**Sg**	**13 01 02.4**	**-3.0**
	comp=Z,1μmcomp=Z,123nm,0.7s							
LAMP	**Lampang**	**5.53**	**139**	P		**Pn**	**12 59 29.6**	**-0.7**
TURI	**Tura**	**5.73**	**300**	*eP*		**Pn**	**12 59 34.8**	**+1.6**
TURI				*eS*		**Sn**	**13 00 38.8**	**-0.3**
NANT	**Nan**	**6.03**	**130**	P		**Pn**	**12 59 34.0**	**-3.2**
SUKH	**Sukhothai**	**6.36**	**145**	P		**Pn**	**12 59 41.3**	**-0.4**
UTTA	**Uttaradit**	**6.68**	**138**	P		**Pn**	**12 59 44.9**	**-1.3**
PBKT	**Sadao Pong**	**7.84**	**141**	*ePn*		**Pn**	**13 00 01.7**	**-0.4**
PBKT	**Sadao Pong**	**7.84**	**141**	P		**Pn**	**13 00 01.5**	**-0.6**
UTHA	**Uthaitani**	**7.95**	**154**	P		**Pn**	**13 00 05.7**	**+2.1**
LSA	**Lhasa**	**8.08**	**330**	*ePn*		**Pn**	**13 00 07.9**	**+2.2**
RAMN	**Ramite**	**9.36**	**298**	*ePn*		**Pn**	**13 00 23.0**	**-0.2**
RAMN				*eSn*		**Sn**	**13 02 06.3**	**-2.3**
	comp=Z,20nm,0.4s							
JIRN	**Jiri**	**9.99**	**301**	*ePn*		**Pn**	**13 00 32.5**	**+0.5**
JIRN				*eSn*		**Sn**	**13 02 23.1**	**-1.3**
	comp=Z,32nm,0.3s							
GUN	**Gumba**	**10.35**	**302**	*ePn*		**Pn**	**13 00 37.1**	**+0.2**
GUN				*eSn*		**Sn**	**13 02 31.0**	**-2.2**
	comp=Z,36nm,0.5s							
PKI	**Pulchoki**	**10.58**	**299**	*ePn*		**Pn**	**13 00 40.2**	**+0.2**
PKIN	**Phulchoki**	**10.59**	**299**	*ePn*		**Pn**	**13 00 40.5**	**+0.4**
PKIN				*eSn*		**Sn**	**13 02 35.9**	**-3.1**
	comp=Z,21nm,0.7s							
KKN	**Kakani**	**10.78**	**300**	*ePn*		**Pn**	**13 00 42.7**	**+0.2**
KKN				*eSn*		**Sn**	**13 02 40.6**	**-2.8**
	comp=Z,22nm,0.6s							
DMN	**Daman**	**10.84**	**299**	*ePn*		**Pn**	**13 00 43.5**	**0.0**
DMN				*eSn*		**Sn**	**13 02 42.3**	**-2.7**
	comp=Z,13nm,0.4s							
GKN	**Gorkha**	**11.38**	**300**	*ePn*		**Pn**	**13 00 51.2**	**+0.4**
KOLN	**Koldanda**	**12.13**	**297**	*ePn*		**Pn**	**13 01 00.3**	**-0.8**
KOLN				*eSn*		**Sn**	**13 03 12.3**	**-4.4**
	comp=Z,20nm,0.7s							
DANN	**Dangsing**	**12.23**	**300**	*ePn*		**Pn**	**13 01 01.8**	**-0.7**
DANN				*eSn*		**Sn**	**13 03 15.6**	**-3.5**
	comp=Z,17nm,0.5s							
PYUN	**Piuthan**	**12.76**	**297**	*ePn*		**Pn**	**13 01 09.0**	**-0.7**
PYUN				*eSn*		**Sn**	**13 03 26.7**	**-5.2**
	comp=Z,23nm,0.6s							
PSI	**Prapat**	**20.08**	**171**	LR		LR	13 12 04.5	
	comp=Z,57nm,18.5s,baz=93,slow=41							
MK01	**Makanchi Array**	**26.32**	**339**	*eP*		**P**	**13 03 43.3**	**-0.5**
MK31	**Makanchi Array**	**26.34**	**339**	*eP*		**P**	**13 03 43.5**	**-0.6**
MK32	**Makanchi Array**	**26.34**	**339**	*eP*		**P**	**13 03 43.6**	**-0.5**
MKAR	**Makanchi Array**	**26.34**	**339**	P		**P**	**13 03 43.6**	**-0.5**
	comp=Z

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**4.83**	**195**	Pn	Pn	13 26 34.9	-0.7
	0.3nm,0.3s,baz=51,slow=6.5,SNR=3.9						
STKA				Sn	Sn	13 27 32.0	-0.1
	0.5nm,0.3s,baz=55,slow=22,SNR=5.6						
STKA				Lg	Lg	13 27 55.6	
	0.3nm,0.3s,baz=36,slow=19,SNR=3.4						
ASAR	**Alice Springs**	**9.04**	**291**	Pn	Pn	13 27 32.2	-1.2
	0.1nm,0.3s,baz=122,slow=13,SNR=7.2						
WRA	**Warramunga Arr**	**10.82**	**310**	Pn	Pn	13 27 60.0	+2.1
	0.1nm,0.3s,baz=138,slow=12,SNR=5.4						

*ISCJB **30** 14:27:03.0±0.2,61°.37N±0°.02×151°.48W±0°.04, h94km±2km, mb3.9/20, Error ellipse: s-maj=3.5km s-min=2.7km az=45.0*

*IDC **30** 14:27:04.7±0.7,61°.39N×151°.74W, h92km±6km, mb3.7/18, mb1 3.9/22, mb1mx3.8/43, mbtmp4.0/22, MS3.2/5, Ms1 3.2/5, ms1mx2.8/41, Error ellipse: s-maj=11.8km s-min=10.3km az=84.0*

*NEIC **30** 14:27:05.3±0.0, 61°.35N×151°.50W, h80km, MW4.1, ML4.0(AEIC), Moment Tensor Solution. s17 Moment tensor: Scale 10^15 Nm; Mrr=0.27; Mθθ=0.29; Mφφ=0.57; Mrθ=0.96; Mθφ=0.09; Mφr=1.44; Best double couple: M0 1.80000×10^15 NP1:φs32.00000°, δ13.00000°, λ-25.00000°. NP2:φs146.00000°, δ85.00000°, λ-102.00000°. Principal axes: T 1.8600, Plg39.0000°, Azm247.0000°; N -0.1200, Plg12.0000°, Azm147.0000°; P -1.7400, Plg49.0000°, Azm44.0000°; After AEIC.*

NEIC Felt at Anchorage, Eagle River, Girdwood and Willow.

ISC 30 14:27:04.7±0.5, 61°.38N±0°.03×151°.53W±0°.03, h91km±4km, n139, σ1§16/156, mb4.0/20, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCG	**Spurr Capps Gl**	**0.25**	**250**	P	Pn	14 27 16.7	-1.4
SPCG				S	Sn	14 27 26.0	-2.1
SPCP	**Crater Peak Br**	**0.32**	**250**	P	Pn	14 27 17.2	-1.3
SPCP				S	Sn	14 27 26.8	-2.0
CKT	**Bend**	**0.37**	**242**	P	Pn	14 27 17.4	-1.3
SPCR	**Spurr Chakacha**	**0.37**	**242**	P	Pn	14 27 17.3	-1.4
SPCR				S	Sn	14 27 27.4	-1.7
SUA	**Susitna One**	**0.39**	**77**	*e*Pn	Pn	14 27 18.2	-0.7
SUA				*e*Sn	Sn	14 27 28.0	-1.4
SPNN	**North Nagishla**	**0.56**	**269**	P	Pn	14 27 19.3	-0.9
SPNN				S	Sn	14 27 30.6	-1.1
SKT	**Skwentna**	**0.60**	**0**	*e*Pn	Pn	14 27 19.3	-1.1
SKT				*e*Sn	Sn	14 27 30.8	-1.4
NKA	**Nikishka**	**0.65**	**167**	P	Pn	14 27 21.5	+0.8
FIB	**Fire Island**	**0.69**	**107**	P	Pn	14 27 21.2	+0.1
RDT	**Redoubt**	**0.91**	**208**	P	Pn	14 27 22.5	-1.0
RC01	**Rabbit Creek A**	**0.92**	**108**	*e*Pn	Pn	14 27 22.7	-0.7
RC01				*e*Sn	Sn	14 27 37.2	-0.3
DFR	**Drift River**	**0.97**	**216**	P	Pn	14 27 23.3	-0.9
DFR				S	Sn	14 27 37.8	-0.9
RDN	**Redoubt North**	**1.05**	**215**	P	Pn	14 27 24.3	-0.9
RDWB	**Redoubt West**	**1.10**	**216**	P	Pn	14 27 24.8	-0.9
RDWB				S	Sn	14 27 40.4	-1.0
RED	**Redoubt Volcan**	**1.14**	**213**	P	Pn	14 27 25.3	-0.8
PMR	**Palmer**	**1.17**	**78**	*e*Pn	Pn	14 27 25.6	-0.8
GHO	**Glory Hole Cre**	**1.31**	**71**	P	Pn	14 27 27.2	-0.9
KNK	**Knik Glacier**	**1.48**	**87**	P	Pn	14 27 29.5	-0.7
KNK				S	Sn	14 27 48.8	-0.7
ILW	**Iliamna West**	**1.54**	**211**	P	Pn	14 27 30.3	-0.8
IVE	**Iliamna Volcan**	**1.55**	**209**	P	Pn	14 27 30.4	-0.8
PPLA	**Purkeypile**	**1.56**	**349**	*e*Pn	Pn	14 27 31.0	-0.2
SML	**Sawmill**	**1.59**	**73**	*e*Pn	Pn	14 27 30.8	-0.8
ILS	**Iliamna Low So**	**1.61**	**209**	P	Pn	14 27 31.4	-0.5
PWL	**Port Wells**	**1.64**	**107**	P	Pn	14 27 30.9	-1.3
PWL				S	Sn	14 27 51.7	-1.4
SEW	**Seward**	**1.64**	**140**	P	Pn	14 27 30.7	-1.4
BRLK	**Bradley Lake**	**1.65**	**169**	*e*Pn	Pn	14 27 31.8	-0.5
HOM	**Homer**	**1.73**	**182**	*e*Pn	Pn	14 27 33.6	+0.3
HUR	**Hurricane**	**1.84**	**28**	P	Pn	14 27 34.9	+0.1
CNPM	**China Poot**	**1.86**	**175**	*e*Pn	Pn	14 27 34.3	-0.8
SVW2	**Sparrevohn**	**1.98**	**264**	*e*Pn	Pn	14 27 36.1	-0.4
SCM	**Sheep Creek Mo**	**2.06**	**75**	*e*Pn	Pn	14 27 36.8	-0.9
CAST	**Castle Rocks**	**2.06**	**353**	*e*Pn	Pn	14 27 37.4	-0.4
PDB	**Pedro Bay**	**2.07**	**221**	P	Pn	14 27 37.1	-0.6
TRF	**Thorofare Moun**	**2.16**	**115**	*e*Pn	Pn	14 27 38.9	-0.3
GLI	**Glacier Island**	**2.21**	**101**	*e*Pn	Pn	14 27 37.7	-2.0
AUL	**Augustine Lava**	**2.21**	**206**	P	Pn	14 27 39.8	+0.1
AUE	**Augustine Isla**	**2.22**	**205**	P	Pn	14 27 39.8	0.0
AUW	**Augustine West**	**2.23**	**206**	P	Pn	14 27 39.9	0.0
RND	**Reindeer**	**2.39**	**30**	*e*Pn	Pn	14 27 41.6	-0.4
JPK	**Jack Peak**	**2.41**	**96**	P	Pn	14 27 40.8	-1.5
FID	**Port Fidalgo**	**2.54**	**102**	*e*Pn	Pn	14 27 41.9	-2.1
CHUM	**Lake Minchumin**	**2.54**	**352**	P	Pn	14 27 43.9	-0.1
DHY	**Denali Highway**	**2.59**	**47**	*e*Pn	Pn	14 27 44.6	-0.2
TT01	**Tatalina**	**2.61**	**308**	P	Pn	14 27 44.6	-0.3
HIN	**Hinchinbrook I**	**2.65**	**110**	P	Pn	14 27 43.5	-2.0
MCK	**McKinley**	**2.65**	**26**	*e*Pn	Pn	14 27 45.8	+0.3
KLU	**Klutina**	**2.70**	**85**	*e*Pn	Pn	14 27 44.8	-1.4
BPAW	**Bear Paw Mtn.**	**2.74**	**5**	*e*Pn	Pn	14 27 46.1	-0.6
DIV	**Divide**	**2.79**	**93**	*e*Pn	Pn	14 27 45.9	-1.6
FONW	**Fourpeaked Sta**	**2.82**	**206**	P	Pn	14 27 47.7	-0.1
EYAK	**Cordova Ski Ar**	**2.94**	**106**	*e*Pn	Pn	14 27 47.5	-1.8
BWN	**Browne**	**2.96**	**18**	P	Pn	14 27 49.8	-0.2
PS11	**TAPS Pump St11**	**2.97**	**74**	P	Pn	14 27 49.9	+0.1
HARP	**HAARP**	**3.19**	**68**	*e*Pn	Pn	14 27 53.1	+0.3
SGAM	**Sherman Glacie**	**3.21**	**103**	P	Pn	14 27 50.9	-2.1
PAX	**Paxson**	**3.26**	**58**	*e*Pn	Pn	14 27 54.0	+0.2
PS10	**TAPS Pump St10**	**3.38**	**50**	P	Pn	14 27 56.4	+1.1
NEA	**Nenana**	**3.40**	**18**	P	Pn	14 27 54.5	-1.0
KAWH	**Katmai**	**3.42**	**210**	P	Pn	14 27 55.7	-0.3
WRH	**Wood River Hil**	**3.48**	**25**	*e*Pn	Pn	14 27 55.9	-0.7
RAGM	**Ragged Mountai**	**3.50**	**104**	*e*Pn	Pn	14 27 54.5	-2.4
KBM	**Katmai Bkd Mtn**	**3.62**	**212**	P	Pn	14 27 58.0	-0.6
KDAK	**Kodiak Island**	**3.65**	**189**	P	Pn	14 27 57.2	-1.6
	5.8nm,0.3s,baz=44,slow=6.4,SNR=161						
KDAK				S	Sn	14 28 39.8	-1.0
	34nm,0.3s,baz=29,slow=12,SNR=5.9						
KDAK				LR	LR	14 29 22.7	
	comp=Z,115nm,18.1s,baz=337,slow=38						
MLY	**Manley**	**3.69**	**5**	*e*Pn	Pn	14 27 58.6	-0.8
CCB	**Clear Creek Bu**	**3.69**	**26**	*e*Pn	Pn	14 27 58.7	-0.8
HDA	**Harding Lake**	**3.69**	**33**	*e*Pn	Pn	14 27 59.1	-0.4
HMT	**Hamilton**	**3.71**	**103**	P	Pn	14 27 57.4	-2.3
ANCK	**Angle Creek**	**3.77**	**214**	P	Pn	14 28 00.4	-0.1
CNTC	**Contact Creek**	**3.82**	**217**	P	Pn	14 28 01.2	-0.1
PS08	**TAPS Pump Stn8**	**3.84**	**32**	P	Pn	14 28 00.9	-0.5
CAHL	**Cahill**	**3.84**	**211**	P	Pn	14 28 02.4	+0.8
NICHA	**Nichawak Mount**	**3.88**	**104**	P	Pn	14 27 59.6	-2.4
COLA	**College**	**3.89**	**24**	*e*Pn	Pn	14 28 01.4	-0.7
MDM	**Murphy Dome**	**3.89**	**21**	*e*Pn	Pn	14 28 01.6	-0.6
RIDG	**Independ'e Rid**	**3.90**	**50**	*e*Pn	Pn	14 28 02.8	+0.5
BERG	**Berg Lake**	**3.95**	**101**	P	Pn	14 28 00.7	-2.3
IL1	**Eielson Array**	**4.01**	**30**	*e*Pn	Pn	14 28 02.8	-0.9
ILAR	**Eielson Array**	**4.01**	**30**	P	Pn	14 28 02.5	-1.3
	41nm,0.3s,baz=216,slow=15,SNR=684						
ILAR				S	Sn	14 28 46.6	-2.9
	27nm,0.3s,baz=221,slow=23,SNR=11						
ILB	**Eielson Array**	**4.01**	**30**	*e*Pn	Pn	14 28 03.3	-0.4
GLM	**Gilmore Dome**	**4.08**	**26**	P	Pn	14 28 04.5	-0.3
DOT	**Dot Lake**	**4.14**	**53**	*e*Pn	Pn	14 28 05.4	-0.3
KHIT	**Khitrov Hills**	**4.15**	**99**	P	Pn	14 28 05.4	-0.4
GCSA	**Galena City Sc**	**4.16**	**327**	P	Pn	14 28 05.9	+0.1
OHAK	**Old Harbor**	**4.26**	**193**	P	Pn	14 28 05.8	-1.4
SCRK	**Sand Creek**	**4.35**	**50**	*e*Pn	Pn	14 28 08.1	-0.4
KULT	**Kultieth River**	**4.46**	**101**	P	Pn	14 28 07.7	-2.2
BARK	**Barkley Ridge**	**4.52**	**98**	P	Pn	14 28 09.2	-1.7
ISLE	**Juniper Island**	**4.54**	**96**	P	Pn	14 28 09.3	-1.8
PS06	**TAPS Pump Stn6**	**4.57**	**9**	P	Pn	14 28 11.6	+0.4
IM3	**Indian Mountai**	**4.73**	**349**	*e*Pn	Pn	14 28 12.9	-0.6
MESA	**MESA**	**4.85**	**100**	P	Pn	14 28 13.5	-1.8
BCA3	**Beaver Creek A**	**4.87**	**65**	P	Pn	14 28 15.2	-0.3
PRP	**Porcupine Dome**	**4.95**	**30**	P	Pn	14 28 16.9	+0.3
YUK2	**White River**	**5.12**	**81**	P	Pn	14 28 18.7	-0.3
BVCY	**Beaver Creek**	**5.15**	**74**	P	Pn	14 28 19.4	+0.1
YUK3	**Moose Creek**	**5.31**	**81**	P	Pn	14 28 21.1	-0.4
PS05	**TAPS Pump Stn5**	**5.47**	**4**	P	Pn	14 28 24.4	+0.9
ANPK	**Aniakchak Peak**	**5.67**	**220**	P	Pn	14 28 25.2	-1.2
EGAK	**Eagle**	**5.82**	**50**	*e*Pn	Pn	14 28 27.7	-0.6
FYU	**Fort Yukon**	**5.90**	**25**	*e*Pn	Pn	14 28 29.8	+0.5
COLD	**Coldfoot**	**5.90**	**5**	*e*Pn	Pn	14 28 30.8	+1.4
DAWY	**Dawson**	**6.20**	**59**	*e*Pn	Pn	14 28 33.2	-0.3
YUK4	**Talbot Arm**	**6.20**	**85**	P	Pn	14 28 33.5	-0.2
YUK5	**Granite Creek**	**6.60**	**86**	P	Pn	14 28 37.9	-1.3
BM3	**Burnt Mountain**	**6.76**	**23**	P	Pn	14 28 40.8	-0.4
ANM	**Nome**	**7.07**	**303**	*e*Pn	Pn	14 28 45.8	+0.5
TOLK	**Toolik Lake Re**	**7.34**	**6**	*e*Pn	Pn	14 28 51.5	+2.5
WHY	**Whitehorse**	**8.12**	**88**	P	Pn	14 28 58.4	-1.4
INK	**Inuvik**	**10.31**	**40**	P	Pn	14 29 28.4	-1.0
	4.5nm,0.3s,baz=239,slow=16,SNR=159						
INK				S	Sn	14 31 22.0	-0.7
	0.3nm,0.3s,baz=292,slow=11,SNR=3.2						
INK				LR	LR	14 33 07.8	
	comp=Z,114nm,19.3s,baz=92,slow=35						
INK	**Inuvik**	**10.31**	**40**	*e*Pn	Pn	14 29 28.2	-1.1
DLBC	**Dease Lake**	**11.18**	**96**	LR	LR	14 34 21.6	
	comp=Z,125nm,19.7s,baz=266,slow=39						
BBB	**Bella Bella**	**15.71**	**115**	LR	LR	14 35 58.7	
	comp=Z,592nm,21.3s,baz=270,slow=34						
YKA	**Yellowknife Ar**	**17.26**	**70**	P	P	14 30 59.6	-0.1
	0.6nm,0.3s,baz=276,slow=11,SNR=29						
YKA				ScP	ScP	14 39 03.9	+0.7
	0.1nm,0.3s,baz=282,slow=2.2,SNR=6.7						
YKB5	**Yellowknife Ar**	**17.26**	**70**	*e*Pn	P	14 30 58.6	-1.1
NEW	**Newport**	**23.44**	**108**	P	P	14 32 05.4	-0.2
	2.2nm,0.8s,baz=335,slow=9.2,SNR=3.7						
RES	**Resolute Bay**	**23.75**	**33**	P	P	14 32 08.6	+0.5
	3.1nm,0.5s,baz=251,slow=12,SNR=14						
RES	**Resolute Bay**	**23.75**	**33**	*e*P	P	14 32 08.8	+0.6
PETK	**Petropavlovsk-**	**28.01**	**276**	P	P	14 32 45.6	-1.1
	4.6nm,0.9s,baz=63,slow=11,SNR=3.1						
NVAR	**Mina Array Bea**	**30.81**	**123**	P	P	14 33 13.2	+1.4
	1.1nm,0.7s,baz=306,slow=8.2,SNR=2.9						
PDAR	**Pinedale Array**	**31.07**	**107**	P	P	14 33 15.4	+1.3
	0.6nm,0.6s,baz=314,slow=4.8,SNR=7.3						
PDAR	**Pinedale Array**	**31.07**	**107**	*e*P	P	14 33 15.2	+1.1
ULM	**Lac du Bonnet**	**32.18**	**84**	P	P	14 33 24.4	+0.9
	1.7nm,0.5s,baz=291,slow=10,SNR=3.6						
ULM				pP	pP	14 33 45.0	+0.9
	7.1nm,0.9s,baz=300,slow=8.2,SNR=4.5						
RWWY	**Rawlins**	**32.99**	**106**	*e*P	P	14 33 29.1	-1.8
TXAR	**Lajitas Array**	**44.83**	**113**	P	P	14 35 11.1	+1.5
	0.8nm,0.6s,baz=329,slow=5.9,SNR=11						
TXAR				pP	pP	14 35 33.5	+2.4
	0.7nm,0.8s,baz=342,slow=7.1,SNR=5.8						
TXAR				sP	sP	14 35 42.5	+1.2
	0.5nm,0.7s,baz=322,slow=7.9,SNR=3.4						
ARCES	**ARCESS Array B**	**49.36**	**1**	P	P	14 35 43.3	-0.8
	2.6nm,0.8s,baz=347,slow=8.7,SNR=6.3						
KSRS	**Korea Array**	**53.58**	**283**	P	P	14 36 16.4	+0.4
	1.0nm,0.6s,baz=17,slow=13,SNR=3.2						
KSAR	**Wonju Array Be**	**53.61**	**283**	P	P	14 36 16.4	+0.2
SONM	**Songino Array**	**54.56**	**306**	P	P	14 36 23.7	+0.5
	1.0nm,0.5s,baz=52,slow=5.8,SNR=4.5						
ZALV	**Zalesovo Beam**	**56.69**	**324**	P	P	14 36 37.0	-1.0
	0.5nm,0.4s,baz=38,slow=7.3,SNR=2.5						
ZALV				pP	pP	14 37 01.3	+0.8
	1.0nm,0.5s,baz=21,slow=7.5,SNR=3.0						
NOA	**NORSAR Array B**	**57.19**	**10**	P	P	14 36 41.0	-0.7
	0.5nm,0.7s,baz=350,slow=7.1,SNR=3.9						
FINES	**FINESS Array B**	**57.49**	**1**	P	P	14 36 42.5	-1.1
	6.1nm,1.0s,baz=350,slow=7.1,SNR=3.4						
HHC	**Hu-ho-hao-te**	**58.19**	**298**	*e*P	P	14 36 49.0	0.0
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,5.2s						
MKAR	**Makanchi Array**	**63.80**	**322**	P	P	14 37 25.7	-1.0
	comp=Z,0.3nm,0.5s,baz=23,slow=7.1,SNR=5.0						
GTA	**Gaotai**	**64.22**	**305**	*e*P	P	14 37 30.0	+0.3
GTA				pP	pP	14 37 34.0	-19
GTA				sP	sP	14 37 36.8	-26
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WMQ	**Urumqi**	**64.76**	**317**	*e*P	P	14 37 37.8	+4.7
AKASG	**Malin Array Be**	**68.27**	**359**	P	P	14 37 54.6	-0.6
	comp=Z,3.0nm,0.5s,baz=3.3,slow=6.4,SNR=12						
GERES	**GERESS Array B**	**69.49**	**10**	P	P	14 38 02.2	-0.7
	comp=Z,0.5nm,0.6s,baz=320,slow=3.5,SNR=3.7						
GERES				LR	LR	15 09 19.6	
	comp=Z,7.6nm,18.2s,baz=305,slow=36						
ESDC	**Sonseca Array**	**75.90**	**25**	P	P	14 38 40.5	-0.5
	comp=Z,0.4nm,0.5s,baz=337,slow=6.1,SNR=3.4						
CMAR	**Chiang Mai Arr**	**82.93**	**296**	P	P	14 39 18.5	-0.9
	comp=Z,1.1nm,0.8s,baz=6.5,slow=5.7,SNR=8.2						

MEX 30 14:27:37.4±0.7, 13°.87N×91°.57W, h15km±195km, MD3.9, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.23**	**327**	*i* P	Pn	14 27 57.1	-3.0
THIG				*i* S	Sb	14 28 11.8	-4.1
PCIG		**2.42**	**319**	*e*P	Pn	14 28 14.0	-2.4
PCIG				*e*S	Sn	14 28 41.5	-4.3
TGIG		**3.25**	**333**	*i* P	Pn	14 28 24.9	-3.1
TGIG				*i* S	Sn	14 29 02.5	-4.0
CMIG	**Matias Romero**	**4.52**	**315**	*e*P	Pn	14 28 42.4	-3.0
CMIG				*i* S	Sn	14 29 33.7	-3.9

MEX 30 14:34:21.3±0.9, 19°.40N×103°.66W, h102km±5km, MD3.7, Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZ5V		**0.10**	**36**	*e*P	Pn	14 34 34.6	-1.2
R15V		**0.38**	**233**	*e*P	Pn	14 34 35.4	-1.2
R15V				*e*S	Sn	14 34 46.5	-1.4
MMIG	**Aquila**	**1.15**	**165**	*i* P	Pn	14 34 42.3	-1.1
MMIG				*e*S	Sn	14 34 57.9	-2.3
CJM	**Chamela**	**1.31**	**275**	*e*P	Pn	14 34 44.4	-0.9
CJM				*e*S	Sn	14 35 01.8	-1.7
ZIIG	**Zihuatanejo**	**2.74**	**130**	*e*P	Pn	14 35 03.2	-0.5

*ISK **30** 14:45:13.4, 39°.84N×32°.98E, h3km, ML1.8/4*

*DDA **30** 14:45:14.5, 39°.88N×33°.03E, h7km, Ml2.7*

ISC 30 14:45:12.7±1.6, 39°.88N±0°.05×33°.10E±0°.06, h1km±20km, n9, σ0§97/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTO	**Ankara**	**0.24**	**268**	PG	**Pg**	**14 45 16.5**	**-0.8**
ANTO				SG	**Sg**	**14 45 20.1**	**-0.3**
LOD	**Lodumlu**	**0.26**	**272**	PG	**Pg**	**14 45 17.5**	**-0.2**
LOD				SG	**Sg**	**14 45 21.5**	**+0.4**
BBAL	**Bala**	**0.34**	**177**	*i* P	**Pb**	**14 45 20.6**	**-1.0**
BBAL				*i* S	**Sb**	**14 45 27.1**	**-0.4**
AFSR	**Af`ar-Bala (A**	**0.43**	**183**	PG	**Pg**	**14 45 21.8**	**+0.8**
AFSR				SG	**Sb**	**14 45 28.8**	**-1.4**
ELDT	**Eldivan**	**0.66**	**22**	*i* P	**Pg**	**14 45 24.6**	**-0.7**
KKUL	**Konya-Kulu**	**0.72**	**191**	*i* P	**Pb**	**14 45 27.8**	**-0.4**
KKUL				*i* S	**Sb**	**14 45 39.5**	**+0.9**
KULU	**Kulu**	**0.84**	**185**	PG	**Pb**	**14 45 29.6**	**-0.5**
CDAG	**Cicekdag**	**1.01**	**104**	*i* P	**Pn**	**14 45 35.0**	**+0.9**
BCAM	**Yenicaga**	**1.23**	**320**	*i* P	**Pg**	**14 45 37.6**	**+1.4**

IDC 30 15:02:13.5±2.2, 3°.48S×151°.36E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/27, mbtmp3.3/3, Error ellipse: s-maj=197.5km s-min=29.7km az=125.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.31**	**224**	P	P	15 07 22.6	-0.8
	0.9nm,0.9s,baz=49,slow=10.0,SNR=3.2						
ASAR	**Alice Springs**	**26.22**	**219**	P	P	15 07 51.1	+0.8
	0.3nm,0.7s,baz=53,slow=8.1,SNR=3.0						
ILAR	**Eielson Array**	**81.49**	**22**	P	P	15 14 32.3	-0.1
	0.2nm,0.5s,baz=233,slow=5.5,SNR=4.1						

MEX 30 15:05:15.2±0.4, 14°.97N×93°.41W, h57km±18km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.75**	**14**	*e*P	Pn	15 05 28.7	-1.2
PCIG				*i* S	Sn	15 05 38.7	-1.9
TGIG		**1.81**	**9**	*e*P	Pn	15 05 42.5	-1.7
TGIG				*e*S	Sn	15 06 04.3	-1.8

WEL 30 15:17:55.9, 39°.6S±0°.8×175°.6E±0°.8, h25km±1km, ML3.7/19, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOVZ	**Moawhango**	**0.27**	**29**	P	Pb	15 18 02.7	+0.2
MOVZ				S	Sb	15 18 07.9	+0.9
MTVZ	**Mangateitei**	**0.27**	**341**	P	Pb	15 18 03.0	+0.5
MTVZ				S	Sb	15 18 08.1	+1.0
TRVZ	**Turoa**	**0.34**	**355**	P	Pb	15 18 04.1	+0.4
TRVZ				S	Sb	15 18 09.3	+0.3
WHVZ	**Whangaehu Hut**	**0.36**	**1**	P	Pb	15 18 04.3	+0.4
WHVZ				S	Sb	15 18 10.1	+0.7
DRZ	**Dome Shelter**	**0.37**	**357**	P	Pb	15 18 04.5	+0.4
DRZ				S	Sb	15 18 10.4	+0.7
TUVZ	**Tukino**	**0.38**	**8**	P	Pb	15 18 04.6	+0.4
TUVZ				S	Sb	15 18 11.1	+1.2
FWVZ	**Far West T-bar**	**0.39**	**356**	P	Pb	15 18 04.6	+0.3
FWVZ				S	Sb	15 18 10.6	+0.4
PKVZ	**Pokaka**	**0.40**	**332**	P	Pb	15 18 04.5	+0.1
PKVZ				S	Sb	15 18 10.3	+0.1
BHHZ	**Black Hill Sta**	**0.40**	**68**	P	Pb	15 18 04.5	0.0
BHHZ				S	Sb	15 18 10.7	+0.4
COVZ	**Chateau Observ**	**0.44**	**356**	P	Pb	15 18 05.4	+0.2
COVZ				S	Sb	15 18 12.0	+0.5
NGZ	**Ngauruhoe**	**0.47**	**2**	P	Pb	15 18 05.8	+0.2
NGZ				S	Sb	15 18 12.9	+0.7
WAZ	**Wanganui**	**0.47**	**256**	P	Pb	15 18 05.9	+0.2
WAZ				S	Sb	15 18 13.1	+0.8
TSZ	**Takapari Road**	**0.51**	**145**	P	Pb	15 18 06.4	+0.2
TSZ				S	Sb	15 18 13.7	+0.4
WTVZ	**West Tongariro**	**0.53**	**0**	P	Pb	15 18 06.8	+0.2
WTVZ				S	Sb	15 18 14.4	+0.6
PNHZ	**Pukenui**	**0.55**	**120**	P	Pb	15 18 07.1	+0.2
PNHZ				S	Sb	15 18 14.9	+0.6
KRVZ	**Karewarewa**	**0.55**	**5**	P	Pb	15 18 07.1	+0.1
KRVZ				S	Sb	15 18 15.0	+0.5
TWVZ	**Taurewa**	**0.58**	**349**	P	Pb	15 18 07.2	-0.3
TWVZ				S	Sb	15 18 15.1	-0.3
OHWZ	**Ohakea**	**0.60**	**200**	P	Pb	15 18 07.8	+0.1
KRHZ	**Kereru**	**0.61**	**90**	P	Pb	15 18 08.0	+0.1
KATZ	**Kakaramea**	**0.67**	**7**	P	Pb	15 18 09.2	+0.1
KWHZ	**Kaweka Forest**	**0.68**	**72**	P	Pb	15 18 09.1	0.0
KWHZ				P	Pb	15 18 09.1	-0.1
RITZ	**Rihia Road**	**0.70**	**18**	P	Pb	15 18 09.4	0.0
POWZ	**Post Office Ro**	**0.76**	**169**	P	Pb	15 18 10.5	0.0
WPHZ	**Waipukurau**	**0.78**	**123**	P	Pn	15 18 11.9	+0.6
RATZ	**Rangitukua**	**0.79**	**11**	P	Pn	15 18 11.2	-0.2
DVHZ	**Dannevirke**	**0.80**	**146**	P	Pn	15 18 11.4	-0.1
VRZ	**Vera Road**	**0.82**	**309**	P	Pb	15 18 10.7	-0.8
HATZ	**Hinemaiaia**	**0.85**	**28**	P	Pb	15 18 11.4	-0.6
BKZ	**Black Stump Fm**	**0.85**	**56**	P	Pb	15 18 11.6	-0.4
MCHZ	**McNeill Hill**	**0.88**	**77**	P	Pn	15 18 13.9	+1.2
LREZ	**Lake Rotokare**	**0.93**	**281**	P	Pb	15 18 13.1	-0.3
WATZ	**Wairara**	**0.94**	**7**	P	Pn	15 18 13.3	-0.2
PRWZ	**Pori Road**	**0.96**	**162**	P	Pb	15 18 14.5	+0.7
KAHZ	**Kahuranaki**	**1.01**	**99**	P	Pb	15 18 16.2	+1.5
WHTZ	**Whakaora**	**1.02**	**17**	P	Pb	15 18 15.3	+0.4
MRZ	**Mangatainoka R**	**1.02**	**180**	P	Pn	15 18 14.6	+0.1
MRZ				P	Pn	15 18 14.6	+0.1
PRHZ	**Porangahau**	**1.02**	**128**	P	Pb	15 18 16.0	+1.1
MRHZ	**Matea Rd**	**1.03**	**39**	P	Pn	15 18 14.6	-0.3
PXZ	**Pawanui**	**1.06**	**112**	P	Pb	15 18 16.5	+1.0
ANWZ	**Angora Road**	**1.07**	**140**	P	Pb	15 18 16.7	+1.1
NMHZ	**Naumai**	**1.09**	**61**	P	Pb	15 18

TWC	**Suao**	**0.65**	**306**	P	**Pn**	**15 27 58.2**	**-0.1**
	baz=302						
TWC				*e*S	**Sn**	**15 28 08.0**	**-0.7**
	baz=302						
ENA	**Nanau**	**0.66**	**288**	*e*P	**Pn**	**15 27 58.4**	**0.0**
	baz=294						
ENA				*e*S	**Sn**	**15 28 09.1**	**+0.2**
	baz=294						
NACB	**Ninganchiao**	**0.76**	**267**⇑	*e*P	**Pn**	**15 27 59.3**	**-0.3**
	baz=267						
NACB				*e*S	**Sn**	**15 28 10.4**	**-0.5**
	baz=267						
EGS		**0.77**	**324**	*e*P	**Pn**	**15 27 59.8**	**+0.2**
	baz=324						
TWD	**Chiawan**	**0.77**	**260**	*i* P	**Pn**	**15 27 59.4**	**-0.3**
	baz=253						
TWD				*e*S	**Sn**	**15 28 10.8**	**-0.4**
	baz=253						
HWA	**Hwalien**	**0.79**	**252**	P	**Pn**	**15 28 00.0**	**+0.1**
	baz=245						
HWA				*e*S	**Sn**	**15 28 12.1**	**+0.5**
	baz=245						
ENLB	**Shoufeng**	**0.82**	**247**	P	**Pn**	**15 28 00.2**	**0.0**
	baz=242						
ENLB				*e*S	**Sn**	**15 28 12.7**	**+0.5**
	baz=242						
ILA	**Ilan**	**0.82**	**311**	P	**Pn**	**15 28 00.7**	**+0.4**
	baz=319						
ILA				*e*S	**Sn**	**15 28 13.2**	**+0.9**
	baz=319						
NTC	**Toucheng**	**0.83**	**319**	P	**Pn**	**15 28 00.2**	**-0.2**
	baz=329						
NTC				*e*S	**Sn**	**15 28 12.2**	**-0.3**
	baz=329						
TWE	**Neicheng**	**0.85**	**306**	*e*P	**Pn**	**15 28 01.1**	**+0.4**
	baz=313						
TWE				*e*S	**Sn**	**15 28 13.3**	**+0.5**
	baz=313						
TWB1	**Santiao Chiao**	**0.88**	**333**	*e*P	**Pn**	**15 28 00.7**	**-0.3**
	baz=322						
TWB1				*e*S	**Sn**	**15 28 12.6**	**-0.9**
	baz=322						
ENTT	**Nioudou**	**0.89**	**298**⇓	*i* P	**Pn**	**15 28 01.6**	**+0.5**
	baz=298						
ENTT				*e*S	**Sn**	**15 28 14.3**	**+0.6**
	baz=298						
SLBB	**Yuanshan**	**0.89**	**307**	P	**Pn**	**15 28 01.8**	**+0.6**
	baz=314						
SLBB				*e*S	**Sn**	**15 28 15.1**	**+1.2**
	baz=314						
NNSB	**Datong**	**0.97**	**282**	*e*P	**Pn**	**15 28 02.4**	**+0.1**
	baz=282						
NNS	**Nan Shan**	**0.98**	**283**	P	**Pn**	**15 28 02.5**	**+0.1**
	baz=283						
NNS				*e*S	**Sn**	**15 28 16.3**	**+0.3**
	baz=283						
ESL	**Shilin**	**0.99**	**246**	P	**Pn**	**15 28 02.0**	**-0.5**
	baz=240						
ESL				*e*S	**Sn**	**15 28 15.4**	**-0.7**
	baz=240						
NWLT	**Wulai**	**1.01**	**304**	P	**Pn**	**15 28 03.2**	**+0.6**
	baz=309						
NWLT				*e*S	**Sn**	**15 28 17.1**	**+0.7**
	baz=309						
NWF	**Wu-fen Shan**	**1.03**	**325**	*e*P	**Pn**	**15 28 02.8**	**-0.2**
	baz=325						
NWF				*e*S	**Sn**	**15 28 16.0**	**-0.9**
	baz=325						
WFSB	**Wu-fen Shan**	**1.03**	**325**	*e*P	**Pn**	**15 28 02.7**	**-0.2**
	baz=325						
WFSB				*e*S	**Sn**	**15 28 16.0**	**-0.8**
	baz=325						
YHNB	**Yeheng**	**1.05**	**295**	*e*P	**Pn**	**15 28 03.7**	**+0.4**
	baz=288						
YHNB				*e*S	**Sn**	**15 28 17.9**	**+0.4**
	baz=288						
WHF	**Hehuan Shan**	**1.06**	**266**	P	**Pn**	**15 28 03.6**	**-0.1**
	baz=257						
WHF				*e*S	**Sn**	**15 28 17.8**	**-0.4**
	baz=257						
EGFH	**Guangfu**	**1.06**	**239**	P	**Pn**	**15 28 03.0**	**-0.3**
	baz=235						
EGFH				*e*S	**Sn**	**15 28 17.2**	**-0.4**
	baz=235						
TATO	**Taipei**	**1.14**	**312**	*e*P	**Pn**	**15 28 04.3**	**+0.1**
	baz=322						
TATO				*e*S	**Sn**	**15 28 19.8**	**+0.6**
	baz=322						
TWT	**Tachien**	**1.14**	**272**	P	**Pn**	**15 28 05.5**	**+1.0**
	baz=272						
TWT				*e*S	**Sn**	**15 28 20.1**	**+0.4**
	baz=272						
CHGB	**Renai**	**1.15**	**262**	*e*P	**Pn**	**15 28 05.0**	**+0.3**
	baz=255						
CHGB				*e*S	**Sn**	**15 28 20.1**	**+0.1**
	baz=255						
TDCB	**Techi**	**1.16**	**272**	*e*P	**Pn**	**15 28 05.4**	**+0.8**
	baz=272						
TDCB				*e*S	**Sn**	**15 28 20.1**	**+0.1**
	baz=272						
HGSD	**Ruisui**	**1.17**	**232**	*e*P	**Pn**	**15 28 04.4**	**-0.3**
	baz=227						
HGSD				*e*S	**Sn**	**15 28 19.8**	**-0.3**
	baz=227						
IRIF	**Iriomote-Funau**	**1.20**	**84**	P	**Pn**	**15 28 05.0**	**0.0**
IRIF				*e*S	**Sn**	**15 28 20.4**	**-0.2**
YM07	**YM07**	**1.20**	**323**	*e*P	**Pn**	**15 28 04.7**	**-0.4**
	baz=322						
YM01	**YM01**	**1.21**	**320**	*e*P	**Pn**	**15 28 05.8**	**+0.7**
	baz=320						
YM10	**YM10**	**1.22**	**320**	*e*P	**Pn**	**15 28 05.1**	**-0.3**
	baz=320						
YM11	**YM11**	**1.22**	**321**	*e*P	**Pn**	**15 28 05.0**	**-0.4**
	baz=321						
YM05	**YM05**	**1.22**	**320**	*e*P	**Pn**	**15 28 04.9**	**-0.5**
	baz=320						
YM08	**YM08**	**1.23**	**322**	*e*P	**Pn**	**15 28 04.7**	**-0.8**
	baz=322						
YM04	**YM04**	**1.23**	**319**	*e*P	**Pn**	**15 28 05.1**	**-0.4**
	baz=319						
EHY	**Hungye**	**1.23**	**235**	P	**Pn**	**15 28 05.2**	**-0.4**
	baz=243						
EHY				*e*S	**Sn**	**15 28 20.6**	**-1.0**
	baz=243						
WLTB	**Daxi**	**1.24**	**301**	*e*P	**Pn**	**15 28 06.6**	**+1.0**
	baz=293						
WLTB				*e*S	**Sn**	**15 28 23.1**	**+1.4**
	baz=293						
YM03	**YM03**	**1.25**	**320**	*e*P	**Pn**	**15 28 06.4**	**+0.7**
	baz=320						
VWDT	**VWDT**	**1.26**	**249**	*e*P	**Pn**	**15 28 06.4**	**+0.5**
	baz=248						
VWDT				*e*S	**Sn**	**15 28 22.3**	**+0.1**
	baz=248						
TWS1	**Kuangyinshan**	**1.27**	**314**	*e*P	**Pn**	**15 28 06.0**	**+0.1**
	baz=323						
TWS1				*e*S	**Sn**	**15 28 23.6**	**+1.3**
	baz=323						
HATJ	**Hateruma jima**	**1.27**	**97**	P	**Pn**	**15 28 06.7**	**+0.7**
HATJ				S	**Sn**	**15 28 23.5**	**+1.1**
YULB	**Yu-li**	**1.32**	**232**	⇑P	**Pn**	**15 28 06.4**	**-0.3**
	baz=241						
YULB				*e*S	**Sn**	**15 28 22.9**	**-0.8**
	baz=241						
TWF1	**Yuli**	**1.35**	**230**	P	**Pn**	**15 28 06.8**	**-0.2**
	baz=240						
TWF1				*e*S	**Sn**	**15 28 23.5**	**-0.7**
	baz=240						
NCU	**National Centr**	**1.35**	**304**	P	**Pn**	**15 28 07.8**	**+0.7**
	baz=305						
NCU				*e*S	**Sn**	**15 28 25.1**	**+0.9**
	baz=305						
NCUH	**Zhongli**	**1.35**	**304**	*e*P	**Pn**	**15 28 07.7**	**+0.6**
	baz=304						
NCUH				*e*S	**Sn**	**15 28 24.7**	**+0.4**
	baz=304						
LIOB	**Emei**	**1.35**	**288**	*e*P	**Pn**	**15 28 08.1**	**+1.0**
	baz=289						
LIOB				*e*S	**Sn**	**15 28 25.6**	**+1.3**
	baz=289						
NSTT	**Nanjuang**	**1.36**	**288**	*e*P	**Pn**	**15 28 08.3**	**+1.1**
	baz=288						
NSTT				*e*S	**Sn**	**15 28 25.5**	**+1.0**
	baz=288						
SSLB	**Suanglung**	**1.41**	**252**	*e*P	**Pn**	**15 28 08.3**	**+0.4**
	baz=258						
SSLB				*e*S	**Sn**	**15 28 25.9**	**+0.1**
	baz=258						
SBCB	**Hsinchu**	**1.43**	**294**	*e*P	**Pn**	**15 28 08.8**	**+0.7**
	baz=305						
SMLT	**Sun Moon Lake**	**1.43**	**257**	P	**Pn**	**15 28 09.1**	**+0.9**
	baz=251						
SMLT				*e*S	**Sn**	**15 28 27.1**	**+0.7**
	baz=251						
PCYT	**Pengchaiyu**	**1.44**	**347**	*e*P	**Pn**	**15 28 08.4**	**+0.2**
	baz=341						
JKRS	**Kuro-shima**	**1.45**	**89**	P	**Pn**	**15 28 08.8**	**+0.5**
JKRS				*e*S	**Sn**	**15 28 26.8**	**+0.3**
FULB	**Fuli**	**1.45**	**226**	P	**Pn**	**15 28 08.0**	**-0.4**
	baz=218						
FULB				*e*S	**Sn**	**15 28 26.0**	**-0.7**
	baz=218						
TYC	**Yuchr**	**1.47**	**258**	P	**Pn**	**15 28 09.5**	**+1.0**
	baz=253						
TYC				*e*S	**Sn**	**15 28 28.0**	**+1.0**
	baz=253						
CHKT	**Chengkung**	**1.48**	**221**⇑	*i* P	**Pn**	**15 28 08.0**	**-0.7**
	baz=216						
CHKT				*e*S	**Sn**	**15 28 25.7**	**-1.6**
	baz=216						
NMLH	**Miaoli**	**1.52**	**282**	*e*P	**Pn**	**15 28 10.3**	**+1.0**
	baz=283						
NMLH				*e*S	**Sn**	**15 28 29.5**	**+1.2**
	baz=283						
YUS	**Yu-Shan**	**1.53**	**242**	P	**Pn**	**15 28 10.6**	**+0.7**
	baz=234						
YUS				*e*S	**Sn**	**15 28 29.0**	**-0.3**
	baz=234						
JIJ	**Ishigaki jima**	**1.57**	**84**	P	**Pn**	**15 28 09.9**	**-0.1**
JIJ				S	**Sn**	**15 28 28.8**	**-0.8**
PTSB	**Yuanli**	**1.58**	**278**	*e*P	**Pn**	**15 28 11.3**	**+1.1**
	baz=279						
PTSB				*e*S	**Sn**	**15 28 31.7**	**+1.9**
	baz=279						
TCU	**Taichung**	**1.60**	**268**	*e*P	**Pn**	**15 28 11.8**	**+1.5**
	baz=268						
WJS	**Zhushan**	**1.60**	**256**	*e*P	**Pn**	**15 28 12.2**	**+1.8**
	baz=256						
WJS				*e*S	**Sn**	**15 28 32.8**	**+2.5**
	baz=256						
WNT	**Mingjian**	**1.63**	**258**	*e*P	**Pn**	**15 28 12.8**	**+2.1**
	baz=258						
ELDTW	**Lidau**	**1.65**	**232**	P	**Pn**	**15 28 10.9**	**-0.2**
	baz=225						
ELDTW				*e*S	**Sn**	**15 28 30.7**	**-0.9**
	baz=225						
WCHH	**Zhanghua**	**1.71**	**266**	*e*P	**Pn**	**15 28 13.0**	**+1.2**
	baz=266						
CHN5	**Tsauling**	**1.71**	**249**	*e*P	**Pn**	**15 28 13.6**	**+1.6**
	baz=249						
JISG	**Ishigakijimahi**	**1.76**	**78**	P	**Pn**	**15 28 12.4**	**0.0**
JISG				S	**Sn**	**15 28 33.2**	**-0.7**
WGK	**Gukeng**	**1.79**	**253**	*e*P	**Pn**	**15 28 14.8**	**+2.0**
	baz=244						
WDLH	**Douliu**	**1.81**	**253**	*e*P	**Pn**	**15 28 14.9**	**+1.8**
	baz=244						
TWGBT	**Beinan**	**1.86**	**222**	*e*P	**Pn**	**15 28 13.5**	**-0.4**
	baz=228						
TWGBT				*e*S	**Sn**	**15 28 35.8**	**-0.8**
	baz=228						
TWG	**Pinlang**	**1.87**	**222**	P	**Pn**	**15 28 13.4**	**-0.5**
	baz=228						
TWG				*e*S	**Sn**	**15 28 35.8**	**-0.8**
	baz=228						
TTN	**Taitung**	**1.87**	**219**	*e*P	**Pn**	**15 28 14.1**	**+0.1**
	baz=212						
TPUB	**Ta-pu**	**1.88**	**241**	*e*P	**Pn**	**15 28 15.7**	**+1.5**
	baz=241						
CHN2	**Minshiung**	**1.91**	**249**	*e*P	**Pn**	**15 28 17.1**	**+2.6**
	baz=249						
RLNB	**Erlin**	**1.92**	**261**	*e*P	**Pn**	**15 28 15.9**	**+1.4**
	baz=261						
WTP	**Ta-pu**	**1.92**	**240**	*e*P	**Pn**	**15 28 16.2**	**+1.5**
	baz=240						
TWK	**Hsinying**	**2.01**	**242**	*e*P	**Pn**	**15 28 17.8**	**+1.8**
	baz=242						
CHN1	**Nanshi**	**2.02**	**240**	*e*P	**Pn**	**15 28 17.8**	**+1.8**
	baz=239						
SGST	**Jiashian**	**2.03**	**236**	*e*P	**Pn**	**15 28 18.2**	**+2.0**
	baz=236						
SLGT	**Liugui**	**2.04**	**234**	*e*P	**Pn**	**15 28 18.1**	**+1.9**
	baz=242						
WSF	**Szhu**	**2.10**	**254**	*e*P	**Pn**	**15 28 18.4**	**+1.4**
	baz=266						
ECL	**Taimali**	**2.11**	**220**	P	**Pn**	**15 28 16.6**	**-0.5**
	baz=218						
ECL				*e*S	**Sn**	**15 28 40.9**	**-1.5**
	baz=218						
JTJ	**Tarama**	**2.12**	**78**	P	**Pn**	**15 28 17.6**	**+0.3**
JTJ				S	**Sn**	**15 28 42.5**	**-0.1**
SSD	**Sandimen**	**2.21**	**229**	*e*P	**Pn**	**15 28 19.8**	**+1.3**
	baz=225						
CHN8	**Yiju**	**2.21**	**247**	*e*P	**Pn**	**15 28 19.9**	**+1.4**
	baz=247						
MASBT	**Mashibuluo**	**2.30**	**226**	*e*P	**Pn**	**15 28 20.7**	**+0.9**
	baz=221						
TWM1	**Shoushan**	**2.31**	**233**	*e*P	**Pn**	**15 28 23.3**	**+3.4**
	baz=232						
LAY	**Lan-yu**	**2.32**	**200**	*e*P	**Pn**	**15 28 20.3**	**+0.2**
	baz=199						
TAW	**Tawu**	**2.33**	**217**	*e*P	**Pn**	**15 28 20.1**	**0.0**
	baz=221						
TAW				*e*S	**Sn**	**15 28 46.3**	**-1.5**
	baz=221						
EAST	**Anshuo**	**2.33**	**219**	*e*P	**Pn**	**15 28 20.2**	**-0.1**
	baz=217						
SCZT	**Fangliau**	**2.48**	**222**	*e*P	**Pn**	**15 28 23.6**	**+1.4**
	baz=220						
JIRB	**Irabujima**	**2.58**	**76**	P	**Pn**	**15 28 23.7**	**+0.2**
JIRB				*e*S	**Sn**	**15 28 54.1**	**+0.4**
JIKM	**Ikemajima**	**2.66**	**74**	P	**Pn**	**15 28 25.4**	**+0.7**
JIKM				S	**Sn**	**15 28 56.8**	**+0.9**
JMJ	**Miyako jima 2**	**2.68**	**77**	P	**Pn**	**15 28 26.0**	**+1.1**
JMJ				*e*S	**Sn**	**15 28 56.6**	**+0.3**
PHUB	**P'eng-hu**	**2.71**	**255**	*e*P	**Pn**	**15 28 25.4**	**+0.1**
	baz=256						
PNG	**Penghu**	**2.71**	**257**	*e*P	**Pn**	**15 28 25.4**	**+0.1**
	baz=257						
PNG				*e*S	**Sn**	**15 28 55.9**	**-1.0**
	baz=257						
WDGT	**Dungji**	**2.71**	**250**	*e*P	**Pn**	**15 28 25.8**	**+0.5**
	baz=249						
WDGT				*e*S	**Sn**	**15 28 56.4**	**-0.6**
	baz=249						
TWKBT	**Hengchun**	**2.71**	**213**	*e*P	**Pn**	**15 28 26.1**	**+0.7**
	baz=212						
TWK1	**Hengchun**	**2.71**	**214**	*e*P	**Pn**	**15 28 26.0**	**+0.6**
	baz=212						
PTTC	**Pingtan**	**2.73**	**298**	*e*P	**Pn**	**15 28 24.9**	**-0.7**
	baz=300						
PTTC				*e*S	**Sn**	**15 28 54.8**	**-2.7**
	baz=300						
JOGS	**Gusukube**	**2.77**	**78**	P	**Pn**	**15 28 27.0**	**+0.9**
JOGS				*e*S	**Sn**	**15 28 59.2**	**+0.7**
VWUC	**VWUC**	**2.81**	**286**	*e*P	**Pn**	**15 28 26.4**	**-0.4**
	baz=289						
VWUC				*e*S	**Sn**	**15 28 56.9**	**-2.7**
	baz=289						
VCHM	**Qimei**	**2.92**	**250**	*e*P	**Pn**	**15 28 28.7**	**+0.5**
	baz=250						
VCHM				*e*S	**Sn**	**15 29 02.1**	**-0.2**
	baz=250						
MATB	**Ma-tsu**	**2.96**	**311**	*e*P	**Pn**	**15 28 28.3**	**-0.4**
	baz=312						
PTMZ	**Houxiangcun**	**3.12**	**286**	*e*P	**Pn**	**15 28 30.5**	**-0.4**
	baz=288						
PTMZ				*e*S	**Sn**	**15 29 04.0**	**-2.9**
	baz=288						
LYJJ	**Jianjiangzhen**	**3.34**	**314**	*e*P	**Pn**	**15 28 33.8**	**-0.2**
	baz=316						
XPSS	**Dashiqiu**	**3.37**	**324**	*e*P	**Pn**	**15 28 33.2**	**-1.1**
	baz=325						
MHZQ	**Yeshan**	**3.60**	**302**	*e*P	**Pn**	**15 28 36.8**	**-0.7**
	baz=304						
AXDP	**Jialang**	**4.11**	**280**	*e*P	**Pn**	**15 28 44.4**	**0.0**
	baz=283						
JOW	**Kunigami**	**5.89**	**63**	*e*P	**Pn**	**15 29 07.5**	**-1.4**
	baz=62						
MKAR	**Makanchi Array**	**39.10**	**315**	P	**P**	**15 35 03.6**	**-1.1**
	0.3nm,0.5s,baz=100,slow=9.7,SNR=6.7						
WRA	**Warramunga Arr**	**45.41**	**164**	P	**P**	**15 35 56.7**	**+0.6**
	0.3nm,0.9s,baz=346,slow=8.9,SNR=3.3						
ASAR	**Alice Springs**	**48.89**	**166**	P	**P**	**15 36 24.6**	**+1.3**
	0.1nm,0.3s,baz=341,slow=6.7,SNR=5.5						

*ISCJB **30** 15:42:17.2±1.1, 11°.54N±0°.09×42°.67E±0°.09, h14km±6km, Error ellipse: s-maj=18.8km s-min=9.0km az=137.2*
*ARO **30** 15:42:17.7, 11°.6N±0°.1×42°.7E±0°.2, h3km, Ml3.6*

ISC 30 15:42:17.4±1.4, 11°.55N±0°.08×42°.68E±0°.07, h13km±9km, n9, σ1°02/11, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGH	**Sud-Ghoubbet**	**0.12**	**204**	*i* P	**Pg**	**15 42 20.8**	**-0.1**
ATD	**Arta Tunnel**	**0.16**	**98**	*i* P	**Pg**	**15 42 21.4**	**0.0**
ATD	**Arta Tunnel**	**0.16**	**98**	*e*P	**Pg**	**15 42 21.4**	**0.0**
ATD				*e*S	**Sg**	**15 42 24.4**	**+0.3**
TDD	**Tadjoura Ara**	**0.33**	**41**	*i* P	**Pg**	**15 42 24.4**	**+0.2**
GBR	**Grand-Bara**	**0.45**	**208**	*i* P	**Pg**	**15 42 26.4**	**-0.1**
ATA	**Atar**	**0.52**	**101**	*i* P	**Pg**	**15 42 27.5**	**-0.2**
MCAD	**Moucha**	**0.55**	**71**	*i* P	**Pg**	**15 42 27.9**	**-0.4**
OBO	**Obock**	**0.74**	**54**	*i* P	**Pg**	**15 42 31.0**	**-0.7**
TRBA	**At Turbah**	**2.18**	**40**	*i* P	**Pn**	**15 42 52.5**	**-1.1**
TRBA				*e*		15 42 52.8	
	baz=210,slow=9.3						
TRBA				*i* S	**Sn**	**15 43 22.8**	**+2.3**
TRBA				AML	AML	15 43 27.2	
	comp=N,207nm,0.8s						

*ISK **30** 15:42:45.5, 39°.11N×27°.89E, h5km, ML3.2/34*
*DDA **30** 15:42:46.1, 39°.11N×27°.93E, h15km, Ml3.5*

ISC 30 15:42:46.3±0.9, 39°.12N±0°.02×27°.92E±0°.02, h16km±9km, n52, σ0°58/68, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKHS	**Akhisar**	**0.25**	**198**	*i* P	**Pg**	**15 42 51.9**	**-0.1**
AKHS				*i* S	**Sb**	**15 42 56.1**	**-0.6**
STEP	**BALIKESIR_Sava**	**0.30**	**329**	*i* P	**Pg**	**15 42 52.9**	**+0.2**
STEP				*i* S	**Sb**	**15 42 58.0**	**-0.1**
GOMA	**Golmarmara-Man**	**0.41**	**180**	PG	**Pg**	**15 42 54.5**	**-0.2**
GOMA				SG	**Sb**	**15 43 00.9**	**-0.3**
BALB	**Balikesir**	**0.52**	**357**	PG	**Pb**	**15 42 57.0**	**-0.1**
BALB				SG	**Sb**	**15 43 04.8**	**+0.4**
DEMI	**Demirci**	**0.63**	**97**	*i* P	**Pb**	**15 42 59.0**	**0.0**
DEMI				*i* S	**Sg**	**15 43 06.9**	**-0.2**
DURS	**Dursunbey**	**0.65**	**42**	*i* P	**Pg**	**15 42 59.0**	**-0.1**
DURS				*i* S	**Sb**	**15 43 08.1**	**0.0**
DST	**Dursunbey**	**0.73**	**48**	PG	**Pb**	**15 43 01.0**	**+0.3**
DKL	**Dikili**	**0.79**	**267**	PG	**Pg**	**15 43 01.4**	**-0.3**
DKL				SG	**Sb**	**15 43 12.8**	**+0.7**
MANT	**Manisa**	**0.80**	**141**	*i* P	**Pb**	**15 43 02.0**	**0.0**
MANT				*i* S	**Sg**	**15 43 12.7**	**0.0**
SMAA	**Simav-Kutahya**	**0.83**	**91**	PG	**Pb**	**15 43 02.8**	**+0.4**
SIMA	**Simav-Kutahya**	**0.83**	**92**	PG	**Pb**	**15 43 02.9**	**+0.5**
KULA	**Kula-Manisa**	**0.84**	**136**	PG	**Pg**	**15 43 02.6**	**-0.1**
GONE	**Gonen-Balikesi**	**0.94**	**349**	PG	**Pg**	**15 43 04.8**	**+0.2**
AYVA	**Ayvalik**	**0.97**	**282**	*i* P	**Pn**	**15 43 05.5**	**+0.2**
AYVA				*i* S	**Sn**	**15 43 19.0**	**+0.3**
FOCM	**Foˆça**	**1.01**	**247**	PG	**Pb**	**15 43 05.3**	**-0.1**
GEDZ	**Gediz**	**1.17**	**93**	PN	**Pg**	**15 43 09.2**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.17**	**181**	PN	**Pg**	**15 43 08.6**	**-0.4**
KNL	**Balˆ–kesir**	**1.19**	**345**	*i* P	**Pg**	**15 43 09.2**	**0.0**
KNL				*i* S	**Sg**	**15 43 25.4**	**+0.6**
KCTX	**Karacabey (Bur**	**1.19**	**16**	PN	**Pg**	**15 43 09.1**	**-0.3**
ORLT	**Orhaneli**	**1.20**	**39**	PN	**Pg**	**15 43 09.8**	**+0.4**
GDZ	**Gediz**	**1.22**	**91**	*i* P	**Pg**	**15 43 09.5**	**-0.4**
GDZ				*i* S	**Sg**	**15 43 26.1**	**+0.3**
EDC	**Edincik**	**1.23**	**358**	PN	**Pg**	**15 43 09.6**	**-0.4**
URLA	**Izmir**	**1.28**	**234**	PN	**Pg**	**15 43 10.5**	**-0.6**
URLA	**Izmir**	**1.28**	**234**	*i* P	**Pg**	**15 43 10.5**	**-0.6**
URLA				*i* S	**Sg**	**15 43 28.9**	**+1.1**
DGB	**ˆzmir**	**1.34**	**218**	*i* P	**Pb**	**15 43 11.4**	**+0.4**
DGB				*i* S	**Sg**	**15 43 29.6**	**0.0**
KRBG	**Karabiga-Canak**	**1.36**	**340**	PN	**Pb**	**15 43 11.7**	**+0.3**
EZN	**Ezine**	**1.42**	**300**	PN	**Pg**	**15 43 13.0**	**-0.7**
KHAL	**Karahalli**	**1.44**	**121**	*i* P	**Pb**	**15 43 12.9**	**0.0**
KHAL				*i* S	**Sg**	**15 43 32.1**	**-0.8**
MDNY	**Mudanya-Bursa**	**1.45**	**31**	PN	**Pb**	**15 43 13.0**	**0.0**
AYDN	**Tasoluk**	**1.46**	**181**	*i* P	**Pn**	**15 43 12.4**	**+0.4**
AYDN				*i* S	**Sb**	**15 43 32.3**	**+0.9**
MRMT	**Marmara Adasi**	**1.50**	**351**	PN	**Pg**	**15 43 14.6**	**-0.7**
SIGR	**SIGRI**	**1.60**	**274**	PN	**Pb**	**15 43 15.6**	**0.0**
ARMT	**Armutlu**	**1.62**	**26**	PN	**Pb**	**15 43 16.1**	**+0.3**
CHOS	**Chios island**	**1.63**	**244**	PN	**Pb**	**15 43 15.9**	**-0.1**
GEMT	**Gemlik**	**1.64**	**36**	PN	**Pb**	**15 43 16.8**	**+0.6**
RKY	**Sarkoy-Tekirda**	**1.67**	**340**	PN	**Pb**	**15 43 16.8**	**+0.1**
SBT5	**Esenkoy-Cinarc**	**1.68**	**26**	PN	**Pb**	**15 43 17.4**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.69**	**319**	PN	**Pb**	**15 43 17.1**	**0.0**
SBT4	**Kumbag-Tekirda**	**1.73**	**350**	PN	**Pb**	**15 43 17.8**	**+0.2**
MLSB	**Milas**	**1.82**	**184**	PN	**Pb**	**15 43 18.9**	**-0.5**
YLV	**Yalova**	**1.83**	**37**	PN	**Pb**	**15 43 19.4**	**-0.1**
CAVI	**Cavuskoy**	**1.84**	**53**	PN	**Pb**	**15 43 19.5**	**-0.1**
GADA	**Gvkgeada**	**1.89**	**305**	PN	**Pb**	**15 43 19.8**	**-0.6**
KESN	**Edirne-Kesan**	**1.95**	**331**	*i* P	**Pb**	**15 43 22.3**	**+0.6**
KESN				*i* S	**Sg**	**15 43 49.3**	**+0.1**
CRLT	**Corlu**	**2.01**	**356**	PN	**Pb**	**15 43 21.4**	**-1.1**
KAVV	**Kandilli-Istan**	**2.13**	**24**	PN	**Pb**	**15 43 23.8**	**-0.8**
ISK	**Istanbul-Kandi**	**2.13**	**24**	PN	**Pb**	**15 43 23.8**	**-0.8**
HRT	**Hereke**	**2.17**	**38**	PN	**Pb**	**15 43 24.3**	**-0.9**
ALN	**Alexandroupoli**	**2.28**	**322**	PN	**Pb**	**15 43 25.9**	**-1.3**
KLYT	**Kilyos**	**2.30**	**22**	PN	**Pb**	**15 43 26.3**	**-1.1**
GULT	**Gulveren**	**2.39**	**56**	PN	**Pb**	**15 43 27.5**	**-1.6**
SILT	**Sile**	**2.42**	**33**	PN	**Pb**	**15 43 27.9**	**-1.6**

MEX 30 15:43:35.0±0.6, 16°.33N×95°.21W, h57km±12km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.82**	**22**	*e*P	Pn	15 43 48.9	-1.7
CMIG				*e*S	Sn	15 44 00.4	-1.7
HUIG	**Huatulco**	**1.03**	**237**	*e*P	Pn	15 43 51.5	-1.8
HUIG				*e*S	Sn	15 44 05.1	-1.8
PCIG		**2.01**	**108**	*e*P	Pn	15 44 05.0	-1.6
PCIG				*i* S	Sn	15 44 29.0	-1.6

**MEX 30 15:59:45.0±0.7, 13°.76N×91°.84W, h12km±283km, MD3.7,

	SNR=6.7					
ARQ	**Araqi**	**4.48 239**	P	**Pn**	**16 11 11.2**	**+2.6**
	SNR=8.7					
NAZ	**Nazwa, Dubai**	**4.60 262**	P	**Pn**	**16 11 11.4**	**+1.1**
FAQ	**Al Faqa, Dubai**	**4.71 259**	P	**Pn**	**16 11 14.0**	**+2.2**
FAQ	**Al Faqa, Dubai**	**4.71 259**	*i* P	**Pn**	**16 11 13.3**	**+1.6**
	SNR=9.4					
ALNE	**Al Ain**	**4.78 251**	*i* P	**Pn**	**16 11 14.5**	**+1.9**
	SNR=12					
ASUD	**Al Ashush, Dub**	**4.97 258**	*i* P	**Pn**	**16 11 17.0**	**+1.6**
	SNR=13					

ISCJB ***30*** *16:25:08.4±1.0, 18.14N±0.07×145.7E±0.3, h300km, mb3.3/8, Error ellipse: s-maj=33.4km s-min=9.4km az=179.5*

IDC ***30*** *16:25:09.3±1.6, 18.09N×145.69E, h294km±17km, mb3.2/8, mb1 3.3/10, mb1mx3.1/50, mbtmp3.8/10, Error ellipse: s-maj=25.3km s-min=13.9km az=90.0*

ISC 30 16:25:09.6±1.1**, 18.09N**±0.09×**145.7E**±0.3**, h300**km**, n10,** σ1§**13**/11**, mb3.4**/8**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.54 190**		P	**Pn**	**16 26 22.5**	**+0.5**
	13nm,0.3s,baz=337,slow=13,SNR=8.7						
GUMO				S	**S**	**16 27 19.2**	**-0.8**
	6.6nm,0.3s,baz=180,slow=20,SNR=3.9						
MJAR	**Matsushiro Arr**	**19.54 342**		P	**P**	**16 29 13.9**	**-1.8**
	0.3nm,0.3s,baz=167,slow=10,SNR=4.2						
WRA	**Warramunga Arr**	**39.40 197**		P	**P**	**16 32 10.7**	**-0.5**
	0.2nm,0.4s,baz=22,slow=8.4,SNR=6.8						
ASAR	**Alice Springs**	**43.06 196**		P	**P**	**16 32 41.0**	**+0.2**
	0.2nm,0.7s,baz=9.7,slow=6.6,SNR=2.6						
SONM	**Songino Array**	**43.62 322**		P	**P**	**16 32 46.0**	**+0.9**
	2.5nm,0.7s,baz=138,slow=8.2,SNR=6.0						
CMAR	**Chiang Mai Arr**	**44.29 278**		P	**P**	**16 32 51.2**	**+0.6**
	1.3nm,0.8s,baz=68,slow=7.0,SNR=11						
ZALV	**Zalesovo Beam**	**58.49 323**		P	**P**	**16 34 36.1**	**+1.3**
	0.8nm,0.5s,baz=106,slow=9.9,SNR=4.9						
MKAR	**Makanchi Array**	**58.88 314**		P	**P**	**16 34 37.1**	**-0.5**
	0.4nm,0.4s,baz=106,slow=5.0,SNR=4.8						
ILAR	**Eielson Array**	**64.20 26**		P	**P**	**16 35 13.3**	**+0.7**
	0.5nm,0.4s,baz=249,slow=6.0,SNR=13						
FINES	**FINESS Array B**	**87.44 335**		P	**P**	**16 37 21.7**	**-1.5**
	1.7nm,0.6s,baz=79,slow=4.1,SNR=5.3						

ISCJB ***30*** *16:44:47.1±0.6, 8.74S±0.06×74.43W±0.05, h147km, mb3.7/6, Error ellipse: s-maj=9.4km s-min=7.3km az=21.4*

IDC ***30*** *16:44:48.3±1.9, 8.73S×74.41W, h148km±22km, mb3.6/6, mb1 3.8/12, mb1mx3.6/32, mbtmp4.1/12, Error ellipse: s-maj=32.0km s-min=14.0km az=39.0*

ISC 30 16:44:48.2±0.6**, 8.74S**±0.08×**74.44W**±0.08**, h147**km**, n16,** σ0§**83**/18**, mb3.6**/6**, Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.00 216**		P	**Pn**	**16 45 49.1**	**+0.7**
	3.5nm,0.3s,baz=30,slow=8.4,SNR=6.7						
NNA				S	**Sn**	**16 46 33.7**	**-1.5**
	21nm,0.3s,baz=143,slow=20,SNR=13						
ATAH	**Atahualpa**	**4.23 292**		P	**Pn**	**16 45 51.6**	**-0.1**
	25nm,0.3s,baz=69,slow=3.1,SNR=76						
ATAH				S	**Sn**	**16 46 41.4**	**+0.3**
	7.2nm,0.3s,baz=358,slow=18,SNR=4.9						
LPAZ	**La Paz**	**9.70 141**		P	**Pn**	**16 47 04.1**	**-0.8**
	0.4nm,0.3s,baz=326,slow=11,SNR=12						
LVC	**Limon Verde**	**14.78 160**		P	**Pn**	**16 48 11.5**	**+1.2**
	0.3nm,0.3s,baz=313,slow=6.7,SNR=6.6						
SIV	**San Ignacio**	**14.91 120**		P	**Pn**	**16 48 11.5**	**-0.2**
	0.9nm,0.3s,baz=311,slow=13,SNR=31						
PTGA	**Pitinga**	**16.46 62**		P	**P**	**16 48 31.0**	**+0.1**
	0.9nm,0.3s,baz=236,slow=16,SNR=8.1						
CPUP	**Villa Florida**	**23.87 139**		P	**P**	**16 49 47.5**	**-0.7**
	1.8nm,0.6s,baz=326,slow=11,SNR=7.2						
BDFB	**Brasilia**	**26.70 107**		P	**P**	**16 50 15.5**	**+1.4**
	4.2nm,0.5s,baz=268,slow=12,SNR=5.8						
TXAR	**Lajitas Array**	**47.18 324**		P	**P**	**16 53 07.0**	**+0.8**
	1.1nm,0.6s,baz=149,slow=8.5,SNR=13						
YKA	**Yellowknife Ar**	**77.47 342**		P	**P**	**16 56 26.4**	**-0.6**
	0.5nm,0.5s,baz=139,slow=6.1,SNR=6.9						
TORD	**Torodi Ar. Bea**	**78.66 75**		P	**P**	**16 56 33.1**	**-1.4**
	1.1nm,0.8s,baz=262,slow=4.5,SNR=4.5						
ILAR	**Eielson Array**	**90.50 336**		P	**P**	**16 57 32.9**	**-0.1**
	0.3nm,0.7s,baz=135,slow=2.8,SNR=5.1						
ZALV	**Zalesovo Beam**	**131.93 16**		PKP	**PKPdf**	**17 03 44.2**	**+0.2**
	0.2nm,0.5s,baz=191,slow=3.0,SNR=3.6						
MKAR	**Makanchi Array**	**137.19 24**		PKP	**PKPdf**	**17 03 54.3**	**+0.1**
	0.5nm,0.8s,baz=274,slow=4.2,SNR=3.1						
ASAR	**Alice Springs**	**137.51 220**		PKP	**PKPdf**	**17 03 55.5**	**+0.1**
	0.7nm,0.9s,baz=121,slow=2.3,SNR=6.9						
WRA	**Warramunga Arr**	**139.81 225**		PKP	**PKPdf**	**17 03 59.4**	**-0.3**
	0.7nm,0.7s,baz=135,slow=1.7						

ISK ***30*** *17:03:53.5, 39.12N×28.00E, h5km, ML2.3/10*

DDA ***30*** *17:03:53.9, 39.12N×27.94E, h7km, Ml2.8*

ISC 30 17:03:54.1±0.9**, 39.11N**±0.02×**27.94E**±0.03**, h15**km±10km**, n20,** σ0§**38**/31**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKHS	**Akhisar**	**0.26 203**		*i* P	**Pg**	**17 03 59.4**	**-0.3**
AKHS				*i* S	**Sg**	**17 04 03.7**	**+0.3**
STEP	**BALIKESIR_Sava**	**0.32 326**		*i* P	**Pg**	**17 04 00.3**	**-0.4**
STEP				*i* S	**Sg**	**17 04 05.4**	**+0.2**
BALB	**Balikesir**	**0.53 355**		PG	**Pg**	**17 04 04.6**	**+0.1**
BALB				SG	**Sg**	**17 04 12.2**	**-0.2**
DEMI	**Demirci**	**0.61 97**		*i* P	**Pb**	**17 04 06.3**	**-0.1**
DEMI				*i* S	**Sb**	**17 04 14.5**	**-0.3**
DURS	**Dursunbey**	**0.64 40**		*i* P	**Pb**	**17 04 06.7**	**-0.3**
DURS				*i* S	**Sb**	**17 04 15.6**	**-0.1**
MANT	**Manisa**	**0.79 142**		*i* P	**Pb**	**17 04 09.6**	**0.0**
MANT				*i* S	**Sb**	**17 04 19.9**	**-0.2**
KULA	**Kula-Manisa**	**0.82 137**		PG	**Pb**	**17 04 09.3**	**-0.8**
KULA				SG	**Sg**	**17 04 20.4**	**-0.4**
GONE	**Gonen-Balikesi**	**0.95 348**		PG	**Pg**	**17 04 12.4**	**-0.1**
AYVA	**Ayvalik**	**0.99 282**		*i* P	**Pb**	**17 04 13.2**	**+0.2**
AYVA				*i* S	**Sg**	**17 04 26.8**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.17 182**		PN	**Pb**	**17 04 16.2**	**+0.2**
KCTX	**Karacabey (Bur**	**1.19 15**		PN	**Pb**	**17 04 16.5**	**+0.1**
GDZ	**Gediz**	**1.20 91**		*i* P	**Pg**	**17 04 17.5**	**+0.4**
GDZ				*i* S	**Sg**	**17 04 33.9**	**+1.1**
KNL	**Bal¯¯kesir**	**1.20 345**		*i* P	**Pg**	**17 04 17.1**	**-0.1**
KNL				*i* S	**Sg**	**17 04 33.1**	**+0.2**
EDC	**Edincik**	**1.23 357**		PN	**Pg**	**17 04 17.6**	**-0.2**
KRBG	**Karabiga-Canak**	**1.37 339**		PN	**Pg**	**17 04 20.1**	**-0.4**
KHAL	**Karahalli**	**1.42 121**		*i* P	**Pg**	**17 04 21.6**	**+0.1**
KHAL				*i* S	**Sg**	**17 04 40.3**	**+0.3**
EZN	**Ezine**	**1.44 300**		PN	**Pg**	**17 04 21.4**	**-0.4**
MRMT	**Marmara Adasi**	**1.51 350**		PN	**Pb**	**17 04 22.1**	**+0.3**
ARMT	**Armutlu**	**1.61 26**		PN	**Pb**	**17 04 23.2**	**-0.3**
CHOS	**Chios island**	**1.65 244**		PN	**Pb**	**17 04 24.4**	**+0.3**

NIED ***30*** *17:18:00, 43.60N×147.20E, h53km, Mw4.4 Best double couple: M04.36000×10^15 NP1:φs57.00000°, δ64.00000°, λ155.00000°. NP2:φs158.00000°, δ68.00000°, λ28.00000°.*

BJI ***30*** *17:18:48.7, 44.11N×147.65E, h64km, mb4.7/35, mB5.0/20, Ms4.7/5, Ms7 4.3/5*

MOS ***30*** *17:18:50.2±1.1, 43.79N×147.32E, h56km, mb5.0/35, Error ellipse: s-maj=6.8km s-min=5.5km az=104.4*

MOS Felt (IV) at Malokuril'skoye; (II) at Yuzhno-Kuril'sk.

ISCJB ***30*** *17:18:50.5±0.4, 43.78N±0.03×147.30E±0.03, h57km±3km, mb4.7/108, MS3.5/8, Error ellipse: s-maj=5.7km s-min=3.0km az=145.8*

SKHL ***30*** *17:18:51.3±1.0, 43.69N×147.30E, h61km±1km, mb5.5/9*

SKHL Felt (IV) at Malokuril'skoe, (II) at Yushno-Kuril'sk.

IDC ***30*** *17:18:51.8±2.1, 43.82N×147.32E, h55km±18km, mb4.1/22, mb1 4.2/30, mb1mx4.2/38, mbtmp4.3/30, ML3.8/7, MS3.2/14, Ms1 3.2/14, ms1mx3.1/39, Error ellipse: s-maj=16.1km s-min=11.1km az=145.0*

JMA ***30*** *17:18:51.2±0.2, 43.62N×147.25E, h34km, M4.4*

JMA Felt I J1.

NEIC ***30*** *17:18:52.2±0.5, 43.81N×147.28E, h58km±4km, mb4.9/65, Error ellipse: s-maj=6.2km s-min=3.2km az=149.0*

NEIC Recorded [1 JMA] in eastern Hokkaido.

ISC 30 17:18:51.1±0.6**, 43.75N**±0.05×**147.34E**±0.04**, h52**km±4km**, n315,** σ1§**42**/351**, mb4.8**/108**, MS3.4**/8**, 24C-14D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.39 288**		*i* P	**Pn**	**17 19 01.6**	**+0.4**
SHO				AMB	AMB	17 19 02.0	
	1μm,0.2s						
SHO				AMB	AMB	17 19 02.0	
	810nm,0.2s						
SHO				AMB	AMB	17 19 02.0	
	6μm,0.2s						
SHO				*i* S	**Sn**	**17 19 09.0**	**+0.6**
SHO				A	A	17 19 09.8	
	347μm,0.4s						
SHO				A	A	17 19 09.8	
	137μm,0.4s						
SHO	**Shikotan**	**0.39 288**		*d* iPN	**Pn**	**17 19 01.6**	**+0.4**
SHO				*i* S	**Sn**	**17 19 09.4**	**+1.0**
SHO				pmax	pmax		
	comp=E,809nm,0.2s						
SHO				pmax	pmax		
	comp=Z,4μm,0.2s						
SHO				pmax	pmax		
	comp=N,1μm,0.1s						
SHO				smax	smax		
	comp=N,266μm,0.3s						
SHO				smax	smax		
	comp=E,179μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.11 285**		*i* P	**Pn**	**17 19 10.2**	**0.0**
YUK				AMB	AMB	17 19 11.0	
	comp=E,1μm,0.4s						
YUK				AMB	AMB	17 19 11.0	
	comp=E,2μm,0.4s						
YUK				AMB	AMB	17 19 11.0	
	comp=E,6μm,0.4s						
YUK				*i* S	**Sn**	**17 19 23.7**	**-0.8**
YUK				A	A	17 19 27.0	
	comp=E,20μm,0.4s						
YUK				A	A	17 19 27.0	
	comp=E,19μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.11 285**		*d* iPN	**Pn**	**17 19 10.1**	**-0.1**
YUK				*i* S	**Sn**	**17 19 23.7**	**-0.8**
YUK				pmax	pmax		
	comp=E,2μm,0.2s						
YUK				pmax	pmax		
	comp=Z,6μm,0.2s						
YUK				pmax	pmax		
	comp=N,1μm,0.1s						
YUK				smax	smax		
	comp=N,20μm,0.4s						
YUK				smax	smax		
	comp=E,19μm,0.4s						
GRPR	**Tuman**	**1.16 283**		*e*P	**Pn**	**17 19 10.0**	**-1.0**
GRPR				AMB	AMB	17 19 12.0	
	comp=E,2μm,0.3s						
GRPR				AMB	AMB	17 19 12.0	
	comp=E,700nm,0.3s						
GRPR				AMB	AMB	17 19 12.0	
	comp=E,3μm,0.3s						
GRPR				*i* S	**Sn**	**17 19 25.0**	**-0.8**
GRPR				A	A	17 19 27.0	
	comp=E,32μm,0.4s						
GRPR				A	A	17 19 27.0	
	comp=E,37μm,0.4s						
GRPR	**Tuman**	**1.16 283**		*de*PN	**Pn**	**17 19 10.7**	**-0.3**
GRPR				*i* S	**Sn**	**17 19 25.3**	**-0.5**
GRPR				pmax	pmax		
	comp=N,2μm,0.3s						
GRPR				pmax	pmax		
	comp=E,704nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,3μm,0.3s						
GRPR				smax	smax		
	comp=E,37μm,0.4s						
GRPR				smax	smax		
	comp=N,32μm,0.2s						
LAGR	**Lagunnoye**	**1.17 286**		*i* P	**Pn**	**17 19 10.0**	**-1.0**
LAGR				AMB	AMB	17 19 13.0	
	comp=N,1μm,0.2s						
LAGR				AMB	AMB	17 19 13.0	
	comp=N,750nm,0.2s						
LAGR				AMB	AMB	17 19 13.0	
	comp=N,3μm,0.2s						
LAGR				*i* S	**Sn**	**17 19 25.0**	**-0.9**
LAGR				A	A	17 19 32.0	
	comp=N,19μm,0.4s						
LAGR				A	A	17 19 32.0	
	comp=N,29μm,0.4s						
LAGR	**Lagunnoye**	**1.17 286**		*d* iPN	**Pn**	**17 19 10.8**	**-0.2**
LAGR				*i* S	**Sn**	**17 19 25.3**	**-0.6**
LAGR				pmax	pmax		
	comp=E,751nm,0.1s						
LAGR				pmax	pmax		
	comp=Z,3μm,0.1s						
LAGR				pmax	pmax		
	comp=N,1μm,0.2s						
LAGR				smax	smax		
	comp=N,19μm,0.4s						
LAGR				smax	smax		
	comp=E,29μm,0.4s						
NEM2	**Nemuro 2**	**1.23 252**		P	**Pn**	**17 19 11.1**	**-0.7**
NEM2				*e*S	**Sn**	**17 19 25.6**	**-1.7**
GLVR	**Golovnino**	**1.32 270**		*i* P	**Pn**	**17 19 13.0**	**-0.1**
GLVR				AMB	AMB	17 19 14.0	
	comp=E,880nm,0.3s						
GLVR				AMB	AMB	17 19 14.0	
	comp=E,850nm,0.3s						
GLVR				AMB	AMB	17 19 14.0	
	comp=E,4μm,0.3s						
GLVR				*i* S	**Sn**	**17 19 29.0**	**-0.6**
GLVR				A	A	17 19 30.0	
	comp=E,75μm,0.3s						
GLVR				A	A	17 19 30.0	
	comp=E,62μm,0.3s						
GLVR	**Golovnino**	**1.32 270**		*d* iPN	**Pn**	**17 19 13.3**	**+0.2**
GLVR				*i* S	**Sn**	**17 19 29.9**	**+0.3**
GLVR				pmax	pmax		
	comp=E,847nm,0.3s						
GLVR				pmax	pmax		
	comp=Z,4μm,0.3s						
GLVR				pmax	pmax		
	comp=N,879nm,0.2s						
GLVR				smax	smax		
	comp=N,75μm,0.3s						
GLVR				smax	smax		
	comp=E,62μm,0.3s						
KUR	**Kuril'sk**	**1.53 14**		*i* P	**Pn**	**17 19 16.7**	**+0.7**
KUR				AMB	AMB	17 19 17.0	
	comp=E,100nm,0.2s						
KUR				AMB	AMB	17 19 17.0	
	comp=E,340nm,0.2s						
KUR				AMB	AMB	17 19 17.0	
	comp=E,1μm,0.2s						
KUR				*i* S	**Sn**	**17 19 35.0**	**+0.3**
KUR				A	A	17 19 36.1	
	comp=E,8μm,2.0s						
KUR				A	A	17 19 36.1	
	comp=E,6μm,2.0s						
KUR				A	A	17 19 38.0	
	comp=E,6μm,0.2s						
KUR				A	A	17 19 38.0	
	comp=E,4μm,0.2s						
KUR	**Kuril'sk**	**1.53 14**		*c* iPN	**Pn**	**17 19 16.5**	**+0.5**
KUR				*i* S	**Sn**	**17 19 35.2**	**+0.5**
KUR				pmax	pmax		
	comp=N,104nm,0.2s						
KUR				pmax	pmax		
	comp=Z,995nm,0.2s						
KUR				pmax	pmax		
	comp=E,342nm,0.3s						
KUR				smax	smax		
	comp=N,6μm,0.2s						
KUR				smax	smax		
	comp=E,4μm,0.2s						
JRA	**Rausu**	**1.62 277**		P	**Pn**	**17 19 17.6**	**+0.4**
JRA				*e*S	**Sn**	**17 19 37.2**	**+0.4**
JKHN	**Kushirohamanak**	**1.72 248**		P	**Pn**	**17 19 18.4**	**-0.2**
JKHN				*e*S	**Sn**	**17 19 38.3**	**-1.2**
JNK	**Nakash**	**1.91 266**		P	**Pn**	**17 19 21.1**	**-0.1**
JNK				*e*S	**Sn**	**17 19 43.1**	**-1.0**
JAK	**Akkeshi**	**2.07 250**		P	**Pn**	**17 19 23.0**	**-0.4**
JAK				*e*S	**Sn**	**17 19 46.5**	**-1.5**
JTKR	**Abashiri--Toko**	**2.49 276**		P	**Pn**	**17 19 30.2**	**+1.1**
JAR	**Ashorobuto**	**2.64 261**		P	**Pn**	**17 19 31.8**	**+0.7**
JAR				*e*S	**Sn**	**17 20 01.8**	**-0.1**
JOB	**Onbets**	**2.70 253**		P	**Pn**	**17 19 32.1**	**+0.2**
JOB				*e*S	**Sn**	**17 20 02.5**	**-0.8**
JMP	**Maruseppu**	**2.89 276**		P	**Pn**	**17 19 36.0**	**+1.4**
JCH	**Churui**	**3.12 250**		P	**Pn**	**17 19 37.4**	**-0.4**
JCH				*e*S	**Sn**	**17 20 12.4**	**-1.5**
JKK2	**Kamakawa 2**	**3.33 274**		P	**Pn**	**17 19 42.3**	**+1.7**
ASAJ	**Asahikawa**	**3.45 278**		P	**Pn**	**17 19 43.1**	**+0.9**
	comp=E,5.7nm,0.3s,baz=88,slow=13,SNR=46						
ASAJ				S	**Sn**	**17 20 29.9**	**+8.1**
	comp=E,48nm,0.3s,baz=349,slow=33,SNR=7.4						
ASAJ	**Asahikawa**	**3.45 278**		*e*Pn	**Pn**	**17 19 43.7**	**+1.5**
ASAJ				*e*Sn	**Sn**	**17 20 29.3**	**+7.5**
ASAJ	**Asahikawa**	**3.45 278**		*e*P	**Pn**	**17 19 43.7**	**+1.5**
ASAJ	**Asahikawa**	**3.45 278**		P	**Pn**	**17 19 43.9**	**+1.7**
JFR	**Furan**	**3.51 262**		P	**Pn**	**17 19 44.6**	**+1.5**
JFR				*e*S	**Sn**	**17 20 24.4**	**+1.1**
ERM	**Erimo**	**3.53 242**		*e*Pn	**Pn**	**17 19 45.1**	**+1.7**
ERM				*e*Sn	**Sn**	**17 20 15.5**	**-8.3**
ERM	**Erimo**	**3.53 242**		*e*P	**Pn**	**17 19 45.4**	**+2.0**
ERM	**Erimo**	**3.53 242**	ǁ	*e*PN	**Pn**	**17 19 45.4**	**+2.0**
JEM	**Erimo**	**3.53 242**		P	**Pn**	**17 19 45.0**	**+1.6**
JEM				*e*S	**Sn**	**17 20 25.1**	**+1.3**
JSE	**Soyaes**	**3.62 291**		P	**Pn**	**17 19 46.0**	**+1.4**
JNBK	**Urakawa-nobuka**	**3.67 248**		P	**Pn**	**17 19 45.0**	**-0.3**
YSS	**Yuzh-Sakhalins**	**4.55 316**		*e*Pn	**Pn**	**17 19 58.8**	**+1.5**
YSS	**Yuzh-Sakhalins**	**4.55 316**		*e*P	**Pn**	**17 19 58.0**	**+0.7**
YSS				AMB	AMB	17 19 59.0	
	comp=E,40nm,0.7s						
YSS				AMB	AMB	17 19 59.0	
	comp=E,60nm,0.7s						
YSS				*e*S	**Sn**	**17 20 49.0**	**+0.2**
YSS				A	A	17 20 49.0	
	comp=E,100nm,0.6s						
YSS				A	A	17 20 49.0	
	comp=E,170nm,0.6s						
YSS	**Yuzh-Sakhalins**	**4.55 316**	ǁ	*e*PN	**Pn**	**17 19 58.9**	**+1.5**
YSS				*e*S	**Sn**	**17 20 49.1**	**+0.2**
YSS				pmax	pmax		
	comp=Z,60nm,0.7s						
YSS				pmax	pmax		
	comp=N,40nm,0.6s						
YSS				pmax	pmax		
	comp=E,40nm,0.6s						
YSS				smax	smax		
	comp=N,100nm,0.6s						
YSS				smax	smax		
	comp=E,170nm,0.6s						
SKR	**Severo-Kuril's**	**9.14 38**		*e*P	**Pn**	**17 21 02.0**	**+1.8**
SKR				*e*S	**Sn**	**17 22 39.0**	**-2.6**
SKR				A	A	17 22 48.0	
	comp=E,30nm,0.4s						
SKR				A	A	17 22 48.0	
	comp=E,40nm,0.4s						
SKR	**Severo-Kuril's**	**9.14 38**		*e*PN	**Pn**	**17 21 02.8**	**+2.6**
MJAR	**Matsushiro Arr**	**10.03 227**		P	**Pn**	**17 21 12.1**	**-0.3**
	comp=E,1.0nm,0.3s,baz=24,slow=13,SNR=13						
MJAR				S	**Sn**	**17 23 08.4**	**+4.9**
	comp=E,1.5nm,0.3s,baz=19,slow=40,SNR=4.2						
MJAR				LR	LR	17 25 36.4	
	comp=E,98nm,19.7s,baz=55,slow=40						
MJB9	**Matsu-Tunnel**	**10.03 227**		*e*Pn	**Pn**	**17 21 12.6**	**+0.1**
MAJO	**Matsushiro**	**10.03 227**		*e*Pn	**Pn**	**17 21 12.6**	**+0.1**
MAJO				*e*Sn	**Sn**	**17 23 08.4**	**+4.9**
MAJO				*e*		17 25 36.4	
MAJO	**Matsushiro**	**10.03 227**	ǁ	*e*PN	**Pn**	**17 21 12.5**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
GRNR	**Gornyy**	**10.21 317**		*e*P	**Pn**	**17 21 17.1**	**+2.3**
USA0B	**Ussuriysk Arra**	**11.08 278**		*e*Pn	**Pn**	**17 21 25.7**	**-1.0**
USRK	**Ussuriysk Ar.**	**11.08 278**		P	**Pn**	**17 21 26.7**	**0.0**
	comp=Z,0.3nm,0.3s,baz=80,slow=12,SNR=4.8						
USRK				LR	LR	17 26 04.5	
	comp=Z,71nm,18.4s,baz=70,slow=39						
INU	**Inuyama**	**11.56 227**		*e*Pn	**Pn**	**17 21 33.3**	**-0.1**
PEA0B	**Petropavlovsk-**	**11.61 33**		*e*Pn	**Pn**	**17 21 33.8**	**-0.1**
PETK	**Petropavlovsk-**	**11.61 33**		P	**Pn**	**17 21 33.1**	**-0.7**
	comp=Z,1.9nm,0.3s,baz=201,slow=11,SNR=36						
PETK				LR	LR	17 25 45.8	
	comp=Z,142nm,21.8s,baz=216,slow=36						
PETK	**Petropavlovsk-**	**11.61 33**		*e*Pn	**Pn**	**17 21 34.2**	**+0.3**
PEA1	**Petropavlovsk-**	**11.61 33**		*e*Pn	**Pn**	**17 21 33.1**	**-0.8**
PEA1				*e*		17 25 45.8	
KLR	**Kul'dur**	**12.05 302**		P	**Pn**	**17 21 41.5**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=109,slow=15,SNR=12						
KLR				LR	LR	17 25 20.6	
	comp=Z,41nm,20.6s,baz=92,slow=32						
KLR	**Kul'dur**	**12.05 302**		*e*P	**Pn**	**17 21 39.2**	**-0.8**
KLR	**Kul'dur**	**12.05 302**	ǁ	*e*PN	**Pn**	**17 21 39.7**	**-0.3**
JHJ2	**Mitsune**	**12.14 211**		*e*Pn	**Pn**	**17 21 45.1**	**+3.8**
JHJ	**Hachijo jima 2**	**12.15 212**		S	Sn	17 23 43.5	-12
	comp=Z,26nm,0.3s,baz=267,slow=22,SNR=7.0						
JHJ				LR	LR	17 26 28.1	
	comp=Z,34nm,20.6s,baz=106,slow=37						
MDJ	**Mudanjiang**	**12.77 280**		P	**Pn**	**17 21 51.5**	**+1.7**
MDJ				sP	P	17 22 08.3	+8.9
MDJ				S	**Sn**	**17 24 09.5**	**-0.9**
MDJ				ScP	**ScP**	**17 30 52.3**	**+1.2**
MDJ				pmax	pmax		
	comp=Z,12nm,1.8s						
MDJ				pmax	pmax		
	comp=Z,53nm,2.9s						
MDJ				LR	LR		
	comp=Z,950nm,4.8s						
MDJ				LR	LR		
	comp=Z,420nm,4.9s						
MDJ				LR	LR		
	comp=Z,400nm,5.4s						
EKMR	**Ekimchan**	**13.33 319**		*e*P	**Pn**	**17 21 58.7**	**+1.3**
MA2	**Magadan**	**15.98 6**		LR	LR	17 28 14.2	
	comp=Z,99nm,21.8s,baz=150,slow=35						
KSRS	**Korea Array**	**16.02 253**		P	**P**	**17 22 35.5**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=62,slow=11,SNR=7.2						
KSRS				LR	LR	17 29 01.6	
	comp=Z,73nm,19.1s,baz=62,slow=38						
KS15	**Wonju Array Si**	**16.05 254**		*e*Pn	**Pn**	**17 22 33.7**	**+0.5**
KSAR	**Wonju Array Be**	**16.05 254**		P	**P**	**17 22 35.5**	**-0.3**
KSAR	**Wonju Array Be**	**16.05 254**		P	**P**	**17 22 35.6**	**-0.3**
BMKR	**Bomnak**	**16.26 319**		*e*P	**Pn**	**17 22 35.2**	**-0.6**
ZEA	**Zeya**	**16.54 314**		*e*P	**Pn**	**17 22 37.7**	**-1.6**
ZEA	**Zeya**	**16.54 314**		*e*P	**P**	**17 22 44.2**	**+3.1**
JNU	**Nakatsue**	**16.67 236**		P	**P**	**17 22 43.8**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=40,slow=1.1,SNR=5.0						
JNU				LR	LR	17 29 24.0	
	comp=Z,52nm,20.4s,baz=54,slow=38						
JNU	**Nakatsue**	**16.67 236**		*e*Pn	**P**	**17 22 43.3**	**+0

H11N1	**WAKE ISLAND Hy**	**29.02**	**139**		T		T	17 55 38.6	
	baz=330,slow=75,SNR=3650								
H11N3	**WAKE ISLAND Hy**	**29.03**	**139**		T		T	17 55 31.6	
	baz=330,slow=75,SNR=2719								
TIXI	**Tiksi**	**29.39**	**348**		LR		LR	17 36 56.8	
	comp=Z,33nm,19.8s,baz=106,slow=37								
TIXI	**Tiksi**	**29.39**	**348**	⇓	*eP*		**P**	**17 24 44.9**	**-4.0**
TIXI						pmax	pmax		
	comp=Z,4.0nm,1.2s								
H11S1	**WAKE ISLAND Hy**	**29.98**	**141**		T		T	17 56 44.4	
	baz=331,slow=76,SNR=5386								
H11S3	**WAKE ISLAND Hy**	**29.99**	**141**		T		T	17 56 47.5	
	baz=331,slow=76,SNR=4448								
H11S2	**WAKE ISLAND Hy**	**30.00**	**141**		T		T	17 56 45.6	
	baz=331,slow=76,SNR=4518								
ANM	**Nome**	**33.51**	**35**		*eP*		**P**	**17 25 26.8**	**+1.6**
	comp=Z,18nm,1.3s								
ANM	**Nome**	**33.51**	**35**		*eP*		**P**	**17 25 26.8**	**+1.6**
ANM						pmax	pmax		
	comp=Z,18nm,1.3s								
LZH	**Lanzhou**	**33.91**	**272**		*eP*		**P**	**17 25 30.3**	**+1.1**
LZH					pP		sP	17 25 46.0	-2.6
LZH					sP		pP	17 25 52.8	+10
LZH					PP		**PnPn**	**17 26 44.5**	**+1.2**
LZH					S		**S**	**17 30 42.5**	**-7.8**
LZH					SS		**SnSn**	**17 32 57.0**	**-2.8**
LZH					pmax	pmax			
	comp=Z,46nm,1.1s								
LZH					pmax	pmax			
	comp=Z,140nm,4.0s								
GTA	**Gaotai**	**35.43**	**280**		*eP*		**P**	**17 25 44.0**	**+1.7**
GTA					pP		sP	17 25 59.0	-2.7
GTA					sP		pP	17 26 06.5	+11
GTA					pmax	pmax			
	comp=Z,3.0nm,1.2s								
RDOG	**Red Dog Mine**	**35.46**	**30**		*eP*		**P**	**17 25 41.9**	**-0.1**
	comp=Z,6.9nm,1.1s								
CD2	**Chengdu**	**36.54**	**264**		*eP*		**P**	**17 25 51.0**	**-0.8**
CD2						pmax	pmax		
	comp=Z,10.0nm,0.5s								
GYA	**Guiyang**	**37.06**	**256**		*eP*		**P**	**17 25 58.0**	**+1.7**
GYA						pmax	pmax		
	comp=Z,10.0nm,1.0s								
SVW2	**Sparrevohn**	**37.47**	**42**		*eP*		**P**	**17 26 01.2**	**+2.0**
	comp=Z,13nm,0.9s								
IM3	**Indian Mountai**	**38.56**	**34**		*eP*		**P**	**17 26 08.4**	**0.0**
OHAK	**Old Harbor**	**38.83**	**48**		*eP*		**P**	**17 26 10.9**	**+0.3**
	comp=Z,238nm,1.9s								
PPLA	**Purkeypile**	**39.09**	**39**		*eP*		**P**	**17 26 13.3**	**+0.4**
	comp=Z,68nm,1.5s								
CAST	**Castle Rocks**	**39.14**	**38**		*eP*		**P**	**17 26 14.8**	**+1.6**
	comp=Z,28nm,0.9s								
KDAK	**Kodiak Island**	**39.15**	**47**		P		**P**	**17 26 12.6**	**-0.7**
	comp=Z,22nm,0.9s,baz=290,slow=3.7,SNR=11								
NRIK	**Noril'sk**	**39.31**	**331**		LR		LR	17 43 28.9	
	comp=Z,44nm,18.0s,baz=56,slow=38								
HOM	**Homer**	**39.47**	**44**		*eP*		**P**	**17 26 14.8**	**-1.2**
	comp=Z,271nm,1.0s								
BPAW	**Bear Paw Mtn.**	**39.64**	**37**		*eP*		**P**	**17 26 17.2**	**-0.2**
	comp=Z,14nm,1.0s								
CNPM	**China Poot**	**39.69**	**45**		*eP*		**P**	**17 26 17.9**	**+0.1**
	comp=Z,148nm,1.8s								
MLY	**Manley**	**39.76**	**36**		*eP*		**P**	**17 26 19.8**	**+1.4**
	comp=Z,51nm,1.8s								
BRLK	**Bradley Lake**	**39.84**	**44**		*eP*		**P**	**17 26 19.9**	**+0.7**
	comp=Z,272nm,1.9s								
TRF	**Thorofare Moun**	**39.95**	**38**		*eP*		**P**	**17 26 21.3**	**+1.1**
	comp=Z,12nm,0.9s								
COLD	**Coldfoot**	**40.08**	**32**		*eP*		**P**	**17 26 21.0**	**+0.1**
	comp=Z,3.1nm,0.8s								
BWN	**Browne**	**40.30**	**37**		*eP*		**P**	**17 26 25.1**	**+2.3**
	comp=Z,86nm,1.1s								
TOLK	**Toolik Lake Re**	**40.41**	**30**		*eP*		**P**	**17 26 24.4**	**+0.6**
	comp=Z,12nm,0.7s								
SEW	**Seward**	**40.53**	**43**		*eP*		**P**	**17 26 25.5**	**+0.7**
	comp=Z,53nm,1.4s								
MCK	**McKinley**	**40.55**	**38**		*eP*		**P**	**17 26 25.8**	**+0.9**
	comp=Z,19nm,0.9s								
MCK	**McKinley**	**40.55**	**38**		*eP*		**P**	**17 26 25.8**	**+0.9**
MCK	**McKinley**	**40.55**	**38**		*eP*		**P**	**17 26 25.8**	**+0.9**
MCK						pmax	pmax		
	comp=Z,19nm,0.9s								
RND	**Reindeer**	**40.59**	**38**		*eP*		**P**	**17 26 26.2**	**+0.8**
	comp=Z,19nm,0.8s								
RND	**Reindeer**	**40.59**	**38**		*eP*		**P**	**17 26 26.2**	**+0.8**
RND						pmax	pmax		
	comp=Z,19nm,0.8s								
KMI	**Kunming**	**40.65**	**258**		P		**P**	**17 26 27.3**	**+0.8**
KMI						pmax	pmax		
	comp=Z,8.0nm,0.6s								
KMI						pmax	pmax		
	comp=Z,100nm,4.4s								
MDM	**Murphy Dome**	**40.83**	**36**		*eP*		**P**	**17 26 28.5**	**+1.3**
	comp=Z,62nm,1.7s								
WRH	**Wood River Hil**	**40.90**	**37**		*eP*		**P**	**17 26 28.8**	**+1.1**
	comp=Z,10nm,0.8s								
SML	**Sawmill**	**40.93**	**41**		*eP*		**P**	**17 26 28.9**	**+0.8**
	comp=Z,35nm,1.0s								
SML	**Sawmill**	**40.93**	**41**		*eP*		**P**	**17 26 28.9**	**+0.8**
CCB	**Clear Creek Bu**	**41.01**	**36**		*eP*		**P**	**17 26 29.6**	**+0.9**
	comp=Z,7.0nm,1.0s								
ZAA1	**Zalesovo Array**	**41.11**	**307**		*eP*		**P**	**17 26 29.4**	**-0.2**
ZAA1					*e*PcP		**PcP**	**17 28 28.9**	**+0.8**
ZAA1					*e*			17 43 25.0	
ZALV	**Zalesovo Beam**	**41.11**	**307**		P		**P**	**17 26 29.4**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=71,slow=6.8,SNR=4.1								
ZALV					PcP		**PcP**	**17 28 28.9**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=85,slow=2.6,SNR=7.6								
ZALV					LR		LR	17 43 25.0	
	comp=Z,56nm,19.1s,baz=75,slow=36								
ZALV	**Zalesovo Beam**	**41.11**	**307**		*eP*		**P**	**17 26 28.4**	**-1.3**
DHY	**Denali Highway**	**41.28**	**39**		*eP*		**P**	**17 26 31.8**	**+0.6**
	comp=Z,15nm,0.8s								
HDA	**Harding Lake**	**41.39**	**37**		*eP*		**P**	**17 26 31.0**	**-0.9**
	comp=Z,15nm,0.8s								
SCM	**Sheep Creek Mo**	**41.40**	**41**		*eP*		**P**	**17 26 33.4**	**+1.4**
	comp=Z,26nm,1.2s								
SCM	**Sheep Creek Mo**	**41.40**	**41**		*eP*		**P**	**17 26 33.4**	**+1.4**
SCM						pmax	pmax		
	comp=Z,26nm,1.2s								
IL1	**Eielson Array**	**41.40**	**36**		*eP*		**P**	**17 26 32.3**	**+0.4**
ILAR	**Eielson Array**	**41.40**	**36**		P		**P**	**17 26 32.3**	**+0.4**
	comp=Z,6.7nm,0.8s,baz=255,slow=6.5,SNR=70								
ILB	**Eielson Array**	**41.40**	**36**		*eP*		**P**	**17 26 32.6**	**+0.6**
GLI	**Glacier Island**	**41.61**	**42**		*eP*		**P**	**17 26 32.1**	**-1.5**
	comp=Z,44nm,1.2s								
FID	**Port Fidalgo**	**41.92**	**42**		*eP*		**P**	**17 26 38.6**	**+2.4**
	comp=Z,52nm,1.4s								
FYU	**Fort Yukon**	**42.02**	**33**		*eP*		**P**	**17 26 38.1**	**+1.2**
	comp=Z,62nm,1.3s								
KLU	**Klutina**	**42.10**	**41**		*eP*		**P**	**17 26 38.7**	**+0.9**
	comp=Z,14nm,1.0s								
PAX	**Paxson**	**42.15**	**39**		*eP*		**P**	**17 26 39.6**	**+1.4**
	comp=Z,13nm,1.1s								
PAX	**Paxson**	**42.15**	**39**		*eP*		**P**	**17 26 39.6**	**+1.4**
PAX						pmax	pmax		
	comp=Z,13nm,1.1s								
DIV	**Divide**	**42.22**	**42**		*eP*		**P**	**17 26 40.0**	**+1.3**
	comp=Z,42nm,1.4s								
DIV	**Divide**	**42.22**	**42**		*eP*		**P**	**17 26 40.0**	**+1.3**
WMQ	**Urumqi**	**42.22**	**292**		*eP*		**P**	**17 26 41.3**	**+2.3**
HARP	**HAARP**	**42.36**	**40**		*eP*		**P**	**17 26 40.6**	**+0.8**
	comp=Z,31nm,1.0s								
RIDG	**Independ'e Rid**	**42.36**	**38**		*eP*		**P**	**17 26 40.1**	**+0.3**
	comp=Z,17nm,0.9s								
DOT	**Dot Lake**	**42.72**	**38**		*eP*		**P**	**17 26 42.7**	**+0.1**
	comp=Z,8.7nm,0.8s								
SCRK	**Sand Creek**	**42.72**	**37**		*eP*		**P**	**17 26 42.8**	**0.0**
	comp=Z,17nm,0.9s								
EGAK	**Eagle**	**43.85**	**36**		*eP*		**P**	**17 26 51.8**	**+0.1**
	comp=Z,16nm,0.8s								
MK31	**Makanchi Array**	**44.71**	**298**		*eP*		**P**	**17 26 58.9**	**0.0**
MK31	**Makanchi Array**	**44.71**	**298**		*eP*		**P**	**17 26 58.9**	**0.0**
MK32	**Makanchi Array**	**44.71**	**298**		*eP*		**P**	**17 26 59.3**	**+0.5**
MK32					*e*PcP		**PcP**	**17 28 40.6**	**+0.2**
MKAR	**Makanchi Array**	**44.71**	**298**		P		**P**	**17 26 59.3**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=81,slow=2.4,SNR=38								
MKAR					PcP		**PcP**	**17 28 40.6**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=71,slow=4.9,SNR=2.7								
MKAR	**Makanchi Array**	**44.71**	**298**		*eP*		**P**	**17 26 58.8**	**-0.1**
	comp=Z,17nm,0.8s								
MKAR					PcP		**PcP**	**17 28 40.6**	**+0.2**
MKAR	**Makanchi Array**	**44.71**	**298**		*eP*		**P**	**17 26 59.2**	**+0.3**
MKAR	**Makanchi Array**	**44.71**	**298**		*i* P		**P**	**17 26 59.2**	**+0.3**
MKAR						pmax	pmax		
	comp=Z,1.0nm,0.5s								
MK01	**Makanchi Array**	**44.71**	**298**		*eP*		**P**	**17 26 58.8**	**-0.1**
MK01					*e*PcP		**PcP**	**17 28 41.2**	**+0.7**
DAWY	**Dawson**	**44.71**	**37**		*eP*		**P**	**17 26 59.3**	**+0.6**
	comp=Z,12nm,1.4s								
KURK	**Kurchatov**	**45.64**	**304**		*eP*		**P**	**17 27 06.2**	**0.0**
	comp=Z,6.8nm,1.3s								
KURK	**Kurchatov**	**45.64**	**304**		*eP*		**P**	**17 27 06.2**	**0.0**
KURK	**Kurchatov**	**45.64**	**304**		*eP*		**P**	**17 27 06.2**	**0.0**
KURK						pmax	pmax		
	comp=Z,7.0nm,1.3s								
HYT	**Haines Junctio**	**46.24**	**41**		*eP*		**P**	**17 27 13.0**	**+2.1**
	comp=Z,26nm,1.0s								
LSA	**Lhasa**	**46.33**	**272**		*eP*		**P**	**17 27 13.5**	**+1.1**
	comp=Z,3.3nm,0.8s								
INK	**Inuvik**	**46.33**	**30**		P		**P**	**17 27 12.4**	**+1.1**
	comp=Z,11nm,0.6s,baz=296,slow=6.8,SNR=79								
INK	**Inuvik**	**46.33**	**30**		*eP*		**P**	**17 27 11.5**	**+0.2**
	comp=Z,12nm,0.6s								
CHTO	**Chiang Mai**	**47.42**	**254**		*eP*		**P**	**17 27 20.9**	**+0.4**
	comp=Z,3.5nm,0.8s								
CHTO	**Chiang Mai**	**47.42**	**254**		*eP*		**P**	**17 27 20.9**	**+0.4**
CHTO						pmax	pmax		
	comp=Z,4.0nm,0.8s								
SKAG	**Skagway**	**47.65**	**42**		*eP*		**P**	**17 27 22.8**	**+1.1**
	comp=Z,82nm,1.8s								
CMAR	**Chiang Mai Arr**	**47.66**	**254**		P		**P**	**17 27 23.1**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=44,slow=7.6,SNR=12								
CMAR						LR	LR	17 47 04.2	
	comp=Z,19nm,21.5s,baz=60,slow=36								
CM01	**Chiang Mai Arr**	**47.67**	**254**		*eP*		**P**	**17 27 23.0**	**+0.5**
PDGK	**Podgornoye**	**47.89**	**294**		P		**P**	**17 27 24.0**	**0.0**
PDGK						pmax	pmax		
	comp=Z,2.0nm,0.8s								
BRVK	**Borovoye**	**49.66**	**309**		*eP*		**P**	**17 27 37.4**	**+0.2**
	comp=Z,15nm,1.9s								
BRVK	**Borovoye**	**49.66**	**309**		*eP*		**P**	**17 27 37.9**	**+0.7**
BRVK	**Borovoye**	**49.66**	**309**	⇓	*eP*		**P**	**17 27 37.9**	**+0.7**
BRVK						pmax	pmax		
	comp=Z,4.0nm,1.5s								
OTUK	**Ortayu**	**50.37**	**303**		P		**P**	**17 27 42.5**	**-0.3**
OTUK						pmax	pmax		
	comp=Z,4.0nm,0.4s								
AAK	**Ala-Archa**	**51.48**	**296**		*eP*		**P**	**17 27 51.5**	**+0.1**
	comp=Z,12nm,1.6s								
AAK	**Ala-Archa**	**51.48**	**296**		*eP*		**P**	**17 27 51.8**	**+0.4**
AAK	**Ala-Archa**	**51.48**	**296**	⇓	*eP*		**P**	**17 27 51.8**	**+0.4**
AAK						pmax	pmax		
	comp=Z,7.0nm,1.6s								
KSH	**Kashi**	**51.99**	**292**		*eP*		**P**	**17 27 59.0**	**+3.8**
KSH						S	**S**	**17 35 16.0**	**+1.2**
KSH						pmax	pmax		
	comp=Z,8.0nm,0.5s								
KSH						pmax	pmax		
	comp=Z,200nm,6.3s								
MNAS	**Manas**	**52.85**	**296**		P		**P**	**17 28 02.3**	**+0.8**
MNAS						pmax	pmax		
	comp=Z,12nm,0.6s								
SFK	**Sufi-Kurgan**	**53.40**	**293**		P		**P**	**17 28 06.0**	**+0.3**
SFK						pmax	pmax		
	comp=Z,6.0nm,0.8s								
KK31	**Karatay Array**	**53.84**	**298**		*eP*		**P**	**17 28 08.6**	**0.0**
KK31	**Karatay Array**	**53.84**	**298**		*eP*		**P**	**17 28 08.6**	**0.0**
KKAR	**Karatay Array**	**53.84**	**298**		*eP*		**P**	**17 28 08.9**	**+0.3**
KKAR	**Karatay Array**	**53.84**	**298**		*eP*		**P**	**17 28 08.9**	**+0.3**
ARU	**Arti**	**54.44**	**317**		*eP*		**P**	**17 28 11.8**	**-1.0**
	comp=Z,4.4nm,0.5s								
ARU	**Arti**	**54.44**	**317**		*eP*		**P**	**17 28 12.2**	**-0.5**
ARU	**Arti**	**54.44**	**317**	*d*	*i* P		**P**	**17 28 12.2**	**-0.5**
ARU						*PP	**sP**	**17 28 28.8**	**-3.9**
ARU								17 29 11.0	
ARU								17 30 10.7	
ARU						S	**S**	**17 35 47.5**	**+0.2**
ARU						SS	**SS**	**17 39 25.6**	**-3.9**
ARU						pmax	pmax		
	comp=Z,3.0nm,0.6s								
RES	**Resolute Bay**	**54.93**	**17**		P		**P**	**17 28 15.1**	**-0.9**
	comp=Z,4.9nm,0.4s,baz=318,slow=5.7,SNR=19								
RES	**Resolute Bay**	**54.93**	**17**		*eP*		**P**	**17 28 14.9**	**-1.1**
	comp=Z,16nm,1.0s								
YKW3	**Yellowknife Ar**	**55.69**	**34**		*eP*		**P**	**17 28 21.9**	**+0.3**
	comp=Z,7.3nm,1.0s								
YKA	**Yellowknife Ar**	**55.72**	**34**		P		**P**	**17 28 22.7**	**+0.9**
	comp=Z,3.2nm,0.8s,baz=301,slow=7.2,SNR=20								
YKB5	**Yellowknife Ar**	**55.72**	**34**		*eP*		**P**	**17 28 21.8**	**-0.1**
NIL	**Nilore**	**56.92**	**287**		*eP*		**P**	**17 28 31.2**	**+0.3**
	comp=Z,8.9nm,0.8s								
NIL	**Nilore**	**56.92**	**287**		*eP*		**P**	**17 28 31.2**	**+0.3**
NIL						pmax	pmax		
	comp=Z,9.0nm,0.8s								
ABKAR	**Akbulak array**	**57.17**	**309**		*eP*		**P**	**17 28 32.0**	**-0.4**
ARA0	**ARCESS Array S**	**59.29**	**340**		*eP*		**P**	**17 28 45.5**	**-1.4**
ARCES	**ARCESS Array B**	**59.29**	**340**		P		**P**	**17 28 45.5**	**-1.4**
	comp=Z,1.2nm,0.3s,baz=50,slow=7.4,SNR=21								
ARCES	**ARCESS Array B**	**59.29**	**340**		*eP*		**P**	**17 28 45.7**	**-1.2**
ARCES	**ARCESS Array B**	**59.29**	**340**		*eP*		**P**	**17 28 45.7**	**-1.2**
JOF	**Joensuu**	**62.15**	**332**		P		**P**	**17 29 05.2**	**-1.2**
JOF						pmax	pmax		
	comp=Z,12nm,1.5s								
OUL	**Oulu**	**62.35**	**336**		P		**P**	**17 29 06.3**	**-1.4**
OUL						pmax	pmax		
	comp=Z,15nm,2.0s								
SUMG	**Summit**	**63.90**	**2**		*eP*		**P**	**17 29 18.1**	**-0.3**
	comp=Z,12nm,0.9s								
SUMG	**Summit**	**63.90**	**2**		*eP*		**P**	**17 29 18.1**	**-0.3**
SUMG						pmax	pmax		
	comp=Z,12nm,0.9s								
SUF	**Sumiainen**	**63.98**	**334**		P		**P**	**17 29 17.6**	**-0.9**
SUF						pmax	pmax		
	comp=Z,13nm,0.6s								
WR1	**Warramunga Arr**	**64.49**	**194**		*eP*		**P**	**17 29 21.9**	**-0.5**
WRA	**Warramunga Arr**	**64.49**	**194**		P		**P**	**17 29 21.9**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=12,slow=6.8,SNR=8.7								
VAF	**Ylistaro**	**64.82**	**336**		P		**P**	**17 29 23.2**	**-0.8**
FIA0	**FINESS Array S**	**64.94**	**333**		*eP*		**P**	**17 29 23.2**	**-1.6**
FIA0	**FINESS Array S**	**64.94**	**333**		*eP*		**P**	**17 29 23.2**	**-1.6**
FINES	**FINESS Array B**	**64.94**	**333**		P		**P**	**17 29 23.2**	**-1.6**
	comp=Z,4.2nm,0.3s,baz=44,slow=7.5,SNR=63								
FINES	**FINESS Array B**	**64.94**	**333**		*eP*		**P**	**17 29 24.2**	**-0.6**
FINES	**FINESS Array B**	**64.94**	**333**		*i* P		**P**	**17 29 24.2**	**-0.6**
FINES						pmax	pmax		
	comp=Z,4.0nm,0.3s								
OBN	**Obninsk**	**65.39**	**324**		*eP*		**P**	**17 29 27.2**	**-0.6**
OBN	**Obninsk**	**65.39**	**324**	⇓	*eP*		**P**	**17 29 27.2**	**-0.6**
OBN					*i*			17 31 50.3	
OBN						pmax	pmax		
	comp=Z,9.0nm,0.6s								
OBN						MLR	MLR		
	comp=Z,81nm,15.0s								
VRH	**Novokhopyorsk**	**65.61**	**318**		*eP*		**P**	**17 29 28.3**	**-1.0**
VRH						pmax	pmax		
	comp=Z,7.0nm,0.6s								
LPSR	**Galich'ya Gora**	**66.02**	**321**		*eP*		**P**	**17 29 31.2**	**-0.7**
LPSR						pmax	pmax		
	comp=Z,10.0nm,0.9s								
VSR	**Storozhevoye**	**66.82**	**319**		*eP*		**P**	**17 29 36.4**	**-0.7**
VSR						pmax	pmax		
	comp=Z,10.0nm,0.8s								
VORD	**Divnogorie**	**66.93**	**319**		*eP*		**P**	**17 29 37.6**	**-0.1**
VORD						pmax	pmax		
	comp=Z,7.0nm,0.8s								
KVN	**Kaiserville**	**67.20**	**57**		*eP*		**P**	**17 29 40.6**	**+0.7**
	comp=Z,6.0nm,1.0s								
KVN	**Kaiserville**	**67.20**	**57**		*eP*		**P**	**17 29 40.6**	**+0.7**
KVN						pmax	pmax		
	comp=Z,6.0nm,1.0s								
NV01	**Mina Array Sit**	**67.46**	**58**		*eP*		**P**	**17 29 42.3**	**+0.6**
NVAR	**Mina Array Bea**	**67.46**	**58**		P		**P**	**17 29 42.4**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=281,slow=5.0,SNR=6.8								
YPP	**Pitchstone Pla**	**68.13**	**49**		*eP*		**P**	**17 29 45.7**	**-0.2**
ASAR	**Alice Springs**	**68.21**	**193**		P		**P**	**17 29 46.7**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=5.7,slow=4.6,SNR=6.4								
NB2	**NORSAR Subarra**	**69.65**	**339**		P		**P**	**17 29 53.6**	**-1.1**
	comp=Z,2.1nm,0.3s,baz=32,slow=5.5								
NB200	**NORSAR Array S**	**69.65**	**339**		*eP*		**P**	**17 29 53.8**	**-0.9**
NOA	**NORSAR Array B**	**69.65**	**339**		P		**P**	**17 29 53.8**	**-0.9**
	comp=Z,1.5nm,0.3s,baz=31,slow=6.6,SNR=43								
PD31	**Pinedale Array**	**69.80**	**50**		*eP*		**P**	**17 29 56.8**	**+0.6**
PDAR	**Pinedale Array**	**69.80**	**50**		P		**P**	**17 29 56.9**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=236,slow=1.6,SNR=10								
PDAR	**Pinedale Array**	**69.80**	**50**		*eP*		**P**	**17 29 56.1**	**-0.1**
PDAR	**Pinedale Array**	**69.80**	**50**		*eP*		**P**	**17 29 56.1**	**-0.1**
KIV	**Kislovodsk**	**69.86**	**312**		*eP*		**P**	**17 29 56.6**	**+0.2**
	comp=Z,19nm,0.8s								
KIV	**Kislovodsk**	**69.86**	**312**		*eP*		**P**	**17 29 56.6**	**+0.2**
KIV	**Kislovodsk**	**69.86**	**312**		*eP*		**P**	**17 29 56.9**	**+0.5**
KIV						pmax	pmax		
	comp=Z,24nm,1.0s								
KBZ	**Khabaz**	**69.90**	**312**		P		**P**	**17 29 57.8**	**+1.3**
	comp=Z,10nm,0.7s,baz=65,slow=4.4,SNR=39								
ZEI	**Tsey**	**69.98**	**310**		*eP*		**P**	**17 29 52.7**	**-4.5**
ZEI						pmax	pmax		
	comp=Z,6.0nm,0.7s								
TBLG	**Delisi**	**70.21**	**309**		*eP*		**P**	**17 29 59.7**	**+1.3**
	comp=Z,12nm,0.6s								
TBLG	**Delisi**	**70.21**	**309**		*eP*		**P**	**17 29 59.7**	**+1.3**
TBLG						pmax	pmax		
	comp=Z,12nm,0.6s								
AKASG	**Malin Array Be**	**71.66**	**324**		P		**P**	**17 30 06.8**	**-0.2**
	comp=Z,6.2nm,0.5s,baz=38,slow=6.2,SNR=28								
KIEV	**Kiev**	**71.67**	**324**		*eP*		**P**	**17 30 06.6**	**-0.5**
	comp=Z,19nm,1.1s								
KIEV	**Kiev**	**71.67**	**324**		*eP*		**P**	**17 30 06.8**	**-0.3**
KIEV	**Kiev**	**71.67**	**324**	*d*	*i* P		**P**	**17 30 06.8**	**-0.3**
KIEV						pmax	pmax		
	comp=Z,14nm,0.8s								
PV14	**Lion Creek, Pa**	**73.04**	**53**		*eP*		**P**	**17 30 16.2**	**+0.4**
	comp=Z,12nm,0.7s								
X16A	**Lo Mia Camp, P**	**74.27**	**57**		*eP*		**P**	**17 30 23.5**	**+0.6**
	comp=Z,2.7nm,0.9s								
KWP	**Kalwaria Pacla**	**75.18**	**326**		*eP*		**P**	**17 30 29.0**	**+1.2**
KWP	**Kalwaria Pacla**	**75.18**	**326**		*eP*		**P**	**17 30 29.0**	**+1.2**
BUR08	**Bucovina Ar. S**	**75.70**	**324**		*eP*		**P**	**17 30 31.2**	**+0.3**
BUR04	**Bucovina Ar. S**	**75.72**	**324**		*eP*		**P**	**17 30 30.8**	**-0.2**
BURAR	**Bucovina Array**	**75.72**	**324**	⇑	*i* P		**P**	**17 30 31.3**	**+0.3**
BURAR	**Bucovina Array**	**75.72**	**324**	⇑	P		**P**	**17 30 31.3**	**+0.3**
BIZ	**Bicaz**	**75.85**	**323**	⇑	*i* P		**P**	**17 30 30.5**	**-1.2**
CFR	**Carcaliu**	**76.29**	**321**		P		**P**	**17 30 34.4**	**+0.3**
CFR						pmax	pmax		
	comp=Z,6.0nm,1.2s								
NIE	**Niedzica**	**76.30**	**328**		*eP*		**P**	**17 30 35.3**	**+1.1**
NIE	**Niedzica**	**76.30**	**328**		*eP*		**P**	**17 30 35.3**	**+1.1**
TRPA	**Tarpa**	**76.44**	**326**	⇓	*i* P		**P**	**17 30 35.7**	**+0.8**
KSP	**Ksiaz**	**76.63**	**331**		*eP*		**P**	**17 30 35.5**	**-0.5**
KSP	**Ksiaz**	**76.63**	**331**		*eP*		**P**	**17 30 35.5**	**-0.5**
LANS	**Liptovska Anna**	**76.84**	**328**		*eP*		**P**	**17 30 38.7**	**+1.4**
LANS	**Liptovska Anna**	**76.84**	**328**		*eP*		**P**	**17 30 38.7**	**+1.4**
DOPR	**Dopca**	**76.92**	**323**	⇑	*i* P		**P**	**17 30 38.5**	**+0.8**
KECS	**Kecovo**	**76.98**	**327**		*eP*		**P**	**17 30 37.9**	**-0.1**
KECS						pmax	pmax		
	comp=Z,6.0nm,0.9s								
KECS	**Kecovo**	**76.98**	**327**		*eP*		**P**	**17 30 37.9**	**-0.1**
UPC	**Upice**	**77.01**	**331**		*eP*		**P**	**17 30 38.2**	**+0.1**
UPC	**Upice**	**77.01**	**331**		*eP*		**P**	**17 30 38.2**	**+0.1**
DPC	**Dobruska-Polom**	**77.03**	**330**		*eP*		**P**	**17 30 39.6**	**+1.3**
DPC	**Dobruska-Polom**	**77.03**	**330**		*eP*		**P**	**17 30 39.6**	**+1.3**
MLR	**Muntele Rosu**	**77.04**	**322**	⇑	*i* P		**P**	**17 30 39.5**	**+0.9**
MLR	**Muntele Rosu**	**77.04**	**322**	⇑	P		**P**	**17 30 39.5**	**+0.9**
MORC	**Moravsky Berou**	**77.06**	**329**		*eP*		**P**	**17 30 38.0**	**-0.5**
	comp=Z,6.6nm,0.9s								
MORC	**Moravsky Berou**	**77.06**	**329**	⇑	*i* P		**P**	**17 30 38.8**	**+0.3**
MORC	**Moravsky Berou**	**77.06**	**329**	⇑	P		**P**	**17 30 38.8**	**+0.3**
MORC	**Moravsky Berou**	**77.06**	**329**		*eP*		**P**	**17 30 38.9**	**+0.4**
ISR	**Istrita**	**77.06**	**321**	⇓	*i* P		**P**	**17 30 39.8**	**+1.2**
ISR	**Istrita**	**77.06**	**321**

PLP	**Palo**	**1.68**	**272**	*eP*	**Pn**	**17 44 41.6**	**-0.1**
PLP				*eS*	**Sn**	**17 45 01.4**	**-1.4**
SCPH	**Surigao**	**1.78**	**222**	*eP*	**Pb**	**17 44 44.1**	**-1.0**
SCPH				*eS*	**Sn**	**17 45 05.3**	**+0.1**
OCLP	**Ormoc**	**2.04**	**268**	*eP*	**Pb**	**17 44 49.2**	**-0.4**
OCLP				*eS*	**Sn**	**17 45 13.4**	**+1.6**
MSLP	**Maasin**	**2.05**	**242**	*eP*	**Pb**	**17 44 49.2**	**-0.5**
MSLP				*eS*	**Sb**	**17 45 15.1**	**+0.1**
BUTP	**Butuan**	**2.38**	**206**	*eP*	**Pb**	**17 44 55.6**	**+0.1**
BUTP				*eS*	**Sb**	**17 45 24.3**	**-0.3**
CNP	**Catarman**	**2.42**	**305**	*eP*	**Pn**	**17 44 51.5**	**-0.3**
CNP				*eS*	**Sn**	**17 45 20.8**	**-0.2**
KSRS	**Korea Array**	**26.25**	**2**	LR	LR	18 00 18.9	
	comp=Z,16nn,19.5s,baz=105,slow=37						
WRA	**Warramunga Arr**	**31.77**	**166**	P	**P**	**17 50 36.1**	**-0.5**
	0.4nn,0.7s,baz=346,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**35.28**	**169**	P	**P**	**17 51 07.0**	**-0.2**
	0.4nn,0.5s,baz=353,slow=6.9,SNR=8.7						
MKAR	**Makanchi Array**	**51.61**	**322**	P	**P**	**17 53 19.8**	**+1.2**
	1.6nn,0.8s,baz=109,slow=8.3,SNR=9.2						
BRTR	**Keskin Array B**	**85.31**	**309**	LR	LR	18 40 31.5	
	comp=Z,22nn,18.3s,baz=274,slow=40						

IDC ***30*** *17:44:15.2±1.7, 10.84S×113.87E, h0km, mb3.4/4, mb1 3.8/6, mb1mx3.6/28, mbtmp3.6/6, ML3.6/3, Error ellipse: s-maj=51.4km s-min=19.7km az=41.0*

ISC 30 17:44:20.6±1.4, 10.8S±0.2×114.1E±0.1, h35km, n7, σ1§36/8, mb3.5/4, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**9.45**	**87**	Pn	**Pn**	**17 46 35.5**	**+1.1**
	1.7nn,0.3s,baz=253,slow=5.2,SNR=4.1						
BATI				Sn	**Sn**	**17 48 17.7**	**-1.8**
	2.8nn,0.3s,baz=340,slow=20,SNR=6.0						
FITZ	**Fitzroy Crossi**	**13.34**	**124**	Pn	**Pn**	**17 47 27.0**	**-0.6**
	0.1nn,0.3s,baz=301,slow=12,SNR=5.8						
FITZ				Sn	Sn	17 49 43.7	-11
	0.1nn,0.3s,baz=317,slow=18,SNR=3.1						
SIJI	**Sorong**	**19.73**	**61**	P	**P**	**17 48 47.6**	**+0.1**
	0.3nn,0.3s,baz=297,slow=2.3,SNR=5.2						
WRA	**Warramunga Arr**	**21.53**	**117**	P	**P**	**17 49 08.8**	**+1.9**
	1.5nn,0.7s,baz=290,slow=12,SNR=12						
ASAR	**Alice Springs**	**22.82**	**127**	P	**P**	**17 49 21.2**	**+0.5**
	0.8nn,0.8s,baz=302,slow=9.3,SNR=10						
CMAR	**Chiang Mai Arr**	**32.68**	**333**	P	**P**	**17 50 49.2**	**-0.5**
	0.3nn,0.5s,baz=167,slow=8.0,SNR=4.3						
MKAR	**Makanchi Array**	**63.99**	**336**	P	**P**	**17 54 50.2**	**-0.2**
	0.5nn,0.9s,baz=161,slow=6.8,SNR=3.5						

ISCJB ***30*** *18:00:00.7±0.9, 15.59N±0.07×94.68W±0.05, h10km, mb3.5/2, MS3.5/2, Error ellipse: s-maj=10.5km s-min=6.0km az=18.0*

MEX ***30*** *18:00:03.8±0.6, 15.42N×94.78W, h16km±7km, MD4.1*

IDC ***30*** *18:00:04.1±1.6, 16.57N×93.62W, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.5/33, mbtmp3.3/4, ML2.7/2, MS3.4/4, Ms1 3.4/4, ms1mx3.0/30, Error ellipse: s-maj=54.9km s-min=11.7km az=25.0*

NEIC ***30*** *18:00:05.1±0.0, 15.39N×94.67W, h15km, mb3.9/1, MD4.1(MEX), After MEX.*

ISC 30 18:00:01.7±1.3, 15.5N±0.1×94.69W±0.07, h10km, n20, σ2§01/19, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.43**	**83**	*e*Sn	**Sn**	**18 00 44.1**	**-2.3**
PCIG		**1.43**	**83**	*e*P	**Pn**	**18 00 26.6**	**-1.1**
PCIG				*e*S	**Sn**	**18 00 44.1**	**-2.3**
CMIG	**Matias Romero**	**1.55**	**353**	Pg	**Pn**	**18 00 28.6**	**-0.8**
	62nn,0.3s,baz=160,slow=12,SNR=459						
CMIG				Lg	Lg	18 00 47.0	
	340nm,0.3s,baz=78,slow=15,SNR=61						
CMIG				LR	LR	18 01 08.0	
	comp=Z,405nm,20.2s,baz=176,slow=49						
CMIG	**Matias Romero**	**1.55**	**353**	*e*P	**Pn**	**18 00 28.6**	**-0.8**
CMIG				*i* S	**Sn**	**18 00 48.2**	**-1.4**
TGIG		**1.94**	**51**	*e*Pn	**Pn**	**18 00 35.8**	**+0.9**
TGIG				*e*Sn	**Sn**	**18 00 59.8**	**+0.5**
TGIG		**1.94**	**51**	*e*P	**Pn**	**18 00 35.8**	**+0.9**
TGIG				*e*S	**Sn**	**18 00 59.8**	**+0.5**
APG	**El Apazote**	**4.11**	**97**	Pn	Pn	18 00 58.9	-6.0
	0.2nn,0.3s,baz=314,slow=15,SNR=2.5						
APG				Pg	Pb	18 01 06.8	-7.5
	5.0nn,0.3s,baz=185,slow=23,SNR=33						
APG				Lg	Lg	18 01 53.2	
	15nn,0.3s,baz=143,slow=23,SNR=4.4						
TLIG	**Tlapa**	**4.23**	**299**	*e*Pn	**Pn**	**18 01 06.7**	**+0.4**
TEIG	**Tepich**	**7.68**	**52**	*e*Pn	Pn	18 01 52.9	-0.8
TEIG				*e*Sn	**Sn**	**18 03 20.4**	**-0.3**
BOAB	**BOACO BROADBAN**	**9.28**	**108**	*e*Pn	**Pn**	**18 02 19.0**	**+3.3**
JTS	**JuntasAbangare**	**10.83**	**118**	LR	LR	18 06 08.4	
	comp=Z,79nm,21.3s,baz=24,slow=35						
833A	**Chaparral WMA,**	**13.44**	**342**	*e*Pn	**Pn**	**18 03 11.7**	**-0.9**
JCT	**Junction City**	**15.59**	**343**	*e*Pn	**Pn**	**18 03 46.7**	**+5.0**
	7.4nn,0.9s						
TX31	**Lajitas Ar. Si**	**16.03**	**330**	*e*Pn	**Pn**	**18 03 49.4**	**+2.0**
TXAR	**Lajitas Array**	**16.03**	**330**	Pn	**Pn**	**18 03 49.5**	**+2.1**
	0.0nn,0.3s,baz=146,slow=15,SNR=5.7						
LPIG	**La Paz**	**16.97**	**303**	LR	LR	18 11 21.5	
	comp=Z,121nn,18.2s,baz=9.5,slow=39						
ATAH	**Atahualpa**	**27.72**	**143**	LR	LR	18 15 30.4	
	comp=Z,52nn,18.5s,baz=25,slow=33						
NVAR	**Mina Array Bea**	**30.85**	**322**	LR	LR	18 20 40.1	
	comp=Z,233nm,18.8s,baz=88,slow=40						
YKA	**Yellowknife Ar**	**48.96**	**348**	P	**P**	**18 08 46.5**	**-1.5**
	0.3nn,0.5s,baz=154,slow=7.2,SNR=6.0						
ILAR	**Eielson Array**	**60.41**	**337**	P	**P**	**18 10 10.6**	**-0.5**
	0.3nn,0.8s,baz=122,slow=6.5,SNR=4.0						

MEX 30 18:04:15.9±0.5, 15.43N×94.79W, h24km±17km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.32**	**285**	*e*P	Pn	18 04 36.5	-2.3
HUIG				*i* S	Sn	18 04 51.5	-4.1
PCIG		**1.54**	**80**	*e*P	Pn	18 04 38.8	-3.0
PCIG				*e*S	Sn	18 04 57.9	-3.1
CMIG	**Matias Romero**	**1.65**	**357**	*e*P	Pn	18 04 40.8	-2.6
CMIG				*e*S	Sn	18 04 60.0	-4.0
TGIG		**2.09**	**50**	*i* P	Pn	18 04 47.7	-1.8
TGIG				*i* S	Sn	18 05 12.1	-2.6

IDC 30 18:10:03.3±5.8, 27.57S×141.27E, h0km, mb1 3.4/4, mb1mx3.3/29, mbtmp3.2/4, ML2.8/4, Error ellipse: s-maj=117.6km s-min=20.5km az=69.0, Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**4.30**	**176**	Pn	Pn	18 11 09.7	-0.4
	0.1nn,0.3s,baz=356,slow=14,SNR=2.9						
STKA				Sn	Sn	18 11 56.8	-4.2
	0.8nn,0.3s,baz=350,slow=19,SNR=6.1						
STKA				Lg	Lg	18 12 20.5	
	1.1nn,0.3s,baz=288,slow=19,SNR=4.8						
ASAR	**Alice Springs**	**7.70**	**299**	Pn	Pn	18 11 56.7	0.0
	0.2nn,0.3s,baz=121,slow=13,SNR=18						
ASAR				Sn	Sn	18 13 19.0	-5.7
	0.2nn,0.3s,baz=120,slow=23,SNR=5.8						
WRA	**Warramunga Arr**	**9.89**	**319**	Pn	Pn	18 12 28.0	+1.2
	0.1nn,0.3s,baz=140,slow=13,SNR=17						
WRA				Sn	Sn	18 14 14.6	-4.1
	0.1nn,0.3s,baz=140,slow=22,SNR=5.0						
FITZ	**Fitzroy Crossi**	**17.20**	**300**	Pn	Pn	18 14 03.8	-1.3
	0.0nn,0.3s,baz=113,slow=12,SNR=3.8						

ISCJB ***30*** *18:13:29.9±0.6, 6.25S±0.07×147.79E±0.07, h35km, mb4.4/11, MS4.1/2, Error ellipse: s-maj=11.5km s-min=8.4km az=35.0*

NEIC ***30*** *18:13:31.8±0.3, 6.28S×147.80E, h34km±2km, mb4.3/11, Error ellipse: s-maj=7.8km s-min=5.9km az=120.0*

IDC ***30*** *18:13:33.9±2.8, 6.30S×147.79E, h56km±23km, mb3.8/5, mb1 4.0/8, mb1mx3.7/31, mbtmp4.1/8, ML3.8/2, MS3.8/4, Ms1 3.8/4, ms1mx3.0/37, Error ellipse: s-maj=33.1km s-min=17.7km az=102.0*

ISC 30 18:13:32.0±0.7, 6.25S±0.07×147.71E±0.10, h35km, n35, σ1§36/34, mb4.1/14, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.18**	**190**	P	**Pn**	**18 14 19.8**	**+0.2**
	17nn,0.3s,baz=4.3,slow=5.0,SNR=44						
PMG				S	**Sn**	**18 14 59.0**	**+2.7**
	24nn,0.3s,baz=35,slow=17,SNR=8.6						
PMG				LR	LR	18 16 05.2	
	comp=Z,436nm,18.5s,baz=352,slow=48						
PMG	**Port Moresby**	**3.18**	**190**	*e*Pn	**Pn**	**18 14 19.4**	**-0.1**
PMG				*e*Sn	**Sn**	**18 14 59.0**	**+2.7**
RABL	**Rabaul**	**4.89**	**65**	*e*Pn	**Pn**	**18 14 42.0**	**-1.0**
JAY	**Jayapura**	**7.91**	**298**	LR	LR	18 18 51.8	
	comp=Z,480nm,20.4s,baz=311,slow=40						
COEN	**Coen**	**8.86**	**210**	*e*Pn	**Pn**	**18 15 37.9**	**+0.2**
COEN				*e*Sn	**Sn**	**18 17 10.9**	**-5.5**
CTA	**Charters Tower**	**13.83**	**186**	P	**Pn**	**18 16 45.3**	**-0.3**
	0.2nn,0.3s,baz=42,slow=8.1,SNR=3.7						
CTAO	**Charters Tower**	**13.83**	**186**	*e*Pn	**Pn**	**18 16 45.4**	**-0.3**
MTN	**Manton Dam**	**17.60**	**247**	*e*Pn	**P**	**18 17 36.1**	**+0.7**
	10nm,1.1s						
WRAB	**Tennant Creek**	**18.80**	**222**	*e*P	**P**	**18 17 48.8**	**+0.1**
	19nm,1.5s						
WR1	**Warramunga Arr**	**18.81**	**222**	*e*P	**P**	**18 17 48.5**	**-0.3**
	27nn,0.8s						
WRA	**Warramunga Arr**	**18.81**	**222**	P	**P**	**18 17 48.5**	**-0.3**
	0.5nn,0.3s,baz=48,slow=11,SNR=23						
EIDS	**Eidsvold**	**19.28**	**171**	*e*P	**P**	**18 17 52.8**	**-1.0**
	7.5nn,0.9s						
AS01	**Alice Springs**	**21.79**	**216**	*e*P	**P**	**18 18 21.2**	**+0.2**
AS31	**Alice Springs**	**21.82**	**216**	*e*P	**P**	**18 18 22.0**	**+0.6**
	2.6nn,0.6s						
ASAR	**Alice Springs**	**21.82**	**216**	P	**P**	**18 18 21.8**	**+0.4**
	5.2nn,0.5s,baz=52,slow=9.1,SNR=140						
ASAR				S	**S**	**18 22 20.7**	**-0.2**
	2.4nn,0.9s,baz=36,slow=22,SNR=7.6						
SOEI	**Soe**	**23.47**	**260**	*e*P	**P**	**18 18 39.5**	**+0.7**
	13nn,0.8s						
ARMA	**Armidale**	**24.32**	**172**	*e*P	**P**	**18 18 46.3**	**-0.3**
	19nn,1.1s						
FITZ	**Fitzroy Crossi**	**24.54**	**239**	P	**P**	**18 18 49.8**	**+1.2**
	11nn,0.5s,baz=59,slow=8.2,SNR=76						
FITZ	**Fitzroy Crossi**	**24.54**	**239**	*e*P	**P**	**18 18 49.9**	**+1.4**
	11nn,0.6s						
STKA	**Stephens Creek**	**26.13**	**192**	P	**P**	**18 19 01.8**	**-1.1**
	7.5nn,0.8s,baz=322,slow=7.5,SNR=9.2						
STKA	**Stephens Creek**	**26.13**	**192**	*e*P	**P**	**18 19 02.2**	**-0.6**
	2.2nn,1.0s						
MBWA	**Marble Bar**	**30.88**	**239**	*e*P	**P**	**18 19 46.5**	**+1.2**
	52nn,1.8s						
FUNA	**Funafuti**	**31.30**	**96**	*e*P	**P**	**18 19 49.5**	**+0.4**
	190nn,1.4s						
RPZ	**Rata Peaks**	**42.58**	**155**	LR	LR	18 36 47.9	
	comp=Z,52nn,18.9s,baz=348,slow=33						
INU	**Inuyama**	**42.59**	**347**	*e*P	**P**	**18 21 24.4**	**-0.3**
	69nn,1.9s						
CMAR	**Chiang Mai Arr**	**53.99**	**298**	P	**P**	**18 22 53.2**	**+0.2**
	0.2nn,0.7s,baz=129,slow=9.4,SNR=2.9						
CMAR				pP	**pP**	**18 23 04.8**	**+1.2**
	0.2nn,0.5s,baz=119,slow=5.6,SNR=3.2						
SONA0	**Songino Array**	**64.97**	**331**	*e*pP	pP	18 24 20.6	+1.4
SONM	**Songino Array**	**64.97**	**331**	pP	pP	18 24 20.6	+1.4
	0.3nn,0.3s,baz=130,slow=4.5,SNR=3.0						
VNDA	**Vanda**	**71.62**	**177**	P	**P**	**18 24 49.0**	**-0.4**
	0.8nn,0.8s,baz=341,slow=10,SNR=3.4						
ZALV	**Zalesovo Beam**	**79.60**	**328**	pP	pP	18 25 45.9	-0.6
	0.4nn,0.4s,baz=92,slow=5.6,SNR=3.6						
ZAA1	**Zalesovo Array**	**79.60**	**328**	*e*pP	pP	18 25 45.9	-0.6
ILAR	**Eielson Array**	**85.43**	**23**	pP	pP	18 26 15.2	-1.6
	0.5nn,0.8s,baz=256,slow=5.3,SNR=4.6						
RPN	**Rapa Nui**	**98.61**	**119**	LR	LR	19 00 41.3	
	comp=Z,289nm,20.1s,baz=271,slow=29						
TORD	**Torodi Ar. Bea**	**145.84**	**284**	PKPbc	**PKPdf**	**18 33 08.2**	**+0.1**
	0.5nn,0.6s,baz=90,slow=2.9,SNR=4.6						
TORD				pPKPbc	**pPKPdf**	**18 33 19.7**	**+0.2**
	0.7nn,0.6s,baz=61,slow=4.3,SNR=5.8						
TOA1	**Torodi Ar. Sit**	**145.84**	**284**	*e*PKPdf	**PKPdf**	**18 33 08.2**	**+0.1**
TOA1				*e*pPKPdf	**pPKPdf**	**18 33 19.7**	**+0.2**

ISCJB ***30*** *18:31:36.8±0.6, 19.8S±0.1×177.6W±0.1, h550km, mb4.0/5, Error ellipse: s-maj=18.8km s-min=9.6km az=44.6*

IDC ***30*** *18:31:37.0±1.6, 19.77S×177.70W, h532km±25km, mb3.4/5, mb1 3.6/8, mb1mx3.2/40, mbtmp4.5/8, Error ellipse: s-maj=28.6km s-min=16.4km az=120.0*

ISC 30 18:31:37.5±0.8, 19.8S±0.1×177.6W±0.1, h550km, n13, σ1§02/15, mb3.9/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.07**	**44**	P	**P**	**18 33 37.3**	**+1.1**
	7.8nn,0.3s,baz=181,slow=5.0,SNR=11						
AFI				S	**S**	**18 35 11.1**	**-2.2**
	7.2nn,0.3s,baz=229,slow=19,SNR=9.0						
DZM	**Mont Dzumac**	**15.10**	**259**	P	**P**	**18 34 47.7**	**-0.5**
	0.5nn,0.3s,baz=62,slow=18,SNR=3.7						
URZ	**Urewera**	**18.97**	**193**	P	**P**	**18 35 23.2**	**-0.8**
	8.5nn,0.3s,baz=290,slow=2.6,SNR=44						
RPZ	**Rata Peaks**	**25.68**	**199**	P	**P**	**18 36 25.0**	**+1.0**
	5.1nn,0.4s,baz=26,slow=8.0,SNR=5.3						
STKA	**Stephens Creek**	**38.45**	**243**	P	**P**	**18 38 12.3**	**-0.4**
	2.3nn,0.8s,baz=80,slow=7.8,SNR=4.1						
ASAR	**Alice Springs**	**45.06**	**256**	P	**P**	**18 39 04.8**	**-0.2**
	2.4nn,0.6s,baz=88,slow=8.3,SNR=5.5						
ASAR				PcP	**PcP**	**18 40 34.8**	**+0.7**
	0.5nn,0.4s,baz=102,slow=3.1,SNR=5.3						
WRA	**Warramunga Arr**	**45.09**	**261**	P	**P**	**18 39 04.6**	**-0.6**
	1.5nn,0.3s,baz=97,slow=7.6,SNR=70						
MJAR	**Matsushiro Arr**	**69.88**	**323**	P	**P**	**18 41 54.1**	**+0.6**
	1.2nn,0.6s,baz=147,slow=3.3,SNR=5.9						
SNAA	**Sanae**	**88.70**	**178**	P	**P**	**18 43 31.0**	**-1.2**
VNA3	**Neumayer Olymp**	**88.81**	**176**	P	**P**	**18 43 33.5**	**+0.7**
VNA2	**Neumayer--Watz**	**89.26**	**177**	P	**P**	**18 43 35.4**	**+0.6**
	baz=196,slow=4.2						
VNA1	**Neumayer--Stat**	**89.49**	**176**	P	**P**	**18 43 35.4**	**-0.4**
GERES	**GERESS Array B**	**149.63**	**345**	PKPbc	**PKPbc**	**18 50 26.1**	**+0.8**
	0.9nn,0.8s,baz=8.5,slow=2.7,SNR=4.9						

ISCJB ***30*** *18:35:32.8±0.7, 28.98N±0.09×141.2E±0.2, h35km, mb3.7/9, MS2.9/2, Error ellipse: s-maj=26.8km s-min=11.3km az=168.4*

IDC ***30*** *18:35:36.1±3.1, 29.05N×141.13E, h47km±28km, mb3.5/9, mb1 3.8/12, mb1mx3.5/61, mbtmp3.8/12, ML3.4/3, MS2.9/3, Ms1 3.0/3, ms1mx2.6/29, Error ellipse: s-maj=31.8km s-min=19.0km az=94.0*

ISC 30 18:35:35.0±0.9, 29.1N±0.1×141.2E±0.2, h35km, n20, σ1§81/15, mb3.7/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**4.20**	**344**	P	**Pn**	**18 36 37.0**	**+0.6**
	11nn,0.3s,baz=67,slow=22,SNR=3.8						
JHJ				S	**Sn**	**18 37 20.2**	**-4.0**
	37nn,0.3s,baz=118,slow=15,SNR=5.0						
MJAR	**Matsushiro Arr**	**7.84**	**342**	P	**Pn**	**18 37 28.4**	**+1.9**
	2.3nn,0.3s,baz=166,slow=12,SNR=23						
MAT	**Matsushiro**	**7.84**	**342**	P	**Pn**	**18 37 30.6**	**+4.0**
MAT				*e*S	Sn	18 38 18.3	-36
ASAJ	**Asahikawa**	**15.05**	**4**	LR	LR	18 45 02.5	
	comp=Z,43nn,18.8s,baz=177,slow=38						
USRK	**Ussuriysk Ar.**	**16.77**	**337**	P	**Pn**	**18 39 28.2**	**+1.2**
	0.2nn,0.3s,baz=134,slow=12,SNR=2.9						
KLR	**Kul'dur**	**21.37**	**343**	P	**P**	**18 40 19.8**	**+0.6**
	1.6nn,0.5s,baz=154,slow=6.0,SNR=8.8						
H11N2	**WAKE ISLAND Hy**	**25.17**	**106**	T	T	19 06 36.7	
	baz=296,slow=75,SNR=28						
H11N1	**WAKE ISLAND Hy**	**25.17**	**106**	T	T	19 06 36.1	
	baz=296,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**25.18**	**106**	T	T	19 06 37.3	
	baz=296,slow=75,SNR=26						
PETK	**Petropavlovsk-**	**26.91**	**22**	LR	LR	18 57 01.3	
	comp=Z,15nn,18.6s,baz=358,slow=48						
MKAR	**Makanchi Array**	**48.53**	**308**	P	**P**	**18 44 13.8**	**-0.8**
	0.3nn,0.7s,baz=84,slow=10,SNR=2.7						
WRA	**Warramunga Arr**	**49.18**	**188**	P	**P**	**18 44 19.3**	**-0.4**
	1.1nn,0.6s,baz=7.6,slow=8.1,SNR=5.3						
ASAR	**Alice Springs**	**52.91**	**188**	P	**P**	**18 44 47.0**	**-0.7**
	0.2nn,0.4s,baz=2.2,slow=5.2,SNR=8.8						
ILAR	**Eielson Array**	**56.42**	**29**	P	**P**	**18 45 12.6**	**0.0**
	0.2nn,0.7s,baz=291,slow=7.7,SNR=3.3						
YKA	**Yellowknife Ar**	**70.83**	**28**	P	**P**	**18 46 47.5**	**-0.2**
	0.2nn,0.5s,baz=294,slow=6.5,SNR=2.8						
FINES	**FINESS Array B**	**75.77**	**333**	P	**P**	**18 47 16.8**	**-0.1**
	5.7nn,0.9s,baz=93,slow=3.8,SNR=7.9						
NOA	**NORSAR Array B**	**81.44**	**338**	LR	LR	19 25 18.4	
	comp=Z,12nn,21.8s,baz=280,slow=37						
BRTR	**Keskin Array B**	**84.00**	**312**	P	**P**	**18 48 02.4**	**+0.3**
	1.2nn,0.7s,baz=102,slow=2.8,SNR=7.2						
TXAR	**Lajitas Array**	**95.13**	**53**	P	**P**	**18 48 54.9**	**-0.1**
	0.4nn,0.7s,baz=300,slow=3.6,SNR=4.6						
LPAZ	**La Paz**	**150.21**	**71**	PKPbc	**PKPbc**	**18 55 23.4**	**-0.3**
	1.2nn,0.7s,baz=227,slow=3.2,SNR=5.5						

NEIC ***30*** *18:39:20.8±0.0, 18.25N×94.59W, h22km, MD4.0(MEX), After MEX.*

MEX 30 18:39:20.6±0.6, 18.24N×94.56W, h35km±11km, MD4.0, Bay of Campeche

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUIG	**Tuzandepetl**	**0.24**	**149**	*e*P	Pn	18 39 25.7	-2.4
TUIG				*e*S	Sn	18 39 31.3	-2.5
CMIG	**Matias Romero**	**1.19**	**195**	*e*Pn	Pn	18 39 39.1	-1.7
CMIG				*e*Sn	Sn	18 39 53.3	-2.4
CMIG	**Matias Romero**	**1.19**	**195**	*i* P	Pn	18 39 39.1	-1.7
CMIG				*i* S	Sn	18 39 53.3	-2.4
LVIG	**Laguna Verde**	**2.30**	**310**	*i* P	Pn	18 39 54.6	-1.4
LVIG				*e*S	Sn	18 40 20.7	-2.4
VHO	**Vista Hermosa**	**2.38**	**241**	*e*Pn	Pn	18 39 56.8	-0.5
VHO	**Vista Hermosa**	**2.38**	**241**	*e*P	Pn	18 39 56.8	-0.5
VHO				*e*S	Sn	18 40 23.2	-2.2
HUIG	**Huatulco**	**2.88**	**211**	*e*Pn	Pn	18 40 02.5	-1.4
HUIG	**Huatulco**	**2.88**	**211**	*e*P	Pn	18 40 02.5	-1.4
HUIG				*i* S	Sn	18 40 35.2	-2.2
TLIG	**Tlapa**	**3.88**	**261**	*e*Pn	Pn	18 40 16.8	-1.0
TEIG	**Tepich**	**6.25**	**71**	*e*Pn	Pn	18 40 47.5	-2.9
TEIG				*e*Sn	Sn	18 41 53.4	-7.2
TGUH	**Tegucigalpa,Un**	**8.14**	**120**	*e*Pn	Pn	18 41 15.3	-1.0

ISK ***30*** *18:56:53.6, 39.65N×25.96E, h5km, ML2.7/10*

ATH ***30*** *18:56:54.5, 39.63N×26.09E, h23km±2km, ML2.0/5, Error ellipse: s-maj=2.9km s-min=0.9km az=228.0*

DDA ***30*** *18:56:55.0, 39.62N×26.09E, h7km, Ml3.0*

ISCJB ***30*** *18:56:55.1±0.6, 39.62N±0.02×26.02E±0.03, h9km±4km, Error ellipse: s-maj=4.8km s-min=3.5km az=150.6*

ISC 30 18:56:54.6±1.2, 39.63N±0.02×26.07E±0.03, h10km±10km, n25, σ0§75/39, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EZN	**Ezine**	**0.28**	**45**	PG	**Pb**	**18 57 01.1**	**-0.7**
EZN				SG	**Sb**	**18 57 05.7**	**-0.8**
PRK	**Paraskevi**	**0.41**	**158**	P	**Pg**	**18 57 03.2**	**+0.4**
PRK				S	**Sg**	**18 57 09.1**	**+0.9**
PRK				AML	AML	18 57 09.2	
	comp=N,1489μm,0.4s						
PRK				AML	AML	18 57 10.2	
	comp=E,1509μm,0.5s						
AYVA	**Ayvalik**	**0.58**	**124**	*i* P	**Pb**	**18 57 07.5**	**+0.7**
AYVA				*i* S	**Sn**	**18 57 17.9**	**-0.6**
LIA	**Limnos Island**	**0.73**	**292**	P	**Pg**	**18 57 08.9**	**+0.1**
LIA				S	**Sb**	**18 57 19.6**	**0.0**
LIA				AML	AML	18 57 22.6	
	comp=N,129μm,0.3s						
LIA				AML	AML	18 57 24.8	
	comp=E,103μm,0.3s						
DKL	**Dikili**	**0.85**	**130**	PG	**Pb**	**18 57 12.1**	**+0.5**
DKL				SG	**Sn**	**18 57 24.9**	**-0.4**
SMTH	**Samothraki Isl**	**0.94**	**334**	P	**Pb**	**18 57 13.1**	**+0.1**
SMTH				S	**Sb**	**18 57 25.8**	**+0.3**
SMTH				AML	AML	18 57 28.5	
	comp=N,89μm,0.2s						
SMTH				AML	AML	18 57 29.7	
	comp=E,74μm,0.2s						
KRBG	**Karabiga-Canak**	**1.21**	**51**	PN	**Pn**	**18 57 17.9**	**+0.2**
CHOS	**Chios island**	**1.24**	**181**	PN	**Pg**	**18 57 17.3**	**-1.2**
CHOS	**Chios island**	**1.24**	**181**	P	**Pg**	**18 57 17.7**	**-0.7**
CHOS				S	**Sn**	**18 57 35.8**	**+0.8**
CHOS				AML	AML	18 57 39.3	
	comp=E,295μm,0.3s						
CHOS				AML	AML	18 57 40.8	
	comp=N,228μm,0.5s						
ALN	**Alexandroupoli**	**1.27**	**359**	PN	**Pn**	**18 57 17.5**	**-0.9**
ALN	**Alexandroupoli**	**1.27**	**359**	P	**Pg**	**18 57 19.1**	**+0.1**
ALN				S	**Sn**	**18 57 36.4**	**+0.9**
ALN				AML	AML	18 57 37.6	
	comp=E,79μm,0.5s						
ALN				AML	AML	18 57 39.4	
	comp=N

comp=Z,41nm,19.5s,baz=117,slow=42
USRK Ussuriysk Ar. 10.55 318 Pn Pn 19 16 29.1 +6.6
0.3nm,0.3s,baz=136,slow=12,SNR=11
KSRS Korea Array 11.11 278 LR LR 19 19 56.2
comp=Z,31nm,20.5s,baz=38,slow=32
KLR Kul'dur 14.47 333 LR LR 19 22 44.3
comp=Z,52nm,18.1s,baz=45,slow=36
H11N2 WAKE ISLAND Hy 27.73 121 T T 19 49 02.8
baz=313,slow=75,SNR=38
H11N1 WAKE ISLAND Hy 27.74 121 T T 19 49 03.4
baz=313,slow=75,SNR=17
H11N3 WAKE ISLAND Hy 27.75 121 T T 19 49 05.7
baz=313,slow=75,SNR=19
SONM Songino Array 28.21 304 P **P** **19 19 46.1 +2.2**
0.6nm,0.6s,baz=111,slow=7.8,SNR=3.6
H11S1 WAKE ISLAND Hy 28.44 123 T T 19 50 13.1
baz=314,slow=76,SNR=26
H11S3 WAKE ISLAND Hy 28.44 123 T T 19 50 05.3
baz=314,slow=76,SNR=18
H11S2 WAKE ISLAND Hy 28.45 123 T T 19 50 12.4
baz=314,slow=76,SNR=16
ZALV Zalesovo Beam 42.34 313 P **P** **19 21 45.9 +1.0**
0.7nm,0.5s,baz=98,slow=8.9,SNR=3.3
MKAR Makanchi Array 44.54 302 P **P** **19 22 04.3 +1.5**
0.4nm,0.8s,baz=93,slow=8.7,SNR=3.1
ILAR Eielson Array 49.57 32 P **P** **19 22 41.3 -0.5**
0.4nm,0.8s,baz=268,slow=6.4,SNR=4.4
WRA Warramunga Arr 56.82 188 P **P** **19 23 34.4 -1.2**
0.2nm,0.4s,baz=6.3,slow=7.4,SNR=7.6
ASAR Alice Springs 60.55 188 P **P** **19 24 01.0 -0.5**
0.7nm,1.0s,baz=0.0,slow=6.5,SNR=4.9
YBH Yreka Blue Hor 70.27 52 LR LR 19 49 39.8
comp=Z,60nm,21.0s,baz=27,slow=31

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*ISK **30** 19:27:24.9, 34°.85N×34°.04E, h23km, ML3.1/19*
*ISCJB **30** 19:27:27.0±0.5, 34°.92N±0°.02×34°.01E±0°.04, h27km±5km, Error ellipse: s-maj=5.6km s-min=3.0km az=160.4*
*GII **30** 19:27:26.3±0.0, 34°.82N×34°.01E, h1km, MD2.3/5*
*DDA **30** 19:27:26.7, 35°.06N×33°.95E, h17km, Ml3.1*
*NIC **30** 19:27:29.7±0.3, 34°.96N×33°.95E, h25km, ML3.3*
ISC 30 19:27:28.1±0.9, **34°.94N**±0°.03×**33°.98E**±0°.03, **h32**km±6km, **n50**, σ0s**91**/63, **Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHNC	**Paralimni**	**0.08**	**35**	P	**Pb**	**19 27 34.2**	**+0.5**
	baz=238						
PHNC				S	**Sb**	**19 27 38.1**	**+0.6**
AKIN	**Ak˘–nc˘–lar- K**	**0.43**	**280**	PG	**Pb**	**19 27 36.6**	**-1.0**
AKIN				SG	**Sb**	**19 27 42.9**	**-1.1**
LFK	**Lefkose**	**0.50**	**313**	PG	**Pb**	**19 27 38.2**	**-0.5**
CSS	**Mathiatis**	**0.53**	**273**	PG	**Pb**	**19 27 36.7**	**-2.5**
CSS	**Mathiatis**	**0.53**	**273**	P	**Pb**	**19 27 39.0**	**-0.2**
	baz=90						
CSS	**Mathiatis**	**0.53**	**273**	Pg	**Pb**	**19 27 38.5**	**-0.7**
EREN	**Erenkoy**	**0.61**	**15**	PG	**Pb**	**19 27 38.9**	**-1.6**
MAMC	**Mammari**	**0.66**	**291**	P	**Pb**	**19 27 41.2**	**-0.2**
	baz=109						
AKDN	**Akdeniz- K˘–br**	**0.90**	**294**	PG	**Pb**	**19 27 43.9**	**-1.4**
LEF	**Lefka**	**0.91**	**282**	PG	**Pb**	**19 27 44.4**	**-1.0**
SZAC	**Souni**	**0.92**	**259**	P	**Pb**	**19 27 45.4**	**-0.2**
	baz=76						
SZAC				S	**Sb**	**19 27 56.9**	**-0.7**
ALFC	**Alefka**	**1.15**	**281**	P	**Pn**	**19 27 48.5**	**+0.5**
	baz=99						
ALFC				S	**Sn**	**19 28 02.5**	**-0.2**
AKKU	**Akkuyu-Mersin**	**1.27**	**344**	PN	**Pn**	**19 27 48.9**	**-0.7**
YESI	**Yesilovacik-Me**	**1.28**	**348**	PN	**Pn**	**19 27 49.5**	**-0.3**
GULN	**MERSIN_Gulnar**	**1.29**	**344**	*i* P	**Pn**	**19 27 49.1**	**-0.9**
GULN				*i* S	**Sn**	**19 28 04.8**	**-1.2**
YORU	**Yoruktepe-Mers**	**1.30**	**339**	PN	**Pn**	**19 27 49.8**	**-0.3**
IKL	**Isikli**	**1.32**	**350**	PN	**Pn**	**19 27 49.7**	**-0.6**
TEKE	**Tekeli-Mersin**	**1.39**	**330**	PN	**Pn**	**19 27 50.6**	**-0.7**
KEBE	**Keben-Mersin**	**1.52**	**352**	PN	**Pn**	**19 27 52.9**	**-0.2**
BERE	**Bereket-Mersin**	**1.53**	**337**	PN	**Pn**	**19 27 53.1**	**-0.3**
KIZK	**Mersin**	**1.54**	**5**	PN	**Pn**	**19 27 53.2**	**-0.2**
KIZK	**Mersin**	**1.54**	**5**	*i* P	**Pn**	**19 27 53.2**	**-0.2**
KIZK				*i* S	**Sn**	**19 28 11.5**	**-0.8**
TEVE	**Tevekalti-Mers**	**1.56**	**344**	PN	**Pn**	**19 27 53.4**	**-0.2**
GAZI	**Gazipasa**	**1.87**	**314**	PN	**Pn**	**19 27 57.8**	**-0.1**
GAZI	**Gazipasa**	**1.87**	**314**	*i* P	**Pb**	**19 28 02.3**	**+0.6**
GAZI				*i* S	**Sb**	**19 28 24.3**	**-0.4**
ERMK	**Ermenek**	**1.91**	**333**	*i* P	**Pn**	**19 27 59.5**	**+0.9**
ERMK				*i* S	**Sn**	**19 28 22.9**	**+1.3**
MERS	**Mersin**	**1.97**	**13**	PN	**Pn**	**19 27 59.1**	**-0.3**
HNTI	**Hanita**	**2.10**	**151**	Pn	**Pn**	**19 28 00.9**	**-0.2**
NATI	**Neve Ativ**	**2.22**	**138**	Pn	**Pn**	**19 28 02.8**	**+0.1**
KSDI	**Kefar Szold**	**2.23**	**141**	Pn	**Pn**	**19 28 02.7**	**-0.2**
MMA0B	**Mount Meron ar**	**2.26**	**148**	Pn	**Pn**	**19 28 02.6**	**-0.7**
TAHT	**Tahtakopru-Hat**	**2.30**	**51**	PN	**Pn**	**19 28 03.1**	**-0.7**
BLGI	**Bet Lehem HaGe**	**2.42**	**155**	Pn	**Pn**	**19 28 05.6**	**+0.1**
GULE	**Gulek**	**2.43**	**15**	*i* P	**Pn**	**19 28 06.5**	**+0.8**
GULE				*i* S	**Sn**	**19 28 35.5**	**+1.1**
OFRI	**'Ofer**	**2.46**	**160**	Pn	**Pn**	**19 28 05.5**	**-0.5**
KERG	**Konya-Eregli**	**2.47**	**3**	*i* P	**Pn**	**19 28 07.8**	**+1.5**
KERG				*i* S	**Sn**	**19 28 37.9**	**+2.4**
KEPZ	**Antalya-Kepez**	**2.75**	**316**	*i* P	**Pn**	**19 28 12.0**	**+2.0**
KEPZ				*i* S	**Sn**	**19 28 44.4**	**+2.3**
MMLI	**Mount Malkishu**	**2.77**	**154**	Pn	**Pn**	**19 28 10.2**	**+0.4**
SLTI	**Sal'it**	**2.83**	**161**	Pn	**Pn**	**19 28 10.9**	**-0.3**
KOZT	**Kozan**	**2.94**	**30**	PN	**Pn**	**19 28 12.3**	**-0.4**
HMDT	**Nahal Hemdat**	**2.98**	**154**	Pn	**Pn**	**19 28 13.9**	**+0.8**
HMDT					**Sn**	**19 28 48.5**	**+0.8**
AMAZ	**Amatzia**	**3.49**	**167**	Pn	**Pn**	**19 28 20.4**	**+0.2**
SUTC	**Sutluce-Ispart**	**3.49**	**317**	PN	**Pn**	**19 28 21.0**	**+0.7**
DSI	**Dead Sea**	**3.56**	**160**	Pn	**Pn**	**19 28 22.0**	**+0.9**
DSI					**Sn**	**19 29 02.1**	**0.0**
YTIR	**Yattir**	**3.69**	**165**	Pn	**Pn**	**19 28 23.9**	**+0.9**
ZFRI	**Zfri**	**4.49**	**167**	Pn	**Pn**	**19 28 34.0**	**+0.1**
PRNI	**Paran**	**4.66**	**169**	Pn	**Pn**	**19 28 36.4**	**+0.2**
HRFI	**Mount Harif**	**4.97**	**169**	Pn	**Pn**	**19 28 40.8**	**+0.2**
MBRI	**Mt Berech**	**5.19**	**171**	Pn	**Pn**	**19 28 44.3**	**+0.7**
EIL	**Elat**	**5.32**	**171**	Pn	**Pn**	**19 28 45.4**	**+0.1**

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*SJA **30** 19:30:25.3±0.6, 24°.80S×69°.33W, h100km, ML3.6, MW3.5*
*ISCJB **30** 19:30:28.6±0.5, 25°.03S±0°.03×69°.3W±0°.1, h133km±9km, Error ellipse: s-maj=16.3km s-min=4.2km az=174.4*
*GUC **30** 19:30:31.9±1.0, 24°.94S×69°.26W, h104km±8km, ML4.1*
ISC 30 19:30:29.6±1.3, **25°.03S**±0°.04×**69°.3W**±0°.1, **h125**km±13km, **n22**, σ0s**83**/33, **Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO02	**Mina Guanaco**	**0.34**	**246**	*e*P	**Pn**	**19 30 47.8**	**+0.1**
GO02				*i* S	**Sn**	**19 31 00.6**	**-0.7**
GO02				IAML		19 31 01.1	
	comp=N,19μm,0.1s						
PB14	**IPOC Station P**	**1.12**	**291**	*e*P	**Pn**	**19 30 54.7**	**+1.1**
PB14				*i* S	**Sn**	**19 31 12.1**	**+0.3**
PB15	**IPOC Station P**	**1.82**	**354**	*e*P	**Pn**	**19 31 02.5**	**+1.1**
PB15				*i* S	**Sn**	**19 31 25.7**	**+0.1**
PB10	**IPOC Station P**	**1.92**	**321**	*e*P	**Pn**	**19 31 03.7**	**+1.3**
PB10				*i* S	**Sn**	**19 31 27.1**	**-0.3**
PB06	**IPOC Station P**	**2.33**	**353**	*e*P	**Pn**	**19 31 08.8**	**+1.2**
PB06				*i* S	**Sn**	**19 31 36.7**	**-0.1**
PB06				IAML		19 31 39.8	
	comp=E,1μm,0.1s						
PB05	**IPOC Station P**	**2.33**	**338**	*e*P	**Pn**	**19 31 08.5**	**+0.9**
PB05				*i* S	**Sn**	**19 31 36.8**	**0.0**
PB05				IAML		19 31 41.9	
	comp=E,703nm,0.3s						
GO03	**Copiap**	**2.70**	**199**	*e*P	**Pn**	**19 31 12.1**	**-0.2**
GO03				*i* S	**Sn**	**19 31 44.5**	**-0.6**
PB04	**IPOC Station P**	**2.81**	**343**	*e*P	**Pn**	**19 31 14.1**	**+0.4**
PB04				*i* S	**Sn**	**19 31 46.3**	**-1.4**
PB04				IAML		19 31 53.7	
	comp=N,625nm,0.3s						
VCA	**Vinchina**	**3.81**	**166**	*e*P	**Pn**	**19 31 26.6**	**-0.2**
VCA				*e*S	**Sn**	**19 32 12.2**	**+1.0**
VCA				IAML		19 32 16.4	
	comp=Z,71nm,0.5s						
PB01	**IPOC Station P**	**3.97**	**357**	*e*P	**Pn**	**19 31 28.8**	**-0.2**
PB01				*i* S	**Sn**	**19 32 13.7**	**-1.3**
AGUA	**GUANDACOL**	**4.49**	**172**	*e*P	**Pn**	**19 31 37.1**	**+1.2**
AGUA				*e*S	**Sn**	**19 32 28.0**	**+0.6**
ACLC	**CERRO LA CRUZ**	**4.83**	**155**	*e*P	**Pn**	**19 31 41.0**	**+0.4**
AROD	**Rodeo**	**5.12**	**182**	*e*P	**Pn**	**19 31 45.5**	**+1.0**
GO04	**Tololo Observa**	**5.30**	**195**	*e*P	**Pn**	**19 31 45.3**	**-1.6**
ACCO	**Cerro Coronel**	**5.54**	**178**	*e*P	**Pn**	**19 31 50.6**	**+0.5**
APLL	**PUNTA DE LOS L**	**5.87**	**156**	*e*P	**Pn**	**19 31 53.9**	**-0.4**
APLL				IAML		19 32 58.2	
	comp=Z,16nm,0.3s						
AMOG	**MOGNA**	**5.93**	**174**	*e*P	**Pn**	**19 31 54.7**	**-0.4**
RTLL	**Cerro Villicun**	**6.32**	**174**	*e*P	**Pn**	**19 32 00.1**	**-0.2**
RTLS	**Leoncito**	**6.75**	**180**	*e*P	**Pn**	**19 32 06.2**	**-0.2**
RTLS				IAML		19 32 06.6	
	comp=Z,14nm,0.2s						
AUSP	**Uspallata**	**7.17**	**181**	*e*P	**Pn**	**19 32 11.5**	**-0.5**
ACAN	**Cantantal**	**7.44**	**166**	*e*P	**Pn**	**19 32 14.3**	**-1.2**
ASAL	**Salagasta**	**7.54**	**177**	*e*P	**Pn**	**19 32 16.4**	**-0.5**

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*ISCJB **30** 19:39:26.8±0.2, 27°.24N±0°.02×88°.24E±0°.02, h10km, mb4.4/62, MS3.8/5, Error ellipse: s-maj=3.7km s-min=2.2km az=17.8*
*IDC **30** 19:39:26.7±0.7, 27°.25N×88°.21E, h0km, mb4.0/22, mb1 4.2/24, mb1mx4.1/43, mbtmp4.0/24, ML3.4/1, MS3.1/5, Ms1 3.2/5, ms1mx2.8/45, Error ellipse: s-maj=19.9km s-min=13.1km az=35.0*
*BJI **30** 19:39:28.2, 27°.42N×88°.32E, h10km, mb4.3/35, mB4.7/22, Ms4.2/10, Ms7 4.0/10*
*NDI **30** 19:39:29.9±34.0, 27°.27N×88°.21E, h17km±182km, ML4.6, mb4.7(NEIC)*
*DMN **30** 19:39:29.8±0.3, 27°.06N×88°.58E, h60km, Ml5.1/4, Error ellipse: s-maj=15.9km s-min=6.3km az=16.0*
*MOS **30** 19:39:29.1±1.1, 27°.25N×88°.26E, h26km, mb4.8/21, Error ellipse: s-maj=8.8km s-min=4.8km az=122.9*
*NEIC **30** 19:39:30.6±1.5, 27°.22N×88°.20E, h25km±11km, mb4.7/30, Error ellipse: s-maj=6.4km s-min=3.7km az=222.0*
NEIC Felt at Gangtok, Gezing, Naya Bazar and Shiliguri.
ISC 30 19:39:28.7±0.3, **27°.23N**±0°.04×**88°.28E**±0°.02, **h10**km, **n225**, σ1s**87**/254, **mb4.6**/62, **MS3.8**/5, **19C-14D, Sikkim**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTK	**Tadong**	**0.30**	**72**	*e*P	**Pg**	**19 39 34.5**	**-0.3**
GTK				*e*S	**Sg**	**19 39 38.0**	**-0.9**
RAMN	**Ramite**	**1.52**	**260**	*e*Pn	**Pg**	**19 39 59.0**	**+1.0**
JIRN	**Jiri**	**1.91**	**284**	*e*Pn	**Pb**	**19 40 04.8**	**+0.9**
GUN	**Gumba**	**2.24**	**288**	*e*Pn	**Pb**	**19 40 09.5**	**0.0**
GUN				*e*Sn	**Sb**	**19 40 37.8**	**+0.4**
	6μm,0.5s						
PKI	**Pulchoki**	**2.58**	**278**	*e*Pn	**Pn**	**19 40 13.4**	**+2.6**
PKIN	**Phulchoki**	**2.59**	**278**	*e*Pn	**Pn**	**19 40 13.5**	**+2.6**
PKIN				*e*Sn	**Sn**	**19 40 45.7**	**+3.1**
KKN	**Kakani**	**2.73**	**283**	*e*Pn	**Pn**	**19 40 15.3**	**+2.6**
DMN	**Daman**	**2.85**	**278**	*e*Pn	**Pn**	**19 40 16.7**	**+2.2**
DMN				*e*Sn	**Sn**	**19 40 52.4**	**+3.4**
	2μm,0.6s						
TAWA	**Tawang**	**3.21**	**83**	*e*P	**Pn**	**19 40 21.6**	**+2.1**
TAWA				*e*S	**Sn**	**19 40 56.0**	**-2.0**
TAWA				IAML		19 41 11.6	
	comp=E,3μm,0.3s						
TAWA				IAML		19 41 12.7	
	comp=N,4μm,0.6s						
GKN	**Gorkha**	**3.33**	**284**	*e*Pn	**Pn**	**19 40 23.7**	**+2.7**
GKN				*e*Sn	**Sn**	**19 41 02.4**	**+1.8**
LSA	**Lhasa**	**3.53**	**45**	Pg	**Pn**	**19 40 27.0**	**+2.9**
LSA	**Lhasa**	**3.53**	**45**	*e*Pn	**Pn**	**19 40 27.4**	**+3.4**
LSA	**Lhasa**	**3.53**	**45**	P	**Pn**	**19 40 26.9**	**+2.9**
SHL	**Shillong**	**3.63**	**116**	*e*Pn	**Pn**	**19 40 26.3**	**+1.2**
SHL				*e*Sn	**Sn**	**19 41 11.2**	**+3.0**
SHL	**Shillong**	**3.63**	**116**	*e*P	**Pn**	**19 40 26.3**	**+1.2**
SHL				e		19 41 11.2	
SHL	**Shillong**	**3.63**	**116**	*e*P	**Pn**	**19 40 26.4**	**+1.2**
SHL				*e*S	**Sn**	**19 41 08.5**	**+0.3**
SHL				IAML		19 41 23.8	
	comp=N,539nm,0.1s						
SHL				IAML		19 41 24.7	
	comp=E,462nm,0.4s						
BOK	**Bokaro**	**4.04**	**213**	*e*P	**Pn**	**19 40 31.9**	**+1.2**
BOK				*e*S	**Sn**	**19 41 15.1**	**-3.1**
TEZP	**TEZPUR**	**4.08**	**98**	*e*P	**Pn**	**19 40 32.2**	**+1.0**
TEZP				*e*S	**Sn**	**19 41 18.1**	**-0.8**
TEZP				IAML		19 41 39.4	
	comp=E,471nm,0.4s						
TEZP				IAML		19 41 40.9	
	comp=N,18μm,1.2s						
DANN	**Dangsing**	**4.16**	**287**	*e*Pn	**Pn**	**19 40 34.4**	**+1.9**
KOLN	**Koldanda**	**4.19**	**278**	*e*Pn	**Pn**	**19 40 34.5**	**+1.6**
KOLN				*e*Sn	**Sn**	**19 41 23.5**	**+1.4**
	comp=N,385nm,0.3s						
PYUN	**Piuthan**	**4.77**	**282**	*e*Pn	**Pn**	**19 40 42.1**	**+1.2**
PYUN				*e*Sn	**Sn**	**19 41 37.8**	**+1.4**
	comp=N,679nm,0.5s						
BELO	**BELONIA**	**4.89**	**143**	*ex*	**Pn**	**19 40 40.0**	**-2.3**
BELO				*e*S	**Sn**	**19 41 38.7**	**-0.3**
BELO				IAML		19 42 24.6	
	comp=E,7μm,0.4s						
BELO				IAML		19 42 26.7	
	comp=N,9μm,0.2s						
ZIRO	**ZIRO**	**4.96**	**85**	*e*P	**Pn**	**19 40 44.5**	**+1.1**
ZIRO				*e*S	**Sn**	**19 41 38.7**	**-2.3**
KOHI	**KOHIMA**	**5.43**	**105**	*e*P	**Pn**	**19 40 51.7**	**+1.8**
KOHI				*e*S	**Sn**	**19 41 54.0**	**+1.4**
BRDH	**Bariadhala**	**5.46**	**145**	Pn	**Pn**	**19 40 53.4**	**+3.2**
	comp=N,48nm,0.3s,baz=262,slow=16,SNR=3.1						
BRDH				Sn	**Sn**	**19 41 55.6**	**+2.5**
	comp=N,27nm,0.3s,baz=288,slow=19,SNR=3.4						
BRDH				LR	LR	19 43 36.6	
	comp=N,122nm,20.8s,baz=284,slow=45						
MOKO	**MOKOCHONG**	**5.64**	**98**	*e*P	**Pn**	**19 40 53.0**	**+0.2**
MOKO				*e*S	**Sn**	**19 41 54.9**	**-2.9**
SAIH	**SAIHA**	**6.36**	**137**	*e*P	**Pn**	**19 41 04.2**	**+1.5**
SAIH				*e*S	**Sn**	**19 42 12.3**	**-3.2**
LKP	**Lekhapani**	**6.73**	**87**	*e*P	**Pn**	**19 41 08.5**	**+0.9**
LKP				*e*S	**Sn**	**19 42 19.4**	**-5.0**
LKP				IAML		19 43 09.8	
	comp=N,177nm,0.9s						
LKP				IAML		19 43 12.5	
	comp=E,2μm,1.0s						
BWNR	**Bhubaneshwar**	**7.26**	**199**	*ex*	Pn	19 41 21.7	+6.7
NDI	**New Delhi**	**9.89**	**281**	*e*S	Sn	19 43 30.5	-12
NGP	**Nagpur**	**10.37**	**236**	*e*P	**Pn**	**19 41 55.1**	**-2.4**
SMLA	**Simla**	**10.46**	**294**	*e*P	**Pn**	**19 41 57.9**	**-0.9**
BHPL	**Bhopal**	**10.60**	**250**	*e*P	**Pn**	**19 42 01.1**	**+0.3**
DHRM	**DHARAMSHALA**	**11.55**	**299**	*e*P	**Pn**	**19 42 13.1**	**-0.9**
CHTO	**Chiang Mai**	**12.90**	**128**	*e*Pn	**Pn**	**19 42 33.7**	**+1.5**
CHTO	**Chiang Mai**	**12.90**	**128**	*e*P	**Pn**	**19 42 33.7**	**+1.5**
CM31	**Chiang Mai Arr**	**13.14**	**129**	*e*Pn	**Pn**	**19 42 34.5**	**-0.9**
CMAR	**Chiang Mai Arr**	**13.14**	**129**	Pn	**Pn**	**19 42 34.4**	**-1.1**
	baz=311,slow=13,SNR=8.5						
CMAR				Sn	Sn	19 45 14.9	+13
	comp=E,0.1nm,0.3s,baz=290,slow=19,SNR=3.0						
CMAR				LR	LR	19 49 13.6	
	comp=E,52nm,18.8s,baz=324,slow=44						
CMAR	**Chiang Mai Arr**	**13.14**	**129**	*i* P	**Pn**	**19 42 37.0**	**+1.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KMI	**Kunming**	**13.15**	**96**	P	**Pn**	**19 42 38.3**	**+2.5**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,100nm,4.8s						
CM01	**Chiang Mai Arr**	**13.17**	**129**	*e*Pn	**Pn**	**19 42 36.6**	**+0.6**
PAYA	**Payao**	**13.21**	**124**	P	**Pn**	**19 42 41.2**	**+4.8**
	comp=Z,3.7nm,0.7s						
HYB	**Hyderabad**	**13.27**	**225**	*i* P	**Pn**	**19 42 36.0**	**-1.3**
HYB				*e*S	**Sn**	**19 45 05.0**	**-0.1**
CD2	**Chengdu**	**14.02**	**71**	*e*P	**Pn**	**19 42 48.5**	**+1.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,140nm,5.0s						
NANT	**Nan**	**14.17**	**124**	P	**P**	**19 43 00.0**	**+2.8**
	comp=Z,3.0nm,0.8s						
CHCP	**Chirah Chowk**	**14.45**	**300**	P	**Pn**	**19 42 51.0**	**-2.3**
NIL	**Nilore**	**14.45**	**300**	*e*Pn	**Pn**	**19 42 50.7**	**-2.7**
NIL	**Nilore**	**14.45**	**300**	*e*P	**Pn**	**19 42 50.7**	**-2.7**
THW	**Thamme Wali**	**15.36**	**295**	P	**Pn**	**19 43 01.6**	**-4.0**
PBKT	**Sadao Pong**	**15.83**	**129**	*e*Pn	**Pn**	**19 43 11.7**	**-0.1**
	comp=Z,7.9nm,1.1s						
PBKT	**Sadao Pong**	**15.83**	**129**	P	**P**	**19 43 17.5**	**+1.9**
	comp=Z,6.6nm,1.0s						
POO	**Poona**	**15.86**	**240**	*e*P	**Pn**	**19 43 11.4**	**-0.8**
POO				*ex*	x	19 45 54.6	
LZH	**Lanzhou**	**15.91**	**52**	*e*P	**Pn**	**19 43 12.0**	**-0.9**
LZH				pP	P	19 43 16.8	+0.2
LZH				sP	pP	19 43 19.5	+0.1
LZH				S	**Sn**	**19 46 09.0**	**-0.4**
LZH				sS	S	19 46 18.3	-5.4
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,160nm,4.1s						
LZH				LR	LR		
	comp=Z,550nm,11.4s						
LZH				LR	LR		
	comp=Z,620nm,11.4s						
LZH				LR	LR		
	comp=Z,730nm,12.5s						
KSH	**Kashi**	**15.98**	**323**	P	**Pn**	**19 43 09.3**	**-4.4**
KSH				sP	P	19 43 19.0	+1.7
KSH				PP	**sP**	**19 43 22.0**	**+0.6**
KSH				S	**Sn**	**19 46 01.3**	**-10**
KSH				pmax	pmax		
	comp=Z,13nm,0.8s						
KSH				pmax	pmax		
	comp=Z,280nm,8.4s						
KSH				LR	LR		
	comp=Z,480nm,11.6s						
KSH				LR	LR		
	comp=Z,420nm,7.2s						
KSH				LR	LR		
	comp=Z,410nm,18.4s						
PBA	**Port Blair**	**16.05**	**164**	*e*Pn	Pn	19 43 14.3	-0.2
	comp=Z,123nm,1.0s						
GYA	**Guiyang**	**16.43**	**88**	*e*P	**Pn**	**19 43 21.0**	**+1.5**
GYA				PP	**PnPn**	**19 43 34.3**	**+5.8**
GYA				S	**Sn**	**19 46 23.8**	**+1.8**
GYA				SS	**SnSn**	**19 46 43.0**	**+8.0**
GYA				pmax	pmax		
	comp=Z,20nm,0.7s						
GYA				pmax	pmax		
	comp=Z,110nm,4.6s						
GYA				LR	LR		
	comp=Z,410nm,14.2s						
GYA				LR	LR		
	comp=Z,330nm,15.5s						
GYA				LR	LR		
	comp=Z,300nm,15.4s						
NONG	**Nongkai**	**16.46**	**121**	P	**Pn**	**19 43 22.0**	**+2.1**
	comp=Z,0.3nm,0.9s						
WMQ	**Urumqi**	**16.57**	**359**	*e*P	**Pn**	**19 43 20.3**	**-0.8**
WMQ				pP	P	19 43 24.8	+1.1
WMQ				pmax	pmax		
	comp=Z,18nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,510nm,4.5s						
NRN	**Naryn**	**17.40**	**328**	*e*Pn	**Pn**	**19 43 31.8**	**-0.1**
	comp=Z,3.3nm,0.8s						
NRN	**Naryn**	**17.40**	**328**	*e*P	**Pn**	**19 43 31.8**	**-0.1**
NRN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KDJ	**Kajisay**	**17.42**	**331**	*e*Pn	**Pn**	**19 43 32.8**	**+0.8**
	comp=Z,20nm,1.3s						
KDJ	**Kajisay**	**17.42**	**331**	*e*P	**Pn**	**19 43 32.8**	**+0.8**
KDJ				pmax	pmax		
	comp=Z,20nm,1.3s						
PDGK	**Podgornoye**	**17.58**	**338**	P	**Pn**	**19 43 34.7**	**+0.8**
PDGK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SFK	**Sufi-Kurgan**	**17.69**	**320**	P	**Pn**	**19 43 36.0**	**+0.6**
SFK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
SKNT	**Sakolnakorn**	**17.75**	**122**	P	P	19 43 45.4	+8.5
	comp=Z,3.8nm,1.0s						
KBL	**Kabul**	**18.04**	**299**	*e*Pn	**Pn**	**19 43 40.1**	**+0.5**
	comp=Z,17nm,0.6s						
KBL	**Kabul**	**18.04**	**299**	*e*P	**Pn**	**19 43 40.2**	**+0.5**
KBL				pmax	pmax		
	comp=Z,17nm,0.6s						
ENH	**Enshi**	**18.84**	**76**	*e*P	**P**	**19 43 49.3**	**+0.4**
	comp=Z,9.4nm,0.8s						
XAN	**Xi'an**	**19.00**	**64**	P	**Pn**	**19 43 52.5**	**+1.2**
XAN				pP	sP	19 43 58.0	+3.3
XAN				pmax	pmax		
	comp=Z,8.0nm,1.1s						
AAK	**Ala-Archa**	**19.04**	**327**	P	**P**	**19 43 50.7**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=167,slow=6.2,SNR=16						
AAK				LR	LR	19 51 39.6	
	comp=Z,68nm,18.8s,baz=90,slow=39						
AAK	**Ala-Archa**	**19.04**	**327**	*i* *e*P	**P**	**19 43 51.1**	**0.0**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BTK	**Batken**	**19.32**	**316**	P	**P**	**19 43 53.6**	**-0.6**
BTK				pmax	pmax		
	comp=Z,23nm,1.3s						
MNAS	**Manas**	**19.93**	**324**	P	**P**	**19 44 02.1**	**+1.2**
MNAS				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MK01	**Makanchi Array**	**20.07**	**348**	*e*P	**P**	**19 44 01.7**	**-0.5**
MK31	**Makanchi Array**	**20.10**	**348**	*e*P	**P**	**19 44 01.8**	**-0.7**
MK31	**Makanchi Array**	**20.10**	**348**	*e*P	**P**	**19 44 01.8**	**-0.7**
MK32	**Makanchi Array**	**20.10**	**348**	*e*P	**P**	**19 44 02.6**	**+0.1**
MKAR	**Makanchi Array**	**20.10**	**348**	P	**P**	**19 44 02.6**	**+0.1**
	comp=Z,1.9nm,0.4s,baz=170,slow=9.8,SNR=42						
MKAR				LR	LR	19 53 02.3

MDJ pmax pmax
comp=Z,530nm,3.8s
MDJ LR LR
comp=Z,170nm,5.2s
USRK Ussuriysk Ar. 38.82 52 P **P 19 46 54.5 +0.8**
comp=Z,3.1nm,0.8s,baz=269,slow=3.9,SNR=5.6
ZEA Zeya 38.98 36 *e*P **P 19 46 56.1 +1.1**
ZEA pmax pmax
comp=Z,15nm,0.8s
ZEI Tsey 39.06 305 *e*P **P 19 46 56.6 +0.5**
ZEI pmax pmax
comp=Z,4.0nm,0.7s
AKH Akhalkalaki 39.17 303 *e*P **P 19 46 58.8 +1.8**
comp=Z,7.7nm,0.8s
AKH Akhalkalaki 39.17 303 *e*P **P 19 46 58.8 +1.8**
AKH pmax pmax
comp=Z,8.0nm,0.8s
NCK Nalchik 39.39 306⇓ *e*P **P 19 46 59.2 +0.6**
NCK pmax pmax
comp=Z,3.0nm,0.2s
KARS Kars 39.40 302 P **P 19 47 00.5 +1.6**
KARS pmax pmax
comp=Z,45nm,0.8s
KLR Kul'dur 39.89 45 P **P 19 47 03.2 +0.6**
comp=Z,4.0nm,0.9s,baz=263,slow=8.9,SNR=4.6
KLR Kul'dur 39.89 45⇓ *e*P **P 19 47 02.8 +0.2**
NEY Neytrino 39.98 306⇑ *e*P **P 19 47 06.9 +3.2**
NEY pmax pmax
comp=Z,1.0nm,0.8s
KIV Kislovodsk 40.12 307 *e*P **P 19 47 04.1 -0.6**
KIV pmax pmax
comp=Z,4.0nm,1.0s
MJB9 Matsu-Tunnel 42.99 65 *e*P **P 19 47 28.0 -0.3**
comp=Z,34nm,1.7s
MAJO Matsushiro 42.99 65 *e*P **P 19 47 28.3 0.0**
comp=Z,33nm,1.7s
MAJO Matsushiro 42.99 65 *e*P **P 19 47 28.3 0.0**
MAJO pmax pmax
comp=Z,33nm,1.7s
MJAR Matsushiro Arr 42.99 65 P **P 19 47 27.7 -0.6**
comp=Z,2.3nm,0.8s,baz=277,slow=9.6,SNR=4.9
ANN Anapa 43.96 307 *e*P **P 19 47 33.1 -2.8**
ANN *e**PP **pP** 19 47 39.3 +0.2
ANN *e*PPP PPP 19 49 51.0
ANN *e*S **S** 19 54 03.5 -4.1
ANN pmax pmax
comp=Z,70nm,1.2s
ANN MLR MLR
comp=E,262nm,22.0s
ANN MLR MLR
comp=N,1µm,22.0s
ANN MLR MLR
comp=Z,845nm,22.0s
OBN Obninsk 46.41 321⇓ *e*P **P 19 47 53.5 -1.8**
OBN *e* 19 49 40.9
OBN *e*S **S** 19 54 50.1 +7.3
OBN *e*SS **ScS** 19 58 00.3 +10
OBN pmax pmax
comp=Z,17nm,1.4s
OBN MLR MLR
comp=Z,76nm,15.0s
BR101 Keskin Array S 46.60 300 *e*P **P 19 47 57.4 +0.1**
BR131 Keskin Array S 46.60 300 *e*P **P 19 47 55.9 -1.3**
BRTR Keskin Array B 46.60 300 P **P 19 47 57.4 +0.1**
comp=Z,0.6nm,0.4s,baz=122,slow=7.5,SNR=6.9
YSS Yuzh-Sakhalins 46.69 50 *e*P **P 19 47 58.4 +0.8**
comp=Z,38nm,0.7s
YSS Yuzh-Sakhalins 46.69 50⇓ *e*P **P 19 47 58.7 +1.1**
YSS pmax pmax
comp=Z,47nm,0.8s
TIXI Tiksi 49.77 16 P **P 19 48 19.7 -1.3**
comp=Z,2.2nm,0.3s,baz=212,slow=4.3,SNR=19
TIXI Tiksi 49.77 16 *e*P **P 19 48 19.3 -1.7**
comp=Z,28nm,1.9s
TIXI Tiksi 49.77 16⇓ *e*P **P 19 48 19.9 -1.1**
TIXI pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 50.03 315 P **P 19 48 22.3 -1.0**
comp=Z,0.6nm,0.4s,baz=80,slow=6.5,SNR=3.8
AKBB Malin Array Si 50.03 315 *e*P **P 19 48 22.0 -1.3**
comp=Z,22nm,1.9s
AKBB Malin Array Si 50.03 315 *e*P **P 19 48 22.0 -1.3**
AKBB pmax pmax
comp=Z,22nm,1.9s
KIEV Kiev 50.04 315 *e*P **P 19 48 22.0 -1.3**
comp=Z,3.3nm,0.8s
KIEV Kiev 50.04 315 *de*P **P 19 48 22.4 -1.0**
KIEV pmax pmax
comp=Z,5.0nm,1.3s
CFR Carcaliu 50.56 307⇑ *i*P **P 19 48 28.3 +0.9**
CFR Carcaliu 50.56 307 P **P 19 48 28.3 +0.9**
SOEI Soe 50.68 132 *e*P **P 19 48 28.0 -0.8**
comp=Z,12nm,0.8s
VRI Vrincioaia 51.54 308⇑ *i*P **P 19 48 36.3 +1.5**
VRI Vrincioaia 51.54 308 P **P 19 48 36.3 +1.5**
PLOR Plostina 51.60 308⇑ *i*P **P 19 48 36.3 +1.0**
PLOR Plostina 51.60 308 P **P 19 48 36.3 +1.0**
BIZ Bicaz 51.96 310⇑ *i*P **P 19 48 37.9 0.0**
MLR Muntele Rosu 52.10 308 *e*P **P 19 48 39.3 +0.2**
comp=Z,14nm,0.9s
MLR Muntele Rosu 52.10 308⇑ *i*P **P 19 48 40.5 +1.4**
MLR Muntele Rosu 52.10 308 *e*P **P 19 48 39.3 +0.2**
MLR pmax pmax
comp=Z,14nm,0.9s
DOPR Dopca 52.48 308⇑ *i*P **P 19 48 42.3 +0.5**
BURAR Bucovina Array 52.55 311⇑ *i*P **P 19 48 43.0 +0.6**
BURAR Bucovina Array 52.55 311 P **P 19 48 43.0 +0.6**
BUR04 Bucovina Ar. S 52.56 311 *e*P **P 19 48 41.3 -1.2**
BUR08 Bucovina Ar. S 52.56 311 *e*P **P 19 48 42.7 +0.1**
VOIR 52.73 308⇓ *i*P **P 19 48 43.6 -0.2**
VOIR 52.73 308 P **P 19 48 43.5 -0.2**
ARR Arges 53.03 308⇑ *i*P **P 19 48 45.5 -0.5**
FIA0 FINESS Array S 53.23 328 *e*P **P 19 48 46.3 -0.7**
FIA0 FINESS Array S 53.23 328 *e*P **P 19 48 46.3 -0.7**
FIA1 FINESS Array S 53.23 328 *e*P **P 19 48 46.4 -0.6**
FINES FINESS Array B 53.23 328 P **P 19 48 46.3 -0.7**
comp=Z,21nm,1.2s,baz=102,slow=7.8,SNR=8.5
FINES FINESS Array B 53.23 328 *i* P **P 19 48 46.4 -0.6**
FINES pmax pmax
comp=Z,21nm,1.2s
CJR Cluj-Napoca 53.69 309⇑ *i*P **P 19 48 51.0 +0.3**
VTS Vitosha 54.27 304 *e*P **P 19 48 54.9 -0.3**
comp=Z,7.2nm,0.9s
VTS Vitosha 54.27 304⇑ *i*P **P 19 48 55.7 +0.5**
VTS Vitosha 54.27 304 *e*P **P 19 48 54.9 -0.3**
VTS pmax pmax
comp=Z,7.0nm,0.9s
TRPA Tarpa 54.34 311⇑ *i*P **P 19 48 55.4 0.0**
SIRR Siria 55.05 309⇑ *i*P **P 19 49 01.4 +0.8**
BZS Buzias 55.13 308⇑ *i*P **P 19 49 01.0 -0.2**
BZS Buzias 55.13 308 P **P 19 49 00.9 -0.2**
MDVR Moldovita 55.13 307⇑ *i*P **P 19 49 01.9 +0.6**
ARA0 ARCESS Array S 55.30 338 *e*P **P 19 49 01.2 -0.8**
ARCES ARCESS Array B 55.30 338 P **P 19 49 01.2 -0.8**
comp=Z,2.1nm,0.8s,baz=109,slow=7.6,SNR=8.3
ARCES ARCESS Array B 55.30 338 *e*P **P 19 49 01.9 -0.1**
ARCES ARCESS Array B 55.30 338 *e*P **P 19 49 01.9 -0.1**
AGG Agios Georgios 55.39 300 *e*P **P 19 49 02.2 -1.0**
comp=Z,52nm,1.6s
AGG Agios Georgios 55.39 300 *e*P **P 19 49 02.2 -1.0**
AGG pmax pmax
comp=Z,52nm,1.6s
DIVS Divibare 56.43 307 *e*P **P 19 49 10.7 0.0**
comp=Z,35nm,1.8s
VYHS Vyhne 56.79 312 *e*P **P 19 49 13.3 +0.3**
VYHS Vyhne 56.79 312 *e*P **P 19 49 13.3 +0.3**
MORC Moravsky Berou 57.53 313 *e*P **P 19 49 18.7 +0.4**
comp=Z,3.8nm,0.8s
MORC Moravsky Berou 57.53 313⇓ *i*P **P 19 49 18.5 +0.2**
MORC Moravsky Berou 57.53 313 *e*P **P 19 49 18.7 +0.4**
MORC pmax pmax
comp=Z,4.0nm,0.8s
VRAC Vranov 58.19 313⇑ *i*P **P 19 49 23.3 +0.4**
VRAC Vranov 58.19 313 P **P 19 49 21.9 -1.0**
VRAC pmax pmax
comp=Z,8.0nm,1.6s
CONA Conrad Observa 58.82 311 *e*P **P 19 49 26.0 -1.4**
comp=Z,5.0nm,0.9s
MOA Molln 59.90 312 *e*P **P 19 49 34.3 -0.5**
comp=Z,7.2nm,0.9s
NC405 NORSAR Array S 60.11 327 *e*P **P 19 49 35.4 -0.6**
GEC2 GERESS Array S 60.13 313 *e*P **P 19 49 36.1 -0.4**
comp=Z,3.8nm,0.8s
GEC2 GERESS Array S 60.13 313 *e*P **P 19 49 36.1 -0.4**
GEC2 pmax pmax
comp=Z,4.0nm,0.8s
GERES GERESS Array B 60.13 313 P **P 19 49 36.3 -0.1**
comp=Z,1.8nm,0.6s,baz=84,slow=7.0,SNR=17
GEA0 GERESS Array S 60.13 313 *e*P **P 19 49 35.6 -0.8**
KHC Kasperske Hory 60.17 313 *e*P **P 19 49 36.9 +0.2**
KHC Kasperske Hory 60.17 313 *e*P **P 19 49 36.9 +0.2**
NORES NORESS Array B 60.22 327 P **P 19 49 35.8 -0.9**
NC303 NORSAR Array S 60.28 327 *e*P **P 19 49 36.4 -0.8**
NB201 NORSAR Array S 60.32 327 *e*P **P 19 49 36.7 -0.8**
NB2 NORSAR Subarra 60.36 327 P **P 19 49 36.3 -1.5**
comp=Z,0.6nm,0.6s,baz=85,slow=6.9
NB200 NORSAR Array S 60.36 327 *e*P **P 19 49 36.5 -1.3**
NOA NORSAR Array B 60.36 327 P **P 19 49 36.5 -1.3**
comp=Z,0.7nm,0.6s,baz=86,slow=6.7,SNR=4.0
NAO01 NORSAR Array S 60.53 327 *e*P **P 19 49 37.7 -1.2**
NC204 NORSAR Array S 60.57 327 *e*P **P 19 49 38.3 -0.8**
BILL Bilibino 60.57 25 *e*P **P 19 49 39.5 +0.5**
comp=Z,23nm,1.8s
BILL Bilibino 60.57 25⇑ *e*P **P 19 49 39.6 +0.5**
BILL *e* 19 50 29.1
BILL *e* 19 51 52.3
BILL *e*SS SS 20 01 50.2 -2.1
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL MLR MLR
comp=Z,93nm,16.0s
NBO00 NORSAR Array S 60.57 327 *e*P **P 19 49 38.4 -0.8**
SQTA Sankt Quirin 62.05 311 *i* P **P 19 49 48.5 -1.0**
comp=Z,2.8nm,0.4s
MOTA Moosalm 62.09 311 *i* P **P 19 49 48.7 -1.2**
comp=Z,4.1nm,0.7s
RETA Reutte 62.29 312 *i* P **P 19 49 50.4 -0.7**
comp=Z,4.6nm,1.0s
FETA Feichten 62.41 311 *e*P **P 19 49 49.8 -2.2**
comp=Z,7.6nm,1.1s
WR1 Warramunga Arr 64.72 131 *e*P **P 19 50 08.0 +0.6**
comp=Z,4.4nm,0.6s
WRA Warramunga Arr 64.72 131 P **P 19 50 08.0 +0.6**
comp=Z,3.0nm,0.7s,baz=324,slow=6.7,SNR=96
WRA Warramunga Arr 64.72 131 P **P 19 50 08.0 +0.6**
WRAB Tennant Creek 64.72 131 *e*P **P 19 50 07.9 +0.5**
comp=Z,5.4nm,0.6s
WRAB Tennant Creek 64.72 131⇓ *e*P **P 19 50 08.2 +0.8**
WB2 Warramunga Arr 64.73 131 *e*P **P 19 50 07.8 +0.3**
SENIN Lac Senin/Sane 64.85 311 *e*P **P 19 50 07.5 -0.7**
comp=Z,44nm,1.9s
AS31 Alice Springs 67.08 135 *e*P **P 19 50 23.2 +0.6**
comp=Z,1.2nm,0.6s
ASAR Alice Springs 67.09 135 P **P 19 50 23.2 +0.6**
comp=Z,2.9nm,0.7s,baz=313,slow=6.2,SNR=47
AS01 Alice Springs 67.11 135 *e*P **P 19 50 23.3 +0.5**
ESDC Sonseca Array 74.78 307 P **P 19 51 07.9 -1.4**
comp=Z,0.4nm,0.6s,baz=251,slow=23,SNR=3.8
ILAR Eielson Array 78.86 21 P **P 19 51 30.1 -1.7**
comp=Z,0.7nm,0.9s,baz=296,slow=5.5,SNR=5.5
TOA1 Torodi Ar. Sit 81.11 280 *e*P **P 19 51 42.7 -2.1**
TORD Torodi Ar. Bea 81.11 280 P **P 19 51 42.7 -2.1**
comp=Z,0.3nm,0.5s,baz=79,slow=4.6,SNR=5.5
YKA Yellowknife Ar 88.73 10 P **P 19 52 20.6 -1.6**
comp=Z,0.2nm,0.5s,baz=330,slow=5.0,SNR=4.2
comp=Z,0.1nm,0.4s,baz=121,slow=7.4,SNR=4.2

*ATH **30** 19:47:52.0,36.70N×28.09E,h26km±1km, ML2.9/2, Error ellipse: s-maj=4.0km s-min=1.9km az=231.0*
*ISK **30** 19:47:52.8,36.62N×27.97E,h5km, ML2.9/13*
*THE **30** 19:47:53.2,36.61N×27.92E,h0km±1km,ML2.7/3, Error ellipse: s-maj=1.8km s-min=0.9km az=210.0*
*DDA **30** 19:47:53.1,36.68N×27.95E,h5km,Ml2.9*
ISC 30 19:47:53.0±1.0,36.67N±0.02×27.97E±0.02,h6km±9km, n39,σ2s05/62,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MRSB	**Marmaris-Mugla**	**0.19**	**75**	PG	**Pg**		**19 47 57.5**	**+0.7**
MRSB				SG	**Sg**		**19 48 00.9**	**+1.6**
DATC	**Datca-Mugla**	**0.26**	**291**	PG	**Pg**		**19 47 58.8**	**+0.7**
DATC				SG	**Sb**		**19 48 03.6**	**-1.3**
DAT	**Datca**	**0.32**	**281**	PG	**Pg**		**19 48 00.0**	**+0.8**
DAT				SG	**Sb**		**19 48 05.2**	**-1.4**
DAT	**Datca**	**0.32**	**281**	*i* P	**Pg**		**19 47 59.8**	**+0.6**
DAT				*i* S	**Sb**		**19 48 05.9**	**-0.7**
ARG	**Arkhangelos**	**0.47**	**164**	PG	**Pg**		**19 48 00.7**	**-1.3**
ARG				SG	**Sg**		**19 48 02.3**	**+0.1**
ARG	**Arkhangelos**	**0.47**	**164**	P	**Pg**		**19 48 02.3**	**+0.3**
ARG				S	**Sg**		**19 48 09.2**	**+1.1**
ARG				AML	AML		19 48 10.9	
	comp=E,2369µm,0.3s							
ARG				AML	AML		19 48 11.1	
	comp=N,2136µm,0.3s							
ARG	**Arkhangelos**	**0.47**	**164**	P	**Pg**		**19 48 02.2**	**+0.3**
ARG				S	**Sg**		**19 48 09.1**	**+1.1**
TURN	**Turunc**	**0.55**	**68**	PG	Pg		19 47 58.7	-4.9
TURN				SG	**Sg**		**19 48 02.9**	**-7.8**
TURN	**Turunc**	**0.55**	**68**	*i* P	Pg		19 47 58.7	-4.8
TURN				*i* S	**Sg**		**19 48 03.3**	**-7.5**
DALY	**Dalyan (Mu¨la**	**0.57**	**75**	PG	**Pb**		**19 48 04.7**	**-0.6**
DALY	**Dalyan (Mu¨la**	**0.57**	**75**	P	**Pb**		**19 48 04.8**	**-0.5**
DALY				*i* S	**Sb**		**19 48 13.9**	**+0.2**
NIS1	**Nisyros Isl.**	**0.64**	**264**	PG	**Pb**		**19 48 05.8**	**-0.7**
NIS1	**Nisyros Isl.**	**0.64**	**264**	P	**Pb**		**19 48 06.5**	**0.0**
NIS1				S	**Sn**		**19 48 16.8**	**-2.3**
NIS1				AML	AML		19 48 20.2	
	comp=N,3798µm,0.4s							
NIS1				AML	AML		19 48 22.6	
	comp=E,2744µm,0.3s							
NIS1	**Nisyros Isl.**	**0.64**	**264**	P	**Pb**		**19 48 06.2**	**-0.3**
NIS1				S	**Sb**		**19 48 15.2**	**-0.5**
MLSB	**Milas**	**0.65**	**346**	PG	**Pb**		**19 48 06.5**	**-0.2**
BODT	**Bodrum**	**0.66**	**307**	PG	**Pb**		**19 48 06.7**	**-0.2**
BODT	**Bodrum**	**0.66**	**307**	P	**Pb**		**19 48 06.3**	**-0.6**
BODT				S	**Sb**		**19 48 16.7**	**+0.4**
NISR	**Nisiros**	**0.68**	**266**	P	**Pn**		**19 48 07.8**	**-1.3**
FETY	**Fethiye**	**0.90**	**92**	PG	**Pb**		**19 48 10.7**	**-0.2**
FETY	**Fethiye**	**0.90**	**92**	P	**Pb**		**19 48 10.9**	**-0.1**
FETY				S	**Sn**		**19 48 26.6**	**+1.1**
AYDN	**Tasoluk**	**0.99**	**356**	*i* P	**Pn**		**19 48 12.7**	**-0.8**
AYDN				*i* S	**Sn**		**19 48 27.3**	**-0.6**
TAVA	**DENIZLI_Tavas**	**1.10**	**43**	*i* P	**Pn**		**19 48 14.6**	**-0.4**
TAVA				*i* S	**Sn**		**19 48 32.4**	**+1.9**
AYDB	**Zeytinkoy-Aydi**	**1.28**	**357**	PN	**Pg**		**19 48 18.6**	**+1.1**
DNZL	**Cakiroluk**	**1.34**	**40**	*i* P	**Pg**		**19 48 20.5**	**+1.9**
DNZL				*i* S	**Sg**		**19 48 41.0**	**+5.1**
SMG	**Samos**	**1.38**	**319**	P	**Pn**		**19 48 18.0**	**-0.7**
SMG	**Samos**	**1.38**	**319**	P	**Pn**		**19 48 18.0**	**-0.7**
SMG				S	**Sg**		**19 48 39.1**	**+1.9**
AKAS	**Kas**	**1.39**	**108**	PN	**Pg**		**19 48 19.4**	**-0.2**
AKAS	**Kas**	**1.39**	**108**	*i* P	**Pg**		**19 48 20.7**	**+1.1**
AKAS				*i* S	**Sg**		**19 48 41.4**	**+3.8**
GOLH	**Golhisar**	**1.40**	**65**	*i* P	**Pg**		**19 48 21.2**	**+1.5**
GOLH				*i* S	**Sg**		**19 48 41.5**	**+3.6**
KULA	**Kula-Manisa**	**1.93**	**16**	PN	**Pb**		**19 48 27.8**	**-0.7**
KORT	**Korkueli**	**1.94**	**79**	PN	**Pb**		**19 48 27.5**	**-1.3**
KORT	**Korkueli**	**1.94**	**79**	*i* P	**Pg**		**19 48 29.9**	**-0.2**
KORT				*i* S	**Sg**		**19 48 59.0**	**+3.7**
BRDR	**BURDUR-Merkez**	**1.96**	**58**	*i* P	**Pg**		**19 48 29.8**	**-0.8**
BRDR				*i* S	**Sg**		**19 48 58.4**	**+2.4**
URLA	**Izmir**	**2.01**	**328**	PN	**Pb**		**19 48 28.9**	**-1.1**
KHAL	**Karahalli**	**2.09**	**35**	*i* P	**Pg**		**19 48 32.0**	**-0.9**
KHAL				*i* S	**Sb**		**19 48 56.1**	**-1.5**
ZKR	**Zakros**	**2.10**	**223**	P	**Pn**		**19 48 29.4**	**+0.7**
NPS	**Neapolis**	**2.37**	**234**	P	**Pn**		**19 48 32.1**	**-0.3**
NPS				S	**Sn**		**19 49 03.0**	**+1.3**
LAST	**Lasithi**	**2.52**	**234**	P	**Pn**		**19 48 35.5**	**+1.1**
KEPZ	**Antalya-Kepez**	**2.93**	**84**	*i* P	**Pb**		**19 48 43.5**	**-2.1**
KEPZ				*i* S	**Sb**		**19 49 22.4**	**+0.7**

IDC 30 19:54:24.6±2.4,6.65S×129.76E,h0km,mb3.3/1, mb1 3.3/3,mb1mx3.2/28,mbtmp3.1/3,ML2.7/2,Error ellipse: s-maj=157.5km s-min=32.6km az=69.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.94**	**162**	Pn		Pn	19 57 44.1	+0.6
	0.0nm,0.3s,baz=345,slow=12,SNR=4.8							
WRA				Sn		Sn	20 00 03.6	-16
	0.2nm,0.3s,baz=337,slow=22,SNR=9.5							
ASAR	**Alice Springs**	**17.38**	**167**	P		Pn	19 58 28.3	-0.4
	0.0nm,0.3s,baz=339,slow=9.3,SNR=3.7							
ASAR				S		Sn	20 01 27.4	-16
	0.1nm,0.3s,baz=76,slow=32,SNR=3.7							
MKAR	**Makanchi Array**	**67.80**	**327**	P		P	20 05 24.5	0.0

IDC 30 20:02:33.6±1.8,2.67S×150.64E,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.5/32,mbtmp3.7/3,MS2.9/2,Ms1 2.9/2, ms1mx2.6/26,Error ellipse: s-maj=151.8km s-min=27.6km az=123.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.53**	**207**	Pn		Pn	20 04 29.7	+4.9
	0.6nm,0.3s,baz=5.7,slow=10,SNR=3.2							
PMG				LR		LR	20 06 26.9	
	comp=Z,65nm,21.3s,baz=84,slow=31							
HNR	**Honiara**	**11.43**	**126**	LR		LR	20 09 16.0	
	comp=Z,81nm,18.7s,baz=302,slow=35							
WRA	**Warramunga Arr**	**23.41**	**222**	P		P	20 07 44.1	-0.4
	2.5nm,0.9s,baz=47,slow=10.0,SNR=12							
ASAR	**Alice Springs**	**26.42**	**216**	P		P	20 08 12.8	+0.5
	1.1nm,0.7s,baz=49,slow=9.4,SNR=13							
ILAR	**Eielson Array**	**81.02**	**23**	P		P	20 14 49.9	-0.2
	0.4nm,0.6s,baz=249,slow=5.1,SNR=6.0							

*ISCJB **30** 20:02:46.6±0.6, 12.81N±0.09×88.17W±0.04, h81km±9km, Error ellipse: s-maj=15.7km s-min=3.8km az=24.0*
*UCR **30** 20:02:47.1±1.2, 12.77N×88.20W, h65km±9km, ML4.2*
*NEIC **30** 20:02:47.0±0.0, 12.74N×88.21W, h54km, MD4.2(SNET), After SNET.*
NEIC Felt [I] at Usulutan.
ISC 30 20:02:47.5±1.4,12.78N±0.09×88.18W±0.05,h70km±13km, n39,σ0s92/50,1C-13D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.60**	**34**	*e*P		**Pn**	**20 03 00.5**	**-1.0**
CNCH				⇓ *i*P			20 03 00.7	
CNCH				*e*S		**Sn**	**20 03 12.4**	**+0.7**
LCND	**La Ca˜–ada**	**0.60**	**28**⇓	*i*P		**Pn**	**20 03 00.6**	**-0.7**
LCND				*e*S		**Sn**	**20 03 11.1**	**-0.4**
LCND				IAML			20 03 14.8	
	comp=Z,6µm,0.4s							
CSGN	**Cosiguina Volc**	**0.64**	**72**	*e*Pn		**Pn**	**20 03 02.2**	**+0.4**
CSGN				*e*Sn		**Sn**	**20 03 12.9**	**+0.6**
CSGN	**Cosiguina Volc**	**0.64**	**72**	*e*P		**Pn**	**20 03 02.1**	**+0.4**
CSGN				*e*S		**Sn**	**20 03 13.2**	**+0.9**
CSGN				IAML			20 03 14.8	
	comp=N,49µm,0.4s							
LCY	**Lacayo**	**0.65**	**350**⇓	*i*P		**Pn**	**20 03 01.3**	**-0.7**
VSM	**San Miguel**	**0.66**	**352**	*e*P		**Pn**	**20 03 01.6**	**-0.7**
BLLM	**Bellamira**	**0.67**	**355**⇓	*i*P		**Pn**	**20 03 01.2**	**-0.9**
PACA	**Pacayal**	**0.70**	**348**	*e*P		**Pn**	**20 03 02.0**	**-0.6**
PACA				*e*S		**Sn**	**20 03 14.2**	**+0.5**
TECA	**Tecapa**	**0.78**	**336**⇓	*i*P		**Pn**	**20 03 02.7**	**-0.8**
CAHU	**Cacacuatique**	**0.99**	**358**	*e*P		**Pn**	**20 03 05.4**	**-0.7**
SNVI	**San Vicente**	**1.05**	**322**	*e*P		**Pn**	**20 03 06.3**	**-0.5**
CRIN	**San Cristobal**	**1.10**	**94**	*e*P		**Pn**	**20 03 07.8**	**+0.4**
CRIN				*e*S		**Sn**	**20 03 23.7**	**+1.5**
CRIN				IAML			20 03 25.2	
	comp=E,6µm,0.3s							
PAVA	**Las Pavas**	**1.19**	**322**⇓	*i*P		**Pn**	**20 03 07.9**	**-0.6**
LFRS	**El Faro**	**1.20**	**314**⇓	*i*P		**Pn**	**20 03 08.2**	**-0.5**
LBRS	**Las Brisas**	**1.27**	**319**	*e*P		**Pn**	**20 03 09.1**	**-0.5**
LOMA	**San Marcos**	**1.30**	**312**⇓	*i*P		**Pn**	**20 03 09.5**	**-0.4**
LFU	**La Fuente**	**1.33**	**317**⇓	*i*P		**Pn**	**20 03 09.8**	**-0.4**
SNET	**Serv Nac Est T**	**1.37**	**312**⇓	*i*P		**Pn**	**20 03 10.4**	**-0.4**
SNET				*e*S		**Sn**	**20 03 28.4**	**+0.1**
UEES	**San Salvador**	**1.40**	**312**⇓	*i*P		**Pn**	**20 03 11.2**	**-0.1**
UEES				*e*S		**Sn**	**20 03 29.8**	**+0.6**
BOQS	**Boqueron**	**1.44**	**312**	*e*P		**Pn**	**20 03 11.7**	**-0.1**
BOQS				*e*S		**Sn**	**20 03 30.4**	**+0.3**
BOQS				IAML			20 03 35.2	
	comp=Z,751nm,0.3s							
CNGN	**Cerro Negro**	**1.47**	**101**	*e*P		**Pn**	**20 03 10.8**	**-1.3**
CNGN				*e*S		**Sn**	**20 03 30.5**	**-0.2**
TGUH	**Tegucigalpa,Un**	**1.55**	**35**	*e*Pn		**Pn**	**20 03 12.8**	**-0.2**
MOMN	**Momotombo**	**1.64**	**103**	*e*P		**Pn**	**20 03 14.2**	**-0.2**
COPN	**Copaltepe**	**1.66**	**111**	*e*P		**Pn**	**20 03 14.4**	**-0.2**
CEVE	**Cerro Verde**	**1.75**	**307**⇓	*i*P		**Pn**	**20 03 16.1**	**+0.1**
SBLS	**San Blas**	**1.76**	**307**⇓	*i*P		**Pn**	**20 03 16.2**	**+0.1**
SNJE	**San Jose**	**1.76**	**308**	*e*P		**Pn**	**20 03 15.9**	**-0.2**
ESTN	**Estel**	**1.79**	**79**	*e*Pn		**Pn**	**20 03 14.5**	**-1.9**
ESTN	**Estel**	**1.79**	**79**	*e*P		**Pn**	**20 03 16.2**	**-0.3**
ESTN				*e*S		**Sn**	**20 03 39.0**	**+0.6**
MATN	**Matagalpa**	**2.20**	**86**	*e*P		**Pn**	**20 03 21.4**	**-0.5**
BOAB	**BOACO BROADBAN**	**2.47**	**97**	*e*Pn		**Pn**	**20 03 25.1**	**-0.5**
BOAB	**BOACO BROADBAN**	**2.47**	**97**	*e*P		**Pn**	**20 03 25.0**	**-0.5**
IXG	**Ixpaco**	**2.61**	**302**	*e*P		**Pn**	**20 03 27.2**	**-0.4**
MRL	**Marmol**	**2.71**	**327**⇑	*i*P		**Pn**	**20 03 29.3**	**+0.3**
ACON	**Acoyapa**	**3.04**	**105**	*e*P		Pn	20 03 40.0	+6.7
ACON				*e*S		**Sn**	**20 04 09.0**	**+0.4**
ESPN	**Las Esperanzas**	**3.83**	**98**	*e*Pn		**Pn**	**20 03 44.4**	**+0.3**
JTS	**JuntasAbangare**	**4.01**	**128**	*e*Pn		**Pn**	**20 03 47.5**	**+1.0**
HDC	**Heredia**	**4.85**	**124**	*e*Pn		**Pn**	**20 03 53.7**	**-4.4**
TEIG	**Tepich**	**7.41**	**359**	*e*Pn		**Pn**	**20 04 33.6**	**+0.6**

*ISCJB **30** 20:07:14.3±0.2, 83.77N±0.03×3.3W±0.3, h10km, mb4.5/83, MS3.6/20, Error ellipse: s-maj=4.9km s-min=3.0km az=41.1*
*IDC **30** 20:07:14.4±0.5, 83.83N×2.95W, h0km, mb4.0/22, mb1 4.2/24, mb1mx4.1/41, mbtmp4.1/24, ML3.6/2, MS3.7/23, Ms1 3.7/23, ms1mx3.5/42, Error ellipse: s-maj=15.5km s-min=10.7km az=41.0*
*MOS **30** 20:07:14.0±1.2, 83.70N×3.84W, h10km, mb4.7/35, Error ellipse: s-maj=48.6km s-min=5.2km az=92.3*
*NEIC **30** 20:07:16.0±0.2, 83.76N×3.10W, h10km, mb4.7/59, Error ellipse: s-maj=4.9km s-min=3.0km az=223.0*
ISC 30 20:07:15.8±0.3,83.69N±0.05×2.87W±0.04,h10km,n231, σ1s92/238,mb4.5/83,MS3.6/20,14C-11D,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**5.26**	**147**	Pn		**Pn**	**20 08 33.8**	**-0.4**
KBS				Sn		**Sn**	**20 09 28.6**	**-6.2**
KBS	**Kingsbay**	**5.26**	**147**	*d* P		**Pn**	**20 08 33.5**	**-0.7**
KBS	**Kingsbay**	**5.26**	**147**	*e*P		**Pn**	**20 08 33.1**	**-1.1**
KBS				*e*S		**Sn**	**20 09 27.4**	**-7.3**
KBS				IAML			20 09 30.7	
	comp=Z,76nm,0.5s							
BRBB	**Barentsburg B**	**6.19**	**146**	Pn		**Pn**	**20 08 46.3**	**-0.8**
BRBB				Sn		Sn	20 09 47.6	-10
BRBA	**Barentsburg A**	**6.23**	**146**	Pn		**Pn**	**20 08 48.3**	**+0.8**
BRBA				Sn		**Sn**	**20 09 51.3**	**-7.2**
BRBA	**Barentsburg A**	**6.23**	**146**	Pn		**Pn**	**20 08 48.3**	**+0.8**
BRBA				Sn		**Sn**	**20 09 51.3**	**-7.2**
SPA0	**Spitsbergen Ar**	**6.25**	**141**	Pn		**Pn**	**20 08 47.0**	**-1.0**

SCO Scoresbysund 13.78 207 *i* P **Pn** **20 10 33.8 +3.0**
SCO Scoresbysund 13.78 207 *i* P **Pn** **20 10 33.8 +3.0**
KEV Kevo 15.18 139 *e*Pn **Pn** **20 10 51.3 +1.5**
comp=Z,126nm,2.0s
ARA0 ARCESS Array S 15.29 141 *e*Pn **Pn** **20 10 51.6 +0.4**
ARA0 ARCESS Array S 15.29 141 P **Pn** **20 10 51.9 +0.6**
baz=352,slow=14
ARA0 ARCESS Array S 15.29 141 P **Pn** **20 10 51.9 +0.6**
baz=352,slow=14
ARCES ARCESS Array B 15.29 141 Pn **Pn** **20 10 51.6 +0.4**
comp=Z,0.3nm,0.3s,baz=350,slow=12,SNR=9.4
ARCES LR LR 20 16 39.4
comp=Z,15nm,18.6s,baz=350,slow=37
ARCES ARCESS Array B 15.29 141 *e*Pn **Pn** **20 10 50.7 -0.6**
ARE0 ARCESS Array S 15.29 141 *e*Pn **Pn** **20 10 51.4 +0.1**
comp=Z,4.4nm,1.4s
RES Resolute Bay 16.85 294 Pn **Pn** **20 11 07.8 -3.5**
comp=Z,1.1nm,0.3s,baz=50,slow=7.4,SNR=8.2
RES LR LR 20 17 53.3
comp=Z,437nm,18.0s,baz=40,slow=38
RES Resolute Bay 16.85 294 *e*Pn **Pn** **20 11 08.1 -3.1**
comp=Z,56nm,1.8s
RES Resolute Bay 16.85 294 *e*P **Pn** **20 11 08.1 -3.1**
RES pmax pmax
comp=Z,56nm,1.8s
ILULI Ilulissat 17.31 243 *e*Pn **Pn** **20 11 15.4 -1.7**
comp=Z,126nm,1.7s
ILULI Ilulissat 17.31 243 *e*P **Pn** **20 11 15.4 -1.7**
ILULI pmax pmax
comp=Z,126nm,1.7s
SGF Sodankyl 17.42 141 P **P** **20 11 20.2 +0.5**
SGF pmax pmax
comp=Z,65nm,1.6s
LVZ Lovozero 17.60 130 *e*Pn **P** **20 11 23.6 +1.9**
comp=Z,63nm,1.4s
LVZ Lovozero 17.60 130⇓ *e*P **P** **20 11 23.3 +1.5**
LVZ pmax pmax
comp=Z,144nm,1.4s
MSF Maaselka 19.12 139 P **Pn** **20 11 41.5 +2.3**
SFJD Kangerlussuaq 19.41 241 P **P** **20 11 39.1 -2.5**
comp=Z,1.1nm,0.3s,baz=24,slow=14,SNR=5.4
BORG Borgarnes 19.47 204 LR LR 20 18 09.2
comp=Z,127nm,18.7s,baz=288,slow=33
BORG Borgarnes 19.47 204 *e*P **Pn** **20 11 43.0 -0.4**
comp=Z,272nm,1.8s
BORG Borgarnes 19.47 204 *e*P **Pn** **20 11 43.0 -0.4**
BORG pmax pmax
comp=Z,272nm,1.8s
OUL Oulu 19.71 143 P **Pn** **20 11 47.2 +0.9**
OUL pmax pmax
comp=Z,42nm,1.3s
NRIK Noril'sk 21.74 73 P **P** **20 12 06.5 -0.2**
comp=Z,10nm,0.8s,baz=358,slow=9.9,SNR=9.2
NRIK S **S** **20 16 00.2 -6.5**
comp=Z,2.0nm,0.3s,baz=30,slow=20,SNR=5.2
NRIK LR LR 20 20 54.0
comp=Z,147nm,19.1s,baz=20,slow=38
NRIK Noril'sk 21.74 73 P **P** **20 12 06.6 -0.2**
NRIK S **S** **20 16 00.3 -6.5**
NRIK pmax pmax
comp=Z,12nm,0.9s
NRIK smax smax
comp=N,2.0nm,0.3s
NRIK MLR MLR
comp=Z,147nm,19.1s
SUF Sumiainen 22.08 144 P **P** **20 12 15.2 +4.8**
SUF pmax pmax
comp=Z,33nm,1.0s
NC204 NORSAR Array S 22.75 163 *e*P **P** **20 12 16.4 -1.4**
NC303 NORSAR Array S 22.82 162 *e*P **P** **20 12 20.4 +2.0**
NC405 NORSAR Array S 22.95 162 *e*P **P** **20 12 22.1 +2.4**
NB201 NORSAR Array S 23.00 162 *e*P **P** **20 12 21.9 +1.7**
NBO00 NORSAR Array S 23.00 163 *e*P **P** **20 12 23.2 +2.9**
NB2 NORSAR Subarra 23.01 162 P **P** **20 12 21.6 +1.3**
comp=Z,30nm,1.7s,baz=356,slow=11
NB2 NORSAR Subarra 23.01 162 P **P** **20 12 21.9 +1.6**
baz=10,slow=9.3
NB2 NORSAR Subarra 23.01 162 P **P** **20 12 21.9 +1.6**
baz=10,slow=9.3
NB200 NORSAR Array S 23.01 162 *e*P **P** **20 12 21.9 +1.5**
NOA NORSAR Array B 23.01 162 P **P** **20 12 21.9 +1.5**
comp=Z,3.4nm,0.9s,baz=358,slow=10,SNR=5.3
TIXI Tiksi 23.17 37 P **P** **20 12 21.7 -0.2**
comp=Z,4.4nm,1.0s,baz=0.2,slow=7.4,SNR=7.1
TIXI LR LR 20 21 22.8
comp=Z,52nm,18.4s,baz=318,slow=37
TIXI Tiksi 23.17 37 *e*P **P** **20 12 21.6 -0.2**
comp=Z,5.0nm,1.0s
TIXI Tiksi 23.17 37⇓ *e*P **P** **20 12 21.8 -0.1**
TIXI pmax pmax
comp=Z,7.0nm,1.3s
NAO01 NORSAR Array S 23.19 163 *e*P **P** **20 12 25.1 +2.9**
NC602 NORSAR Array S 23.32 162 *e*P **P** **20 12 25.2 +1.7**
NRA0 NORESS Array S 23.32 162 P **P** **20 12 25.7 +2.2**
baz=4.4,slow=14
NRA0 NORESS Array S 23.32 162 P **P** **20 12 25.7 +2.2**
baz=4.4,slow=14
FIA1 FINESS Array S 23.34 144 *e*P **P** **20 12 25.0 +1.3**
comp=Z,110nm,1.8s
FIA0 FINESS Array S 23.34 144 *e*P **P** **20 12 24.7 +1.0**
FIA0 FINESS Array S 23.34 144 P **P** **20 12 23.9 +0.2**
slow=5.6
FIA0 FINESS Array S 23.34 144 *e*P **P** **20 12 24.7 +1.0**
FIA0 FINESS Array S 23.34 144 P **P** **20 12 23.9 +0.2**
slow=5.6
FINES FINESS Array B 23.34 144 P **P** **20 12 24.7 +1.0**
comp=Z,9.2nm,0.8s,baz=7.6,slow=5.8,SNR=8.5
FINES LR LR 20 21 09.2
comp=Z,189nm,18.1s,baz=338,slow=36
FINES FINESS Array B 23.34 144 *i* P **P** **20 12 25.2 +1.5**
FINES pmax pmax
comp=Z,9.0nm,0.8s
HFS Hagfors 24.00 159 P **P** **20 12 32.3 +2.2**
comp=Z,3.6nm,0.9s,baz=60,slow=8.8,SNR=4.8
HFS LR LR 20 21 07.1
comp=Z,69nm,19.1s,baz=13,slow=34
HFS Hagfors 24.00 159 P **P** **20 12 32.8 +2.7**
baz=34,slow=16
HFS Hagfors 24.00 159 P **P** **20 12 32.8 +2.7**
baz=34,slow=16
FRB Frobisher Bay 24.43 258 P **P** **20 12 34.5 +0.5**
comp=Z,5.6nm,0.9s,baz=48,slow=12,SNR=4.5
FRB LR LR 20 21 20.3
comp=Z,202nm,19.6s,baz=146,slow=35
PRGR Permogore 24.74 121 *e*P **P** **20 12 37.7 +0.9**
PRGR pmax pmax
comp=Z,11nm,0.9s
KLMR Klimovskoe 24.95 129 *e*P P 20 12 56.1 +17
KLMR AMP 20 13 01.0
comp=Z,30nm,1.1s
INK Inuvik 26.39 321 P **P** **20 12 50.6 -1.1**
comp=Z,8.3nm,0.8s,baz=12,slow=13,SNR=28
INK LR LR 20 25 44.3
comp=Z,137nm,19.7s,baz=70,slow=42
INK Inuvik 26.39 321 *e*P **P** **20 12 50.3 -1.3**
comp=Z,47nm,1.8s
TOLK Toolik Lake Re 27.02 334 *e*P **P** **20 12 57.0 -0.5**
comp=Z,8.5nm,1.2s
COLD Coldfoot 28.46 334 *e*P **P** **20 13 09.8 -0.4**
comp=Z,10nm,1.4s
FYU Fort Yukon 28.86 330 *e*P **P** **20 13 16.0 +2.2**
comp=Z,44nm,0.9s
IM3 Indian Mountai 29.86 336 *e*P **P** **20 13 21.9 -0.8**
YKA Yellowknife Ar 30.55 302 P **P** **20 13 27.6 -1.2**
comp=Z,0.3nm,0.6s,baz=6.6,slow=8.0,SNR=4.0
YKA PcP **PcP** **20 16 26.6 -0.3**
comp=Z,0.6nm,0.6s,baz=12,slow=2.7,SNR=6.8
YKB5 Yellowknife Ar 30.55 302 *e*P **P** **20 13 27.9 -0.8**
YKB5 *e*PcP **PcP** **20 16 26.7 -0.3**
IL1 Eielson Array 30.73 330 *e*P **P** **20 13 30.2 -0.2**
ILAR Eielson Array 30.73 330 P **P** **20 13 30.2 -0.2**
comp=Z,2.2nm,0.8s,baz=3.6,slow=8.6,SNR=18
ILAR PcP **PcP** **20 16 26.9 -0.5**
comp=Z,0.4nm,0.7s,baz=322,slow=1.9,SNR=4.3
ILAR LR LR 20 25 10.1
comp=Z,52nm,21.5s,baz=84,slow=35
ILB Eielson Array 30.73 330 *e*P **P** **20 13 30.4 0.0**
CCB Clear Creek Bu 30.91 331 *e*P **P** **20 13 31.2 -0.8**
comp=Z,6.0nm,1.2s
DAWY Dawson 30.99 324 *e*P **P** **20 13 32.0 -0.7**
comp=Z,20nm,1.8s
HDA Harding Lake 31.10 330 *e*P **P** **20 13 33.0 -0.7**
comp=Z,8.6nm,0.4s
ARU Arti 31.15 109 *e*P **P** **20 13 34.9 +0.8**
comp=Z,13nm,1.4s
ARU Arti 31.15 109 *d* iP **P** **20 13 35.0 +0.8**
ARU S **S** **20 18 43.2 +3.8**
ARU SS **SnSn** **20 20 23.2 +2.6**
ARU pmax pmax
comp=Z,7.0nm,2.5s
ANM Nome 31.70 346 *e*P **P** **20 13 38.6 -0.3**
comp=Z,4.1nm,0.9s
ANM Nome 31.70 346 *e*P **P** **20 13 38.6 -0.3**
ANM pmax pmax
comp=Z,4.0nm,0.9s
FCC Fort Churchill 32.11 281 *e*P **P** **20 13 41.5 -1.0**
comp=Z,66nm,1.8s
FCC Fort Churchill 32.11 281 *e*P **P** **20 13 41.5 -1.0**
FCC pmax pmax
comp=Z,66nm,1.8s
TRF Thorofare Moun 32.23 333 *e*P **P** **20 13 43.7 0.0**
comp=Z,50nm,1.9s
PAX Paxson 32.45 329 *e*P **P** **20 13 45.3 -0.3**
comp=Z,4.8nm,1.1s
PAX Paxson 32.45 329 *e*P **P** **20 13 45.3 -0.3**
PAX pmax pmax
comp=Z,5.0nm,1.1s
DHY Denali Highway 32.45 330 *e*P **P** **20 13 45.3 -0.4**
comp=Z,7.1nm,1.0s
CLL Collm 32.80 162 *e*P **P** **20 13 50.0 +1.3**
comp=Z,9.0nm,1.4s
CLL Collm 32.80 162 *e*P **P** **20 13 50.0 +1.3**
CLL pmax pmax
comp=Z,9.0nm,1.4s
MOX Moxa 33.42 163 P **P** **20 13 57.9 +3.8**
MOX pmax pmax
comp=Z,7.0nm,1.8s
SCM Sheep Creek Mo 33.69 330 *e*P **P** **20 13 56.6 +0.2**
comp=Z,43nm,1.4s
SCM Sheep Creek Mo 33.69 330 *e*P **P** **20 13 56.6 +0.2**
SCM pmax pmax
comp=Z,43nm,1.4s
SML Sawmill 33.77 331 *e*P **P** **20 13 58.0 +1.0**
comp=Z,86nm,1.9s
SML Sawmill 33.77 331 *e*P **P** **20 13 58.0 +1.0**
SML pmax pmax
comp=Z,86nm,1.9s
NKC Novy Kostel 33.86 162 P **P** **20 14 02.0 +4.0**
NKC pmax pmax
comp=Z,3.0nm,1.5s
KLU Klutina 33.95 329 *e*P **P** **20 13 59.6 +0.9**
comp=Z,46nm,1.8s
HYT Haines Junctio 34.08 322 *e*P **P** **20 14 00.6 +0.7**
comp=Z,8.7nm,0.9s
AKASG Malin Array Be 34.24 143 P **P** **20 14 00.8 -0.4**
comp=Z,0.9nm,0.6s,baz=349,slow=8.8,SNR=7.1
AKASG Malin Array Be 34.24 143 *i* P **P** **20 14 00.0 -1.2**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
GRFO Grafenberg 34.36 164 *e*P **P** **20 14 04.5 +2.2**
comp=Z,31nm,1.7s
GRFO Grafenberg 34.36 164 *e*P **P** **20 14 04.5 +2.2**
GRFO pmax pmax
comp=Z,31nm,1.7s
VRAC Vranov 34.94 158⇑ *i*P **P** **20 14 09.0 +1.7**
VRAC Vranov 34.94 158 ⇑P **P** **20 14 09.0 +1.7**
NIE Niedzica 35.00 153 P **P** **20 14 11.9 +4.0**
GEC2 GERESS Array S 35.29 161 *e*P **P** **20 14 11.9 +1.5**
comp=Z,10nm,1.3s
GEC2 GERESS Array S 35.29 161 *e*P **P** **20 14 11.9 +1.5**
GEC2 pmax pmax
comp=Z,10.0nm,1.3s
GERES GERESS Array B 35.29 161 P **P** **20 14 11.9 +1.5**
comp=Z,1.2nm,0.7s,baz=10,slow=8.1,SNR=11
GERES LR LR 20 28 35.6
comp=Z,66nm,19.0s,baz=328,slow=36
GERES GERESS Array B 35.29 161 P **P** **20 14 12.0 +1.5**
GEA0 GERESS Array S 35.30 161 *e*P **P** **20 14 12.2 +1.7**
NVS Novosibirsk 35.41 85 *e*P **P** **20 14 11.2 0.0**
BFO Black Forest 35.64 167 *e*P **P** **20 14 14.7 +1.3**
comp=Z,32nm,1.9s
BFO Black Forest 35.64 167 *e*P **P** **20 14 14.7 +1.3**
BFO pmax pmax
comp=Z,32nm,1.9s
BRVK Borovoye 35.73 98⇓ *e*P **P** **20 14 15.9 +1.9**
BRVK pmax pmax
comp=Z,4.0nm,1.4s
VYHS Vyhne 35.85 155 *e*P **P** **20 14 17.0 +1.8**
VYHS Vyhne 35.85 155 *e*P **P** **20 14 17.0 +1.8**
TRPA Tarpa 36.40 151⇑ *i*P **P** **20 14 20.9 +1.1**
ZAA1 Zalesovo Array 36.46 84 *e*P **P** **20 14 19.6 -0.6**
ZAA0 Zalesovo Array 36.46 84 *e*P **P** **20 14 19.6 -0.6**
comp=Z,7.2nm,1.4s
ZALV Zalesovo Beam 36.46 84 P **P** **20 14 19.6 -0.6**
comp=Z,1.3nm,0.5s,baz=351,slow=7.5,SNR=8.2
ZALV LR LR 20 31 33.5
comp=Z,181nm,19.5s,baz=56,slow=40
ZALV Zalesovo Beam 36.46 84 *i* P **P** **20 14 20.7 +0.5**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
PSZ Piszkesteto 36.48 154 *e*P **P** **20 14 19.6 -1.0**
comp=Z,7.9nm,1.1s
PSZ Piszkesteto 36.48 154 *e*P **P** **20 14 19.6 -1.0**
PSZ pmax pmax
comp=Z,8.0nm,1.1s
BUR08 Bucovina Ar. S 37.04 148 *e*P **P** **20 14 26.5 +1.1**
BUR04 Bucovina Ar. S 37.06 148 *e*P **P** **20 14 26.3 +0.7**
BURAR Bucovina Array 37.07 148⇓ *i*P **P** **20 14 26.7 +1.1**
BURAR Bucovina Array 37.07 148 ⇓P **P** **20 14 26.7 +1.1**
DRGR 37.75 151⇑ *i*P **P** **20 14 29.7 -1.7**
DRGR 37.75 151 ⇑P **P** **20 14 29.7 -1.7**
BIZ Bicaz 37.79 147⇑ *i*P **P** **20 14 33.1 +1.4**
SIRR Siria 38.22 152⇑ *i*P **P** **20 14 33.5 -1.7**
ABKAR Akbulak array 38.38 110 *e*P **P** **20 14 37.5 +1.0**
DOPR Dopca 38.72 148⇑ *i*P **P** **20 14 41.0 +1.5**
BZS Buzias 38.86 152⇓ *i*P **P** **20 14 41.0 +0.4**
BZS Buzias 38.86 152 ⇓P **P** **20 14 41.0 +0.4**
KURK Kurchatov 38.96 91 *e*P **P** **20 14 40.7 -0.7**
comp=Z,15nm,1.8s
KURK Kurchatov 38.96 91 *e*P **P** **20 14 40.7 -0.7**
KURK pmax pmax
comp=Z,15nm,1.8s
MLR Muntele Rosu 39.23 148⇑ *i*P **P** **20 14 43.9 0.0**
MLR Muntele Rosu 39.23 148 ⇑P **P** **20 14 43.9 0.0**
VOIR 39.23 149⇑ *i*P P 20 14 37.2 -6.6
VOIR 39.23 149 ⇑P P 20 14 37.2 -6.6
MDVR Moldovita 39.70 152⇑ *i*P **P** **20 14 49.2 +1.5**
HVS Khovu-Aksy 40.20 76⇓ *e*P **P** **20 14 52.4 +0.6**
HVS pmax pmax
comp=Z,22nm,1.3s
MOY Mondy 40.44 69 *e*P **P** **20 14 55.1 +1.2**
ULM Lac du Bonnet 40.69 280 P **P** **20 14 55.5 -0.3**
comp=Z,2.3nm,0.5s,baz=27,slow=8.8,SNR=4.9
ULM LR LR 20 31 46.9
comp=Z,352nm,19.2s,baz=70,slow=36
ULM Lac du Bonnet 40.69 280 *e*P **P** **20 14 55.7 -0.1**
comp=Z,35nm,1.7s
ULM Lac du Bonnet 40.69 280 *e*P **P** **20 14 55.7 -0.1**
ULM pmax pmax
comp=Z,35nm,1.7s
GBN Guysborough 41.76 245 *e*P **P** **20 15 06.7 +2.1**
comp=Z,267nm,1.9s
KBZ Khabaz 42.22 129 P **P** **20 15 09.4 +1.1**
comp=Z,4.1nm,0.9s,baz=324,slow=4.6,SNR=5.7
KBZ LR LR 20 32 50.9
comp=Z,83nm,19.3s,baz=2.0,slow=36
AGMN Agassiz Nation 42.61 280 *e*P **P** **20 15 11.7 +0.2**
comp=Z,21nm,1.7s
MK31 Makanchi Array 43.24 88 *e*P **P** **20 15 15.9 -0.8**
MK31 Makanchi Array 43.24 88 *e*P **P** **20 15 15.9 -0.8**
MK32 Makanchi Array 43.24 88 *e*P **P** **20 15 16.2 -0.4**
MKAR Makanchi Array 43.24 88 P **P** **20 15 16.2 -0.4**
comp=Z,0.6nm,0.6s,baz=0.1,slow=7.0,SNR=7.8
MKAR LR LR 20 36 15.7
comp=Z,109nm,18.9s,baz=342,slow=40
MKAR Makanchi Array 43.24 88 *e*P **P** **20 15 15.9 -0.8**
comp=Z,13nm,1.0s
ZEI Tsey 43.24 128 *e*P **P** **20 15 16.5 -0.4**
ZEI pmax pmax
comp=Z,5.0nm,1.0s
MK01 Makanchi Array 43.26 88 *e*P **P** **20 15 16.2 -0.7**
E43A Lone Tree Farm 43.53 271 *e*P **P** **20 15 19.7 +0.7**
comp=Z,26nm,0.8s
FNA Florina 43.67 153 *e*P **P** **20 15 20.7 +0.5**
comp=Z,27nm,1.5s
FNA Florina 43.67 153 *e*P **P** **20 15 20.7 +0.5**
FNA pmax pmax
comp=Z,27nm,1.5s
PLVO Plevna 43.76 261 *e*P **P** **20 15 19.3 -1.5**
comp=Z,24nm,1.3s
COWI Conover 44.04 273 *e*P **P** **20 15 23.6 +0.5**
comp=Z,34nm,1.5s
ESDC Sonseca Array 44.16 181 P **P** **20 15 25.2 +1.0**
comp=Z,1.2nm,0.9s,baz=353,slow=8.0,SNR=4.0
AKH Akhalkalaki 44.57 129 *e*P **P** **20 15 28.4 +0.8**
comp=Z,5.8nm,1.0s
AKH Akhalkalaki 44.57 129 *e*P **P** **20 15 28.4 +0.8**
AKH pmax pmax
comp=Z,6.0nm,1.0s
SONA1 Songino Array 44.77 65 *e*P **P** **20 15 28.8 -0.3**
SONA0 Songino Array 44.78 65 *e*P **P** **20 15 29.9 +0.8**
SONM Songino Array 44.78 65 P **P** **20 15 29.9 +0.8**
comp=Z,2.8nm,0.8s,baz=333,slow=9.2,SNR=10
SONM LR LR 20 34 32.4
comp=Z,62nm,19.0s,baz=358,slow=37
G42A Mountain 44.81 272 *e*P **P** **20 15 29.6 +0.3**
comp=Z,91nm,1.8s
ULN Ulaanbaatar 44.82 64 *e*P **P** **20 15 29.2 -0.3**
comp=Z,11nm,1.1s
ULN Ulaanbaatar 44.82 64⇑ *e*P **P** **20 15 30.3 +0.8**
ULN pmax pmax
comp=Z,12nm,1.2s
NEW Newport 44.84 300 *e*P **P** **20 15 29.6 0.0**
comp=Z,18nm,1.5s
B08A Colville Reser 44.96 302 *e*P **P** **20 15 30.9 +0.4**
comp=Z,6.6nm,1.0s
G40A Rib Lake 44.98 274 *e*P **P** **20 15 30.6 0.0**
comp=Z,35nm,1.5s
JTMT Jette 45.08 297 *e*P **P** **20 15 30.6 -0.9**
comp=Z,30nm,1.9s
BR101 Keskin Array S 45.47 140 *e*P **P** **20 15 36.3 +1.6**
BR131 Keskin Array S 45.47 140 *e*P **P** **20 15 35.6 +0.9**
BRTR Keskin Array B 45.47 140 P **P** **20 15 36.3 +1.6**
comp=Z,2.9nm,0.9s,baz=344,slow=5.0,SNR=12
BRTR LR LR 20 35 12.7
comp=Z,52nm,18.5s,baz=324,slow=37
H42A Shiocton 45.55 272 *e*P **P** **20 15 35.8 +0.7**
comp=Z,43nm,1.4s
KK31 Karatay Array 45.58 101 *e*P **P** **20 15 35.3 -0.1**
KK31 Karatay Array 45.58 101 *e*P **P** **20 15 35.3 -0.1**
KKAR Karatay Array 45.58 101 *e*P **P** **20 15 35.0 -0.4**
KKAR Karatay Array 45.58 101 *e*P **P** **20 15 35.1 -0.4**
PDGK Podgornoye 46.35 92 P **P** **20 15 43.3 +1.7**
PDGK pmax pmax
comp=Z,7.0nm,0.9s
AAK Ala-Archa 46.48 97 *e*P **P** **20 15 43.4 +0.7**
comp=Z,5.4nm,0.9s
AAK Ala-Archa 46.48 97 *e*P **P** **20 15 43.4 +0.7**
AAK pmax pmax
comp=Z,5.0nm,0.9s
ECSD EROS Data Cent 47.20 280 *e*P **P** **20 15 48.3 +0.1**
comp=Z,6.6nm,0.8s
FXWY Fox Creek 48.82 294 *e*P **P** **20 16 01.4 +0.4**
comp=Z,4.9nm,1.4s
SFK Sufi-Kurgan 48.97 98 P **P** **20 16 05.1 +3.0**
SFK pmax pmax
comp=Z,4.0nm,1.2s
GEYT Alibeck 49.40 114 P **P** **20 16 05.4 +0.2**
comp=Z,1.6nm,0.8s,baz=305,slow=8.8,SNR=5.3
GEYT LR LR 20 40 13.1
comp=Z,46nm,21.6s,baz=240,slow=40
PDAR Pinedale Array 49.53 292 LR LR 20 36 32.2
comp=Z,231nm,19.2s,baz=42,slow=36
GTA Gaotai 52.44 72 *e*P **P** **20 16 28.0 -0.1**
GTA pP sP 20 16 33.0 +0.5
GTA sP pP 20 16 36.8 +5.5
GTA pmax pmax
comp=Z,2.0nm,1.3s
SMCO Snowmass 52.82 289 *e*P **P** **20 16 31.0 -0.3**
comp=Z,10nm,1.1s
Q16A Castle Valley 53.51 293 *e*P **P** **20 16 35.9 -0.2**
comp=Z,5.2nm,0.9s
KBL Kabul 53.89 104 P **P** **20 16 40.8 +1.8**
KBL pmax pmax
comp=Z,7.0nm,1.0s
NVAR Mina Array Bea 54.70 300 LR LR 20 42 38.2
comp=Z,99nm,19.3s,baz=86,slow=39
MVCO Mesa Verde 54.92 290 *e*P **P** **20 16 46.1 -0.4**
comp=Z,12nm,1.3s
X40A Basin Creek Fa 55.93 274 *e*P **P** **20 16 53.1 -0.4**
comp=Z,43nm,1.9s
WMOK Wichita Mounta 56.33 280 *e*P **P** **20 16 56.2 -0.2**
comp=Z,4.5nm,1.0s
WMOK Wichita Mounta 56.33 280 *e*P **P** **20 16 56.2 -0.2**
WMOK pmax pmax
comp=Z,5.0nm,1.0s
DAC Darwin (Calif) 56.77 299 *e*P **P** **20 16 57.0 -2.7**
comp=Z,12nm,1.2s
DAC Darwin (Calif) 56.77 299 *e*P **P** **20 16 57.0 -2.7**
DAC pmax pmax
comp=Z,12nm,1.2s
ANMO Albuquerque 56.95 288⇓ *e*P **P** **20 17 01.1 +0.1**
TUC Tucson 60.01 292 *e*P **P** **20 17 22.1 -0.1**
comp=Z,6.3nm,1.2s
TUC Tucson 60.01 292 *e*P **P** **20 17 22.1 -0.1**
TUC pmax pmax
comp=Z,6.0nm,1.2s
JCT Junction City 60.66 281 *e*P **P** **20 17 26.5 -0.1**
comp=Z,18nm,1.2s
JCT Junction City 60.66 281 *e*P **P** **20 17 26.5 -0.1**
JCT pmax pmax
comp=Z,18nm,1.2s
LSA Lhasa 61.11 82 *e*P **P** **20 17 31.6 +1.4**
comp=Z,5.7nm,1.4s
LSA Lhasa 61.11 82 *e*P **P** **20 17 31.6 +1.4**
LSA pmax pmax
comp=Z,6.0nm,1.4s
LTX Lajitas 62.21 284 *e*P **P** **20 17 36.9 -0.3**
LTX Lajitas 62.21 284 *e*P **P** **20 17 36.9 -0.3**
TX31 Lajitas Ar. Si 62.21 284 *e*P **P** **20 17 36.0 -1.1**
TXAR Lajitas Array 62.21 284 P **P** **20 17 36.9 -0.3**
comp=Z,1.6nm,0.8s,baz=6.8,slow=3.0,SNR=17
TXAR LR LR 20 47 04.8
comp=Z,236nm,19.2s,baz=0.0,slow=38
RAYN Ar Rayn 62.49 129 *e*P **P** **20 17 39.9 +0.9**
comp=Z,5.0nm,0.9s
RAYN Ar Rayn 62.49 129 *e*P **P** **20 17 39.9 +0.9**
RAYN pmax pmax
comp=Z,5.0nm,0.9s
TOA1 Torodi Ar. Sit 70.60 175 *e*P **P** **20 18 33.4 +2.5**
TORD Torodi Ar. Bea 70.60 175 P **P** **20 18 33.4 +2.5**
comp=Z,0.6nm,0.7s,baz=4.6,slow=4.7,SNR=3.8
CMAR Chiang Mai Arr 73.07 76 P **P** **20 18 45.1 -0.6**
comp=Z,0.5nm,0.4s,baz=339,slow=7.7,SNR=4.9
CMAR LR LR 20 53 14.1
comp=Z,51nm,18.9s,baz=18,slow=38
CMAR Chiang Mai Arr 73.07 76 *i* P **P** **20 18 47.5 +1.8**
CMAR pmax pmax
comp=Z,2.0nm,0.9s
CM01 Chiang Mai Arr 73.11 76 *e*P **P** **20 18 45.0 -0.9**
ROSC El Rosal 83.20 252 LR LR 20 57 03.0
comp=Z,32nm,19.5s,baz=50,slow=36

*ISCJB **30** 20:29:28.5±1.5,28°.80S±0°.04×71°.51W±0°.09,h18km±10km, Error ellipse: s-maj=12.9km s-min=6.7km az=14.5*
*GUC **30** 20:29:29.9±0.7,28°.88S×71°.18W,h55km±9km, ML3.5*
*SJA **30** 20:29:31.6±0.9,29°.02S×71°.26W,h16km±7km, ML4.4, MW4.5*

ISC 30 20:29:27.1±2.0,28°.81S±0°.05×71°.41W±0°.09,h6km±14km, n20,σ1°.81/26,2C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**0.65**	**108**	*e*P	**Pn**	**20 29 42.6**	**-0.6**
LCO				*i* S	**Sb**	**20 29 51.4**	**+0.8**
LCO				IAML		20 29 53.3	
	comp=E,3μm,0.2s						
LSCH	**La Serena**	**1.10**	**173**	⇓*i*P	**Pg**	**20 29 49.1**	**+0.8**
LSCH				*i* S	**Sb**	**20 30 03.1**	**-0.2**
LSCH				IAML		20 30 04.3	
	comp=E,1μm,0.3s						
GO04	**Tololo Observa**	**1.46**	**159**	*e*P	**Pn**	**20 29 54.6**	**+0.3**
GO04				*e*S	**Sn**	**20 30 12.5**	**-1.4**
GO04	**Tololo Observa**	**1.46**	**159**	⇑*i*P	**Pn**	**20 29 54.3**	**0.0**
GO04				*i* S	**Sg**	**20 30 12.8**	**-1.3**
GO04				IAML		20 30 17.9	
	comp=E,4μm,0.5s						
GO03	**Copiap**	**1.59**	**41**	⇑*i*P	**Pn**	**20 29 56.6**	**+0.7**
GO03				*i* S	**Sn**	**20 30 16.7**	**-0.2**
GO03				IAML		20 30 23.1	
	comp=E,495nm,0.8s						
AROD	**Rodeo**	**2.16**	**129**	*e*P	**Pb**	**20 30 06.5**	**-0.4**
AROD				*e*S	**Sb**	**20 30 32.5**	**-1.7**
CMCH	**Combarbala**	**2.38**	**172**	*e*P	**Pn**	**20 30 06.8**	**-0.1**

AGUA	**GUANDACOL**	**2.64**	**106**	*eP*	**Pb**	**20 30 14.0**	**-1.0**
ACCO	**Cerro Coronel**	**2.70**	**132**	*eP*	**Pb**	**20 30 14.5**	**-1.6**
ACCO				IAML		20 30 52.4	
	comp=Z,278μm,0.2s						
VCA	**Vinchina**	**2.81**	**89**	*eP*	**Pb**	**20 30 16.9**	**-1.0**
VCA				IAML		20 31 00.1	
	comp=Z,107nm,0.3s						
AMOG	**MOGNA**	**3.31**	**131**	*eP*	**Pn**	**20 30 22.4**	**+2.9**
RTLS	**Leoncito**	**3.50**	**149**	*eP*	**Pn**	**20 30 25.9**	**+3.5**
RTLS				IAML		20 31 15.7	
	comp=Z,108nm,0.7s						
RTLL	**Cerro Villicun**	**3.58**	**135**	*eP*	**Pn**	**20 30 25.2**	**+2.0**
AUSP	**Uspallata**	**3.83**	**153**	*eP*	**Pn**	**20 30 30.3**	**+3.4**
RTCV	**Cerro Valdivia**	**3.93**	**142**	*eP*	**Pn**	**20 30 30.5**	**+2.5**
ACLC	**CERRO LA CRUZ**	**3.95**	**100**	*eP*	**Pn**	**20 30 30.2**	**+1.7**
GO02	**Mina Guanaco**	**3.98**	**24**	*eP*	**Pn**	**20 30 29.8**	**+0.8**
GO02				IAML		20 31 44.9	
	comp=E,125nm,0.6s						
PEL	**Peldehue**	**4.37**	**172**	*eP*	**Pn**	**20 30 34.8**	**+0.7**
ASAL	**Salagasta**	**4.37**	**150**	*eP*	**Pn**	**20 30 37.3**	**+3.1**
ACAN	**Cantantal**	**5.02**	**135**	*eP*	**Pn**	**20 30 44.6**	**+1.5**

IDC 30 20:43:29.2±1.9, 11°.54S×117°.85E, h0km, mb3.6/1, mb1 3.9/5, mb1mx3.6/37, mbtmp3.7/5, ML3.7/4, MS3.9/1, Ms1 3.9/1, ms1mx2.7/32, Error ellipse: s-maj=67.4km s-min=23.6km az=42.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.86**	**77**	Pn	Pn	20 44 58.2	+0.7
	4.0nm,0.3s,baz=97,slow=2.9,SNR=7.1						
BATI				Sn	Sn	20 46 00.8	-4.6
	5.3nm,0.3s,baz=237,slow=24,SNR=6.6						
FITZ	**Fitzroy Crossi**	**9.96**	**132**	Pn	Pn	20 45 54.0	+0.3
	0.8nm,0.3s,baz=307,slow=12,SNR=42						
FITZ				Sn	Sn	20 47 36.5	-10
	0.9nm,0.3s,baz=170,slow=22,SNR=5.9						
WRA	**Warramunga Arr**	**17.92**	**120**	P	Pn	20 47 38.2	-2.0
	0.1nm,0.3s,baz=296,slow=13,SNR=15						
WRA				S	Sn	20 50 43.5	-17
	0.1nm,0.3s,baz=297,slow=21,SNR=4.1						
ASAR	**Alice Springs**	**19.46**	**130**	P	Pn	20 47 58.7	-0.1
	0.2nm,0.3s,baz=307,slow=12,SNR=19						
ASAR				S	Sn	20 51 23.0	-15
	0.1nm,0.3s,baz=301,slow=22,SNR=3.2						
HNR	**Honiara**	**41.42**	**91**	LR	LR	21 11 32.2	
	comp=Z,167nm,20.1s,baz=256,slow=41						
MKAR	**Makanchi Array**	**66.21**	**334**	P	P	20 54 18.9	-0.1
	0.3nm,0.4s,baz=144,slow=7.7,SNR=10						

IDC 30 21:12:24.5±1.9, 5°.33N×126°.16E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/36, mbtmp3.6/5, Error ellipse: s-maj=116.0km s-min=25.3km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**23.29**	**181**	P	P	21 17 34.0	-0.1
	1.8nm,0.9s,baz=10,slow=10,SNR=2.1						
WRA	**Warramunga Arr**	**26.37**	**162**	P	P	21 18 02.7	0.0
	0.7nm,0.4s,baz=342,slow=10,SNR=15						
ASAR	**Alice Springs**	**29.80**	**166**	P	P	21 18 33.2	0.0
	0.2nm,0.5s,baz=343,slow=11,SNR=2.9						
STKA	**Stephens Creek**	**39.82**	**159**	P	P	21 19 59.6	0.0
	0.9nm,0.4s,baz=346,slow=4.2,SNR=2.2						
MKAR	**Makanchi Array**	**55.93**	**325**	P	P	21 22 04.3	-0.1
	0.5nm,0.7s,baz=117,slow=7.3,SNR=4.5						

MAN 30 21:13:01.6, 11°.37N×126°.46E, h28km, mb4.8, ML3.7, MS3.6, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**1.47**	**262**	⇓*eP*	Pn	21 13 25.9	-0.3
PLP				*eS*	Sn	21 13 44.7	+0.3
SCPH	**Surigao**	**1.84**	**211**	*eP*	Pn	21 13 31.7	+0.4
SCPH				*eS*	Sn	21 13 54.4	+0.6
MSLP	**Maasin**	**2.00**	**232**	*eP*	Pb	21 13 35.9	-1.3
MSLP				*eS*	Sn	21 13 58.3	-2.2
CNP	**Catarman**	**2.09**	**303**	*eP*	Pn	21 13 35.9	+1.1
CNP				*eS*	Sn	21 14 00.8	+0.9
PVCP	**Virac**	**3.16**	**315**	*eP*	Pn	21 13 48.9	-0.5

IDC 30 21:36:21.7±3.8, 18°.11S×177°.97W, h596km±41km, mb2.9/4, mb1 3.2/4, mb1mx2.9/25, mbtmp3.8/4, Error ellipse: s-maj=99.9km s-min=17.7km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.00**	**260**	P	P	21 43 45.6	-0.1
	0.9nm,0.4s,baz=98,slow=6.8,SNR=50						
WRA				PcP	PcP	21 45 13.4	-0.4
	0.2nm,0.5s,baz=95,slow=3.2,SNR=4.1						
ASAR	**Alice Springs**	**45.14**	**254**	P	P	21 43 46.6	-0.1
	1.0nm,0.4s,baz=92,slow=7.4,SNR=19						
ASAR				PcP	PcP	21 45 13.5	-0.8
	0.4nm,0.6s,baz=86,slow=4.0,SNR=5.5						
ASAR				S	S	21 49 44.5	+0.5
	0.7nm,0.8s,baz=89,slow=15,SNR=5.1						
TXAR	**Lajitas Array**	**85.75**	**57**	P	P	21 47 59.8	+0.4
	0.1nm,0.6s,baz=198,slow=5.3,SNR=4.4						
ILAR	**Eielson Array**	**85.98**	**13**	P	P	21 47 59.0	-0.5
	0.2nm,0.4s,baz=219,slow=5.1,SNR=4.9						
ARCES	**ARCESS Array B**	**126.58**	**350**	PKP	PKPdf	21 54 16.8	-0.8
	2.2nm,1.0s,baz=0.0,slow=1.8,SNR=3.8						
FINES	**FINESS Array B**	**133.49**	**344**	PKP	PKPdf	21 54 30.5	-0.3
	2.0nm,0.8s,baz=101,slow=3.5,SNR=3.7						
GERES	**GERESS Array B**	**147.91**	**345**	PKPbc	PKPbc	21 55 00.9	0.0
	0.5nm,0.7s,baz=25,slow=3.5,SNR=4.6						

IDC 30 21:51:42.7±2.3, 18°.17S×168°.37E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/32, mbtmp3.6/4, ML1.9/1, MS3.6/1, Ms1 3.6/1, ms1mx2.8/30, Error ellipse: s-maj=72.2km s-min=33.4km az=133.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.28**	**205**	Pn	Pn	21 52 49.5	+0.2
	0.1nm,0.3s,baz=346,slow=16,SNR=3.1						
DZM				Sn	Sn	21 53 32.1	-8.0
	4.0nm,0.3s,baz=131,slow=23,SNR=9.0						
URZ	**Urewera**	**21.42**	**161**	LR	LR	22 02 10.9	
	comp=Z,148nm,20.5s,baz=48,slow=29						
WRA	**Warramunga Arr**	**32.19**	**261**	P	P	21 58 12.7	+0.1
	0.3nm,0.9s,baz=92,slow=8.5,SNR=4.9						
ASAR	**Alice Springs**	**32.60**	**254**	P	P	21 58 16.1	-0.2
	0.6nm,0.5s,baz=82,slow=8.4,SNR=9.1						
ILAR	**Eielson Array**	**89.46**	**18**	P	P	22 04 41.2	0.0
	0.5nm,0.9s,baz=217,slow=7.2,SNR=6.0						

*ISCJB **30** 22:18:18.1±0.3, 7°.47S±0°.03×128°.60E±0°.04, h151km, mb4.1/15, Error ellipse: s-maj=5.4km s-min=4.5km az=148.6*
*NEIC **30** 22:18:20.1±0.4, 7°.49S×128°.62E, h158km±5km, mb4.2/7, Error ellipse: s-maj=5.9km s-min=4.4km az=48.0*
*IDC **30** 22:18:21.5±1.9, 7°.45S×128°.51E, h163km±18km, mb3.6/9, mb1 3.7/12, mb1mx3.6/33, mbtmp4.2/12, Error ellipse: s-maj=20.3km s-min=12.6km az=83.0*

ISC 30 22:18:19.8±0.4, 7°.51S±0°.05×128°.59E±0°.05, h151km, n52, σ1§84/57, mb4.2/15, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.73**	**100**	*eP*	**Pn**	**22 19 04.0**	**+0.2**
SAUI				*eSn*	**Sn**	**22 19 35.9**	**-1.9**
SOEI	**Soe**	**4.82**	**242**	*eP*	**Pn**	**22 19 32.4**	**+1.4**
BATI	**Baumata**	**5.56**	**241**	P	**Pn**	**22 19 42.1**	**+1.4**
	103nm,0.3s,baz=110,slow=1.9,SNR=99						
BATI				S	**Sn**	**22 20 43.0**	**-0.8**
	31nm,0.3s,baz=288,slow=22,SNR=6.5						
FAKI	**Fak Fak**	**5.84**	**39**	*eP*	**Pn**	**22 19 44.1**	**-0.3**
MTN	**Manton Dam**	**5.86**	**155**	*eP*	**Pn**	**22 19 45.6**	**+0.9**
MMRI	**Maumere**	**6.39**	**259**	*eP*	**Pn**	**22 19 52.3**	**+0.6**
SIJI	**Sorong**	**7.12**	**22**	P	**Pn**	**22 20 02.2**	**+0.8**
	3.9nm,0.3s,baz=215,slow=23,SNR=13						
SIJI				S	**Sn**	**22 21 17.0**	**-4.3**
	3.1nm,0.3s,baz=264,slow=23,SNR=6.6						
TNTI	**Ternate**	**8.32**	**352**	*eP*	**Pn**	**22 20 17.3**	**-0.2**
LUWI	**Luwuk**	**8.65**	**318**	*eP*	**Pn**	**22 20 22.4**	**+0.4**
FITZ	**Fitzroy Crossi**	**10.91**	**195**	P	**Pn**	**22 20 50.0**	**-1.8**
	0.4nm,0.3s,baz=12,slow=12,SNR=19						
FITZ				S	Sn	22 22 43.1	-9.5
	1.3nm,0.3s,baz=43,slow=15,SNR=3.9						
FITZ	**Fitzroy Crossi**	**10.91**	**195**	*eP*	**Pn**	**22 20 51.4**	**-0.4**
JAY	**Jayapura**	**13.05**	**68**	P	**Pn**	**22 21 21.1**	**+1.5**
	0.6nm,0.3s,baz=68,slow=9.8,SNR=3.4						
WRAB	**Tennant Creek**	**13.55**	**156**	*eP*	**Pn**	**22 21 25.6**	**-0.5**
WRAB				*eS*	Sn	22 23 46.5	-10
WRA	**Warramunga Arr**	**13.56**	**156**	P	**Pn**	**22 21 23.6**	**-2.5**
	0.8nm,0.3s,baz=328,slow=13,SNR=45						
WRA				S	Sn	22 23 42.9	-14
	1.1nm,0.3s,baz=333,slow=22,SNR=5.7						
WB2	**Warramunga Arr**	**13.56**	**156**	*eP*	**Pn**	**22 21 25.5**	**-0.7**
WB2				*eS*	Sn	22 23 46.1	-10
JAGI	**Jajag, Banyuwa**	**14.33**	**265**	*eP*	**Pn**	**22 21 36.4**	**+0.5**
COEN	**Coen**	**15.69**	**115**	*ePn*	**Pn**	**22 21 52.6**	**-0.2**
	18nm,1.4s						
AS31	**Alice Springs**	**16.86**	**163**	*eP*	**Pn**	**22 22 06.9**	**-0.1**
	1.6nm,0.6s						
ASAR	**Alice Springs**	**16.86**	**163**	P	**Pn**	**22 22 08.8**	**+1.8**
	0.6nm,0.3s,baz=337,slow=9.9,SNR=39						
ASAR				S	**S**	**22 25 05.1**	**-9.3**
	0.4nm,0.3s,baz=344,slow=25,SNR=4.3						
AS01	**Alice Springs**	**16.87**	**163**	*eP*	**Pn**	**22 22 07.6**	**+0.5**
PMG	**Port Moresby**	**18.46**	**97**	P	**Pn**	**22 22 29.6**	**+3.5**
	0.7nm,0.3s,baz=277,slow=8.2,SNR=6.7						
PMG	**Port Moresby**	**18.46**	**97**	*eP*	**P**	**22 22 24.4**	**+0.2**
	20nm,0.8s						
SBUM	**Sibu**	**19.09**	**301**	*eP*	**P**	**22 22 31.4**	**+0.3**
	3.6nm,0.7s						
KSM	**Kuching**	**20.30**	**295**	*eP*	**P**	**22 22 44.3**	**+0.2**
	9.0nm,0.8s						
STKA	**Stephens Creek**	**27.11**	**155**	P	**P**	**22 23 50.0**	**+1.4**
	1.8nm,0.5s,baz=319,slow=7.8,SNR=7.3						
STKA				pP	**pP**	**22 24 24.2**	**+3.9**
	1.0nm,0.4s,baz=324,slow=13,SNR=1.5						
CMAR	**Chiang Mai Arr**	**39.00**	**312**	P	**P**	**22 25 32.4**	**+0.5**
	0.6nm,0.3s,baz=144,slow=5.5,SNR=5.8						
MJAR	**Matsushiro Arr**	**44.74**	**11**	P	**P**	**22 26 18.0**	**-0.1**
	0.4nm,0.3s,baz=197,slow=9.4,SNR=2.6						
XAN	**Xi'an**	**45.33**	**337**	P	**P**	**22 26 21.3**	**-1.6**
XAN				pmax	pmax		
	comp=Z,8.0nm,1.1s						
LZH	**Lanzhou**	**49.21**	**333**	*eP*	**P**	**22 26 53.5**	**+0.5**
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
USRK	**Ussuriysk Ar.**	**51.56**	**3**	P	**P**	**22 27 10.4**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=193,slow=6.1,SNR=3.3						
LSA	**Lhasa**	**51.61**	**318**	*eP*	**P**	**22 27 10.3**	**-1.2**
	comp=Z,12nm,1.9s						
RAMN	**Ramite**	**53.18**	**312**	*eP*	**P**	**22 27 22.3**	**-0.6**
	comp=Z,12nm,0.5s						
GTA	**Gaotai**	**53.76**	**332**	⇓P	**P**	**22 27 26.8**	**+0.1**
GTA				pP	pP	22 28 01.3	-0.3
GTA				sP	sP	22 28 19.5	+1.3
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
JIRN	**Jiri**	**53.88**	**312**	*eP*	**P**	**22 27 27.2**	**-0.9**
	comp=Z,4.4nm,0.3s						
GUN	**Gumba**	**54.24**	**312**	*eP*	**P**	**22 27 29.7**	**-1.0**
	comp=Z,8.6nm,0.4s						
PKI	**Pulchoki**	**54.40**	**312**	*eP*	**P**	**22 27 30.6**	**-1.3**
	comp=Z,4.3nm,0.3s						
PKIN	**Phulchoki**	**54.42**	**312**	*eP*	**P**	**22 27 30.4**	**-1.5**
	comp=Z,3.4nm,0.4s						
KOLN	**Koldanda**	**55.86**	**311**	*eP*	**P**	**22 27 41.0**	**-1.2**
	comp=Z,5.7nm,0.5s						
PYUN	**Piuthan**	**56.49**	**311**	*eP*	**P**	**22 27 45.6**	**-1.0**
	comp=Z,12nm,0.7s						
ULN	**Ulaanbaatar**	**58.33**	**343**	*eP*	**P**	**22 27 58.6**	**-0.4**
	comp=Z,20nm,1.9s						
SONM	**Songino Array**	**58.49**	**343**	P	**P**	**22 28 00.4**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=161,slow=6.6,SNR=11						
SONA1	**Songino Array**	**58.50**	**343**	*eP*	**P**	**22 28 00.2**	**0.0**
PETK	**Petropavlovsk-**	**65.25**	**19**	P	**P**	**22 28 45.7**	**+0.7**
	comp=Z,8.4nm,1.0s,baz=187,slow=6.8,SNR=3.1						
MK01	**Makanchi Array**	**67.87**	**328**	*eP*	**P**	**22 29 00.7**	**-1.2**
MKAR	**Makanchi Array**	**67.89**	**328**	P	**P**	**22 29 01.7**	**-0.3**
	comp=Z,1.5nm,0.4s,baz=118,slow=8.2,SNR=49						
ZALV	**Zalesovo Beam**	**71.43**	**334**	P	**P**	**22 29 22.1**	**-1.3**
	comp=Z,2.0nm,0.5s,baz=131,slow=5.8,SNR=9.2						
VNDA	**Vanda**	**72.12**	**173**	P	**P**	**22 29 28.0**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=327,slow=7.4,SNR=4.6						
KURK	**Kurchatov**	**72.23**	**329**	*eP*	**P**	**22 29 28.2**	**-0.1**
	comp=Z,9.9nm,1.3s						
ABKAR	**Akbulak array**	**82.04**	**322**	*eP*	**P**	**22 30 22.3**	**-0.8**
GERES	**GERESS Array B**	**111.91**	**320**	PKiKP	**PKiKP**	**22 36 36.9**	**-0.2**
	2.0nm,0.3s,baz=162,slow=0.6,SNR=2.6						
TORD	**Torodi Ar. Bea**	**127.53**	**281**	PKP	**PKPdf**	**22 37 06.6**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=117,slow=5.0,SNR=3.2						
LPAZ	**La Paz**	**151.14**	**145**	PKPbc	**PKPbc**	**22 37 57.8**	**+0.9**
	comp=Z,0.7nm,0.4s,baz=248,slow=5.4,SNR=4.1						

*ISCJB **30** 22:29:17.7±0.5, 11°.61S±0°.07×166°.8E±0°.1, h200km, mb4.0/18, Error ellipse: s-maj=16.6km s-min=9.4km az=176.8*
*IDC **30** 22:29:18.8±1.1, 11°.67S×166°.81E, h197km±9km, mb3.9/17, mb1 4.0/18, mb1mx3.8/33, mbtmp4.3/18, MS2.7/1, Ms1 2.7/1, ms1mx2.5/24, Error ellipse: s-maj=16.9km s-min=11.5km az=83.0*
*NEIC **30** 22:29:24.3±1.3, 11°.72S×166°.69E, h250km±12km, mb4.3/1, Error ellipse: s-maj=13.7km s-min=8.2km az=67.0*

ISC 30 22:29:18.7±0.6, 11°.71S±0°.07×166°.9E±0°.1, h200km, n34, σ1§36/34, mb4.1/18, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.24**	**288**	P	**Pn**	**22 31 04.3**	**+2.3**
	19nm,0.3s,baz=313,slow=0.8,SNR=5.4						
HNR	**Honiara**	**7.24**	**288**	*ePn*	**Pn**	**22 31 04.7**	**+2.7**
DZM	**Mont Dzumac**	**10.31**	**183**	P	**P**	**22 31 47.1**	**-2.6**
	3.2nm,0.3s,baz=184,slow=17,SNR=24						
DZM				S	**S**	**22 33 39.9**	**+2.1**
	0.9nm,0.3s,baz=125,slow=19,SNR=5.2						
DZM				LR	LR	22 34 34.4	
	comp=Z,41nm,20.8s,baz=46,slow=30						
PMG	**Port Moresby**	**19.58**	**275**	P	**P**	**22 33 32.2**	**+0.5**
	0.8nm,0.3s,baz=114,slow=10.0,SNR=3.5						
URZ	**Urewera**	**27.96**	**163**	P	**P**	**22 34 52.0**	**+1.5**
	6.3nm,0.3s,baz=265,slow=2.7,SNR=11						
H11S2	**WAKE ISLAND Hy**	**30.01**	**360**	T	T	23 06 06.7	
	baz=181,slow=76,SNR=3.0						
H11S3	**WAKE ISLAND Hy**	**30.01**	**360**	T	T	23 06 17.3	
	baz=181,slow=76,SNR=3.6						
H11S1	**WAKE ISLAND Hy**	**30.03**	**360**	T	T	23 06 10.5	
	baz=181,slow=76,SNR=4.0						
STKA	**Stephens Creek**	**30.79**	**225**	P	**P**	**22 35 16.0**	**+0.3**
	1.4nm,0.7s,baz=70,slow=15,SNR=2.5						
STKA				pP	**pP**	**22 35 57.2**	**+0.7**
	1.8nm,0.7s,baz=31,slow=9.7,SNR=2.1						
H11N1	**WAKE ISLAND Hy**	**31.23**	**360**	T	T	23 07 34.2	
	baz=180						
H11N3	**WAKE ISLAND Hy**	**31.23**	**360**	T	T	23 07 42.4	
	baz=180						
H11N2	**WAKE ISLAND Hy**	**31.24**	**360**	T	T	23 07 48.4	
	baz=180						
RPZ	**Rata Peaks**	**32.09**	**174**	P	**P**	**22 35 29.1**	**+2.2**
	17nm,0.5s,baz=254,slow=0.5,SNR=6.9						
WRA	**Warramunga Arr**	**32.37**	**251**	P	**P**	**22 35 27.8**	**-1.8**
	1.3nm,1.2s,baz=86,slow=9.1,SNR=5.6						
WRA				pP	**pP**	**22 36 09.3**	**-1.4**
	0.7nm,0.7s,baz=79,slow=9.1,SNR=2.1						
WRA				ScP	**ScP**	**22 41 37.4**	**-0.1**
	0.7nm,0.8s,baz=82,slow=3.4,SNR=6.9						
ASAR	**Alice Springs**	**33.55**	**245**	P	**P**	**22 35 38.1**	**-1.8**
	0.3nm,0.3s,baz=69,slow=10,SNR=7.0						
ASAR				pP	**pP**	**22 36 18.7**	**-2.4**
	1.2nm,0.7s,baz=70,slow=9.3,SNR=6.8						
ASAR				ScP	**ScP**	**22 41 41.7**	**+0.1**
	1.2nm,0.8s,baz=86,slow=3.2,SNR=7.7						
MJAR	**Matsushiro Arr**	**55.10**	**332**	P	**P**	**22 38 29.4**	**-0.8**
	2.9nm,0.7s,baz=160,slow=8.5,SNR=6.7						
KSRS	**Korea Array**	**61.09**	**325**	P	**P**	**22 39 11.9**	**+0.3**
	1.8nm,0.6s,baz=135,slow=6.9,SNR=3.9						
KSAR	**Wonju Array Be**	**61.10**	**325**	P	**P**	**22 39 11.9**	**+0.2**
USRK	**Ussuriysk Ar.**	**64.07**	**333**	P	**P**	**22 39 32.2**	**+1.0**
	3.2nm,0.9s,baz=107,slow=6.4,SNR=4.8						
PETK	**Petropavlovsk-**	**65.04**	**354**	P	**P**	**22 39 38.0**	**+0.7**
	5.1nm,0.8s,baz=170,slow=11,SNR=4.1						
VNDA	**Vanda**	**65.86**	**181**	P	**P**	**22 39 42.5**	**+0.2**
	2.8nm,1.0s,baz=358,slow=6.8,SNR=12						
CMAR	**Chiang Mai Arr**	**73.45**	**293**	P	**P**	**22 40 30.2**	**+0.6**
	2.6nm,0.6s,baz=124,slow=4.7,SNR=14						
ULN	**Ulaanbaatar**	**79.52**	**324**	*eP*	**P**	**22 41 02.9**	**-0.4**
	4.7nm,0.7s						
SONM	**Songino Array**	**79.89**	**323**	P	**P**	**22 41 05.1**	**-0.2**
	1.5nm,0.7s,baz=136,slow=5.8,SNR=9.4						
ILAR	**Eielson Array**	**83.77**	**18**	P	**P**	**22 41 25.2**	**+0.2**
	5.3nm,0.7s,baz=236,slow=5.2,SNR=64						
NVAR	**Mina Array Bea**	**85.56**	**49**	P	**P**	**22 41 36.4**	**+1.5**
	0.9nm,0.7s,baz=252,slow=4.6,SNR=3.7						
ZALV	**Zalesovo Beam**	**94.78**	**324**	P	**P**	**22 42 16.0**	**-1.4**
	0.3nm,0.4s,baz=57,slow=5.3,SNR=3.7						
MKAR	**Makanchi Array**	**94.80**	**317**	P	**P**	**22 42 17.1**	**-0.6**
	3.6nm,0.7s,baz=90,slow=5.7,SNR=26						
YKA	**Yellowknife Ar**	**95.03**	**27**	P	**P**	**22 42 17.6**	**-0.6**
	0.6nm,0.5s,baz=259,slow=4.6,SNR=10						
ARCES	**ARCESS Array B**	**117.27**	**346**	PKP	**PKPdf**	**22 47 38.7**	**-0.9**
	2.9nm,0.8s,baz=67,slow=2.3,SNR=3.9						
FINES	**FINESS Array B**	**122.81**	**339**	PKP	**PKPdf**	**22 47 50.1**	**-0.3**
	16nm,1.2s,baz=98,slow=5.8,SNR=4.4						
AKASG	**Malin Array Be**	**128.05**	**327**	PKP	**PKPdf**	**22 48 00.6**	**-0.2**
	0.2nm,0.3s,baz=54,slow=4.7,SNR=4.5						
KEST	**Kesra**	**148.65**	**323**	PKPbc	**PKPbc**	**22 48 41.1**	**-1.6**
	5.5nm,0.9s,baz=144,slow=2.1,SNR=4.9						
ESDC	**Sonseca Array**	**151.00**	**345**	PKPbc	**PKPbc**	**22 48 48.1**	**-0.1**
	1.2nm,0.8s,baz=356,slow=3.7,SNR=5.1						

IDC 30 22:40:04.3±6.9, 4°.64S×152°.04E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.3/25, mbtmp3.3/3, MS2.9/1, Ms1 2.9/1, ms1mx2.7/8, Error ellipse: s-maj=207.5km s-min=34.1km az=105.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.77**	**225**	LR	LR	22 44 06.6	
	comp=Z,99nm,18.2s,baz=330,slow=36						
WRA	**Warramunga Arr**	**22.99**	**227**	P	P	22 45 10.9	0.0
	0.9nm,1.1s,baz=52,slow=9.6,SNR=4.0						
ASAR	**Alice Springs**	**25.76**	**221**	P	P	22 45 37.0	0.0
	0.2nm,0.5s,baz=54,slow=9.3,SNR=1.2						
SONM	**Songino Array**	**65.79**	**328**	P	P	22 50 51.5	0.0
	0.7nm,1.0s,baz=128,slow=9.3,SNR=3.6						

*NNC **30** 23:02:30.0±2.2, 43°.60N×73°.84E, h0km, mb2.1, mpv2.2, Error ellipse: s-maj=16.7km s-min=8.1km az=4.0*
*SOME **30** 23:02:31.5, 43°.55N×73°.83E, h15km*
*KRNET **30** 23:02:31.4±0.1, 43°.57N×73°.85E, h19km, mb2.6*
*KNET **30** 23:02:33.0±0.3, 43°.50N×73°.92E, h18km±1km, ml1.9, Error ellipse: s-maj=2.6km s-min=1.5km az=11.0*

ISC 30 23:02:30.7±1.2, 43°.59N±0°.03×73°.86E±0°.02, h1km±10km, n44, σ0§67/88, 38C-15D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
USP	**Ospenovka**	**0.56**	**124**	P	**Pb**	**23 02 42.7**	**-0.7**
	9.0nm,0.1s,SNR=66						
USP				⇓S	**Sb**	**23 02 50.5**	**-1.4**
	88nm,0.2s						
CHMS	**Chumysh**	**0.87**	**132**	⇓P	**Pb**	**23 02 48.1**	**-0.6**
	4.5nm,0.2s,SNR=17						
CHMS				⇓S	**Sb**	**23 02 59.8**	**-1.1**
	55nm,0.1s						
CHMS	**Chumysh**	**0.87**	**132**	⇑*i*P	**Pg**	**23 02 47.8**	**+0.3**
	baz=31						
CHMS				⇑*i*S	**Sg**	**23 02 59.4**	**+0.6**
	baz=31						
EKS2	**Erkin-Say**	**0.93**	**184**	⇓P	**Pg**	**23 02 49.2**	**+0.7**
	4.9nm,0.1s,SNR=43						
EKS2				⇓S	**Sb**	**23 03 02.1**	**-0.4**
	18nm,0.2s						
EKS2	**Erkin-Say**	**0.93**	**184**	⇑*i*P	**Pg**	**23 02 48.4**	**-0.1**
	baz=84						
EKS2				⇑*i*S	**Sg**	**23 03 00.5**	**0.0**
	baz=84						
FRU1	**Bishkek**	**0.96**	**144**	⇑*i*P	**Pg**	**23 02 49.4**	**+0.4**
	baz=43						
FRU1				⇑*i*S	**Sg**	**23 03 02.0**	**+0.6**
	baz=43						
MRKS	**Merke**	**0.96**	**209**	⇑*i*P	**Pg**	**23 02 49.5**	**+0.3**
	baz=9.0						
MRKS				⇑*i*S	**Sg**	**23 03 02.2**	**+0.6**
	baz=9.0						
MRKS	**Merke**	**0.96**

KUU				*e*S		**Sb**	**23 03 28.3**	**+0.2**
	40nm,0.4s							
KZA	**Kyzart**	**1.82**	**145**	⇑*i*P		**Pb**	**23 03 04.6**	**-0.4**
	baz=45							
KZA				⇑*i*S		**Sg**	**23 03 28.8**	**-0.4**
	baz=45							
BOOM	**Boomskoye usch**	**1.88**	**125**	⇑*i*P		**Pb**	**23 03 05.0**	**-0.8**
	baz=24							
BOOM				⇑*i*S		**Sb**	**23 03 29.8**	**0.0**
	baz=24							
MTBS	**Maitube**	**1.93**	**103**	*e*P		**Pb**	**23 03 06.7**	**+0.1**
	baz=2.0							
MTBS				*e*S		**Sg**	**23 03 32.3**	**-0.3**
	baz=2.0							
MTBS	**Maitube**	**1.93**	**103**	*e*P		**Pb**	**23 03 06.7**	**+0.1**
	5.0nm,0.2s							
MTBS				*e*S		**Sg**	**23 03 32.3**	**-0.3**
	9.0nm,0.3s							
KTBS	**Karatobe**	**2.05**	**86**	*e*P		**Pb**	**23 03 09.1**	**+0.3**
	1.1nm,0.2s							
KTBS				*e*S		**Sg**	**23 03 35.8**	**-0.7**
	12nm,0.5s							
IZV	**Izvestkoviy**	**2.08**	**104**	*e*P		**Pb**	**23 03 09.3**	**-0.1**
	2.6nm,0.2s							
IZV				*e*S		**Sb**	**23 03 36.2**	**+0.5**
	15nm,0.4s							
ARK	**Arkit**	**2.27**	**219**	⇓*e*P		**Pn**	**23 03 10.2**	**+0.8**
	baz=18							
ARK				⇓*i*S		**Sn**	**23 03 38.8**	**+0.7**
	baz=18							
TNSS	**Tian-Shan**	**2.32**	**103**	*e*P		**Pb**	**23 03 13.4**	**-0.1**
	1.8nm,0.2s							
TNSS				*e*S		**Sb**	**23 03 43.4**	**+0.7**
	7.8nm,0.4s							
ARSB	**Arslanbob**	**2.35**	**196**	⇑*e*P		**Pn**	**23 03 11.1**	**+0.5**
	baz=96							
ARSB				⇑*e*S		**Sn**	**23 03 40.7**	**+0.5**
	baz=96							
MDOK	**Medeo**	**2.36**	**99**	*e*P		**Pb**	**23 03 14.1**	**0.0**
	1.6nm,0.3s							
MDOK				*e*S		**Sb**	**23 03 44.7**	**+1.0**
	5.5nm,0.4s							
KOTS	**Kotyrbulak**	**2.39**	**97**	*e*P		**Pb**	**23 03 15.5**	**+0.9**
	1.3nm,0.2s							
KOTS				*e*S		**Sg**	**23 03 47.2**	**-0.3**
	6.7nm,0.4s							
KK31	**Karatay Array**	**2.49**	**260**	Pn		**Pb**	**23 03 16.1**	**-0.1**
	0.7nm,0.2s,baz=74,slow=17,SNR=17							
KK31				Sn		**Sn**	**23 03 42.6**	**-0.8**
	1.1nm,0.3s,baz=71,slow=31,SNR=9.9							
NRN	**Naryn**	**2.67**	**143**	⇑*i*P		**Pn**	**23 03 16.7**	**+1.6**
	baz=43							
NRN				⇑*i*S		**Sn**	**23 03 49.2**	**+1.0**
	baz=43							
ARXS	**Arharly**	**2.93**	**76**	*e*P		**Pb**	**23 03 24.6**	**+0.8**
	2.9nm,0.4s							
ARXS				*e*S		**Sg**	**23 04 02.4**	**-2.5**
	5.9nm,0.4s							
SATY	**Saty**	**3.36**	**97**	*e*P		**Pb**	**23 03 32.3**	**+1.2**
	5.1nm,0.8s							
SATY				*e*S		**Sg**	**23 04 16.3**	**-2.2**
	6.9nm,0.1s							

MEX 30 23:15:25.1±0.3, 14°.80N×93°.10W, h40^{km}±24^{km}, MD3.6,
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
THIG		**0.81**	**83**	*i* P		Pn	23 15 38.2	-1.8
THIG				*e*S		Sn	23 15 49.3	-1.6
PCIG		**0.90**	**352**	*e*P		Pn	23 15 39.6	-1.7
PCIG				*e*S		Sn	23 15 50.9	-2.2
TGIG		**1.96**	**359**	*i* P		Pn	23 15 54.2	-1.8
TGIG				*i* S		Sn	23 16 18.0	-1.4
CMIG	**Matias Romero**	**2.85**	**323**	*e*P		Pn	23 16 06.9	-1.3
CMIG				*i* S		Sn	23 16 39.1	-2.1

*IDC **30** 23:56:56.0±5.0, 5°.65S×149°.77E, h76^{km}±41^{km}, mb3.6/7, mb1 3.8/8, mb1mx3.5/29, mbtmp3.9/8, ML2.2/1, Error ellipse: s-maj=35.1km s-min=26.5km az=173.0*
*ISCJB **30** 23:57:01.5±1.1, 5°.9S±0°.1×149°.6E±0°.2, h135^{km}, mb3.6/6, Error ellipse: s-maj=27.1km s-min=13.0km az=44.4*
ISC 30 23:57:02.6±1.2, 5°.9S±0°.2×149°.6E±0°.2, h135^{km}, n9,
σ1°68/10, mb3.7/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.27**	**215**	P		**Pn**	**23 58 04.1**	**-1.9**
	8.3nm,0.3s,baz=1.7,slow=9.2,SNR=12							
PMG				S		**Sn**	**23 58 54.1**	**-1.3**
	30nm,0.3s,baz=289,slow=18,SNR=11							
WRA	**Warramunga Arr**	**20.39**	**225**	P		**P**	**00 01 29.9**	**+0.8**
	2.2nm,0.4s,baz=52,slow=11,SNR=59							
DZM	**Mont Dzumac**	**22.89**	**136**	P		**P**	**00 01 53.7**	**-1.3**
	6.1nm,0.7s,baz=333,slow=14,SNR=8.2							
ASAR	**Alice Springs**	**23.27**	**219**	P		**P**	**00 01 59.8**	**+1.4**
	1.0nm,0.4s,baz=50,slow=8.7,SNR=19							
FITZ	**Fitzroy Crossi**	**26.36**	**240**	P		**P**	**00 02 27.2**	**+0.8**
	1.2nm,0.4s,baz=55,slow=10.0,SNR=12							
STKA	**Stephens Creek**	**26.93**	**195**	P		**P**	**00 02 33.4**	**+2.1**
	1.4nm,0.6s,baz=27,slow=13,SNR=2.9							
VNDA	**Vanda**	**71.89**	**177**	P		**P**	**00 08 12.2**	**+1.7**
	0.7nm,0.7s,baz=341,slow=7.5,SNR=5.6							
ILAR	**Eielson Array**	**84.36**	**23**	P		**P**	**00 09 17.8**	**-1.5**
	0.2nm,0.8s,baz=258,slow=4.5,SNR=1.7							
TORD	**Torodi Ar. Bea**	**147.57**	**285**	PKPbc		**PKPbc**	**00 16 32.4**	**+0.3**
	0.2nm,0.5s,baz=82,slow=2.4,SNR=2.0							

ISC Computed Locations for November 2012

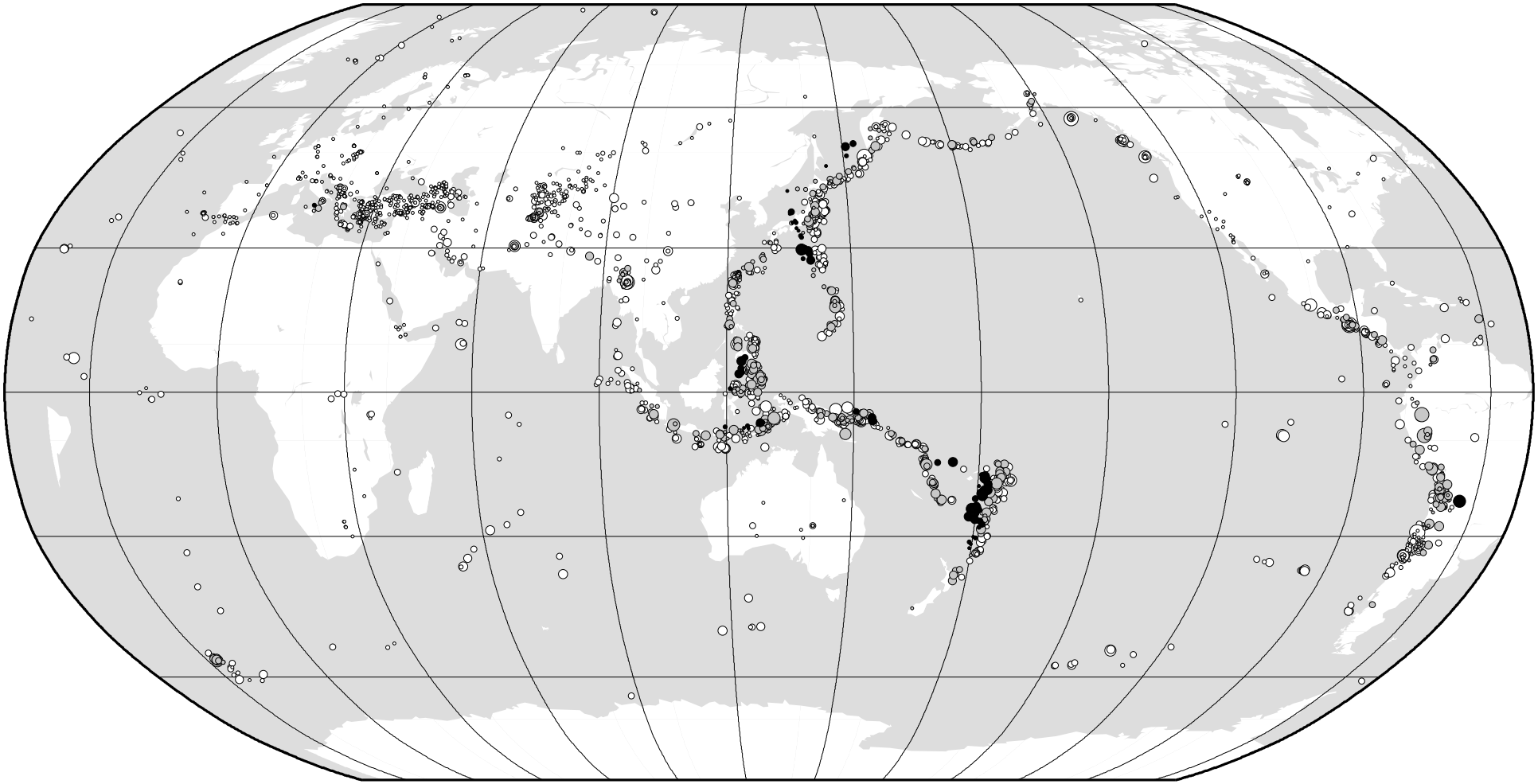

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

3063 Events